Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

MEX 01 00:01:17.9±0.7, 16°28N×97°99W, h10km±4km, MD3.0, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
PNIG	**Pinotepa**	**0.17**	**310**	*e*P		Pg	00 01 20.6	-1.0
PNIG				*e*S		Sg	00 01 23.9	-0.3
PNIG	**Pinotepa**	**0.17**	**310**	⇓*i*P		Pg	00 01 21.5	-0.1
	baz=160,slow=4.1							
PNIG				*i* S		Sg	00 01 24.6	+0.5
YOIG	**Yosondua**	**0.71**	**37**	*e*P		Pg	00 01 30.4	-1.4
YOIG				*e*S		Sg	00 01 39.4	-1.8
YOIG	**Yosondua**	**0.71**	**37**	*i* P		Pg	00 01 31.1	-0.6
YOIG				*i* S		Sg	00 01 41.5	+0.3
PEIG	**Puerto Escondi**	**0.86**	**109**	*i* P		Pg	00 01 31.3	-3.2
PEIG				*e*S		Sg	00 01 43.2	-2.5
PEIG	**Puerto Escondi**	**0.86**	**109**	*i* P		Pg	00 01 32.3	-2.1
PEIG				*e*S		Sg	00 01 44.3	-1.4
TXIG	**Tlaxiaco**	**0.99**	**13**	*e*P		Pg	00 01 34.8	-2.2
TXIG				*e*S		Sg	00 01 46.5	-3.5
TXIG	**Tlaxiaco**	**0.99**	**13**	*i* P		Pg	00 01 35.3	-1.7
TXIG				*e*S		Sg	00 01 49.1	-0.8
MGIG	**Malinaltepec**	**1.13**	**327**	*e*P		Pg	00 01 36.9	-2.7
MGIG				*e*S		Sg	00 01 51.3	-3.0
MGIG	**Malinaltepec**	**1.13**	**327**	*e*P		Pg	00 01 35.4	-4.2
MGIG				*e*S		Sg	00 01 49.3	-5.0
CRIG	**Cruz Grande**	**1.18**	**293**	*e*P		Pb	00 01 36.9	-3.5
CRIG				*e*S		Sb	00 01 51.2	-4.6
CRIG	**Cruz Grande**	**1.18**	**293**	*e*P		Pb	00 01 36.3	-4.2
CRIG				*e*S		Sb	00 01 50.2	-5.7
FTIG	**Fresnillo de T**	**1.62**	**355**	*e*P		Pn	00 01 45.7	-1.0
FTIG				*e*S		Sn	00 02 05.8	-2.0
FTIG	**Fresnillo de T**	**1.62**	**355**	*e*P		Pn	00 01 42.7	-4.0
FTIG				*e*S		Sn	00 02 02.8	-5.0
TOIG	**Toxpalan**	**2.01**	**26**	*e*		Pn	00 01 51.1	-0.9
TOIG				*e*			00 02 15.7	
TOIG	**Toxpalan**	**2.01**	**26**	*e*		Pn	00 01 51.1	-0.9
TOIG				*e*			00 02 15.7	

*IDC **01** 00:07:35.2±1.0, 56°17S×27°42W, h0km, mb4.0/5, mbtmp4.1/6, ML4.7/1, MS2.7/1, Error ellipse: s-maj=43.7km s-min=20.8km az=67.0*
*NEIC **01** 00:07:50.6±0.3, 56°5S±0°1×28°00W±0°09, h111km±11km, mb4.4/14, Error ellipse: s-maj=19.5km s-min=5.8km az=193.0*
ISC 01 00:07:48.5±0.8, 56°4S±0°1×27°7W±0°1, h12km, n32, σ1§29/28, mb4.3/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
HOPE	**Hope Point**	**5.42**	**289**			**Pn**	**00 09 07.3**	**+0.4**
HOPE					Sn	**Sn**	**00 10 04.9**	**-3.0**
VNA1	**Neumayer--Stat**	**16.62**	**157**	P		**P**	**00 11 34.6**	**-0.2**
VNA3	**Neumayer Olymp**	**16.80**	**160**	P		**Pn**	**00 11 34.5**	**-2.1**
VNA2	**Neumayer--Watz**	**17.02**	**157**	P		**Pn**	**00 11 36.7**	**-2.6**
	baz=312,slow=13							
SNAA	**Sanae**	**18.58**	**155**	P		**P**	**00 11 55.7**	**-0.8**
SNAA	**Sanae**	**18.58**	**155**	P		**P**	**00 11 55.3**	**-1.2**
	2.2nm,0.3s,baz=302,slow=10,SNR=160							
SNAA				LR		LR	00 18 03.5	
	comp=Z,24nm,19.6s,baz=11,slow=34							
	16nm,0.6s							
SNAA	**Sanae**	**18.58**	**155**	P		**P**	**00 11 55.7**	**-0.8**
SNAA				IAmb		IAmb	00 11 56.5	
	comp=Z,16nm,0.5s							
PMSA	**Palmer Station**	**19.47**	**230**			**Pn**	**00 12 08.6**	**+0.3**
TROLL	**Troll, Antarti**	**20.10**	**153**	P		**P**	**00 12 12.4**	**-0.7**
BELA	**Belgrano 2**	**21.74**	**184**	P		**P**	**00 12 30.7**	**+0.4**
QSPA	**South Pole Qui**	**33.89**	**180**	P		**P**	**00 14 20.7**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=206,slow=3.1,SNR=6.8							
	comp=Z,1.6nm,0.4s							
QSPA	**South Pole Qui**	**33.89**	**180**	P		**P**	**00 14 21.8**	**+1.6**
QSPA				IAmb		IAmb	00 14 22.9	
	comp=Z,8.1nm,1.4s							
MAW	**Mawson**	**40.08**	**143**	P		**P**	**00 15 12.3**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=230,slow=6.7,SNR=13							
	comp=Z,2.1nm,0.4s							
PB03	**IPOC Station P**	**46.08**	**300**	P		**P**	**00 16 02.4**	**+1.1**
PB03				IAmb		IAmb	00 16 26.2	
	comp=Z,14nm,1.4s							
VNDA	**Vanda**	**46.24**	**183**	P		**P**	**00 16 02.9**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=192,slow=6.3,SNR=14							
	comp=Z,0.7nm,0.5s							
VNDA	**Vanda**	**46.24**	**183**	P		**P**	**00 16 03.3**	**+1.6**
PB07	**IPOC Station P**	**46.42**	**301**	P		**P**	**00 16 05.1**	**+1.1**
PB02	**IPOC Station P**	**46.77**	**301**	P		**P**	**00 16 07.7**	**+1.1**
PB01	**IPOC Station P**	**46.81**	**301**	P		**P**	**00 16 08.0**	**+1.0**
PB01				IAmb		IAmb	00 16 08.6	
	comp=Z,3.3nm,0.5s							
PB08	**IPOC Station P**	**47.43**	**302**	P		**P**	**00 16 13.4**	**+1.4**
GO01	**Chusmiza**	**47.86**	**303**	P		**P**	**00 16 16.6**	**+1.1**
GO01				IAmb		IAmb	00 16 17.2	
	comp=Z,3.8nm,0.8s							
H10S2	**ASCENSION HYDR**	**48.39**	**17**	T		T	01 09 05.2	
	baz=183							
H10S3	**ASCENSION HYDR**	**48.39**	**17**	T		T	01 09 07.7	
	baz=37							
PB16	**IPOC Station P**	**49.16**	**303**	P		**P**	**00 16 26.7**	**+1.1**
PB16				IAmb		IAmb	00 16 40.9	
	comp=Z,4.0nm,1.1s							
H10N1	**ASCENSION HYDR**	**49.51**	**17**	T		T	01 10 25.9	
	baz=195							
H10N3	**ASCENSION HYDR**	**49.51**	**17**	T		T	01 10 27.1	
	baz=195							
H10N2	**ASCENSION HYDR**	**49.52**	**17**	T		T	01 10 28.2	
	baz=195							
LPAZ	**La Paz**	**50.31**	**306**	P		**P**	**00 16 35.2**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=146,slow=4.8,SNR=11							
	comp=Z,2.0nm,0.5s							
LPAZ	**La Paz**	**50.31**	**306**	P		**P**	**00 16 35.2**	**+0.9**
LPAZ				IAmb		IAmb	00 16 37.3	
	comp=Z,3.0nm,1.0s							
MCRA	**Macar, Loja**	**66.25**	**301**	P		**P**	**00 18 24.6**	**+0.1**
MCRA				IAmb		IAmb	00 18 44.7	
	comp=Z,6.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**73.48**	**30**	P		**P**	**00 19 08.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=206,slow=6.9,SNR=3.0							
	comp=Z,0.4nm,0.6s							
ILAR	**Eielson Array**	**150.10**	**311**	PKPbc		**PKiKP**	**00 27 24.4**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=128,slow=1.3,SNR=9.9							

*IDC **01** 00:36:34.0±1.9, 42°82N×13°37E, h0km, mb3.6/2, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=54.2km s-min=17.4km az=97.0*
*PRU **01** 00:36:36.1±0.0, 42°72N×13°49E, h10km*
*ROM **01** 00:36:36.2±0.1, 42°854N±0°003×13°084E±0°004, h9km, ML3.2/69, Error ellipse: s-maj=0.3km s-min=0.3km az=39.0*
*GEN **01** 00:36:56.5, 43°52N×11°50E, h5km±2km, Ml0.0*
ISC 01 00:36:36.5±0.7, 42°84N±0°01×13°10E±0°02, h12km±4km, n126, σ1§10/162, 41C-37D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
T1245	**Castelsantange**	**0.07**	**79**	⇑P		**Pg**	**00 36 39.1**	**-0.1**
T1245				S		**Sg**	**00 36 40.9**	**-0.2**
T1245				AML		AML		
	comp=N,59750μm,0.3s							
T1245				AML		AML		
	comp=E,67200μm,0.9s							
T1245				AML		AML		
	comp=N,59750μm,0.3s							
T1245				AML		AML		
	comp=N,59000μm,0.3s							
T1245				AML		AML		
	comp=E,69650μm,0.9s							
T1216	**Preci, Frazion**	**0.07**	**310**	⇑P		**Pg**	**00 36 38.8**	**-0.3**
T1216				S		**Sg**	**00 36 40.4**	**-0.6**
T1216				AML		AML		
T1216				AML		AML		
T1216				AML		AML		
T1216				AML		AML		
FEMA	**Monte Fema**	**0.12**	**345**	⇓P		**Pg**	**00 36 39.6**	**-0.2**
FEMA				S		**Sg**	**00 36 41.5**	**-0.6**
FEMA				AML		AML		
	comp=N,81200μm,0.6s							
FEMA				AML		AML		
	comp=N,81150μm,0.6s							
FEMA				AML		AML		
	comp=N,81150μm,0.6s							
FEMA				AML		AML		
	comp=E,74500μm,0.2s							
T1215	**Vallo di Nera,**	**0.17**	**256**	⇑P		**Pg**	**00 36 40.5**	**+0.1**
T1215				S		**Sg**	**00 36 43.4**	**+0.2**
T1215				AML		AML		
	comp=E,10605μm,0.4s							
T1215				AML		AML		
	comp=N,7505μm,1.6s							
T1215				AML		AML		
	comp=E,10650μm,0.3s							
T1215				AML		AML		
	comp=N,7280μm,1.6s							
T1215				AML		AML		
	comp=E,10625μm,0.4s							
T1215				AML		AML		
	comp=N,7505μm,1.5s							
T1215				AML		AML		
	comp=E,10625μm,0.3s							
T1215				AML		AML		
	comp=N,7270μm,1.5s							
T1215				AML		AML		
	comp=E,10610μm,0.3s							
T1215				AML		AML		
	comp=E,10615μm,0.3s							
T1215				AML		AML		
	comp=N,7260μm,1.6s							
T1215				AML		AML		
	comp=E,10640μm,0.3s							
T1215				AML		AML		
	comp=N,7265μm,1.6s							
T1217	**Poggiodomo (PG**	**0.18**	**222**	⇓P		**Pg**	**00 36 40.6**	**+0.1**
T1217				S		**Sg**	**00 36 44.0**	**+0.7**
T1217				AML		AML		
	comp=E,10850μm,0.2s							
T1217				AML		AML		
	comp=N,10840μm,0.8s							
T1217				AML		AML		
	comp=N,10555μm,0.8s							
T1217				AML		AML		
	comp=N,10885μm,0.8s							
T1217				AML		AML		
	comp=E,10550μm,0.2s							
T1217				AML		AML		
	comp=N,10550μm,0.8s							
T1217				AML		AML		
	comp=E,10900μm,0.2s							
T1217				AML		AML		
	comp=N,10880μm,0.8s							
T1217				AML		AML		
	comp=N,10570μm,0.8s							
T1217				AML		AML		
	comp=E,10555μm,0.2s							
T1217				AML		AML		
	comp=N,10840μm,0.8s							
T1217				AML		AML		
	comp=N,10590μm,0.8s							
MMO1	**Montemonaco**	**0.18**	**72**	⇓P		**Pg**	**00 36 40.8**	**+0.2**
MMO1				S		**Sg**	**00 36 43.9**	**+0.5**
T1256	**Bolognola (MC)**	**0.19**	**31**	⇑P		**Pg**	**00 36 40.8**	**0.0**
T1256				S		**Sg**	**00 36 44.0**	**+0.2**
T1256				AML		AML		
	comp=E,30500μm,1.0s							
T1256				AML		AML		
	comp=N,16700μm,0.4s							
T1256				AML		AML		
	comp=E,30550μm,1.0s							
T1256				AML		AML		
	comp=E,30650μm,1.0s							
T1256				AML		AML		
	comp=E,30500μm,1.0s							
T1256				AML		AML		
	comp=N,16750μm,0.4s							
T1256				AML		AML		
	comp=N,15400μm,0.4s							
T1256				AML		AML		
	comp=N,16700μm,0.4s							
FDMO	**Fiordimonte**	**0.19**	**358**	⇓P		**Pg**	**00 36 40.7**	**-0.1**
FDMO				S		**Sg**	**00 36 43.6**	**-0.1**
FDMO				AML		AML		
	comp=N,34350μm,1.1s							
FDMO				AML		AML		
	comp=E,35400μm,0.2s							
AM05	**Amandola Campo**	**0.23**	**55**	P		**Pg**	**00 36 41.6**	**+0.2**
AM05				S		**Sg**	**00 36 45.5**	**+0.7**
T1204	**Amatrice, Fraz**	**0.23**	**136**	P		**Pg**	**00 36 41.9**	**+0.4**
T1204				S		**Sg**	**00 36 45.8**	**+0.9**
T1204				AML		AML		
	comp=E,5885μm,1.0s							
T1204				AML		AML		
	comp=N,5110μm,0.8s							
T1204				AML		AML		
	comp=N,5105μm,0.8s							
T1204				AML		AML		
	comp=E,5880μm,1.0s							
LNSS	**Leonessa**	**0.24**	**189**	⇑P		**Pg**	**00 36 42.1**	**+0.4**
LNSS				AML		AML		
	comp=N,16100μm,0.3s							
LNSS				AML		AML		
	comp=E,5035μm,0.2s							
T1241	**Roccafluvione,**	**0.25**	**87**	P		**Pg**	**00 36 42.0**	**+0.3**
T1241				S		**Sg**	**00 36 46.2**	**+1.0**
T1241				AML		AML		
	comp=E,13250μm,0.9s							
T1241				AML		AML		
	comp=E,13550μm,0.9s							
T1241				AML		AML		
	comp=N,7565μm,0.4s							
T1241				AML		AML		
	comp=N,7235μm,0.5s							
T1241				AML		AML		
	comp=E,13250μm,0.9s							
SMA1	**SAN MARTINO**	**0.28**	**140**	⇑P		**Pg**	**00 36 42.7**	**+0.4**
SMA1				S		**Sb**	**00 36 48.5**	**+0.2**
SMA1				AML		AML		
	comp=E,5645μm,1.4s							
SMA1				AML		AML		
	comp=N,5765μm,0.5s							
SMA1				AML		AML		
	comp=E,5640μm,1.4s							
GUMA	**Gualdo di Mace**	**0.28**	**39**	⇑P		**Pg**	**00 36 42.7**	**+0.3**
GUMA				S		**Sb**	**00 36 47.6**	**-0.7**
GUMA				AML		AML		
	comp=N,44900μm,0.4s							
GUMA				AML		AML		
	comp=E,34900μm,0.8s							
GUMA				AML		AML		
	comp=N,39750μm,0.7s							
GUMA				AML		AML		
	comp=E,43100μm,0.6s							
T1243	**Rocca Santa Ma**	**0.30**	**119**	⇑P		**Pg**	**00 36 42.8**	**+0.1**
T1243				S		**Sb**	**00 36 48.1**	**-0.8**
SEF1	**Sefro**	**0.32**	**340**	⇑P		**Pg**	**00 36 43.0**	**-0.1**
SEF1				S		**Sg**	**00 36 48.0**	**+0.6**
SEF1				AML		AML		
	comp=N,17850μm,0.2s							
SEF1				AML		AML		
	comp=E,23550μm,0.2s							
SEF1				AML		AML		
	comp=E,23550μm,0.2s							
RM33	**Pellescritta (**	**0.35**	**165**	⇑P		**Pg**	**00 36 43.8**	**+0.2**
RM33				AML		AML		
	comp=E,2980μm,1.4s							
RM33				AML		AML		
	comp=N,3805μm,1.0s							
RM33				AML		AML		
	comp=E,2980μm,1.4s							
RM33				AML		AML		
	comp=E,2955μm,1.4s							
RM33				AML		AML		
	comp=N,3810μm,1.0s							
RM33				AML		AML		
	comp=N,3660μm,1.0s							
MDAR	**Monte D'Aria**	**0.35**	**6**	⇓P		**Pg**	**00 36 43.6**	**0.0**
MDAR				S		**Sg**	**00 36 49.0**	**+0.6**
MDAR				AML		AML		
	comp=E,10815μm,0.4s							
MDAR				AML		AML		
	comp=N,9550μm,0.5s							
MDAR				AML		AML		
	comp=E,10825μm,0.4s							
MDAR				AML		AML		
	comp=N,9500μm,0.5s							
T1211	**Morro Reatino**	**0.36**	**210**	⇑P		**Pg**	**00 36 43.9**	**+0.2**
T1211				AML		AML		
	comp=E,5485μm,1.6s							
T1211				AML		AML		
	comp=N,6765μm,1.3s							
T1211				AML		AML		
	comp=E,5490μm,1.6s							
T1211				AML		AML		
	comp=N,6835μm,0.4s							
T1211				AML		AML		
	comp=N,6830μm,0.4s							
T1211				AML		AML		
	comp=E,5455μm,1.6s							
T1211				AML		AML		
	comp=E,5480μm,1.6s							
ARRO	**Arrone**	**0.36**	**223**	⇑P		**Pg**	**00 36 43.8**	**+0.1**
ARRO				AML		AML		
	comp=E,4070μm,0.6s							
ARRO				AML		AML		
	comp=N,2900μm,0.8s							
ARRO				AML		AML		
	comp=N,2895μm,0.8s							
FIU1	**Fiuminata**	**0.36**	**341**	⇓P		**Pg**	**00 36 44.1**	**+0.3**
FIU1				S		**Sg**	**00 36 49.3**	**+0.5**
FIU1				AML		AML		
	comp=E,5175μm,1.4s							
FIU1				AML		AML		
	comp=N,5550μm,0.6s							
FIU1				AML		AML		
	comp=E,5170μm,1.4s							
FIU1				AML		AML		
	comp=N,5550μm,0.6s							
ASSB	**Assisi San Ben**	**0.38**	**302**	P		**Pg**	**00 36 43.8**	**-0.3**
ASSB				S		**Sg**	**00 36 49.4**	**+0.2**
ASSB				AML		AML		
	comp=E,10800μm,0.2s							
ASSB				AML		AML		
	comp=N,10150μm,0.2s							
CAMP	**Campotosto**	**0.39**	**143**	⇑P		**Pg**	**00 36 44.3**	**+0.1**
CAMP				AML		AML		
	comp=N,1355μm,0.4s							
CAMP				AML		AML		
	comp=E,1034μm,1.6s							
GAG1	**Gagliole**	**0.40**	**357**	⇓P		**Pg**	**00 36 44.5**	**+0.1**
GAG1				AML		AML		
	comp=E,10900μm,0.3s							
GAG1				AML		AML		
	comp=N,11875μm,1.6s							
GAG1				AML		AML		
	comp=E,10885μm,0.4s							
GAG1				AML		AML		
	comp=E,10900μm,0.4s							
GAG1				AML		AML		
	comp=N,11870μm,1.6s							
MNTP	**Montappone**	**0.40**	**43**	⇓P		**Pb**	**00 36 45.2**	**-0.4**
MNTP				S		**Sb**	**00 36 51.7**	**-0.1**
MNTP				AML		AML		
	comp=E,10835μm,0.3s							
MNTP				AML		AML		
	comp=N,12400μm,0.4s							
MNTP				AML		AML		
	comp=N,12450μm,0.3s							
MNTP				AML		AML		
	comp=E,10825μm,0.3s							
SNTG	**Esanatoglia**	**0.43**	**345**	P		**Pg**	**00 36 44.7**	**-0.3**
SNTG				AML		AML		
	comp=N,3765μm,0.2s							
SNTG				AML		AML		
	comp=E,3270μm,0.8s							
SNTG				AML		AML		
	comp=E,3260μm,1.0s							
SNTG				AML		AML		
	comp=N,3760μm,0.2s							
SNTG				AML		AML		
	comp=N,4110μm,0.2s							
SNTG				AML		AML		
	comp=E,3265μm,1.0s							
T1247	**Pizzolo (AQ)**	**0.43**	**159**	⇓P		**Pb**	**00 36 45.8**	**-0.3**
T1247				AML		AML		
	comp=N,3485μm,0.4s							
T1247				AML		AML		
	comp=E,3080μm,0.6s							
TERO	**Teramo**	**0.43**	**120**	P		**Pg**	**00 36 45.1**	**-0.1**
TERO				AML		AML		
	comp=N,3060μm,0.5s							
TERO				AML		AML		
	comp=E,1925μm,1.0s							
TERO				AML		AML		
	comp=E,1765μm,0.9s							
TERO				AML		AML		
	comp=N,3215μm,0.5s							
OFFI	**Offida**	**0.44**	**78**	⇑P		**Pb**	**00 36 46.2**	**-0.1**
OFFI				AML		AML		
	comp=E,5965μm,0.6s							
OFFI				AML		AML		
	comp=N,6385μm,0.4s							
CESX	**Cesi**	**0.45**	**239**	⇑P		**Pg**	**00 36 45.1**	**-0.2**
CESX				S		**Sb**	**00 36 52.5**	**-0.5**
CESX				AML		AML		
	comp=E,3035μm,0.5s							
CESX				AML		AML		
	comp=N,5045μm,0.4s							
ATCC	**AVT- Casa Cast**	**0.48**	**316**	⇑P		**Pg**	**00 36 45.6**	**-0.3**
ATCC				S		**Sb**	**00 36 53.2**	**-0.7**
ATCC				AML		AML		
	comp=E,5400μm,0.6s							
ATCC				AML		AML		
	comp=N,5440μm,1.5s							
EL6	**Elcito**	**0.49**	**1**	⇓P		**Pg**	**00 36 45.6**	**-0.5**
EL6				AML		AML		
	comp=E,8415μm,0.3s							
EL6				AML		AML		
	comp=N,9755μm,0.4s							
EL6				AML		AML		
	comp=E,8410μm,0.3s							
EL6				AML		AML		
	comp=N,9775μm,0.4s							
EL6				AML		AML		
	comp=N,9780μm,0.4s							
EL6				AML		AML		
	comp=E,8400μm,0.3s							
FOSV	**Fossato di Vic**	**0.51**	**332**	⇑P		**Pg**	**00 36 45.8**	**-0.8**
FOSV				S		**Sb**	**00 36 55.0**	**0.0**
FOSV				AML		AML		
	comp=E,1985μm,0.5s							
FOSV				AML		AML		
	comp=N,3095μm,0.4s							
GIGS	**Gran Sasso**	**0.53**	**138**	P		**Pg**	**00 36 46.8**	**0.0**
GIGS				AML		AML		
	comp=E,438μm,1.0s							
GIGS				AML		AML		
	comp=E,439μm,1.0s							
GIGS				AML		AML		
	comp=N,320μm,0.4s							
GIGS				AML		AML		
	comp=N,321μm,0.4s							
CING	**Cingoli**	**0.54**	**8**	⇑P		**Pg**	**00 36 46.7**	**-0.4**
CING				AML		AML		
	comp=N,3350μm,0.1s							
CING				AML		AML		
	comp=E,3250μm,1.2s							
AQU	**L'Aquila**	**0.54**	**155**	⇑P		**Pn**	**00 36 49.4**	**-0.8**
AQU				AML		AML		
	comp=N,1029μm,0.5s							
AQU				AML		AML		
	comp=N,992μm,0.5s							
AQU				AML		AML		
	comp=E,897μm,1.4s							
AQU				AML		AML		
	comp=E,964μm,1.4s							
FIAM	**Fiamignano**	**0.57**	**178**	P		**Pg**	**00 36 47.7**	**-0.1**
FIAM				AML		AML		
	comp=E,1445μm,0.3s							
FIAM				AML		AML		
	comp=N,1500μm,0.4s							
FIAM				AML		AML		
	comp=N,1495μm,0.4s							
MURB	**Monte Urbino**	**0.59**	**315**	P		**Pg**	**00 36 47.8**	**-0.3**
MURB				S		**Sb**	**00 36 58.0**	**+0.7**
MURB				AML		AML		
	comp=E,6775μm,0.3s							
MURB				AML		AML		
	comp=E,7205μm,0.3s							
MURB				AML		AML		
	comp=N,5965μm,1.1s							
MURB				AML		AML		
	comp=E,6775μm,0.2s							
MURB				AML		AML		
	comp=N,5495μm,1.1s							
MMUR	**Monte Murano**	**0.60**	**353**	⇓P		**Pg**	**00 36 48.7**	**+0.4**
MMUR				S		**Sb**	**00 36 58.0**	**+0.4**
MMUR				AML		AML		
	comp=E,6005μm,0.2s							
MMUR				AML		AML		

comp=N,4790μm,0.6s
TRTR Tortoreto Alta 0.60 93 ⇓P Pb 00 36 49.5 +0.5
TRTR AML AML
comp=E,4475μm,0.5s
TRTR AML AML
comp=N,5450μm,0.4s
SSFR Montelago di S 0.64 339 S Sb 00 36 59.0 +0.5
ATFO Monte Foce - G 0.65 324 P Pg 00 36 48.7 -0.5
ATFO AML AML
comp=E,1214μm,1.6s
ATFO AML AML
comp=N,1490μm,1.0s
ATFO AML AML
comp=E,1215μm,1.6s
ATTE AVT- Monte Tez 0.65 303 ⇓P Pg 00 36 48.8 -0.4
ATTE AML AML
comp=E,1094μm,1.1s
ATTE AML AML
comp=E,1094μm,1.1s
ATTE AML AML
comp=N,1273μm,0.8s
PP3 Marolino 0.65 35 ⇑P Pb 00 36 49.8 -0.1
PP3 AML AML
comp=N,5415μm,0.4s
PP3 AML AML
comp=E,4425μm,0.3s
PP3 AML AML
comp=N,5695μm,0.4s
PP3 AML AML
comp=E,4705μm,0.3s
PP3 AML AML
comp=N,7965μm,0.7s
PP3 AML AML
comp=N,8140μm,0.7s
PP3 AML AML
comp=N,8135μm,0.7s
PP3 AML AML
comp=E,4710μm,0.3s
PP3 AML AML
comp=E,4430μm,0.3s
ARVD Arcevia 0.66 350 ⇑P Pg 00 36 48.9 -0.5
ARVD S Sb 00 36 60.0 +0.7
ARVD AML AML
comp=N,1255μm,0.7s
ARVD AML AML
comp=E,1475μm,0.4s
FAGN Fagnano 0.68 148 ⇓P Pb 00 36 50.6 +0.2
FAGN AML AML
comp=E,1620μm,0.4s
FAGN AML AML
comp=E,1615μm,0.4s
FAGN AML AML
comp=N,1775μm,0.4s
FAGN AML AML
comp=N,1780μm,0.4s
VCEL Villa Celiera 0.71 129 ⇓P Pg 00 36 50.5 +0.2
VCEL AML AML
comp=E,2080μm,1.5s
VCEL AML AML
comp=N,1830μm,0.5s
VCEL AML AML
comp=N,1835μm,0.5s
MGAB Montegabbione 0.72 276 ⇑P Pg 00 36 50.2 -0.4
MGAB AML AML
comp=N,4015μm,1.4s
MGAB AML AML
comp=E,2760μm,0.6s
MGAB AML AML
comp=N,3855μm,1.4s
MGAB AML AML
comp=E,2530μm,1.3s
MGAB AML AML
comp=N,4010μm,1.4s
FRON Frontone 0.73 338 ⇑P Pg 00 36 49.6 -1.0
FRON AML AML
comp=N,1455μm,0.4s
FRON AML AML
comp=N,1460μm,0.4s
FRON AML AML
comp=E,1340μm,1.6s
ATVO AVT- Monte Val 0.74 317 ⇑P Pg 00 36 50.1 -0.7
ATVO AML AML
comp=E,1245μm,0.9s
ATVO AML AML
comp=N,1350μm,0.4s
ATVO AML AML
comp=N,1345μm,0.4s
SRES S.Oreste - Sor 0.74 216 ⇓P Pg 00 36 50.8 -0.1
SRES AML AML
comp=N,1735μm,0.5s
SRES AML AML
comp=E,1440μm,1.0s
ATMI Monte Miggiano 0.78 309 ⇓P Pg 00 36 51.7 +0.1
ATMI S Sn 00 37 04.0 -1.1
ATMI AML AML
comp=E,3765μm,0.6s
ATMI AML AML
comp=N,3795μm,0.6s
ATPI Pietralunga - 0.79 320 ⇑P Pg 00 36 51.1 -0.7
ATPI AML AML
comp=E,958μm,0.7s
ATPI AML AML
comp=N,734μm,0.6s
ATPI AML AML
comp=E,958μm,0.7s
AOI Ancona 0.80 28 ⇑P Pg 00 36 52.1 +0.1
AOI S Sn 00 37 06.0 +0.4
AOI AML AML
comp=E,1325μm,0.4s
AOI AML AML
comp=N,1255μm,0.3s
T0110 Collepietro 0.80 140 P Pg 00 36 51.8 -0.2
T0110 AML AML
comp=N,1740μm,0.4s
T0110 AML AML
comp=N,1745μm,0.4s
T0110 AML AML
comp=E,1800μm,0.5s
PIEI Pieia 0.80 330 ⇓P Pg 00 36 51.4 -0.7
PIEI S Sb 00 37 04.0 +0.6
PIEI AML AML
comp=E,1090μm,1.1s
PIEI AML AML
comp=N,780μm,1.6s
PIEI AML AML
comp=N,780μm,1.6s
MPAG Monte Paganucc 0.82 343 ⇓P Pg 00 36 51.8 -0.6
MPAG S Sn 00 37 06.0 -0.2
MPAG AML AML
comp=N,966μm,0.6s
MPAG AML AML
comp=E,1210μm,0.4s
MPAG AML AML
comp=N,968μm,0.6s
MPAG AML AML
comp=E,1102μm,0.7s
MPAG AML AML
comp=N,1315μm,0.6s
MPAG AML AML
comp=N,966μm,0.6s
NARO Abbazia di Nar 0.85 334 ⇓P Pg 00 36 52.4 -0.6
NARO S Sn 00 37 06.0 -0.9
NARO AML AML
comp=E,846μm,0.5s
NARO AML AML
comp=N,545μm,0.4s
NARO AML AML
comp=E,846μm,0.5s
MTCE Montecelio 0.86 198 ⇓P Pn 00 36 54.7 +0.2
MTCE AML AML
comp=E,1136μm,0.6s
MTCE AML AML
comp=N,721μm,0.6s
APEC Apecchio 0.87 326 ⇑P Pb 00 36 53.9 +0.4
APEC S Sn 00 37 07.0 -0.3
SACS San Casciano d 0.87 271 ⇑P Pg 00 36 52.9 -0.5
SACS AML AML
comp=E,1101μm,0.8s
SACS AML AML
comp=N,1335μm,0.6s
SACS AML AML
comp=E,1100μm,0.8s
FSSB Fossombrone 0.88 345 ⇓P Pg 00 36 53.0 -0.5
FSSB S Sn 00 37 08.0 +0.4
FSSB AML AML
comp=E,2905μm,0.3s
FSSB AML AML
comp=N,4250μm,0.3s
CERT Cerreto 0.90 185 P Pb 00 36 54.5 +0.4
CERT AML AML
comp=E,1136μm,0.6s
CERT AML AML
comp=N,781μm,1.1s
BADI Badiali 0.91 317 ⇑P Pg 00 36 53.5 -0.6
PE3 Peglio 0.96 333 ⇓P Pg 00 36 55.0 +0.1
PE3 AML AML
comp=E,13μm,0.6s
PE3 AML AML
comp=N,16μm,0.1s
CAFI Castiglion Fio 0.96 301 ⇑P Pg 00 36 54.3 -0.7
CAFI S Sn 00 37 10.0 +0.5
CAFI AML AML
comp=E,864μm,0.6s
CAFI AML AML
comp=E,864μm,0.6s
CAFI AML AML
comp=N,874μm,0.5s
CAFI AML AML
comp=N,874μm,0.5s
CAFI AML AML
comp=E,865μm,0.6s
LATE Laterza 0.98 257 ⇓P Pn 00 36 56.1 -0.1
MCIV Monte Civitell 1.05 267 ⇓P Pg 00 36 56.9 +0.2
MCIV AML AML
comp=E,510μm,0.9s
MCIV AML AML
comp=N,374μm,0.9s
SF04 Casetta 1.05 270 ⇑P Pn 00 36 57.3 +0.1
ROM9 Roma 1.10 203 ⇓P Pb 00 36 57.0 -0.5
ROM9 AML AML
comp=E,1067μm,0.7s
ROM9 AML AML
comp=N,1390μm,0.5s
MA9 Marino 1.12 197 S Sn 00 37 15.0 +1.6
TOLF Tolfa 1.12 226 ⇓P Pb 00 36 57.4 -0.5
TOLF AML AML
comp=E,725μm,0.7s
TOLF AML AML
comp=N,697μm,0.6s
CRE Caprese Michel 1.14 313 ⇑P Pb 00 36 58.3 0.0
CRE AML AML
comp=N,424μm,0.4s
CRE AML AML
comp=E,366μm,0.4s
ARCI Arcidosso 1.19 271 ⇑P Pg 00 36 59.5 +0.1
ARCI AML AML
comp=N,120μm,1.4s
ARCI AML AML
comp=E,166μm,0.4s
SFI Santa Sofia 1.40 320 ⇑P Pg 00 37 04.1 +0.7
CSNT Castellina Chi 1.46 296 S Sn 00 37 03.2 -19
CSNT Castellina Chi 1.46 296 ⇓P Pn 00 37 03.1 +0.3
CSNT AML AML
comp=E,130μm,1.1s
CSNT AML AML
comp=N,138μm,0.7s
FROS Frosini 1.47 285 P Pn 00 37 02.9 0.0
FROS S Sn 00 37 06.0 -16
OSSC Osservatorio P 1.51 297 P Pn 00 37 01.0 -2.5
OSSC S Sn 00 37 04.1 -19
OSSC Osservatorio P 1.51 297 ⇓P Pg 00 37 06.5 +1.0
RUFI Rufina 1.53 311 P Pn 00 37 04.1 +0.4
RUFI Rufina 1.53 311 ⇑P Pn 00 37 04.1 +0.4
LMD Lutirano 1.59 321 ⇓P Pg 00 37 09.0 +1.9
MPPT Montemurlo 1.84 308 ⇓P Pn 00 37 08.8 +0.8
MTCR Monte La Croce 1.93 308 P Pn 00 37 09.8 +0.4
BRJN Brijuni 2.12 13 ⇓P Pn 00 37 12.5 +0.7
PLMA Palmaria, Port 2.65 298 P Pn 00 37 19.6 +0.4
PLMA Palmaria, Port 2.65 298 P Pn 00 37 19.8 +0.7
CDRU Civita di Ruta 2.88 144 S Sn 00 37 57.0 +0.1
PGF Pioggiola 3.03 266 ⇓P Pn 00 37 25.7 +1.3
SABO M.te Sabotino 3.16 6 ⇑P Pn 00 37 26.4 +0.3
SABO AML AML
comp=E,134μm,0.5s
SABO AML AML
comp=N,156μm,0.6s
SABO AML AML
comp=N,582μm,0.5s
SABO AML AML
comp=E,601μm,0.5s
CGRP Cima Grappa 3.17 343 ⇓P Pn 00 37 28.6 +2.1
SALO Salr 3.33 327 ⇓P Pn 00 37 30.8 +2.3
MPRI Monte Prat 3.40 359 ⇓P Pn 00 37 30.3 +0.9
STAL STALIGIAL 3.43 356 P Pn 00 37 30.3 +0.5
STAL AML AML
comp=N,79μm,0.8s
STAL AML AML
comp=E,132μm,0.8s
LUSI Trento, Gardas 3.48 334 ⇑P Pn 00 37 32.4 +1.9
PTCC Patocco-Chiusa 3.57 3 ⇑P Pn 00 37 32.6 +0.9
PTCC AML AML
comp=E,38μm,0.5s
PTCC AML AML
comp=N,39μm,0.5s
ZONE Zone 3.62 325 ⇑P Pn 00 37 34.5 +2.0
MABI Malga Bissina 3.70 331 P Pn 00 37 35.7 +1.9
ZOU Zoufplan 3.71 359 ⇑P Pn 00 37 35.0 +1.1
ACOM Acomizza, Ital 3.72 4 ⇓P Pn 00 37 35.3 +1.4
MYKA Terra Mystica 3.81 6 *i* Pn **Pn 00 37 34.5 -0.5**
comp=N,2.0nm,0.2s
OBKA Obir 3.81 15 *i* Pn **Pn 00 37 35.8 +0.7**
comp=N,1.6nm,0.3s
KOSI Kohlern 3.82 342 ⇑P Pn 00 37 37.6 +2.3
ABTA Abfaltersbach 3.93 354 *e*Pn **Pn 00 37 38.2 +1.5**
comp=N,0.9nm,0.1s,SNR=13
SOKA Soboth 4.08 19 *e*Pn **Pn 00 37 39.5 +0.7**
comp=N,0.9nm,0.2s,SNR=4.9
KBA Koelnbreinsper 4.24 2 *e*Pn **Pn 00 37 42.6 +1.5**
comp=N,2.5nm,0.2s,SNR=5.1
FETA Feichten 4.50 339 *e*Pn **Pn 00 37 47.9 +3.2**
comp=N,1.0nm,0.4s,SNR=4.9
WTTA Wattenberg 4.54 347 *i* Pn **Pn 00 37 48.4 +3.2**
comp=N,0.7nm,0.2s
DAVOX Davos/Dischmat 4.55 331 Pn **Pn 00 37 47.9 +2.5**
comp=N,2.7nm,0.3s,baz=151,slow=18
DAVOX Sn **Sn 00 38 42.2 +3.9**
comp=N,0.8nm,0.3s,baz=108,slow=21,SNR=2.4
SQTA Sankt Quirin 4.58 344 *e*Pn **Pn 00 37 49.0 +3.3**
comp=N,1.8nm,0.2s
WATA Walderalm 4.62 347 *i* Pn **Pn 00 37 50.1 +3.8**
comp=N,0.9nm,0.1s,SNR=5.8
MOTA Moosalm 4.72 343 *e*Pn **Pn 00 37 51.0 +3.4**
comp=N,1.0nm,0.2s
ARSA Arzberg 4.73 20 *i* Pn **Pn 00 37 48.1 +0.3**
comp=N,1.7nm,0.3s,SNR=4.4
BIOA Bad Ischl, Aus 4.86 4 *i* Pn **Pn 00 37 51.2 +1.7**
comp=N,5.7nm,0.3s
RETA Reutte 4.93 341 *e*Pn **Pn 00 37 52.7 +2.3**
comp=N,0.7nm,0.2s
DAVA Damuels 4.99 334 *i* Pn **Pn 00 37 54.6 +3.2**
comp=N,1.0nm,0.3s
MOA Molln 5.07 9 *i* Pn **Pn 00 37 53.5 +1.1**
comp=N,0.3nm,0.1s
RONA Rosalia, Austr 5.36 24 *i* Pn **Pn 00 37 57.0 +0.6**
comp=N,0.3nm,0.1s
CONA Conrad Observa 5.45 20 *i* Pn **Pn 00 37 58.1 +0.5**
comp=N,1.9nm,0.3s,SNR=9.3
GERES GERESS Array B 6.02 4 Pn **Pn 00 38 05.6 +0.1**
comp=N,0.4nm,0.3s,baz=171,slow=13,SNR=11
GERES Sn **Sn 00 39 11.9 -2.4**
comp=N,1.1nm,0.3s,baz=187,slow=34,SNR=9.1
comp=N,0.6nm,0.3s
CKRC Cesky Krumlov 6.04 8 *e*PN **Pn 00 38 05.1 -0.6**
CKRC *e*SN **Sn 00 39 13.1 -1.6**
KHC Kasperske Hory 6.30 3 *e*PN **Pn 00 39 09.1 -0.1**
KHC *e*SN **Sn 00 39 20.2 -0.9**
PRU Pruhonice 7.22 7 *e*SN **Sn 00 39 41.7 -2.0**
FINES FINESS Array B 20.19 18 P **P 00 41 09.4 -1.4**
comp=N,9.2nm,1.3s,baz=226,slow=5.6,SNR=2.0
comp=N,9.2nm,1.3s
TORD Torodi Ar. Bea 31.19 202 P **P 00 42 54.5 -1.1**
comp=N,0.4nm,0.9s,baz=12,slow=9.5,SNR=3.3
comp=N,0.4nm,0.9s

MAN 01 00:40:07.6,13°.62N×120°.72E,h31km,mb3.5,ML2.2, MS1.6,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.47**	**284**	⇑*e*P	Pn	00 40 18.5	+0.2
LUBP				*e*S	Sn	00 40 27.4	+1.9

*KRNET **01** 00:42:39.7±0.1,41°.46N×72°.89E,h21km,mb3.3*
*SOME **01** 00:42:40.6,41°.47N×72°.93E,h10km*
*ISU **01** 00:42:40,41°.42N×73°.01E,h30km*
*KNET **01** 00:42:41.8±0.6,41°.57N×73°.01E,h4km,2km,ml2.5, Error ellipse: s-maj=5.1km s-min=3.1km az=127.0*
*NNC **01** 00:42:42.9±1.5,41°.57N×72°.90E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=12.2km s-min=8.3km az=179.0*
ISC 01 00:42:38.3±1.0,41°.44N±0°.02×72°.96E±0°.02,h16km±9km, n78,σ1°58/127,31C-26D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.83**	**296**	⇓*i*P	Pn	**00 42 54.3**	**-1.2**
	baz=96						
ARK				⇓*i*S	Sb	**00 43 04.9**	**-0.5**
	baz=96						
AML	**Almayashu**	**0.88**	**38**	⇑P	Pn	**00 42 56.7**	**+0.2**
	34nm,0.2s,SNR=94						
AML				⇑S	Sn	**00 43 09.2**	**0.0**
	56nm,0.1s						
OHH	**Osh**	**0.92**	**188**	⇓*i*P	Pn	**00 42 57.2**	**+0.5**
	baz=85						
OHH				⇓*i*S	Sn	**00 43 10.0**	**+0.3**
	baz=85						
OHH	**Osh**	**0.92**	**188**	P	Pn	**00 42 55.6**	**-1.1**
OHH				S	Sn	**00 43 09.0**	**-0.7**
TSTA	**Tashata**	**0.93**	**203**	P	Pn	**00 42 58.9**	**+2.1**
NAM	**Namangan**	**1.08**	**246**	P	Pn	00 43 03.2	+4.4
NAM				S	Sn	**00 43 19.5**	**+6.1**
ARLS	**Aral**	**1.10**	**67**	⇑*i*P	Pn	**00 43 00.9**	**+1.6**
	baz=69						
ARLS				⇑*i*S	Sn	**00 43 16.3**	**+2.0**
	baz=69						
MRKS	**Merke**	**1.32**	**9**	*e*P	Pg	**00 43 04.5**	**+0.7**
	7.8nm,0.3s						
MRKS				*e*S	Sn	**00 43 21.6**	**+2.1**
	93nm,0.2s						
EKS2	**Erkin-Say**	**1.36**	**26**	⇑P	Pg	**00 43 05.1**	**+0.4**
	8.9nm,0.1s,SNR=10.0						
EKS2				⇑S	Sg	**00 43 23.8**	**+1.3**
	1.7nm,0.1s						
EKS2	**Erkin-Say**	**1.36**	**26**	⇓*i*P	Pg	**00 43 04.7**	**0.0**
	baz=28						
EKS2				⇓*i*S	Sg	**00 43 23.0**	**+0.5**
	baz=28						
TRKS	**Terek-Say**	**1.37**	**274**	⇓*e*P	Pg	**00 43 03.4**	**-1.4**
	baz=71						
TRKS				⇓*i*S	Sn	**00 43 20.8**	**-0.1**
	baz=71						
FRG	**Fergana**	**1.39**	**220**	P	Pg	**00 43 05.3**	**+0.2**
UCH	**Uchtor**	**1.40**	**55**	⇑P	Pg	**00 43 06.4**	**+1.0**
	20nm,0.2s,SNR=12						
UCH				⇓S	Sg	**00 43 26.5**	**+2.7**
	27nm,0.2s						
UCH	**Uchtor**	**1.40**	**55**	⇓*e*P	Pg	**00 43 06.3**	**+0.9**
	baz=57						
UCH				⇓*i*S	Sg	**00 43 25.2**	**+1.4**
	baz=57						
AAK	**Ala-Archa**	**1.66**	**43**	⇑P	Pg	**00 43 10.7**	**+0.5**
	15nm,0.2s,SNR=25						
AAK				⇑S	Sg	**00 43 33.1**	**+1.4**
	30nm,0.2s						
AAK	**Ala-Archa**	**1.66**	**43**	⇑*i*P	Pg	**00 43 10.2**	**0.0**
	baz=45						
AAK				⇑*i*S	Sg	**00 43 32.6**	**+0.9**
	baz=45						
MINT	**Mingtut**	**1.79**	**238**	P	Pg	**00 43 13.2**	**+0.5**
MINT				S	Sg	**00 43 38.8**	**+2.8**
DZA	**Taraz**	**1.89**	**321**	*e*P	Pg	**00 43 15.7**	**+1.0**
	43nm,0.3s						
DZA				*e*S	Sg	**00 43 40.8**	**+1.5**
	179nm,0.4s						
KBK	**Karagaybulak**	**1.92**	**50**	⇓P	Pg	**00 43 15.8**	**+0.7**
	21nm,0.2s,SNR=17						
KBK				⇓S	Sg	**00 43 42.2**	**+2.2**
	79nm,0.3s						
KBK	**Karagaybulak**	**1.92**	**50**	⇑*e*P	Pg	**00 43 14.5**	**-0.7**
	baz=51						
KBK				⇑*i*S	Sg	**00 43 39.8**	**-0.3**
	baz=51						
CHMS	**Chumysh**	**2.05**	**40**	⇑P	Pg	**00 43 18.3**	**+0.7**
	20nm,0.3s,SNR=19						
CHMS				⇓S	Sg	**00 43 45.0**	**+0.8**
	55nm,0.5s						
CHMS	**Chumysh**	**2.05**	**40**	⇓*i*P	Pg	**00 43 16.0**	**-1.7**
	baz=41						
CHMS				⇓*i*S	Sg	**00 43 42.4**	**-1.9**
	baz=41						
CHMS	**Chumysh**	**2.05**	**40**	⇓Pn	Pg	**00 43 18.4**	**+0.7**
	15nm,0.4s						
CHMS				⇓Sn	Sg	**00 43 46.5**	**+2.2**
	21nm,0.5s						
BTK	**Batken**	**2.13**	**230**	⇑*i*P	Pg	**00 43 16.6**	**-2.7**
	baz=29						
BTK				⇑*i*S	Sg	**00 43 43.6**	**-3.4**
	baz=29						
BTK	**Batken**	**2.13**	**230**	P	Pg	**00 43 18.1**	**-1.2**
BTK				S	Sg	**00 43 47.4**	**+0.4**
USP	**Ospenovka**	**2.15**	**31**	⇑P	Pg	**00 43 19.4**	**-0.3**
	29nm,0.3s,SNR=28						
USP				⇑S	Sg	**00 43 48.4**	**+0.7**
	80nm,0.3s						
USP	**Ospenovka**	**2.15**	**31**	⇑*i*P	Pb	**00 43 17.3**	**+0.3**
	baz=33						
USP				⇑*i*S	Sb	**00 43 44.9**	**+1.4**
	baz=33						
CHRV	**Charvak**	**2.27**	**276**	P	Pg	**00 43 21.1**	**-0.8**
CHRV				S	Sg	**00 43 52.7**	**+1.4**
NRN	**Naryn**	**2.29**	**89**	⇑*i*P	Pb	**00 43 19.6**	**+0.2**
	baz=90						
NRN				⇑*i*S	Sb	**00 43 48.9**	**+1.4**
	baz=90						
IUG	**luzhnay**	**2.30**	**289**	*e*P	Pg	**00 43 21.4**	**-1.1**
	280nm,0.3s						
IUG				*e*S	Sg	**00 43 51.4**	**-1.0**
	118nm,0.6s						
SGDS	**Sogindy**	**2.36**	**31**	*e*P	Pg	**00 43 22.9**	**-0.7**
	25nm,0.5s						
SGDS				*e*S	Sg	**00 43 53.5**	**-0.8**
	133nm,0.5s						
SGDS	**Sogindy**	**2.36**	**31**	Pg	Pg	**00 43 23.0**	**-0.7**
	25nm,0.5s						
SGDS				Lg	Lg	00 43 53.5	
	133nm,0.5s						
TKM2	**Tokmak 2**	**2.46**	**52**	⇑P	Pg	**00 43 24.7**	**-0.8**
	61nm,0.4s,SNR=112						
TKM2	**Tokmak 2**	**2.46**	**52**	⇑*i*P	Pb	**00 43 22.2**	**0.0**
	baz=53						
TKM2				⇑*i*S	Sb	**00 43 53.0**	**+0.7**
	baz=53						
TKM2	**Tokmak 2**	**2.46**	**52**	⇓Pn	Pg	**00 43 25.1**	**-0.4**
	33nm,0.5s						
TKM2				⇓Sn	Sg	**00 43 56.2**	**-1.1**
	42nm,0.6s						
BOOM	**Boomskoye usch**	**2.46**	**64**	⇑*i*P	Pb	**00 43 22.2**	**0.0**
	baz=65						
BOOM				⇑*i*S	Sb	**00 43 53.0**	**+0.7**
	baz=65						
KK31	**Karatay Array**	**2.46**	**313**	Pn	Pg	**00 43 23.0**	**-2.6**
	8.2nm,0.3s,baz=130,slow=13,SNR=103						
KK31				⇓Lg	Lg	00 43 57.0	
	49nm,0.7s,baz=131,slow=26,SNR=14						
KKAR	**Karatay Array**	**2.46**	**313**	⇑*e*P	Pb	**00 43 21.0**	**-1.3**
	baz=14						
KKAR				⇑*i*S	Sb	**00 43 51.0**	**-1.4**
	baz=14						
ULHL	**Ulahol**	**2.58**	**71**	⇓*e*P	Pb	**00 43 23.8**	**-0.6**
	baz=71						
ULHL				⇓*i*S	Sb	**00 43 56.2**	**+0.3**
	baz=71						
CHM	**Chimkent**	**2.66**	**290**	*e*P	Pg	**00 43 30.0**	**+0.8**
	3.7nm,0.2s						
CHM				*e*S	Sg	**00 44 05.3**	**+1.6**
	90nm,0.5s						
KST	**Kastek**	**2.75**	**53**	*e*P	Pg	**00 43 30.5**	**-0.5**
	34nm,0.7s						
KST				*e*S	Sg	**00 44 06.3**	**-0.3**
	95nm,0.4s						
KST	**Kastek**	**2.75**	**53**	Pg	Pg	**00 43 30.5**	**-0.5**
	34nm,0.7s						
KST				Lg	Lg	00 44 06.3	
	95nm,0.4s						
DGS	**Degeres**	**2.76**	**48**	*e*P	Pg	**00 43 30.6**	**-0.6**
	24nm,0.5s						
DGS				*e*S	Sg	**00 44 06.3**	**-0.6**
	61nm,0.5s						

DGS	**Degeres**	**2.76**	**48**	Pg	**Pg**	**00 43 30.6**	**-0.6**
	24nm,0.5s						
DGS				Lg	Lg	00 44 06.3	
	61nm,0.5s						
KRBS	**Karabastau**	**3.02**	**41**	*e*P	**Pg**	**00 43 34.0**	**-2.2**
	10.0nm,0.3s						
KRBS				*e*S	**Sg**	**00 44 12.3**	**-3.0**
	55nm,0.7s						
KRBS	**Karabastau**	**3.02**	**41**	Pg	**Pg**	**00 43 34.0**	**-2.2**
	10.0nm,0.3s						
KRBS				Lg	Lg	00 44 12.3	
	55nm,0.7s						
MTBS	**Maitube**	**3.08**	**56**	*e*P	**Pg**	**00 43 36.6**	**-0.7**
	18nm,0.3s						
MTBS				*e*S	**Sg**	**00 44 16.9**	**-0.4**
	42nm,0.5s						
MTBS	**Maitube**	**3.08**	**56**	Pg	**Pg**	**00 43 36.6**	**-0.7**
	18nm,0.3s						
MTBS				Lg	Lg	00 44 16.9	
	42nm,0.5s						
TNSS	**Tian-Shan**	**3.36**	**60**	*e*P	**Pg**	**00 43 41.2**	**-1.6**
	8.2nm,0.5s						
TNSS				*e*S	**Sg**	**00 44 26.8**	**+0.4**
	15nm,0.6s						
TNSS	**Tian-Shan**	**3.36**	**60**	Pg	**Pg**	**00 43 41.2**	**-1.6**
	8.2nm,0.5s						
TNSS				Lg	Lg	00 44 26.8	
	15nm,0.6s						
MDOK	**Medeo**	**3.49**	**59**	*e*P	**Pg**	**00 43 43.5**	**-1.7**
	14nm,0.6s						
MDOK				*e*S	**Sg**	**00 44 28.6**	**-1.8**
	16nm,0.6s						
MDOK	**Medeo**	**3.49**	**59**	⇓Pn	**Pb**	**00 43 39.3**	**-0.4**
	14nm,0.7s						
MDOK				Pg	**Pg**	**00 43 43.5**	**-1.7**
	14nm,0.6s						
MDOK				Lg	Lg	00 44 28.6	
	16nm,0.6s						
MDOK				⇑Lg	Lg	00 44 35.6	
	18nm,0.7s						
KUU	**Kurty**	**3.50**	**44**	*e*P	**Pg**	**00 43 44.2**	**-1.2**
	6.6nm,0.3s						
KUU				*e*S	**Sg**	**00 44 29.7**	**-0.9**
	22nm,0.4s						
KUU	**Kurty**	**3.50**	**44**	Pg	**Pg**	**00 43 44.2**	**-1.2**
	6.6nm,0.3s						
KUU				Lg	Lg	00 44 29.7	
	22nm,0.4s						
KTBS	**Karatobe**	**3.57**	**49**	*e*P	**Pg**	**00 43 45.2**	**-1.5**
	5.9nm,0.3s						
KTBS				*e*S	**Sg**	**00 44 31.5**	**-1.4**
	49nm,0.4s						
KTBS	**Karatobe**	**3.57**	**49**	Pg	**Pg**	**00 43 45.2**	**-1.5**
	5.9nm,0.3s						
KTBS				Lg	Lg	00 44 31.5	
	49nm,0.4s						
BTLS	**Baital**	**3.69**	**12**	*e*P	**Pg**	**00 43 47.3**	**-1.7**
	1.5nm,0.2s						
BTLS				*e*S	**Sg**	**00 44 34.5**	**-2.2**
	10.0nm,0.2s						
BTLS	**Baital**	**3.69**	**12**	Pg	**Pg**	**00 43 47.3**	**-1.7**
	1.5nm,0.2s						
BTLS				Lg	Lg	00 44 34.5	
	10.0nm,0.2s						
CHKK	**Chushkaly**	**3.83**	**50**	*e*P	**Pg**	**00 43 49.9**	**-1.8**
	4.9nm,0.4s						
CHKK				*e*S	**Sg**	**00 44 39.4**	**-1.8**
	13nm,0.5s						
CHKK	**Chushkaly**	**3.83**	**50**	Pg	**Pg**	**00 43 49.9**	**-1.8**
	4.9nm,0.4s						
CHKK				Lg	Lg	00 44 39.4	
	13nm,0.5s						
SATY	**Saty**	**4.36**	**66**	*e*P	**Pg**	**00 44 00.1**	**-1.7**
	3.5nm,0.5s						
SATY				*e*S	**Sg**	**00 44 57.1**	**-1.1**
	8.6nm,0.6s						
SATY	**Saty**	**4.36**	**66**	Pg	**Pg**	**00 44 00.1**	**-1.7**
	3.5nm,0.5s						
SATY				Lg	Lg	00 44 57.1	
	8.6nm,0.6s						
KURS	**Kuram**	**4.36**	**60**	*e*P	**Pg**	**00 44 02.0**	**+0.1**
	3.2nm,0.7s						
KURS				*e*S	**Sg**	**00 45 00.1**	**+1.7**
	5.3nm,0.7s						
ARXS	**Arharly**	**4.53**	**51**	*e*P	**Pg**	**00 44 03.1**	**-1.9**
	9.8nm,0.8s						
ARXS				*e*S	**Sg**	**00 45 02.1**	**-1.6**
	12nm,0.4s						
ARXS	**Arharly**	**4.53**	**51**	Pg	**Pg**	**00 44 03.2**	**-1.9**
	9.8nm,0.8s						
ARXS				Lg	Lg	00 45 02.1	
	12nm,0.4s						
KPKS	**Kokpek**	**4.69**	**63**	*e*P	**Pg**	**00 44 05.3**	**-2.9**
	4.7nm,0.5s						
KPKS				*e*S	**Sg**	**00 45 05.8**	**-3.3**
	7.6nm,0.3s						
KPKS	**Kokpek**	**4.69**	**63**	Pg	**Pg**	**00 44 05.3**	**-2.9**
	4.7nm,0.5s						
KPKS				Lg	Lg	00 45 05.8	
	7.6nm,0.3s						
UZB	**Uzynbulak**	**4.81**	**67**	*e*P	**Pg**	**00 44 08.3**	**-2.2**
	1.8nm,0.3s						
UZB				*e*S	**Sg**	**00 45 11.2**	**-1.6**
	7.2nm,0.4s						
UZB	**Uzynbulak**	**4.81**	**67**	Pg	**Pg**	**00 44 08.3**	**-2.2**
	1.8nm,0.3s						
UZB				Lg	Lg	00 45 11.1	
	7.2nm,0.4s						
SHLS	**Shalkode**	**5.12**	**68**	*e*P	Pg	00 44 21.1	+4.7
	1.7nm,0.3s						
SHLS				*e*S	Sg	00 45 33.1	+10
	5.2nm,0.5s						
SHLS	**Shalkode**	**5.12**	**68**	Pg	Pg	00 44 21.1	+4.7
	1.7nm,0.3s						
PDGK	**Podgornoye**	**5.19**	**66**	Pg	**Pg**	**00 44 14.8**	**-3.0**
	1.5nm,0.5s						
PDGK				Lg	Lg	00 45 22.9	
	2.8nm,0.6s						
PDGK	**Podgornoye**	**5.19**	**66**	⇓Pg	**Pg**	**00 44 18.8**	**+1.0**
	2.6nm,0.6s						
PDGK				⇑Lg	Lg	00 45 30.7	
	11nm,1.2s						
TDK	**Taldyqorghan**	**5.34**	**46**	*e*P	**Pg**	**00 44 19.6**	**-1.0**
	20nm,0.3s						
TDK				*e*S	**Sg**	**00 45 30.5**	**+0.9**
	21nm,0.3s						
TDK	**Taldyqorghan**	**5.34**	**46**	Pg	**Pg**	**00 44 19.6**	**-1.0**
	20nm,0.3s						
DJR	**Jarkent**	**5.79**	**58**	*e*P	**Pg**	**00 44 26.4**	**-2.8**
	1.7nm,0.3s						
DJR				*e*S	**Sg**	**00 45 42.6**	**-1.6**
	8.3nm,1.2s						
DJR	**Jarkent**	**5.79**	**58**	Pg	**Pg**	**00 44 26.4**	**-2.8**
	1.7nm,0.3s						
DJR				Lg	Lg	00 45 42.6	
	8.3nm,1.2s						
OTUK	**Ortayu**	**6.82**	**356**	⇓Lg	Lg	00 46 14.5	
	8.9nm,0.6s						

*IDC **01** 00:42:40.6±1.3, 52°.54N×101°.52E, h0km, mb3.7/3, mbtmp3.5/8, ML2.8/5, MS3.0/4, Error ellipse: s-maj=24.0km s-min=17.2km az=40.0*
*MOS **01** 00:42:42.7±1.3, 52°.27N×101°.04E, h11km, mb4.1/5, Error ellipse: s-maj=10.6km s-min=7.9km az=40.6*
MOS Felt (III) at Orlik.
*BYKL **01** 00:42:44.0±0.3, 52°.32N×101°.14E, FELT I=III-IV MSK at Orlik, II at Irkutsk*
ISC 01 00:42:42.8±1.1**, 52°.38N**±0°.03×**101°.21E**±0°.02**, h1**km±8km**, n59,** σ**2s.00**/98**, mb3.8**/6**, MS3.3**/4**, 7C-6D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.72**	**191**	⇑*i*Pg	**Pg**	**00 42 56.4**	**-0.1**
MOY				Pmax		00 42 57.2	
	870nm,0.4s						
MOY				*e*Sg	**Sg**	**00 43 05.0**	**-0.9**
MOY				Smax		00 43 05.6	
	19µm,0.6s						
MOY	**Mondy**	**0.72**	**191**	*e*PG	**Pg**	**00 42 56.5**	**-0.1**
MOY				*e*		00 43 05.0	
ORL	**Orlik**	**0.87**	**281**	⇓*i*Pg	**Pg**	**00 42 59.8**	**+0.4**
ORL				Pmax		00 43 00.7	
	804nm,0.1s						
ORL				*e*Sg	**Sg**	**00 43 11.2**	**+0.5**
ORL				Smax		00 43 12.2	
	10µm,0.3s						
ORL	**Orlik**	**0.87**	**281**	⇑*i*PG	**Pg**	**00 43 00.0**	**+0.6**
ORL				*e*		00 43 11.5	
ORL				pmax	pmax		
	comp=Z,807nm,0.1s						
ORL				smax	smax		
	comp=N,10µm,0.3s						
ARS	**Arshan**	**0.88**	**121**	⇑*i*Pg	**Pg**	**00 43 00.6**	**+1.0**
ARS				Pmax		00 43 01.0	
	comp=N,1µm,0.2s						
ARS				*e*Sg	**Sg**	**00 43 12.2**	**+1.3**
ARS				Smax		00 43 13.8	
	comp=N,29µm,0.4s						
ARS	**Arshan**	**0.88**	**121**	⇑*i*PG	**Pg**	**00 43 00.5**	**+1.0**
ARS				*e*		00 43 12.8	
ARS				pmax	pmax		
	comp=Z,1µm,0.2s						
ARS				smax	smax		
	comp=N,29µm,0.3s						
TLY	**Talaya**	**1.66**	**114**	⇑*i*Pg	**Pn**	**00 43 14.1**	**+1.1**
TLY				*e*		00 43 18.5	
TLY				max		00 43 20.0	
	comp=N,401nm,0.3s						
TLY				*e*Sg	**Sb**	**00 43 35.8**	**+0.4**
TLY				Smax		00 43 41.9	
	comp=N,2µm,0.5s						
TLY	**Talaya**	**1.66**	**114**	⇑*i*PN	**Pn**	**00 43 14.1**	**+1.1**
TLY				*e*		00 43 35.6	
TLY				*e*S	**Sb**	**00 43 36.6**	**+1.2**
TLY				pmax	pmax		
	comp=Z,440nm,0.5s						
TLY				smax	smax		
	comp=E,2µm,0.6s						
IRK	**Irkutsk**	**1.89**	**93**	*e*Pn	**Pn**	**00 43 17.3**	**+1.2**
IRK				*e*Pg	**Pb**	**00 43 18.5**	**+0.6**
IRK				Pmax		00 43 19.1	
	comp=E,2µm,0.3s						
IRK				*e*		00 43 21.1	
IRK				*e*Sg	**Sb**	**00 43 43.1**	**+1.1**
IRK				Smax		00 43 45.8	
	comp=E,9µm,0.4s						
IRK	**Irkutsk**	**1.89**	**93**	*e*PN	**Pn**	**00 43 17.3**	**+1.2**
IRK				*e*		00 43 18.5	
IRK				*e*		00 43 43.0	
IRK				pmax	pmax		
	comp=Z,2µm,0.3s						
IRK				smax	smax		
	comp=E,9µm,0.4s						
IVK	**Ivanovka**	**2.06**	**105**	*e*Pg	**Pb**	**00 43 21.1**	**+0.2**
IVK				Pmax		00 43 22.0	
	comp=E,334nm,0.4s						
IVK				*e*Sg	**Sb**	**00 43 47.4**	**+0.4**
IVK				Smax		00 43 49.4	
	comp=E,2µm,0.5s						
IVK	**Ivanovka**	**2.06**	**105**	*e*PN	**Pn**	**00 43 20.3**	**+1.8**
IVK				*e*		00 43 21.7	
IVK				*e*		00 43 47.3	
IVK				pmax	pmax		
	comp=Z,370nm,0.7s						
IVK				smax	smax		
	comp=E,2µm,0.5s						
LSTR	**Listvyanka**	**2.29**	**101**	⇑*i*Pg	**Pb**	**00 43 24.2**	**-0.6**
LSTR				Pmax		00 43 24.6	
	comp=E,242nm,0.5s						
LSTR				*e*Sg	**Sb**	**00 43 53.9**	**+0.3**
LSTR				Smax		00 44 02.6	
	comp=E,2µm,1.0s						
LSTR	**Listvyanka**	**2.29**	**101**	*e*PN	**Pb**	**00 43 24.1**	**-0.7**
LSTR				*e*		00 43 55.6	
LSTR				pmax	pmax		
	comp=Z,240nm,0.6s						
LSTR				smax	smax		
	comp=N,2µm,1.0s						
ZAK	**Zakamensk**	**2.38**	**146**	*e*Pg	**Pb**	**00 43 25.6**	**-0.9**
ZAK				*e*		00 43 33.0	
ZAK				max		00 43 33.7	
	comp=N,669nm,0.4s						
ZAK				*e*Sg	**Sb**	**00 43 57.0**	**+0.6**
ZAK				Smax		00 44 11.1	
	comp=N,1µm,0.9s						
ZAK	**Zakamensk**	**2.38**	**146**	⇓*i*PN	**Pb**	**00 43 25.6**	**-0.9**
ZAK				*e*		00 43 57.1	
ZAK				pmax	pmax		
	comp=Z,666nm,0.4s						
ZAK				smax	smax		
	comp=N,1µm,0.9s						
BGT	**Bolshoye Golou**	**2.60**	**96**	*e*Pn	**Pn**	**00 43 27.8**	**+1.9**
BGT				*e*Pg	**Pb**	**00 43 31.2**	**+1.0**
BGT				Pmax		00 43 37.2	
	comp=N,209nm,0.4s						
BGT				*e*		00 44 00.2	
BGT				*e*Sg	**Sb**	**00 44 05.0**	**+2.3**
BGT				Smax		00 44 08.5	
	comp=N,3µm,0.6s						
BGT	**Bolshoye Golou**	**2.60**	**96**	*e*PN	**Pn**	**00 43 28.2**	**+2.3**
BGT				*e*		00 43 31.3	
BGT				*e*S	**Sn**	**00 44 00.4**	**+2.2**
BGT				*e*		00 44 04.6	
BGT				pmax	pmax		
	comp=Z,260nm,0.5s						
BGT				smax	smax		
	comp=E,3µm,0.6s						
TRG	**Tyrgan**	**3.16**	**81**	⇓*i*Pn	**Pn**	**00 43 34.9**	**+1.3**
TRG				*e*Pg	**Pb**	**00 43 41.8**	**+2.1**
TRG				Pmax		00 43 43.9	
	comp=E,110nm,0.3s						
TRG				*e*Sn	**Sn**	**00 44 12.7**	**+0.8**
TRG				*e*Sg	**Sg**	**00 44 24.5**	**+0.3**
TRG	**Tyrgan**	**3.16**	**81**	⇓*i*PN	**Pn**	**00 43 34.9**	**+1.3**
TRG				*e*		00 43 42.0	
TRG				*e*S	**Sn**	**00 44 13.7**	**+1.8**
TRG				*e*		00 44 24.6	
TRG				pmax	pmax		
	comp=Z,129nm,0.3s						
TRG				smax	smax		
	comp=N,1µm,0.5s						
KAB	**Kabansk**	**3.37**	**93**	*e*Pn	**Pn**	**00 43 39.1**	**+2.7**
KAB				*e*Pg	**Pb**	**00 43 44.9**	**+1.7**
KAB				Pmax		00 43 47.8	
	comp=N,495nm,0.8s						
KAB				*e*Sn	**Sn**	**00 44 17.8**	**+0.8**
KAB				*e*Sg	**Sg**	**00 44 29.6**	**-1.2**
KAB				Smax		00 44 35.5	
	comp=N,5µm,0.8s						
FFNB	**Fofonovo**	**3.43**	**93**	*e*Pn	**Pn**	**00 43 39.0**	**+1.6**
FFNB				*e*Pg	**Pb**	**00 43 47.2**	**+2.9**
FFNB				*e*		00 44 21.3	
FFNB				*e*Sg	**Sb**	**00 44 30.7**	**+4.2**
UUDB	**Ulan-Yde**	**4.01**	**95**	*e*Pn	**Pn**	**00 43 47.1**	**+1.8**
UUDB				*e*Pg	**Pb**	**00 43 55.8**	**+1.6**
UUDB				Pmax		00 44 10.1	
	comp=N,122nm,1.2s						
UUDB				*e*Sn	**Sn**	**00 44 33.5**	**+0.6**
UUDB				*e*Sg	**Sg**	**00 44 49.2**	**-2.3**
UUDB				Smax		00 44 51.2	
	comp=N,1µm,1.3s						
OGRR	**Ongureny**	**4.06**	**69**	*e*Pn	**Pn**	**00 43 48.5**	**+2.5**
OGRR				*e*		00 43 50.5	
OGRR				*e*		00 44 00.9	
OGRR				max		00 44 01.1	
	comp=N,132nm,0.3s						
OGRR				*e*Sn	**Sn**	**00 44 35.7**	**+1.6**
OGRR				*e*Sg	**Sg**	**00 44 52.0**	**-1.1**
OGRR				Smax		00 44 54.8	
	comp=N,1µm,0.6s						
OGRR	**Ongureny**	**4.06**	**69**	⇓*i*PN	**Pn**	**00 43 48.5**	**+2.5**
OGRR				*e*		00 43 59.4	
OGRR				*e*		00 44 53.7	
OGRR				pmax	pmax		
	comp=Z,132nm,0.3s						
OGRR				smax	smax		
	comp=E,1µm,0.7s						
KELR	**Kotokel**	**4.21**	**82**	*e*Pn	**Pn**	**00 43 49.2**	**+1.2**
KELR				*e*		00 44 39.8	
KELR				*e*Sg	**Sg**	**00 44 55.8**	**-2.1**
KZLR	**Kyzyl**	**4.22**	**264**	Smax		00 43 58.0	
KZLR				*e*Sg	**Sb**	**00 44 51.4**	**+2.1**
MXMB	**Maximikha**	**4.66**	**76**	*e*Pn	**Pn**	**00 43 55.9**	**+1.8**
MXMB				*e*Sg	**Sg**	**00 45 09.4**	**-2.8**
SYVR	**Suvo**	**5.46**	**73**	*e*Pn	**Pn**	**00 44 06.7**	**+1.5**
SYVR				max		00 44 09.0	
	comp=E,42nm,0.4s						
SYVR				*e*Sn	**Sn**	**00 45 07.6**	**-1.0**
SYVR				*e*Sg	**Sg**	**00 45 34.9**	**-3.1**
SYVR				Smax		00 45 40.4	
	comp=E,353nm,1.0s						
SONM	**Songino Array**	**5.64**	**142**	Pn	**Pn**	**00 44 06.2**	**-1.5**
	comp=E,0.1nm,0.3s,baz=330,slow=14,SNR=2.0						
SONM				Pg	**Pb**	**00 44 24.7**	**+2.7**
	comp=E,13nm,0.3s,baz=323,slow=17,SNR=108						
SONM				Lg	Lg	00 45 39.0	
	comp=E,27nm,0.3s,baz=325,slow=31,SNR=18						
SONM				LR	LR	00 46 33.0	
	comp=E,104nm,21.2s,baz=306,slow=41						
ULN	**Ulaanbaatar**	**5.87**	**138**	*e*Pg	**Pb**	**00 44 29.8**	**+3.8**
ULN				*e*Sg	**Sg**	**00 45 45.5**	**-5.8**
ULN	**Ulaanbaatar**	**5.87**	**138**	*i* PN	**Pn**	**00 44 09.8**	**-1.2**
NIZ	**Nizh Angarsk**	**5.97**	**52**	*e*Pn	**Pn**	**00 44 13.5**	**+1.3**
NIZ				*e*		00 44 22.4	
NIZ				*e*Pg	Pb	00 44 33.7	+6.2
NIZ				Pmax		00 44 37.6	
	comp=E,99nm,0.6s						
NIZ				*e*Sn	**Sn**	**00 45 19.8**	**-1.3**
NIZ				*e*Sg	**Sg**	**00 45 50.7**	**-3.6**
NIZ				Smax		00 46 06.9	
	comp=E,247nm,1.1s						
YLYR	**Ulyunkhan**	**6.43**	**63**	*e*Pn	**Pn**	**00 44 19.8**	**+1.3**
YLYR				max		00 44 22.7	
	comp=E,33nm,0.4s						
YLYR				*e*Sn	**Sn**	**00 45 31.5**	**-0.9**
YLYR				*e*Sg	**Sg**	**00 46 05.3**	**-3.7**
YLYR				Smax		00 46 13.8	
	comp=E,314nm,1.2s						
KMO	**Kumora**	**6.84**	**55**	*e*Pn	**Pn**	**00 44 25.8**	**+1.7**
KMO				max		00 44 28.4	
	comp=E,151nm,0.3s						
KMO				*e*Sn	**Sn**	**00 45 42.0**	**-0.6**
KMO				*e*Sg	**Sg**	**00 46 18.8**	**-3.5**
KMO				Smax		00 46 35.2	
	comp=E,404nm,1.1s						
KPC	**Khapcheranga**	**7.53**	**106**	*e*Pn	**Pn**	**00 44 34.8**	**+1.1**
KPC				*e*		00 44 42.7	
KPC				*e*Pg	Pb	00 45 01.1	+6.9
KPC				Pmax		00 45 26.5	
	comp=E,11nm,1.0s						
KPC				Smax		00 45 58.0	
	comp=E,156nm,1.2s						
KPC				*e*Sg	**Sg**	**00 46 38.7**	**-5.8**
UKT	**Uakit**	**7.96**	**62**	*e*Pn	**Pn**	**00 44 40.7**	**+1.1**
UKT				*e*		00 44 50.6	
UKT				max		00 45 01.9	
	comp=E,28nm,1.1s						
UKT				*e*Sg	Sg	00 46 51.8	-6.5
UKT				Smax		00 47 16.4	
	comp=E,133nm,1.6s						
DGZ	**Jazzator, Alta**	**9.09**	**258**	*i* PN	**Pn**	**00 44 53.8**	**-1.2**
BOD	**Bodaibo**	**9.13**	**48**	*e*Pn	**Pn**	**00 44 56.4**	**+0.9**
BOD				max		00 45 13.2	
	comp=E,27nm,0.7s						
BOD				*e*Sn	**Sn**	**00 46 37.1**	**-1.7**
BOD				*e*Sg		00 47 28.5	
BOD				Smax		00 47 41.6	
	comp=E,88nm,1.5s						
NLYR	**Nelyaty**	**9.39**	**58**	*e*Pn	**Pn**	**00 45 00.5**	**+1.4**
NLYR				max		00 45 21.7	
	comp=E,15nm,0.8s						
NLYR				*e*Sg	Sn	00 47 36.3	+51
NLYR				Smax		00 48 10.0	
	comp=E,145nm,1.3s						
ZALV	**Zalesovo Beam**	**9.97**	**286**	Pn	**Pn**	**00 45 08.5**	**+1.5**
	comp=E,0.1nm,0.3s,baz=92,slow=12,SNR=4.0						
ZALV				Lg	Lg	00 47 45.7	
	comp=E,0.3nm,0.3s,baz=87,slow=25,SNR=3.7						
	comp=E,1.3nm,0.7s						
TUP	**Tupik**	**11.38**	**72**	Smax		00 45 28.0	
TUP				Smax		00 47 41.6	
	comp=E,105nm,1.3s						
TUP				*e*Sg		00 48 37.8	
MKAR	**Makanchi Array**	**13.47**	**253**	Pn	**Pn**	**00 45 57.1**	**+2.3**
	baz=56,slow=8.6,SNR=2.0						
MKAR				Lg	Lg	00 49 45.1	
	comp=E,0.1nm,0.3s,baz=55,slow=18,SNR=1.5						
MKAR				LR	LR	00 51 21.5	
	comp=E,43nm,18.9s,baz=112,slow=38						
	comp=E,0.7nm,1.0s						
KURK	**Kurchatov**	**14.14**	**272**	P	**Pn**	**00 46 05.3**	**+1.3**
KURBB	**Kurchatov Arra**	**14.22**	**272**	Pn	**Pn**	**00 46 05.3**	**+0.2**
	comp=E,0.2nm,0.3s,baz=78,slow=13,SNR=2.4						
KURBB				Lg	Lg	00 50 05.7	
	baz=82,slow=32,SNR=1.4						
ZEA	**Zeya**	**15.69**	**75**	*e*P	**Pn**	**00 46 26.5**	**+1.8**
ZEA				*e*		00 49 30.3	
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NRIK	**Noril'sk**	**18.19**	**344**	P	**Pn**	**00 46 52.1**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=135,slow=13,SNR=2.9						
NRIK				S	Sn	00 50 01.9	-17
	comp=Z,1.2nm,0.7s,baz=180,slow=20,SNR=1.3						
	comp=Z,0.7nm,0.4s						
NRIK	**Noril'sk**	**18.19**	**344**	*i* P	**P**	**00 46 58.7**	**+2.2**
NRIK				pmax	pmax		
	comp=Z,10.0nm,2.9s						
BVAR	**Borovoye Array**	**18.62**	**284**	P	**P**	**00 46 59.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=83,slow=12,SNR=4.9						
	comp=Z,0.5nm,0.6s						
TIXI	**Tiksi**	**22.87**	**22**	P	**P**	**00 47 43.5**	**-3.7**
	comp=Z,1.3nm,0.3s,baz=270,slow=20,SNR=0.9						
	comp=Z,1.3nm,0.3s						
TIXI	**Tiksi**	**22.87**	**22**	*i* P	**P**	**00 47 48.6**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**23.91**	**118**	LR	LR	00 56 16.2	
	comp=Z,14nm,20.2s,baz=120,slow=34						
ARU	**Arti**	**24.85**	**296**	*d i*P	**P**	**00 48 05.5**	**-0.8**
ARU				S	**S**	**00 52 28.9**	**-0.8**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BILL	**Bilibino**	**33.98**	**38**	*e*P	**P**	**00 49 29.4**	**+2.1**
BILL				*e*		00 50 45.5	
BILL				*e*PPP	PPP	00 50 54.9	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.8s						
BILL				MLR	MLR		
	comp=Z,25nm,11.0s						
OBN	**Obninsk**	**37.11**	**301**	*e*P	**P**	**00 49 52.5**	**-1.8**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,44nm,15.0s						
FINES	**FINESS Array B**	**39.78**	**313**	P	**P**	**00 50 14.8**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=77,slow=8.8,SNR=13						
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**39.78**	**313**	*i* P	**P**	**00 50 16.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MMAI	**Mount Meron Ar**	**50.24**	**275**	LR	LR	01 14 30.5	
	comp=Z,64nm,21.5s,baz=283,slow=38						
TORD	**Torodi Ar. Bea**	**85.42**	**285**	P	**P**	**00 55 20.5**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=40,slow=5.3,SNR=2.0						
	comp=Z,0.3nm,0.8s						

IDC 01 00:44:56.2±1.4**, 3°.08S**×**130°.05E, h0**km**, mb3.6**/3**, mbtmp3.6**/5**, ML3.4**/2**, MS2.9**/1**, Error ellipse: s-maj=55.9km s-min=24.4km az=81.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.51**	**29**	Pn	Pn	00 45 38.7	+0.4
	3.5nm,0.3s,baz=139,slow=20,SNR=1.9						
SIJI				Sn	Sn	00 46 05.3	-4.3
	6.9nm,0.3s,baz=270,slow=20,SNR=5.2						
	10nm,0.2s						
DAV	**Davao City (W)**	**11.03**	**336**	LR	LR	00 52 53.8	
	comp=Z,62nm,20.5s,baz=220,slow=43						
WRA	**Warramunga Arr**	**17.27**	**166**	P	Pn	00 48 58.3	-0.7
	0.2nm,0.3s,baz=350,slow=12,SNR=12						
WRA				S	Sn	00 52 03.3	-8.6
	0.6nm,1.1s,baz=354,slow=23,SNR=1.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**20.80**	**170**	P	P	00 49 39.5	+0.2
	1.3nm,0.5s,baz=351,slow=11,SNR=9.4						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**65.02**	**326**	P	P	00 55 37.9	-0.3
	0.4nm,0.5s,baz=112,slow=8.0,SNR=4.7						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**69.23**	**328**	P	P	00 56 05.2	+0.3
	0.2nm,0.3s,baz=120,slow=5.5,SNR=1.4						
	0.2nm,0.3s						

PRU ***01*** *00:56:56.6±0.0, 42˚.93N×13˚.88E, h10km*
VIE ***01*** *00:56:57.2±1.7, 42˚.99N×13˚.29E, h10km, mb2.6/4, ml2.4/5, Error ellipse: s-maj=19.6km s-min=7.7km az=121.0 122 km SSE of San Marino*

ROM 01 00:56:36.9±0.1, 42˚.817N±0˚.003×13˚.164E±0˚.003, h10km, ML2.6/45, 26C-22D, Error ellipse: s-maj=0.3km s-min=0.1km az=344.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
T1245	**Castelsantange**	**0.04**	**24**	P		Pg	00 56 39.5	+0.3
T1245				S		Sg	00 56 40.7	+0.1
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
T1216	**Preci, Frazion**	**0.13**	**305**	⇓P		Pg	00 56 40.6	+0.6
T1216				S		Sg	00 56 43.0	+0.8
T1216					AML	AML		
	comp=E,17300μm,0.4s							
T1216					AML	AML		
	comp=N,28350μm,0.4s							
T1216					AML	AML		
	comp=E,17300μm,0.4s							
T1216					AML	AML		
	comp=N,28350μm,0.4s							
T1216					AML	AML		
	comp=E,17350μm,0.4s							
MMO1	**Montemonaco**	**0.14**	**55**	⇓P		Pg	00 56 40.8	+0.5
MMO1				S		Sg	00 56 43.5	+0.9
FEMA	**Monte Fema**	**0.17**	**330**	⇓P		Pg	00 56 41.3	+0.6
FEMA				S		Sg	00 56 44.0	+0.7
FEMA					AML	AML		
	comp=E,7485μm,0.5s							
FEMA					AML	AML		
	comp=N,5165μm,0.9s							
FEMA					AML	AML		
	comp=N,5160μm,0.9s							
FEMA					AML	AML		
	comp=E,7480μm,0.5s							
FEMA					AML	AML		
	comp=N,5160μm,1.0s							
T1256	**Bolognola (MC)**	**0.19**	**13**	⇑P		Pg	00 56 41.7	+0.5
T1256				S		Sg	00 56 45.0	+0.9
T1256					AML	AML		
	comp=E,5755μm,1.2s							
T1256					AML	AML		
	comp=E,5845μm,1.2s							
T1256					AML	AML		
	comp=N,7320μm,0.6s							
T1256					AML	AML		
	comp=N,7605μm,0.6s							
T1256					AML	AML		
	comp=N,7600μm,0.6s							
T1256					AML	AML		
	comp=N,7325μm,0.6s							
T1256					AML	AML		
	comp=E,5840μm,1.2s							
T1256					AML	AML		
	comp=E,5755μm,1.2s							
T1241	**Roccafluvione,**	**0.20**	**79**	⇑P		Pg	00 56 41.9	+0.7
T1241				S		Sg	00 56 45.3	+1.2
T1241					AML	AML		
	comp=E,5270μm,0.3s							
T1241					AML	AML		
	comp=N,7800μm,0.6s							
T1217	**Poggiodomo (PG**	**0.20**	**239**	⇑P		Pg	00 56 41.6	+0.4
T1217				S		Sg	00 56 45.5	+1.4
T1217					AML	AML		
	comp=E,2010μm,0.7s							
T1217					AML	AML		
	comp=N,2860μm,0.4s							
T1217					AML	AML		
	comp=E,1970μm,0.7s							
T1217					AML	AML		
	comp=N,2900μm,0.4s							
T1217					AML	AML		
	comp=N,2855μm,0.4s							
T1217					AML	AML		
	comp=N,2905μm,0.4s							
T1217					AML	AML		
	comp=E,2005μm,0.7s							
T1217					AML	AML		
	comp=N,2855μm,0.4s							
T1217					AML	AML		
	comp=E,1975μm,0.7s							
T1217					AML	AML		
	comp=N,2910μm,0.4s							
T1217					AML	AML		
	comp=E,1980μm,0.7s							
AM05	**Amandola Campo**	**0.21**	**41**	⇑P		Pg	00 56 42.1	+0.7
AM05				S		Sg	00 56 45.5	+1.1
AM05					AML	AML		
	comp=E,1080μm,0.7s							
AM05					AML	AML		
	comp=N,1905μm,0.2s							
AM05					AML	AML		
	comp=E,1080μm,0.7s							
AM05					AML	AML		
	comp=E,4510μm,0.7s							
AM05					AML	AML		
	comp=N,1900μm,0.2s							
AM05					AML	AML		
	comp=N,300μm,1.1s							
AM05					AML	AML		
	comp=E,1078μm,0.7s							
T1215	**Vallo di Nera,**	**0.22**	**266**	⇑P		Pg	00 56 42.2	+0.7
T1215				S		Sg	00 56 45.8	+1.2
T1215					AML	AML		
	comp=N,2150μm,0.4s							
T1215					AML	AML		
	comp=E,2345μm,0.4s							
T1215					AML	AML		
	comp=N,2190μm,0.2s							
T1215					AML	AML		
	comp=E,2245μm,0.4s							
T1215					AML	AML		
	comp=N,2155μm,0.4s							
T1215					AML	AML		
	comp=E,2350μm,0.4s							
T1215					AML	AML		
	comp=N,2188μm,0.2s							
T1215					AML	AML		
	comp=E,2250μm,0.4s							
T1243	**Rocca Santa Ma**	**0.24**	**120**	⇑P		Pg	00 56 42.5	+0.5
T1243				S		Sg	00 56 46.5	+1.2
GUMA	**Gualdo di Mace**	**0.28**	**27**	⇑P		Pb	00 56 43.4	-0.6
GUMA				S		Sb	00 56 48.1	-0.7
GUMA					AML	AML		
	comp=N,8835μm,0.6s							
GUMA					AML	AML		
	comp=N,7855μm,0.4s							
GUMA					AML	AML		
	comp=E,6825μm,0.5s							
GUMA					AML	AML		
	comp=E,9355μm,0.4s							
RM33	**Pellescritta (**	**0.31**	**173**	⇓P		Pg	00 56 43.9	+0.7
RM33					AML	AML		
	comp=N,1615μm,0.3s							
RM33					AML	AML		
	comp=E,1370μm,0.3s							
RM33					AML	AML		
	comp=N,1620μm,0.3s							
RM33					AML	AML		
	comp=E,1400μm,0.3s							
RM33					AML	AML		
	comp=N,1570μm,0.3s							
RM33					AML	AML		
	comp=E,1405μm,0.3s							
CAMP	**Campotosto**	**0.33**	**147**	⇓P		Pg	00 56 44.1	+0.4
CAMP					AML	AML		
	comp=E,513μm,0.2s							
CAMP					AML	AML		
	comp=N,627μm,0.4s							
CAMP					AML	AML		
	comp=E,512μm,0.2s							
CAMP					AML	AML		
	comp=N,626μm,0.4s							
T1211	**Morro Reatino**	**0.36**	**219**	S		Sb	00 56 52.0	+0.7
SEF1	**Sefro**	**0.37**	**334**	⇑P		Pg	00 56 44.7	+0.5
SEF1				S		Sg	00 56 50.1	+1.0
ARRO	**Arrone**	**0.38**	**231**	⇑P		Pg	00 56 45.0	+0.6
ARRO					AML	AML		
	comp=E,727μm,0.7s							
ARRO					AML	AML		
	comp=E,726μm,0.7s							
ARRO					AML	AML		
	comp=N,746μm,1.0s							
TERO	**Teramo**	**0.38**	**121**	⇓P		Pg	00 56 44.7	+0.3
TERO					AML	AML		
	comp=E,1415μm,0.2s							
TERO					AML	AML		
	comp=N,1900μm,0.4s							
T1247	**Pizzolo (AQ)**	**0.39**	**165**	⇓P		Pg	00 56 45.2	+0.5
T1247					AML	AML		
	comp=N,1615μm,0.3s							
T1247					AML	AML		
	comp=E,1360μm,0.8s							
OFFI	**Offida**	**0.40**	**73**	⇓P		Pb	00 56 46.2	+0.1
OFFI					AML	AML		
	comp=E,1880μm,0.5s							
OFFI					AML	AML		
	comp=N,2725μm,0.5s							
GAG1	**Gagliole**	**0.43**	**350**	P		Pb	00 56 46.0	-0.6
ASSB	**Assisi San Ben**	**0.43**	**301**	⇓P		Pg	00 56 45.8	+0.3
ASSB					AML	AML		
	comp=E,841μm,0.7s							
ASSB					AML	AML		
	comp=N,801μm,0.6s							
ASSB					AML	AML		
	comp=E,840μm,0.7s							
SNTG	**Esanatoglia**	**0.47**	**340**	⇓P		Pg	00 56 46.4	+0.3
SNTG					AML	AML		
	comp=E,521μm,0.3s							
SNTG					AML	AML		
	comp=E,526μm,0.3s							
SNTG					AML	AML		
	comp=N,678μm,0.5s							
SNTG					AML	AML		
	comp=N,674μm,0.8s							
SNTG					AML	AML		
	comp=E,522μm,0.3s							
GIGS	**Gran Sasso**	**0.47**	**141**	⇑P		Pg	00 56 46.3	+0.1
GIGS					AML	AML		
	comp=N,170μm,0.5s							
GIGS					AML	AML		
	comp=E,226μm,0.2s							
GIGS					AML	AML		
	comp=N,170μm,0.5s							
CESX	**Cesi**	**0.48**	**245**	⇓P		Pg	00 56 46.7	+0.5
CESX					AML	AML		
	comp=N,892μm,0.3s							
CESX					AML	AML		
	comp=E,822μm,0.4s							
AQU	**L'Aquila**	**0.49**	**159**	⇓P		Pb	00 56 47.4	-0.3
AQU					AML	AML		
	comp=E,438μm,1.4s							
AQU					AML	AML		
	comp=N,572μm,1.5s							
AQU					AML	AML		
	comp=E,446μm,0.9s							
AQU					AML	AML		
	comp=N,588μm,1.5s							
AQU					AML	AML		
	comp=E,446μm,0.9s							
AQU					AML	AML		
	comp=N,588μm,1.5s							
EL6	**Elcito**	**0.51**	**355**	⇓P		Pg	00 56 47.3	+0.3
EL6					S	Sb	00 56 56.0	+0.3
ATCC	**AVT- Casa Cast**	**0.53**	**314**	⇓P		Pg	00 56 47.6	+0.3
ATCC					AML	AML		
	comp=N,766μm,0.9s							
ATCC					AML	AML		
	comp=E,1260μm,0.7s							
ATCC					AML	AML		
	comp=N,766μm,0.9s							
FIAM	**Fiamignano**	**0.55**	**184**	⇑P		Pg	00 56 47.9	+0.3
FIAM					S	Sb	00 56 57.0	+0.3
FIAM					AML	AML		
	comp=E,490μm,0.3s							
FIAM					AML	AML		
	comp=N,509μm,1.4s							
FIAM					AML	AML		
	comp=E,490μm,0.3s							
FIAM					AML	AML		
	comp=N,510μm,1.4s							
TRTR	**Tortoreto Alta**	**0.55**	**91**	⇓P		Pb	00 56 49.3	+0.7
TRTR					AML	AML		
	comp=E,1990μm,0.3s							
TRTR					AML	AML		
	comp=N,2465μm,0.4s							
CING	**Cingoli**	**0.56**	**2**	⇑P		Pg	00 56 48.1	+0.2
CING					AML	AML		
	comp=E,576μm,0.7s							
CING					AML	AML		
	comp=N,394μm,0.4s							
CING					AML	AML		
	comp=N,394μm,0.4s							
FOSV	**Fossato di Vic**	**0.56**	**328**	⇑P		Pg	00 56 47.9	0.0
FOSV					AML	AML		
	comp=E,904μm,0.4s							
FOSV					AML	AML		
	comp=E,905μm,0.4s							
FOSV					AML	AML		
	comp=N,804μm,0.8s							
FAGN	**Fagnano**	**0.63**	**150**	⇓P		Pb	00 56 49.7	-0.4
FAGN					AML	AML		
	comp=E,660μm,0.6s							
FAGN					AML	AML		
	comp=N,540μm,1.6s							
FAGN					AML	AML		
	comp=N,539μm,1.6s							
MURB	**Monte Urbino**	**0.65**	**314**	⇓P		Pg	00 56 49.8	+0.3
MURB					AML	AML		
	comp=E,820μm,0.7s							
MURB					AML	AML		
	comp=N,900μm,0.3s							
MURB					AML	AML		
	comp=E,941μm,0.3s							
MURB					AML	AML		
	comp=N,942μm,1.1s							
MURB					AML	AML		
	comp=N,900μm,0.3s							
MURB					AML	AML		
	comp=N,942μm,1.1s							
MURB					AML	AML		
	comp=E,942μm,0.3s							
PP3	**Marolino**	**0.65**	**30**	⇓P		Pb	00 56 50.7	+0.4
PP3					AML	AML		
	comp=N,1475μm,0.6s							
PP3					AML	AML		
	comp=E,1390μm,0.4s							
PP3					AML	AML		
	comp=N,1415μm,0.9s							
PP3					AML	AML		
	comp=N,1410μm,0.9s							
PP3					AML	AML		
	comp=E,1345μm,0.4s							
PP3					AML	AML		
	comp=E,1395μm,0.4s							
VCEL	**Villa Celiera**	**0.65**	**130**	⇑P		Pg	00 56 50.0	+0.4
VCEL					S	Sb	00 57 01.0	+1.3
VCEL					AML	AML		
	comp=N,648μm,1.1s							
VCEL					AML	AML		
	comp=N,648μm,1.1s							
VCEL					AML	AML		
	comp=E,573μm,0.4s							
SSFR	**Montelago di S**	**0.68**	**336**	⇑P		Pg	00 56 50.2	+0.1
SSFR					AML	AML		
	comp=N,1010μm,0.2s							
SSFR					AML	AML		
	comp=E,762μm,0.2s							
SSFR					AML	AML		
	comp=N,868μm,0.2s							
SSFR					AML	AML		
	comp=E,830μm,0.2s							
ARVD	**Arcevia**	**0.70**	**347**	⇑P		Pg	00 56 50.3	-0.2
ARVD					S	Sb	00 57 02.0	+1.0
ARVD					AML	AML		
	comp=E,286μm,0.4s							
ARVD					AML	AML		
	comp=N,178μm,0.6s							
ATFO	**Monte Foce - G**	**0.70**	**322**	⇑P		Pg	00 56 50.6	+0.1
ATFO					AML	AML		
	comp=N,291μm,0.8s							
ATFO					AML	AML		
	comp=N,292μm,0.8s							
ATFO					AML	AML		
	comp=E,397μm,0.9s							
ATTE	**AVT- Monte Tez**	**0.71**	**303**	⇑P		Pg	00 56 50.8	+0.2
ATTE					AML	AML		
	comp=E,194μm,0.6s							
ATTE					AML	AML		
	comp=N,184μm,1.5s							
ATTE					AML	AML		
	comp=E,195μm,0.6s							
ATTE					AML	AML		
	comp=N,184μm,1.5s							
T0110	**Collepietro**	**0.74**	**142**	⇑P		Pg	00 56 51.2	-0.2
T0110					AML	AML		
	comp=N,550μm,0.5s							
T0110					AML	AML		
	comp=N,551μm,0.5s							
T0110					AML	AML		
	comp=E,674μm,0.5s							
FRON	**Frontone**	**0.77**	**336**	⇑P		Pg	00 56 51.7	-0.1
FRON				S		Sb	00 57 04.0	+1.0
FRON					AML	AML		
	comp=N,350μm,1.6s							
FRON					AML	AML		
	comp=E,301μm,0.9s							
FRON					AML	AML		
	comp=N,350μm,1.6s							
MGAB	**Montegabbione**	**0.78**	**277**	⇓P		Pb	00 56 52.8	+0.2
MGAB					AML	AML		
	comp=N,662μm,0.5s							
MGAB					AML	AML		
	comp=E,508μm,0.5s							
MGAB					AML	AML		
	comp=N,662μm,0.5s							
MGAB					AML	AML		
	comp=N,680μm,0.5s							
MGAB					AML	AML		
	comp=E,600μm,0.4s							
ATVO	**AVT- Monte Val**	**0.79**	**316**	⇑P		Pg	00 56 52.2	0.0
ATVO					AML	AML		
	comp=N,186μm,0.4s							
ATVO					AML	AML		
	comp=N,186μm,0.4s							
ATVO					AML	AML		
	comp=E,197μm,0.4s							
ATPI	**Pietralunga -**	**0.84**	**319**	P		Pg	00 56 53.1	-0.1
ATPI					AML	AML		
	comp=N,210μm,1.0s							
ATPI					AML	AML		
	comp=E,211μm,0.7s							
ATPI					AML	AML		
	comp=N,210μm,1.0s							
PIEI	**Pieia**	**0.85**	**328**	⇑P		Pg	00 56 53.1	-0.3
PIEI					S	Sn	00 57 07.0	-0.7
PIEI					AML	AML		
	comp=E,224μm,0.9s							
PIEI					AML	AML		
	comp=N,130μm,1.3s							
PIEI					AML	AML		
	comp=N,131μm,1.3s							
MPAG	**Monte Paganucc**	**0.86**	**340**	⇓P		Pg	00 56 53.7	+0.1
MPAG					S	Sn	00 57 08.0	0.0
MPAG					AML	AML		
	comp=N,280μm,0.5s							
MPAG					AML	AML		
	comp=E,294μm,0.3s							
MPAG					AML	AML		
	comp=N,280μm,0.5s							
NARO	**Abbazia di Nar**	**0.90**	**332**	⇓P		Pg	00 56 54.0	-0.3
NARO					S	Sn	00 57 09.0	+0.2
NARO					AML	AML		
	comp=E,164μm,1.2s							
NARO					AML	AML		
	comp=N,124μm,1.0s							
FSSB	**Fossombrone**	**0.92**	**342**	P		Pg	00 56 54.5	-0.1
FSSB					S	Sn	00 57 10.0	+0.8
FSSB					AML	AML		
	comp=E,646μm,0.4s							
FSSB					AML	AML		
	comp=N,990μm,0.4s							
FSSB					AML	AML		
	comp=E,646μm,0.4s							
FSSB					AML	AML		
	comp=N,991μm,0.4s							
SACS	**San Casciano d**	**0.92**	**272**	⇓P		Pb	00 56 55.1	0.0
SACS					AML	AML		
	comp=N,229μm,0.8s							
SACS					AML	AML		
	comp=E,192μm,1.4s							
BADI	**Badiali**	**0.96**	**316**	⇑P		Pg	00 56 55.6	+0.1
PE3	**Peglio**	**1.00**	**331**	⇑P		Pb	00 56 56.6	+0.2
PE3					AML	AML		
	comp=N,4μm,1.2s							
PE3					AML	AML		
	comp=E,4μm,1.5s							
CAFI	**Castiglion Fio**	**1.02**	**301**	⇑P		Pg	00 56 56.5	0.0
CAFI					S	Sn	00 57 13.0	+1.4
CAFI					AML	AML		
	comp=E,140μm,0.6s							
CAFI					AML	AML		
	comp=N,101μm,1.1s							
CAFI					AML	AML		
	comp=E,140μm,0.6s							
CAFI					AML	AML		
	comp=N,101μm,1.1s							
LATE	**Laterza**	**1.02**	**259**	S		Sn	00 57 14.0	+2.2
CPGN	**Carpegna, Ital**	**1.16**	**328**	⇑P		Pn	00 57 00.2	+0.8
ABTA	**Abfaltersbach**	**3.96**	**353**	*e*Pn		Pg	00 57 55.7	+2.9
	comp=N,2.4nm,0.3s							
ABTA				*i* Sn		Sg	00 58 41.7	-2.3
	comp=N,4.6nm,0.6s							
FETA	**Feichten**	**4.54**	**338**	*e*Pn		Pg	00 58 05.1	+1.1
	comp=N,0.7nm,0.3s							
SQTA	**Sankt Quirin**	**4.62**	**343**	*e*Pn		Pg	00 58 05.3	0.0
WATA	**Walderalm**	**4.66**	**347**	*e*Pn		Pg	00 58 06.8	+0.7
	comp=N,0.7nm,0.3s							
MOA	**Molln**	**5.09**	**8**	*i* Sn		Sb	00 59 09.2	+1.9
	comp=N,0.7nm,0.2s							
KHC	**Kasperske Hory**	**6.32**	**2**	*e*PN		Pb	00 58 27.5	+0.5
KHC				*e*SN		Sb	00 59 35.9	-6.8

IDC ***01*** *01:17:51.9±1.8, 49˚.06S×108˚.91E, h0km, mb4.1/5, mbtmp4.1/5, MS3.4/6, Error ellipse: s-maj=75.2km s-min=20.0km az=115.0*

NEIC ***01*** *01:17:56.7±1.1, 49˚.23S±0˚.07×109˚.7E±0˚.4, h10km±2km, mb4.4/8, Error ellipse: s-maj=46.1km s-min=11.3km az=266.0*

ISC 01 01:17:52.8±1.8, 48˚.9S±0˚.2×108˚.5E±0˚.4, h10km, n26, σ0°68/15, mb4.3/7, MS3.3/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.63**	**19**	T		T	01 36 14.6	
	baz=194,slow=74,SNR=129							
H01W1	**Cape Leeuwin H**	**14.64**	**19**	T		T	01 36 18.5	
	baz=194,slow=74,SNR=102							
H01W3	**Cape Leeuwin H**	**14.65**	**19**	T		T	01 36 15.9	
	baz=194,slow=74,SNR=110							
MORW	**Morawa**	**20.66**	**19**	P		Pn	01 22 37.9	+2.9
MORW				IAmb		IAmb	01 22 57.1	
	comp=Z,34nm,1.5s							
BBOO	**Buckleboo**	**26.14**	**62**	P		**P**	**01 23 27.4**	**+0.5**
MAW	**Mawson**	**29.41**	**214**	LR		LR	01 34 09.4	
	comp=Z,81nm,19.0s,baz=21,slow=33							
STKA	**Stephens Creek**	**30.11**	**68**	LR		LR	01 33 34.2	
	comp=Z,61nm,21.7s,baz=207,slow=32							
ASAR	**Alice Springs**	**32.20**	**48**	P		**P**	**01 24 20.2**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=209,slow=8.2,SNR=30							
ASAR				LR		LR	01 35 42.9	
	comp=Z,58nm,21.8s,baz=162,slow=33							
	comp=Z,3.4nm,0.8s							
ASAR	**Alice Springs**	**32.20**	**48**	P		**P**	**01 24 21.3**	**+0.4**
VNDA	**Vanda**	**34.98**	**162**	P		**P**	**01 24 44.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=284,slow=8.4,SNR=7.9							
	comp=Z,0.9nm,0.7s							
VNDA	**Vanda**	**34.98**	**162**	P		**P**	**01 24 44.1**	**-0.4**
WRA	**Warramunga Arr**	**35.59**	**45**	P		**P**	**01 24 50.3**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=208,slow=8.5,SNR=40							
WRA				LR		LR	01 37 37.7	
	comp=Z,82nm,19.3s,baz=150,slow=33							
	comp=Z,6.0nm,0.8s							
WRA	**Warramunga Arr**	**35.59**	**45**	P		**P**	**01 24 50.2**	**-0.1**
WB2	**Warramunga Arr**	**35.59**	**45**	P		**P**	**01 24 50.8**	**+0.3**
WR0	**Warramunga Arr**	**35.67**	**45**	P		**P**	**01 24 51.6**	**+0.5**
WR0				IAmb		IAmb	01 24 52.3	
	comp=Z,6.3nm,0.9s							
WB0	**Warramunga Arr**	**35.77**	**45**	P		**P**	**01 24 51.9**	**0.0**
WB0				IAmb		IAmb	01 24 52.6	

comp=Z,4.2nm,0.7s
QSPA South Pole Qui 41.20 180 P P 01 25 37.4 +0.1
comp=Z,0.6nm,0.2s,baz=332,slow=7.0,SNR=4.3
comp=Z,0.6nm,0.2s
QSPA South Pole Qui 41.20 180 P P 01 25 39.0 +1.7
QSPA IAmb IAmb 01 26 01.3
comp=Z,8.6nm,1.4s
CTA Charters Tower 41.70 60 LR LR 01 43 13.5
comp=Z,38nm,18.2s,baz=258,slow=37
KAPI Kappang 44.80 16 LR LR 01 41 49.3
comp=Z,27nm,21.9s,baz=196,slow=32
SNAA Sanae 50.41 202 P P 01 26 49.6 -0.2
comp=Z,0.7nm,0.7s,baz=140,slow=14,SNR=9.3
comp=Z,0.7nm,0.7s
H08S2 Diego Garcia H 51.09 312 T T 02 21 43.5
baz=154
H08S1 Diego Carcia H 51.09 311 T T 02 21 53.1
baz=154
H08S3 Diego Garcia H 51.10 312 T T 02 21 53.1
baz=154
NVAR Mina Array Bea 145.07 90 PKP PKPdf 01 37 30.1 0.0
comp=Z,0.6nm,0.6s,baz=232,slow=4.4,SNR=6.8
TXAR Lajitas Array 148.63 117 PKPbc PKPbc 01 37 38.9 -1.0
comp=Z,17nm,0.4s,baz=202,slow=6.5,SNR=6.1

DDA ***01*** *02:12:56.4±0.0, 37.°97N×27.°10E, h7km±3km, ML2.0*
ISK ***01*** *02:12:56.1, 37.°97N×27.°05E, h17km, ML2.6/8*
ISC 01 02:12:56.4±0.9**, 37.°97N**±0.°03×**27.°05E**±0.°03**, h15**km±8km**, n18, σ0.s40**/25**, Turkey**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)

DGB zmir 0.16 300 P Pb 02 13 01.0 0.0
DGB S Sg 02 13 03.6 +0.5
DGB *i* AML AML 02 13 04.0
comp=E,167nm,0.2s
GCAM G?zelcaml? 0.31 152 PG Pb 02 13 03.2 -0.4
GCAM SG Sg 02 13 07.5 +0.3
GCAM G?zelcaml? 0.31 152 P Pg 02 13 02.9 +0.1
GCAM S Sg 02 13 06.9 -0.3
GCAM *i* AML AML 02 13 07.0
comp=N,224nm,0.6s
GCAM *i* AML AML 02 13 07.0
comp=E,212nm,0.3s
BLCB Balcova 0.41 359 PG Pb 02 13 05.1 -0.3
ZEYE Izmir, Urla-Ze 0.51 302 P Pb 02 13 07.0 0.0
ZEYE *i* AML AML 02 13 15.0
comp=N,296nm,0.2s
ZEYE *i* AML AML 02 13 15.0
comp=E,277nm,0.2s
ZEYE S Sb 02 13 15.1 +0.8
URLA Izmir 0.53 317 PG Pg 02 13 06.6 -0.3
URLA SG Sb 02 13 15.0 +0.1
URLA Izmir 0.53 317 P Pg 02 13 06.1 -0.9
AYDB Zeytinkoy-Aydi 0.66 92 PG Pg 02 13 09.4 0.0
AYDN Tasoluk 0.72 115 P Pb 02 13 10.5 -0.3
AYDN S Sg 02 13 19.5 -0.6
CHOS Chios island 0.89 298 PG Pn 02 13 14.3 -0.1
BODT Bodrum 0.93 167 PG Pg 02 13 14.5 0.0
ZEDA zmir-Bergama 0.99 1 P Pb 02 13 15.3 0.0
ZEDA S Sg 02 13 28.9 +0.3
GOMA Golmarmara-Man 1.00 42 PG Pn 02 13 16.4 +0.5
DKL Dikili 1.10 354 PN Pn 02 13 17.3 0.0
MULA Mugla, Merkez- 1.23 125 P Pn 02 13 19.2 0.0
YER Yerkesik 1.28 130 PN Pn 02 13 19.9 0.0
MANT Manisa 1.29 66 P Pg 02 13 21.4 +0.1
STEP BALIKESIR_Sava 1.50 20 P Pg 02 13 24.7 -0.4

IDC ***01*** *02:13:03.7±0.8, 39.°49N×20.°81E, h0km, mb3.7/10, mbtmp3.7/20, ML3.5/9, MS3.0/4, Error ellipse: s-maj=14.2km s-min=13.8km az=84.0*
PDG ***01*** *02:13:09.3±0.6, 39.°50N×20.°67E, h95km±2km, ML3.6/13, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
BEO ***01*** *02:13:10.0±0.6, 39.°58N×20.°72E, h8km±4km, ML3.2/14*
SOF ***01*** *02:13:11.9, 39.°74N×21.°10E, h2km, MD3.6*
THE ***01*** *02:13:12.2, 39.°42N×20.°71E, h39km±2km, ML3.5/17, Error ellipse: s-maj=2.4km s-min=0.6km az=292.0*
ATH ***01*** *02:13:12.3, 39.°40N×20.°72E, h29km±1km, ML3.5/17, Error ellipse: s-maj=2.8km s-min=1.1km az=296.0*
GII ***01*** *02:13:16.7±0.0, 37.°93N×21.°06E, h10km*
ISC 01 02:13:09.1±0.6**, 39.°44N**±0.°02×**20.°68E**±0.°03**, h53**km±6km**, n189, σ2.s07**/249**, mb3.5**/10**, MS3.1**/3**, 24C-11D, Greece-Albania border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)

JAN Janina 0.25 31 P Pn 02 13 18.8 +0.6
JAN S Sn 02 13 25.1 +0.4
16µm,0.2s
JAN Janina 0.25 31 P Pn 02 13 18.7 +0.6
JAN S Sn 02 13 24.6 0.0
JAN AML AML 02 13 25.4
comp=N,38754µm,0.2s
JAN AML AML 02 13 26.9
comp=E,25682µm,0.3s
IGT Igoumenitsa 0.28 288 P Pn 02 13 20.4 +2.0
IGT S Sn 02 13 27.5 +2.4
comp=E,16µm,0.3s
IGT Igoumenitsa 0.28 288 P Pn 02 13 20.4 +2.0
IGT S Sn 02 13 26.1 +1.0
IGT AML AML 02 13 28.0
comp=E,41110µm,0.4s
IGT AML AML 02 13 28.3
comp=N,23257µm,0.2s
TSLK Tsoukalades, L 0.62 182 P Pn 02 13 24.0 +2.0
TSLK S Sn 02 13 33.8 +2.5
comp=N,4µm,0.3s
TSLK Tsoukalades, L 0.62 182 P Pn 02 13 24.0 +2.0
TSLK S Sn 02 13 32.9 +1.6
LKD2 Lefkada island 0.65 182 P Pn 02 13 24.4 +1.9
LKD2 S Sn 02 13 34.8 +2.7
comp=N,3µm,0.3s
LKD2 Lefkada island 0.65 182 P Pn 02 13 24.3 +1.8
LKD2 S Sn 02 13 34.0 +1.9
LKD2 AML AML 02 13 39.7
comp=E,7244µm,0.2s
LKD2 AML AML 02 13 42.4
comp=N,6128µm,0.4s
SRN Sarande 0.68 310 P Pn 02 13 25.4 +2.6
SRN S Sn 02 13 35.9 +3.2
LSK Leskovik 0.71 355 P Pn 02 13 25.7 +2.5
LSK S Sn 02 13 36.2 +2.8
comp=N,6µm,0.6s
NYDR Nydri-Lefkada 0.73 179 P Pn 02 13 25.1 +1.7
NYDR S Sn 02 13 36.0 +2.3
comp=N,2µm,0.3s
KPRO Kipourio 0.73 46 P Pn 02 13 25.7 +2.2
KPRO S Sn 02 13 36.5 +2.6
comp=N,11µm,0.4s
KPRO Kipourio 0.73 46 P Pn 02 13 25.7 +2.2
KPRO S Sn 02 13 36.6 +2.6
KPRO AML AML 02 13 37.5
comp=E,27487µm,0.4s
KPRO AML AML 02 13 38.2
comp=N,17512µm,0.3s
KEK Kerkira 0.73 292 P Pn 02 13 26.2 +2.8
KEK S Sn 02 13 37.8 +3.9
comp=N,4µm,0.4s
KEK Kerkira 0.73 292 P Pn 02 13 26.2 +2.8
KEK AML AML 02 13 39.2
comp=E,9452µm,0.5s
KEK AML AML 02 13 40.0
comp=N,7435µm,0.3s
DRAG Dragano-Lefkad 0.76 186 P Pn 02 13 25.6 +1.8
DRAG S Sn 02 13 37.2 +2.7
EVGI Lefkada island 0.82 181 P Pn 02 13 26.5 +1.9
EVGI S Sn 02 13 38.7 +2.9
comp=N,3µm,0.3s
EVGI Lefkada island 0.82 181 P Pn 02 13 26.4 +1.8
PENT Pentalofos 0.83 25 P Pn 02 13 27.5 +2.7
PENT S Sn 02 13 38.8 +2.6
PENT Pentalofos 0.83 25 P Pn 02 13 27.4 +2.7
PENT AML AML 02 13 41.5
comp=E,4922µm,0.5s
PENT AML AML 02 13 41.9
comp=N,1784µm,0.3s
FSK Fiskardo 0.99 185 P Pn 02 13 28.5 +1.7
FSK S Sn 02 13 42.7 +3.0
comp=N,2µm,0.3s
FSK Fiskardo 0.99 185 P Pn 02 13 28.4 +1.7
FSK AML AML 02 13 49.6
comp=N,2764µm,0.3s
FSK AML AML 02 13 50.4
comp=E,3865µm,0.2s
NEST Nestorio 1.01 16 P Pn 02 13 30.6 +3.4
NEST S Sn 02 13 44.6 +4.1
comp=E,1µm,0.5s
NEST Nestorio 1.01 16 P Pn 02 13 30.4 +3.2
NEST AML AML 02 13 48.7
comp=N,3844µm,0.5s
NEST AML AML 02 13 55.2
comp=E,2921µm,0.6s
EVR Evrytania 1.02 121 P Pn 02 13 30.2 +2.9
EVR S Sn 02 13 43.7 +3.0
comp=E,3µm,0.5s
EVR Evrytania 1.02 121 P Pn 02 13 30.2 +2.9
EVR AML AML 02 13 44.7
comp=E,4772µm,0.4s
EVR AML AML 02 13 45.2
comp=N,5336µm,0.6s
THL Klokotos Trika 1.04 83 P Pn 02 13 29.6 +2.2
THL S Sn 02 13 43.0 +2.1
comp=N,2µm,0.6s
THL Klokotos Trika 1.04 83 P Pn 02 13 29.3 +1.9
THL AML AML 02 13 45.6
comp=N,3884µm,0.6s
THL AML AML 02 13 45.7
comp=E,4374µm,0.6s
KBN Korca 1.18 4 P Pn 02 13 33.1 +3.6
KBN S Sn 02 13 48.8 +4.2
comp=E,712nm,0.6s
KEF4 Livadi, Kephal 1.20 190 P Pn 02 13 31.3 +1.6
KZN Kozani 1.20 44 P Pn 02 13 32.2 +2.4
KZN S Sn 02 13 48.7 +3.6
comp=E,3µm,0.4s
KZN Kozani 1.20 44 P Pn 02 13 32.2 +2.4
KZN AML AML 02 13 49.3
comp=E,6781µm,0.4s
KZN AML AML 02 13 52.0
comp=N,4103µm,0.6s
MAKR Makrakomi, Fth 1.21 110 P Pn 02 13 32.8 +3.1
MAKR S Sn 02 13 48.0 +3.0
comp=N,7µm,0.2s
MAKR Makrakomi, Fth 1.21 110 P Pn 02 13 32.8 +3.1
MAKR AML AML 02 13 50.2
comp=N,13036µm,0.2s
MAKR AML AML 02 13 50.8
comp=E,14795µm,0.3s
DMLN Damoulianata-K 1.23 191 P Pn 02 13 31.8 +1.8
KEF3 Kipouria, Keph 1.27 192 P Pn 02 13 31.8 +1.3
KEF3 Kipouria, Keph 1.27 192 P Pn 02 13 31.8 +1.3
VLS Valsamata 1.27 183 P Pn 02 13 31.9 +1.4
VLS Valsamata 1.27 183 P Pn 02 13 31.9 +1.4
PSDA Pessada-Kefalo 1.33 183 P Pn 02 13 33.0 +1.6
PSDA Pessada-Kefalo 1.33 183 P Pn 02 13 32.9 +1.6
LRSO Larissa Observ 1.34 80 P Pn 02 13 33.8 +2.3
LRSO Larissa Observ 1.34 80 P Pn 02 13 33.8 +2.3
VLO Vlora 1.37 319 P Pn 02 13 35.1 +3.2
EFP Efpalio 1.39 136 P Pn 02 13 35.1 +2.9
EFP Efpalio 1.39 136 P Pn 02 13 35.1 +2.9
EFP AML AML 02 13 59.7
comp=E,2347µm,0.4s
EFP AML AML 02 14 02.0
comp=N,2629µm,0.5s
FNA Florina 1.44 21 P Pn 02 13 35.6 +2.6
FNA S Sn 02 13 54.6 +3.8
comp=N,320nm,0.4s
FNA Florina 1.44 21 P Pn 02 13 35.5 +2.5
FNA AML AML 02 13 59.7
comp=N,621µm,0.3s
FNA AML AML 02 14 01.6
comp=E,661µm,0.6s
SERG Sergoula 1.49 133 P Pn 02 13 36.5 +3.0
SERG Sergoula 1.49 133 P Pn 02 13 35.7 +2.2
SERG AML AML 02 14 00.4
comp=N,2867µm,0.3s
SERG AML AML 02 14 07.8
comp=E,2740µm,0.4s
RLS Riolos of Patr 1.51 156 P Pn 02 13 35.8 +1.9
RLS Riolos of Patr 1.51 156 P Pn 02 13 35.8 +1.9
RLS AML AML 02 14 11.5
comp=E,950µm,0.4s
RLS AML AML 02 14 13.3
comp=N,885µm,0.7s
LAKA Lakka 1.57 139 P Pn 02 13 37.5 +2.8
LAKA Lakka 1.57 139 P Pn 02 13 37.3 +2.7
LAKA AML AML 02 14 06.9
comp=N,1931µm,0.4s
LAKA AML AML 02 14 07.7
comp=E,3414µm,0.7s
ALIK Aliki, Aigiali 1.62 136 P Pn 02 13 38.6 +3.2
OHR Ohrid 1.67 3 *e*Pn Pn 02 13 39.4 +3.3
OHR *e*Sg Sn 02 13 58.6 +2.2
OHR Ohrid 1.67 3 *i* Pn Pn 02 13 39.9 +3.9
AXAR Agios Charalam 1.68 113 P Pn 02 13 38.6 +2.4
DRO Drossia 1.69 151 P Pn 02 13 38.6 +2.3
DLFA Delphi 1.71 124 P Pn 02 13 39.0 +2.4
LKR Lokris 1.97 113 P Pn 02 13 41.2 +1.1
NEO Neokhori 1.98 93 P Pn 02 13 41.6 +1.4
TIR Tirane 2.00 342 *e*Pn Pn 02 13 42.9 +2.4
TIR *e*Sn Sn 02 14 07.5 +3.1
GRG Griva 2.00 41 P Pn 02 13 42.0 +1.4
HORT Hortiatis 2.19 57 P Pn 02 13 44.1 +1.0
PAIG Paliouri 2.36 77 P Pn 02 13 46.5 +1.0
VAY Valandovo 2.37 37 *e*Pn Pn 02 13 47.3 +1.8
VAY *e*Sn Sn 02 14 14.2 +0.9
VAY Valandovo 2.37 37 *i* Pn Pn 02 13 47.2 +1.7
KNT Kendrikon 2.41 44 P Pn 02 13 47.3 +1.1
VILL Villia 2.42 121 P Pn 02 13 48.1 +1.8
ITM Ithomi 2.46 156 P Pn 02 13 49.4 +2.5
SOH Sokhos 2.47 55 P Pn 02 13 48.9 +1.9
STIP Stip 2.52 27 *i* Pn Pn 02 13 51.5 +3.8
SKO Skopje 2.59 13 *e*Pn Pn 02 13 51.2 +2.6
SKO *e*Sn Sn 02 14 19.5 +0.6
SKO Skopje 2.59 13 *i* Pn Pn 02 13 51.0 +2.4
OUR Ouranopolis 2.69 70 P Pn 02 13 51.5 +1.6
ULC Ulcinj 2.75 337 ⇑*i*Pn Pn 02 13 52.0 +1.3
ULC *i* Sn Sn 02 14 22.4 -0.3
SRS Serrai 2.78 52 P Pn 02 13 52.6 +1.4
ATH Athens Observa 2.79 121 P Pn 02 13 53.2 +1.9
KRND KRANIDI 2.83 136 P Pn 02 13 53.6 +1.8
PTL Penteli 2.85 118 P Pn 02 13 54.1 +1.9
KOKK Kokkinochori, 2.89 61 P Pn 02 13 53.9 +1.2
VLY Voula,Athens 2.91 122 P Pn 02 13 54.6 +1.7
DRME Dracevica, Mon 2.97 338 ⇑*i*Pn Pn 02 13 55.5 +1.8
DRME Dracevica, Mon 2.97 338 *e*Pn Pn 02 13 55.0 +1.3
DRME *i* Sn Sn 02 14 27.6 -0.5
KKB Krupnik 3.03 36 P Pn 02 13 57.1 +2.4
TIP Timpagrande 3.06 266 ⇑P Pn 02 13 57.3 +2.3
TIP ⇑S Sn 02 14 31.8 +1.4
BUM Brajici-Budva 3.16 335 ⇑*i*Pn Pn 02 13 57.7 +1.2
BUM *i* Sn Sn 02 14 32.2 -0.7
MMB Musomiste 3.16 46 P Pn 02 13 57.9 +1.5
PDG Podgorica 3.17 341 ⇓P Pn 02 13 58.0 +1.4
PDG ⇓S Sn 02 14 34.4 +1.3
PDG Podgorica 3.17 341 *e*Pn Pn 02 13 58.3 +1.8
PDG *e*Sn Sn 02 14 34.6 +1.5
TTG Podgorica 3.17 341 ⇑*i*Pn Pn 02 13 57.8 +1.3
TTG *i* Sn Sn 02 14 32.5 -0.6
PVY Plav 3.20 350 *e*Pn Pn 02 13 58.2 +1.2
PVY *i* Sn Sn 02 14 33.1 -0.8
MATE Matera 3.28 293 ⇓P Pn 02 14 00.3 +2.3
CEME Cevo 3.38 337 ⇑*i*Pn Pn 02 14 00.6 +1.2
CEME *i* Sn Sn 02 14 37.4 -0.8
HCY Herceg Novi 3.43 332 ⇑*i*Pn Pn 02 14 00.8 +0.7
HCY Herceg Novi 3.43 332 *e*Pn Pn 02 14 01.3 +1.2
HCY *i* Sn Sn 02 14 38.6 -0.8
BARS Barje 3.48 14 *e*Pn Pn 02 14 02.6 +1.9
IVA Berane 3.48 350 ⇓*i*Pn Pn 02 14 02.0 +1.2
IVA *i* Sn Sn 02 14 39.8 -1.0
KOME Kolasin 3.52 346 ⇑*i*Pn Pn 02 14 02.6 +1.2
KOME *i* Sn Sn 02 14 40.8 -0.9
NKME Niksic 3.57 339 *e*Pn Pn 02 14 03.3 +1.3
NKME *i* Sn Sn 02 14 42.0 -0.9
VTS Vitosha 3.71 31 ⇑S Sn 02 14 47.7 +1.0
VTS Vitosha 3.71 31 *e*Pn Pn 02 14 06.1 +2.0
VTS *e*Sn Sn 02 14 47.6 +1.0
VTS Vitosha 3.71 31 P Pn 02 14 06.1 +2.0
VTS Vitosha 3.71 31 ⇓P Pn 02 14 06.2 +2.0
TREB Trebinje 3.71 332 *e*Pn Pn 02 14 04.6 +0.6
SELS Selova 3.79 5 *e*Pn Pn 02 14 05.5 +0.5
RZN Rozhen 3.80 53 P Pn 02 14 07.6 +2.2
BRY Bratogost 3.81 336 *e*Pn Pn 02 14 06.1 +0.6
BRY Bratogost 3.81 336 *e*Pn Pn 02 14 06.6 +1.1
BRY *i* Sn Sn 02 14 47.8 -1.3
SJES Sjenica 3.85 352 *e*Pn Pn 02 14 08.0 +2.0
SJES *e*Sn Sn 02 14 51.5 +1.5
UPM Unac-Piva 3.99 341 *e*Pn Pn 02 14 09.9 +2.0
UPM Unac-Piva 3.99 341 ⇓*i*Pn Pn 02 14 09.0 +1.1
UPM *i* Sn Sn 02 14 52.0 -1.4
PLE Pljevlja 4.00 346 ⇓*i*Pn Pn 02 14 09.2 +1.1
PLE *i* Sn Sn 02 14 52.4 -1.3
PLD Plovdiv 4.05 48 *e*Pn Pn 02 14 10.8 +2.3
PLD *e*Sn Sn 02 14 55.3 +0.6
STON Ston 4.10 328 ⇑*i*Pn Pn 02 14 08.6 -0.6
ZAPS Zavoj 4.10 20 *e*Pn Pn 02 14 11.6 +2.3
KDZ Kurdzhali 4.23 57 *e*P Pn 02 14 12.9 +1.9
BOVS Bovan 4.26 10 ⇓P Pn 02 14 12.3 +0.9
BOVS Bovan 4.26 10 *e*Pn Pn 02 14 12.1 +0.7
BOVS *e*Sn Sn 02 15 01.2 +1.4
RUDO Rudo 4.29 347 *e*Pn Pn 02 14 12.6 +0.8
BLKB Belogradchik 4.44 19 ⇑P Pn 02 14 15.5 +1.6
BLKB Belogradchik 4.44 19 *e*Pn Pn 02 14 16.2 +2.3
BLKB *e*Sn Sn 02 15 05.2 +1.0
GRUS Gruza 4.44 0 *e*Pn Pn 02 14 15.4 +1.5
GRUS *e*Sn Sn 02 15 05.6 +1.3
ZAGS Zajecar 4.52 14 *e*Pn Pn 02 14 16.0 +1.0
BBLS Lazići 4.52 348 *e*Pn Pn 02 14 17.2 +2.1
BBLS Lazići 4.52 348 *e*Pn Pn 02 14 17.2 +2.1
BBLS *e*Sn Sn 02 15 06.5 +0.1
DIVS Divibare 4.68 354 *e*Pn Pn 02 14 18.3 +1.0
DIVS Divibare 4.68 354 *e*Pn Pn 02 14 18.4 +1.1
DIVS *e*Sn Sn 02 15 09.5 -0.8
TRUS Trudelj 4.78 358 *e*Pn Pn 02 14 19.7 +1.1
TRUS *e*Sn Sn 02 15 12.8 +0.1
HAPS Han Pijesak,Bl 4.82 345 *e*Pn Pn 02 14 19.7 +0.5
PLVB Pleven 4.93 36 ⇑P Pn 02 14 21.0 +0.4
TEKS Tekeris 5.17 351 *e*Pn Pn 02 14 20.3 -3.7
TEKS Tekeris 5.17 351 *e*Pn Pn 02 14 23.6 -0.4
VAE Valguarnera 5.30 250 Pn Pn 02 14 27.8 +2.1
comp=E,6.4nm,0.9s,baz=73,slow=13,SNR=2.1
VAE Sn Sn 02 15 22.5 -3.0
comp=E,4.5nm,0.3s,baz=6.0,slow=20,SNR=5.7
IDI Anoyia 5.33 140 ⇓P Pn 02 14 28.5 +2.3
IDI Anoyia 5.33 140 Pn Pn 02 14 25.8 -0.4
comp=E,1.3nm,0.3s,baz=287,slow=10,SNR=20
IDI Sn Sn 02 15 21.0 -5.4
comp=E,8.3nm,0.3s,baz=308,slow=18,SNR=14
comp=E,20nm,0.9s
MDVR Moldovita 5.39 8 ⇑P Pn 02 14 27.2 +0.2
FRGS Fruska Gora 5.75 354 ⇑P Pn 02 14 32.9 +1.0
FRGS Fruska Gora 5.75 354 *e*Pn Pn 02 14 32.3 +0.4
FRGS Fruska Gora 5.75 354 *e*Pn Pn 02 14 32.4 +0.5
FRGS *e*Sn Sn 02 15 35.9 -0.5
GZR Gura Zlata 6.14 14 ⇓P Pn 02 14 38.2 +0.9
BZS Buzias 6.21 6 ⇑P Pn 02 14 38.9 +0.8
ARR Arges 6.60 25 ⇓P Pn 02 14 45.0 +1.4
VOIR 6.80 27 ⇑P Pn 02 14 48.4 +2.0
SIRR Siria 6.86 6 ⇑P Pn 02 14 48.4 +1.3
SIRR ⇑S Sn 02 16 04.4 +0.7
MORH Mrgy, Hungar 6.93 348 ⇑P Pn 02 14 48.4 +0.4
MLR Muntele Rosu 7.19 31 ⇑P Pn 02 14 53.8 +2.1
MLR Muntele Rosu 7.19 31 Pn Pn 02 14 51.5 -0.1
comp=E,0.5nm,0.3s,baz=211,slow=17,SNR=2.3
comp=E,2.5nm,0.8s
BISRR Bisoca 7.55 34 ⇑P Pn 02 14 58.2 +1.6
CEY Cerknica 7.80 326 Pn Pn 02 15 00.4 +0.4
VRI Vrincioaia 7.81 33 ⇑P Pn 02 15 00.8 +0.7
OBKA Obir 8.37 330 ⇑*i*Pn Pn 02 15 07.8 0.0
OBKA Obir 8.37 330 *e*Pn Pn 02 15 08.3 +0.5
comp=E,4.7nm,0.6s,SNR=7.0
ABTA Abfaltersbach 9.43 323 *e*Pn Pn 02 15 22.8 +0.5
comp=E,1.6nm,0.3s,SNR=5.2
MOA Molln 9.60 333 *e*Pn Pn 02 15 26.1 +1.5
comp=E,3.5nm,0.2s,SNR=23
KEST Kesra 9.73 251 Pn Pn 02 15 27.7 +1.3
comp=E,0.1nm,0.3s,baz=98,slow=15,SNR=3.9
KEST Sn Sn 02 17 13.0 -1.3
comp=E,0.1nm,0.3s,baz=6.0,slow=23,SNR=1.3
comp=E,2.9nm,0.8s
BRTR Keskin Array B 10.01 84 Pn Pn 02 15 31.7 +1.4
comp=E,0.1nm,0.3s,baz=266,slow=12,SNR=5.6
comp=E,0.5nm,0.4s
WTTA Wattenberg 10.22 323 *e*Pn Pn 02 15 34.7 +1.6
comp=E,2.0nm,0.3s,SNR=8.4
WATA Walderalm 10.30 323 *e*Pn Pn 02 15 35.5 +1.3
comp=E,2.0nm,0.3s
SQTA Sankt Quirin 10.39 322 *e*Pn Pn 02 15 37.3 +1.8
comp=E,1.5nm,0.3s,SNR=5.9
FETA Feichten 10.49 319 *i* Pn Pn 02 15 38.1 +1.3
comp=E,0.4nm,0.3s
MOTA Moosalm 10.53 322 *e*Pn Pn 02 15 39.2 +1.8
comp=E,3.3nm,0.4s,SNR=6.7
GERES GERESS Array B 10.65 334 Pn Pn 02 15 39.0 +0.1
comp=E,0.4nm,0.3s,baz=157,slow=14,SNR=14
GERES Sn Sn 02 17 31.8 -4.9
comp=E,0.5nm,0.3s,baz=154,slow=23,SNR=7.5
comp=E,0.6nm,0.4s
DAVOX Davos/Dischmat 10.77 316 Pn Pn 02 15 41.8 +1.1
comp=E,0.6nm,0.3s,baz=150,slow=17,SNR=7.3
DAVOX Sn Sn 02 17 36.0 -3.8
comp=E,0.6nm,0.3s,baz=220,slow=17,SNR=2.9
comp=E,1.3nm,0.3s
RETA Reutte 10.79 321 *e*Pn Pn 02 15 42.5 +1.6
comp=E,1.4nm,0.5s,SNR=4.3
KHC Kasperske Hory 10.94 335 *e*SN Sn 02 17 41.1 -2.5
NATI Neve Ativ 13.60 112 Sn Sn 02 18 42.2 -6.6
KZIT Kziot 14.07 123 Pn Pn 02 16 22.0 -3.7
KZIT Sn Sn 02 18 47.4 -13
DSI Dead Sea 14.31 119 Pn Pn 02 16 27.6 -1.2
KRMI Paran Flat 14.81 125 Pn Pn 02 16 31.5 -3.9
KRMI Sn Sn 02 19 03.9 -14
PRNI Paran 14.83 123 Pn Pn 02 16 32.5 -3.1
PRNI Sn Sn 02 19 06.2 -13
MBRI Mt Berech 15.15 125 Pn Pn 02 16 36.8 -3.0
MBRI Sn Sn 02 19 12.9 -14
EIL Elat 15.26 125 Pn Pn 02 16 38.6 -2.5
comp=E,0.2nm,0.3s,baz=27,slow=12,SNR=2.3
EIL Sn Sn 02 19 12.9 -16
comp=E,0.4nm,0.3s,baz=268,slow=20,SNR=1.8
comp=E,2.3nm,0.6s
EIL Elat 15.26 125 Pn Pn 02 16 37.6 -3.5
KBZ Khabaz 17.15 68 P Pn 02 17 05.0 +0.1
comp=E,0.1nm,0.3s,baz=270,slow=4.0,SNR=4.3
comp=E,2.9nm,0.8s
OBN Obninsk 18.95 29 LR LR 02 25 51.5
comp=E,18nm,19.7s,baz=178,slow=41
ESDC Sonseca Array 18.99 279 P Pn 02 17 28.2 +0.6
comp=E,0.1nm,0.3s,baz=76,slow=11,SNR=10.0
comp=E,0.4nm,0.5s
HFS Hagfors 21.17 350 P P 02 17 50.3 +0.5
comp=E,1.0nm,0.4s,baz=168,slow=10,SNR=6.4
comp=E,1.0nm,0.4s
FINES FINESS Array B 22.28 7 P P 02 18 00.7 -0.8
comp=E,1.0nm,0.6s,baz=173,slow=9.3,SNR=9.0
comp=E,1.0nm,0.6s
NB2 NORSAR Subarra 22.41 348 P P 02 18 03.6 +0.6
comp=Z,0.4nm,0.5s,baz=160,slow=11
NOA NORSAR Array B 22.41 348 P P 02 18 03.2 +0.1
comp=Z,0.4nm,0.4s,baz=162,slow=9.3,SNR=3.4
NOA LR LR 02 27 42.0
comp=Z,24nm,18.1s,baz=295,slow=39
comp=Z,0.4nm,0.4s
EKA Eskdalemuir Ar 22.48 323 P P 02 18 03.9 +0.1
comp=Z,0.8nm,0.6s,baz=118,slow=8.6,SNR=5.3
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 30.26 3 P P 02 19 14.2 -0.5
comp=Z,1.7nm,0.9s,baz=183,slow=11,SNR=7.5
ARCES LR LR 02 33 14.5
comp=Z,38nm,18.8s,baz=246,slow=40
comp=Z,1.7nm,0.9s
TORD Torodi Ar. Bea 31.10 218 P P 02 19 24.1 +1.5
comp=Z,0.4nm,0.4s,baz=38,slow=9.4,SNR=14
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 41.39 55 P P 02 20 49.9 0.0
comp=Z,0.4nm,0.6s,baz=281,slow=8.8,SNR=2.8
KURBB LR LR 02 42 05.0
comp=Z,54nm,18.3s,baz=155,slow=42
comp=Z,0.4nm,0.6s
MKAR Makanchi Array 44.54 60 P P 02 21 15.5 -0.1
comp=Z,0.6nm,0.4s,baz=283,slow=7.4,SNR=11
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 44.76 49 P P 02 21 17.2 +0.1
comp=Z,1.5nm,0.4s,baz=286,slow=7.4,SNR=5.3
comp=Z,1.5nm,0.4s
BOSA Boshof 67.84 176 P P 02 24 03.9 +2.1
comp=Z,2.1nm,1.0s,baz=47,slow=16,SNR=1.1
comp=Z,2.1nm,1.0s

RSNC 01 02:17:12.3±1.0, 6°83N×73°15W, h150km±8km, ML1.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRRC	**Barranca, Sant**	**0.62**	**296**	*e*P	Pn	02 17 34.1	-0.3
BRRC				*e*S	Sn	02 17 51.2	0.0
BRRC				IAML		02 17 55.4	
	comp=Z,4.5nm,0.1s						
PAMC	**Pamplona, Colo**	**0.67**	**41**	*e*P	Pn	02 17 35.1	-0.1
PAMC				*e*S	Sn	02 17 52.0	-0.7
PAMC				IAML		02 17 54.0	
	comp=Z,5.1nm,0.5s						
RUSC	**La Rusia**	**0.94**	**176**	*e*P	Pn	02 17 37.1	-0.1
RUSC				*e*S	Sn	02 17 55.8	-0.3
RUSC				IAML		02 18 00.7	
	comp=Z,1.1nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.33**	**257**	*e*P	Pn	02 17 39.2	-1.0
PTBC				*e*S	Sn	02 18 00.8	-0.7
PTBC				IAML		02 18 03.1	
	comp=Z,4.2nm,0.1s						

ROM 01 02:17:31.6±0.0, 42°796N±0°002×13°180E±0°003, h10km, ML2.1/14, 28C-5D, Error ellipse: s-maj=0.2km s-min=0.1km az=95.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.06**	**5**	P	Pg	02 17 34.2	+0.3
T1245				S	Sg	02 17 35.7	+0.1
T1245				AML	AML		
	comp=N,48550μm,0.6s						
T1245				AML	AML		
	comp=N,46650μm,0.6s						
T1245				AML	AML		
	comp=E,24450μm,0.2s						
T1245				AML	AML		
	comp=N,48600μm,0.6s						
T1245				AML	AML		
	comp=E,25150μm,0.2s						
T1245				AML	AML		
	comp=E,14231μm,0.2s						
MMO1	**Montemonaco**	**0.15**	**46**	↑P	Pg	02 17 35.5	+0.5
MMO1				S	Sg	02 17 38.4	+1.0
T1216	**Preci, Frazion**	**0.15**	**309**	P	Pg	02 17 35.6	+0.6
T1216				S	Sg	02 17 38.1	+0.7
T1216				AML	AML		
	comp=E,16150μm,0.4s						
T1216				AML	AML		
	comp=N,7835μm,0.4s						
T1216				AML	AML		
	comp=E,16150μm,0.4s						
T1216				AML	AML		
	comp=N,7820μm,0.4s						
T1216				AML	AML		
	comp=E,16200μm,0.4s						
T1216				AML	AML		
	comp=N,7810μm,0.4s						
T1204	**Amatrice, Fraz**	**0.16**	**140**	↑P	Pg	02 17 35.9	+0.7
T1204				S	Sg	02 17 38.9	+1.2
T1204				AML	AML		
	comp=E,1620μm,1.2s						
T1204				AML	AML		
	comp=N,1165μm,0.7s						
T1204				AML	AML		
	comp=E,1616μm,1.2s						
T1204				AML	AML		
	comp=N,1164μm,0.7s						
T1241	**Roccafluvione,**	**0.19**	**72**	P	Pg	02 17 36.3	+0.6
T1241				S	Sg	02 17 39.7	+1.1
T1241				AML	AML		
	comp=E,4335μm,0.7s						
T1241				AML	AML		
	comp=E,4475μm,0.7s						
T1241				AML	AML		
	comp=N,3735μm,0.7s						
T1241				AML	AML		
	comp=E,4470μm,0.7s						
T1241				AML	AML		
	comp=N,3635μm,0.7s						
T1241				AML	AML		
	comp=E,1858μm,0.2s						
SMA1	**SAN MARTINO**	**0.20**	**145**	P	Pg	02 17 36.5	+0.6
SMA1				AML	AML		
	comp=E,1565μm,0.7s						
SMA1				AML	AML		
	comp=N,1565μm,0.5s						
SMA1				AML	AML		
	comp=E,1560μm,0.7s						
SMA1				AML	AML		
	comp=N,1560μm,0.5s						
T1217	**Poggiodomo (PG**	**0.20**	**245**	P	Pg	02 17 36.6	+0.7
T1217				S	Sg	02 17 40.2	+1.4
T1217				AML	AML		
	comp=E,1420μm,0.6s						
T1217				AML	AML		
	comp=N,1240μm,0.6s						
T1217				AML	AML		
	comp=E,1450μm,0.6s						
T1217				AML	AML		
	comp=N,1178μm,0.6s						
T1217				AML	AML		
	comp=E,1420μm,0.6s						
T1217				AML	AML		
	comp=N,1390μm,0.6s						
T1217				AML	AML		
	comp=E,1445μm,0.6s						
T1217				AML	AML		
	comp=N,1385μm,0.6s						
T1217				AML	AML		
	comp=N,943μm,0.5s						
T1256	**Bolognola (MC)**	**0.21**	**9**	↑P	Pg	02 17 36.6	+0.5
T1256				S	Sg	02 17 40.5	+1.3
T1256				AML	AML		
	comp=E,12200μm,1.3s						
T1256				AML	AML		
	comp=E,12550μm,0.6s						
T1256				AML	AML		
	comp=E,12200μm,1.4s						
T1256				AML	AML		
	comp=N,11600μm,1.4s						
T1256				AML	AML		
	comp=N,11550μm,1.4s						
T1256				AML	AML		
	comp=N,11600μm,1.4s						
LNSS	**Leonessa**	**0.22**	**208**	↑P	Pg	02 17 37.0	+0.8
LNSS				S	Sg	02 17 40.8	+1.5
LNSS				AML	AML		
	comp=E,1695μm,0.2s						
LNSS				AML	AML		
	comp=N,3175μm,0.2s						
LNSS				AML	AML		
	comp=E,2835μm,0.2s						
LNSS				AML	AML		
	comp=N,5210μm,0.3s						
AM05	**Amandola Campo**	**0.22**	**35**	↑P	Pg	02 17 36.9	+0.7
AM05				S	Sg	02 17 40.9	+1.5
AM05				AML	AML		
	comp=E,2835μm,0.4s						
AM05				AML	AML		
	comp=N,2300μm,0.1s						
AM05				AML	AML		
	comp=E,11285μm,0.4s						
AM05				AML	AML		
	comp=N,542μm,0.1s						
AM05				AML	AML		
	comp=E,2830μm,0.4s						
AM05				AML	AML		
	comp=E,11330μm,0.4s						
T1243	**Rocca Santa Ma**	**0.22**	**117**	P	Pg	02 17 36.7	+0.5
T1243				S	Sg	02 17 40.5	+1.1
T1215	**Vallo di Nera,**	**0.23**	**272**	↑P	Pg	02 17 37.0	+0.6
T1215				S	Sg	02 17 40.8	+1.2
T1215				AML	AML		
	comp=E,1360μm,0.4s						
T1215				AML	AML		
	comp=N,1008μm,0.9s						
T1215				AML	AML		
	comp=E,1350μm,1.3s						
T1215				AML	AML		
	comp=N,956μm,0.9s						
T1215				AML	AML		
	comp=E,1355μm,0.5s						
T1215				AML	AML		
	comp=E,1342μm,1.3s						
T1215				AML	AML		
	comp=N,1014μm,0.2s						
T1215				AML	AML		
	comp=N,639μm,0.8s						
FDMO	**Fiordimonte**	**0.25**	**344**	↑P	Pg	02 17 37.2	+0.5
FDMO				S	Sg	02 17 41.5	+1.3
FDMO				AML	AML		
	comp=E,5040μm,0.2s						
FDMO				AML	AML		
	comp=E,5035μm,0.2s						
FDMO				AML	AML		
	comp=N,4540μm,0.2s						
RM33	**Pellescritta (**	**0.29**	**175**	↑P	Pg	02 17 38.1	+0.6
RM33				S	Sb	02 17 43.0	-0.9
RM33				AML	AML		
	comp=E,909μm,1.0s						
RM33				AML	AML		
	comp=N,642μm,1.6s						
RM33				AML	AML		
	comp=E,998μm,1.4s						
RM33				AML	AML		
	comp=N,718μm,1.3s						
RM33				AML	AML		
	comp=E,908μm,1.0s						
RM33				AML	AML		
	comp=N,686μm,1.3s						
RM33				AML	AML		
	comp=N,617μm,0.2s						
GUMA	**Gualdo di Mace**	**0.29**	**23**	↑P	Pb	02 17 38.3	-0.6
GUMA				S	Sb	02 17 43.8	-0.1
GUMA				AML	AML		
	comp=E,11030μm,1.6s						
GUMA				AML	AML		
	comp=N,11450μm,0.5s						
GUMA				AML	AML		
	comp=E,11015μm,1.6s						
GUMA				AML	AML		
	comp=N,11150μm,0.5s						
GUMA				AML	AML		
	comp=E,10215μm,0.6s						
GUMA				AML	AML		
	comp=N,2973μm,0.6s						
GUMA				AML	AML		
	comp=E,1367μm,1.4s						
CAMP	**Campotosto**	**0.31**	**147**	P	Pg	02 17 38.3	+0.4
CAMP				S	Sb	02 17 43.3	-1.2
CAMP				AML	AML		
	comp=E,577μm,0.8s						
CAMP				AML	AML		
	comp=N,558μm,0.8s						
CAMP				AML	AML		
	comp=E,186μm,0.2s						
CAMP				AML	AML		
	comp=N,157μm,0.7s						
T1211	**Morro Reatino**	**0.36**	**222**	P	Pg	02 17 39.2	+0.5
T1211				S	Sb	02 17 45.1	-0.6
T1211				AML	AML		
	comp=E,719μm,0.2s						
T1211				AML	AML		
	comp=N,778μm,0.3s						
T1211				AML	AML		
	comp=E,751μm,0.2s						
T1211				AML	AML		
	comp=N,746μm,0.3s						
T1211				AML	AML		
	comp=E,1370μm,1.2s						
T1211				AML	AML		
	comp=N,1390μm,1.6s						
T1211				AML	AML		
	comp=N,779μm,0.3s						
T1211				AML	AML		
	comp=N,748μm,0.3s						
TERO	**Teramo**	**0.36**	**119**	P	Pg	02 17 39.0	+0.3
TERO				S	Sb	02 17 44.9	-0.9
TERO				AML	AML		
	comp=E,1200μm,0.9s						
TERO				AML	AML		
	comp=N,1915μm,0.5s						
TERO				AML	AML		
	comp=N,1995μm,0.5s						
TERO				AML	AML		
	comp=E,1235μm,0.5s						
TERO				AML	AML		
	comp=N,294μm,0.4s						
T1247	**Pizzolo (AQ)**	**0.36**	**166**	↑P	Pg	02 17 39.4	+0.5
T1247				AML	AML		
	comp=E,887μm,0.6s						
T1247				AML	AML		
	comp=N,978μm,0.1s						
ARRO	**Arrone**	**0.38**	**235**	↑P	Pg	02 17 39.6	+0.6
ARRO				AML	AML		
	comp=E,394μm,1.0s						
ARRO				AML	AML		
	comp=N,305μm,1.1s						
ARRO				AML	AML		
	comp=E,463μm,0.2s						
ARRO				AML	AML		
	comp=N,306μm,1.1s						
OFFI	**Offida**	**0.40**	**69**	P	Pb	02 17 40.7	0.0
OFFI				AML	AML		
	comp=N,1775μm,0.8s						
OFFI				AML	AML		
	comp=E,1500μm,0.6s						
GIGS	**Gran Sasso**	**0.45**	**140**	P	Pg	02 17 40.5	+0.1
GIGS				AML	AML		
	comp=N,135μm,0.6s						
GIGS				AML	AML		
	comp=E,154μm,1.6s						
ASSB	**Assisi San Ben**	**0.46**	**303**	↓P	Pg	02 17 40.9	+0.4
ASSB				AML	AML		
	comp=E,1355μm,0.3s						
ASSB				AML	AML		
	comp=N,1185μm,1.6s						
AQU	**L'Aquila**	**0.47**	**160**	↓P	Pg	02 17 39.7	-1.1
CESX	**Cesi**	**0.48**	**247**	↑P	Pg	02 17 41.3	+0.3
CESX				S	Sb	02 17 50.0	+0.7
CESX				AML	AML		
	comp=N,572μm,0.5s						
CESX				AML	AML		
	comp=E,427μm,0.5s						
SNTG	**Esanatoglia**	**0.49**	**339**	P	Pg	02 17 41.6	+0.4
SNTG				AML	AML		
	comp=E,1180μm,0.8s						
SNTG				AML	AML		
	comp=N,1054μm,0.2s						
SNTG				AML	AML		
	comp=N,1150μm,0.1s						
SNTG				AML	AML		
	comp=E,1185μm,0.8s						
SNTG				AML	AML		
	comp=N,1054μm,0.2s						
SNTG				AML	AML		
	comp=E,1160μm,0.1s						
SNTG				AML	AML		
	comp=E,171μm,0.1s						
FIAM	**Fiamignano**	**0.53**	**185**	↑P	Pg	02 17 42.1	+0.2
FIAM				AML	AML		
	comp=N,194μm,0.6s						
FIAM				AML	AML		
	comp=E,322μm,0.6s						
FIAM				AML	AML		
	comp=N,202μm,1.0s						
FIAM				AML	AML		
	comp=N,132μm,0.7s						
EL6	**Elcito**	**0.54**	**354**	↑P	Pg	02 17 42.3	+0.2
EL6				S	Sb	02 17 51.0	0.0
EL6				AML	AML		
	comp=E,1395μm,1.0s						
EL6				AML	AML		
	comp=N,1355μm,0.3s						
TRTR	**Tortoreto Alta**	**0.54**	**88**	↑P	Pb	02 17 43.8	+0.6
TRTR				AML	AML		
	comp=E,2045μm,0.4s						
TRTR				AML	AML		
	comp=N,1860μm,1.1s						
ATCC	**AVT- Casa Cast**	**0.56**	**315**	↑P	Pg	02 17 42.8	+0.4
ATCC				S	Sb	02 17 53.0	+1.5
ATCC				AML	AML		
	comp=E,1195μm,1.5s						
ATCC				AML	AML		
	comp=N,1227μm,0.7s						
ATCC				AML	AML		
	comp=N,1230μm,0.7s						
CING	**Cingoli**	**0.58**	**1**	↓P	Pg	02 17 43.1	+0.2
CING				AML	AML		
	comp=E,702μm,0.7s						
CING				AML	AML		
	comp=N,588μm,0.4s						
CING				AML	AML		
	comp=N,119μm,0.1s						
FOSV	**Fossato di Vic**	**0.58**	**328**	↑P	Pg	02 17 43.2	+0.2
FOSV				S	Sn	02 17 55.0	-0.7
FOSV				AML	AML		
	comp=E,864μm,0.3s						
FOSV				AML	AML		
	comp=N,1780μm,0.3s						
FOSV				AML	AML		
	comp=N,1785μm,0.3s						
FOSV				AML	AML		
	comp=E,139μm,0.2s						
FAGN	**Fagnano**	**0.61**	**150**	↑P	Pg	02 17 43.6	+0.2
FAGN				AML	AML		
	comp=N,349μm,0.4s						
FAGN				AML	AML		
	comp=E,600μm,0.4s						
VCEL	**Villa Celiera**	**0.63**	**129**	↑P	Pb	02 17 44.4	-0.4
VCEL				S	Sb	02 17 55.0	+1.3
VCEL				AML	AML		
	comp=N,638μm,1.6s						
VCEL				AML	AML		
	comp=E,438μm,0.7s						
PP3	**Marolino**	**0.66**	**28**	P	Pb	02 17 45.6	+0.4
PP3				AML	AML		
	comp=E,1770μm,0.9s						
PP3				AML	AML		
	comp=N,1091μm,0.8s						
PP3				AML	AML		
	comp=E,1730μm,0.9s						
PP3				AML	AML		
	comp=N,1105μm,0.9s						
PP3				AML	AML		
	comp=E,1770μm,0.9s						
PP3				AML	AML		
	comp=N,1092μm,0.8s						
PP3				AML	AML		
	comp=N,890μm,0.4s						
MURB	**Monte Urbino**	**0.67**	**314**	S	Sn	02 17 57.0	-0.8
SSFR	**Montelago di S**	**0.70**	**336**	↑P	Pb	02 17 45.7	-0.3
SSFR				AML	AML		
	comp=E,1420μm,0.3s						
SSFR				AML	AML		
	comp=N,1435μm,0.2s						
SSFR				AML	AML		
	comp=E,1400μm,0.9s						
SSFR				AML	AML		
	comp=N,1210μm,0.2s						
T0110	**Collepietro**	**0.72**	**142**	P	Pg	02 17 45.8	+0.2
T0110				AML	AML		
	comp=E,442μm,0.6s						
T0110				AML	AML		
	comp=N,374μm,0.7s						
ARVD	**Arcevia**	**0.72**	**346**	↑P	Pg	02 17 45.7	+0.1
ARVD				AML	AML		
	comp=E,458μm,0.2s						
ARVD				AML	AML		
	comp=N,326μm,1.5s						
ARVD				AML	AML		
	comp=E,458μm,0.2s						
ATFO	**Monte Foce - G**	**0.72**	**322**	↑P	Pg	02 17 45.9	+0.3
ATFO				S	Sb	02 17 57.0	+0.6
ATFO				AML	AML		
	comp=N,322μm,0.4s						
ATFO				AML	AML		
	comp=E,480μm,0.9s						
SRES	**S.Oreste - Sor**	**0.75**	**222**	↑P	Pb	02 17 46.6	-0.1
SRES				S	Sn	02 17 59.0	-0.6
SRES				AML	AML		
	comp=E,112μm,0.8s						
SRES				AML	AML		
	comp=N,120μm,0.5s						
FRON	**Frontone**	**0.79**	**335**	↑P	Pg	02 17 46.9	0.0
FRON				AML	AML		
	comp=E,343μm,0.7s						
FRON				AML	AML		
	comp=N,673μm,0.3s						
ATVO	**AVT- Monte Val**	**0.81**	**316**	↑P	Pb	02 17 47.6	-0.3
ATVO				S	Sb	02 17 59.0	0.0
ATVO				AML	AML		
	comp=E,324μm,0.7s						
ATVO				AML	AML		
	comp=N,257μm,0.4s						
ATVO				AML	AML		
	comp=E,324μm,0.7s						
CERT	**Cerreto**	**0.86**	**190**	↓P	Pb	02 17 48.8	+0.2
CERT				AML	AML		
	comp=E,219μm,0.4s						
CERT				AML	AML		
	comp=N,168μm,1.3s						
PIEI	**Pieia**	**0.88**	**328**	↑P	Pb	02 17 48.8	-0.2
PIEI				AML	AML		
	comp=E,274μm,1.2s						
PIEI				AML	AML		
	comp=N,208μm,1.1s						
MPAG	**Monte Paganucc**	**0.89**	**340**	↑P	Pb	02 17 49.1	-0.1
MPAG				S	Sg	02 17 60.0	-0.3
MPAG				AML	AML		
	comp=N,253μm,1.0s						
MPAG				AML	AML		
	comp=E,292μm,1.1s						
MPAG				AML	AML		
	comp=N,252μm,1.0s						
SACS	**San Casciano d**	**0.94**	**274**	S	Sn	02 18 05.0	+0.6
FSSB	**Fossombrone**	**0.94**	**342**	↓P	Pg	02 17 49.9	+0.1
FSSB				S	Sg	02 18 01.0	-1.1
FSSB				AML	AML		
	comp=E,726μm,0.5s						
FSSB				AML	AML		
	comp=N,1070μm,0.3s						
PE3	**Peglio**	**1.03**	**331**	S	Sg	02 18 03.0	-1.8
TOLF	**Tolfa**	**1.14**	**230**	↑P	Pb	02 17 53.2	-0.2
TOLF				AML	AML		
	comp=E,78μm,0.8s						
TOLF				AML	AML		
	comp=N,74μm,0.4s						

IDC 01 02:17:39.4±1.6, 23°97S×175°59W, h0km, mb3.8/4, mbtmp3.8/5, ML5.3/1, MS3.3/6, Error ellipse: s-maj=62.6km s-min=31.4km az=166.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.59**	**315**	Pn	Pn	02 19 47.2	+2.0
	1.1nm,0.3s,baz=129,slow=23,SNR=8.9 9.4nm,0.6s						
RAR	**Rarotonga**	**14.86**	**82**	LR	LR	02 27 08.8	
	comp=Z,85nm,18.1s,baz=264,slow=38						
DZM	**Mont Dzumac**	**16.65**	**273**	LR	LR	02 25 42.2	
	comp=Z,35nm,19.0s,baz=211,slow=29						
TBI	**Tubuai**	**23.93**	**94**	*e*LR	LR	02 29 17.6	
	comp=Z,332nm,30.2s						
PPT2	**Papeete2**	**25.11**	**80**	*e*LR	LR	02 28 49.9	
	comp=Z,61nm,22.2s						
PPT	**Papeete**	**25.12**	**80**	LR	LR	02 31 06.6	
	comp=Z,63nm,19.2s,baz=153,slow=32						
CTA	**Charters Tower**	**35.51**	**269**	P	P	02 24 37.0	-1.2
	1.1nm,0.4s,baz=91,slow=10,SNR=1.3 1.1nm,0.4s						
PMG	**Port Moresby**	**38.36**	**286**	LR	LR	02 38 21.7	
	comp=Z,38nm,18.4s,baz=84,slow=32						
ASAR	**Alice Springs**	**46.00**	**260**	P	P	02 26 05.8	+1.0
	0.7nm,0.6s,baz=96,slow=8.9,SNR=6.3 0.7nm,0.6s						
WRA	**Warramunga Arr**	**46.42**	**265**	P	P	02 26 06.8	-1.4
	0.4nm,0.3s,baz=96,slow=8.2,SNR=7.0 0.4nm,0.3s						
KAPI	**Kappang**	**64.84**	**276**	LR	LR	02 56 22.5	
	comp=Z,27nm,18.2s,baz=220,slow=36						
TROLL	**Troll, Antarti**	**84.27**	**179**	P	P	02 30 16.1	+3.3
PLCA	**Paso Flores**	**85.29**	**133**	LR	LR	03 00 55.6	
	comp=Z,36nm,18.8s,baz=202,slow=30						
TXAR	**Lajitas Array**	**87.08**	**56**	P	P	02 30 27.0	-0.4
	0.4nm,0.9s,baz=212,slow=4.3,SNR=3.8 0.4nm,0.9s						
AKASG	**Malin Array Be**	**147.11**	**331**	PKPbc	PKPdf	02 37 22.0	0.0
	0.4nm,0.4s,baz=35,slow=3.5,SNR=1.7						
BRTR	**Keskin Array B**	**150.79**	**310**	PKPbc	PKiKP	02 37 36.0	+1.3
	0.5nm,0.8s,baz=78,slow=2.9,SNR=1.8						

*PRU **01** 02:17:40.8±0.0, 42°60N×14°23E, h10km*
ROM 01 02:17:43.6±0.1, **42°883N**±0°003×**13°217E**±0°005,

h7km, ML2.8/8, 4D, Error ellipse: s-maj=0.4km s-min=0.2km az=224.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.03**	**219**	⇓P		Pg	02 17 45.2	0.0
T1245				S		Sg	02 17 46.3	-0.1
T1245				AML	AML		
	comp=E,24450μm,0.2s						
T1245				AML	AML		
	comp=N,48550μm,0.6s						
T1245				AML	AML		
	comp=E,25150μm,0.2s						
T1245				AML	AML		
	comp=N,46650μm,0.6s						
T1245				AML	AML		
	comp=N,48600μm,0.6s						
T1245				AML	AML		
	comp=E,24400μm,0.2s						
MMO1	**Montemonaco**	**0.08**	**79**	P		Pg	02 17 45.9	+0.1
MMO1				S		Sg	02 17 47.9	+0.7
T1256	**Bolognola (MC)**	**0.12**	**3**	P		Pg	02 17 46.7	+0.2
T1256				S		Sg	02 17 48.7	+0.3
T1256				AML	AML		
	comp=E,12200μm,1.3s						
T1256				AML	AML		
	comp=N,11600μm,1.4s						
T1256				AML	AML		
	comp=E,12550μm,0.6s						
T1256				AML	AML		
	comp=N,11550μm,1.4s						
T1256				AML	AML		
	comp=N,11600μm,1.4s						
T1256				AML	AML		
	comp=E,12200μm,1.4s						
AM05	**Amandola Campo**	**0.14**	**47**	P		Pg	02 17 47.1	+0.5
AM05				S		Sg	02 17 49.7	+1.1
AM05				AML	AML		
	comp=E,2830μm,0.4s						
AM05				AML	AML		
	comp=E,11290μm,0.4s						
AM05				AML	AML		
	comp=N,2300μm,0.1s						
AM05				AML	AML		
	comp=E,11305μm,0.4s						
AM05				AML	AML		
	comp=N,542μm,0.1s						
AM05				AML	AML		
	comp=N,541μm,0.1s						
AM05				AML	AML		
	comp=E,11300μm,0.4s						
AM05				AML	AML		
	comp=E,2835μm,0.4s						
FEMA	**Monte Fema**	**0.15**	**303**	P		Pg	02 17 47.3	+0.5
FEMA				S		Sg	02 17 49.8	+0.9
FEMA				AML	AML		
	comp=N,11245μm,0.8s						
FEMA				AML	AML		
	comp=N,11275μm,0.8s						
FEMA				AML	AML		
	comp=E,12350μm,0.2s						
T1216	**Preci, Frazion**	**0.15**	**273**	P		Pg	02 17 47.2	+0.5
T1216				S		Sg	02 17 50.1	+1.2
T1216				AML	AML		
	comp=E,16150μm,0.4s						
T1216				AML	AML		
	comp=N,7835μm,0.4s						
T1216				AML	AML		
	comp=E,16200μm,0.4s						
T1216				AML	AML		
	comp=N,7810μm,0.4s						
T1216				AML	AML		
	comp=N,7825μm,0.4s						
T1241	**Roccafluvione,**	**0.16**	**100**	P		Pg	02 17 47.5	+0.6
T1241				S		Sg	02 17 50.5	+1.3
T1241				AML	AML		
	comp=E,4470μm,0.7s						
T1241				AML	AML		
	comp=N,3635μm,0.7s						
T1241				AML	AML		
	comp=N,3640μm,0.7s						
T1241				AML	AML		
	comp=E,4475μm,0.7s						
FDMO	**Fiordimonte**	**0.18**	**328**	P		Pg	02 17 47.6	+0.3
FDMO				S		Sg	02 17 50.7	+0.8
FDMO				AML	AML		
	comp=N,4540μm,0.2s						
FDMO				AML	AML		
	comp=E,5035μm,0.2s						
GUMA	**Gualdo di Mace**	**0.20**	**26**	P		Pg	02 17 48.4	+0.7
GUMA				S		Sg	02 17 52.1	+1.7
T1204	**Amatrice, Fraz**	**0.22**	**160**	P		Pg	02 17 48.9	+0.8
T1204				S		Sg	02 17 53.1	+2.1
T1201	**Domo (RI)**	**0.23**	**174**	P		Pg	02 17 49.2	+1.0
T1243	**Rocca Santa Ma**	**0.25**	**138**	P		Pg	02 17 49.2	+0.5
T1243				S		Sb	02 17 53.9	-1.4
SMA1	**SAN MARTINO**	**0.27**	**161**	P		Pg	02 17 49.6	+0.7
SMA1				S		Sb	02 17 54.6	-1.1
T1215	**Vallo di Nera,**	**0.27**	**253**	P		Pg	02 17 49.3	+0.3
T1215				S		Sb	02 17 54.4	-1.2
T1217	**Poggiodomo (PG**	**0.27**	**231**	P		Pg	02 17 49.8	+0.8
T1217				S		Sb	02 17 54.9	-0.9
SEF1	**Sefro**	**0.33**	**323**	P		Pg	02 17 50.4	+0.3
SEF1				S		Sb	02 17 56.1	-1.3
CAMP	**Campotosto**	**0.38**	**158**	P		Pg	02 17 51.1	+0.2
CAMP				S		Sb	02 17 57.7	-1.1
TERO	**Teramo**	**0.39**	**132**	P		Pg	02 17 51.7	+0.5
TERO				S		Sb	02 17 58.2	-0.8
ATCC	**AVT- Casa Cast**	**0.52**	**306**	P		Pg	02 17 54.1	+0.4
ATCC				S		Sb	02 18 02.3	-0.6
MURB	**Monte Urbino**	**0.63**	**307**	P		Pg	02 17 56.0	+0.1
MURB				S		Sb	02 18 06.7	+0.5
ARVD	**Arcevia**	**0.65**	**342**	P		Pg	02 17 56.5	+0.4
ARVD				S		Sb	02 18 07.0	+0.5
ARVD	**Arcevia**	**0.65**	**342**	S		Pg	02 17 57.0	+0.9
ATVO	**AVT- Monte Val**	**0.78**	**310**	P		Pg	02 17 58.3	-0.3
ATVO				S		Sb	02 18 10.3	0.0
MGAB	**Montegabbione**	**0.81**	**272**	⇓P		Pg	02 17 51.3	-8.0
MGAB				AML	AML		
	comp=E,453μm,0.6s						
MGAB				AML	AML		
	comp=N,622μm,0.5s						
MPAG	**Monte Paganucc**	**0.82**	**336**	S		Sn	02 18 14.0	-0.1
PIEI	**Pieia**	**0.82**	**323**	P		Pg	02 17 59.5	+0.1
PIEI				S		Sb	02 18 12.0	+0.4
PIEI	**Pieia**	**0.82**	**323**	S		Pg	02 17 60.0	+0.5
ATPI	**Pietralunga -**	**0.82**	**314**	P		Pg	02 17 59.5	0.0
ATPI				S		Sb	02 18 12.1	+0.5
FSSB	**Fossombrone**	**0.87**	**338**	S		Sn	02 18 16.0	+0.7
CPGN	**Carpegna, Ital**	**1.13**	**325**	P		Pn	02 18 06.1	+0.1
BRSN	**Barisano**	**1.63**	**330**	⇓P		Pn	02 18 10.0	-2.7
BRSN				AML	AML		
	comp=E,394μm,0.9s						
BRSN				AML	AML		
	comp=N,237μm,1.6s						
BOSI	**Bolzano**	**3.86**	**340**	⇓P		Pb	02 18 48.7	-3.2
KHC	**Kasperske Hory**	**6.25**	**2**	*e*SN		Sn	02 20 28.3	+0.3

*IDC **01** 02:20:24.7±4.7, 36°.96N×70°.63E, h116km±34km, mb3.3/2, mbtmp3.6/7, Error ellipse: s-maj=57.5km s-min=18.3km az=151.0*

*NNC **01** 02:20:27.0±4.3, 37°.29N×71°.58E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=34.6km s-min=28.7km az=155.0*

ISC 01 02:20:17.3±0.8, 36°.44N±0°.08×71°.21E±0°.07, h100km, n20, σ2§80/25, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.68**	**356**	P		**Pn**	**02 21 55.4**	**+2.6**
	1.6nm,0.3s,baz=179,slow=12,SNR=73						
KK31				⇓S		**Sn**	**02 23 04.8**	**-2.5**
	2.0nm,0.2s,baz=186,slow=24,SNR=11						
AAK	**Ala-Archa**	**6.69**	**21**	P		**Pn**	**02 21 56.0**	**+2.9**
	5.1nm,0.3s,baz=183,slow=7.5,SNR=17						
AAK				S		**Sn**	**02 23 09.2**	**+1.4**
	3.3nm,0.7s,baz=180,slow=20,SNR=2.5						
CHMS	**Chumysh**	**7.09**	**22**	⇑P		**Pn**	**02 21 59.6**	**+1.1**
	5.8nm,0.6s						
CHMS				⇓S		**Sn**	**02 23 12.4**	**-5.1**
	5.3nm,0.8s						
TKM2	**Tokmak 2**	**7.30**	**26**	⇑P		**Pn**	**02 22 03.8**	**+2.3**
	3.2nm,0.6s						
TKM2				⇑S		**Sn**	**02 23 17.0**	**-5.9**
	1.4nm,0.5s						
GEYT	**Alibeck**	**10.55**	**282**	P		**Pn**	**02 22 45.3**	**-0.2**
	1.1nm,0.5s,baz=103,slow=9.2,SNR=5.6						
GEYT				S		**Sn**	**02 24 35.3**	**-6.4**
	0.9nm,0.4s,baz=90,slow=27,SNR=2.0						
MKAR	**Makanchi Array**	**13.24**	**35**	P		**P**	**02 23 27.8**	**+0.4**
	0.3nm,0.3s,baz=211,slow=9.6,SNR=6.8						
DANN	**Dangsing**	**13.32**	**124**	*e*P		**Pn**	**02 23 21.1**	**-1.6**
	5.4nm,0.3s						
GKN	**Gorkha**	**14.13**	**123**	*e*P		**Pn**	**02 23 31.4**	**-1.7**
	2.8nm,0.2s						
DMN	**Daman**	**14.70**	**123**	*e*P		**Pn**	**02 23 38.3**	**-2.2**
	3.1nm,0.3s						
PKIN	**Phulchoki**	**14.92**	**122**	*e*P		**Pn**	**02 23 42.6**	**-0.7**
	6.9nm,0.4s						
PKI	**Pulchoki**	**14.93**	**122**	*e*P		**Pn**	**02 23 42.8**	**-0.7**
	4.1nm,0.4s						
GUN	**Gumba**	**15.04**	**120**	*e*P		**Pn**	**02 23 43.1**	**-1.9**
	5.5nm,0.2s						
KURBB	**Kurchatov Arra**	**15.13**	**18**	P		**P**	**02 23 49.6**	**+1.3**
	0.4nm,0.5s,baz=204,slow=11,SNR=6.4						
AB31	**Akbulak array**	**15.22**	**331**	P		**P**	**02 23 53.1**	**+3.8**
	0.3nm,0.3s,baz=141,slow=12,SNR=33						
JIRN	**Jiri**	**15.41**	**120**	*e*P		**Pn**	**02 23 48.2**	**-1.5**
	8.9nm,0.3s						
RAMN	**Ramite**	**16.14**	**122**	*e*P		**Pn**	**02 23 58.7**	**+0.1**
	3.6nm,0.3s						
TAPN	**Taplejung**	**16.67**	**118**	*e*P		**P**	**02 24 05.4**	**-0.5**
	4.7nm,0.3s						
ZALV	**Zalesovo Beam**	**19.90**	**24**	P		**Pn**	**02 24 42.4**	**-0.8**
	1.1nm,0.3s,baz=214,slow=10,SNR=5.8						
FINES	**FINESS Array B**	**37.62**	**326**	P		**P**	**02 27 22.7**	**+0.6**
	2.1nm,1.0s,baz=115,slow=12,SNR=1.9						
	2.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P		**P**	**02 30 55.2**	**+2.5**
	0.3nm,0.8s,baz=42,slow=6.7,SNR=4.0						
	0.3nm,0.8s						

*IDC **01** 02:29:35.2±1.4, 27°.40N×129°.26E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=29.3km s-min=23.2km az=16.0*

*JMA **01** 02:29:39.4±0.2, 27°.4N±0°.6×129°.3E±0°.9, h28km, MV3.1/15, NEAR AMAMI-OSHIMA ISLAND*

ISC 01 02:29:38.2±1.5, 27°.35N±0°.05×129°.33E±0°.05, h23km±12km, n20, σ0§90/23, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.55**	**322**	P		**Pb**	**02 29 49.0**	**-0.2**
JTK				S		**Sb**	**02 29 56.2**	**-0.5**
JOKE	**Okinoerabujima**	**0.67**	**271**	P		**Pb**	**02 29 51.4**	**+0.1**
JOKE				S		**Sb**	**02 29 59.8**	**-0.5**
JYRO	**Yoronjima**	**0.85**	**248**	P		**Pb**	**02 29 54.3**	**+0.1**
JYRO				*e*S		**Sb**	**02 30 04.9**	**-0.3**
JAMN	**Amaminishikomi**	**0.90**	**351**	P		**Pn**	**02 29 54.6**	**-0.8**
JOW	**Kunigami**	**1.07**	**241**	Pn		**Pn**	**02 29 57.8**	**-0.1**
	62nm,0.3s,baz=101,slow=18,SNR=50						
JOW					Sn	**Sn**	**02 30 12.0**	**0.0**
	72nm,0.3s,baz=346,slow=19,SNR=15						
JOW	**Kunigami**	**1.07**	**241**	P		**Pn**	**02 29 58.2**	**+0.4**
JOW				S		**Sn**	**02 30 12.1**	**+0.1**
JAM	**Amami Oshima**	**1.08**	**13**	P		**Pn**	**02 29 58.2**	**+0.2**
JZK	**Kikaishima**	**1.12**	**31**	P		**Pb**	**02 30 00.4**	**+1.5**
JIH	**Iheya**	**1.25**	**256**	P		**Pb**	**02 30 01.0**	**-0.1**
JIH				*e*S		**Sb**	**02 30 17.2**	**+0.3**
JNTH	**Nagotoyohara**	**1.43**	**235**	*e*P		**Pn**	**02 30 03.4**	**+0.6**
JKDJ	**Kitadaitoujima**	**2.25**	**128**	*e*S		**Sn**	**02 30 39.6**	**-1.4**
JMZ	**Minamidaito 2**	**2.28**	**132**	*e*S		**Sn**	**02 30 39.9**	**-1.9**
JKE	**Kume jima 2**	**2.49**	**246**	*e*P		**Pn**	**02 30 17.8**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**35.16**	**94**	T		T	03 14 04.7	
	baz=298						
H11N1	**WAKE ISLAND Hy**	**35.17**	**94**	T		T	03 13 59.7	
	baz=298						
H11N3	**WAKE ISLAND Hy**	**35.18**	**94**	T		T	03 14 11.7	
	baz=298						
KURBB	**Kurchatov Arra**	**44.73**	**315**	P		**P**	**02 37 48.7**	**-0.9**
	0.1nm,0.3s,baz=102,slow=9.2,SNR=2.2						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**47.26**	**174**	P		**P**	**02 38 09.0**	**-0.8**
	0.7nm,1.2s,baz=354,slow=8.4,SNR=2.0						
	0.7nm,1.2s						
ASAR	**Alice Springs**	**50.91**	**175**	P		**P**	**02 38 39.7**	**+2.0**
	0.2nm,0.5s,baz=6.8,slow=9.4,SNR=4.5						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**72.37**	**331**	P		**P**	**02 41 02.6**	**+0.5**
	0.6nm,0.5s,baz=64,slow=4.4,SNR=4.9						
	0.6nm,0.5s						

*STR **01** 02:35:45.6±2.0, 43°.N±7°.×1°.4E±1°.6, h8km, MLv3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=96.9, preliminary*

*IDC **01** 02:35:47.2±2.5, 42°.71N×13°.40E, h0km, mb3.3/1, mbtmp3.2/3, ML2.8/2, Error ellipse: s-maj=112.2km s-min=15.6km az=99.0*

*ROM **01** 02:35:48.5±0.1, 42°.663N±0°.003×13°.217E±0°.004, h11km, ML3.2/56, Error ellipse: s-maj=0.3km s-min=0.1km az=70.0*

*PRU **01** 02:35:50.5±0.0, 42°.72N×13°.36E, h10km*

ISC 01 02:35:49.2±0.7, 42°.67N±0°.02×13°.21E±0°.02, h13km±4km, n130, σ1§43/159, 41C-27D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1201	**Domo (RI)**	**0.04**	**119**	P		**Pg**	**02 35 51.1**	**-0.5**
T1201				S		**Sg**	**02 35 52.6**	**-0.7**
T1204	**Amatrice, Fraz**	**0.08**	**89**	P		**Pg**	**02 35 51.5**	**-0.6**
T1204				S		**Sg**	**02 35 53.3**	**-0.9**
T1204				AML	AML		
	comp=E,97000μm,1.0s						
T1204				AML	AML		
	comp=E,97200μm,1.0s						
T1204				AML	AML		
	comp=N,54600μm,1.0s						
T1204				AML	AML		
	comp=N,54650μm,1.0s						
T1204				AML	AML		
	comp=E,96750μm,1.0s						
SMA1	**SAN MARTINO**	**0.10**	**115**	P		**Pg**	**02 35 51.8**	**-0.5**
SMA1				S		**Sg**	**02 35 53.9**	**-0.6**
SMA1				AML	AML		
SMA1				AML	AML		
LNSS	**Leonessa**	**0.14**	**240**	⇑P		**Pg**	**02 35 52.5**	**-0.4**
LNSS				S		**Sg**	**02 35 55.3**	**-0.1**
LNSS				AML	AML		
	comp=N,66550μm,0.3s						
LNSS				AML	AML		
	comp=E,32450μm,0.4s						
LNSS				AML	AML		
	comp=N,66500μm,0.3s						
RM33	**Pellescritta (**	**0.17**	**179**	⇑P		**Pg**	**02 35 52.6**	**-0.5**
RM33				S		**Sg**	**02 35 55.5**	**-0.4**
RM33				AML	AML		
	comp=N,38500μm,0.9s						
RM33				AML	AML		
	comp=E,52250μm,0.2s						
RM33				AML	AML		
	comp=N,38150μm,0.9s						
RM33				AML	AML		
	comp=N,38550μm,0.9s						
RM33				AML	AML		
	comp=E,52300μm,0.2s						
RM33				AML	AML		
	comp=N,38200μm,0.9s						
RM33				AML	AML		
	comp=E,53550μm,0.2s						
T1243	**Rocca Santa Ma**	**0.18**	**83**	P		**Pg**	**02 35 52.7**	**-0.6**
T1243				S		**Sg**	**02 35 55.9**	**-0.4**
T1245	**Castelsantange**	**0.18**	**355**	P		**Pg**	**02 35 53.3**	**-0.2**
T1245				S		**Sg**	**02 35 56.6**	**+0.1**
T1245				AML	AML		
	comp=E,49900μm,0.2s						
T1245				AML	AML		
	comp=N,92100μm,0.5s						
T1245				AML	AML		
	comp=E,54950μm,0.2s						
T1245				AML	AML		
	comp=E,49900μm,0.2s						
T1245				AML	AML		
	comp=N,90900μm,0.5s						
T1245				AML	AML		
	comp=N,92100μm,0.5s						
CAMP	**Campotosto**	**0.20**	**133**	⇑P		**Pg**	**02 35 53.1**	**-0.6**
CAMP				S		**Sg**	**02 35 56.3**	**-0.5**
CAMP				AML	AML		
	comp=N,5755μm,0.9s						
CAMP				AML	AML		
	comp=E,5680μm,1.5s						
CAMP				AML	AML		
	comp=N,5750μm,0.9s						
T1217	**Poggiodomo (PG**	**0.21**	**281**	⇑P		**Pg**	**02 35 53.5**	**-0.3**
T1217				S		**Sg**	**02 35 57.1**	**+0.1**
T1217				AML	AML		
	comp=E,16150μm,0.3s						
T1217				AML	AML		
	comp=N,36000μm,0.4s						
T1217				AML	AML		
	comp=N,35550μm,0.4s						
T1217				AML	AML		
	comp=E,16150μm,0.4s						
T1217				AML	AML		
	comp=N,35950μm,0.4s						
T1217				AML	AML		
	comp=E,16450μm,0.4s						
T1217				AML	AML		
	comp=N,35550μm,0.4s						
T1217				AML	AML		
	comp=N,36000μm,0.4s						
T1217				AML	AML		
	comp=E,16450μm,0.3s						
T1217				AML	AML		
	comp=E,16100μm,0.3s						
MMO1	**Montemonaco**	**0.24**	**21**	P		**Pg**	**02 35 54.1**	**-0.3**
MMO1				S		**Sg**	**02 35 58.2**	**+0.3**
T1247	**Pizzolo (AQ)**	**0.24**	**164**	⇑P		**Pg**	**02 35 53.8**	**-0.5**
T1247				AML	AML		
	comp=E,18850μm,0.1s						
T1247				AML	AML		
	comp=N,17600μm,0.3s						
T1247				AML	AML		
	comp=E,18900μm,0.1s						
T1241	**Roccafluvione,**	**0.24**	**42**	⇑P		**Pg**	**02 35 54.0**	**-0.4**
T1241				S		**Sg**	**02 35 57.9**	**-0.1**
T1241				AML	AML		
	comp=E,14600μm,0.2s						
T1241				AML	AML		
	comp=N,7530μm,1.5s						
T1241				AML	AML		
	comp=E,14350μm,0.2s						
T1241				AML	AML		
	comp=N,7765μm,0.6s						
T1241				AML	AML		
	comp=N,7525μm,1.5s						
T1241				AML	AML		
	comp=N,7760μm,0.6s						
T1216	**Preci, Frazion**	**0.26**	**327**	P		**Pg**	**02 35 54.4**	**-0.3**
T1216				S		**Sg**	**02 35 58.9**	**+0.5**
T1216				AML	AML		
	comp=E,11250μm,0.5s						
T1216				AML	AML		
	comp=E,11270μm,0.5s						
T1216				AML	AML		
	comp=N,15700μm,0.4s						
T1215	**Vallo di Nera,**	**0.28**	**297**	P		**Pg**	**02 35 54.7**	**-0.4**
T1215				S		**Sg**	**02 35 59.4**	**+0.3**
TERO	**Teramo**	**0.29**	**100**	P		**Pg**	**02 35 54.5**	**-0.8**
TERO				S		**Sg**	**02 35 58.9**	**-0.5**
TERO				AML	AML		
	comp=N,11600μm,0.6s						
TERO				AML	AML		
	comp=N,11550μm,0.6s						
TERO				AML	AML		
	comp=E,8950μm,0.6s						
TERO				AML	AML		
	comp=E,9710μm,0.6s						
TERO				AML	AML		
	comp=N,12550μm,0.6s						
T1211	**Morro Reatino**	**0.30**	**242**	⇑P		**Pg**	**02 35 54.9**	**-0.5**
T1211				S		**Sg**	**02 35 59.8**	**+0.3**
T1211				AML	AML		
	comp=E,15350μm,1.2s						
T1211				AML	AML		
	comp=N,17350μm,0.2s						
T1211				AML	AML		
	comp=E,15300μm,1.2s						
T1211				AML	AML		
	comp=N,17550μm,0.2s						
T1211				AML	AML		
	comp=N,17400μm,0.2s						
T1211				AML	AML		
	comp=E,14700μm,1.2s						
FEMA	**Monte Fema**	**0.31**	**338**	P		**Pg**	**02 35 55.6**	**0.0**
AM05	**Amandola Campo**	**0.32**	**19**	P		**Pg**	**02 35 55.5**	**-0.2**
AM05				S		**Sg**	**02 36 01.2**	**+1.0**
T1256	**Bolognola (MC)**	**0.33**	**2**	P		**Pg**	**02 35 55.6**	**-0.4**
T1256				S		**Sg**	**02 36 01.1**	**+0.5**
ARRO	**Arrone**	**0.34**	**254**	⇑P		**Pg**	**02 35 55.7**	**-0.5**
ARRO				S		**Sg**	**02 36 01.2**	**+0.4**
ARRO				AML	AML		
	comp=E,3925μm,1.1s						
ARRO				AML	AML		
	comp=N,4960μm,1.3s						
GIGS	**Gran Sasso**	**0.35**	**130**	⇑P		**Pg**	**02 35 55.3**	**-1.0**
GIGS				AML	AML		
	comp=E,2100μm,0.2s						
GIGS				AML	AML		
	comp=N,1865μm,0.3s						
AQU	**L'Aquila**	**0.35**	**156**	⇑P		**Pg**	**02 35 55.6**	**-0.7**
AQU				AML	AML		
	comp=N,4535μm,0.2s						
AQU				AML	AML		
	comp=E,3620μm,0.8s						
AQU				AML	AML		
	comp=N,4495μm,0.2s						
AQU				AML	AML		
	comp=E,3695μm,0.8s						
AQU				AML	AML		
	comp=N,4500μm,0.2s						
FDMO	**Fiordimonte**	**0.37**	**346**	P		**Pg**	**02 35 56.4**	**-0.3**
FDMO				S		**Sg**	**02 36 01.8**	**0.0**
FDMO				AML	AML		
	comp=E,4615μm,0.2s						
FDMO				AML	AML		
	comp=N,3740μm,0.6s						
FDMO				AML	AML		
	comp=N,3735μm,0.6s						
FDMO				AML	AML		
	comp=E,4620μm,0.2s						
GUMA	**Gualdo di Mace**	**0.40**	**13**	P		**Pg**	**02 35 57.2**	**0.0**
GUMA				S		**Sb**	**02 36 04.0**	**-0.3**
FIAM	**Fiamignano**	**0.41**	**190**	⇑P		**Pg**	**02 35 56.7**	**-0.8**
FIAM				AML	AML		
	comp=E,9670μm,0.7s						
FIAM				AML	AML		
	comp=N,5820μm,1.4s						
FIAM				AML	AML		
	comp=N,5815μm,1.4s						
OFFI	**Offida**	**0.44**	**53**	P		**Pg**	**02 35 58.2**	**+0.3**
CESX	**Cesi**	**0.47**	**262**	⇑P		**Pg**	**02 35 57.3**	**-1.1**
CESX				AML	AML		
	comp=N,3725μm,1.5s						
CESX				AML	AML		
	comp=E,4000μm,0.4s						
FAGN	**Fagnano**	**0.49**	**146**	⇓P		**Pg**	**02 35 58.0**	**-0.9**
FAGN				S		**Sb**	**02 36 08.0**	**+1.1**
FAGN				AML	AML		
	comp=E,5590μm,1.0s						
FAGN				AML	AML		
	comp=N,5120μm,0.3s						
FAGN				AML	AML		
	comp=E,4570μm,1.2s						
MNTP	**Montappone**	**0.50**	**22**	S		**Sg**	**02 35 60.0**	**-5.8**
SEF1	**Sefro**	**0.51**	**338**	P		**Pg**	**02 35 58.9**	**-0.4**
TRTR	**Tortoreto Alta**	**0.54**	**75**	⇑P		**Pg**	**02 36 00.1**	**+0.4**
TRTR				AML	AML		
	comp=E,7415μm,0.6s						
TRTR				AML	AML		
	comp=N,6080μm,0.5s						
VCEL	**Villa Celiera**	**0.54**	**121**	⇓P		**Pg**	**02 35 59.1**	**-0.8**
VCEL				AML	AML		
	comp=E,7030μm,0.2s						
VCEL				AML	AML		
	comp=N,6195μm,0.8s						
VCEL				AML	AML		
	comp=N,6190μm,0.8s						
ASSB	**Assisi San Ben**	**0.55**	**312**	S		**Sg**	**02 35 60.0**	**-7.3**
SSM1	**San Severino M**	**0.56**	**358**	P		**Pg**	**02 35 59.6**	**-0.5**
GAG1	**Gagliole**	**0.57**	**350**	P		**Pg**	**02 36 00.1**	**-0.4**
SNTG	**Esanatoglia**	**0.61**	**341**	P		**Pg**	**02 36 00.5**	**-0.7**
T0110	**Collepietro**	**0.61**	**137**	⇑P		**Pg**	**02 36 00.1**	**-1.1**

T0110 AML AML
comp=E,3650µm,0.9s
T0110 AML AML
comp=N,2765µm,1.1s
T0110 AML AML
comp=E,3655µm,0.9s
PTQR Pietraquaria 0.67 168 ⇓P **Pg 02 36 00.8 -1.4**
PTQR AML AML
comp=E,694µm,1.0s
PTQR AML AML
comp=N,635µm,0.8s
SRES S.Oreste - Sor 0.68 230 ⇑P **Pg 02 36 01.2 -1.2**
SRES AML AML
comp=N,951µm,0.5s
SRES AML AML
comp=E,976µm,0.8s
MTCE Montecelio 0.74 208 ⇑P **Pg 02 36 02.0 -1.5**
MTCE S **Sb 02 36 14.0 +0.1**
MTCE AML AML
comp=E,1505µm,1.4s
MTCE AML AML
comp=N,914µm,1.5s
CERT Cerreto 0.74 193 ⇑P **Pg 02 36 02.1 -1.6**
CERT AML AML
comp=N,1355µm,0.5s
CERT AML AML
comp=E,2275µm,1.2s
INTR Introdacqua 0.84 142 ⇓P Pg 02 35 59.2 -6.2
INTR AML AML
comp=E,1195µm,0.9s
INTR AML AML
comp=N,1345µm,0.8s
MGAB Montegabbione 0.84 287 ⇑P **Pg 02 36 04.8 -0.7**
MGAB AML AML
comp=E,2990µm,1.2s
MGAB AML AML
comp=N,3230µm,0.4s
MGAB AML AML
comp=E,3335µm,1.2s
MGAB AML AML
comp=N,2815µm,0.4s
VVLD Villa Vallelon 0.86 159 ⇑P **Pb 02 36 06.2 +0.2**
VVLD AML AML
comp=E,684µm,0.7s
VVLD AML AML
comp=N,953µm,0.8s
GUAR Guarcino 0.88 175 ⇑P **Pb 02 36 06.3 -0.1**
GUAR AML AML
comp=E,1445µm,0.9s
GUAR AML AML
comp=N,1575µm,0.8s
RMP Rome, Mte Porz 0.94 204 ⇓P **Pg 02 36 07.5 +0.1**
RMP AML AML
comp=E,2105µm,0.8s
RMP AML AML
comp=N,2155µm,0.8s
LPEL Lama dei Pelig 0.96 131 ⇓P **Pb 02 36 06.3 -1.4**
LPEL S **Sb 02 36 20.0 -0.3**
LPEL AML AML
comp=E,1070µm,0.9s
LPEL AML AML
comp=N,980µm,0.9s
SACS San Casciano d 0.97 281 ⇑P **Pb 02 36 07.2 -0.8**
SACS AML AML
comp=N,1265µm,0.8s
SACS AML AML
comp=E,960µm,0.5s
SACS AML AML
comp=E,1062µm,0.4s
SACS AML AML
comp=N,1315µm,0.9s
RDP Rocca di Papa 0.99 202 ⇑P **Pb 02 36 07.8 -0.3**
RDP AML AML
comp=N,4895µm,0.5s
RDP AML AML
comp=E,3845µm,0.5s
POFI Posta Fibreno 1.03 158 ⇑P **Pn 02 36 09.5 +0.1**
POFI AML AML
comp=N,652µm,0.8s
POFI AML AML
comp=E,550µm,0.9s
LATE Laterza 1.04 267 ⇓P **Pb 02 36 08.5 -0.6**
LRP Arpino 1.06 165 ⇓P **Pg 02 36 09.5 -0.2**
LRP AML AML
comp=E,400µm,1.1s
LRP AML AML
comp=N,116µm,0.8s
LAV9 Lanuvio 1.06 201 ⇓P **Pn 02 36 10.2 +0.3**
LAV9 AML AML
comp=N,2040µm,1.2s
LAV9 AML AML
comp=E,2240µm,0.5s
LAV9 AML AML
comp=N,2100µm,1.2s
LAV9 AML AML
comp=E,2340µm,0.5s
TOLF Tolfa 1.08 236 ⇑P **Pb 02 36 08.5 -1.3**
TOLF AML AML
comp=N,530µm,1.2s
TOLF AML AML
comp=E,756µm,0.8s
GIUL Giuliano Di Ro 1.12 178 ⇓P **Pb 02 36 08.9 -1.4**
GIUL AML AML
comp=N,640µm,0.8s
GIUL AML AML
comp=E,428µm,0.4s
MCIV Monte Civitell 1.13 276 P **Pb 02 36 10.3 -0.4**
MCIV AML AML
comp=N,402µm,1.0s
MCIV AML AML
comp=E,604µm,0.8s
SF04 Casetta 1.15 279 ⇑P **Pb 02 36 10.9 -0.1**
SF04 AML AML
comp=N,670µm,0.3s
SF04 AML AML
comp=E,1164µm,0.4s
LATB Latina 1.19 189 ⇑P **Pg 02 36 12.0 -0.2**
LATB AML AML
comp=E,366µm,1.2s
LATB AML AML
comp=N,259µm,1.1s
LIK San Giovanni I 1.20 167 ⇓P **Pg 02 36 12.8 +0.6**
LIK AML AML
comp=E,1100µm,1.3s
LIK AML AML
comp=N,1135µm,0.7s
SF01 Poggio Pratacc 1.22 277 ⇓P **Pb 02 36 12.4 +0.2**
CERA Filignano 1.23 151 ⇓P **Pg 02 36 13.4 +0.5**
CERA AML AML
comp=E,745µm,0.8s
CERA AML AML
comp=N,820µm,0.5s
ARCI Arcidosso 1.29 279 P **Pn 02 36 13.2 +0.1**
ARCI AML AML
comp=N,210µm,0.4s
ARCI AML AML
comp=E,144µm,1.4s
MIDA Miranda 1.29 143 ⇑P **Pg 02 36 13.7 -0.3**
MIDA AML AML
comp=E,355µm,0.5s
MIDA AML AML
comp=N,472µm,1.5s
MIDA AML AML
comp=E,366µm,0.8s
MIDA AML AML
comp=N,456µm,0.7s
TRIV Trivento 1.35 132 ⇓P **Pg 02 36 15.5 +0.4**
TRIV AML AML
comp=E,56800µm,1.6s
TRIV AML AML
comp=N,405µm,0.8s
TRIV AML AML
comp=N,56480µm,1.6s
TRIV AML AML
comp=E,514µm,1.3s
MAON Monte Argentar 1.56 262 ⇑P **Pn 02 36 16.4 -0.2**
MAON AML AML
comp=E,223µm,1.0s
MAON AML AML
comp=N,130µm,1.5s
MODR Mondragone 1.61 162 ⇓P **Pg 02 36 22.7 +2.7**
MODR AML AML
comp=E,152µm,1.0s
MODR AML AML
comp=N,168µm,1.0s
MELA Melanico ??? S 1.72 124 ⇑P **Pb 02 36 20.4 -0.3**
MELA AML AML
comp=E,676µm,0.6s
MELA AML AML
comp=N,541µm,0.3s
CASP Castiglione de 1.73 275 ⇑P **Pn 02 36 18.8 -0.3**
CASP AML AML
comp=E,79µm,1.3s
CASP AML AML
comp=N,95µm,1.2s
TRIF Trifonti 1.75 285 ⇓P **Pn 02 36 19.8 +0.4**
TRIF AML AML
comp=N,154µm,1.0s
TRIF AML AML
comp=E,133µm,0.8s
APRC Apricena 1.96 117 ⇑P **Pb 02 36 23.5 -1.3**
APRC S **Sb 02 36 49.0 -0.2**
APRC AML AML
comp=E,225µm,1.4s
APRC AML AML
comp=N,431µm,0.8s
SGRT San Giovanni R 2.10 115 ⇑P **Pn 02 36 25.2 +1.1**
SGRT AML AML
comp=N,230µm,0.8s
SGRT AML AML
comp=E,310µm,0.8s
CELB S.Piero in Cam 2.21 273 ⇓P **Pn 02 36 25.4 -0.3**
CELB AML AML
comp=E,53µm,0.6s
CELB AML AML
comp=N,45µm,0.9s
MAIM Mastiano 2.34 303 S **Sn 02 36 58.0 +2.0**
HVAR Hvar 2.43 77 ⇑P **Pn 02 36 29.3 +0.7**
MORSI Morsiglia 2.84 277 P **Pn 02 36 35.1 +0.8**
GRAM Graiana 2.92 310 ⇑P **Pn 02 36 37.8 +2.4**
SMPL Sampolo 2.96 260 P **Pn 02 36 36.8 +0.8**
CORF Corte 3.02 264 P **Pn 02 36 38.1 +1.3**
AMUR Altamura 3.09 124 ⇓P **Pn 02 36 39.1 +1.4**
AMUR AML AML
comp=E,134µm,1.6s
AMUR AML AML
comp=N,101µm,1.6s
PGF Pioggiola 3.11 269 ⇓P **Pn 02 36 39.1 +1.0**
PGF Pioggiola 3.11 269 P **Pn 02 36 39.3 +1.2**
STON Ston 3.31 85 ⇓P **Pn 02 36 39.5 -1.2**
STON AML AML
comp=N,56µm,1.0s
STON AML AML
comp=E,75µm,0.7s
ROVR Rover Verones 3.35 333 ⇓P **Pn 02 36 43.2 +1.8**
AJAC Base Areonaval 3.38 259 P **Pn 02 36 43.1 +1.4**
NOCI Noci 3.44 122 ⇓P **Pn 02 36 43.8 +1.2**
CTI Castel Tesino 3.55 342 ⇑P **Pn 02 36 46.6 +2.4**
MPRI Monte Prat 3.57 358 ⇑P **Pn 02 36 44.9 +0.5**
STAL STALIGIAL 3.60 354 ⇓P **Pn 02 36 45.2 +0.4**
LUSI Trento, Gardas 3.67 334 ⇑P **Pn 02 36 47.0 +1.4**
CIMO Cimolais 3.68 352 P **Pn 02 36 46.3 +0.5**
PTCC Patocco-Chiusa 3.73 2 ⇑P **Pn 02 36 47.6 +1.0**
ZONE Zone 3.81 325 ⇑P **Pn 02 36 49.3 +1.7**
ACOM Acomizza, Ital 3.88 3 ⇓P **Pn 02 36 49.7 +1.0**
ACOM S **Sn 02 37 36.0 +1.7**
ZOU Zoufplan 3.89 358 ⇑P **Pn 02 36 50.5 +1.7**
MABI Malga Bissina 3.89 331 ⇓P **Pn 02 36 50.0 +1.1**
QLNO Quiliano 3.90 297 P **Pn 02 36 45.6 -3.3**
MYKA Terra Mystica 3.97 4 *e*Pn **Pn 02 36 50.8 +1.0**
comp=E,0.7nm,0.2s
KOSI Kohlern 4.01 342 ⇓P **Pn 02 36 52.1 +1.7**
KOSI S **Sn 02 37 41.0 +3.6**
ABTA Abfaltersbach 4.10 353 *e*Pn **Pn 02 36 53.0 +1.3**
comp=E,8.4nm,0.6s
VSL Villasalto 4.30 224 ⇑P **Pn 02 36 55.2 +0.9**
SAOF Saorge 4.33 290 P **Pn 02 36 55.4 +0.7**
KBA Koelnbreinsper 4.41 1 *e*Pn **Pn 02 36 57.3 +1.4**
comp=E,0.3nm,0.1s
TURF col de Turini 4.44 289 P **Pn 02 36 57.4 +1.0**
ROSI Rosskopf 4.44 344 ⇓P **Pn 02 36 58.4 +1.9**
CALF Calern 4.72 285 P **Pn 02 37 01.1 +0.9**
SQTA Sankt Quirin 4.76 343 *e*Pn **Pn 02 37 03.7 +2.9**
comp=E,0.2nm,0.1s
MOTA Moosalm 4.90 343 *e*Pn **Pn 02 37 05.8 +3.1**
comp=E,1.8nm,0.5s
SURF Saint Ours 4.99 293 P **Pn 02 37 06.6 +2.7**
JAUF Jausiers 5.01 293 P **Pn 02 37 07.7 +3.4**
BIOA Bad Ischl, Aus 5.03 3 *e*Pn **Pn 02 37 06.3 +1.9**
comp=E,2.4nm,0.4s
TRIGF Trigance 5.09 284 P **Pn 02 37 07.0 +1.8**
DAVA Damuels 5.18 334 *e*Pn **Pn 02 37 09.3 +2.7**
comp=E,1.2nm,0.2s
MOA Molln 5.23 8 *e*Pn **Pn 02 37 09.1 +2.0**
comp=E,0.7nm,0.2s
ARTF Artigues 5.50 282 P **Pn 02 37 12.0 +1.2**
CONA Conrad Observa 5.58 19 *e*Pn **Pn 02 37 12.9 +0.9**
comp=E,1.3nm,0.3s
BSTF la Bastide-des 5.65 285 P **Pn 02 37 14.2 +1.3**
GERES GERESS Array B 6.18 3 Pn **Pn 02 37 19.4 -0.8**
comp=E,0.2nm,0.3s,baz=171,slow=14,SNR=3.1
GERES Sn **Sn 02 38 29.9 -0.9**
comp=E,1.2nm,0.3s,baz=181,slow=24,SNR=9.4
comp=E,1.8nm,1.0s
CKRC Cesky Krumlov 6.20 7 *e*PN **Pn 02 37 21.2 +0.8**
CKRC *e*SN **Sn 02 38 28.5 -2.6**
FELD Feldberg im Sc 6.37 327 P **Pn 02 37 23.7 +0.9**
BRANT Les Verrieres 6.41 314 S **Sn 02 38 35.1 -1.5**
BRANT Les Verrieres 6.41 314 P **Pn 02 37 25.8 +2.3**
KHC Kasperske Hory 6.46 2 *e*PN **Pn 02 37 23.3 -0.8**
KHC *e*SN **Sn 02 38 34.7 -3.0**
KIZ Kirchzarten 6.46 327 P **Pn 02 37 25.1 +1.0**
KIZ Kirchzarten 6.46 327 S **Sn 02 38 35.5 -2.2**
CHMF Charmoille 6.52 317 P **Pn 02 37 26.3 +1.4**
VOGT Vogtsburg - To 6.67 326 P **Pn 02 37 28.0 +1.1**
ECH Echery 6.99 325 P **Pn 02 37 32.4 +1.1**
ECH S **Sn 02 38 48.4 -2.1**
KEST Kesra 7.55 205 Pn **Pn 02 37 38.6 -0.5**
comp=E,0.1nm,0.3s,baz=14,slow=4.2,SNR=1.6
comp=E,1.6nm,0.8s
CLL Collm 8.64 359 *ex* x 02 39 35.0
CLL *e*Sg **Sg 02 40 26.0 -0.2**
TORD Torodi Ar. Bea 31.07 202 P **P 02 42 08.4 +1.4**
comp=E,0.3nm,0.8s,baz=18,slow=10,SNR=2.4
comp=E,0.3nm,0.8s

IDC 01 03:02:12.9±6.2, 71°81'S×169°12'E, h0km, mb3.5/3, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=176.2km s-min=30.6km az=90.0, Victoria Land

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**6.05**	**195**	Pn	Pn	03 03 43.6	+0.3
	0.8nm,0.3s,baz=22,slow=17,SNR=43						
VNDA				Sn	Sn	03 04 45.7	-7.5
	1.3nm,0.3s,baz=312,slow=16,SNR=4.2						
	1.9nm,0.3s						
MAW	**Mawson**	**32.51**	**223**	P	P	03 08 44.4	-0.2
	1.2nm,0.9s,baz=156,slow=20,SNR=1.9						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**52.10**	**318**	P	P	03 11 25.5	+1.0
	0.2nm,0.5s,baz=165,slow=8.5,SNR=1.6						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**55.62**	**319**	P	P	03 11 49.1	-1.1
	0.2nm,0.6s,baz=165,slow=6.4,SNR=1.8						
	0.2nm,0.6s						

MAN 01 03:16:31.3, 5°62N×126°32E, h43km, mb4.6, ML3.4, MS3.3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.44**	**289**	⇑ *e*P	Pn	03 16 54.6	-0.4
GSPH				*e*S	Sn	03 17 11.5	-1.2
KCP	**Kidapawan**	**1.84**	**319**	⇓ *e*P	Pn	03 17 00.6	+0.1
KCP				*i* S	Sn	03 17 24.2	+1.6
BIPH	**Bislig**	**2.55**	**1**	⇓ *e*P	Pn	03 17 10.7	+0.6
BIPH				*e*S	Sn	03 17 41.4	+1.5

*IDC **01** 03:19:02.9±0.9, 43°03'N×13°59'E, h0km, mb3.7/6, mbtmp3.6/15, ML3.4/8, MS3.1/8, Error ellipse: s-maj=23.6km s-min=11.5km az=100.0*
*STR **01** 03:19:03.1±3.0, 43°N×13°×1°4'E×2°3, h10km, MLv3.9/34, Error ellipse: s-maj=0.0km s-min=0.0km az=116.7, preliminary*
*PDG **01** 03:19:05.7±0.6, 42°92'N×13°31'E, h26km, ML3.7/13, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

*LDG **01** 03:19:05.5±0.1, 42°94'N×13°30'E, h25km, Ml3.4/31, Error ellipse: s-maj=2.8km s-min=1.9km az=53.0*
*ROM **01** 03:19:05.9±0.0, 42°902'N×0°002'×13°293'E±0°004, h24km, ML3.8/90, Error ellipse: s-maj=0.3km s-min=0.2km az=64.0*
*PRU **01** 03:19:08.8±0.0, 43°16'N×13°40'E, h10km*

ISC 01 03:19:05.8±0.6, 42°91'N±0°02×13°27'E±0°02, h24km±3km, n371, σ2°28/407, mb3.7/6, MS3.4/3, 23C-25D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMO1	**Montemonaco**	**0.04**	**101**	⇓P	**Pb**	**03 19 09.9**	**-0.3**
MMO1				S	**Sb**	**03 19 12.9**	**-0.1**
T1245	**Castelsantange**	**0.08**	**231**	⇓P	**Pb**	**03 19 10.5**	**0.0**
T1245				S	**Sb**	**03 19 14.0**	**+0.4**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
AM05	**Amandola Campo**	**0.09**	**40**	⇓P	**Pb**	**03 19 10.2**	**-0.1**
AM05				S	**Sb**	**03 19 13.5**	**+0.1**
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
T1256	**Bolognola (MC)**	**0.10**	**340**	⇓P	**Pb**	**03 19 10.5**	**-0.1**
T1256				S	**Sb**	**03 19 14.1**	**+0.2**
T1256				AML	AML		
	comp=E,80300µm,0.4s						
T1256				AML	AML		
	comp=E,81000µm,0.4s						
T1256				AML	AML		
T1256				AML	AML		
T1241	**Roccafluvione,**	**0.13**	**114**	P	**Pb**	**03 19 10.4**	**-0.3**
T1241				S	**Sb**	**03 19 13.9**	**0.0**
T1244	**Arquata del Tr**	**0.15**	**173**	⇓P	**Pb**	**03 19 10.9**	**0.0**
T1244				S	**Sb**	**03 19 14.5**	**+0.2**
GUMA	**Gualdo di Mace**	**0.16**	**16**	P	**Pb**	**03 19 11.1**	**0.0**
GUMA				S	**Sb**	**03 19 15.1**	**+0.6**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
FEMA	**Monte Fema**	**0.17**	**289**	P	**Pb**	**03 19 11.4**	**+0.1**
FEMA				S	**Sb**	**03 19 15.7**	**+0.8**
FEMA				AML	AML		
	comp=E,65300µm,0.5s						
FEMA				AML	AML		
	comp=N,38900µm,0.4s						
FDMO	**Fiordimonte**	**0.19**	**313**	⇑P	**Pb**	**03 19 11.3**	**0.0**
FDMO				S	**Sb**	**03 19 15.6**	**+0.6**
FDMO				AML	AML		
	comp=E,39050µm,1.4s						
FDMO				AML	AML		
	comp=N,38550µm,0.6s						
T1216	**Preci, Frazion**	**0.19**	**265**	⇑P	**Pb**	**03 19 11.5**	**+0.2**
T1216				S	**Sb**	**03 19 16.0**	**+1.0**
T1204	**Amatrice, Fraz**	**0.23**	**172**	⇓P	**Pb**	**03 19 11.8**	**-0.1**
T1204				S	**Sb**	**03 19 16.5**	**+0.4**
T1204				AML	AML		
	comp=N,68350µm,1.1s						
T1204				AML	AML		
T1243	**Rocca Santa Ma**	**0.25**	**149**	⇓P	**Pb**	**03 19 11.8**	**-0.3**
T1243				S	**Sb**	**03 19 16.5**	**+0.2**
T1201	**Domo (RI)**	**0.25**	**184**	⇓P	**Pb**	**03 19 12.2**	**+0.1**
MNTP	**Montappone**	**0.27**	**32**	⇑P	**Pb**	**03 19 12.4**	**0.0**
MNTP				S	**Sb**	**03 19 17.9**	**+1.0**
MNTP				AML	AML		
	comp=E,62150µm,0.2s						
MNTP				AML	AML		
	comp=N,38650µm,1.2s						
SMA1	**SAN MARTINO**	**0.28**	**171**	⇓P	**Pb**	**03 19 12.4**	**-0.2**
SMA1				S	**Sb**	**03 19 17.5**	**+0.3**
SMA1				AML	AML		
	comp=E,58850µm,0.7s						
SMA1				AML	AML		
	comp=E,58800µm,0.7s						
SMA1				AML	AML		
	comp=N,78600µm,0.5s						
MDAR	**Monte D'Aria**	**0.30**	**341**	P	**Pb**	**03 19 12.8**	**0.0**
MDAR				S	**Sb**	**03 19 18.3**	**+0.6**
MDAR				AML	AML		
	comp=E,17650µm,0.7s						
MDAR				AML	AML		
	comp=N,12550µm,0.8s						
MDAR				AML	AML		
	comp=E,17700µm,0.7s						
MDAR				AML	AML		
	comp=N,12550µm,0.8s						
OFFI	**Offida**	**0.30**	**85**	⇓P	**Pb**	**03 19 13.1**	**+0.3**
OFFI				AML	AML		
	comp=N,64100µm,0.5s						
OFFI				AML	AML		
	comp=E,42800µm,0.4s						
T1215	**Vallo di Nera,**	**0.32**	**251**	⇑P	**Pb**	**03 19 13.4**	**+0.3**
T1215				S	**Sb**	**03 19 19.2**	**+1.2**
T1215				AML	AML		
	comp=E,23050µm,0.4s						
T1215				AML	AML		
	comp=N,12300µm,0.3s						
T1215				AML	AML		
	comp=E,22850µm,0.4s						
T1215				AML	AML		
	comp=N,12250µm,0.3s						
T1215				AML	AML		
	comp=N,12200µm,0.3s						
T1215				AML	AML		
	comp=E,23100µm,0.4s						
T1215				AML	AML		
	comp=E,22900µm,0.4s						
T1217	**Poggiodomo (PG**	**0.32**	**232**	⇑P	**Pb**	**03 19 13.4**	**+0.3**
T1217				S	**Sb**	**03 19 19.5**	**+1.4**
T1217				AML	AML		
	comp=E,25500µm,0.6s						
T1217				AML	AML		
	comp=N,46100µm,0.5s						
T1217				AML	AML		
	comp=E,25400µm,0.7s						
T1217				AML	AML		
	comp=N,46350µm,0.6s						
T1217				AML	AML		
	comp=N,46300µm,0.6s						
T1217				AML	AML		
	comp=N,46150µm,0.5s						
T1217				AML	AML		
	comp=E,25400µm,0.7s						
SSM1	**San Severino M**	**0.33**	**348**	P	**Pb**	**03 19 13.2**	**0.0**
SSM1				S	**Sb**	**03 19 19.1**	**+0.8**
SEF1	**Sefro**	**0.34**	**315**	P	**Pb**	**03 19 13.5**	**+0.1**
SEF1				AML	AML		
	comp=E,19050µm,0.2s						
SEF1				AML	AML		
	comp=N,16450µm,1.6s						
SEF1				AML	AML		
	comp=N,16400µm,1.6s						
SEF1				AML	AML		
	comp=E,19050µm,0.2s						
PIO1	**Pioraco**	**0.34**	**322**	P	**Pb**	**03 19 13.7**	**+0.2**
PIO1				S	**Sb**	**03 19 19.5**	**+0.8**
PIO1				AML	AML		
	comp=E,8605µm,1.5s						
PIO1				AML	AML		
	comp=N,14600µm,0.5s						
PIO1				AML	AML		
	comp=N,14650µm,0.5s						
PIO1				AML	AML		
	comp=E,8610µm,1.5s						
LNSS	**Leonessa**	**0.35**	**210**	P	**Pb**	**03 19 13.8**	**+0.2**
LNSS				S	**Sb**	**03 19 20.2**	**+1.3**
LNSS				AML	AML		
	comp=N,88700µm,0.4s						
LNSS				AML	AML		
	comp=E,47950µm,0.5s						
T1246	**Crognaleto (TE**	**0.36**	**153**	⇓P	**Pb**	**03 19 13.4**	**-0.4**
T1246				S	**Sb**	**03 19 19.4**	**+0.2**
GAG1	**Gagliole**	**0.36**	**335**	P	**Pb**	**03 19 14.0**	**+0.2**
GAG1				AML	AML		
	comp=E,39700µm,0.3s						
GAG1				AML	AML		
	comp=N,30500µm,0.4s						
TERO	**Teramo**	**0.37**	**139**	⇓P	**Pb**	**03 19 13.3**	**-0.6**
TERO				S	**Sb**	**03 19 19.7**	**+0.3**
TERO				AML	AML		

	comp=E,28450µm,1.5s								
TERO				AML	AML				
	comp=N,27000µm,1.2s								
TERO				AML	AML				
	comp=E,30250µm,1.5s								
TERO				AML	AML				
	comp=N,27050µm,1.2s								
TERO				AML	AML				
	comp=N,28500µm,1.2s								
TERO				AML	AML				
	comp=E,28400µm,1.5s								
FIU1	**Fiuminata**	**0.38**	**318**	P		**Pb**	**03**	**19**	**14.1 +0.1**
FIU1				S		**Sb**	**03**	**19**	**20.6 +1.1**
CAMP	**Campotosto**	**0.38**	**165**	⇓P		**Pb**	**03**	**19**	**13.8 -0.4**
CAMP				S		**Sb**	**03**	**19**	**20.1 +0.2**
CAMP				AML	AML				
	comp=N,20650µm,1.1s								
CAMP				AML	AML				
	comp=E,14350µm,1.1s								
RM33	**Pellescritta (**	**0.40**	**186**	⇓P		**Pb**	**03**	**19**	**14.3 -0.1**
RM33				S		**Sb**	**03**	**19**	**21.2 +0.9**
RM33				AML	AML				
	comp=E,68800µm,0.3s								
RM33				AML	AML				
	comp=N,53850µm,0.5s								
RM33				AML	AML				
	comp=E,66300µm,0.2s								
RM33				AML	AML				
	comp=N,54750µm,0.3s								
RM33				AML	AML				
	comp=E,66250µm,0.2s								
RM33				AML	AML				
	comp=E,68850µm,0.3s								
TRE1	**Treia**	**0.41**	**4**	P		**Pb**	**03**	**19**	**14.6 +0.2**
TRE1				S		**Sn**	**03**	**19**	**21.9 -1.2**
TRE1				AML	AML				
	comp=E,18750µm,0.4s								
TRE1				AML	AML				
	comp=N,14600µm,0.2s								
TRE1				AML	AML				
	comp=E,18750µm,0.4s								
TRE1				AML	AML				
	comp=N,14600µm,0.2s								
SNTG	**Esanatoglia**	**0.42**	**325**	⇑P		**Pb**	**03**	**19**	**14.8 0.0**
SNTG				S		**Sb**	**03**	**19**	**22.0 +1.1**
SNTG				AML	AML				
	comp=E,7040µm,0.5s								
SNTG				AML	AML				
	comp=N,7275µm,0.2s								
SNTG				AML	AML				
	comp=E,7035µm,0.5s								
SNTG				AML	AML				
	comp=E,6715µm,0.5s								
SNTG				AML	AML				
	comp=N,8030µm,0.2s								
EL6	**Elcito**	**0.44**	**343**	P		**Pb**	**03**	**19**	**15.1 0.0**
EL6				S		**Sb**	**03**	**19**	**22.5 +1.2**
EL6				AML	AML				
	comp=E,14122µm,0.0s								
EL6				AML	AML				
	comp=N,18014µm,1.4s								
CADA	**Capodarco di F**	**0.46**	**51**	P		**Pb**	**03**	**19**	**15.9 +0.6**
T1247	**Pizzolo (AQ)**	**0.47**	**178**	⇓P		**Pb**	**03**	**19**	**15.3 -0.2**
T1247				S		**Sb**	**03**	**19**	**23.1 +1.0**
T1247				AML	AML				
	comp=E,39400µm,1.5s								
T1247				AML	AML				
	comp=N,98000µm,0.3s								
ASSB	**Assisi San Ben**	**0.47**	**287**	⇑P		**Pb**	**03**	**19**	**15.7 +0.1**
ASSB				S		**Sb**	**03**	**19**	**23.9 +1.8**
ASSB				AML	AML				
	comp=N,10995µm,0.3s								
ASSB				AML	AML				
	comp=E,11750µm,0.3s								
CING	**Cingoli**	**0.47**	**353**	⇑P		**Pb**	**03**	**19**	**15.4 -0.2**
CING				S		**Sb**	**03**	**19**	**23.1 +0.9**
CING				AML	AML				
	comp=N,6357µm,2.3s								
TRTR	**Tortoreto Alta**	**0.48**	**102**	⇓P		**Pb**	**03**	**19**	**16.0 +0.3**
TRTR				AML	AML				
	comp=E,41900µm,0.5s								
TRTR				AML	AML				
	comp=N,26150µm,0.8s								
T1211	**Morro Reatino**	**0.48**	**220**	P		**Pb**	**03**	**19**	**16.1 +0.2**
T1211				AML	AML				
	comp=N,63150µm,0.3s								
T1211				AML	AML				
	comp=E,20600µm,1.6s								
T1211				AML	AML				
	comp=E,20700µm,1.6s								
T1211				AML	AML				
	comp=N,63100µm,0.3s								
CIMA	**Civitanova Mar**	**0.49**	**36**	P		**Pb**	**03**	**19**	**16.4 +0.5**
ARRO	**Arrone**	**0.50**	**229**	P		**Pb**	**03**	**19**	**16.3 +0.3**
ARRO				AML	AML				
	comp=N,10655µm,0.2s								
ARRO				AML	AML				
	comp=E,9510µm,0.2s								
PP3	**Marolino**	**0.53**	**27**	P		**Pb**	**03**	**19**	**16.8 +0.2**
PP3				AML	AML				
	comp=E,13040µm,1.2s								
PP3				AML	AML				
	comp=E,14150µm,1.2s								
PP3				AML	AML				
	comp=N,17050µm,1.1s								
PP3				AML	AML				
	comp=N,16850µm,1.1s								
PP3				AML	AML				
	comp=E,13020µm,1.2s								
FOSV	**Fossato di Vic**	**0.54**	**316**	P		**Pb**	**03**	**19**	**16.8 0.0**
FOSV				S		**Sb**	**03**	**19**	**25.4 +1.3**
FOSV				AML	AML				
	comp=N,14615µm,0.2s								
FOSV				AML	AML				
	comp=E,8225µm,0.3s								
FOSV				AML	AML				
	comp=N,14630µm,0.2s								
ATCC	**AVT- Casa Cast**	**0.54**	**301**	⇑P		**Pb**	**03**	**19**	**16.9 +0.2**
ATCC				AML	AML				
	comp=N,8155µm,0.4s								
ATCC				AML	AML				
	comp=E,11850µm,0.4s								
ATCC				AML	AML				
	comp=N,8160µm,0.4s								
AQU	**L'Aquila**	**0.56**	**170**	P		**Pb**	**03**	**19**	**16.6 -0.5**
AQU				AML	AML				
	comp=E,9640µm,0.6s								
AQU				AML	AML				
	comp=N,14300µm,0.3s								
AQU				AML	AML				
	comp=E,9625µm,0.6s								
AQU				AML	AML				
	comp=E,9745µm,0.6s								
AQU				AML	AML				
	comp=N,14100µm,0.3s								
MMUR	**Monte Murano**	**0.57**	**339**	P		**Pb**	**03**	**19**	**17.4 +0.1**
MMUR				S		**Sn**	**03**	**19**	**26.9 -0.3**
MMUR				AML	AML				
	comp=N,9160µm,0.6s								
MMUR				AML	AML				
	comp=N,9160µm,0.7s								
MMUR				AML	AML				
	comp=E,15000µm,0.8s								
ARVD	**Arcevia**	**0.64**	**338**	⇑P		**Pb**	**03**	**19**	**18.5 +0.1**
ARVD				AML	AML				
	comp=E,3615µm,0.6s								
ARVD				AML	AML				
	comp=N,3205µm,0.6s								
SSFR	**Montelago di S**	**0.64**	**326**	P		**Pb**	**03**	**19**	**18.5 +0.1**
SSFR				S		**Sn**	**03**	**19**	**28.4 -0.5**
SSFR				AML	AML				
	comp=E,15900µm,0.2s								
SSFR				AML	AML				
	comp=E,13600µm,0.2s								
SSFR				AML	AML				
	comp=N,15100µm,0.2s								
SSFR				AML	AML				
	comp=N,14300µm,0.3s								
FIAM	**Fiamignano**	**0.65**	**190**	P		**Pb**	**03**	**19**	**18.3 -0.2**
FIAM				S		**Sb**	**03**	**19**	**28.6 +1.3**
FIAM				AML	AML				
	comp=E,12100µm,0.5s								
FIAM				AML	AML				
	comp=N,16000µm,0.4s								
MURB	**Monte Urbino**	**0.65**	**303**	P		**Pb**	**03**	**19**	**18.9 +0.2**
MURB				AML	AML				
	comp=E,20500µm,1.1s								
MURB				AML	AML				
	comp=E,17500µm,1.1s								
MURB				AML	AML				
	comp=N,15200µm,0.3s								
MURB				AML	AML				
	comp=N,15000µm,0.3s								
VCEL	**Villa Celiera**	**0.66**	**141**	P		**Pb**	**03**	**19**	**18.1 -0.7**
VCEL				S		**Sb**	**03**	**19**	**28.5 +0.9**
VCEL				AML	AML				
	comp=N,11450µm,0.4s								
VCEL				AML	AML				
	comp=N,11400µm,0.4s								
VCEL				AML	AML				
	comp=E,14150µm,0.3s								
FAGN	**Fagnano**	**0.68**	**160**	P		**Pb**	**03**	**19**	**18.5 -0.6**
FAGN				AML	AML				
	comp=E,24900µm,0.4s								
FAGN				AML	AML				
	comp=N,20600µm,0.3s								
AOI	**Ancona**	**0.69**	**20**	P		**Pb**	**03**	**19**	**19.3 +0.1**
AOI				AML	AML				
	comp=N,16250µm,0.4s								
AOI				AML	AML				
	comp=E,10650µm,0.4s								
ATFO	**Monte Foce - G**	**0.69**	**312**	⇑P		**Pb**	**03**	**19**	**19.3 0.0**
ATFO				AML	AML				
	comp=E,3815µm,1.4s								
ATFO				AML	AML				
	comp=N,3685µm,0.7s								
FRON	**Frontone**	**0.73**	**327**	P		**Pb**	**03**	**19**	**19.9 0.0**
FRON				S		**Sn**	**03**	**19**	**31.1 0.0**
ATTE	**AVT- Monte Tez**	**0.73**	**294**	P		**Pb**	**03**	**19**	**20.3 +0.3**
ATTE				AML	AML				
	comp=E,3015µm,1.3s								
ATTE				AML	AML				
	comp=N,3750µm,1.6s								
ATLO	**AVT- Montelove**	**0.75**	**303**	P		**Pb**	**03**	**19**	**20.4 +0.1**
TB01	**Gubbio**	**0.78**	**308**	P		**Pb**	**03**	**19**	**20.8 +0.1**
T0110	**Collepietro**	**0.78**	**151**	P		**Pb**	**03**	**19**	**19.9 -0.8**
T0110				AML	AML				
	comp=E,15150µm,0.7s								
T0110				AML	AML				
	comp=N,15700µm,0.4s								
ATBU	**Serra di Buran**	**0.78**	**317**	P		**Pb**	**03**	**19**	**20.9 +0.2**
ATVO	**AVT- Monte Val**	**0.79**	**307**	⇑P		**Pb**	**03**	**19**	**21.0 +0.1**
ATVO				AML	AML				
	comp=N,3440µm,0.6s								
ATVO				AML	AML				
	comp=E,3240µm,0.4s								
ATVO				AML	AML				
	comp=N,3435µm,0.6s								
SENI	**Senigallia**	**0.80**	**358**	AML	AML				
	comp=N,17100µm,0.6s								
SENI				AML	AML				
	comp=N,4135µm,0.9s								
SENI				AML	AML				
	comp=E,6795µm,0.9s								
SENI				AML	AML				
	comp=E,21400µm,0.3s								
TB03	**Pietralunga**	**0.80**	**308**	P		**Pb**	**03**	**19**	**21.2 0.0**
MPAG	**Monte Paganucc**	**0.81**	**333**	P		**Pb**	**03**	**19**	**21.4 0.0**
MPAG				AML	AML				
	comp=E,3880µm,0.6s								
MPAG				AML	AML				
	comp=N,4510µm,0.7s								
MPAG				AML	AML				
	comp=E,3885µm,0.6s								
MPAG				AML	AML				
	comp=N,4515µm,0.7s								
MPAG				AML	AML				
	comp=E,3980µm,0.6s								
MPAG				AML	AML				
	comp=N,4700µm,0.7s								
ATPC	**Poggio Castell**	**0.83**	**314**	P		**Pb**	**03**	**19**	**21.7 +0.1**
PIEI	**Pieia**	**0.83**	**320**	P		**Pb**	**03**	**19**	**21.5 -0.1**
PIEI				S		**Sn**	**03**	**19**	**34.1 +0.5**
PIEI				AML	AML				
	comp=E,3625µm,1.2s								
PIEI				AML	AML				
	comp=N,4150µm,0.2s								
ATPI	**Pietralunga -**	**0.84**	**311**	P		**Pb**	**03**	**19**	**21.9 +0.1**
ATPI				AML	AML				
	comp=E,5780µm,0.6s								
ATPI				AML	AML				
	comp=N,2830µm,1.3s								
ATPI				AML	AML				
	comp=E,5775µm,0.6s								
ATPI				AML	AML				
	comp=N,2835µm,1.3s								
ATMI	**Monte Miggiano**	**0.85**	**300**	AML	AML				
	comp=N,5185µm,1.3s								
ATMI				AML	AML				
	comp=E,5465µm,1.1s								
MGAB	**Montegabbione**	**0.85**	**271**	P		**Pn**	**03**	**19**	**22.6 +0.2**
MGAB				AML	AML				
	comp=N,8570µm,0.6s								
MGAB				AML	AML				
	comp=E,5140µm,0.6s								
MGAB				AML	AML				
	comp=N,8085µm,0.6s								
MGAB				AML	AML				
	comp=E,4040µm,0.5s								
FSSB	**Fossombrone**	**0.86**	**335**	P		**Pn**	**03**	**19**	**22.3 -0.2**
FSSB				AML	AML				
	comp=E,9885µm,1.6s								
FSSB				AML	AML				
	comp=E,9880µm,1.6s								
FSSB				AML	AML				
	comp=N,9770µm,0.4s								
NARO	**Abbazia di Nar**	**0.87**	**324**	P		**Pn**	**03**	**19**	**22.2 -0.3**
NARO				AML	AML				
	comp=N,3140µm,0.7s								
NARO				AML	AML				
	comp=E,2940µm,0.6s								
SRES	**S.Oreste - Sor**	**0.88**	**220**	P		**Pn**	**03**	**19**	**22.6 0.0**
SRES				AML	AML				
	comp=E,2685µm,0.5s								
SRES				AML	AML				
	comp=N,3650µm,0.5s								
PTQR	**Pietraquaria**	**0.89**	**174**	P		**Pn**	**03**	**19**	**21.9 -1.0**
PTQR				AML	AML				
	comp=E,2215µm,0.9s								
PTQR				AML	AML				
	comp=N,3150µm,1.3s								
APEC	**Apecchio**	**0.90**	**316**	P		**Pn**	**03**	**19**	**23.4 +0.4**
ATMC	**Monte Cedrone**	**0.96**	**305**	P		**Pn**	**03**	**19**	**24.3 +0.5**
MTCE	**Montecelio**	**0.97**	**204**	P		**Pn**	**03**	**19**	**23.6 -0.3**
MTCE				AML	AML				
	comp=N,2590µm,0.4s								
MTCE				AML	AML				
	comp=E,4075µm,0.9s								
PE3	**Peglio**	**0.97**	**325**	P		**Pb**	**03**	**19**	**24.6 +0.6**
PE3				AML	AML				
	comp=N,31µm,0.1s								
PE3				AML	AML				
	comp=E,23µm,0.1s								
CERT	**Cerreto**	**0.98**	**193**	P		**Pn**	**03**	**19**	**23.8 -0.3**
CERT				AML	AML				
	comp=N,5975µm,1.3s								
CERT				AML	AML				
	comp=E,6775µm,1.2s								
SACS	**San Casciano d**	**1.00**	**267**	P		**Pn**	**03**	**19**	**25.1 +0.7**
SACS				AML	AML				
	comp=E,2370µm,0.8s								
SACS				AML	AML				
	comp=N,2225µm,0.5s								
CAFR	**Castel Frentan**	**1.04**	**130**	P		**Pn**	**03**	**19**	**24.8 -0.2**
CAFR				AML	AML				
	comp=E,3205µm,0.5s								
CAFR				AML	AML				
	comp=N,2330µm,0.3s								
CAFI	**Castiglion Fio**	**1.05**	**294**	P		**Pn**	**03**	**19**	**25.7 +0.7**
CAFI				AML	AML				
	comp=E,1655µm,0.5s								
CAFI				AML	AML				
	comp=N,1850µm,0.9s								
CAFI				AML	AML				
	comp=N,1925µm,0.9s								
CAFI				AML	AML				
	comp=E,1695µm,0.5s								
VVLD	**Villa Vallelon**	**1.07**	**166**	P		**Pn**	**03**	**19**	**25.0 -0.4**
VVLD				AML	AML				
	comp=E,3720µm,1.3s								
VVLD				AML	AML				
	comp=N,5440µm,0.5s								
SSP9	**Sansepolcro**	**1.07**	**309**	P		**Pb**	**03**	**19**	**26.4 +0.8**
SSP9				AML	AML				
	comp=N,2315µm,1.1s								
SSP9				AML	AML				
	comp=E,2110µm,1.2s								
RCAV	**Rocca di Cave**	**1.09**	**193**	P		**Pn**	**03**	**19**	**26.6 +1.0**
RCAV				AML	AML				
	comp=N,5960µm,0.5s								
RCAV				AML	AML				
	comp=E,9040µm,0.5s								
LPEL	**Lama dei Pelig**	**1.09**	**142**	P		**Pn**	**03**	**19**	**25.7 0.0**
LPEL				AML	AML				
	comp=N,2425µm,0.3s								
LPEL				AML	AML				
	comp=E,3755µm,0.3s								
GUAR	**Guarcino**	**1.11**	**179**	P		**Pn**	**03**	**19**	**26.8 +0.8**
GUAR				AML	AML				
	comp=E,3570µm,0.8s								
GUAR				AML	AML				
	comp=N,4220µm,0.6s								
LATE	**Laterza**	**1.12**	**255**	⇑P		**Pn**	**03**	**19**	**26.5 +0.4**
CPGN	**Carpegna, Ital**	**1.13**	**322**	P		**Pb**	**03**	**19**	**28.0 +1.2**
CPGN				AML	AML				
	comp=E,5315µm,1.2s								
CPGN				AML	AML				
	comp=N,3740µm,0.6s								
CPGN				AML	AML				
	comp=N,4105µm,0.6s								
CPGN				AML	AML				
	comp=E,3955µm,1.1s								
SF11	**Podere del Sol**	**1.17**	**269**	P		**Pn**	**03**	**19**	**27.4 +0.7**
RMP	**Rome, Mte Porz**	**1.17**	**201**	P		**Pn**	**03**	**19**	**27.9 +1.2**
RMP				AML	AML				
	comp=N,4775µm,1.1s								
RMP				AML	AML				
	comp=E,3835µm,0.8s								
MCIV	**Monte Civitell**	**1.18**	**264**	P		**Pn**	**03**	**19**	**27.4 +0.5**
MCIV				AML	AML				
	comp=N,819µm,1.1s								
MCIV				AML	AML				
	comp=E,1078µm,1.4s								
CRE	**Caprese Michel**	**1.20**	**307**	AML	AML				
	comp=N,1170µm,0.4s								
CRE				AML	AML				
	comp=E,1255µm,0.5s								
VIVA	**Pratoni del Vi**	**1.22**	**198**	P		**Pn**	**03**	**19**	**28.5 +1.2**
VIVA				AML	AML				
	comp=N,9780µm,0.3s								
VIVA				AML	AML				
	comp=E,6890µm,0.7s								
RDP	**Rocca di Papa**	**1.22**	**200**	P		**Pn**	**03**	**19**	**28.6 +1.1**
RDP				AML	AML				
	comp=E,8525µm,0.5s								
RDP				AML	AML				
	comp=N,9705µm,0.4s								
SF13	**Bagnolo**	**1.22**	**266**	P		**Pn**	**03**	**19**	**28.1 +0.7**
MA9	**Marino**	**1.22**	**202**	P		**Pn**	**03**	**19**	**28.3 +0.9**
MA9				AML	AML				
	comp=N,4355µm,0.5s								
MA9				AML	AML				
	comp=E,5300µm,0.6s								
SF14	**Selvena**	**1.23**	**263**	P		**Pn**	**03**	**19**	**28.3 +0.8**
POFI	**Posta Fibreno**	**1.23**	**165**	P		**Pn**	**03**	**19**	**27.6 0.0**
POFI				AML	AML				
	comp=N,2015µm,0.5s								
POFI				AML	AML				
	comp=E,2305µm,0.8s								
POFI				AML	AML				
	comp=N,2030µm,0.5s								
POFI				AML	AML				
	comp=E,2320µm,0.8s								
TOLF	**Tolfa**	**1.26**	**229**	⇑P		**Pn**	**03**	**19**	**28.5 +0.5**
TOLF				AML	AML				
	comp=E,1430µm,0.6s								
TOLF				AML	AML				
	comp=N,1605µm,0.5s								
LRP	**Arpino**	**1.28**	**169**	P		**Pn**	**03**	**19**	**29.6 +1.4**
LRP				AML	AML				
	comp=N,556µm,0.9s								
LRP				AML	AML				
	comp=E,1180µm,1.6s								
LAV9	**Lanuvio**	**1.30**	**199**	AML	AML				
	comp=E,5895µm,0.6s								
LAV9				AML	AML				
	comp=N,7350µm,0.4s								
LAV9				AML	AML				
	comp=N,7100µm,0.4s								
LAV9				AML	AML				
	comp=E,6260µm,0.6s								
ARCI	**Arcidosso**	**1.32**	**268**	P		**Pn**	**03**	**19**	**30.0 +1.1**
ARCI				AML	AML				
	comp=N,376µm,1.0s								
ARCI				AML	AML				
	comp=E,488µm,1.3s								
GIUL	**Giuliano Di Ro**	**1.35**	**181**	P		**Pn**	**03**	**19**	**30.4 +1.2**
GIUL				AML	AML				
	comp=N,2035µm,0.7s								
GIUL				AML	AML				
	comp=E,1365µm,0.6s								
BLLA	**Bellaria**	**1.37**	**335**	AML	AML				
	comp=E,2920µm,1.5s								
BLLA				AML	AML				
	comp=N,3325µm,1.3s								
RNI2	**Rionero Sannit**	**1.37**	**151**	P		**Pn**	**03**	**19**	**30.6 +1.1**
FRES	**Fresagrandinar**	**1.39**	**132**	P		**Pn**	**03**	**19**	**31.2 +1.5**
FRES				AML	AML				
	comp=E,938µm,0.6s								
FRES				AML	AML				
	comp=N,684µm,0.7s								
ASQU	**Asqua**	**1.40**	**310**	P		**Pn**	**03**	**19**	**31.1 +1.1**
ASQU				AML	AML				
	comp=E,1102µm,0.9s								
ASQU				AML	AML				
	comp=N,1520µm,0.7s								
LIK	**San Giovanni I**	**1.42**	**171**	P		**Pn**	**03**	**19**	**31.5 +1.4**
CERA	**Filignano**	**1.42**	**157**	P		**Pn**	**03**	**19**	**30.6 +0.4**
CERA				AML	AML				
	comp=N,1765µm,0.5s								
CERA				AML	AML				
	comp=E,2065µm,0.9s								
CERA				AML	AML				
	comp=N,1830µm,0.5s								
CERA				AML	AML				
	comp=E,2040µm,0.9s								
LATB	**Latina**	**1.43**	**189**	P		**Pn**	**03**	**19**	**31.1 +0.8**
LATB				AML	AML				
	comp=N,445µm,0.7s								
LATB				AML	AML				
	comp=E,465µm,1.0s								
SFI	**Santa Sofia**	**1.44**	**314**	P		**Pb**	**03**	**19**	**32.6 +0.6**
SFI				AML	AML				
	comp=E,1165µm,1.1s								
SFI				AML	AML				
	comp=N,1160µm,1.3s								
MIDA	**Miranda**	**1.46**	**150**	P		**Pn**	**03**	**19**	**31.4 +0.6**
MIDA				AML	AML				
	comp=E,1445µm,0.7s								
MIDA				AML	AML				
	comp=N,1295µm,0.7s								
MIDA				AML	AML				
	comp=E,1388µm,0.6s								
TRIV	**Trivento**	**1.48**	**140**	AML	AML				
	comp=E,1620µm,0.6s								
TRIV				AML	AML				
	comp=N,1100µm,0.5s								
CSNT	**Castellina Chi**	**1.56**	**292**	P		**Pn**	**03**	**19**	**32.9 +0.8**
CSNT				AML	AML				
	comp=E,657µm,0.7s								
CSNT				AML	AML				
	comp=N,698µm,0.7s								
FROS	**Frosini**	**1.58**	**282**	P		**Pn**	**03**	**19**	**33.0 +0.7**
FROS				AML	AML				
	comp=E,1060µm,0.6s								
FROS				AML	AML				
	comp=N,1234µm,0.7s								
RUFI	**Rufina**	**1.59**	**307**	P		**Pb**	**03**	**19**	**34.4 -0.1**
OSSC	**Osservatorio P**	**1.61**	**293**	P		**Pn**	**03**	**19**	**33.0 +0.4**
OSSC				AML	AML				
	comp=E,510µm,0.7s								
OSSC				AML	AML				
	comp=N,556µm,0.6s								
OSSC				AML	AML				
	comp=N,583µm,0.0s								
LMD	**Lutirano**	**1.63**	**316**	AML	AML				
	comp=E,1097µm,1.3s								
LMD				AML	AML				
	comp=N,1175µm,0.6s								
MAON	**Monte Argentar**	**1.65**	**254**	⇑P		**Pn**	**03**	**19**	**33.6 +0.3**

MAON AML AML
comp=N,270µm,1.0s
MAON AML AML
comp=E,350µm,0.8s
VAGA Valle Agricola 1.65 154 AML AML
comp=E,583µm,0.8s
VAGA AML AML
comp=N,1032µm,0.9s
VAGA AML AML
comp=E,596µm,1.6s
VAGA AML AML
comp=N,1053µm,0.9s
BSSO Busso 1.68 144 P **Pb** 03 19 36.4 +0.3
TRIF Trifonti 1.75 278 P **Pn** 03 19 35.4 +0.6
TRIF AML AML
comp=N,536µm,0.7s
TRIF AML AML
comp=E,584µm,0.6s
CASP Castiglione de 1.77 267 ⇑P **Pn** 03 19 35.2 +0.2
CASP AML AML
comp=N,154µm,1.5s
CASP AML AML
comp=E,160µm,1.3s
BRIS BRISIGHELLA 1.79 315 AML AML
comp=N,1380µm,1.1s
BRIS AML AML
comp=E,1930µm,1.3s
MODR Mondragone 1.82 165 P **Pn** 03 19 36.8 +1.2
MELA Melanico ??? S 1.82 131 P **Pn** 03 19 37.0 +1.3
MELA AML AML
comp=E,2100µm,0.8s
MELA AML AML
comp=N,2120µm,0.9s
MELA AML AML
comp=N,2065µm,0.9s
MELA AML AML
comp=E,2150µm,0.8s
IMOL Imola, Italy 1.83 323 AML AML
comp=E,1765µm,1.5s
IMOL AML AML
comp=N,2030µm,0.9s
PIGN Pignataro Magg 1.83 158 AML AML
comp=N,538µm,1.1s
PIGN AML AML
comp=E,416µm,0.8s
PIGN AML AML
comp=E,386µm,0.9s
PIGN AML AML
comp=N,587µm,1.0s
SACR S. Croce Del S 1.85 144 P **Pn** 03 19 38.0 +2.0
MPPT Montemurlo 1.91 304 P **Pn** 03 19 38.4 +1.5
MPPT AML AML
comp=E,620µm,0.7s
MPPT AML AML
comp=N,450µm,0.6s
A308A Longastrino (F 1.91 332 P **Pb** 03 19 38.9 -1.1
A318A Donoratico (LI 1.99 277 P **Pn** 03 19 38.6 +0.6
MTCR Monte La Croce 2.00 305 P **Pn** 03 19 39.1 +0.9
FNVD Fontana Vidola 2.01 310 P **Pn** 03 19 40.2 +2.0
APRC Apricena 2.04 124 P **Pn** 03 19 39.7 +1.1
APRC AML AML
comp=E,846µm,0.4s
APRC AML AML
comp=N,1415µm,0.3s
A319A Santa Luce (PI 2.05 287 P **Pn** 03 19 39.9 +1.1
A305A Porto Tolle (R 2.14 344 P **Pn** 03 19 41.9 +1.9
SGRT San Giovanni R 2.16 121 P **Pn** 03 19 41.2 +0.8
PII Pisa 2.17 293 P **Pn** 03 19 41.4 +1.1
PII AML AML
comp=N,452µm,0.6s
PII AML AML
comp=E,400µm,0.7s
MAIM Mastiano 2.26 297 P **Pn** 03 19 43.0 +1.3
MAIM AML AML
comp=E,384µm,0.5s
MAIM AML AML
comp=N,349µm,0.6s
BDI Bagni Di Lucca 2.27 302 AML AML
comp=E,168µm,0.8s
BDI AML AML
comp=N,154µm,0.8s
CARD Cardoso 2.32 300 P **Pn** 03 19 43.9 +1.4
CARD AML AML
comp=E,506µm,0.7s
CARD AML AML
comp=N,612µm,0.7s
SGTA Sant Agata di 2.36 138 AML AML
comp=E,764µm,0.7s
SGTA AML AML
comp=N,580µm,0.7s
SGTA AML AML
comp=N,537µm,0.6s
SGTA AML AML
comp=E,760µm,0.7s
EQUI Equi 2.59 300 AML AML
comp=E,154µm,0.8s
EQUI AML AML
comp=N,257µm,0.7s
SKDS Skadanscina 2.69 11 *i* Pn **Pn** 03 19 47.4 -0.3
SKDS *i* Sn **Sn** 03 20 19.1 -0.4
SKDS IAML 03 20 43.5
comp=Z,218nm,0.8s
PLMA Palmaria, Port 2.74 296 AML AML
comp=E,130µm,0.7s
PLMA AML AML
comp=N,164µm,1.0s
MORSI Morsiglia 2.87 272 P **Pn** 03 19 51.1 +1.1
CEY Cerknica 2.95 16 *e*Pn **Pn** 03 19 50.7 -0.5
SMPL Sampolo 3.06 256 AML AML
comp=N,34µm,0.5s
SMPL AML AML
comp=E,29µm,0.8s
SMPL Sampolo 3.06 256 P **Pn** 03 19 54.9 +2.2
SRKY Kupres RS 3.06 66 *e*Pn **Pn** 03 19 54.5 +1.7
MSSA Maissana 3.07 299 AML AML
comp=N,212µm,0.8s
MSSA AML AML
comp=E,178µm,0.8s
SABO M.te Sabotino 3.08 4 AML AML
comp=N,785µm,1.4s
SABO AML AML
comp=N,2985µm,1.4s
SABO AML AML
comp=E,3000µm,0.7s
SABO AML AML
comp=E,748µm,0.7s
MGRS Mrkonjic Grad 3.15 60 *e*Pn **Pn** 03 19 55.5 +1.6
CGRP Cima Grappa 3.15 341 AML AML
comp=E,464µm,0.6s
CGRP AML AML
comp=N,488µm,0.8s
ROVR Rover Verones 3.16 331 AML AML
comp=E,130µm,0.5s
ROVR AML AML
comp=N,168µm,0.4s
PGF Pioggiola 3.17 265 *e*P **Pn** 03 19 55.4 +1.1
PGF *e*Sn **Sn** 03 20 27.1 -4.3
comp=N,29nm,0.6s
PGF Pioggiola 3.17 265 P **Pn** 03 19 55.6 +1.3
AMUR Altamura 3.19 128 AML AML
comp=N,379µm,0.8s
AMUR AML AML
comp=E,282µm,1.2s
VARN Col Varnada, M 3.20 345 AML AML
comp=E,590µm,0.6s
VARN AML AML
comp=E,595µm,0.6s
VARN AML AML
comp=N,432µm,0.6s
VARN AML AML
comp=N,440µm,0.6s
PRIJ Prijedor 3.23 49 *e*Pn **Pn** 03 19 58.7 +3.7
STON Ston 3.25 89 *e*Pn **Pn** 03 19 54.9 -0.4
STON Ston 3.25 89 AML AML
comp=N,164µm,0.9s
STON AML AML
comp=E,151µm,0.9s
MPRI Monte Prat 3.34 357 AML AML
comp=N,606µm,0.6s
MPRI AML AML
comp=E,553µm,1.4s
CTI Castel Tesino 3.35 340 AML AML
comp=N,284µm,1.1s
CTI AML AML
comp=E,278µm,0.5s
SALO Salr 3.35 325 AML AML
comp=N,407µm,1.2s

SALO AML AML
comp=E,326µm,1.0s
A051A Mrakovica 3.36 50 *e*Pn **Pn** 03 19 57.4 +0.5
BLY Banja Luka 3.38 56 *e*Pn **Pn** 03 19 58.5 +1.5
BLY Banja Luka 3.38 56 AML AML
comp=E,527µm,1.0s
BLY AML AML
comp=N,404µm,1.5s
BLY AML AML
comp=N,381µm,1.5s
BLY AML AML
comp=E,544µm,1.0s
STAL STALIGIAL 3.38 353 AML AML
comp=N,334µm,0.7s
STAL AML AML
comp=N,360µm,1.5s
STAL AML AML
comp=E,452µm,0.7s
STAL AML AML
comp=E,349µm,1.5s
CIMO Cimolais 3.45 350 AML AML
comp=E,104µm,0.9s
CIMO AML AML
comp=E,109µm,1.0s
CIMO AML AML
comp=N,125µm,0.7s
CIMO AML AML
comp=N,126µm,0.9s
LUSI Trento, Gardas 3.48 332 AML AML
comp=N,302µm,0.8s
LUSI AML AML
comp=E,282µm,0.8s
AJAC Base Areonaval 3.48 255 P **Pn** 03 20 00.9 +2.4
AGOR Agordo 3.49 346 AML AML
comp=N,281µm,1.1s
AGOR AML AML
comp=N,113µm,1.0s
AGOR AML AML
comp=E,212µm,1.3s
AGOR AML AML
comp=E,136µm,1.4s
PTCC Patocco-Chiusa 3.50 1 AML AML
comp=N,220µm,0.9s
PTCC AML AML
comp=E,240µm,0.8s
NOCI Noci 3.54 126 AML AML
comp=E,344µm,0.7s
NOCI AML AML
comp=N,336µm,0.5s
CLUD Cludinico 3.56 356 AML AML
comp=N,200µm,0.7s
CLUD AML AML
comp=E,288µm,0.7s
CLUD AML AML
comp=N,216µm,0.7s
CLUD AML AML
comp=E,274µm,0.7s
GAGG Gaggia 3.58 333 AML AML
comp=N,357µm,1.0s
GAGG AML AML
comp=E,326µm,0.7s
ACOM Acomizza, Ital 3.64 3 AML AML
comp=E,476µm,1.3s
ACOM AML AML
comp=E,428µm,0.7s
ACOM AML AML
comp=N,590µm,0.8s
ACOM AML AML
comp=N,538µm,0.8s
ZONE Zone 3.65 323 AML AML
comp=E,188µm,0.3s
ZONE AML AML
comp=N,241µm,0.7s
ZOU Zoufplan 3.66 357 AML AML
comp=E,334µm,1.6s
ZOU AML AML
comp=N,297µm,0.7s
ZOU AML AML
comp=E,319µm,1.6s
ZOU AML AML
comp=N,290µm,1.4s
FVI Forni Avoltri 3.71 355 AML AML
comp=N,252µm,0.8s
FVI AML AML
comp=E,164µm,0.6s
OBKA Obir 3.71 14 *e*Pn **Pn** 03 20 01.8 0.0
OBKA Obir 3.71 14 *e*Pn **Pn** 03 20 01.9 +0.2
comp=E,5.6nm,0.4s
MYKA Terra Mystica 3.73 4 *e*Pn **Pn** 03 20 02.5 +0.5
comp=E,9.1nm,0.2s,SNR=7.4
TREB Trebinje 3.74 91 *e*Pn **Pn** 03 20 03.1 +1.1
A052A Srbac 3.77 53 *e*Pn **Pn** 03 20 03.1 +0.8
KOSI Kohlern 3.80 340 AML AML
comp=N,332µm,1.0s
KOSI AML AML
comp=E,308µm,1.3s
APPI Appiano 3.86 338 AML AML
comp=E,240µm,0.4s
APPI AML AML
comp=N,212µm,0.3s
BRY Bratogost 3.87 88 *e*Pn **Pn** 03 20 05.0 +1.1
BRY Bratogost 3.87 88 ⇑*i*Pn **Pn** 03 20 04.5 +0.6
BRY *i* Sn **Sn** 03 20 49.0 +0.4
HCY Herceg Novi 3.88 95 *e*Pn **Pn** 03 20 04.5 +0.6
HCY Herceg Novi 3.88 95 *e*Pn **Pn** 03 20 04.7 +0.8
HCY *i* Sn **Sn** 03 20 49.2 +0.6
ABTA Abfaltersbach 3.88 352 *i* Pn **Pn** 03 20 04.9 +0.9
comp=N,26nm,0.3s,SNR=51
DOB Doboj 3.94 61 *e*Pn **Pn** 03 20 05.2 +0.5
BRMO Bormio 4.12 331 AML AML
comp=N,67µm,1.3s
BRMO AML AML
comp=E,87µm,1.2s
KOGS Kog 4.13 30 AML AML
comp=E,1280µm,1.5s
KOGS AML AML
comp=N,1625µm,0.6s
UPM Unac-Piva 4.14 84 *e*Pn **Pn** 03 20 09.4 +1.7
UPM Unac-Piva 4.14 84 *e*Pn **Pn** 03 20 08.3 +0.6
UPM *i* Sn **Sn** 03 20 55.5 +0.1
KBA Koelnbreinsper 4.17 1 *e*Pn **Pn** 03 20 08.8 +0.7
comp=N,5.3nm,0.2s,SNR=7.6
CEME Cevo 4.17 93 ⇓*i*Pn **Pn** 03 20 08.8 +0.8
CEME *i* Sn **Sn** 03 20 56.4 +0.3
NKME Niksic 4.18 90 *e*Pn **Pn** 03 20 08.8 +0.7
NKME *i* Sn **Sn** 03 20 56.5 +0.3
BUM Brajici-Budva 4.19 96 *e*Pn **Pn** 03 20 09.0 +0.7
BUM *i* Sn **Sn** 03 20 56.9 +0.4
ROSI Rosskopf 4.23 342 AML AML
comp=E,242µm,0.9s
ROSI AML AML
comp=N,488µm,0.8s
MUGIO Muggio 4.28 316 AML AML
comp=N,88µm,0.5s
MUGIO AML AML
comp=E,72µm,0.9s
HAPS Han Pijesak,Bl 4.29 72 *e*Pn **Pn** 03 20 10.6 +0.9
SAOF Saorge 4.30 286 P **Pn** 03 20 11.1 +1.3
SBF Sospel 4.36 285 *e*P **Pn** 03 20 11.8 +1.2
SBF *e*Sn **Sn** 03 20 55.4 -5.3
comp=E,39nm,0.5s
TURF col de Turini 4.41 286 P **Pn** 03 20 12.8 +1.3
DRME Dracevica, Mon 4.43 97 ⇑*i*Pn **Pn** 03 20 12.5 +1.1
DRME Dracevica, Mon 4.43 97 *e*Pn **Pn** 03 20 12.3 +0.9
DRME *i* Sn **Sn** 03 21 02.4 +0.2
PDG Podgorica 4.44 94 ⇑P **Pb** 03 20 20.1 -2.9
TTG Podgorica 4.44 94 *e*Pn **Pn** 03 20 12.4 +0.8
TTG *i* Sn **Sn** 03 21 02.7 +0.3
FETA Feichten 4.49 337 *e*Pn **Pn** 03 20 13.8 +1.3
comp=E,6.5nm,0.4s,SNR=17
PLE Pljevlja 4.50 83 ⇓*i*Pn **Pn** 03 20 13.2 +0.7
PLE *i* Sn **Sn** 03 21 04.1 0.0
VSL Villasalto 4.50 222 AML AML
comp=E,43µm,0.8s
VSL AML AML
comp=N,32µm,0.4s
WTTA Wattenberg 4.51 346 *e*Pn **Pn** 03 20 14.7 +1.9
comp=N,4.5nm,0.3s,SNR=12
WTTA Wattenberg 4.51 346 AML AML
comp=E,210µm,0.9s
WTTA AML AML
comp=N,182µm,0.8s
RUDO Rudo 4.51 79 *e*Pn **Pn** 03 20 13.2 +0.6
ULC Ulcinj 4.52 100 *e*Pn **Pn** 03 20 13.6 +0.9
ULC *i* Sn **Sn** 03 21 04.6 +0.1
SPIF crte de Spivo 4.54 287 P **Pn** 03 20 15.4 +2.3

SQTA Sankt Quirin 4.55 342 *i* Pn **Pn** 03 20 15.0 +1.7
comp=N,24nm,0.4s,SNR=23
DAVOX Davos/Dischmat 4.56 329 Pn **Pn** 03 20 15.8 +2.3
comp=N,4.8nm,0.3s,baz=163,slow=19,SNR=82
DAVOX Sn **Sn** 03 21 06.1 +0.3
comp=N,1.1nm,0.3s,baz=146,slow=21,SNR=1.2
DAVOX LR LR 03 22 39.7
comp=N,139nm,18.0s,baz=212,slow=47
comp=N,37nm,0.7s
DAVOX Davos/Dischmat 4.56 329 AML AML
comp=N,128µm,0.6s
DAVOX AML AML
comp=E,89µm,0.8s
BBLS Lazići 4.57 76 *e*Pn **Pn** 03 20 14.8 +1.3
KOME Kolasin 4.59 89 ⇑*i*Pn **Pn** 03 20 14.5 +0.8
KOME *i* Sn **Sn** 03 21 06.2 -0.1
WATA Walderalm 4.59 345 *e*Pn **Pn** 03 20 15.5 +1.7
comp=E,6.1nm,0.3s,SNR=9.7
KOVH Kovagotottos 4.69 46 P **Pn** 03 20 14.7 -0.5
KOVH S **Sn** 03 21 05.6 -3.2
MOTA Moosalm 4.70 342 *e*Pn **Pn** 03 20 17.1 +1.8
comp=E,13nm,0.5s,SNR=14
CALF Calern 4.71 282 P **Pn** 03 20 17.1 +1.6
TRAV Traversella 4.75 305 AML AML
comp=N,44µm,1.2s
TRAV AML AML
comp=E,52µm,1.5s
BIOA Bad Ischl, Aus 4.79 3 *i* Pn **Pn** 03 20 17.3 +0.8
comp=E,9.6nm,0.2s,SNR=12
RJOB Jochberg 4.84 356 *e*Pn **Pn** 03 20 18.4 +1.2
RJOB *e*Sn **Sn** 03 21 13.3 +0.8
IVA Berane 4.86 88 ⇓*i*Pn **Pn** 03 20 18.3 +0.8
IVA *i* Sn **Sn** 03 21 12.9 -0.2
RETA Reutte 4.91 340 *i* Pn **Pn** 03 20 20.0 +1.8
comp=E,8.1nm,0.4s,SNR=11
PVY Plav 4.93 91 ⇑*i*Pn **Pn** 03 20 19.3 +0.8
PVY *i* Sn **Sn** 03 21 14.6 -0.3
SURF Saint Ours 4.94 291 P **Pn** 03 20 20.5 +1.8
LMR La Mourre 4.97 277 *e*P **Pn** 03 20 19.7 +0.8
LMR *e*Sn **Sn** 03 21 09.9 -5.7
comp=E,10.0nm,0.7s
JAUF Jausiers 4.97 290 P **Pn** 03 20 21.3 +2.2
MOA Molln 4.99 8 *i* Pn **Pn** 03 20 19.9 +0.7
comp=E,2.6nm,0.2s
DAVA Damuels 5.00 332 *e*Pn **Pn** 03 20 21.4 +2.0
comp=E,6.2nm,0.4s,SNR=15
DIVS Divibare 5.03 74 *e*Pn **Pn** 03 20 20.9 +1.1
MBDF Montbardon 5.04 293 *e*P **Pn** 03 20 21.8 +1.7
MBDF *e*Sn **Sn** 03 21 11.7 -6.0
comp=E,29nm,0.8s
MORH Mrgy, Hungar 5.07 47 ⇓P **Pn** 03 20 21.3 +1.1
MORH Mrgy, Hungar 5.07 47 P **Pn** 03 20 19.6 -0.6
TRIGF Trigance 5.08 282 P **Pn** 03 20 22.4 +1.9
CRIEF Crivoux 5.09 291 P **Pn** 03 20 23.1 +2.4
EMBD Embd, Matterta 5.11 312 P **Pn** 03 20 21.4 +0.5
FLAF Flassans-sur-I 5.16 278 P **Pn** 03 20 22.8 +1.3
BE1 Monatshausen 5.21 345 *e*Pn **Pn** 03 20 24.4 +2.1
FRGS Fruska Gora 5.22 62 ⇓P Pb 03 20 31.3 -5.1
FRGS Fruska Gora 5.22 62 *e*Pn **Pn** 03 20 22.6 +0.2
MPLH Magyarpolny 5.22 34 P **Pn** 03 20 22.0 -0.4
KW1 Garching a.d. 5.24 355 *e*Pn **Pn** 03 20 21.2 -1.4
RONA Rosalia, Austr 5.25 23 *e*Pn **Pn** 03 20 22.9 +0.2
comp=E,1.5nm,0.2s,SNR=6.9
DIX Grande Dixence 5.26 309 P **Pn** 03 20 24.6 +1.5
UBR Ueberruh 5.27 336 *e*Pn **Pn** 03 20 24.1 +1.0
SOP Sopron 5.31 25 P **Pn** 03 20 23.5 -0.1
CONA Conrad Observa 5.34 19 *i* Pn **Pn** 03 20 24.3 +0.2
comp=E,2.3nm,0.3s,SNR=7.4
EGYH Egyhazaskeszo 5.34 31 P **Pn** 03 20 23.9 -0.2
LPG La Plagne 5.36 301 *e*P **Pn** 03 20 25.5 +1.0
LPG *e*Sn **Sn** 03 21 19.0 -6.5
comp=E,26nm,0.7s
LPL La Plagne 5.38 301 *e*P **Pn** 03 20 25.5 +0.8
LPL *e*Sn **Sn** 03 21 19.5 -6.4
comp=E,19nm,0.5s
ARTF Artigues 5.50 280 P **Pn** 03 20 27.9 +1.7
RSL Roselend 5.52 303 P **Pn** 03 20 28.5 +1.9
OGSI Sixt 5.63 306 P **Pn** 03 20 30.3 +2.2
BSTF la Bastide-des 5.64 283 P **Pn** 03 20 30.2 +2.0
AIGLE Aigle 5.67 309 P **Pn** 03 20 30.4 +1.9
SMRF Simiane la Rot 5.71 283 *e*P **Pn** 03 20 31.3 +2.2
SMRF *e*Sn **Sn** 03 21 27.3 -6.5
comp=E,14nm,0.8s
ORIF Oris-en-Rattie 5.71 293 *e*P **Pn** 03 20 32.0 +2.9
ORIF *e*Sn **Sn** 03 21 27.3 -6.6
comp=E,21nm,0.8s
ORIF Oris-en-Rattie 5.71 293 P **Pn** 03 20 32.5 +3.4
RUSF Rustrel 5.77 283 P **Pn** 03 20 33.1 +3.2
SULZ Cheisacher 5.88 324 P **Pn** 03 20 32.6 +1.1
OHR Ohrid 5.89 105 *i* Pn **Pn** 03 20 34.5 +3.0
SLE Schleitheim 5.91 327 P **Pn** 03 20 32.4 +0.6
TORNY Torny/Romont 5.92 313 P **Pn** 03 20 33.9 +1.8
BALST Balsthal 5.93 320 P **Pn** 03 20 32.8 +0.7
GEC2 GERESS Array S 5.95 3 *e*Pn **Pn** 03 20 31.8 -0.6
GEC2 *e*Sn **Sn** 03 21 36.1 -3.6
GERES GERESS Array B 5.95 3 Pn **Pn** 03 20 31.4 -1.0
comp=E,1.7nm,0.3s,baz=173,slow=13,SNR=63
GERES Sn **Sn** 03 21 36.6 -3.2
comp=E,4.0nm,0.3s,baz=173,slow=25,SNR=9.4
GERES Lg Lg 03 22 13.2
baz=186,slow=25
comp=E,2.0nm,0.3s
CKRC Cesky Krumlov 5.96 7 *e*PN **Pn** 03 20 32.0 -0.5
CKRC *e*SN **Sn** 03 21 36.7 -3.2
OGSM Saint Maurice 6.07 299 P **Pn** 03 20 35.7 +1.6
MODS Modra-Piesok 6.14 26 *e*PN **Pn** 03 20 34.9 -0.1
MODS *e*SN **Sn** 03 21 46.1 +1.6
GIMEL St. Georges / 6.17 308 P **Pn** 03 20 36.8 +1.3
BOURR Bourrignon 6.20 318 P **Pn** 03 20 36.7 +0.9
BOVS Bovan 6.20 80 ⇓P Pn 03 20 30.8 -4.9
FELD Feldberg im Sc 6.20 325 P **Pn** 03 20 36.3 +0.4
KHC Kasperske Hory 6.23 2 *e*PN **Pn** 03 20 35.8 -0.4
KHC *e*SN **Sn** 03 21 42.9 -3.7
WET Wettzell 6.24 358 *e*Pn **Pn** 03 20 35.6 -0.8
WET *e*Sn **Sn** 03 21 43.1 -3.9
BRANT Les Verrieres 6.29 312 P **Pn** 03 20 38.1 +1.0
KIZ Kirchzarten 6.30 325 P **Pn** 03 20 37.7 +0.5
CABF La Chapelle 6.32 308 *e*P **Pn** 03 20 38.4 +0.9
CABF *e*Sn **Sn** 03 21 41.6 -7.2
comp=E,20nm,0.9s
OG35 Corcelles 6.34 302 P **Pn** 03 20 38.5 +0.7
MDVR Moldovita 6.38 70 ⇓P **Pn** 03 20 34.8 -3.6
CHMF Charmoille 6.39 315 P **Pn** 03 20 39.0 +0.6
BFO Black Forest 6.43 329 *e*Pn **Pn** 03 20 38.8 -0.2
BFO *e*Sn **Sn** 03 21 50.6 -1.1
VOGT Vogtsburg - To 6.50 325 P **Pn** 03 20 40.6 +0.6
VIVF Saint-Julien-l 6.51 290 *e*P **Pn** 03 20 42.3 +2.2
VIVF *e*Sn **Sn** 03 21 46.6 -7.1
comp=E,1.9nm,0.4s
STU Stuttgart 6.52 336 *e*Sn **Sn** 03 21 51.8 -2.0
KRUC Moravsky 6.53 18 *e*PN **Pn** 03 20 40.1 -0.2
MOF Molkenrain 6.57 321 P **Pn** 03 20 41.3 +0.4
BOUC Bouclans 6.59 314 P **Pn** 03 20 41.9 +0.7
HINF Hinteralfeld 6.67 320 *e*P **Pn** 03 20 42.4 +0.1
HINF *e*Sn **Sn** 03 21 50.1 -7.5
comp=E,17nm,0.4s
JAVC Velka Javorina 6.70 26 *e*PN **Pn** 03 20 43.1 +0.5
RONF Ronchamp 6.70 318 P **Pn** 03 20 43.3 +0.7
STIP Stip 6.72 97 *i* Pn **Pn** 03 20 45.8 +2.9
VRAC Vranov 6.80 19 Pn **Pn** 03 20 41.8 -2.3
comp=E,0.7nm,0.3s,baz=210,slow=13,SNR=5.9
VRAC Sn **Sn** 03 21 56.6 -4.2
comp=E,0.3nm,0.3s,baz=197,slow=7.9,SNR=1.5
VRAC LR LR 03 23 44.8
comp=E,79nm,18.0s,baz=217,slow=43
comp=E,1.5nm,0.3s
VRAC Vranov 6.80 19 *e*PN **Pn** 03 20 44.3 +0.2
VYHS Vyhne 6.81 33 *e*PN **Pn** 03 20 44.3 +0.1
VYHS *e*SN **Sn** 03 22 07.5 +6.6
ECH Echery 6.83 323 P **Pn** 03 20 45.0 +0.6
ECH Echery 6.83 323 P **Pn** 03 20 44.9 +0.5
WLS Welschbruch 6.89 325 P **Pn** 03 20 46.0 +0.6
ROTZ Rotzenmuhle 6.90 354 *e*Pn **Pn** 03 20 44.6 -0.8
ROTZ *e*Sn **Sn** 03 21 57.4 -5.7
CDF Champ du Feu 6.92 325 *e*P **Pn** 03 20 46.0 +0.2
CDF *e*Sn **Sn** 03 21 56.0 -7.8
comp=E,6.7nm,0.3s
GRF Grafenberg Arr 6.93 349 *e*Sn **Sn** 03 22 01.1 -2.8
LASF Ste Croix 6.95 283 *e*P **Pn** 03 20 47.4 +1.3
LASF *e*Sn **Sn** 03 21 57.1 -7.2
comp=E,5.9nm,0.8s
HAU Haudompre 7.05 319 *e*P **Pn** 03 20 47.8 +0.3
HAU *e*Sn **Sn** 03 21 59.2 -7.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,18nm,0.4s						
SZBH	soultz borehol	7.11	330	P	Pn	03 20 49.9	+1.7
MANZ	Manzenberg	7.13	354	ePn	Pn	03 20 47.5	-1.1
MANZ				eSn	Sn	03 22 02.6	-6.1
PRU	Pruhonice	7.14	7	ePN	Pn	03 20 49.6	+1.0
GZR	Gura Zlata	7.27	67	⇑P	Pn	03 20 50.4	-0.1
PLYF	Puligny Montra	7.28	307	P	Pn	03 20 51.4	+0.8
VTS	Vitosha	7.34	89	⇑P	Pn	03 20 49.3	-2.3
NKC	Novy Kostel	7.35	356	ePN	Pn	03 20 52.5	+0.9
NKC				eSN	Sn	03 22 09.5	-4.7
MORC	Moravsky Berou	7.48	22	⇓P	Pn	03 20 41.2	-12
MORC	Moravsky Berou	7.48	22	ePN	Pn	03 20 54.2	+0.8
KRLC	Kraliky	7.57	17	ePN	Pn	03 20 54.4	-0.2
SMF	Signal de Mont	7.68	302	eP	Pn	03 20 56.4	+0.3
SMF				eSn	Sn	03 22 14.4	-7.9
	comp=E,18nm,0.7s						
PAGF	Fort de Pagny	7.73	320	eP	Pn	03 20 57.7	+0.9
PAGF				eSn	Sn	03 22 15.3	-8.2
	comp=E,17nm,0.7s						
DPC	Dobruska-Polom	7.74	15	ePN	Pn	03 20 57.5	+0.6
KEST	Kesra	7.78	204	Pn	Pn	03 21 00.0	+2.4
	comp=E,0.5nm,0.3s,baz=325,slow=7.9,SNR=11						
KEST				Sn	Sn	03 22 27.0	+2.0
	baz=53,slow=13,SNR=1.2						
	comp=E,3.5nm,0.7s						
MOX	Moxa	7.82	352	ePn	Pn	03 20 57.4	-0.6
MOX				eSn	Sn	03 22 20.9	-4.9
SFTF	Sexfontaines	7.84	315	eP	Pn	03 20 58.4	+0.1
SFTF				eSn	Sn	03 22 18.0	-8.2
	comp=E,14nm,0.6s						
OSTC	Ostas	7.91	14	ePN	Pn	03 20 59.2	-0.1
CHVC	Chvalec	7.92	13	ePN	Pn	03 20 59.9	+0.5
LOR	Lormes	7.96	306	eP	Pn	03 21 00.2	+0.2
	baz=120						
LOR				eSn	Sn	03 22 21.3	-7.9
	comp=E,9.7nm,0.5s						
LOR	Lormes	7.96	306	P	Pn	03 21 00.2	+0.2
BRG	Berggiesshubel	7.98	3	eP	Pn	03 21 00.0	-0.2
BRG				Amp		03 21 03.0	
	comp=Z,1.4nm,0.4s						
BRG				ex	x	03 22 35.3	
BRG				ex	x	03 23 31.5	
BRG				Amp		03 23 44.5	
	comp=Z,19nm,1.4s						
ABH	Alteburg	8.02	332	P	Pn	03 21 01.8	+1.0
MEZF	Maizieres J'vi	8.02	317	eP	Pn	03 21 02.1	+1.3
MEZF				eSn	Sn	03 22 22.2	-8.5
	comp=Z,7.4nm,0.5s						
TNS	Taunus Mts	8.04	337	eSn	Sn	03 22 30.0	-1.0
AVF	Avril sur Loir	8.05	302	eP	Pn	03 21 01.4	+0.3
AVF				eSn	Sn	03 22 23.1	-8.2
	comp=Z,5.3nm,0.7s						
SAVF	Savonnieres en	8.06	318	eP	Pn	03 21 02.3	+1.0
SAVF				eSn	Sn	03 22 23.4	-8.3
	comp=Z,5.3nm,0.5s						
SSF	Saint Saulge	8.07	304	eP	Pn	03 21 01.6	+0.1
SSF				eSn	Sn	03 22 23.7	-8.2
	comp=Z,4.8nm,0.5s						
MTLF	Montolieu	8.10	277	eP	Pn	03 21 05.7	+3.8
MTLF				eSn	Sn	03 22 24.7	-8.0
	comp=Z,1.1nm,0.4s						
BGF	Bois d'Agland	8.27	300	eP	Pn	03 21 04.9	+0.7
BGF				eSn	Sn	03 22 28.7	-8.1
	comp=Z,5.6nm,0.4s						
CAF	Calviac	8.34	288	eP	Pn	03 21 07.3	+2.1
WLF	Walferdange	8.36	326	ePn	Pn	03 21 06.9	+1.4
CLL	Collm	8.41	359	ePn	Pn	03 21 06.0	0.0
CLL				ex	x	03 21 13.0	
CLL				eSn	Sn	03 22 28.0	-12
CLL				ex	x	03 22 40.0	
CLL				ex	x	03 23 03.0	
CLL				eSg	Sb	03 23 31.0	+21
CLL				ex	x	03 23 38.0	
	comp=Z,38nm,1.6s						
TCF	Toulx Ste Croi	8.59	297	eP	Pn	03 21 10.7	+2.1
TCF				eSn	Sn	03 22 36.1	-8.5
	comp=Z,2.0nm,0.5s						
RJF	Les Rejaudoux	8.79	290	eP	Pn	03 21 13.9	+2.5
VOIR		8.83	69	⇓P	Pn	03 21 15.1	+3.1
MONQ	Montcuq	8.88	284	P	Pn	03 21 15.1	+2.5
RCHB	Rochefort	9.12	325	P	Pn	03 21 17.9	+2.1
MLR	Muntele Rosu	9.46	70	LR	LR	03 25 54.4	
	comp=Z,148nm,18.1s,baz=271,slow=45						
EPF	Esparros	9.48	275	eP	Pn	03 21 23.8	+2.9
EPF				eSn	Sn	03 22 57.7	-9.0
	comp=Z,0.6nm,0.3s						
ETSF	Etsaut	10.15	275	eP	Pn	03 21 35.7	+5.6
ETSF				eSn	Sn	03 23 13.6	-10
	comp=Z,1.0nm,0.6s						
MFF	Saint Martin d	10.23	296	eP	Pn	03 21 33.5	+2.4
MFF				eSn	Sn	03 23 15.4	-10
	comp=Z,1.0nm,0.6s						
FLN	La Foliniere	11.23	306	eP	Pn	03 21 47.1	+2.3
ESDC	Sonseca Array	13.36	262	Pn	Pn	03 22 18.4	+4.5
	baz=68,slow=14,SNR=3.2						
	comp=Z,0.2nm,0.8s						
AKASG	Malin Array Be	13.40	49	LR	LR	03 27 35.2	
	comp=Z,42nm,19.3s,baz=204,slow=39						
EKA	Eskdalemuir Ar	16.39	325	Pn	Pn	03 22 54.6	+0.5
	baz=138,slow=14						
	comp=Z,0.4nm,0.5s						
HFS	Hagfors	17.25	1	P	Pn	03 23 02.0	-2.9
	comp=Z,5.5nm,1.1s,baz=174,slow=12,SNR=2.3						
NOA	NORSAR Array B	18.20	357	P	Pn	03 23 15.8	-0.9
	baz=170,slow=12,SNR=1.1						
NOA				LR	LR	03 31 14.3	
	comp=Z,27nm,18.9s,baz=25,slow=40						
	comp=Z,0.3nm,0.6s						
FINES	FINESS Array B	20.09	18	P	P	03 23 36.6	-0.7
	comp=Z,0.2nm,0.3s,baz=195,slow=10,SNR=8.0						
	comp=Z,1.4nm,0.6s						
TORD	Torodi Ar. Bea	31.30	202	P	P	03 25 24.9	+0.8
	comp=Z,0.4nm,0.5s,baz=17,slow=9.3,SNR=8.1						
	comp=Z,0.4nm,0.5s						
BBTS	Babate	38.03	231	LR	LR	03 42 42.0	
	comp=Z,86nm,18.4s,baz=124,slow=37						
KURBB	Kurchatov Arra	44.04	56	LR	LR	03 46 40.1	
	comp=Z,48nm,19.5s,baz=43,slow=38						
MKAR	Makanchi Array	47.65	60	P	P	03 27 40.3	+0.4
	comp=Z,1.1nm,0.6s,baz=286,slow=6.2,SNR=6.1						
	comp=Z,1.1nm,0.6s						
SONM	Songino Array	61.68	50	P	P	03 29 20.7	-1.1
	comp=Z,0.7nm,0.8s,baz=299,slow=5.9,SNR=2.9						
	comp=Z,0.7nm,0.8s						
MDP	Montagnes des	68.99	257	LR	LR	03 58 53.3	
	comp=Z,18nm,18.4s,baz=107,slow=34						
ILAR	Eielson Array	71.54	351	P	P	03 30 24.9	+0.7
	comp=Z,0.4nm,0.6s,baz=2.7,slow=5.9,SNR=6.1						
	comp=Z,0.4nm,0.6s						
CMAR	Chiang Mai Arr	74.56	79	P	P	03 30 42.5	-0.4
	comp=Z,0.8nm,0.3s,baz=318,slow=7.3,SNR=4.6						
	comp=Z,0.8nm,0.3s						
TXAR	Lajitas Array	87.71	309	P	P	03 31 54.5	+1.8
	comp=Z,0.2nm,0.8s,baz=29,slow=2.1,SNR=1.8						
	comp=Z,0.2nm,0.8s						

---

*IDC **01** 03:25:18.7±4.3, 20°.71S×178°.83W, h589km±33km, mb3.1/5, mbtmp4.0/7, Error ellipse: s-maj=105.2km s-min=22.9km az=144.0*

ISC 01 03:25:19.0±1.0**, 20°.7S**±0°.2×**178°.8W**±0°.2**, h600**km**, n11, σ1^{s}24**/13**, mb3.8**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MSVF	Nonsavu	4.21	314	P	P	03 26 44.6	-1.5
	6.7nm,0.4s,baz=160,slow=2.4,SNR=13						
DZM	Mont Dzumac	13.82	262	P	P	03 28 17.5	+1.3
	3.3nm,0.6s,baz=96,slow=16,SNR=8.4						
STKA	Stephens Creek	37.03	244	P	P	03 31 38.7	-0.8
	2.2nm,0.5s,baz=82,slow=7.1,SNR=4.7						
	2.2nm,0.5s						
ASAR	Alice Springs	43.75	257	P	P	03 32 33.1	+0.1
	4.1nm,0.5s,baz=97,slow=7.7,SNR=65						
ASAR				PcP	PcP	03 34 07.0	+0.8
	0.9nm,0.6s,baz=100,slow=4.8,SNR=7.0						
	4.1nm,0.5s						
WRA	Warramunga Arr	43.84	262	P	P	03 32 33.6	-0.1
	0.9nm,0.3s,baz=97,slow=7.4,SNR=60						
WRA				PcP	PcP	03 34 07.1	+0.6
	0.3nm,0.6s,baz=97,slow=3.2,SNR=2.5						
	0.9nm,0.3s						
TROLL	Troll, Antarti	87.51	180	P	P	03 37 05.5	+1.7
VNA3	Neumayer Olymp	87.97	176	P	P	03 37 04.2	-1.6
VNA2	Neumayer--Watz	88.40	177	P	P	03 37 06.3	-1.4
	baz=194,slow=4.0						
VNA1	Neumayer--Stat	88.63	177	P	P	03 37 07.5	-1.2
ILAR	Eielson Array	88.69	13	P	P	03 37 09.1	+0.1
	0.3nm,0.5s,baz=219,slow=5.9,SNR=2.8						
	0.3nm,0.5s						
PDAR	Pinedale Array	89.63	44	P	P	03 37 15.1	+1.0
	0.3nm,0.6s,baz=270,slow=1.5,SNR=2.4						
	0.3nm,0.6s						

---

*NEIC **01** 03:28:07.6±2.0, 32°.9N±0°.1×47°.4E±0°.2, h10km±2km, Error ellipse: s-maj=31.0km s-min=15.6km az=223.0*
*IDC **01** 03:28:08.1±1.5, 33°.21N×47°.37E, h0km, mb3.7/13, mbtmp3.6/16, ML3.0/2, MS3.1/9, Error ellipse: s-maj=32.6km s-min=16.9km az=173.0*
*ISN **01** 03:28:08.6±0.9, 32°.94N×47°.42E, h20km±5km, ML3.6*
*TEH **01** 03:28:08.1, 32°.93N×47°.43E, h6km, ML3.8*

ISC 01 03:28:08.3±0.5**, 32°.89N**±0°.03×**47°.47E**±0°.03**, h15**km**, n124, σ1^{s}98**/128**, mb3.7**/16**, MS3.1**/5**, 6C-2D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DHL1	Dehloran	0.26	218	ePg	Pg	03 28 13.2	-0.7
DHL1				eSg	Sg	03 28 17.7	0.0
IKFM	Kafar-mosalman	0.71	26	ePg	Pg	03 28 20.6	-1.5
IKFM				eSg	Sg	03 28 32.3	+0.8
IKMR	Kamar-syah	0.99	50	ePg	Pb	03 28 27.0	-0.1
IKMR				e		03 28 43.7	
	comp=Z,25μm,0.4s						
IDOB	Doab	1.07	33	ePg	Pb	03 28 28.2	-0.5
IKOM	Komasi	1.28	1	ePg	Pn	03 28 31.7	-0.1
IKOM				eSg	Sn	03 28 49.2	+0.3
IKOM				e		03 29 02.2	
	comp=Z,12μm,0.7s						
IBDR	Badra	1.31	280	ePg	Pb	03 28 32.0	-0.6
IBDR				eSg	Sn	03 28 48.0	-1.3
IBDR				AML	AML	03 28 55.0	
	comp=E,1μm,0.6s						
IBDR				AML	AML	03 29 11.4	
	comp=N,898nm,0.6s						
KCHF	Cheshme Sefid,	1.43	346	ePg	Pn	03 28 34.2	+0.4
KCHF				e		03 28 56.9	
	comp=Z,19μm,0.4s						
KER	Kermanshah	1.52	349	ePn	Pn	03 28 35.5	+0.5
IBZA	Bozab	1.61	12	ePg	Pb	03 28 38.1	+0.2
IBZA				e		03 29 08.5	
	comp=Z,10μm,0.6s						
IGHG	Ghaleghazi	1.62	333	ePn	Pb	03 28 37.3	-0.8
IGHG				e		03 29 19.2	
	comp=Z,10μm,0.9s						
HSAM	Samen	1.62	35	ePn	Pn	03 28 37.9	+1.3
HSAM				e		03 29 05.7	
	comp=Z,8μm,1.2s						
RAFI	Al-Rafai	1.63	225	ePn	Pb	03 28 38.5	+0.4
RAFI				eSn	Sg	03 29 00.0	-0.9
AMIS	Naft Sefid	1.96	128	ePn	Pn	03 28 44.2	+3.2
IDHR	Dehrash	2.02	334	ePn	Pb	03 28 44.3	-0.5
IDHR				e		03 29 19.3	
	comp=Z,7μm,0.4s						
SNGE	Sanandaj	2.20	357	ePn	Pn	03 28 46.0	+1.5
KHMZ	Khomeyn	2.25	67	ePn	Pn	03 28 48.3	+3.1
HAGD	Aghdareh	2.38	35	ePn	Pn	03 28 49.4	+2.5
HAGD				e		03 29 29.0	
	comp=Z,5μm,1.0s						
BHD	Baghdad	2.62	279	ePn	Pn	03 28 51.0	+1.0
BHD				eSn	Sn	03 29 22.0	+0.4
BHD				AML	AML	03 29 44.4	
	comp=E,447nm,0.6s						
ASAO	Ashtian	2.70	51	ePn	Pn	03 28 54.2	+2.9
IPIR	Pirpir	2.89	93	ePn	Pn	03 28 56.8	+2.8
SHK1	Shahrekord	2.94	100	ePn	Pn	03 28 57.0	+2.4
SHK1				e		03 29 59.3	
	comp=Z,5μm,0.6s						
IRAZ	Razeghan	3.23	38	ePn	Pn	03 29 01.2	+2.5
IRAZ				e		03 30 05.0	
	comp=Z,2μm,0.8s						
QABG	Abgarm-Qazvin	3.31	31	ePn	Pn	03 29 00.8	+1.0
IBRJ	Brojen	3.35	106	ePn	Pn	03 29 02.8	+2.4
IBRJ				e		03 30 10.2	
	comp=Z,4μm,0.6s						
QAMS	Qamsar	3.40	75	ePn	Pn	03 29 03.8	+2.9
IKLH	Kolahrood	3.48	82	ePn	Pn	03 29 04.9	+2.9
IKLH				e		03 30 21.2	
	comp=Z,3μm,0.7s						
GHVR	GHOM	3.56	62	ePn	Pn	03 29 05.8	+2.7
IQOM	Qom	3.57	56	ePn	Pn	03 29 05.8	+2.4
IQOM				e		03 30 15.7	
	comp=Z,2μm,0.8s						
IKRK	Kirkuk	3.61	315	ePn	Pn	03 29 04.0	+0.4
IKRK				eSn	Sn	03 29 46.0	0.0
QSDN	Sirdan	3.87	21	ePn	Pn	03 29 09.2	+1.7
IGAR	Gharneh	3.89	96	ePn	Pn	03 29 10.2	+2.5
IGAR				e		03 30 21.0	
	comp=Z,2μm,0.4s						
ZNJK	Zanjan	3.90	15	ePn	Pn	03 29 09.9	+2.0
KLNJ	Kolanjah	3.97	117	ePn	Pn	03 29 12.2	+3.2
KRSH	Karshahi	4.05	73	ePn	Pn	03 29 13.0	+3.2
IZEF	Zefreh	4.09	89	ePn	Pn	03 29 13.3	+2.8
IZEF				e		03 29 28.6	
	comp=Z,1μm,0.5s						
IVRN	Varamin	4.12	58	ePn	Pn	03 29 13.2	+2.5
MAHB	Mahabad	4.13	340	ePn	Pn	03 29 13.2	+2.2
ISFB	Sefidab	4.24	69	ePn	Pn	03 29 14.8	+2.4
CHTH	Charan	4.27	44	ePn	Pn	03 29 15.3	+2.4
IRAM	Ramesheh	4.29	103	ePn	Pn	03 29 15.5	+2.2
IRAM				e		03 30 13.9	
	comp=Z,897nm,0.6s						
QALM	Alamut, Qazvin	4.40	36	ePn	Pn	03 29 16.5	+1.8
NASN	Na'in	4.49	90	ePn	Pn	03 29 19.2	+3.1
DAMV	Damavand	4.62	52	ePn	Pn	03 29 20.4	+2.6
IDMV	Damavand	4.63	53	ePn	Pn	03 29 21.1	+3.1
KLST	Kelardasht - M	4.67	38	ePn	Pn	03 29 20.7	+2.1
AHBU	AHRAM	5.19	140	ePn	Pn	03 29 27.8	+2.5
ILAS	Lasjerd	5.19	60	ePn	Pn	03 29 26.6	+1.0
IPRN	Peran	5.23	49	ePn	Pn	03 29 27.6	+1.6
ANAR	Anarak	5.26	85	ePn	Pn	03 29 29.7	+3.2
ISAD	Sadrabad	5.35	99	ePn	Pn	03 29 30.0	+2.2
ISAD				e		03 31 11.4	
	comp=Z,622nm,0.9s						
ISHM	Shahmirzad	5.63	57	ePn	Pn	03 29 33.7	+2.1
ICHK	Chekchek	5.89	94	ePn	Pn	03 29 37.3	+2.1
YZKH	Yazd	6.03	93	ePn	Pn	03 29 39.3	+2.3
IMEH	Mehriz	6.24	102	ePn	Pn	03 29 42.2	+2.2
MARD	Mardin	7.04	311	Pn	Pn	03 29 49.9	-1.0
SHRO	Shahrood	7.70	64	ePn	Pn	03 30 03.8	+3.8
TNSJ	Nastanj	7.71	80	ePn	Pn	03 30 03.1	+2.9
TPRV	Parvadeh(Tabas	7.75	86	ePn	Pn	03 30 02.7	+2.1
TABS	Tabas	8.12	82	ePn	Pn	03 30 09.5	+3.8
TKDS	Koohdasht(Taba	8.12	82	ePn	Pn	03 30 07.4	+1.7
NGRK	Negar Kerman	8.56	110	ePn	Pn	03 30 13.7	+1.7
ASF	Jabal al Asfar	8.96	268	Pn	Pn	03 30 15.8	-1.4
	comp=Z,0.3nm,0.3s,baz=117,slow=4.8,SNR=1.4						
ASF				Sn	Sn	03 32 02.4	+4.5
	comp=Z,0.1nm,0.3s,baz=331,slow=22,SNR=1.3						
	comp=Z,0.7nm,0.3s						
GEYT	Alibeck	10.04	57	Pn	Pn	03 30 31.6	-0.4
	comp=Z,0.7nm,0.2s,baz=268,slow=6.6,SNR=1.0						
GEYT				LR	LR	03 35 22.0	
	comp=Z,64nm,18.1s,baz=264,slow=44						
SHME	Shamm	10.17	130	Pn	Pn	03 30 34.4	+0.6
BANOM	Banah	10.36	130	Pn	Pn	03 30 35.8	-0.6
MSFE	Esma-Masafi	10.67	132	Pn	Pn	03 30 43.9	+3.2
MSFE				Sn	Sn	03 32 36.5	-3.5
ASUD	Al Ashush, Dub	10.73	138	Pn	Pn	03 30 41.9	+0.4
HATD	Hatta, Dubai	11.05	134	Pn	Pn	03 30 48.1	+2.3
HATD				Sn	Sn	03 32 44.4	-4.7
ASHO	Ashiyiah	11.11	135	Pn	Pn	03 30 47.3	+0.7
ASHO				Sn	Sn	03 32 46.7	-4.0
EIL	Elat	11.18	257	LR	LR	03 36 07.8	
	comp=Z,58nm,21.8s,baz=124,slow=43						
KBZ	Khabaz	11.40	343	LR	LR	03 35 49.5	
	comp=Z,39nm,20.9s,baz=164,slow=42						
BRTR	Keskin Array B	13.07	305	Pn	Pn	03 31 15.4	+1.9
	baz=112,slow=12,SNR=3.4						
	comp=Z,1.1nm,1.0s						
BRTR	Keskin Array B	13.07	305	Pn	Pn	03 31 12.0	-1.5
WSAR	Wadi Sarin	13.76	132	Pn	Pn	03 31 24.6	+1.8
	comp=Z,0.8nm,0.3s,baz=262,slow=14,SNR=5.6						
WSAR				Sn	Sn	03 33 49.8	-5.6
	comp=Z,0.7nm,0.3s,baz=131,slow=21,SNR=6.0						
KBL	Kabul	18.02	79		Pn	03 32 17.9	-0.5
ABKAR	Akbulak array	18.82	26	P	P	03 32 26.9	-0.4
ABKAR	Akbulak array	18.82	26	P	P	03 32 26.7	-0.5
BELG	Belogornoye	19.50	0	LR	LR	03 41 15.5	
	comp=Z,50nm,19.1s,baz=182,slow=41						
BTK	Batken	20.06	62	P	P	03 32 40.2	-0.8
BTK				IAmb	IAmb	03 33 00.6	
	comp=Z,5.7nm,1.1s						
KK31	Karatay Array	20.77	54		P	03 32 50.3	+1.7
KK31				IAmb	IAmb	03 32 53.4	
	comp=Z,6.0nm,1.2s						
KKAR	Karatay Array	20.77	54		P	03 32 47.3	-1.3
KKAR	Karatay Array	20.77	54	P	P	03 32 47.1	-1.5
KKAR				IAmb	IAmb	03 32 53.4	
	comp=Z,6.0nm,1.2s						
MLR	Muntele Rosu	20.82	313	⇑P	Pn	03 32 53.9	+2.1
MLR	Muntele Rosu	20.82	313	P	P	03 32 50.0	+0.7
	comp=Z,2.2nm,0.9s,baz=192,slow=22,SNR=2.0						
	comp=Z,2.2nm,0.9s						
COVR	Voineasa-Covas	20.84	315	⇓P	Pn	03 32 51.9	0.0
VOIR		21.35	312	⇑P	P	03 32 54.8	-0.1
DOPR	Dopca	21.40	314	⇓P	P	03 32 55.9	+0.6
NIL	Nilore	21.56	81	P	P	03 32 58.2	+1.0
AKASG	Malin Array Be	22.30	328	P	P	03 33 03.5	-1.4
	comp=Z,0.3nm,0.4s,baz=133,slow=11,SNR=5.2						
	comp=Z,0.3nm,0.4s						
BURAR	Bucovina Array	22.36	318	⇑P	P	03 33 08.1	+2.3
BURAR	Bucovina Array	22.36	318	P	P	03 33 03.7	-2.0
BUR08	Bucovina Ar. S	22.38	318	P	P	03 33 04.1	-1.9
BUR08				IAmb	IAmb	03 33 14.9	
	comp=Z,13nm,1.5s						
GZR	Gura Zlata	22.76	310	⇑P	P	03 33 09.1	-0.9
AAK	Ala-Archa	23.39	58	LR	LR	03 42 57.6	
	comp=Z,60nm,21.3s,baz=279,slow=38						
DRGR		23.42	314	⇑P	P	03 33 16.4	-0.3
OBN	Obninsk	23.51	344	LR	LR	03 43 48.7	
	comp=Z,40nm,20.6s,baz=309,slow=41						
SIRR	Siria	23.84	312	⇑P	P	03 33 21.0	+0.3
TRPA	Tarpa	24.16	316	P	P	03 33 23.8	+0.1
NRN	Naryn	24.20	61	P	P	03 33 24.1	-0.5
NRN				IAmb	IAmb	03 33 27.8	
	comp=Z,5.3nm,0.9s						
KOLS	Kolonicke sedl	24.73	318	eP	P	03 33 30.2	+1.3
CRVS	Cervenica-Dubn	25.17	317	eP	P	03 33 33.7	+0.8
PSZ	Piszkesteto	25.64	314	P	P	03 33 38.3	+1.1
MORH	Mrgy, Hungar	25.74	310	P	P	03 33 38.0	-0.2
BVAR	Borovoye Array	26.00	32	P	P	03 33 40.7	+0.4
	comp=Z,1.1nm,0.6s,baz=216,slow=7.1,SNR=8.1						
BVAR				LR	LR	03 44 34.3	
	comp=Z,47nm,18.0s,baz=248,slow=38						
	comp=Z,1.1nm,0.6s						
KOVH	Kovagotottos	26.05	309	P	P	03 33 40.7	-0.2
CSKK	Cskako	26.41	312	P	P	03 33 45.0	+0.8
VYHS	Vyhne	26.52	314	eP	P	03 33 45.8	+0.6
OJC	Ojcow	26.77	319	P	P	03 33 45.5	-1.8
OJC				IAmb	IAmb	03 33 47.4	
	comp=Z,4.3nm,0.9s						
MPLH	Magyarpolny	26.80	311	P	P	03 33 48.3	+0.6
KURBB	Kurchatov Arra	28.87	43	P	P	03 34 07.0	+0.9
	comp=Z,0.5nm,0.5s,baz=246,slow=9.4,SNR=4.1						
	comp=Z,0.5nm,0.5s						
GERES	GERESS Array B	29.80	312	P	P	03 34 14.7	+0.1
	comp=Z,0.3nm,0.5s,baz=102,slow=9.3,SNR=2.3						
	comp=Z,0.3nm,0.5s						
MKAR	Makanchi Array	29.86	52	P	P	03 34 16.1	+1.1
	comp=Z,0.6nm,0.5s,baz=238,slow=7.4,SNR=6.4						
	comp=Z,0.6nm,0.5s						
MKAR	Makanchi Array	29.86	52	P	P	03 34 14.8	-0.2
CIMO	Cimolais	29.88	307	P	P	03 34 14.2	-1.0
CIMO				IAmb	IAmb	03 34 27.6	
	comp=Z,2.4nm,1.1s						
KHC	Kasperske Hory	29.97	313	P	P	03 34 15.0	-1.0
KHC				IAmb	IAmb	03 34 25.2	
	comp=Z,3.5nm,1.3s						
CASP	Castiglione de	30.35	300	P	P	03 34 17.6	-1.7
FINES	FINESS Array B	31.75	341	P	P	03 34 30.7	-0.7
	comp=Z,3.2nm,1.0s,baz=134,slow=5.5,SNR=8.7						
FINES				LR	LR	03 47 58.6	
	comp=Z,98nm,18.2s,baz=115,slow=38						
	comp=Z,3.2nm,1.0s						
ZALV	Zalesovo Beam	33.77	40	P	P	03 34 50.1	+0.9
	comp=Z,1.1nm,0.5s,baz=238,slow=8.5,SNR=4.6						
ZALV				LR	LR	03 50 02.1	
	comp=Z,37nm,18.7s,baz=305,slow=39						
	comp=Z,1.1nm,0.5s						
NB2	NORSAR Subarra	36.65	331	P	P	03 35 12.3	-1.6
	comp=Z,0.8nm,0.6s,baz=124,slow=8.6						
NOA	NORSAR Array B	36.65	331	P	P	03 35 12.4	-1.6
	comp=Z,0.5nm,0.5s,baz=124,slow=8.5,SNR=3.8						
	comp=Z,0.5nm,0.5s						
ARCES	ARCESS Array B	38.71	348	P	P	03 35 28.9	-2.3
	comp=Z,0.7nm,0.5s,baz=153,slow=8.2,SNR=7.5						
	comp=Z,0.7nm,0.5s						
ESDC	Sonseca Array	41.54	294	P	P	03 35 56.6	+1.4
	comp=Z,0.3nm,0.7s,baz=71,slow=7.5,SNR=3.0						
	comp=Z,0.3nm,0.7s						
TORD	Torodi Ar. Bea	46.07	256	P	P	03 36 33.8	+2.0
	comp=Z,0.2nm,0.5s,baz=66,slow=7.0,SNR=2.0						
	comp=Z,0.2nm,0.5s						
WRA	Warramunga Arr	98.05	108	P	Pdif	03 41 47.1	+2.6
	comp=Z,0.3nm,1.0s,baz=318,slow=4.1,SNR=1.6						
	comp=Z,0.3nm,1.0s						

UPA 01 03:33:42.6±2.1**, 7°.61N**×**80°.82W, h1**km±6km**, MW3.9, 9C-11D, Fault plane solution: NP1:**φs193.96000°**,** δ48.44000°**,** λ-30.79000°.**, Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MARI3	Mariato, Verag	0.17	284	⇑iP	Pg	03 33 46.6	+0.7
MARI3				eS	Sg	03 33 48.3	+0.2
TOSI3	Tonosi	0.43	118	⇓iP	Pg	03 33 51.4	+0.6
TOSI3				eS	Sb	03 33 58.7	-1.3
RSUS3	Rio de Jesus,	0.50	318	⇑iP	Pg	03 33 52.8	+0.6
RSUS3				iS	Sb	03 34 00.4	-1.6
STIA3	Santiago, Vera	0.51	343	⇑iP	Pg	03 33 53.4	+1.0
STIA3				eS	Sb	03 34 01.0	-1.3
CHIT3	Chitre	0.53	49	⇓iP	Pb	03 33 53.8	-0.9
CHIT3				iS	Sb	03 34 02.0	-0.9
ACHO3	Achotines, Los	0.67	107	⇓iP	Pg	03 33 55.7	+0.1
ACHO3				iS	Sb	03 34 06.2	-0.8
REME3	Remedios, Chir	1.17	302	⇓eP	Pg	03 34 04.3	-0.8
REME3				iS	Sg	03 34 20.9	+0.5
VTON	El Valle, Cocl	1.22	35	⇑iP	Pg	03 34 05.9	-0.1
VTON				eS	Sb	03 34 22.8	0.0
DVD	David	1.81	297	⇓eP	Pn	03 34 14.8	-0.1
DVD				iS	Sn	03 34 38.5	0.0
BCIP	Isla Barro Col	1.83	32	⇑iP	Pn	03 34 15.7	+0.5
BCIP				eS	Sb	03 34 39.9	-0.5
UPA	Univ. de Panam	1.87	43	⇑iP	Pn	03 34 16.2	+0.4
UPA				eS	Sb	03 34 41.1	-0.3
SABA3	Sabanitas, Col	2.00	30	⇑eP	Pn	03 34 18.2	+0.6
SABA3				eS	Sn	03 34 43.7	+0.3
BCO2	Palmira	2.02	303	⇓iP	Pn	03 34 17.9	0.0
BCO2				iS	Sn	03 34 44.7	+0.8
BC3P	Paso Ancho	2.14	304	⇓eP	Pn	03 34 20.4	+0.7
BC3P				eS	Sn	03 34 46.4	-0.5
BRU2	Volcan	2.19	303	⇓eP	Pn	03 34 20.7	+0.4
BRU2				eS	Sn	03 34 48.5	+0.2
CDITO	Canoas	2.24	295	⇓eP	Pn	03 34 21.1	+0.2
CHPO	Chepo, Panama	2.29	47	⇑eP	Pn	03 34 23.1	+1.5
CHPO				eS	Sb	03 34 52.9	-0.8
CNI2	El Empalme, Bo	2.43	318	⇓eP	Pn	03 34 24.3	+0.8
CNTA3	Canitas, Panam	2.50	50	⇑eP	Pn	03 34 25.8	+1.4
CNTA3				iS	Sn	03 34 55.6	+0.1
BATAN	Batan	3.53	315	eP	Pn	03 34 39.8	+1.1
HDC	Heredia	4.03	306	eP	Pn	03 34 46.0	+0.4
JTS	Las Juntas de	4.87	303	eP	Pn	03 34 55.9	-1.2
UREC	San Jos de Ur	5.25	88	⇓eP	Pn	03 35 02.2	-0.1

---

*IDC **01** 04:01:32.6±3.9, 14°.37N×91°.98W, h0km, mb3.9/6, mbtmp3.9/8, ML3.5/2, MS3.3/3, Error ellipse: s-maj=113.3km s-min=36.2km az=26.0*
*MEX **01** 04:01:36.5±0.9, 13°.97N×92°.65W, h16km±101km, MD4.0*
*GCG **01** 04:01:37.6±1.4, 14°.34N×92°.60W, h77km±48km, MD4.2*

ISC 01 04:01:35.7±3.4**, 14°.11N**±0°.07×**92°.69W**±0°.04**, h15**km±22km**, n30, σ1^{s}30**/40**, mb4.0**/6**, MS3.2**/3**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
THIG		0.90	27	eP	Pb	04 01 52.5	-0.4
THIG				iS	Sb	04 02 06.2	+1.5
PATR	El Naranjo	1.10	24	eP	Pn	04 01 54.8	-1.9
PATR				eS	Sb	04 02 09.1	-1.7
SULM	Suchitepequez,	1.11	80	eP	Pb	04 01 56.8	+0.3

CHUJ	**Union Juarez**	**1.13**	**30**	*e*P	**Pn**	**04 01 55.7**	**-1.5**
CHUJ				*e*S	**Sb**	**04 02 11.2**	**-0.6**
PAVE	**Pavencul**	**1.19**	**24**	*e*P	**Pn**	**04 01 56.5**	**-1.5**
PAVE				*e*S	**Sb**	**04 02 12.3**	**-1.1**
STG3	**Santiaguito 3,**	**1.24**	**61**	*e*P	**Pn**	**04 01 57.8**	**-0.8**
PCIG		**1.67**	**342**	*e*P	**Pn**	**04 02 03.3**	**-1.1**
PCIG				*e*S	**Sn**	**04 02 24.2**	**-1.4**
FUG	**Fuego 3**	**1.82**	**79**	*e*P	**Pn**	**04 02 05.7**	**-0.9**
FUG				*e*S	**Sn**	**04 02 29.1**	**-0.4**
PCG	**Pacaya**	**2.04**	**82**	*e*P	**Pn**	**04 02 09.3**	**-0.3**
PCG				*e*S	**Sn**	**04 02 34.1**	**-0.9**
CCIG	**Comitan**	**2.23**	**14**	*e*P	**Pn**	**04 02 14.2**	**+2.0**
CCIG				*e*S	**Sn**	**04 02 40.9**	**+1.3**
NBG	**Las Nubes**	**2.32**	**78**	*e*P	**Pn**	**04 02 14.7**	**+1.1**
TGIG		**2.69**	**351**	*e*P	**Pn**	**04 02 19.4**	**+0.9**
TGIG				*e*S	**Sn**	**04 02 51.8**	**+0.9**
MRL	**Marmol**	**3.07**	**71**	*e*P	**Pn**	**04 02 26.9**	**+3.1**
NILT	**Santiago Nilte**	**3.07**	**323**	*e*P	**Pn**	**04 02 23.6**	**-0.1**
NILT				*i* S	**Sn**	**04 02 59.1**	**-1.1**
UXUV	**UXUV**	**3.49**	**336**	*e*P	**Pn**	**04 02 30.8**	**+1.4**
UXUV				*e*S	**Sn**	**04 03 11.6**	**+1.1**
CMIG	**Matias Romero**	**3.65**	**325**	Pn	**Pn**	**04 02 31.8**	**+0.2**
	3.2nm,0.3s,baz=162,slow=13,SNR=33						
CMIG				Sn	**Sn**	**04 03 16.9**	**+2.6**
	15nm,0.3s,baz=131,slow=11,SNR=7.7 12nm,0.3s						
CMIG	**Matias Romero**	**3.65**	**325**	*e*P	**Pn**	**04 02 31.7**	**+0.2**
CMIG				*e*S	**Sn**	**04 03 15.1**	**+0.7**
HUIG	**Huatulco**	**3.70**	**297**	*e*P	**Pn**	**04 02 31.4**	**-0.9**
HUIG				*e*		04 03 09.7	
NEUV	**Arroyo Zacate**	**4.67**	**321**	*e*P	**Pn**	**04 02 44.6**	**-1.1**
NEUV				*e*S	**Sn**	**04 03 40.7**	**+1.0**
TXAR	**Lajitas Array**	**18.25**	**328**	P	**P**	**04 05 50.1**	**+1.4**
	baz=152,slow=12,SNR=20 1.6nm,0.8s						
TKL	**Tuckaleechee C**	**22.91**	**19**	LR	LR	04 16 45.9	
	comp=Z,75nm,18.6s,baz=210,slow=41						
ANMO	**Albuquerque**	**24.19**	**331**	P	**P**	**04 06 51.6**	**-0.2**
	1.8nm,0.8s,baz=154,slow=12,SNR=6.7 1.8nm,0.8s						
SJG	**San Juan**	**25.79**	**78**	LR	LR	04 16 29.0	
	comp=Z,47nm,20.0s,baz=258,slow=36						
PDAR	**Pinedale Array**	**32.05**	**336**	P	**P**	**04 08 01.4**	**-0.7**
	0.5nm,0.8s,baz=135,slow=12,SNR=2.9 0.5nm,0.8s						
NVAR	**Mina Array Bea**	**33.17**	**322**	P	**P**	**04 08 13.7**	**+1.7**
	1.0nm,0.6s,baz=130,slow=8.3,SNR=11 1.0nm,0.6s						
SCHQ	**Schefferville**	**45.36**	**21**	LR	LR	04 31 48.3	
	comp=Z,62nm,19.0s,baz=335,slow=40						
YKA	**Yellowknife Ar**	**50.77**	**347**	P	**P**	**04 10 34.3**	**-0.6**
	3.3nm,0.7s,baz=153,slow=7.2,SNR=4.5 3.3nm,0.7s						
ILAR	**Eielson Array**	**62.48**	**337**	P	**P**	**04 11 57.8**	**-0.4**
	1.3nm,1.0s,baz=130,slow=7.2,SNR=7.2 1.3nm,1.0s						
EKA	**Eskdalemuir Ar**	**78.27**	**36**	P	P	04 13 30.5	-4.4
	1.4nm,0.7s,baz=278,slow=5.8,SNR=4.6 1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**145.67**	**340**	PKPbc	**PKPdf**	**04 21 13.3**	**-1.2**
	1.4nm,0.4s,baz=330,slow=3.3,SNR=5.3						

*IDC **01** 04:07:19.2±2.1, 17°.55S×178°.84W, h612km±19km, mb3.0/7, mbtmp3.9/8, Error ellipse: s-maj=94.3km s-min=18.6km az=152.0*

ISC 01 04:07:18.2±1.5, 17°.7S±0°.5×178°.7W±0°.3, h600km, n8, σ0§82/8, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.07**	**268**	P	**P**	**04 08 39.2**	**+1.4**
	26nm,0.8s,baz=100,slow=2.4,SNR=17						
CTA	**Charters Tower**	**33.19**	**260**	P	**P**	**04 13 07.2**	**0.0**
	1.5nm,0.4s,baz=100,slow=6.1,SNR=2.2 1.5nm,0.4s						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**04 13 50.1**	**-0.4**
	1.4nm,0.6s,baz=94,slow=13,SNR=3.1 1.4nm,0.6s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**04 14 36.1**	**-1.0**
	1.2nm,0.5s,baz=95,slow=7.3,SNR=55 1.2nm,0.5s						
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**04 14 38.6**	**+0.1**
	7.5nm,0.6s,baz=87,slow=8.6,SNR=85 7.5nm,0.6s						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**04 18 23.9**	**+0.1**
	0.4nm,0.7s,baz=230,slow=7.0,SNR=3.1 0.4nm,0.7s						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**04 18 53.7**	**-0.5**
	0.2nm,0.5s,baz=228,slow=4.6,SNR=1.7 0.2nm,0.5s						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**04 18 57.2**	**+0.1**
	0.5nm,0.7s,baz=222,slow=6.1,SNR=6.1 0.5nm,0.7s						

*ROM **01** 04:09:15.3±0.1, 42°.584N±0°.003×13°.352E±0°.005, h19km, ML3.1/53, Error ellipse: s-maj=0.3km s-min=0.1km az=245.0*

*PDG **01** 04:09:15.5±0.5, 42°.60N×13°.34E, h20km, ML3.5/12, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*

*PRU **01** 04:09:18.8±0.0, 42°.75N×13°.71E, h10km*

ISC 01 04:09:15.5±0.8, 42°.60N±0°.02×13°.32E±0°.02, h18km±2km, n129, σ1§41/165, 22C-43D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.03**	**17**	P	**Pg**	**04 09 19.0**	**+0.2**
SMA1				S	**Sg**	**04 09 21.1**	**0.0**
T1204	**Amatrice, Fraz**	**0.07**	**356**	P	**Pg**	**04 09 19.3**	**+0.2**
T1204				S	**Sg**	**04 09 22.2**	**+0.6**
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1201	**Domo (RI)**	**0.08**	**315**	P	**Pg**	**04 09 19.5**	**+0.5**
T1201				S	**Sg**	**04 09 22.6**	**+1.1**
CAMP	**Campotosto**	**0.09**	**137**	P	**Pg**	**04 09 19.1**	**-0.2**
CAMP				S	**Sg**	**04 09 21.8**	**0.0**
T1246	**Crognaleto (TE**	**0.13**	**99**	P	**Pg**	**04 09 19.4**	**-0.2**
T1246				S	**Sg**	**04 09 22.3**	**0.0**
T1243	**Rocca Santa Ma**	**0.13**	**45**	P	**Pg**	**04 09 19.6**	**0.0**
T1243				S	**Sg**	**04 09 22.8**	**+0.4**
T1247	**Pizzolo (AQ)**	**0.16**	**187**	P	**Pg**	**04 09 19.9**	**0.0**
T1247				S	**Sg**	**04 09 23.4**	**+0.4**
T1247				AML	AML		
	comp=N,57100μm,0.4s						
T1247				AML	AML		
	comp=E,38250μm,1.5s						
TERO	**Teramo**	**0.21**	**85**	⇓P	**Pb**	**04 09 20.3**	**-0.2**
TERO				S	**Sg**	**04 09 24.0**	**0.0**
TERO				AML	AML		
	comp=E,29650μm,0.3s						
TERO				AML	AML		
	comp=N,21500μm,0.7s						
TERO				AML	AML		
	comp=E,32350μm,0.3s						
TERO				AML	AML		
	comp=N,23250μm,0.7s						
LNSS	**Leonessa**	**0.21**	**270**	⇑P	**Pg**	**04 09 21.0**	**+0.3**
LNSS				S	**Sg**	**04 09 25.4**	**+1.2**
LNSS				AML	AML		
	comp=N,59700μm,0.4s						
LNSS				AML	AML		
	comp=E,35200μm,0.2s						
GIGS	**Gran Sasso**	**0.24**	**130**	P	**Pb**	**04 09 20.5**	**-0.6**
GIGS				S	**Sb**	**04 09 24.5**	**-0.4**
AQU	**L'Aquila**	**0.26**	**167**	⇑P	**Pg**	**04 09 20.9**	**-0.4**
AQU				AML	AML		
	comp=E,5175μm,0.4s						
AQU				AML	AML		
	comp=E,5410μm,0.4s						
AQU				AML	AML		
	comp=N,6725μm,0.3s						
AQU				AML	AML		
	comp=N,6915μm,0.3s						
T1241	**Roccafluvione,**	**0.27**	**17**	P	**Pg**	**04 09 21.6**	**+0.1**
T1241				S	**Sb**	**04 09 26.4**	**+0.6**
T1245	**Castelsantange**	**0.27**	**338**	P	**Pb**	**04 09 22.0**	**+0.1**
T1245				S	**Sb**	**04 09 26.8**	**+0.7**
T1245				AML	AML		
	comp=E,16400μm,1.3s						
T1245				AML	AML		
	comp=N,28600μm,1.3s						
T1245				AML	AML		
	comp=E,16900μm,1.3s						
T1245				AML	AML		
	comp=E,16400μm,1.2s						
T1245				AML	AML		
	comp=N,28600μm,1.3s						
T1245				AML	AML		
	comp=E,16950μm,1.2s						
T1245				AML	AML		
	comp=N,28550μm,1.3s						
T1245				AML	AML		
	comp=N,29050μm,1.3s						
T1245				AML	AML		
	comp=E,19000μm,1.1s						
MMO1	**Montemonaco**	**0.30**	**0**	P	**Pg**	**04 09 22.1**	**+0.1**
MMO1				S	**Sb**	**04 09 27.5**	**+0.7**
T1217	**Poggiodomo (PG**	**0.31**	**291**	P	**Pg**	**04 09 22.4**	**+0.2**
T1217				S	**Sb**	**04 09 28.2**	**+0.9**
T1211	**Morro Reatino**	**0.35**	**259**	⇓P	**Pg**	**04 09 23.1**	**+0.1**
T1211				S	**Sb**	**04 09 29.2**	**+0.6**
T1211				AML	AML		
	comp=E,10085μm,0.1s						
T1211				AML	AML		
	comp=N,12050μm,1.5s						
T1211				AML	AML		
	comp=E,10485μm,0.1s						
T1211				AML	AML		
	comp=E,10090μm,0.1s						
T1211				AML	AML		
	comp=N,12050μm,1.6s						
T1216	**Preci, Frazion**	**0.36**	**322**	AML	AML		
	comp=E,4895μm,0.3s						
T1216				AML	AML		
	comp=N,5965μm,0.8s						
T1216				AML	AML		
	comp=N,5960μm,0.7s						
T1216				AML	AML		
	comp=E,4990μm,0.2s						
T1216				AML	AML		
	comp=N,7800μm,0.2s						
FIAM	**Fiamignano**	**0.37**	**205**	P	**Pg**	**04 09 22.8**	**-0.5**
FIAM				S	**Sg**	**04 09 28.8**	**+0.3**
AM05	**Amandola Campo**	**0.37**	**3**	P	**Pg**	**04 09 23.5**	**+0.2**
AM05				S	**Sb**	**04 09 30.0**	**+0.8**
FAGN	**Fagnano**	**0.39**	**150**	⇓P	**Pg**	**04 09 22.9**	**-0.7**
FAGN				AML	AML		
	comp=E,10490μm,0.4s						
FAGN				AML	AML		
	comp=N,4840μm,0.3s						
T1215	**Vallo di Nera,**	**0.39**	**301**	AML	AML		
	comp=E,2285μm,0.8s						
T1215				AML	AML		
	comp=E,2400μm,0.7s						
T1215				AML	AML		
	comp=E,2290μm,0.8s						
T1215				AML	AML		
	comp=E,2395μm,0.7s						
T1215				AML	AML		
	comp=N,2285μm,0.6s						
T1215				AML	AML		
	comp=N,2410μm,0.6s						
T1215				AML	AML		
	comp=N,2282μm,0.6s						
T1215				AML	AML		
	comp=E,2395μm,0.7s						
T1256	**Bolognola (MC)**	**0.41**	**350**	P	**Pg**	**04 09 24.1**	**0.0**
T1256				S	**Sb**	**04 09 31.1**	**+0.8**
ARRO	**Arrone**	**0.41**	**267**	⇓P	**Pg**	**04 09 24.2**	**+0.2**
ARRO				AML	AML		
	comp=N,5415μm,1.1s						
ARRO				AML	AML		
	comp=E,4780μm,0.2s						
OFFI	**Offida**	**0.42**	**39**	P	**Pb**	**04 09 24.8**	**+0.3**
OFFI				AML	AML		
	comp=E,7075μm,0.5s						
OFFI				AML	AML		
	comp=N,7690μm,0.5s						
VCEL	**Villa Celiera**	**0.43**	**118**	P	**Pg**	**04 09 23.9**	**-0.6**
VCEL				S	**Sb**	**04 09 31.0**	**0.0**
GUMA	**Gualdo di Mace**	**0.46**	**1**	P	**Pb**	**04 09 25.1**	**0.0**
GUMA				S	**Sb**	**04 09 33.2**	**+1.5**
FDMO	**Fiordimonte**	**0.47**	**338**	S	**Sg**	**04 09 26.0**	**-5.4**
TRTR	**Tortoreto Alta**	**0.48**	**65**	⇓P	**Pb**	**04 09 25.7**	**+0.2**
TRTR				AML	AML		
	comp=E,7020μm,0.4s						
TRTR				AML	AML		
	comp=N,5855μm,1.0s						
CSP1	**Cessapalombo**	**0.50**	**350**	P	**Pg**	**04 09 25.5**	**-0.1**
CSP1				S	**Sb**	**04 09 33.9**	**+1.1**
T0110	**Collepietro**	**0.51**	**138**	⇓P	**Pg**	**04 09 24.8**	**-0.9**
T0110				AML	AML		
	comp=N,3395μm,0.4s						
T0110				AML	AML		
	comp=E,4025μm,0.5s						
CESX	**Cesi**	**0.55**	**271**	⇓P	**Pb**	**04 09 26.6**	**+0.1**
CESX				S	**Sb**	**04 09 35.0**	**+1.0**
CESX				AML	AML		
	comp=E,2735μm,0.3s						
CESX				AML	AML		
	comp=N,4120μm,0.3s						
PTQR	**Pietraquaria**	**0.58**	**174**	⇑P	**Pb**	**04 09 26.2**	**-1.0**
PTQR				AML	AML		
	comp=E,1110μm,0.3s						
PTQR				AML	AML		
	comp=N,1076μm,0.9s						
ASSB	**Assisi San Ben**	**0.66**	**312**	S	**Sb**	**04 09 30.0**	**-7.3**
SRES	**S.Oreste - Sor**	**0.70**	**239**	⇓P	**Pb**	**04 09 29.2**	**-0.1**
SRES				AML	AML		
	comp=E,1405μm,0.5s						
SRES				AML	AML		
	comp=N,1170μm,0.4s						
SNTG	**Esanatoglia**	**0.71**	**337**	S	**Sb**	**04 09 31.0**	**-7.8**
MTCE	**Montecelio**	**0.72**	**217**	⇓P	**Pb**	**04 09 29.4**	**-0.1**
MTCE				AML	AML		
	comp=E,2090μm,0.8s						
MTCE				AML	AML		
	comp=N,1580μm,0.4s						
VVLD	**Villa Vallelon**	**0.77**	**163**	⇑P	**Pb**	**04 09 29.8**	**-0.5**
VVLD				AML	AML		
	comp=E,1845μm,0.7s						
VVLD				AML	AML		
	comp=N,2275μm,0.6s						
RCAV	**Rocca di Cave**	**0.81**	**201**	P	**Pb**	**04 09 28.6**	**-2.5**
RCAV				S	**Sn**	**04 09 46.0**	**+2.4**
RCAV				AML	AML		
	comp=N,2405μm,0.4s						
RCAV				AML	AML		
	comp=E,2060μm,0.5s						
GUAR	**Guarcino**	**0.81**	**181**	⇓P	**Pg**	**04 09 31.4**	**+0.1**
GUAR				AML	AML		
	comp=E,1395μm,1.1s						
GUAR				AML	AML		
	comp=E,1390μm,1.1s						
GUAR				AML	AML		
	comp=N,1695μm,0.6s						
CAFR	**Castel Frentan**	**0.85**	**116**	⇑P	**Pb**	**04 09 31.1**	**-0.5**
CAFR				AML	AML		
	comp=E,830μm,1.6s						
CAFR				AML	AML		
	comp=N,789μm,0.6s						
LPEL	**Lama dei Pelig**	**0.85**	**131**	⇓P	**Pb**	**04 09 30.9**	**-0.7**
LPEL				AML	AML		
	comp=E,1240μm,0.5s						
LPEL				AML	AML		
	comp=N,1002μm,0.3s						
POFI	**Posta Fibreno**	**0.93**	**162**	⇑P	**Pn**	**04 09 33.7**	**0.0**
POFI				AML	AML		
	comp=N,649μm,0.7s						
POFI				AML	AML		
	comp=E,1685μm,0.6s						
MGAB	**Montegabbione**	**0.94**	**289**	⇑P	**Pb**	**04 09 33.6**	**+0.3**
MGAB				AML	AML		
	comp=E,2505μm,0.5s						
MGAB				AML	AML		
	comp=N,2660μm,1.2s						
MGAB				AML	AML		
	comp=E,2670μm,0.5s						
MGAB				AML	AML		
	comp=N,2550μm,1.2s						
VIVA	**Pratoni del Vi**	**0.95**	**206**	⇓P	**Pg**	**04 09 34.4**	**+0.5**
VIVA				AML	AML		
	comp=E,2720μm,0.4s						
VIVA				AML	AML		
	comp=N,3160μm,0.3s						
RDP	**Rocca di Papa**	**0.96**	**208**	⇓P	**Pg**	**04 09 34.4**	**+0.2**
RDP				AML	AML		
	comp=E,3255μm,0.5s						
RDP				AML	AML		
	comp=N,2680μm,0.5s						
LRP	**Arpino**	**0.98**	**168**	⇑P	**Pg**	**04 09 34.8**	**+0.3**
LRP				AML	AML		
	comp=E,526μm,0.5s						
LRP				AML	AML		
	comp=N,228μm,0.7s						
LAV9	**Lanuvio**	**1.03**	**207**	P	**Pb**	**04 09 34.5**	**-0.3**
LAV9				AML	AML		
	comp=E,2075μm,1.4s						
LAV9				AML	AML		
	comp=N,2095μm,0.5s						
LAV9				AML	AML		
	comp=N,2180μm,0.5s						
LAV9				AML	AML		
	comp=N,2095μm,0.5s						
LAV9				AML	AML		
	comp=E,2200μm,0.4s						
GIUL	**Giuliano Di Ro**	**1.05**	**183**	⇓P	**Pb**	**04 09 34.8**	**-0.2**
GIUL				AML	AML		
	comp=N,376μm,1.2s						
GIUL				AML	AML		
	comp=E,492μm,0.5s						
SACS	**San Casciano d**	**1.07**	**284**	⇓P	**Pn**	**04 09 35.9**	**+0.3**
SACS				AML	AML		
	comp=E,560μm,1.0s						
SACS				AML	AML		
	comp=N,482μm,0.7s						
SACS				AML	AML		
	comp=N,502μm,0.7s						
SACS				AML	AML		
	comp=E,532μm,1.0s						
RNI2	**Rionero Sannit**	**1.09**	**145**	⇑P	**Pg**	**04 09 36.3**	**-0.4**
RNI2				AML	AML		
	comp=E,626μm,0.8s						
RNI2				AML	AML		
	comp=E,628μm,0.9s						
RNI2				AML	AML		
	comp=N,792μm,0.7s						
RNI2				AML	AML		
	comp=N,776μm,0.7s						
TOLF	**Tolfa**	**1.12**	**242**	⇓P	**Pn**	**04 09 36.3**	**+0.1**
TOLF				AML	AML		
	comp=N,634μm,0.9s						
TOLF				AML	AML		
	comp=E,554μm,0.5s						
LATE	**Laterza**	**1.12**	**271**	P	**Pg**	**04 09 37.0**	**-0.2**
CERA	**Filignano**	**1.13**	**153**	⇑P	**Pb**	**04 09 36.5**	**0.0**
CERA				AML	AML		
	comp=E,754μm,1.6s						
CERA				AML	AML		
	comp=N,540μm,0.4s						
CERA				AML	AML		
	comp=E,754μm,1.6s						
CERA				AML	AML		
	comp=N,567μm,0.4s						
LATB	**Latina**	**1.14**	**194**	⇓P	**Pb**	**04 09 36.8**	**+0.1**
LATB				AML	AML		
	comp=E,128μm,0.9s						
LATB				AML	AML		
	comp=N,159μm,0.6s						
FRES	**Fresagrandinar**	**1.18**	**122**	⇑P	**Pg**	**04 09 38.1**	**-0.2**
FRES				AML	AML		
	comp=N,272μm,1.5s						
FRES				AML	AML		
	comp=E,336μm,0.6s						
MIDA	**Miranda**	**1.18**	**144**	P	**Pn**	**04 09 36.7**	**-0.5**
MIDA				AML	AML		
	comp=N,481μm,0.7s						
MIDA				AML	AML		
	comp=E,480μm,1.2s						
MIDA				AML	AML		
	comp=N,400μm,0.4s						
MIDA				AML	AML		
	comp=E,456μm,1.2s						
TRIV	**Trivento**	**1.24**	**132**	⇑P	**Pg**	**04 09 39.4**	**0.0**
TRIV				AML	AML		
	comp=E,47750μm,1.2s						
TRIV				AML	AML		
	comp=N,47700μm,1.2s						
TRIV				AML	AML		
	comp=N,443μm,1.4s						
TRIV				AML	AML		
	comp=E,476μm,1.2s						
SF01	**Poggio Pratacc**	**1.31**	**280**	⇓P	**Pn**	**04 09 39.4**	**+0.4**
VAGA	**Valle Agricola**	**1.37**	**150**	⇓P	**Pg**	**04 09 41.4**	**-0.5**
VAGA				AML	AML		
	comp=E,200μm,0.5s						
VAGA				AML	AML		
	comp=N,324μm,0.3s						
ARCI	**Arcidosso**	**1.39**	**281**	P	**Pg**	**04 09 41.9**	**-0.4**
ARCI				AML	AML		
	comp=N,107μm,0.9s						
ARCI				AML	AML		
	comp=E,107μm,0.9s						
BSSO	**Busso**	**1.42**	**138**	⇓P	**Pb**	**04 09 41.9**	**+0.4**
BSSO				AML	AML		
	comp=E,103μm,0.9s						
BSSO				AML	AML		
	comp=N,122μm,0.7s						
CIGN	**Sant'Elia a Pi**	**1.51**	**128**	P	**Pg**	**04 09 43.7**	**-0.9**
CIGN				AML	AML		
	comp=N,202μm,1.1s						
CIGN				AML	AML		
	comp=N,1076μm,0.9s						
MELA	**Melanico ??? S**	**1.61**	**123**	⇓P	**Pb**	**04 09 44.4**	**-0.3**
MELA				AML	AML		
	comp=E,456μm,1.5s						
MELA				AML	AML		
	comp=N,686μm,0.7s						
MAON	**Monte Argentar**	**1.63**	**265**	⇑P	**Pn**	**04 09 43.6**	**+0.3**
MAON				AML	AML		
	comp=N,86μm,0.5s						
MAON				AML	AML		
	comp=E,134μm,0.5s						
TREM	**Isole Tremiti**	**1.69**	**106**	⇑P	**Pb**	**04 09 45.6**	**-0.4**
TREM				AML	AML		
	comp=E,674μm,0.7s						
TREM				AML	AML		
	comp=N,834μm,1.1s						
FROS	**Frosini**	**1.70**	**292**	⇓P	**Pn**	**04 09 45.2**	**+0.9**
FROS				AML	AML		
	comp=E,164μm,1.3s						
FROS				AML	AML		
	comp=N,121μm,0.6s						
CASP	**Castiglione de**	**1.82**	**277**	P	**Pn**	**04 09 46.0**	**0.0**
CASP				AML	AML		
	comp=E,42μm,1.4s						
CASP				AML	AML		
	comp=N,55μm,1.0s						
TRIF	**Trifonti**	**1.85**	**287**	⇓P	**Pn**	**04 09 47.1**	**+0.7**
TRIF				AML	AML		
	comp=E,75μm,0.6s						
TRIF				AML	AML		
	comp=N,74μm,0.5s						
APRC	**Apricena**	**1.85**	**116**	⇑P	**Pb**	**04 09 48.7**	**-0.1**
APRC				S	**Sb**	**04 10 13.0**	**+1.3**
SGRT	**San Giovanni R**	**1.99**	**114**	⇓P	**Pn**	**04 09 48.1**	**-0.1**
SGRT				AML	AML		
	comp=E,292μm,0.8s						
SGRT				AML	AML		
	comp=N,260μm,0.6s						
SGTA	**Sant Agata di**	**2.12**	**133**	⇑P	**Pb**	**04 09 51.9**	**-1.4**
SGTA				AML	AML		
	comp=E,150μm,0.7s						
SGTA				AML	AML		
	comp=N,114μm,1.6s						
HVAR	**Hvar**	**2.37**	**75**	⇓P	**Pn**	**04 09 54.0**	**+0.6**
EQUI	**Equi**	**2.79**	**305**	P	**Pn**	**04 10 00.6**	**+1.4**
AMUR	**Altamura**	**2.98**	**124**	⇓P	**Pn**	**04 10 03.0**	**+1.1**
AMUR				AML	AML		
	comp=E,117μm,1.5s						
AMUR				AML	AML		
	comp=N,160μm,1.5s						
SRKY	**Kupres RS**	**3.16**	**61**	*e*Pn	**Pn**	**04 10 06.3**	**+1.9**
PGF	**Pioggiola**	**3.19**	**270**	⇓P	**Pn**	**04 10 06.4**	**+1.5**
CEY	**Cerknica**	**3.23**	**14**	*e*Pn	**Pn**	**04 10 06.3**	**+0.9**
STON	**Ston**	**3.23**	**84**	*e*Pn	**Pn**	**04 10 05.0**	**-0.3**
STON	**Ston**	**3.23**	**84**	⇓P	**Pn**	**04 10 05.0**	**-0.3**
STON				S	**Sn**	**04 10 44.0**	**+0.7**
STON				AML	AML		
	comp=E,54μm,0.4s						
STON				AML	AML		
	comp=N,53μm,0.4s						
MGRS	**Mrkonjic Grad**	**3.28**	**55**	*e*Pn	**Pn**	**04 10 07.4**	**+1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NOCI	Noci	3.34	122	⇓P	Pn	04 10 07.9	+1.1
PRIJ	Prijedor	3.41	45	*e*Pn	Pg	04 10 20.8	-0.1
ROVR	Rover Verones	3.45	333	⇓P	Pn	04 10 10.2	+1.8
CGRP	Cima Grappa	3.45	342	⇑P	Pn	04 10 09.5	+0.9
VARN	Col Varnada, M	3.50	346	P	Pn	04 10 09.5	+0.5
BLY	Banja Luka	3.53	51	*e*Pn	Pn	04 10 11.0	+1.7
BLY	Banja Luka	3.53	51	⇑P	Pn	04 10 11.3	+2.0
A051A	Mrakovica	3.54	46	*e*Pn	Pn	04 10 10.5	+0.9
TAR1	Taranto	3.62	124	⇓P	Pn	04 10 12.1	+1.4
CTI	Castel Tesino	3.65	341	⇓P	Pn	04 10 12.6	+1.4
TREB	Trebinje	3.71	87	*e*Pn	Pn	04 10 12.6	+0.7
LUSI	Trento, Gardas	3.77	334	⇓P	Pn	04 10 13.9	+1.2
HCY	Herceg Novi	3.82	91	*e*Pn	Pn	04 10 14.3	+0.9
HCY	Herceg Novi	3.82	91	⇓*i*Pn	Pn	04 10 14.5	+1.1
HCY				*i* Sn	Sn	04 10 58.5	+0.6
BRY	Bratogost	3.85	84	*e*Pn	Pn	04 10 14.6	+0.6
BRY	Bratogost	3.85	84	⇑*i*Pn	Pn	04 10 15.2	+1.2
BRY				*i* Sn	Sn	04 10 59.1	+0.3
ZONE	Zone	3.91	325	⇑P	Pn	04 10 16.6	+1.9
A052A	Srbac	3.93	49	*e*Pn	Pn	04 10 15.1	+0.3
OBKA	Obir	4.00	12	*e*Pn	Pn	04 10 15.8	-0.2
KOSI	Kohlern	4.10	341	⇑P	Pn	04 10 19.1	+1.7
CEME	Cevo	4.13	89	⇓*i*Pn	Pn	04 10 19.1	+1.4
CEME				*i* Sn	Sn	04 11 05.9	+0.3
BUM	Brajici-Budva	4.13	92	⇓*i*Pn	Pn	04 10 19.1	+1.4
BUM				*i* Sn	Sn	04 11 06.0	+0.4
UPM	Unac-Piva	4.14	80	*e*Pn	Pn	04 10 19.3	+1.3
UPM				*i* Sn	Sn	04 11 06.1	0.0
ABTA	Abfaltersbach	4.18	352	*e*Pn	Pn	04 10 19.1	+0.6
	comp=N,2.6nm,0.4s,SNR=7.8						
SOKA	Soboth	4.25	16	*i* Pn	Pn	04 10 20.4	+1.0
	comp=N,0.3nm,0.2s						
VSL	Villasalto	4.31	225	⇓P	Pn	04 10 21.4	+1.4
DRME	Dracevica, Mon	4.36	94	*e*Pn	Pn	04 10 22.2	+1.4
DRME	Dracevica, Mon	4.36	94	*e*Pn	Pn	04 10 22.2	+1.4
DRME				*i* Sn	Sn	04 11 11.4	+0.3
HAPS	Han Pijesak,Bl	4.36	68	*e*Pn	Pn	04 10 23.3	+2.4
TTG	Podgorica	4.39	90	⇓*i*Pn	Pn	04 10 22.7	+1.5
TTG				*i* Sn	Sn	04 11 12.0	+0.2
ULC	Ulcinj	4.44	96	⇑*i*Pn	Pn	04 10 23.1	+1.2
ULC				*i* Sn	Sn	04 11 13.2	+0.1
PLE	Pljevlja	4.51	79	⇓*i*Pn	Pn	04 10 24.3	+1.3
PLE				*i* Sn	Sn	04 11 14.8	-0.2
ROSI	Rosskopf	4.53	343	⇓P	Pn	04 10 25.0	+1.6
RUDO	Rudo	4.54	75	*e*Pn	Pn	04 10 24.4	+1.1
KOME	Kolasin	4.57	85	⇓*i*Pn	Pn	04 10 25.1	+1.4
KOME				*i* Sn	Sn	04 11 16.2	-0.2
BBLS	Lazići	4.62	72	*e*Pn	Pn	04 10 26.2	+1.8
FETA	Feichten	4.79	338	*e*Pn	Pn	04 10 29.2	+2.4
	comp=N,0.8nm,0.3s						
WTTA	Wattenberg	4.81	346	*i* Pn	Pn	04 10 30.1	+2.9
	comp=N,0.5nm,0.2s						
IVA	Berane	4.85	85	⇓*i*Pn	Pn	04 10 28.9	+1.3
IVA				*i* Sn	Sn	04 11 22.9	-0.3
SQTA	Sankt Quirin	4.86	343	*e*Pn	Pn	04 10 30.2	+2.5
	comp=N,0.9nm,0.2s						
WATA	Walderalm	4.89	346	*i* Pn	Pn	04 10 30.7	+2.5
	comp=N,0.8nm,0.3s						
PVY	Plav	4.90	88	⇓*i*Pn	Pn	04 10 29.7	+1.4
PVY				*i* Sn	Sn	04 11 24.2	-0.4
DIVS	Divibare	5.09	71	*e*Pn	Pn	04 10 32.4	+1.5
RETA	Reutte	5.21	340	*i* Pn	Pn	04 10 35.2	+2.6
	comp=N,0.9nm,0.3s						
MOA	Molln	5.29	7	*i* Pn	Pn	04 10 36.2	+2.7
	comp=N,0.8nm,0.2s						
FRGS	Fruska Gora	5.34	59	*e*Pn	Pn	04 10 34.8	+0.5
CONA	Conrad Observa	5.62	18	*i* Pn	Pn	04 10 38.7	+0.5
	comp=N,0.3nm,0.2s						
CKRC	Cesky Krumlov	6.25	6	*e*SN	Sn	04 11 55.2	-2.6
KHC	Kasperske Hory	6.53	1	*e*PN	Pn	04 10 52.2	+1.6
KHC				*e*SN	Sn	04 12 02.1	-2.5

*IDC **01** 04:11:13.6±1.2, 0°.90N×126°.41E, h0km, mb3.8/6, mbtmp3.8/6, MS2.4/2, Error ellipse: s-maj=137.4km s-min=17.7km az=67.0*

ISC 01 04:11:19.2±1.2, **0°.8N**±0°.6×**12°6E**±°, **h39**km, **n8**, σ**0s94**/6, **mb3.9**/6, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	6.24	353	LR	LR	04 15 31.4	
	comp=Z,39nm,19.8s,baz=156,slow=42						
WRA	Warramunga Arr	22.08	160	P	P	04 16 09.9	-1.1
	1.7nm,0.6s,baz=339,slow=11,SNR=20						
	1.7nm,0.6s						
ASAR	Alice Springs	25.43	164	P	P	04 16 44.6	+1.1
	1.4nm,0.5s,baz=337,slow=7.8,SNR=14						
	1.4nm,0.5s						
CMAR	Chiang Mai Arr	32.13	305	LR	LR	04 33 01.7	
	comp=Z,5.8nm,18.1s,baz=210,slow=41						
STKA	Stephens Creek	35.59	157	P	P	04 18 13.2	+0.1
	1.5nm,0.7s,baz=323,slow=10,SNR=2.4						
	1.5nm,0.7s						
SONM	Songino Array	49.92	342	P	P	04 20 09.4	+0.3
	0.2nm,0.4s,baz=134,slow=6.2,SNR=2.0						
	0.2nm,0.4s						
MKAR	Makanchi Array	59.74	326	P	P	04 21 19.8	-0.4
	0.5nm,0.5s,baz=122,slow=8.5,SNR=5.9						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	63.99	328	P	P	04 21 48.4	-0.2
	1.1nm,0.7s,baz=127,slow=6.2,SNR=12						
	1.1nm,0.7s						

*PRU **01** 04:12:10.5±0.0, 42°.84N×13°.95E, h10km*

ROM 01 04:11:24.4±0.1, **42°.731N**±0°.003×**13°.184E**±0°.004, **h10**km, **ML1.9**/12, **5C-4D, Error ellipse: s-maj=0.3km s-min=0.1km az=31.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1201	Domo (RI)	0.09	146	P	Pg	04 11 27.4	+0.4
T1201				S	Sg	04 11 29.4	+0.5
T1204	Amatrice, Fraz	0.11	119	P	Pg	04 11 27.8	+0.4
T1204				S	Sg	04 11 29.9	+0.4
T1204				AML	AML		
	comp=E,1786µm,1.0s						
T1204				AML	AML		
	comp=N,984µm,0.3s						
T1204				AML	AML		
	comp=E,1790µm,1.0s						
T1204				AML	AML		
	comp=N,986µm,0.3s						
T1204				AML	AML		
	comp=E,2745µm,0.3s						
T1204				AML	AML		
	comp=N,1785µm,0.2s						
T1204				AML	AML		
	comp=E,1680µm,0.9s						
T1245	Castelsantange	0.12	1	P	Pg	04 11 27.9	+0.3
T1245				S	Sg	04 11 30.2	+0.4
T1245				AML	AML		
	comp=E,3210µm,0.3s						
T1245				AML	AML		
	comp=N,5050µm,0.3s						
T1245				AML	AML		
	comp=E,3165µm,0.6s						
T1245				AML	AML		
	comp=E,3210µm,0.3s						
T1245				AML	AML		
	comp=N,5050µm,0.3s						
T1245				AML	AML		
	comp=N,4740µm,0.3s						
T1245				AML	AML		
	comp=E,8050µm,0.3s						
T1245				AML	AML		
	comp=N,11750µm,0.4s						
T1245				AML	AML		
	comp=E,7940µm,0.7s						
T1245				AML	AML		
	comp=N,12400µm,0.3s						
T1245				AML	AML		
	comp=N,4739µm,0.3s						
SMA1	SAN MARTINO	0.15	132	P	Pb	04 11 28.7	-0.7
SMA1				S	Sg	04 11 30.9	+0.6
SMA1				AML	AML		
	comp=E,1855µm,0.4s						
SMA1				AML	AML		
	comp=N,1965µm,0.4s						
SMA1				AML	AML		
	comp=E,1865µm,1.3s						
SMA1				AML	AML		
	comp=N,1980µm,0.6s						
SMA1				AML	AML		
	comp=N,1965µm,0.4s						
LNSS	Leonessa	0.17	220	P	Pg	04 11 28.7	+0.6
LNSS				S	Sg	04 11 31.4	+0.6
LNSS				AML	AML		
	comp=N,1390µm,0.2s						
LNSS				AML	AML		
	comp=E,541µm,1.3s						
LNSS				AML	AML		
	comp=N,1395µm,0.2s						
LNSS				AML	AML		
	comp=E,1425µm,0.3s						
LNSS				AML	AML		
	comp=N,2345µm,1.1s						
LNSS				AML	AML		
	comp=N,1392µm,0.2s						
T1217	Poggiodomo (PG	0.19	264	P	Pg	04 11 29.1	+0.6
T1217				S	Sg	04 11 32.0	+0.7
T1217				AML	AML		
	comp=E,388µm,0.4s						
T1217				AML	AML		
	comp=N,727µm,1.6s						
T1217				AML	AML		
	comp=E,3090µm,0.3s						
T1217				AML	AML		
	comp=N,5045µm,0.3s						
T1217				AML	AML		
	comp=E,3065µm,0.3s						
T1217				AML	AML		
	comp=N,4915µm,0.3s						
MMO1	Montemonaco	0.20	32	P	Pg	04 11 29.4	+0.7
MMO1				S	Sg	04 11 32.4	+0.7
T1243	Rocca Santa Ma	0.20	100	P	Pg	04 11 29.1	+0.4
T1243				S	Sg	04 11 32.6	+1.0
T1216	Preci, Frazion	0.20	323	P	Pb	04 11 30.0	-0.2
T1216				S	Sg	04 11 32.9	+1.2
T1216				AML	AML		
	comp=E,14535µm,0.4s						
T1216				AML	AML		
	comp=N,7480µm,0.3s						
T1216				AML	AML		
	comp=E,14540µm,0.4s						
T1216				AML	AML		
	comp=N,13050µm,0.9s						
T1241	Roccafluvione,	0.22	55	P	Pg	04 11 29.8	+0.7
T1241				S	Sg	04 11 33.7	+1.5
T1241				AML	AML		
	comp=E,488µm,0.7s						
T1241				AML	AML		
	comp=N,500µm,0.6s						
T1241				AML	AML		
	comp=E,2235µm,0.3s						
T1241				AML	AML		
	comp=N,1775µm,0.7s						
T1241				AML	AML		
	comp=N,487µm,0.7s						
RM33	Pellescritta (	0.22	174	P	Pg	04 11 29.6	+0.5
RM33				S	Sg	04 11 33.4	+1.1
RM33				AML	AML		
	comp=E,403µm,1.5s						
RM33				AML	AML		
	comp=N,615µm,0.2s						
RM33				AML	AML		
	comp=E,409µm,0.2s						
RM33				AML	AML		
	comp=E,403µm,1.4s						
RM33				AML	AML		
	comp=N,616µm,0.2s						
RM33				AML	AML		
	comp=N,592µm,0.3s						
RM33				AML	AML		
	comp=E,820µm,1.1s						
RM33				AML	AML		
	comp=N,654µm,0.3s						
RM33				AML	AML		
	comp=E,722µm,1.1s						
RM33				AML	AML		
	comp=N,622µm,0.3s						
RM33				AML	AML		
	comp=E,409µm,0.2s						
RM33				AML	AML		
	comp=N,591µm,0.3s						
T1215	Vallo di Nera,	0.24	287	P	Pb	04 11 30.2	-0.7
T1215				S	Sg	04 11 33.9	+1.1
T1215				AML	AML		
	comp=E,1184µm,0.5s						
T1215				AML	AML		
	comp=N,1700µm,0.3s						
CAMP	Campotosto	0.26	140	P	Pg	04 11 30.2	+0.5
CAMP				S	Sb	04 11 34.6	-1.2
CAMP				AML	AML		
	comp=E,152µm,0.3s						
CAMP				AML	AML		
	comp=N,238µm,0.6s						
CAMP				AML	AML		
	comp=E,1004µm,1.3s						
CAMP				AML	AML		
	comp=N,659µm,0.3s						
CAMP				AML	AML		
	comp=N,223µm,0.5s						
AM05	Amandola Campo	0.28	27	⇓P	Pb	04 11 32.1	+0.7
AM05				AML	AML		
	comp=E,2930µm,1.1s						
AM05				AML	AML		
	comp=E,12250µm,1.1s						
AM05				AML	AML		
	comp=N,490µm,0.9s						
AM05				AML	AML		
	comp=E,2935µm,1.1s						
AM05				AML	AML		
	comp=N,1755µm,0.8s						
AM05				AML	AML		
	comp=N,182µm,0.1s						
T1256	Bolognola (MC)	0.28	6	P	Pg	04 11 29.9	-0.2
T1256				AML	AML		
	comp=E,15500µm,1.5s						
T1256				AML	AML		
	comp=N,23500µm,1.4s						
T1256				AML	AML		
	comp=E,15900µm,1.5s						
T1256				AML	AML		
	comp=N,22650µm,1.4s						
T1256				AML	AML		
	comp=N,23550µm,1.4s						
T1247	Pizzolo (AQ)	0.30	164	P	Pb	04 11 31.9	0.0
T1247				AML	AML		
	comp=E,786µm,1.1s						
T1247				AML	AML		
	comp=N,946µm,1.0s						
FDMO	Fiordimonte	0.31	347	P	Pb	04 11 31.5	-0.6
FDMO				AML	AML		
FDMO				AML	AML		
T1211	Morro Reatino	0.31	231	P	Pg	04 11 31.4	+0.7
T1211				S	Sb	04 11 36.3	-1.0
T1211				AML	AML		
	comp=E,1292µm,1.6s						
T1211				AML	AML		
	comp=N,1490µm,0.4s						
T1211				AML	AML		
	comp=N,341µm,0.3s						
TERO	Teramo	0.33	109	P	Pg	04 11 31.5	+0.5
TERO				S	Sb	04 11 36.6	-1.1
TERO				AML	AML		
	comp=E,328µm,0.5s						
TERO				AML	AML		
	comp=N,234µm,0.9s						
TERO				AML	AML		
	comp=E,1130µm,0.3s						
TERO				AML	AML		
	comp=N,738µm,0.7s						
TERO				AML	AML		
	comp=E,334µm,2.1s						
ARRO	Arrone	0.34	244	⇓P	Pb	04 11 32.0	-0.6
ARRO				AML	AML		
	comp=E,186µm,0.2s						
ARRO				AML	AML		
	comp=N,166µm,0.6s						
ARRO				AML	AML		
	comp=E,994µm,0.6s						
ARRO				AML	AML		
	comp=N,755µm,0.5s						
ARRO				AML	AML		
	comp=N,169µm,1.7s						
GUMA	Gualdo di Mace	0.35	19	⇓P	Pg	04 11 29.7	-1.7
GIGS	Gran Sasso	0.40	135	P	Pg	04 11 33.0	+0.6
GIGS				AML	AML		
	comp=E,222µm,0.8s						
GIGS				AML	AML		
	comp=N,162µm,0.3s						
OFFI	Offida	0.42	61	⇑P	Pb	04 11 34.2	+0.3
OFFI				AML	AML		
	comp=E,2055µm,0.5s						
OFFI				AML	AML		
	comp=N,1870µm,1.4s						
CESX	Cesi	0.46	255	S	Sb	04 11 42.0	+0.5
FIAM	Fiamignano	0.47	186	⇑P	Pg	04 11 34.1	+0.6
FIAM				AML	AML		
	comp=E,320µm,0.5s						
FIAM				AML	AML		
	comp=N,281µm,0.5s						
FIAM				AML	AML		
	comp=N,105µm,0.4s						
ASSB	Assisi San Ben	0.50	309	⇑P	Pg	04 11 34.5	+0.4
ASSB				AML	AML		
	comp=E,1600µm,1.0s						
ASSB				AML	AML		
	comp=N,2200µm,0.3s						
ASSB				AML	AML		
	comp=E,1810µm,0.5s						
SNTG	Esanatoglia	0.55	341	P	Pb	04 11 36.0	-0.2
SNTG				AML	AML		
	comp=E,1002µm,0.6s						
SNTG				AML	AML		
	comp=E,1040µm,0.6s						
SNTG				AML	AML		
	comp=N,1090µm,0.5s						
SNTG				AML	AML		
	comp=E,984µm,0.6s						
SNTG				AML	AML		
	comp=N,1030µm,0.5s						
VCEL	Villa Celiera	0.59	125	S	Sb	04 11 47.0	+1.7
ATCC	AVT- Casa Cast	0.60	319	⇑P	Pg	04 11 36.5	+0.3
ATCC				AML	AML		
	comp=E,1875µm,1.1s						
ATCC				AML	AML		
	comp=N,1820µm,0.4s						
ATCC				AML	AML		
	comp=E,1880µm,1.1s						
ATCC				AML	AML		
	comp=N,1815µm,0.4s						
T0110	Collepietro	0.67	139	⇓P	Pb	04 11 38.2	0.0
T0110				AML	AML		
	comp=E,511µm,0.6s						
T0110				AML	AML		
	comp=N,456µm,0.4s						
ARVD	Arcevia	0.79	347	S	Sn	04 11 53.0	-0.4
MGAB	Montegabbione	0.81	283	⇑P	Pn	04 11 42.8	+0.9
LATB	Latina	1.25	188	S	Sb	04 12 03.0	-1.1
KHC	Kasperske Hory	6.41	2	*e*SN	Sg	04 14 51.6	+1.6

*IDC **01** 04:24:25.8±1.2, 14°.34N×92°.09W, h0km, mb4.1/8, mbtmp4.1/11, ML3.4/3, MS3.8/39, Error ellipse: s-maj=46.5km s-min=16.4km az=45.0*

*MEX **01** 04:24:27.8±0.7, 13°.95N×92°.65W, h3km±30km, MD4.4*

*SNET **01** 04:24:28.1±2.4, 14°.00N×92°.53W, h10km, ML4.5*

*NEIC **01** 04:24:28.7±2.0, 14°.14N±0°.05×92°.66W±0°.04, h10km±1km, mb4.5/89, Md4.3/44(MEX), Error ellipse: s-maj=8.0km s-min=6.0km az=174.0*

*GCMT **01** 04:24:29.7±0.5, 14°.07N±0°.03×92°.84W±0°.05, h28km, MW4.8/56, Moment Tensor Solution. s34,c37; s56,c73; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.69±.12; $M_{\theta\theta}$-1.29±.08; $M_{\phi\phi}$-0.39±.08; $M_{r\theta}$0.44±.10; $M_{\theta\phi}$0.46±.05; $M_{\phi r}$-0.22±.11; Best double couple: $M_0$1.66000×10^{16} NP1:ϕ_s114.00000°, δ54.00000°, λ91.00000°. NP2: ϕ_s292.00000°, δ36.00000°, λ89.00000°. Principal axes: T 1.7640, Plg81.0000°, Azm28.0000°; N -0.2070, Plg1.0000°, Azm293.0000°; P -1.5560, Plg9.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 04:24:29.2±2.0, **14°.01N**±0°.05×**92°.67W**±0°.03, **h28**km±14km, **n214**, σ**1s53**/216, **mb4.4**/42, **MS3.8**/37, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.97	24		Pn	04 24 45.2	-1.9
THIG					Sb	04 24 58.2	-1.8
THIG		0.97	24	*e*P	Pn	04 24 45.2	-1.9
THIG				*e*S	Sb	04 24 58.2	-1.8
RTAL	Retalhuleu	1.07	61		Pn	04 24 47.4	-1.1
RTAL				Sn	Sn	04 25 02.6	+0.2
PATR	El Naranjo	1.18	21	*e*P	Pn	04 24 47.8	-2.3
PATR				*i* S	Sn	04 25 03.3	-2.1
CHUJ	Union Juarez	1.21	27	*e*P	Pn	04 24 48.5	-2.0
CHUJ				*e*S	Sn	04 25 04.1	-2.0
PAVE	Pavencul	1.27	22	*e*P	Pn	04 24 49.3	-2.1
PAVE				*e*S	Sn	04 25 06.0	-1.6
HUEH	Huehuetenango	1.72	41		Pn	04 24 57.7	+0.1
PCIG		1.77	343		Pn	04 24 56.2	-1.9
PCIG					Sn	04 25 16.6	-2.9
PCIG		1.77	343	*e*P	Pn	04 24 56.2	-1.9
PCIG				*i* S	Sn	04 25 16.6	-2.9
CCIG	Comitan	2.32	13		Pn	04 25 06.7	+1.0
CCIG	Comitan	2.32	13	*e*P	Pn	04 25 06.8	+1.0
CCIG				*e*S	Sn	04 25 33.8	+0.4
TGIG		2.79	351		Pn	04 25 12.0	-0.1
TGIG					Sn	04 25 45.1	+0.3
TGIG		2.79	351	*e*P	Pn	04 25 12.0	-0.1
TGIG				*e*S	Sn	04 25 45.1	+0.3
SLOZ	Alcaldia de Sa	2.80	89	*e*P	Pn	04 25 12.0	-0.3
NUBE	Las Nubes	2.81	92	*e*P	Pn	04 25 11.0	-1.4
NUBE				*e*S	Sn	04 25 42.6	-2.9
CEVE	Cerro Verde	2.96	93	*e*P	Pn	04 25 14.6	0.0
CEVE				*e*S	Sn	04 25 47.6	-1.9
NILT	Santiago Nilte	3.16	324	*e*P	Pn	04 25 15.5	-1.7
NILT				*e*S	Sn	04 25 51.9	-2.1
MTO3	Montecristo	3.23	83		Pn	04 25 17.9	-0.5
ESQI	Esquipulas	3.27	80		Pn	04 25 18.7	-0.1
SNET	Serv Nac Est T	3.35	95		Pn	04 25 19.5	-0.4
SJTE	Alcalda de S	3.58	96	*e*P	Pn	04 25 22.9	-0.1
UXUV	UXUV	3.58	337	*e*P	Pn	04 25 23.6	+0.6
UXUV				*e*S	Sn	04 26 05.7	+1.2
PAVA	Las Pavas	3.63	94	*e*P	Pn	04 25 23.5	-0.3
COEG	Centro de Oper	3.70	96	*e*P	Pn	04 25 24.8	+0.1
CMIG	Matias Romero	3.73	325	Pn	Pn	04 25 24.6	-0.5
	7.1nm,0.3s,baz=164,slow=12,SNR=39						
CMIG				Sn	Sn	04 26 12.3	+4.1
	32nm,0.3s,baz=16,slow=19,SNR=6.8						
CMIG				LR	LR	04 27 00.4	
	comp=Z,727nm,18.3s,baz=138,slow=40						
	18nm,0.3s						
CMIG	Matias Romero	3.73	325		Pn	04 25 24.6	-0.5
CMIG					Sn	04 26 08.2	0.0
CMIG	Matias Romero	3.73	325	*e*P	Pn	04 25 24.6	-0.5
CMIG				*e*S	Sn	04 26 08.2	0.0
HUIG	Huatulco	3.76	298		Pn	04 25 23.9	-1.5
HUIG					Sn	04 26 03.4	-5.4
HUIG	Huatulco	3.76	298	*e*P	Pn	04 25 23.9	-1.5
HUIG				*e*S	Sn	04 26 03.4	-5.4
SCLA	Alcaldia de Sa	3.84	94	*e*P	Pn	04 25 26.2	-0.4
PETF	Flores	3.96	43		Pn	04 25 29.0	+0.9
PQSS	Presa 15 de Se	4.01	95	*e*P	Pn	04 25 28.2	-0.6
COEB	Comit de Eme	4.05	97	*e*P	Pn	04 25 29.2	-0.4
COEB				*e*S	Sn	04 26 14.1	-2.0
TUIG	Tuzandepetl	4.34	337	*e*	Pn	04 25 31.3	-2.2
TUIG				*e*		04 26 27.0	
PEIG	Puerto Escondi	4.76	295		Pn	04 25 38.2	-1.0
PEIG					Sn	04 26 30.6	-3.0
PEIG	Puerto Escondi	4.76	295	*e*P	Pn	04 25 38.2	-1.0
PEIG				*e*S	Sn	04 26 30.6	-3.0
NEUV	Arroyo Zacate	4.76	321	*e*P	Pn	04 25 37.5	-1.7
NEUV				*e*S	Sn	04 26 35.2	+1.7
OXIG	Oaxaca	4.96	308		Pn	04 25 42.8	+0.6
OXIG					Sn	04 26 39.6	+0.8
VHO	Vista Hermosa	4.96	308	*e*P	Pn	04 25 42.8	+0.6
VHO				*e*S	Sn	04 26 39.6	+0.8
PMUV	Sontecomapan	5.09	333	*e*	Pb	04 25 52.4	-5.3
PMUV				*e*		04 26 40.6	
TGUH	Tegucigalpa,Un	5.24	89		Pn	04 25 48.1	+2.3
YOIG	Yosondua	5.49	302		Pn	04 25 51.0	+1.5
YOIG					Sn	04 26 50.7	-1.2
YOIG	Yosondua	5.49	302	*e*P	Pn	04 25 51.0	+1.5
YOIG				*e*S	Sn	04 26 50.7	-1.2
CRIN	San Cristobal	5.62	103		Pn	04 25 54.6	+3.6
PNIG	Pinotepa	5.78	295		Pn	04 25 53.0	-0.2
PNIG					Sn	04 26 53.8	-4.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PNIG	Pinotepa	5.78	295	eP	Pn	04 25 53.0	-0.2
PNIG				eS	Sn	04 26 53.8	-4.9
TOIG	Toxpalan	5.86	314		Pn	04 25 54.9	+0.4
TOIG					Sn	04 27 01.0	+0.2
TOIG	Toxpalan	5.86	314	eP	Pn	04 25 54.9	+0.4
TOIG				eS	Sn	04 27 01.0	+0.2
TXIG	Tlaxiaco	5.88	304		Pn	04 25 55.6	+0.8
TXIG					Sn	04 27 03.7	+2.2
TXIG	Tlaxiaco	5.88	304	eP	Pn	04 25 55.6	+0.8
TXIG				eS	Sn	04 27 03.7	+2.2
CNGN	Cerro Negro	6.00	104		Pn	04 25 58.4	+2.1
TPIG	Tehuac#an	6.29	315		Pn	04 26 02.2	+1.9
TPIG					Sn	04 27 13.2	+1.8
TPIG	Tehuac#an	6.29	315	eP	Pn	04 26 02.2	+1.9
TPIG				eS	Sn	04 27 13.2	+1.8
FTIG	Fresnillo de T	6.53	307		Pn	04 26 05.6	+2.0
FTIG					Sn	04 27 17.2	-0.2
FTIG	Fresnillo de T	6.53	307	eP	Pn	04 26 05.6	+2.0
FTIG				eS	Sn	04 27 17.2	-0.2
JAUV	Jalcomulco	6.64	324	eP	Pn	04 26 02.7	-2.4
JAUV				i S	Sn	04 27 19.8	-0.1
MATN	Matagalpa	6.65	98		Pn	04 26 05.1	-0.1
TLIG	Tlapa	6.69	303		Pn	04 26 07.2	+1.4
LVIG	Laguna Verde	6.72	328	e	Pn	04 26 00.4	-5.8
LVIG				e		04 27 15.6	
BOAB	BOACO BROADBAN	6.99	102		Pn	04 26 07.2	-2.7
TEIG	Tepich	7.47	34	Pn	Pn	04 26 15.8	-0.6
PPM	Popocatepetl	7.61	312	eP	Pn	04 26 20.7	+1.9
PPM				eS	Sb	04 28 01.8	-10
CXUV	Coxquihui	7.73	323	eP	Pn	04 26 17.7	-2.3
CXUV				eS	Sn	04 27 48.3	+1.6
ORTG	Ortega, Santa	7.92	116		Pn	04 26 24.5	+1.8
DUNO	Dulce Nombre,	8.03	118		Pn	04 26 25.8	+1.6
RIMA	Rio Macho	9.59	115		Pn	04 26 48.5	+2.8
SRBA	San Rafael, Bu	10.28	117		Pn	04 26 56.9	+1.8
833A	Chaparral WMA,	15.56	337	Pn	Pn	04 28 07.3	+0.5
833A				IAmb	IAmb	04 28 14.3	
	comp=Z,22nm,1.1s						
HPIG		17.69	319		Pn	04 28 34.0	+0.1
TX31	Lajitas Ar. Si	18.34	328	P	P	04 28 41.7	0.0
TX31				IAmb	IAmb	04 28 50.1	
	comp=Z,34nm,1.0s						
TX32	Lajitas Array	18.34	328	P	Pn	04 28 42.3	+0.6
TXAR	Lajitas Array	18.34	328	P	Pn	04 28 43.6	+1.9
	comp=Z,0.1nm,0.3s,baz=149,slow=7.3,SNR=36						
	comp=Z,5.9nm,1.0s						
TXAR	Lajitas Array	18.34	328	P	P	04 28 42.0	+0.3
LPIG	La Paz	19.44	304	LR	LR	04 36 51.7	
	comp=Z,177nm,21.0s,baz=126,slow=38						
Z47A	Carrollton	19.56	12	P	P	04 28 51.9	-2.9
ABTX	Abilene, Hawle	19.59	342	P	P	04 28 54.5	-0.8
WLAR	White Oak Lake	19.59	359		P	04 28 55.3	0.0
WLAR				IAmb	IAmb	04 29 02.1	
	comp=Z,32nm,1.1s						
LRAL	Lakeview Retre	19.63	14	P	P	04 28 56.4	+0.6
Y45A	Yeager Farm, C	19.97	8	P	P	04 28 59.7	+0.3
Y45A				IAmb	IAmb	04 29 46.9	
	comp=Z,36nm,1.2s						
ROSC	El Rosal	20.25	115	P	P	04 29 00.0	-2.9
	comp=Z,0.5nm,0.3s,baz=118,slow=23,SNR=1.6						
	comp=Z,2.0nm,0.3s						
ROSC	El Rosal	20.25	115	P	Pn	04 29 05.3	+0.3
ROSC				IAmb	IAmb	04 29 07.0	
	comp=Z,21nm,1.1s						
MIAR	Mount Ida	20.46	358	P	P	04 29 05.1	+0.4
MIAR				IAmb	IAmb	04 29 11.5	
	comp=Z,41nm,1.2s						
OXF	Oxford	20.62	8	P	P	04 29 06.8	+0.3
OXF				IAmb	IAmb	04 29 13.5	
	comp=Z,39nm,1.2s						
X37A	Clayton	20.64	354	P	P	04 29 07.6	+1.0
X37A				IAmb	IAmb	04 29 15.7	
	comp=Z,32nm,1.2s						
PORT	Chimborazo Vol	20.64	137	P	Pn	04 29 10.4	+0.6
UALR	University of	20.68	1	P	P	04 29 07.6	+0.5
UALR				IAmb	IAmb	04 29 38.5	
	comp=Z,34nm,1.1s						
CLNB	Carlsbad	20.86	332	P	P	04 29 09.9	+0.7
RUSC	La Rusia	20.89	111	P	P	04 29 12.2	+2.1
RUSC				IAmb	IAmb	04 29 24.1	
	comp=Z,15nm,0.9s						
HTMS	Hat Mesa	20.93	333	P	P	04 29 10.5	+0.6
CLN7	Carlsbad 7	20.96	333	P	P	04 29 10.2	0.0
GDL2	Guadalupe Moun	21.03	331	P	P	04 29 11.0	-0.1
GOGA	Godfrey	21.05	22	P	P	04 29 11.1	0.0
Y52A	Lilburn	21.25	20	P	P	04 29 14.4	+1.1
Y52A				IAmb	IAmb	04 29 34.8	
	comp=Z,16nm,0.9s						
W45A	Hickory Valley	21.29	8	P	P	04 29 14.3	+0.6
FNO	Franklin	21.58	349		P	04 29 16.7	-0.1
MSTX	Muleshoe	21.88	337	P	P	04 29 20.8	+0.6
MSTX				IAmb	IAmb	04 29 29.2	
	comp=Z,21nm,1.2s						
OK025	Westminster Rd	21.89	350		P	04 29 18.8	-1.3
TUL1	Leonard	21.99	353	P	P	04 29 19.6	-1.6
TUL1				IAmb	IAmb	04 29 52.8	
	comp=Z,12nm,0.9s						
LCAR	Lake Charles	22.01	3	P	P	04 29 21.3	-0.1
BOSC	San Juan Bosco	22.10	139	P	P	04 29 24.9	+2.3
OK034	N. Norfolk Rd.	22.21	351		P	04 29 22.6	-0.9
OK034				IAmb	IAmb	04 29 24.3	
	comp=Z,20nm,1.1s						
HHAR	Hobbs	22.21	357	P	P	04 29 24.1	+0.5
AMTX	Amarillo	22.32	340	P	P	04 29 25.2	+0.4
AMTX				IAmb	IAmb	04 29 27.7	
	comp=Z,21nm,0.9s						
QUOK	Quay	22.36	351	IAmb	IAmb	04 29 25.3	
	comp=Z,15nm,0.9s						
QUOK					P	04 29 25.9	+0.6
U38A	Gravette	22.39	356	P	P	04 29 24.9	-0.6
U38A				IAmb	IAmb	04 29 43.4	
	comp=Z,19nm,1.5s						
CPCT	Cooper Cave	22.57	18	P	P	04 29 27.7	+0.2
OK044	Pawnee Station	22.57	351		P	04 29 25.3	-2.2
OK044				IAmb	IAmb	04 29 28.8	
	comp=Z,18nm,1.0s						
OK046	Pawnee Station	22.62	351	P	P	04 29 26.6	-1.3
OK046				IAmb	IAmb	04 29 28.0	
	comp=Z,17nm,0.9s						
CLTN	Cedars of Leba	22.71	13	P	P	04 29 27.3	-1.6
CLTN				IAmb	IAmb	04 29 28.7	
	comp=Z,12nm,1.0s						
ELIS	Ellis County	22.78	346	P	P	04 29 29.0	-0.7
ELIS				IAmb	IAmb	04 29 30.9	
	comp=Z,31nm,1.1s						
TKL	Tuckaleechee C	22.99	19	P	P	04 29 27.7	-4.1
	comp=Z,1.4nm,0.5s,baz=273,slow=12,SNR=1.1						
TKL				LR	LR	04 39 59.6	
	comp=Z,219nm,18.5s,baz=198,slow=42						
	comp=Z,1.4nm,0.5s						
121A	Cookes Peak, D	23.03	326	P	P	04 29 32.4	0.0
121A				IAmb	IAmb	04 29 49.0	
	comp=Z,16nm,1.0s						
319A	Douglas	23.05	321	P	P	04 29 32.0	-0.6
319A				IAmb	IAmb	04 29 56.0	
	comp=Z,18nm,1.1s						
T35A	Sooner Cattle	23.07	352		P	04 29 31.3	-1.3
T35A				IAmb	IAmb	04 29 32.9	
	comp=Z,12nm,1.0s						
NOKA	Waynoka	23.22	347		P	04 29 33.5	-0.6
NOKA				IAmb	IAmb	04 29 35.1	
	comp=Z,31nm,1.1s						
OK032	Salt Plains WL	23.23	349		P	04 29 33.0	-1.2
OK032				IAmb	IAmb	04 29 34.0	
	comp=Z,15nm,0.9s						
V53A	Saluda	23.32	21	P	P	04 29 34.6	-0.5
V53A				IAmb	IAmb	04 30 00.8	
	comp=Z,15nm,1.1s						
T47A	Sharon Grove	23.42	11	P	P	04 29 34.7	-1.4
T47A				IAmb	IAmb	04 29 36.0	
	comp=Z,14nm,0.9s						
CRNM	Carthage	23.60	330	P	P	04 29 38.2	+0.1
BNM	Barren Site	23.71	330	P	P	04 29 38.9	-0.3
SBM	South Baldy	23.84	329	P	P	04 29 39.3	-1.3
LENM	Lemitar	23.89	330	P	P	04 29 40.0	-0.9
ANMO	Albuquerque	24.28	332	P	P	04 29 46.2	+1.7
	comp=Z,4.6nm,1.0s,baz=145,slow=13,SNR=14						
	comp=Z,4.6nm,1.0s						
ANMO	Albuquerque	24.28	332	P	P	04 29 45.4	+0.9
TUC	Tucson	24.61	321	P	P	04 29 48.2	+0.8
WCI	Wyandotte Cave	24.78	12	P	P	04 29 46.5	-2.2
WCI				IAmb	IAmb	04 29 50.2	
	comp=Z,11nm,0.8s						
R32A	Long Quarter,	24.90	349	P	P	04 29 49.3	-0.6
OLIL	Olney	24.96	8	P	P	04 29 48.4	-1.9
T25A	Trinidad	25.31	338	P	P	04 29 54.4	+0.6
ATAH	Atahualpa	25.34	145	LR	LR	04 38 33.9	
	comp=Z,172nm,18.5s,baz=320,slow=34						
SJG	San Juan	25.80	77	LR	LR	04 39 55.1	
	comp=Z,213nm,21.3s,baz=258,slow=37						
SDCO	Great Sand Dun	26.25	337	P	P	04 30 03.1	+0.6
S22A	4UR Ranch, Cre	26.79	335	P	P	04 30 08.7	+1.4
S22A				IAmb	IAmb	04 30 21.2	
	comp=Z,12nm,1.1s						
MVCO	Mesa Verde	27.08	331	P	P	04 30 10.7	+0.8
KNB	Kanab	29.13	325	P	P	04 30 27.4	-0.7
V12A	Nelson	29.41	321	P	P	04 30 30.6	+0.1
CCUT	Cedar City	29.81	326	P	P	04 30 34.1	-0.2
P17A	Butcher Ranch,	29.94	331	P	P	04 30 35.5	+0.2
P17A				IAmb	IAmb	04 30 47.4	
	comp=Z,5.9nm,1.1s						
NNA	Nana	30.22	148	LR	LR	04 40 37.8	
	comp=Z,109nm,19.3s,baz=320,slow=32						
RDMU	Red Mountain	30.31	334	P	P	04 30 38.6	0.0
RDMU				IAmb	IAmb	04 30 42.2	
	comp=Z,6.4nm,1.1s						
PSUT	Pine Spring	30.79	326	P	P	04 30 42.5	-0.4
SPR3	Spring Creek 3	31.39	326	P	P	04 30 48.7	+0.5
SPR3				IAmb	IAmb	04 30 53.7	
	comp=Z,8.7nm,1.5s						
TCUT	Toone Canyon	31.56	332	P	P	04 30 50.1	+0.5
HWUT	Hardware Ranch	32.03	333	P	P	04 30 52.8	-0.8
HWUT				IAmb	IAmb	04 30 58.2	
	comp=Z,5.2nm,1.1s						
PD31	Pinedale Array	32.15	336	P	P	04 30 54.9	+0.2
PDAR	Pinedale Array	32.15	336	P	P	04 30 55.1	+0.4
	comp=Z,1.5nm,0.9s,baz=145,slow=8.1,SNR=7.7						
	comp=Z,1.5nm,0.9s						
HVU	Hansel Valley	32.71	332	P	P	04 30 59.6	0.0
HVU				IAmb	IAmb	04 31 11.9	
	comp=Z,5.4nm,1.0s						
SADO	Sadowa	32.75	18	LR	LR	04 45 60.0	
	comp=Z,307nm,18.1s,baz=201,slow=40						
ELK	Elko	33.13	328	LR	LR	04 46 01.5	
	comp=Z,206nm,18.8s,baz=152,slow=39						
REDW	Red Top Meadow	33.16	335	P	P	04 31 04.5	+0.8
SNOW	Snow King Moun	33.21	336	P	P	04 31 04.8	+0.8
NVAR	Mina Array Bea	33.26	322	P	P	04 31 06.1	+1.6
	comp=Z,3.3nm,0.8s,baz=135,slow=9.0,SNR=24						
NVAR				PcP	PcP	04 33 46.8	+0.2
	comp=Z,0.4nm,0.7s,baz=132,slow=3.8,SNR=3.3						
	comp=Z,3.3nm,0.8s						
NVAR	Mina Array Bea	33.26	322	P	P	04 31 05.5	+1.0
LOHW	Long Hollow	33.27	336	P	P	04 31 05.5	+0.9
LOHW				IAmb	IAmb	04 31 06.5	
	comp=Z,7.6nm,1.0s						
MOOW	Moose Ponds	33.44	336	P	P	04 31 07.5	+1.4
MOOW				IAmb	IAmb	04 31 08.8	
	comp=Z,5.9nm,1.1s						
FXWY	Fox Creek	33.46	335	P	P	04 31 06.4	+0.2
IMW	Indian Meadow	33.64	336	P	P	04 31 08.0	+0.1
MDND	Maddock	34.23	352	P	P	04 31 11.8	-0.8
YMR	Madison River	34.30	337	P	P	04 31 14.0	+0.5
YMR				IAmb	IAmb	04 31 15.9	
	comp=Z,8.7nm,1.0s						
HLID	Hailey	34.86	332	P	P	04 31 20.0	+1.7
HLID				IAmb	IAmb	04 31 30.8	
	comp=Z,5.7nm,1.0s						
MCMT	McKenzie Canyo	35.18	335	P	P	04 31 22.8	+1.6
DLMT	Dillon	35.52	336	P	P	04 31 24.2	+0.3
LRM	Limekiln Ridge	35.84	336	P	P	04 31 28.0	+1.2
WVOR	Wild Horse Val	36.12	327	P	P	04 31 30.1	+0.9
WVOR				IAmb	IAmb	04 31 39.8	
	comp=Z,8.1nm,1.2s						
ULM	Lac du Bonnet	36.24	357	LR	LR	04 47 43.2	
	comp=Z,73nm,19.2s,baz=333,slow=39						
J08A	Circle Bar Ran	36.69	328	P	P	04 31 35.0	+1.1
J08A				IAmb	IAmb	04 31 36.3	
	comp=Z,9.7nm,1.1s						
PLID	Pearl Lake	36.76	332	P	P	04 31 34.5	-0.2
PLID				IAmb	IAmb	04 31 46.1	
	comp=Z,8.7nm,1.1s						
MSO	Missoula	37.26	336	P	P	04 31 38.9	+0.2
YBH	Yreka Blue Hor	37.96	322	LR	LR	04 48 35.5	
	comp=Z,161nm,18.0s,baz=152,slow=38						
F10A	Beach Ranch, E	37.99	332	P	P	04 31 46.2	+1.3
LPAZ	La Paz	38.65	140	LR	LR	04 46 22.7	
	comp=Z,75nm,19.9s,baz=299,slow=34						
NEW	Newport	39.70	334	LR	LR	04 50 50.9	
	comp=Z,151nm,18.6s,baz=130,slow=40						
C09A	Chrisman Ranch	39.84	333	P	P	04 32 01.2	+0.9
C09A				IAmb	IAmb	04 32 04.3	
	comp=Z,8.5nm,1.1s						
MDP	Montagnes des	40.39	99	LR	LR	04 50 31.3	
	comp=Z,102nm,18.7s,baz=268,slow=39						
SIV	San Ignacio	43.17	133	P	P	04 32 27.7	-0.2
	comp=Z,2.6nm,0.9s,baz=311,slow=12,SNR=11						
SIV				LR	LR	04 49 35.5	
	comp=Z,129nm,18.2s,baz=277,slow=35						
	comp=Z,2.6nm,0.9s						
LVC	Limon Verde	43.20	147	LR	LR	04 50 34.6	
	comp=Z,71nm,18.2s,baz=314,slow=36						
LLLB	Lillooet	43.52	333	P	P	04 32 30.7	+0.4
LLLB				IAmb	IAmb	04 32 34.1	
	comp=Z,6.6nm,1.0s						
RPN	Rapa Nui	43.98	202	LR	LR	04 46 09.1	
	comp=Z,102nm,21.1s,baz=28,slow=29						
SCHQ	Schefferville	45.44	21	LR	LR	04 52 35.0	
	comp=Z,245nm,19.1s,baz=195,slow=38						
WAPA	Wapiti River	45.98	339	P	P	04 32 49.6	-0.4
BBB	Bella Bella	47.44	331	LR	LR	04 56 30.5	
	comp=Z,96nm,19.0s,baz=119,slow=41						
YKA	Yellowknife Ar	50.87	347	P	P	04 33 26.9	-0.5
	comp=Z,8.0nm,0.8s,baz=151,slow=7.8,SNR=7.3						
	comp=Z,8.0nm,0.8s						
DLBC	Dease Lake	52.38	336	LR	LR	05 00 38.9	
	comp=Z,113nm,19.4s,baz=148,slow=42						
DLBC	Dease Lake	52.38	336	P	P	04 33 40.1	+1.2
DLBC				IAmb	IAmb	04 33 43.9	
	comp=Z,8.9nm,1.1s						
FRB	Frobisher Bay	52.45	13	LR	LR	04 57 42.9	
	comp=Z,169nm,18.1s,baz=182,slow=38						
CPUP	Villa Florida	52.81	139	LR	LR	04 55 42.0	
	comp=Z,62nm,19.4s,baz=34,slow=36						
RCBR	Riachuelo	59.67	105	LR	LR	05 00 52.8	
	comp=Z,92nm,21.6s,baz=91,slow=37						
SFJD	Kangerlussuaq	59.70	18	LR	LR	05 00 55.7	
	comp=Z,151nm,18.5s,baz=226,slow=37						
INK	Inuvik	60.25	344	LR	LR	05 04 51.5	
	comp=Z,96nm,18.2s,baz=294,slow=40						
INK	Inuvik	60.25	344	P	P	04 34 35.0	+0.3
RES	Resolute Bay	60.68	359	LR	LR	05 02 41.3	
	comp=Z,53nm,19.6s,baz=336,slow=38						
J26L	Joseph Creek	61.19	337	P	P	04 34 41.2	-0.1
J26L				IAmb	IAmb	04 34 42.9	
	comp=Z,5.2nm,1.1s						
IL31		62.58	337	P	P	04 34 51.4	+0.9
ILAR	Eielson Array	62.58	337	P	P	04 34 50.7	+0.2
	comp=Z,3.5nm,1.0s,baz=130,slow=4.7,SNR=15						
ILAR				LR	LR	05 04 48.9	
	comp=Z,88nm,18.7s,baz=110,slow=39						
	comp=Z,3.5nm,1.0s						
ILAR	Eielson Array	62.58	337	P	P	04 34 51.3	+0.8
RND	Reindeer	62.75	335	P	P	04 34 52.2	+0.4
H24K	Noodor Dome	63.44	338	P	P	04 34 57.5	+1.2
I23K	Minto, Yukon-K	63.69	337	P	P	04 34 58.6	+0.7
MLY	Manley	64.17	336	P	P	04 35 01.8	+0.6
PPT	Papeete	64.32	242	LR	LR	04 57 25.1	
	comp=Z,51nm,18.4s,baz=60,slow=30						
BORG	Borgarnes	69.48	26	LR	LR	05 04 36.7	
	comp=Z,18nm,21.1s,baz=252,slow=35						
JMIC	Jan Mayen	74.95	20	LR	LR	05 09 51.1	
	comp=Z,96nm,18.2s,baz=233,slow=37						
SPITS	Spitsbergen Ar	80.21	11	LR	LR	05 15 33.0	
	comp=Z,176nm,18.0s,baz=250,slow=38						
ESDC	Sonseca Array	80.22	52	P	P	04 36 34.1	-3.5
	comp=Z,1.1nm,0.9s,baz=296,slow=6.4,SNR=7.9						
	comp=Z,1.1nm,0.9s						
SHEM	Shemya Is, Ala	80.93	322	LR	LR	05 12 09.0	
	comp=Z,25nm,18.8s,baz=100,slow=35						
MDT	Midelt	80.94	58	LR	LR	05 09 04.3	
	comp=Z,46nm,18.4s,baz=276,slow=33						
NOA	NORSAR Array B	84.44	28	LR	LR	05 13 38.5	
	comp=Z,20nm,20.4s,baz=300,slow=35						
HFS	Hagfors	85.91	29	LR	LR	05 14 32.8	
	comp=Z,18nm,18.3s,baz=257,slow=35						
DAVOX	Davos/Dischmat	88.29	42	LR	LR	05 11 13.9	
	comp=Z,41nm,21.9s,baz=263,slow=32						
GERES	GERESS Array B	90.01	39	LR	LR	05 16 14.2	
	comp=Z,46nm,20.0s,baz=263,slow=35						
FINES	FINESS Array B	90.76	25	LR	LR	05 18 42.5	
	comp=Z,29nm,18.2s,baz=294,slow=36						
VRAC	Vranov	91.59	38	LR	LR	05 17 55.9	
	comp=Z,35nm,19.2s,baz=302,slow=35						
AKASG	Malin Array Be	98.07	33	LR	LR	05 23 34.7	
	comp=Z,39nm,19.7s,baz=277,slow=36						
CMAR	Chiang Mai Arr	145.77	340	PKPbc	PKPdf	04 44 06.0	-0.2
	comp=Z,2.5nm,0.5s,baz=335,slow=4.1,SNR=14						

---

*SNET **01** 04:30:07.8±0.9, 12°.27N×87°.62W, h23km±6km, ML2.7*
*INET **01** 04:30:08.0±0.5, 12°.22N×87°.42W, h25km±4km, MW3.0*
ISC 01 04:30:03.4±2.2**, 12°.1N**±0°.1×**87°.53W**±0°.07**, h14**km±13km**,**
n14, σ0s.85/19, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.73	40	eP	Pn	04 30 20.2	+0.9
TELN	Telica	0.82	56	eP	Pn	04 30 21.3	+0.6
CNGN	Cerro Negro	0.89	66	eP	Pg	04 30 20.6	0.0
MOMN	Momotombo	1.00	75	eP	Pn	04 30 23.8	+0.7
CNCH	Conchagua	1.17	345	eP	Pg	04 30 26.4	+0.3
CNCH				eS	Sn	04 30 41.2	-0.1
CNCH				IAML		04 30 42.8	
	comp=Z,508nm,0.2s						
LCND	La Caada	1.21	343	eP	Pg	04 30 26.9	0.0
LCND				eS	Sb	04 30 41.7	-0.1
LCND				IAML		04 30 44.9	
	comp=Z,188nm,0.3s						
MGAN	Managua	1.25	90	eP	Pn	04 30 27.2	+0.7
HUEN		1.34	81	eP	Pn	04 30 28.6	+0.9
MATN	Matagalpa	1.75	63	eP	Pn	04 30 33.8	+0.4
PQSS	Presa 15 de Se	1.79	326	eP	Pb	04 30 35.5	-0.5
PQSS				eS	Sn	04 30 56.4	0.0
TGUH	Tegucigalpa,Un	1.92	7	eP	Pn	04 30 37.1	+1.3
TGUH	Tegucigalpa,Un	1.92	7	eP	Pn	04 30 36.9	+1.0
SCLA	Alcaldia de Sa	1.94	323	eP	Pb	04 30 37.8	-0.9
SCLA				eS	Sb	04 31 01.4	-1.4
SJTE	Alcalda de S	2.06	316	eP	Pn	04 30 39.0	+1.4
SJTE				eS	Sn	04 31 02.5	-0.6
SJTE				IAML		04 31 06.5	
	comp=Z,22nm,0.2s						

MAN 01 04:47:39.0, 15°.96N×119°.97E, h30km, mb4.0, ML2.8, MS2.4, Luzon

---

*GCG **01** 05:04:17.7±2.1, 13°.99N×93°.08W, h50km±332km, MD3.8*
*MEX **01** 05:04:23.0±0.8, 14°.00N×92°.55W, h11km±213km, MD4.0*
ISC 01 05:04:18.1±2.0**, 14°.08N**±0°.08×**92°.78W**±0°.05**, h7**km±12km**,**
n15, σ1s.47/25, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.96	31	eP	Pn	05 04 38.2	+0.2
THIG				eS	Sn	05 04 52.3	+0.5
PATR	El Naranjo	1.16	27	eP	Pg	05 04 41.2	+0.9
PATR				eS	Sb	05 04 55.2	-0.6
CHUJ	Union Juarez	1.20	33	eP	Pg	05 04 42.0	+0.9
CHUJ				eS	Sb	05 04 56.0	-1.0
SULM	Suchitepequez,	1.20	79	eP	Pg	05 04 43.1	+2.0
PAVE	Pavencul	1.25	28	eP	Pg	05 04 42.8	+0.7
PAVE				eS	Sb	05 04 57.8	-0.7
STG3	Santiaguito 3,	1.33	62	eP	Pg	05 04 44.4	+0.8
PCIG		1.67	345	eP	Pb	05 04 50.2	+1.1
PCIG				eS	Sg	05 05 12.7	+1.0
FUG	Fuego 3	1.92	79	eP	Pb	05 04 52.1	-1.4
FUG				eS	Sg	05 05 19.3	-0.4
PCG	Pacaya	2.13	81	eP	Pn	05 04 54.9	+0.6
CCIG	Comitan	2.27	16	eP	Pb	05 04 59.0	-0.6
CCIG				eS	Sb	05 05 26.3	-1.6
NBG	Las Nubes	2.41	78	eP	Pb	05 05 01.5	-0.5
NBG				eS	Sg	05 05 33.7	-1.9
TGIG		2.70	353	eP	Pb	05 05 05.8	-1.0
TGIG				eS	Sb	05 05 38.6	-1.5
UXUV	UXUV	3.48	338	eP	Pb	05 05 17.4	-2.6
UXUV				eS	Sn	05 05 57.1	+3.2
CMIG	Matias Romero	3.61	326	e	Pn	05 05 14.5	0.0
CMIG				e		05 06 00.7	
NEUV	Arroyo Zacate	4.63	322	e	Pb	05 05 37.4	-2.3
NEUV				e		05 06 29.7	

MAN 01 05:20:42.0, 9°.39N×125°.57E, h32km, mb3.8, ML2.5, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.40	348	⇑iP	Pn	05 20 52.1	+0.6
SCPH				i S	Sn	05 20 58.3	+0.3

ROM 01 05:42:50.4±0.0**, 42°.747N**±0°.002×**13°.204E**±0°.002**,**
h10km**, ML2.7**/21**, 11C-14D, Error ellipse: s-maj=0.2km s-min=0.1km az=310.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1204	Amatrice, Fraz	0.11	131	P	Pg	05 42 53.9	+0.6
T1204				S	Sg	05 42 56.2	+0.8
T1204				AML	AML		
	comp=E,3140µm,0.2s						
T1204				AML	AML		
	comp=N,2630µm,0.2s						
T1204				AML	AML		
	comp=E,3900µm,0.6s						
T1204				AML	AML		
	comp=E,3904µm,0.6s						
T1204				AML	AML		
	comp=N,3350µm,0.6s						
T1204				AML	AML		
	comp=N,3340µm,0.6s						
T1204				AML	AML		
	comp=E,3908µm,0.6s						
T1245	Castelsantange	0.11	354	⇑P	Pg	05 42 53.8	+0.4
T1245				AML	AML		
	comp=E,16050µm,0.2s						
T1245				AML	AML		
	comp=N,19200µm,0.7s						
T1245				AML	AML		
	comp=N,19150µm,0.7s						
T1245				AML	AML		
	comp=N,17550µm,0.7s						
T1245				AML	AML		
	comp=E,14150µm,0.2s						
T1245				AML	AML		
	comp=N,19200µm,0.7s						
T1245				AML	AML		
	comp=E,16050µm,0.2s						
SMA1	SAN MARTINO	0.15	140	⇓P	Pg	05 42 54.5	+0.7
SMA1				S	Sg	05 42 57.2	+0.9
SMA1				AML	AML		
	comp=E,1420µm,1.2s						
SMA1				AML	AML		
	comp=N,1545µm,0.6s						
SMA1				AML	AML		
	comp=E,3055µm,1.1s						
SMA1				AML	AML		
	comp=N,2560µm,0.6s						
MMO1	Montemonaco	0.18	31	⇓P	Pg	05 42 54.8	+0.5
MMO1				S	Sg	05 42 58.1	+1.1
T1243	Rocca Santa Ma	0.19	106	P	Pg	05 42 55.0	+0.5
T1243				S	Sg	05 42 58.1	+0.8
LNSS	Leonessa	0.19	220	P	Pg	05 42 55.1	+0.6
LNSS				S	Sg	05 42 58.6	+1.3
LNSS				AML	AML		
	comp=E,1290µm,0.7s						
LNSS				AML	AML		
	comp=N,2625µm,0.7s						
T1216	Preci, Frazion	0.20	317	⇑P	Pg	05 42 55.1	+0.5
T1216				AML	AML		
	comp=E,21750µm,0.8s						
T1216				AML	AML		
	comp=E,21750µm,0.8s						
T1216				AML	AML		
	comp=N,19450µm,1.1s						
T1216				AML	AML		
	comp=E,21800µm,0.8s						
T1216				AML	AML		
	comp=N,19450µm,1.1s						
T1241	Roccafluvione,	0.20	57	⇓P	Pg	05 42 55.3	+0.6
T1241				S	Sg	05 42 58.7	+1.1

T1241				AML	AML	
	comp=E,3865µm,0.7s					
T1241				AML	AML	
	comp=N,2570µm,1.4s					
T1241				AML	AML	
	comp=E,4670µm,0.6s					
T1241				AML	AML	
	comp=N,3995µm,0.8s					
T1241				AML	AML	
	comp=E,4675µm,0.6s					
T1241				AML	AML	
	comp=N,3990µm,0.8s					
T1217	**Poggiodomo (PG**	**0.20**	**260**	P	Pg	05 42 55.3 +0.5
T1217				S	Sg	05 42 58.8 +1.1
T1217				AML	AML	
	comp=E,3095µm,0.7s					
T1217				AML	AML	
	comp=N,3075µm,0.5s					
T1217				AML	AML	
	comp=E,3030µm,0.7s					
T1217				AML	AML	
	comp=N,3075µm,0.6s					
T1217				AML	AML	
	comp=N,3155µm,1.6s					
T1217				AML	AML	
	comp=E,3035µm,0.7s					
T1217				AML	AML	
	comp=N,3135µm,1.6s					
T1217				AML	AML	
	comp=E,3040µm,0.7s					
T1217				AML	AML	
	comp=N,3075µm,1.6s					
T1217				AML	AML	
	comp=N,3160µm,1.6s					
RM33	**Pellescritta (**	**0.24**	**178**	⇓P	Pg	05 42 55.9 +0.6
RM33				S	Sg	05 42 60.0 +1.3
RM33				AML	AML	
	comp=E,1073µm,0.2s					
RM33				AML	AML	
	comp=E,959µm,1.4s					
RM33				AML	AML	
	comp=N,973µm,0.7s					
RM33				AML	AML	
	comp=E,1345µm,0.2s					
RM33				AML	AML	
	comp=E,1358µm,0.2s					
RM33				AML	AML	
	comp=N,970µm,0.7s					
RM33				AML	AML	
	comp=N,1007µm,1.1s					
T1215	**Vallo di Nera,**	**0.25**	**283**	⇓P	Pg	05 42 56.1 +0.5
T1215				AML	AML	
	comp=E,1905µm,0.7s					
T1215				AML	AML	
	comp=N,2000µm,0.5s					
T1215				AML	AML	
	comp=E,1890µm,0.4s					
T1215				AML	AML	
	comp=N,1820µm,0.4s					
T1215				AML	AML	
	comp=E,2710µm,0.7s					
T1215				AML	AML	
	comp=N,1940µm,0.5s					
T1215				AML	AML	
	comp=E,2725µm,0.7s					
T1215				AML	AML	
	comp=N,1937µm,0.5s					
T1215				AML	AML	
	comp=E,2625µm,0.7s					
AM05	**Amandola Campo**	**0.26**	**25**	P	Pb	05 42 56.4 -0.7
AM05				S	Sb	05 43 00.7 -0.8
AM05				AML	AML	
	comp=E,3305µm,0.5s					
AM05				AML	AML	
	comp=N,736µm,0.1s					
AM05				AML	AML	
	comp=E,11700µm,0.1s					
AM05				AML	AML	
	comp=N,736µm,0.1s					
AM05				AML	AML	
	comp=E,3300µm,0.5s					
AM05				AML	AML	
	comp=N,2750µm,0.7s					
T1256	**Bolognola (MC)**	**0.26**	**4**	⇓P	Pg	05 42 56.4 +0.6
T1256				AML	AML	
	comp=E,39200µm,0.7s					
T1256				AML	AML	
	comp=N,34450µm,0.6s					
T1256				AML	AML	
	comp=N,34100µm,0.6s					
T1256				AML	AML	
	comp=E,40450µm,1.0s					
T1256				AML	AML	
	comp=N,34450µm,0.6s					
CAMP	**Campotosto**	**0.26**	**144**	⇑P	Pg	05 42 56.2 +0.5
CAMP				AML	AML	
	comp=E,988µm,0.4s					
CAMP				AML	AML	
	comp=N,1035µm,0.7s					
CAMP				AML	AML	
	comp=E,1012µm,1.3s					
CAMP				AML	AML	
	comp=N,1069µm,0.7s					
FDMO	**Fiordimonte**	**0.30**	**343**	P	Pg	05 42 56.3 -0.2
FDMO				AML	AML	
	comp=E,28950µm,0.8s					
FDMO				AML	AML	
	comp=N,30150µm,0.4s					
T1247	**Pizzolo (AQ)**	**0.31**	**167**	⇑P	Pg	05 42 57.3 +0.5
T1247				AML	AML	
	comp=E,600µm,0.4s					
T1247				AML	AML	
	comp=N,1070µm,1.1s					
T1247				AML	AML	
	comp=E,1755µm,1.5s					
T1247				AML	AML	
	comp=N,1260µm,0.8s					
TERO	**Teramo**	**0.32**	**113**	⇑P	Pg	05 42 57.2 +0.3
TERO				AML	AML	
	comp=N,1469µm,1.3s					
TERO				AML	AML	
	comp=E,2140µm,0.7s					
TERO				AML	AML	
	comp=N,1530µm,1.3s					
TERO				AML	AML	
	comp=E,2035µm,0.7s					
TERO				AML	AML	
	comp=N,1925µm,0.5s					
TERO				AML	AML	
	comp=N,1865µm,0.5s					
GUMA	**Gualdo di Mace**	**0.33**	**17**	⇑P	Pb	05 42 58.0 -0.4
GUMA				AML	AML	
	comp=E,34850µm,0.5s					
GUMA				AML	AML	
	comp=N,19250µm,0.8s					
GUMA				AML	AML	
	comp=N,19250µm,0.8s					
GUMA				AML	AML	
	comp=E,26450µm,0.5s					
GUMA				AML	AML	
	comp=N,32650µm,0.6s					
GUMA				AML	AML	
	comp=E,34800µm,0.5s					
T1211	**Morro Reatino**	**0.34**	**230**	S	Sb	05 43 04.0 +0.1
ARRO	**Arrone**	**0.36**	**243**	⇑P	Pg	05 42 58.0 +0.4
ARRO				AML	AML	
	comp=E,1340µm,0.2s					
ARRO				AML	AML	
	comp=N,1113µm,1.0s					
ARRO				AML	AML	
	comp=N,1115µm,1.0s					
GIGS	**Gran Sasso**	**0.40**	**138**	⇓P	Pg	05 42 58.5 +0.1
GIGS				AML	AML	
	comp=E,322µm,0.2s					
GIGS				AML	AML	
	comp=N,427µm,0.2s					
GIGS				AML	AML	
	comp=E,365µm,0.6s					
OFFI	**Offida**	**0.40**	**62**	⇓P	Pb	05 42 59.8 +0.2
OFFI				AML	AML	
	comp=E,2360µm,0.8s					
OFFI				AML	AML	
	comp=N,4215µm,0.5s					
OFFI				AML	AML	
	comp=E,3395µm,0.6s					
CESX	**Cesi**	**0.48**	**254**	⇑P	Pg	05 43 00.3 +0.6
CESX				AML	AML	
	comp=N,2435µm,0.6s					
CESX				AML	AML	
	comp=E,1865µm,1.1s					
FIAM	**Fiamignano**	**0.48**	**188**	⇓P	Pg	05 43 00.0 +0.1
FIAM				AML	AML	
	comp=E,198µm,0.2s					
FIAM				AML	AML	
	comp=N,153µm,0.5s					
FIAM				AML	AML	
	comp=E,618µm,0.9s					
FIAM				AML	AML	
	comp=N,400µm,1.0s					
ASSB	**Assisi San Ben**	**0.50**	**307**	⇑P	Pb	05 43 00.8 -0.5
ASSB				AML	AML	
	comp=E,7200µm,1.5s					
ASSB				AML	AML	
	comp=N,6725µm,0.6s					
SNTG	**Esanatoglia**	**0.54**	**339**	⇓P	Pg	05 43 01.4 +0.4
SNTG				AML	AML	
	comp=N,2025µm,1.6s					
SNTG				AML	AML	
	comp=E,2405µm,1.0s					
SNTG				AML	AML	
	comp=E,2355µm,1.1s					
SNTG				AML	AML	
	comp=N,2230µm,0.5s					
FAGN	**Fagnano**	**0.56**	**150**	⇓P	Pb	05 43 02.2 0.0
FAGN				AML	AML	
	comp=E,400µm,0.7s					
FAGN				AML	AML	
	comp=N,396µm,1.6s					
FAGN				AML	AML	
	comp=E,1295µm,1.6s					
FAGN				AML	AML	
	comp=N,1335µm,1.6s					
EL6	**Elcito**	**0.59**	**353**	⇓P	Pg	05 43 02.2 +0.4
EL6				AML	AML	
	comp=E,4150µm,0.4s					
EL6				AML	AML	
	comp=N,5210µm,0.5s					
EL6				AML	AML	
	comp=N,5205µm,0.5s					
VCEL	**Villa Celiera**	**0.59**	**127**	⇓P	Pb	05 43 02.5 -0.4
VCEL				AML	AML	
	comp=E,258µm,0.9s					
VCEL				AML	AML	
	comp=N,246µm,0.6s					
VCEL				AML	AML	
	comp=N,1165µm,0.9s					
VCEL				AML	AML	
	comp=E,899µm,0.7s					
ATCC	**AVT- Casa Cast**	**0.60**	**317**	⇑P	Pg	05 43 02.4 +0.3
ATCC				AML	AML	
	comp=N,4995µm,0.5s					
ATCC				AML	AML	
	comp=N,5000µm,0.5s					
ATCC				AML	AML	
	comp=E,4995µm,0.4s					
CING	**Cingoli**	**0.63**	**359**	⇑P	Pb	05 43 03.1 -0.4
T0110	**Collepietro**	**0.67**	**141**	⇓P	Pg	05 43 03.6 +0.2
T0110				AML	AML	
	comp=E,335µm,0.5s					
T0110				AML	AML	
	comp=N,246µm,0.6s					
T0110				AML	AML	
	comp=E,828µm,1.1s					
T0110				AML	AML	
	comp=N,952µm,1.6s					
SRES	**S.Oreste - Sor**	**0.72**	**225**	S	Sb	05 43 16.0 +1.0
ATFO	**Monte Foce - G**	**0.77**	**323**	P	Pb	05 43 05.7 -0.3
ATFO				AML	AML	
	comp=E,1121µm,1.0s					
ATFO				AML	AML	
	comp=E,1125µm,1.0s					
ATFO				AML	AML	
	comp=N,1230µm,1.2s					
ARVD	**Arcevia**	**0.78**	**346**	S	Sn	05 43 18.0 -1.1
ROM9	**Roma**	**1.05**	**209**	S	Sg	05 43 23.0 -1.3

PRU ***01*** *05:43:28.4±0.0, 42.90N×13.49E, h10km*
VIE ***01*** *05:43:29.1±0.8, 43.03N×13.57E, h10km, mb2.8/10, ml3.0/10, Error ellipse: s-maj=10.9km s-min=4.4km az=124.0 133 km SE of San Marino*

ISC 01 05:43:31.0±5.9, 43.1N±0.3×13.6E±0.3, h17km, n9, σ0°30/9, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABTA	**Abfaltersbach**	**3.74**	**349**	*e*Pn	**Pn**	**05 44 27.8**	**-0.2**
	15nm,0.5s,SNR=14						
KBA	**Koelnbreinsper**	**4.00**	**358**	*e*Pn	**Pn**	**05 44 31.9**	**+0.2**
	1.7nm,0.4s,SNR=7.4						
WTTA	**Wattenberg**	**4.40**	**343**	*e*Pn	**Pn**	**05 44 37.4**	**+0.3**
	2.3nm,0.5s,SNR=7.8						
SQTA	**Sankt Quirin**	**4.46**	**339**	*e*Pn	**Pn**	**05 44 38.0**	**0.0**
	1.1nm,0.2s,SNR=10						
WATA	**Walderalm**	**4.48**	**342**	*e*Pn	**Pn**	**05 44 38.7**	**+0.5**
	3.8nm,0.5s,SNR=10						
MOTA	**Moosalm**	**4.60**	**339**	*e*Pn	**Pn**	**05 44 39.8**	**-0.1**
	0.2nm,0.1s						
DAVA	**Damuels**	**4.95**	**330**	*e*Pn	**Pn**	**05 44 44.4**	**-0.1**
	2.9nm,0.5s						
KHC	**Kasperske Hory**	**6.05**	**0**	*e*PN	**Pn**	**05 44 59.5**	**-0.2**
KHC				*e*SN	**Sn**	**05 46 08.5**	**-0.1**
SFJD	**Kangerlussuaq**	**41.30**	**328**	*i* S	S	05 57 14.5	-14

RSNC 01 05:46:50.1±0.9, 6.78N×73.16W, h146km±3km, ML3.1, Mw3.6, 3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.19**	**186**	*e*P	Pn	05 47 09.6	-0.6
BARC				*e*S	Sn	05 47 25.0	-0.5
BRRC	**Barranca, Sant**	**0.64**	**301**	⇑*e*P	Pn	05 47 11.3	-0.5
BRRC				*e*S	Sn	05 47 28.5	+0.2
BRRC				IAML		05 47 32.3	
	comp=Z,252nm,0.3s						
PAMC	**Pamplona, Colo**	**0.72**	**39**	⇑*e*P	Pn	05 47 12.3	-0.6
PAMC				*e*S	Sn	05 47 29.7	-0.5
PAMC				IAML		05 47 32.0	
	comp=Z,120nm,0.7s						
RUSC	**La Rusia**	**0.88**	**175**	⇓*i*P	Pn	05 47 13.4	-0.7
RUSC				*e*S	Sn	05 47 32.1	-0.3
RUSC				IAML		05 47 33.4	
	comp=Z,195nm,0.4s						
RUSC				IAML		05 47 33.4	
	comp=Z,195nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.31**	**260**	*e*P	Pn	05 47 16.0	-1.4
PTBC				*e*S	Sn	05 47 37.3	-0.9
PTBC				IAML		05 47 42.8	
	comp=Z,96nm,0.3s						
PTBC				IAML		05 47 42.8	
	comp=Z,96nm,0.3s						
TAMC	**Tame, Arauca**	**1.40**	**104**	⇑*i*P	Pn	05 47 17.9	-0.5
TAMC				*e*S	Sn	05 47 39.7	-0.3
TAMC				IAML		05 47 48.8	
	comp=Z,90nm,0.8s						
TAMC				IAML		05 47 48.8	
	comp=Z,90nm,0.8s						
SPBC	**San Pablo de B**	**1.44**	**219**	*e*P	Pn	05 47 18.4	-0.5
SPBC				IAML		05 47 43.2	
	comp=Z,212nm,0.2s						
SPBC				IAML		05 47 43.2	
	comp=Z,212nm,0.2s						
NORC	**Norcasia**	**2.08**	**235**	*e*P	Pn	05 47 25.6	-0.4
NORC				*e*S	Sn	05 47 53.4	-0.3
NORC				IAML		05 47 59.1	
	comp=Z,83nm,0.2s						
CHIC	**Chingaza**	**2.21**	**195**	*e*P	Pn	05 47 27.8	-0.2
CHIC				*e*S	Sn	05 47 57.0	0.0
CHIC				IAML		05 48 00.3	
	comp=Z,63nm,0.6s						
ROSC	**El Rosal**	**2.25**	**211**	*e*P	Pn	05 47 29.3	+0.9
ROSC				*e*S	Sn	05 47 59.9	+2.2
ROSC				IAML		05 48 04.0	
	comp=Z,225nm,0.4s						
ROSC				IAML		05 48 04.0	
	comp=Z,225nm,0.4s						
ROSC				IAML		05 48 04.2	
	comp=Z,231nm,0.4s						
HELC	**Santa Helena**	**2.42**	**256**	*e*P	Pn	05 47 30.0	-0.4
HELC				*e*S	Sn	05 48 01.9	+0.5
HELC				IAML		05 48 09.6	
	comp=Z,56nm,0.3s						
UREC	**San Jos de Ur**	**2.54**	**292**	*e*P	Pn	05 47 29.3	-2.3
UREC				*e*S	Sn	05 48 00.8	-2.7
UREC				IAML		05 48 09.8	
	comp=Z,73nm,0.2s						
UREC				IAML		05 48 09.8	
	comp=Z,73nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.68**	**235**	*e*P	Pn	05 47 33.4	-0.3
GUY2C				*e*S	Sn	05 48 07.0	-0.4
GUY2C				IAML		05 48 15.4	
	comp=Z,87nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.76**	**158**	⇓*e*P	Pn	05 47 32.6	-1.7
PTGC				*e*S	Sn	05 48 05.8	-2.6
PTGC				IAML		05 48 10.9	
	comp=Z,50nm,0.3s						
PTGC				IAML		05 48 10.9	
	comp=Z,50nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.77**	**352**	*e*P	Pn	05 47 34.1	-0.4
LL1C				*e*S	Sn	05 48 10.0	+1.3
LL1C				IAML		05 48 21.1	
	comp=Z,373nm,0.6s						
CBOC	**Ciudad Bolivar**	**2.98**	**252**	*e*P	Pn	05 47 36.6	-0.6
CBOC				IAML		05 48 26.6	
	comp=Z,22nm,0.7s						
DBBC	**Dabeiba**	**3.04**	**275**	*e*P	Pn	05 47 37.9	+0.1
DBBC				*e*S	Sn	05 48 12.8	-2.0
ANIL	**Santa Ana**	**3.18**	**225**	*e*P	Pn	05 47 40.9	+0.9
ANIL				*e*S	Sn	05 48 20.4	+1.8
ANIL				IAML		05 48 23.6	
	comp=Z,181nm,0.3s						
ARGC	**Ariguani, Magd**	**3.24**	**341**	*e*P	Pn	05 47 39.6	-0.8
ARGC				*e*S	Sn	05 48 19.4	-0.1
ARGC				IAML		05 48 19.9	
	comp=Z,21nm,0.3s						
ARGC				IAML		05 48 19.9	
	comp=Z,21nm,0.3s						
PRAC	**Prado**	**3.50**	**210**	*e*P	Pn	05 47 40.3	-3.5
PRAC				*e*S	Sn	05 48 22.4	-3.0
PRAC				IAML		05 48 29.2	
	comp=Z,95nm,0.3s						
PRAC				IAML		05 48 29.2	
	comp=Z,95nm,0.3s						
ORTC	**Ortega, Tolima**	**3.53**	**216**	*e*P	Pn	05 47 43.7	-0.4
ORTC				*e*S	Sn	05 48 27.1	+1.0
ORTC				IAML		05 48 32.9	
	comp=Z,50nm,0.4s						
ORTC				IAML		05 48 32.9	
	comp=Z,50nm,0.4s						
PLMC	**San Jos del P**	**3.62**	**239**	*e*P	Pn	05 47 44.8	-0.6
PLMC				*e*S	Sn	05 48 27.0	-1.3
PLMC				IAML		05 48 31.4	
	comp=Z,16nm,0.4s						
SJCC	**San Jacinto, C**	**3.69**	**327**	*e*P	Pn	05 47 43.5	-2.7
SJCC				*e*S	Sn	05 48 24.7	-5.1
SJCC				IAML		05 48 38.9	
	comp=Z,28nm,0.8s						
SJCC				IAML		05 48 38.9	
	comp=Z,28nm,0.8s						
YOTC	**Yotoco, Valle**	**4.21**	**229**	*e*P	Pn	05 47 52.0	-1.2
YOTC				IAML		05 48 54.2	
	comp=Z,5.9nm,0.8s						
CRJC	**Cerrejon, Guaj**	**4.22**	**4**	*e*P	Pn	05 47 49.7	-3.6
CRJC				*e*S	Sn	05 48 37.4	-5.1
CRJC				IAML		05 48 39.1	
	comp=Z,48nm,0.5s						
CRJC				IAML		05 48 39.1	
	comp=Z,48nm,0.5s						
URIC	**Uribia, Colomb**	**5.03**	**13**	*e*P	Pn	05 48 00.1	-3.8
URIC				*e*S	Sn	05 48 56.5	-4.9
URIC				IAML		05 49 02.5	
	comp=Z,7.6nm,0.4s						
GARC	**Garzon, Huila**	**5.12**	**207**	*e*P	Pn	05 48 03.5	-1.8
GARC				IAML		05 49 04.3	
	comp=Z,55nm,0.2s						
FLOC	**Florencia**	**5.73**	**206**	*e*P	Pn	05 48 12.0	-1.2
FLOC				IAML		05 49 51.4	
	comp=Z,5.7nm,1.0s						
FLOC				IAML		05 49 51.4	
	comp=Z,5.7nm,1.0s						

PRU ***01*** *06:05:53.2±0.0, 42.77N×13.94E, h10km*

ROM 01 06:05:52.9±0.1, 42.859N±0.004×13.211E±0.005, h8km, ML2.7/6, Error ellipse: s-maj=0.4km s-min=0.4km az=94.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.02**	**261**	P	Pg	06 05 54.2	-0.4
T1245				S	Sg	06 05 54.8	-1.0
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
MMO1	**Montemonaco**	**0.09**	**65**	P	Pg	06 05 55.5	+0.2
MMO1				S	Sg	06 05 57.3	+0.4
T1216	**Preci, Frazion**	**0.14**	**283**	P	Pg	06 05 56.7	+0.7
T1216				S	Sg	06 05 59.7	+1.5
T1256	**Bolognola (MC)**	**0.15**	**4**	P	Pg	06 05 56.5	+0.4
T1256				S	Sg	06 05 58.9	+0.5
T1256				AML	AML		
	comp=E,7610µm,0.3s						
T1256				AML	AML		
	comp=N,7040µm,0.6s						
T1256				AML	AML		
	comp=N,7045µm,0.6s						
T1256				AML	AML		
	comp=N,6620µm,0.6s						
T1256				AML	AML		
	comp=E,7615µm,0.3s						
T1256				AML	AML		
	comp=E,7480µm,0.3s						
AM05	**Amandola Campo**	**0.16**	**41**	P	Pg	06 05 56.9	+0.6
AM05				S	Sg	06 05 59.7	+1.2
AM05				AML	AML		
	comp=E,2905µm,0.1s						
AM05				AML	AML		
	comp=E,12700µm,0.4s						
AM05				AML	AML		
	comp=N,1034µm,0.2s						
AM05				AML	AML		
	comp=E,12750µm,0.4s						
AM05				AML	AML		
	comp=N,1035µm,0.2s						
AM05				AML	AML		
	comp=N,5035µm,0.2s						
AM05				AML	AML		
	comp=E,2900µm,0.1s						
T1241	**Roccafluvione,**	**0.16**	**91**	P	Pg	06 05 57.0	+0.7
T1241				S	Sg	06 06 00.2	+1.5
FDMO	**Fiordimonte**	**0.20**	**333**	P	Pg	06 05 57.4	+0.4
FDMO				S	Sg	06 06 00.7	+0.9
T1204	**Amatrice, Fraz**	**0.20**	**157**	P	Pg	06 05 57.8	+0.8
GUMA	**Gualdo di Mace**	**0.22**	**24**	P	Pg	06 05 58.3	+0.8
GUMA				S	Sg	06 06 02.5	+2.0
T1243	**Rocca Santa Ma**	**0.24**	**133**	P	Pg	06 05 58.3	+0.6
T1243				S	Sg	06 06 02.6	+1.6
SMA1	**SAN MARTINO**	**0.25**	**158**	S	Sg	06 05 59.0	-2.2
T1217	**Poggiodomo (PG**	**0.25**	**235**	P	Pg	06 05 58.8	+0.9
T1217				S	Sb	06 06 03.3	-1.0
T1215	**Vallo di Nera,**	**0.26**	**257**	P	Pg	06 05 58.8	+0.7
T1215				S	Sb	06 06 03.2	-1.2
LNSS	**Leonessa**	**0.28**	**206**	P	Pb	06 05 59.6	-0.7
LNSS				S	Sb	06 06 04.8	-0.5
MNTP	**Montappone**	**0.34**	**34**	S	Sg	06 06 02.0	-2.0
SEF1	**Sefro**	**0.35**	**326**	S	Sb	06 06 07.0	0.0
RM33	**Pellescritta (**	**0.35**	**180**	P	Pg	06 05 59.8	0.0
RM33				S	Sb	06 06 06.5	-0.6
CAMP	**Campotosto**	**0.35**	**156**	P	Pg	06 06 00.3	+0.5
CAMP				S	Sb	06 06 06.2	-1.0
OFFI	**Offida**	**0.36**	**78**	P	Pb	06 06 01.4	0.0
TERO	**Teramo**	**0.37**	**129**	P	Pg	06 06 00.8	+0.5
TERO				S	Sb	06 06 06.9	-0.8
T1211	**Morro Reatino**	**0.42**	**219**	P	Pg	06 06 01.8	+0.7
T1211				S	Sb	06 06 08.9	-0.2
ABTA	**Abfaltersbach**	**3.92**	**353**	*i* Pn	Pn	06 06 55.1	+1.7
	comp=E,4.3nm,0.2s						
KBA	**Koelnbreinsper**	**4.22**	**1**	*i* Pn	Pn	06 06 59.5	+1.9
	comp=E,0.3nm,0.2s						

FETA	**Feichten**	**4.52**	**338**	*i* Pn	Pn	06 07 06.6 +4.9
	comp=E,0.3nm,0.2s					
WTTA	**Wattenberg**	**4.54**	**346**	*i* Pn	Pn	06 07 05.1 +3.0
	comp=E,0.6nm,0.2s					
SQTA	**Sankt Quirin**	**4.59**	**343**	*i* Pn	Pn	06 07 05.3 +2.7
	comp=E,1.1nm,0.2s					
WATA	**Walderalm**	**4.62**	**346**	*i* Pn	Pn	06 07 05.9 +2.8
	comp=E,0.6nm,0.2s					
KHC	**Kasperske Hory**	**6.28**	**2**	*e*SN	Sn	06 08 36.6 -1.0

*NNC **01** 06:06:34.3±2.6,54°.52N×87°.29E,h0km,mb3.2,mpv3.0, Error ellipse: s-maj=22.3km s-min=16.5km az=179.0, Suspected Mining explosion.*

*IDC **01** 06:06:36.9±2.9,54°.56N×87°.11E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=25.1km s-min=17.7km az=57.0*

ISC 01 06:06:36.2±4.5,54°.6N±0°.2×86°.9E±0°.2,h0km,n10, σ2s53/12,4C-7D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**243**	I		06 16 21.4	
	baz=65,slow=324,SNR=8.6						
ZAA0	**Zalesovo Array**	**1.40**	**243**	⇓Pn	**Pg**	**06 07 02.6**	**-0.4**
	1.1nm,0.7s						
ZAA0				⇓Sn	**Sn**	**06 07 25.3**	**+3.1**
	8.7nm,0.8s						
ZALV	**Zalesovo Beam**	**1.40**	**243**	Pg	**Pb**	**06 07 02.7**	**-0.5**
	1.4nm,0.3s,baz=65,slow=16,SNR=24						
ZALV				Lg	Lg	06 07 24.0	
	2.2nm,0.3s,baz=63,slow=28,SNR=6.8						
KURK	**Kurchatov**	**6.38**	**236**	⇓Pn	**Pn**	**06 08 13.8**	**+2.4**
	3.8nm,1.2s						
KURK				⇓Sn	**Sn**	**06 09 26.9**	**+2.0**
	5.2nm,1.1s						
KURK				⇓Lg	Lg	06 10 03.1	
	5.9nm,0.8s						
KURBB	**Kurchatov Arra**	**6.49**	**235**	Pn	**Pn**	**06 08 14.8**	**+1.9**
	0.1nm,0.3s,baz=53,slow=14,SNR=14						
KURBB				Lg	Lg	06 10 04.9	
	0.1nm,0.3s,baz=48,slow=31,SNR=4.6						
	2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**6.49**	**235**	⇑Lg	Lg	06 10 03.7	
	13nm,0.8s						
MK31	**Makanchi Array**	**8.36**	**202**	⇑Pn	**Pn**	**06 08 39.5**	**+0.9**
	1.7nm,0.7s,baz=28,slow=12,SNR=8.0						
MK31				⇓Sn	**Sn**	**06 10 13.5**	**-0.1**
	1.8nm,0.6s,baz=37,slow=26,SNR=3.5						
MK31				⇑Lg	Lg	06 10 59.0	
	6.0nm,0.9s,baz=26,slow=30,SNR=3.7						
MKAR	**Makanchi Array**	**8.36**	**202**	Pn	**Pn**	**06 08 40.5**	**+2.0**
	0.3nm,0.3s,baz=23,slow=11,SNR=8.2						
MKAR				Sn	**Sn**	**06 10 13.7**	**+0.1**
	0.1nm,0.3s,baz=26,slow=27,SNR=7.1						
MKAR				Lg	Lg	06 10 58.4	
	0.1nm,0.3s,baz=27,slow=26,SNR=3.6						
	0.4nm,0.3s						
MAKZ	**Makanchi**	**8.42**	**204**	⇓Sn	**Sn**	**06 10 11.9**	**-3.1**
	7.3nm,1.2s						
MAKZ				⇑Lg	Lg	06 11 01.8	
	13nm,1.4s						
BVAR	**Borovoye Array**	**9.91**	**268**	Sn	**Sn**	**06 10 47.2**	**-4.4**
	0.1nm,0.3s,baz=79,slow=16,SNR=2.6						

IDC 01 06:27:01.2±3.3,8°.98S×112°.29E,h0km,mb3.2/3, mbtmp3.2/3,MS3.2/1,Error ellipse: s-maj=186.3km s-min=30.5km az=47.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.94**	**119**	P	P	06 32 17.6	+0.3
	0.4nm,0.9s,baz=292,slow=12,SNR=3.6						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**25.31**	**128**	P	P	06 32 30.0	+0.1
	0.2nm,0.6s,baz=300,slow=8.3,SNR=2.2						
	0.2nm,0.6s						
PALK	**Pallekele**	**35.38**	**296**	LR	LR	06 49 14.1	
	comp=Z,30nm,18.2s,baz=237,slow=38						
H08S2	**Diego Garcia H**	**39.39**	**269**	T	T	07 16 16.8	
	baz=94						
H08S3	**Diego Garcia H**	**39.40**	**269**	T	T	07 16 08.8	
	baz=94						
H08S1	**Diego Carcia H**	**39.41**	**269**	T	T	07 16 15.3	
	baz=94						
MKAR	**Makanchi Array**	**61.63**	**337**	P	P	06 37 20.3	-0.4
	0.2nm,0.5s,baz=138,slow=7.8,SNR=1.6						
	0.2nm,0.5s						

*ROM **01** 06:36:05.8±0.0,43°.005N±0°.002×13°.134E±0°.004, h7km,ML3.6/64,Error ellipse: s-maj=0.2km s-min=0.2km az=63.0*

*IDC **01** 06:36:06.2±1.1,43°.13N×13°.19E,h0km,mb3.7/5, mbtmp3.8/11,ML3.5/5,MS3.0/7,Error ellipse: s-maj=26.2km s-min=13.5km az=91.0*

*PDG **01** 06:36:06.4±0.6,43°.03N×13°.17E,h11km,ML3.8/12,Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*

*LDG **01** 06:36:06.5±0.1,42°.89N×13°.06E,h9km,Ml3.6/16,Error ellipse: s-maj=5.5km s-min=3.1km az=42.0*

*PRU **01** 06:36:07.2±0.0,42°.94N×13°.35E,h10km*

ISC 01 06:36:06.2±0.7,43°.01N±0°.01×13°.14E±0°.02,h7km±4km, n255,σ1s73/289,mb3.8/5,7C-9D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.04**	**303**	P	**Pg**	**06 36 07.3**	**-0.5**
FDMO				S	**Sg**	**06 36 09.0**	**+0.1**
T1256	**Bologna (MC)**	**0.06**	**95**	⇑P	**Pg**	**06 36 07.7**	**-0.4**
T1256				S	**Sg**	**06 36 09.3**	**-0.2**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
FEMA	**Monte Fema**	**0.08**	**233**	⇑P	**Pg**	**06 36 08.2**	**-0.1**
FEMA				S	**Sg**	**06 36 10.1**	**+0.3**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
CSP1	**Cessapalombo**	**0.09**	**31**	⇑P	**Pg**	**06 36 08.4**	**-0.1**
CSP1				S	**Sg**	**06 36 10.3**	**+0.2**
CSP1				AML	AML		
CSP1				AML	AML		
T1216	**Preci, Frazion**	**0.15**	**216**	P	**Pg**	**06 36 09.5**	**+0.1**
T1216				S	**Sg**	**06 36 12.2**	**+0.7**
T1216				AML	AML		
	comp=E,86800μm,0.9s						
T1216				AML	AML		
	comp=N,56500μm,1.3s						
T1216				AML	AML		
	comp=N,56550μm,1.3s						
T1216				AML	AML		
	comp=E,86850μm,0.9s						
GUMA	**Gualdo di Mace**	**0.15**	**71**	⇑P	**Pg**	**06 36 09.8**	**+0.4**
GUMA				S	**Sg**	**06 36 12.8**	**+1.2**
T1245	**Castelsantange**	**0.16**	**167**	P	**Pg**	**06 36 09.5**	**-0.1**
T1245				S	**Sg**	**06 36 12.5**	**+0.6**
T1245				AML	AML		
	comp=N,65100μm,0.4s						
T1245				AML	AML		
	comp=E,60350μm,1.3s						
T1245				AML	AML		
	comp=E,62150μm,1.3s						
T1245				AML	AML		
	comp=N,65150μm,0.4s						
T1245				AML	AML		
	comp=N,65050μm,0.4s						
AM05	**Amandola Campo**	**0.16**	**102**	⇑P	**Pg**	**06 36 09.7**	**+0.2**
AM05				S	**Sg**	**06 36 12.6**	**+0.8**
AM05				AML	AML		
	comp=N,14325μm,0.5s						
AM05				AML	AML		
	comp=E,80150μm,0.3s						
AM05				AML	AML		
	comp=E,80100μm,0.3s						
AM05				AML	AML		
	comp=E,20500μm,0.3s						
AM05				AML	AML		
	comp=N,3710μm,0.3s						
AM05				AML	AML		
	comp=N,14320μm,0.5s						
MMO1	**Montemonaco**	**0.18**	**129**	P	**Pg**	**06 36 09.9**	**+0.1**
MMO1				S	**Sg**	**06 36 12.9**	**+0.6**
MDAR	**Monte D'Aria**	**0.18**	**1**	P	**Pg**	**06 36 10.1**	**+0.1**
MDAR				S	**Sg**	**06 36 13.2**	**+0.7**
MDAR				AML	AML		
	comp=N,30150μm,0.5s						
MDAR				AML	AML		
	comp=E,26450μm,0.4s						
MDAR				AML	AML		
	comp=N,30150μm,0.6s						
SEF1	**Sefro**	**0.19**	**314**	P	**Pg**	**06 36 10.4**	**+0.2**
SEF1				S	**Sg**	**06 36 14.1**	**+1.3**
SEF1				AML	AML		
	comp=E,74750μm,1.3s						
SEF1				AML	AML		
	comp=E,74750μm,1.3s						
SEF1				AML	AML		
	comp=N,46650μm,0.4s						
PIO1	**Pioraco**	**0.20**	**326**	P	**Pg**	**06 36 10.5**	**+0.2**
PIO1				S	**Sg**	**06 36 14.1**	**+1.1**
PIO1				AML	AML		
	comp=E,19400μm,1.3s						
PIO1				AML	AML		
	comp=N,26800μm,0.6s						
PIO1				AML	AML		
	comp=E,19450μm,1.3s						
PIO1				AML	AML		
	comp=N,26800μm,0.6s						
SSM1	**San Severino M**	**0.22**	**7**	P	**Pg**	**06 36 10.8**	**+0.2**
SSM1				S	**Sg**	**06 36 14.7**	**+1.1**
GAG1	**Gagliole**	**0.23**	**347**	P	**Pg**	**06 36 11.2**	**+0.3**
GAG1				S	**Sg**	**06 36 15.5**	**+1.5**
GAG1				AML	AML		
	comp=E,71300μm,0.3s						
GAG1				AML	AML		
	comp=N,74400μm,0.3s						
GAG1				AML	AML		
	comp=E,71350μm,0.3s						
GAG1				AML	AML		
	comp=N,74350μm,0.3s						
FIU1	**Fiuminata**	**0.23**	**319**	P	**Pg**	**06 36 11.0**	**+0.1**
FIU1				AML	AML		
	comp=E,12750μm,0.7s						
FIU1				AML	AML		
	comp=N,15900μm,0.5s						
FIU1				AML	AML		
	comp=E,12800μm,0.7s						
FIU1				AML	AML		
	comp=N,15850μm,0.5s						
T1241	**Roccafluvione,**	**0.27**	**126**	P	**Pg**	**06 36 11.6**	**+0.1**
T1241				S	**Sg**	**06 36 16.2**	**+1.2**
MNTP	**Montappone**	**0.27**	**63**	⇑P	**Pb**	**06 36 12.5**	**-1.0**
MNTP				AML	AML		
	comp=E,66900μm,0.3s						
MNTP				AML	AML		
	comp=N,45550μm,1.5s						
MNTP				AML	AML		
	comp=N,45600μm,1.5s						
MNTP				AML	AML		
	comp=E,66900μm,0.2s						
T1244	**Arquata del Tr**	**0.28**	**155**	P	**Pg**	**06 36 12.1**	**+0.3**
SNTG	**Esanatoglia**	**0.28**	**329**	P	**Pg**	**06 36 11.8**	**0.0**
SNTG				S	**Sg**	**06 36 16.9**	**+1.3**
T1215	**Vallo di Nera,**	**0.29**	**224**	P	**Pg**	**06 36 12.1**	**+0.1**
T1215				S	**Sg**	**06 36 16.9**	**+1.1**
T1215				AML	AML		
	comp=E,7625μm,1.1s						
T1215				AML	AML		
	comp=N,7270μm,1.2s						
T1215				AML	AML		
	comp=E,8345μm,0.8s						
T1215				AML	AML		
	comp=N,7255μm,1.2s						
T1215				AML	AML		
	comp=E,8355μm,0.8s						
T1215				AML	AML		
	comp=N,7265μm,1.2s						
T1215				AML	AML		
	comp=N,7540μm,1.2s						
EL6	**Elcito**	**0.32**	**355**	P	**Pg**	**06 36 12.6**	**0.0**
EL6				S	**Sg**	**06 36 18.1**	**+1.3**
TRE1	**Treia**	**0.33**	**23**	P	**Pg**	**06 36 13.5**	**+0.9**
TRE1				AML	AML		
	comp=E,36400μm,0.7s						
TRE1				AML	AML		
	comp=N,56650μm,0.5s						
T1217	**Poggiodomo (PG**	**0.34**	**207**	P	**Pg**	**06 36 12.8**	**0.0**
T1217				S	**Sg**	**06 36 18.6**	**+1.4**
T1217				AML	AML		
	comp=E,10300μm,1.3s						
T1217				AML	AML		
	comp=E,10165μm,1.5s						
T1217				AML	AML		
	comp=N,16800μm,0.6s						
T1217				AML	AML		
	comp=N,16300μm,0.6s						
T1217				AML	AML		
	comp=E,10160μm,1.5s						
T1217				AML	AML		
	comp=E,10250μm,1.3s						
ASSB	**Assisi San Ben**	**0.35**	**275**	P	**Pg**	**06 36 13.2**	**0.0**
ASSB				S	**Sg**	**06 36 19.2**	**+1.4**
ASSB				AML	AML		
	comp=E,19350μm,1.3s						
ASSB				AML	AML		
	comp=N,20150μm,0.4s						
T1204	**Amatrice, Fraz**	**0.36**	**159**	P	**Pg**	**06 36 13.5**	**+0.2**
T1204				AML	AML		
	comp=E,15150μm,0.6s						
T1204				AML	AML		
	comp=N,10125μm,0.7s						
T1204				AML	AML		
	comp=N,22950μm,0.3s						
T1204				AML	AML		
	comp=E,33650μm,0.3s						
T1201	**Domo (RI)**	**0.36**	**167**	P	**Pg**	**06 36 13.4**	**+0.1**
CING	**Cingoli**	**0.37**	**6**	P	**Pg**	**06 36 13.4**	**0.0**
CING				S	**Sg**	**06 36 19.7**	**+1.4**
T1243	**Rocca Santa Ma**	**0.39**	**144**	P	**Pg**	**06 36 13.7**	**-0.1**
T1243				S	**Sb**	**06 36 20.3**	**-1.4**
FOSV	**Fossato di Vic**	**0.40**	**316**	P	**Pg**	**06 36 14.0**	**0.0**
FOSV				S	**Sg**	**06 36 20.7**	**+1.5**
ATCC	**AVT- Casa Cast**	**0.40**	**296**	P	**Pg**	**06 36 14.5**	**+0.4**
ATCC				S	**Sg**	**06 36 21.2**	**+1.8**
ATCC				AML	AML		
	comp=E,15200μm,0.3s						
ATCC				AML	AML		
	comp=N,23750μm,1.3s						
SMA1	**SAN MARTINO**	**0.41**	**159**	P	**Pg**	**06 36 14.3**	**+0.1**
SMA1				AML	AML		
	comp=E,9335μm,0.9s						
SMA1				AML	AML		
	comp=N,11300μm,0.5s						
SMA1				AML	AML		
	comp=E,15450μm,0.4s						
SMA1				AML	AML		
	comp=N,16700μm,0.4s						
SMA1				AML	AML		
	comp=N,16650μm,0.4s						
OFFI	**Offida**	**0.41**	**101**	P	**Pb**	**06 36 15.2**	**-0.6**
OFFI				AML	AML		
	comp=E,16150μm,0.5s						
OFFI				AML	AML		
	comp=N,28550μm,0.6s						
LNSS	**Leonessa**	**0.41**	**190**	P	**Pg**	**06 36 14.3**	**0.0**
LNSS				S	**Sb**	**06 36 21.3**	**-1.2**
LNSS				AML	AML		
	comp=E,4520μm,1.5s						
LNSS				AML	AML		
	comp=N,11830μm,0.7s						
LNSS				AML	AML		
	comp=E,4605μm,0.3s						
LNSS				AML	AML		
	comp=E,4456μm,0.1s						
MMUR	**Monte Murano**	**0.44**	**346**	P	**Pg**	**06 36 15.2**	**+0.3**
MMUR				S	**Sb**	**06 36 22.6**	**-0.7**
MMUR				AML	AML		
	comp=E,29100μm,0.3s						
MMUR				AML	AML		
	comp=N,19200μm,1.2s						
MMUR				AML	AML		
	comp=E,29100μm,0.3s						
MMUR				AML	AML		
	comp=N,19150μm,1.1s						
CIMA	**Civitanova Mar**	**0.49**	**53**	P	**Pb**	**06 36 16.8**	**-0.4**
CADA	**Capodarco di F**	**0.49**	**68**	P	**Pb**	**06 36 17.2**	**0.0**
SSFR	**Montelago di S**	**0.50**	**329**	P	**Pg**	**06 36 15.9**	**0.0**
SSFR				S	**Sb**	**06 36 24.3**	**-0.6**
SSFR				AML	AML		
	comp=E,19000μm,0.2s						
SSFR				AML	AML		
	comp=E,20800μm,0.2s						
SSFR				AML	AML		
	comp=N,15650μm,1.0s						
SSFR				AML	AML		
	comp=N,13800μm,0.2s						
T1246	**Crognaleto (TE**	**0.50**	**149**	P	**Pg**	**06 36 15.6**	**-0.3**
PP3	**Marolino**	**0.50**	**43**	P	**Pb**	**06 36 16.9**	**-0.5**
PP3				AML	AML		
	comp=E,18950μm,0.4s						
PP3				AML	AML		
	comp=N,31550μm,0.3s						
PP3				AML	AML		
	comp=E,18850μm,0.4s						
PP3				AML	AML		
	comp=N,33400μm,0.3s						
PP3				AML	AML		
	comp=E,18900μm,0.4s						
RM33	**Pellescritta (**	**0.51**	**174**	P	**Pg**	**06 36 16.0**	**-0.1**
RM33				AML	AML		
	comp=E,4825μm,0.8s						
RM33				AML	AML		
	comp=N,3950μm,0.4s						
RM33				AML	AML		
	comp=E,4700μm,0.8s						
RM33				AML	AML		
	comp=N,3970μm,1.5s						
RM33				AML	AML		
	comp=N,10425μm,0.3s						
RM33				AML	AML		
	comp=E,7605μm,1.4s						
RM33				AML	AML		
	comp=N,10060μm,0.3s						
RM33				AML	AML		
	comp=E,7610μm,1.4s						
RM33				AML	AML		
	comp=E,7490μm,1.4s						
RM33				AML	AML		
	comp=N,10395μm,0.3s						
ARVD	**Arcevia**	**0.51**	**344**	P	**Pg**	**06 36 16.2**	**+0.2**
ARVD				S	**Sb**	**06 36 24.7**	**-0.4**
ARVD				AML	AML		
	comp=E,11150μm,0.9s						
ARVD				AML	AML		
	comp=N,6090μm,0.4s						
ARRO	**Arrone**	**0.51**	**213**	P	**Pg**	**06 36 16.0**	**-0.1**
ARRO				AML	AML		
	comp=E,3535μm,0.6s						
ARRO				AML	AML		
	comp=N,3255μm,0.5s						
MURB	**Monte Urbino**	**0.52**	**299**	P	**Pg**	**06 36 16.4**	**+0.2**
MURB				AML	AML		
	comp=E,17800μm,0.4s						
MURB				AML	AML		
	comp=N,15750μm,0.3s						
MURB				AML	AML		
	comp=E,19750μm,0.4s						
MURB				AML	AML		
	comp=N,15350μm,0.5s						
MURB				AML	AML		
	comp=E,17750μm,0.4s						
CAMP	**Campotosto**	**0.52**	**157**	P	**Pg**	**06 36 15.8**	**-0.4**
CAMP				S	**Sb**	**06 36 24.2**	**-1.3**
CAMP				AML	AML		
	comp=N,4965μm,0.3s						
CAMP				AML	AML		
	comp=E,7570μm,0.3s						
TERO	**Teramo**	**0.52**	**139**	P	**Pg**	**06 36 15.9**	**-0.3**
TERO				S	**Sb**	**06 36 24.6**	**-0.8**
TERO				AML	AML		
	comp=E,9725μm,0.6s						
TERO				AML	AML		
	comp=N,5930μm,0.5s						
TERO				AML	AML		
	comp=E,9400μm,0.6s						
TERO				AML	AML		
	comp=N,5925μm,0.5s						
TERO				AML	AML		
	comp=N,6130μm,0.5s						
T1211	**Morro Reatino**	**0.52**	**204**	P	**Pg**	**06 36 16.2**	**-0.1**
T1211				AML	AML		
	comp=N,7805μm,0.3s						
T1211				AML	AML		
	comp=E,5120μm,0.9s						
T1211				AML	AML		
	comp=E,5015μm,1.0s						
T1211				AML	AML		
	comp=N,7800μm,0.3s						
T1211				AML	AML		
	comp=N,7755μm,0.3s						
T1211				AML	AML		
	comp=E,5125μm,1.0s						
ATFO	**Monte Foce - G**	**0.55**	**311**	P	**Pg**	**06 36 16.8**	**0.0**
ATFO				AML	AML		
	comp=N,5800μm,0.6s						
ATFO				AML	AML		
	comp=E,5450μm,1.0s						
CESX	**Cesi**	**0.57**	**226**	P	**Pg**	**06 36 16.9**	**-0.4**
CESX				S	**Sb**	**06 36 26.4**	**-0.6**
CESX				AML	AML		
	comp=N,7385μm,0.5s						
CESX				AML	AML		
	comp=E,7560μm,0.4s						
T1247	**Pizzolo (AQ)**	**0.58**	**168**	P	**Pg**	**06 36 17.3**	**-0.2**
T1247				AML	AML		
	comp=N,5525μm,0.6s						
T1247				AML	AML		
	comp=N,5670μm,0.5s						
T1247				AML	AML		
	comp=E,7440μm,0.6s						
FRON	**Frontone**	**0.59**	**329**	P	**Pg**	**06 36 17.3**	**-0.3**
FRON				S	**Sb**	**06 36 27.2**	**-0.3**
FRON				AML	AML		
	comp=N,9390μm,0.3s						
FRON				AML	AML		
	comp=E,5730μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.60**	**288**	P	**Pg**	**06 36 18.9**	**+1.0**
ATTE				AML	AML		
	comp=E,3655μm,1.2s						
ATTE				AML	AML		
	comp=N,3155μm,0.4s						
TRTR	**Tortoreto Alta**	**0.60**	**109**	P	**Pb**	**06 36 19.0**	**-0.2**
TRTR				AML	AML		
	comp=E,20350μm,1.4s						
TRTR				AML	AML		
	comp=N,16900μm,0.4s						
ATLO	**AVT- Montelove**	**0.61**	**300**	P	**Pg**	**06 36 17.9**	**-0.2**
ATLO				S	**Sg**	**06 36 27.7**	**+1.5**
ATBU	**Serra di Buran**	**0.63**	**317**	P	**Pg**	**06 36 18.4**	**-0.1**
TB01	**Gubbio**	**0.63**	**306**	P	**Pg**	**06 36 18.2**	**-0.2**
AOI	**Ancona**	**0.64**	**32**	P	**Pg**	**06 36 18.6**	**+0.2**
AOI				AML	AML		
	comp=N,3900μm,1.0s						
AOI				AML	AML		
	comp=E,6195μm,0.6s						
GIGS	**Gran Sasso**	**0.65**	**150**	P	**Pg**	**06 36 18.1**	**-0.6**
GIGS				S	**Sb**	**06 36 28.0**	**-1.1**
GIGS				AML	AML		
	comp=N,1280μm,1.6s						
GIGS				AML	AML		
	comp=E,2155μm,0.7s						
ATVO	**AVT- Monte Val**	**0.65**	**305**	P	**Pg**	**06 36 18.5**	**-0.3**
ATVO				AML	AML		
	comp=E,3760μm,0.4s						
ATVO				AML	AML		
	comp=N,5125μm,0.5s						
TB03	**Pietralunga**	**0.66**	**306**	P	**Pg**	**06 36 18.8**	**-0.2**
MPAG	**Monte Paganucc**	**0.68**	**336**	P	**Pg**	**06 36 19.1**	**-0.2**
ATVA	**AVT- Monte Val**	**0.68**	**293**	P	**Pg**	**06 36 19.3**	**0.0**
ATPC	**Poggio Castell**	**0.68**	**313**	P	**Pg**	**06 36 19.4**	**0.0**
PIEI	**Pieia**	**0.69**	**320**	P	**Pg**	**06 36 19.2**	**-0.2**
PIEI				AML	AML		
	comp=E,4235μm,1.6s						
PIEI				AML	AML		
	comp=N,3070μm,0.7s						
AQU	**L'Aquila**	**0.69**	**163**	P	**Pg**	**06 36 19.0**	**-0.4**
AQU				AML	AML		
	comp=E,3675μm,1.4s						
AQU				AML	AML		
	comp=N,3295μm,0.8s						
AQU				AML	AML		

comp=N,3040µm,0.8s
AQU AML AML
comp=E,3620µm,1.4s
ATPI Pietralunga - 0.69 309 P **Pg 06 36 19.3 -0.3**
ATPI AML AML
comp=E,5760µm,0.6s
ATPI AML AML
comp=N,3605µm,0.4s
SENI Senigallia 0.70 6 P **Pb 06 36 20.5 -0.2**
SENI AML AML
comp=E,17950µm,0.5s
SENI AML AML
comp=E,5295µm,0.9s
SENI AML AML
comp=N,3120µm,1.6s
SENI AML AML
comp=N,3100µm,1.6s
SENI AML AML
comp=E,18000µm,0.5s
SENI AML AML
comp=N,18100µm,0.3s
ATMI Monte Miggiano 0.71 297 AML AML
comp=E,7055µm,0.5s
ATMI AML AML
comp=N,8585µm,0.6s
NARO Abbazia di Nar 0.72 326 P **Pg 06 36 19.9 -0.3**
NARO AML AML
comp=N,2695µm,0.7s
NARO AML AML
comp=E,2715µm,0.8s
FSSB Fossombrone 0.73 339 P **Pg 06 36 20.3 0.0**
FSSB AML AML
comp=E,23950µm,0.4s
FSSB AML AML
comp=N,50900µm,0.4s
FIAM Fiamignano 0.74 181 P **Pg 06 36 20.1 -0.5**
FIAM AML AML
comp=N,2360µm,0.8s
FIAM AML AML
comp=E,3175µm,1.3s
APEC Apecchio 0.76 316 P **Pg 06 36 21.0 +0.2**
APEC AML AML
comp=E,912µm,0.7s
APEC AML AML
comp=E,912µm,0.7s
APEC AML AML
comp=N,1060µm,0.9s
MGAB Montegabbione 0.76 263 P **Pg 06 36 20.4 -0.4**
MGAB AML AML
comp=E,5640µm,0.5s
MGAB AML AML
comp=N,7605µm,0.6s
MGAB AML AML
comp=N,7155µm,0.6s
MGAB AML AML
comp=E,6955µm,0.5s
VCEL Villa Celiera 0.81 140 P **Pg 06 36 21.4 -0.3**
FAGN Fagnano 0.81 156 P **Pg 06 36 21.4 -0.5**
FAGN AML AML
comp=E,6630µm,0.5s
FAGN AML AML
comp=N,4710µm,1.5s
ATMC Monte Cedrone 0.82 302 P **Pg 06 36 21.6 -0.3**
PE3 Peglio 0.83 326 P **Pg 06 36 22.4 +0.2**
SRES S.Oreste - Sor 0.90 211 P **Pg 06 36 23.5 -0.1**
SRES AML AML
comp=E,2495µm,1.2s
SRES AML AML
comp=N,2355µm,0.5s
CAFI Castiglion Fio 0.92 291 P **Pg 06 36 24.2 +0.4**
T0110 Collepietro 0.92 149 P **Pg 06 36 22.9 -0.9**
T0110 AML AML
comp=N,4410µm,0.5s
T0110 AML AML
comp=E,5050µm,1.6s
SACS San Casciano d 0.92 260 P **Pg 06 36 24.2 +0.4**
SACS AML AML
comp=E,2435µm,0.6s
SACS AML AML
comp=N,3480µm,0.7s
SACS AML AML
comp=N,3280µm,0.7s
SACS AML AML
comp=E,2815µm,0.6s
SSP9 Sansepolcro 0.93 308 P **Pg 06 36 24.2 +0.1**
SSP9 AML AML
comp=N,2575µm,1.4s
SSP9 AML AML
comp=E,1786µm,1.6s
PTQR Pietraquaria 1.01 169 P **Pg 06 36 25.3 -0.3**
MTCE Montecelio 1.03 197 P **Pg 06 36 25.7 -0.3**
MTCE AML AML
comp=E,1755µm,0.6s
MTCE AML AML
comp=N,1635µm,0.9s
MCIV Monte Civitell 1.10 258 P **Pg 06 36 27.3 0.0**
MCIV AML AML
comp=E,1065µm,0.6s
MCIV AML AML
comp=N,966µm,0.7s
SF04 Casetta 1.10 261 AML AML
comp=E,970µm,1.3s
SF04 AML AML
comp=N,812µm,1.5s
SF14 Selvena 1.15 258 P **Pb 06 36 28.2 -0.3**
SF01 Poggio Pratacc 1.18 261 AML AML
comp=E,1304µm,0.8s
SF01 AML AML
comp=N,916µm,0.9s
CAFR Castel Frentan 1.19 131 AML AML
comp=E,1985µm,0.6s
CAFR AML AML
comp=N,1675µm,1.6s
VVLD Villa Vallelon 1.20 162 P **Pb 06 36 28.3 -0.9**
VVLD AML AML
comp=N,1735µm,0.5s
VVLD AML AML
comp=E,1515µm,0.6s
GUAR Guarcino 1.22 174 P **Pg 06 36 30.2 +0.5**
LPEL Lama dei Pelig 1.23 141 P **Pb 06 36 28.6 -1.3**
LPEL AML AML
comp=N,1880µm,0.5s
LPEL AML AML
comp=E,2685µm,0.8s
ASQU Asqua 1.26 309 P **Pn 06 36 29.9 -0.5**
ASQU AML AML
comp=E,1165µm,0.5s
ASQU AML AML
comp=N,1180µm,0.7s
TOLF Tolfa 1.27 222 P **Pn 06 36 30.0 -0.4**
SFI Santa Sofia 1.30 314 P **Pn 06 36 30.6 -0.2**
SFI AML AML
comp=N,1024µm,0.7s
SFI AML AML
comp=E,720µm,0.8s
SFI AML AML
comp=N,975µm,0.6s
SFI AML AML
comp=E,746µm,0.8s
POFI Posta Fibreno 1.36 162 P **Pn 06 36 30.6 -1.1**
POFI AML AML
comp=E,973µm,1.1s
POFI AML AML
comp=N,1036µm,1.3s
LRP Arpino 1.40 166 P **Pg 06 36 33.3 +0.2**
CSNT Castellina Chi 1.43 289 P **Pn 06 36 32.9 +0.3**
CSNT AML AML
comp=E,493µm,0.6s
CSNT AML AML
comp=N,534µm,1.1s
RUFI Rufina 1.45 305 P **Pn 06 36 33.2 +0.3**
GIUL Giuliano Di Ro 1.46 177 P **Pb 06 36 33.4 -0.3**
FROS Frosini 1.47 278 P **Pn 06 36 32.9 -0.2**
FROS AML AML
comp=E,858µm,1.1s
FROS AML AML
comp=N,782µm,1.4s
OSSC Osservatorio P 1.47 291 P **Pn 06 36 32.7 -0.5**
FRES Fresagrandinar 1.54 132 AML AML
comp=N,803µm,0.8s
FRES AML AML
comp=E,1118µm,0.6s
CERA Filignano 1.56 155 AML AML
comp=E,1440µm,1.0s
CERA AML AML
comp=N,1140µm,1.0s
CERA AML AML

comp=E,1460µm,1.0s
CERA AML AML
comp=N,1190µm,1.0s
MAON Monte Argentar 1.59 249 P **Pn 06 36 34.7 -0.1**
MIDA Miranda 1.60 148 P **Pn 06 36 35.0 0.0**
TRIF Trifonti 1.64 274 P **Pn 06 36 35.3 -0.3**
SEI Scarperia 1.66 309 AML AML
comp=E,1190µm,0.5s
SEI AML AML
comp=N,1620µm,0.5s
CASP Castiglione de 1.69 263 AML AML
comp=E,194µm,1.6s
CASP AML AML
comp=N,134µm,1.5s
MPPT Montemurlo 1.77 303 P **Pn 06 36 37.5 +0.2**
MTCR Monte La Croce 1.86 304 P **Pn 06 36 38.7 0.0**
MELA Melanico ??? S 1.97 131 AML AML
comp=N,1955µm,0.5s
MELA AML AML
comp=N,1855µm,0.5s
MELA AML AML
comp=E,1480µm,0.8s
MELA AML AML
comp=E,1475µm,0.8s
PIGN Pignataro Magg 1.97 156 AML AML
comp=N,313µm,1.1s
PIGN AML AML
comp=E,312µm,1.6s
PIGN AML AML
comp=N,1460µm,0.9s
PIGN AML AML
comp=E,1540µm,0.9s
BDI Bagni Di Lucca 2.13 300 P **Pn 06 36 42.2 -0.1**
MAIM Mastiano 2.13 296 P **Pn 06 36 42.5 +0.3**
APRC Apricena 2.18 124 P **Pn 06 36 43.5 +0.6**
CARD Cardoso 2.18 299 P **Pn 06 36 43.0 0.0**
SGRT San Giovanni R 2.30 122 P **Pn 06 36 45.5 +0.8**
SGRT AML AML
comp=E,828µm,0.5s
SGRT AML AML
comp=N,590µm,0.6s
PLMA Palmaria, Port 2.61 295 AML AML
comp=N,113µm,0.8s
PLMA AML AML
comp=E,100µm,0.6s
SKDS Skadanscina 2.61 14 *i* Pn **Pn 06 36 48.4 -0.5**
SKDS *e*Sn **Sn 06 37 21.0 +0.1**
SKDS IAML 06 37 22.0
comp=Z,85nm,0.3s
GRAM Graiana 2.67 305 AML AML
comp=N,334µm,0.6s
GRAM AML AML
comp=E,338µm,0.5s
CEY Cerknica 2.88 18 *e*Pn **Pn 06 36 52.4 -0.2**
SABO M.te Sabotino 2.99 6 AML AML
comp=E,618µm,0.6s
SABO AML AML
comp=E,2380µm,0.6s
SABO AML AML
comp=N,658µm,0.8s
SABO AML AML
comp=N,2645µm,0.8s
CGRP Cima Grappa 3.02 342 AML AML
comp=E,590µm,0.5s
CGRP AML AML
comp=E,584µm,0.5s
CGRP AML AML
comp=N,618µm,0.6s
CGRP AML AML
comp=N,624µm,0.5s
VARN Col Varnada, M 3.07 346 AML AML
comp=N,409µm,0.6s
VARN AML AML
comp=E,550µm,0.6s
VARN AML AML
comp=N,420µm,0.6s
VARN AML AML
comp=E,566µm,0.6s
PGF Pioggiola 3.08 263 *e*P **Pn 06 36 55.9 +0.5**
PGF *e*Sn **Sn 06 37 27.3 -5.3**
comp=E,28nm,0.7s
SRKY Kupres RS 3.11 69 *e*Pn **Pn 06 36 56.2 +0.4**
MGRS Mrkonjic Grad 3.19 62 *e*Pn **Pn 06 36 57.9 +1.1**
SALO Salr 3.21 325 AML AML
comp=E,358µm,1.0s
SALO AML AML
comp=N,400µm,0.6s
CTI Castel Tesino 3.22 341 AML AML
comp=E,310µm,0.6s
CTI AML AML
comp=N,380µm,1.6s
MPRI Monte Prat 3.23 358 AML AML
comp=E,522µm,1.2s
MPRI AML AML
comp=N,556µm,0.5s
STAL STALIGIAL 3.26 355 AML AML
comp=E,437µm,0.4s
STAL AML AML
comp=N,342µm,0.8s
CIMO Cimolais 3.33 352 AML AML
comp=E,113µm,0.4s
CIMO AML AML
comp=N,114µm,0.9s
CIMO AML AML
comp=E,114µm,0.4s
CIMO AML AML
comp=N,121µm,1.4s
LUSI Trento, Gardas 3.34 333 AML AML
comp=N,260µm,0.5s
LUSI AML AML
comp=E,231µm,1.5s
STON Ston 3.35 91 *e*Pn **Pn 06 36 58.0 -1.0**
STON Ston 3.35 91 AML AML
comp=E,126µm,0.8s
STON AML AML
comp=N,104µm,1.3s
A051A Mrakovica 3.37 52 *e*Pn **Pn 06 36 59.5 +0.1**
PTCC Patocco-Chiusa 3.40 3 AML AML
comp=N,158µm,0.8s
PTCC AML AML
comp=E,186µm,0.4s
BLY Banja Luka 3.40 58 *e*Pn **Pb 06 37 04.0 -2.8**
CLUD Cludinico 3.45 357 AML AML
comp=N,210µm,0.6s
CLUD AML AML
comp=E,279µm,0.7s
CLUD AML AML
comp=E,270µm,0.8s
CLUD AML AML
comp=N,217µm,0.6s
ACOM Acomizza, Ital 3.55 4 AML AML
comp=N,410µm,0.8s
ACOM AML AML
comp=E,470µm,1.1s
ACOM AML AML
comp=N,452µm,0.9s
ACOM AML AML
comp=E,510µm,1.1s
ZOU Zoufplan 3.55 358 AML AML
comp=E,274µm,0.9s
ZOU AML AML
comp=N,250µm,1.4s
ZOU AML AML
comp=N,261µm,1.4s
ZOU AML AML
comp=E,268µm,0.8s
MABI Malga Bissina 3.58 329 AML AML
comp=E,77µm,0.5s
MABI AML AML
comp=N,98µm,1.6s
FVI Forni Avoltri 3.59 356 AML AML
comp=N,210µm,0.7s
FVI AML AML
comp=E,184µm,0.8s
MYKA Terra Mystica 3.63 5 *e*Pn **Pn 06 37 03.4 +0.4**
comp=E,2.6nm,0.2s,SNR=11
OBKA Obir 3.64 16 *e*Pn **Pn 06 37 02.8 -0.3**
OBKA Obir 3.64 16 *i* Pn **Pn 06 37 02.8 -0.3**
comp=E,2.3nm,0.2s
KOSI Kohlern 3.67 341 AML AML
comp=E,440µm,0.9s
KOSI AML AML
comp=N,219µm,1.2s
NOCI Noci 3.68 126 AML AML
comp=N,236µm,1.6s
NOCI AML AML
comp=E,206µm,1.4s

ABTA Abfaltersbach 3.76 353 *i* Pn **Pn 06 37 05.8 +1.0**
comp=E,40nm,0.5s,SNR=49
TREB Trebinje 3.84 93 *e*Pn **Pn 06 37 06.2 +0.4**
SOKA Soboth 3.91 20 *i* Pn **Pn 06 37 07.1 +0.4**
comp=E,0.8nm,0.3s
BRY Bratogost 3.96 90 *e*Pn **Pn 06 37 08.6 +1.0**
BRY Bratogost 3.96 90 ǁ *i* Pn **Pn 06 37 08.3 +0.7**
BRY *i* Sn **Sn 06 37 55.8 +1.4**
HCY Herceg Novi 3.98 96 *e*Pn **Pn 06 37 03.7 -4.0**
HCY Herceg Novi 3.98 96 ǁ *i* Pn **Pn 06 37 08.6 +0.8**
HCY *i* Sn **Sn 06 37 56.3 +1.6**
RISI Rein 4.01 350 AML AML
comp=N,482µm,0.5s
RISI AML AML
comp=E,538µm,0.6s
KBA Koelnbreinsper 4.07 2 *i* Pn **Pn 06 37 09.9 +0.9**
comp=E,5.7nm,0.2s,SNR=14
ROSI Rosskopf 4.10 343 AML AML
comp=N,322µm,0.6s
ROSI AML AML
comp=E,352µm,0.9s
UPM Unac-Piva 4.23 85 *e*Pn **Pn 06 37 12.0 +0.8**
UPM *i* Sn **Sn 06 38 02.1 +1.2**
VARE Varese 4.24 314 AML AML
comp=N,95µm,0.6s
VARE AML AML
comp=E,95µm,0.4s
SBF Sospel 4.24 284 *e*P **Pn 06 37 13.8 +2.5**
CEME Cevo 4.28 94 ǁ *i* Pn **Pn 06 37 12.7 +0.9**
CEME *i* Sn **Sn 06 38 03.5 +1.4**
NKME Niksic 4.28 91 ǁ *i* Pn **Pn 06 37 12.6 +0.8**
NKME *i* Sn **Sn 06 38 03.5 +1.5**
BUM Brajici-Budva 4.30 98 ǁ *i* Pn **Pn 06 37 13.0 +0.8**
BUM *i* Sn **Sn 06 38 04.1 +1.4**
FETA Feichten 4.36 338 *e*Pn **Pn 06 37 14.5 +1.5**
comp=E,3.6nm,0.5s,SNR=12
HAPS Han Pijesak,Bl 4.36 74 *e*Pn **Pn 06 37 14.7 +1.7**
WTTA Wattenberg 4.38 346 *e*Pn **Pn 06 37 15.1 +1.7**
comp=E,8.8nm,0.4s,SNR=14
DAVOX Davos/Dischmat 4.42 330 Pn **Pn 06 37 15.7 +1.8**
comp=E,11nm,0.4s
DAVOX Sn **Sn 06 38 07.0 +1.3**
DAVOX comp=E,1.6nm,0.3s,baz=273,slow=20,SNR=1.9 LR LR 06 39 31.4
comp=E,61nm,18.9s,baz=39,slow=47
SQTA Sankt Quirin 4.42 343 *e*Pn **Pn 06 37 15.9 +2.1**
comp=E,23nm,0.3s,SNR=55
WATA Walderalm 4.46 346 *e*Pn **Pn 06 37 16.2 +1.8**
comp=E,11nm,0.4s,SNR=20
DRME Dracevica, Mon 4.54 98 *e*Pn **Pn 06 37 15.6 +0.3**
DRME Dracevica, Mon 4.54 98 ǁ *i* Pn **Pn 06 37 16.3 +1.0**
DRME *i* Sn **Sn 06 38 09.8 +1.5**
TTG Podgorica 4.54 95 *e*Pn **Pn 06 37 16.4 +1.0**
TTG *i* Sn **Sn 06 38 09.9 +1.5**
ARSA Arzberg 4.56 21 *i* Pn **Pn 06 37 15.9 +0.2**
comp=E,3.1nm,0.3s
ARSA Arzberg 4.56 21 AML AML
comp=E,45µm,0.8s
ARSA AML AML
comp=N,40µm,1.5s
MOTA Moosalm 4.56 342 *i* Pn **Pn 06 37 17.9 +2.0**
comp=N,8.1nm,0.4s,SNR=14
RUDO Rudo 4.59 80 *e*Pn **Pn 06 37 14.4 -1.6**
TRAV Traversella 4.61 305 AML AML
comp=E,42µm,0.7s
TRAV AML AML
comp=N,45µm,0.5s
ULC Ulcinj 4.63 101 ǁ *i* Pn **Pn 06 37 17.6 +0.9**
ULC *i* Sn **Sn 06 38 12.1 +1.3**
BBLS Lazići 4.64 77 *e*Pn **Pn 06 37 18.2 +1.4**
KOME Kolasin 4.69 90 ǁ *i* Pn **Pn 06 37 18.3 +0.9**
KOME *i* Sn **Sn 06 38 13.3 +1.2**
BIOA Bad Ischl, Aus 4.69 4 *e*Pn **Pn 06 37 18.1 +0.7**
comp=N,4.0nm,0.2s,SNR=12
KOVH Kovagotottos 4.69 47 P **Pn 06 37 16.3 -1.2**
KOVH S **Sn 06 38 09.3 -2.9**
RJOB Jochberg 4.73 357 *e*Pn **Pn 06 37 19.2 +1.1**
RJOB *e*Sn **Sn 06 38 15.4 +2.2**
RETA Reutte 4.78 340 *e*Pn **Pn 06 37 20.9 +2.2**
comp=N,5.6nm,0.3s,SNR=12
DAVA Damuels 4.86 333 *e*Pn **Pn 06 37 22.0 +2.1**
comp=N,11nm,0.5s,SNR=12
LMR La Mourre 4.86 276 *e*P **Pn 06 37 19.4 -0.3**
MOA Molln 4.90 9 *e*Pn **Pn 06 37 21.0 +0.7**
comp=N,4.6nm,0.3s,SNR=8.0
MBDF Montbardon 4.91 293 *e*P **Pn 06 37 22.4 +1.8**
MBDF *e*Sn **Sn 06 38 15.2 -2.6**
comp=N,20nm,0.7s
IVA Berane 4.96 89 ǁ *i* Pn **Pn 06 37 22.1 +0.9**
IVA *i* Sn **Sn 06 38 20.0 +1.1**
PVY Plav 5.04 92 ǁ *i* Pn **Pn 06 37 23.2 +0.9**
PVY *i* Sn **Sn 06 38 21.8 +1.0**
BE1 Monatshausen 5.08 345 *e*Sn **Sn 06 38 23.5 +1.7**
DIVS Divibare 5.10 75 *e*Pn **Pn 06 37 24.7 +1.6**
UBR Ueberruh 5.13 336 *e*Pn **Pn 06 37 25.2 +1.6**
RONA Rosalia, Austr 5.19 24 *i* Pn **Pn 06 37 24.7 +0.4**
comp=N,1.2nm,0.2s,SNR=7.3
LPG La Plagne 5.22 301 *e*P **Pn 06 37 26.3 +1.4**
LPG *e*Sn **Sn 06 38 21.5 -4.0**
comp=N,22nm,0.7s
LPL La Plagne 5.24 301 *e*P **Pn 06 37 26.7 +1.5**
LPL *e*Sn **Sn 06 38 22.2 -3.7**
comp=N,36nm,0.7s
SOP Sopron 5.26 26 P **Pn 06 37 25.1 -0.1**
CONA Conrad Observa 5.28 20 *i* Pn **Pn 06 37 25.9 +0.3**
comp=N,7.2nm,0.5s,SNR=8.0
ORIF Oris-en-Rattie 5.58 292 *e*P **Pn 06 37 31.2 +1.5**
SMRF Simiane la Rot 5.59 283 *e*P **Pn 06 37 31.6 +1.8**
GEC2 GERESS Array S 5.85 4 *e*Pn **Pn 06 37 33.1 -0.3**
GERES GERESS Array B 5.85 4 Pn **Pn 06 37 32.2 -1.2**
comp=N,1.5nm,0.3s,baz=172,slow=13,SNR=44
GERES Sn **Sn 06 38 39.6 -1.1**
GERES comp=N,3.7nm,0.3s,baz=190,slow=30,SNR=11 LR LR 06 40 31.7
comp=N,47nm,20.1s,baz=200,slow=46
comp=N,1.9nm,0.3s
CKRC Cesky Krumlov 5.87 8 *e*SN **Sn 06 38 38.7 -2.4**
OHR Ohrid 6.01 106 *i* Pn **Pn 06 37 38.0 +2.4**
MODS Modra-Piesok 6.09 27 *e*PN **Pn 06 37 36.8 +0.1**
MODS *e*SN **Sn 06 38 46.9 +0.2**
KHC Kasperske Hory 6.13 3 *e*PN **Pn 06 37 37.0 -0.2**
KHC *e*SN **Sn 06 38 45.8 -1.8**
WET Wettzell 6.14 358 *e*Pn **Pn 06 37 36.5 -0.8**
WET *e*Sn **Sn 06 38 40.9 -6.8**
CABF La Chapelle 6.17 308 *e*P **Pn 06 37 39.1 +1.2**
BFO Black Forest 6.29 329 *e*Sn **Sn 06 38 48.0 -3.6**
VIVF Saint-Julien-l 6.38 290 *e*P **Pn 06 37 43.0 +2.3**
HINF Hinteralfeld 6.53 320 *e*P **Pn 06 37 42.9 +0.2**
HINF *e*Sn **Sn 06 38 53.6 -3.9**
comp=N,14nm,0.4s
VYHS Vyhne 6.78 34 *e*PN **Pn 06 37 46.9 +0.8**
VYHS *e*SN **Sn 06 39 02.8 -0.7**
CDF Champ du Feu 6.78 325 *e*P **Pn 06 37 46.1 -0.1**
CDF *e*Sn **Sn 06 39 00.0 -3.7**
comp=N,20nm,0.7s
ROTZ Rotzenmuhle 6.79 355 *e*Pn **Pn 06 37 46.3 +0.1**
ROTZ *e*Sn **Sn 06 38 58.9 -4.9**
GRF Grafenberg Arr 6.81 349 *e*Sn **Sn 06 39 00.6 -3.7**
LASF Ste Croix 6.83 282 *e*P **Pn 06 37 48.4 +1.6**
STIP Stip 6.83 98 *i* Pn **Pn 06 37 49.7 +2.9**
HAU Haudompre 6.90 319 *e*P **Pn 06 37 48.2 +0.3**
HAU *e*Sn **Sn 06 39 01.2 -5.5**
comp=N,31nm,0.5s
MANZ Manzenberg 7.01 355 *e*Pn **Pn 06 37 50.4 +1.0**
MANZ *e*Sn **Sn 06 39 05.1 -4.2**
PRU Pruhonice 7.04 7 *e*SN **Sn 06 39 08.2 -1.8**
NKC Novy Kostel 7.24 356 *e*SN **Sn 06 39 13.5 -1.4**
SMF Signal de Mont 7.54 302 *e*P **Pn 06 37 57.7 +1.1**
SMF *e*Sn **Sn 06 39 17.2 -5.1**
comp=N,12nm,0.7s
PAGF Fort de Pagny 7.59 320 *e*P **Pn 06 37 58.5 +1.3**
baz=134
PAGF *e*Sn **Sn 06 39 18.1 -5.3**
comp=N,21nm,0.7s
SFTF Sexfontaines 7.69 315 *e*P **Pn 06 37 59.2 +0.5**
baz=119
SFTF *e*Sn **Sn 06 39 21.6 -4.4**
comp=N,48nm,1.4s
MOX Moxa 7.71 353 *e*Pn **Pn 06 37 58.5 -0.3**
MOX *e*Sn **Sn 06 39 20.6 -5.7**
LOR Lormes 7.82 306 *e*P **Pn 06 38 01.5 +1.1**
baz=122
LOR *e*Sn **Sn 06 39 24.1 -5.0**
comp=N,7.5nm,0.5s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEST	Kesra	7.84	203	Pn	Pn	06 38 05.0	+4.2
	comp=N,0.6nm,0.3s,baz=8.1,slow=7.1,SNR=7.4						
	comp=N,5.9nm,0.6s						
MEZF	Maizieres J'vi	7.88	317	eP	Pn	06 38 01.5	+0.3
	baz=145						
MEZF				eSn	Sn	06 39 26.1	-4.5
	comp=N,15nm,0.7s						
BRG	Berggiesshubel	7.88	4	e(P)	Pn	06 38 04.4	+3.2
BRG				Amp		06 38 08.7	
	comp=Z,2.9nm,0.6s						
BRG				ex	x	06 39 24.0	
BRG				ex	x	06 40 22.9	
BRG				Amp		06 40 46.9	
	comp=Z,15nm,1.2s						
TNS	Taunus Mts	7.90	338	ePn	Pn	06 38 02.2	+0.6
TNS				eSn	Sn	06 39 26.8	-4.4
AVF	Avril sur Loir	7.91	302	eP	Pn	06 38 02.7	+1.1
AVF				eSn	Sn	06 39 25.5	-5.8
	comp=Z,14nm,1.0s						
SAVF	Savonnieres en	7.92	318	eP	Pn	06 38 01.0	-0.7
SSF	Saint Saulge	7.93	304	eP	Pn	06 38 01.6	-0.3
SSF				eSn	Sn	06 39 26.6	-5.3
	comp=Z,8.1nm,0.8s						
MTLF	Montolieu	7.99	276	eP	Pn	06 38 04.9	+2.2
BGF	Bois d'Agland	8.13	299	eP	Pn	06 38 03.9	-0.8
CAF	Calviac	8.21	287	eP	Pn	06 38 08.3	+2.5
CLL	Collm	8.30	359	ePn	Pn	06 38 06.0	-0.9
CLL				ex	x	06 38 14.0	
CLL				ex	x	06 38 22.0	
CLL				e(Sn)	Sn	06 39 28.0	-13
CLL				ex	x	06 39 38.0	
CLL				eSg	Sg	06 40 29.0	-3.5
CLL				ex	x	06 40 41.0	
	comp=Z,23nm,1.3s						
TCF	Toulx Ste Croi	8.45	297	eP	Pn	06 38 11.3	+2.2
TCF				eSn	Sn	06 39 38.6	-6.1
	comp=Z,9.4nm,1.1s						
RJF	Les Rejaudoux	8.66	289	eP	Pn	06 38 14.5	+2.5
BAIF	Baives	9.35	322	eP	Pn	06 38 25.1	+3.7
ETSF	Etsaut	10.05	274	eP	Pn	06 38 33.4	+2.4
IDI	Anoyia	11.94	126	Pn	Pn	06 39 00.2	+3.3
	comp=Z,0.4nm,0.3s,baz=287,slow=17,SNR=1.6						
	comp=Z,16nm,0.9s						
ESDC	Sonseca Array	13.28	261	LR	LR	06 44 17.9	
	comp=Z,35nm,20.5s,baz=141,slow=37						
EKA	Eskdalemuir Ar	16.24	325	Pn	Pn	06 39 55.1	+0.4
	baz=139,slow=14						
	comp=Z,1.7nm,0.9s						
HFS	Hagfors	17.15	1	LR	LR	06 48 05.3	
	comp=Z,55nm,19.2s,baz=244,slow=42						
NOA	NORSAR Array B	18.09	357	LR	LR	06 48 21.5	
	comp=Z,21nm,18.7s,baz=180,slow=41						
FINES	FINESS Array B	20.02	18	P	Pn	06 40 40.6	-0.4
	comp=Z,0.1nm,0.3s,baz=208,slow=7.8,SNR=1.5						
	comp=Z,1.1nm,0.8s						
TORD	Torodi Ar. Bea	31.36	202	P	P	06 42 29.0	+1.5
	comp=Z,0.3nm,0.5s,baz=11,slow=9.9,SNR=3.1						
	comp=Z,0.3nm,0.5s						
ARU	Arti	31.66	49	P	P	06 42 29.7	-0.2
	comp=Z,2.2nm,0.3s,baz=260,slow=17,SNR=3.6						
	comp=Z,2.2nm,0.3s						
MKAR	Makanchi Array	47.68	60	P	P	06 44 43.4	+0.2
	comp=Z,0.5nm,0.6s,baz=287,slow=7.1,SNR=1.6						
	comp=Z,0.5nm,0.6s						
SONM	Songino Array	61.69	50	P	P	06 46 25.3	+0.4
	comp=Z,0.6nm,0.9s,baz=305,slow=5.1,SNR=2.0						
	comp=Z,0.6nm,0.9s						
SDV	Santo Domingo	79.46	272	LR	LR	07 16 24.8	
	comp=Z,59nm,20.9s,baz=92,slow=30						
TXAR	Lajitas Array	87.57	309	P	P	06 48 55.2	-0.1
	comp=Z,0.2nm,0.8s,baz=42,slow=2.8,SNR=2.1						
	comp=Z,0.2nm,0.8s						
JTS	Las Juntas de	88.91	283	LR	LR	07 23 27.1	
	comp=Z,59nm,21.1s,baz=174,slow=32						

---

*PRU **01** 06:43:33.8±0.0, 42°.87N×13°.43E, h10km*
*IDC **01** 06:43:33.8±2.0, 43°.09N×13°.20E, h0km, mb3.3/1, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=37.7km s-min=19.9km az=90.0*
*ROM **01** 06:43:33.3±0.1, 43°.014N±0°.003×13°.140E±0°.004, h8km, ML3.2/7, Error ellipse: s-maj=0.3km s-min=0.1km az=255.0*
ISC 01 06:43:34.3±0.9, **43°.02N**±0°.02×**13°.13E**±0°.02, **h3**km±6km, **n46**, σ1§**25**/66, **1C**, **Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.03	294	P	Pg	06 43 34.8	-0.5
FDMO				S	Sg	06 43 35.8	-0.1
T1256	Bolognola (MC)	0.07	103	P	Pg	06 43 35.1	-0.8
T1256				S	Sg	06 43 36.8	-0.2
T1256				AML	AML		
	comp=E,96700μm,0.7s						
T1256				AML	AML		
	comp=N,80300μm,0.7s						
T1256				AML	AML		
	comp=N,71000μm,0.9s						
T1256				AML	AML		
T1256				AML	AML		
	comp=N,80350μm,0.7s						
T1256				AML	AML		
	comp=E,96600μm,0.7s						
FEMA	Monte Fema	0.08	224	P	Pg	06 43 36.0	-0.1
FEMA				S	Sg	06 43 37.9	+0.6
CSP1	Cessapalombo	0.09	39	P	Pg	06 43 35.8	-0.4
CSP1				S	Sg	06 43 37.7	+0.2
T1216	Preci, Frazion	0.15	212	P	Pg	06 43 37.2	-0.2
T1216				S	Sg	06 43 40.0	+0.6
T1216				AML	AML		
	comp=E,86000μm,1.1s						
T1216				AML	AML		
	comp=N,75600μm,0.4s						
T1216				AML	AML		
	comp=E,86000μm,1.0s						
T1216				AML	AML		
	comp=N,75550μm,0.4s						
GUMA	Gualdo di Mace	0.16	75	P	Pg	06 43 37.2	-0.2
GUMA				AML	AML		
	comp=E,73450μm,0.8s						
GUMA				AML	AML		
	comp=E,73400μm,0.8s						
GUMA				AML	AML		
	comp=N,83800μm,0.9s						
GUMA				AML	AML		
	comp=N,68900μm,0.8s						
GUMA				AML	AML		
	comp=E,74550μm,0.7s						
AM05	Amandola Campo	0.17	105	P	Pg	06 43 37.9	+0.2
AM05				S	Sg	06 43 40.4	+0.5
AM05				AML	AML		
	comp=E,5290μm,1.0s						
AM05				AML	AML		
	comp=N,4710μm,0.9s						
AM05				AML	AML		
	comp=E,17150μm,1.0s						
AM05				AML	AML		
	comp=E,5285μm,1.0s						
AM05				AML	AML		
	comp=E,17100μm,1.0s						
AM05				AML	AML		
	comp=N,1220μm,0.1s						
AM05				AML	AML		
	comp=N,4715μm,0.9s						
MDAR	Monte D'Aria	0.17	3	P	Pg	06 43 37.7	0.0
MDAR				S	Sg	06 43 40.7	+0.8
T1245	Castelsantange	0.17	165	P	Pg	06 43 38.1	+0.4
T1245				S	Sg	06 43 40.3	+0.3
T1245				AML	AML		
	comp=E,33600μm,0.6s						
T1245				AML	AML		
	comp=N,54700μm,0.6s						
T1245				AML	AML		
	comp=N,55600μm,0.6s						
T1245				AML	AML		
	comp=E,32800μm,0.6s						
T1245				AML	AML		
	comp=E,33600μm,0.6s						
SEF1	Sefro	0.18	313	P	Pg	06 43 38.0	+0.1
SEF1				S	Sg	06 43 41.5	+1.3
PIO1	Pioraco	0.19	326	P	Pg	06 43 38.1	+0.1
PIO1				S	Sg	06 43 41.7	+1.2
MMO1	Montemonaco	0.19	130	P	Pg	06 43 37.6	-0.5
MMO1				S	Sg	06 43 40.5	0.0
SSM1	San Severino M	0.21	10	P	Pg	06 43 38.4	+0.1
SSM1				S	Sg	06 43 42.4	+1.3
FIU1	Fiuminata	0.22	319	P	Pg	06 43 38.6	0.0
FIU1				S	Sg	06 43 42.7	+1.2
GAG1	Gagliole	0.22	348	P	Pg	06 43 38.6	+0.1
GAG1				S	Sg	06 43 42.9	+1.4
SNTG	Esanatoglia	0.27	329	P	Pg	06 43 39.6	+0.1
SNTG				S	Sg	06 43 44.2	+1.1
SNTG				AML	AML		
	comp=E,3725μm,0.9s						
SNTG				AML	AML		
	comp=N,3750μm,1.3s						
SNTG				AML	AML		
	comp=E,3695μm,0.6s						
SNTG				AML	AML		
	comp=N,3930μm,0.6s						
SNTG				AML	AML		
	comp=E,3720μm,0.9s						
SNTG				AML	AML		
	comp=E,3690μm,0.6s						
T1241	Roccafluvione,	0.28	127	P	Pg	06 43 39.2	-0.4
T1241				AML	AML		
	comp=E,10270μm,1.2s						
T1241				AML	AML		
	comp=N,8650μm,0.6s						
T1241				AML	AML		
	comp=E,10385μm,0.6s						
T1241				AML	AML		
	comp=N,8835μm,0.6s						
T1241				AML	AML		
	comp=E,10280μm,1.2s						
T1241				AML	AML		
	comp=N,8655μm,0.6s						
T1241				AML	AML		
	comp=E,10390μm,0.6s						
T1241				AML	AML		
	comp=E,10240μm,1.2s						
T1241				AML	AML		
	comp=E,10405μm,0.6s						
T1241				AML	AML		
	comp=N,8650μm,0.6s						
T1215	Vallo di Nera,	0.29	221	P	Pg	06 43 39.9	0.0
T1215				S	Sg	06 43 44.6	+0.8
T1215				AML	AML		
	comp=N,6145μm,1.5s						
T1215				AML	AML		
	comp=E,7855μm,1.3s						
T1215				AML	AML		
	comp=E,7860μm,1.3s						
T1215				AML	AML		
	comp=N,6140μm,1.5s						
T1215				AML	AML		
	comp=N,6180μm,1.5s						
T1215				AML	AML		
	comp=E,7600μm,1.3s						
T1217	Poggiodomo (PG	0.34	205	P	Pg	06 43 40.6	-0.3
T1217				S	Sg	06 43 46.6	+1.1
T1217				AML	AML		
	comp=E,9740μm,0.5s						
T1217				AML	AML		
	comp=N,12600μm,0.5s						
T1217				AML	AML		
	comp=N,12400μm,0.5s						
T1217				AML	AML		
	comp=E,9730μm,0.5s						
T1217				AML	AML		
	comp=N,12600μm,0.5s						
T1217				AML	AML		
	comp=N,12370μm,0.5s						
T1217				AML	AML		
	comp=E,9640μm,0.5s						
ASSB	Assisi San Ben	0.35	273	⇑P	Pg	06 43 36.8	-4.2
T1204	Amatrice, Fraz	0.37	158	P	Pg	06 43 41.1	-0.5
T1204				S	Sg	06 43 47.1	+0.7
T1204				AML	AML		
	comp=E,10760μm,1.1s						
T1204				AML	AML		
	comp=N,7205μm,0.9s						
T1204				AML	AML		
	comp=E,10750μm,1.1s						
T1243	Rocca Santa Ma	0.40	144	P	Pg	06 43 41.5	-0.6
SMA1	SAN MARTINO	0.42	159	P	Pg	06 43 41.8	-0.6
MOCO	Biccari - m.te	2.24	137	P	Pn	06 44 04.9	-7.4
TREG	Tregnago	2.87	331	P	Pn	06 44 18.5	-2.4
MYKA	Terra Mystica	3.62	6	ePn	Pn	06 44 30.4	-1.0
	comp=E,2.7nm,0.2s						
OBKA	Obir	3.63	16	i Pn	Pn	06 44 31.2	-0.2
	comp=E,0.8nm,0.3s						
ABTA	Abfaltersbach	3.75	354	ePn	Pn	06 44 33.4	+0.3
	comp=E,39nm,0.4s,SNR=39						
KBA	Koelnbreinsper	4.06	2	i Pn	Pn	06 44 37.8	+0.4
	comp=E,3.7nm,0.2s,SNR=8.0						
FETA	Feichten	4.34	338	ePn	Pn	06 44 42.7	+1.4
	comp=E,3.0nm,0.4s,SNR=6.6						
WTTA	Wattenberg	4.37	347	i Pn	Pn	06 44 42.5	+0.8
	comp=E,14nm,0.7s,SNR=8.1						
DAVOX	Davos/Dischmat	4.41	330	Pn	Pn	06 44 43.8	+1.5
	comp=E,1.9nm,0.3s,baz=150,slow=22,SNR=12						
DAVOX				Sn	Sn	06 45 32.6	-1.5
	comp=E,0.2nm,0.3s,baz=146,slow=17,SNR=1.8						
	comp=E,9.1nm,0.6s						
SQTA	Sankt Quirin	4.41	343	ePn	Pn	06 44 43.8	+1.6
	comp=E,16nm,0.4s,SNR=16						
WATA	Walderalm	4.45	346	ePn	Pn	06 44 44.2	+1.5
	comp=E,9.3nm,0.4s,SNR=14						
MOTA	Moosalm	4.55	342	ePn	Pn	06 44 45.9	+1.7
	comp=E,11nm,0.6s,SNR=9.6						
BIOA	Bad Ischl, Aus	4.68	4	ePn	Pn	06 44 46.4	+0.6
	comp=E,4.2nm,0.3s,SNR=7.2						
RETA	Reutte	4.77	340	i Pn	Pn	06 44 47.9	+0.9
	comp=E,4.7nm,0.3s						
DAVA	Damuels	4.84	333	ePn	Pn	06 44 50.0	+1.9
	comp=E,7.6nm,0.5s,SNR=6.0						
MOA	Molln	4.89	9	ePn	Pn	06 44 48.9	+0.2
	comp=E,1.1nm,0.2s						
CONA	Conrad Observa	5.27	20	ePn	Pn	06 44 53.3	-0.6
	comp=E,0.4nm,0.2s						
GERES	GERESS Array B	5.84	4	Pn	Pn	06 45 00.4	-1.3
	comp=E,0.7nm,0.3s,baz=170,slow=13,SNR=18						
GERES				Sn	Sn	06 46 08.0	-1.1
	comp=E,0.9nm,0.3s,baz=181,slow=24,SNR=4.8						
	comp=E,1.0nm,0.3s						
KHC	Kasperske Hory	6.12	3	ePN	Pn	06 45 04.8	-0.7
KHC				eSN	Sn	06 46 14.3	-1.7
KEST	Kesra	7.85	203	Pn	Pn	06 45 30.2	+0.9
	comp=E,0.3nm,0.3s,baz=21,slow=19,SNR=3.5						
	comp=E,2.1nm,0.8s						
BRG	Berggiesshubel	7.87	4	e(P)	Pn	06 45 33.7	+4.1
BRG				Amp		06 45 34.5	
	comp=Z,2.7nm,0.6s						
BRG				ex	x	06 47 54.2	
BRG				Amp		06 48 15.3	
	comp=Z,6.1nm,1.0s						
CLL	Collm	8.29	359	eSg	Sg	06 47 57.0	-3.2
MKAR	Makanchi Array	47.68	60	P	P	06 52 11.8	0.0
	comp=Z,0.3nm,0.6s,baz=295,slow=7.8,SNR=1.8						
	comp=Z,0.3nm,0.6s						

IDC 01 06:58:44.2±61.0, **31°.39S**×**176°.22W**, **h0**km, **mb3.4**/3, **mbtmp3.4**/3, **Error ellipse: s-maj=1126.0km s-min=214.7km az=101.0**, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.76	258	P	P	07 05 44.4	-0.6
	1.4nm,0.8s,baz=117,slow=11,SNR=2.1						
	1.4nm,0.8s						
ASAR	Alice Springs	44.59	267	P	P	07 06 59.0	+0.6
	0.2nm,0.7s,baz=101,slow=7.6,SNR=2.6						
	0.2nm,0.7s						
WRA	Warramunga Arr	45.67	272	P	P	07 07 06.7	-0.3
	0.1nm,0.3s,baz=114,slow=7.4,SNR=7.7						
	0.1nm,0.3s						

---

*IDC **01** 07:06:33.2±0.9, 25°.77N×126°.13E, h0km, mb3.9/10, mbtmp3.9/11, ML3.7/1, MS3.0/7, Error ellipse: s-maj=26.0km s-min=20.5km az=55.0*
*JMA **01** 07:06:39.6±0.1, 26°N±1°×12°6E±°, h52km±4km, MV3.9/19, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
*NEIC **01** 07:06:39.1±2.4, 25°.2N±0°.1×126°.54E±0°.10, h70km±9km, mb4.6/13, Error ellipse: s-maj=19.2km s-min=10.1km az=149.0*
ISC 01 07:06:40.1±1.0, **25°.73N**±0°.06×**126°.28E**±0°.05, **h52**km±9km, **n70**, σ1§**06**/70, **mb4.2**/16, **MS3.3**/4, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.75	37	P	Pn	07 06 54.3	-0.2
JKE				S	Sn	07 07 04.7	-0.4
JAGN	Aguni-jima	1.22	45	P	Pn	07 07 00.7	0.0
JAGN				S	Sn	07 07 15.5	-0.7
JIKM	Ikemajima	1.23	230	P	Pn	07 07 00.9	-0.1
JIKM				eS	Sn	07 07 16.4	-0.1
JMJ2	Miyako jima3	1.31	221	P	Pn	07 07 02.2	+0.3
JMJ2				eS	Sn	07 07 19.2	+0.8
JIRB	Irabujima	1.34	228	P	Pn	07 07 02.9	+0.4
JJT3	Tamagusuku3	1.42	73	P	Pn	07 07 03.5	0.0
JNTH	Nagotoyohara	1.75	63	P	Pn	07 07 08.1	+0.1
JNTH				eS	Sn	07 07 29.2	0.0
JTJ	Tarama	1.79	233	P	Pn	07 07 09.2	+0.7
JTJ				eS	Sn	07 07 30.5	+0.3
JIH	Iheya	2.00	49	P	Pn	07 07 11.6	+0.2
JIH				eS	Sn	07 07 35.6	+0.4
JOW	Kunigami	2.10	58	Pn	Pn	07 07 12.2	-0.6
	31nm,0.3s,baz=135,slow=23,SNR=27						
JOW				Sn	Sn	07 07 38.0	+0.2
	130nm,0.3s,baz=131,slow=24,SNR=9.0						
	76nm,0.3s						
JOW	Kunigami	2.10	58	Pn	Pn	07 07 13.9	+1.1
JOW	Kunigami	2.10	58	P	Pn	07 07 13.2	+0.3
JOW				eS	Sn	07 07 37.0	-0.8
JISG	Ishigakijimahi	2.12	238	P	Pn	07 07 13.0	0.0
JISG				S	Sn	07 07 37.4	-0.7
JYRO	Yoronjima	2.34	56	P	Pn	07 07 15.5	-0.5
JIJ	Ishigaki jima	2.37	235	P	Pn	07 07 16.1	-0.4
JIJ				S	Sn	07 07 43.0	-1.2
JKRS	Kuro-shima	2.54	235	eP	Pn	07 07 18.9	+0.1
JOKE	Okinoerabujima	2.62	51	eP	Pn	07 07 21.2	+1.3
IRIF	Iriomote-Funau	2.70	240	P	Pn	07 07 21.0	+0.1
NACB	Ninganchiao	4.53	251	Pn	Pn	07 07 46.1	0.0
NACB	Ninganchiao	4.53	251	P	Pn	07 07 46.2	+0.2
YHNB	Yeheng	4.56	258	Pn	Pn	07 07 49.1	+2.4
YHNB	Yeheng	4.56	258	P	Pn	07 07 51.0	+4.3
YULB	Yu-li	5.10	244	Pn	Pn	07 07 52.1	-1.8
YULB	Yu-li	5.10	244	P	Pn	07 07 52.4	-1.5
SSLB	Suanglung	5.21	249	Pn	Pn	07 07 55.6	+0.1
SSLB	Suanglung	5.21	249	P	Pn	07 07 56.8	+1.3
TWG	Pinlang	5.56	240	Pn	Pn	07 07 58.2	-2.1
TPUB	Ta-pu	5.69	246	Pn	Pn	07 08 02.3	+0.3
TPUB	Ta-pu	5.69	246	P	Pn	07 08 02.5	+0.5
KSRS	Korea Array	11.77	6	LR	LR	07 13 53.8	
	comp=Z,20nm,19.9s,baz=205,slow=38						
JCJ	Chichijima	14.32	81	LR	LR	07 14 43.8	
	comp=Z,38nm,21.5s,baz=317,slow=34						
USRK	Ussuriysk Ar.	19.00	13	LR	LR	07 17 60.0	
	comp=Z,47nm,20.2s,baz=155,slow=36						
GUMO	Guam	21.23	121	LR	LR	07 18 33.4	
	comp=Z,23nm,20.9s,baz=296,slow=34						
SONM	Songino Array	27.06	330	P	P	07 12 17.6	-0.1
	1.6nm,0.6s,baz=148,slow=11,SNR=12						
SONM				LR	LR	07 23 07.6	
	comp=Z,43nm,20.8s,baz=71,slow=37						
	1.6nm,0.6s						
SONM	Songino Array	27.06	330	P	P	07 12 20.9	+3.2
H11S3	WAKE ISLAND Hy	38.01	93	T	T	07 54 04.6	
	baz=284						
H11S1	WAKE ISLAND Hy	38.02	93	T	T	07 54 00.9	
	baz=284						
H11S2	WAKE ISLAND Hy	38.03	93	T	T	07 54 05.5	
	baz=284						
MK31	Makanchi Array	40.57	313	P	P	07 14 14.3	-0.1
MKAR	Makanchi Array	40.57	313	P	P	07 14 13.7	-0.8
	1.4nm,0.4s,baz=99,slow=9.7,SNR=27						
MKAR				PcP	PcP	07 16 15.8	0.0
	0.8nm,0.9s,baz=90,slow=2.9,SNR=2.4						
	1.4nm,0.4s						
MKAR	Makanchi Array	40.57	313	P	P	07 14 13.8	-0.6
ZALV	Zalesovo Beam	41.60	324	P	P	07 14 20.6	-2.1
	0.7nm,0.3s,baz=108,slow=8.9,SNR=4.7						
	0.7nm,0.3s						
ZALV	Zalesovo Beam	41.60	324	P	P	07 14 21.9	-0.8
KURK	Kurchatov	43.99	317	P	P	07 14 42.1	0.0
KURK				IAmb	IAmb	07 14 42.4	
	comp=Z,3.7nm,0.3s						
WB0	Warramunga Arr	45.91	169	P	P	07 14 51.6	-6.0
WB0				IAmb	IAmb	07 14 56.7	
	comp=Z,8.2nm,1.4s						
WRA	Warramunga Arr	46.07	169	P	P	07 14 58.9	0.0
	comp=Z,0.4nm,0.6s,baz=351,slow=8.6,SNR=3.8						
	comp=Z,0.4nm,0.6s						
WRA	Warramunga Arr	46.07	169	P	P	07 14 50.4	-8.6
WB2	Warramunga Arr	46.07	169	P	P	07 14 50.4	-8.6
WB2				IAmb	IAmb	07 15 20.0	
	comp=Z,14nm,1.5s						
KKAR	Karatay Array	48.27	306	P	P	07 15 16.1	+0.1
ASAR	Alice Springs	49.66	171	P	P	07 15 27.8	+1.1
	comp=Z,0.1nm,0.5s,baz=354,slow=7.2,SNR=2.1						
	comp=Z,0.1nm,0.5s						
ABKAR	Akbulak array	55.71	313	P	P	07 16 11.4	+0.3
ABKAR				IAmb	IAmb	07 16 11.9	
	comp=Z,3.8nm,0.6s						
ABKAR	Akbulak array	55.71	313	P	P	07 16 11.7	+0.6
ARU	Arti	56.70	322	LR	LR	07 42 51.1	
	comp=Z,50nm,19.9s,baz=106,slow=38						
KIRV	Kirov	61.63	325	LR	LR	07 43 53.6	
	comp=Z,46nm,18.3s,baz=43,slow=36						
IMAR	Indian Mountai	62.73	27	P	P	07 17 01.4	+2.1
BMAR	Burnt Mountain	66.20	25	P	P	07 17 23.9	+1.8
FIA1	FINESS Array S	72.43	330	P	P	07 17 60.0	-0.6
FINES	FINESS Array B	72.43	330	P	P	07 18 00.2	-0.3
	comp=Z,1.4nm,0.4s,baz=60,slow=5.5,SNR=15						
	comp=Z,1.4nm,0.4s						
FINES	FINESS Array B	72.43	330	P	P	07 18 00.4	-0.2
AKASG	Malin Array Be	74.77	319	P	P	07 18 14.1	-0.4
	comp=Z,0.9nm,0.4s,baz=58,slow=6.5,SNR=4.1						
	comp=Z,0.9nm,0.4s						
BR131	Keskin Array S	75.95	307	P	P	07 18 21.5	-0.2
BR131				IAmb	IAmb	07 18 47.5	
	comp=Z,15nm,1.5s						
BRTR	Keskin Array B	75.95	307	P	P	07 18 22.0	+0.3
	comp=Z,2.1nm,0.7s,baz=93,slow=6.1,SNR=3.6						
	comp=Z,2.1nm,0.7s						
BRTR	Keskin Array B	75.95	307	P	P	07 18 21.8	0.0
RES	Resolute Bay	76.36	10	P	P	07 18 23.3	+0.1
RES				IAmb	IAmb	07 18 59.9	
	comp=Z,9.6nm,1.2s						
NC405	NORSAR Array S	78.73	333	P	P	07 18 37.1	+0.4
NB2	NORSAR Subarra	78.98	333	P	P	07 18 37.8	-0.3
	comp=Z,0.5nm,0.4s,baz=54,slow=6.2						
NOA	NORSAR Array B	78.98	333	P	P	07 18 37.6	-0.5
	comp=Z,0.8nm,0.4s,baz=51,slow=6.1,SNR=5.4						
	comp=Z,0.8nm,0.4s						
NC204	NORSAR Array S	79.03	334	P	P	07 18 38.2	-0.1
OJC	Ojcow	80.42	321	P	P	07 18 44.8	-1.3
OJC				IAmb	IAmb	07 18 45.4	
	comp=Z,3.0nm,0.5s						
GERES	GERESS Array B	84.53	322	P	P	07 19 08.3	+0.7
	comp=Z,0.3nm,0.5s,baz=34,slow=5.9,SNR=2.9						
	comp=Z,0.3nm,0.5s						

IDC 01 07:11:35.3±19.0, **17°.40S**×**179°.17W**, **h587**km±53km, **mb3.3**/3, **mbtmp4.2**/4, **Error ellipse: s-maj=394.7km s-min=105.8km az=80.0**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.68	263	P	P	07 12 51.7	0.0
	22nm,0.7s,baz=99,slow=4.5,SNR=15						
STKA	Stephens Creek	38.25	240	P	P	07 18 06.5	-0.1
	1.9nm,0.5s,baz=84,slow=9.2,SNR=6.7						
	1.9nm,0.5s						
WRA	Warramunga Arr	44.02	259	P	P	07 18 52.0	-0.3
	0.9nm,0.4s,baz=94,slow=7.0,SNR=67						
	0.9nm,0.4s						
ASAR	Alice Springs	44.24	254	P	P	07 18 54.0	0.0
	8.6nm,0.5s,baz=88,slow=8.4,SNR=208						
	8.6nm,0.5s						

---

*NIC **01** 07:37:10.9±0.0, 33°.71N×31°.99E, h29km±1km, Ml2.9/2*
*HLW **01** 07:37:13.7, 33°.55N×32°.14E, h10km±16km, Md3.0*
ISC 01 07:37:09.4±1.4, **33°.73N**±0°.04×**32°.12E**±0°.06, **h6**km±13km, **n15**, σ1§**41**/20, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OSC2	CSNet OBS 4	0.67	169	P	Pg	07 37 21.4	-0.8
OSC2				S	Sb	07 37 34.4	+1.5

OSC1	**CSNet OBS 1**	**0.74**	**252**	P	**Pg**	**07 37 23.3**	**-0.3**
OSC1				S	**Sg**	**07 37 33.6**	**+0.4**
NATA	**Nata**	**1.11**	**20**	P	**Pb**	**07 37 31.1**	**0.0**
NATA				S	**Sn**	**07 37 46.3**	**-1.0**
SZAC	**Souni**	**1.20**	**32**	P	**Pb**	**07 37 32.8**	**+0.1**
SZAC				S	**Sn**	**07 37 49.5**	**-0.1**
SZAC				AML	AML	07 37 50.0	
	0.7nm,0.4s						
SZAC				AML	AML	07 37 50.0	
	0.7nm,0.4s						
SZAC				AML	AML	07 37 50.9	
	0.7nm,0.2s						
SZAC				AML	AML	07 37 50.9	
	0.7nm,0.2s						
AKMS	**Akamas**	**1.30**	**8**	P	**Pg**	**07 37 33.4**	**-1.0**
ASGA	**Asgata**	**1.41**	**41**	P	**Pn**	**07 37 35.8**	**+0.2**
ASGA				S	**Sn**	**07 37 55.0**	**+0.4**
ASGA				AML	AML	07 37 56.8	
	0.7nm,0.2s						
ASGA				AML	AML	07 37 56.8	
	0.7nm,0.2s						
ASGA				AML	AML	07 37 56.9	
	0.8nm,0.2s						
ASGA				AML	AML	07 37 56.9	
	0.8nm,0.2s						
SUZ	**Suez**	**3.92**	**171**	P	**Pn**	**07 38 11.2**	**+0.9**
	baz=170						
HMYD	**Mayadein**	**4.08**	**196**	P	**Pn**	**07 38 13.2**	**+0.8**
	baz=198						
HSAF	**As Saff**	**4.13**	**187**	P	**Pn**	**07 38 14.1**	**+1.1**
	baz=188						
GLL	**Jalalah**	**4.15**	**185**	P	**Pn**	**07 38 14.0**	**+0.5**
	baz=186						
HNAT	**Natroun**	**4.28**	**198**	P	**Pn**	**07 38 16.6**	**+1.5**
	baz=199						
NBNS	**Bani Suef**	**5.14**	**188**	S	**Sn**	**07 39 22.4**	**-4.2**
	baz=189						
HKAT	**Jabal Katrina**	**5.43**	**162**	P	**Pn**	**07 38 32.1**	**+0.9**
	baz=161						
GRB	**Gharib**	**5.47**	**174**	P	**Pn**	**07 38 32.4**	**+0.8**
	baz=173						
TR2	**Tor 2**	**5.50**	**165**	P	**Pn**	**07 38 33.4**	**+1.4**
	baz=164						

MED_RC ***01*** *07:56:39.0±0.3, 42.˚83N×13.˚22E, h10km, MW5.0/14, Moment Tensor Solution. Mantle waves: s14,c19; Duration: 1s2 Moment tensor: Scale 10¹⁶Nm; Mrr-2.53±.08; Mθθ 0.48±.08; Mϕϕ 2.05±.07; Mrθ-0.40±.41; Mθϕ-0.90±.07; Mϕr-2.19±.47; Best double couple: M₀3.32000×10¹⁶ NP1:ϕs356.00000°, δ66.00000°, λ-74.00000°. NP2:ϕs140.00000°, δ29.00000°, λ-122.00000°. Principal axes: T 3.1100, Plg19.0000°, Azm74.0000°; N 0.4200, Plg15.0000°, Azm169.0000°; P -3.5300, Plg65.0000°, Azm294.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=40s.*

PDG ***01*** *07:56:40.4±1.1, 43.˚02N×13.˚18E, h8km±1km, MD4.9/1, ML4.8/13 Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

NEIC ***01*** *07:56:40.7, 42.˚98N×13.˚12E, h6km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-2.68; Mθθ 0.70; Mϕϕ 1.98; Mrθ 0.17; Mθϕ-0.73; Mϕr 0.63; Fault plane solution: M₀2.60000×10¹⁶ NP1:ϕs163.50000°, δ51.25000°, λ-80.48000°. NP2:ϕs328.50000°, δ39.72000°, λ-101.65000°. Principal axes: T 2.3620, Plg6.0000°, Azm247.0000°; N 0.4235, Plg7.0000°, Azm338.0000°; P -2.7855, Plg81.0000°, Azm119.0000°;*

IDC ***01*** *07:56:40.3±0.5, 43.˚10N×13.˚08E, h0km, mb4.5/31, mbtmp4.4/44, ML3.9/13, MS4.3/71 Error ellipse: s-maj=8.9km s-min=8.8km az=139.0*

NEIC ***01*** *07:56:40.9±2.3, 43.˚01N±0.˚05×13.˚15E±0.˚06, h10km±1km, Error ellipse: s-maj=8.3km s-min=7.4km az=208.0*

ROM ***01*** *07:56:40.3±0.0, 42.˚990N±0.˚002×13.˚135E±0.˚003, h8km, ML4.7/73, Mw4.8, Error ellipse: s-maj=0.2km s-min=0.1km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-2.01; Mθθ 0.37; Mϕϕ 1.63; Mrθ 0.17; Mθϕ-0.73; Mϕr 0.11; Fault plane solution: M₀1.99796×10¹⁶ NP1:ϕs330.00000°, δ45.00000°, λ-98.00000°. NP2:ϕs161.00000°, δ46.00000°, λ-82.00000°.*

LDG ***01*** *07:56:41.2±0.1, 42.˚92N×13.˚04E, h9km, Ml4.6/32 Error ellipse: s-maj=5.6km s-min=2.9km az=47.0*

PRU ***01*** *07:56:41.2±0.0, 43.˚00N×13.˚00E, h10km, M4.9*

BEO ***01*** *07:56:42.2±0.7, 42.˚99N×13.˚13E, h11km±1km, ML4.8/13*

GCMT ***01*** *07:56:42.6±0.2, 42.˚91N±0.˚02×13.˚20E±0.˚02, h12km, MW5.0/116, Moment Tensor Solution. s40,c53; s116,c171; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.12±.06; Mθθ 0.66±.07; Mϕϕ 2.47±.06; Mrθ 0.16±.27; Mθϕ-1.38±.05; Mϕr-1.13±.22; Best double couple: M₀3.36700×10¹⁶ NP1:ϕs339.00000°, δ55.00000°, λ-82.00000°. NP2:ϕs145.00000°, δ36.00000°, λ-101.00000°. Principal axes: T 3.3910, Plg9.0000°, Azm63.0000°; N -0.0430, Plg7.0000°, Azm154.0000°; P -3.3430, Plg78.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

STR ***01*** *07:56:44.6±0.5, 43.˚N±10.˚×1.˚3E±.˚, h10km, mb5.0/15*

BNS ***01*** *07:56:45.5±0.3, 43.˚15N×13.˚12E, h10km, ML4.6*

ISC 01 07:56:41.1±0.6, **42.˚99N**±0.˚01×**13.˚12E**±0.˚01, **h7**km±3km, **n1095**, **σ2s07/993**, **mb4.9**/71, **MS4.3**/67, **46C-40D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.05**	**334**	Pg	**Pg**	**07 56 42.5**	**-0.2**
FDMO				Sg	**Sg**	**07 56 44.3**	**+0.4**
FDMO	**Fiordimonte**	**0.05**	**334**	⇓P	**Pg**	**07 56 41.8**	**-0.9**
FDMO	**Fiordimonte**	**0.05**	**334**	P	**Pg**	**07 56 42.6**	**-0.1**
FEMA	**Monte Fema**	**0.06**	**243**	P	**Pg**	**07 56 42.2**	**-0.7**
FEMA				S	**Sg**	**07 56 43.9**	**-0.2**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,10377μm,0.2s						
FEMA	**Monte Fema**	**0.06**	**243**	P	**Pg**	**07 56 42.7**	**-0.1**
FEMA				S	**Sg**	**07 56 44.7**	**+0.6**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
T1256	**Bolognola (MC)**	**0.08**	**77**	P	**Pg**	**07 56 41.7**	**-1.5**
T1256				S	**Sg**	**07 56 43.1**	**-1.5**
T1256				AML	AML		
	comp=N,8507μm,0.1s						
T1256	**Bolognola (MC)**	**0.08**	**77**	P	**Pg**	**07 56 42.8**	**-0.4**
T1256				S	**Sg**	**07 56 44.3**	**-0.3**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
CSP1	**Cessapalombo**	**0.12**	**31**	P	**Pg**	**07 56 42.5**	**-1.3**
CSP1	**Cessapalombo**	**0.12**	**31**	P	**Pg**	**07 56 43.5**	**-0.3**
CSP1				S	**Sg**	**07 56 45.3**	**-0.3**
T1216	**Preci, Frazion**	**0.12**	**217**	⇑P	**Pg**	**07 56 43.1**	**-0.6**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216	**Preci, Frazion**	**0.12**	**217**	P	**Pg**	**07 56 43.9**	**+0.2**
T1216				S	**Sg**	**07 56 46.7**	**+1.2**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1220	**Camerino, Fraz**	**0.12**	**349**	P	**Pg**	**07 56 42.9**	**-0.9**
T1220				S	**Sg**	**07 56 45.2**	**-0.4**
T1220				AML	AML		
T1220				AML	AML		
T1245	**Castelsantange**	**0.14**	**159**	P	**Pg**	**07 56 43.1**	**-1.0**
T1245				S	**Sg**	**07 56 45.5**	**-0.6**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				END			
T1245	**Castelsantange**	**0.14**	**159**	P	**Pg**	**07 56 44.1**	**0.0**
T1245				S	**Sg**	**07 56 46.4**	**+0.3**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
AM05	**Amandola Campo**	**0.17**	**94**	⇑P	**Pg**	**07 56 43.3**	**-1.3**
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
	comp=E,17881μm,0.1s						
AM05	**Amandola Campo**	**0.17**	**94**	P	**Pg**	**07 56 44.3**	**-0.2**
AM05				S	**Sg**	**07 56 47.1**	**+0.2**
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
GUMA	**Gualdo di Mace**	**0.17**	**65**	⇑P	**Pg**	**07 56 43.6**	**-1.0**
GUMA				S	**Sg**	**07 56 47.4**	**+0.4**
GUMA	**Gualdo di Mace**	**0.17**	**65**	P	**Pg**	**07 56 44.6**	**0.0**
GUMA				S	**Sg**	**07 56 47.8**	**+0.7**
MMO1	**Montemonaco**	**0.18**	**120**	⇑P	**Pg**	**07 56 43.3**	**-1.4**
MMO1	**Montemonaco**	**0.18**	**120**	P	**Pg**	**07 56 44.2**	**-0.4**
SEF1	**Sefro**	**0.20**	**321**	P	**Pg**	**07 56 44.6**	**-0.5**
SEF1				AML	AML		
SEF1				AML	AML		
SEF1	**Sefro**	**0.20**	**321**	P	**Pg**	**07 56 45.4**	**+0.2**
SEF1				S	**Sg**	**07 56 48.4**	**+0.6**
SEF1				AML	AML		
SEF1				AML	AML		
MDAR	**Monte D'Aria**	**0.20**	**5**	P	**Pg**	**07 56 44.1**	**-1.1**
MDAR				AML	AML		
MDAR				AML	AML		
MDAR	**Monte D'Aria**	**0.20**	**5**	P	**Pg**	**07 56 45.0**	**-0.1**
MDAR				S	**Sg**	**07 56 48.1**	**+0.1**
MDAR				AML	AML		
MDAR				AML	AML		
PIO1	**Pioraco**	**0.21**	**332**	P	**Pg**	**07 56 44.5**	**-0.9**
PIO1				AML	AML		
PIO1				AML	AML		
PIO1	**Pioraco**	**0.21**	**332**	P	**Pg**	**07 56 45.5**	**+0.2**
PIO1				S	**Sg**	**07 56 49.0**	**+0.7**
PIO1				AML	AML		
PIO1				AML	AML		
T1221	**Campello sul C**	**0.24**	**238**	⇑P	**Pg**	**07 56 45.3**	**-0.5**
T1221				AML	AML		
T1221				AML	AML		
T1221				AML	AML		
T1221				AML	AML		
	comp=N,7615μm,0.5s						
T1221				AML	AML		
	comp=N,7635μm,0.5s						
T1221				AML	AML		
FIU1	**Fiuminata**	**0.24**	**325**	P	**Pg**	**07 56 44.7**	**-1.2**
FIU1				AML	AML		
FIU1				AML	AML		
FIU1	**Fiuminata**	**0.24**	**325**	P	**Pg**	**07 56 45.8**	**-0.1**
FIU1				S	**Sg**	**07 56 49.9**	**+0.7**
FIU1				AML	AML		
FIU1				AML	AML		
SSM1	**San Severino M**	**0.24**	**10**	P	**Pg**	**07 56 44.8**	**-1.0**
SSM1	**San Severino M**	**0.24**	**10**	P	**Pg**	**07 56 45.7**	**-0.1**
SSM1				S	**Sg**	**07 56 49.5**	**+0.4**
GAG1	**Gagliole**	**0.25**	**351**	P	**Pg**	**07 56 45.3**	**-0.7**
GAG1	**Gagliole**	**0.25**	**351**	P	**Pg**	**07 56 46.1**	**0.0**
GAG1				S	**Sg**	**07 56 50.0**	**+0.5**
T1215	**Vallo di Nera,**	**0.26**	**225**	⇑P	**Pg**	**07 56 45.6**	**-0.6**
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215	**Vallo di Nera,**	**0.26**	**225**	P	**Pg**	**07 56 46.7**	**+0.4**
T1215				S	**Sg**	**07 56 51.1**	**+1.4**
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1241	**Roccafluvione,**	**0.26**	**120**	P	**Pg**	**07 56 44.9**	**-1.4**
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241	**Roccafluvione,**	**0.26**	**120**	P	**Pg**	**07 56 46.1**	**-0.2**
T1241				S	**Sg**	**07 56 50.1**	**+0.3**
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1244	**Arquata del Tr**	**0.27**	**150**	P	**Pg**	**07 56 46.3**	**0.0**
T1244				S	**Sg**	**07 56 50.7**	**+0.8**
MNTP	**Montappone**	**0.30**	**60**	⇑P	**Pg**	**07 56 46.0**	**-0.9**
MNTP				AML	AML		
MNTP				AML	AML		
MNTP	**Montappone**	**0.30**	**60**	P	**Pg**	**07 56 47.1**	**+0.2**
MNTP				AML	AML		
MNTP				AML	AML		
SNTG	**Esanatoglia**	**0.30**	**334**	P	**Pg**	**07 56 46.0**	**-0.9**
SNTG				AML	AML		
SNTG				AML	AML		
	comp=N,97250μm,0.4s						
SNTG				AML	AML		
SNTG				AML	AML		
	comp=N,95950μm,0.4s						
SNTG	**Esanatoglia**	**0.30**	**334**	P	**Pg**	**07 56 47.1**	**+0.1**
SNTG				S	**Sg**	**07 56 51.6**	**+0.7**
SNTG				AML	AML		
SNTG				AML	AML		
	comp=N,95950μm,0.4s						
SNTG				AML	AML		
	comp=N,97250μm,0.4s						
SNTG				AML	AML		
T1217	**Poggiodomo (PG**	**0.31**	**207**	⇑P	**Pg**	**07 56 46.3**	**-0.8**
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217	**Poggiodomo (PG**	**0.31**	**207**	P	**Pg**	**07 56 47.3**	**+0.2**
T1217				S	**Sg**	**07 56 52.6**	**+1.4**
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
EL6	**Elcito**	**0.34**	**358**	P	**Pg**	**07 56 47.8**	**0.0**
EL6				S	**Sg**	**07 56 52.8**	**+0.5**
ASSB	**Assisi San Ben**	**0.34**	**279**	P	**Pg**	**07 56 47.0**	**-0.7**
ASSB	**Assisi San Ben**	**0.34**	**279**	P	**Pg**	**07 56 48.0**	**+0.2**
ASSB				S	**Sb**	**07 56 53.9**	**-1.3**
T1204	**Amatrice, Fraz**	**0.34**	**155**	P	**Pg**	**07 56 46.6**	**-1.3**
T1204				S	**Sg**	**07 56 52.2**	**-0.2**
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1204	**Amatrice, Fraz**	**0.34**	**155**	P	**Pg**	**07 56 48.3**	**+0.4**
T1204				S	**Sg**	**07 56 53.2**	**+0.8**
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1201	**Domo (RI)**	**0.34**	**164**	P	**Pg**	**07 56 47.9**	**+0.1**
T1201				S	**Sg**	**07 56 53.6**	**+1.3**
TRE1	**Treia**	**0.35**	**24**	P	**Pg**	**07 56 47.0**	**-0.9**
TRE1				AML	AML		
TRE1				AML	AML		
TRE1				AML	AML		
TRE1				AML	AML		
TRE1	**Treia**	**0.35**	**24**	P	**Pg**	**07 56 48.1**	**+0.2**
TRE1				S	**Sg**	**07 56 53.9**	**+1.3**
TRE1				AML	AML		
TRE1				AML	AML		
TRE1				AML	AML		
TRE1				AML	AML		
T1243	**Rocca Santa Ma**	**0.38**	**140**	P	**Pg**	**07 56 47.1**	**-1.3**
T1243	**Rocca Santa Ma**	**0.38**	**140**	P	**Pg**	**07 56 49.0**	**+0.6**
T1243				S	**Sg**	**07 56 53.8**	**+0.3**
LNSS	**Leonessa**	**0.39**	**189**	P	**Pg**	**07 56 47.5**	**-1.1**
LNSS	**Leonessa**	**0.39**	**189**	P	**Pg**	**07 56 48.8**	**+0.2**
LNSS				S	**Sg**	**07 56 54.6**	**+0.9**
LNSS				AML	AML		
CING	**Cingoli**	**0.39**	**8**	P	**Pg**	**07 56 48.7**	**0.0**
CING				S	**Sg**	**07 56 54.5**	**+0.6**
SMA1	**SAN MARTINO**	**0.39**	**156**	P	**Pg**	**07 56 47.4**	**-1.3**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1	**SAN MARTINO**	**0.39**	**156**	P	**Pg**	**07 56 49.3**	**+0.6**
SMA1				S	**Sg**	**07 56 54.4**	**+0.5**
SMA1				AML	AML		
SMA1				AML	AML		
ATCC	**AVT- Casa Cast**	**0.40**	**299**	P	**Pg**	**07 56 48.2**	**-0.7**
ATCC	**AVT- Casa Cast**	**0.40**	**299**	P	**Pg**	**07 56 49.1**	**+0.2**
FOSV	**Fossato di Vic**	**0.40**	**320**	⇑P	**Pg**	**07 56 48.0**	**-0.9**
FOSV				AML	AML		
	comp=E,73400μm,1.5s						
FOSV				AML	AML		
FOSV	**Fossato di Vic**	**0.40**	**320**	P	**Pg**	**07 56 49.0**	**+0.1**
FOSV				S	**Sg**	**07 56 55.6**	**+1.4**
FOSV				AML	AML		
	comp=E,73400μm,1.5s						
FOSV				AML	AML		
OFFI	**Offida**	**0.42**	**97**	⇑P	**Pg**	**07 56 48.5**	**-0.6**
OFFI				AML	AML		
OFFI				AML	AML		
OFFI	**Offida**	**0.42**	**97**	P	**Pg**	**07 56 49.9**	**+0.7**
OFFI				AML	AML		
OFFI				AML	AML		
MMUR	**Monte Murano**	**0.46**	**349**	P	**Pg**	**07 56 49.1**	**-0.9**
MMUR				AML	AML		
MMUR				AML	AML		
MMUR	**Monte Murano**	**0.46**	**349**	P	**Pg**	**07 56 50.0**	**0.0**
MMUR				AML	AML		
MMUR				AML	AML		
RM33	**Pellescritta (**	**0.48**	**172**	P	**Pg**	**07 56 49.1**	**-1.3**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33	**Pellescritta (**	**0.48**	**172**	P	**Pg**	**07 56 50.2**	**-0.3**
RM33				S	**Sg**	**07 56 57.4**	**+0.7**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
ARRO	**Arrone**	**0.48**	**213**	P	**Pg**	**07 56 49.4**	**-1.0**
ARRO				AML	AML		
	comp=E,77550μm,1.2s						
ARRO				AML	AML		
	comp=N,70300μm,0.6s						
ARRO	**Arrone**	**0.48**	**213**	P	**Pg**	**07 56 50.3**	**-0.1**
ARRO				AML	AML		
	comp=N,70350μm,0.6s						
ARRO				AML	AML		
	comp=E,77550μm,1.2s						
ARRO				AML	AML		
	comp=N,70300μm,0.6s						
T1246	**Crognaleto (TE**	**0.49**	**146**	P	**Pg**	**07 56 50.5**	**0.0**
T1246				S	**Sg**	**07 56 57.3**	**+0.4**
T1211	**Morro Reatino**	**0.49**	**203**	P	**Pg**	**07 56 50.0**	**-0.6**
T1211				AML	AML		
	comp=E,85350μm,1.1s						
T1211				AML	AML		
T1211				AML	AML		
	comp=E,90700μm,1.0s						
T1211				AML	AML		
T1211				AML	AML		
	comp=E,85300μm,1.1s						
T1211				AML	AML		
T1211				AML	AML		
	comp=E,91100μm,1.0s						
T1211				AML	AML		
	comp=N,5092μm,0.4s						
T1211	**Morro Reatino**	**0.49**	**203**	P	**Pg**	**07 56 50.4**	**-0.2**
T1211				S	**Sb**	**07 56 58.9**	**-0.7**
T1211				AML	AML		
	comp=E,85350μm,1.1s						
T1211				AML	AML		
	comp=E,90850μm,1.0s						
T1211				AML	AML		
T1211				AML	AML		
	comp=E,85300μm,1.1s						
T1211				AML	AML		
	comp=E,91100μm,1.0s						
T1211				AML	AML		
T1211				AML	AML		
T1211				AML	AML		
	comp=E,85250μm,1.1s						
CAMP	**Campotosto**	**0.50**	**155**	Pg	**Pg**	**07 56 49.6**	**-1.1**
CAMP				Sg	**Sg**	**07 56 57.3**	**+0.1**
CAMP	**Campotosto**	**0.50**	**155**	P	**Pg**	**07 56 49.1**	**-1.6**
CAMP				AML	AML		
CAMP				AML	AML		
CAMP	**Campotosto**	**0.50**	**155**	P	**Pg**	**07 56 50.3**	**-0.4**
CAMP				S	**Sg**	**07 56 57.6**	**+0.4**
CAMP				AML	AML		
CAMP				AML	AML		
TERO	**Teramo**	**0.51**	**136**	P	**Pg**	**07 56 49.5**	**-1.4**
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO	**Teramo**	**0.51**	**136**	P	**Pg**	**07 56 50.6**	**-0.3**
TERO				S	**Sg**	**07 56 57.8**	**+0.2**
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
SSFR	**Montelago di S**	**0.51**	**331**	P	**Pg**	**07 56 50.4**	**-0.5**
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
	comp=N,1138μm,0.2s						
SSFR	**Montelago di S**	**0.51**	**331**	P	**Pg**	**07 56 51.6**	**+0.6**
SSFR				S	**Sb**	**07 56 59.4**	**-0.7**
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
CADA	**Capodarco di F**	**0.51**	**66**	P	**Pg**	**07 56 50.8**	**-0.2**
CADA				AML	AML		
CADA				AML	AML		
CADA	**Capodarco di F**	**0.51**	**66**	P	**Pg**	**07 56 51.6**	**+0.6**
CADA				AML	AML		
CADA				AML	AML		
CIMA	**Civitanova Mar**	**0.51**	**52**	P	**Pg**	**07 56 51.4**	**+0.4**
CIMA				AML	AML		
CIMA				AML	AML		

CIMA Civitanova Mar 0.51 52 AML AML
CIMA AML AML
MURB Monte Urbino 0.52 302 **Pg** **07 56 50.2 -0.8**
MURB Sg **Sb** **07 56 59.5 -0.7**
MURB Monte Urbino 0.52 302 P **Pg** **07 56 50.2 -0.8**
MURB AML AML
MURB AML AML
MURB AML AML
MURB AML AML
MURB AML AML
comp=E,825µm,0.3s
MURB Monte Urbino 0.52 302 P **Pg** **07 56 51.1 +0.1**
MURB AML AML
MURB AML AML
MURB AML AML
MURB AML AML
ARVD Arcevia 0.53 346 P **Pg** **07 56 50.2 -1.0**
ARVD Arcevia 0.53 346 P **Pg** **07 56 51.0 -0.2**
ARVD S **Sb** **07 56 59.4 -1.1**
PP3 Marolino 0.53 42 ⇑P **Pg** **07 56 50.6 -0.7**
PP3 AML AML
PP3 AML AML
PP3 AML AML
PP3 AML AML
PP3 Marolino 0.53 42 P **Pg** **07 56 51.6 +0.3**
PP3 AML AML
PP3 AML AML
PP3 AML AML
PP3 AML AML
PP3 AML AML
CESX Cesi 0.55 227 Pg **Pg** **07 56 50.8 -0.8**
CESX Cesi 0.55 227 P **Pg** **07 56 51.3 -0.3**
ATFO Monte Foce - G 0.55 313 P **Pg** **07 56 50.3 -1.4**
ATFO AML AML
comp=E,70250µm,1.1s
ATFO AML AML
comp=N,59400µm,0.5s
ATFO Monte Foce - G 0.55 313 P **Pg** **07 56 51.8 +0.1**
ATFO AML AML
comp=E,70250µm,1.1s
ATFO AML AML
comp=N,59400µm,0.5s
T1247 Pizzolo (AQ) 0.56 166 P **Pg** **07 56 50.5 -1.4**
T1247 Pizzolo (AQ) 0.56 166 P **Pg** **07 56 52.5 +0.6**
ATTE AVT- Monte Tez 0.60 291 P **Pg** **07 56 51.5 -1.1**
ATTE AML AML
comp=E,35750µm,0.8s
ATTE AML AML
comp=N,35200µm,0.8s
ATTE AVT- Monte Tez 0.60 291 P **Pg** **07 56 52.6 0.0**
ATTE AML AML
comp=N,35200µm,0.8s
ATTE AML AML
comp=E,35750µm,0.8s
FRON Frontone 0.60 332 P **Pg** **07 56 51.5 -1.2**
FRON AML AML
comp=E,59650µm,0.4s
FRON AML AML
comp=N,70150µm,1.5s
FRON Frontone 0.60 332 P **Pg** **07 56 52.7 0.0**
FRON S **Sb** **07 57 01.9 -0.8**
FRON AML AML
comp=E,59650µm,0.4s
FRON AML AML
comp=N,70150µm,1.5s
TRTR Tortoreto Alta 0.61 107 P **Pg** **07 56 52.3 -0.5**
TRTR AML AML
TRTR AML AML
TRTR Tortoreto Alta 0.61 107 P **Pb** **07 56 53.6 -0.4**
TRTR AML AML
TRTR AML AML
ATLO AVT- Montelove 0.61 302 P **Pg** **07 56 52.8 -0.1**
GIGS Gran Sasso 0.63 148 P **Pg** **07 56 51.4 -1.8**
GIGS AML AML
comp=E,62850µm,0.9s
GIGS AML AML
comp=N,48500µm,0.4s
GIGS Gran Sasso 0.63 148 P **Pg** **07 56 52.5 -0.7**
GIGS AML AML
comp=E,62850µm,0.9s
GIGS AML AML
comp=N,48500µm,0.4s
TB01 Gubbio 0.64 308 P **Pg** **07 56 52.8 -0.5**
ATBU Serra di Buran 0.64 320 P **Pg** **07 56 53.4 -0.1**
ATVO AVT- Monte Val 0.65 307 ⇑P **Pg** **07 56 52.5 -1.2**
ATVO AVT- Monte Val 0.65 307 P **Pg** **07 56 53.3 -0.3**
AOI Ancona 0.66 32 P **Pg** **07 56 52.3 -1.5**
AOI AML AML
comp=E,49250µm,0.6s
AOI AML AML
comp=N,45050µm,0.4s
AOI Ancona 0.66 32 P **Pg** **07 56 53.3 -0.5**
AOI AML AML
comp=N,45050µm,0.4s
AOI AML AML
comp=E,49250µm,0.6s
TB03 Pietralunga 0.66 309 P **Pg** **07 56 53.6 -0.2**
AQU L'Aquila 0.67 162 Pg **Pg** **07 56 52.8 -1.1**
AQU L'Aquila 0.67 162 P **Pg** **07 56 52.2 -1.7**
AQU AML AML
AQU AML AML
AQU AML AML
AQU AML AML
AQU L'Aquila 0.67 162 P **Pg** **07 56 53.4 -0.5**
AQU AML AML
AQU AML AML
AQU AML AML
AQU AML AML
ATVA AVT- Monte Val 0.68 296 P **Pg** **07 56 53.8 -0.2**
PCRO Pietralacroce 0.69 26 P **Pg** **07 56 54.2 -0.1**
ATPC Poggio Castell 0.69 316 P **Pg** **07 56 54.0 -0.3**
MPAG Monte Paganucc 0.69 338 P **Pg** **07 56 54.4 0.0**
PIEI Pieia 0.69 322 P **Pg** **07 56 53.3 -1.1**
PIEI Pieia 0.69 322 P **Pg** **07 56 54.1 -0.3**
ATPI Pietralunga - 0.70 312 ⇑P **Pg** **07 56 53.4 -1.2**
ATPI AML AML
comp=E,56050µm,0.5s
ATPI AML AML
comp=N,30200µm,1.6s
ATPI AML AML
comp=E,56000µm,0.5s
ATPI Pietralunga - 0.70 312 P **Pg** **07 56 54.3 -0.2**
ATPI AML AML
comp=E,56000µm,0.5s
ATPI AML AML
comp=N,30250µm,1.6s
ATPI AML AML
comp=N,30200µm,1.6s
ATMI Monte Miggiano 0.71 299 P **Pg** **07 56 55.3 +0.5**
ATMI AML AML
comp=N,82900µm,0.5s
ATMI AML AML
comp=E,56400µm,0.5s
ATMI Monte Miggiano 0.71 299 AML AML
comp=N,82900µm,0.5s
ATMI AML AML
comp=E,56400µm,0.5s
FIAM Fiamignano 0.72 180 P **Pg** **07 56 54.3 -0.6**
FIAM AML AML
comp=E,77750µm,0.9s
FIAM AML AML
comp=N,85800µm,0.8s
FIAM Fiamignano 0.72 180 AML AML
comp=E,77750µm,0.9s
FIAM AML AML
comp=N,85800µm,0.8s
SENI Senigallia 0.72 7 AML AML
comp=E,48900µm,0.5s
SENI AML AML
SENI AML AML
SENI AML AML
comp=E,48950µm,0.5s
SENI AML AML
comp=N,33050µm,1.2s
SENI AML AML
SENI AML AML
comp=N,33150µm,1.2s
SENI Senigallia 0.72 7 AML AML
comp=N,33200µm,1.2s
SENI AML AML
comp=E,48950µm,0.5s
SENI AML AML
comp=N,33150µm,1.2s
SENI AML AML
SENI AML AML
comp=E,48900µm,0.5s
MGAB Montegabbione 0.74 264 P **Pg** **07 56 54.1 -1.2**
MGAB AML AML
comp=E,76850µm,0.6s
MGAB AML AML
MGAB AML AML
comp=E,72700µm,0.5s
MGAB AML AML
comp=N,94050µm,0.5s
MGAB Montegabbione 0.74 264 P **Pg** **07 56 55.3 0.0**
MGAB AML AML
MGAB AML AML
comp=E,72700µm,0.5s
MGAB AML AML
comp=E,76850µm,0.6s
MGAB AML AML
comp=N,94050µm,0.5s
FSSB Fossombrone 0.75 341 P **Pg** **07 56 55.0 -0.4**
FSSB AML AML
FSSB AML AML
FSSB Fossombrone 0.75 341 AML AML
FSSB AML AML
APEC Apecchio 0.77 318 P **Pg** **07 56 55.9 +0.1**
APEC AML AML
comp=N,10740µm,0.8s
APEC AML AML
comp=E,8955µm,1.3s
APEC AML AML
comp=N,10730µm,0.8s
APEC Apecchio 0.77 318 AML AML
comp=E,8955µm,1.3s
APEC AML AML
comp=N,10740µm,0.8s
APEC AML AML
comp=E,8955µm,1.3s
APEC AML AML
comp=N,10730µm,0.8s
VCEL Villa Celiera 0.80 138 P **Pg** **07 56 55.8 -0.6**
VCEL AML AML
VCEL AML AML
VCEL Villa Celiera 0.80 138 AML AML
VCEL AML AML
FAGN Fagnano 0.80 154 P **Pg** **07 56 55.6 -0.8**
FAGN AML AML
FAGN AML AML
FAGN Fagnano 0.80 154 AML AML
FAGN AML AML
CDCA Citt' di Caste 0.80 306 P **Pg** **07 56 56.8 +0.3**
ATMC Monte Cedrone 0.82 304 P **Pg** **07 56 56.7 -0.1**
BADI Badiali 0.82 309 AML AML
comp=E,1079µm,1.2s
BADI AML AML
comp=E,1081µm,1.2s
BADI AML AML
comp=N,19600µm,1.0s
BADI Badiali 0.82 309 AML AML
comp=N,19600µm,1.0s
BADI AML AML
comp=E,1081µm,1.2s
BADI AML AML
comp=E,1079µm,1.2s
PE3 Peglio 0.84 327 P **Pg** **07 56 57.2 0.0**
SRES S.Oreste - Sor 0.88 211 P **Pg** **07 56 57.4 -0.5**
SACS San Casciano d 0.90 262 P **Pb** **07 56 58.7 -0.3**
SACS AML AML
comp=E,34050µm,1.4s
SACS AML AML
comp=E,33050µm,1.5s
SACS AML AML
comp=N,38750µm,0.7s
SACS AML AML
comp=N,40600µm,0.7s
SACS San Casciano d 0.90 262 AML AML
comp=N,40600µm,0.7s
SACS AML AML
comp=E,34050µm,1.4s
SACS AML AML
comp=N,38750µm,0.7s
SACS AML AML
comp=E,33050µm,1.5s
T0110 Collepietro 0.90 147 P **Pg** **07 56 55.8 -2.6**
T0110 AML AML
T0110 AML AML
T0110 Collepietro 0.90 147 P **Pg** **07 56 57.2 -1.2**
T0110 AML AML
T0110 AML AML
CAFI Castiglion Fio 0.91 292 P **Pg** **07 56 58.0 -0.5**
CAFI AML AML
comp=N,25400µm,1.0s
CAFI AML AML
comp=E,37200µm,0.8s
CAFI AML AML
comp=E,37850µm,0.8s
CAFI AML AML
comp=N,25550µm,1.0s
CAFI Castiglion Fio 0.91 292 AML AML
comp=N,25400µm,1.0s
CAFI AML AML
comp=E,37200µm,0.8s
CAFI AML AML
comp=N,25550µm,1.0s
CAFI AML AML
comp=E,37850µm,0.8s
SSP9 Sansepolcro 0.93 309 P **Pg** **07 56 58.6 -0.3**
SSP9 AML AML
comp=E,26650µm,1.5s
SSP9 AML AML
comp=N,34000µm,1.2s
SSP9 AML AML
comp=E,26800µm,1.5s
SSP9 AML AML
comp=N,34150µm,1.3s
SSP9 Sansepolcro 0.93 309 AML AML
comp=E,26400µm,1.5s
SSP9 AML AML
comp=N,34100µm,1.3s
SSP9 AML AML
comp=E,26750µm,1.5s
SSP9 AML AML
comp=N,34150µm,1.3s
PTQR Pietraquaria 0.99 168 P **Pg** **07 56 58.8 -1.2**
PTQR AML AML
comp=N,29350µm,1.6s
PTQR AML AML
comp=E,34800µm,0.6s
PTQR Pietraquaria 0.99 168 AML AML
comp=E,34800µm,0.6s
PTQR AML AML
comp=N,29350µm,1.6s
MTCE Montecelio 1.00 196 P **Pg** **07 56 59.3 -1.0**
MTCE AML AML
comp=N,33950µm,0.8s
MTCE AML AML
comp=E,40850µm,0.6s
MTCE Montecelio 1.00 196 AML AML
comp=E,40850µm,0.6s
MTCE AML AML
comp=N,33950µm,0.8s
LATE Laterza 1.04 249 **Pg** **07 57 00.3 -0.7**
CERT Cerreto 1.04 186 P **Pg** **07 56 59.2 -1.9**
CERT AML AML
comp=E,57300µm,1.6s
CERT AML AML
comp=N,48350µm,1.3s
CERT Cerreto 1.04 186 P **Pg** **07 56 58.9 -2.2**
CERT AML AML
comp=E,57300µm,1.6s
CERT AML AML
comp=N,48350µm,1.3s
CRE Caprese Michel 1.06 307 AML AML
comp=N,16950µm,0.9s
CRE AML AML
comp=E,13150µm,0.6s
CRE Caprese Michel 1.06 307 AML AML
comp=N,16950µm,0.9s
CRE AML AML
comp=E,13150µm,0.6s
SF11 Podere del Sol 1.06 264 P **Pg** **07 57 01.4 -0.1**
MCIV Monte Civitell 1.08 259 P **Pg** **07 57 01.7 -0.1**
MCIV AML AML
comp=N,14150µm,0.8s
MCIV AML AML
comp=E,15200µm,0.7s
MCIV Monte Civitell 1.08 259 AML AML
comp=N,14150µm,0.8s
MCIV AML AML
comp=E,15200µm,0.7s
SF04 Casetta 1.08 262 AML AML
comp=N,11535µm,0.6s
SF04 AML AML
comp=E,14095µm,1.2s
SF04 Casetta 1.08 262 AML AML
comp=N,11540µm,0.6s
SF04 AML AML
comp=E,14095µm,1.2s
SF13 Bagnolo 1.11 262 P **Pg** **07 57 02.4 -0.1**
SF14 Selvena 1.13 259 P **Pg** **07 57 02.2 -0.5**
INTR Introdacqua 1.14 149 Pg Pg 07 56 56.7 -6.2
RCAV Rocca di Cave 1.15 187 AML AML
comp=N,40300µm,0.8s
RCAV AML AML
comp=E,59300µm,0.7s
RCAV Rocca di Cave 1.15 187 AML AML
comp=E,59300µm,0.7s
RCAV AML AML
comp=N,40300µm,0.8s
SF01 Poggio Pratacc 1.16 262 AML AML
comp=N,16250µm,1.5s
SF01 AML AML
comp=E,19500µm,0.7s
SF01 Poggio Pratacc 1.16 262 AML AML
comp=N,16250µm,1.5s
SF01 AML AML
comp=E,19500µm,0.7s
VVLD Villa Vallelon 1.18 161 P **Pg** **07 57 03.0 -0.6**
VVLD AML AML
comp=N,74500µm,0.6s
VVLD AML AML
comp=E,44800µm,1.2s
VVLD Villa Vallelon 1.18 161 AML AML
comp=E,44800µm,1.2s
VVLD AML AML
comp=N,74500µm,0.6s
CAFR Castel Frentan 1.18 130 AML AML
comp=N,35450µm,1.3s
CAFR AML AML
comp=E,36250µm,0.4s
CAFR Castel Frentan 1.18 130 AML AML
comp=E,36250µm,0.4s
CAFR AML AML
comp=N,35450µm,1.3s
GUAR Guarcino 1.20 173 AML AML
comp=N,52850µm,0.6s
GUAR AML AML
comp=E,45600µm,1.2s
GUAR Guarcino 1.20 173 AML AML
comp=E,45600µm,1.2s
GUAR AML AML
comp=N,52850µm,0.6s
ARCI Arcidosso 1.22 264 P **Pg** **07 57 03.6 -0.7**
ARCI AML AML
comp=N,5780µm,0.6s
ARCI AML AML
comp=E,4545µm,0.7s
ARCI Arcidosso 1.22 264 AML AML
comp=E,4545µm,0.7s
ARCI AML AML
comp=N,5780µm,0.6s
RMP Rome, Mte Porz 1.22 195 P **Pg** **07 57 03.5 -0.9**
RMP AML AML
comp=N,37200µm,1.0s
RMP AML AML
comp=E,48200µm,1.6s
RMP Rome, Mte Porz 1.22 195 AML AML
comp=E,48200µm,1.6s
RMP AML AML
comp=N,37200µm,1.0s
LPEL Lama dei Pelig 1.23 140 P **Pg** **07 57 02.9 -1.7**
LPEL AML AML
comp=E,38100µm,0.5s
LPEL AML AML
comp=N,48850µm,1.0s
LPEL Lama dei Pelig 1.23 140 AML AML
comp=E,38100µm,0.5s
LPEL AML AML
comp=N,48850µm,1.0s
TOLF Tolfa 1.24 222 P **Pb** **07 57 03.8 -1.0**
TOLF AML AML
comp=E,17700µm,1.6s
TOLF AML AML
comp=N,10430µm,0.8s
TOLF Tolfa 1.24 222 AML AML
comp=E,17700µm,1.6s
TOLF AML AML
comp=N,10430µm,0.8s
BLLA Bellaria 1.25 338 AML AML
comp=N,35450µm,1.6s
BLLA AML AML
comp=E,39250µm,1.6s
BLLA Bellaria 1.25 338 AML AML
comp=N,35450µm,1.6s
BLLA AML AML
comp=E,39250µm,1.6s
ASQU Asqua 1.26 310 P **Pn** **07 57 04.3 -0.9**
VIVA Pratoni del Vi 1.26 192 AML AML
comp=E,73050µm,1.1s
VIVA AML AML
comp=N,62600µm,1.1s
VIVA Pratoni del Vi 1.26 192 AML AML
comp=N,62600µm,1.1s
VIVA AML AML
comp=E,73050µm,1.1s
MA9 Marino 1.27 196 P **Pn** **07 57 05.0 -0.2**
RDP Rocca di Papa 1.27 194 AML AML
comp=E,74300µm,0.7s
RDP AML AML
comp=N,63300µm,0.6s
RDP Rocca di Papa 1.27 194 AML AML
comp=N,63300µm,0.6s
RDP AML AML
comp=E,74300µm,0.7s
SAMA S.Maria delle 1.27 198 AML AML
comp=N,23450µm,1.4s
SAMA AML AML
comp=E,24000µm,1.3s
SAMA S.Maria delle 1.27 198 AML AML
comp=E,24000µm,1.3s
SAMA AML AML
comp=N,23450µm,1.4s
SFI Santa Sofia 1.30 315 P **Pn** **07 57 05.2 -0.5**
SFI AML AML
comp=E,12100µm,1.1s
SFI AML AML
comp=N,11750µm,1.5s
SFI AML AML
comp=N,11600µm,1.6s
SFI AML AML
comp=E,12150µm,1.1s
SFI Santa Sofia 1.30 315 AML AML
comp=N,11750µm,1.5s
SFI AML AML
comp=E,12100µm,1.1s
SFI AML AML
comp=N,11600µm,1.5s
SFI AML AML
comp=E,12150µm,1.1s
POFI Posta Fibreno 1.34 161 P **Pn** **07 57 04.8 -1.5**
POFI AML AML
comp=E,27000µm,0.8s
POFI AML AML
comp=E,28250µm,0.8s
POFI AML AML
comp=N,24950µm,1.2s
POFI AML AML
comp=N,24450µm,1.2s
POFI Posta Fibreno 1.34 161 AML AML
comp=E,28250µm,0.8s
POFI AML AML
comp=E,27000µm,0.8s
POFI AML AML
comp=N,24450µm,1.2s
POFI AML AML
comp=N,24950µm,1.2s
LAV9 Lanuvio 1.35 194 AML AML
comp=E,45950µm,1.1s
LAV9 AML AML
comp=N,54200µm,0.7s
LAV9 AML AML
comp=E,47450µm,1.1s
LAV9 AML AML
comp=N,56750µm,0.7s
LAV9 Lanuvio 1.35 194 AML AML

comp=E,45950µm,1.1s
LAV9 AML AML
comp=N,54200µm,0.7s
LAV9 AML AML
comp=E,47450µm,1.1s
LAV9 AML AML
comp=N,56750µm,0.7s
LRP Arpino 1.39 165 AML AML
comp=E,21950µm,0.9s
LRP AML AML
comp=N,10250µm,1.0s
LRP Arpino 1.39 165 AML AML
comp=N,10250µm,1.0s
LRP AML AML
comp=E,21950µm,0.9s
CSNT Castellina Chi 1.42 291 P **Pn 07 57 07.2 -0.2**
CSNT AML AML
comp=E,4830µm,1.0s
CSNT AML AML
comp=N,8430µm,0.7s
CSNT Castellina Chi 1.42 291 AML AML
comp=E,4830µm,1.0s
CSNT AML AML
comp=N,8430µm,0.7s
GIUL Giuliano Di Ro 1.43 176 AML AML
comp=E,23000µm,0.8s
GIUL AML AML
comp=N,23950µm,1.4s
GIUL Giuliano Di Ro 1.43 176 AML AML
comp=N,23950µm,1.4s
GIUL AML AML
comp=E,23000µm,0.8s
RUFI Rufina 1.45 307 P **Pn 07 57 07.7 0.0**
RUFI AML AML
comp=E,12250µm,0.6s
RUFI AML AML
comp=N,11235µm,0.7s
RUFI Rufina 1.45 307 AML AML
comp=N,11210µm,0.7s
RUFI AML AML
comp=E,12250µm,0.6s
FROS Frosini 1.46 279 P **Pn 07 57 07.2 -0.6**
FROS AML AML
comp=E,11100µm,1.3s
FROS AML AML
comp=N,12450µm,1.1s
FROS Frosini 1.46 279 AML AML
comp=N,12450µm,1.1s
FROS AML AML
comp=E,11100µm,1.3s
OSSC Osservatorio P 1.47 292 Pn **Pb 07 57 08.4 -0.3**
OSSC Osservatorio P 1.47 292 P **Pn 07 57 07.3 -0.7**
OSSC AML AML
comp=N,10625µm,1.1s
OSSC AML AML
comp=E,10845µm,1.1s
OSSC AML AML
comp=N,7605µm,0.9s
OSSC AML AML
comp=E,7685µm,0.9s
OSSC Osservatorio P 1.47 292 AML AML
comp=E,7685µm,0.9s
OSSC AML AML
comp=E,10845µm,1.1s
OSSC AML AML
comp=N,7605µm,0.9s
OSSC AML AML
comp=N,10625µm,1.1s
RNI2 Rionero Sannit 1.50 149 AML AML
comp=N,40500µm,0.8s
RNI2 AML AML
comp=E,55100µm,1.1s
RNI2 AML AML
comp=N,40150µm,0.8s
RNI2 AML AML
comp=E,56850µm,1.1s
RNI2 Rionero Sannit 1.50 149 AML AML
comp=E,55100µm,1.1s
RNI2 AML AML
comp=N,40500µm,0.8s
RNI2 AML AML
comp=N,40150µm,0.8s
RNI2 AML AML
comp=E,56850µm,1.1s
LMD Lutirano 1.50 317 AML AML
comp=N,10650µm,0.7s
LMD AML AML
comp=E,12800µm,1.0s
LMD Lutirano 1.50 317 AML AML
comp=E,12800µm,1.0s
LMD AML AML
comp=N,10650µm,0.7s
LATB Latina 1.50 185 AML AML
comp=N,11300µm,1.0s
LATB AML AML
comp=E,9920µm,0.9s
LATB Latina 1.50 185 AML AML
comp=E,9920µm,0.9s
LATB AML AML
comp=N,11300µm,1.0s
FRES Fresagrandinar 1.53 131 AML AML
comp=E,33350µm,0.9s
FRES AML AML
comp=N,23350µm,0.9s
FRES Fresagrandinar 1.53 131 AML AML
comp=E,33350µm,0.9s
FRES AML AML
comp=N,23350µm,0.9s
CERA Filignano 1.54 154 AML AML
comp=N,40700µm,0.7s
CERA AML AML
comp=E,32700µm,0.6s
CERA AML AML
comp=E,33450µm,0.6s
CERA AML AML
comp=N,41950µm,0.7s
CERA Filignano 1.54 154 AML AML
comp=E,32700µm,0.6s
CERA AML AML
comp=N,41950µm,0.7s
CERA AML AML
comp=E,33450µm,0.6s
CERA AML AML
comp=N,40700µm,0.7s
MAON Monte Argentar 1.57 250 P **Pn 07 57 09.0 -0.3**
MAON AML AML
comp=N,3255µm,1.6s
MAON AML AML
comp=E,4080µm,1.1s
MAON Monte Argentar 1.57 250 AML AML
comp=N,3255µm,1.6s
MAON AML AML
comp=E,4080µm,1.1s
MIDA Miranda 1.59 148 P **Pn 07 57 09.3 -0.4**
MIDA AML AML
comp=E,25000µm,1.0s
MIDA AML AML
comp=N,18300µm,1.3s
MIDA AML AML
comp=E,25950µm,1.0s
MIDA AML AML
comp=N,19350µm,1.3s
MIDA Miranda 1.59 148 AML AML
comp=E,25000µm,1.0s
MIDA AML AML
comp=N,18300µm,1.3s
MIDA AML AML
comp=E,25950µm,1.0s
MIDA AML AML
comp=N,19350µm,1.3s
TRIV Trivento 1.62 139 AML AML
comp=E,28050µm,1.5s
TRIV AML AML
comp=N,29150µm,1.4s
TRIV Trivento 1.62 139 AML AML
comp=E,28050µm,1.5s
TRIV AML AML
comp=N,29150µm,1.4s
TRIF Trifonti 1.63 275 P **Pn 07 57 09.6 -0.6**
TRIF AML AML
comp=N,6145µm,0.7s
TRIF AML AML
comp=E,5245µm,1.1s
TRIF Trifonti 1.63 275 AML AML
comp=E,5245µm,1.1s
TRIF AML AML
comp=N,6145µm,0.7s
BRIS BRISIGHELLA 1.65 315 AML AML
comp=N,15600µm,0.5s
BRIS AML AML
comp=E,20500µm,0.9s
BRIS AML AML
comp=N,14200µm,1.4s
BRIS AML AML
comp=E,21150µm,0.9s
BRIS BRISIGHELLA 1.65 315 AML AML
comp=E,20500µm,0.9s
BRIS AML AML
comp=N,14200µm,1.4s
BRIS AML AML
comp=N,15600µm,0.5s
BRIS AML AML
comp=E,21150µm,0.9s
CASP Castiglione de 1.67 264 **Pn 07 57 10.7 0.0**
CASP Castiglione de 1.67 264 AML AML
comp=N,1731µm,1.4s
CASP AML AML
comp=E,1935µm,1.2s
CASP Castiglione de 1.67 264 AML AML
comp=E,1935µm,1.2s
CASP AML AML
comp=N,1731µm,1.4s
IMOL Imola, Italy 1.70 324 AML AML
comp=E,19200µm,0.9s
IMOL AML AML
comp=N,25050µm,1.0s
IMOL Imola, Italy 1.70 324 AML AML
comp=E,19200µm,0.9s
IMOL AML AML
comp=N,25050µm,1.0s
CRMI Carmignano 1.76 298 P **Pb 07 57 12.9 -0.8**
MPPT Montemurlo 1.77 304 P **Pn 07 57 11.9 -0.2**
MPPT AML AML
comp=E,6370µm,0.7s
MPPT AML AML
comp=N,6110µm,1.3s
MPPT Montemurlo 1.77 304 AML AML
comp=N,6110µm,1.3s
MPPT AML AML
comp=E,6370µm,0.7s
VAGA Valle Agricola 1.78 152 P **Pn 07 57 12.9 +0.6**
VAGA AML AML
comp=N,22650µm,1.2s
VAGA AML AML
comp=E,8835µm,0.6s
VAGA AML AML
comp=N,23150µm,1.2s
VAGA AML AML
comp=E,9130µm,0.6s
VAGA Valle Agricola 1.78 152 AML AML
comp=E,9130µm,0.6s
VAGA AML AML
comp=E,8835µm,0.6s
VAGA AML AML
comp=N,22650µm,1.2s
VAGA AML AML
comp=N,23150µm,1.2s
BSSO Busso 1.81 142 AML AML
comp=N,13750µm,0.9s
BSSO AML AML
comp=E,13600µm,1.2s
BSSO AML AML
comp=E,5790µm,1.2s
BSSO AML AML
comp=N,5850µm,0.9s
BSSO Busso 1.81 142 AML AML
comp=E,13600µm,1.2s
BSSO AML AML
comp=N,5850µm,0.9s
BSSO AML AML
comp=E,5790µm,1.2s
BSSO AML AML
comp=N,13750µm,0.9s
MTCR Monte La Croce 1.86 305 P **Pn 07 57 13.2 -0.3**
MTCR AML AML
comp=E,5625µm,1.2s
MTCR AML AML
comp=N,10390µm,1.0s
MTCR Monte La Croce 1.86 305 AML AML
comp=E,5625µm,1.2s
MTCR AML AML
comp=N,10395µm,1.0s
A318A Donoratico (LI 1.87 275 P **Pn 07 57 13.0 -0.5**
A319A Santa Luce (PI 1.92 286 P **Pn 07 57 14.8 +0.6**
MODR Mondragone 1.93 163 AML AML
comp=N,9335µm,1.3s
MODR AML AML
comp=E,8025µm,1.1s
MODR Mondragone 1.93 163 AML AML
comp=N,9335µm,1.3s
MODR AML AML
comp=E,8025µm,1.1s
PIGN Pignataro Magg 1.95 156 P **Pn 07 57 15.0 +0.3**
PIGN AML AML
comp=N,8645µm,1.1s
PIGN AML AML
comp=E,9960µm,1.6s
PIGN AML AML
comp=N,8540µm,0.9s
PIGN AML AML
comp=E,9815µm,1.5s
PIGN Pignataro Magg 1.95 156 AML AML
comp=N,8540µm,1.0s
PIGN AML AML
comp=E,9960µm,1.6s
PIGN AML AML
comp=E,9815µm,1.5s
PIGN AML AML
comp=N,8645µm,1.1s
MELA Melanico ??? S 1.96 130 AML AML
comp=N,41800µm,0.9s
MELA AML AML
comp=E,35000µm,0.5s
MELA AML AML
comp=N,40550µm,0.9s
MELA AML AML
comp=E,36250µm,0.5s
MELA Melanico ??? S 1.96 130 AML AML
comp=N,40550µm,0.9s
MELA AML AML
comp=E,36250µm,0.5s
MELA AML AML
comp=E,35000µm,0.5s
MELA AML AML
comp=N,41800µm,0.9s
TREM Isole Tremiti 1.97 115 AML AML
comp=N,43900µm,0.7s
TREM AML AML
comp=E,28350µm,0.7s
TREM Isole Tremiti 1.97 115 AML AML
comp=E,28350µm,0.7s
TREM AML AML
comp=N,43900µm,0.7s
BRJN Brijuni 1.97 13 P **Pn 07 57 14.3 -0.6**
SACR S. Croce Del S 1.98 143 AML AML
comp=E,11180µm,1.1s
SACR AML AML
comp=N,11650µm,1.3s
SACR S. Croce Del S 1.98 143 AML AML
comp=E,11180µm,1.1s
SACR AML AML
comp=N,11650µm,1.3s
GATE Gambatesa 1.98 137 AML AML
comp=E,11980µm,1.4s
GATE AML AML
comp=N,9095µm,0.7s
GATE AML AML
comp=E,6245µm,1.3s
GATE AML AML
comp=N,9190µm,0.7s
GATE Gambatesa 1.98 137 AML AML
comp=E,6245µm,1.3s
GATE AML AML
comp=E,11980µm,1.4s
GATE AML AML
comp=N,9095µm,0.7s
GATE AML AML
comp=N,9190µm,0.7s
POPM Popiglio 2.02 302 P **Pn 07 57 15.4 -0.1**
PII Pisa 2.03 292 P **Pn 07 57 16.1 +0.4**
PII AML AML
comp=E,4735µm,0.6s
PII AML AML
comp=N,3730µm,0.8s
PII Pisa 2.03 292 AML AML
comp=E,4735µm,0.6s
PII AML AML
comp=N,3730µm,0.8s
ZCCA Zocca 2.07 312 **Pb 07 57 17.7 -1.2**
BDI Bagni Di Lucca 2.13 301 P **Pn 07 57 16.8 -0.3**
MAIM Mastiano 2.13 297 P **Pn 07 57 17.2 +0.2**
CELB S.Piero in Cam 2.15 265 P **Pn 07 57 16.7 -0.7**
CELB AML AML
comp=E,1054µm,0.9s
CELB AML AML
comp=N,956µm,1.6s
CELB S.Piero in Cam 2.15 265 AML AML
comp=N,956µm,1.6s
CELB AML AML
comp=E,1054µm,0.9s
PSB1 Pescosannita 2.17 144 AML AML
comp=E,10800µm,1.3s
PSB1 AML AML
comp=E,10630µm,1.3s
PSB1 AML AML
comp=N,11250µm,1.5s
PSB1 AML AML
comp=N,11200µm,1.5s
PSB1 Pescosannita 2.17 144 AML AML
comp=E,10630µm,1.3s
PSB1 AML AML
comp=N,11250µm,1.5s
PSB1 AML AML
comp=E,10800µm,1.3s
PSB1 AML AML
comp=N,11200µm,1.5s
APRC Apricena 2.18 124 P **Pn 07 57 18.4 +0.6**
APRC AML AML
comp=E,13050µm,0.5s
APRC AML AML
comp=N,19350µm,0.5s
APRC Apricena 2.18 124 AML AML
comp=E,13050µm,0.5s
APRC AML AML
comp=N,19350µm,0.5s
CARD Cardoso 2.18 299 P **Pn 07 57 17.7 -0.1**
CARD AML AML
comp=E,3260µm,0.6s
CARD AML AML
comp=N,3370µm,0.6s
CARD Cardoso 2.18 299 AML AML
comp=E,3260µm,0.6s
CARD AML AML
comp=N,3370µm,0.6s
VENT Ventotene 2.20 174 AML AML
comp=E,6980µm,1.2s
VENT AML AML
comp=N,10285µm,1.4s
VENT Ventotene 2.20 174 AML AML
comp=N,10285µm,1.4s
VENT AML AML
comp=E,6980µm,1.2s
MOCO Biccari - m.te 2.22 136 AML AML
comp=N,4715µm,1.6s
MOCO AML AML
comp=E,8860µm,1.1s
MOCO AML AML
comp=N,4560µm,1.6s
MOCO AML AML
comp=E,8905µm,1.1s
MOCO Biccari - m.te 2.22 136 AML AML
comp=N,4560µm,1.6s
MOCO AML AML
comp=E,8860µm,1.1s
MOCO AML AML
comp=E,8905µm,1.1s
MOCO AML AML
comp=N,4715µm,1.6s
PAOL Paolisi 2.23 151 **Pn 07 57 19.1 +0.6**
GSCL Gusciola 2.29 307 P **Pn 07 57 19.8 +0.5**
SGRT San Giovanni R 2.30 121 **Pn 07 57 19.6 +0.1**
SGRT San Giovanni R 2.30 121 P **Pn 07 57 20.0 +0.5**
SGRT AML AML
comp=E,11800µm,0.9s
SGRT AML AML
comp=N,13700µm,0.5s
SGRT San Giovanni R 2.30 121 AML AML
comp=E,11800µm,0.9s
SGRT AML AML
comp=N,13700µm,0.5s
VLC Villacollemand 2.31 301 Pn **Pn 07 57 17.6 -1.9**
VLC Villacollemand 2.31 301 P **Pn 07 57 19.0 -0.5**
MRB1 Monte Rocchett 2.32 143 AML AML
comp=N,13600µm,0.8s
MRB1 AML AML
comp=E,12300µm,1.5s
MRB1 AML AML
comp=N,13250µm,0.8s
MRB1 AML AML
comp=E,12300µm,1.5s
MRB1 Monte Rocchett 2.32 143 AML AML
comp=E,12300µm,1.5s
MRB1 AML AML
comp=N,13250µm,0.8s
MRB1 AML AML
comp=E,12300µm,1.5s
MRB1 AML AML
comp=N,13600µm,0.8s
GROG Isola di Gorgo 2.40 282 P **Pn 07 57 21.4 +0.7**
EQUI Equi 2.46 300 P **Pn 07 57 21.3 -0.3**
EQUI AML AML
comp=E,1885µm,0.7s
EQUI AML AML
comp=N,2035µm,0.9s
EQUI Equi 2.46 300 AML AML
comp=E,1885µm,0.7s
EQUI AML AML
comp=N,2035µm,0.9s
SGTA Sant Agata di 2.50 137 AML AML
comp=N,6235µm,1.5s
SGTA AML AML
comp=E,10005µm,0.7s
SGTA AML AML
comp=N,6255µm,1.5s
SGTA AML AML
comp=E,10205µm,0.8s
SGTA Sant Agata di 2.50 137 AML AML
comp=N,6255µm,1.5s
SGTA AML AML
comp=E,10005µm,0.7s
SGTA AML AML
comp=E,10205µm,0.8s
SGTA AML AML
comp=N,6235µm,1.5s
CAFE Carife 2.52 140 AML AML
comp=E,8085µm,1.6s
CAFE AML AML
comp=N,6385µm,1.6s
CAFE AML AML
comp=E,8235µm,1.6s
CAFE AML AML
comp=N,6475µm,1.6s
CAFE Carife 2.52 140 AML AML
comp=E,8085µm,1.6s
CAFE AML AML
comp=N,6385µm,1.6s
CAFE AML AML
comp=E,8235µm,1.6s
CAFE AML AML
comp=N,6475µm,1.6s
RIY Rijeka 2.53 22 *e*Pn **Pn 07 57 22.0 -0.6**
RIY *e*Sn **Sn 07 57 53.9 +0.2**
SNAL S. Angelo Dei 2.58 142 P **Pn 07 57 23.6 +0.3**
SNAL AML AML
comp=E,11870µm,1.6s
SNAL AML AML
comp=N,12150µm,1.4s
SNAL AML AML
comp=E,11270µm,1.6s
SNAL AML AML
comp=N,12350µm,1.5s
SNAL S. Angelo Dei 2.58 142 AML AML
comp=N,12150µm,1.4s
SNAL AML AML
comp=E,11870µm,1.6s
SNAL AML AML
comp=E,11270µm,1.6s
SNAL AML AML
comp=N,12350µm,1.5s
TEOL Teolo 2.59 337 **Pn 07 57 22.7 -0.7**
TEOL Teolo 2.59 337 P **Pn 07 57 23.3 -0.1**
LIO3 Lioni 2.59 143 P **Pn 07 57 23.4 -0.1**
PLMA Palmaria, Port 2.60 295 P **Pn 07 57 23.6 0.0**

PLMA AML AML
comp=E,1320µm,1.4s
PLMA AML AML
comp=N,1404µm,0.6s
PLMA Palmaria, Port 2.60 295 AML AML
comp=N,1404µm,0.6s
PLMA AML AML
comp=E,1320µm,1.4s
SKDS Skadanscina 2.64 14 *i* Pn **Pn 07 57 23.0 -1.1**
SKDS *e*Sn **Sn 07 57 56.1 -0.2**
SKDS IAML 07 58 09.9
comp=Z,1µm,0.6s
GRAM Graiana 2.67 305 P **Pn 07 57 25.6 +1.0**
GRAM AML AML
comp=E,4555µm,0.7s
GRAM AML AML
comp=N,4545µm,0.8s
GRAM Graiana 2.67 305 AML AML
comp=N,4545µm,0.8s
GRAM AML AML
comp=E,4555µm,0.7s
MCRV Calabrutti - M 2.68 145 AML AML
comp=N,2930µm,0.8s
MCRV AML AML
comp=E,3125µm,0.7s
MCRV Calabrutti - M 2.68 145 AML AML
comp=E,3125µm,0.7s
MCRV AML AML
comp=N,2930µm,0.8s
PRMA PARMA 2.70 312 Pn 07 57 25.1 +0.3
OPPE Oppeano 2.71 330 AML AML
comp=N,8425µm,1.2s
OPPE AML AML
comp=E,7760µm,1.5s
OPPE Oppeano 2.71 330 AML AML
comp=E,7760µm,1.5s
OPPE AML AML
comp=N,8425µm,1.2s
CAPA Cerignola FG 2.72 131 AML AML
comp=E,17900µm,1.0s
CAPA AML AML
comp=N,23800µm,1.0s
CAPA Cerignola FG 2.72 131 AML AML
comp=N,23800µm,1.0s
CAPA AML AML
comp=E,17900µm,1.0s
VULT Monte Vulture 2.76 137 P **Pn 07 57 26.3 +0.5**
VULT AML AML
comp=E,7635µm,0.8s
VULT AML AML
comp=N,11330µm,0.6s
VULT AML AML
comp=E,8035µm,0.8s
VULT AML AML
comp=N,11900µm,0.6s
VULT Monte Vulture 2.76 137 AML AML
comp=N,11900µm,0.6s
VULT AML AML
comp=E,7635µm,0.8s
VULT AML AML
comp=N,11330µm,0.6s
VULT AML AML
comp=E,8035µm,0.8s
MRLC Muro Lucano 2.85 141 AML AML
comp=E,3175µm,1.4s
MRLC AML AML
comp=E,3130µm,0.9s
MRLC AML AML
comp=N,3880µm,1.0s
MRLC AML AML
comp=N,3930µm,0.9s
MRLC Muro Lucano 2.85 141 AML AML
comp=N,3880µm,1.0s
MRLC AML AML
comp=E,3130µm,0.9s
MRLC AML AML
comp=E,3175µm,1.4s
MRLC AML AML
comp=N,3930µm,0.9s
CEY Cerknica 2.91 18 ⇑ *i* Pn **Pn 07 57 26.6 -1.2**
MSSA Maissana 2.93 298 Pn **Pn 07 57 28.6 +0.4**
MSSA Maissana 2.93 298 P **Pn 07 57 28.4 +0.2**
MSSA AML AML
comp=E,1690µm,1.0s
MSSA AML AML
comp=N,1830µm,1.2s
MSSA Maissana 2.93 298 AML AML
comp=E,1690µm,1.0s
MSSA AML AML
comp=N,1830µm,1.2s
PALZ Palazzo San Ge 2.94 133 AML AML
comp=N,12850µm,1.3s
PALZ AML AML
comp=E,14450µm,1.2s
PALZ Palazzo San Ge 2.94 133 AML AML
comp=N,12850µm,1.3s
PALZ AML AML
comp=E,14450µm,1.2s
SMPL Sampolo 2.97 254 AML AML
comp=E,290µm,1.6s
SMPL AML AML
comp=N,300µm,1.6s
SMPL Sampolo 2.97 254 AML AML
comp=E,290µm,1.6s
SMPL AML AML
comp=N,300µm,1.6s
CDRU Civita di Ruta 2.98 146 AML AML
comp=E,1470µm,0.4s
CDRU AML AML
comp=N,1062µm,1.4s
CDRU Civita di Ruta 2.98 146 AML AML
comp=E,1470µm,0.4s
CDRU AML AML
comp=N,1062µm,1.4s
MRVN Minervino Murg 2.99 129 P **Pn 07 57 29.3 +0.3**
CORF Corte 3.01 258 P **Pn 07 57 30.0 +0.9**
SABO M.te Sabotino 3.01 6 Pn 07 57 28.0 -1.2
SABO M.te Sabotino 3.01 6 P **Pn 07 57 28.7 -0.5**
SABO AML AML
comp=E,26500µm,0.6s
SABO AML AML
comp=N,32100µm,0.5s
SABO AML AML
comp=E,6025µm,0.6s
SABO AML AML
comp=N,8445µm,0.5s
SABO M.te Sabotino 3.01 6 AML AML
comp=N,8445µm,0.5s
SABO AML AML
comp=E,26500µm,0.6s
SABO AML AML
comp=N,32100µm,0.5s
SABO AML AML
comp=E,6025µm,0.6s
ROVR Rover Verones 3.04 332 P **Pn 07 57 29.8 +0.1**
ROVR AML AML
comp=E,2940µm,1.5s
ROVR AML AML
comp=N,4065µm,0.6s
ROVR AML AML
comp=E,1111µm,1.0s
ROVR AML AML
comp=N,1590µm,0.6s
ROVR Rover Verones 3.04 332 AML AML
comp=E,1111µm,1.0s
ROVR AML AML
comp=E,2940µm,1.5s
ROVR AML AML
comp=N,4065µm,0.6s
ROVR AML AML
comp=N,1590µm,0.6s
CGRP Cima Grappa 3.04 342 P **Pn 07 57 30.0 +0.3**
CGRP AML AML
comp=E,8295µm,1.0s
CGRP AML AML
comp=N,9835µm,0.7s
CGRP AML AML
comp=E,8200µm,0.9s
CGRP AML AML
comp=N,9950µm,0.7s
CGRP Cima Grappa 3.04 342 AML AML
comp=N,9950µm,0.7s
CGRP AML AML
comp=E,8295µm,1.0s
CGRP AML AML
comp=N,9835µm,0.7s
CGRP AML AML
comp=E,8200µm,0.9s

ACER Acerenza 3.05 135 AML AML
comp=N,7375µm,0.9s
ACER AML AML
comp=E,6780µm,1.3s
ACER AML AML
comp=N,7100µm,0.8s
ACER AML AML
comp=E,7040µm,1.3s
ACER Acerenza 3.05 135 AML AML
comp=E,6780µm,1.3s
ACER AML AML
comp=N,7100µm,0.8s
ACER AML AML
comp=E,7040µm,1.3s
ACER AML AML
comp=N,7375µm,0.9s
CAE Caneva 3.06 351 P **Pn 07 57 29.6 -0.2**
PGF Pioggiola 3.07 263 *e*P **Pn 07 57 30.1 +0.1**
PGF *e*Sn **Sn 07 58 02.0 -5.0**
comp=N,570nm,0.9s
PGF Pioggiola 3.07 263 AML AML
comp=N,395µm,1.0s
PGF AML AML
comp=E,398µm,1.4s
PGF Pioggiola 3.07 263 AML AML
comp=N,395µm,1.0s
PGF AML AML
comp=E,398µm,1.4s
VARN Col Varnada, M 3.09 347 AML AML
comp=N,4830µm,0.9s
VARN AML AML
comp=E,6650µm,0.6s
VARN AML AML
comp=E,6630µm,0.6s
VARN AML AML
comp=N,4790µm,0.5s
VARN Col Varnada, M 3.09 347 AML AML
comp=N,4790µm,0.5s
VARN AML AML
comp=E,6650µm,0.6s
VARN AML AML
comp=N,4830µm,0.9s
VARN AML AML
comp=E,6630µm,0.6s
SRKY Kupres RS 3.13 68 *e*Pn **Pn 07 57 33.0 +2.0**
DRE Drenchia 3.21 7 P **Pn 07 57 31.2 -0.7**
MGRS Mrkonjic Grad 3.21 62 *e*Pn **Pn 07 57 32.7 +0.8**
LJU Ljubljana 3.22 18 *i* Pn **Pn 07 57 31.9 -0.2**
LJU *e*Sn **Sn 07 58 10.0 -0.6**
LJU IAML 07 58 42.5
comp=Z,2µm,0.8s
SALO Salr 3.22 326 Pn 07 57 32.7 +0.5
SALO Salr 3.22 326 P **Pn 07 57 33.1 +1.0**
SALO AML AML
comp=E,5410µm,0.8s
SALO AML AML
comp=N,5790µm,1.1s
SALO AML AML
comp=E,4755µm,0.8s
SALO AML AML
comp=N,5830µm,1.2s
SALO Salr 3.22 326 AML AML
comp=N,5830µm,1.2s
SALO AML AML
comp=E,5410µm,0.8s
SALO AML AML
comp=N,5790µm,1.1s
SALO AML AML
comp=E,4755µm,0.8s
CTI Castel Tesino 3.23 342 Pn 07 57 32.5 +0.1
CTI Castel Tesino 3.23 342 P **Pn 07 57 32.7 +0.3**
CTI AML AML
comp=E,4470µm,1.0s
CTI AML AML
comp=N,3595µm,0.5s
CTI Castel Tesino 3.23 342 AML AML
comp=E,4470µm,1.0s
CTI AML AML
comp=N,3595µm,0.5s
MPRI Monte Prat 3.25 358 P **Pn 07 57 32.6 +0.1**
MPRI AML AML
comp=E,4010µm,1.3s
MPRI AML AML
comp=N,5200µm,0.8s
MPRI AML AML
comp=E,5215µm,1.3s
MPRI AML AML
comp=N,6805µm,0.8s
MPRI Monte Prat 3.25 358 AML AML
comp=N,5200µm,0.8s
MPRI AML AML
comp=E,4010µm,1.3s
MPRI AML AML
comp=E,5215µm,1.3s
MPRI AML AML
comp=N,6805µm,0.8s
VARA Varagna 3.25 331 P **Pn 07 57 33.1 +0.4**
PRIJ Prijedor 3.27 51 *e*Pn **Pb 07 57 39.6 +0.2**
STAL STALIGIAL 3.28 355 Pn 07 57 32.0 -0.9
STAL STALIGIAL 3.28 355 P **Pn 07 57 32.6 -0.4**
STAL AML AML
comp=E,3505µm,0.5s
STAL AML AML
comp=N,3080µm,0.7s
STAL AML AML
comp=E,4420µm,0.5s
STAL AML AML
comp=N,3435µm,0.7s
STAL STALIGIAL 3.28 355 AML AML
comp=N,3080µm,0.7s
STAL AML AML
comp=E,3505µm,0.5s
STAL AML AML
comp=E,4420µm,0.5s
STAL AML AML
comp=N,3435µm,0.7s
PTRP Pietrapertosa 3.30 137 AML AML
comp=E,6740µm,0.9s
PTRP AML AML
comp=N,5650µm,0.8s
PTRP Pietrapertosa 3.30 137 AML AML
comp=E,6740µm,0.9s
PTRP AML AML
comp=N,5650µm,0.8s
AMUR Altamura 3.33 127 P **Pn 07 57 34.0 +0.5**
AMUR AML AML
comp=E,3960µm,0.4s
AMUR AML AML
comp=N,4060µm,1.2s
AMUR Altamura 3.33 127 AML AML
comp=N,4060µm,1.2s
AMUR AML AML
comp=E,3960µm,0.4s
MCEL Monticello 3.33 142 AML AML
comp=E,2140µm,1.6s
MCEL AML AML
comp=N,3400µm,1.3s
MCEL AML AML
comp=E,2135µm,1.6s
MCEL AML AML
comp=N,3460µm,1.3s
MCEL Monticello 3.33 142 AML AML
comp=E,2135µm,1.6s
MCEL AML AML
comp=E,2140µm,1.6s
MCEL AML AML
comp=N,3400µm,1.3s
MCEL AML AML
comp=N,3460µm,1.3s
LUSI Trento, Gardas 3.35 333 AML AML
comp=E,3600µm,1.2s
LUSI AML AML
comp=N,3635µm,0.6s
LUSI Trento, Gardas 3.35 333 AML AML
comp=N,3635µm,0.6s
LUSI AML AML
comp=E,3600µm,1.2s
CIMO Cimolais 3.36 352 Pn **Pn 07 57 33.1 -0.9**
CIMO Cimolais 3.36 352 P **Pn 07 57 33.7 -0.3**
CIMO AML AML
comp=E,1455µm,0.7s
CIMO AML AML
comp=N,1740µm,1.0s
CIMO AML AML
comp=E,1445µm,0.7s
CIMO AML AML
comp=N,1715µm,1.0s

CIMO Cimolais 3.36 352 AML AML
comp=E,1455µm,0.7s
CIMO AML AML
comp=N,1740µm,1.0s
CIMO AML AML
comp=E,1445µm,0.7s
CIMO AML AML
comp=N,1715µm,1.0s
MTSN Montesano sull 3.36 143 AML AML
comp=N,1495µm,0.9s
MTSN AML AML
comp=E,1830µm,0.7s
MTSN Montesano sull 3.36 143 AML AML
comp=N,1495µm,0.9s
MTSN AML AML
comp=E,1830µm,0.7s
STON Ston 3.37 90 *e*Pn **Pn 07 57 32.3 -1.7**
STON Ston 3.37 90 *e*Pn **Pn 07 57 33.5 -0.5**
STON *e*Sn **Sn 07 58 12.5 -1.7**
STON Ston 3.37 90 AML AML
comp=E,1270µm,0.5s
STON AML AML
comp=N,1720µm,0.8s
STON Ston 3.37 90 AML AML
comp=E,1270µm,0.5s
STON AML AML
comp=N,1720µm,0.8s
AGOR Agordo 3.38 347 P **Pn 07 57 34.1 -0.2**
AJAC Base Areonaval 3.39 253 P **Pn 07 57 35.1 +0.7**
A051A Mrakovica 3.40 52 *e*Pn **Pn 07 57 34.3 -0.3**
PTCC Patocco-Chiusa 3.42 3 P **Pn 07 57 34.2 -0.7**
PTCC AML AML
comp=E,1955µm,0.7s
PTCC AML AML
comp=N,1820µm,0.8s
PTCC Patocco-Chiusa 3.42 3 AML AML
comp=E,1955µm,0.7s
PTCC AML AML
comp=N,1820µm,0.8s
BLY Banja Luka 3.42 58 *e*Pn **Pn 07 57 33.6 -1.3**
BLY Banja Luka 3.42 58 *e*Pn **Pn 07 57 36.0 +1.1**
BLY *e*Sn **Sn 07 58 16.2 +0.5**
FUSE Fusea 3.43 359 P **Pn 07 57 34.5 -0.4**
MIGL Miglionico 3.44 133 AML AML
comp=N,12700µm,0.8s
MIGL AML AML
comp=E,13600µm,1.0s
MIGL Miglionico 3.44 133 AML AML
comp=E,13600µm,1.0s
MIGL AML AML
comp=N,12700µm,0.8s
GAGG Gaggia 3.46 334 AML AML
comp=E,4985µm,0.9s
GAGG AML AML
comp=E,3795µm,1.0s
GAGG AML AML
comp=N,4905µm,0.9s
GAGG AML AML
comp=N,3865µm,1.0s
GAGG Gaggia 3.46 334 AML AML
comp=E,3795µm,1.0s
GAGG AML AML
comp=N,4905µm,0.9s
GAGG AML AML
comp=E,4985µm,0.9s
GAGG AML AML
comp=N,3865µm,1.0s
PRED Cave del Predi 3.47 5 Pn 07 57 34.5 -1.0
CLUD Cludinico 3.47 357 Pn 07 57 34.9 -0.7
CLUD Cludinico 3.47 357 P **Pn 07 57 35.3 -0.3**
CLUD AML AML
comp=E,3210µm,1.1s
CLUD AML AML
comp=N,3055µm,0.9s
CLUD AML AML
comp=E,3260µm,1.1s
CLUD AML AML
comp=N,3095µm,0.9s
CLUD Cludinico 3.47 357 AML AML
comp=N,3055µm,0.9s
CLUD AML AML
comp=E,3210µm,1.1s
CLUD AML AML
comp=E,3260µm,1.1s
CLUD AML AML
comp=N,3095µm,0.9s
SIRI Monte Sirino - 3.48 143 AML AML
comp=N,1935µm,1.6s
SIRI AML AML
comp=E,2165µm,1.6s
SIRI AML AML
comp=N,1890µm,1.6s
SIRI AML AML
comp=E,2190µm,1.6s
SIRI Monte Sirino - 3.48 143 AML AML
comp=N,1935µm,1.6s
SIRI AML AML
comp=E,2165µm,1.6s
SIRI AML AML
comp=N,1890µm,1.6s
SIRI AML AML
comp=E,2190µm,1.6s
ZONE Zone 3.51 323 AML AML
comp=E,2235µm,1.1s
ZONE AML AML
comp=N,2000µm,0.4s
ZONE Zone 3.51 323 AML AML
comp=N,2000µm,0.4s
ZONE AML AML
comp=E,2235µm,1.1s
MATE Matera 3.56 130 ⇑ P **Pn 07 57 38.4 +1.8**
MATE Matera 3.56 130 P **Pn 07 57 37.3 +0.7**
MATE AML AML
comp=E,3735µm,0.8s
MATE AML AML
comp=N,3250µm,0.5s
MATE Matera 3.56 130 AML AML
comp=N,3250µm,0.5s
MATE AML AML
comp=E,3735µm,0.8s
ZOU Zoufplan 3.57 358 P **Pn 07 57 36.9 -0.2**
ZOU AML AML
comp=E,3850µm,0.8s
ZOU AML AML
comp=N,2805µm,1.0s
ZOU AML AML
comp=E,3780µm,0.8s
ZOU AML AML
comp=N,2770µm,1.0s
ZOU Zoufplan 3.57 358 AML AML
comp=N,2770µm,1.0s
ZOU AML AML
comp=E,3850µm,0.8s
ZOU AML AML
comp=N,2805µm,1.0s
ZOU AML AML
comp=E,3780µm,0.8s
ACOM Acomizza, Ital 3.57 4 P **Pn 07 57 36.8 -0.2**
ACOM AML AML
comp=E,4775µm,0.9s
ACOM AML AML
comp=N,4295µm,1.0s
ACOM AML AML
comp=E,4700µm,0.9s
ACOM AML AML
comp=N,4270µm,1.0s
ACOM Acomizza, Ital 3.57 4 AML AML
comp=E,4775µm,0.9s
ACOM AML AML
comp=N,4295µm,1.0s
ACOM AML AML
comp=E,4700µm,0.9s
ACOM AML AML
comp=N,4270µm,1.0s
MABI Malga Bissina 3.59 330 AML AML
comp=N,1078µm,0.5s
MABI AML AML
comp=E,1315µm,1.6s
MABI Malga Bissina 3.59 330 AML AML
comp=E,1315µm,1.6s
MABI AML AML
comp=N,1078µm,0.5s
CRAC Craco 3.61 135 AML AML
comp=E,7670µm,0.8s
CRAC AML AML
comp=N,6655µm,0.9s
CRAC Craco 3.61 135 AML AML

comp=E,7670µm,0.8s
CRAC AML AML
comp=N,6655µm,0.9s
CUC Castrocucco 3.61 145 Pn 07 57 36.3 -1.2
FVI Forni Avoltri 3.62 356 AML AML
comp=N,2730µm,0.8s
FVI AML AML
comp=E,2355µm,1.5s
FVI Forni Avoltri 3.62 356 AML AML
comp=N,2730µm,0.8s
FVI AML AML
comp=E,2355µm,1.5s
LTRZ Laterza 3.65 130 AML AML
comp=E,2790µm,1.6s
LTRZ AML AML
comp=N,4185µm,1.4s
LTRZ AML AML
comp=E,2610µm,1.6s
LTRZ AML AML
comp=N,850µm,1.6s
LTRZ Laterza 3.65 130 AML AML
comp=E,2610µm,1.6s
LTRZ AML AML
comp=E,2790µm,1.6s
LTRZ AML AML
comp=N,4185µm,1.4s
LTRZ AML AML
comp=N,850µm,1.6s
PCP Piancastagn 3.66 297 P **Pn 07 57 38.0 -0.1**
MYKA Terra Mystica 3.66 6 *e*Pn **Pn 07 57 38.0 -0.1**
comp=N,51nm,0.2s,SNR=113
OBKA Obir 3.66 16 *e*Pn **Pn 07 57 37.3 -0.9**
OBKA Obir 3.66 16 *i* Pn **Pn 07 57 37.6 -0.6**
comp=N,47nm,0.2s,SNR=49
NOCI Noci 3.67 125 AML AML
comp=E,2875µm,1.5s
NOCI AML AML
comp=N,3840µm,0.6s
NOCI Noci 3.67 125 AML AML
comp=N,3840µm,0.6s
NOCI AML AML
comp=E,2875µm,1.5s
KOSI Kohlern 3.69 341 P **Pn 07 57 39.0 +0.3**
KOSI AML AML
comp=E,4765µm,0.8s
KOSI AML AML
comp=N,4030µm,1.1s
KOSI Kohlern 3.69 341 AML AML
comp=E,4765µm,0.8s
KOSI AML AML
comp=N,4030µm,1.1s
APPI Appiano 3.74 340 P **Pn 07 57 39.8 +0.5**
APPI AML AML
comp=E,2295µm,0.8s
APPI AML AML
comp=N,2200µm,0.5s
APPI Appiano 3.74 340 AML AML
comp=N,2205µm,0.5s
APPI AML AML
comp=E,2295µm,0.8s
MILN Milano 3.74 313 AML AML
comp=E,1570µm,0.6s
MILN AML AML
comp=N,1365µm,1.1s
MILN AML AML
comp=E,3000µm,0.9s
MILN AML AML
comp=N,2950µm,0.8s
MILN Milano 3.74 313 AML AML
comp=N,1365µm,1.1s
MILN AML AML
comp=E,1570µm,0.6s
MILN AML AML
comp=E,3000µm,0.9s
MILN AML AML
comp=N,2950µm,0.8s
DGI Dorgali Grotta 3.75 226 P **Pn 07 57 39.7 +0.4**
CANO Canova, Maglio 3.75 291 P **Pn 07 57 39.2 -0.1**
CANO AML AML
comp=E,3505µm,1.2s
CANO AML AML
comp=N,1096µm,1.4s
CANO Canova, Maglio 3.75 291 AML AML
comp=E,3505µm,1.2s
CANO AML AML
comp=N,1096µm,1.4s
ABTA Abfaltersbach 3.78 354 *e*Pn **Pn 07 57 40.6 +0.7**
comp=N,416nm,0.6s,SNR=338
A052A Srbac 3.81 55 *e*Pn **Pn 07 57 41.6 +1.5**
ORI Oriolo Calabro 3.84 138 AML AML
comp=N,3485µm,0.8s
ORI AML AML
comp=E,2785µm,0.6s
ORI Oriolo Calabro 3.84 138 AML AML
comp=E,2785µm,0.6s
ORI AML AML
comp=N,3485µm,0.8s
TREB Trebinje 3.85 92 *e*Pn **Pn 07 57 40.4 -0.4**
TREB Trebinje 3.85 92 *e*Pn **Pn 07 57 41.3 +0.5**
TREB *e*Sn **Sn 07 58 26.2 -0.1**
SOKA Soboth 3.93 20 *e*Pn **Pn 07 57 41.4 -0.5**
comp=N,9.7nm,0.3s,SNR=42
SALB San Lorenzo Be 3.94 141 AML AML
comp=N,860µm,1.2s
SALB AML AML
comp=E,1330µm,1.1s
SALB AML AML
comp=E,1355µm,1.1s
SALB AML AML
comp=N,877µm,1.2s
SALB San Lorenzo Be 3.94 141 AML AML
comp=E,1355µm,1.1s
SALB AML AML
comp=E,1330µm,1.1s
SALB AML AML
comp=N,860µm,1.2s
SALB AML AML
comp=N,877µm,1.2s
TAR1 Taranto 3.97 127 AML AML
comp=E,2955µm,1.3s
TAR1 AML AML
comp=N,3670µm,1.6s
TAR1 Taranto 3.97 127 AML AML
comp=N,3670µm,1.6s
TAR1 AML AML
comp=E,2955µm,1.3s
BRY Bratogost 3.98 89 *e*Pn **Pn 07 57 42.7 +0.1**
BRY Bratogost 3.98 89 ⇓*i* Pn **Pn 07 57 42.4 -0.2**
BRY *i* Sn **Sn 07 58 29.8 +0.2**
HCY Herceg Novi 4.00 96 *e*Pn **Pn 07 57 42.9 +0.2**
HCY Herceg Novi 4.00 96 *e*Pn **Pn 07 57 42.6 -0.1**
HCY *i* Sn **Sn 07 58 30.3 +0.5**
BRMO Bormio 4.00 332 AML AML
comp=E,940µm,1.6s
BRMO AML AML
comp=N,819µm,1.0s
BRMO Bormio 4.00 332 AML AML
comp=N,819µm,1.0s
BRMO AML AML
comp=E,940µm,1.6s
DOB Doboj 4.00 62 *e*Pn **Pn 07 57 42.8 0.0**
MGRO Montegrosso 4.00 287 P **Pn 07 57 42.8 -0.2**
RISI Rein 4.03 350 AML AML
comp=E,4375µm,0.6s
RISI AML AML
comp=N,6070µm,0.4s
RISI Rein 4.03 350 AML AML
comp=N,6070µm,0.4s
RISI AML AML
comp=E,4375µm,0.6s
BERNI Berninapass 4.07 328 AML AML
comp=N,816µm,0.8s
BERNI AML AML
comp=E,794µm,0.7s
BERNI Berninapass 4.07 328 AML AML
comp=N,816µm,0.8s
BERNI AML AML
comp=E,794µm,0.7s
KBA Koelnbreinsper 4.09 2 *e*Pn **Pn 07 57 44.2 0.0**
comp=E,26nm,0.2s,SNR=176
KOGS Kog 4.12 32 AML AML
comp=N,14350µm,1.1s
KOGS AML AML
comp=E,14700µm,1.4s
KOGS Kog 4.12 32 AML AML
comp=N,14350µm,1.1s
KOGS AML AML

comp=E,14700µm,1.4s
ROSI Rosskopf 4.12 343 AML AML
comp=E,3295µm,1.0s
ROSI AML AML
comp=N,4325µm,0.9s
ROSI Rosskopf 4.12 343 AML AML
comp=N,4325µm,0.9s
ROSI AML AML
comp=E,3295µm,1.0s
MUGIO Muggio 4.14 317 AML AML
comp=N,834µm,0.7s
MUGIO AML AML
comp=E,786µm,1.0s
MUGIO Muggio 4.14 317 AML AML
comp=E,786µm,1.0s
MUGIO AML AML
comp=N,834µm,0.7s
FUORN Ofenpass-Fuorn 4.16 332 Pn 07 57 45.5 +0.3
SBF Sospel 4.23 284 *e*P **Pn 07 57 46.0 0.0**
SBF *e*Sn **Sn 07 58 30.6 -5.1**
comp=N,396nm,0.6s
VARE Varese 4.24 314 P **Pn 07 57 47.0 +0.8**
VARE AML AML
comp=E,1275µm,0.7s
VARE AML AML
comp=N,1320µm,1.2s
VARE Varese 4.24 314 AML AML
comp=E,1275µm,0.7s
VARE AML AML
comp=N,1320µm,1.2s
UPM Unac-Piva 4.24 85 *e*Pn **Pn 07 57 47.9 +1.6**
UPM Unac-Piva 4.24 85 ⇑*i* Pn **Pn 07 57 46.1 -0.2**
UPM *i* Sn **Sn 07 58 36.1 0.0**
CEME Cevo 4.29 94 ⇓*i* Pn **Pn 07 57 46.8 0.0**
CEME *i* Sn **Sn 07 58 37.4 +0.2**
NKME Niksic 4.29 91 ⇓*i* Pn **Pn 07 57 46.7 -0.1**
NKME *i* Sn **Sn 07 58 37.3 +0.1**
BUM Brajici-Budva 4.31 97 ⇑*i* Pn **Pn 07 57 47.1 -0.1**
BUM *i* Sn **Sn 07 58 38.0 +0.2**
FETA Feichten 4.37 338 *e*Pn **Pn 07 57 49.9 +1.9**
comp=N,73nm,0.7s,SNR=193
HAPS Han Pijesak,Bl 4.38 74 *e*Pn **Pn 07 57 48.0 -0.1**
TUE Stuetta 4.40 324 Pn **Pn 07 57 48.2 -0.2**
WTTA Wattenberg 4.40 347 *i* Pn **Pn 07 57 50.5 +2.0**
comp=N,95nm,0.3s,SNR=149
DAVOX Davos/Dischmat 4.44 330 Pn **Pn 07 57 49.5 +0.5**
comp=N,14nm,0.3s,baz=144,slow=14,SNR=120
DAVOX Sn **Sn 07 58 40.1 -0.8**
baz=121,slow=19
comp=N,100nm,0.5s
SQTA Sankt Quirin 4.44 343 Pn 07 57 50.7 +1.7
SQTA Sankt Quirin 4.44 343 *e*Pn **Pn 07 57 50.7 +1.7**
comp=N,216nm,0.4s,SNR=155
WATA Walderalm 4.48 346 Pn 07 57 51.7 +2.2
WATA Walderalm 4.48 346 *i* Pn **Pn 07 57 51.7 +2.2**
comp=N,146nm,0.4s,SNR=162
VSL Villasalto 4.49 220 P **Pn 07 57 50.0 +0.5**
DRME Dracevica, Mon 4.55 98 *e*Pn **Pn 07 57 49.9 -0.4**
DRME Dracevica, Mon 4.55 98 ⇓*i* Pn **Pn 07 57 50.3 0.0**
DRME *i* Sn **Sn 07 58 43.7 +0.3**
PDG Podgorica 4.56 95 ⇑P **Pn 07 57 51.4 +1.0**
PDG Podgorica 4.56 95 Pn **Pn 07 57 49.7 -0.7**
PDG Podgorica 4.56 95 *e*Pn **Pn 07 57 51.6 +1.2**
PDG *e*Sn **Sn 07 58 43.0 -0.6**
TTG Podgorica 4.56 95 ⇓*i* Pn **Pn 07 57 50.5 +0.1**
TTG *i* Sn **Sn 07 58 43.8 +0.2**
MOTA Moosalm 4.58 343 Pn 07 57 52.8 +1.9
MOTA Moosalm 4.58 343 *e*Pn **Pn 07 57 52.8 +1.9**
comp=N,111nm,0.5s,SNR=112
ARSA Arzberg 4.59 21 *i* Pn **Pn 07 57 50.2 -0.7**
comp=N,23nm,0.5s,SNR=43
PLE Pljevlja 4.60 84 ⇓*i* Pn **Pn 07 57 51.0 -0.1**
PLE *i* Sn **Sn 07 58 44.7 -0.1**
RUDO Rudo 4.61 80 *e*Pn **Pn 07 57 50.8 -0.3**
TRAV Traversella 4.61 305 P **Pn 07 57 51.1 -0.2**
TRAV AML AML
comp=E,616µm,0.7s
TRAV AML AML
comp=N,470µm,1.3s
TRAV Traversella 4.61 305 AML AML
comp=E,616µm,0.7s
TRAV AML AML
comp=N,470µm,1.3s
ULC Ulcinj 4.64 101 ⇓*i* Pn **Pn 07 57 51.7 0.0**
ULC *e*Sn **Sn 07 58 45.3 -0.5**
BBLS Lazići 4.66 77 *e*Pn **Pn 07 57 52.1 +0.2**
BBLS Lazići 4.66 77 *e*Pn **Pn 07 57 52.7 +0.8**
TIP Timpagrande 4.70 143 ⇓P **Pn 07 57 55.5 +3.1**
TIP Timpagrande 4.70 143 Pn 07 57 52.5 +0.1
KOME Kolasin 4.70 90 ⇑*i* Pn **Pn 07 57 52.4 -0.1**
KOME *i* Sn **Sn 07 58 47.2 -0.1**
BIOA Bad Ischl, Aus 4.72 4 Pn 07 57 52.5 -0.2
BIOA Bad Ischl, Aus 4.72 4 *i* Pn **Pn 07 57 52.5 -0.2**
comp=N,159nm,0.3s,SNR=211
KOVH Kovagotottos 4.72 47 P **Pn 07 57 51.2 -1.5**
KOVH S **Sn 07 58 44.5 -3.1**
RJOB Jochberg 4.75 357 *e*Pn **Pn 07 57 54.0 +0.8**
RJOB *e*Sn **Sn 07 58 49.5 +0.9**
BLJ Bijeljina 4.79 66 *e*Pn **Pn 07 57 51.1 -2.5**
RETA Reutte 4.80 341 *e*Pn **Pn 07 57 55.4 +1.7**
comp=N,42nm,0.3s,SNR=97
LMR La Mourre 4.85 276 *e*P **Pn 07 57 53.4 -1.0**
DAVA Damuels 4.87 333 *i* Pn **Pn 07 57 56.6 +1.7**
comp=N,132nm,0.7s,SNR=177
TEKS Tekeris 4.90 69 *e*Pn **Pn 07 57 56.0 +0.8**
TEKS Tekeris 4.90 69 *e*Pn **Pn 07 57 55.9 +0.8**
MBDF Montbardon 4.91 293 *e*P **Pn 07 57 56.5 +1.1**
MBDF *e*Sn **Sn 07 58 46.6 -5.9**
comp=N,199nm,0.6s
MOA Molln 4.93 9 *e*Pn **Pn 07 57 55.4 -0.1**
MOA *e*Sn **Sn 07 58 52.4 -0.4**
MOA Molln 4.93 9 *e*Pn **Pn 07 57 55.6 +0.1**
comp=N,37nm,0.3s,SNR=76
SCTE Santa Cesarea 4.96 124 Pn 07 57 56.0 0.0
IVA Berane 4.97 89 ⇓*i* Pn **Pn 07 57 56.3 +0.1**
IVA *i* Sn **Sn 07 58 53.9 -0.2**
SJES Sjenica 5.02 85 *e*Pn **Pn 07 57 57.9 +1.0**
SJES *e*Sn **Sn 07 58 53.6 -1.7**
PVY Plav 5.05 92 ⇓*i* Pn **Pn 07 57 57.3 0.0**
PVY *i* Sn **Sn 07 58 55.7 -0.2**
MORH Mrgy, Hungar 5.09 49 ⇓P **Pn 07 57 59.4 +1.6**
MORH Mrgy, Hungar 5.09 49 P **Pn 07 57 58.4 +0.7**
BE1 Monatshausen 5.10 345 *e*Pn **Pn 07 57 59.8 +1.8**
DIVS Divibare 5.12 75 Pn 07 57 57.3 -0.9
DIVS Divibare 5.12 75 *e*Pn **Pn 07 57 58.1 -0.1**
DIVS Divibare 5.12 75 *e*Pn **Pn 07 57 59.2 +1.0**
DIVS *e*Sn **Sn 07 58 56.1 -1.5**
KW1 Garching a.d. 5.15 356 *e*Pn **Pn 07 57 59.1 +0.6**
UBR Ueberruh 5.15 337 *e*Pn **Pn 07 58 00.2 +1.6**
UBR *e*Sn **Sn 07 59 02.1 +3.8**
TIH Tihany 5.17 39 P **Pn 07 58 00.1 +1.3**
RONA Rosalia, Austr 5.22 24 Pn 07 57 59.1 -0.4
RONA Rosalia, Austr 5.22 24 *i* Pn **Pn 07 57 59.1 -0.4**
comp=N,36nm,0.3s,SNR=55
LPG La Plagne 5.22 301 *e*P **Pn 07 58 00.7 +0.9**
MPLH Magyarpolny 5.22 35 P **Pn 07 57 59.6 0.0**
LPL La Plagne 5.24 301 *e*P **Pn 07 58 00.4 +0.4**
LPL *e*Sn **Sn 07 58 55.0 -5.7**
comp=N,281nm,0.8s
TIR Tirane 5.27 106 P **Pn 07 58 02.2 +1.9**
TIR Tirane 5.27 106 Pn 07 58 00.5 +0.2
TIR Tirane 5.27 106 *e*Pn **Pn 07 58 00.9 +0.6**
TIR *e*Sn **Sn 07 58 58.8 -2.5**
SOP Sopron 5.28 26 P **Pn 07 57 59.6 -0.8**
SOP S **Sn 07 59 00.7 -0.8**
FRGS Fruska Gora 5.29 63 *e*Pn **Pn 07 57 59.1 -1.3**
FRGS Fruska Gora 5.29 63 *e*Pn **Pn 07 57 59.5 -0.9**
CONA Conrad Observa 5.30 20 *i* Pn **Pn 07 58 00.3 -0.4**
comp=N,25nm,0.3s,SNR=74
EGYH Egyhazaskeszo 5.33 32 P **Pn 07 58 02.3 +1.2**
TRUS Trudelj 5.43 74 *e*Pn **Pn 07 58 02.5 0.0**
ORIF Oris-en-Rattie 5.57 293 *e*P **Pn 07 58 07.1 +2.7**
ORIF *e*Sn **Sn 07 59 02.6 -6.2**
comp=N,572nm,1.2s
SMRF Simiane la Rot 5.58 283 *e*P **Pn 07 58 05.6 +1.1**
SMRF *e*Sn **Sn 07 59 02.5 -6.4**
comp=N,195nm,1.1s
VAE Valguarnera 5.59 169 Pn Pn 07 58 11.2 +6.5
baz=12,slow=9.3
GRUS Gruza 5.60 78 *e*Pn **Pn 07 58 05.2 +0.4**
GRUS *e*Sn **Sn 07 59 07.5 -1.9**
SELS Selova 5.86 85 *e*Pn **Pn 07 58 08.0 -0.4**
SELS *e*Sn **Sn 07 59 13.0 -2.8**

GEC2 GERESS Array S 5.87 4 Pn **Pn 07 58 07.3 -1.2**
GEC2 GERESS Array S 5.87 4 *e*Pn **Pn 07 58 07.7 -0.9**
GEC2 *e*Sn **Sn 07 59 13.0 -3.2**
GERES GERESS Array B 5.87 4 Pn **Pn 07 58 06.1 -2.4**
comp=N,9.8nm,0.3s,baz=172,slow=11,SNR=82
GERES Sn **Sn 07 59 12.7 -3.4**
comp=N,28nm,0.3s,baz=176,slow=21,SNR=7.6
comp=N,13nm,0.3s
GERES GERESS Array B 5.87 4 Pn 07 58 07.1 -1.5
I26DE FREYUNG INFRAS 5.88 4 I I 08 34 10.0
baz=180,slow=327,SNR=0.9
CKRC Cesky Krumlov 5.89 8 *e*PN **Pn 07 58 07.6 -1.2**
CKRC *e*SN **Sn 07 59 12.8 -3.7**
ZST Bratislava 5.91 27 *e*PN **Pn 07 58 08.9 -0.1**
ZST *e*SN **Sn 07 59 13.7 -3.2**
KEK Kerkira 6.00 121 Pn **Pn 07 58 11.4 +1.2**
OHR Ohrid 6.02 106 *i* Pn **Pn 07 58 11.8 +1.2**
SRO Srobarova 6.05 35 *e*PN **Pn 07 58 12.5 +1.6**
MODS Modra-Piesok 6.12 27 *e*PN **Pn 07 58 10.7 -1.2**
KHC Kasperske Hory 6.15 3 Pn 07 58 11.4 -0.9
KHC Kasperske Hory 6.15 3 *e*PN **Pn 07 58 11.3 -1.1**
KHC *e*SN **Sn 07 59 19.1 -3.9**
KHC AMS AMS 08 00 40.0
comp=N,3µm,12.4s
WET Wettzell 6.16 359 *e*PN **Pn 07 58 11.3 -1.1**
WET *e*Sn **Sn 07 59 17.6 -5.6**
CABF La Chapelle 6.18 308 *e*P **Pn 07 58 13.5 +0.8**
CABF *e*Sn **Sn 07 59 16.6 -7.0**
comp=N,376nm,1.0s
KBN Korca 6.20 110 Pn 07 58 12.2 -0.8
SKO Skopje 6.24 97 *i* Pn **Pn 07 58 13.9 +0.4**
BOVS Bovan 6.30 81 ⇑P **Pn 07 58 14.1 -0.2**
BOVS Bovan 6.30 81 *e*Pn **Pn 07 58 13.6 -0.7**
BFO Black Forest 6.31 330 Pn **Pn 07 58 15.1 +0.6**
BFO Black Forest 6.31 330 *e*Pn **Pn 07 58 14.9 +0.4**
BFO Black Forest 6.31 330 P **Pn 07 58 15.5 +1.0**
KUBS Kucevo 6.36 74 *e*Pn **Pn 07 58 14.7 -0.5**
VIVF Saint-Julien-l 6.38 290 *e*P **Pn 07 58 16.6 +1.1**
BARS Barje 6.39 89 *e*Pn **Pn 07 58 15.7 +0.1**
MDVR Moldovita 6.46 71 ⇓P **Pn 07 58 18.3 +1.7**
KRUC Moravsky 6.49 19 *e*PN **Pn 07 58 15.8 -1.1**
KRUC *e*SN **Sn 07 59 28.1 -3.1**
TREC Trest 6.52 14 *e*PN **Pn 07 58 15.9 -1.5**
TREC *e*SN **Sn 07 59 28.0 -4.0**
TREC AMS AMS 08 00 50.0
comp=N,4µm,12.6s
HINF Hinteralfeld 6.54 320 *e*P **Pn 07 58 17.6 -0.1**
HINF *e*Sn **Sn 07 59 26.2 -6.3**
comp=N,835nm,1.1s
FNA Florina 6.54 107 Pn 07 58 16.8 -0.9
SSB Saint Sauveur 6.58 293 Pn **Pn 07 58 19.5 +1.2**
BZS Buzias 6.64 64 ⇓P **Pn 07 58 19.7 +0.8**
JAVC Velka Javorina 6.67 27 *e*PN **Pn 07 58 19.3 -0.2**
ZAGS Zajecar 6.69 80 *e*Pn **Pn 07 58 19.6 -0.1**
ZAGS *e*Sn **Sn 07 59 33.1 -3.0**
ECH Echery 6.69 323 Pn 07 58 19.6 -0.2
VRAC Vranov 6.76 20 ⇑P **Pn 07 58 20.7 -0.1**
VRAC Vranov 6.76 20 Pn **Pn 07 58 19.7 -1.0**
comp=N,3.0nm,0.3s,baz=204,slow=15,SNR=13
VRAC LR LR 08 01 45.0
comp=N,2µm,19.3s,baz=208,slow=46
comp=N,15nm,0.5s
VRAC Vranov 6.76 20 *e*PN **Pn 07 58 19.7 -1.0**
CDF Champ du Feu 6.79 325 *e*P **Pn 07 58 21.3 +0.1**
CDF *e*Sn **Sn 07 59 32.0 -6.8**
comp=N,454nm,1.0s
VYHS Vyhne 6.80 34 *e*PN **Pn 07 58 20.9 -0.4**
ROTZ Rotzenmuhle 6.81 355 *e*Pn **Pn 07 58 19.9 -1.4**
ROTZ *e*Sn **Sn 07 59 34.4 -4.7**
LASF Ste Croix 6.82 282 *e*P **Pn 07 58 22.3 +0.8**
LASF *e*Sn **Sn 07 59 32.1 -7.3**
comp=N,49nm,0.8s
GRA1 Grafenberg Arr 6.83 350 Pn 07 58 20.8 -0.9
GRF Grafenberg Arr 6.83 350 *e*Pn **Pn 07 58 21.6 0.0**
GRFO Grafenberg 6.83 350 Pn 07 58 21.8 +0.2
STIP Stip 6.84 98 *i* Pn **Pn 07 58 23.3 +1.5**
PSZ Piszkesteto 6.85 42 ⇑P **Pn 07 58 23.1 +1.1**
PSZ Piszkesteto 6.85 42 P **Pn 07 58 23.0 +0.9**
HAU Haudompre 6.91 319 *e*P **Pn 07 58 22.9 +0.1**
HAU *e*Sn **Sn 07 59 34.8 -6.9**
comp=N,902nm,0.9s
SIRR Siria 6.92 59 ⇑P **Pn 07 58 24.5 +1.7**
ZAPS Zavoj 6.97 84 *e*Pn **Pn 07 58 24.8 +1.2**
ZAPS *e*Sn **Sn 07 59 39.2 -3.9**
HERR Herculane 6.97 71 ⇓P **Pn 07 58 24.8 +1.2**
BLKB Belogradchik 7.00 82 ⇑P **Pn 07 58 24.6 +0.6**
GOPC GO Pecny, Ondr 7.02 9 *e*PN **Pn 07 58 22.8 -1.5**
GOPC *e*SN **Sn 07 59 39.9 -4.5**
GOPC AMS AMS 08 01 10.0
comp=N,3µm,12.0s
MANZ Manzenberg 7.04 355 *e*Sn **Sn 07 59 39.6 -5.1**
PRU Pruhonice 7.07 7 *e*PN **Pn 07 58 23.4 -1.5**
PRU *e*SN **Sn 07 59 41.9 -3.6**
PRU AMS AMS 08 01 10.0
comp=N,3µm,15.2s
MAUC Maruska 7.17 25 *e*PN **Pn 07 58 25.4 -0.9**
MAUC AMS AMS 08 01 30.0
comp=N,5µm,17.4s
VAY Valandovo 7.22 100 *i* Pn **Pn 07 58 27.6 +0.7**
NKC Novy Kostel 7.26 357 *e*PN **Pn 07 58 26.6 -1.0**
NKC *e*SN **Sn 07 59 44.9 -5.4**
NKC AMS AMS 08 01 20.0
comp=N,3µm,12.5s
MAHO Mahon 7.33 248 Pn 07 58 27.7 -0.8
GZR Gura Zlata 7.34 68 ⇑P **Pn 07 58 29.6 +0.8**
MORC Moravsky Berou 7.45 23 ⇑P **Pn 07 58 30.5 +0.4**
MORC Moravsky Berou 7.45 23 Pn 07 58 29.3 -0.8
MORC Moravsky Berou 7.45 23 *e*PN **Pn 07 58 29.5 -0.6**
VTS Vitosha 7.45 89 ⇑P **Pn 07 58 31.0 +0.8**
VTS Vitosha 7.45 89 Pn 07 58 30.4 +0.1
KRLC Kraliky 7.52 18 *e*PN **Pn 07 58 30.3 -0.9**
KRLC AMS AMS 08 01 30.0
comp=N,2µm,13.6s
KECS Kecovo 7.53 41 *e*PN **Pn 07 58 33.8 +2.6**
SMF Signal de Mont 7.54 302 *e*P **Pn 07 58 31.3 -0.1**
SMF *e*Sn **Sn 07 59 49.9 -7.2**
comp=N,138nm,0.8s
DEV Deva 7.58 64 ⇑P **Pn 07 58 33.2 +1.4**
PAGF Fort de Pagny 7.59 320 *e*P **Pn 07 58 32.8 +0.7**
baz=134
PAGF *e*Sn **Sn 07 59 51.1 -7.3**
comp=N,369nm,0.8s
PVCC Panska Ves 7.61 7 AMS AMS 08 01 30.0
comp=N,3µm,13.8s
OKC Ostrava-Krasne 7.68 25 AMS AMS 08 01 40.0
comp=N,3µm,10.9s
DPC Dobruska-Polom 7.69 16 *e*PN **Pn 07 58 33.0 -0.4**
DPC AMS AMS 08 01 40.0
comp=N,3µm,12.9s
SFTF Sexfontaines 7.70 315 *e*P **Pn 07 58 33.4 -0.2**
baz=128
SFTF *e*Sn **Sn 07 59 54.3 -6.7**
comp=N,885nm,1.5s
MOX Moxa 7.73 353 *e*Pn **Pn 07 58 33.2 -0.8**
MOX *e*Sn **Sn 07 59 54.4 -7.3**
ABAH Abaujker 7.78 44 P **Pn 07 58 35.7 +1.1**
UPC Upice 7.78 14 *e*PN **Pn 07 58 34.1 -0.5**
UPC AMS AMS 08 01 40.0
comp=N,4µm,12.1s
DRGR 7.80 58 ⇓P **Pn 07 58 36.7 +1.7**
KEST Kesra 7.81 203 Pn **Pn 07 58 39.5 +4.2**
comp=N,2.4nm,0.3s,baz=337,slow=6.4,SNR=35
KEST Sn **Sn 08 00 06.0 +2.1**
baz=2.3,slow=18
KEST LR LR 08 01 39.2
comp=N,3µm,21.8s,baz=349,slow=38
LOR Lormes 7.82 306 *e*P **Pn 07 58 35.3 +0.1**
baz=126
LOR *e*Sn **Sn 07 59 57.3 -6.7**
comp=N,85nm,0.5s
OSTC Ostas 7.86 15 *e*PN **Pn 07 58 35.4 -0.4**
OSTC AMS AMS 08 01 40.0
comp=N,3µm,12.8s
CHVC Chvalec 7.86 14 *e*PN **Pn 07 58 34.5 -1.3**
CHVC AMS AMS 08 01 40.0
comp=N,3µm,11.9s
MEZF Maizieres J'vi 7.89 317 *e*P **Pn 07 58 37.1 +1.0**
baz=144
MEZF *e*Sn **Sn 07 59 58.3 -7.3**
comp=N,165nm,0.8s
AVF Avril sur Loir 7.91 302 *e*P **Pn 07 58 36.3 -0.1**
AVF *e*Sn **Sn 07 59 58.8 -7.3**
comp=N,81nm,0.9s

BRG Berggiesshubel 7.91 4 *e*P Pn 07 58 34.5 -1.8
BRG Amp 07 58 46.0
comp=Z,18nm,0.7s
BRG *ex* x 07 59 59.8
BRG *ex* x 08 00 33.4
BRG *ex* x 08 01 05.3
BRG Amp 08 01 27.0
comp=Z,133nm,1.3s
BRG Amp 08 02 00.0
comp=E,1.8nm,6.2s
BRG Amp 08 02 07.0
comp=N,1.7nm,15.4s
BRG Amp 08 02 10.0
comp=Z,2.6nm,13.3s
TNS Taunus Mts 7.92 338 *e*Pn Pn 07 58 36.9 +0.3
TNS *e*Sn Sn 08 00 03.3 -3.1
SAVF Savonnieres en 7.93 318 *e*P Pn 07 58 37.3 +0.6
baz=152
SAVF *e*Sn Sn 07 59 59.4 -7.1
comp=Z,189nm,0.9s
SSF Saint Saulge 7.93 304 *e*P Pn 07 58 36.4 -0.4
SSF *e*Sn Sn 07 59 59.4 -7.4
comp=Z,72nm,0.8s
MTLF Montolieu 7.98 276 *e*P Pn 07 58 40.5 +3.1
MTLF *e*Sn Sn 08 00 00.2 -7.7
comp=Z,46nm,1.1s
LOT Lotru 8.04 69 ⇑P Pn 07 58 40.6 +2.3
MESR Meseseni 8.11 56 ⇑P Pn 07 58 40.7 +1.6
BGF Bois d'Agland 8.13 300 *e*P Pn 07 58 40.2 +0.7
BGF *e*Sn Sn 08 00 04.0 -7.7
comp=Z,70nm,0.5s
KSP Ksiaz 8.15 14 *e*P Pn 07 58 41.4 +1.6
CAF Calviac 8.21 287 *e*P Pn 07 58 42.3 +1.7
WLF Walferdange 8.23 327 *d*PP Pn 07 58 44.7 +3.8
WLF Walferdange 8.23 327 *e*Pn Pn 07 58 42.2 +1.3
BGG Burgeitz 8.24 333 *e*Pn Pn 07 58 42.2 +1.2
CRVS Cervenica-Dubn 8.29 42 *e*PN Pn 07 58 48.9 +7.3
KOE Koeppel 8.31 335 *e*Pn Pn 07 58 43.2 +1.3
CLL Collm 8.32 359 Pn 07 58 40.7 -1.4
CLL Collm 8.32 359 *e*Pn Pn 07 58 41.0 -1.1
CLL *ex* x 07 58 44.0
CLL *ex* x 07 58 49.0
CLL *ex* x 07 59 05.0
CLL *e*(Sn) Sn 08 00 01.0 -15
CLL *ex* x 08 00 16.0
CLL *ex* x 08 00 34.0
CLL *e*Sg **Sg 08 01 03.0 -5.0**
comp=Z,186nm,1.0s
CLL Lmax 08 03 00.0
TRPA Tarpa 8.37 49 ⇑P Pn 07 58 43.6 +0.8
TRPA Tarpa 8.37 49 P Pn 07 58 45.1 +2.4
PLVB Pleven 8.41 83 ⇑P Pn 07 58 45.5 +2.2
TCF Toulx Ste Croi 8.45 297 *e*P Pn 07 58 45.6 +1.7
TCF *e*Sn Sn 08 00 11.5 -8.0
comp=Z,72nm,1.0s
HILG Hillesheim 8.54 331 *e*Pn Pn 07 58 46.5 +1.4
STHS Stebnicka Huta 8.54 38 *e*PN Pn 07 58 48.6 +3.4
HYF Humbligny 8.55 304 *e*P Pn 07 58 49.1 +3.8
HYF *e*Sn Sn 08 00 14.4 -7.6
ARR Arges 8.61 70 ⇑P Pn 07 58 48.1 +2.0
RJF Les Rejaudoux 8.66 289 *e*P Pn 07 58 49.6 +2.9
STB Steinbach 8.74 333 *e*Pn Pn 07 58 48.5 +0.7
STB *e*Sn Sn 08 00 22.7 -3.8
comp=Z,25nm,1.4s
BHOU Houvegnez 8.84 329 *d*PP Pn 07 58 54.0 +4.8
BHOU *dx* x 07 59 34.1
MTUR Matau 8.88 71 ⇓P Pn 07 58 51.1 +1.2
VOIR 8.91 70 ⇑P Pn 07 58 52.8 +2.5
BTNL Ternell 8.98 330 *dx* x 07 58 54.2
RCHB Rochefort 8.99 326 *d*PP Pn 07 58 54.6 +3.4
DREG Dreilaegerbach 9.01 331 *e*Pn Pn 07 58 52.7 +1.2
MEM Membach 9.05 330 *d*P Pn 07 58 54.8 +2.8
GIVF Givet 9.12 324 *e*P Pn 07 58 56.7 +3.7
GIVF *e*Sn Sn 08 00 29.3 -6.6
comp=Z,159nm,0.9s
LFF La Frestale 9.14 287 *e*P Pn 07 58 55.1 +1.8
BCLA Clavier 9.16 327 *d*P Pn 07 58 51.5 -2.1
BCLA *d*PP PnPn 07 58 58.1 -3.1
BCLA *d*S Sn 08 00 33.2 -3.8
BSTI Sart Tilman 9.19 328 *d*PP Pn 07 58 57.9 +3.9
DOU Dourbes 9.22 323 *d*P Pn 07 58 52.6 -1.7
DOU *d*PP PnPn 07 59 00.4 -1.4
DOU *d*S Sn 08 00 34.8 -3.4
BGES Gesves 9.23 326 *d*PP Pn 07 59 00.2 +5.8
BGES *dx* x 07 59 10.6
DOPR Dopca 9.26 67 ⇓P Pn 07 58 56.7 +1.7
BMRD Maredsous 9.30 325 *d*PP Pn 07 58 59.2 +3.8
BMRD *dx* x 07 59 11.5
BAIF Baives 9.36 322 *e*P Pn 07 59 00.2 +3.9
BAIF *e*Sn Sn 08 00 33.2 -8.6
comp=Z,106nm,1.0s
EPF Esparros 9.37 275 *e*P Pn 07 58 59.3 +2.8
RDO Rodhopi 9.42 97 Pn Pn 07 58 57.3 +0.2
MLR Muntele Rosu 9.54 70 ⇑P Pn 07 59 00.7 +1.8
MLR Muntele Rosu 9.54 70 Pn Pn 07 59 01.5 +2.6
comp=Z,0.5nm,0.3s,baz=280,slow=12,SNR=7.3
MLR Sn Sn 08 00 45.0 -1.5
comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=1.0
MLR LR LR 08 03 31.6
comp=Z,6μm,19.6s,baz=266,slow=43
comp=Z,6.8nm,0.8s
MLR Muntele Rosu 9.54 70 Pn 07 58 58.3 -0.6
OZUR 9.56 67 ⇑P Pn 07 59 01.0 +1.9
SNF Seneffe 9.66 324 *dx* x 07 59 02.2
BURAR Bucovina Array 9.70 57 ⇑P Pn 07 59 02.9 +1.8
RAZG Razgrad 9.78 82 ⇑P Pn 07 59 03.6 +1.4
ETSF Etsaut 10.03 274 *e*P Pn 07 59 10.4 +4.8
PLOR Plostina 10.10 69 ⇑P Pn 07 59 08.4 +2.0
MFF Saint Martin d 10.10 296 *e*P Pn 07 59 09.3 +2.9
MFF *e*Sn Sn 08 00 51.1 -8.8
comp=Z,21nm,0.8s
VRI Vrincioaia 10.15 69 ⇓P Pn 07 59 09.0 +1.8
TESR Tescani 10.25 65 ⇑P Pn 07 59 10.6 +2.1
SJPF Ste Jean 10.50 276 *e*P Pn 07 59 15.4 +3.4
LDF La Druitiere 10.81 306 *e*P Pn 07 59 20.0 +3.9
LDF *e*Sn Sn 08 01 07.4 -10
comp=Z,77nm,1.2s
FLN La Foliniere 11.10 306 *e*P Pn 07 59 23.1 +3.0
baz=125
FLN *e*Sn Sn 08 01 16.1 -8.2
comp=Z,43nm,0.8s
GRR Gorron 11.16 304 *e*P Pn 07 59 23.6 +2.6
GRR *e*Sn Sn 08 01 16.6 -9.4
comp=Z,22nm,0.7s
TPGR Topolog 11.20 75 ⇑P Pn 07 59 22.3 +0.9
APE Apeiranthos 11.20 118 ⇑P Pn 07 59 22.8 +1.3
MILM Milestii Mici 11.79 65 *e*P Pn 07 59 35.0 +5.4
MILM *e*L L 08 03 44.0
MILM LqM 08 04 01.0
comp=Z,2μm,12.0s
MILM LRM MLR 08 05 06.0
comp=Z,3μm,11.5s
KIS Kishinev 11.81 65 *e*P Pn 07 59 32.0 +2.1
KIS *e*S Sn 08 01 46.0 +4.1
KIS *e*L L 08 03 20.0
KIS LqM 08 04 00.0
comp=Z,1μm,14.0s
KIS LRM MLR 08 05 05.0
comp=Z,2μm,11.5s
IDI Anoyia 11.93 126 ⇑P Pn 07 59 33.6 +2.0
IDI Anoyia 11.93 126 Pn Pn 07 59 32.2 +0.5
comp=Z,1.9nm,0.3s,baz=324,slow=15,SNR=7.3
IDI Sn Sn 08 01 37.5 -7.6
comp=Z,3.3nm,0.3s,baz=308,slow=18,SNR=2.9
IDI LR LR 08 06 07.4
comp=Z,748nm,18.7s,baz=312,slow=47
comp=Z,24nm,0.8s
SGMF Saint Gilles 12.17 301 *e*P Pn 07 59 37.7 +3.0
QUIF Quistinic 12.45 299 *e*P Pn 07 59 41.0 +2.5
ROSF Rostrenen 12.65 301 *e*P Pn 07 59 44.0 +2.7
ROSF *e*Sn Sn 08 01 52.0 -10
comp=Z,54nm,1.3s
ESDC Sonseca Array 13.26 261 Pn Pn 07 59 50.0 +0.3
comp=Z,0.1nm,0.3s,baz=74,slow=14,SNR=8.6
ESDC LR LR 08 04 52.0
comp=Z,1μm,20.5s,baz=60,slow=37
comp=Z,1.3nm,0.8s
AKASG Malin Array Be 13.44 49 Pn Pn 07 59 51.3 -0.7
comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=8.3
AKASG LR LR 08 05 56.9
comp=Z,1μm,18.0s,baz=239,slow=42
comp=Z,1.7nm,0.8s
AKBB Malin Array Si 13.44 49 Pn 07 59 52.0 0.0

MDUB Mudurnu 13.73 94 Pn 07 59 53.1 -3.2
PBRG Braganca 14.72 272 *e*P P 08 00 19.3 +3.3
comp=Z,31nm,1.4s
VSVD Vaisvydziai 14.75 24 *e*P P 08 00 13.8 -2.3
VSVD IAmb IAmb 08 00 23.7
comp=Z,6.2nm,0.6s
NACGM Naroch 14.89 32⇑ *e*P Pn 08 00 09.0 -2.8
comp=Z,27nm,0.9s,baz=224
IIGN Ignalina 15.01 30 *e*P P 08 00 16.4 -2.7
IIGN IAmb IAmb 08 00 24.3
comp=Z,27nm,1.1s
MNK Minsk 15.05 35 *i* P Pn 08 00 13.0 -1.0
comp=E,3.0nm,0.7s
MNK *i* P Pn 08 00 13.0 -1.0
comp=N,15nm,0.7s
MNK *i* P Pn 08 00 13.0 -1.0
comp=Z,11nm,0.7s,baz=226
MNK *i* PP pP 08 00 20.8 -0.7
MNK *i* PPP PPP 08 00 28.6
MNK *i* S Sn 08 03 00.1 -0.6
MNK *i* SS SnSn 08 03 14.0 +0.8
MNK *i* SSS SSS 08 03 26.6
MNK *i* LQ LQ 08 04 37.3
MNK *i* LR LR 08 05 31.6
MNK *i* LRM MLR 08 06 50.7
comp=E,179nm,17.5s
MNK *i* LRM MLR 08 06 53.3
comp=N,1μm,11.6s
MNK *i* LRM MLR 08 06 57.6
comp=Z,2μm,13.8s
MVO Moncorvo 15.07 270 *e*P P 08 00 21.4 +1.5
comp=Z,33nm,1.4s
MVO *e*LR LR 08 04 29.4
comp=Z,997nm,20.0s
ISAL Salakas 15.15 29 *e*P Pn 08 00 17.8 +2.5
ILGA Ilgaz 15.43 90 P Pn 08 00 15.4 -4.0
PVRL Vila Real 15.55 271 *e*P P 08 00 28.5 +3.3
comp=Z,37nm,1.5s
POLO Lamas de Olo 15.59 271 *e*P P 08 00 26.9 +1.3
comp=Z,11nm,1.8s
MTE Manteigas 15.65 268 *e*P P 08 00 28.6 +2.3
comp=Z,33nm,1.4s
MTE *e*LR LR 08 04 46.5
comp=Z,1μm,18.0s
MTE Manteigas 15.65 268 P Pn 08 00 19.7 -2.3
PCAB Cabril 15.69 273 *e*P P 08 00 30.5 +3.9
comp=Z,27nm,1.6s
BR131 Keskin Array S 15.74 95 P Pn 08 00 20.9 -2.4
BRTR Keskin Array B 15.74 95 Pn Pn 08 00 23.2 -0.2
comp=Z,0.1nm,0.3s,baz=279,slow=12,SNR=2.6
BRTR LR LR 08 07 32.1
comp=Z,3μm,19.4s,baz=295,slow=41
comp=Z,1.5nm,0.8s
BRTR Keskin Array B 15.74 95 P Pn 08 00 22.0 -1.4
PCBR Castelo Branco 15.77 265 *e*P P 08 00 29.8 +2.3
comp=Z,24nm,1.9s
PGAV Gavieira, Arco 15.81 274 *e*LR LR 08 04 50.0
comp=Z,955nm,22.0s
PVIS Viseu 15.82 269 *e*P P 08 00 30.1 +2.0
comp=Z,25nm,1.4s
PMRV Marv??o 15.84 264 *e*P P 08 00 33.3 +5.0
comp=Z,26nm,1.4s
PMRV *e*LR LR 08 04 54.1
comp=Z,1μm,18.0s
PBAR Barrancos 16.04 259 *e*P P 08 00 32.4 +1.8
comp=Z,42nm,1.4s
PESTR Estremoz 16.18 262 *e*P P 08 00 35.2 +3.1
comp=Z,22nm,1.0s
PESTR Estremoz 16.18 262 Pn 08 00 28.5 -0.3
EKA Eskdalemuir Ar 16.25 325 Pn Pn 08 00 29.7 0.0
baz=136,slow=14
EKA Sn Sn 08 03 28.2 -1.9
baz=135,slow=25
EKA LR LR 08 07 16.7
comp=Z,446nm,20.0s,baz=158,slow=39
comp=Z,4.2nm,0.7s
ESK Eskdalemuir 16.26 325 P Pn 08 00 29.5 -0.3
ESK Eskdalemuir 16.26 325 P P 08 00 38.6 +5.7
PCAS Casmilo, Conde 16.45 267 *e*P P 08 00 36.5 +1.4
comp=Z,28nm,1.3s
DSB Dublin 16.52 315 P Pn 08 00 33.1 0.0
DSB IAmb IAmb 08 00 40.5
comp=Z,171nm,1.9s
PMTG Montargil 16.57 264 *e*P P 08 00 40.3 +3.9
comp=Z,47nm,1.4s
EVO Evora 16.61 262 *e*P P 08 00 39.7 +2.9
comp=Z,28nm,1.3s
KONO Kongsberg 16.82 354 P Pn 08 00 36.5 -0.4
PSBE So Bento 16.83 266 *e*P P 08 00 45.8 +6.4
comp=Z,48nm,2.3s
PVAQ Vaqueiros 16.85 258 *e*LR LR 08 05 15.5
comp=Z,750nm,22.0s
MTSE Matsula 17.09 19 *e*P Pn 08 00 39.8 -0.5
HFS Hagfors 17.17 1 P Pn 08 00 42.0 +0.7
comp=Z,0.2nm,0.3s,baz=181,slow=10,SNR=4.0
HFS LR LR 08 08 01.8
comp=Z,644nm,20.3s,baz=183,slow=40
comp=Z,7.1nm,0.8s
MDT Midelt 17.26 240 P P 08 00 44.6 +0.4
comp=Z,0.1nm,0.3s,baz=70,slow=13,SNR=7.2
MDT LR LR 08 07 30.4
comp=Z,637nm,18.1s,baz=48,slow=38
comp=Z,1.6nm,0.9s
NB2 NORSAR Subarra 18.12 357 P P 08 00 53.6 +0.2
comp=Z,26nm,1.4s,baz=175,slow=12
NOA NORSAR Array B 18.12 357 P Pn 08 00 52.6 -0.4
baz=176,slow=12,SNR=8.5
NOA LR LR 08 08 41.5
comp=Z,783nm,18.1s,baz=180,slow=40
comp=Z,4.4nm,1.1s
NB201 NORSAR Array S 18.12 357 P Pn 08 00 51.3 -1.8
NB201 IAmb IAmb 08 00 59.8
comp=Z,145nm,1.9s
NC204 NORSAR Array S 18.37 356 P Pn 08 00 52.1 -4.1
RAF Rauma 18.80 13 *e*P P 08 00 57.6 -3.2
OBN Obninsk 19.47 43 LR LR 08 09 29.6
comp=Z,318nm,18.4s,baz=235,slow=40
FINES FINESS Array B 20.04 18 P P 08 01 13.8 -0.6
comp=Z,0.9nm,0.3s,baz=203,slow=6.8,SNR=22
FINES LR LR 08 09 34.5
comp=Z,825nm,19.3s,baz=208,slow=39
comp=Z,8.4nm,0.8s
FINES FINESS Array B 20.04 18 P P 08 01 11.9 -2.5
FIA1 FINESS Array S 20.05 18 P P 08 01 11.0 -3.4
KOPT Kop Dagi 20.68 89 P P 08 01 18.2 -3.6
KOPT IAmb IAmb 08 01 31.4
comp=Z,40nm,1.0s
KIV Kislovodsk 21.43 77 ⇓P P 08 01 31.0 +1.2
KIV Kislovodsk 21.43 77 P P 08 01 27.2 -2.6
KIV IAmb IAmb 08 01 34.4
comp=Z,70nm,1.0s
KIV Kislovodsk 21.43 77 P P 08 01 32.3 +2.6
KVAR Kislovodsk Arr 21.44 77 P P 08 01 31.9 +2.1
comp=Z,6.1nm,0.5s,baz=272,slow=23,SNR=8.8
KVAR LR LR 08 12 10.7
comp=Z,479nm,18.9s,baz=268,slow=43
comp=Z,6.1nm,0.5s
KBZ Khabaz 21.61 78 P P 08 01 32.9 +1.4
comp=Z,19nm,0.8s,baz=290,slow=9.2,SNR=17
KBZ LR LR 08 12 42.9
comp=Z,448nm,18.1s,baz=281,slow=44
comp=Z,19nm,0.8s
ASF Jabal al Asfar 21.65 112 P P 08 01 34.8 +2.7
comp=Z,25nm,0.9s,baz=286,slow=3.1,SNR=11
ASF LR LR 08 12 01.6
comp=Z,514nm,19.1s,baz=317,slow=42
comp=Z,25nm,0.9s
EIL Elat 21.96 120 P P 08 01 36.3 +0.9
comp=Z,6.5nm,0.6s,baz=329,slow=15,SNR=2.4
EIL LR LR 08 13 04.3
comp=Z,117nm,21.4s,baz=290,slow=45
comp=Z,6.5nm,0.6s
GNI Garni 23.76 86 P P 08 01 55.7 +1.5
comp=Z,30nm,0.8s,baz=345,slow=6.4,SNR=8.3
GNI LR LR 08 14 10.3
comp=Z,350nm,20.4s,baz=280,slow=44
comp=Z,30nm,0.8s
GNI Garni 23.76 86 P P 08 01 50.9 -3.2
GNI IAmb IAmb 08 01 58.5
comp=Z,37nm,0.9s
GNI Garni 23.76 86 P P 08 01 58.4 +4.2
KLMR Klimovskoe 23.91 32 *e*P P 08 01 54.4 -0.8
KLMR *e*P P 08 01 54.4 -0.8
KLMR *e*P P 08 01 54.4 -0.8
KLMR AMP 08 02 02.6
comp=Z,41nm,1.2s
KLMR S S 08 06 12.4 +0.8

KLMR S S 08 06 12.4 +0.8
KLMR LQ LQ 08 09 20.6
KLMR LQ LQ 08 09 20.6
KLMR LR LR 08 10 21.4
KLMR AMP 08 12 15.8
comp=Z,905nm,15.9s
BELG Belogornoye 24.85 56 P P 08 02 04.5 +0.7
comp=Z,39nm,0.9s,baz=256,slow=6.9,SNR=6.6
BELG LR LR 08 12 44.2
comp=Z,1μm,20.4s,baz=268,slow=39
comp=Z,39nm,0.9s
KIRV Kirov 27.31 43 LR LR 08 14 15.7
comp=Z,863nm,21.4s,baz=248,slow=39
ARCES ARCESS Array B 27.37 9 P P 08 02 26.8 +0.2
comp=Z,2.1nm,0.9s,baz=198,slow=11,SNR=5.6
ARCES LR LR 08 12 24.4
comp=Z,408nm,20.8s,baz=200,slow=35
comp=Z,2.1nm,0.9s
BORG Borgarnes 29.16 330 LR LR 08 14 54.8
comp=Z,349nm,20.1s,baz=136,slow=38
JMIC Jan Mayen 30.07 346 LR LR 08 16 37.1
comp=Z,230nm,18.3s,baz=154,slow=40
TOA0 Torodi Ar. Sit 31.33 202 P P 08 03 03.3 +1.2
TORD Torodi Ar. Bea 31.33 202 P P 08 03 02.8 +0.7
comp=Z,3.5nm,0.4s,baz=12,slow=9.3,SNR=31
TORD PcP PcP 08 05 55.9 -0.2
comp=Z,0.8nm,0.8s,baz=7.7,slow=5.4,SNR=2.6
TORD LR LR 08 16 56.7
comp=Z,1μm,18.4s,baz=24,slow=39
comp=Z,3.5nm,0.4s
TORD Torodi Ar. Bea 31.33 202 P P 08 02 59.1 -3.1
ARU Arti 31.69 49 LR LR 08 16 27.3
comp=Z,609nm,19.3s,baz=274,slow=38
ARU Arti 31.69 49 P P 08 03 02.9 -2.1
ABKAR Akbulak array 32.62 62 P P 08 03 12.5 -0.8
RAYN Ar Rayn 33.03 116 P P 08 03 14.6 -2.5
GEYT Alibeck 34.29 83 P P 08 03 28.8 +0.8
comp=Z,12nm,0.7s,baz=292,slow=7.6,SNR=18
GEYT LR LR 08 21 46.7
comp=Z,328nm,19.1s,baz=316,slow=44
comp=Z,12nm,0.7s
SPITS Spitsbergen Ar 35.33 1 P P 08 03 36.0 -0.4
comp=Z,6.7nm,0.9s,baz=174,slow=7.2,SNR=2.0
SPITS LR LR 08 17 47.2
comp=Z,294nm,21.7s,baz=152,slow=36
comp=Z,6.7nm,0.9s
BBTS Babate 38.00 231 LR LR 08 19 22.9
comp=Z,615nm,20.7s,baz=48,slow=36
BRVK Borovoye 38.57 54 P P 08 04 02.8 -1.5
BRVK Borovoye 38.57 54 P P 08 04 06.2 +2.0
BVAR Borovoye Array 38.64 54 LR LR 08 20 46.6
comp=Z,604nm,21.7s,baz=276,slow=38
DBIC Dimbokro 39.49 209 P P 08 04 12.4 +0.1
comp=Z,1.9nm,0.5s,baz=19,slow=17,SNR=4.4
DBIC LR LR 08 21 27.1
comp=Z,533nm,20.0s,baz=264,slow=38
comp=Z,1.9nm,0.5s
TIC Toumodi 39.58 209⇓ *i*P P 08 04 19.1 +6.1
comp=Z,4.9nm,0.2s
KIC Kosan Boka 39.74 208⇑ *i*P P 08 04 15.2 +0.8
comp=Z,2.8nm,0.5s
LIC Lamto 39.97 209⇑ *i*P P 08 04 17.2 +0.9
comp=Z,8.7nm,0.4s
SFJD Kangerlussuaq 41.21 328 P P 08 04 25.6 -0.3
comp=Z,4.3nm,0.7s,baz=98,slow=6.0,SNR=1.3
comp=Z,4.3nm,0.7s
WSAR Wadi Sarin 42.31 103 LR LR 08 26 09.0
comp=Z,250nm,20.4s,baz=328,slow=42
KURBB Kurchatov Arra 44.09 56 LR LR 08 24 41.1
comp=Z,923nm,18.2s,baz=150,slow=38
AAK Ala-Archa 44.12 69 LR LR 08 26 21.6
comp=Z,773nm,18.4s,baz=302,slow=40
AAK Ala-Archa 44.12 69 P P 08 04 49.2 -1.0
AAK Ala-Arcna 44.12 69 P P 08 04 53.7 +3.6
KURK Kurchatov 44.12 56 P P 08 04 48.7 -1.1
KURK Kurchatov 44.12 56 P P 08 04 52.9 +3.1
NRIK Noril'sk 45.17 29 P P 08 04 58.5 +0.6
comp=Z,3.2nm,0.6s,baz=282,slow=6.4,SNR=5.0
NRIK LR LR 08 25 50.4
comp=Z,373nm,19.1s,baz=272,slow=39
comp=Z,3.2nm,0.6s
KSH Kashi 46.41 72 P P 08 05 10.3 +2.0
KSH pmax pmax
comp=Z,17nm,0.8s
KSH LR LR
comp=Z,250nm,18.4s
KSH LR LR
comp=Z,370nm,17.8s
KSH LR LR
comp=Z,460nm,15.9s
ZALV Zalesovo Beam 46.83 50 P P 08 05 12.1 +0.9
comp=Z,2.9nm,0.6s,baz=283,slow=7.2,SNR=8.1
ZALV LR LR 08 26 24.9
comp=Z,454nm,19.6s,baz=258,slow=38
comp=Z,2.9nm,0.6s
NIL Nilore 47.19 80 P P 08 05 17.9 +3.5
MK31 Makanchi Array 47.71 60 P P 08 05 16.6 -1.7
MK31 IAmb IAmb 08 05 22.3
comp=Z,5.7nm,0.8s
MKAR Makanchi Array 47.71 60 P P 08 05 18.1 -0.1
comp=Z,10.0nm,0.8s,baz=287,slow=5.7,SNR=33
MKAR LR LR 08 29 17.9
comp=Z,808nm,19.4s,baz=302,slow=41
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 47.71 60 P P 08 05 17.6 -0.7
SCHQ Schefferville 51.08 313 P P 08 05 42.3 -1.6
comp=Z,13nm,0.9s,baz=68,slow=11,SNR=5.1
SCHQ LR LR 08 24 59.7
comp=Z,162nm,21.9s,baz=26,slow=33
comp=Z,13nm,0.9s
WMQ Urumqi 52.41 62 *e*P P 08 05 55.1 +1.1
WMQ pP sP 08 05 58.7 +1.2
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ LR LR
comp=Z,690nm,12.5s
WMQ LR LR
comp=Z,600nm,15.9s
WMQ LR LR
comp=Z,440nm,19.3s
RES Resolute Bay 53.51 342 P P 08 06 00.8 -0.8
comp=Z,7.5nm,1.2s,baz=68,slow=11,SNR=2.6
RES LR LR 08 29 56.4
comp=Z,162nm,18.2s,baz=45,slow=37
comp=Z,7.5nm,1.2s
PKME Peaks-Kenny Pk 56.67 303 P P 08 06 24.3 -0.5
baz=60
DANN Dangsing 57.63 80 *e*P P 08 06 32.2 -0.1
comp=Z,22nm,0.8s
GKN Gorkha 58.47 80 *e*P P 08 06 37.3 -0.7
comp=Z,40nm,0.9s
DMN Daman 59.03 80 *e*P P 08 06 40.8 -1.2
PKIN Phulchoki 59.26 80 *e*P P 08 06 42.8 -0.8
comp=Z,24nm,0.9s
PKI Pulchoki 59.27 80 *e*P P 08 06 42.4 -1.4
GUN Gumba 59.41 79 *e*P P 08 06 45.3 +0.5
comp=Z,77nm,1.0s
JIRN Jiri 59.78 79 *e*P P 08 06 47.6 +0.2
RAMN Ramite 60.49 80 *e*P P 08 06 50.5 -1.6
comp=Z,53nm,0.8s
SONM Songino Array 61.72 50 P P 08 06 59.7 -0.3
comp=Z,5.4nm,0.8s,baz=301,slow=8.0,SNR=18
SONM LR LR 08 35 57.5
comp=Z,487nm,19.4s,baz=308,slow=38
comp=Z,5.4nm,0.8s
ULN Ulaanbaatar 62.07 49 P P 08 07 10.4 +8.0
BINY Binghamton 62.41 303 P P 08 07 02.1 -2.5
baz=56
GTA Gaotai 62.46 61 *e*P P 08 07 06.9 +1.8
GTA pmax pmax
comp=Z,3.0nm,0.6s
GTA pmax pmax
comp=Z,130nm,7.6s
GTA LR LR
comp=Z,380nm,18.9s
GTA LR LR
comp=Z,440nm,18.5s
GTA LR LR
comp=Z,720nm,18.9s
SADO Sadowa 62.86 307 LR LR 08 32 44.0
comp=Z,190nm,19.7s,baz=28,slow=34
YAK Yakutsk 63.61 28 LR LR 08 38 35.0
comp=Z,206nm,18.6s,baz=280,slow=40
SSPA Standing Stone 64.47 303 P P 08 07 17.3 -0.9
baz=54
SHL Shillong 65.12 78 P P 08 07 20.7 -2.1
SHL IAmb IAmb 08 07 25.4
comp=Z,8.5nm,0.9s

INK **Inuvik** 66.25 347 P P 08 07 28.5 -0.7
comp=Z,3.9nm,0.5s,baz=19,slow=4.7,SNR=17
INK LR LR 08 38 31.7
comp=Z,67nm,18.9s,baz=16,slow=38
comp=Z,3.9nm,0.5s
INK **Inuvik** 66.25 347 P P 08 07 28.9 -0.3
INK IAmb IAmb 08 07 34.7
comp=Z,13nm,1.1s
INK **Inuvik** 66.25 347 P P 08 07 29.4 +0.2
baz=26,SNR=7.0
MCWV **Mont Chateau** 66.26 303 P P 08 07 32.1 +2.3
baz=53
C27K **Jago River** 66.41 351 P P 08 07 33.0 +2.7
baz=18,SNR=5.7
BRDH **Bariadhala** 66.72 80 LR LR 08 44 31.3
comp=Z,324nm,18.7s,baz=289,slow=43
O53A **New Philadelph** 66.75 304 P P 08 07 34.1 +1.2
baz=53
C24K **Franklin Bluff** 66.81 353 P P 08 07 36.0 +3.1
baz=14
YKA **Yellowknife Ar** 66.84 336 P P 08 07 33.4 +0.3
comp=Z,3.3nm,0.8s,baz=42,slow=5.5,SNR=7.8
YKA LR LR 08 36 35.1
comp=Z,165nm,21.6s,baz=72,slow=36
comp=Z,3.3nm,0.8s
C23K **Itkillik River** 66.86 354 P P 08 07 36.4 +3.3
baz=13
D25K **Kavik River** 66.98 352 P P 08 07 37.2 +3.2
baz=16
LZH **Lanzhou** 66.99 62 ⇓P P 08 07 37.9 +3.2
LZH sP sP 08 07 45.0 +6.7
LZH pmax pmax
comp=Z,25nm,1.5s
LZH LR LR
comp=Z,310nm,12.0s
LZH LR LR
comp=Z,290nm,13.4s
LZH LR LR
comp=Z,680nm,14.4s
F31M **Tsiigehtchic** 67.06 347 P P 08 07 34.9 +0.5
baz=26,SNR=23
D24K **Happy Valley** 67.38 353 P P 08 07 38.8 +2.3
baz=14
E27K **Coleen River** 67.53 350 P P 08 07 39.5 +2.1
baz=20
D23K **Nanushuk River** 67.72 354 P P 08 07 40.7 +2.1
baz=13
G30M **tAoh Zraii Nji** 67.89 347 P P 08 07 40.8 +1.1
baz=24
TOLK **Toolik Lake Re** 67.94 353 P P 08 07 41.1 +1.0
baz=14
E25K **Arctic Village** 68.06 352 P P 08 07 41.5 +0.7
baz=17
FFC **Flin Flon** 68.11 326 P P 08 07 40.2 -1.1
FFC **Flin Flon** 68.11 326 P P 08 07 45.8 +4.5
F26K **Sheenjek River** 68.31 351 P P 08 07 45.0 +2.6
baz=18,SNR=7.8
ULM **Lac du Bonnet** 68.43 319 P P 08 07 44.9 +1.5
comp=Z,13nm,1.0s,baz=43,slow=8.0,SNR=6.3
ULM LR LR 08 35 58.4
comp=Z,176nm,21.0s,baz=56,slow=34
comp=Z,13nm,1.0s
E23K **Chandalar** 68.52 353 P P 08 07 45.0 +1.3
baz=14
EPYK **Eagle Plains** 68.53 347 P P 08 07 45.4 +1.7
baz=23
F25K **Christian Rive** 68.58 351 P P 08 07 45.1 +1.1
baz=16
E22K **Anaktuvuk Pass** 68.62 354 P P 08 07 46.6 +2.3
baz=12
WRGLY **Wrigley** 68.63 340 P P 08 07 45.8 +1.4
baz=33
LBTB **Lobatse** 68.64 168 P P 08 07 43.9 -1.0
PALK **Pallekele** 68.71 100 LR LR 08 42 37.4
comp=Z,80nm,18.7s,baz=63,slow=40
BIM **Bigot** 68.72 270 P P 08 07 44.8 -0.9
Q51A **Peebles** 68.80 304 P P 08 07 45.4 -0.5
Q51A IAmb IAmb 08 07 59.1
comp=Z,11nm,0.9s
G27K **Doyon Strip** 68.84 350 P P 08 07 48.6 +2.9
baz=20,SNR=7.0
HHC **Hu-ho-hao-te** 68.84 54 eP P 08 07 43.0 -3.3
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,240nm,5.1s
HHC LR LR
comp=Z,760nm,14.6s
HHC LR LR
comp=Z,640nm,14.6s
HHC LR LR
comp=Z,1μm,15.2s
F24K **Squaw Lake** 68.88 352 P P 08 07 49.5 +3.5
baz=15
G26K **Porcupine Rive** 68.98 350 P P 08 07 49.5 +3.0
baz=18,SNR=8.3
F22K **John River** 69.27 354 P P 08 07 50.8 +2.4
baz=11
H27K **Steamboat Moun** 69.37 349 P P 08 07 52.6 +3.6
baz=20,SNR=9.2
G24K **Hadweenzic Riv** 69.63 352 P P 08 07 54.5 +3.9
baz=15
F21K **Alatna River** 69.64 354 P P 08 07 55.0 +4.3
baz=10,SNR=8.3
I29M **Ogilvie Camp,** 69.72 348 P P 08 07 51.1 0.0
I29M **Ogilvie Camp,** 69.72 348 P P 08 07 53.4 +2.3
baz=22,SNR=9.1
AGMN **Agassiz Nation** 69.73 318 P P 08 07 53.3 +1.8
baz=48
G22K **Bettles** 69.79 354 P P 08 07 53.5 +2.0
baz=12
G23K **Bananza Creek** 69.87 353 P P 08 07 54.3 +2.2
baz=13
H25K **Birch Creek** 69.87 351 P P 08 07 55.5 +3.5
baz=16
KMSC **Kings Mountain** 69.96 300 P P 08 07 54.2 +1.1
baz=51
I27K **Kandik River** 69.98 349 P P 08 07 54.8 +2.0
baz=19
TNCH **TengChong** 70.17 74 eP P 08 07 53.8 -1.0
TNCH pP pP 08 07 57.0 -0.3
TNCH pmax pmax
comp=Z,74nm,0.6s
SFIN **Lafayette** 70.18 307 P P 08 07 55.6 +1.2
baz=50
SPMN **Marine on St.** 70.22 314 P P 08 07 55.8 +1.3
baz=48
G21K **Allakaket** 70.34 354 P P 08 07 57.2 +2.3
baz=10
JFWS **Jewell Farm** 70.35 311 P P 08 07 57.1 +1.7
baz=49
I26K **Coal Creek Min** 70.47 350 P P 08 07 56.8 +1.1
baz=18
H24K **Noodor Dome** 70.51 352 P P 08 07 57.3 +1.2
baz=15
PRP **Porcupine Dome** 70.56 351 P P 08 07 58.0 +1.5
baz=16
H23K **Yukon River** 70.69 353 P P 08 08 00.1 +3.0
baz=13
EGAK **Eagle** 70.69 349 P P 08 07 59.2 +2.1
baz=20
H22K **Ishtalitna Cre** 70.79 353 P P 08 07 59.7 +2.0
baz=12
HEH **HeiHe** 70.90 38 eP P 08 08 01.9 +3.3
HEH pmax pmax
comp=Z,10.0nm,1.0s
MMPY **Sheldon Lake,** 70.94 343 P P 08 08 00.3 +1.6
baz=27
MAYO **Mayo, Yukon** 70.95 346 P P 08 08 00.9 +2.3
baz=24
K29M **Barlow Dome** 71.00 347 P P 08 08 01.4 +2.3
baz=22
WCI **Wyandotte Cave** 71.09 305 P P 08 07 59.1 -0.9
WCI IAmb IAmb 08 08 03.5
comp=Z,20nm,1.1s
WCI **Wyandotte Cave** 71.09 305 P P 08 08 00.9 +1.0
baz=50
WCI **Wyandotte Cave** 71.09 305 P P 08 08 02.5 +2.6
DAWY **Dawson** 71.10 348 P P 08 07 59.1 -0.5
DAWY **Dawson** 71.10 348 P P 08 08 02.2 +2.6
baz=21,SNR=13
H21K **Melozitna Rive** 71.14 354 P P 08 08 03.0 +3.2
baz=11,SNR=13
POKR **Poker Plat Res** 71.17 351 P P 08 08 01.8 +1.9
baz=15
TKL **Tuckaleechee C** 71.18 301 LR LR 08 39 36.0
comp=Z,134nm,18.1s,baz=61,slow=36
J26L **Joseph Creek** 71.29 350 P P 08 08 01.0 +0.1
J26L IAmb IAmb 08 08 05.7
comp=Z,12nm,0.9s
J26L **Joseph Creek** 71.29 350 P P 08 08 04.7 +3.9
baz=18,SNR=6.7
I23K **Minto, Yukon-K** 71.33 352 P P 08 08 02.7 +1.7
baz=13
HDIL **Hopedale** 71.35 308 P P 08 08 03.2 +1.7
baz=49
J25K **Salcha River,** 71.41 350 P P 08 08 03.5 +2.0
baz=16
ILAR **Eielson Array** 71.44 351 P P 08 08 02.4 +0.8
comp=Z,4.8nm,0.8s,baz=4.9,slow=6.8,SNR=19
ILAR LR LR 08 40 06.5
comp=Z,46nm,21.2s,baz=42,slow=36
comp=Z,4.8nm,0.8s
COLA **College** 71.45 352 P P 08 08 04.1 +2.5
baz=15
TCOL **CIGO, UAF Yank** 71.45 352 P P 08 08 03.9 +2.3
baz=15
PZH **PanZhiHua** 71.50 71 P P 08 08 02.5 -0.3
PZH S S 08 17 18.3 -3.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,160nm,4.7s
PZH LR LR
comp=Z,620nm,24.5s
PZH LR LR
comp=Z,400nm,22.6s
PZH LR LR
comp=Z,710nm,23.3s
XAN **Xi'an** 71.52 61 P P 08 08 05.1 +2.4
XAN pP sP 08 08 09.4 +3.1
XAN pmax pmax
comp=Z,16nm,0.9s
XAN LR LR
comp=Z,450nm,19.9s
XAN LR LR
comp=Z,460nm,17.1s
XAN LR LR
comp=Z,630nm,19.4s
K27K **Chicken** 71.53 349 P P 08 08 04.3 +2.1
baz=19
I21K **Tanana** 71.54 353 P P 08 08 05.2 +2.9
baz=11,SNR=7.7
MLY **Manley** 71.58 353 P P 08 08 04.7 +2.2
baz=12
FARO **Faro, Yukon** 71.71 344 P P 08 08 05.9 +2.6
baz=25,SNR=9.5
L29M **L29M** 71.78 347 P P 08 08 05.8 +2.0
baz=22
HDA **Harding Lake** 71.80 351 P P 08 08 06.0 +2.3
baz=15
NEA2 **Nenana** 71.85 352 P P 08 08 06.7 +2.6
baz=14
SCRK **Sand Creek** 71.85 350 P P 08 08 06.9 +2.7
baz=17
U49A **Red Boiling Sp** 71.88 303 P P 08 08 04.1 -0.6
U49A IAmb IAmb 08 08 05.8
comp=Z,15nm,1.2s
M31M **Drury Creek, Y** 71.94 345 P P 08 08 07.4 +2.6
baz=24
MA2 **Magadan** 72.01 21 LR LR 08 43 48.3
comp=Z,278nm,18.1s,baz=332,slow=39
BOSA **Boshof** 72.12 169 P P 08 08 05.4 -0.8
comp=Z,5.3nm,0.8s,baz=4.6,slow=6.3,SNR=6.9
comp=Z,5.3nm,0.8s
K24K **Donnelly Dome** 72.24 350 P P 08 08 09.3 +2.8
baz=16
GCSA **Galena City Sc** 72.32 356 P P 08 08 09.3 +2.5
baz=7.6
T47A **Sharon Grove** 72.38 304 P P 08 08 07.2 -0.6
L27K **Beaver Creek,** 72.42 348 P P 08 08 10.2 +2.6
baz=19
M29M **Somme Creek** 72.46 347 P P 08 08 09.9 +1.9
baz=21
CLTN **Cedars of Leba** 72.49 303 P P 08 08 07.7 -0.8
CLTN IAmb IAmb 08 08 16.5
comp=Z,7.3nm,1.0s
BPAW **Bear Paw Mtn.** 72.52 353 P P 08 08 10.7 +2.6
baz=12
L26K **Log Cabin Wild** 72.67 349 P P 08 08 11.9 +2.9
baz=18,SNR=6.3
MCK **McKinley** 72.67 352 P P 08 08 11.9 +2.9
baz=14,SNR=8.5
J20K **Nowinta River** 72.70 354 P P 08 08 11.8 +2.6
baz=9.7
CHUM **Lake Minchumin** 72.85 353 P P 08 08 12.9 +2.9
baz=11
N31M **Braeburn, Yuko** 72.87 345 P P 08 08 13.6 +3.4
baz=23
PAX **Paxson** 73.01 350 P P 08 08 14.1 +2.9
baz=16
V48A **Smith Brothers** 73.02 303 P P 08 08 10.9 -0.7
V48A IAmb IAmb 08 08 14.3
comp=Z,7.7nm,1.0s
TRF **Thorofare Moun** 73.09 352 P P 08 08 14.1 +2.4
baz=13
M27K **Edge Creek, AK** 73.09 348 P P 08 08 14.2 +2.5
baz=19
N30M **Aishikik Lake** 73.14 346 P P 08 08 14.5 +2.6
baz=22
DHY **Denali Highway** 73.14 351 P P 08 08 11.8 -0.2
DHY **Denali Highway** 73.14 351 P P 08 08 14.4 +2.4
baz=15,SNR=8.2
M26K **Nabesna, AK** 73.22 349 P P 08 08 14.2 +1.9
baz=18
ECSD **EROS Data Cent** 73.24 315 P P 08 08 12.2 -0.5
ECSD IAmb IAmb 08 08 16.6
comp=Z,12nm,0.9s
ECSD **EROS Data Cent** 73.24 315 P P 08 08 13.1 +0.4
baz=46,SNR=6.2
CAST **Castle Rocks** 73.28 353 P P 08 08 14.3 +1.6
baz=11,SNR=6.0
WVT **Waverly** 73.38 304 P P 08 08 14.1 +0.4
WVT IAmb IAmb 08 08 15.8
comp=Z,10nm,0.9s
WVT **Waverly** 73.38 304 P P 08 08 13.9 +0.2
baz=49
WVT **Waverly** 73.38 304 P P 08 08 15.0 +1.3
P33M **Teslin, Yukon** 73.43 343 P P 08 08 14.0 +0.3
baz=25
K20K **Telida** 73.51 354 P P 08 08 16.4 +2.4
baz=9.7
WAT1 **Susitna Watana** 73.51 351 P P 08 08 16.6 +2.6
baz=14
YUK4 **Talbot Arm** 73.52 346 P P 08 08 15.9 +1.6
baz=21
DGMT **Dagmar** 73.56 322 P P 08 08 17.3 +2.7
baz=43
KLR **Kul'dur** 73.59 37 P P 08 08 14.2 -0.5
comp=Z,2.0nm,0.8s,baz=297,slow=6.8,SNR=2.7
KLR LR LR 08 44 16.9
comp=Z,573nm,18.3s,baz=320,slow=39
comp=Z,2.0nm,0.8s
O30N **Mendenhall** 73.59 345 P P 08 08 17.1 +2.6
baz=23
WAT6 **Susitna Watana** 73.66 351 P P 08 08 18.1 +3.0
baz=14
R33M **Jennings River** 73.76 342 P P 08 08 18.6 +2.9
baz=27
HYT **Haines Junctio** 73.80 346 P P 08 08 18.2 +2.3
baz=22
PPLA **Purkeypile** 73.81 353 P P 08 08 18.0 +2.1
baz=11
YUK6 **Outpost Mounta** 73.85 346 P P 08 08 18.8 +2.5
baz=21
M24K **Tolsona, Glenn** 73.93 350 P P 08 08 19.5 +2.9
baz=16
X48A **Hartselle** 74.00 302 P P 08 08 16.0 -1.4
X48A IAmb IAmb 08 08 19.6
comp=Z,16nm,1.1s
CCM **Cathedral Cave** 74.14 307 P P 08 08 19.3 +1.2
CCM IAmb IAmb 08 08 21.0
comp=Z,12nm,0.8s
CCM **Cathedral Cave** 74.14 307 P P 08 08 18.7 +0.6
baz=48
CCM **Cathedral Cave** 74.14 307 P P 08 08 19.9 +1.8
P32M **Atlin** 74.19 343 P P 08 08 19.1 +1.0
baz=25
MCARA **McCarthy VSAT** 74.19 348 P P 08 08 17.3 -0.7
baz=18
N25K **Chitina, Valde** 74.20 349 P P 08 08 19.8 +1.6
baz=17
PLAL **Pickwick Lake** 74.29 303 P P 08 08 17.6 -1.4
PLAL IAmb IAmb 08 08 21.7
comp=Z,12nm,0.9s
O28M **Mount Upton** 74.32 347 P P 08 08 20.3 +1.1
baz=20
CTG **Chitna Glacier** 74.33 347 P P 08 08 20.2 +1.2
baz=19
SCM **Sheep Creek Mo** 74.34 351 P P 08 08 21.1 +2.1
baz=15
P30M **Million Dollar** 74.35 345 P P 08 08 21.0 +2.0
baz=22
L20K **Farewell, AK** 74.36 354 P P 08 08 21.2 +2.2
baz=9.8
DLBC **Dease Lake** 74.40 341 LR LR 08 43 35.5
comp=Z,428nm,18.8s,baz=66,slow=38
DLBC **Dease Lake** 74.40 341 P P 08 08 21.1 +1.8
baz=27
M23K **Glacier View** 74.43 351 P P 08 08 21.6 +2.2
baz=14
CHTO **Chiang Mai** 74.43 79 P P 08 08 17.8 -2.3
CHTO IAmb IAmb 08 08 22.9
comp=Z,9.8nm,0.8s
SML **Sawmill** 74.48 351 P P 08 08 21.6 +1.8
baz=14
KLU **Klutina** 74.49 350 P P 08 08 22.6 +2.7
baz=16
CN2 **Changchun** 74.53 44 eP P 08 08 17.0 -3.3
CN2 ePP PP 08 11 04.5 -1.7
CN2 eS SKiKP 08 17 50.3 +3.6
CN2 eSS SS 08 22 37.7 -3.7
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,490nm,19.0s
CN2 LR LR
comp=Z,410nm,19.0s
CN2 LR LR
comp=Z,420nm,20.0s
R40A **Maddies Statio** 74.57 308 P P 08 08 19.5 -1.2
R40A IAmb IAmb 08 08 23.8
comp=Z,7.6nm,0.8s
SKT **Skwentna** 74.65 353 P P 08 08 20.6 -0.1
baz=12
CMAR **Chiang Mai Arr** 74.66 79 P P 08 08 21.0 -0.5
comp=Z,9.1nm,0.8s,baz=306,slow=7.4,SNR=30
CMAR LR LR 08 48 01.5
comp=Z,129nm,21.0s,baz=315,slow=41
comp=Z,9.1nm,0.8s
CMAR **Chiang Mai Arr** 74.66 79 P P 08 08 20.4 -1.0
M22K **Willow** 74.73 352 P P 08 08 22.2 +1.1
baz=13
L19K **White Mountain** 74.73 354 P P 08 08 23.6 +2.4
baz=9.1
PMR **Palmer** 74.78 351 P P 08 08 23.7 +2.3
baz=13
BMRM **Bremner River** 74.82 349 P P 08 08 24.3 +2.6
baz=17
PLBC **Pleasant Camp** 74.86 344 P P 08 08 24.4 +2.5
baz=23
KNK **Knik Glacier** 74.88 351 P P 08 08 24.3 +2.2
baz=14
M20K **Styx River** 74.89 353 P P 08 08 24.7 +2.5
baz=10
LRAL **Lakeview Retre** 74.91 301 P P 08 08 21.6 -1.1
LRAL IAmb IAmb 08 08 25.9
comp=Z,9.4nm,0.8s
LRAL **Lakeview Retre** 74.91 301 P P 08 08 22.6 0.0
baz=48
P29M **Windy Craggy** 74.96 345 P P 08 08 24.7 +2.2
baz=22
M19K **Big River Lodg** 74.97 354 P P 08 08 24.8 +2.2
baz=9.4
SUA **Susitna One** 75.08 352 P P 08 08 26.3 +3.0
baz=12,SNR=5.5
PNL **Peninsula** 75.23 346 P P 08 08 24.4 +0.3
baz=20
OXF **Oxford** 75.42 304 P P 08 08 26.3 +0.7
baz=48
SMTB **Santa Maria do** 75.48 243 eP P 08 08 29.1 +3.0
BGNE **Belgrade** 75.67 314 P P 08 08 29.0 +2.0
baz=45
LAO **LASA Array** 75.80 322 P P 08 08 29.4 +1.7
baz=41,SNR=7.2
O22K **Cooper Landing** 75.93 351 P P 08 08 30.1 +2.1
baz=13
Y45A **Yeager Farm, C** 75.94 303 P P 08 08 27.3 -1.2
N19K **Bonanza Creek** 76.06 354 P P 08 08 31.4 +2.4
baz=9.3
FCAR **Ozark Folk Cen** 76.12 306 P P 08 08 29.1 -0.5
FCAR IAmb IAmb 08 08 34.6
comp=Z,16nm,1.2s
P23K **Montague Islan** 76.13 350 P P 08 08 31.4 +2.2
baz=14
EGMT **Eagleton** 76.34 325 P P 08 08 32.5 +1.8
baz=39,SNR=15
KSU1 **Kansas State U** 76.47 311 P P 08 08 31.8 +0.3
baz=45
RSSD **Black Hills** 76.69 319 P P 08 08 31.8 -1.2
RSSD **Black Hills** 76.69 319 P P 08 08 33.9 +0.9
baz=42
RSSD **Black Hills** 76.69 319 P P 08 08 36.0 +3.0
HHAR **Hobbs** 76.92 308 P P 08 08 32.2 -2.0
HHAR IAmb IAmb 08 08 37.3
comp=Z,8.4nm,0.9s
U38A **Gravette** 77.07 308 P P 08 08 34.3 -0.6
U38A IAmb IAmb 08 08 38.8
comp=Z,13nm,0.9s
O17K **Koliganek Bris** 77.28 355 P P 08 08 33.5 -2.1
baz=7.3
USRK **Uesuriysk Ar.** 77.45 40 LR LR 08 46 03.8
comp=Z,183nm,18.1s,baz=316,slow=38
BAUV **El Baul** 77.51 271 P P 08 08 35.7 -2.0
MIAR **Mount Ida** 77.91 306 P P 08 08 38.5 -1.1
MIAR **Mount Ida** 77.91 306 P P 08 08 41.7 +2.0
baz=46,SNR=10.0
T35A **Sooner Cattle** 77.95 309 P 08 08 38.1 -1.8
OGNE **Ogallala** 78.04 316 P P 08 08 42.3 +1.9
baz=43
JANB **Januaria** 78.10 236 eP P 08 08 43.6 +2.7
TUL1 **Leonard** 78.25 308 P P 08 08 39.8 -1.7
TUL1 IAmb IAmb 08 08 44.8
comp=Z,24nm,1.2s
TUL1 **Leonard** 78.25 308 P P 08 08 42.3 +0.8
baz=45
RLMT **Red Lodge** 78.37 322 P P 08 08 44.2 +1.9
baz=39
CBKS **Cedar Bluff** 78.38 313 P P 08 08 43.4 +1.2
baz=44
KDAK **Kodiak Island** 78.88 352 LR LR 08 44 28.7
comp=Z,110nm,20.1s,baz=63,slow=36
X37A **Clayton** 78.93 307 P P 08 08 42.7 -2.6
X37A IAmb IAmb 08 08 50.0
comp=Z,14nm,1.1s
K22A **Casper** 79.00 319 P P 08 08 47.3 +1.6
baz=40
MSO **Missoula** 79.03 326 P P 08 08 48.0 +2.2
baz=36
BOZ **Bozeman (W)** 79.04 324 P P 08 08 47.6 +1.7
baz=38,SNR=20
NJ2 **Nanjing** 79.06 56 eP P 08 08 49.7 +3.7
NJ2 pmax pmax
comp=Z,13nm,0.5s
NEW **Newport** 79.12 329 LR LR 08 46 51.2
comp=Z,120nm,19.2s,baz=18,slow=38
NEW **Newport** 79.12 329 P P 08 08 49.1 +2.9
baz=35,SNR=8.8
BBB **Bella Bella** 79.45 337 LR LR 08 46 21.0
comp=Z,151nm,18.5s,baz=30,slow=38
H17A **Grant Village** 79.52 323 P P 08 08 52.3 +3.6
baz=38,SNR=12
PETK **Petropavlovsk-** 79.54 21 LR LR 08 47 59.2
comp=Z,170nm,19.5s,baz=326,slow=39
KSCO **Kaye Shedlock'** 79.77 315 P P 08 08 51.7 +1.7
baz=42,SNR=7.4
YSS **Yuzh-Sakhalins** 79.96 32 P P 08 08 49.4 -1.3
YSS **Yuzh-Sakhalins** 79.96 32 P P 08 08 54.7 +4.1
N23A **Red Feather La** 80.05 318 P P 08 08 53.7 +2.1
baz=40,SNR=6.1
BW06 **Boulder Array** 80.33 321 P P 08 08 54.8 +1.7
baz=39
PDAR **Pinedale Array** 80.33 321 P P 08 08 53.1 -0.1
comp=Z,3.6nm,1.0s,baz=64,slow=4.1,SNR=13
PDAR LR LR 08 44 15.1
comp=Z,197nm,19.4s,baz=56,slow=36
comp=Z,3.6nm,1.0s
KSRS **Korea Array** 80.42 47 P P 08 08 54.1 +0.8
comp=Z,2.2nm,0.8s,baz=326,slow=5.9,SNR=6.0
KSRS LR LR 08 49 04.6
comp=Z,277nm,18.3s,baz=325,slow=39
comp=Z,2.2nm,0.8s
WMOK **Wichita Mounta** 80.79 309 P P 08 08 56.1 +0.7

baz=43,SNR=12
BDFB Brasilia 80.84 239 P **P** **08 08 56.9 +1.0**
comp=Z,2.1nm,0.4s,baz=34,slow=3.6,SNR=4.4
comp=Z,2.1nm,0.4s
Q24A Divide 81.11 316 P **P** **08 08 59.8 +2.3**
baz=41,SNR=5.4
O20A White River Ci 81.75 319 P **P** **08 08 59.5 -1.2**
O20A IAmb IAmb 08 09 05.3
comp=Z,8.6nm,0.8s
O20A White River Ci 81.75 319 P **P** **08 09 01.0 +0.3**
baz=39,SNR=7.9
HLID Hailey 81.86 324 P **P** **08 09 03.1 +1.9**
baz=36
BMO Blue Mountains 82.00 327 P **P** **08 09 01.8 0.0**
T25A Trinidad 82.10 314 P **P** **08 09 03.8 +1.2**
baz=41
SDCO Great Sand Dun 82.21 315 P **P** **08 09 04.1 +0.8**
baz=40,SNR=10.0
ABTX Abilene, Hawle 82.82 308 P **P** **08 09 07.3 +1.1**
baz=43
S22A 4UR Ranch, Cre 82.89 316 P **P** **08 09 08.2 +1.4**
baz=40,SNR=9.6
SHEM Shemya Is, Ala 83.26 12 LR LR 08 50 42.9
comp=Z,51nm,18.3s,baz=308,slow=39
MSTX Muleshoe 83.59 311 P **P** **08 09 11.2 +1.0**
baz=42
SRU San Rafael Swe 83.65 319 P **P** **08 09 09.7 -0.9**
DUG Dugway, Tooele 83.86 321 P **P** **08 09 12.8 +1.2**
baz=36,SNR=11
MVCO Mesa Verde 84.15 317 P **P** **08 09 14.4 +1.2**
baz=39,SNR=12
JCT Junction City 84.48 307 P **P** **08 09 16.5 +1.7**
baz=43
ELK Elko 84.51 323 LR LR 08 46 32.6
comp=Z,89nm,19.5s,baz=48,slow=36
ANMO Albuquerque 84.84 314 LR LR 08 45 29.6
comp=Z,289nm,21.1s,baz=44,slow=35
ANMO Albuquerque 84.84 314 P **P** **08 09 13.7 -3.1**
ANMO IAmb IAmb 08 09 21.7
comp=Z,8.3nm,1.0s
ANMO Albuquerque 84.84 314 P **P** **08 09 17.9 +1.2**
baz=40
ANMO Albuquerque 84.84 314 P **P** **08 09 19.1 +2.4**
PSI Prapat 85.03 91 LR LR 08 51 37.7
comp=Z,66nm,21.5s,baz=310,slow=39
BMNM Bear Mountains 85.78 314 P **P** **08 09 20.2 -1.2**
833A Chaparral WMA, 85.82 305 P **P** **08 09 23.6 +2.2**
baz=43
MJAR Matsushiro Arr 86.38 41 P **P** **08 09 23.5 -0.6**
comp=Z,2.8nm,0.8s,baz=313,slow=4.2,SNR=4.1
MJAR LR LR 08 52 03.7
comp=Z,391nm,18.7s,baz=326,slow=38
comp=Z,2.8nm,0.8s
R11A Troy Canyon, C 86.62 322 P **P** **08 09 26.8 +1.3**
baz=35
YBH Yreka Blue Hor 86.75 329 LR LR 08 50 14.3
comp=Z,127nm,20.5s,baz=16,slow=37
WUAZ Wupatki 86.91 318 P **P** **08 09 27.7 +0.8**
baz=37
121A Cookes Peak, D 87.41 313 P **P** **08 09 31.2 +1.8**
baz=39
TXAR Lajitas Array 87.57 309 P **P** **08 09 30.9 +0.8**
comp=Z,4.4nm,1.0s,baz=54,slow=3.6,SNR=20
TXAR LR LR 08 48 06.6
comp=Z,82nm,18.8s,baz=44,slow=35
comp=Z,4.4nm,1.0s
YERR Yerington 87.69 325 P **P** **08 09 27.0 -3.6**
YERR IAmb IAmb 08 09 34.5
comp=Z,10nm,1.1s
NVAR Mina Array Bea 87.75 324 P **P** **08 09 31.1 +0.2**
comp=Z,2.1nm,1.0s,baz=59,slow=4.3,SNR=7.0
NVAR LR LR 08 48 54.5
comp=Z,130nm,19.7s,baz=38,slow=36
comp=Z,2.1nm,1.0s
JOW Kunigami 88.49 54 LR LR 08 53 46.5
comp=Z,250nm,18.1s,baz=342,slow=39
TUC Tucson 89.15 315 P **P** **08 09 34.2 -3.4**
TUC IAmb IAmb 08 09 42.4
comp=Z,9.2nm,1.1s
TUC Tucson 89.15 315 P **P** **08 09 40.0 +2.5**
baz=37
TUC Tucson 89.15 315 P **P** **08 09 40.5 +3.0**
PDMCI Parker Dam,Lak 89.23 319 P **P** **08 09 40.1 +2.4**
baz=36
CWC Cottonwood Cre 89.31 323 P **P** **08 09 39.2 +0.9**
baz=33
MPMC Manual Prospec 89.36 322 P **P** **08 09 40.3 +1.7**
baz=34
GMRC Granite Mounta 89.57 320 P **P** **08 09 41.7 +2.2**
baz=35
IRM Iron Mountain 89.83 319 P **P** **08 09 43.1 +2.5**
baz=35
JHJ Hachijo jima 2 89.90 42 LR LR 08 54 04.8
comp=Z,260nm,19.1s,baz=107,slow=38
ISA Isabella, Lake 90.13 322 P **P** **08 09 43.9 +1.8**
baz=33
BELC Belle Mtn. Jos 90.37 320 P **P** **08 09 45.4 +2.1**
baz=34
BC3 Big Chuckawall 90.39 319 P **P** **08 09 45.2 +1.8**
baz=35
214A Organ Pipe Nat 90.47 317 P **P** **08 09 46.4 +2.7**
baz=36
PFO Pinyon Flats O 90.91 320 LR LR 08 52 51.7
comp=Z,102nm,19.0s,baz=38,slow=37
PFO Pinyon Flats O 90.91 320 P **P** **08 09 48.5 +2.7**
baz=34
TPFO Pinon Flats 90.91 320 P **P** **08 09 48.5 +2.7**
baz=34
MURC Murrieta 91.26 320 P **P** **08 09 49.4 +2.1**
baz=34
PKM Mcpherson Peak 91.38 323 P **P** **08 09 50.2 +2.2**
baz=32
MONP2 Monument Peak 91.48 320 P **P** **08 09 51.0 +2.4**
baz=34
IKP In-Ko-Pah, Jac 91.53 319 P **P** **08 09 50.3 +1.6**
baz=34
JCJ Chichijima 96.00 44 LR LR 08 57 27.9
comp=Z,155nm,19.4s,baz=324,slow=38
WRA Warramunga Arr 126.03 84 PKP **PKPdf** **08 15 43.0 -1.2**
comp=Z,0.7nm,0.9s,baz=315,slow=2.2,SNR=4.4
ASAR Alice Springs 127.99 88 PKP **PKPdf** **08 15 46.5 -1.4**
comp=Z,0.5nm,0.8s,baz=315,slow=1.4,SNR=7.3
VNDA Vanda 143.09 169 PKP **PKPdf** **08 16 15.2 +0.9**
comp=Z,0.5nm,0.8s,baz=248,slow=3.5,SNR=3.6

---

*ROM **01** 08:07:24.2±0.0, 42.986°N±0.003°×13.151°E±0.004°, h8km, ML3.5/54, Error ellipse: s-maj=0.3km s-min=0.2km az=73.0*
*LDG **01** 08:07:24.5±0.3, 42.89°N×13.12°E, h9km, Ml3.5/24, Error ellipse: s-maj=8.5km s-min=6.0km az=50.0*
*PRU **01** 08:07:25.1±0.0, 42.93°N×13.65°E, h10km*
*STR **01** 08:07:27.7±2.4, 43°N±11°×1°3E±1°9, h10km, MLv3.5/20, Error ellipse: s-maj=0.0km s-min=0.0km az=102.2, preliminary*

ISC 01 08:07:24.2±0.7, 42.98°N±0.02°×13.14°E±0.02°, h13km±4km, n192, σ2°21°/237, 20C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.06**	**325**	⇓P	**Pg**	**08 07 26.6**	**-0.2**
FDMO				S	**Sg**	**08 07 27.9**	**-0.8**
FDMO				AML	AML		
FDMO				AML	AML		
FEMA	**Monte Fema**	**0.07**	**251**	⇑P	**Pg**	**08 07 27.0**	**0.0**
FEMA				S	**Sg**	**08 07 29.0**	**+0.1**
T1256	**Bolognola (MC)**	**0.07**	**71**	⇑P	**Pg**	**08 07 26.3**	**-0.7**
T1256				S	**Sg**	**08 07 27.6**	**-1.4**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1216	**Preci, Frazion**	**0.13**	**223**	⇑P	**Pg**	**08 07 27.9**	**+0.4**
T1216				S	**Sg**	**08 07 30.5**	**+0.6**
T1216				AML	AML		
	comp=E,39650μm,0.9s						
T1216				AML	AML		
	comp=E,39650μm,0.9s						
T1216				AML	AML		
	comp=N,64150μm,1.1s						
T1216				AML	AML		
	comp=E,39700μm,0.9s						
T1245	**Castelsantange**	**0.13**	**163**	⇑P	**Pg**	**08 07 27.8**	**0.0**
T1245				S	**Sg**	**08 07 30.4**	**+0.2**
T1245				AML	AML		
	comp=E,43450μm,0.6s						
T1245				AML	AML		
	comp=N,40900μm,1.5s						
T1245				AML	AML		
	comp=N,38100μm,1.5s						
T1245				AML	AML		
	comp=E,43450μm,0.6s						
T1245				AML	AML		
	comp=E,43250μm,0.6s						
T1245				AML	AML		
	comp=N,40950μm,1.5s						
AM05	**Amandola Campo**	**0.16**	**92**	P	**Pg**	**08 07 27.9**	**0.0**
AM05				S	**Sg**	**08 07 30.6**	**0.0**
MMO1	**Montemonaco**	**0.16**	**121**	⇑P	**Pg**	**08 07 28.0**	**-0.1**
MMO1				S	**Sg**	**08 07 30.8**	**0.0**
GUMA	**Gualdo di Mace**	**0.17**	**62**	⇑P	**Pg**	**08 07 28.3**	**+0.2**
GUMA				S	**Sg**	**08 07 31.1**	**+0.3**
GUMA				AML	AML		
GUMA				AML	AML		
	comp=N,82200μm,0.4s						
GUMA				AML	AML		
GUMA				AML	AML		
	comp=E,87400μm,0.7s						
GUMA				AML	AML		
	comp=N,82150μm,0.4s						
MDAR	**Monte D'Aria**	**0.21**	**1**	P	**Pg**	**08 07 28.9**	**0.0**
MDAR				S	**Sg**	**08 07 32.4**	**+0.3**
MDAR				AML	AML		
	comp=E,71500μm,0.6s						
MDAR				AML	AML		
	comp=N,38800μm,1.3s						
SEF1	**Sefro**	**0.21**	**320**	P	**Pg**	**08 07 29.3**	**+0.4**
SEF1				S	**Sg**	**08 07 33.2**	**+1.1**
SEF1				AML	AML		
	comp=N,69750μm,1.3s						
SEF1				AML	AML		
	comp=E,76550μm,0.6s						
SEF1				AML	AML		
	comp=N,69800μm,1.3s						
PIO1	**Pioraco**	**0.22**	**330**	P	**Pg**	**08 07 29.4**	**+0.3**
SSM1	**San Severino M**	**0.25**	**7**	P	**Pg**	**08 07 29.6**	**+0.2**
SSM1				S	**Sg**	**08 07 33.8**	**+0.8**
T1241	**Roccafluvione,**	**0.25**	**120**	P	**Pg**	**08 07 29.9**	**+0.4**
T1241				AML	AML		
	comp=E,10915μm,0.7s						
T1241				AML	AML		
	comp=N,9340μm,0.9s						
T1241				AML	AML		
	comp=N,9195μm,1.0s						
T1241				AML	AML		
	comp=E,10920μm,0.7s						
T1241				AML	AML		
	comp=N,9340μm,1.0s						
T1241				AML	AML		
	comp=E,10170μm,0.7s						
T1241				AML	AML		
	comp=N,9185μm,1.0s						
T1241				AML	AML		
	comp=N,9335μm,1.0s						
T1241				AML	AML		
	comp=E,10165μm,0.7s						
T1241				AML	AML		
	comp=E,10160μm,0.7s						
T1241				AML	AML		
	comp=N,9345μm,1.0s						
T1241				AML	AML		
	comp=N,9190μm,1.0s						
T1241				AML	AML		
	comp=E,10895μm,0.7s						
FIU1	**Fiuminata**	**0.25**	**324**	P	**Pg**	**08 07 29.9**	**+0.4**
FIU1				S	**Sg**	**08 07 34.3**	**+1.1**
FIU1				AML	AML		
	comp=E,15550μm,0.2s						
FIU1				AML	AML		
	comp=N,17550μm,0.1s						
T1244	**Arquata del Tr**	**0.26**	**152**	P	**Pg**	**08 07 30.1**	**+0.5**
GAG1	**Gagliole**	**0.26**	**349**	P	**Pg**	**08 07 30.0**	**+0.4**
GAG1				S	**Sb**	**08 07 34.4**	**-0.7**
GAG1				AML	AML		
	comp=E,57700μm,0.3s						
GAG1				AML	AML		
	comp=N,47700μm,0.5s						
GAG1				AML	AML		
	comp=E,57700μm,0.3s						
GAG1				AML	AML		
	comp=N,47700μm,0.5s						
T1215	**Vallo di Nera,**	**0.27**	**227**	⇑P	**Pg**	**08 07 30.5**	**+0.7**
T1215				S	**Sb**	**08 07 35.1**	**-0.3**
T1215				AML	AML		
	comp=N,6420μm,0.4s						
T1215				AML	AML		
	comp=E,5355μm,0.9s						
T1215				AML	AML		
	comp=N,6175μm,0.4s						
T1215				AML	AML		
	comp=E,5540μm,0.8s						
T1215				AML	AML		
	comp=E,5360μm,0.9s						
T1215				AML	AML		
	comp=N,6180μm,0.4s						
T1215				AML	AML		
	comp=N,6180μm,0.4s						
T1215				AML	AML		
	comp=E,5535μm,0.8s						
T1215				AML	AML		
	comp=N,6420μm,0.4s						
T1215				AML	AML		
	comp=E,5360μm,0.9s						
MNTP	**Montappone**	**0.29**	**58**	⇑P	**Pb**	**08 07 30.8**	**-0.4**
SNTG	**Esanatoglia**	**0.31**	**332**	P	**Pg**	**08 07 30.8**	**+0.3**
SNTG				S	**Sb**	**08 07 36.0**	**-0.5**
SNTG				AML	AML		
	comp=N,10985μm,1.6s						
SNTG				AML	AML		
	comp=N,11165μm,1.6s						
SNTG				AML	AML		
	comp=N,10980μm,1.6s						
SNTG				AML	AML		
	comp=E,9170μm,0.6s						
SNTG				AML	AML		
	comp=N,10960μm,1.6s						
SNTG				AML	AML		
	comp=E,9370μm,0.3s						
SNTG				AML	AML		
	comp=N,11170μm,1.6s						
T1217	**Poggiodomo (PG**	**0.31**	**209**	⇑P	**Pg**	**08 07 31.2**	**+0.6**
T1217				S	**Sb**	**08 07 36.6**	**-0.1**
T1217				AML	AML		
	comp=E,7840μm,0.7s						
T1217				AML	AML		
	comp=N,7975μm,0.5s						
T1217				AML	AML		
	comp=E,8205μm,0.7s						
T1217				AML	AML		
	comp=N,8220μm,0.5s						
T1217				AML	AML		
	comp=E,7870μm,0.7s						
T1217				AML	AML		
	comp=N,7965μm,0.5s						
T1217				AML	AML		
	comp=E,8205μm,0.7s						
T1217				AML	AML		
	comp=E,7850μm,0.7s						
T1217				AML	AML		
	comp=N,8215μm,0.5s						
T1204	**Amatrice, Fraz**	**0.34**	**157**	P	**Pg**	**08 07 31.4**	**+0.4**
T1204				AML	AML		
	comp=E,6425μm,0.6s						
T1204				AML	AML		
	comp=N,5800μm,0.6s						
T1204				AML	AML		
	comp=N,5795μm,0.6s						
T1204				AML	AML		
	comp=N,5805μm,0.6s						
T1201	**Domo (RI)**	**0.34**	**166**	P	**Pg**	**08 07 31.7**	**+0.7**
EL6	**Elcito**	**0.35**	**356**	P	**Pg**	**08 07 31.4**	**+0.2**
EL6				S	**Sb**	**08 07 37.3**	**-0.4**
EL6				AML	AML		
	comp=E,25950μm,1.1s						
EL6				AML	AML		
	comp=N,36250μm,0.3s						
EL6				AML	AML		
	comp=E,26000μm,1.1s						
EL6				AML	AML		
	comp=N,36300μm,0.3s						
TRE1	**Treia**	**0.35**	**21**	P	**Pb**	**08 07 31.9**	**-0.4**
TRE1				S	**Sb**	**08 07 38.2**	**+0.4**
TRE1				AML	AML		
	comp=E,26100μm,0.5s						
TRE1				AML	AML		
	comp=N,26350μm,1.0s						
ASSB	**Assisi San Ben**	**0.35**	**280**	⇑P	**Pg**	**08 07 31.9**	**+0.6**
ASSB				S	**Sb**	**08 07 38.0**	**0.0**
ASSB				AML	AML		
	comp=E,11136μm,0.4s						
T1243	**Rocca Santa Ma**	**0.37**	**141**	P	**Pg**	**08 07 31.9**	**+0.3**
T1243				S	**Sb**	**08 07 38.2**	**-0.1**
SMA1	**SAN MARTINO**	**0.38**	**157**	P	**Pg**	**08 07 32.3**	**+0.4**
SMA1				AML	AML		
	comp=E,8690μm,0.8s						
SMA1				AML	AML		
	comp=N,5730μm,0.9s						
SMA1				AML	AML		
	comp=E,8695μm,0.8s						
LNSS	**Leonessa**	**0.39**	**191**	P	**Pg**	**08 07 32.5**	**+0.5**
LNSS				AML	AML		
	comp=N,6045μm,0.3s						
LNSS				AML	AML		
	comp=E,2190μm,0.3s						
CING	**Cingoli**	**0.39**	**6**	P	**Pg**	**08 07 32.2**	**+0.2**
OFFI	**Offida**	**0.41**	**97**	P	**Pb**	**08 07 33.3**	**+0.1**
OFFI				AML	AML		
	comp=E,9235μm,0.6s						
OFFI				AML	AML		
	comp=N,10380μm,0.4s						
FOSV	**Fossato di Vic**	**0.41**	**319**	⇑P	**Pg**	**08 07 32.9**	**+0.4**
FOSV				S	**Sb**	**08 07 39.6**	**0.0**
FOSV				AML	AML		
	comp=E,9800μm,0.4s						
FOSV				AML	AML		
	comp=E,9795μm,0.4s						
FOSV				AML	AML		
	comp=E,9775μm,0.4s						
FOSV				AML	AML		
	comp=N,15500μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.42**	**299**	⇑P	**Pg**	**08 07 33.1**	**+0.6**
ATCC				S	**Sb**	**08 07 40.2**	**+0.6**
ATCC				AML	AML		
	comp=E,13650μm,1.5s						
ATCC				AML	AML		
	comp=N,21300μm,0.2s						
MMUR	**Monte Murano**	**0.47**	**347**	P	**Pg**	**08 07 33.6**	**+0.1**
MMUR				S	**Sb**	**08 07 41.4**	**+0.1**
MMUR				AML	AML		
	comp=E,20250μm,0.2s						
MMUR				AML	AML		
	comp=N,12400μm,1.2s						
MMUR				AML	AML		
	comp=E,20300μm,0.2s						
MMUR				AML	AML		
	comp=N,12350μm,1.2s						
RM33	**Pellescritta (**	**0.48**	**173**	P	**Pg**	**08 07 34.2**	**+0.6**
RM33				AML	AML		
	comp=E,3855μm,1.0s						
RM33				AML	AML		
	comp=N,2075μm,1.5s						
RM33				AML	AML		
	comp=N,2125μm,1.5s						
RM33				AML	AML		
	comp=N,2130μm,1.5s						
RM33				AML	AML		
	comp=E,3855μm,1.1s						
RM33				AML	AML		
	comp=E,3835μm,1.0s						
RM33				AML	AML		
	comp=N,2075μm,1.5s						
T1246	**Crognaleto (TE**	**0.48**	**147**	P	**Pg**	**08 07 33.7**	**+0.1**
ARRO	**Arrone**	**0.49**	**214**	P	**Pg**	**08 07 34.2**	**+0.4**
ARRO				AML	AML		
	comp=E,2650μm,1.4s						
ARRO				AML	AML		
	comp=N,2155μm,1.0s						
CAMP	**Campotosto**	**0.49**	**156**	P	**Pg**	**08 07 33.9**	**+0.1**
CAMP				AML	AML		
	comp=N,2590μm,1.6s						
CAMP				AML	AML		
	comp=E,1875μm,0.7s						
T1211	**Morro Reatino**	**0.50**	**205**	P	**Pg**	**08 07 34.4**	**+0.5**
TERO	**Teramo**	**0.50**	**136**	P	**Pb**	**08 07 34.6**	**-0.2**
TERO				AML	AML		
	comp=E,2970μm,0.7s						
TERO				AML	AML		
	comp=N,3557μm,0.6s						
TERO				AML	AML		
	comp=N,3730μm,0.6s						
TERO				AML	AML		
	comp=E,2739μm,0.1s						
CADA	**Capodarco di F**	**0.50**	**65**	P	**Pb**	**08 07 35.4**	**+0.5**
CADA				AML	AML		
	comp=E,13550μm,1.0s						
CADA				AML	AML		
	comp=N,12015μm,0.4s						
CADA				AML	AML		
	comp=E,13500μm,1.0s						
CADA				AML	AML		
	comp=N,12055μm,0.4s						
CIMA	**Civitanova Mar**	**0.51**	**50**	P	**Pb**	**08 07 35.1**	**+0.2**
SSFR	**Montelago di S**	**0.52**	**330**	P	**Pg**	**08 07 34.7**	**+0.3**
SSFR				AML	AML		
	comp=N,13850μm,1.0s						
SSFR				AML	AML		
	comp=E,19250μm,0.2s						
SSFR				AML	AML		
	comp=E,16150μm,0.2s						
SSFR				AML	AML		
	comp=N,12150μm,0.2s						
PP3	**Marolino**	**0.52**	**41**	P	**Pb**	**08 07 35.3**	**+0.1**
PP3				AML	AML		
	comp=N,12850μm,0.4s						
PP3				AML	AML		
	comp=N,12900μm,0.4s						
PP3				AML	AML		
	comp=E,12900μm,1.0s						
PP3				AML	AML		
	comp=E,13650μm,1.1s						
PP3				AML	AML		
	comp=N,12300μm,1.6s						
MURB	**Monte Urbino**	**0.53**	**302**	P	**Pg**	**08 07 35.1**	**+0.5**
MURB				S	**Sb**	**08 07 43.9**	**+1.0**
MURB				AML	AML		
	comp=N,25900μm,0.3s						
MURB				AML	AML		
	comp=E,28300μm,0.3s						
MURB				AML	AML		
	comp=N,24050μm,0.3s						
MURB				AML	AML		
	comp=E,24650μm,0.3s						
ARVD	**Arcevia**	**0.53**	**345**	P	**Pg**	**08 07 34.9**	**+0.2**
ARVD				S	**Sb**	**08 07 43.6**	**+0.6**
ARVD				AML	AML		
	comp=N,4800μm,0.1s						
ARVD				AML	AML		
	comp=E,7005μm,0.2s						
CESX	**Cesi**	**0.56**	**228**	⇑P	**Pg**	**08 07 35.2**	**+0.2**
CESX				AML	AML		
	comp=N,4740μm,0.4s						
CESX				AML	AML		
	comp=E,4220μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.56**	**168**	P	**Pg**	**08 07 35.3**	**+0.3**
T1247				AML	AML		
	comp=E,3570μm,0.8s						
T1247				AML	AML		
	comp=N,2860μm,0.3s						
ATFO	**Monte Foce - G**	**0.56**	**313**	⇑P	**Pg**	**08 07 35.6**	**+0.3**
ATFO				AML	AML		
	comp=E,5540μm,0.7s						
ATFO				AML	AML		
	comp=N,4010μm,0.5s						
TRTR	**Tortoreto Alta**	**0.60**	**107**	P	**Pb**	**08 07 37.1**	**+0.6**
TRTR				AML	AML		
	comp=E,11390μm,0.9s						
TRTR				AML	AML		
	comp=N,8160μm,0.9s						
ATTE	**AVT- Monte Tez**	**0.61**	**291**	P	**Pg**	**08 07 36.4**	**+0.3**
ATTE				AML	AML		
	comp=E,3000μm,0.4s						
ATTE				AML	AML		
	comp=N,3370μm,0.4s						
FRON	**Frontone**	**0.61**	**331**	⇑P	**Pg**	**08 07 36.2**	**+0.1**
FRON				AML	AML		
	comp=N,6005μm,0.5s						
FRON				AML	AML		
	comp=E,4805μm,1.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GIGS	**Gran Sasso**	**0.62**	**149**	P	**Pg**	**08 07 36.2**	**-0.2**
GIGS				AML	AML		
	comp=E,588μm,1.3s						
GIGS				AML	AML		
	comp=N,585μm,0.5s						
GIGS				AML	AML		
	comp=N,586μm,0.5s						
ATLO	**AVT- Montelove**	**0.63**	**302**	⇑P	**Pg**	**08 07 36.7**	**+0.3**
ATLO				S	**Sb**	**08 07 47.0**	**+1.3**
TB01	**Gubbio**	**0.65**	**308**	P	**Pg**	**08 07 37.0**	**+0.2**
TB01				S	**Sb**	**08 07 47.4**	**+1.1**
ATBU	**Serra di Buran**	**0.65**	**319**	P	**Pg**	**08 07 37.5**	**+0.6**
AQU	**L'Aquila**	**0.66**	**163**	P	**Pg**	**08 07 37.0**	**0.0**
AOI	**Ancona**	**0.66**	**31**	⇑P	**Pg**	**08 07 37.1**	**+0.1**
AOI				AML	AML		
	comp=E,3345μm,0.4s						
AOI				AML	AML		
	comp=N,3975μm,0.7s						
ATVO	**AVT- Monte Val**	**0.67**	**307**	⇑P	**Pg**	**08 07 37.3**	**+0.1**
ATVO				AML	AML		
	comp=E,2690μm,0.6s						
ATVO				AML	AML		
	comp=N,3095μm,0.9s						
ATVO				AML	AML		
	comp=E,2685μm,0.6s						
TB03	**Pietralunga**	**0.68**	**308**	⇑P	**Pg**	**08 07 37.4**	**+0.1**
TB03				S	**Sb**	**08 07 48.1**	**+0.9**
PCRO	**Pietralacroce**	**0.69**	**25**	P	**Pb**	**08 07 38.4**	**+0.4**
ATVA	**AVT- Monte Val**	**0.69**	**296**	P	**Pg**	**08 07 37.7**	**+0.1**
MPAG	**Monte Paganucc**	**0.70**	**337**	P	**Pg**	**08 07 38.3**	**+0.4**
MPAG				AML	AML		
	comp=E,3220μm,0.4s						
MPAG				AML	AML		
	comp=N,2835μm,0.3s						
ATPC	**Poggio Castell**	**0.70**	**315**	P	**Pg**	**08 07 38.1**	**+0.3**
PIEI	**Pieia**	**0.70**	**322**	P	**Pg**	**08 07 38.4**	**+0.5**
PIEI				S	**Sb**	**08 07 49.0**	**+1.0**
PIEI				AML	AML		
	comp=N,4130μm,0.3s						
PIEI				AML	AML		
	comp=E,3825μm,0.7s						
PIEI				AML	AML		
	comp=N,4135μm,0.3s						
ATPI	**Pietralunga -**	**0.71**	**311**	⇑P	**Pg**	**08 07 38.2**	**+0.2**
ATPI				S	**Sb**	**08 07 49.5**	**+1.3**
ATPI				AML	AML		
	comp=E,3025μm,0.6s						
ATPI				AML	AML		
	comp=N,2220μm,0.3s						
ATPI				AML	AML		
	comp=E,3030μm,0.6s						
FIAM	**Fiamignano**	**0.72**	**181**	P	**Pg**	**08 07 37.9**	**-0.1**
FIAM				AML	AML		
	comp=E,1070μm,0.9s						
FIAM				AML	AML		
	comp=N,1425μm,0.5s						
SENI	**Senigallia**	**0.72**	**6**	P	**Pb**	**08 07 39.1**	**+0.5**
SENI				AML	AML		
	comp=E,11125μm,0.2s						
SENI				AML	AML		
	comp=N,13250μm,0.2s						
SENI				AML	AML		
	comp=N,13250μm,0.2s						
SENI				AML	AML		
	comp=E,11130μm,0.3s						
ATMI	**Monte Miggiano**	**0.73**	**299**	AML	AML		
	comp=N,6050μm,0.3s						
ATMI				AML	AML		
	comp=E,6340μm,0.4s						
FSSB	**Fossombrone**	**0.76**	**340**	P	**Pb**	**08 07 39.4**	**+0.2**
FSSB				AML	AML		
	comp=N,18350μm,0.4s						
FSSB				AML	AML		
	comp=E,9240μm,0.3s						
MGAB	**Montegabbione**	**0.76**	**265**	P	**Pg**	**08 07 39.2**	**+0.4**
MGAB				AML	AML		
	comp=E,3540μm,0.8s						
MGAB				AML	AML		
	comp=N,6385μm,0.4s						
MGAB				AML	AML		
	comp=E,4245μm,0.9s						
MGAB				AML	AML		
	comp=N,5950μm,0.5s						
APEC	**Apecchio**	**0.78**	**318**	P	**Pb**	**08 07 39.8**	**+0.3**
VCEL	**Villa Celiera**	**0.79**	**138**	P	**Pg**	**08 07 39.5**	**+0.1**
VCEL				AML	AML		
	comp=E,2195μm,0.7s						
VCEL				AML	AML		
	comp=N,2220μm,0.7s						
VCEL				AML	AML		
	comp=E,2190μm,0.7s						
FAGN	**Fagnano**	**0.79**	**155**	AML	AML		
	comp=N,1825μm,1.1s						
FAGN				AML	AML		
	comp=E,3195μm,0.5s						
ATMC	**Monte Cedrone**	**0.83**	**304**	P	**Pg**	**08 07 40.7**	**+0.4**
BADI	**Badiali**	**0.84**	**309**	AML	AML		
	comp=N,1550μm,0.3s						
BADI				AML	AML		
	comp=E,91μm,0.5s						
SRES	**S.Oreste - Sor**	**0.88**	**212**	P	**Pg**	**08 07 41.4**	**+0.2**
T0110	**Collepietro**	**0.89**	**148**	P	**Pg**	**08 07 40.8**	**-0.6**
T0110				AML	AML		
	comp=E,2955μm,0.5s						
T0110				AML	AML		
	comp=N,2640μm,0.5s						
T0110				AML	AML		
	comp=N,2645μm,0.5s						
SACS	**San Casciano d**	**0.91**	**262**	P	**Pb**	**08 07 42.6**	**+0.7**
SACS				AML	AML		
	comp=N,1880μm,0.7s						
SACS				AML	AML		
	comp=E,1540μm,0.8s						
SACS				AML	AML		
	comp=E,1480μm,0.7s						
SACS				AML	AML		
	comp=N,1875μm,0.7s						
SACS				AML	AML		
	comp=N,1920μm,0.7s						
CAFI	**Castiglion Fio**	**0.92**	**292**	P	**Pb**	**08 07 42.5**	**+0.4**
CAFI				AML	AML		
	comp=N,1495μm,0.7s						
CAFI				AML	AML		
	comp=E,2080μm,0.7s						
CAFI				AML	AML		
	comp=E,2041μm,0.7s						
MTCE	**Montecelio**	**1.00**	**197**	P	**Pg**	**08 07 43.3**	**-0.2**
CRE	**Caprese Michel**	**1.07**	**307**	AML	AML		
	comp=N,1215μm,0.4s						
CRE				AML	AML		
	comp=E,786μm,0.5s						
SF11	**Podere del Sol**	**1.08**	**264**	P	**Pb**	**08 07 45.6**	**+0.9**
MCIV	**Monte Civitell**	**1.09**	**260**	P	**Pb**	**08 07 45.6**	**+0.7**
MCIV				AML	AML		
	comp=N,516μm,0.5s						
MCIV				AML	AML		
	comp=E,544μm,0.5s						
SF13	**Bagnolo**	**1.13**	**262**	P	**Pb**	**08 07 46.4**	**+0.8**
SF14	**Selvena**	**1.14**	**259**	P	**Pg**	**08 07 46.3**	**+0.1**
VVLD	**Villa Vallelon**	**1.17**	**162**	AML	AML		
	comp=N,938μm,1.3s						
VVLD				AML	AML		
	comp=E,1140μm,0.7s						
LPEL	**Lama dei Pelig**	**1.22**	**140**	P	**Pn**	**08 07 47.7**	**+0.8**
ARCI	**Arcidosso**	**1.23**	**264**	P	**Pg**	**08 07 48.1**	**+0.3**
TOLF	**Tolfa**	**1.25**	**223**	P	**Pb**	**08 07 48.2**	**+0.6**
TOLF				AML	AML		
	comp=E,832μm,0.7s						
TOLF				AML	AML		
	comp=N,478μm,0.8s						
ASQU	**Asqua**	**1.27**	**310**	P	**Pg**	**08 07 48.8**	**+0.1**
ASQU				AML	AML		
	comp=E,819μm,0.8s						
ASQU				AML	AML		
	comp=N,758μm,0.4s						
CSNT	**Castellina Chi**	**1.43**	**291**	P	**Pb**	**08 07 51.2**	**+0.4**
OSSC	**Osservatorio P**	**1.48**	**292**	P	**Pn**	**08 07 51.3**	**+0.7**
MAON	**Monte Argentar**	**1.58**	**250**	P	**Pn**	**08 07 52.9**	**+1.0**
CASP	**Castiglione de**	**1.68**	**264**	P	**Pn**	**08 07 54.2**	**+0.9**
MPPT	**Montemurlo**	**1.78**	**304**	P	**Pn**	**08 07 56.1**	**+1.4**
MTCR	**Monte La Croce**	**1.87**	**305**	P	**Pn**	**08 07 57.3**	**+1.2**
SGRT	**San Giovanni R**	**2.29**	**122**	P	**Pn**	**08 08 02.7**	**+1.0**
MORSI	**Morsiglia**	**2.77**	**271**	P	**Pn**	**08 08 10.1**	**+1.8**
SMPL	**Sampolo**	**2.98**	**254**	P	**Pn**	**08 08 14.2**	**+3.0**
SABO	**M.te Sabotino**	**3.01**	**6**	AML	AML		
	comp=N,403μm,0.7s						
SABO				AML	AML		
	comp=E,1655μm,0.6s						
SABO				AML	AML		
	comp=N,1440μm,0.7s						
SABO				AML	AML		
	comp=E,372μm,0.6s						
PGF	**Pioggiola**	**3.08**	**263**	*e*P	**Pn**	**08 08 14.6**	**+2.0**
PGF	**Pioggiola**	**3.08**	**263**	*e*Pn	**Sn**	**08 08 46.0**	**-3.3**
	comp=E,27nm,0.8s						
PGF	**Pioggiola**	**3.08**	**263**	P	**Pn**	**08 08 14.2**	**+1.6**
CTI	**Castel Tesino**	**3.24**	**341**	AML	AML		
	comp=E,265μm,0.6s						
CTI				AML	AML		
	comp=N,304μm,1.5s						
STAL	**STALIGIAL**	**3.29**	**355**	AML	AML		
	comp=E,324μm,0.3s						
STAL				AML	AML		
	comp=N,212μm,0.3s						
CIMO	**Cimolais**	**3.36**	**352**	AML	AML		
	comp=N,63μm,1.0s						
CIMO				AML	AML		
	comp=E,69μm,1.5s						
CIMO				AML	AML		
	comp=E,70μm,1.5s						
CIMO				AML	AML		
	comp=N,69μm,1.4s						
ZOU	**Zoufplan**	**3.57**	**358**	AML	AML		
	comp=E,139μm,0.7s						
ZOU				AML	AML		
	comp=N,120μm,1.0s						
MYKA	**Terra Mystica**	**3.66**	**5**	*i* Pn	**Pn**	**08 08 22.1**	**+1.5**
	comp=N,4.3nm,0.3s						
OBKA	**Obir**	**3.67**	**15**	*e*Pn	**Pn**	**08 08 22.1**	**+1.4**
	comp=N,1.2nm,0.2s						
ABTA	**Abfaltersbach**	**3.79**	**353**	*e*Pn	**Pn**	**08 08 24.5**	**+2.1**
	comp=N,31nm,0.5s						
SOKA	**Soboth**	**3.93**	**19**	*i* Pn	**Pn**	**08 08 26.3**	**+2.0**
	comp=N,0.5nm,0.2s						
KBA	**Koelnbreinsper**	**4.10**	**2**	*e*Pn	**Pn**	**08 08 28.4**	**+1.8**
	comp=N,3.5nm,0.2s						
SAOF	**Saorge**	**4.18**	**286**	P	**Pn**	**08 08 32.0**	**+4.3**
SBF	**Sospel**	**4.25**	**284**	*e*P	**Pn**	**08 08 31.3**	**+2.7**
SBF				*e*Sn	**Sn**	**08 09 16.1**	**-1.9**
	comp=N,25nm,0.6s						
FETA	**Feichten**	**4.38**	**338**	*e*Pn	**Pn**	**08 08 34.0**	**+3.4**
	comp=N,4.4nm,0.3s,SNR=14						
WTTA	**Wattenberg**	**4.41**	**347**	*i* Pn	**Pn**	**08 08 34.6**	**+3.7**
	comp=N,1.9nm,0.2s,SNR=5.2						
SQTA	**Sankt Quirin**	**4.45**	**343**	*i* Pn	**Pn**	**08 08 34.9**	**+3.5**
	comp=N,3.3nm,0.2s,SNR=16						
MVIF	**Mont Vial**	**4.45**	**284**	P	**Pb**	**08 08 38.6**	**-3.7**
WATA	**Walderalm**	**4.49**	**346**	*i* Pn	**Pn**	**08 08 35.7**	**+3.6**
	comp=N,5.6nm,0.3s,SNR=18						
ISO	**Isola**	**4.58**	**287**	P	**Pn**	**08 08 37.4**	**+4.2**
ARSA	**Arzberg**	**4.59**	**21**	*e*Pn	**Pn**	**08 08 34.0**	**+0.7**
	comp=N,0.8nm,0.2s						
MOTA	**Moosalm**	**4.59**	**342**	*i* Pn	**Pn**	**08 08 36.5**	**+3.1**
	comp=N,1.9nm,0.2s,SNR=7.5						
CALF	**Calern**	**4.60**	**282**	P	**Pn**	**08 08 35.9**	**+2.5**
BIOA	**Bad Ischl, Aus**	**4.72**	**4**	*e*Pn	**Pn**	**08 08 37.3**	**+2.2**
	comp=N,8.7nm,0.4s						
RJOB	**Jochberg**	**4.76**	**357**	*e*Pn	**Pn**	**08 08 37.9**	**+2.2**
RJOB				*e*Sn	**Sn**	**08 09 33.5**	**+2.9**
RETA	**Reutte**	**4.80**	**340**	*i* Pn	**Pn**	**08 08 40.1**	**+3.8**
	comp=N,3.7nm,0.3s,SNR=5.8						
SURF	**Saint Ours**	**4.82**	**290**	P	**Pn**	**08 08 38.4**	**+1.8**
JAUF	**Jausiers**	**4.85**	**290**	P	**Pn**	**08 08 40.6**	**+3.6**
LMR	**La Mourre**	**4.86**	**276**	*e*P	**Pn**	**08 08 38.0**	**+1.0**
LMR	**La Mourre**	**4.86**	**276**	*e*Pn	**Sn**	**08 09 29.1**	**-4.0**
	comp=N,18nm,1.1s						
DAVA	**Damuels**	**4.88**	**333**	*i* Pn	**Pn**	**08 08 40.7**	**+3.3**
	comp=N,1.9nm,0.3s						
MBDF	**Montbardon**	**4.92**	**293**	*e*P	**Pn**	**08 08 39.2**	**+1.2**
MBDF				*e*Sn	**Sn**	**08 09 32.3**	**-2.5**
	comp=N,15nm,0.7s						
MOA	**Molln**	**4.93**	**9**	*i* Pn	**Pn**	**08 08 39.7**	**+1.7**
	comp=N,1.3nm,0.2s						
TRIGF	**Trigance**	**4.96**	**281**	P	**Pn**	**08 08 40.5**	**+2.0**
CREF	**Crivoux**	**4.97**	**291**	P	Pn	08 08 43.6	+4.9
OGAG	**Argentiere**	**5.00**	**289**	P	Pn	08 08 44.7	+5.7
FLAF	**Flassans-sur-l**	**5.05**	**277**	P	**Pn**	**08 08 41.1**	**+1.6**
DIX	**Grande Dixence**	**5.13**	**309**	P	**Pn**	**08 08 44.7**	**+3.7**
UBR	**Ueberruh**	**5.16**	**337**	*e*Pn	Pn	08 08 46.7	+5.6
UBR				*e*Sn	**Sn**	**08 09 42.6**	**+2.1**
RONA	**Rosalia, Austr**	**5.21**	**24**	*e*Pn	**Pn**	**08 08 44.5**	**+2.6**
	comp=N,0.1nm,0.1s						
LPG	**La Plagne**	**5.23**	**301**	*e*P	**Pn**	**08 08 46.7**	**+4.4**
LPG				*e*Sn	**Sn**	**08 09 39.7**	**-2.9**
	comp=N,12nm,0.6s						
LPL	**La Plagne**	**5.25**	**301**	*e*P	**Pn**	**08 08 46.8**	**+4.3**
LPL				*e*Sn	**Sn**	**08 09 40.5**	**-2.5**
	comp=N,9.5nm,0.4s						
CONA	**Conrad Observa**	**5.30**	**20**	*i* Pn	**Pn**	**08 08 44.2**	**+1.1**
	comp=N,1.1nm,0.2s						
RSL	**Roselend**	**5.40**	**302**	P	**Pn**	**08 08 49.2**	**+4.8**
BSTF	**la Bastide-des**	**5.53**	**282**	P	**Pn**	**08 08 50.0**	**+3.8**
AIGLE	**Aigle**	**5.54**	**309**	P	**Pn**	**08 08 51.1**	**+4.7**
ORIF	**Oris-en-Rattie**	**5.58**	**293**	*e*P	**Pn**	**08 08 50.8**	**+3.8**
ORIF				*e*Sn	**Sn**	**08 09 47.2**	**-3.9**
	comp=N,17nm,0.9s						
ORIF	**Oris-en-Rattie**	**5.58**	**293**	P	**Pn**	**08 08 51.2**	**+4.2**
SMRF	**Simiane la Rot**	**5.59**	**283**	*e*P	**Pn**	**08 08 50.5**	**+3.5**
SMRF	**Simiane la Rot**	**5.59**	**283**	*e*Pn	**Sn**	**08 09 46.8**	**-4.3**
	comp=N,28nm,1.4s						
SLE	**Schleitheim**	**5.79**	**327**	P	**Pn**	**08 08 54.4**	**+4.6**
GEC2	**GERESS Array S**	**5.88**	**4**	*e*Pn	**Pn**	**08 08 51.6**	**+0.6**
GEC2				*e*Sn	**Sn**	**08 09 57.0**	**-1.2**
CKRC	**Cesky Krumlov**	**5.89**	**8**	*e*PN	**Pn**	**08 08 51.5**	**+0.3**
CKRC				*e*SN	**Sn**	**08 09 58.0**	**-0.6**
BOURR	**Bourrignon**	**6.07**	**319**	S	**Sn**	**08 10 05.5**	**+2.5**
BOURR	**Bourrignon**	**6.07**	**319**	P	**Pn**	**08 08 56.8**	**+3.2**
MODS	**Modra-Piesok**	**6.12**	**27**	*e*PN	**Pn**	**08 08 54.6**	**+0.3**
MODS				*e*SN	**Sn**	**08 10 01.9**	**-2.2**
KHC	**Kasperske Hory**	**6.16**	**3**	*e*PN	**Pn**	**08 08 55.0**	**+0.2**
KHC				*e*SN	**Sn**	**08 10 03.5**	**-1.5**
WET	**Wettzell**	**6.16**	**358**	*e*Pn	**Pn**	**08 08 55.2**	**+0.3**
WET				*e*Sn	**Sn**	**08 10 01.9**	**-3.4**
KIZ	**Kirchzarten**	**6.18**	**325**	P	**Pn**	**08 08 57.1**	**+2.0**
CABF	**La Chapelle**	**6.19**	**308**	*e*P	**Pn**	**08 08 58.3**	**+3.0**
CABF				*e*Sn	**Sn**	**08 10 03.5**	**-2.4**
	comp=N,13nm,0.8s						
BFO	**Black Forest**	**6.32**	**329**	*e*Pn	**Pn**	**08 09 00.2**	**+3.2**
VOGT	**Vogtsburg - To**	**6.38**	**325**	P	**Pn**	**08 09 00.0**	**+2.2**
VIVF	**Saint-Julien-l**	**6.39**	**290**	*e*P	**Pn**	**08 09 01.7**	**+3.7**
MOF	**Molkenrain**	**6.44**	**321**	P	**Pn**	**08 09 00.7**	**+1.9**
HINF	**Hinteralfeld**	**6.55**	**320**	*e*P	**Pn**	**08 09 00.9**	**+0.7**
HINF				*e*Sn	**Sn**	**08 10 11.8**	**-3.0**
	comp=N,28nm,0.6s						
RONF	**Ronchamp**	**6.58**	**318**	P	**Pn**	**08 09 02.7**	**+2.2**
ECH	**Echery**	**6.70**	**323**	P	**Pn**	**08 09 04.2**	**+1.9**
VYHS	**Vyhne**	**6.80**	**34**	*e*PN	**Pn**	**08 09 05.5**	**+1.9**
VYHS				*e*SN	**Sn**	**08 10 18.9**	**-2.0**
CDF	**Champ du Feu**	**6.80**	**325**	*e*P	**Pn**	**08 09 04.6**	**+0.9**
CDF				*e*Sn	**Sn**	**08 10 18.7**	**-2.3**
	comp=N,17nm,0.7s						
ROTZ	**Rotzenmuhle**	**6.81**	**355**	*e*Pn	**Pn**	**08 09 06.2**	**+2.4**
ROTZ				*e*Sn	**Sn**	**08 10 16.7**	**-4.5**
LASF	**Ste Croix**	**6.83**	**282**	*e*Pn	**Pn**	**08 09 03.0**	**-1.1**
LASF				*e*Sn	**Sn**	**08 10 16.8**	**-4.9**
	comp=N,30nm,1.4s						
HAU	**Haudompre**	**6.92**	**319**	*e*P	**Pn**	**08 09 06.3**	**+1.0**
HAU				*e*Sn	**Sn**	**08 10 20.8**	**-3.1**
	comp=N,53nm,0.8s						
MANZ	**Manzenberg**	**7.04**	**355**	*e*Pn	**Pn**	**08 09 10.2**	**+3.3**
MANZ				*e*Sn	**Sn**	**08 10 22.2**	**-4.6**
NKC	**Novy Kostel**	**7.27**	**357**	*e*SN	**Sn**	**08 10 31.8**	**-0.6**
SMF	**Signal de Mont**	**7.55**	**302**	*e*P	**Pn**	**08 09 17.2**	**+3.2**
SMF				*e*Sn	**Sn**	**08 10 35.0**	**-4.4**
	comp=N,12nm,0.9s						
PAGF	**Fort de Pagny**	**7.61**	**320**	*e*P	**Pn**	**08 09 15.1**	**+0.4**
	baz=140						
PAGF				*e*Sn	**Sn**	**08 10 37.0**	**-3.7**
	comp=N,49nm,1.3s						
SFTF	**Sexfontaines**	**7.71**	**315**	*e*P	**Pn**	**08 09 19.4**	**+3.3**
	baz=132						
SFTF				*e*Sn	**Sn**	**08 10 39.6**	**-3.7**
	comp=N,8.4nm,0.5s						
MOX	**Moxa**	**7.73**	**353**	*e*Sn	**Sn**	**08 10 37.7**	**-6.1**
LOR	**Lormes**	**7.83**	**306**	*e*P	**Pn**	**08 09 18.6**	**+0.8**
	baz=125						
LOR				*e*Sn	**Sn**	**08 10 43.0**	**-3.3**
	comp=N,7.0nm,0.6s						
MEZF	**Maizieres J'vi**	**7.90**	**317**	*e*Pn	**Pn**	**08 09 17.3**	**-1.3**
MEZF				*e*Sn	**Sn**	**08 10 42.7**	**-5.1**
	comp=N,32nm,1.1s						
AVF	**Avril sur Loir**	**7.92**	**302**	*e*P	**Pn**	**08 09 21.2**	**+2.2**
AVF				*e*Sn	**Sn**	**08 10 42.0**	**-6.4**
	comp=N,8.7nm,1.0s						
SAVF	**Savonnieres en**	**7.94**	**318**	*e*P	**Pn**	**08 09 23.3**	**+4.1**
	baz=145						
SSF	**Saint Saulge**	**7.95**	**304**	*e*P	**Pn**	**08 09 20.6**	**+1.3**
SSF				*e*Sn	**Sn**	**08 10 44.5**	**-4.5**
	comp=N,11nm,1.0s						
MTLF	**Montolieu**	**7.99**	**276**	*e*P	**Pn**	**08 09 23.2**	**+3.2**
MTLF	**Montolieu**	**7.99**	**276**	*e*Pn	**Sn**	**08 10 43.4**	**-6.8**
	comp=N,22nm,1.5s						
BGF	**Bois d'Agland**	**8.15**	**300**	*e*P	**Pn**	**08 09 23.6**	**+1.5**
CAF	**Calviac**	**8.22**	**287**	*e*P	**Pn**	**08 09 26.3**	**+3.2**
CLL	**Collm**	**8.33**	**359**	*e*(Sn)	**Sn**	**08 10 53.0**	**-5.4**
CLL				*e*Sg	Sg	08 11 41.0	-10
CLL				*e*x	x	08 12 00.0	
CLL				LmV		09 17 00.0	
	comp=Z,100nm,19.4s						
TCF	**Toulx Ste Croi**	**8.46**	**297**	*e*Pn	**Pn**	**08 09 25.2**	**-1.2**
TCF				*e*Sn	**Sn**	**08 10 56.1**	**-5.7**
	comp=Z,52nm,2.1s						
HYF	**Humbligny**	**8.57**	**304**	*e*Pn	**Pn**	**08 09 27.4**	**-0.4**
ETSF	**Etsaut**	**10.05**	**274**	*e*P	**Pn**	**08 09 52.2**	**+4.0**
GRR	**Gorron**	**11.18**	**304**	*e*Pn	**Pn**	**08 10 02.1**	**-1.4**

IDC ***01*** *08:27:12.0±0.7, 35.̊28S×15.̊10W, h0km, mb4.3/12, mbtmp4.3/12, MS4.4/51, Error ellipse: s-maj=19.9km s-min=15.4km az=36.0*

NEIC ***01*** *08:27:14.6±1.2, 35.̊2S±0.̊1×15.̊1W±0.̊1, h10km±1km, mb5.2/28, Error ellipse: s-maj=22.7km s-min=17.0km az=48.0*

GCMT ***01*** *08:27:18.6±0.2, 35.̊15S±0.̊02×15.̊14W±0.̊01, h12km, MW5.1/129, Moment Tensor Solution. s52,c59; s129,c190; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.26±.09; $M_{\theta\theta}$-0.05±.10; $M_{\phi\phi}$4.31±.08; $M_{r\theta}$2.16±.39; $M_{\theta\phi}$0.23±.08; $M_{\phi r}$1.48±.29; Best double couple: $M_0$4.99000×10^{16} NP1:ϕ_s205.00000°,δ59.00000°, λ-67.00000°. NP2:ϕ_s345.00000°,δ38.00000°, λ-124.00000°. Principal axes: T 4.6390, Plg11.0000°, Azm278.0000°; N 0.7010, Plg20.0000°, Azm12.0000°; P -5.3410, Plg67.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 08:27:13.5±0.5**, 35.̊29S**±0.̊08×**14.̊96W**±0.̊07**, h10**km**, n107, σ1.̊72**/58**, mb4.8**/28**, MS4.5**/56**, 3C, Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**2.78**	**130**	Pn	**Pn**	**08 27 58.1**	**+0.1**
H09N1				Sn	**Sn**	**08 28 27.5**	**-4.1**
H09N1				T	T	08 31 09.7	
	SNR=20						
TRIS	**Tristan da Cun**	**2.78**	**130**		**Pn**	**08 27 59.6**	**+1.5**
H09W1	**TRISTAN DA CUN**	**2.79**	**131**	Pn	**Pn**	**08 27 57.1**	**-1.1**
H09W1				Sn	**Sn**	**08 28 26.7**	**-5.1**
H09W1				T	T	08 31 14.0	
	SNR=46						
HOPE	**Hope Point**	**24.20**	**212**	P	**P**	**08 32 28.4**	**-1.7**
HOPE				IAmb	IAmb	08 32 48.3	
	comp=Z,62nm,1.4s						
H10S2	**ASCENSION HYDR**	**26.21**	**1**	T	T	08 59 55.4	
	baz=181,slow=74,SNR=24						
H10S3	**ASCENSION HYDR**	**26.21**	**1**	T	T	08 59 56.1	
	baz=39,slow=74,SNR=31						
H10N1	**ASCENSION HYDR**	**27.32**	**1**	T	T	09 01 20.0	
	baz=184,slow=78,SNR=37						
H10N3	**ASCENSION HYDR**	**27.32**	**1**	T	T	09 01 16.6	
	baz=184,slow=78,SNR=45						
H10N2	**ASCENSION HYDR**	**27.33**	**1**	T	T	09 01 21.3	
	baz=184,slow=78,SNR=60						
SUR	**Sutherland**	**29.76**	**95**	LR	LR	08 43 08.2	
	comp=Z,1μm,18.3s,baz=285,slow=32						
PLTB	**Pedras Altas**	**32.27**	**265**	P	**P**	**08 33 42.4**	**0.0**
PLTB				IAmb	IAmb	08 33 43.9	
	comp=Z,38nm,1.4s						
TSUM	**Tsumeb**	**32.89**	**69**	LR	LR	08 44 11.4	
	comp=Z,866nm,20.4s,baz=216,slow=31						
BOSA	**Boshof**	**34.59**	**90**	LR	LR	08 45 50.9	
	comp=Z,1μm,18.7s,baz=244,slow=32						
RCBR	**Riachuelo**	**35.10**	**322**	LR	LR	08 45 24.0	
	comp=Z,657nm,18.7s,baz=288,slow=31						
ITQB	**Itaqui**	**35.40**	**267**	P	**P**	**08 34 09.4**	**-0.2**
BDFB	**Brasilia**	**35.44**	**295**	P	**P**	**08 34 09.1**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=105,slow=6.2,SNR=3.7						
BDFB				LR	LR	08 45 55.8	
	comp=Z,1μm,21.0s,baz=131,slow=32						
	comp=Z,2.1nm,0.5s						
VNA2	**Neumayer--Watz**	**35.93**	**176**	P	**P**	**08 34 16.2**	**+2.6**
	baz=353,slow=12						
VNA3	**Neumayer Olymp**	**36.13**	**177**	P	**P**	**08 34 17.8**	**+2.4**
LBTB	**Lobatse**	**36.32**	**85**	LR	LR	08 46 55.2	
	comp=Z,1μm,18.8s,baz=229,slow=32						
SNAA	**Sanae**	**37.00**	**174**	P	**P**	**08 34 25.2**	**+2.3**
SNAA	**Sanae**	**37.00**	**174**	P	**P**	**08 34 24.4**	**+1.5**
	comp=Z,2.3nm,1.0s,baz=1.6,slow=5.9,SNR=6.2						
SNAA				LR	LR	08 45 47.7	
	comp=Z,123nm,21.4s,baz=8.0,slow=30						
	comp=Z,2.3nm,1.0s						
SNAA	**Sanae**	**37.00**	**174**	P	**P**	**08 34 25.5**	**+2.7**
TROLL	**Troll, Antarti**	**37.90**	**171**	P	**P**	**08 34 33.7**	**+3.1**
LIC	**Lamto**	**42.34**	**15**	⇑*e*PKP1	**P**	**08 35 09.8**	**+2.0**
	comp=Z,6.3nm,0.5s						
KIC	**Kosan Boka**	**42.53**	**15**	⇑*i*PKP1	**P**	**08 35 09.4**	**+0.1**
	comp=Z,3.5nm,0.6s						
TIC	**Toumodi**	**42.75**	**15**	⇑*i*PKP1	**P**	**08 35 08.9**	**-2.2**
	comp=Z,5.4nm,0.3s						
DBIC	**Dimbokro**	**42.81**	**15**	P	**P**	**08 35 11.5**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=194,slow=19,SNR=0.6						
DBIC				LR	LR	08 48 49.9	
	comp=Z,168nm,19.5s,baz=304,slow=30						
	comp=Z,2.6nm,0.7s						
LSZ	**Lusaka**	**43.40**	**74**	P	**P**	**08 35 18.4**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=227,slow=11,SNR=4.4						
LSZ				LR	LR	08 51 14.2	
	comp=Z,877nm,18.5s,baz=217,slow=33						
	comp=Z,1.0nm,0.3s						
PLCA	**Paso Flores**	**43.52**	**246**	P	**P**	**08 35 15.6**	**-1.7**
	comp=Z,6.0nm,1.1s,baz=92,slow=9.6,SNR=3.7						
PLCA				LR	LR	08 51 32.6	
	comp=Z,598nm,18.9s,baz=96,slow=34						
	comp=Z,6.0nm,1.1s						
LL02	**Futaleuf**	**44.02**	**242**	P	**P**	**08 35 20.6**	**-0.6**
LL02				IAmb	IAmb	08 35 22.7	
	comp=Z,29nm,1.4s						
PTLB	**Pontes e Lacer**	**44.11**	**285**	P	**P**	**08 35 21.7**	**-0.4**
PTLB				IAmb	IAmb	08 35 23.0	
	comp=Z,21nm,1.5s						
LMEL	**Las Melosas**	**45.01**	**255**	P	**P**	**08 35 28.9**	**-0.5**
LMEL				IAmb	IAmb	08 35 30.5	
	comp=Z,66nm,1.6s						
SIV	**San Ignacio**	**45.34**	**283**	P	**P**	**08 35 31.7**	**-0.4**
	comp=Z,6.8nm,1.2s,baz=106,slow=9.6,SNR=11						
SIV				LR	LR	08 52 30.4	
	comp=Z,1μm,18.8s,baz=104,slow=34						
	comp=Z,6.8nm,1.2s						
MT03	**Universidad Ad**	**45.36**	**256**	P	**P**	**08 35 31.6**	**-0.6**
VILB	**Vilhena**	**46.40**	**287**	P	**P**	**08 35 40.2**	**-0.2**
VILB				IAmb	IAmb	08 35 42.0	
	comp=Z,47nm,1.8s						
GO02	**Mina Guanaco**	**47.76**	**267**	P	**P**	**08 35 50.6**	**-0.7**
LVC	**Limon Verde**	**48.34**	**270**	LR	LR	08 55 26.1	
	comp=Z,464nm,18.2s,baz=120,slow=35						
PB03	**IPOC Station P**	**49.29**	**270**	P	**P**	**08 36 02.0**	**-1.0**
PB03				IAmb	IAmb	08 36 03.3	
	comp=Z,51nm,1.4s						
BBTS	**Babate**	**49.70**	**358**	LR	LR	08 52 15.5	
	comp=Z,319nm,21.5s,baz=202,slow=30						
PB08	**IPOC Station P**	**49.72**	**273**	P	**P**	**08 36 05.4**	**-1.1**
GO01	**Chusmiza**	**49.98**	**273**	P	**P**	**08 36 07.2**	**-1.5**
GO01				IAmb	IAmb	08 36 08.1	
	comp=Z,18nm,1.1s						
TOA0	**Torodi Ar. Sit**	**50.69**	**21**	P	**P**	**08 36 12.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**50.69**	**21**	P	**P**	**08 36 12.3**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=198,slow=8.7,SNR=14						
TORD				PcP	**PcP**	**08 37 32.6**	**+2.0**
	comp=Z,1.6nm,0.7s,baz=198,slow=7.8,SNR=3.8						
TORD				LR	LR	08 53 14.5	
	comp=Z,562nm,20.6s,baz=200,slow=31						
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**50.69**	**21**	P	**P**	**08 36 13.7**	**+0.4**
LPAZ	**La Paz**	**50.86**	**278**	P	**P**	**08 36 12.8**	**-2.7**
	comp=Z,1.1nm,0.7s,baz=214,slow=3.6,SNR=3.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPAZ				LR	LR	08 57 09.2	
	comp=Z,660nm,19.3s,baz=118,slow=35						
	comp=Z,1.1nm,0.7s						
ETMB	**Extrema**	**52.98**	**286**	P	**P**	**08 36 29.8**	**-0.8**
ETMB				IAmb	IAmb	08 36 31.4	
	comp=Z,40nm,1.5s						
MACA	**Manacapuru-AM**	**53.00**	**296**	P	**P**	**08 36 30.3**	**-0.4**
MACA				IAmb	IAmb	08 36 31.9	
	comp=Z,42nm,1.7s						
MAW	**Mawson**	**53.32**	**152**	P	**P**	**08 36 32.7**	**+0.4**
	comp=Z,4.4nm,1.0s,baz=252,slow=5.4,SNR=5.5						
MAW				LR	LR	08 54 45.1	
	comp=Z,373nm,20.7s,baz=285,slow=31						
	comp=Z,4.4nm,1.0s						
MDP	**Montagnes des**	**53.55**	**311**	LR	LR	08 57 58.1	
	comp=Z,789nm,18.2s,baz=138,slow=34						
MBAR	**Mbarara**	**54.73**	**61**	LR	LR	08 57 44.1	
	comp=Z,2µm,19.9s,baz=233,slow=33						
QSPA	**South Pole Qui**	**54.96**	**180**	LR	LR	08 57 29.1	
	comp=Z,188nm,19.0s,baz=210,slow=33						
QSPA	**South Pole Qui**	**54.96**	**180**	P	**P**	**08 36 47.3**	**+2.7**
QSPA				IAmb	IAmb	08 36 48.0	
	comp=Z,58nm,1.6s						
KMBO	**Kilima Mbogo**	**59.17**	**67**	LR	LR	09 00 60.0	
	comp=Z,40nm,18.8s,baz=266,slow=34						
TBTG	**Tabatinga, AM**	**59.32**	**288**	P	**P**	**08 37 15.4**	**-0.5**
TBTG				IAmb	IAmb	08 37 16.0	
	comp=Z,82nm,1.5s						
CZSB	**Cruzeiro do Su**	**59.37**	**283**	P	**P**	**08 37 14.4**	**-1.8**
CZSB				IAmb	IAmb	08 37 15.3	
	comp=Z,66nm,1.6s						
NNA	**Nana**	**60.27**	**276**	LR	LR	09 03 46.4	
	comp=Z,326nm,18.2s,baz=148,slow=36						
ATAH	**Atahualpa**	**64.28**	**280**	P	**P**	**08 37 49.1**	**-0.7**
	comp=Z,8.2nm,1.2s,baz=130,slow=11,SNR=7.8						
ATAH				LR	LR	09 06 09.2	
	comp=Z,307nm,18.1s,baz=149,slow=36						
	comp=Z,8.2nm,1.2s						
PCRV	**Puerto La Cruz**	**65.15**	**304**	LR	LR	09 03 53.2	
	comp=Z,1µm,21.0s,slow=34						
BOSC	**San Juan Bosco**	**66.71**	**283**	P	**P**	**08 38 05.0**	**-0.2**
BOSC				IAmb	IAmb	08 38 06.1	
	comp=Z,45nm,1.7s						
SBA	**Scott Base**	**67.12**	**180**	P	**P**	**08 38 10.1**	**+3.4**
SBA				IAmb	IAmb	08 38 10.5	
	comp=Z,24nm,1.4s						
MCRA	**Macar, Loja**	**67.15**	**281**	P	**P**	**08 38 07.2**	**-0.7**
MCRA				IAmb	IAmb	08 38 07.5	
	comp=Z,18nm,1.6s						
VNDA	**Vanda**	**67.44**	**179**	P	**P**	**08 38 08.9**	**+0.1**
	comp=Z,2.5nm,1.1s,baz=201,slow=7.2,SNR=7.5						
VNDA				LR	LR	09 06 15.9	
	comp=Z,77nm,18.6s,baz=192,slow=35						
	comp=Z,2.5nm,1.1s						
VNDA	**Vanda**	**67.44**	**179**	P	**P**	**08 38 11.0**	**+2.2**
COHC	**Cochancay**	**67.72**	**283**	P	**P**	**08 38 11.6**	**+0.1**
SDV	**Santo Domingo**	**68.43**	**299**	LR	LR	09 06 54.0	
	comp=Z,587nm,18.4s,baz=139,slow=35						
MDT	**Midelt**	**68.44**	**9**	LR	LR	09 04 22.2	
	comp=Z,262nm,20.3s,baz=194,slow=33						
ROSC	**El Rosal**	**68.45**	**293**	P	**P**	**08 38 17.0**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=156,slow=20,SNR=3.8						
ROSC				LR	LR	09 07 07.2	
	comp=Z,2µm,18.1s,baz=161,slow=35						
	comp=Z,2.5nm,0.3s						
TULM	**Tulcn-Chalpat**	**68.50**	**287**	P	**P**	**08 38 16.7**	**-0.3**
ATD	**Arta Tunnel**	**71.76**	**61**	LR	LR	09 08 25.0	
	comp=Z,580nm,18.2s,baz=178,slow=34						
SJG	**San Juan**	**71.94**	**309**	LR	LR	09 10 19.7	
	comp=Z,172nm,18.2s,baz=106,slow=36						
KEST	**Kesra**	**74.20**	**20**	LR	LR	09 09 30.5	
	comp=Z,495nm,18.3s,baz=178,slow=34						
ESDC	**Sonseca Array**	**75.28**	**9**	LR	LR	09 09 44.1	
	comp=Z,131nm,18.4s,baz=173,slow=34						
ESDC	**Sonseca Array**	**75.28**	**9**	P	**P**	**08 38 57.3**	**+0.8**
VAE	**Valguarnera**	**77.37**	**24**	LR	LR	09 11 44.0	
	comp=Z,129nm,18.1s,baz=156,slow=34						
RPN	**Rapa Nui**	**78.16**	**245**	LR	LR	09 08 57.5	
	comp=Z,276nm,19.2s,baz=110,slow=32						
EIL	**Elat**	**79.91**	**43**	LR	LR	09 13 12.9	
	comp=Z,377nm,18.2s,baz=238,slow=34						
JTS	**Las Juntas de**	**80.02**	**290**	LR	LR	09 12 58.1	
	comp=Z,301nm,21.1s,baz=189,slow=34						
DAVOX	**Davos/Dischmat**	**84.70**	**17**	LR	LR	09 14 18.5	
	comp=Z,178nm,21.5s,baz=175,slow=33						
BRTR	**Keskin Array B**	**87.07**	**35**	LR	LR	09 17 09.1	
	comp=Z,64nm,22.0s,baz=193,slow=34						
GERES	**GERESS Array B**	**87.57**	**18**	LR	LR	09 17 50.9	
	comp=Z,151nm,18.3s,baz=230,slow=35						
MLR	**Muntele Rosu**	**88.50**	**27**	LR	LR	09 17 16.5	
	comp=Z,83nm,21.3s,baz=246,slow=34						
VRAC	**Vranov**	**88.77**	**20**	LR	LR	09 17 57.5	
	comp=Z,135nm,20.1s,baz=208,slow=34						
WSAR	**Wadi Sarin**	**90.75**	**62**	LR	LR	09 19 35.8	
	comp=Z,290nm,19.8s,baz=227,slow=35						
CMIG	**Matias Romero**	**91.78**	**290**	LR	LR	09 19 25.6	
	comp=Z,224nm,21.7s,baz=139,slow=34						
GNI	**Garni**	**93.04**	**42**	LR	LR	09 20 45.5	
	comp=Z,120nm,20.1s,baz=229,slow=34						
AKASG	**Malin Array Be**	**94.06**	**26**	LR	LR	09 23 44.3	
	comp=Z,69nm,18.2s,baz=194,slow=36						
TKL	**Tuckaleechee C**	**95.34**	**310**	LR	LR	09 21 53.1	
	comp=Z,60nm,18.9s,baz=144,slow=34						
H01W2	**Cape Leeuwin H**	**95.54**	**140**	T	T	10 28 11.0	
	baz=219,slow=74						
H01W3	**Cape Leeuwin H**	**95.55**	**140**	T	T	10 28 12.4	
	baz=219,slow=74						
H01W1	**Cape Leeuwin H**	**95.55**	**140**	T	T	10 28 11.7	
	baz=219						
PCHI	**Peechi**	**97.05**	**82**	*e*P	Pdif	08 40 46.9	+0.7
HFS	**Hagfors**	**97.97**	**14**	LR	LR	09 23 46.9	
	comp=Z,79nm,18.4s,baz=230,slow=35						
NOA	**NORSAR Array B**	**98.34**	**13**	LR	LR	09 24 41.2	
	comp=Z,92nm,18.4s,baz=200,slow=35						
NWAO	**Narrogin (SRO)**	**98.68**	**141**	LR	LR	09 15 15.4	
	comp=Z,125nm,20.6s,baz=88,slow=29						
PALK	**Pallekele**	**98.77**	**87**	LR	LR	09 21 59.9	
	comp=Z,211nm,18.2s,baz=339,slow=33						
GEYT	**Alibeck**	**99.42**	**50**	LR	LR	09 24 57.3	
	comp=Z,397nm,20.1s,baz=246,slow=35						
BORG	**Borgarnes**	**99.83**	**357**	LR	LR	09 20 23.5	
	comp=Z,44nm,18.1s,baz=202,slow=32						
TBI	**Tubuai**	**107.48**	**223**	*e*LR	LR	09 17 00.8	
	comp=Z,829nm,26.5s						
PPT2	**Papeete2**	**112.05**	**227**	*e*LR	LR	09 19 08.8	
	comp=Z,301nm,30.0s						
TAOE	**Nuku Hiva Isla**	**112.21**	**241**	*e*LR	LR	09 19 12.0	
	comp=Z,190nm,32.5s						
TNCH	**TengChong**	**122.52**	**81**	*e*P	**PKPdf**	**08 46 09.8**	**+0.1**
TNCH				pP	sPKPdf	08 46 18.2	+5.5
TNCH				pmax	pmax		
	comp=Z,73nm,0.5s						
DZM	**Mont Dzumac**	**122.94**	**182**	*e*LR	LR	09 24 15.4	
	comp=Z,197nm,23.4s						
PZH	**PanZhiHua**	**125.78**	**81**	PKP	**PKPdf**	**08 46 15.7**	**-0.1**
LZH	**Lanzhou**	**131.03**	**70**	*e*PKP	**PKiKP**	**08 46 26.8**	**+0.3**
LZH				sPKP		08 46 34.2	
HHC	**Hu-ho-hao-te**	**138.08**	**66**	*e*P	**PKPdf**	**08 46 36.9**	**-1.7**
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,4.8s						
HHC				LR	LR		
	comp=N,240nm,17.1s						
HHC				LR	LR		
	comp=E,280nm,16.5s						
HHC				LR	LR		
	comp=Z,470nm,17.1s						
ILAR	**Eielson Array**	**138.93**	**331**	PKP	**PKPdf**	**08 46 38.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=46,slow=2.6,SNR=2.8						
NJ2	**Nanjing**	**141.69**	**81**	*e*P	**PKPdf**	**08 46 42.8**	**-2.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						

*NEIC **01** 08:29:39.5±2.4, 16.°0S±0.°1×74.°2W±0.°1, h75km±17km, mb4.1/4, Error ellipse: s-maj=24.2km s-min=10.9km az=48.0*

*IDC **01** 08:29:39.5±2.6, 16.°27S×74.°49W, h73km±22km, mb3.2/2, mbtmp3.8/7, MS2.8/1, Error ellipse: s-maj=44.9km s-min=17.3km az=31.0*

ISC 01 08:29:36.9±0.9**, 16.°34S**±0.°08×**74.°43W**±0.°09**, h50**km**, n37,** σ**2.s77**/37**, mb3.9**/3**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**4.53**	**121**	Pn	**Pn**	**08 30 43.4**	**+0.4**
PB12	**IPOC Station P**	**4.53**	**121**	*e*P	**Pn**	**08 30 43.5**	**+0.4**
PB12				*e*S	**Sn**	**08 31 34.4**	**0.0**
NNA	**Nana**	**4.91**	**331**	P	**Pn**	**08 30 48.6**	**+0.3**
	26nm,0.3s,baz=136,slow=11,SNR=18						
NNA				S	**Sn**	**08 31 48.4**	**+4.5**
	145nm,0.3s,baz=217,slow=15,SNR=9.8						
NNA	**Nana**	**4.91**	**331**	Pn	**Pn**	**08 30 48.4**	**0.0**
PB16	**IPOC Station P**	**5.11**	**114**	Pn	**Pn**	**08 30 54.0**	**+2.6**
PB16	**IPOC Station P**	**5.11**	**114**	*e*P	**Pn**	**08 30 54.4**	**+3.0**
PB16				*e*S	**Sn**	**08 31 54.2**	**+4.7**
TA01	**Diego Aracena**	**5.83**	**137**		**Pn**	**08 31 03.0**	**+2.2**
TA01	**Diego Aracena**	**5.83**	**137**	*e*P	**Pn**	**08 31 02.9**	**+2.1**
HMBC	**Humberstone**	**5.83**	**133**	*e*P	**Pn**	**08 31 02.9**	**+1.9**
HMBC				*e*S	**Sn**	**08 32 07.1**	**+0.4**
GO01	**Chusmiza**	**5.99**	**124**		**Pn**	**08 31 05.3**	**+1.9**
GO01	**Chusmiza**	**5.99**	**124**	*e*P	**Pn**	**08 31 05.8**	**+2.4**
GO01				*e*S	**Sn**	**08 32 10.3**	**-0.6**
LPAZ	**La Paz**	**6.05**	**90**	P	**Pn**	**08 31 06.8**	**+2.4**
	8.0nm,0.4s,baz=272,slow=10,SNR=54						
LPAZ				S	**Sn**	**08 32 19.4**	**+6.6**
	2.3nm,0.6s,baz=160,slow=18,SNR=0.8						
LPAZ				LR	LR	08 33 36.8	
	comp=Z,89nm,19.8s,baz=294,slow=39						
LPAZ	**La Paz**	**6.05**	**90**	Pn	**Pn**	**08 31 06.3**	**+1.8**
LPAZ	**La Paz**	**6.05**	**90**	*e*P	**Pn**	**08 31 07.3**	**+2.8**
LPAZ				*i* S	**Sn**	**08 32 16.1**	**+3.3**
LVC	**Limon Verde**	**8.13**	**141**	P	**Pn**	**08 31 36.6**	**+3.9**
	2.3nm,0.3s,baz=312,slow=12,SNR=10						
LVC				S	**Sn**	**08 33 02.1**	**-1.3**
	4.0nm,0.5s,baz=285,slow=14,SNR=2.0						
CZSB	**Cruzeiro do Su**	**8.72**	**11**	Pn	**Pn**	**08 31 36.8**	**-3.7**
ATAH	**Atahualpa**	**9.93**	**337**	P	**Pn**	**08 31 59.8**	**+2.3**
	2.4nm,0.5s,baz=71,slow=22,SNR=2.6						
ATAH				S	**Sn**	**08 33 50.4**	**+2.6**
	5.9nm,0.7s,baz=141,slow=7.8,SNR=2.1						
ETMB	**Extrema**	**10.30**	**52**	Pn	**Pn**	**08 31 58.1**	**-4.0**
SIV	**San Ignacio**	**12.84**	**90**	P	**Pn**	**08 32 38.4**	**+1.5**
	0.7nm,0.4s,baz=263,slow=10.0,SNR=6.9						
MCRA	**Macar, Loja**	**13.07**	**335**		**Pn**	**08 32 40.8**	**+0.8**
BOSC	**San Juan Bosco**	**13.70**	**343**		**Pn**	**08 32 47.8**	**-0.9**
CHSH	**Refugio Sur-Vo**	**15.38**	**343**		**Pn**	**08 33 10.1**	**-1.3**
CHSH				IAmb	IAmb	08 33 26.5	
	comp=Z,8.3nm,0.7s						
H03N1	**Juan Fernandez**	**17.51**	**193**	T	T	08 52 22.4	
	baz=14,slow=74,SNR=1404						
H03N2	**Juan Fernandez**	**17.51**	**193**	T	T	08 52 21.8	
	baz=14,slow=74,SNR=1608						
H03N3	**Juan Fernandez**	**17.52**	**193**	T	T	08 52 21.2	
	baz=14,slow=74,SNR=1632						
MACA	**Manacapuru-AM**	**18.82**	**47**	P	**P**	**08 33 49.1**	**-3.5**
MACA				IAmb	IAmb	08 33 53.8	
	comp=Z,7.1nm,0.6s						
RUSC	**La Rusia**	**22.13**	**4**	P	**P**	**08 34 25.1**	**-3.9**
RUSC				IAmb	IAmb	08 34 30.9	
	comp=Z,14nm,1.4s						
BAUV	**El Baul**	**25.90**	**15**	P	**P**	**08 35 00.5**	**-3.9**
TXAR	**Lajitas Array**	**53.46**	**328**	P	**P**	**08 38 52.4**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=138,slow=9.6,SNR=1.9						
	comp=Z,0.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.73**	**73**	P	**P**	**08 41 44.2**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=258,slow=5.1,SNR=4.8						
	comp=Z,0.9nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**121.84**	**283**	T	T	11 02 05.7	
	baz=98						
H11N2	**WAKE ISLAND Hy**	**121.85**	**283**	T	T	11 02 10.8	
	baz=98						
H11N1	**WAKE ISLAND Hy**	**121.86**	**283**	T	T	11 02 14.7	
	baz=98						
H11S2	**WAKE ISLAND Hy**	**121.87**	**282**	T	T	11 02 10.8	
	baz=99,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**121.87**	**282**	T	T	11 02 11.8	
	baz=99,slow=75,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**121.88**	**282**	T	T	11 02 14.1	
	baz=99,slow=75,SNR=6.8						
SONM	**Songino Array**	**148.58**	**359**	PKPbc	**PKPbc**	**08 49 18.9**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=353,slow=3.6,SNR=2.3						

*REN **01** 08:52:17.9±1.3, 38.°66N±0.°01×118.°79W±0.°02, h9km±5km, ML2.7/30, ML2.6/48(NEIC), Error ellipse: s-maj=2.0km s-min=1.7km az=222.0*

NEIC 01 08:52:18.3±1.2**, 38.°66N**±0.°01×**118.°79W**±0.°01**, h8**km±3km**, Error ellipse: s-maj=1.8km s-min=1.6km az=211.0, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.21**	**174**		Pg	08 52 22.6	-0.1
TVH1					Sg	08 52 25.8	+0.2
RYN	**Ryan**	**0.21**	**99**		Pg	08 52 22.8	+0.1
RYN					Sg	08 52 26.1	+0.4
RYN	**Ryan**	**0.21**	**99**	IAML		08 52 26.2	
	comp=E,6µm,0.1s						
NV09	**Mina Array Sit**	**0.43**	**122**		Pg	08 52 26.5	-0.1
NVAR	**Mina Array Bea**	**0.45**	**121**		Pg	08 52 26.8	-0.3
NV08	**Mina Array Sit**	**0.45**	**125**		Pg	08 52 26.9	-0.2
LHV	**Little Huntoon**	**0.47**	**151**		Pg	08 52 27.6	+0.2
LHV					Sg	08 52 34.4	+0.8
LHV	**Little Huntoon**	**0.47**	**151**	IAML		08 52 34.7	
	comp=E,1µm,0.5s						
YERR	**Yerington**	**0.47**	**313**		Pg	08 52 27.6	0.0
YERR					Sg	08 52 34.5	+0.8
YERR	**Yerington**	**0.47**	**313**	IAML		08 52 35.4	
	comp=E,841nm,0.2s						
YERR				IAML		08 52 35.9	
	comp=N,549nm,0.4s						
WAKR	**Walker**	**0.53**	**253**		Pg	08 52 28.8	+0.2
WAKR					Sg	08 52 36.1	+0.6
WAKR	**Walker**	**0.53**	**253**	IAML		08 52 36.4	
	comp=N,375nm,0.4s						
WAKR				IAML		08 52 37.8	
	comp=E,283nm,0.3s						
NV11	**Mina Array Sit**	**0.55**	**115**		Pg	08 52 28.8	-0.2
NV11					Sg	08 52 36.5	+0.2
NV11	**Mina Array Sit**	**0.55**	**115**	IAML		08 52 37.1	
	comp=E,161nm,0.6s						
NV11				IAML		08 52 37.5	
	comp=N,171nm,0.4s						
KVN	**Kaiserville**	**0.67**	**54**		Pg	08 52 30.9	-0.2
KVN					Sg	08 52 40.1	+0.3
KVN	**Kaiserville**	**0.67**	**54**	IAML		08 52 42.5	
	comp=E,303nm,0.2s						
KVN				IAML		08 52 42.7	
	comp=N,257nm,0.2s						
LUL	**Lundy Lake**	**0.68**	**207**		Pg	08 52 31.5	+0.1
PNTR	**Pine Nut**	**0.76**	**304**		Pg	08 52 32.9	-0.1
PNTR					Sg	08 52 43.6	+0.8
PNTR	**Pine Nut**	**0.76**	**304**	IAML		08 52 43.9	
	comp=N,210nm,0.5s						
PNTR				IAML		08 52 44.1	
	comp=E,287nm,0.4s						
ANTCA	**Antelope Range**	**0.77**	**166**		Pg	08 52 32.8	-0.3
VCNR	**Virginia City**	**0.92**	**314**		Pg	08 52 35.7	-0.2
VCNR					Sb	08 52 48.7	-0.4
BENR	**Benton**	**0.96**	**170**		Pg	08 52 36.4	-0.5
MCBM	**Casa Benchmark**	**1.02**	**185**		Pg	08 52 37.8	-0.1
MCBM					Sb	08 52 51.8	-0.2
MLAC	**Mammoth, Mammo**	**1.03**	**182**		Pg	08 52 37.9	-0.3
ORC	**Owens River**	**1.03**	**174**		Pg	08 52 37.7	-0.5
MDPB	**Devils Postpil**	**1.05**	**192**		Pg	08 52 37.9	-0.6
EMB	**Emerald Bay**	**1.07**	**287**		Pg	08 52 38.5	-0.3
EMB					Sb	08 52 53.2	-0.2
EMB	**Emerald Bay**	**1.07**	**287**	IAML		08 52 57.2	
	comp=E,263nm,0.7s						
MLNR	**Milner Canyon**	**1.13**	**161**		Pg	08 52 39.4	-0.5
PAHR	**Pah Rah Range**	**1.14**	**336**		Pg	08 52 39.6	-0.5
PAHR					Sb	08 52 55.5	+0.1
PAHR	**Pah Rah Range**	**1.14**	**336**	IAML		08 52 56.8	
	comp=E,119nm,0.3s						
PAHR				IAML		08 52 58.0	
	comp=N,243nm,0.6s						
MPK	**Martis Peak**	**1.15**	**304**		Pg	08 52 40.1	-0.4
MPK					Sb	08 52 56.0	+0.2
MPK	**Martis Peak**	**1.15**	**304**	IAML		08 52 59.4	
	comp=N,232nm,0.9s						
MPK				IAML		08 53 01.4	
	comp=E,214nm,0.8s						
Q09A	**Carvers**	**1.27**	**82**		Pn	08 52 42.1	-0.5
SCHCA	**Scheelite**	**1.30**	**176**		Pn	08 52 42.7	-0.4
PEAR	**Peavine Mounta**	**1.31**	**316**		Pn	08 52 42.9	-0.2
POCCA	**Poleta Canyon**	**1.36**	**163**		Pn	08 52 43.6	-0.2
TPH	**Tonopah**	**1.37**	**115**		Pn	08 52 43.2	-0.7
DONR	**Donner Summit**	**1.37**	**300**		Pn	08 52 43.8	-0.2
BABR	**Babbit Peak**	**1.39**	**313**		Pn	08 52 44.2	-0.1
CMB	**Columbia Colle**	**1.40**	**244**		Pn	08 52 44.1	-0.1
CMB	**Columbia Colle**	**1.40**	**244**	Pn	Pn	08 52 43.8	-0.4
CMB	**Columbia Colle**	**1.40**	**244**	IAML		08 53 06.3	
	comp=E,70nm,0.6s						
CMB				IAML		08 53 10.6	
	comp=N,72nm,0.6s						
DSP	**Deep Springs**	**1.45**	**153**		Pn	08 52 44.9	+0.2
MZP	**Montezuma Peak**	**1.47**	**130**		Pn	08 52 45.3	0.0
LOY	**Loyalton**	**1.50**	**312**		Pb	08 52 46.1	-0.4
WVA	**Winnemucca Val**	**1.51**	**328**		Pb	08 52 46.2	-0.4
WVA					Sg	08 53 07.9	+1.1
TIN	**Tinemaha, Big**	**1.67**	**164**		Pb	08 52 49.2	-0.1
LCH	**Last Change Ra**	**1.69**	**147**		Pn	08 52 48.1	-0.2
BEKR	**Beckworth**	**1.71**	**315**		Pn	08 52 48.9	+0.3
AFDM	**Forest Hills D**	**1.73**	**280**		Pn	08 52 49.2	+0.5
GMN	**Gold Mountain**	**1.82**	**138**		Pn	08 52 50.0	-0.2
GRAC	**Grapevine Rang**	**2.01**	**145**		Pn	08 52 53.0	+0.4
GRAC				IAML		08 53 03.2	
	comp=N,34nm,0.7s						
GRAC				IAML		08 53 26.6	
	comp=E,34nm,0.5s						
PLTX	**Planet X, Gerl**	**2.10**	**346**		Pn	08 52 53.3	-0.7
BMN	**Battle Mountai**	**2.14**	**34**		Pn	08 52 54.2	-0.3
SGV	**South Grapevin**	**2.18**	**140**		Pn	08 52 54.9	-0.2
ORV	**Oroville**	**2.29**	**294**		Pn	08 52 56.6	+0.3
R11A	**Troy Canyon, C**	**2.54**	**96**		Pn	08 52 59.5	-0.5
R11A				IAML		08 53 38.5	
	comp=N,35nm,0.6s						
R11A				IAML		08 53 39.1	
	comp=E,20nm,0.3s						
WCT	**Wildcat Mounta**	**2.54**	**137**		Pn	08 52 59.9	0.0
S11A	**Rachel**	**2.61**	**112**		Pn	08 53 00.0	-0.9
TPNV	**Topopah Spring**	**2.64**	**130**		Pn	08 52 59.4	-2.0
TPNV				IAML		08 53 47.1	
	comp=E,18nm,0.6s						
TPNV				IAML		08 53 54.9	
	comp=E,20nm,1.3s						
BBGB	**Big Mountain B**	**2.74**	**221**		Pn	08 53 01.1	-1.6
SDH	**Striped Hills**	**2.80**	**135**		Pn	08 53 04.1	+0.6
SAO	**San Andreas Ge**	**2.83**	**229**	Pn	Pn	08 53 03.0	-0.8
PMPB	**Monarch Peak**	**2.92**	**214**	Pn	Pn	08 53 03.8	-1.3
LBCM	**Butte Creek Ri**	**2.93**	**319**		Pn	08 53 07.1	+1.8
AMDNV	**Amargosa**	**2.98**	**137**		Pn	08 53 06.7	+0.9
GWY	**Greenwater Val**	**3.00**	**145**		Pn	08 53 05.2	-1.1
ISA	**Isabella, Lake**	**3.01**	**175**		Pn	08 53 05.1	-1.2
QSM	**Queen of Sheba**	**3.10**	**150**		Pn	08 53 07.7	+0.1
PRN	**Pahroc Range**	**3.21**	**112**	Pn	Pn	08 53 08.9	-0.2
MOD	**Modoc Plateau**	**3.44**	**341**		Pn	08 53 11.4	-0.9
ELK	**Elko**	**3.44**	**52**		Pn	08 53 12.6	+0.2
SPR3	**Spring Creek 3**	**3.50**	**83**		Pn	08 53 13.2	-0.1
SHPR	**Sheep Range**	**3.60**	**126**		Pn	08 53 15.0	+0.4
WVOR	**Wild Horse Val**	**3.77**	**2**	Pn	Pn	08 53 16.1	-0.7
PSUT	**Pine Spring**	**3.87**	**90**		Pn	08 53 16.6	-1.8
CCUT	**Cedar City**	**4.42**	**103**		Pn	08 53 26.1	+0.1

*IDC **01** 08:56:10.7±0.9, 23.°28S×66.°60W, h198km±9km, mb3.3/7, mbtmp4.0/13, Error ellipse: s-maj=16.0km s-min=13.4km az=178.0*

*NEIC **01** 08:56:11.6±2.3, 23.°38S±0.°07×66.°66W±0.°09, h204km±7km, mb4.3/25, Md3.5(SJA), Error ellipse: s-maj=12.5km s-min=9.8km az=83.0*

*VAO **01** 08:56:17.7±0.9, 22.°83S×66.°25W, h235km±6km, mb4.4*

ISC 01 08:56:11.0±0.6**, 23.°30S**±0.°04×**66.°66W**±0.°06**, h203**km±7km**, n112,** σ**1.s21**/129**, mb4.2**/17**, 13C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.44**	**283**		**Pn**	**08 56 46.9**	**+2.1**
AF01	**San Pedro de A**	**1.44**	**283**	⇑*i*P	**Pn**	**08 56 46.9**	**+2.1**
LVC	**Limon Verde**	**2.18**	**288**	P	**Pn**	**08 56 53.2**	**+1.1**
	375nm,0.4s,baz=113,slow=6.3,SNR=1093						
LVC				S	**S**	**08 57 23.6**	**+0.2**
	508nm,0.3s,baz=108,slow=8.0,SNR=12						
LVC	**Limon Verde**	**2.18**	**288**	⇑*i*P	**Pn**	**08 56 52.9**	**+0.8**
LVC				*e*S	**S**	**08 57 23.7**	**+0.4**
PB15	**IPOC Station P**	**2.58**	**271**		**Pn**	**08 56 57.0**	**+0.7**
PB15	**IPOC Station P**	**2.58**	**271**	⇑*i*P	**Pn**	**08 56 57.0**	**+0.7**
PB15				*e*S	**S**	**08 57 30.2**	**-0.7**
PB06	**IPOC Station P**	**2.74**	**282**		**Pn**	**08 56 58.8**	**+0.7**
PB06	**IPOC Station P**	**2.74**	**282**	⇑*i*P	**Pn**	**08 56 58.8**	**+0.7**
PB06				*e*S	**S**	**08 57 33.5**	**-0.5**
PB06				IAML		08 57 36.3	
	comp=E,3µm,0.1s						
PB09	**IPOC Station P**	**2.81**	**302**		**Pn**	**08 57 00.1**	**+1.3**
PB09	**IPOC Station P**	**2.81**	**302**	⇑*i*P	**Pn**	**08 57 00.2**	**+1.3**
PB09				*e*S	**S**	**08 57 36.0**	**+0.5**
PB09				IAML		08 57 40.0	
	comp=N,1µm,0.2s						
PB03	**IPOC Station P**	**3.11**	**293**		**Pn**	**08 57 02.5**	**+0.1**
PB03	**IPOC Station P**	**3.11**	**293**	⇑*i*P	**Pn**	**08 57 02.7**	**+0.4**
PB03				*e*S	**S**	**08 57 40.6**	**-1.2**
GO02	**Mina Guanaco**	**3.25**	**235**	Pn	**Pn**	**08 57 04.2**	**0.0**
GO02	**Mina Guanaco**	**3.25**	**235**	⇑*i*P	**Pn**	**08 57 04.3**	**+0.1**
GO02				*e*S	**S**	**08 57 44.6**	**-0.5**
PB04	**IPOC Station P**	**3.35**	**286**	⇑*i*P	**Pn**	**08 57 05.5**	**+0.2**
PB04				*e*S	**S**	**08 57 45.1**	**-1.9**
PB01	**IPOC Station P**	**3.44**	**310**	⇑*i*P	**Pn**	**08 57 06.6**	**+0.4**
PB01				*e*S	**S**	**08 57 48.5**	**-0.4**
PB10	**IPOC Station P**	**3.58**	**266**	⇑*i*P	**Pn**	**08 57 07.9**	**+0.1**
PB10				*e*S	**S**	**08 57 49.2**	**-2.4**
PB14	**IPOC Station P**	**3.67**	**248**	⇑*i*P	**Pn**	**08 57 08.8**	**-0.4**
PB14				*e*S	**S**	**08 57 52.0**	**-2.1**
PB08	**IPOC Station P**	**3.90**	**323**	⇑*i*P	**Pn**	**08 57 13.4**	**+1.3**
PB08				*e*S	**S**	**08 57 59.9**	**+0.5**
PATCX	**Punta Patache**	**4.07**	**307**		**Pn**	**08 57 13.4**	**-0.5**
PATCX	**Punta Patache**	**4.07**	**307**	⇑*e*P	**Pn**	**08 57 13.3**	**-0.5**
PATCX				*e*S	**S**	**08 58 00.2**	**-2.5**
AC02	**Maricunga**	**4.17**	**212**	Pn	**Pn**	**08 57 15.5**	**0.0**
HMBC	**Humberstone**	**4.24**	**314**	*e*P	**Pn**	**08 57 16.3**	**+0.2**
HMBC				*e*S	**S**	**08 58 05.1**	**-1.6**
TA01	**Diego Aracena**	**4.25**	**309**		**Pn**	**08 57 15.3**	**-0.7**
TA01	**Diego Aracena**	**4.25**	**309**	*e*P	**Pn**	**08 57 15.3**	**-0.7**
TA01				*e*S	**S**	**08 58 03.5**	**-3.1**
TA02	**Huaiquique**	**4.41**	**312**		**Pn**	**08 57 17.1**	**-1.0**
TA02	**Huaiquique**	**4.41**	**312**	*e*P	**Pn**	**08 57 17.0**	**-1.1**
TA02				*e*S	**S**	**08 58 07.0**	**-3.3**
AC01	**Pan de Azucar**	**4.57**	**231**	Pn	**Pn**	**08 57 18.3**	**-1.7**
LCO	**Las Campanas**	**6.75**	**212**	Pn	**Pn**	**08 57 45.6**	**-2.7**
LPAZ	**La Paz**	**7.11**	**349**	P	**Pn**	**08 57 54.7**	**+1.4**
	comp=N,11nm,0.7s,baz=167,slow=11,SNR=55						
LPAZ				S	**S**	**08 59 11.6**	**-2.7**
	comp=N,3.3nm,0.6s,baz=166,slow=17,SNR=1.6						
LPAZ	**La Paz**	**7.11**	**349**		**Pn**	**08 57 53.9**	**+0.6**
LPAZ	**La Paz**	**7.11**	**349**	*e*P	**Pn**	**08 57 54.8**	**+1.4**
BBRB	**Robore, Bolivi**	**8.12**	**53**	*e*P	**Pn**	**08 58 03.5**	**-2.5**
BBSD	**Serra de San D**	**8.32**	**44**	*e*P	**Pn**	**08 58 07.7**	**-0.8**
SIV	**San Ignacio**	**8.97**	**37**	P	**Pn**	**08 58 15.7**	**-1.4**
	comp=N,19nm,0.6s,baz=216,slow=10,SNR=118						
SIV				S	S	08 59 43.9	-14
	comp=N,3.6nm,0.8s,baz=226,slow=17,SNR=1.0						
CPUP	**Villa Florida**	**9.00**	**112**	P	**Pn**	**08 58 16.2**	**-1.1**
	comp=N,4.0nm,0.8s,baz=283,slow=11,SNR=6.5						
ANTJ	**Antonio Joao (**	**9.93**	**85**	*e*P	**Pn**	**08 58 28.5**	**-0.9**
PTLB	**Pontes e Lacer**	**10.55**	**44**	Pn	**Pn**	**08 58 36.9**	**-0.4**
PTLB	**Pontes e Lacer**	**10.55**	**44**	*e*P	**Pn**	**08 58 36.5**	**-0.9**
AQDB	**Aquidauana**	**10.56**	**77**	*e*P	**Pn**	**08 58 37.8**	**+0.3**
VILB	**Vilhena**	**11.98**	**32**	Pn	**Pn**	**08 58 57.3**	**+1.6**
VILB	**Vilhena**	**11.98**	**32**	*e*P	**Pn**	**08 58 54.6**	**-1.1**
CRSM	**Crissiumal (Br**	**12.15**	**113**	*e*P	**P**	**08 59 02.7**	**+0.6**
RPRD	**Ribas do Rio P**	**12.36**	**79**	*e*P	**Pn**	**08 59 00.7**	**+0.3**
RODS	**Rosario do Sul**	**12.41**	**127**	*e*P	**P**	**08 59 05.8**	**+0.9**
FRBT	**Francisco Belt**	**12.65**	**105**	*e*P	**P**	**08 59 08.4**	**+0.6**
SALV	**Santo Antonio**	**12.68**	**57**	*e*P	**Pn**	**08 59 03.9**	**-0.6**
TRCB	**Terra Rica**	**12.93**	**91**	P	**P**	**08 59 09.4**	**-1.4**
TRCB	**Terra Rica**	**12.93**	**91**	*e*P	**P**	**08 59 09.6**	**-1.2**
ML02	**Panimavida**	**13.09**	**197**		**Pn**	**08 59 09.3**	**-0.1**
ETMB	**Extrema**	**13.41**	**2**	P	**Pn**	**08 59 13.3**	**-0.3**
PLTB	**Pedras Altas**	**14.32**	**129**	P	**Pn**	**08 59 25.2**	**+0.4**
TRQA	**Tornquist**	**15.25**	**166**	P	**Pn**	**08 59 34.4**	**-1.8**
TRQA				IAmb	IAmb	08 59 56.7	
	comp=Z,24nm,1.4s						
PLCA	**Paso Flores**	**17.69**	**190**	P	**P**	**09 00 03.5**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=11,slow=10,SNR=17						
PLCA	**Paso Flores**	**17.69**	**190**	P	**P**	**09 00 03.3**	**0.0**
PLCA				IAmb	IAmb	09 00 16.4	
	comp=Z,21nm,1.4s						
IPMB	**Ipameri, GO**	**18.05**	**76**	*e*P	**P**	**09 00 07.3**	**-0.1**
VAO	**Valinhos**	**18.12**	**93**	*e*P	**P**	**09 00 07.8**	**-0.3**
LL04	**Puerto Octay**	**18.22**	**194**	P	**P**	**09 00 08.2**	**-0.7**
LL04				IAmb	IAmb	09 00 09.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,15nm,0.8s						
SNDB	**Serra Nova Dou**	**18.45**	**55**	*e*P	**P**	**09 00 11.0**	**-0.7**
BDFB	**Brasilia**	**19.15**	**70**	P	**P**	**09 00 19.4**	**+0.1**
	comp=Z,24nm,0.7s,baz=245,slow=11,SNR=30						
BDFB	**Brasilia**	**19.15**	**70**	P	**P**	**09 00 19.9**	**+0.6**
BDFB	**Brasilia**	**19.15**	**70**	*e*P	**P**	**09 00 18.8**	**-0.6**
PARB	**Paraibuna**	**19.33**	**94**	*e*P	**P**	**09 00 21.3**	**+0.2**
PMNB	**Patos De Minas**	**19.47**	**80**	*e*P	**P**	**09 00 22.1**	**-0.7**
NPGB	**Novo Progresso**	**19.47**	**36**	*e*P	**P**	**09 00 20.2**	**-2.5**
MACA	**Manacapuru-AM**	**20.84**	**17**	*e*P	**P**	**09 00 35.5**	**-1.7**
ITTB	**Itaituba**	**21.58**	**31**	*e*P	**P**	**09 00 42.5**	**-2.4**
AY01	**Puyuhuapi**	**21.64**	**192**	P	**P**	**09 00 43.8**	**-1.4**
JANB	**Januaria**	**22.62**	**73**	*e*P	**P**	**09 00 53.2**	**-1.7**
MCRA	**Macar, Loja**	**22.78**	**324**	P	**P**	**09 00 58.0**	**+1.7**
MCRA				IAmb	IAmb	09 00 59.5	
	comp=Z,6.3nm,0.8s						
SGCB	**S£o Gabriel d**	**23.04**	**359**	*e*P	**P**	**09 00 59.1**	**+0.5**
SMTB	**Santa Maria do**	**23.23**	**55**	*e*P	**P**	**09 00 59.3**	**-1.1**
SDBA	**SAO DESIDERIO**	**23.34**	**66**	*e*P	**P**	**09 01 00.1**	**-1.3**
PRPB	**Parauapebas**	**23.52**	**46**	*e*P	**P**	**09 01 01.8**	**-1.2**
MALB	**Monte Alegre**	**24.47**	**31**	*e*P	**P**	**09 01 09.8**	**-1.8**
GUA01	**Guaratinga, BA**	**26.09**	**80**	*e*P	**P**	**09 01 25.4**	**-0.8**
BOAV	**Boa Vista**	**26.23**	**14**	P	**P**	**09 01 27.2**	**-0.2**
BOAV				IAmb	IAmb	09 01 28.9	
	comp=Z,4.9nm,1.1s						
BOAV	**Boa Vista**	**26.23**	**14**	*e*P	**P**	**09 01 26.9**	**-0.5**
EFI	**East Falkland**	**29.10**	**169**	P	**P**	**09 01 52.1**	**-0.4**
BAUV	**El Baul**	**32.07**	**357**	P	**P**	**09 02 21.5**	**+2.5**
BAUV				IAmb	IAmb	09 03 03.2	
	comp=Z,15nm,1.4s						
URIC	**Uribia, Colomb**	**35.17**	**351**	P	**P**	**09 02 47.2**	**+1.4**
URIC				IAmb	IAmb	09 03 05.1	
	comp=Z,8.3nm,1.1s						
GRGR	**Grenville**	**35.55**	**8**	P	**P**	**09 02 49.3**	**+0.3**
FDF	**Fort de France**	**38.18**	**9**	P	**P**	**09 03 11.2**	**0.0**
BELA	**Belgrano 2**	**56.69**	**172**	P	**P**	**09 05 33.5**	**+0.7**
BELA				IAmb	IAmb	09 05 34.5	
	comp=Z,6.3nm,1.1s						
VNA3	**Neumayer Olymp**	**57.72**	**161**	P	**P**	**09 05 40.5**	**+0.4**
VNA1	**Neumayer--Stat**	**57.91**	**160**	P	**P**	**09 05 42.2**	**+0.9**
VNA2	**Neumayer--Watz**	**58.28**	**161**	P	**P**	**09 05 44.5**	**+0.5**
	baz=272,slow=8.0						
SNAA	**Sanae**	**59.91**	**161**	P	**P**	**09 05 55.5**	**+0.2**
SNAA	**Sanae**	**59.91**	**161**	P	**P**	**09 05 55.4**	**+0.2**
TROLL	**Troll, Antarti**	**61.62**	**161**	P	**P**	**09 06 07.5**	**+0.6**
TXAR	**Lajitas Array**	**63.29**	**324**	P	**P**	**09 06 18.6**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=150,slow=7.3,SNR=4.7						
TXAR				PcP	**PcP**	**09 06 54.1**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=142,slow=4.6,SNR=2.1						
	comp=Z,0.2nm,0.7s						
TXAR	**Lajitas Array**	**63.29**	**324**	P	**P**	**09 06 18.4**	**-0.1**
CCM	**Cathedral Cave**	**65.25**	**339**	P	**P**	**09 06 30.5**	**-0.4**
CCM				IAmb	IAmb	09 06 31.3	
	comp=Z,3.7nm,0.7s						
QSPA	**South Pole Qui**	**66.91**	**180**	P	**P**	**09 06 42.3**	**+1.0**
QSPA				IAmb	IAmb	09 06 42.9	
	comp=Z,7.9nm,0.7s						
VNDA	**Vanda**	**75.44**	**190**	P	**P**	**09 07 33.4**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=129,slow=5.5,SNR=5.5						
	comp=Z,0.8nm,0.9s						
VNDA	**Vanda**	**75.44**	**190**	P	**P**	**09 07 32.6**	**+0.6**
TOA0	**Torodi Ar. Sit**	**76.03**	**69**	P	**P**	**09 07 34.9**	**-1.5**
TOA0				IAmb	IAmb	09 07 37.1	
	comp=Z,3.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.03**	**69**	P	**P**	**09 07 35.2**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=255,slow=5.7,SNR=15						
	comp=Z,2.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.03**	**69**	P	**P**	**09 07 35.4**	**-1.0**
PDAR	**Pinedale Array**	**76.70**	**329**	P	**P**	**09 07 40.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=140,slow=7.2,SNR=4.8						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**78.19**	**321**	P	**P**	**09 07 49.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=145,slow=6.5,SNR=3.0						
	comp=Z,0.3nm,0.6s						
RLMT	**Red Lodge**	**78.38**	**331**	P	**P**	**09 07 50.4**	**+1.3**
HLID	**Hailey**	**79.67**	**327**	P	**P**	**09 07 58.1**	**+2.0**
HLID				IAmb	IAmb	09 07 58.8	
	comp=Z,6.4nm,1.1s						
PLID	**Pearl Lake**	**81.55**	**327**	P	**P**	**09 08 07.4**	**+1.2**
PLID				IAmb	IAmb	09 08 08.5	
	comp=Z,5.5nm,1.0s						
MAW	**Mawson**	**82.01**	**163**	P	**P**	**09 08 08.9**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=240,slow=8.1,SNR=4.6						
	comp=Z,2.9nm,0.9s						
MAW	**Mawson**	**82.01**	**163**	P	**P**	**09 08 08.9**	**+0.9**
BMO	**Blue Mountains**	**82.05**	**326**	P	**P**	**09 08 09.5**	**+1.0**
ESDC	**Sonseca Array**	**85.67**	**43**	P	**P**	**09 08 28.3**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=244,slow=5.6,SNR=4.1						
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**129.22**	**205**	PKP	**PKPdf**	**09 14 55.3**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=133,slow=2.0,SNR=7.0						
WRA	**Warramunga Arr**	**132.39**	**207**	PKP	**PKPdf**	**09 15 00.8**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=157,slow=1.8,SNR=10						
ZALV	**Zalesovo Beam**	**142.63**	**28**	PKhKP	PKPpre	09 15 13.3	
	comp=Z,0.8nm,0.5s,baz=302,slow=2.6,SNR=3.9						
MKAR	**Makanchi Array**	**145.79**	**39**	PKPbc	**PKPdf**	**09 15 25.4**	**0.0**
	comp=Z,3.8nm,0.8s,baz=307,slow=3.1,SNR=20						

---

*NEIC **01** 09:01:04.6±1.3, 17°.68N±0°.07×94°.63W±0°.06, h159km±13km, Error ellipse: s-maj=11.5km s-min=7.6km az=204.0*

*MEX **01** 09:01:05.7±0.5, 17°.74N×94°.62W, h164km±4km, MD4.1*

ISC 01 09:01:04.2±0.7**, 17°.68N**±0°.04×**94°.63W**±0°.03**, h166**km±6km**, n70,** σ**1s07**/109**, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.40**	**29**	*i* P	**Pn**	**09 01 27.2**	**+0.3**
TUIG				*e*S	**Sn**	**09 01 43.8**	**-0.6**
UXUV	**UXUV**	**0.59**	**128**	*i* P	**Pn**	**09 01 27.9**	**+0.2**
UXUV				*i* S	**Sn**	**09 01 45.0**	**-0.8**
CMIG	**Matias Romero**	**0.64**	**202**		**Pn**	**09 01 28.3**	**+0.2**
CMIG					**Sn**	**09 01 45.6**	**-0.7**
CMIG	**Matias Romero**	**0.64**	**202**	*i* P	**Pn**	**09 01 28.3**	**+0.2**
CMIG				*e*S	**Sn**	**09 01 45.6**	**-0.7**
PMUV	**Sontecomapan**	**0.98**	**331**	*i* P	**Pn**	**09 01 30.1**	**-0.3**
PMUV				*i* S	**Sn**	**09 01 49.2**	**-1.4**
NILT	**Santiago Nilte**	**1.11**	**179**	*i* P	**Pn**	**09 01 31.9**	**+0.5**
NILT				*e*S	**Sn**	**09 01 52.3**	**0.0**
NEUV	**Arroyo Zacate**	**1.12**	**272**	*e*P	**Pn**	**09 01 31.3**	**0.0**
NEUV				*i* S	**Sn**	**09 01 51.8**	**-0.5**
TGIG		**1.70**	**122**		**Pn**	**09 01 37.2**	**+0.2**
TGIG					**Sn**	**09 02 01.6**	**-0.9**
TGIG		**1.70**	**122**	*e*P	**Pn**	**09 01 37.2**	**+0.2**
TGIG				*e*S	**Sn**	**09 02 01.6**	**-0.9**
OXLC	**Oaxaca**	**2.07**	**253**	*e*P	**Pn**	**09 01 42.2**	**+0.9**
OXLC				*e*S	**Sn**	**09 02 11.6**	**+1.6**
OXBJ	**Oaxaca**	**2.09**	**253**		**Pn**	**09 01 42.2**	**+0.7**
OXBJ					**Sn**	**09 02 11.8**	**+1.5**
OXBJ	**Oaxaca**	**2.09**	**253**	*e*P	**Pn**	**09 01 42.2**	**+0.7**
OXBJ				*e*S	**Sn**	**09 02 11.8**	**+1.5**
OXIG	**Oaxaca**	**2.10**	**254**		**Pn**	**09 01 41.7**	**+0.1**
OXIG					**Sn**	**09 02 11.6**	**+1.1**
VHO	**Vista Hermosa**	**2.10**	**254**	*e*P	**Pn**	**09 01 41.7**	**+0.1**
VHO				*e*S	**Sn**	**09 02 11.6**	**+1.2**
TOIG	**Toxpalan**	**2.35**	**280**		**Pn**	**09 01 44.9**	**+0.5**
TOIG					**Sn**	**09 02 15.0**	**-0.6**
TOIG	**Toxpalan**	**2.35**	**280**	*e*P	**Pn**	**09 01 44.9**	**+0.5**
TOIG				*e*S	**Sn**	**09 02 15.0**	**-0.6**
HUIG	**Huatulco**	**2.37**	**217**		**Pn**	**09 01 42.9**	**-1.7**
HUIG					**Sn**	**09 02 14.9**	**-1.0**
HUIG	**Huatulco**	**2.37**	**217**	*e*P	**Pn**	**09 01 42.9**	**-1.7**
HUIG				*e*S	**Sn**	**09 02 14.9**	**-1.0**
PCIG		**2.39**	**145**		**Pn**	**09 01 44.9**	**+0.2**
PCIG					**Sn**	**09 02 15.2**	**-1.0**
PCIG		**2.39**	**145**	*e*P	**Pn**	**09 01 44.9**	**+0.2**
PCIG				*e*S	**Sn**	**09 02 15.2**	**-1.0**
OZST	**Orizaba**	**2.62**	**297**	*e*P	**Pn**	**09 01 47.4**	**-0.2**
OZST				*e*S	**Sn**	**09 02 19.4**	**-1.9**
LVIG	**Laguna Verde**	**2.64**	**320**	*e*P	**Pn**	**09 01 46.7**	**-1.1**
LVIG				*e*S	**Sn**	**09 02 18.6**	**-3.0**
JAUV	**Jalcomulco**	**2.66**	**309**	*i* P	**Pn**	**09 01 47.6**	**-0.4**
JAUV				*e*S	**Sn**	**09 02 19.6**	**-2.4**
TPIG	**Tehuac#an**	**2.70**	**286**		**Pn**	**09 01 49.3**	**+0.6**
TPIG					**Sn**	**09 02 22.4**	**-0.7**
TPIG	**Tehuac#an**	**2.70**	**286**	*e*P	**Pn**	**09 01 49.3**	**+0.6**
TPIG				*e*S	**Sn**	**09 02 22.4**	**-0.7**
CCIG	**Comitan**	**2.76**	**120**		**Pn**	**09 01 49.5**	**0.0**
YOIG	**Yosondua**	**2.90**	**254**		**Pn**	**09 01 50.9**	**-0.4**
YOIG					**Sn**	**09 02 27.9**	**+0.1**
YOIG	**Yosondua**	**2.90**	**254**	*e*P	**Pn**	**09 01 50.9**	**-0.4**
YOIG				*e*S	**Sn**	**09 02 27.9**	**+0.1**
PEIG	**Puerto Escondi**	**2.94**	**236**		**Pn**	**09 01 49.4**	**-2.0**
PEIG					**Sn**	**09 02 26.5**	**-1.6**
PEIG	**Puerto Escondi**	**2.94**	**236**	*e*P	**Pn**	**09 01 49.4**	**-2.0**
PEIG				*e*S	**Sn**	**09 02 26.5**	**-1.6**
TXIG	**Tlaxiaco**	**3.02**	**262**		**Pn**	**09 01 52.6**	**-0.2**
TXIG					**Sn**	**09 02 29.4**	**-1.1**
TXIG	**Tlaxiaco**	**3.02**	**262**	*e*P	**Pn**	**09 01 52.6**	**-0.2**
TXIG				*e*S	**Sn**	**09 02 29.4**	**-1.1**
HLIG	**Huajuapan de L**	**3.03**	**273**		**Pn**	**09 01 52.9**	**+0.2**
HLIG					**Sn**	**09 02 29.2**	**-1.2**
HLIG	**Huajuapan de L**	**3.03**	**273**	*e*P	**Pn**	**09 01 52.9**	**+0.2**
HLIG				*e*S	**Sn**	**09 02 29.2**	**-1.2**
FTIG	**Fresnillo de T**	**3.34**	**274**		**Pn**	**09 01 57.0**	**+0.4**
FTIG					**Sn**	**09 02 36.3**	**-1.1**
FTIG	**Fresnillo de T**	**3.34**	**274**	*e*P	**Pn**	**09 01 57.0**	**+0.4**
FTIG				*e*S	**Sn**	**09 02 36.3**	**-1.1**
PNIG	**Pinotepa**	**3.58**	**250**		**Pn**	**09 01 57.6**	**-2.0**
PNIG					**Sn**	**09 02 39.7**	**-2.9**
PNIG	**Pinotepa**	**3.58**	**250**	*e*	**Pn**	**09 01 57.6**	**-2.0**
PNIG				*e*		09 02 39.7	
CXUV	**Coxquihui**	**3.74**	**312**	*e*P	**Pn**	**09 02 02.1**	**+0.5**
CXUV				*i* S	**Sn**	**09 02 44.3**	**-1.9**
TLIG	**Tlapa**	**3.76**	**269**		**Pn**	**09 02 01.9**	**0.0**
PPM	**Popocatepetl**	**4.04**	**291**	*e*P	**Pn**	**09 02 07.6**	**+1.8**
PPM				*e*S	**Sn**	**09 02 54.1**	**+0.3**
PPIG	**Popocatepetl**	**4.04**	**291**		**Pn**	**09 02 07.6**	**+1.8**
PPIG					**Sn**	**09 02 54.1**	**+0.2**
RTAL	**Retalhuleu**	**4.22**	**138**	Pn	**Pn**	**09 02 07.7**	**0.0**
UNM	**Universidad Na**	**4.62**	**291**	Pn	**Pn**	**09 02 13.3**	**+0.2**
TEIG	**Tepich**	**6.52**	**66**	Pn	**Pn**	**09 02 35.2**	**-2.7**
MOIG	**Morelia**	**6.53**	**289**	Pn	**Pn**	**09 02 39.4**	**+1.2**
ORTG	**Ortega, Santa**	**11.49**	**128**	Pn	**Pn**	**09 03 44.5**	**+0.9**
DUNO	**Dulce Nombre,**	**11.65**	**129**	Pn	**Pn**	**09 03 46.0**	**+0.4**
JTS	**Las Juntas de**	**11.92**	**127**	Pn	**Pn**	**09 03 49.4**	**+0.3**
JACO	**JACO, Garabito**	**12.54**	**128**	Pn	**Pn**	**09 03 58.3**	**+1.3**
RIMA	**Rio Macho**	**13.08**	**126**	Pn	**Pn**	**09 04 05.0**	**+0.8**
BATAN	**Batan**	**13.27**	**123**	Pn	**Pn**	**09 04 06.7**	**+0.3**
SRBA	**San Rafael, Bu**	**13.80**	**126**	Pn	**Pn**	**09 04 14.3**	**+1.2**
TXAR	**Lajitas Array**	**14.25**	**326**	Pn	**Pn**	**09 04 19.2**	**+0.6**
TX31	**Lajitas Ar. Si**	**14.25**	**326**	Pn	**Pn**	**09 04 18.9**	**+0.3**
TX32	**Lajitas Array**	**14.25**	**326**	Pn	**Pn**	**09 04 18.8**	**+0.2**
MIAR	**Mount Ida**	**16.82**	**3**	P	**P**	**09 04 49.8**	**+0.4**
OK029	**Liberty Lake**	**18.22**	**353**	P	**P**	**09 05 04.8**	**+0.2**
OK029				IAmb	IAmb	09 05 06.5	
	comp=Z,7.3nm,0.7s						
FCAR	**Ozark Folk Cen**	**18.27**	**7**	P	**P**	**09 05 06.0**	**+0.8**
OK034	**N. Norfolk Rd.**	**18.35**	**355**	P	**P**	**09 05 06.2**	**+0.2**
OK034				IAmb	IAmb	09 05 20.4	
	comp=Z,7.6nm,1.0s						
QUOK	**Quay**	**18.51**	**355**	P	**P**	**09 05 07.9**	**+0.1**
QUOK				IAmb	IAmb	09 05 11.0	
	comp=Z,15nm,1.2s						
GOGA	**Godfrey**	**18.60**	**31**	P	**P**	**09 05 08.8**	**0.0**
GOGA				IAmb	IAmb	09 05 33.2	
	comp=Z,6.7nm,1.1s						
CPCT	**Cooper Cave**	**19.85**	**25**	P	**P**	**09 05 21.3**	**-1.0**
CPCT				IAmb	IAmb	09 05 28.7	
	comp=Z,7.5nm,1.3s						
U49A	**Red Boiling Sp**	**20.32**	**21**	P	**P**	**09 05 25.8**	**-1.6**
TKL	**Tuckaleechee C**	**20.34**	**26**	P	**P**	**09 05 26.0**	**-1.5**
TKL				IAmb	IAmb	09 05 48.2	
	comp=Z,6.8nm,1.2s						
T47A	**Sharon Grove**	**20.34**	**18**	P	**P**	**09 05 27.4**	**-0.2**
T47A				IAmb	IAmb	09 05 29.4	
	comp=Z,6.5nm,1.0s						
JSC	**Jenkinsville**	**20.40**	**33**	P	**P**	**09 05 28.6**	**+0.4**
V53A	**Saluda**	**20.76**	**28**	P	**P**	**09 05 32.5**	**+0.4**
V53A				IAmb	IAmb	09 05 44.3	
	comp=Z,9.9nm,1.4s						
T50A	**Nancy**	**21.11**	**22**	P	**P**	**09 05 35.8**	**0.0**
T50A				IAmb	IAmb	09 05 43.8	
	comp=Z,5.0nm,1.4s						
TZTN	**Tazewell**	**21.19**	**25**	P	**P**	**09 05 36.2**	**-0.4**

---

*NEIC **01** 09:03:21.8±1.4, 24°.2S±0°.1×179°.9E±0°.1, h510km±9km, mb4.2/24, Error ellipse: s-maj=21.8km s-min=15.1km az=155.0*

*IDC **01** 09:03:22.4±2.1, 24°.19S×179°.81E, h518km±22km, mb3.3/7, mbtmp4.3/10, Error ellipse: s-maj=22.7km s-min=18.6km az=140.0*

ISC 01 09:03:22.5±0.5**, 24°.14S**±0°.09×**179°.85E**±0°.08**, h526**km**, n51,** σ**0s92**/50**, mb4.1**/19**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.60**	**345**	P	**P**	**09 05 05.4**	**-0.5**
	3.9nm,0.4s,baz=294,slow=3.0,SNR=8.1						
MSVF	**Nonsavu**	**6.60**	**345**	P	**P**	**09 05 05.2**	**-0.7**
NIUE	**Niue**	**10.77**	**64**	P	**P**	**09 05 47.3**	**-0.9**
MARNC	**Mare, Loyalty**	**11.22**	**281**	P	**P**	**09 05 51.5**	**-1.4**
DZM	**Mont Dzumac**	**12.51**	**277**	P	**P**	**09 06 06.7**	**+0.3**
	5.1nm,0.5s,baz=143,slow=23,SNR=23						
DZM	**Mont Dzumac**	**12.51**	**277**	P	**P**	**09 06 07.7**	**+1.2**
AFI	**Afiamalu**	**12.89**	**39**	P	**P**	**09 06 08.2**	**-2.4**
URZ	**Urewera**	**14.26**	**189**	P	**P**	**09 06 22.5**	**-2.0**
	10nm,0.5s,baz=150,slow=3.1,SNR=11						
ARMA	**Armidale**	**25.80**	**250**	P	**P**	**09 08 12.9**	**+1.1**
ARMA				IAmb	IAmb	09 08 34.4	
	comp=Z,25nm,1.5s						
EIDS	**Eidsvold**	**26.13**	**261**	P	**P**	**09 08 13.9**	**-0.7**
EIDS				IAmb	IAmb	09 08 51.4	
	comp=Z,11nm,1.2s						
CTA	**Charters Tower**	**31.34**	**271**	P	**P**	**09 09 00.9**	**+0.9**
	comp=Z,11nm,0.3s,baz=95,slow=11,SNR=44						
	comp=Z,11nm,0.3s						
CTAO	**Charters Tower**	**31.34**	**271**	P	**P**	**09 09 00.9**	**+0.9**
TOO	**Toolangi**	**32.20**	**237**	P	**P**	**09 09 07.5**	**+0.4**
TOO				IAmb	IAmb	09 09 21.7	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**34.50**	**248**	P	**P**	**09 09 26.5**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=102,slow=11,SNR=7.8						
	comp=Z,1.6nm,0.4s						
STKA	**Stephens Creek**	**34.50**	**248**	P	**P**	**09 09 26.8**	**+0.1**
BBOO	**Buckleboo**	**39.22**	**247**	P	**P**	**09 10 04.9**	**-0.5**
BBOO				IAmb	IAmb	09 10 15.3	
	comp=Z,24nm,1.4s						
TAOE	**Nuku Hiva Isla**	**41.09**	**75**	P	**P**	**09 10 20.5**	**-0.2**
AS31	**Alice Springs**	**41.86**	**261**	P	**P**	**09 10 26.2**	**-0.5**
AS31				IAmb	IAmb	09 10 28.7	
	comp=Z,1.9nm,0.3s						
ASAR	**Alice Springs**	**41.86**	**261**	P	**P**	**09 10 26.6**	**0.0**
	comp=Z,1.3nm,0.3s,baz=94,slow=7.4,SNR=35						
	comp=Z,1.3nm,0.3s						
ASAR	**Alice Springs**	**41.86**	**261**	P	**P**	**09 10 25.2**	**-1.5**
WR0	**Warramunga Arr**	**42.06**	**266**	P	**P**	**09 10 27.7**	**-0.6**
WR0				IAmb	IAmb	09 10 53.9	
	comp=Z,8.1nm,1.4s						
WB2	**Warramunga Arr**	**42.24**	**266**	P	**P**	**09 10 29.3**	**-0.4**
WB2				IAmb	IAmb	09 10 29.9	
	comp=Z,8.7nm,1.1s						
WB0	**Warramunga Arr**	**42.24**	**267**	P	**P**	**09 10 29.4**	**-0.3**
WB0				IAmb	IAmb	09 10 29.9	
	comp=Z,4.7nm,0.7s						
WRA	**Warramunga Arr**	**42.25**	**266**	P	**P**	**09 10 29.3**	**-0.5**
	comp=Z,3.7nm,0.5s,baz=97,slow=8.4,SNR=76						
	comp=Z,3.7nm,0.5s						
WRA	**Warramunga Arr**	**42.25**	**266**	P	**P**	**09 10 29.2**	**-0.5**
FORT	**Forrest**	**46.09**	**250**	P	**P**	**09 10 58.6**	**-0.7**
MTN	**Manton Dam**	**47.33**	**275**	P	**P**	**09 11 08.5**	**-0.4**
KNRA	**Kununurra**	**48.55**	**270**	P	**P**	**09 11 18.3**	**+0.3**
VNDA	**Vanda**	**54.12**	**185**	P	**P**	**09 11 57.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=31,slow=6.6,SNR=2.3						
	comp=Z,0.3nm,0.6s						
VNDA	**Vanda**	**54.12**	**185**	P	**P**	**09 11 58.0**	**+0.6**
MBWA	**Marble Bar**	**55.19**	**260**	P	**P**	**09 12 05.4**	**-0.4**
MBWA				IAmb	IAmb	09 12 37.4	
	comp=Z,16nm,1.2s						
MORW	**Morawa**	**56.66**	**250**	P	**P**	**09 12 15.9**	**0.0**
MORW				IAmb	IAmb	09 12 45.9	
	comp=Z,22nm,1.3s						
CASY	**Casey**	**59.83**	**206**	P	**P**	**09 12 36.4**	**-0.2**
CASY				IAmb	IAmb	09 12 58.8	
	comp=Z,9.0nm,1.1s						
QSPA	**South Pole Qui**	**65.94**	**180**	P	**P**	**09 13 17.1**	**+1.0**
QSPA				IAmb	IAmb	09 13 17.8	
	comp=Z,2.4nm,0.8s						
BELA	**Belgrano 2**	**76.21**	**173**	P	**P**	**09 14 16.0**	**-0.1**
MAW	**Mawson**	**77.47**	**200**	P	**P**	**09 14 23.8**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=139,slow=9.3,SNR=2.3						
	comp=Z,1.3nm,0.6s						
MAW	**Mawson**	**77.47**	**200**	P	**P**	**09 14 24.2**	**+1.1**
TROLL	**Troll, Antarti**	**84.09**	**181**	P	**P**	**09 14 57.2**	**-0.3**
SNAA	**Sanae**	**84.43**	**179**	P	**P**	**09 14 58.2**	**-0.9**
SNAA	**Sanae**	**84.43**	**179**	P	**P**	**09 14 58.7**	**-0.4**
VNA3	**Neumayer Olymp**	**84.64**	**177**	P	**P**	**09 14 59.5**	**-0.7**
VNA2	**Neumayer--Watz**	**85.06**	**178**	P	**P**	**09 15 01.3**	**-0.8**
	baz=170,slow=4.0						
Q19K	**Cape Douglas,**	**85.63**	**13**	P	**P**	**09 15 06.8**	**+1.9**
TXAR	**Lajitas Array**	**90.68**	**58**	P	**P**	**09 15 31.4**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=205,slow=6.7,SNR=6.2						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**90.68**	**58**	P	**P**	**09 15 31.0**	**+1.7**
ARCES	**ARCESS Array B**	**132.10**	**348**	PKP	**PKPdf**	**09 21 35.2**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=75,slow=1.8,SNR=6.7						
HFS	**Hagfors**	**142.76**	**349**	PKhKP	PKPpre	09 21 52.6	
	comp=Z,4.7nm,0.3s,baz=64,slow=3.4,SNR=46						
AKASG	**Malin Array Be**	**145.10**	**327**	PKPbc	**PKPdf**	**09 22 00.1**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=44,slow=3.6,SNR=5.9						
BRTR	**Keskin Array B**	**147.61**	**307**	PKPbc	**PKPbc**	**09 22 08.3**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=132,slow=4.6,SNR=2.8						
EKA	**Eskdalemuir Ar**	**148.77**	**3**	PKPbc	**PKPbc**	**09 22 10.1**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=350,slow=3.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**168.92**	**189**	PKPab	**PKPab**	**09 23 44.1**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=186,slow=2.7,SNR=2.9						

---

*SNET **01** 09:29:40.9±3.7, 11°.15N×85°.87W, h126km, ML4.2*

*UCR **01** 09:29:43.7±1.2, 11°.25N×85°.90W, h94km±2km, MW3.9*

*INET **01** 09:29:44.6±0.5, 11°.21N×85°.87W, h91km±2km, MW3.7*

ISC 01 09:29:44.4±1.3**, 11°.19N**±0°.04×**85°.92W**±0°.04**, h94**km±8km**, n79,** σ**0s79**/104**, 1C-7D, Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.48**	**38**	*e*P	**Pn**	**09 29 59.0**	**-0.4**
GBS3	**Finca Las Img**	**0.61**	**131**⇓	*e*P	**Pn**	**09 30 00.2**	**-0.3**
GBS3				*e*S	**Sn**	**09 30 13.0**	**+0.5**
GB1A	**Borinquen Arri**	**0.63**	**125**	*e*P	**Pn**	**09 30 00.8**	**0.0**
BUEV	**Buena Vista**	**0.64**	**127**	*e*P	**Pn**	**09 30 00.7**	**-0.1**
BUEV				*e*S	**Sn**	**09 30 13.7**	**+0.7**
LAPC	**Finca la Perla**	**0.64**	**131**⇓	*e*P	**Pn**	**09 30 00.3**	**-0.4**
LAPC				*e*S	**Sn**	**09 30 13.0**	**+0.2**
BUAI	**Buenos Aires**	**0.66**	**118**	*e*P	**Pn**	**09 30 00.7**	**-0.2**
BUAI				*e*S	**Sn**	**09 30 14.1**	**+0.9**
VRLE	**La Escondida,**	**0.68**	**126**	*e*P	**Pn**	**09 30 00.9**	**-0.2**
GPS3	**Bodega del ICE**	**0.69**	**128**	*e*P	**Pn**	**09 30 00.9**	**-0.3**
GPS3				*e*S	**Sn**	**09 30 14.3**	**+0.4**
GPS2	**Hotel Rincn d**	**0.71**	**127**⇓	*e*P	**Pn**	**09 30 01.2**	**-0.2**
GPS2				*e*S	**Sn**	**09 30 14.4**	**+0.3**
LIM1	**Limonal**	**0.82**	**126**⇓	*e*P	**Pn**	**09 30 02.2**	**-0.3**
LIM1				*e*S	**Sn**	**09 30 16.6**	**+0.6**
MASN	**Masaya**	**0.83**	**344**	*e*P	**Pn**	**09 30 02.5**	**-0.1**
GUAB	**Guayabo de Bag**	**0.83**	**125**	*e*P	**Pn**	**09 30 02.3**	**-0.3**
GUAB				*e*S	**Sn**	**09 30 16.9**	**+0.7**
MESS	**Mesas**	**0.84**	**122**	*e*P	**Pn**	**09 30 02.3**	**-0.4**
MESS				*e*S	**Sn**	**09 30 16.5**	**0.0**
HORNC	**Hornillas**	**0.87**	**123**	*e*P	**Pn**	**09 30 02.7**	**-0.3**
HORNC				*e*S	**Sn**	**09 30 17.6**	**+0.6**
COLC	**Colonia**	**0.88**	**126**	*e*P	**Pn**	**09 30 02.7**	**-0.3**
COLC				*e*S	**Sn**	**09 30 17.8**	**+0.7**
VMAR	**Armenia, Volca**	**0.88**	**115**	*e*P	**Pn**	**09 30 02.5**	**-0.5**
CUI	**Cuipilapa**	**0.91**	**125**	*e*P	**Pn**	**09 30 03.3**	**-0.2**
CUI				*e*S	**Sn**	**09 30 18.8**	**+1.1**
ORTG	**Ortega, Santa**	**0.94**	**151**	*e*P	**Pn**	**09 30 03.6**	**-0.2**
ORTG	**Ortega, Santa**	**0.94**	**151**	*e*P	**Pn**	**09 30 03.7**	**-0.1**
ORTG				*e*S	**Sn**	**09 30 18.2**	**0.0**
WILN	**Americas 2**	**1.00**	**345**	*e*P	**Pn**	**09 30 04.2**	**-0.1**
MGAN	**Managua**	**1.01**	**342**	*e*P	**Pn**	**09 30 04.3**	**-0.1**
MGAN				*e*S	**Sn**	**09 30 20.6**	**+1.1**
ACAL	**Aguas Claras**	**1.03**	**122**	*i* P	**Pn**	**09 30 04.6**	**-0.2**
ACAL				*e*S	**Sn**	**09 30 21.0**	**+0.9**
PTEN	**Parque Tenorio**	**1.03**	**117**⇑	*i*P	**Pn**	**09 30 04.5**	**-0.3**
PTEN				*e*S	**Sn**	**09 30 20.5**	**+0.4**
ACON	**Acoyapa**	**1.07**	**43**	*e*P	**Pn**	**09 30 04.2**	**-0.9**
ACON	**Acoyapa**	**1.07**	**43**	*e*P	**Pn**	**09 30 04.1**	**-1.0**
ACON				*e*S	**Sn**	**09 30 19.4**	**-1.4**
VERA	**Finca Concepci**	**1.09**	**108**	*e*P	**Pn**	**09 30 04.9**	**-0.4**
VERA				*e*S	**Sn**	**09 30 21.2**	**+0.1**
SAJU	**San Juanillo,**	**1.13**	**169**	*e*P	**Pn**	**09 30 05.7**	**-0.2**
SAJU				*e*S	**Sn**	**09 30 18.7**	**-3.4**
HUEN		**1.17**	**348**	*e*P	**Pn**	**09 30 06.2**	**-0.1**
DUNO	**Dulce Nombre,**	**1.18**	**159**	*e*P	**Pn**	**09 30 06.4**	**0.0**
DUNO	**Dulce Nombre,**	**1.18**	**159**	*e*P	**Pn**	**09 30 06.4**	**0.0**
COPN	**Copaltepe**	**1.19**	**327**	*e*P	**Pn**	**09 30 06.5**	**0.0**
POPE	**POPE, Guanacas**	**1.29**	**150**	*e*P	**Pn**	**09 30 07.9**	**+0.1**
JTS	**Las Juntas de**	**1.30**	**133**	*e*P	**Pn**	**09 30 07.2**	**-0.8**
JTS	**Las Juntas de**	**1.30**	**133**	*e*P	**Pn**	**09 30 07.1**	**-0.8**
PACM	**Arenal**	**1.33**	**121**	*i* P	Pn	09 30 01.3	-7.0
PACM				*e*S	Sn	09 30 14.4	-12
MOMN	**Momotombo**	**1.36**	**334**	*e*P	**Pn**	**09 30 08.3**	**-0.3**
MOMN				*e*S	**Sn**	**09 30 27.2**	**+0.3**
INDI	**Punta indio, G**	**1.38**	**162**	*e*P	**Pn**	**09 30 08.6**	**-0.2**
CEDE	**Laguna Cedeo**	**1.38**	**120**⇓	*i*P	**Pn**	**09 30 08.7**	**-0.3**
CEDE				*e*S	**Sn**	**09 30 28.4**	**+0.8**
CASO	**Castillo**	**1.39**	**123**⇓	*i*P	**Pn**	**09 30 08.7**	**-0.2**
CASO				*e*S	**Sn**	**09 30 27.8**	**+0.3**
VACR	**Volcan Arenal**	**1.41**	**120**	*e*P	**Pn**	**09 30 09.1**	**-0.2**
FORC	**Fortuna**	**1.42**	**120**⇓	*i*P	**Pn**	**09 30 09.1**	**-0.3**
FORC				*e*S	**Sn**	**09 30 28.5**	**+0.2**
CNGN	**Cerro Negro**	**1.51**	**330**	*e*P	**Pn**	**09 30 09.4**	**-1.2**
COVE	**Coope Vega, Sa**	**1.56**	**107**	*e*P	**Pn**	**09 30 09.9**	**-1.2**
MATN	**Matagalpa**	**1.73**	**360**	*e*P	**Pn**	**09 30 12.8**	**-0.6**
SRA1	**San Ramn**	**1.79**	**128**	*e*P	**Pn**	**09 30 13.8**	**-0.4**
CRIN	**San Cristobal**	**1.87**	**324**	*e*P	**Pn**	**09 30 15.0**	**0.0**
ESPN	**Las Esperanzas**	**1.88**	**58**	*e*P	**Pn**	**09 30 14.2**	**-0.9**
ESPN	**Las Esperanzas**	**1.88**	**58**	*e*P	**Pn**	**09 30 14.3**	**-0.9**
JACO	**JACO, Garabito**	**1.96**	**141**	*e*P	**Pn**	**09 30 16.0**	**-0.2**
JACO	**JACO, Garabito**	**1.96**	**141**	*e*P	**Pn**	**09 30 15.9**	**-0.2**
HDC3	**Heredia 3**	**2.13**	**123**	*e*P	**Pn**	**09 30 18.9**	**+0.3**
HDC3	**Heredia 3**	**2.13**	**123**	*e*P	**Pn**	**09 30 19.1**	**+0.5**
HDC3				*e*S	**Sn**	**09 30 44.8**	**0.0**
SJS	**Escuela Geolog**	**2.22**	**124**	*e*P	**Pn**	**09 30 20.2**	**+0.5**
RCON	**San Juan de Ri**	**2.30**	**354**	*e*P	**Pn**	**09 30 24.0**	**+3.2**
OCM	**Ochomogo**	**2.32**	**123**	*e*P	**Pn**	**09 30 20.6**	**-0.4**
HAYA	**Volcan Irazu**	**2.37**	**120**	*e*P	**Pn**	**09 30 21.6**	**-0.3**
LCR2	**La Lucha 2**	**2.37**	**127**	*e*P	**Pn**	**09 30 20.9**	**-0.9**
VTCV	**VTCV, Calle Va**	**2.47**	**119**	*e*P	**Pn**	**09 30 22.5**	**-0.5**
CDM	**Cerro de Muert**	**2.67**	**127**	*e*P	**Pn**	**09 30 25.9**	**-0.1**
BATAN	**Batan**	**2.73**	**113**	*e*P	**Pn**	**09 30 26.1**	**-0.2**
MRVA	**Moravia de Chi**	**2.79**	**119**	*e*P	**Pn**	**09 30 27.4**	**+0.1**
PEZE	**Perez Zeledon,**	**2.84**	**129**	*e*P	**Pn**	**09 30 28.4**	**+0.3**
PEZE	**Perez Zeledon,**	**2.84**	**129**	*e*P	**Pn**	**09 30 28.2**	**+0.2**
LCND	**La Caada**	**2.85**	**318**	*e*S	**Sn**	**09 31 01.9**	**+0.2**
LCND	**La Caada**	**2.85**	**318**	*e*S	**Sn**	**09 31 01.9**	**+0.2**
TGUH	**Tegucigalpa,Un**	**3.14**	**335**	*e*P	**Pn**	**09 30 32.7**	**+0.6**
SRBA	**San Rafael, Bu**	**3.18**	**127**	*e*P	**Pn**	**09 30 32.4**	**-0.1**
EDBA	**Buenos Aires**	**3.29**	**127**	*e*P	**Pn**	**09 30 33.6**	**-0.3**
COEB	**Comit de Eme**	**3.43**	**312**	*e*S	**Sn**	**09 31 14.8**	**-1.0**
COEB	**Comit de Eme**	**3.43**	**312**	*e*S	**Sn**	**09 31 14.8**	**-1.0**
POTG	**Potrero Grande**	**3.48**	**127**	*e*P	**Pn**	**09 30 36.9**	**+0.3**
CDITO	**Canoas**	**3.97**	**131**	*e*P	**Pn**	**09 30 42.9**	**-0.2**
BRU2	**Volcan**	**3.97**	**126**	*e*P	**Pn**	**09 30 44.2**	**+0.9**
CCOL	**Caracol de Cor**	**4.01**	**133**	*e*P	**Pn**	**09 30 43.6**	**0.0**
CEVE	**Cerro Verde**	**4.47**	**306**	*e*P	**Pn**	**09 30 51.2**	**+1.1**
CEVE	**Cerro Verde**	**4.47**	**306**	*e*P	**Pn**	**09 30 51.2**	**+1.1**
NUBE	**Las Nubes**	**4.63**	**306**	*e*P	**Pn**	**09 30 53.4**	**+1.2**
NUBE				*e*S	**Sn**	**09 31 42.8**	**-2.1**
NUBE	**Las Nubes**	**4.63**	**306**	*e*P	**Pn**	**09 30 53.4**	**+1.2**
NUBE				*e*S	**Sn**	**09 31 42.8**	**-2.1**
SLOZ	**Alcaldia de Sa**	**4.71**	**307**	*e*P	**Pn**	**09 30 53.9**	**+0.7**

---

*JMA **01** 09:31:29.9±0.1, 39°.3N±0°.3×140°.6E±0°.5, h117km, MV3.5/40, SOUTHERN AKITA PREF*

*IDC **01** 09:31:29.9±2.3, 39°.26N×140°.48E, h125km±21km, mb3.4/12, mbtmp3.8/15, Error ellipse: s-maj=22.7km s-min=14.3km az=71.0*

*NIED **01** 09:31:29.9, 39°.25N×140°.56E, h117km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.41; $M_{\theta\theta}$0.07; $M_{\phi\phi}$0.34; $M_{r\theta}$-1.56; $M_{\theta\phi}$1.14; $M_{\phi r}$-4.91; Fault plane solution: $M_0$5.27000×10^{14} NP1: ϕ_s266.00000°, δ10.00000°, λ-21.00000°. NP2: ϕ_s17.00000°, δ86.00000°, λ-100.00000°.*

*NEIC **01** 09:31:30.2±1.3, 39°.22N±0°.06×140°.6E±0°.1, h118km±8km, mb4.4/17 Error ellipse: s-maj=12.5km s-min=7.6km az=107.0*

ISC 01 09:31:29.6±0.6**, 39°.21N**±0°.04×**140°.61E**±0°.05**, h122**km±5km**, n74,** σ**0s91**/80**, mb4.0**/21**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC

JRG	**Rokugo**	**0.18**	**7**	*i* P	**Pn**	**09 31 46.2**	**-0.3**
JRG				S	**Sn**	**09 31 58.4**	**-0.8**
JYK	**Kaneyama**	**0.35**	**213**	*i* P	**Pn**	**09 31 46.9**	**-0.2**
JYK				S	**Sn**	**09 31 59.7**	**-0.4**
JMK	**Ichinoseki**	**0.54**	**118**	*i* P	**Pn**	**09 31 48.0**	**0.0**
JMK				S	**Sn**	**09 32 01.8**	**-0.1**
JOM	**Ohasama**	**0.59**	**64**	*i* P	**Pn**	**09 31 48.4**	**0.0**
JOM				S	**Sn**	**09 32 02.4**	**-0.1**
JOU	**Okura**	**0.85**	**177**	*i* P	**Pn**	**09 31 50.9**	**+0.4**
JOU				S	**Sn**	**09 32 06.1**	**0.0**
JYA	**Atsumi**	**0.93**	**229**	*i* P	**Pn**	**09 31 51.2**	**0.0**
JYA				S	**Sn**	**09 32 07.1**	**-0.3**
JIO	**Ouri**	**0.95**	**142**	*i* P	**Pn**	**09 31 51.2**	**-0.1**
JIO				S	**Sn**	**09 32 07.5**	**-0.3**
JAH	**Hinai**	**0.97**	**1**	*i* P	**Pn**	**09 31 51.5**	**0.0**
JAH				S	**Sn**	**09 32 07.9**	**-0.3**
JYS	**Shirataka**	**1.08**	**203**	P	**Pn**	**09 31 53.3**	**+0.7**
JYS				S	**Sn**	**09 32 10.7**	**+0.8**
JAW	**Awa shima**	**1.30**	**235**	P	**Pn**	**09 31 55.0**	**+0.1**
JAW				S	**Sn**	**09 32 14.0**	**-0.1**
JMM	**Marumori**	**1.35**	**174**		**Pn**	**09 31 55.9**	**+0.4**
JMM	**Marumori**	**1.35**	**174**	P	**Pn**	**09 31 56.3**	**+0.8**
JANG	**Nango**	**1.35**	**31**	*i* P	**Pn**	**09 31 55.5**	**0.0**
JANG				*e*S	**Sn**	**09 32 15.0**	**-0.2**
JTM	**Tenmabayashi**	**1.61**	**13**	Pn	**Pn**	**09 31 57.5**	**-0.9**
JTM	**Tenmabayashi**	**1.61**	**13**	P	**Pn**	**09 31 59.1**	**+0.7**
JOTO	**OTAMA OYAMA**	**1.66**	**187**	P	**Pn**	**09 32 00.2**	**+1.0**
JNS	**Sasagawa**	**1.72**	**216**	*e*P	**Pn**	**09 32 00.1**	**+0.3**
JSD	**Sado**	**2.18**	**238**		**Pn**	**09 32 05.5**	**+0.2**
JSD	**Sado**	**2.18**	**238**	P	**Pn**	**09 32 05.6**	**+0.2**
MJAR	**Matsushiro Arr**	**3.27**	**216**	P	**Pn**	**09 32 20.9**	**+1.4**
	7.4nm,0.5s,baz=26,slow=14,SNR=21						
MAJO	**Matsushiro**	**3.27**	**216**	Pn	**Pn**	**09 32 20.6**	**+1.0**
MAJO	**Matsushiro**	**3.27**	**216**	P	**Pn**	**09 32 21.1**	**+1.5**
ERM	**Erimo**	**3.41**	**34**	Pn	**Pn**	**09 32 20.5**	**-0.7**
ERM	**Erimo**	**3.41**	**34**	P	**Pn**	**09 32 20.9**	**-0.3**
JEM	**Erimo**	**3.41**	**34**	P	**Pn**	**09 32 21.0**	**-0.2**
JEW	**Eniwo**	**3.68**	**10**	Pn	**Pn**	**09 32 26.8**	**+2.0**
JGF	**Kuroka**	**4.44**	**217**	Pn	**Pn**	**09 32 36.9**	**+1.8**
INU	**Inuyama**	**4.80**	**218**	Pn	**Pn**	**09 32 38.6**	**-1.3**
JHJ	**Hachijo jima 2**	**6.12**	**186**	P	**Pn**	**09 32 56.6**	**-1.1**
	77nm,0.9s,baz=177,slow=19,SNR=1.3						
JHJ				S	**Sn**	**09 34 02.9**	**-3.4**
	107nm,0.7s,baz=88,slow=22,SNR=1.8						
USA0B	**Ussuriysk Arra**	**8.14**	**310**	Pn	**Pn**	**09 33 25.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**8.14**	**310**	P	**Pn**	**09 33 23.8**	**-1.1**
	2.5nm,0.4s,baz=115,slow=13,SNR=7.2						
USRK	**Ussuriysk Ar.**	**8.14**	**310**	Pn	**Pn**	**09 33 25.4**	**+0.5**
SONM	**Songino Array**	**26.09**	**301**	P	**P**	**09 36 51.4**	**-0.5**
	0.7nm,0.4s,baz=94,slow=9.6,SNR=3.7						
	0.7nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.84**	**123**	T	T	10 08 21.7	
	baz=318,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**29.85**	**123**	T	T	10 08 22.7	
	baz=318,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**29.86**	**123**	T	T	10 08 21.2	
	baz=318,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**30.60**	**125**	T	T	10 09 07.3	
	baz=318,slow=76,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**30.60**	**125**	T	T	10 09 07.0	
	baz=318,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**30.62**	**125**	T	T	10 09 14.7	
	baz=318,slow=76,SNR=6.2						
ZALV	**Zalesovo Beam**	**40.00**	**310**	P	**P**	**09 38 51.2**	**-0.9**
	1.3nm,0.4s,baz=84,slow=7.7,SNR=6.0						
	1.3nm,0.4s						
ZALV	**Zalesovo Beam**	**40.00**	**310**	P	**P**	**09 38 52.1**	**0.0**
RDOG	**Red Dog Mine**	**41.87**	**28**	P	**P**	**09 39 08.3**	**+1.1**
RDOG				IAmb	IAmb	09 39 34.8	
	comp=Z,5.5nm,0.9s						
TOLI2	**Tolitoli**	**42.03**	**210**	P	**P**	**09 39 09.7**	**+0.6**
TOLI2				IAmb	IAmb	09 39 32.2	
	comp=Z,14nm,1.2s						
MK31	**Makanchi Array**	**42.45**	**300**	P	**P**	**09 39 12.0**	**-0.4**
MK31				IAmb	IAmb	09 39 12.5	
	comp=Z,6.4nm,1.2s						
MKAR	**Makanchi Array**	**42.45**	**300**	P	**P**	**09 39 11.6**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=82,slow=9.9,SNR=13						
	comp=Z,0.8nm,0.4s						
MKAR	**Makanchi Array**	**42.45**	**300**	P	**P**	**09 39 12.1**	**-0.3**
MAKZ	**Makanchi**	**42.66**	**300**	P	**P**	**09 39 14.2**	**+0.3**
MAKZ				IAmb	IAmb	09 39 20.2	
	comp=Z,14nm,1.5s						
CAST	**Castle Rocks**	**45.80**	**35**	P	**P**	**09 39 40.8**	**+2.0**
CAST				IAmb	IAmb	09 40 09.6	
	comp=Z,8.0nm,1.5s						
BOOM	**Boomskoye usch**	**47.96**	**296**	P	**P**	**09 39 56.7**	**+0.6**
ILAR	**Eielson Array**	**48.01**	**33**	P	**P**	**09 39 54.3**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=253,slow=5.6,SNR=1.9						
	comp=Z,0.3nm,0.6s						
DIV	**Divide**	**48.94**	**38**	P	**P**	**09 40 04.3**	**+1.2**
SCRK	**Sand Creek**	**49.35**	**34**	P	**P**	**09 40 07.0**	**+0.7**
K27K	**Chicken**	**50.18**	**34**	P	**P**	**09 40 12.6**	**+0.2**
K27K				IAmb	IAmb	09 40 22.9	
	comp=Z,5.8nm,1.3s						
L27K	**Beaver Creek,**	**50.45**	**35**	P	**P**	**09 40 15.8**	**+1.3**
BCAR	**Beaver Creek A**	**50.47**	**35**	P	**P**	**09 40 15.7**	**+1.0**
KKAR	**Karatay Array**	**51.51**	**298**	P	**P**	**09 40 22.4**	**-0.3**
COEN	**Coen**	**52.95**	**177**	P	**P**	**09 40 33.4**	**0.0**
MAYO	**Mayo, Yukon**	**52.95**	**34**	P	**P**	**09 40 33.9**	**+0.9**
ABKAR	**Akbulak array**	**56.06**	**309**	P	**P**	**09 40 55.5**	**-0.3**
WB0	**Warramunga Arr**	**58.96**	**187**	P	**P**	**09 41 16.3**	**+0.1**
WB0				IAmb	IAmb	09 41 20.4	
	comp=Z,7.9nm,1.4s						
WR0	**Warramunga Arr**	**59.13**	**187**	P	**P**	**09 41 17.6**	**+0.2**
WR0				IAmb	IAmb	09 41 35.6	
	comp=Z,5.4nm,1.3s						
WB2	**Warramunga Arr**	**59.13**	**187**	P	**P**	**09 41 17.5**	**+0.1**
WB2				IAmb	IAmb	09 41 29.3	
	comp=Z,7.6nm,1.5s						
WRA	**Warramunga Arr**	**59.14**	**187**	P	**P**	**09 41 16.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=4.7,slow=7.1,SNR=13						
	comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**59.14**	**187**	P	**P**	**09 41 17.6**	**+0.1**
ARCES	**ARCESS Array B**	**61.74**	**339**	P	**P**	**09 41 33.5**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=70,slow=7.9,SNR=1.7						
	comp=Z,1.6nm,0.8s						
AS31	**Alice Springs**	**62.86**	**187**	P	**P**	**09 41 43.2**	**+0.7**
ASAR	**Alice Springs**	**62.86**	**187**	P	**P**	**09 41 43.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=357,slow=6.4,SNR=8.1						
	comp=Z,0.2nm,0.3s						
ASAR	**Alice Springs**	**62.86**	**187**	P	**P**	**09 41 43.4**	**+0.8**
FINES	**FINESS Array B**	**66.59**	**332**	P	**P**	**09 42 03.8**	**-2.5**
	comp=Z,1.0nm,0.7s,baz=35,slow=7.0,SNR=3.9						
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.19**	**322**	P	**P**	**09 42 40.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=44,slow=6.6,SNR=5.7						
	comp=Z,0.5nm,0.4s						
NVAR	**Mina Array Bea**	**74.19**	**53**	P	**P**	**09 42 54.3**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=302,slow=7.4,SNR=2.2						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**76.59**	**45**	P	**P**	**09 43 08.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=226,slow=4.8,SNR=2.7						
	comp=Z,0.1nm,0.3s						
TXAR	**Lajitas Array**	**89.29**	**52**	P	**P**	**09 44 12.7**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=324,slow=4.5,SNR=2.7						
	comp=Z,0.2nm,0.7s						
LPAZ	**La Paz**	**146.07**	**56**	PKPbc	**PKPbc**	**09 50 57.0**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=3.0,SNR=2.7						

ISK 01 09:33:26.8,36°.13N×33°.54E,h0km,ML1.6/5,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKK1	**Akkuyu-Mersin**	**0.01**	**21**	PG	Pg	09 33 27.4	+0.3
AKK1				SG	Sg	09 33 27.9	+0.7
AKK2	**Akkuyu-Mersin**	**0.01**	**63**	PG	Pg	09 33 27.2	+0.2
AKK2				SG	Sg	09 33 27.8	+0.6
AKKU	**Akkuyu-Mersin**	**0.03**	**25**	PG	Pg	09 33 27.7	+0.3
AKKU				SG	Sg	09 33 28.2	+0.4
TISA	**Tisan-Mersin**	**0.12**	**75**	PG	Pg	09 33 30.1	+1.0
IKL	**Isikli**	**0.16**	**49**	PG	Pg	09 33 30.9	+1.0
BERE	**Bereket-Mersin**	**0.33**	**311**	PG	Pb	09 33 35.2	-0.5
TEKE	**Tekeli-Mersin**	**0.34**	**272**	PG	Pb	09 33 34.6	-1.2
KEBE	**Keben-Mersin**	**0.35**	**25**	PG	Pg	09 33 34.3	+0.9

DDA 01 09:33:50.7±0.0,37°.31N×31°.89E,h7km±7km,ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEDI	**Konya, Seydise**	**0.18**	**323**	P	Pg	09 33 54.4	0.0
SEDI				S	Sg	09 33 58.1	+1.2
KEPZ	**Antalya-Kepez**	**0.47**	**209**	P	Pg	09 33 59.0	-0.8
KEPZ				S	Sb	09 34 08.4	0.0
KEPZ				*i* AML	AML	09 34 09.0	
	comp=N,28nm,0.6s						
KEPZ				*i* AML	AML	09 34 12.0	
	comp=E,18nm,0.6s						
KMER	**Konya-Meram**	**0.59**	**40**	P	Pg	09 34 01.8	-0.4
KMER				*i* AML	AML	09 34 11.0	
	comp=E,19nm,1.1s						
KMER				S	Sb	09 34 12.2	0.0
KMER				*i* AML	AML	09 34 16.0	
	comp=N,15nm,0.4s						
DOGA	**KONYA_Doganhis**	**0.81**	**348**	P	Pg	09 34 05.6	-0.8
DOGA				*i* AML	AML	09 34 19.0	
	comp=E,13nm,1.1s						
DOGA				S	Sn	09 34 20.3	-0.8
DOGA				*i* AML	AML	09 34 22.0	
	comp=N,11nm,0.8s						
YVAC	**Isparta, Yalva**	**1.09**	**332**	P	Pg	09 34 11.1	-0.5
YVAC				S	Sn	09 34 28.9	+1.0
YVAC				*i* AML	AML	09 34 32.0	
	comp=E,2.3nm,0.3s						
YVAC				*i* AML	AML	09 34 34.0	
	comp=N,3.1nm,0.4s						

*HEL **01** 09:59:39.9±0.2,64°.68N×30°.42E,h0km,ML1.8,Explosion*
*IDC **01** 09:59:39.2±3.2,64°.68N×30°.67E,h0km,mbtmp2.7/2, ML1.7/2,Error ellipse: s-maj=53.3km s-min=9.2km az=102.0*
ISC 01 09:59:38.3±1.1,64°.74N±0°.03×30°.73E±0°.07,h0km,n29, σ1s.60/40,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.62**	**214**	PG	**Pg**	**09 59 49.1**	**-1.1**
KU6	**Riekki**	**1.34**	**345**	PG	**Pg**	**10 00 04.4**	**+0.3**
KU6				MSG		10 00 21.1	
	comp=Z,5.4nm,0.2s						
KU6				SG	**Sg**	**10 00 21.7**	**+0.3**
MSF	**Maaselka**	**1.38**	**330**	PG	**Pg**	**10 00 02.2**	**-2.5**
	baz=155						
MSF				SG	**Sg**	**10 00 22.1**	**-0.4**
OLKF	**Oulanka, Finla**	**1.69**	**341**	PB	**Pn**	**10 00 08.0**	**-1.1**
OLKF				SN	**Sg**	**10 00 32.9**	**+0.5**
JOF	**Joensuu**	**1.84**	**172**	SG	**Sn**	**10 00 33.1**	**-2.0**
OUL	**Oulu**	**2.09**	**282**	PB	**Pn**	**10 00 14.1**	**-0.4**
OUL				SG	**Sn**	**10 00 40.7**	**-0.5**
OBF4	**Vikkela, Lumij**	**2.41**	**274**	PG	**Pn**	**10 00 19.1**	**+0.2**
OUF	**Merijarvi**	**2.62**	**265**	PN	**Pn**	**10 00 20.4**	**-1.3**
	baz=76						
OUF				MSG		10 00 53.2	
	comp=Z,9.9nm,0.2s						
OUF				SG	**Sn**	**10 00 55.6**	**+1.5**
RNF	**Rovaniemi**	**2.71**	**316**	PB	**Pn**	**10 00 25.5**	**+2.5**
	baz=134						
RNF				SB	**Sb**	**10 00 59.6**	**-1.8**
OBF0	**Syolatti, Pyha**	**2.81**	**268**	PN	**Pn**	**10 00 23.9**	**-0.5**
TOF	**Tornio**	**3.00**	**300**	PN	**Pn**	**10 00 27.6**	**+0.6**
TOF				MSG		10 01 05.4	
	comp=Z,2.9nm,0.2s						
TOF				SG	**Sb**	**10 01 10.1**	**+0.5**
VRF	**Varrio**	**3.06**	**352**	PN	**Pn**	**10 00 29.5**	**+1.6**
	baz=171						
VRF				MSG		10 01 10.8	
	comp=Z,2.2nm,0.2s						
VRF				SB	**Sb**	**10 01 12.3**	**+0.9**
OBF8	**Ulkokalla**	**3.17**	**266**	PN	**Pn**	**10 00 28.1**	**-1.3**
SGF	**Sodankyl**	**3.21**	**330**	SG	**Sb**	**10 01 16.1**	**+0.3**
KALU	**Kalix**	**3.29**	**293**	PB	**Pn**	**10 00 33.3**	**+2.2**
	baz=104						
KAF	**Kangasniemi**	**3.30**	**219**	PB	**Pn**	**10 00 33.1**	**+2.0**
KAF				MSG		10 01 13.2	
	comp=Z,1.6nm,0.2s						
KAF				SG	**Sb**	**10 01 19.1**	**+0.9**
KEF	**Keuruu**	**3.68**	**228**	PN	**Pn**	**10 00 38.2**	**+1.8**
KLF	**Kolari**	**3.73**	**315**	PN	**Pn**	**10 00 38.1**	**+1.0**
FIA0	**FINESS Array S**	**3.92**	**215**	PN	**Pn**	**10 00 40.1**	**+0.4**
FINES	**FINESS Array B**	**3.92**	**215**	Pn	**Pn**	**10 00 39.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=48,slow=13,SNR=1.8						
FINES				Pg	**Pb**	**10 00 47.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=36,slow=16,SNR=5.3						
FINES				Lg	Lg	10 01 39.5	
	comp=Z,0.8nm,0.3s,baz=41,slow=26,SNR=10						
	comp=Z,0.7nm,0.6s						
VAF	**Ylistaro**	**3.94**	**248**	PN	**Pn**	**10 00 39.3**	**-0.7**
ERTU	**Ertsjaerv**	**3.98**	**301**	PN	**Pn**	**10 00 41.5**	**+1.0**
BURU	**Burvik**	**4.02**	**272**	PN	**Pn**	**10 00 41.3**	**+0.2**
UMAU	**Umeaa**	**4.46**	**264**	PN	**Pn**	**10 00 47.0**	**0.0**
HEF	**Hetta**	**4.64**	**326**	PN	**Pn**	**10 00 52.2**	**+2.6**
HEF				SG	**Sb**	**10 02 01.4**	**+4.5**
PVF	**Pernaja**	**4.77**	**210**	SG	**Sb**	**10 02 04.3**	**+3.9**
LANU	**Lannavaara**	**4.84**	**317**	PN	**Pn**	**10 00 52.8**	**+0.5**
ARCES	**ARCESS Array B**	**5.23**	**339**	Pn	**Pn**	**10 00 56.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=153,slow=14,SNR=12						
ARCES				Sn	**Sn**	**10 01 57.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=159,slow=23,SNR=1.4						
ARCES				Lg	Lg	10 02 17.3	
	comp=Z,0.2nm,0.3s,baz=155,slow=29,SNR=1.3						
	comp=Z,2.2nm,0.9s						
I43RU	**DUBNA INFRASON**	**8.64**	**155**	I		10 52 10.0	
	baz=342,slow=330,SNR=4.4						

ROM 01 10:06:29.0±0.1,42°.943N±0°.004×13°.153E±0°.004, h10km,ML1.7/3,3C-4D,Error ellipse: s-maj=0.5km s-min=0.2km az=2.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.08**	**284**	⇓P	Pg	10 06 31.9	+0.4
FEMA				S	Sg	10 06 33.7	+0.4
FEMA				AML	AML		
	comp=E,2439μm,0.2s						
T1256	**Bolognola (MC)**	**0.08**	**40**	⇓P	Pg	10 06 31.8	+0.3
T1256				S	Sg	10 06 33.6	+0.2
T1256				AML	AML		
	comp=E,1014μm,0.2s						
T1256				AML	AML		
	comp=N,686μm,0.2s						
T1256				AML	AML		
	comp=E,1012μm,0.2s						
T1256				AML	AML		
	comp=E,1012μm,0.2s						
FDMO	**Fiordimonte**	**0.10**	**333**	⇓P	Pg	10 06 32.2	+0.5
FDMO				S	Sg	10 06 34.0	+0.3
FDMO				AML	AML		
	comp=E,492μm,0.2s						
T1216	**Preci, Frazion**	**0.11**	**242**	⇓P	Pg	10 06 32.3	+0.5
T1216				S	Sg	10 06 34.5	+0.7
MMO1	**Montemonaco**	**0.14**	**109**	⇑P	Pg	10 06 32.6	+0.5
MMO1				S	Sg	10 06 35.0	+0.6
AM05	**Amandola Campo**	**0.15**	**77**	⇑P	Pg	10 06 33.1	+0.7
AM05				S	Sg	10 06 35.7	+1.0
AM05				AML	AML		
	comp=E,1110μm,0.1s						
AM05				AML	AML		
	comp=N,100μm,0.1s						
T1241	**Roccafluvione,**	**0.22**	**113**	⇑P	Pg	10 06 34.2	+0.6
T1241				AML	AML		
	comp=E,250μm,1.0s						
T1241				AML	AML		
	comp=N,222μm,0.3s						
MDAR	**Monte D'Aria**	**0.25**	**358**	P	Pg	10 06 34.8	+0.7
T1215	**Vallo di Nera,**	**0.25**	**236**	P	Pg	10 06 34.8	+0.7
T1215				S	Sb	10 06 38.9	-1.2
OFFI	**Offida**	**0.39**	**91**	S	Sb	10 06 46.0	+1.9
T1247	**Pizzolo (AQ)**	**0.51**	**168**	S	Sg	10 06 46.0	+0.3

*PRU **01** 10:08:02.9±0.0,50°.09N×18°.49E,h0km*
IPEC 01 10:08:02.9±0.2,50°.09N×18°.54E,h1km,ML1.7/4,Error ellipse: s-maj=2.0km s-min=1.1km az=163.0,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.22**	**270**	*e*PG	Pg	10 08 08.0	+0.9
RAC				*e*SG	Sg	10 08 11.2	+1.2
OKC	**Ostrava-Krasne**	**0.35**	**225**	*e*PG	Pg	10 08 09.9	+0.3
OKC				*e*SG	Sg	10 08 14.4	+0.2
	comp=Z,34nm,0.4s						
MORC	**Moravsky Berou**	**0.71**	**245**	*e*PG	Pg	10 08 16.3	-0.2
MORC				*e*SG	Sg	10 08 25.3	-0.5
MORC	**Moravsky Berou**	**0.71**	**245**	*e*Pg	Pg	10 08 16.3	-0.2
	baz=64						
MORC				*e*Sg	Sg	10 08 25.2	-0.6
	13nm,0.2s,baz=64						
OJC	**Ojcow**	**0.82**	**80**	*e*Pg	Pg	10 08 17.8	-0.9
OJC				*e*Sg	Sg	10 08 30.1	+0.8
MAUC	**Maruska**	**0.85**	**213**	*e*PG	Pg	10 08 19.6	+0.3
MAUC				*e*SG	Sg	10 08 30.8	+0.5
	comp=Z,48nm,0.3s						
KRLC	**Kraliky**	**1.13**	**270**	*e*PG	Pg	10 08 23.0	-1.5
KRLC				*e*SG	Sg	10 08 37.3	-1.9
	comp=Z,22nm,0.5s						
JAVC	**Velka Javorina**	**1.35**	**205**	*e*PG	Pg	10 08 28.6	-0.2
JAVC	**Velka Javorina**	**1.35**	**205**	*e*Pg	Pg	10 08 28.5	-0.3
	baz=24						
DPC	**Dobruska-Polom**	**1.45**	**281**	*e*PG	Pn	10 08 29.6	-0.7
DPC				*e*SG	Sg	10 08 48.2	-1.1
	comp=Z,8.2nm,0.7s						
VRAC	**Vranov**	**1.48**	**239**	*e*PG	Pn	10 08 30.2	-0.5
VRAC				*e*SG	Sg	10 08 49.2	-1.3
VRAC	**Vranov**	**1.48**	**239**	*e*Pg	Pn	10 08 30.2	-0.5
	baz=58						
VRAC				*e*Sg	Sg	10 08 49.2	-1.3
	9.1nm,0.4s,baz=58						
OSTC	**Ostas**	**1.56**	**288**	*e*PG	Pn	10 08 31.6	-0.2
OSTC				*e*SG	Sn	10 08 51.7	-1.0
	comp=Z,7.5nm,0.4s						
VYHS	**Vyhne**	**1.60**	**173**	*e*PG	Pn	10 08 32.6	+0.2
VYHS				*e*SG	Sg	10 08 54.5	+0.1
VYHS				*e*LG	Lg	10 08 57.6	
KSP	**Ksiaz**	**1.62**	**299**	*e*Pg	Pn	10 08 31.5	-1.1
KSP				*e*Sg	Sn	10 08 54.3	+0.2
CHVC	**Chvalec**	**1.67**	**289**	*e*PG	Pn	10 08 32.6	-0.7
CHVC				*e*SG	Sn	10 08 55.6	+0.3
UPC	**Upice**	**1.67**	**286**	*e*PG	Pn	10 08 33.4	+0.1
UPC				*e*SG	Sn	10 08 55.5	+0.1
	comp=Z,6.6nm,0.3s						
KRUC	**Moravsky**	**1.73**	**234**	*e*PG	Pn	10 08 34.1	0.0
KRUC				*e*SG	Sn	10 08 56.9	+0.1
KRUC	**Moravsky**	**1.73**	**234**	*e*Pg	Pn	10 08 34.1	0.0
	baz=53						
KRUC				*e*Sg	Sn	10 08 56.8	0.0
	6.5nm,0.2s,baz=53						
STHS	**Stebnicka Huta**	**1.88**	**110**	*e*PG	Pg	10 08 39.4	+0.5
STHS				*e*LG	Lg	10 09 10.4	
MODS	**Modra-Piesok**	**1.90**	**206**	*e*SG	Sn	10 09 00.2	-0.9
GOPC	**GO Pecny, Ondr**	**2.42**	**267**	*e*PG	Pb	10 08 47.1	-0.2
GOPC				*e*SG	Sb	10 09 18.0	+0.3
	comp=Z,4.9nm,0.5s						
PRU	**Pruhonice**	**2.58**	**269**	*e*SG	Sb	10 09 23.0	+1.0
	comp=Z,2.4nm,0.3s						
CKRC	**Cesky Krumlov**	**3.04**	**247**	*e*SG	Sb	10 09 37.3	+2.1
KHC	**Kasperske Hory**	**3.36**	**255**	*e*PG	Pb	10 09 03.4	+0.1
KHC				*e*SG	Sg	10 09 48.0	-2.9
	comp=Z,3.9nm,0.9s						

IDC 01 10:13:06.0±4.1,54°.31N×89°.03E,h0km,mbtmp2.9/2, ML2.3/2,Error ellipse: s-maj=33.4km s-min=21.1km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.50**	**263**	I		10 32 40.0	
	0.1nm,1.2s,baz=80,slow=333,SNR=2.9						
ZALV	**Zalesovo Beam**	**2.50**	**263**	Pn	Pn	10 13 48.6	+0.6
	1.0nm,0.3s,baz=81,slow=15,SNR=17						
ZALV				Pg	Pb	10 13 50.4	-1.4
	1.0nm,0.3s,baz=83,slow=17,SNR=19						
ZALV				Sn	Sn	10 14 20.6	+1.4
	0.5nm,0.3s,baz=83,slow=21,SNR=2.3						
ZALV				Lg	Lg	10 14 25.1	
	2.0nm,0.3s,baz=90,slow=25,SNR=22						
	3.4nm,0.3s						
MKAR	**Makanchi Array**	**8.66**	**212**	Pn	Pn	10 15 13.5	+0.9
	0.1nm,0.3s,baz=32,slow=14,SNR=4.2						
MKAR				Sn	Sn	10 16 50.3	-0.5
	0.3nm,0.3s,baz=31,slow=31,SNR=5.2						
	0.5nm,0.6s						
I34MN	**SONGINO INFRAS**	**12.71**	**114**	I		11 28 20.0	
	baz=309,slow=318,SNR=0.5						

*MOS **01** 10:14:27.7±1.1,48°.63N×155°.12E,h44km,mb4.5/10,Error ellipse: s-maj=10.7km s-min=3.8km az=70.1*
*SKHL **01** 10:14:29.9±0.3,48°.70N×155°.20E,h61km±4km,mb5.1/10, ms4.2/5*
*KRSC **01** 10:14:30.7±2.3,48°.76N×156°.54E,h26km±45km,ML4.8*
*NEIC **01** 10:14:30.1±1.9,48°.6N±0°.1×155°.0E±0°.2,h46km±11km, mb4.4/29,Error ellipse: s-maj=20.6km s-min=10.9km az=141.0*
*IDC **01** 10:14:31.5±3.0,48°.84N×154°.78E,h65km±27km,mb3.7/13, mbtmp4.0/18,ML3.1/4,MS3.5/29,Error ellipse: s-maj=22.6km s-min=12.6km az=138.0*
ISC 01 10:14:29.1±0.5,48°.68N±0°.07×155°.21E±0°.07,h43km,n188, σ1s.80/179,mb4.3/33,MS3.7/24,5C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.09**	**16**	*e*P	**Pn**	**10 15 01.8**	**+0.2**
SKR				*e*S	**Sn**	**10 15 25.5**	**-0.9**
SKR	**Severo-Kuril's**	**2.09**	**16**	*e*P	**Pn**	**10 15 01.8**	**+0.2**
SKR				AMB	AMB	10 15 03.6	
	160nm,0.4s						
SKR				*e*S	**Sn**	**10 15 25.5**	**-0.9**
SKR				A	A	10 15 34.2	
	850nm,0.5s						
SKR				A	A	10 15 34.2	
	960nm,0.5s						
SKR				AMS	AMS	10 15 56.2	
	2μm,12.0s						
SKR				AMS	AMS	10 15 56.2	
	2μm,12.0s						
SKR				AMS	AMS	10 15 56.2	
	670nm,12.0s						
SKR	**Severo-Kuril's**	**2.09**	**16**	PN	**Pn**	**10 15 01.8**	**+0.2**
SKR				S	**Sn**	**10 15 25.5**	**-0.9**
PAU	**Pauzhetka**	**2.98**	**20**	*e*P	**Pn**	**10 15 13.8**	**0.0**
PAU				*e*S	**Sn**	**10 15 49.7**	**+1.5**
PAU	**Pauzhetka**	**2.98**	**20**	*e*P	**Pn**	**10 15 15.0**	**+1.2**
PAU				AMB	AMB	10 15 17.3	
	190nm,0.3s						
PAU				*e*S	**Sn**	**10 15 49.0**	**+0.8**
PAU				A	A	10 15 54.5	
	1μm,0.5s						
PAU				A	A	10 15 54.5	
	870nm,0.5s						
PAU				AMS	AMS	10 16 17.2	
	3μm,14.0s						
PAU				AMS	AMS	10 16 17.2	
	3μm,14.0s						
PAU				AMS	AMS	10 16 17.2	
	1μm,14.0s						
PAU	**Pauzhetka**	**2.98**	**20**	PN	**Pn**	**10 15 13.8**	**0.0**
PAU				S	**Sn**	**10 15 49.7**	**+1.5**
KDTR	**Khodutka, Kamc**	**3.63**	**29**	*e*P	**Pn**	**10 15 23.2**	**+0.4**
KDTR				*e*S	**Sn**	**10 16 02.1**	**-2.3**
KDTR	**Khodutka, Kamc**	**3.63**	**29**	PN	**Pn**	**10 15 23.2**	**+0.4**
ASAK	**Asacha**	**4.09**	**24**	*e*P	**Pn**	**10 15 31.3**	**+2.2**
ASAK	**Asacha**	**4.09**	**24**	PN	**Pn**	**10 15 31.3**	**+2.2**
MTVR	**Mutnovka**	**4.25**	**25**	*e*P	**Pn**	**10 15 32.9**	**+1.5**
MTVR				*e*S	**Sn**	**10 16 20.1**	**+0.2**
MTVR	**Mutnovka**	**4.25**	**25**	PN	**Pn**	**10 15 32.9**	**+1.5**
GRL	**Gorelyy**	**4.29**	**24**	*e*P	**Pn**	**10 15 34.0**	**+2.2**
GRL	**Gorelyy**	**4.29**	**24**	PN	**Pn**	**10 15 34.0**	**+2.2**
RUS	**Russkaya**	**4.31**	**28**	*e*P	**Pn**	**10 15 32.3**	**+0.3**
RUS				*e*S	**Sn**	**10 16 18.5**	**-2.5**
RUS	**Russkaya**	**4.31**	**28**	PN	**Pn**	**10 15 32.3**	**+0.3**
APC	**Apacha**	**4.43**	**15**	*e*P	**Pn**	**10 15 37.1**	**+3.4**
APC	**Apacha**	**4.43**	**15**	PN	**Pn**	**10 15 37.1**	**+3.4**
KRMR	**Karymshinskiy**	**4.55**	**23**	*e*P	**Pn**	**10 15 37.4**	**+2.0**
KRMR	**Karymshinskiy**	**4.55**	**23**	PN	**Pn**	**10 15 37.4**	**+2.0**
PEA0B	**Petropavlovsk-**	**4.71**	**19**		**Pn**	**10 15 39.9**	**+2.4**
PEA0B	**Petropavlovsk-**	**4.71**	**19**	*d i*PN	**Pn**	**10 15 40.3**	**+2.8**
PETK	**Petropavlovsk-**	**4.71**	**19**	P	**Pn**	**10 15 39.4**	**+1.9**
	8.6nm,0.3s,baz=185,slow=13,SNR=136						
PETK				LR	LR	10 17 52.7	
	comp=Z,272nm,20.3s,baz=199,slow=43						
	23nm,0.4s						
PETK	**Petropavlovsk-**	**4.71**	**19**		**Pn**	**10 15 39.6**	**+2.1**
PETK	**Petropavlovsk-**	**4.71**	**19**	PN	**Pn**	**10 15 39.6**	**+2.1**
PET	**Petropavlovsk**	**4.87**	**25**	Pn	**Pn**	**10 15 41.4**	**+1.8**
PET	**Petropavlovsk**	**4.87**	**25**	*e*P	**Pn**	**10 15 40.7**	**+1.0**

PET Petropavlovsk 4.87 25 eP Pn 10 15 41.1 +1.4
PET AMB AMB 10 15 44.8
60nm,0.5s
PET eS Sn 10 16 34.4 -0.3
PET A A 10 16 56.0
280nm,0.5s
PET A A 10 16 56.0
350nm,0.5s
PET AMS AMS 10 18 02.2
200nm,15.0s
PET Petropavlovsk 4.87 25 ePN Pn 10 15 41.1 +1.4
PET pmax pmax
comp=Z,62nm,0.6s
PET MLR MLR
comp=Z,200nm,15.0s
DALK Dalny 4.90 26 eP Pn 10 15 41.2 +1.0
DALK eS Sn 10 16 35.8 +0.3
DALK Dalny 4.90 26 PN Pn 10 15 41.2 +1.0
UGLR Uglovaya 5.08 25 eP Pn 10 15 45.3 +2.6
UGLR Uglovaya 5.08 25 PN Pn 10 15 45.3 +2.6
KOK Koryaka 5.10 24 eP Pn 10 15 45.6 +2.6
KOK Koryaka 5.10 24 eP Pn 10 15 45.6 +2.6
KOK Koryaka 5.10 24 PN Pn 10 15 45.6 +2.6
AVH Avacha 5.11 25 eP Pn 10 15 45.8 +2.8
AVH Avacha 5.11 25 PN Pn 10 15 45.8 +2.8
SMAR Somma 5.12 25 eP Pn 10 15 45.7 +2.3
SMAR Somma 5.12 25 PN Pn 10 15 45.7 +2.3
KRER Koryakskii 5.14 24 eP Pn 10 15 46.5 +2.8
KRER Koryakskii 5.14 24 PN Pn 10 15 46.5 +2.8
SDLR Sedlovina 5.16 25 eP Pn 10 15 45.4 +1.6
SDLR Sedlovina 5.16 25 PN Pn 10 15 45.4 +1.6
KRX Arik 5.17 24 eP Pn 10 15 46.3 +2.4
KRX Arik 5.17 24 PN Pn 10 15 46.3 +2.4
NLC Nalytchevo 5.20 29 eS Sn 10 16 38.2 -4.7
GNL Ganaly 5.31 18 eP Pn 10 15 48.7 +2.8
GNL Ganaly 5.31 18 PN Pn 10 15 48.7 +2.8
SPN Mys Shipunski 5.37 33 eP Pn 10 15 47.6 +1.0
SPN eS Sn 10 16 44.8 -2.3
SPN Mys Shipunski 5.37 33 PN Pn 10 15 47.6 +1.0
KII Karymskiy 5.99 25 eP Pn 10 15 57.6 +2.5
KII Karymskiy 5.99 25 PN Pn 10 15 57.6 +2.5
KUR Kuril'sk 6.09 238 eP Pn 10 15 58.2 +1.7
KUR AMB AMB 10 16 01.6
comp=Z,60nm,0.5s
KUR AMB AMB 10 16 01.6
comp=Z,150nm,0.5s
KUR eS Sn 10 17 04.7 -0.2
KUR A A 10 17 15.0
comp=Z,230nm,0.5s
KUR A A 10 17 15.0
comp=Z,60nm,0.5s
KUR AMS AMS 10 17 57.0
comp=Z,2μm,12.0s
KUR AMS AMS 10 17 57.0
comp=Z,600nm,12.0s
KUR Kuril'sk 6.09 238 ePN Pn 10 15 59.0 +2.5
KUR eS Sn 10 17 10.0 +5.1
KUR pmax pmax
comp=Z,150nm,0.4s
KUR pmax pmax
comp=N,56nm,0.3s
KUR smax smax
comp=N,130nm,0.5s
KUR smax smax
comp=E,53nm,0.5s
MKZ Mys Kozlova 7.15 32 eP Pn 10 16 10.8 -0.1
MKZ eS Sn 10 17 24.3 -6.4
MKZ Mys Kozlova 7.15 32 PN Pn 10 16 10.8 -0.1
TUMD Tumrok D 7.28 24 eP Pn 10 16 13.9 +1.1
TUMR Tumrok 7.28 23 eP Pn 10 16 15.1 +2.2
TUMR Tumrok 7.28 23 PN Pn 10 16 13.9 +1.0
YUK Yuzh-Kuril'sk 7.96 238 i P Pn 10 16 23.2 +1.1
YUK AMB AMB 10 16 23.7
comp=E,70nm,0.5s
YUK AMB AMB 10 16 23.7
comp=E,190nm,0.5s
YUK eS Sn 10 17 49.9 -0.9
YUK AMS AMS 10 18 23.0
comp=E,2μm,12.0s
YUK AMS AMS 10 18 23.0
comp=E,2μm,12.0s
YUK AMS AMS 10 18 23.0
comp=E,1μm,12.0s
YUK Yuzh-Kuril'sk 7.96 238c iPN Pn 10 16 23.1 +1.0
YUK pmax pmax
comp=Z,193nm,0.5s
YUK pmax pmax
comp=N,38nm,0.6s
YUK pmax pmax
comp=E,68nm,0.5s
RUSJ Misakicho 8.27 240 ePN Pn 10 16 27.9 +1.6
NMR Nemuro--Hokkai 8.46 235 i P Pn 10 16 27.5 -1.5
NMR Nemuro--Hokkai 8.46 235⇓iPN Pn 10 16 27.1 -1.9
YSS Yuzh-Sakhalins 8.56 263 Pn Pn 10 16 30.6 +0.3
YSS Yuzh-Sakhalins 8.56 263 eP Pn 10 16 32.7 +2.4
YSS AMB AMB 10 16 33.2
comp=E,20nm,0.9s
YSS Yuzh-Sakhalins 8.56 263 ePN Pn 10 16 32.7 +2.4
YSS pmax pmax
comp=Z,20nm,0.9s
UGL Uglegorsk 8.68 278 eP Pn 10 16 33.0 +1.1
UGL AMB AMB 10 16 39.0
comp=Z,100nm,0.8s
UGL Uglegorsk 8.68 278 ePN Pn 10 16 33.0 +1.1
UGL pmax pmax
comp=Z,100nm,0.8s
KBTR Krutoberegovo 8.85 29 eP Pn 10 16 34.9 +0.6
KBTR Krutoberegovo 8.85 29 PN Pn 10 16 34.9 +0.6
ERM Erimo 10.78 236 Pn Pn 10 17 01.2 +0.5
ERM Erimo 10.78 236 PN Pn 10 17 01.2 +0.5
MA2 Magadan 11.22 348 P Pn 10 17 06.4 -0.3
comp=Z,8.3nm,0.5s,baz=178,slow=14,SNR=6.8
MA2 LR LR 10 21 31.2
comp=Z,149nm,19.5s,baz=169,slow=38
MA2 Magadan 11.22 348 Pn Pn 10 17 08.0 +1.3
MA2 Magadan 11.22 348 eP Pn 10 17 07.9 +1.2
MA2 Magadan 11.22 348⇑ePN Pn 10 17 07.9 +1.2
JEW Eniwo 11.24 244 Pn Pn 10 17 04.3 -2.7
GRNR Gornyy 12.34 287 AMS AMS 10 22 10.6
comp=Z,300nm,13.0s
GRNR AMS AMS 10 22 10.6
comp=Z,200nm,13.0s
GRNR AMS AMS 10 22 10.6
comp=Z,200nm,13.0s
SHEM Shemya Is, Ala 12.63 64 LR LR 10 22 01.5
comp=Z,94nm,21.7s,baz=296,slow=35
SMY Shemya 12.63 64 Pn Pn 10 17 26.5 +0.5
SMY Shemya 12.63 64 PN Pn 10 17 26.5 +0.5
JTM Tenmabayashi 12.77 237 Pn Pn 10 17 23.9 -4.0
SEY Seymchan 14.38 355 P Pn 10 17 49.8 +0.1
comp=Z,0.1nm,0.3s,baz=208,slow=14,SNR=1.2
comp=Z,0.9nm,0.4s
KLR Kul'dur 15.41 281 P P 10 18 06.4 -0.9
comp=Z,4.0nm,0.8s,baz=72,slow=9.1,SNR=8.6
KLR LR LR 10 23 47.5
comp=Z,190nm,20.8s,baz=76,slow=37
KLR Kul'dur 15.41 281 eP Pn 10 18 03.5 +0.1
USA0B Ussuriysk Arra 16.60 263 Pn 10 18 18.5 0.0
USA0B Ussuriysk Arra 16.60 263 P Pn 10 18 18.5 0.0
USA0B pmax pmax
comp=Z,10.0nm,1.2s
USRK Ussuriysk Ar. 16.60 263 P Pn 10 18 17.6 -0.9
comp=Z,0.3nm,0.3s,baz=71,slow=14,SNR=8.3
USRK LR LR 10 24 23.3
comp=Z,91nm,19.4s,baz=58,slow=36
comp=Z,3.1nm,0.7s
MAJO Matsushiro 17.38 232 P Pn 10 18 28.1 -0.2
MAJO Matsushiro 17.38 232 P Pn 10 18 28.1 -0.2
MAJO pmax pmax
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 17.38 232 P Pn 10 18 26.2 -2.1
comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=4.6
MJAR LR LR 10 25 50.9
comp=Z,74nm,21.3s,baz=30,slow=39
comp=Z,1.6nm,0.6s
MJB9 Matsu-Tunnel 17.38 232 P Pn 10 18 27.4 -0.9
HEH HeiHe 18.10 285 eP P 10 18 38.6 +1.6
HEH pmax pmax
comp=Z,11nm,0.9s
ZEA Zeya 18.17 297 eP Pn 10 18 39.9 +2.0
JGF Kuroka 18.54 232 P 10 18 42.1 +0.1
BILL Bilibino 20.20 12 eP P 10 18 58.8 -1.0
BILL e 10 19 20.2
BILL pmax pmax
comp=Z,4.0nm,1.0s
KSRS Korea Array 22.75 251 P P 10 19 26.3 -1.1
comp=Z,5.3nm,0.7s,baz=48,slow=9.9,SNR=16
KSRS LR LR 10 27 43.1
comp=Z,64nm,19.6s,baz=40,slow=35
comp=Z,5.3nm,0.7s
KSRS Korea Array 22.75 251 eP P 10 19 27.3 -0.1
KSRS Korea Array 22.75 251 eP P 10 19 27.3 -0.1
KSRS pmax pmax
comp=Z,5.0nm,0.6s
KS19 Wonju Array Si 22.76 251 P P 10 19 25.8 -1.8
KSAR Wonju Array Be 22.78 251 P P 10 19 24.7 -3.1
KSAR Wonju Array Be 22.78 251 P P 10 19 24.7 -3.1
JCJ Chichijima 23.81 210 LR LR 10 29 40.1
comp=Z,14nm,19.9s,baz=107,slow=38
TIXI Tiksi 26.05 341 P P 10 19 55.8 -2.1
comp=Z,1.1nm,0.5s,baz=270,slow=23,SNR=6.3
comp=Z,1.1nm,0.5s
TIXI Tiksi 26.05 341⇑eP P 10 19 56.3 -1.6
TIXI pmax pmax
comp=Z,12nm,3.0s
H11N2 WAKE ISLAND Hy 30.38 158 T T 10 52 47.1
baz=345,slow=76,SNR=34
H11N1 WAKE ISLAND Hy 30.39 158 T T 10 52 35.3
baz=345,slow=76,SNR=53
H11N3 WAKE ISLAND Hy 30.39 158 T T 10 53 02.4
baz=345,slow=76,SNR=24
J20K Nowinta River 30.99 41 P P 10 20 43.6 +1.7
M20K Styx River 31.32 46 P P 10 20 46.5 +1.5
M20K IAmb IAmb 10 21 06.6
comp=Z,9.1nm,1.2s
H11S1 WAKE ISLAND Hy 31.50 159 T T 10 54 22.1
baz=345,slow=76,SNR=624
H11S3 WAKE ISLAND Hy 31.51 159 T T 10 54 00.9
baz=345,slow=76,SNR=1235
H11S2 WAKE ISLAND Hy 31.52 159 T T 10 54 26.1
baz=345,slow=76,SNR=673
CAST Castle Rocks 31.85 43 P P 10 20 51.5 +1.9
SONM Songino Array 32.07 287 PcP PcP 10 23 39.5 -0.8
comp=Z,0.5nm,0.5s,baz=117,slow=2.9,SNR=4.1
SONM LR LR 10 34 58.0
comp=Z,132nm,18.3s,baz=53,slow=39
TRF Thorofare Moun 32.66 43 P P 10 20 58.2 +1.4
TRF IAmb IAmb 10 21 08.1
comp=Z,12nm,1.4s
H23K Yukon River 33.08 38 P P 10 21 02.1 +1.8
H23K IAmb IAmb 10 21 26.0
comp=Z,9.0nm,1.4s
MDM Murphy Dome 33.59 40 P P 10 21 06.4 +1.7
MDM IAmb IAmb 10 21 18.7
comp=Z,3.8nm,1.0s
SML Sawmill 33.60 46 P P 10 21 06.2 +1.3
COLA College 33.75 40⇑eP P 10 21 07.2 +1.2
COLA pmax pmax
comp=Z,20nm,2.8s
H24K Noodor Dome 33.76 38 P P 10 21 07.5 +1.2
CCB Clear Creek Bu 33.76 41 P P 10 21 06.8 +0.6
CCB IAmb IAmb 10 21 31.0
comp=Z,5.5nm,1.2s
SCM Sheep Creek Mo 34.08 46 P P 10 21 11.2 +2.1
SCM Sheep Creek Mo 34.08 46 P P 10 21 11.2 +2.1
SCM pmax pmax
comp=Z,19nm,1.2s
IL31 34.16 40 P P 10 21 10.3 +0.7
ILAR Eielson Array 34.16 40 P P 10 21 08.9 -0.8
comp=Z,1.2nm,1.0s,baz=247,slow=7.2,SNR=9.5
comp=Z,1.2nm,1.0s
ILAR Eielson Array 34.16 40 P P 10 21 10.2 +0.6
ILAR Eielson Array 34.16 40 eP P 10 21 10.3 +0.6
ILAR pmax pmax
comp=Z,1.0nm,0.6s
J26L Joseph Creek 35.60 41 P P 10 21 22.9 +0.7
J26L IAmb IAmb 10 21 34.0
comp=Z,6.9nm,1.4s
NACB Ninganchiao 36.00 239 P P 10 21 25.5 -0.4
M26K Nabesna, AK 36.05 44 P P 10 21 28.3 +2.3
M26K IAmb IAmb 10 21 41.2
comp=Z,8.8nm,1.2s
K27K Chicken 36.28 41 P P 10 21 29.3 +1.4
K27K IAmb IAmb 10 21 46.7
comp=Z,6.6nm,1.1s
L27K Beaver Creek, 36.50 43 P P 10 21 31.7 +1.9
L27K IAmb IAmb 10 21 48.6
comp=Z,5.2nm,0.9s
BCAR Beaver Creek A 36.52 43 P P 10 21 32.5 +2.5
EGAK Eagle 36.61 40 P P 10 21 31.6 +0.9
EGAK IAmb IAmb 10 21 32.2
comp=Z,4.5nm,0.9s
CTGM Chitina Glacie 37.05 46 P P 10 21 36.9 +2.2
DAWY Dawson 37.45 41 P P 10 21 39.4 +1.5
DAWY IAmb IAmb 10 21 52.6
comp=Z,4.2nm,1.3s
INK Inuvik 39.26 34 P P 10 21 53.4 +0.5
comp=Z,0.8nm,0.6s,baz=296,slow=5.3,SNR=1.4
comp=Z,0.8nm,0.6s
INK Inuvik 39.26 34 P P 10 21 54.6 +1.7
INK IAmb IAmb 10 22 18.7
comp=Z,6.3nm,1.3s
INK Inuvik 39.26 34 P P 10 21 54.6 +1.7
INK pmax pmax
comp=Z,6.0nm,1.3s
M31M Drury Creek, Y 40.03 43 P P 10 22 01.7 +2.2
M31M IAmb IAmb 10 22 18.9
comp=Z,7.7nm,1.3s
FARO Faro, Yukon 40.50 43 P P 10 22 05.6 +2.2
FARO IAmb IAmb 10 22 09.8
comp=Z,11nm,1.4s
ZALV Zalesovo Beam 42.66 305 PcP PcP 10 24 12.2 -0.1
comp=Z,0.4nm,0.3s,baz=72,slow=4.8,SNR=4.9
ZALV LR LR 10 39 36.4
comp=Z,54nm,18.2s,baz=80,slow=36
EUNU Eureka 46.95 12 P P 10 22 55.3 +0.3
EUNU IAmb IAmb 10 23 12.8
comp=Z,7.8nm,1.1s
MK31 Makanchi Array 47.33 297⇓eP P 10 22 56.4 -1.9
MKAR Makanchi Array 47.33 297 P P 10 22 55.6 -2.7
comp=Z,1.0nm,0.8s,baz=61,slow=5.7,SNR=4.2
MKAR LR LR 10 45 39.3
comp=Z,27nm,18.6s,baz=42,slow=40
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 47.33 297 P P 10 22 57.0 -1.3
MKAR Makanchi Array 47.33 297 i P P 10 22 59.2 +0.9
MKAR Makanchi Array 47.33 297 i P P 10 22 59.2 +0.9
MKAR pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 47.49 303 eP P 10 23 00.1 +0.6
KURK Kurchatov 47.49 303⇓eP P 10 23 00.1 +0.6
KURK pmax pmax
comp=Z,21nm,5.8s
RES Resolute Bay 48.55 19 P P 10 23 08.7 +1.4
RES Resolute Bay 48.55 19 P P 10 23 08.7 +1.4
RES pmax pmax
comp=Z,10.0nm,1.3s
CMAR Chiang Mai Arr 54.20 257 P P 10 23 49.5 -0.9
comp=Z,3.6nm,0.6s,baz=35,slow=6.9,SNR=8.0
comp=Z,3.6nm,0.6s
AAK Ala-Archa 54.25 296 LR LR 10 48 12.5
comp=Z,60nm,19.1s,baz=47,slow=38
ARU Arti 54.55 317 eP P 10 23 53.5 +1.1
ARU Arti 54.55 317⇑eP P 10 23 53.5 +1.1
ARU pmax pmax
comp=Z,5.0nm,1.7s
NEW Newport 54.89 55 LR LR 10 48 18.4
comp=Z,81nm,19.7s,baz=306,slow=37
YBH Yreka Blue Hor 55.60 64 LR LR 10 43 04.1
comp=Z,52nm,21.1s,baz=335,slow=31
ARCES ARCESS Array B 56.49 341 LR LR 10 52 05.6
comp=Z,75nm,18.2s,baz=31,slow=40
KIRV Kirov 57.09 323 LR LR 10 49 38.3
comp=Z,66nm,18.1s,baz=32,slow=37
HNR Honiara 58.01 174 LR LR 10 45 20.6
comp=Z,356nm,21.9s,baz=76,slow=32
NVAR Mina Array Bea 60.30 64 P P 10 24 35.1 +1.6
comp=Z,0.3nm,0.4s,baz=293,slow=7.7,SNR=2.7
comp=Z,0.3nm,0.4s
KAPI Kappang 61.78 221 LR LR 10 52 37.6
comp=Z,10nm,20.8s,baz=56,slow=37
PDAR Pinedale Array 62.48 56 P P 10 24 49.6 +1.5
comp=Z,1.1nm,0.8s,baz=298,slow=2.0,SNR=9.4
comp=Z,1.1nm,0.8s
FINES FINESS Array B 62.89 335 P P 10 24 48.0 -2.2
comp=Z,1.1nm,0.6s,baz=42,slow=5.9,SNR=5.4
FINES LR LR 10 54 27.0
comp=Z,67nm,18.0s,baz=7.0,slow=38
comp=Z,1.1nm,0.6s
FINES FINESS Array B 62.89 335 eP P 10 24 48.9 -1.3
FINES pmax pmax
comp=Z,1.0nm,0.6s
OBN Obninsk 64.51 326 eP P 10 24 58.0 -3.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
GEYT Alibeck 66.82 301 LR LR 10 56 05.0
comp=Z,54nm,18.6s,baz=42,slow=38
NOA NORSAR Array B 66.85 342 LR LR 10 58 24.7
comp=Z,33nm,20.2s,baz=45,slow=40
HFS Hagfors 67.13 340 LR LR 10 55 55.0
comp=Z,20nm,21.7s,baz=38,slow=37
KIV Kislovodsk 70.45 315 eP P 10 25 38.9 0.0
KIV Kislovodsk 70.45 315 eP P 10 25 38.9 0.0
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,25nm,18.0s
AKASG Malin Array Be 70.72 327 P P 10 25 38.2 -2.0
comp=Z,0.2nm,0.3s,baz=33,slow=6.2,SNR=2.5
AKASG LR LR 10 59 28.7
comp=Z,41nm,19.8s,baz=360,slow=38
comp=Z,0.2nm,0.3s
WRA Warramunga Arr 70.81 201 P P 10 25 40.6 -0.4
comp=Z,1.6nm,0.7s,baz=16,slow=6.4,SNR=12
comp=Z,1.6nm,0.7s
WRA Warramunga Arr 70.81 201 eP P 10 25 39.8 -1.2
WRA pmax pmax
comp=Z,2.0nm,0.7s
GNI Garni 72.35 311 LR LR 10 59 50.8
comp=Z,48nm,19.6s,baz=46,slow=38
ASAR Alice Springs 74.50 200 P P 10 26 03.6 +0.7
comp=Z,1.0nm,0.6s,baz=13,slow=5.4,SNR=13
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 75.33 62 P P 10 26 09.4 +1.4
comp=Z,1.4nm,0.5s,baz=298,slow=4.9,SNR=31
comp=Z,1.4nm,0.5s
VRAC Vranov 76.08 334 LR LR 11 02 06.7
comp=Z,57nm,19.2s,baz=24,slow=38
WSAR Wadi Sarin 77.06 290 LR LR 11 04 52.5
comp=Z,41nm,21.0s,baz=64,slow=39
GERES GERESS Array B 77.32 335 LR LR 11 03 38.2
comp=Z,70nm,18.7s,baz=47,slow=38
DAVOX Davos/Dischmat 80.25 337 LR LR 11 05 46.5
comp=Z,48nm,18.8s,baz=246,slow=38
EIL Elat 85.52 311 LR LR 11 09 03.1
comp=Z,37nm,18.8s,baz=42,slow=38
CPUP Villa Florida 146.28 60 PKPbc PKPdf 10 34 04.2 +0.6
comp=Z,2.1nm,0.7s,baz=270,slow=1.0,SNR=3.5
PLCA Paso Flores 146.94 94 PKPbc PKPbc 10 34 06.2 -0.2
comp=Z,1.7nm,0.8s,baz=260,slow=6.1,SNR=3.1

IDC 01 10:24:46.4±3.0, 42°.28N×129°.30E, h0km, mbtmp2.9/3, ML1.9/3, Error ellipse: s-maj=38.4km s-min=19.3km az=116.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	USSURIYSK INFR	2.74	45	I		10 41 00.0	
	baz=221,slow=330,SNR=2.6						
USRK	Ussuriysk Ar.	2.75	45	Pn	Pn	10 25 31.5	-0.2
	0.2nm,0.3s,baz=231,slow=12,SNR=3.0						
USRK				Pg	Pb	10 25 36.8	+0.4
	1.2nm,0.3s,baz=230,slow=14,SNR=15						
USRK				Lg	Lg	10 26 13.1	
	1.7nm,0.3s,baz=229,slow=27,SNR=9.7						
	0.5nm,0.3s						
KSRS	Korea Array	4.93	193	Pn	Pn	10 26 00.7	-1.1
	0.1nm,0.3s,baz=11,slow=13,SNR=4.1						
	1.4nm,0.6s						
MJAR	Matsushiro Arr	8.96	127	Pn	Pn	10 26 59.6	+2.5
	baz=316,slow=15,SNR=1.4						
	1.1nm,0.8s						

---

*LDG **01** 10:47:31.0±0.4, 43°.60N×11°.08E, h8km, Ml3.4/23, Error ellipse: s-maj=9.7km s-min=7.2km az=41.0*
*STR **01** 10:47:33.0±1.5, 44°N±6°×1°1E±1°3, h10km, MLv3.4/32, Error ellipse: s-maj=0.0km s-min=0.0km az=108.1, preliminary*
*ROM **01** 10:47:34.0±0.1, 43°.614N±0°.004×10°.994E±0°.005, h8km, ML3.2/22, Error ellipse: s-maj=0.4km s-min=0.2km az=226.0*
*GEN **01** 10:47:33.6, 43°.61N×11°.04E, h6km±1km, Ml0.0*
*IDC **01** 10:47:34.4±2.6, 43°.84N×10°.78E, h0km, mb3.4/1, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=80.5km s-min=20.5km az=102.0*
*PRU **01** 10:47:38.6±0.0, 43°.79N×11°.15E, h10km*
ISC 01 10:47:34.1±0.8, 43°.59N±0°.01×11°.01E±0°.02, h14km±5km, n189, σ1s.55/225, 4C-8D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSC	Osservatorio P	0.19	112	P	Pg	10 47 37.1	-1.3
OSSC				S	Sg	10 47 40.3	-1.1
OSSC	Osservatorio P	0.19	112	AML	AML		
	comp=E,20400μm,0.4s						
OSSC				AML	AML		
	comp=E,22950μm,0.6s						
OSSC				AML	AML		
	comp=N,20350μm,0.4s						
OSSC				AML	AML		
	comp=N,23000μm,0.6s						
CRMI	Carmignano	0.20	352	P	Pg	10 47 38.5	-0.2
CRMI				S	Sg	10 47 41.6	-0.1
CRMI	Carmignano	0.20	352	⇑P	Pg	10 47 38.5	-0.2
CRMI				S	Sg	10 47 41.4	-0.4
CRMI				AML	AML		
	comp=N,1910μm,1.5s						
CRMI				AML	AML		
	comp=N,14150μm,1.5s						
CRMI				AML	AML		
	comp=E,27000μm,0.8s						
CRMI				AML	AML		
	comp=E,3515μm,0.8s						
CSNT	Castellina Chi	0.24	120	P	Pg	10 47 39.2	-0.1
CSNT				S	Sg	10 47 43.1	+0.3
CSNT	Castellina Chi	0.24	120	⇓P	Pg	10 47 39.2	-0.1
CSNT				S	Sg	10 47 44.1	+1.3
CSNT				AML	AML		
	comp=E,9880μm,0.9s						
CSNT				AML	AML		
	comp=N,9545μm,0.4s						
FIR	Firenze	0.25	45	P	Pg	10 47 39.4	-0.1
FIR				S	Sg	10 47 43.4	+0.2
A319A	Santa Luce (PI	0.33	250	P	Pg	10 47 41.4	+0.4
A319A				S	Sg	10 47 46.2	+0.6
MPPT	Montemurlo	0.37	9	⇑P	Pg	10 47 41.4	-0.2
MPPT				S	Sb	10 47 46.7	-1.4
MPPT				AML	AML		
	comp=E,5650μm,0.4s						
MPPT				AML	AML		
	comp=N,4380μm,0.8s						
PII	Pisa	0.37	290	P	Pg	10 47 41.8	+0.1
PII				S	Sg	10 47 46.7	-0.1
PII	Pisa	0.37	290	⇓P	Pg	10 47 41.8	+0.1
PII				S	Sg	10 47 46.7	-0.1
PII				AML	AML		
	comp=E,13100μm,1.2s						
PII				AML	AML		
	comp=N,15300μm,0.8s						
FROS	Frosini	0.40	164	P	Pg	10 47 42.4	+0.4
FROS				S	Sg	10 47 48.2	+0.7
FROS	Frosini	0.40	164	⇓P	Pg	10 47 42.4	+0.4
FROS				S	Sg	10 47 48.0	+0.5
FROS				AML	AML		
	comp=N,15850μm,0.6s						
FROS				AML	AML		
	comp=E,22950μm,0.3s						
MTCR	Monte La Croce	0.43	359	P	Pg	10 47 42.5	-0.3
MTCR				S	Sg	10 47 48.8	+0.1
MTCR	Monte La Croce	0.43	359	P	Pg	10 47 42.7	-0.1
MTCR				S	Sb	10 47 49.1	-0.9
MTCR				AML	AML		
	comp=E,4770μm,0.6s						
MTCR				AML	AML		
	comp=N,4870μm,0.7s						
RUFI	Rufina	0.44	56	P	Pb	10 47 42.8	-0.8
RUFI				S	Sb	10 47 48.2	-1.9
RUFI	Rufina	0.44	56	⇑P	Pb	10 47 42.8	-0.8
RUFI				S	Sb	10 47 48.9	-1.1
RUFI				AML	AML		
	comp=E,3195μm,0.8s						
RUFI				AML	AML		
	comp=N,3645μm,1.6s						

TRIF	Trifonti	0.48	189	P	Pg	10 47 44.0	+0.4
TRIF				S	Sg	10 47 50.9	+0.7
TRIF				AML	AML		
	comp=E,6325μm,1.2s						
TRIF				AML	AML		
	comp=N,6055μm,1.1s						
POPM	Popiglio	0.49	338	P	Pg	10 47 43.6	-0.2
POPM	Popiglio	0.49	338	P	Pg	10 47 43.7	0.0
POPM				AML	AML		
	comp=E,4837μm,0.6s						
MAIM	Mastiano	0.49	311	P	Pg	10 47 43.8	-0.1
MAIM				S	Sg	10 47 50.1	-0.4
MAIM	Mastiano	0.49	311	⇓P	Pg	10 47 43.8	-0.1
MAIM				S	Sg	10 47 49.7	-0.8
MAIM				AML	AML		
	comp=E,1820μm,0.6s						
MAIM				AML	AML		
	comp=N,1810μm,0.5s						
BDI	Bagni Di Lucca	0.56	328	⇓P	Pg	10 47 44.8	-0.2
BDI				AML	AML		
	comp=E,966μm,0.6s						
BDI				AML	AML		
	comp=N,1147μm,1.1s						
BDI				AML	AML		
	comp=N,2875μm,1.1s						
BDI				AML	AML		
	comp=E,2610μm,0.5s						
A318A	Donoratico (LI	0.57	214	P	Pg	10 47 45.7	+0.5
A318A				S	Sg	10 47 54.2	+1.4
CARD	Cardoso	0.58	319	P	Pg	10 47 45.1	-0.3
CARD	Cardoso	0.58	319	⇓P	Pg	10 47 45.1	-0.3
CARD				AML	AML		
	comp=N,2905μm,0.6s						
CARD				AML	AML		
	comp=E,3320μm,1.4s						
FNVD	Fontana Vidola	0.58	8	⇑P	Pb	10 47 45.4	-0.7
FNVD				AML	AML		
	comp=N,3660μm,0.4s						
FNVD				AML	AML		
	comp=E,2625μm,0.6s						
ASQU	Asqua	0.60	70	P	Pb	10 47 45.7	-0.7
ASQU				S	Sb	10 47 54.2	-0.5
ASQU	Asqua	0.60	70	P	Pb	10 47 45.9	-0.5
BRIS	BRISIGHELLA	0.67	33	P	Pn	10 47 51.0	+2.0
SFI	Santa Sofia	0.68	63	P	Pb	10 47 47.3	-0.5
SFI				S	Sb	10 47 56.4	-0.7
LMD	Lutirano	0.70	46	P	Pb	10 47 47.4	-0.7
LMD				S	Sb	10 47 57.6	+0.1
LMD	Lutirano	0.70	46	P	Pb	10 47 47.4	-0.7
LMD				S	Sb	10 47 57.9	+0.4
VLC	Villacollemand	0.72	322	P	Pg	10 47 47.9	-0.3
VLC	Villacollemand	0.72	322	⇓P	Pg	10 47 47.9	-0.3
VLC				AML	AML		
	comp=N,1306μm,1.5s						
VLC				AML	AML		
	comp=N,1271μm,1.5s						
VLC				AML	AML		
	comp=E,1085μm,0.8s						
VLC				AML	AML		
	comp=E,1065μm,0.8s						
SARO	Sassorosso	0.74	324	P	Pg	10 47 48.0	-0.4
CAFI	Castiglion Fio	0.74	110	⇓P	Pb	10 47 48.4	-0.5
ZCCA	Zocca	0.76	358	P	Pb	10 47 49.9	+0.8
ZCCA	Zocca	0.76	358	AML	AML		
	comp=N,1520μm,0.5s						
ZCCA				AML	AML		
	comp=E,1530μm,0.7s						
ZCCA				AML	AML		
	comp=E,1575μm,0.6s						
ZCCA				AML	AML		
	comp=N,1420μm,0.5s						
CASP	Castiglione de	0.81	188	P	Pg	10 47 50.2	+0.5
CASP				S	Sb	10 48 02.5	+1.9
ARCI	Arcidosso	0.81	155	P	Pg	10 47 49.8	-0.1
GSCL	Gusciola	0.82	338	P	Pb	10 47 50.2	+0.1
GSCL				S	Sb	10 48 02.5	+1.5
GSCL	Gusciola	0.82	338	P	Pg	10 47 50.0	0.0
GSCL				AML	AML		
	comp=E,2215μm,0.9s						
GSCL				AML	AML		
	comp=N,2650μm,0.5s						
SSP9	Sansepolcro	0.82	91	P	Pb	10 47 50.2	+0.2
GROG	Isola di Gorgo	0.83	259	P	Pg	10 47 50.2	+0.1
GROG				S	Sg	10 48 01.4	+0.4
GROG	Isola di Gorgo	0.83	259	P	Pg	10 47 50.3	+0.1
GROG				S	Sg	10 48 01.4	+0.4
GROG				AML	AML		
	comp=E,2320μm,0.9s						
GROG				AML	AML		
	comp=N,1925μm,0.3s						
EQUI	Equi	0.84	313	P	Pg	10 47 49.7	-0.7
EQUI				S	Sg	10 48 01.1	-0.4
EQUI	Equi	0.84	313	P	Pg	10 47 49.9	-0.5
EQUI				AML	AML		
	comp=N,1460μm,1.1s						
EQUI				AML	AML		
	comp=E,1705μm,0.6s						
MTRZ	Monterenzio	0.85	23	P	Pb	10 47 50.4	-0.2
ATMC	Monte Cedrone	0.87	99	P	Pb	10 47 51.1	+0.1
SF11	Podere del Sol	0.87	146	P	Pb	10 47 51.1	+0.1
SF13	Bagnolo	0.89	150	P	Pb	10 47 51.4	0.0
FIVI	Fivizzano	0.91	316	AML	AML		
	comp=N,2030μm,0.4s						
FIVI				AML	AML		
	comp=E,2195μm,0.4s						
IMOL	Imola, Italy	0.93	34	P	Pn	10 47 53.6	+1.0
SF14	Selvena	0.95	152	P	Pb	10 47 52.4	+0.1
MCIV	Monte Civitell	0.95	149	P	Pg	10 47 52.2	-0.2
ATMI	Monte Miggiano	0.95	105	P	Pn	10 47 52.7	-0.3
PLMA	Palmaria, Port	0.95	299	P	Pg	10 47 52.1	-0.4
PLMA				S	Sg	10 48 05.6	+0.6
PLMA	Palmaria, Port	0.95	299	P	Pg	10 47 52.1	-0.4
PLMA				AML	AML		
	comp=E,1072μm,0.4s						
PLMA				AML	AML		
	comp=N,794μm,1.3s						
CPGN	Carpegna, Ital	0.97	77	P	Pn	10 47 53.6	+0.2
SACS	San Casciano d	0.99	138	P	Pb	10 47 53.1	0.0
ATPI	Pietralunga -	1.02	97	P	Pn	10 47 53.6	-0.4
APEC	Apecchio	1.03	91	P	Pn	10 47 54.0	-0.1
CELB	S.Piero in Cam	1.03	215	P	Pg	10 47 54.0	0.0
CELB				S	Sg	10 48 07.7	+0.4
CELB	S.Piero in Cam	1.03	215	P	Pg	10 47 53.9	0.0
BRSN	Barisano	1.04	48	AML	AML		
	comp=N,3081μm,0.7s						
BRSN				AML	AML		
	comp=E,1570μm,1.5s						
BRSN				AML	AML		
	comp=N,3000μm,0.7s						
BRSN				AML	AML		
	comp=E,1590μm,1.5s						
TB03	Pietralunga	1.04	100	P	Pn	10 47 54.0	-0.2
ATVO	AVT- Monte Val	1.04	101	P	Pn	10 47 53.9	-0.3
MGAB	Montegabbione	1.05	130	P	Pg	10 47 53.8	-0.6
ATLO	AVT- Montelove	1.05	105	P	Pn	10 47 54.4	-0.1
ATTE	AVT- Monte Tez	1.06	111	P	Pb	10 47 53.9	-0.2
ATPC	Poggio Castell	1.06	96	P	Pn	10 47 54.4	-0.1
TB01	Gubbio	1.06	101	P	Pn	10 47 54.3	-0.2
PIEI	Pieia	1.11	92	P	Pn	10 47 55.2	0.0
ATBU	Serra di Buran	1.13	95	P	Pn	10 47 55.5	+0.1
GRAM	Graiana	1.13	323	P	Pg	10 47 55.7	-0.1
GRAM	Graiana	1.13	323	P	Pg	10 47 55.7	-0.1
MURB	Monte Urbino	1.15	106	P	Pn	10 47 56.1	+0.3
ATFO	Monte Foce - G	1.16	101	P	Pn	10 47 56.0	+0.1
MAON	Monte Argentar	1.17	176	P	Pb	10 47 56.6	+0.7
MAON	Monte Argentar	1.17	176	P	Pb	10 47 56.4	+0.4
MAON				AML	AML		
	comp=N,592μm,0.5s						
MAON				AML	AML		
	comp=E,614μm,0.4s						
ATCC	AVT- Casa Cast	1.26	108	P	Pg	10 47 58.1	-0.2
MPAG	Monte Paganucc	1.27	88	P	Pg	10 47 58.1	-0.4
PRMA	PARMA	1.27	337	P	Pg	10 48 01.3	+2.8
PRMA	PARMA	1.27	337	AML	AML		
	comp=E,722μm,0.5s						
PRMA				AML	AML		
	comp=N,676μm,1.0s						
FSSB	Fossombrone	1.29	85	P	Pg	10 47 59.0	+0.1
FSSB				AML	AML		
	comp=N,1160μm,0.5s						
FSSB				AML	AML		
	comp=E,799μm,0.5s						
MSSA	Maissana	1.30	304	P	Pn	10 47 57.4	-0.4
MSSA	Maissana	1.30	304	P	Pn	10 47 57.6	-0.2
MSSA				AML	AML		
	comp=N,634μm,0.5s						
MSSA				AML	AML		
	comp=E,442μm,0.7s						
MORSI	Morsiglia	1.36	243	P	Pn	10 47 57.8	-0.8
SNTG	Esanatoglia	1.45	103	AML	AML		
	comp=N,232μm,0.4s						
SNTG				AML	AML		
	comp=E,195μm,0.9s						
BOB	Bobbio (Coli)	1.62	317	P	Pn	10 48 03.5	+1.2
PGF	Pioggiola	1.81	235	eP	Pn	10 48 04.0	-0.8
PGF				eSn	Sn	10 48 22.6	-4.9
	comp=E,42nm,0.3s						
PGF	Pioggiola	1.81	235	AML	AML		
	comp=E,101μm,0.9s						
PGF				AML	AML		
	comp=N,90μm,1.0s						
PGF	Pioggiola	1.81	235	P	Pn	10 48 04.3	-0.5
CORF	Corte	1.88	227	P	Pn	10 48 05.6	-0.1
SMPL	Sampolo	1.96	221	P	Pn	10 48 07.1	+0.2
ROVR	Rover Verones	2.05	1	P	Pn	10 48 08.9	+0.6
AJAC	Base Areonaval	2.35	226	P	Pn	10 48 12.7	+0.6
LUSI	Trento, Gardas	2.37	359	P	Pn	10 48 13.2	+0.6
SAOF	Saorge	2.53	280	P	Pn	10 48 15.3	+0.6
SBF	Sospel	2.60	277	eP	Pn	10 48 16.6	+0.8
TURF	col de Turini	2.65	280	P	Pn	10 48 17.3	+0.9
SPIF	crte de Spivo	2.77	281	P	Pn	10 48 19.3	+1.2
LPEL	Lama dei Pelig	2.80	122	AML	AML		
	comp=E,75μm,0.9s						
LPEL				AML	AML		
	comp=N,60μm,1.5s						
MVIF	Mont Vial	2.81	278	P	Pn	10 48 19.5	+0.8
ISO	Isola	2.92	283	P	Pn	10 48 21.4	+1.3
CALF	Calern	2.97	274	P	Pn	10 48 21.5	+0.6
SURF	Saint Ours	3.15	288	P	Pn	10 48 24.0	+0.6
JAUF	Jausiers	3.18	287	P	Pn	10 48 24.8	+1.0
MBDF	Montbardon	3.25	292	eP	Pn	10 48 24.6	-0.2
MBDF				eSn	Sn	10 48 58.0	-5.3
	comp=N,32nm,0.6s						
LMR	La Mourre	3.29	267	eP	Pn	10 48 24.4	-0.7
LMR				eSn	Sn	10 48 58.9	-5.0
	comp=N,8.0nm,0.3s						
CREF	Crivoux	3.30	288	P	Pn	10 48 27.1	+1.6
ABTA	Abfaltersbach	3.33	18	i Pn	Pn	10 48 27.9	+2.1
	comp=N,1.0nm,0.1s,SNR=6.1						
OGAG	Argentiere	3.34	287	P	Pn	10 48 29.9	+4.1
TRIGF	Trigance	3.34	274	P	Pn	10 48 26.5	+0.6
FETA	Feichten	3.43	357	ePn	Pn	10 48 29.8	+2.6
	comp=N,11nm,0.5s,SNR=27						
EMBD	Embd, Matterta	3.46	320	P	Pn	10 48 31.3	+3.7
FLAF	Flassans-sur-l	3.47	268	P	Pn	10 48 27.5	0.0
DIX	Grande Dixence	3.57	315	P	Pn	10 48 32.1	+2.8
LPG	La Plagne	3.59	304	eP	Pn	10 48 31.2	+1.7
LPL	La Plagne	3.61	304	eP	Pn	10 48 30.7	+0.9
LPL				eSn	Sn	10 49 06.3	-6.0
	comp=N,21nm,0.7s						
SQTA	Sankt Quirin	3.63	2	ePn	Pn	10 48 32.4	+2.5
	comp=N,16nm,0.3s,SNR=38						
ASEAF	Site Antares,	3.63	259	P	Pn	10 48 30.7	+1.2
WTTA	Wattenberg	3.70	7	i Pn	Pn	10 48 33.3	+2.4
	comp=N,6.8nm,0.2s,SNR=22						
MOTA	Moosalm	3.75	1	ePn	Pn	10 48 34.4	+2.8
	comp=N,7.7nm,0.3s,SNR=25						
RSL	Roselend	3.77	305	P	Pn	10 48 34.6	+2.8
WATA	Walderalm	3.77	6	i Pn	Pn	10 48 34.5	+2.7
	comp=N,8.7nm,0.2s,SNR=15						
DAVA	Damuels	3.78	348	ePn	Pn	10 48 34.8	+2.9
	comp=N,5.7nm,0.3s,SNR=7.9						
MLYF	Mely	3.82	278	P	Pn	10 48 33.8	+1.4
OBKA	Obir	3.85	39	ePn	Pn	10 48 34.9	+2.0
	comp=N,5.7nm,0.5s						
KBA	Koelnbreinsper	3.85	24	i Pn	Pn	10 48 34.9	+1.8
	comp=N,1.0nm,0.2s						
BSTF	la Bastide-des	3.90	276	P	Pn	10 48 34.8	+1.3
RETA	Reutte	3.90	358	ePn	Pn	10 48 36.0	+2.5
	comp=N,15nm,0.3s,SNR=49						
OGSI	Sixt	3.91	311	P	Pn	10 48 37.2	+3.6
ORIF	Oris-en-Rattie	3.92	292	eP	Pn	10 48 35.5	+1.7
ORIF				eSn	Sn	10 49 12.7	-6.9
	comp=N,26nm,0.7s						
ORIF	Oris-en-Rattie	3.92	292	P	Pn	10 48 36.3	+2.5
SMRF	Simiane la Rot	3.95	277	eP	Pn	10 48 35.0	+0.7
SMRF				eSn	Sn	10 49 13.9	-6.5
	comp=N,8.0nm,0.4s						
AIGLE	Aigle	3.98	315	P	Pn	10 48 37.4	+2.7
RUSF	Rustrel	4.02	277	P	Pn	10 48 36.7	+1.6
GRN	Grenoble	4.12	295	P	Pn	10 48 40.1	+3.5
OGSM	Saint Maurice	4.30	300	P	Pn	10 48 41.0	+2.0
BALST	Balsthal	4.41	329	P	Pn	10 48 41.7	+1.2
CABF	La Chapelle	4.61	313	eP	Pn	10 48 45.0	+1.7
BRANT	Les Verrieres	4.63	318	P	Pn	10 48 45.3	+1.7
GUT	Gutenstein	4.67	344	P	Pn	10 48 44.9	+0.8
VIVF	Saint-Julien-l	4.73	288	eP	Pn	10 48 45.5	+0.6
CHMF	Charmoille	4.77	322	P	Pn	10 48 46.8	+1.2
CHMF				S	Sn	10 49 41.9	+1.2
FELD	Feldberg im Sc	4.77	335	P	Pn	10 48 46.5	+0.9
RIVEL	MONT RIVEL	4.79	313	P	Pn	10 48 47.9	+2.1
MOA	Molln	4.83	27	ePn	Pn	10 48 48.6	+2.3
	comp=N,0.8nm,0.2s,SNR=8.3						
ARSA	Arzberg	4.84	39	ePn	Pn	10 48 48.2	+1.7
	comp=N,2.2nm,0.5s						
KIZ	Kirchzarten	4.87	335	P	Pn	10 48 47.6	+0.7
SSB	Saint Sauveur	4.93	292	P	Pn	10 48 49.2	+1.5
BOUC	Bouclans	4.95	319	P	Pn	10 48 49.3	+1.3
BOUC				S	Sn	10 49 44.8	-0.2
MOF	Molkenrain	5.05	329	P	Pn	10 48 50.2	+0.9
MOF				S	Sn	10 49 46.0	-1.5
VOGT	Vogtsburg - To	5.06	334	P	Pn	10 48 50.5	+1.1
HINF	Hinteralfeld	5.13	327	eP	Pn	10 48 50.2	-0.2
HINF				eSn	Sn	10 49 41.2	-8.2
	comp=N,34nm,0.8s						
RONF	Ronchamp	5.13	325	P	Pn	10 48 51.8	+1.4
RONF				S	Sn	10 49 49.6	+0.2
LASF	Ste Croix	5.20	278	eP	Pn	10 48 50.4	-0.9
ECH	Echery	5.35	331	P	Pn	10 48 54.0	+0.5
ECH				S	Sn	10 49 54.8	0.0
WLS	Welschbruch	5.45	333	P	Pn	10 48 55.4	+0.6
CDF	Champ du Feu	5.48	333	eP	Pn	10 48 54.3	-0.9
CDF				eSn	Sn	10 49 49.6	-8.4
	comp=N,24nm,0.6s						
HAU	Haudompre	5.49	325	eP	Pn	10 48 55.0	-0.3
HAU				eSn	Sn	10 49 49.5	-8.7
	comp=N,72nm,0.5s						
GERES	GERESS Array B	5.58	19	Pn	Pn	10 48 55.9	-0.7
	comp=N,0.9nm,0.3s,baz=196,slow=14,SNR=22						
GERES				Sn	Sn	10 49 58.1	-2.3
	comp=N,0.7nm,0.3s,baz=202,slow=25,SNR=3.3						
	comp=N,1.1nm,0.3s						
CKRC	Cesky Krumlov	5.71	22	eSN	Sn	10 50 01.5	-2.1
KHC	Kasperske Hory	5.82	17	ePN	Pn	10 49 00.6	+0.7
KHC				eSN	Sn	10 50 03.4	-3.0
SMF	Signal de Mont	5.92	304	eP	Pn	10 49 00.5	-0.7
SMF				eSn	Sn	10 50 00.2	-8.6
	comp=N,11nm,0.6s						
PAGF	Fort de Pagny	6.17	325	eP	Pn	10 49 04.4	-0.3
	baz=146						
PAGF				eSn	Sn	10 50 06.1	-9.0
	comp=N,17nm,0.6s						
SFTF	Sexfontaines	6.21	320	eP	Pn	10 49 05.3	0.0
	baz=140						
SFTF				eSn	Sn	10 50 07.5	-8.6
	comp=N,26nm,1.0s						
LOR	Lormes	6.23	309	eP	Pn	10 49 05.5	0.0
	baz=122						
LOR				eSn	Sn	10 50 08.5	-8.0
	comp=N,6.8nm,0.4s						
LOR	Lormes	6.23	309	P	Pn	10 49 06.3	+0.8
AVF	Avril sur Loir	6.28	303	eP	Pn	10 49 05.4	-0.8
AVF				eSn	Sn	10 50 10.1	-7.7
	comp=N,6.8nm,0.8s						
SSF	Saint Saulge	6.32	306	eP	Pn	10 49 06.2	-0.6
SSF				eSn	Sn	10 50 09.7	-9.1
	comp=N,4.3nm,0.4s						
MTLF	Montolieu	6.40	271	eP	Pn	10 49 07.5	-0.4
MTLF				eSn	Sn	10 50 12.9	-7.8
	comp=N,23nm,1.4s						
MTLF	Montolieu	6.40	271	P	Pn	10 49 09.0	+1.1
MEZF	Maizieres J'vi	6.42	322	eP	Pn	10 49 08.0	-0.2
	baz=140						
MEZF				eSn	Sn	10 50 12.7	-8.5
	comp=N,18nm,0.7s						
SAVF	Savonnieres en	6.48	323	eP	Pn	10 49 08.2	-0.7
	baz=143						
BGF	Bois d'Agland	6.50	300	eP	Pn	10 49 08.6	-0.5
BGF				eSn	Sn	10 50 14.3	-8.7
	comp=N,10nm,0.4s						
CAF	Calviac	6.56	285	eP	Pn	10 49 09.2	-0.9
TCF	Toulx Ste Croi	6.80	296	eP	Pn	10 49 12.9	-0.5
TCF				eSn	Sn	10 50 22.6	-8.0
	comp=N,3.8nm,0.6s						
RJF	Les Rejaudoux	7.01	287	eP	Pn	10 49 15.4	-0.8
GIVF	Givet	7.77	329	eP	Pn	10 49 27.1	+0.5
EPF	Esparros	7.80	270	eP	Pn	10 49 26.9	-0.2
KEST	Kesra	7.96	190	Pn	Pn	10 49 33.4	+4.1
	comp=N,0.4nm,0.3s,baz=11,slow=16,SNR=3.9						
	comp=N,2.7nm,0.5s						
BAIF	Baives	7.97	327	eP	Pn	10 49 31.0	+1.6
ETSF	Etsaut	8.47	269	eP	Pn	10 49 37.8	+1.4
FLN	La Foliniere	9.50	307	eP	Pn	10 49 49.9	-0.4
	baz=125						
GRR	Gorron	9.55	304	eP	Pn	10 49 51.5	+0.5
GRR				eSn	Sn	10 51 28.6	-9.4
	comp=N,29nm,1.4s						
MKAR	Makanchi Array	48.74	60	P	P	10 56 21.7	+3.6
	comp=N,0.5nm,0.8s,baz=297,slow=9.5,SNR=2.2						
	comp=N,0.5nm,0.8s						

---

*NEIC **01** 11:02:41.5, 18°.81N×69°.84W, h88km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.56; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$2.59; $M_{r\theta}$-1.24; $M_{\theta\phi}$2.77; $M_{\phi r}$0.45; Fault plane solution: $M_0$4.01000×10^{15} NP1:ϕ_s181.27000°, δ53.23000°, λ-137.81000°. NP2:ϕ_s62.78000°, δ57.46000°, λ-45.25000°. Principal axes: T 4.3561, Plg2.0000°, Azm123.0000°; N -0.8288, Plg36.0000°, Azm215.0000°; P -3.5273, Plg53.0000°, Azm30.0000°;*

*IDC **01** 11:02:41.6±0.7, 18°.83N×69°.85W, h102km±6km, mb3.8/15, mbtmp4.3/20, MS3.1/7 Error ellipse: s-maj=13.9km s-min=13.0km az=12.0*

*NEIC **01** 11:02:41.1±2.3, 18°.81N±0°.06×69°.86W±0°.06, h108km±6km, mb4.4/108, Mwr4.3/16, Error ellipse: s-maj=9.5km s-min=7.5km az=196.0*

*OSPL **01** 11:02:42.8±3.0, 18°.81N×69°.84W, h105km±13km, ML4.4*

ISC 01 11:02:40.5±0.5, **18°.81N**±0°.04×**69°.88W**±0°.04, **h105**km±4km, **n236**, σ1s.**69**/252, **mb4.4**/55, **Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDD	Santo Domingo	0.35	185		Pn	11 02 56.2	+0.4
SDD				Sn	Sn	11 03 07.3	0.0
SDD	Santo Domingo	0.35	185	i P	Pn	11 02 56.4	+0.6
SDD				eS	Sn	11 03 07.4	0.0
LONA1	Toro Cenizo, N	0.57	2	i P	Pn	11 02 57.8	+0.5
LONA1				eS	Sn	11 03 10.9	+1.0
LONA1				IAML		11 03 13.8	
	comp=Z,19μm,0.6s						
SC01	Santiago de lo	1.01	308		Pn	11 03 02.7	+1.3
SC01				Sn	Sn	11 03 19.8	+2.7
SC01	Santiago de lo	1.01	308	i P	Pn	11 03 02.9	+1.6
SC01				eS	Sn	11 03 19.8	+2.7
SC01				IAML		11 03 20.7	
	comp=Z,10μm,0.8s						
SDDR	Presa de Saban	1.34	278	Pn	Pn	11 03 06.6	+1.5
SDDR				Sn	Sn	11 03 25.6	+1.8
SDDR	Presa de Saban	1.34	278	eP	Pn	11 03 06.6	+1.5
SDDR				IAmb	IAmb	11 03 08.5	
	comp=Z,1μm,0.6s						
SDDR				eS	Sn	11 03 25.6	+1.8
SDDR	Presa de Saban	1.34	278	eP	Pn	11 03 06.4	+1.3
SDDR				eS	Sn	11 03 25.8	+2.0
SDDR	Presa de Saban	1.34	278	i P	Pn	11 03 07.1	+1.9
SDDR				IAML		11 03 31.6	
	comp=Z,5μm,0.6s						
PCDR	Punta Cana, DR	1.45	101		Pn	11 03 07.2	+0.8
PCDR	Punta Cana, DR	1.45	101	i P	Pn	11 03 08.2	+1.8
PCDR				IAML		11 03 31.1	
	comp=Z,4μm,0.3s						
LODA1	ITESIL, Dajabo	1.87	293	i P	Pn	11 03 12.2	+0.7
LODA1				eS	Sn	11 03 35.6	+0.3
LODA1				IAML		11 03 44.0	
	comp=Z,2μm,0.5s						
PAPH	Port-au-Prince	2.31	263	Pn	Pn	11 03 18.5	+1.3
PAPH	Port-au-Prince	2.31	263	i P	Pn	11 03 19.2	+2.0
PAPH				IAML		11 03 52.7	
	comp=Z,360nm,0.4s						
AGPR	Aguadilla, PR	2.65	97		Pn	11 03 21.3	-0.4
AGPR	Aguadilla, PR	2.65	97	i P	Pn	11 03 23.1	+1.4
AGPR				IAML		11 04 02.2	
	comp=Z,1μm,0.6s						
PRSN	Puerto Rico Se	2.66	102	Pn	Pn	11 03 23.5	+1.7
CRPR	Cabo Rojo, PR	2.75	106	Pn	Pn	11 03 22.9	-0.2
CRPR	Cabo Rojo, PR	2.75	106	i P	Pn	11 03 24.1	+1.1
CRPR				IAML		11 04 12.5	
	comp=Z,1μm,0.3s						
MLPR	Magueyes Islan	2.82	107	Pn	Pn	11 03 24.3	+0.3
GRTK	Grand Turk	2.94	337	Pn	Pn	11 03 24.6	-0.9
GRTK	Grand Turk	2.94	337	i P	Pn	11 03 25.0	-0.5
GRTK				eS	Sn	11 03 58.7	-1.5
GRTK				eS	Sn	11 03 59.1	-1.1
GRTK				IAML		11 04 02.8	
	comp=Z,433nm,0.9s						
AOPR	Arecibo Observ	3.00	98		Pn	11 03 26.5	+0.1
AOPR	Arecibo Observ	3.00	98	eP	Pn	11 03 27.8	+1.4
AOPR				eS	Sn	11 04 06.5	+4.6
UUPR	Utuado, UPR, P	3.05	100	Pn	Pn	11 03 27.1	0.0
EMPR	Esperanza - Ma	3.20	95		Pn	11 03 29.6	+0.7
CELP	Cerrillos	3.22	103		Pn	11 03 30.3	+1.0
SJG	San Juan	3.61	100	P	Pn	11 03 35.8	+1.3
	comp=Z,156nm,0.3s,baz=289,slow=8.0,SNR=94						
SJG				S	Sn	11 04 18.8	+2.5
	comp=Z,384nm,0.3s,baz=124,slow=21,SNR=15						
SJG	San Juan	3.61	100		Pn	11 03 34.5	0.0
SJG	San Juan	3.61	100	eP	Pn	11 03 36.2	+1.7
GCPR	Guaynabo City	3.64	97	Pn	Pn	11 03 34.7	-0.1
CBYP	Canovanas	3.86	97		Pn	11 03 37.3	-0.6
HUMP	Col San Antoni	3.88	99		Pn	11 03 38.4	+0.2
CUPR	Culebra, Puert	4.39	96		Pn	11 03 43.8	-1.2
STVI	Saint Thomas	4.70	95		Pn	11 03 49.0	-0.1
SJVI	Gifft Hill Sch	4.87	95	Pn	Pn	11 03 50.5	-1.1
CDVI	St. Croix	4.97	101		Pn	11 03 52.6	-0.2
CDVI	St. Croix	4.97	101	eP	Pn	11 03 51.7	-1.2
CDVI	St. Croix	4.97	101	eS	Sn	11 04 53.8	+4.6
GTBY	Guantanamo Bay	5.06	284		Pn	11 03 52.6	-1.5
GTBY	Guantanamo Bay	5.06	284	eP	Pn	11 03 52.2	-1.8
GTBY				IAmb	IAmb	11 03 55.7	
	comp=Z,16nm,0.6s						
GTBY				eS	Sn	11 04 47.8	-3.5
GTBY	Guantanamo Bay	5.06	284	i P	Pn	11 03 52.7	-1.3
GTBY				eS	Sn	11 04 48.3	-3.0
GTBY				IAML		11 04 51.9	
	comp=Z,48nm,0.9s						
RCC	Rio Carpintero	5.61	283	eP	Pn	11 03 58.7	-2.8
RCC				IAmb	IAmb	11 04 02.9	
	comp=Z,34nm,0.7s						
RCC				eS	Sn	11 05 00.9	-3.8
HLGC	Holguin	6.17	291	eP	Pn	11 04 08.0	-1.1
HLGC				IAmb	IAmb	11 04 09.0	
	comp=Z,40nm,0.5s						
HLGC				eS	Sn	11 05 16.8	-1.6
SMRT	St. Maarten	6.51	96		Pn	11 04 11.9	-1.8
SMRT	St. Maarten	6.51	96	eP	Pn	11 04 11.5	-2.2
SMRT	St. Maarten	6.51	96	eS	Sn	11 05 19.5	-7.0
HATO	Hato, Curacao	6.65	172		Pn	11 04 16.7	+1.1
LMGC	Las Mercedes	6.83	282	eP	Pn	11 04 15.3	-2.8
LMGC				IAmb	IAmb	11 04 17.2	
	comp=Z,13nm,0.7s						
LMGC				eS	Sn	11 05 29.7	-4.7
MTDJ	Mount Denham	7.28	267	Pn	Pn	11 04 25.1	+0.9
MTDJ	Mount Denham	7.28	267	eP	Pn	11 04 25.2	+0.9
URIC	Uribia, Colomb	7.35	196		Pn	11 04 24.4	-0.7
MBFL	Flemmings, Mon	7.59	104	eP	Pn	11 04 29.5	+1.0
ANWB	Willy Bob	7.78	97	Pn	Pn	11 04 29.7	-1.2
ANWB	Willy Bob	7.78	97	eP	Pn	11 04 29.0	-1.9
ANWB	Willy Bob	7.78	97	eS	Sn	11 05 50.5	-7.0
CCCC	Cccc	7.79	289	eP	Pn	11 04 22.7	-8.3
CCCC				IAmb	IAmb	11 04 25.6	
	comp=Z,14nm,0.9s						
CCCC				eS	Sn	11 05 41.2	-16
ANBD	Bethesda, Anti	7.92	101	eP	Pn	11 04 31.8	-1.2
ANBD	Bethesda, Anti	7.92	101	eS	Sn	11 05 53.9	-7.1
GDHS	Morne Mazeau,	8.14	107		Pn	11 04 35.5	-0.5
ABD	La Joyeuse, An	8.33	105	Pn	Pn	11 04 37.9	-0.6
ABD	La Joyeuse, An	8.33	105	eP	Pn	11 04 39.2	+0.7
CBE	Ff, Capester	8.36	108		Pn	11 04 38.7	-0.1
CBE	Ff, Capester	8.36	108	eP	Pn	11 04 41.2	+2.4

TDBA Terre de Bas, 8.41 109 Pn Pn 11 04 38.7 -0.8
TDBA Terre de Bas, 8.41 109 eP Pn 11 04 40.6 +1.1
MDCT Cottage Hill, 8.65 110 eP Pn 11 04 44.9 +2.1
MAGL Barre de l'ile 8.69 108 Pn Pn 11 04 44.6 +1.3
MAGL Barre de l'ile 8.69 108 eP Pn 11 04 44.7 +1.3
DSLB Salisbury 8.76 111 eP Pn 11 04 45.4 +1.1
GDSD La Dsirade Is 8.77 105 Pn 11 04 45.0 +0.6
FDF Fort de France 9.29 115 Pn 11 04 50.4 -1.2
FDF Fort de France 9.29 115 eP Pn 11 04 52.1 +0.5
BIM Bigot 9.46 115 Pn 11 04 52.8 -1.0
BIM Bigot 9.46 115 eP Pn 11 04 52.9 -1.0
ILAM Ilet Lapin Mar 9.51 114 Pn Pn 11 04 52.5 -2.1
MPOM Morne Pois Mar 9.68 115 Pn Pn 11 04 55.6 -1.1
MPOM Morne Pois Mar 9.68 115 eP Pn 11 04 57.4 +0.7
SLBI Saint Lucia, B 9.78 118 eP Pn 11 04 58.0 -0.1
SDV Santo Domingo 9.89 184 P Pn 11 05 02.7 +2.8
comp=Z,27nm,0.3s,baz=3.9,slow=10,SNR=12
SDV S Sn 11 06 48.6 -0.5
comp=Z,23nm,0.5s,baz=121,slow=23,SNR=6.6
SDV Santo Domingo 9.89 184 Pn 11 04 59.1 -0.8
SVB Belmont 9.95 122 Pn 11 05 00.3 -0.3
SVB Belmont 9.95 122 eP Pn 11 05 00.2 -0.3
BAUV El Baul 9.96 169 Pn 11 05 01.3 +0.6
PCRV Puerto La Cruz 9.97 149 P Pn 11 05 02.3 +1.5
comp=Z,21nm,0.2s,baz=302,slow=2.2,SNR=65
MCLT Moule a Chique 9.97 119 Pn Pn 11 05 04.2 +3.5
MCLT Moule a Chique 9.97 119 eP Pn 11 05 00.7 -0.1
MGV Manicaragua 10.02 291 eP Pn 11 04 56.4 -5.0
MGV eS Sn 11 06 43.2 -8.7
GCMP Grenada, Carri 10.29 126 eP Pn 11 05 03.9 -1.1
GRGR Grenville 10.34 129 Pn Pn 11 05 04.9 -0.9
GRGR Grenville 10.34 129 eP Pn 11 04 60.0 -5.8
BBGH Gun Hill 11.41 118 Pn Pn 11 05 20.3 0.0
TRN Trinidad (W) 11.53 134 eP Pn 11 05 24.1 +2.2
TOSP Speyside 11.71 128 Pn Pn 11 05 22.3 -1.9
TOSP Speyside 11.71 128 eP Pn 11 05 27.9 +3.6
RUSC La Rusia 13.21 194 Pn 11 05 45.0 +0.5
BCIP Isla Barro Col 13.60 227 Pn Pn 11 05 49.2 +0.1
BBSR BB Station 14.29 18 Pn Pn 11 05 56.3 -1.6
ROSC El Rosal 14.54 198 P P 11 06 04.0 -1.3
comp=Z,18nm,0.7s,baz=356,slow=6.6,SNR=7.1
ROSC LR LR 11 11 38.0
comp=Z,46nm,19.0s,baz=56,slow=37
ROSC El Rosal 14.54 198 Pn Pn 11 05 59.6 -2.0
656A Willston 15.61 315 Pn Pn 11 06 13.7 -0.9
SRBA San Rafael, Bu 16.16 236 Pn Pn 11 06 20.4 -1.3
JTS Las Juntas de 16.85 242 P P 11 06 33.2 +2.7
comp=Z,17nm,1.1s,baz=256,slow=10,SNR=4.8
JTS LR LR 11 11 38.0
comp=Z,38nm,21.9s,baz=100,slow=32
Y60A Bolivia 16.86 335 P P 11 06 31.1 +0.6
Y59A Loris 17.12 334 Pn 11 06 32.5 -0.7
Y58A Scranton 17.39 332 P P 11 06 36.2 0.0
X58A Rowland 17.80 334 P P 11 06 41.1 +0.3
Y57A Sumter 17.82 330 P P 11 06 40.4 -0.5
154A Montrose 18.17 322 P P 11 06 44.5 -0.4
BIRD Birdtown, Kers 18.37 331 P P 11 06 45.6 -1.4
JSC Jenkinsville 18.45 329 P P 11 06 46.7 -1.2
JSC IAmb IAmb 11 06 53.4
comp=Z,12nm,0.6s
352A Blakely 18.54 316 P P 11 06 48.0 -0.9
352A IAmb IAmb 11 07 24.3
comp=Z,20nm,0.8s
W57A Gilead 18.59 333 P P 11 06 48.2 -1.2
W57A IAmb IAmb 11 07 07.3
comp=Z,34nm,1.3s
BOAV Boa Vista 18.71 150 P P 11 06 49.7 -1.2
BOAV IAmb IAmb 11 06 53.1
comp=Z,15nm,0.9s
HODGE Hodges 18.91 327 P P 11 06 53.5 +0.6
HODGE IAmb IAmb 11 07 00.2
comp=Z,12nm,0.6s
KMSC Kings Mountain 19.18 330 P P 11 06 54.4 -1.5
KMSC IAmb IAmb 11 07 03.3
comp=Z,15nm,0.8s
152A Waverly Hall 19.18 319 P P 11 06 55.0 -0.9
T60A Surry 19.23 343 P P 11 06 55.2 -1.1
T59A Double "B" Far 19.31 341 P P 11 06 56.8 -0.4
U56A King 19.77 334 P P 11 07 01.7 -0.6
U56A IAmb IAmb 11 07 12.1
comp=Z,20nm,1.1s
BG3 Lake Jocassee 19.85 327 P P 11 07 02.8 -0.4
BG3 IAmb IAmb 11 07 14.5
comp=Z,15nm,0.8s
T57A Hurt 19.91 337 P P 11 07 03.3 -0.4
JSRW J. Sargeant Re 20.08 341 P P 11 07 05.7 +0.1
V53A Saluda 20.32 328 P Pn 11 07 10.3 -0.9
R58B Mineral 20.33 342 P P 11 07 09.6 +1.3
R58B IAmb IAmb 11 07 20.2
comp=Z,14nm,0.8s
S57A Dark Hollow, R 20.48 339 P P 11 07 10.6 +0.7
S57A IAmb IAmb 11 07 24.9
comp=Z,12nm,0.8s
BLA Blacksburg 20.53 335 P P 11 07 11.2 +0.6
TKL Tuckaleechee C 20.80 327 P P 11 07 15.0 +1.6
comp=Z,5.1nm,0.8s,baz=165,slow=10,SNR=4.7
TKL S S 11 11 00.5 +0.8
comp=Z,10nm,0.8s,baz=228,slow=16,SNR=5.1
comp=Z,5.1nm,0.8s
TKL Tuckaleechee C 20.80 327 P P 11 07 13.3 -0.1
LRAL Lakeview Retre 20.88 316 P P 11 07 15.0 +0.8
LRAL IAmb IAmb 11 07 49.5
comp=Z,28nm,1.1s
CPCT Cooper Cave 21.04 325 P P 11 07 15.9 -0.1
W50A Signal Mountai 21.30 323 P P 11 07 18.5 -0.3
W50A IAmb IAmb 11 07 31.3
comp=Z,19nm,1.1s
R55A Marlinton 21.36 337 P P 11 07 21.1 +1.7
TZTN Tazewell 21.38 329 P P 11 07 17.7 -1.8
TZTN IAmb IAmb 11 07 57.2
comp=Z,29nm,1.1s
Q56A Snyder Ridge, 21.72 340 P P 11 07 21.8 -1.4
Q56A IAmb IAmb 11 08 01.5
comp=Z,18nm,1.0s
P57A Homestead Farm 21.77 343 P P 11 07 24.5 +0.8
P57A IAmb IAmb 11 07 55.2
comp=Z,22nm,1.1s
R53A Hurricane 22.11 334 P P 11 07 26.9 -0.4
R53A IAmb IAmb 11 08 06.4
comp=Z,24nm,1.0s
PAGS Pennsylvania G 22.15 346 P P 11 07 25.6 -2.1
BRNJ Basking Ridge 22.17 351 P P 11 07 27.7 -0.2
S51A Beattyville 22.27 330 P P 11 07 28.8 -0.1
U49A Red Boiling Sp 22.51 325 P P 11 07 32.4 +0.9
V48A Smith Brothers 22.55 322 P P 11 07 33.0 +1.1
V48A IAmb IAmb 11 08 08.9
comp=Z,15nm,1.0s
ODNJ Ogdensburg 22.57 351 P P 11 07 33.4 +1.4
ODNJ IAmb IAmb 11 07 48.8
comp=Z,16nm,0.9s
PLAL Pickwick Lake 22.80 319 P P 11 07 35.2 +0.8
SSPA Standing Stone 22.82 344 P P 11 07 34.2 -0.2
SSPA IAmb IAmb 11 07 55.1
comp=Z,16nm,0.9s
Y45A Yeager Farm, C 23.08 314 P P 11 07 36.0 -1.0
R50A Paris 23.13 330 P P 11 07 37.1 -0.4
R50A IAmb IAmb 11 08 04.1
comp=Z,29nm,1.4s
KSPA Keystone Colle 23.23 349 P P 11 07 37.3 -1.1
KSPA IAmb IAmb 11 08 08.5
comp=Z,14nm,0.9s
WVT Waverly 23.41 321 P P 11 07 40.3 +0.2
WVT IAmb IAmb 11 08 16.2
comp=Z,16nm,1.0s
MCRA Macar, Loja 25.07 204 P P 11 07 55.4 0.0
FCAR Ozark Folk Cen 25.98 315 P P 11 08 03.6 +0.2
FCAR IAmb IAmb 11 08 39.1
comp=Z,12nm,1.1s
SADO Sadowa 27.02 345 LR LR 11 19 25.3
comp=Z,29nm,19.8s,baz=356,slow=37
SAML Samuel 28.36 166 P P 11 08 23.9 -0.9
ETMB Extrema 28.67 172 P P 11 08 26.4 -1.1
ETMB IAmb IAmb 11 09 04.1
comp=Z,6.4nm,1.0s
T35A Sooner Cattle 29.51 313 P P 11 08 35.0 +0.1
T35A IAmb IAmb 11 08 37.7
comp=Z,9.4nm,0.8s
WMOK Wichita Mounta 30.15 308 P P 11 08 41.0 +0.4
WMOK IAmb IAmb 11 08 43.2
comp=Z,5.2nm,0.8s
NNA Nana 31.36 193 LR LR 11 22 20.2
comp=Z,51nm,18.5s,baz=346,slow=38
TX32 Lajitas Array 32.47 295 P P 11 09 02.6 +1.4
TX32 PcP PcP 11 11 47.5 +1.5
TXAR Lajitas Array 32.47 295 P P 11 09 03.5 +2.2
comp=Z,2.0nm,0.8s,baz=121,slow=7.6,SNR=27
TXAR PcP PcP 11 11 47.9 +1.9
comp=Z,1.2nm,0.7s,baz=134,slow=5.0,SNR=11
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 32.47 295 P P 11 09 02.6 +1.4
TX31 Lajitas Ar. Si 32.47 295 P P 11 09 02.7 +1.5
TX31 IAmb IAmb 11 09 05.0
comp=Z,6.5nm,0.8s
TX31 PcP PcP 11 11 47.7 +1.7
CBKS Cedar Bluff 32.66 314 P P 11 09 01.9 -0.8
MSTX Muleshoe 32.94 304 P P 11 09 04.5 -0.7
VILB Vilhena 32.97 162 P P 11 09 04.2 -1.3
VILB IAmb IAmb 11 09 16.9
comp=Z,5.5nm,0.6s
HTMS Hat Mesa 33.18 301 P P 11 09 08.2 +0.8
CLN7 Carlsbad 7 33.30 301 P P 11 09 10.1 +1.7
GDL2 Guadalupe Moun 33.70 300 P P 11 09 11.7 -0.2
K31A O'Neill 34.06 320 P P 11 09 13.4 -1.3
LPAZ La Paz 34.91 177 P P 11 09 25.2 +2.2
comp=Z,0.9nm,0.5s,baz=17,slow=6.9,SNR=6.0
comp=Z,0.9nm,0.5s
T25A Trinidad 35.29 308 P P 11 09 24.9 -0.8
T25A PcP 11 11 53.0 -1.1
BNM Barren Site 36.05 303 P P 11 09 32.0 -0.1
ANMO Albuquerque 36.13 304 LR LR 11 25 21.4
comp=Z,25nm,20.9s,baz=48,slow=38
ANMO Albuquerque 36.13 304 P P 11 09 32.8 -0.1
121A Cookes Peak, D 36.59 299 P P 11 09 35.4 -1.4
121A IAmb IAmb 11 09 40.8
comp=Z,5.6nm,0.9s
PB16 IPOC Station P 36.91 179 P P 11 09 39.6 -0.3
PB16 IAmb IAmb 11 09 39.7
comp=Z,4.5nm,0.9s
ULM Lac du Bonnet 37.60 333 P P 11 09 45.6 +0.8
ULM IAmb IAmb 11 10 09.4
comp=Z,5.3nm,0.8s
319A Douglas 37.62 297 P P 11 09 47.0 +1.6
GO01 Chusmiza 38.24 179 P P 11 09 49.2 -1.8
GO01 IAmb IAmb 11 09 51.0
comp=Z,4.7nm,0.9s
PB08 IPOC Station P 38.71 179 P P 11 09 54.0 -0.8
X18A Snowflake 38.80 302 P P 11 09 56.5 +1.1
X18A IAmb IAmb 11 09 59.1
comp=Z,4.3nm,0.9s
SRU San Rafael Swe 40.49 309 P P 11 10 11.0 +1.7
P17A Butcher Ranch, 40.76 309 P P 11 10 12.8 +1.3
P17A IAmb IAmb 11 10 14.8
comp=Z,3.6nm,0.7s
TMUT Trail Mountain 41.05 309 P P 11 10 15.5 +1.4
PD31 Pinedale Array 41.09 314 P P 11 10 13.7 -0.5
PDAR Pinedale Array 41.09 314 P P 11 10 14.8 +0.5
comp=Z,0.8nm,0.8s,baz=107,slow=9.8,SNR=6.3
PDAR PcP PcP 11 12 12.9 +1.0
comp=Z,2.0nm,0.8s,baz=107,slow=4.5,SNR=9.3
comp=Z,0.8nm,0.8s
PDAR Pinedale Array 41.09 314 P P 11 10 14.3 +0.1
MPU Maple Canyon 41.59 310 P P 11 10 18.2 -0.1
MPU IAmb IAmb 11 10 55.2
comp=Z,7.8nm,1.1s
JLU Jordanelle 41.64 311 P P 11 10 19.9 +1.1
JLU IAmb IAmb 11 10 22.0
comp=Z,4.5nm,0.8s
RLMT Red Lodge 41.87 318 P P 11 10 22.3 +1.7
RLMT IAmb IAmb 11 10 24.1
comp=Z,5.1nm,0.7s
CTU Camp Tracy 41.88 311 P P 11 10 20.6 0.0
CTU IAmb IAmb 11 10 57.7
comp=Z,3.9nm,0.8s
HWUT Hardware Ranch 42.05 312 P P 11 10 21.3 -0.7
LOHW Long Hollow 42.12 315 P P 11 10 23.3 +0.6
REDW Red Top Meadow 42.19 315 P P 11 10 24.7 +1.4
REDW IAmb IAmb 11 10 26.2
comp=Z,6.8nm,1.1s
MOOW Moose Ponds 42.27 315 P P 11 10 24.5 +0.6
FXWY Fox Creek 42.42 315 P P 11 10 25.4 +0.4
FXWY IAmb IAmb 11 11 02.5
comp=Z,7.9nm,1.3s
DUG Dugway, Tooele 42.50 309 IAmb IAmb 11 11 02.9
comp=Z,5.7nm,1.1s
PSUT Pine Spring 42.82 307 IAmb IAmb 11 10 32.6
comp=Z,7.6nm,0.9s
BGU Big Grassy Mou 42.88 310 P P 11 10 30.0 +1.3
BGU IAmb IAmb 11 10 31.8
comp=Z,5.6nm,0.8s
V12A Nelson 42.98 302 P P 11 10 30.4 +0.8
SPR3 Spring Creek 3 43.30 307 IAmb IAmb 11 10 36.3
comp=Z,4.4nm,0.8s
ELK Elko 44.43 309 LR LR 11 30 53.6
comp=Z,36nm,19.1s,baz=350,slow=38
WCT Wildcat Mounta 44.59 304 P P 11 10 43.3 +0.9
WCT IAmb IAmb 11 10 47.4
comp=Z,6.1nm,1.1s
FRB Frobisher Bay 44.91 1 LR LR 11 27 54.4
comp=Z,41nm,20.3s,baz=257,slow=34
GRAC Grapevine Rang 45.21 304 P P 11 10 47.0 -0.2
GRAC IAmb IAmb 11 10 51.6
comp=Z,5.7nm,0.8s
TPH Tonopah 45.30 305 P P 11 10 47.1 -1.1
MZP Montezuma Peak 45.35 305 P P 11 10 46.7 -2.0
BMN Battle Mountai 45.81 308 P P 11 10 49.7 -2.4
NV11 Mina Array Sit 46.09 306 P P 11 10 52.2 -2.1
KVN Kaiserville 46.17 306 IAmb IAmb 11 10 58.5
comp=Z,5.5nm,0.9s
NVAR Mina Array Bea 46.20 306 P P 11 10 58.4 +3.1
comp=Z,3.8nm,0.7s,baz=92,slow=6.9,SNR=33
comp=Z,3.8nm,0.7s
NVAR Mina Array Bea 46.20 306 P P 11 10 56.6 +1.3
LHV Little Huntoon 46.33 305 IAmb IAmb 11 11 01.1
comp=Z,5.6nm,0.7s
RYN Ryan 46.41 306 P P 11 10 56.0 -0.9
RYN IAmb IAmb 11 11 00.5
comp=Z,4.8nm,0.7s
WVOR Wild Horse Val 47.33 311 IAmb IAmb 11 11 09.8
comp=Z,12nm,1.4s
J08A Circle Bar Ran 47.45 312 IAmb IAmb 11 11 07.6
comp=Z,5.5nm,1.0s
NEW Newport 48.08 319 P P 11 11 10.3 +0.8
NEW IAmb IAmb 11 11 12.0
comp=Z,7.7nm,0.9s
YKA Yellowknife Ar 53.40 336 P P 11 11 49.1 +0.1
comp=Z,3.9nm,0.9s,baz=28,slow=15,SNR=5.1
comp=Z,3.9nm,0.9s
ESDC Sonseca Array 59.87 55 P P 11 12 36.6 +1.2
comp=Z,2.5nm,0.8s,baz=273,slow=7.2,SNR=18
ESDC pP pP 11 13 02.6 +1.6
comp=Z,1.6nm,0.8s,baz=274,slow=6.9,SNR=5.4
comp=Z,2.5nm,0.8s
ESDC Sonseca Array 59.87 55 P P 11 12 34.5 -0.9
ESDC IAmb IAmb 11 12 38.5
comp=Z,3.9nm,1.1s
SCRK Sand Creek 66.30 332 P P 11 13 18.4 +0.8
ILAR Eielson Array 67.62 333 P P 11 13 26.9 +1.1
comp=Z,1.5nm,0.8s,baz=104,slow=4.7,SNR=15
comp=Z,1.5nm,0.8s
POKR Poker Plat Res 67.87 334 P P 11 13 27.8 +0.5
H24K Noodor Dome 68.09 334 P P 11 13 30.5 +1.7
H24K IAmb IAmb 11 13 31.0
comp=Z,4.3nm,1.0s
RND Reindeer 68.43 332 P P 11 13 32.2 +1.3
TORD Torodi Ar. Bea 68.65 83 P P 11 13 34.0 +1.0
comp=Z,1.0nm,0.6s,baz=284,slow=5.7,SNR=8.6
TORD pP pP 11 13 59.1 -0.3
comp=Z,2.3nm,0.7s,baz=292,slow=6.4,SNR=12
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 69.44 31 P P 11 13 38.0 +0.8
comp=Z,1.8nm,1.0s,baz=281,slow=6.4,SNR=2.4
comp=Z,1.8nm,1.0s
GERES GERESS Array B 71.91 44 P P 11 13 54.2 +1.7
comp=Z,3.1nm,1.0s,baz=266,slow=4.0,SNR=15
comp=Z,3.1nm,1.0s
ARCES ARCESS Array B 74.42 21 P P 11 14 07.3 +0.6
comp=Z,4.2nm,1.1s,baz=274,slow=1.8,SNR=4.8
comp=Z,4.2nm,1.1s
FINES FINESS Array B 76.48 29 P P 11 14 20.9 +2.3
comp=Z,1.3nm,0.6s,baz=242,slow=4.1,SNR=4.8
FINES pP pP 11 14 46.3 +0.9
comp=Z,1.8nm,0.7s,baz=252,slow=3.8,SNR=2.3
comp=Z,1.3nm,0.6s
AKASG Malin Array Be 81.26 39 P P 11 14 46.8 +1.8
comp=Z,0.2nm,0.3s,baz=284,slow=4.7,SNR=4.2
comp=Z,0.2nm,0.3s
BRTR Keskin Array B 88.10 49 P P 11 15 21.6 +1.9
comp=Z,2.2nm,0.8s,baz=287,slow=3.5,SNR=6.5
BRTR pP pP 11 15 47.1 -0.1
comp=Z,2.9nm,0.9s,baz=249,slow=4.5,SNR=6.2
comp=Z,2.2nm,0.8s
CD2 Chengdu 130.19 7 ePKP PKPdf 11 21 37.4 -1.6
PZH PanZhiHua 134.23 10 PKP PKPdf 11 21 46.4 -0.4
STKA Stephens Creek 148.84 239 PKPbc PKPbc 11 22 16.5 +0.1
comp=Z,3.3nm,0.7s,baz=6.2,slow=4.2,SNR=6.5
WRA Warramunga Arr 157.12 263 PKP PKPdf 11 22 24.9 +0.2
comp=Z,1.0nm,0.8s,baz=80,slow=1.2,SNR=9.8
WRA PKPbc PKPdf 11 22 34.8 +10
comp=Z,0.2nm,0.5s,baz=22,slow=1.0,SNR=9.2
WRA PKPab PKPab 11 22 55.2 -0.6
comp=Z,0.3nm,0.6s,baz=88,slow=3.7,SNR=7.7
ASAR Alice Springs 157.32 254 PKP PKPdf 11 22 25.1 +0.3
comp=Z,0.4nm,0.7s,baz=127,slow=1.6,SNR=6.2
ASAR PKPbc PKPdf 11 22 35.6 +11
comp=Z,0.3nm,0.6s,baz=111,slow=3.0,SNR=7.3
ASAR PKPab PKPab 11 22 57.1 +0.5
comp=Z,1.7nm,0.7s,baz=105,slow=4.7,SNR=22

*ISK **01** 11:20:50.6, 35°.87N × 31°.86E, h25km, ML3.1/15*
*DDA **01** 11:20:50.4±0.0, 36°.06N × 31°.86E, h14km±2km, ML2.2*
*NIC **01** 11:20:54.7±0.0, 35°.67N × 31°.95E, h19km, Ml2.7/5*
ISC 01 11:20:50.7±1.2, **35°.89N**±0°.02 × **31°.82E**±0°.03, **h20**km±5km, **n33**, σ1°**03**/50, **2C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.53**	**49**	PG	**Pb**		**11 21 01.8**	**+0.5**
GAZI				SG	**Sb**		**11 21 09.4**	**+0.9**
AKMS	**Akamas**	**0.97**	**154**	⇑*i*P	**Pn**		**11 21 09.0**	**-0.1**
AKMS				S	**Sb**		**11 21 19.8**	**-1.3**
AKMS				AML	AML		11 21 21.2	
	0.9nm,0.5s							
AKMS				AML	AML		11 21 21.2	
	0.9nm,0.5s							
AKMS				AML	AML		11 21 27.8	
	0.8nm,0.7s							
AKMS				AML	AML		11 21 27.8	
	0.8nm,0.7s							
ALFC	**Alefka**	**0.97**	**139**	⇑*i*P	**Pb**		**11 21 08.7**	**-0.1**
ALFC				AML	AML		11 21 20.3	
	1.6nm,0.2s							
ALFC				AML	AML		11 21 20.3	
	1.6nm,0.2s							
ALFC				S	**Sb**		**11 21 20.3**	**-0.9**
ALFC				AML	AML		11 21 20.4	
	1.0nm,0.1s							
ALFC				AML	AML		11 21 20.4	
	1.0nm,0.1s							
KEPZ	**Antalya-Kepez**	**1.02**	**350**	P	**Pn**		**11 21 07.8**	**-2.2**
KEPZ				S	**Sb**		**11 21 19.6**	**-3.2**
KEPZ				*i* AML	AML		11 21 20.0	
	comp=N,72nm,0.2s							
TEKE	**Tekeli-Mersin**	**1.08**	**76**	PG	**Pn**		**11 21 10.4**	**-0.2**
TEKE				SG	**Sb**		**11 21 24.3**	**+0.1**
AKDN	**Akdeniz- Kıbrı**	**1.10**	**122**	PG	**Pn**		**11 21 10.6**	**-0.4**
AKDN				SG	**Sb**		**11 21 24.8**	**-0.2**
LEF	**Lefka**	**1.16**	**131**	PN	**Pn**		**11 21 10.9**	**-0.9**
LEF				SN	**Sn**		**11 21 25.2**	**-1.8**
HDMB	**Hadim**	**1.20**	**26**	PN	**Pn**		**11 21 12.2**	**-0.3**
BERE	**Bereket-Mersin**	**1.22**	**68**	PN	**Pn**		**11 21 12.3**	**-0.4**
NATA	**Nata**	**1.27**	**151**	P	**Pb**		**11 21 14.8**	**+0.9**
NATA				S	**Sn**		**11 21 28.9**	**-0.8**
NATA				AML	AML		11 21 38.5	
	0.8nm,1.1s							
NATA				AML	AML		11 21 38.5	
	0.8nm,1.1s							
NATA				AML	AML		11 21 43.0	
	1.5nm,0.6s							
NATA				AML	AML		11 21 43.0	
	1.5nm,0.6s							
AKUM	**Antalya-Kumluc**	**1.27**	**290**	P	**Pb**		**11 21 13.6**	**-0.3**
AKUM				S	**Sb**		**11 21 32.5**	**+2.6**
AKUM				*i* AML	AML		11 21 34.0	
	comp=N,48nm,0.3s							
TEVE	**Tevekalti-Mers**	**1.42**	**67**	PN	**Pn**		**11 21 15.2**	**-0.2**
AKK2	**Akkuyu-Mersin**	**1.42**	**80**	PN	**Pn**		**11 21 15.0**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.43**	**78**	P	**Pn**		**11 21 16.0**	**+0.7**
GULN				S	**Sb**		**11 21 35.5**	**+1.2**
GULN				*i* AML	AML		11 21 36.0	
	comp=N,46nm,0.4s							
AKKU	**Akkuyu-Mersin**	**1.43**	**79**	PN	**Pn**		**11 21 15.2**	**-0.2**
SZAC	**Souni**	**1.43**	**142**	S	**Sn**		**11 21 33.8**	**+0.2**
SZAC				AML	AML		11 21 41.5	
	0.6nm,0.6s							
SZAC				AML	AML		11 21 42.2	
	0.6nm,1.2s							
ATHAL	**Athalassa**	**1.49**	**120**	S	**Sn**		**11 21 35.5**	**+0.5**
ATHAL				AML	AML		11 21 35.7	
	0.9nm,0.5s							
YESI	**Yesilovacik-Me**	**1.50**	**78**	PN	**Pn**		**11 21 16.8**	**+0.3**
SEYD	**Seydisehir-KON**	**1.51**	**0**	PN	**Pn**		**11 21 16.3**	**-0.4**
SEYD				SN	**Sn**		**11 21 35.9**	**0.0**
LFK	**Lefkose**	**1.52**	**113**	PN	**Pn**		**11 21 16.5**	**-0.3**
TISA	**Tisan-Mersin**	**1.53**	**79**	PN	**Pn**		**11 21 16.7**	**-0.1**
CSS	**Mathiatis**	**1.54**	**127**	PN	**Pn**		**11 21 16.3**	**-0.7**
IKL	**Isikli**	**1.55**	**77**	PN	**Pn**		**11 21 17.2**	**+0.1**
SEDI	**Konya, Seydise**	**1.56**	**358**	P	**Pn**		**11 21 16.4**	**-1.0**
SEDI				S	**Sn**		**11 21 35.6**	**-1.4**
SEDI				*i* AML	AML		11 21 40.0	
	comp=E,60nm,0.5s							
KKBE	**Karaman, Kazim**	**1.60**	**34**	P	**Pb**		**11 21 19.1**	**-0.6**
KKBE				S	**Sb**		**11 21 40.3**	**+0.8**
ASGA	**Asgata**	**1.60**	**133**	P	**Pb**		**11 21 19.2**	**-0.4**
ASGA				S	**Sn**		**11 21 37.5**	**-0.5**
KEBE	**Keben-Mersin**	**1.63**	**70**	PN	**Pn**		**11 21 18.3**	**+0.1**
KIZK	**Mersin**	**1.97**	**72**	PN	**Pn**		**11 21 23.1**	**+0.2**
KONT	**Konya--Tatoy**	**2.09**	**12**	PN	**Pn**		**11 21 25.9**	**+1.2**
DOGA	**KONYA_Doganhis**	**2.21**	**357**	P	**Pn**		**11 21 26.8**	**+0.4**
DOGA				S	**Sn**		**11 21 54.9**	**+1.6**
DOGA				*i* AML	AML		11 22 07.0	
	comp=E,15nm,0.6s							
KERG	**Konya-Eregli**	**2.40**	**50**	P	**Pn**		**11 21 30.6**	**+1.7**
KERG				S	**Sb**		**11 22 01.3**	**-1.1**
KERG				*i* AML	AML		11 22 12.0	
	comp=E,15nm,1.0s							
OSC1	**CSNet OBS 1**	**2.43**	**191**	S	**Sn**		**11 21 58.8**	**+0.5**
OSC2	**CSNet OBS 4**	**2.83**	**172**	P	**Pn**		**11 21 35.8**	**+1.0**
OSC2				S	**Sn**		**11 22 08.0**	**-0.3**

IDC 01 11:38:31.3±1.8, **5°.33S** × **146°.05E, h0**km, **mb3.3**/2, **mbtmp3.4/4, ML2.5/2, MS3.1/5, Error ellipse: s-maj=68.4km s-min=29.4km az=111.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.20**	**165**	Pn	Pn		11 39 36.3	-0.3
	2.4nm,0.3s,baz=324,slow=8.3,SNR=7.3							
PMG				Sn	Sn		11 40 21.4	-4.9
	7.5nm,0.3s,baz=144,slow=21,SNR=1.9							
PMG				LR	LR		11 41 45.2	
	comp=Z,140nm,20.3s,baz=290,slow=46							
	6.1nm,0.3s							
CTA	**Charters Tower**	**14.67**	**179**	LR	LR		11 48 01.9	
	comp=Z,48nm,20.2s,baz=45,slow=39							
SIJI	**Sorong**	**15.41**	**286**	LR	LR		11 48 42.8	
	comp=Z,79nm,20.5s,baz=238,slow=40							
WRA	**Warramunga Arr**	**18.46**	**217**	P	Pn		11 42 47.3	-1.5
	0.1nm,0.3s,baz=42,slow=12,SNR=4.6							
	0.8nm,1.0s							
ASAR	**Alice Springs**	**21.67**	**212**	P	P		11 43 24.6	+0.9
	0.2nm,0.4s,baz=34,slow=12,SNR=4.3							
	0.2nm,0.4s							
DAV	**Davao City (W)**	**23.86**	**301**	LR	LR		11 52 07.9	
	comp=Z,37nm,20.6s,baz=140,slow=34							
DZM	**Mont Dzumac**	**25.81**	**132**	LR	LR		11 53 32.7	
	comp=Z,74nm,19.2s,baz=30,slow=35							
ILAR	**Eielson Array**	**85.24**	**23**	P	P		11 51 09.7	+0.1
	0.3nm,0.6s,baz=251,slow=5.3,SNR=5.4							
	0.3nm,0.6s							

*ROM **01** 11:41:51.5±0.0, 42°.686N±0°.002 × 13°.153E±0°.002, h13km, ML3.2/70, Error ellipse: s-maj=0.2km s-min=0.1km az=237.0*
*PDG **01** 11:41:52.8±0.1, 42°.67N × 13°.30E, h8km±3km, ML3.9/10, Error ellipse: s-maj=0.9km s-min=4.8km az=0.0*
*PRU **01** 11:41:53.3±0.0, 42°.62N × 13°.54E, h10km*
ISC 01 11:41:52.4±0.7, **42°.64N**±0°.02 × **13°.14E**±0°.02, **h13**km±5km, **n131**, σ1°**46**/159, **50C-48D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.08**	**245**	⇑P	**Pg**	**11 41 55.2**	**-0.1**
LNSS				S	**Sg**	**11 41 57.7**	**+0.3**
LNSS				AML	AML		
	comp=E,31450μm,0.2s						
LNSS				AML	AML		
	comp=N,79000μm,0.3s						
LNSS				AML	AML		
	comp=N,79050μm,0.3s						
T1204	**Amatrice, Fraz**	**0.13**	**74**	P	**Pg**	**11 41 55.3**	**-0.6**
T1204				S	**Sg**	**11 41 57.7**	**-0.7**
T1204				AML	AML		
	comp=E,40300μm,1.0s						
T1204				AML	AML		
	comp=N,25950μm,1.3s						
T1204				AML	AML		
	comp=E,40250μm,1.0s						
RM33	**Pellescritta (**	**0.14**	**158**	⇑P	**Pg**	**11 41 56.2**	**+0.2**
RM33				S	**Sg**	**11 41 59.4**	**+0.9**
RM33				AML	AML		
	comp=E,10650μm,0.2s						
RM33				AML	AML		
	comp=N,14300μm,0.3s						
RM33				AML	AML		
	comp=E,10515μm,0.2s						
RM33				AML	AML		
	comp=N,14250μm,0.3s						
RM33				AML	AML		
	comp=N,14300μm,0.3s						
RM33				AML	AML		
	comp=E,10505μm,0.2s						
RM33				AML	AML		
	comp=N,13950μm,1.6s						
RM33				AML	AML		
	comp=E,10700μm,0.2s						
T1217	**Poggiodomo (PG**	**0.17**	**295**	⇑P	**Pb**	**11 41 55.9**	**-1.6**
T1217				S	**Sg**	**11 41 58.9**	**-0.4**
T1217				AML	AML		
	comp=E,16700μm,0.2s						
T1217				AML	AML		
	comp=E,17250μm,0.2s						
T1217				AML	AML		
	comp=N,41850μm,0.2s						
T1217				AML	AML		
	comp=E,16700μm,0.2s						
T1217				AML	AML		
	comp=N,41100μm,0.2s						
T1217				AML	AML		
	comp=N,41900μm,0.2s						
T1217				AML	AML		
	comp=E,17250μm,0.2s						
T1217				AML	AML		
	comp=E,16700μm,0.2s						
T1217				AML	AML		
	comp=N,41050μm,0.2s						
T1245	**Castelsantange**	**0.22**	**9**	⇓P	**Pg**	**11 41 56.1**	**-1.2**
T1245				S	**Sg**	**11 41 59.1**	**-1.5**
T1245				AML	AML		
	comp=E,47500μm,0.2s						
T1245				AML	AML		
	comp=N,52050μm,0.3s						
T1245				AML	AML		
	comp=E,44050μm,0.5s						
T1245				AML	AML		
	comp=N,49200μm,0.3s						
T1245				AML	AML		
	comp=N,52050μm,0.3s						
CAMP	**Campotosto**	**0.22**	**117**	⇑P	**Pb**	**11 41 57.1**	**-1.2**
CAMP				S	**Sg**	**11 42 00.9**	**+0.3**
CAMP				AML	AML		
	comp=N,4240μm,0.6s						
CAMP				AML	AML		
	comp=E,6180μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.23**	**150**	⇑P	**Pb**	**11 41 57.6**	**-0.8**
T1247				AML	AML		
	comp=E,9425μm,0.6s						
T1247				AML	AML		
	comp=N,10395μm,0.3s						
T1247				AML	AML		
	comp=E,9420μm,0.6s						
T1247				AML	AML		
	comp=N,10400μm,0.3s						
T1243	**Rocca Santa Ma**	**0.23**	**75**	⇑P	**Pg**	**11 41 56.7**	**-0.7**
T1243				S	**Sg**	**11 42 00.3**	**-0.6**
T1211	**Morro Reatino**	**0.24**	**244**	⇑P	**Pb**	**11 41 57.5**	**-1.0**
T1211				S	**Sg**	**11 42 02.0**	**+1.0**
T1211				AML	AML		
	comp=E,9440μm,0.4s						
T1211				AML	AML		
	comp=N,14300μm,1.6s						
T1211				AML	AML		
	comp=E,9495μm,0.4s						
T1211				AML	AML		
	comp=E,9465μm,0.4s						
T1211				AML	AML		
	comp=E,9500μm,0.4s						
T1211				AML	AML		
	comp=N,14350μm,1.6s						
T1211				AML	AML		
	comp=N,14250μm,1.6s						
T1215	**Vallo di Nera,**	**0.26**	**309**	⇑P	**Pg**	**11 41 57.1**	**-0.8**
T1215				S	**Sg**	**11 42 01.0**	**-0.6**
T1215				AML	AML		
	comp=E,5675μm,0.8s						
T1215				AML	AML		
	comp=N,6005μm,0.5s						
T1215				AML	AML		
	comp=N,5985μm,0.1s						
T1215				AML	AML		
	comp=N,6005μm,0.5s						
T1215				AML	AML		
	comp=E,6090μm,0.8s						
T1215				AML	AML		
	comp=N,5985μm,0.2s						
T1215				AML	AML		
	comp=E,5670μm,0.8s						
T1216	**Preci, Frazion**	**0.27**	**340**	⇓P	**Pg**	**11 41 56.9**	**-1.2**
T1216				S	**Sg**	**11 42 00.3**	**-1.6**
T1216				AML	AML		
	comp=N,28900μm,0.6s						
T1216				AML	AML		
	comp=E,21450μm,0.5s						
T1216				AML	AML		
	comp=N,28850μm,0.6s						
ARRO	**Arrone**	**0.28**	**258**	⇑P	**Pb**	**11 41 58.2**	**-1.1**
ARRO				AML	AML		
	comp=N,5275μm,0.3s						
ARRO				AML	AML		
	comp=E,4875μm,0.6s						
MMO1	**Montemonaco**	**0.29**	**27**	P	**Pg**	**11 41 57.3**	**-1.2**
MMO1				S	**Sg**	**11 42 01.6**	**-1.1**
T1241	**Roccafluvione,**	**0.30**	**44**	⇑P	**Pg**	**11 41 57.6**	**-1.1**
T1241				S	**Sg**	**11 42 01.8**	**-1.1**
T1241				AML	AML		
	comp=E,19850μm,1.0s						
T1241				AML	AML		
	comp=N,8965μm,0.7s						
T1241				AML	AML		
	comp=E,19850μm,1.0s						
T1241				AML	AML		
	comp=N,8820μm,0.7s						
T1241				AML	AML		
	comp=E,19850μm,0.3s						
T1241				AML	AML		
	comp=N,8970μm,0.7s						
T1241				AML	AML		
	comp=E,19800μm,0.3s						
FEMA	**Monte Fema**	**0.33**	**348**	⇓P	**Pg**	**11 41 58.2**	**-1.0**
FEMA				AML	AML		
	comp=N,11400μm,0.8s						
FEMA				AML	AML		
	comp=E,14950μm,0.5s						
TERO	**Teramo**	**0.34**	**92**	⇑P	**Pb**	**11 41 58.6**	**-1.7**
TERO				AML	AML		
	comp=E,10550μm,0.5s						
TERO				AML	AML		
	comp=N,10855μm,0.5s						
TERO				AML	AML		
	comp=N,10885μm,0.5s						
TERO				AML	AML		
	comp=N,11650μm,0.5s						
TERO				AML	AML		
	comp=E,11700μm,0.5s						
AQU	**L'Aquila**	**0.34**	**146**	⇑P	**Pn**	**11 41 59.6**	**-3.5**
AQU				AML	AML		
	comp=E,2605μm,0.2s						
AQU				AML	AML		
	comp=N,3165μm,1.0s						
AQU				AML	AML		
	comp=E,2610μm,0.2s						
AQU				AML	AML		
	comp=E,2675μm,0.2s						
AQU				AML	AML		
	comp=N,3210μm,1.0s						
GIGS	**Gran Sasso**	**0.37**	**121**	⇑P	**Pb**	**11 41 59.3**	**-1.5**
GIGS				AML	AML		
	comp=E,3380μm,0.3s						
GIGS				AML	AML		
	comp=N,1715μm,0.1s						
GIGS				AML	AML		
	comp=E,3205μm,0.3s						
FIAM	**Fiamignano**	**0.37**	**183**	P	**Pn**	**11 42 00.0**	**-3.5**
FIAM				AML	AML		
	comp=E,5855μm,0.8s						
FIAM				AML	AML		
	comp=N,4925μm,1.0s						
AM05	**Amandola Campo**	**0.37**	**24**	⇑P	**Pg**	**11 41 58.8**	**-1.0**
AM05				AML	AML		
	comp=E,4870μm,1.1s						
AM05				AML	AML		
	comp=N,4290μm,0.6s						
AM05				AML	AML		
	comp=E,19000μm,0.1s						
AM05				AML	AML		
	comp=E,4865μm,1.1s						
AM05				AML	AML		
	comp=N,1280μm,0.1s						
AM05				AML	AML		
	comp=E,19050μm,0.1s						
T1256	**Bolognola (MC)**	**0.37**	**9**	⇓P	**Pg**	**11 41 58.6**	**-1.3**
T1256				AML	AML		
	comp=E,11380μm,0.6s						
T1256				AML	AML		
	comp=E,11475μm,0.6s						
T1256				AML	AML		
	comp=E,11335μm,0.6s						
T1256				AML	AML		
	comp=N,8965μm,1.2s						
T1256				AML	AML		
	comp=N,9525μm,1.2s						
FDMO	**Fiordimonte**	**0.40**	**354**	⇓P	**Pg**	**11 41 59.1**	**-1.3**
FDMO				AML	AML		
	comp=E,5920μm,0.3s						
FDMO				AML	AML		
	comp=N,6320μm,0.4s						
CESX	**Cesi**	**0.42**	**266**	⇑P	**Pb**	**11 42 00.2**	**-1.4**
CESX				AML	AML		
	comp=N,3465μm,0.5s						
CESX				AML	AML		
	comp=E,3210μm,0.6s						
GUMA	**Gualdo di Mace**	**0.45**	**18**	⇑P	**Pg**	**11 42 00.3**	**-0.9**
GUMA				AML	AML		
	comp=N,23900μm,0.5s						
GUMA				AML	AML		
	comp=N,25750μm,0.4s						
GUMA				AML	AML		
	comp=E,24550μm,0.2s						
GUMA				AML	AML		
	comp=E,37600μm,0.3s						
FAGN	**Fagnano**	**0.49**	**139**	⇓P	**Pn**	**11 42 01.9**	**-3.3**
FAGN				AML	AML		
	comp=E,6295μm,0.6s						
FAGN				AML	AML		
	comp=N,5625μm,0.3s						
OFFI	**Offida**	**0.50**	**53**	P	**Pg**	**11 42 01.6**	**-0.5**
OFFI				AML	AML		
	comp=N,13050μm,0.4s						
OFFI				AML	AML		
	comp=E,15450μm,0.4s						
SEF1	**Sefro**	**0.53**	**344**	⇑P	**Pg**	**11 42 01.4**	**-1.3**
SEF1				AML	AML		
	comp=E,5550μm,1.0s						
SEF1				AML	AML		
	comp=N,6565μm,0.2s						
SEF1				AML	AML		
	comp=E,5550μm,1.0s						
SEF1				AML	AML		
	comp=N,6565μm,0.2s						
ASSB	**Assisi San Ben**	**0.54**	**319**	⇑P	**Pg**	**11 42 01.8**	**-1.1**
ASSB				S	**Sb**	**11 42 11.0**	**-0.4**
ASSB				AML	AML		
	comp=E,4600μm,0.4s						
ASSB				AML	AML		
	comp=N,4710μm,1.4s						
MNTP	**Montappone**	**0.55**	**26**	⇓P	**Pg**	**11 42 02.5**	**-0.7**
MNTP				AML	AML		
	comp=E,8170μm,0.3s						
MNTP				AML	AML		
	comp=N,6895μm,0.4s						
MNTP				AML	AML		
	comp=E,8165μm,0.3s						
MDAR	**Monte D'Aria**	**0.55**	**360**	S	**Sg**	**11 42 09.0**	**-1.7**
VCEL	**Villa Celiera**	**0.57**	**115**	⇑P	**Pb**	**11 42 03.3**	**-1.0**
VCEL				AML	AML		
	comp=E,5785μm,0.2s						
VCEL				AML	AML		
	comp=E,5790μm,0.2s						
VCEL				AML	AML		
	comp=N,5510μm,1.0s						
SSM1	**San Severino M**	**0.59**	**2**	S	**Sg**	**11 42 10.0**	**-1.8**
TRTR	**Tortoreto Alta**	**0.59**	**73**	⇑P	**Pb**	**11 42 04.0**	**-0.5**
TRTR				AML	AML		
	comp=E,6925μm,0.4s						
TRTR				AML	AML		
	comp=N,6345μm,0.5s						
SRES	**S.Oreste - Sor**	**0.62**	**230**	⇑P	**Pn**	**11 42 04.0**	**-2.8**
SRES				S	**Sn**	**11 42 16.0**	**-0.6**
SRES				AML	AML		
	comp=N,1235μm,0.5s						
SRES				AML	AML		
	comp=E,1265μm,0.6s						
T0110	**Collepietro**	**0.63**	**131**	⇓P	**Pn**	**11 42 04.0**	**-3.0**
T0110				AML	AML		
	comp=N,2975μm,0.3s						
T0110				AML	AML		
	comp=E,3950μm,0.3s						
SNTG	**Esanatoglia**	**0.63**	**347**	⇑P	**Pg**	**11 42 03.2**	**-1.6**
SNTG				AML	AML		
	comp=E,1430μm,0.7s						
SNTG				AML	AML		
	comp=N,1580μm,0.4s						
PTQR	**Pietraquaria**	**0.65**	**163**	P	**Pn**	**11 42 04.6**	**-2.6**
PTQR				AML	AML		
	comp=E,558μm,0.8s						
PTQR				AML	AML		
	comp=N,548μm,0.9s						
PTQR				AML	AML		
	comp=N,549μm,0.9s						
ATCC	**AVT- Casa Cast**	**0.66**	**326**	⇓P	**Pg**	**11 42 03.9**	**-1.3**
ATCC				AML	AML		
	comp=E,2990μm,1.6s						
ATCC				AML	AML		
	comp=N,2595μm,0.4s						
MTCE	**Montecelio**	**0.68**	**206**	P	**Pn**	**11 42 05.1**	**-2.7**
MTCE				AML	AML		
	comp=E,1054μm,0.6s						
MTCE				AML	AML		
	comp=N,851μm,0.5s						
EL6	**Elcito**	**0.69**	**358**	⇓P	**Pg**	**11 42 04.2**	**-1.7**
EL6				S	**Sg**	**11 42 15.0**	**0.0**
EL6				AML	AML		
	comp=N,4855μm,0.2s						
EL6				AML	AML		
	comp=E,3490μm,0.4s						
CERT	**Cerreto**	**0.70**	**190**	⇑P	**Pn**	**11 42 05.5**	**-2.5**
CERT				AML	AML		
	comp=E,1580μm,0.4s						
CERT				AML	AML		
	comp=N,1405μm,0.4s						
FOSV	**Fossato di Vic**	**0.71**	**337**	⇑P	**Pg**	**11 42 04.8**	**-1.4**
CING	**Cingoli**	**0.74**	**3**	⇑P	**Pg**	**11 42 05.0**	**-1.7**
CING				AML	AML		
	comp=E,1755μm,0.3s						
CING				AML	AML		
	comp=N,1915μm,1.5s						
MURB	**Monte Urbino**	**0.77**	**324**	⇓P	**Pg**	**11 42 06.5**	**-0.9**
MURB				AML	AML		
	comp=E,3810μm,0.5s						
MURB				AML	AML		
	comp=N,4560μm,0.4s						
MURB				AML	AML		
	comp=E,4500μm,1.4s						
MURB				AML	AML		
	comp=N,4555μm,0.4s						
MURB				AML	AML		
	comp=N,4750μm,0.4s						
ATTE	**AVT- Monte Tez**	**0.81**	**314**	P	**Pg**	**11 42 07.0**	**-1.0**
ATTE				S	**Sb**	**11 42 19.0**	**-0.1**
ATTE				AML	AML		
	comp=E,918μm,0.4s						
ATTE				AML	AML		
	comp=N,798μm,0.4s						
MGAB	**Montegabbione**	**0.81**	**290**	⇓P	**Pn**	**11 42 07.2**	**-2.2**
MGAB				AML	AML		
	comp=E,3460μm,0.5s						
MGAB				AML	AML		
	comp=N,2360μm,1.2s						
MGAB				AML	AML		
	comp=E,3465μm,0.5s						
MGAB				AML	AML		
	comp=N,2515μm,1.2s						
MGAB				AML	AML		
	comp=N,2365μm,1.2s						
MGAB				AML	AML		
	comp=E,3535μm,0.4s						
PP3	**Marolino**	**0.81**	**25**	⇑P	**Pg**	**11 42 07.7**	**-0.5**
PP3				S	**Sb**	**11 42 20.0**	**+0.7**
PP3				AML	AML		
	comp=N,8135μm,0.6s						
PP3				AML	AML		
	comp=E,13350μm,0.4s						
PP3				AML	AML		
	comp=N,7775μm,0.6s						
PP3				AML	AML		
	comp=E,13100μm,0.4s						
PP3				AML	AML		
	comp=N,7790μm,0.6s						
PP3				AML	AML		
	comp=E,13300μm,0.4s						
PP3				AML	AML		
	comp=N,8165μm,0.6s						
ATFO	**Monte Foce - G**	**0.84**	**330**	⇓P	**Pg**	**11 42 07.3**	**-1.3**
ATFO				AML	AML		
	comp=N,1145μm,0.4s						
ATFO				AML	AML		
	comp=E,1090μm,0.4s						
SSFR	**Montelago di S**	**0.84**	**342**	⇓P	**Pg**	**11 42 07.8**	**-0.8**
SSFR				AML	AML		
	comp=N,2635μm,0.2s						
SSFR				AML	AML		
	comp=N,2570μm,0.2s						
SSFR				AML	AML		
	comp=E,2250μm,0.2s						
SSFR				AML	AML		
	comp=E,2550μm,0.2s						
ARVD	**Arcevia**	**0.87**	**350**	⇓P	**Pg**	**11 42 06.9**	**-2.4**
ARVD				AML	AML		
	comp=E,818μm,0.5s						
ARVD				AML	AML		
	comp=N,1153μm,0.6s						
ATVO	**AVT- Monte Val**	**0.92**	**324**	⇑P	**Pg**	**11 42 08.5**	**-1.7**
ATVO				S	**Sn**	**11 42 24.0**	**-0.1**
ATVO				AML	AML		
	comp=E,1060μm,0.6s						
ATVO				AML	AML		
	comp=N,918μm,0.4s						
VIVA	**Pratoni del Vi**	**0.93**	**197**	P	**Pn**	**11 42 10.7**	**-0.4**
VIVA				AML	AML		
	comp=N,3335μm,0.4s						
VIVA				AML	AML		
	comp=E,2440μm,0.4s						
FRON	**Frontone**	**0.93**	**341**	⇓P	**Pb**	**11 42 08.8**	**-1.5**
FRON				AML	AML		
	comp=E,873μm,0.8s						
FRON				AML	AML		
	comp=N,1085μm,0.6s						
SACS	**San Casciano d**	**0.93**	**283**	⇑P	**Pn**	**11 42 09.5**	**-1.7**
SACS				AML	AML		
	comp=E,1025μm,0.4s						
SACS				AML	AML		
	comp=E,956μm,0.4s						
SACS				AML	AML		
	comp=N,808μm,0.6s						
SACS				AML	AML		
	comp=N,892μm,0.4s						
RDP	**Rocca di Papa**	**0.94**	**200**	P	**Pn**	**11 42 12.1**	**+0.8**
RDP				AML	AML		
	comp=N,3020μm,0.5s						
RDP				AML	AML		
	comp=E,2545μm,0.4s						
ATMI	**Monte Miggiano**	**0.95**	**318**	⇓P	**Pn**	**11 42 12.7**	**+1.4**
AOI	**Ancona**	**0.97**	**20**	⇑P	**Pb**	**11 42 09.8**	**-1.3**
AOI				AML	AML		
	comp=E,1690μm,0.4s						
AOI				AML	AML		
	comp=N,1560μm,0.2s						
LPEL	**Lama dei Pelig**	**0.97**	**127**	⇑P	**Pn**	**11 42 10.0**	**-1.8**
LPEL				S	**Sn**	**11 42 25.0**	**-0.4**
LPEL				AML	AML		
	comp=E,998μm,0.2s						
LPEL				AML	AML		
	comp=N,866μm,0.4s						
ATPI	**Pietralunga -**	**0.98**	**326**	⇓P	**Pb**	**11 42 10.0**	**-1.1**
ATPI				AML	AML		
	comp=E,819μm,0.5s						
ATPI				AML	AML		
	comp=N,931μm,0.5s						
ATPI				AML	AML		
	comp=N,929μm,0.5s						
CAFR	**Castel Frentan**	**0.98**	**114**	⇑P	**Pn**	**11 42 10.3**	**-1.5**
CAFR				AML	AML		
	comp=E,759μm,0.6s						
CAFR				AML	AML		
	comp=N,1100μm,0.5s						
LATE	**Laterza**	**0.99**	**269**	⇓P	**Pn**	**11 42 11.0**	**-1.0**
PIEI	**Pieia**	**1.00**	**334**	⇑P	**Pb**	**11 42 09.9**	**-1.7**
PIEI				AML	AML		
	comp=E,854μm,1.4s						
PIEI				AML	AML		
	comp=N,958μm,0.5s						
POFI	**Posta Fibreno**	**1.01**	**155**	⇓P	**Pn**	**11 42 13.3**	**+1.0**
POFI				AML	AML		
	comp=E,414μm,0.7s						
POFI				AML	AML		
	comp=N,356μm,0.7s						
TOLF	**Tolfa**	**1.02**	**236**	⇓P	**Pn**	**11 42 11.4**	**-1.0**
TOLF				AML	AML		
	comp=E,716μm,0.7s						
TOLF				AML	AML		
	comp=N,401μm,1.1s						
MPAG	**Monte Paganucc**	**1.03**	**344**	⇑P	**Pb**	**11 42 10.3**	**-1.7**
LRP	**Arpino**	**1.04**	**161**	⇓P	**Pn**	**11 42 14.4**	**+1.8**
LRP				AML	AML		
	comp=N,115μm,0.5s						
LRP				AML	AML		
	comp=E,341μm,0.7s						
SENI	**Senigallia**	**1.07**	**4**	⇓P	**Pg**	**11 42 13.2**	**+0.2**
GIUL	**Giuliano Di Ro**	**1.08**	**176**	⇑P	**Pn**	**11 42 13.2**	**0.0**
GIUL				AML	AML		
	comp=E,345μm,1.0s						
GIUL				AML	AML		
	comp=N,364μm,0.7s						
FSSB	**Fossombrone**	**1.09**	**346**	P	**Pb**	**11 42 11.4**	**-1.6**
FSSB				AML	AML		
	comp=N,4075μm,0.3s						
FSSB				AML	AML		
	comp=E,2460μm,0.4s						
MCIV	**Monte Civitell**	**1.09**	**278**	P	**Pn**	**11 42 12.6**	**-0.8**
MCIV				AML	AML		
	comp=N,338μm,1.0s						
MCIV				AML	AML		
	comp=E,492μm,0.3s						
CAFI	**Castiglion Fio**	**1.11**	**309**	⇓P	**Pg**	**11 42 12.7**	**-1.0**
CAFI				AML	AML		
	comp=E,845μm,0.4s						
CAFI				AML	AML		
	comp=N,558μm,0.6s						
LIK	**San Giovanni I**	**1.17**	**165**	⇑P	**Pn**	**11 42 13.6**	**-0.8**
CERA	**Filignano**	**1.23**	**148**	⇓P	Pg	11 42 17.9	+2.0
ARCI	**Arcidosso**	**1.25**	**280**	⇑P	**Pg**	**11 42 15.6**	**-0.8**
ARCI				AML	AML		
	comp=N,136μm,0.7s						
ARCI				AML	AML		
	comp=E,155μm,0.4s						
MIDA	**Miranda**	**1.29**	**140**	P	**Pg**	**11 42 18.3**	**+1.1**
MIDA				AML	AML		
	comp=N,321μm,0.6s						
MIDA				AML	AML		
	comp=E,348μm,0.7s						

CPGN	**Carpegna, Ital**	**1.31**	**333**	⇑P	**Pg**	**11 42 18.5**	**+1.0**
CRE	**Caprese Michel**	**1.31**	**319**	⇑P	**Pb**	**11 42 16.2**	**-0.8**
CRE				AML	AML		
	comp=E,294µm,1.4s						
CRE				AML	AML		
	comp=N,400µm,0.4s						
TRIV	**Trivento**	**1.36**	**129**	⇓P	**Pg**	**11 42 19.6**	**+1.0**
VAGA	**Valle Agricola**	**1.47**	**146**	⇑P	Pg	11 42 22.5	+1.9
MAON	**Monte Argentar**	**1.50**	**263**	P	**Pg**	**11 42 18.6**	**-2.6**
MAON				AML	AML		
	comp=E,158µm,1.0s						
MAON				AML	AML		
	comp=N,142µm,1.1s						
OSSC	**Osservatorio P**	**1.65**	**303**	P	**Pn**	**11 42 19.9**	**-1.1**
OSSC				AML	AML		
	comp=E,132µm,1.6s						
OSSC				AML	AML		
	comp=N,127µm,0.8s						
CASP	**Castiglione de**	**1.69**	**276**	⇑P	**Pb**	**11 42 21.1**	**-2.1**
CASP				AML	AML		
	comp=N,49µm,1.4s						
CASP				AML	AML		
	comp=E,68µm,0.5s						
RUFI	**Rufina**	**1.69**	**316**	⇓P	**Pb**	**11 42 22.5**	**-0.8**
TRIF	**Trifonti**	**1.71**	**287**	⇓P	**Pb**	**11 42 22.2**	**-1.5**
TRIF				AML	AML		
	comp=E,103µm,1.1s						
TRIF				AML	AML		
	comp=N,110µm,1.4s						
GATE	**Gambatesa**	**1.73**	**130**	⇑P	**Pg**	**11 42 26.7**	**+1.1**
TREM	**Isole Tremiti**	**1.83**	**106**	⇓P	**Pg**	**11 42 25.1**	**-2.3**
TREM				S	**Sg**	**11 42 49.0**	**-2.1**
BRIS	**BRISIGHELLA**	**1.92**	**322**	P	**Pg**	**11 42 28.5**	**-0.8**
SGRT	**San Giovanni R**	**2.12**	**114**	⇑P	**Pb**	**11 42 29.2**	**-1.6**
SGRT				AML	AML		
	comp=N,242µm,0.8s						
SGRT				AML	AML		
	comp=E,266µm,1.3s						
PII	**Pisa**	**2.20**	**300**	P	**Pg**	**11 42 32.7**	**-1.9**
BRJN	**Brijuni**	**2.31**	**11**	⇓P	**Pn**	**11 42 29.4**	**-0.7**
HVAR	**Hvar**	**2.49**	**76**	⇓P	**Pn**	**11 42 32.1**	**-0.4**
ACER	**Acerenza**	**2.80**	**130**	⇑P	**Pb**	**11 42 39.5**	**-2.7**
MNTV	**Mantova**	**3.03**	**327**	P	**Pn**	**11 42 38.5**	**-1.5**
PGF	**Pioggiola**	**3.06**	**270**	P	Pb	11 42 41.4	-5.3
AMUR	**Altamura**	**3.11**	**123**	⇓P	**Pb**	**11 42 43.2**	**-4.4**
ROVR	**Rover Verones**	**3.36**	**334**	⇑P	**Pn**	**11 42 46.0**	**+1.4**
STON	**Ston**	**3.36**	**84**	⇓P	**Pn**	**11 42 44.2**	**-0.4**
STON				AML	AML		
	comp=E,42µm,1.0s						
STON				AML	AML		
	comp=N,47µm,0.4s						
CGRP	**Cima Grappa**	**3.38**	**344**	⇑P	**Pn**	**11 42 45.8**	**+0.8**
CGRP				AML	AML		
	comp=E,166µm,0.4s						
CGRP				AML	AML		
	comp=N,134µm,0.5s						
MMN	**Mormanno**	**3.48**	**141**	P	**Pn**	**11 42 45.9**	**-0.3**
MMN				AML	AML		
	comp=E,16µm,1.5s						
MMN				AML	AML		
	comp=N,33µm,0.2s						
SALO	**Salr**	**3.52**	**329**	⇓P	**Pn**	**11 42 49.3**	**+2.4**
LEOD	**Capriano del C**	**3.56**	**323**	S	**Sb**	**11 43 40.0**	**+1.7**
CTI	**Castel Tesino**	**3.57**	**343**	⇓P	**Pn**	**11 42 48.2**	**+0.7**
CTI				AML	AML		
	comp=E,110µm,0.5s						
CTI				AML	AML		
	comp=N,101µm,0.3s						
MPRI	**Monte Prat**	**3.60**	**358**	⇓P	**Pn**	**11 42 48.1**	**+0.2**
MPRI				AML	AML		
	comp=E,83µm,0.9s						
MPRI				AML	AML		
	comp=N,114µm,0.3s						
GAGG	**Gaggia**	**3.78**	**336**	⇑P	**Pn**	**11 42 52.1**	**+1.6**
MABI	**Malga Bissina**	**3.90**	**332**	⇓P	**Pn**	**11 42 54.0**	**+1.8**
ACOM	**Acomizza, Ital**	**3.92**	**4**	⇓P	**Pn**	**11 42 52.9**	**+0.5**
ACOM				AML	AML		
	comp=N,84µm,0.6s						
ACOM				AML	AML		
	comp=E,75µm,0.9s						
ZOU	**Zoufplan**	**3.92**	**358**	⇓P	**Pn**	**11 42 52.6**	**+0.2**
ZOU				AML	AML		
	comp=N,43µm,1.3s						
ZOU				AML	AML		
	comp=E,47µm,0.6s						
ZOU				AML	AML		
	comp=N,78µm,0.6s						
ZOU				AML	AML		
	comp=E,80µm,1.6s						
HCY	**Herceg Novi**	**3.96**	**91**	⇓*i*Pn	**Pn**	**11 42 53.6**	**+0.8**
HCY				*i* Sn	**Sn**	**11 43 39.8**	**+0.8**
OBKA	**Obir**	**4.00**	**14**	*i* Pn	**Pn**	**11 42 53.9**	**+0.5**
	comp=E,0.3nm,0.1s						
KOSI	**Kohlern**	**4.03**	**342**	⇓P	**Pn**	**11 42 55.4**	**+1.6**
APPI	**Appiano**	**4.08**	**341**	⇓P	**Pn**	**11 42 55.8**	**+1.3**
ABTA	**Abfaltersbach**	**4.13**	**354**	*e*Pn	**Pn**	**11 42 54.2**	**-1.1**
	comp=E,1.9nm,0.2s						
VSL	**Villasalto**	**4.24**	**223**	⇑P	**Pn**	**11 42 58.4**	**+1.8**
CEME	**Cevo**	**4.26**	**89**	⇓*i*Pn	**Pn**	**11 42 57.8**	**+0.8**
CEME				*i* Sn	**Sn**	**11 43 47.3**	**+0.6**
BUM	**Brajici-Budva**	**4.27**	**93**	⇓*i*Pn	**Pn**	**11 42 57.8**	**+0.7**
BUM				*i* Sn	**Sn**	**11 43 47.3**	**+0.6**
UPM	**Unac-Piva**	**4.27**	**80**	*e*Pn	**Pn**	**11 42 57.9**	**+0.7**
UPM				*i* Sn	**Sn**	**11 43 47.2**	**+0.2**
NKME	**Niksic**	**4.28**	**86**	⇑*i*Pn	**Pn**	**11 42 58.1**	**+0.8**
NKME				*i* Sn	**Sn**	**11 43 47.7**	**+0.6**
KOGS	**Kog**	**4.41**	**29**	S	**Sn**	**11 43 50.0**	**-0.1**
KBA	**Koelnbreinsper**	**4.44**	**2**	*i* Pn	**Pn**	**11 43 00.3**	**+0.7**
	comp=E,1.4nm,0.3s						
ROSI	**Rosskopf**	**4.46**	**345**	⇓P	**Pn**	**11 43 01.4**	**+1.6**
DRME	**Dracevica, Mon**	**4.50**	**94**	*e*Pn	**Pn**	**11 43 01.1**	**+1.0**
DRME				*i* Sn	**Sn**	**11 43 53.0**	**+0.7**
PDG	**Podgorica**	**4.52**	**91**	⇓P	**Pg**	**11 43 15.9**	**-3.0**
PDG				S	**Sn**	**11 43 54.0**	**+1.1**
TTG	**Podgorica**	**4.52**	**91**	*e*Pn	**Pn**	**11 43 01.4**	**+0.9**
TTG				*i* Sn	**Sn**	**11 43 53.5**	**+0.6**
ULC	**Ulcinj**	**4.58**	**96**	*e*Pn	**Pn**	**11 43 02.2**	**+0.9**
ULC				*i* Sn	**Sn**	**11 43 55.0**	**+0.7**
KOME	**Kolasin**	**4.70**	**85**	⇑*i*Pn	**Pn**	**11 43 03.8**	**+0.8**
KOME				*i* Sn	**Sn**	**11 43 57.7**	**+0.3**
SQTA	**Sankt Quirin**	**4.78**	**344**	*i* Pn	**Pn**	**11 43 05.7**	**+1.5**
	comp=E,1.8nm,0.1s						
MFNL	**Monte Finestre**	**4.84**	**182**	⇑P	Pg	11 43 18.9	-6.2
IVA	**Berane**	**4.98**	**85**	⇓*i*Pn	**Pn**	**11 43 07.7**	**+0.9**
IVA				*i* Sn	**Sn**	**11 44 04.5**	**+0.3**
CAGR	**Agira**	**5.12**	**168**	⇓P	**Pb**	**11 43 21.8**	**+0.1**
KHC	**Kasperske Hory**	**6.50**	**3**	*e*PN	**Pn**	**11 43 27.8**	**+0.1**
KHC				*e*SN	**Sn**	**11 44 39.8**	**-1.9**
CLL	**Collm**	**8.67**	**359**	*e*x	x	11 45 38.0	
CLL				*e*(Sg)	**Sg**	**11 46 35.0**	**+4.6**

*IDC **01** 11:51:26.5±1.5, 38.°86N×143.°07E, h0km, mb3.5/3, mbtmp3.5/4, ML2.6/1, Error ellipse: s-maj=68.4km s-min=26.6km az=122.0*

*JMA **01** 11:51:30.0±0.1, 39.°2N±0.°2×142.°4E±0.°6, h33km±1km, MV3.4/40, E OFF IWATE PREF*

ISC 01 11:51:28.0±2.0**, 39.°20N**±0.°04×**142.°47E**±0.°09**, h14**km±11km**, n20,** σ**1.s20**/24**, mb3.7**/3**, 2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.63**	**307**	⇓*i*P	**Pg**	**11 51 41.4**	**+1.0**
MIYJ				⇓S	**Sg**	**11 51 49.4**	**+0.6**
OFUJ	**Ofunato**	**0.64**	**260**	*i* P	**Pb**	**11 51 41.6**	**+0.8**
OFUJ				S	**Sg**	**11 51 49.7**	**+0.9**
JKMT	**Kesennumamotoy**	**0.87**	**244**	*i* P	**Pb**	**11 51 44.9**	**+0.1**
JKMT				S	**Sg**	**11 51 55.7**	**-0.4**
JTH	**Tanohata**	**0.88**	**328**	P	**Pg**	**11 51 45.4**	**+0.4**
JTH				S	**Sg**	**11 51 56.2**	**-0.3**
JOM	**Ohasama**	**0.96**	**287**	*i* P	**Pg**	**11 51 46.4**	**0.0**
JOM				S	**Sg**	**11 51 58.2**	**-0.8**
JMK	**Ichinoseki**	**1.00**	**256**	*i* P	**Pg**	**11 51 47.1**	**-0.3**
JMK				S	**Sg**	**11 51 59.6**	**-0.9**
JIO	**Ouri**	**1.15**	**230**	P	**Pb**	**11 51 48.8**	**-0.8**
JIO				S	**Sg**	**11 52 02.6**	**-2.4**
JKZ	**Kuzumaki**	**1.18**	**312**	*i* P	**Pg**	**11 51 50.4**	**-0.4**
JKZ				S	**Sg**	**11 52 04.6**	**-1.7**
JANG	**Nango**	**1.39**	**328**	*i* P	**Pn**	**11 51 53.1**	**+0.1**
JANG				S	**Sn**	**11 52 09.9**	**-1.3**
JRG	**Rokugo**	**1.44**	**279**	P	**Pn**	**11 51 53.9**	**+0.2**
JRG				*e*S	**Sn**	**11 52 12.6**	**+0.1**
MJAR	**Matsushiro Arr**	**4.29**	**233**	Pn	**Pn**	**11 52 36.0**	**+3.1**
	0.3nm,0.3s,baz=50,slow=9.8,SNR=19						
	2.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.63**	**126**	T	T	12 27 46.5	
	baz=318,slow=76,SNR=72						
H11N1	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	12 27 46.8	
	baz=318,slow=76,SNR=60						
H11N3	**WAKE ISLAND Hy**	**28.65**	**126**	T	T	12 27 47.3	
	baz=318,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.42**	**128**	T	T	12 28 46.1	
	baz=318,slow=76,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**29.42**	**128**	T	T	12 28 56.9	
	baz=318,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**29.44**	**128**	T	T	12 28 46.4	
	baz=318,slow=76,SNR=4.4						
ILAR	**Eielson Array**	**47.23**	**33**	P	**P**	**12 00 00.9**	**+0.8**
	0.3nm,0.6s,baz=252,slow=5.9,SNR=6.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**59.32**	**189**	P	**P**	**12 01 28.1**	**-1.4**
	0.6nm,0.6s,baz=6.1,slow=7.0,SNR=9.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**63.04**	**189**	P	**P**	**12 01 54.0**	**-0.7**
	0.4nm,0.8s,baz=15,slow=5.2,SNR=4.2						
	0.4nm,0.8s						

IDC 01 12:06:02.5±8.2**, 11.°75S**×**123.°16E, h0**km**, mb3.8**/1**, mbtmp3.3**/3**, ML2.8**/2**, MS3.1**/2**, Error ellipse: s-maj=150.4km s-min=89.7km az=22.0, South of Timor**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.49**	**129**	Pn	Pn	12 09 15.8	+0.5
	baz=305,slow=13,SNR=1.8						
WRA				Sn	Sn	12 11 45.3	-0.9
	0.1nm,0.3s,baz=306,slow=24,SNR=2.2						
	0.1nm,0.6s						
ASAR	**Alice Springs**	**15.65**	**141**	Pn	Pn	12 09 46.3	+1.7
	0.1nm,0.3s,baz=316,slow=12,SNR=6.9						
	0.3nm,0.5s						
LEM	**Lembang**	**16.09**	**286**	LR	LR	12 16 55.1	
	comp=Z,29nm,19.1s,baz=282,slow=40						
STKA	**Stephens Creek**	**26.27**	**143**	P	P	12 11 39.4	-0.3
	1.6nm,0.9s,baz=323,slow=10,SNR=4.1						
	1.6nm,0.9s						
OBN	**Obninsk**	**97.59**	**325**	LR	LR	13 10 47.9	
	comp=Z,16nm,19.4s,baz=172,slow=40						

*BER **01** 12:16:58.8±2.3, 77.°44N×7.°66E, h10km, ML2.3, ML3.1(NAO), Confirmed Earthquake*

*NAO **01** 12:16:58.6±6.4, 77.°42N×7.°23E, h19km±54km, ML3.1*

*IEPN **01** 12:17:00.0, 77.°37N×8.°59E, h10km*

*DNK **01** 12:17:00.6±2.5, 77.°46N×6.°11E, h0km±72km, ML1.6*

*IDC **01** 12:17:03.7±2.4, 77.°27N×9.°74E, h0km, mb3.5/1, mbtmp3.5/3, ML2.9/1, MS2.9/3, Error ellipse: s-maj=30.1km s-min=12.2km az=99.0*

ISC 01 12:16:57.6±1.5**, 77.°48N**±0.°05×**7.°64E**±0.°05**, h28**km±15km**, n35,** σ**2.s07**/53**, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**1.52**	**64**	Pn	**Pb**	**12 17 24.9**	**-0.1**
BRBA				Lg	Lg	12 17 42.0	
BRBA	**Barentsburg A**	**1.52**	**64**	*e*P	**Pb**	**12 17 25.0**	**-0.1**
BRBA				*e*S	**Sn**	**12 17 42.0**	**+0.4**
BRBA				IAML		12 17 43.9	
	comp=Z,53nm,0.5s						
BRBB	**Barentsburg B**	**1.53**	**63**	Pn	**Pb**	**12 17 25.1**	**-0.2**
BRBB				Lg	Lg	12 17 43.1	
BRBB	**Barentsburg B**	**1.53**	**63**	*e*P	**Pb**	**12 17 25.0**	**-0.2**
BRBB				*e*Pg	**Pn**	**12 17 27.3**	**+4.3**
BRBB				*e*S	**Sb**	**12 17 42.6**	**-1.6**
KBS	**Kingsbay**	**1.71**	**29**	Pn	**Pn**	**12 17 27.3**	**+1.9**
KBS				Sn	**Sn**	**12 17 46.5**	**+0.2**
KBS	**Kingsbay**	**1.71**	**29**	*i* P	**Pn**	**12 17 27.6**	**+2.2**
KBS				*i* S	**Sn**	**12 17 46.9**	**+0.6**
KBS	**Kingsbay**	**1.71**	**29**	*e*P	**Pn**	**12 17 27.3**	**+1.9**
KBS				*e*S	**Sn**	**12 17 46.3**	**0.0**
KBS				IAML		12 17 51.0	
	comp=Z,47nm,0.4s						
HSPB	**Hornsund (broa**	**1.82**	**101**	Pn	**Pn**	**12 17 28.3**	**+1.3**
HSPB				Sn	**Sn**	**12 17 48.1**	**-0.9**
HSPB	**Hornsund (broa**	**1.82**	**101**	P	**Pn**	**12 17 27.5**	**+0.6**
HSPB				*i* S	**Sn**	**12 17 48.0**	**-1.0**
HSPB	**Hornsund (broa**	**1.82**	**101**	*e*P	**Pn**	**12 17 28.4**	**+1.5**
HSPB				*e*S	**Sn**	**12 17 48.3**	**-0.7**
HSPB				IAML		12 17 48.8	
	comp=Z,65nm,0.4s						
SPA0	**Spitsbergen Ar**	**1.98**	**65**	Pn	**Pb**	**12 17 32.4**	**-0.5**
	baz=243,slow=14						
SPA0				Sn	**Sb**	**12 17 55.7**	**-1.4**
	baz=260,slow=18						
SPA0	**Spitsbergen Ar**	**1.98**	**65**	⇑*i*P	**Pb**	**12 17 32.4**	**-0.5**
SPA0				*e*S	**Sb**	**12 17 55.2**	**-2.0**
SPA0	**Spitsbergen Ar**	**1.98**	**65**	Pn	**Pb**	**12 17 32.4**	**-0.5**
	baz=243,slow=14						
SPA0				Sn	**Sb**	**12 17 55.7**	**-1.4**
	baz=260,slow=18						
SPITS	**Spitsbergen Ar**	**1.98**	**65**	Pn	**Pb**	**12 17 32.5**	**-0.5**
	baz=238,slow=14						
SPITS				Sn	**Sb**	**12 17 55.5**	**-1.7**
	baz=238,slow=25						
HOPEN	**Hopen**	**4.04**	**95**	Pn	**Pn**	**12 17 59.5**	**+2.1**
HOPEN				Sn	**Sn**	**12 18 42.8**	**-0.9**
HOPEN	**Hopen**	**4.04**	**95**	*e*P	**Pn**	**12 17 58.7**	**+1.3**
HOPEN				*e*S	**Sn**	**12 18 43.1**	**-0.6**
HOPEN				IAML		12 18 46.4	
	comp=Z,12nm,0.2s						
DAG	**Danmarks Havn**	**5.89**	**276**	*e*	Pn	12 18 19.2	-3.5
	baz=78,slow=16						
DAG				*i* P	Pb	12 18 23.0	-16
DAG				*i* S	Sn	12 19 23.6	-5.5
DAG				IAML		12 19 29.1	
	comp=Z,2.7nm,0.3s						
DAG	**Danmarks Havn**	**5.89**	**276**	*e*P	**Pn**	**12 18 23.3**	**+0.6**
DAG				*e*S	Sn	12 19 20.8	-8.4
NOR	**Nord**	**6.00**	**325**	Pn	**Pn**	**12 18 25.6**	**+1.4**
NOR				Sn	**Sn**	**12 19 31.6**	**-0.2**
NOR	**Nord**	**6.00**	**325**	*i* P	**Pn**	**12 18 25.6**	**+1.4**
NOR				*i* S	**Sn**	**12 19 31.7**	**-0.2**
NOR				IAML		12 19 34.5	
	comp=Z,2.6nm,0.3s						
NOR	**Nord**	**6.00**	**325**	*e*P	**Pn**	**12 18 25.5**	**+1.2**
NOR				*e*S	**Sn**	**12 19 29.7**	**-2.1**
DBG	**Daneborg**	**7.44**	**259**	Pn	**Pn**	**12 18 45.3**	**+1.2**
DBG				Sn	Sn	12 20 01.6	-5.8
DBG	**Daneborg**	**7.44**	**259**	*i* P	**Pn**	**12 18 45.3**	**+1.2**
DBG				*i* S	Sn	12 20 01.4	-6.1
DBG				IAML		12 20 06.3	
	comp=Z,1.2nm,0.4s						
DBG	**Daneborg**	**7.44**	**259**	*e*P	**Pn**	**12 18 45.1**	**+1.0**
ZFI	**Zemlya Franca-**	**8.08**	**47**	*e*P	**Pn**	**12 18 56.5**	**+3.7**
ZFI				*e*S	**Sn**	**12 20 19.8**	**-3.3**
	comp=Z,21nm,1.5s						
KIF	**Kilpisjarvi**	**9.28**	**149**	Pn	**Pn**	**12 19 10.4**	**+1.1**
KIF				Sn	**Sn**	**12 20 47.2**	**-5.4**
KIF	**Kilpisjarvi**	**9.28**	**149**	Pn	**Pn**	**12 19 10.4**	**+1.1**
KIF				Sn	**Sn**	**12 20 47.2**	**-5.4**
ARA0	**ARCESS Array S**	**9.39**	**139**	Pn	**Pn**	**12 19 11.6**	**+0.8**
	baz=331,slow=9.3						
ARA0				Sn	Sn	12 20 47.1	-8.1
	baz=331,slow=22						
ARA0	**ARCESS Array S**	**9.39**	**139**	Pn	**Pn**	**12 19 11.6**	**+0.8**
	baz=331,slow=9.3						
ARA0				Sn	Sn	12 20 47.1	-8.1
	baz=331,slow=22						
ARCES	**ARCESS Array B**	**9.39**	**139**	Pn	**Pn**	**12 19 12.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=330,slow=10,SNR=11						
ARCES				Sn	**Sn**	**12 20 49.2**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=332,slow=19,SNR=5.9						
ARCES				LR	LR	12 23 53.0	
	comp=Z,27nm,18.4s,baz=344,slow=46						
	comp=Z,5.6nm,1.0s						
SUMG	**Summit**	**12.54**	**271**	*i* P	**Pn**	**12 19 55.6**	**+1.4**
NOA	**NORSAR Array B**	**16.56**	**174**	Pn	**P**	**12 20 53.0**	**+3.2**
	comp=Z,0.2nm,0.4s,baz=350,slow=11,SNR=1.8						
BVAR	**Borovoye Array**	**33.06**	**100**	LR	LR	12 40 39.8	
	comp=Z,25nm,18.2s,baz=25,slow=44						
MKAR	**Makanchi Array**	**41.52**	**92**	P	P	12 24 48.7	+6.8
	comp=Z,0.4nm,0.7s,baz=339,slow=5.0,SNR=2.5						
	comp=Z,0.4nm,0.7s						
AAK	**Ala-Archa**	**43.79**	**101**	LR	LR	12 46 50.9	
	comp=Z,22nm,18.4s,baz=150,slow=41						

*JMA **01** 12:23:28.9±0.5, 36.°7N±0.°8×14.°2E±.°, h46km, MV3.8/33, E OFF FUKUSHIMA PREF*

*NIED **01** 12:23:28.9, 36.°72N×141.°99E, h46km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.63; $M_{\theta\theta}$-5.90; $M_{\phi\phi}$5.27; $M_{r\theta}$-0.99; $M_{\theta\phi}$-1.29; $M_{\phi r}$2.20; Fault plane solution: $M_0$6.24000×10^{14} NP1:ϕ_s41.00000°, δ70.00000°, λ11.00000°. NP2:ϕ_s307.00000°, δ79.00000°, λ159.00000°.*

*IDC **01** 12:23:40.8±2.9, 36.°17N×141.°07E, h88km±28km, mb3.3/5, mbtmp3.7/8, MS2.6/1 Error ellipse: s-maj=34.8km s-min=21.4km az=82.0*

ISC 01 12:23:29.4±1.2**, 36.°64N**±0.°05×**142.°1E**±0.°1**, h50**km**, n27,** σ**2.s59**/21**, mb3.6**/5**, 2D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.24**	**306**	P	**Pn**	**12 23 48.2**	**-2.1**
JHO	**Hitachi**	**1.25**	**269**	P	**Pn**	**12 23 48.7**	**-1.8**
JHYU	**Hitachinakayam**	**1.27**	**257**	P	**Pn**	**12 23 49.8**	**-0.9**
JFFD	**Fukushimafurud**	**1.33**	**290**	P	**Pn**	**12 23 49.4**	**-2.2**
JMM	**Marumori**	**1.62**	**319**	⇓P	**Pn**	**12 23 53.7**	**-1.8**
JMM				⇓S	**Sn**	**12 24 12.0**	**-3.2**
JOTO	**OTAMA OYAMA**	**1.70**	**303**	P	**Pn**	**12 23 55.9**	**-0.8**
JIO	**Ouri**	**1.91**	**341**	P	**Pn**	**12 23 58.1**	**-1.4**
JOU	**Okura**	**2.08**	**326**	P	**Pn**	**12 24 01.1**	**-0.7**
JOU				*e*S	**Sn**	**12 24 24.7**	**-1.8**
JFY	**Yanaizu**	**2.08**	**292**	*e*P	**Pn**	**12 24 01.4**	**-0.4**
JAG	**Ashikaga**	**2.16**	**265**	P	**Pn**	**12 24 02.3**	**-0.7**
JYS	**Shirataka**	**2.27**	**315**	P	**Pn**	**12 24 04.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.15**	**269**	P	**Pn**	**12 24 17.6**	**+1.1**
	75nm,0.6s,baz=110,slow=11,SNR=193						
JHJ	**Hachijo jima 2**	**4.00**	**209**	P	**Pn**	**12 24 28.1**	**0.0**
	58nm,0.3s,baz=326,slow=15,SNR=15						
JHJ				S	**Sn**	**12 25 12.3**	**-1.5**
	152nm,0.4s,baz=275,slow=20,SNR=12						
JCJ	**Chichijima**	**9.52**	**180**	P	**Pn**	**12 25 42.2**	**-1.6**
	23nm,0.5s,baz=263,slow=22,SNR=9.7						
JCJ				S	**Sn**	**12 27 22.4**	**-6.9**
	20nm,0.4s,baz=276,slow=23,SNR=5.7						
USRK	**Ussuriysk Ar.**	**10.80**	**317**	LR	LR	12 29 26.1	
	comp=Z,33nm,18.9s,baz=163,slow=32						
KSRS	**Korea Array**	**11.38**	**278**	P	Pn	12 26 12.2	+3.0
	1.2nm,0.5s,baz=92,slow=14,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**27.46**	**121**	T	T	12 58 45.5	
	baz=313,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**27.46**	**121**	T	T	12 58 44.5	
	baz=313,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**27.48**	**121**	T	T	12 58 44.9	
	baz=313,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.17**	**123**	T	T	12 59 36.1	
	baz=315,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.17**	**123**	T	T	12 59 34.3	
	baz=315,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.18**	**123**	T	T	12 59 39.6	
	baz=315,slow=76,SNR=12						
SONM	**Songino Array**	**28.48**	**304**	P	**P**	**12 29 22.9**	**+3.1**
	0.7nm,0.6s,baz=108,slow=9.7,SNR=6.4						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**49.52**	**32**	P	P	12 32 27.7	+13
	0.7nm,0.8s,baz=264,slow=5.5,SNR=6.5						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**56.75**	**189**	P	**P**	**12 33 11.2**	**+3.0**
	0.2nm,0.5s,baz=3.5,slow=7.1,SNR=2.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**60.48**	**189**	P	**P**	**12 33 37.9**	**+3.7**
	0.5nm,0.9s,baz=7.7,slow=6.6,SNR=2.9						
	0.5nm,0.9s						
TXAR	**Lajitas Array**	**89.91**	**53**	P	P	12 36 36.5	+13
	0.3nm,0.8s,baz=306,slow=4.0,SNR=4.4						
	0.3nm,0.8s						

*DNK **01** 12:41:13.9±2.1, 71.°07N×8.°60W, h4km±131km, ML1.2*

BER 01 12:41:12.0±0.5**, 71.°08N**×**7.°57W, h0**km±245km**, ML3.0, 3D, Confirmed Earthquake, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.25**	**251**	⇓*i*P	Pb	12 41 18.3	-1.1
JNE				IAML		12 41 24.1	
	comp=Z,2µm,0.2s						
JNW	**Jan Mayen West**	**0.28**	**261**	⇓*i*P	Pb	12 41 18.8	-1.1
JNW				*e*S	Sb	12 41 23.6	-1.6
JNW				IAML		12 41 24.0	
	comp=Z,4µm,0.2s						
JMIC	**Jan Mayen**	**0.32**	**254**	⇓*i*P	Pg	12 41 19.1	+1.0
JMIC				*e*S	Sb	12 41 24.6	-1.6
JMIC				IAML		12 41 24.9	
	comp=Z,592nm,0.2s						
JMI	**Jan Mayen**	**0.41**	**249**	*e*P	Pg	12 41 20.9	+1.1
JMI				*e*S	Sb	12 41 27.4	-1.3
JMI				IAML		12 41 29.6	
	comp=Z,918nm,0.3s						
DBG	**Daneborg**	**4.97**	**317**	*i* P	Pn	12 42 25.2	-2.6
DBG				*i* S	Sn	12 43 18.4	-7.5
DBG				IAML		12 43 20.5	
	comp=Z,0.9nm,0.4s						
DAG	**Danmarks Havn**	**6.48**	**337**	*e*	Pn	12 42 45.0	-3.5
	baz=148,slow=18						
DAG				*i* P	Pn	12 42 46.0	-19
DAG				*i* S	Sn	12 43 57.0	-6.0
DAG				IAML		12 43 58.8	
	comp=Z,0.9nm,0.4s						

*BJI **01** 13:37:40.0±0.0, 33.°20N×140.°80E, h40km, mb4.5/20, mB4.7/9, Ms4.2/3, Ms7 4.1/2*

*NIED **01** 13:37:41.6, 33.°36N×140.°97E, h46km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.34; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-1.51; $M_{r\theta}$0.46; $M_{\theta\phi}$0.25; $M_{\phi r}$0.28; Fault plane solution: $M_0$1.55000×10^{15} NP1: ϕ_s153.00000°, δ44.00000°, λ61.00000°. NP2:ϕ_s11.00000°, δ52.00000°, λ116.00000°.*

*JMA **01** 13:37:41.6±0.2, 33.°4N±0.°5×14.°1E±.°, h46km, MD4.4/54, MV4.2/54, E OFF HACHIJOJIMA ISLAND*

*IDC **01** 13:37:43.9±1.2, 33.°28N×140.°76E, h62km±10km, mb3.8/20, mbtmp4.1/22, MS3.1/10, Error ellipse: s-maj=17.6km s-min=13.5km az=94.0*

*NEIC **01** 13:37:43.8±1.0, 33.°23N±0.°07×140.°83E±0.°04, h53km±7km, mb4.7/67, Error ellipse: s-maj=10.0km s-min=4.7km az=192.0*

ISC 01 13:37:43.2±0.8**, 33.°29N**±0.°04×**140.°87E**±0.°06**, h53**km±6km**, n162,** σ**1.s05**/157**, mb4.6**/58**, MS3.2**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.90**	**259**	Pn	**Pn**	**13 37 59.6**	**-0.2**
JHJ2				Sn	**Sn**	**13 38 10.3**	**-1.6**
JHJ2	**Mitsune**	**0.90**	**259**	P	**Pn**	**13 37 59.5**	**-0.2**
JHJ2	**Mitsune**	**0.90**	**259**	A	A	13 37 59.5	
	comp=E,34nm,0.2s,comp=E,18nm,0.2s						
JHCJ	**Hachijojimakas**	**0.93**	**257**	P	**Pn**	**13 37 59.8**	**-0.2**
JHCJ				*e*S	**Sn**	**13 38 11.2**	**-1.2**
JHCJ	**Hachijojimakas**	**0.93**	**257**	A	A	13 37 59.8	
	comp=E,8.0nm,3.6s,comp=E,10.0nm,3.4s						
JHJ	**Hachijo jima 2**	**0.93**	**260**	P	**Pn**	**13 37 59.6**	**-0.5**
	2µm,0.2s,baz=166,slow=23,SNR=885						
JHJ				S	**Sn**	**13 38 12.2**	**-0.2**
	9µm,0.3s,baz=72,slow=22,SNR=23						
JMKN	**Mikurajimanish**	**1.22**	**300**	*e*P	**Pn**	**13 38 03.6**	**-0.4**
JMKN				*e*S	**Sn**	**13 38 19.4**	**-0.2**
JMKN	**Mikurajimanish**	**1.22**	**300**	A	A	13 38 03.6	
	comp=E,10.0nm,3.3s,comp=E,10.0nm,4.1s						
JAOM	**Aogashimamukai**	**1.25**	**229**	P	**Pn**	**13 38 04.4**	**+0.1**
JAOM				*e*S	**Sn**	**13 38 20.7**	**+0.6**
JAOM	**Aogashimamukai**	**1.25**	**229**	A	A	13 38 04.4	
	comp=E,14nm,2.0s,comp=E,19nm,4.5s						
JMYK	**Miyake Tsubota**	**1.34**	**305**	P	**Pn**	**13 38 05.2**	**-0.4**
JMYK				*e*S	**Sn**	**13 38 22.6**	**+0.2**
JMYK	**Miyake Tsubota**	**1.34**	**305**	A	A	13 38 05.2	
	comp=E,14nm,4.3s,comp=E,16nm,3.8s						
BSO1	**Boso 1**	**1.36**	**4**	P	**Pn**	**13 38 03.8**	**-1.6**
BSO3	**Boso 3**	**1.54**	**349**	*e*P	**Pn**	**13 38 06.6**	**-1.4**
JKO	**Kozu shima**	**1.70**	**302**	*e*P	**Pn**	**13 38 10.3**	**-0.1**
JKO	**Kozu shima**	**1.70**	**302**	A	A	13 38 10.3	
	comp=E,25nm,3.6s,comp=E,13nm,3.2s						
JIM2	**Oshima 3**	**1.86**	**320**	*e*P	**Pn**	**13 38 11.8**	**-0.9**
JIM2	**Oshima 3**	**1.86**	**320**	A	A	13 38 11.8	
	comp=E,9.0nm,3.3s,comp=E,10.0nm,3.3s						
JIZS	**Izushimoda**	**2.18**	**311**	*e*P	**Pn**	**13 38 16.9**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIZS				eS	Sn	13 38 42.9	0.0
JIZS	Izushimoda	2.18	311	A	A	13 38 16.9	
	comp=N,2.0nm,5.4s						
JOD2	Odawara 2	2.46	324	eP	Pn	13 38 20.0	-0.8
JOD2				eS	Sn	13 38 48.2	-1.5
JFNN	Fujinakano	2.62	317	eP	Pn	13 38 23.4	+0.3
TK02	Tokai 2	2.68	285	eP	Pn	13 38 24.7	+1.1
TK04	Tokai 4	2.72	294	P	Pn	13 38 25.5	+1.2
SHZ3	Shizuoka 3	2.83	309	eP	Pn	13 38 27.1	+1.1
JHU	Hanno	2.87	333	P	Pn	13 38 25.9	-0.6
JYN	Shimob	2.92	319	eP	Pn	13 38 27.6	+0.3
JRY	Ryogami san	3.17	330	eP	Pn	13 38 30.6	0.0
JGF	Kuroka	3.71	309		Pn	13 38 39.7	+1.7
INU	Inuyama	3.79	304	Pn	Pn	13 38 39.9	+0.8
MJAR	Matsushiro Arr	3.91	327	P	Pn	13 38 41.7	+1.0
	29nm,0.6s,baz=162,slow=13,SNR=29						
MJAR				S	Sn	13 39 25.9	+0.5
	26nm,0.6s,baz=131,slow=28,SNR=3.4						
MJAR				LR	LR	13 40 18.6	
	comp=Z,133nm,21.0s,baz=125,slow=40						
MAJO	Matsushiro	3.91	327	Pn	Pn	13 38 41.2	+0.4
MJB9	Matsu-Tunnel	3.92	327		Pn	13 38 43.0	+2.2
JMM	Marumori	4.56	359		Pn	13 38 47.8	-1.9
JSD	Sado	5.19	337	Pn	Pn	13 38 57.3	-1.0
JMN	Monobe	5.86	276	Pn	Pn	13 39 08.8	+1.4
JCJ	Chichijima	6.28	169	P	Pn	13 39 10.6	-2.6
	28nm,0.4s,baz=356,slow=21,SNR=17						
JCJ				S	Sn	13 40 12.4	-11
	17nm,0.3s,baz=284,slow=22,SNR=6.7						
JCJ	Chichijima	6.28	169	Pn	Pn	13 39 11.6	-1.7
JHS	Saijyo	6.65	287	Pn	Pn	13 39 20.1	+1.8
JTM	Tenmabayashi	7.48	1	Pn	Pn	13 39 28.1	-1.6
ERM	Erimo	8.89	11	Pn	Pn	13 39 45.8	-3.1
JSU	Suzuyama	8.98	261	Pn	Pn	13 39 48.3	-2.1
KSRS	Korea Array	11.35	295	P	Pn	13 40 23.6	+1.0
	1.4nm,0.9s,baz=115,slow=12,SNR=2.1						
KSRS				LR	LR	13 44 37.8	
	comp=Z,96nm,19.5s,baz=110,slow=37						
JOW	Kunigami	12.66	243	LR	LR	13 45 26.9	
	comp=Z,91nm,18.2s,baz=109,slow=37						
MDJ	Mudanjiang	14.29	326	P	Pn	13 41 02.9	+0.3
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,110nm,8.6s						
KLR	Kul'dur	17.31	340	P	Pn	13 41 38.6	-2.4
	1.0nm,0.5s,baz=210,slow=6.2,SNR=5.4						
KLR				LR	LR	13 48 42.6	
	comp=Z,35nm,18.7s,baz=124,slow=38						
TPUB	Ta-pu	20.38	246	P	P	13 42 16.2	+0.6
TPUB				IAmb	IAmb	13 42 28.7	
	comp=Z,105nm,1.5s						
PETK	Petropavlovsk-	23.19	26	LR	LR	13 52 40.4	
	comp=Z,36nm,20.9s,baz=186,slow=39						
PET	Petropavlovsk	23.48	28	P	P	13 42 48.7	+0.8
PET				IAmb	IAmb	13 43 00.3	
	comp=Z,60nm,1.2s						
HHC	Hu-ho-hao-te	24.49	296	eP	P	13 42 56.7	-0.8
HHC				pmax	pmax		
	comp=Z,35nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,5.3s						
H11N2	WAKE ISLAND Hy	26.83	114	T	T	14 12 17.9	
	baz=306,slow=75,SNR=192						
H11N1	WAKE ISLAND Hy	26.84	114	T	T	14 12 14.3	
	baz=306,slow=75,SNR=143						
H11N3	WAKE ISLAND Hy	26.85	114	T	T	14 12 15.2	
	baz=306,slow=75,SNR=111						
MA2	Magadan	27.10	11	LR	LR	13 54 05.3	
	comp=Z,21nm,19.9s,baz=138,slow=36						
H11S3	WAKE ISLAND Hy	27.41	116	T	T	14 13 03.3	
	baz=307,slow=75,SNR=20						
H11S1	WAKE ISLAND Hy	27.41	116	T	T	14 12 54.7	
	baz=307,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	27.42	116	T	T	14 12 57.0	
	baz=307,slow=75,SNR=17						
YAK	Yakutsk	29.64	349	LR	LR	13 55 21.6	
	comp=Z,48nm,18.7s,baz=90,slow=36						
SONM	Songino Array	29.67	310	P	P	13 43 43.4	-0.5
	comp=Z,0.8nm,0.8s,baz=105,slow=8.1,SNR=4.1						
SONM				LR	LR	13 56 04.2	
	comp=Z,62nm,19.4s,baz=137,slow=37						
	comp=Z,0.8nm,0.8s						
PZH	PanZhiHua	34.44	269	P	P	13 44 26.3	+0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,200nm,6.1s						
TNCH	TengChong	37.68	269	eP	P	13 44 53.8	+0.1
TNCH				pP	pP	13 45 07.9	+0.8
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.3s						
TIXI	Tiksi	38.95	354	P	P	13 45 03.0	-0.6
	comp=Z,2.2nm,0.3s,baz=90,slow=23,SNR=5.0						
	comp=Z,2.2nm,0.3s						
PHRA	Phrae	39.16	258	P	P	13 45 07.1	+1.1
CMAR	Chiang Mai Arr	40.23	259	P	P	13 45 14.1	-0.8
	comp=Z,0.3nm,0.2s,baz=52,slow=8.8,SNR=4.7						
	comp=Z,0.3nm,0.2s						
WMQ	Urumqi	42.24	300	eP	P	13 45 31.3	+0.1
WMQ				pP	pP	13 45 47.8	+3.0
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
ZALV	Zalesovo Beam	44.18	315	P	P	13 45 44.3	-2.2
	comp=Z,0.6nm,0.4s,baz=106,slow=8.1,SNR=3.0						
ZALV				PcP	PP	13 47 29.9	-0.2
	comp=Z,1.3nm,0.4s,baz=103,slow=3.1,SNR=7.0						
	comp=Z,0.6nm,0.4s						
MK31	Makanchi Array	45.82	305	P	P	13 45 59.7	0.0
MKAR	Makanchi Array	45.82	305	P	P	13 45 59.1	-0.6
	comp=Z,1.8nm,0.6s,baz=87,slow=9.9,SNR=12						
MKAR				PcP	PcP	13 47 37.2	+0.8
	comp=Z,0.3nm,0.4s,baz=84,slow=4.1,SNR=4.6						
	comp=Z,1.8nm,0.6s						
MKAR	Makanchi Array	45.82	305	P	P	13 45 59.6	-0.2
MAKZ	Makanchi	46.03	305	P	P	13 46 01.6	+0.2
MAKZ				IAmb	IAmb	13 46 01.9	
	comp=Z,6.1nm,0.9s						
MTN	Manton Dam	46.81	193	P	P	13 46 07.0	-0.7
MTN				IAmb	IAmb	13 46 30.4	
	comp=Z,12nm,1.2s						
JIRN	Jiri	47.02	278	eP	P	13 46 10.0	+0.2
	comp=Z,2.5nm,0.3s						
COEN	Coen	47.03	177	P	P	13 46 09.9	+0.4
COEN				IAmb	IAmb	13 46 35.0	
	comp=Z,12nm,1.4s						
KURK	Kurchatov	47.96	311	P	P	13 46 16.8	+0.5
KURK				IAmb	IAmb	13 46 23.9	
	comp=Z,5.0nm,0.7s						
GKN	Gorkha	48.18	279	eP	P	13 46 18.6	0.0
	comp=Z,2.2nm,0.3s						
DANN	Dangsing	48.78	280	eP	P	13 46 23.0	-0.3
	comp=Z,6.6nm,0.4s						
PYUN	Piuthan	49.50	280	eP	P	13 46 27.9	-0.9
	comp=Z,8.7nm,0.4s						
K20K	Telida	49.69	32	P	P	13 46 30.6	+1.1
K20K				IAmb	IAmb	13 46 40.5	
	comp=Z,12nm,1.4s						
J20K	Nowinta River	49.74	31	P	P	13 46 30.7	+1.0
J20K				IAmb	IAmb	13 46 37.6	
	comp=Z,12nm,1.3s						
KNRA	Kununurra	50.05	195	P	P	13 46 32.0	-0.6
IMAR	Indian Mountai	50.11	29	P	P	13 46 33.4	+0.8
KDAK	Kodiak Island	50.22	40	P	P	13 46 32.5	-0.9
	comp=Z,6.2nm,0.8s,baz=219,slow=3.7,SNR=5.0						
	comp=Z,6.2nm,0.8s						
KDAK	Kodiak Island	50.22	40	P	P	13 46 33.3	-0.2
H21K	Melozitna Rive	50.46	29	P	P	13 46 36.3	+1.1
H21K				IAmb	IAmb	13 47 03.7	
	comp=Z,13nm,1.5s						
PPLA	Purkeypile	50.51	33	P	P	13 46 37.0	+1.2
TOLK	Toolik Lake Re	52.01	26	P	P	13 46 47.8	+1.0
TOLK				IAmb	IAmb	13 46 51.6	
	comp=Z,14nm,1.4s						
SML	Sawmill	52.29	35	P	P	13 46 49.2	+0.1
MDM	Murphy Dome	52.34	31	P	P	13 46 50.0	+0.7
SCM	Sheep Creek Mo	52.77	34	P	P	13 46 53.1	+0.5
ILAR	Eielson Array	52.91	31	P	P	13 46 53.1	-0.4
	comp=Z,1.0nm,0.9s,baz=267,slow=5.8,SNR=7.5						
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	52.91	31	P	P	13 46 53.0	-0.5
WB0	Warramunga Arr	53.12	188	P	P	13 46 54.8	-0.7
WR0	Warramunga Arr	53.30	187	P	P	13 46 56.0	-0.8
WR0				IAmb	IAmb	13 46 56.9	
	comp=Z,7.0nm,0.7s						
WB2	Warramunga Arr	53.30	188	P	P	13 46 56.0	-0.8
WB2				IAmb	IAmb	13 46 57.0	
	comp=Z,6.0nm,0.7s						
WRA	Warramunga Arr	53.30	188	P	P	13 46 56.4	-0.4
	comp=Z,5.4nm,0.6s,baz=4.0,slow=7.6,SNR=114						
	comp=Z,5.4nm,0.6s						
WRA	Warramunga Arr	53.30	188	P	P	13 46 56.5	-0.4
CTAO	Charters Tower	53.33	174	P	P	13 46 56.8	-0.2
CTAO				IAmb	IAmb	13 47 35.0	
	comp=Z,11nm,1.4s						
RIDG	Independent Ri	53.83	32	P	P	13 47 01.6	+1.2
N25K	Chitina, Valde	54.08	35	P	P	13 47 03.3	+1.0
N25K				IAmb	IAmb	13 47 28.7	
	comp=Z,12nm,1.2s						
L27K	Beaver Creek,	55.23	33	P	P	13 47 11.4	+0.9
L27K				IAmb	IAmb	13 47 12.4	
	comp=Z,13nm,1.4s						
BCAR	Beaver Creek A	55.25	33	P	P	13 47 11.7	+1.0
PCA	Pinnacle	56.37	36	P	P	13 47 18.6	-0.1
AS31	Alice Springs	57.03	188	P	P	13 47 22.8	-0.9
AS31				IAmb	IAmb	13 47 25.7	
	comp=Z,2.2nm,0.4s						
ASAR	Alice Springs	57.03	188	P	P	13 47 23.3	-0.4
	comp=Z,2.6nm,0.4s,baz=6.6,slow=6.5,SNR=166						
	comp=Z,2.6nm,0.4s						
ASAR	Alice Springs	57.03	188	P	P	13 47 23.0	-0.7
M30M	Minto, Yukon	57.59	33	P	P	13 47 28.6	+1.3
M30M				IAmb	IAmb	13 47 57.7	
	comp=Z,9.9nm,1.4s						
MBWA	Marble Bar	57.78	203	P	P	13 47 28.7	-0.3
INK	Inuvik	57.92	26	P	P	13 47 29.6	+0.1
	comp=Z,0.8nm,0.6s,baz=225,slow=2.9,SNR=1.9						
	comp=Z,0.8nm,0.6s						
INK	Inuvik	57.92	26	P	P	13 47 29.5	+0.1
N31M	Braeburn, Yuko	58.27	34	P	P	13 47 33.4	+1.4
M31M	Drury Creek, Y	58.76	33	P	P	13 47 36.3	+0.9
M31M				IAmb	IAmb	13 47 58.6	
	comp=Z,5.8nm,1.2s						
WHY	Whitehorse	58.88	35	P	P	13 47 38.4	+1.9
WHY				IAmb	IAmb	13 47 50.0	
	comp=Z,10nm,1.4s						
EIDS	Eidsvold	59.14	169	P	P	13 47 38.7	+0.4
FARO	Faro, Yukon	59.23	33	P	P	13 47 39.9	+1.1
FARO				IAmb	IAmb	13 48 18.2	
	comp=Z,6.1nm,1.4s						
P33M	Teslin, Yukon	59.98	35	P	P	13 47 45.2	+1.2
P33M				IAmb	IAmb	13 47 53.4	
	comp=Z,8.0nm,1.4s						
ABKAR	Akbulak array	60.05	312	P	P	13 47 44.0	-0.5
ABKAR				IAmb	IAmb	13 47 44.7	
	comp=Z,3.9nm,1.1s						
STKA	Stephens Creek	64.82	179	P	P	13 48 15.2	-1.2
	comp=Z,2.6nm,1.0s,baz=337,slow=15,SNR=2.4						
	comp=Z,2.6nm,1.0s						
FORT	Forrest	64.87	192	P	P	13 48 16.8	+0.1
RES	Resolute Bay	66.33	14	P	P	13 48 25.8	+0.2
RES				IAmb	IAmb	13 49 06.2	
	comp=Z,17nm,1.5s						
ARCES	ARCESS Array B	67.34	340	P	P	13 48 31.4	-0.8
	comp=Z,2.5nm,0.9s,baz=65,slow=7.1,SNR=1.9						
	comp=Z,2.5nm,0.9s						
NWAO	Narrogin (SRO)	69.53	201	P	P	13 48 46.4	+0.2
FIA1	FINESS Array S	71.92	333	P	P	13 48 59.8	-0.7
FIA1				IAmb	IAmb	13 49 38.6	
	comp=Z,15nm,1.2s						
FINES	FINESS Array B	71.92	333	P	P	13 49 00.3	-0.2
	comp=Z,2.4nm,0.8s,baz=42,slow=5.9,SNR=7.1						
	comp=Z,2.4nm,0.8s						
FINES	FINESS Array B	71.92	333	P	P	13 48 59.8	-0.7
KBZ	Khabaz	73.02	311	P	P	13 49 07.1	-0.2
	comp=Z,3.9nm,0.9s,baz=92,slow=5.7,SNR=4.7						
	comp=Z,3.9nm,0.9s						
PINE	Pine Mountain	73.12	49	P	P	13 49 09.7	+1.5
PINE				IAmb	IAmb	13 49 11.5	
	comp=Z,11nm,1.0s						
K05A	Summer Lake	73.69	49	P	P	13 49 12.9	+1.3
K05A				IAmb	IAmb	13 49 14.1	
	comp=Z,18nm,1.2s						
BMO	Blue Mountains	74.81	46	P	P	13 49 18.8	+0.9
BMO				IAmb	IAmb	13 49 19.9	
	comp=Z,3.7nm,0.7s						
J08A	Circle Bar Ran	74.88	48	P	P	13 49 19.7	+1.3
J08A				IAmb	IAmb	13 49 20.7	
	comp=Z,4.3nm,0.9s						
WVOR	Wild Horse Val	75.26	49	P	P	13 49 21.6	+0.9
PLID	Pearl Lake	75.47	45	P	P	13 49 22.0	+0.1
BEKR	Beckworth	75.49	52	P	P	13 49 22.5	+0.5
AKASG	Malin Array Be	76.99	323	P	P	13 49 29.5	-0.5
	comp=Z,1.4nm,0.5s,baz=47,slow=6.2,SNR=8.9						
AKASG				LR	LR	14 24 11.9	
	comp=Z,26nm,19.6s,baz=50,slow=36						
	comp=Z,1.4nm,0.5s						
LRM	Limekiln Ridge	77.15	43	P	P	13 49 31.9	+0.5
BMN	Battle Mountai	77.23	50	P	P	13 49 32.4	+0.5
DLMT	Dillon	77.33	44	P	P	13 49 33.5	+1.2
DLMT				IAmb	IAmb	13 49 34.2	
	comp=Z,4.8nm,0.7s						
KVN	Kaiserville	77.41	52	P	P	13 49 33.9	+1.0
NC204	NORSAR Array S	77.43	338	P	P	13 49 32.1	-0.4
NB2	NORSAR Subarra	77.46	337	P	P	13 49 32.3	-0.3
	comp=Z,1.6nm,1.0s,baz=41,slow=5.9						
NOA	NORSAR Array B	77.46	337	P	P	13 49 31.8	-0.8
	comp=Z,1.9nm,0.9s,baz=47,slow=5.3,SNR=4.0						
NOA				LR	LR	14 31 16.1	
	comp=Z,10nm,18.0s,baz=340,slow=42						
	comp=Z,1.9nm,0.9s						
MCMT	McKenzie Canyo	77.48	44	P	P	13 49 35.0	+1.6
NVAR	Mina Array Bea	77.61	52	P	P	13 49 35.3	+1.2
	comp=Z,1.4nm,0.7s,baz=292,slow=5.1,SNR=12						
	comp=Z,1.4nm,0.7s						
ELK	Elko	78.32	49	P	P	13 49 39.1	+1.1
R11A	Troy Canyon, C	79.44	51	P	P	13 49 44.4	+0.3
TPNV	Topopah Spring	79.78	53	P	P	13 49 46.7	+0.7
QSM	Queen of Sheba	79.91	54	P	P	13 49 47.1	+0.6
QSM				IAmb	IAmb	13 49 48.1	
	comp=Z,6.2nm,1.1s						
GWY	Greenwater Val	79.92	53	P	P	13 49 47.2	+0.4
DUG	Dugway, Tooele	80.16	48	P	P	13 49 48.2	+0.2
PDAR	Pinedale Array	80.62	45	P	P	13 49 51.4	+0.9
	comp=Z,0.2nm,0.4s,baz=286,slow=3.7,SNR=2.9						
	comp=Z,0.2nm,0.4s						
PDAR	Pinedale Array	80.62	45	P	P	13 49 50.7	+0.2
RAYN	Ar Rayn	81.67	293	P	P	13 49 55.6	-0.6
RAYN				IAmb	IAmb	13 49 57.0	
	comp=Z,3.0nm,0.6s						
RDMU	Red Mountain	81.93	46	P	P	13 49 58.2	+0.7
RDMU				IAmb	IAmb	13 49 58.8	
	comp=Z,2.7nm,0.6s						
SRU	San Rafael Swe	82.22	48	P	P	13 49 59.4	+0.4
SRU				IAmb	IAmb	13 50 00.5	
	comp=Z,4.2nm,0.8s						
RWWY	Rawlins	82.66	44	P	P	13 50 01.5	+0.2
RWWY				IAmb	IAmb	13 50 02.0	
	comp=Z,3.2nm,0.7s						
CLL	Collm	84.11	330	eP	P	13 50 11.0	+2.8
CLL				i sP	sP	13 50 29.6	+1.0
CLL				ePP	PP	13 53 27.0	+4.9
GERES	GERESS Array B	85.65	328	P	P	13 50 15.3	-0.8
	comp=Z,0.5nm,0.5s,baz=38,slow=6.8,SNR=4.8						
	comp=Z,0.5nm,0.5s						
GERES	GERESS Array B	85.65	328	P	P	13 50 15.8	-0.3
TX31	Lajitas Ar. Si	92.76	52	P	P	13 50 50.3	+0.2
TX32	Lajitas Array	92.76	52	P	P	13 50 50.4	+0.3
TX32				IAmb	IAmb	13 50 51.9	
	comp=Z,4.4nm,1.2s						
TXAR	Lajitas Array	92.76	52	P	P	13 50 51.0	+0.8
	comp=Z,1.5nm,0.8s,baz=295,slow=2.7,SNR=13						
	comp=Z,1.5nm,0.8s						
TORD	Torodi Ar. Bea	119.60	313	PKP	PKPdf	13 56 26.6	-1.1
	comp=Z,0.3nm,0.5s,baz=28,slow=1.3,SNR=2.9						
LPAZ	La Paz	148.85	64	PKPbc	PKPbc	13 57 25.8	-0.4
	comp=Z,2.5nm,0.8s,baz=2.6,slow=4.8,SNR=9.8						

NEIC 01 13:39:55.3±1.1, 23°.04S±0°.09×66°.4W±0°.1, h250km±9km, mb4.4/6, Error ellipse: s-maj=15.6km s-min=12.3km az=103.0

IDC 01 13:39:57.4±1.1, 23°.01S×66°.47W, h221km±14km, mb3.3/2, mbtmp4.1/8, Error ellipse: s-maj=21.6km s-min=18.9km az=179.0

GUC 01 13:39:59.1±0.5, 22°.97S×66°.89W, h266km±8km, ML4.9

VAO 01 13:40:01.5±1.5, 22°.73S×66°.40W, h254km±11km, mb3.8

ISC 01 13:39:57.1±0.6**, 22°.99S**±0°.05×**66°.70W**±0°.06**, h250**km**, n83,** σ**1s30**/99**, mb4.3**/6**, 7C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.36	271		Pn	13 40 34.3	-0.5
LVC	Limon Verde	2.07	280	P	Pn	13 40 42.1	+1.5
	131nm,0.5s,baz=100,slow=5.7,SNR=88						
LVC				S	S	13 41 14.7	-0.2
	120nm,0.3s,baz=264,slow=21,SNR=51						
LVC	Limon Verde	2.07	280		Pn	13 40 40.8	+0.2
LVC	Limon Verde	2.07	280	⇑iP	Pn	13 40 42.1	+1.5
LVC				iS	S	13 41 14.7	-0.2
PB15	IPOC Station P	2.56	265		Pn	13 40 46.5	+1.4
PB15	IPOC Station P	2.56	265	iP	Pn	13 40 46.7	+1.5
PB15				iS	S	13 41 23.4	+0.3
PB09	IPOC Station P	2.63	296		Pn	13 40 46.7	+0.8
PB09	IPOC Station P	2.63	296	eP	Pn	13 40 47.9	+2.0
PB09				IAML		13 41 27.9	
	comp=E,556nm,0.4s						
PB06	IPOC Station P	2.66	276		Pn	13 40 47.5	+1.4
PB06	IPOC Station P	2.66	276	⇑iP	Pn	13 40 47.7	+1.5
PB06				iS	S	13 41 25.1	+0.2
PB06				IAML		13 41 25.5	
	comp=N,1μm,0.4s						
PB03	IPOC Station P	2.97	288		Pn	13 40 50.9	+1.4
PB03	IPOC Station P	2.97	288	⇑iP	Pn	13 40 51.0	+1.5
PB03				iS	S	13 41 30.2	-0.7
PB03				IAML		13 41 32.6	
	comp=E,2μm,0.1s						
PB07	IPOC Station P	3.20	292		Pn	13 40 53.2	+1.2
PB07	IPOC Station P	3.20	292	iP	Pn	13 40 53.6	+1.6
PB07				iS	S	13 41 34.5	-1.0
PB07				IAML		13 41 35.6	
	comp=N,2μm,0.5s						
PB01	IPOC Station P	3.23	306	Pn	Pn	13 40 53.1	+0.9
PB01	IPOC Station P	3.23	306	iP	Pn	13 40 53.8	+1.6
PB01				iS	S	13 41 35.5	-0.3
PB04	IPOC Station P	3.25	281	Pn	Pn	13 40 53.8	+1.3
PB04	IPOC Station P	3.25	281	⇑iP	Pn	13 40 54.1	+1.6
PB04				iS	S	13 41 35.5	-0.8
PB04				IAML		13 41 39.0	
	comp=E,1μm,0.1s						
PB02	IPOC Station P	3.40	299		Pn	13 40 55.3	+1.2
PB02	IPOC Station P	3.40	299	iP	Pn	13 40 55.6	+1.5
PB02				iS	S	13 41 38.0	-1.2
GO02	Mina Guanaco	3.41	230		Pn	13 40 55.5	+1.1
GO02	Mina Guanaco	3.41	230	⇑iP	Pn	13 40 55.9	+1.4
GO02				iS	S	13 41 40.4	+0.5
PB10	IPOC Station P	3.58	261		Pn	13 40 57.5	+1.5
PB10	IPOC Station P	3.58	261	iP	Pn	13 40 57.5	+1.5
PB10				iS	S	13 41 41.5	-1.3
PB10				IAML		13 41 44.6	
PB08	IPOC Station P	3.64	321	⇓iP	Pn	13 40 59.3	+2.2
PB08				iS	S	13 41 45.0	+0.3
PB14	IPOC Station P	3.76	244		Pn	13 40 59.6	+1.2
PB14	IPOC Station P	3.76	244	⇑iP	Pn	13 40 59.8	+1.3
PB14				iS	S	13 41 46.4	-0.7
PATCX	Punta Patache	3.86	303		Pn	13 41 00.5	+1.1
PATCX	Punta Patache	3.86	303	iP	Pn	13 41 00.6	+1.2
PATCX				iS	S	13 41 47.4	-1.5
HMBC	Humberstone	4.01	312	eP	Pn	13 41 01.6	+0.5
HMBC				iS	S	13 41 50.3	-1.7
TA01	Diego Aracena	4.03	306		Pn	13 41 01.7	+0.4
TA01	Diego Aracena	4.03	306	iP	Pn	13 41 02.1	+0.8
TA01				iS	S	13 41 50.2	-2.1
GO01	Chusmiza	4.04	324		Pn	13 41 03.2	+1.3
GO01	Chusmiza	4.04	324	⇓iP	Pn	13 41 03.5	+1.6
GO01				iS	S	13 41 54.1	+0.8
TA02	Huaiquique	4.18	310		Pn	13 41 03.3	+0.3
PB11	IPOC Station P	4.23	319		Pn	13 41 04.3	+0.5
AC02	Maricunga	4.42	209		Pn	13 41 06.3	0.0
AC01	Pan de Azucar	4.74	228		Pn	13 41 09.8	+0.1
AC01	Pan de Azucar	4.74	228	⇑iP	Pn	13 41 09.8	+0.1
PB16	IPOC Station P	5.32	330	Pn	Pn	13 41 16.7	-0.8
AC06	Mina Casimiro	5.46	217		Pn	13 41 18.0	-0.6
PB12	IPOC Station P	5.52	321	Pn	Pn	13 41 18.9	-0.5
GO03	Copiap	5.59	214	Pn	Pn	13 41 19.5	-0.6
AP01	Chacalluta	5.72	323	Pn	Pn	13 41 21.3	-0.5
AC04	Llanos de Chal	6.52	216	Pn	Pn	13 41 29.9	-1.8
AC05	El Transito	6.65	208		Pn	13 41 33.1	-0.4
LPAZ	La Paz	6.80	348	P	Pn	13 41 37.8	+1.8
	comp=E,13nm,0.8s,baz=177,slow=7.6,SNR=44						
LPAZ				S	S	13 42 55.6	+0.6
	comp=E,5.8nm,0.7s,baz=240,slow=23,SNR=7.9						
LPAZ	La Paz	6.80	348	Pn	Pn	13 41 35.0	-1.0
LPAZ	La Paz	6.80	348	eP	Pn	13 41 37.6	+1.6
LPAZ				eS	S	13 42 54.9	-0.2
LCO	Las Campanas	6.99	210	Pn	Pn	13 41 37.1	-0.8
CO01	Juntas del Tor	7.59	203	Pn	Pn	13 41 44.6	-0.9
GO04	Tololo Observa	8.04	206	Pn	Pn	13 41 50.3	-0.8
BBSD	Serra de San D	8.13	46	eP	Pn	13 41 50.7	-1.4
CO03	El Pedregal	8.59	204	Pn	Pn	13 41 58.2	+0.3
SIV	San Ignacio	8.75	38	P	Pn	13 41 58.6	-1.4
	comp=E,8.9nm,0.8s,baz=214,slow=14,SNR=36						
CO06	Fray Jorge	8.83	209	Pn	Pn	13 41 59.4	-1.4
CO02	Combarbal	9.03	204	Pn	Pn	13 42 03.0	-0.5
CPUP	Villa Florida	9.15	113	P	Pn	13 42 02.8	-2.1
	comp=E,2.2nm,0.7s,baz=308,slow=11,SNR=3.9						
VA03	San Esteban	10.31	198	Pn	Pn	13 42 18.3	-1.3
PTLB	Pontes e Lacer	10.36	45	eP	Pn	13 42 19.0	-1.2
SALV	Santo Antonio	12.55	58	eP	Pn	13 42 46.6	-0.9
NNA	Nana	14.59	317	P	P	13 43 16.7	+4.1
	comp=E,7.6nm,0.3s,baz=169,slow=11,SNR=4.3						
PDRB	Porto dos Gac	14.78	42	eP	P	13 43 16.1	+1.5
FRTB	Fartura	15.77	95	eP	P	13 43 27.8	+2.3
ARAG	Araguaiana, MT	15.80	65	eP	P	13 43 27.2	+1.3
CLDB	Colider	15.93	43	eP	P	13 43 27.4	+0.1
IPMB	Ipameri, GO	18.02	77	eP	P	13 43 51.1	+1.0
VAO	Valinhos	18.17	94	eP	P	13 43 51.8	+0.1
BDFB	Brasilia	19.08	71	P	P	13 44 02.4	+0.8
	comp=E,13nm,0.8s,baz=240,slow=11,SNR=12						
BDFB	Brasilia	19.08	71	eP	P	13 44 02.5	+1.0
NPGB	Novo Progresso	19.25	36	eP	P	13 44 02.3	-0.9
ITTB	Itaituba	21.34	31	eP	P	13 44 24.7	-0.4
JANB	Januaria	22.57	74	eP	P	13 44 36.2	-0.3
SDBA	SAO DESIDERIO	23.25	67	eP	P	13 44 43.2	+0.6
RCBR	Riachuelo	34.24	65	P	P	13 46 14.5	-5.3
GDSD	La Dsirade Is	39.45	9	P	P	13 47 00.7	-2.7
GDSD				IAmb	IAmb	13 47 17.0	
	comp=Z,18nm,1.1s						
SDDR	Presa de Saban	41.95	354	P	P	13 47 21.7	-2.2
SDDR				IAmb	IAmb	13 47 58.9	
	comp=Z,15nm,1.1s						
TGUH	Tegucigalpa,Un	41.97	329	P	P	13 47 23.0	-1.1
TGUH				IAmb	IAmb	13 47 46.1	
	comp=Z,14nm,0.6s						
U49A	Red Boiling Sp	61.86	343	P	P	13 49 49.0	-0.9
U49A				IAmb	IAmb	13 50 20.3	
	comp=Z,8.1nm,1.2s						
AMTX	Amarillo	66.44	329	P	P	13 50 18.4	-1.5
TORD	Torodi Ar. Bea	75.95	69	P	P	13 51 17.9	+0.9
	comp=Z,0.6nm,0.5s,baz=250,slow=5.6,SNR=5.2						
	comp=Z,0.6nm,0.5s						
ESDC	Sonseca Array	85.48	43	P	P	13 52 09.4	+2.5
	comp=Z,0.6nm,0.8s,baz=225,slow=4.7,SNR=4.6						
	comp=Z,0.6nm,0.8s						
MKAR	Makanchi Array	145.57	39	PKPbc	PKPab	13 59 09.6	+2.8
	comp=Z,0.8nm,0.6s,baz=349,slow=3.3,SNR=5.8						

IDC 01 14:51:36.5±1.4**, 59°.26N×30°.34W, h0**km**, mb3.6**/4**, mbtmp3.7**/5**, ML3.6**/1**, MS3.4**/13**, Error ellipse: s-maj=36.8km s-min=29.5km az=44.0, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.94	34	Pn	Pn	14 53 19.2	-0.2
	1.1nm,0.3s,baz=238,slow=7.9,SNR=1.4						
	5.8nm,0.5s						
EKA	Eskdalemuir Ar	15.15	93	LR	LR	15 00 08.9	
	comp=Z,75nm,18.1s,baz=347,slow=34						
FRB	Frobisher Bay	18.57	300	LR	LR	15 01 55.8	
	comp=Z,149nm,19.2s,baz=140,slow=33						
HFS	Hagfors	21.93	69	LR	LR	15 03 46.0	
	comp=Z,52nm,20.2s,baz=254,slow=33						
ESDC	Sonseca Array	25.74	128	P	P	14 57 09.7	+1.2
	1.2nm,1.0s,baz=320,slow=9.7,SNR=6.2						
	1.2nm,1.0s						
DAVOX	Davos/Dischmat	26.77	100	LR	LR	15 06 30.8	
	comp=Z,49nm,19.8s,baz=283,slow=33						
GERES	GERESS Array B	27.37	93	LR	LR	15 08 00.8	
	comp=Z,58nm,19.3s,baz=276,slow=36						
VRAC	Vranov	28.56	89	LR	LR	15 10 02.6	
	comp=Z,48nm,18.3s,baz=291,slow=39						
SADO	Sadowa	32.52	266	LR	LR	15 09 42.6	

comp=Z,96nm,19.5s,baz=44,slow=33
INK Inuvik 41.16 327 LR LR 15 17 48.0
comp=Z,72nm,18.4s,baz=248,slow=38
BRTR Keskin Array B 43.95 87 LR LR 15 18 39.9
comp=Z,34nm,21.9s,baz=313,slow=37
NEW Newport 48.88 298 LR LR 15 20 13.7
comp=Z,150nm,18.5s,baz=318,slow=35
PDAR Pinedale Array 49.37 288 P P 15 00 27.8 +0.2
0.3nm,0.3s,baz=53,slow=5.7,SNR=3.7
0.3nm,0.3s
TORD Torodi Ar. Bea 51.82 139 P P 15 00 44.7 -1.4
0.3nm,0.5s,baz=342,slow=7.1,SNR=3.1
0.3nm,0.5s
ANMO Albuquerque 53.81 279 LR LR 15 21 39.1
comp=Z,36nm,19.0s,baz=9.5,slow=34
MKAR Makanchi Array 60.82 47 P P 15 01 49.8 -0.2
0.6nm,0.5s,baz=320,slow=5.4,SNR=5.0
0.6nm,0.5s
MA2 Magadan 61.50 359 LR LR 15 27 42.9
comp=Z,26nm,19.3s,baz=57,slow=35
CMIG Matias Romero 62.50 257 LR LR 15 29 13.7
comp=Z,29nm,18.4s,baz=22,slow=36

*ROM **01** 14:54:19.2±0.1, 42.986N±0.004×13.131E±0.005, h9km, ML2.9/50, Error ellipse: s-maj=0.4km s-min=0.3km az=38.0*
*PRU **01** 14:54:22.2±0.0, 42.99N×13.50E, h10km*
ISC 01 14:54:19.5±0.8, 42.99N±0.02×13.16E±0.02, h11km±4km, n70, σ1§05/83, 20C-18D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
T1256	**Bolognola (MC)**	**0.06**	**70**	⇑P		**Pg**		**14 54 21.6**	**-0.3**
T1256				S		**Sg**		**14 54 23.1**	**-0.6**
T1256				AML		AML			
	comp=N,35700μm,0.4s								
T1256				AML		AML			
	comp=E,29050μm,0.4s								
T1256				AML		AML			
	comp=E,28300μm,0.4s								
T1256				AML		AML			
	comp=N,35550μm,0.4s								
FDMO	**Fiordimonte**	**0.07**	**315**	P		**Pg**		**14 54 21.2**	**-0.7**
FDMO				S		**Sg**		**14 54 22.4**	**-1.3**
FDMO				AML		AML			
	comp=E,23450μm,0.7s								
FDMO				AML		AML			
	comp=N,20650μm,0.7s								
FEMA	**Monte Fema**	**0.08**	**252**	⇑P		**Pg**		**14 54 21.6**	**-0.5**
FEMA				AML		AML			
	comp=E,38050μm,1.6s								
FEMA				AML		AML			
	comp=N,28100μm,0.8s								
FEMA				AML		AML			
	comp=E,38050μm,1.6s								
T1245	**Castelsantange**	**0.13**	**170**	P		**Pg**		**14 54 22.7**	**-0.1**
T1245				S		**Sg**		**14 54 25.7**	**+0.5**
T1245				AML		AML			
	comp=E,21350μm,0.5s								
T1245				AML		AML			
	comp=N,30750μm,0.7s								
T1245				AML		AML			
	comp=N,30800μm,0.7s								
T1245				AML		AML			
	comp=N,30800μm,0.7s								
T1245				AML		AML			
	comp=E,17500μm,0.5s								
T1245				AML		AML			
	comp=N,31800μm,0.7s								
T1216	**Preci, Frazion**	**0.14**	**226**	P		**Pg**		**14 54 22.8**	**0.0**
T1216				S		**Sg**		**14 54 25.2**	**+0.1**
T1216				AML		AML			
	comp=E,25050μm,0.3s								
T1216				AML		AML			
	comp=N,35900μm,0.2s								
AM05	**Amandola Campo**	**0.14**	**94**	P		**Pb**		**14 54 23.5**	**-0.8**
AM05				S		**Sb**		**14 54 26.2**	**+0.9**
AM05				AML		AML			
	comp=E,2655μm,0.2s								
AM05				AML		AML			
	comp=E,9540μm,0.4s								
AM05				AML		AML			
	comp=N,396μm,0.9s								
AM05				AML		AML			
	comp=E,2660μm,0.2s								
AM05				AML		AML			
	comp=E,9545μm,0.4s								
AM05				AML		AML			
	comp=N,396μm,0.9s								
AM05				AML		AML			
	comp=N,2455μm,0.3s								
GUMA	**Gualdo di Mace**	**0.15**	**60**	⇑P		**Pg**		**14 54 23.7**	**+0.7**
GUMA				S		**Sg**		**14 54 27.2**	**+1.8**
GUMA				AML		AML			
	comp=E,23600μm,1.6s								
GUMA				AML		AML			
	comp=N,24500μm,0.6s								
GUMA				AML		AML			
	comp=N,19400μm,1.1s								
GUMA				AML		AML			
	comp=E,23650μm,1.6s								
GUMA				AML		AML			
	comp=E,30100μm,0.9s								
GUMA				AML		AML			
	comp=N,24450μm,0.5s								
MMO1	**Montemonaco**	**0.15**	**125**	P		**Pg**		**14 54 23.4**	**+0.3**
MMO1				S		**Sg**		**14 54 26.2**	**+0.7**
NRCA	**Norcia**	**0.16**	**191**	⇑P		**Pg**		**14 54 23.1**	**0.0**
NRCA				S		**Sg**		**14 54 26.1**	**+0.5**
NRCA				AML		AML			
	comp=E,29150μm,0.5s								
NRCA				AML		AML			
	comp=E,30900μm,0.5s								
NRCA				AML		AML			
	comp=N,14850μm,0.7s								
NRCA				AML		AML			
	comp=N,13700μm,0.7s								
NRCA				AML		AML			
	comp=N,13695μm,0.7s								
CESI	**CESI - Serrava**	**0.18**	**276**	⇑P		**Pg**		**14 54 23.5**	**-0.1**
CESI				S		**Sg**		**14 54 26.8**	**+0.4**
CESI				AML		AML			
	comp=E,9175μm,0.4s								
CESI				AML		AML			
	comp=N,16350μm,0.5s								
T1241	**Roccafluvione,**	**0.24**	**123**	⇓P		**Pb**		**14 54 24.9**	**-0.9**
T1241				S		**Sb**		**14 54 29.4**	**+1.5**
T1241				AML		AML			
	comp=N,6700μm,0.5s								
T1241				AML		AML			
	comp=E,6325μm,0.6s								
T1241				AML		AML			
	comp=E,6870μm,0.6s								
T1241				AML		AML			
	comp=N,6435μm,0.5s								
GAG1	**Gagliole**	**0.26**	**346**	P		**Pb**		**14 54 25.6**	**-0.6**
GAG1				AML		AML			
	comp=E,10540μm,0.6s								
GAG1				AML		AML			
	comp=N,7050μm,0.5s								
GAG1				AML		AML			
	comp=E,10530μm,0.6s								
GAG1				AML		AML			
	comp=E,10535μm,0.6s								
T1215	**Vallo di Nera,**	**0.28**	**229**	P		**Pg**		**14 54 25.4**	**+0.2**
SNTG	**Esanatoglia**	**0.31**	**330**	P		**Pb**		**14 54 25.8**	**-1.3**
SNTG				AML		AML			
	comp=N,1830μm,0.7s								
SNTG				AML		AML			
	comp=N,1890μm,0.7s								
SNTG				AML		AML			
	comp=E,1780μm,0.4s								
SNTG				AML		AML			
	comp=E,1805μm,0.5s								
T1217	**Poggiodomo (PG**	**0.32**	**211**	⇓P		**Pg**		**14 54 26.1**	**+0.1**
T1217				AML		AML			
	comp=E,4745μm,0.7s								
T1217				AML		AML			
	comp=E,4400μm,0.7s								
T1217				AML		AML			
	comp=N,3575μm,0.6s								
T1217				AML		AML			
	comp=N,3615μm,0.6s								
T1204	**Amatrice, Fraz**	**0.33**	**159**	⇓P		**Pg**		**14 54 26.4**	**+0.2**
T1204				AML		AML			
	comp=N,3160μm,0.6s								
T1204				AML		AML			
	comp=E,4135μm,0.7s								
T1204				AML		AML			
	comp=N,3155μm,0.6s								
EL6	**Elcito**	**0.34**	**353**	⇑P		**Pb**		**14 54 26.6**	**-1.1**
EL6				AML		AML			
	comp=N,3955μm,0.9s								
EL6				AML		AML			
	comp=E,3575μm,1.2s								
T1243	**Rocca Santa Ma**	**0.36**	**143**	⇓P		**Pg**		**14 54 26.9**	**+0.2**
ASSB	**Assisi San Ben**	**0.37**	**279**	⇑P		**Pg**		**14 54 26.7**	**-0.1**
ASSB				AML		AML			
	comp=E,2855μm,0.6s								
ASSB				AML		AML			
	comp=N,3180μm,0.3s								
CING	**Cingoli**	**0.39**	**4**	⇑P		**Pb**		**14 54 27.5**	**-1.0**
CING				AML		AML			
	comp=N,1370μm,0.3s								
CING				AML		AML			
	comp=E,3425μm,0.5s								
LNSS	**Leonessa**	**0.39**	**192**	P		**Pg**		**14 54 27.4**	**+0.1**
LNSS				AML		AML			
	comp=N,2620μm,1.0s								
LNSS				AML		AML			
	comp=E,1050μm,0.5s								
OFFI	**Offida**	**0.39**	**97**	P		**Pn**		**14 54 29.1**	**-2.0**
OFFI				AML		AML			
	comp=N,3290μm,0.6s								
OFFI				AML		AML			
	comp=E,3135μm,0.5s								
FOSV	**Fossato di Vic**	**0.42**	**317**	⇓P		**Pb**		**14 54 27.9**	**-1.0**
FOSV				AML		AML			
	comp=E,1985μm,0.5s								
FOSV				AML		AML			
	comp=N,3310μm,0.5s								
ATCC	**AVT- Casa Cast**	**0.43**	**298**	⇑P		**Pg**		**14 54 27.9**	**0.0**
ATCC				AML		AML			
	comp=E,3415μm,1.2s								
ATCC				AML		AML			
	comp=N,2725μm,1.3s								
ATCC				AML		AML			
	comp=N,2720μm,1.3s								
ATCC				AML		AML			
	comp=E,3410μm,1.2s								
RM33	**Pellescritta (**	**0.48**	**175**	⇓P		**Pg**		**14 54 28.8**	**-0.1**
RM33				S		**Sb**		**14 54 38.0**	**+0.9**
RM33				AML		AML			
	comp=N,1180μm,0.3s								
RM33				AML		AML			
	comp=N,1170μm,0.3s								
RM33				AML		AML			
	comp=E,1290μm,0.2s								
RM33				AML		AML			
	comp=N,1185μm,0.3s								
RM33				AML		AML			
	comp=N,1175μm,0.3s								
RM33				AML		AML			
	comp=E,1295μm,0.2s								
CAMP	**Campotosto**	**0.49**	**157**	⇓P		**Pg**		**14 54 28.9**	**-0.1**
CAMP				AML		AML			
	comp=N,1635μm,0.7s								
CAMP				AML		AML			
	comp=E,912μm,0.3s								
TERO	**Teramo**	**0.49**	**138**	⇑P		**Pb**		**14 54 29.3**	**-0.9**
TERO				AML		AML			
	comp=E,2100μm,0.6s								
TERO				AML		AML			
	comp=N,2065μm,0.3s								
TERO				AML		AML			
	comp=E,2175μm,0.6s								
TERO				AML		AML			
	comp=N,2005μm,0.3s								
T1211	**Morro Reatino**	**0.51**	**206**	⇓P		**Pg**		**14 54 29.3**	**-0.1**
T1211				AML		AML			
	comp=N,1915μm,0.4s								
T1211				AML		AML			
	comp=E,1285μm,1.0s								
T1211				AML		AML			
	comp=N,1890μm,0.4s								
T1211				AML		AML			
	comp=E,1390μm,1.0s								
T1211				AML		AML			
	comp=N,1915μm,0.4s								
T1211				AML		AML			
	comp=E,1284μm,1.0s								
T1211				AML		AML			
	comp=N,1890μm,0.4s								
PP3	**Marolino**	**0.51**	**40**	P		**Pn**		**14 54 30.8**	**-1.9**
PP3				AML		AML			
	comp=E,2065μm,0.6s								
PP3				AML		AML			
	comp=N,1920μm,0.6s								
PP3				AML		AML			
	comp=E,2150μm,0.6s								
PP3				AML		AML			
	comp=N,1925μm,0.6s								
SSFR	**Montelago di S**	**0.53**	**329**	P		**Pb**		**14 54 29.8**	**-1.0**
SSFR				AML		AML			
	comp=E,2425μm,1.0s								
SSFR				AML		AML			
	comp=E,2150μm,0.9s								
SSFR				AML		AML			
	comp=N,1990μm,0.8s								
SSFR				AML		AML			
	comp=N,2635μm,0.2s								
ARVD	**Arcevia**	**0.53**	**343**	⇓P		**Pb**		**14 54 30.0**	**-0.9**
ARVD				S		**Sn**		**14 54 40.0**	**-2.1**
ARVD				AML		AML			
	comp=N,776μm,0.5s								
ARVD				AML		AML			
	comp=E,1095μm,0.6s								
MURB	**Monte Urbino**	**0.54**	**301**	⇑P		**Pb**		**14 54 30.2**	**-0.7**
MURB				S		**Sn**		**14 54 41.0**	**-1.2**
MURB				AML		AML			
	comp=E,3420μm,0.4s								
MURB				AML		AML			
	comp=N,3030μm,1.1s								
MURB				AML		AML			
	comp=N,2980μm,1.2s								
MURB				AML		AML			
	comp=E,3420μm,0.4s								
MURB				AML		AML			
	comp=N,3035μm,1.1s								
MURB				AML		AML			
	comp=E,3680μm,0.4s								
T1247	**Pizzolo (AQ)**	**0.56**	**169**	⇓P		**Pg**		**14 54 30.2**	**-0.1**
T1247				AML		AML			
	comp=E,1675μm,0.8s								
T1247				AML		AML			
	comp=N,1320μm,0.6s								
CESX	**Cesi**	**0.57**	**229**	P		**Pg**		**14 54 30.2**	**-0.3**
CESX				S		**Sb**		**14 54 40.0**	**+0.5**
CESX				AML		AML			
	comp=E,1825μm,0.4s								
CESX				AML		AML			
	comp=N,1675μm,0.6s								
ATFO	**Monte Foce - G**	**0.57**	**312**	⇑P		**Pb**		**14 54 30.5**	**-1.0**
ATFO				AML		AML			
	comp=E,927μm,0.6s								
ATFO				AML		AML			
	comp=N,806μm,1.4s								
TRTR	**Tortoreto Alta**	**0.58**	**108**	⇑P		**Pn**		**14 54 32.7**	**-1.0**
TRTR				AML		AML			
	comp=E,3045μm,1.3s								
TRTR				AML		AML			
	comp=N,4005μm,0.4s								
FRON	**Frontone**	**0.62**	**330**	P		**Pb**		**14 54 31.4**	**-0.9**
FRON				AML		AML			
	comp=N,987μm,1.0s								
FRON				AML		AML			
	comp=N,990μm,1.0s								
FRON				AML		AML			
	comp=E,688μm,0.5s								
GIGS	**Gran Sasso**	**0.62**	**150**	P		**Pg**		**14 54 31.2**	**-0.2**
GIGS				S		**Sb**		**14 54 41.0**	**0.0**
GIGS				AML		AML			
	comp=E,402μm,0.4s								
GIGS				AML		AML			
	comp=N,316μm,0.8s								
ATTE	**AVT- Monte Tez**	**0.62**	**290**	⇑P		**Pn**		**14 54 34.7**	**+0.4**
ATVO	**AVT- Monte Val**	**0.68**	**306**	P		**Pb**		**14 54 32.3**	**-1.0**
ATVO				AML		AML			
	comp=E,754μm,0.5s								
ATVO				AML		AML			
	comp=N,616μm,0.7s								
MPAG	**Monte Paganucc**	**0.70**	**336**	⇓P		**Pn**		**14 54 33.5**	**-2.0**
MPAG				AML		AML			
	comp=N,754μm,0.4s								
MPAG				AML		AML			
	comp=E,674μm,0.9s								
MPAG				AML		AML			
	comp=N,754μm,0.4s								
PIEI	**Pieia**	**0.71**	**321**	⇑P		**Pb**		**14 54 33.1**	**-0.8**
PIEI				S		**Sn**		**14 54 46.0**	**-0.5**
PIEI				AML		AML			
	comp=N,366μm,0.6s								
PIEI				AML		AML			
	comp=E,440μm,1.1s								
FIAM	**Fiamignano**	**0.72**	**182**	P		**Pg**		**14 54 31.9**	**-1.5**
FIAM				AML		AML			
	comp=N,386μm,1.1s								
FIAM				AML		AML			
	comp=E,501μm,0.5s								
ATPI	**Pietralunga -**	**0.72**	**310**	P		**Pb**		**14 54 33.2**	**-0.8**
ATPI				AML		AML			
	comp=E,618μm,0.5s								
ATPI				AML		AML			
	comp=N,756μm,0.5s								
ATPI				AML		AML			
	comp=E,618μm,0.5s								
ATPI				AML		AML			
	comp=N,756μm,0.5s								
FSSB	**Fossombrone**	**0.76**	**339**	P		**Pn**		**14 54 34.8**	**-1.3**
FSSB				AML		AML			
	comp=N,2390μm,0.4s								
FSSB				AML		AML			
	comp=E,2830μm,0.5s								
MGAB	**Montegabbione**	**0.77**	**265**	⇓P		**Pb**		**14 54 34.8**	**0.0**
MGAB				AML		AML			
	comp=E,866μm,0.4s								
MGAB				AML		AML			
	comp=N,1054μm,0.4s								
MGAB				AML		AML			
	comp=E,1010μm,0.4s								
MGAB				AML		AML			
	comp=N,978μm,0.4s								
FAGN	**Fagnano**	**0.79**	**156**	⇓P		**Pg**		**14 54 34.5**	**-0.2**
FAGN				AML		AML			
	comp=E,1650μm,0.3s								
FAGN				AML		AML			
	comp=N,1355μm,0.4s								
BADI	**Badiali**	**0.85**	**308**	⇓P		**Pn**		**14 54 35.9**	**-1.4**
PE3	**Peglio**	**0.86**	**326**	⇓P		**Pn**		**14 54 37.2**	**-0.3**
PE3				AML		AML			
	comp=E,30μm,1.5s								
PE3				AML		AML			
	comp=N,8μm,0.4s								
T0110	**Collepietro**	**0.89**	**149**	⇓P		**Pb**		**14 54 35.9**	**-1.0**
T0110				AML		AML			
	comp=E,979μm,0.5s								
T0110				AML		AML			
	comp=N,1140μm,0.4s								
CAFI	**Castiglion Fio**	**0.94**	**292**	P		**Pg**		**14 54 37.4**	**-0.1**
CAFI				AML		AML			
	comp=E,535μm,0.6s								
CAFI				AML		AML			
	comp=N,242μm,1.6s								
CERT	**Cerreto**	**1.04**	**187**	⇓P		**Pg**		**14 54 40.4**	**+0.8**
CERT				AML		AML			
	comp=E,447μm,0.6s								
CERT				AML		AML			
	comp=N,232μm,0.6s								
CRE	**Caprese Michel**	**1.08**	**306**	⇑P		**Pg**		**14 54 42.3**	**+2.0**
CRE				AML		AML			
	comp=N,190μm,0.5s								
CRE				AML		AML			
	comp=E,238μm,0.6s								
VVLD	**Villa Vallelon**	**1.17**	**163**	⇑P		**Pg**		**14 54 42.6**	**+0.7**
VVLD				AML		AML			
	comp=E,242μm,0.7s								
VVLD				AML		AML			
	comp=N,302μm,0.5s								
TOLF	**Tolfa**	**1.26**	**223**	⇓P		**Pb**		**14 54 43.3**	**+0.2**
TOLF				AML		AML			
	comp=E,172μm,0.6s								
TOLF				AML		AML			
	comp=N,123μm,0.5s								
GIUL	**Giuliano Di Ro**	**1.43**	**177**	⇑P		**Pg**		**14 54 47.5**	**+0.6**
GIUL				AML		AML			
	comp=N,109μm,0.9s								
GIUL				AML		AML			
	comp=E,110μm,0.8s								
BRSN	**Barisano**	**1.52**	**329**	S		**Sg**		**14 55 08.0**	**-0.2**
CERA	**Filignano**	**1.53**	**155**	⇑P		**Pg**		**14 54 49.7**	**+0.9**
MIDA	**Miranda**	**1.57**	**148**	⇑P		**Pg**		**14 54 49.9**	**+0.3**
CELB	**S.Piero in Cam**	**2.18**	**265**	P		**Pg**		**14 55 01.1**	**-0.1**
OBKA	**Obir**	**3.66**	**15**	*i* Pn		**Pn**		**14 55 16.8**	**+0.7**
	comp=E,0.7nm,0.2s								
ABTA	**Abfaltersbach**	**3.79**	**353**	*i* Pn		**Pn**		**14 55 20.2**	**+2.3**
	comp=E,9.4nm,0.4s,SNR=12								
KBA	**Koelnbreinsper**	**4.09**	**2**	*e*Pn		**Pn**		**14 55 23.9**	**+1.8**
	comp=E,2.9nm,0.4s,SNR=12								
FETA	**Feichten**	**4.38**	**338**	*e*Pn		Pn		14 55 29.6	+3.5
	comp=E,1.4nm,0.3s,SNR=8.5								
WTTA	**Wattenberg**	**4.41**	**346**	*i* Pn		Pn		14 55 30.1	+3.7
	comp=E,0.9nm,0.2s								
SQTA	**Sankt Quirin**	**4.45**	**343**	*i* Pn		**Pn**		**14 55 30.3**	**+3.3**
	comp=E,2.6nm,0.3s,SNR=5.4								
WATA	**Walderalm**	**4.49**	**346**	*i* Pn		Pn		14 55 31.3	+3.8
	comp=E,2.1nm,0.4s								
MOTA	**Moosalm**	**4.59**	**342**	Pn		**Pn**		**14 55 30.9**	**+2.0**
	comp=E,3.6nm,0.6s,SNR=4.6								
RETA	**Reutte**	**4.81**	**340**	*i* Pn		Pn		14 55 35.6	+3.8
	comp=E,1.2nm,0.3s								
KHC	**Kasperske Hory**	**6.15**	**3**	*e*PN		**Pn**		**14 55 52.2**	**+1.9**
KHC				*e*SN		**Sn**		**14 57 00.4**	**-0.2**

*NEIC **01** 15:05:43.3±0.8, 17.7N±0.1×145.6E±0.3, h215km±12km, mb4.1/6, Error ellipse: s-maj=46.2km s-min=16.8km az=106.0*
*IDC **01** 15:05:44.1±2.2, 17.65N×145.84E, h230km±21km, mb3.4/6, mbtmp3.9/7, Error ellipse: s-maj=29.7km s-min=18.8km az=110.0*
ISC 01 15:05:41.5±0.8, 17.83N±0.09×145.7E±0.2, h200km, n18, σ1§54/19, mb3.8/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.29**	**190**	P		**Pn**		**15 06 48.5**	**+1.5**
	20nm,0.4s,baz=265,slow=15,SNR=1.4								
GUMO				S		**Sn**		**15 07 40.8**	**+2.4**
	24nm,0.3s,baz=348,slow=22,SNR=1.5								
GUMO	**Guam**	**4.29**	**190**	Pn		**Pn**		**15 06 46.6**	**-0.4**
KNRA	**Kununurra**	**37.23**	**208**	P		**P**		**15 12 32.9**	**-1.1**
WB0	**Warramunga Arr**	**38.97**	**197**	P		**P**		**15 12 46.6**	**-1.9**
WB0				IAmb		IAmb		15 13 22.8	
	comp=Z,6.2nm,1.3s								
WR0	**Warramunga Arr**	**39.11**	**197**	P		**P**		**15 12 48.1**	**-1.6**
WR0				IAmb		IAmb		15 13 09.3	
	comp=Z,6.0nm,1.2s								
WB2	**Warramunga Arr**	**39.15**	**197**	P		**P**		**15 12 48.4**	**-1.6**
WB2				IAmb		IAmb		15 13 12.9	
	comp=Z,4.3nm,1.1s								
WRA	**Warramunga Arr**	**39.15**	**197**	P		**P**		**15 12 48.8**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=6.5,slow=8.5,SNR=8.9								
	comp=Z,1.2nm,0.6s								
AS31	**Alice Springs**	**42.81**	**196**	P		**P**		**15 13 18.2**	**-1.7**
ASAR	**Alice Springs**	**42.81**	**196**	P		**P**		**15 13 18.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=16,slow=7.0,SNR=32								
	comp=Z,0.7nm,0.5s								
ASAR	**Alice Springs**	**42.81**	**196**	P		**P**		**15 13 18.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**44.29**	**278**	P		**P**		**15 13 33.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=75,slow=6.2,SNR=7.6								
	comp=Z,1.0nm,0.7s								
MBWA	**Marble Bar**	**46.34**	**214**	P		**P**		**15 13 46.4**	**-1.4**
MBWA				IAmb		IAmb		15 14 05.8	
	comp=Z,28nm,1.4s								
ILAR	**Eielson Array**	**64.44**	**26**	P		**P**		**15 15 55.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=252,slow=6.1,SNR=7.2								
	comp=Z,0.3nm,0.5s								
BMAR	**Burnt Mountain**	**65.92**	**23**	P		**P**		**15 16 07.6**	**+1.8**
BCAR	**Beaver Creek A**	**66.36**	**28**	P		**P**		**15 16 09.6**	**+0.9**
ABKAR	**Akbulak array**	**73.94**	**317**	P		**P**		**15 16 53.7**	**-1.1**
NVAR	**Mina Array Bea**	**83.71**	**52**	P		**P**		**15 17 48.4**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=260,slow=6.0,SNR=5.3								
	comp=Z,0.6nm,0.6s								
BRTR	**Keskin Array B**	**94.68**	**314**	P		**P**		**15 18 41.2**	**+0.9**
	comp=Z,1.8nm,1.1s,baz=40,slow=8.1,SNR=3.6								
	comp=Z,1.8nm,1.1s								

IDC 01 15:13:38.4±8.9, 6.38S×150.42E, h63km±67km, mb2.7/2,

mbtmp3.1/3, ML1.1/1, Error ellipse: s-maj=120.6km s-min=58.1km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.41	227	P	Pn	15 14 42.8	-0.1
	0.8nm,0.3s,baz=45,slow=4.3,SNR=1.7						
PMG				S	Sn	15 15 34.1	+1.2
	7.6nm,0.6s,baz=179,slow=14,SNR=2.1						
	2.8nm,0.3s						
WRA	Warramunga Arr	20.63	228	P	P	15 18 12.3	-0.5
	0.4nm,0.5s,baz=53,slow=11,SNR=6.8						
	0.4nm,0.5s						
ASAR	Alice Springs	23.40	221	P	P	15 18 41.8	-0.2
	0.4nm,1.0s,baz=58,slow=9.0,SNR=1.7						
	0.4nm,1.0s						
TORD	Torodi Ar. Bea	148.48	285	PKPbc	PKPbc	15 33 18.8	-0.3
	0.4nm,0.9s,baz=67,slow=3.7,SNR=2.1						

*ISK **01** 15:13:40.9, 39.°16N×23.°73E, h20km, ML3.4/13*
*DDA **01** 15:13:40.7±0.0, 39.°02N×23.°55E, h11km±5km, ML3.5*
*ATH **01** 15:13:40.5, 39.°18N×23.°86E, h17km±1km, ML3.3/21, Error ellipse: s-maj=1.7km s-min=0.9km az=86.0*
*THE **01** 15:13:41.6, 39.°19N×23.°86E, h6km±1km, ML3.5/4, Error ellipse: s-maj=1.0km s-min=0.5km az=131.0*
ISC 01 15:13:41.3±0.9, **39.°20N**±0.°02×**23.°78E**±0.°02, **h9**km±6km, **n101**, σ1.°07/139, **7C-4D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	Alonissos	0.08	129	P	Pg	15 13 43.6	+0.1
ALNA				S	Sg	15 13 44.8	-0.3
ALNA				AML	AML	15 13 45.0	
ALNA				AML	AML	15 13 45.0	
NEO	Neokhori	0.45	284	P	Pg	15 13 50.8	+0.7
NEO	Neokhori	0.45	284	P	Pg	15 13 50.7	+0.7
NEO				S	Sb	15 13 57.9	-0.4
NEO				AML	AML	15 14 01.8	
	comp=N,6591μm,0.2s						
NEO				AML	AML	15 14 04.1	
	comp=E,8170μm,0.4s						
XOR	Xorichti	0.49	290	P	Pg	15 13 51.5	+0.7
XOR				S	Sb	15 13 59.4	-0.1
XOR				AML	AML	15 14 02.9	
	comp=E,3249μm,0.3s						
XOR				AML	AML	15 14 03.5	
	comp=N,4089μm,0.3s						
KYMI	Kymi, Euboea I	0.62	156	P	Pg	15 13 53.2	-0.1
KYMI	Kymi, Euboea I	0.62	156	P	Pg	15 13 52.3	-1.0
KYMI				S	Sg	15 14 00.1	-1.2
KYMI				AML	AML	15 14 05.5	
	comp=N,3753μm,0.4s						
KYMI				AML	AML	15 14 05.5	
	comp=E,6697μm,0.3s						
PAIG	Paliouri	0.73	354	P	Pg	15 13 56.2	+0.7
PAIG	Paliouri	0.73	354	P	Pg	15 13 56.1	+0.7
PAIG				S	Sg	15 14 06.1	+1.1
PAIG				AML	AML	15 14 08.6	
	comp=N,4024μm,0.4s						
PAIG				AML	AML	15 14 09.1	
	comp=E,5307μm,0.6s						
LKR	Lokris	0.82	228	P	Pb	15 13 56.2	-1.6
LKR				S	Sb	15 14 08.3	-0.7
LKR				AML	AML	15 14 11.0	
	comp=N,4004μm,0.5s						
LKR				AML	AML	15 14 11.0	
	comp=E,3420μm,0.4s						
AXAR	Agios Charalam	0.98	244	P	Pg	15 14 00.8	+0.7
AXAR				S	Sn	15 14 15.8	+0.5
	comp=E,4μm,0.5s						
AXAR	Agios Charalam	0.98	244	P	Pg	15 14 00.8	+0.7
AXAR				AML	AML	15 14 20.8	
	comp=N,7630μm,0.4s						
AXAR				AML	AML	15 14 22.2	
	comp=E,5982μm,0.4s						
VIL2	Platees	1.07	202	P	Pb	15 14 01.7	-0.3
VIL2				S	Sn	15 14 16.2	-1.2
VIL2				AML	AML	15 14 19.6	
	comp=N,2530μm,0.5s						
VIL2				AML	AML	15 14 23.9	
	comp=E,6184μm,0.6s						
VILL	Villia	1.10	200	P	Pb	15 14 02.5	0.0
VILL				S	Sg	15 14 18.1	+1.4
	comp=E,2μm,0.5s						
DION	Dionisos Attik	1.13	174	P	Pn	15 14 02.8	-0.5
DION				S	Sg	15 14 18.7	+1.1
DION	Dionisos Attik	1.13	174	P	Pn	15 14 02.1	-1.2
DION				S	Sb	15 14 17.2	-0.5
DION				AML	AML	15 14 19.9	
	comp=N,3085μm,0.4s						
DION				AML	AML	15 14 23.5	
	comp=E,5987μm,0.5s						
OUR	Ouranopolis	1.14	8	PN	Pb	15 14 02.9	-0.4
OUR	Ouranopolis	1.14	8	P	Pb	15 14 02.9	-0.4
OUR				S	Sg	15 14 18.1	0.0
OUR				AML	AML	15 14 21.3	
	comp=E,2265μm,0.6s						
OUR				AML	AML	15 14 24.5	
	comp=N,3076μm,0.6s						
PTL	Penteli	1.15	177	P	Pn	15 14 03.1	-0.6
PTL				S	Sg	15 14 19.4	+1.0
PTL	Penteli	1.15	177	P	Pn	15 14 02.8	-0.8
PTL				AML	AML	15 14 21.0	
	comp=N,2022μm,0.5s						
PTL				AML	AML	15 14 22.3	
	comp=E,2514μm,0.5s						
ATH	Athens Observa	1.23	182	P	Pb	15 14 04.5	-0.2
ATH	Athens Observa	1.23	182	P	Pn	15 14 04.4	-0.3
ATH				S	Sn	15 14 20.6	-0.7
ATHU	Athens Univers	1.23	180	P	Pn	15 14 04.3	-0.5
ATHU				S	Sg	15 14 21.7	+0.8
ATHU	Athens Univers	1.23	180	P	Pn	15 14 04.2	-0.5
ATHU				S	Sb	15 14 19.3	-1.5
ATHU				AML	AML	15 14 23.7	
	comp=N,1300μm,0.7s						
ATHU				AML	AML	15 14 26.1	
	comp=E,747μm,0.5s						
DLFA	Delphi	1.24	235	P	Pb	15 14 04.9	-0.1
DLFA				AML	AML	15 14 24.0	
	comp=N,1796μm,0.6s						
DLFA				AML	AML	15 14 24.9	
	comp=E,2354μm,0.5s						
MAKR	Makrakomi, Fth	1.30	262	P	Pb	15 14 06.0	+0.1
MAKR				S	Sg	15 14 25.8	+2.7
	comp=E,1μm,0.6s						
MAKR	Makrakomi, Fth	1.30	262	P	Pb	15 14 06.0	+0.1
MAKR				AML	AML	15 14 27.1	
	comp=N,4018μm,0.7s						
MAKR				AML	AML	15 14 28.9	
	comp=E,1901μm,0.4s						
VLY	Voula,Athens	1.35	180	P	Pn	15 14 05.9	-0.5
VLY	Voula,Athens	1.35	180	P	Pn	15 14 05.8	-0.5
VLY				S	Sn	15 14 23.3	-1.0
VLY				AML	AML	15 14 28.0	
	comp=N,2790μm,0.5s						
VLY				AML	AML	15 14 28.8	
	comp=E,2294μm,0.6s						
LOUT	Loutraki	1.37	208	P	Pn	15 14 06.5	-0.1
LOUT				S	Sg	15 14 26.5	+1.2
	comp=E,1μm,0.6s						
LOUT	Loutraki	1.37	208	P	Pn	15 14 06.5	-0.1
LOUT				AML	AML	15 14 28.3	
	comp=N,424μm,0.5s						
LOUT				AML	AML	15 14 28.7	
	comp=E,374μm,0.7s						
THL	Klokotos Trika	1.42	285	P	Pb	15 14 07.5	-0.4
THL	Klokotos Trika	1.42	285	P	Pb	15 14 07.6	-0.4
THL				AML	AML	15 14 32.1	
	comp=E,394μm,0.5s						
THL				AML	AML	15 14 34.4	
	comp=N,892μm,0.5s						
THAL	Thalero	1.46	217	P	Pn	15 14 07.8	0.0
THAL	Thalero	1.46	217	P	Pn	15 14 07.9	0.0
THAL				AML	AML	15 14 35.0	
	comp=E,3844μm,0.6s						
THAL				AML	AML	15 14 35.6	
	comp=N,2813μm,0.6s						
HORT	Hortiatis	1.49	340	PN	Pb	15 14 08.2	-1.0
HORT				SN	Sb	15 14 27.0	-1.4
HORT	Hortiatis	1.49	340	P	Pb	15 14 08.3	-1.0
EVR	Evrytania	1.56	260	P	Pb	15 14 10.4	-0.1
TRIZ	Trizonia	1.58	239	P	Pb	15 14 10.3	-0.3
THAS	Thassos island	1.58	27	P	Pb	15 14 09.8	-0.9
ALIK	Aliki, Aigiali	1.61	235	P	Pb	15 14 10.8	-0.4
KOKK	Kokkinochori,	1.62	6	P	Pn	15 14 09.6	-0.6
KOKK	Kokkinochori,	1.62	6	P	Pn	15 14 09.5	-0.7
KOKK				AML	AML	15 14 37.4	
	comp=E,1005μm,0.7s						
KOKK				AML	AML	15 14 41.8	
	comp=N,808μm,0.6s						
LAKA	Lakka	1.71	236	P	Pb	15 14 12.0	-0.9
LAKA	Lakka	1.71	236	P	Pb	15 14 12.4	-0.6
LAKA				AML	AML	15 14 44.2	
	comp=E,307μm,0.7s						
LAKA				AML	AML	15 14 45.5	
	comp=N,268μm,0.8s						
GPNR	Gulpinar-Canak	1.84	81	PN	Pn	15 14 13.2	+0.1
KOCA	Canakkale, Ayv	1.85	80	P	Pn	15 14 13.1	-0.1
KOCA				S	Sg	15 14 40.5	-0.3
BOZC	Bozcaada	1.87	69	PN	Pn	15 14 13.6	+0.1
BOZC				SN	Sb	15 14 37.4	-1.7
BOZC	Bozcaada	1.87	69	P	Pb	15 14 15.5	-0.2
BOZC				S	Sb	15 14 39.0	-0.1
KAVA	Kavala	1.88	17	P	Pn	15 14 12.6	-1.1
KAVA	Kavala	1.88	17	P	Pn	15 14 12.5	-1.1
KRND	KRANIDI	1.88	196	P	Pn	15 14 13.2	-0.5
KRND				AML	AML	15 14 44.7	
	comp=E,2012μm,0.8s						
KRND				AML	AML	15 14 49.1	
	comp=N,1135μm,0.8s						
KZN	Kozani	1.91	306	P	Pb	15 14 14.7	-1.6
GADA	Gvkgeada	1.91	58	PN	Pn	15 14 14.2	+0.1
GOKA	anakkale-Gk	1.91	58	P	Pb	15 14 16.4	0.0
GOKA				S	Sg	15 14 42.7	-0.2
GOKA				*i* AML	AML	15 14 46.0	
	comp=N,405nm,0.6s						
GOKA				*i* AML	AML	15 14 48.0	
	comp=N,491nm,0.5s						
SRS	Serrai	1.92	356	P	Pn	15 14 13.6	-0.7
CHOS	Chios island	1.95	114	PN	Pn	15 14 14.2	-0.5
ECEA	Canakkale, Ece	2.03	65	P	Pg	15 14 24.9	+4.6
ECEA				S	Sg	15 14 45.7	-0.8
GRG	Griva	2.05	329	P	Pn	15 14 16.7	+0.6
EZN	Ezine	2.06	72	PN	Pn	15 14 16.6	+0.4
BAYC	CANAKKALE_Bayr	2.21	75	P	Pn	15 14 17.8	-0.4
BAYC				S	Sg	15 14 50.5	-1.7
AYVA	Ayvalik	2.26	86	P	Pb	15 14 23.4	+1.1
AYVA				S	Sg	15 14 53.5	-0.4
ZEYE	Izmir, Urla-Ze	2.33	113	P	Pg	15 14 26.5	+0.5
ZEYE				S	Sg	15 14 57.3	+1.0
URLA	Izmir	2.35	110	PN	Pn	15 14 19.3	-0.9
URLA	Izmir	2.35	110	P	Pn	15 14 18.7	-1.5
URLA				S	Sg	15 14 56.0	-0.8
CAVK	Edirne/Enez-Ca	2.36	50	P	Pg	15 14 26.6	0.0
CAVK				S	Sg	15 14 56.6	-0.6
MMB	Musomiste	2.39	359	P	Pn	15 14 19.6	-1.1
GELI	Tayfur-Gelibol	2.39	59	PN	Pn	15 14 20.6	-0.1
GELI				SN	Sn	15 14 50.3	+0.1
DKL	Dikili	2.43	92	PN	Pn	15 14 21.7	+0.5
NEST	Nestorio	2.43	301	P	Pb	15 14 23.0	-2.3
TSLK	Tsoukalades, L	2.47	262	P	Pb	15 14 23.9	-1.9
ITM	Ithomi	2.49	217	P	Pn	15 14 23.7	+1.6
APE	Apeiranthos	2.54	147	⇑P	Pn	15 14 22.4	-0.3
BUHA	Balikesir, Bur	2.57	82	P	Pb	15 14 28.4	+0.8
BUHA				S	Sg	15 15 03.8	-0.1
ZEDA	zmir-Bergama	2.57	94	P	Pn	15 14 22.9	-0.4
ZEDA				S	Sg	15 15 04.6	+0.6
RZN	Rozhen	2.58	16	P	Pn	15 14 23.8	+0.2
KKB	Krupnik	2.72	349	P	Pn	15 14 25.3	+0.1
KDZ	Kurdzhali	2.75	26	PN	Pn	15 14 24.7	-0.9
KESN	Edirne-Kesan	2.75	53	P	Pg	15 14 33.0	-1.1
KESN				S	Sg	15 15 07.3	-2.5
KTHR	Kythira	3.00	192	P	Pn	15 14 29.7	+0.6
RKY	Sarkoy-Tekirda	3.00	59	PN	Pn	15 14 29.9	+0.7
SART	Tekirdag	3.00	59	P	Pn	15 14 30.2	+1.0
SART				S	Sb	15 15 14.4	+2.6
BALY	Balya	3.02	78	P	Pb	15 14 36.3	+1.1
BALY				S	Sb	15 15 13.6	+1.4
STEP	BALIKESIR_Sava	3.06	85	P	Pb	15 14 37.5	+1.6
STEP				S	Sg	15 15 17.5	-2.0
KNL	Balıkesir	3.08	68	P	Pb	15 14 35.8	-0.4
KNL				S	Sg	15 15 17.5	-2.7
KNL				*i* AML	AML	15 15 25.0	
	comp=N,97nm,1.2s						
SANT	Santorini	3.12	154	P	Pn	15 14 31.1	+0.4
MRMT	Marmara Adasi	3.25	63	PN	Pn	15 14 33.5	+0.9
EDC	Edincik	3.35	69	PN	Pn	15 14 34.6	+0.8
VTS	Vitosha	3.44	353	⇑P	Pn	15 14 35.8	+0.5
VTS	Vitosha	3.44	353	P	Pn	15 14 35.1	-0.2
EDRB	Edirne	3.48	40	PN	Pn	15 14 36.7	+1.1
TIR	Tirane	3.69	307	⇑P	Pn	15 14 38.9	+0.4
IDI	Anoyia	4.00	167	⇓P	Pn	15 14 45.2	+2.3
PLVB	Pleven	4.23	8	⇓P	Pn	15 14 46.6	+0.6
TVSB	Tavsanli	4.41	85	PN	Pn	15 14 49.3	+0.7
BLKB	Belogradchik	4.50	350	⇑P	Pn	15 14 50.2	+0.5
YLV	Yalova	4.51	71	PN	Pn	15 14 50.9	+1.0
BOVS	Bovan	4.70	341	⇓P	Pn	15 14 52.3	-0.1
HERR	Herculane	5.77	350	⇓P	Pn	15 15 06.5	-0.6
MDVR	Moldovita	5.79	345	⇑P	Pn	15 15 07.4	0.0
VOIR		6.30	8	⇑P	Pn	15 15 15.1	+0.6
MLR	Muntele Rosu	6.49	14	⇑P	Pn	15 15 20.7	+3.6

*LDG **01** 15:13:42.7±0.1, 42.°90N×13.°24E, h10km, Ml3.3/25, Error ellipse: s-maj=3.1km s-min=1.8km az=62.0*
*ROM **01** 15:13:43.5±0.0, 42.°905N±0.°002×13.°170E±0.°003, h9km, ML3.7/47, Error ellipse: s-maj=0.3km s-min=0.1km az=69.0*
*IDC **01** 15:13:44.5±1.3, 43.°04N×13.°34E, h0km, mb3.7/3, mbtmp3.7/7, ML3.4/4, MS2.9/9, Error ellipse: s-maj=30.0km s-min=14.4km az=93.0*
*PRU **01** 15:13:45.3±0.0, 42.°91N×13.°36E, h10km*
*STR **01** 15:13:46.9±1.3, 43.°N±8.°×1.°3E±1.°1, h10km, MLv3.7/24, Error ellipse: s-maj=0.0km s-min=0.0km az=90.9, preliminary*
ISC 01 15:13:43.8±0.7, **42.°91N**±0.°01×**13.°13E**±0.°02, **h10**km±4km, **n250**, σ2.°42/282, **mb3.7**/3, **26C-3D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	Castelsantange	0.07	140	⇑P	Pg	15 13 45.5	-0.7
T1245				S	Sg	15 13 46.8	-1.1
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
NRCA	Norcia	0.07	189	⇑P	Pg	15 13 46.1	-0.1
NRCA				S	Sg	15 13 47.9	0.0
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
FEMA	Monte Fema	0.08	313	⇑P	Pg	15 13 46.5	+0.1
FEMA				S	Sg	15 13 48.5	+0.4
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
T1216	Preci, Frazion	0.08	258	⇑P	Pg	15 13 46.6	+0.3
T1216				S	Sg	15 13 48.9	+0.8
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1256	Bolognola (MC)	0.12	36	⇑P	Pg	15 13 46.4	-0.5
T1256				S	Sg	15 13 48.3	-0.8
T1256				AML	AML		
	comp=N,97650μm,0.3s						
T1256				AML	AML		
T1256				AML	AML		
	comp=N,97750μm,0.3s						
T1256				AML	AML		
	comp=N,97550μm,0.3s						
T1256				AML	AML		
T1256				AML	AML		
	comp=N,94300μm,0.5s						
T1256				AML	AML		
T1256				AML	AML		
	comp=N,97800μm,0.3s						
FDMO	Fiordimonte	0.13	347	P	Pg	15 13 47.0	0.0
FDMO				S	Sg	15 13 49.8	+0.6
FDMO				AML	AML		
	comp=E,50650μm,0.3s						
FDMO				AML	AML		
	comp=N,66600μm,0.5s						
MMO1	Montemonaco	0.14	93	⇑P	Pg	15 13 46.6	-0.6
MMO1				S	Sg	15 13 48.7	-0.9
AM05	Amandola Campo	0.18	67	P	Pg	15 13 47.4	-0.3
AM05				S	Sg	15 13 50.2	-0.2
AM05				AML	AML		
	comp=N,22850μm,0.2s						
AM05				AML	AML		
	comp=E,79350μm,0.2s						
AM05				AML	AML		
	comp=N,3010μm,0.1s						
AM05				AML	AML		
	comp=N,3005μm,0.1s						
AM05				AML	AML		
	comp=E,13600μm,0.9s						
CESI	CESI - Serrava	0.19	301	⇑P	Pg	15 13 48.5	+0.6
CESI				S	Sg	15 13 52.4	+1.7
CESI				AML	AML		
	comp=E,37750μm,0.5s						
CESI				AML	AML		
	comp=N,49600μm,0.5s						
T1244	Arquata del Tr	0.20	140	P	Pg	15 13 48.0	0.0
T1244				S	Sg	15 13 51.3	+0.5
GUMA	Gualdo di Mace	0.22	44	⇑P	Pg	15 13 48.5	+0.1
GUMA				S	Sg	15 13 52.2	+0.7
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
T1215	Vallo di Nera,	0.22	241	⇑P	Pg	15 13 49.1	+0.7
T1215				S	Sg	15 13 53.3	+1.8
T1215				AML	AML		
	comp=E,18350μm,0.8s						
T1215				AML	AML		
	comp=E,16850μm,0.4s						
T1215				AML	AML		
	comp=N,18550μm,1.0s						
T1215				AML	AML		
	comp=E,18350μm,0.8s						
T1215				AML	AML		
	comp=E,16850μm,0.4s						
T1215				AML	AML		
	comp=N,18550μm,1.0s						
T1215				AML	AML		
	comp=N,20100μm,1.0s						
T1241	Roccafluvione,	0.23	103	P	Pg	15 13 48.2	-0.3
T1241				AML	AML		
	comp=E,37150μm,1.4s						
T1241				AML	AML		
	comp=N,29750μm,0.7s						
T1217	Poggiodomo (PG	0.24	217	⇑P	Pg	15 13 49.4	+0.5
T1217				S	Sg	15 13 54.1	+1.8
T1217				AML	AML		
	comp=E,18400μm,1.6s						
T1217				AML	AML		
	comp=N,19500μm,1.2s						
T1217				AML	AML		
	comp=N,19150μm,1.2s						
T1217				AML	AML		
	comp=E,18450μm,1.6s						
T1217				AML	AML		
	comp=E,18300μm,1.6s						
T1217				AML	AML		
	comp=N,19100μm,1.2s						
T1217				AML	AML		
	comp=N,19200μm,1.2s						
T1217				AML	AML		
	comp=E,18400μm,1.6s						
T1217				AML	AML		
	comp=E,18250μm,1.6s						
T1217				AML	AML		
	comp=N,19500μm,1.2s						
T1201	Domo (RI)	0.27	160	P	Pg	15 13 49.5	+0.3
T1201				S	Sg	15 13 54.6	+1.8
T1204	Amatrice, Fraz	0.27	149	⇑P	Pg	15 13 49.3	0.0
T1204				S	Sg	15 13 53.7	+0.7
T1204				AML	AML		
	comp=E,19900μm,0.4s						
T1204				AML	AML		
	comp=E,19950μm,0.4s						
T1204				AML	AML		
	comp=N,15050μm,0.9s						
SEF1	Sefro	0.27	331	⇑P	Pg	15 13 49.8	+0.4
SEF1				AML	AML		
	comp=E,33150μm,0.4s						
SEF1				AML	AML		
	comp=N,26850μm,0.5s						
SEF1				AML	AML		
	comp=N,26900μm,0.5s						
SEF1				AML	AML		
	comp=E,33100μm,0.4s						
MDAR	Monte D'Aria	0.28	2	P	Pg	15 13 49.7	0.0
MDAR				S	Sg	15 13 54.5	+1.0
MDAR				AML	AML		
	comp=E,18250μm,0.6s						
MDAR				AML	AML		
	comp=N,37900μm,0.5s						
PIO1	Pioraco	0.29	339	P	Pg	15 13 50.1	+0.4
PIO1				S	Sb	15 13 55.4	-0.6
LNSS	Leonessa	0.31	192	⇑P	Pg	15 13 50.4	+0.3
LNSS				S	Sg	15 13 55.9	+1.7
LNSS				AML	AML		
	comp=E,9030μm,0.7s						
LNSS				AML	AML		
	comp=N,29050μm,1.2s						
FIU1	Fiuminata	0.32	333	P	Pb	15 13 50.6	-0.9
FIU1				S	Sb	15 13 56.4	-0.3
FIU1				AML	AML		
	comp=E,10450μm,0.6s						
FIU1				AML	AML		
	comp=N,11450μm,0.6s						
FIU1				AML	AML		
	comp=E,10410μm,0.6s						
FIU1				AML	AML		
	comp=N,11500μm,0.6s						
T1243	Rocca Santa Ma	0.32	132	P	Pg	15 13 49.8	-0.4
T1243				S	Sg	15 13 55.5	+1.1
GAG1	Gagliole	0.33	352	⇑P	Pg	15 13 50.8	+0.3
GAG1				S	Sb	15 13 56.6	-0.6
GAG1				AML	AML		
	comp=N,46200μm,0.5s						
GAG1				AML	AML		
	comp=N,46150μm,0.4s						
GAG1				AML	AML		
	comp=E,53150μm,0.4s						
MNTP	Montappone	0.34	47	⇑P	Pg	15 13 51.0	+0.5
MNTP				AML	AML		
	comp=E,47150μm,0.8s						
MNTP				AML	AML		
	comp=E,47200μm,0.8s						
MNTP				AML	AML		
	comp=N,44150μm,0.8s						
ASSB	Assisi San Ben	0.37	292	P	Pb	15 13 51.7	-0.8
ASSB				AML	AML		
	comp=E,10100μm,0.9s						
ASSB				AML	AML		
	comp=N,10705μm,1.4s						
SNTG	Esanatoglia	0.37	338	⇑P	Pg	15 13 51.4	+0.2
SNTG				S	Sb	15 13 57.8	-0.6
SNTG				AML	AML		
	comp=N,11850μm,0.6s						
SNTG				AML	AML		
	comp=N,12650μm,0.6s						
SNTG				AML	AML		
	comp=E,11250μm,0.6s						
SNTG				AML	AML		
	comp=E,10650μm,0.6s						
SNTG				AML	AML		
	comp=N,11850μm,0.6s						
RM33	Pellescritta (	0.40	171	⇑P	Pg	15 13 51.7	-0.1
RM33				S	Sg	15 13 58.5	+1.4
RM33				AML	AML		
	comp=E,13300μm,1.0s						
RM33				AML	AML		
	comp=N,12650μm,1.6s						
RM33				AML	AML		
	comp=E,13400μm,1.0s						
RM33				AML	AML		
	comp=N,12600μm,1.6s						

OFFI Offida 0.41 86 P **Pg** 15 13 52.4 +0.5
T1246 Crognaleto (TE 0.42 140 ⇑P **Pg** 15 13 51.7 -0.4
T1246 S **Sg** 15 13 58.1 +0.4
EL6 Elcito 0.42 357 P **Pg** 15 13 52.2 0.0
EL6 S **Sb** 15 13 59.4 -0.4
EL6 AML AML
comp=E,22750µm,0.4s
EL6 AML AML
comp=N,20500µm,0.7s
ARRO Arrone 0.42 219 ⇑P **Pg** 15 13 52.5 +0.4
ARRO AML AML
comp=N,4875µm,1.1s
ARRO AML AML
comp=E,8055µm,1.2s
CAMP Campotosto 0.42 151 ⇑P **Pg** 15 13 51.9 -0.3
CAMP S **Sg** 15 13 58.3 +0.5
CAMP AML AML
comp=E,9325µm,0.4s
CAMP AML AML
comp=N,5285µm,0.5s
T1211 Morro Reatino 0.43 208 P **Pg** 15 13 52.4 +0.2
T1211 S **Sb** 15 13 59.8 -0.1
T1211 AML AML
comp=E,7845µm,1.1s
T1211 AML AML
comp=N,15350µm,0.5s
T1211 AML AML
comp=E,7850µm,1.1s
T1211 AML AML
comp=E,7335µm,1.0s
T1211 AML AML
comp=N,15100µm,0.5s
TERO Teramo 0.45 129 P **Pg** 15 13 52.0 -0.6
TERO S **Sg** 15 13 59.3 +0.7
ATCC AVT- Casa Cast 0.45 308 P **Pb** 15 13 53.2 -0.7
ATCC S **Sb** 15 14 00.8 +0.1
ATCC AML AML
comp=E,12400µm,1.2s
ATCC AML AML
comp=N,9465µm,0.6s
ATCC AML AML
comp=N,9455µm,0.6s
CING Cingoli 0.47 6 P **Pg** 15 13 53.0 -0.1
CING S **Sb** 15 14 00.6 -0.6
CING AML AML
comp=E,9420µm,0.5s
CING AML AML
comp=N,7120µm,0.4s
FOSV Fossato di Vic 0.47 325 ⇓P **Pb** 15 13 53.3 -0.9
FOSV S **Sb** 15 14 01.6 +0.3
FOSV AML AML
comp=E,10045µm,0.6s
FOSV AML AML
comp=N,9830µm,0.3s
T1247 Pizzolo (AQ) 0.48 165 ⇑P **Pg** 15 13 53.0 -0.2
T1247 AML AML
comp=N,10700µm,0.4s
T1247 AML AML
comp=E,15100µm,0.4s
CESX Cesi 0.50 234 ⇑P **Pg** 15 13 53.8 +0.3
CESX AML AML
comp=N,8100µm,0.4s
CESX AML AML
comp=E,8905µm,0.8s
GIGS Gran Sasso 0.56 145 P **Pg** 15 13 54.1 -0.6
GIGS S **Sg** 15 14 02.7 +0.6
MURB Monte Urbino 0.57 309 P **Pb** 15 13 55.3 -0.6
MURB AML AML
comp=E,12525µm,0.4s
MURB AML AML
comp=N,10670µm,0.4s
MURB AML AML
comp=N,10750µm,0.3s
MURB AML AML
comp=E,11250µm,0.4s
SSFR Montelago di S 0.59 334 P **Pg** 15 13 55.2 0.0
SSFR AML AML
comp=E,13150µm,0.2s
SSFR AML AML
comp=N,10260µm,0.2s
SSFR AML AML
comp=E,13150µm,0.2s
SSFR AML AML
comp=N,11370µm,0.2s
SSFR AML AML
comp=N,10265µm,0.2s
SSFR AML AML
comp=E,11200µm,1.3s
PP3 Marolino 0.59 37 P **Pg** 15 13 55.8 +0.6
AQU L'Aquila 0.59 160 P **Pg** 15 13 54.8 -0.4
ARVD Arcevia 0.61 347 P **Pg** 15 13 55.5 -0.1
ARVD S **Sb** 15 14 05.6 +0.5
ARVD AML AML
comp=N,2835µm,0.5s
ARVD AML AML
comp=E,3955µm,0.5s
ATFO Monte Foce - G 0.61 319 ⇓P **Pb** 15 13 56.0 -0.7
ATFO AML AML
comp=E,4565µm,0.6s
ATFO AML AML
comp=N,4665µm,1.6s
ATTE AVT- Monte Tez 0.64 297 P **Pb** 15 13 56.7 -0.4
ATTE AML AML
comp=E,2920µm,1.0s
ATTE AML AML
comp=N,3050µm,0.7s
FIAM Fiamignano 0.64 181 ⇑P **Pg** 15 13 55.7 -0.5
FIAM S **Sg** 15 14 05.7 +1.1
FIAM AML AML
comp=E,5800µm,1.2s
FIAM AML AML
comp=N,5175µm,1.0s
ATLO AVT- Montelove 0.67 308 P **Pb** 15 13 56.9 -0.7
FRON Frontone 0.68 334 P **Pg** 15 13 56.8 -0.1
FRON S **Sb** 15 14 07.9 +0.8
FRON AML AML
comp=E,3970µm,0.6s
FRON AML AML
comp=N,7755µm,0.7s
TB01 Gubbio 0.69 313 P **Pb** 15 13 57.3 -0.7
ATBU Serra di Buran 0.71 323 P **Pb** 15 13 57.7 -0.6
ATVO AVT- Monte Val 0.71 312 P **Pb** 15 13 57.6 -0.7
ATVO AML AML
comp=E,3055µm,1.2s
ATVO AML AML
comp=N,3385µm,1.2s
ATVA AVT- Monte Val 0.72 301 P **Pb** 15 13 58.0 -0.5
TB03 Pietralunga 0.72 313 P **Pb** 15 13 57.8 -0.7
FAGN Fagnano 0.72 152 P **Pg** 15 13 57.7 -0.1
AOI Ancona 0.73 28 P **Pg** 15 13 58.0 +0.1
VCEL Villa Celiera 0.73 134 P **Pg** 15 13 57.4 -0.6
MGAB Montegabbione 0.75 271 P **Pb** 15 13 58.8 -0.1
MGAB AML AML
comp=E,5060µm,0.7s
MGAB AML AML
comp=N,17650µm,0.5s
MGAB AML AML
comp=N,17200µm,0.5s
MGAB AML AML
comp=E,5790µm,0.4s
ATPC Poggio Castell 0.76 320 P **Pb** 15 13 58.4 -0.6
ATPI Pietralunga - 0.76 316 P **Pb** 15 13 58.5 -0.6
ATPI AML AML
comp=E,3310µm,1.3s
ATPI AML AML
comp=N,2530µm,0.6s
ATMI Monte Miggiano 0.76 304 AML AML
comp=N,9225µm,0.4s
ATMI AML AML
comp=E,6505µm,0.6s
PIEI Pieia 0.76 326 P **Pg** 15 13 58.2 -0.3
PIEI AML AML
comp=N,2640µm,0.4s
PIEI AML AML
comp=E,2485µm,0.4s
MPAG Monte Paganucc 0.77 340 ⇑P **Pg** 15 13 58.8 +0.1
MPAG AML AML
comp=E,3325µm,0.6s
MPAG AML AML
comp=N,3435µm,0.9s
SENI Senigallia 0.80 5 AML AML
comp=E,2995µm,0.6s
SENI AML AML
comp=N,3385µm,0.8s
SRES S.Oreste - Sor 0.81 215 P **Pg** 15 13 59.2 -0.2
SRES AML AML
comp=N,2800µm,0.5s
SRES AML AML
comp=E,3085µm,1.2s
FSSB Fossombrone 0.82 342 P **Pg** 15 13 59.7 0.0
FSSB AML AML
comp=E,10875µm,1.6s
FSSB AML AML
comp=N,18150µm,0.4s
APEC Apecchio 0.83 322 P **Pb** 15 14 00.3 0.0
T0110 Collepietro 0.83 145 P **Pg** 15 13 58.8 -1.0
ATMC Monte Cedrone 0.87 309 P **Pb** 15 14 01.4 +0.4
SACS San Casciano d 0.90 267 P **Pb** 15 14 01.8 +0.3
SACS AML AML
comp=N,2710µm,0.6s
SACS AML AML
comp=N,2610µm,0.6s
SACS AML AML
comp=E,2260µm,0.8s
SACS AML AML
comp=E,2395µm,0.6s
PTQR Pietraquaria 0.91 167 P **Pg** 15 14 00.6 -0.7
PE3 Peglio 0.91 330 AML AML
comp=N,31µm,0.1s
PE3 AML AML
comp=E,39µm,1.6s
MTCE Montecelio 0.93 198 P **Pg** 15 14 00.9 -0.8
CAFI Castiglion Fio 0.95 297 P **Pb** 15 14 02.4 0.0
CAFI AML AML
comp=E,1840µm,1.2s
CAFI AML AML
comp=N,2210µm,0.6s
CAFI AML AML
comp=E,1900µm,1.2s
CAFI AML AML
comp=N,2295µm,0.6s
CERT Cerreto 0.96 187 P **Pg** 15 14 01.5 -0.8
CERT AML AML
comp=E,4230µm,0.7s
CERT AML AML
comp=N,2695µm,0.8s
MCIV Monte Civitell 1.08 264 AML AML
comp=N,1024µm,1.1s
MCIV AML AML
comp=E,1425µm,1.5s
VVLD Villa Vallelon 1.10 160 P **Pg** 15 14 04.5 -0.4
SF13 Bagnolo 1.11 266 P **Pb** 15 14 05.5 +0.4
CRE Caprese Michel 1.12 310 AML AML
comp=E,1032µm,0.9s
CRE AML AML
comp=N,1026µm,0.6s
SF14 Selvena 1.12 263 P **Pb** 15 14 05.7 +0.4
LPEL Lama dei Pelig 1.16 137 P **Pg** 15 14 04.8 -1.3
LPEL AML AML
comp=E,2050µm,1.0s
LPEL AML AML
comp=N,1360µm,0.8s
TOLF Tolfa 1.19 225 P **Pg** 15 14 06.1 -0.5
TOLF AML AML
comp=N,1720µm,1.2s
TOLF AML AML
comp=E,1051µm,1.3s
ARCI Arcidosso 1.22 268 AML AML
comp=E,388µm,0.8s
ARCI AML AML
comp=N,306µm,0.9s
POFI Posta Fibreno 1.27 160 P **Pg** 15 14 06.5 -1.6
SFI Santa Sofia 1.37 317 AML AML
comp=E,686µm,0.6s
SFI AML AML
comp=N,722µm,1.0s
CSNT Castellina Chi 1.46 293 P **Pg** 15 14 11.1 -0.6
FROS Frosini 1.48 282 P **Pb** 15 14 11.2 -0.1
RUFI Rufina 1.50 309 P **Pg** 15 14 12.3 -0.4
OSSC Osservatorio P 1.51 295 P **Pn** 15 14 10.7 -0.2
OSSC AML AML
comp=E,756µm,0.8s
OSSC AML AML
comp=N,602µm,1.1s
OSSC AML AML
comp=N,736µm,0.8s
OSSC AML AML
comp=E,565µm,1.0s
MIDA Miranda 1.52 146 P **Pn** 15 14 10.6 -0.4
MAON Monte Argentar 1.55 253 P **Pn** 15 14 11.8 +0.4
MAON AML AML
comp=E,250µm,1.6s
MAON AML AML
comp=N,226µm,1.1s
TRIF Trifonti 1.65 278 AML AML
comp=N,400µm,0.5s
TRIF AML AML
comp=E,314µm,0.8s
CASP Castiglione de 1.67 267 P **Pn** 15 14 13.5 +0.5
CASP AML AML
comp=E,169µm,1.6s
CASP AML AML
comp=N,163µm,1.3s
A318A Donoratico (LI 1.89 277 P **Pn** 15 14 16.9 +0.8
MTCR Monte La Croce 1.91 307 P **Pn** 15 14 17.4 +0.8
CMPO Campotto Po 1.93 331 AML AML
comp=E,2110µm,1.1s
CMPO AML AML
comp=N,2865µm,1.3s
MAIM Mastiano 2.17 299 P **Pn** 15 14 20.9 +1.0
CARD Cardoso 2.23 301 AML AML
comp=N,237µm,0.8s
CARD AML AML
comp=E,324µm,0.7s
SKDS Skadanscina 2.71 13 *i* Pn **Pn** 15 14 27.6 +0.2
SKDS *e*Sn **Sn** 15 14 60.0 -0.3
SKDS IAML 15 15 21.6
comp=Z,194nm,0.7s
MORSI Morsiglia 2.77 272 P **Pn** 15 14 28.5 +0.4
SMPL Sampolo 2.96 255 P **Pn** 15 14 32.2 +1.4
CEY Cerknica 2.98 18 *e*Pn **Pn** 15 14 31.4 +0.3
CORF Corte 3.00 260 P **Pn** 15 14 32.6 +1.3
PGF Pioggiola 3.06 265 *e*P **Pn** 15 14 33.5 +1.2
PGF *e*Sn **Sn** 15 15 05.7 -3.4
comp=Z,81nm,1.2s
SABO M.te Sabotino 3.09 6 AML AML
comp=N,754µm,0.9s
SABO AML AML
comp=E,447µm,0.7s
SABO AML AML
comp=N,2965µm,0.8s
SABO AML AML
comp=E,1915µm,0.7s
CGRP Cima Grappa 3.12 343 AML AML
comp=N,464µm,0.8s
CGRP AML AML
comp=E,409µm,1.2s
MGRS Mrkonjic Grad 3.24 61 *e*Pn **Pn** 15 14 36.5 +1.8
SALO Salr 3.29 326 AML AML
comp=E,300µm,0.8s
SALO AML AML
comp=N,343µm,1.1s
CTI Castel Tesino 3.31 342 AML AML
comp=N,278µm,0.3s
CTI AML AML
comp=E,250µm,1.5s
MPRI Monte Prat 3.33 358 AML AML
comp=N,568µm,0.6s
MPRI AML AML
comp=E,410µm,0.7s
STON Ston 3.36 89 *e*Pn **Pn** 15 14 35.8 -0.4
STAL STALIGIAL 3.37 355 AML AML
comp=N,276µm,0.5s
STAL AML AML
comp=E,396µm,0.7s
LUSI Trento, Gardas 3.43 334 AML AML
comp=E,186µm,0.6s
LUSI AML AML
comp=N,264µm,0.7s
CIMO Cimolais 3.44 352 AML AML
comp=N,110µm,0.8s
CIMO AML AML
comp=E,112µm,0.8s
CIMO AML AML
comp=N,114µm,0.8s
CIMO AML AML
comp=E,111µm,0.8s
A051A Mrakovica 3.44 51 *e*Pn **Pn** 15 14 38.5 +1.0
BLY Banja Luka 3.46 57 *e*Pn **Pn** 15 14 42.0 +4.3
MATE Matera 3.50 129 ⇑P **Pn** 15 14 40.1 +1.9
PTCC Patocco-Chiusa 3.50 3 AML AML
comp=N,181µm,0.8s
PTCC AML AML
comp=E,214µm,0.7s
GAGG Gaggia 3.54 335 AML AML
comp=E,254µm,1.1s
GAGG AML AML
comp=N,274µm,1.1s
CLUD Cludinico 3.55 357 AML AML
comp=E,326µm,0.7s
CLUD AML AML
comp=N,242µm,0.8s
SARZ Sarezzano 3.62 304 AML AML
comp=E,275µm,1.5s
SARZ AML AML
comp=N,305µm,1.0s
ACOM Acomizza, Ital 3.65 4 AML AML
comp=E,286µm,0.7s
ACOM AML AML
comp=N,276µm,0.8s
ACOM AML AML
comp=E,296µm,1.4s
ACOM AML AML
comp=N,246µm,1.5s
ZOU Zoufplan 3.65 358 AML AML
comp=E,248µm,0.8s
ZOU AML AML
comp=E,234µm,0.7s
ZOU AML AML
comp=N,220µm,1.6s
ZOU AML AML
comp=N,228µm,1.1s
MABI Malga Bissina 3.66 330 AML AML
comp=E,95µm,0.5s
MABI AML AML
comp=N,96µm,0.6s
FVI Forni Avoltri 3.70 356 AML AML
comp=E,182µm,0.6s
FVI AML AML
comp=N,201µm,0.6s
MYKA Terra Mystica 3.74 5 *e*Pn **Pn** 15 14 42.9 +1.3
comp=N,16nm,0.4s,SNR=14
OBKA Obir 3.74 15 *e*Pn **Pn** 15 14 42.5 +0.9
OBKA Obir 3.74 15 *i* Pn **Pn** 15 14 42.4 +0.9
comp=N,1.8nm,0.2s
KOSI Kohlern 3.77 341 AML AML
comp=N,224µm,0.8s
KOSI AML AML
comp=E,256µm,1.1s
APPI Appiano 3.82 340 AML AML
comp=N,145µm,1.2s
APPI AML AML
comp=E,176µm,0.5s
TREB Trebinje 3.85 91 *e*Pn **Pn** 15 14 43.9 +0.9
ABTA Abfaltersbach 3.87 354 *i* Pn **Pn** 15 14 45.1 +1.8
comp=E,67nm,0.5s,SNR=114
BRY Bratogost 3.97 88 *e*Pn **Pn** 15 14 46.0 +1.1
HCY Herceg Novi 3.98 95 *e*Pn Pn 15 14 40.0 -4.8
SOKA Soboth 4.01 19 *i* Pn **Pn** 15 14 46.4 +1.2
comp=E,1.3nm,0.3s
KBA Koelnbreinsper 4.17 2 *e*Pn **Pn** 15 14 49.2 +1.5
comp=E,21nm,0.5s,SNR=40
SAOF Saorge 4.20 287 P **Pb** 15 14 53.3 -4.5
ROSI Rosskopf 4.20 344 AML AML
comp=E,300µm,1.4s
ROSI AML AML
comp=N,300µm,0.8s
UPM Unac-Piva 4.24 84 *e*Pn **Pn** 15 14 50.8 +2.2
SBF Sospel 4.26 285 *e*P **Pn** 15 14 50.8 +2.1
SBF *e*Sn **Sn** 15 15 34.1 -4.4
comp=N,27nm,0.6s
ESCA l'Escarene 4.30 284 P Pn 15 14 54.5 +5.3
TURF col de Turini 4.31 286 P **Pb** 15 14 55.6 -4.1
HAPS Han Pijesak,Bl 4.40 72 *e*Pn **Pn** 15 14 52.2 +1.6
SPIF crte de Spivo 4.44 287 P **Pn** 15 14 55.7 +4.5
FETA Feichten 4.45 338 *e*Pn **Pn** 15 14 54.1 +2.7
comp=N,12nm,0.5s,SNR=17
WTTA Wattenberg 4.48 347 *e*Pn **Pn** 15 14 54.3 +2.5
comp=N,16nm,0.5s,SNR=17
DAVOX Davos/Dischmat 4.51 330 Pn **Pn** 15 14 55.9 +3.7
comp=N,5.4nm,0.3s,baz=140,slow=13,SNR=33
DAVOX Sn **Sn** 15 15 50.1 +5.2
comp=N,2.1nm,0.3s,baz=150,slow=21,SNR=6.4
DAVOX LR LR 15 17 12.3
comp=N,94nm,18.8s,baz=88,slow=46
comp=N,18nm,0.5s
SQTA Sankt Quirin 4.52 343 *e*Pn **Pn** 15 14 54.9 +2.5
comp=N,17nm,0.3s,SNR=20
DRME Dracevica, Mon 4.53 97 *e*Pn **Pn** 15 14 54.0 +1.6
PDG Podgorica 4.54 94 ⇓P **Pn** 15 14 54.2 +1.6
WATA Walderalm 4.56 347 *e*Pn **Pn** 15 14 55.6 +2.6
comp=N,35nm,0.5s,SNR=35
CALF Calern 4.61 283 P Pn 15 14 59.1 +5.6
RUDO Rudo 4.61 79 *e*Pn **Pn** 15 14 55.0 +1.5
ARSA Arzberg 4.66 20 *e*Pn **Pn** 15 14 54.3 +0.1
comp=N,2.1nm,0.3s
MOTA Moosalm 4.66 343 *e*Pn **Pn** 15 14 57.1 +2.7
comp=N,15nm,0.5s,SNR=15
BBLS Lazići 4.67 76 *e*Pn **Pn** 15 14 55.9 +1.5
KOVH Kovagotottos 4.77 46 P **Pn** 15 14 55.5 -0.2
KOVH S **Sn** 15 15 49.4 -1.5
BIOA Bad Ischl, Aus 4.80 4 *e*Pn **Pn** 15 14 57.7 +1.7
comp=N,31nm,0.4s,SNR=31
RJOB Jochberg 4.84 357 *e*Pn **Pn** 15 14 58.4 +1.8
RJOB *e*Sn **Sn** 15 15 55.6 +2.9
LMR La Mourre 4.87 277 *e*P **Pn** 15 14 58.2 +1.2
LMR *e*Sn **Sn** 15 15 48.6 -4.7
comp=N,7.2nm,0.7s
RETA Reutte 4.88 341 *i* Pn **Pn** 15 15 00.0 +2.8
comp=N,9.1nm,0.3s,SNR=10
DAVA Damuels 4.95 333 *i* Pn **Pn** 15 15 01.0 +2.8
comp=N,5.1nm,0.3s,SNR=24
MBDF Montbardon 4.95 294 *e*P **Pn** 15 15 00.6 +2.4
MBDF *e*Sn **Sn** 15 15 50.8 -4.8
comp=N,18nm,0.8s
TRIGF Trigance 4.97 282 P **Pn** 15 15 02.2 +3.7
MOA Molln 5.01 9 *e*Pn **Pn** 15 15 00.6 +1.6
comp=N,4.0nm,0.4s,SNR=28
OGAG Argentiere 5.02 290 P Pb 15 15 06.6 -5.2
DIVS Divibare 5.13 74 *e*Pn **Pn** 15 15 01.4 +0.7
MORH Mrgy, Hungar 5.14 48 P **Pn** 15 15 01.7 +0.9
DIX Grande Dixence 5.18 310 P **Pn** 15 15 05.0 +3.4
UBR Ueberruh 5.23 337 *e*Pn **Pn** 15 15 03.7 +1.7
UBR *e*Sn **Sn** 15 16 05.9 +3.6
LPG La Plagne 5.26 302 *e*P **Pn** 15 15 05.2 +2.5
LPG *e*Sn **Sn** 15 15 58.6 -5.0
comp=N,11nm,0.5s
LPL La Plagne 5.29 302 *e*P **Pn** 15 15 05.5 +2.5
LPL *e*Sn **Sn** 15 15 58.9 -5.1
comp=N,18nm,0.7s
RONA Rosalia, Austr 5.29 24 *e*Pn **Pn** 15 15 02.7 -0.1
comp=N,1.7nm,0.2s,SNR=5.7
CONA Conrad Observa 5.38 20 *e*Pn **Pn** 15 15 04.3 +0.3
comp=N,2.0nm,0.2s,SNR=15
RSL Roselend 5.43 303 P **Pn** 15 15 08.3 +3.4
OGSI Sixt 5.55 307 P **Pn** 15 15 09.7 +3.3
SMRF Simiane la Rot 5.60 284 *e*P **Pn** 15 15 09.8 +2.7
SMRF *e*Sn **Sn** 15 16 06.2 -5.4
comp=N,4.4nm,0.6s
ORIF Oris-en-Rattie 5.61 293 *e*P **Pn** 15 15 10.1 +2.8
ORIF *e*Sn **Sn** 15 16 06.5 -5.3
comp=N,11nm,0.6s
ORIF Oris-en-Rattie 5.61 293 P **Pn** 15 15 11.3 +4.0
SLE Schleitheim 5.85 328 P **Pn** 15 15 12.3 +1.7
BALST Balsthal 5.86 321 P **Pn** 15 15 13.1 +2.4
BALST Balsthal 5.86 321 S **Sn** 15 16 19.8 +1.8
GEC2 GERESS Array S 5.95 4 *e*Pn **Pn** 15 15 12.0 +0.1
GEC2 *e*Sn **Sn** 15 16 18.5 -1.7
GERES GERESS Array B 5.95 4 Pn **Pn** 15 15 11.4 -0.6
comp=N,1.8nm,0.3s,baz=174,slow=13,SNR=44
GERES Sn **Sn** 15 16 19.8 -0.4
comp=N,2.2nm,0.3s,baz=177,slow=23,SNR=3.4
GERES LR LR 15 18 11.6
comp=N,57nm,19.1s,baz=62,slow=46
comp=N,2.8nm,0.5s
CKRC Cesky Krumlov 5.97 8 *e*PN **Pn** 15 15 12.3 +0.1
CKRC *e*SN **Sn** 15 16 18.3 -2.3
OGSM Saint Maurice 5.98 299 P **Pn** 15 15 16.4 +4.1
BOURR Bourrignon 6.12 319 P **Pn** 15 15 16.0 +1.7
FELD Feldberg im Sc 6.14 326 P **Pn** 15 15 16.3 +1.7
FELD Feldberg im Sc 6.14 326 S **Sn** 15 16 25.1 +0.2
MODS Modra-Piesok 6.19 27 *e*PN **Pn** 15 15 15.4 +0.2
MODS *e*SN **Sn** 15 16 28.3 +2.3
BRANT Les Verrieres 6.21 313 P **Pn** 15 15 17.9 +2.4
CABF La Chapelle 6.23 309 *e*P **Pn** 15 15 18.1 +2.3
CABF *e*Sn **Sn** 15 16 21.4 -5.7
comp=N,7.9nm,0.6s
KHC Kasperske Hory 6.23 3 *e*PN **Pn** 15 15 15.6 -0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHC				eSN	Sn	15 16 24.9	-2.1
KIZ	**Kirchzarten**	**6.24**	**326**	P	**Pn**	**15 15 17.4**	**+1.6**
KIZ	**Kirchzarten**	**6.24**	**326**	S	**Sn**	**15 16 26.8**	**-0.4**
WET	**Wettzell**	**6.24**	**358**	ePn	**Pn**	**15 15 15.9**	**0.0**
WET				eSn	**Sn**	**15 16 22.4**	**-4.8**
CHMF	**Charmoille**	**6.31**	**316**	P	**Pn**	**15 15 18.5**	**+1.6**
BFO	**Black Forest**	**6.38**	**330**	ePn	**Pn**	**15 15 20.0**	**+2.2**
RIVEL	**MONT RIVEL**	**6.41**	**309**	P	**Pn**	**15 15 20.5**	**+2.3**
VIVF	**Saint-Julien-l**	**6.41**	**291**	eP	**Pn**	**15 15 21.1**	**+2.8**
VIVF				eSn	**Sn**	**15 16 25.6**	**-5.9**
	comp=N,1.0nm,0.4s						
VOGT	**Vogtsburg - To**	**6.44**	**325**	P	**Pn**	**15 15 20.2**	**+1.6**
MOF	**Molkenrain**	**6.50**	**322**	P	**Pn**	**15 15 20.8**	**+1.3**
BOUC	**Bouclans**	**6.52**	**314**	P	**Pn**	**15 15 21.5**	**+1.8**
KRUC	**Moravsky**	**6.56**	**19**	ePN	**Pn**	**15 15 21.0**	**+0.7**
HINF	**Hinteralfeld**	**6.61**	**320**	eP	**Pn**	**15 15 22.2**	**+1.3**
HINF				eSn	**Sn**	**15 16 30.1**	**-6.1**
	comp=N,23nm,0.6s						
SSB	**Saint Sauveur**	**6.62**	**294**	P	**Pn**	**15 15 24.8**	**+3.6**
RONF	**Ronchamp**	**6.63**	**319**	P	**Pn**	**15 15 22.6**	**+1.5**
ECH	**Echery**	**6.76**	**324**	P	**Pn**	**15 15 24.3**	**+1.3**
ECH				S	**Sn**	**15 16 41.5**	**+1.5**
WLS	**Welschbruch**	**6.83**	**326**	P	**Pn**	**15 15 25.4**	**+1.3**
VRAC	**Vranov**	**6.84**	**19**	LR	LR	15 18 47.8	
	comp=N,96nm,18.6s,baz=163,slow=46						
LASF	**Ste Croix**	**6.84**	**283**	eP	**Pn**	**15 15 27.0**	**+2.8**
CDF	**Champ du Feu**	**6.86**	**325**	eP	**Pn**	**15 15 25.8**	**+1.3**
CDF				eSn	**Sn**	**15 16 36.4**	**-6.2**
	comp=N,11nm,0.6s						
VYHS	**Vyhne**	**6.87**	**34**	ePN	**Pn**	**15 15 26.6**	**+2.1**
VYHS				eSN	**Sn**	**15 16 40.8**	**-1.8**
ROTZ	**Rotzenmuhle**	**6.89**	**355**	ePn	**Pn**	**15 15 24.4**	**-0.4**
ROTZ				eSn	**Sn**	**15 16 37.0**	**-6.2**
GRF	**Grafenberg Arr**	**6.91**	**350**	eSn	**Sn**	**15 16 39.8**	**-3.9**
HAU	**Haudompre**	**6.98**	**319**	eP	**Pn**	**15 15 27.3**	**+1.3**
HAU				eSn	**Sn**	**15 16 39.2**	**-6.2**
	comp=N,28nm,0.5s						
MANZ	**Manzenberg**	**7.12**	**355**	ePn	**Pn**	**15 15 28.6**	**+0.7**
NKC	**Novy Kostel**	**7.34**	**357**	ePN	**Pn**	**15 15 32.5**	**+1.5**
NKC				eSN	**Sn**	**15 16 52.6**	**-1.7**
SMF	**Signal de Mont**	**7.59**	**303**	eP	**Pn**	**15 15 36.8**	**+2.4**
SMF				eSn	**Sn**	**15 16 53.9**	**-6.5**
	comp=N,6.7nm,0.6s						
PAGF	**Fort de Pagny**	**7.66**	**320**	eP	**Pn**	**15 15 37.7**	**+2.4**
PAGF				eSn	**Sn**	**15 16 55.1**	**-7.0**
	comp=N,19nm,0.7s						
KEST	**Kesra**	**7.74**	**203**	Pn	Pn	15 15 42.8	+6.2
	comp=N,0.3nm,0.3s,baz=47,slow=12,SNR=2.9						
KEST				LR	LR	15 18 40.0	
	comp=N,139nm,19.0s,baz=332,slow=37						
	comp=N,2.4nm,0.5s						
SFTF	**Sexfontaines**	**7.76**	**316**	eP	**Pn**	**15 15 39.8**	**+3.1**
SFTF				eSn	**Sn**	**15 16 58.0**	**-6.6**
	comp=N,11nm,0.5s						
MOX	**Moxa**	**7.81**	**353**	eSn	**Sn**	**15 16 59.4**	**-6.4**
LOR	**Lormes**	**7.88**	**307**	eP	**Pn**	**15 15 40.3**	**+2.0**
	baz=123						
LOR				eSn	**Sn**	**15 17 00.7**	**-6.7**
	comp=N,5.7nm,0.4s						
MEZF	**Maizieres J'vi**	**7.95**	**317**	eP	**Pn**	**15 15 42.2**	**+2.9**
MEZF				eSn	**Sn**	**15 17 02.4**	**-6.8**
	comp=N,6.3nm,0.4s						
AVF	**Avril sur Loir**	**7.96**	**303**	eP	**Pn**	**15 15 41.2**	**+1.8**
AVF				eSn	**Sn**	**15 17 02.3**	**-7.1**
	comp=N,1.8nm,0.5s						
SSF	**Saint Saulge**	**7.99**	**305**	eP	**Pn**	**15 15 41.6**	**+1.8**
SSF				eSn	**Sn**	**15 17 03.2**	**-6.9**
	comp=N,5.6nm,0.6s						
BRG	**Berggiesshubel**	**7.99**	**4**	eP	**Pn**	**15 15 40.2**	**+0.4**
BRG				Amp		15 15 50.1	
	comp=Z,2.7nm,0.6s						
BRG				ex	x	15 17 05.8	
BRG				ex	x	15 18 05.8	
BRG				Amp		15 18 21.6	
	comp=Z,9.8nm,1.0s						
SAVF	**Savonnieres en**	**7.99**	**318**	eP	**Pn**	**15 15 42.7**	**+2.8**
SAVF				eSn	**Sn**	**15 17 03.4**	**-6.8**
	comp=Z,22nm,1.0s						
MTLF	**Montolieu**	**8.00**	**277**	eP	**Pn**	**15 15 43.4**	**+3.5**
BGF	**Bois d'Agland**	**8.18**	**300**	eP	**Pn**	**15 15 45.4**	**+2.9**
BGF				eSn	**Sn**	**15 17 07.7**	**-7.2**
	comp=Z,4.7nm,0.3s						
CAF	**Calviac**	**8.24**	**288**	eP	**Pn**	**15 15 46.7**	**+3.4**
CLL	**Collm**	**8.40**	**359**	ePn	**Pn**	**15 15 45.0**	**-0.5**
CLL				eSn	Sn	15 16 55.0	-25
CLL				ex	x	15 17 16.0	
CLL				eSg	Sg	15 18 03.0	-10
CLL				ex	x	15 18 19.0	
	comp=Z,39nm,1.8s						
HYF	**Humbligny**	**8.61**	**304**	eP	**Pn**	**15 15 51.8**	**+3.5**
GIVF	**Givet**	**9.19**	**324**	eP	**Pn**	**15 15 59.2**	**+2.9**
BAIF	**Baives**	**9.43**	**322**	eP	**Pn**	**15 16 03.1**	**+3.5**
ETSF	**Etsaut**	**10.05**	**275**	eP	**Pn**	**15 16 11.9**	**+3.8**
LDF	**La Druitiere**	**10.86**	**306**	eP	**Pn**	**15 16 22.9**	**+3.7**
FLN	**La Foliniere**	**11.15**	**306**	eP	**Pn**	**15 16 25.9**	**+2.8**
ESDC	**Sonseca Array**	**13.25**	**262**	LR	LR	15 21 07.1	
	comp=Z,47nm,18.1s,baz=70,slow=33						
AKASG	**Malin Array Be**	**13.48**	**49**	LR	LR	15 23 00.4	
	comp=Z,41nm,18.0s,baz=193,slow=42						
NACGM	**Naroch**	**14.95**	**32⇑**	eP	**Pn**	**15 17 12.2**	**-2.8**
	comp=Z,16nm,0.8s,baz=222						
HFS	**Hagfors**	**17.25**	**1**	LR	LR	15 25 06.7	
	comp=Z,35nm,19.9s,baz=204,slow=40						
FINES	**FINESS Array B**	**20.12**	**18**	P	**P**	**15 18 18.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=190,slow=9.7,SNR=4.2						
	comp=Z,2.2nm,0.9s						
KBZ	**Khabaz**	**21.63**	**78**	P	**P**	**15 18 35.0**	**+1.1**
	comp=Z,3.3nm,1.0s,baz=270,slow=12,SNR=3.2						
	comp=Z,3.3nm,1.0s						
ARCES	**ARCESS Array B**	**27.45**	**9**	LR	LR	15 31 30.6	
	comp=Z,44nm,19.4s,baz=89,slow=39						
TORD	**Torodi Ar. Bea**	**31.26**	**202**	P	**P**	**15 20 06.7**	**+3.0**
	comp=Z,0.7nm,0.5s,baz=18,slow=9.1,SNR=5.8						
	comp=Z,0.7nm,0.5s						
ARU	**Arti**	**31.73**	**49**	LR	LR	15 33 25.0	
	comp=Z,40nm,18.4s,baz=31,slow=37						
MKAR	**Makanchi Array**	**47.74**	**60**	P	**P**	**15 22 22.1**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=294,slow=6.7,SNR=2.1						
	comp=Z,0.5nm,0.7s						

---

*NOU **01** 15:18:47.9, 37°.15S×179°.97E, h0km, MLv3.9/7, Off E. Coast of N. Island, N.Z.*

*IDC **01** 15:18:52.0±3.4, 36°.84S×179°.31E, h0km, mb3.6/2, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=79.6km s-min=42.9km az=132.0*

*WEL **01** 15:18:57.7±0.9, 37°S±4°×17°9E±°, h20km, M3.3/19, ML3.6/24, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=102.1*

ISC 01 15:18:55.4±2.3**, 37°.17S**±0°.06×**179°.4E**±0°.1**, h31**km±12km**,**
n72, σ1s.12/90**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.98**	**246**	P	**Pn**	**15 19 13.2**	**+0.1**
MXZ	**Matakaoa Point**	**0.98**	**246**	P	**Pn**	**15 19 13.0**	**0.0**
MXZ				S	**Sn**	**15 19 24.6**	**-1.4**
WMGZ	**Waiomatatini S**	**1.04**	**231**	P	**Pb**	**15 19 15.5**	**+0.7**
PKGZ	**Pakihiroa**	**1.30**	**236**	P	**Pb**	**15 19 18.7**	**-0.5**
PKGZ				S	**Sn**	**15 19 33.5**	**-0.3**
PUZ	**Puketiti**	**1.30**	**226**	P	**Pb**	**15 19 18.9**	**-0.3**
PUZ				S	**Sb**	**15 19 36.0**	**+0.4**
HAZ	**Te Kaha**	**1.44**	**246**	P	**Pn**	**15 19 20.2**	**+0.8**
HAZ				S	**Sn**	**15 19 38.0**	**+0.7**
TWGZ	**Tauwhareparae**	**1.53**	**229**	P	**Pb**	**15 19 22.4**	**-0.8**
TWGZ				S	**Sb**	**15 19 41.3**	**-0.9**
RUGZ	**Raukumara Rang**	**1.61**	**240**	P	**Pb**	**15 19 23.3**	**-1.2**
CNGZ	**Carnagh Statio**	**1.63**	**216**	P	**Pb**	**15 19 24.5**	**-0.3**
CNGZ				S	**Sb**	**15 19 45.7**	**+0.6**
TKGZ	**Te Karaka**	**1.79**	**224**	P	**Pn**	**15 19 25.5**	**+1.4**
TKGZ				S	**Sn**	**15 19 46.9**	**+1.2**
WIZ	**White Island**	**1.83**	**258**	P	**Pn**	**15 19 25.5**	**+0.8**
MWZ	**Matawai**	**1.91**	**232**	P	**Pn**	**15 19 27.0**	**+1.2**
MWZ				S	**Sn**	**15 19 49.8**	**+0.9**
RIGZ	**Rimuhau**	**2.02**	**220**	P	**Pn**	**15 19 28.1**	**+0.6**
RIGZ				S	**Sn**	**15 19 52.5**	**+0.8**
URZ	**Urewera**	**2.14**	**239**	Pn	**Pn**	**15 19 30.3**	**+1.3**
	10nm,0.3s,baz=350,slow=3.5,SNR=111						
URZ				Sn	**Sn**	**15 19 54.0**	**-0.6**
	18nm,0.3s,baz=284,slow=21,SNR=28						
	25nm,0.4s						
URZ	**Urewera**	**2.14**	**239**	P	**Pn**	**15 19 30.2**	**+1.2**
URZ	**Urewera**	**2.14**	**239**	P	**Pn**	**15 19 30.4**	**+1.3**
URZ				S	**Sn**	**15 19 54.5**	**0.0**
SNGZ	**Shannon Statio**	**2.31**	**225**	P	**Pn**	**15 19 32.4**	**+1.1**
KNZ	**Kokohu**	**2.31**	**217**	P	**Pn**	**15 19 32.0**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.32**	**211**	P	**Pn**	**15 19 32.8**	**+1.3**
OPRZ	**Ohinepanea**	**2.39**	**253**	P	**Pn**	**15 19 33.4**	**+1.0**
RTZ	**Ruatahuna**	**2.42**	**233**	P	**Pn**	**15 19 34.4**	**+1.5**
RAHZ	**Arahi**	**2.55**	**226**	P	**Pn**	**15 19 35.8**	**+1.2**
RAHZ				S	**Sn**	**15 20 05.2**	**+0.6**
WHHZ	**Waihua**	**2.58**	**222**	P	**Pn**	**15 19 36.2**	**+1.2**
WHHZ				S	**Sn**	**15 20 04.8**	**-0.6**
TGRZ	**Tauranga**	**2.59**	**257**	P	**Pn**	**15 19 36.3**	**+1.1**
RRRZ	**Republican Roa**	**2.59**	**242**	P	**Pn**	**15 19 36.7**	**+1.5**
MTHZ	**Maungataniwha**	**2.65**	**230**	P	**Pn**	**15 19 37.5**	**+1.4**
MTHZ				S	**Sn**	**15 20 07.7**	**+0.5**
KARZ	**Kaharoa**	**2.68**	**251**	P	**Pn**	**15 19 37.6**	**+1.3**
PRRZ	**Plateau Road**	**2.75**	**240**	P	**Pn**	**15 19 38.4**	**+1.0**
NMHZ	**Naumai**	**2.83**	**226**	P	**Pn**	**15 19 40.4**	**+1.9**
NMHZ				S	**Sn**	**15 20 12.0**	**+0.3**
ARHZ	**Aropaoanui**	**2.84**	**222**	P	**Pn**	**15 19 39.8**	**+1.1**
ARHZ				S	**Sn**	**15 20 12.4**	**+0.6**
KMRZ	**Kaimai**	**2.86**	**255**	P	**Pn**	**15 19 40.3**	**+1.4**
MRHZ	**Matea Rd**	**2.91**	**234**	P	**Pn**	**15 19 40.7**	**+1.1**
MRHZ				S	**Sn**	**15 20 12.8**	**-0.7**
KUZ	**Kuaotunu**	**3.01**	**277**	P	**Pn**	**15 19 41.2**	**+0.3**
KUZ	**Kuaotunu**	**3.01**	**277**	P	**Pn**	**15 19 40.9**	**-0.1**
KUZ				S	**Sn**	**15 20 12.1**	**-3.8**
BKZ	**Black Stump Fm**	**3.06**	**229**	P	**Pn**	**15 19 42.6**	**+0.9**
BKZ	**Black Stump Fm**	**3.06**	**229**	P	**Pn**	**15 19 42.7**	**+1.0**
CKHZ	**Cape Kidnapper**	**3.10**	**216**	P	**Pn**	**15 19 42.4**	**+0.2**
MCHZ	**McNeill Hill**	**3.13**	**223**	P	**Pn**	**15 19 43.6**	**+1.0**
TOZ	**Tahuroa Road**	**3.18**	**259**	P	**Pn**	**15 19 44.0**	**+0.7**
KWHZ	**Kaweka Forest**	**3.27**	**226**	P	**Pn**	**15 19 45.1**	**+0.5**
KAHZ	**Kahuranaki**	**3.30**	**217**	P	**Pn**	**15 19 45.2**	**+0.1**
GRZ	**Great Barrier**	**3.33**	**285**	P	**Pn**	**15 19 46.3**	**+1.0**
MKAZ	**Moumakai**	**3.42**	**270**	P	**Pn**	**15 19 47.0**	**+0.4**
BHHZ	**Black Hill Sta**	**3.52**	**228**	P	**Pn**	**15 19 48.6**	**+0.5**
TMVZ	**Te Maari**	**3.53**	**235**	P	**Pn**	**15 19 49.2**	**+1.0**
ETVZ	**East Tongariro**	**3.53**	**235**	P	**Pn**	**15 19 49.2**	**+1.0**
NTVZ	**North Tongarir**	**3.54**	**236**	P	**Pn**	**15 19 49.3**	**+1.0**
OTVZ	**Oturere**	**3.58**	**235**	P	**Pn**	**15 19 50.0**	**+1.1**
SNVZ	**South Ngauruho**	**3.61**	**235**	P	**Pn**	**15 19 50.3**	**+1.0**
ETAZ	**East Tamaki Re**	**3.62**	**272**	P	**Pn**	**15 19 50.5**	**+1.2**
MOVZ	**Moawhango**	**3.66**	**231**	P	**Pn**	**15 19 50.6**	**+0.6**
MBAZ	**Motutapu North**	**3.66**	**275**	P	**Pn**	**15 19 51.5**	**+1.6**
WPHZ	**Waipukurau**	**3.72**	**218**	P	**Pn**	**15 19 50.3**	**-0.5**
PNHZ	**Pukenui**	**3.73**	**222**	P	**Pn**	**15 19 50.6**	**-0.3**
PRHZ	**Porangahau**	**3.79**	**215**	P	**Pn**	**15 19 51.1**	**-0.5**
HIZ	**Hauiti**	**3.87**	**248**	P	**Pn**	**15 19 54.6**	**+1.8**
HIZ	**Hauiti**	**3.87**	**248**	P	**Pn**	**15 19 54.5**	**+1.8**
WTAZ	**Waiatarua**	**3.90**	**272**	P	**Pn**	**15 19 55.4**	**+2.2**
RVAZ	**Riverhead Bore**	**3.91**	**274**	P	**Pn**	**15 19 54.7**	**+1.3**
TSZ	**Takapari Road**	**3.96**	**222**	P	**Pn**	**15 19 53.2**	**-0.9**
DVHZ	**Dannevirke**	**4.04**	**218**	P	**Pn**	**15 19 54.4**	**-0.7**
VRZ	**Vera Road**	**4.17**	**241**	P	**Pn**	**15 19 58.7**	**+1.7**
WCZ	**Waipu Caves**	**4.28**	**285**	P	**Pn**	**15 20 00.2**	**+1.8**
BFZ	**Birch Farm**	**4.30**	**214**	P	**Pn**	**15 19 57.5**	**-1.2**
POWZ	**Post Office Ro**	**4.31**	**221**	P	**Pn**	**15 19 59.0**	**+0.2**
PRWZ	**Pori Road**	**4.33**	**218**	P	**Pn**	**15 19 59.0**	**-0.1**
DREZ	**Durham Road**	**4.59**	**242**	P	**Pn**	**15 20 01.5**	**-1.2**
OUZ	**Omahuta**	**5.11**	**291**	P	**Pn**	**15 20 11.7**	**+1.8**
OUZ	**Omahuta**	**5.11**	**291**	P	**Pn**	**15 20 11.6**	**+1.8**
ASAR	**Alice Springs**	**41.14**	**276**	P	**P**	**15 26 37.0**	**0.0**
	0.5nm,0.5s,baz=120,slow=7.8,SNR=26						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**42.74**	**281**	P	**P**	**15 26 49.3**	**-0.8**
	0.3nm,0.3s,baz=122,slow=7.2,SNR=16						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**150.54**	**334**	PKPbc	**PKiKP**	**15 38 43.9**	**+0.1**
	1.1nm,0.6s,baz=29,slow=4.4,SNR=4.2						

---

*GCG **01** 15:19:16.6±0.8, 13°.83N×90°.96W, h61km±20km, MD3.5*

*SNET **01** 15:19:16.0±1.1, 13°.88N×90°.79W, h66km±14km, ML2.6*

ISC 01 15:19:14.5±2.3**, 13°.7N**±0°.2×**90°.90W**±0°.09**, h73**km±38km**,**
n13, σ0s.69/23**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.76**	**21**	eP	**Pn**	**15 19 30.8**	**+0.1**
PCG				eS	**Sn**	**15 19 42.7**	**+0.1**
FUG	**Fuego 3**	**0.77**	**4**	eP	**Pn**	**15 19 30.9**	**+0.3**
NBG	**Las Nubes**	**1.05**	**30**	eP	**Pn**	**15 19 34.7**	**+0.7**
NBG				eS	**Sn**	**15 19 49.6**	**+1.0**
NUBE	**Las Nubes**	**1.11**	**78**	eP	**Pn**	**15 19 34.5**	**-0.1**
NUBE				eS	**Sn**	**15 19 48.8**	**-0.9**
NUBE				IAML		15 19 50.6	
	comp=Z,117nm,0.2s						
LOAL	**Lomas de Alarc**	**1.13**	**74**	eP	**Pn**	**15 19 34.9**	**0.0**
LOAL				eS	**Sn**	**15 19 48.5**	**-1.5**
RTAL	**Retalhuleu**	**1.14**	**317**	eP	**Pn**	**15 19 35.1**	**+0.1**
STG3	**Santiaguito 3,**	**1.22**	**328**	eP	**Pn**	**15 19 36.6**	**+0.5**
STG3				eS	**Sn**	**15 19 51.0**	**-1.2**
RTR	**El Retiro**	**1.23**	**80**	eP	**Pn**	**15 19 36.8**	**+0.5**
RTR				eS	**Sn**	**15 19 52.3**	**-0.3**
CEVE	**Cerro Verde**	**1.25**	**83**	eP	**Pn**	**15 19 36.8**	**+0.3**
CEVE				eS	**Sn**	**15 19 53.2**	**+0.3**
SBLS	**San Blas**	**1.25**	**82**	eP	**Pn**	**15 19 36.9**	**+0.4**
SBLS				eS	**Sn**	**15 19 53.1**	**+0.1**
SNJE	**San Jose**	**1.27**	**81**	eP	**Pn**	**15 19 36.6**	**-0.1**
SNJE				eS	**Sn**	**15 19 53.4**	**0.0**
MTO3	**Montecristo**	**1.65**	**64**	eP	**Pn**	**15 19 41.0**	**-0.9**
LFRS	**El Faro**	**1.78**	**92**	eP	**Pn**	**15 19 44.5**	**+1.0**
LFRS				eS	**Sn**	**15 20 05.1**	**-0.3**

---

*NEIC **01** 15:48:52.8±2.5, 21°.1S±0°.1×178°.5W±0°.1, h518km±6km, mb4.4/39, Error ellipse: s-maj=18.9km s-min=15.5km az=176.0*

*IDC **01** 15:48:54.0±1.3, 21°.10S×178°.67W, h535km±13km, mb3.5/11, mbtmp4.4/15, Error ellipse: s-maj=17.1km s-min=12.7km az=137.0*

*NOU **01** 15:48:55.2, 20°.93S×178°.58W, h558km, mb4.2/29, Fiji Islands Region*

ISC 01 15:48:55.6±0.5**, 21°.13S**±0°.09×**178°.73W**±0°.08**, h550**km**,**
n182, σ1s.38/179**, mb4.4**/46**, 22C-12D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.54**	**317**	P	**P**	**15 50 21.2**	**-0.6**
	9.9nm,0.5s,baz=131,slow=4.3,SNR=20						
MSVF	**Nonsavu**	**4.54**	**317**	P	**P**	**15 50 22.4**	**+0.5**
MSVF	**Nonsavu**	**4.54**	**317**	P	**P**	**15 50 22.3**	**+0.5**
NIUE	**Niue**	**8.52**	**78**	P	P	15 50 54.0	-4.5
AFI	**Afiamalu**	**9.77**	**44**	P	P	15 51 07.4	-4.0
	68nm,1.1s,baz=358,slow=5.4,SNR=4.2						
AFI				S	S	15 52 52.2	-11
	40nm,0.8s,baz=245,slow=16,SNR=5.0						
AFI	**Afiamalu**	**9.77**	**44**	P	P	15 51 06.0	-5.4
AFI	**Afiamalu**	**9.77**	**44**	P	P	15 51 08.3	-3.1
	60nm,1.6s						
MARNC	**Mare, Loyalty**	**12.35**	**266**	P	**P**	**15 51 38.0**	**+0.3**
MARNC	**Mare, Loyalty**	**12.35**	**266**	P	**P**	**15 51 38.3**	**+0.6**
	1.4nm,0.8s						
LIFNC	**LIFOU**	**13.11**	**269**	P	**P**	**15 51 45.6**	**-0.1**
DZM	**Mont Dzumac**	**13.82**	**263**	P	**P**	**15 51 52.8**	**-0.3**
	6.8nm,0.7s,baz=86,slow=21,SNR=11						
DZM	**Mont Dzumac**	**13.82**	**263**	P	**P**	**15 51 53.1**	**0.0**
DZM	**Mont Dzumac**	**13.82**	**263**	P	**P**	**15 51 53.8**	**+0.7**
	12nm,1.0s						
NOUC	**Port Laguerre**	**13.95**	**263**	P	**P**	**15 51 55.2**	**+0.9**
	11nm,1.1s						
OUZ	**Omahuta**	**15.58**	**204**	P	**P**	**15 52 11.9**	**+1.1**
	44nm,2.8s						
KOUNC	**Koumac, New Ca**	**15.89**	**269**	P	**P**	**15 52 16.1**	**+2.0**
KOUNC				IAmb	IAmb	15 52 18.0	
	comp=Z,26nm,1.4s						
KUZ	**Kuaotunu**	**16.30**	**196**	P	**P**	**15 52 18.4**	**+0.7**
	comp=Z,49nm,2.5s						
HAZ	**Te Kaha**	**16.85**	**190**	P	**P**	**15 52 23.3**	**+0.6**
TGRZ	**Tauranga**	**17.11**	**194**	P	**P**	**15 52 26.1**	**+1.1**
TWGZ	**Tauwhareparae**	**17.23**	**189**	P	**P**	**15 52 26.6**	**+0.4**
TOZ	**Tahuroa Road**	**17.29**	**196**	P	**P**	**15 52 27.7**	**+1.0**
URZ	**Urewera**	**17.45**	**191**	P	**P**	**15 52 26.0**	**-2.2**
	comp=Z,15nm,0.7s,baz=16,slow=11,SNR=7.7						
URZ				S	**S**	**15 55 19.9**	**-1.6**
	comp=Z,12nm,0.8s,baz=308,slow=24,SNR=5.8						
URZ	**Urewera**	**17.45**	**191**	P	**P**	**15 52 25.9**	**-2.3**
MWZ	**Matawai**	**17.45**	**190**	P	**P**	**15 52 26.4**	**-1.8**
TLZ	**Tolley Road**	**17.84**	**195**	P	**P**	**15 52 33.6**	**+1.7**
HIZ	**Hauiti**	**18.19**	**196**	P	**P**	**15 52 36.3**	**+1.3**
	comp=Z,56nm,1.1s						
HIZ	**Hauiti**	**18.19**	**196**	P	**P**	**15 52 39.1**	**+4.1**
TMVZ	**Te Maari**	**18.56**	**194**	P	**P**	**15 52 38.6**	**+0.1**
BHHZ	**Black Hill Sta**	**18.84**	**193**	P	**P**	**15 52 37.8**	**-3.2**
KAHZ	**Kahuranaki**	**18.98**	**190**	P	**P**	**15 52 41.8**	**-0.5**
QRZ	**Quartz Range**	**21.00**	**199**	P	**P**	**15 53 02.0**	**+1.5**
	comp=Z,84nm,2.6s						
HNR	**Honiara**	**23.59**	**296**	P	**P**	**15 53 23.6**	**-0.4**
	comp=Z,168nm,0.5s,baz=78,slow=11,SNR=1.2						
RPZ	**Rata Peaks**	**24.08**	**198**	P	**P**	**15 53 26.3**	**-1.7**
	comp=Z,8.3nm,0.7s,baz=43,slow=21,SNR=1.9						
	comp=Z,8.3nm,0.7s						
RPZ	**Rata Peaks**	**24.08**	**198**	P	**P**	**15 53 29.4**	**+1.4**
	comp=Z,29nm,1.7s						
EIDS	**Eidsvold**	**28.02**	**256**	P	**P**	**15 54 03.1**	**+0.2**
EIDS				IAmb	IAmb	15 54 30.6	
	comp=Z,23nm,1.5s						
EIDS	**Eidsvold**	**28.02**	**256**	P	**P**	**15 54 03.6**	**+0.6**
	comp=Z,11nm,2.0s						
ARMA	**Armidale**	**28.18**	**245**	P	**P**	**15 54 06.1**	**+1.7**
	comp=Z,21nm,2.5s						
RMQ	**Roma**	**30.17**	**253**	P	**P**	**15 54 22.5**	**+0.9**
	comp=Z,5.7nm,0.7s						
CNB	**Canberra Magne**	**31.31**	**236**	P	**P**	**15 54 32.7**	**+1.4**
	comp=Z,13nm,0.6s						
TV1H	**Townsville Har**	**32.37**	**267**	P	**P**	**15 54 40.7**	**+0.2**
	comp=Z,12nm,0.8s						
CTA	**Charters Tower**	**32.75**	**265**	P	**P**	**15 54 43.7**	**0.0**
	comp=Z,30nm,0.7s						
CTAO	**Charters Tower**	**32.75**	**265**	P	**P**	**15 54 44.1**	**+0.4**
CTAO	**Charters Tower**	**32.75**	**265**	P	**P**	**15 54 43.8**	**0.0**
	comp=Z,26nm,0.7s						
CMSA	**Cobar Meteorol**	**33.40**	**244**	P	**P**	**15 54 49.7**	**+0.7**
	comp=Z,14nm,1.1s						
QLP	**Quilpie**	**34.22**	**254**	P	**P**	**15 54 55.9**	**-0.1**
PMG	**Port Moresby**	**34.82**	**284**	P	**P**	**15 55 01.4**	**+0.2**
MTSU	**Mount Surprise**	**34.88**	**268**	P	**P**	**15 55 02.1**	**+0.5**
	comp=Z,16nm,0.7s						
STKA	**Stephens Creek**	**36.90**	**245**	P	**P**	**15 55 17.6**	**-0.5**
	comp=Z,5.8nm,0.7s,baz=97,slow=11,SNR=12						
	comp=Z,5.8nm,0.7s						
STKA	**Stephens Creek**	**36.90**	**245**	P	**P**	**15 55 18.0**	**-0.1**
COEN	**Coen**	**36.95**	**275**	P	**P**	**15 55 19.2**	**+0.5**
COEN				IAmb	IAmb	15 55 20.2	
	comp=Z,12nm,0.8s						
COEN	**Coen**	**36.95**	**275**	P	**P**	**15 55 19.5**	**+0.8**
	comp=Z,17nm,1.0s						
INKA	**Innaminka**	**37.35**	**252**	P	**P**	**15 55 23.2**	**+1.4**
	comp=Z,16nm,0.8s						
QIS	**Mount Isa**	**38.86**	**263**	P	**P**	**15 55 34.2**	**-0.1**
	comp=Z,5.3nm,1.9s						
HTT	**Hallett**	**39.33**	**243**	P	**P**	**15 55 38.7**	**+0.8**
	comp=Z,15nm,2.5s						
LCRK	**Leigh Creek**	**39.66**	**247**	P	**P**	**15 55 41.3**	**+0.8**
	comp=Z,34nm,1.4s						
BBOO	**Buckleboo**	**41.66**	**244**	P	**P**	**15 55 56.1**	**-0.3**
BBOO				IAmb	IAmb	15 55 57.0	
	comp=Z,15nm,0.8s						
BBOO	**Buckleboo**	**41.66**	**244**	P	**P**	**15 55 56.5**	**+0.1**
	comp=Z,21nm,0.9s						
OOD	**Oodnadatta**	**41.83**	**252**	P	**P**	**15 55 58.0**	**+0.2**
	comp=Z,16nm,2.1s						
MULG	**Mulgathing**	**43.25**	**248**	P	**P**	**15 56 09.0**	**+0.1**
	comp=Z,50nm,0.8s						
WR0	**Warramunga Arr**	**43.65**	**263**	P	**P**	**15 56 11.2**	**-0.9**
WR0				IAmb	IAmb	15 56 12.3	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**43.71**	**257**	P	**P**	**15 56 12.2**	**-0.5**
ASAR	**Alice Springs**	**43.71**	**257**	P	**P**	**15 56 12.5**	**-0.1**
	comp=Z,13nm,0.5s,baz=94,slow=8.1,SNR=482						
ASAR				PcP	**PcP**	**15 57 47.3**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=112,slow=3.6,SNR=14						
ASAR				S	**S**	**16 02 00.9**	**-2.3**
	comp=Z,1.1nm,1.0s,baz=93,slow=15,SNR=6.7						
	comp=Z,13nm,0.5s						
ASAR	**Alice Springs**	**43.71**	**257**	P	**P**	**15 56 12.2**	**-0.4**
WB0	**Warramunga Arr**	**43.82**	**263**	P	**P**	**15 56 12.6**	**-0.9**
WB0				IAmb	IAmb	15 56 13.7	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**43.83**	**263**	P	**P**	**15 56 12.4**	**-1.1**
WRAB				IAmb	IAmb	15 56 13.8	
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**43.84**	**263**	P	**P**	**15 56 12.9**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=97,slow=7.6,SNR=192						
WRA				PcP	**PcP**	**15 57 47.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=89,slow=3.9,SNR=5.0						
	comp=Z,2.3nm,0.3s						
KDU	**Kakadu**	**47.28**	**272**	P	**P**	**15 56 39.8**	**-0.1**
	comp=Z,21nm,1.0s						
FORT	**Forrest**	**48.42**	**247**	P	**P**	**15 56 47.4**	**-0.8**
MTN	**Manton Dam**	**48.49**	**271**	P	**P**	**15 56 48.4**	**-0.5**
MTN				IAmb	IAmb	15 56 48.9	
	comp=Z,11nm,0.7s						
KNRA	**Kununurra**	**49.94**	**267**	P	**P**	**15 56 59.2**	**-0.4**
KNRA				IAmb	IAmb	15 57 00.1	
	comp=Z,11nm,0.7s						
SOEI	**Soe**	**55.84**	**272**	P	**P**	**15 57 42.6**	**+0.8**
PSA00	**Pilbara Seismi**	**56.86**	**257**	P	**P**	**15 57 47.7**	**-1.0**
MBWA	**Marble Bar**	**57.05**	**258**	P	**P**	**15 57 49.3**	**-0.7**
MBWA				IAmb	IAmb	15 57 49.8	
	comp=Z,16nm,0.6s						
VNDA	**Vanda**	**57.23**	**185**	P	**P**	**15 57 51.7**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=3.6,slow=5.7,SNR=7.3						
	comp=Z,0.5nm,0.7s						
VNDA	**Vanda**	**57.23**	**185**	P	**P**	**15 57 51.2**	**+1.1**
NWAO	**Narrogin (SRO)**	**57.48**	**244**	P	**P**	**15 57 51.8**	**-0.9**
NWAO				IAmb	IAmb	15 58 08.3	
	comp=Z,22nm,1.3s						
MMRI	**Maumere**	**58.10**	**273**	P	**P**	**15 57 56.6**	**-0.6**
MMRI				IAmb	IAmb	15 57 57.8	
	comp=Z,15nm,0.6s						
MORW	**Morawa**	**58.96**	**248**	P	**P**	**15 58 02.1**	**-0.6**
MORW				IAmb	IAmb	15 58 02.7	
	comp=Z,14nm,1.1s						
GIRL	**Giralia**	**61.73**	**255**	P	**P**	**15 58 22.0**	**+0.9**
TOLI2	**Tolitoli**	**63.07**	**283**	P	**P**	**15 58 29.6**	**-0.3**
TOLI2				IAmb	IAmb	15 58 44.4	
	comp=Z,7.3nm,0.8s						
JAGI	**Jajag, Banyuwa**	**65.70**	**270**	P	**P**	**15 58 44.9**	**-1.6**
KKM	**Kota Kinabalu**	**69.26**	**285**	P	**P**	**15 59 08.7**	**+0.2**
DSP	**Deep Springs**	**81.56**	**45**	P	**P**	**16 00 16.1**	**0.0**
NVAR	**Mina Array Bea**	**81.95**	**44**	P	**P**	**16 00 18.5**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=225,slow=8.6,SNR=7.4						
	comp=Z,1.1nm,0.6s						
KVN	**Kaiserville**	**82.43**	**43**	P	**P**	**16 00 20.4**	**-0.4**
IPM	**Ipoh**	**82.53**	**278**	P	**P**	**16 00 22.1**	**+0.4**
IPM				IAmb	IAmb	16 00 22.9	
	comp=Z,8.4nm,0.7s						
K05A	**Summer Lake**	**82.88**	**39**	P	**P**	**16 00 23.2**	**+0.3**
GSI	**Gunungsitoli**	**84.58**	**273**	P	**P**	**16 00 32.6**	**+0.7**
U15A	**North Rim**	**84.89**	**48**	P	**P**	**16 00 33.1**	**0.0**
CAST	**Castle Rocks**	**86.83**	**12**	P	**P**	**16 00 40.0**	**-1.3**
LOGN	**Logan Glacier**	**87.17**	**17**	P	**P**	**16 00 42.6**	**-0.6**
TRF	**Thorofare Moun**	**87.20**	**12**	P	**P**	**16 00 42.2**	**-1.1**
TRF				IAmb	IAmb	16 01 05.7	
	comp=Z,15nm,1.4s						
VNA3	**Neumayer Olymp**	**87.56**	**176**	P	**P**	**16 00 43.9**	**-1.0**
TXAR	**Lajitas Array**	**87.97**	**58**	P	**P**	**16 00 47.1**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=214,slow=6.0,SNR=9.1						
	comp=Z,1.0nm,0.8s						
VNA2	**Neumayer--Watz**	**88.00**	**177**	P	**P**	**16 00 46.2**	**-0.8**
	baz=191,slow=3.0						
M27K	**Edge Creek, AK**	**88.20**	**16**	P	**P**	**16 00 48.1**	**+0.1**
M27K				IAmb	IAmb	16 00 55.1	
	comp=Z,8.2nm,1.2s						
VNA1	**Neumayer--Stat**	**88.23**	**177**	P	**P**	**16 00 47.3**	**-0.6**
H21K	**Melozitna Rive**	**88.74**	**10**	P	**P**	**16 00 49.7**	**-0.6**
H21K				IAmb	IAmb	16 01 13.8	
	comp=Z,9.7nm,1.4s						
CCB	**Clear Creek Bu**	**88.77**	**13**	P	**P**	**16 00 49.0**	**-1.4**
CCB				IAmb	IAmb	16 00 49.5	
	comp=Z,6.5nm,0.9s						
L27K	**Beaver Creek,**	**88.80**	**16**	P	**P**	**16 00 50.0**	**-0.7**
L27K				IAmb	IAmb	16 01 03.2	
	comp=Z,7.0nm,1.4s						
BCAR	**Beaver Creek A**	**88.81**	**16**	P	**P**	**16 00 50.1**	**-0.6**
IMAR	**Indian Mountai**	**88.89**	**10**	P	**P**	**16 00 50.0**	**-0.9**
ILAR	**Eielson Array**	**89.08**	**13**	P	**P**	**16 00 50.4**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=217,slow=6.3,SNR=6.8						
	comp=Z,1.5nm,0.9s						
ILAR	**Eielson Array**	**89.08**	**13**	P	**P**	**16 00 51.2**	**-0.7**
PLCA	**Paso Flores**	**89.34**	**134**	P	**P**	**16 00 55.0**	**+1.1**
	comp=Z,2.5nm,0.9s,baz=259,slow=5.6,SNR=2.8						
	comp=Z,2.5nm,0.9s						
O20A	**White River Ci**	**89.49**	**46**	P	P	16 00 51.3	-3.3
O20A				IAmb	IAmb	16 01 14.5	
	comp=Z,2.8nm,0.7s						

CMAR Chiang Mai Arr 89.68 290 P P 16 00 57.4 +1.6
comp=Z,2.0nm,0.9s,baz=130,slow=3.1,SNR=14
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 89.68 290 P P 16 00 56.6 +0.9
PDAR Pinedale Array 89.89 43 P P 16 00 55.8 -0.7
comp=Z,1.0nm,0.6s,baz=221,slow=3.0,SNR=10
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 110.55 321 PKiKP PKiKP 16 06 23.9 -1.5
comp=Z,0.8nm,0.6s,baz=106,slow=4.8,SNR=5.0
MKAR Makanchi Array 111.13 313 PKiKP PKiKP 16 06 24.6 -2.3
comp=Z,1.6nm,1.1s,baz=270,slow=0.4,SNR=4.7
KURBB Kurchatov Arra 114.04 317 PKP PKiKP 16 06 31.1 -1.2
comp=Z,0.5nm,0.4s,baz=80,slow=2.1,SNR=6.3
BVAR Borovoye Array 119.11 320 PKP PKPdf 16 06 40.4 -1.5
comp=Z,7.9nm,0.4s,baz=126,slow=1.8,SNR=13
BRVK Borovoye 119.18 320 PKPdf 16 06 40.6 -1.4
ARU Arti 125.32 325 PKP PKPdf 16 06 53.1 -0.6
comp=Z,4.1nm,0.5s,baz=286,slow=20,SNR=3.5
ARCES ARCESS Array B 129.41 349 PKP PKPdf 16 07 00.1 -1.0
comp=Z,1.8nm,0.6s,baz=320,slow=3.6,SNR=8.5
BELG Belogornoye 132.69 323 PKP PKPdf 16 07 08.0 +0.1
comp=Z,12nm,0.7s,baz=228,slow=4.3,SNR=4.8
FINES FINESS Array B 136.17 343 PKP PKPdf 16 07 14.4 +0.3
comp=Z,1.6nm,0.7s,baz=95,slow=2.3,SNR=5.7
FINES SKPbc SKPbc 16 09 55.3 +0.6
comp=Z,4.0nm,1.1s,baz=145,slow=7.0,SNR=3.5
NOA NORSAR Array B 139.51 353 PKhKP PKPpre 16 07 12.8
comp=Z,0.8nm,0.8s,baz=17,slow=5.0,SNR=3.5
LODK Lodwar 142.47 247 PKPdf 16 07 24.2 -2.8
AKASG Malin Array Be 143.22 330 PKhKP PKPpre 16 07 23.8
comp=Z,7.2nm,0.4s,baz=43,slow=4.3,SNR=62
AKASG Malin Array Be 143.22 330 PKPpre 16 07 23.6
AKBB Malin Array Si 143.22 330 PKPpre PKPpre 16 07 23.7
BNN Bunyan 145.49 309 PKPdf PKPdf 16 07 31.4 -0.3
ASF Jabal al Asfar 146.45 297 PKPbc PKPdf 16 07 35.7 +2.3
comp=Z,3.9nm,0.8s,baz=108,slow=4.6,SNR=4.0
BR131 Keskin Array S 146.74 311 PKPdf 16 07 35.4 +1.7
BRTR Keskin Array B 146.74 311 PKPbc PKPdf 16 07 35.5 +1.7
comp=Z,3.7nm,0.6s,baz=139,slow=5.0,SNR=18
GHRR 147.22 325 ⇑P PKPbc 16 07 38.0 +0.6
BUR08 Bucovina Ar. S 147.25 330 PKPdf 16 07 37.3 +3.1
BURAR Bucovina Array 147.26 329 ⇓P PKPbc 16 07 38.5 +0.9
ANTO Ankara 147.27 312 ⇑P PKPdf 16 07 37.5 +3.0
CFR Carcaliu 147.39 324 ⇓P PKPdf 16 07 36.9 +2.5
TPGR Topolog 147.43 323 ⇑P PKPdf 16 07 37.8 +3.2
MMAI Mount Meron Ar 147.52 299 PKPbc PKPdf 16 07 38.6 +3.5
comp=Z,5.2nm,0.5s,baz=80,slow=6.9,SNR=15
VRI Vrincioaia 147.71 326 ⇑P PKPdf 16 07 38.2 +3.2
PLOR Plostina 147.76 326 ⇓P PKPdf 16 07 38.5 +3.4
HARR Harsova 147.81 323 ⇓P PKPbc 16 07 39.0 +0.1
COVR Voineasa-Covas 147.99 326 ⇑P PKPdf 16 07 38.7 +3.3
TRPA Tarpa 148.09 333 ⇑P PKPdf 16 07 39.1 +3.7
OSTC Ostas 148.35 342⇑ePKP PKPdf 16 07 39.8 +3.9
MLR Muntele Rosu 148.37 326 ⇓P PKPbc 16 07 40.8 +0.3
MLR Muntele Rosu 148.37 326 PKPbc PKPbc 16 07 40.6 +0.1
comp=Z,4.6nm,0.6s,baz=340,slow=1.2,SNR=6.9
MLR Muntele Rosu 148.37 326 PKPbc 16 07 40.5 0.0
CHVC Chvalec 148.37 342⇑ePKP PKPbc 16 07 39.9 -0.3
EIL Elat 148.49 293 PKPbc PKPbc 16 07 41.0 -0.1
comp=Z,4.3nm,0.6s,baz=3.0,slow=8.3,SNR=2.8
CLL Collm 148.51 346 *i* PKPbc PKPdf 16 07 39.4 +3.4
comp=Z,7.0nm,0.7s
DPC Dobruska-Polom 148.51 341⇑ePKP PKPdf 16 07 39.9 +3.7
KRLC Kraliky 148.61 341⇑ePKP PKPdf 16 07 40.2 +3.9
MORC Moravsky Berou 148.63 340 ePKP PKPbc 16 07 41.0 +0.2
CJR Cluj-Napoca 148.68 330 ⇑P PKPbc 16 07 41.0 -0.1
VOIR 148.87 327 ⇑P PKPbc 16 07 41.1 -0.5
ARR Arges 149.13 327 ⇑P PKPbc 16 07 42.8 +0.6
PRU Pruhonice 149.34 343⇑ePKP PKPbc 16 07 41.9 -0.6
VRAC Vranov 149.34 340 ePKP PKPbc 16 07 42.2 -0.3
PSZ Piszkesteto 149.34 335 ⇑P PKPbc 16 07 42.7 0.0
JAVC Velka Javorina 149.38 339 ePKP PKPbc 16 07 43.5 +0.8
KRUC Moravsky 149.62 340 ePKP PKPbc 16 07 42.7 -0.5
NKC Novy Kostel 149.64 346⇑ePKP PKPbc 16 07 42.9 -0.3
SIRR Siria 149.90 331 ⇓P PKPbc 16 07 43.7 -0.3
GZR Gura Zlata 150.03 329 ⇓P PKPbc 16 07 43.4 -0.9
KHC Kasperske Hory 150.38 344 PKPbc 16 07 44.3 -0.7
KHC Kasperske Hory 150.38 344⇑ePKP PKPbc 16 07 44.2 -0.8
BZS Buzias 150.41 330 ⇑P PKPbc 16 07 44.7 -0.5
CKRC Cesky Krumlov 150.46 342⇑ePKP PKPbc 16 07 44.6 -0.6
PLVB Pleven 150.47 324 ⇑P PKPbc 16 07 44.7 -0.7
HERR Herculane 150.58 329 ⇓P PKPbc 16 07 44.8 -0.7
GEC2 GERESS Array S 150.61 343 PKPbc 16 07 44.9 -0.8
GERES GERESS Array B 150.61 343 PKPbc PKPbc 16 07 44.9 -0.8
comp=Z,2.9nm,0.8s,baz=50,slow=2.1,SNR=20
GERES GERESS Array B 150.61 343 PKPbc 16 07 44.6 -1.0
MDVR Moldovita 150.99 329 ⇓P PKPbc 16 07 45.5 -1.1
MORH Mrgy, Hungar 151.23 334 ⇑P PKPbc 16 07 46.4 -0.6
BLKB Belogradchik 151.35 326 ⇓P PKPbc 16 07 46.7 -0.7
RDO Rodhopi 151.36 320 PKPbc 16 07 46.1 -1.3
FRGS Fruska Gora 151.58 332 ⇑P PKPbc 16 07 47.4 -0.4
VTS Vitosha 151.74 324 ⇓P PKPbc 16 07 47.6 -0.9
BOVS Bovan 151.83 328 ⇓P PKPbc 16 07 46.9 -1.5
BFO Black Forest 152.27 350 PKPbc 16 07 47.9 -1.4
DIVS Divibare 152.32 330 PKPbc 16 07 48.6 -1.0
STAL STALIGIAL 153.24 342 PKPbc 16 07 50.0 -1.5
CIMO Cimolais 153.27 343 PKPbc 16 07 49.8 -1.8
FUORN Ofenpass-Fuorn 153.53 346 PKPbc 16 07 51.5 -0.8
FUORN PKPab PKPab 16 08 07.2 -0.4
TORD Torodi Ar. Bea 172.06 183 PKP PKPdf 16 07 60.0 -2.3
comp=Z,1.7nm,1.3s,baz=57,slow=1.1,SNR=5.0

---

*PRU **01** 16:01:00.2±0.0, 42°.75N×13°.47E, h10km*
*STR **01** 16:01:06.5±2.7, 43°N±27°×1°3E±4°7, h10km, MLv3.5/5, Error ellipse: s-maj=0.1km s-min=0.0km az=63.1, preliminary*
ROM 01 16:00:59.4±0.0**, 42°.795N**±0°.002×**13°.105E**±0°.004**, h12**km**, ML3.3**/49**, 30C-54D, Error ellipse: s-maj=0.2km s-min=0.1km az=279.0, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
NRCA Norcia 0.04 10 ⇓P Pg 16 01 01.9 +0.2
NRCA S Sg 16 01 03.6 +0.2
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
T1245 Castelsantange 0.09 45 ⇓P Pg 16 01 02.6 +0.3
T1245 S Sg 16 01 04.7 +0.4
T1245 AML AML
T1245 AML AML
T1245 AML AML
T1245 AML AML
T1245 AML AML
T1216 Preci, Frazion 0.12 327 ⇓P Pg 16 01 02.9 +0.4
T1216 S Sg 16 01 05.3 +0.6
T1216 AML AML
comp=N,77200µm,0.2s
T1216 AML AML
comp=N,77200µm,0.2s
T1216 AML AML
comp=N,77400µm,0.2s
T1216 AML AML
comp=E,77300µm,0.2s
T1217 Poggiodomo (PG 0.15 237 P Pg 16 01 03.3 +0.3
T1217 AML AML
comp=E,8275µm,0.4s
T1217 AML AML
comp=E,8385µm,0.4s
T1217 AML AML
comp=E,8275µm,0.5s
T1217 AML AML
comp=E,8385µm,0.5s
T1217 AML AML
comp=N,13800µm,0.4s
T1217 AML AML
comp=E,8270µm,0.5s
T1217 AML AML
comp=E,8390µm,0.5s
T1217 AML AML
comp=N,14000µm,0.4s
FEMA Monte Fema 0.17 346 ⇓P Pg 16 01 03.8 +0.4
FEMA S Sg 16 01 06.9 +0.7
FEMA AML AML
comp=E,54950µm,0.5s
FEMA AML AML
comp=N,61600µm,0.6s
FEMA AML AML
comp=E,54900µm,0.5s

T1215 Vallo di Nera, 0.17 272 ⇑P Pg 16 01 03.8 +0.4
T1215 S Sg 16 01 07.0 +0.8
T1215 AML AML
comp=N,16050µm,0.5s
T1215 AML AML
comp=N,15600µm,0.5s
T1215 AML AML
comp=N,16100µm,0.5s
T1215 AML AML
comp=E,13150µm,0.3s
T1215 AML AML
comp=N,16100µm,0.5s
T1215 AML AML
comp=N,15550µm,0.5s
T1215 AML AML
comp=E,12700µm,0.3s
T1215 AML AML
comp=E,13100µm,0.3s
MMO1 Montemonaco 0.19 57 ⇓P Pg 16 01 04.1 +0.4
MMO1 S Sg 16 01 07.5 +0.8
T1204 Amatrice, Fraz 0.20 127 ⇑P Pg 16 01 04.1 +0.3
T1204 AML AML
comp=E,9785µm,0.3s
T1204 AML AML
comp=N,6520µm,1.1s
T1204 AML AML
comp=N,6525µm,1.1s
T1204 AML AML
comp=N,6530µm,1.1s
T1204 AML AML
comp=E,9810µm,0.3s
LNSS Leonessa 0.20 194 ⇓P Pg 16 01 04.0 +0.2
LNSS S Sg 16 01 07.7 +0.9
LNSS AML AML
comp=E,5660µm,1.0s
LNSS AML AML
comp=N,10310µm,1.0s
T1256 Bolognola (MC) 0.23 23 ⇓P Pg 16 01 04.8 +0.4
T1256 S Sg 16 01 08.5 +0.8
T1256 AML AML
comp=E,38150µm,0.4s
T1256 AML AML
comp=N,30000µm,0.4s
T1256 AML AML
comp=E,38200µm,0.4s
T1256 AML AML
comp=E,38150µm,0.4s
T1256 AML AML
comp=N,29150µm,0.4s
FDMO Fiordimonte 0.24 357 ⇓P Pg 16 01 04.9 +0.4
FDMO S Sg 16 01 09.0 +1.0
FDMO AML AML
comp=N,18250µm,0.3s
FDMO AML AML
comp=E,29050µm,0.2s
T1241 Roccafluvione, 0.25 76 ⇓P Pg 16 01 05.0 +0.4
T1241 S Sg 16 01 09.0 +0.9
T1241 AML AML
comp=E,18450µm,0.7s
T1241 AML AML
comp=E,19750µm,0.4s
T1241 AML AML
comp=E,18450µm,0.7s
T1241 AML AML
comp=N,17850µm,0.1s
T1241 AML AML
comp=E,18400µm,0.7s
T1241 AML AML
comp=N,17900µm,0.1s
T1241 AML AML
comp=N,17000µm,0.1s
CESI CESI - Serrava 0.26 325 ⇓P Pg 16 01 05.2 +0.4
CESI S Sb 16 01 09.5 -1.1
CESI AML AML
comp=N,45500µm,0.3s
CESI AML AML
comp=E,26200µm,0.1s
CESI AML AML
comp=N,45550µm,0.3s
AM05 Amandola Campo 0.26 45 ⇑P Pg 16 01 05.3 +0.6
AM05 S Sb 16 01 09.6 -0.9
AM05 AML AML
comp=N,9555µm,1.3s
AM05 AML AML
comp=E,28100µm,0.1s
AM05 AML AML
comp=E,7730µm,1.1s
AM05 AML AML
comp=N,2610µm,0.8s
AM05 AML AML
comp=N,9560µm,1.3s
AM05 AML AML
comp=E,7725µm,1.1s
AM05 AML AML
comp=E,28150µm,0.1s
T1243 Rocca Santa Ma 0.27 111 P Pg 16 01 05.5 +0.4
T1243 S Sg 16 01 09.8 +1.0
RM33 Pellescritta (0.30 164 P Pg 16 01 05.6 +0.1
RM33 S Sg 16 01 10.6 +1.0
RM33 AML AML
comp=N,3080µm,0.6s
RM33 AML AML
comp=N,2920µm,0.6s
RM33 AML AML
comp=E,4335µm,1.2s
RM33 AML AML
comp=E,4390µm,1.2s
RM33 AML AML
comp=E,4335µm,1.2s
RM33 AML AML
comp=N,3075µm,0.6s
RM33 AML AML
comp=N,2925µm,0.6s
T1211 Morro Reatino 0.32 215 ⇓P Pg 16 01 06.4 +0.5
T1211 S Sb 16 01 11.5 -0.9
T1211 AML AML
comp=E,6855µm,0.2s
T1211 AML AML
comp=N,7655µm,1.0s
T1211 AML AML
comp=E,7035µm,0.2s
T1211 AML AML
comp=N,7555µm,1.0s
T1211 AML AML
comp=E,6855µm,0.1s
T1211 AML AML
comp=N,7655µm,1.0s
T1211 AML AML
comp=N,7560µm,1.0s
T1211 AML AML
comp=E,7035µm,0.1s
ARRO Arrone 0.33 229 ⇓P Pg 16 01 06.4 +0.3
ARRO S Sg 16 01 11.5 +1.0
SEF1 Sefro 0.37 342 ⇑P Pg 16 01 07.1 +0.3
SEF1 S Sb 16 01 13.1 -0.7
SEF1 AML AML
comp=N,25350µm,1.1s
SEF1 AML AML
comp=N,25400µm,1.1s
SEF1 AML AML
comp=E,30250µm,1.6s
T1247 Pizzolo (AQ) 0.38 158 P Pb 16 01 08.0 -0.2
T1247 AML AML
comp=N,4660µm,0.6s
T1247 AML AML
comp=E,4525µm,0.7s
PIO1 Pioraco 0.39 347 P Pg 16 01 07.5 +0.2
PIO1 AML AML
comp=N,11565µm,0.6s
PIO1 AML AML
comp=E,7185µm,0.5s
PIO1 AML AML
comp=N,11525µm,0.6s
MDAR Monte D'Aria 0.40 4 P Pg 16 01 07.7 +0.3
TERO Teramo 0.41 115 ⇓P Pg 16 01 07.6 +0.1
TERO AML AML
comp=E,3820µm,0.7s
TERO AML AML
comp=N,3500µm,0.6s
ASSB Assisi San Ben 0.41 307 ⇓P Pg 16 01 07.7 +0.1
ASSB AML AML
comp=E,6245µm,0.5s
ASSB AML AML
comp=N,6890µm,0.6s
FIU1 Fiuminata 0.41 342 P Pg 16 01 08.0 +0.3
FIU1 AML AML
comp=E,12550µm,0.2s

FIU1 AML AML
comp=N,10145µm,0.2s
FIU1 AML AML
comp=N,10165µm,0.2s
CESX Cesi 0.43 245 ⇑P Pg 16 01 07.8 -0.1
CESX AML AML
comp=E,2550µm,1.6s
CESX AML AML
comp=N,3605µm,0.8s
MNTP Montappone 0.43 38 ⇑P Pb 16 01 09.0 -0.1
MNTP AML AML
comp=E,12950µm,0.1s
MNTP AML AML
comp=E,13000µm,0.1s
MNTP AML AML
comp=N,13750µm,0.3s
SSM1 San Severino M 0.44 7 ⇑P Pg 16 01 08.6 +0.5
GAG1 Gagliole 0.44 356 ⇓P Pg 16 01 08.7 +0.5
GAG1 AML AML
comp=E,21550µm,0.3s
GAG1 AML AML
comp=N,22900µm,0.6s
GAG1 AML AML
comp=E,21600µm,0.3s
SNTG Esanatoglia 0.48 345 ⇓P Pg 16 01 09.3 +0.5
SNTG S Sb 16 01 18.0 +1.2
SNTG AML AML
comp=N,5840µm,1.3s
SNTG AML AML
comp=E,6400µm,0.9s
GIGS Gran Sasso 0.49 135 ⇑P Pg 16 01 09.0 0.0
GIGS AML AML
comp=E,523µm,1.3s
GIGS AML AML
comp=E,524µm,1.3s
GIGS AML AML
comp=N,480µm,1.5s
ATCC AVT- Casa Cast 0.52 319 ⇓P Pg 16 01 09.7 +0.1
ATCC AML AML
comp=E,5480µm,0.7s
ATCC AML AML
comp=N,5370µm,0.8s
FIAM Fiamignano 0.53 179 ⇑P Pg 16 01 08.9 -0.9
FIAM AML AML
comp=N,2190µm,1.0s
FIAM AML AML
comp=E,2230µm,0.7s
EL6 Elcito 0.53 360 ⇑P Pg 16 01 09.1 -0.8
EL6 S Sb 16 01 19.0 +0.4
EL6 AML AML
comp=E,16250µm,0.2s
EL6 AML AML
comp=N,15950µm,0.3s
TRE1 Treia 0.54 16 ⇓P Pb 16 01 11.0 +0.1
TRE1 AML AML
comp=E,22250µm,0.3s
TRE1 AML AML
comp=N,18450µm,1.0s
FOSV Fossato di Vic 0.56 333 ⇓P Pg 16 01 10.3 0.0
FOSV AML AML
comp=E,3665µm,1.5s
FOSV AML AML
comp=N,5490µm,0.2s
TRTR Tortoreto Alta 0.59 88 ⇓P Pb 16 01 12.2 +0.4
TRTR AML AML
comp=E,9515µm,0.5s
TRTR AML AML
comp=N,10700µm,1.4s
MURB Monte Urbino 0.63 318 P Pg 16 01 11.8 +0.1
MURB AML AML
comp=N,9580µm,1.0s
MURB AML AML
comp=N,9450µm,1.0s
MURB AML AML
comp=E,10160µm,0.4s
MURB AML AML
comp=E,8945µm,0.3s
FAGN Fagnano 0.64 146 ⇑P Pg 16 01 11.7 -0.1
FAGN AML AML
comp=N,2550µm,0.4s
FAGN AML AML
comp=E,2640µm,0.6s
VCEL Villa Celiera 0.67 126 ⇓P Pg 16 01 12.8 +0.3
VCEL AML AML
comp=E,2095µm,0.4s
VCEL AML AML
comp=N,1940µm,0.9s
ATTE AVT- Monte Tez 0.68 306 ⇓P Pg 16 01 12.6 -0.1
ATTE AML AML
comp=N,1176µm,0.6s
ATTE AML AML
comp=E,1335µm,0.4s
SSFR Montelago di S 0.68 340 ⇓P Pg 16 01 12.8 +0.1
SSFR AML AML
comp=N,9950µm,0.6s
SSFR AML AML
comp=N,10690µm,0.2s
SSFR AML AML
comp=E,6995µm,0.2s
SSFR AML AML
comp=E,6995µm,0.9s
PP3 Marolino 0.69 32 ⇑P Pb 16 01 13.6 +0.2
PP3 AML AML
comp=N,13700µm,0.8s
PP3 AML AML
comp=N,14100µm,0.8s
PP3 AML AML
comp=E,11650µm,0.4s
PP3 AML AML
comp=E,11350µm,0.4s
ATFO Monte Foce - G 0.69 326 ⇓P Pg 16 01 12.7 -0.2
ATFO AML AML
comp=E,2915µm,0.6s
ATFO AML AML
comp=N,3560µm,0.3s
SRES S.Oreste - Sor 0.71 218 ⇓P Pg 16 01 13.1 -0.1
SRES AML AML
comp=E,600µm,0.7s
SRES AML AML
comp=N,540µm,0.5s
ARVD Arcevia 0.71 350 ⇓P Pg 16 01 13.1 -0.2
ARVD S Sb 16 01 25.0 +1.3
ARVD AML AML
comp=E,2385µm,0.3s
ARVD AML AML
comp=N,2085µm,0.4s
T0110 Collepietro 0.76 139 P Pg 16 01 13.6 -0.4
T0110 AML AML
comp=N,1455µm,0.4s
T0110 AML AML
comp=E,1435µm,0.6s
FRON Frontone 0.77 339 ⇓P Pg 16 01 14.3 -0.2
FRON AML AML
comp=E,2280µm,1.3s
FRON AML AML
comp=N,3835µm,0.3s
ATVO AVT- Monte Val 0.78 319 ⇓P Pg 16 01 14.2 -0.4
ATVO S Sn 16 01 27.0 -1.0
ATVO AML AML
comp=E,1455µm,0.3s
ATVO AML AML
comp=N,1925µm,0.8s
ATMI Monte Miggiano 0.82 312 ⇓P Pb 16 01 16.1 +0.5
ATMI AML AML
comp=N,3830µm,0.9s
ATMI AML AML
comp=E,4125µm,1.5s
MTCE Montecelio 0.82 199 ⇓P Pg 16 01 14.6 -0.6
MTCE AML AML
comp=N,642µm,0.8s
MTCE AML AML
comp=E,646µm,0.9s
ATPI Pietralunga - 0.83 322 ⇓P Pg 16 01 15.2 -0.4
ATPI S Sn 16 01 30.0 +0.6
ATPI AML AML
comp=E,1380µm,0.5s
ATPI AML AML
comp=N,1425µm,1.5s
AOI Ancona 0.84 26 ⇑P Pb 16 01 15.9 -0.1
AOI AML AML
comp=E,2610µm,0.2s
AOI AML AML
comp=N,4410µm,0.3s
CERT Cerreto 0.85 186 ⇑P Pg 16 01 15.9 +0.1
CERT AML AML
comp=E,999µm,0.7s

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
CERT				AML	AML		
	comp=N,727μm,0.7s						
PIEI	**Pieia**	**0.85**	**331**	⇓P	Pg	16 01 15.3	-0.6
PIEI				S	Sn	16 01 30.0	+0.2
PIEI				AML	AML		
	comp=N,1640μm,0.4s						
PIEI				AML	AML		
	comp=E,2690μm,0.3s						
MPAG	**Monte Paganucc**	**0.87**	**343**	⇓P	Pg	16 01 15.9	-0.4
MPAG				S	Sn	16 01 31.0	+0.6
MPAG				AML	AML		
	comp=E,2485μm,0.4s						
MPAG				AML	AML		
	comp=N,1645μm,0.4s						
SACS	**San Casciano d**	**0.88**	**274**	⇑P	Pb	16 01 16.6	-0.1
SACS				AML	AML		
	comp=N,691μm,1.0s						
SACS				AML	AML		
	comp=E,580μm,1.0s						
SENI	**Senigallia**	**0.92**	**6**	⇓P	Pn	16 01 17.9	-0.3
FSSB	**Fossombrone**	**0.93**	**345**	⇓P	Pg	16 01 16.9	-0.4
FSSB				S	Sn	16 01 32.0	+0.3
FSSB				AML	AML		
	comp=N,13100μm,0.3s						
FSSB				AML	AML		
	comp=E,7170μm,0.3s						
BADI	**Badiali**	**0.95**	**319**	P	Pb	16 01 17.9	0.0
LATE	**Laterza**	**0.98**	**260**	⇑P	Pn	16 01 19.9	+0.8
CAFI	**Castiglion Fio**	**0.99**	**303**	⇓P	Pg	16 01 18.2	-0.3
CAFI				AML	AML		
	comp=N,688μm,0.8s						
CAFI				AML	AML		
	comp=N,732μm,0.7s						
CAFI				AML	AML		
	comp=E,716μm,0.5s						
CAFI				AML	AML		
	comp=E,717μm,0.5s						
PE3	**Peglio**	**1.00**	**334**	⇓P	Pb	16 01 19.0	+0.2
PE3				AML	AML		
	comp=N,24μm,0.1s						
PE3				AML	AML		
	comp=E,27μm,1.3s						
MCIV	**Monte Civitell**	**1.05**	**270**	⇓P	Pg	16 01 19.9	+0.2
MCIV				AML	AML		
	comp=E,327μm,0.8s						
MCIV				AML	AML		
	comp=N,364μm,1.1s						
CAFR	**Castel Frentan**	**1.08**	**121**	⇑P	Pn	16 01 20.7	+0.3
CAFR				AML	AML		
	comp=E,562μm,0.5s						
CAFR				AML	AML		
	comp=N,469μm,0.8s						
TOLF	**Tolfa**	**1.10**	**229**	⇑P	Pb	16 01 20.1	-0.3
TOLF				AML	AML		
	comp=N,298μm,0.6s						
TOLF				AML	AML		
	comp=N,298μm,0.6s						
TOLF				AML	AML		
	comp=E,397μm,0.8s						
POFI	**Posta Fibreno**	**1.17**	**157**	⇑P	Pg	16 01 23.2	+1.4
CRE	**Caprese Michel**	**1.18**	**315**	⇑P	Pn	16 01 22.0	+0.1
CRE				AML	AML		
	comp=E,473μm,0.6s						
CRE				AML	AML		
	comp=N,770μm,0.6s						
GIUL	**Giuliano Di Ro**	**1.24**	**175**	⇓P	Pg	16 01 24.1	+0.8
CASP	**Castiglione de**	**1.65**	**271**	⇑P	Pn	16 01 28.2	-0.1
CASP				AML	AML		
	comp=N,50μm,1.0s						
CASP				AML	AML		
	comp=E,50μm,0.9s						
POPM	**Popiglio**	**2.12**	**307**	⇑P	Pn	16 01 35.6	+0.8
POPM				AML	AML		
	comp=E,87μm,0.6s						
POPM				AML	AML		
	comp=N,116μm,0.9s						
BRJN	**Brijuni**	**2.16**	**12**	⇑P	Pn	16 01 35.6	+0.4
VBKN	**Vesuvio Bunker**	**2.20**	**153**	⇓P	Pb	16 01 38.7	-0.5
SGRT	**San Giovanni R**	**2.22**	**117**	⇑P	Pb	16 01 38.0	-1.5
PZUN	**Potenza**	**2.95**	**136**	S	Sb	16 02 28.0	+0.1
ROVR	**Rover Verones**	**3.20**	**334**	⇑P	Pn	16 01 51.4	+1.6
SABO	**M.te Sabotino**	**3.20**	**6**	⇑P	Pn	16 01 50.1	+0.4
SABO				AML	AML		
	comp=N,1230μm,0.9s						
SABO				AML	AML		
	comp=E,204μm,0.6s						
SABO				AML	AML		
	comp=E,854μm,0.6s						
SABO				AML	AML		
	comp=N,288μm,0.8s						
CGRP	**Cima Grappa**	**3.22**	**344**	⇓P	Pn	16 01 51.5	+1.5
SALO	**Salr**	**3.38**	**328**	⇓P	Pn	16 01 55.3	+3.2
STON	**Ston**	**3.38**	**87**	P	Pn	16 01 51.9	-0.1
STON				AML	AML		
	comp=N,35μm,1.6s						
STON				AML	AML		
	comp=E,37μm,0.8s						
CTI	**Castel Tesino**	**3.42**	**343**	⇑P	Pn	16 01 54.3	+1.7
MPRI	**Monte Prat**	**3.45**	**359**	⇓P	Pn	16 01 54.2	+1.2
MPRI				AML	AML		
	comp=E,229μm,0.7s						
MPRI				AML	AML		
	comp=N,232μm,0.5s						
STAL	**STALIGIAL**	**3.48**	**355**	⇓P	Pn	16 01 54.4	+1.0
STAL				S	Sn	16 02 37.0	+2.5
STAL				AML	AML		
	comp=E,212μm,0.3s						
STAL				AML	AML		
	comp=N,118μm,0.6s						
LUSI	**Trento, Gardas**	**3.52**	**335**	⇓P	Pn	16 01 56.0	+1.9
CIMO	**Cimolais**	**3.55**	**353**	⇑P	Pn	16 01 55.0	+0.6
CIMO				AML	AML		
	comp=E,42μm,0.7s						
CIMO				AML	AML		
	comp=N,47μm,0.7s						
PTCC	**Patocco-Chiusa**	**3.61**	**3**	P	Pn	16 01 55.6	+0.3
PTCC				AML	AML		
	comp=E,66μm,0.5s						
PTCC				AML	AML		
	comp=N,65μm,0.8s						
GAGG	**Gaggia**	**3.63**	**336**	⇓P	Pn	16 01 58.1	+2.5
ZONE	**Zone**	**3.66**	**325**	P	Pn	16 01 53.8	-2.2
ZONE				AML	AML		
	comp=E,75μm,0.4s						
ZONE				AML	AML		
	comp=N,117μm,0.6s						
CLUD	**Cludinico**	**3.67**	**358**	⇓P	Pn	16 01 56.8	+0.8
CLUD				AML	AML		
	comp=N,90μm,0.7s						
CLUD				AML	AML		
	comp=E,110μm,0.6s						
EUCT	**Pavia**	**3.74**	**311**	P	Pb	16 02 06.1	+0.7
ZOU	**Zoufplan**	**3.76**	**359**	⇑P	Pn	16 01 58.3	+0.8
ZOU				AML	AML		
	comp=N,88μm,1.6s						
ZOU				AML	AML		
	comp=E,108μm,1.1s						
ACOM	**Acomizza, Ital**	**3.76**	**4**	⇓P	Pn	16 01 58.4	+0.9
ACOM				AML	AML		
	comp=N,106μm,0.8s						
ACOM				AML	AML		
	comp=E,145μm,0.5s						
FVI	**Forni Avoltri**	**3.81**	**357**	⇓P	Pn	16 01 59.4	+1.4
FVI				AML	AML		
	comp=N,118μm,0.7s						
FVI				AML	AML		
	comp=E,75μm,0.4s						
MYKA	**Terra Mystica**	**3.85**	**6**	*i* Pn	Pn	16 02 00.0	+1.4
	comp=E,3.2nm,0.2s,SNR=6.2						
OBKA	**Obir**	**3.85**	**15**	*i* Pn	Pn	16 01 59.2	+0.6
	comp=E,2.0nm,0.3s						
KOSI	**Kohlern**	**3.87**	**342**	⇓P	Pn	16 02 01.1	+2.2
RORO	**Rocca Rossa**	**3.90**	**291**	P	Pn	16 01 59.3	+0.1
BOSI	**Bolzano**	**3.91**	**342**	⇑P	Pn	16 01 56.6	-2.8
APPI	**Appiano**	**3.92**	**341**	P	Pn	16 02 01.4	+1.8
IMI	**Imperia**	**3.96**	**288**	S	Sn	16 02 50.0	+3.5
ABTA	**Abfaltersbach**	**3.98**	**354**	*i* Pn	Pn	16 02 02.0	+1.7
	comp=E,24nm,0.6s,SNR=19						
SOKA	**Soboth**	**4.12**	**19**	*i* Pn	Pn	16 02 02.7	+0.4
	comp=E,1.8nm,0.3s						
RISI	**Rein**	**4.22**	**350**	⇓P	Pn	16 02 04.2	+0.5
RISI				AML	AML		
	comp=E,210μm,0.8s						
RISI				AML	AML		
	comp=N,188μm,0.3s						
MUGIO	**Muggio**	**4.27**	**318**	⇓P	Pn	16 02 06.9	+2.5
KBA	**Koelnbreinsper**	**4.29**	**2**	*i* Pn	Pn	16 02 06.1	+1.4
	comp=N,5.8nm,0.3s,SNR=15						
ROSI	**Rosskopf**	**4.30**	**344**	⇓P	Pn	16 02 07.1	+2.1
ROSI				S	Sn	16 02 56.0	+0.8
FETA	**Feichten**	**4.55**	**339**	*i* Pn	Pn	16 02 11.0	+2.7
	comp=N,2.2nm,0.3s						
WTTA	**Wattenberg**	**4.59**	**347**	*i* Pn	Pn	16 02 11.7	+2.9
	comp=N,2.5nm,0.2s						
WTTA	**Wattenberg**	**4.59**	**347**	⇓P	Pn	16 02 11.8	+2.9
SQTA	**Sankt Quirin**	**4.62**	**344**	*i* Pn	Pn	16 02 12.0	+2.7
	comp=N,15nm,0.4s,SNR=8.7						
WATA	**Walderalm**	**4.67**	**347**	*i* Pn	Pn	16 02 12.9	+3.0
	comp=N,4.7nm,0.3s,SNR=5.2						
MOTA	**Moosalm**	**4.76**	**343**	*e*Pn	Pn	16 02 13.5	+2.2
	comp=N,2.3nm,0.3s						
ARSA	**Arzberg**	**4.77**	**20**	*e*Pn	Pn	16 02 11.6	+0.4
	comp=N,1.3nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.91**	**4**	*i* Pn	Pn	16 02 14.8	+1.7
	comp=N,9.6nm,0.3s,SNR=11						
RETA	**Reutte**	**4.98**	**341**	*e*Pn	Pn	16 02 16.7	+2.6
	comp=N,3.8nm,0.3s						
DAVA	**Damuels**	**5.04**	**334**	*i* Pn	Pn	16 02 17.8	+2.8
	comp=N,2.1nm,0.4s						
MOA	**Molln**	**5.12**	**9**	*i* Pn	Pn	16 02 17.3	+1.3
	comp=N,2.5nm,0.3s						
DIX	**Grande Dixence**	**5.24**	**311**	P	Pn	16 02 20.7	+2.9
RONA	**Rosalia, Austr**	**5.40**	**24**	*i* Pn	Pn	16 02 20.8	+1.0
	comp=N,1.3nm,0.2s						
CONA	**Conrad Observa**	**5.49**	**20**	*i* Pn	Pn	16 02 22.5	+1.4
	comp=N,2.1nm,0.2s						
BALST	**Balsthal**	**5.94**	**322**	P	Pn	16 02 29.8	+2.5
CKRC	**Cesky Krumlov**	**6.08**	**8**	*e*SN	Sn	16 03 37.3	-1.5
BRANT	**Les Verrieres**	**6.27**	**314**	P	Pn	16 02 34.1	+2.2
KIZ	**Kirchzarten**	**6.32**	**327**	P	Pn	16 02 34.8	+2.3
KIZ				S	Sn	16 03 44.3	-0.3
KHC	**Kasperske Hory**	**6.35**	**3**	*e*PN	Pn	16 02 32.7	-0.1
KHC				*e*SN	Sn	16 03 44.0	-1.2
ECH	**Echery**	**6.84**	**324**	P	Pn	16 02 40.7	+1.0
ECH				S	Sn	16 03 55.6	-1.8
NKC	**Novy Kostel**	**7.46**	**357**	*e*SN	Sn	16 04 10.2	-2.3

*DDA **01** 16:08:57.5±0.0, 34.°93N×26.°65E, h7^km^±3^km^, MW3.9*
*NEIC **01** 16:09:00.1±1.7, 34.°99N±0.°05×26.°62E±0.°03, h10^km^±1^km^, mb4.0/7, Error ellipse: s-maj=9.1km s-min=3.1km az=162.0*
*ATH **01** 16:09:01.1, 35.°02N×26.°65E, h10^km^±3^km^, ML3.7/5, Error ellipse: s-maj=6.3km s-min=1.3km az=337.0*
*ISK **01** 16:09:01.2, 35.°12N×26.°63E, h7^km^, ML3.7/24*
*THE **01** 16:09:02.7, 35.°17N×26.°57E, h0^km^±1^km^, ML3.6/6, Error ellipse: s-maj=4.6km s-min=1.0km az=159.0*
*IDC **01** 16:09:04.3±1.4, 34.°95N×26.°68E, h46^km^±15^km^, mb3.7/13, mbtmp3.8/18, ML3.7/5, Error ellipse: s-maj=20.6km s-min=9.1km az=179.0*
ISC 01 16:09:00.1±1.1, **34.°96N**±0.°04×**26.°65E**±0.°02, **h14**^km^±7^km^, **n131**, σ1§**32**/163, **mb3.9**/17, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.38**	**294**	PG	**Pg**	**16 09 07.9**	**0.0**
ZKR				SG	**Sg**	**16 09 13.3**	**+0.1**
ZKR	**Zakros**	**0.38**	**294**	P	**Pg**	**16 09 07.8**	**0.0**
ZKR				S	**Sg**	**16 09 13.3**	**+0.1**
	20μm,0.3s						
ZKR	**Zakros**	**0.38**	**294**	P	**Pg**	**16 09 07.9**	**0.0**
ZKR				S	**Sg**	**16 09 13.3**	**+0.1**
ZKR				AML	AML	16 09 13.4	
	comp=N,37526μm,0.3s						
ZKR				AML	AML	16 09 13.7	
	comp=E,33012μm,0.4s						
STIA	**Sitia Lasithi**	**0.52**	**298**	P	**Pg**	**16 09 09.8**	**-0.5**
STIA				S	**Sg**	**16 09 16.8**	**-0.4**
STIA	**Sitia Lasithi**	**0.52**	**298**	P	**Pg**	**16 09 09.9**	**-0.5**
STIA				S	**Sg**	**16 09 17.0**	**-0.1**
STIA				AML	AML	16 09 18.7	
	comp=E,21708μm,0.4s						
STIA				AML	AML	16 09 20.9	
	comp=N,24886μm,0.4s						
KARP	**Karpathos**	**0.72**	**36**	PG	**Pg**	**16 09 13.8**	**-0.5**
KARP				SG	**Sg**	**16 09 22.4**	**-1.4**
KARP	**Karpathos**	**0.72**	**36**	Pg	**Pg**	**16 09 13.4**	**-0.8**
KARP				Sg	**Sg**	**16 09 23.2**	**-0.5**
KARP	**Karpathos**	**0.72**	**36**	P	**Pg**	**16 09 13.7**	**-0.5**
KARP				S	**Sb**	**16 09 24.6**	**+0.3**
	comp=N,10μm,0.4s						
KARP	**Karpathos**	**0.72**	**36**	P	**Pg**	**16 09 13.6**	**-0.6**
KARP				S	**Sb**	**16 09 24.0**	**-0.2**
KARP				AML	AML	16 09 26.9	
	comp=N,16380μm,0.7s						
KARP				AML	AML	16 09 27.1	
	comp=E,24205μm,0.4s						
FRMA	**Ierapetra Chan**	**0.75**	**275**	P	**Pg**	**16 09 12.7**	**-2.0**
FRMA				S	**Sg**	**16 09 22.4**	**-2.2**
FRMA				AML	AML	16 09 26.0	
	comp=E,19086μm,0.3s						
FRMA				AML	AML	16 09 30.3	
	comp=N,17995μm,0.4s						
HRKL	**Herakleio**	**1.31**	**286**	PN	**Pg**	**16 09 25.9**	**+0.5**
HRKL				SN	**Sg**	**16 09 43.9**	**+1.4**
HRKL	**Herakleio**	**1.31**	**286**	P	**Pg**	**16 09 25.9**	**+0.5**
HRKL				S	**Sg**	**16 09 43.7**	**+1.2**
	comp=N,6μm,0.9s						
HRKL	**Herakleio**	**1.31**	**286**	P	**Pg**	**16 09 26.4**	**+1.1**
IACM	**Heraklion**	**1.34**	**285**	P	**Pg**	**16 09 26.9**	**+1.1**
KSTL	**Kastelli Herak**	**1.34**	**285**	P	**Pn**	**16 09 22.6**	**-1.7**
KSTL				S	**Sb**	**16 09 36.9**	**-5.0**
IDI	**Anoyia**	**1.48**	**283**	P	**Pn**	**16 09 28.1**	**+1.8**
	comp=N,188nm,0.5s,baz=88,slow=15,SNR=195						
IDI				S	**Sb**	**16 09 47.5**	**+1.6**
	comp=N,437nm,0.4s,baz=360,slow=18,SNR=10						
IDI				LR	LR	16 10 20.0	
	comp=N,317nm,21.3s,baz=80,slow=50						
IDI	**Anoyia**	**1.48**	**283**	PN	**Pb**	**16 09 28.2**	**+0.9**
IDI				SN	**Sg**	**16 09 47.9**	**+0.2**
IDI	**Anoyia**	**1.48**	**283**		**Pn**	**16 09 27.6**	**+1.3**
IDI	**Anoyia**	**1.48**	**283**	P	**Pb**	**16 09 28.3**	**+0.9**
IDI	**Anoyia**	**1.48**	**283**	P	**Pb**	**16 09 28.2**	**+0.9**
TMBK	**Timbaki Herakl**	**1.55**	**275**	P	**Pn**	**16 09 29.2**	**+2.0**
NIS1	**Nisyros Isl.**	**1.70**	**15**	PN	**Pn**	**16 09 29.7**	**+0.4**
SANT	**Santorini**	**1.71**	**326**	PN	**Pn**	**16 09 30.1**	**+0.6**
SANT	**Santorini**	**1.71**	**326**		**Pn**	**16 09 29.3**	**-0.2**
THR6	**Thira Island,**	**1.73**	**324**	P	**Pn**	**16 09 30.0**	**+0.3**
THR8	**Santorini-Mono**	**1.73**	**327**	P	**Pn**	**16 09 29.3**	**-0.4**
ARG	**Arkhangelos**	**1.74**	**43**	PN	**Pn**	**16 09 31.4**	**+1.5**
ARG	**Arkhangelos**	**1.74**	**43**		**Pb**	**16 09 32.4**	**+0.5**
ARG	**Arkhangelos**	**1.74**	**43**	P	**Pb**	**16 09 32.3**	**+0.5**
ARG				S	**Sb**	**16 09 54.2**	**+0.7**
	comp=N,1μm,1.0s						
ARG	**Arkhangelos**	**1.74**	**43**	P	**Pb**	**16 09 32.7**	**+0.9**
ARG				S	**Sg**	**16 09 56.0**	**-0.2**
ARG				AML	AML	16 10 01.8	
	comp=N,2782μm,0.8s						
ARG				AML	AML	16 10 02.2	
	comp=E,2037μm,0.6s						
THT2	**Imerovigli**	**1.78**	**326**	PN	**Pn**	**16 09 31.3**	**+0.9**
THR5	**Thira Island,**	**1.80**	**324**	P	**Pn**	**16 09 30.8**	**+0.1**
PRNS	**Prines Rethymn**	**1.80**	**284**	P	**Pb**	**16 09 34.1**	**+1.2**
PRNS				S	**Sg**	**16 09 57.8**	**-0.3**
	comp=E,502nm,0.4s						
KOSK	**Kos Island**	**1.81**	**9**	PN	**Pn**	**16 09 31.6**	**+0.8**
KOSK	**Kos Island**	**1.81**	**9**	P	**Pb**	**16 09 33.3**	**+0.4**
DAT	**Datca**	**1.92**	**23**	PN	**Pn**	**16 09 33.5**	**+1.0**
DAT	**Datca**	**1.92**	**23**	P	**Pn**	**16 09 33.7**	**+1.2**
GVDS	**Gavdos**	**2.10**	**268**	PN	**Pb**	**16 09 38.1**	**+0.1**
GVDS	**Gavdos**	**2.10**	**268**	P	**Pn**	**16 09 37.7**	**+2.9**
GVD	**Gavdhos**	**2.11**	**267**	PN	**Pn**	**16 09 37.9**	**+3.0**
GVD	**Gavdhos**	**2.11**	**267**	P	**Pb**	**16 09 38.4**	**+0.4**
BODT	**Bodrum**	**2.17**	**14**	PN	**Pn**	**16 09 36.5**	**+0.7**
BDRM	**Kayabasi**	**2.20**	**17**	P	**Pn**	**16 09 37.4**	**+1.2**
BDRM				S	**Sb**	**16 10 07.2**	**+0.4**
BDRM				*i* AML	AML	16 10 12.0	
	comp=E,58nm,0.6s						
BDRM				*i* AML	AML	16 10 12.0	
	comp=E,64nm,0.5s						
BDRM				*i* AML	AML	16 10 26.0	
	comp=E,19nm,0.8s						
TURN	**Turunc**	**2.23**	**35**	PN	**Pn**	**16 09 38.1**	**+1.5**
TURN	**Turunc**	**2.23**	**35**	P	**Pn**	**16 09 37.9**	**+1.3**
TURN				S	**Sb**	**16 10 08.1**	**+0.5**
TURN				*i* AML	AML	16 10 17.0	
	comp=E,167nm,0.4s						
TURN				*i* AML	AML	16 10 20.0	
	comp=E,162nm,0.6s						
TURN				*i* AML	AML	16 10 24.0	
	comp=E,132nm,0.7s						
IMMV	**Iera Moni Meta**	**2.24**	**284**	PN	**Pn**	**16 09 39.4**	**+2.7**
IMMV	**Iera Moni Meta**	**2.24**	**284**	P	**Pn**	**16 09 39.1**	**+2.4**
APE	**Apeiranthos**	**2.29**	**337**	PN	**Pn**	**16 09 38.1**	**+0.6**
APE	**Apeiranthos**	**2.29**	**337**	P	**Pn**	**16 09 37.5**	**0.0**
APE				S	**Sn**	**16 10 04.4**	**-1.1**
	comp=E,452nm,0.5s						
KNDR	**Palaiochora Ch**	**2.44**	**277**	PN	**Pn**	**16 09 42.8**	**+3.3**
DALY	**Dalyan (Mula)**	**2.47**	**41**	PN	**Pn**	**16 09 41.5**	**+1.6**
DDIM	**Aydin, Didim**	**2.54**	**11**	P	**Pb**	**16 09 46.6**	**+1.2**
DDIM				S	**Sb**	**16 10 16.1**	**-0.4**
YER	**Yerkesik**	**2.54**	**31**	PN	**Pn**	**16 09 42.8**	**+1.8**
FETY	**Fethiye**	**2.59**	**49**	PN	**Pn**	**16 09 43.8**	**+2.2**
MULA	**Mugla, Merkez-**	**2.66**	**30**	P	**Pn**	**16 09 45.1**	**+2.5**
MULA				S	**Sb**	**16 10 18.6**	**-1.6**
MULA				*i* AML	AML	16 10 27.0	
	comp=E,73nm,1.0s						
MULA				*i* AML	AML	16 10 28.0	
	comp=E,70nm,0.7s						
MULA				*i* AML	AML	16 10 38.0	
	comp=E,112nm,0.7s						
AKAS	**Kas**	**2.73**	**61**	PN	**Pn**	**16 09 45.0**	**+1.4**
AKAS	**Kas**	**2.73**	**61**		**Pn**	**16 09 43.6**	**+0.1**
AKAS	**Kas**	**2.73**	**61**	P	**Pn**	**16 09 43.5**	**0.0**
AKAS				S	**Sn**	**16 10 16.9**	**+0.5**
AKAS				*i* AML	AML	16 10 22.0	
	comp=E,86nm,0.7s						
AKAS				*i* AML	AML	16 10 46.0	
	comp=E,231nm,1.1s						
AKAS				*i* AML	AML	16 10 49.0	
	comp=E,166nm,1.3s						
GCAM	**G?zelcaml?**	**2.78**	**10**	PN	**Pn**	**16 09 45.7**	**+1.6**
GCAM	**G?zelcaml?**	**2.78**	**10**	P	**Pn**	**16 09 45.8**	**+1.6**
GCAM				S	**Sn**	**16 10 16.1**	**-1.3**
GCAM				*i* AML	AML	16 10 34.0	
	comp=E,66nm,0.6s						
GCAM				*i* AML	AML	16 10 38.0	
	comp=E,78nm,0.7s						
GCAM				*i* AML	AML	16 10 39.0	
	comp=E,70nm,0.8s						
AYDN	**Tasoluk**	**2.88**	**20**	P	**Pn**	**16 09 47.4**	**+1.9**
AYDN				S	**Sb**	**16 10 23.6**	**-2.6**
AYDN				*i* AML	AML	16 10 32.0	
	comp=E,67nm,0.6s						
AYDN				*i* AML	AML	16 10 45.0	
	comp=E,43nm,0.9s						
AYDN				*i* AML	AML	16 10 51.0	
	comp=E,76nm,0.7s						
ANKY	**Antikythira Is**	**2.88**	**289**	P	**Pn**	**16 09 47.0**	**+1.5**
CAME	**Cameli-Denizli**	**2.93**	**47**	PN	**Pn**	**16 09 47.8**	**+1.5**
CAEL	**Denizli, Camel**	**3.06**	**44**	P	**Pn**	**16 09 49.6**	**+1.5**
CAEL				*i* AML	AML	16 10 50.0	
	comp=E,294nm,0.9s						
CAEL				*i* AML	AML	16 11 04.0	
	comp=E,272nm,1.0s						
CAEL				*i* AML	AML	16 11 04.0	
	comp=E,230nm,0.8s						
DGB	**zmir**	**3.09**	**3**	P	**Pn**	**16 09 49.2**	**+0.8**
DGB				S	**Sn**	**16 10 26.5**	**+1.3**
DGB				*i* AML	AML	16 10 41.0	
	comp=E,40nm,0.9s						
DGB				*i* AML	AML	16 10 43.0	
	comp=E,50nm,1.4s						
DGB				*i* AML	AML	16 10 56.0	
	comp=E,30nm,1.6s						
TAVA	**DENIZLI_Tavas**	**3.10**	**36**	P	**Pn**	**16 09 50.0**	**+1.3**
TAVA				S	**Sb**	**16 10 30.7**	**-2.1**
TAVA				*i* AML	AML	16 10 44.0	
	comp=E,71nm,0.9s						
TAVA				*i* AML	AML	16 10 47.0	
	comp=E,90nm,0.7s						
TAVA				*i* AML	AML	16 10 49.0	
	comp=E,80nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**3.15**	**18**	PN	**Pn**	**16 09 50.6**	**+1.3**
KTHA	**Kythira Island**	**3.19**	**295**	PN	**Pn**	**16 09 51.3**	**+1.4**
ELL	**Elmali**	**3.20**	**55**	PN	**Pn**	**16 09 52.1**	**+2.1**
ELL	**Elmali**	**3.20**	**55**	Pn	**Pn**	**16 09 51.7**	**+1.7**
KTHR	**Kythira**	**3.24**	**295**	P	**Pn**	**16 09 51.9**	**+1.4**
GOLH	**Golhisar**	**3.28**	**45**	P	**Pn**	**16 09 52.7**	**+1.6**
GOLH				S	**Sb**	**16 10 39.1**	**+1.2**
GOLH				*i* AML	AML	16 10 52.0	
	comp=E,140nm,0.6s						
GOLH				*i* AML	AML	16 10 53.0	
	comp=E,90nm,1.0s						
GOLH				*i* AML	AML	16 10 57.0	
	comp=E,170nm,1.2s						
APMY	**Acipayam-Deniz**	**3.30**	**40**	PN	**Pn**	**16 09 52.6**	**+1.2**
URLA	**Izmir**	**3.40**	**359**	PN	**Pn**	**16 09 53.6**	**+0.9**
URLA	**Izmir**	**3.40**	**359**	P	**Pn**	**16 09 51.0**	**-1.7**
URLA				*i* AML	AML	16 10 44.0	
	comp=E,47nm,0.8s						
URLA				*i* AML	AML	16 11 05.0	
	comp=E,97nm,0.7s						
URLA				*i* AML	AML	16 11 06.0	
	comp=E,0.8nm,0.5s						
BLCB	**Balcova**	**3.44**	**5**	PN	**Pn**	**16 09 54.8**	**+1.6**
CHOS	**Chios island**	**3.45**	**352**	PN	**Pn**	**16 09 53.7**	**+0.2**
VLI	**Veliai**	**3.49**	**301**	P	**Pn**	**16 09 55.0**	**+1.1**
KORT	**Korkueli**	**3.63**	**55**	PN	**Pn**	**16 09 58.7**	**+2.7**
MANT	**Manisa**	**3.84**	**23**	Pn	**Pn**	**16 10 00.2**	**+1.1**
MANT	**Manisa**	**3.84**	**23**	P	**Pn**	**16 10 01.8**	**+2.8**
MANT				*i* AML	AML	16 11 10.0	
	comp=E,23nm,1.3s						
MANT				*i* AML	AML	16 11 25.0	
	comp=E,21nm,1.3s						
MANT				*i* AML	AML	16 11 27.0	
	comp=E,28nm,1.2s						
BASM	**Basmaki-Afyon**	**4.03**	**42**	PN	**Pn**	**16 10 03.6**	**+2.1**
PASA	**Karahalli, USA**	**4.08**	**33**	P	**Pn**	**16 10 02.8**	**+0.6**
PASA				S	**Sn**	**16 10 50.2**	**+0.4**
PASA				*i* AML	AML	16 10 58.0	
	comp=E,7.8nm,0.8s						
PASA				*i* AML	AML	16 11 14.0	
	comp=E,17nm,0.8s						
PASA				*i* AML	AML	16 11 16.0	
	comp=E,16nm,1.2s						
USAK	**Uak-Merkez**	**4.20**	**26**	P	**Pn**	**16 10 04.5**	**+0.7**
USAK				S	**Sn**	**16 10 51.1**	**-1.6**
USAK				*i* AML	AML	16 10 54.0	
	comp=E,29nm,1.1s						
USAK				*i* AML	AML	16 10 58.0	
	comp=E,14nm,0.6s						
USAK				*i* AML	AML	16 12 33.0	
	comp=E,19nm,4.9s						
ITM	**Ithomi**	**4.42**	**301**	Pn	**Pn**	**16 10 06.5**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**4.78**	**359**	P	**Pn**	**16 10 11.2**	**-0.4**
BAYC				*i* AML	AML	16 11 54.0	
	comp=E,12nm,1.3s						
BAYC				*i* AML	AML	16 12 01.0	
	comp=E,8.3nm,1.7s						
BAYC				*i* AML	AML	16 12 12.0	
	comp=E,13nm,1.7s						
EZN	**Ezine**	**4.87**	**357**	PN	**Pn**	**16 10 14.1**	**+1.3**
TVSB	**Tavsanli**	**5.01**	**26**	PN	**Pn**	**16 10 16.3**	**+1.3**
CSS	**Mathiatis**	**5.49**	**88**	Pn	**Pn**	**16 10 21.8**	**+0.4**
RDO	**Rodhopi**	**6.24**	**352**	Pn	**Pn**	**16 10 31.8**	**+0.1**
ANTO	**Ankara**	**6.92**	**43**	Pn	**Pn**	**16 10 43.0**	**+1.8**
FNA	**Florina**	**7.15**	**326**	Pn	**Pn**	**16 10 44.5**	**+0.2**
KEK	**Kerkira**	**7.23**	**313**	Pn	**Pn**	**16 10 44.1**	**-1.2**
BRTR	**Keskin Array B**	**7.32**	**47**	P	**Pn**	**16 10 47.6**	**+0.9**
	comp=E,0.1nm,0.3s,baz=215,slow=18,SNR=2.4						
	comp=E,0.5nm,0.5s						
BRTR	**Keskin Array B**	**7.32**	**47**	Pn	**Pn**	**16 10 46.2**	**-0.5**
MMAI	**Mount Meron Ar**	**7.53**	**102**	P	**Pn**	**16 10 50.2**	**+0.8**
	comp=E,0.7nm,0.3s,baz=291,slow=12,SNR=1.8						
MMAI				S	**Sn**	**16 12 15.5**	**+0.8**
	comp=E,2.3nm,0.4s,baz=306,slow=25,SNR=2.3						
	comp=E,3.8nm,0.6s						
SCTE	**Santa Cesarea**	**8.26**	**311**	Pn	**Pn**	**16 10 58.9**	**-0.5**
GHAJ	**Ghor Haditha**	**8.32**	**113**	Pn	**Pn**	**16 10 59.9**	**-0.3**
BNN	**Bunyan**	**8.33**	**60**	Pn	**Pn**	**16 11 01.7**	**+1.2**
EIL	**Elat**	**8.79**	**125**	S	**Sn**	**16 12 44.9**	**-0.6**
	comp=E,5.0nm,0.4s,baz=340,slow=12,SNR=4.8						
TIP	**Timpagrande**	**8.95**	**301**	Pn	**Pn**	**16 11 07.8**	**-1.2**
CUC	**Castrocucco**	**9.96**	**303**		**Pn**	**16 11 22.4**	**-0.4**
RAFF	**Raffo Rosso**	**10.19**	**286**	Pn	**Pn**	**16 11 26.0**	**+0.1**
MLR	**Muntele Rosu**	**10.53**	**357**	P	**Pn**	**16 11 31.3**	**+0.6**
	comp=E,0.4nm,0.3s,baz=159,slow=14,SNR=2.2						
	comp=E,1.5nm,0.5s						
MLR	**Muntele Rosu**	**10.53**	**357**	Pn	**Pn**	**16 11 32.6**	**+1.9**
SGRT	**San Giovanni R**	**10.92**	**312**	Pn	**Pn**	**16 11 33.0**	**-2.9**
AKASG	**Malin Array Be**	**15.85**	**6**	P	**Pn**	**16 12 45.2**	**+2.7**
	comp=E,0.6nm,0.3s,baz=193,slow=11,SNR=5.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,0.6nm,0.6s						
GERES	GERESS Array B	16.86	329	P	P	16 12 58.4	+0.8
	comp=E,0.1nm,0.3s,baz=139,slow=8.3,SNR=4.7						
	comp=E,0.5nm,0.6s						
SENIN	Lac Senin/Sane	18.53	314	P	P	16 13 14.8	-1.4
BELG	Belogornoye	22.97	34	P	P	16 14 05.4	+1.5
	comp=E,8.3nm,0.8s,baz=260,slow=4.2,SNR=4.4						
	comp=E,8.3nm,0.8s						
ESDC	Sonseca Array	24.73	290	P	P	16 14 20.2	-0.8
	comp=E,0.7nm,0.7s,baz=85,slow=9.7,SNR=6.8						
	comp=E,0.7nm,0.7s						
GEYT	Alibeck	25.43	74	P	P	16 14 27.5	+0.1
	comp=E,0.9nm,0.4s,baz=254,slow=5.2,SNR=2.7						
	comp=E,0.9nm,0.4s						
MDT	Midelt	25.98	274	P	P	16 14 33.8	+1.3
	comp=E,1.0nm,0.5s,baz=270,slow=6.2,SNR=3.7						
	comp=E,1.0nm,0.5s						
FINES	FINESS Array B	26.51	359	P	P	16 14 36.4	-0.3
	comp=E,2.4nm,0.9s,baz=178,slow=12,SNR=1.5						
	comp=E,2.4nm,0.9s						
ABKAR	Akbulak array	28.27	49	P	P	16 14 52.6	-0.1
TOA0	Torodi Ar. Sit	31.31	232	P	P	16 15 20.0	0.0
TOA0				IAmb	IAmb	16 15 20.5	
	comp=Z,2.2nm,0.8s						
TORD	Torodi Ar. Bea	31.31	232	P	P	16 15 20.1	+0.1
	comp=Z,1.5nm,0.6s,baz=38,slow=9.4,SNR=11						
	comp=Z,1.5nm,0.6s						
TORD	Torodi Ar. Bea	31.31	232	P	P	16 15 19.7	-0.3
TORD				IAmb	IAmb	16 15 21.2	
	comp=Z,1.5nm,0.9s						
ARCES	ARCESS Array B	34.64	359	P	P	16 15 47.5	-1.0
	comp=Z,2.5nm,1.0s,baz=156,slow=9.3,SNR=5.9						
	comp=Z,2.5nm,1.0s						
AAK	Ala-Archa	37.66	64	P	P	16 16 15.2	+0.4
	comp=Z,0.7nm,0.4s,baz=225,slow=4.0,SNR=4.6						
	comp=Z,0.7nm,0.4s						
KURBB	Kurchatov Arra	40.30	51	P	P	16 16 36.4	-0.3
	comp=Z,1.5nm,0.7s,baz=277,slow=8.7,SNR=12						
	comp=Z,1.5nm,0.7s						
KURK	Kurchatov	40.36	51	P	P	16 16 35.6	-1.5
KURK				IAmb	IAmb	16 16 47.0	
	comp=Z,4.1nm,1.2s						
MAKZ	Makanchi	42.65	56	P	P	16 16 56.3	+0.2
MK31	Makanchi Array	42.87	56	P	P	16 16 58.3	+0.4
MK31				IAmb	IAmb	16 17 13.1	
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	42.87	56	P	P	16 16 58.5	+0.7
	comp=Z,1.0nm,0.5s,baz=274,slow=7.2,SNR=13						
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	42.87	56	P	P	16 16 57.9	+0.1
ZAA0	Zalesovo Array	44.27	46	P	P	16 17 07.8	-1.2
ZAA0				IAmb	IAmb	16 17 11.8	
	comp=Z,1.5nm,0.7s						
ZALV	Zalesovo Beam	44.27	46	P	P	16 17 08.5	-0.4
	comp=Z,1.2nm,0.4s,baz=275,slow=7.9,SNR=7.9						
	comp=Z,1.2nm,0.4s						
ZALV	Zalesovo Beam	44.27	46	P	P	16 17 08.3	-0.7
SONM	Songino Array	58.67	51	P	P	16 18 57.7	+0.6
	comp=Z,0.4nm,0.4s,baz=234,slow=8.2,SNR=4.8						
	comp=Z,0.4nm,0.4s						
CMAR	Chiang Mai Arr	65.38	84	P	P	16 19 42.0	-0.4
	comp=Z,0.2nm,0.3s,baz=299,slow=8.5,SNR=4.6						
	comp=Z,0.2nm,0.3s						

*INET **01** 16:30:16.1±0.7, 12°.50N×87°.97W, h26^{km}, MW3.5*
*SNET **01** 16:30:17.4±0.8, 12°.65N×87°.97W, h60^{km}±8^{km}, ML3.3*
ISC 01 16:30:15.8±1.7, **12°.5N**±0°.1×**87°.92W**±0°.06, **h62**^{km}±23^{km}, **n18**, σ**0^{s}47**/27, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.75	7	eP	Pn	16 30 30.7	-0.2
CNCH				eS	Sn	16 30 42.3	+0.4
LCND	La Caada	0.78	2	eP	Pn	16 30 31.0	-0.1
LCND				eS	Sn	16 30 42.0	-0.4
LCND				IAML		16 30 45.9	
	comp=Z,4μm,0.4s						
CRIN	San Cristobal	0.87	78	eP	Pn	16 30 33.0	+0.7
VSM	San Miguel	0.96	339	eP	Pn	16 30 34.2	+0.6
VSM				eS	Sn	16 30 47.1	+0.2
RANC	El Ranchito	0.97	339	eP	Pn	16 30 33.6	-0.1
RANC				eS	Sn	16 30 46.5	-0.4
PACA	Pacayal	1.02	337	eP	Pn	16 30 34.4	+0.1
PACA				eS	Sn	16 30 47.9	0.0
PACA	Pacayal	1.02	337	eP	Pn	16 30 34.2	0.0
CNGN	Cerro Negro	1.20	91	eP	Pn	16 30 35.7	-0.7
MOMN	Momotombo	1.36	95	eP	Pn	16 30 38.8	+0.2
SJTE	Alcalda de S	1.51	316	eP	Pn	16 30 41.6	+0.9
SJTE				eS	Sn	16 30 59.1	-0.4
SJTE				IAML		16 30 59.5	
	comp=Z,141nm,0.1s						
LFRS	El Faro	1.56	315	eP	Pn	16 30 41.7	+0.3
LFRS				eS	Sn	16 31 00.6	0.0
TGUH	Tegucigalpa,Un	1.65	22	eP	Pn	16 30 43.1	+0.5
TGUH				eS	Sn	16 31 02.6	-0.3
TGUH	Tegucigalpa,Un	1.65	22	eP	Pn	16 30 43.2	+0.5
P5NO	Presa 5 de nov	1.67	331	eP	Pn	16 30 42.5	-0.2
HUEN		1.72	96	eP	Pn	16 30 43.9	+0.5
MATN	Matagalpa	1.99	78	eP	Pn	16 30 47.2	0.0
NUBE	Las Nubes	2.27	307	eP	Pn	16 30 51.5	+0.4
NUBE				eS	Sn	16 31 17.0	-1.0
MTO3	Montecristo	2.33	323	eP	Pn	16 30 52.2	+0.2

*TEH **01** 16:35:02.6, 32°.45N×47°.92E, h11^{km}, ML3.3*
*ISN **01** 16:35:03.4±0.7, 32°.45N×47°.95E, h20^{km}±4^{km}, ML3.2*
ISC 01 16:35:04.7±1.1, **32°.45N**±0°.05×**47°.92E**±0°.04, **h15**^{km}, **n38**, σ**0^{s}88**/44, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.59	293	ePg	Pg	16 35 14.1	-2.1
DHL1				eSg	Sg	16 35 23.3	-0.7
IKFM	Kafar-mosalman	1.07	357	ePg	Pb	16 35 23.3	-1.6
IKFM				eSg	Sb	16 35 39.7	+1.0
IKFM				e		16 35 43.6	
	comp=Z,17μm,0.4s						
IKMR	Kamar-syah	1.13	20	ePg	Pb	16 35 24.3	-1.6
IKMR				e		16 35 45.7	
	comp=Z,11μm,0.6s						
IDOB	Doab	1.35	9	ePg	Pn	16 35 28.0	-1.1
IDOB				eSg	Sn	16 35 48.3	+1.4
IDOB				e		16 35 54.6	
	comp=Z,3μm,0.9s						
AMIS	Naft Sefid	1.40	124	ePn	Pn	16 35 29.0	-0.7
AMIS				e		16 36 09.1	
	comp=Z,3μm,0.6s						
RAFI	Al-Rafai	1.70	245	ePg	Pn	16 35 34.0	+0.3
RAFI				eSg	Sn	16 35 57.0	+1.8
RAFI				AML	AML	16 36 04.9	
	comp=E,465nm,0.5s						
IKOM	Komasi	1.75	349	ePn	Pn	16 35 35.0	+0.4
IKOM				e		16 36 04.2	
	comp=Z,6μm,0.6s						
IBDR	Badra	1.80	292	ePg	Pn	16 35 36.0	+0.8
IBDR				eSg	Sn	16 35 59.5	+1.8
IBDR				AML	AML	16 36 04.2	
	comp=E,228nm,0.5s						
IBDR				AML	AML	16 36 09.3	
	comp=N,198nm,0.6s						
HSAM	Samen	1.84	18	ePn	Pn	16 35 36.4	+0.4
HSAM				e		16 35 40.4	
	comp=Z,2μm,0.5s						
ILBA	Ilam Banvizeh	1.85	309	ePn	Pn	16 35 35.2	-0.8
KCHF	Cheshme Sefid,	1.96	338	ePn	Pn	16 35 38.4	+0.9
KCHF				e		16 36 16.9	
	comp=Z,3μm,0.5s						
KER	Kermanshah	2.04	341	ePn	Pn	16 35 39.3	+0.8
KER				e		16 36 11.7	
	comp=Z,2μm,0.0s						
KHMZ	Khomeyn	2.14	53	ePn	Pn	16 35 40.9	+0.9
SHK1	Shahrekord	2.51	92	ePn	Pn	16 35 45.2	+0.1
SHK1				e		16 36 43.8	
	comp=Z,698nm,0.7s						
IPIR	Pirpir	2.52	84	ePn	Pn	16 35 45.5	+0.2
IPIR				e		16 36 41.0	
	comp=Z,1μm,0.8s						
HAGD	Aghdareh	2.57	23	ePn	Pn	16 35 45.6	-0.4
IDHR	Dehrash	2.58	331	ePn	Pn	16 35 45.3	-0.8
IDHR				e		16 36 31.8	
	comp=Z,2μm,0.7s						
SNGE	Sanandaj	2.67	350	ePn	Pn	16 35 48.1	+0.7
ASAO	Ashtian	2.73	40	ePn	Pn	16 35 49.1	+0.9
IBRJ	Brojen	2.88	100	ePn	Pn	16 35 50.5	+0.2
IBRJ				e		16 36 53.5	
	comp=Z,475nm,0.8s						
BHD	Baghdad	3.09	286	ePn	Pn	16 35 53.0	+0.1
BHD				eSn	Sn	16 36 30.0	+0.5
IKLH	Kolahrood	3.20	73	ePn	Pn	16 35 55.1	+0.5
IKLH				e		16 37 01.2	
	comp=Z,353nm,0.6s						
IRAZ	Razeghan	3.38	29	ePn	Pn	16 35 58.5	+1.4
KLNJ	Kolanjah	3.44	114	ePn	Pn	16 35 59.2	+1.1
GHVR	GHOM	3.47	53	ePn	Pn	16 35 58.5	+0.3
IGAR	Gharneh	3.48	90	ePn	Pn	16 35 59.3	+0.8
QABG	Abgarm-Qazvin	3.53	23	ePn	Pn	16 35 59.6	+0.5
IQOM	Qom	3.55	47	ePn	Pn	16 36 00.2	+0.8
IZEF	Zefreh	3.74	82	ePn	Pn	16 36 02.8	+0.7
IRAM	Ramesheh	3.84	98	ePn	Pn	16 36 03.0	-0.4
KRSH	Karshahi	3.84	66	ePn	Pn	16 36 03.4	0.0
ISFB	Sefidab	4.08	61	ePn	Pn	16 36 05.9	-0.7
NASN	Na'in	4.14	84	ePn	Pn	16 36 08.2	+0.6
IKRK	Kirkuk	4.18	316	ePn	Pn	16 36 09.0	+1.1
IKRK				eSn	Sn	16 36 56.0	-0.6
ZNJK	Zanjan	4.25	8	ePn	Pn	16 36 09.6	+0.5
CHTH	Charan	4.35	37	ePn	Pn	16 36 11.4	+0.9
DAMV	Damavand	4.62	46	ePn	Pn	16 36 14.6	+0.4
SHRO	Shahrood	7.57	60	ePn	Pn	16 36 54.9	+0.3

DJA 01 16:50:43.9±0.5, **3°S**±4°×**12°8E**±°, **h15**^{km}±6^{km}, **M3.5**/12, **mb4.1**/3, **MLv3.3**/12, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRAI	Karang Ratu	0.55	150	P	Pb	16 50 55.2	-0.1
KRAI				S	Sb	16 51 02.6	-0.3
AAI	Ambon	0.84	175	P	Pg	16 51 00.7	+0.4
MSAI	Masohi	0.95	122	P	Pg	16 51 02.4	+0.1
NLAI	Namlea	1.09	249	P	Pg	16 51 05.5	+0.5
SANI	Sanana	2.27	290	P	Pn	16 51 19.6	-1.3
SANI				S	Sn	16 51 45.7	-2.9
LBMI	Labuha	2.27	344	P	Pn	16 51 21.8	+0.8
LBMI				S	Sn	16 51 50.5	+1.8
BNDI	Bandanaira	2.44	133	P	Pn	16 51 25.2	+1.9
SIJI	Sorong	3.70	58	P	Pn	16 51 39.6	-1.1
FAKI	Fak Fak	4.12	91	P	Pn	16 51 45.5	-0.9
GTOI	Gorontalo	6.17	304	P	Pn	16 52 18.5	+4.0
	0.0nm4.6nm,1.1s						
APSI	Ampana	6.75	286	P	Pn	16 52 24.0	+1.5
	0.2nm54nm,0.6s						

*NEIC **01** 17:01:33.6±2.4, 21°.11S±0°.04×68°.90W±0°.10, h132^{km}±8^{km}, mb4.1/5, ML4.0(GUC), Error ellipse: s-maj=13.0km s-min=6.0km az=89.0*
*GUC **01** 17:01:34.8±0.7, 21°.09S×68°.79W, h119^{km}±3^{km}, ML4.0*
*IDC **01** 17:01:35.0±1.0, 21°.05S×68°.90W, h113^{km}±11^{km}, mb3.8/4, mbtmp4.2/5, MS2.5/1, Error ellipse: s-maj=29.2km s-min=11.7km az=93.0*
*VAO **01** 17:01:36.9±2.3, 21°.13S×68°.29W, h106^{km}±11^{km}, mb4.3*
ISC 01 17:01:34.0±0.6, **21°.12S**±0°.03×**68°.82W**±0°.06, **h119**^{km}±7^{km}, **n82**, σ**1^{s}52**/104, **mb4.2**/4, **8C-1D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.62	277		Pn	17 01 52.8	+0.1
PB01				Sn	Sn	17 02 07.0	+0.2
PB01	IPOC Station P	0.62	277	⇑iP	Pn	17 01 53.1	+0.4
PB01				i S	Sn	17 02 07.0	+0.2
PB01				IAML		17 02 08.7	
	comp=E,4μm,0.2s						
PB09	IPOC Station P	0.78	210		Pn	17 01 55.0	+1.0
PB09				Sn	Sn	17 02 10.5	+1.2
PB09	IPOC Station P	0.78	210	i P	Pn	17 01 55.0	+1.0
PB09				i S	Sn	17 02 10.8	+1.6
PB09				IAML		17 02 17.0	
	comp=E,3μm,0.3s						
PB02	IPOC Station P	1.02	259		Pn	17 01 56.7	+0.5
PB02				Sn	Sn	17 02 13.7	+0.6
PB02	IPOC Station P	1.02	259	⇑iP	Pn	17 01 57.0	+0.8
PB02				i S	Sn	17 02 14.2	+1.1
PB08	IPOC Station P	1.02	342		Pn	17 01 56.6	0.0
PB08				Sn	Sn	17 02 13.7	+0.1
PB08	IPOC Station P	1.02	342	⇑iP	Pn	17 01 57.1	+0.5
PB08				i S	Sn	17 02 13.9	+0.4
PB07	IPOC Station P	1.16	238		Pn	17 01 58.0	+0.3
PB07				Sn	Sn	17 02 16.5	+0.8
PB07	IPOC Station P	1.16	238	⇑iP	Pn	17 01 58.5	+0.8
PB07				i S	Sn	17 02 16.8	+1.0
PB07				IAML		17 02 18.4	
	comp=E,4μm,0.3s						
PB03	IPOC Station P	1.27	223		Pn	17 01 59.7	+0.8
PB03				Sn	Sn	17 02 18.1	+0.4
PB03	IPOC Station P	1.27	223	⇑iP	Pn	17 01 59.7	+0.8
PB03				i S	Sn	17 02 18.4	+0.6
PB03				IAML		17 02 19.5	
	comp=E,5μm,0.3s						
PATCX	Punta Patache	1.28	283		Pn	17 01 59.5	+0.6
TA01	Diego Aracena	1.39	293		Pn	17 02 00.2	+0.3
TA01				Sn	Sn	17 02 19.4	-0.4
TA01	Diego Aracena	1.39	293	i P	Pn	17 02 00.2	+0.3
TA01				i S	Sn	17 02 19.6	-0.1
TA01				IAML		17 02 20.4	
	comp=N,4μm,0.5s						
LVC	Limon Verde	1.48	183	P	Pn	17 02 02.9	+1.4
	comp=N,279nm,0.5s,baz=6.1,slow=8.4,SNR=273						
LVC				LR	LR	17 02 16.3	
	comp=N,58nm,18.1s,baz=318,slow=27						
LVC				S	Sn	17 02 24.1	+1.6
	comp=N,580nm,0.7s,baz=297,slow=13,SNR=8.1						
LVC	Limon Verde	1.48	183		Pn	17 02 02.8	+1.3
LVC	Limon Verde	1.48	183	eP	Pn	17 02 02.5	+0.9
LVC				eS	Sn	17 02 24.0	+1.6
GO01	Chusmiza	1.49	346		Pn	17 02 02.0	+0.3
GO01	Chusmiza	1.49	346	i P	Pn	17 02 02.0	+0.3
GO01				i S	Sn	17 02 22.9	+0.2
GO01				IAML		17 02 25.7	
	comp=N,5μm,0.1s						
TA02	Huaiquique	1.49	304		Pn	17 02 01.2	0.0
TA02	Huaiquique	1.49	304	i P	Pn	17 02 01.1	-0.1
TA02				i S	Sn	17 02 21.6	-0.3
PB11	IPOC Station P	1.56	330		Pn	17 02 01.8	-0.5
PB11	IPOC Station P	1.56	330	⇑iP	Pn	17 02 02.2	-0.1
PB11				i S	Sn	17 02 23.5	-0.2
PB11				IAML		17 02 26.5	
	comp=E,4μm,0.3s						
PB06	IPOC Station P	1.72	204		Pn	17 02 05.2	+1.0
PB06	IPOC Station P	1.72	204	⇑iP	Pn	17 02 05.4	+1.2
PB06				i S	Sn	17 02 28.3	+1.1
PB06				IAML		17 02 30.9	
	comp=E,2μm,0.3s						
PB04	IPOC Station P	1.73	225		Pn	17 02 04.9	+0.7
PB04	IPOC Station P	1.73	225	⇑iP	Pn	17 02 04.9	+0.7
PB04				i S	Sn	17 02 27.5	+0.3
PB04				IAML		17 02 31.9	
	comp=E,2μm,0.2s						
AF01	San Pedro de A	1.92	162		Pn	17 02 08.4	+1.7
AF01	San Pedro de A	1.92	162	IAML		17 03 05.8	
	comp=E,875nm,0.4s						
PB15	IPOC Station P	2.16	196		Pn	17 02 10.6	+1.0
PB15	IPOC Station P	2.16	196	i P	Pn	17 02 10.9	+1.3
PB15				i S	Sn	17 02 38.6	+1.6
PB16	IPOC Station P	2.84	347	Pn	Pn	17 02 19.2	+0.5
PB16	IPOC Station P	2.84	347	⇓iP	Pn	17 02 19.4	+0.6
PB16				i S	Sn	17 02 53.5	+0.4
PB16				IAML		17 03 00.3	
	comp=N,188nm,0.5s						
PB12	IPOC Station P	2.87	330	Pn	Pn	17 02 17.3	-1.3
PB12	IPOC Station P	2.87	330	i P	Pn	17 02 17.2	-1.3
PB12				IAML		17 02 58.7	
	comp=E,382nm,0.2s						
PB10	IPOC Station P	2.87	214		Pn	17 02 18.6	+0.1
PB10	IPOC Station P	2.87	214	i P	Pn	17 02 18.8	+0.2
PB10				IAML		17 02 54.3	
	comp=E,260nm,0.2s						
PB14	IPOC Station P	3.78	202		Pn	17 02 30.0	-0.9
GO02	Mina Guanaco	4.08	190		Pn	17 02 34.8	-0.1
LPAZ	La Paz	4.85	8	P	Pn	17 02 45.5	0.0
	comp=E,9.5nm,0.4s,baz=195,slow=7.0,SNR=50						
LPAZ				S	Sn	17 03 41.5	+0.4
	comp=E,7.7nm,0.7s,baz=234,slow=16,SNR=2.0						
LPAZ				LR	LR	17 05 04.4	
	comp=E,62nm,21.7s,baz=296,slow=44						
LPAZ	La Paz	4.85	8	Pn	Pn	17 02 45.0	-0.5
LPAZ	La Paz	4.85	8	eP	Pn	17 02 47.1	+1.6
AC01	Pan de Azucar	5.26	198	Pn	Pn	17 02 49.0	-1.5
AC02	Maricunga	5.70	183		Pn	17 02 56.5	-0.3
AC06	Mina Casimiro	6.36	192	Pn	Pn	17 03 04.6	-0.7
GO03	Copiap	6.57	191	Pn	Pn	17 03 06.0	-2.2
GO03					Sn	17 04 18.2	-3.5
AC04	Llanos de Chal	7.34	196	Pn	Pn	17 03 15.0	-3.6
AC05	El Transito	7.79	189	Pn	Pn	17 03 21.8	-3.0
BBSD	Serra de San D	8.69	65	eP	Pn	17 03 33.3	-3.6
CO01	Juntas del Tor	8.89	187	Pn	Pn	17 03 37.7	-2.1
SIV	San Ignacio	8.95	57	P	Pn	17 03 37.1	-3.2
	comp=E,30nm,0.7s,baz=244,slow=10,SNR=79						
BBRB	Robore, Bolivi	8.95	73	eP	Pn	17 03 35.7	-4.6
GO04	Tololo Observa	9.19	191	Pn	Pn	17 03 40.9	-2.9
CO03	El Pedregal	9.82	189	Pn	Pn	17 03 48.2	-3.9
CO02	Combarbal	10.23	191	Pn	Pn	17 03 53.0	-4.7
PTLB	Pontes e Lacer	10.79	60	Pn	Pn	17 04 01.6	-3.5
PTLB	Pontes e Lacer	10.79	60	eP	Pn	17 04 02.4	-2.8
VILB	Vilhena	11.57	47	Pn	Pn	17 04 11.9	-3.8
VILB	Vilhena	11.57	47	eP	Pn	17 04 13.7	-2.0
MT02	Curacav	12.27	189	Pn	Pn	17 04 21.8	-2.8
MT01	Popeta	12.88	189	Pn	Pn	17 04 32.0	-0.6
BO01	Tunca	13.37	188	Pn	Pn	17 04 39.1	+0.1
SALV	Santo Antonio	13.49	70	eP	Pn	17 04 39.2	-1.5
CZSB	Cruzeiro do Su	13.83	344	eP	P	17 04 51.4	+1.9
PDRB	Porto dos Gac	14.96	53	eP	Pn	17 04 58.7	-0.7
CLDB	Colider	16.13	53	eP	Pn	17 05 13.4	-0.6
TRQA	Tornquist	17.89	162	P	P	17 05 33.3	-0.9
TRQA				IAmb	IAmb	17 05 42.0	
	comp=Z,13nm,1.5s						
IPMB	Ipameri, GO	19.67	84	eP	P	17 05 52.7	-1.1
MCRA	Macar, Loja	19.86	325	P	P	17 05 54.1	-1.8
MCRA				IAmb	IAmb	17 05 58.5	
	comp=Z,5.3nm,0.7s						
BOSC	San Juan Bosco	20.19	331	P	P	17 05 58.6	-1.0
BDFB	Brasilia	20.48	78	P	Pn	17 06 04.5	-1.4
	comp=Z,4.7nm,0.5s,baz=255,slow=5.1,SNR=6.3						
	comp=Z,4.7nm,0.5s						
COHC	Cochancay	21.14	330	P	P	17 06 09.2	-0.5
SMTB	Santa Maria do	23.82	62	eP	P	17 06 36.1	-0.1
JANB	Januaria	24.05	80	eP	P	17 06 37.8	-0.6
BOAV	Boa Vista	24.74	20	eP	P	17 06 44.9	+0.3
MCPB	Macapa, AP	26.34	41	eP	P	17 07 01.1	+2.1
RUSC	La Rusia	27.17	351	P	P	17 07 06.8	-0.2
RUSC				IAmb	IAmb	17 07 10.3	
	comp=Z,6.0nm,0.7s						
RCBR	Riachuelo	35.33	69	P	P	17 08 19.0	+0.8
	comp=Z,15nm,0.9s,baz=294,slow=6.0,SNR=2.4						
	comp=Z,15nm,0.9s						
TXAR	Lajitas Array	60.37	325	P	P	17 11 31.3	+0.4
	comp=Z,0.1nm,0.2s,baz=140,slow=7.7,SNR=2.2						
	comp=Z,0.1nm,0.2s						
TORD	Torodi Ar. Bea	77.15	70	P	P	17 13 17.6	+2.5
	comp=Z,1.5nm,0.5s,baz=254,slow=5.7,SNR=10.0						
	comp=Z,1.5nm,0.5s						
MKAR	Makanchi Array	145.28	36	PKPbc	PKPab	17 20 58.3	+0.4
	comp=Z,0.3nm,0.7s,baz=302,slow=3.4,SNR=3.6						

*LDG **01** 17:59:12.8±0.1, 42°.81N×13°.13E, h10^{km}, Ml3.1/28, Error ellipse: s-maj=3.3km s-min=1.7km az=37.0*
*IDC **01** 17:59:13.3±1.3, 42°.86N×13°.19E, h0^{km}, mb3.5/4, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=35.4km s-min=14.4km az=94.0*
*ROM **01** 17:59:13.1±0.0, 42°.804N±0°.002×13°.131E±0°.003, h10^{km}, ML3.5/56, Error ellipse: s-maj=0.2km s-min=0.1km az=250.0*
*PRU **01** 17:59:14.3±0.0, 42°.77N×13°.50E, h10^{km}*
*STR **01** 17:59:17.8±1.3, 43°N±8°×1°3E±1°3, h10^{km}, MLv3.5/21, Error ellipse: s-maj=0.0km s-min=0.0km az=69.4, preliminary*
ISC 01 17:59:13.4±0.7, **42°.80N**±0°.01×**13°.11E**±0°.02, **h14**^{km}±4^{km}, **n221**, σ**2^{s}34**/274, **mb3.7**/3, **11C-1D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.04	3	P	Pg	17 59 15.4	-0.8
NRCA				S	Sg	17 59 16.6	-1.4
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	Castelsantange	0.08	42	P	Pg	17 59 15.8	-0.8
T1245				S	Sg	17 59 17.5	-1.3
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1216	Preci, Frazion	0.12	324	P	Pg	17 59 16.5	-0.4
T1216				S	Sg	17 59 18.8	-0.3
T1216				AML	AML		
	comp=E,91850μm,0.4s						
T1216				AML	AML		
	comp=E,91900μm,0.4s						
T1216				AML	AML		
T1216				AML	AML		
T1244	Arquata del Tr	0.14	105	P	Pg	17 59 16.9	-0.3
T1217	Poggiodomo (PG	0.16	238	P	Pg	17 59 17.6	+0.1
T1217				S	Sg	17 59 20.7	+0.6
T1217				AML	AML		
	comp=E,50600μm,0.4s						
T1217				AML	AML		
	comp=E,50650μm,0.4s						
T1217				AML	AML		
	comp=N,70300μm,0.4s						
T1217				AML	AML		
	comp=E,49750μm,0.4s						
T1217				AML	AML		
	comp=N,70000μm,0.4s						
T1217				AML	AML		
	comp=N,70350μm,0.4s						
T1217				AML	AML		
	comp=N,70050μm,0.4s						
T1201	Domo (RI)	0.17	143	P	Pg	17 59 17.7	+0.1
T1201				S	Sg	17 59 21.1	+0.7
FEMA	Monte Fema	0.17	345	⇑P	Pg	17 59 17.4	-0.4
FEMA				S	Sg	17 59 20.4	-0.2
FEMA				AML	AML		
	comp=E,88850μm,0.4s						
FEMA				AML	AML		
	comp=N,54800μm,1.3s						
FEMA				AML	AML		
	comp=N,54850μm,1.3s						
FEMA				AML	AML		
	comp=E,89300μm,0.4s						
T1215	Vallo di Nera,	0.18	272	P	Pg	17 59 17.8	+0.1
T1215				S	Sg	17 59 21.1	+0.5
T1215				AML	AML		
	comp=E,31750μm,0.3s						
T1215				AML	AML		
	comp=N,28300μm,0.2s						
T1215				AML	AML		
	comp=N,29700μm,0.2s						
T1215				AML	AML		
	comp=E,31800μm,0.3s						
T1215				AML	AML		
	comp=E,33500μm,1.1s						
MMO1	Montemonaco	0.19	57	P	Pg	17 59 17.3	-0.6
MMO1				S	Sg	17 59 20.2	-0.7
T1204	Amatrice, Fraz	0.19	128	P	Pg	17 59 17.8	-0.2
LNSS	Leonessa	0.20	195	P	Pg	17 59 18.2	+0.1
LNSS				S	Sg	17 59 21.9	+0.7
LNSS				AML	AML		
	comp=E,33000μm,0.7s						
LNSS				AML	AML		
	comp=N,81550μm,0.2s						
T1256	Bolognola (MC)	0.23	22	⇑P	Pg	17 59 18.1	-0.5
T1256				S	Sg	17 59 21.8	-0.3
T1256				AML	AML		
	comp=E,52000μm,1.0s						
T1256				AML	AML		
	comp=N,47650μm,0.4s						
T1256				AML	AML		
	comp=E,52250μm,1.0s						
T1256				AML	AML		
	comp=N,45350μm,0.3s						
SMA1	SAN MARTINO	0.23	135	⇑P	Pg	17 59 18.4	-0.2
SMA1				S	Sg	17 59 22.4	+0.3
SMA1				AML	AML		
	comp=E,36750μm,0.5s						

SMA1 AML AML
comp=N,22400µm,0.7s
FDMO Fiordimonte 0.24 356 P **Pg** 17 59 18.4 -0.4
FDMO S **Sg** 17 59 22.1 -0.2
FDMO AML AML
comp=N,33200µm,1.0s
FDMO AML AML
comp=E,22350µm,0.9s
T1241 Roccafluvione, 0.24 75 P **Pg** 17 59 18.3 -0.4
T1241 S **Sg** 17 59 22.1 -0.2
T1241 AML AML
comp=E,28000µm,0.6s
T1241 AML AML
comp=E,27950µm,0.6s
T1241 AML AML
comp=N,24750µm,0.5s
T1241 AML AML
comp=E,27850µm,0.6s
T1241 AML AML
comp=N,24700µm,0.5s
T1241 AML AML
comp=E,27800µm,0.6s
T1241 AML AML
comp=N,25150µm,0.5s
T1241 AML AML
comp=E,28000µm,0.6s
AM05 Amandola Campo 0.25 44 P **Pg** 17 59 18.5 -0.4
AM05 AML AML
comp=E,4860µm,0.4s
AM05 AML AML
comp=N,5145µm,0.4s
AM05 AML AML
comp=N,1510µm,1.4s
AM05 AML AML
comp=E,4855µm,0.4s
AM05 AML AML
comp=E,22550µm,0.4s
CESI CESI - Serrava 0.26 324 ⇑P **Pg** 17 59 19.0 -0.1
CESI S **Sg** 17 59 23.4 +0.6
CESI AML AML
comp=E,26300µm,0.4s
CESI AML AML
comp=N,45700µm,0.3s
T1243 Rocca Santa Ma 0.27 112 P **Pg** 17 59 18.8 -0.4
T1243 S **Sg** 17 59 23.1 0.0
RM33 Pellescritta (0.30 165 P **Pg** 17 59 19.6 -0.1
RM33 S **Sb** 17 59 24.9 -0.4
RM33 AML AML
comp=N,17450µm,0.5s
RM33 AML AML
comp=E,11850µm,1.1s
RM33 AML AML
comp=N,17450µm,0.5s
RM33 AML AML
comp=E,12200µm,1.1s
GUMA Gualdo di Mace 0.31 31 P **Pg** 17 59 19.8 -0.2
GUMA S **Sb** 17 59 25.0 -0.8
GUMA AML AML
comp=N,60950µm,0.4s
GUMA AML AML
comp=N,60050µm,0.3s
GUMA AML AML
comp=E,54150µm,0.5s
GUMA AML AML
comp=E,50300µm,0.3s
T1211 Morro Reatino 0.32 216 ⇑P **Pg** 17 59 20.3 +0.2
T1211 S **Sb** 17 59 26.0 -0.2
T1211 AML AML
comp=E,17250µm,0.7s
T1211 AML AML
comp=N,42200µm,0.3s
T1211 AML AML
comp=E,16100µm,0.7s
T1211 AML AML
comp=E,17300µm,0.7s
T1211 AML AML
comp=N,42250µm,0.3s
T1211 AML AML
comp=N,42800µm,0.3s
ARRO Arrone 0.33 230 ⇑P **Pg** 17 59 20.6 +0.3
ARRO S **Sg** 17 59 26.1 +1.2
ARRO AML AML
comp=E,14650µm,1.4s
ARRO AML AML
comp=N,18350µm,0.7s
ARRO AML AML
comp=E,14600µm,1.4s
CAMP Campotosto 0.34 140 ⇑P **Pg** 17 59 20.1 -0.3
CAMP S **Sg** 17 59 25.5 +0.3
CAMP AML AML
comp=E,6375µm,0.2s
CAMP AML AML
comp=N,5370µm,0.7s
T1246 Crognaleto (TE 0.35 127 P **Pg** 17 59 20.2 -0.4
T1246 S **Sg** 17 59 25.6 0.0
SEF1 Sefro 0.37 341 P **Pg** 17 59 20.7 -0.3
SEF1 S **Sb** 17 59 26.7 -0.8
T1247 Pizzolo (AQ) 0.38 159 ⇑P **Pg** 17 59 21.0 -0.1
T1247 AML AML
comp=E,11000µm,0.5s
T1247 AML AML
comp=N,9760µm,0.6s
PIO1 Pioraco 0.39 346 P **Pg** 17 59 21.0 -0.4
MDAR Monte D'Aria 0.40 3 P **Pg** 17 59 21.1 -0.4
TERO Teramo 0.40 115 P **Pg** 17 59 21.1 -0.4
TERO S **Sg** 17 59 27.3 +0.3
TERO AML AML
comp=N,8055µm,0.6s
TERO AML AML
comp=N,8800µm,0.6s
TERO AML AML
comp=E,7210µm,0.6s
TERO AML AML
comp=N,8050µm,0.6s
TERO AML AML
comp=E,6675µm,0.6s
ASSB Assisi San Ben 0.41 307 P **Pg** 17 59 21.6 -0.2
FIU1 Fiuminata 0.41 341 P **Pg** 17 59 21.4 -0.4
MNTP Montappone 0.43 37 P **Pb** 17 59 22.3 -0.6
CESX Cesi 0.43 245 ⇑P **Pg** 17 59 22.2 +0.1
CESX S **Sg** 17 59 29.1 +1.2
CESX AML AML
comp=E,17300µm,1.3s
CESX AML AML
comp=N,10350µm,0.4s
SSM1 San Severino M 0.44 6 P **Pg** 17 59 21.8 -0.4
SSM1 S **Sb** 17 59 28.4 -0.9
GAG1 Gagliole 0.44 356 P **Pg** 17 59 22.0 -0.3
GAG1 S **Sb** 17 59 29.0 -0.6
OFFI Offida 0.44 71 P **Pb** 17 59 22.7 -0.4
OFFI AML AML
comp=E,11300µm,0.7s
OFFI AML AML
comp=N,15400µm,0.6s
SNTG Esanatoglia 0.48 345 P **Pg** 17 59 22.4 -0.5
GIGS Gran Sasso 0.48 135 P **Pg** 17 59 22.3 -0.7
GIGS S **Sg** 17 59 29.5 0.0
GIGS AML AML
comp=E,1430µm,1.5s
GIGS AML AML
comp=N,1390µm,0.6s
AQU L'Aquila 0.49 154 ⇑P **Pg** 17 59 22.8 -0.3
AQU AML AML
comp=E,4375µm,1.5s
AQU AML AML
comp=E,4335µm,1.5s
AQU AML AML
comp=N,4430µm,0.7s
AQU AML AML
comp=N,4405µm,0.7s
ATCC AVT- Casa Cast 0.52 319 P **Pg** 17 59 23.5 -0.3
FIAM Fiamignano 0.53 180 ⇑P **Pg** 17 59 23.5 -0.3
FIAM S **Sg** 17 59 31.7 +0.8
FIAM AML AML
comp=E,4680µm,0.8s
FIAM AML AML
comp=N,7585µm,0.8s
EL6 Elcito 0.53 359 P **Pg** 17 59 23.4 -0.6
TRE1 Treia 0.54 16 P **Pg** 17 59 24.0 0.0
FOSV Fossato di Vic 0.56 333 P **Pg** 17 59 24.0 -0.5
FOSV S **Sg** 17 59 32.4 +0.3
CING Cingoli 0.58 6 P **Pg** 17 59 24.3 -0.6
CING S **Sb** 17 59 33.1 -0.5
TRTR Tortoreto Alta 0.59 88 P **Pb** 17 59 25.3 -0.2
TRTR AML AML
comp=E,13600µm,1.0s
TRTR AML AML
comp=N,8865µm,1.1s
CADA Capodarco di F 0.62 50 P **Pb** 17 59 26.5 +0.4
FAGN Fagnano 0.63 146 P **Pg** 17 59 24.8 -1.1
FAGN AML AML
comp=E,8445µm,0.6s
FAGN AML AML
comp=N,4930µm,0.6s
MURB Monte Urbino 0.64 318 P **Pg** 17 59 25.5 -0.4
CIMA Civitanova Mar 0.65 39 P **Pb** 17 59 26.6 0.0
VCEL Villa Celiera 0.67 126 P **Pg** 17 59 26.0 -0.5
VCEL AML AML
comp=N,4590µm,0.9s
VCEL AML AML
comp=E,4780µm,0.5s
SSFR Montelago di S 0.69 339 P **Pg** 17 59 26.1 -0.7
ATTE AVT- Monte Tez 0.69 306 P **Pg** 17 59 26.8 0.0
PP3 Marolino 0.69 32 P **Pb** 17 59 27.1 -0.1
SRES S.Oreste - Sor 0.71 219 AML AML
comp=E,2220µm,0.7s
SRES AML AML
comp=N,2645µm,0.5s
ATLO AVT- Montelove 0.73 315 P **Pg** 17 59 27.1 -0.6
MGAB Montegabbione 0.74 279 P **Pg** 17 59 28.0 +0.1
T0110 Collepietro 0.75 139 P **Pg** 17 59 26.9 -1.1
T0110 AML AML
comp=E,3930µm,0.4s
T0110 AML AML
comp=N,3385µm,0.5s
TB02 Pietralunga 0.77 318 P **Pg** 17 59 27.5 -0.9
ATVA AVT- Monte Val 0.78 309 P **Pg** 17 59 27.7 -0.8
FRON Frontone 0.78 339 P **Pg** 17 59 27.4 -1.1
ATVO AVT- Monte Val 0.78 319 P **Pg** 17 59 27.8 -0.8
TB03 Pietralunga 0.79 320 P **Pg** 17 59 28.1 -0.8
ATBU Serra di Buran 0.80 329 P **Pg** 17 59 28.4 -0.5
PTQR Pietraquaria 0.80 164 P **Pg** 17 59 28.1 -0.9
PTQR AML AML
comp=E,1006µm,0.9s
PTQR AML AML
comp=N,1080µm,0.6s
MTCE Montecelio 0.82 200 P **Pg** 17 59 28.3 -1.1
MTCE AML AML
comp=E,1605µm,0.6s
MTCE AML AML
comp=N,1360µm,0.7s
AOI Ancona 0.83 25 P **Pg** 17 59 28.0 -1.6
ATPC Poggio Castell 0.84 325 P **Pg** 17 59 28.9 -0.8
ATPI Pietralunga - 0.84 322 P **Pg** 17 59 28.6 -1.1
CERT Cerreto 0.85 187 P **Pg** 17 59 28.5 -1.4
CERT AML AML
comp=E,2500µm,0.5s
CERT AML AML
comp=N,1620µm,1.3s
MPAG Monte Paganucc 0.87 343 P **Pg** 17 59 29.3 -1.1
SACS San Casciano d 0.89 274 P **Pb** 17 59 30.9 +0.3
SENI Senigallia 0.91 6 P **Pg** 17 59 29.9 -1.3
FSSB Fossombrone 0.93 345 P **Pg** 17 59 30.5 -0.9
RCAV Rocca di Cave 0.95 187 P **Pg** 17 59 31.6 -0.4
RCAV AML AML
comp=N,2195µm,0.7s
RCAV AML AML
comp=E,2660µm,1.6s
INTR Introdacqua 0.98 143 AML AML
comp=E,2µm,0.6s
INTR AML AML
comp=N,2µm,0.6s
INTR AML AML
comp=N,2975µm,0.6s
INTR AML AML
comp=E,2150µm,0.6s
CAFI Castiglion Fio 0.99 303 P **Pg** 17 59 32.2 -0.4
VVLD Villa Vallelon 1.00 158 P **Pg** 17 59 31.5 -1.2
VVLD AML AML
comp=E,1118µm,0.9s
VVLD AML AML
comp=N,1350µm,0.6s
RMP Rome, Mte Porz 1.03 197 P **Pg** 17 59 32.9 -0.4
RMP AML AML
comp=E,2520µm,0.8s
RMP AML AML
comp=N,3170µm,0.4s
CAFR Castel Frentan 1.07 121 P **Pg** 17 59 33.4 -0.8
CAFR AML AML
comp=N,1285µm,0.7s
CAFR AML AML
comp=E,1090µm,0.6s
RDP Rocca di Papa 1.08 196 P **Pg** 17 59 33.7 -0.5
RDP AML AML
comp=N,4360µm,0.6s
RDP AML AML
comp=E,4695µm,0.5s
SAMA S.Maria delle 1.08 201 P **Pb** 17 59 33.0 -1.0
LPEL Lama dei Pelig 1.09 133 P **Pg** 17 59 32.5 -2.0
LPEL AML AML
comp=N,1520µm,0.6s
LPEL AML AML
comp=E,1375µm,0.9s
SF13 Bagnolo 1.10 272 P **Pb** 17 59 34.2 -0.1
TOLF Tolfa 1.10 229 P **Pb** 17 59 33.5 -0.7
TOLF AML AML
comp=N,1865µm,1.6s
TOLF AML AML
comp=E,1290µm,0.8s
POFI Posta Fibreno 1.17 157 P **Pb** 17 59 34.8 -0.6
POFI AML AML
comp=N,548µm,0.6s
POFI AML AML
comp=E,896µm,1.0s
LRP Arpino 1.20 163 P **Pb** 17 59 36.0 +0.1
LRP AML AML
comp=N,610µm,0.9s
LRP AML AML
comp=E,677µm,0.7s
ARCI Arcidosso 1.21 273 P **Pn** 17 59 36.0 0.0
GIUL Giuliano Di Ro 1.24 175 P **Pn** 17 59 35.3 -1.1
GIUL AML AML
comp=E,1175µm,0.8s
GIUL AML AML
comp=N,992µm,0.8s
LATB Latina 1.30 185 P **Pn** 17 59 36.5 -0.7
RNI2 Rionero Sannit 1.34 144 P **Pn** 17 59 38.4 +0.6
CERA Filignano 1.37 150 P **Pn** 17 59 38.9 +0.7
CERA AML AML
comp=N,907µm,0.6s
CERA AML AML
comp=E,927µm,0.7s
ASQU Asqua 1.39 316 P **Pb** 17 59 39.3 0.0
FRES Fresagrandinar 1.42 125 P **Pg** 17 59 40.5 -0.2
FRES AML AML
comp=N,334µm,1.0s
FRES AML AML
comp=E,582µm,0.6s
MIDA Miranda 1.43 143 P **Pn** 17 59 38.5 -0.6
SFI Santa Sofia 1.44 321 P **Pn** 17 59 39.5 +0.3
TRIV Trivento 1.48 133 P **Pg** 17 59 42.0 +0.1
TRIV AML AML
comp=N,788µm,0.6s
TRIV AML AML
comp=E,698µm,0.9s
FROS Frosini 1.49 287 P **Pn** 17 59 40.5 +0.7
CSNT Castellina Chi 1.50 298 P **Pn** 17 59 40.8 +0.9
OSSC Osservatorio P 1.55 299 P **Pn** 17 59 40.1 -0.5
RUFI Rufina 1.57 312 P **Pn** 17 59 41.6 +0.7
VAGA Valle Agricola 1.61 148 P **Pb** 17 59 43.5 +0.5
VAGA AML AML
comp=E,330µm,0.9s
VAGA AML AML
comp=N,379µm,0.6s
TRIF Trifonti 1.65 282 P **Pn** 17 59 42.7 +0.7
BSSO Busso 1.67 138 P **Pg** 17 59 44.9 -0.5
BSSO AML AML
comp=E,154µm,1.1s
BSSO AML AML
comp=N,194µm,1.6s
BRIS BRISIGHELLA 1.79 320 P **Pb** 17 59 46.8 +0.8
SACR S. Croce Del S 1.83 139 P **Pg** 17 59 47.9 -0.7
MELA Melanico ??? S 1.85 125 P **Pb** 17 59 46.4 -0.6
MELA AML AML
comp=E,914µm,0.5s
MELA AML AML
comp=E,743µm,0.5s
MELA AML AML
comp=N,1096µm,0.5s
MELA AML AML
comp=N,1180µm,0.5s
MPPT Montemurlo 1.88 309 P **Pn** 17 59 46.6 +1.4
TREM Isole Tremiti 1.90 110 P **Pn** 17 59 46.2 +0.9
TREM AML AML
comp=N,826µm,0.8s
TREM AML AML
comp=E,964µm,1.5s
APRC Apricena 2.08 119 P **Pn** 17 59 49.3 +1.4
APRC AML AML
comp=N,551µm,0.7s
APRC AML AML
comp=E,424µm,0.5s
SGRT San Giovanni R 2.21 117 P **Pn** 17 59 51.2 +1.4
SGRT AML AML
comp=E,426µm,0.9s
SGRT AML AML
comp=N,288µm,0.6s
SNAL S. Angelo Dei 2.44 139 P **Pb** 17 59 55.5 -1.6
SNAL AML AML
comp=N,267µm,0.9s
SNAL AML AML
comp=E,241µm,0.9s
MORSI Morsiglia 2.76 275 P **Pn** 17 59 58.3 +1.1
MORSI S **Sn** 18 00 31.9 +1.5
SKDS Skadanscina 2.83 13 *i* Pn **Pn** 17 59 58.2 0.0
SKDS *e*Sn **Sn** 18 00 33.1 +1.1
SKDS IAML 18 00 37.0
comp=Z,103nm,0.7s
SMPL Sampolo 2.92 257 P **Pn** 18 00 01.4 +2.0
PZUN Potenza 2.95 136 AML AML
comp=N,244µm,0.1s
PZUN AML AML
comp=E,113µm,1.0s
PGF Pioggiola 3.04 267 *e*P **Pn** 18 00 02.8 +1.6
PGF *e*Sn **Sn** 18 00 34.1 -3.4
comp=E,15nm,0.6s
PGF Pioggiola 3.04 267 P **Pn** 18 00 02.4 +1.2
SABO M.te Sabotino 3.20 6 P **Pn** 18 00 03.5 +0.2
AMUR Altamura 3.22 125 ⇓P **Pn** 18 00 05.3 +1.7
AMUR AML AML
comp=E,101µm,0.6s
AMUR AML AML
comp=N,96µm,0.6s
SALO Salr 3.38 327 P **Pn** 18 00 06.3 +0.5
MPRI Monte Prat 3.45 359 P **Pn** 18 00 07.8 +1.0
STAL STALIGIAL 3.48 355 P **Pn** 18 00 07.9 +0.8
LUSI Trento, Gardas 3.52 335 P **Pn** 18 00 08.4 +0.6
CIMO Cimolais 3.55 352 P **Pn** 18 00 08.8 +0.7
NOCI Noci 3.57 123 P **Pn** 18 00 09.9 +1.5
NOCI AML AML
comp=E,93µm,1.1s
NOCI AML AML
comp=N,107µm,1.2s
PTCC Patocco-Chiusa 3.61 3 P **Pn** 18 00 09.1 +0.1
GAGG Gaggia 3.63 336 P **Pn** 18 00 11.5 +2.1
CLUD Cludinico 3.67 358 P **Pn** 18 00 10.6 +0.9
ZOU Zoufplan 3.76 359 P **Pn** 18 00 12.0 +0.8
ACOM Acomizza, Ital 3.76 4 P **Pn** 18 00 12.3 +1.1
OBKA Obir 3.85 15 *e*Pn **Pn** 18 00 13.1 +0.7
comp=N,3.8nm,0.3s
MYKA Terra Mystica 3.85 5 *e*Pn **Pn** 18 00 13.5 +1.1
comp=N,2.2nm,0.2s
KOSI Kohlern 3.87 342 P **Pn** 18 00 14.8 +2.1
APPI Appiano 3.92 341 P **Pn** 18 00 15.2 +1.9
ABTA Abfaltersbach 3.98 354 *i* Pn **Pn** 18 00 15.9 +1.9
comp=N,26nm,0.4s,SNR=35
SOKA Soboth 4.12 19 *e*Pn **Pn** 18 00 16.9 +1.0
comp=N,1.2nm,0.2s
RISI Rein 4.22 350 P **Pn** 18 00 19.6 +2.1
SAOF Saorge 4.22 288 P **Pn** 18 00 20.7 +3.4
MUGIO Muggio 4.28 318 P **Pn** 18 00 19.7 +1.6
SBF Sospel 4.28 286 *e*P **Pn** 18 00 20.1 +2.0
SBF *e*Sn **Sn** 18 01 03.6 -4.3
comp=N,19nm,0.5s
KBA Koelnbreinsper 4.29 2 *e*Pn **Pn** 18 00 19.8 +1.4
comp=N,5.5nm,0.4s,SNR=11
VSL Villasalto 4.34 222 P **Pn** 18 00 20.2 +1.3
SPIF crte de Spivo 4.46 288 P Pn 18 00 25.9 +5.1
FETA Feichten 4.55 339 *e*Pn **Pn** 18 00 24.8 +2.8
comp=N,1.0nm,0.2s
WTTA Wattenberg 4.59 347 *i* Pn **Pn** 18 00 25.6 +3.1
comp=N,2.3nm,0.3s
DAVOX Davos/Dischmat 4.60 331 Pn **Pn** 18 00 26.0 +3.3
comp=N,11nm,0.4s,baz=147,slow=17
DAVOX Sn **Sn** 18 01 18.4 +2.4
comp=N,2.9nm,0.3s,baz=307,slow=19,SNR=4.4
CALF Calern 4.62 284 P **Pn** 18 00 24.9 +1.9
ISO Isola 4.62 290 P Pn 18 00 27.9 +4.9
SQTA Sankt Quirin 4.63 344 *i* Pn **Pn** 18 00 25.9 +2.9
comp=N,4.3nm,0.3s,SNR=6.3
WATA Walderalm 4.67 347 *i* Pn **Pn** 18 00 26.7 +3.1
comp=N,9.4nm,0.5s,SNR=6.8
MOTA Moosalm 4.77 343 *e*Pn **Pn** 18 00 28.3 +3.3
comp=N,3.3nm,0.5s
ARSA Arzberg 4.77 20 *i* Pn **Pn** 18 00 25.3 +0.4
comp=N,2.3nm,0.3s
LMR La Mourre 4.87 279 *e*P **Pn** 18 00 26.9 +0.7
LMR *e*Sn **Sn** 18 01 17.5 -4.8
comp=N,4.0nm,0.6s
SURF Saint Ours 4.87 292 P **Pn** 18 00 29.5 +3.1
JAUF Jausiers 4.90 292 P **Pn** 18 00 30.1 +3.3
BIOA Bad Ischl, Aus 4.91 4 *e*Pn **Pn** 18 00 28.6 +1.8
comp=N,15nm,0.4s,SNR=16
RETA Reutte 4.98 341 *i* Pn **Pn** 18 00 30.9 +3.1
comp=N,3.2nm,0.4s
MBDF Montbardon 4.98 295 *e*P **Pn** 18 00 30.1 +2.2
MBDF *e*Sn **Sn** 18 01 20.5 -4.9
comp=N,14nm,0.8s
TRIGF Trigance 4.99 283 P **Pn** 18 00 30.2 +2.3
CREF Crivoux 5.02 293 P Pn 18 00 34.3 +5.8
DAVA Damuels 5.04 334 *i* Pn **Pn** 18 00 32.3 +3.5
comp=N,1.5nm,0.2s
OGAG Argentiere 5.05 291 P Pn 18 00 35.5 +6.7
EMBD Embd, Matterta 5.09 314 P **Pb** 18 00 40.8 -1.6
MOA Molln 5.12 9 *e*Pn **Pn** 18 00 30.9 +1.2
comp=N,2.9nm,0.3s
DIX Grande Dixence 5.24 311 P **Pn** 18 00 35.4 +3.8
LPG La Plagne 5.31 303 *e*P **Pn** 18 00 35.1 +2.5
LPG *e*Sn **Sn** 18 01 28.4 -5.3
comp=N,7.8nm,0.6s
LPL La Plagne 5.33 303 *e*P **Pn** 18 00 35.3 +2.5
LPL *e*Sn **Sn** 18 01 28.9 -5.3
comp=N,5.2nm,0.5s
RONA Rosalia, Austr 5.39 24 *i* Pn **Pn** 18 00 32.7 -0.8
comp=N,1.1nm,0.2s
RSL Roselend 5.48 304 P **Pn** 18 00 38.3 +3.5
RSL S **Sn** 18 01 41.8 +4.1
CONA Conrad Observa 5.49 20 *i* Pn **Pn** 18 00 35.5 +0.7
comp=N,2.3nm,0.3s
SMRF Simiane la Rot 5.62 285 *e*P **Pn** 18 00 39.2 +2.7
SMRF *e*Sn **Sn** 18 01 35.6 -5.3
comp=N,2.1nm,0.6s
ORIF Oris-en-Rattie 5.64 295 *e*P **Pn** 18 00 39.5 +2.6
ORIF *e*Sn **Sn** 18 01 36.7 -4.9
comp=N,11nm,0.9s
ORIF Oris-en-Rattie 5.64 295 P **Pn** 18 00 40.5 +3.6
BALST Balsthal 5.94 322 P **Pn** 18 00 42.1 +1.1
BALST Balsthal 5.94 322 S **Sn** 18 01 50.4 +1.5
GERES GERESS Array B 6.07 4 Pn **Pn** 18 00 43.1 +0.4
comp=N,0.6nm,0.3s,baz=172,slow=13,SNR=15
GERES Sn **Sn** 18 01 52.9 +0.9
comp=N,1.9nm,0.3s,baz=184,slow=24,SNR=8.8
comp=N,0.7nm,0.3s
CKRC Cesky Krumlov 6.08 7 *e*PN **Pn** 18 00 42.5 -0.4
CKRC *e*SN **Sn** 18 01 51.1 -1.2
BOURR Bourrignon 6.20 320 P **Pn** 18 00 47.0 +2.4
BOURR Bourrignon 6.20 320 S **Sn** 18 01 56.8 +1.6
BRANT Les Verrieres 6.28 314 P **Pn** 18 00 48.3 +2.7
BRANT Les Verrieres 6.28 314 S **Sn** 18 01 57.6 +0.4
CABF La Chapelle 6.29 310 *e*P **Pn** 18 00 48.3 +2.4
CABF *e*Sn **Sn** 18 01 51.6 -6.0
comp=N,5.2nm,0.5s
KIZ Kirchzarten 6.32 326 P **Pn** 18 00 47.7 +1.4
KIZ Kirchzarten 6.32 326 S **Sn** 18 01 57.8 -0.4
KHC Kasperske Hory 6.34 3 *e*PN **Pn** 18 00 46.7 +0.2
KHC *e*SN **Sn** 18 01 57.4 -1.4
CHMF Charmoille 6.38 316 P **Pn** 18 00 49.2 +2.1
CHMF S **Sn** 18 02 01.3 +1.5
VIVF Saint-Julien-l 6.44 292 *e*P **Pn** 18 00 50.8 +2.9
VIVF *e*Sn **Sn** 18 01 55.1 -6.1
comp=N,0.5nm,0.3s
VOGT Vogtsburg - To 6.53 326 P **Pn** 18 00 50.4 +1.4
VOGT Vogtsburg - To 6.53 326 S **Sn** 18 02 02.8 -0.3
BOUC Bouclans 6.59 315 P **Pn** 18 00 51.9 +2.1

HINF	**Hinteralfeld**	**6.68**	**321**	*e*P		**Pn**		**18 00 52.3**	**+1.1**
HINF				*e*Sn		**Sn**		**18 02 00.7**	**-6.4**
	comp=N,12nm,0.4s								
RONF	**Ronchamp**	**6.71**	**319**	P		**Pn**		**18 00 52.5**	**+1.1**
ECH	**Echery**	**6.84**	**324**	P		**Pn**		**18 00 54.9**	**+1.5**
LASF	**Ste Croix**	**6.86**	**284**	*e*P		**Pn**		**18 00 56.3**	**+2.7**
LASF				*e*Sn		**Sn**		**18 02 05.4**	**-6.0**
	comp=N,1.8nm,0.5s								
WLS	**Welschbruch**	**6.92**	**326**	P		**Pn**		**18 00 55.6**	**+1.2**
WLS				S		**Sn**		**18 02 12.8**	**0.0**
CDF	**Champ du Feu**	**6.95**	**326**	*e*P		**Pn**		**18 00 56.0**	**+1.2**
CDF				*e*Sn		**Sn**		**18 02 07.3**	**-6.4**
	comp=N,11nm,0.6s								
VYHS	**Vyhne**	**6.97**	**33**	*e*PN		Pn		18 01 01.9	+6.9
HAU	**Haudompre**	**7.06**	**320**	*e*P		**Pn**		**18 00 58.0**	**+1.7**
HAU				*e*Sn		**Sn**		**18 02 09.7**	**-6.5**
	comp=N,20nm,0.5s								
CIEL	**Dossenheim-sur**	**7.25**	**328**	P		**Pn**		**18 01 01.3**	**+2.4**
CIEL				S		**Sn**		**18 02 21.5**	**+0.6**
PRU	**Pruhonice**	**7.26**	**7**	*e*SN		**Sn**		**18 02 18.1**	**-3.2**
NKC	**Novy Kostel**	**7.45**	**357**	*e*SN		**Sn**		**18 02 24.2**	**-1.8**
KEST	**Kesra**	**7.63**	**204**	Pn		Pn		18 01 09.2	+4.9
	comp=N,0.4nm,0.3s,baz=277,slow=4.3,SNR=5.1								
	comp=N,1.5nm,0.5s								
SMF	**Signal de Mont**	**7.64**	**303**	*e*P		**Pn**		**18 01 06.9**	**+2.6**
SMF				*e*Sn		**Sn**		**18 02 23.8**	**-6.8**
	comp=N,3.7nm,0.5s								
PAGF	**Fort de Pagny**	**7.74**	**321**	*e*P		**Pn**		**18 01 08.6**	**+3.0**
PAGF				*e*Sn		**Sn**		**18 02 26.2**	**-6.8**
	comp=N,18nm,0.9s								
SFTF	**Sexfontaines**	**7.83**	**316**	*e*P		**Pn**		**18 01 10.1**	**+3.2**
SFTF				*e*Sn		**Sn**		**18 02 28.2**	**-7.2**
	comp=N,7.1nm,0.6s								
LOR	**Lormes**	**7.93**	**307**	*e*P		**Pn**		**18 01 11.3**	**+3.0**
	baz=122								
LOR				*e*Sn		**Sn**		**18 02 30.8**	**-7.0**
	comp=N,19nm,1.2s								
MTLF	**Montolieu**	**8.00**	**278**	*e*P		**Pn**		**18 01 12.6**	**+3.4**
MTLF				*e*Sn		**Sn**		**18 02 32.4**	**-7.0**
	comp=N,2.2nm,0.6s								
AVF	**Avril sur Loir**	**8.01**	**303**	*e*P		**Pn**		**18 01 12.5**	**+3.2**
AVF				*e*Sn		**Sn**		**18 02 32.5**	**-7.1**
	comp=N,2.3nm,0.7s								
MEZF	**Maizieres J'vi**	**8.03**	**318**	*e*P		**Pn**		**18 01 12.4**	**+2.9**
MEZF				*e*Sn		**Sn**		**18 02 32.7**	**-7.3**
	comp=N,4.2nm,0.5s								
SSF	**Saint Saulge**	**8.04**	**305**	*e*P		**Pn**		**18 01 12.1**	**+2.4**
SSF				*e*Sn		**Sn**		**18 02 33.2**	**-7.2**
	comp=N,4.7nm,0.6s								
SAVF	**Savonnieres en**	**8.07**	**319**	*e*P		**Pn**		**18 01 13.2**	**+3.1**
BRG	**Berggiesshubel**	**8.10**	**4**	*e*(P)		Pb		18 01 26.0	-7.5
BRG				Amp				18 01 27.0	
	comp=Z,2.3nm,0.6s								
BRG				*ex*		x		18 02 37.9	
BRG				*ex*		x		18 03 45.7	
BRG				Amp				18 04 08.9	
	comp=Z,5.8nm,1.2s								
BGF	**Bois d'Agland**	**8.22**	**301**	*e*P		**Pn**		**18 01 15.6**	**+3.3**
CAF	**Calviac**	**8.26**	**289**	*e*P		**Pn**		**18 01 16.1**	**+3.3**
CAF				*e*Sn		**Sn**		**18 02 38.8**	**-7.1**
	comp=Z,0.5nm,0.3s								
CLL	**Collm**	**8.52**	**360**	*ex*		x		18 03 06.0	
CLL				*e*Sg		**Sg**		**18 03 47.0**	**+0.5**
	comp=Z,9.0nm,0.9s								
TCF	**Toulx Ste Croi**	**8.53**	**298**	*e*P		**Pn**		**18 01 19.8**	**+3.3**
TCF				*e*Sn		**Sn**		**18 02 45.3**	**-7.3**
	comp=Z,0.8nm,0.2s								
FINES	**FINESS Array B**	**20.23**	**18**	P		Pn		18 03 49.1	-0.6
	comp=Z,2.1nm,0.9s,baz=211,slow=7.9,SNR=1.1								
	comp=Z,2.1nm,0.9s								
TORD	**Torodi Ar. Bea**	**31.15**	**202**	P		**P**		**18 05 33.3**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=13,slow=9.6,SNR=3.4								
	comp=Z,0.5nm,0.8s								
MKAR	**Makanchi Array**	**47.81**	**60**	P		**P**		**18 07 51.7**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=280,slow=8.8,SNR=1.5								
	comp=Z,0.5nm,0.7s								
SONM	**Songino Array**	**61.85**	**50**	P		**P**		**18 09 34.4**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=286,slow=5.2,SNR=3.0								
	comp=Z,0.5nm,0.7s								

PRU ***01*** *18:02:38.2±0.0,41.°52N×13.°01E,h10km*
IDC ***01*** *18:02:53.7±1.3,42.°92N×12.°99E,h0km,mb3.7/5, mbtmp3.6/8,ML3.3/3,Error ellipse: s-maj=30.2km s-min=13.9km az=101.0*
LDG ***01*** *18:02:53.9±0.1,42.°79N×13.°16E,h11km,Ml3.4/29,Error ellipse: s-maj=2.5km s-min=1.6km az=43.0*
ROM ***01*** *18:02:54.0±0.0,42.°804N±0.°002×13.°128E±0.°003, h11km,ML3.8/115,Error ellipse: s-maj=0.2km s-min=0.1km az=65.0*

ISC 01 18:02:54.4±0.7,42.°81N±0.°01×13.°11E±0.°02,h15km±4km, n256,σ252/297,mb3.7/4,29C-8D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.03**	**5**	⇑P	**Pg**	**18 02 56.3**	**-0.9**
NRCA				S	**Sg**	**18 02 57.6**	**-1.5**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	**Castelsantange**	**0.07**	**49**	⇑P	**Pg**	**18 02 56.8**	**-0.9**
T1245				S	**Sg**	**18 02 58.5**	**-1.2**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1216	**Preci, Frazion**	**0.11**	**320**	⇑P	**Pg**	**18 02 57.5**	**-0.3**
T1216				S	**Sg**	**18 02 59.8**	**-0.2**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1244	**Arquata del Tr**	**0.15**	**110**	P	**Pg**	**18 02 57.9**	**-0.5**
T1244				S	**Sg**	**18 03 00.6**	**-0.3**
FEMA	**Monte Fema**	**0.16**	**344**	⇑P	**Pg**	**18 02 58.3**	**-0.3**
FEMA				S	**Sg**	**18 03 01.3**	**-0.1**
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,71050μm,0.6s						
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,71100μm,0.6s						
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,71050μm,0.6s						
FEMA				AML	AML		
	comp=E,76789μm,0.4s						
T1217	**Poggiodomo (PG**	**0.16**	**234**	⇓P	**Pg**	**18 02 58.6**	**0.0**
T1217				S	**Sg**	**18 03 01.8**	**+0.4**
T1217				AML	AML		
	comp=N,76100μm,0.6s						
T1217				AML	AML		
	comp=E,72950μm,0.6s						
T1217				AML	AML		
	comp=N,77850μm,0.2s						
T1217				AML	AML		
	comp=E,69950μm,0.6s						
T1217				AML	AML		
	comp=E,69950μm,0.5s						
T1217				AML	AML		
	comp=N,76050μm,0.6s						
T1217				AML	AML		
	comp=E,73000μm,0.5s						
T1215	**Vallo di Nera,**	**0.18**	**268**	⇓P	**Pg**	**18 02 58.8**	**+0.1**
T1215				S	**Sg**	**18 03 02.1**	**+0.4**
T1215				AML	AML		
	comp=E,40300μm,0.5s						
T1215				AML	AML		
	comp=N,42850μm,0.4s						
T1215				AML	AML		
	comp=N,42150μm,0.4s						
T1215				AML	AML		
	comp=N,42150μm,0.4s						
T1215				AML	AML		
	comp=E,40250μm,0.5s						
T1215				AML	AML		
	comp=E,41100μm,0.5s						
T1215				AML	AML		
	comp=N,42850μm,0.4s						
T1201	**Domo (RI)**	**0.18**	**146**	⇑P	**Pb**	**18 02 58.7**	**-0.8**
T1201				S	**Sg**	**18 03 02.1**	**+0.3**
T1204	**Amatrice, Fraz**	**0.20**	**131**	P	**Pg**	**18 02 58.7**	**-0.4**
T1204				S	**Sg**	**18 03 02.1**	**-0.3**
T1204				AML	AML		
	comp=N,72100μm,1.1s						
T1204				AML	AML		
	comp=E,78550μm,0.8s						
T1204				AML	AML		
	comp=N,72050μm,1.1s						
LNSS	**Leonessa**	**0.21**	**194**	P	**Pg**	**18 02 59.2**	**-0.1**
LNSS				S	**Sg**	**18 03 03.3**	**+0.7**
T1256	**Bolognola (MC)**	**0.21**	**23**	⇑P	**Pg**	**18 02 59.0**	**-0.5**
T1256				S	**Sg**	**18 03 02.6**	**-0.2**
T1256				AML	AML		
	comp=E,80300μm,1.1s						
T1256				AML	AML		
	comp=N,74250μm,0.4s						
T1256				AML	AML		
	comp=N,72650μm,0.4s						
T1256				AML	AML		
	comp=E,80200μm,1.1s						
T1256				AML	AML		
	comp=E,81050μm,1.1s						
T1256				AML	AML		
	comp=N,74300μm,0.4s						
FDMO	**Fiordimonte**	**0.23**	**356**	⇑P	**Pg**	**18 02 59.4**	**-0.2**
FDMO				S	**Sg**	**18 03 03.1**	**+0.1**
FDMO				AML	AML		
	comp=E,41100μm,0.3s						
FDMO				AML	AML		
	comp=N,33950μm,0.9s						
FDMO				AML	AML		
	comp=N,27215μm,0.3s						
T1241	**Roccafluvione,**	**0.24**	**78**	P	**Pg**	**18 02 59.2**	**-0.5**
T1241				S	**Sg**	**18 03 03.0**	**-0.3**
T1241				AML	AML		
T1241				AML	AML		
SMA1	**SAN MARTINO**	**0.24**	**137**	P	**Pg**	**18 02 59.4**	**-0.4**
SMA1				S	**Sg**	**18 03 03.4**	**0.0**
SMA1				AML	AML		
	comp=N,67700μm,0.8s						
SMA1				AML	AML		
AM05	**Amandola Campo**	**0.24**	**46**	⇑P	**Pg**	**18 02 59.5**	**-0.3**
AM05				S	**Sg**	**18 03 03.3**	**-0.1**
AM05				AML	AML		
	comp=E,78250μm,0.4s						
AM05				AML	AML		
	comp=E,78200μm,0.4s						
AM05				AML	AML		
	comp=N,7070μm,0.4s						
AM05				AML	AML		
	comp=E,23550μm,0.7s						
AM05				AML	AML		
	comp=N,23200μm,0.4s						
AM05				AML	AML		
	comp=N,3058μm,0.1s						
AM05				AML	AML		
	comp=E,30423μm,0.1s						
CESI	**CESI - Serrava**	**0.25**	**322**	⇑P	**Pg**	**18 02 60.0**	**+0.1**
CESI				S	**Sg**	**18 03 04.0**	**+0.4**
CESI				AML	AML		
	comp=E,46050μm,0.5s						
CESI				AML	AML		
	comp=N,95750μm,1.3s						
CESI				AML	AML		
	comp=N,68126μm,0.4s						
T1243	**Rocca Santa Ma**	**0.27**	**114**	P	**Pg**	**18 02 59.7**	**-0.6**
T1243				S	**Sg**	**18 03 04.0**	**-0.3**
CSP1	**Cessapalombo**	**0.29**	**14**	P	**Pg**	**18 03 00.3**	**-0.3**
CSP1				S	**Sg**	**18 03 05.1**	**+0.2**
GUMA	**Gualdo di Mace**	**0.30**	**33**	⇑P	**Pg**	**18 03 00.8**	**0.0**
GUMA				S	**Sb**	**18 03 05.9**	**-0.5**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
	comp=N,65850μm,0.6s						
RM33	**Pellescritta (**	**0.31**	**166**	P	**Pg**	**18 03 00.5**	**-0.4**
RM33				AML	AML		
	comp=E,34800μm,0.8s						
RM33				AML	AML		
	comp=N,30250μm,0.4s						
RM33				AML	AML		
	comp=E,34800μm,0.8s						
RM33				AML	AML		
	comp=N,30300μm,0.4s						
RM33				AML	AML		
	comp=N,30550μm,0.4s						
RM33				AML	AML		
	comp=E,34300μm,0.8s						
RM33				AML	AML		
	comp=N,16781μm,0.2s						
T1211	**Morro Reatino**	**0.33**	**215**	P	**Pg**	**18 03 01.3**	**0.0**
T1211				AML	AML		
	comp=E,34300μm,0.6s						
T1211				AML	AML		
	comp=N,59200μm,0.2s						
T1211				AML	AML		
	comp=N,58900μm,0.2s						
T1211				AML	AML		
	comp=E,35250μm,0.6s						
ARRO	**Arrone**	**0.34**	**228**	P	**Pg**	**18 03 01.5**	**+0.1**
ARRO				AML	AML		
	comp=N,22450μm,1.4s						
ARRO				AML	AML		
	comp=E,20900μm,1.1s						
CAMP	**Campotosto**	**0.35**	**141**	⇑P	**Pg**	**18 03 01.1**	**-0.5**
CAMP				S	**Sg**	**18 03 06.3**	**-0.2**
CAMP				AML	AML		
	comp=E,15950μm,0.3s						
CAMP				AML	AML		
	comp=N,16400μm,0.9s						
CAMP				AML	AML		
	comp=E,8011μm,0.2s						
SEF1	**Sefro**	**0.36**	**340**	P	**Pg**	**18 03 01.7**	**-0.1**
SEF1				AML	AML		
	comp=E,39550μm,0.2s						
SEF1				AML	AML		
	comp=E,39550μm,0.2s						
SEF1				AML	AML		
	comp=N,43950μm,0.2s						
T1246	**Crognaleto (TE**	**0.36**	**129**	P	**Pg**	**18 03 01.2**	**-0.6**
T1246				S	**Sg**	**18 03 06.6**	**-0.3**
PIO1	**Pioraco**	**0.38**	**346**	P	**Pg**	**18 03 01.9**	**-0.3**
PIO1				AML	AML		
	comp=N,26700μm,0.5s						
PIO1				AML	AML		
	comp=N,26650μm,0.5s						
PIO1				AML	AML		
	comp=E,15450μm,0.4s						
MDAR	**Monte D'Aria**	**0.39**	**3**	P	**Pg**	**18 03 01.9**	**-0.3**
MDAR				AML	AML		
	comp=E,34750μm,1.6s						
MDAR				AML	AML		
	comp=E,34700μm,1.6s						
MDAR				AML	AML		
	comp=N,39000μm,0.5s						
MDAR				AML	AML		
	comp=E,11461μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.39**	**159**	⇑P	**Pg**	**18 03 01.9**	**-0.4**
T1247				AML	AML		
	comp=E,34650μm,0.6s						
T1247				AML	AML		
	comp=N,29650μm,1.0s						
FIU1	**Fiuminata**	**0.40**	**341**	P	**Pg**	**18 03 02.3**	**-0.2**
FIU1				AML	AML		
	comp=N,15700μm,0.2s						
FIU1				AML	AML		
	comp=E,15250μm,0.3s						
FIU1				AML	AML		
	comp=N,8838μm,0.5s						
ASSB	**Assisi San Ben**	**0.41**	**305**	P	**Pg**	**18 03 02.7**	**0.0**
TERO	**Teramo**	**0.41**	**117**	P	**Pg**	**18 03 01.8**	**-0.9**
TERO				AML	AML		
	comp=E,23900μm,0.3s						
TERO				AML	AML		
	comp=N,26650μm,0.4s						
TERO				AML	AML		
	comp=E,27000μm,0.3s						
TERO				AML	AML		
	comp=N,24300μm,0.5s						
MNTP	**Montappone**	**0.42**	**38**	P	**Pb**	**18 03 03.1**	**-0.5**
SSM1	**San Severino M**	**0.42**	**6**	P	**Pg**	**18 03 02.6**	**-0.3**
GAG1	**Gagliole**	**0.43**	**356**	P	**Pg**	**18 03 03.0**	**-0.1**
GAG1				AML	AML		
	comp=E,61400μm,0.5s						
GAG1				AML	AML		
	comp=N,58500μm,0.5s						
GAG1				AML	AML		
	comp=N,58450μm,0.5s						
GAG1				AML	AML		
	comp=E,61400μm,0.5s						
GAG1				AML	AML		
	comp=N,24145μm,0.6s						
CESX	**Cesi**	**0.44**	**243**	P	**Pg**	**18 03 03.3**	**+0.1**
CESX				AML	AML		
	comp=E,21150μm,1.3s						
CESX				AML	AML		
	comp=N,14050μm,0.5s						
OFFI	**Offida**	**0.44**	**73**	P	**Pb**	**18 03 03.6**	**-0.3**
OFFI				AML	AML		
	comp=E,57100μm,0.5s						
OFFI				AML	AML		
	comp=N,59150μm,0.4s						
SNTG	**Esanatoglia**	**0.46**	**344**	⇑P	**Pg**	**18 03 03.4**	**-0.3**
SNTG				S	**Sb**	**18 03 10.9**	**-0.2**
SNTG				AML	AML		
	comp=E,8525μm,0.1s						
SNTG				AML	AML		
	comp=N,11750μm,0.6s						
SNTG				AML	AML		
	comp=N,11550μm,0.6s						
SNTG				AML	AML		
	comp=E,8825μm,0.2s						
GIGS	**Gran Sasso**	**0.49**	**137**	⇑P	**Pg**	**18 03 03.2**	**-1.0**
GIGS				S	**Sg**	**18 03 10.4**	**-0.4**
GIGS				AML	AML		
	comp=E,1657μm,0.4s						
AQU	**L'Aquila**	**0.50**	**155**	P	**Pg**	**18 03 03.8**	**-0.6**
AQU				AML	AML		
	comp=E,13050μm,1.1s						
AQU				AML	AML		
	comp=N,11850μm,0.6s						
AQU				AML	AML		
	comp=E,12450μm,0.9s						
AQU				AML	AML		
	comp=N,12500μm,1.2s						
ATCC	**AVT- Casa Cast**	**0.51**	**318**	P	**Pg**	**18 03 04.5**	**0.0**
ATCC				AML	AML		
	comp=E,12890μm,1.0s						
ATCC				AML	AML		
	comp=N,13150μm,0.9s						
ATCC				AML	AML		
	comp=E,12920μm,1.0s						
ATCC				AML	AML		
	comp=N,13200μm,0.9s						
ATCC				AML	AML		
	comp=E,12885μm,1.0s						
ATCC				AML	AML		
	comp=N,11785μm,0.6s						
EL6	**Elcito**	**0.52**	**359**	P	**Pg**	**18 03 04.4**	**-0.3**
EL6				AML	AML		
	comp=N,28850μm,0.5s						
EL6				AML	AML		
	comp=E,24000μm,0.2s						
EL6				AML	AML		
	comp=N,14747μm,0.2s						
TRE1	**Treia**	**0.52**	**16**	P	**Pb**	**18 03 05.0**	**-0.4**
TRE1				AML	AML		
	comp=N,36750μm,0.5s						
TRE1				AML	AML		
	comp=E,34550μm,0.5s						
FIAM	**Fiamignano**	**0.54**	**180**	⇑P	**Pg**	**18 03 04.5**	**-0.6**
FIAM				S	**Sb**	**18 03 12.8**	**-0.5**
FIAM				AML	AML		
	comp=N,13950μm,0.8s						
FIAM				AML	AML		
	comp=E,15650μm,0.8s						
FIAM				AML	AML		
	comp=N,9395μm,0.8s						
FOSV	**Fossato di Vic**	**0.55**	**332**	⇑P	**Pg**	**18 03 05.0**	**-0.3**
FOSV				AML	AML		
	comp=N,14750μm,1.6s						
FOSV				AML	AML		
	comp=E,10750μm,1.0s						
FOSV				AML	AML		
	comp=N,7613μm,0.8s						
CING	**Cingoli**	**0.57**	**6**	P	**Pg**	**18 03 05.2**	**-0.4**
CING				S	**Sb**	**18 03 14.4**	**+0.2**
CING				AML	AML		
	comp=E,19350μm,0.5s						
CING				AML	AML		
	comp=N,18250μm,0.6s						
CING				AML	AML		
	comp=N,9274μm,0.1s						
TRTR	**Tortoreto Alta**	**0.59**	**90**	P	**Pb**	**18 03 06.5**	**0.0**
TRTR				AML	AML		
	comp=E,48100μm,0.4s						
TRTR				AML	AML		
	comp=N,36050μm,1.3s						
CADA	**Capodarco di F**	**0.61**	**51**	P	**Pb**	**18 03 07.4**	**+0.6**
MURB	**Monte Urbino**	**0.63**	**317**	P	**Pg**	**18 03 06.6**	**-0.2**
MURB				AML	AML		
	comp=E,21300μm,0.2s						
MURB				AML	AML		
	comp=N,25700μm,0.5s						
MURB				AML	AML		
	comp=E,23450μm,0.2s						
MURB				AML	AML		
	comp=N,25100μm,0.5s						
CIMA	**Civitanova Mar**	**0.64**	**39**	P	**Pb**	**18 03 07.7**	**+0.4**
FAGN	**Fagnano**	**0.65**	**147**	P	**Pg**	**18 03 05.5**	**-1.6**
FAGN				AML	AML		
	comp=E,18000μm,0.5s						
FAGN				AML	AML		
	comp=N,14600μm,0.5s						
SSFR	**Montelago di S**	**0.67**	**339**	P	**Pg**	**18 03 07.3**	**-0.3**
SSFR				AML	AML		
	comp=N,21350μm,1.2s						
SSFR				AML	AML		
	comp=E,17950μm,0.3s						
SSFR				AML	AML		
	comp=E,16750μm,0.3s						
SSFR				AML	AML		
	comp=N,20650μm,0.8s						
PP3	**Marolino**	**0.68**	**32**	P	**Pb**	**18 03 07.9**	**0.0**
PP3				AML	AML		
	comp=E,99400μm,0.4s						
PP3				AML	AML		
	comp=E,95300μm,0.4s						
PP3				AML	AML		
	comp=N,85800μm,0.3s						
PP3				AML	AML		
	comp=N,88350μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.68**	**305**	P	**Pg**	**18 03 07.7**	**-0.1**
ATTE				AML	AML		
	comp=N,6070μm,0.5s						
ATTE				AML	AML		
	comp=E,5390μm,0.6s						
VCEL	**Villa Celiera**	**0.68**	**127**	P	**Pg**	**18 03 07.0**	**-0.7**
VCEL				AML	AML		
	comp=E,12050μm,0.7s						
VCEL				AML	AML		
	comp=N,10220μm,0.6s						
ATFO	**Monte Foce - G**	**0.68**	**325**	P	**Pg**	**18 03 07.5**	**-0.3**
ATFO				AML	AML		
	comp=E,6325μm,0.8s						
ATFO				AML	AML		
	comp=N,5075μm,1.6s						
ATFO				AML	AML		
	comp=E,3722μm,0.7s						
ARVD	**Arcevia**	**0.70**	**350**	⇑P	**Pg**	**18 03 07.6**	**-0.5**
ARVD				AML	AML		
	comp=E,5375μm,0.4s						
ARVD				AML	AML		
	comp=N,4750μm,0.4s						
ARVD				AML	AML		
	comp=N,1815μm,0.3s						
SRES	**S.Oreste - Sor**	**0.72**	**218**	P	**Pg**	**18 03 07.9**	**-0.6**
SRES				AML	AML		
	comp=E,4475μm,0.7s						
SRES				AML	AML		
	comp=N,4015μm,0.7s						
MGAB	**Montegabbione**	**0.74**	**278**	P	**Pb**	**18 03 09.0**	**-0.1**
MGAB				AML	AML		
	comp=N,11550μm,0.4s						
MGAB				AML	AML		
	comp=E,14900μm,0.7s						

MGAB AML AML
comp=N,14350µm,0.5s
MGAB AML AML
comp=E,15950µm,0.7s
MGAB AML AML
comp=E,6461µm,0.5s
FRON Frontone 0.76 338 ⇑P **Pg 18 03 08.6 -0.7**
FRON AML AML
comp=E,5355µm,0.4s
FRON AML AML
comp=N,6835µm,0.4s
T0110 Collepietro 0.76 139 P **Pg 18 03 08.1 -1.2**
T0110 AML AML
comp=E,10600µm,0.5s
T0110 AML AML
comp=N,9460µm,0.5s
ATVO AVT- Monte Val 0.77 318 P **Pg 18 03 08.8 -0.6**
ATVO AML AML
comp=E,4325µm,1.0s
ATVO AML AML
comp=N,4335µm,1.0s
ATMI Monte Miggiano 0.81 311 P **Pg 18 03 10.0 -0.2**
ATMI AML AML
comp=N,14750µm,0.8s
ATMI AML AML
comp=E,13850µm,0.8s
PTQR Pietraquaria 0.81 165 P **Pg 18 03 08.4 -1.8**
PTQR AML AML
comp=E,4015µm,0.8s
PTQR AML AML
comp=N,3345µm,0.7s
AOI Ancona 0.82 26 P **Pg 18 03 10.0 -0.4**
AOI AML AML
comp=N,12000µm,0.4s
AOI AML AML
comp=E,8060µm,0.6s
AOI AML AML
comp=E,2433µm,0.5s
ATPI Pietralunga - 0.83 321 P **Pg 18 03 09.9 -0.6**
ATPI AML AML
comp=N,5305µm,0.6s
ATPI AML AML
comp=E,4520µm,1.2s
MTCE Montecelio 0.83 199 ⇑P **Pg 18 03 09.2 -1.4**
MTCE AML AML
comp=E,8435µm,0.5s
MTCE AML AML
comp=N,3875µm,0.7s
PIEI Pieia 0.84 330 P **Pg 18 03 09.8 -0.9**
PIEI AML AML
comp=E,3110µm,1.4s
PIEI AML AML
comp=N,3550µm,1.1s
MPAG Monte Paganucc 0.86 343 ⇑P **Pg 18 03 10.5 -0.6**
MPAG AML AML
comp=N,5895µm,0.4s
MPAG AML AML
comp=N,6045µm,0.4s
MPAG AML AML
comp=E,9060µm,0.3s
MPAG AML AML
comp=E,9020µm,0.3s
MPAG AML AML
comp=N,2674µm,0.3s
CERT Cerreto 0.86 186 P **Pg 18 03 09.9 -1.3**
CERT AML AML
comp=E,9380µm,1.5s
CERT AML AML
comp=N,5485µm,0.5s
SACS San Casciano d 0.89 273 P **Pb 18 03 11.7 +0.2**
SACS AML AML
comp=N,6990µm,1.0s
SACS AML AML
comp=N,7010µm,1.0s
SACS AML AML
comp=E,4650µm,1.2s
SACS AML AML
comp=E,4720µm,1.2s
SENI Senigallia 0.90 6 P **Pb 18 03 11.8 +0.1**
SENI AML AML
comp=E,6960µm,0.6s
SENI AML AML
comp=N,26450µm,0.4s
SENI AML AML
comp=E,28000µm,0.7s
SENI AML AML
comp=N,5495µm,1.0s
FSSB Fossombrone 0.92 345 ⇑P **Pg 18 03 11.4 -0.8**
FSSB AML AML
comp=N,33200µm,0.3s
FSSB AML AML
comp=E,18050µm,0.4s
RCAV Rocca di Cave 0.97 187 P **Pg 18 03 12.3 -0.8**
RCAV AML AML
comp=N,9095µm,0.5s
RCAV AML AML
comp=E,5435µm,0.5s
LATE Laterza 0.98 259 P **Pg 18 03 13.1 -0.3**
CAFI Castiglion Fio 0.99 302 P **Pg 18 03 13.3 -0.2**
CAFI AML AML
comp=N,3310µm,1.1s
CAFI AML AML
comp=N,3440µm,1.1s
CAFI AML AML
comp=E,4235µm,0.5s
CAFI AML AML
comp=E,4320µm,0.5s
VVLD Villa Vallelon 1.01 158 P **Pg 18 03 12.4 -1.6**
VVLD AML AML
comp=E,3180µm,0.6s
VVLD AML AML
comp=N,3815µm,1.1s
RMP Rome, Mte Porz 1.04 197 P **Pg 18 03 13.3 -1.2**
RMP AML AML
comp=E,5265µm,0.4s
RMP AML AML
comp=N,6395µm,0.8s
SSP9 Sansepolcro 1.05 317 P **Pn 18 03 15.4 +0.8**
SSP9 AML AML
comp=N,2630µm,1.0s
SSP9 AML AML
comp=E,3575µm,0.6s
MCIV Monte Civitell 1.06 269 P **Pn 18 03 14.9 +0.1**
MCIV AML AML
comp=N,1800µm,1.5s
MCIV AML AML
comp=E,2195µm,0.6s
SF04 Casetta 1.07 272 AML AML
comp=N,2005µm,0.7s
SF04 AML AML
comp=E,3450µm,0.3s
CAFR Castel Frentan 1.08 122 P **Pb 18 03 14.1 -0.7**
CAFR AML AML
comp=E,3340µm,0.4s
CAFR AML AML
comp=N,3200µm,0.6s
VIVA Pratoni del Vi 1.09 194 P **Pb 18 03 14.4 -0.5**
VIVA AML AML
comp=N,9380µm,0.4s
VIVA AML AML
comp=E,9840µm,0.8s
RDP Rocca di Papa 1.09 196 P **Pb 18 03 14.3 -0.7**
RDP AML AML
comp=N,11950µm,0.5s
RDP AML AML
comp=E,16100µm,0.5s
LPEL Lama dei Pelig 1.10 133 P **Pb 18 03 13.4 -1.7**
LPEL AML AML
comp=E,3855µm,0.5s
LPEL AML AML
comp=N,3230µm,0.5s
TOLF Tolfa 1.11 228 P **Pb 18 03 14.4 -0.9**
TOLF AML AML
comp=E,3250µm,0.7s
TOLF AML AML
comp=N,2350µm,1.5s
SF01 Poggio Pratacc 1.14 271 AML AML
comp=N,3960µm,0.7s
SF01 AML AML
comp=E,4250µm,0.6s
CPGN Carpegna, Ital 1.15 330 P **Pn 18 03 17.4 +1.3**
CPGN AML AML
comp=E,5395µm,0.7s
CPGN AML AML
comp=N,4350µm,0.6s
CPGN AML AML
comp=E,4860µm,0.5s
CPGN AML AML
comp=N,5430µm,0.7s
CRE Caprese Michel 1.17 314 P **Pg 18 03 16.8 -0.2**
CRE AML AML
comp=E,2440µm,0.6s
CRE AML AML
comp=N,2040µm,0.7s
POFI Posta Fibreno 1.18 158 P **Pb 18 03 15.6 -0.9**
POFI AML AML
comp=E,1795µm,0.9s
POFI AML AML
comp=N,1745µm,0.5s
ARCI Arcidosso 1.20 273 P **Pn 18 03 16.7 -0.1**
ARCI AML AML
comp=E,840µm,0.7s
ARCI AML AML
comp=N,820µm,1.0s
LRP Arpino 1.21 163 P **Pn 18 03 16.6 -0.3**
LRP AML AML
comp=E,378µm,0.6s
LRP AML AML
comp=N,360µm,1.2s
LRP AML AML
comp=E,920µm,0.7s
LRP AML AML
comp=N,1095µm,0.9s
LRP AML AML
comp=N,2540µm,1.0s
LRP AML AML
comp=E,1955µm,0.9s
GIUL Giuliano Di Ro 1.25 175 P **Pn 18 03 17.0 -0.5**
GIUL AML AML
comp=E,2150µm,1.1s
GIUL AML AML
comp=N,1885µm,0.5s
LATB Latina 1.32 185 P **Pn 18 03 17.6 -0.7**
LATB AML AML
comp=E,654µm,0.8s
LATB AML AML
comp=N,613µm,1.1s
ASQU Asqua 1.38 316 P **Pb 18 03 20.0 0.0**
ASQU AML AML
comp=E,1400µm,0.4s
ASQU AML AML
comp=N,1465µm,0.7s
CERA Filignano 1.39 151 P **Pn 18 03 19.4 +0.1**
CERA AML AML
comp=E,2260µm,0.9s
CERA AML AML
comp=N,2920µm,0.7s
FRES Fresagrandinar 1.42 125 P **Pg 18 03 20.9 -0.9**
FRES AML AML
comp=N,1685µm,0.7s
FRES AML AML
comp=E,1495µm,1.2s
SFI Santa Sofia 1.43 320 P **Pb 18 03 21.1 +0.3**
SFI AML AML
comp=N,1740µm,0.8s
SFI AML AML
comp=E,1225µm,0.9s
MIDA Miranda 1.44 144 P **Pn 18 03 19.6 -0.5**
MIDA AML AML
comp=N,1820µm,0.7s
MIDA AML AML
comp=E,2105µm,1.3s
MIDA AML AML
comp=N,1855µm,0.8s
MIDA AML AML
comp=E,2055µm,1.2s
CSNT Castellina Chi 1.49 297 P **Pb 18 03 21.5 -0.3**
CSNT AML AML
comp=N,854µm,0.6s
CSNT AML AML
comp=E,736µm,0.5s
TRIV Trivento 1.49 134 P **Pg 18 03 22.7 -0.4**
TRIV AML AML
comp=N,2005µm,0.8s
TRIV AML AML
comp=E,1720µm,0.8s
MAON Monte Argentar 1.51 256 P **Pn 18 03 21.4 +0.4**
MAON AML AML
comp=E,689µm,0.8s
MAON AML AML
comp=N,629µm,1.0s
RUFI Rufina 1.56 312 P **Pn 18 03 22.5 +0.9**
RUFI AML AML
comp=E,1182µm,0.7s
RUFI AML AML
comp=N,978µm,0.8s
LMD Lutirano 1.63 322 P **Pb 18 03 23.9 -0.3**
TRIF Trifonti 1.65 281 P **Pn 18 03 23.9 +1.0**
TRIF AML AML
comp=E,965µm,0.5s
TRIF AML AML
comp=N,796µm,0.7s
CASP Castiglione de 1.65 270 P **Pn 18 03 23.4 +0.4**
CASP AML AML
comp=E,300µm,0.5s
CASP AML AML
comp=N,356µm,0.9s
MODR Mondragone 1.76 161 P **Pn 18 03 24.7 +0.4**
MODR AML AML
comp=N,572µm,0.6s
MODR AML AML
comp=E,860µm,1.6s
BRIS BRISIGHELLA 1.78 320 P **Pb 18 03 27.5 +0.8**
MELA Melanico ??? S 1.86 126 P **Pb 18 03 27.6 -0.4**
MELA AML AML
comp=E,2645µm,0.5s
MELA AML AML
comp=N,3105µm,0.6s
MELA AML AML
comp=N,3000µm,0.6s
MELA AML AML
comp=E,2720µm,0.5s
TREM Isole Tremiti 1.90 110 P **Pn 18 03 27.4 +1.1**
TREM AML AML
comp=N,2330µm,0.5s
TREM AML AML
comp=E,2200µm,0.5s
MTCR Monte La Croce 1.96 309 P **Pn 18 03 28.6 +1.3**
MTCR AML AML
comp=N,899µm,0.8s
MTCR AML AML
comp=E,805µm,0.5s
APRC Apricena 2.09 119 P **Pb 18 03 30.3 -1.7**
APRC AML AML
comp=N,1405µm,0.9s
APRC AML AML
comp=E,922µm,0.4s
POPM Popiglio 2.11 307 P **Pb 18 03 31.1 -1.3**
CELB S.Piero in Cam 2.14 269 AML AML
comp=E,150µm,0.6s
CELB AML AML
comp=N,194µm,0.7s
MAIM Mastiano 2.21 301 P **Pn 18 03 31.7 +1.2**
SGRT San Giovanni R 2.22 117 P **Pn 18 03 32.1 +1.3**
SGRT AML AML
comp=E,1240µm,0.4s
SGRT AML AML
comp=N,1158µm,1.1s
VLC Villacollemand 2.40 305 P **Pn 18 03 34.3 +1.1**
VLC AML AML
comp=N,296µm,0.9s
VLC AML AML
comp=N,282µm,0.9s
VLC AML AML
comp=E,244µm,0.6s
VLC AML AML
comp=E,271µm,1.3s
PLMA Palmaria, Port 2.68 299 P **Pn 18 03 38.2 +1.2**
PLMA AML AML
comp=E,152µm,0.6s
PLMA AML AML
comp=N,183µm,0.4s
SKDS Skadanscina 2.81 13 *i* Pn **Pn 18 03 39.0 +0.1**
SKDS IAML 18 04 49.4
comp=Z,190nm,0.4s
PALZ Palazzo San Ge 2.83 130 P **Pn 18 03 40.7 +1.6**
PALZ AML AML
comp=N,804µm,1.2s
PALZ AML AML
comp=E,907µm,0.8s
MSSA Maissana 3.02 301 P **Pn 18 03 43.4 +1.7**
MSSA AML AML
comp=N,201µm,0.8s
MSSA AML AML
comp=E,170µm,0.6s
PGF Pioggiola 3.04 266 *e*P **Pn 18 03 43.7 +1.6**
PGF *e*Sn **Sn 18 04 15.2 -3.1**
comp=E,46nm,0.6s
PGF Pioggiola 3.04 266 AML AML
comp=N,50µm,0.4s
PGF AML AML
comp=E,64µm,1.6s
CEY Cerknica 3.08 17 *e*Pn **Pn 18 03 43.0 +0.5**
SABO M.te Sabotino 3.19 6 P **Pn 18 03 44.5 +0.5**
SABO AML AML
comp=E,896µm,0.6s
SABO AML AML
comp=N,4540µm,0.7s
SABO AML AML
comp=N,1125µm,0.8s
SABO AML AML
comp=E,3705µm,0.6s
ROVR Rover Verones 3.19 333 P **Pn 18 03 45.9 +1.6**
ROVR AML AML
comp=E,151µm,0.4s
ROVR AML AML
comp=N,210µm,0.5s
CGRP Cima Grappa 3.21 343 P **Pn 18 03 46.3 +1.8**
CGRP AML AML
comp=E,730µm,0.5s
CGRP AML AML
comp=N,876µm,0.6s
CGRP AML AML
comp=N,922µm,0.6s
CGRP AML AML
comp=E,762µm,0.5s
AMUR Altamura 3.23 125 P **Pn 18 03 46.0 +1.5**
AMUR AML AML
comp=E,246µm,1.6s
AMUR AML AML
comp=N,294µm,0.4s
MGRS Mrkonjic Grad 3.30 60 *e*Pn **Pn 18 03 47.7 +2.1**
MIGL Miglionico 3.33 130 P **Pn 18 03 46.3 +0.4**
MIGL AML AML
comp=N,1010µm,0.7s
MIGL AML AML
comp=E,1122µm,1.4s
SALO Salr 3.37 327 P **Pn 18 03 48.8 +2.3**
SALO AML AML
comp=E,486µm,1.0s
SALO AML AML
comp=E,432µm,1.0s
SALO AML AML
comp=N,579µm,0.6s
SALO AML AML
comp=N,546µm,0.5s
STON Ston 3.38 87 *e*Pn **Pn 18 03 46.2 -0.3**
STON Ston 3.38 87 AML AML
comp=N,220µm,0.4s
STON AML AML
comp=E,190µm,0.8s
CTI Castel Tesino 3.40 343 P **Pn 18 03 48.9 +1.8**
CTI AML AML
comp=N,461µm,1.0s
CTI AML AML
comp=E,428µm,0.4s
MPRI Monte Prat 3.43 359 P **Pn 18 03 48.4 +0.9**
MPRI AML AML
comp=E,750µm,0.7s
MPRI AML AML
comp=N,1200µm,0.6s
MPRI AML AML
comp=E,576µm,0.7s
MPRI AML AML
comp=N,916µm,0.6s
MATE Matera 3.45 128 ⇓P **Pn 18 03 49.4 +1.9**
STAL STALIGIAL 3.46 355 P **Pn 18 03 48.4 +0.6**
STAL AML AML
comp=N,445µm,0.4s
STAL AML AML
comp=E,508µm,1.1s
STAL AML AML
comp=N,447µm,1.1s
STAL AML AML
comp=E,596µm,0.7s
LUSI Trento, Gardas 3.51 334 P **Pn 18 03 49.9 +1.4**
LUSI AML AML
comp=E,357µm,0.6s
LUSI AML AML
comp=N,502µm,0.6s
A051A Mrakovica 3.52 50 *e*Pn **Pn 18 03 50.0 +1.4**
BLY Banja Luka 3.53 55 *e*Pn **Pb 18 03 53.0 -3.6**
CIMO Cimolais 3.53 352 P **Pn 18 03 49.5 +0.7**
CIMO AML AML
comp=N,165µm,0.5s
CIMO AML AML
comp=E,146µm,1.6s
CIMO AML AML
comp=E,150µm,0.9s
CIMO AML AML
comp=N,162µm,0.5s
NOCI Noci 3.58 123 P **Pn 18 03 50.4 +1.0**
NOCI AML AML
comp=N,254µm,0.5s
NOCI AML AML
comp=E,240µm,0.4s
PTCC Patocco-Chiusa 3.60 3 P **Pn 18 03 50.4 +0.7**
PTCC AML AML
comp=N,360µm,0.9s
PTCC AML AML
comp=E,244µm,1.0s
GAGG Gaggia 3.62 336 P **Pn 18 03 52.4 +2.3**
CLUD Cludinico 3.65 358 P **Pn 18 03 51.3 +0.9**
CLUD AML AML
comp=E,476µm,1.2s
CLUD AML AML
comp=N,438µm,0.9s
CLUD AML AML
comp=E,511µm,1.2s
CLUD AML AML
comp=N,432µm,0.9s
ZONE Zone 3.65 325 AML AML
comp=N,463µm,0.7s
ZONE AML AML
comp=E,260µm,0.6s
ACOM Acomizza, Ital 3.75 4 P **Pn 18 03 52.7 +0.8**
ACOM AML AML
comp=E,481µm,1.5s
ACOM AML AML
comp=N,634µm,0.8s
ACOM AML AML
comp=N,578µm,0.8s
ACOM AML AML
comp=E,482µm,1.6s
MYKA Terra Mystica 3.84 5 *i* Pn **Pn 18 03 55.1 +2.0**
comp=E,5.8nm,0.4s,SNR=6.4
OBKA Obir 3.84 15 *e*Pn **Pn 18 03 53.6 +0.6**
OBKA Obir 3.84 15 *e*Pn **Pn 18 03 53.6 +0.6**
comp=E,1.8nm,0.2s
KOSI Kohlern 3.86 342 P **Pn 18 03 55.6 +2.2**
TREB Trebinje 3.86 90 *e*Pn **Pn 18 03 54.2 +1.0**
APPI Appiano 3.91 341 P **Pn 18 03 55.9 +1.9**
APPI AML AML
comp=E,348µm,0.5s
APPI AML AML
comp=N,312µm,0.4s
ABTA Abfaltersbach 3.96 354 *e*Pn **Pn 18 03 56.9 +2.2**
comp=N,38nm,0.5s,SNR=61
HCY Herceg Novi 3.99 93 *e*Pn **Pn 18 03 55.3 +0.3**
BRY Bratogost 3.99 87 *e*Pn **Pn 18 03 56.5 +1.3**
SOKA Soboth 4.10 19 *i* Pn **Pn 18 03 58.6 +1.9**
comp=N,1.4nm,0.2s
RISI Rein 4.20 350 P **Pn 18 04 00.4 +2.2**
RISI AML AML
comp=E,1030µm,0.5s
RISI AML AML
comp=N,536µm,0.5s
MUGIO Muggio 4.27 318 P **Pn 18 04 00.8 +1.9**
UPM Unac-Piva 4.27 83 *e*Pn **Pn 18 04 00.9 +1.9**
KBA Koelnbreinsper 4.27 2 *e*Pn **Pn 18 04 00.8 +1.7**
comp=N,4.0nm,0.2s,SNR=13
SBF Sospel 4.27 286 *e*P **Pn 18 04 00.7 +1.7**
SBF *e*Sn **Sn 18 04 44.6 -4.0**
comp=N,33nm,0.5s
ROSI Rosskopf 4.29 344 P **Pn 18 04 01.6 +2.3**
VSL Villasalto 4.35 222 P **Pn 18 04 01.6 +1.6**
VSL AML AML
comp=N,73µm,0.7s
VSL AML AML
comp=E,66µm,0.6s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HAPS	**Han Pijesak,Bl**	**4.44**	**71**	*e*Pn	**Pn**	**18 04 01.6**	**+0.3**
DRME	**Dracevica, Mon**	**4.53**	**96**	*e*Pn	**Pn**	**18 04 04.3**	**+1.8**
FETA	**Feichten**	**4.54**	**339**	*e*Pn	**Pn**	**18 04 05.9**	**+3.2**
	comp=E,0.7nm,0.1s,SNR=7.3						
PDG	**Podgorica**	**4.55**	**93**	⇑P	**Pn**	**18 04 04.7**	**+2.0**
TIP	**Timpagrande**	**4.56**	**142**	⇑P	**Pn**	**18 04 06.4**	**+3.6**
WTTA	**Wattenberg**	**4.58**	**347**	*e*Pn	**Pn**	**18 04 06.7**	**+3.5**
	comp=E,4.1nm,0.5s,SNR=6.1						
DAVOX	**Davos/Dischmat**	**4.59**	**331**	Pn	**Pn**	**18 04 07.1**	**+3.7**
	comp=E,2.0nm,0.3s,baz=143,slow=13,SNR=10						
DAVOX				Sn	**Sn**	**18 04 58.8**	**+2.3**
	comp=E,1.1nm,0.3s,baz=119,slow=17,SNR=1.5						
SQTA	**Sankt Quirin**	**4.61**	**344**	*e*Pn	**Pn**	**18 04 07.0**	**+3.3**
	comp=E,1.2nm,0.1s,SNR=11						
RUDO	**Rudo**	**4.64**	**78**	*e*Pn	**Pn**	**18 04 05.9**	**+1.9**
WATA	**Walderalm**	**4.66**	**347**	*e*Pn	**Pn**	**18 04 07.4**	**+3.1**
	comp=E,8.8nm,0.6s,SNR=8.5						
BBLS	**Lazići**	**4.71**	**75**	*e*Pn	**Pn**	**18 04 07.6**	**+2.6**
MOTA	**Moosalm**	**4.75**	**343**	*e*Pn	**Pn**	**18 04 08.9**	**+3.2**
	comp=E,12nm,0.6s,SNR=5.6						
ARSA	**Arzberg**	**4.76**	**20**	*e*Pn	**Pn**	**18 04 06.5**	**+0.9**
	comp=E,1.8nm,0.3s,SNR=5.7						
LMR	**La Mourre**	**4.87**	**278**	*e*P	**Pn**	**18 04 08.2**	**+1.2**
LMR				*e*Sn	**Sn**	**18 04 58.5**	**-4.6**
	comp=E,4.9nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.90**	**4**	*e*Pn	**Pn**	**18 04 10.0**	**+2.4**
	comp=E,11nm,0.3s,SNR=14						
RJOB	**Jochberg**	**4.93**	**358**	*e*Pn	**Pn**	**18 04 10.2**	**+2.2**
RETA	**Reutte**	**4.96**	**341**	*i* Pn	**Pn**	**18 04 12.0**	**+3.5**
	comp=E,2.3nm,0.4s,SNR=5.3						
MBDF	**Montbardon**	**4.98**	**295**	*e*P	**Pn**	**18 04 11.3**	**+2.6**
MBDF				*e*Sn	**Sn**	**18 05 01.8**	**-4.2**
	comp=E,19nm,0.6s						
DAVA	**Damuels**	**5.03**	**334**	*i* Pn	**Pn**	**18 04 13.4**	**+4.0**
	comp=E,9.9nm,0.5s						
MOA	**Molln**	**5.11**	**9**	*i* Pn	**Pn**	**18 04 12.0**	**+1.6**
	comp=E,2.2nm,0.3s,SNR=7.3						
DIVS	**Divibare**	**5.17**	**73**	*e*Pn	**Pn**	**18 04 15.0**	**+3.7**
MORH	**Mrgy, Hungar**	**5.22**	**47**	⇓P	Pb	18 04 19.2	-6.2
MORH	**Mrgy, Hungar**	**5.22**	**47**	P	**Pn**	**18 04 14.4**	**+2.5**
TIR	**Tirane**	**5.23**	**104**	⇓P	**Pn**	**18 04 12.2**	**+0.1**
LPG	**La Plagne**	**5.31**	**303**	*e*P	**Pn**	**18 04 16.2**	**+2.8**
LPG				*e*Sn	**Sn**	**18 05 09.6**	**-4.8**
	comp=E,10.0nm,0.5s						
UBR	**Ueberruh**	**5.31**	**338**	*e*Pn	**Pn**	**18 04 18.0**	**+4.7**
TIH	**Tihany**	**5.32**	**38**	P	**Pg**	**18 04 36.1**	**-0.1**
LPL	**La Plagne**	**5.33**	**303**	*e*P	**Pn**	**18 04 16.3**	**+2.7**
LPL				*e*Sn	**Sn**	**18 05 10.0**	**-4.8**
	comp=E,19nm,0.7s						
FRGS	**Fruska Gora**	**5.37**	**62**	⇓P	Pn	18 04 19.4	+5.3
FRGS	**Fruska Gora**	**5.37**	**62**	*e*Pn	**Pn**	**18 04 17.7**	**+3.7**
MPLH	**Magyarpolny**	**5.37**	**34**	P	Pn	18 04 19.1	+5.0
RONA	**Rosalia, Austr**	**5.38**	**24**	*e*Pn	**Pn**	**18 04 14.5**	**+0.3**
	comp=E,2.5nm,0.4s						
SOP	**Sopron**	**5.45**	**25**	P	**Pn**	**18 04 15.4**	**+0.4**
CONA	**Conrad Observa**	**5.47**	**20**	*i* Pn	**Pn**	**18 04 16.3**	**+0.8**
	comp=E,0.9nm,0.2s,SNR=7.9						
SMRF	**Simiane la Rot**	**5.61**	**285**	*e*P	**Pn**	**18 04 20.1**	**+2.7**
SMRF				*e*Sn	**Sn**	**18 05 16.6**	**-5.0**
	comp=E,7.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**5.64**	**294**	*e*P	**Pn**	**18 04 20.6**	**+2.9**
ORIF				*e*Sn	**Sn**	**18 05 17.3**	**-5.0**
	comp=E,14nm,0.6s						
GEC2	**GERESS Array S**	**6.05**	**4**	*e*Pn	**Pn**	**18 04 23.7**	**+0.3**
GERES	**GERESS Array B**	**6.05**	**4**	Pn	**Pn**	**18 04 23.9**	**+0.5**
	comp=E,0.4nm,0.3s,baz=174,slow=13,SNR=8.1						
GERES				Sn	**Sn**	**18 05 30.7**	**-1.8**
	comp=E,2.1nm,0.3s,baz=183,slow=22,SNR=3.4						
	comp=E,0.9nm,0.3s						
CKRC	**Cesky Krumlov**	**6.07**	**8**	*e*PN	**Pn**	**18 04 24.6**	**+1.0**
CKRC				*e*SN	**Sb**	**18 05 44.6**	**-7.7**
CABF	**La Chapelle**	**6.28**	**310**	*e*P	**Pn**	**18 04 29.6**	**+3.0**
CABF				*e*Sn	**Sn**	**18 05 32.7**	**-5.5**
	comp=E,11nm,0.7s						
KHC	**Kasperske Hory**	**6.33**	**3**	*e*PN	**Pn**	**18 04 28.0**	**+0.8**
KHC				*e*SN	**Sb**	**18 05 51.3**	**-8.5**
BOVS	**Bovan**	**6.33**	**80**	⇓P	**Pn**	**18 04 29.8**	**+2.6**
WET	**Wettzell**	**6.34**	**359**	*e*Pn	**Pn**	**18 04 27.5**	**+0.2**
VIVF	**Saint-Julien-l**	**6.44**	**291**	*e*P	**Pn**	**18 04 31.6**	**+2.9**
VIVF				*e*Sn	**Sn**	**18 05 36.2**	**-5.7**
	comp=E,5.3nm,0.6s						
BFO	**Black Forest**	**6.46**	**330**	*e*Pn	**Pn**	**18 04 31.5**	**+2.6**
MDVR	**Moldovita**	**6.53**	**69**	⇑P	**Pn**	**18 04 33.3**	**+3.4**
HINF	**Hinteralfeld**	**6.67**	**321**	*e*P	**Pn**	**18 04 33.4**	**+1.5**
HINF				*e*Sn	**Sn**	**18 05 42.0**	**-5.7**
	comp=E,41nm,0.5s						
BZS	**Buzias**	**6.72**	**62**	⇓P	**Pn**	**18 04 37.2**	**+4.6**
LASF	**Ste Croix**	**6.86**	**284**	*e*P	**Pn**	**18 04 37.5**	**+3.1**
LASF				*e*Sn	**Sn**	**18 05 46.2**	**-5.9**
	comp=E,4.0nm,0.7s						
CDF	**Champ du Feu**	**6.94**	**326**	*e*P	**Pn**	**18 04 37.1**	**+1.5**
CDF				*e*Sn	**Sn**	**18 05 48.4**	**-5.8**
	comp=E,33nm,0.7s						
VRAC	**Vranov**	**6.94**	**19**	Pn	**Pn**	**18 04 36.6**	**+1.1**
	comp=E,0.3nm,0.3s,baz=208,slow=14,SNR=2.0						
VRAC				Sn	**Sn**	**18 05 54.3**	**+0.2**
	comp=E,0.5nm,0.3s,baz=285,slow=15,SNR=2.1						
	comp=E,1.8nm,0.6s						
ROTZ	**Rotzenmuhle**	**6.99**	**355**	*e*Pn	**Pn**	**18 04 37.1**	**+0.9**
GRF	**Grafenberg Arr**	**7.01**	**350**	*e*Pn	**Pn**	**18 04 39.1**	**+2.6**
BLKB	**Belogradchik**	**7.04**	**80**	⇑P	**Pn**	**18 04 38.7**	**+1.8**
HERR	**Herculane**	**7.04**	**70**	⇑P	**Pn**	**18 04 40.7**	**+3.8**
HAU	**Haudompre**	**7.05**	**320**	*e*P	**Pn**	**18 04 38.9**	**+1.9**
HAU				*e*Sn	**Sn**	**18 05 50.7**	**-6.1**
	comp=E,43nm,0.4s						
GZR	**Gura Zlata**	**7.42**	**66**	⇑P	**Pn**	**18 04 46.9**	**+4.7**
NKC	**Novy Kostel**	**7.44**	**357**	*e*SN	Sn	18 06 18.0	+11
VTS	**Vitosha**	**7.46**	**88**	⇑P	**Pn**	**18 04 44.3**	**+1.5**
SMF	**Signal de Mont**	**7.63**	**303**	*e*P	**Pn**	**18 04 48.8**	**+3.7**
SMF				*e*Sn	**Sn**	**18 06 05.1**	**-6.2**
	comp=E,12nm,0.5s						
KRLC	**Kraliky**	**7.70**	**18**	*e*PN	**Pn**	**18 04 46.1**	**+0.2**
PAGF	**Fort de Pagny**	**7.73**	**321**	*e*P	**Pn**	**18 04 49.6**	**+3.3**
PAGF				*e*Sn	**Sn**	**18 06 07.1**	**-6.5**
	comp=E,22nm,0.7s						
SFTF	**Sexfontaines**	**7.83**	**316**	*e*P	**Pn**	**18 04 51.2**	**+3.5**
SFTF				*e*Sn	**Sn**	**18 06 09.4**	**-6.5**
	comp=E,6.9nm,0.5s						
MOX	**Moxa**	**7.91**	**353**	*e*Pn	**Pn**	**18 04 49.4**	**+0.7**
LOR	**Lormes**	**7.92**	**307**	*e*P	**Pn**	**18 04 52.2**	**+3.2**
	baz=124						
LOR				*e*Sn	**Sn**	**18 06 11.7**	**-6.7**
	comp=E,7.3nm,0.3s						
MTLF	**Montolieu**	**8.00**	**278**	*e*P	**Pn**	**18 04 53.6**	**+3.6**
MTLF				*e*Sn	**Sn**	**18 06 13.5**	**-6.6**
	comp=E,1.9nm,0.5s						
AVF	**Avril sur Loir**	**8.00**	**303**	*e*P	**Pn**	**18 04 53.5**	**+3.5**
AVF				*e*Sn	**Sn**	**18 06 13.6**	**-6.6**
	comp=E,2.8nm,0.6s						
MEZF	**Maizieres J'vi**	**8.02**	**318**	*e*P	**Pn**	**18 04 53.8**	**+3.5**
MEZF				*e*Sn	**Sn**	**18 06 13.9**	**-6.7**
	comp=E,5.1nm,0.4s						
SSF	**Saint Saulge**	**8.03**	**305**	*e*P	**Pn**	**18 04 54.0**	**+3.5**
SSF				*e*Sn	**Sn**	**18 06 14.3**	**-6.7**
	comp=E,7.5nm,0.6s						
SAVF	**Savonnieres en**	**8.06**	**319**	*e*P	**Pn**	**18 04 54.2**	**+3.4**
SAVF				*e*Sn	**Sn**	**18 06 14.9**	**-6.7**
	comp=E,7.5nm,0.5s						
BGF	**Bois d'Agland**	**8.22**	**301**	*e*P	**Pn**	**18 04 56.6**	**+3.5**
BGF				*e*Sn	**Sn**	**18 06 18.8**	**-6.8**
	comp=E,26nm,1.1s						
CAF	**Calviac**	**8.26**	**289**	*e*P	**Pn**	**18 04 57.0**	**+3.3**
CAF				*e*Sn	**Sn**	**18 06 19.8**	**-6.9**
	comp=E,0.7nm,0.4s						
CLL	**Collm**	**8.50**	**360**	*e*x	x	18 06 29.0	
CLL	**Collm**	**8.50**	**360**	*e*Sn	Sn	18 06 18.0	-15
CLL	**Collm**	**8.50**	**360**	*e*Pg	**Pg**	**18 05 35.0**	**-2.0**
CLL	**Collm**	**8.50**	**360**	*e*Sg	**Sg**	**18 07 26.0**	**-1.0**
	comp=Z,42nm,1.4s						
CLL	**Collm**	**8.50**	**360**	*e*x	x	18 07 02.0	
CLL	**Collm**	**8.50**	**360**	*e*x	x	18 05 15.0	
TCF	**Toulx Ste Croi**	**8.53**	**298**	*e*P	**Pn**	**18 05 01.0**	**+3.7**
TCF				*e*Sn	**Sn**	**18 06 26.2**	**-7.0**
	comp=Z,4.0nm,0.7s						
VOIR		**8.98**	**69**	⇑P	**Pn**	**18 05 07.6**	**+4.0**
LFF	**La Frestale**	**9.19**	**288**	*e*P	**Pn**	**18 05 10.2**	**+3.9**
GIVF	**Givet**	**9.27**	**325**	*e*P	**Pn**	**18 05 11.4**	**+4.0**
EPF	**Esparros**	**9.38**	**276**	*e*P	**Pn**	**18 05 12.8**	**+3.8**
BAIF	**Baives**	**9.50**	**323**	*e*P	**Pn**	**18 05 14.3**	**+3.7**
ETSF	**Etsaut**	**10.04**	**275**	*e*P	**Pn**	**18 05 22.0**	**+3.9**
MFF	**Saint Martin d**	**10.17**	**296**	*e*P	**Pn**	**18 05 23.6**	**+3.8**
GRR	**Gorron**	**11.26**	**304**	*e*P	**Pn**	**18 05 38.4**	**+3.7**
ESDC	**Sonseca Array**	**13.23**	**262**	Pn	**Pn**	**18 06 03.1**	**+1.5**
	baz=68,slow=16,SNR=2.3						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**20.22**	**18**	P	Pn	18 07 30.0	-0.5
	comp=Z,5.6nm,1.0s,baz=197,slow=13,SNR=2.6						
	comp=Z,5.6nm,1.0s						
KBZ	**Khabaz**	**21.66**	**77**	P	**P**	**18 07 46.8**	**+2.6**
	comp=Z,2.9nm,0.9s,baz=277,slow=8.1,SNR=3.5						
	comp=Z,2.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.16**	**202**	P	**P**	**18 09 14.1**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=9.0,slow=7.5,SNR=5.1						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**47.80**	**60**	P	**P**	**18 11 32.6**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=299,slow=5.9,SNR=2.4						
	comp=Z,0.6nm,0.7s						
SONM	**Songino Array**	**61.84**	**50**	P	**P**	**18 13 15.0**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=302,slow=8.3,SNR=4.6						
	comp=Z,0.8nm,0.9s						

ROM ***01*** *18:03:07.7±0.0, 42°.800N±0°.003×13°.157E±0°.004, h9km, ML4.0/14, Error ellipse: s-maj=0.3km s-min=0.1km az=67.0*

LDG ***01*** *18:03:07.4±0.1, 42°.81N×13°.21E, h10km, Ml3.5/30, Error ellipse: s-maj=1.9km s-min=1.2km az=58.0*

IDC ***01*** *18:03:08.1±1.0, 42°.90N×13°.27E, h0km, mb3.8/6, mbtmp3.8/12, ML3.7/6, MS2.8/2, Error ellipse: s-maj=23.1km s-min=13.1km az=92.0*

ISC 01 18:03:08.3±0.7**, 42°.80N**±0°.02×**13°.14E**±0°.02**, h12**km±4km**, n114,** σ**2**s**.94**/172**, mb4.0**/5**, 3C-2D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**332**	⇓P	**Pg**	**18 03 09.8**	**-0.9**
NRCA				S	**Sg**	**18 03 11.1**	**-1.3**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	**Castelsantange**	**0.07**	**36**	⇑P	**Pg**	**18 03 10.2**	**-0.9**
T1245				S	**Sg**	**18 03 11.7**	**-1.4**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1216	**Preci, Frazion**	**0.12**	**316**	P	**Pg**	**18 03 11.3**	**-0.2**
T1216				S	**Sg**	**18 03 13.7**	**-0.1**
T1216				AML	AML		
	comp=E,99161μm,0.4s						
T1216				AML	AML		
T1244	**Arquata del Tr**	**0.13**	**111**	P	**Pg**	**18 03 11.0**	**-0.6**
T1244				S	**Sg**	**18 03 13.4**	**-0.6**
T1201	**Domo (RI)**	**0.17**	**150**	⇑P	**Pg**	**18 03 12.0**	**-0.3**
T1201				S	**Sg**	**18 03 15.2**	**+0.2**
FEMA	**Monte Fema**	**0.17**	**338**	P	**Pg**	**18 03 12.1**	**-0.2**
FEMA				S	**Sg**	**18 03 15.1**	**-0.1**
T1217	**Poggiodomo (PG**	**0.18**	**239**	P	**Pg**	**18 03 12.2**	**-0.2**
T1217				S	**Sg**	**18 03 15.6**	**+0.4**
T1217				AML	AML		
	comp=N,46129μm,0.3s						
T1217				AML	AML		
	comp=E,60430μm,0.6s						
T1217				AML	AML		
	comp=E,56971μm,0.6s						
T1217				AML	AML		
	comp=N,71734μm,0.1s						
T1204	**Amatrice, Fraz**	**0.18**	**134**	P	**Pg**	**18 03 12.0**	**-0.5**
T1204				S	**Sg**	**18 03 15.1**	**-0.4**
T1204				AML	AML		
	comp=E,78550μm,0.8s						
T1204				AML	AML		
	comp=N,72050μm,1.1s						
T1215	**Vallo di Nera,**	**0.20**	**270**	P	**Pg**	**18 03 12.6**	**-0.1**
T1215				S	**Sg**	**18 03 16.1**	**+0.4**
T1215				AML	AML		
	comp=N,25863μm,0.2s						
T1215				AML	AML		
	comp=E,27288μm,0.1s						
T1215				AML	AML		
	comp=E,33906μm,0.0s						
T1215				AML	AML		
	comp=N,34132μm,0.8s						
LNSS	**Leonessa**	**0.21**	**199**	P	**Pg**	**18 03 12.7**	**-0.3**
LNSS				S	**Sg**	**18 03 16.5**	**+0.4**
LNSS				AML	AML		
T1256	**Bolognola (MC)**	**0.21**	**18**	⇑P	**Pg**	**18 03 12.5**	**-0.5**
T1256				S	**Sg**	**18 03 16.0**	**-0.3**
T1256				AML	AML		
	comp=E,45156μm,0.3s						
T1256				AML	AML		
	comp=N,46994μm,0.3s						
T1256				AML	AML		
	comp=E,48304μm,0.3s						
T1256				AML	AML		
	comp=N,64049μm,0.3s						
T1241	**Roccafluvione,**	**0.22**	**76**	P	**Pg**	**18 03 12.5**	**-0.6**
T1241				S	**Sg**	**18 03 16.1**	**-0.3**
T1241				AML	AML		
T1241				AML	AML		
SMA1	**SAN MARTINO**	**0.23**	**140**	P	**Pg**	**18 03 13.0**	**-0.2**
AM05	**Amandola Campo**	**0.24**	**42**	P	**Pg**	**18 03 12.9**	**-0.4**
AM05				S	**Sg**	**18 03 16.7**	**0.0**
AM05				AML	AML		
	comp=E,23600μm,0.7s						
AM05				AML	AML		
	comp=N,23150μm,0.4s						
AM05				AML	AML		
	comp=E,78200μm,0.4s						
AM05				AML	AML		
	comp=N,7070μm,0.4s						
FDMO	**Fiordimonte**	**0.24**	**351**	P	**Pg**	**18 03 12.9**	**-0.4**
T1243	**Rocca Santa Ma**	**0.25**	**115**	P	**Pg**	**18 03 13.0**	**-0.6**
T1243				S	**Sg**	**18 03 16.9**	**-0.4**
CESI	**CESI - Serrava**	**0.26**	**320**	P	**Pg**	**18 03 13.9**	**0.0**
CESI				S	**Sg**	**18 03 18.2**	**+0.6**
CESI				AML	AML		
	comp=E,21189μm,0.2s						
CESI				AML	AML		
	comp=N,95852μm,1.3s						
CSP1	**Cessapalombo**	**0.29**	**10**	P	**Pg**	**18 03 14.0**	**-0.4**
CSP1				S	**Sg**	**18 03 18.7**	**+0.2**
GUMA	**Gualdo di Mace**	**0.30**	**29**	P	**Pg**	**18 03 14.3**	**-0.1**
GUMA				S	**Sb**	**18 03 19.8**	**-0.7**
RM33	**Pellescritta (**	**0.30**	**169**	P	**Pg**	**18 03 14.1**	**-0.4**
RM33				S	**Sb**	**18 03 18.9**	**-1.7**
RM33				AML	AML		
	comp=E,33717μm,0.0s						
RM33				AML	AML		
	comp=E,34300μm,0.8s						
RM33				AML	AML		
	comp=N,30550μm,0.4s						
RM33				AML	AML		
	comp=N,31707μm,3.3s						
CAMP	**Campotosto**	**0.34**	**143**	P	**Pg**	**18 03 14.5**	**-0.6**
CAMP				S	**Sg**	**18 03 19.4**	**-0.3**
T1211	**Morro Reatino**	**0.34**	**218**	P	**Pg**	**18 03 14.6**	**-0.6**
T1211				S	**Sb**	**18 03 21.0**	**-0.7**
T1246	**Crognaleto (TE**	**0.34**	**130**	P	**Pg**	**18 03 14.5**	**-0.8**
T1246				S	**Sg**	**18 03 19.8**	**-0.1**
ARRO	**Arrone**	**0.35**	**231**	P	**Pg**	**18 03 15.1**	**-0.3**
T1247	**Pizzolo (AQ)**	**0.38**	**162**	P	**Pg**	**18 03 14.9**	**-1.0**
MDAR	**Monte D'Aria**	**0.39**	**1**	P	**Pg**	**18 03 15.8**	**-0.3**
TERO	**Teramo**	**0.39**	**117**	P	**Pg**	**18 03 15.2**	**-0.9**
TERO				S	**Sg**	**18 03 21.0**	**-0.3**
TERO				AML	AML		
	comp=E,23900μm,0.3s						
TERO				AML	AML		
	comp=E,27000μm,0.3s						
TERO				AML	AML		
	comp=N,26650μm,0.4s						
TERO				AML	AML		
	comp=N,24300μm,0.5s						
PIO1	**Pioraco**	**0.39**	**343**	P	**Pg**	**18 03 16.1**	**0.0**
PIO1				S	**Sb**	**18 03 22.4**	**-0.7**
FIU1	**Fiuminata**	**0.41**	**339**	P	**Pg**	**18 03 16.3**	**-0.2**
MNTP	**Montappone**	**0.41**	**36**	P	**Pb**	**18 03 16.6**	**-0.9**
OFFI	**Offida**	**0.42**	**72**	P	**Pb**	**18 03 17.0**	**-0.7**
OFFI				AML	AML		
	comp=E,57100μm,0.5s						
OFFI				AML	AML		
	comp=N,59150μm,0.4s						
SSM1	**San Severino M**	**0.43**	**4**	P	**Pg**	**18 03 16.4**	**-0.4**
SSM1				S	**Sb**	**18 03 23.3**	**-0.9**
GAG1	**Gagliole**	**0.44**	**353**	P	**Pg**	**18 03 16.6**	**-0.4**
GAG1				S	**Sb**	**18 03 23.7**	**-0.8**
SNTG	**Esanatoglia**	**0.47**	**342**	P	**Pg**	**18 03 17.2**	**-0.5**
GIGS	**Gran Sasso**	**0.48**	**138**	P	**Pg**	**18 03 17.0**	**-0.7**
ATCC	**AVT- Casa Cast**	**0.53**	**317**	P	**Pg**	**18 03 18.5**	**-0.1**
FIAM	**Fiamignano**	**0.54**	**181**	P	**Pb**	**18 03 18.9**	**-0.8**
FOSV	**Fossato di Vic**	**0.56**	**331**	P	**Pg**	**18 03 19.3**	**-0.1**
FOSV				S	**Sb**	**18 03 27.8**	**-0.3**
TRTR	**Tortoreto Alta**	**0.57**	**89**	P	**Pb**	**18 03 20.1**	**-0.1**
CING	**Cingoli**	**0.57**	**4**	P	**Pb**	**18 03 20.0**	**-0.3**
CING				S	**Sb**	**18 03 28.1**	**-0.4**
MURB	**Monte Urbino**	**0.64**	**316**	P	**Pg**	**18 03 20.5**	**-0.3**
VCEL	**Villa Celiera**	**0.66**	**128**	P	**Pb**	**18 03 21.2**	**-0.6**
PP3	**Marolino**	**0.67**	**31**	P	**Pg**	**18 03 20.2**	**-1.1**
SSFR	**Montelago di S**	**0.68**	**338**	P	**Pb**	**18 03 21.6**	**-0.5**
SSFR				S	**Sb**	**18 03 31.4**	**-0.2**
ATTE	**AVT- Monte Tez**	**0.70**	**305**	P	**Pb**	**18 03 22.3**	**-0.1**
AOI	**Ancona**	**0.82**	**24**	P	**Pg**	**18 03 23.7**	**-0.5**
SACS	**San Casciano d**	**0.90**	**273**	P	**Pb**	**18 03 26.0**	**+0.1**
SACS				AML	AML		
	comp=E,3470μm,0.9s						
SACS				AML	AML		
	comp=N,6990μm,1.0s						
SACS				AML	AML		
	comp=E,3310μm,0.9s						
SACS				AML	AML		
	comp=N,7010μm,1.0s						
FSSB	**Fossombrone**	**0.93**	**344**	P	**Pg**	**18 03 25.5**	**-0.7**
CASP	**Castiglione de**	**1.67**	**270**	AML	AML		
	comp=N,356μm,0.9s						
CASP				AML	AML		
	comp=E,300μm,0.5s						
PGF	**Pioggiola**	**3.06**	**267**	*e*P	**Pn**	**18 03 57.8**	**+1.3**
PGF				*e*Sn	**Sn**	**18 04 29.4**	**-3.7**
	comp=E,46nm,0.6s						
SBF	**Sospel**	**4.29**	**286**	*e*P	**Pn**	**18 04 15.3**	**+1.9**
SBF				*e*Sn	**Sn**	**18 04 58.9**	**-4.5**
	comp=E,49nm,0.5s						
DAVOX	**Davos/Dischmat**	**4.60**	**331**	Pn	**Pn**	**18 04 19.7**	**+1.9**
	comp=E,6.2nm,0.3s,baz=155,slow=18,SNR=9.3						
DAVOX				Sn	**Sn**	**18 05 15.2**	**+3.9**
	comp=E,5.8nm,0.3s,baz=124,slow=22,SNR=5.7						
	comp=E,13nm,0.3s						
LMR	**La Mourre**	**4.88**	**278**	*e*P	**Pn**	**18 04 22.4**	**+0.9**
LMR				*e*Sn	**Sn**	**18 05 12.8**	**-5.1**
	comp=E,43nm,1.3s						
RJOB	**Jochberg**	**4.94**	**357**	*e*Pn	**Pn**	**18 04 24.3**	**+2.0**
MBDF	**Montbardon**	**4.99**	**295**	*e*P	**Pn**	**18 04 25.3**	**+2.2**
MBDF				*e*Sn	**Sn**	**18 05 15.8**	**-5.0**
	comp=E,34nm,0.7s						
LPG	**La Plagne**	**5.33**	**303**	*e*P	**Pn**	**18 04 30.2**	**+2.4**
LPG				*e*Sn	**Sn**	**18 05 23.8**	**-5.4**
	comp=E,37nm,0.7s						
LPL	**La Plagne**	**5.34**	**303**	*e*P	**Pn**	**18 04 30.4**	**+2.4**
LPL				*e*Sn	**Sn**	**18 05 24.2**	**-5.4**
	comp=E,20nm,0.7s						
SMRF	**Simiane la Rot**	**5.63**	**285**	*e*P	**Pn**	**18 04 34.1**	**+2.3**
SMRF				*e*Sn	**Sn**	**18 05 30.7**	**-5.7**
	comp=E,65nm,1.5s						
ORIF	**Oris-en-Rattie**	**5.66**	**294**	*e*P	**Pn**	**18 04 34.7**	**+2.5**
ORIF				*e*Sn	**Sn**	**18 05 31.4**	**-5.7**
	comp=E,23nm,0.7s						
GEC2	**GERESS Array S**	**6.06**	**4**	*e*Pn	**Pn**	**18 04 36.2**	**-1.4**
GERES	**GERESS Array B**	**6.06**	**4**	Pn	**Pn**	**18 04 37.3**	**-0.4**
	comp=E,2.5nm,0.3s,baz=177,slow=13,SNR=17						
GERES				Sn	**Sn**	**18 05 46.2**	**-0.7**
	comp=E,5.6nm,0.3s,baz=177,slow=24,SNR=7.5						
	comp=E,5.3nm,0.4s						
ZST	**Bratislava**	**6.07**	**26**	*e*SN	**Sn**	**18 05 44.3**	**-2.8**
SRO	**Srobarova**	**6.20**	**34**	*e*PN	**Pn**	**18 04 39.3**	**-0.2**
SRO				*e*SN	**Sn**	**18 05 51.1**	**+0.9**
MODS	**Modra-Piesok**	**6.28**	**26**	*e*PN	**Pn**	**18 04 40.9**	**+0.2**
MODS				*e*SN	**Sn**	**18 05 52.1**	**-0.3**
CABF	**La Chapelle**	**6.30**	**310**	*e*P	**Pn**	**18 04 43.4**	**+2.4**
CABF				*e*Sn	**Sn**	**18 05 46.8**	**-6.1**
	comp=E,7.3nm,0.5s						
WET	**Wettzell**	**6.34**	**358**	*e*Pn	**Pn**	**18 04 41.3**	**-0.3**
VIVF	**Saint-Julien-l**	**6.46**	**291**	*e*P	**Pn**	**18 04 45.7**	**+2.6**
VIVF				*e*Sn	**Sn**	**18 05 50.6**	**-6.1**
	comp=E,7.4nm,0.8s						
BFO	**Black Forest**	**6.47**	**330**	*e*Pn	**Pn**	**18 04 45.4**	**+2.1**
KRUC	**Moravsky**	**6.66**	**19**	*e*PN	**Pn**	**18 04 45.3**	**-0.5**
KRUC				*e*SN	**Sn**	**18 05 59.1**	**-2.5**
HINF	**Hinteralfeld**	**6.69**	**321**	*e*P	**Pn**	**18 04 47.1**	**+0.8**
HINF				*e*Sn	**Sn**	**18 05 55.7**	**-6.7**
	comp=E,41nm,0.5s						
ECH	**Echery**	**6.85**	**324**	*e*Pn	**Pn**	**18 04 49.4**	**+0.9**
LASF	**Ste Croix**	**6.87**	**284**	*e*P	**Pn**	**18 04 51.7**	**+2.9**
VRAC	**Vranov**	**6.94**	**19**	⇓P	**Pn**	**18 04 50.6**	**+1.0**
CDF	**Champ du Feu**	**6.95**	**326**	*e*P	**Pn**	**18 04 51.1**	**+1.2**
CDF				*e*Sn	**Sn**	**18 06 02.3**	**-6.6**
	comp=E,33nm,0.7s						
VYHS	**Vyhne**	**6.95**	**33**	*e*PN	**Pn**	**18 04 50.0**	**+0.1**
VYHS				*e*SN	**Sn**	**18 06 12.8**	**+4.0**
ROTZ	**Rotzenmuhle**	**7.00**	**355**	*e*Pn	**Pn**	**18 04 51.2**	**+0.7**
GRF	**Grafenberg Arr**	**7.02**	**350**	*e*Pn	**Pn**	**18 04 52.0**	**+1.2**
HAU	**Haudompre**	**7.06**	**320**	*e*P	**Pn**	**18 04 52.9**	**+1.5**
HAU				*e*Sn	**Sn**	**18 06 04.9**	**-6.6**
	comp=E,43nm,0.4s						
MANZ	**Manzenberg**	**7.22**	**355**	*e*Pn	**Pn**	**18 04 54.7**	**+1.2**
KEST	**Kesra**	**7.65**	**204**	Pn	**Pn**	**18 05 02.9**	**+3.4**
	comp=E,0.8nm,0.3s,baz=7.9,slow=1.8,SNR=7.0						
KEST				LR	LR	18 07 45.4	
	comp=E,69nm,21.5s,baz=338,slow=36						
	comp=E,6.1nm,0.6s						
SMF	**Signal de Mont**	**7.65**	**303**	*e*P	**Pn**	**18 05 02.6**	**+3.1**
SMF				*e*Sn	**Sn**	**18 06 19.2**	**-6.9**
	comp=E,12nm,0.5s						
PAGF	**Fort de Pagny**	**7.74**	**321**	*e*P	**Pn**	**18 05 03.0**	**+2.3**
PAGF				*e*Sn	**Sn**	**18 06 21.3**	**-7.0**
	comp=E,5.4nm,0.4s						
SFTF	**Sexfontaines**	**7.84**	**316**	*e*P	**Pn**	**18 05 04.9**	**+2.8**
SFTF				*e*Sn	**Sn**	**18 06 23.6**	**-7.1**
	comp=E,16nm,0.5s						
MOX	**Moxa**	**7.91**	**353**	*e*Pn	**Pn**	**18 05 02.2**	**-0.8**
LOR	**Lormes**	**7.94**	**307**	*e*P	**Pn**	**18 05 06.7**	**+3.2**
	baz=123						
LOR				*e*Sn	**Sn**	**18 06 26.1**	**-7.1**
	comp=E,7.3nm,0.3s						
MTLF	**Montolieu**	**8.01**	**278**	*e*P	**Pn**	**18 05 07.7**	**+3.3**
MTLF				*e*Sn	**Sn**	**18 06 28.0**	**-6.9**
	comp=E,2.2nm,0.6s						
AVF	**Avril sur Loir**	**8.02**	**303**	*e*P	**Pn**	**18 05 07.5**	**+3.0**
AVF				*e*Sn	**Sn**	**18 06 28.0**	**-7.0**
	comp=E,16nm,1.1s						
MEZF	**Maizieres J'vi**	**8.03**	**318**	*e*P	**Pn**	**18 05 07.6**	**+2.9**
MEZF				*e*Sn	**Sn**	**18 06 28.1**	**-7.2**
	comp=E,12nm,0.6s						
SSF	**Saint Saulge**	**8.05**	**305**	*e*P	**Pn**	**18 05 07.9**	**+3.0**
SSF				*e*Sn	**Sn**	**18 06 28.5**	**-7.3**
	comp=E,7.5nm,0.6s						
SAVF	**Savonnieres en**	**8.07**	**319**	*e*P	**Pn**	**18 05 08.3**	**+3.1**
SAVF				*e*Sn	**Sn**	**18 06 29.2**	**-7.1**
	comp=E,19nm,0.8s						
BRG	**Berggiesshubel**	**8.09**	**4**	*e*P	**Pn**	**18 05 07.0**	**+1.5**
BRG				Amp		18 05 07.7	
	comp=Z,6.5nm,0.8s						
BRG				*e*x	x	18 06 31.8	
BRG				*e*x	x	18 07 35.7	
BRG				Amp		18 07 54.9	
	comp=Z,14nm,1.2s						
TNS	**Taunus Mts**	**8.09**	**338**	*e*Pn	**Pn**	**18 05 07.4**	**+1.8**
BGF	**Bois d'Agland**	**8.24**	**301**	*e*P	**Pn**	**18 05 10.5**	**+3.0**
BGF				*e*Sn	**Sn**	**18 06 33.1**	**-7.3**
	comp=Z,26nm,1.1s						
CAF	**Calviac**	**8.28**	**289**	*e*P	**Pn**	**18 05 11.2**	**+3.1**
CAF				*e*Sn	**Sn**	**18 06 34.1**	**-7.4**
	comp=Z,0.4nm,0.2s						
TCF	**Toulx Ste Croi**	**8.54**	**298**	*e*P	**Pn**	**18 05 15.0**	**+3.2**
TCF				*e*Sn	**Sn**	**18 06 40.3**	**-7.7**
	comp=Z,1.7nm,0.5s						
HYF	**Humbligny**	**8.67**	**305**	*e*P	**Pn**	**18 05 16.8**	**+3.4**
RJF	**Les Rejaudoux**	**8.73**	**291**	*e*P	**Pn**	**18 05 17.5**	**+3.2**
LFF	**La Frestale**	**9.21**	**288**	*e*P	**Pn**	**18 05 24.2**	**+3.4**
GIVF	**Givet**	**9.28**	**325**	*e*P	**Pn**	**18 05 25.3**	**+3.5**
EPF	**Esparros**	**9.39**	**276**	*e*P	**Pn**	**18 05 26.9**	**+3.5**
ETSF	**Etsaut**	**10.06**	**275**	*e*P	**Pn**	**18 05 36.0**	**+3.4**
LDF	**La Druitiere**	**10.93**	**307**	*e*P	**Pn**	**18 05 47.8**	**+3.5**
LDF				*e*Sn	Sn	18 07 37.3	-9.1
	comp=Z,0.8nm,0.4s						
GRR	**Gorron**	**11.28**	**304**	*e*P	**Pn**	**18 05 52.1**	**+3.0**
GRR				*e*Sn	Sn	18 07 45.8	-9.2
	comp=Z,0.7nm,0.3s						
IDI	**Anoyia**	**11.82**	**126**	Pn	**Pn**	**18 05 58.0**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=5.4,slow=15,SNR=1.8						

IDI				Sn	**Sn**	**18 08 03.7**	**-4.7**		
	comp=Z,0.2nm,0.3s,baz=128,slow=23,SNR=1.7								
	comp=Z,14nm,1.0s								
SGMF	**Saint Gilles**	**12.27**	**302**	*e*P	**Pn**	**18 06 05.8**	**+3.1**		
ESDC	**Sonseca Array**	**13.24**	**262**	Pn	**Pn**	**18 06 18.9**	**+2.8**		
	baz=62,slow=12,SNR=3.1								
	comp=Z,0.4nm,0.7s								
BRTR	**Keskin Array B**	**15.72**	**94**	LR	LR	18 14 34.9			
	comp=Z,36nm,19.8s,baz=312,slow=44								
EKA	**Eskdalemuir Ar**	**16.41**	**325**	Pn	**P**	**18 07 00.8**	**-0.2**		
	baz=138,slow=14								
	comp=Z,0.6nm,0.5s								
FINES	**FINESS Array B**	**20.22**	**18**	P	**P**	**18 07 43.4**	**+0.6**		
	comp=Z,2.9nm,0.8s,baz=213,slow=7.4,SNR=4.3								
	comp=Z,2.9nm,0.8s								
TORD	**Torodi Ar. Bea**	**31.16**	**202**	P	**P**	**18 09 29.3**	**+2.3**		
	comp=Z,0.6nm,0.5s,baz=17,slow=9.0,SNR=5.9								
	comp=Z,0.6nm,0.5s								
ZALV	**Zalesovo Beam**	**46.94**	**50**	P	**P**	**18 11 38.9**	**+0.4**		
	comp=Z,0.5nm,0.4s,baz=269,slow=6.9,SNR=3.7								
	comp=Z,0.5nm,0.4s								
MKAR	**Makanchi Array**	**47.79**	**60**	P	**P**	**18 11 46.2**	**+0.9**		
	comp=Z,0.9nm,0.7s,baz=285,slow=8.1,SNR=7.3								
	comp=Z,0.9nm,0.7s								
SONM	**Songino Array**	**61.83**	**50**	P	**P**	**18 13 28.1**	**+1.0**		
	comp=Z,1.2nm,0.8s,baz=294,slow=8.8,SNR=7.0								
	comp=Z,1.2nm,0.8s								
YKA	**Yellowknife Ar**	**67.02**	**336**	P	**P**	**18 14 02.0**	**+1.5**		
	comp=Z,1.0nm,0.7s,baz=40,slow=5.6,SNR=2.5								
	comp=Z,1.0nm,0.7s								

NEIC ***01*** *18:10:37.5±1.8,0.°11N±0.°08×18.°1W±0.°2,h10km±2km, mb4.3/4, Error ellipse: s-maj=36.1km s-min=12.6km az=83.0*

IDC ***01*** *18:10:41.6±1.3,0.°19N×17.°76W,h0km, mb3.9/7, mbtmp4.1/9,ML4.9/3,MS3.4/24, Error ellipse: s-maj=41.3km s-min=26.0km az=147.0*

ISC 01 18:10:41.3±0.9,0.°0S±0.°1×17.°8W±0.°1,h10km,n46, σ1s57/22,mb4.3/8,MS3.5/22,3C,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.42**	**157**	T		T	18 21 34.4	
	baz=339,slow=74,SNR=1229							
H10N3	**ASCENSION HYDR**	**8.43**	**157**	T		T	18 21 34.0	
	baz=339,slow=74,SNR=2379							
H10N1	**ASCENSION HYDR**	**8.44**	**157**	T		T	18 21 36.5	
	baz=339,slow=74,SNR=2888							
ASCN	**Ascension**	**8.57**	**157**	Pn		**Pn**	**18 12 44.5**	**-1.0**
H10S3	**ASCENSION HYDR**	**9.40**	**161**	T		T	18 23 04.7	
	baz=342,slow=74,SNR=647							
H10S2	**ASCENSION HYDR**	**9.41**	**161**	T		T	18 23 06.9	
	baz=238,slow=74,SNR=64							
LIC	**Lamto**	**14.15**	**64**	↑*i*P		**Pn**	**18 14 03.6**	**+1.7**
	20nm,0.2s							
MBO	**M'Bour**	**14.34**	**3**	Pn		Pn	18 13 58.4	-6.1
TIC	**Toumodi**	**14.34**	**62**	↑*i*P		**Pn**	**18 14 05.4**	**+0.8**
	66nm,0.2s							
KIC	**Kosan Boka**	**14.46**	**64**	↑*i*P		**Pn**	**18 14 07.3**	**+1.0**
	46nm,0.3s							
DBIC	**Dimbokro**	**14.49**	**62**	Pn		**Pn**	**18 14 05.5**	**-1.2**
	12nm,0.3s,baz=289,slow=13,SNR=112							
DBIC				Sn		Sn	18 16 35.9	-12
	1.5nm,0.3s,baz=199,slow=16,SNR=3.3							
DBIC				LR		LR	18 18 33.0	
	comp=Z,89nm,19.7s,baz=182,slow=33							
	24nm,0.3s							
DBIC	**Dimbokro**	**14.49**	**62**			**Pn**	**18 14 05.0**	**-1.7**
BBTS	**Babate**	**14.63**	**5**	Pn		**Pn**	**18 14 07.8**	**-0.8**
	14nm,0.3s,baz=150,slow=19,SNR=2.7							
BBTS				Sn		Sn	18 16 35.7	-15
	4.8nm,0.3s,baz=140,slow=24,SNR=7.9							
BBTS				LR		LR	18 19 08.3	
	comp=Z,266nm,18.3s,baz=227,slow=35							
RCBR	**Riachuelo**	**19.00**	**252**	P		**P**	**18 15 04.6**	**+1.2**
	0.5nm,0.3s,baz=181,slow=9.7,SNR=12							
RCBR				S		Sn	18 18 18.8	-18
	11nm,1.0s,baz=90,slow=20,SNR=1.1							
	11nm,0.9s							
TOA0	**Torodi Ar. Sit**	**23.31**	**55**	P		**P**	**18 15 47.8**	**-1.9**
TORD	**Torodi Ar. Bea**	**23.31**	**55**	P		**P**	**18 15 49.1**	**-0.6**
	5.7nm,0.7s,baz=242,slow=9.9,SNR=29							
TORD				S		**S**	**18 20 03.7**	**+1.2**
	1.5nm,0.6s,baz=238,slow=21,SNR=3.3							
TORD				LR		LR	18 23 59.6	
	comp=Z,160nm,19.3s,baz=201,slow=34							
	5.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**23.31**	**55**	P		**P**	**18 15 47.8**	**-1.9**
TORD				IAmb		IAmb	18 16 01.6	
	comp=Z,13nm,1.3s							
MDT	**Midelt**	**34.93**	**20**	LR		LR	18 31 26.6	
	comp=Z,87nm,20.1s,baz=212,slow=36							
MDP	**Montagnes des**	**35.20**	**279**	LR		LR	18 29 46.7	
	comp=Z,39nm,18.1s,baz=24,slow=33							
TSUM	**Tsumeb**	**39.57**	**121**	LR		LR	18 30 55.9	
	comp=Z,48nm,19.9s,baz=326,slow=31							
ESDC	**Sonseca Array**	**41.47**	**16**	LR		LR	18 35 41.9	
	comp=Z,39nm,19.2s,baz=250,slow=36							
KEST	**Kesra**	**43.61**	**33**	LR		LR	18 38 19.2	
	comp=Z,136nm,19.3s,baz=248,slow=38							
CPUP	**Villa Florida**	**46.21**	**232**	LR		LR	18 36 43.6	
	comp=Z,46nm,18.8s,baz=40,slow=34							
LSZ	**Lusaka**	**47.85**	**111**	LR		LR	18 36 20.3	
	comp=Z,26nm,18.0s,baz=163,slow=32							
MBAR	**Mbarara**	**48.51**	**91**	P		**P**	**18 19 26.9**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=274,slow=15,SNR=1.3							
MBAR				LR		LR	18 38 45.0	
	comp=Z,46nm,18.1s,baz=242,slow=35							
	comp=Z,0.9nm,0.3s							
SUR	**Sutherland**	**48.58**	**135**	LR		LR	18 35 18.5	
	comp=Z,42nm,20.2s,baz=326,slow=30							
LBTB	**Lobatse**	**48.72**	**124**	LR		LR	18 38 11.3	
	comp=Z,27nm,18.2s,baz=258,slow=34							
SJG	**San Juan**	**50.83**	**294**	LR		LR	18 35 46.8	
	comp=Z,25nm,21.6s,baz=102,slow=30							
DAVOX	**Davos/Dischmat**	**52.51**	**24**	LR		LR	18 41 57.0	
	comp=Z,40nm,20.4s,baz=258,slow=36							
GERES	**GERESS Array B**	**55.72**	**25**	P		**P**	**18 20 19.5**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=211,slow=6.9,SNR=1.9							
	comp=Z,0.1nm,0.4s							
EIL	**Elat**	**58.20**	**55**	LR		LR	18 45 56.7	
	comp=Z,44nm,18.7s,baz=82,slow=36							
MLR	**Muntele Rosu**	**59.45**	**34**	LR		LR	18 47 23.7	
	comp=Z,58nm,20.8s,baz=265,slow=37							
ATAH	**Atahualpa**	**60.87**	**262**	LR		LR	18 46 36.7	
	comp=Z,39nm,18.1s,baz=92,slow=35							
BRTR	**Keskin Array B**	**61.26**	**43**	P		**P**	**18 20 58.4**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=215,slow=4.1,SNR=3.5							
BRTR				LR		LR	18 48 52.8	
	comp=Z,28nm,19.2s,baz=272,slow=38							
	comp=Z,0.8nm,0.6s							
PLCA	**Paso Flores**	**62.62**	**223**	LR		LR	18 44 56.1	
	comp=Z,33nm,21.0s,baz=170,slow=33							
AKASG	**Malin Array Be**	**64.31**	**31**	P		**P**	**18 21 17.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=232,slow=5.7,SNR=5.8							
AKASG				LR		LR	18 49 49.0	
	comp=Z,25nm,18.0s,baz=155,slow=37							
	comp=Z,0.4nm,0.5s							
NOA	**NORSAR Array B**	**64.82**	**15**	LR		LR	18 51 40.9	
	comp=Z,22nm,18.1s,baz=355,slow=38							
KBZ	**Khabaz**	**69.21**	**43**	P		**P**	**18 21 49.5**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=187,slow=8.1,SNR=2.6							
	comp=Z,2.0nm,0.9s							
GNI	**Garni**	**69.29**	**47**	LR		LR	18 54 10.7	
	comp=Z,26nm,18.6s,baz=244,slow=38							
FINES	**FINESS Array B**	**69.74**	**21**	P		**P**	**18 21 52.6**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=197,slow=4.4,SNR=4.9							
FINES				LR		LR	18 52 31.7	
	comp=Z,30nm,19.3s,baz=238,slow=36							
	comp=Z,2.9nm,0.8s							
FINES	**FINESS Array B**	**69.74**	**21**	P		**P**	**18 21 47.8**	**-3.5**
SNAA	**Sanae**	**72.18**	**175**	P		P	18 22 00.7	-5.4
SNAA				IAmb		IAmb	18 22 08.5	
	comp=Z,3.5nm,1.2s							
ABKAR	**Akbulak array**	**82.00**	**40**	P		**P**	**18 23 00.1**	**-1.6**
ABKAR	**Akbulak array**	**82.00**	**40**	P		**P**	**18 23 00.4**	**-1.2**
ABKAR				IAmb		IAmb	18 23 03.9	
	comp=Z,2.4nm,1.1s							
ASAR	**Alice Springs**	**143.80**	**133**	PKhKP		PKPpre	18 30 14.8	
	comp=Z,0.1nm,0.3s,baz=243,slow=1.5,SNR=1.2							
ASAR				PKP		pPKPdf	18 30 19.7	+0.5
	comp=Z,0.4nm,0.8s,baz=222,slow=2.2,SNR=2.4							
WRA	**Warramunga Arr**	**146.24**	**128**	PKPbc		**PKiKP**	**18 30 25.8**	**-0.5**
	comp=Z,1.8nm,1.3s,baz=228,slow=2.3,SNR=2.4							

PRU ***01*** *18:28:22.2±0.0,42.°66N×14.°98E,h10km*

ROM 01 18:28:25.9±0.0,42.°794N±0.°002×13.°122E±0.°003, h10km,ML2.8/37,36C-19D,Error ellipse: s-maj=0.2km s-min=0.2km az=268.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**352**	↑P		Pg	18 28 28.3	+0.3
NRCA				S		Sg	18 28 29.5	0.0
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
T1245	**Castelsantange**	**0.08**	**38**	↓P		Pg	18 28 28.8	+0.4
T1245				S		Sg	18 28 30.6	+0.3
T1245				AML		AML		
	comp=E,34650μm,0.3s							
T1245				AML		AML		
	comp=E,36500μm,0.2s							
T1245				AML		AML		
	comp=E,34700μm,0.3s							
T1245				AML		AML		
	comp=N,30850μm,0.7s							
T1245				AML		AML		
	comp=N,32400μm,0.7s							
T1216	**Preci, Frazion**	**0.12**	**322**	P		Pg	18 28 29.4	+0.5
T1216				AML		AML		
	comp=E,9795μm,1.5s							
T1216				AML		AML		
	comp=E,9760μm,1.5s							
T1216				AML		AML		
	comp=E,9790μm,1.4s							
T1216				AML		AML		
	comp=N,13600μm,0.2s							
T1216				AML		AML		
	comp=N,13550μm,0.2s							
T1216				AML		AML		
	comp=E,9805μm,1.5s							
T1217	**Poggiodomo (PG**	**0.16**	**240**	P		Pg	18 28 30.2	+0.6
T1217				S		Sg	18 28 33.3	+1.2
T1217				AML		AML		
	comp=E,5015μm,0.4s							
T1217				AML		AML		
	comp=N,7600μm,0.3s							
T1217				AML		AML		
	comp=E,4995μm,0.4s							
T1217				AML		AML		
	comp=N,7310μm,0.3s							
T1217				AML		AML		
	comp=N,7580μm,0.3s							
T1217				AML		AML		
	comp=E,5020μm,0.3s							
T1217				AML		AML		
	comp=N,7605μm,0.3s							
T1217				AML		AML		
	comp=N,7305μm,0.3s							
T1201	**Domo (RI)**	**0.17**	**145**	P		Pb	18 28 30.4	-0.7
FEMA	**Monte Fema**	**0.18**	**342**	P		Pg	18 28 30.3	+0.5
FEMA				S		Sg	18 28 33.4	+0.9
FEMA				AML		AML		
	comp=N,12500μm,0.1s							
FEMA				AML		AML		
	comp=N,12540μm,0.1s							
FEMA				AML		AML		
	comp=E,13050μm,1.1s							
FEMA				AML		AML		
	comp=N,12530μm,0.1s							
MMO1	**Montemonaco**	**0.18**	**55**	P		Pg	18 28 30.4	+0.5
MMO1				S		Sg	18 28 33.8	+1.1
T1204	**Amatrice, Fraz**	**0.19**	**129**	P		Pg	18 28 30.6	+0.6
T1215	**Vallo di Nera,**	**0.19**	**272**	↑P		Pg	18 28 30.5	+0.6
T1215				S		Sg	18 28 33.6	+1.0
T1215				AML		AML		
	comp=E,3180μm,0.5s							
T1215				AML		AML		
	comp=N,3875μm,0.1s							
T1215				AML		AML		
	comp=E,3175μm,0.5s							
T1215				AML		AML		
	comp=N,3880μm,0.1s							
T1215				AML		AML		
	comp=E,3175μm,0.4s							
T1215				AML		AML		
	comp=E,3355μm,0.7s							
T1215				AML		AML		
	comp=N,3660μm,0.1s							
T1215				AML		AML		
	comp=E,3355μm,0.7s							
T1215				AML		AML		
	comp=N,3660μm,0.1s							
LNSS	**Leonessa**	**0.20**	**198**	↓P		Pg	18 28 30.9	+0.7
LNSS				S		Sg	18 28 34.8	+1.6
LNSS				AML		AML		
	comp=E,4605μm,0.2s							
LNSS				AML		AML		
	comp=N,10400μm,0.3s							
T1256	**Bolognola (MC)**	**0.23**	**20**	P		Pg	18 28 31.2	+0.5
T1256				S		Sg	18 28 35.0	+1.1
T1256				AML		AML		
	comp=E,2190μm,0.5s							
T1256				AML		AML		
	comp=N,2825μm,0.1s							
T1256				AML		AML		
	comp=E,2325μm,0.5s							
T1256				AML		AML		
	comp=N,2790μm,0.1s							
SMA1	**SAN MARTINO**	**0.23**	**136**	↑P		Pg	18 28 31.2	+0.6
SMA1				AML		AML		
	comp=N,5295μm,0.3s							
SMA1				AML		AML		
	comp=E,5835μm,0.5s							
SMA1				AML		AML		
	comp=N,5300μm,0.3s							
T1241	**Roccafluvione,**	**0.24**	**75**	↑P		Pg	18 28 31.3	+0.6
T1241				S		Sg	18 28 35.4	+1.3
T1241				AML		AML		
	comp=E,4820μm,0.1s							
T1241				AML		AML		
	comp=N,4235μm,0.3s							
T1241				AML		AML		
	comp=N,4240μm,0.3s							
FDMO	**Fiordimonte**	**0.24**	**354**	P		Pg	18 28 31.5	+0.5
FDMO				S		Sg	18 28 35.5	+1.2
FDMO				AML		AML		
	comp=N,3790μm,0.8s							
FDMO				AML		AML		
	comp=E,5850μm,0.2s							
AM05	**Amandola Campo**	**0.25**	**43**	↑P		Pg	18 28 31.7	+0.6
AM05				S		Sg	18 28 35.7	+1.2
AM05				AML		AML		
	comp=E,7615μm,0.3s							
AM05				AML		AML		
	comp=N,526μm,0.4s							
AM05				AML		AML		
	comp=E,1620μm,1.1s							
AM05				AML		AML		
	comp=N,1590μm,0.4s							
AM05				AML		AML		
	comp=N,527μm,0.4s							
T1243	**Rocca Santa Ma**	**0.26**	**112**	P		Pg	18 28 31.7	+0.5
T1243				S		Sb	18 28 36.1	-1.1
CESI	**CESI - Serrava**	**0.26**	**323**	↑P		Pg	18 28 31.8	+0.5
CESI				S		Sg	18 28 36.2	+1.2
CESI				AML		AML		
	comp=E,5890μm,0.3s							
CESI				AML		AML		
	comp=N,9950μm,0.3s							
RM33	**Pellescritta (**	**0.29**	**167**	↑P		Pg	18 28 32.3	+0.4
RM33				AML		AML		
	comp=E,2945μm,0.5s							
RM33				AML		AML		
	comp=E,2905μm,0.5s							
RM33				AML		AML		
	comp=N,2315μm,1.2s							
RM33				AML		AML		
	comp=E,2940μm,0.5s							
RM33				AML		AML		
	comp=N,2310μm,1.2s							
RM33				AML		AML		
	comp=N,2240μm,1.2s							
RM33				AML		AML		
	comp=E,2910μm,0.5s							
GUMA	**Gualdo di Mace**	**0.31**	**30**	↑P		Pb	18 28 33.0	-0.6
GUMA				S		Sb	18 28 38.2	-0.4
GUMA				AML		AML		
	comp=E,4775μm,0.7s							
GUMA				AML		AML		
	comp=N,5135μm,0.3s							
GUMA				AML		AML		
	comp=N,4245μm,0.3s							
GUMA				AML		AML		
	comp=N,5140μm,0.3s							
GUMA				AML		AML		
	comp=E,4725μm,1.0s							
GUMA				AML		AML		
	comp=E,4770μm,0.7s							
T1211	**Morro Reatino**	**0.33**	**217**	P		Pg	18 28 33.1	+0.6
T1211				S		Sb	18 28 38.4	-0.7
T1211				AML		AML		
	comp=E,2405μm,0.2s							
T1211				AML		AML		
	comp=N,3225μm,1.3s							
T1211				AML		AML		
	comp=N,3170μm,1.3s							
T1211				AML		AML		
	comp=N,3225μm,1.3s							
T1211				AML		AML		
	comp=N,3170μm,1.3s							
T1211				AML		AML		
	comp=E,2355μm,0.2s							
CAMP	**Campotosto**	**0.33**	**141**	↑P		Pg	18 28 32.9	+0.3
CAMP				S		Sg	18 28 38.2	+1.2
CAMP				AML		AML		
	comp=E,1224μm,0.3s							
CAMP				AML		AML		
	comp=N,1032μm,0.2s							
ARRO	**Arrone**	**0.34**	**231**	↑P		Pg	18 28 33.2	+0.6
ARRO				AML		AML		
	comp=N,1490μm,1.2s							
ARRO				AML		AML		
	comp=E,1190μm,0.2s							
ARRO				AML		AML		
	comp=N,1495μm,1.2s							
T1246	**Crognaleto (TE**	**0.34**	**128**	P		Pg	18 28 33.1	+0.4
SEF1	**Sefro**	**0.38**	**340**	P		Pg	18 28 33.7	+0.3
SEF1				AML		AML		
	comp=N,7475μm,1.3s							
SEF1				AML		AML		
	comp=N,7480μm,1.3s							
SEF1				AML		AML		
	comp=E,5030μm,0.6s							
T1247	**Pizzolo (AQ)**	**0.38**	**160**	P		Pg	18 28 33.7	+0.3
T1247				AML		AML		
	comp=N,2245μm,0.3s							
T1247				AML		AML		
	comp=E,2360μm,0.2s							
TERO	**Teramo**	**0.39**	**116**	↑P		Pg	18 28 33.8	+0.2
TERO				AML		AML		
	comp=E,2205μm,0.1s							
TERO				AML		AML		
	comp=N,1810μm,0.5s							
TERO				AML		AML		
	comp=E,2505μm,0.1s							
TERO				AML		AML		
	comp=N,2085μm,0.5s							
TERO				AML		AML		
	comp=E,2210μm,0.1s							
PIO1	**Pioraco**	**0.40**	**345**	P		Pg	18 28 34.1	+0.3
MDAR	**Monte D'Aria**	**0.40**	**2**	P		Pg	18 28 34.2	+0.4
FIU1	**Fiuminata**	**0.42**	**341**	P		Pg	18 28 34.1	0.0
ASSB	**Assisi San Ben**	**0.42**	**306**	↑P		Pg	18 28 34.4	+0.2
ASSB				AML		AML		
	comp=E,2425μm,0.8s							
ASSB				AML		AML		
	comp=N,1710μm,0.6s							
SSM1	**San Severino M**	**0.44**	**5**	P		Pg	18 28 34.5	+0.1
OFFI	**Offida**	**0.44**	**71**	P		Pb	18 28 35.6	-0.1
OFFI				AML		AML		
	comp=E,1685μm,1.5s							
OFFI				AML		AML		
	comp=N,1885μm,0.7s							
CESX	**Cesi**	**0.44**	**245**	↑P		Pg	18 28 34.8	+0.2
CESX				AML		AML		
	comp=E,1215μm,0.5s							
CESX				AML		AML		
	comp=N,1235μm,0.3s							
GAG1	**Gagliole**	**0.45**	**355**	P		Pg	18 28 35.2	+0.5
GAG1				AML		AML		
	comp=N,3970μm,0.9s							
GAG1				AML		AML		
	comp=N,3965μm,0.9s							
GAG1				AML		AML		
	comp=E,4225μm,1.1s							
GIGS	**Gran Sasso**	**0.48**	**136**	P		Pg	18 28 35.2	-0.1
GIGS				AML		AML		
	comp=E,289μm,0.6s							
GIGS				AML		AML		
	comp=N,354μm,0.1s							
SNTG	**Esanatoglia**	**0.48**	**344**	↑P		Pg	18 28 35.5	+0.2
SNTG				S		Sb	18 28 43.1	-0.4
SNTG				AML		AML		
	comp=E,1190μm,0.1s							
SNTG				AML		AML		
	comp=N,872μm,0.5s							
SNTG				AML		AML		
	comp=E,1245μm,0.1s							
SNTG				AML		AML		
	comp=N,922μm,0.4s							
AQU	**L'Aquila**	**0.49**	**155**	P		Pg	18 28 35.5	+0.1
FIAM	**Fiamignano**	**0.53**	**180**	↑P		Pg	18 28 34.8	-1.3
FIAM				S		Sb	18 28 45.0	+0.1
FIAM				AML		AML		
	comp=E,523μm,0.5s							
FIAM				AML		AML		
	comp=N,394μm,0.3s							
ATCC	**AVT- Casa Cast**	**0.53**	**318**	↑P		Pg	18 28 36.4	+0.2
ATCC				AML		AML		
	comp=E,1410μm,0.6s							
ATCC				AML		AML		
	comp=N,1235μm,1.4s							
EL6	**Elcito**	**0.54**	**358**	↑P		Pg	18 28 36.6	+0.2
EL6				S		Sb	18 28 45.0	-0.2
EL6				AML		AML		
	comp=E,2110μm,0.2s							
EL6				AML		AML		
	comp=N,1378μm,0.4s							
EL6				AML		AML		
	comp=N,1378μm,0.4s							
FOSV	**Fossato di Vic**	**0.57**	**332**	↑P		Pg	18 28 37.0	+0.1
CING	**Cingoli**	**0.58**	**5**	P		Pg	18 28 37.5	+0.2
CING				AML		AML		
	comp=E,917μm,0.1s							
CING				AML		AML		
	comp=N,800μm,1.4s							
TRTR	**Tortoreto Alta**	**0.58**	**88**	↑P		Pb	18 28 38.6	+0.4
TRTR				AML		AML		
	comp=E,1625μm,0.4s							
TRTR				AML		AML		
	comp=N,1775μm,0.4s							
FAGN	**Fagnano**	**0.63**	**147**	↓P		Pb	18 28 39.0	+0.1
FAGN				S		Sb	18 28 49.0	+1.2
FAGN				AML		AML		
	comp=E,1026μm,0.9s							
FAGN				AML		AML		
	comp=N,1013μm,0.3s							
MURB	**Monte Urbino**	**0.64**	**317**	P		Pg	18 28 38.5	+0.2
MURB				AML		AML		
	comp=N,2340μm,0.3s							
MURB				AML		AML		
	comp=N,2215μm,0.4s							
MURB				AML		AML		
	comp=N,2335μm,0.3s							
MURB				AML		AML		
	comp=E,2695μm,1.0s							
MURB				AML		AML		
	comp=E,2395μm,1.0s							
VCEL	**Villa Celiera**	**0.66**	**127**	↑P		Pg	18 28 39.0	+0.2
VCEL				AML		AML		
	comp=N,860μm,0.4s							
VCEL				AML		AML		
	comp=N,860μm,0.4s							
VCEL				AML		AML		
	comp=E,846μm,0.2s							
PP3	**Marolino**	**0.68**	**31**	P		Pb	18 28 39.8	0.0
PP3				AML		AML		
	comp=E,1545μm,0.4s							
PP3				AML		AML		
	comp=N,846μm,1.0s							
PP3				AML		AML		
	comp=E,1530μm,0.4s							

PP3				AML	AML			
	comp=N,800μm,0.4s							
PP3				AML	AML			
	comp=E,1540μm,0.4s							
PP3				AML	AML			
	comp=E,1535μm,0.4s							
PP3				AML	AML			
	comp=N,800μm,0.4s							
SSFR	**Montelago di S**	**0.69**	**339**	↑P	Pg	18 28 39.5	+0.3	
SSFR				AML	AML			
	comp=E,989μm,0.8s							
SSFR				AML	AML			
	comp=N,1340μm,0.9s							
SSFR				AML	AML			
	comp=N,1295μm,0.4s							
SSFR				AML	AML			
	comp=E,994μm,0.2s							
ATTE	**AVT- Monte Tez**	**0.69**	**306**	↑P	Pb	18 28 39.7	-0.3	
ATTE				AML	AML			
	comp=N,427μm,0.2s							
ATTE				AML	AML			
	comp=E,454μm,0.5s							
ATFO	**Monte Foce - G**	**0.70**	**325**	↑P	Pg	18 28 39.5	+0.1	
ATFO				AML	AML			
	comp=N,653μm,0.3s							
ATFO				AML	AML			
	comp=E,430μm,0.3s							
ARVD	**Arcevia**	**0.72**	**349**	↑P	Pg	18 28 39.7	0.0	
ARVD				S	Sn	18 28 52.0	-1.1	
ARVD				AML	AML			
	comp=E,400μm,0.6s							
ARVD				AML	AML			
	comp=N,344μm,0.1s							
T0110	**Collepietro**	**0.75**	**139**	↑P	Pg	18 28 39.9	-0.4	
T0110				AML	AML			
	comp=E,626μm,0.7s							
T0110				AML	AML			
	comp=N,568μm,0.6s							
T0110				AML	AML			
	comp=E,625μm,0.7s							
T0110				AML	AML			
	comp=N,569μm,0.6s							
MGAB	**Montegabbione**	**0.75**	**279**	↑P	Pg	18 28 40.5	+0.1	
MGAB				AML	AML			
	comp=E,580μm,0.3s							
MGAB				AML	AML			
	comp=N,612μm,0.2s							
MGAB				AML	AML			
	comp=N,596μm,0.8s							
MGAB				AML	AML			
	comp=E,580μm,0.3s							
MGAB				AML	AML			
	comp=E,672μm,0.3s							
FRON	**Frontone**	**0.78**	**338**	↑P	Pg	18 28 40.9	0.0	
FRON				AML	AML			
	comp=E,364μm,1.0s							
FRON				AML	AML			
	comp=N,598μm,0.3s							
ATVO	**AVT- Monte Val**	**0.79**	**319**	↓P	Pg	18 28 41.0	-0.1	
ATVO				AML	AML			
	comp=E,312μm,0.8s							
ATVO				AML	AML			
	comp=N,283μm,0.4s							
ATVO				AML	AML			
	comp=E,312μm,0.8s							
ATMI	**Monte Miggiano**	**0.83**	**311**	↓P	Pb	18 28 42.7	+0.4	
ATMI				AML	AML			
	comp=E,964μm,1.6s							
ATMI				AML	AML			
	comp=N,922μm,0.9s							
ATPI	**Pietralunga -**	**0.84**	**321**	↓P	Pg	18 28 42.0	-0.1	
ATPI				S	Sn	18 28 56.0	-0.3	
ATPI				AML	AML			
	comp=N,266μm,1.6s							
ATPI				AML	AML			
	comp=E,207μm,0.5s							
ATPI				AML	AML			
	comp=N,266μm,1.6s							
PIEI	**Pieia**	**0.86**	**330**	↓P	Pg	18 28 42.2	-0.2	
PIEI				AML	AML			
	comp=E,330μm,1.6s							
PIEI				AML	AML			
	comp=N,218μm,0.8s							
MPAG	**Monte Paganucc**	**0.88**	**342**	P	Pb	18 28 43.1	-0.1	
MPAG				AML	AML			
	comp=N,248μm,0.7s							
MPAG				AML	AML			
	comp=E,332μm,0.7s							
MPAG				AML	AML			
	comp=N,248μm,0.7s							
SACS	**San Casciano d**	**0.89**	**274**	P	Pb	18 28 43.5	0.0	
SACS				AML	AML			
	comp=E,236μm,1.6s							
SACS				AML	AML			
	comp=N,216μm,0.5s							
SACS				AML	AML			
	comp=N,216μm,0.5s							
NARO	**Abbazia di Nar**	**0.91**	**334**	P	Pg	18 28 43.1	-0.2	
NARO				S	Sn	18 28 58.0	+0.2	
NARO				AML	AML			
	comp=E,165μm,0.5s							
NARO				AML	AML			
	comp=N,134μm,0.2s							
FSSB	**Fossombrone**	**0.93**	**344**	P	Pg	18 28 43.7	-0.2	
FSSB				S	Sn	18 28 60.0	+1.5	
FSSB				AML	AML			
	comp=E,622μm,0.2s							
FSSB				AML	AML			
	comp=N,1135μm,0.4s							
BADI	**Badiali**	**0.96**	**318**	↑P	Pb	18 28 44.5	-0.1	
LATE	**Laterza**	**0.99**	**260**	↓P	Pn	18 28 45.5	-0.3	
CAFI	**Castiglion Fio**	**1.00**	**303**	↓P	Pg	18 28 45.2	0.0	
CAFI				AML	AML			
	comp=E,182μm,0.3s							
CAFI				AML	AML			
	comp=N,148μm,1.2s							
PE3	**Peglio**	**1.01**	**333**	↑P	Pn	18 28 46.0	-0.1	
PE3				AML	AML			
	comp=E,5μm,0.1s							
PE3				AML	AML			
	comp=N,8μm,0.2s							
MCIV	**Monte Civitell**	**1.06**	**270**	P	Pn	18 28 47.1	+0.2	
MCIV				AML	AML			
	comp=N,137μm,0.8s							
MCIV				AML	AML			
	comp=E,95μm,1.2s							
LPEL	**Lama dei Pelig**	**1.08**	**133**	↓P	Pg	18 28 45.8	-0.9	
LPEL				AML	AML			
	comp=N,186μm,0.2s							
LPEL				AML	AML			
	comp=E,165μm,1.0s							
CRE	**Caprese Michel**	**1.19**	**314**	P	Pg	18 28 48.9	+0.1	
CRE				AML	AML			
	comp=E,85μm,0.3s							
CRE				AML	AML			
	comp=N,102μm,0.3s							
FRES	**Fresagrandinar**	**1.41**	**125**	↓P	Pg	18 28 53.6	+0.6	
MIDA	**Miranda**	**1.43**	**143**	↑P	Pg	18 28 54.3	+1.1	
TRIV	**Trivento**	**1.48**	**134**	↓P	Pg	18 28 55.2	+1.0	
VAGA	**Valle Agricola**	**1.61**	**149**	↑P	Pg	18 28 57.7	+1.0	
LMD	**Lutirano**	**1.65**	**322**	P	Pb	18 28 56.0	-0.3	
LMD				AML	AML			
	comp=E,45μm,0.8s							
LMD				AML	AML			
	comp=N,39μm,0.5s							
CASP	**Castiglione de**	**1.66**	**271**	↑P	Pn	18 28 55.1	+0.1	
MELA	**Melanico ??? S**	**1.84**	**125**	↓P	Pb	18 28 59.6	-0.1	
MELA				AML	AML			
	comp=E,502μm,0.6s							
MELA				AML	AML			
	comp=N,426μm,0.6s							
MELA				AML	AML			
	comp=N,106μm,1.6s							
MELA				AML	AML			
	comp=E,85μm,1.6s							
TREM	**Isole Tremiti**	**1.89**	**110**	↓P	Pb	18 29 00.1	-0.3	
APRC	**Apricena**	**2.07**	**119**	↓P	Pb	18 29 02.3	-1.3	
VBKN	**Vesuvio Bunker**	**2.19**	**153**	↓P	Pg	18 29 07.4	-0.5	
CRTO	**Cratere Ovest,**	**2.20**	**153**	P	Pg	18 29 07.4	-0.6	
VARP	**Vesuvio Array**	**2.20**	**154**	↑P	Pg	18 29 08.5	+0.5	
SGRT	**San Giovanni R**	**2.21**	**117**	↓P	Pn	18 29 04.2	+1.6	
SGRT				AML	AML			
	comp=E,53μm,1.0s							
SGRT				AML	AML			
	comp=N,46μm,0.7s							
VTIR	**Vesuvio Tirone**	**2.21**	**153**	P	Pg	18 29 07.9	-0.4	

CAVE	**Cavezzo**	**2.58**	**324**	S	Sb	18 29 42.0	-1.8
VENL	**Venezia Lido**	**2.68**	**349**	↑P	Pb	18 29 14.2	+0.4
STON	**Ston**	**3.37**	**87**	P	Pn	18 29 18.4	-0.1
CTI	**Castel Tesino**	**3.42**	**343**	P	Pn	18 29 21.0	+1.7
CIMO	**Cimolais**	**3.55**	**352**	↑P	Pn	18 29 22.8	+1.8
NOCI	**Noci**	**3.56**	**123**	↑P	Pn	18 29 23.0	+1.8
ZAG	**Zagreb**	**3.66**	**33**	S	Sn	18 30 03.0	-2.7
EUCT	**Pavia**	**3.75**	**311**	S	Sg	18 30 23.0	-3.3
ZOU	**Zoufplan**	**3.76**	**358**	P	Pn	18 29 26.1	+1.9
KOSI	**Kohlern**	**3.87**	**342**	↓P	Pn	18 29 28.4	+2.8
IMI	**Imperia**	**3.97**	**288**	P	Pb	18 29 36.9	+1.0
RISI	**Rein**	**4.22**	**350**	↓P	Pn	18 29 33.0	+2.7
KHC	**Kasperske Hory**	**6.35**	**3**	*e*SN	Sn	18 31 10.5	-1.4

*ROM **01** 18:47:50.9±0.0, 42°.729N±0°.002×13°.220E±0°.004, h10km, ML3.4/113, Error ellipse: s-maj=0.3km s-min=0.1km az=249.0*
*PDG **01** 18:47:51.6±0.6, 42°.74N×13°.21E, h13km, ML3.6/12, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*IDC **01** 18:47:51.3±1.2, 42°.81N×13°.41E, h0km, mb3.7/5, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=30.8km s-min=14.1km az=93.0*
*PRU **01** 18:47:53.3±0.0, 42°.76N×13°.49E, h10km*
*STR **01** 18:47:56.7±2.4, 43°N±7°×1°3E±2°0, h10km, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=99.9, preliminary*
ISC 01 18:47:52.0±0.7, 42°.75N±0°.01×13°.22E±0°.02, h10km±4km, n245, σ1°22/296, mb3.8/4, 76C-69D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.10**	**135**	P	**Pg**	**18 47 54.1**	**-0.6**
T1204				S	**Sg**	**18 47 55.9**	**-0.7**
T1204				AML	AML		
	comp=E,83550μm,0.6s						
T1204				AML	AML		
	comp=N,50050μm,0.3s						
T1204				AML	AML		
	comp=E,83600μm,0.6s						
T1204				AML	AML		
	comp=N,50000μm,0.3s						
T1245	**Castelsantange**	**0.11**	**347**	↓P	**Pg**	**18 47 54.6**	**-0.4**
T1245				S	**Sg**	**18 47 56.9**	**-0.2**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
NRCA	**Norcia**	**0.12**	**318**	↓P	**Pg**	**18 47 54.5**	**-0.4**
NRCA				S	**Sg**	**18 47 56.8**	**-0.3**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
MMO1	**Montemonaco**	**0.17**	**27**	↓P	**Pg**	**18 47 55.5**	**-0.2**
MMO1				S	**Sg**	**18 47 58.7**	**+0.3**
T1243	**Rocca Santa Ma**	**0.17**	**106**	↑P	**Pg**	**18 47 55.2**	**-0.5**
T1243				S	**Sg**	**18 47 58.0**	**-0.5**
T1241	**Roccafluvione,**	**0.19**	**54**	↑P	**Pg**	**18 47 55.8**	**-0.3**
T1241				S	**Sg**	**18 47 59.1**	**+0.3**
T1241				AML	AML		
	comp=E,68150μm,0.4s						
T1241				AML	AML		
	comp=N,30750μm,0.4s						
T1241				AML	AML		
	comp=E,66050μm,0.4s						
T1241				AML	AML		
	comp=E,66100μm,0.4s						
T1241				AML	AML		
	comp=N,34400μm,1.2s						
LNSS	**Leonessa**	**0.20**	**223**	↑P	**Pg**	**18 47 55.6**	**-0.5**
LNSS				S	**Sg**	**18 47 58.8**	**-0.2**
T1216	**Preci, Frazion**	**0.21**	**314**	↓P	**Pg**	**18 47 56.0**	**-0.3**
T1216				S	**Sg**	**18 47 59.6**	**+0.3**
T1216				AML	AML		
	comp=E,26600μm,1.0s						
T1216				AML	AML		
	comp=N,25650μm,0.5s						
T1216				AML	AML		
	comp=E,26550μm,1.0s						
T1216				AML	AML		
	comp=N,25700μm,0.5s						
T1217	**Poggiodomo (PG**	**0.22**	**261**	↑P	**Pg**	**18 47 56.0**	**-0.5**
T1217				S	**Sg**	**18 47 59.5**	**-0.1**
T1217				AML	AML		
	comp=E,40450μm,0.2s						
T1217				AML	AML		
	comp=N,43850μm,1.5s						
T1217				AML	AML		
	comp=E,40650μm,0.2s						
T1217				AML	AML		
	comp=N,44450μm,1.4s						
T1217				AML	AML		
	comp=E,40450μm,0.2s						
T1217				AML	AML		
	comp=N,43850μm,1.5s						
T1217				AML	AML		
	comp=E,40650μm,0.2s						
T1217				AML	AML		
	comp=N,44500μm,1.5s						
T1217				AML	AML		
	comp=E,40500μm,0.2s						
RM33	**Pellescritta (**	**0.24**	**181**	P	**Pg**	**18 47 56.2**	**-0.7**
RM33				S	**Sg**	**18 47 59.9**	**-0.3**
RM33				AML	AML		
	comp=E,27850μm,0.6s						
RM33				AML	AML		
	comp=N,28750μm,0.9s						
RM33				AML	AML		
	comp=N,28350μm,0.9s						
RM33				AML	AML		
	comp=E,27850μm,0.6s						
RM33				AML	AML		
	comp=N,28750μm,0.9s						
RM33				AML	AML		
	comp=N,28400μm,0.9s						
RM33				AML	AML		
	comp=E,27250μm,0.6s						
AM05	**Amandola Campo**	**0.25**	**23**	↓P	**Pg**	**18 47 57.1**	**-0.1**
AM05				S	**Sg**	**18 48 01.5**	**+0.9**
AM05				AML	AML		
	comp=E,7060μm,1.1s						
AM05				AML	AML		
	comp=N,2165μm,0.1s						
AM05				AML	AML		
	comp=N,7495μm,0.3s						
AM05				AML	AML		
	comp=E,28350μm,0.6s						
CAMP	**Campotosto**	**0.25**	**147**	P	**Pg**	**18 47 56.4**	**-0.7**
CAMP				S	**Sg**	**18 48 00.3**	**-0.3**
CAMP				AML	AML		
	comp=N,15750μm,0.5s						
CAMP				AML	AML		
	comp=E,18900μm,0.4s						
FEMA	**Monte Fema**	**0.25**	**330**	↑P	**Pg**	**18 47 56.9**	**-0.2**
FEMA				S	**Sg**	**18 48 01.3**	**+0.6**
FEMA				AML	AML		
	comp=E,26750μm,0.7s						
FEMA				AML	AML		
	comp=N,23750μm,1.4s						
FEMA				AML	AML		
	comp=E,26750μm,0.6s						
FEMA				AML	AML		
	comp=N,23700μm,1.4s						
T1256	**Bolognola (MC)**	**0.26**	**1**	↓P	**Pg**	**18 47 57.0**	**-0.3**
T1256				S	**Sg**	**18 48 01.5**	**+0.5**
T1256				AML	AML		
	comp=E,23750μm,0.5s						
T1256				AML	AML		
	comp=N,26500μm,0.4s						
T1256				AML	AML		
	comp=E,23700μm,0.4s						
T1256				AML	AML		
	comp=N,25150μm,0.4s						
T1256				AML	AML		
	comp=E,23750μm,0.4s						
T1256				AML	AML		
	comp=E,23650μm,0.4s						
T1256				AML	AML		
	comp=N,26500μm,0.4s						
T1215	**Vallo di Nera,**	**0.27**	**282**	↑P	**Pg**	**18 47 56.9**	**-0.5**
T1215				AML	AML		
	comp=E,13900μm,1.5s						

T1215				AML	AML		
	comp=N,16200μm,0.6s						
T1215				AML	AML		
	comp=E,12900μm,1.5s						
T1215				AML	AML		
	comp=N,17100μm,0.6s						
T1215				AML	AML		
	comp=E,12950μm,1.5s						
T1215				AML	AML		
	comp=N,17050μm,0.6s						
T1215				AML	AML		
	comp=E,13850μm,1.5s						
FDMO	**Fiordimonte**	**0.31**	**341**	P	**Pg**	**18 47 57.8**	**-0.3**
FDMO				S	**Sb**	**18 48 03.3**	**-1.4**
TERO	**Teramo**	**0.31**	**113**	↑P	**Pg**	**18 47 57.4**	**-0.7**
TERO				S	**Sg**	**18 48 02.2**	**0.0**
TERO				AML	AML		
	comp=N,31750μm,0.3s						
TERO				AML	AML		
	comp=E,18350μm,1.3s						
TERO				AML	AML		
	comp=E,16900μm,1.3s						
TERO				AML	AML		
	comp=N,35000μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.31**	**169**	↓P	**Pg**	**18 47 57.5**	**-0.7**
T1247				S	**Sg**	**18 48 02.3**	**0.0**
T1247				AML	AML		
	comp=N,36400μm,0.2s						
T1247				AML	AML		
	comp=E,24850μm,1.1s						
T1211	**Morro Reatino**	**0.34**	**232**	↑P	**Pg**	**18 47 57.9**	**-0.9**
T1211				S	**Sg**	**18 48 04.0**	**+0.6**
T1211				AML	AML		
	comp=E,18600μm,1.0s						
T1211				AML	AML		
	comp=N,25550μm,0.3s						
T1211				AML	AML		
	comp=E,19300μm,1.0s						
T1211				AML	AML		
	comp=N,25650μm,0.3s						
CSP1	**Cessapalombo**	**0.35**	**358**	↑P	**Pg**	**18 47 56.6**	**-2.3**
CSP1				S	**Sb**	**18 48 05.0**	**-0.9**
CSP1				AML	AML		
	comp=E,20900μm,0.2s						
CSP1				AML	AML		
	comp=N,26700μm,0.2s						
CESI	**CESI - Serrava**	**0.35**	**318**	↓P	**Pg**	**18 47 58.6**	**-0.3**
CESI				S	**Sg**	**18 48 04.2**	**+0.6**
CESI				AML	AML		
	comp=E,10395μm,0.2s						
CESI				AML	AML		
	comp=N,16800μm,0.3s						
ARRO	**Arrone**	**0.38**	**244**	↑P	**Pg**	**18 47 58.6**	**-0.7**
ARRO				AML	AML		
	comp=E,8480μm,1.1s						
ARRO				AML	AML		
	comp=N,8240μm,0.7s						
ARRO				AML	AML		
	comp=N,8235μm,0.7s						
ARRO				AML	AML		
	comp=E,8485μm,1.1s						
OFFI	**Offida**	**0.39**	**61**	↑P	**Pb**	**18 48 00.1**	**-0.8**
OFFI				AML	AML		
	comp=N,28350μm,0.3s						
OFFI				AML	AML		
	comp=E,31250μm,0.3s						
GIGS	**Gran Sasso**	**0.39**	**139**	↓P	**Pg**	**18 47 58.6**	**-1.1**
GIGS				S	**Sg**	**18 48 04.4**	**-0.5**
GIGS				AML	AML		
	comp=N,3355μm,0.5s						
GIGS				AML	AML		
	comp=E,6585μm,0.2s						
AQU	**L'Aquila**	**0.41**	**161**	↑P	**Pg**	**18 47 59.3**	**-0.8**
AQU				S	**Sg**	**18 48 05.5**	**0.0**
AQU				AML	AML		
	comp=N,7525μm,0.3s						
AQU				AML	AML		
	comp=N,7385μm,0.3s						
AQU				AML	AML		
	comp=E,6685μm,1.5s						
AQU				AML	AML		
	comp=E,6720μm,0.3s						
MNTP	**Montappone**	**0.43**	**25**	↓P	**Pb**	**18 48 00.8**	**-0.9**
MNTP				AML	AML		
	comp=E,17200μm,0.7s						
MNTP				AML	AML		
	comp=N,21100μm,0.3s						
MNTP				AML	AML		
	comp=E,17150μm,0.7s						
SEF1	**Sefro**	**0.45**	**333**	↓P	**Pg**	**18 48 00.4**	**-0.4**
SEF1				S	**Sb**	**18 48 07.8**	**-0.9**
SEF1				AML	AML		
	comp=E,13550μm,0.2s						
SEF1				AML	AML		
	comp=E,13500μm,0.2s						
SEF1				AML	AML		
	comp=N,14050μm,1.1s						
FIAM	**Fiamignano**	**0.48**	**189**	↓P	**Pg**	**18 48 00.3**	**-1.1**
FIAM				AML	AML		
	comp=E,11400μm,0.9s						
FIAM				AML	AML		
	comp=N,11510μm,0.2s						
SSM1	**San Severino M**	**0.48**	**356**	P	**Pb**	**18 48 01.3**	**-1.2**
FIU1	**Fiuminata**	**0.49**	**334**	↑P	**Pg**	**18 48 01.2**	**-0.4**
FIU1				AML	AML		
	comp=N,3935μm,1.1s						
FIU1				AML	AML		
	comp=N,3940μm,1.1s						
FIU1				AML	AML		
	comp=E,4120μm,0.6s						
CESX	**Cesi**	**0.49**	**254**	↑P	**Pg**	**18 48 00.6**	**-1.0**
CESX				AML	AML		
	comp=E,5755μm,1.0s						
CESX				AML	AML		
	comp=N,5185μm,1.3s						
GAG1	**Gagliole**	**0.51**	**347**	↓P	**Pg**	**18 48 01.6**	**-0.2**
GAG1				AML	AML		
	comp=E,10330μm,0.6s						
GAG1				AML	AML		
	comp=N,11795μm,0.6s						
GAG1				AML	AML		
	comp=N,11790μm,0.6s						
GAG1				AML	AML		
	comp=E,10350μm,0.6s						
ASSB	**Assisi San Ben**	**0.51**	**306**	↓P	**Pg**	**18 48 01.3**	**-0.6**
ASSB				AML	AML		
	comp=N,4695μm,0.1s						
ASSB				AML	AML		
	comp=E,4785μm,0.2s						
TRTR	**Tortoreto Alta**	**0.51**	**83**	↑P	**Pb**	**18 48 02.6**	**-0.5**
TRTR				AML	AML		
	comp=E,19700μm,1.3s						
TRTR				AML	AML		
	comp=N,20100μm,0.4s						
FAGN	**Fagnano**	**0.55**	**151**	↓P	**Pg**	**18 48 01.2**	**-1.4**
FAGN				AML	AML		
	comp=E,17400μm,0.3s						
FAGN				AML	AML		
	comp=N,13650μm,0.3s						
SNTG	**Esanatoglia**	**0.55**	**338**	↓P	**Pg**	**18 48 02.1**	**-0.6**
SNTG				S	**Sb**	**18 48 12.0**	**+0.3**
SNTG				AML	AML		
	comp=E,2625μm,0.1s						
SNTG				AML	AML		
	comp=N,2765μm,0.8s						
SNTG				AML	AML		
	comp=E,2540μm,0.1s						
SNTG				AML	AML		
	comp=E,2630μm,0.1s						
SNTG				AML	AML		
	comp=N,2865μm,0.8s						
SNTG				AML	AML		
	comp=N,2765μm,0.8s						
TRE1	**Treia**	**0.57**	**7**	↑P	**Pb**	**18 48 03.7**	**-0.3**
TRE1				AML	AML		
	comp=E,21750μm,0.5s						
TRE1				AML	AML		
	comp=E,21800μm,0.5s						
TRE1				AML	AML		
	comp=N,11500μm,0.8s						
VCEL	**Villa Celiera**	**0.58**	**127**	↓P	**Pg**	**18 48 02.2**	**-1.0**
VCEL				AML	AML		
	comp=E,11260μm,0.4s						
VCEL				AML	AML		
	comp=N,10725μm,1.2s						
VCEL				AML	AML		
	comp=N,10710μm,1.2s						

EL6	**Elcito**	**0.59**	**351**	⇑P	**Pg**	**18 48 02.9**	**-0.6**
EL6				S	**Sb**	**18 48 14.0**	**+1.1**
EL6				AML	AML		
	comp=E,6620µm,1.3s						
EL6				AML	AML		
	comp=N,7795µm,1.3s						
EL6				AML	AML		
	comp=N,7785µm,1.3s						
ATCC	**AVT- Casa Cast**	**0.61**	**316**	⇓P	**Pg**	**18 48 03.2**	**-0.7**
ATCC				AML	AML		
	comp=E,3660µm,0.2s						
ATCC				AML	AML		
	comp=N,3645µm,0.3s						
ATCC				AML	AML		
	comp=E,3655µm,0.2s						
CING	**Cingoli**	**0.63**	**358**	⇑P	**Pg**	**18 48 03.6**	**-0.6**
CING				AML	AML		
	comp=E,4410µm,0.3s						
CING				AML	AML		
	comp=N,5655µm,0.4s						
FOSV	**Fossato di Vic**	**0.65**	**329**	⇓P	**Pg**	**18 48 03.8**	**-0.7**
FOSV				AML	AML		
	comp=N,3235µm,0.3s						
FOSV				AML	AML		
	comp=E,2465µm,0.4s						
T0110	**Collepietro**	**0.66**	**141**	⇓P	**Pg**	**18 48 03.3**	**-1.5**
T0110				S	**Sb**	**18 48 15.0**	**+0.1**
T0110				AML	AML		
	comp=E,10700µm,0.6s						
T0110				AML	AML		
	comp=N,12700µm,0.3s						
PP3	**Marolino**	**0.69**	**24**	⇑P	**Pb**	**18 48 05.6**	**-0.5**
PP3				AML	AML		
	comp=E,11700µm,0.5s						
PP3				AML	AML		
	comp=E,11550µm,0.5s						
PP3				AML	AML		
	comp=N,18150µm,0.5s						
PP3				AML	AML		
	comp=N,18000µm,0.5s						
PP3				AML	AML		
	comp=E,11600µm,0.5s						
MMUR	**Monte Murano**	**0.71**	**347**	S	**Sn**	**18 48 18.0**	**-1.3**
MURB	**Monte Urbino**	**0.73**	**316**	⇑P	**Pg**	**18 48 05.3**	**-0.7**
MURB				S	**Sn**	**18 48 19.0**	**-0.6**
MURB				AML	AML		
	comp=N,6295µm,0.3s						
MURB				AML	AML		
	comp=E,6100µm,1.4s						
SRES	**S.Oreste - Sor**	**0.73**	**226**	⇓P	**Pg**	**18 48 04.9**	**-1.1**
SRES				AML	AML		
	comp=N,1435µm,0.6s						
SRES				AML	AML		
	comp=E,1685µm,1.0s						
PTQR	**Pietraquaria**	**0.73**	**170**	⇓P	**Pg**	**18 48 04.4**	**-1.7**
PTQR				AML	AML		
	comp=E,1500µm,0.8s						
PTQR				AML	AML		
	comp=N,1092µm,0.4s						
SSFR	**Montelago di S**	**0.76**	**335**	⇑P	**Pg**	**18 48 06.3**	**-0.4**
SSFR				AML	AML		
	comp=E,5255µm,0.2s						
SSFR				AML	AML		
	comp=E,5525µm,0.2s						
SSFR				AML	AML		
	comp=N,4430µm,0.2s						
SSFR				AML	AML		
	comp=N,5140µm,0.2s						
ARVD	**Arcevia**	**0.78**	**345**	P	**Pg**	**18 48 05.3**	**-1.8**
ARVD				S	**Sn**	**18 48 20.0**	**-0.8**
ARVD				AML	AML		
	comp=E,1645µm,0.7s						
ARVD				AML	AML		
	comp=N,1435µm,0.8s						
ATTE	**AVT- Monte Tez**	**0.78**	**306**	⇓P	**Pg**	**18 48 06.8**	**-0.3**
ATTE				AML	AML		
	comp=E,1034µm,1.3s						
ATTE				AML	AML		
	comp=N,1350µm,0.7s						
ATFO	**Monte Foce - G**	**0.78**	**323**	⇑P	**Pg**	**18 48 06.3**	**-0.8**
ATFO				AML	AML		
	comp=N,1430µm,1.2s						
ATFO				AML	AML		
	comp=E,1855µm,0.4s						
ATFO				AML	AML		
	comp=N,1425µm,1.2s						
MTCE	**Montecelio**	**0.81**	**206**	⇑P	**Pg**	**18 48 05.5**	**-2.0**
MTCE				AML	AML		
	comp=E,2120µm,1.2s						
MTCE				AML	AML		
	comp=N,1365µm,0.3s						
CERT	**Cerreto**	**0.82**	**193**	⇓P	**Pg**	**18 48 05.7**	**-1.9**
CERT				AML	AML		
	comp=N,2305µm,0.6s						
CERT				AML	AML		
	comp=E,3135µm,0.5s						
MGAB	**Montegabbione**	**0.83**	**282**	⇑P	**Pg**	**18 48 07.0**	**-1.0**
MGAB				AML	AML		
	comp=N,3550µm,0.9s						
MGAB				AML	AML		
	comp=E,2850µm,1.0s						
MGAB				AML	AML		
	comp=E,2940µm,0.6s						
MGAB				AML	AML		
	comp=N,3140µm,0.9s						
AOI	**Ancona**	**0.85**	**19**	⇓P	**Pb**	**18 48 08.0**	**-0.9**
AOI				AML	AML		
	comp=N,2810µm,0.2s						
AOI				AML	AML		
	comp=E,3005µm,0.3s						
FRON	**Frontone**	**0.85**	**335**	⇑P	**Pg**	**18 48 07.5**	**-1.0**
FRON				AML	AML		
	comp=N,2630µm,0.6s						
FRON				AML	AML		
	comp=E,1445µm,0.5s						
ATVO	**AVT- Monte Val**	**0.87**	**317**	⇑P	**Pg**	**18 48 07.8**	**-1.0**
ATVO				AML	AML		
	comp=N,1078µm,0.3s						
ATVO				AML	AML		
	comp=N,1073µm,0.3s						
ATVO				AML	AML		
	comp=E,1115µm,0.4s						
ATMI	**Monte Miggiano**	**0.91**	**310**	P	**Pg**	**18 48 09.0**	**-0.6**
ATMI				AML	AML		
	comp=E,2710µm,0.3s						
ATMI				AML	AML		
	comp=N,3065µm,0.3s						
VVLD	**Villa Vallelon**	**0.92**	**161**	⇑P	**Pg**	**18 48 08.3**	**-1.4**
VVLD				AML	AML		
	comp=E,1275µm,0.5s						
VVLD				AML	AML		
	comp=N,1395µm,0.7s						
ATPI	**Pietralunga -**	**0.93**	**320**	P	**Pg**	**18 48 08.6**	**-1.2**
ATPI				AML	AML		
	comp=E,1665µm,0.5s						
ATPI				AML	AML		
	comp=N,1014µm,0.4s						
PIEI	**Pieia**	**0.94**	**328**	⇑P	**Pg**	**18 48 08.8**	**-1.2**
PIEI				AML	AML		
	comp=N,1045µm,0.4s						
PIEI				AML	AML		
	comp=E,1230µm,0.2s						
MPAG	**Monte Paganucc**	**0.95**	**339**	⇑P	**Pg**	**18 48 09.4**	**-0.8**
MPAG				S	**Sn**	**18 48 26.0**	**+1.0**
MPAG				AML	AML		
	comp=E,1524µm,1.2s						
MPAG				AML	AML		
	comp=N,1890µm,0.9s						
MPAG				AML	AML		
	comp=E,1470µm,0.6s						
MPAG				AML	AML		
	comp=N,1845µm,0.9s						
GUAR	**Guarcino**	**0.95**	**176**	⇑P	**Pg**	**18 48 09.8**	**-0.5**
GUAR				AML	AML		
	comp=N,2460µm,1.1s						
GUAR				AML	AML		
	comp=E,1505µm,0.5s						
SENI	**Senigallia**	**0.96**	**0**	⇑P	**Pb**	**18 48 10.3**	**-0.4**
SENI				AML	AML		
	comp=E,2260µm,0.4s						
SENI				AML	AML		
	comp=N,2635µm,0.9s						
SACS	**San Casciano d**	**0.97**	**277**	P	**Pg**	**18 48 09.6**	**-1.1**
SACS				AML	AML		
	comp=E,1150µm,0.9s						
SACS				AML	AML		
	comp=E,1160µm,0.9s						
SACS				AML	AML		
	comp=N,1245µm,0.6s						
SACS				AML	AML		
	comp=N,1305µm,1.2s						
CAFR	**Castel Frentan**	**0.98**	**122**	⇑P	**Pg**	**18 48 09.7**	**-1.1**
CAFR				AML	AML		
	comp=N,2210µm,0.4s						
CAFR				AML	AML		
	comp=E,2615µm,0.4s						
NARO	**Abbazia di Nar**	**0.98**	**332**	⇓P	**Pg**	**18 48 09.7**	**-1.2**
NARO				AML	AML		
	comp=E,1400µm,1.3s						
NARO				AML	AML		
	comp=N,1126µm,0.4s						
LPEL	**Lama dei Pelig**	**1.00**	**134**	P	**Pg**	**18 48 07.2**	**-4.0**
LPEL				S	**Sg**	**18 48 24.0**	**-0.1**
FSSB	**Fossombrone**	**1.00**	**341**	⇓P	**Pg**	**18 48 10.3**	**-0.9**
FSSB				AML	AML		
	comp=E,3440µm,0.6s						
FSSB				AML	AML		
	comp=N,5070µm,0.4s						
RMP	**Rome, Mte Porz**	**1.01**	**203**	⇑P	**Pb**	**18 48 12.2**	**+0.7**
RMP				AML	AML		
	comp=N,2125µm,1.4s						
RMP				AML	AML		
	comp=E,1900µm,0.3s						
BADI	**Badiali**	**1.05**	**317**	⇑P	**Pg**	**18 48 11.2**	**-0.9**
LATE	**Laterza**	**1.05**	**263**	P	**Pg**	**18 48 11.3**	**-0.9**
RDP	**Rocca di Papa**	**1.05**	**201**	⇑P	**Pg**	**18 48 12.2**	**-0.1**
RDP				AML	AML		
	comp=N,5715µm,1.2s						
RDP				AML	AML		
	comp=E,3120µm,1.4s						
CAFI	**Castiglion Fio**	**1.09**	**303**	P	**Pg**	**18 48 12.2**	**-0.8**
CAFI				AML	AML		
	comp=E,818µm,0.3s						
CAFI				AML	AML		
	comp=N,748µm,0.9s						
CAFI				AML	AML		
	comp=E,844µm,0.3s						
CAFI				AML	AML		
	comp=N,788µm,0.9s						
POFI	**Posta Fibreno**	**1.09**	**160**	⇑P	**Pg**	**18 48 10.9**	**-2.0**
POFI				AML	AML		
	comp=E,1155µm,0.5s						
POFI				AML	AML		
	comp=N,902µm,1.6s						
LRP	**Arpino**	**1.13**	**166**	⇑P	**Pn**	**18 48 14.8**	**+1.0**
LRP				AML	AML		
	comp=E,584µm,0.9s						
LRP				AML	AML		
	comp=N,1102µm,1.5s						
TOLF	**Tolfa**	**1.13**	**233**	⇓P	**Pg**	**18 48 12.1**	**-1.7**
TOLF				AML	AML		
	comp=N,768µm,0.9s						
TOLF				AML	AML		
	comp=E,1115µm,0.7s						
MCIV	**Monte Civitell**	**1.14**	**272**	⇑P	**Pg**	**18 48 13.2**	**-0.6**
MCIV				AML	AML		
	comp=N,556µm,0.9s						
MCIV				AML	AML		
	comp=E,664µm,0.3s						
SSP9	**Sansepolcro**	**1.15**	**316**	⇑P	**Pb**	**18 48 13.8**	**-0.1**
SF04	**Casetta**	**1.15**	**275**	⇑P	**Pg**	**18 48 13.9**	**-0.2**
GIUL	**Giuliano Di Ro**	**1.19**	**179**	P	**Pg**	**18 48 12.9**	**-1.8**
SF01	**Poggio Pratacc**	**1.22**	**274**	⇓P	**Pg**	**18 48 15.0**	**-0.4**
RNI2	**Rionero Sannit**	**1.25**	**146**	⇑P	**Pg**	**18 48 14.3**	**-1.6**
RNI2				AML	AML		
	comp=N,1610µm,0.6s						
RNI2				AML	AML		
	comp=E,1285µm,1.1s						
RNI2				AML	AML		
	comp=E,1315µm,1.1s						
RNI2				AML	AML		
	comp=N,1650µm,0.5s						
LATB	**Latina**	**1.27**	**189**	⇑P	**Pg**	**18 48 15.0**	**-1.2**
LATB				AML	AML		
	comp=N,190µm,0.8s						
LATB				AML	AML		
	comp=E,250µm,0.8s						
CRE	**Caprese Michel**	**1.28**	**314**	⇑P	**Pg**	**18 48 14.8**	**-1.7**
CRE				AML	AML		
	comp=E,522µm,0.4s						
CRE				AML	AML		
	comp=N,678µm,0.7s						
ARCI	**Arcidosso**	**1.29**	**275**	⇑P	**Pg**	**18 48 16.5**	**-0.2**
ARCI				AML	AML		
	comp=E,220µm,1.0s						
ARCI				AML	AML		
	comp=N,224µm,0.8s						
CERA	**Filignano**	**1.29**	**152**	⇑P	**Pg**	**18 48 14.0**	**-2.7**
CERA				AML	AML		
	comp=E,1114µm,0.6s						
CERA				AML	AML		
	comp=N,1126µm,0.6s						
CERA				AML	AML		
	comp=E,1165µm,0.6s						
CERA				AML	AML		
	comp=N,1160µm,0.5s						
FRES	**Fresagrandinar**	**1.32**	**125**	P	**Pb**	**18 48 17.4**	**+0.5**
FRES				AML	AML		
	comp=E,993µm,0.5s						
FRES				AML	AML		
	comp=N,718µm,0.8s						
TRIV	**Trivento**	**1.39**	**134**	⇑P	**Pb**	**18 48 19.0**	**+1.0**
TRIV				AML	AML		
	comp=N,60150µm,1.6s						
TRIV				AML	AML		
	comp=E,1050µm,0.6s						
TRIV				AML	AML		
	comp=N,884µm,0.5s						
TRIV				AML	AML		
	comp=E,57450µm,1.6s						
ASQU	**Asqua**	**1.48**	**316**	⇑P	**Pn**	**18 48 18.9**	**+0.2**
ASQU				AML	AML		
	comp=N,354µm,0.6s						
ASQU				AML	AML		
	comp=E,452µm,0.5s						
VAGA	**Valle Agricola**	**1.53**	**150**	⇑P	**Pn**	**18 48 20.4**	**+1.0**
VAGA				AML	AML		
	comp=N,712µm,0.7s						
VAGA				AML	AML		
	comp=E,342µm,0.5s						
SFI	**Santa Sofia**	**1.53**	**320**	⇓P	**Pg**	**18 48 21.7**	**+0.4**
MAON	**Monte Argentar**	**1.58**	**259**	⇓P	**Pn**	**18 48 19.2**	**-0.8**
MAON				AML	AML		
	comp=E,211µm,0.6s						
MAON				AML	AML		
	comp=N,210µm,1.0s						
CSNT	**Castellina Chi**	**1.59**	**298**	⇑P	**Pn**	**18 48 20.2**	**0.0**
CSNT				AML	AML		
	comp=E,216µm,0.6s						
CSNT				AML	AML		
	comp=N,204µm,1.4s						
OSSC	**Osservatorio P**	**1.64**	**299**	⇑P	**Pn**	**18 48 19.6**	**-1.2**
OSSC				AML	AML		
	comp=E,208µm,0.7s						
OSSC				AML	AML		
	comp=N,238µm,0.6s						
CIGN	**Sant'Elia a Pi**	**1.66**	**131**	⇓P	**Pb**	**18 48 22.8**	**+0.2**
CIGN				AML	AML		
	comp=N,370µm,1.3s						
CIGN				AML	AML		
	comp=E,457µm,0.4s						
MODR	**Mondragone**	**1.67**	**163**	⇓P	**Pn**	**18 48 21.1**	**-0.2**
MODR				AML	AML		
	comp=N,239µm,0.6s						
MODR				AML	AML		
	comp=E,224µm,1.1s						
PTRJ	**Pietraroja**	**1.69**	**144**	P	**Pn**	**18 48 21.0**	**-0.6**
PTRJ				AML	AML		
	comp=E,633µm,0.9s						
PTRJ				AML	AML		
	comp=E,567µm,0.8s						
PTRJ				AML	AML		
	comp=N,500µm,0.7s						
PTRJ				AML	AML		
	comp=N,444µm,0.9s						
LMD	**Lutirano**	**1.73**	**321**	⇑P	**Pb**	**18 48 23.4**	**-0.5**
LMD				AML	AML		
	comp=E,329µm,0.8s						
LMD				AML	AML		
	comp=N,352µm,0.8s						
CASP	**Castiglione de**	**1.74**	**272**	⇓P	**Pn**	**18 48 21.4**	**-0.8**
CASP				AML	AML		
	comp=N,79µm,0.5s						
CASP				AML	AML		
	comp=E,79µm,1.0s						
TRIF	**Trifonti**	**1.74**	**283**	⇓P	**Pn**	**18 48 22.1**	**-0.2**
TRIF				AML	AML		
	comp=E,201µm,0.8s						
TRIF				AML	AML		
	comp=N,174µm,1.3s						
MELA	**Melanico ??? S**	**1.75**	**126**	⇑P	**Pn**	**18 48 23.2**	**+0.9**
MELA				AML	AML		
	comp=N,1350µm,0.7s						
MELA				AML	AML		
	comp=N,1275µm,0.7s						
MELA				AML	AML		
	comp=E,1425µm,0.6s						
MELA				AML	AML		
	comp=E,1430µm,0.6s						
TREM	**Isole Tremiti**	**1.81**	**109**	⇑P	**Pn**	**18 48 23.9**	**+0.8**
TREM				S	**Sg**	**18 48 54.0**	**+4.0**
TREM				AML	AML		
	comp=N,1184µm,0.7s						
TREM				AML	AML		
	comp=E,1100µm,0.6s						
BRIS	**BRISIGHELLA**	**1.88**	**319**	⇑P	**Pg**	**18 48 27.8**	**-0.2**
VENT	**Ventotene**	**1.96**	**176**	⇓P	**Pb**	**18 48 27.7**	**+0.1**
APRC	**Apricena**	**1.99**	**119**	⇓P	**Pn**	**18 48 26.0**	**+0.4**
APRC				AML	AML		
	comp=E,776µm,0.3s						
APRC				AML	AML		
	comp=N,796µm,1.0s						
MTCR	**Monte La Croce**	**2.07**	**309**	⇓P	**Pn**	**18 48 26.6**	**-0.2**
SGRT	**San Giovanni R**	**2.12**	**117**	⇑P	**Pn**	**18 48 28.1**	**+0.6**
SGRT				AML	AML		
	comp=E,578µm,1.3s						
SGRT				AML	AML		
	comp=N,614µm,0.4s						
BRJN	**Brijuni**	**2.19**	**10**	⇓P	**Pn**	**18 48 28.8**	**+0.4**
PII	**Pisa**	**2.20**	**297**	⇑P	**Pn**	**18 48 29.4**	**+0.9**
PII				AML	AML		
	comp=N,212µm,0.4s						
PII				AML	AML		
	comp=E,176µm,0.4s						
POPM	**Popiglio**	**2.22**	**307**	⇑P	**Pn**	**18 48 28.5**	**-0.2**
POPM				AML	AML		
	comp=E,111µm,0.7s						
POPM				AML	AML		
	comp=N,140µm,0.2s						
CELB	**S.Piero in Cam**	**2.22**	**271**	⇓P	**Pn**	**18 48 28.2**	**-0.7**
CELB				AML	AML		
	comp=E,70µm,0.1s						
CELB				AML	AML		
	comp=N,50µm,0.1s						
SGTA	**Sant Agata di**	**2.27**	**134**	⇓P	**Pb**	**18 48 31.9**	**-1.1**
SNAL	**S. Angelo Dei**	**2.35**	**140**	⇑P	**Pb**	**18 48 33.2**	**-1.2**
HVAR	**Hvar**	**2.41**	**79**	⇓P	**Pn**	**18 48 31.7**	**+0.3**
GSCL	**Gusciola**	**2.50**	**311**	P	**Pn**	**18 48 30.6**	**-2.1**
VLC	**Villacollemand**	**2.50**	**305**	⇑P	**Pn**	**18 48 32.2**	**-0.5**
VLC				AML	AML		
	comp=N,70µm,0.7s						
VLC				AML	AML		
	comp=E,63µm,1.0s						
VULT	**Monte Vulture**	**2.53**	**134**	P	**Pn**	**18 48 33.4**	**+0.2**
VULT				AML	AML		
	comp=N,406µm,0.6s						
VULT				AML	AML		
	comp=E,400µm,0.3s						
EQUI	**Equi**	**2.65**	**303**	P	**Pn**	**18 48 34.5**	**-0.2**
NDIM	**Novi di Modena**	**2.72**	**323**	S	**Sn**	**18 49 10.0**	**+1.4**
PLMA	**Palmaria, Port**	**2.78**	**299**	P	**Pn**	**18 48 36.4**	**-0.1**
PLMA				AML	AML		
	comp=E,55µm,0.9s						
PLMA				AML	AML		
	comp=N,54µm,0.4s						
MORSI	**Morsiglia**	**2.84**	**275**	P	**Pn**	**18 48 37.7**	**+0.4**
MNTV	**Mantova**	**2.98**	**325**	⇑P	**Pn**	**18 48 38.5**	**-0.6**
SMPL	**Sampolo**	**2.99**	**259**	P	**Pn**	**18 48 39.3**	**0.0**
CORF	**Corte**	**3.04**	**263**	P	**Pn**	**18 48 40.9**	**+0.8**
CEY	**Cerknica**	**3.12**	**16**	*e*Pn	**Pn**	**18 48 41.1**	**0.0**
PGF	**Pioggiola**	**3.12**	**268**	⇓P	**Pn**	**18 48 42.4**	**+1.2**
PGF	**Pioggiola**	**3.12**	**268**	P	**Pn**	**18 48 41.8**	**+0.5**
AMUR	**Altamura**	**3.12**	**125**	P	**Pn**	**18 48 41.9**	**+0.6**
AMUR				AML	AML		
	comp=N,168µm,0.6s						
AMUR				AML	AML		
	comp=E,174µm,0.4s						
MIGL	**Miglionico**	**3.22**	**131**	⇑P	**Pn**	**18 48 44.2**	**+1.6**
MIGL				AML	AML		
	comp=N,480µm,0.6s						
MIGL				AML	AML		
	comp=E,455µm,1.4s						
SABO	**M.te Sabotino**	**3.25**	**5**	⇑P	**Pn**	**18 48 42.5**	**-0.4**
SABO				AML	AML		
	comp=E,1026µm,0.6s						
SABO				AML	AML		
	comp=E,262µm,0.6s						
SABO				AML	AML		
	comp=N,304µm,0.6s						
SABO				AML	AML		
	comp=N,1168µm,0.6s						
MGRS	**Mrkonjic Grad**	**3.27**	**58**	*e*Pn	**Pn**	**18 48 44.9**	**+1.7**
CGRP	**Cima Grappa**	**3.30**	**342**	⇓P	**Pn**	**18 48 44.1**	**+0.3**
CGRP				S	**Sn**	**18 49 24.0**	**+0.9**
CGRP				AML	AML		
	comp=E,234µm,0.6s						
CGRP				AML	AML		
	comp=E,245µm,1.3s						
CGRP				AML	AML		
	comp=N,294µm,1.5s						
CGRP				AML	AML		
	comp=N,214µm,1.5s						
STON	**Ston**	**3.30**	**86**	*e*Pn	**Pn**	**18 48 41.9**	**-1.7**
STON	**Ston**	**3.30**	**86**	⇓P	**Pn**	**18 48 42.0**	**-1.5**
STON				AML	AML		
	comp=N,91µm,0.7s						
STON				AML	AML		
	comp=E,88µm,0.3s						
MATE	**Matera**	**3.34**	**128**	⇑P	**Pn**	**18 48 45.2**	**+1.0**
AJAC	**Base Areonaval**	**3.41**	**258**	P	**Pn**	**18 48 46.3**	**+1.3**
LTRZ	**Laterza**	**3.44**	**127**	⇑P	**Pn**	**18 48 46.7**	**+1.1**
SALO	**Salr**	**3.47**	**327**	P	**Pn**	**18 48 47.6**	**+1.7**
SALO				S	**Sn**	**18 49 28.0**	**+0.9**
NOCI	**Noci**	**3.48**	**123**	⇓P	**Pn**	**18 48 47.0**	**+1.0**
NOCI				AML	AML		
	comp=N,188µm,0.4s						
NOCI				AML	AML		
	comp=E,174µm,0.4s						
CTI	**Castel Tesino**	**3.49**	**342**	⇓P	**Pn**	**18 48 47.3**	**+1.0**
CTI				AML	AML		
	comp=E,195µm,0.5s						
CTI				AML	AML		
	comp=N,194µm,0.8s						
A051A	**Mrakovica**	**3.50**	**48**	*e*Pn	**Pn**	**18 48 47.3**	**+0.9**
BLY	**Banja Luka**	**3.50**	**54**	*e*Pn	**Pn**	**18 48 47.4**	**+1.0**
MPRI	**Monte Prat**	**3.50**	**357**	P	**Pn**	**18 48 46.5**	**+0.1**
MPRI				AML	AML		
	comp=E,146µm,0.4s						
MPRI				AML	AML		
	comp=E,185µm,0.4s						
MPRI				AML	AML		
	comp=N,277µm,0.5s						
MPRI				AML	AML		
	comp=N,206µm,0.5s						
LEOD	**Capriano del C**	**3.51**	**322**	S	**Sn**	**18 49 31.0**	**+2.9**
STAL	**STALIGIAL**	**3.53**	**354**	⇓P	**Pn**	**18 48 47.0**	**+0.1**
STAL				AML	AML		
	comp=N,163µm,0.3s						
STAL				AML	AML		
	comp=E,200µm,0.2s						
CIMO	**Cimolais**	**3.61**	**351**	⇑P	**Pn**	**18 48 47.9**	**0.0**
CIMO				S	**Sn**	**18 49 30.0**	**-0.6**
CIMO				AML	AML		
	comp=E,41µm,0.8s						
CIMO				AML	AML		
	comp=N,54µm,0.6s						
PTCC	**Patocco-Chiusa**	**3.66**	**1**	P	**Pn**	**18 48 48.3**	**-0.3**
PTCC				AML	AML		
	comp=E,63µm,0.5s						
PTCC				AML	AML		
	comp=N,77µm,1.0s						
GAGG	**Gaggia**	**3.71**	**335**	⇓P	**Pn**	**18 48 50.7**	**+1.2**
GAGG				AML	AML		
	comp=N,111µm,0.7s						
GAGG				AML	AML		
	comp=E,144µm,1.0s						
TAR1	**Taranto**	**3.77**	**125**	⇓P	**Pn**	**18 48 51.6**	**+1.6**
TAR1				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,128µm,0.7s						
TAR1				AML	AML		
	comp=N,108µm,0.4s						
TREB	Trebinje	3.78	89	ePn	Pn	18 48 50.6	+0.4
ACOM	Acomizza, Ital	3.81	3	⇑P	Pn	18 48 51.4	+0.6
ACOM				AML	AML		
	comp=N,119µm,0.4s						
ACOM				AML	AML		
	comp=E,146µm,0.3s						
ACOM				AML	AML		
	comp=N,134µm,1.4s						
ACOM				AML	AML		
	comp=E,162µm,1.2s						
ZOU	Zoufplan	3.81	357	⇑P	Pn	18 48 50.9	0.0
ZOU				AML	AML		
	comp=N,81µm,0.8s						
ZOU				AML	AML		
	comp=E,106µm,1.3s						
OBKA	Obir	3.88	14	ePn	Pn	18 48 51.9	+0.2
OBKA	Obir	3.88	14	ePn	Pn	18 48 52.2	+0.5
	comp=E,1.8nm,0.2s,SNR=5.5						
MYKA	Terra Mystica	3.90	4	i Pn	Pn	18 48 51.7	-0.2
	comp=E,7.3nm,0.3s						
HCY	Herceg Novi	3.90	93	ePn	Pn	18 48 51.2	-0.7
HCY	Herceg Novi	3.90	93	⇓iPn	Pn	18 48 52.6	+0.7
HCY				i Sn	Sn	18 49 39.8	+2.0
BRY	Bratogost	3.91	86	ePn	Pn	18 48 52.5	+0.3
BRY	Bratogost	3.91	86	ePn	Pn	18 48 52.9	+0.7
BRY				i Sn	Sn	18 49 40.0	+1.7
KOSI	Kohlern	3.94	341	P	Pn	18 48 53.6	+1.0
APPI	Appiano	4.00	340	⇓P	Pn	18 48 54.4	+1.2
APPI				AML	AML		
	comp=E,97µm,0.4s						
APPI				AML	AML		
	comp=N,98µm,1.1s						
ABTA	Abfaltersbach	4.03	353	ePn	Pn	18 48 54.4	+0.6
	comp=N,12nm,0.4s,SNR=61						
SOKA	Soboth	4.14	18	ePn	Pn	18 48 56.5	+1.3
	comp=N,0.3nm,0.1s						
UPM	Unac-Piva	4.20	82	ePn	Pn	18 48 58.0	+1.9
UPM	Unac-Piva	4.20	82	⇓iPn	Pn	18 48 56.7	+0.6
UPM				i Sn	Sn	18 49 46.9	+1.6
CEME	Cevo	4.21	91	⇑iPn	Pn	18 48 56.9	+0.7
CEME				i Sn	Sn	18 49 47.0	+1.6
BUM	Brajici-Budva	4.22	94	⇓iPn	Pn	18 48 57.0	+0.7
BUM				i Sn	Sn	18 49 47.3	+1.7
NKME	Niksic	4.22	88	ePn	Pn	18 48 57.0	+0.7
NKME				i Sn	Sn	18 49 47.4	+1.7
BRMO	Bormio	4.25	332	⇓P	Pn	18 48 57.6	+0.8
BRMO				AML	AML		
	comp=E,30µm,1.2s						
BRMO				AML	AML		
	comp=N,26µm,0.7s						
RISI	Rein	4.28	349	⇑P	Pn	18 48 58.5	+1.2
RISI				AML	AML		
	comp=E,184µm,0.4s						
RISI				AML	AML		
	comp=N,230µm,0.4s						
KBA	Koelnbreinsper	4.33	1	ePn	Pn	18 48 58.6	+0.6
	comp=N,2.4nm,0.2s,SNR=16						
VSL	Villasalto	4.36	223	⇑P	Pn	18 48 58.9	+0.7
VSL				AML	AML		
	comp=E,27µm,0.9s						
VSL				AML	AML		
	comp=N,22µm,0.9s						
ROSI	Rosskopf	4.38	344	⇑P	Pn	18 48 59.8	+1.2
HAPS	Han Pijesak,Bl	4.38	70	ePn	Pn	18 48 58.2	-0.4
TURF	col de Turini	4.42	288	P	Pn	18 48 59.7	+0.4
DRME	Dracevica, Mon	4.45	95	ePn	Pn	18 49 00.4	+1.0
DRME	Dracevica, Mon	4.45	95	⇑iPn	Pn	18 49 00.2	+0.8
DRME				i Sn	Sn	18 49 52.0	+0.8
PDG	Podgorica	4.47	92	⇓P	Pn	18 49 00.6	+0.9
TTG	Podgorica	4.47	92	⇑iPn	Pn	18 49 00.5	+0.9
TTG				i Sn	Sn	18 49 53.4	+1.8
ULC	Ulcinj	4.53	98	⇓iPn	Pn	18 49 01.4	+0.8
ULC				i Sn	Sn	18 49 55.0	+1.7
PLE	Pljevlja	4.56	81	ePn	Pn	18 49 01.9	+0.9
PLE				i Sn	Sn	18 49 55.6	+1.5
RUDO	Rudo	4.58	77	ePn	Pn	18 48 53.9	-7.3
FETA	Feichten	4.63	338	ePn	Pn	18 49 03.3	+1.2
	comp=N,4.6nm,0.4s,SNR=15						
KOME	Kolasin	4.63	87	ePn	Pn	18 49 02.8	+0.8
KOME				i Sn	Sn	18 49 57.5	+1.6
BBLS	Lazići	4.65	74	ePn	Pn	18 49 03.7	+1.4
WTTA	Wattenberg	4.66	347	ePn	Pn	18 49 03.9	+1.5
	comp=N,2.2nm,0.3s,SNR=12						
DAVOX	Davos/Dischmat	4.68	331	Pn	Pn	18 49 05.2	+2.4
	comp=N,1.3nm,0.3s,baz=140,slow=13,SNR=26						
DAVOX				Sn	Sn	18 50 02.8	+5.5
	comp=N,2.1nm,0.3s,baz=333,slow=21,SNR=6.7						
	comp=N,9.0nm,0.6s						
SQTA	Sankt Quirin	4.70	343	ePn	Pn	18 49 04.4	+1.5
	comp=N,9.7nm,0.3s,SNR=25						
CALF	Calern	4.71	284	P	Pn	18 49 03.4	+0.3
WATA	Walderalm	4.74	346	ePn	Pn	18 49 05.4	+1.9
	comp=N,2.5nm,0.3s,SNR=12						
ARSA	Arzberg	4.79	19	ePn	Pn	18 49 03.9	-0.3
	comp=N,2.5nm,0.3s,SNR=5.3						
ARSA	Arzberg	4.79	19	⇓P	Pn	18 49 06.8	+2.6
TRAV	Traversella	4.81	307	⇓P	Pn	18 49 05.1	+0.6
MOTA	Moosalm	4.84	343	ePn	Pn	18 49 06.8	+1.8
	comp=N,2.2nm,0.2s,SNR=12						
IVA	Berane	4.91	86	⇑iPn	Pn	18 49 06.7	+0.9
IVA				i Sn	Sn	18 50 04.1	+1.4
BIOA	Bad Ischl, Aus	4.96	3	ePn	Pn	18 49 06.9	+0.5
	comp=N,8.2nm,0.4s,SNR=13						
SURF	Saint Ours	4.97	293	P	Pn	18 49 07.5	+0.8
PVY	Plav	4.97	89	⇓iPn	Pn	18 49 07.5	+0.8
PVY				i Sn	Sn	18 50 05.6	+1.3
JAUF	Jausiers	4.99	292	P	Pn	18 49 08.1	+1.0
RETA	Reutte	5.05	341	ePn	Pn	18 49 09.7	+1.9
	comp=N,5.8nm,0.4s,SNR=16						
TRIGF	Trigance	5.08	284	P	Pn	18 49 09.3	+1.1
DIVS	Divibare	5.11	72	ePn	Pn	18 49 07.3	-1.3
CREF	Crivoux	5.12	293	P	Pn	18 49 12.7	+3.9
DAVA	Damuels	5.12	334	i Pn	Pn	18 49 10.9	+2.1
	comp=N,3.4nm,0.3s,SNR=9.2						
TIR	Tirane	5.14	104	⇓P	Pn	18 49 09.6	+0.7
FLAF	Flassans-sur-l	5.14	279	P	Pn	18 49 08.8	-0.2
MOA	Molln	5.16	8	ePn	Pn	18 49 09.7	+0.5
	comp=N,1.0nm,0.2s						
CLTB	Caltabellotta	5.16	180	⇓P	Pn	18 49 11.0	+1.7
MORH	Mrgy, Hungar	5.20	46	⇓P	Pn	18 49 11.8	+2.0
MORH	Mrgy, Hungar	5.20	46	P	Pn	18 49 10.5	+0.7
FRGS	Fruska Gora	5.33	61	ePn	Pn	18 49 11.4	-0.2
RONA	Rosalia, Austr	5.41	23	i Pn	Pn	18 49 12.6	0.0
	comp=N,1.1nm,0.1s						
CONA	Conrad Observa	5.51	19	ePn	Pn	18 49 14.8	+0.7
	comp=N,0.6nm,0.1s,SNR=8.3						
RSL	Roselend	5.58	304	P	Pn	18 49 17.2	+2.1
SLE	Schleitheim	6.03	328	P	Pn	18 49 22.1	+1.0
SLE	Schleitheim	6.03	328	S	Sn	18 50 29.1	-1.0
GERES	GERESS Array B	6.11	3	Pn	Pn	18 49 22.1	-0.3
	comp=N,0.7nm,0.3s,baz=176,slow=14,SNR=13						
GERES				Sn	Sn	18 50 30.8	-1.5
	comp=N,1.9nm,0.3s,baz=174,slow=24,SNR=9.3						
	comp=N,0.8nm,0.3s						
CKRC	Cesky Krumlov	6.12	7	ePN	Pn	18 49 22.8	+0.4
CKRC				eSN	Sn	18 50 29.7	-2.8
BOVS	Bovan	6.26	79	⇓P	Pn	18 49 24.6	+0.2
MODS	Modra-Piesok	6.31	25	ePN	Pn	18 49 26.3	+1.3
KHC	Kasperske Hory	6.39	2	ePN	Pn	18 49 25.9	-0.2
KHC				eSN	Sn	18 50 36.5	-2.6
KIZ	Kirchzarten	6.41	326	P	Pn	18 49 27.2	+0.8
KIZ	Kirchzarten	6.41	326	S	Sn	18 50 38.3	-1.3
MDVR	Moldovita	6.48	69	⇓P	Pn	18 49 28.2	+0.8
CHMF	Charmoille	6.48	316	P	Pn	18 49 28.4	+1.0
VOGT	Vogtsburg - To	6.61	326	P	Pn	18 49 30.0	+0.8
BZS	Buzias	6.68	62	⇑P	Pn	18 49 31.3	+1.2
RONF	Ronchamp	6.79	319	P	Pn	18 49 31.7	+0.1
VYHS	Vyhne	6.97	32	ePN	Pn	18 49 35.0	+1.0
PRU	Pruhonice	7.30	7	eSN	Sn	18 50 58.4	-3.1
GZR	Gura Zlata	7.37	66	⇓P	Pn	18 49 41.2	+1.6
VTS	Vitosha	7.38	88	⇑P	Pn	18 49 40.6	+0.8
NKC	Novy Kostel	7.51	356	eSN	Sn	18 51 03.8	-2.8
KEST	Kesra	7.62	204	Pn	Pn	18 49 47.0	+3.9
	comp=N,0.4nm,0.3s,baz=314,slow=17,SNR=6.3						
	comp=N,1.6nm,0.5s						
DRGR		7.87	56	⇓P	Pn	18 49 47.8	+1.4
CLL	Collm	8.57	359	ePn	Pn	18 49 57.0	+1.1
CLL				eSn	Sn	18 51 17.0	-16
CLL				ex	x	18 51 43.0	
CLL				ex	x	18 52 14.0	
CLL				eSg	Sg	18 52 23.0	-3.7
VOIR		8.93	68	⇓P	Pn	18 50 01.6	+0.6
BURAR	Bucovina Array	9.77	56	⇓P	Pn	18 50 14.3	+1.8
FINES	FINESS Array B	20.25	18	P	P	18 52 26.7	-0.4
	comp=N,8.6nm,1.1s,baz=225,slow=10,SNR=3.8						
	comp=N,8.6nm,1.1s						
TORD	Torodi Ar. Bea	31.13	202	P	P	18 54 11.1	+0.3
	comp=N,0.6nm,0.8s,baz=27,slow=7.0,SNR=4.7						
	comp=N,0.6nm,0.8s						
ARU	Arti	31.79	49	P	P	18 54 15.7	-0.5
	comp=N,0.9nm,0.4s,baz=222,slow=5.7,SNR=3.8						
	comp=N,0.9nm,0.4s						
MKAR	Makanchi Array	47.76	60	P	P	18 56 29.2	+0.1
	comp=N,0.9nm,0.9s,baz=284,slow=7.3,SNR=3.0						
	comp=N,0.9nm,0.9s						
SONM	Songino Array	61.82	50	P	P	18 58 11.7	+0.7
	comp=N,0.5nm,0.8s,baz=277,slow=6.9,SNR=3.6						
	comp=N,0.5nm,0.8s						

IDC ***01*** *18:50:32.0±2.9, 23°.85S×179°.80W, h529km±26km, mb2.3/2, mbtmp3.6/4, Error ellipse: s-maj=47.1km s-min=28.1km az=136.0*

ISC 01 18:50:29.8±1.4**, 23°.9S**±0°.1×**179°.7W**±0°.3**, h500**km**, n7, σ2^{s}45**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.50	340	P	P	18 52 13.7	+2.4
	2.2nm,0.4s,baz=191,slow=19,SNR=4.3						
URZ	Urewera	14.58	190	P	P	18 53 37.2	+1.8
	3.6nm,0.4s,baz=11,slow=5.2,SNR=1.4						
ASAR	Alice Springs	42.35	261	P	P	18 57 39.0	-0.7
	0.2nm,0.7s,baz=99,slow=6.9,SNR=7.3						
	0.2nm,0.7s						
WRA	Warramunga Arr	42.73	266	P	P	18 57 41.4	-1.3
	0.3nm,0.6s,baz=97,slow=7.0,SNR=10						
	0.3nm,0.6s						
HFS	Hagfors	142.61	349	PKP	PKPdf	19 09 01.6	-3.5
	3.3nm,0.9s,baz=31,slow=3.4,SNR=5.6						
AKASG	Malin Array Be	145.15	328	PKPbc	PKPdf	19 09 09.4	-0.3
	0.4nm,0.3s,baz=45,slow=4.6,SNR=4.8						
EKA	Eskdalemuir Ar	148.50	4	PKPbc	PKPbc	19 09 18.8	-0.7
	0.4nm,0.4s,baz=351,slow=2.2,SNR=2.5						

ROM 01 18:58:08.0±0.0**, 42°.799N**±0°.003×**13°.140E**±0°.004**, h10**km**, ML2.0**/8**, 8C-7D, Error ellipse: s-maj=0.3km s-min=0.2km az=298.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.04	331	⇑P	Pg	18 58 10.4	+0.3
NRCA				S	Sg	18 58 11.6	0.0
NRCA				AML	AML		
	comp=E,6785µm,0.2s						
NRCA				AML	AML		
	comp=N,7370µm,0.2s						
NRCA				AML	AML		
	comp=E,7375µm,0.2s						
NRCA				AML	AML		
	comp=E,7370µm,0.2s						
NRCA				AML	AML		
	comp=N,7725µm,0.2s						
NRCA				AML	AML		
	comp=E,6780µm,0.2s						
NRCA				AML	AML		
	comp=N,7375µm,0.1s						
T1245	Castelsantange	0.07	32	P	Pg	18 58 10.8	+0.3
T1245				S	Sg	18 58 12.6	+0.4
T1245				AML	AML		
	comp=E,3865µm,1.5s						
T1245				AML	AML		
	comp=N,5020µm,0.3s						
T1245				AML	AML		
	comp=E,3675µm,1.5s						
T1245				AML	AML		
	comp=N,4785µm,0.3s						
T1245				AML	AML		
	comp=E,3865µm,1.6s						
T1245				AML	AML		
	comp=N,5015µm,0.3s						
T1216	Preci, Frazion	0.13	316	⇑P	Pg	18 58 11.1	0.0
T1216				S	Sg	18 58 14.1	+0.8
MMO1	Montemonaco	0.17	54	⇑P	Pg	18 58 12.3	+0.5
MMO1				S	Sg	18 58 15.3	+0.9
T1217	Poggiodomo (PG	0.18	240	P	Pg	18 58 12.5	+0.6
T1217				S	Sg	18 58 15.6	+1.1
T1204	Amatrice, Fraz	0.18	133	⇓P	Pg	18 58 12.6	+0.7
T1204				S	Sg	18 58 15.8	+1.1
T1215	Vallo di Nera,	0.20	271	P	Pg	18 58 12.9	+0.6
LNSS	Leonessa	0.21	201	P	Pg	18 58 13.1	+0.6
LNSS				S	Sg	18 58 16.8	+1.4
T1256	Bolognola (MC)	0.22	17	⇑P	Pg	18 58 13.2	+0.6
T1256				S	Sg	18 58 16.9	+1.1
T1241	Roccafluvione,	0.22	75	⇑P	Pg	18 58 13.2	+0.6
T1241				S	Sg	18 58 17.0	+1.2
T1241				AML	AML		
	comp=E,857µm,0.3s						
T1241				AML	AML		
	comp=N,633µm,1.4s						
AM05	Amandola Campo	0.24	41	⇓P	Pb	18 58 13.7	-0.7
AM05				AML	AML		
	comp=E,233µm,0.7s						
AM05				AML	AML		
	comp=N,70µm,0.1s						
AM05				AML	AML		
	comp=E,992µm,1.0s						
AM05				AML	AML		
	comp=N,250µm,0.1s						
FDMO	Fiordimonte	0.24	351	P	Pg	18 58 13.5	+0.6
FDMO				S	Sg	18 58 17.5	+1.1
T1243	Rocca Santa Ma	0.25	114	P	Pg	18 58 13.6	+0.5
T1243				S	Sg	18 58 17.6	+1.0
RM33	Pellescritta (	0.29	169	⇓P	Pg	18 58 14.5	+0.5
RM33				AML	AML		
	comp=E,345µm,0.8s						
RM33				AML	AML		
	comp=N,400µm,0.3s						
RM33				AML	AML		
	comp=E,346µm,0.8s						
GUMA	Gualdo di Mace	0.30	29	P	Pb	18 58 14.9	-0.6
GUMA				S	Sb	18 58 20.0	-0.5
GUMA				AML	AML		
	comp=E,1405µm,0.3s						
GUMA				AML	AML		
	comp=N,1192µm,1.2s						
GUMA				AML	AML		
	comp=N,1610µm,0.2s						
GUMA				AML	AML		
	comp=E,1275µm,0.3s						
T1211	Morro Reatino	0.34	218	S	Sg	18 58 16.0	-3.3
ARRO	Arrone	0.35	232	S	Sg	18 58 16.0	-3.7
TERO	Teramo	0.39	117	P	Pg	18 58 16.0	+0.4
OFFI	Offida	0.42	71	⇓P	Pb	18 58 17.7	+0.2
OFFI				AML	AML		
	comp=E,280µm,0.5s						
OFFI				AML	AML		
	comp=N,418µm,0.5s						
CESX	Cesi	0.45	246	⇑P	Pg	18 58 12.9	-4.0
CESX				AML	AML		
	comp=E,108µm,0.2s						
CESX				AML	AML		
	comp=N,112µm,0.4s						
GIGS	Gran Sasso	0.47	138	⇑P	Pg	18 58 17.3	0.0
GIGS				AML	AML		
	comp=N,34µm,1.0s						
GIGS				AML	AML		
	comp=E,33µm,1.2s						
SNTG	Esanatoglia	0.48	342	⇑P	Pg	18 58 17.7	+0.4
FIAM	Fiamignano	0.53	182	⇓P	Pg	18 58 16.7	-1.6
FIAM				S	Sb	18 58 27.0	-0.1
FIAM				AML	AML		
	comp=N,104µm,0.9s						
FIAM				AML	AML		
	comp=E,78µm,1.1s						
VCEL	Villa Celiera	0.66	128	⇓P	Pg	18 58 21.0	+0.2
ARVD	Arcevia	0.71	348	S	Sn	18 58 34.0	-1.1
SRES	S.Oreste - Sor	0.73	220	S	Sg	18 58 25.0	-6.6
T0110	Collepietro	0.74	140	⇓P	Pg	18 58 22.4	+0.1
T0110				AML	AML		
	comp=E,68µm,0.6s						
T0110				AML	AML		
	comp=N,72µm,1.3s						

HLW ***01*** *18:58:17.3, 36°.36N×26°.55E, h28km±25km, Md4.5, Ml4.8*

DDA ***01*** *18:58:20.3±0.0, 36°.41N×26°.33E, h41km±4km, MW3.9*

IDC ***01*** *18:58:20.9±1.2, 36°.44N×26°.38E, h125km±11km, mb4.0/21, mbtmp4.3/28, Error ellipse: s-maj=11.9km s-min=9.3km az=153.0*

ISK ***01*** *18:58:20.8, 36°.43N×26°.39E, h115km±1km, ML3.9/36*

MED_RC ***01*** *18:58:20.0±0.8, 36°.40N×26°.38E, h130km±10km, MW4.1/9, Moment Tensor Solution.Mantle waves: s9,c10; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.39±.15; $M_{\theta\theta}$0.14±.37; $M_{\phi\phi}$1.26±.35; $M_{r\theta}$-0.43±.18; $M_{\theta\phi}$0.73±.23; $M_{\phi r}$-0.02±.15; Best double couple: $M_0$1.57000×10^{15} NP1:ϕ_s42.00000°,δ51.00000°,λ-69.00000°. NP2: ϕ_s190.00000°,δ43.00000°,λ-114.00000°. Principal axes: T 1.6300, Plg4.0000°, Azm117.0000°; N -0.1100, Plg16.0000°, Azm208.0000°; P -1.5200, Plg73.0000°, Azm14.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

NEIC ***01*** *18:58:20.7±2.1, 36°.42N±0°.07×26°.38E±0°.05, h122km±6km, mb4.4/38, ML4.2(ATH) Error ellipse: s-maj=10.7km s-min=6.1km az=182.0*

ATH ***01*** *18:58:20.7, 36°.40N×26°.38E, h117km±3km, ML4.2/10, Error ellipse: s-maj=3.5km s-min=1.4km az=140.0*

PDG ***01*** *18:58:22.5±1.1, 36°.50N×26°.37E, h41km±11km, ML4.4/13, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0*

THE ***01*** *18:58:22.9, 36°.40N×26°.42E, h121km±2km, ML4.0/7, Error ellipse: s-maj=2.6km s-min=0.5km az=87.0*

GII ***01*** *18:58:23.7±0.2, 36°.13N×26°.80E, h100km, mb4.3/4, MD4.2/4, Mm4.2/4*

ISC 01 18:58:20.2±0.5**, 36°.37N**±0°.03×**26°.42E**±0°.03**, h121**km±5km**, n426, σ1^{s}56**/492**, mb4.4**/41**, 23C-25D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOSK	Kos Island	0.59	49	PG	Pn	18 58 39.7	+1.0
KOSK				SG	Sn	18 58 52.7	-0.1
KOSK	Kos Island	0.59	49	P	Pn	18 58 39.7	+1.0
NIS1	Nisyros Isl.	0.65	69	PG	Pn	18 58 40.2	+0.9
THR8	Santorini-Mono	0.76	273	P	Pn	18 58 40.7	+0.7
SANT	Santorini	0.78	270	⇑P	Pn	18 58 40.9	+0.6
SANT				⇑S	Sn	18 58 55.4	0.0
SANT	Santorini	0.78	270	PG	Pn	18 58 40.9	+0.6
SANT	Santorini	0.78	270	Pn	Pn	18 58 40.7	+0.4
SANT				Sn	Sn	18 58 54.9	-0.5
THT2	Imerovigli	0.81	275	P	Pn	18 58 41.6	+1.1
THR3	Thira Island,	0.82	273	P	Pn	18 58 41.4	+0.8
CMBO	Columbo, Santo	0.82	277	P	Pn	18 58 41.5	+0.9
CMBO	Columbo, Santo	0.82	277	P	Pn	18 58 41.3	+0.7
CMBO				S	Sn	18 58 55.8	-0.2
CMBO				AML	AML	18 58 56.9	
	comp=N,28571µm,0.6s						
CMBO				AML	AML	18 58 57.0	
	comp=E,23968µm,0.6s						
THR6	Thira Island,	0.83	269	P	Pn	18 58 41.5	+0.9
THR9	Santorini-Faro	0.86	270	P	Pn	18 58 41.8	+0.9
THR5	Thira Island,	0.87	274	P	Pn	18 58 42.0	+1.0
SAP3	Santorini-Thir	0.87	275	P	Pn	18 58 41.8	+0.8
BODT	Bodrum	0.99	46	PG	Pn	18 58 42.2	0.0
BODT				SG	Sn	18 58 57.9	-1.0
BODT	Bodrum	0.99	46	P	Pn	18 58 42.2	0.0
DAT	Datca	1.00	69	PG	Pn	18 58 43.3	+0.9
DAT	Datca	1.00	69	P	Pn	18 58 43.4	+1.0
DAT				S	Sn	18 58 58.3	-0.8
APE	Apeiranthos	1.00	315	⇓P	Pn	18 58 42.8	+0.5
APE				⇑S	Sn	18 58 58.6	-0.4
APE	Apeiranthos	1.00	315	PG	Pn	18 58 42.6	+0.3
APE				SG	Sn	18 58 58.2	-0.9
APE	Apeiranthos	1.00	315	P	Pn	18 58 42.9	+0.6
APE				S	Sn	18 58 58.5	-0.6
	comp=E,4µm,0.5s						
APE	Apeiranthos	1.00	315	P	Pn	18 58 43.0	+0.7
APE				S	Sn	18 58 58.4	-0.7
APE				AML	AML	18 58 59.5	
	comp=E,9516µm,0.6s						
APE				AML	AML	18 58 59.7	
	comp=N,4827µm,0.5s						
KARP	Karpathos	1.02	144	PN	Pn	18 58 43.6	+1.1
KARP	Karpathos	1.02	144	Pn	Pn	18 58 43.3	+0.8
KARP				Sn	Sn	18 58 59.4	+0.1
KARP	Karpathos	1.02	144	P	Pn	18 58 43.9	+1.4
KARP	Karpathos	1.02	144	P	Pn	18 58 43.3	+0.8
KARP				S	Sn	18 59 00.1	+0.8
KARP				AML	AML	18 59 01.2	
	comp=N,15819µm,0.2s						
KARP				AML	AML	18 59 03.5	
	comp=E,25526µm,0.6s						
STIA	Sitia Lasithi	1.19	193	P	Pn	18 58 45.6	+1.3
STIA				S	Sn	18 59 03.0	+0.5
STIA	Sitia Lasithi	1.19	193	P	Pn	18 58 45.5	+1.3
STIA				S	Sn	18 59 03.0	+0.5
STIA				AML	AML	18 59 03.7	
	comp=N,17691µm,0.7s						
STIA				AML	AML	18 59 05.0	
	comp=E,16270µm,0.6s						
ZKR	Zakros	1.26	188	PN	Pn	18 58 46.7	+1.7
ZKR	Zakros	1.26	188	P	Pn	18 58 46.7	+1.7
ZKR				S	Sn	18 59 04.6	+0.8
	comp=E,4µm,0.5s						
ZKR	Zakros	1.26	188	P	Pn	18 58 46.8	+1.7
ZKR				S	Sn	18 59 04.9	+1.1
ZKR				AML	AML	18 59 07.3	
	comp=N,3726µm,0.5s						
ZKR				AML	AML	18 59 07.5	
	comp=E,12144µm,0.4s						
DDIM	Aydin, Didim	1.27	31	P	Pn	18 58 46.1	+1.0
DDIM				S	Sn	18 59 04.6	+0.7
SMG	Samos	1.38	14	P	Pn	18 58 46.8	+0.5
SMG				S	Sn	18 59 06.1	0.0
	comp=E,2µm,0.7s						
SMG	Samos	1.38	14	P	Pn	18 58 46.8	+0.5
ARG	Arkhangelos	1.39	96	PN	Pn	18 58 47.5	+1.2
ARG	Arkhangelos	1.39	96		Pn	18 58 47.6	+1.2
ARG				Sn	Sn	18 59 06.7	+0.6
ARG	Arkhangelos	1.39	96	P	Pn	18 58 47.6	+1.2
ARG				S	Sn	18 59 06.8	+0.6
	comp=E,5µm,0.3s						
ARG	Arkhangelos	1.39	96	P	Pn	18 58 47.6	+1.2
FRMA	Ierapetra Chan	1.46	203	P	Pn	18 58 48.9	+1.7
FRMA				S	Sn	18 59 08.6	+0.9
FRMA				AML	AML	18 59 10.5	
	comp=E,14385µm,0.6s						
FRMA				AML	AML	18 59 11.6	
	comp=N,11914µm,0.8s						
GCAM	G?zelcaml?	1.48	26	PN	Pn	18 58 48.1	+0.7
GCAM	G?zelcaml?	1.48	26	P	Pn	18 58 47.9	+0.6
GCAM				S	Sn	18 59 07.4	-0.7
HRKL	Herakleio	1.50	226	PN	Pn	18 58 48.7	+1.0
HRKL	Herakleio	1.50	226	P	Pn	18 58 49.4	+1.7
HRKL	Herakleio	1.50	226	P	Pn	18 58 48.9	+1.2
HRKL				S	Sn	18 59 09.0	+0.4
TURN	Turunc	1.52	74	PN	Pn	18 58 49.0	+1.2
TURN	Turunc	1.52	74	P	Pn	18 58 49.1	+1.2
TURN				S	Sn	18 59 09.3	+0.4
IACM	Heraklion	1.52	226	P	Pn	18 58 49.0	+1.0
IACM				S	Sn	18 59 09.5	+0.5
IDI	Anoyia	1.65	230	⇓P	Pn	18 58 49.9	+0.5
IDI				⇓S	Sn	18 59 10.4	-1.3
IDI	Anoyia	1.65	230	P	Pn	18 58 49.8	+0.5
	comp=N,153nm,0.3s,baz=31,slow=12,SNR=611						
IDI				S	Sn	18 59 09.4	-2.3
	comp=N,646nm,0.3s,baz=342,slow=18,SNR=31						
IDI	Anoyia	1.65	230	PN	Pn	18 58 49.9	+0.5
IDI	Anoyia	1.65	230	Pn	Pn	18 58 49.6	+0.2
IDI				Sn	Sn	18 59 10.2	-1.5
IDI	Anoyia	1.65	230	P	Pn	18 58 49.9	+0.5
IDI				S	Sn	18 59 12.6	+0.9
	comp=N,2µm,0.3s						
IDI	Anoyia	1.65	230	P	Pn	18 58 50.0	+0.5
IDI				S	Sn	18 59 10.8	-0.9
IDI				AML	AML	18 59 11.3	
	comp=N,5572µm,0.3s						
IDI				AML	AML	18 59 13.3	
	comp=E,4114µm,0.3s						
MHLO	Agia Marina, M	1.66	282	P	Pn	18 58 50.9	+1.4
MHLO	Agia Marina, M	1.66	282	P	Pn	18 58 51.1	+1.6
YER	Yerkesik	1.68	62	PN	Pn	18 58 51.3	+1.5
YER	Yerkesik	1.68	62	P	Pn	18 58 51.5	+1.7
YER				S	Sn	18 59 13.0	+0.6
DGB	zmir	1.72	12	P	Pn	18 58 50.6	+0.4
DGB				S	Sn	18 59 11.9	-1.2

AYDN	Tasoluk	1.74	42	P	Pn	18 58 51.7	+1.2
AYDN				S	Sn	18 59 12.7	-1.0
MULA	Mugla, Merkez-	1.76	59	P	Pn	18 58 52.6	+1.7
MULA				S	Sn	18 59 14.7	+0.5
DALY	Dalyan (Mula)	1.85	75	PN	Pn	18 58 53.3	+1.5
TMBK	Timbaki Herakl	1.87	227	P	Pn	18 58 52.8	+0.8
ZEYE	Izmir, Urla-Ze	1.87	2	P	Pn	18 58 52.0	0.0
ZEYE				S	Sn	18 59 15.7	-0.6
SIVA	Sivas	1.88	225	P	Pn	18 58 53.8	+1.6
SIVA				S	Sn	18 59 16.2	-0.4
SIVA				AML	AML	18 59 22.2	
	comp=E,11117µm,0.5s						
SIVA				AML	AML	18 59 24.2	
	comp=N,7319µm,0.7s						
AYDB	Zeytinkoy-Aydi	1.96	36	PN	Pn	18 58 54.1	+0.8
URLA	Izmir	1.99	4	PN	Pn	18 58 52.9	-0.7
URLA	Izmir	1.99	4	P	Pn	18 58 53.0	-0.7
URLA				S	Sn	18 59 17.0	-2.1
CHOS	Chios island	2.04	352	PN	Pn	18 58 54.6	+0.4
CHOS	Chios island	2.04	352	P	Pn	18 58 54.6	+0.4
BLCB	Balcova	2.07	14	PN	Pn	18 58 55.3	+0.7
FETY	Fethiye	2.16	82	PN	Pn	18 58 57.1	+1.4
IMMV	Iera Moni Meta	2.18	246	PN	Pn	18 58 57.3	+1.4
IMMV	Iera Moni Meta	2.18	246	P	Pn	18 58 56.4	+0.5
IMMV				S	Sn	18 59 24.6	+1.4
	comp=N,2µm,0.4s						
IMMV	Iera Moni Meta	2.18	246	P	Pn	18 58 56.7	+0.8
IMMV				S	Sn	18 59 22.3	-0.9
IMMV				AML	AML	18 59 29.1	
	comp=E,3992µm,0.4s						
IMMV				AML	AML	18 59 30.0	
	comp=N,4094µm,0.4s						
TAVA	DENIZLI_Tavas	2.28	61	P	Pn	18 58 58.6	+1.4
TAVA				S	Sn	18 59 26.4	+0.8
CAME	Cameli-Denizli	2.39	75	PN	Pn	18 59 00.2	+1.5
GVDS	Gavdos	2.43	232	PN	Pn	18 59 01.1	+2.0
GVDS	Gavdos	2.43	232	P	Pn	18 59 01.5	+2.4
GVDS				S	Sn	18 59 30.1	+1.1
GVD	Gavdhos	2.44	232	PN	Pn	18 59 00.9	+1.7
GVD	Gavdhos	2.44	232	P	Pn	18 59 01.1	+1.9
GVD				S	Sn	18 59 29.8	+0.7
GVD				AML	AML	18 59 31.2	
	comp=E,4599µm,0.5s						
GVD				AML	AML	18 59 32.6	
	comp=N,5456µm,0.4s						
CAEL	Denizli, Camel	2.45	71	P	Pn	18 59 00.9	+1.5
CAEL				S	Sn	18 59 30.3	+0.8
KNDR	Palaiochora Ch	2.49	244	PN	Pn	18 59 02.0	+2.1
KNDR	Palaiochora Ch	2.49	244	P	Pn	18 59 02.6	+2.7
APMY	Acipayam-Deniz	2.56	64	PN	Pn	18 59 02.2	+1.4
KSL	Kastellorizon	2.57	94	P	Pn	18 59 02.1	+1.3
VLY	Voula,Athens	2.57	306	P	Pn	18 59 01.8	+0.9
ANKY	Antikythira Is	2.57	260	P	Pn	18 59 01.9	+0.9
ANKY				S	Sn	18 59 33.0	+0.8
	comp=N,872nm,0.5s						
ANKY	Antikythira Is	2.57	260	P	Pn	18 59 01.8	+0.9
AKAS	Kas	2.58	92		Pn	18 59 01.2	+0.1
AKAS				Sn	Sn	18 59 30.4	-2.1
AKAS	Kas	2.58	92	P	Pn	18 59 01.1	0.0
AKAS				S	Sn	18 59 31.0	-1.6
DION	Dionisos Attik	2.62	311	P	Pn	18 59 02.6	+1.1
DION	Dionisos Attik	2.62	311	P	Pn	18 59 02.7	+1.1
ATHU	Athens Univers	2.64	308	P	Pn	18 59 02.9	+1.1
PTL	Penteli	2.64	310	P	Pn	18 59 03.0	+1.2
ZEDA	zmir-Bergama	2.65	11	P	Pn	18 59 02.4	+0.5
ZEDA				S	Sn	18 59 34.2	+0.3
GOLH	Golhisar	2.67	70	P	Pn	18 59 04.0	+1.8
GOLH				S	Sn	18 59 34.8	+0.2
ATH	Athens Observa	2.69	307	P	Pn	18 59 03.7	+1.3
KTHA	Kythira Island	2.71	269	PN	Pn	18 59 03.6	+0.8
KTHA	Kythira Island	2.71	269	P	Pn	18 59 03.5	+0.8
KTHA	Kythira Island	2.71	269	P	Pn	18 59 03.4	+0.6
MANT	Manisa	2.72	38	P	Pn	18 59 03.8	+0.8
DKL	Dikili	2.73	8	PN	Pn	18 59 03.7	+0.8
KRND	KRANIDI	2.81	292	P	Pn	18 59 05.1	+1.2
VLI	Veliai	2.83	278	P	Pn	18 59 04.6	+0.4
ELL	Elmali	2.83	81	PN	Pn	18 59 05.9	+1.5
ELL	Elmali	2.83	81	Pn	Pn	18 59 06.1	+1.7
KYMI	Kymi, Euboea I	2.92	321	P	Pn	18 59 06.2	+0.8
AYVA	Ayvalik	2.94	4	P	Pn	18 59 05.8	+0.1
USAK	Uak-Merkez	3.12	41	P	Pn	18 59 09.4	+1.3
KOCA	Canakkale, Ayv	3.14	356	P	Pn	18 59 08.1	-0.1
PASA	Karahalli, USA	3.14	50	P	Pn	18 59 10.0	+1.6
PASA				S	Sn	18 59 45.5	-0.2
AKUM	Antalya-Kumluc	3.17	90	P	Pn	18 59 09.8	+1.1
AKUM				S	Sn	18 59 45.6	-0.4
BUHA	Balikesir, Bur	3.17	9	P	Pn	18 59 09.2	+0.6
STEP	BALIKESIR_Sava	3.17	18	P	Pn	18 59 09.3	+0.6
STEP				S	Sn	18 59 57.3	+11
BRDR	BURDUR-Merkez	3.20	64	P	Pn	18 59 10.5	+1.3
BRDR				S	Sn	18 59 44.3	-2.7
KORT	Korkueli	3.22	78	PN	Pn	18 59 11.2	+1.7
KORT	Korkueli	3.22	78	P	Pn	18 59 11.3	+1.7
DEMI	Demirci	3.23	34	P	Pn	18 59 10.0	+0.4
BASM	Basmaki-Afyon	3.29	61	PN	Pn	18 59 11.5	+1.2
BAYC	CANAKKALE_Bayr	3.37	2	P	Pn	18 59 11.4	+0.1
EZN	Ezine	3.45	359	PN	Pn	18 59 12.6	+0.2
BUCA	Burdur, Bucak-	3.46	73	P	Pn	18 59 14.1	+1.6
BOZC	Bozcaada	3.48	355	PN	Pn	18 59 12.9	+0.1
BALY	Balya	3.50	15	P	Pn	18 59 12.6	-0.4
BCK	Bucak	3.51	71	PN	Pn	18 59 15.0	+1.7
ISP	Isparta	3.59	65		Pn	18 59 15.2	+0.8
DURS	Dursunbey	3.61	26	P	Pn	18 59 15.2	+0.5
GDZ	Gediz	3.64	41	P	Pn	18 59 15.4	+0.3
ECEA	Canakkale, Ece	3.67	357	P	Pn	18 59 15.5	+0.2
ITM	Ithomi	3.70	284		Pn	18 59 16.8	+1.1
BAGO	Egridir - ISPA	3.85	64	P	Pn	18 59 18.6	+0.8
TVSB	Tavsanli	3.90	37	PN	Pn	18 59 19.5	+1.0
SHUT	Suhut-Afyon	3.94	55	PN	Pn	18 59 20.4	+1.3
GELI	Tayfur-Gelibol	4.02	1	PN	Pn	18 59 20.6	+0.6
YVAC	Isparta, Yalva	4.29	62	P	Pn	18 59 25.0	+1.4
RDO	Rodhopi	4.82	352	Pn	Pn	18 59 31.2	+0.5
SLUM	Salum	4.97	192	P	Pn	18 59 32.6	-0.1
	baz=194						
SLUM				S	Sn	19 00 24.1	-5.0
	baz=194						
KDZ	Kurdzhali	5.33	352	i P	Pn	18 59 38.2	+0.6
RZN	Rozhen	5.47	346	i P	Pn	18 59 41.0	+1.3
MMB	Musomiste	5.62	339	i P	Pn	18 59 42.2	+0.7
CSS	Mathiatis	5.80	102	Pn	Pn	18 59 42.8	-1.1
FNA	Florina	5.92	320	Pn	Pn	18 59 46.9	+1.4
KKB	Krupnik	6.07	336	i P	Pn	18 59 48.1	+0.6
BR231	Keskin MP Arra	6.09	53		Pn	18 59 48.9	+1.0
ANTO	Ankara	6.12	53	⇑P	Pn	18 59 52.1	+3.9
ANTO	Ankara	6.12	53		Pn	18 59 48.9	+0.6
KBN	Korca	6.13	316		Pn	18 59 49.6	+1.3
KEK	Kerkira	6.20	305	Pn	Pn	18 59 48.7	-0.6
PGB	Panagyurishte	6.41	345	i P	Pn	18 59 52.5	+0.3
BR131	Keskin Array S	6.61	57		Pn	18 59 56.7	+1.8
BRTR	Keskin Array B	6.61	57	P	Pn	18 59 56.7	+1.8
	comp=N,4.5nm,0.4s,baz=233,slow=16,SNR=31						
BRTR				S	Sn	19 01 09.6	+0.7
	comp=N,4.0nm,0.7s,baz=227,slow=25,SNR=7.5						
BRTR	Keskin Array B	6.61	57	Pn	Pn	18 59 55.6	+0.7
VTS	Vitosha	6.71	339	⇑P	Pn	18 59 55.5	-0.8
VTS	Vitosha	6.71	339	Pn	Pn	18 59 56.4	+0.1
VTS	Vitosha	6.71	339	i P	Pn	18 59 56.7	+0.4
TIR	Tirane	7.13	316	⇑P	Pn	19 00 00.8	-1.0
PLVB	Pleven	7.14	349	⇓P	Pn	19 00 02.5	+0.5
SWA2		7.15	187	P	Pn	19 00 01.4	-0.8
	baz=188						
SCTE	Santa Cesarea	7.27	303	Pn	Pn	19 00 02.0	-1.6
HMYD	Mayadein	7.51	149	P	Pn	19 00 06.8	-0.3
	baz=150						
HNAT	Natroun	7.58	151	P	Pn	19 00 07.1	-0.9
	baz=151						
HLW	Helwan	7.69	146	P	Pn	19 00 08.7	-0.8
	baz=146						
BLKB	Belogradchik	7.79	340	⇑P	Pn	19 00 11.1	+0.3
KOT	Kottamia	7.86	143	P	Pn	19 00 11.0	-0.8
	baz=143						
KOT				S	Sn	19 01 33.0	-6.2
	baz=143						
ULC	Ulcinj	7.89	317	ePn	Pn	19 00 11.6	-0.5
ULC				i Sn	Sn	19 01 35.8	-3.9
BHL	Bhannes	7.95	105	eP	Pn	19 00 10.6	-2.5
RYAN	Fayoum	7.96	155	P	Pn	19 00 12.0	-1.1
	baz=155						
DQRL	Deir Qamar	7.96	107	eP	Pn	19 00 11.5	-1.7
PVY	Plav	7.97	323	⇓iPn	Pn	19 00 13.9	+0.6
PVY				i Sn	Sn	19 01 37.7	-4.2

HSAF	As Saff	7.99	146	P	Pn	19 00 12.9	-0.7
	baz=146						
HWQ	Hawqa	8.06	102	eP	Pn	19 00 13.1	-1.4
DRME	Dracevica, Mon	8.07	318	ePn	Pn	19 00 12.8	-1.8
DRME	Dracevica, Mon	8.07	318	⇑iPn	Pn	19 00 14.1	-0.5
DRME				i Sn	Sn	19 01 40.1	-4.1
GLL	Jalalah	8.10	145	P	Pn	19 00 13.6	-1.4
	baz=145						
BOVS	Bovan	8.11	335	⇑P	Pn	19 00 15.1	+0.1
MMA0B	Mount Meron ar	8.12	112	Pn	Pn	19 00 13.8	-1.5
TIP	Timpagrande	8.15	293	⇓P	Pn	19 00 13.7	-2.0
TIP	Timpagrande	8.15	293	Pn	Pn	19 00 13.5	-2.2
PDG	Podgorica	8.21	320	⇓P	Pn	19 00 15.6	-0.8
PDG	Podgorica	8.21	320	Pn	Pn	19 00 15.4	-1.0
TTG	Podgorica	8.21	320	⇑iPn	Pn	19 00 16.3	0.0
TTG				i Sn	Sn	19 01 43.2	-4.2
IVA	Berane	8.22	324	⇓iPn	Pn	19 00 17.2	+0.6
IVA				i Sn	Sn	19 01 43.5	-4.2
TIRR	Tirgusor	8.22	10	Pn	Pn	19 00 17.0	+0.5
GEM	Giv'at Ha'Em	8.23	110	Pn	Pn	19 00 15.6	-1.1
GEM				Sn	Sn	19 01 42.7	-5.3
SLTI	Sal'it	8.23	118	Pn	Pn	19 00 15.4	-1.4
SLTI				Sn	Sn	19 01 42.9	-5.3
RCY	Rachaya	8.24	108	eP	Pn	19 00 15.9	-1.2
NATI	Neve Ativ	8.26	109	Pn	Pn	19 00 16.1	-1.1
NATI				Sn	Sn	19 01 43.4	-5.4
BUM	Brajici-Budva	8.31	318	⇑iPn	Pn	19 00 16.6	-1.2
BUM				i Sn	Sn	19 01 45.6	-4.4
KOME	Kolasin	8.38	323	⇓iPn	Pn	19 00 19.5	+0.7
KOME				i Sn	Sn	19 01 47.4	-4.4
MMLI	Mount Malkishu	8.41	115	Pn	Pn	19 00 17.9	-1.3
MMLI				Sn	Sn	19 01 47.9	-4.5
SUZ	Suez	8.44	139	P	Pn	19 00 19.3	-0.4
	baz=139						
CEME	Cevo	8.47	319	⇑iPn	Pn	19 00 19.0	-0.9
CEME				i Sn	Sn	19 01 49.4	-4.4
AMAZ	Amatzia	8.55	122	Pn	Pn	19 00 19.8	-1.3
AMAZ				Sn	Sn	19 01 50.7	-5.1
HMDT	Nahal Hemdat	8.58	116	Pn	Pn	19 00 20.3	-1.1
KZIT	Kziot	8.60	127	Pn	Pn	19 00 20.3	-1.4
KZIT				Sn	Sn	19 01 51.2	-5.7
CEL	Celeste	8.60	286		Pn	19 00 19.0	-2.7
NKME	Niksic	8.60	320	⇓iPn	Pn	19 00 21.1	-0.7
NKME				i Sn	Sn	19 01 52.7	-4.4
HCY	Herceg Novi	8.63	317	ePn	Pn	19 00 18.4	-3.6
HCY	Herceg Novi	8.63	317	ePn	Pn	19 00 20.8	-1.2
HCY				i Sn	Sn	19 01 53.2	-4.4
GAZ	Gaziantep	8.70	82	Pn	Pn	19 00 23.6	+0.5
MATE	Matera	8.73	302	⇓P	Pn	19 00 21.0	-2.4
NBNS	Bani Suef	8.75	151	P	Pn	19 00 22.1	-1.7
	baz=151						
YTIR	Yattir	8.79	122	Pn	Pn	19 00 23.0	-1.3
YTIR				Sn	Sn	19 01 57.2	-4.5
PLE	Pljevlja	8.80	324	⇑iPn	Pn	19 00 25.2	+0.7
PLE				i Sn	Sn	19 01 57.4	-4.6
ZNM	Zenema	8.83	140	P	Pn	19 00 24.4	-0.5
	baz=140						
TREB	Trebinje	8.89	318	ePn	Pn	19 00 23.1	-2.5
BRY	Bratogost	8.91	319	ePn	Pn	19 00 24.8	-1.2
BRY	Bratogost	8.91	319	⇑iPn	Pn	19 00 25.1	-0.9
BRY				i Sn	Sn	19 02 00.0	-4.7
UPM	Unac-Piva	8.94	322	ePn	Pn	19 00 26.3	-0.2
UPM	Unac-Piva	8.94	322	⇑iPn	Pn	19 00 26.8	+0.3
UPM				i Sn	Sn	19 02 00.8	-4.7
RUDO	Rudo	9.04	325	ePn	Pn	19 00 25.6	-1.9
CUC	Castrocucco	9.10	297	Pn	Pn	19 00 26.8	-1.7
VOIR		9.12	354	⇓P	Pn	19 00 28.9	+0.2
MLR	Muntele Rosu	9.12	358	⇓P	Pn	19 00 29.8	+1.0
MLR	Muntele Rosu	9.12	358	P	Pn	19 00 29.1	+0.3
	comp=N,3.8nm,0.8s,baz=91,slow=21,SNR=6.1						
MLR	Muntele Rosu	9.12	358		Pn	19 00 28.9	+0.1
GHAJ	Ghor Haditha	9.13	121	Pn	Pn	19 00 27.9	-1.0
MDVR	Moldovita	9.13	338	⇑P	Pn	19 00 28.6	-0.3
DIVS	Divibare	9.15	330	Pn	Pn	19 00 30.1	+0.9
DIVS	Divibare	9.15	330	ePn	Pn	19 00 31.0	+1.8
BBLS	Lazići	9.21	327	ePn	Pn	19 00 30.4	+0.4
HFRF	Wahat Farafira	9.33	170	P	Pn	19 00 31.1	-0.6
	baz=170						
ZFRI	Zfri	9.33	126	Pn	Pn	19 00 29.6	-2.0
ZFRI				Sn	Sn	19 02 08.7	-6.1
KRMI	Paran Flat	9.34	130	Pn	Pn	19 00 29.7	-2.0
KRMI				Sn	Sn	19 02 08.9	-6.1
STON	Ston	9.35	317	ePn	Pn	19 00 27.5	-4.2
PRNI	Paran	9.35	127	Pn	Pn	19 00 30.1	-1.9
PRNI				Sn	Sn	19 02 09.4	-6.0
GZR	Gura Zlata	9.43	344	⇑P	Pn	19 00 32.5	-0.4
TAMRE	El Minia	9.46	155	P	Pn	19 00 31.9	-1.5
	baz=155						
VRI	Vrincioaia	9.49	1	⇓P	Pn	19 00 35.5	+1.8
HRDS	Abu Rudays	9.59	141	P	Pn	19 00 33.8	-1.3
	baz=141						
HRFI	Mount Harif	9.59	129	Pn	Pn	19 00 33.4	-1.7
HRFI				Sn	Sn	19 02 15.9	-5.2
HAPS	Han Pijesak,BI	9.59	326	ePn	Pn	19 00 34.6	-0.5
DOPR	Dopca	9.62	356	⇑P	Pn	19 00 37.1	+1.7
ASF	Jabal al Asfar	9.63	113	P	Pn	19 00 35.4	-0.3
	comp=N,5.9nm,0.3s,baz=311,slow=4.2,SNR=11						
ASF				S	Sn	19 02 18.4	-3.6
	comp=N,3.4nm,0.6s,baz=356,slow=20,SNR=1.4						
MBRI	Mt Berech	9.68	130	Pn	Pn	19 00 34.6	-1.8
VAE	Valguarnera	9.68	280	P	Pn	19 00 36.4	0.0
	comp=N,9.1nm,0.4s,baz=85,slow=2.6,SNR=6.9						
VAE				S	Sn	19 02 13.3	-10
	comp=N,30nm,0.5s,baz=344,slow=18,SNR=9.1						
GRB	Gharib	9.70	145	P	Pn	19 00 35.7	-1.0
	baz=145						
TEKS	Tekeris	9.71	329	ePn	Pn	19 00 36.6	0.0
EIL	Elat	9.79	131	P	Pn	19 00 36.2	-1.6
	comp=N,22nm,0.3s,baz=334,slow=4.2,SNR=83						
EIL				S	Sn	19 02 18.1	-7.8
	comp=N,28nm,0.4s,baz=30,slow=20,SNR=6.4						
EIL	Elat	9.79	131	Pn	Pn	19 00 36.6	-1.2
EIL				Sn	Sn	19 02 21.2	-4.7
SGRT	San Giovanni R	9.89	306	Pn	Pn	19 00 36.2	-2.9
BZS	Buzias	9.92	340	⇓P	Pn	19 00 39.6	+0.1
ASUT		9.95	153	P	Pn	19 00 38.6	-1.5
	baz=153						
HBST	Basata	9.99	133	P	Pn	19 00 39.5	-1.0
	baz=133						
TR2	Tor 2	10.07	140	P	Pn	19 00 39.8	-1.8
	baz=140						
NUB	Nuweibaa	10.08	134	P	Pn	19 00 40.6	-1.0
	baz=135						
HKAT	Jabal Katrina	10.10	139	P	Pn	19 00 40.7	-1.5
	baz=139						
FRGS	Fruska Gora	10.11	332	⇑P	Pn	19 00 41.9	-0.1
FRGS	Fruska Gora	10.11	332	ePn	Pn	19 00 42.3	+0.3
HDHB	Dhahab	10.29	135	P	Pn	19 00 43.8	-0.7
	baz=136						
PAOL	Paolisi	10.37	300		Pn	19 00 43.7	-1.9
CLTB	Caltabellotta	10.63	280	Pn	Pn	19 00 47.9	-1.4
MGRS	Mrkonjic Grad	10.73	321	ePn	Pn	19 00 49.1	-1.3
DRGR		10.78	346	⇓P	Pn	19 00 51.6	+0.6
BLY	Banja Luka	10.92	323	ePn	Pn	19 00 51.2	-1.7
HHRG	Al Ghardaqah	10.96	144	P	Pn	19 00 54.5	+0.9
	baz=145						
HDK1	Dakhla	11.09	166	P	Pn	19 00 54.9	-0.5
	baz=166						
INTR	Introdacqua	11.22	304		Pn	19 00 50.5	-6.5
A051A	Mrakovica	11.25	323	ePn	Pn	19 00 55.2	-2.2
BURAR	Bucovina Array	11.27	356	Pn	Pn	19 00 59.4	+1.7
AKRG	Al Kharijah	11.38	161	P	Pn	19 00 58.4	-0.8
	baz=161						
GTR	Jabal at Tayr	11.39	161	P	Pn	19 00 58.1	-1.3
	baz=161						
MORH	Mrgy, Hungar	11.44	332	⇑P	Pn	19 00 59.7	-0.1
MORH	Mrgy, Hungar	11.44	332	P	Pn	19 00 59.5	-0.3
BOJS	Bojanci	12.42	321	i Pn	Pn	19 01 10.5	-2.2
PSZ	Piszkesteto	12.51	339	Pn	Pn	19 01 12.3	-1.7
PSZ	Piszkesteto	12.51	339	P	Pn	19 01 14.9	+1.0
LATE	Laterza	12.89	303		Pn	19 01 16.7	-2.2
KNDS	Knezji Dol	12.89	319	i Pn	Pn	19 01 16.3	-2.6
CEY	Cerknica	13.01	320	i Pn	Pn	19 01 18.2	-2.2
CEY				i P	P	19 01 21.4	-4.8
VYHS	Vyhne	13.34	338	eP	Pn	19 01 29.1	+4.4
SOKA	Soboth	13.36	324	i Pn	Pn	19 01 24.2	-0.8
	comp=N,0.5nm,0.3s						
MOZS	Mozjanca	13.38	322	i Pn	Pn	19 01 23.3	-1.8
MOZS				i P	P	19 01 26.0	-4.3
OBKA	Obir	13.47	322	ePn	Pn	19 01 24.8	-1.7
OBKA	Obir	13.47	322	ePn	Pn	19 01 25.7	-0.7
	comp=N,6.2nm,0.7s						

ARSA	Arzberg	13.56	327	ePn	Pn	19 01 27.3	-0.2
	comp=N,0.3nm,0.2s						
STHS	Stebnicka Huta	13.58	345	eP	Pn	19 01 31.7	+4.0
CASP	Castiglione de	13.60	303	Pn	Pn	19 01 26.9	-1.1
SABO	M.te Sabotino	13.60	319	Pn	Pn	19 01 25.7	-2.3
OSSC	Osservatorio P	13.65	306	Pn	Pn	19 01 24.7	-4.0
MODS	Modra-Piesok	13.76	334	eP	Pn	19 01 34.3	+4.3
KEST	Kesra	13.83	272	P	Pn	19 01 31.9	+0.7
	comp=N,5.4nm,0.9s,baz=177,slow=9.6,SNR=7.0						
KEST				S	Sn	19 03 54.4	-9.4
	comp=N,2.4nm,0.8s,baz=43,slow=23,SNR=2.0						
KEST	Kesra	13.83	272		Pn	19 01 33.2	+2.0
PRED	Cave del Predi	13.92	320		Pn	19 01 31.7	-0.5
JAVC	Velka Javorina	14.03	336	eP	P	19 01 47.3	+10
ZCCA	Zocca	14.21	309		Pn	19 01 34.8	-1.1
STAL	STALIGIAL	14.26	318		Pn	19 01 34.1	-2.4
CLUD	Cludinico	14.29	319		Pn	19 01 34.7	-2.2
TEOL	Teolo	14.31	313		Pn	19 01 34.5	-2.6
MAUC	Maruska	14.42	337	eP	P	19 01 42.7	+0.8
CIMO	Cimolais	14.43	318	Pn	Pn	19 01 37.1	-1.6
KBA	Koelnbreinsper	14.46	322	ePn	Pn	19 01 38.5	-0.7
	comp=N,8.1nm,0.5s,SNR=7.1						
AKASG	Malin Array Be	14.47	7	P	Pn	19 01 41.6	+2.6
	comp=N,1.6nm,0.4s,baz=201,slow=12,SNR=14						
AKBB	Malin Array Si	14.47	7	P	Pn	19 01 38.5	-0.5
VLC	Villacollemand	14.49	307	Pn	Pn	19 01 37.4	-2.0
KIV	Kislovodsk	14.55	54	P	Pn	19 01 40.3	0.0
KVAR	Kislovodsk Arr	14.55	54	P	P	19 01 45.6	+2.1
	comp=N,2.8nm,0.4s,baz=172,slow=18,SNR=9.6						
MOA	Molln	14.57	326	eP	Pn	19 01 43.3	+2.9
	comp=N,1.7nm,0.5s						
KBZ	Khabaz	14.59	55	P	P	19 01 45.9	+2.1
	comp=N,12nm,0.8s,baz=251,slow=10,SNR=18						
OJC	Ojcow	14.65	343		Pn	19 01 41.5	+0.1
KRUC	Moravsky	14.65	333	eP	Pn	19 01 43.8	+2.4
ABTA	Abfaltersbach	14.67	319	i Pn	Pn	19 01 40.9	-0.9
	comp=N,3.6nm,0.3s,SNR=9.2						
CTI	Castel Tesino	14.71	316	P	Pn	19 01 40.3	-2.0
BIOA	Bad Ischl, Aus	14.75	324	ePn	Pn	19 01 41.5	-1.1
	comp=N,6.8nm,0.7s,SNR=6.1						
VRAC	Vranov	14.79	334	P	Pn	19 01 45.9	+2.8
	comp=N,7.3nm,0.5s,baz=145,slow=10,SNR=9.5						
VRAC	Vranov	14.79	334	eP	Pn	19 01 45.8	+2.7
MORC	Moravsky Berou	14.87	337	P	Pn	19 01 46.5	+2.2
MORC	Moravsky Berou	14.87	337	eP	Pn	19 01 47.0	+2.8
MSSA	Maissana	15.12	307	P	Pn	19 01 45.3	-2.1
MSSA				IAmb	IAmb	19 02 22.5	
	comp=Z,29nm,1.4s						
SALO	Salr	15.12	313	P	Pn	19 01 46.6	-0.8
SALO				IAmb	IAmb	19 01 54.9	
	comp=Z,16nm,0.8s						
CKRC	Cesky Krumlov	15.28	328	eP	Pn	19 01 49.8	+0.4
KRLC	Kraliky	15.38	336	eP	Pn	19 01 51.8	+1.3
WTTA	Wattenberg	15.46	319	i P	Pn	19 01 53.2	+1.4
	comp=Z,11nm,0.4s,SNR=6.7						
WATA	Walderalm	15.54	319	eP	Pn	19 01 53.6	+0.9
	comp=Z,14nm,0.5s,SNR=12						
GEC2	GERESS Array S	15.56	327	P	Pn	19 01 53.6	+0.6
GERES	GERESS Array B	15.56	327	P	Pn	19 01 53.5	+0.6
	comp=Z,2.2nm,0.6s,baz=135,slow=12,SNR=24						
GERES	GERESS Array B	15.56	327	P	Pn	19 01 53.4	+0.4
SQTA	Sankt Quirin	15.66	319	eP	Pn	19 01 54.7	+0.5
	comp=Z,14nm,0.9s,SNR=8.9						
DPC	Dobruska-Polom	15.76	336	eP	Pn	19 01 54.4	-1.0
MOTA	Moosalm	15.80	319	eP	Pn	19 01 56.6	+0.7
	comp=Z,10.0nm,0.9s,SNR=7.6						
FETA	Feichten	15.80	317	eP	Pn	19 01 56.7	+0.7
	comp=Z,13nm,0.6s,SNR=17						
FUORN	Ofenpass-Fuorn	15.83	315	P	Pn	19 01 55.0	-1.4
KHC	Kasperske Hory	15.83	328	P	Pn	19 01 57.0	+0.7
KHC	Kasperske Hory	15.83	328	eP	Pn	19 01 56.2	0.0
RETA	Reutte	16.07	319	eP	Pn	19 01 59.5	+0.3
	comp=Z,3.3nm,0.4s,SNR=5.3						
PRU	Pruhonice	16.11	331	eP	Pn	19 01 59.4	-0.1
DAVOX	Davos/Dischmat	16.14	315	P	Pn	19 02 01.5	+1.4
	comp=Z,4.8nm,0.5s,baz=136,slow=7.7,SNR=19						
DAVA	Damuels	16.43	317	eP	Pn	19 02 03.9	+0.3
	comp=Z,13nm,0.7s,SNR=11						
GRA1	Grafenberg Arr	17.30	325	P	P	19 02 13.2	-0.5
GRA1				IAmb	IAmb	19 02 16.4	
	comp=Z,13nm,1.0s						
GRFO	Grafenberg	17.30	325	P	P	19 02 13.8	+0.1
SENIN	Lac Senin/Sane	17.44	311	P	P	19 02 15.2	-0.3
SENIN				IAmb	IAmb	19 02 18.6	
	comp=Z,15nm,0.5s						
STU	Stuttgart	17.69	320	P	P	19 02 18.1	+0.2
STU				IAmb	IAmb	19 02 19.8	
	comp=Z,12nm,0.7s						
CLL	Collm	17.75	331	epP	pP	19 02 38.0	-2.1
CLL	Collm	17.75	331	ePx	Px	19 02 21.0	
	comp=Z,5.0nm,0.8s						
BFO	Black Forest	17.88	318	P	P	19 02 19.1	-1.0
ECH	Echery	18.47	316	P	P	19 02 25.9	-0.7
IDID	Didziasalis	18.95	1	eP	P	19 02 31.8	+0.2
IIGN	Ignalina	18.99	360	eP	P	19 02 31.7	-0.4
ISAL	Salakas	19.21	359	eP	P	19 02 34.4	-0.1
PABE	Paberze	19.21	356	eP	P	19 02 33.9	-0.6
WLF	Walferdange	19.82	318	dP	P	19 02 44.7	+3.5
	comp=Z,6.9nm,0.8s						
PBUR	Paburge	19.90	353	eP	P	19 02 42.1	+0.2
BSD	Bornholm Skovb	20.34	341	eP	P	19 02 44.4	-2.4
BSD	Bornholm Skovb	20.34	341	i P	P	19 02 42.8	-3.9
BTNL	Ternell	20.37	321	dP	P	19 02 47.6	+0.5
	comp=Z,8.8nm,0.8s						
MEM	Membach	20.45	320	dP	P	19 02 48.5	+0.6
	comp=Z,19nm,0.7s						
BSTI	Sart Tilman	20.66	320	dP	P	19 02 51.4	+1.2
BCLA	Clavier	20.70	319	dP	P	19 02 51.0	+0.4
	comp=Z,7.4nm,1.0s						
DOU	Dourbes	20.90	318	dP	P	19 02 52.5	-0.3
BLEU	Blekinge	21.20	344	i P	P	19 02 53.1	-2.7
LUNU	Lund	21.20	339	i P	P	19 02 56.4	+0.4
SNF	Seneffe	21.29	319	dP	P	19 02 57.5	+0.5
	comp=Z,9.4nm,0.8s						
DEL	Delary	21.82	341	eP	P	19 02 55.5	-7.0
DEL	Delary	21.82	341	i P	P	19 03 00.6	-1.9
BELG	Belogornoye	21.93	36	P	P	19 03 04.0	+0.4
	comp=Z,13nm,0.3s,baz=281,slow=0.7,SNR=16						
	comp=Z,13nm,0.3s						
VIKU	Vikbolandet	23.05	347	eP	P	19 03 12.6	-2.1
MEF	Metsahovi	23.90	358	eP	P	19 03 22.4	0.0
ESDC	Sonseca Array	24.11	287	P	P	19 03 24.8	+0.1
	comp=Z,0.7nm,0.5s,baz=81,slow=9.8,SNR=21						
	comp=Z,0.7nm,0.5s						
AAL	Aland	24.18	352	eP	P	19 03 23.4	-1.6
FINES	FINESS Array B	25.10	360	P	P	19 03 34.3	+1.0
	comp=Z,2.1nm,0.5s,baz=168,slow=10,SNR=14						
FINES				PcP	PcP	19 07 03.8	-0.5
	comp=Z,1.1nm,0.4s,baz=209,slow=1.4,SNR=4.6						
	comp=Z,2.1nm,0.5s						
FIA1	FINESS Array S	25.10	360	P	P	19 03 34.0	+0.7
FIA1				IAmb	IAmb	19 03 40.4	
	comp=Z,25nm,1.4s						
HFS	Hagfors	25.16	345	P	P	19 03 32.7	-1.2
	comp=Z,2.2nm,0.7s,baz=146,slow=14,SNR=7.9						
	comp=Z,2.2nm,0.7s						
GEYT	Alibeck	25.25	77	P	P	19 03 36.1	+1.0
	comp=Z,4.6nm,0.5s,baz=263,slow=11,SNR=18						
	comp=Z,4.6nm,0.5s						
GEYT	Alibeck	25.25	77	P	P	19 03 35.5	+0.4
GYA0B	ALIBECK ARRAY	25.25	77	P	P	19 03 33.9	-1.2
GYA0B				IAmb	IAmb	19 03 36.8	
	comp=Z,5.3nm,0.6s						
EKA	Eskdalemuir Ar	27.68	323	P	P	19 03 55.9	-0.6
	comp=Z,0.8nm,0.3s,baz=118,slow=8.9,SNR=14						
EKA				pP	pP	19 04 23.9	+1.4
	comp=Z,2.0nm,0.7s,baz=109,slow=11,SNR=2.9						
	comp=Z,0.8nm,0.3s						
ARU	Arti	29.48	37	P	P	19 04 11.8	-0.7
	comp=Z,1.2nm,0.3s,baz=241,slow=10,SNR=5.7						
	comp=Z,1.2nm,0.3s						
WSAR	Wadi Sarin	30.71	106	P	P	19 04 24.4	+0.7
	comp=Z,1.5nm,0.5s,baz=281,slow=9.8,SNR=5.2						
	comp=Z,1.5nm,0.5s						
TOA0	Torodi Ar. Sit	32.05	230	P	P	19 04 35.3	-0.3
TOA0				IAmb	IAmb	19 04 36.4	
	comp=Z,6.5nm,0.6s						
TORD	Torodi Ar. Bea	32.05	230	P	P	19 04 35.9	+0.4
	comp=Z,6.7nm,0.6s,baz=37,slow=9.0,SNR=52						
TORD				PcP	PcP	19 07 22.6	+0.2
	comp=Z,0.3nm,0.4s,baz=24,slow=2.5,SNR=2.0						
	comp=Z,6.7nm,0.6s						
TORD	Torodi Ar. Bea	32.05	230	P	P	19 04 35.5	0.0
TORD				IAmb	IAmb	19 04 57.2	
	comp=Z,3.6nm,0.8s						

ARCES	ARCESS Array B	33.23	359	PcP	PcP	19 07 24.1	-0.8
	comp=Z,0.8nm,0.3s,baz=193,slow=3.3,SNR=8.6						
CHGR	Chuyangaron	33.76	73	P	P	19 04 51.3	+0.9
KK31	Karatay Array	34.25	65	P	P	19 04 54.8	+0.3
KKAR	Karatay Array	34.25	65	P	P	19 04 54.8	+0.3
GAR	Garm	34.59	72	P	P	19 04 59.1	+1.5
NRN	Naryn	38.49	67	P	P	19 05 31.8	+0.9
NRN				IAmb	IAmb	19 05 33.3	
	comp=Z,4.4nm,1.0s						
KURK	Kurchatov	39.63	52	P	P	19 05 39.1	-0.7
KURK				IAmb	IAmb	19 05 40.6	
	comp=Z,4.0nm,0.8s						
DBIC	Dimbokro	41.12	232	P	P	19 05 52.5	+0.1
	comp=Z,2.5nm,0.5s,baz=83,slow=7.9,SNR=7.9						
	comp=Z,2.5nm,0.5s						
TIC	Toumodi	41.24	232	⇓*i*P	P	19 05 53.8	+0.3
	comp=Z,4.6nm,0.3s						
KIC	Kosan Boka	41.28	231	⇑*e*P	P	19 05 54.3	+0.5
	comp=Z,3.5nm,0.3s						
LIC	Lamto	41.57	231	⇓*e*P	P	19 05 56.6	+0.4
	comp=Z,6.2nm,0.3s						
MK31	Makanchi Array	42.26	58	P	P	19 06 01.4	-0.1
MK31				IAmb	IAmb	19 06 02.6	
	comp=Z,3.8nm,0.6s						
MKAR	Makanchi Array	42.26	58	P	P	19 06 02.0	+0.5
	comp=Z,5.2nm,0.5s,baz=278,slow=7.3,SNR=68						
MKAR				PcP	PcP	19 07 53.2	+0.1
	comp=Z,0.9nm,0.6s,baz=294,slow=3.6,SNR=3.2						
	comp=Z,5.2nm,0.5s						
MKAR	Makanchi Array	42.26	58	P	P	19 06 01.4	-0.1
ZAA0	Zalesovo Array	43.43	47	P	P	19 06 10.4	-0.4
ZAA0				IAmb	IAmb	19 06 10.6	
	comp=Z,3.3nm,0.6s						
ZALV	Zalesovo Beam	43.43	47	P	P	19 06 10.3	-0.5
	comp=Z,2.9nm,0.4s,baz=270,slow=8.4,SNR=18						
	comp=Z,2.9nm,0.4s						
ZALV	Zalesovo Beam	43.43	47	P	P	19 06 10.1	-0.6
NRIK	Noril'sk	46.35	25	P	P	19 06 33.8	+0.1
	comp=Z,1.6nm,0.4s,baz=232,slow=12,SNR=2.3						
	comp=Z,1.6nm,0.4s						
WMQ	Urumqi	46.52	61	*e*P	P	19 06 37.6	+2.2
WMQ				LR	LR		
	comp=N,820nm,17.7s						
WMQ				LR	LR		
	comp=E,1μm,14.7s						
WMQ				LR	LR		
	comp=Z,390nm,19.7s						
DANN	Dangsing	48.49	82	*e*P	P	19 06 52.4	+1.3
	comp=Z,133nm,0.7s						
GKN	Gorkha	49.33	82	*e*P	P	19 06 58.1	+0.6
	comp=Z,54nm,0.3s						
DMN	Daman	49.88	83	*e*P	P	19 07 02.6	+0.9
	comp=Z,40nm,0.6s						
PKIN	Phulchoki	50.12	82	*e*P	P	19 07 04.1	+0.5
	comp=Z,10nm,0.4s						
PKI	Pulchoki	50.14	82	*e*P	P	19 07 04.2	+0.5
	comp=Z,14nm,0.5s						
GUN	Gumba	50.37	82	*e*P	P	19 07 06.0	+0.5
	comp=Z,27nm,0.5s						
JIRN	Jiri	50.72	82	*e*P	P	19 07 08.8	+0.6
	comp=Z,24nm,0.5s						
RAMN	Ramite	51.36	83	*e*P	P	19 07 12.8	0.0
	comp=Z,27nm,0.6s						
TAPN	Taplejung	52.07	82	*e*P	P	19 07 18.6	+0.4
	comp=Z,17nm,0.6s						
LSA	Lhasa	53.78	77	P	P	19 07 31.0	0.0
SHL	Shillong	56.21	81	P	P	19 07 47.2	-0.9
SHL				IAmb	IAmb	19 07 48.3	
	comp=Z,7.2nm,1.0s						
GTA	Gaotai	56.49	63	⇑P	P	19 07 50.6	+0.8
GTA				pP	pP	19 08 22.8	+4.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,51nm,4.2s						
GTA				LR	LR		
	comp=N,670nm,22.5s						
GTA				LR	LR		
	comp=E,920nm,23.6s						
GTA				LR	LR		
	comp=Z,900nm,21.1s						
SONM	Songino Array	57.93	52	P	P	19 08 00.1	+0.3
	comp=Z,2.1nm,0.4s,baz=282,slow=7.7,SNR=17						
SONM				PcP	PcP	19 08 51.3	+0.5
	comp=Z,0.5nm,0.7s,baz=276,slow=2.8,SNR=2.6						
	comp=Z,2.1nm,0.4s						
SONM	Songino Array	57.93	52	P	P	19 07 59.8	0.0
SONM				IAmb	IAmb	19 08 00.8	
	comp=Z,1.8nm,0.6s						
SONM				PcP	PcP	19 08 50.8	+0.1
EUNU	Eureka	58.20	349	P	P	19 08 01.1	0.0
EUNU				PcP	PcP	19 08 51.3	+0.2
ULN	Ulaanbaatar	58.34	51	P	P	19 08 02.8	+0.1
ULN				IAmb	IAmb	19 08 03.6	
	comp=Z,4.7nm,0.9s						
SCHQ	Schefferville	62.93	320	P	P	19 08 32.5	-1.0
	comp=Z,2.1nm,0.4s,baz=56,slow=4.6,SNR=7.6						
	comp=Z,2.1nm,0.4s						
PZH	PanZhiHua	63.56	76	P	P	19 08 38.5	+0.3
PZH				pmax	pmax		
	comp=Z,20nm,0.7s						
PZH				pmax	pmax		
	comp=Z,140nm,4.8s						
HHC	Hu-ho-hao-te	64.12	57	*e*P	P	19 08 42.5	+0.8
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
BOSA	Boshof	64.65	181	P	P	19 08 46.8	+1.8
	comp=Z,1.5nm,0.4s,baz=357,slow=7.9,SNR=13						
	comp=Z,1.5nm,0.4s						
KMI	Kunming	65.02	76	⇑P	P	19 08 48.3	+0.4
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR	Chiang Mai Arr	65.42	85	P	P	19 08 50.7	+0.4
	comp=Z,2.5nm,0.8s,baz=299,slow=7.6,SNR=4.4						
	comp=Z,2.5nm,0.8s						
CMAR	Chiang Mai Arr	65.42	85	P	P	19 08 50.4	0.0
HIA	Hailar	65.45	46	P	P	19 08 50.4	+0.3
HIA				IAmb	IAmb	19 08 51.0	
	comp=Z,4.3nm,0.7s						
ENH	Enshi	67.64	68	P	P	19 09 03.2	-1.1
D62A	Allapoint, All	67.76	313	P	P	19 09 04.4	-0.4
E62A	Clayton Lake	68.28	312	P	P	19 09 08.0	0.0
E62A				IAmb	IAmb	19 09 30.9	
	comp=Z,12nm,1.4s						
F63A	Nahmakanta, Br	68.48	311	P	P	19 09 08.9	-0.4
F63A				IAmb	IAmb	19 09 35.9	
	comp=Z,7.0nm,1.2s						
SUR	Sutherland	68.59	185	P	P	19 09 11.9	+1.8
USRK	Ussuriysk Ar.	75.26	46	P	P	19 09 49.2	-0.6
	comp=Z,4.7nm,0.5s,baz=290,slow=4.1,SNR=20						
	comp=Z,4.7nm,0.5s						
KSRS	Korea Array	76.74	53	P	P	19 09 58.1	-0.1
	comp=Z,6.3nm,0.6s,baz=309,slow=4.5,SNR=29						
	comp=Z,6.3nm,0.6s						
NEW	Newport	89.69	337	P	P	19 11 04.6	+0.1
	comp=Z,2.3nm,0.7s,baz=77,slow=6.0,SNR=3.5						
	comp=Z,2.3nm,0.7s						
NVAR	Mina Array Bea	98.75	333	P	P	19 11 45.9	-0.5
	comp=Z,0.2nm,0.5s,baz=35,slow=4.9,SNR=4.0						
	comp=Z,0.2nm,0.5s						
WRA	Warramunga Arr	115.71	97	PKP	PKPdf	19 16 47.8	-0.9
	comp=Z,4.5nm,1.1s,baz=320,slow=1.4,SNR=0.9						
ASAR	Alice Springs	117.26	100	PKP	PKPdf	19 16 51.1	-0.5
	comp=Z,3.1nm,0.8s,baz=298,slow=1.8,SNR=1.1						

---

*JMA **01** 18:59:20.5±0.3, 24°N±2°×122°.4E±0°.5, h20km±4km, MV2.4/10, NW OFF ISHIGAKIJIMA IS*
*TAP **01** 18:59:21.5, 24°.08N×122°.38E, h28km, ML3.0, D*
ISC 01 18:59:21.0±1.0, **24°.07N**±0°.02×**122°.38E**±0°.02, **h27**km±11km, **n106, σ0s.69**/199, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.64	54	P	Pb	18 59 33.4	-0.3
JYNG				*e*S	Sb	18 59 42.1	-0.2
ENA	Nanau	0.68	301	P	Pb	18 59 34.5	+0.2
	baz=300						
ENA				S	Sb	18 59 44.0	+0.6
	baz=300						
ETL	Fush Village	0.69	277	*e*P	Pb	18 59 34.8	+0.2
	baz=276						
ETL				*e*S	Sb	18 59 44.5	+0.7
	baz=276						
YOJ	Yonaguni jima	0.70	56	P	Pb	18 59 34.6	0.0
YOJ	Yonaguni jima	0.70	56	*e*P	Pb	18 59 34.9	+0.3
	baz=55						
YOJ				*e*S	Sn	18 59 44.7	-0.3
	baz=55						
YOJ	Yonaguni jima	0.70	56	P	Pb	18 59 33.8	-0.8
YOJ				*e*S	Sb	18 59 43.8	0.0
TWD	Chiawan	0.71	271	*e*P	Pb	18 59 35.1	+0.2
	baz=269						
TWD				*e*S	Sb	18 59 45.0	+0.6
	baz=269						
TWC	Suao	0.72	318	*e*P	Pb	18 59 34.5	-0.5
	baz=317						
TWC				S	Sb	18 59 43.5	-1.0
	baz=317						
NACB	Ninganchiao	0.72	278	P	Pb	18 59 34.7	-0.3
NACB	Ninganchiao	0.72	278	P	Pb	18 59 34.8	-0.3
	baz=277						
NACB				S	Sb	18 59 45.4	+0.8
	baz=277						
ETLH	Xiulin Townshi	0.83	279	P	Pb	18 59 36.7	-0.2
	baz=278						
ETLH				S	Sb	18 59 48.0	+0.3
	baz=278						
ILA	Ilan	0.90	320	*e*P	Pb	18 59 37.5	-0.5
	baz=319						
ILA				*e*S	Sb	18 59 49.4	-0.2
	baz=319						
ESL	Shilin	0.90	254	*e*P	Pb	18 59 37.0	-1.0
	baz=252						
ESL				*e*S	Sb	18 59 49.0	-0.7
	baz=252						
LATG	Datong	0.90	301	P	Pb	18 59 38.2	+0.1
	baz=299						
LATG				*e*S	Sb	18 59 50.6	+0.7
	baz=299						
TWE	Neicheng	0.91	315	P	Pb	18 59 38.4	+0.1
	baz=314						
TWE				*e*S	Sb	18 59 50.3	+0.2
	baz=314						
ENTT	Nioudou	0.93	307	P	Pb	18 59 37.6	-0.9
	baz=306						
ENTT				S	Sb	18 59 50.2	-0.4
	baz=306						
EGFH	Guangfu	0.96	245	*e*P	Pb	18 59 38.0	-1.0
	baz=244						
EGFH				*e*S	Sb	18 59 50.8	-0.6
	baz=244						
NNSB	Datong	0.97	291	P	Pn	18 59 39.1	+0.1
	baz=290						
NNSB				*e*S	Sb	18 59 52.6	+0.7
	baz=290						
NNS	Nan Shan	0.99	292	*e*P	Pn	18 59 39.4	+0.1
	baz=291						
NNS				*e*S	Sb	18 59 51.0	-1.3
	baz=291						
FUSB	Fushanzhiwuyua	0.99	314	P	Pn	18 59 40.0	+0.7
	baz=312						
FUSB				*e*S	Sb	18 59 52.4	0.0
	baz=312						
TWB1	Santiao Chiao	1.00	339	*e*S	Sb	18 59 52.5	+0.1
	baz=339						
WHF	Hehuan Shan	1.02	274	P	Pn	18 59 39.4	-0.5
	baz=273						
WHF				*e*S	Sb	18 59 53.7	+0.2
	baz=273						
TIPB	Shuangxi	1.03	331	P	Pn	18 59 40.0	+0.3
	baz=330						
TIPB				S	Sb	18 59 52.8	-0.5
	baz=330						
HGSD	Ruisui	1.05	237	*e*P	Pn	18 59 39.0	-0.9
	baz=236						
HGSD				*e*S	Sn	18 59 54.7	+1.0
	baz=236						
FUSS	Fushou	1.05	280	*e*P	Pn	18 59 40.2	0.0
	baz=278						
FUSS				*e*S	Sb	18 59 54.0	-0.2
	baz=278						
YHNB	Yeheng	1.09	303	P	Pn	18 59 41.3	+0.7
YHNB	Yeheng	1.09	303	P	Pn	18 59 41.1	+0.5
	baz=302						
YHNB				*e*S	Sb	18 59 55.3	+0.1
	baz=302						
CHGB	Renai	1.10	270	*e*P	Pn	18 59 41.1	+0.2
	baz=268						
CHGB				*e*S	Sb	18 59 55.5	-0.1
	baz=268						
OWD	Renai	1.10	264	*e*P	Pn	18 59 41.1	+0.2
	baz=263						
OWD				*e*S	Sb	18 59 55.5	-0.1
	baz=263						
NSK	Sanguang	1.11	303	P	Pn	18 59 40.3	-0.5
	baz=302						
NSK				*e*S	Sn	18 59 54.8	-0.4
	baz=302						
TWT	Tachien	1.11	280	*e*P	Pn	18 59 41.3	+0.3
	baz=278						
TWT				*e*S	Sb	18 59 56.0	+0.1
	baz=278						
SXI1	Grass Mountain	1.11	336	P	Pn	18 59 41.0	0.0
	baz=335						
SXI1				S	Sn	18 59 56.2	+0.8
	baz=335						
EHY	Hungye	1.12	240	*e*P	Pn	18 59 40.6	-0.3
	baz=239						
EHY				*e*S	Sn	18 59 54.6	-0.9
	baz=239						
TDCB	Techi	1.13	279	P	Pn	18 59 41.5	+0.3
	baz=278						
TDCB				*e*S	Sn	18 59 56.0	+0.1
	baz=278						
NWF	Wu-fen Shan	1.13	331	*e*P	Pn	18 59 41.2	+0.1
	baz=330						
NWF				*e*S	Sn	18 59 56.0	+0.1
	baz=330						
WUSB	Renai	1.16	266	*e*P	Pn	18 59 41.7	+0.2
	baz=265						
WUSB				*e*S	Sn	18 59 56.9	+0.4
	baz=265						
TWA	Mucha	1.16	321	*e*P	Pn	18 59 42.2	+0.7
	baz=321						
TWA				*e*S	Sn	18 59 56.4	-0.1
	baz=321						
VWDT	VWDT	1.18	255	*e*P	Pn	18 59 41.8	+0.1
	baz=253						
VWDT				*e*S	Sb	18 59 57.6	+0.1
	baz=253						
NHDH	Xindian Distri	1.18	319	*e*P	Pn	18 59 42.3	+0.5
	baz=318						
NHDH				*e*S	Sn	18 59 57.7	+0.8
	baz=318						
YULB	Yu-li	1.20	236	P	Pn	18 59 41.6	-0.5
YULB	Yu-li	1.20	236	P	Pn	18 59 41.4	-0.7
	baz=235						
YULB				S	Sn	18 59 57.3	-0.2
	baz=235						
TATO	Taipei	1.21	318	P	Pb	18 59 43.9	+0.6
EYUL	Yuli	1.21	234	*e*P	Pn	18 59 42.7	+0.5
	baz=233						
EYUL				*e*S	Sb	18 59 58.3	-0.2
	baz=233						
TAP	Taipei	1.25	321	*e*P	Pn	18 59 43.3	+0.6
	baz=320						
TAP				*e*S	Sn	18 59 58.4	-0.2
	baz=320						
IRIF	Iriomote-Funau	1.26	78	P	Pn	18 59 43.2	+0.3
IRIF				*e*S	Sb	18 59 60.0	0.0
NFF	Wufeng Townshi	1.28	296	*e*P	Pn	18 59 43.9	+0.8
	baz=295						
NFF				*e*S	Sn	18 59 59.2	-0.2
	baz=295						
YM01	YM01	1.30	326	*e*P	Pn	18 59 43.8	+0.4
	baz=325						
YM01				*e*S	Sn	18 59 59.8	-0.1
	baz=325						
FULB	Fuli	1.32	229	*e*P	Pb	18 59 44.6	-0.6
	baz=228						
FULB				*e*S	Sn	19 00 00.8	+0.3
	baz=228						
WHP	Taichung City	1.32	279	*e*P	Pb	18 59 45.0	-0.2
	baz=278						
WHP				*e*S	Sn	19 00 01.0	+0.4
	baz=278						
SSLB	Suanglung	1.33	258	P	Pn	18 59 44.4	+0.5
SSLB	Suanglung	1.33	258	*e*P	Pn	18 59 44.0	+0.1
	baz=257						
SSLB				*e*S	Sn	19 00 01.2	+0.4
	baz=257						
WCS	Beigang Elemen	1.34	270	*e*P	Pn	18 59 44.6	+0.6
	baz=268						
WCS				*e*S	Sn	19 00 00.9	0.0
	baz=268						
TWS1	Kuangyinshan	1.34	320	*e*P	Pn	18 59 44.3	+0.2
	baz=319						
TWS1				*e*S	Sn	19 00 01.3	+0.2
	baz=319						
ANP	Anpu	1.35	325	*e*P	Pn	18 59 44.5	+0.2
	baz=324						
ANP				*e*S	Sn	19 00 01.1	-0.4
	baz=324						
SMLT	Sun Moon Lake	1.36	262	*e*P	Pn	18 59 45.2	+0.8
	baz=261						
SMLT				*e*S	Sn	19 00 02.1	+0.4
	baz=261						
LIOB	Emei	1.37	295	*e*P	Pn	18 59 45.1	+0.8
	baz=294						
LIOB				*e*S	Sn	19 00 01.5	-0.1
	baz=294						
NSTT	Nanjuang	1.37	294	*e*P	Pn	18 59 44.9	+0.4
	baz=293						
NSTT				*e*S	Sn	19 00 01.8	+0.1
	baz=293						
NTST	Danshui	1.38	322	*e*P	Pn	18 59 45.0	+0.6
	baz=321						
NTST				*e*S	Sn	19 00 02.0	+0.2
	baz=321						
TYC	Yuchr	1.40	263	*e*P	Pn	18 59 45.5	+0.7
	baz=262						
TYC				*e*S	Sn	19 00 02.8	+0.4
	baz=262						
YUS	Yu-Shan	1.43	246	*e*P	Pn	18 59 46.0	+0.3
	baz=245						
YUS				*e*S	Sn	19 00 03.5	-0.3
	baz=245						
WHYT	Xinyi Township	1.45	255	*e*P	Pn	18 59 46.3	+0.9
	baz=254						
WHYT				*e*S	Sb	19 00 04.8	-0.5
	baz=254						
TWQ1	Liyutan	1.49	281	*e*P	Pn	18 59 46.2	+0.2
	baz=280						
TWQ1				*e*S	Sn	19 00 04.9	+0.3
	baz=280						
JKRS	Kuro-shima	1.50	83	*e*P	Pb	18 59 47.2	-1.0
NSY	Sanyi	1.51	283	*e*P	Pn	18 59 47.1	+0.8
	baz=282						
NSY				*e*S	Sn	19 00 05.3	+0.1
	baz=282						
ELDTW	Lidau	1.53	235	*e*P	Pn	18 59 46.3	-0.3
	baz=234						
ELDTW				*e*S	Sn	19 00 05.5	-0.2
	baz=234						
WJS	Zhushan	1.53	261	*e*P	Pn	18 59 47.6	+1.0
	baz=260						
WJS				*e*S	Sn	19 00 06.2	+0.6
	baz=260						
ALS	Alishan	1.54	249	*e*P	Pn	18 59 47.5	+0.4
	baz=248						
ALS				*e*S	Sn	19 00 06.1	-0.3
	baz=248						
TCU	Taichung	1.56	273	*e*P	Pn	18 59 47.5	+0.6
	baz=272						
TCU				*e*S	Sn	19 00 06.3	+0.1
	baz=272						
WNT	Mingjian	1.56	263	*e*P	Pn	18 59 48.2	+1.2
	baz=262						
WNT				*e*S	Sn	19 00 06.3	0.0
	baz=262						
CHN5	Tsauling	1.63	253	*e*P	Pn	18 59 48.8	+0.8
	baz=252						
CHN5				*e*S	Sn	19 00 08.7	+0.6
	baz=252						
LONT	Longtian	1.63	225	*e*P	Pn	18 59 49.1	+1.1
	baz=224						
LONT				*e*S	Sb	19 00 09.3	-1.4
	baz=224						
JIJ	Ishigaki jima	1.64	79	P	Pn	18 59 48.5	+0.4
JIJ				S	Sn	19 00 08.2	-0.1
STYH	Taoyuan	1.72	239	*e*P	Pn	18 59 49.7	+0.5
	baz=238						
STYH				*e*S	Sn	19 00 10.9	+0.6
	baz=238						
WDLH	Douliu	1.73	258	*e*P	Pn	18 59 50.4	+1.1
	baz=256						
WDLH				*e*S	Sn	19 00 11.1	+0.7
	baz=256						
TWGBT	Beinan	1.73	224	P	Pb	18 59 50.9	-1.2
TWGBT	Beinan	1.73	224	*e*P	Pn	18 59 50.6	+1.2
	baz=223						
TWGBT				*e*S	Sn	19 00 10.8	+0.4
	baz=223						
TWG	Pinlang	1.73	224	*e*P	Pn	18 59 49.6	+0.3
	baz=223						
TWG				*e*S	Sn	19 00 09.8	-0.7
	baz=223						
WCKO	Fanlu	1.74	249	*e*P	Pn	18 59 50.4	+0.8
	baz=248						
WCKO				*e*S	Sn	19 00 11.1	+0.2
	baz=248						
TPUB	Ta-pu	1.78	245	P	Pb	18 59 51.7	-1.3
TPUB	Ta-pu	1.78	245	*e*P	Pn	18 59 51.1	+1.1
	baz=244						
TPUB				*e*S	Sn	19 00 12.4	+0.7
	baz=244						
CHN4	Tsaushan	1.79	247	*e*P	Pn	18 59 50.9	+0.8
	baz=246						
CHN4				*e*S	Sn	19 00 13.0	+1.0
	baz=246						
WTP	Ta-pu	1.81	243	*e*P	Pn	18 59 51.7	+1.1
	baz=242						
WTP				*e*S	Sn	19 00 13.0	+0.3
	baz=242						
JISG	Ishigakijimahi	1.84	73	*e*P	Pn	18 59 51.1	+0.3
JISG				S	Sn	19 00 13.2	+0.1
WRL	Guolierlin Hig	1.84	265	*e*P	Pn	18 59 51.5	+0.7
	baz=264						
WRL				*e*S	Sn	19 00 13.2	0.0
	baz=264						
CHY	Chiayi	1.88	253	*e*P	Pn	18 59 52.0	+0.7
	baz=251						
CHY				*e*S	Sn	19 00 15.0	+0.8
	baz=251						
TWK	Hsinying	1.91	246	*e*P	Pn	18 59 53.5	+1.6
	baz=244						
TWK				*e*S	Sn	19 00 15.6	+0.5
	baz=244						
CHN1	Nanshi	1.91	243	*e*P	Pn	18 59 52.6	+0.7
	baz=242						
CHN1				*e*S	Sn	19 00 15.8	+0.7
	baz=242						
SGST	Jiashian	1.92	239	*e*P	Pn	18 59 53.0	+1.0
	baz=238						
SGST				*e*S	Sn	19 00 16.2	+0.9
	baz=238						
ECL	Taimali	1.97	222	*e*P	Pn	18 59 53.7	+1.1
	baz=221						
ECL				*e*S	Sn	19 00 16.3	-0.1
	baz=221						
WSF	Szhu	2.02	258	*e*P	Pn	18 59 54.2	+0.9
	baz=257						
WSF				*e*S	Sn	19 00 17.9	+0.3
	baz=257						
WSL	Shuilin Townsh	2.04	255	*e*P	Pn	18 59 54.6	+1.0
	baz=254						
WSL				*e*S	Sn	19 00 18.9	+0.6
	baz=254						
SSD	Sandimen	2.08	231	*e*P	Pn	18 59 55.5	+1.3
	baz=230						
SSD				*e*S	Sn	19 00 19.8	+0.7
	baz=230						
SCST	Cishan	2.10	236	*e*P	Pn	18 59 56.0	+1.6
	baz=235						
SCST				*e*S	Sn	19 00 20.1	+0.5
	baz=235						
TSMG	Majia	2.10	230	*e*P	Pn	18 59 55.8	+1.5
	baz=229						
TSMG				*e*S	Sn	19 00 20.3	+0.8
	baz=229						
EAST	Anshuo	2.19	220	*e*P	Pn	18 59 57.1	+1.3
	baz=219						
EAST				*e*S	Sn	19 00 22.6	+0.5
	baz=219						
JTJ	Tarama	2.19	75	*e*S	Sn	19 00 23.2	+1.2
TAWH	Dawu Township	2.20	219	*e*P	Pn	18 59 56.9	+1.1
	baz=218						
TAWH				*e*S	Sn	19 00 21.9	-0.3
	baz=218						
TSCK	Chigu Township	2.29	247	*e*P	Pn	18 59 57.9	+0.8
	baz=246						
TSCK				*e*S	Sn	19 00 25.0	+0.6

	baz=246						
SCZT	**Fangliau**	**2.34**	**224**	*e*P	**Pn**	**18 59 58.9**	**+1.1**
	baz=223						
SCZT				*e*S	**Sn**	**19 00 26.8**	**+1.2**
	baz=223						
SLIU	**Shizi**	**2.35**	**218**	*e*P	**Pn**	**18 59 59.5**	**+1.6**
	baz=218						
SLIU				*e*S	**Sn**	**19 00 26.2**	**+0.3**
	baz=218						
SMST	**Manzhou Townsh**	**2.49**	**215**	*e*P	**Pn**	**19 00 01.0**	**+1.2**
	baz=214						
SMST				*e*S	**Sn**	**19 00 29.1**	**-0.1**
	baz=214						
PHUB	**P'eng-hu**	**2.63**	**258**	*e*P	**Pn**	**19 00 02.5**	**+0.8**
	baz=257						
PHUB				*e*S	**Sn**	**19 00 31.8**	**-1.0**
	baz=257						
PTMZ	**Houxiangcun**	**3.12**	**289**	*e*P	**Pn**	**19 00 08.4**	**0.0**
	baz=287						
PTMZ				*e*S	**Sn**	**19 00 43.7**	**-1.1**
	baz=287						
XPSS	**Dashiqiu**	**3.46**	**326**	*e*P	**Pn**	**19 00 13.5**	**+0.3**
	baz=325						
XPSS				*e*S	**Sn**	**19 00 51.8**	**-1.5**
	baz=325						
KNMB	**Chin-men Tao**	**3.66**	**277**	*e*S	**Sn**	**19 00 56.8**	**-1.4**
	baz=275						
AXDP	**Jialang**	**4.10**	**282**	*e*S	**Sn**	**19 01 07.2**	**-1.8**
	baz=281						

ROM 01 18:59:31.8±0.0, 42°.751N±0°.003×13°.179E±0°.004, h10km, ML1.9/16, 2C-3D, Error ellipse: s-maj=0.3km s-min=0.2km az=25.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.10**	**330**	P	Pg	18 59 34.7	+0.3
NRCA				AML	AML		
	comp=E,1835μm,0.1s						
NRCA				AML	AML		
	comp=N,2260μm,0.1s						
NRCA				AML	AML		
	comp=N,2430μm,0.1s						
NRCA				AML	AML		
	comp=E,2085μm,0.1s						
T1245	**Castelsantange**	**0.11**	**4**	P	Pg	18 59 34.9	+0.2
T1245				AML	AML		
	comp=E,1545μm,0.5s						
T1245				AML	AML		
	comp=N,2565μm,0.4s						
T1245				AML	AML		
	comp=E,1565μm,0.3s						
T1245				AML	AML		
	comp=E,1625μm,1.1s						
T1245				AML	AML		
	comp=N,2640μm,0.7s						
T1245				AML	AML		
	comp=N,2770μm,0.7s						
T1201	**Domo (RI)**	**0.11**	**150**	P	Pg	18 59 35.1	+0.5
T1204	**Amatrice, Fraz**	**0.13**	**126**	P	Pg	18 59 35.4	+0.5
T1204				S	Sg	18 59 38.1	+1.0
LNSS	**Leonessa**	**0.18**	**215**	⇑P	Pg	18 59 36.3	+0.6
LNSS				AML	AML		
	comp=E,400μm,0.5s						
LNSS				AML	AML		
	comp=N,1435μm,0.2s						
T1216	**Preci, Frazion**	**0.18**	**320**	P	Pg	18 59 36.3	+0.6
T1216				AML	AML		
	comp=E,1131μm,0.2s						
T1216				AML	AML		
	comp=N,918μm,0.1s						
MMO1	**Montemonaco**	**0.18**	**36**	⇑P	Pg	18 59 36.2	+0.5
MMO1				S	Sg	18 59 39.6	+1.1
T1217	**Poggiodomo (PG**	**0.19**	**258**	P	Pg	18 59 36.3	+0.5
T1217				S	Sg	18 59 39.7	+1.1
T1217				AML	AML		
	comp=E,346μm,1.0s						
T1217				AML	AML		
	comp=N,483μm,0.2s						
T1243	**Rocca Santa Ma**	**0.21**	**105**	P	Pg	18 59 36.6	+0.4
T1243				S	Sg	18 59 40.0	+0.9
T1241	**Roccafluvione,**	**0.21**	**60**	P	Pg	18 59 36.7	+0.4
T1215	**Vallo di Nera,**	**0.23**	**283**	P	Pg	18 59 37.1	+0.5
T1215				S	Sg	18 59 41.1	+1.2
T1215				AML	AML		
	comp=E,314μm,0.1s						
T1215				AML	AML		
	comp=N,298μm,0.1s						
RM33	**Pellescritta (**	**0.24**	**174**	P	Pg	18 59 37.2	+0.4
RM33				AML	AML		
	comp=N,284μm,1.5s						
RM33				AML	AML		
	comp=N,284μm,1.5s						
RM33				AML	AML		
	comp=E,314μm,1.1s						
T1256	**Bolognola (MC)**	**0.26**	**8**	P	Pg	18 59 37.6	+0.5
T1256				AML	AML		
	comp=E,302μm,1.0s						
T1256				AML	AML		
	comp=N,286μm,0.2s						
T1256				AML	AML		
	comp=E,906μm,1.1s						
T1256				AML	AML		
	comp=N,928μm,1.1s						
CAMP	**Campotosto**	**0.27**	**142**	P	Pg	18 59 37.9	+0.5
CAMP				AML	AML		
	comp=E,85μm,0.4s						
CAMP				AML	AML		
	comp=N,83μm,0.4s						
T1246	**Crognaleto (TE**	**0.29**	**126**	P	Pg	18 59 38.0	+0.4
T1246				S	Sb	18 59 42.7	-1.2
FDMO	**Fiordimonte**	**0.29**	**347**	⇓P	Pb	18 59 38.6	-0.5
FDMO				AML	AML		
	comp=N,244μm,0.2s						
FDMO				AML	AML		
	comp=E,278μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.32**	**164**	P	Pb	18 59 38.9	-0.7
T1247				AML	AML		
	comp=N,216μm,1.0s						
T1247				AML	AML		
	comp=E,247μm,0.9s						
T1211	**Morro Reatino**	**0.32**	**228**	P	Pg	18 59 38.7	+0.4
GUMA	**Gualdo di Mace**	**0.33**	**20**	P	Pb	18 59 39.3	-0.5
GUMA				AML	AML		
	comp=N,945μm,0.6s						
GUMA				AML	AML		
	comp=N,758μm,1.5s						
GUMA				AML	AML		
	comp=E,1250μm,0.3s						
GUMA				AML	AML		
	comp=E,743μm,0.3s						
TERO	**Teramo**	**0.34**	**112**	P	Pg	18 59 38.7	+0.2
TERO				AML	AML		
	comp=E,208μm,0.8s						
TERO				AML	AML		
	comp=N,230μm,0.5s						
ARRO	**Arrone**	**0.35**	**241**	P	Pg	18 59 39.2	+0.5
ARRO				AML	AML		
	comp=N,128μm,0.7s						
ARRO				AML	AML		
	comp=E,160μm,0.9s						
GIGS	**Gran Sasso**	**0.42**	**136**	P	Pg	18 59 40.4	+0.4
ASSB	**Assisi San Ben**	**0.48**	**308**	⇓P	Pb	18 59 41.9	-0.4
ASSB				AML	AML		
	comp=E,83μm,0.3s						
ASSB				AML	AML		
	comp=N,87μm,0.4s						
FIAM	**Fiamignano**	**0.48**	**185**	P	Pg	18 59 41.4	+0.2
SNTG	**Esanatoglia**	**0.53**	**341**	S	Sb	18 59 52.0	+1.0
ATCC	**AVT- Casa Cast**	**0.59**	**318**	P	Pg	18 59 43.6	+0.4
VCEL	**Villa Celiera**	**0.60**	**126**	⇓P	Pb	18 59 44.2	-0.2
T0110	**Collepietro**	**0.69**	**140**	P	Pg	18 59 45.3	+0.3
T0110				AML	AML		
	comp=E,71μm,0.3s						
T0110				AML	AML		
	comp=N,75μm,0.5s						
ARVD	**Arcevia**	**0.77**	**347**	S	Sn	18 59 60.0	-0.3

*IDC **01** 19:03:20.0±1.2, 42°.90N×12°.88E, h0km, mb4.0/9, mbtmp4.0/14, ML3.8/5, MS2.4/2, Error ellipse: s-maj=21.9km s-min=11.8km az=91.0*
*LDG **01** 19:03:20.3±0.1, 42°.79N×13°.03E, h10km, Md3.8/1, Ml3.3/31, Error ellipse: s-maj=2.7km s-min=1.7km az=35.0*

*ROM **01** 19:03:20.5±0.0, 42°.797N±0°.002×13°.040E±0°.003, h10km, ML3.8/66, Error ellipse: s-maj=0.2km s-min=0.1km az=240.0*
*NEIC **01** 19:03:21.1±1.9, 42°.82N±0°.04×12°.99E±0°.06, h9km±6km, mb4.4/9, ML3.7(ROM), Error ellipse: s-maj=7.0km s-min=4.8km az=222.0*
*PDG **01** 19:03:21.0±0.6, 42°.80N×13°.06E, h12km, ML3.9/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*PRU **01** 19:03:22.0±0.0, 42°.78N×13°.10E, h10km, M4.4*
*BEO **01** 19:03:23.5±0.7, 42°.78N×13°.13E, h13km±2km, ML3.8/17*
*STR **01** 19:03:23.0±0.4, 43°.N±6°×1°.3E±°, h10km, MLv3.7/31, Error ellipse: s-maj=0.0km s-min=0.0km az=29.5, preliminary*

ISC 01 19:03:21.1±0.6, 42°.80N±0°.01×13°.00E±0°.02, h13km±3km, n443, σ2s17/503, mb4.2/12, 34C-16D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.09**	**65**		**Pg**	**19 03 23.0**	**-1.0**
NRCA				Sg	**Sg**	**19 03 24.7**	**-1.4**
NRCA	**Norcia**	**0.09**	**65**	⇓P	**Pg**	**19 03 23.1**	**-1.0**
NRCA				S	**Sg**	**19 03 24.6**	**-1.6**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1216	**Preci, Frazion**	**0.10**	**7**	⇓P	**Pg**	**19 03 23.5**	**-0.6**
T1216				S	**Sg**	**19 03 25.2**	**-0.9**
T1217	**Poggiodomo (PG**	**0.10**	**212**	⇑P	**Pg**	**19 03 23.9**	**-0.2**
T1217				S	**Sg**	**19 03 26.1**	**-0.1**
T1217				AML	AML		
	comp=E,72500μm,0.8s						
T1217				AML	AML		
	comp=E,72500μm,0.9s						
T1217				AML	AML		
T1217				AML	AML		
	comp=E,73000μm,0.9s						
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
	comp=E,73000μm,0.8s						
T1217				AML	AML		
T1215	**Vallo di Nera,**	**0.10**	**274**	⇑P	**Pg**	**19 03 24.0**	**-0.1**
T1215				S	**Sg**	**19 03 26.2**	**0.0**
T1215				AML	AML		
	comp=E,48950μm,0.5s						
T1215				AML	AML		
	comp=E,47700μm,0.3s						
T1215				AML	AML		
	comp=N,47300μm,0.9s						
T1215				AML	AML		
	comp=E,48900μm,0.4s						
T1215				AML	AML		
	comp=N,44500μm,0.9s						
T1215				AML	AML		
	comp=E,47650μm,0.3s						
T1215				AML	AML		
	comp=N,47300μm,0.9s						
T1215				AML	AML		
	comp=E,48950μm,0.4s						
T1215				AML	AML		
	comp=N,44500μm,0.9s						
T1215				AML	AML		
	comp=N,47250μm,0.9s						
T1215				AML	AML		
	comp=E,48900μm,0.5s						
T1245	**Castelsantange**	**0.15**	**66**	⇓P	**Pg**	**19 03 24.1**	**-0.7**
T1245				S	**Sg**	**19 03 26.3**	**-1.2**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
FEMA	**Monte Fema**	**0.17**	**12**	P	**Pg**	**19 03 24.7**	**-0.4**
FEMA				S	**Sg**	**19 03 27.8**	**-0.2**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
LNSS	**Leonessa**	**0.19**	**172**	⇑P	**Pg**	**19 03 25.2**	**-0.2**
LNSS				S	**Sg**	**19 03 28.7**	**+0.2**
LNSS				AML	AML		
T1244	**Arquata del Tr**	**0.22**	**100**	⇑P	**Pg**	**19 03 25.5**	**-0.4**
T1244				S	**Sg**	**19 03 29.0**	**-0.2**
T1201	**Domo (RI)**	**0.23**	**127**	P	**Pg**	**19 03 25.7**	**-0.3**
T1201				S	**Sg**	**19 03 29.7**	**+0.3**
FDMO	**Fiordimonte**	**0.25**	**14**		**Pg**	**19 03 25.8**	**-0.6**
FDMO				Sg	**Sg**	**19 03 29.9**	**-0.1**
FDMO	**Fiordimonte**	**0.25**	**14**	⇑P	**Pg**	**19 03 25.9**	**-0.4**
FDMO				S	**Sg**	**19 03 29.8**	**-0.1**
FDMO				AML	AML		
	comp=N,33350μm,0.3s						
FDMO				AML	AML		
	comp=E,74900μm,0.3s						
MMO1	**Montemonaco**	**0.26**	**66**	⇑P	**Pg**	**19 03 25.9**	**-0.7**
MMO1				S	**Sg**	**19 03 29.8**	**-0.6**
T1204	**Amatrice, Fraz**	**0.26**	**117**	⇑P	**Pg**	**19 03 26.1**	**-0.5**
T1204				S	**Sg**	**19 03 30.2**	**-0.1**
T1204				AML	AML		
T1204				AML	AML		
	comp=N,76800μm,0.4s						
T1204				AML	AML		
T1204				AML	AML		
	comp=N,76850μm,0.4s						
T1256	**Bolognola (MC)**	**0.27**	**38**	⇑P	**Pg**	**19 03 26.1**	**-0.6**
T1256				S	**Sg**	**19 03 30.4**	**-0.2**
T1256				AML	AML		
	comp=E,81450μm,0.3s						
T1256				AML	AML		
	comp=N,56450μm,0.4s						
T1256				AML	AML		
	comp=E,81350μm,0.3s						
T1256				AML	AML		
	comp=N,53600μm,0.4s						
T1256				AML	AML		
	comp=N,56400μm,0.4s						
T1256				AML	AML		
	comp=E,81500μm,0.3s						
ARRO	**Arrone**	**0.28**	**219**	⇑P	**Pg**	**19 03 27.0**	**+0.1**
T1211	**Morro Reatino**	**0.28**	**203**	⇑P	**Pg**	**19 03 27.0**	**0.0**
T1211				S	**Sg**	**19 03 31.8**	**+0.9**
SMA1	**SAN MARTINO**	**0.29**	**124**	P	**Pg**	**19 03 26.7**	**-0.5**
SMA1				S	**Sg**	**19 03 31.4**	**+0.1**
SMA1				AML	AML		
SMA1				AML	AML		
	comp=E,68550μm,0.4s						
SMA1				AML	AML		
AM05	**Amandola Campo**	**0.32**	**55**	⇑P	**Pg**	**19 03 27.0**	**-0.6**
AM05				S	**Sg**	**19 03 32.1**	**+0.3**
AM05				AML	AML		
	comp=N,19850μm,0.3s						
AM05				AML	AML		
	comp=E,16700μm,0.5s						
AM05				AML	AML		
	comp=N,4545μm,0.4s						
AM05				AML	AML		
	comp=N,19900μm,0.3s						
AM05				AML	AML		
	comp=E,58900μm,1.1s						
T1241	**Roccafluvione,**	**0.32**	**79**	⇑P	**Pg**	**19 03 26.9**	**-0.7**
T1241				S	**Sg**	**19 03 31.8**	**-0.3**
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
	comp=N,58050μm,0.3s						
T1241				AML	AML		
RM33	**Pellescritta (**	**0.33**	**151**	P	**Pg**	**19 03 27.3**	**-0.5**
RM33				S	**Sg**	**19 03 32.4**	**+0.2**
RM33				AML	AML		
	comp=E,30100μm,0.2s						
RM33				AML	AML		
	comp=N,29650μm,0.3s						
RM33				AML	AML		
	comp=N,29700μm,0.3s						
RM33				AML	AML		
	comp=E,30050μm,0.2s						
RM33				AML	AML		
	comp=N,29750μm,0.3s						
RM33				AML	AML		
	comp=E,29550μm,0.2s						
RM33				AML	AML		
	comp=N,29700μm,0.3s						
T1243	**Rocca Santa Ma**	**0.34**	**107**	P	**Pg**	**19 03 27.2**	**-0.8**
T1243				S	**Sg**	**19 03 32.3**	**-0.4**
ASSB	**Assisi San Ben**	**0.35**	**315**	P	**Pg**	**19 03 28.1**	**-0.1**
ASSB				S	**Sb**	**19 03 34.2**	**-0.6**
ASSB				AML	AML		
	comp=E,12400μm,0.5s						
ASSB				AML	AML		
	comp=N,10335μm,1.5s						
SEF1	**Sefro**	**0.35**	**353**	P	**Pg**	**19 03 27.8**	**-0.4**
SEF1				S	**Sg**	**19 03 33.4**	**+0.4**
SEF1				AML	AML		
	comp=N,45250μm,0.2s						
SEF1				AML	AML		
	comp=N,45200μm,0.3s						
SEF1				AML	AML		
	comp=E,41450μm,0.3s						
CESX	**Cesi**	**0.36**	**239**		**Pg**	**19 03 28.2**	**-0.1**
CESX	**Cesi**	**0.36**	**239**	⇑P	**Pg**	**19 03 28.4**	**0.0**
CESX				AML	AML		
	comp=N,20100μm,0.8s						
CESX				AML	AML		
	comp=E,27050μm,0.5s						
GUMA	**Gualdo di Mace**	**0.36**	**42**	⇑P	**Pg**	**19 03 28.1**	**-0.3**
GUMA				S	**Sg**	**19 03 33.9**	**+0.6**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
PIO1	**Pioraco**	**0.38**	**358**	P	**Pg**	**19 03 28.3**	**-0.5**
PIO1				S	**Sg**	**19 03 34.7**	**+0.8**
PIO1				AML	AML		
	comp=E,10415μm,1.1s						
PIO1				AML	AML		
	comp=N,16400μm,0.7s						
PIO1				AML	AML		
	comp=E,10440μm,1.1s						
CAMP	**Campotosto**	**0.40**	**131**		**Pg**	**19 03 28.3**	**-0.7**
CAMP				Sg	**Sg**	**19 03 32.7**	**-1.7**
CAMP	**Campotosto**	**0.40**	**131**	P	**Pg**	**19 03 28.4**	**-0.7**
CAMP				S	**Sg**	**19 03 34.6**	**+0.3**
CAMP				AML	AML		
	comp=E,17300μm,0.3s						
CAMP				AML	AML		
	comp=N,11650μm,1.3s						
FIU1	**Fiuminata**	**0.40**	**353**	P	**Pg**	**19 03 28.7**	**-0.3**
FIU1				S	**Sg**	**19 03 35.0**	**+0.6**
FIU1				AML	AML		
	comp=E,26700μm,1.1s						
FIU1				AML	AML		
	comp=N,23500μm,1.2s						
FIU1				AML	AML		
	comp=E,26650μm,1.1s						
MDAR	**Monte D'Aria**	**0.41**	**14**	P	**Pg**	**19 03 28.7**	**-0.6**
MDAR				S	**Sg**	**19 03 35.0**	**+0.2**
T1247	**Pizzolo (AQ)**	**0.41**	**148**	P	**Pg**	**19 03 28.8**	**-0.5**
T1247				AML	AML		
	comp=N,22600μm,1.1s						
T1247				AML	AML		
	comp=E,25500μm,0.3s						
T1246	**Crognaleto (TE**	**0.42**	**120**	⇑P	**Pg**	**19 03 28.7**	**-0.8**
T1246				S	**Sg**	**19 03 34.9**	**-0.1**
GAG1	**Gagliole**	**0.45**	**6**	P	**Pg**	**19 03 29.5**	**-0.4**
GAG1				AML	AML		
	comp=E,29750μm,0.5s						
GAG1				AML	AML		
	comp=N,38050μm,0.7s						
GAG1				AML	AML		
	comp=N,38050μm,0.7s						
GAG1				AML	AML		
	comp=E,29750μm,0.5s						
SSM1	**San Severino M**	**0.45**	**16**	P	**Pg**	**19 03 29.4**	**-0.6**
SNTG	**Esanatoglia**	**0.46**	**354**	P	**Pg**	**19 03 29.6**	**-0.6**
SNTG				AML	AML		
	comp=E,11480μm,0.5s						
SNTG				AML	AML		
	comp=N,7805μm,0.2s						
SNTG				AML	AML		
	comp=E,11090μm,0.6s						
SNTG				AML	AML		
	comp=N,7950μm,0.6s						
SNTG				AML	AML		
	comp=E,11480μm,0.6s						
SNTG				AML	AML		
	comp=N,7805μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.47**	**326**	P	**Pg**	**19 03 30.2**	**-0.2**
ATCC				AML	AML		
	comp=E,12950μm,0.5s						
ATCC				AML	AML		
	comp=N,12750μm,0.5s						
ATCC				AML	AML		
	comp=N,12800μm,0.5s						
TERO	**Teramo**	**0.48**	**111**	⇑P	**Pg**	**19 03 29.4**	**-1.0**
TERO				S	**Sg**	**19 03 36.4**	**-0.4**
TERO				AML	AML		
	comp=E,30850μm,0.4s						
TERO				AML	AML		
	comp=N,23250μm,0.7s						
TERO				AML	AML		
	comp=N,25050μm,0.6s						
TERO				AML	AML		
	comp=E,30900μm,0.4s						
TERO				AML	AML		
	comp=E,33300μm,0.3s						
TERO				AML	AML		
	comp=N,23300μm,0.7s						
MNTP	**Montappone**	**0.48**	**45**	P	**Pg**	**19 03 30.6**	**0.0**
OFFI	**Offida**	**0.52**	**74**	P	**Pg**	**19 03 31.2**	**-0.1**
OFFI				AML	AML		
	comp=E,33450μm,0.4s						
OFFI				AML	AML		
	comp=N,50350μm,0.4s						
AQU	**L'Aquila**	**0.53**	**146**		**Pg**	**19 03 30.6**	**-0.8**
AQU	**L'Aquila**	**0.53**	**146**	P	**Pg**	**19 03 31.1**	**-0.4**
AQU				S	**Sg**	**19 03 39.0**	**+0.5**
AQU				AML	AML		
	comp=E,7805μm,0.9s						
AQU				AML	AML		
	comp=E,7960μm,0.9s						
AQU				AML	AML		
	comp=N,7205μm,1.0s						
AQU				AML	AML		
	comp=E,7800μm,0.9s						
AQU				AML	AML		
	comp=N,7425μm,0.5s						
FOSV	**Fossato di Vic**	**0.53**	**341**	P	**Pg**	**19 03 31.0**	**-0.5**
FOSV				AML	AML		
	comp=N,8205μm,0.3s						
FOSV				AML	AML		
	comp=E,5565μm,0.9s						
FOSV				AML	AML		
	comp=E,5560μm,0.9s						
FIAM	**Fiamignano**	**0.53**	**171**	⇑P	**Pg**	**19 03 30.8**	**-0.7**
FIAM				AML	AML		
	comp=E,10750μm,0.5s						
FIAM				AML	AML		
	comp=N,9450μm,0.4s						
EL6	**Elcito**	**0.54**	**8**	P	**Pg**	**19 03 31.1**	**-0.6**
EL6				AML	AML		
	comp=N,15100μm,0.5s						
EL6				AML	AML		
	comp=N,15050μm,0.5s						
EL6				AML	AML		
	comp=E,13600μm,0.4s						
GIGS	**Gran Sasso**	**0.54**	**129**	P	**Pg**	**19 03 30.6**	**-1.1**
GIGS				S	**Sg**	**19 03 38.6**	**-0.3**
GIGS				AML	AML		
	comp=N,4560μm,0.8s						
GIGS				AML	AML		
	comp=E,4070μm,0.3s						
TRE1	**Treia**	**0.56**	**24**	P	**Pg**	**19 03 31.9**	**-0.3**
MURB	**Monte Urbino**	**0.58**	**323**		**Pg**	**19 03 31.8**	**-0.7**
MURB	**Monte Urbino**	**0.58**	**323**	P	**Pg**	**19 03 32.4**	**-0.2**
MURB				AML	AML		
	comp=E,15100μm,0.3s						
MURB				AML	AML		
	comp=N,17800μm,1.5s						
MURB				AML	AML		
	comp=N,17350μm,1.5s						
MURB				AML	AML		
	comp=E,15850μm,0.3s						
CING	**Cingoli**	**0.60**	**14**	P	**Pg**	**19 03 32.0**	**-0.8**
CING				AML	AML		

comp=E,7620µm,0.4s
CING AML AML
comp=N,5895µm,0.6s
ATTE AVT- Monte Tez 0.62 310 P **Pg 19 03 33.0 -0.3**
ATTE AML AML
comp=E,3115µm,0.9s
ATTE AML AML
comp=N,2580µm,0.5s
ATFO Monte Foce - G 0.65 331 P **Pg 19 03 33.4 -0.5**
ATFO AML AML
comp=E,5285µm,0.5s
ATFO AML AML
comp=N,5005µm,0.5s
SSFR Montelago di S 0.66 346 P **Pg 19 03 33.4 -0.5**
SSFR AML AML
comp=N,7455µm,1.5s
SSFR AML AML
comp=E,12600µm,0.2s
SSFR AML AML
comp=N,8245µm,0.9s
SSFR AML AML
comp=E,11700µm,0.2s
MGAB Montegabbione 0.67 280 P **Pg 19 03 33.9 -0.1**
MGAB AML AML
comp=N,13650µm,0.6s
MGAB AML AML
comp=N,12850µm,0.6s
MGAB AML AML
comp=E,13300µm,0.8s
MGAB AML AML
comp=E,12850µm,0.7s
SRES S.Oreste - Sor 0.67 213 P **Pg 19 03 33.9 -0.1**
SRES AML AML
comp=E,6260µm,0.6s
SRES AML AML
comp=N,7225µm,1.5s
TRTR Tortoreto Alta 0.67 89 AML AML
comp=E,41450µm,0.4s
TRTR AML AML
comp=N,43900µm,0.4s
ATLO AVT- Montelove 0.68 320 P **Pg 19 03 33.9 -0.3**
FAGN Fagnano 0.68 141 P **Pg 19 03 33.2 -1.1**
FAGN AML AML
comp=N,19500µm,0.3s
FAGN AML AML
comp=E,16150µm,0.5s
ARVD Arcevia 0.70 356 P **Pg 19 03 33.9 -0.8**
ARVD S **Sb 19 03 45.0 +0.1**
ARVD AML AML
comp=N,2960µm,0.7s
ARVD AML AML
comp=E,4045µm,0.6s
ATVA AVT- Monte Val 0.71 313 P **Pg 19 03 34.7 -0.2**
TB01 Gubbio 0.72 325 P **Pg 19 03 34.6 -0.4**
TB02 Pietralunga 0.72 323 P **Pg 19 03 34.6 -0.4**
ATVO AVT- Monte Val 0.73 324 P **Pg 19 03 34.7 -0.6**
ATVO AML AML
comp=E,3995µm,0.5s
ATVO AML AML
comp=E,4000µm,0.5s
ATVO AML AML
comp=N,3335µm,1.0s
PP3 Marolino 0.73 37 P **Pg 19 03 35.2 -0.1**
PP3 AML AML
comp=N,20450µm,0.3s
PP3 AML AML
comp=E,18250µm,0.7s
PP3 AML AML
comp=E,17050µm,0.7s
PP3 AML AML
comp=E,18200µm,0.7s
PP3 AML AML
comp=N,20500µm,0.3s
PP3 AML AML
comp=N,20300µm,0.3s
VCEL Villa Celiera 0.74 123 P **Pg 19 03 34.5 -0.9**
VCEL AML AML
comp=E,16300µm,0.4s
VCEL AML AML
comp=E,16350µm,0.4s
VCEL AML AML
comp=N,18050µm,0.3s
TB03 Pietralunga 0.74 325 P **Pg 19 03 35.0 -0.5**
FRON Frontone 0.75 344 P **Pg 19 03 34.7 -0.9**
FRON AML AML
comp=N,3745µm,0.4s
FRON AML AML
comp=E,3675µm,0.7s
ATBU Serra di Buran 0.76 334 P **Pg 19 03 35.5 -0.3**
ATMI Monte Miggiano 0.76 315 P **Pb 19 03 36.1 -0.1**
ATMI AML AML
comp=E,9735µm,0.8s
ATMI AML AML
comp=N,12550µm,0.5s
ATPI Pietralunga - 0.79 326 P **Pg 19 03 35.8 -0.6**
ATPC Poggio Castell 0.79 330 P **Pg 19 03 36.1 -0.3**
MTCE Montecelio 0.80 194 P **Pg 19 03 35.3 -1.1**
MTCE AML AML
comp=E,6675µm,0.6s
MTCE AML AML
comp=N,6740µm,0.6s
SACS San Casciano d 0.81 274 P **Pg 19 03 36.6 -0.1**
SACS AML AML
comp=E,3610µm,1.0s
SACS AML AML
comp=E,3725µm,1.0s
SACS AML AML
comp=N,4260µm,1.0s
SACS AML AML
comp=N,4260µm,1.0s
T0110 Collepietro 0.81 134 P **Pg 19 03 35.3 -1.4**
T0110 AML AML
comp=E,11850µm,0.5s
T0110 AML AML
comp=N,11550µm,0.4s
PIEI Pieia 0.82 335 P **Pg 19 03 36.1 -0.8**
PIEI AML AML
comp=E,2400µm,0.4s
PIEI AML AML
comp=N,2120µm,1.0s
PTQR Pietraquaria 0.83 159 P **Pg 19 03 35.7 -1.4**
PTQR AML AML
comp=N,3735µm,0.7s
PTQR AML AML
comp=E,3255µm,0.8s
CERT Cerreto 0.85 181 P **Pg 19 03 36.4 -1.1**
CERT AML AML
comp=E,9785µm,0.5s
CERT AML AML
comp=N,8915µm,0.5s
MPAG Monte Paganucc 0.85 348 P **Pg 19 03 36.9 -0.7**
MPAG AML AML
comp=E,3730µm,0.6s
MPAG AML AML
comp=N,4885µm,0.6s
MPAG AML AML
comp=N,4880µm,0.5s
MPAG AML AML
comp=N,4900µm,0.6s
MPAG AML AML
comp=E,3890µm,0.6s
MPAG AML AML
comp=E,3730µm,0.6s
NARO Abbazia di Nar 0.87 339 P **Pg 19 03 37.0 -0.9**
NARO AML AML
comp=E,2985µm,1.1s
NARO AML AML
comp=N,3270µm,0.8s
AOI Ancona 0.87 30 P **Pg 19 03 37.1 -0.9**
AOI AML AML
comp=E,4230µm,1.4s
AOI AML AML
comp=N,3725µm,0.5s
APEC Apecchio 0.87 331 P **Pb 19 03 38.1 -0.1**
APEC AML AML
comp=N,934µm,1.6s
APEC AML AML
comp=N,935µm,1.6s
APEC AML AML
comp=E,702µm,1.1s
ATMC Monte Cedrone 0.88 318 P **Pb 19 03 38.3 0.0**
LATE Laterza 0.90 259 **Pg 19 03 38.5 0.0**
FSSB Fossombrone 0.91 350 P **Pg 19 03 37.7 -1.0**
FSSB AML AML
comp=N,13650µm,0.4s
FSSB AML AML
comp=E,10380µm,0.4s

CAFI Castiglion Fio 0.93 305 P **Pg 19 03 38.5 -0.5**
CAFI AML AML
comp=N,1765µm,0.7s
CAFI AML AML
comp=N,1855µm,1.0s
CAFI AML AML
comp=E,2445µm,1.4s
CAFI AML AML
comp=E,2495µm,1.4s
RCAV Rocca di Cave 0.95 183 P **Pg 19 03 38.6 -0.8**
PE3 Peglio 0.97 338 P **Pb 19 03 39.8 -0.1**
PE3 AML AML
comp=N,23µm,0.2s
PE3 AML AML
comp=E,20µm,0.3s
MCIV Monte Civitell 0.98 269 P **Pb 19 03 39.8 -0.1**
MCIV AML AML
comp=E,1395µm,1.4s
MCIV AML AML
comp=N,1395µm,0.8s
SF04 Casetta 0.99 273 AML AML
comp=N,1493µm,0.4s
SF04 AML AML
comp=E,1466µm,0.4s
RMP Rome, Mte Porz 1.01 193 P **Pb 19 03 39.6 -0.8**
RMP AML AML
comp=N,10800µm,0.9s
RMP AML AML
comp=E,9225µm,0.5s
SF13 Bagnolo 1.02 272 P **Pg 19 03 40.7 0.0**
SF14 Selvena 1.02 268 P **Pb 19 03 40.5 -0.2**
VVLD Villa Vallelon 1.03 153 P **Pb 19 03 40.5 -0.3**
TOLF Tolfa 1.04 226 P **Pb 19 03 40.3 -0.6**
TOLF AML AML
comp=N,3870µm,0.4s
TOLF AML AML
comp=E,5855µm,0.5s
RDP Rocca di Papa 1.06 192 P **Pb 19 03 40.3 -1.0**
RDP AML AML
comp=E,17750µm,0.6s
RDP AML AML
comp=N,19950µm,0.5s
SF01 Poggio Pratacc 1.06 271 AML AML
comp=N,1685µm,0.8s
SF01 AML AML
comp=E,3845µm,0.9s
ARCI Arcidosso 1.12 273 AML AML
comp=E,945µm,0.9s
ARCI AML AML
comp=N,724µm,0.6s
CRE Caprese Michel 1.13 317 AML AML
comp=N,1370µm,0.8s
CRE AML AML
comp=E,1455µm,0.5s
LAV9 Lanuvio 1.14 192 P **Pb 19 03 42.5 -0.1**
LAV9 AML AML
comp=E,11450µm,0.4s
LAV9 AML AML
comp=N,13100µm,0.5s
LAV9 AML AML
comp=E,11500µm,0.4s
LAV9 AML AML
comp=E,11400µm,0.4s
LAV9 AML AML
comp=N,13950µm,0.5s
LAV9 AML AML
comp=N,13150µm,0.5s
CAFR Castel Frentan 1.15 119 P **Pb 19 03 41.7 -1.0**
CAFR AML AML
comp=E,3040µm,0.7s
CAFR AML AML
comp=N,3770µm,0.3s
LPEL Lama dei Pelig 1.15 130 P **Pb 19 03 41.3 -1.6**
LPEL AML AML
comp=E,3875µm,0.7s
LPEL AML AML
comp=N,2600µm,0.3s
LRP Arpino 1.23 159 AML AML
comp=E,1425µm,0.8s
LRP AML AML
comp=N,2465µm,0.5s
GIUL Giuliano Di Ro 1.25 171 AML AML
comp=E,2150µm,0.4s
GIUL AML AML
comp=N,3305µm,0.5s
ASQU Asqua 1.34 319 AML AML
comp=N,1095µm,1.6s
ASQU AML AML
comp=E,1208µm,0.6s
SFI Santa Sofia 1.39 323 AML AML
comp=E,872µm,1.6s
SFI AML AML
comp=N,1098µm,0.9s
SFI AML AML
comp=E,914µm,0.8s
SFI AML AML
comp=N,1100µm,0.9s
CERA Filignano 1.42 147 AML AML
comp=N,3085µm,0.8s
CERA AML AML
comp=E,3440µm,1.0s
CERA AML AML
comp=N,2990µm,0.7s
CERA AML AML
comp=E,3500µm,1.1s
FROS Frosini 1.42 288 P **Pn 19 03 46.9 +0.3**
FROS AML AML
comp=E,966µm,0.5s
FROS AML AML
comp=N,856µm,0.8s
CSNT Castellina Chi 1.42 299 P **Pn 19 03 47.0 +0.3**
MAON Monte Argentar 1.43 256 P **Pn 19 03 46.6 -0.2**
MAON AML AML
comp=E,672µm,1.1s
MAON AML AML
comp=N,590µm,0.7s
OSSC Osservatorio P 1.48 300 Pn **Pn 19 03 46.3 -1.1**
MIDA Miranda 1.48 141 P **Pn 19 03 47.1 -0.5**
MIDA AML AML
comp=N,1310µm,0.5s
MIDA AML AML
comp=N,1280µm,1.3s
MIDA AML AML
comp=E,1740µm,0.7s
MIDA AML AML
comp=E,1680µm,0.7s
FRES Fresagrandinar 1.48 123 AML AML
comp=N,1090µm,0.4s
FRES AML AML
comp=E,1875µm,0.6s
RUFI Rufina 1.51 314 P **Pb 19 03 49.0 0.0**
RUFI AML AML
comp=E,859µm,0.9s
RUFI AML AML
comp=N,808µm,1.1s
TRIV Trivento 1.54 131 AML AML
comp=E,2100µm,0.6s
TRIV AML AML
comp=N,1715µm,0.7s
CASP Castiglione de 1.57 271 Pn **Pn 19 03 47.6 -1.2**
CASP Castiglione de 1.57 271 P **Pn 19 03 48.6 -0.1**
CASP AML AML
comp=N,234µm,0.9s
CASP AML AML
comp=E,275µm,0.9s
TRIF Trifonti 1.57 282 P **Pn 19 03 49.1 +0.3**
TRIF AML AML
comp=N,600µm,0.6s
TRIF AML AML
comp=E,434µm,0.6s
LMD Lutirano 1.59 324 P **Pb 19 03 49.8 -0.6**
LMD AML AML
comp=E,754µm,1.4s
LMD AML AML
comp=N,906µm,1.3s
VAGA Valle Agricola 1.66 146 AML AML
comp=N,1425µm,0.4s
VAGA AML AML
comp=N,1475µm,0.4s
VAGA AML AML
comp=E,831µm,0.6s
VAGA AML AML
comp=E,807µm,0.6s
BSSO Busso 1.72 136 AML AML
comp=E,819µm,0.7s
BSSO AML AML
comp=E,356µm,0.7s

BSSO AML AML
comp=N,854µm,1.0s
BSSO AML AML
comp=N,351µm,1.0s
SEI Scarperia 1.74 317 AML AML
comp=E,1017µm,0.6s
SEI AML AML
comp=N,1260µm,0.6s
CIGN Sant'Elia a Pi 1.82 128 AML AML
comp=N,726µm,1.2s
CIGN AML AML
comp=E,790µm,0.7s
PIGN Pignataro Magg 1.82 151 P **Pn 19 03 53.1 +1.0**
PIGN AML AML
comp=N,546µm,0.9s
PIGN AML AML
comp=E,506µm,0.9s
PIGN AML AML
comp=E,456µm,0.8s
PIGN AML AML
comp=N,572µm,1.1s
MELA Melanico ??? S 1.92 124 AML AML
comp=E,2375µm,0.7s
MELA AML AML
comp=N,2580µm,0.6s
MELA AML AML
comp=E,2415µm,0.7s
MELA AML AML
comp=N,2670µm,0.6s
TREM Isole Tremiti 1.97 109 AML AML
comp=N,2465µm,0.6s
TREM AML AML
comp=E,2280µm,0.9s
VITU Vitulano (BN) 2.02 142 AML AML
comp=N,799µm,0.5s
VITU AML AML
comp=E,584µm,0.4s
CELB S.Piero in Cam 2.06 270 P **Pn 19 03 55.4 0.0**
CELB AML AML
comp=E,103µm,0.5s
CELB AML AML
comp=N,151µm,0.8s
POPM Popiglio 2.06 308 P **Pn 19 03 56.4 +1.0**
PAOL Paolisi 2.11 146 **Pn 19 03 56.1 -0.1**
ZCCA Zocca 2.14 317 **Pn 19 03 57.9 +1.3**
APRC Apricena 2.15 118 AML AML
comp=N,1465µm,0.7s
APRC AML AML
comp=E,1084µm,0.7s
SGRT San Giovanni R 2.29 116 Pn **Pn 19 03 59.0 +0.4**
SGRT San Giovanni R 2.29 116 AML AML
comp=E,1410µm,0.6s
SGRT AML AML
comp=N,1155µm,0.9s
VLC Villacollemand 2.34 307 Pn **Pn 19 03 58.8 -0.5**
VLC Villacollemand 2.34 307 AML AML
comp=E,192µm,1.4s
VLC AML AML
comp=N,230µm,1.1s
VLC AML AML
comp=N,193µm,1.0s
VLC AML AML
comp=E,156µm,0.9s
SGTA Sant Agata di 2.42 132 AML AML
comp=N,388µm,0.6s
SGTA AML AML
comp=E,702µm,0.9s
SGTA AML AML
comp=E,782µm,0.9s
SGTA AML AML
comp=N,446µm,0.6s
EQUI Equi 2.49 304 AML AML
comp=N,159µm,1.2s
EQUI AML AML
comp=E,154µm,0.7s
SNAL S. Angelo Dei 2.49 138 AML AML
comp=E,570µm,0.8s
SNAL AML AML
comp=N,490µm,1.6s
SNAL AML AML
comp=E,566µm,0.8s
SNAL AML AML
comp=N,510µm,1.6s
PLMA Palmaria, Port 2.62 300 AML AML
comp=E,93µm,0.5s
PLMA AML AML
comp=N,92µm,1.0s
CAPA Cerignola FG 2.66 127 AML AML
comp=N,1245µm,0.9s
CAPA AML AML
comp=E,934µm,0.9s
MORSI Morsiglia 2.68 275 P **Pn 19 04 04.9 +1.0**
TEOL Teolo 2.74 340 **Pn 19 04 04.7 0.0**
RIV Rijeka 2.75 22 *e*Pn **Pn 19 04 05.4 +0.6**
RIV *e*Sn **Sn 19 04 40.1 +2.2**
PRMA PARMA 2.77 316 Pn **Pn 19 04 04.9 -0.3**
SMPL Sampolo 2.84 257 AML AML
comp=E,34µm,0.8s
SMPL AML AML
comp=N,32µm,1.3s
SMPL Sampolo 2.84 257 P **Pn 19 04 06.9 +0.8**
SKDS Skadanscina 2.85 14 *i* Pn **Pn 19 04 06.2 -0.1**
SKDS *i* Sn **Sn 19 04 41.3 +0.9**
SKDS IAML 19 04 43.9
comp=Z,146nm,0.5s
PALZ Palazzo San Ge 2.88 129 AML AML
comp=E,678µm,1.0s
PALZ AML AML
comp=N,825µm,0.9s
CORF Corte 2.89 261 P **Pn 19 04 07.8 +1.0**
MSSA Maissana 2.96 302 Pn **Pn 19 04 08.1 +0.3**
MSSA Maissana 2.96 302 AML AML
comp=N,186µm,0.8s
MSSA AML AML
comp=E,90µm,0.5s
PGF Pioggiola 2.96 267 *e*P **Pn 19 04 08.8 +0.9**
PGF *e*Sn **Sn 19 04 40.0 -3.4**
comp=E,44nm,0.6s
PGF Pioggiola 2.96 267 AML AML
comp=N,55µm,0.7s
PGF AML AML
comp=E,50µm,0.6s
PGF Pioggiola 2.96 267 P **Pn 19 04 08.8 +0.9**
CEY Cerknica 3.12 19 *e*Pn **Pn 19 04 10.2 +0.2**
ROVR Rover Verones 3.17 335 AML AML
comp=E,118µm,0.7s
ROVR AML AML
comp=N,176µm,0.8s
CGRP Cima Grappa 3.20 345 AML AML
comp=E,566µm,0.6s
CGRP AML AML
comp=N,500µm,0.5s
CGRP AML AML
comp=N,516µm,0.5s
CGRP AML AML
comp=E,576µm,0.7s
SABO M.te Sabotino 3.21 7 Pn **Pn 19 04 11.3 0.0**
SABO M.te Sabotino 3.21 7 AML AML
comp=E,2310µm,0.8s
SABO AML AML
comp=N,2125µm,0.9s
SABO AML AML
comp=E,506µm,0.7s
SABO AML AML
comp=N,538µm,0.6s
AJAC Base Areonaval 3.26 256 P **Pn 19 04 13.4 +1.5**
AMUR Altamura 3.29 124 AML AML
comp=E,250µm,0.4s
AMUR AML AML
comp=N,300µm,0.5s
SALO Salr 3.34 329 **Pn 19 04 13.9 +0.9**
SALO Salr 3.34 329 AML AML
comp=N,413µm,1.1s
SALO AML AML
comp=N,428µm,1.1s
SALO AML AML
comp=E,326µm,0.6s
SALO AML AML
comp=E,322µm,0.6s
MGRS Mrkonjic Grad 3.38 60 *e*Pn **Pn 19 04 15.2 +1.6**
MIGL Miglionico 3.38 129 AML AML
comp=N,1022µm,0.7s
MIGL AML AML
comp=E,928µm,0.8s
CTI Castel Tesino 3.39 344 **Pn 19 04 14.3 +0.5**
CTI Castel Tesino 3.39 344 AML AML
comp=E,287µm,0.5s

CTI AML AML
comp=N,375µm,0.6s
LJU Ljubljana 3.43 18 *i* Pn **Pn** 19 04 15.1 +0.8
LJU *i* Sn **Sn** 19 04 56.6 +1.9
LJU IAML 19 05 35.8
comp=Z,186nm,1.0s
MPRI Monte Prat 3.45 360 AML AML
comp=N,586µm,0.6s
MPRI AML AML
comp=N,452µm,1.4s
MPRI AML AML
comp=E,306µm,0.4s
MPRI AML AML
comp=E,261µm,1.6s
STON Ston 3.46 87 *e*Pn **Pn** 19 04 13.7 -0.9
STON Ston 3.46 87 *e*Pn **Pn** 19 04 14.2 -0.4
STON *e*Sn **Sn** 19 04 54.8 -0.6
STON Ston 3.46 87 AML AML
comp=E,175µm,1.1s
STON AML AML
comp=N,156µm,0.3s
PRIJ Prijedor 3.46 50 *e*Pn **Pn** 19 04 17.4 +2.8
STAL STALIGIAL 3.47 357 **Pn** 19 04 15.2 +0.3
STAL STALIGIAL 3.47 357 AML AML
comp=N,390µm,1.5s
STAL AML AML
comp=E,361µm,0.4s
STAL AML AML
comp=E,304µm,1.2s
STAL AML AML
comp=N,425µm,1.5s
LUSI Trento, Gardas 3.49 336 AML AML
comp=E,264µm,0.4s
LUSI AML AML
comp=N,396µm,1.0s
MATE Matera 3.50 126 ⇑P **Pn** 19 04 16.8 +1.6
CUC Castrocucco 3.51 142 Pn **Pn** 19 04 14.6 -0.8
CIMO Cimolais 3.54 354 Pn **Pn** 19 04 15.8 +0.1
CIMO Cimolais 3.54 354 AML AML
comp=E,90µm,0.8s
CIMO AML AML
comp=N,114µm,1.0s
CIMO AML AML
comp=E,95µm,1.1s
CIMO AML AML
comp=N,118µm,1.0s
A051A Mrakovica 3.59 51 *e*Pn **Pn** 19 04 17.0 +0.5
BLY Banja Luka 3.60 56 *e*Pn **Pn** 19 04 18.8 +2.2
BLY Banja Luka 3.60 56 *e*Pn **Pn** 19 04 18.9 +2.3
BLY *e*Sn **Sn** 19 04 59.4 +0.3
PTCC Patocco-Chiusa 3.62 4 AML AML
comp=N,142µm,0.7s
PTCC AML AML
comp=E,154µm,0.4s
NOCI Noci 3.64 122 AML AML
comp=E,313µm,0.4s
NOCI AML AML
comp=N,316µm,0.6s
CLUD Cludinico 3.66 359 **Pn** 19 04 17.3 -0.2
CLUD Cludinico 3.66 359 AML AML
comp=E,251µm,1.0s
CLUD AML AML
comp=N,272µm,0.7s
CLUD AML AML
comp=N,258µm,0.7s
CLUD AML AML
comp=E,258µm,1.0s
PRED Cave del Predi 3.67 6 **Pn** 19 04 17.4 -0.2
MABI Malga Bissina 3.71 332 AML AML
comp=N,128µm,1.3s
MABI AML AML
comp=E,97µm,0.7s
ZOU Zoufplan 3.76 360 AML AML
comp=E,403µm,0.8s
ZOU AML AML
comp=N,302µm,1.3s
ZOU AML AML
comp=E,406µm,0.9s
ZOU AML AML
comp=N,294µm,1.4s
ACOM Acomizza, Ital 3.77 5 AML AML
comp=E,328µm,0.7s
ACOM AML AML
comp=N,446µm,0.7s
ACOM AML AML
comp=N,402µm,0.7s
ACOM AML AML
comp=E,365µm,1.3s
FVI Forni Avoltri 3.81 358 AML AML
comp=E,195µm,1.6s
FVI AML AML
comp=N,308µm,0.8s
KOSI Kohlern 3.85 343 AML AML
comp=E,261µm,1.2s
KOSI AML AML
comp=N,247µm,0.8s
MYKA Terra Mystica 3.86 7 *e*Pn **Pn** 19 04 21.4 +1.1
comp=N,7.2nm,0.3s,SNR=26
OBKA Obir 3.87 16 *e*Pn **Pn** 19 04 20.9 +0.5
OBKA Obir 3.87 16 *i* Pn **Pn** 19 04 21.3 +0.9
comp=N,2.9nm,0.3s
APPI Appiano 3.90 342 AML AML
comp=N,246µm,0.5s
APPI AML AML
comp=E,202µm,1.1s
TREB Trebinje 3.94 89 *e*Pn **Pn** 19 04 21.6 +0.4
TREB Trebinje 3.94 89 *e*Pn **Pn** 19 04 22.2 +1.0
TREB *e*Sn **Sn** 19 05 06.0 -1.3
ABTA Abfaltersbach 3.97 355 *e*Pn **Pn** 19 04 23.2 +1.5
comp=E,43nm,0.4s,SNR=53
A052A Srbac 3.99 53 *e*Pn **Pn** 19 04 21.5 -0.4
HCY Herceg Novi 4.07 93 *e*Pn **Pn** 19 04 23.7 +0.7
HCY Herceg Novi 4.07 93 ⇑*i*Pn **Pn** 19 04 23.7 +0.7
HCY *i* Sn **Sn** 19 05 11.9 +1.4
BRY Bratogost 4.07 87 *e*Pn **Pn** 19 04 24.0 +0.8
BRY Bratogost 4.07 87 ⇑*i*Pn **Pn** 19 04 23.8 +0.6
BRY *i* Sn **Sn** 19 05 12.0 +1.2
SOKA Soboth 4.14 20 *i* Pn **Pn** 19 04 24.3 +0.2
comp=E,3.3nm,0.3s
SAOF Saorge 4.14 289 P **Pn** 19 04 25.5 +1.4
SBF Sospel 4.20 287 *e*P **Pn** 19 04 25.7 +0.8
SBF *e*Sn **Sn** 19 05 09.4 -4.5
comp=E,40nm,0.6s
RISI Rein 4.20 351 AML AML
comp=N,456µm,0.7s
RISI AML AML
comp=E,502µm,0.5s
ESCA l'Escarene 4.24 286 P **Pn** 19 04 26.6 +1.2
TURF col de Turini 4.26 288 P **Pn** 19 04 27.1 +1.3
KBA Koelnbreinsper 4.29 3 *e*Pn **Pn** 19 04 27.4 +1.2
comp=E,10nm,0.3s,SNR=30
FUORN Ofenpass-Fuorn 4.29 334 **Pn** 19 04 28.1 +1.8
KOGS Kog 4.33 31 AML AML
comp=E,1096µm,1.1s
KOGS AML AML
comp=N,1185µm,1.0s
UPM Unac-Piva 4.35 83 *e*Pn **Pn** 19 04 28.7 +1.6
UPM Unac-Piva 4.35 83 *e*Pn **Pn** 19 04 27.6 +0.5
UPM *i* Sn **Sn** 19 05 18.7 +1.0
CEME Cevo 4.37 91 ⇓*i*Pn **Pn** 19 04 27.9 +0.7
CEME *i* Sn **Sn** 19 05 19.3 +1.3
BUM Brajici-Budva 4.38 94 ⇓*i*Pn **Pn** 19 04 28.1 +0.7
BUM *i* Sn **Sn** 19 05 19.6 +1.3
NKME Niksic 4.38 88 ⇓*i*Pn **Pn** 19 04 28.1 +0.7
NKME *i* Sn **Sn** 19 05 19.5 +1.2
SPIF crte de Spivo 4.38 289 P **Pn** 19 04 29.4 +1.9
MVIF Mont Vial 4.41 286 P **Pn** 19 04 31.3 +3.5
TUE Stuetta 4.51 326 **Pn** 19 04 28.7 -0.5
HAPS Han Pijesak,BI 4.52 71 *e*Pn **Pn** 19 04 30.7 +1.4
FETA Feichten 4.52 340 *e*Pn **Pn** 19 04 32.2 +2.8
comp=N,12nm,0.7s,SNR=10
CALF Calern 4.54 284 P **Pn** 19 04 30.2 +0.5
ISO Isola 4.55 290 P **Pn** 19 04 31.8 +2.1
DAVOX Davos/Dischmat 4.56 332 Pn **Pn** 19 04 32.6 +2.6
comp=N,5.8nm,0.3s,baz=146,slow=14,SNR=30
DAVOX Sn **Sn** 19 05 22.4 -0.6
comp=N,1.1nm,0.3s,baz=170,slow=21,SNR=1.1
WTTA Wattenberg 4.57 348 *e*Pn **Pn** 19 04 33.0 +2.9
comp=N,8.6nm,0.4s,SNR=13
TIP Timpagrande 4.60 141 Pn **Pn** 19 04 30.0 -0.4
SQTA Sankt Quirin 4.60 345 *e*Pn **Pn** 19 04 33.0 +2.5
comp=N,8.1nm,0.3s,SNR=21
DRME Dracevica, Mon 4.61 95 ⇑*i*Pn **Pn** 19 04 31.8 +1.3
DRME Dracevica, Mon 4.61 95 *e*Pn **Pn** 19 04 31.3 +0.8
DRME *i* Sn **Sn** 19 05 25.1 +1.2

PDG Podgorica 4.63 92 ⇓P **Pn** 19 04 32.0 +1.3
PDG ⇓S **Sn** 19 05 27.4 +3.1
PDG Podgorica 4.63 92 *e*Pn **Pn** 19 04 31.7 +1.0
PDG Podgorica 4.63 92 *e*Pn **Pn** 19 04 32.1 +1.4
PDG *e*Sn **Sn** 19 05 23.6 -0.7
TTG Podgorica 4.63 92 ⇑*i*Pn **Pn** 19 04 31.6 +0.9
TTG *i* Sn **Sn** 19 05 25.6 +1.3
WATA Walderalm 4.65 348 *i* Pn **Pn** 19 04 33.2 +2.1
comp=N,3.7nm,0.2s,SNR=13
ULC Ulcinj 4.70 98 ⇑*i*Pn **Pn** 19 04 32.5 +0.8
ULC *i* Sn **Sn** 19 05 26.5 +0.4
PLE Pljevlja 4.71 81 *e*Pn **Pn** 19 04 32.6 +0.6
PLE *i* Sn **Sn** 19 05 27.5 +1.0
RUDO Rudo 4.73 78 *e*Pn **Pn** 19 04 32.9 +0.8
MOTA Moosalm 4.74 344 *i* Pn **Pn** 19 04 35.4 +2.9
comp=N,8.5nm,0.6s,SNR=12
LMR La Mourre 4.79 279 *e*P **Pn** 19 04 33.1 +0.2
LMR *e*Sn **Sn** 19 05 23.3 -4.9
comp=N,55nm,1.4s
KOME Kolasin 4.79 87 *e*Pn **Pn** 19 04 33.8 +0.8
KOME *i* Sn **Sn** 19 05 29.5 +1.0
BBLS Lazići 4.79 75 *e*Pn **Pn** 19 04 34.6 +1.5
BBLS Lazići 4.79 75 *e*Pn **Pn** 19 04 34.5 +1.5
BBLS *e*Sn **Sn** 19 05 26.4 -2.1
SURF Saint Ours 4.80 293 P **Pn** 19 04 34.7 +1.5
ARSA Arzberg 4.80 21 *i* Pn **Pn** 19 04 33.2 +0.1
comp=N,12nm,0.4s,SNR=14
JAUF Jausiers 4.83 292 P **Pn** 19 04 37.1 +3.6
MBDF Montbardon 4.91 295 *e*P **Pn** 19 04 36.5 +1.8
MBDF *e*Sn **Sn** 19 05 26.4 -5.1
comp=N,32nm,0.9s
TRIGF Trigance 4.91 283 P **Pn** 19 04 36.5 +1.8
BIOA Bad Ischl, Aus 4.92 5 *i* Pn **Pn** 19 04 36.0 +1.3
comp=N,11nm,0.3s,SNR=31
SCTE Santa Cesarea 4.93 122 Pn **Pn** 19 04 33.3 -1.5
RJOB Jochberg 4.95 358 *e*Pn **Pn** 19 04 36.9 +1.7
RJOB *e*Sn **Sn** 19 05 35.8 +3.6
CREF Crivoux 4.95 293 P **Pn** 19 04 39.3 +4.0
RETA Reutte 4.95 342 *i* Pn **Pn** 19 04 38.1 +2.9
comp=N,4.4nm,0.3s
OGAG Argentiere 4.97 292 P Pn 19 04 40.6 +5.0
FLAF Flassans-sur-I 4.98 279 P **Pn** 19 04 36.3 +0.8
DAVA Damuels 5.01 335 *i* Pn **Pn** 19 04 39.4 +3.3
comp=N,24nm,0.6s,SNR=16
IVA Berane 5.07 87 ⇑*i*Pn **Pn** 19 04 37.7 +0.9
IVA *i* Sn **Sn** 19 05 36.2 +0.9
PVY Plav 5.13 90 ⇑*i*Pn **Pn** 19 04 38.6 +0.9
PVY *i* Sn **Sn** 19 05 37.7 +0.8
SJES Sjenica 5.13 82 *e*Pn **Pn** 19 04 39.3 +1.6
SJES *e*Sn **Sn** 19 05 33.6 -3.3
MOA Molln 5.13 10 *e*Pn **Pn** 19 04 38.7 +1.0
MOA *e*Sn **Sn** 19 05 38.2 +1.4
MOA Molln 5.13 10 *e*Pn **Pn** 19 04 38.7 +1.0
comp=N,14nm,0.3s,SNR=18
DIX Grande Dixence 5.18 311 P **Pn** 19 04 41.0 +2.5
BLAF les Blancs 5.20 285 P **Pn** 19 04 41.2 +2.5
CLTB Caltabellotta 5.21 178 Pn **Pn** 19 04 42.6 +3.8
LPG La Plagne 5.25 303 *e*P **Pn** 19 04 41.7 +2.2
LPG *e*Sn **Sn** 19 05 34.5 -5.5
comp=N,15nm,0.7s
DIVS Divibare 5.25 73 Pn **Pn** 19 04 39.8 +0.5
DIVS Divibare 5.25 73 *e*Pn **Pn** 19 04 39.4 0.0
DIVS Divibare 5.25 73 *e*Pn **Pn** 19 04 41.2 +1.8
DIVS *e*Sn **Sn** 19 05 37.7 -2.1
LPL La Plagne 5.27 303 *e*P **Pn** 19 04 41.9 +2.2
LPL *e*Sn **Sn** 19 05 34.9 -5.5
comp=N,19nm,0.7s
IVAS Ivanjica 5.29 79 *e*Pn **Pn** 19 04 40.5 +0.7
IVAS *e*Sn **Sn** 19 05 37.4 -3.2
MORH Mrgy, Hungar 5.29 48 ⇓P **Pn** 19 04 40.1 +0.3
MORH Mrgy, Hungar 5.29 48 P **Pn** 19 04 41.0 +1.2
UBR Ueberruh 5.30 338 *e*Pn **Pn** 19 04 42.2 +2.3
UBR *e*Sn **Sn** 19 05 45.6 +4.8
TIR Tirane 5.31 103 ⇑P **Pn** 19 04 41.0 +0.9
TIR Tirane 5.31 103 Pn **Pn** 19 04 40.7 +0.7
TIR Tirane 5.31 103 *e*Pn **Pn** 19 04 41.5 +1.4
TIR *e*Sn **Sn** 19 05 38.2 -2.9
ARTF Artigues 5.32 281 P **Pn** 19 04 42.1 +1.8
TIH Tihany 5.38 39 P **Pn** 19 04 44.0 +3.0
VLO Vlora 5.39 113 **Pn** 19 04 41.7 +0.5
SENIN Lac Senin/Sane 5.41 313 **Pn** 19 04 41.8 +0.1
RSL Roselend 5.42 304 P **Pn** 19 04 44.5 +2.8
RSL S **Sn** 19 05 48.2 +4.2
RONA Rosalia, Austr 5.43 24 *i* Pn **Pn** 19 04 42.1 +0.3
comp=N,4.2nm,0.3s,SNR=15
MPLH Magyarpolny 5.43 35 P **Pn** 19 04 41.1 -0.6
FRGS Fruska Gora 5.45 62 ⇓P **Pn** 19 04 42.5 +0.4
FRGS Fruska Gora 5.45 62 *e*Pn **Pn** 19 04 42.0 0.0
FRGS Fruska Gora 5.45 62 *e*Pn **Pn** 19 04 42.2 +0.2
FRGS *e*Sn **Sn** 19 05 42.8 -1.8
BSTF la Bastide-des 5.47 284 P **Pn** 19 04 43.8 +1.5
SOP Sopron 5.50 26 P **Pn** 19 04 43.2 +0.6
CONA Conrad Observa 5.51 20 *i* Pn **Pn** 19 04 43.2 +0.2
comp=N,8.4nm,0.3s,SNR=14
GDM Grand'Maison 5.52 298 P **Pn** 19 04 47.3 +4.2
SMRF Simiane la Rot 5.54 285 *e*P **Pn** 19 04 45.5 +2.2
SMRF *e*Sn **Sn** 19 05 41.3 -5.6
comp=N,34nm,1.3s
OGSI Sixt 5.54 308 P **Pn** 19 04 46.0 +2.7
ORIF Oris-en-Rattie 5.57 295 *e*P **Pn** 19 04 46.7 +3.0
ORIF *e*Sn **Sn** 19 05 42.2 -5.5
comp=N,20nm,0.7s
ORIF Oris-en-Rattie 5.57 295 P **Pn** 19 04 47.5 +3.7
TRUS Trudelj 5.57 73 *e*Pn **Pn** 19 04 44.3 +0.6
TRUS *e*Sn **Sn** 19 05 46.1 -1.5
RAFF Raffo Rosso 5.66 169 Pn Pn 19 04 50.6 +5.6
GRUS Gruza 5.73 76 *e*Pn **Pn** 19 04 46.7 +0.9
GRUS *e*Sn **Sn** 19 05 49.2 -2.3
GRN Grenoble 5.78 298 P **Pn** 19 04 50.1 +3.5
OGSM Saint Maurice 5.96 301 P **Pn** 19 04 51.9 +2.9
SELS Selova 5.97 83 *e*Pn **Pn** 19 04 49.5 +0.4
SELS *e*Sn **Sn** 19 05 55.2 -2.1
KEK Kerkira 5.97 119 Pn **Pn** 19 04 50.1 +0.8
OHR Ohrid 6.05 104 *i* Pn **Pn** 19 04 52.2 +1.8
GEC2 GERESS Array S 6.07 4 Pn **Pn** 19 04 50.6 -0.1
GEC2 GERESS Array S 6.07 4 *e*Pn **Pn** 19 04 50.3 -0.3
GEC2 *e*Sn **Sn** 19 05 58.5 -1.4
GERES GERESS Array B 6.07 4 Pn **Pn** 19 04 50.5 -0.1
comp=N,1.7nm,0.3s,baz=170,slow=12,SNR=30
GERES Sn **Sn** 19 05 58.9 -1.1
comp=N,3.7nm,0.3s,baz=175,slow=24,SNR=8.5
GERES LR LR 19 07 25.2
comp=N,17nm,18.5s,baz=24,slow=41
comp=N,2.4nm,0.3s
GERES GERESS Array B 6.07 4 Pn **Pn** 19 04 47.6 -3.0
CKRC Cesky Krumlov 6.09 8 *e*PN **Pn** 19 04 50.8 -0.1
CKRC *e*SN **Sn** 19 05 58.6 -1.9
ZST Bratislava 6.12 27 *e*PN **Pn** 19 04 51.3 +0.1
ZST *e*SN **Sn** 19 05 59.8 -1.3
BOURR Bourrignon 6.15 320 P **Pn** 19 04 55.7 +4.1
FELD Feldberg im Sc 6.18 327 P **Pn** 19 04 54.1 +2.0
KBN Korca 6.22 108 **Pn** 19 04 54.0 +1.3
BRANT Les Verrieres 6.22 314 S **Sn** 19 06 04.1 +0.4
BRANT Les Verrieres 6.22 314 P **Pn** 19 04 56.1 +3.4
CABF La Chapelle 6.23 310 *e*P **Pn** 19 04 55.1 +2.3
CABF *e*Sn **Sn** 19 05 57.8 -6.1
comp=N,10nm,0.6s
KIZ Kirchzarten 6.28 327 P **Pn** 19 04 54.7 +1.3
CHMF Charmoille 6.33 317 P **Pn** 19 04 56.1 +2.0
MODS Modra-Piesok 6.33 27 *e*PN **Pn** 19 04 53.7 -0.4
MODS *e*SN **Sn** 19 06 04.4 -1.9
KHC Kasperske Hory 6.35 3 **Pn** 19 04 54.1 -0.3
KHC Kasperske Hory 6.35 3 *e*PN **Pn** 19 04 54.1 -0.3
KHC *e*SN **Sn** 19 06 05.6 -1.2
WET Wettzell 6.35 359 *e*Pn **Pn** 19 04 54.3 -0.1
WET *e*Sn **Sn** 19 06 02.3 -4.5
VIVF Saint-Julien-l 6.37 292 *e*P **Pn** 19 04 57.0 +2.4
VIVF *e*Sn **Sn** 19 06 01.0 -6.2
comp=N,33nm,1.6s
BOVS Bovan 6.42 80 ⇑P **Pn** 19 04 56.1 +0.8
BOVS ⇓S **Sn** 19 06 10.7 +2.4
BOVS Bovan 6.42 80 *e*Pn **Pn** 19 04 55.3 +0.1
BOVS *e*Sn **Sn** 19 06 05.7 -2.6
BFO Black Forest 6.43 331 Pn **Pn** 19 04 56.2 +0.7
BFO Black Forest 6.43 331 *e*Pn **Pn** 19 04 56.0 +0.4
VOGT Vogtsburg - To 6.48 326 S **Sn** 19 06 11.1 +1.1
VOGT Vogtsburg - To 6.48 326 P **Pn** 19 04 58.2 +2.1
BARS Barje 6.48 87 *e*Pn **Pn** 19 04 57.2 +1.0
BARS *e*Sn **Sn** 19 06 06.3 -3.7
BOUC Bouclans 6.53 315 P **Pn** 19 04 58.6 +1.7
MOF Molkenrain 6.53 323 P **Pn** 19 04 59.1 +2.2

FNA Florina 6.57 105 Pn **Pn** 19 04 58.8 +1.3
SSB Saint Sauveur 6.58 295 Pn **Pn** 19 04 58.8 +1.2
MDVR Moldovita 6.61 70 ⇓P **Pn** 19 04 58.3 +0.4
HINF Hinteralfeld 6.63 321 *e*P **Pn** 19 04 59.4 +1.1
HINF *e*Sn **Sn** 19 06 07.3 -6.5
comp=N,32nm,0.8s
RONF Ronchamp 6.65 320 P **Pn** 19 05 00.3 +1.8
KRUC Moravsky 6.70 19 *e*PN **Pn** 19 04 59.3 +0.2
KRUC *e*SN **Sn** 19 06 13.1 -2.2
LASF Ste Croix 6.78 284 *e*P **Pn** 19 05 01.4 +1.1
LASF *e*Sn **Sn** 19 06 11.0 -6.4
comp=N,1.4nm,0.6s
ECH Echery 6.80 325 **Pn** 19 05 00.4 -0.1
ECH Echery 6.80 325 P **Pn** 19 05 02.2 +1.6
BZS Buzias 6.80 63 ⇓P **Pn** 19 05 00.8 +0.3
ZAGS Zajecar 6.81 78 *e*Pn **Pn** 19 05 01.2 +0.5
ZAGS *e*Sn **Sn** 19 06 14.7 -3.4
WLS Welschbruch 6.87 327 P **Pn** 19 05 02.2 +0.6
JAVC Velka Javorina 6.88 27 *e*PN **Pn** 19 05 02.4 +0.7
CDF Champ du Feu 6.90 326 *e*P **Pn** 19 05 03.3 +1.3
CDF *e*Sn **Sn** 19 06 13.6 -6.9
comp=N,45nm,1.0s
STIP Stip 6.90 96 *i* Pn **Pn** 19 05 04.9 +2.9
VRAC Vranov 6.98 20 Pn **Pn** 19 05 03.2 +0.3
comp=N,0.5nm,0.3s,baz=199,slow=4.9,SNR=3.3
VRAC Sn **Sn** 19 06 20.7 -1.5
comp=N,0.2nm,0.3s,baz=305,slow=16,SNR=3.2
comp=N,2.4nm,0.6s
VRAC Vranov 6.98 20 *e*PN **Pn** 19 05 02.9 -0.1
ROTZ Rotzenmuhle 7.00 356 *e*Pn **Pn** 19 05 02.5 -0.7
ROTZ *e*Sn **Sn** 19 06 16.6 -6.0
HAU Haudompre 7.00 320 *e*P **Pn** 19 05 05.8 +2.4
HAU *e*Sn **Sn** 19 06 16.0 -6.9
comp=N,34nm,0.6s
GRFO Grafenberg 7.01 350 Pn **Pn** 19 05 04.6 +1.2
GRA1 Grafenberg Arr 7.01 350 Pn **Pn** 19 05 04.1 +0.7
GRF Grafenberg Arr 7.01 350 *e*Pn **Pn** 19 05 05.7 +2.3
VYHS Vyhne 7.01 34 *e*PN **Pn** 19 05 03.3 -0.2
VYHS *e*SN **Sn** 19 06 21.9 -1.1
PSZ Piszkesteto 7.06 41 Pn **Pn** 19 05 06.2 +2.1
ZAPS Zavoj 7.07 83 *e*Pn **Pn** 19 05 05.3 +1.0
ZAPS *e*Sn **Sn** 19 06 21.6 -3.0
BLKB Belogradchik 7.12 80 ⇑P **Pn** 19 05 06.0 +1.1
HERR Herculane 7.12 70 ⇑P **Pn** 19 05 05.5 +0.6
MANZ Manzenberg 7.22 355 *e*Pn **Pn** 19 05 07.3 +0.9
MANZ *e*Sn **Sn** 19 06 24.5 -3.7
GOPC GO Pecny, Ondr 7.23 9 *e*PN **Pn** 19 05 05.9 -0.5
GOPC *e*SN **Sn** 19 06 26.0 -2.3
VAY Valandovo 7.27 98 *i* Pn **Pn** 19 05 08.3 +1.3
PRU Pruhonice 7.27 8 *e*SN **Sn** 19 06 27.5 -1.9
NKC Novy Kostel 7.45 357 *e*SN **Sn** 19 06 30.4 -3.4
GZR Gura Zlata 7.50 66 ⇓P **Pn** 19 05 10.5 +0.3
VTS Vitosha 7.54 88 ⇓P **Pn** 19 05 12.0 +1.2
VTS Vitosha 7.54 88 Pn **Pn** 19 05 11.6 +0.7
VTS *e*Sn **Sn** 19 06 32.9 -3.4
SMF Signal de Mont 7.57 304 *e*P **Pn** 19 05 13.5 +2.3
SMF *e*Sn **Sn** 19 06 29.7 -7.2
comp=N,5.2nm,0.5s
KEST Kesra 7.60 203 Pn **Pn** 19 05 14.6 +2.9
comp=N,0.7nm,0.3s,baz=287,slow=5.5,SNR=7.2
KEST Sn **Sn** 19 06 38.0 +0.3
comp=N,0.1nm,0.3s,baz=150,slow=20,SNR=1.2
comp=N,3.9nm,0.6s
KEST Kesra 7.60 203 Pn **Pn** 19 05 14.0 +2.4
MORC Moravsky Berou 7.66 23 ⇑P **Pn** 19 05 13.0 +0.7
MORC Moravsky Berou 7.66 23 Pn **Pn** 19 05 13.4 +1.1
MORC Moravsky Berou 7.66 23 *e*PN **Pn** 19 05 13.6 +1.3
PAGF Fort de Pagny 7.69 321 *e*P **Pn** 19 05 15.3 +2.6
PAGF *e*Sn **Sn** 19 06 32.3 -7.4
comp=N,31nm,0.9s
KRLC Kraliky 7.74 18 *e*PN **Pn** 19 05 13.8 +0.4
SFTF Sexfontaines 7.78 317 *e*P **Pn** 19 05 16.6 +2.6
SFTF *e*Sn **Sn** 19 06 34.7 -7.2
comp=N,6.5nm,0.5s
LOR Lormes 7.87 308 *e*P **Pn** 19 05 16.3 +1.1
baz=122
LOR *e*Sn **Sn** 19 06 36.9 -7.2
comp=N,7.0nm,0.5s
LOR Lormes 7.87 308 P **Pn** 19 05 18.2 +3.0
MOX Moxa 7.91 354 *e*Pn **Pn** 19 05 15.0 -0.8
MOX *e*Sn **Sn** 19 06 40.3 -4.8
MTLF Montolieu 7.92 278 *e*P **Pn** 19 05 19.0 +3.1
MTLF *e*Sn **Sn** 19 06 38.1 -7.2
comp=N,0.6nm,0.4s
AVF Avril sur Loir 7.94 304 *e*P **Pn** 19 05 18.9 +2.7
AVF *e*Sn **Sn** 19 06 38.4 -7.4
comp=N,1.6nm,0.4s
MEZF Maizieres J'vi 7.97 318 *e*P **Pn** 19 05 19.1 +2.5
MEZF *e*Sn **Sn** 19 06 39.1 -7.5
comp=N,7.3nm,0.5s
SSF Saint Saulge 7.97 306 *e*P **Pn** 19 05 19.7 +3.1
SSF *e*Sn **Sn** 19 06 39.3 -7.4
comp=N,2.5nm,0.5s
DRGR 7.98 57 ⇑P **Pn** 19 05 18.1 +1.3
SAVF Savonnieres en 8.01 319 *e*P **Pn** 19 05 20.1 +2.9
SAVF *e*Sn **Sn** 19 06 40.0 -7.6
comp=N,10nm,0.6s
ABH Alteburg 8.03 334 P **Pn** 19 05 19.6 +2.2
OSTC Ostas 8.07 15 *e*PN **Pn** 19 05 18.1 +0.1
BRG Berggiesshubel 8.11 4 *e*P **Pn** 19 05 20.6 +2.2
BRG Amp 19 05 28.4
comp=Z,3.5nm,0.7s
BRG *ex* x 19 06 46.7
BRG *ex* x 19 07 41.6
BRG Amp 19 07 55.0
comp=Z,14nm,1.2s
BGF Bois d'Agland 8.16 301 *e*P **Pn** 19 05 21.8 +2.7
BGF *e*Sn **Sn** 19 06 43.7 -7.5
comp=Z,4.7nm,0.4s
CAF Calviac 8.19 289 *e*P **Pn** 19 05 22.0 +2.4
CAF *e*Sn **Sn** 19 06 44.5 -7.5
comp=Z,0.6nm,0.4s
CAF *e*Sg **Sg** 19 07 36.9 -6.7
comp=Z,0.4nm,0.3s
WLF Walferdange 8.35 328 Pn **Pn** 19 05 22.1 +0.3
WLF Walferdange 8.35 328 *e*Pn **Pn** 19 05 23.9 +2.2
WLF Walferdange 8.35 328 P **Pn** 19 05 24.1 +2.3
TCF Toulx Ste Croi 8.46 298 *e*P **Pn** 19 05 26.6 +3.2
TCF *e*Sn **Sn** 19 06 51.2 -7.5
comp=Z,1.1nm,0.5s
CLL Collm 8.52 0 Pn **Pn** 19 05 23.7 -0.3
CLL Collm 8.52 0 *e*Pn **Pn** 19 05 25.0 +1.0
CLL *e*Sn Sn 19 06 36.0 -24
CLL *ex* x 19 06 53.0
CLL *ex* x 19 07 20.0
CLL *e*Sg **Sg** 19 07 51.0 -3.1
comp=Z,14nm,1.0s
PLVB Pleven 8.53 82 ⇓P **Pn** 19 05 25.6 +1.4
TRPA Tarpa 8.56 48 P **Pn** 19 05 29.4 +4.7
RJF Les Rejaudoux 8.64 291 *e*P **Pn** 19 05 29.1 +3.2
STHS Stebnicka Huta 8.75 38 *e*PN **Pn** 19 05 28.9 +1.6
ITM Ithomi 8.85 126 Pn **Pn** 19 05 30.0 +1.3
VOIR 9.06 69 ⇑P **Pn** 19 05 32.5 +0.9
GIVF Givet 9.23 325 *e*P **Pn** 19 05 36.9 +3.1
EPF Esparros 9.30 276 *e*P **Pn** 19 05 38.4 +3.6
RDO Rodhopi 9.48 96 Pn **Pn** 19 05 36.5 -0.9
MLR Muntele Rosu 9.69 69 ⇑P **Pn** 19 05 41.6 +1.4
MLR Muntele Rosu 9.69 69 Pn **Pn** 19 05 42.6 +2.3
comp=Z,0.3nm,0.3s,baz=258,slow=18,SNR=5.6
comp=Z,3.1nm,0.8s
MLR Muntele Rosu 9.69 69 Pn **Pn** 19 05 40.4 +0.1
BURAR Bucovina Array 9.87 57 ⇑P **Pn** 19 05 44.1 +1.4
BURAR Bucovina Array 9.87 57 Pn **Pn** 19 05 42.8 +0.1
BUR08 Bucovina Ar. S 9.88 56 Pn **Pn** 19 05 42.7 -0.1
ETSF Etsaut 9.96 275 *e*P **Pn** 19 05 47.8 +3.8
MFF Saint Martin d 10.11 297 *e*P **Pn** 19 05 48.8 +3.0
LDF La Druitiere 10.85 307 *e*P **Pn** 19 05 58.5 +2.5
FLN La Foliniere 11.14 307 *e*P **Pn** 19 06 02.4 +2.4
FLN *e*Sn Sn 19 07 55.0 -9.4
comp=Z,1.3nm,0.4s
GRR Gorron 11.20 305 *e*P **Pn** 19 06 03.9 +3.1
IDI Anoyia 11.89 125 Pn **Pn** 19 06 12.9 +2.5
comp=Z,0.2nm,0.3s,baz=285,slow=6.6,SNR=2.2
IDI Sn Sn 19 08 13.7 -9.3
comp=Z,0.2nm,0.3s,baz=270,slow=19,SNR=1.4
comp=Z,15nm,1.0s
IDI Anoyia 11.89 125 Pn **Pn** 19 06 09.1 -1.3
ESDC Sonseca Array 13.14 262 LR LR 19 11 33.9
comp=Z,34nm,20.6s,baz=64,slow=38
NB201 NORSAR Array S 18.31 357 P **Pn** 19 07 33.2 -1.4
FINES FINESS Array B 20.25 18 P **P** 19 07 56.5 +0.6
comp=Z,2.5nm,0.7s,baz=193,slow=7.8,SNR=4.7
comp=Z,2.5nm,0.7s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FINES	FINESS Array B	20.25	18	P	P	19 07 56.3	+0.4
FIA1	FINESS Array S	20.26	18	P	P	19 07 54.4	-1.5
FIA1				IAmb	IAmb	19 08 23.1	
	comp=Z,35nm,1.4s						
KBZ	Khabaz	21.74	77	P	P	19 08 13.8	+1.7
	comp=Z,5.2nm,1.0s,baz=266,slow=8.9,SNR=5.6						
	comp=Z,5.2nm,1.0s						
GNI	Garni	23.86	86	P	P	19 08 33.5	-0.8
GNI				IAmb	IAmb	19 08 48.7	
	comp=Z,14nm,1.4s						
KLMR	Klimovskoe	24.12	32	*e*P	P	19 08 38.4	+2.1
KLMR				AMP		19 08 45.7	
	comp=Z,13nm,1.5s						
BELG	Belogornoye	25.03	55	P	P	19 08 46.4	+1.8
	comp=Z,16nm,1.0s,baz=285,slow=7.1,SNR=4.0						
	comp=Z,16nm,1.0s						
CMLA	Cha da Macela	29.64	273	P	P	19 09 24.7	-1.5
TOA0	Torodi Ar. Sit	31.12	202	P	P	19 09 37.2	-2.2
TOA0				IAmb	IAmb	19 09 42.2	
	comp=Z,4.8nm,1.4s						
TORD	Torodi Ar. Bea	31.12	202	P	P	19 09 39.7	+0.3
	comp=Z,0.8nm,0.7s,baz=12,slow=8.8,SNR=4.8						
	comp=Z,0.8nm,0.7s						
TORD	Torodi Ar. Bea	31.12	202	P	P	19 09 39.6	+0.2
ARU	Arti	31.88	49	P	P	19 09 46.2	+0.5
	comp=Z,5.7nm,0.6s,baz=277,slow=6.7,SNR=14						
	comp=Z,5.7nm,0.6s						
ARU	Arti	31.88	49	P	P	19 09 45.8	+0.1
ABKAR	Akbulak array	32.79	62	P	P	19 09 51.8	-2.1
GEYT	Alibeck	34.40	83	P	P	19 10 10.4	+2.3
	comp=Z,0.8nm,0.7s,baz=284,slow=7.3,SNR=2.2						
	comp=Z,0.8nm,0.7s						
BRVK	Borovoye	38.75	54	P	P	19 10 45.8	+0.9
BRVK				IAmb	IAmb	19 10 47.5	
	comp=Z,4.6nm,0.7s						
DBIC	Dimbokro	39.28	209	LR	LR	19 27 55.2	
	comp=Z,456nm,19.5s,baz=254,slow=38						
KKAR	Karatay Array	41.37	69	P	P	19 11 07.4	+0.7
ZALV	Zalesovo Beam	47.02	50	P	P	19 11 51.2	-0.6
	comp=Z,0.7nm,0.5s,baz=282,slow=9.6,SNR=5.0						
	comp=Z,0.7nm,0.5s						
MK31	Makanchi Array	47.88	60	P	P	19 11 59.1	+0.4
MK31				IAmb	IAmb	19 12 01.4	
	comp=Z,5.9nm,1.4s						
MKAR	Makanchi Array	47.88	60	P	P	19 11 59.7	+1.0
	comp=Z,1.6nm,0.7s,baz=281,slow=6.3,SNR=8.2						
	comp=Z,1.6nm,0.7s						
SONM	Songino Array	61.91	50	P	P	19 13 41.7	+1.4
	comp=Z,0.6nm,0.5s,baz=286,slow=7.8,SNR=6.0						
	comp=Z,0.6nm,0.5s						

---

*BJI **01** 19:03:27.0±0.0, 6.°10S×148.°70E, h40km, mb5.1/63, mB5.6/73, Ms5.6/87, Ms7 5.6/84*

*NEIC **01** 19:03:28.8, 6.°12S×148.°63E, h35km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}7.19; $M_{\theta\theta}$-8.09; $M_{\phi\phi}$0.91; $M_{r\theta}$1.91; $M_{\theta\phi}$0.36; $M_{\phi r}$-0.98; Fault plane solution: $M_0$7.98000×10^{17} NP1:ϕ_s99.76000°, δ52.62000°, λ99.51000°. NP2:ϕ_s264.34000°, δ38.40000°, λ77.80000°. Principal axes: T 7.5497, Plg80.0000°, Azm50.0000°; N 0.8019, Plg8.0000°, Azm274.0000°; P -8.3517, Plg7.0000°, Azm183.0000°;*

*IDC **01** 19:03:29.6±0.4, 6.°04S×148.°63E, h50km±3km, mb4.9/30, mbtmp5.2/32, MS5.4/53 Error ellipse: s-maj=9.4km s-min=7.2km az=93.0*

*MOS **01** 19:03:29.2±1.2, 6.°05S×148.°50E, h61km, mb5.7/33, MS5.6/22, Error ellipse: s-maj=7.4km s-min=4.7km az=105.3*

*NEIC **01** 19:03:30.1±1.7, 6.°10S±0.°06×148.°66E±0.°06, h52km±4km, mb5.8/256, Mwb5.9/19, Mww6.0, Error ellipse: s-maj=9.4km s-min=8.1km az=114.0*

*DJA **01** 19:03:31.9±0.3, 6°S±2°×14°9E±°, h64km±4km, M5.8/73, mB6.2/67, mb5.9/73, MLv6.2/3, Mw(mB)5.9/67, MwMwp5.6/53, Mwp5.8/53*

*GCMT **01** 19:03:34.1±0.1, 6.°35S×148.°72E, h46km, MW6.0/169, Moment Tensor Solution. s169,c363; s154,c475; Duration: 2.s4 Moment tensor: Scale 10^{18}Nm; M_{rr}1.04±.01; $M_{\theta\theta}$-1.22±.01; $M_{\phi\phi}$0.17±.01; $M_{r\theta}$0.23±.01; $M_{\theta\phi}$0.05±.01; $M_{\phi r}$-0.05±.01; Best double couple: $M_0$1.15600×10^{18} NP1:ϕ_s95.00000°, δ51.00000°, λ93.00000°. NP2:ϕ_s269.00000°, δ39.00000°, λ86.00000°. Principal axes: T 1.0660, Plg84.0000°, Azm25.0000°; N 0.1790, Plg2.0000°, Azm273.0000°; P -1.2460, Plg6.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **01** 19:03:34, 6.°11S×148.°73E, h36km, Moment Tensor Solution. Duration: 12.s0 Moment tensor: Scale 10^{18}Nm; M_{rr}0.98; $M_{\theta\theta}$-1.08; $M_{\phi\phi}$0.10; $M_{r\theta}$0.32; $M_{\theta\phi}$0.15; $M_{\phi r}$0.21; Fault plane solution: $M_0$1.11000×10^{18} NP1: ϕ_s292.00000°, δ39.00000°, λ113.00000°. NP2: ϕ_s83.00000°, δ54.00000°, λ72.00000°. Principal axes: T 1.0836, Plg74.0000°, Azm304.0000°; N 0.0548, Plg14.0000°, Azm94.0000°; P -1.1384, Plg8.0000°, Azm186.0000°;*

*KLM **01** 19:03:44, 5.°97S×148.°48E, h50km, mb5.9*

ISC 01 19:03:29.3±0.2, **6.°14S**±0.°03×**148.°61E**±0.°03, **h49**km±1km, **h49**km**:pP-P, n1283, σ1.s87**/1237, **mb5.7**/256, **MS5.5**/118, **80C-41D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.55	204	P	Pn	19 04 24.9	+2.9
	12µm,0.4s,baz=113,slow=0.6,SNR=1444						
PMG				S	Sn	19 05 06.0	+3.3
	14µm,0.4s,baz=360,slow=23,SNR=29						
PMG	Port Moresby	3.55	204	Pn	Pn	19 04 24.0	+2.0
PMG				Sn	Sn	19 05 03.1	+0.3
PMG	Port Moresby	3.55	204	P	Pn	19 04 24.6	+2.6
PMG	Port Moresby	3.55	204	P	Pn	19 04 26.3	+4.3
PMG	Port Moresby	3.55	204	*d i*P	Pn	19 04 25.1	+3.1
RABL	Rabaul	4.03	62		Pn	19 04 28.7	+0.1
RABL	Rabaul	4.03	62	P	Pn	19 04 31.4	+2.8
RABL	Rabaul	4.03	62	⇓P	Pn	19 04 29.6	+1.0
MANU	Manus Island	4.25	343		Pn	19 04 33.3	+1.7
MANU	Manus Island	4.25	343	P	Pn	19 04 35.1	+3.5
MANU	Manus Island	4.25	343	⇓P	Pn	19 04 34.4	+2.8
GENI	Genyem	9.12	292	P	Pn	19 05 43.1	+4.7
	39µm13µm454nm,1.0s						
GENI	Genyem	9.12	292	P	Pn	19 05 44.5	+6.1
COEN	Coen	9.44	214	P	Pn	19 05 44.0	+1.4
	baz=9.5,SNR=144						
COEN	Coen	9.44	214	Pn	Pn	19 05 43.4	+0.7
COEN				Sn	Sn	19 07 24.1	-3.3
COEN	Coen	9.44	214	P	Pn	19 05 45.6	+2.9
COEN	Coen	9.44	214	⇑P	Pn	19 05 44.1	+1.4
COEN				⇓S	Sn	19 07 26.4	-1.1
AUCSH	Cairns State H	11.07	194	P	Pn	19 06 07.6	+2.5
HNR	Honiara	11.70	107	P	Pn	19 06 15.0	+1.3
	4µm,0.8s,baz=243,slow=8.6,SNR=24						
HNR				LR	LR	19 10 18.1	
	comp=Z,205µm,21.3s,baz=282,slow=35						
HNR	Honiara	11.70	107	Pn	Pn	19 06 13.3	-0.4
HNR	Honiara	11.70	107	P	Pn	19 06 17.9	+4.2
HNR	Honiara	11.70	107	⇑P	Pn	19 06 14.8	+1.1
MTSU	Mount Surprise	12.64	199	P	Pn	19 06 28.7	+2.1
	baz=13,SNR=386						
MTSU	Mount Surprise	12.64	199	P	Pn	19 06 29.3	+2.8
SRPI	Serui, Papua	13.04	288	P	Pn	19 06 35.2	+3.1
	13µm4µm271nm,1.0s						
TV1H	Townsville Har	13.17	188	P	Pn	19 06 36.1	+2.4
AUAYR	Ayr State High	13.41	185	P	Pn	19 06 39.7	+2.6
CTA	Charters Tower	14.06	189	P	Pn	19 06 48.0	+2.1
	174nm,0.7s,baz=14,slow=13,SNR=118						
CTA				S	Sn	19 09 27.2	+6.8
	30nm,0.7s,baz=249,slow=20,SNR=2.0						
CTA				LR	LR	19 12 24.0	
	comp=Z,14µm,19.7s,baz=9.5,slow=38						
CTA	Charters Tower	14.06	189	P	Pn	19 06 48.4	+2.5
CTA	Charters Tower	14.06	189	P	Pn	19 06 48.0	+2.1
CTAO	Charters Tower	14.06	189	Pn	Pn	19 06 47.2	+1.3
CTAO	Charters Tower	14.06	189	P	Pn	19 06 48.4	+2.5
CTAO	Charters Tower	14.06	189	⇓P	Pn	19 06 47.8	+1.9
CTAO	Charters Tower	14.06	189	P	Pn	19 06 47.2	+1.3
RKPI	Ransiki, Papua	15.11	287	P	Pn	19 07 00.7	+0.9
	14µm4µm233nm,0.9s						
PATS	Pohnpei	16.12	37	P	P	19 07 16.1	+0.8
	baz=16,SNR=5.1						
PATS	Pohnpei	16.12	37		Pn	19 07 13.7	+1.0
PATS	Pohnpei	16.12	37	P	P	19 07 15.3	0.0
FAKI	Fak Fak	16.62	280	P	P	19 07 21.1	+0.2
FAKI	Fak Fak	16.62	280	P	Pn	19 07 18.5	-0.5
	19µm3µm179nm,0.9s						
FAKI	Fak Fak	16.62	280	P	P	19 07 22.0	+1.1
QIS	Mount Isa	16.79	211	P	P	19 07 22.5	-0.2
	baz=17,SNR=130						
QIS	Mount Isa	16.79	211	P	P	19 07 22.9	+0.2
KDU	Kakadu	17.19	247	P	P	19 07 27.3	+0.2
	baz=17,SNR=77						
KDU	Kakadu	17.19	247	P	P	19 07 27.9	+0.7
KDU	Kakadu	17.19	247	⇑P	Pn	19 07 26.4	+0.2
SAUI	Saumlaki	17.28	263	P	P	19 07 29.0	+0.9
SAUI	Saumlaki	17.28	263	P	Pn	19 07 25.2	-2.0
	21µm20µm2µm,1.2s						
SAUI	Saumlaki	17.28	263	P	P	19 07 29.9	+1.8
GD1S	Gladstone Soft	17.78	172	P	P	19 07 35.4	+1.9
SIJI	Sorong	18.08	286	P	Pn	19 07 38.4	+1.3
	17nm,0.4s,baz=119,slow=10,SNR=7.0						
SIJI	Sorong	18.08	286	P	Pn	19 07 38.0	+0.9
	15µm3µm135nm,1.5s						
AUMOU	Moura State Hi	18.39	176	P	Pn	19 07 43.1	+2.4
MTN	Manton Dam	18.47	248	P	Pn	19 07 43.0	+1.2
	baz=18,SNR=76						
MTN	Manton Dam	18.47	248	P	Pn	19 07 42.1	+0.2
MTN	Manton Dam	18.47	248	P	Pn	19 07 43.2	+1.3
MTN	Manton Dam	18.47	248	⇑P	Pn	19 07 42.7	+0.8
BNDI	Bandanaira	18.69	274	P	P	19 07 41.8	-1.9
	22µm21µm1µm,1.0s						
BNDI	Bandanaira	18.69	274	P	Pn	19 07 46.6	+2.1
EIDS	Eidsvold	19.27	173	P	Pn	19 07 51.8	+0.4
	baz=19,SNR=123						
EIDS	Eidsvold	19.27	173		P	19 07 50.7	+0.7
EIDS				IAmb	IAmb	19 07 54.3	
	comp=Z,583nm,1.1s						
EIDS	Eidsvold	19.27	173	P	Pn	19 07 52.2	+0.8
EIDS	Eidsvold	19.27	173	⇑P	Pn	19 07 51.7	+0.4
WB0	Warramunga Arr	19.35	224	P	Pn	19 07 51.8	-0.6
WB0				IAmb	IAmb	19 08 05.5	
	comp=Z,655nm,1.4s						
WR0	Warramunga Arr	19.38	224	P	Pn	19 07 52.1	-0.6
WR0				IAmb	IAmb	19 08 05.8	
	comp=Z,413nm,1.1s						
WRAB	Tennant Creek	19.50	224	P	P	19 07 53.2	+0.7
WRAB				IAmb	IAmb	19 08 08.2	
	comp=Z,319nm,0.8s						
WRAB	Tennant Creek	19.50	224	P	Pn	19 07 54.8	+0.7
WRAB	Tennant Creek	19.50	224	⇑P	Pn	19 07 53.6	-0.5
WRAB				⇓S	S	19 11 28.3	-2.1
WRAB	Tennant Creek	19.50	224	P	P	19 07 53.2	+0.7
WRAB				pmax	pmax		
	comp=Z,319nm,0.8s						
WB2	Warramunga Arr	19.50	224	P	P	19 07 53.3	+0.7
WRA	Warramunga Arr	19.51	224	P	Pn	19 07 53.8	-0.5
	comp=Z,174nm,0.5s,baz=51,slow=11,SNR=509						
WRA				S	S	19 11 23.0	-7.6
	comp=Z,80nm,1.0s,baz=42,slow=24,SNR=4.8						
WRA				ScP	ScP	19 15 45.5	+1.3
	comp=Z,9.6nm,1.0s,baz=50,slow=3.2,SNR=2.5						
WRA				LR	LR	19 16 30.7	
	comp=Z,22µm,19.7s,baz=42,slow=40						
WRA	Warramunga Arr	19.51	224	P	P	19 07 53.4	+0.7
WRA	Warramunga Arr	19.51	224	P	P	19 07 53.4	+0.7
WRA				pmax	pmax		
	comp=Z,25nm,0.9s						
MSAI	Masohi	19.81	277	P	P	19 07 51.7	-4.2
	comp=Z,477nmcomp=Z,28nm,0.8s						
GUMO	Guam	19.95	349	P	Pn	19 07 59.0	-0.4
	comp=Z,302nm,0.6s,baz=158,slow=10.0,SNR=22						
GUMO				LR	LR	19 14 49.7	
	comp=Z,8µm,20.7s,baz=151,slow=34						
GUMO	Guam	19.95	349	P	Pn	19 07 58.7	-0.7
GUMO				IAmb	IAmb	19 08 04.7	
	comp=Z,1µm,1.5s						
GUMO	Guam	19.95	349	P	Pn	19 07 58.9	-0.5
GUMO	Guam	19.95	349	⇑P	Pn	19 08 00.4	+1.0
GUMO	Guam	19.95	349	P	Pn	19 07 58.7	-0.7
GUMO				pmax	pmax		
	comp=Z,1µm,1.5s						
RMQ	Roma	20.24	180	P	Pn	19 08 02.9	+0.1
	baz=20,SNR=35						
RMQ	Roma	20.24	180	P	Pn	19 08 03.1	+0.3
KRAI	Karang Ratu	20.34	277	P	P	19 08 01.1	-0.6
	comp=Z,14µmcomp=Z,6µmcomp=Z,336nm,1.1s						
AAI	Ambon	20.48	276	P	P	19 08 02.6	-0.7
	comp=Z,19µmcomp=Z,8µmcomp=Z,438nm,0.7s						
QLP	Quilpie	20.76	191	P	Pn	19 08 08.8	-0.1
	baz=21,SNR=38						
QLP	Quilpie	20.76	191	P	Pn	19 08 09.3	+0.3
QLP	Quilpie	20.76	191	⇓P	Pn	19 08 07.9	-1.1
KOUNC	Koumac, New Ca	20.90	135	P	Pn	19 08 10.1	-0.6
KOUNC	Koumac, New Ca	20.90	135	⇓P	Pn	19 08 09.9	-0.7
AUWSH	Wavell State H	21.56	169	P	P	19 08 17.8	+3.0
NLAI	Namlea	21.63	277	P	P	19 08 19.3	+3.7
	comp=Z,160nm,0.7s						
KNRA	Kununurra	21.65	242	P	P	19 08 16.2	+0.4
	baz=22,SNR=434						
KNRA	Kununurra	21.65	242	P	P	19 08 16.0	+0.1
KNRA	Kununurra	21.65	242	P	P	19 08 17.2	+1.4
LBMI	Labuha	21.76	284	P	P	19 08 19.8	+2.8
	comp=Z,8µmcomp=Z,417nm,2.2s						
TNTI	Ternate	22.29	287	P	P	19 08 23.4	+0.6
DVP	Devils Point	22.32	123	P	P	19 08 24.1	+1.1
GC1S	Gold Coast 1 S	22.39	169	P	P	19 08 27.2	+3.5
AS01	Alice Springs	22.42	217	P	P	19 08 26.8	+2.7
AS31	Alice Springs	22.45	218	P	P	19 08 25.3	+0.9
AS31				IAmb	IAmb	19 08 46.4	
	comp=Z,249nm,0.7s						
ASAR	Alice Springs	22.45	218	P	P	19 08 25.6	+1.2
	comp=Z,218nm,0.9s,baz=54,slow=9.0,SNR=623						
ASAR				S	S	19 12 26.1	-1.7
	comp=Z,259nm,0.9s,baz=34,slow=20,SNR=12						
ASAR				ScP	ScP	19 15 53.6	+2.3
	comp=Z,15nm,1.1s,baz=41,slow=4.9,SNR=2.9						
ASAR				LR	LR	19 18 10.6	
	comp=Z,22µm,18.6s,baz=41,slow=39						
ASAR				P3KPbc		19 42 02.0	
	comp=Z,0.5nm,1.0s,baz=212,slow=4.8,SNR=2.4						
	comp=Z,218nm,0.9s						
ASAR	Alice Springs	22.45	218	P	P	19 08 25.2	+0.8
RTV	Rentapao	22.55	123	P	P	19 08 28.1	+2.6
INKA	Innaminka	22.75	198	P	P	19 08 30.0	+2.6
SANI	Sanana	22.92	279	P	P	19 08 28.3	-1.1
	comp=Z,11µmcomp=Z,5µmcomp=Z,178nm,1.0s						
SANI	Sanana	22.92	279	P	P	19 08 31.7	+2.3
AULRC	Lightning Ridg	23.18	181	P	P	19 08 33.6	+1.8
LIFNC	LIFOU	23.20	131	P	P	19 08 32.5	+0.5
LIFNC	LIFOU	23.20	131	P	P	19 08 33.2	+1.1
NOUC	Port Laguerre	23.33	135	P	P	19 08 35.3	+2.0
DZM	Mont Dzumac	23.41	134	*e*Pn	P	19 08 34.0	-0.2
	comp=Z,1µm,1.2s						
DZM				*e*S	S	19 12 40.2	-3.8
	comp=Z,23µm,24.9s						
DZM				*e*LR	LR	19 14 20.0	
	comp=Z,57µm,23.6s						
DZM	Mont Dzumac	23.41	134	P	P	19 08 34.4	+0.2
	comp=Z,90nm,0.9s,baz=335,slow=16,SNR=43						
	comp=Z,90nm,0.9s						
DZM	Mont Dzumac	23.41	134	P	P	19 08 34.3	+0.1
DZM				IAmb	IAmb	19 08 47.4	
	comp=Z,844nm,1.4s						
DZM	Mont Dzumac	23.41	134	P	P	19 08 34.8	+0.6
DZM	Mont Dzumac	23.41	134	⇑P	P	19 08 34.4	+0.2
MARNC	Mare, Loyalty	24.21	131	P	P	19 08 41.4	-0.2
MARNC	Mare, Loyalty	24.21	131	P	P	19 08 41.7	+0.2
MARNC	Mare, Loyalty	24.21	131	⇑P	P	19 08 41.9	+0.4
ARMA	Armidale	24.32	174	P	P	19 08 43.7	+1.1
	baz=24,SNR=24						
ARMA	Armidale	24.32	174	P	P	19 08 42.9	+0.3
ARMA				IAmb	IAmb	19 08 51.0	
	comp=Z,540nm,1.2s						
ARMA	Armidale	24.32	174	P	P	19 08 44.1	+1.5
ARMA	Armidale	24.32	174	⇑P	P	19 08 43.6	+1.1
SOEI	Soe	24.37	260	P	P	19 08 44.0	+0.7
SOEI	Soe	24.37	260	P	P	19 08 44.3	+1.1
	comp=Z,15µmcomp=Z,15µmcomp=Z,1µm,1.0s						
SOEI	Soe	24.37	260	P	P	19 08 44.9	+1.7
OOD	Oodnadatta	24.79	208	P	P	19 08 50.0	+3.3
AUPHS	Peel High Scho	24.93	175	P	P	19 08 50.1	+2.1
BATI	Baumata	25.02	259	P	P	19 08 50.5	+1.5
	comp=Z,582nm,0.8s,baz=142,slow=2.1,SNR=125						
BATI				LR	LR	19 21 36.2	
	comp=Z,16µm,19.2s,baz=84,slow=43						
BATI	Baumata	25.02	259	P	P	19 08 50.0	+1.0
	comp=Z,11µmcomp=Z,20µmcomp=Z,2µm,1.1s						
CMSA	Cobar Meteorol	25.42	186	P	P	19 08 53.7	+1.3
	baz=26,SNR=88						
CMSA	Cobar Meteorol	25.42	186	P	P	19 08 55.0	+2.6
BBSI	Bau Bau	25.91	270	P	P	19 08 59.7	+2.6
	comp=Z,456nm,1.1s						
AUDCS	Dubbo College	25.96	180	P	P	19 09 01.8	+4.5
LCRK	Leigh Creek	26.09	201	P	P	19 09 01.7	+3.2
MMRI	Maumere	26.27	263	P	P	19 08 59.1	-1.3
MMRI	Maumere	26.27	263	P	P	19 08 58.9	-1.4
	comp=Z,8µmcomp=Z,10µmcomp=Z,907nm,1.0s						
MMRI	Maumere	26.27	263	P	P	19 08 59.9	-0.4
LUWI	Luwuk	26.27	280	P	P	19 08 59.6	-0.7
LUWI	Luwuk	26.27	280	P	P	19 09 03.5	+3.2
	comp=Z,10µmcomp=Z,7µmcomp=Z,290nm,1.2s						
LUWI	Luwuk	26.27	280	P	P	19 09 02.6	+2.3
GTOI	Gorontalo	26.43	284	P	P	19 09 05.6	+3.9
	comp=Z,2µmcomp=Z,58nm,0.7s						
STKA	Stephens Creek	26.44	193	P	P	19 09 03.5	+1.9
	comp=Z,40nm,0.6s,baz=352,slow=8.6,SNR=48						
STKA				LR	LR	19 19 44.8	
	comp=Z,15µm,20.9s,baz=12,slow=37						
	comp=Z,40nm,0.6s						
STKA	Stephens Creek	26.44	193	P	P	19 09 03.5	+1.9
	baz=26,SNR=82						
STKA	Stephens Creek	26.44	193	P	P	19 09 02.1	+0.4
STKA	Stephens Creek	26.44	193	P	P	19 09 04.6	+3.0
STKA	Stephens Creek	26.44	193	*d i*P	P	19 09 04.7	+3.1
DAV	Davao City (W)	26.46	299	LR	LR	19 20 11.6	
	comp=Z,3µm,19.6s,baz=112,slow=38						
NTLH	Newcastle Hard	26.78	174	P	P	19 09 07.7	+3.0
KKSI	Kolaka, Sulawe	26.92	273	P	P	19 09 06.0	-0.2
	comp=Z,2µmcomp=Z,140nm,1.6s						
WRKA	Warakurna	27.05	224	P	P	19 09 07.9	+0.6
	baz=27,SNR=424						
WRKA	Warakurna	27.05	224	P	P	19 09 08.3	+1.0
WRKA	Warakurna	27.05	224	⇑P	P	19 09 08.0	+0.6
LHI	Lord Howe Isla	27.09	160	P	P	19 09 05.2	-2.3
LHI				IAmb	IAmb	19 09 49.1	
	comp=Z,582nm,1.8s						
APSI	Ampana	27.40	280	P	P	19 09 24.6	+14
MRSI	Marisa	27.42	283	P	P	19 09 29.0	+18
SYDH	Sydney Hard Ro	27.56	176	P	P	19 09 16.0	+4.3
MULG	Mulgathing	27.65	208	P	P	19 09 15.0	+2.5
RIV	Riverview	27.66	175	P	P	19 09 14.8	+2.3
	baz=28,SNR=4.4						
RIV	Riverview	27.66	175	P	P	19 09 16.8	+4.3
RIV	Riverview	27.66	175	⇑P	P	19 09 20.5	+8.0
BSSI	Bau Bau, Buton	27.96	268	P	P	19 09 14.4	-1.1
	comp=Z,7µmcomp=Z,9µmcomp=Z,507nm,1.0s						
BKSI	Bulukumba	28.36	270	P	P	19 09 17.2	-1.8
	comp=Z,7µmcomp=Z,2µmcomp=Z,141nm,1.0s						
BNSI	Bone	28.43	272	P	P	19 09 18.7	-1.0
	comp=Z,4µmcomp=Z,1µmcomp=Z,86nm,1.3s						
HTT	Hallett	28.61	197	P	P	19 09 22.5	+1.4
	baz=29,SNR=28						
HTT	Hallett	28.61	197	P	P	19 09 23.0	+1.8
HTT	Hallett	28.61	197	⇓P	P	19 09 22.6	+1.4
PTPS	Port Pirie	28.66	199	P	P	19 09 24.6	+3.1
WHYH	Whyalla	28.66	200	P	P	19 09 24.6	+3.1
TOLI2	Tolitoli	28.70	284	P	P	19 09 21.6	-0.5
TOLI2	Tolitoli	28.70	284	P	P	19 09 24.5	+2.4
KAPI	Kappang	28.74	271	P	P	19 09 22.2	-0.2
	comp=Z,5.8nm,0.4s,baz=111,slow=8.8,SNR=6.5						
KAPI				LR	LR	19 23 18.7	
	comp=Z,4µm,21.6s,baz=82,slow=41						
	comp=Z,5.8nm,0.4s						
KAPI	Kappang	28.74	271	P	P	19 09 22.7	+0.2
KAPI				IAmb	IAmb	19 09 41.7	
	comp=Z,236nm,1.1s						
KAPI	Kappang	28.74	271	P	P	19 09 21.6	-0.9
	comp=Z,5µmcomp=Z,2µmcomp=Z,176nm,1.1s						
KAPI	Kappang	28.74	271	P	P	19 09 24.7	+2.2
KAPI	Kappang	28.74	271	⇑P	P	19 09 22.3	-0.2
KAPI	Kappang	28.74	271	*c i*P	P	19 09 22.5	0.0
SPSI	Sidrap Palu	28.81	273	P	P	19 09 25.9	+2.8
	comp=Z,7µmcomp=Z,1µmcomp=Z,113nm,1.2s						
BBOO	Buckleboo	29.00	202	P	P	19 09 26.9	+2.3
	baz=29,SNR=11						
BBOO	Buckleboo	29.00	202	P	P	19 09 24.8	+0.2
BBOO				IAmb	IAmb	19 09 40.2	
	comp=Z,284nm,1.1s						
BBOO	Buckleboo	29.00	202	P	P	19 09 27.7	+3.1
CAN	Canberra	29.05	179	P	P	19 09 25.5	+0.5
CAN				IAmb	IAmb	19 09 47.8	
	comp=Z,241nm,1.4s						
CAN	Canberra	29.05	179	P	P	19 09 27.4	+2.4
CAN	Canberra	29.05	179	⇓P	P	19 09 31.1	+6.2
CAN	Canberra	29.05	179	P	P	19 09 25.5	+0.5
CAN				pmax	pmax		
	comp=Z,241nm,1.4s						
CNB	Canberra Magne	29.05	179	P	P	19 09 27.2	+2.2
	baz=29,SNR=11						
CNB	Canberra Magne	29.05	179	P	P	19 09 27.4	+2.4
AUUHS	Ulladulla High	29.13	177	P	P	19 09 28.6	+2.9
MPSI	Mapaga	29.37	282	P	P	19 09 30.1	+2.0
	comp=Z,7µmcomp=Z,934nmcomp=Z,39nm,1.1s						
PMSI	Majene	29.70	274	P	P	19 09 32.5	+1.4
	comp=Z,6µmcomp=Z,2µmcomp=Z,89nm,1.1s						
AUSMG	Snowy Mountain	30.14	180	P	P	19 09 37.3	+2.6
FUNA	Funafuti	30.43	96	P	P	19 09 36.8	-0.6
FUNA				IAmb	IAmb	19 09 50.2	
	comp=Z,233nm,1.0s						
FUNA	Funafuti	30.43	96	P	P	19 09 38.4	+1.0
PLAI	Plampang	30.68	263	P	P	19 09 36.6	-3.1
	comp=Z,6µmcomp=Z,3µmcomp=Z,423nm,0.9s						
PLAI	Plampang	30.68	263	P	P	19 09 38.5	-1.2
MSVF	Nonsavu	30.97	114	P	P	19 09 43.0	+0.8
	comp=Z,34nm,1.0s,baz=272,slow=11,SNR=8.7						
MSVF				LR	LR	19 21 33.3	
	comp=Z,6µm,18.0s,baz=289,slow=35						
	comp=Z,34nm,1.0s						
MSVF	Nonsavu	30.97	114	P	P	19 09 43.0	+0.8
MSVF				IAmb	IAmb	19 10 07.9	
	comp=Z,240nm,1.1s						
MSVF	Nonsavu	30.97	114	P	P	19 09 44.0	+1.7
MSVF	Nonsavu	30.97	114	⇑P	P	19 09 43.9	+1.6
MSVF	Nonsavu	30.97	114	*c i*P	P	19 09 43.6	+1.3
ARPS	Mount Arapiles	31.11	191	P	P	19 09 45.4	+2.2
	baz=31,SNR=8.1						
ARPS	Mount Arapiles	31.11	191	P	P	19 09 45.8	+2.6
FORT	Forrest	31.20	216	P	P	19 09 44.7	+0.7
	baz=31,SNR=174						
FORT	Forrest	31.20	216	P	P	19 09 44.5	+0.5
FORT	Forrest	31.20	216	P	P	19 09 45.1	+1.1
FORT	Forrest	31.20	216	⇑P	P	19 09 44.7	+0.7
TOO	Toolangi	31.42	185	P	P	19 09 47.5	+1.6
	baz=32,SNR=5.7						
TOO	Toolangi	31.42	185	P	P	19 09 46.3	+0.4
TOO	Toolangi	31.42	185	P	P	19 09 47.9	+2.0
TOO	Toolangi	31.42	185	⇓P	P	19 09 55.2	+9.3
TOO	Toolangi	31.42	185	P	P	19 09 46.3	+0.4
TOO				pmax	pmax		
	comp=Z,93nm,0.9s						
BRAT	Ballarat	31.56	187	P	P	19 09 49.6	+2.5
TWSI	Taliwang, Sumb	31.56	263	P	P	19 09 47.0	-0.4
	comp=Z,6µmcomp=Z,2µmcomp=Z,174nm,1.0s						
MBWA	Marble Bar	31.70	239	P	P	19 09 48.9	+0.3
MBWA				IAmb	IAmb	19 10 09.3	
	comp=Z,157nm,1.0s						
MBWA	Marble Bar	31.70	239	P	P	19 09 49.8	+1.2
MBWA	Marble Bar	31.70	239	⇑P	P	19 09 49.2	+0.6
MBWA	Marble Bar	31.70	239	P	P	19 09 49.2	+0.6
MBWA				pP	pP	19 10 00.7	+0.2
PSA00	Pilbara Seismi	31.77	238	P	P	19 09 50.0	+0.8
PSA00	Pilbara Seismi	31.77	238	P	P	19 09 49.5	+0.3
PSA00				IAmb	IAmb	19 10 12.6	
	comp=Z,459nm,1.9s						
PSA00	Pilbara Seismi	31.77	238	P	P	19 09 50.5	+1.3
BKB	Balikpapan	32.01	277	P	P	19 09 50.5	-0.9
BKB				IAmb	IAmb	19 10 08.0	
	comp=Z,163nm,1.2s						
BKB	Balikpapan	32.01	277	P	P	19 09 49.9	-1.4
	comp=Z,7µmcomp=Z,2µmcomp=Z,102nm,1.2s						
BKB	Balikpapan	32.01	277	P	P	19 09 55.4	+4.1
MYLDM	Lahad Datu	32.09	290	P	P	19 09 51.8	-0.3
MYLDM				IAmb	IAmb	19 10 43.4	
	comp=Z,128nm,1.1s						
KLNI	Mataram	32.33	264	P	P	19 09 50.8	-3.4
	comp=Z,5µmcomp=Z,3µmcomp=Z,418nm,1.1s						
KHKI	Kahang-Kahang	32.81	264	P	P	19 09 55.5	-2.8
	comp=Z,4µmcomp=Z,551nm,1.0s						
SRBI	Singaraja	33.19	265	P	P	19 10 00.0	-1.7
	comp=Z,5µmcomp=Z,2µmcomp=Z,115nm,1.2s						
DNP	Denpasar	33.21	264	P	P	19 10 14.6	+13
IGBI	Denpasar	33.28	263	P	P	19 10 00.6	-1.9

comp=Z,2µmcomp=Z,3µmcomp=Z,184nm,0.5s
RTBI Rangdo, Negare 33.47 264 P P 19 10 03.4 -0.8
comp=Z,3µmcomp=Z,226nm,0.9s
JCJ Chichijima 33.62 350 P P 19 10 05.0 -0.2
comp=Z,98nm,0.6s,baz=258,slow=7.9,SNR=8.2
JCJ LR LR 19 22 57.1
comp=Z,3µm,19.6s,baz=174,slow=35
comp=Z,98nm,0.6s
JCJ Chichijima 33.62 350 P P 19 10 05.6 +0.4
JCJ Chichijima 33.62 350 P P 19 10 05.9 +0.7
JCJ Chichijima 33.62 350 ⇑P P 19 10 05.5 +0.4
FUTU Fugatoga 33.70 107 P P 19 10 08.1 +2.0
BBKI Banjar Baru 33.75 273 P P 19 10 06.2 -0.4
comp=Z,3µmcomp=Z,194nm,1.2s
SPMM Sapulut 33.85 288 P P 19 10 19.0 +11
MTKI Muara Teweh, K 34.03 277 P P 19 10 07.4 -1.6
comp=Z,4µmcomp=Z,32nm,1.3s
JAGI Jajag, Banyuwa 34.25 264 P P 19 10 09.1 -1.8
JAGI Jajag, Banyuwa 34.25 264 P P 19 10 08.0 -2.9
comp=Z,5µmcomp=Z,7µmcomp=Z,734nm,1.1s
JAGI Jajag, Banyuwa 34.25 264 P P 19 10 10.6 -0.3
KMMI Kalianget 34.42 266 P P 19 10 12.2 -0.2
comp=Z,5µmcomp=Z,3µmcomp=Z,270nm,1.2s
AULHS Lilydale High 34.99 182 P P 19 10 19.1 +2.2
MEEK Meekatharra 35.10 231 P P 19 10 19.0 +0.8
baz=35,SNR=131
MEEK Meekatharra 35.10 231 P P 19 10 19.7 +1.5
CORO Coronation Par 35.19 182 P P 19 10 22.7 +4.1
BWJI Bawean 35.75 269 P P 19 10 25.1 +1.2
comp=Z,5µmcomp=Z,15µmcomp=Z,2µm,1.2s
KRKI Karangkates 35.92 265 P P 19 10 28.9 +3.5
comp=Z,70nm,0.7s
JMZ Minamidaito 2 35.98 333 P P 19 10 25.2 -0.4
MOO Moorlands 36.18 182 P P 19 10 29.8 +2.7
baz=36,SNR=8.0
MOO Moorlands 36.18 182 P P 19 10 30.0 +2.9
TAU Tasmania Unive 36.64 182 P P 19 10 31.1 0.0
TAU IAmb IAmb 19 10 48.7
comp=Z,205nm,1.3s
TAU Tasmania Unive 36.64 182 P P 19 10 33.6 +2.5
TAU Tasmania Unive 36.64 182 ⇑P P 19 10 40.5 +9.4
TAU Tasmania Unive 36.64 182 P P 19 10 31.1 0.0
TAU pmax pmax
comp=Z,205nm,1.3s
OUZ Omahuta 36.98 145 P P 19 10 33.7 -0.3
PBKI Pangkalan Bun 36.98 274 P P 19 10 35.4 +1.0
comp=Z,5µmcomp=Z,488nm,1.3s
GIRL Giralia 36.98 240 P P 19 10 36.8 +2.6
baz=37,SNR=9.8
GIRL Giralia 36.98 240 P P 19 10 34.4 +0.1
GIRL Giralia 36.98 240 P P 19 10 37.7 +3.4
GIRL Giralia 36.98 240 ⇑P P 19 10 36.3 +2.0
PCJI Pacitan 37.19 265 P P 19 10 36.4 +0.3
comp=Z,5µmcomp=Z,11µmcomp=Z,1µm,1.1s
SBUM Sibu 37.32 282 P P 19 10 36.2 -1.0
SBUM Sibu 37.32 282 P P 19 10 37.2 -0.1
comp=Z,1µmcomp=Z,33nm,1.2s
UGM Wanagama 37.83 265 P P 19 10 40.7 -0.9
UGM Wanagama 37.83 265 P P 19 10 42.1 +0.5
comp=Z,10µmcomp=Z,913nm,1.0s
UGM Wanagama 37.83 265 P P 19 10 43.4 +1.8
SMRI Semarang 37.92 266 P P 19 10 41.3 -1.1
SMRI Semarang 37.92 266 P P 19 10 42.5 +0.1
comp=Z,7µmcomp=Z,9µmcomp=Z,528nm,1.5s
SMRI Semarang 37.92 266 P P 19 10 44.3 +1.9
YOGI Yogyakarta 38.06 265 P P 19 10 56.8 +13
JOW Kunigami 38.24 330 LR LR 19 23 18.2
comp=Z,14µm,21.7s,baz=131,slow=31
JOW Kunigami 38.24 330 P P 19 10 43.6 -1.2
JOW IAmb IAmb 19 11 01.1
comp=Z,100nm,1.0s
MORW Morawa 38.29 230 P P 19 10 46.0 +0.8
baz=38,SNR=52
MORW Morawa 38.29 230 P P 19 10 45.9 +0.6
MORW Morawa 38.29 230 P P 19 10 46.5 +1.2
MORW Morawa 38.29 230 ⇑P P 19 10 46.2 +1.0
KLBR Kellerberrin 38.39 225 P P 19 10 46.3 +0.2
baz=38,SNR=137
KLBR Kellerberrin 38.39 225 P P 19 10 46.6 +0.5
BLDU Ballidu 38.60 227 P P 19 10 48.3 +0.5
baz=39,SNR=21
BLDU Ballidu 38.60 227 P P 19 10 49.8 +2.0
RAO Raoul Island 39.06 130 P P 19 10 52.5 +0.7
comp=Z,303nm,0.7s,baz=294,slow=19,SNR=4.9
RAO LR LR 19 24 42.9
comp=Z,3µm,18.4s,baz=286,slow=33
RAO Raoul Island 39.06 130 P P 19 10 51.9 +0.2
RAO Raoul Island 39.06 130 P P 19 10 53.7 +2.0
CTJI Waduk Cacaban 39.17 266 P P 19 10 54.9 +2.1
comp=Z,4µmcomp=Z,295nm,1.1s
KUZ Kuaotunu 39.27 145 P P 19 10 55.9 +2.6
TWG Pinlang 39.42 318 P P 19 10 54.1 -0.6
NWAO Narrogin (SRO) 39.52 223 P P 19 10 56.4 +0.9
comp=Z,36nm,0.7s,baz=1.1,slow=8.8,SNR=26
NWAO LR LR 19 28 54.3
comp=Z,13µm,19.4s,baz=268,slow=38
comp=Z,36nm,0.7s
NWAO Narrogin (SRO) 39.52 223 P P 19 10 56.4 +0.9
baz=40,SNR=22
NWAO P P 19 10 56.4 +0.9
baz=40,SNR=22
NWAO Narrogin (SRO) 39.52 223 P P 19 10 55.8 +0.3
NWAO Narrogin (SRO) 39.52 223 P P 19 10 56.3 +0.9
YULB Yu-li 39.66 319 P P 19 10 56.6 -0.2
YULB Yu-li 39.66 319 P P 19 10 57.8 +1.0
MUN Mundaring 39.70 225 P P 19 10 58.6 +1.6
baz=40,SNR=14
MUN Mundaring 39.70 225 P P 19 10 58.7 +1.7
AFI Afiamalu 39.72 104 P P 19 10 57.7 +0.2
comp=Z,76nm,0.8s,baz=253,slow=5.0,SNR=13
AFI LR LR 19 24 35.4
comp=Z,7µm,21.6s,baz=268,slow=32
comp=Z,76nm,0.8s
AFI Afiamalu 39.72 104 P P 19 10 56.5 -0.9
AFI Afiamalu 39.72 104 P P 19 10 57.8 +0.3
AFI Afiamalu 39.72 104 ⇑P P 19 10 58.0 +0.6
JHJ Hachijo jima 2 39.93 348 LR LR 19 27 12.7
comp=Z,5µm,18.2s,baz=170,slow=36
MTKN Mount Kenneth 39.98 226 P P 19 11 01.6 +2.3
NACB Ninganchiao 40.02 320 P P 19 10 58.7 -1.0
NACB IAmb IAmb 19 12 13.7
comp=Z,147nm,0.9s
NACB Ninganchiao 40.02 320 P P 19 11 01.2 +1.5
TPUB Ta-pu 40.04 318 P P 19 10 58.0 -1.9
TPUB IAmb IAmb 19 11 14.9
comp=Z,88nm,0.8s
TPUB Ta-pu 40.04 318 P P 19 11 00.0 +0.1
HIZ Hauiti 40.05 147 P P 19 10 58.6 -1.2
JCJI Jatiwangi 40.09 267 P P 19 11 01.6 +1.1
comp=Z,20µmcomp=Z,2µm,1.1s
SSLB Suanglung 40.16 319 P P 19 10 59.8 -1.1
SSLB IAmb IAmb 19 11 18.5
comp=Z,258nm,1.8s
SSLB Suanglung 40.16 319 P P 19 11 01.9 +0.9
AUALB St Joseph's Co 40.32 220 P P 19 11 04.9 +2.8
YHNB Yeheng 40.51 320 P P 19 11 02.2 -1.7
YHNB IAmb IAmb 19 12 29.5
comp=Z,108nm,0.6s
YHNB Yeheng 40.51 320 P P 19 11 06.4 +2.5
QRZ Quartz Range 40.63 152 P P 19 11 03.8 -0.8
QRZ IAmb IAmb 19 11 53.6
comp=Z,362nm,1.7s
TATO Taipei 40.66 321 P P 19 11 04.3 -0.6
RKGY Rocky Gully 40.68 222 P P 19 11 07.2 +2.1
baz=41,SNR=18
RKGY Rocky Gully 40.68 222 P P 19 11 07.4 +2.3
BBJI Bungbulang 40.68 266 P P 19 11 05.2 -0.3
LEM Lembang 40.73 267 P P 19 11 06.3 +0.3
comp=Z,58nm,0.6s,baz=77,slow=10,SNR=17
LEM pP **pP 19 11 19.4 +0.5**
comp=Z,854nm,0.9s,baz=63,slow=7.6,SNR=43
LEM LR LR 19 32 26.8
comp=Z,3µm,20.2s,baz=92,slow=43
comp=Z,58nm,0.6s
TPI Tanjungpandan 40.96 273 P P 19 11 06.8 -0.9
comp=Z,3µmcomp=Z,222nm,1.1s
URZ Urewera 41.12 145 P P 19 11 08.7 +0.1
comp=Z,12nm,0.8s,baz=299,slow=0.0,SNR=5.4
URZ PcP **PcP 19 13 06.8 -0.6**
comp=Z,18nm,0.7s,baz=250,slow=1.3,SNR=3.7
URZ LR LR 19 25 50.1
comp=Z,8µm,21.2s,baz=40,slow=32
comp=Z,12nm,0.8s
URZ Urewera 41.12 145 P P 19 11 07.2 -1.4
URZ IAmb IAmb 19 11 22.8
comp=Z,258nm,1.7s
CNJI Cibinong 41.20 266 P P 19 11 08.3 -1.4
comp=Z,2µmcomp=Z,14µmcomp=Z,2µm,1.1s
JSU Suzuyama 41.25 336 P P 19 11 09.9 +0.1
JSU IAmb IAmb 19 11 26.1
comp=Z,225nm,1.4s
JSU Suzuyama 41.25 336 P P 19 11 11.4 +1.6
MXZ Matakaoa Point 41.34 143 P P 19 11 08.0 -2.5
MXZ IAmb IAmb 19 11 27.0
comp=Z,374nm,1.4s
NNZ Nelson 41.34 151 P P 19 11 09.2 -1.2
NNZ IAmb IAmb 19 12 06.6
comp=Z,148nm,1.2s
BKZ Black Stump Fm 41.41 147 P P 19 11 11.2 +0.2
BKZ Black Stump Fm 41.41 147 P P 19 11 11.0 -0.1
CBJI Citeko 41.50 267 P P 19 11 12.9 +0.8
comp=Z,7µmcomp=Z,884nm,0.9s
THZ Tophouse 41.54 152 P P 19 11 12.1 0.0
THZ IAmb IAmb 19 11 29.9
comp=Z,146nm,0.9s
THZ PcP **PcP 19 13 08.7 -0.1**
FOZ Fox Glacier 41.66 157 P P 19 11 12.1 -0.9
TNG Tangerang 41.71 268 P P 19 11 25.1 +11
JCZ Jackson Bay 41.73 158 P P 19 11 15.6 +1.9
TUWZ Tuamarina 41.77 151 P P 19 11 14.1 +0.2
TUWZ PcP **PcP 19 13 09.3 -0.2**
SKJI Sukabumi 41.78 266 P P 19 11 12.9 -1.5
comp=Z,5µmcomp=Z,695nm,0.8s
BSWZ Blackbirch Sta 41.96 151 P P 19 11 15.3 -0.2
JMN Monobe 42.03 342 P P 19 11 16.3 +0.1
JMN Monobe 42.03 342 P P 19 11 17.0 +0.8
JMN Monobe 42.03 342 ⇑P P 19 11 17.8 +1.6
SNZO South Karori 42.05 150 P P 19 11 15.4 -0.7
SNZO South Karori 42.05 150 P P 19 11 16.9 +0.7
LTZ Lake Taylor 42.07 154 P P 19 11 16.8 +0.4
LTZ IAmb IAmb 19 11 37.8
comp=Z,452nm,1.5s
CMWZ Cape Campbell 42.15 151 P P 19 11 15.6 -1.4
RPZ Rata Peaks 42.31 156 P P 19 11 17.9 -0.4
comp=Z,25nm,0.5s,baz=305,slow=5.7,SNR=25
RPZ LR LR 19 26 47.6
comp=Z,11µm,21.2s,baz=320,slow=33
comp=Z,25nm,0.5s
RPZ Rata Peaks 42.31 156 P P 19 11 18.7 +0.4
RPZ IAmb IAmb 19 11 33.8
comp=Z,403nm,1.6s
KNMB Chin-men Tao 42.33 317 P P 19 11 19.5 +0.8
KNMB IAmb IAmb 19 11 46.7
comp=Z,575nm,1.9s
NIUE Niue 42.34 112 P P 19 11 17.7 -1.2
NIUE Niue 42.34 112 P P 19 11 21.5 +2.6
KHZ Kahutara 42.35 152 P P 19 11 17.4 -1.1
KHZ Kahutara 42.35 152 P P 19 11 19.0 +0.4
KHZ Kahutara 42.35 152 ⇓P P 19 11 19.1 +0.6
BFZ Birch Farm 42.37 148 P P 19 11 17.8 -1.0
BFZ Birch Farm 42.37 148 P P 19 11 19.2 +0.4
DCZ Deep Cove 42.37 161 P P 19 11 18.8 +0.1
DCZ IAmb IAmb 19 11 35.7
comp=Z,254nm,1.3s
MSWZ Moikau Station 42.40 150 P P 19 11 18.3 -0.8
OXZ Oxford 42.40 155 P P 19 11 19.5 +0.4
WKZ Wanaka 42.46 158 P P 19 11 21.3 +1.8
PLWZ Palliser 42.52 150 P P 19 11 19.8 -0.2
QZH Quanzhou 42.52 318 ⇓*i*P P 19 11 22.8 +2.6
QZH S **S 19 17 40.8 +1.6**
QZH sS **sS 19 18 02.6 +1.4**
QZH LR LR
comp=Z,3µm,20.8s
QZH LR LR
comp=Z,3µm,21.8s
QZH LR LR
comp=Z,3µm,17.1s
LBZ Lake Benmore 42.52 157 P P 19 11 20.1 0.0
PPBI Pangkal Pinang 42.53 273 P P 19 11 19.8 -0.8
comp=Z,2µmcomp=Z,157nm,1.1s
MLZ Mavora Lakes 42.60 160 P P 19 11 20.8 +0.1
MLZ IAmb IAmb 19 11 37.7
comp=Z,146nm,1.1s
XMI Christmas Isla 42.66 261 P P 19 11 23.4 +1.8
XMI Christmas Isla 42.66 261 ⇓P P 19 11 23.9 +2.3
INU Inuyama 42.68 346 P P 19 11 21.2 -0.1
INU IAmb IAmb 19 11 43.2
comp=Z,225nm,1.1s
INU Inuyama 42.68 346 P P 19 11 23.4 +2.0
INU Inuyama 42.68 346 ⇑P P 19 11 22.1 +0.7
INU Inuyama 42.68 346 P P 19 11 22.5 +1.1
INU pP **pP 19 11 35.8 +1.3**
PYZ Puysegur Point 42.84 162 P P 19 11 20.7 -1.8
PYZ IAmb IAmb 19 11 39.7
comp=Z,435nm,1.4s
PYZ Puysegur Point 42.84 162 P P 19 11 25.9 +3.4
JGF Kuroka 42.84 346 P P 19 11 22.7 0.0
JGF IAmb IAmb 19 11 41.0
comp=Z,143nm,0.9s
JGF Kuroka 42.84 346 P P 19 11 25.8 +3.1
JGF Kuroka 42.84 346 ⇑P P 19 11 23.4 +0.7
MQZ McQueen's Vall 42.98 154 P P 19 11 24.2 +0.6
WHZ Wether Hill Ro 43.01 160 P P 19 11 24.2 +0.3
WHZ IAmb IAmb 19 11 40.4
comp=Z,162nm,1.2s
BLSI Bandar Lampung 43.14 269 P P 19 11 32.5 +7.0
ODZ Otahua Downs 43.25 157 P P 19 11 25.7 -0.2
ODZ IAmb IAmb 19 11 51.9
comp=Z,245nm,1.7s
JHS Saijyo 43.45 341 P P 19 11 27.5 -0.1
JHS IAmb IAmb 19 11 44.3
comp=Z,149nm,1.1s
JHS Saijyo 43.45 341 P P 19 11 28.0 +0.4
JHS Saijyo 43.45 341 ⇑P P 19 11 28.3 +0.7
MJAR Matsushiro Arr 43.56 348 P P 19 11 27.8 -0.6
comp=Z,21nm,0.9s,baz=169,slow=8.8,SNR=26
MJAR pP **pP 19 11 41.7 0.0**
comp=Z,88nm,1.0s,baz=162,slow=3.8,SNR=30
MJAR LR LR 19 29 21.8
comp=Z,5µm,18.7s,baz=170,slow=36
comp=Z,21nm,0.9s
MAJO Matsushiro 43.56 348 P P 19 11 28.0 -0.5
MAJO IAmb IAmb 19 11 44.9
comp=Z,410nm,1.2s
MAJO Matsushiro 43.56 348 P P 19 11 28.5 0.0
MAJO Matsushiro 43.56 348 ⇑P P 19 11 28.3 -0.2
MAJO Matsushiro 43.56 348*c i*P P 19 11 29.2 +0.7
MAJO MLR MLR
comp=Z,6µm,19.0s
MAJO Matsushiro 43.56 348 P P 19 11 27.7 -0.8
MAJO pP **pP 19 11 41.2 -0.4**
KLI Kotabumi 43.56 269 P P 19 11 41.7 +13
MJB9 Matsu-Tunnel 43.56 348 P P 19 11 28.8 +0.3
MJB9 IAmb IAmb 19 11 47.6
comp=Z,404nm,1.2s
PMBI Palembang 43.81 272 P P 19 11 46.8 +16
PMBI Palembang 43.81 272 P P 19 11 33.5 +2.7
KASI Kota Agung 43.88 268 P P 19 11 30.2 -1.2
comp=Z,5µmcomp=Z,4µmcomp=Z,544nm,1.0s
DSRI Dabo 44.30 276 P P 19 11 49.0 +14
LWLI Liwa 44.34 269 P P 19 11 35.5 +0.2
comp=Z,4µmcomp=Z,8µmcomp=Z,999nm,1.1s
JMM Marumori 44.38 351 P P 19 11 34.6 -0.3
JMM IAmb IAmb 19 11 51.0
comp=Z,221nm,1.5s
JMM Marumori 44.38 351 P P 19 11 35.3 +0.3
JMM Marumori 44.38 351 ⇑P P 19 11 35.5 +0.5
TPRI Tanjung Pinang 44.56 278 P P 19 11 51.2 +14
JSD Sado 44.99 348 P P 19 11 40.8 +0.9
JSD IAmb IAmb 19 12 02.5
comp=Z,202nm,1.1s
JSD Sado 44.99 348 P P 19 11 41.3 +1.5
JSD Sado 44.99 348 ⇑P P 19 11 41.4 +1.5
JMBI JAMBI 45.07 274 P P 19 11 56.8 +16
SSE Sheshan 45.37 326 P P 19 11 44.0 +1.0
SSE S **S 19 18 23.5 +2.9**
SSE pmax pmax
comp=Z,22nm,0.8s
SSE pmax pmax
comp=Z,380nm,9.0s
SSE LR LR
comp=Z,3µm,21.8s
SSE LR LR
comp=Z,3µm,22.0s
MYKOM Kota Tinggi 45.38 279 P P 19 11 42.4 -1.0
MYKOM Kota Tinggi 45.38 279 ⇑P P 19 11 42.0 -1.4
MNAI Manna 45.49 270 P P 19 11 43.5 -0.7
QIZ Qiongzhong 45.65 304 P P 19 11 45.0 -0.4
QIZ IAmb IAmb 19 12 10.6
comp=Z,424nm,1.9s
QIZ Qiongzhong 45.65 304 P P 19 11 46.2 +0.8
QIZ S **S 19 18 26.7 +1.6**
QIZ sS **sS 19 18 41.8 -5.4**
QIZ pmax pmax
comp=Z,1µm,13.5s
QIZ LR LR
comp=Z,2µm,25.5s
QIZ LR LR
comp=Z,2µm,25.5s
QIZ LR LR
comp=Z,4µm,23.1s
MASI Maura Aman, Be 46.30 272 P P 19 11 53.4 +2.7
comp=Z,2µmcomp=Z,1µmcomp=Z,112nm,1.0s
TJN Taejon 46.75 336 P P 19 11 54.5 +0.8
TJN Taejon 46.75 336 P P 19 11 55.5 +1.8
TJN Taejon 46.75 336⇓*e*P P 19 11 55.1 +1.4
JTM Tenmabayashi 47.20 352 P P 19 11 57.1 -0.1
JTM Tenmabayashi 47.20 352 P P 19 11 58.1 +0.9
JTM Tenmabayashi 47.20 352 ⇑P P 19 11 57.9 +0.6
JOHN Johnston Islan 47.22 61 P P 19 11 56.5 -1.3
SDSI Sungai Dareh 47.35 274 P P 19 11 57.6 -1.3
NJ2 Nanjing 47.39 325 *e*P P 19 11 59.1 +0.2
NJ2 sP **pP 19 12 13.3 +1.1**
NJ2 S **S 19 18 55.6 +6.0**
NJ2 pmax pmax
comp=Z,17nm,0.7s
NJ2 pmax pmax
comp=Z,1µm,6.0s
NJ2 LR LR
comp=Z,7µm,20.9s
NJ2 LR LR
comp=Z,4µm,18.7s
NJ2 LR LR
comp=Z,9µm,22.5s
KSRS Korea Array 47.47 338 P P 19 11 59.0 -0.3
comp=Z,19nm,0.8s,baz=154,slow=8.6,SNR=30
KSRS pP **pP 19 12 12.9 +0.3**
comp=Z,65nm,0.9s,baz=153,slow=8.2,SNR=18
KSRS LR LR 19 30 18.7
KSRS PKPPKP **P'P'df 19 43 08.2 -4.5**
comp=Z,2.4nm,1.0s,baz=28,slow=2.9,SNR=4.9
comp=Z,19nm,0.8s
KSRS Korea Array 47.47 338 P P 19 11 59.0 -0.3
KSRS *PP **pP 19 12 13.0 +0.3**
KSAR Wonju Array Be 47.47 338 P P 19 11 58.8 -0.6
KSAR Wonju Array Be 47.47 338 P P 19 11 58.8 -0.6
KS19 Wonju Array Si 47.53 338 P P 19 12 00.2 +0.4
BKNI Bangkinang 47.91 276 P P 19 12 04.3 +1.1
BKNI Bangkinang 47.91 276 P P 19 12 05.3 +2.1
INCN Inchon 47.99 336 P P 19 12 03.4 -0.1
INCN Inchon 47.99 336 P P 19 12 05.1 +1.6
INCN Inchon 47.99 336 P P 19 12 03.4 -0.1
INCN pmax pmax
comp=Z,397nm,1.7s
ERM Erimo 48.18 355 P P 19 12 03.9 -0.8
ERM Erimo 48.18 355 P P 19 12 03.9 -0.8
ERM pmax pmax
comp=Z,384nm,1.8s
CTZ Chatham Island 48.30 146 P P 19 12 07.2 +1.4
CNSH ChangSha 48.46 317 ⇑P P 19 12 06.5 -0.7
CNSH S **S 19 19 05.0 +0.1**
CNSH pmax pmax
comp=Z,930nm,8.9s
CNSH LR LR
comp=Z,2µm,23.9s
CNSH LR LR
comp=Z,3µm,27.5s
CNSH LR LR
comp=Z,6µm,26.3s
IPM Ipoh 48.67 281 P P 19 12 08.6 -0.5
IPM IAmb IAmb 19 12 51.7
comp=Z,69nm,1.0s
IPM Ipoh 48.67 281 P P 19 12 22.0 +13
IPM Ipoh 48.67 281 P P 19 12 10.8 +1.7
IPM Ipoh 48.67 281 ⇑P P 19 12 07.8 -1.3
HJU Haeju 48.84 336 S **S 19 19 12.4 +2.5**
HJU Haeju 48.84 336 AmB
comp=Z,785nm,2.1s
HJU Haeju 48.84 336 AMS AMS
comp=N,7µm,9.9s
HJU Haeju 48.84 336 AMS AMS
comp=E,12µm,17.1s
HJU Haeju 48.84 336 AMS AMS
comp=Z,12µm,16.7s
HJU Haeju 48.84 336 P P 19 12 11.2 +1.3
HJU Haeju 48.84 336 pP pP 19 12 24.1 +0.8
MCQ Macquarie Isla 48.94 172 P P 19 12 11.7 +1.2
baz=49,SNR=3.8
MCQ Macquarie Isla 48.94 172 P P 19 12 10.2 -0.2
MCQ Macquarie Isla 48.94 172 P P 19 12 10.2 -0.2
MCQ pmax pmax
comp=Z,363nm,1.3s
JEW Eniwo 49.18 353 P P 19 12 12.3 -0.1
JEW Eniwo 49.18 353 P P 19 12 13.5 +1.1
JEW Eniwo 49.18 353 ⇑P P 19 12 12.5 +0.1
KULM Kulim 49.21 282 P P 19 12 12.7 -0.5
KULM Kulim 49.21 282 P P 19 12 29.0 +16
KULM Kulim 49.21 282 ⇑P P 19 12 11.8 -1.4
SKLT Songkhla 49.67 285 P P 19 12 18.1 +1.4
PYAG Pyongyang 49.70 337 S **S 19 19 25.1 +3.2**
PYAG Pyongyang 49.70 337 AMS AMS
comp=E,230nm,1.2s
PYAG Pyongyang 49.70 337 AMS AMS
comp=N,934nm,4.7s
PYAG Pyongyang 49.70 337 AmB
comp=Z,270nm,1.2s
PYAG Pyongyang 49.70 337 AMS AMS
comp=Z,1µm,5.1s
PYAG Pyongyang 49.70 337 P P 19 12 17.8 +1.3
PYAG Pyongyang 49.70 337 pP pP 19 12 28.5 -1.3
HHU Hamhung 49.79 339 P P 19 12 18.1 +1.0
YUK Yuzh-Kuril'sk 50.00 357 *e*P P 19 12 19.3 +0.7
YUK *e* 19 14 10.0
YUK *e*S **S 19 19 30.9 +5.0**
JKA Kamikawa-asahi 50.31 354 P P 19 12 20.3 -0.8
ASAJ Asahikawa 50.31 354 P P 19 12 20.3 -0.7
RPSI Rantau Prapat 50.38 279 P P 19 12 20.8 -1.3
RPSI IAmb IAmb 19 13 10.8
comp=Z,233nm,1.8s
PSI Prapat 50.40 279 LR LR 19 39 53.3
comp=Z,1µm,18.6s,baz=139,slow=43
PSI Prapat 50.40 279 P P 19 12 23.9 +1.5
PSI Prapat 50.40 279 P P 19 12 20.8 -1.6
PSI pmax pmax
comp=Z,233nm,1.8s
NONG Nongkai 50.90 299 P P 19 12 26.6 +0.7
SRIT Nakonsritamara 51.01 286 P P 19 12 25.9 -0.9
SRIT Nakonsritamara 51.01 286 P P 19 12 29.7 +2.9
MSHR Mys Shultsa 51.02 343*c i*P P 19 12 28.0 +1.6
MSHR pmax pmax
comp=Z,56nm,1.3s
MSHR MLR MLR
comp=Z,861nm,18.0s
SUJ Sinuiju 51.10 336 P P 19 12 28.1 +1.1
SUJ sP **pP 19 12 41.0 +0.6**
SUJ S **S 19 19 44.5 +3.3**
SUJ AmB
comp=Z,426nm,2.1s
SUJ AMS AMS
comp=N,625nm,8.3s
SUJ AMS AMS
comp=E,571nm,7.6s
SUJ AMS AMS
comp=Z,205nm,2.7s
SURA Surathani 51.13 287 P P 19 12 30.1 +2.4
KUR Kuril'sk 51.14 359 *e*P P 19 12 25.9 -1.3
KUR pmax pmax
comp=Z,2µm,1.3s
DL2 Dalian 51.32 333 ⇑*i*P P 19 12 27.6 -1.1
DL2 S **S 19 19 46.2 +1.8**
DL2 pmax pmax
comp=Z,66nm,1.4s
DL2 pmax pmax
comp=Z,840nm,9.4s
DL2 LR LR
comp=Z,3µm,21.8s
DL2 LR LR
comp=Z,4µm,21.2s
DL2 LR LR
comp=Z,6µm,20.1s
COCO West Island 51.40 259 P P 19 12 29.7 -0.1
COCO West Island 51.40 259 P P 19 12 29.7 -0.1

COCO pmax pmax
comp=Z,723nm,1.4s
TIA Tai'an 51.44 327 ⇓P **P 19 12 27.2 -2.5**
TIA pmax pmax
comp=Z,9.0nm,1.3s
TIA pmax pmax
comp=Z,740nm,5.9s
TIA LR LR
comp=Z,5μm,23.7s
TIA LR LR
comp=Z,5μm,21.8s
TIA LR LR
comp=Z,11μm,20.6s
GSI Gunungsitoli 51.48 277 P **P 19 12 29.9 -0.5**
GSI IAmb IAmb 19 13 07.7
comp=Z,118nm,1.1s
GSI Gunungsitoli 51.48 277 P **P 19 12 29.9 -0.5**
GYA Guiyang 51.98 310 ⇑P **P 19 12 32.3 -1.7**
GYA pP pP 19 12 47.2 -0.3
GYA PcP **PcP 19 13 43.6 -2.4**
GYA S **S 19 19 53.6 -0.6**
GYA pmax pmax
comp=Z,28nm,1.5s
GYA pmax pmax
comp=Z,690nm,8.8s
GYA LR LR
comp=Z,1μm,23.2s
GYA LR LR
comp=Z,2μm,19.3s
GYA LR LR
comp=Z,3μm,25.1s
TEY Ternei 52.07 349 *e*P **P 19 12 33.9 -0.3**
TEY *e* 19 12 48.5
RAR Rarotonga 52.10 112 LR LR 19 30 54.6
comp=Z,899nm,21.9s,baz=286,slow=32
RAR Rarotonga 52.10 112 P **P 19 12 33.2 -1.7**
RAR IAmb IAmb 19 12 49.5
comp=Z,148nm,1.2s
RAR Rarotonga 52.10 112 P **P 19 12 36.1 +1.2**
RAR Rarotonga 52.10 112 P **P 19 12 33.2 -1.7**
RAR pmax pmax
comp=Z,149nm,1.3s
ENH Enshi 52.11 316 P **P 19 12 33.1 -1.8**
ENH Enshi 52.11 316 P **P 19 12 35.0 +0.1**
comp=Z,60nm,1.4s
USA0B Ussuriysk Arra 52.30 345 P **P 19 12 36.3 +0.4**
USA0B IAmb IAmb 19 12 52.8
comp=Z,99nm,0.9s
USA0B Ussuriysk Arra 52.30 345*c i*P **P 19 12 36.1 +0.2**
USRK Ussuriysk Ar. 52.30 345 P **P 19 12 36.9 +0.9**
comp=Z,18nm,0.6s,baz=174,slow=6.4,SNR=32
USRK pP **pP 19 12 50.0 +0.6**
comp=Z,53nm,0.8s,baz=157,slow=5.8,SNR=20
USRK LR LR 19 33 41.6
comp=Z,2μm,19.0s,baz=135,slow=35
comp=Z,18nm,0.6s
USRK Ussuriysk Ar. 52.30 345 P **P 19 12 36.7 +0.8**
LHMI Lhok Sumawe 52.80 281 P **P 19 12 38.6 -1.5**
LHMI IAmb IAmb 19 13 43.8
comp=Z,97nm,0.9s
LYN LuoYang 52.93 322 *e*P **P 19 12 41.3 +0.6**
LYN pP pP 19 12 53.8 -0.4
LYN sP sP 19 12 59.7 -0.2
LYN S **S 19 20 03.4 -3.2**
LYN SS **SS 19 23 45.6 -0.8**
LYN pmax pmax
comp=Z,890nm,8.3s
LYN LR LR
comp=Z,6μm,22.6s
LYN LR LR
comp=Z,8μm,25.1s
YSS Yuzh-Sakhalins 53.11 355 P **P 19 12 41.2 -0.6**
YSS Yuzh-Sakhalins 53.11 355 P **P 19 12 44.4 +2.6**
YSS Yuzh-Sakhalins 53.11 355 P **P 19 12 41.5 -0.3**
YSS *e**PP **pP 19 12 56.2 +0.8**
YSS *e*S **S 19 20 08.4 -0.2**
YSS *e* 19 20 33.8
YSS pmax pmax
comp=Z,1μm,5.4s
YSS Yuzh-Sakhalins 53.11 355 P P 19 12 33.3 -8.6
YSS pP pP 19 12 55.7 +0.3
MDJ Mudanjiang 53.34 343 P **P 19 12 43.8 +0.2**
MDJ IAmb IAmb 19 13 00.2
comp=Z,96nm,1.0s
MDJ Mudanjiang 53.34 343 P **P 19 12 44.5 +0.9**
MDJ pP pP 19 12 54.9 -2.2
MDJ sP sP 19 12 59.6 -3.1
MDJ S **S 19 20 15.4 +3.5**
MDJ sS sS 19 20 35.1 +1.6
MDJ pmax pmax
comp=Z,28nm,1.0s
MDJ pmax pmax
comp=Z,1μm,9.4s
MDJ LR LR
comp=Z,3μm,25.0s
MDJ LR LR
comp=Z,3μm,25.0s
MDJ LR LR
comp=Z,8μm,24.4s
MDJ Mudanjiang 53.34 343 P **P 19 12 44.9 +1.3**
comp=Z,101nm,1.5s
PHRA Phrae 53.61 298 P **P 19 12 46.8 +0.7**
HNS HongShan 53.63 327 ⇑P **P 19 12 44.8 -1.0**
HNS sP **pP 19 12 59.6 +0.3**
HNS PP **PP 19 14 44.1 -3.0**
HNS S **S 19 20 15.7 -0.3**
HNS SS **SKiKP 19 23 51.5 -5.3**
HNS pmax pmax
comp=Z,41nm,0.6s
HNS pmax pmax
comp=Z,780nm,7.6s
HNS LR LR
comp=Z,4μm,22.6s
HNS LR LR
comp=Z,4μm,21.6s
HNS LR LR
comp=Z,9μm,21.4s
CN2 Changchun 53.94 339 *e*P **P 19 12 48.9 +0.9**
CN2 *e*pP pP 19 13 01.5 0.0
CN2 *e*S **S 19 20 20.0 0.0**
CN2 *e*sS sS 19 20 41.2 -0.6
CN2 *e*SS **SS 19 24 01.0 -1.0**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,970nm,10.0s
CN2 LR LR
comp=Z,4μm,18.0s
CN2 LR LR
comp=Z,4μm,18.0s
CN2 LR LR
comp=Z,6μm,19.0s
KMI Kunming 54.35 307 ⇑P **P 19 12 50.6 -1.1**
KMI sP pP 19 13 05.4 +0.2
KMI S **S 19 20 26.6 -0.1**
KMI sS pS 19 20 44.2 +2.2
KMI SS **SS 19 24 09.0 -0.7**
KMI pmax pmax
comp=Z,32nm,1.5s
KMI pmax pmax
comp=Z,560nm,9.4s
KMI LR LR
comp=Z,880nm,28.7s
KMI LR LR
comp=Z,2μm,26.0s
KMI LR LR
comp=Z,4μm,24.7s
CM31 Chiang Mai Arr 54.73 298 P **P 19 12 53.3 -0.9**
CMAR Chiang Mai Arr 54.73 298 P **P 19 12 53.0 -1.2**
comp=Z,2.3nm,0.7s,baz=118,slow=5.6,SNR=11
CMAR LR LR 19 34 10.9
comp=Z,886nm,22.0s,baz=110,slow=34
CMAR PKPPKP **P'P'df 19 43 02.3 -3.4**
comp=Z,1.6nm,1.1s,baz=257,slow=3.6,SNR=4.9
CMAR Chiang Mai Arr 54.73 298 P **P 19 12 52.9 -1.3**
CMAR Chiang Mai Arr 54.73 298 *i*P **P 19 12 55.5 +1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
BJT Baijiatuau 54.80 330 P **P 19 12 52.4 -1.9**
BJT IAmb IAmb 19 13 08.9
comp=Z,145nm,1.6s
BJT Baijiatuau 54.80 330 P **P 19 12 56.4 +2.1**
BJT Baijiatuau 54.80 330 P **P 19 12 52.4 -1.9**
BJT pmax pmax
comp=Z,145nm,1.6s
BJI Beijing 54.81 330 P **P 19 12 55.3 +0.9**
BJI pP **pP 19 13 05.4 -2.6**
BJI sP **sP 19 13 07.9 -5.7**
BJI S **S 19 20 30.6 -1.3**
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI pmax pmax
comp=Z,820nm,8.8s
BJI LR LR
comp=Z,1μm,21.1s
BJI LR LR
comp=Z,4μm,21.3s
BJI LR LR
comp=Z,4μm,21.4s
XAN Xi'an 54.81 320 ⇑P **P 19 12 52.7 -1.9**
XAN sP pP 19 13 07.5 -0.7
XAN PP **PP 19 14 56.3 -1.6**
XAN S **S 19 20 32.9 +0.6**
XAN ScS **ScS 19 22 37.2 -2.8**
XAN SS **SS 19 24 16.1 -0.2**
XAN pmax pmax
comp=Z,890nm,10.0s
XAN LR LR
comp=Z,3μm,20.4s
XAN LR LR
comp=Z,2μm,19.0s
XAN LR LR
comp=Z,5μm,21.0s
CHTO Chiang Mai 54.86 298 P **P 19 12 53.8 -1.4**
CHTO Chiang Mai 54.86 298 P **P 19 12 53.8 -1.4**
CHTO pmax pmax
comp=Z,1.0nm,1.0s
BNX BinXian 55.01 342 ⇑P **P 19 12 56.4 +0.7**
BNX pP **pP 19 13 09.2 -0.1**
BNX sP **sP 19 13 15.8 +0.9**
BNX PP **PP 19 15 00.9 +1.5**
BNX S **S 19 20 36.3 +1.9**
BNX sS **sS 19 20 59.4 +3.0**
BNX pmax pmax
comp=Z,29nm,1.2s
BNX pmax pmax
comp=Z,1μm,7.0s
BNX LR LR
comp=Z,2μm,22.7s
BNX LR LR
comp=Z,2μm,22.2s
BNX LR LR
comp=Z,3μm,24.1s
TIY Taiyuan 55.12 325 ⇑P **P 19 12 55.4 -1.4**
TIY PP **PP 19 15 04.9 +4.3**
TIY S **S 19 20 29.6 -6.7**
TIY pmax pmax
comp=Z,680nm,8.4s
TIY LR LR
comp=Z,4μm,21.3s
TIY LR LR
comp=Z,4μm,25.4s
TIY LR LR
comp=Z,7μm,28.2s
UGL Uglegorsk 55.28 355 *e*P **P 19 13 00.7 +3.1**
UGL *e*S S 19 20 55.4 +18
UGL pmax pmax
comp=Z,190nm,1.7s
UGL pmax pmax
comp=Z,2μm,6.0s
PZH PanZhiHua 55.80 308 P **P 19 13 01.2 -0.8**
PZH pP **pP 19 13 15.0 -0.5**
PZH PP **PP 19 15 08.7 +1.7**
PZH S **S 19 20 44.5 -1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,490nm,6.9s
PZH LR LR
comp=Z,1μm,20.8s
PZH LR LR
comp=Z,2μm,23.1s
PZH LR LR
comp=Z,3μm,24.5s
CD2 Chengdu 56.52 313 P **P 19 13 07.0 0.0**
CD2 pP pP 19 13 20.4 -0.2
CD2 sP sP 19 13 22.8 -3.4
CD2 S **S 19 20 57.9 +2.7**
CD2 sS sS 19 21 15.7 -2.1
CD2 pmax pmax
comp=Z,460nm,4.3s
CD2 LR LR
comp=Z,3μm,20.1s
CD2 LR LR
comp=Z,2μm,20.6s
CD2 LR LR
comp=Z,2μm,21.2s
KLR Kul'dur 57.07 347 LR LR 19 35 51.2
comp=Z,3μm,21.4s,baz=158,slow=34
KLR PKP2bc 19 43 13.3
comp=Z,0.6nm,0.3s,baz=326,slow=11,SNR=4.0
KLR Kul'dur 57.07 347*c i*P **P 19 13 10.3 -0.1**
KLR pmax pmax
comp=Z,68nm,1.4s
KLR MLR MLR
comp=Z,2μm,20.0s
GRNR Gornyy 57.65 351 ⇓*i*P **P 19 13 15.6 +1.2**
GRNR *e* 19 15 18.2
GRNR pmax pmax
comp=Z,10.0nm,1.3s
GRNR MLR MLR
comp=E,370nm,13.0s
GRNR MLR MLR
comp=N,840nm,20.0s
GRNR MLR MLR
comp=Z,1μm,19.0s
TNCH TengChong 57.72 305 ⇑P **P 19 13 15.0 -0.7**
TNCH pP pP 19 13 25.5 -3.8
TNCH sP sP 19 13 29.6 -5.3
TNCH PcP **PcP 19 14 07.4 -0.8**
TNCH PcS **PcS 19 18 07.3 -2.5**
TNCH S **S 19 21 10.1 -1.3**
TNCH sS pS 19 21 27.5 +0.1
TNCH pmax pmax
comp=Z,43nm,1.4s
TNCH pmax pmax
comp=Z,500nm,8.6s
TNCH LR LR
comp=Z,900nm,21.1s
TNCH LR LR
comp=Z,530nm,24.1s
TNCH LR LR
comp=Z,3μm,25.3s
HHC Hu-ho-hao-te 57.80 327 *e*P **P 19 13 15.3 -0.6**
HHC S **S 19 21 12.7 +0.9**
HHC sS pS 19 21 30.5 +3.2
HHC SS **SS 19 25 05.6 +2.3**
HHC pmax pmax
comp=Z,42nm,1.1s
HHC pmax pmax
comp=Z,2μm,7.2s
HHC LR LR
comp=Z,7μm,20.3s
HHC LR LR
comp=Z,8μm,20.9s
HHC LR LR
comp=Z,16μm,20.9s
XLT XiLinHaoTe 57.81 333 ⇓*i*P **P 19 13 17.0 +1.1**
XLT sP pP 19 13 29.8 +0.3
XLT PP **PP 19 15 29.3 +4.7**
XLT S **S 19 21 11.2 -0.6**
XLT sS sS 19 21 36.9 +2.4
XLT SS **SS 19 25 00.3 -3.0**
XLT pmax pmax
comp=Z,22nm,1.0s
XLT pmax pmax
comp=Z,1μm,6.2s
XLT LR LR
comp=Z,420nm,19.8s
XLT LR LR
comp=Z,3μm,21.9s
XLT LR LR
comp=Z,8μm,23.6s
PBA Port Blair 58.31 288 P **P 19 13 19.0 -0.8**
BTO Baotou 58.47 326 *e*P **P 19 13 22.4 +1.8**
BTO S **S 19 21 25.6 +5.1**
MND Mandalay 58.52 300 P **P 19 13 22.8 +1.7**
HEH HeiHe 59.09 344 *e*P **P 19 13 24.4 -0.1**
HEH sP **pP 19 13 38.2 0.0**
HEH S **S 19 21 31.7 +3.8**
HEH SS **SS 19 25 28.0 +5.1**
HEH pmax pmax
comp=Z,51nm,0.6s
HEH pmax pmax
comp=Z,2μm,7.8s
HEH LR LR
comp=Z,3μm,21.2s
HEH LR LR
comp=Z,1μm,21.4s
HEH LR LR
comp=Z,4μm,23.2s
OPA Opana 59.16 60 P **P 19 13 24.9 -0.7**
OPA Opana 59.16 60 P **P 19 13 24.9 -0.7**
OPA pmax pmax
comp=Z,163nm,1.1s
LZH Lanzhou 59.36 318 *e*P **P 19 13 27.8 +0.9**
LZH pP pP 19 13 37.9 -2.7
LZH sP sP 19 13 41.1 -5.1
LZH S **S 19 21 28.9 -3.5**
LZH SS **SS 19 25 31.0 +2.9**
LZH pmax pmax
comp=Z,26nm,1.4s
LZH pmax pmax
comp=Z,610nm,5.8s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,3μm,17.2s
LZH LR LR
comp=Z,6μm,17.5s
PEA0B Petropavlovsk- 59.52 6 P **P 19 13 26.3 -1.1**
PEA0B Petropavlovsk- 59.52 6 P **P 19 13 26.3 -1.1**
PEA0B pmax pmax
comp=Z,1μm,1.5s
PETK Petropavlovsk- 59.52 6 P **P 19 13 27.3 -0.2**
comp=Z,32nm,0.6s,baz=133,slow=4.4,SNR=36
PETK LR LR 19 35 21.2
comp=Z,7μm,22.0s,baz=198,slow=32
comp=Z,32nm,0.6s
PETK Petropavlovsk- 59.52 6 P **P 19 13 26.5 -0.9**
PETK Petropavlovsk- 59.52 6 P **P 19 13 26.5 -0.9**
PET Petropavlovsk 59.55 7 P **P 19 13 27.6 +0.1**
PET Petropavlovsk 59.55 7 P **P 19 13 28.3 +0.7**
PET Petropavlovsk 59.55 7 ⇑P **P 19 13 28.2 +0.7**
PET Petropavlovsk 59.55 7 *e*P **P 19 13 26.9 -0.7**
PET *e* 19 14 14.2
PET *e* 19 15 43.0
PET *e*S **S 19 21 33.7 0.0**
PET *e* 19 23 07.6
PET *e*SS **SS 19 25 30.0 0.0**
PET pmax pmax
comp=Z,800nm,13.3s
PET pmax pmax
comp=Z,300nm,1.2s
PET MLR MLR
comp=Z,4μm,20.0s
PET MLR MLR
comp=Z,3μm,15.0s
KHLH Kahului Airpor 60.26 62 P **P 19 13 31.7 -1.4**
KHLU Kahalu`u 60.29 63 P **P 19 13 31.8 -1.7**
HUH Hualalai 60.37 63 P **P 19 13 32.1 -2.1**
KHU Kahuku 60.42 64 P **P 19 13 32.7 -1.9**
KHU Kahuku 60.42 64 P **P 19 13 32.7 -1.9**
KHU pmax pmax
comp=Z,589nm,1.7s
HIA Hailar 60.65 339 P **P 19 13 35.4 +0.1**
HIA IAmb IAmb 19 13 51.9
comp=Z,106nm,0.8s
HIA Hailar 60.65 339 P **P 19 13 36.1 +0.8**
comp=Z,165nm,1.0s
HIA Hailar 60.65 339 P **P 19 13 35.4 +0.1**
HIA pmax pmax
comp=Z,106nm,0.8s
HIA Hailar 60.65 339 P **P 19 13 35.4 +0.1**
HIA pP **pP 19 13 48.6 -0.4**
DRV Dumont d'Urvil 60.72 184 P **P 19 13 35.7 +0.3**
DRV pP **sP 19 13 51.0 -1.7**
PPT Papeete 61.32 107 P **P 19 13 42.3 +1.8**
comp=Z,32nm,0.6s,baz=229,slow=19,SNR=5.1
PPT LR LR 19 36 12.8
comp=Z,1μm,20.4s,baz=263,slow=32
comp=Z,32nm,0.6s
PPT2 Papeete2 61.32 107 *e*P **P 19 13 41.9 +1.4**
comp=Z,83nm,1.4s
PPT2 *e*pP **pP 19 13 54.1 +0.3**
comp=Z,223nm,1.5s
PPT2 *e*S **S 19 21 56.9 -1.0**
comp=Z,2μm,27.5s
PPT2 *e*LR LR 19 31 54.0
comp=Z,4μm,27.0s
PPT2 *e*LR LR 19 31 54.0
comp=Z,6μm,26.2s
PPTF Pamatai, Papee 61.33 107 P **P 19 13 39.8 -0.8**
PPTF Pamatai, Papee 61.33 107 P **P 19 13 42.7 +2.1**
SAIH SAIHA 61.39 300 *e*P **P 19 13 39.6 -1.3**
SAIH IAmb IAmb 19 13 54.5
comp=Z,40nm,0.6s
TIAR Tiarei 61.54 107 *e*P **P 19 13 42.8 +0.9**
comp=Z,36nm,1.3s
TIAR *e*pP **pP 19 13 56.3 +1.1**
comp=Z,35nm,1.0s
KOHI KOHIMA 61.64 303 *e*P **P 19 13 40.2 -2.4**
KOHI IAmb IAmb 19 14 02.3
comp=Z,92nm,1.1s
TBI Tubuai 61.84 113 *e*S **S 19 22 03.0 -1.2**
comp=Z,7μm,27.8s
TBI *e*SS **SS 19 26 07.0 0.0**
comp=Z,7μm,31.8s
TBI *e*LR LR 19 32 08.0
comp=Z,58μm,33.2s
TBI *e*LR LR 19 32 08.0
comp=Z,39μm,35.5s
ZEA Zeya 62.31 346*ce*P **P 19 13 47.5 +1.2**
ZEA *e**PP **pP 19 14 02.0 +1.9**
ZEA *e* 19 14 10.0
ZEA *e* 19 16 08.8
ZEA *e*S **S 19 22 14.8 +5.9**
ZEA *e*SS **SS 19 26 18.3 +5.0**
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA pmax pmax
comp=N,400nm,6.1s
ZEA pmax pmax
comp=Z,900nm,11.0s
ZEA pmax pmax
comp=E,300nm,2.6s
ZEA pmax pmax
comp=N,200nm,4.6s
ZEA pmax pmax
comp=Z,400nm,5.1s
ZEA smax smax
comp=N,700nm,11.2s
ZEA smax smax
comp=E,700nm,10.1s
SHEM Shemya Is, Ala 62.51 17 P **P 19 13 49.0 +1.4**
comp=E,61nm,0.8s,baz=304,slow=9.1,SNR=2.2
SHEM LR LR 19 36 44.1
comp=E,2μm,21.8s,baz=202,slow=32
comp=E,61nm,0.8s
ITAN ITANAGAR 62.52 305 *e*P **P 19 13 47.8 -0.5**
ITAN IAmb IAmb 19 14 13.5
comp=Z,134nm,1.4s
ZIRO ZIRO 62.57 305 *e*P **P 19 13 48.1 -0.7**
ZIRO IAmb IAmb 19 14 17.0
comp=Z,22nm,0.6s
TEZP TEZPUR 63.07 304 *e*P **P 19 13 51.2 -0.8**
TEZP IAmb IAmb 19 14 05.8
comp=Z,49nm,1.4s
SHL Shillong 63.44 302 IAmb IAmb 19 14 35.7
comp=Z,100nm,1.0s
SHL Shillong 63.44 302 *e*P **P 19 13 53.3 -1.4**
SHL IAmb IAmb 19 14 09.9
comp=Z,40nm,0.8s
GTA Gaotai 63.88 320 ⇑P **P 19 13 57.7 +0.5**
GTA pP pP 19 14 10.9 -0.2
GTA sP sP 19 14 16.4 -0.2
GTA S **S 19 22 28.2 -1.2**
GTA sS pS 19 22 47.8 +1.9
GTA SS **SS 19 26 41.7 +3.1**
GTA pmax pmax
comp=Z,630nm,10.5s
GTA LR LR
comp=Z,1μm,22.5s
GTA LR LR

comp=Z,2µm,24.7s
GTA LR LR
comp=Z,3µm,25.1s
KIWB Kanaga Island 64.75 23 P P 19 14 02.5 0.0
ADK Adak 64.95 23 P P 19 14 04.3 +0.5
ADK Adak 64.95 23 P P 19 14 05.6 +1.8
ADK Adak 64.95 23 P P 19 14 04.3 +0.5
ADK pmax pmax
comp=Z,503nm,1.5s
ADK Adak 64.95 23 P P 19 13 55.9 -7.9
ADK pP pP 19 14 17.2 -0.4
ULN Ulaanbaatar 65.01 330 P P 19 14 03.9 -0.6
ULN lAmb lAmb 19 14 20.5
comp=Z,55nm,0.8s
ULN Ulaanbaatar 65.01 330 ⇓P **P 19 14 04.3 -0.2**
ULN Ulaanbaatar 65.01 330*c iP* **P 19 14 04.3 -0.2**
ULN pmax pmax
comp=Z,9.0nm,0.5s
ULN MLR MLR
comp=Z,4µm,18.0s
ULN Ulaanbaatar 65.01 330 P P 19 14 03.5 -1.0
ULN pP **pP 19 14 17.0 -1.3**
DHUB DHUBRI 65.19 302 *eP* **P 19 14 04.6 -1.3**
DHUB lAmb lAmb 19 14 20.7
comp=Z,37nm,0.6s
CIT Chita 65.20 337 *eP* **P 19 14 07.4 +1.9**
CIT *e* 19 16 24.7
CIT *eS* S 19 23 12.8 +28
CIT *e* 19 23 21.7
CIT pmax pmax
comp=Z,316nm,2.0s
SONM Songino Array 65.31 330 P **P 19 14 06.2 -0.3**
comp=Z,8.1nm,0.6s,baz=147,slow=5.2,SNR=37
SONM LR LR 19 41 38.4
comp=Z,8µm,21.4s,baz=130,slow=35
SONM PKPPKP **P'P'df 19 42 48.0 +1.2**
comp=Z,1.1nm,0.9s,baz=359,slow=6.2,SNR=4.5
SONM PKP2bc 19 42 56.0
comp=Z,3.5nm,1.1s,baz=278,slow=2.6,SNR=9.0
comp=Z,8.1nm,0.6s
MA2 Magadan 65.53 1 LR LR 19 40 25.1
comp=Z,3µm,21.1s,baz=196,slow=34
MA2 Magadan 65.53 1 P **P 19 14 07.4 0.0**
MA2 Magadan 65.53 1 P **P 19 14 07.7 +0.3**
MA2 Magadan 65.53 1 ⇑P **P 19 14 05.7 -1.7**
MA2 Magadan 65.53 1*ce*P **P 19 14 08.5 +1.1**
MA2 pmax pmax
comp=Z,78nm,1.6s
MA2 MLR MLR
comp=Z,3µm,17.0s
CASY Casey 65.56 196 P **P 19 14 07.5 0.0**
CASY Casey 65.56 196 ⇑P **P 19 14 07.8 +0.3**
CASY Casey 65.56 196 P **P 19 14 07.1 -0.4**
CASY pP **pwP 19 14 22.3 -1.0**
LSA Lhasa 65.61 306 P **P 19 14 08.0 -1.2**
LSA Lhasa 65.61 306 P **P 19 14 07.9 -1.2**
LSA LR LR
comp=Z,1µm,28.5s
LSA LR LR
comp=Z,2µm,27.1s
LSA LR LR
comp=Z,3µm,27.0s
LSA Lhasa 65.61 306 P **P 19 14 08.0 -1.2**
LSA pmax pmax
comp=Z,26nm,0.7s
LSA Lhasa 65.61 306 P **P 19 14 07.5 -1.6**
LSA pP **pP 19 14 21.9 -1.0**
GTK Tadong 66.81 303 *eP* **P 19 14 15.5 -1.0**
GTK lAmb lAmb 19 14 30.9
comp=Z,31nm,0.9s
TAPN Taplejung 67.57 303 *eP* **P 19 14 20.5 -1.0**
comp=Z,14nm,0.5s
RAMN Ramite 68.36 302 *eP* **P 19 14 25.2 -1.2**
comp=Z,15nm,0.5s
ZAK Zakamensk 68.53 331 *eP* **P 19 14 27.2 +0.4**
ZAK pmax pmax
comp=Z,9.0nm,0.7s
SEY Seymchan 68.93 2 PKPPKP 19 42 40.9
comp=Z,1.1nm,0.5s,baz=35,slow=16,SNR=4.2
SEY LR LR 19 44 49.6
comp=Z,3µm,19.3s,baz=176,slow=36
SEY Seymchan 68.93 2⇓*eP* **P 19 14 29.5 +0.6**
SEY pmax pmax
comp=Z,49nm,1.6s
SEY MLR MLR
comp=Z,3µm,19.0s
JIRN Jiri 68.94 303 *eP* **P 19 14 29.2 -1.0**
comp=Z,20nm,0.6s
NIKH Nikolski High 68.99 26 P **P 19 14 29.9 +0.4**
baz=226
GUN Gumba 69.28 303 *eP* **P 19 14 31.4 -0.9**
comp=Z,38nm,0.6s
YAK Yakutsk 69.53 351 P **P 19 14 31.9 -0.7**
YAK lAmb lAmb 19 14 49.6
comp=Z,105nm,1.1s
YAK Yakutsk 69.53 351 ⇑P **P 19 14 31.6 -1.0**
YAK Yakutsk 69.53 351 *eP* **P 19 14 32.0 -0.5**
YAK *e**PP **pP 19 14 46.0 -0.5**
YAK *e* 19 17 16.0
YAK *eS* **S 19 23 36.6 +0.2**
YAK *e**SS **sS 19 24 01.7 +1.7**
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=Z,185nm,2.0s
YAK pmax pmax
comp=N,108nm,2.0s
YAK pmax pmax
comp=E,55nm,1.7s
YAK smax smax
comp=E,97nm,2.5s
YAK Yakutsk 69.53 351 P P 19 14 26.1 -6.4
YAK pP pP 19 14 45.7 -0.9
PKI Pulchoki 69.57 302 *eP* **P 19 14 32.5 -1.5**
comp=E,10nm,0.5s
PKIN Phulchoki 69.58 302 *eP* **P 19 14 32.5 -1.5**
comp=E,12nm,0.5s
BOD Bodaibo 69.62 341 *eP* **P 19 14 32.5 -0.7**
BOD pmax pmax
comp=Z,64nm,2.0s
DMN Daman 69.83 302 *eP* **P 19 14 34.5 -1.1**
comp=Z,21nm,0.5s
GKN Gorkha 70.35 302 *eP* **P 19 14 37.4 -1.2**
comp=Z,30nm,0.6s
CCD Concordia, Ant 70.42 187 P **P 19 14 38.7 +0.3**
CCD pP **pwP 19 14 54.0 -0.5**
MOY Mondy 70.47 331 *eP* **P 19 14 40.2 +1.5**
MOY pmax pmax
comp=Z,101nm,2.2s
TAOE Nuku Hiva Isla 70.60 97 *eP* **P 19 14 41.0 +0.7**
comp=Z,1µm,25.4s
TAOE *eS* **S 19 23 49.0 -2.0**
comp=Z,1µm,25.2s
TAOE Nuku Hiva Isla 70.60 97 *eLR* LR 19 36 11.7
comp=Z,1µm,22.8s
TAOE Nuku Hiva Isla 70.60 97 P **P 19 14 38.5 -1.8**
TAOE lAmb lAmb 19 15 02.9
comp=Z,90nm,1.0s
UNV Unalaska Valle 70.61 26 P **P 19 14 39.6 +0.2**
UNV lAmb lAmb 19 14 58.0
comp=Z,92nm,1.1s
UNV Unalaska Valle 70.61 26 P **P 19 14 40.4 +1.0**
baz=228
UNV Unalaska Valle 70.61 26 P **P 19 14 41.1 +1.7**
AKUT Akutan 71.13 26 P **P 19 14 41.6 -0.9**
AKUT lAmb lAmb 19 14 58.4
comp=Z,176nm,1.1s
DANN Dangsing 71.20 303 *eP* **P 19 14 42.1 -1.8**
comp=Z,16nm,0.5s
SPIA Saint Paul Isl 71.41 22 P **P 19 14 44.8 +0.6**
baz=224
VNDA Vanda 71.69 177 P **P 19 14 46.2 +0.7**
comp=Z,16nm,0.7s,baz=334,slow=6.8,SNR=161
VNDA LR LR 19 44 20.0
comp=Z,2µm,18.8s,baz=354,slow=34
comp=Z,16nm,0.7s
VNDA Vanda 71.69 177 P **P 19 14 46.7 +1.1**
VNDA lAmb lAmb 19 15 03.1
comp=Z,175nm,1.0s
VNDA Vanda 71.69 177 P **P 19 14 46.7 +1.1**
VNDA pmax pmax
comp=Z,175nm,1.0s
VNDA Vanda 71.69 177 P **P 19 14 46.3 +0.7**
VNDA pP **pwP 19 15 01.4 -0.2**
SBA Scott Base 72.31 176 P **P 19 14 49.9 +0.6**
SBA lAmb lAmb 19 15 07.4
comp=Z,110nm,1.1s
SBA Scott Base 72.31 176 P **P 19 14 49.9 +0.6**
SBA pmax pmax
comp=Z,110nm,1.1s
FALS False Pass 72.64 27 P **P 19 14 52.3 +0.7**
baz=231
TRD Trivandrum 72.90 281 *eP* **P 19 14 54.0 0.0**
TRD lAmb lAmb 19 15 10.5
comp=Z,233nm,1.6s
HYB Hyderabad 73.01 290 *eP* **P 19 14 56.5 +1.9**
HYB lAmb lAmb 19 15 09.7
comp=Z,34nm,1.1s
HYBB Hyderabad (bro 73.01 290 *eP* **P 19 14 54.4 -0.2**
PCHI Peechi 73.82 283⇑*eP* **P 19 14 59.8 +0.4**
PCHI *eS* **S 19 24 28.4 +0.6**
WMQ Urumqi 73.94 319 *eP* **P 19 14 58.7 -0.9**
WMQ pP pP 19 15 12.7 -1.0
WMQ S **SKiKP 19 24 25.6 +1.3**
WMQ sS pS 19 24 46.1 +0.5
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,570nm,6.7s
WMQ LR LR
comp=Z,1µm,21.7s
WMQ LR LR
comp=Z,1µm,19.1s
WMQ LR LR
comp=Z,2µm,21.9s
SDPT Sand Point 74.28 27 P **P 19 15 01.5 +0.3**
baz=233
CHNA Chernabura Isl 74.39 28 P **P 19 15 02.4 +0.6**
baz=234
LGTI Lohaghat 74.46 303 *eP* **P 19 15 01.9 -0.9**
PTH Pithoragarh 74.52 303 *eP* **P 19 15 02.3 -1.1**
JHNI Jhansi 74.87 298 *eP* **P 19 15 02.6 -2.7**
BILL Bilibino 75.05 7 P **P 19 15 05.9 +0.4**
BILL lAmb lAmb 19 15 24.0
comp=Z,80nm,1.0s
BILL Bilibino 75.05 7*c iP* **P 19 15 07.7 +2.3**
BILL *i* 19 15 19.8
BILL *e* 19 17 49.3
BILL *e*PPP PPP 19 19 39.1
BILL *eS* **S 19 24 40.2 +0.7**
BILL pmax pmax
comp=Z,27nm,0.8s
BILL MLR MLR
comp=Z,762nm,18.0s
AKL Akola 75.13 293 *eP* **P 19 15 10.4 +3.5**
RKT Rikitea 75.14 112 *eLR LR 19 38 18.0
comp=Z,7µm,32.5s
BHPL Bhopal 75.33 296 *eP* **P 19 15 07.5 -0.5**
BHPL lAmb lAmb 19 15 23.3
comp=Z,20nm,1.0s
H08S2 Diego Garcia H 75.49 264 P **P 19 15 11.3 +2.5**
baz=53,slow=6.1,SNR=12
H08S3 Diego Garcia H 75.50 264 P **P 19 15 11.3 +2.4**
baz=53,slow=6.1,SNR=8.6
H08S1 Diego Garcia H 75.51 264 P **P 19 15 10.3 +1.4**
baz=53,slow=6.1,SNR=7.0
DGAR Diego Garcia 75.55 264 P **P 19 15 08.6 -0.9**
DGAR Diego Garcia 75.55 264 P **P 19 15 08.6 -0.9**
DGAR pmax pmax
comp=Z,574nm,1.1s
CHGN Chignik 75.78 27 lAmb lAmb 19 15 29.2
comp=Z,97nm,0.9s
CHGN Chignik 75.78 27 P **P 19 15 11.2 +1.4**
baz=235
GAMB Gambell 75.83 17 P **P 19 15 11.0 +1.0**
baz=221
DGZ Jazzator, Alta 76.67 324*ce*P **P 19 15 14.8 -0.5**
DGZ pmax pmax
comp=Z,32nm,0.8s
DGZ MLR MLR
comp=Z,3µm,18.0s
CHIR Chirikof Islan 76.82 29 P **P 19 15 16.2 +0.5**
baz=238
KAD Karad 77.08 289 *eP* **P 19 15 18.4 +0.3**
ZSN Zaisan 77.26 321 *eP* **P 19 15 16.8 -1.7**
baz=321
ZSN Zaisan 77.26 321 *eP* **P 19 15 16.7 -1.7**
SMLA Simla 77.48 304 *eP* **P 19 15 21.4 +1.4**
SMLA lAmb lAmb 19 15 33.6
comp=Z,44nm,1.0s
P16K Nushagak River 77.54 25 P **P 19 15 20.6 +0.9**
baz=235
POO Poona 77.62 290 *eP* **P 19 15 20.7 -0.4**
POO lAmb lAmb 19 15 38.0
comp=Z,133nm,1.6s
O16K Kokwok River B 77.83 25 P **P 19 15 22.0 +0.7**
baz=235
SII Sitkinak Islan 77.89 28 P **P 19 15 22.0 +0.2**
baz=239
SII Sitkinak Islan 77.89 28 P **P 19 15 21.8 0.0**
Q16K King Salmon 77.91 26 P **P 19 15 22.7 +0.9**
baz=236
Q17K Contact Creek 78.02 26 P **P 19 15 23.0 +0.5**
baz=237,SNR=12
N16K Nishlik Lake 78.07 24 P **P 19 15 23.5 +0.8**
baz=234
P17K Kvichak River 78.30 25 P **P 19 15 24.6 +0.7**
baz=236
ANM Nome 78.32 18 P **P 19 15 24.5 +0.6**
baz=227
O17K Koliganek Bris 78.34 25 P **P 19 15 24.6 +0.4**
baz=236,SNR=14
Q18K Katmai Hardscr 78.62 26 P **P 19 15 26.3 +0.4**
baz=238,SNR=17
MK31 Makanchi Array 78.62 320*d iP* **P 19 15 25.8 -0.3**
MKAR Makanchi Array 78.62 320 P **P 19 15 24.1 -2.0**
comp=Z,5.8nm,0.5s,baz=100,slow=6.9,SNR=49
MKAR PKKPbc **PKKPbc 19 34 22.4 -1.2**
comp=Z,1.0nm,0.7s,baz=309,slow=0.9,SNR=4.2
MKAR PKPPKP **P'P'df 19 42 27.4 +3.1**
comp=Z,1.4nm,0.9s,baz=357,slow=2.9,SNR=4.5
MKAR LR LR 19 48 28.4
comp=Z,2µm,22.0s,baz=105,slow=34
comp=Z,5.8nm,0.5s
MKAR Makanchi Array 78.62 320 *i* P **P 19 15 24.3 -1.8**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
OHAK Old Harbor 78.66 28 lAmb lAmb 19 15 41.6
comp=Z,85nm,1.1s
OHAK Old Harbor 78.66 28 P **P 19 15 26.5 +0.5**
baz=239
TIXI Tiksi 78.71 354 LR LR 19 48 50.2
comp=Z,995nm,21.5s,baz=179,slow=35
TIXI Tiksi 78.71 354 P **P 19 15 24.9 -1.0**
TIXI Tiksi 78.71 354*c iP* **P 19 15 24.6 -1.4**
TIXI pmax pmax
comp=Z,44nm,2.5s
TIXI MLR MLR
comp=Z,1µm,19.0s
MAKZ Makanchi 78.83 320 P **P 19 15 25.1 -2.1**
MAKZ Makanchi 78.83 320 ⇑P **P 19 15 25.5 -1.7**
MAKZ Makanchi 78.83 320 P **P 19 15 26.6 -0.6**
P18K Big Mountain, 78.92 26 P **P 19 15 28.2 +0.7**
baz=237
O18K Koktuh Hills 79.18 25 P **P 19 15 29.7 +0.9**
baz=237
SHLS Shalkode 79.24 316 *eP* **P 19 15 25.5 -4.2**
baz=316
SHLS Shalkode 79.24 316 *eP* **P 19 15 25.5 -4.2**
KDAK Kodiak Island 79.27 28 LR LR 19 44 53.5
comp=Z,3µm,21.9s,baz=270,slow=31
KDAK Kodiak Island 79.27 28 P **P 19 15 30.1 +0.8**
baz=240
PDGK Podgornoye 79.28 316 *i* P **P 19 15 27.6 -2.3**
PDGK pmax pmax
comp=Z,20nm,0.7s
N18K Kilae Creek 79.35 24 P **P 19 15 30.8 +1.0**
baz=236
Q19K Cape Douglas, 79.37 27 P **P 19 15 30.3 +0.4**
baz=239
UZB Uzunbulak 79.55 316 *eP* **P 19 15 31.0 -0.4**
baz=316
UZB Uzunbulak 79.55 316 *eP* **P 19 15 31.0 -0.4**
O19K Port Alsworth 79.74 25 P **P 19 15 32.4 +0.6**
baz=238
Q20K Shuyak Island 79.77 27 P **P 19 15 33.0 +1.0**
baz=240
KPKS Kokpek 79.88 316 *eP* **P 19 15 31.3 -1.9**
baz=316
KPKS Kokpek 79.88 316 *eP* **P 19 15 31.2 -1.9**
P19K Oil Pt 79.93 26 lAmb lAmb 19 15 48.0
comp=Z,173nm,0.9s
P19K Oil Pt 79.93 26 P **P 19 15 33.0 +0.1**
baz=239
SATY Saty 79.94 316 *eP* **P 19 15 31.0 -2.6**
baz=316
SATY Saty 79.94 316 *eP* **P 19 15 30.9 -2.6**
ZALV Zalesovo Beam 79.98 327 P **P 19 15 30.9 -2.3**
comp=Z,13nm,0.5s,baz=113,slow=6.7,SNR=53
ZALV PKKPbc **PKKPbc 19 34 19.5 -1.3**
comp=Z,2.4nm,0.8s,baz=343,slow=1.5,SNR=7.2
ZALV PKPPKP **P'P'df 19 42 21.1 -0.2**
comp=Z,0.7nm,0.5s,baz=300,slow=3.2,SNR=3.8
ZALV LR LR 19 49 33.7
comp=Z,6µm,21.8s,baz=120,slow=35
ZALV Zalesovo Beam 79.98 327 *i* P **P 19 15 32.2 -1.1**
ZALV pmax pmax
comp=Z,13nm,0.5s
N19K Bonanza Creek 80.00 25 P **P 19 15 34.1 +0.7**
baz=238
O20K Slope Mountain 80.41 26 P **P 19 15 36.2 +0.7**
baz=240
TDK Taldyqorghan 80.56 317 *eP* P 19 15 31.8 -4.8
baz=317
TDK *e*LR LR 19 47 30.9
comp=Z,1µm,22.8s,baz=317
TDK Taldyqorghan 80.56 317 *eP* P 19 15 31.7 -4.9
TTA Tatalina 80.56 22 P **P 19 15 37.0 +0.8**
baz=236
L19K White Mountain 80.59 23 P **P 19 15 35.8 -0.6**
L19K lAmb lAmb 19 15 52.7
comp=Z,105nm,0.9s
L19K White Mountain 80.59 23 P **P 19 15 37.5 +1.1**
baz=237,SNR=13
HOM Homer 80.63 26 P **P 19 15 36.9 +0.3**
baz=240
M19K Big River Lodg 80.63 24 P **P 19 15 37.3 +0.7**
baz=238
KSH Kashi 80.66 312 P **P 19 15 38.8 +1.4**
KSH sP pP 19 15 52.1 +0.4
KSH S **S 19 25 44.8 +3.3**
KSH sS ScS 19 26 02.4 +1.9
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,580nm,9.5s
KSH LR LR
comp=Z,990nm,21.6s
KSH LR LR
comp=Z,1µm,22.2s
KSH LR LR
comp=Z,2µm,22.2s
MDOK Medeo 80.92 315 *eP* **P 19 15 36.7 -2.1**
baz=315
MDOK *e*LR LR 19 48 56.9
baz=315
MDOK Medeo 80.92 315 P **P 19 15 38.3 -0.5**
TNSS Tian-Shan 80.96 315 *eP* **P 19 15 38.0 -1.3**
baz=315
TNSS Tian-Shan 80.96 315 *eP* **P 19 15 38.0 -1.3**
BRSE Bradley Lake S 81.07 27 P **P 19 15 40.3 +1.3**
baz=241
M20K Styx River 81.12 24 P **P 19 15 39.3 0.0**
M20K Styx River 81.12 24 P **P 19 15 39.8 +0.5**
baz=239
L20K Farewell, AK 81.14 23 P **P 19 15 40.5 +1.1**
baz=238,SNR=12
N20K Mount Spurr 81.15 25 P **P 19 15 40.6 +1.1**
baz=240
SPCR Spurr Chakacha 81.15 25 P **P 19 15 40.2 +0.7**
baz=240
GCSA Galena City Sc 81.27 21 P **P 19 15 42.1 +2.2**
baz=235
NIL Nilore 81.31 305 P **P 19 15 39.6 -1.2**
NIL lAmb lAmb 19 15 55.2
comp=Z,76nm,0.8s
NIL Nilore 81.31 305 P **P 19 15 39.7 -1.2**
NIL pmax pmax
comp=Z,76nm,0.8s
RDOG Red Dog Mine 81.41 17 P **P 19 15 42.2 +1.5**
baz=229
K20K Telida 81.53 23 lAmb lAmb 19 15 57.7
comp=Z,78nm,0.9s
K20K Telida 81.53 23 P **P 19 15 42.2 +0.8**
baz=238,SNR=10
KUU Kurty 81.63 316 *eP* **P 19 15 39.9 -2.5**
baz=316
KUU Kurty 81.63 316 *eP* **P 19 15 39.8 -2.5**
SEW Seward 81.81 27 lAmb lAmb 19 15 58.2
comp=Z,114nm,1.0s
SEW Seward 81.81 27 P **P 19 15 43.6 +0.8**
baz=242
SKT Skwentna 81.83 24 P **P 19 15 43.6 +0.6**
baz=240
O22K Cooper Landing 81.87 26 P **P 19 15 43.2 +0.1**
baz=242
TKM2 Tokmak 2 81.87 315 P **P 19 15 42.0 -1.9**
SUA Susitna One 81.90 25 P **P 19 15 44.5 +1.1**
baz=241
J20K Nowinta River 81.94 22 lAmb lAmb 19 15 59.9
comp=Z,67nm,1.0s
J20K Nowinta River 81.94 22 P **P 19 15 44.4 +0.9**
baz=238,SNR=11
PPLA Purkeypile 82.02 23 P **P 19 15 44.5 +0.4**
PPLA Purkeypile 82.02 23 P **P 19 15 43.9 -0.2**
baz=240
RC01 Rabbit Creek A 82.15 26 P **P 19 15 45.1 +0.5**
baz=242
KURK Kurchatov 82.28 323 P **P 19 15 45.5 -0.1**
KURK Kurchatov 82.28 323*c iP* **P 19 15 43.8 -1.7**
KURK pmax pmax
comp=Z,23nm,0.7s
KURK MLR MLR
comp=Z,2µm,19.0s
M22K Willow 82.30 25 lAmb lAmb 19 16 00.5
comp=Z,164nm,1.1s
M22K Willow 82.30 25 P **P 19 15 45.9 +0.5**
baz=242
KURBB Kurchatov Arra 82.30 323 PKKPbc PKKPbc 19 34 14.3 -1.0
comp=Z,2.3nm,1.1s,baz=303,slow=3.1,SNR=6.3
KURBB PKPPKP **P'P'df 19 42 18.1 +0.7**
comp=Z,1.3nm,0.9s,baz=294,slow=2.9,SNR=10
KURBB LR LR 19 51 41.0
comp=Z,3µm,21.0s,baz=109,slow=35
CAST Castle Rocks 82.33 23 lAmb lAmb 19 16 01.1
comp=Z,89nm,0.9s
CAST Castle Rocks 82.33 23 P **P 19 15 45.1 -0.4**
baz=240,SNR=19
CHUM Lake Minchumin 82.47 23 P **P 19 15 46.6 +0.4**
baz=239,SNR=19
CHMS Chumysh 82.49 315 *i* P **P 19 15 46.7 -0.2**
CHMS pmax pmax
comp=Z,28nm,1.0s
CUT Chulitna 82.55 24 lAmb lAmb 19 16 03.4
comp=Z,166nm,0.9s
CUT Chulitna 82.55 24 P **P 19 15 47.5 +0.8**
baz=241
AAK Ala-Archa 82.58 314 PKKPbc PKKPbc 19 34 14.3 -0.2
comp=Z,0.8nm,0.5s,baz=228,slow=4.8,SNR=9.3
AAK PKPPKP **P'P'df 19 42 20.0 +2.2**
comp=Z,2.2nm,0.7s,baz=220,slow=6.0,SNR=6.9
AAK LR LR 19 52 53.2
comp=Z,1µm,20.9s,baz=95,slow=36
AAK Ala-Archa 82.58 314 P **P 19 15 46.5 -1.1**
AAK Ala-Archa 82.58 314 ⇑P **P 19 15 45.8 -1.7**
AAK Ala-Archa 82.58 314*c iP* **P 19 15 46.3 -1.2**
AAK pmax pmax
comp=Z,22nm,0.9s
AAK MLR MLR
comp=Z,1µm,18.0s
PMR Palmer 82.64 25 lAmb lAmb 19 16 02.1
comp=Z,67nm,1.0s
PMR Palmer 82.64 25 P **P 19 15 47.4 +0.3**
baz=242
PWL Port Wells 82.65 26 P **P 19 15 47.7 +0.5**
baz=243
SGDS Sogindy 82.70 315 *eP* **P 19 15 45.5 -2.6**
baz=315
SGDS Sogindy 82.70 315 *eP* **P 19 15 45.4 -2.6**
MAW Mawson 82.74 203 P **P 19 15 47.9 +0.3**
comp=Z,16nm,1.0s,baz=107,slow=6.9,SNR=24
MAW LR LR 19 50 47.6
comp=Z,2µm,21.1s,baz=75,slow=34
comp=Z,16nm,1.0s
MAW Mawson 82.74 203 P **P 19 15 48.0 +0.4**

baz=83,SNR=18
MAW Mawson 82.74 203 P **P** **19 15 47.9 +0.3**
MAW Mawson 82.74 203 ⇓P **P** **19 15 48.2 +0.6**
MAW Mawson 82.74 203 P **P** **19 15 47.9 +0.3**
MAW pmax pmax
comp=Z,23nm,0.9s
GHO Glory Hole Cre 82.81 25 IAmb IAmb 19 16 05.6
comp=Z,71nm,0.9s
KNK Knik Glacier 82.85 26 IAmb IAmb 19 16 03.7
comp=Z,107nm,1.2s
KNK Knik Glacier 82.85 26 P **P** **19 15 49.2 +0.9**
baz=243
KTH Kantishna Hill 82.85 23 IAmb IAmb 19 16 02.9
comp=Z,89nm,0.9s
Q23K Middleton Isla 82.92 28 P **P** **19 15 49.2 +0.5**
baz=245
TRF Thorofare Moun 83.05 23 IAmb IAmb 19 16 07.6
comp=Z,63nm,1.0s
TRF Thorofare Moun 83.05 23 P **P** **19 15 49.5 0.0**
baz=241
SML Sawmill 83.08 25 IAmb IAmb 19 16 04.8
comp=Z,132nm,0.9s
SML Sawmill 83.08 25 P **P** **19 15 48.9 -0.6**
baz=243,SNR=8.6
BPAW Bear Paw Mtn. 83.09 23 P **P** **19 15 49.7 +0.2**
baz=240,SNR=6.6
GLI Glacier Island 83.20 26 IAmb IAmb 19 16 05.4
comp=Z,125nm,1.0s
GLI Glacier Island 83.20 26 P **P** **19 15 51.0 +0.9**
baz=244
H21K Melozitna Rive 83.21 21 P **P** **19 15 51.1 +1.0**
baz=239
I21K Tanana 83.26 21 P **P** **19 15 51.5 +1.2**
baz=240
M23K Glacier View 83.33 25 P **P** **19 15 50.9 +0.1**
baz=244
G21K Allakaket 83.42 20 P **P** **19 15 51.4 +0.3**
baz=238
WAT1 Susitna Watana 83.45 24 P **P** **19 15 51.3 -0.1**
baz=243
ROCAM Rodrigues Isla 83.49 251 P **P** **19 15 51.2 -1.3**
SCM Sheep Creek Mo 83.52 25 IAmb IAmb 19 16 07.9
comp=Z,151nm,1.1s
SCM Sheep Creek Mo 83.52 25 P **P** **19 15 52.0 +0.1**
baz=244
BTLS Baital 83.53 317 *e*P **P** **19 15 49.7 -2.5**
baz=317
BTLS Baital 83.53 317 *e*P **P** **19 15 49.7 -2.5**
RND Reindeer 83.59 24 IAmb IAmb 19 16 07.2
comp=Z,89nm,0.9s
MLY Manley 83.64 22 IAmb IAmb 19 16 07.9
comp=Z,76nm,0.9s
MLY Manley 83.64 22 P **P** **19 15 52.3 0.0**
baz=241,SNR=16
WAT6 Susitna Watana 83.67 25 P **P** **19 15 52.2 -0.5**
baz=244
BWN Browne 83.71 23 IAmb IAmb 19 16 07.9
comp=Z,186nm,1.0s
MCK McKinley 83.71 23 P **P** **19 15 52.3 -0.4**
baz=242,SNR=27
F21K Alatna River 83.81 19 P **P** **19 15 53.5 +0.3**
baz=238
QSPA South Pole Qui 83.83 180 LR LR 19 52 08.7
comp=Z,3µm,20.0s,baz=11,slow=35
QSPA South Pole Qui 83.83 180 P **P** **19 15 52.9 -0.6**
H22K Ishtalitna Cre 83.84 21 P **P** **19 15 53.8 +0.4**
baz=240,SNR=11
DIV Divide 83.89 26 IAmb IAmb 19 16 09.3
comp=Z,84nm,1.0s
KLU Klutina 83.98 26 IAmb IAmb 19 16 10.4
comp=Z,128nm,1.0s
KLU Klutina 83.98 26 P **P** **19 15 54.5 +0.3**
baz=245,SNR=12
KAIM Kayak Island 84.02 28 P **P** **19 15 54.9 +0.5**
baz=247
DHY Denali Highway 84.04 24 IAmb IAmb 19 16 10.0
comp=Z,86nm,0.9s
DHY Denali Highway 84.04 24 P **P** **19 15 54.6 +0.1**
baz=244,SNR=18
NEA2 Nenana 84.06 23 IAmb IAmb 19 16 09.1
comp=Z,74nm,0.9s
NEA2 Nenana 84.06 23 P **P** **19 15 54.6 +0.2**
baz=242,SNR=8.0
M24K Tolsona, Glenn 84.13 25 IAmb IAmb 19 16 10.8
comp=Z,100nm,0.9s
M24K Tolsona, Glenn 84.13 25 P **P** **19 15 55.2 +0.3**
baz=245
I23K Minto, Yukon-K 84.21 22 P **P** **19 15 55.2 0.0**
baz=242
G22K Bettles 84.31 20 P **P** **19 15 56.2 +0.6**
baz=240
BMRM Bremner River 84.35 27 IAmb IAmb 19 16 11.6
comp=Z,101nm,1.1s
BMRM Bremner River 84.35 27 P **P** **19 15 56.2 +0.1**
baz=247
WRH Wood River Hil 84.38 23 IAmb IAmb 19 16 10.6
comp=Z,92nm,1.0s
F22K John River 84.39 19 P **P** **19 15 56.4 +0.3**
baz=239
H23K Yukon River 84.47 21 IAmb IAmb 19 16 11.9
comp=Z,87nm,1.2s
H23K Yukon River 84.47 21 P **P** **19 15 57.5 +1.0**
baz=242,SNR=9.3
N25K Chitina, Valde 84.60 26 P **P** **19 15 56.8 -0.6**
baz=247
BGLC Bering Glacier 84.62 28 P **P** **19 15 57.4 +0.1**
baz=248
TCOL CIGO, UAF Yank 84.65 23 IAmb IAmb 19 16 11.9
comp=Z,102nm,0.9s
TCOL CIGO, UAF Yank 84.65 23 P **P** **19 15 57.1 -0.3**
baz=243
COLA College 84.66 23 P **P** **19 15 55.9 -1.6**
COLA IAmb IAmb 19 16 11.9
comp=Z,109nm,0.9s
COLA College 84.66 23 P **P** **19 15 57.4 0.0**
baz=243
COLA College 84.66 23 P **P** **19 15 57.0 -0.4**
COLA College 84.66 23 ⇑P **P** **19 15 56.2 -1.2**
COLA College 84.66 23*d* P **P** **19 15 55.8 -1.6**
COLA pmax pmax
comp=Z,28nm,0.9s
COLA MLR MLR
comp=Z,1µm,12.0s
HARP HAARP 84.68 25 P **P** **19 15 57.5 -0.2**
baz=246
G23K Bananza Creek 84.72 21 P **P** **19 15 58.5 +0.7**
baz=241,SNR=23
PAX Paxson 84.78 25 P **P** **19 15 58.3 0.0**
baz=246
HDA Harding Lake 84.80 23 P **P** **19 15 58.1 -0.1**
baz=244
E22K Anaktuvuk Pass 84.83 19 P **P** **19 15 58.8 +0.5**
baz=239,SNR=21
GLB Gilahina Butte 84.89 26 IAmb IAmb 19 16 14.3
comp=Z,65nm,1.0s
POKR Poker Plat Res 84.92 22 P **P** **19 15 59.0 +0.2**
baz=244
VRDI Verde Repeater 84.96 27 P **P** **19 15 59.1 -0.3**
VRDI IAmb IAmb 19 16 14.8
comp=Z,58nm,1.1s
ILAR Eielson Array 84.98 23 P **P** **19 15 57.4 -1.7**
comp=Z,19nm,0.7s,baz=250,slow=4.6,SNR=87
ILAR PKKPbc **PKKPbc** **19 34 06.5 -3.2**
comp=Z,0.7nm,0.7s,baz=348,slow=1.7,SNR=4.2
ILAR PKPPKP **P'P'df** **19 42 12.7 +1.1**
comp=Z,1.0nm,1.0s,baz=43,slow=2.3,SNR=4.1
ILAR LR LR 19 47 43.3
comp=Z,2µm,21.9s,baz=246,slow=31
comp=Z,19nm,0.7s
K24K Donnelly Dome 85.00 24 P **P** **19 15 59.9 +0.6**
baz=245
H24K Noodor Dome 85.08 22 P **P** **19 16 00.6 +1.0**
baz=243,SNR=8.4
MCARA McCarthy VSAT 85.22 27 P **P** **19 16 01.5 +1.2**
baz=248
OTUK Ortayu 85.48 319 P **P** **19 15 59.6 -2.4**
J25K Salcha River, 85.50 23 P **P** **19 16 01.6 -0.2**
baz=246
E23K Chandalar 85.51 19 P **P** **19 16 03.0 +1.2**
baz=241,SNR=11
KK31 Karatay Array 85.53 314 *i* P **P** **19 15 59.7 -2.7**
KKAR Karatay Array 85.53 314 P **P** **19 16 00.8 -1.6**
KKAR IAmb IAmb 19 16 17.4
comp=Z,48nm,1.1s
KKAR Karatay Array 85.53 314 ⇑P **P** **19 16 00.4 -2.0**
KKAR Karatay Array 85.53 314 P **P** **19 16 00.8 -1.6**
D23K Nanushuk River 85.61 18 P **P** **19 16 03.5 +1.4**
baz=240,SNR=20
M26K Nabesna, AK 85.61 26 P **P** **19 16 03.6 +1.3**
baz=248
G24K Hadweenzic Riv 85.61 21 P **P** **19 16 03.0 +0.8**
baz=244,SNR=10
CHGR Chuyangaron 85.61 309 IAmb IAmb 19 16 40.8
comp=Z,94nm,1.1s
DOT Dot Lake 85.64 24 IAmb IAmb 19 16 17.9
comp=Z,108nm,1.0s
IUG Iuzhnay 85.67 313 *e*P **P** **19 16 01.3 -1.9**
baz=313
IUG Iuzhnay 85.67 313 *e*P **P** **19 16 01.3 -1.9**
L26K Log Cabin Wild 85.70 25 IAmb IAmb 19 16 18.4
comp=Z,40nm,0.9s
L26K Log Cabin Wild 85.70 25 P **P** **19 16 03.4 +0.6**
baz=248,SNR=10
BRZS Berezniki 85.70 321 *e*P **P** **19 16 01.5 -1.5**
baz=321
BRZS Berezniki 85.70 321 *e*P **P** **19 16 01.5 -1.5**
BARN Barnard Glacie 85.71 27 IAmb IAmb 19 16 21.4
comp=Z,43nm,0.9s
SCRK Sand Creek 85.80 24 P **P** **19 16 04.1 +0.7**
baz=247,SNR=13
TOLK Toolik Lake Re 85.80 19 P **P** **19 16 02.9 -0.2**
TOLK IAmb IAmb 19 16 20.8
comp=Z,48nm,0.8s
TOLK Toolik Lake Re 85.80 19 P **P** **19 16 04.2 +1.1**
baz=241,SNR=8.7
PRP Porcupine Dome 85.82 22 P **P** **19 16 04.1 +0.6**
baz=245
CTG Chitna Glacier 85.82 27 P **P** **19 16 04.3 +0.7**
baz=250
CTGM Chitina Glacie 85.83 27 IAmb IAmb 19 16 21.9
comp=Z,58nm,0.8s
F24K Squaw Lake 85.84 20 P **P** **19 16 04.2 +0.8**
baz=243,SNR=39
E24K Your Creek 85.89 20 P **P** **19 16 04.2 +0.6**
baz=248
NRIK Noril'sk 85.90 342 P **P** **19 16 03.1 -0.5**
comp=Z,6.5nm,0.6s,baz=102,slow=5.8,SNR=10
NRIK pP **pP** **19 16 17.2 -0.7**
comp=Z,26nm,0.8s,baz=116,slow=4.5,SNR=14
NRIK LR LR 19 54 48.0
comp=Z,2µm,19.4s,baz=112,slow=36
comp=Z,6.5nm,0.6s
NRIK Noril'sk 85.90 342⇑ *e*P **P** **19 16 03.0 -0.5**
NRIK pmax pmax
comp=Z,38nm,0.9s
NRIK MLR MLR
comp=Z,2µm,20.0s
LOGN Logan Glacier 85.93 28 IAmb IAmb 19 16 22.3
comp=Z,42nm,0.8s
H25K Birch Creek 86.02 22 P **P** **19 16 04.9 +0.6**
baz=245
C23K Itkillik River 86.06 18 P **P** **19 16 05.3 +1.0**
baz=240,SNR=10
M27K Edge Creek, AK 86.08 26 P **P** **19 16 05.3 +0.5**
baz=249,SNR=16
G25K Bearman Lake 86.13 21 P **P** **19 16 05.8 +1.1**
baz=245,SNR=6.5
J26L Joseph Creek 86.17 24 IAmb IAmb 19 16 22.9
comp=Z,51nm,0.8s
J26L Joseph Creek 86.17 24 P **P** **19 16 06.0 +0.9**
baz=247,SNR=18
D24K Happy Valley 86.28 19 P **P** **19 16 06.7 +1.2**
baz=242
O28M Mount Upton 86.29 28 P **P** **19 16 07.2 +1.2**
baz=251
PNL Peninsula 86.30 29 P **P** **19 16 06.5 +0.7**
baz=251
PNL Peninsula 86.30 29 P **P** **19 16 07.8 +2.0**
L27K Beaver Creek, 86.35 25 IAmb IAmb 19 16 22.1
comp=Z,85nm,1.1s
L27K Beaver Creek, 86.35 25 P **P** **19 16 06.9 +0.9**
baz=249,SNR=20
FYU Fort Yukon 86.36 22 IAmb IAmb 19 16 23.5
comp=Z,75nm,0.9s
YUK3 Moose Creek 86.50 27 P **P** **19 16 07.5 +0.5**
baz=250,SNR=8.8
BVCY Beaver Creek 86.54 26 P **P** **19 16 08.0 +1.1**
baz=250,SNR=9.5
C24K Franklin Bluff 86.59 18 P **P** **19 16 08.2 +1.3**
baz=242,SNR=14
K27K Chicken 86.60 24 IAmb IAmb 19 16 23.7
comp=Z,120nm,1.1s
K27K Chicken 86.60 24 P **P** **19 16 08.1 +1.0**
baz=249
F25K Christian Rive 86.64 20 P **P** **19 16 09.0 +1.6**
baz=245
I26K Coal Creek Min 86.64 23 P **P** **19 16 06.2 -1.1**
I26K IAmb IAmb 19 16 24.6
comp=Z,41nm,0.8s
I26K Coal Creek Min 86.64 23 P **P** **19 16 07.8 +0.4**
baz=248
YUK8 Steele Glacier 86.65 27 P **P** **19 16 09.0 +1.2**
baz=251
E25K Arctic Village 86.89 20 P **P** **19 16 10.3 +1.8**
baz=245
O29M Mount Kennedy 86.89 28 P **P** **19 16 10.4 +1.6**
baz=252
G26K Porcupine Rive 87.04 21 P **P** **19 16 09.8 +0.6**
baz=247,SNR=23
P29M Windy Craggy 87.09 29 IAmb IAmb 19 16 28.2
comp=Z,52nm,0.9s
P29M Windy Craggy 87.09 29 P **P** **19 16 10.1 +0.4**
baz=253
D25K Kavik River 87.14 19 P **P** **19 16 10.5 +0.8**
baz=244,SNR=8.1
YUK4 Talbot Arm 87.18 27 P **P** **19 16 10.8 +0.5**
baz=252,SNR=13
YUK6 Outpost Mounta 87.19 28 P **P** **19 16 11.1 +0.7**
baz=252
F26K Sheenjek River 87.21 21 P **P** **19 16 10.0 -0.1**
baz=247,SNR=13
EGAK Eagle 87.24 24 IAmb IAmb 19 16 29.2
comp=Z,87nm,0.9s
EGAK Eagle 87.24 24 P **P** **19 16 10.2 0.0**
baz=250,SNR=15
I27K Kandik River 87.35 23 P **P** **19 16 11.2 +0.4**
baz=249,SNR=19
HYT Haines Junctio 87.56 28 P **P** **19 16 12.3 +0.3**
baz=253,SNR=20
M29M Somme Creek 87.61 26 P **P** **19 16 12.7 +0.5**
baz=252,SNR=15
H27K Steamboat Moun 87.61 22 P **P** **19 16 12.8 +0.7**
baz=249,SNR=16
PLBC Pleasant Camp 87.71 30 P **P** **19 16 13.3 +0.7**
baz=254
DAWY Dawson 87.72 25 P **P** **19 16 13.1 +0.5**
baz=251,SNR=20
DAWY Dawson 87.72 25 ⇑P **P** **19 16 12.8 +0.2**
G27K Doyon Strip 87.77 22 P **P** **19 16 13.3 +0.5**
baz=249,SNR=6.7
BVA0 Borovoye Array 87.82 324 P **P** **19 16 11.7 -1.6**
BVAR Borovoye Array 87.82 324 LR LR 19 55 28.1
comp=Z,1µm,21.4s,baz=89,slow=36
C26K Camden Bay 87.86 18 P **P** **19 16 13.9 +0.9**
baz=246
BRVK Borovoye 87.89 324 P **P** **19 16 11.5 -2.1**
BRVK Borovoye 87.89 324 ⇑P **P** **19 16 11.8 -1.7**
BRVK Borovoye 87.89 324*d* P **P** **19 16 11.9 -1.7**
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK MLR MLR
comp=Z,2µm,18.0s
N30M Aishikik Lake 87.93 28 P **P** **19 16 14.4 +0.6**
baz=253
L29M L29M 87.96 26 P **P** **19 16 14.0 +0.2**
baz=252,SNR=24
S32K Killisnoo 88.10 32 P **P** **19 16 15.1 +0.7**
baz=256
C27K Jacob River 88.12 19 P **P** **19 16 15.3 +0.9**
baz=247,SNR=16
O30N Mendenhall 88.20 28 P **P** **19 16 15.5 +0.5**
baz=254,SNR=8.1
SKAG Skagway 88.22 30 IAmb IAmb 19 16 33.5
comp=Z,65nm,1.0s
SKAG Skagway 88.22 30 P **P** **19 16 15.8 +0.8**
baz=255
BESE Bessie Mountai 88.23 31 IAmb IAmb 19 16 31.4
comp=Z,115nm,1.2s
E27K Coleen River 88.29 21 P **P** **19 16 16.6 +1.3**
baz=249,SNR=14
R32K Eaglecrest 88.33 31 P **P** **19 16 16.8 +1.2**
baz=256
J29M Klondike Camp 88.33 25 P **P** **19 16 16.5 +0.9**
baz=252
M30M Minto, Yukon 88.39 27 IAmb IAmb 19 16 32.0
comp=Z,98nm,1.4s
M30M Minto, Yukon 88.39 27 P **P** **19 16 16.3 +0.4**
baz=254,SNR=7.7
JIS Juneau Island 88.40 31 P **P** **19 16 17.9 +2.1**
K29M Barlow Dome 88.44 25 P **P** **19 16 16.3 +0.1**
baz=253,SNR=23
N31M Braeburn, Yuko 88.54 28 IAmb IAmb 19 16 32.3
comp=Z,99nm,1.1s
N31M Braeburn, Yuko 88.54 28 P **P** **19 16 17.0 +0.4**
baz=254,SNR=8.1
I29M Ogilvie Camp, 88.57 24 IAmb IAmb 19 16 32.3
comp=Z,73nm,1.1s
I29M Ogilvie Camp, 88.57 24 P **P** **19 16 17.6 +1.0**
baz=252,SNR=14
WHY Whitehorse 88.75 29 IAmb IAmb 19 16 33.1
comp=Z,48nm,1.0s
WHY Whitehorse 88.75 29 P **P** **19 16 18.3 +0.6**
baz=255
WRAK Wrangell Islan 89.04 33 P **P** **19 16 19.9 +0.9**
baz=258
P32M Atlin 89.05 30 P **P** **19 16 19.8 +0.8**
baz=256
M31M Drury Creek, Y 89.36 27 P **P** **19 16 21.1 +0.7**
baz=256
EPYK Eagle Plains 89.50 23 P **P** **19 16 21.1 +0.2**
baz=254,SNR=9.3
Q32M Nakina River 89.63 31 P **P** **19 16 21.6 -0.3**
baz=258
P33M Teslin, Yukon 89.64 29 P **P** **19 16 22.4 +0.6**
baz=257
FARO Faro, Yukon 89.85 27 IAmb IAmb 19 16 37.6
comp=Z,48nm,1.2s
FARO Faro, Yukon 89.85 27 P **P** **19 16 23.3 +0.6**
baz=257
G30M tAoh Zraii Nji 89.86 22 P **P** **19 16 22.7 +0.1**
baz=254,SNR=13
S34M Telegraph Cree 90.00 32 P **P** **19 16 24.7 +1.3**
baz=255
R33M Jennings River 90.38 30 P **P** **19 16 26.5 +1.2**
baz=259
DLBC Dease Lake 90.67 31 P **P** **19 16 26.2 -0.5**
comp=Z,4.8nm,1.1s,baz=310,slow=13,SNR=7.4
comp=Z,4.8nm,1.1s
DLBC Dease Lake 90.67 31 P **P** **19 16 27.9 +1.2**
baz=259
BBB Bella Bella 90.69 38 LR LR 19 49 30.8
comp=Z,3µm,20.9s,baz=262,slow=30
MMPY Sheldon Lake, 90.88 27 P **P** **19 16 27.8 +0.3**
baz=258
F31M Tsiigehtchic 90.91 22 P **P** **19 16 26.9 -0.6**
baz=256,SNR=6.7
INK Inuvik 91.19 21 P **P** **19 16 27.2 -1.5**
comp=Z,14nm,1.0s,baz=293,slow=3.0,SNR=16
INK PKKP **PKKPdf** **19 33 50.4 -0.5**
comp=Z,1.0nm,0.5s,baz=141,slow=2.5,SNR=5.9
INK LR LR 19 53 02.9
comp=Z,2µm,21.4s,baz=232,slow=33
comp=Z,14nm,1.0s
INK Inuvik 91.19 21 IAmb IAmb 19 16 47.3
comp=Z,55nm,1.1s
INK Inuvik 91.19 21 P **P** **19 16 28.0 -0.7**
baz=256,SNR=13
INK Inuvik 91.19 21 ⇑P **P** **19 16 27.8 -0.9**
WTLY Watson Lake, Y 91.59 30 P **P** **19 16 31.6 +0.7**
baz=260
TGTN Hyland Airport 92.07 28 P **P** **19 16 33.9 +0.8**
baz=261
WSAR Wadi Sarin 92.37 293 P **P** **19 16 35.2 0.0**
comp=Z,2.5nm,0.7s,baz=194,slow=9.6,SNR=2.5
WSAR PKKPbc **PKKPbc** **19 33 49.4 -0.2**
comp=Z,3.3nm,0.6s,baz=263,slow=6.6,SNR=5.0
comp=Z,2.5nm,0.7s
LIRD Liard River Hi 92.84 31 P **P** **19 16 36.8 +0.3**
baz=263
HUMO Hull Mountain 92.95 48 ⇑sP sP 19 16 52.2 -5.2
YBH Yreka Blue Hor 93.05 49 LR LR 19 51 06.6
comp=Z,5µm,21.8s,baz=274,slow=31
AB31 Akbulak array 93.73 319 *i* P **P** **19 16 38.1 -2.8**
ABKAR Akbulak array 93.73 319 ⇓P **P** **19 16 39.3 -1.6**
KOTAN Kotaneelee Air 93.94 30 P **P** **19 16 43.1 +1.5**
baz=265
SVE Sverdlovsk 93.98 327 *e*P P 19 16 52.8 +11
SVE pmax pmax
comp=Z,19nm,1.7s
SVE MLR MLR
comp=E,4µm,23.0s
SVE MLR MLR
comp=Z,5µm,23.0s
GEYT Alibeck 94.11 308 P **P** **19 16 42.0 -1.0**
comp=Z,2.6nm,0.8s,baz=176,slow=4.5,SNR=6.0
GEYT LR LR 20 01 01.8
comp=Z,2µm,21.3s,baz=90,slow=37
comp=Z,2.6nm,0.8s
GEYT Alibeck 94.11 308 P **P** **19 16 40.9 -2.1**
K05A Summer Lake 94.48 48 IAmb IAmb 19 17 12.2
comp=Z,47nm,1.5s
WRGLY Wrigley 94.50 27 P **P** **19 16 46.6 +2.5**
baz=265
A36M Sachs Harbour 94.59 18 IAmb IAmb 19 16 59.5
comp=Z,50nm,0.9s
A36M Sachs Harbour 94.59 18 P **P** **19 16 44.6 +0.3**
baz=264,SNR=5.7
SMMC Simmler 94.64 55 P **P** **19 16 46.0 +0.5**
baz=266
C36M Paulatuk 94.75 21 P **P** **19 16 46.5 +1.5**
baz=265
PKM Mcpherson Peak 94.76 56 P **P** **19 16 47.0 +0.8**
baz=266
SCZ2 Santa Cruz Isl 94.84 56 P **P** **19 16 47.6 +1.2**
baz=266
SNCC San Nicolas Is 94.88 57 P **P** **19 16 47.7 +1.1**
baz=266
ARU Arti 95.09 326 P **P** **19 16 46.2 -0.7**
comp=Z,1.3nm,0.4s,baz=117,slow=9.0,SNR=3.5
ARU PKKPbc **PKKPdf** **19 33 42.2 -1.4**
comp=Z,3.4nm,0.9s,baz=315,slow=10.0,SNR=4.3
ARU LR LR 20 01 23.6
comp=Z,2µm,19.4s,baz=88,slow=37
comp=Z,1.3nm,0.4s
ARU Arti 95.09 326*d* P P 19 16 57.1 +10
ARU SP SP 19 29 23.6 +9.1
ARU PS PS 19 29 51.1 +30
ARU pmax pmax
comp=Z,20nm,1.9s
ARU MLR MLR
comp=Z,3µm,22.0s
LHV Little Huntoon 96.02 52 P **P** **19 16 50.6 -1.0**
NVAR Mina Array Bea 96.19 52 P **P** **19 16 51.1 -1.5**
comp=Z,1.0nm,0.7s,baz=252,slow=6.8,SNR=7.1
NVAR PKKP **PKKPbc** **19 33 41.0 +0.6**
comp=Z,0.7nm,0.7s,baz=141,slow=2.8,SNR=3.8
NVAR PKPPKP **P'P'df** **19 41 53.6 +0.5**
comp=Z,0.1nm,0.4s,baz=121,slow=3.5,SNR=1.5
comp=Z,1.0nm,0.7s
EDW2 Edwards Air Fo 96.25 56 P **P** **19 16 53.5 +0.7**
baz=267
CWC Cottonwood Cre 96.26 54 P **P** **19 16 53.6 +0.6**
baz=267
BFSC Mount Baldy Ra 96.49 56 P **P** **19 16 54.9 +0.8**
baz=267
LRMC Laurel Mtn Rad 96.54 55 P **P** **19 16 54.5 +0.3**
baz=267
MPMC Manual Prospec 96.72 54 P **P** **19 16 55.4 +0.2**
baz=267
GRAC Grapevine Rang 96.86 54 P **P** **19 16 56.3 +0.7**
baz=268
NEW Newport 97.38 42 LR LR 19 53 48.6
comp=Z,2µm,21.9s,baz=274,slow=31
PFO Pinyon Flats O 97.46 57 LR LR 19 51 49.6
comp=Z,4µm,21.9s,baz=276,slow=30
TPFO Pinon Flats 97.46 57 P **P** **19 16 57.7 -0.8**
baz=268
IKP In-Ko-Pah, Jac 97.71 58 P **P** **19 16 58.0 -1.5**
baz=268
TPNV Topopah Spring 97.75 54 P **P** **19 16 59.6 -0.2**
baz=268
BELC Belle Mtn. Jos 97.86 57 P Pdif 19 17 00.7 +0.4
baz=268
RPN Rapa Nui 97.87 118 LR LR 19 53 13.9
comp=Z,1µm,21.9s,baz=294,slow=30
SWSC Sam W. Stewart 97.99 58 P Pdif 19 17 01.6 +0.9
baz=268
GMRC Granite Mounta 98.17 56 P Pdif 19 17 02.5 +0.9
baz=268
BC3 Big Chuckawall 98.30 57 P Pdif 19 17 03.2 +0.9
baz=268
R11A Troy Canyon, C 98.32 52 P Pdif 19 17 03.6 +1.3
baz=269
YKA Yellowknife Ar 98.55 28 P **P** **19 17 01.0 -1.4**

comp=Z,3.1nm,0.9s,baz=275,slow=4.6,SNR=5.4
YKA pP **pP** **19 17 16.4 -0.5**
comp=Z,13nm,1.0s,baz=271,slow=5.0,SNR=9.4
YKA PKKPbc **PKKPbc** **19 33 33.9 -0.7**
comp=Z,1.1nm,0.6s,baz=86,slow=2.6,SNR=5.2
YKA LR LR 19 58 51.8
comp=Z,3µm,20.5s,baz=285,slow=34
comp=Z,3.1nm,0.9s
YKA Yellowknife Ar 98.55 28 *i* P Pdif 19 17 02.7 +0.2
YKA pmax pmax
comp=Z,3.0nm,0.9s
IRM Iron Mountain 98.57 56 P Pdif 19 17 04.1 +0.8
baz=268
SHPR Sheep Range 98.62 54 P **P** **19 17 01.1 -2.5**
ABPO Ambohimpanom 98.70 250 P **P** **19 17 02.3 -2.1**
ABPO IAmb IAmb 19 17 18.6
comp=Z,49nm,1.2s
ABPO Ambohimpanom 98.70 250 P **P** **19 17 02.3 -2.1**
ABPO pmax pmax
comp=Z,49nm,1.3s
TROLL Troll, Antarti 98.95 190 Pdiff **P** **19 17 04.1 -0.2**
HLID Hailey 99.25 47 P **Pdif** **19 17 06.9 +0.6**
baz=270
KIRV Kirov 100.00 328 LR LR 20 02 56.9
comp=Z,7µm,21.1s,baz=87,slow=36
SNAA Sanae 100.11 189 Pdiff **Pdif** **19 17 09.0 -0.5**
SNAA Sanae 100.11 189 *c i*P **Pdif** **19 17 09.5 0.0**
SNAA pmax pmax
comp=Z,24nm,1.1s
SNAA MLR MLR
comp=Z,4µm,19.0s
VNA3 Neumayer Olymp 101.44 187 Pdiff **Pdif** **19 17 14.3 -1.0**
VNA2 Neumayer--Watz 101.44 188 Pdiff **Pdif** **19 17 14.7 -0.6**
baz=151,slow=4.0
PRGR Permogore 101.53 332 *e*P **Pdif** **19 17 13.9 -1.9**
VNA1 Neumayer--Stat 101.81 188 Pdiff **Pdif** **19 17 16.7 -0.2**
MAK Makhachkala 102.28 313 *i* P **Pdif** **19 17 12.1 -7.4**
MAK *e* 19 21 28.8
MAK *e*PPP PPP 19 23 38.8
MAK *e* 19 27 52.7
MAK *e*PS **PS** **19 30 44.6 +5.3**
MAK *e*SS SS 19 36 02.5 -3.5
MAK *e*SSS SSS 19 39 58.1
MAK pmax pmax
comp=Z,131nm,1.1s
BW06 Boulder Array 102.83 48 P **Pdif** **19 17 22.1 -0.2**
baz=274
PDAR Pinedale Array 102.83 48 P **Pdif** **19 17 21.5 -0.8**
comp=Z,0.5nm,0.6s,baz=257,slow=2.2,SNR=4.0
PDAR pP **pPdif** **19 17 35.6 -1.2**
comp=Z,1.2nm,0.8s,baz=262,slow=2.2,SNR=5.4
PDAR PP **PP** **19 21 34.9 -1.8**
comp=Z,0.3nm,0.6s,baz=237,slow=6.8,SNR=1.8
PDAR PKKPbc **PKKPbc** **19 33 20.4 -1.4**
comp=Z,0.5nm,0.5s,baz=95,slow=5.0,SNR=5.0
PDAR PKPPKP **P'P'df** **19 41 41.0 +0.8**
comp=Z,0.4nm,0.8s,baz=76,slow=3.8,SNR=2.4
RLMT Red Lodge 102.88 45 P **Pdif** **19 17 22.5 0.0**
baz=274
GNI Garni 104.53 310 PKKPbc PKKPbc 19 33 28.9 +12
comp=Z,4.5nm,0.7s,baz=275,slow=12,SNR=3.7
KLMR Klimovskoe 104.58 331 *ep*Pdif **pPdif** **19 17 39.7 -4.1**
KLMR AMP 19 17 46.2
comp=Z,19nm,1.6s
KLMR *e*PP **PP** **19 21 47.0 -1.8**
KLMR PS **PS** **19 30 54.6 -8.2**
KLMR PS **PS** **19 30 54.6 -8.2**
KLMR *e*PKKPbc **PKKPdf** **19 33 22.1 -4.2**
KLMR LQ LQ 19 55 18.6
KLMR LQ LQ 19 55 18.6
KLMR LR LR 19 57 09.4
KLMR AMP 20 06 18.0
comp=Z,2µm,16.7s
KLMR Klimovskoe 104.58 331 *e*P **Pdif** **19 17 39.6 +10**
KLMR *e* 19 21 46.9
KLMR PS **PS** **19 30 54.5 -8.2**
KLMR pmax pmax
comp=Z,19nm,1.6s
KLMR MLR MLR
comp=Z,2µm,17.0s
APA Apatity 105.10 339 ⇓ *i*P **Pdif** **19 17 42.8 +11**
APA *i* 19 29 06.0
APA *i* PS **PS** **19 30 53.0 -15**
APA pmax pmax
comp=Z,6.0nm,1.2s
APA MLR MLR
comp=Z,4µm,20.0s
KBZ Khabaz 105.57 314 PKKPab PKKPab 19 33 27.1 -1.8
comp=Z,3.2nm,0.8s,baz=332,slow=4.8,SNR=4.8
KIV Kislovodsk 105.69 314 *e*P **Pdif** **19 17 32.0 -2.8**
KIV *e* 19 21 55.5
KIV *e*PPP PPP 19 24 09.3
KIV *e*PS **PS** **19 31 12.0 -3.3**
KIV *e*SS SS 19 36 50.4 -2.6
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,988nm,21.0s
ANMO Albuquerque 105.73 56 PP **PP** **19 22 00.6 +2.1**
comp=Z,2.0nm,1.0s,baz=288,slow=6.4,SNR=4.2
ARCES ARCESS Array B 106.88 342 Pdiff **Pdif** **19 17 39.5 0.0**
comp=Z,2.0nm,0.8s,baz=66,slow=7.0,SNR=7.8
ARCES PKiKP **PKiKP** **19 21 49.8 +0.8**
comp=Z,1.8nm,0.9s,baz=106,slow=2.0,SNR=0.8
ARCES PKKPbc **PKKPbc** **19 33 06.3 -3.7**
comp=Z,4.0nm,1.0s,baz=247,slow=1.9,SNR=5.8
TXAR Lajitas Array 108.42 61 PKiKP **PKiKP** **19 21 54.6 +1.3**
comp=Z,0.6nm,0.7s,baz=246,slow=0.9,SNR=2.8
TXAR PKKPbc **PKKPbc** **19 33 05.4 +1.3**
comp=Z,0.4nm,0.4s,baz=118,slow=5.3,SNR=4.2
TXAR PKPPKP **P'P'df** **19 41 28.7 -1.6**
comp=Z,0.1nm,0.4s,baz=159,slow=2.8,SNR=1.0
FINES FINESS Array B 110.49 334 Pdiff **Pdif** **19 17 54.5 -1.2**
comp=Z,4.0nm,1.1s,baz=117,slow=0.3,SNR=1.5
FINES PKiKP **PKiKP** **19 21 56.7 +0.8**
comp=Z,13nm,1.2s,baz=111,slow=3.4,SNR=2.3
FINES PKKPab **PKKPab** **19 33 06.4 -0.4**
comp=Z,5.2nm,0.9s,baz=230,slow=3.5,SNR=6.0
ULM Lac du Bonnet 110.88 38 PKKP 19 33 10.0
comp=Z,3.5nm,0.6s,baz=152,slow=0.8,SNR=3.1
ASF Jabal al Asfar 111.61 302 PKKP 19 33 08.7
comp=Z,6.4nm,0.9s,baz=221,slow=6.8,SNR=3.7
ECSD EROS Data Cent 112.04 45 P **PKiKP** **19 22 00.2 +0.7**
baz=283
MNK Minsk 112.49 327 *i* P **Pdif** **19 18 07.0 +2.3**
comp=E,4.0nm,1.3s
MNK *i* P **Pdif** **19 18 07.0 +2.3**
comp=N,38nm,1.3s
MNK *i* P **Pdif** **19 18 07.0 +2.3**
comp=Z,6.0nm,0.8s,baz=68
MNK *i* PP **PP** **19 22 43.4 -3.1**
MNK *i* PPP PPP 19 25 05.0
MNK *i* SKS **SKSdf** **19 29 04.5 -3.5**
MNK *i* SS **SS** **19 38 20.3 -3.0**
MNK *i* SKKS **SKKSdf** **19 40 14.8 -5.2**
MNK *i* SSS SSS 19 42 30.9
MNK *i* LQ LQ 20 02 55.9
MNK *i* LR LR 20 06 36.6
MNK *i* LRM MLR 20 09 18.8
comp=E,288nm,15.9s
MNK *i* LRM MLR 20 09 32.1
comp=Z,3µm,22.9s
MNK *i* LRM MLR 20 09 40.8
comp=N,661nm,19.7s
MNK Minsk 112.49 327 *i* P **Pdif** **19 18 07.0 +2.3**
MNK *i* 19 22 43.4
MNK *i* PPP PPP 19 25 05.0
MNK *i* 19 29 04.5
MNK *i* SS SS 19 38 20.3 -3.1
MNK *i* SSS SSS 19 42 30.8
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=E,4.0nm,1.3s
MNK pmax pmax
comp=N,38nm,1.3s
MNK MLR MLR
comp=E,288nm,16.0s
MNK MLR MLR
comp=Z,3µm,23.0s
MNK MLR MLR
comp=N,661nm,20.0s
NACGM Naroch 112.92 328 LRM MLR 20 06 47.9
comp=Z,4µm,25.1s
NACGM Naroch 112.92 328 PP **PP** **19 22 51.4 +1.8**
baz=67
NACGM Naroch 112.92 328 PPP PPP 19 25 10.6
NACGM Naroch 112.92 328 SKS SKKSac 19 30 08.7 +21
NACGM Naroch 112.92 328 S 19 31 59.8
NACGM Naroch 112.92 328 PS PS 19 32 45.7 +20
NACGM Naroch 112.92 328 SPP SPP 19 33 57.6
NACGM Naroch 112.92 328 SS SS 19 38 34.5 +5.5
NACGM Naroch 112.92 328 SSS SSS 19 44 24.9
NACGM Naroch 112.92 328 LQ LQ 19 56 55.1
NACGM Naroch 112.92 328 LR LR 20 03 31.3
BRTR Keskin Array B 113.04 311 PKiKP **PKiKP** **19 22 02.0 +0.3**
comp=Z,1.0nm,0.8s,baz=80,slow=1.5,SNR=2.3
BRTR PKKPbc **PKKPbc** **19 32 49.1 -0.3**
comp=Z,1.9nm,0.9s,baz=207,slow=0.8,SNR=5.0
AKASG Malin Array Be 113.09 323 PKiKP **PKiKP** **19 22 01.0 -0.2**
comp=Z,0.5nm,0.4s,baz=56,slow=2.6,SNR=2.7
AKASG PKKPbc **PKKPbc** **19 32 47.6 -1.7**
comp=Z,0.8nm,0.5s,baz=266,slow=4.2,SNR=5.8
AKBB Malin Array Si 113.09 323 ⇑ *i*PKiKP **PKiKP** **19 22 04.7 +3.5**
SOE Somerset East 113.58 230 ⇑P **Pdif** **19 18 13.6 +3.4**
MILM Milestii Mici 114.58 319 *e*PP PP 19 23 07.0 +5.4
MILM *e*L L 20 02 07.0
MILM LRM MLR 20 08 32.0
comp=Z,1µm,20.0s
BOSA Boshof 115.47 234 PKP **PKPdf** **19 22 08.1 +1.4**
comp=Z,3.1nm,0.8s,baz=117,slow=3.0,SNR=7.0
BOSA PKKPbc **PKKPbc** **19 32 42.5 +1.7**
comp=Z,3.7nm,1.1s,baz=318,slow=4.0,SNR=2.5
PRAR RASCA 116.10 320 ⇓P PKiKP 19 22 15.0 +7.8
NB2 NORSAR Subarra 116.68 338 PKPdf PKiKP 19 22 21.3 +13
baz=44,slow=1.9
NB2 NORSAR Subarra 116.68 338 PKPdf PKiKP 19 22 21.3 +13
comp=Z,9.6nm,1.7s,baz=44,slow=1.9
NB2 PKKP **PKKPbc** **19 32 35.8 -1.6**
comp=Z,14nm,1.2s,baz=228,slow=3.6
NOA NORSAR Array B 116.68 338 PKP **PKPdf** **19 22 06.8 -1.1**
comp=Z,1.4nm,0.9s,baz=52,slow=1.5,SNR=3.2
NOA PKKPbc **PKKPbc** **19 32 35.8 -1.6**
comp=Z,1.0nm,0.7s,baz=221,slow=4.0,SNR=3.6
MLR Muntele Rosu 116.93 318 ⇓P PKiKP 19 22 22.2 +13
MLR Muntele Rosu 116.93 318 PKP **PKiKP** **19 22 09.2 +0.2**
comp=Z,1.9nm,0.7s,baz=132,slow=9.6,SNR=3.6
MLR PKKPbc **PKKPbc** **19 32 34.8 -1.3**
baz=236,slow=3.6
CMIG Matias Romero 117.09 74 PKP **PKiKP** **19 22 10.4 +0.5**
comp=Z,2.3nm,0.6s,baz=78,slow=2.9,SNR=5.5
CCM Cathedral Cave 117.35 50 **PKPdf** **19 22 08.2 -1.6**
CCM Cathedral Cave 117.35 50 P **PKPdf** **19 22 09.8 -0.1**
baz=285
CCM Cathedral Cave 117.35 50 PKIKP **PKPdf** **19 22 08.2 -1.6**
UZH Uzhgorod 118.04 323 ⇑ *i*PKIKP **PKiKP** **19 22 17.4 +6.5**
UZH *i* 19 22 38.9
OXF Oxford 119.66 54 P **PKPdf** **19 22 14.3 -0.1**
baz=284
OKC Ostrava-Krasne 119.92 325 AMS AMS 20 12 50.0
comp=Z,3µm,24.9s
MORC Moravsky Berou 120.29 326 ⇑P PKiKP 19 22 29.0 +14
MORC Moravsky Berou 120.29 326 *e*PKP **PKiKP** **19 22 15.7 +0.4**
MORC *e* 19 22 29.0
MORC *e*PKKP **PKKPbc** **19 32 24.5 +0.5**
MAUC Maruska 120.33 325 AMS AMS 20 12 50.0
comp=Z,4µm,23.1s
MAUC Maruska 120.33 325 *e*PKP PKiKP 19 22 29.1 +14
WVT Waverly 120.49 52 P **PKiKP** **19 22 16.2 +0.2**
baz=286
KRLC Kraliky 120.56 326 AMS AMS 20 12 50.0
comp=Z,3µm,24.4s
KRLC Kraliky 120.56 326 *ep*PKP pPKPdf 19 22 29.0 -1.5
KRLC Kraliky 120.56 326 *ex* x 19 32 33.1
KRLC Kraliky 120.56 326 *e*PKPPKP 19 41 07.4
OSTC Ostas 120.62 327 AMS AMS 20 12 50.0
comp=Z,4µm,22.6s
OSTC Ostas 120.62 327 *ep*PKP pPKPdf 19 22 28.1 -2.5
OSTC Ostas 120.62 327 *e*PKKP 19 32 35.3
OSTC Ostas 120.62 327 *e*SS SS 19 40 58.4 +49
JAVC Velka Javorina 120.67 325 *e*PKKP 19 32 24.2
JAVC Velka Javorina 120.67 325 *e*PKP **PKiKP** **19 22 16.4 +0.3**
JAVC Velka Javorina 120.67 325 *e* PKiKP 19 22 30.8 +15
DPC Dobruska-Polom 120.67 327 AMS AMS 20 12 50.0
comp=Z,4µm,24.5s
DPC Dobruska-Polom 120.67 327 *ep*PKP pPKPdf 19 22 29.4 -1.3
DPC Dobruska-Polom 120.67 327 *e*PKKP 19 32 22.9
DPC Dobruska-Polom 120.67 327 *e*SS SS 19 40 51.3 +41
CHVC Chvalec 120.69 327 AMS AMS 20 12 50.0
comp=Z,4µm,25.8s
CHVC Chvalec 120.69 327 *ep*PKP pPKPdf 19 22 26.1 -4.6
UPC Upice 120.76 327 AMS AMS 20 13 00.0
comp=Z,4µm,23.9s
UPC Upice 120.76 327 *ep*PKP pPKPdf 19 22 30.1 -0.7
UPC Upice 120.76 327 *e*PKPPKP 19 40 41.8
VRAC Vranov 121.06 325 *e*PKP **PKiKP** **19 22 16.8 0.0**
VRAC *e* 19 22 29.7
VRAC *e*PKKP **PKKPbc** **19 32 23.2 +2.1**
VRAC *e* 19 32 34.2
PLCA Paso Flores 121.12 146 PKP **PKPdf** **19 22 17.1 -0.1**
comp=Z,12nm,1.0s,baz=238,slow=1.7,SNR=15
KRUC Moravsky 121.29 325 *e*PKP **PKPdf** **19 22 17.1 0.0**
KRUC *e* 19 22 30.4
KRUC *e*PKKP **PKKPbc** **19 32 23.4 +3.2**
KRUC *e* 19 32 33.4
MORH Mrgy, Hungar 121.33 321 PKP **PKiKP** **19 22 17.6 +0.2**
PVCC Panska Ves 121.53 327 AMS AMS 20 15 10.0
comp=Z,2µm,22.9s
PVCC Panska Ves 121.53 327 *ep*PKP pPKPdf 19 22 31.4 -0.9
MPLH Magyarpolny 121.56 323 PKP PKiKP 19 22 30.8 +13
BRG Berggiesshubel 121.67 328 *e*PKP **PKPdf** **19 22 17.3 -0.4**
BRG Amp 19 22 23.0
comp=Z,5.5nm,1.0s
BRG *ex* x 19 22 31.6
BRG Amp 19 22 34.6
comp=Z,14nm,0.9s
BRG *ex* x 19 32 32.8
BRG Amp 19 32 34.7
comp=Z,7.7nm,1.1s
BRG Berggiesshubel 121.67 328 *ex* x 19 33 40.0
BRG Berggiesshubel 121.67 328 *e*PKIKP **PKPdf** **19 22 17.3 -0.4**
BRG *e* 19 22 31.5
BRG *e* 19 33 40.0
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=Z,2µm,21.9s
BRG MLR MLR
comp=E,2µm,24.0s
BRG MLR MLR
comp=N,921nm,24.9s
TREC Trest 121.69 326 AMS AMS 20 13 20.0
comp=N,4µm,23.6s
FNA Florina 121.73 315 **PKPdf** **19 22 16.5 -1.8**
FNA Florina 121.73 315 PKIKP **PKPdf** **19 22 16.5 -1.8**
GOPC GO Pecny, Ondr 121.74 327 AMS AMS 20 13 50.0
comp=N,3µm,23.1s
GOPC GO Pecny, Ondr 121.74 327 *ep*PKP pPKPdf 19 22 31.3 -1.5
P49A Miami Univ. Ec 121.78 47 P **PKiKP** **19 22 19.4 +0.9**
baz=290
PRU Pruhonice 121.84 327 AMS AMS 20 13 40.0
comp=N,3µm,21.8s
PRU Pruhonice 121.84 327 *ep*PKP pPKPdf 19 22 31.5 -1.4
PRU Pruhonice 121.84 327 *e*SS SS 19 40 48.9 +24
CLL Collm 121.91 329 *e*Pdif **Pdif** **19 18 47.0 +0.3**
CLL *e*PKPdf **PKPdf** **19 22 17.0 -1.2**
comp=Z,4.0nm,0.7s
CLL *ep*PKPdf **pPKPdf** **19 22 31.0 -2.0**
comp=Z,14nm,1.0s
CLL *e*PP **PP** **19 23 57.0 +5.0**
CLL *ex* x 19 25 19.0
CLL *e*PPP PPP 19 26 28.0
CLL *e*PPPP 19 28 12.0
CLL *ep*PKKPbc 19 32 30.0
comp=Z,21nm,1.2s
CLL *e*PS **PS** **19 33 43.0 -3.7**
CLL *e*PPS PPS 19 35 12.0
CLL *ex* x 19 36 06.0
CLL *e*SS SS 19 40 42.0 +16
CLL *e*SSS SSS 19 45 18.0
CLL *ex* x 19 49 54.0
CLL *ex* x 19 53 12.0
CLL LmH 20 16 00.0
comp=N,2µm,20.9s
CLL LmH 20 16 00.0
comp=E,3µm,21.7s
CLL LmH 20 16 00.0
comp=Z,4µm,21.6s
CLL LmV 20 18 00.0
comp=Z,4µm,20.0s
CLL Lmax 20 18 00.0
CLL Collm 121.91 329 *e*PKIKP **PKPdf** **19 22 17.0 -1.2**
CLL *e* 19 22 31.0
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL MLR MLR
comp=Z,4µm,20.0s
LRAL Lakeview Retre 121.97 55 P **PKPdf** **19 22 18.7 -0.1**
baz=285
RONA Rosalia, Austr 122.04 324 *e*P PKiKP 19 22 32.5 +14
comp=Z,14nm,1.1s
CKRC Cesky Krumlov 122.59 326 *e*SS SS 19 41 06.9 +32
CKRC Cesky Krumlov 122.59 326 *e*PKPDF **PKPdf** **19 22 19.7 +0.1**
CKRC Cesky Krumlov 122.59 326 *ep*PKP pPKPdf 19 22 33.0 -1.4
CKRC Cesky Krumlov 122.59 326 *ex* x 19 32 27.5
ARSA Arzberg 122.72 324 P PKiKP 19 22 33.4 +13
comp=Z,6.3nm,0.9s
ACSO Alum Creek Sta 122.77 46 P **PKiKP** **19 22 21.6 +1.2**
baz=292
NKC Novy Kostel 122.82 328 AMS AMS 20 18 40.0
comp=Z,3µm,20.3s
NKC Novy Kostel 122.82 328 *e*PKIKP **PKiKP** **19 22 20.2 0.0**
NKC *e* 19 22 33.4
NKC MLR MLR
comp=Z,3µm,20.3s
NKC Novy Kostel 122.82 328 *e*PKPDF **PKiKP** **19 22 20.2 0.0**
NKC Novy Kostel 122.82 328 *ep*PKP pPKPdf 19 22 33.4 -1.4
KHC Kasperske Hory 122.83 326 AMS AMS 20 14 10.0
comp=Z,3µm,22.5s
KHC Kasperske Hory 122.83 326 *e*PKIKP **PKiKP** **19 22 20.7 +0.4**
KHC *e*SS SS 19 41 06.9 +29
KHC MLR MLR
comp=Z,3µm,22.5s
KHC Kasperske Hory 122.83 326 *e*PKPDF **PKiKP** **19 22 20.7 +0.4**
KHC Kasperske Hory 122.83 326 *ep*PKP pPKPdf 19 22 33.3 -1.6
KHC Kasperske Hory 122.83 326 *e*PKKP 19 32 27.3
KHC Kasperske Hory 122.83 326 *ex* x 19 41 06.9
GEC2 CERESS Array S 122.92 326 PKPdf **PKPdf** **19 22 19.8 -0.6**
GERES GERESS Array B 122.92 326 PKP **PKPdf** **19 22 19.9 -0.4**
comp=Z,1.6nm,0.6s,baz=64,slow=3.1,SNR=17
GERES PKKPbc **PKKPbc** **19 32 16.0 +2.0**
comp=Z,0.2nm,0.5s,baz=179,slow=5.3,SNR=3.6
MOA Molln 123.13 325 *e*P PKiKP 19 22 34.9 +14
comp=Z,7.8nm,1.0s
SOKA Soboth 123.29 323 *e*P PKiKP 19 22 34.5 +13
comp=Z,17nm,0.9s
SADO Sadowa 123.42 39 PKP **PKiKP** **19 22 22.6 +1.0**
comp=Z,5.4nm,0.7s,baz=314,slow=2.9,SNR=4.2
P52A Corning 123.60 46 P **PKiKP** **19 22 23.2 +1.1**
baz=292
TZTN Tazewell 123.66 50 P **PKiKP** **19 22 23.1 +0.8**
baz=289
OBKA Obir 123.67 323 *e*P PKiKP 19 22 35.3 +13
comp=Z,6.7nm,0.8s
SCHQ Schefferville 123.73 24 PKP **PKPdf** **19 22 21.2 -0.4**
comp=Z,3.8nm,0.7s,baz=270,slow=4.0,SNR=2.2
TKL Tuktaleechee C 123.77 51 PKP **PKPdf** **19 22 22.4 +0.1**
comp=Z,6.3nm,0.7s,baz=290,slow=1.8,SNR=4.6
M53A WI Miller and 123.89 43 P **PKiKP** **19 22 24.4 +1.8**
baz=295
O53A New Philadelph 124.01 45 P **PKiKP** **19 22 24.4 +1.5**
baz=294
KBA Koelnbreinsper 124.07 324 *e*P PKiKP 19 22 35.6 +13
comp=Z,8.6nm,1.0s
CEY Cerknica 124.13 323 *i* PKPdf **PKPdf** **19 22 22.6 -0.2**
CEY *ep*PKPdf **pPKPdf** **19 22 36.4 -1.1**
CEY *e* 19 32 23.9
GOGA Godfrey 124.71 53 P **PKiKP** **19 22 25.1 +0.6**
baz=288
ABTA Abfaltersbach 124.73 325 *e*P **PKPdf** **19 22 23.2 -0.7**
comp=Z,9.8nm,0.9s
ABTA *e*P **pPKPdf** **19 22 37.0 -1.6**
comp=Z,16nm,0.9s
WATA Walderalm 124.94 326 *e*P **PKiKP** **19 22 24.7 0.0**
comp=Z,13nm,1.0s
WATA *e*P **pPKPdf** **19 22 37.8 -1.3**
comp=Z,11nm,0.8s
WTTA Wattenberg 124.95 325 P **PKPdf** **19 22 23.9 -0.5**
comp=Z,25nm,1.0s
WTTA *e*P **pPKPdf** **19 22 38.3 -0.9**
comp=Z,25nm,1.0s
TIGA Tifton 125.17 56 P **PKiKP** **19 22 26.5 +1.1**
baz=286
MOTA Moosalm 125.20 326 *e*P **PKPdf** **19 22 24.1 -0.8**
comp=Z,13nm,0.7s
MOTA *e*P **pPKPdf** **19 22 38.4 -1.3**
comp=Z,32nm,0.9s
SQTA Sankt Quirin 125.21 326 *e*P **PKPdf** **19 22 24.2 -0.7**
comp=Z,6.8nm,0.6s
SQTA *e*P **pPKPdf** **19 22 38.4 -1.3**
comp=Z,18nm,1.0s
RETA Reutte 125.31 326 P **PKiKP** **19 22 25.7 +0.4**
comp=Z,4.9nm,1.0s
RETA *e*P **pPKPdf** **19 22 38.2 -1.5**
comp=Z,5.4nm,0.9s
FETA Feichten 125.59 326 *e*P **PKiKP** **19 22 26.5 +0.4**
comp=Z,13nm,0.9s
FETA *e*P **pPKPdf** **19 22 39.4 -1.0**
comp=Z,19nm,0.9s
BLA Blacksburg 125.76 48 P **PKiKP** **19 22 27.5 +1.0**
baz=292
BTNL Ternell 125.77 331 *d*pPKP pPKPdf 19 22 41.3 +0.7
MEM Membach 125.81 331 *d*PKiKP **PKPdf** **19 22 25.4 -0.3**
MEM *dp*PKP **pPKPdf** **19 22 39.9 -0.7**
KMSC Kings Mountain 125.82 51 P **PKiKP** **19 22 27.8 +1.1**
baz=290
DAVA Damuels 125.91 326 *e*P **PKPdf** **19 22 25.5 -0.7**
comp=Z,18nm,0.8s
DAVA *e*P **pPKPdf** **19 22 40.3 -0.7**
comp=Z,22nm,0.9s
SSPA Standing Stone 126.14 43 P **PKiKP** **19 22 27.9 +0.8**
baz=297
BCLA Clavier 126.27 332 *d*PKP **PKiKP** **19 22 28.4 +1.4**
BCLA *dp*PKP **pPKPdf** **19 22 43.5 +2.0**
LONY Lake Ozonia 126.30 37 P **PKiKP** **19 22 27.9 +0.6**
baz=302
WLF Walferdange 126.37 331 *dp*PKP pPKPdf 19 22 41.5 -0.3
BMRD Maredsous 126.61 332 *d*PKiKP **PKiKP** **19 22 28.1 +0.4**
BMRD *dp*PKP **pPKPdf** **19 22 40.6 -1.5**
BINY Binghamton 126.67 41 P **PKiKP** **19 22 29.5 +1.4**
baz=300
SNF Seneffe 126.69 332 *d*PKiKP **PKPdf** **19 22 27.3 -0.1**
SNF *dp*PKP **pPKPdf** **19 22 42.9 +0.6**
DOU Dourbes 126.83 332 *dp*PKP **pPKPdf** **19 22 41.9 -0.7**
DOU *dp*PKiKP pPKiKP 19 22 44.2 +1.2
JTS Las Juntas de 126.87 82 PKP **PKPdf** **19 22 28.6 -0.2**
comp=Z,22nm,1.0s,baz=202,slow=1.5,SNR=5.2
CO02 Combarbal 126.99 137 **PKPdf** **19 22 27.5 -1.3**
TRQA Tornquist 127.63 150 **PKPdf** **19 22 29.1 -0.6**
TRQA Tornquist 127.63 150 PKiKP **PKPdf** **19 22 29.1 -0.6**
LBNH Lisbon 128.10 36 P **PKiKP** **19 22 32.0 +1.1**
baz=305
PAL Palisades 128.62 41 P **PKiKP** **19 22 32.3 +0.3**
baz=301
L61B Northampton 128.64 39 P **PKiKP** **19 22 32.4 +0.4**
baz=303
PKME Peaks-Kenny Pk 129.00 34 P **PKiKP** **19 22 32.7 0.0**
baz=308
HRV Adam Dziewonsk 129.30 38 P **PKiKP** **19 22 34.1 +0.8**
baz=304
MCRA Macar, Loja 130.40 101 PKPdf **PKPdf** **19 22 35.3 -0.3**
ATAH Atahualpa 131.28 105 PKP **PKPdf** **19 22 36.2 -1.5**
comp=Z,16nm,1.0s,baz=298,slow=2.5,SNR=4.5
ATAH pPKP **pPKPdf** **19 22 52.4 -0.3**
comp=Z,76nm,0.9s,baz=330,slow=0.3,SNR=20
NNA Nana 131.35 112 PKP **PKPdf** **19 22 37.7 +0.3**
comp=Z,3.6nm,0.3s,baz=320,slow=2.4,SNR=3.8
NNA pPKP **pPKPdf** **19 22 51.9 -0.3**
comp=Z,64nm,0.9s,baz=284,slow=5.1,SNR=8.8
LVC Limon Verde 133.49 129 PKP **PKPdf** **19 22 41.9 +0.3**
comp=Z,7.0nm,0.6s,baz=211,slow=0.7,SNR=8.9
LVC pPKP **pPKPdf** **19 22 56.9 +0.8**
comp=Z,15nm,0.7s,baz=210,slow=3.4,SNR=7.7
PB09 IPOC Station P 133.67 128 **PKPdf** **19 22 38.4 -3.4**
PB11 IPOC Station P 134.40 125 PKPpre 19 22 27.4
PB11 PKPdf **PKPdf** **19 22 39.7 -3.4**
PB08 IPOC Station P 134.61 126 PKPdf **PKPdf** **19 22 41.4 -2.4**
ROSC El Rosal 137.26 90 PKhKP PKPpre 19 22 43.6
comp=Z,12nm,0.5s,baz=288,slow=21,SNR=4.0
ROSC PKP **PKPdf** **19 22 49.8 +0.9**
comp=Z,17nm,0.5s,baz=198,slow=3.2,SNR=6.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPAZ	La Paz	137.36	122	PKhKP	PKPpre	19 22 38.4	
	comp=Z,2.7nm,0.7s,baz=344,slow=1.2,SNR=10.0						
LPAZ				PKP	PKPdf	19 22 49.4	+0.1
	comp=Z,20nm,0.7s,baz=280,slow=1.6,SNR=19						
UCM	Universidad Co	137.64	328	PP	PP	19 25 37.7	+3.2
ESDC	Sonseca Array	138.48	328	PKP	PKPdf	19 22 48.4	-1.6
	comp=Z,0.3nm,0.6s,baz=18,slow=2.7,SNR=2.4						
ESDC				PKKP	PKKPdf	19 32 20.2	-1.2
	comp=Z,0.3nm,0.8s,baz=276,slow=1.4,SNR=1.4						
ESDC				SKKPbc	SKKPbc	19 35 00.9	-3.3
	comp=Z,1.7nm,1.0s,baz=229,slow=5.4,SNR=5.5						
PGAV	Gavieira, Arco	138.83	334	ePP	PP	19 25 43.6	+1.9
PGAV	Gavieira, Arco	138.83	334	eSS	SS	19 44 57.9	+65
PGAV	Gavieira, Arco	138.83	334	eLR	LR	20 14 29.8	
	comp=Z,3μm,20.0s						
MVO	Moncorvo	138.90	332	ePKPdf	PKiKP	19 22 52.1	-0.9
MVO				i LQ	LQ	19 23 04.9	
MVO	Moncorvo	138.90	332	ePP	PP	19 25 45.6	+3.5
MVO	Moncorvo	138.90	332	eSS	SS	19 44 52.5	+59
MVO	Moncorvo	138.90	332	eLR	LR	20 12 33.5	
	comp=Z,3μm,22.0s						
CPUP	Villa Florida	139.08	143	PKhKP	PKPpre	19 22 45.2	
	comp=Z,2.1nm,0.6s,baz=250,slow=3.4,SNR=5.6						
CPUP				PKP	PKPdf	19 22 51.3	-0.1
	comp=Z,21nm,0.9s,baz=285,slow=2.5,SNR=11						
POLO	Lamas de Olo	139.09	333	ePKPdf	PKiKP	19 22 54.6	+1.2
POLO				i LQ	LQ	19 23 07.0	
PVRL	Vila Real	139.13	332	ePKPdf	PKPdf	19 22 50.7	-0.4
PVRL				i LQ	LQ	19 23 07.2	
URIC	Uribia, Colomb	139.54	79	PKPdf	PKPdf	19 22 47.5	-5.0
PVIS	Viseu	139.65	332	ePKPdf	PKPdf	19 22 51.5	-0.6
MTE	Manteigas	139.74	331	ePKPdf	PKPdf	19 22 50.9	-1.4
MTE				i LQ	LQ	19 23 07.5	
MTE	Manteigas	139.74	331	ePP	PP	19 25 53.3	+6.0
MTE	Manteigas	139.74	331	eSS	SS	19 45 03.1	+59
MTE	Manteigas	139.74	331	eLR	LR	20 11 51.9	
	comp=Z,3μm,20.0s						
PCBR	Castelo Branco	140.14	331	ePKPdf	PKiKP	19 22 54.4	-1.0
PMRV	Marv??o	140.42	330	ePKPdf	PKPdf	19 22 54.3	+0.8
PMRV				i LQ	LQ	19 23 10.5	
PMRV	Marv??o	140.42	330	ePP	PP	19 25 55.6	+4.1
PMRV	Marv??o	140.42	330	eLR	LR	20 12 16.6	
	comp=Z,2μm,20.0s						
PCAS	Casmilo, Conde	140.46	332	ePKPdf	PKiKP	19 22 57.0	+0.9
PCAS				i LQ	LQ	19 23 08.4	
CHAS	Isla Isabel II	140.67	321	PKP	PKPdf	19 22 46.9	-7.1
CHAS	Isla Isabel II	140.67	321	PP	PP	19 25 54.8	+1.4
EMAL	Malaga-Limoner	140.81	325	PKP	PKPpre	19 22 37.9	
EMAL	Malaga-Limoner	140.81	325	PP	PP	19 25 56.0	+2.0
WMELI	Melilla	140.91	322	PKP	PKPdf	19 22 47.8	-6.7
WMELI	Melilla	140.91	322	PP	PP	19 25 54.2	-0.6
PESTR	Estremoz	140.95	330	i LQ	LQ	19 23 08.7	
SDV	Santo Domingo	141.01	83	PKhKP	PKPpre	19 22 50.5	
	comp=Z,9.0nm,0.5s,baz=20,slow=3.3,SNR=5.7						
SDV				PKP	PKPdf	19 22 55.4	-0.1
	comp=Z,36nm,0.8s,baz=253,slow=3.2,SNR=7.7						
PSBE	So Bento	141.03	332	ePKPdf	PKPpre	19 22 44.1	
PSBE				i LQ	LQ	19 23 12.7	
PMTG	Montargil	141.10	331	i LQ	LQ	19 23 18.9	
PBAR	Barrancos	141.20	329	ePKPdf	PKPdf	19 22 54.5	-0.4
PBAR				i LQ	LQ	19 23 13.8	
EVO	Evora	141.42	330	PKP	PKPdf	19 22 45.5	-10
EVO	Evora	141.42	330	PP	PP	19 25 52.0	-5.6
EVO	Evora	141.42	330	ePKPdf	PKiKP	19 23 04.8	+6.7
EVO				i LQ	LQ	19 23 20.3	
PBEJ	Beja	141.73	329	ePKPdf	PKiKP	19 23 04.4	+5.6
PBEJ				i LQ	LQ	19 23 12.9	
LIS	Lisbon	141.82	331	ePKPdf	PKPdf	19 22 54.3	-1.7
LIS				ePP	PP	19 25 59.6	-0.4
LIS				IAMs_20	IAMs_20	20 30 59.1	
	comp=Z,3μm,18.7s						
LIS	Lisbon	141.82	331	ePKIKP	PKPdf	19 22 54.3	-1.7
LIS				e		19 25 59.5	
PVLZ	Peæn de	141.82	323	PKP	PKPdf	19 22 48.4	-7.7
PVLZ	Peæn de	141.82	323	PP	PP	19 25 59.5	-0.8
ARNO	Arenosillo	141.84	327	PKP	PKPdf	19 22 47.6	-8.4
ARNO	Arenosillo	141.84	327	PP	PP	19 26 02.0	+1.8
CEU	Ceuta	141.95	325	PKP	PKPdf	19 22 49.7	-6.6
CEU	Ceuta	141.95	325	PP	PP	19 26 01.8	+0.8
PNCL	Nicolau / Gran	142.00	330	i LQ	LQ	19 23 16.9	
MESJ	Messejana	142.06	330	ePKPdf	PKPdf	19 22 54.9	-1.6
MESJ				ePP	PP	19 26 01.2	-0.2
MESJ				eSS	SS	19 44 33.3	+2.4
MESJ				IAMs_20	IAMs_20	20 27 45.6	
	comp=N,2μm,15.1s						
MESJ	Messejana	142.06	330	ePKIKP	PKPdf	19 22 54.9	-1.6
MESJ				e		19 26 01.2	
MESJ				eSS	SS	19 44 33.3	+2.4
PCVE	Castro Verde	142.12	329	i LQ	LQ	19 23 13.7	
PVAQ	Vaqueiros	142.13	329	ePP	PP	19 26 07.5	+5.6
PVAQ	Vaqueiros	142.13	329	eSS	SS	19 45 36.0	+64
PVAQ	Vaqueiros	142.13	329	eLR	LR	20 17 57.2	
	comp=N,2μm,20.0s						
MORF	Marmelete	142.69	329	ePKPdf	PKPdf	19 22 56.1	-1.6
MORF				ePP	PP	19 26 05.0	-0.3
MORF				IAMs_20	IAMs_20	20 27 36.8	
	comp=N,4μm,31.8s						
MORF	Marmelete	142.69	329	ePKPdf	PKPdf	19 22 56.8	-0.9
MORF	Marmelete	142.69	329	ePKIKP	PKPdf	19 22 56.0	-1.6
MORF				e		19 26 05.0	
SIV	San Ignacio	143.30	127	PKhKP	PKPpre	19 22 55.4	
	comp=N,20nm,0.7s,baz=226,slow=3.5,SNR=56						
IFR	Ifrane	143.45	322	PKP	PKPab	19 22 50.3	-5.2
IFR	Ifrane	143.45	322	PP	PP	19 26 13.3	+2.9
SJG	San Juan	144.07	68	PKP	PKPdf	19 23 00.1	-0.4
	comp=N,12nm,0.6s,baz=290,slow=7.5,SNR=2.4						
SJG	San Juan	144.07	68	eP	PKPab	19 22 47.4	-11
SAML	Samuel	144.94	115		PKPab	19 22 59.7	-1.8
SAML	Samuel	144.94	115	PKP2	PKPab	19 22 59.7	-1.8
AVE	Averroes	144.98	324	PKP	PKPab	19 22 58.5	-2.6
AVE	Averroes	144.98	324	PP	PP	19 26 26.2	+6.9
PTLB	Pontes e Lacer	145.14	128		PKPbc	19 23 00.5	-1.5
CDVI	St. Croix	145.44	68	eP	PKPdf	19 22 56.7	-6.1
VILB	Vilhena	145.66	124	PKPdf	PKPdf	19 23 01.7	-1.7
TOA0	Torodi Ar. Sit	146.68	285	PKPdf	PKPdf	19 23 03.7	-1.4
TORD	Torodi Ar. Bea	146.68	285	PKPbc	PKPdf	19 23 05.9	+0.8
	comp=N,22nm,0.5s,baz=53,slow=3.2,SNR=64						
TORD				SKKPbc	SKKPbc	19 34 29.4	-0.5
	comp=N,0.8nm,0.8s,baz=270,slow=5.2,SNR=0.9						
PCRV	Puerto La Cruz	146.86	81	PKPbc	PKPdf	19 23 06.1	+0.6
	comp=N,29nm,0.7s,baz=271,slow=3.5,SNR=12						
SEUS	St. Eustatius	147.14	67	eP	PKPdf	19 22 56.7	-9.0
ANWB	Willy Bob	148.19	66	eP	PKPdf	19 22 58.4	-9.1
ANBD	Bethesda, Anti	148.38	67	eP	PKPdf	19 23 02.0	-5.8
GDHS	Morne Mazeau,	148.59	69		PKPdf	19 23 09.7	+1.4
CBE	Ff, Capester	148.79	69		PKPbc	19 23 12.6	+0.1
CBE	Ff, Capester	148.79	69	eP	PKPdf	19 23 10.4	+1.8
CBE	Ff, Capester	148.79	69	e	PKPab	19 23 25.8	+9.4
ABD	La Joyeuse, An	148.80	68	eP	PKPbc	19 23 11.4	-1.0
ABD	La Joyeuse, An	148.80	68	e	PKPab	19 23 25.5	+9.2
TDBA	Terre de Bas,	148.82	69		PKPbc	19 23 11.6	-0.9
TDBA	Terre de Bas,	148.82	69	eP	PKPdf	19 22 58.6	-10
DSLB	Salisbury	149.12	70	eP	PKPbc	19 23 12.3	-1.0
DSLB	Salisbury	149.12	70	e	PKPab	19 23 26.9	+9.2
MAGL	Barre de l'ile	149.13	69	eP	PKPdf	19 23 10.8	+1.7
MAGL	Barre de l'ile	149.13	69	e	PKPab	19 23 26.5	+8.9
GDSD	La Dsirade Is	149.23	68		PKPbc	19 23 12.2	-1.3
DLPL	La Plaine	149.31	70	eP	PKPbc	19 23 14.2	+0.5
FDF	Fort de France	149.54	71	eP	PKPdf	19 23 10.7	+0.9
GRGR	Grenville	149.55	77	eP	PKPdf	19 22 56.7	-13
BIM	Bigot	149.67	72	eP	PKPdf	19 23 01.4	-8.6
GCMP	Grenada, Carri	149.72	76	eP	PKiKP	19 23 15.3	-0.4
SLBI	Saint Lucia, B	149.87	73	eP	PKPdf	19 23 01.4	-8.9
MPOM	Morne Pois Mar	149.88	72	eP	PKPab	19 23 20.7	-0.1
MCLT	Moule a Chique	149.96	73	eP	PKPab	19 23 24.6	+3.5
TRN	Trinidad (W)	149.98	79	eP	PKPbc	19 23 15.3	-0.1
PMOZ	Porto Moniz, M	150.34	335	eLR	LR	20 24 20.1	
	comp=N,1μm,20.0s						
BOAV	Boa Vista	150.72	96	PKPdf	PKPdf	19 23 10.1	-1.6
BDFB	Brasilia	152.81	143	PKP	PKPdf	19 23 15.1	+0.2
	comp=N,13nm,0.8s,baz=176,slow=1.9,SNR=14						
BDFB				PKPbc	PKPbc	19 23 22.0	-0.1
	comp=N,42nm,0.7s,baz=199,slow=0.8,SNR=34						
BDFB				PKPab	PKPab	19 23 34.2	+1.2
	comp=N,42nm,0.8s,baz=170,slow=6.4,SNR=11						
KIC	Kosan Boka	153.51	272⥣	ePKP2	PKiKP	19 23 24.6	+0.9
	comp=N,16nm,0.6s						
DBIC	Dimbokro	153.63	273	PKPbc	PKPbc	19 23 23.8	0.0
	comp=N,12nm,0.8s,baz=136,slow=2.5,SNR=18						
DBIC				PKPab	PKPab	19 23 37.4	+0.9
	comp=N,36nm,0.9s,baz=149,slow=1.8,SNR=11						
DBIC	Dimbokro	153.63	273	PKPdf	PKPdf	19 23 14.3	-1.7
DBIC					PKPbc	19 23 22.6	-1.2
DBIC	Dimbokro	153.63	273	PKIKP	PKPdf	19 23 14.3	-1.7
TIC	Toumodi	153.79	273⥣	ePKP2	PKiKP	19 23 25.4	+1.1
	comp=N,40nm,0.6s						
LIC	Lamto	153.79	272⥣	ePKP2	PKiKP	19 23 25.9	+1.6
	comp=N,139nm,1.0s						
MDP	Montagnes des	158.83	92	PKP	PKPdf	19 23 23.2	+0.3
	comp=N,16nm,1.1s,baz=267,slow=1.9,SNR=4.0						
MDP				PKPab	PKPab	19 23 58.6	-0.3
	comp=N,15nm,0.8s,baz=248,slow=4.1,SNR=4.2						

*UPP **01** 19:03:54.4±0.1, 67°.05N×20°.97E, h0km, ML2.3, Explosion*
*IDC **01** 19:03:54.9±1.0, 67°.03N×21°.23E, h0km, mbtmp3.0/4, ML1.6/3, Error ellipse: s-maj=18.9km s-min=8.4km az=116.0*
*HEL **01** 19:03:55.1±0.0, 67°.05N×20°.95E, h0km, ML2.0, ML2.3(UPP), Explosion*
*BER **01** 19:03:55.0±1.9, 66°.85N×21°.18E, h0km, ML1.5, Suspected explosion*
ISC 01 19:03:54.2±0.7, **67°.05N**±0°.02×**20°.97E**±0°.02, **h0**km, **n66**, σ**1s02**/100, **Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.17	294	P	Pg	19 03 57.9	+0.4
DUNU				S	Sg	19 04 00.5	+0.9
DUNU	Dundret	0.17	294	i P	Pg	19 03 57.9	+0.4
DUNU				i S	Sg	19 04 00.5	+0.9
MASU	Masugnsbyn	0.57	44	P	Pg	19 04 05.4	+0.3
MASU	Masugnsbyn	0.57	44	i P	Pg	19 04 05.4	+0.3
ERTU	Ertsjaerv	0.70	136	P	Pg	19 04 07.4	-0.1
ERTU				S	Sg	19 04 16.2	-0.3
ERTU	Ertsjaerv	0.70	136	i P	Pg	19 04 07.4	-0.1
ERTU				i S	Sg	19 04 16.2	-0.3
PAJU	Pajala	0.84	91	eP	Pg	19 04 09.9	-0.4
	baz=276						
PAJU				eSB	Sb	19 04 25.1	+1.5
HARU	Harads	0.89	180	P	Pg	19 04 11.0	-0.3
HARU	Harads	0.89	180	i P	Pg	19 04 11.0	-0.3
KUA	Kurravaara	0.94	345	P	Pg	19 04 11.7	-0.5
KUA	Kurravaara	0.94	345	eP	Pg	19 04 11.7	-0.5
RATU	Laukkuluspa	0.94	326	P	Pg	19 04 11.7	-0.4
RATU	Laukkuluspa	0.94	326	eP	Pg	19 04 11.7	-0.4
SALU	Saltoluokta	1.01	290	P	Pg	19 04 13.2	-0.3
SALU	Saltoluokta	1.01	290	eP	Pg	19 04 13.2	-0.3
LANU	Lannavaara	1.07	21	P	Pg	19 04 14.1	-0.7
LANU	Lannavaara	1.07	21	eP	Pg	19 04 14.1	-0.7
LANU				eSB	Sb	19 04 29.5	-0.7
NIKU	Nikkaluokta	1.11	319	P	Pg	19 04 14.9	-0.5
NIKU	Nikkaluokta	1.11	319	eP	Pg	19 04 14.9	-0.5
KLF	Kolari	1.18	80	eP	Pg	19 04 16.1	-0.7
KLF				eSB	Sg	19 04 32.9	+0.7
KOVU	Salmi	1.22	346	P	Pg	19 04 16.7	-0.7
KOVU	Salmi	1.22	346	eP	Pg	19 04 16.7	-0.7
KALU	Kalix	1.54	140	P	Pn	19 04 22.4	-0.4
KALU	Kalix	1.54	140	eP	Pn	19 04 22.1	-0.7
	baz=318						
KALU				eSN	Sn	19 04 43.6	+0.2
SJUU	Sjulsmark	1.57	170	P	Pn	19 04 23.1	-0.2
SJUU	Sjulsmark	1.57	170	eP	Pn	19 04 23.1	-0.2
TOF	Tornio	1.66	125	eP	Pn	19 04 24.6	+0.1
	baz=305						
TOF				MSG		19 04 45.6	
	comp=Z,18nm,0.2s						
TOF				eSG	Sn	19 04 46.8	+0.3
HEF	Hetta	1.70	36	eP	Pn	19 04 25.0	-0.1
	baz=223						
HEF				MSG		19 04 46.3	
	comp=Z,13nm,0.2s						
HEF				eSN	Sg	19 04 48.8	0.0
HEF	Hetta	1.70	36	eP	Pn	19 04 25.1	-0.1
HEF				eS	Sn	19 04 47.4	-0.2
LILU	Lilltraesk	1.83	195	P	Pn	19 04 27.2	+0.3
LILU	Lilltraesk	1.83	195	eP	Pn	19 04 27.2	+0.3
KIF	Kilpisjarvi	1.96	358	ePB	Pb	19 04 30.3	-0.4
KIF				MSG		19 04 53.9	
	comp=Z,14nm,0.2s						
KIF				eSG	Sg	19 04 56.9	-0.2
KIF	Kilpisjarvi	1.96	358	eP	Pb	19 04 30.4	-0.4
KIF				eS	Sg	19 04 57.3	+0.2
RNF	Rovaniemi	2.04	100	eP	Pn	19 04 30.8	+1.0
RNF				eSG	Sb	19 04 59.1	+1.0
KTK1	Kautokeino	2.14	22	ePB	Pb	19 04 33.0	-0.9
KTK1				eSG	Sb	19 05 01.3	+0.3
KTK1	Kautokeino	2.14	22	eP	Pb	19 04 33.0	-0.9
KTK1				eS	Sb	19 05 01.3	+0.3
KTK1				IAML		19 05 03.1	
	comp=Z,6.2nm,0.2s						
SGF	Sodankyl	2.20	77	ePB	Pn	19 04 33.4	+1.5
SGF				eSG	Sb	19 05 03.4	+0.9
FAUS	Fauske	2.24	281	eP	Pn	19 04 33.5	+1.0
FAUS				IAML		19 05 06.9	
	comp=Z,12nm,0.2s						
STEI	Steigen	2.37	294	eP	Pn	19 04 35.1	+0.8
STEI				IAML		19 05 11.3	
	comp=Z,3.1nm,0.4s						
BURU	Burvik	2.49	176	eP	Pn	19 04 37.1	+1.2
	baz=358						
BURU				eSG	Sb	19 05 11.5	+0.8
JETT	Jettan, Norway	2.52	356	eP	Pb	19 04 39.1	-1.2
JETT				e		19 05 13.1	
JETT				IAML		19 05 20.0	
	comp=Z,6.3nm,0.0s						
TRO	Tromso	2.70	345	eP	Pn	19 04 40.0	+1.3
TRO				IAML		19 05 21.8	
	comp=Z,3.1nm,0.4s						
OBF4	Vikkela, Lumij	2.82	141	eP	Pn	19 04 41.6	+1.2
OUL	Oulu	2.82	132	eP	Pn	19 04 42.2	+1.8
OUL				eSG	Sb	19 05 21.6	+1.3
OBF0	Syolatti, Pyha	2.90	151	eP	Pn	19 04 42.8	+1.3
OBF8	Ulkokalla	2.92	158	eP	Pn	19 04 42.8	+1.0
ARA0	ARCESS Array S	3.01	32	eP	Pn	19 04 43.8	+0.7
ARA0				eS	Sn	19 05 21.0	+1.2
ARA0				IAML		19 05 27.1	
	comp=Z,2.1nm,0.1s						
ARCES	ARCESS Array B	3.01	32	Pn	Pn	19 04 43.6	+0.5
	comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=26						
ARCES				Sn	Sn	19 05 19.1	-0.6
	comp=Z,0.2nm,0.3s,baz=214,slow=25,SNR=2.1						
	comp=Z,1.7nm,0.8s						
LOF	Lofoten	3.04	294	eP	Pn	19 04 43.2	-0.3
LOF				IAML		19 05 32.4	
	comp=Z,3.8nm,0.6s						
OUF	Merijarvi	3.11	148	eP	Pn	19 04 45.6	+1.1
OUF				MSG		19 05 27.0	
	comp=Z,1.8nm,0.2s						
OUF				eSG	Sb	19 05 29.7	+0.9
KONS	Konsvik	3.16	263	eP	Pn	19 04 46.3	+1.2
KONS				e		19 05 28.1	
UMAU	Umeaa	3.19	182	eP	Pn	19 04 46.3	+0.9
	baz=3.0						
UMAU				eSG	Sb	19 05 31.9	+1.0
STOK	Stokkvaagen	3.24	261	e	Pn	19 04 48.1	+1.9
VRF	Varrio	3.41	74	eP	Pn	19 04 50.3	+1.7
VRF				eSG	Sb	19 05 38.5	+1.2
MSF	Maaselka	3.43	106	eP	Pn	19 04 50.1	+1.2
	baz=288						
MSF				eSG	Sb	19 05 39.6	+1.5
OLKF	Oulanka, Finla	3.43	98	eP	Pn	19 04 50.8	+1.9
OLKF				eS	Sn	19 05 31.8	+1.6
KEV	Kevo	3.51	37	eP	Pn	19 04 50.8	+0.8
	baz=225						
KEV				eS	Sn	19 05 33.0	+0.8
KEV	Kevo	3.51	37	eP	Pn	19 04 50.0	0.0
KEV				eS	Sn	19 05 31.4	-0.7
KU6	Riekki	3.71	102	eP	Pn	19 04 53.8	+1.1
	baz=295						
KU6				eSG	Sg	19 05 52.4	-0.9
HUSU	Husum	3.80	192	eP	Pn	19 04 54.9	+1.0
HUSU				eS	Sn	19 05 39.7	+0.4
VAF	Ylistaro	4.09	169	eP	Pn	19 04 59.4	+1.5
VAF				eSG	Sg	19 06 04.0	-1.5
NSS	Namsos	4.49	240	e	Pn	19 05 05.2	+1.9
HEMU	Hemsoen	4.57	197	eP	Pn	19 05 05.7	+1.3
FINES	FINESS Array B	6.05	156	Pn	Pn	19 05 25.8	+1.0
	baz=348,slow=13,SNR=5.1						
FINES				Sn	Sn	19 06 33.1	-1.7
	comp=Z,0.1nm,0.3s,baz=342,slow=23,SNR=2.0						
	comp=Z,0.4nm,0.4s						
NOA	NORSAR Array B	7.39	220	Pn	Pn	19 05 42.9	-0.3
	baz=38,slow=15,SNR=1.1						
NOA				Sn	Sn	19 07 04.9	-2.8
	baz=44,slow=16,SNR=1.8						
NOA				Lg	Lg	19 07 45.0	
	baz=17,slow=18,SNR=2.3						
	comp=Z,0.5nm,0.8s						
HFS	Hagfors	7.66	208	Pn	Pn	19 05 46.3	-0.6
	comp=Z,6.7nm,1.0s,baz=31,slow=12,SNR=2.8						
HFS				Sn	Sn	19 07 10.5	-3.7
	comp=Z,0.1nm,0.3s,baz=26,slow=28,SNR=2.1						

JMA 01 19:09:54.7±0.0, **35°.4N**±0°.2×**133°.8E**±0°.1, **h5**km, **MV0.6**/27, **EASTERN TOTTORI PREF, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKR	Kurayoshi	0.01	234	i P	Pg	19 09 55.5	-0.1
JAD	Aida	0.52	148	P	Pg	19 10 04.8	+0.1
JAD				eS	Sg	19 10 11.8	+0.3
JHS	Saijyo	0.70	237	P	Pg	19 10 08.0	-0.2
JKS	Kasai	0.92	116	eP	Pg	19 10 12.1	-0.2

*JMA **01** 19:11:49.2±0.3, 24°N±2°×122°.3E±0°.4, h13km±4km, MV2.9/10, TAIWAN REGION*
*TAP **01** 19:11:50.2, 24°.12N×122°.29E, h39km, ML3.0, D*
ISC 01 19:11:49.8±1.0, **24°.07N**±0°.02×**122°.28E**±0°.02, **h28**km±11km, **n90**, σ**0s67**/175, **Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.61	279	eP	Pn	19 12 03.0	+0.4
	baz=261						
ETL				eS	Sn	19 12 11.4	-0.1
	baz=261						
ENA	Nanau	0.61	306	i P	Pb	19 12 01.9	-0.1
	baz=307						
ENA				S	Sb	19 12 10.9	+0.7
	baz=307						
TWD	Chiawan	0.62	271	eP	Pb	19 12 01.9	-0.3
	baz=256						
TWD				eS	Sb	19 12 11.3	+0.6
	baz=256						
NACB	Ninganchiao	0.63	280	P	Pb	19 12 02.3	-0.1
	baz=264						
NACB				S	Sb	19 12 11.5	+0.5
	baz=264						
TWC	Suao	0.67	324	P	Pb	19 12 02.5	-0.4
	baz=321						
TWC				S	Sb	19 12 11.4	-0.4
	baz=321						
JYNG	Yonagunijimaku	0.72	58	P	Pb	19 12 03.6	-0.2
JYNG				S	Sn	19 12 14.3	+0.1
ETLH	Xiulin Townshi	0.74	281	P	Pb	19 12 04.3	+0.1
	baz=276						
ETLH				S	Sn	19 12 15.2	+0.3
	baz=276						
YOJ	Yonaguni jima	0.78	59	P	Pn	19 12 04.8	-0.1
	baz=62						
YOJ				S	Sn	19 12 15.5	-0.1
	baz=62						
YOJ	Yonaguni jima	0.78	59	P	Pn	19 12 04.8	-0.1
YOJ				S	Sn	19 12 15.6	+0.1
ESL	Shilin	0.81	252	eP	Pb	19 12 05.2	-0.2
	baz=239						
ESL				eS	Sb	19 12 16.3	+0.3
	baz=239						
LATG	Datong	0.83	304	P	Pn	19 12 06.1	+0.4
	baz=300						
LATG				eS	Sn	19 12 17.2	+0.1
	baz=300						
ILA	Ilan	0.85	325	eP	Pb	19 12 05.6	-0.3
	baz=322						
ILA				eS	Sb	19 12 16.9	-0.1
	baz=322						
TWE	Neicheng	0.86	320	eP	Pn	19 12 06.1	+0.2
	baz=316						
TWE				eS	Sb	19 12 16.5	-0.7
	baz=316						
ENTT	Nioudou	0.87	312	P	Pb	19 12 05.7	-0.6
	baz=298						
ENTT				eS	Sb	19 12 17.2	-0.3
	baz=298						
EGFH	Guangfu	0.87	243	eP	Pn	19 12 06.8	+0.6
	baz=240						
EGFH				eS	Sn	19 12 18.1	+0.2
	baz=240						
NNSB	Datong	0.89	294	P	Pn	19 12 06.8	+0.3
	baz=290						
NNSB				S	Sn	19 12 19.0	+0.3
	baz=290						
NNS	Nan Shan	0.91	294	P	Pb	19 12 06.3	-0.7
	baz=290						
NNS				S	Sb	19 12 18.4	-0.4
	baz=290						
WHF	Hehuan Shan	0.93	275	P	Pb	19 12 07.3	-0.3
	baz=271						
WHF				eS	Sn	19 12 20.0	+0.1
	baz=271						
FUSB	Fushanzhiwuyua	0.94	318	P	Pn	19 12 07.7	+0.6
	baz=314						
FUSB				S	Sb	19 12 19.4	-0.1
	baz=314						
FUSS	Fushou	0.96	281	P	Pn	19 12 08.0	+0.3
	baz=277						
FUSS				eS	Sn	19 12 21.0	+0.5
	baz=277						
HGSD	Ruisui	0.97	234	eP	Pn	19 12 07.3	-0.2
	baz=223						
HGSD				eS	Sn	19 12 20.7	+0.4
	baz=223						
TIPB	Shuangxi	0.99	336	eP	Pn	19 12 07.7	-0.2
	baz=332						
TIPB				eS	Sb	19 12 19.8	-1.4
	baz=332						
CHGB	Renai	1.01	270	P	Pb	19 12 08.6	-0.2
	baz=256						
CHGB				S	Sn	19 12 22.3	+0.6
	baz=256						
OWD	Renai	1.01	264	eP	Pb	19 12 08.6	-0.2
	baz=260						
OWD				eS	Sn	19 12 22.4	+0.7
	baz=260						
YHNB	Yeheng	1.02	306	P	Pb	19 12 09.2	+0.3
	baz=302						
YHNB				eS	Sb	19 12 21.4	-0.6
	baz=302						
TWT	Tachien	1.02	281	P	Pb	19 12 08.9	-0.1
	baz=266						
TWT				eS	Sn	19 12 22.7	+0.8
	baz=266						
NSK	Sanguang	1.04	306	eP	Pn	19 12 07.5	-0.9
	baz=302						
NSK				eS	Sb	19 12 22.0	-0.4
	baz=302						
EHY	Hungye	1.04	238	eP	Pn	19 12 08.3	-0.1
	baz=246						
EHY				eS	Sn	19 12 22.9	+0.9
	baz=246						
TDCB	Techi	1.04	281	P	Pb	19 12 09.0	-0.3
	baz=266						
TDCB				eS	Sn	19 12 23.1	+0.8
	baz=266						
WUSB	Renai	1.06	266	P	Pn	19 12 08.9	0.0
	baz=263						
WUSB				eS	Sb	19 12 23.1	-0.2
	baz=263						
VWDT	VWDT	1.09	254	eP	Pn	19 12 09.3	+0.2
	baz=241						
VWDT				eS	Sn	19 12 24.4	+1.3
	baz=241						
SXI1	Grass Mountain	1.09	340	eP	Pb	19 12 09.9	-0.2
	baz=337						
SXI1				eS	Sb	19 12 22.7	-1.2
	baz=337						
NWF	Wu-fen Shan	1.10	336	eP	Pb	19 12 10.0	-0.2
	baz=345						
NWF				eS	Sb	19 12 23.2	-1.1
	baz=345						
TWA	Mucha	1.11	325	eP	Pb	19 12 09.9	-0.4
	baz=322						
TWA				eS	Sb	19 12 24.2	-0.2
	baz=322						
YULB	Yu-li	1.12	234	P	Pn	19 12 09.1	-0.5
	baz=244						
YULB				S	Sn	19 12 22.5	-1.6
	baz=244						
NHDH	Xindian Distri	1.13	323	eP	Pb	19 12 10.5	-0.2

	baz=319								
NHDH				*e*S		**Sn**	**19 12 24.7**	**+0.5**	
	baz=319								
EYUL	**Yuli**	**1.13**	**231**	*e*P		**Pn**	**19 12 09.8**	**0.0**	
	baz=243								
EYUL				*e*S		**Sb**	**19 12 25.7**	**+0.6**	
	baz=243								
TAP	**Taipei**	**1.20**	**324**	*e*P		**Pn**	**19 12 10.8**	**+0.2**	
	baz=321								
TAP				*e*S		**Sn**	**19 12 25.7**	**-0.2**	
	baz=321								
NFF	**Wufeng Townshi**	**1.20**	**298**	*e*P		**Pb**	**19 12 11.4**	**-0.5**	
	baz=295								
NFF				*e*S		**Sn**	**19 12 26.5**	**+0.3**	
	baz=295								
WHP	**Taichung City**	**1.24**	**280**	*e*P		**Pb**	**19 12 12.3**	**-0.2**	
	baz=267								
WHP				*e*S		**Sb**	**19 12 27.9**	**-0.2**	
	baz=267								
SSLB	**Suanglung**	**1.24**	**257**	P		**Pn**	**19 12 11.7**	**+0.4**	
	baz=255								
SSLB				*e*S		**Sn**	**19 12 27.4**	**+0.2**	
	baz=255								
FULB	**Fuli**	**1.25**	**227**	*e*P		**Pn**	**19 12 10.8**	**-0.6**	
	baz=215								
FULB				*e*S		**Sb**	**19 12 29.0**	**+0.5**	
	baz=215								
WCS	**Beigang Elemen**	**1.25**	**270**	*e*P		**Pb**	**19 12 12.1**	**-0.7**	
	baz=261								
WCS				*e*S		**Sb**	**19 12 28.2**	**-0.2**	
	baz=261								
YM01	**YM01**	**1.25**	**329**	*e*P		**Pn**	**19 12 11.6**	**+0.1**	
	baz=339								
YM01				*e*S		**Sn**	**19 12 27.6**	**+0.2**	
	baz=339								
SMLT	**Sun Moon Lake**	**1.27**	**262**	*e*P		**Pb**	**19 12 12.6**	**-0.6**	
	baz=252								
SMLT				*e*S		**Sb**	**19 12 29.0**	**-0.3**	
	baz=252								
CHKT	**Chengkung**	**1.27**	**221**	*e*P		**Pn**	**19 12 11.2**	**-0.5**	
	baz=212								
CHKT				*e*S		**Sn**	**19 12 26.9**	**-1.0**	
	baz=212								
LIOB	**Emei**	**1.29**	**297**	*e*P		**Pb**	**19 12 13.7**	**+0.2**	
	baz=293								
LIOB				*e*S		**Sb**	**19 12 29.3**	**-0.3**	
	baz=293								
NSTT	**Nanjuang**	**1.29**	**296**	*e*P		**Pn**	**19 12 12.2**	**+0.3**	
	baz=292								
NSTT				*e*S		**Sn**	**19 12 28.7**	**+0.3**	
	baz=292								
TYC	**Yuchr**	**1.31**	**263**	*e*P		**Pb**	**19 12 13.3**	**-0.5**	
	baz=260								
TYC				*e*S		**Sn**	**19 12 29.3**	**+0.6**	
	baz=260								
ANP	**Anpu**	**1.31**	**328**	*e*P		**Pn**	**19 12 13.1**	**+0.7**	
	baz=338								
ANP				*e*S		**Sn**	**19 12 28.9**	**-0.1**	
	baz=338								
NTST	**Danshui**	**1.33**	**326**	*e*P		**Pn**	**19 12 12.6**	**+0.2**	
	baz=336								
NTST				*e*S		**Sn**	**19 12 29.6**	**+0.4**	
	baz=336								
YUS	**Yu-Shan**	**1.34**	**245**	P		**Pn**	**19 12 13.6**	**+0.5**	
	baz=243								
YUS				*e*S		**Sn**	**19 12 30.9**	**+0.7**	
	baz=243								
IRIF	**Iriomote-Funau**	**1.35**	**78**	P		**Pb**	**19 12 13.9**	**-0.6**	
IRIF				*e*S		**Sb**	**19 12 31.7**	**+0.4**	
WHYT	**Xinyi Township**	**1.36**	**255**	*e*P		**Pb**	**19 12 14.9**	**+0.3**	
	baz=244								
WHYT				*e*S		**Sb**	**19 12 31.8**	**+0.3**	
	baz=244								
HATJ	**Hateruma jima**	**1.40**	**90**	*e*P		**Pb**	**19 12 14.4**	**-0.7**	
HATJ				*e*S		**Sb**	**19 12 34.3**	**+1.7**	
TWQ1	**Liyutan**	**1.40**	**282**	*e*P		**Pb**	**19 12 15.0**	**-0.4**	
	baz=278								
TWQ1				*e*S		**Sb**	**19 12 32.7**	**-0.1**	
	baz=278								
EDH	**Donghe**	**1.41**	**220**	*e*P		**Pb**	**19 12 14.8**	**-0.6**	
	baz=212								
EDH				*e*S		**Sn**	**19 12 32.0**	**+0.8**	
	baz=212								
WJS	**Zhushan**	**1.44**	**261**	*e*S		**Sb**	**19 12 33.3**	**-0.6**	
	baz=258								
ELDTW	**Lidau**	**1.45**	**233**	P		**Pn**	**19 12 13.8**	**-0.4**	
	baz=222								
ELDTW				*e*S		**Sn**	**19 12 31.5**	**-0.9**	
	baz=222								
ALS	**Alishan**	**1.46**	**248**	P		**Pb**	**19 12 15.7**	**-0.8**	
	baz=246								
ALS				*e*S		**Sn**	**19 12 33.2**	**+0.3**	
	baz=246								
TCU	**Taichung**	**1.47**	**274**	*e*P		**Pn**	**19 12 15.2**	**+0.8**	
	baz=270								
TCU				*e*S		**Sb**	**19 12 33.9**	**-0.7**	
	baz=270								
WNT	**Mingjian**	**1.47**	**263**	*e*P		**Pb**	**19 12 16.2**	**-0.3**	
	baz=260								
WNT				*e*S		**Sb**	**19 12 35.4**	**+0.6**	
	baz=260								
CHN5	**Tsauling**	**1.54**	**253**	*e*P		**Pb**	**19 12 16.9**	**-0.8**	
	baz=250								
CHN5				*e*S		**Sn**	**19 12 35.7**	**+1.2**	
	baz=250								
LONT	**Longtian**	**1.56**	**223**	*e*P		**Pn**	**19 12 15.9**	**+0.2**	
	baz=232								
LONT				*e*S		**Sn**	**19 12 35.4**	**+0.4**	
	baz=232								
JKRS	**Kuro-shima**	**1.59**	**83**	*e*P		**Pb**	**19 12 18.4**	**-0.1**	
JKRS				*e*S		**Sb**	**19 12 38.9**	**+0.7**	
WDLH	**Douliu**	**1.64**	**257**	*e*P		**Pb**	**19 12 19.0**	**-0.3**	
	baz=255								
WDLH				*e*S		**Sb**	**19 12 39.9**	**+0.3**	
	baz=255								
STYH	**Taoyuan**	**1.64**	**237**	*e*P		**Pn**	**19 12 17.4**	**+0.7**	
	baz=236								
STYH				*e*S		**Sn**	**19 12 38.2**	**+1.3**	
	baz=236								
WCKO	**Fanlu**	**1.66**	**248**	*e*P		**Pb**	**19 12 18.3**	**-1.3**	
	baz=238								
WCKO				S		**Sb**	**19 12 39.7**	**-0.4**	
	baz=238								
TWGBT	**Beinan**	**1.66**	**222**	*e*P		**Pn**	**19 12 17.2**	**+0.2**	
	baz=230								
TWGBT				*e*S		**Sn**	**19 12 38.5**	**+1.1**	
	baz=230								
TWG	**Pinlang**	**1.66**	**222**	*e*P		**Pb**	**19 12 18.6**	**-1.2**	
	baz=230								
TWG				*e*S		**Sn**	**19 12 38.5**	**+1.1**	
	baz=230								
TPUB	**Ta-pu**	**1.69**	**244**	*e*P		**Pb**	**19 12 19.4**	**-0.8**	
	baz=242								
TPUB				*e*S		**Sb**	**19 12 40.2**	**-1.0**	
	baz=242								
CHN4	**Tsaushan**	**1.70**	**246**	*e*P		**Pb**	**19 12 19.6**	**-0.8**	
	baz=244								
CHN4				*e*S		**Sb**	**19 12 40.9**	**-0.5**	
	baz=244								
JIJ	**Ishigaki jima**	**1.73**	**80**	P		**Pn**	**19 12 18.8**	**+0.9**	
JIJ				*e*S		**Sb**	**19 12 40.5**	**-1.6**	
WTP	**Ta-pu**	**1.73**	**242**	*e*P		**Pb**	**19 12 20.6**	**-0.3**	
	baz=240								
WTP				*e*S		**Sb**	**19 12 41.2**	**-1.1**	
	baz=240								
CHN2	**Minshiung**	**1.73**	**253**	*e*S		**Sb**	**19 12 42.2**	**-0.1**	
	baz=250								
WRL	**Guolierlin Hig**	**1.75**	**265**	*e*P		**Pb**	**19 12 20.1**	**-1.1**	
	baz=262								
WRL				*e*S		**Sb**	**19 12 42.1**	**-0.6**	
	baz=262								
TWK	**Hsinying**	**1.82**	**245**	*e*P		**Pb**	**19 12 21.4**	**-1.1**	
	baz=243								
TWK				*e*S		**Sb**	**19 12 43.9**	**-1.1**	
	baz=243								
CHN1	**Nanshi**	**1.83**	**242**	*e*P		**Pb**	**19 12 21.9**	**-0.7**	
	baz=240								
CHN1				*e*S		**Sb**	**19 12 45.3**	**+0.2**	
	baz=240								
SGST	**Jiashian**	**1.84**	**238**	*e*P		**Pn**	**19 12 21.0**	**+1.5**	
	baz=237								
SGST				*e*S		**Sb**	**19 12 44.3**	**-1.1**	
	baz=237								
ECL	**Taimali**	**1.90**	**220**	*e*P		**Pn**	**19 12 20.4**	**0.0**	
	baz=228								
ECL				*e*S		**Sn**	**19 12 42.5**	**-0.8**	
	baz=228								
JISG	**Ishigakijimahi**	**1.93**	**74**	*e*P		**Pn**	**19 12 21.3**	**+0.7**	
JISG				*e*S		**Sn**	**19 12 44.5**	**+0.6**	
WSF	**Szhu**	**1.93**	**258**	*e*S		**Sb**	**19 12 47.2**	**-0.8**	
	baz=255								
WSL	**Shuilin Townsh**	**1.96**	**254**	*e*P		**Pn**	**19 12 22.0**	**+1.0**	
	baz=252								
WSL				*e*S		**Sb**	**19 12 47.8**	**-0.9**	
	baz=252								
SSD	**Sandimen**	**2.00**	**229**	*e*P		**Pn**	**19 12 23.5**	**+1.8**	
	baz=224								
SSD				*e*S		**Sn**	**19 12 47.0**	**+1.2**	
	baz=224								
SCST	**Cishan**	**2.02**	**235**	*e*P		**Pb**	**19 12 24.5**	**-1.2**	
	baz=246								
SCST				*e*S		**Sb**	**19 12 50.7**	**+0.3**	
	baz=246								
TSMG	**Majia**	**2.02**	**228**	*e*P		**Pn**	**19 12 22.7**	**+0.8**	
	baz=224								
TSMG				*e*S		**Sn**	**19 12 47.5**	**+1.2**	
	baz=224								
EAST	**Anshuo**	**2.13**	**218**	*e*P		**Pn**	**19 12 23.8**	**+0.3**	
	baz=218								
EAST				*e*S		**Sn**	**19 12 47.9**	**-1.1**	
	baz=218								
LYUB	**Lan-yu**	**2.15**	**197**	*e*S		**Sn**	**19 12 49.0**	**-0.5**	
	baz=205								
SCZT	**Fangliau**	**2.27**	**222**	*e*P		**Pn**	**19 12 26.6**	**+1.2**	
	baz=218								
PHUB	**P'eng-hu**	**2.54**	**258**	*e*P		**Pn**	**19 12 29.9**	**+0.8**	
	baz=270								
PHUB				*e*S		**Sn**	**19 12 59.7**	**+0.6**	
	baz=270								

BUC 01 19:20:37.2±0.4,**45°48N**×**26°50E**,**h17**^{km}±2^{km},**ml0.8**/4,
12C-12D,**Error ellipse: s-maj=2.1km s-min=1.0km az=149.0**,**Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.15**	**249**	⇓P	Pg	19 20 41.6	+0.1
NEHR				⇑S	Sb	19 20 44.5	-0.1
NEHR	**Nehoiu**	**0.15**	**249**	⇓P	Pg	19 20 41.6	+0.1
NEHR				⇑S	Sb	19 20 44.5	-0.1
BISRR	**Bisoca**	**0.16**	**66**	⇑P	Pb	19 20 41.8	-0.1
BISRR				⇓S	Sb	19 20 45.1	+0.2
BISRR	**Bisoca**	**0.16**	**66**	⇑P	Pb	19 20 41.8	-0.1
BISRR				⇑S	Sb	19 20 45.1	+0.2
PLOR	**Plostina**	**0.39**	**16**	⇓P	Pg	19 20 44.9	-0.3
PLOR				⇓S	Sb	19 20 51.2	-0.1
PLOR	**Plostina**	**0.39**	**16**	⇓P	Pg	19 20 44.9	-0.3
PLOR				⇓S	Sb	19 20 51.2	-0.1
MLR	**Muntele Rosu**	**0.39**	**272**	⇓P	Pb	19 20 45.7	-0.1
MLR				⇓S	Sb	19 20 51.4	-0.1
MLR	**Muntele Rosu**	**0.39**	**272**	⇓P	Pb	19 20 45.7	-0.1
MLR				⇓S	Sb	19 20 51.4	-0.1
VRI	**Vrincioaia**	**0.42**	**23**	⇓P	Pg	19 20 45.5	-0.3
VRI				⇑S	Sb	19 20 52.1	-0.1
VRI	**Vrincioaia**	**0.42**	**23**	⇓P	Pg	19 20 45.5	-0.3
VRI				⇑S	Sb	19 20 52.1	-0.1
COVR	**Voineasa-Covas**	**0.42**	**330**	⇑P	Pb	19 20 46.2	0.0
COVR				⇑S	Sb	19 20 52.0	-0.3
COVR	**Voineasa-Covas**	**0.42**	**330**	⇑P	Pb	19 20 46.2	0.0
COVR				⇑S	Sb	19 20 52.0	-0.3

ROM 01 19:30:02.1±0.0,**42°842N**±0°002×**13°034E**±0°004,
h11^{km},**ML2.4**/44,**12C-13D**,**Error ellipse: s-maj=0.3km s-min=0.2km az=278.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1216	**Preci, Frazion**	**0.05**	**347**	P	Pg	19 30 04.7	+0.4
T1216				AML	AML		
	comp=E,6190μm,0.6s						
T1216				AML	AML		
	comp=N,4965μm,0.8s						
T1216				AML	AML		
	comp=E,6185μm,0.6s						
T1216				AML	AML		
	comp=N,4960μm,0.7s						
NRCA	**Norcia**	**0.06**	**98**	⇓P	Pg	19 30 04.8	+0.3
NRCA				S	Sg	19 30 06.5	+0.3
NRCA				AML	AML		
	comp=N,34050μm,0.1s						
NRCA				AML	AML		
	comp=N,34100μm,0.1s						
NRCA				AML	AML		
	comp=N,36450μm,0.1s						
NRCA				AML	AML		
	comp=E,14700μm,0.1s						
NRCA				AML	AML		
	comp=E,16750μm,0.1s						
FEMA	**Monte Fema**	**0.12**	**5**	⇑P	Pg	19 30 05.7	+0.5
FEMA				S	Sg	19 30 08.2	+0.7
FEMA				AML	AML		
	comp=E,6380μm,1.1s						
FEMA				AML	AML		
	comp=N,4680μm,0.4s						
FEMA				AML	AML		
	comp=N,4675μm,0.4s						
T1215	**Vallo di Nera,**	**0.13**	**252**	⇑P	Pg	19 30 05.8	+0.5
T1215				S	Sg	19 30 08.3	+0.8
T1215				AML	AML		
	comp=N,3995μm,0.2s						
T1215				AML	AML		
	comp=E,3795μm,0.1s						
T1215				AML	AML		
	comp=N,4150μm,0.2s						
T1215				AML	AML		
	comp=E,3640μm,0.1s						
T1215				AML	AML		
	comp=E,3640μm,0.1s						
T1215				AML	AML		
	comp=E,3795μm,0.0s						
T1215				AML	AML		
	comp=N,4155μm,0.2s						
T1217	**Poggiodomo (PG**	**0.15**	**210**	⇓P	Pg	19 30 06.2	+0.6
T1217				S	Sg	19 30 09.0	+0.9
T1217				AML	AML		
	comp=E,3380μm,0.2s						
T1217				AML	AML		
	comp=N,2960μm,0.2s						
T1217				AML	AML		
	comp=E,3470μm,0.2s						
T1217				AML	AML		
	comp=N,2825μm,0.2s						
T1217				AML	AML		
	comp=E,3385μm,0.2s						
T1217				AML	AML		
	comp=E,3465μm,0.2s						
T1217				AML	AML		
	comp=N,2825μm,0.2s						
T1217				AML	AML		
	comp=E,3384μm,0.2s						
T1217				AML	AML		
	comp=N,2960μm,0.2s						
CESI	**CESI - Serrava**	**0.19**	**330**	⇓P	Pg	19 30 06.8	+0.5
CESI				S	Sg	19 30 10.1	+1.0
CESI				AML	AML		
	comp=N,3560μm,0.2s						
CESI				AML	AML		
	comp=E,2385μm,0.4s						
FDMO	**Fiordimonte**	**0.20**	**11**	⇑P	Pg	19 30 06.9	+0.5
FDMO				S	Sg	19 30 10.3	+0.9
FDMO				AML	AML		
	comp=N,2305μm,1.6s						
FDMO				AML	AML		
	comp=E,3475μm,1.6s						
T1256	**Bolognola (MC)**	**0.22**	**41**	⇑P	Pg	19 30 07.2	+0.4
T1256				S	Sg	19 30 11.1	+1.1
T1256				AML	AML		
	comp=E,984μm,0.9s						
T1256				AML	AML		
	comp=N,818μm,1.4s						
T1256				AML	AML		
	comp=E,982μm,0.9s						
T1256				AML	AML		
	comp=E,982μm,1.0s						
T1256				AML	AML		
	comp=E,936μm,0.9s						
T1256				AML	AML		
	comp=N,818μm,1.4s						
T1256				AML	AML		
	comp=N,798μm,0.3s						
MMO1	**Montemonaco**	**0.22**	**75**	⇓P	Pg	19 30 07.3	+0.4
MMO1				S	Sg	19 30 11.0	+0.9
LNSS	**Leonessa**	**0.24**	**179**	⇓P	Pg	19 30 07.6	+0.5
LNSS				S	Sg	19 30 11.9	+1.3
LNSS				AML	AML		
	comp=N,4145μm,0.4s						
LNSS				AML	AML		
	comp=E,1895μm,0.2s						
T1204	**Amatrice, Fraz**	**0.27**	**129**	P	Pg	19 30 08.1	+0.4
AM05	**Amandola Campo**	**0.27**	**60**	⇑P	Pg	19 30 08.2	+0.5
AM05				AML	AML		
	comp=E,471μm,1.4s						
AM05				AML	AML		
	comp=N,515μm,0.3s						
AM05				AML	AML		
	comp=E,2070μm,1.4s						
AM05				AML	AML		
	comp=N,187μm,0.1s						
T1241	**Roccafluvione,**	**0.29**	**87**	⇑P	Pg	19 30 08.4	+0.4
T1241				S	Sg	19 30 13.2	+1.1
T1241				AML	AML		
	comp=E,1160μm,1.4s						
T1241				AML	AML		
	comp=N,1980μm,0.2s						
T1241				AML	AML		
	comp=N,1975μm,0.2s						
SMA1	**SAN MARTINO**	**0.31**	**134**	⇓P	Pg	19 30 08.7	+0.3
SMA1				AML	AML		
	comp=N,1200μm,0.5s						
SMA1				AML	AML		
	comp=E,1360μm,0.4s						
SEF1	**Sefro**	**0.31**	**348**	P	Pg	19 30 08.8	+0.3
SEF1				S	Sb	19 30 14.0	-0.9
GUMA	**Gualdo di Mace**	**0.31**	**45**	⇑P	Pg	19 30 09.1	+0.7
GUMA				S	Sb	19 30 14.5	-0.4
GUMA				AML	AML		
	comp=E,1245μm,0.5s						
GUMA				AML	AML		
	comp=N,1365μm,0.3s						
GUMA				AML	AML		
	comp=E,1680μm,0.3s						
GUMA				AML	AML		
	comp=E,1248μm,0.5s						
GUMA				AML	AML		
	comp=N,1370μm,0.3s						
GUMA				AML	AML		
	comp=N,1360μm,1.5s						
ARRO	**Arrone**	**0.33**	**217**	⇑P	Pg	19 30 09.2	+0.5
ARRO				S	Sb	19 30 14.4	-0.9
ARRO				AML	AML		
	comp=E,766μm,0.2s						
ARRO				AML	AML		
	comp=N,582μm,0.2s						
T1211	**Morro Reatino**	**0.34**	**203**	P	Pg	19 30 09.3	+0.4
T1211				S	Sb	19 30 14.8	-0.8
T1211				AML	AML		
	comp=E,1090μm,0.9s						
T1211				AML	AML		
	comp=E,1085μm,0.9s						
T1211				AML	AML		
	comp=N,1440μm,0.7s						
T1243	**Rocca Santa Ma**	**0.34**	**115**	⇑P	Pg	19 30 09.1	+0.2
T1243				S	Sg	19 30 14.5	+1.0
RM33	**Pellescritta (**	**0.36**	**158**	⇓P	Pg	19 30 09.5	+0.2
RM33				S	Sb	19 30 15.9	-0.4
RM33				AML	AML		
	comp=N,893μm,1.4s						
RM33				AML	AML		
	comp=E,1330μm,1.6s						
RM33				AML	AML		
	comp=E,1290μm,1.6s						
RM33				AML	AML		
	comp=N,912μm,1.0s						
RM33				AML	AML		
	comp=N,894μm,1.4s						
CESX	**Cesi**	**0.41**	**235**	⇑P	Pg	19 30 10.4	+0.2
CESX				AML	AML		
	comp=N,522μm,0.5s						
CESX				AML	AML		
	comp=E,354μm,0.5s						
CAMP	**Campotosto**	**0.41**	**138**	⇓P	Pg	19 30 10.4	+0.1
CAMP				AML	AML		
	comp=E,312μm,1.0s						
CAMP				AML	AML		
	comp=N,298μm,0.9s						
CAMP				AML	AML		
	comp=N,297μm,0.9s						
CAMP				AML	AML		
	comp=E,312μm,1.0s						
SNTG	**Esanatoglia**	**0.42**	**351**	⇓P	Pg	19 30 10.6	+0.2
SNTG				AML	AML		
	comp=E,434μm,0.5s						
SNTG				AML	AML		
	comp=N,474μm,0.6s						
T1247	**Pizzolo (AQ)**	**0.45**	**154**	⇓P	Pg	19 30 11.0	+0.1
T1247				AML	AML		
	comp=E,862μm,0.2s						
T1247				AML	AML		
	comp=E,862μm,0.2s						
T1247				AML	AML		
	comp=N,1002μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.45**	**320**	P	Pg	19 30 11.3	+0.3
ATCC				AML	AML		
	comp=E,844μm,0.1s						
ATCC				AML	AML		
	comp=N,818μm,1.6s						
ATCC				AML	AML		
	comp=N,818μm,1.6s						
TERO	**Teramo**	**0.47**	**117**	⇓P	Pg	19 30 11.3	-0.1
TERO				AML	AML		
	comp=E,756μm,0.8s						
TERO				AML	AML		
	comp=E,836μm,0.8s						
TERO				AML	AML		
	comp=N,628μm,0.7s						
TERO				AML	AML		
	comp=N,628μm,0.7s						
TERO				AML	AML		
	comp=E,836μm,0.8s						
TERO				AML	AML		
	comp=N,562μm,0.7s						
OFFI	**Offida**	**0.49**	**79**	⇑P	Pb	19 30 12.8	+0.1
EL6	**Elcito**	**0.49**	**6**	P	Pg	19 30 11.9	+0.2
EL6				AML	AML		
	comp=E,924μm,1.2s						
EL6				AML	AML		
	comp=N,706μm,0.4s						
EL6				AML	AML		
	comp=E,926μm,1.2s						
EL6				AML	AML		
	comp=N,706μm,0.4s						
FOSV	**Fossato di Vic**	**0.49**	**336**	⇓P	Pg	19 30 12.0	+0.2
FOSV				AML	AML		
	comp=E,248μm,0.3s						
FOSV				AML	AML		
	comp=N,352μm,0.4s						
FOSV				AML	AML		
	comp=E,248μm,0.3s						
CING	**Cingoli**	**0.55**	**12**	⇑P	Pg	19 30 13.1	+0.2
CING				AML	AML		
	comp=E,433μm,0.2s						
CING				AML	AML		
	comp=N,365μm,0.4s						
GIGS	**Gran Sasso**	**0.56**	**135**	P	Pg	19 30 12.8	-0.2
GIGS				AML	AML		
	comp=E,156μm,1.0s						
GIGS				AML	AML		
	comp=N,124μm,0.9s						
MURB	**Monte Urbino**	**0.56**	**319**	AML	AML		
	comp=E,1595μm,0.2s						
MURB				AML	AML		
	comp=N,2475μm,0.3s						
FIAM	**Fiamignano**	**0.58**	**174**	⇓P	Pg	19 30 13.2	-0.2
FIAM				S	Sb	19 30 23.0	+0.4
FIAM				AML	AML		
	comp=E,406μm,1.6s						
FIAM				AML	AML		
	comp=E,407μm,1.6s						
FIAM				AML	AML		
	comp=N,294μm,0.4s						
ATTE	**AVT- Monte Tez**	**0.61**	**306**	AML	AML		
	comp=E,267μm,0.4s						
ATTE				AML	AML		
	comp=N,220μm,1.6s						
SSFR	**Montelago di S**	**0.62**	**343**	AML	AML		
	comp=N,616μm,0.2s						
SSFR				AML	AML		
	comp=E,580μm,0.2s						
ATFO	**Monte Foce - G**	**0.62**	**327**	AML	AML		

	comp=N,488µm,0.4s						
ATFO				AML	AML		
	comp=E,366µm,0.3s						
ATFO				AML	AML		
	comp=N,488µm,0.4s						
ARVD	**Arcevia**	**0.66**	**354**	AML	AML		
	comp=N,145µm,0.8s						
ARVD				AML	AML		
	comp=E,186µm,0.9s						
MGAB	**Montegabbione**	**0.68**	**276**	AML	AML		
	comp=N,520µm,0.5s						
MGAB				AML	AML		
	comp=N,488µm,0.4s						
MGAB				AML	AML		
	comp=E,370µm,0.5s						
MGAB				AML	AML		
	comp=N,488µm,0.4s						
MGAB				AML	AML		
	comp=E,360µm,1.1s						
FAGN	**Fagnano**	**0.70**	**145**	AML	AML		
	comp=N,488µm,0.3s						
FAGN				AML	AML		
	comp=E,581µm,0.3s						
ATVO	**AVT- Monte Val**	**0.71**	**320**	AML	AML		
	comp=N,194µm,0.7s						
ATVO				AML	AML		
	comp=E,186µm,0.3s						
VCEL	**Villa Celiera**	**0.74**	**127**	AML	AML		
	comp=N,346µm,0.7s						
VCEL				AML	AML		
	comp=E,330µm,1.0s						
ATMI	**Monte Miggiano**	**0.75**	**311**	AML	AML		
	comp=E,535µm,0.3s						
ATMI				AML	AML		
	comp=N,536µm,0.4s						
ATMI				AML	AML		
	comp=N,536µm,0.4s						
ATPI	**Pietralunga -**	**0.76**	**323**	AML	AML		
	comp=N,148µm,0.7s						
ATPI				AML	AML		
	comp=E,153µm,0.7s						
ATPI				AML	AML		
	comp=N,149µm,0.7s						
PIEI	**Pieia**	**0.78**	**332**	AML	AML		
	comp=E,129µm,0.2s						
PIEI				AML	AML		
	comp=N,100µm,0.6s						
PIEI				AML	AML		
	comp=N,100µm,0.6s						
MPAG	**Monte Paganucc**	**0.81**	**346**	AML	AML		
	comp=E,125µm,0.3s						
MPAG				AML	AML		
	comp=N,155µm,0.9s						
T0110	**Collepietro**	**0.83**	**138**	AML	AML		
	comp=N,265µm,1.1s						
T0110				AML	AML		
	comp=E,282µm,0.5s						
NARO	**Abbazia di Nar**	**0.84**	**337**	AML	AML		
	comp=E,89µm,0.7s						
NARO				AML	AML		
	comp=N,72µm,0.4s						
FSSB	**Fossombrone**	**0.87**	**348**	AML	AML		
	comp=E,354µm,0.3s						
FSSB				AML	AML		
	comp=N,721µm,0.3s						
CERT	**Cerreto**	**0.89**	**183**	AML	AML		
	comp=E,154µm,0.4s						
CERT				AML	AML		
	comp=N,85µm,0.4s						
CAFI	**Castiglion Fio**	**0.92**	**302**	AML	AML		
	comp=N,106µm,0.3s						
CAFI				AML	AML		
	comp=E,213µm,0.6s						

*NEIC **01** 19:42:28.1±1.9, 18°.90N±0°.07×145°.6E±0°.1, h227km±8km, mb4.6/47, Error ellipse: s-maj=16.5km s-min=10.0km az=90.0*

*IDC **01** 19:42:28.3±2.5, 18°.98N×145°.55E, h233km±25km, mb3.5/12, mbtmp4.1/14, Error ellipse: s-maj=20.8km s-min=10.2km az=79.0*

ISC 01 19:42:26.3±0.4**, 18°.95N**±0°.05×**145°.56E**±0°.10**, h214**km**, n76, σ1s.10**/72**, mb4.5**/32**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.37**	**187**	P	**Pn**	**19 43 48.8**	**+2.9**
	56nm,0.3s,baz=20,slow=15,SNR=9.2						
GUMO				S	**S**	**19 44 49.1**	**+0.5**
	57nm,0.4s,baz=341,slow=20,SNR=1.7						
JCJ	**Chichijima**	**8.68**	**340**	P	**Pn**	**19 44 27.1**	**-1.2**
	32nm,0.4s,baz=238,slow=19,SNR=9.8						
JCJ				S	S	19 45 57.9	-8.2
	74nm,0.6s,baz=84,slow=22,SNR=1.6						
JCJ	**Chichijima**	**8.68**	**340**	Pn	**Pn**	**19 44 27.5**	**-0.8**
PATS	**Pohnpei**	**17.29**	**132**		**P**	**19 46 12.4**	**-1.2**
INU	**Inuyama**	**18.00**	**337**	P	**P**	**19 46 22.4**	**+1.3**
INU				IAmb	IAmb	19 46 28.6	
	comp=Z,16nm,0.8s						
JMN	**Monobe**	**18.04**	**327**	P	**P**	**19 46 22.5**	**+0.9**
JMN				IAmb	IAmb	19 47 04.5	
	comp=Z,46nm,1.2s						
JGF	**Kuroka**	**18.10**	**338**	P	**P**	**19 46 23.5**	**+1.2**
JGF				IAmb	IAmb	19 46 49.8	
	comp=Z,51nm,1.4s						
MJAR	**Matsushiro Arr**	**18.68**	**341**	P	**P**	**19 46 28.8**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=157,slow=11,SNR=9.2						
MAJO	**Matsushiro**	**18.68**	**341**	P	**P**	**19 46 28.4**	**-0.1**
MAJO				IAmb	IAmb	19 46 35.1	
	comp=Z,21nm,1.1s						
MJB9	**Matsu-Tunnel**	**18.69**	**341**	P	**Pn**	**19 46 32.1**	**+0.5**
MJB9				IAmb	IAmb	19 46 37.9	
	comp=Z,21nm,1.1s						
JMM	**Marumori**	**19.30**	**349**	P	**P**	**19 46 37.3**	**+2.1**
JMM				IAmb	IAmb	19 46 42.5	
	comp=Z,27nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**20.02**	**88**	T	T	20 08 14.4	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**20.03**	**88**	T	T	20 08 08.2	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**20.03**	**88**	T	T	20 08 12.1	
	baz=275						
H11N1	**WAKE ISLAND Hy**	**20.14**	**84**	T	T	20 08 20.7	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**20.15**	**84**	T	T	20 08 31.7	
	baz=274						
H11N3	**WAKE ISLAND Hy**	**20.16**	**84**	T	T	20 08 22.6	
	baz=274						
KSRS	**Korea Array**	**24.04**	**324**	P	**P**	**19 47 20.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=152,slow=9.8,SNR=4.5						
	comp=Z,0.8nm,0.6s						
FAKI	**Fak Fak**	**25.38**	**212**	P	**P**	**19 47 33.7**	**-0.4**
PMG	**Port Moresby**	**28.22**	**177**	P	**P**	**19 48 00.9**	**+1.5**
	comp=Z,6.1nm,0.6s,baz=310,slow=7.9,SNR=1.8						
	comp=Z,6.1nm,0.6s						
PMG	**Port Moresby**	**28.22**	**177**	P	**P**	**19 47 58.4**	**-1.0**
PMG				IAmb	IAmb	19 48 06.4	
	comp=Z,10nm,0.8s						
KLR	**Kul'dur**	**32.19**	**343**	P	**P**	**19 48 34.4**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=196,slow=6.1,SNR=4.0						
	comp=Z,0.7nm,0.4s						
COEN	**Coen**	**32.78**	**184**	P	**P**	**19 48 39.5**	**-0.1**
COEN				IAmb	IAmb	19 48 48.6	
	comp=Z,22nm,1.4s						
MTN	**Manton Dam**	**34.65**	**205**		**P**	**19 48 55.4**	**-0.2**
MTN				IAmb	IAmb	19 48 57.4	
	comp=Z,11nm,0.8s						
KNRA	**Kununurra**	**38.18**	**207**	P	**P**	**19 49 25.6**	**+0.2**
KNRA				IAmb	IAmb	19 49 27.9	
	comp=Z,12nm,0.7s						
WB0	**Warramunga Arr**	**40.01**	**196**		**P**	**19 49 40.9**	**+0.4**
WB0				IAmb	IAmb	19 49 41.3	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**40.15**	**196**	P	**P**	**19 49 42.1**	**+0.4**
WR0				IAmb	IAmb	19 49 42.4	
	comp=Z,7.1nm,0.6s						
WRAB	**Tennant Creek**	**40.18**	**196**	P	**P**	**19 49 41.8**	**-0.2**
WRAB				IAmb	IAmb	19 49 43.1	
	comp=Z,16nm,0.6s						
WB2	**Warramunga Arr**	**40.19**	**196**	P	**P**	**19 49 42.5**	**+0.5**
WB2				IAmb	IAmb	19 49 43.2	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**40.19**	**196**	P	**P**	**19 49 42.4**	**+0.3**
	comp=Z,6.6nm,0.4s,baz=18,slow=8.6,SNR=145						
	comp=Z,6.6nm,0.4s						
WRA	**Warramunga Arr**	**40.19**	**196**		**P**	**19 49 41.1**	**-0.9**
SONM	**Songino Array**	**42.87**	**321**	P	**P**	**19 50 03.4**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=129,slow=7.0,SNR=1.7						
SONM				pP	**pwP**	**19 50 52.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=124,slow=7.7,SNR=2.8						
SONM	**Songino Array**	**42.87**	**321**	P	**P**	**19 50 03.9**	**+0.3**
AS31	**Alice Springs**	**43.86**	**196**	P	**P**	**19 50 11.3**	**-0.3**
ASAR	**Alice Springs**	**43.86**	**196**	P	**P**	**19 50 11.7**	**0.0**
	comp=Z,3.3nm,0.5s,baz=16,slow=7.5,SNR=80						
	comp=Z,3.3nm,0.5s						
ASAR	**Alice Springs**	**43.86**	**196**	P	**P**	**19 50 10.3**	**-1.3**
CMAR	**Chiang Mai Arr**	**44.06**	**277**	P	**P**	**19 50 14.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=83,slow=4.9,SNR=7.5						
	comp=Z,0.4nm,0.6s						
DZM	**Mont Dzumac**	**45.60**	**152**	P	**P**	**19 50 26.2**	**+0.7**
	comp=Z,7.3nm,0.5s,baz=304,slow=11,SNR=19						
	comp=Z,7.3nm,0.5s						
DZM	**Mont Dzumac**	**45.60**	**152**	P	**P**	**19 50 26.1**	**+0.7**
DZM				IAmb	IAmb	19 50 29.1	
	comp=Z,8.3nm,0.5s						
KULM	**Kulim**	**45.81**	**259**	P	**P**	**19 50 27.9**	**+0.7**
MBWA	**Marble Bar**	**47.21**	**214**	P	**P**	**19 50 37.8**	**-0.1**
MBWA				IAmb	IAmb	19 50 46.3	
	comp=Z,35nm,1.4s						
PSA00	**Pilbara Seismi**	**47.49**	**213**	P	**P**	**19 50 39.7**	**-0.4**
PSA00				IAmb	IAmb	19 51 11.0	
	comp=Z,42nm,1.4s						
GSI	**Gunungsitoli**	**50.16**	**255**	P	**P**	**19 51 01.2**	**+0.6**
UNV	**Unalaska Valle**	**50.52**	**35**	P	**P**	**19 51 02.8**	**+0.2**
STKA	**Stephens Creek**	**50.68**	**184**	P	**P**	**19 51 03.4**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=355,slow=12,SNR=7.2						
	comp=Z,1.4nm,0.3s						
STKA	**Stephens Creek**	**50.68**	**184**	P	**P**	**19 51 02.5**	**-1.5**
AKUT	**Akutan**	**51.04**	**35**	P	**P**	**19 51 06.5**	**+0.1**
FORT	**Forrest**	**52.23**	**199**	P	**P**	**19 51 13.9**	**-1.6**
BBOO	**Buckleboo**	**52.27**	**190**	P	**P**	**19 51 15.0**	**-0.8**
BBOO				IAmb	IAmb	19 51 43.0	
	comp=Z,17nm,1.2s						
SDPT	**Sand Point**	**54.34**	**35**	P	**P**	**19 51 31.8**	**+1.2**
MORW	**Morawa**	**55.60**	**212**	P	**P**	**19 51 39.8**	**-0.2**
MORW				IAmb	IAmb	19 52 16.0	
	comp=Z,22nm,1.3s						
ZALV	**Zalesovo Beam**	**57.74**	**322**	pP	pP	19 52 48.4	+6.6
	comp=Z,0.4nm,0.3s,baz=101,slow=7.5,SNR=1.6						
MKAR	**Makanchi Array**	**58.19**	**314**	P	**P**	**19 51 58.9**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=100,slow=7.5,SNR=2.4						
MKAR				pP	**pwP**	**19 52 51.4**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=87,slow=8.9,SNR=1.8						
	comp=Z,0.7nm,0.9s						
NWAO	**Narrogin (SRO)**	**58.26**	**208**	P	**P**	**19 51 58.9**	**+0.3**
NWAO				IAmb	IAmb	19 52 13.5	
	comp=Z,30nm,1.4s						
KDAK	**Kodiak Island**	**59.22**	**33**	P	**P**	**19 52 03.8**	**-1.1**
SKT	**Skwentna**	**60.78**	**29**	P	**P**	**19 52 16.4**	**+0.9**
CAST	**Castle Rocks**	**60.93**	**27**	P	**P**	**19 52 17.2**	**+0.8**
H21K	**Melozitna Rive**	**61.30**	**25**	P	**P**	**19 52 19.8**	**+0.9**
KTH	**Kantishna Hill**	**61.47**	**27**	P	**P**	**19 52 19.3**	**-0.8**
TOLK	**Toolik Lake Re**	**63.41**	**22**	P	**P**	**19 52 34.4**	**+1.6**
TOLK				IAmb	IAmb	19 53 16.1	
	comp=Z,14nm,1.3s						
ILAR	**Eielson Array**	**63.48**	**26**	P	**P**	**19 52 32.7**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=256,slow=5.8,SNR=4.6						
	comp=Z,0.5nm,0.8s						
QRZ	**Quartz Range**	**64.54**	**158**	P	**P**	**19 52 39.8**	**-0.6**
BKZ	**Black Stump Fm**	**64.65**	**154**	P	**P**	**19 52 40.2**	**-1.0**
BKZ				IAmb	IAmb	19 52 42.5	
	comp=Z,35nm,1.4s						
BMAR	**Burnt Mountain**	**64.94**	**24**	P	**P**	**19 52 44.9**	**+2.2**
YAH	**Yahtse**	**65.16**	**32**	P	**P**	**19 52 47.1**	**+2.6**
NNZ	**Nelson**	**65.19**	**157**	P	**P**	**19 52 43.7**	**-0.9**
BCAR	**Beaver Creek A**	**65.42**	**29**	P	**P**	**19 52 46.6**	**+0.7**
BFZ	**Birch Farm**	**65.83**	**155**	P	**P**	**19 52 48.0**	**-0.8**
BFZ				IAmb	IAmb	19 52 55.8	
	comp=Z,28nm,1.1s						
KHZ	**Kahutara**	**66.30**	**158**	P	**P**	**19 52 49.5**	**-2.1**
KHZ				IAmb	IAmb	19 52 54.5	
	comp=Z,28nm,1.4s						
ABKAR	**Akbulak array**	**73.07**	**317**	P	**P**	**19 53 31.2**	**-1.7**
ABKAR	**Akbulak array**	**73.07**	**317**	P	**P**	**19 53 32.1**	**-0.9**
ABKAR				IAmb	IAmb	19 53 45.6	
	comp=Z,2.0nm,1.4s						
EUNU	**Eureka**	**77.49**	**8**	P	**P**	**19 53 58.1**	**+0.3**
EUNU				IAmb	IAmb	19 54 05.2	
	comp=Z,14nm,1.4s						
YKA	**Yellowknife Ar**	**77.83**	**28**	P	**P**	**19 53 59.7**	**0.0**
	comp=Z,0.8nm,0.7s,baz=286,slow=5.6,SNR=1.9						
	comp=Z,0.8nm,0.7s						
NVAR	**Mina Array Bea**	**83.09**	**52**	P	**P**	**19 54 29.2**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=266,slow=6.1,SNR=5.8						
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**86.60**	**335**	P	**P**	**19 54 42.4**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=69,slow=3.9,SNR=13						
LPAZ	**La Paz**	**147.81**	**91**	PKPbc	**PKPbc**	**20 01 46.3**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=298,slow=2.4,SNR=3.0						

*WEL **01** 19:43:53.9±0.7, 37°S±4°×17°7E±°, h177km±5km, M4.3/71, MLv4.3/71, Error ellipse: s-maj=0.0km s-min=0.0km az=44.9*

*NEIC **01** 19:43:53.2±2.4, 37°.41S±0°.08×176°.95E±0°.09, h187km±6km, mb4.7/39, Error ellipse: s-maj=12.7km s-min=9.4km az=139.0*

*NOU **01** 19:43:53.3, 37°.68S×177°.18E, h197km, mb4.6/29, Off E. Coast of N. Island, N.Z.*

*IDC **01** 19:43:58.3±1.9, 37°.17S×176°.91E, h234km±16km, mb4.1/7, mbtmp4.6/9, Error ellipse: s-maj=19.5km s-min=13.4km az=62.0*

ISC 01 19:43:53.9±0.6**, 37°.42S**±0°.04×**176°.85E**±0°.04**, h195**km±4km**, n286, σ1s.95**/309**, mb4.7**/30**, 3C, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.29**	**113**	P	**Pn**	**19 44 17.7**	**-2.1**
WHRZ	**Whale Island**	**0.45**	**168**	P	**Pn**	**19 44 21.2**	**+1.0**
OPRZ	**Ohinepanea**	**0.49**	**209**	P	**Pn**	**19 44 18.7**	**-1.7**
MYRZ	**Mayor Island**	**0.51**	**285**	P	**Pn**	**19 44 18.9**	**-1.6**
TGRZ	**Tauranga**	**0.56**	**236**	P	**Pn**	**19 44 19.1**	**-1.5**
MARZ	**Manawahe**	**0.58**	**194**	P	**Pn**	**19 44 19.7**	**-1.1**
LIRZ	**Lichensteins R**	**0.69**	**212**	P	**Pn**	**19 44 20.3**	**-1.0**
EDRZ	**Edgecumbe**	**0.69**	**187**	P	**Pn**	**19 44 20.7**	**-0.6**
KARZ	**Kaharoa**	**0.77**	**219**	P	**Pn**	**19 44 20.6**	**-1.1**
MKRZ	**Makatiti**	**0.78**	**203**	P	**Pn**	**19 44 21.6**	**-0.2**
OMRZ	**Omania**	**0.79**	**209**	P	**Pn**	**19 44 20.8**	**-1.1**
HAZ	**Te Kaha**	**0.81**	**115**	P	**Pn**	**19 44 19.7**	**-2.2**
KMRZ	**Kaimai**	**0.84**	**239**	P	**Pn**	**19 44 21.1**	**-1.1**
RUGZ	**Raukumara Rang**	**0.85**	**130**	P	**Pn**	**19 44 19.8**	**-2.6**
TARZ	**Mount Tarawera**	**0.86**	**199**	P	**Pn**	**19 44 21.8**	**-0.5**
NGRZ	**Ngongotaha**	**0.86**	**217**	P	**Pn**	**19 44 21.7**	**-0.6**
URZ	**Urewera**	**0.87**	**166**	P	**Pn**	**19 44 20.4**	**-1.9**
	1µm,0.3s,baz=354,slow=2.9,SNR=1246						
URZ				S	**Sn**	**19 44 40.5**	**-3.9**
	1µm,0.4s,baz=265,slow=20,SNR=28						
URZ	**Urewera**	**0.87**	**166**		**Pn**	**19 44 20.2**	**-2.0**
URZ				Sn	**Sn**	**19 44 40.7**	**-3.7**
URZ	**Urewera**	**0.87**	**166**	P	**Pn**	**19 44 20.7**	**-1.5**
URZ	**Urewera**	**0.87**	**166**	P	**Pn**	**19 44 20.7**	**-1.5**
URZ				S	**Sn**	**19 44 41.9**	**-2.5**
UTU	**Utuhina**	**0.92**	**214**	P	**Pn**	**19 44 22.2**	**-0.4**
HLRZ	**Highlands Stat**	**0.92**	**205**	P	**Pn**	**19 44 22.5**	**-0.1**
RRRZ	**Republican Roa**	**0.96**	**196**	P	**Pn**	**19 44 22.5**	**-0.4**
HSRZ	**Hossack Road**	**1.01**	**208**	P	**Pn**	**19 44 23.2**	**-0.1**
MWZ	**Matawai**	**1.06**	**150**	P	**Pn**	**19 44 22.0**	**-1.6**
MUGZ	**Murupara**	**1.06**	**184**	P	**Pn**	**19 44 22.6**	**-1.0**
MUGZ				S	**Sn**	**19 44 46.1**	**-0.7**
HRRZ	**Handcock Road**	**1.07**	**205**	P	**Pn**	**19 44 23.2**	**-0.5**
PKGZ	**Pakihiroa**	**1.08**	**116**	P	**Pn**	**19 44 22.4**	**-1.4**
GRRZ	**Galatos Road**	**1.10**	**212**	P	**Pn**	**19 44 23.6**	**-0.3**
TOZ	**Tahuroa Road**	**1.12**	**253**	P	**Pn**	**19 44 23.1**	**-0.9**
TOZ				S	**Sn**	**19 44 46.4**	**-0.8**
KUZ	**Kuaotunu**	**1.13**	**306**	P	**Pn**	**19 44 21.6**	**-2.5**
KUZ				S	**Sn**	**19 44 43.9**	**-3.4**
PRRZ	**Plateau Road**	**1.14**	**198**	P	**Pn**	**19 44 23.6**	**-0.5**
PRRZ				S	**Sn**	**19 44 46.7**	**-1.1**
MXZ	**Matakaoa Point**	**1.17**	**98**	Pn	**Pn**	**19 44 22.3**	**-2.0**
MXZ				Sn	**Sn**	**19 44 43.6**	**-4.3**
MXZ	**Matakaoa Point**	**1.17**	**98**	P	**Pn**	**19 44 22.6**	**-1.8**
MXZ	**Matakaoa Point**	**1.17**	**98**	P	**Pn**	**19 44 22.5**	**-1.8**
MXZ				S	**Sn**	**19 44 45.5**	**-2.4**
RAGZ	**Rawiri**	**1.17**	**158**	P	**Pn**	**19 44 23.9**	**-0.5**
TWGZ	**Tauwhareparae**	**1.17**	**131**	P	**Pn**	**19 44 23.8**	**-0.6**
RTZ	**Ruatahuna**	**1.20**	**175**	P	**Pn**	**19 44 23.8**	**-0.9**
ALRZ	**Allen Road**	**1.21**	**199**	P	**Pn**	**19 44 24.2**	**-0.5**
WPRZ	**Whakapapatarin**	**1.23**	**206**	P	**Pn**	**19 44 24.6**	**-0.3**
TKGZ	**Te Karaka**	**1.29**	**143**	P	**Pn**	**19 44 24.3**	**-1.0**
PUZ	**Puketiti**	**1.29**	**121**	P	**Pn**	**19 44 23.8**	**-1.5**
PUZ				S	**Sn**	**19 44 46.5**	**-3.3**
WMGZ	**Waiomatatini S**	**1.30**	**108**	P	**Pn**	**19 44 24.0**	**-1.4**
TLZ	**Tolley Road**	**1.38**	**228**	P	**Pn**	**19 44 26.0**	**-0.2**
MKAZ	**Moumakai**	**1.39**	**282**	P	**Pn**	**19 44 24.8**	**-1.3**
SNGZ	**Shannon Statio**	**1.42**	**164**	P	**Pn**	**19 44 25.8**	**-0.6**
SNGZ				S	**Sn**	**19 44 50.1**	**-1.7**
MTHZ	**Maungataniwha**	**1.43**	**180**	P	**Pn**	**19 44 25.8**	**-0.8**
WHTZ	**Whakaora**	**1.43**	**209**	P	**Pn**	**19 44 27.1**	**+0.4**
MRHZ	**Matea Rd**	**1.46**	**194**	P	**Pn**	**19 44 26.1**	**-0.7**
MRHZ				S	**Sn**	**19 44 51.5**	**-1.0**
RIGZ	**Rimuhau**	**1.47**	**151**	P	**Pn**	**19 44 26.4**	**-0.5**
RIGZ				S	**Sn**	**19 44 51.3**	**-1.4**
RAHZ	**Arahi**	**1.51**	**173**	P	**Pn**	**19 44 26.7**	**-0.5**
WIAZ	**Waiheke Island**	**1.51**	**294**	P	**Pn**	**19 44 25.8**	**-1.4**
CNGZ	**Carnagh Statio**	**1.51**	**135**	P	**Pn**	**19 44 27.0**	**-0.2**
WATZ	**Wairara**	**1.56**	**214**	P	**Pn**	**19 44 27.9**	**+0.2**
HATZ	**Hinemaiaia**	**1.59**	**202**	P	**Pn**	**19 44 27.7**	**-0.3**
ETAZ	**East Tamaki Re**	**1.61**	**286**	P	**Pn**	**19 44 27.2**	**-0.9**
GRZ	**Great Barrier**	**1.61**	**316**	P	**Pn**	**19 44 25.8**	**-2.4**
RATZ	**Rangitukua**	**1.68**	**210**	P	**Pn**	**19 44 28.7**	**-0.1**
WHHZ	**Waihua**	**1.69**	**170**	P	**Pn**	**19 44 28.5**	**-0.3**
WHHZ				S	**Sn**	**19 44 55.0**	**-1.2**
MBAZ	**Motutapu North**	**1.69**	**292**	P	**Pn**	**19 44 27.7**	**-1.2**
KNZ	**Kokohu**	**1.73**	**158**	P	**Pn**	**19 44 28.5**	**-0.7**
RITZ	**Rihia Road**	**1.75**	**206**	P	**Pn**	**19 44 29.5**	**0.0**
BKZ	**Black Stump Fm**	**1.77**	**189**		**Pn**	**19 44 28.7**	**-1.1**
BKZ				Sn	**Sn**	**19 44 54.7**	**-3.1**
BKZ	**Black Stump Fm**	**1.77**	**189**	P	**Pn**	**19 44 28.9**	**-0.8**
BKZ	**Black Stump Fm**	**1.77**	**189**	P	**Pn**	**19 44 28.7**	**-1.1**
EPAZ	**Eden Park BICE**	**1.77**	**287**	P	**Pn**	**19 44 28.7**	**-1.0**
HBAZ	**Herne Bay Bore**	**1.79**	**288**	P	**Pn**	**19 44 28.8**	**-1.1**
AWAZ	**Awhitu Peninsu**	**1.80**	**281**	P	**Pn**	**19 44 28.9**	**-1.1**
KATZ	**Kakaramea**	**1.80**	**210**	P	**Pn**	**19 44 30.0**	**-0.2**
ABAZ	**Army Bay**	**1.81**	**296**	P	**Pn**	**19 44 29.1**	**-1.0**
ARHZ	**Aropaoanui**	**1.85**	**177**	P	**Pn**	**19 44 30.2**	**-0.3**
WTAZ	**Waiatarua**	**1.88**	**284**	P	**Pn**	**19 44 29.9**	**-1.0**
NTVZ	**North Tongarir**	**1.92**	**209**	P	**Pn**	**19 44 31.1**	**-0.2**
HIZ	**Hauiti**	**1.92**	**235**	Pn	**Pn**	**19 44 31.4**	**+0.2**
HIZ	**Hauiti**	**1.92**	**235**	P	**Pn**	**19 44 31.5**	**+0.3**
HIZ	**Hauiti**	**1.92**	**235**	P	**Pn**	**19 44 31.5**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.92**	**155**	P	**Pn**	**19 44 30.9**	**-0.3**
TMVZ	**Te Maari**	**1.92**	**208**	P	**Pn**	**19 44 31.1**	**-0.3**
KRVZ	**Karewarewa**	**1.93**	**209**	P	**Pn**	**19 44 31.2**	**-0.2**
RVAZ	**Riverhead Bore**	**1.93**	**289**	P	**Pn**	**19 44 29.9**	**-1.3**
ETVZ	**East Tongariro**	**1.94**	**207**	P	**Pn**	**19 44 31.2**	**-0.3**
WTVZ	**West Tongariro**	**1.97**	**210**	P	**Pn**	**19 44 31.6**	**-0.2**
NNVZ	**North Ngauruho**	**1.97**	**209**	P	**Pn**	**19 44 31.7**	**-0.2**
OTVZ	**Oturere**	**1.98**	**208**	P	**Pn**	**19 44 32.0**	**+0.1**
TWVZ	**Taurewa**	**1.99**	**214**	P	**Pn**	**19 44 31.9**	**-0.1**
SNVZ	**South Ngauruho**	**2.01**	**208**	P	**Pn**	**19 44 32.3**	**0.0**
NGZ	**Ngauruhoe**	**2.01**	**209**	P	**Pn**	**19 44 32.2**	**-0.1**
MCHZ	**McNeill Hill**	**2.03**	**183**	P	**Pn**	**19 44 32.0**	**-0.3**
KWHZ	**Kaweka Forest**	**2.03**	**189**	P	**Pn**	**19 44 31.9**	**-0.6**
TUVZ	**Tukino**	**2.08**	**207**	P	**Pn**	**19 44 32.8**	**-0.1**
FWVZ	**Far West T-bar**	**2.10**	**209**	P	**Pn**	**19 44 33.2**	**-0.1**
WHVZ	**Whangaehu Hut**	**2.11**	**208**	P	**Pn**	**19 44 33.2**	**-0.2**
DRZ	**Dome Shelter**	**2.12**	**208**	P	**Pn**	**19 44 33.5**	**0.0**
TRVZ	**Turoa**	**2.14**	**208**	P	**Pn**	**19 44 33.6**	**-0.2**
WNVZ	**Wahianoa**	**2.15**	**207**	P	**Pn**	**19 44 33.4**	**-0.3**
BHHZ	**Black Hill Sta**	**2.16**	**196**	P	**Pn**	**19 44 32.7**	**-1.0**
MOVZ	**Moawhango**	**2.17**	**203**	P	**Pn**	**19 44 32.9**	**-1.0**
PKVZ	**Pokaka**	**2.21**	**212**	P	**Pn**	**19 44 34.2**	**-0.1**
CKHZ	**Cape Kidnapper**	**2.25**	**176**	P	**Pn**	**19 44 34.2**	**-0.4**
MTVZ	**Mangateitei**	**2.25**	**209**	P	**Pn**	**19 44 34.5**	**-0.2**
VRZ	**Vera Road**	**2.37**	**223**	P	**Pn**	**19 44 36.7**	**+0.7**
KAHZ	**Kahuranaki**	**2.38**	**180**	P	**Pn**	**19 44 35.6**	**-0.5**
WCZ	**Waipu Caves**	**2.50**	**305**	P	**Pn**	**19 44 35.6**	**-1.8**
PNHZ	**Pukenui**	**2.55**	**191**	P	**Pn**	**19 44 36.7**	**-1.3**
MHEZ	**Mangahewa**	**2.59**	**229**	P	**Pn**	**19 44 40.1**	**+1.7**
PXZ	**Pawanui**	**2.61**	**180**	P	**Pn**	**19 44 37.8**	**-0.9**
WPHZ	**Waipukurau**	**2.66**	**187**	P	**Pn**	**19 44 38.3**	**-1.0**
TSZ	**Takapari Road**	**2.73**	**195**	P	**Pn**	**19 44 38.7**	**-1.4**
DREZ	**Durham Road**	**2.74**	**229**	P	**Pn**	**19 44 41.4**	**+1.2**
WAZ	**Wanganui**	**2.76**	**212**	P	**Pn**	**19 44 40.0**	**-0.4**
LREZ	**Lake Rotokare**	**2.81**	**223**	P	**Pn**	**19 44 41.6**	**+0.7**
NEZ	**North Egmont**	**2.85**	**229**	P	**Pn**	**19 44 43.2**	**+1.6**
PRHZ	**Porangahau**	**2.85**	**183**	P	**Pn**	**19 44 40.5**	**-0.9**
PREZ	**Palmer Road**	**2.86**	**227**	P	**Pn**	**19 44 43.3**	**+1.6**
PKE	**Pukeiti**	**2.87**	**231**	P	**Pn**	**19 44 42.8**	**+1.1**
KHEZ	**Kahui Hut**	**2.92**	**229**	P	**Pn**	**19 44 43.8**	**+1.5**
DVHZ	**Dannevirke**	**2.93**	**190**	P	**Pn**	**19 44 40.8**	**-1.6**
NBEZ	**Newall Road No**	**2.99**	**231**	P	**Pn**	**19 44 44.3**	**+1.2**
OHWZ	**Ohakea**	**3.03**	**203**	P	**Pn**	**19 44 43.2**	**-0.4**
ANWZ	**Angora Road**	**3.05**	**185**	P	**Pn**	**19 44 42.8**	**-1.1**
NMEZ	**Namu Road**	**3.07**	**229**	P	**Pn**	**19 44 44.9**	**+0.9**
POWZ	**Post Office Ro**	**3.09**	**196**	P	**Pn**	**19 44 42.8**	**-1.5**
PRWZ	**Pori Road**	**3.21**	**192**	P	**Pn**	**19 44 44.6**	**-1.1**
BFZ	**Birch Farm**	**3.29**	**188**		**Pn**	**19 44 45.0**	**-1.8**
BFZ				Sn	**Sn**	**19 45 23.2**	**-5.1**
BFZ	**Birch Farm**	**3.29**	**188**	P	**Pn**	**19 44 45.0**	**-1.8**
BFZ	**Birch Farm**	**3.29**	**188**	P	**Pn**	**19 44 45.1**	**-1.6**
MRZ	**Mangatainoka R**	**3.39**	**197**	P	**Pn**	**19 44 46.0**	**-1.9**
OUZ	**Omahuta**	**3.42**	**309**	Pn	**Pn**	**19 44 46.2**	**-2.2**
OUZ	**Omahuta**	**3.42**	**309**	P	**Pn**	**19 44 46.7**	**-1.7**
TIWZ	**Tintock**	**3.44**	**192**	P	**Pn**	**19 44 47.1**	**-1.4**
CPWZ	**Castlepoint**	**3.53**	**188**	P	**Pn**	**19 44 48.6**	**-0.9**
HOWZ	**Holdsworth Sta**	**3.63**	**196**	P	**Pn**	**19 44 48.7**	**-2.2**
OGWZ	**Otaki Gorge**	**3.64**	**201**	P	**Pn**	**19 44 49.1**	**-1.9**
KIW	**Kapiti Island**	**3.76**	**203**	P	**Pn**	**19 44 50.1**	**-2.3**
TMWZ	**Te Maipa**	**3.76**	**191**	P	**Pn**	**19 44 50.7**	**-1.8**
MTW	**Mount Morrison**	**3.88**	**195**	P	**Pn**	**19 44 51.6**	**-2.3**
CAW	**Cannon Point**	**3.94**	**200**	P	**Pn**	**19 44 52.3**	**-2.3**
DUWZ	**D'Urville Isla**	**4.08**	**213**	P	**Pn**	**19 44 54.1**	**-2.3**
TRWZ	**Traveller**	**4.08**	**192**	P	**Pn**	**19 44 54.1**	**-2.3**
PAWZ	**Paruwai Farm**	**4.11**	**195**	P	**Pn**	**19 44 54.3**	**-2.6**
MSWZ	**Moikau Station**	**4.18**	**197**		**Pn**	**19 44 54.9**	**-2.9**
MSWZ				Sn	**Sn**	**19 45 42.8**	**-5.3**
MSWZ	**Moikau Station**	**4.18**	**197**	P	**Pn**	**19 44 55.0**	**-2.7**
WEL	**Wellington**	**4.19**	**202**	P	**Pn**	**19 44 55.4**	**-2.3**
SNZO	**South Karori**	**4.23**	**203**		**Pn**	**19 44 55.7**	**-2.6**
SNZO	**South Karori**	**4.23**	**203**	P	**Pn**	**19 44 55.7**	**-2.6**
TCW	**Tory Channel**	**4.28**	**207**	P	**Pn**	**19 44 56.3**	**-2.7**
PLWZ	**Palliser**	**4.33**	**196**		**Pn**	**19 44 56.5**	**-3.1**
PLWZ	**Palliser**	**4.33**	**196**	P	**Pn**	**19 44 56.8**	**-2.8**
TUWZ	**Tuamarina**	**4.60**	**208**		**Pn**	**19 45 00.2**	**-2.7**
TUWZ	**Tuamarina**	**4.60**	**208**	P	**Pn**	**19 45 00.2**	**-2.7**
NNZ	**Nelson**	**4.65**	**214**		**Pn**	**19 45 01.0**	**-2.7**
NNZ	**Nelson**	**4.65**	**214**	P	**Pn**	**19 45 00.8**	**-2.8**
TKNZ	**Takaka Hill**	**4.71**	**219**	P	**Pn**	**19 45 01.8**	**-2.6**
CMWZ	**Cape Campbell**	**4.78**	**204**		**Pn**	**19 45 03.0**	**-2.3**
CMWZ	**Cape Campbell**	**4.78**	**204**	P	**Pn**	**19 45 03.3**	**-2.0**
QRZ	**Quartz Range**	**4.79**	**223**	Pn	**Pn**	**19 45 02.6**	**-2.8**
QRZ	**Quartz Range**	**4.79**	**223**	P	**Pn**	**19 45 02.6**	**-2.8**
BSWZ	**Blackbirch Sta**	**4.87**	**207**	Pn	**Pn**	**19 45 03.7**	**-2.7**
BSWZ	**Blackbirch Sta**	**4.87**	**207**	P	**Pn**	**19 45 03.9**	**-2.5**
MRNZ	**Matariki Terra**	**5.09**	**217**	P	**Pn**	**19 45 06.1**	**-3.2**
THZ	**Tophouse**	**5.30**	**214**		**Pn**	**19 45 09.1**	**-3.0**
THZ	**Tophouse**	**5.30**	**214**	P	**Pn**	**19 45 09.1**	**-3.0**
KHZ	**Kahutara**	**5.61**	**206**	Pn	**Pn**	**19 45 12.7**	**-3.2**
KHZ	**Kahutara**	**5.61**	**206**	P	**Pn**	**19 45 12.6**	**-3.2**
DSZ	**Denniston Nort**	**5.82**	**220**	P	**Pn**	**19 45 15.5**	**-3.3**
GVZ	**Greta Valley S**	**6.27**	**207**	P	**Pn**	**19 45 21.1**	**-3.4**
LTZ	**Lake Taylor**	**6.41**	**212**	Pn	**Pn**	**19 45 22.6**	**-3.8**
LTZ	**Lake Taylor**	**6.41**	**212**	P	**Pn**	**19 45 22.5**	**-3.8**
AMCZ	**Amberley**	**6.59**	**208**	P	**Pn**	**19 45 25.1**	**-3.5**
INZ	**Inchbonnie**	**6.73**	**216**	P	**Pn**	**19 45 26.7**	**-3.8**
OKCZ	**Okains Bay**	**6.93**	**203**	P	**Pn**	**19 45 29.7**	**-3.4**
OXZ	**Oxford**	**6.95**	**210**		**Pn**	**19 45 29.0**	**-4.4**
OXZ	**Oxford**	**6.95**	**210**	P	**Pn**	**19 45 29.3**	**-4.1**
MQZ	**McQueen's Vall**	**7.05**	**206**	Pn	**Pn**	**19 45 30.0**	**-4.5**
MQZ	**McQueen's Vall**	**7.05**	**206**	P	**Pn**	**19 45 30.1**	**-4.5**
AKCZ	**Akaroa Harbour**	**7.11**	**204**	P	**Pn**	**19 45 32.1**	**-3.4**
RACZ	**Rakaia**	**7.25**	**208**	P	**Pn**	**19 45 33.0**	**-4.2**
WVZ	**Waitaha Valley**	**7.33**	**218**	P	**Pn**	**19 45 35.9**	**-2.4**
WACZ	**Wakanui South**	**7.55**	**209**	P	**Pn**	**19 45 37.2**	**-3.9**
RPZ	**Rata Peaks**	**7.68**	**213**	P	**Pn**	**19 45 39.7**	**-3.2**
	26nm,0.4s,baz=298,slow=2.2,SNR=52						
RPZ				S	Sn	19 47 00.7	-8.9
	109nm,0.4s,baz=6.5,slow=6.6,SNR=18						
RPZ	**Rata Peaks**	**7.68**	**213**	P	**Pn**	**19 45 39.9**	**-3.0**
RPZ	**Rata Peaks**	**7.68**	**213**	P	**Pn**	**19 45 39.5**	**-3.4**
GCSZ	**Gaunt Creek Bo**	**7.71**	**218**	P	**Pn**	**19 45 40.9**	**-2.4**
ARCZ	**Arundel**	**7.82**	**212**	P	**Pn**	**19 45 41.2**	**-3.5**
FOZ	**Fox Glacier**	**8.13**	**219**	Pn	**Pn**	**19 45 45.6**	**-3.1**
FOZ	**Fox Glacier**	**8.13**	**219**	P	**Pn**	**19 45 45.0**	**-3.7**
LBZ	**Lake Benmore**	**8.60**	**214**	Pn	**Pn**	**19 45 51.9**	**-3.0**
LBZ	**Lake Benmore**	**8.60**	**214**	P	**Pn**	**19 45 51.5**	**-3.4**
ODZ	**Otahua Downs**	**8.94**	**210**	Pn	**Pn**	**19 45 55.8**	**-3.4**

ODZ	Otahua Downs	8.94	210	P	Pn	19 45 56.4	-2.9
JCZ	Jackson Bay	9.04	220	P	Pn	19 45 58.0	-2.6
WKZ	Wanaka	9.47	216	Pn	Pn	19 46 02.7	-3.5
MLZ	Mavora Lakes	10.30	217	Pn	Pn	19 46 13.0	-4.0
WHZ	Wether Hill Ro	10.77	215		Pn	19 46 18.9	-4.1
DCZ	Deep Cove	10.84	219	Pn	Pn	19 46 20.4	-3.5
PYZ	Puysegur Point	11.57	218	Pn	Pn	19 46 31.1	-2.2
PYZ	Puysegur Point	11.57	218	P	Pn	19 46 32.4	-0.9
DZM	Mont Dzumac	17.74	327	P	Pn	19 47 48.8	-0.5
	3.3nm,0.7s,baz=95,slow=19,SNR=1.5						
MSVF	Nonsavu	19.64	3	P	P	19 48 07.3	-0.6
	21nm,0.9s,baz=230,slow=16,SNR=4.0						
MSVF	Nonsavu	19.64	3	P	P	19 48 07.1	-0.7
MSVF	Nonsavu	19.64	3	P	P	19 48 09.0	+1.1
MCQ	Macquarie Isla	21.03	210		P	19 48 20.5	-1.8
NIUE	Niue	21.62	36	P	P	19 48 26.7	-2.1
ARMA	Armidale	22.03	281	P	P	19 48 30.8	-2.1
CAN	Canberra	22.50	267	P	P	19 48 36.8	-0.3
CAN				IAmb	IAmb	19 48 41.0	
	comp=Z,24nm,1.0s						
TOO	Toolangi	24.83	260	P	P	19 48 58.6	+0.3
TOO				IAmb	IAmb	19 49 13.7	
	comp=Z,31nm,1.3s						
TOO	Toolangi	24.83	260	P	P	19 49 01.5	+3.3
EIDS	Eidsvold	24.98	291	P	P	19 49 00.6	+0.9
AFI	Afiamalu	25.51	26	P	P	19 49 04.0	-0.5
CMSA	Cobar Meteorol	26.28	274	P	P	19 49 13.6	+2.3
STKA	Stephens Creek	29.41	270	P	P	19 49 41.4	+2.3
	comp=Z,16nm,0.7s,baz=99,slow=9.9,SNR=27						
	comp=Z,16nm,0.7s						
STKA	Stephens Creek	29.41	270	P	P	19 49 40.5	+1.4
STKA	Stephens Creek	29.41	270	P	P	19 49 41.4	+2.3
HTT	Hallett	31.03	266	P	P	19 49 55.2	+1.8
CTAO	Charters Tower	31.71	294	P	P	19 50 01.3	+1.9
CTAO				IAmb	IAmb	19 50 01.9	
	comp=Z,34nm,1.5s						
INKA	Innaminka	31.76	277	P	P	19 50 01.8	+2.1
LCRK	Leigh Creek	32.63	271	P	P	19 50 08.8	+1.5
BBOO	Buckleboo	33.50	265	P	P	19 50 14.6	-0.2
BBOO				IAmb	IAmb	19 50 58.5	
	comp=Z,35nm,1.5s						
BBOO	Buckleboo	33.50	265	P	P	19 50 16.0	+1.1
OOD	Oodnadatta	35.74	273	P	P	19 50 35.6	+1.5
MULG	Mulgathing	36.01	268	P	P	19 50 37.3	+1.0
COEN	Coen	37.98	299	P	P	19 50 53.7	+0.7
COEN				IAmb	IAmb	19 50 54.9	
	comp=Z,14nm,0.8s						
COEN	Coen	37.98	299	P	P	19 50 54.1	+1.1
AS31	Alice Springs	39.12	278	P	P	19 51 03.4	+0.9
AS31				IAmb	IAmb	19 51 03.8	
	comp=Z,8.6nm,0.6s						
ASAR	Alice Springs	39.12	278	P	P	19 51 03.1	+0.6
	comp=Z,22nm,0.8s,baz=118,slow=7.6,SNR=115						
ASAR				PcP	PcP	19 53 06.7	-1.4
	comp=Z,0.6nm,0.5s,baz=125,slow=4.1,SNR=1.9						
ASAR				ScP	ScP	19 56 33.4	-4.5
	comp=Z,0.3nm,0.8s,baz=121,slow=3.6,SNR=1.7						
	comp=Z,22nm,0.8s						
FORT	Forrest	40.58	264	P	P	19 51 15.7	+1.3
WR0	Warramunga Arr	40.61	283	P	P	19 51 14.8	0.0
WR0				IAmb	IAmb	19 51 16.1	
	comp=Z,15nm,1.0s						
VNDA	Vanda	40.73	185	P	P	19 51 18.3	+3.3
	comp=Z,4.9nm,0.8s,baz=8.3,slow=8.0,SNR=42						
	comp=Z,4.9nm,0.8s						
VNDA	Vanda	40.73	185	P	P	19 51 18.6	+3.5
WB2	Warramunga Arr	40.77	283	P	P	19 51 16.4	+0.3
WB2				IAmb	IAmb	19 51 17.2	
	comp=Z,16nm,0.7s						
SBA	Scott Base	40.77	183	P	P	19 51 18.8	+3.4
WRAB	Tennant Creek	40.77	283	P	P	19 51 15.8	-0.3
WRAB				IAmb	IAmb	19 51 17.2	
	comp=Z,14nm,0.7s						
WRAB	Tennant Creek	40.77	283	P	P	19 51 16.6	+0.4
WRA	Warramunga Arr	40.78	283	P	P	19 51 16.5	+0.3
	comp=Z,11nm,0.5s,baz=123,slow=7.5,SNR=36						
WRA				ScP	ScP	19 56 41.2	-3.2
	comp=Z,1.2nm,1.1s,baz=119,slow=3.5,SNR=4.6						
	comp=Z,11nm,0.5s						
WRA	Warramunga Arr	40.78	283	P	P	19 51 16.0	-0.2
WB0	Warramunga Arr	40.83	284	P	P	19 51 16.7	0.0
WB0				IAmb	IAmb	19 51 17.4	
	comp=Z,16nm,0.7s						
CASY	Casey	46.95	210	P	P	19 52 03.9	-0.7
CASY				IAmb	IAmb	19 52 27.5	
	comp=Z,30nm,1.5s						
MTN	Manton Dam	47.48	289	P	P	19 52 09.5	0.0
KNRA	Kununurra	47.56	284	P	P	19 52 10.3	+0.3
KNRA				IAmb	IAmb	19 52 11.6	
	comp=Z,16nm,0.9s						
KNRA	Kununurra	47.56	284	P	P	19 52 10.7	+0.7
NWAO	Narrogin (SRO)	48.24	257	P	P	19 52 14.2	-0.9
NWAO				IAmb	IAmb	19 52 32.9	
	comp=Z,22nm,1.3s						
KLBR	Kellerberrin	48.37	258	P	P	19 52 16.5	+0.4
MUN	Mundaring	49.41	257	P	P	19 52 24.9	+0.9
MEEK	Meekatharra	49.84	265	P	P	19 52 27.5	+0.2
MORW	Morawa	50.78	261	P	P	19 52 34.3	0.0
MORW				IAmb	IAmb	19 52 35.8	
	comp=Z,13nm,0.8s						
MORW	Morawa	50.78	261	P	P	19 52 34.8	+0.5
PSA00	Pilbara Seismi	51.34	271	P	P	19 52 37.3	-1.3
PSA00	Pilbara Seismi	51.34	271	P	P	19 52 37.0	-1.5
PSA00				IAmb	IAmb	19 52 38.8	
	comp=Z,12nm,0.8s						
MBWA	Marble Bar	51.64	272	P	P	19 52 40.2	-0.6
MBWA				IAmb	IAmb	19 52 41.5	
	comp=Z,23nm,0.8s						
MBWA	Marble Bar	51.64	272	P	P	19 52 40.4	-0.4
QSPA	South Pole Qui	52.71	180	P	P	19 52 51.1	+2.9
FAKI	Fak Fak	53.36	299	P	P	19 52 52.7	-0.8
SOEI	Soe	54.64	286	P	P	19 53 03.1	+0.2
SOEI				IAmb	IAmb	19 53 11.9	
	comp=Z,19nm,1.2s						
GIRL	Giralia	55.26	267	P	P	19 53 06.9	-0.1
MMRI	Maumere	56.90	286	P	P	19 53 17.7	-1.1
JAGI	Jajag, Banyuwa	63.27	280	P	P	19 54 00.8	-1.3
JAGI				IAmb	IAmb	19 54 11.0	
	comp=Z,22nm,1.1s						
BELA	Belgrano 2	63.40	173	P	P	19 54 01.6	-0.4
BELA				IAmb	IAmb	19 54 05.2	
	comp=Z,14nm,0.7s						
MAW	Mawson	64.23	203	P	P	19 54 08.7	+1.2
	comp=Z,3.3nm,0.9s,baz=146,slow=6.0,SNR=5.1						
	comp=Z,3.3nm,0.9s						
MAW	Mawson	64.23	203	P	P	19 54 08.7	+1.2
SMAI	San Martin Ant	64.53	158	P	P	19 54 12.3	+2.9
TROLL	Troll, Antarti	70.80	182	P	P	19 54 50.1	+1.4
SNAA	Sanae	71.21	180	P	P	19 54 52.4	+1.2
SNAA	Sanae	71.21	180	P	P	19 54 52.2	+1.1
SNAA				IAmb	IAmb	19 54 53.5	
	comp=Z,13nm,1.0s						
VNA3	Neumayer Olymp	71.54	178	P	P	19 54 54.3	+1.3
VNA2	Neumayer--Watz	71.92	179	P	P	19 54 56.8	+1.5
	baz=176,slow=6.0						
VNA1	Neumayer--Stat	72.18	178	P	P	19 54 58.4	+1.7
PLCA	Paso Flores	80.75	135	P	P	19 55 47.7	+2.1
	comp=Z,3.4nm,0.9s,baz=220,slow=7.2,SNR=7.0						
	comp=Z,3.4nm,0.9s						
PLCA	Paso Flores	80.75	135	P	P	19 55 45.8	+0.2
PLCA				IAmb	IAmb	19 56 28.8	
	comp=Z,15nm,1.4s						
KSRS	Korea Array	87.14	323	P	P	19 56 19.6	+2.1
	comp=Z,0.7nm,0.6s,baz=134,slow=5.1,SNR=4.4						
CMAR	Chiang Mai Arr	91.84	292	P	P	19 56 40.6	+0.6
	comp=Z,2.3nm,0.7s,baz=147,slow=3.6,SNR=17						
	comp=Z,2.3nm,0.7s						
CMAR	Chiang Mai Arr	91.84	292	P	P	19 56 39.8	-0.2
PZH	PanZhiHua	94.89	300	P	P	19 56 54.2	+0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,4.6s						
HHC	Hu-ho-hao-te	98.15	316	eP	Pdif	19 57 09.6	+1.2
HHC				pmax	pmax		
	comp=Z,40nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,4.9s						
WMQ	Urumqi	114.14	308	eP	PKiKP	20 02 10.2	+0.6
GEYT	Alibeck	132.30	290	PKP	PKPdf	20 02 43.4	-1.2
	comp=Z,0.6nm,0.5s,baz=169,slow=2.9,SNR=2.3						
GEYT				SKPbc	SKPbc	20 05 49.0	-3.8
	comp=Z,1.4nm,0.7s,baz=56,slow=3.6,SNR=2.2						
ARCES	ARCESS Array B	144.30	343	PKP	PKPab	20 03 03.6	-0.4
	comp=Z,4.5nm,0.6s,baz=64,slow=2.8,SNR=20						
KBZ	Khabaz	144.82	295	PKP	PKPbc	20 03 05.7	-1.0
	comp=Z,1.6nm,0.8s,baz=91,slow=3.4,SNR=4.1						
LIC	Lamto	148.91	176⇑	iPKP2	PKPab	20 03 24.1	+0.6
	comp=Z,42nm,0.5s						
KIC	Kosan Boka	149.05	177⇑	iPKP2	PKPab	20 03 24.6	+0.5
	comp=Z,18nm,0.5s						
TIC	Toumodi	149.32	176⇑	iPKP2	PKPab	20 03 25.7	+0.5
	comp=Z,13nm,0.2s						
DBIC	Dimbokro	149.36	177	PKPbc	PKPbc	20 03 20.1	0.0
	comp=Z,9.4nm,1.0s,baz=252,slow=1.7,SNR=4.9						
DBIC				PKPab	PKPab	20 03 25.9	+0.5
	comp=Z,8.5nm,0.6s,baz=216,slow=4.3,SNR=12						
FINES	FINESS Array B	149.82	332	PKPbc	PKPbc	20 03 18.4	-1.4
	comp=Z,2.6nm,0.6s,baz=40,slow=3.2,SNR=9.3						
FINES				PKPab	PKPab	20 03 24.3	-1.7
	comp=Z,2.6nm,0.6s,baz=64,slow=4.8,SNR=3.3						
BRTR	Keskin Array B	151.27	286	PKPbc	PKPbc	20 03 22.6	-1.6
	comp=Z,3.0nm,0.8s,baz=136,slow=4.3,SNR=10						
AKASG	Malin Array Be	153.45	310	PKPab	PKPab	20 03 41.1	-0.5
	comp=Z,2.2nm,0.7s,baz=54,slow=4.4,SNR=6.3						
TORD	Torodi Ar. Bea	155.45	191	PKP	PKPdf	20 03 22.6	-1.9
	comp=Z,1.4nm,0.9s,baz=252,slow=2.7,SNR=7.2						
TORD				PKPab	PKPab	20 03 51.1	+0.2
	comp=Z,1.9nm,0.6s,baz=171,slow=3.3,SNR=10						
CLL	Collm	162.00	326	ePKPdf	PKPdf	20 03 34.0	+2.9
CLL				ePKPab	PKPab	20 04 18.0	-0.5
CLL				e(pPKPab)		20 05 02.0	

IDC 01 20:02:43.8±2.1, 5°.85S×145°.67E, h0km, mb4.1/3, mbtmp4.3/5, ML1.2/1, Error ellipse: s-maj=41.9km s-min=24.2km az=74.0

ISC 01 20:02:43.7±2.1, 5°.4S±0°.2×146°.5E±0°.2, h100km, n19, σ1s.28/19, mb4.6/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.09	170	Pn	Pn	20 03 44.5	+0.4
	1.5nm,0.3s,baz=333,slow=14,SNR=1.8						
PMG				Sn	Sn	20 04 29.1	-1.9
	5.7nm,0.3s,baz=323,slow=20,SNR=12						
PMG	Port Moresby	4.09	170	P	Pn	20 03 45.0	+0.8
PMG	Port Moresby	4.09	170	P	Pn	20 03 44.9	+0.8
COEN	Coen	9.15	200	P	Pn	20 04 55.5	+2.6
	10.0nm,1.3s						
CTA	Charters Tower	14.65	181	Pn	Pn	20 06 07.2	+1.1
	7.5nm,0.9s,baz=360,slow=12,SNR=7.7						
QIS	Mount Isa	16.52	203	P	P	20 06 31.3	+0.9
	8.0nm,1.8s						
WRAB	Tennant Creek	18.68	218	P	P	20 06 54.1	-0.1
	23nm,0.8s						
WRA	Warramunga Arr	18.70	218	P	P	20 06 54.4	0.0
	13nm,0.7s,baz=38,slow=12,SNR=77						
KNRA	Kununurra	20.18	238	P	P	20 07 08.6	-1.9
	9.7nm,0.5s						
ASAR	Alice Springs	21.86	212	P	P	20 07 28.4	-0.1
	5.1nm,0.6s,baz=47,slow=8.1,SNR=99						
	5.1nm,0.6s						
INKA	Innaminka	22.93	193	P	P	20 07 37.6	-1.7
	33nm,0.8s						
BATI	Baumata	23.09	257	P	P	20 07 41.6	+0.5
	24nm,0.5s,baz=113,slow=7.7,SNR=14						
	24nm,0.5s						
OOD	Oodnadatta	24.56	203	P	P	20 07 54.8	+0.5
LCRK	Leigh Creek	26.15	196	P	P	20 08 07.7	-1.0
	13nm,1.6s						
MULG	Mulgathing	27.42	204	P	P	20 08 19.4	-0.7
FORT	Forrest	30.65	212	P	P	20 08 48.5	-0.3
	19nm,0.9s						
MEEK	Meekatharra	33.97	228	P	P	20 09 16.1	-1.8
	16nm,1.9s						
OUZ	Omahuta	38.86	143	P	P	20 10 00.2	+0.9
	50nm,2.0s						
SONM	Songino Array	63.57	331	P	P	20 13 17.3	+13
	0.4nm,0.7s,baz=120,slow=8.5,SNR=3.9						
	0.4nm,0.7s						

IDC 01 20:04:02.5±10.0, 7°.53N×103°.75W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=249.8km s-min=106.0km az=120.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	21.69	0	P	P	20 08 55.5	+0.4
	1.1nm,1.0s,baz=188,slow=13,SNR=6.2						
	1.1nm,1.0s						
NVAR	Mina Array Bea	33.45	339	P	P	20 10 43.9	+0.3
	0.5nm,0.6s,baz=158,slow=16,SNR=5.1						
	0.5nm,0.6s						
PDAR	Pinedale Array	35.46	353	P	P	20 11 00.2	-0.7
	1.0nm,0.9s,baz=159,slow=11,SNR=6.8						
	1.0nm,0.9s						
H03N2	Juan Fernandez	47.07	151	T	T	21 03 54.8	
	baz=320						
H03N1	Juan Fernandez	47.08	151	T	T	21 04 11.5	
	baz=320,slow=74						
H03N3	Juan Fernandez	47.09	151	T	T	21 04 07.7	
	baz=320,slow=74						
ILAR	Eielson Array	64.68	341	P	P	20 14 42.1	+0.1
	0.5nm,0.8s,baz=139,slow=5.0,SNR=5.4						
	0.5nm,0.8s						

DJA 01 20:15:48.2±0.2, 9°S±2°×11°9E±°, h74km±10km, M3.7/5, MLv3.7/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	Plampang	1.14	287	P	Pn	20 16 08.5	-0.2
PLAI				S	Sn	20 16 24.3	+0.3
TWSI	Taliwang, Sumb	2.02	282	P		20 16 20.4	
TWSI				Pn	Pn	20 16 20.2	0.0
TWSI				S	Sn	20 16 45.5	+0.9
KLNI	Mataram	2.85	285	P	Pn	20 16 30.9	-0.6
KLNI				Pn	Pn	20 16 31.5	0.0
KLNI				S	Sn	20 17 05.5	+0.7
MMRI	Maumere	3.36	81	P	Pn	20 16 38.2	-0.2
MMRI				Pn	Pn	20 16 38.7	+0.3
MMRI				S	Sn	20 17 18.2	+1.0
BSSI	Bau Bau, Buton	3.41	28	P	Pn	20 16 39.7	+0.7
BSSI				Pn	Pn	20 16 39.9	+0.9
BSSI				S	Sn	20 17 18.5	+0.2
IGBI	Denpasar	3.71	275	P	Pn	20 16 44.2	+1.1
SRBI	Singaraja	3.78	286	P	Pn	20 16 45.1	+1.0
RTBI	Rangdo, Negare	3.96	280	Pn	Pn	20 16 45.6	-0.9
BKSI	Bulukumba	4.02	18	P	Pn	20 16 48.5	+1.1
BKSI				S	Sn	20 17 33.0	-0.2
KAPI	Kappang	4.22	12	Pn	Pn	20 16 51.6	+1.5
KAPI				S	Sn	20 17 38.0	-0.2
BYJI	Banyuwangi	4.57	282	Pn	Pn	20 16 54.3	-0.6
JAGI	Jajag, Banyuwa	4.72	278	Pn	Pn	20 16 56.6	-0.4
BATI	Baumata	4.83	103	P	Pn	20 16 56.7	-1.7
BATI				Pn	Pn	20 16 56.9	-1.5
BNSI	Bone	4.89	14	P		20 16 59.6	
BNSI				Pn	Pn	20 16 59.4	+0.1
BBKI	Banjar Baru	6.95	324	Pn	Pn	20 17 25.9	-1.5

BJI 01 20:35:33.3±0.0, 13°.22S×167°.03E, h100km, mb4.8/46, mB5.0/24

IDC 01 20:35:33.8±1.6, 13°.70S×166°.89E, h104km±13km, mb4.4/17, mbtmp4.7/18, MS3.8/2, Error ellipse: s-maj=15.9km s-min=12.6km az=96.0

NEIC 01 20:35:34.9±2.1, 13°.66S±0°.09×166°.9E±0°.1, h110km±6km, mb5.0/61, Error ellipse: s-maj=18.4km s-min=11.0km az=56.0

NOU 01 20:35:35.6, 13°.66S×166°.97E, h121km, mb5.0/43, Vanuatu Islands

ISC 01 20:35:35.9±0.6, 13°.73S±0°.05×166°.83E±0°.06, h121km±5km, n209, σ1s.12/225, mb4.9/66, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	4.18	162	P	Pn	20 36 38.7	+0.8
LIFNC	LIFOU	7.02	177	Pn	Pn	20 37 14.6	-1.5
KOUNC	Koumac, New Ca	7.21	199	P	Pn	20 37 19.5	+0.8
MARNC	Mare, Loyalty	7.80	172	Pn	Pn	20 37 26.6	0.0
HNR	Honiara	7.98	302	P	Pn	20 37 30.1	+1.0
	5μm,0.4s,baz=156,slow=8.1,SNR=20						
HNR				S	Sn	20 38 57.5	-0.3
	4μm,0.5s,baz=95,slow=21,SNR=8.1						
HNR	Honiara	7.98	302	Pn	Pn	20 37 27.0	-2.1
HNR					Sn	20 38 54.2	-3.7
HNR	Honiara	7.98	302	P	Pn	20 37 30.1	+1.0
DZM	Mont Dzumac	8.31	182	P	Pn	20 37 33.3	-0.4
	22nm,0.5s,baz=276,slow=16,SNR=27						
DZM				S	Sn	20 39 03.7	-2.2
	10nm,0.4s,baz=326,slow=23,SNR=2.1						
DZM	Mont Dzumac	8.31	182	Pn	Pn	20 37 33.0	-0.6
DZM	Mont Dzumac	8.31	182	P	Pn	20 37 33.2	-0.4
NOUC	Port Laguerre	8.35	183	P	Pn	20 37 34.5	+0.5
MSVF	Nonsavu	11.51	112	Pn	P	20 38 27.6	+2.3
EIDS	Eidsvold	18.80	230	P	Pn	20 39 47.9	0.0
	baz=19,SNR=19						
EIDS	Eidsvold	18.80	230	P	Pn	20 39 48.3	+0.4
EIDS	Eidsvold	18.80	230	P	Pn	20 39 48.8	+0.9
LHI	Lord Howe Isla	19.09	201	P	P	20 39 47.6	-1.5
	baz=19,SNR=3.1						
PMG	Port Moresby	19.74	280	P	Pn	20 40 00.5	+1.5
	16nm,0.7s,baz=132,slow=9.9,SNR=5.0						
PMG				LR	LR	20 45 29.2	
	comp=Z,422nm,20.6s,baz=66,slow=30						
PMG	Port Moresby	19.74	280	P	P	20 39 57.2	+0.9
TV1H	Townsville Har	19.98	251	P	Pn	20 40 01.1	-0.6
CTA	Charters Tower	20.67	249	P	P	20 40 07.5	+1.2
	6.5nm,0.6s,baz=83,slow=11,SNR=16						
	6.5nm,0.6s						
CTA	Charters Tower	20.67	249	P	P	20 40 07.9	+1.6
CTAO	Charters Tower	20.67	249	P	P	20 40 07.4	+1.2
CTAO	Charters Tower	20.67	249	P	P	20 40 07.7	+1.4
AFI	Afiamalu	20.77	93	P	P	20 40 07.8	+0.3
	24nm,0.3s,baz=243,slow=16,SNR=1.5						
	24nm,0.3s						
RMQ	Roma	21.16	230	P	P	20 40 13.6	+2.2
	baz=22,SNR=42						
RMQ	Roma	21.16	230	P	P	20 40 13.7	+2.2
ARMA	Armidale	21.74	218	P	P	20 40 18.6	+0.9
	baz=22,SNR=4.7						
ARMA	Armidale	21.74	218	P	P	20 40 17.8	0.0
ARMA	Armidale	21.74	218	P	P	20 40 19.5	+1.8
MTSU	Mount Surprise	22.08	256	P	P	20 40 22.5	+1.1
	baz=22,SNR=38						
MTSU	Mount Surprise	22.08	256	P	P	20 40 22.5	+1.1
PATS	Pohnpei	22.11	337	P	P	20 40 21.1	-0.5
	baz=22,SNR=3.3						
AUPHS	Peel High Scho	22.67	218	P	P	20 40 29.4	+2.3
COEN	Coen	22.97	267	P	P	20 40 31.9	+1.8
	baz=23,SNR=6.3						
COEN	Coen	22.97	267	P	P	20 40 30.9	+0.8
QLP	Quilpie	24.72	235	P	P	20 40 46.9	+0.9
	baz=25,SNR=7.9						
QLP	Quilpie	24.72	235	P	P	20 40 47.3	+1.3
AUDCS	Dubbo College	24.83	219	P	P	20 40 49.1	+2.2
CMSA	Cobar Meteorol	26.28	224	P	P	20 41 01.0	+1.0
	baz=27,SNR=35						
CMSA	Cobar Meteorol	26.28	224	P	P	20 41 01.4	+1.4
CAN	Canberra	26.85	214	P	P	20 41 06.5	+1.4
CAN				IAmb	IAmb	20 41 48.6	
	comp=Z,73nm,1.9s						
QIS	Mount Isa	26.86	252	P	P	20 41 07.6	+2.1
	baz=27,SNR=3.0						
INKA	Innaminka	28.02	236	P	P	20 41 16.8	+1.2
TUWZ	Tuamarina	28.29	169	P	P	20 41 17.8	0.0
STKA	Stephens Creek	29.33	228	P	P	20 41 28.5	+1.2
	comp=Z,15nm,0.7s,baz=47,slow=9.0,SNR=45						
STKA				PcP	PcP	20 44 30.4	-0.5
	comp=Z,4.1nm,0.6s,baz=81,slow=4.1,SNR=5.9						
	comp=Z,15nm,0.7s						
STKA	Stephens Creek	29.33	228	P	P	20 41 28.5	+1.2
	baz=30,SNR=34						
STKA	Stephens Creek	29.33	228	P	P	20 41 27.7	+0.4
STKA	Stephens Creek	29.33	228	P	P	20 41 28.7	+1.4
TOO	Toolangi	30.41	215	P	P	20 41 38.3	+1.6
	baz=31,SNR=7.1						
TOO	Toolangi	30.41	215	P	P	20 41 37.8	+1.0
TOO				IAmb	IAmb	20 41 38.6	
	comp=Z,29nm,0.9s						
LCRK	Leigh Creek	31.17	233	P	P	20 41 44.0	+0.5
WB0	Warramunga Arr	31.60	255	P	P	20 41 46.6	-0.8
WB0				IAmb	IAmb	20 41 47.6	
	comp=Z,25nm,0.6s						
WB2	Warramunga Arr	31.66	254	P	P	20 41 46.7	-1.2
WB2				IAmb	IAmb	20 41 48.1	
	comp=Z,11nm,0.7s						
WRAB	Tennant Creek	31.66	254	P	P	20 41 46.9	-1.0
WRAB				IAmb	IAmb	20 42 29.0	
	comp=Z,15nm,0.8s						
WRAB	Tennant Creek	31.66	254	P	P	20 41 47.2	-0.7
WRAB	Tennant Creek	31.66	254	P	P	20 41 46.4	-1.5
WRA	Warramunga Arr	31.67	254	P	P	20 41 47.4	-0.7
	comp=Z,10nm,0.6s,baz=85,slow=9.3,SNR=122						
WRA				PcP	PcP	20 44 37.0	-0.3
	comp=Z,3.6nm,0.9s,baz=79,slow=2.7,SNR=11						
WRA				ScP	ScP	20 48 12.3	+2.8
	comp=Z,1.9nm,0.8s,baz=81,slow=3.9,SNR=11						
	comp=Z,10nm,0.6s						
WRA	Warramunga Arr	31.67	254	P	P	20 41 46.1	-2.0
WRA					PcP	20 44 37.1	-0.1
ARPS	Mount Arapiles	32.03	220	P	P	20 41 52.2	+1.3
	baz=32,SNR=7.1						
HTT	Hallett	32.07	228	P	P	20 41 52.5	+1.1
	baz=32,SNR=13						
HTT	Hallett	32.07	228	P	P	20 41 52.5	+1.1
OOD	Oodnadatta	32.20	239	P	P	20 41 52.7	+0.2
AS01	Alice Springs	32.60	247	P	P	20 41 55.7	-0.5
AS31	Alice Springs	32.65	248	P	P	20 41 55.6	-1.0
ASAR	Alice Springs	32.65	248	P	P	20 41 55.9	-0.7
	comp=Z,15nm,0.6s,baz=74,slow=9.5,SNR=334						
ASAR				PcP	PcP	20 44 39.4	-0.5
	comp=Z,2.3nm,0.7s,baz=79,slow=2.6,SNR=9.7						
ASAR				ScP	ScP	20 48 15.3	+2.5
	comp=Z,2.4nm,0.8s,baz=88,slow=3.4,SNR=16						
	comp=Z,15nm,0.6s						
ASAR	Alice Springs	32.65	248	P	P	20 41 55.6	-1.0
RAR	Rarotonga	32.66	108	P	P	20 41 55.8	-0.9
	comp=Z,3.3nm,0.4s,baz=281,slow=16,SNR=1.5						
	comp=Z,3.3nm,0.4s						
KDU	Kakadu	33.45	268	P	P	20 42 03.2	-0.3
	baz=34,SNR=3.3						
BBOO	Buckleboo	33.87	231	P	P	20 42 07.6	+0.5
	baz=34,SNR=30						
BBOO	Buckleboo	33.87	231	P	P	20 42 07.4	+0.4
BBOO				IAmb	IAmb	20 42 08.7	
	comp=Z,57nm,1.4s						
MULG	Mulgathing	34.40	236	P	P	20 42 11.5	-0.1
MTN	Manton Dam	34.74	267	P	P	20 42 15.2	+0.6
	baz=35,SNR=3.4						
MTN	Manton Dam	34.74	267	P	P	20 42 15.3	+0.6
MTN				IAmb	IAmb	20 42 23.5	
	comp=Z,12nm,0.9s						
FAKI	Fak Fak	35.81	284	P	P	20 42 22.4	-1.5
FAKI				IAmb	IAmb	20 43 43.4	
	comp=Z,45nm,1.1s						
KNRA	Kununurra	36.84	262	P	P	20 42 32.6	0.0
	baz=37,SNR=5.7						
KNRA	Kununurra	36.84	262	P	P	20 42 31.5	-1.2
KNRA				IAmb	IAmb	20 42 33.1	
	comp=Z,17nm,0.9s						
WRKA	Warakurna	37.93	247	P	P	20 42 41.3	-0.5
	baz=38,SNR=69						
WRKA	Warakurna	37.93	247	P	P	20 42 41.4	-0.4
FORT	Forrest	39.45	238	P	P	20 42 54.7	+0.3
	baz=40,SNR=62						
FORT	Forrest	39.45	238	P	P	20 42 54.3	-0.1
FORT	Forrest	39.45	238	P	P	20 42 54.6	+0.3
NLAI	Namlea	40.59	281	P	P	20 43 04.6	+0.6
	comp=Z,10μmcomp=Z,36nm,0.8s						
MMRI	Maumere	43.99	272	P	P	20 43 29.0	-2.5
MMRI				IAmb	IAmb	20 43 32.6	
	comp=Z,25nm,1.1s						
PSA00	Pilbara Seismi	45.31	253	P	P	20 43 42.2	+0.2
PSA00				PcP	PcP	20 45 17.9	-1.8
PSA00	Pilbara Seismi	45.31	253	P	P	20 43 42.1	+0.2
PSA00				IAmb	IAmb	20 43 43.6	
	comp=Z,20nm,0.8s						
MBWA	Marble Bar	45.41	254	P	P	20 43 43.2	+0.5
MBWA				IAmb	IAmb	20 43 44.4	
	comp=Z,35nm,0.8s						
MBWA	Marble Bar	45.41	254	P	P	20 43 43.6	+0.9
MEEK	Meekatharra	46.79	246	P	P	20 43 54.1	+0.6
	baz=47,SNR=103						
MEEK	Meekatharra	46.79	246	P	P	20 43 54.2	+0.6
BNSI	Bone	46.98	277	P	P	20 43 55.8	+0.7
	comp=Z,24nm,1.1s						
TOLI2	Tolitoli	47.95	284	P	P	20 44 02.0	-0.6
KLBR	Kellerberrin	48.23	240	P	P	20 44 04.3	-0.3
	baz=49,SNR=9.7						
KLBR	Kellerberrin	48.23	240	P	P	20 44 04.3	-0.3
PLAI	Plampang	48.29	270	P	P	20 44 05.6	+0.4
	comp=Z,75nm,0.8s						

PLAI Plampang 48.29 270 P P 20 44 05.7 +0.5
MPSI Mapaga 48.53 283 P P 20 44 07.1 0.0
comp=Z,29nm,0.9s
NWAO Narrogin (SRO) 48.91 238 P P 20 44 09.6 -0.1
baz=49,SNR=38
NWAO P P 20 44 09.6 -0.1
baz=49,SNR=38
NWAO Narrogin (SRO) 48.91 238 P P 20 44 09.3 -0.5
NWAO IAmb IAmb 20 44 10.4
comp=Z,37nm,0.6s
NWAO Narrogin (SRO) 48.91 238 P P 20 44 09.7 0.0
NWAO Narrogin (SRO) 48.91 238 P P 20 44 08.6 -1.2
NWAO pP pP 20 44 37.0 +0.6
BLDU Ballidu 48.96 241 P P 20 44 10.0 -0.1
baz=49,SNR=7.4
TWSI Taliwang, Sumb 49.18 270 P P 20 44 12.7 +0.7
comp=Z,57nm,0.9s
MORW Morawa 49.33 243 P P 20 44 13.3 +0.3
baz=50,SNR=33
MORW Morawa 49.33 243 P P 20 44 13.2 +0.2
MORW Morawa 49.33 243 P P 20 44 13.3 +0.3
MUN Mundaring 49.59 240 P P 20 44 15.2 +0.2
baz=50,SNR=4.3
MUN Mundaring 49.59 240 P P 20 44 15.2 +0.2
KLNI Mataram 50.00 270 P P 20 44 18.4 +0.1
comp=Z,1µmcomp=Z,29nm,0.9s
GIRL Giralia 50.54 252 P P 20 44 23.4 +1.2
JAGI Jajag, Banyuwa 51.88 270 P P 20 44 31.6 -0.7
JAGI IAmb IAmb 20 44 32.4
comp=Z,24nm,0.6s
JAGI Jajag, Banyuwa 51.88 270 P P 20 44 31.9 -0.4
comp=Z,34nm,0.8s
KKM Kota Kinabalu 53.95 288 P P 20 44 47.9 +0.2
KKM IAmb IAmb 20 44 49.5
comp=Z,74nm,1.3s
KKM Kota Kinabalu 53.95 288 P P 20 44 48.7 +1.1
JOW Kunigami 55.03 317 LR LR 21 06 16.6
comp=Z,58nm,21.7s,baz=310,slow=34
UGM Wanagama 55.51 270 P P 20 44 59.4 +0.6
JGF Kuroka 56.44 331 P P 20 45 04.2 -0.8
JMN Monobe 56.68 327 P P 20 45 06.4 -0.4
MJAR Matsushiro Arr 56.83 333 P P 20 45 07.0 -0.8
comp=Z,5.9nm,0.6s,baz=172,slow=8.0,SNR=14
comp=Z,5.9nm,0.6s
MAJO Matsushiro 56.83 333 P P 20 45 07.2 -0.6
MAJO IAmb IAmb 20 45 08.0
comp=Z,18nm,0.9s
MJB9 Matsu-Tunnel 56.83 333 P P 20 45 09.7 +1.9
JMM Marumori 56.84 335 P P 20 45 08.4 +0.6
JMM IAmb IAmb 20 47 12.4
comp=Z,73nm,1.4s
JSD Sado 58.05 334 P P 20 45 15.6 -0.7
JHS Saijyo 58.06 328 P P 20 45 16.7 +0.3
NACB Ninganchiao 58.06 310 P P 20 45 16.1 -0.6
TPUB Ta-pu 58.29 309 P P 20 45 15.8 -2.4
SSLB Suanglung 58.32 309 P P 20 45 17.8 -0.6
YHNB Yeheng 58.51 311 P P 20 45 18.3 -1.6
JTU Tsushima 59.73 324 P P 20 45 26.3 -1.6
KSRS Korea Array 62.68 326 P P 20 45 47.9 +0.2
comp=Z,4.2nm,0.8s,baz=137,slow=7.2,SNR=12
comp=Z,4.2nm,0.8s
VNDA Vanda 63.85 181 P P 20 45 54.8 -0.1
comp=Z,1.3nm,0.8s,baz=326,slow=7.5,SNR=7.5
comp=Z,1.3nm,0.8s
VNDA Vanda 63.85 181 P P 20 45 55.3 +0.3
VNDA Vanda 63.85 181 P P 20 45 54.1 -0.9
VNDA pP pP 20 46 23.1 -0.8
SBA Scott Base 64.13 180 P P 20 45 57.6 +0.8
SBA Scott Base 64.13 180 P P 20 45 57.6 +0.8
SBA pP pP 20 46 23.1 -2.6
CASY Casey 64.29 202 P P 20 45 58.0 +0.1
CASY IAmb IAmb 20 46 02.6
comp=Z,77nm,1.7s
NJ2 Nanjing 64.67 316 *e*P P 20 46 03.2 +2.3
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
CCD Concordia, Ant 65.80 191 P P 20 46 06.3 -1.7
CCD pP pP 20 46 36.2 -0.8
CCD sP sP 20 46 53.0 +3.0
USA0B Ussuriysk Arra 65.81 333 P P 20 46 09.2 +1.2
USA0B IAmb IAmb 20 46 09.9
comp=Z,9.8nm,0.9s
USRK Ussuriysk Ar. 65.81 333 P P 20 46 08.9 +0.9
comp=Z,5.9nm,0.7s,baz=135,slow=5.7,SNR=9.3
comp=Z,5.9nm,0.7s
USRK Ussuriysk Ar. 65.81 333 P P 20 46 07.7 -0.3
PETK Petropavlovsk- 67.02 354 P P 20 46 15.9 +0.3
comp=Z,3.7nm,0.9s,baz=100,slow=7.5,SNR=2.3
comp=Z,3.7nm,0.9s
MDJ Mudanjiang 67.20 332 P P 20 46 17.9 +1.0
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,210nm,4.9s
IPM Ipoh 67.74 281 P P 20 46 20.9 -0.1
IPM IAmb IAmb 20 46 22.7
comp=Z,28nm,1.3s
IPM Ipoh 67.74 281 P P 20 46 21.2 +0.2
comp=Z,16nm,1.1s
IPM Ipoh 67.74 281 P P 20 46 22.2 +1.2
KULM Kulim 68.33 281 P P 20 46 23.9 -0.8
CN2 Changchun 68.57 329 *e*P P 20 46 25.6 +0.1
CN2 *e*S S 20 55 17.6 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.7s
RPSI Rantau Prapat 69.26 278 P P 20 46 29.6 -0.8
RPSI IAmb IAmb 20 46 31.4
comp=Z,12nm,0.9s
GSI Gunungsitoli 70.20 276 P P 20 46 36.2 0.0
GSI IAmb IAmb 20 46 37.8
comp=Z,21nm,0.8s
GSI Gunungsitoli 70.20 276 P P 20 46 36.2 0.0
ENH Enshi 70.41 309 P P 20 46 37.1 -0.1
ENH IAmb IAmb 20 46 38.1
comp=Z,20nm,0.8s
ENH Enshi 70.41 309 P P 20 46 37.7 +0.6
ENH Enshi 70.41 309 P P 20 46 36.4 -0.7
HNS HongShan 70.58 318 ⇑P P 20 46 38.9 +1.0
HNS pmax pmax
comp=Z,13nm,1.2s
BJI Beijing 71.22 321 P P 20 46 42.5 +0.7
BJI pmax pmax
comp=Z,7.0nm,1.0s
XAN Xi'an 72.70 313 ⇑P P 20 46 51.5 +0.6
XAN pP pP 20 47 18.6 -1.6
XAN pmax pmax
comp=Z,17nm,0.7s
PHRA Phrae 73.03 294 P P 20 46 54.0 +0.9
KMI Kunming 73.42 302 ⇑P P 20 46 57.2 +1.7
KMI pmax pmax
comp=Z,28nm,0.9s
XLT XiLinHaoTe 73.65 324 ⇓*i*P P 20 46 57.4 +1.1
XLT pP pP 20 47 24.1 -2.2
XLT sP sP 20 47 36.0 -3.3
XLT pmax pmax
comp=Z,17nm,0.9s
XLT pmax pmax
comp=Z,69nm,3.5s
CMAR Chiang Mai Arr 74.16 294 P P 20 47 00.1 +0.4
comp=Z,9.9nm,0.7s,baz=126,slow=4.3,SNR=40
comp=Z,9.9nm,0.7s
CMAR Chiang Mai Arr 74.16 294 P P 20 46 59.9 +0.3
CHTO Chiang Mai 74.28 294 P P 20 47 00.2 -0.2
HHC Hu-ho-hao-te 74.55 320 *e*P P 20 47 02.7 +1.1
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,190nm,4.7s
PZH PanZhiHua 74.80 303 P P 20 47 03.9 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,4.8s
CD2 Chengdu 75.06 308 *e*P P 20 47 04.8 +0.1
HIA Hailar 75.21 330 P P 20 47 05.1 0.0
QSPA South Pole Qui 76.30 180 P P 20 47 11.4 +0.1
TNCH TengChong 76.90 300 ⇑P P 20 47 16.4 +1.0
TNCH pmax pmax
comp=Z,9.0nm,1.3s
LZH Lanzhou 77.33 312 *e*P P 20 47 19.2 +1.6
LZH sP sP 20 47 55.5 -4.3
LZH pmax pmax
comp=Z,31nm,1.4s
LZH LR LR
comp=Z,270nm,13.6s
LZH LR LR
comp=Z,260nm,13.9s
LZH LR LR
comp=Z,180nm,15.7s
MND Mandalay 77.88 296 P P 20 47 21.5 +0.8
ULN Ulaanbaatar 81.08 324 P P 20 47 37.7 0.0
ULN Ulaanbaatar 81.08 324 P P 20 47 38.3 +0.6
comp=Z,61nm,1.0s
SONM Songino Array 81.44 324 P P 20 47 39.8 +0.2
comp=Z,3.1nm,0.8s,baz=140,slow=4.5,SNR=16
comp=Z,3.1nm,0.8s
SONM Songino Array 81.44 324 P P 20 47 38.7 -0.8
GTA Gaotai 81.67 314 ⇑P P 20 47 42.0 +1.0
GTA pP pP 20 48 11.5 +0.6
GTA sP sP 20 48 24.6 +1.1
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,110nm,5.6s
GTA LR LR
comp=Z,96nm,19.6s
GTA LR LR
comp=Z,160nm,18.9s
GTA LR LR
comp=Z,150nm,20.7s
MAW Mawson 82.65 202 P P 20 47 45.9 +0.5
comp=Z,2.3nm,0.6s,baz=111,slow=6.1,SNR=14
comp=Z,2.3nm,0.6s
MAW Mawson 82.65 202 P P 20 47 46.2 +0.8
baz=83,SNR=10
MAW Mawson 82.65 202 P P 20 47 45.9 +0.5
SHL Shillong 82.72 298 P P 20 47 46.2 -0.6
SHL IAmb IAmb 20 47 48.1
comp=Z,32nm,1.3s
CAST Castle Rocks 83.17 17 P P 20 47 47.7 -0.4
CAST IAmb IAmb 20 48 37.7
comp=Z,23nm,1.6s
LSA Lhasa 84.67 302 P P 20 47 57.4 +0.4
LSA IAmb IAmb 20 47 59.0
comp=Z,9.2nm,0.7s
ILAR Eielson Array 85.71 18 P P 20 47 59.7 -1.1
comp=Z,0.8nm,0.6s,baz=230,slow=5.1,SNR=9.0
comp=Z,0.8nm,0.6s
BELA Belgrano 2 87.75 176 P P 20 48 10.3 -0.4
BELA IAmb IAmb 20 48 11.9
comp=Z,7.4nm,0.9s
WMQ Urumqi 91.73 315 *e*P P 20 48 30.3 +0.4
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ LR LR
comp=Z,160nm,20.5s
TROLL Troll, Antarti 93.82 185 P P 20 48 38.5 -0.7
SNAA Sanae 94.52 183 P P 20 48 41.2 -1.1
SNAA Sanae 94.52 183 pP pP 20 49 10.0 -3.2
SNAA Sanae 94.52 183 P P 20 48 41.0 -1.3
SNAA IAmb IAmb 20 48 42.5
comp=Z,18nm,1.9s
VNA3 Neumayer Olymp 95.20 181 P P 20 48 43.8 -1.6
VNA3 Neumayer Olymp 95.20 181 pP pP 20 49 13.2 -3.0
VNA2 Neumayer--Watz 95.46 182 P P 20 48 45.3 -1.2
baz=171,slow=5.0
VNA1 Neumayer--Stat 95.76 182 P P 20 48 48.4 +0.6
MK31 Makanchi Array 96.19 317 P P 20 48 49.2 -1.0
MK31 IAmb IAmb 20 48 51.0
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 96.19 317 P P 20 48 50.4 +0.1
comp=Z,5.5nm,0.7s,baz=95,slow=6.4,SNR=31
comp=Z,5.5nm,0.7s
MKAR Makanchi Array 96.19 317 P P 20 48 49.5 -0.8
ZAA0 Zalesovo Array 96.34 324 P P 20 48 48.9 -1.8
ZAA0 IAmb IAmb 20 48 50.3
comp=Z,4.3nm,0.8s
ZALV Zalesovo Beam 96.34 324 P P 20 48 49.7 -0.9
comp=Z,3.4nm,0.6s,baz=115,slow=4.3,SNR=20
comp=Z,3.4nm,0.6s
ZALV Zalesovo Beam 96.34 324 P P 20 48 48.7 -1.9
KSH Kashi 99.25 308 P Pdif 20 49 09.4 +5.1
ARCES ARCESS Array B 119.18 345 PKP PKPdf 20 54 09.4 -0.6
comp=Z,4.6nm,0.9s,baz=69,slow=1.5,SNR=11
BOSA Boshof 123.85 221 PKP PKPdf 20 54 20.1 -0.3
comp=Z,2.5nm,0.7s,baz=360,slow=1.5,SNR=6.5
FINES FINESS Array B 124.64 338 PKP PKPdf 20 54 19.9 -0.8
comp=Z,4.8nm,0.9s,baz=75,slow=2.2,SNR=7.6
NOA NORSAR Array B 129.55 345 PKP PKPdf 20 54 29.6 -0.5
comp=Z,0.5nm,0.8s,baz=110,slow=3.5,SNR=2.1
HFS Hagfors 129.65 343 PKP PKPdf 20 54 29.6 -0.7
comp=Z,7.2nm,1.1s,baz=152,slow=7.8,SNR=2.5
AKASG Malin Array Be 129.67 326 PKP PKPdf 20 54 29.9 -0.7
comp=Z,0.5nm,0.5s,baz=66,slow=1.9,SNR=4.8
GERES GERESS Array B 138.56 333 PKP PKPdf 20 54 46.3 -1.2
comp=Z,0.6nm,0.7s,baz=94,slow=3.9,SNR=5.9
GERES SKP 20 58 12.4
comp=Z,0.5nm,0.8s,baz=59,slow=3.6,SNR=4.9
KEST Kesra 150.17 321 PKPbc PKPbc 20 55 12.9 -0.2
comp=Z,11nm,0.9s,baz=320,slow=3.5,SNR=12
ESDC Sonseca Array 152.91 344 PKPbc PKPbc 20 55 18.8 -0.4
comp=Z,1.1nm,0.8s,baz=15,slow=3.0,SNR=13
ESDC PKPab PKPab 20 55 30.5 -0.1
comp=Z,1.2nm,0.8s,baz=6.4,slow=4.1,SNR=12
TORD Torodi Ar. Bea 165.53 269 PKP PKPdf 20 55 26.4 -0.7
comp=Z,1.4nm,0.8s,baz=49,slow=0.6,SNR=11
TORD PKPab PKPab 20 56 26.0 -0.2
comp=Z,2.4nm,1.0s,baz=79,slow=4.0,SNR=7.7

JMA ***01*** *20:41:19.2±0.2, 37°N±2°×13°5E±°, h377km, MV3.0/16, SEA OF JAPAN*
ISC 01 20:41:19.6±2.0**, 37°.3N**±0°.1×**135°.2E**±0°.2**, h372km, n14,** σ**0ˢ40**/15**, Sea of Japan**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
JJH Hakui 1.29 104 *e*P Pn 20 42 09.3 +0.4
JKG Kaga 1.32 137 *e*P Pn 20 42 09.1 0.0
JSZ Suzu 1.72 83 *e*P Pn 20 42 11.7 +0.6
JWT Wachi 1.97 176 P Pn 20 42 13.0 +0.1
JYTA Yamagatataniai 2.05 143 P Pn 20 42 13.4 +0.1
JYTA *e*S S 20 42 56.3 -0.3
JGF Kuroka 2.38 133 P Pn 20 42 16.1 +0.3
INU Inuyama 2.39 142 P Pn 20 42 16.0 +0.2
MAJO Matsushiro 2.49 106 P Pn 20 42 17.0 +0.5
MAT Matsushiro 2.49 106 *e*P Pn 20 42 16.8 +0.3
JHS Saijyo 2.82 218 P Pn 20 42 18.9 -0.3
JMM Marumori 4.47 80 P Pn 20 42 34.5 -0.1
JTM Tenmabayashi 5.76 50 P Pn 20 42 48.8 +0.4
ERM Erimo 7.75 50 P Pn 20 43 10.7 -0.4
JEM Erimo 7.75 50 P Pn 20 43 10.4 -0.7

PRU ***01*** *20:46:28.0±0.0, 43°.04N×13°.75E, h10km*
STR ***01*** *20:46:30.4±1.9, 43°N±10°×1°3E±1°6, h10km, MLv3.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=79.5, preliminary*
ROM 01 20:46:26.2±0.0**, 43°.015N**±0°.002×**13°.138E**±0°.003**, h10km, ML3.1**/5**, Error ellipse: s-maj=0.2km s-min=0.1km az=58.0, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
FDMO Fiordimonte 0.04 300 P Pg 20 46 28.3 +0.1
FDMO S Sg 20 46 29.6 0.0
T1256 Bolognola (MC) 0.07 97 P Pg 20 46 28.7 +0.1
T1256 AML AML
comp=N,34500µm,0.4s
T1256 AML AML
comp=E,38050µm,0.6s
T1256 AML AML
comp=N,37400µm,0.4s
T1256 AML AML
comp=E,38000µm,0.6s
T1256 AML AML
comp=E,38750µm,0.5s
T1256 AML AML
comp=N,37450µm,0.4s
FEMA Monte Fema 0.08 231 P Pg 20 46 29.2 +0.5
FEMA S Sg 20 46 31.2 +0.7
GUMA Gualdo di Mace 0.15 72 P Pg 20 46 30.4 +0.8
GUMA S Sg 20 46 33.5 +1.5
T1216 Preci, Frazion 0.15 215 P Pg 20 46 30.2 +0.6
T1216 S Sg 20 46 33.1 +1.1
AM05 Amandola Campo 0.16 103 P Pg 20 46 30.4 +0.6
T1245 Castelsantange 0.16 167 P Pg 20 46 30.4 +0.5
T1245 S Sg 20 46 33.3 +1.0
T1245 AML AML
comp=N,16700µm,0.3s
T1245 AML AML
comp=E,13700µm,0.6s
T1245 AML AML
comp=N,17950µm,0.3s
T1245 AML AML
comp=E,14450µm,0.8s
T1245 AML AML
comp=E,13700µm,0.6s
T1245 AML AML
comp=N,17900µm,0.3s
CESI CESI - Serrava 0.17 267 P Pg 20 46 30.7 +0.7
CESI S Sg 20 46 33.9 +1.4
MDAR Monte D'Aria 0.18 1 P Pg 20 46 30.5 +0.4
MMO1 Montemonaco 0.18 130 P Pg 20 46 30.6 +0.5
MMO1 S Sg 20 46 33.7 +0.9
NRCA Norcia 0.18 186 P Pg 20 46 30.7 +0.5
NRCA AML AML
comp=E,19100µm,0.1s
NRCA AML AML
comp=N,20400µm,0.2s
NRCA AML AML
comp=E,19900µm,0.2s
NRCA AML AML
comp=N,21650µm,0.2s
SEF1 Sefro 0.19 313 P Pg 20 46 30.9 +0.6
SEF1 S Sg 20 46 34.4 +1.3
PIO1 Pioraco 0.20 325 P Pg 20 46 31.0 +0.5
SSM1 San Severino M 0.22 8 P Pg 20 46 31.3 +0.6
GAG1 Gagliole 0.23 347 P Pg 20 46 31.6 +0.6
GAG1 S Sg 20 46 35.7 +1.5
FIU1 Fiuminata 0.23 319 P Pg 20 46 31.5 +0.5
FIU1 S Sg 20 46 35.4 +1.2
T1241 Roccafluvione, 0.27 126 P Pg 20 46 32.2 +0.5
T1241 S Sb 20 46 36.7 -1.1
MNTP Montappone 0.27 63 P Pb 20 46 32.9 -0.4
SNTG Esanatoglia 0.28 329 P Pg 20 46 32.4 +0.5
T1215 Vallo di Nera, 0.29 223 P Pg 20 46 32.7 +0.6
T1215 S Sb 20 46 37.5 -1.0
T1215 AML AML
comp=N,4565µm,0.1s
T1215 AML AML
comp=E,3680µm,0.5s
T1215 AML AML
comp=N,4480µm,0.1s
T1215 AML AML
comp=E,3470µm,0.5s
T1215 AML AML
comp=N,4565µm,0.1s
T1215 AML AML
comp=E,3685µm,0.5s
T1215 AML AML
comp=N,4485µm,0.1s
T1215 AML AML
comp=N,4570µm,0.1s
T1215 AML AML
comp=E,3680µm,0.5s
T1215 AML AML
comp=E,3690µm,0.5s
T1215 AML AML
comp=N,4485µm,0.1s
T1215 AML AML
comp=E,3475µm,0.5s
EL6 Elcito 0.32 355 P Pg 20 46 33.1 +0.5
TRE1 Treia 0.32 23 P Pb 20 46 33.6 -0.5
T1217 Poggiodomo (PG 0.34 207 P Pg 20 46 33.5 +0.5
T1217 S Sb 20 46 39.1 -0.9
T1217 AML AML
comp=E,3175µm,0.8s
T1217 AML AML
comp=E,3060µm,0.8s
T1217 AML AML
comp=N,5655µm,0.4s
T1217 AML AML
comp=N,5615µm,0.2s
T1217 AML AML
comp=E,3040µm,0.8s
T1217 AML AML
comp=N,5660µm,0.4s
ASSB Assisi San Ben 0.35 275 P Pg 20 46 33.7 +0.5
ASSB S Sb 20 46 39.5 -0.9
CING Cingoli 0.36 7 P Pg 20 46 33.7 +0.2
T1204 Amatrice, Fraz 0.36 159 P Pg 20 46 34.0 +0.5
T1201 Domo (RI) 0.37 167 P Pb 20 46 34.4 -0.5
T1243 Rocca Santa Ma 0.39 144 P Pg 20 46 34.3 +0.3
FOSV Fossato di Vic 0.39 316 P Pg 20 46 34.3 +0.3
FOSV S Sb 20 46 41.0 -0.5
ATCC AVT- Casa Cast 0.40 295 P Pg 20 46 34.7 +0.5
ATCC S Sb 20 46 41.4 -0.4
OFFI Offida 0.41 101 S Sg 20 46 36.0 -3.7
SMA1 SAN MARTINO 0.41 159 P Pg 20 46 34.8 +0.4
MMUR Monte Murano 0.44 346 P Pb 20 46 35.8 -0.4
SSFR Montelago di S 0.49 328 P Pg 20 46 36.2 +0.3
PP3 Marolino 0.50 43 P Pb 20 46 37.2 +0.1
PP3 AML AML
comp=E,3390µm,0.2s
PP3 AML AML
comp=N,3965µm,0.3s
PP3 AML AML
comp=E,3495µm,0.2s
PP3 AML AML
comp=N,4025µm,0.3s
T1246 Crognaleto (TE 0.50 149 P Pg 20 46 36.2 +0.2
RM33 Pellescritta (0.51 174 P Pg 20 46 36.6 +0.5
ARRO Arrone 0.52 212 P Pg 20 46 36.6 +0.4
CAMP Campotosto 0.52 157 P Pg 20 46 36.5 +0.2
CAMP S Sb 20 46 44.5 -0.7
CAMP AML AML
comp=E,1410µm,0.6s
CAMP AML AML
comp=N,1080µm,0.5s
TERO Teramo 0.52 139 P Pg 20 46 36.7 +0.3
T1247 Pizzolo (AQ) 0.58 168 P Pg 20 46 37.7 +0.1
GIGS Gran Sasso 0.65 151 P Pg 20 46 38.6 -0.2
PGF Pioggiola 3.08 263 P Pn 20 47 16.2 +1.1
MYKA Terra Mystica 3.63 5 *e*Pn Pn 20 47 24.0 +1.4
comp=N,1.6nm,0.2s
OBKA Obir 3.64 16 *e*Pn Pn 20 47 24.1 +1.4
comp=N,1.1nm,0.2s
ABTA Abfaltersbach 3.76 353 *e*Pn Pn 20 47 26.0 +1.6
comp=N,10nm,0.4s,SNR=13
KBA Koelnbreinsper 4.07 2 *i* Pn Pn 20 47 30.5 +1.8
comp=N,4.3nm,0.3s,SNR=4.2
FETA Feichten 4.36 338 *e*Pn Pn 20 47 35.4 +2.8
comp=N,0.4nm,0.3s,SNR=8.7
WTTA Wattenberg 4.38 346 *e*Pn Pn 20 47 36.1 +3.1
comp=N,3.5nm,0.4s,SNR=7.6
SQTA Sankt Quirin 4.42 343 *e*Pn Pn 20 47 36.4 +2.9
comp=N,3.1nm,0.2s,SNR=12
WATA Walderalm 4.46 346 *e*Pn Pn 20 47 37.4 +3.4
comp=N,1.3nm,0.2s,SNR=6.3
MOTA Moosalm 4.56 342 *i* Pn Pn 20 47 38.6 +3.1
BIOA Bad Ischl, Aus 4.69 4 *e*Pn Pn 20 47 38.1 +1.0
comp=N,2.8nm,0.3s,SNR=12
RETA Reutte 4.78 340 *e*Pn Pn 20 47 40.3 +2.0
comp=N,1.7nm,0.4s
DAVA Damuels 4.85 333 *i* Pn Pn 20 47 43.1 +3.6
comp=N,0.8nm,0.2s
MOA Molln 4.90 9 *i* Pn Pn 20 47 41.5 +1.5
comp=N,0.9nm,0.3s
TRIGF Trigance 4.96 281 P Pn 20 47 42.7 +1.8
CONA Conrad Observa 5.27 20 *i* Pn Pn 20 47 46.0 +0.8
comp=N,2.1nm,0.4s
RSL Roselend 5.38 302 P Pn 20 47 49.6 +2.9
SLE Schleitheim 5.77 327 P Pn 20 47 54.2 +2.3
CKRC Cesky Krumlov 5.86 8 *e*PN Pn 20 47 53.2 0.0
CKRC *e*SN Sn 20 48 58.0 -2.5
KHC Kasperske Hory 6.12 3 *e*PN Pn 20 47 56.5 -0.3
KHC *e*SN Sn 20 49 04.7 -2.3
BRANT Les Verrieres 6.14 312 P Pn 20 47 59.3 +2.1
BRANT Les Verrieres 6.14 312 S Sn 20 49 09.0 +1.5
KIZ Kirchzarten 6.15 325 P Pn 20 47 58.0 +0.8
CHMF Charmoille 6.24 315 P Pn 20 48 00.5 +2.0
CHMF S Sn 20 49 10.1 +0.2
VOGT Vogtsburg - To 6.36 325 P Pn 20 48 01.8 +1.8
ECH Echery 6.68 323 P Pn 20 48 06.2 +1.8
ECH S Sn 20 49 20.4 -0.2

NEIC ***01*** *20:53:40.2±2.2, 9°.58S±0°.08×116°.24E±0°.06, h89km±10km, mb4.1/12, Error ellipse: s-maj=11.0km s-min=9.2km az=178.0*
DJA ***01*** *20:53:41.3±0.4, 10°S±5°×11°6E±°, h50km±17km, M4.5/19, mb4.5/11, mB5.0/3, MLv4.4/19, Mw(mB)4.3/3*

IDC 01 20:53:43.6±3.8, 9°.18S×116°.32E, h113km±31km, mb3.4/6, mbtmp3.8/7, Error ellipse: s-maj=33.8km s-min=13.7km az=54.0

ISC 01 20:53:39.6±0.7, 9°.45S±0°.05×116°.30E±0°.04, h80km±8km, n83, σ2s.25/90, mb3.9/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.92	39	P	Pn	20 53 59.0	+1.3
TWSI				S	Sn	20 54 11.8	+0.7
KLNI	Mataram	1.04	349	P	Pn	20 54 00.6	+1.4
KHKI	Kahang-Kahang	1.28	328	P	Pn	20 54 03.8	+1.7
KHKI				S	Sn	20 54 20.7	+1.7
IGBI	Denpasar	1.30	299	P	Pn	20 54 03.5	+1.1
DNP	Denpasar	1.32	306	P	Pn	20 54 04.7	+2.0
DNP				S	Sn	20 54 22.5	+2.5
PLAI	Plampang	1.59	67	P	Pn	20 54 08.4	+2.3
PLAI				S	Sn	20 54 28.1	+2.0
PLAI	Plampang	1.59	67	P	Pn	20 54 08.6	+2.5
RTBI	Rangdo, Negare	1.67	306	P	Pn	20 54 09.0	+1.9
SRBI	Singaraja	1.73	322	P	Pn	20 54 09.9	+1.9
SRBI				S	Sn	20 54 31.9	+2.4
JAGI	Jajag, Banyuwa	2.33	295		Pn	20 54 17.1	+1.0
JAGI				Sn	Sn	20 54 44.0	+0.1
JAGI	Jajag, Banyuwa	2.33	295	P	Pn	20 54 17.0	+1.0
JAGI				S	Sn	20 54 44.0	+0.1
JAGI	Jajag, Banyuwa	2.33	295	P	Pn	20 54 17.2	+1.2
ABJI	Asem Bagus	2.62	309	P	Pn	20 54 22.2	+2.3
KMMI	Kalianget	3.32	316	P	Pn	20 54 31.9	+2.6
KRKI	Karangkates	4.01	288	P	Pn	20 54 41.3	+2.6
BWJI	Bawean	5.08	315	P	Pn	20 54 55.2	+1.9
	1.1nm220nm,1.2s						
PCJI	Pacitan	5.21	283	P	Pn	20 54 56.6	+1.5
	0.3nm44nm,0.9s						
BSSI	Bau Bau, Buton	5.30	52	P	Pn	20 54 59.1	+2.8
	0.4nm2μm85nm,0.8s						
KAPI	Kappang	5.58	38	P	Pn	20 55 03.1	+2.9
	30nm,0.3s,baz=200,slow=3.5,SNR=18						
KAPI				S	Sn	20 56 01.9	-1.1
	42nm,0.3s,baz=54,slow=23,SNR=26						
KAPI	Kappang	5.58	38		Pn	20 55 03.0	+2.7
KAPI				Sn	Sn	20 56 04.6	+1.5
KAPI	Kappang	5.58	38	P	Pn	20 55 02.9	+2.7
	0.3nm756nm31nm,0.4s						
KAPI	Kappang	5.58	38	P	Pn	20 55 03.3	+3.1
BKSI	Bulukumba	5.59	43	P	Pn	20 55 02.8	+2.6
	0.3nm1μm56nm,0.5s						
UGM	Wanagama	5.91	285	Pn	Pn	20 55 04.9	+0.2
UGM				Sn	Sn	20 56 08.2	-2.9
UGM	Wanagama	5.91	285	P	Pn	20 55 07.9	+3.2
	0.7nm116nm,1.8s						
UGM	Wanagama	5.91	285	P	Pn	20 55 07.4	+2.7
MMRI	Maumere	5.92	83	Pn	Pn	20 55 06.2	+1.4
MMRI	Maumere	5.92	83	P	Pn	20 55 05.9	+1.1
	0.2nm35nm,1.0s						
BNSI	Bone	6.28	37	P	Pn	20 55 14.1	+4.3
	0.1nm13nm,0.4s						
SPSI	Sidrap Palu	6.45	33	P	Pn	20 55 14.1	+2.1
	0.1nm9.8nm,0.6s						
PMSI	Majene	6.46	24	P	Pn	20 55 15.4	+3.2
	0.2nm48nm,0.8s						
BATI	Baumata	7.30	97	P	Pn	20 55 24.1	+0.5
	6.2nm,0.3s,baz=54,slow=7.4,SNR=2.1						
BATI				S	Sn	20 56 44.2	-0.8
	13nm,0.3s,baz=27,slow=22,SNR=6.4						
BATI	Baumata	7.30	97	P	Pn	20 55 23.9	+0.3
	0.1nm16nm,0.6s						
SOEI	Soe	7.86	93	Pn	Pn	20 55 32.1	+0.6
SOEI	Soe	7.86	93	P	Pn	20 55 34.3	+2.9
	0.1nm18nm,1.0s						
BBJI	Bungbulang	8.78	282	P	Pn	20 55 45.4	+1.5
MBWA	Marble Bar	12.10	165		Pn	20 56 26.7	-2.3
MBWA					Sn	20 58 26.7	-15
MBWA	Marble Bar	12.10	165	P	Pn	20 56 27.7	-1.3
PSA00	Pilbara Seismi	12.52	165	Pn	Pn	20 56 31.9	-2.9
PSA00					Sn	20 58 36.5	-16
PSA00	Pilbara Seismi	12.52	165	Pn	Pn	20 56 31.7	-3.1
PSA00					Sn	20 58 36.9	-16
PSA00	Pilbara Seismi	12.52	165	P	Pn	20 56 34.2	-0.6
GIRL	Giralia	13.26	188	Pn	Pn	20 56 43.2	-1.5
GIRL	Giralia	13.26	188	P	Pn	20 56 44.1	-0.6
KNRA	Kununurra	13.64	118	Pn	Pn	20 56 47.4	-2.3
KNRA	Kununurra	13.64	118	P	Pn	20 56 48.0	-1.7
MNAI	Manna	14.18	290	Pn	Pn	20 56 53.8	-2.9
MYLDM	Lahad Datu	14.70	9	Pn	Pn	20 57 01.0	-2.5
MTN	Manton Dam	14.94	104	Pn	Pn	20 57 02.5	-4.1
FAKI	Fak Fak	17.13	69		Pn	20 57 32.5	-1.5
MEEK	Meekatharra	17.23	173	P	P	20 57 37.0	+1.4
WRKA	Warakurna	19.25	145	P	Pn	20 58 01.9	+2.3
MORW	Morawa	19.52	181	P	P	20 57 58.9	-1.7
MORW				IAmb	IAmb	20 58 01.5	
	comp=Z,25nm,1.3s						
MORW	Morawa	19.52	181	P	Pn	20 58 05.3	+2.7
WB0	Warramunga Arr	20.27	122		P	20 58 08.3	-0.6
WB0				IAmb	IAmb	20 58 34.5	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	20.31	123	P	Pn	20 58 11.8	-0.2
	comp=Z,1.2nm,0.8s,baz=299,slow=12,SNR=13						
WRA				S	S	21 01 48.4	-4.3
	comp=Z,0.4nm,0.4s,baz=290,slow=22,SNR=2.7						
	comp=Z,1.2nm,0.8s						
WRA	Warramunga Arr	20.31	123		P	20 58 09.4	+0.1
WRAB	Tennant Creek	20.31	123	P	Pn	20 58 12.9	+0.9
WB2	Warramunga Arr	20.32	123		P	20 58 10.4	+1.0
WB2				IAmb	IAmb	20 58 24.3	
	comp=Z,7.3nm,1.2s						
BLDU	Ballidu	21.06	179	P		20 58 23.5	
KULM	Kulim	21.39	313	P	P	20 58 20.7	-0.3
KULM				IAmb	IAmb	20 58 38.8	
	comp=Z,10nm,1.3s						
GSI	Gunungsitoli	21.49	299	P	P	20 58 21.1	-0.9
GSI				IAmb	IAmb	20 58 53.9	
	comp=Z,18nm,1.4s						
AS31	Alice Springs	21.97	132	P	P	20 58 25.1	-2.1
ASAR	Alice Springs	21.97	132	P	P	20 58 29.7	+2.5
	comp=Z,1.3nm,0.5s,baz=309,slow=9.2,SNR=23						
ASAR				S	S	21 02 28.4	+3.1
	comp=Z,0.3nm,0.6s,baz=295,slow=22,SNR=1.9						
	comp=Z,1.3nm,0.5s						
ASAR	Alice Springs	21.97	132	P	P	20 58 23.6	-3.6
AS01	Alice Springs	22.01	132	P	P	20 58 31.3	+3.8
	comp=Z,4.1nm,0.8s						
KLBR	Kellerberrin	22.07	177	P	P	20 58 32.3	+4.2
NWAO	Narrogin (SRO)	23.38	178	P	P	20 58 40.5	-0.8
FORT	Forrest	23.88	154	P	P	20 58 48.7	+2.8
FORT				IAmb	IAmb	20 59 17.8	
	comp=Z,12nm,0.7s						
QIS	Mount Isa	25.03	119	P	P	20 59 00.7	+4.2
OOD	Oodnadatta	25.82	138	P	P	20 59 06.5	+3.0
STKA	Stephens Creek	32.37	137	P	P	21 00 04.5	+2.9
	comp=Z,1.1nm,0.5s,baz=294,slow=10.0,SNR=3.9						
	comp=Z,1.1nm,0.5s						
JOW	Kunigami	37.90	18	P	P	21 00 49.9	+0.7
H08S2	Diego Garcia H	43.34	269	T	T	21 48 49.9	
	baz=95,slow=74						
H08S3	Diego Garcia H	43.35	269	T	T	21 48 46.1	
	baz=95,slow=74						
H08S1	Diego Carcia H	43.35	269	T	T	21 48 51.5	
	baz=95						
SONM	Songino Array	57.71	352	P	P	21 03 21.4	-0.7
	comp=Z,0.6nm,0.7s,baz=172,slow=6.1,SNR=4.7						
	comp=Z,0.6nm,0.7s						
MKAR	Makanchi Array	63.68	335	P	P	21 04 01.2	-1.4
	comp=Z,0.3nm,0.3s,baz=143,slow=6.6,SNR=8.3						
	comp=Z,0.3nm,0.3s						
MKAR	Makanchi Array	63.68	335	P	P	21 04 01.9	-0.7
MAW	Mawson	67.92	199	P	P	21 04 28.1	-1.3
MAW				IAmb	IAmb	21 04 41.8	
	comp=Z,0.8nm,0.9s						
ZALV	Zalesovo Beam	68.55	341	P	P	21 04 30.9	-2.6
	comp=Z,0.4nm,0.3s,baz=143,slow=7.1,SNR=2.8						
	comp=Z,0.4nm,0.3s						
ZALV	Zalesovo Beam	68.55	341	P	P	21 04 32.3	-1.2
ABKAR	Akbulak array	76.42	326	P	P	21 05 19.2	-1.2
TORD	Torodi Ar. Bea	115.91	280	PKP	PKiKP	21 12 15.2	+1.0
	comp=Z,0.3nm,0.8s,baz=108,slow=2.6,SNR=2.3						

IDC 01 21:50:07.1±1.9, 4°.08S×134°.89E, h0km, mb4.0/1, mbtmp4.1/4, ML3.7/3, MS3.7/1, Error ellipse: s-maj=80.0km s-min=27.5km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.77	182	Pn	Pn	21 53 52.0	+1.2
	0.5nm,0.3s,baz=3.3,slow=12,SNR=63						
WRA				Sn	Sn	21 56 29.1	-17
	0.2nm,0.3s,baz=357,slow=23,SNR=2.0						
	7.7nm,0.8s						
CTA	Charters Tower	19.39	146	P	Pn	21 54 36.2	+0.4
	0.1nm,0.3s,baz=330,slow=12,SNR=4.5						
	1.2nm,0.3s						
ASAR	Alice Springs	19.49	183	P	P	21 54 34.4	-1.6
	0.5nm,0.3s,baz=6.8,slow=11,SNR=40						
	3.2nm,0.6s						
JCJ	Chichijima	31.79	12	LR	LR	22 07 05.8	
	comp=Z,132nm,21.4s,baz=96,slow=32						
MKAR	Makanchi Array	68.60	324	P	P	22 01 12.0	0.0
	1.4nm,1.0s,baz=126,slow=7.3,SNR=5.1						
	1.4nm,1.0s						

INET 01 22:00:06.3±0.5, 12°.97N×89°.22W, h16km±4km, MW3.4
SNET 01 22:00:07.5±1.0, 13°.16N×89°.15W, h57km±7km, ML3.7
UCR 01 22:00:07.4±0.8, 13°.10N×89°.16W, h50km±10km, ML3.7

ISC 01 22:00:07.9±1.5, 13°.12N±0°.09×89°.14W±0°.05, h54km±15km, n54, σ0s.57/80, 4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	El Faro	0.51	9	eP	Pn	22 00 19.1	-0.6
LFRS	El Faro	0.51	9	eP	Pn	22 00 19.1	-0.6
SJTE	Alcalda de S	0.51	15	eP	Pn	22 00 19.1	-0.6
SJTE				eS	Sn	22 00 28.1	0.0
SJTE				IAML		22 00 32.1	
	comp=Z,881nm,0.4s						
SJTE	Alcalda de S	0.51	15	eP	Pn	22 00 19.1	-0.6
SJTE				eS	Sn	22 00 28.1	0.0
SJTE				IAML		22 00 32.1	
	comp=Z,881nm,0.4s						
COEG	Centro de Oper	0.56	27⇓	eP	Pn	22 00 19.8	-0.4
COEG				IAML		22 00 20.6	
	comp=Z,2μm,0.3s						
COEG				eS	Sn	22 00 29.3	+0.2
COEG	Centro de Oper	0.56	27⇓	eP	Pn	22 00 19.8	-0.4
COEG				IAML		22 00 20.6	
	comp=Z,2μm,0.3s						
COEG				eS	Sn	22 00 29.3	+0.2
SNET	Serv Nac Est T	0.57	351	eP	Pn	22 00 19.6	-0.8
SNET				eS	Sn	22 00 29.1	-0.3
SNET	Serv Nac Est T	0.57	351	eP	Pn	22 00 19.6	-0.8
SNET				eS	Sn	22 00 29.1	-0.3
SNVI	San Vicente	0.57	31	eP	Pn	22 00 20.2	-0.3
SNVI	San Vicente	0.57	31	eP	Pn	22 00 20.2	-0.3
ALJI	Alcalda de J	0.59	70	eP	Pn	22 00 20.5	-0.1
ALJI				eS	Sn	22 00 29.9	+0.2
ALJI	Alcalda de J	0.59	70	eP	Pn	22 00 20.5	-0.1
ALJI				eS	Sn	22 00 29.9	+0.2
UEES	Universidad Ev	0.60	351	eP	Pn	22 00 20.5	-0.3
UEES				eS	Sn	22 00 30.4	+0.4
UEES				IAML		22 00 32.7	
	comp=Z,2μm,0.4s						
UEES	Universidad Ev	0.60	351	eP	Pn	22 00 20.5	-0.3
UEES				eS	Sn	22 00 30.4	+0.4
UEES				IAML		22 00 32.7	
	comp=Z,2μm,0.4s						
LBRS	Las Brisas	0.62	9	eP	Pn	22 00 21.0	0.0
LBRS	Las Brisas	0.62	9	eP	Pn	22 00 21.0	0.0
PAVA	Las Pavas	0.62	19	eP	Pn	22 00 20.7	-0.3
PAVA				IAML		22 00 21.8	
	comp=Z,2μm,0.4s						
PAVA				eS	Sn	22 00 31.4	+0.8
PAVA	Las Pavas	0.62	19	eP	Pn	22 00 20.7	-0.3
PAVA				IAML		22 00 21.8	
	comp=Z,2μm,0.4s						
PAVA				eS	Sn	22 00 31.4	+0.8
BOQS	Boqueron	0.63	348	eP	Pn	22 00 20.9	-0.2
BOQS				eS	Sn	22 00 31.6	+0.8
BOQS	Boqueron	0.63	348	eP	Pn	22 00 20.9	-0.2
BOQS				eS	Sn	22 00 31.6	+0.8
LFU	La Fuente	0.63	2	eP	Pn	22 00 20.8	-0.2
LFU	La Fuente	0.63	2	eP	Pn	22 00 20.8	-0.2
COEB	Comit de Eme	0.70	58	eP	Pn	22 00 21.7	-0.3
COEB				eS	Sn	22 00 33.1	+0.9
COEB	Comit de Eme	0.70	58	eP	Pn	22 00 21.7	-0.3
COEB				eS	Sn	22 00 33.1	+0.9
PQSS	Presa 15 de Se	0.76	48	eP	Pn	22 00 22.3	-0.3
PQSS				eS	Sn	22 00 34.1	+0.9
PQSS	Presa 15 de Se	0.76	48	eP	Pn	22 00 22.3	-0.3
PQSS				eS	Sn	22 00 34.1	+0.9
CEVE	Cerro Verde	0.85	326	eP	Pn	22 00 23.8	-0.2
CEVE				IAML		22 00 49.2	
	comp=Z,3μm,0.4s						
CEVE	Cerro Verde	0.85	326	eP	Pn	22 00 23.8	-0.2
CEVE				IAML		22 00 49.2	
	comp=Z,3μm,0.4s						
SBLS	San Blas	0.86	327	eP	Pn	22 00 24.0	-0.1
SBLS				eS	Sn	22 00 37.2	+1.3
SBLS	San Blas	0.86	327	eP	Pn	22 00 24.0	-0.1
SBLS				eS	Sn	22 00 37.2	+1.3
PACA	Pacayal	0.87	66	eP	Pn	22 00 24.4	+0.2
PACA				IAML		22 00 42.6	
	comp=Z,31μm,0.3s						
PACA	Pacayal	0.87	66	eP	Pn	22 00 24.4	+0.2
PACA				IAML		22 00 42.6	
	comp=Z,31μm,0.3s						
SNJE	San Jose	0.87	329	eP	Pn	22 00 23.9	-0.4
SNJE				eS	Sn	22 00 36.3	+0.1
SNJE	San Jose	0.87	329	eP	Pn	22 00 23.9	-0.4
SNJE				eS	Sn	22 00 36.3	+0.1
VSM	San Miguel	0.90	70	eP	Pn	22 00 24.4	-0.3
VSM	San Miguel	0.90	70	eP	Pn	22 00 24.4	-0.3
RTR	El Retiro	0.92	328	eP	Pn	22 00 24.8	-0.1
RTR				eS	Sn	22 00 37.7	+0.4
RTR	El Retiro	0.92	328	eP	Pn	22 00 24.8	-0.1
RTR				eS	Sn	22 00 37.7	+0.4
P5NO	Presa 5 de nov	0.94	23	eP	Pn	22 00 24.4	-0.6
P5NO				eS	Sn	22 00 36.3	-1.2
NUBE	Las Nubes	1.00	322	eP	Pn	22 00 25.4	-0.5
NUBE	Las Nubes	1.00	322	eP	Pn	22 00 25.4	-0.5
SLOZ	Alcaldia de Sa	1.10	325	eP	Pn	22 00 27.1	0.0
LCND	La Caada	1.23	81	eP	Pn	22 00 28.5	-0.4
LCND				IAML		22 00 48.2	
	comp=Z,2μm,0.3s						
LCND	La Caada	1.23	81	eP	Pn	22 00 28.5	-0.4
LCND				IAML		22 00 48.2	
	comp=Z,2μm,0.3s						
CNCH	Conchagua	1.28	83	eP	Pn	22 00 29.1	-0.6
CNCH				IAML		22 00 54.5	
	comp=Z,3μm,0.3s						
CNCH	Conchagua	1.28	83	eP	Pn	22 00 29.1	-0.6
CNCH				IAML		22 00 54.5	
	comp=Z,3μm,0.3s						
MTO3	Montecristo	1.29	351⇓	eP	Pn	22 00 29.4	-0.4
MTO3				IAML		22 00 47.4	
	comp=Z,112nm,0.3s						
MTO3	Montecristo	1.29	351⇓	eP	Pn	22 00 29.4	-0.4
MTO3				IAML		22 00 47.4	
	comp=Z,112nm,0.3s						
ESQI	Esquipulas	1.45	352	eP	Pn	22 00 31.7	-0.2
CRIN	San Cristobal	2.08	101	eP	Pn	22 00 40.4	0.0
CRIN				eS	Sn	22 01 06.9	+1.6
TELN	Telica	2.31	103	eP	Pn	22 00 43.6	0.0
MOMN	Momotombo	2.63	105	eP	Pn	22 00 47.0	-1.1
COPN	Copaltepe	2.66	110	eP	Pn	22 00 47.5	-0.8
BOAB	BOACO BROADBAN	3.46	101	eP	Pn	22 00 58.0	-1.2

IDC 01 22:04:06.5±0.6, 23°.51N×142°.56E, h0km, mb4.1/15, mbtmp4.0/18, ML3.5/3, Error ellipse: s-maj=29.8km s-min=14.1km az=80.0
JMA 01 22:04:13.5±0.3, 24°N±1°×14°3E±°, h118km, MV4.2/15, IOTO ISLANDS REGION
NEIC 01 22:04:14.7±1.2, 23°.64N±0°.08×142°.4E±0°.1, h47km±7km, mb4.7/31, Error ellipse: s-maj=17.6km s-min=5.3km az=52.0

ISC 01 22:04:13.8±0.6, 23°.59N±0°.06×142°.5E±0°.2, h50km, n75, σ1s.13/72, mb4.4/28, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	3.04	355	eP	Pn	22 05 00.6	+1.0
JHH2				S	Sn	22 05 36.5	+1.8
JHH2	Haha-jima-NKT2	3.04	355	A	A	22 05 00.6	
	comp=E,3.0nm,5.0s,comp=E,3.0nm,4.7s						
CBIJ	Chichi jima	3.50	356	eP	Pn	22 05 06.2	+0.4
CBIJ				eS	Sn	22 05 46.9	+0.9
JCJ	Chichijima	3.50	356	Pn	Pn	22 05 05.5	-0.3
	16nm,0.3s,baz=299,slow=23,SNR=41						
JCJ				Sn	Sn	22 05 44.9	-1.2
	26nm,0.3s,baz=266,slow=23,SNR=2.9						
	35nm,0.3s						
JCJ	Chichijima	3.50	356		Pn	22 05 05.8	0.0
JCJ				Sn	Sn	22 05 44.7	-1.4
BSO3	Boso 3	11.31	352	eP	Pn	22 06 53.9	+1.4
JOD2	Odawara 2	12.00	347	eP	Pn	22 07 01.5	-0.8
INU	Inuyama	12.64	339	Pn	Pn	22 07 11.8	+0.9
JRY	Ryogami san	12.77	347	eP	Pn	22 07 11.4	-1.3
MJAR	Matsushiro Arr	13.43	345	Pn	Pn	22 07 19.3	-2.4
	0.1nm,0.3s,baz=185,slow=12,SNR=1.7						
	0.9nm,0.4s						
MAJO	Matsushiro	13.43	345	Pn	Pn	22 07 23.8	+2.1
JMM	Marumori	14.31	355		Pn	22 07 30.9	-2.7
JTU	Tsushima	15.78	317	Pn	Pn	22 07 51.8	-0.8
JTU				IAmb	IAmb	22 08 08.1	
	comp=Z,100nm,1.2s						
JTM	Tenmabayashi	17.19	356	Pn	Pn	22 08 08.2	-2.2
JTM				IAmb	IAmb	22 08 18.6	
	comp=Z,52nm,1.0s						
KSRS	Korea Array	18.62	321	P	Pn	22 08 28.7	+0.8
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=1.7						
	comp=Z,0.7nm,0.7s						
H11N1	WAKE ISLAND Hy	23.02	95	T	T	22 33 21.7	
	baz=282,slow=75,SNR=21						
H11N2	WAKE ISLAND Hy	23.02	95	T	T	22 33 08.6	
	baz=282,slow=75,SNR=28						
H11N3	WAKE ISLAND Hy	23.03	95	T	T	22 33 04.9	
	baz=282,slow=75,SNR=21						
H11S3	WAKE ISLAND Hy	23.15	98	T	T	22 33 02.7	
	baz=284,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	23.16	98	T	T	22 32 51.6	
	baz=284,slow=75,SNR=5.1						
H11S2	WAKE ISLAND Hy	23.17	98	T	T	22 32 59.0	
	baz=284,slow=75,SNR=5.3						
KLR	Kul'dur	26.95	344	P	P	22 09 50.0	-0.5
	comp=Z,1.0nm,0.6s,baz=32,slow=18,SNR=2.5						
	comp=Z,1.0nm,0.6s						
HNR	Honiara	37.00	151	P	P	22 11 17.1	-1.7
	comp=Z,473nm,0.3s,baz=211,slow=13,SNR=1.6						
HNR	Honiara	37.00	151	P	P	22 11 19.7	+0.9
WB0	Warramunga Arr	43.80	191	P	P	22 12 15.2	+0.2
WRA	Warramunga Arr	43.98	191	P	P	22 12 15.6	-0.9
	comp=Z,1.5nm,0.6s,baz=17,slow=9.0,SNR=17						
	comp=Z,1.5nm,0.6s						
WRA	Warramunga Arr	43.98	191	P	P	22 12 16.6	+0.2
AS31	Alice Springs	47.70	191	P	P	22 12 46.2	+0.5
ASAR	Alice Springs	47.70	191	P	P	22 12 45.1	-0.6
	comp=Z,0.4nm,0.4s,baz=14,slow=7.2,SNR=7.1						
	comp=Z,0.4nm,0.4s						
ASAR	Alice Springs	47.70	191	P	P	22 12 45.8	+0.1
ZALV	Zalesovo Beam	52.33	321	P	P	22 13 20.7	+0.3
	comp=Z,0.3nm,0.4s,baz=109,slow=8.5,SNR=1.9						
	comp=Z,0.3nm,0.4s						
MK31	Makanchi Array	52.95	312	P	P	22 13 25.3	+0.1
MKAR	Makanchi Array	52.95	312	P	P	22 13 25.5	+0.3
	comp=Z,0.2nm,0.5s,baz=86,slow=11,SNR=7.3						
	comp=Z,0.2nm,0.5s						
MKAR	Makanchi Array	52.95	312	P	P	22 13 25.4	+0.2
STKA	Stephens Creek	55.16	181	P	P	22 13 40.2	-1.1
	comp=Z,1.1nm,0.7s,baz=9.6,slow=17,SNR=1.7						
	comp=Z,1.1nm,0.7s						
KURK	Kurchatov	55.65	316	P	P	22 13 44.8	0.0
KURK				IAmb	IAmb	22 13 53.9	
	comp=Z,3.6nm,1.3s						
FORT	Forrest	55.80	195	P	P	22 13 46.1	+0.2
FORT				IAmb	IAmb	22 13 54.9	
	comp=Z,16nm,1.1s						
J20K	Nowinta River	57.47	28	P	P	22 13 59.7	+2.2
J20K				IAmb	IAmb	22 14 06.0	
	comp=Z,11nm,1.4s						
IMAR	Indian Mountai	58.07	26	P	P	22 14 03.0	+1.4
CAST	Castle Rocks	58.21	29	P	P	22 14 04.3	+1.6
CAST				IAmb	IAmb	22 14 12.5	
	comp=Z,6.9nm,1.3s						
KTH	Kantishna Hill	58.74	29	P	P	22 14 07.8	+1.4
KTH				IAmb	IAmb	22 14 09.7	
	comp=Z,8.2nm,1.3s						
TRF	Thorofare Moun	59.01	29	P	P	22 14 09.3	+0.9
SML	Sawmill	59.68	31	P	P	22 14 13.8	+0.9
SCM	Sheep Creek Mo	60.15	31	P	P	22 14 17.5	+1.3
TOLK	Toolik Lake Re	60.24	23	P	P	22 14 18.7	+2.0
TOLK				IAmb	IAmb	22 14 34.0	
	comp=Z,14nm,1.4s						
H24K	Noodor Dome	60.40	26	P	P	22 14 19.6	+1.8
H24K				IAmb	IAmb	22 14 21.4	
	comp=Z,7.6nm,1.2s						
IL31		60.67	28	P	P	22 14 20.0	+0.4
IL31				IAmb	IAmb	22 14 20.9	
	comp=Z,7.0nm,1.1s						
ILAR	Eielson Array	60.67	28	P	P	22 14 19.0	-0.6
	comp=Z,3.1nm,1.0s,baz=261,slow=5.4,SNR=13						
	comp=Z,3.1nm,1.0s						
ILAR	Eielson Array	60.67	28	P	P	22 14 20.0	+0.4
KLU	Klutina	60.79	31	P	P	22 14 21.9	+1.3
SCRK	Sand Creek	61.85	29	P	P	22 14 28.4	+0.6
SCRK				IAmb	IAmb	22 14 29.9	
	comp=Z,5.9nm,0.8s						
BMAR	Burnt Mountain	61.91	25	P	P	22 14 30.3	+2.3
BCAR	Beaver Creek A	62.80	30	P	P	22 14 35.6	+1.6
INK	Inuvik	66.11	24	P	P	22 14 56.1	+0.7
	comp=Z,1.9nm,0.8s,baz=257,slow=6.6,SNR=4.3						
	comp=Z,1.9nm,0.8s						
INK	Inuvik	66.11	24	P	P	22 14 56.7	+1.3
INK				IAmb	IAmb	22 15 15.5	
	comp=Z,4.9nm,1.1s						
ARU	Arti	67.36	323	P	P	22 15 04.3	+0.6
ABKAR	Akbulak array	67.74	315	P	P	22 15 06.4	+0.2
EUNU	Eureka	73.33	8	P	P	22 15 40.0	+0.2
EUNU				IAmb	IAmb	22 15 50.3	
	comp=Z,9.0nm,1.3s						
SPITS	Spitsbergen Ar	73.87	350	P	P	22 15 44.0	+1.1
	comp=Z,4.4nm,0.9s,baz=74,slow=11,SNR=4.0						
	comp=Z,4.4nm,0.9s						
KEV	Kevo	76.37	341	P	P	22 15 58.5	+1.1
KEV				IAmb	IAmb	22 16 12.7	
	comp=Z,18nm,1.3s						
ARCES	ARCESS Array B	76.93	341	P	P	22 16 01.7	+1.1
	comp=Z,1.3nm,0.5s,baz=66,slow=8.1,SNR=12						
	comp=Z,1.3nm,0.5s						
ARCES	ARCESS Array B	76.93	341	P	P	22 16 02.0	+1.4
ARCES				IAmb	IAmb	22 16 14.1	
	comp=Z,18nm,1.5s						
KBZ	Khabaz	80.59	314	P	P	22 16 21.3	+0.1
	comp=Z,3.0nm,0.9s,baz=66,slow=4.2,SNR=4.1						
	comp=Z,3.0nm,0.9s						
FIA1	FINESS Array S	81.20	334	P	P	22 16 24.4	+0.4
FINES	FINESS Array B	81.20	334	P	P	22 16 24.4	+0.4
	comp=Z,3.9nm,0.6s,baz=64,slow=5.1,SNR=16						
	comp=Z,3.9nm,0.6s						
FINES	FINESS Array B	81.20	334	P	P	22 16 24.5	+0.5
PABE	Paberze	85.52	330		P	22 16 46.6	+0.3
AKASG	Malin Array Be	85.59	324	P	P	22 16 46.1	-0.8
	comp=Z,0.8nm,0.5s,baz=46,slow=6.8,SNR=5.2						
	comp=Z,0.8nm,0.5s						
NC405	NORSAR Array S	86.73	338	P	P	22 16 51.9	-0.4
RAYN	Ar Rayn	86.80	294	P	P	22 16 54.0	+0.6
RAYN				IAmb	IAmb	22 16 57.8	
	comp=Z,1.3nm,0.7s						
NB2	NORSAR Subarra	86.95	339	P	P	22 16 52.6	-0.8
	comp=Z,0.5nm,0.5s,baz=43,slow=5.1						
NOA	NORSAR Array B	86.95	339	P	P	22 16 52.7	-0.7
	comp=Z,0.8nm,0.7s,baz=47,slow=4.6,SNR=4.3						
	comp=Z,0.8nm,0.7s						
BRTR	Keskin Array B	88.57	313	P	P	22 17 01.8	+0.1
	comp=Z,1.1nm,0.6s,baz=83,slow=4.0,SNR=5.8						
	comp=Z,1.1nm,0.6s						
PLCA	Paso Flores	147.48	130	PKPbc	PKPdf	22 23 51.0	+1.0
	comp=Z,1.7nm,0.9s,baz=204,slow=23,SNR=1.8						
LPAZ	La Paz	150.38	81	PKPbc	PKPbc	22 24 00.9	-0.3
	comp=Z,0.5nm,0.5s,baz=262,slow=6.3,SNR=3.7						

GCG 01 22:14:52.9±0.5, 14°.06N×91°.24W, h61km±16km, MD3.4
SNET 01 22:14:52.2±0.4, 13°.86N×91°.14W, h18km±3km, ML2.8

ISC 01 22:14:49.2±3.1, 13°.8N±0°.1×91°.25W±0°.10, h10km±18km, n6, σ0s.93/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	0.76	31	eP	Pb	22 15 06.0	+1.4
PCG	Pacaya	0.86	46	eP	Pn	22 15 07.9	+0.3
PCG				eS	Sn	22 15 20.1	-0.2
STG3	Santiaguito 3,	0.96	341	eP	Pb	22 15 08.3	+0.2

STG3				*e*S	**Sb**	**22 15 19.9**	**-1.1**
NBG	**Las Nubes**	**1.18**	**48**	*e*P	**Pb**	**22 15 12.1**	**+0.3**
NBG				*e*S	**Sn**	**22 15 28.3**	**+0.1**
NUBE	**Las Nubes**	**1.43**	**86**	*e*P	**Pn**	**22 15 15.4**	**+0.1**
NUBE				*e*S	**Sn**	**22 15 33.2**	**-1.0**
NUBE				IAML		22 15 36.8	
	comp=Z,59nm,0.2s						
CEVE	**Cerro Verde**	**1.58**	**89**	*e*P	**Pn**	**22 15 18.3**	**+0.9**
CEVE				*e*S	**Sg**	**22 15 39.0**	**-1.0**
CEVE				IAML		22 15 43.2	
	comp=Z,380nm,0.2s						

IDC 01 22:31:44.8±1.7, 13°.94N×56°.83E, h0km, mb3.7/4, mbtmp3.7/4, MS3.4/2, Error ellipse: s-maj=64.7km s-min=37.7km az=32.0, Socotra region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.40**	**10**	LR	LR	22 37 17.8	
	comp=Z,147nm,19.7s,baz=223,slow=35						
FINES	**FINESS Array B**	**52.35**	**342**	P	P	22 40 58.4	+0.1
	3.4nm,1.0s,baz=141,slow=9.0,SNR=6.1						
	3.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**53.51**	**276**	P	P	22 41 07.8	+0.2
	0.3nm,0.6s,baz=90,slow=6.3,SNR=2.4						
	0.3nm,0.6s						
ESDC	**Sonseca Array**	**58.81**	**308**	P	P	22 41 44.9	-0.4
	0.6nm,0.9s,baz=91,slow=6.7,SNR=6.7						
	0.6nm,0.9s						
H01W3	**Cape Leeuwin H**	**72.85**	**134**	T	T	00 03 04.7	
	baz=302,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**72.86**	**134**	T	T	00 03 03.0	
	baz=302,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**72.87**	**134**	T	T	00 03 04.2	
	baz=302,slow=75,SNR=13						
ASAR	**Alice Springs**	**84.05**	**116**	P	P	22 44 17.9	0.0
	0.3nm,0.6s,baz=292,slow=4.9,SNR=1.4						
	0.3nm,0.6s						
PMG	**Port Moresby**	**92.54**	**99**	LR	LR	23 30 52.3	
	comp=Z,25nm,18.4s,baz=98,slow=38						

*BJI **01** 22:31:53.0±0.0, 25°.71N×128°.60E, h14km, mb4.8/73, mB4.9/47, Ms4.7/72, Ms7 4.7/62*
*IDC **01** 22:31:53.6±0.5, 25°.79N×128°.63E, h0km, mb4.6/31, mbtmp4.5/34, ML3.2/3, MS4.2/40, Error ellipse: s-maj=14.8km s-min=10.2km az=82.0*
*NEIC **01** 22:31:55.8±1.7, 25°.78N±0°.04×128°.46E±0°.09, h10km±1km, mb5.2/91, Error ellipse: s-maj=13.0km s-min=6.6km az=87.0*
*MOS **01** 22:31:56.0±1.2, 25°.74N×128°.45E, h27km, mb5.3/53, MS4.9/8, Error ellipse: s-maj=8.4km s-min=4.4km az=119.4*
*GCMT **01** 22:31:57.8±0.3, 25°.66N±0°.02×128°.59E±0°.03, h14km±1km, MW4.9/97, Moment Tensor Solution. s41,c53; s97,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.48±.17; $M_{\theta\theta}$1.64±.11; $M_{\phi\phi}$0.83±.11; $M_{r\theta}$1.59±.25; $M_{\theta\phi}$1.63±.07; $M_{\phi r}$0.78±.24; Best double couple: M_o3.23200×10^{16} NP1:ϕ_s239.00000°, δ62.00000°, λ-82.00000°. NP2: ϕ_s43.00000°, δ29.00000°, λ-104.00000°. Principal axes: T 3.4280, Plg16.0000°, Azm324.0000°; N -0.3970, Plg7.0000°, Azm56.0000°; P -3.0360, Plg72.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*JMA **01** 22:31:57.1±0.3, 26°N±1°, 12°.9E±°, h56km, MD4.8/15, MW4.9/15, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
*NIED **01** 22:31:57.1, 25°.79N×128°.58E, h56km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.83; $M_{\theta\theta}$0.76; $M_{\phi\phi}$1.07; $M_{r\theta}$1.25; $M_{\theta\phi}$0.84; $M_{\phi r}$1.09; Fault plane solution: M_o2.45000×10^{16} NP1:ϕ_s34.00000°, δ24.00000°, λ-100.00000°. NP2:ϕ_s226.00000°, δ66.00000°, λ-85.00000°.*

ISC 01 22:31:56.0±0.5, 25.73N±0°.03×128°.55E±0°.03, h17km±2km, h18km:pP-P, n519, σ1°74/465, mb5.1/137, MS4.5/60, 27C-36D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**0.80**	**301**	*i* P	**Pn**	**22 32 12.7**	**+0.2**
JJT3				S	**Sn**	**22 32 24.5**	**+0.5**
JJT3	**Tamagusuku3**	**0.80**	**301**	A	A	22 32 12.7	
	comp=E,160nm,2.0s,comp=E,124nm,1.8s						
JNTH	**Nagotoyohara**	**0.92**	**329**	*i* P	**Pg**	**22 32 13.4**	**-0.5**
JNTH				*e*S	**Sg**	**22 32 24.8**	**-1.1**
JNTH	**Nagotoyohara**	**0.92**	**329**	A	A	22 32 13.4	
	comp=E,24nm,2.0s,comp=E,21nm,3.7s						
JOW	**Kunigami**	**1.12**	**348**	Pn	**Pb**	**22 32 16.4**	**-0.6**
	3μm,0.3s,baz=146,slow=23,SNR=3364						
JOW				Sn	**Sb**	**22 32 29.4**	**-1.9**
	3μm,0.3s,baz=120,slow=23,SNR=13						
JOW	**Kunigami**	**1.12**	**348**	Pg	**Pb**	**22 32 16.5**	**-0.5**
JOW				Sg	**Sb**	**22 32 29.9**	**-1.4**
JOW	**Kunigami**	**1.12**	**348**	P	**Pn**	**22 32 16.7**	**-0.3**
JOW	**Kunigami**	**1.12**	**348**	*i* P	**Pb**	**22 32 16.5**	**-0.5**
JOW				S	**Sb**	**22 32 30.0**	**-1.4**
JOW	**Kunigami**	**1.12**	**348**	A	A	22 32 16.5	
	comp=E,20nm,1.5s,comp=E,27nm,1.6s						
JYRO	**Yoronjima**	**1.29**	**356**	*i* P	**Pn**	**22 32 18.6**	**-0.6**
JYRO				*e*S	**Sb**	**22 32 34.0**	**-2.1**
JYRO	**Yoronjima**	**1.29**	**356**	A	A	22 32 18.6	
	comp=E,16nm,3.0s,comp=E,17nm,5.6s						
JIH	**Iheya**	**1.40**	**338**	*i* P	**Pn**	**22 32 20.8**	**+0.1**
JIH				*e*S	**Sn**	**22 32 37.9**	**-0.9**
JIH	**Iheya**	**1.40**	**338**	A	A	22 32 20.8	
	comp=E,26nm,4.0s,comp=E,23nm,6.1s						
JAGN	**Aguni-jima**	**1.45**	**306**	P	**Pb**	**22 32 21.8**	**-0.8**
JAGN				*e*S	**Sn**	**22 32 39.8**	**-0.2**
JAGN	**Aguni-jima**	**1.45**	**306**	A	A	22 32 21.8	
	comp=E,33nm,1.9s,comp=E,26nm,1.2s						
JOKE	**Okinoerabujima**	**1.62**	**1**	*i* P	**Pn**	**22 32 23.4**	**-0.4**
JOKE				*e*S	**Sn**	**22 32 42.3**	**-2.0**
JOKE	**Okinoerabujima**	**1.62**	**1**	A	A	22 32 23.4	
	comp=E,16nm,3.2s,comp=E,20nm,1.9s						
JKE	**Kume jima 2**	**1.69**	**291**	*i* P	**Pn**	**22 32 24.7**	**-0.1**
JKE				S	**Sn**	**22 32 44.6**	**-1.3**
JKE	**Kume jima 2**	**1.69**	**291**	A	A	22 32 24.7	
	comp=E,14nm,3.7s,comp=E,16nm,3.1s						
JTK	**Tokunoshima**	**2.08**	**10**	*i* P	**Pn**	**22 32 29.7**	**-0.4**
JTK				S	**Sn**	**22 32 53.4**	**-2.2**
JTK	**Tokunoshima**	**2.08**	**10**	A	A	22 32 29.7	
	comp=E,8.0nm,4.8s,comp=E,9.0nm,2.7s						
JMZ	**Minamidaito 2**	**2.41**	**87**	P	**Pn**	**22 32 32.4**	**-2.3**
JMZ				S	**Sn**	**22 32 58.5**	**-5.4**
JMZ	**Minamidaito 2**	**2.41**	**87**	A	A	22 32 32.4	
	comp=E,15nm,4.6s,comp=E,19nm,4.6s						
JKDJ	**Kitadaitoujima**	**2.49**	**84**	*i* P	**Pn**	**22 32 33.6**	**-2.1**
JKDJ				S	**Sn**	**22 33 00.3**	**-5.4**
JKDJ	**Kitadaitoujima**	**2.49**	**84**	A	A	22 32 33.6	
	comp=E,15nm,1.1s,comp=E,19nm,2.7s						
JAMN	**Amaminishikomi**	**2.56**	**13**	*i* P	**Pn**	**22 32 36.2**	**-0.5**
JAMN				S	**Sn**	**22 33 05.1**	**-2.4**
JAMN	**Amaminishikomi**	**2.56**	**13**	A	A	22 32 36.2	
	comp=E,7.0nm,7.5s,comp=E,6.0nm,4.4s						
JAM	**Amami Oshima**	**2.83**	**19**	A	A	22 32 40.1	
	comp=E,5.0nm,3.7s,comp=E,4.0nm,3.8s						
JZK	**Kikaishima**	**2.87**	**26**	A	A	22 32 40.6	
	comp=E,25nm,5.4s,comp=E,23nm,4.0s						
JOGS	**Gusukube**	**3.00**	**252**	A	A	22 32 44.1	
	comp=E,20nm,5.3s,comp=E,24nm,4.6s						
JMJ2	**Miyako jima3**	**3.08**	**252**	A	A	22 32 45.2	
	comp=E,23nm,3.8s,comp=E,21nm,6.0s						
JMJ	**Miyako jima 2**	**3.08**	**253**	P	**Pn**	**22 32 44.7**	**+0.8**
JIKM	**Ikemajima**	**3.09**	**256**	A	A	22 32 45.4	
	comp=E,19nm,1.2s,comp=E,21nm,4.3s						
JTJ	**Tarama**	**3.65**	**254**	A	A	22 32 53.2	
	comp=E,17nm,1.0s,comp=E,10.0nm,0.7s						
JKRS	**Kuro-shima**	**4.38**	**251**	A	A	22 33 03.5	
	comp=E,19nm,6.5s,comp=E,17nm,4.0s						
IRIF	**Iriomote-Funau**	**4.58**	**253**	A	A	22 33 06.3	
	comp=E,5.0nm,5.1s,comp=E,5.0nm,3.1s						
JSU	**Suzuyama**	**5.99**	**16**	Pn	**Pn**	**22 33 24.0**	**0.0**
JSU	**Suzuyama**	**5.99**	**16**	P	**Pn**	**22 33 24.5**	**+0.6**
TATO	**Taipei**	**6.43**	**265**	Pn	**Pn**	**22 33 28.6**	**-1.3**
NACB	**Ninganchiao**	**6.50**	**258**		**Pn**	**22 33 29.5**	**-1.3**
NACB	**Ninganchiao**	**6.50**	**258**	P	**Pn**	**22 33 29.6**	**-1.3**
YHNB	**Yeheng**	**6.58**	**262**	Pn	**Pn**	**22 33 32.8**	**+0.8**
YHNB	**Yeheng**	**6.58**	**262**	P	**Pn**	**22 33 33.3**	**+1.3**
YULB	**Yu-li**	**7.00**	**252**	Pn	**Pn**	**22 33 34.8**	**-2.9**
YULB	**Yu-li**	**7.00**	**252**	P	**Pn**	**22 33 35.1**	**-2.6**
SSLB	**Suanglung**	**7.17**	**256**		**Pn**	**22 33 38.7**	**-1.4**
SSLB	**Suanglung**	**7.17**	**256**	P	**Pn**	**22 33 38.7**	**-1.4**
TWGBT	**Beinan**	**7.40**	**249**	P	**Pn**	**22 33 40.2**	**-3.1**
TWG	**Pinlang**	**7.41**	**249**	Pn	**Pn**	**22 33 40.1**	**-3.2**
TPUB	**Ta-pu**	**7.60**	**253**	Pn	**Pn**	**22 33 45.2**	**-0.9**
SSE	**Sheshan**	**8.40**	**311**	P	**Pn**	**22 33 55.7**	**-1.2**
SSE				S	**Sn**	**22 35 32.8**	**+1.5**
SSE				pmax	pmax		
	comp=Z,27nm,0.7s						
SSE				pmax	pmax		
	comp=Z,160nm,3.6s						
SSE				LR	LR		
	comp=N,1μm,17.1s						
SSE				LR	LR		
	comp=E,960nm,17.7s						
JMN	**Monobe**	**9.22**	**29**	Pn	**Pn**	**22 34 07.9**	**-0.3**
JHS	**Saijyo**	**10.04**	**22**	Pn	**Pn**	**22 34 18.1**	**-1.4**
NJ2	**Nanjing**	**10.57**	**309**	*e*P	Pn	22 34 33.5	+6.8
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				LR	LR		
	comp=N,2μm,11.8s						
NJ2				LR	LR		
	comp=E,4μm,14.0s						
NJ2				LR	LR		
	comp=Z,4μm,12.6s						
KSAR	**Wonju Array Be**	**11.69**	**357**	Pn	**Pn**	**22 34 40.6**	**-1.4**
KSAR	**Wonju Array Be**	**11.69**	**357**	P	**Pn**	**22 34 40.6**	**-1.4**
KSRS	**Korea Array**	**11.70**	**358**	Pn	**Pn**	**22 34 43.1**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=177,slow=14,SNR=22						
KSRS				LR	LR	22 39 44.8	
	comp=Z,2μm,18.7s,baz=180,slow=40						
	comp=Z,13nm,0.9s						
INU	**Inuyama**	**12.04**	**35**	Pn	**Pn**	**22 34 47.8**	**+1.0**
JGF	**Kuroka**	**12.41**	**36**	Pn	**Pn**	**22 34 51.6**	**-0.3**
WHN	**Wuhan**	**13.41**	**294**	⇑P	**P**	**22 35 16.7**	**+1.8**
WHN				pP	P	22 35 24.9	+10
WHN				sP	Pn	22 35 31.4	+26
WHN				S	**S**	**22 37 57.0**	**-0.9**
WHN				pmax	pmax		
	comp=Z,130nm,1.0s						
WHN				LR	LR		
	comp=N,2μm,7.8s						
WHN				LR	LR		
	comp=E,6μm,13.4s						
WHN				LR	LR		
	comp=Z,8μm,13.5s						
MJAR	**Matsushiro Ar**	**13.58**	**35**	Pn	**Pn**	**22 35 06.3**	**-1.5**
	baz=217,slow=11,SNR=1.5						
MJAR				LR	LR	22 39 44.8	
	comp=Z,1μm,18.6s,baz=322,slow=35						
	comp=Z,0.6nm,0.4s						
CNSH	**ChangSha**	**14.14**	**283**	⇑P	**P**	**22 35 23.3**	**+0.3**
CNSH				S	**S**	**22 38 07.7**	**-5.2**
CNSH				LR	LR		
	comp=N,3μm,14.7s						
CNSH				LR	LR		
	comp=E,3μm,13.0s						
CNSH				LR	LR		
	comp=Z,3μm,12.0s						
TIA	**Tai'an**	**14.31**	**320**	P	**Pn**	**22 35 19.5**	**+1.7**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TIA				pmax	pmax		
	comp=Z,360nm,4.6s						
TIA				LR	LR		
	comp=Z,1μm,14.2s						
TIA				LR	LR		
	comp=Z,2μm,14.7s						
TIA				LR	LR		
	comp=Z,3μm,14.9s						
DL2	**Dalian**	**14.37**	**338**	P	**P**	**22 35 24.7**	**-0.8**
DL2				S	**S**	**22 38 09.8**	**-7.8**
DL2				pmax	pmax		
	comp=Z,81nm,1.4s						
DL2				pmax	pmax		
	comp=Z,420nm,7.5s						
DL2				LR	LR		
	comp=N,1μm,15.3s						
DL2				LR	LR		
	comp=E,900nm,18.7s						
DL2				LR	LR		
	comp=Z,2μm,15.9s						
LYN	**LuoYang**	**16.44**	**306**	⇑*i*P	**P**	**22 35 49.2**	**+0.7**
LYN				pP	sP	22 35 52.8	-1.4
LYN				PP	**pwP**	**22 36 00.3**	**+2.3**
LYN				S	**Sn**	**22 38 52.0**	**+4.1**
LYN				sS	S	22 38 59.6	-0.3
LYN				SS	**SnSn**	**22 39 05.9**	**+4.9**
LYN				pmax	pmax		
	comp=Z,110nm,1.6s						
LYN				pmax	pmax		
	comp=Z,360nm,8.5s						
LYN				LR	LR		
	comp=Z,2μm,14.5s						
LYN				LR	LR		
	comp=Z,3μm,14.8s						
HNS	**HongShan**	**16.54**	**318**	⇑P	**P**	**22 35 50.0**	**+0.4**
HNS				*e*S	**S**	**22 38 58.5**	**-3.5**
HNS				pmax	pmax		
	comp=Z,200nm,1.2s						
HNS				LR	LR		
	comp=Z,1μm,15.5s						
HNS				LR	LR		
	comp=Z,2μm,13.9s						
HNS				LR	LR		
	comp=Z,3μm,13.7s						
ENH	**Enshi**	**17.42**	**289**		**Pn**	**22 35 57.1**	**-1.2**
BJT	**Baijiatuau**	**17.61**	**327**	P	**P**	**22 36 00.9**	**-0.6**
BJT	**Baijiatuau**	**17.61**	**327**	P	**P**	**22 36 00.9**	**-0.6**
BJT				pmax	pmax		
	comp=Z,31nm,0.7s						
BJI	**Beijing**	**17.62**	**327**	P	**P**	**22 36 01.6**	**0.0**
BJI				pP	**sP**	**22 36 05.0**	**-1.7**
BJI				sP	**pwP**	**22 36 08.6**	**-2.4**
BJI				S	**S**	**22 39 20.4**	**-3.6**
BJI				pmax	pmax		
	comp=Z,42nm,0.7s						
BJI				pmax	pmax		
	comp=Z,400nm,6.1s						
BJI				LR	LR		
	comp=Z,380nm,15.4s						
BJI				LR	LR		
	comp=Z,770nm,15.0s						
BJI				LR	LR		
	comp=Z,2μm,15.6s						
TIY	**Taiyuan**	**18.15**	**315**	⇓P	**P**	**22 36 09.0**	**+1.5**
TIY				pmax	pmax		
	comp=Z,55nm,0.5s						
TIY				pmax	pmax		
	comp=Z,620nm,4.9s						
TIY				LR	LR		
	comp=Z,2μm,12.7s						
TIY				LR	LR		
	comp=Z,1μm,15.3s						
TIY				LR	LR		
	comp=Z,2μm,14.6s						
CN2	**Changchun**	**18.20**	**353**	*e*P	**P**	**22 36 08.4**	**+0.4**
CN2				*e*PP	**PnPn**	**22 36 23.3**	**+4.1**
CN2				*e*S	**Sn**	**22 39 29.5**	**-1.1**
CN2				*e*SS	**SnSn**	**22 39 52.6**	**+8.0**
CN2				pmax	pmax		
	comp=Z,50nm,1.5s						
CN2				pmax	pmax		
	comp=Z,280nm,5.0s						
CN2				LR	LR		
	comp=Z,570nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
QIZ	**Qiongzhong**	**18.53**	**253**	P	**P**	**22 36 10.3**	**-1.4**
QIZ				S	**Sn**	**22 39 39.4**	**+0.7**
QIZ				LR	LR		
	comp=Z,1μm,16.7s						
QIZ				LR	LR		
	comp=Z,860nm,19.1s						
USA0B	**Ussuriysk Arra**	**18.64**	**8**	P	**P**	**22 36 12.4**	**-0.3**
USA0B	**Ussuriysk Arra**	**18.64**	**8**	*de*P	**Pn**	**22 36 15.1**	**+2.0**
USRK	**Ussuriysk Ar.**	**18.64**	**8**	P	**P**	**22 36 11.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=204,slow=8.2,SNR=16						
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**18.64**	**8**		**P**	**22 36 12.1**	**-0.7**
DAV	**Davao City (W)**	**18.77**	**189**	LR	LR	22 44 11.4	
	comp=Z,474nm,18.8s,baz=30,slow=39						
MDJ	**Mudanjiang**	**18.86**	**2**	P	**Pn**	**22 36 16.4**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,13nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,180nm,11.1s						
XAN	**Xi'an**	**18.90**	**301**	P	**P**	**22 36 15.3**	**-0.5**
XAN				pP	sP	22 36 20.0	-1.5
XAN				S	**S**	**22 39 49.5**	**-0.6**
XAN				pmax	pmax		
	comp=Z,75nm,1.4s						
XAN				pmax	pmax		
	comp=Z,670nm,10.3s						
XAN				LR	LR		
	comp=Z,1μm,16.2s						
XAN				LR	LR		
	comp=Z,2μm,14.7s						
XAN				LR	LR		
	comp=Z,3μm,14.3s						
GUMO	**Guam**	**19.52**	**125**	LR	LR	22 42 07.3	
	comp=Z,196nm,19.5s,baz=300,slow=32						
GYA	**Guiyang**	**19.67**	**277**	⇑P	**Pn**	**22 36 26.1**	**+0.3**
GYA				pmax	pmax		
	comp=Z,15nm,1.3s						
GYA				LR	LR		
	comp=Z,890nm,14.9s						
GYA				LR	LR		
	comp=Z,1μm,11.7s						
GYA				LR	LR		
	comp=Z,1μm,14.7s						
BNX	**BinXian**	**19.99**	**358**	⇑P	**Pn**	**22 36 29.6**	**+0.3**
BNX				PP	**PnPn**	**22 36 50.4**	**+6.8**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,110nm,3.5s						
BNX				LR	LR		
	comp=Z,1μm,15.6s						
BNX				LR	LR		
	comp=Z,2μm,13.6s						
BNX				LR	LR		
	comp=Z,2μm,16.2s						
ERM	**Erimo**	**20.23**	**33**	P	**P**	**22 36 30.5**	**+0.4**
ERM	**Erimo**	**20.23**	**33**	P	**P**	**22 36 30.5**	**+0.4**
ERM				pmax	pmax		
	comp=Z,42nm,1.0s						
HHC	**Hu-ho-hao-te**	**20.65**	**321**	*e*P	**P**	**22 36 35.0**	**+0.1**
HHC				PP	**PnPn**	**22 36 57.7**	**+4.8**
HHC				S	**S**	**22 40 20.2**	**-4.9**
HHC				pmax	pmax		
	comp=Z,49nm,1.0s						
HHC				pmax	pmax		
	comp=Z,560nm,4.4s						
HHC				LR	LR		
	comp=Z,2μm,14.3s						
HHC				LR	LR		
	comp=Z,2μm,14.0s						
HHC				LR	LR		
	comp=Z,3μm,15.2s						
XLT	**XiLinHaoTe**	**20.77**	**334**	⇓*i*P	**P**	**22 36 35.4**	**-0.8**
XLT				pP	sP	22 36 40.9	-0.4
XLT				S	**S**	**22 40 27.2**	**-0.2**
XLT				pmax	pmax		
	comp=Z,27nm,1.0s						
XLT				pmax	pmax		
	comp=Z,230nm,3.5s						
XLT				LR	LR		
	comp=Z,120nm,15.6s						
XLT				LR	LR		
	comp=Z,1μm,15.1s						
XLT				LR	LR		
	comp=Z,2μm,15.7s						
BTO	**Baotou**	**21.39**	**318**	*e*P	**P**	**22 36 43.6**	**+0.7**
BTO				S	Sn	22 40 44.8	-2.9
BTO				LR	LR		
	comp=Z,6μm,14.3s						
BTO				LR	LR		
	comp=Z,4μm,18.6s						
CD2	**Chengdu**	**22.40**	**289**	P	**P**	**22 36 51.8**	**-2.0**
CD2				pP	pP	22 36 55.9	-1.6
CD2				S	**S**	**22 40 54.0**	**-5.3**
CD2				sS	pS	22 41 01.5	-3.3
CD2				pmax	pmax		
	comp=Z,60nm,1.1s						
CD2				pmax	pmax		
	comp=Z,420nm,3.9s						
CD2				LR	LR		
	comp=Z,2μm,14.7s						
CD2				LR	LR		
	comp=Z,3μm,14.9s						
CD2				LR	LR		
	comp=Z,3μm,14.7s						
MYLDM	**Lahad Datu**	**22.59**	**207**	P	**P**	**22 36 55.8**	**+0.1**
	comp=Z,57nm,1.5s						
KMI	**Kunming**	**23.30**	**274**	P	**P**	**22 37 04.3**	**+0.9**
KMI				pP	sP	22 37 07.3	-1.4
KMI				S	**S**	**22 41 13.1**	**-2.4**
KMI				pmax	pmax		
	comp=Z,57nm,1.1s						
KMI				pmax	pmax		
	comp=Z,210nm,3.5s						
KMI				LR	LR		
	comp=Z,1μm,15.1s						
KMI				LR	LR		
	comp=Z,470nm,19.7s						
KMI				LR	LR		
	comp=Z,890nm,14.5s						
LZH	**Lanzhou**	**23.51**	**302**	⇓P	**P**	**22 37 05.1**	**-0.2**
LZH				sP	pwP	22 37 14.1	-0.5
LZH				PP	**PnPn**	**22 37 36.3**	**+4.2**
LZH				S	**S**	**22 41 15.9**	**-2.7**
LZH				sS	sS	22 41 28.8	+3.6
LZH				pmax	pmax		
	comp=Z,29nm,1.4s						
LZH				pmax	pmax		
	comp=Z,210nm,4.8s						
LZH				LR	LR		
	comp=Z,880nm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,15.1s						
LZH				LR	LR		
	comp=Z,2μm,15.5s						
KLR	**Kul'dur**	**23.59**	**5**	P	**P**	**22 37 02.9**	**-2.9**
	comp=Z,13nm,0.9s,baz=200,slow=7.9,SNR=20						
KLR	**Kul'dur**	**23.59**	**5**	*d*⇑P	**P**	**22 37 06.3**	**+0.5**
KLR				pmax	pmax		
	comp=Z,70nm,1.7s						
YSS	**Yuzh-Sakhalins**	**24.00**	**24**	P	**P**	**22 37 10.8**	**+1.1**
YSS	**Yuzh-Sakhalins**	**24.00**	**24**	*e*P	**P**	**22 37 12.0**	**+2.3**
YSS				*e*		22 37 25.1	
YSS				*e*S	**S**	**22 41 28.2**	**+2.4**
YSS				pmax	pmax		
	comp=Z,100nm,1.0s						
YSS				pmax	pmax		
	comp=Z,600nm,2.5s						
PZH	**PanZhiHua**	**24.07**	**278**	P	**P**	**22 37 10.9**	**+0.2**
PZH				sP	**sP**	**22 37 15.8**	**-0.3**
PZH				S	**S**	**22 41 26.8**	**-0.7**
PZH				sS	**pS**	**22 41 30.7**	**-1.7**
PZH				pmax	pmax		
	comp=Z,70nm,0.9s						
PZH				pmax	pmax		
	comp=Z,250nm,4.2s						
PZH				LR	LR		
	comp=Z,1μm,15.4s						
PZH				LR	LR		
	comp=Z,2μm,14.4s						
PZH				LR	LR		
	comp=Z,2μm,16.1s						
HIA	**Hailar**	**24.48**	**346**	P	**P**	**22 37 11.7**	**-2.4**
HIA	**Hailar**	**24.48**	**346**	P	**P**	**22 37 11.7**	**-2.4**
HIA				pmax	pmax		
	comp=Z,17nm,1.3s						
HEH	**HeiHe**	**24.50**	**358**	*e*P	**P**	**22 37 14.6**	**+0.4**
HEH				sP	**sP**	**22 37 20.6**	**+1.0**
HEH				S	**S**	**22 41 31.3**	**-2.5**
HEH				pmax	pmax		
	comp=Z,11nm,1.3s						
HEH				pmax	pmax		
	comp=Z,220nm,6.6s						
HEH				LR	LR		
	comp=Z,390nm,10.7s						
HEH				LR	LR		
	comp=Z,1μm,12.6s						
HEH				LR	LR		
	comp=Z,2μm,15.5s						
TNTI	**Ternate**	**24.84**	**183**	P	**P**	**22 37 18.0**	**+0.4**
GTOI	**Gorontalo**	**25.51**	**193**	P	**P**	**22 37 22.2**	**-1.5**
	comp=Z,14nm,0.9s						

UGL Uglegorsk 25.58 21 *e*P P **22 37 28.0 +4.0**
UGL pmax pmax
comp=Z,160nm,1.4s
TOLI2 Tolitoli 25.59 198 P P **22 37 23.7 -0.7**
TOLI2 IAmb IAmb 22 37 26.0
comp=Z,28nm,1.0s
GRNR Gornyy 25.72 12⇓*i*P P **22 37 27.1 +1.8**
GRNR *e*S S **22 41 57.5 +4.1**
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR smax smax
comp=N,10.0nm,0.5s
GRNR MLR MLR
comp=E,400nm,14.0s
GRNR MLR MLR
comp=N,380nm,12.0s
GRNR MLR MLR
comp=Z,590nm,12.0s
SIJI Sorong 26.57 174 LR LR 22 47 23.1
comp=Z,576nm,19.2s,baz=348,slow=35
MPSI Mapaga 26.59 200 P P **22 37 34.4 +1.0**
comp=Z,779nmcomp=Z,13nm,0.9s
TNCH TengChong 27.11 275⇓P P **22 37 40.2 +1.8**
TNCH pP sP 22 37 43.0 -0.8
TNCH sP pwP 22 37 45.4 -3.2
TNCH PP **PnPn** **22 38 25.6 +4.2**
TNCH S **S** **22 42 15.3 -0.8**
TNCH PcS **PcS** **22 44 43.1 +2.1**
TNCH pmax pmax
comp=Z,67nm,1.1s
TNCH pmax pmax
comp=Z,200nm,3.8s
TNCH LR LR
comp=Z,230nm,12.8s
TNCH LR LR
comp=Z,1µm,10.9s
TNCH LR LR
comp=Z,2µm,12.1s
PHRA Phrae 27.16 260 P P **22 37 38.7 0.0**
APSI Ampana 27.31 195 P P **22 37 41.6 +1.7**
comp=Z,34nm,1.1s
TYV Tymovskoe 27.33 20 *e*P P **22 37 46.6 +6.8**
TYV pmax pmax
comp=Z,44nm,1.1s
TYV pmax pmax
comp=Z,400nm,4.5s
GTA Gaotai 27.65 307⇑P P **22 37 42.2 -0.8**
GTA sP pwP 22 37 54.7 +2.4
GTA S **S** **22 42 20.9 -3.4**
GTA pmax pmax
comp=Z,28nm,0.9s
GTA pmax pmax
comp=Z,100nm,4.9s
GTA LR LR
comp=Z,750nm,16.4s
GTA LR LR
comp=Z,740nm,17.5s
GTA LR LR
comp=Z,1µm,16.4s
ULN Ulaanbaatar 27.83 328 P P **22 37 43.3 -1.2**
ULN IAmb IAmb 22 37 48.3
comp=Z,17nm,0.7s
ULN Ulaanbaatar 27.83 328 P P **22 37 45.0 +0.5**
comp=Z,2µmcomp=Z,99nm,1.5s
ULN Ulaanbaatar 27.83 328⇓*e*P P **22 37 45.7 +1.2**
ULN pmax pmax
comp=Z,22nm,0.8s
ZEA Zeya 27.99 358 *e*P P **22 37 50.5 +4.8**
ZEA *e* 22 37 59.2
ZEA pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 28.12 327 P P **22 37 46.2 -1.0**
comp=Z,12nm,0.5s,baz=144,slow=9.0,SNR=104
SONM LR LR 22 50 58.6
comp=Z,1µm,18.4s,baz=140,slow=41
comp=Z,12nm,0.5s
SONM Songino Array 28.12 327 P P **22 37 46.1 -1.0**
SONM IAmb IAmb 22 37 51.8
comp=Z,53nm,1.4s
CMMT Chiang Mai 28.20 262 P P **22 37 46.7 -1.3**
comp=Z,24nm,1.3s
CHTO Chiang Mai 28.20 262 P P **22 37 47.5 -0.5**
CHTO IAmb IAmb 22 38 04.7
comp=Z,35nm,1.2s
CHTO Chiang Mai 28.20 262 P P **22 37 47.5 -0.5**
CHTO pmax pmax
comp=Z,35nm,1.2s
CM31 Chiang Mai Arr 28.32 261 P P **22 37 48.3 -0.8**
CMAR Chiang Mai Arr 28.32 261 P P **22 37 50.8 +1.7**
comp=Z,2.0nm,0.3s,baz=61,slow=8.2,SNR=22
CMAR LR LR 22 50 48.0
comp=Z,201nm,18.1s,baz=80,slow=40
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 28.32 261 P P **22 37 48.6 -0.5**
CMAR Chiang Mai Arr 28.32 261*ce*P P **22 37 51.2 +2.1**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
FAKI Fak Fak 28.70 172 P P **22 37 52.5 +0.1**
FAKI IAmb IAmb 22 37 53.6
comp=Z,35nm,1.0s
FAKI Fak Fak 28.70 172 P P **22 37 51.6 -0.8**
comp=Z,41nm,1.1s
KAPI Kappang 31.73 197 LR LR 22 50 12.3
comp=Z,278nm,21.8s,baz=19,slow=34
BSSI Bau Bau, Buton 32.63 195 P P **22 38 26.3 -0.8**
comp=Z,18nm,1.3s
SHL Shillong 32.98 278 P P **22 38 29.6 -0.8**
SHL IAmb IAmb 22 38 44.8
comp=Z,36nm,1.2s
SHL Shillong 32.98 278 P P **22 38 29.6 -0.8**
SHL pmax pmax
comp=Z,36nm,1.2s
LSA Lhasa 33.25 285 P P **22 38 32.2 -0.8**
LSA Lhasa 33.25 285 P P **22 38 34.4 +1.4**
LSA pmax pmax
comp=Z,10.0nm,0.5s
LSA Lhasa 33.25 285 P P **22 38 32.2 -0.8**
LSA pmax pmax
comp=Z,8.0nm,0.9s
BRDH Bariadhala 33.73 273 P P **22 38 38.7 +2.0**
comp=Z,110nm,0.3s,baz=82,slow=12,SNR=4.9
IPM Ipoh 33.80 236 P P 22 38 45.0 +7.7
MMRI Maumere 34.71 191 P P **22 38 43.9 -1.2**
MMRI IAmb IAmb 22 38 46.2
comp=Z,46nm,1.1s
PETK Petropavlovsk- 34.98 31 P P **22 38 46.5 -0.6**
comp=Z,2.4nm,0.8s,baz=218,slow=8.5,SNR=1.7
comp=Z,2.4nm,0.8s
SOEI Soe 35.52 187 P P **22 38 50.7 -1.5**
SOEI IAmb IAmb 22 39 09.9
comp=Z,37nm,1.0s
PLAI Plampang 35.91 198 P P **22 38 55.3 -0.2**
comp=Z,1µmcomp=Z,153nm,1.0s
BATI Baumata 36.03 188 LR LR 22 53 29.1
comp=Z,138nm,21.6s,baz=11,slow=36
BATI Baumata 36.03 188 P P **22 38 54.3 -2.3**
comp=Z,58nm,0.9s
KLNI Mataram 36.04 201 P P **22 38 56.0 -0.6**
comp=Z,14nm,1.0s
TWSI Taliwang, Sumb 36.09 200 P P **22 38 56.4 -0.6**
comp=Z,60nm,1.1s
YAK Yakutsk 36.30 1 P P **22 38 57.3 -1.0**
comp=Z,48nm,0.8s,baz=167,slow=1.8,SNR=28
comp=Z,48nm,0.8s
YAK Yakutsk 36.30 1 P P **22 38 58.0 -0.4**
YAK Yakutsk 36.30 1*d*/P P **22 38 58.9 +0.6**
YAK *e**PP **pwP** **22 39 10.0 +1.3**
YAK *e* 22 40 21.4
YAK *e*S **S** **22 44 38.3 +0.2**
YAK *e*SSS SSS 22 47 06.1
YAK *e* 22 49 13.4
YAK pmax pmax
comp=Z,153nm,1.0s
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=N,80nm,1.3s
YAK pmax pmax
comp=Z,67nm,2.5s
YAK pmax pmax
comp=N,96nm,2.6s
YAK pmax pmax
comp=E,62nm,2.4s
YAK smax smax
comp=N,213nm,3.0s
YAK smax smax
comp=E,94nm,2.7s
TAPN Taplejung 36.45 282*e*P P **22 39 01.3 +0.8**
comp=E,44nm,0.9s
PSI Prapat 36.47 236 P P **22 39 01.5 +1.0**
comp=E,1.0nm,0.3s,baz=282,slow=23,SNR=1.5
comp=E,1.0nm,0.3s
PSI Prapat 36.47 236 P P **22 39 01.5 +1.0**
PSI pmax pmax
comp=Z,15nm,1.2s
RPSI Rantau Prapat 36.54 236 P P **22 39 01.5 +0.5**
RPSI Rantau Prapat 36.54 236 P P **22 39 00.4 -0.6**
RPSI IAmb IAmb 22 39 27.2
comp=Z,15nm,1.2s
MA2 Magadan 37.19 19 P P **22 39 06.2 +0.2**
comp=Z,4.0nm,0.3s,baz=71,slow=23,SNR=1.2
comp=Z,4.0nm,0.3s
SDSI Sungai Dareh 37.27 229 P P **22 39 08.6 +1.4**
comp=Z,1µmcomp=Z,10nm,1.4s
RAMN Ramite 37.49 281*e*P P **22 39 09.8 +0.6**
comp=Z,33nm,0.9s
CTJI Waduk Cacaban 37.59 213 P P **22 39 10.5 +0.7**
comp=Z,54nm,1.2s
WMQ Urumqi 37.65 309*e*P P **22 39 10.3 +0.1**
WMQ pP sP 22 39 13.8 -1.7
WMQ PP **PnPn** **22 40 41.4 +4.3**
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ LR LR
comp=Z,420nm,16.5s
WMQ LR LR
comp=Z,920nm,17.5s
WMQ LR LR
comp=Z,560nm,19.5s
PCJI Pacitan 37.72 209 P P **22 39 11.5 +0.6**
comp=Z,41nm,1.3s
JIRN Jiri 37.76 283*e*P P **22 39 12.3 +0.6**
GUN Gumba 38.00 283*e*P P **22 39 14.4 +0.7**
LEM Lembang 38.22 215 P P **22 39 16.0 +0.6**
comp=Z,27nm,0.8s,baz=96,slow=13,SNR=3.8
LEM LR LR 22 58 28.3
comp=Z,83nm,18.5s,baz=354,slow=42
comp=Z,27nm,0.8s
MASI Maura Aman, Be 38.38 225 P P **22 39 18.1 +1.5**
comp=Z,34nm,1.3s
MTN Manton Dam 38.42 176 P P **22 39 15.8 -1.0**
MTN IAmb IAmb 22 39 17.1
comp=Z,52nm,0.9s
PKI Pulchoki 38.46 283*e*P P **22 39 18.0 +0.5**
PKIN Phulchoki 38.47 283*e*P P **22 39 17.9 +0.4**
comp=Z,50nm,0.7s
GSI Gunungsitoli 38.47 236 P P **22 39 16.3 -1.0**
comp=Z,26nm,1.6s
DMN Daman 38.72 283*e*P P **22 39 20.1 +0.5**
comp=Z,66nm,0.8s
GKN Gorkha 39.08 283*e*P P **22 39 23.0 +0.5**
PMG Port Moresby 39.34 150 P P **22 39 24.4 -0.1**
comp=Z,7.2nm,0.3s,baz=306,slow=11,SNR=4.3
PMG LR LR 22 53 23.3
comp=Z,519nm,20.3s,baz=319,slow=33
comp=Z,7.2nm,0.3s
PMG Port Moresby 39.34 150⇑*e*P P **22 39 25.0 +0.4**
PMG pmax pmax
comp=Z,24nm,1.0s
DGZ Jazzator, Alta 39.68 318⇓*e*P P **22 39 28.1 +0.8**
DGZ pmax pmax
comp=Z,10.0nm,1.7s
DANN Dangsing 39.81 284*e*P P **22 39 29.7 +0.9**
comp=Z,128nm,0.8s
SEY Seymchan 40.41 17 P P **22 39 32.4 -0.6**
comp=Z,6.0nm,0.8s,baz=181,slow=9.2,SNR=8.9
comp=Z,6.0nm,0.8s
SEY Seymchan 40.41 17⇓*e*P P **22 39 33.9 +0.9**
SEY pmax pmax
comp=Z,18nm,1.6s
KNRA Kununurra 41.16 180 P P **22 39 39.4 -0.1**
COEN Coen 41.94 158 P P **22 39 45.3 -0.7**
COEN IAmb IAmb 22 39 47.9
comp=Z,62nm,1.4s
MK31 Makanchi Array 42.08 312 P P **22 39 46.3 -0.7**
MK31 Makanchi Array 42.08 312*d*/P P **22 39 46.9 0.0**
MKAR Makanchi Array 42.08 312 P P **22 39 46.6 -0.3**
comp=Z,7.4nm,0.8s,baz=90,slow=11,SNR=56
MKAR LR LR 22 58 59.6
comp=Z,307nm,18.7s,baz=116,slow=39
comp=Z,7.4nm,0.8s
MKAR Makanchi Array 42.08 312 P P **22 39 46.0 -1.0**
MAKZ Makanchi 42.29 312 P P **22 39 47.7 -0.9**
MAKZ Makanchi 42.29 312 P P **22 39 47.7 -0.9**
MAKZ pmax pmax
comp=Z,19nm,1.2s
ZAA0 Zalesovo Array 42.81 323 P P **22 39 51.5 -1.2**
ZALV Zalesovo Beam 42.81 323 P P **22 39 52.2 -0.6**
comp=Z,3.1nm,0.5s,baz=101,slow=7.7,SNR=18
comp=Z,3.1nm,0.5s
ZALV Zalesovo Beam 42.81 323 P P **22 39 51.7 -1.1**
SHLS Shalkode 43.40 306*e*P P 22 39 52.7 -5.1
baz=306
SHLS Shalkode 43.40 306*e*P P 22 39 52.7 -5.1
UZB Uzynbulak 43.72 306*e*P P **22 39 58.8 -1.7**
baz=306
UZB Uzynbulak 43.72 306*e*P P **22 39 58.7 -1.7**
KPKS Kokpek 44.00 307*e*P P **22 40 01.1 -1.5**
comp=Z,16nm,1.3s,baz=307
KPKS Kokpek 44.00 307*e*P P **22 40 01.1 -1.5**
KPKS pmax pmax
comp=Z,16nm,1.3s
SATY Saty 44.16 306*e*P P **22 40 02.0 -2.0**
baz=306
SATY Saty 44.16 306*e*P P **22 40 01.9 -2.0**
TDK Taldyqorghan 44.40 309*e*P P **22 40 04.7 -1.1**
comp=Z,66nm,1.6s,baz=309
TDK Taldyqorghan 44.40 309*e*P P **22 40 04.6 -1.1**
TDK pmax pmax
comp=Z,65nm,1.6s
MDOK Medeo 45.16 306*e*P P **22 40 10.7 -1.2**
baz=306
MDOK Meeo 45.16 306*e*P P **22 40 10.7 -1.2**
TNSS Tian-Shan 45.22 306*e*P P **22 40 12.9 +0.2**
baz=306
TNSS Tian-Shan 45.22 306*e*P P **22 40 12.9 +0.2**
CHKK Chushkaly 45.27 307*e*P P **22 40 11.9 -0.7**
baz=307
CHKK Chushkaly 45.27 307*e*P P **22 40 11.9 -0.7**
KURK Kurchatov 45.38 317 P P **22 40 12.7 -0.6**
KURK IAmb IAmb 22 40 27.1
comp=Z,62nm,1.6s
KURK Kurchatov 45.38 317*c*/P P **22 40 12.3 -1.0**
KURK pmax pmax
comp=Z,34nm,1.7s
KURBB Kurchatov Arra 45.41 317 P P **22 40 13.4 -0.2**
comp=Z,9.4nm,0.9s,baz=106,slow=7.6,SNR=26
KURBB PP **PP** **22 41 59.9 0.0**
comp=Z,2.8nm,1.1s,baz=110,slow=10,SNR=4.6
KURBB LR LR 23 01 01.5
comp=Z,530nm,19.5s,baz=149,slow=38
comp=Z,9.4nm,0.9s
WB0 Warramunga Arr 45.58 172 P P **22 40 15.1 -0.1**
ULHL Ulahol 45.67 305 P P **22 40 16.7 +0.6**
SNR=20
KUU Kurty 45.74 307*e*P P **22 40 15.0 -1.4**
comp=Z,56nm,2.1s,baz=307
KUU Kurty 45.74 307*e*P P **22 40 15.0 -1.4**
KUU pmax pmax
comp=Z,57nm,2.1s
WRAB Tennant Creek 45.74 172*i*P P **22 40 16.3 -0.2**
WRAB pmax pmax
comp=Z,58nm,1.1s
WRA Warramunga Arr 45.75 172 P P **22 40 16.6 +0.1**
comp=Z,34nm,1.0s,baz=351,slow=8.4,SNR=97
WRA LR LR 22 59 14.5
comp=Z,235nm,19.4s,baz=45,slow=36
comp=Z,34nm,1.0s
WRA Warramunga Arr 45.75 172 P P **22 40 15.5 -1.0**
WRA Warramunga Arr 45.75 172*i*P P **22 40 16.7 +0.1**
WRA pmax pmax
comp=Z,35nm,0.9s
KSH Kashi 45.76 301 P P **22 40 21.2 +4.5**
KSH sP pwP 22 40 29.8 +3.9
KSH pmax pmax
comp=Z,12nm,1.6s
KSH LR LR
comp=Z,340nm,17.8s
KSH LR LR
comp=Z,390nm,14.6s
KSH LR LR
comp=Z,620nm,14.6s
WR0 Warramunga Arr 45.79 172 P P **22 40 16.9 0.0**
NRN Naryn 45.80 304 P P **22 40 17.2 -0.1**
NRN IAmb IAmb 22 40 20.2
comp=Z,26nm,1.1s
NRN Naryn 45.80 304 P P **22 40 17.2 -0.1**
NRN pmax pmax
comp=Z,26nm,1.1s
BOOM Boomskoye usch 45.91 305 P P **22 40 17.9 0.0**
BOOM Boomskoye usch 45.91 305 P P **22 40 18.0 0.0**
BOOM pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 45.95 0 P P **22 40 17.3 -0.3**
comp=Z,2.5nm,0.3s,baz=90,slow=21,SNR=12
comp=Z,2.5nm,0.3s
TIXI Tiksi 45.95 0 P P **22 40 17.4 -0.2**
TIXI Tiksi 45.95 0*d*/P P **22 40 17.7 +0.1**
TIXI pmax pmax
comp=Z,23nm,1.7s
TKM2 Tokmak 2 46.20 306 P P **22 40 21.5 +1.3**
SNR=29
HNR Honiara 46.42 135 LR LR 23 02 24.0
comp=Z,2µm,18.0s,baz=340,slow=39
KBK Karagaybulak 46.66 305 P P **22 40 25.2 +1.4**
SNR=9.4
CHMS Chumysh 46.82 306 P P **22 40 25.9 +1.0**
SNR=15
SGDS Sogindy 46.94 306*e*P P **22 40 25.1 -0.8**
baz=306
SGDS Sogindy 46.94 306*e*P P **22 40 25.0 -0.8**
UCH Uchtor 46.95 305 P P **22 40 28.3 +1.8**
SNR=14
AAK Ala-Archa 46.99 305 P P **22 40 27.5 +1.1**
SNR=6.3
AAK Ala-Archa 46.99 305 P P **22 40 26.3 -0.1**
comp=Z,7.1nm,1.1s,baz=100,slow=4.4,SNR=13
AAK LR LR 23 01 17.5
comp=Z,309nm,19.1s,baz=88,slow=38
comp=Z,7.1nm,1.1s
AAK Ala-Archa 46.99 305 P P **22 40 25.9 -0.5**
AAK Ala-Archa 46.99 305*d*/P P **22 40 27.2 +0.8**
AAK pmax pmax
comp=Z,6.0nm,1.0s
HYBB Hyderabad (bro 46.99 270*e*P P **22 40 26.3 -0.2**
USP Ospenovka 47.02 306 P P **22 40 27.4 +0.9**
SNR=12
MBWA Marble Bar 47.39 191 P P **22 40 29.3 -0.1**
MBWA IAmb IAmb 22 40 30.4
comp=Z,32nm,1.1s
BTLS Baital 47.48 308*e*P P **22 40 28.6 -1.4**
comp=Z,10nm,1.5s,baz=308
BTLS Baital 47.48 308*e*P P **22 40 28.6 -1.4**
BTLS pmax pmax
comp=Z,10.0nm,1.5s
EKS2 Erkin-Say 47.52 305 P P **22 40 32.0 +1.5**
SNR=7.2
AML Almayashu 47.56 304 P P **22 40 32.1 +1.0**
SNR=11
PSA00 Pilbara Seismi 47.77 191 P P **22 40 31.9 -0.5**
PSA00 Pilbara Seismi 47.77 191 P P **22 40 32.2 -0.2**
PSA00 IAmb IAmb 22 40 33.5
comp=Z,23nm,1.1s
BILL Bilibino 48.06 18⇓*e*P P **22 40 37.2 +3.1**
BILL *e* 22 42 03.1
BILL *e* 22 42 23.9
BILL *e*PPP PPP 22 43 12.7
BILL pmax pmax
comp=Z,34nm,1.7s
BILL MLR MLR
comp=Z,172nm,16.0s
NIL Nilore 48.20 293 P P **22 40 35.9 +0.1**
NIL IAmb IAmb 22 40 39.0
comp=Z,21nm,0.9s
NIL Nilore 48.20 293 P P **22 40 35.9 +0.1**
NIL pmax pmax
comp=Z,21nm,0.9s
CTAO Charters Tower 48.69 158 P P **22 40 40.2 +0.7**
CTAO IAmb IAmb 22 40 41.5
comp=Z,27nm,1.0s
CTAO Charters Tower 48.69 158 P P **22 40 40.2 +0.7**
CTAO pmax pmax
comp=Z,27nm,1.0s
BRZS Berezniki 48.97 315*e*P P **22 40 40.2 -1.3**
baz=315
BRZS Berezniki 48.97 315*e*P P **22 40 40.1 -1.3**
PALK Pallekele 49.09 257 LR LR 23 01 27.6
comp=Z,125nm,21.8s,baz=152,slow=36
AS31 Alice Springs 49.38 174 P P **22 40 45.1 +0.4**
ASAR Alice Springs 49.38 174 P P **22 40 45.3 +0.5**
comp=Z,16nm,0.9s,baz=355,slow=7.2,SNR=95
ASAR LR LR 23 01 38.7
comp=Z,201nm,19.4s,baz=6.5,slow=36
comp=Z,16nm,0.9s
ASAR Alice Springs 49.38 174 P P **22 40 45.1 +0.3**
ASAR Alice Springs 49.38 174 P P **22 40 45.1 +0.3**
BTK Batken 49.73 302 P P **22 40 46.9 -0.6**
BTK Batken 49.73 302 P P **22 40 46.9 -0.6**
NRIK Noril'sk 49.81 342 P P **22 40 47.1 -0.4**
comp=Z,10nm,1.0s,baz=119,slow=7.9,SNR=13
comp=Z,10nm,1.0s
NRIK Noril'sk 49.81 342 P P **22 40 47.6 +0.1**
NRIK IAmb IAmb 22 40 49.4
comp=Z,22nm,1.2s
NRIK Noril'sk 49.81 342*d*/P P **22 40 47.9 +0.4**
NRIK pmax pmax
comp=Z,26nm,1.5s
KK31 Karatay Array 49.93 306 P P **22 40 49.2 +0.3**
KK31 Karatay Array 49.93 306 P P **22 40 49.2 +0.3**
KK31 pmax pmax
comp=Z,13nm,1.1s
KKAR Karatay Array 49.93 306 P P **22 40 49.2 +0.3**
KKAR Karatay Array 49.93 306 P P **22 40 49.1 +0.3**
KKAR IAmb IAmb 22 40 52.5
comp=Z,13nm,1.1s
KKAR Karatay Array 49.93 306 P P **22 40 49.2 +0.3**
GAR Garm 50.16 300 P P **22 40 51.0 +0.2**
GAR IAmb IAmb 22 41 05.8
comp=Z,60nm,1.4s
IUG Iuzhnay 50.28 304*e*P P **22 40 50.8 -0.9**
baz=304
IUG Iuzhnay 50.28 304*e*P P **22 40 50.7 -0.9**
BVAR Borovoye Array 50.84 319 LR LR 23 03 44.9
comp=Z,611nm,21.7s,baz=97,slow=38
POO Poona 50.88 274*e*P P **22 40 52.0 -4.4**
BRVK Borovoye 50.90 319 P P **22 40 56.1 0.0**
BRVK IAmb IAmb 22 40 59.1
comp=Z,52nm,1.4s
BRVK Borovoye 50.90 319*d*/P P **22 40 56.6 +0.6**
BRVK pmax pmax
comp=Z,28nm,1.0s
CHGR Chuyangaron 51.08 300 P P **22 40 57.3 -0.5**
CHGR IAmb IAmb 22 41 35.2
comp=Z,24nm,1.0s
CHGR Chuyangaron 51.08 300 P P **22 40 57.3 -0.5**
CHGR pmax pmax
comp=Z,24nm,1.0s
KBL Kabul 51.57 295 P P **22 41 01.6 0.0**
KBL Kabul 51.57 295 P P **22 41 01.6 0.0**
KBL pmax pmax
comp=Z,143nm,1.6s
MORW Morawa 55.79 193 P P **22 41 32.6 +0.5**
MORW IAmb IAmb 22 41 34.3
comp=Z,52nm,1.6s
FORT Forrest 56.19 181 P P **22 41 34.8 -0.2**
SVE Sverdlovsk 56.83 323*e*P P **22 41 39.7 +0.4**
SVE pmax pmax
comp=Z,16nm,1.3s
SVE MLR MLR
comp=Z,1µm,15.0s
HRA Herat 57.14 296 P P **22 41 42.6 +0.4**
HRA IAmb IAmb 22 41 47.4
comp=Z,72nm,1.9s
ABKAR Akbulak array 57.19 313 P P **22 41 42.0 0.0**
ABKAR Akbulak array 57.19 313 P P **22 41 42.1 +0.1**
ABKAR IAmb IAmb 22 41 45.1
comp=Z,11nm,1.0s
ARU Arti 57.96 322 LR LR 23 09 28.4
comp=Z,1µm,18.3s,baz=84,slow=39
ARU Arti 57.96 322 P P **22 41 46.9 -0.3**
ARU IAmb IAmb 22 41 49.7
comp=Z,24nm,1.3s
ARU Arti 57.96 322*c*/P P **22 41 47.4 +0.1**
ARU 22 42 35.3
ARU S **S** **22 49 48.2 +1.6**
ARU SS **SS** **22 53 42.8 +5.5**

ARU pmax pmax
comp=Z,25nm,1.4s
ARU MLR MLR
comp=Z,1µm,18.0s
STKA Stephens Creek 58.62 167 P **P** **22 41 52.2 +0.1**
comp=Z,10nm,0.9s,baz=340,slow=5.8,SNR=9.6
STKA LR LR 23 07 43.2
comp=Z,157nm,19.4s,baz=12,slow=37
comp=Z,10nm,0.9s
STKA Stephens Creek 58.62 167 P **P** **22 41 52.3 +0.2**
STKA Stephens Creek 58.62 167 *de*P **P** **22 41 51.7 -0.4**
BBOO Buckleboo 58.65 173 P **P** **22 41 52.2 -0.1**
NWAO Narrogin (SRO) 59.32 191 LR LR 23 11 50.7
comp=Z,58nm,18.1s,baz=222,slow=40
GEYT Alibeck 59.79 300 P **P** **22 42 01.7 +1.4**
comp=Z,14nm,0.9s,baz=66,slow=1.8,SNR=26
GEYT LR LR 23 10 49.2
comp=Z,287nm,21.6s,baz=72,slow=39
comp=Z,14nm,0.9s
GEYT Alibeck 59.79 300 P **P** **22 42 01.6 +1.2**
GYA0B ALIBECK ARRAY 59.79 300 P **P** **22 42 01.4 +1.0**
GYA0B IAmb IAmb 22 42 03.1
comp=Z,19nm,0.9s
DZM Mont Dzumac 60.07 139 *e*LR LR 22 59 47.3
comp=Z,365nm,22.9s
DZM Mont Dzumac 60.07 139 P **P** **22 42 03.2 +0.8**
comp=Z,4.9nm,0.6s,baz=23,slow=7.1,SNR=5.2
DZM LR LR 23 03 33.4
comp=Z,197nm,21.6s,baz=42,slow=32
comp=Z,4.9nm,0.6s
DZM Mont Dzumac 60.07 139 P **P** **22 42 03.4 +0.9**
DZM IAmb IAmb 22 42 04.8
comp=Z,33nm,1.5s
P17K Kvichak River 60.65 35 P P 22 42 14.1 +8.3
baz=272
O18K Koktuh Hills 61.25 34 P P 22 42 18.5 +8.6
baz=272
P18K Big Mountain, 61.26 35 P P 22 42 17.8 +7.8
baz=272
L19K White Mountain 61.36 31 P P 22 42 18.4 +7.8
baz=271
J20K Nowinta River 61.64 29 P **P** **22 42 14.0 +1.5**
J20K Nowinta River 61.64 29 P P 22 42 20.5 +8.0
baz=271
IMAR Indian Mountai 61.80 27 P **P** **22 42 15.2 +1.6**
L20K Farewell, AK 61.80 31 P P 22 42 23.0 +9.3
baz=272
G21K Allakaket 61.90 26 P P 22 42 23.9 +10
baz=270,SNR=9.4
H21K Melozitna Rive 62.19 27 P **P** **22 42 17.3 +1.1**
H21K IAmb IAmb 22 42 27.0
comp=Z,23nm,1.1s
H21K Melozitna Rive 62.19 27 P P 22 42 26.2 +10
baz=271,SNR=9.2
CHUM Lake Minchumin 62.46 29 P P 22 42 27.8 +10
baz=273
E22K Anaktuvuk Pass 62.54 25 P P 22 42 27.2 +8.6
baz=271,SNR=6.6
I21K Tanana 62.55 28 P P 22 42 28.5 +10
baz=272,SNR=5.4
PPLA Purkeypile 62.56 30 P P 22 42 27.7 +8.8
baz=273
CAST Castle Rocks 62.58 30 P **P** **22 42 20.2 +1.4**
CAST IAmb IAmb 22 42 42.6
comp=Z,20nm,1.2s
CAST Castle Rocks 62.58 30 P P 22 42 28.2 +9.3
baz=273
N20K Mount Spurr 62.66 32 P P 22 42 28.8 +9.3
baz=274
KDAK Kodiak Island 62.75 36 P P 22 42 29.0 +9.0
baz=276
H22K Ishtalitna Cre 62.77 27 P P 22 42 30.6 +10
baz=272,SNR=11
KIRV Kirov 62.81 325 LR LR 23 12 50.8
comp=Z,506nm,18.0s,baz=90,slow=39
KIRV Kirov 62.81 325 *d* P **P** **22 42 20.9 +0.5**
SKT Skwentna 62.93 31 P P 22 42 29.5 +8.4
baz=274
D23K Nanushuk River 62.94 24 P P 22 42 29.9 +8.8
baz=271
C23K Itkillik River 62.95 23 P P 22 42 29.6 +8.5
baz=271
BPAW Bear Paw Mtn. 63.03 29 P P 22 42 31.4 +10
baz=274
MLY Manley 63.08 28 P P 22 42 30.7 +8.4
baz=273
TOLK Toolik Lake Re 63.36 24 P P 22 42 32.0 +8.0
baz=273
E23K Chandalar 63.37 25 P P 22 42 31.1 +7.0
baz=273
CUT Chulitna 63.48 31 P P 22 42 31.5 +6.7
baz=275
BRSE Bradley Lake S 63.51 34 P P 22 42 32.7 +7.6
baz=276
H23K Yukon River 63.53 27 P P 22 42 34.5 +9.4
baz=274,SNR=9.4
I23K Minto, Yukon-K 63.66 28 P P 22 42 34.7 +8.8
baz=275
NEA2 Nenana 63.83 28 P **P** **22 42 28.3 +1.2**
NEA2 IAmb IAmb 22 42 37.9
comp=Z,17nm,1.0s
NEA2 Nenana 63.83 28 P P 22 42 36.2 +9.1
baz=275
MCK McKinley 63.97 29 P P 22 42 36.0 +8.0
baz=276
F24K Squaw Lake 64.06 25 P P 22 42 37.6 +9.0
baz=275,SNR=6.1
H24K Noodor Dome 64.21 27 P P 22 42 39.1 +9.4
baz=276,SNR=5.2
WAT1 Susitna Watana 64.23 30 P P 22 42 38.5 +8.7
baz=276
G24K Hadweenzic Riv 64.29 26 P P 22 42 40.3 +10
baz=276,SNR=5.9
TCOL CIGO, UAF Yank 64.32 28 P P 22 42 39.8 +10
baz=276
COLA College 64.32 28 P P 22 42 40.4 +10
baz=276
PRGR Permogore 64.38 328 *e*P **P** **22 42 29.3 -1.4**
PRGR *e* 22 42 43.1
PRGR pmax pmax
comp=Z,35nm,1.6s
KNK Knik Glacier 64.44 32 P P 22 42 40.9 +10
baz=277
SML Sawmill 64.45 32 P P 22 42 39.5 +8.2
baz=277
POKR Poker Plat Res 64.47 28 P P 22 42 40.5 +9.2
baz=276
BELG Belogornoye 64.63 318 LR LR 23 13 21.5
comp=Z,289nm,19.8s,baz=66,slow=38
BELG Belogornoye 64.63 318 *d* P **P** **22 42 33.0 +0.5**
BELG pmax pmax
comp=Z,7.0nm,1.4s
WAT6 Susitna Watana 64.63 31 P P 22 42 41.5 +8.9
baz=277
DHY Denali Highway 64.74 30 P P 22 42 42.8 +10
baz=277
ILAR Eielson Array 64.74 28 P **P** **22 42 33.2 +0.1**
comp=Z,0.7nm,0.9s,baz=271,slow=7.2,SNR=4.9
ILAR LR LR 23 14 09.2
comp=Z,66nm,18.8s,baz=262,slow=39
comp=Z,0.7nm,0.9s
HDA Harding Lake 64.76 29 P P 22 42 42.1 +8.9
baz=277
G25K Bearman Lake 64.83 26 P P 22 42 43.5 +10
baz=277,SNR=5.7
E25K Arctic Village 64.88 24 P P 22 42 43.2 +9.3
baz=277
F25K Christian River 64.91 25 P P 22 42 44.5 +10
baz=277
H25K Birch Creek 65.00 26 P P 22 42 44.4 +10
baz=277
PRP Porcupine Dome 65.22 27 P P 22 42 44.9 +8.6
baz=278
BMAR Burnt Mountain 65.34 25 P **P** **22 42 38.6 +1.7**
K24K Donnelly Dome 65.35 29 P P 22 42 46.3 +9.3
baz=278
C27K Jago River 65.36 23 P P 22 42 46.0 +8.9
baz=278
J25K Salcha River, 65.41 28 P P 22 42 46.1 +8.7
baz=278
F26K Sheenjek River 65.47 25 P P 22 42 45.8 +8.1
baz=278
PAX Paxson 65.61 30 P P 22 42 48.2 +9.4
baz=279
G26K Porcupine Rive 65.71 26 P P 22 42 48.7 +9.4
baz=279
SCRK Sand Creek 66.11 29 P P 22 42 50.3 +8.3
baz=280

E27K Coleen River 66.34 24 P P 22 42 53.3 +10
baz=280,SNR=5.4
L26K Log Cabin Wild 66.56 30 P P 22 42 52.7 +7.9
baz=281
G27K Doyon Strip 66.56 26 P P 22 42 53.5 +8.7
baz=281
MAK Makhachkala 66.65 308 *e*P **P** **22 42 41.5 -4.2**
MAK *e*S **S** **22 51 31.1 -5.4**
MAK *e*SS **SS** **22 55 50.1 -3.6**
MAK pmax pmax
comp=Z,102nm,1.5s
H27K Steamboat Moun 66.72 26 P P 22 42 54.6 +8.7
baz=281
I27K Kandik River 66.81 27 P P 22 42 53.9 +7.5
baz=281
M26K Nabesna, AK 66.83 30 P P 22 42 54.1 +7.5
baz=281
MCARA McCarthy VSAT 67.03 32 P P 22 42 55.8 +7.9
baz=282
EGAK Eagle 67.16 28 P P 22 42 56.8 +8.1
baz=282
L27K Beaver Creek, 67.23 30 P P 22 42 55.8 +6.7
baz=282
KLMR Klimovskoe 67.42 328 *e*P **P** **22 42 47.4 -2.9**
KLMR AMP 22 42 51.7
comp=Z,51nm,1.4s
KLMR *e* 22 43 01.8
KLMR *e*PcP **PcP** **22 43 17.4 -0.3**
KLMR LQ LQ 23 09 39.7
KLMR LQ LQ 23 09 39.7
KLMR LR LR 23 13 50.5
KLMR AMP 23 16 16.7
comp=Z,991nm,16.5s
KLMR Klimovskoe 67.42 328 *e*P **P** **22 42 47.3 -3.0**
KLMR *e* 22 43 01.7
KLMR *e* 22 43 17.3
KLMR pmax pmax
comp=Z,51nm,1.4s
KLMR MLR MLR
comp=Z,991nm,17.0s
GROC Groznyy 67.80 308 *e*P **P** **22 42 54.0 +0.9**
GROC *e* 22 43 20.7
GROC *e* 22 45 22.8
GROC pmax pmax
comp=Z,84nm,0.9s
LVZ Lovozero 67.88 336⇓ *e*P **P** **22 42 53.6 +0.4**
LVZ pmax pmax
comp=Z,84nm,1.7s
DAWY Dawson 68.07 28 P P 22 43 02.9 +8.4
baz=284
I29M Ogilvie Camp, 68.21 27 P P 22 43 02.9 +7.7
baz=284
APA Apatity 68.43 336⇓ *i*P **P** **22 42 55.0 -1.5**
APA *i* 22 43 11.4
APA *i* S **S** **22 51 49.0 -8.1**
APA *i* 22 52 29.0
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,1µm,19.0s
VRH Novokhopyorsk 68.47 318 *e*P **P** **22 42 55.5 -1.5**
VRH pmax pmax
comp=Z,30nm,1.0s
EPYK Eagle Plains 68.58 26 P P 22 43 05.1 +7.4
baz=285
G30M tAoh Zraii Nji 68.62 25 P P 22 43 05.7 +7.9
baz=285
PINM Pinnacle 68.64 33 P P 22 43 05.7 +7.6
baz=285
L29M L29M 68.85 29 P P 22 43 09.7 +10
baz=285
M29M Somme Creek 68.88 30 P P 22 43 06.6 +7.0
baz=285
GOF Gofitskoye 69.22 311⇑ *e*P **P** **22 43 03.4 +1.5**
INK Inuvik 69.23 23 P **P** **22 43 01.4 -0.1**
comp=Z,1.2nm,0.6s,baz=201,slow=5.4,SNR=1.9
comp=Z,1.2nm,0.6s
INK Inuvik 69.23 23 P **P** **22 43 03.0 +1.5**
INK IAmb IAmb 22 43 12.0
comp=Z,24nm,1.3s
INK Inuvik 69.23 23 P P 22 43 10.8 +9.3
baz=287,SNR=5.5
INK Inuvik 69.23 23 P **P** **22 43 03.0 +1.5**
INK pmax pmax
comp=Z,24nm,1.3s
ZEI Tsey 69.25 308 *e*P **P** **22 43 02.6 +0.2**
ZEI pmax pmax
comp=Z,41nm,1.0s
NCK Nalchik 69.27 309⇓ *e*P **P** **22 43 03.7 +1.4**
NCK pmax pmax
comp=Z,25nm,0.9s
GNI Garni 69.39 306 LR LR 23 17 38.9
comp=Z,247nm,18.9s,baz=100,slow=40
F31M Tsiigehtchic 69.41 24 P P 22 43 11.6 +8.9
baz=287
M30M Minto, Yukon 69.59 29 P P 22 43 12.9 +9.0
baz=286
ONI Oni 69.63 308 P **P** **22 43 05.2 +0.7**
ONI Oni 69.63 308 P **P** **22 43 05.2 +0.7**
ONI pmax pmax
comp=Z,58nm,1.2s
MOS Moscow 69.64 323 *e*P **P** **22 43 03.9 -0.4**
MOS *e* 22 45 41.1
MOS pmax pmax
comp=Z,45nm,1.2s
KBZ Khabaz 69.69 310 P **P** **22 43 06.4 +1.6**
comp=Z,42nm,0.9s,baz=84,slow=4.7,SNR=35
KBZ Khabaz 69.69 310 *de*P **P** **22 43 05.0 +0.2**
KBZ pmax pmax
comp=Z,65nm,1.0s
HYT Haines Junctio 69.76 31 P P 22 43 13.8 +8.7
baz=287
LPSR Galich'ya Gora 69.77 319 *e*P **P** **22 43 03.7 -1.4**
LPSR pmax pmax
comp=Z,40nm,0.9s
KIV Kislovodsk 69.78 310 P **P** **22 43 06.3 +0.9**
KIV Kislovodsk 69.78 310 *e*P **P** **22 43 07.0 +1.5**
KIV pmax pmax
comp=Z,71nm,1.0s
KIV MLR MLR
comp=Z,198nm,17.0s
VORR Voronezh 69.86 318 *e*P **P** **22 43 06.6 +0.9**
VORR pmax pmax
comp=Z,30nm,0.5s
NEY Neytrino 69.95 309⇑ *e*P **P** **22 43 08.8 +2.1**
NEY pmax pmax
comp=Z,8.0nm,0.9s
VSR Storozhevoye 70.01 318 *e*P **P** **22 43 05.0 -1.6**
VSR pmax pmax
comp=Z,30nm,1.1s
AFI Afiamalu 70.18 117 LR LR 23 06 18.6
comp=Z,141nm,20.2s,baz=336,slow=29
N31M Braeburn, Yuko 70.37 30 P P 22 43 18.5 +10
baz=288
OBN Obninsk 70.39 322 P **P** **22 43 09.4 +0.6**
OBN Obninsk 70.39 322 *d* P **P** **22 43 09.5 +0.6**
OBN *e* 22 43 20.1
OBN *e* 22 43 30.3
OBN *e* 22 45 42.9
OBN *e*PPP PPP 22 47 22.4
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,703nm,19.0s
ARCES ARCESS Array B 70.57 339 P **P** **22 43 09.3 -0.5**
comp=Z,6.7nm,0.9s,baz=57,slow=7.4,SNR=5.9
comp=Z,6.7nm,0.9s
ARCES ARCESS Array B 70.57 339 P **P** **22 43 09.9 +0.1**
ARCES ARCESS Array B 70.57 339 P **P** **22 43 09.9 +0.1**
ARCES pmax pmax
comp=Z,98nm,2.0s
GURO Guroymak-BITLI 71.88 305 P **P** **22 43 19.0 +0.5**
GURO IAmb IAmb 22 43 21.5
comp=Z,14nm,1.0s
SOC Sochi 71.94 310 *e*P **P** **22 43 19.0 +0.5**
SOC *e* 22 45 57.0
SOC *e*PPP PPP 22 47 40.1
SOC *e*S **S** **22 52 42.7 +3.7**
SOC *e*SS **SS** **22 57 14.0 -1.1**
SOC pmax pmax
comp=Z,49nm,1.1s
SOC MLR MLR
comp=Z,334nm,20.0s
C36M Paulatuk 72.06 21 P P 22 43 27.6 +9.0
baz=295,SNR=5.7
EUNU Eureka 72.74 6 P **P** **22 43 23.8 +1.0**

EUNU IAmb IAmb 22 43 53.6
comp=Z,65nm,2.0s
ANN Anapa 73.10 312 *e*P **P** **22 43 23.4 -1.9**
ANN *e**PP **pP** **22 43 27.4 -2.0**
ANN *e* 22 43 39.5
ANN *e*PPP PPP 22 47 53.5
ANN *e*S **S** **22 52 51.3 -0.8**
ANN *e*SS **SS** **22 57 33.9 +1.2**
ANN pmax pmax
comp=Z,55nm,1.0s
MARD Mardin 73.22 304 P **P** **22 43 27.1 +0.6**
MARD IAmb IAmb 22 43 29.0
comp=Z,21nm,0.8s
FIA1 FINESS Array S 73.43 331 P **P** **22 43 27.7 +0.7**
FINES FINESS Array B 73.44 331 P **P** **22 43 27.4 +0.4**
comp=Z,5.8nm,0.7s,baz=62,slow=6.4,SNR=20
comp=Z,5.8nm,0.7s
FINES FINESS Array B 73.44 331 P **P** **22 43 27.7 +0.7**
FINES FINESS Array B 73.44 331 P **P** **22 43 27.7 +0.7**
RAYN Ar Rayn 74.24 289 P **P** **22 43 32.6 +0.1**
RAYN IAmb IAmb 22 43 39.2
comp=Z,12nm,0.9s
RAYN Ar Rayn 74.24 289 P **P** **22 43 32.7 +0.1**
RAYN pmax pmax
comp=Z,12nm,1.0s
MNK Minsk 75.32 324 *i* P **P** **22 43 37.3 -0.9**
comp=E,3.0nm,0.9s
MNK *i* P **P** **22 43 37.3 -0.9**
comp=N,30nm,0.8s
MNK *i* P **P** **22 43 37.3 -0.9**
comp=Z,17nm,1.1s,baz=66
MNK *i* PP **PP** **22 46 25.9 -0.6**
MNK *i* PPP PPP 22 48 12.2
MNK *i* S **S** **22 53 17.4 +0.5**
MNK *i* SS **SS** **22 58 07.3 +1.2**
MNK *i* SSS SSS 23 01 29.9
MNK *i* LQ LQ 23 11 46.9
MNK *i* LR LR 23 17 10.7
MNK *i* LRM MLR 23 20 48.9
comp=E,118nm,16.5s
MNK *i* LRM MLR 23 20 51.4
comp=Z,735nm,17.8s
MNK *i* LRM MLR 23 20 55.9
comp=N,677nm,15.9s
MNK Minsk 75.32 324 *i* P **P** **22 43 37.2 -0.9**
MNK *i* 22 46 25.8
MNK *i* PPP PPP 22 48 12.2
MNK *i* S **S** **22 53 17.3 +0.5**
MNK *i* SS **SS** **22 58 07.2 +1.2**
MNK pmax pmax
comp=N,30nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,1.1s
MNK MLR MLR
comp=E,118nm,17.0s
MNK MLR MLR
comp=Z,735nm,18.0s
MNK MLR MLR
comp=N,677nm,16.0s
DAG Danmarks Havn 75.78 353 *i* P **P** **22 43 41.0 +0.6**
AKASG Malin Array Be 76.09 320 P **P** **22 43 43.3 +0.7**
comp=N,3.4nm,0.6s,baz=53,slow=6.1,SNR=32
AKASG LR LR 23 19 19.1
comp=N,486nm,20.0s,baz=62,slow=37
comp=N,3.4nm,0.6s
AKASG Malin Array Be 76.09 320 P **P** **22 43 43.3 +0.7**
AKASG IAmb IAmb 22 43 57.7
comp=Z,30nm,1.6s
AKASG Malin Array Be 76.09 320 P **P** **22 43 43.3 +0.7**
AKASG pmax pmax
comp=Z,30nm,1.6s
AKBB Malin Array Si 76.09 320 P **P** **22 43 43.0 +0.3**
AKBB IAmb IAmb 22 43 57.3
comp=Z,51nm,1.6s
AKBB Malin Array Si 76.09 320 *de*P **P** **22 43 43.6 +1.0**
AKBB pmax pmax
comp=Z,20nm,1.0s
BR131 Keskin Array S 77.56 308 P **P** **22 43 51.6 +0.3**
BR131 IAmb IAmb 22 44 08.5
comp=Z,33nm,1.1s
BR131 Keskin Array S 77.56 308⇓ *e*P **P** **22 43 51.8 +0.4**
BRTR Keskin Array B 77.56 308 P **P** **22 43 52.7 +1.3**
comp=Z,4.5nm,0.8s,baz=97,slow=4.2,SNR=9.9
BRTR LR LR 23 24 00.1
comp=Z,86nm,18.5s,baz=76,slow=40
comp=Z,4.5nm,0.8s
BRTR Keskin Array B 77.56 308 P **P** **22 43 51.2 -0.2**
YKA Yellowknife Ar 78.86 25 P **P** **22 43 58.6 +0.8**
comp=Z,1.7nm,0.8s,baz=303,slow=4.9,SNR=2.4
comp=Z,1.7nm,0.8s
CFR Carcaliu 79.05 315⇓ P **P** **22 44 00.4 +1.1**
RPZ Rata Peaks 79.35 150 LR LR 23 18 00.2
comp=Z,72nm,19.7s,baz=279,slow=35
HARR Harsova 79.39 314⇓ P **P** **22 44 01.7 +0.6**
TESR Tescani 79.41 317⇓ P **P** **22 44 02.4 +1.1**
LVV L'vov 79.48 320 *e*P **P** **22 44 04.5 +2.9**
VRI Vrincioaia 79.64 316⇑ P **P** **22 44 03.7 +1.2**
NC405 NORSAR Array S 79.64 334 P **P** **22 44 02.8 +0.6**
CSS Mathiatis 79.69 304 P **P** **22 44 04.2 +1.2**
PLOR Plostina 79.70 316⇓ P **P** **22 44 04.4 +1.5**
BUR08 Bucovina Ar. S 79.79 318 P **P** **22 44 04.1 +0.7**
BURAR Bucovina Array 79.79 318⇓ P **P** **22 44 04.9 +1.5**
BURAR Bucovina Array 79.79 318 P **P** **22 44 04.2 +0.8**
BISRR Bisoca 79.79 316⇓ P **P** **22 44 04.6 +1.1**
NB2 NORSAR Subarra 79.88 334 P **P** **22 44 03.9 +0.3**
comp=Z,1.1nm,0.7s,baz=54,slow=5.6
NOA NORSAR Array B 79.88 334 P **P** **22 44 03.3 -0.3**
comp=Z,5.1nm,1.0s,baz=53,slow=5.4,SNR=5.3
comp=Z,5.1nm,1.0s
OZUR 80.13 316⇓ P **P** **22 44 07.3 +2.1**
MLR Muntele Rosu 80.30 316⇓ P **P** **22 44 06.8 +0.5**
MLR Muntele Rosu 80.30 316 LR LR 23 23 09.4
comp=Z,266nm,21.8s,baz=51,slow=38
DOPR Dopca 80.43 316⇑ P **P** **22 44 08.4 +1.6**
KOLS Kolonicke sedl 80.91 320 *e*P **P** **22 44 09.5 +0.2**
KOLS Kolonicke sedl 80.91 320 *e*P **P** **22 44 09.5 +0.2**
UZH Uzhgorod 81.05 320 *e*P **P** **22 44 11.3 +1.3**
UZH *i* 22 44 24.2
TRPA Tarpa 81.14 319⇑ P **P** **22 44 11.6 +1.1**
ARR Arges 81.18 316⇑ P **P** **22 44 13.0 +2.1**
HUMR Humele 81.35 315⇑ P **P** **22 44 13.2 +1.5**
ELL Elmali 81.46 307 P **P** **22 44 13.0 +0.3**
ELL Elmali 81.46 307 P **P** **22 44 13.0 +0.3**
ELL pmax pmax
comp=Z,73nm,1.0s
SUMG Summit 81.55 356 *i* P **P** **22 44 14.0 +1.3**
LOT Lotru 81.68 317⇑ P **P** **22 44 15.6 +2.0**
DRGR 81.69 318⇑ P **P** **22 44 15.3 +1.7**
GZR Gura Zlata 82.32 317⇑ P **P** **22 44 18.6 +1.7**
SRE Strehaia 82.40 316⇑ P **P** **22 44 19.2 +1.9**
VYHS Vyhne 83.11 321 *e*P **P** **22 44 20.8 -0.1**
VYHS Vyhne 83.11 321 *e*P **P** **22 44 20.8 -0.1**
MORC Moravsky Berou 83.16 322⇑ P **P** **22 44 23.1 +2.0**
MORC Moravsky Berou 83.16 322 *e*P **P** **22 44 21.6 +0.5**
BLKB Belogradchik 83.24 315⇓ P **P** **22 44 23.3 +1.6**
MDVR Moldovita 83.28 317⇑ P **P** **22 44 22.7 +0.8**
VTS Vitosha 83.37 314⇑ P **P** **22 44 24.1 +1.6**
VTS Vitosha 83.37 314 P **P** **22 44 23.1 +0.6**
VTS IAmb IAmb 22 44 39.0
comp=Z,27nm,1.4s
VTS Vitosha 83.37 314 P **P** **22 44 23.1 +0.6**
VTS pmax pmax
comp=Z,27nm,1.4s
DPC Dobruska-Polom 83.51 323 *e*P P 22 44 39.4 +16
JAVC Velka Javorina 83.57 322 *e*P **P** **22 44 27.5 +4.2**
RAR Rarotonga 83.73 117 LR LR 23 14 33.6
comp=Z,76nm,19.4s,baz=276,slow=31
VRAC Vranov 83.93 322⇑ P **P** **22 44 26.2 +1.2**
VRAC Vranov 83.93 322 LR LR 23 25 01.3
comp=Z,648nm,19.8s,baz=70,slow=38
VRAC Vranov 83.93 322 *e*P **P** **22 44 27.6 +2.5**
MODS Modra-Piesok 84.05 321 *e*P **P** **22 44 28.8 +3.1**
MODS Modra-Piesok 84.05 321 *e*P **P** **22 44 28.8 +3.1**
MODS pmax pmax
comp=Z,24nm,1.4s
KRUC Moravsky 84.17 322 *e*P **P** **22 44 28.6 +2.3**
MORH Mrgy, Hungar 84.40 319⇑ P **P** **22 44 29.1 +1.6**
DIVS Divibare 84.68 317 P **P** **22 44 29.3 +0.2**
DIVS IAmb IAmb 22 44 44.7
comp=Z,9.5nm,1.1s
CLL Collm 84.72 325 *e*P **P** **22 44 30.0 +1.0**
comp=Z,8.0nm,1.1s

CLL				*e*x	x	22 44 43.0	
CLL				*e*PP	PP	22 47 45.0	+0.5
CLL				LmV		23 26 00.0	
	comp=Z,700nm,18.9s						
CLL	Collm	84.72	325	*e*P	P	22 44 30.0	+1.0
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CLL				MLR	MLR		
	comp=Z,700nm,18.9s						
CKRC	Cesky Krumlov	85.45	323	*e*P	P	22 44 34.6	+1.8
CKRC				*e*x	x	22 44 47.3	
KHC	Kasperske Hory	85.67	323	*e*P	P	22 44 35.8	+1.9
KHC				*e*x	x	22 44 48.6	
KHC	Kasperske Hory	85.67	323	*e*P	P	22 44 35.8	+1.9
KHC				*e*		22 44 48.6	
GERES	GERESS Array B	85.77	323	P	P	22 44 35.3	+0.8
	comp=Z,0.8nm,0.7s,baz=46,slow=5.6,SNR=5.2						
	comp=Z,0.8nm,0.7s						
GERES	GERESS Array B	85.77	323	P	P	22 44 34.5	0.0
NEW	Newport	85.82	38	P	P	22 44 42.2	+7.6
	baz=305						
GRA1	Grafenberg Arr	86.59	325	P	P	22 44 39.7	+1.3
GRA1				IAmb	IAmb	22 44 57.2	
	comp=Z,30nm,1.3s						
GRF	Grafenberg Arr	86.59	325	P	P	22 44 39.7	+1.3
GRF				pmax	pmax		
	comp=Z,30nm,1.3s						
GRFO	Grafenberg	86.59	325	P	P	22 44 39.8	+1.4
GRFO				IAmb	IAmb	22 44 57.2	
	comp=Z,27nm,1.2s						
GRFO	Grafenberg	86.59	325	P	P	22 44 39.8	+1.4
BORG	Borgarnes	86.83	348	LR	LR	23 24 50.0	
	comp=Z,64nm,21.1s,baz=14,slow=37						
STAL	STALIGIAL	87.81	321	P	P	22 44 45.2	+0.9
STAL				IAmb	IAmb	22 45 21.3	
	comp=Z,21nm,1.6s						
FUORN	Ofenpass-Fuorn	88.95	323	P	P	22 44 49.6	-0.4
FUORN				IAmb	IAmb	22 45 08.8	
	comp=Z,8.3nm,1.1s						
PPT	Papeete	90.46	109	LR	LR	23 20 44.9	
	comp=Z,177nm,18.3s,baz=354,slow=32						
PPT2	Papeete2	90.47	109	*e*LR	LR	23 13 52.9	
	comp=Z,243nm,23.5s						
PPT2				*e*LR	LR	23 13 53.0	
	comp=Z,259nm,22.2s						
NVAR	Mina Array Bea	90.65	46	P	P	22 44 59.0	+0.9
	comp=Z,0.3nm,0.7s,baz=289,slow=2.8,SNR=2.3						
	comp=Z,0.3nm,0.7s						
VAE	Valguarnera	91.82	313	LR	LR	23 29 43.3	
	comp=Z,77nm,18.6s,baz=113,slow=38						
QSM	Queen of Sheba	92.98	48	P	P	22 45 09.5	+0.8
QSM				IAmb	IAmb	22 45 18.9	
	comp=Z,8.5nm,1.1s						
PDAR	Pinedale Array	93.37	39	P	P	22 45 10.5	-0.1
	comp=Z,0.3nm,0.7s,baz=279,slow=1.7,SNR=2.3						
	comp=Z,0.3nm,0.7s						
PFO	Pinyon Flats O	94.60	49	LR	LR	23 29 59.3	
	comp=Z,66nm,18.1s,baz=318,slow=37						
ULM	Lac du Bonnet	94.73	27	LR	LR	23 33 58.2	
	comp=Z,50nm,19.2s,baz=258,slow=39						
TAOE	Nuku Hiva Isla	94.95	97	*e*LR	LR	23 15 57.0	
	comp=Z,145nm,25.3s						
ESDC	Sonseca Array	101.29	325	P	Pdif	22 45 46.8	+0.5
	comp=Z,0.2nm,0.8s,baz=28,slow=5.6,SNR=2.0						
TORD	Torodi Ar. Bea	115.43	300	PKP	PKPdf	22 50 38.4	+0.8
	comp=Z,0.3nm,0.7s,baz=45,slow=0.4,SNR=2.3						
TORD				PP	PP	22 51 39.4	+0.8
	comp=Z,0.9nm,0.8s,baz=58,slow=5.2,SNR=5.5						
TROLL	Troll, Antarti	125.11	198	PKPdf	PKiKP	22 50 55.2	+0.1
SNAA	Sanae	126.74	197	PKPdf	PKiKP	22 50 58.5	+0.2
VNA2	Neumayer--Watz	128.38	197	PKPdf	PKPdf	22 50 59.5	-1.3
	baz=117,slow=6.0						
VNA3	Neumayer Olymp	128.76	196	PKPdf	PKPdf	22 51 01.4	-0.2
VNA1	Neumayer--Stat	128.78	197	PKPdf	PKiKP	22 51 02.3	+0.1

*NOU **01** 22:36:56.3, 37°.36S×179°.98E, h0km, MLv4.8/14, Off E. Coast of N. Island, N.Z.*
*IDC **01** 22:37:05.0±1.0, 37°.07S×178°.91E, h0km, mb4.3/7, mbtmp4.3/7, MS3.7/1, Error ellipse: s-maj=29.9km s-min=24.2km az=33.0*
*NEIC **01** 22:37:06.4±2.7, 37°.40S±0°.09×179°.08E±0°.06, h10km±1km, mb4.5/14, Error ellipse: s-maj=15.2km s-min=6.1km az=340.0*
*WEL **01** 22:37:09.8±0.9, 37°S±4°×17°9E±°, h19km±5km, M4.3/42, ML4.5/42, MLv4.3/42, Error ellipse: s-maj=0.0km s-min=0.0km az=90.3*
ISC 01 22:37:08.1±1.5, **37°.43S**±0°.05×**179°.02E**±0°.06, **h20**km±5km, **n178**, σ1s.**40**/187, **mb4.3**/14, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.58	257		Pb	22 37 20.1	+0.5
MXZ				Sg	Sg	22 37 27.1	-0.5
MXZ	Matakaoa Point	0.58	257	P	Pb	22 37 20.1	+0.5
MXZ	Matakaoa Point	0.58	257	P	Pb	22 37 20.1	+0.5
MXZ				S	Sg	22 37 27.2	-0.4
WMGZ	Waiomatatini S	0.62	231	P	Pn	22 37 22.8	+1.0
PKGZ	Pakihiroa	0.88	238	P	Pn	22 37 26.0	+0.6
PKGZ				S	Sn	22 37 37.9	+0.2
PUZ	Puketiti	0.88	223	P	Pn	22 37 26.6	+1.1
PUZ				S	Sn	22 37 39.0	+1.3
HAZ	Te Kaha	1.03	251	P	Pn	22 37 27.6	+0.1
HAZ				S	Sn	22 37 41.4	0.0
TWGZ	Tauwhareparae	1.11	227	P	Pg	22 37 29.9	+0.2
TWGZ				S	Sg	22 37 45.4	+1.1
RUGZ	Raukumara Rang	1.19	243	P	Pg	22 37 30.8	-0.4
RUGZ				S	Sn	22 37 46.1	+0.6
CNGZ	Carnagh Statio	1.23	211	P	Pg	22 37 32.2	+0.2
TKGZ	Te Karaka	1.37	222	P	Pb	22 37 33.0	-0.1
WIZ	White Island	1.46	266	P	Pn	22 37 33.8	+0.5
MWZ	Matawai	1.48	232	P	Pb	22 37 34.5	-0.6
RIGZ	Rimuhau	1.61	217	P	Pn	22 37 36.4	+0.8
RAGZ	Rawiri	1.65	229	P	Pn	22 37 37.0	+0.9
WHRZ	Whale Island	1.68	255	P	Pb	22 37 37.9	-0.5
URZ	Urewera	1.72	241	Pn	Pb	22 37 38.1	-1.0
	180nm,0.3s,baz=355,slow=5.8,SNR=1281						
URZ				Sn	Sn	22 37 59.0	+0.6
	375nm,0.3s,baz=100,slow=11,SNR=6.5						
URZ				LR	LR	22 38 40.5	
	comp=Z,855nm,19.6s,baz=122,slow=51						
URZ	Urewera	1.72	241		Pn	22 37 37.8	+0.8
URZ				Sn	Sn	22 37 57.8	-0.7
URZ	Urewera	1.72	241	P	Pb	22 37 38.5	-0.6
URZ	Urewera	1.72	241	P	Pb	22 37 38.1	-1.0
URZ				S	Sn	22 37 59.4	+1.0
SNGZ	Shannon Statio	1.89	224	P	Pn	22 37 40.0	+0.6
KNZ	Kokohu	1.91	213	P	Pn	22 37 39.6	0.0
EDRZ	Edgecumbe	1.93	249	P	Pn	22 37 41.0	+1.1
MHGZ	Mahia Peninsul	1.93	207	P	Pn	22 37 40.7	+0.8
MARZ	Manawahe	1.94	253	P	Pn	22 37 40.9	+0.9
RTZ	Ruatahuna	2.00	233	P	Pn	22 37 42.1	+1.2
OPRZ	Ohinepanea	2.00	257	P	Pn	22 37 41.0	+0.2
OPRZ				S	Sn	22 38 03.7	-1.5
MUGZ	Murupara	2.06	239	P	Pn	22 37 42.5	+0.8
RAHZ	Arahi	2.13	225	P	Pn	22 37 43.0	+0.4
MKRZ	Makatiti	2.14	250	P	Pb	22 37 44.7	-1.6
TARZ	Mount Tarawera	2.15	247	P	Pn	22 37 44.2	+1.3
WHHZ	Waihua	2.16	220	P	Pn	22 37 43.5	+0.4
LIRZ	Lichensteins R	2.17	254	P	Pn	22 37 44.5	+1.4
RRRZ	Republican Roa	2.18	245	P	Pn	22 37 43.9	+0.6
OMRZ	Omania	2.20	251	P	Pn	22 37 45.0	+1.4
TGRZ	Tauranga	2.21	261	P	Pn	22 37 44.6	+0.9
MYRZ	Mayor Island	2.22	273	P	Pn	22 37 44.1	+0.3
MTHZ	Maungataniwha	2.23	230	P	Pn	22 37 45.0	+1.0
MTHZ				S	Sn	22 38 11.6	+0.6
KARZ	Kaharoa	2.28	254	P	Pn	22 37 45.5	+0.8
PRRZ	Plateau Road	2.33	242	P	Pn	22 37 46.1	+0.6
NGRZ	Ngongotaha	2.34	252	P	Pn	22 37 47.4	+1.8
UTU	Utuhina	2.36	251	P	Pb	22 37 48.3	-1.7
HSRZ	Hossack Road	2.36	247	P	Pb	22 37 48.4	-1.7
HRRZ	Handcock Road	2.37	245	P	Pn	22 37 46.7	+0.8
ALRZ	Allen Road	2.40	241	P	Pn	22 37 46.9	+0.6
NMHZ	Naumai	2.41	226	P	Pn	22 37 47.4	+0.8
ARHZ	Aropaoanui	2.42	220	P	Pn	22 37 47.2	+0.5
KMRZ	Kaimai	2.48	259	P	Pn	22 37 48.0	+0.6
GRRZ	Galatos Road	2.48	247	P	Pn	22 37 48.7	+1.2
MRHZ	Matea Rd	2.48	235	P	Pn	22 37 48.2	+0.7
WPRZ	Whakapapatarin	2.50	243	P	Pn	22 37 48.8	+1.0
BKZ	Black Stump Fm	2.64	228		Pn	22 37 50.0	+0.4
BKZ	Black Stump Fm	2.64	228	P	Pn	22 37 50.6	+0.9
BKZ	Black Stump Fm	2.64	228	P	Pn	22 37 50.2	+0.5
CKHZ	Cape Kidnapper	2.70	214	P	Pn	22 37 49.9	-0.5
CKHZ				S	Sn	22 38 21.2	-1.2
WHTZ	Whakaora	2.71	242	P	Pn	22 37 52.4	+1.7
MCHZ	McNeill Hill	2.71	221	P	Pn	22 37 51.1	+0.4
KUZ	Kuaotunu	2.72	284	P	Pn	22 37 49.6	-1.2
KUZ	Kuaotunu	2.72	284	P	Pn	22 37 49.4	-1.3
TOZ	Tahuroa Road	2.81	263	P	Pn	22 37 52.2	+0.3
KWHZ	Kaweka Forest	2.85	225	P	Pn	22 37 52.6	0.0
KWHZ				S	Sn	22 38 26.0	-0.3
WATZ	Wairara	2.89	243	P	Pn	22 37 54.3	+1.2
KAHZ	Kahuranaki	2.90	215	P	Pn	22 37 52.6	-0.6
TLZ	Tolley Road	2.90	251	P	Pn	22 37 54.2	+1.0
RITZ	Rihia Road	2.93	237	P	Pn	22 37 54.5	+0.8
RATZ	Rangitukua	2.93	240	P	Pn	22 37 54.6	+0.9
KATZ	Kakaramea	3.04	238	P	Pn	22 37 55.9	+0.7
GRZ	Great Barrier	3.09	291	P	Pn	22 37 55.2	-0.6
MKAZ	Moumakai	3.09	275	P	Pn	22 37 55.5	-0.4
PXZ	Pawanui	3.10	212	P	Pn	22 37 54.8	-1.1
BHHZ	Black Hill Sta	3.10	228	P	Pn	22 37 56.0	0.0
TMVZ	Te Maari	3.10	236	P	Pn	22 37 56.5	+0.3
ETVZ	East Tongariro	3.11	236	P	Pn	22 37 56.5	+0.3
NTVZ	North Tongarir	3.11	237	P	Pn	22 37 56.6	+0.3
KRVZ	Karewarewa	3.13	237	P	Pn	22 37 57.0	+0.4
OTVZ	Oturere	3.15	236	P	Pn	22 37 57.2	+0.4
WIAZ	Waiheke Island	3.17	280	P	Pn	22 37 56.4	-0.5
NNVZ	North Ngauruho	3.17	237	P	Pn	22 37 57.6	+0.5
WTVZ	West Tongariro	3.18	237	P	Pn	22 37 57.7	+0.5
SNVZ	South Ngauruho	3.18	236	P	Pn	22 37 57.5	+0.2
NGZ	Ngauruhoe	3.20	236	P	Pn	22 37 57.9	+0.4
TUVZ	Tukino	3.22	234	P	Pn	22 37 58.2	+0.5
MOVZ	Moawhango	3.24	231	P	Pn	22 37 57.8	-0.1
TWVZ	Taurewa	3.26	239	P	Pn	22 37 58.8	+0.5
WHVZ	Whangaehu Hut	3.27	234	P	Pn	22 37 58.7	+0.2
FWVZ	Far West T-bar	3.28	235	P	Pn	22 37 59.1	+0.5
WNVZ	Wahianoa	3.29	234	P	Pn	22 37 58.9	+0.2
ETAZ	East Tamaki Re	3.30	277	P	Pn	22 37 58.7	0.0
TRVZ	Turoa	3.31	235	P	Pn	22 37 59.3	+0.3
WPHZ	Waipukurau	3.31	217	P	Pn	22 37 58.2	-0.7
PNHZ	Pukenui	3.32	221	P	Pn	22 37 57.8	-1.2
MBAZ	Motutapu North	3.36	280	P	Pn	22 37 59.4	-0.1
PRHZ	Porangahau	3.39	213	P	Pn	22 37 58.4	-1.6
MTVZ	Mangateitei	3.40	234	P	Pn	22 38 00.5	+0.3
PKVZ	Pokaka	3.43	236	P	Pn	22 38 00.6	0.0
ABAZ	Army Bay	3.45	283	P	Pn	22 38 01.1	+0.4
EPAZ	Eden Park BICE	3.46	278	P	Pn	22 38 01.4	+0.5
HIZ	Hauiti	3.46	251		Pn	22 38 02.4	+1.4
HIZ	Hauiti	3.46	251	P	Pn	22 38 02.7	+1.8
HIZ	Hauiti	3.46	251	P	Pn	22 38 02.5	+1.6
HBAZ	Herne Bay Bore	3.47	278	P	Pn	22 38 02.6	+1.6
AWAZ	Awhitu Peninsu	3.51	275	P	Pn	22 38 01.9	+0.4
TSZ	Takapari Road	3.55	221	P	Pn	22 38 00.7	-1.5
WTAZ	Waiatarua	3.58	277	P	Pn	22 38 03.1	+0.5
RVAZ	Riverhead Bore	3.61	279	P	Pn	22 38 03.3	+0.4
ANWZ	Angora Road	3.62	212	P	Pn	22 38 01.3	-1.8
DVHZ	Dannevirke	3.63	217	P	Pn	22 38 01.6	-1.7
VRZ	Vera Road	3.75	242	P	Pn	22 38 06.3	+1.4
POWZ	Post Office Ro	3.90	220	P	Pn	22 38 05.1	-1.8
BFZ	Birch Farm	3.90	213		Pn	22 38 04.8	-2.1
BFZ	Birch Farm	3.90	213	P	Pn	22 38 05.1	-1.8
WAZ	Wanganui	3.92	232	P	Pn	22 38 07.8	+0.6
PRWZ	Pori Road	3.92	216	P	Pn	22 38 05.8	-1.4
OHWZ	Ohakea	4.01	225	P	Pn	22 38 08.6	+0.2
WCZ	Waipu Caves	4.04	290	P	Pn	22 38 08.8	0.0
MHEZ	Mangahewa	4.04	245	P	Pn	22 38 12.0	+3.1
CPWZ	Castlepoint	4.11	211	P	Pn	22 38 07.9	-1.9
LREZ	Lake Rotokare	4.15	239	P	Pn	22 38 11.8	+1.4
DREZ	Durham Road	4.18	244	P	Pn	22 38 13.1	+2.4
PREZ	Palmer Road	4.27	242	P	Pn	22 38 14.2	+2.1
NEZ	North Egmont	4.28	243	P	Pn	22 38 14.6	+2.3
PKE	Pukeiti	4.33	244	P	Pn	22 38 15.6	+2.6
KHEZ	Kahui Hut	4.35	243	P	Pn	22 38 15.2	+2.0
KHEZ	Kahui Hut	4.35	243	P	Pn	22 38 15.4	+2.2
NBEZ	Newall Road No	4.45	244	P	Pn	22 38 17.2	+2.8
NMEZ	Namu Road	4.50	242	P	Pn	22 38 17.9	+2.7
OUZ	Omahuta	4.90	295		Pn	22 38 21.3	+0.6
OUZ	Omahuta	4.90	295	P	Pn	22 38 21.2	+0.6
OUZ	Omahuta	4.90	295	P	Pn	22 38 21.3	+0.6
MSWZ	Moikau Station	4.94	215		Pn	22 38 17.6	-3.6
SNZO	South Karori	5.12	219	Pn	Pn	22 38 19.9	-3.7
SNZO	South Karori	5.12	219	P	Pn	22 38 20.9	-2.7
TUWZ	Tuamarina	5.60	223		Pn	22 38 26.7	-3.6
CMWZ	Cape Campbell	5.69	219	Pn	Pn	22 38 28.9	-2.6
QRZ	Quartz Range	6.08	234	Pn	Pn	22 38 33.4	-3.5
QRZ	Quartz Range	6.08	234	P	Pn	22 38 34.1	-2.8
KHZ	Kahutara	6.52	218	P	Pn	22 38 39.0	-3.9
CTZ	Chatham Island	7.12	154	P	Pn	22 38 53.2	+2.1
RPZ	Rata Peaks	8.72	221	Pn	Pn	22 39 08.6	-4.5
	2.1nm,0.3s,baz=311,slow=4.9,SNR=1.7						
RPZ				Sn	Sn	22 40 38.9	-12
	7.4nm,0.3s,baz=103,slow=20,SNR=10						
ODZ	Otahua Downs	9.88	217	P	Pn	22 39 25.9	-3.1
JCZ	Jackson Bay	10.21	226	P	Pn	22 39 33.4	-0.2
SYZ	Scrubby Hill	11.69	216	P	Pn	22 39 51.9	-1.8
	53nm,2.8s						
STKA	Stephens Creek	31.14	269	P	P	22 43 23.8	-1.8
	2.1nm,0.7s,baz=108,slow=13,SNR=1.8						
	2.1nm,0.7s						
STKA	Stephens Creek	31.14	269	P	P	22 43 25.4	-0.2
BBOO	Buckleboo	35.21	264	P	P	22 43 59.9	-1.2
COEN	Coen	39.51	297	P	P	22 44 37.3	-0.4
COEN				IAmb	IAmb	22 44 44.0	
	comp=Z,26nm,1.4s						
AS31	Alice Springs	40.83	276	P	P	22 44 47.5	-1.1
AS31				IAmb	IAmb	22 44 48.4	
	comp=Z,1.7nm,0.7s						
ASAR	Alice Springs	40.83	276	P	P	22 44 48.0	-0.6
	comp=Z,3.7nm,0.7s,baz=122,slow=8.4,SNR=24						
	comp=Z,3.7nm,0.7s						
ASAR	Alice Springs	40.83	276	P	P	22 44 47.5	-1.1
VNDA	Vanda	40.87	186	P	P	22 44 50.3	+2.0
FORT	Forrest	42.29	263	P	P	22 44 58.5	-2.0
FORT				IAmb	IAmb	22 45 07.0	
	comp=Z,9.8nm,0.8s						
WRA	Warramunga Arr	42.46	282	P	P	22 45 00.5	-1.5
	comp=Z,1.3nm,0.4s,baz=123,slow=7.5,SNR=8.5						
	comp=Z,1.3nm,0.4s						
WRA	Warramunga Arr	42.46	282	P	P	22 45 00.4	-1.6
WB0	Warramunga Arr	42.52	282	P	P	22 45 00.5	-2.0
WB0				IAmb	IAmb	22 45 04.9	
	comp=Z,14nm,1.4s						
CASY	Casey	47.81	211	P	P	22 45 44.9	+1.0
MTN	Manton Dam	49.13	287	P	P	22 45 53.6	-1.0
MTN				IAmb	IAmb	22 46 08.7	
	comp=Z,7.7nm,0.9s						
KNRA	Kununurra	49.25	282	P	P	22 45 54.7	-0.8
MORW	Morawa	52.47	260	P	P	22 46 18.0	-1.7
MORW				IAmb	IAmb	22 46 32.2	
	comp=Z,17nm,1.1s						
QSPA	South Pole Qui	52.70	180	P	P	22 46 23.8	+2.7
	comp=Z,1.0nm,0.3s,baz=38,slow=1.3,SNR=5.2						
QSPA				LR	LR	23 05 15.5	
	comp=Z,73nm,19.7s,baz=19,slow=32						
	comp=Z,1.0nm,0.3s						
MAW	Mawson	64.88	202	P	P	22 47 47.0	+1.5
	comp=Z,1.6nm,0.8s,baz=136,slow=18,SNR=2.4						
	comp=Z,1.6nm,0.8s						
MAW	Mawson	64.88	202	P	P	22 47 46.6	+1.2
MAW				IAmb	IAmb	22 48 05.3	
	comp=Z,2.0nm,1.4s						
TROLL	Troll, Antarti	70.83	181	P	P	22 48 24.8	+1.7
SNAA	Sanae	71.19	179	P	P	22 48 26.5	+1.3
SNAA	Sanae	71.19	179	P	P	22 48 26.2	+1.0
SNAA				IAmb	IAmb	22 48 28.1	
	comp=Z,3.4nm,1.3s						
VNA3	Neumayer Olymp	71.45	177	P	P	22 48 28.4	+1.6
VNA2	Neumayer--Watz	71.85	178	P	P	22 48 30.8	+1.7
	baz=187,slow=5.0						
VNA1	Neumayer--Stat	72.10	177	P	P	22 48 32.4	+1.8
H03S2	Juan Fernandez	78.64	124	T	T	00 15 37.7	
	baz=231,slow=74,SNR=6.6						
H03S1	Juan Fernandez	78.65	124	T	T	00 15 38.5	
	baz=231,slow=74,SNR=3.9						
H03S3	Juan Fernandez	78.66	124	T	T	00 15 36.7	
	baz=231,slow=74,SNR=6.5						
H03N3	Juan Fernandez	78.87	124	T	T	00 15 52.6	
	baz=234,slow=72,SNR=92						
H03N2	Juan Fernandez	78.87	124	T	T	00 15 45.1	
	baz=234,slow=72,SNR=84						
H03N1	Juan Fernandez	78.89	124	T	T	00 15 45.4	
	baz=234,slow=72,SNR=97						
PLCA	Paso Flores	79.50	134	P	P	22 49 15.4	+1.9
	comp=Z,2.0nm,0.9s,baz=21,slow=15,SNR=2.9						
	comp=Z,2.0nm,0.9s						
JOW	Kunigami	79.72	315	P	P	22 49 12.9	-1.7
	comp=Z,9.8nm,0.4s,baz=71,slow=24,SNR=1.3						
	comp=Z,9.8nm,0.4s						
ARCES	ARCESS Array B	144.80	344	PKP	PKPab	22 56 41.3	-0.2
	comp=Z,1.4nm,0.6s,baz=38,slow=2.5,SNR=10						
DBIC	Dimbokro	149.18	172	PKPbc	PKiKP	22 56 56.8	-0.2
	comp=Z,1.3nm,0.5s,baz=203,slow=5.4,SNR=4.5						
FINES	FINESS Array B	150.62	334	PKP	PKPdf	22 56 50.8	-1.5
	comp=Z,1.5nm,0.8s,baz=20,slow=4.4,SNR=1.2						
FINES				PKPbc	PKPbc	22 56 56.6	-1.1
	comp=Z,1.7nm,0.5s,baz=29,slow=3.9,SNR=11						

*IDC **01** 22:37:29.7±0.5, 37°.48N×141°.74E, h0km, mb4.7/31, mbtmp4.6/35, ML3.2/4, MS3.9/4, Error ellipse: s-maj=13.1km s-min=11.2km az=118.0*
*BJI **01** 22:37:30.8±0.0, 37°.34N×141°.69E, h20km, mb4.7/49, mB5.0/21, Ms4.5/15, Ms7 4.4/14*
*JMA **01** 22:37:31.5±0.2, 37°.5N±0°.3×141°.9E±0°.7, h27km±2km, MD4.9/40, MW4.6/40, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
*NIED **01** 22:37:31.5, 37°.45N×141°.85E, h27km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.10; $M_{\theta\theta}$3.41; $M_{\phi\phi}$1.68; $M_{r\theta}$-4.77; $M_{\theta\phi}$3.57; $M_{\phi r}$-1.00; Fault plane solution: $M_0$7.52000×10^{15} NP1: ϕ_s212.00000°, δ29.00000°, λ-124.00000°. NP2: ϕ_s70.00000°, δ66.00000°, λ-73.00000°.*
*NEIC **01** 22:37:32.8±0.9, 37°.52N±0°.05×141°.70E±0°.05, h14km±4km, mb5.0/154 Error ellipse: s-maj=7.9km s-min=5.3km az=208.0*
*MOS **01** 22:37:32.4±0.9, 37°.57N×141°.73E, h26km, mb5.0/64, MS5.0/7, Error ellipse: s-maj=6.5km s-min=4.2km az=113.0*
ISC 01 22:37:31.6±0.5, **37°.48N**±0°.03×**141°.85E**±0°.03, **h14**km±2km, **h15**km**:pP-P**, **n745**, σ1s.**42**/696, **mb4.9**/170, **MS5.0**/23, **24C-30D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.79	262	P	Pg	22 37 46.0	-0.9
JFK				*e*S	Sg	22 37 56.3	-0.9
JFK	Kawauchi	0.79	262	A	A	22 37 46.0	
	comp=E,18nm,0.6s,comp=E,44nm,2.1s						
JMST	Minamisoumatoc	0.80	288	*i* P	Pg	22 37 46.3	-0.9
JMST				S	Sg	22 37 56.8	-1.0
JMST	Minamisoumatoc	0.80	288	A	A	22 37 46.3	
	comp=E,48nm,1.8s,comp=E,31nm,0.9s						
JIKH	Ishinomakikobu	0.89	340	*i* P	Pb	22 37 48.2	-0.6
JIKH				S	Sb	22 37 60.0	-0.4
JIKH	Ishinomakikobu	0.89	340	A	A	22 37 48.2	
	comp=E,104nm,0.4s,comp=E,99nm,0.4s						
JMM	Marumori	0.93	295		Pb	22 37 47.9	-1.5
JMM				Sg	Sb	22 37 59.1	-2.4
JMM	Marumori	0.93	295	P	Pb	22 37 48.2	-1.2
JMM	Marumori	0.93	295	*i* P	Pb	22 37 48.3	-1.1
JMM				S	Sb	22 38 00.3	-1.3
JMM	Marumori	0.93	295	A	A	22 37 48.3	
	comp=E,32nm,0.9s,comp=E,32nm,0.5s						
JIO	Ouri	1.05	338	*i* P	Pb	22 37 50.9	-0.7
JIO				S	Sb	22 38 04.4	-0.8
JIO	Ouri	1.05	338	A	A	22 37 50.9	
	comp=E,70nm,0.8s,comp=E,37nm,1.1s						
JFFD	Fukushimafurud	1.10	250	A	A	22 37 51.0	
	comp=E,15nm,0.7s,comp=E,15nm,3.7s						
JOTO	OTAMA OYAMA	1.21	274	P	Pn	22 37 53.2	-0.9
JOTO				S	Sn	22 38 10.2	0.0
JOTO	OTAMA OYAMA	1.21	274	A	A	22 37 53.2	
	comp=E,46nm,1.0s,comp=E,65nm,1.5s						
JOU	Okura	1.29	314	*i* P	Pn	22 37 55.0	-0.2
JOU				S	Sb	22 38 11.9	-0.2
JOU	Okura	1.29	314	A	A	22 37 55.0	
	comp=E,139nm,0.6s,comp=E,291nm,0.8s						
JHO	Hitachi	1.34	230	P	Pn	22 37 53.9	-2.0
JHO				S	Sn	22 38 10.5	-3.0
JHO	Hitachi	1.34	230	A	A	22 37 53.9	
	comp=E,13nm,2.6s,comp=E,13nm,2.7s						
JOFO	Osakifurukawao	1.35	327	A	A	22 37 55.3	
	comp=E,146nm,0.8s,comp=E,235nm,0.9s						
JKMT	Kesennumamotoy	1.36	348	A	A	22 37 55.6	
	comp=E,62nm,2.4s,comp=E,23nm,1.3s						
JYAR	Yonezawaarcadi	1.42	288	A	A	22 37 56.2	
	comp=E,88nm,1.1s,comp=E,132nm,1.2s						
JHYU	Hitachinakayam	1.52	222	A	A	22 37 57.3	
	comp=E,20nm,2.9s,comp=E,11nm,1.6s						
JMK	Ichinoseki	1.55	342	⇓*i*P	Pn	22 37 58.5	-0.3
JMK				⇓S	Sn	22 38 18.2	-0.5
JMK	Ichinoseki	1.55	342	A	A	22 37 58.5	
	comp=E,38nm,1.1s,comp=E,25nm,0.8s						
JYS	Shirataka	1.60	298	P	Pn	22 37 59.5	+0.1
JYS				S	Sb	22 38 21.1	+0.2
JYS	Shirataka	1.60	298	A	A	22 37 59.5	
	comp=E,74nm,1.5s,comp=E,86nm,1.2s						
OFUJ	Ofunato	1.61	355	A	A	22 37 59.3	
	comp=E,39nm,1.3s,comp=E,23nm,0.8s						
JSB	Shiboa	1.62	252	A	A	22 37 59.0	
	comp=E,56nm,1.6s,comp=E,55nm,1.5s						
JFY	Yanaizu	1.71	268	*i* P	Pn	22 38 00.9	-0.1
JFY				S	Sn	22 38 23.2	+0.6
JFY	Yanaizu	1.71	268	A	A	22 38 00.9	
	comp=E,13nm,1.2s,comp=E,30nm,0.6s						
JYT	Yasato	1.82	227	A	A	22 38 01.7	
	comp=E,11nm,0.5s,comp=E,11nm,0.3s						
JIHU	Itakohorinouch	1.85	216	A	A	22 38 02.0	
	comp=E,84nm,4.8s,comp=E,51nm,2.4s						
JYK	Kaneyama	1.86	321	A	A	22 38 02.8	
	comp=E,15nm,2.3s,comp=E,18nm,1.6s						
CHOJ	Chosi	1.94	205	A	A	22 38 03.3	
	comp=E,11nm,2.4s,comp=E,8.0nm,2.6s						
JYA	Atsumi	2.02	304	A	A	22 38 05.1	
	comp=E,33nm,0.5s,comp=E,27nm,0.7s						
JNS	Sasagawa	2.04	280	A	A	22 38 05.2	
	comp=E,10.0nm,3.2s,comp=E,12nm,2.6s						
JOM	Ohasama	2.04	348	A	A	22 38 05.6	
	comp=E,69nm,1.6s,comp=E,27nm,1.2s						
MIYJ	Miyakonagasawa	2.10	359	A	A	22 38 06.3	
	comp=E,14nm,1.4s,comp=E,9.0nm,0.5s						
JRG	Rokugo	2.14	334	A	A	22 38 07.0	
	comp=E,28nm,2.3s,comp=E,28nm,1.3s						
JSMT	Sammumatsuo	2.15	212	A	A	22 38 06.4	
	comp=E,32nm,1.8s,comp=E,34nm,2.3s						
JYYZ	Yamagatayuza	2.15	316	A	A	22 38 07.1	
	comp=E,43nm,1.7s,comp=E,42nm,2.2s						
JAG	Ashikaga	2.19	242	A	A	22 38 07.1	
	comp=E,6.0nm,3.5s,comp=E,10.0nm,2.3s						
JUON	Uonuma	2.24	264	A	A	22 38 08.0	
	comp=E,5.0nm,5.1s,comp=E,7.0nm,4.3s						
JAW	Awa shima	2.28	296	A	A	22 38 08.8	
	comp=E,11nm,9.6s,comp=E,27nm,4.1s						
JSZI	Iwateshizukuis	2.37	343	A	A	22 38 10.2	
	comp=E,41nm,2.1s,comp=E,63nm,2.5s						
JYW	Yuwa	2.43	328	A	A	22 38 11.1	
	comp=E,43nm,1.3s,comp=E,47nm,2.0s						
JCN	Nagara	2.45	213	A	A	22 38 10.6	
	comp=E,30nm,4.1s,comp=E,28nm,3.0s						
TOK	Tokyo	2.46	224	A	A	22 38 10.8	
	comp=E,22nm,4.8s,comp=E,20nm,3.8s						
JTH	Tanohata	2.46	0	A	A	22 38 11.6	
	comp=E,13nm,4.1s,comp=E,10.0nm,1.3s						
JTB	Tobi-shima	2.49	314	A	A	22 38 11.9	
	comp=E,16nm,1.8s,comp=E,12nm,3.1s						
JIZZ	Izumozaki	2.50	272	A	A	22 38 11.8	
	comp=E,22nm,3.1s,comp=E,28nm,2.3s						
JKZ	Kuzumaki	2.54	351	A	A	22 38 12.7	
	comp=E,22nm,2.0s,comp=E,15nm,2.1s						
JHU	Hanno	2.63	233	A	A	22 38 13.3	
	comp=E,5.0nm,4.2s,comp=E,6.0nm,6.6s						
JKUC	kamogawauchiur	2.67	210	A	A	22 38 13.8	
	comp=E,16nm,3.5s,comp=E,8.0nm,1.9s						
JKEN	Kujiedanarisaw	2.73	358	A	A	22 38 15.4	
	comp=E,27nm,0.4s,comp=E,33nm,0.6s						
JGK	Kuni	2.73	251	A	A	22 38 14.9	
	comp=E,7.0nm,1.5s,comp=E,8.0nm,2.7s						
JAH	Hinai	2.87	341	A	A	22 38 17.4	
	comp=E,19nm,1.2s,comp=E,20nm,4.2s						
JSD	Sado	2.90	282	Pn	Pn	22 38 16.7	-0.6
JANG	Nango	2.90	355	A	A	22 38 17.9	
	comp=E,15nm,5.0s,comp=E,10.0nm,1.2s						
TATJ	Tateyama 2	2.91	214	A	A	22 38 17.3	
	comp=E,12nm,4.9s,comp=E,13nm,2.9s						
JJN	Nakama	2.96	264	A	A	22 38 18.4	
	comp=E,10.0nm,2.0s,comp=E,9.0nm,2.7s						
MJAR	Matsushiro Arr	3.06	253	Pn	Pn	22 38 19.4	-0.1

2.7nm,0.3s,baz=80,slow=15,SNR=56
MJAR Sn **Sb** **22 39 05.4 +2.4**
5.7nm,0.3s,baz=54,slow=41,SNR=3.4
29nm,0.6s
MAJO Matsushiro 3.06 253 Pn **Pn** **22 38 20.0 +0.4**
MAJO Matsushiro 3.06 253 P **Pn** **22 38 21.0 +1.4**
MAJO Matsushiro 3.06 253 *ce*P **Pn** **22 38 20.5 +0.9**
MJB9 Matsu-Tunnel 3.06 253 **Pn** **22 38 21.7 +2.1**
JNTW Noshirotokiwa 3.09 335 A A 22 38 20.4
comp=E,35nm,3.4s,comp=E,40nm,2.1s
JNG Nsakai 3.19 252 A A 22 38 21.4
comp=E,3.0nm,2.0s,comp=E,5.0nm,4.4s
JOG3 Oga3 3.26 319 A A 22 38 18.0
comp=E,13nm,4.0s,comp=E,15nm,2.6s
JTM Tenmabayashi 3.36 350 Pn **Pn** **22 38 24.5 +0.9**
JTM Tenmabayashi 3.36 350 P **Pn** **22 38 24.6 +0.9**
JTM Tenmabayashi 3.36 350 A A 22 38 24.4
comp=E,15nm,3.3s,comp=E,12nm,1.6s
JHHS Hirosakihyakuz 3.38 340 A A 22 38 24.6
comp=E,33nm,1.3s,comp=E,27nm,1.4s
JHTM Izuhatsuma 3.41 223 A A 22 38 24.3
comp=E,7.0nm,2.9s,comp=E,11nm,1.3s
JIW Iwasaki 3.43 336 A A 22 38 25.3
comp=E,9.0nm,1.5s,comp=E,12nm,1.9s
JARK Aomorirokkasho 3.54 354 A A 22 38 27.0
comp=E,14nm,1.3s,comp=E,13nm,0.8s
JTT Ttatey 3.72 258 A A 22 38 29.0
comp=E,6.0nm,2.8s,comp=E,9.0nm,2.0s
JSI2 Shiura 2 3.75 343 A A 22 38 29.8
comp=E,12nm,2.4s,comp=E,14nm,2.9s
JAHD Aomorihigashid 3.80 354 A A 22 38 30.6
comp=E,27nm,1.2s,comp=E,24nm,1.8s
JNY Yasuok 3.85 238 A A 22 38 30.7
comp=E,3.0nm,3.4s,comp=E,3.0nm,1.9s
JOT Ohata 3.95 351 A A 22 38 32.7
comp=E,8.0nm,2.4s,comp=E,7.0nm,1.9s
JGF Kuroka 4.07 244 **Pn** **22 38 34.5 +1.0**
JGF Kuroka 4.07 244 P **Pn** **22 38 35.2 +1.7**
JSR Shiriuchi 4.20 345 A A 22 38 36.2
comp=E,12nm,4.0s,comp=E,7.0nm,2.6s
JOMM Oshimamatsumae 4.29 341 A A 22 38 37.4
comp=E,3.0nm,4.3s,comp=E,4.0nm,2.5s
INU Inuyama 4.44 243 Pn **Pn** **22 38 39.4 +0.9**
INU Inuyama 4.44 243 P **Pn** **22 38 40.9 +2.4**
ERM Erimo 4.64 12 Pn **Pn** **22 38 41.4 +0.2**
ERM Erimo 4.64 12 P **Pn** **22 38 41.4 +0.2**
ERM Erimo 4.64 12 *ce*P **Pn** **22 38 41.8 +0.6**
JEM Erimo 4.64 12 P **Pn** **22 38 41.7 +0.5**
JHJ2 Mitsune 4.66 201 Pn **Pn** **22 38 42.9 +1.4**
JHJ Hachijo jima 2 4.67 202 Pn **Pn** **22 38 40.8 -0.8**
289nm,0.4s,baz=115,slow=8.5,SNR=6.2
JHJ Sn **Sn** **22 39 28.1 -7.4**
52nm,0.3s,baz=55,slow=17,SNR=1.3
JYM2 Yakumo 2 4.77 347 A A 22 38 44.3
comp=E,4.0nm,2.1s,comp=E,4.0nm,1.8s
JNBK Urakawa-nobuka 4.85 8 A A 22 38 45.3
comp=E,3.0nm,3.1s,comp=E,4.0nm,3.1s
JEW Eniwo 5.37 357 **Pn** **22 38 53.1 +1.9**
NMR Nemuro--Hokkai 6.59 25 *e*P **Pn** **22 39 05.4 -2.5**
NMR *e*S **Sn** **22 40 16.7 -6.0**
RUSJ Misakicho 7.10 20 *e*P **Pn** **22 39 13.5 -1.5**
RUSJ *e*S **Sn** **22 40 30.4 -5.1**
YUK Yuzh-Kuril'sk 7.22 24 *ce*P **Pn** **22 39 15.7 -0.9**
JMN Monobe 7.49 242 Pn **Pn** **22 39 21.6 +1.1**
JMN Monobe 7.49 242 P **Pn** **22 39 23.4 +2.9**
TEY Ternei 8.52 334 ⇑*e*P **Pn** **22 39 37.6 +3.1**
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY pmax pmax
comp=Z,10.0nm,1.1s
TEY pmax pmax
comp=N,40nm,1.0s
TEY pmax pmax
comp=E,30nm,1.0s
TEY pmax pmax
comp=Z,40nm,1.2s
KUR Kuril'sk 8.97 28 *e*P **Pn** **22 39 38.5 -2.1**
KUR *e*S **Sn** **22 41 14.9 -6.4**
KUR pmax pmax
comp=Z,147nm,0.6s
KUR smax smax
comp=N,128nm,0.4s
YSS Yuzh-Sakhalins 9.49 4 Pn **Pn** **22 39 48.0 +0.3**
YSS Yuzh-Sakhalins 9.49 4 *e*P **Pn** **22 39 47.6 -0.2**
YSS *e*S Sn 22 41 43.9 +10
YSS pmax pmax
comp=Z,30nm,0.5s
MSHR Mys Shultsa 9.65 305 ⇓*e*P **Pn** **22 39 51.0 +1.0**
USA0B Ussuriysk Arra 10.04 315 Pn **Pn** **22 39 56.1 +0.8**
USA0B Ussuriysk Arra 10.04 315 P **Pn** **22 39 56.1 +0.8**
USRK Ussuriysk Ar. 10.04 315 Pn **Pn** **22 39 56.3 +1.0**
comp=Z,1.4nm,0.3s,baz=125,slow=14,SNR=13
comp=Z,4.5nm,0.5s
JCJ Chichijima 10.36 178 Pn **Pn** **22 39 56.3 -3.4**
comp=Z,25nm,0.3s,baz=74,slow=22,SNR=19
JCJ Sn Sn 22 41 44.4 -11
comp=Z,7.0nm,0.3s,baz=277,slow=22,SNR=2.0
JCJ Chichijima 10.36 178 Pn **Pn** **22 39 57.9 -1.8**
KSRS Korea Array 11.07 274 Pn **Pn** **22 40 08.3 -1.2**
baz=89,slow=14
MDJ Mudanjiang 11.68 311 P **Pn** **22 40 18.1 +0.4**
MDJ pP 22 40 21.0
MDJ S **Sn** **22 42 26.9 -0.9**
MDJ pmax pmax
comp=Z,6.0nm,0.7s
MDJ pmax pmax
comp=Z,290nm,8.0s
MDJ LR LR
comp=Z,1μm,14.6s
MDJ LR LR
comp=Z,820nm,14.1s
MDJ LR LR
comp=Z,1μm,16.3s
KLR Kul'dur 13.84 331 Pn **Pn** **22 40 47.2 0.0**
comp=Z,0.2nm,0.3s,baz=140,slow=14,SNR=2.3
KLR Kul'dur 13.84 331 ⇓*e*P **Pn** **22 40 50.2 +3.0**
PEA0B Petropavlovsk- 19.13 30 P **P** **22 41 51.8 -2.2**
PEA0B Petropavlovsk- 19.13 30 ⇑*e*P **Pn** **22 41 54.9 0.0**
PETK Petropavlovsk- 19.13 30 P **P** **22 41 53.0 -1.0**
comp=Z,0.4nm,0.3s,baz=206,slow=13,SNR=7.8
comp=Z,12nm,0.9s
PETK Petropavlovsk- 19.13 30 P **P** **22 41 53.4 -0.7**
PETK Petropavlovsk- 19.13 30 P **P** **22 41 53.4 -0.7**
ZEA Zeya 19.14 333 *e*P **P** **22 41 54.0 -0.1**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA MLR MLR
comp=E,300nm,11.0s
ZEA MLR MLR
comp=N,500nm,15.0s
ZEA MLR MLR
comp=Z,500nm,15.0s
PET Petropavlovsk 19.46 32 *e*P **Pn** **22 42 03.3 +4.5**
PET *e*S **Sn** **22 45 35.1 -1.6**
PET pmax pmax
comp=Z,45nm,0.6s
PET pmax pmax
comp=Z,100nm,13.5s
PET MLR MLR
comp=Z,300nm,17.0s
TIA Tai'an 19.82 274 ⇑P **P** **22 42 00.7 -1.0**
TIA pmax pmax
comp=Z,10.0nm,1.0s
BJI Beijing 20.17 285 P **P** **22 42 05.4 -0.1**
BJI pP **pP** **22 42 09.4 -0.1**
BJI sP **sP** **22 42 13.1 +1.9**
BJI PcP **PcP** **22 46 20.2 +0.4**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJT Baijiatuau 20.17 285 P **P** **22 42 04.5 -1.0**
BJT Baijiatuau 20.17 285 P **P** **22 42 04.5 -1.0**
BJT pmax pmax
comp=Z,67nm,2.0s
XLT XiLinHaoTe 20.52 296 ⇑*i*P **P** **22 42 07.7 -1.7**
XLT PP **PnPn** **22 42 32.4 +5.6**
XLT pmax pmax
comp=Z,15nm,1.0s
XLT pmax pmax
comp=Z,130nm,4.5s
HNS HongShan 21.53 278 ⇓P **P** **22 42 18.4 -1.8**
HNS pmax pmax
comp=Z,27nm,0.8s

YHNB Yeheng 21.64 240 P **P** **22 42 21.0 -0.5**
MA2 Magadan 22.85 12 P **P** **22 42 34.2 +0.1**
comp=Z,7.6nm,0.3s,baz=91,slow=20,SNR=2.2
comp=Z,7.6nm,0.3s
TPUB Ta-pu 23.05 238 P **P** **22 42 33.5 -3.1**
HHC Hu-ho-hao-te 23.67 288 *e*P **P** **22 42 41.4 -1.3**
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,580nm,6.9s
LYN LuoYang 23.90 272 *e*P **P** **22 42 43.9 -1.0**
LYN pP pP 22 42 49.6 +0.5
LYN sP sP 22 42 53.4 +2.5
LYN pmax pmax
comp=Z,20nm,0.7s
GUMO Guam 23.94 173 LR LR 22 51 40.4
comp=Z,51nm,21.9s,baz=330,slow=36
YAK Yakutsk 25.72 347 P **P** **22 43 00.8 -0.2**
comp=Z,37nm,0.6s,baz=168,slow=0.7,SNR=18
comp=Z,37nm,0.6s
YAK Yakutsk 25.72 347 P **P** **22 43 00.1 -1.0**
YAK Yakutsk 25.72 347 *e*P **P** **22 43 00.9 -0.2**
YAK *e**PP **sP** **22 43 06.5 -0.6**
YAK *e* 22 43 39.2
YAK *e*SS 22 48 44.5
YAK pmax pmax
comp=Z,54nm,0.8s
YAK pmax pmax
comp=N,17nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,55nm,1.9s
YAK pmax pmax
comp=N,90nm,2.0s
YAK pmax pmax
comp=E,60nm,2.0s
YAK MLR MLR
comp=Z,749nm,14.0s
YAK MLR MLR
comp=N,203nm,13.0s
YAK MLR MLR
comp=E,155nm,12.0s
SEY Seymchan 26.29 11 P **P** **22 43 06.9 +0.6**
comp=E,19nm,0.8s,baz=188,slow=7.2,SNR=21
comp=E,19nm,0.8s
SEY Seymchan 26.29 11 ⇓*e*P **P** **22 43 07.5 +1.2**
SEY pmax pmax
comp=Z,30nm,1.0s
XAN Xi'an 26.86 273 P **P** **22 43 12.5 +0.6**
XAN pP pP 22 43 17.0 +0.9
XAN pmax pmax
comp=Z,19nm,0.5s
BOD Bodaibo 27.34 327 *e*P **P** **22 43 15.4 -0.5**
BOD pmax pmax
comp=Z,22nm,0.7s
ULN Ulaanbaatar 27.40 303 P **P** **22 43 16.0 -0.6**
ULN Ulaanbaatar 27.40 303 *ci*P **P** **22 43 17.2 +0.5**
ULN pmax pmax
comp=Z,4.0nm,0.6s
ENH Enshi 27.72 265 P **P** **22 43 17.5 -2.0**
ENH IAmb IAmb 22 43 20.2
comp=Z,34nm,0.9s
SONM Songino Array 27.83 303 P **P** **22 43 20.7 +0.1**
comp=Z,6.4nm,0.6s,baz=103,slow=8.7,SNR=28
SONM PcP **PcP** **22 46 36.0 -0.3**
comp=Z,0.9nm,0.7s,baz=116,slow=2.9,SNR=3.3
comp=Z,6.4nm,0.6s
SONM Songino Array 27.83 303 P **P** **22 43 20.6 +0.1**
H11N2 WAKE ISLAND Hy 28.08 122 T T 23 12 46.9
baz=315,slow=75,SNR=3325
H11N1 WAKE ISLAND Hy 28.09 122 T T 23 12 45.2
baz=315,slow=75,SNR=3526
H11N3 WAKE ISLAND Hy 28.10 122 T T 23 12 46.3
baz=315,slow=75,SNR=2279
H11S1 WAKE ISLAND Hy 28.81 124 T T 23 13 45.9
baz=316,slow=76,SNR=1260
H11S3 WAKE ISLAND Hy 28.81 124 T T 23 13 36.8
baz=316,slow=76,SNR=1974
H11S2 WAKE ISLAND Hy 28.83 124 T T 23 13 40.8
baz=316,slow=76,SNR=1423
ZAK Zakamensk 30.27 308 *e*P **P** **22 43 41.6 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 30.34 279 *e*P **P** **22 43 42.3 -0.6**
LZH pP sP 22 43 48.4 -0.6
LZH sP pP 22 43 51.9 +4.7
LZH pmax pmax
comp=Z,14nm,1.4s
GYA Guiyang 31.64 260 ⇑P **P** **22 43 53.8 -0.6**
GYA pP sP 22 44 00.5 0.0
GYA pmax pmax
comp=Z,25nm,0.8s
CD2 Chengdu 32.02 270 P **P** **22 43 56.6 -1.1**
GTA Gaotai 32.77 287 *e*P **P** **22 44 03.2 -1.0**
GTA pP sP 22 44 09.7 -0.6
GTA PcP **PcP** **22 46 50.8 +1.5**
GTA pmax pmax
comp=Z,6.0nm,0.8s
BILL Bilibino 33.50 16 ⇓*e*P **P** **22 44 11.0 +0.8**
BILL *e* 22 45 23.1
BILL *e*PPP PPP 22 45 33.6
BILL *e* 22 46 51.3
BILL pmax pmax
comp=Z,13nm,1.2s
BILL MLR MLR
comp=Z,152nm,18.0s
DAV Davao City (W) 33.69 210 LR LR 22 56 13.8
comp=Z,127nm,20.0s,baz=62,slow=33
TIXI Tiksi 34.89 353 P **P** **22 44 21.8 -0.3**
comp=Z,4.4nm,0.5s,baz=270,slow=22,SNR=16
comp=Z,4.4nm,0.5s
TIXI Tiksi 34.89 353 P **P** **22 44 21.9 -0.2**
TIXI Tiksi 34.89 353 ⇓*e*P **P** **22 44 21.7 -0.4**
TIXI pmax pmax
comp=Z,11nm,1.7s
KMI Kunming 35.37 261 ⇑P **P** **22 44 27.2 +0.1**
KMI pP pP 22 44 31.0 -0.4
KMI pmax pmax
comp=Z,21nm,0.8s
KMI pmax pmax
comp=Z,110nm,3.5s
PZH PanZhiHua 35.49 264 P **P** **22 44 27.6 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,180nm,5.3s
PZH PanZhiHua 35.49 264 ScP **P** **22 44 27.6 -0.4**
TNCH TengChong 38.75 264 *e*P **P** **22 44 56.5 +0.8**
TNCH pP pP 22 45 00.3 +0.2
TNCH pmax pmax
comp=Z,23nm,0.9s
SIJI Sorong 39.39 197 LR LR 22 58 26.9
comp=Z,202nm,20.4s,baz=16,slow=32
DGZ Jazzator, Alta 40.42 305 *di*P **P** **22 45 10.5 +1.2**
DGZ pmax pmax
comp=E,61nm,0.8s
PHRA Phrae 40.94 254 P **P** **22 45 12.9 -0.8**
WMQ Urumqi 40.95 296 *e*P **P** **22 45 15.3 +1.6**
WMQ pP pP 22 45 18.7 +0.6
WMQ pmax pmax
comp=Z,42nm,0.7s
WMQ LR LR
comp=Z,330nm,12.7s
WMQ LR LR
comp=Z,340nm,12.7s
WMQ LR LR
comp=Z,580nm,16.5s
FAKI Fak Fak 41.17 195 P **P** **22 45 16.8 +1.1**
FAKI IAmb IAmb 22 45 30.9
comp=Z,25nm,0.9s
CHTO Chiang Mai 41.74 256 P **P** **22 45 20.3 -0.1**
CHTO Chiang Mai 41.74 256 P **P** **22 45 20.3 -0.1**
CHTO pmax pmax
comp=Z,1.0nm,1.7s
ZAA0 Zalesovo Array 41.88 312 P **P** **22 45 20.9 -0.2**
ZALV Zalesovo Beam 41.88 312 P **P** **22 45 21.4 +0.3**
comp=Z,10nm,0.7s,baz=91,slow=7.6,SNR=36
ZALV PcP **PcP** **22 47 16.5 -0.1**
comp=Z,4.4nm,0.7s,baz=92,slow=3.5,SNR=3.9
comp=Z,10nm,0.7s
CMAR Chiang Mai Arr 41.95 255 P **P** **22 45 22.0 -0.1**
comp=Z,1.5nm,0.3s,baz=53,slow=5.6,SNR=9.0
comp=Z,1.5nm,0.3s
CMAR Chiang Mai Arr 41.95 255 P **P** **22 45 22.2 +0.2**
CMAR Chiang Mai Arr 41.95 255 *i* P **P** **22 45 23.8 +1.7**

CMAR pmax pmax
comp=Z,2.0nm,0.3s
ZSN Zaisan 42.34 302 *e*P **P** **22 45 24.9 -0.2**
baz=302
ZSN Zaisan 42.34 302 *e*P **P** **22 45 24.8 -0.2**
LSA Lhasa 42.52 275 P **P** **22 45 27.2 0.0**
LSA Lhasa 42.52 275 P **P** **22 45 27.2 0.0**
LSA pmax pmax
comp=Z,11nm,1.1s
CHNA Chernabura Isl 42.76 47 P **P** **22 45 29.5 +1.3**
baz=271
NRIK Noril'sk 43.01 335 P **P** **22 45 29.6 -0.5**
comp=Z,3.3nm,0.5s,baz=119,slow=10,SNR=6.5
comp=Z,3.3nm,0.5s
NRIK Noril'sk 43.01 335 P **P** **22 45 30.1 0.0**
NRIK Noril'sk 43.01 335 *di*P **P** **22 45 29.6 -0.5**
NRIK pmax pmax
comp=Z,9.0nm,1.4s
N16K Nishiik Lake 43.36 38 P **P** **22 45 34.1 +1.1**
baz=266
O16K Kokwok River B 43.65 40 P **P** **22 45 36.2 +0.8**
baz=267
P16K Nushagak River 43.67 41 P **P** **22 45 36.5 +1.0**
baz=268
SHL Shillong 43.76 269 P **P** **22 45 36.1 -0.8**
SHL Shillong 43.76 269 P **P** **22 45 36.1 -0.8**
SHL pmax pmax
comp=Z,10.0nm,0.9s
O17K Koliganek Bris 44.16 39 P **P** **22 45 40.7 +1.3**
baz=268
MK31 Makanchi Array 44.18 302 P **P** **22 45 39.4 -0.5**
MK31 IAmb IAmb 22 45 46.0
comp=Z,19nm,1.1s
MK31 Makanchi Array 44.18 302 *di*P **P** **22 45 40.0 +0.1**
MKAR Makanchi Array 44.18 302 P **P** **22 45 40.0 +0.1**
comp=Z,7.0nm,0.7s,baz=84,slow=9.1,SNR=47
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 44.18 302 P **P** **22 45 39.9 0.0**
MAKZ Makanchi 44.39 302 P **P** **22 45 41.2 -0.3**
MAKZ IAmb IAmb 22 45 47.8
comp=Z,23nm,1.1s
MAKZ Makanchi 44.39 302 P **P** **22 45 41.2 -0.3**
MAKZ pmax pmax
comp=Z,23nm,1.1s
P17K Kvichak River 44.48 40 P **P** **22 45 43.3 +1.3**
baz=269
Q17K Contact Creek 44.76 42 P **P** **22 45 45.2 +0.8**
baz=271
N18K Kilae Creek 44.79 38 P **P** **22 45 46.3 +1.8**
N18K IAmb IAmb 22 45 47.5
comp=Z,13nm,0.8s
N18K Kilae Creek 44.79 38 P **P** **22 45 46.3 +1.8**
baz=268
SVW2 Sparrevohn 44.96 38 P **P** **22 45 47.9 +2.0**
SVW2 IAmb IAmb 22 45 49.2
comp=Z,15nm,1.1s
CHIR Chirikof Islan 44.98 45 P **P** **22 45 48.1 +2.0**
baz=273
P18K Big Mountain, 45.10 40 P **P** **22 45 48.5 +1.5**
P18K IAmb IAmb 22 45 50.0
comp=Z,39nm,1.4s
P18K Big Mountain, 45.10 40 P **P** **22 45 48.2 +1.2**
baz=270
O18K Koktuh Hills 45.11 39 P **P** **22 45 48.9 +1.7**
baz=270
Q18K Katmai Hardscr 45.22 41 P **P** **22 45 49.2 +1.1**
baz=271
L19K White Mountain 45.35 36 P **P** **22 45 50.4 +1.4**
baz=268
N19K Bonanza Creek 45.48 38 P **P** **22 45 51.6 +1.4**
baz=269
M19K Big River Lodg 45.56 36 P **P** **22 45 52.4 +1.7**
baz=268
K20K Telida 45.77 34 P **P** **22 45 53.7 +1.5**
baz=267
J20K Nowinta River 45.78 33 P **P** **22 45 53.8 +1.5**
J20K Nowinta River 45.78 33 P **P** **22 45 53.6 +1.3**
baz=266,SNR=5.1
L20K Farewell, AK 45.81 36 P **P** **22 45 53.7 +1.0**
baz=268
KURK Kurchatov 45.93 308 P **P** **22 45 53.6 -0.1**
KURK Kurchatov 45.93 308 *di*P **P** **22 45 53.5 -0.2**
KURK pmax pmax
comp=Z,35nm,0.8s
KURBB Kurchatov Arra 46.01 308 P **P** **22 45 54.2 -0.1**
comp=Z,16nm,0.7s,baz=82,slow=8.0,SNR=157
comp=Z,16nm,0.7s
IMAR Indian Mountai 46.09 31 P **P** **22 45 56.2 +1.4**
OHAK Old Harbor 46.19 43 P **P** **22 45 56.4 +0.8**
baz=274
G21K Allakaket 46.24 30 P **P** **22 45 57.4 +1.5**
baz=265
TAPN Taplejung 46.26 274 *e*P **P** **22 45 57.0 +0.1**
comp=Z,8.3nm,0.5s
F21K Alatna River 46.32 29 P **P** **22 45 57.8 +1.2**
baz=264
H21K Melozitna Rive 46.45 31 P **P** **22 45 59.6 +2.0**
baz=266
KDAK Kodiak Island 46.54 42 P **P** **22 45 59.2 +0.8**
comp=Z,20nm,0.6s,baz=299,slow=5.0,SNR=18
comp=Z,20nm,0.6s
KDAK Kodiak Island 46.54 42 P **P** **22 45 59.1 +0.8**
KDAK Kodiak Island 46.54 42 P **P** **22 45 59.1 +0.8**
baz=274
KDAK Kodiak Island 46.54 42 P **P** **22 45 59.1 +0.8**
KDAK pmax pmax
comp=Z,162nm,1.7s
Q20K Shuyak Island 46.59 41 P **P** **22 45 59.6 +0.9**
baz=273
N20K Mount Spurr 46.59 37 P **P** **22 46 00.5 +1.7**
baz=271
PPLA Purkeypile 46.60 35 P **P** **22 46 01.0 +2.0**
baz=269
CAST Castle Rocks 46.66 34 P **P** **22 46 01.1 +1.8**
CAST Castle Rocks 46.66 34 P **P** **22 46 01.7 +2.4**
baz=269
I21K Tanana 46.77 32 P **P** **22 46 01.8 +1.7**
baz=267
F22K John River 46.85 29 P **P** **22 46 02.1 +1.4**
baz=265
PDGK Podgornoye 46.88 298 *i* P **P** **22 46 01.0 -0.4**
PDGK pmax pmax
comp=Z,12nm,0.5s
SKT Skwentna 46.91 36 P **P** **22 46 02.4 +1.1**
baz=271
SHLS Shalkode 46.94 297 *e*P **P** **22 45 58.7 -3.3**
baz=297
SHLS Shalkode 46.94 297 *e*P **P** **22 45 58.6 -3.3**
KAPI Kappang 47.02 211 P **P** **22 46 02.6 0.0**
KAPI IAmb IAmb 22 46 10.5
comp=Z,27nm,1.2s
KAPI Kappang 47.02 211 P **P** **22 46 02.6 0.0**
KAPI pmax pmax
comp=Z,27nm,1.2s
E22K Anaktuvuk Pass 47.05 28 P **P** **22 46 04.5 +2.2**
baz=265,SNR=8.2
H22K Ishtalitna Cre 47.06 31 P **P** **22 46 04.0 +1.7**
baz=267
G22K Bettles 47.07 30 P **P** **22 46 03.8 +1.4**
baz=266
BPAW Bear Paw Mtn. 47.16 34 P **P** **22 46 06.0 +2.8**
baz=269
KTH Kantishna Hill 47.19 34 P **P** **22 46 04.8 +1.4**
KTH IAmb IAmb 22 46 06.4
comp=Z,18nm,1.0s
TDK Taldyqorghan 47.21 300 *e*P **P** **22 46 03.9 0.0**
baz=300
TDK Taldyqorghan 47.21 300 *e*P **P** **22 46 03.8 0.0**
UZB Uzynbulak 47.25 298 *e*P **P** **22 46 03.5 -0.9**
baz=298
UZB Uzynbulak 47.25 298 *e*P **P** **22 46 03.5 -0.9**
MLY Manley 47.29 32 P **P** **22 46 05.2 +1.0**
MLY IAmb IAmb 22 46 06.8
comp=Z,8.6nm,0.9s
MLY Manley 47.29 32 P **P** **22 46 06.3 +2.1**
baz=269,SNR=5.4
SUA Susitna One 47.29 37 P **P** **22 46 06.2 +1.9**
baz=272
RAMN Ramite 47.32 274 *e*P **P** **22 46 05.1 -0.1**
comp=Z,34nm,0.8s
JIRN Jiri 47.33 275 *e*P **P** **22 46 05.4 0.0**
KPKS Kokpek 47.41 298 *e*P **P** **22 46 04.1 -1.4**
baz=298
KPKS Kokpek 47.41 298 *e*P **P** **22 46 04.1 -1.4**
GUN Gumba 47.46 275 *e*P **P** **22 46 06.9 +0.5**
comp=Z,24nm,0.4s
TRF Thorofare Moun 47.47 34 P **P** **22 46 08.1 +2.3**

baz=270
CUT Chulitna 47.49 36 P P 22 46 05.6 -0.2
baz=272
D23K Nanushuk River 47.54 27 P P 22 46 07.2 +1.1
baz=265
G23K Bananza Creek 47.64 30 P P 22 46 08.8 +1.9
baz=268
C23K Ikilllik River 47.65 26 P P 22 46 09.1 +2.2
baz=264,SNR=12
SATY Saty 47.71 298 *e*P P 22 46 07.3 -0.7
baz=298
SATY Saty 47.71 298 *e*P P 22 46 07.2 -0.7
H23K Yukon River 47.81 31 P P 22 46 09.7 +1.5
H23K IAmb IAmb 22 46 11.2
comp=Z,9.4nm,0.8s
H23K Yukon River 47.81 31 P P 22 46 10.3 +2.1
baz=269,SNR=6.6
E23K Chandalar 47.87 28 P P 22 46 10.9 +2.3
baz=267,SNR=9.8
I23K Minto, Yukon-K 47.87 32 P P 22 46 10.9 +2.2
baz=270
TOLK Toolik Lake Re 47.92 27 P P 22 46 10.7 +1.7
TOLK IAmb IAmb 22 46 12.1
comp=Z,17nm,1.0s
TOLK Toolik Lake Re 47.92 27 P P 22 46 10.5 +1.5
baz=266,SNR=6.0
PKI Pulchoki 47.98 275 *e*P P 22 46 10.5 0.0
PKIN Phulchoki 47.99 275 *e*P P 22 46 10.2 -0.2
NEA2 Nenana 48.00 33 P P 22 46 11.8 +2.1
baz=271
PMR Palmer 48.06 37 P P 22 46 10.6 +0.4
baz=273
MCK McKinley 48.07 34 P P 22 46 11.4 +1.1
baz=271
GHO Glory Hole Cre 48.15 37 P P 22 46 12.0 +1.1
D24K Happy Valley 48.22 27 P P 22 46 13.2 +1.9
baz=267
WAT1 Susitna Watana 48.27 35 P P 22 46 12.7 +0.8
baz=273
E24K Your Creek 48.29 28 P P 22 46 13.7 +1.8
baz=268
C24K Franklin Bluff 48.30 26 P P 22 46 13.5 +1.6
baz=266
MDM Murphy Dome 48.35 32 P P 22 46 13.8 +1.4
MDM IAmb IAmb 22 46 15.4
comp=Z,23nm,1.1s
KNK Knik Glacier 48.39 37 P P 22 46 13.9 +1.1
baz=274
SML Sawmill 48.43 37 P P 22 46 14.6 +1.5
baz=274
CHKK Chushkaly 48.49 299 *e*P P 22 46 13.5 -0.3
baz=299
CHKK Chushkaly 48.49 299 *e*P P 22 46 13.5 -0.3
H24K Noodor Dome 48.49 31 P P 22 46 15.0 +1.4
baz=270
F24K Squaw Lake 48.50 29 P P 22 46 15.4 +1.9
baz=269
COLA College 48.52 32‖ *e*P P 22 46 14.7 +1.1
COLA pmax pmax
comp=Z,46nm,5.3s
MDOK Medeo 48.64 298 *e*P P 22 46 14.1 -1.0
baz=298
MDOK Medeo 48.64 298 *e*P P 22 46 14.1 -1.0
G24K Hadweenzic Riv 48.65 30 P P 22 46 17.0 +2.3
baz=270,SNR=5.1
WAT6 Susitna Watana 48.66 36 P P 22 46 15.7 +0.7
baz=274
POKR Poker Plat Res 48.69 32 P P 22 46 16.1 +1.1
POKR Poker Plat Res 48.69 32 P P 22 46 16.9 +1.9
baz=272,SNR=5.7
M23K Glacier View 48.72 37 P P 22 46 16.4 +1.1
baz=274
DHY Denali Highway 48.80 35 P P 22 46 16.8 +0.7
baz=273
SCM Sheep Creek Mo 48.90 36 P P 22 46 18.1 +1.4
SCM Sheep Creek Mo 48.90 36 P P 22 46 18.1 +1.4
baz=274
SCM Sheep Creek Mo 48.90 36 P P 22 46 18.2 +1.4
SCM pmax pmax
comp=Z,91nm,1.6s
KUU Kurty 48.93 299 *e*P P 22 46 16.1 -1.1
baz=299
KUU Kurty 48.93 299 *e*P P 22 46 16.0 -1.1
IL31 48.93 33 P P 22 46 17.9 +1.1
IL31 IAmb IAmb 22 46 18.7
comp=Z,12nm,0.8s
ILAR Eielson Array 48.93 33 P P 22 46 17.9 +1.1
comp=Z,7.6nm,0.7s,baz=264,slow=6.2,SNR=56
comp=Z,7.6nm,0.7s
ILAR Eielson Array 48.93 33 P P 22 46 17.8 +1.0
ILAR Eielson Array 48.93 33 P P 22 46 18.0 +1.1
DANN Dangsing 48.94 277 *e*P P 22 46 18.4 +0.6
comp=Z,108nm,0.7s
D25K Kavik River 49.10 27 P P 22 46 19.9 +1.8
baz=269
G25K Bearman Lake 49.20 30 P P 22 46 20.8 +1.9
baz=271
H25K Birch Creek 49.32 31 P P 22 46 22.4 +2.6
baz=272
F25K Christian Rive 49.36 29 P P 22 46 22.1 +1.9
baz=271,SNR=5.7
E25K Arctic Village 49.38 28 P P 22 46 22.8 +2.5
baz=271
M24K Tolsona, Glenn 49.42 36 P P 22 46 22.7 +2.0
baz=275
K24K Donnelly Dome 49.47 34 P P 22 46 21.7 +0.7
baz=274
PRP Porcupine Dome 49.48 32 P P 22 46 23.3 +2.1
baz=273,SNR=5.1
KLU Klutina 49.60 37 P P 22 46 23.2 +1.1
baz=276
BOOM Boomskoye usch 49.62 298 P P 22 46 23.0 +0.4
BOOM IAmb IAmb 22 46 36.6
comp=Z,12nm,0.8s
BOOM Boomskoye usch 49.62 298 P P 22 46 23.0 +0.4
BOOM pmax pmax
comp=Z,13nm,0.8s
C26K Camden Bay 49.62 26 P P 22 46 23.9 +1.9
baz=270
PAX Paxson 49.67 35 P P 22 46 24.1 +1.5
baz=275
TKM2 Tokmak 2 49.73 298 P P 22 46 24.5 +1.0
SNR=17
TKM2 Tokmak 2 49.73 298 *i* P P 22 46 24.1 +0.6
TKM2 pmax pmax
comp=Z,14nm,0.6s
BMAR Burnt Mountain 49.77 29 P P 22 46 25.4 +2.1
BRZS Berezniki 49.81 308 *e*P P 22 46 22.7 -1.1
comp=Z,3.2nm,0.5s,baz=308
BRZS Berezniki 49.81 308 *e*P P 22 46 22.7 -1.1
BRZS pmax pmax
comp=Z,3.0nm,0.5s
HARP HAARP 49.87 36 P P 22 46 25.6 +1.5
baz=276
NRN Naryn 49.90 296 P P 22 46 25.4 +0.4
NRN Naryn 49.90 296 P P 22 46 25.4 +0.4
NRN pmax pmax
comp=Z,5.0nm,0.8s
F26K Sheenjek River 49.93 29 P P 22 46 27.4 +3.0
baz=272,SNR=14
C27K Jago River 50.04 26 P P 22 46 26.8 +1.6
baz=271
G26K Porcupine Rive 50.11 30 P P 22 46 27.7 +2.0
baz=273,SNR=5.1
BTLS Baital 50.18 301 *e*P P 22 46 25.3 -1.4
baz=301
BTLS Baital 50.18 301 *e*P P 22 46 25.3 -1.4
SGDS Sogindy 50.24 299 *e*P P 22 46 26.3 -1.0
baz=299
SGDS Sogindy 50.24 299 *e*P P 22 46 26.3 -1.0
SCRK Sand Creek 50.24 34 P P 22 46 28.1 +1.1
baz=276,SNR=6.8
KBK Karagaybulak 50.26 298 P P 22 46 28.3 +0.8
SNR=7.4
BMRM Bremner River 50.30 37 P P 22 46 29.2 +1.8
baz=278
CHMS Chumysh 50.30 299 *i* P P 22 46 27.1 -0.5
CHMS pmax pmax
comp=Z,7.0nm,0.9s
J26L Joseph Creek 50.38 33 P P 22 46 29.2 +1.2
baz=276
USP Ospenovka 50.39 299 P P 22 46 28.7 +0.4
SNR=11
MENT Mentasta 50.47 35 P P 22 46 30.2 +1.6
MENT IAmb IAmb 22 46 31.3
comp=Z,12nm,0.9s
I26K Coal Creek Min 50.48 32 P P 22 46 29.7 +1.1
baz=275
KSH Kashi 50.54 294 P P 22 46 34.3 +4.6
KSH sP sP 22 46 43.0 +7.2
KSH pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 50.59 298 P P 22 46 30.4 +0.4
SNR=8.3
AAK Ala-Archa 50.59 298 P P 22 46 29.9 0.0
AAK Ala-Archa 50.59 298 *d iP* P 22 46 30.0 0.0
AAK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 50.59 312 P P 22 46 29.4 -0.2
BRVK IAmb IAmb 22 46 39.6
comp=Z,9.5nm,0.8s
BRVK Borovoye 50.59 312 P P 22 46 29.4 -0.2
BRVK pmax pmax
comp=Z,9.0nm,0.8s
L26K Log Cabin Wild 50.63 35 P P 22 46 32.4 +2.5
baz=277,SNR=5.1
E27K Coleen River 50.87 28 P P 22 46 33.5 +1.9
baz=274
M26K Nabesna, AK 50.87 35 P P 22 46 34.3 +2.6
baz=278
G27K Doyon Strip 50.96 30 P P 22 46 34.8 +2.6
baz=275
MCARA McCarthy VSAT 51.00 37 P P 22 46 34.3 +1.7
MCARA IAmb IAmb 22 46 36.1
comp=Z,33nm,1.2s
MCARA McCarthy VSAT 51.00 37 P P 22 46 35.0 +2.4
baz=278
H27K Steamboat Moun 51.06 30 P P 22 46 35.3 +2.2
baz=276,SNR=5.9
K27K Chicken 51.08 33 P P 22 46 34.4 +1.3
baz=277
EKS2 Erkin-Say 51.08 298 P P 22 46 33.7 +0.1
SNR=7.5
COEN Coen 51.17 178 P P 22 46 35.1 +0.8
COEN IAmb IAmb 22 47 20.5
comp=Z,35nm,1.5s
AML Almayashu 51.31 298 P P 22 46 36.6 +0.9
SNR=18
L27K Beaver Creek, 51.31 35 P P 22 46 37.6 +2.6
baz=278,SNR=7.0
BCAR Beaver Creek A 51.33 35 P P 22 46 37.0 +1.9
EGAK Eagle 51.38 32 P P 22 46 36.0 +0.6
baz=277
M27K Edge Creek, AK 51.39 35 P P 22 46 37.5 +1.8
baz=279
BVCY Beaver Creek 51.85 35 P P 22 46 40.0 +1.0
baz=280
YUK3 Moose Creek 52.14 36 P P 22 46 42.2 +0.8
baz=280
DAWY Dawson 52.24 33 P P 22 46 42.3 +0.5
baz=279
I29M Ogilvie Camp, 52.49 31 P P 22 46 45.7 +2.0
baz=279,SNR=12
M29M Somme Creek 52.94 35 P P 22 46 49.7 +2.5
baz=281,SNR=5.3
L29M L29M 52.96 34 P P 22 46 50.1 +2.9
baz=281,SNR=9.1
EPYK Eagle Plains 52.97 30 P P 22 46 49.6 +2.3
baz=280,SNR=16
G30M tAoh Zraii Nji 53.06 29 P P 22 46 50.0 +2.0
baz=280,SNR=11
YUK4 Talbot Arm 53.08 36 P P 22 46 50.2 +1.9
baz=282
K29M Barlow Dome 53.09 33 P P 22 46 50.4 +2.1
baz=281
KK31 Karatay Array 53.20 300 P P 22 46 49.0 -0.3
KK31 IAmb IAmb 22 46 59.2
comp=Z,16nm,1.2s
KK31 Karatay Array 53.20 300 P P 22 46 49.0 -0.3
KK31 pmax pmax
comp=Z,16nm,1.2s
KKAR Karatay Array 53.20 300 P P 22 46 48.8 -0.5
KKAR Karatay Array 53.20 300 P P 22 46 48.8 -0.5
O29M Mount Kennedy 53.34 38 P P 22 46 52.5 +2.3
baz=283
M30M Minto, Yukon 53.67 35 P P 22 46 55.1 +2.6
baz=283
HYT Haines Junctio 53.73 37 P P 22 46 55.6 +2.6
baz=283
INK Inuvik 53.83 27 P P 22 46 55.0 +1.6
comp=Z,5.7nm,0.6s,baz=275,slow=7.7,SNR=14
comp=Z,5.7nm,0.6s
INK Inuvik 53.83 27 P P 22 46 54.9 +1.4
INK IAmb IAmb 22 46 56.1
comp=Z,12nm,1.0s
INK Inuvik 53.83 27 P P 22 46 55.1 +1.7
baz=281,SNR=8.9
IUG Iuzhnay 53.87 299 *e*P P 22 46 54.0 -0.4
baz=299
IUG Iuzhnay 53.87 299 *e*P P 22 46 53.9 -0.4
F31M Tsiigehtchic 53.92 28 P P 22 46 55.8 +1.7
baz=282,SNR=5.6
BTK Batken 54.07 296 P P 22 46 55.9 +0.1
BTK Batken 54.07 296 P P 22 46 55.9 +0.1
BTK pmax pmax
comp=Z,7.0nm,0.8s
P30M Million Dollar 54.16 38 P P 22 46 58.3 +2.2
baz=284
KNRA Kununurra 54.29 196 P P 22 46 58.7 +1.3
GSI Gunungsitoli 54.33 239 P P 22 46 57.6 -0.2
N31M Braeburn, Yuko 54.39 36 P P 22 47 00.2 +2.5
baz=284
LEM Lembang 54.44 223 LR LR 23 10 07.9
comp=Z,51nm,21.7s,baz=52,slow=36
PLBC Pleasant Camp 54.62 38 P P 22 47 01.3 +1.9
baz=285
NIL Nilore 54.81 288 P P 22 47 00.9 -0.3
NIL IAmb IAmb 22 47 03.2
comp=Z,12nm,0.8s
NIL Nilore 54.81 288 P P 22 47 00.9 -0.3
NIL pmax pmax
comp=Z,12nm,0.8s
GAR Garm 54.82 295 P P 22 47 01.0 -0.3
GAR IAmb IAmb 22 47 02.3
comp=Z,30nm,1.2s
M31M Drury Creek, Y 54.85 35 P P 22 47 03.4 +2.4
baz=285
WHY Whitehorse 55.02 37 P P 22 47 03.8 +1.4
baz=286
SVE Sverdlovsk 55.05 318 *e*P P 22 47 03.1 +0.6
SVE pmax pmax
comp=Z,35nm,0.9s
FARO Faro, Yukon 55.31 35 P P 22 47 06.1 +1.7
baz=286
A36M Sachs Harbour 55.72 22 P P 22 47 09.1 +2.0
baz=286
CHGR Chuyangaron 55.79 295 P P 22 47 08.5 +0.2
CHGR Chuyangaron 55.79 295 P P 22 47 08.5 +0.2
CHGR pmax pmax
comp=Z,69nm,0.7s
P32M Atlin 55.88 38 P P 22 47 10.1 +1.5
baz=287
P33M Teslin, Yukon 56.13 37 P P 22 47 12.0 +1.6
P33M IAmb IAmb 22 47 13.8
comp=Z,28nm,1.2s
P33M Teslin, Yukon 56.13 37 P P 22 47 12.9 +2.5
baz=287,SNR=6.1
MMPY Sheldon Lake, 56.14 34 P P 22 47 12.4 +2.1
baz=287
ARU Arti 56.26 318 P P 22 47 10.9 -0.2
ARU Arti 56.26 318 *c iP* P 22 47 11.1 -0.1
ARU S S 22 55 03.0 +2.7
ARU SS SS 22 58 44.9 -1.6
ARU pmax pmax
comp=Z,25nm,0.7s
Q32M Nakina River 56.78 38 P P 22 47 17.7 +2.5
baz=289
C36M Paulatuk 56.88 25 P P 22 47 16.9 +1.5
baz=289,SNR=5.9
R33M Jennings River 57.28 37 P P 22 47 20.7 +2.1
baz=289
WB0 Warramunga Arr 57.37 188 P P 22 47 19.2 -0.2
WB0 IAmb IAmb 22 47 23.8
comp=Z,21nm,1.3s
WRAB Tennant Creek 57.54 188‖ *e*P P 22 47 20.8 +0.2
WRAB pmax pmax
comp=Z,11nm,1.1s
WR0 Warramunga Arr 57.54 188 P P 22 47 20.5 -0.1
WR0 IAmb IAmb 22 47 24.9
comp=Z,13nm,1.1s
WRA Warramunga Arr 57.55 188 P P 22 47 20.5 -0.1
comp=Z,4.9nm,0.7s,baz=4.9,slow=7.4,SNR=17
comp=Z,4.9nm,0.7s
WRA Warramunga Arr 57.55 188 P P 22 47 20.6 -0.1
WRA Warramunga Arr 57.55 188 P P 22 47 20.6 -0.1
WRA pmax pmax
comp=Z,1.0nm,1.1s
KBL Kabul 57.58 291 P P 22 47 20.2 -1.0
KBL IAmb IAmb 22 47 22.3
comp=Z,13nm,1.1s
KBL Kabul 57.58 291 P P 22 47 20.2 -1.0
KBL pmax pmax
comp=Z,13nm,1.1s
WRAK Wrangell Islan 57.58 41 P P 22 47 22.9 +2.4
baz=290
TGTN Hyland Airport 57.82 34 P P 22 47 24.7 +2.5
baz=290
ABKAR Akbulak array 57.92 310 P P 22 47 22.7 -0.4
ABKAR Akbulak array 57.92 310 P P 22 47 23.0 -0.1
ABKAR IAmb IAmb 22 47 23.8
comp=Z,12nm,0.7s
DLBC Dease Lake 58.06 38 P P 22 47 26.1 +2.0
DLBC IAmb IAmb 22 47 29.6
comp=Z,11nm,0.8s
DLBC Dease Lake 58.06 38 P P 22 47 26.6 +2.6
baz=291
T35M Bob Quinn 58.47 40 P P 22 47 29.4 +2.6
baz=291
HYBB Hyderabad (bro 58.56 268 *e*P P 22 47 28.5 +0.4
LIRD Liard River Hi 59.60 36 P P 22 47 37.0 +2.4
baz=293,SNR=8.3
EUNU Eureka 59.70 9 P P 22 47 35.5 +0.4
EUNU IAmb IAmb 22 47 36.9
comp=Z,22nm,1.1s
KIRV Kirov 60.10 323 *d iP* P 22 47 38.3 +0.3
PRGR Permogore 60.58 327 *e*P P 22 47 40.9 -0.4
PRGR pmax pmax
comp=Z,20nm,1.1s
AS31 Alice Springs 61.27 188 P P 22 47 47.1 +0.7
ASAR Alice Springs 61.28 188 P P 22 47 46.7 +0.3
comp=Z,3.1nm,0.8s,baz=10,slow=6.2,SNR=19
comp=Z,3.1nm,0.8s
ASAR Alice Springs 61.28 188 P P 22 47 47.1 +0.8
ASAR Alice Springs 61.28 188 P P 22 47 47.2 +0.8
LVZ Lovozero 61.85 336 P P 22 47 50.1 +0.3
LVZ Lovozero 61.85 336 P P 22 47 50.1 +0.3
LVZ pmax pmax
comp=Z,120nm,1.7s
RES Resolute Bay 62.08 15 P P 22 47 51.7 +0.5
RES Resolute Bay 62.08 15 P P 22 47 51.7 +0.5
RES pmax pmax
comp=Z,16nm,0.8s
PSA00 Pilbara Seismi 62.28 203 P P 22 47 53.8 +0.6
PSA00 IAmb IAmb 22 49 33.1
comp=Z,21nm,1.8s
HRA Herat 62.66 294 P P 22 47 55.0 -1.0
EIDS Eidsvold 63.11 171 P P 22 48 00.2 +1.5
YKA Yellowknife Ar 63.25 30 P P 22 47 59.7 +0.5
comp=Z,4.7nm,0.7s,baz=301,slow=6.6,SNR=13
comp=Z,4.7nm,0.7s
KLMR Klimovskoe 63.57 328 *e*P P 22 48 00.2 -1.1
KLMR AMP 22 48 02.5
comp=Z,39nm,1.6s
KLMR *e*pP *p*P 22 48 06.7 +0.8
KLMR *e*PP *P*P 22 50 17.5 -3.2
KLMR Klimovskoe 63.57 328 *e*P P 22 48 00.1 -1.2
KLMR *e**PP *p*P 22 48 06.7 +0.8
KLMR *e* 22 50 17.5
KLMR pmax pmax
comp=Z,39nm,1.6s
ARCES ARCESS Array B 63.70 339 P P 22 48 01.4 -0.8
comp=Z,4.1nm,0.9s,baz=59,slow=7.2,SNR=5.8
comp=Z,4.1nm,0.9s
ARCES ARCESS Array B 63.70 339 P P 22 48 03.0 +0.9
ARCES ARCESS Array B 63.70 339 P P 22 48 03.0 +0.9
ARCES pmax pmax
comp=Z,74nm,1.8s
BELG Belogornoye 63.71 317 *d iP* P 22 48 02.5 +0.1
BELG pmax pmax
comp=Z,4.0nm,0.9s
GEYT Alibeck 63.93 299 P P 22 48 03.4 -0.8
comp=Z,2.6nm,0.6s,baz=11,slow=3.0,SNR=6.7
comp=Z,2.6nm,0.6s
GEYT Alibeck 63.93 299 P P 22 48 03.9 -0.2
GEYT IAmb IAmb 22 48 14.7
comp=Z,24nm,1.6s
WAPA Wapiti River 64.80 39 P P 22 48 10.4 +0.8
DAG Danmarks Havn 65.36 355 *i* P P 22 48 12.0 -0.8
MOS Moscow 67.10 323 *e*P P 22 48 23.6 -0.7
VRH Novokhopyorsk 67.48 318 *e*P P 22 48 25.4 -1.4
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 67.95 323‖ *e*P P 22 48 29.0 -0.6
OBN *e* 22 48 50.6
OBN pmax pmax
comp=Z,37nm,1.7s
OBN MLR MLR
comp=Z,535nm,16.0s
LPSR Galich'ya Gora 68.19 320 *e*P P 22 48 30.4 -0.8
LPSR pmax pmax
comp=Z,10.0nm,0.8s
HOOD Mount Hood Mea 68.54 49 P P 22 48 35.0 +1.2
HOOD IAmb IAmb 22 48 36.8
comp=Z,17nm,1.0s
VORR Voronezh 68.55 319 *e*P P 22 48 33.8 +0.3
VORR pmax pmax
comp=Z,20nm,0.5s
FIA1 FINESS Array S 68.58 332 P P 22 48 33.5 0.0
FINES FINESS Array B 68.58 332 P P 22 48 33.7 +0.1
comp=Z,16nm,0.8s,baz=36,slow=9.1,SNR=38
comp=Z,16nm,0.8s
FINES FINESS Array B 68.58 332 P P 22 48 33.6 0.0
DBO Dodson Butte 68.73 52 P P 22 48 36.5 +1.7
VSR Storozhevoye 68.83 319 *e*P P 22 48 34.2 -1.0
VSR pmax pmax
comp=Z,10.0nm,0.6s
STKA Stephens Creek 69.00 180 P P 22 48 37.4 +1.0
comp=Z,3.5nm,0.8s,baz=344,slow=7.8,SNR=6.4
comp=Z,3.5nm,0.8s
STKA Stephens Creek 69.00 180 P P 22 48 37.3 +0.9
STKA Stephens Creek 69.00 180‖ *e*P P 22 48 37.2 +0.9
FORT Forrest 69.12 193 P P 22 48 38.1 +1.0
NEW Newport 69.57 44 P P 22 48 41.0 +1.0
NEW IAmb IAmb 22 48 42.4
comp=Z,11nm,1.2s
NEW Newport 69.57 44 P P 22 48 41.6 +1.6
baz=304,SNR=5.8
NEW Newport 69.57 44 P P 22 48 41.0 +1.0
NEW pmax pmax
comp=Z,11nm,1.2s
PINE Pine Mountain 69.79 50 P P 22 48 43.2 +1.6
GOF Gofitskoye 70.06 312‖ *e*P P 22 48 43.1 +0.1
BBOO Buckleboo 70.14 185 P P 22 48 43.6 +0.3
SUMG Summit 70.24 0 *i* P P 22 48 44.0 -0.1
K05A Summer Lake 70.39 51 P P 22 48 47.4 +2.1
RAUF Rauma 70.43 333 *e*P P 22 48 45.5 +0.6
ZEI Tsey 70.79 309 *e*P P 22 48 43.7 -4.0
ZEI pmax pmax
comp=Z,11nm,1.4s
KBZ Khabaz 70.88 311 P P 22 48 48.2 +0.3
comp=Z,4.6nm,0.8s,baz=39,slow=1.9,SNR=6.3
comp=Z,4.6nm,0.8s
KBZ Khabaz 70.88 311 *de*P P 22 48 48.4 +0.4
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 70.88 311 P P 22 48 48.1 -0.1
KIV IAmb IAmb 22 48 59.7
comp=Z,12nm,0.8s
KIV Kislovodsk 70.88 311 *e*P P 22 48 49.6 +1.5
KIV pmax pmax
comp=Z,16nm,1.0s
MOD Modoc Plateau 71.21 51 P P 22 48 51.3 +1.0
ORV Oroville 71.75 54 P P 22 48 54.4 +1.0
ORV IAmb IAmb 22 48 55.0
comp=Z,6.4nm,0.7s
ORV Oroville 71.75 54 P P 22 48 54.4 +1.0
ORV pmax pmax
comp=Z,6.0nm,0.7s
PLID Pearl Lake 72.00 47 P P 22 48 55.6 +0.6
PLID IAmb IAmb 22 48 57.4
comp=Z,17nm,1.7s
UOSS Minazif 72.00 288 P P 22 48 55.0 -0.1
UOSS IAmb IAmb 22 49 20.7
comp=Z,11nm,1.1s
MSO Missoula 72.16 44 P P 22 48 56.9 +1.1
baz=306
BEKR Beckworth 72.31 53 P P 22 48 57.9 +0.9
BEKR IAmb IAmb 22 48 59.4
comp=Z,9.0nm,0.8s

ISAL Salakas 72.39 328 *e*P **P** **22 48 57.6 +0.8**
IIGN Ignalina 72.49 327 *e*P **P** **22 48 58.2 +0.7**
FFC Flin Flon 73.14 33 P **P** **22 49 02.5 +1.1**
FFC IAmb IAmb 22 49 03.4
comp=Z,14nm,0.8s
FFC Flin Flon 73.14 33 P **P** **22 49 02.5 +1.1**
FFC pmax pmax
comp=Z,14nm,0.9s
CMB Columbia Colle 73.33 55 P **P** **22 49 03.7 +0.9**
CMB IAmb IAmb 22 49 05.4
comp=Z,15nm,1.2s
CMB Columbia Colle 73.33 55 P **P** **22 49 03.7 +0.9**
CMB pmax pmax
comp=Z,15nm,1.3s
PABE Paberze 73.34 328 P **P** **22 49 03.0 +0.5**
PABE Paberze 73.34 328 *e*P **P** **22 49 03.2 +0.7**
HRY Holter Researc 73.39 44 P **P** **22 49 04.2 +1.1**
ANN Anapa 73.47 314 *e*P **P** **22 49 01.5 -2.0**
ANN *e**PP **pP** **22 49 06.4 -1.7**
ANN *e* 22 51 42.5
ANN *e*S **S** **22 58 30.8 -1.7**
ANN *e*SS **SS** **23 03 11.5 -2.7**
ANN pmax pmax
comp=Z,25nm,0.8s
EGMT Eagleton 73.71 42 P **P** **22 49 05.9 +0.9**
EGMT IAmb IAmb 22 49 07.3
comp=Z,21nm,1.1s
EGMT Eagleton 73.71 42 P **P** **22 49 06.5 +1.5**
baz=308,SNR=6.5
NC303 NORSAR Array S 73.72 337 P **P** **22 49 05.1 +0.4**
DOMB Dombas 73.76 339 *e*P **P** **22 49 05.3 +0.4**
HLID Hailey 73.81 47 P **P** **22 49 07.3 +1.6**
HLID Hailey 73.81 47 P **P** **22 49 07.8 +2.0**
baz=307,SNR=9.6
NB2 NORSAR Subarra 73.91 337 P **P** **22 49 06.0 +0.1**
baz=39,slow=6.2
NB2 NORSAR Subarra 73.91 337 P **P** **22 49 06.0 +0.1**
comp=Z,7.8nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 73.91 337 P **P** **22 49 06.2 +0.4**
comp=Z,7.5nm,0.7s,baz=39,slow=5.9,SNR=22
comp=Z,7.5nm,0.7s
VIKU Vikbolandet 74.03 333 *e*P **P** **22 49 07.0 +0.5**
NC602 NORSAR Array S 74.05 337 *e*P **P** **22 49 06.9 +0.3**
AKASG Malin Array Be 74.16 322 P **P** **22 49 07.3 -0.1**
comp=Z,6.5nm,0.5s,baz=45,slow=6.2,SNR=55
comp=Z,6.5nm,0.5s
AKASG Malin Array Be 74.16 322 P **P** **22 49 07.1 -0.3**
AKBB Malin Array Si 74.16 322 P **P** **22 49 07.0 -0.4**
AKBB IAmb IAmb 22 49 07.8
comp=Z,12nm,0.6s
AKBB Malin Array Si 74.16 322 *d i*P **P** **22 49 07.2 -0.2**
AKBB pmax pmax
comp=Z,10.0nm,0.6s
BOZ Bozeman (W) 74.18 44 P **P** **22 49 08.7 +0.9**
BOZ IAmb IAmb 22 49 10.4
comp=Z,12nm,0.9s
BOZ Bozeman (W) 74.18 44 P **P** **22 49 09.6 +1.7**
baz=308,SNR=15
BOZ Bozeman (W) 74.18 44 P **P** **22 49 08.7 +0.9**
BOZ pmax pmax
comp=Z,12nm,1.0s
GURO Guroymak-BITLI 74.36 307 P **P** **22 49 09.6 +0.6**
NVAR Mina Array Bea 74.44 53 P **P** **22 49 11.3 +1.7**
comp=Z,6.9nm,0.8s,baz=280,slow=6.5,SNR=30
comp=Z,6.9nm,0.8s
NVAR Mina Array Bea 74.44 53 P **P** **22 49 11.0 +1.4**
YHL Hebgen Lake 74.89 45 P **P** **22 49 13.6 +1.4**
YHL IAmb IAmb 22 49 15.0
comp=Z,12nm,0.8s
ELK Elko 75.00 50 P **P** **22 49 14.1 +1.3**
ELK Elko 75.00 50 P **P** **22 49 14.1 +1.3**
ELK pmax pmax
comp=Z,3.0nm,0.9s
SFJD Kangerlussuaq 75.41 5 P **P** **22 49 15.1 +0.8**
SFJD Kangerlussuaq 75.41 5 P **P** **22 49 15.1 +0.8**
SFJD pmax pmax
comp=Z,135nm,1.9s
KONO Kongsberg 75.50 337 P **P** **22 49 15.6 +0.6**
KONO Kongsberg 75.50 337 P **P** **22 49 15.6 +0.6**
KONO pmax pmax
comp=Z,103nm,1.7s
H17A Grant Village 75.51 45 P **P** **22 49 19.3 +3.6**
baz=309,SNR=14
PKM Mcpherson Peak 75.51 57 P **P** **22 49 17.1 +1.3**
baz=306
IMW Indian Meadow 75.61 45 P **P** **22 49 18.3 +2.0**
IMW IAmb IAmb 22 49 19.8
comp=Z,14nm,0.8s
BCW Bitter Crk WRg 75.75 57 P **P** **22 49 18.7 +1.6**
BCW IAmb IAmb 22 50 23.2
comp=Z,26nm,1.2s
CWC Cottonwood Cre 75.75 55 P **P** **22 49 18.3 +1.2**
baz=306
RLMT Red Lodge 75.78 44 P **P** **22 49 18.9 +1.7**
RLMT IAmb IAmb 22 49 20.3
comp=Z,24nm,1.4s
RLMT Red Lodge 75.78 44 P **P** **22 49 19.2 +2.0**
baz=309,SNR=5.3
HVU Hansel Valley 75.85 48 P **P** **22 49 19.3 +1.7**
HVU IAmb IAmb 22 49 20.6
comp=Z,8.9nm,1.0s
HVU Hansel Valley 75.85 48 P **P** **22 49 19.3 +1.7**
HVU pmax pmax
comp=Z,9.0nm,1.0s
GRAC Grapevine Rang 75.89 54 P **P** **22 49 19.9 +2.2**
baz=306,SNR=8.1
ECR Eagle Creek 75.89 46 P **P** **22 49 19.2 +1.3**
ISA Isabella, Lake 75.95 56 P **P** **22 49 19.3 +1.2**
baz=306
R11A Troy Canyon, C 76.21 52 P **P** **22 49 21.1 +1.4**
R11A IAmb IAmb 22 49 22.6
comp=Z,11nm,1.1s
R11A Troy Canyon, C 76.21 52 P **P** **22 49 21.4 +1.7**
baz=307,SNR=11
DGMT Dagmar 76.27 39 P **P** **22 49 20.2 +0.5**
DGMT IAmb IAmb 22 49 21.8
comp=Z,20nm,0.9s
DGMT Dagmar 76.27 39 P **P** **22 49 20.4 +0.7**
baz=312
MPMC Manual Prospec 76.36 55 P **P** **22 49 22.2 +1.6**
baz=307,SNR=8.7
LAO LASA Array 76.41 41 P **P** **22 49 21.7 +1.2**
LAO IAmb IAmb 22 49 23.3
comp=Z,17nm,0.9s
LAO LASA Array 76.41 41 P **P** **22 49 21.8 +1.3**
baz=311
FURC Furnace Creek, 76.52 54 P **P** **22 49 23.0 +1.7**
baz=307
CCAC Calif City Air 76.55 56 P **P** **22 49 22.8 +1.2**
CCAC IAmb IAmb 22 49 24.0
comp=Z,14nm,0.7s
LRMC Laurel Mtn Rad 76.58 56 P **P** **22 49 23.0 +1.2**
baz=307
TPNV Topopah Spring 76.63 54 P **P** **22 49 23.4 +1.4**
TPNV IAmb IAmb 22 49 24.3
comp=Z,10nm,0.7s
TPNV Topopah Spring 76.63 54 P **P** **22 49 23.2 +1.1**
baz=307,SNR=9.4
TPNV Topopah Spring 76.63 54 P **P** **22 49 23.5 +1.4**
TPNV pmax pmax
comp=Z,10.0nm,0.7s
EDW2 Edwards Air Fo 76.73 56 P **P** **22 49 24.0 +1.4**
baz=307
DUG Dugway, Tooele 76.80 49 P **P** **22 49 24.5 +1.5**
DUG IAmb IAmb 22 49 25.8
comp=Z,8.7nm,0.8s
DUG Dugway, Tooele 76.80 49 P **P** **22 49 25.1 +2.1**
baz=308,SNR=12
DUG Dugway, Tooele 76.80 49 P **P** **22 49 24.5 +1.5**
DUG pmax pmax
comp=Z,9.0nm,0.8s
BW06 Boulder Array 77.11 46 P **P** **22 49 25.4 +0.6**
BW06 IAmb IAmb 22 49 26.4
comp=Z,6.0nm,0.7s
BW06 Boulder Array 77.11 46 P **P** **22 49 26.0 +1.2**
baz=310,SNR=8.0
PD31 Pinedale Array 77.11 46 P **P** **22 49 25.3 +0.5**
PDAR Pinedale Array 77.11 46 P **P** **22 49 25.9 +1.1**
comp=Z,4.6nm,0.6s,baz=267,slow=2.3,SNR=46
comp=Z,4.6nm,0.6s
PDAR Pinedale Array 77.11 46 P **P** **22 49 25.5 +0.7**
LVV L'vov 77.23 324 *e*P **P** **22 49 25.2 +0.2**
GSC Goldstone, Bar 77.26 55 P **P** **22 49 26.5 +0.9**
GSC Goldstone, Bar 77.26 55 P **P** **22 49 26.7 +1.2**
baz=307
GSC Goldstone, Bar 77.26 55 P **P** **22 49 26.5 +0.9**
GSC pmax pmax
comp=Z,6.0nm,0.7s
SNART Snartemo 77.30 337 *e*P **P** **22 49 26.0 +0.8**
BFSC Mount Baldy Ra 77.33 57 P **P** **22 49 27.5 +1.5**
baz=307
TUQ Turquoise Moun 77.75 55 P **P** **22 49 30.1 +1.7**
baz=308,SNR=7.7
HEC Hector,Ludlow 77.85 55 P **P** **22 49 31.1 +2.2**
baz=307
BUR08 Bucovina Ar. S 78.17 322 P **P** **22 49 30.4 0.0**
BURAR Bucovina Array 78.18 322 P **P** **22 49 30.9 +0.4**
GMRC Granite Mounta 78.32 55 P **P** **22 49 33.5 +1.9**
baz=308,SNR=5.6
TMUT Trail Mountain 78.33 49 P **P** **22 49 32.5 +0.7**
TMUT IAmb IAmb 22 49 34.6
comp=Z,16nm,1.6s
TPGR Topolog 78.41 318 ⇓P **P** **22 49 32.1 +0.4**
LCMT Little Creek M 78.50 52 P **P** **22 49 34.1 +1.6**
LCMT IAmb IAmb 22 49 35.6
comp=Z,10.0nm,1.0s
TPFO Pinon Flats 78.51 57 P **P** **22 49 34.1 +1.5**
baz=308
BELC Belle Mtn. Jos 78.57 56 P **P** **22 49 34.2 +1.2**
baz=308
VRI Vrincioaia 78.61 320 ⇓P **P** **22 49 34.2 +1.3**
PLOR Plostina 78.66 320 ⇑P **P** **22 49 33.6 +0.5**
BRTR Keskin Array B 78.82 312 P **P** **22 49 34.7 +0.5**
comp=Z,1.1nm,0.7s,baz=87,slow=4.3,SNR=4.6
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 78.82 312 P **P** **22 49 34.6 +0.4**
K22A Casper 78.89 44 P **P** **22 49 35.4 +0.8**
baz=311
ULM Lac du Bonnet 78.94 34 P **P** **22 49 34.3 -0.2**
comp=Z,5.7nm,0.7s,baz=283,slow=3.9,SNR=4.2
comp=Z,5.7nm,0.7s
MONP2 Monument Peak 78.96 57 P **P** **22 49 36.4 +1.2**
baz=308
IRM Iron Mountain 79.04 55 P **P** **22 49 36.8 +1.4**
baz=308
TRPA Tarpa 79.11 323 ⇓P **P** **22 49 36.7 +1.2**
NEHR Nehoiu 79.14 320 ⇓P **P** **22 49 36.3 +0.6**
BC3 Big Chuckawall 79.14 56 P **P** **22 49 37.2 +1.1**
baz=308
DOPR Dopca 79.23 321 ⇓P **P** **22 49 37.8 +1.6**
RSSD Black Hills 79.27 42 P **P** **22 49 37.4 +0.7**
RSSD Black Hills 79.27 42 P **P** **22 49 37.9 +1.2**
baz=313
RSSD Black Hills 79.27 42 P **P** **22 49 37.4 +0.7**
RSSD pmax pmax
comp=Z,5.0nm,0.6s
MLR Muntele Rosu 79.27 320 ⇓P **P** **22 49 38.4 +1.8**
MLR Muntele Rosu 79.27 320 P **P** **22 49 37.1 +0.5**
MLR Muntele Rosu 79.27 320 P **P** **22 49 37.1 +0.5**
MLR pmax pmax
comp=Z,11nm,1.3s
W13A Hualapai Mount 79.28 54 P **P** **22 49 38.1 +1.2**
IKP In-Ko-Pah, Jac 79.32 57 P **P** **22 49 38.6 +1.6**
baz=308
SWSC Sam W. Stewart 79.35 57 P **P** **22 49 38.2 +1.2**
baz=308
U15A North Rim 79.46 52 P **P** **22 49 39.3 +1.3**
O20A White River Ci 79.55 47 P **P** **22 49 39.5 +1.1**
baz=311
PDMCI Parker Dam,Lak 79.60 55 P **P** **22 49 39.6 +1.2**
baz=308
OKC Ostrava-Krasne 79.87 327 AMS AMS 23 23 40.0
comp=Z,600nm,22.1s
GLA Glamis 79.93 56 P **P** **22 49 41.8 +1.6**
baz=308
ARR Arges 80.02 320 ⇑P **P** **22 49 42.4 +1.8**
OSTC Ostas 80.16 328 AMS AMS 23 24 20.0
comp=Z,600nm,17.6s
MORC Moravsky Berou 80.18 327 ⇑P **P** **22 49 42.3 +1.0**
MORC Moravsky Berou 80.18 327 P **P** **22 49 41.7 +0.4**
MORC Moravsky Berou 80.18 327 *e*P **P** **22 49 42.3 +1.0**
MORC Moravsky Berou 80.18 327 P **P** **22 49 41.7 +0.4**
MORC pmax pmax
comp=Z,8.0nm,1.0s
CHVC Chvalec 80.20 328 *e*P P 22 49 55.8 +14
CHVC AMS AMS 23 24 30.0
comp=Z,700nm,17.1s
DPC Dobruska-Polom 80.27 328 *e*P **P** **22 49 43.0 +1.2**
DPC AMS AMS 23 24 30.0
comp=Z,700nm,19.3s
DPC Dobruska-Polom 80.27 328 *e*P **P** **22 49 43.0 +1.2**
DPC MLR MLR
comp=Z,700nm,19.3s
UPC Upice 80.28 328 AMS AMS 23 24 30.0
comp=Z,700nm,16.3s
KRLC Kraliky 80.28 328 *e*P **P** **22 49 42.7 +0.8**
KRLC AMS AMS 23 24 20.0
comp=Z,700nm,17.5s
KRLC Kraliky 80.28 328 *e*P **P** **22 49 42.7 +0.8**
KRLC MLR MLR
comp=Z,700nm,17.5s
MAUC Maruska 80.36 327 AMS AMS 23 24 10.0
comp=Z,1µm,19.9s
AGMN Agassiz Nation 80.37 35 P **P** **22 49 43.2 +0.9**
baz=317
N23A Red Feather La 80.38 45 P **P** **22 49 43.8 +1.0**
baz=312
VYHS Vyhne 80.56 326 *e*P **P** **22 49 44.2 +0.9**
VYHS Vyhne 80.56 326 *e*P **P** **22 49 44.2 +0.9**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
WUAZ Wupatki 80.61 52 P **P** **22 49 45.5 +1.5**
WUAZ IAmb IAmb 22 49 47.0
comp=Z,12nm,0.9s
WUAZ Wupatki 80.61 52 P **P** **22 49 46.5 +2.4**
baz=310,SNR=6.9
JAVC Velka Javorina 80.81 326 *e*P **P** **22 49 46.8 +2.1**
RAYN Ar Rayn 80.81 292 P **P** **22 49 44.9 -0.3**
RAYN Ar Rayn 80.81 292 P **P** **22 49 44.9 -0.3**
RAYN pmax pmax
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 80.85 330 *e*P **P** **22 49 45.7 +0.8**
BRG Amp 22 49 48.4
comp=Z,5.4nm,0.9s
BRG *ex* x 22 49 59.0
BRG Amp 22 49 59.7
comp=Z,4.7nm,0.9s
BRG Amp 23 27 18.0
comp=Z,0.8nm,16.8s
BRG Amp 23 27 23.0
comp=N,0.4nm,18.2s
BRG Amp 23 27 29.0
comp=E,0.2nm,9.7s
BRG Berggiesshubel 80.85 330 *e*P **P** **22 49 45.6 +0.8**
BRG *e* 22 49 59.0
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG MLR MLR
comp=Z,771nm,16.8s
BRG MLR MLR
comp=N,435nm,18.2s
BRG MLR MLR
comp=E,221nm,9.7s
PVCC Panska Ves 80.86 329 *e*P **P** **22 49 45.9 +1.0**
PVCC AMS AMS 23 25 00.0
comp=E,500nm,18.3s
PVCC Panska Ves 80.86 329 *e*P **P** **22 49 45.9 +1.0**
PVCC MLR MLR
comp=Z,500nm,18.3s
SIRR Siria 80.86 323 ⇑P **P** **22 49 45.9 +0.9**
CLL Collm 80.89 330 P **P** **22 49 44.5 -0.5**
CLL IAmb IAmb 22 49 46.2
comp=Z,10nm,0.9s
CLL Collm 80.89 330 *i* P **P** **22 49 44.8 -0.2**
comp=Z,11nm,0.9s
CLL *i* pP **sP** **22 49 51.2 -0.1**
CLL Collm 80.89 330 *i* P **P** **22 49 44.8 -0.2**
CLL *i* *PP **sP** **22 49 51.2 -0.1**
CLL pmax pmax
comp=Z,11nm,0.9s
GZR Gura Zlata 80.94 321 ⇓P **P** **22 49 46.0 +0.5**
VRAC Vranov 80.94 327 ⇑P **P** **22 49 46.3 +1.0**
VRAC Vranov 80.94 327 *e*P **P** **22 49 46.2 +0.8**
SMOL Smolenice 81.17 326 *e*P **P** **22 49 48.2 +1.6**
SMOL pmax pmax
comp=Z,3.0nm,0.8s
KRUC Moravsky 81.21 327 *e*P **P** **22 49 47.8 +1.0**
GOPC GO Pecny, Ondr 81.24 329 AMS AMS 23 25 00.0
comp=Z,700nm,20.8s
PRU Pruhonice 81.28 329 *e*P **P** **22 49 47.9 +0.7**
PRU AMS AMS 23 26 40.0
comp=Z,600nm,13.7s
PRU Pruhonice 81.28 329 *e*P **P** **22 49 47.9 +0.7**
PRU MLR MLR
comp=Z,600nm,13.7s
MVCO Mesa Verde 81.30 50 P **P** **22 49 48.8 +1.0**
MVCO IAmb IAmb 22 49 50.5
comp=Z,9.6nm,1.0s
MVCO Mesa Verde 81.30 50 P **P** **22 49 49.6 +1.8**
baz=311,SNR=5.4
IVI Ivigtut 81.32 5 P **P** **22 49 47.7 +0.6**
MODS Modra-Piesok 81.34 326 *e*P **P** **22 49 49.0 +1.5**
MODS Modra-Piesok 81.34 326 *e*P **P** **22 49 49.0 +1.5**
MODS pmax pmax
comp=Z,18nm,1.2s
BZS Buzias 81.35 322 ⇑P **P** **22 49 48.1 +0.5**
TREC Trest 81.42 328 *e*P **P** **22 49 48.4 +0.5**
TREC AMS AMS 23 25 00.0
comp=Z,800nm,18.3s
TREC Trest 81.42 328 *e*P **P** **22 49 48.4 +0.5**
TREC MLR MLR
comp=Z,800nm,18.3s
MDVR Moldovita 81.90 322 ⇑P **P** **22 49 51.1 +0.5**
NKC Novy Kostel 81.94 330 AMS AMS 23 25 50.0
comp=Z,700nm,19.5s
S22A 4UR Ranch, Cre 81.95 48 P **P** **22 49 52.9 +1.6**
baz=312,SNR=6.2
CSS Mathiatis 82.06 308 P **P** **22 49 51.9 +0.3**
CKRC Cesky Krumlov 82.28 328 *e*P **P** **22 49 52.4 -0.1**
RONA Rosalia, Austr 82.28 326 *i* P **P** **22 49 53.5 +1.0**
comp=Z,3.2nm,0.6s,SNR=4.4
CONA Conrad Observa 82.30 327 *e*P **P** **22 49 53.0 +0.3**
comp=Z,1.9nm,0.6s,SNR=5.3
MORH Mrgy, Hungar 82.33 324 ⇑P **P** **22 49 53.0 +0.3**
KHC Kasperske Hory 82.35 329 P **P** **22 49 53.4 +0.6**
KHC Kasperske Hory 82.35 329 *e*P **P** **22 49 53.4 +0.6**
KHC *ex* x 22 50 02.7
KHC AMS AMS 23 25 40.0
comp=Z,800nm,22.8s
KHC Kasperske Hory 82.35 329 *de*P **P** **22 49 53.5 +0.6**
KHC pmax pmax
comp=Z,14nm,1.2s
OGNE Ogallala 82.52 43 P **P** **22 49 54.7 +0.7**
baz=314
GEC2 GERESS Array S 82.52 328 P **P** **22 49 54.2 +0.3**
GEC2 IAmb IAmb 22 49 54.5
comp=Z,25nm,2.0s
GERES GERESS Array B 82.52 328 P **P** **22 49 53.8 0.0**
comp=Z,1.8nm,0.6s,baz=40,slow=5.7,SNR=16
comp=Z,1.8nm,0.6s
GERES GERESS Array B 82.52 328 P **P** **22 49 54.1 +0.3**
GERES GERESS Array B 82.52 328 P **P** **22 49 54.1 +0.3**
FRGS Fruska Gora 82.56 323 ⇓P **P** **22 49 54.8 +0.8**
EYMN Ely 82.58 33 P **P** **22 49 54.2 +0.2**
baz=320
VTS Vitosha 82.67 319 ⇓P **P** **22 49 55.9 +1.1**
VTS Vitosha 82.67 319 P **P** **22 49 55.3 +0.5**
VTS Vitosha 82.67 319 P **P** **22 49 55.3 +0.5**
VTS pmax pmax
comp=Z,6.0nm,0.8s
SDCO Great Sand Dun 82.73 48 P **P** **22 49 57.2 +1.8**
baz=312
ELL Elmali 82.98 311 P **P** **22 49 56.6 +0.2**
ELL Elmali 82.98 311 P **P** **22 49 56.7 +0.2**
ELL pmax pmax
comp=Z,168nm,1.6s
DIVS Divibare 83.25 322 P **P** **22 49 57.9 +0.2**
ECSD EROS Data Cent 83.35 38 P **P** **22 49 59.1 +0.9**
ECSD IAmb IAmb 22 49 59.7
comp=Z,14nm,1.0s
ECSD EROS Data Cent 83.35 38 P **P** **22 49 59.0 +0.9**
baz=317
BIOA Bad Ischl, Aus 83.44 328 *i* P **P** **22 49 59.4 +0.8**
comp=Z,0.6nm,0.3s
T25A Trinidad 83.78 47 P **P** **22 50 01.8 +1.1**
T25A IAmb IAmb 22 50 03.3
comp=Z,12nm,0.9s
T25A Trinidad 83.78 47 P **P** **22 50 02.1 +1.3**
baz=313,SNR=6.3
ANMO Albuquerque 84.03 50 P **P** **22 50 03.3 +1.3**
ANMO IAmb IAmb 22 50 05.7
comp=Z,6.9nm,1.0s
ANMO Albuquerque 84.03 50 P **P** **22 50 04.2 +2.2**
baz=312
ANMO Albuquerque 84.03 50 ⇓*i*P **P** **22 50 03.4 +1.3**
ANMO pmax pmax
comp=Z,9.0nm,1.1s
KBA Koelnbreinsper 84.04 327 *e*P **P** **22 50 02.5 +0.7**
comp=Z,2.6nm,0.7s
LENM Lemitar 84.24 51 P **P** **22 50 04.8 +1.7**
Y22D IRIS PASSCAL I 84.33 51 P **P** **22 50 05.2 +1.7**
baz=312
Y22F Passcal Instru 84.33 51 P **P** **22 50 05.2 +1.7**
baz=312
CLUD Cludinico 84.73 327 P **P** **22 50 04.4 -0.7**
CLUD IAmb IAmb 22 50 17.8
comp=Z,5.8nm,0.7s
MOTA Moosalm 84.77 329 *e*P **P** **22 50 05.9 +0.4**
comp=Z,1.5nm,0.5s
RETA Reutte 84.80 329 *e*P **P** **22 50 06.1 +0.5**
SNR=5.3
121A Cookes Peak, D 84.81 53 P **P** **22 50 07.8 +1.8**
baz=312
SCHQ Schefferville 84.81 16 P **P** **22 50 06.2 +0.9**
comp=Z,6.5nm,0.7s,baz=346,slow=7.1,SNR=9.9
comp=Z,6.5nm,0.7s
SCHQ Schefferville 84.81 16 P **P** **22 50 06.3 +1.0**
SQTA Sankt Quirin 84.83 329 *i* P **P** **22 50 06.1 +0.4**
comp=Z,1.0nm,0.5s
PDG Podgorica 84.84 321 ⇓P **P** **22 50 06.2 +0.5**
PDG Podgorica 84.84 321 P **P** **22 50 05.7 0.0**
PDG IAmb IAmb 22 50 07.0
comp=Z,11nm,0.9s
STAL STALIGIAL 84.96 327 P **P** **22 50 05.3 -1.0**
STAL IAmb IAmb 22 50 20.8
comp=Z,5.0nm,0.7s
BFO Black Forest 85.09 331 P **P** **22 50 07.0 +0.1**
BFO IAmb IAmb 22 50 08.2
comp=Z,12nm,1.1s
BFO Black Forest 85.09 331 P **P** **22 50 07.0 +0.1**
BFO pmax pmax
comp=Z,12nm,1.1s
FETA Feichten 85.19 329 *e*P **P** **22 50 07.9 +0.4**
comp=Z,1.6nm,0.7s,SNR=5.3
DAVA Damuels 85.32 329 *e*P **P** **22 50 08.6 +0.4**
comp=Z,4.0nm,0.7s,SNR=4.5
FUORN Ofenpass-Fuorn 85.70 329 P **P** **22 50 10.9 +0.6**
FUORN IAmb IAmb 22 50 11.8
comp=Z,8.0nm,1.0s
MSTX Muleshoe 86.93 49 P **P** **22 50 17.1 +0.7**
baz=314
AMTX Amarillo 86.94 47 P **P** **22 50 17.4 +1.1**
AMTX IAmb IAmb 22 50 18.8
comp=Z,13nm,0.9s
AMTX Amarillo 86.94 47 P **P** **22 50 17.9 +1.5**
baz=315
ITM Ithomi 87.27 316 P **P** **22 50 17.3 -0.6**
ELIS Ellis County 87.41 45 P **P** **22 50 19.8 +1.2**
ELIS IAmb IAmb 22 50 20.6
comp=Z,14nm,0.8s
VLDQ Val d'Or 87.87 25 P **P** **22 50 20.4 0.0**
TIP Timpagrande 88.53 320 ⇑P **P** **22 50 24.1 +0.2**
WMOK Wichita Mounta 88.72 46 P **P** **22 50 25.7 +0.9**
WMOK IAmb IAmb 22 53 21.4
comp=Z,25nm,2.0s
WMOK Wichita Mounta 88.72 46 P **P** **22 50 26.1 +1.3**
baz=316
WMOK Wichita Mounta 88.72 46 P **P** **22 50 25.7 +0.9**
WMOK pmax pmax
comp=Z,25nm,2.0s
TUL1 Leonard 89.53 43 P **P** **22 50 29.5 +0.9**
baz=318
TX31 Lajitas Ar. Si 89.57 53 P **P** **22 50 30.0 +1.0**
TX31 IAmb IAmb 22 50 31.1
comp=Z,15nm,1.0s
TXAR Lajitas Array 89.57 53 P **P** **22 50 30.2 +1.2**
comp=Z,3.7nm,0.8s,baz=296,slow=3.1,SNR=24
comp=Z,3.7nm,0.8s
TXAR Lajitas Array 89.57 53 P **P** **22 50 29.9 +0.9**
CCM Cathedral Cave 90.30 39 P **P** **22 50 32.7 +0.6**
CCM IAmb IAmb 22 50 34.6
comp=Z,20nm,1.4s
CCM Cathedral Cave 90.30 39 P **P** **22 50 33.3 +1.2**
baz=321
CCM Cathedral Cave 90.30 39 P **P** **22 50 32.7 +0.6**
CCM pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,20nm,1.5s						
SFIN	**Lafayette**	**90.47**	**35**	P	**P**	**22 50 34.2**	**+1.4**
	baz=323						
WHTX	**Lake Whitney,**	**91.47**	**47**	P	**P**	**22 50 39.0**	**+1.3**
	baz=317						
FCAR	**Ozark Folk Cen**	**91.51**	**41**	P	**P**	**22 50 38.2**	**+0.5**
FCAR				IAmb	IAmb	22 50 39.0	
	comp=Z,8.3nm,0.8s						
MIAR	**Mount Ida**	**91.76**	**43**	P	**P**	**22 50 40.0**	**+1.1**
MIAR				IAmb	IAmb	22 50 40.9	
	comp=Z,9.2nm,0.8s						
MIAR	**Mount Ida**	**91.76**	**43**	P	**P**	**22 50 39.9**	**+1.1**
	baz=319						
MIAR	**Mount Ida**	**91.76**	**43**	P	**P**	**22 50 40.0**	**+1.1**
MIAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PKME	**Peaks-Kenny Pk**	**92.97**	**21**	P	**P**	**22 50 45.2**	**+0.9**
	baz=336						
ESDC	**Sonseca Array**	**97.05**	**334**	P	**P**	**22 51 02.9**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=126,slow=40,SNR=2.0						
ESDC				LR	LR	23 41 38.4	
	comp=Z,136nm,19.4s,baz=29,slow=40						
	comp=Z,0.3nm,0.8s						
VNDA	**Vanda**	**115.39**	**175**	PKP	**PKiKP**	**22 56 11.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=53,slow=16,SNR=2.5						
TORD	**Torodi Ar. Bea**	**117.26**	**315**	PKP	**PKPdf**	**22 56 16.4**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=50,slow=1.8,SNR=5.9						
TORD				PP	**PP**	**22 57 26.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=25,slow=4.9,SNR=3.8						
MAW	**Mawson**	**120.09**	**206**	PKP	**PKPdf**	**22 56 19.4**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=170,slow=22,SNR=3.7						
DBIC	**Dimbokro**	**126.20**	**317**	PKP	**PKPdf**	**22 56 33.5**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=129,slow=4.9,SNR=4.0						
BOSA	**Boshof**	**127.00**	**260**	PKP	**PKiKP**	**22 56 36.0**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=7.9,slow=8.8,SNR=2.7						
BOSA	**Boshof**	**127.00**	**260**	PKIKP	**PKiKP**	**22 56 36.0**	**+0.1**
TROLL	**Troll, Antarti**	**139.76**	**198**	PKPdf	**PKPdf**	**22 56 54.7**	**-3.3**
SNAA	**Sanae**	**141.27**	**197**	PKPdf	**PKPdf**	**22 56 55.4**	**-5.3**
VNA2	**Neumayer--Watz**	**142.84**	**196**	PKPdf	**PKPdf**	**22 56 58.8**	**-4.6**
	baz=82,slow=1.0						
VNA3	**Neumayer Olymp**	**143.08**	**195**	PKPdf	PKPab	22 56 59.6	+0.3
VNA1	**Neumayer--Stat**	**143.24**	**196**	PKPdf	PKPbc	22 57 01.3	+0.1
LPAZ	**La Paz**	**146.17**	**60**	PKPbc	**PKPab**	**22 57 13.3**	**+0.1**
	comp=Z,10nm,0.6s,baz=334,slow=3.2,SNR=40						
H03N2	**Juan Fernandez**	**146.72**	**96**	T	T	01 41 10.6	
	baz=292,slow=76,SNR=26						
H03N3	**Juan Fernandez**	**146.73**	**96**	T	T	01 41 09.5	
	baz=292,slow=76,SNR=28						
H03N1	**Juan Fernandez**	**146.74**	**96**	T	T	01 41 15.1	
	baz=292,slow=76,SNR=34						

*NEIC **01** 22:39:23.3±2.0, 20°.50S±0°.05×67°.9W±0°.1, h173km±10km, mb4.0/5, ML4.0(GUC), Error ellipse: s-maj=15.9km s-min=7.7km az=88.0*
*VAO **01** 22:39:24.9±0.4, 20°.49S×67°.71W, h157km±7km, mb4.0*
*GUC **01** 22:39:25.6±0.8, 20°.43S×68°.13W, h174km±5km, ML4.0*
*IDC **01** 22:39:27.0±8.3, 20°.24S×67°.89W, h189km±57km, mb3.2/2, mbtmp3.8/3, Error ellipse: s-maj=92.1km s-min=37.6km az=21.0*
*SCB **01** 22:39:29.1±1.0, 20°.51S×68°.12W, h126km±2km, ML3.7/3, MW3.2, Error ellipse: s-maj=3.4km s-min=2.8km az=0.0*
ISC 01 22:39:23.1±0.7**, 20°.48S**±0°.03×**68°.03W**±0°.05**, h175**km±7km**, n76,** σ**1**s.**60**/101**, mb3.8**/3**, 3C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.10**	**287**		**Pn**	**22 39 51.8**	**+0.2**
PB08				Sn	**Sn**	**22 40 13.4**	**0.0**
PB08	**IPOC Station P**	**1.10**	**287**	⇑ *i*P	**Pn**	**22 39 51.8**	**+0.2**
PB08				*i* S	**Sn**	**22 40 13.4**	**0.0**
GO01	**Chusmiza**	**1.36**	**306**		**Pn**	**22 39 54.6**	**+0.7**
GO01				Sn	**Sn**	**22 40 17.2**	**-0.3**
GO01	**Chusmiza**	**1.36**	**306**	⇓ *i*P	**Pn**	**22 39 54.5**	**+0.7**
GO01				*i* S	**Sn**	**22 40 17.5**	**0.0**
GO01	**Chusmiza**	**1.36**	**306**	P	**Pn**	**22 39 54.3**	**+0.4**
PB01	**IPOC Station P**	**1.47**	**247**	Pn	**Pn**	**22 39 55.7**	**+1.2**
PB01				Sn	**Sn**	**22 40 18.6**	**-0.2**
PB01	**IPOC Station P**	**1.47**	**247**	*i* P	**Pn**	**22 39 55.5**	**+0.9**
PB01				*i* S	**Sn**	**22 40 18.6**	**-0.2**
PB01				IAML		22 40 19.6	
	comp=N,2μm,0.2s						
PB11	**IPOC Station P**	**1.68**	**295**		**Pn**	**22 39 57.2**	**+0.5**
PB11	**IPOC Station P**	**1.68**	**295**	⇓ *i*P	**Pn**	**22 39 57.0**	**+0.3**
PB11				*i* S	**Sn**	**22 40 21.1**	**-1.4**
PB11				IAML		22 40 25.0	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**1.73**	**220**		**Pn**	**22 39 58.9**	**+1.7**
PB09	**IPOC Station P**	**1.73**	**220**	⇓ *i*P	**Pn**	**22 39 59.6**	**+2.4**
PB09				*i* S	**Sn**	**22 40 25.3**	**+1.7**
HMBC	**Humberstone**	**1.75**	**276**	*i* P	**Pn**	**22 39 57.6**	**+0.2**
HMBC				*i* S	**Sn**	**22 40 22.7**	**-1.1**
HMBC				IAML		22 40 23.9	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**1.93**	**244**	Pn	**Pn**	**22 40 00.9**	**+1.7**
PB02	**IPOC Station P**	**1.93**	**244**	*i* P	**Pn**	**22 40 00.3**	**+1.1**
PB02				*i* S	**Sn**	**22 40 26.6**	**-0.6**
PB02				IAML		22 40 30.5	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**1.93**	**244**	P	**Pn**	**22 39 59.4**	**+0.2**
PB02				S	**Sn**	**22 40 20.8**	**-6.4**
PB02				IAML		22 40 29.7	
	comp=E,1μm,0.2s						
TA02	**Huaiquique**	**1.98**	**276**		**Pn**	**22 40 00.1**	**+0.5**
TA02	**Huaiquique**	**1.98**	**276**	*i* P	**Pn**	**22 40 00.1**	**+0.5**
TA02				*i* S	**Sn**	**22 40 26.4**	**-1.4**
TA02	**Huaiquique**	**1.98**	**276**	P	**Pn**	**22 39 59.9**	**+0.3**
PATCX	**Punta Patache**	**2.02**	**260**		**Pn**	**22 40 01.2**	**+1.1**
PATCX	**Punta Patache**	**2.02**	**260**	*i* P	**Pn**	**22 40 00.8**	**+0.7**
PATCX				*i* S	**Sn**	**22 40 28.0**	**-0.7**
PATCX				IAML		22 40 30.9	
	comp=E,813nm,0.2s						
TA01	**Diego Aracena**	**2.02**	**267**		**Pn**	**22 40 00.4**	**+0.4**
TA01	**Diego Aracena**	**2.02**	**267**	⇑ *i*P	**Pn**	**22 40 00.4**	**+0.4**
TA01				*i* S	**Sn**	**22 40 26.6**	**-2.0**
TA01				IAML		22 40 28.5	
	comp=E,666nm,0.3s						
TA01	**Diego Aracena**	**2.02**	**267**	P	**Pn**	**22 40 00.2**	**+0.2**
PB07	**IPOC Station P**	**2.13**	**234**		**Pn**	**22 40 03.0**	**+1.5**
PB07	**IPOC Station P**	**2.13**	**234**	*i* P	**Pn**	**22 40 02.7**	**+1.2**
PB07				*i* S	**Sn**	**22 40 30.7**	**-0.6**
PB07				IAML		22 40 32.9	
	comp=N,623nm,0.3s						
PB03	**IPOC Station P**	**2.24**	**225**		**Pn**	**22 40 03.9**	**+1.2**
PB03	**IPOC Station P**	**2.24**	**225**	*i* P	**Pn**	**22 40 04.0**	**+1.2**
PB03				*i* S	**Sn**	**22 40 33.1**	**-0.4**
PB03				IAML		22 40 34.3	
	comp=N,511nm,0.2s						
LVC	**Limon Verde**	**2.27**	**201**	*i* P	**Pn**	**22 40 05.5**	**+2.1**
LVC				*i* S	**Sn**	**22 40 36.0**	**+1.4**
LVC	**Limon Verde**	**2.27**	**201**	P	**Pn**	**22 40 04.1**	**+0.8**
LVC	**Limon Verde**	**2.27**	**201**	*e*P	**Pn**	**22 40 05.6**	**+2.3**
LVC				*e*S	**Sn**	**22 40 36.0**	**+1.4**
MOCB	**Mochara**	**2.37**	**109**	P	Pn	22 40 07.0	+2.5
MOCB				S	**Sn**	**22 40 33.5**	**-3.0**
MOCB				IAML		22 40 43.2	
	comp=N,104nm,0.9s						
PB16	**IPOC Station P**	**2.54**	**327**	Pn	**Pn**	**22 40 08.3**	**+1.6**
PB16	**IPOC Station P**	**2.54**	**327**	⇓ *i*P	**Pn**	**22 40 08.1**	**+1.4**
PB16				*i* S	**Sn**	**22 40 40.6**	**+0.2**
PB06	**IPOC Station P**	**2.64**	**213**		**Pn**	**22 40 08.3**	**+0.9**
PB06	**IPOC Station P**	**2.64**	**213**	⇑ *i*P	**Pn**	**22 40 09.0**	**+1.7**
PB06				*i* S	**Sn**	**22 40 42.4**	**+0.5**
PB06				IAML		22 40 45.6	
	comp=N,568nm,0.2s						
PB06	**IPOC Station P**	**2.64**	**213**	P	**Pn**	**22 40 08.3**	**+0.9**
PB04	**IPOC Station P**	**2.70**	**226**	Pn	**Pn**	**22 40 09.6**	**+1.5**
PB04	**IPOC Station P**	**2.70**	**226**	*i* P	**Pn**	**22 40 09.5**	**+1.3**
PB04				*i* S	**Sn**	**22 40 42.2**	**-1.0**
PB04				IAML		22 40 46.8	
	comp=E,543nm,0.4s						
PB04	**IPOC Station P**	**2.70**	**226**	P	**Pn**	**22 40 08.9**	**+0.8**
PB04				S	**Sn**	**22 40 37.1**	**-6.0**
PB12	**IPOC Station P**	**2.85**	**310**	Pn	**Pn**	**22 40 09.9**	**0.0**
PB12	**IPOC Station P**	**2.85**	**310**	*i* P	**Pn**	**22 40 09.3**	**-0.6**
PB12				*i* S	**Sn**	**22 40 43.0**	**-3.1**
PB12				IAML		22 40 47.1	
	comp=E,340nm,0.6s						
YJA	**Yavi**	**2.89**	**126**	P	Pn	22 40 13.0	+2.3
PB15	**IPOC Station P**	**3.03**	**206**		**Pn**	**22 40 10.7**	**-1.5**
PB15	**IPOC Station P**	**3.03**	**206**	*i* P	**Pn**	**22 40 10.5**	**-1.6**
PB15				*i* S	**Sn**	**22 40 51.0**	**+0.7**
BBOE	**La Paz, Chanca**	**3.64**	**1**	P	**Pn**	**22 40 22.6**	**+2.4**
PB10	**IPOC Station P**	**3.82**	**217**	Pn	**Pn**	**22 40 22.0**	**+0.2**
PB10	**IPOC Station P**	**3.82**	**217**	*i* P	**Pn**	**22 40 22.9**	**+1.1**
PB10				*i* S	**Sn**	**22 41 04.4**	**-3.3**
BBOD	**La Paz, Gloria**	**3.86**	**352**	P	**Pn**	**22 40 24.9**	**+2.1**
LPAZ	**La Paz**	**4.17**	**359**	P	**Pn**	**22 40 28.2**	**+1.4**
	comp=E,20nm,0.4s,baz=182,slow=5.2,SNR=86						
LPAZ				S	**Sn**	**22 41 16.6**	**-0.1**
	comp=E,5.3nm,0.6s,baz=316,slow=16,SNR=4.5						
LPAZ	**La Paz**	**4.17**	**359**	P	**Pn**	**22 40 28.6**	**+1.7**
LPAZ	**La Paz**	**4.17**	**359**	*e*P	**Pn**	**22 40 28.4**	**+1.5**
PB14	**IPOC Station P**	**4.67**	**208**	Pn	**Pn**	**22 40 33.7**	**+0.6**
GO02	**Mina Guanaco**	**4.88**	**197**	Pn	**Pn**	**22 40 36.8**	**+1.1**
GO02	**Mina Guanaco**	**4.88**	**197**	P	**Pn**	**22 40 37.0**	**+1.3**
GO02				IAML		22 41 36.3	
	comp=E,73nm,0.3s						
AC01	**Pan de Azucar**	**6.12**	**202**	Pn	**Pn**	**22 40 49.6**	**-2.1**
AC06	**Mina Casimiro**	**7.17**	**197**	Pn	**Pn**	**22 41 05.2**	**-0.3**
GO03	**Copiap**	**7.37**	**195**	Pn	**Pn**	**22 41 07.5**	**-0.6**
BBSD	**Serra de San D**	**7.75**	**66**	*e*P	**Pn**	**22 41 11.2**	**-2.0**
BBRB	**Robore, Bolivi**	**8.06**	**76**	*e*P	**Pn**	**22 41 14.4**	**-3.0**
PTLB	**Pontes e Lacer**	**9.83**	**61**	Pn	**Pn**	**22 41 39.2**	**-1.4**
PTLB	**Pontes e Lacer**	**9.83**	**61**	*e*P	**Pn**	**22 41 39.9**	**-0.7**
VILB	**Vilhena**	**10.59**	**46**	Pn	**Pn**	**22 41 49.8**	**-0.8**
VILB	**Vilhena**	**10.59**	**46**	*e*P	**Pn**	**22 41 50.2**	**-0.4**
MT02	**Curacav**	**13.03**	**192**		**P**	**22 42 26.2**	**+0.4**
SNDB	**Serra Nova Dou**	**18.15**	**65**	*e*P	**Pn**	**22 43 22.9**	**-1.5**
TRQA	**Tornquist**	**18.29**	**165**	P	**Pn**	**22 43 25.5**	**-0.3**
MCRA	**Macar, Loja**	**19.77**	**322**	P	**P**	**22 43 42.3**	**+2.2**
MCRA				IAmb	IAmb	22 43 46.9	
	comp=Z,3.6nm,0.6s						
ITTB	**Itaituba**	**19.99**	**38**	*e*P	**P**	**22 43 42.8**	**+0.5**
PLCA	**Paso Flores**	**20.31**	**186**	P	**P**	**22 43 45.1**	**-0.5**
PLCA				IAmb	IAmb	22 43 48.8	
	comp=Z,6.1nm,1.2s						
MALB	**Monte Alegre**	**22.88**	**38**	*e*P	**P**	**22 44 12.3**	**+0.6**
JANB	**Januaria**	**23.21**	**80**	*e*P	**P**	**22 44 16.4**	**+1.6**
TXAR	**Lajitas Array**	**60.27**	**324**	P	**P**	**22 49 15.0**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=138,slow=9.6,SNR=1.3						
	comp=Z,0.2nm,0.5s						
TOA0	**Torodi Ar. Sit**	**76.24**	**70**	P	**P**	**22 50 52.2**	**-0.6**
TOA0				IAmb	IAmb	22 50 58.0	
	comp=Z,4.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.24**	**70**	P	**P**	**22 50 54.0**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=256,slow=5.2,SNR=14						
	comp=Z,0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**76.24**	**70**	P	**P**	**22 50 50.2**	**-2.6**
MKAR	**Makanchi Array**	**144.33**	**36**	PKP	**PKPdf**	**22 58 38.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=307,slow=2.8,SNR=4.6						

*NEIC **01** 22:50:34.7±1.3, 18°.0S±0°.2×178°.4W±0°.1, h615km±10km, mb4.4/19, Error ellipse: s-maj=25.8km s-min=12.6km az=159.0*
*IDC **01** 22:50:36.1±1.5, 17°.83S×178°.64W, h623km±17km, mb3.3/9, mbtmp4.2/11, Error ellipse: s-maj=31.3km s-min=13.2km az=151.0*
ISC 01 22:50:33.9±0.6**, 18°.0S**±0°.1×**178°.49W**±0°.09**, h600**km**, n37,** σ**1**s.**04**/40**, mb4.3**/20**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.31**	**274**	P	**P**	**22 51 57.6**	**+2.6**
	95nm,0.8s,baz=147,slow=3.0,SNR=41						
MSVF	**Nonsavu**	**3.31**	**274**	P	**P**	**22 51 57.0**	**+2.1**
NIUE	**Niue**	**8.19**	**99**	P	**P**	**22 52 35.1**	**0.0**
DZM	**Mont Dzumac**	**14.73**	**252**	P	**P**	**22 53 40.5**	**+0.7**
	4.0nm,0.7s,baz=329,slow=13,SNR=2.4						
DZM	**Mont Dzumac**	**14.73**	**252**	P	**P**	**22 53 40.9**	**+1.1**
BKZ	**Black Stump Fm**	**21.55**	**191**	P	**P**	**22 54 39.2**	**-2.3**
BKZ				IAmb	IAmb	22 54 44.0	
	comp=Z,17nm,1.2s						
EIDS	**Eidsvold**	**29.17**	**250**	P	**P**	**22 55 49.3**	**+0.7**
CTAO	**Charters Tower**	**33.36**	**261**	P	**P**	**22 56 24.5**	**+0.2**
CTAO				IAmb	IAmb	22 56 25.6	
	comp=Z,6.1nm,0.8s						
COEN	**Coen**	**37.03**	**271**	P	**P**	**22 56 55.8**	**+1.1**
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**22 57 07.5**	**+0.8**
	comp=Z,6.6nm,0.8s,baz=98,slow=11,SNR=11						
	comp=Z,6.6nm,0.8s						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**22 57 07.7**	**+1.0**
BBOO	**Buckleboo**	**43.30**	**241**	P	**P**	**22 57 44.7**	**+0.4**
BBOO				IAmb	IAmb	22 57 45.2	
	comp=Z,7.9nm,0.6s						
WB0	**Warramunga Arr**	**44.51**	**260**	P	**P**	**22 57 53.3**	**-0.5**
WB0				IAmb	IAmb	22 57 54.4	
	comp=Z,6.9nm,0.6s						
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**22 57 53.8**	**-0.3**
	comp=Z,4.2nm,0.5s,baz=96,slow=7.2,SNR=91						
WRA				PcP	**PcP**	**22 59 23.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=108,slow=2.6,SNR=2.5						
	comp=Z,4.2nm,0.5s						
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**22 57 53.3**	**-0.9**
AS31	**Alice Springs**	**44.70**	**254**	P	**P**	**22 57 55.4**	**+0.1**
AS31				IAmb	IAmb	22 57 56.6	
	comp=Z,6.5nm,0.5s						
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**22 57 55.6**	**+0.3**
	comp=Z,20nm,0.6s,baz=86,slow=8.6,SNR=220						
ASAR				PcP	**PcP**	**22 59 23.9**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=107,slow=4.2,SNR=4.6						
ASAR				S	**S**	**23 03 47.0**	**-2.6**
	comp=Z,0.6nm,0.9s,baz=84,slow=16,SNR=5.2						
	comp=Z,20nm,0.6s						
MTN	**Manton Dam**	**48.72**	**269**	P	**P**	**22 58 24.4**	**-1.1**
MTN				IAmb	IAmb	22 58 36.6	
	comp=Z,25nm,1.4s						
FORT	**Forrest**	**49.91**	**245**	P	**P**	**22 58 33.3**	**-0.7**
FORT				IAmb	IAmb	22 58 34.2	
	comp=Z,16nm,0.7s						
KNRA	**Kununurra**	**50.41**	**264**	P	**P**	**22 58 37.5**	**-0.3**
KNRA				IAmb	IAmb	22 58 38.6	
	comp=Z,7.8nm,0.7s						
PSA00	**Pilbara Seismi**	**57.82**	**255**	P	**P**	**22 59 28.9**	**-0.9**
PSA00	**Pilbara Seismi**	**57.82**	**255**	P	**P**	**22 59 29.4**	**-0.4**
PSA00				IAmb	IAmb	22 59 40.2	
	comp=Z,40nm,1.5s						
MBWA	**Marble Bar**	**57.98**	**256**	P	**P**	**22 59 30.0**	**-0.8**
MBWA				IAmb	IAmb	22 59 47.8	
	comp=Z,32nm,1.5s						
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**22 59 46.2**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=66,slow=5.2,SNR=2.9						
	comp=Z,0.5nm,0.8s						
MJAR	**Matsushiro Arr**	**67.92**	**323**	P	**P**	**23 00 33.1**	**-1.0**
	comp=Z,2.5nm,1.1s,baz=160,slow=6.4,SNR=1.8						
	comp=Z,2.5nm,1.1s						
UGM	**Wanagama**	**69.57**	**268**	P	**P**	**23 00 43.7**	**-0.8**
QSPA	**South Pole Qui**	**72.07**	**180**	P	**P**	**23 00 58.6**	**+0.3**
P18K	**Big Mountain,**	**79.41**	**12**	P	**P**	**23 01 37.4**	**-1.1**
P18K				IAmb	IAmb	23 01 45.5	
	comp=Z,16nm,1.4s						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**23 01 39.7**	**-0.2**
	comp=Z,0.3nm,0.2s,baz=226,slow=8.8,SNR=6.2						
	comp=Z,0.3nm,0.2s						
SCM	**Sheep Creek Mo**	**83.32**	**14**	P	**P**	**23 01 57.7**	**-0.9**
IMAR	**Indian Mountai**	**85.77**	**10**	P	**P**	**23 02 10.1**	**-0.1**
ILAR	**Eielson Array**	**85.98**	**13**	P	**P**	**23 02 10.2**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=227,slow=5.2,SNR=5.1						
	comp=Z,0.3nm,0.5s						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**23 02 13.9**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=219,slow=6.7,SNR=16						
	comp=Z,1.8nm,0.9s						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**23 02 13.3**	**+0.5**
PDAR	**Pinedale Array**	**87.46**	**43**	P	**P**	**23 02 18.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=207,slow=1.7,SNR=7.1						
	comp=Z,0.7nm,0.6s						
BMAR	**Burnt Mountain**	**88.75**	**12**	P	**P**	**23 02 24.5**	**+0.2**
BRTR	**Keskin Array B**	**144.78**	**315**	PKP	**PKPdf**	**23 09 04.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=46,slow=4.2,SNR=2.3						

*IDC **01** 23:03:33.4±2.1, 46°.02N×107°.09W, h0km, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=56.3km s-min=9.7km az=131.0*
*NEIC **01** 23:03:34.9±1.9, 45°.86N±0°.03×106°.76W±0°.07, h0km±2km, ML3.0/36, Error ellipse: s-maj=8.2km s-min=5.2km az=84.0*
ISC 01 23:03:33.4±1.1**, 46°.01N**±0°.05×**106°.81W**±0°.07**, h0**km**, n34,** σ**0**s.**99**/34**, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.79**	**31**		**Pn**	**23 03 52.3**	**+0.4**
LAO				IAML		23 04 22.0	
	401nm,2.1s						
RLMT	**Red Lodge**	**1.94**	**244**		**Pb**	**23 04 09.4**	**-0.4**
RLMT				IAML		23 04 43.3	
	150nm,0.4s						
RLMT				IAML		23 04 44.2	
	127nm,0.4s						
GCMT	**Greycliff**	**2.01**	**265**	Pn	**Pb**	**23 04 10.7**	**-0.2**
YMP	**Mirror Lake Pl**	**2.68**	**243**	Pn	**Pn**	**23 04 20.0**	**+1.9**
RSSD	**Black Hills**	**2.72**	**133**	Pn	**Pn**	**23 04 18.1**	**-0.5**
RSSD				IAML		23 04 57.3	
	90nm,0.6s						
RSSD				IAML		23 04 59.8	
	100nm,0.5s						
EGMT	**Eagleton**	**2.85**	**316**	Pn	**Pb**	**23 04 23.6**	**-1.6**
LKWY	**Lake**	**2.92**	**242**	Pn	**Pn**	**23 04 22.3**	**+1.0**
LKWY				IAML		23 05 11.7	
	43nm,0.5s						
YNR	**Norris Junctio**	**3.02**	**246**	Pn	**Pn**	**23 04 22.7**	**0.0**
YNR				IAML		23 05 14.0	
	comp=E,39nm,0.5s						
YHH	**Holmes Hill**	**3.10**	**248**	Pn	**Pn**	**23 04 24.1**	**+0.3**
YMR	**Madison River**	**3.23**	**247**	Pn	**Pn**	**23 04 24.8**	**-0.7**
YMR				IAML		23 05 29.5	
	comp=N,62nm,1.1s						
YFT	**Old Faithful**	**3.25**	**243**	Pn	**Pn**	**23 04 27.4**	**+1.6**
YFT				IAML		23 05 44.6	
	comp=N,28nm,4.7s						
YHL	**Hebgen Lake**	**3.29**	**251**	Pn	**Pn**	**23 04 27.8**	**+1.3**
YHL				IAML		23 05 26.2	
	comp=N,51nm,0.6s						
YHL				IAML		23 05 26.2	
	comp=E,37nm,0.9s						
K22A	**Casper**	**3.37**	**176**	Pn	**Pn**	**23 04 26.7**	**-0.7**
LOHW	**Long Hollow**	**3.61**	**230**	Pn	**Pn**	**23 04 31.8**	**+1.0**
LOHW				IAML		23 05 35.6	
	comp=E,28nm,4.7s						
LOHW				IAML		23 06 30.6	
	comp=E,25nm,4.2s						
BW06	**Boulder Array**	**3.80**	**212**	Pn	**Pn**	**23 04 33.7**	**+0.4**
BW06				IAML		23 06 40.1	
	comp=E,19nm,4.7s						
BW06				IAML		23 06 40.6	
	comp=E,19nm,3.5s						
PD31	**Pinedale Array**	**3.80**	**212**	Pn	**Pn**	**23 04 34.2**	**+0.8**
PDAR	**Pinedale Array**	**3.80**	**212**	Pn	**Pn**	**23 04 35.2**	**+1.8**
	comp=E,0.6nm,0.3s,baz=34,slow=11,SNR=12						
PDAR				Pg	**Pb**	**23 04 42.0**	**+0.6**
	comp=E,3.1nm,0.3s,baz=40,slow=19,SNR=17						
PDAR				Lg	Lg	23 05 28.1	
	comp=E,3.5nm,0.3s,baz=50,slow=33,SNR=5.5						
	comp=E,0.6nm,0.3s						
FXWY	**Fox Creek**	**3.83**	**233**	Pn	**Pn**	**23 04 33.4**	**-0.4**
REDW	**Red Top Meadow**	**3.92**	**229**	Pn	**Pn**	**23 04 34.3**	**-0.7**
REDW				IAML		23 05 47.7	
	comp=E,26nm,2.4s						
REDW				IAML		23 05 52.9	
	comp=E,25nm,2.5s						
MCMT	**McKenzie Canyo**	**4.42**	**257**	Pn	**Pn**	**23 04 42.1**	**+0.2**
PHWY	**Pilot Hill**	**4.81**	**168**	Pn	**Pn**	**23 04 45.9**	**-1.4**
PHWY				IAML		23 06 05.3	
	comp=E,18nm,3.5s						
BCYI	**Bear Canyon**	**4.97**	**252**	Pn	**Pn**	**23 04 49.6**	**+0.2**
MDND	**Maddock**	**5.26**	**67**	Pn	**Pn**	**23 04 54.9**	**+1.6**
HWUT	**Hardware Ranch**	**5.59**	**220**	Pn	**Pn**	**23 04 57.8**	**-0.2**
O20A	**White River Ci**	**5.97**	**191**	Pn	**Pn**	**23 05 02.4**	**-0.8**
P18A	**Preston Nutter**	**6.86**	**203**	Pn	**Pn**	**23 05 16.1**	**+0.6**
F33A	**5 Mile Ranch,**	**7.33**	**88**	Pn	**Pn**	**23 05 23.5**	**+1.8**
SRU	**San Rafael Swe**	**7.42**	**203**	Pn	**Pn**	**23 05 22.8**	**-0.3**
TMUT	**Trail Mountain**	**7.45**	**207**	Pn	**Pn**	**23 05 22.5**	**-1.1**
ECSD	**EROS Data Cent**	**7.59**	**104**	Pn	**Pn**	**23 05 24.5**	**-0.8**
BGNE	**Belgrade**	**7.78**	**123**	Pn	**Pn**	**23 05 27.2**	**-0.6**
I10CA	**LAC DU BONNET**	**8.34**	**56**	I		23 50 40.0	
	comp=E,0.1nm,2.6s,baz=239,slow=264,SNR=1.0						
ULM	**Lac du Bonnet**	**8.45**	**56**	Pn	**Pn**	**23 05 37.4**	**+0.4**
	comp=E,0.8nm,0.3s,baz=254,slow=9.4,SNR=2.6						
ULM				Lg	Lg	23 07 57.0	
	comp=E,0.6nm,0.3s,baz=340,slow=18,SNR=2.2						
	comp=E,2.6nm,0.4s						
TXAR	**Lajitas Array**	**16.83**	**170**	Pn	**P**	**23 07 33.1**	**+0.4**
	comp=E,0.1nm,0.5s,baz=339,slow=10.0,SNR=1.6						

*IDC **01** 23:18:10.6±0.8, 14°.17N×56°.61E, h0km, mb4.0/18, mbtmp4.0/19, ML3.0/1, MS3.7/13, Error ellipse: s-maj=19.0km s-min=16.8km az=6.0*
*NEIC **01** 23:18:13.5±1.4, 14°.3N±0°.1×56°.53E±0°.03, h10km±2km, mb4.4/29, Error ellipse: s-maj=18.6km s-min=4.5km az=170.0*
ISC 01 23:18:14.1±0.7**, 14°.2N**±0°.1×**56°.52E**±0°.08**, h20**km**, n76,** σ**0**s.**92**/65**, mb4.2**/34**, MS3.7**/14**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.17**	**12**	Pn	**Pn**	**23 20 24.6**	**-0.7**
	0.2nm,0.3s,baz=281,slow=6.7,SNR=1.7						
WSAR				Sn	Sn	23 21 57.7	-10
	0.1nm,0.3s,baz=201,slow=13,SNR=1.8						
WSAR				LR	LR	23 23 41.9	
	comp=Z,1μm,20.2s,baz=213,slow=36						
	1.5nm,0.6s						
UOSS	**Minazif**	**10.65**	**358**	Pn	**Pn**	**23 20 44.5**	**-1.2**
ATD	**Arta Tunnel**	**13.60**	**260**	LR	LR	23 25 16.7	
	comp=Z,373nm,21.0s,baz=132,slow=31						
RAYN	**Ar Rayn**	**13.92**	**313**	Pn	**Pn**	**23 21 28.4**	**-1.9**
HRA	**Herat**	**20.71**	**13**		**P**	**23 22 53.0**	**-0.5**
KBL	**Kabul**	**23.16**	**27**	P	**P**	**23 23 20.4**	**+0.7**
KBL				IAmb	IAmb	23 23 26.5	
	comp=Z,12nm,1.4s						
LODK	**Lodwar**	**23.48**	**245**	P	**P**	**23 23 23.2**	**+0.4**
LODK				IAmb	IAmb	23 23 33.4	
	comp=Z,7.9nm,1.0s						
GEYT	**Alibeck**	**23.64**	**3**	P	**P**	**23 23 23.6**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=176,slow=10.0,SNR=6.5						
GEYT				LR	LR	23 33 53.8	
	comp=Z,125nm,19.6s,baz=170,slow=40						
	comp=Z,2.7nm,0.8s						
GEYT	**Alibeck**	**23.64**	**3**	P	**P**	**23 23 24.8**	**+0.7**
KMBO	**Kilima Mbogo**	**24.44**	**233**	P	**P**	**23 23 32.1**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=40,slow=23,SNR=6.9						
KMBO				LR	LR	23 33 57.0	
	comp=Z,16nm,18.1s,baz=90,slow=39						
KMBO	**Kilima Mbogo**	**24.44**	**233**	P	**P**	**23 23 32.9**	**+0.9**
KMBO				IAmb	IAmb	23 23 36.7	
	comp=Z,14nm,1.2s						
NIL	**Nilore**	**24.57**	**35**	P	**P**	**23 23 32.3**	**-0.6**
NIL				IAmb	IAmb	23 23 39.4	
	comp=Z,19nm,1.3s						
KIBK	**Kibwezi**	**24.63**	**229**	P	**P**	**23 23 33.7**	**+0.1**
KIBK				IAmb	IAmb	23 23 37.4	
	comp=Z,7.8nm,0.8s						
EIL	**Elat**	**25.15**	**311**	LR	LR	23 34 09.5	
	comp=Z,177nm,19.0s,baz=118,slow=38						
ASF	**Jabal al Asfar**	**25.30**	**318**	P	**P**	**23 23 40.8**	**+1.3**
	comp=Z,7.1nm,1.1s,baz=121,slow=5.7,SNR=4.3						
	comp=Z,7.1nm,1.1s						
MARD	**Mardin**	**26.92**	**331**	P	**P**	**23 23 54.0**	**-0.2**
MARD				IAmb	IAmb	23 24 02.3	
	comp=Z,7.1nm,0.6s						
GNI	**Garni**	**27.80**	**340**	LR	LR	23 36 37.7	
	comp=Z,70nm,18.9s,baz=142,slow=40						
BTK	**Batken**	**28.61**	**23**	P	**P**	**23 24 08.0**	**-1.2**
BTK				IAmb	IAmb	23 24 12.5	
	comp=Z,6.0nm,1.2s						
KSH	**Kashi**	**30.44**	**31**	P	**P**	**23 24 25.9**	**+0.4**
KBZ	**Khabaz**	**31.62**	**341**	P	**P**	**23 24 37.0**	**+1.3**
	comp=Z,4.2nm,1.0s,baz=101,slow=1.7,SNR=4.0						
KBZ				LR	LR	23 39 18.9	
	comp=Z,150nm,21.1s,baz=156,slow=40						
	comp=Z,4.2nm,1.0s						
AAK	**Ala-Archa**	**32.26**	**25**	LR	LR	23 38 59.8	
	comp=Z,157nm,20.7s,baz=222,slow=39						
AAK	**Ala-Archa**	**32.26**	**25**	P	**P**	**23 24 43.0**	**+1.4**
AAK				IAmb	IAmb	23 24 46.5	
	comp=Z,4.2nm,1.2s						
BRTR	**Keskin Array B**	**32.37**	**326**	P	**P**	**23 24 42.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=122,slow=8.9,SNR=2.5						
	comp=Z,0.7nm,0.8s						
SHL	**Shillong**	**35.00**	**66**	P	**P**	**23 25 04.5**	**-1.1**
ABKAR	**Akbulak array**	**35.03**	**4**	P	**P**	**23 25 05.4**	**+0.1**
MKAR	**Makanchi Array**	**38.96**	**28**	P	**P**	**23 25 38.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=211,slow=28,SNR=3.5						
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**38.96**	**28**	P	**P**	**23 25 39.5**	**+0.7**
WMQ	**Urumqi**	**39.72**	**36**	*e*P	**P**	**23 25 48.1**	**+2.8**

WMQ LR LR
comp=Z,74nm,15.3s
VTS Vitosha 40.25 321 P **P 23 25 51.0 +1.2**
KURBB Kurchatov Arra 40.44 22 P **P 23 25 50.9 -0.2**
comp=Z,0.5nm,0.3s,baz=223,slow=8.6,SNR=6.8
comp=Z,0.5nm,0.3s
CMAR Chiang Mai Arr 40.85 78 P **P 23 25 54.3 -0.6**
comp=Z,1.0nm,0.4s,baz=274,slow=9.2,SNR=10
comp=Z,1.0nm,0.4s
ARU Arti 42.13 2 P **P 23 26 04.8 -0.1**
ARU IAmb IAmb 23 26 06.7
comp=Z,4.9nm,0.9s
DIVS Divibare 43.04 321 P **P 23 26 13.0 +0.4**
DIVS IAmb IAmb 23 26 15.3
comp=Z,5.8nm,1.1s
PZH PanZhiHua 43.90 67 P **P 23 26 21.8 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,180nm,5.5s
ZAA0 Zalesovo Array 45.42 23 P **P 23 26 31.4 0.0**
ZALV Zalesovo Beam 45.42 23 P **P 23 26 30.9 -0.5**
comp=Z,0.7nm,0.4s,baz=228,slow=5.8,SNR=6.3
comp=Z,0.7nm,0.4s
GTA Gaotai 45.47 48 *e*P **P 23 26 32.9 +0.8**
GTA pmax pmax
comp=Z,1.0nm,0.7s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=N,100nm,16.4s
GTA LR LR
comp=E,220nm,16.7s
GTA LR LR
comp=Z,230nm,16.4s
VYHS Vyhne 46.13 326 *e*P **P 23 26 37.9 +0.8**
MODS Modra-Piesok 46.93 325 *e*P **P 23 26 45.0 +1.6**
KLMR Klimovskoe 48.16 349 *e* **P 23 26 51.5 -1.1**
KLMR AMP 23 26 54.7
comp=Z,28nm,1.2s
CASP Castiglione de 48.37 315 P **P 23 26 55.3 +0.6**
CLUD Cludinico 48.57 320 P **P 23 26 56.6 +0.4**
STAL STALIGIAL 48.58 320 P **P 23 26 56.3 +0.1**
TAM Tamanrasset 48.91 288 P **P 23 26 59.4 +0.2**
TAM IAmb IAmb 23 27 02.5
comp=Z,8.6nm,1.4s
CTI Castel Tesino 49.16 319 P **P 23 26 59.5 -1.3**
CTI IAmb IAmb 23 27 02.4
comp=Z,6.6nm,1.2s
GERES GERESS Array B 49.20 324 P **P 23 26 59.7 -1.4**
CLL Collm 50.83 326 *e*P **P 23 27 13.0 -0.2**
FIA1 FINESS Array S 51.97 342 P **P 23 27 21.6 +0.1**
FINES FINESS Array B 51.97 342 P **P 23 27 21.6 +0.1**
comp=Z,2.6nm,0.6s,baz=140,slow=9.0,SNR=14
comp=Z,2.6nm,0.6s
FINES FINESS Array B 51.97 342 P **P 23 27 22.0 +0.4**
SONM Songino Array 53.01 40 P **P 23 27 30.2 +0.5**
comp=Z,0.5nm,0.7s,baz=240,slow=7.9,SNR=5.1
SONM LR LR 23 53 07.3
comp=Z,82nm,18.7s,baz=280,slow=40
comp=Z,0.5nm,0.7s
SONM Songino Array 53.01 40 P **P 23 27 30.1 +0.3**
TOA0 Torodi Ar. Sit 53.18 276 P **P 23 27 31.8 +0.5**
TORD Torodi Ar. Bea 53.18 276 P **P 23 27 32.2 +0.9**
comp=Z,0.9nm,0.7s,baz=84,slow=6.7,SNR=6.8
comp=Z,0.9nm,0.7s
TORD Torodi Ar. Bea 53.18 276 P **P 23 27 32.1 +0.8**
HHC Hu-ho-hao-te 54.50 50 *e*P **P 23 27 42.4 +1.7**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.8s
HHC LR LR
comp=N,330nm,14.6s
HHC LR LR
comp=E,340nm,14.0s
HHC LR LR
comp=Z,530nm,14.0s
NOA NORSAR Array B 56.94 336 P **P 23 27 57.6 -0.3**
comp=Z,1.5nm,0.9s,baz=122,slow=7.7,SNR=2.9
comp=Z,1.5nm,0.9s
SUR Sutherland 57.59 216 LR LR 23 50 59.9
comp=Z,108nm,20.6s,baz=66,slow=34
ESBB Sonseca Array 58.39 308 P **P 23 28 08.2 -0.2**
ESBB IAmb IAmb 23 28 10.3
comp=Z,3.9nm,1.0s
ESDC Sonseca Array 58.39 308 P **P 23 28 08.7 +0.3**
comp=Z,2.3nm,0.9s,baz=89,slow=6.2,SNR=17
comp=Z,2.3nm,0.9s
ESDC Sonseca Array 58.39 308 P **P 23 28 08.1 -0.4**
ESDC IAmb IAmb 23 28 09.7
comp=Z,2.9nm,1.1s
NRIK Noril'sk 58.44 12 P **P 23 28 08.4 +0.2**
comp=Z,1.0nm,0.4s,baz=242,slow=8.6,SNR=5.1
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 58.59 348 P **P 23 28 08.2 -1.0**
comp=Z,3.0nm,0.7s,baz=138,slow=7.4,SNR=10
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 58.59 348 P **P 23 28 08.8 -0.4**
KSRS Korea Array 66.79 55 P **P 23 29 04.5 +0.1**
comp=Z,1.8nm,1.0s,baz=217,slow=7.8,SNR=2.3
comp=Z,1.8nm,1.0s
KLR Kul'dur 69.72 43 LR LR 00 01 56.8
comp=Z,86nm,20.9s,baz=252,slow=38
H01W3 Cape Leeuwin H 73.27 134 T T 00 49 31.3
baz=302,slow=75,SNR=51
H01W2 Cape Leeuwin H 73.28 134 T T 00 49 32.0
baz=302,slow=75,SNR=50
H01W1 Cape Leeuwin H 73.29 134 T T 00 49 30.7
baz=302,slow=75,SNR=61
MJAR Matsushiro Arr 75.06 56 LR LR 00 04 48.6
comp=Z,34nm,18.1s,baz=288,slow=37
WRA Warramunga Arr 83.71 112 P **P 23 30 41.0 -1.2**
comp=Z,2.9nm,1.2s,baz=296,slow=4.6,SNR=6.9
comp=Z,2.9nm,1.2s
ASAR Alice Springs 84.45 116 P **P 23 30 44.5 -1.4**
comp=Z,1.5nm,0.9s,baz=292,slow=5.0,SNR=8.7
comp=Z,1.5nm,0.9s
RES Resolute Bay 89.46 353 LR LR 00 16 14.0
comp=Z,51nm,19.6s,baz=11,slow=39
PDAR Pinedale Array 121.85 348 PKP **PKiKP 23 37 07.5 -0.2**
comp=Z,0.4nm,0.7s,baz=72,slow=2.9,SNR=3.2
NVAR Mina Array Bea 127.38 355 PKP **PKiKP 23 37 18.2 -0.6**
comp=Z,1.5nm,0.9s,baz=223,slow=0.6,SNR=8.0
TXAR Lajitas Array 132.64 336 PKP **PKPdf 23 37 27.3 -0.9**
comp=Z,0.1nm,0.3s,baz=75,slow=4.1,SNR=2.5

---

*VAO **01** 23:29:32.7±0.4, 23°.02S×66°.72W, h210km, mb4.5*
*SJA **01** 23:29:32.5±0.6, 23°.08S×66°.65W, h231km±4km, ML4.4, MW4.6*
*NEIC **01** 23:29:33.6±1.9, 23°.11S±0°.07×66°.58W±0°.08, h210km±6km, mb4.6/49, Md4.4(SJA), ML4.8(GUC), Error ellipse: s-maj=10.8km s-min=9.5km az=74.0*
*IDC **01** 23:29:33.6±1.2, 23°.10S×66°.52W, h213km±11km, mb3.7/10, mbtmp4.3/18, Error ellipse: s-maj=16.9km s-min=12.7km az=34.0*
*GUC **01** 23:29:35.2±0.7, 23°.07S×67°.04W, h252km±9km, ML4.8*
ISC 01 23:29:33.6±0.5**, 23°.08S**±0°.03×**66°.68W**±0°.04**, h216**km±5km**, n237,** σ1**s**22/275**, mb4.5**/50**, 6C-4D, Jujuy Province**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AF01 San Pedro de A 1.39 275 Pn 23 30 09.7 +1.5
YJA Yavi 1.40 50 *e*P **Pn 23 30 09.8 +1.3**
YJA *e*S **S 23 30 36.6 +1.1**
YJA IAML 23 30 42.5
comp=Z,54nm,0.6s
AZAP Zapla 1.87 128 *e*P **Pn 23 30 13.0 +0.6**
AZAP *e*S **S 23 30 44.0 +1.6**
AZAP IAML 23 30 47.1
comp=Z,433nm,1.2s
SLA San Lorenzo 1.96 147 *e*P **Pn 23 30 13.4 +0.3**
SLA *e*P 23 30 14.7
LVC Limon Verde 2.11 282 P **Pn 23 30 16.0 +1.2**
comp=Z,186nm,0.4s,baz=87,slow=6.6,SNR=437
LVC S **S 23 30 46.4 -0.3**
comp=Z,704nm,0.9s,baz=258,slow=18,SNR=13
LVC Limon Verde 2.11 282 Pn **Pn 23 30 15.8 +0.9**
LVC Limon Verde 2.11 282⇓*e*P **Pn 23 30 15.9 +1.0**
LVC *e*S **S 23 30 46.8 +0.1**
LVC Limon Verde 2.11 282 *e*P **Pn 23 30 16.0 +1.2**
LVC *e*S **S 23 30 38.1 -8.5**
LVC *e*S S 23 30 42.1 -4.5
LVC *e*S S 23 30 52.1 +5.5
LVC IAML 23 30 52.9
comp=Z,249nm,1.1s
ASTB Santa Barbara 2.22 113 *e*P **Pn 23 30 16.0 +0.2**
ASTB *e*P 23 30 16.2
ASTB IAML 23 30 51.5
comp=Z,7.8nm,0.6s
PB15 IPOC Station P 2.57 267 Pn 23 30 20.5 +0.9
PB15 IPOC Station P 2.57 267 *e*P **Pn 23 30 20.4 +0.9**
PB15 *e*S **S 23 30 55.0 -0.1**
PB15 IPOC Station P 2.57 267 *e*P **Pn 23 30 20.0 +0.5**
PB15 *e*P 23 30 20.6
PB15 *e*S **S 23 30 55.9 +0.8**
PB15 IAML 23 30 58.0
comp=Z,6μm,0.2s
ALOL LOMAS DE OLMED 2.59 107 *e*P **Pn 23 30 19.7 +0.2**
PB09 IPOC Station P 2.69 298 Pn 23 30 21.7 +0.8
PB09 IPOC Station P 2.69 298⇑*e*P **Pn 23 30 22.4 +1.6**
PB09 *e*S **S 23 30 57.8 +0.3**
PB09 IAML 23 31 00.8
comp=E,2μm,0.8s
PB09 IPOC Station P 2.69 298 *e*P **Pn 23 30 21.3 +0.5**
PB09 *e*S **S 23 30 52.1 -5.3**
PB09 *e*S S 23 30 58.5 +1.0
PB09 IAML 23 30 59.9
comp=Z,2μm,0.7s
PB06 IPOC Station P 2.69 277 Pn 23 30 21.4 +0.6
PB06 IPOC Station P 2.69 277⇓*e*P **Pn 23 30 21.6 +0.8**
PB06 *e*S **S 23 30 57.1 -0.3**
PB06 IAML 23 30 58.4
comp=N,2μm,0.6s
PB06 IPOC Station P 2.69 277 *e*P **Pn 23 30 21.3 +0.6**
PB06 *e*P 23 30 22.1
PB06 *e*S **S 23 30 57.5 +0.1**
PB06 IAML 23 31 00.6
comp=Z,1μm,0.3s
PB03 IPOC Station P 3.02 289 Pn 23 30 25.3 +0.8
PB03 IPOC Station P 3.02 289⇑*e*P **Pn 23 30 25.3 +0.8**
PB03 *e*S **S 23 31 03.0 -1.0**
PB03 IPOC Station P 3.02 289 *e*P **Pn 23 30 25.2 +0.8**
PB03 *e*P 23 30 25.3
PB03 *e*S **S 23 31 03.5 -0.5**
PB03 IAML 23 31 04.1
comp=Z,2μm,0.4s
PB07 IPOC Station P 3.26 294 Pn 23 30 28.1 +0.8
PB07 IPOC Station P 3.26 294⇑*e*P **Pn 23 30 28.1 +0.8**
PB07 *e*S **S 23 31 07.7 -1.4**
PB07 IPOC Station P 3.26 294 *e*P **Pn 23 30 27.9 +0.6**
PB07 *e*S **S 23 31 08.8 -0.3**
PB07 IAML 23 31 11.1
comp=Z,2μm,0.2s
PB04 IPOC Station P 3.29 282 Pn **Pn 23 30 27.6 0.0**
PB04 IPOC Station P 3.29 282 *e*P **Pn 23 30 28.1 +0.6**
PB04 *e*S **S 23 31 07.7 -1.9**
PB04 IPOC Station P 3.29 282 *e*P **Pn 23 30 28.2 +0.6**
PB04 *e*P 23 30 28.3
PB04 *e*S **S 23 31 09.1 -0.6**
PB04 IAML 23 31 11.2
comp=Z,2μm,0.3s
PB01 IPOC Station P 3.30 307 Pn 23 30 28.4 +0.7
PB01 IPOC Station P 3.30 307 *e*P **Pn 23 30 28.4 +0.7**
PB01 *e*S **S 23 31 08.7 -1.1**
PB01 IPOC Station P 3.30 307 *e*P **Pn 23 30 28.3 +0.7**
PB01 *e*S **S 23 31 09.3 -0.5**
PB01 *e*S S 23 31 09.8 0.0
PB01 IAML 23 31 12.4
comp=Z,987nm,0.2s
GO02 Mina Guanaco 3.37 231 Pn **Pn 23 30 28.9 +0.2**
GO02 Mina Guanaco 3.37 231⇓*e*P **Pn 23 30 29.3 +0.5**
GO02 *e*S **S 23 31 11.9 +0.1**
GO02 Mina Guanaco 3.37 231 *e*P **Pn 23 30 29.1 +0.4**
GO02 *e*S **S 23 31 12.2 +0.5**
PB02 IPOC Station P 3.45 300 Pn **Pn 23 30 29.8 +0.2**
PB02 IPOC Station P 3.45 300 *e*P **Pn 23 30 30.0 +0.5**
PB02 *e*S **S 23 31 11.4 -1.8**
PB02 IPOC Station P 3.45 300 *e*P **Pn 23 30 30.1 +0.5**
PB02 *e*S **S 23 31 12.2 -1.0**
PB02 IAML 23 31 15.6
comp=Z,2μm,0.4s
PB10 IPOC Station P 3.59 262 Pn **Pn 23 30 31.4 +0.4**
PB10 IPOC Station P 3.59 262⇓*e*P **Pn 23 30 31.6 +0.6**
PB10 *e*S **S 23 31 12.8 -3.0**
PB10 IPOC Station P 3.59 262 *e*P Pn 23 30 26.1 -4.8
PB10 *e*P 23 30 31.6
PB10 *e*S **S 23 31 14.7 -1.1**
PB10 IAML 23 31 19.4
comp=Z,518nm,0.8s
PB08 IPOC Station P 3.72 321 Pn **Pn 23 30 34.8 +1.7**
PB08 IPOC Station P 3.72 321⇑*e*P **Pn 23 30 34.6 +1.6**
PB08 *e*S **S 23 31 19.7 +0.4**
PB08 IPOC Station P 3.72 321 *e*P **Pn 23 30 33.3 +0.2**
PB08 *e*S **S 23 31 20.6 +1.3**
PB08 IAML 23 31 25.8
comp=Z,500nm,0.6s
PB14 IPOC Station P 3.74 245 Pn **Pn 23 30 32.3 -0.8**
PB14 IPOC Station P 3.74 245⇑*e*P **Pn 23 30 33.3 +0.2**
PB14 *e*S **S 23 31 18.2 -1.4**
PB14 IPOC Station P 3.74 245 *e*P **Pn 23 30 33.5 +0.3**
PB14 *e*S **S 23 31 18.2 -1.4**
PB14 IAML 23 31 21.8
comp=Z,662nm,0.3s
PATCX Punta Patache 3.93 304 Pn **Pn 23 30 35.0 -0.2**
PATCX Punta Patache 3.93 304 *e*P **Pn 23 30 35.0 -0.2**
PATCX *e*S **S 23 31 20.9 -2.5**
PATCX Punta Patache 3.93 304 *e*P **Pn 23 30 35.5 +0.2**
PATCX *e*P 23 30 35.5
PATCX *e*P 23 30 36.0
PATCX IAML 23 31 28.7
comp=Z,758nm,0.5s
TA01 Diego Aracena 4.10 307 Pn 23 30 36.7 -0.5
TA01 Diego Aracena 4.10 307 *e*P **Pn 23 30 37.1 -0.1**
TA01 *e*S **S 23 31 24.5 -2.6**
TA01 Diego Aracena 4.10 307 *e*P **Pn 23 30 37.5 +0.3**
TA01 *e*S **S 23 31 26.1 -1.0**
TA01 IAML 23 31 31.5
comp=Z,375nm,0.6s
GO01 Chusmiza 4.12 325 Pn **Pn 23 30 38.8 +0.8**
GO01 Chusmiza 4.12 325⇑*e*P **Pn 23 30 39.1 +1.0**
GO01 *e*S **S 23 31 29.1 +0.7**
GO01 Chusmiza 4.12 325 *e*P **Pn 23 30 39.0 +1.0**
GO01 *e*S **S 23 31 31.0 +2.6**
TA02 Huaiquique 4.25 310 Pn **Pn 23 30 38.4 -0.7**
TA02 Huaiquique 4.25 310 *e*P **Pn 23 30 39.1 0.0**
TA02 *e*S **S 23 31 29.0 -1.5**
TA02 IAML 23 31 34.4
comp=Z,687nm,0.5s
PB11 IPOC Station P 4.31 319 Pn **Pn 23 30 39.5 -0.5**
PB11 IPOC Station P 4.31 319 *e*P **Pn 23 30 40.0 0.0**
PB11 *e*S **S 23 31 30.4 -1.7**
PB11 IAML 23 31 32.5
comp=Z,742nm,0.2s
AC02 Maricunga 4.35 210 Pn **Pn 23 30 40.8 0.0**
AC01 Pan de Azucar 4.70 229 Pn **Pn 23 30 42.9 -1.7**
AC01 Pan de Azucar 4.70 229 *e*P **Pn 23 30 43.9 -0.7**
AC01 IAML 23 31 42.0
comp=Z,148nm,0.4s
AC06 Mina Casimiro 5.41 217 Pn **Pn 23 30 52.1 -1.5**
PB16 IPOC Station P 5.41 330 Pn **Pn 23 30 54.3 +0.1**
GO03 Copiap 5.53 215 Pn **Pn 23 30 53.7 -1.4**
PB12 IPOC Station P 5.60 322 Pn **Pn 23 30 54.4 -1.8**
AC04 Llanos de Chal 6.46 217 Pn **Pn 23 31 07.2 +0.1**
LPAZ La Paz 6.89 348 P **Pn 23 31 14.2 +1.0**
comp=Z,103nm,0.7s,baz=157,slow=7.5,SNR=44
LPAZ S **S 23 32 30.1 -2.2**
comp=Z,29nm,0.7s,baz=274,slow=25,SNR=1.6
LPAZ La Paz 6.89 348 Pn 23 31 13.5 +0.3
BBSD Serra de San D 8.18 45 *e*P **Pn 23 31 27.7 -1.5**
MURT Porto Murtinho 8.51 82 *e*P **Pn 23 31 32.1 -1.4**
SIV San Ignacio 8.81 38 P **Pn 23 31 35.7 -1.7**
comp=Z,25nm,0.5s,baz=216,slow=12,SNR=149
SIV S S 23 32 59.2 -18
comp=Z,7.7nm,0.9s,baz=220,slow=15,SNR=3.7
CPUP Villa Florida 9.10 113 P **Pn 23 31 38.6 -2.4**
comp=Z,5.6nm,0.6s,baz=286,slow=13,SNR=8.9
CPUP Villa Florida 9.10 113 *e*P **Pn 23 31 40.6 -0.4**
ANTJ Antonio Joao (9.93 86 *e*P **Pn 23 31 51.9 +0.1**
VA03 San Esteban 10.24 199 Pn **Pn 23 31 56.7 +1.0**
PTLB Pontes e Lacer 10.41 45 Pn 23 31 56.1 -1.8
PTLB Pontes e Lacer 10.41 45 *e*P **Pn 23 31 56.5 -1.3**
AQDB Aquidauana 10.53 78 Pn **Pn 23 31 58.8 -0.6**
AQDB Aquidauana 10.53 78 *e*P **Pn 23 31 58.3 -1.1**
AZCA Azaras, Argent 10.86 120 *e*P **Pn 23 32 03.6 0.0**
ITQB Itaqui 11.15 128 *e*P **Pn 23 32 06.6 -0.6**
MT09 Talagante 11.31 199 Pn **Pn 23 32 09.1 -0.3**
MCR1 Marechal Candi 11.66 99 *e*P **Pn 23 32 15.8 +2.0**
VILB Vilhena 11.80 33 Pn **Pn 23 32 16.1 +0.5**
VILB Vilhena 11.80 33 *e*P **Pn 23 32 15.3 -0.4**
BO01 Tunca 11.91 198 Pn **Pn 23 32 16.4 -0.5**
UNIS Unistalda (Bra 12.02 122 *e*P **Pn 23 32 19.7 +1.4**
RODS Rosario do Sul 12.56 128 *e*P **Pn 23 32 24.9 -0.1**
SALV Santo Antonio 12.58 57 *e*P **Pn 23 32 24.1 -1.3**
FRBT Francisco Belt 12.73 106 *e*P **Pn 23 32 27.3 0.0**
ETMB Extrema 13.19 2 Pn **Pn 23 32 32.6 -0.5**
ETMB Extrema 13.19 2 *e*P **Pn 23 32 33.1 0.0**
ML02 Panimavida 13.29 197 Pn **Pn 23 32 34.4 +0.2**
PTGB Pitanga 13.47 100 *e*P **P 23 32 38.5 -0.2**
ALGR Alto Alegre (B 13.54 118 *e*P **Pn 23 32 37.2 -0.1**
C2SB Chapadao do Su 13.63 74 *e*P **P 23 32 39.5 -0.8**
ITAB Concordia 13.81 110 Pn 23 32 40.5 -0.1
ITAB Concordia 13.81 110 *e*P **Pn 23 32 40.5 -0.1**
CPSB Cacapava Do Su 13.89 124 *e*P **Pn 23 32 41.8 +0.2**
PCMB Pacaembu 14.34 87 *e*P **Pn 23 32 46.6 -0.6**
PLTB Pedras Altas 14.47 130 Pn 23 32 47.6 -1.1
PLTB Pedras Altas 14.47 130 *e*P **Pn 23 32 47.5 -1.1**
NNA Nana 14.67 317 P **P 23 32 52.3 +0.3**
comp=Z,24nm,0.6s,baz=165,slow=11,SNR=11
NNA Nana 14.67 317 Pn 23 32 51.7 +0.4
PDRB Porto dos Gac 14.83 41 *e*P **Pn 23 32 53.2 -0.1**
TRQA Tornquist 15.47 166 P **P 23 32 58.8 -1.7**
CNLB Canela 15.50 117 *e*P **P 23 33 00.3 -0.7**
ITRB Iturama 15.57 81 *e*P **Pn 23 33 02.5 +0.4**
FRTB Fartura 15.74 94 *e*P **P 23 33 03.6 -0.1**
ARAG Araguaiana, MT 15.82 65 *e*P **P 23 33 04.4 -0.2**
CLDB Colider 15.98 42 *e*P **P 23 33 06.0 -0.4**
CZSB Cruzeiro do Su 16.32 338 *e*P **P 23 33 08.9 -1.2**
BB19B Bebedouro 16.95 87 *e*P **Pn 23 33 18.1 -0.5**
RCLB Rio Claro- Sao 17.68 92 *e*P **P 23 33 25.5 +0.5**
PET01 Itanhaem-SP 17.82 98 *e*P **P 23 33 26.5 +0.1**
PLCA Paso Flores 17.90 190 P **P 23 33 27.8 +0.5**
comp=Z,2.2nm,0.4s,baz=22,slow=10,SNR=17
PLCA Paso Flores 17.90 190 P **P 23 33 27.2 -0.1**
PLCA Paso Flores 17.90 190 *e*P **P 23 33 28.2 +0.9**
IPMB Ipameri, GO 18.02 77 *e*P **P 23 33 28.9 +0.1**
VAO Valinhos 18.15 94 *e*P **P 23 33 29.9 -0.2**
SNDB Serra Nova Dou 18.34 56 *e*P **P 23 33 31.4 -0.9**
LL04 Puerto Octay 18.42 194 P **P 23 33 33.3 +0.5**
LL04 IAmb IAmb 23 33 33.6
comp=Z,16nm,0.8s
LL03 Petrohue 18.64 194 P **P 23 33 33.1 -2.1**
TBTG Tabatinga, AM 19.04 350 P **P 23 33 40.7 +1.0**
TBTG IAmb IAmb 23 33 47.7
comp=Z,68nm,0.9s
BDFB Brasilia 19.09 71 P **P 23 33 40.6 +0.2**
comp=Z,63nm,0.8s,baz=246,slow=12,SNR=81
BDFB Brasilia 19.09 71 P **P 23 33 39.3 -1.1**
BDFB Brasilia 19.09 71 *e*P **P 23 33 40.1 -0.3**
NPGB Novo Progresso 19.31 36 *e*P **P 23 33 40.6 -2.0**
PARB Paraibuna 19.36 95 *e*P **P 23 33 43.3 +0.2**
ATAH Atahualpa 19.45 323 P **P 23 33 46.7 +2.2**
comp=Z,3.2nm,0.6s,baz=274,slow=18,SNR=3.0
PMNB Patos De Minas 19.45 80 *e*P **P 23 33 44.4 +0.2**
BSCB Bom Sucesso 20.41 88 *e*P **P 23 33 54.7 +0.2**
MACA Manacapuru-AM 20.63 17 P **P 23 33 54.3 -2.5**
MACA IAmb IAmb 23 33 57.0
comp=Z,58nm,0.8s
MACA Manacapuru-AM 20.63 17 *e*P **P 23 33 55.3 -1.4**
ITTB Itaituba 21.40 31 *e*P **P 23 34 03.1 -1.6**
VAS01 Vassouras-RJ 21.46 92 *e*P **P 23 34 05.2 0.0**
AY01 Puyuhuapi 21.85 192 P **P 23 34 08.2 -0.6**
AY01 IAmb IAmb 23 34 09.4
comp=Z,13nm,1.1s
MC01 Montes Claros 22.29 78 *e*P **P 23 34 12.1 -1.3**
JANB Januaria 22.58 73 *e*P **P 23 34 14.6 -1.3**
MCRA Macar, Loja 22.59 323 P **P 23 34 18.3 +2.2**
MCRA IAmb IAmb 23 34 19.8
comp=Z,11nm,0.7s
SGCB S£o Gabriel d 22.82 359 *e*P **P 23 34 18.3 +0.2**
BOSC San Juan Bosco 22.88 328 P **P 23 34 18.7 -0.1**
SMTB Santa Maria do 23.12 55 *e*P **P 23 34 20.4 -0.4**
CAM01 Campos-RJ 23.16 92 *e*P **P 23 34 21.0 0.0**
SDBA SAO DESIDERIO 23.27 67 *e*P **P 23 34 21.0 -1.1**
PRPB Parauapebas 23.38 47 *e*P **P 23 34 22.1 -1.1**
SJMB Sao Joao De Ma 24.20 84 *e*P **P 23 34 29.3 -1.3**
ALF01 Guarapari-ES 24.21 89 *e*P **P 23 34 29.0 -1.6**
MALB Monte Alegre 24.30 31 *e*P **P 23 34 30.3 -1.1**
RIB01 Linhares ES 24.78 86 *e*P **P 23 34 35.0 -0.8**
NAN01 Guarapari, ES 25.40 83 *e*P **P 23 34 40.2 -1.2**
BOAV Boa Vista 26.02 14 P **P 23 34 46.0 -1.0**
BOAV IAmb IAmb 23 34 48.5
comp=Z,26nm,1.3s
BOAV Boa Vista 26.02 14 *e*P **P 23 34 46.8 -0.2**
GUA01 Guaratinga, BA 26.07 81 *e*P **P 23 34 46.5 -1.0**
MCPB Macapa, AP 26.68 34 *e*P **P 23 34 52.5 -0.4**
CMC01 Camacan, BA 26.74 78 *e*P **P 23 34 52.5 -1.0**
GDU01 Guandu, BA 27.31 75 *e*P **P 23 34 56.9 -1.6**
EFI East Falkland 29.32 169 P **P 23 35 16.2 +0.4**
RCBR Riachuelo 34.26 65 P **P 23 35 57.2 -2.3**
RCBR IAmb IAmb 23 36 00.1
comp=Z,17nm,0.8s
RCBR Riachuelo 34.26 65 *e*P **P 23 35 58.2 -1.3**
TOSP Speyside 34.69 11 P **P 23 36 03.4 +0.4**
GRGR Grenville 35.34 9 P **P 23 36 08.8 +0.2**
MCLT Moule a Chique 36.99 9 P **P 23 36 22.4 -0.1**
FDF Fort de France 37.97 9 P **P 23 36 29.6 -1.2**
CRPR Cabo Rojo, PR 40.83 359 P **P 23 36 56.4 +2.1**
CRPR IAmb IAmb 23 37 11.4
comp=Z,29nm,1.1s
MTO3 Montecristo 43.36 327 P **P 23 37 17.1 +2.1**
VNA1 Neumayer--Stat 58.12 160 P **P 23 39 02.6 -1.4**
VNA2 Neumayer--Watz 58.49 161 P **P 23 39 08.0 +1.4**
baz=286,slow=7.0
FPAL Fort Paine 60.06 342 P **P 23 39 18.3 +0.4**
SNAA Sanae 60.12 161 P **P 23 39 19.0 +1.0**
SNAA Sanae 60.12 161 P **P 23 39 18.9 +1.0**
V55A Taylorsville 60.20 346 P **P 23 39 20.1 +1.3**
V55A IAmb IAmb 23 39 20.9
comp=Z,12nm,0.8s
W50A Signal Mountai 60.59 343 P **P 23 39 22.3 +0.8**
T57A Hurt 60.92 348 P **P 23 39 24.6 +1.1**
T57A IAmb IAmb 23 39 42.9
comp=Z,16nm,1.4s
TROLL Troll, Antarti 61.84 161 P **P 23 39 30.9 +1.4**
R55A Marlinton 62.33 348 P **P 23 39 34.8 +1.8**
R55A IAmb IAmb 23 40 07.0
comp=Z,20nm,1.4s
Q56A Snyder Ridge, 62.89 349 P **P 23 39 38.0 +1.3**
Q56A IAmb IAmb 23 39 39.4
comp=Z,7.6nm,1.0s
TXAR Lajitas Array 63.10 324 P **P 23 39 39.3 +0.9**
comp=Z,0.2nm,0.5s,baz=161,slow=8.4,SNR=2.3
comp=Z,0.2nm,0.5s
P53A Whipple 63.74 347 P **P 23 39 43.0 +0.8**
P53A IAmb IAmb 23 39 43.9
comp=Z,6.6nm,0.8s
CCM Cathedral Cave 65.04 339 P **P 23 39 52.0 +1.3**
CCM IAmb IAmb 23 39 52.2
comp=Z,4.6nm,0.8s
M55A Ridgway 65.19 350 P **P 23 39 52.7 +1.1**
M55A IAmb IAmb 23 40 06.8
comp=Z,16nm,1.4s
WVNY West Valley, N 66.08 350 P **P 23 39 58.0 +0.8**
WVNY IAmb IAmb 23 39 58.9
comp=Z,8.0nm,0.8s
J58A Remsen 66.58 353 P **P 23 40 01.7 +1.3**
J58A IAmb IAmb 23 40 25.4
comp=Z,13nm,1.3s
J59A Piesco 66.60 354 P **P 23 40 01.6 +1.1**
J59A IAmb IAmb 23 40 02.7
comp=Z,15nm,0.9s
J56A Wolcott 66.68 352 P **P 23 40 00.8 -0.2**
I63A Otisfield 66.89 357 P **P 23 40 03.7 +1.4**
I63A IAmb IAmb 23 40 34.0
comp=Z,12nm,1.2s
DBIC Dimbokro 67.23 72 P **P 23 40 03.8 -1.4**
comp=Z,3.7nm,0.6s,baz=258,slow=3.1,SNR=8.8
comp=Z,3.7nm,0.6s
PKME Peaks-Kenny Pk 68.05 358 P **P 23 40 10.6 +1.1**
PKME IAmb IAmb 23 40 14.9
comp=Z,22nm,1.4s
G62A West of Eustis 68.06 357 P **P 23 40 10.2 +0.6**
G62A IAmb IAmb 23 40 13.4
comp=Z,13nm,1.4s
SADO Sadowa 68.47 350 P **P 23 40 11.8 -0.4**
comp=Z,3.7nm,0.7s,baz=124,slow=3.3,SNR=4.3
comp=Z,3.7nm,0.7s
SADO Sadowa 68.47 350 P **P 23 40 12.0 -0.1**

SADO IAmb IAmb 23 40 42.0
comp=Z,27nm,1.4s
E62A Clayton Lake 69.41 358 P **P 23 40 19.1 +1.2**
E62A IAmb IAmb 23 40 52.2
comp=Z,17nm,1.4s
BATG Bathurst New B 70.03 0 P **P 23 40 22.4 +0.8**
BATG IAmb IAmb 23 40 48.0
comp=Z,25nm,1.4s
TOA0 Torodi Ar. Sit 75.97 69 P **P 23 40 55.7 -1.5**
TORD Torodi Ar. Bea 75.97 69 P **P 23 40 56.4 -0.8**
comp=Z,1.7nm,0.3s,baz=264,slow=6.8,SNR=96
comp=Z,1.7nm,0.3s
TORD Torodi Ar. Bea 75.97 69 P **P 23 40 55.9 -1.3**
PDAR Pinedale Array 76.51 329 P **P 23 41 01.4 +1.4**
comp=Z,0.4nm,0.5s,baz=134,slow=6.4,SNR=3.9
comp=Z,0.4nm,0.5s
SCHQ Schefferville 77.59 360 P **P 23 41 05.7 +0.3**
comp=Z,3.8nm,0.8s,baz=244,slow=5.6,SNR=3.6
comp=Z,3.8nm,0.8s
SCHQ Schefferville 77.59 360 P **P 23 41 05.9 +0.5**
SCHQ IAmb IAmb 23 41 35.5
comp=Z,8.3nm,1.1s
NVAR Mina Array Bea 78.01 321 P **P 23 41 08.5 +0.2**
comp=Z,0.4nm,0.5s,baz=134,slow=5.2,SNR=2.5
comp=Z,0.4nm,0.5s
HRY Holter Researc 80.55 330 P **P 23 41 23.0 +1.2**
BOSA Boshof 80.89 117 P **P 23 41 23.6 -0.6**
comp=Z,1.3nm,0.6s,baz=275,slow=2.9,SNR=8.4
comp=Z,1.3nm,0.6s
PTEO Sao Teotonio 81.27 43 *e*P **P 23 41 28.2 +2.6**
comp=Z,30nm,1.2s
PLID Pearl Lake 81.36 327 P **P 23 41 27.5 +1.2**
PNCL Nicolau / Gran 81.73 43 *e*P **P 23 41 29.6 +1.6**
comp=Z,20nm,2.0s
PCVE Castro Verde 81.75 43 *e*P **P 23 41 29.6 +1.5**
comp=Z,27nm,1.6s
PVAQ Vaqueiros 81.81 44 *e*P **P 23 41 29.9 +1.4**
comp=Z,20nm,1.7s
PBEJ Beja 82.10 43 *e*P **P 23 41 31.4 +1.5**
comp=Z,12nm,2.0s
EVO Evora 82.31 43 *e*P **P 23 41 30.7 -0.3**
comp=Z,7.9nm,1.3s
PSBE So Bento 82.43 41 *e*P **P 23 41 33.3 +1.6**
comp=Z,26nm,1.7s
PMTG Montargil 82.51 42 *e*P **P 23 41 33.2 +1.2**
comp=Z,18nm,1.8s
PBAR Barrancos 82.71 43 *e*P **P 23 41 34.1 +1.0**
comp=Z,21nm,1.7s
PESTR Estremoz 82.78 42 *e*P **P 23 41 34.7 +1.2**
comp=Z,12nm,1.2s
PESTR Estremoz 82.78 42 P **P 23 41 34.6 +1.1**
PCAS Casmilo, Conde 82.94 41 *e*P **P 23 41 35.3 +1.0**
comp=Z,21nm,2.0s
PMRV Marv??o 83.24 42 *e*P **P 23 41 36.6 +0.8**
comp=Z,7.8nm,1.5s
PCBR Castelo Branco 83.44 42 *e*P **P 23 41 37.6 +0.8**
comp=Z,13nm,1.9s
TAM Tamanrasset 83.71 62 P **P 23 41 39.3 +0.5**
MTE Manteigas 83.73 41 *e*P **P 23 41 39.0 +0.6**
comp=Z,12nm,1.5s
PVRL Vila Real 84.16 40 *e*P **P 23 41 41.3 +0.8**
comp=Z,32nm,2.0s
POLO Lamas de Olo 84.17 40 *e*P **P 23 41 41.4 +0.8**
comp=Z,10nm,1.8s
PCAB Cabril 84.24 40 *e*P **P 23 41 41.9 +1.0**
comp=Z,19nm,1.5s
MVO Moncorvo 84.51 41 *e*P **P 23 41 43.3 +1.1**
comp=Z,22nm,1.8s
PBRG Braganca 85.06 41 *e*P **P 23 41 45.8 +0.8**
comp=Z,14nm,1.6s
PAB San Pablo 85.21 43 P **P 23 41 46.5 +0.7**
PAB IAmb IAmb 23 41 47.6
comp=Z,7.2nm,0.8s
ESDC Sonseca Array 85.53 43 P **P 23 41 48.1 +0.8**
comp=Z,2.4nm,0.8s,baz=236,slow=5.1,SNR=21
comp=Z,2.4nm,0.8s
ESDC Sonseca Array 85.53 43 P **P 23 41 47.9 +0.6**
YKA Yellowknife Ar 93.36 340 P **P 23 42 23.8 +0.3**
comp=Z,1.4nm,0.8s,baz=130,slow=4.7,SNR=2.5
comp=Z,1.4nm,0.8s
ASAR Alice Springs 129.41 205 PKP **PKPdf 23 48 16.9 -0.2**
comp=Z,1.1nm,1.0s,baz=143,slow=2.7,SNR=5.9
WRA Warramunga Arr 132.58 207 PKP **PKPdf 23 48 23.0 -0.2**
comp=Z,0.3nm,0.3s,baz=152,slow=1.8,SNR=6.7
ZALV Zalesovo Beam 142.44 28 PKhKP PKPpre 23 48 37.2
comp=Z,2.2nm,0.7s,baz=308,slow=4.9,SNR=11
ZALV SKPbc **SKPbc 23 51 55.7 -1.7**
comp=Z,0.3nm,0.4s,baz=336,slow=3.2,SNR=1.5
KSH Kashi 144.42 54 PKP **PKPdf 23 48 44.2 -0.1**
MKAR Makanchi Array 145.63 39 PKPbc **PKPab 23 48 47.8 +0.4**
comp=Z,6.1nm,0.4s,baz=341,slow=2.9,SNR=68
KLR Kul'dur 150.12 335 PKPbc **PKPbc 23 48 58.1 -0.4**
comp=Z,1.4nm,0.5s,baz=112,slow=3.4,SNR=4.6
SONM Songino Array 154.68 11 PKP **PKPdf 23 49 00.1 -0.1**
comp=Z,0.3nm,0.5s,baz=3.8,slow=4.3,SNR=2.9
SONM PKPbc **PKiKP 23 49 10.0 +1.1**
comp=Z,0.6nm,0.6s,baz=338,slow=1.6,SNR=4.2
SONM PKPab **PKPab 23 49 24.5 -0.1**
comp=Z,1.5nm,0.7s,baz=322,slow=4.2,SNR=8.2
CMAR Chiang Mai Arr 165.79 106 PKPab **PKPab 23 50 13.2 -0.7**
comp=Z,1.2nm,0.6s,baz=245,slow=5.8,SNR=4.9

---

*IDC **01** 23:29:31.6±0.4, 14°.28N×56°.72E, h0^{km}, mb4.4/34, mbtmp4.4/36, ML3.7/2, MS3.7/33, Error ellipse: s-maj=12.2km s-min=11.1km az=10.0*
*BJI **01** 23:29:32.1±0.0, 14°.00N×56°.56E, h21^{km}, mb4.5/34, mB5.0/14, Ms4.4/10, Ms7 4.2/11*
*NEIC **01** 23:29:33.2±1.3, 14°.27N±0°.09×56°.65E±0°.09, h10^{km}±1^{km}, mb4.7/79, Error ellipse: s-maj=16.1km s-min=14.9km az=142.0*
*OMAN **01** 23:29:35.5±1.5, 14°.38N×56°.44E, h7^{km}±11^{km}, mb5.5/20, ml4.1/5, ms3.8/6, Mwp5.1/3, Error ellipse: s-maj=13.1km s-min=9.3km az=276.0*
*DSN **01** 23:29:35.1±0.7, 14°.39N×56°.45E, h10^{km}, mb5.0/3, ML3.5/1, Error ellipse: s-maj=10.9km s-min=7.1km az=112.0*
*GCMT **01** 23:29:35.2±0.4, 14°.07N±0°.03×56°.79E±0°.04, h19^{km}±1^{km}, MW4.8/74, Moment Tensor Solution. s10,c13; s74,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.96±.21; $M_{\theta\theta}$1.12±.13; $M_{\phi\phi}$0.84±.12; $M_{r\theta}$-0.42±.23; $M_{\theta\phi}$-0.71±.06; $M_{\phi r}$-1.00±.26; Best double couple: $M_0$2.06600×10^{16} NP1:ϕ_s332.00000°,δ54.00000°,λ-64.00000°. NP2: ϕ_s112.00000°,δ43.00000°,λ-121.00000°. Principal axes: T 1.7410, Plg6.0000°, Azm44.0000°; N 0.6520, Plg21.0000°, Azm136.0000°; P -2.3910, Plg68.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 23:29:34.4±0.4**, 14°.28N**±0°.05×**56°.66E**±0°.05**, h19^{km}, n314, σ1^s.35**/321**, mb4.7**/110**, MS3.8**/34**, 13C-14D, Owen Fracture Zone region**

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DMTO DMTO 3.79 334 P **Pn 23 30 31.0 -0.9**
SNR=13
DMTO S **Sn 23 31 13.6 -2.4**
RBK Rabkut 3.98 324 P **Pn 23 30 34.6 +0.1**
SNR=6.7
RBK S **Sn 23 31 19.7 -1.0**
ABTO Aybut 4.45 314 P **Pn 23 30 40.6 -0.4**
SNR=10.0
ABTO S **Sn 23 31 30.9 -1.4**
WHFO Wadi Hawf 4.56 323 P **Pn 23 30 43.0 +0.6**
SNR=29
WHFO S **Sn 23 31 33.7 -1.3**
DOK Doka 4.95 331 P **Pn 23 30 48.1 +0.4**
SNR=9.6
DOK S **Sn 23 31 45.5 +1.0**
DQM DQM 5.68 8 P **Pn 23 30 59.3 +1.5**
MHTO MHTO 6.78 10 P **Pn 23 31 12.8 -0.2**
SNR=5.6
MHTO P **Pn 23 31 12.8 -0.2**
SNR=5.6
JMDO Jabal Madar 8.16 9 P **Pn 23 31 33.8 +1.9**
SNR=6.2
JMDO P **Pn 23 31 33.8 +1.9**
SNR=6.2
BSY Bisya 8.43 3 P **Pn 23 31 36.1 +0.4**
SNR=9.0
UMZA Um Al Zommool 8.51 351 P **Pn 23 31 38.0 +1.3**
WBK Wadi Bani Khal 8.57 14 P **Pn 23 31 39.6 +2.0**
WBK P **Pn 23 31 39.6 +2.0**
SMDO Samad 8.83 8 P **Pn 23 31 42.9 +1.7**
SNR=8.0
ARQ Araqi 9.01 359 P **Pn 23 31 45.2 +1.6**
SNR=7.0
WSAR Wadi Sarin 9.10 12 Pn **Pn 23 31 44.7 -0.1**
0.8nm,0.3s,baz=222,slow=13,SNR=9.9
WSAR Sn Sn 23 33 16.2 -11
baz=128,slow=21
WSAR LR LR 23 35 02.1
comp=Z,1μm,19.9s,baz=212,slow=36
4.6nm,0.6s
WSAR Wadi Sarin 9.10 12 P **Pn 23 31 46.8 +1.9**
HOQ Hoqain 9.27 4 P **Pn 23 31 48.6 +1.5**
HOQ P **Pn 23 31 48.6 +1.5**
BIDO Bidbid 9.29 8 P **Pn 23 31 49.4 +1.9**
BIDO P **Pn 23 31 49.4 +1.9**
ALNE Al Ain 9.76 355 P **Pn 23 31 55.5 +1.6**
SNR=7.0
ALNE Al Ain 9.76 355 P **Pn 23 31 55.1 +1.2**
GHWR Ruwais 10.27 340 P **Pn 23 32 03.8 +3.0**
ASHO Ashiyiah 10.36 357 P **Pn 23 32 04.3 +2.1**
ASHO Ashiyiah 10.36 357 P **Pn 23 32 01.8 -0.4**
ASUD Al Ashush, Dub 10.37 353 P **Pn 23 32 03.4 +1.3**
FAQ Al Faqa, Dubai 10.46 355 P **Pn 23 32 03.7 +0.3**
HATD Hatta, Dubai 10.50 357 P **Pn 23 32 04.7 +0.6**
UOSS Minazif 10.62 358 Pn **Pn 23 32 04.2 -1.4**
SLWR Sila 10.81 335 P **Pn 23 32 09.2 +1.1**
MSFE Esma-Masafi 11.03 358 P **Pn 23 32 12.8 +1.4**
JASK Jask - Hormozg 11.58 5 P **Pn 23 32 20.4 +1.6**
BANOM Banah 11.59 358 P **Pn 23 32 20.7 +1.8**
BANOM Banah 11.59 358 P **Pn 23 32 19.8 +0.9**
SHME Shamm 11.72 358 P **Pn 23 32 22.2 +1.5**
SHME P **Pn 23 32 22.2 +1.5**
SHME Shamm 11.72 358 P **Pn 23 32 21.8 +1.2**
NGCH Negor - Chabah 11.80 20 P **Pn 23 32 24.8 +3.0**
ATD Arta Tunnel 13.74 260 Pn **Pn 23 32 48.7 +0.3**
0.5nm,0.3s,baz=163,slow=21,SNR=1.0
ATD LR LR 23 36 36.7
comp=Z,363nm,20.7s,baz=112,slow=31
2.6nm,0.5s
RAYN Ar Rayn 13.99 313 Pn **Pn 23 32 49.2 -2.6**
RAYN Ar Rayn 13.99 313 P **Pn 23 32 50.1 -1.7**
RAYN Ar Rayn 13.99 313 P **Pn 23 32 49.6 -2.2**
POO Poona 17.02 73 *e*P **Pn 23 33 29.0 -2.6**
FURI Furi 18.40 255 P **Pn 23 33 46.3 -2.7**
HRA Herat 20.64 13 P **P 23 34 12.4 -0.8**
KBL Kabul 23.07 27 P **P 23 34 38.8 -0.3**
KBL IAmb IAmb 23 34 53.2
comp=Z,24nm,1.3s
KBL Kabul 23.07 27 P **P 23 34 43.1 +4.0**
SNR=10
KBL P **P 23 34 43.1 +4.0**
SNR=10
GEYT Alibeck 23.59 3 P **P 23 34 44.6 +0.5**
comp=Z,10nm,0.9s,baz=194,slow=8.9,SNR=11
GEYT LR LR 23 44 55.6
comp=Z,206nm,21.5s,baz=170,slow=39
comp=Z,10nm,0.9s
GEYT Alibeck 23.59 3 P **P 23 34 42.5 -1.6**
GYA0B ALIBECK ARRAY 23.59 3 P **P 23 34 42.9 -1.2**
GYA0B IAmb IAmb 23 34 48.4
comp=Z,11nm,0.8s
LODK Lodwar 23.62 245 P **P 23 34 43.9 -0.8**
LODK IAmb IAmb 23 34 54.2
comp=Z,15nm,1.1s
LODK Lodwar 23.62 245 P **P 23 34 46.7 +2.0**
SNR=10
NIL Nilore 24.46 35 P **P 23 34 52.0 -0.4**
NIL IAmb IAmb 23 35 02.0
comp=Z,19nm,1.1s
NIL Nilore 24.46 35 P **P 23 34 56.0 +3.7**
KMBO Kilima Mbogo 24.57 233 P **P 23 34 54.7 +1.0**
comp=Z,0.3nm,0.8s,baz=36,slow=23,SNR=17
KMBO Kilima Mbogo 24.57 233 P **P 23 34 54.8 +1.0**
KMBO Kilima Mbogo 24.57 233 P **P 23 34 55.6 +1.9**
KMBO Kilima Mbogo 24.57 233 P **P 23 34 55.5 +1.7**
PALK Pallekele 24.61 104 P **P 23 34 53.9 +0.1**
comp=Z,18nm,1.0s,baz=29,slow=8.8,SNR=4.4
PALK LR LR 23 42 53.7
comp=Z,127nm,18.6s,baz=39,slow=33
comp=Z,18nm,1.0s
PALK Pallekele 24.61 104 P **P 23 34 53.6 -0.2**
PALK IAmb IAmb 23 34 58.0
comp=Z,31nm,1.1s
PALK Pallekele 24.61 104 P **P 23 34 53.3 -0.6**
comp=Z,26nm,1.4s
KIBK Kibwezi 24.76 230 P **P 23 34 55.8 +0.6**
KIBK IAmb IAmb 23 34 58.7
comp=Z,24nm,1.0s
KIBK Kibwezi 24.76 230 P **P 23 34 56.8 +1.6**
SNR=11
EIL Elat 25.22 311 P **P 23 35 00.9 +1.7**
comp=Z,19nm,1.0s,baz=97,slow=5.9,SNR=6.3
EIL LR LR 23 44 49.4
comp=Z,142nm,19.0s,baz=120,slow=36
comp=Z,19nm,1.0s
ASF Jabal al Asfar 25.36 318 P **P 23 35 01.4 +0.9**
comp=Z,7.4nm,0.8s,baz=110,slow=3.7,SNR=5.7
comp=Z,7.4nm,0.8s
GHAJ Ghor Haditha 25.71 315 P **P 23 35 02.9 -0.7**
CHGR Chuyangaron 26.68 22 P **P 23 35 12.2 -0.2**
CHGR IAmb IAmb 23 35 22.5
comp=Z,41nm,1.3s
MARD Mardin 26.95 331 P **P 23 35 14.1 -0.8**
MARD IAmb IAmb 23 35 20.0
comp=Z,25nm,0.8s
GURO Guroymak-BITLI 27.42 335 P **P 23 35 19.3 +0.2**
GNI Garni 27.81 340 P **P 23 35 23.0 +0.4**
comp=Z,2.9nm,0.7s,baz=202,slow=19,SNR=2.2
GNI LR LR 23 49 31.1
comp=Z,91nm,18.7s,baz=142,slow=43
comp=Z,2.9nm,0.7s
BTK Batken 28.52 23 P **P 23 35 28.6 -0.3**
BTK IAmb IAmb 23 35 42.0
comp=Z,24nm,1.2s
DANN Dangsing 28.78 57 *e*P **P 23 35 33.1 +1.5**
comp=Z,8.2nm,0.7s
GKN Gorkha 29.36 58 *e*P **P 23 35 37.8 +1.2**
DMN Daman 29.61 59 *e*P **P 23 35 40.2 +1.3**
MBAR Mbarara 29.62 242 LR LR 23 47 22.8
comp=Z,137nm,18.3s,baz=44,slow=36
PKIN Phulchoki 29.84 59 *e*P **P 23 35 42.3 +1.4**
PKI Pulchoki 29.84 59 *e*P **P 23 35 42.0 +0.9**
IUG Iuzhnay 30.08 20 *e*P **P 23 35 43.0 +0.2**
baz=20
KSH Kashi 30.34 30 P **P 23 35 43.3 -1.8**
KSH pP pP 23 35 46.4 -3.7
KSH pmax pmax
comp=Z,10.0nm,1.1s
GUN Gumba 30.35 59 *e*P **P 23 35 46.9 +1.3**
JIRN Jiri 30.52 59 *e*P **P 23 35 48.5 +1.3**
RAMN Ramite 30.64 61 *e*P **P 23 35 49.5 +1.5**
KK31 Karatay Array 31.09 20 P **P 23 35 52.2 +0.7**
KKAR Karatay Array 31.09 20 P **P 23 35 52.2 +0.7**
KBZ Khabaz 31.62 341 P **P 23 35 56.4 +0.3**
comp=Z,2.7nm,0.9s,baz=314,slow=14,SNR=3.0
KBZ LR LR 23 52 10.2
comp=Z,86nm,20.9s,baz=148,slow=43
comp=Z,2.7nm,0.9s
TAPN Taplejung 31.70 61 *e*P **P 23 35 58.7 +1.2**
comp=Z,15nm,0.8s
NRN Naryn 31.85 28 P **P 23 35 58.9 +0.2**
KVAR Kislovodsk Arr 31.89 341 LR LR 23 50 46.6
comp=Z,60nm,18.5s,baz=72,slow=40
AAK Ala-Archa 32.17 25 LR LR 23 50 07.6
comp=Z,168nm,21.8s,baz=232,slow=38
AAK Ala-Archa 32.17 25 P **P 23 36 02.0 +0.8**
AAK IAmb IAmb 23 36 11.5
comp=Z,5.6nm,0.9s
AAK Ala-Archa 32.17 25 P **P 23 36 04.4 +3.2**
AAK Ala-Archa 32.17 25 P **P 23 36 03.2 +1.9**
BRTR Keskin Array B 32.41 326 P **P 23 36 04.3 +0.9**
comp=Z,1.4nm,0.7s,baz=135,slow=10.0,SNR=6.3
BRTR LR LR 23 51 01.2
comp=Z,202nm,18.7s,baz=186,slow=40
comp=Z,1.4nm,0.7s
BOOM Boomskoye usch 32.66 27 P **P 23 36 07.2 +1.6**
BOOM IAmb IAmb 23 36 14.6
comp=Z,11nm,1.4s
ELL Elmali 32.71 318 P **P 23 36 06.8 +0.8**
SGDS Sogindy 32.90 24 *e*P **P 23 36 07.7 +0.1**
baz=24
MDOK Medeo 33.69 27 *e*P **P 23 36 16.1 +1.6**
baz=27
OPO Ambohidratompo 33.95 196 LR LR 23 47 04.7
comp=Z,203nm,19.5s,baz=156,slow=31
KUU Kurty 33.97 26 *e*P **P 23 36 17.6 +0.8**
baz=26
BTLS Baital 34.02 22 *e*P **P 23 36 17.7 +0.5**
baz=22
BRDH Bariadhala 34.15 71 LR LR 23 51 08.7
comp=Z,215nm,18.1s,baz=268,slow=38
SATY Saty 34.23 29 *e*P **P 23 36 19.9 +0.7**
baz=29
KPKS Kokpek 34.67 29 *e*P **P 23 36 23.4 +0.4**
baz=29
SHLS Shalkode 34.81 30 *e*P **P 23 36 26.6 +2.4**
baz=30
SHL Shillong 34.86 66 P **P 23 36 23.8 -1.2**
SHL IAmb IAmb 23 36 27.6
comp=Z,15nm,0.9s
ABKAR Akbulak array 34.98 4 P **P 23 36 25.6 +0.2**
BRZS Berezniki 37.93 17 *e*P **P 23 36 51.0 +0.4**
baz=17
RDO Rodhopi 38.05 321 P **P 23 36 51.8 +0.1**
RDO IAmb IAmb 23 36 54.5
comp=Z,18nm,1.2s
ITM Ithomi 38.38 313 P **P 23 36 54.3 -0.3**
ITM IAmb IAmb 23 36 57.4
comp=Z,19nm,0.8s
BELG Belogornoye 38.70 351 LR LR 23 54 56.3
comp=Z,54nm,19.9s,baz=51,slow=39
MKAR Makanchi Array 38.86 28 P **P 23 36 58.9 +0.4**
comp=Z,1.6nm,0.6s,baz=214,slow=9.6,SNR=14
MKAR PcP **PcP 23 39 09.4 +0.1**
comp=Z,0.7nm,0.8s,baz=208,slow=2.5,SNR=2.2
MKAR LR LR 23 55 01.2
comp=Z,139nm,19.7s,baz=102,slow=39
comp=Z,1.6nm,0.6s
MKAR Makanchi Array 38.86 28 P **P 23 36 58.1 -0.4**
CFR Carcaliu 39.12 328 ⇓P **P 23 37 02.2 +1.5**
WMQ Urumqi 39.61 36 *e*P **P 23 37 06.9 +2.0**
WMQ pP sP 23 37 11.9 +0.1
WMQ pmax pmax
comp=Z,19nm,1.1s
PLVB Pleven 39.92 323 ⇑P **P 23 37 09.4 +2.1**
ISR Istrita 39.93 326 ⇓P **P 23 37 09.6 +2.2**
BISRR Bisoca 40.12 327 ⇓P **P 23 37 11.1 +2.1**
BVAR Borovoye Array 40.16 13 LR LR 23 56 06.5
comp=Z,86nm,18.9s,baz=197,slow=40
NEHR Nehoiu 40.26 327 ⇑P **P 23 37 12.2 +2.0**
VTS Vitosha 40.30 321 ⇑P **P 23 37 12.3 +1.5**
VTS Vitosha 40.30 321 P **P 23 37 10.4 -0.3**
VTS IAmb IAmb 23 37 13.3
comp=Z,26nm,1.5s
VRI Vrincioaia 40.32 327 ⇑P **P 23 37 13.0 +2.3**
PLOR Plostina 40.35 327 ⇓P **P 23 37 12.6 +1.7**
KURK Kurchatov 40.46 21 P **P 23 37 11.5 -0.3**
KURK Kurchatov 40.46 21 P **P 23 37 13.6 +1.9**
KURK P **P 23 37 13.6 +1.9**
MLR Muntele Rosu 40.49 326 ⇓P **P 23 37 14.2 +2.0**
MLR Muntele Rosu 40.49 326 LR LR 23 54 56.0
comp=Z,69nm,19.9s,baz=105,slow=38
MLR Muntele Rosu 40.49 326 P **P 23 37 12.8 +0.6**
MLR IAmb IAmb 23 37 17.5
comp=Z,20nm,1.2s
COVR Voineasa-Covas 40.58 327 ⇑P **P 23 37 14.5 +1.6**
LSZ Lusaka 40.68 225 P **P 23 37 15.4 +1.3**
comp=Z,6.0nm,0.7s,baz=65,slow=3.8,SNR=2.7
LSZ LR LR 23 54 30.6
comp=Z,167nm,18.8s,baz=86,slow=37
comp=Z,6.0nm,0.7s
TNCH TengChong 40.70 68 P **P 23 37 16.5 +2.2**
TNCH pP pP 23 37 17.9 -1.3
TNCH S **S 23 43 19.1 -4.9**
TNCH pmax pmax
comp=Z,23nm,0.7s
TNCH pmax pmax
comp=Z,96nm,3.1s
TNCH LR LR
comp=Z,270nm,4.3s
TNCH LR LR
comp=Z,330nm,5.2s
TNCH LR LR
comp=Z,320nm,27.3s
CM31 Chiang Mai Arr 40.72 78 P **P 23 37 13.9 -0.4**
CM31 IAmb IAmb 23 37 19.2
comp=Z,23nm,1.5s
CMAR Chiang Mai Arr 40.72 78 P **P 23 37 15.1 +0.8**
comp=Z,3.3nm,0.8s,baz=276,slow=8.4,SNR=19
CMAR LR LR 23 53 54.1
comp=Z,30nm,20.7s,baz=265,slow=36
comp=Z,3.3nm,0.8s
CMAR Chiang Mai Arr 40.72 78 P **P 23 37 13.5 -0.8**
TESR Tescani 40.79 328 ⇑P **P 23 37 16.1 +1.5**
VOIR 40.94 326 ⇓P **P 23 37 16.9 +1.1**
DOPR Dopca 41.09 327 ⇑P **P 23 37 18.5 +1.4**
ARR Arges 41.12 325 ⇑P **P 23 37 18.1 +0.7**
LOT Lotru 41.65 325 ⇑P **P 23 37 22.8 +1.0**
HERR Herculane 42.08 323 ⇑P **P 23 37 26.2 +1.1**
ARU Arti 42.09 2 LR LR 23 57 14.2
comp=Z,77nm,18.8s,baz=168,slow=40
ARU Arti 42.09 2 P **P 23 37 24.8 -0.2**
ARU IAmb IAmb 23 37 27.0
comp=Z,12nm,1.0s
GZR Gura Zlata 42.18 324 ⇓P **P 23 37 27.0 +0.9**
BURAR Bucovina Array 42.26 328 ⇑P **P 23 37 29.1 +2.5**
BURAR Bucovina Array 42.26 328 P **P 23 37 25.6 -1.1**
BUR08 Bucovina Ar. S 42.28 328 P **P 23 37 25.7 -1.2**
ARCR ARCALIA 42.36 327 ⇓P **P 23 37 29.7 +2.3**
SRIT Nakonsritamara 42.42 93 P **P 23 37 28.1 -0.2**
MDVR Moldovita 42.44 323 ⇓P **P 23 37 29.1 +1.0**
AKASG Malin Array Be 42.58 334 P **P 23 37 29.8 +0.8**
comp=Z,1.1nm,0.6s,baz=139,slow=7.3,SNR=11
AKASG PP **PP 23 39 10.8 +2.9**
comp=Z,0.9nm,0.6s,baz=142,slow=10.0,SNR=4.3
AKASG LR LR 23 59 36.6
comp=Z,50nm,18.5s,baz=168,slow=42
comp=Z,1.1nm,0.6s
PDG Podgorica 42.70 318 P **P 23 37 29.2 -0.9**
BZS Buzias 42.97 324 ⇓P **P 23 37 33.3 +1.0**
DRGR 43.05 326 ⇓P **P 23 37 35.1 +2.0**
DIVS Divibare 43.09 321 P **P 23 37 33.2 -0.3**
DIVS IAmb IAmb 23 37 35.8
comp=Z,22nm,1.5s
BMR Baia Mare 43.18 327 ⇓P **P 23 37 36.4 +2.3**
RPSI Rantau Prapat 43.27 101 P **P 23 37 34.1 -1.1**
PZH PanZhiHua 43.76 67 P **P 23 37 41.5 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,4.4s
FRGS Fruska Gora 43.77 322 ⇓P **P 23 37 39.7 +0.8**
KIRV Kirov 44.55 355 LR LR 23 59 55.7
comp=Z,121nm,19.8s,baz=162,slow=41
KOLS Kolonicke sedl 44.61 328 *e*P **P 23 37 48.2 +2.7**
ABAH Abaujker 44.76 327 P **P 23 37 48.2 +1.5**
CRVS Cervenica-Dubn 45.01 327 *e*P **P 23 37 49.9 +1.2**
MORH Mrgy, Hungar 45.03 323 ⇑P **P 23 37 49.9 +1.0**
MORH Mrgy, Hungar 45.03 323 P **P 23 37 50.0 +1.2**
PAOL Paolisi 45.20 314 P **P 23 37 50.4 -0.1**
PAOL IAmb IAmb 23 38 03.3
comp=Z,13nm,1.3s
ZAA0 Zalesovo Array 45.34 23 P **P 23 37 51.3 +0.1**
ZALV Zalesovo Beam 45.34 23 P **P 23 37 51.6 +0.5**
comp=Z,3.3nm,0.6s,baz=224,slow=8.4,SNR=21
comp=Z,3.3nm,0.6s
ZALV Zalesovo Beam 45.34 23 P **P 23 37 50.0 -1.2**
CSKK Cskako 45.87 324 P **P 23 37 56.9 +1.4**
MNK Minsk 45.99 337 *i* P **P 23 37 55.2 -1.2**
comp=E,3.0nm,0.9s
MNK *i* P **P 23 37 55.2 -1.2**
comp=N,29nm,0.8s
MNK *i* P **P 23 37 55.2 -1.2**
comp=Z,17nm,0.9s,baz=139
MNK *i* PP **PP 23 39 42.3 -2.0**
MNK *i* PPP PPP 23 40 22.7
MNK *i* S **S 23 44 40.7 +0.4**
MNK *i* SS **SS 23 48 05.8 +0.6**
MNK *i* SSS SSS 23 48 57.9
MNK *i* LQ LQ 23 53 52.9
MNK *i* LR LR 23 57 12.0
MNK *i* LRM MLR 23 58 52.5
comp=E,48nm,12.1s
MNK *i* LRM MLR 23 58 56.3
comp=N,611nm,15.2s
MNK *i* LRM MLR 23 59 16.1
comp=Z,90nm,15.2s
BKNI Bangkinang 46.03 104 P **P 23 37 55.8 -1.5**
SRO Srobarova 46.09 325 *e*P **P 23 37 59.0 +1.8**

VYHS Vyhne 46.18 326 *e*P **P 23 37 58.7 +0.8**
KOGS Kog 46.57 322 *i* P **P 23 38 02.1 +1.1**
BOJS Bojanci 46.71 320 *i* P **P 23 38 03.0 +0.8**
DOBS Dobrina 46.89 321 *i* P **P 23 38 04.7 +1.1**
MODS Modra-Piesok 46.97 325 *e*P **P 23 38 04.6 +0.4**
ZST Bratislava 46.98 324 *e*P **P 23 38 04.8 +0.6**
SOP Sopron 47.02 323 P **P 23 38 05.4 +0.9**
JAVC Velka Javorina 47.02 325 *e*P **P 23 38 07.2 +2.6**
RONA Rosalia, Austr 47.18 323 *i* P **P 23 38 06.6 +0.7**
comp=Z,0.9nm,0.2s,SNR=6.4
MAUC Maruska 47.22 326 *e*P **P 23 38 07.1 +1.0**
CONA Conrad Observa 47.55 323 *e*P **P 23 38 09.4 +0.6**
comp=Z,1.6nm,0.6s,SNR=11
MORC Moravsky Berou 47.60 326 ⇓P **P 23 38 10.1 +1.0**
MORC Moravsky Berou 47.60 326 P **P 23 38 08.7 -0.4**
MORC Moravsky Berou 47.60 326 *e*P **P 23 38 09.5 +0.4**
LATE Laterza 47.72 315 P **P 23 38 10.4 +0.3**
KRUC Moravsky 47.84 325 *e*P **P 23 38 11.5 +0.6**
VRAC Vranov 47.86 325 ⇑P **P 23 38 11.9 +0.8**
VRAC Vranov 47.86 325 LR LR 00 01 57.3
comp=Z,80nm,18.5s,baz=108,slow=41
VRAC Vranov 47.86 325 *e*P **P 23 38 11.5 +0.4**
SABO M.te Sabotino 47.96 320 P **P 23 38 11.1 -0.9**
SABO IAmb IAmb 23 38 26.0
comp=Z,19nm,1.4s
KLMR Klimovskoe 48.14 349 *e*P **P 23 38 10.3 -2.7**
KLMR AMP 23 38 15.2
comp=Z,79nm,1.5s
KLMR *e*PP **PP 23 40 04.3 -1.0**
KRLC Kraliky 48.18 326 *e*P **P 23 38 13.7 +0.1**
MYKA Terra Mystica 48.23 321 *e*P **P 23 38 14.7 +0.6**
comp=Z,2.0nm,0.6s,SNR=6.8
MYKOM Kota Tinggi 48.23 101 P **P 23 38 15.6 +1.1**
CASP Castiglione de 48.43 315 P **P 23 38 15.4 -0.2**
MOA Molln 48.44 323 *e*P **P 23 38 16.1 +0.5**
comp=Z,1.4nm,0.5s
DPC Dobruska-Polom 48.57 326 *e*P **P 23 38 17.1 +0.5**
CLUD Cludinico 48.62 320 P **P 23 38 16.9 -0.1**
CLUD IAmb IAmb 23 38 19.5
comp=Z,14nm,1.0s
STAL STALIGIAL 48.64 320 P **P 23 38 16.0 -1.2**
BIOA Bad Ischl, Aus 48.73 322 *e*P **P 23 38 18.1 +0.3**
comp=Z,1.0nm,0.4s
OSTC Ostas 48.74 327 *e*P **P 23 38 18.5 +0.6**
CIMO Cimolais 48.83 320 P **P 23 38 18.0 -0.6**
CIMO IAmb IAmb 23 38 20.6
comp=Z,18nm,1.4s
CHVC Chvalec 48.85 327 *e*P **P 23 38 18.9 +0.2**
CKRC Cesky Krumlov 48.89 324 *e*P **P 23 38 19.0 0.0**
TEOL Teolo 48.91 319 P **P 23 38 18.9 -0.3**
TEOL IAmb IAmb 23 38 20.5
comp=Z,10nm,0.9s
ABTA Abfaltersbach 48.98 321 *e*P **P 23 38 20.6 +0.7**
comp=Z,1.0nm,0.4s
TAM Tamanrasset 49.02 288 P **P 23 38 20.1 -0.5**
TAM IAmb IAmb 23 38 22.9
comp=Z,8.7nm,0.8s
CTI Castel Tesino 49.21 319 P **P 23 38 21.4 -0.2**
CTI IAmb IAmb 23 38 33.4
comp=Z,8.0nm,1.0s
GERES GERESS Array B 49.25 324 P **P 23 38 21.0 -0.9**
comp=Z,0.8nm,0.7s,baz=120,slow=7.8,SNR=7.7
GERES PcP **PcP 23 39 44.0 -0.8**
comp=Z,0.5nm,0.7s,baz=148,slow=4.5,SNR=2.7
comp=Z,0.8nm,0.7s
GERES GERESS Array B 49.25 324 P **P 23 38 20.7 -1.2**
LBTB Lobatse 49.43 218 LR LR 23 59 28.9
comp=Z,134nm,18.9s,baz=84,slow=36
KHC Kasperske Hory 49.46 324 P **P 23 38 22.8 -0.7**
KHC IAmb IAmb 23 38 25.4
comp=Z,6.1nm,1.1s
KHC Kasperske Hory 49.46 324 *e*P **P 23 38 22.7 -0.7**
WTTA Wattenberg 49.74 321 *e*P **P 23 38 25.5 -0.3**
comp=Z,2.7nm,0.6s,SNR=6.0
WATA Walderalm 49.81 321 *e*P **P 23 38 25.8 -0.5**
comp=Z,2.3nm,0.6s,SNR=6.8
SQTA Sankt Quirin 49.99 321 *e*P **P 23 38 27.2 -0.4**
comp=Z,6.7nm,0.6s,SNR=7.6
MOTA Moosalm 50.10 321 *e*P **P 23 38 28.1 -0.4**
comp=Z,3.9nm,0.6s
BRG Berggiesshubel 50.14 326 *e*P **P 23 38 28.9 +0.5**
BRG Amp 23 38 31.3
comp=Z,11nm,1.4s
FETA Feichten 50.20 320 *e*P **P 23 38 28.8 -0.5**
comp=Z,2.8nm,0.7s
FUORN Ofenpass-Fuorn 50.32 320 P **P 23 38 29.0 -1.3**
RETA Reutte 50.38 321 *e*P **P 23 38 29.8 -0.7**
comp=Z,2.3nm,0.6s
NKC Novy Kostel 50.64 325 *e*P **P 23 38 33.7 +1.3**
DAVA Damuels 50.84 320 *e*P **P 23 38 33.7 -0.4**
comp=Z,2.5nm,0.5s
TSUM Tsumeb 50.87 230 LR LR 00 01 21.3
comp=Z,317nm,18.2s,baz=36,slow=38
TSUM Tsumeb 50.87 230 P **P 23 38 34.4 -0.2**
TSUM IAmb IAmb 23 38 37.6
comp=Z,10nm,0.9s
CLL Collm 50.87 326 P **P 23 38 33.6 -0.4**
CLL IAmb IAmb 23 38 35.6
comp=Z,14nm,1.2s
CLL Collm 50.87 326 *i* P **P 23 38 33.6 -0.4**
comp=Z,17nm,1.3s
CLL *i* x x 23 38 39.9
CLL *e*PP **PP 23 40 31.0 +0.7**
XAN Xi'an 51.00 58 P **P 23 38 35.5 +0.1**
XAN pP pP 23 38 40.1 -0.3
XAN pmax pmax
comp=Z,8.0nm,0.9s
FIA1 FINESS Array S 51.97 342 P **P 23 38 42.2 +0.1**
FINES FINESS Array B 51.97 342 P **P 23 38 42.5 +0.4**
comp=Z,6.8nm,0.6s,baz=136,slow=9.6,SNR=46
comp=Z,6.8nm,0.6s
FINES FINESS Array B 51.97 342 P **P 23 38 41.3 -0.7**
SENIN Lac Senin/Sane 52.11 318 P **P 23 38 43.3 -0.4**
SENIN IAmb IAmb 23 38 45.6
comp=Z,6.3nm,0.8s
BFO Black Forest 52.22 321 P **P 23 38 43.8 -0.4**
BFO IAmb IAmb 23 38 46.4
comp=Z,12nm,1.2s
BOSA Boshof 52.36 215 P **P 23 38 45.4 -0.1**
comp=Z,2.3nm,0.6s,baz=66,slow=5.8,SNR=8.1
BOSA LR LR 00 00 57.5
comp=Z,107nm,19.0s,baz=37,slow=36
comp=Z,2.3nm,0.6s
ECH Echery 52.89 320 P **P 23 38 48.7 -0.5**
ECH IAmb IAmb 23 38 50.8
comp=Z,12nm,1.4s
SONM Songino Array 52.89 40 P **P 23 38 50.7 +1.4**
comp=Z,1.2nm,0.7s,baz=236,slow=8.5,SNR=11
SONM PcP **PcP 23 39 57.8 -0.6**
comp=Z,0.9nm,0.6s,baz=255,slow=4.0,SNR=4.0
comp=Z,1.2nm,0.7s
SONM Songino Array 52.89 40 P **P 23 38 49.9 +0.5**
TOA0 Torodi Ar. Sit 53.30 276 P **P 23 38 51.9 -0.9**
TOA0 Torodi Ar. Sit 53.30 276 P **P 23 38 52.9 +0.2**
SNR=6.0
TOA0 P **P 23 38 52.9 +0.2**
SNR=6.0
TORD Torodi Ar. Bea 53.30 276 P **P 23 38 52.8 +0.1**
comp=Z,3.0nm,0.7s,baz=88,slow=7.6,SNR=22
TORD PcP **PcP 23 39 59.9 -0.4**
comp=Z,1.1nm,0.8s,baz=74,slow=4.0,SNR=2.5
comp=Z,3.0nm,0.7s
TORD Torodi Ar. Bea 53.30 276 P **P 23 38 52.0 -0.7**
TORD IAmb IAmb 23 38 56.5
comp=Z,7.8nm,1.3s
SSB Saint Sauveur 53.56 316 P **P 23 38 54.1 -0.2**
SSB IAmb IAmb 23 38 56.8
comp=Z,17nm,1.2s
HHC Hu-ho-hao-te 54.37 50 *e*P **P 23 39 01.5 +1.2**
HHC S **S 23 46 34.6 -3.2**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC LR LR
comp=Z,240nm,14.6s
HHC LR LR
comp=Z,320nm,13.3s
HHC LR LR
comp=Z,470nm,14.6s
NB2 NORSAR Subarra 56.96 336 P **P 23 39 17.5 -1.0**
baz=120,slow=7.9
NB2 NORSAR Subarra 56.96 336 P **P 23 39 17.5 -1.0**
comp=Z,13nm,1.4s,baz=120,slow=7.9
NOA NORSAR Array B 56.96 336 P **P 23 39 17.8 -0.7**
comp=Z,1.9nm,0.8s,baz=120,slow=7.6,SNR=4.7
comp=Z,1.9nm,0.8s
SUR Sutherland 57.70 216 LR LR 00 02 51.6
comp=Z,116nm,20.1s,baz=60,slow=35
NRIK Noril'sk 58.37 12 P **P 23 39 27.8 -0.4**
comp=Z,3.1nm,0.9s,baz=232,slow=6.1,SNR=6.8
comp=Z,3.1nm,0.9s
NRIK Noril'sk 58.37 12 P **P 23 39 28.3 +0.1**
NRIK IAmb IAmb 23 39 30.5
comp=Z,15nm,1.4s
ESBB Sonseca Array 58.47 308 P **P 23 39 27.7 -1.7**
ESBB IAmb IAmb 23 39 35.2
comp=Z,7.6nm,1.1s
ESDC Sonseca Array 58.47 308 P **P 23 39 29.3 -0.2**
comp=Z,3.4nm,0.7s,baz=84,slow=6.1,SNR=47
comp=Z,3.4nm,0.7s
ESDC Sonseca Array 58.47 308 P **P 23 39 27.6 -1.9**
ESDC IAmb IAmb 23 39 35.2
comp=Z,5.5nm,1.1s
ARCES ARCESS Array B 58.58 348 P **P 23 39 29.8 +0.1**
comp=Z,8.6nm,0.7s,baz=144,slow=6.6,SNR=36
ARCES LR LR 00 07 37.1
comp=Z,89nm,20.5s,baz=134,slow=39
comp=Z,8.6nm,0.7s
ARCES ARCESS Array B 58.58 348 P **P 23 39 29.3 -0.4**
PAB San Pablo 58.75 308 P **P 23 39 30.3 -1.1**
PAB IAmb IAmb 23 39 36.8
comp=Z,12nm,1.4s
NJ2 Nanjing 59.10 61 *e*P **P 23 39 38.4 +4.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
FAUS Fauske 59.51 343 *e*P **P 23 39 36.1 0.0**
FAUS IAmb IAmb 23 39 36.7
comp=Z,22nm,0.8s
KONS Konsvik 59.58 341 *e*P **P 23 39 36.6 +0.1**
HAMF Hammerfest 59.85 348 *e*P **P 23 39 38.9 +0.5**
HAMF IAmb IAmb 23 39 40.2
comp=Z,23nm,0.7s
STEI Steigen 59.89 343 *e*P **P 23 39 38.3 -0.4**
TRO Tromso 60.13 346 *e*P **P 23 39 39.8 -0.5**
TRO IAmb IAmb 23 39 42.2
comp=Z,20nm,1.1s
DBIC Dimbokro 60.82 270 P **P 23 39 47.0 +1.0**
comp=Z,3.2nm,0.8s,baz=118,slow=7.1,SNR=4.3
comp=Z,3.2nm,0.8s
PBRG Braganca 60.83 310 *e*P **P 23 39 48.9 +3.2**
comp=Z,15nm,1.8s
MVO Moncorvo 60.97 309 *e*P **P 23 39 48.6 +1.9**
comp=Z,16nm,2.2s
PESTR Estremoz 61.18 307 *e*P **P 23 39 44.0 -4.1**
comp=Z,7.4nm,1.5s
MTE Manteigas 61.28 308 *e*P **P 23 39 48.1 -0.7**
comp=Z,14nm,1.7s
PBEJ Beja 61.34 306 *e*P **P 23 39 49.5 +0.4**
comp=Z,14nm,1.9s
EVO Evora 61.49 306 *e*P **P 23 39 50.2 +0.1**
comp=Z,17nm,1.6s
PMTG Montargil 61.69 307 *e*P **P 23 39 52.3 +0.8**
comp=Z,22nm,1.7s
HIA Hailar 61.79 42 P **P 23 39 51.2 -0.8**
HIA IAmb IAmb 23 40 08.4
comp=Z,9.7nm,1.1s
PTEO Sao Teotonio 61.98 305 *e*P **P 23 39 51.4 -2.1**
comp=Z,29nm,1.5s
PSBE So Bento 62.17 307 *e*P **P 23 39 55.5 +0.8**
comp=Z,43nm,1.5s
PMST Lisbon--Monsan 62.41 306 *e*P **P 23 39 57.6 +1.2**
comp=Z,62nm,1.4s
PMAFR Mafra 62.51 307 *e*P P 23 40 05.8 +8.8
comp=Z,69nm,1.9s
TWSI Taliwang, Sumb 63.96 107 P **P 23 40 04.7 -2.3**
comp=Z,15nm,1.1s
KAPI Kappang 65.43 102 P **P 23 40 16.1 -0.5**
comp=Z,18nm,0.7s,baz=270,slow=5.5,SNR=16
KAPI LR LR 00 07 41.8
comp=Z,21nm,19.6s,baz=272,slow=35
comp=Z,18nm,0.7s
KAPI Kappang 65.43 102 P **P 23 40 14.1 -2.5**
KAPI Kappang 65.43 102 P **P 23 40 15.7 -0.9**
comp=Z,438nmcomp=Z,34nm,1.0s
BNSI Bone 65.58 102 P **P 23 40 17.6 0.0**
comp=Z,14nm,1.2s
BKSI Bulukumba 65.88 103 P **P 23 40 18.1 -1.4**
comp=Z,11nm,1.4s
MRSI Marisa 65.96 96 P **P 23 40 19.0 -1.0**
comp=Z,29nm,0.9s
KSRS Korea Array 66.66 55 P **P 23 40 23.6 -0.5**
comp=Z,1.9nm,0.7s,baz=270,slow=6.7,SNR=5.6
comp=Z,1.9nm,0.7s
HEH HeiHe 66.85 41 *e*P **P 23 40 26.0 +0.9**
HEH pmax pmax
comp=Z,13nm,1.0s
JMIC Jan Mayen 68.59 341 LR LR 00 12 24.0
comp=Z,56nm,19.9s,baz=106,slow=38
YAK Yakutsk 69.53 29 P **P 23 40 41.4 -0.3**
comp=Z,11nm,0.4s,baz=238,slow=2.6,SNR=2.6
YAK LR LR 00 14 24.7
comp=Z,90nm,18.2s,baz=138,slow=39
comp=Z,11nm,0.4s
YAK Yakutsk 69.53 29 P **P 23 40 41.1 -0.6**
KLR Kul'dur 69.60 43 P **P 23 40 41.9 -0.5**
comp=Z,1.6nm,0.6s,baz=289,slow=10,SNR=5.5
comp=Z,1.6nm,0.6s
USRK Ussuriysk Ar. 69.70 48 P **P 23 40 43.5 +0.4**
comp=Z,2.8nm,0.8s,baz=270,slow=5.9,SNR=2.0
comp=Z,2.8nm,0.8s
USRK Ussuriysk Ar. 69.70 48 P **P 23 40 41.5 -1.6**
BATI Baumata 70.75 106 P **P 23 40 49.9 -0.1**
comp=Z,10nm,0.4s,baz=347,slow=6.9,SNR=6.5
comp=Z,10nm,0.4s
BATI Baumata 70.75 106 P **P 23 40 50.0 -0.1**
comp=Z,24nm,0.9s
TIXI Tiksi 70.95 19 P **P 23 40 49.8 -0.4**
comp=Z,5.8nm,0.6s,baz=90,slow=22,SNR=12
comp=Z,5.8nm,0.6s
TIXI Tiksi 70.95 19 P **P 23 40 49.6 -0.6**
TIXI IAmb IAmb 23 40 51.0
comp=Z,6.3nm,0.6s
SOEI Soe 71.17 106 P **P 23 40 51.2 -1.5**
DAG Danmarks Havn 72.83 347 *i* P **P 23 41 01.0 -0.5**
KRAI Karang Ratu 73.19 98 P **P 23 41 03.2 -1.5**
comp=Z,7μmcomp=Z,29nm,0.5s
H01W3 Cape Leeuwin H 73.20 134 T T 01 00 48.2
baz=302,slow=75,SNR=124
H01W2 Cape Leeuwin H 73.21 134 T T 01 00 48.3
baz=302,slow=75,SNR=127
H01W1 Cape Leeuwin H 73.22 134 T T 01 00 49.1
baz=302,slow=75,SNR=111
MJAR Matsushiro Arr 74.93 56 P **P 23 41 13.3 -1.2**
comp=Z,1.8nm,0.6s,baz=280,slow=4.7,SNR=4.4
comp=Z,1.8nm,0.6s
JHJ Hachijo jima 2 76.66 59 LR LR 00 15 43.2
comp=Z,126nm,20.5s,baz=275,slow=36
SEY Senchan 79.99 28 P **P 23 41 42.6 +0.3**
comp=Z,4.8nm,0.8s,baz=286,slow=4.2,SNR=7.9
comp=Z,4.8nm,0.8s
MAW Mawson 81.78 178 P **P 23 41 53.2 +1.6**
comp=Z,1.8nm,0.6s,baz=340,slow=14,SNR=4.2
comp=Z,1.8nm,0.6s
WRA Warramunga Arr 83.60 112 P **P 23 42 01.4 -0.8**
comp=Z,2.2nm,0.9s,baz=302,slow=3.6,SNR=13
comp=Z,2.2nm,0.9s
WRA Warramunga Arr 83.60 112 P **P 23 42 00.4 -1.7**
WB2 Warramunga Arr 83.61 112 P **P 23 42 01.2 -1.0**
WR0 Warramunga Arr 83.78 112 P **P 23 42 01.8 -1.3**
ASAR Alice Springs 84.35 116 P **P 23 42 05.6 -0.3**
comp=Z,2.9nm,0.6s,baz=288,slow=4.6,SNR=34
comp=Z,2.9nm,0.6s
ASAR Alice Springs 84.35 116 P **P 23 42 04.8 -1.2**
AS31 Alice Springs 84.35 116 P **P 23 42 05.3 -0.6**
GUMO Guam 85.03 77 LR LR 00 19 25.0
comp=Z,15nm,20.3s,baz=252,slow=35
ILAR Eilson Array 99.17 10 PP **PP 23 47 16.6 +0.4**
comp=Z,0.2nm,0.8s,baz=344,slow=6.0,SNR=2.4
PDAR Pinedale Array 121.84 348 PKP **PKPdf 23 48 28.1 +0.1**
comp=Z,1.0nm,0.6s,baz=83,slow=2.5,SNR=11
LPAZ La Paz 126.84 260 PKP **PKPdf 23 48 38.2 -0.4**
comp=Z,0.5nm,0.5s,baz=176,slow=14,SNR=1.9
NVAR Mina Array Bea 127.36 355 PKP **PKPdf 23 48 38.7 +0.1**
comp=Z,2.2nm,0.7s,baz=42,slow=1.1,SNR=17
TXAR Lajitas Array 132.66 336 PKP **PKiKP 23 48 49.7 -0.2**
comp=Z,0.6nm,0.7s,baz=103,slow=0.2,SNR=7.1

*IDC **01** 23:36:37.0±0.7,27°.92N×139°.63E,h507^{km}±11^{km}, mb3.0/12,mbtmp3.8/14,Error ellipse: s-maj=26.8km s-min=11.2km az=82.0*
*JMA **01** 23:36:38.2±0.2,28°.N±1°.×14°.0E±°.,h498^{km},MV3.7/17,W OFF OGASAWARA*
ISC 01 23:36:37.2±0.7,27°.93N±0°.07×139°.6E±0°.1,h507^{km},n22,
σ1^{s}05/27,mb3.4/12,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.42**	**109**	*e*P	**P**	**23 37 46.4**	**+1.3**
CBIJ				*e*S	**S**	**23 38 40.4**	**0.0**
JCJ	**Chichijima**	**2.42**	**109**	P	**P**	**23 37 45.4**	**+0.2**
	23nm,0.4s,baz=84,slow=22,SNR=1.4						
JCJ				S	**S**	**23 38 40.2**	**-0.1**
	62nm,0.5s,baz=300,slow=23,SNR=11						
JHH2	**Haha-jima-NKT2**	**2.61**	**119**	*e*S	**S**	**23 38 42.9**	**+0.5**
BSO1	**Boso 1**	**6.80**	**9**	*e*P	**P**	**23 38 23.2**	**+2.3**
BSO1				*e*S	**S**	**23 39 46.1**	**+0.1**
BSO3	**Boso 3**	**6.89**	**6**	*e*P	**P**	**23 38 23.7**	**+1.6**
BSO3				*e*S	**S**	**23 39 47.2**	**-0.9**
JTO	**Tosashimizu**	**7.67**	**311**	*e*P	**P**	**23 38 32.1**	**+1.8**
JHU	**Hanno**	**7.91**	**358**	*e*S	**S**	**23 40 06.6**	**-0.8**
JRY	**Ryogami san**	**8.09**	**356**	*e*P	**P**	**23 38 35.8**	**+1.3**
JHO	**Hitachi**	**8.69**	**5**	*e*P	**P**	**23 38 42.0**	**+1.2**
JHO				*e*S	**S**	**23 40 20.2**	**-2.1**
USRK	**Ussuriysk Ar.**	**17.36**	**341**	P	**P**	**23 40 12.2**	**+1.2**
	4.3nm,0.6s,baz=173,slow=11,SNR=9.8						
KLR	**Kul'dur**	**22.12**	**346**	P	**P**	**23 40 54.7**	**+0.4**
	1.4nm,0.5s,baz=189,slow=6.8,SNR=4.1						
	1.4nm,0.5s						
SONM	**Songino Array**	**32.55**	**317**	P	**P**	**23 42 26.2**	**+0.3**
	0.2nm,0.5s,baz=116,slow=8.5,SNR=1.4						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**47.37**	**319**	P	**P**	**23 44 23.9**	**-0.7**
	0.4nm,0.4s,baz=99,slow=4.7,SNR=2.2						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**47.86**	**187**	P	**P**	**23 44 28.5**	**-0.3**
	1.0nm,0.3s,baz=1.6,slow=7.8,SNR=36						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**48.19**	**309**	P	**P**	**23 44 30.3**	**-0.7**
	0.2nm,0.3s,baz=89,slow=10,SNR=5.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**51.59**	**187**	P	**P**	**23 44 56.0**	**-0.2**
	0.6nm,0.5s,baz=16,slow=13,SNR=13						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**58.08**	**29**	P	**P**	**23 45 40.5**	**-0.6**
	0.2nm,0.5s,baz=256,slow=5.7,SNR=4.3						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**59.50**	**178**	P	**P**	**23 45 50.8**	**-0.3**
	0.6nm,0.4s,baz=347,slow=14,SNR=2.9						
	0.6nm,0.4s						
INK	**Inuvik**	**63.22**	**25**	P	**P**	**23 46 15.2**	**+0.3**
	0.4nm,0.4s,baz=270,slow=3.7,SNR=4.0						
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**72.00**	**340**	P	**P**	**23 47 08.1**	**-0.6**
	3.1nm,1.0s,baz=52,slow=7.3,SNR=4.0						
	3.1nm,1.0s						
KBZ	**Khabaz**	**75.78**	**312**	P	**P**	**23 47 29.8**	**-0.8**
	2.4nm,0.9s,baz=321,slow=20,SNR=2.4						
	2.4nm,0.9s						
FINES	**FINESS Array B**	**76.19**	**333**	P	**P**	**23 47 32.1**	**-0.4**
	0.9nm,0.3s,baz=66,slow=4.5,SNR=18						
	0.9nm,0.3s						

IDC 01 23:42:17.3±2.3,2°.08N×126°.27E,h0^{km},mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=189.0km s-min=28.0km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.27**	**160**	P	P	23 47 26.6	-0.1
	0.4nm,0.4s,baz=339,slow=10,SNR=8.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**26.65**	**164**	P	P	23 47 58.0	0.0
	0.3nm,0.4s,baz=351,slow=7.5,SNR=6.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.65**	**326**	P	P	23 52 16.5	0.0
	0.5nm,0.8s,baz=117,slow=8.6,SNR=2.1						
	0.5nm,0.8s						

*IDC **01** 23:55:21.4±0.8,14°.05N×56°.52E,h0^{km},mb4.0/19, mbtmp4.0/20,ML2.7/1,MS3.6/9,Error ellipse: s-maj=20.2km s-min=16.1km az=47.0*
*NEIC **01** 23:55:25.7±1.7,14°.30N±0°.09×56°.6E±0°.1,h10^{km}±1^{km}, mb4.5/41,Error ellipse: s-maj=16.8km s-min=15.1km az=122.0*
ISC 01 23:55:25.9±0.5,14°.23N±0°.08×56°.66E±0°.07,h20^{km},n100, σ0^{s}96/94,mb4.5/52,MS3.6/9,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.16**	**11**	Pn	**Pn**	**23 57 37.3**	**+0.3**
	0.1nm,0.3s,baz=284,slow=22,SNR=1.3						
WSAR				Sn	Sn	23 59 10.2	-9.3
	0.1nm,0.3s,baz=187,slow=9.9,SNR=1.2						
	3.4nm,1.0s						
UOSS	**Minazif**	**10.67**	**358**	Pn	**Pn**	**23 57 56.7**	**-1.1**
ATD	**Arta Tunnel**	**13.73**	**260**	LR	LR	00 02 28.8	
	comp=Z,252nm,20.7s,baz=120,slow=32						
RAYN	**Ar Rayn**	**14.03**	**313**	Pn	**Pn**	**23 58 41.9**	**-1.8**
FURI	**Furi**	**18.39**	**255**	P	**P**	**23 59 40.8**	**+0.7**
HRA	**Herat**	**20.70**	**13**	P	**P**	**00 00 05.2**	**0.0**
KBL	**Kabul**	**23.12**	**27**	P	**P**	**00 00 29.9**	**-1.0**
KBL				IAmb	IAmb	00 00 44.9	
	comp=Z,13nm,1.3s						
GEYT	**Alibeck**	**23.64**	**3**	P	**P**	**00 00 36.2**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=169,slow=8.6,SNR=7.6						
	comp=Z,3.3nm,0.7s						
GEYT	**Alibeck**	**23.64**	**3**	P	**P**	**00 00 36.7**	**+0.7**
GYA0B	**ALIBECK ARRAY**	**23.64**	**3**	P	**P**	**00 00 37.2**	**+1.2**
NIL	**Nilore**	**24.51**	**35**	P	**P**	**00 00 43.5**	**-0.6**
KMBO	**Kilima Mbogo**	**24.54**	**233**	P	**P**	**00 00 45.3**	**+0.6**
KMBO				IAmb	IAmb	00 00 53.7	
	comp=Z,15nm,1.4s						
PALK	**Pallekele**	**24.60**	**104**	LR	LR	00 08 25.0	
	comp=Z,135nm,19.7s,baz=42,slow=32						
PALK	**Pallekele**	**24.60**	**104**	P	**P**	**00 00 45.1**	**0.0**
KIBK	**Kibwezi**	**24.72**	**230**	P	**P**	**00 00 46.9**	**+0.7**
KIBK				IAmb	IAmb	00 01 07.1	
	comp=Z,17nm,1.3s						
EIL	**Elat**	**25.26**	**311**	LR	LR	00 11 22.2	
	comp=Z,150nm,18.5s,baz=116,slow=38						
MARD	**Mardin**	**27.00**	**331**	P	**P**	**00 01 06.6**	**-0.1**
BTK	**Batken**	**28.57**	**23**	P	**P**	**00 01 21.2**	**+0.5**
BTK				IAmb	IAmb	00 01 33.7	
	comp=Z,6.7nm,1.0s						
KSH	**Kashi**	**30.39**	**30**	P	**P**	**00 01 35.0**	**-1.8**
KSH				pP	pP	00 01 39.8	-2.2
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				LR	LR		
	comp=N,220nm,15.9s						
KSH				LR	LR		
	comp=E,240nm,17.8s						
KSH				LR	LR		
	comp=Z,160nm,17.8s						
KK31	**Karatay Array**	**31.15**	**20**	P	**P**	**00 01 44.4**	**+1.0**
KKAR	**Karatay Array**	**31.15**	**20**	P	**P**	**00 01 44.3**	**+0.9**
AAK	**Ala-Archa**	**32.22**	**25**	P	**P**	**00 01 55.5**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=232,slow=9.8,SNR=4.2						
	comp=Z,0.5nm,0.3s						
AAK	**Ala-Archa**	**32.22**	**25**	P	**P**	**00 01 54.5**	**+1.4**
BRTR	**Keskin Array B**	**32.46**	**326**	P	**P**	**00 01 54.2**	**-0.9**
	comp=Z,1.4nm,1.0s,baz=143,slow=11,SNR=4.7						
	comp=Z,1.4nm,1.0s						
BRTR	**Keskin Array B**	**32.46**	**326**	P	**P**	**00 01 55.4**	**+0.2**
ELL	**Elmali**	**32.76**	**318**	P	**P**	**00 01 59.3**	**+1.6**
BRDH	**Bariadhala**	**34.17**	**71**	LR	LR	00 16 32.9	
	comp=Z,149nm,19.4s,baz=273,slow=37						
SHL	**Shillong**	**34.89**	**66**	P	**P**	**00 02 16.6**	**+0.1**
SHL				IAmb	IAmb	00 02 19.2	
	comp=Z,10nm,1.1s						
ABKAR	**Akbulak array**	**35.04**	**4**	P	**P**	**00 02 17.8**	**+0.6**
ABKAR	**Akbulak array**	**35.04**	**4**	P	**P**	**00 02 17.6**	**+0.4**
ABKAR				IAmb	IAmb	00 02 19.1	
	comp=Z,10nm,1.4s						
IDI	**Anoyia**	**35.42**	**312**	LR	LR	00 18 34.7	
	comp=Z,28nm,18.8s,baz=102,slow=39						
MKAR	**Makanchi Array**	**38.91**	**28**	P	**P**	**00 02 50.5**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=210,slow=8.3,SNR=2.3						
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**38.91**	**28**	P	**P**	**00 02 50.3**	**0.0**
BVAR	**Borovoye Array**	**40.22**	**13**	P	**P**	**00 03 00.6**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=153,slow=9.7,SNR=1.4						
	comp=Z,0.4nm,0.4s						
VTS	**Vitosha**	**40.34**	**321**	P	**P**	**00 03 03.6**	**+1.2**
VTS				IAmb	IAmb	00 03 05.2	
	comp=Z,14nm,1.4s						
KURBB	**Kurchatov Arra**	**40.41**	**21**	P	**P**	**00 03 03.0**	**+0.4**
	comp=Z,0.3nm,0.2s,baz=216,slow=8.5,SNR=8.3						

	comp=Z,0.3nm,0.2s						
KURK	Kurchatov	40.52	21	P	P	00 03 04.8	+1.3
MLR	Muntele Rosu	40.54	326	P	P	00 03 05.5	+1.5
MLR				IAmb	IAmb	00 03 08.4	
	comp=Z,19nm,1.5s						
CMAR	Chiang Mai Arr	40.73	78	P	P	00 03 05.8	+0.1
	comp=Z,0.6nm,0.3s,baz=274,slow=8.7,SNR=9.1						
CMAR				LR	LR	00 21 36.3	
	comp=Z,27nm,19.3s,baz=270,slow=38						
	comp=Z,0.6nm,0.3s						
CMAR	Chiang Mai Arr	40.73	78	P	P	00 03 06.5	+0.7
ARU	Arti	42.14	2	P	P	00 03 17.2	+0.4
	comp=Z,0.9nm,0.2s,baz=188,slow=10,SNR=6.7						
	comp=Z,0.9nm,0.2s						
ARU	Arti	42.14	2	P	P	00 03 17.2	+0.4
ARU				IAmb	IAmb	00 03 18.7	
	comp=Z,11nm,1.2s						
AKASG	Malin Array Be	42.63	334	P	P	00 03 20.4	-0.4
	comp=Z,1.2nm,0.5s,baz=138,slow=7.2,SNR=6.3						
	comp=Z,1.2nm,0.5s						
DIVS	Divibare	43.13	321	P	P	00 03 25.1	0.0
DIVS				IAmb	IAmb	00 03 27.5	
	comp=Z,9.7nm,1.3s						
PZH	PanZhiHua	43.79	66	P	P	00 03 30.9	+0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
ZAA0	Zalesovo Array	45.39	23	P	P	00 03 42.2	-0.7
ZALV	Zalesovo Beam	45.39	23	P	P	00 03 42.9	0.0
	comp=Z,1.1nm,0.6s,baz=229,slow=7.6,SNR=7.3						
	comp=Z,1.1nm,0.6s						
ZALV	Zalesovo Beam	45.39	23	P	P	00 03 42.3	-0.6
JAVC	Velka Javorina	47.07	325	eP	P	00 03 57.3	+1.0
RONA	Rosalia, Austr	47.22	323	eP	P	00 03 58.4	+0.9
	comp=Z,7.7nm,1.2s						
ARSA	Arzberg	47.44	323	eP	P	00 04 00.5	+1.3
	comp=Z,7.5nm,1.2s						
SOKA	Soboth	47.45	322	eP	P	00 04 00.1	+0.7
	comp=Z,3.5nm,0.8s						
CONA	Conrad Observa	47.59	323	eP	P	00 04 01.4	+1.0
	comp=Z,13nm,1.4s						
MORC	Moravsky Berou	47.65	326	P	P	00 04 01.1	+0.3
MORC	Moravsky Berou	47.65	326	eP	P	00 04 01.5	+0.7
OBKA	Obir	47.66	321	eP	P	00 04 02.1	+1.1
	comp=Z,5.3nm,1.2s						
OBKA				eP	PcP	00 05 28.9	-1.5
	comp=Z,4.9nm,1.0s						
KRUC	Moravsky	47.88	325	eP	P	00 04 03.5	+0.9
VRAC	Vranov	47.91	325	eP	P	00 04 03.2	+0.4
KLMR	Klimovskoe	48.20	349	eP	P	00 04 02.6	-2.2
KLMR				AMP		00 04 06.9	
	comp=Z,49nm,1.4s						
MYKA	Terra Mystica	48.27	321	eP	P	00 04 06.6	+0.9
	comp=Z,2.7nm,0.5s						
CLUD	Cludinico	48.66	320	P	P	00 04 08.6	-0.1
CLUD				IAmb	IAmb	00 04 09.8	
	comp=Z,7.6nm,1.0s						
STAL	STALIGIAL	48.68	320	P	P	00 04 08.8	0.0
CIMO	Cimolais	48.87	320	P	P	00 04 10.0	-0.3
CIMO				IAmb	IAmb	00 04 12.9	
	comp=Z,11nm,1.4s						
ABTA	Abfaltersbach	49.02	321	eP	P	00 04 12.3	+0.8
	comp=Z,5.1nm,1.6s						
ABTA				eP	PcP	00 05 36.9	+1.6
	comp=Z,3.3nm,1.0s						
TAM	Tamanrasset	49.03	288	P	P	00 04 13.4	+1.4
TAM				IAmb	IAmb	00 04 19.8	
	comp=Z,4.0nm,0.9s						
CTI	Castel Tesino	49.25	319	P	P	00 04 12.8	-0.5
CTI				IAmb	IAmb	00 04 14.4	
	comp=Z,5.6nm,1.0s						
WTTA	Wattenberg	49.79	321	eP	P	00 04 17.1	-0.4
	comp=Z,6.8nm,1.1s						
WTTA				iP	PcP	00 05 39.5	+1.4
	comp=Z,4.3nm,0.9s						
WATA	Walderalm	49.85	321	eP	P	00 04 17.6	-0.3
	comp=Z,8.0nm,1.1s						
SQTA	Sankt Quirin	50.03	321	iP	P	00 04 19.0	-0.2
	comp=Z,3.0nm,0.7s						
SQTA				eP	PcP	00 05 37.9	-1.0
	comp=Z,2.5nm,0.6s						
MOTA	Moosalm	50.15	321	eP	P	00 04 19.7	-0.5
	comp=Z,8.0nm,1.3s						
DAVA	Damuels	50.88	320	eP	P	00 04 26.5	+0.8
	comp=Z,15nm,1.6s						
FIA1	FINESS Array S	52.03	342	P	P	00 04 33.4	-0.4
FINES	FINESS Array B	52.03	342	P	P	00 04 33.5	-0.3
	comp=Z,3.4nm,0.7s,baz=143,slow=9.9,SNR=13						
	comp=Z,3.4nm,0.7s						
FINES	FINESS Array B	52.03	342	P	P	00 04 33.2	-0.6
BOSA	Boshof	52.31	215	P	P	00 04 38.2	+1.7
BOSA				IAmb	IAmb	00 05 10.6	
	comp=Z,13nm,1.4s						
SONM	Songino Array	52.94	40	P	P	00 04 41.6	+0.5
	comp=Z,0.4nm,0.4s,baz=238,slow=5.9,SNR=5.6						
	comp=Z,0.4nm,0.4s						
SONM	Songino Array	52.94	40	P	P	00 04 41.3	+0.3
TOA0	Torodi Ar. Sit	53.31	276	P	P	00 04 43.9	-0.2
TOA0				IAmb	IAmb	00 04 50.8	
	comp=Z,5.0nm,1.3s						
TORD	Torodi Ar. Bea	53.31	276	P	P	00 04 42.2	-1.8
	comp=Z,0.7nm,0.6s,baz=86,slow=5.2,SNR=7.9						
	comp=Z,0.7nm,0.6s						
TORD	Torodi Ar. Bea	53.31	276	P	P	00 04 44.3	+0.2
LEM	Lembang	54.71	109	LR	LR	00 25 39.4	
	comp=Z,49nm,19.5s,baz=322,slow=33						
ESDC	Sonseca Array	58.50	308	P	P	00 05 20.2	-0.9
	comp=Z,2.0nm,1.0s,baz=85,slow=6.1,SNR=18						
	comp=Z,2.0nm,1.0s						
ESDC	Sonseca Array	58.50	308	P	P	00 05 20.7	-0.3
ESDC				IAmb	IAmb	00 05 26.9	
	comp=Z,4.8nm,1.2s						
KEV	Kevo	58.52	348	P	P	00 05 20.8	+0.4
ARCES	ARCESS Array B	58.64	348	P	P	00 05 19.5	-1.9
	comp=Z,3.1nm,0.8s,baz=106,slow=3.9,SNR=6.3						
	comp=Z,3.1nm,0.8s						
ARCES	ARCESS Array B	58.64	348	P	P	00 05 21.8	+0.5
PAB	San Pablo	58.78	308	P	P	00 05 22.9	-0.1
PAB				IAmb	IAmb	00 05 24.6	
	comp=Z,11nm,1.4s						
KAPI	Kappang	65.42	102	P	P	00 06 07.3	-0.5
	comp=Z,3.6nm,0.4s,baz=258,slow=5.8,SNR=6.5						
	comp=Z,3.6nm,0.4s						
KAPI	Kappang	65.42	102	P	P	00 06 07.0	-0.8
HEH	HeiHe	66.90	41	eP	P	00 06 17.4	+0.7
HEH				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SPITS	Spitsbergen Ar	66.95	352	LR	LR	00 39 27.9	
	comp=Z,44nm,18.4s,baz=24,slow=39						
TIXI	Tiksi	71.01	19	P	P	00 06 41.5	-0.3
TIXI				IAmb	IAmb	00 06 42.7	
	comp=Z,4.6nm,1.1s						
H01W3	Cape Leeuwin H	73.17	134	T	T	01 26 41.1	
	baz=302,slow=75,SNR=39						
H01W2	Cape Leeuwin H	73.17	134	T	T	01 26 41.6	
	baz=302,slow=75,SNR=45						
H01W1	Cape Leeuwin H	73.18	134	T	T	01 26 42.3	
	baz=302,slow=75,SNR=46						
MAW	Mawson	81.73	178	P	P	00 07 40.7	-1.9
	comp=Z,1.8nm,0.9s,baz=325,slow=22,SNR=1.7						
MAW				LR	LR	00 36 17.4	
	comp=Z,104nm,20.3s,baz=14,slow=30						
	comp=Z,1.8nm,0.9s						
WRA	Warramunga Arr	83.58	112	P	P	00 07 51.7	-1.7
	comp=Z,3.1nm,1.3s,baz=301,slow=4.0,SNR=6.1						
	comp=Z,3.1nm,1.3s						
WB2	Warramunga Arr	83.59	112	P	P	00 07 53.3	-0.1
WB2				IAmb	IAmb	00 08 03.5	
	comp=Z,3.9nm,0.9s						
ASAR	Alice Springs	84.33	116	P	P	00 07 56.7	-0.5
	comp=Z,6.2nm,1.3s,baz=285,slow=5.4,SNR=10						
	comp=Z,6.2nm,1.3s						
NVAR	Mina Array Bea	127.41	355	PKP	PKPdf	00 14 28.2	-1.8
	comp=Z,0.4nm,0.3s,baz=151,slow=2.1,SNR=4.0						

IDC 01 23:57:03.9±0.9, 14°.26N×56°.67E, h0km, mb4.0/15, mbtmp4.0/15, MS3.8/5, Error ellipse: s-maj=22.9km s-min=18.8km az=167.0

NEIC 01 23:57:07.8±2.8, 14°.3N±0°.1×56°.7E±0°.1, h10km±2km, mb4.3/15, Error ellipse: s-maj=22.1km s-min=17.3km az=106.0

ISC 01 23:57:06.2±0.7**, 14°.23N**±0°.09×**56°.70E**±0°.10**, h10km, n45, σ1s.40**/37**, mb4.2**/21**, MS3.7**/4**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	9.14	11	LR	LR	00 02 35.8	
	comp=Z,808nm,20.3s,baz=204,slow=36						
UOSS	Minazif	10.67	358	Pn	Pn	23 59 43.1	+3.9
RAYN	Ar Rayn	14.05	313	Pn	Pn	00 00 23.4	-2.1
MSEY	Mahe Island	18.82	184	P	P	00 01 28.1	+1.9
MSEY				IAmb	IAmb	00 02 01.3	
	comp=Z,25nm,1.4s						
HRA	Herat	20.69	13	P	P	00 01 48.6	+1.9
HRA				IAmb	IAmb	00 01 58.5	
	comp=Z,18nm,1.4s						
LODK	Lodwar	23.63	245	P	P	00 02 19.9	+2.0
LODK				IAmb	IAmb	00 02 27.7	
	comp=Z,12nm,1.1s						
GEYT	Alibeck	23.64	3	P	P	00 02 15.0	-2.6
	comp=Z,1.3nm,0.8s,baz=199,slow=7.6,SNR=2.0						
	comp=Z,1.3nm,0.8s						
NIL	Nilore	24.48	35	P	P	00 02 25.6	0.0
NIL				IAmb	IAmb	00 02 30.8	
	comp=Z,14nm,1.4s						
KMBO	Kilima Mbogo	24.57	233	P	P	00 02 25.9	-1.0
	comp=Z,0.2nm,0.8s,baz=41,slow=23,SNR=4.6						
KMBO	Kilima Mbogo	24.57	233	P	P	00 02 27.7	+0.8
KIBK	Kibwezi	24.76	230	P	P	00 02 29.5	+1.2
AAK	Ala-Archa	32.20	25	LR	LR	00 17 28.9	
	comp=Z,171nm,21.3s,baz=218,slow=38						
ABKAR	Akbulak array	35.03	4	P	P	00 03 58.9	-0.1
MKAR	Makanchi Array	38.89	28	P	P	00 04 31.5	-0.4
	comp=Z,0.7nm,0.8s,baz=190,slow=6.2,SNR=3.5						
	comp=Z,0.7nm,0.8s						
MKAR	Makanchi Array	38.89	28	P	P	00 04 33.7	+1.9
VTS	Vitosha	40.37	321	P	P	00 04 45.1	+0.7
KURBB	Kurchatov Arra	40.39	21	P	P	00 04 42.9	-1.3
	comp=Z,0.5nm,0.2s,baz=219,slow=7.2,SNR=2.2						
	comp=Z,0.5nm,0.2s						
CMAR	Chiang Mai Arr	40.69	78	P	P	00 04 47.2	0.0
	comp=Z,2.4nm,0.9s,baz=270,slow=8.8,SNR=7.5						
	comp=Z,2.4nm,0.9s						
ARU	Arti	42.14	2	P	P	00 04 57.9	-0.7
	comp=Z,2.9nm,0.7s,baz=225,slow=0.9,SNR=6.3						
	comp=Z,2.9nm,0.7s						
ARU	Arti	42.14	2	P	P	00 04 58.8	+0.3
ARU				IAmb	IAmb	00 05 06.8	
	comp=Z,14nm,1.5s						
BURAR	Bucovina Array	42.32	328	P	P	00 05 02.1	+1.8
AKASG	Malin Array Be	42.64	334	P	P	00 05 01.2	-1.5
	comp=Z,0.6nm,0.6s,baz=140,slow=7.7,SNR=5.3						
	comp=Z,0.6nm,0.6s						
DIVS	Divibare	43.16	321	P	P	00 05 08.9	+1.7
DIVS				IAmb	IAmb	00 05 10.8	
	comp=Z,4.9nm,1.0s						
ZALV	Zalesovo Beam	45.37	23	P	P	00 05 24.3	-0.3
	comp=Z,2.1nm,0.7s,baz=238,slow=8.4,SNR=7.4						
	comp=Z,2.1nm,0.7s						
ZALV	Zalesovo Beam	45.37	23	P	P	00 05 25.8	+1.2
VRAC	Vranov	47.92	325	LR	LR	00 27 40.2	
	comp=Z,29nm,18.6s,baz=103,slow=38						
TAM	Tamanrasset	49.07	288	P	P	00 05 54.8	+0.6
TAM				IAmb	IAmb	00 05 56.7	
	comp=Z,3.8nm,0.9s						
TSUM	Tsumeb	50.87	230	LR	LR	00 27 39.4	
	comp=Z,258nm,18.5s,baz=70,slow=36						
FINES	FINESS Array B	52.03	342	P	P	00 06 15.2	-0.5
	comp=Z,2.8nm,0.8s,baz=150,slow=8.1,SNR=10						
	comp=Z,2.8nm,0.8s						
FINES	FINESS Array B	52.03	342	P	P	00 06 15.5	-0.2
SONM	Songino Array	52.91	40	P	P	00 06 22.0	-0.6
	comp=Z,0.5nm,0.6s,baz=282,slow=6.9,SNR=2.4						
	comp=Z,0.5nm,0.6s						
TOA0	Torodi Ar. Sit	53.35	276	P	P	00 06 25.6	-0.6
TOA0				IAmb	IAmb	00 06 43.6	
	comp=Z,3.7nm,1.2s						
TORD	Torodi Ar. Bea	53.35	276	P	P	00 06 26.0	-0.2
	comp=Z,1.3nm,0.8s,baz=87,slow=7.1,SNR=6.9						
	comp=Z,1.3nm,0.8s						
TORD	Torodi Ar. Bea	53.35	276	P	P	00 06 26.5	+0.3
NOA	NORSAR Array B	57.02	336	P	P	00 06 51.5	-0.5
	comp=Z,1.5nm,0.9s,baz=116,slow=7.6,SNR=4.2						
	comp=Z,1.5nm,0.9s						
ESDC	Sonseca Array	58.53	308	P	P	00 07 01.9	-1.2
	comp=Z,1.9nm,0.9s,baz=86,slow=6.2,SNR=9.5						
	comp=Z,1.9nm,0.9s						
ESDC	Sonseca Array	58.53	308	P	P	00 07 02.8	-0.3
ESDC				IAmb	IAmb	00 07 03.5	
	comp=Z,2.0nm,1.0s						
ARCES	ARCESS Array B	58.64	348	P	P	00 07 01.4	-1.9
	comp=Z,3.0nm,0.8s,baz=114,slow=3.0,SNR=4.8						
	comp=Z,3.0nm,0.8s						
ARCES	ARCESS Array B	58.64	348	P	P	00 07 02.6	-0.6
KSRS	Korea Array	66.65	55	P	P	00 07 56.3	-1.0
	comp=Z,0.8nm,0.3s,baz=279,slow=6.4,SNR=2.7						
	comp=Z,0.8nm,0.3s						
H01W3	Cape Leeuwin H	73.14	134	T	T	01 28 22.9	
	baz=302,slow=75,SNR=17						
H01W2	Cape Leeuwin H	73.15	134	T	T	01 28 23.1	
	baz=302,slow=75,SNR=18						
H01W1	Cape Leeuwin H	73.16	134	T	T	01 28 22.7	
	baz=302,slow=75,SNR=18						
MJAR	Matsushiro Arr	74.92	56	LR	LR	00 44 44.7	
	comp=Z,36nm,18.2s,baz=284,slow=38						
ASAR	Alice Springs	84.29	116	P	P	00 09 37.9	-1.0
	comp=Z,1.4nm,0.8s,baz=298,slow=5.0,SNR=11						
	comp=Z,1.4nm,0.8s						

IDC 01 23:59:19.7±1.4**, 27°.99N**×**96°.14E, h0km, mb3.6**/4**, mbtmp3.6**/4**, Error ellipse: s-maj=108.1km s-min=27.8km az=53.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	21.70	334	P	P	00 04 13.4	+1.1
	0.4nm,0.5s,baz=129,slow=10,SNR=4.8						
	0.4nm,0.5s						
FINES	FINESS Array B	56.34	327	P	P	00 09 01.2	-1.0
	1.9nm,0.8s,baz=79,slow=7.2,SNR=1.6						
	1.9nm,0.8s						
WRA	Warramunga Arr	60.29	138	P	P	00 09 30.5	+0.1
	0.4nm,0.6s,baz=330,slow=7.6,SNR=6.2						
	0.4nm,0.6s						
TORD	Torodi Ar. Bea	87.78	284	P	P	00 12 11.1	-0.2
	0.5nm,1.0s,baz=46,slow=5.0,SNR=3.1						
	0.5nm,1.0s						

ASRS 02 00:01:12.1±0.4**, 52°N**±3°×**9°7E**±°**, h5km, MLh3.5**/5**, Error ellipse: s-maj=6.0km s-min=3.3km az=18.6, confirmed, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZLR	Kyzyl	1.85	263	Pg	Pg	00 01 50.8	+3.3
KZLR				Sg	Sg	00 02 14.1	+2.6
ARDR	Aradan	2.52	286	Pg	Pg	00 02 01.8	+1.5
ARDR				Sg	Sg	00 02 34.1	+1.2
MINR	Mina	3.51	328	Pg	Pg	00 02 24.9	+5.7
MINR				Sg	Sg	00 03 12.1	+7.5
DJOS	Djoyskaya Sosn	3.77	285	Sg	Sg	00 03 14.4	+1.3
CERR	Cheremushki	3.77	286	Pg	Pg	00 02 27.0	+2.7
CERR				Sg	Sg	00 03 14.9	+1.7
DJO	Djoy, Khakassi	3.88	285	Pn	Pb	00 02 19.6	-1.3
DJO				Pg	Pg	00 02 27.2	+0.9
DJO				Sg	Sg	00 03 16.3	-0.2
ZAK	Zakamensk	4.02	111	Pg	Pg	00 02 29.8	+0.7
ZAK				Sg	Sg	00 03 21.8	+0.6
GZLN	Zheleznogorsk	4.91	336	Pg	Pg	00 02 46.1	0.0
GZLN				Sg	Sg	00 03 52.2	+2.6
TASR	Tashtagol	5.89	281	Sg	Sg	00 04 21.6	+0.5
CUR	Chagan-Uzun	6.01	255	Sg	Sg	00 04 22.3	-2.7
ULGR	Ulagan, Altay	6.08	261	Sg	Sg	00 04 21.7	-5.3
ARTR	Artybash	6.27	272	Sg	Sg	00 04 32.6	-0.8
CHBI	Chibit, Altay	6.45	259	Sg	Sg	00 04 38.7	-0.3

IDC 02 00:06:43.0±0.9, 14°.13N×56°.56E, h0km, mb3.8/11, mbtmp3.8/12, ML3.2/1, MS3.3/6, Error ellipse: s-maj=24.7km s-min=20.8km az=24.0

NEIC 02 00:06:44.9±1.3, 14°.2N±0°.1×56°.69E±0°.07, h10km±1km, mb4.0/9, Error ellipse: s-maj=20.1km s-min=5.7km az=211.0

ISC 02 00:06:46.4±0.9**, 14°.2N**±0°.1×**56°.6E**±0°.1**, h20km, n36, σ0s.87**/29**, mb4.0**/13**, MS3.1**/4**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	9.16	12	Pn	Pn	00 08 57.4	-0.1
	0.2nm,0.3s,baz=223,slow=5.0,SNR=1.3						
WSAR				LR	LR	00 12 14.1	
	comp=Z,331nm,20.1s,baz=222,slow=36						
	1.4nm,0.6s						
ATD	Arta Tunnel	13.68	260	LR	LR	00 13 49.2	
	comp=Z,94nm,20.4s,baz=12,slow=31						
RAYN	Ar Rayn	13.98	313	Pn	Pn	00 10 03.2	-0.4
HRA	Herat	20.70	13	P	P	00 11 25.7	0.0
HRA				IAmb	IAmb	00 11 45.7	
	comp=Z,3.7nm,1.1s						
GEYT	Alibeck	23.64	3	P	P	00 11 58.0	+1.5
	comp=Z,0.8nm,0.5s,baz=184,slow=8.2,SNR=3.1						
	comp=Z,0.8nm,0.5s						
GEYT	Alibeck	23.64	3	P	P	00 11 56.9	+0.5
GEYT				IAmb	IAmb	00 12 18.7	
	comp=Z,6.9nm,1.4s						
GYA0B	ALIBECK ARRAY	23.64	3	P	P	00 11 57.1	+0.6
GYA0B				IAmb	IAmb	00 11 59.2	
	comp=Z,2.6nm,0.7s						
PALK	Pallekele	24.65	104	LR	LR	00 19 35.2	
	comp=Z,51nm,19.6s,baz=37,slow=31						
MBAR	Mbarara	29.55	242	LR	LR	00 23 14.2	
	comp=Z,68nm,20.4s,baz=71,slow=34						
OPO	Ambohidratompo	33.89	196	LR	LR	00 23 46.4	
	comp=Z,72nm,18.7s,baz=152,slow=30						
ABKAR	Akbulak array	35.03	4	P	P	00 13 37.0	-0.7
IDI	Anoyia	35.38	312	LR	LR	00 29 51.5	
	comp=Z,19nm,20.3s,baz=56,slow=39						
ITM	Ithomi	38.38	313	P	P	00 14 06.2	-0.2
MKAR	Makanchi Array	38.93	28	P	P	00 14 12.8	+1.9
	comp=Z,0.3nm,0.6s,baz=225,slow=12,SNR=2.0						
	comp=Z,0.3nm,0.6s						
MKAR	Makanchi Array	38.93	28	P	P	00 14 10.3	-0.6
KURBB	Kurchatov Arra	40.42	22	P	P	00 14 23.8	+0.6
	comp=Z,0.3nm,0.3s,baz=219,slow=8.3,SNR=4.9						
	comp=Z,0.3nm,0.3s						
CMAR	Chiang Mai Arr	40.77	78	P	P	00 14 27.8	+1.1
	comp=Z,1.0nm,0.4s,baz=277,slow=8.6,SNR=9.2						
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	45.40	23	P	P	00 15 03.2	-0.3
	comp=Z,1.6nm,0.8s,baz=233,slow=7.0,SNR=7.6						
	comp=Z,1.6nm,0.8s						
ZALV	Zalesovo Beam	45.40	23	P	P	00 15 03.1	-0.4
TAM	Tamanrasset	48.98	288	P	P	00 15 32.9	+0.7
TAM				IAmb	IAmb	00 15 34.3	
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	52.00	342	P	P	00 15 54.3	+0.1
	comp=Z,3.4nm,0.8s,baz=140,slow=8.8,SNR=5.2						
	comp=Z,3.4nm,0.8s						
FINES	FINESS Array B	52.00	342	P	P	00 15 53.6	-0.5
TORD	Torodi Ar. Bea	53.26	276	P	P	00 16 04.4	+0.2
	comp=Z,0.9nm,0.9s,baz=97,slow=6.5,SNR=5.0						
TORD				PcP	PcP	00 17 13.0	+1.1
	comp=Z,0.2nm,0.7s,baz=74,slow=3.4,SNR=1.9						
	comp=Z,0.9nm,0.9s						
TORD	Torodi Ar. Bea	53.26	276	P	P	00 16 05.2	+0.9
ESDC	Sonseca Array	58.46	308	P	P	00 16 40.5	-0.7
	comp=Z,1.2nm,0.8s,baz=84,slow=6.4,SNR=14						
	comp=Z,1.2nm,0.8s						
ESDC	Sonseca Array	58.46	308	P	P	00 16 40.5	-0.7
ESDC				IAmb	IAmb	00 16 41.6	
	comp=Z,1.1nm,0.9s						
ARCES	ARCESS Array B	58.62	348	P	P	00 16 41.5	-0.3
	comp=Z,0.7nm,0.5s,baz=156,slow=6.8,SNR=4.8						
	comp=Z,0.7nm,0.5s						
H01W3	Cape Leeuwin H	73.21	134	T	T	01 38 04.9	
	baz=302,slow=75,SNR=17						
H01W2	Cape Leeuwin H	73.21	134	T	T	01 38 05.3	
	baz=302,slow=75,SNR=18						
H01W1	Cape Leeuwin H	73.23	134	T	T	01 38 06.2	
	baz=302,slow=75,SNR=23						
WB0	Warramunga Arr	83.62	112	P	P	00 19 12.9	-1.1
WRA	Warramunga Arr	83.63	112	P	P	00 19 13.3	-0.8
	comp=Z,0.7nm,0.7s,baz=300,slow=4.3,SNR=6.9						
	comp=Z,0.7nm,0.7s						
WRA	Warramunga Arr	83.63	112	P	P	00 19 12.7	-1.4
ASAR	Alice Springs	84.38	116	P	P	00 19 17.2	-0.7
	comp=Z,0.8nm,0.8s,baz=291,slow=4.8,SNR=12						
	comp=Z,0.8nm,0.8s						
ASAR	Alice Springs	84.38	116	P	P	00 19 16.4	-1.5
NVAR	Mina Array Bea	127.40	355	PKP	PKiKP	00 25 51.1	0.0
	comp=Z,1.1nm,0.8s,baz=30,slow=2.2,SNR=7.1						

ROM 02 00:07:47.0±0.2**, 42°.959N**±0°.008×**13°.125E**±0°.007**, h12km**±1km**, ML1.7**/17**, 10C-9D, Error ellipse: s-maj=0.7km s-min=0.6km az=184.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.06	274	⇑P	Pg	00 07 50.2	+0.7
FEMA				S	Sg	00 07 51.4	+0.1
FEMA				AML	AML		
	comp=N,1018μm,1.5s						
FEMA				AML	AML		
	comp=E,1330μm,1.4s						
FDMO	Fiordimonte	0.08	340	⇑P	Pg	00 07 49.2	-0.4
T1256	Bolognola (MC)	0.09	57	⇑P	Pg	00 07 49.7	-0.1
T1256				S	Sg	00 07 51.3	-0.6
T1256				AML	AML		
	comp=E,286μm,0.8s						
T1256				AML	AML		
	comp=N,288μm,0.2s						
T1216	Preci, Frazion	0.10	229	⇑P	Pg	00 07 50.4	+0.5
T1216				S	Sg	00 07 52.0	0.0
T1245	Castelsantange	0.11	156	P	Pb	00 07 50.7	-0.5
T1245				S	Sg	00 07 52.8	+0.4
T1245				AML	AML		
	comp=E,936μm,1.5s						
T1245				AML	AML		
	comp=E,907μm,0.7s						
T1245				AML	AML		
	comp=N,1315μm,0.3s						
T1245				AML	AML		
	comp=N,1395μm,0.3s						
T1245				AML	AML		
	comp=N,1395μm,0.3s						
T1245				AML	AML		
	comp=E,936μm,1.5s						
T1245				AML	AML		
	comp=E,906μm,0.7s						
MMO1	Montemonaco	0.16	112	⇑P	Pb	00 07 51.6	-0.3
MMO1				S	Sg	00 07 54.4	+1.0
AM05	Amandola Campo	0.17	84	⇓P	Pb	00 07 51.7	-0.3
AM05				S	Sg	00 07 55.0	+1.5
AM05				AML	AML		
	comp=E,584μm,0.4s						
AM05				AML	AML		
	comp=E,584μm,0.4s						
AM05				AML	AML		
	comp=N,69μm,0.1s						
CESI	CESI - Serrava	0.17	286	⇓P	Pb	00 07 51.9	-0.2
CESI				S	Sg	00 07 55.0	+1.4
CESI				AML	AML		
	comp=E,249μm,0.2s						
CESI				AML	AML		
	comp=N,214μm,0.2s						
GUMA	Gualdo di Mace	0.19	56	⇓P	Pb	00 07 51.8	-0.6
GUMA				S	Sg	00 07 55.2	+1.2
GUMA				AML	AML		
	comp=E,363μm,0.3s						
GUMA				AML	AML		
	comp=N,289μm,0.2s						
T1215	Vallo di Nera,	0.24	230	⇓P	Pb	00 07 52.9	-0.6
T1215				S	Sg	00 07 56.5	+0.9
T1241	Roccafluvione,	0.25	114	⇑P	Pb	00 07 53.0	-0.4
T1241				S	Sg	00 07 57.2	+1.6
T1241				AML	AML		
	comp=E,192μm,1.5s						
T1241				AML	AML		
	comp=N,139μm,0.7s						
T1204	Amatrice, Fraz	0.32	153	⇑P	Pg	00 07 53.6	+0.2
T1204				AML	AML		
	comp=E,335μm,0.6s						
T1204				AML	AML		
	comp=N,364μm,0.1s						
SNTG	Esanatoglia	0.33	336	P	Pb	00 07 55.2	+0.4
SNTG				AML	AML		
	comp=N,69μm,0.5s						
SNTG				AML	AML		
	comp=E,70μm,1.0s						
ASSB	Assisi San Ben	0.35	284	⇑P	Pb	00 07 55.0	-0.2
ASSB				AML	AML		
	comp=E,118μm,1.1s						
ASSB				AML	AML		
	comp=N,200μm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1243	Rocca Santa Ma	0.35	138	⇓P	Pg	00 07 54.3	+0.2
T1243				S	Sg	00 07 59.0	+0.1
EL6	Elcito	0.37	357	S	Sb	00 08 01.0	-0.4
OFFI	Offida	0.41	93	⇓P	Pb	00 07 57.3	+1.0
OFFI				AML	AML		
	comp=E,202μm,1.0s						
OFFI				AML	AML		
	comp=N,154μm,0.9s						
ATCC	AVT- Casa Cast	0.42	303	⇓P	Pg	00 07 55.9	+0.5
FOSV	Fossato di Vic	0.43	322	⇓P	Pb	00 07 56.8	+0.3
FOSV				AML	AML		
	comp=E,65μm,0.3s						
FOSV				AML	AML		
	comp=N,92μm,0.3s						
ARRO	Arrone	0.46	215	⇓P	Pg	00 07 56.0	0.0
ARRO				AML	AML		
	comp=E,107μm,0.2s						
ARRO				AML	AML		
	comp=N,103μm,0.8s						
T1211	Morro Reatino	0.47	205	⇑P	Pg	00 07 55.2	-1.0
MMUR	Monte Murano	0.49	349	P	Pb	00 07 57.4	-0.3
ARVD	Arcevia	0.56	346	S	Sb	00 08 07.0	+0.3
PIEI	Pieia	0.72	323	S	Sn	00 08 14.0	-0.1
NARO	Abbazia di Nar	0.76	329	⇑P	Pg	00 08 01.2	-0.6
NARO				AML	AML		
	comp=N,20μm,0.7s						
NARO				AML	AML		
	comp=E,17μm,1.1s						
FSSB	Fossombrone	0.78	341	P	Pg	00 08 01.2	-0.8
FSSB				AML	AML		
	comp=E,82μm,0.4s						
FSSB				AML	AML		
	comp=N,66μm,0.3s						

*TUL **02** 00:10:05.5±0.7, 35°.57N±0°.01×98°.13W±0°.02, h5km±6km, ML3.1, mb_Lg3.2/66(NEIC), Error ellipse: s-maj=2.1km s-min=1.8km az=47.0*
*ANF **02** 00:10:06.1±0.2, 35°.59N×98°.13W, h5km, ML3.8/14, Error ellipse: s-maj=2.5km s-min=2.2km az=54.0*
*NEIC **02** 00:10:06.7±0.9, 35°.58N±0°.01×98°.13W±0°.02, h8km±7km, Error ellipse: s-maj=2.2km s-min=1.8km az=49.0*
ISC 02 00:10:05.1±1.2**, 35°.59N**±0°.02×**98°.16W**±0°.02**, h3**km±10km**,**
n108, σ**0s.77**/107**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CSTR	Hydro, Custer	0.43	277		Pb	00 10 15.3	-0.1
BCOK	Bluff Creek, N	0.45	82	Pg	Pg	00 10 14.1	+0.3
BCOK				Sg	Sg	00 10 20.4	+0.7
OK029	Liberty Lake	0.61	70	Pg	Pg	00 10 17.0	+0.2
OK029				Sg	Sg	00 10 25.5	+0.8
OKCSW	OKLAHOMA CITY	0.62	107	Pg	Pg	00 10 17.4	+0.4
OK025	Westminster Rd	0.67	91	Pg	Pg	00 10 18.2	+0.2
FNO	Franklin	0.70	118	Pg	Pg	00 10 18.7	+0.1
FNO				Sg	Sg	00 10 28.4	+0.6
CROK	Carrier	0.92	9		Pb	00 10 23.3	-0.5
CROK				Sg	Sb	00 10 36.0	-0.3
WMOK	Wichita Mounta	0.99	211		Pg	00 10 24.1	-0.1
WMOK				Sg	Sg	00 10 37.4	+0.3
WMOK	Wichita Mounta	0.99	211	P	Pg	00 10 24.0	-0.2
	baz=32						
OK038	West end E0370	1.00	332		Pg	00 10 24.0	-0.4
X34A	Smith Ranch, M	1.03	165	Pg	Pb	00 10 25.0	-0.5
X34A				Sg	Sb	00 10 39.0	-0.4
U32A	Winter Ranch,	1.04	319	Pg	Pb	00 10 25.6	-0.2
U32A				Sg	Sb	00 10 40.4	+0.6
U32A	Winter Ranch,	1.04	319	P	Pb	00 10 25.6	-0.2
	baz=139,SNR=46						
U32A				S	Sn	00 10 41.3	-0.4
	baz=139						
OK049	E0420 Rd and N	1.07	40	Pg	Pg	00 10 25.7	+0.1
OK049				Sg	Sg	00 10 40.1	+0.6
OK033	Mehan	1.09	65	Pg	Pg	00 10 25.9	-0.1
ELIS	Ellis County	1.13	295		Pn	00 10 27.4	-0.3
OK031	S. Brethren Rd	1.13	71	Pg	Pg	00 10 26.4	-0.4
OK035	E0210 Rd and N	1.20	338		Pb	00 10 28.3	-0.1
OK032	Salt Plains WL	1.21	358		Pb	00 10 28.3	-0.3
NOKA	Waynoka	1.21	329		Pn	00 10 28.7	-0.2
OK050	Pawnee Station	1.25	50		Pg	00 10 28.5	-0.5
OK034	N. Norfolk Rd.	1.25	70	Pg	Pg	00 10 28.4	-0.7
GC02	Grant County #	1.28	11		Pg	00 10 29.2	-0.4
OK048	Pawnee Station	1.28	50	Pg	Pg	00 10 29.1	-0.6
OK046	Pawnee Station	1.29	51		Pg	00 10 29.3	-0.6
QUOK	Quay	1.31	64		Pg	00 10 29.4	-0.8
OK045	Pawnee Station	1.31	49		Pg	00 10 29.8	-0.6
OK044	Pawnee Station	1.35	54		Pg	00 10 30.3	-0.8
KAN14	Manchester OK	1.37	7		Pn	00 10 30.7	-0.4
BLOK	Blackwell	1.39	33		Pn	00 10 31.2	-0.2
OK051	E0350 and S346	1.41	49		Pn	00 10 31.3	-0.4
KAN17	Caldwell West	1.48	12		Pn	00 10 32.5	-0.1
KAN13	South Haven SW	1.52	21		Pn	00 10 33.2	0.0
KAN01	Argonia South	1.59	12		Pn	00 10 34.4	+0.2
KAN09	Caldwell North	1.60	16		Pn	00 10 34.7	+0.4
KAN08	Anthony NE Sta	1.64	5		Pn	00 10 34.9	+0.1
KAN06	Argonia West S	1.67	8	IAmb_Lg		00 11 03.3	
	comp=Z,136nm,1.1s						
KS20	Mayfield South	1.71	16	Pn	Pn	00 10 36.4	+0.6
KS20				IAmb_Lg		00 11 05.2	
	comp=Z,137nm,0.8s						
KAN12	Harper NE Stat	1.71	4		Pb	00 10 36.5	-0.6
LOOK	Love County	1.79	153		Pn	00 10 37.4	+0.5
LOOK				IAmb_Lg		00 11 02.1	
	comp=Z,32nm,0.7s						
T35A	Sooner Cattle	1.88	45	Pn	Pn	00 10 38.6	+0.6
T35B	Sooner Cattle	1.88	45	P	Pn	00 10 38.7	+0.6
	baz=225,SNR=52						
T35B				S	Sb	00 11 03.7	-0.1
	baz=225						
TUL1	Leonard	1.95	80	Pn	Pn	00 10 39.5	+0.5
TUL1				IAmb_Lg		00 11 10.9	
	comp=Z,85nm,1.0s						
TUL1	Leonard	1.95	80	P	Pn	00 10 39.6	+0.5
	baz=260,SNR=17						
TUL1				S	Sb	00 11 05.5	-0.5
	baz=260						
Z35A	Perchaven, San	2.38	161	Pn	Pn	00 10 45.9	+0.9
Z35A	Perchaven, San	2.38	161	P	Pn	00 10 46.1	+1.1
	baz=342,SNR=30						
Z35A				S	Sb	00 11 17.3	-1.0
	baz=342						
X37A	Clayton	2.50	113	Pn	Pn	00 10 46.8	+0.2
X37A				IAmb_Lg		00 11 24.7	
	comp=Z,84nm,0.9s						
X37A	Clayton	2.50	113	P	Pn	00 10 47.2	+0.6
	baz=294,SNR=28						
X37A				S	Sn	00 11 18.3	+0.8
	baz=294						
RLO	Rose Lookout	2.61	76	Pn	Pn	00 10 48.5	+0.3
R32A	Long Quarter,	2.86	351	Pn	Pn	00 10 52.7	+1.1
AMTX	Amarillo	2.97	257	Pn	Pn	00 10 54.9	+1.7
AMTX	Amarillo	2.97	257	P	Pn	00 10 55.0	+1.7
	baz=76						
AMTX				S	Sb	00 11 32.7	-2.7
	baz=76						
U38A	Gravette	3.17	73	Pn	Pn	00 10 56.2	+0.2
U38A	Gravette	3.17	73	P	Pn	00 10 56.1	+0.2
	baz=255,SNR=12						
ABTX	Abilene, Hawle	3.21	203	Pn	Pn	00 10 57.5	+1.1
ABTX				IAmb_Lg		00 11 45.9	
	comp=Z,49nm,0.9s						
ABTX	Abilene, Hawle	3.21	203	P	Pn	00 10 57.7	+1.3
	baz=23						
ABTX				S	Sn	00 11 36.4	+1.3
	baz=23						
CBKS	Cedar Bluff	3.45	339	Pn	Pn	00 11 00.8	+1.0
CBKS				IAmb_Lg		00 12 05.5	
	comp=Z,42nm,0.8s						
CBKS	Cedar Bluff	3.45	339	P	Pn	00 11 01.6	+1.8
	baz=158						
CBKS				S	Sn	00 11 43.5	+2.3
	baz=158						
HHAR	Hobbs	3.49	77	Pn	Pn	00 11 00.5	+0.2
HHAR				IAmb_Lg		00 12 01.4	
	comp=Z,54nm,0.9s						
Z38A	Mt. Pleasant	3.51	131	Pn	Pn	00 11 00.5	0.0
WHTX	Lake Whitney,	3.64	171		Pn	00 11 03.1	+0.8
WHTX				IAmb_Lg		00 12 04.9	
	comp=Z,54nm,0.8s						
WHTX	Lake Whitney,	3.64	171	P	Pn	00 11 03.4	+1.1
	baz=351,SNR=35						
KSU1	Kansas State U	3.71	19		Pn	00 11 03.3	0.0
KSU1				IAmb_Lg		00 12 10.1	
	comp=Z,57nm,0.9s						
MIAR	Mount Ida	3.90	104	Pn	Pn	00 11 06.5	+0.7
MIAR	Mount Ida	3.90	104	P	Pn	00 11 06.6	+0.7
	baz=287,SNR=15						
MIAR				S	Sn	00 11 51.4	-0.8
	baz=287						
237A	Washetta, Mont	4.08	151	Pn	Pn	00 11 08.3	-0.1
237A	Washetta, Mont	4.08	151	P	Pn	00 11 08.8	+0.4
	baz=332,SNR=5.0						
MSTX	Muleshoe	4.13	248	Pn	Pn	00 11 09.8	+0.7
WLAR	White Oak Lake	4.58	113		Pn	00 11 13.9	-1.3
WLAR				IAmb_Lg		00 12 31.9	
	comp=Z,37nm,0.8s						
WHAR	Wooly Hollow	4.80	92	Pn	Pn	00 11 17.7	-0.6
WHAR				IAmb_Lg		00 12 44.4	
	comp=Z,32nm,0.8s						
435B	Jarrell	4.82	174	IAmb_Lg		00 12 39.7	
	comp=Z,43nm,0.7s						
UALR	University of	4.83	98	IAmb_Lg		00 12 49.7	
	comp=Z,48nm,0.9s						
FCAR	Ozark Folk Cen	4.92	85		Pn	00 11 19.0	-0.8
FCAR				IAmb_Lg		00 12 45.6	
	comp=Z,56nm,1.0s						
KSCO	Kaye Shedlock'	4.93	315	IAmb_Lg		00 12 55.2	
	comp=Z,30nm,0.8s						
MGMO	Mountain Grove	5.00	70	Pn	Pn	00 11 22.1	+1.0
MGMO				IAmb_Lg		00 12 47.4	
	comp=Z,37nm,0.9s						
N33B	J Bar K, Exete	5.17	6	P	Pn	00 11 25.0	+1.6
	baz=186						
N33A	J Bar K, Exete	5.17	6	IAmb_Lg		00 12 55.6	
	comp=Z,35nm,0.7s						
T25A	Trinidad	5.28	289		Pn	00 11 26.1	+1.1
JCT	Junction City	5.28	196	IAmb_Lg		00 12 57.8	
	comp=Z,38nm,0.7s						
CPRX	Cap Rock	5.37	243	Pn	Pn	00 11 26.9	+0.6
R40A	Maddies Statio	5.43	59		Pn	00 11 26.9	-0.1
R40A	Maddies Statio	5.43	59	P	Pn	00 11 26.9	-0.1
	baz=242,SNR=9.7						
P38A	Dawn	5.45	41	Pn	Pn	00 11 26.5	-0.6
CCAR	Cane Creek	5.52	106	IAmb_Lg		00 13 12.0	
	comp=Z,50nm,1.0s						
LCAR	Lake Charles	5.71	83	Pn	Pn	00 11 29.2	-1.6
LCAR				IAmb_Lg		00 13 10.3	
	comp=Z,24nm,1.0s						
CCM	Cathedral Cave	6.07	64	Pn	Pn	00 11 35.5	-0.1
CCM				IAmb_Lg		00 13 16.9	
	comp=Z,24nm,0.8s						
CCM	Cathedral Cave	6.07	64	P	Pn	00 11 35.9	+0.3
	baz=248						
OGNE	Ogallala	6.15	331	IAmb_Lg		00 13 30.3	
	comp=Z,29nm,0.7s						
P40A	Paris	6.25	49	Pn	Pn	00 11 38.6	+0.5
P40A				IAmb_Lg		00 13 35.7	
	comp=Z,30nm,0.9s						
SDCO	Great Sand Dun	6.28	292	Pn	Pn	00 11 39.9	+1.0
Q24A	Divide	6.51	303	IAmb_Lg		00 13 41.5	
	comp=Z,31nm,0.7s						
FVM	French Village	6.65	67	Pn	Pn	00 11 43.8	+0.1
735A	Kenedy	6.72	177	IAmb_Lg		00 13 54.9	
	comp=Z,37nm,1.0s						
CGM3	Cape Girardeau	7.06	74	IAmb_Lg		00 13 48.0	
	comp=Z,34nm,1.1s						
OXF	Oxford	7.26	96	IAmb_Lg		00 14 05.3	
	comp=Z,20nm,0.8s						
833A	Chaparral WMA,	7.32	189	IAmb_Lg		00 14 07.4	
	comp=Z,26nm,1.0s						
S44A	Carbondale	7.46	71	IAmb_Lg		00 14 01.2	
	comp=Z,33nm,0.8s						
SBM	South Baldy	7.60	260	Pn	Pn	00 11 58.1	+1.1
TX31	Lajitas Ar. Si	7.78	218	Pn	Pn	00 11 59.6	+0.3
TX32	Lajitas Array	7.78	218	Pn	Pn	00 11 59.6	+0.3
TXAR	Lajitas Array	7.78	218	Pn	Pn	00 11 59.6	+0.3
P43A	Skaggs, Pawnee	7.96	57	IAmb_Lg		00 14 30.9	
	comp=Z,23nm,0.8s						
Q44A	Meyer Farm, Va	8.00	63	Pn	Pn	00 12 02.2	0.0
ECSD	EROS Data Cent	8.22	8	Pn	Pn	00 12 04.9	-0.3
PLAL	Pickwick Lake	8.27	91	Pn	Pn	00 12 05.7	-0.2
L40A	Anamosa	8.43	38	IAmb_Lg		00 14 40.8	
	comp=Z,20nm,0.8s						
O44A	Mansfield	8.91	56	IAmb_Lg		00 14 54.4	
	comp=Z,16nm,0.7s						
JFWS	Jewell Farm	9.54	38	IAmb_Lg		00 15 24.6	
	comp=Z,14nm,0.7s						

*MOS **02** 00:19:21.0±0.0, 42°.71N×46°.20E, h15km, MPVA4.2*
*NORS **02** 00:19:21.1±0.0, 42°.64N×46°.33E, h3km, MPVA4.3*
*TIF **02** 00:19:21.8, 42°.76N×46°.18E, h6km±2km*
*DRS **02** 00:19:22.3±0.0, 42°.71N×46°.14E, h12km, ML3.4/6*
ISC 02 00:19:23.0±0.8**, 42°.71N**±0°.02×**46°.20E**±0°.01**, h8**km±5km**,**
n83, σ**0s.98**/160**, 4C-8D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.05	157	*i* Pg	Pg	00 19 24.7	0.0
BTLR				*e*Sg	Sg	00 19 26.0	+0.1
BTLR				AML	AML	00 19 26.1	
	33μm,0.4s						
BTLR	Botlikh	0.05	157	*i* PG	Pg	00 19 24.6	-0.1
BTLR				pmax	pmax		
	comp=Z,4μm,0.1s						
DVE	Vedeno	0.25	348	*i* Pg	Pg	00 19 27.9	-0.1
DVE				*i* Sg	Sg	00 19 31.8	+0.3
DVE	Vedeno	0.25	348	⇓*i*PG	Pg	00 19 27.7	-0.4
DVE				*e*S	Sg	00 19 31.8	+0.3
XNZR	Khunzakh	0.41	114	*i* Pg	Pg	00 19 31.6	+0.5
XNZR				*e*Sg	Sg	00 19 37.7	+1.2
HNZR	Khunzah	0.41	111	*i* PG	Pg	00 19 31.6	+0.5
HNZR				*e*S	Sg	00 19 37.7	+1.2
UNCR	Uncukul	0.44	89	*i* Pg	Pg	00 19 31.9	+0.3
UNCR				*e*Sg	Sg	00 19 38.2	+0.8
UNCR	Uncukul	0.44	89	*e*PG	Pg	00 19 31.8	+0.2
UNCR				*e*S	Sb	00 19 38.6	-1.3
UNCR				pmax	pmax		
	comp=Z,167nm,0.1s						
UNCR				smax	smax		
	comp=E,2μm,0.5s						
UNCR				smax	smax		
	comp=N,2μm,0.3s						
UNCR				smax	smax		
	comp=N,2μm,0.5s						
DLMR	Dylym	0.48	41	*e*Pg	Pg	00 19 32.4	+0.1
DLMR				*e*Sg	Sg	00 19 39.1	+0.5
DLMR				AML	AML	00 19 40.6	
	comp=N,2μm,0.4s						
DLMR	Dylym	0.48	41	⇓*i*PG	Pg	00 19 32.3	0.0
DLMR				*i* S	Sb	00 19 39.8	-1.3
DLMR				pmax	pmax		
	comp=Z,218nm,0.3s						
DLMR				smax	smax		
	comp=N,2μm,0.3s						
DLMR				smax	smax		
	comp=E,2μm,0.4s						
DLMR				smax	smax		
	comp=E,2μm,0.4s						
KRNR	Karanay	0.54	77	*i* Pg	Pg	00 19 33.6	+0.2
KRNR				*e*Sg	Sg	00 19 41.1	+0.6
KRNR				AML	AML	00 19 42.1	
	comp=E,2μm,0.2s						
KRNR	Karanay	0.54	77	⇑*i*PG	Pg	00 19 33.3	-0.1
KRNR				*i* S	Sb	00 19 41.7	-1.0
KRNR				pmax	pmax		
	comp=Z,88nm,0.3s						
KRNR				smax	smax		
	comp=N,2μm,0.2s						
KRNR				smax	smax		
	comp=E,2μm,0.2s						
KRNR				smax	smax		
	comp=E,2μm,0.2s						
DBC	Dubki	0.56	56	*i* Pg	Pg	00 19 34.0	+0.1
DBC				*e*Sg	Sb	00 19 42.2	-1.1
DBC				AML	AML	00 19 43.0	
	comp=E,578nm,0.3s						
DBC	Dubki	0.56	56	⇑*i*PG	Pg	00 19 33.6	-0.3
DBC				*i* S	Sb	00 19 42.3	-1.1
DBC				pmax	pmax		
	comp=Z,98nm,0.2s						
DBC				smax	smax		
	comp=N,669nm,0.3s						
DBC				smax	smax		
	comp=E,783nm,0.5s						
DBC				smax	smax		
	comp=E,578nm,0.3s						
GROC	Groznyy	0.57	329	*e*Pg	Pb	00 19 34.9	-0.4
GROC				*e*Sg	Sb	00 19 42.9	-0.8
GROC	Groznyy	0.57	329	*i* PG	Pb	00 19 35.5	+0.1
GROC				pmax	pmax		
	comp=Z,37nm,0.1s						
GNBR	Gunib	0.65	119	*i* Pg	Pg	00 19 36.1	+0.5
GNBR				*e*Sg	Sb	00 19 45.3	-0.7
GNBR	Gunib	0.65	119	*e*PG	Pg	00 19 35.6	0.0
GNBR				*i* S	Sb	00 19 45.7	-0.3
GNBR				pmax	pmax		
	comp=Z,244nm,0.1s						
GNBR				smax	smax		
	comp=N,1μm,0.2s						
BUJR	Buynaksk	0.68	80	*e*Pg	Pb	00 19 37.1	-0.1
BUJR				*e*Sg	Sb	00 19 46.8	-0.1
BUJR				AML	AML	00 19 47.7	
	comp=N,3μm,0.4s						
BUJR	Buynaksk	0.68	80	⇓*i*PG	Pb	00 19 36.9	-0.3
BUJR				*i* S	Sb	00 19 47.9	+1.1
BUJR				pmax	pmax		
	comp=Z,158nm,0.4s						
BUJR				pmax	pmax		
	comp=N,3μm,0.4s						
BUJR				smax	smax		
	comp=N,3μm,0.5s						
BUJR				smax	smax		
	comp=E,2μm,0.6s						
SHTL	Shatili	0.77	266	P	Pg	00 19 37.4	-0.4
SHTL				S	Sg	00 19 47.9	-0.1
SHTL	Shatili	0.77	266	*e*PG	Pg	00 19 37.4	-0.4
SHTL				*e*S	Sg	00 19 47.8	-0.1
LGD	Lagodekhi	0.88	178	P	Pg	00 19 40.1	+0.2
LGD				S	Sg	00 19 52.3	+1.1
LGD	Lagodekhi	0.88	178	*e*PG	Pg	00 19 40.0	+0.2
LGD				*e*S	Sg	00 19 52.2	+1.1
KMKR	Kumukh	0.88	131	*e*Pg	Pg	00 19 40.1	+0.1
KMKR				*e*Sg	Sb	00 19 52.3	-0.5
KMKR	Kumukh	0.88	131	*e*PG	Pg	00 19 40.4	+0.4
KMKR				*i* S	Sb	00 19 53.7	+0.9
KMKR				pmax	pmax		
	comp=Z,21nm,0.1s						
KMKR				smax	smax		
	comp=E,1μm,0.2s						
MAK	Makhachkala	0.99	75	*e*Pg	Pg	00 19 42.0	-0.1
MAK				*e*Sg	Sb	00 19 55.1	-0.6
MAK	Makhachkala	0.99	75	*e*PG	Pb	00 19 42.3	-0.2
MAK				*e*S	Sb	00 19 56.2	+0.4
MAK				pmax	pmax		
	comp=Z,98nm,0.3s						
MAK				smax	smax		
	comp=Z,372nm,0.9s						
MAK				smax	smax		
	comp=N,960nm,0.4s						
MAK				smax	smax		
	comp=E,883nm,0.4s						
MAK				smax	smax		
	comp=N,735nm,0.6s						
KMGR	Komgaron	1.04	290	*e*Pg	Pg	00 19 43.3	+0.4
KMGR				*e*Sg	Sb	00 19 57.4	+0.3
KMGR	Komgaron	1.04	290	*e*PG	Pn	00 19 44.3	+0.3
KMGR				*e*S	Sn	00 20 01.9	+3.2
KANR	Karaman	1.07	62	*i* PG	Pg	00 19 42.3	-1.2
KANR				*i* S	Sb	00 19 57.6	-0.2
KANR				pmax	pmax		
	comp=Z,319nm,0.4s						
KANR				pmax	pmax		
	comp=N,70nm,0.4s						
KANR				smax	smax		
	comp=E,691nm,0.7s						
VLKR	Vladikavkaz	1.17	287	*e*PG	Pn	00 19 46.9	+1.2
VLKR				*e*S	Sn	00 20 05.1	+3.2
PNSH	Pansheti	1.17	267	P	Pg	00 19 44.6	-0.9
PNSH				S	Sg	00 20 00.3	-0.3
PNSH	Pansheti	1.17	267	*e*PG	Pg	00 19 44.5	-0.9
PNSH				*e*S	Sg	00 20 00.3	-0.3
URKR	Urkarakh	1.20	117	*e*Pg	Pg	00 19 45.6	-0.3
URKR				*e*Sg	Sb	00 20 01.8	+0.1
URKR				AML	AML	00 20 04.4	
	comp=E,457nm,0.6s						
URKR	Urkarakh	1.20	117	⇓*i*PG	Pn	00 19 46.5	+0.3
URKR				*i* S	Sn	00 20 03.4	+0.7
URKR				pmax	pmax		
	comp=Z,104nm,0.3s						
URKR				smax	smax		
	comp=N,247nm,0.5s						
URKR				smax	smax		
	comp=E,512nm,0.4s						
URKR				smax	smax		
	comp=E,457nm,0.6s						
GUDG	Gudauri	1.29	260	P	Pg	00 19 47.2	-0.7
GUDG				S	Sg	00 20 03.8	-0.8
GUDG	Gudauri	1.29	260	*e*PG	Pg	00 19 47.1	-0.7
GUDG				*e*S	Sg	00 20 03.8	-0.8
LACR	Lac	1.40	275	*e*Pg	Pn	00 19 49.0	-0.1
LACR				*e*Sg	Sb	00 20 08.4	+0.7
LACR	Lac	1.40	275	*e*PG	Pn	00 19 49.3	+0.2
LACR				*e*S	Sn	00 20 09.7	+1.8
TRKR	Terskaya	1.47	314	*e*Pg	Pn	00 19 49.9	0.0
TRKR				*e*Sg	Sn	00 20 09.9	+0.5
TRKR	Terskaya	1.47	314	⇓*e*PG	Pg	00 19 51.5	+0.2
TRKR				pmax	pmax		
	comp=Z,137nm,0.4s						
ARNR	Ardon	1.48	289	*e*Pg	Pn	00 19 50.2	+0.2
ARNR				*e*Sg	Sn	00 20 10.3	+0.7
ARNR	Ardon	1.48	289	⇓*i*PG	Pb	00 19 50.9	+0.1
ARNR				pmax	pmax		
	comp=Z,89nm,0.5s						
KORR	Kora	1.61	284	*e*Pg	Pn	00 19 52.3	+0.4
KORR				*e*Sg	Sb	00 20 13.9	+0.4
KORR	Kora	1.61	284	*e*PN	Pn	00 19 52.6	+0.8
KORR				pmax	pmax		
	comp=Z,50nm,0.4s						
AKT	Akhty	1.68	137	*e*Pg	Pn	00 19 53.1	+0.2
AKT				*e*Sg	Sb	00 20 15.7	+0.2
AKT	Akhty	1.68	137	*e*PN	Pn	00 19 52.7	-0.1
AKT				*i* S	Sb	00 20 15.8	+0.2
AKT				pmax	pmax		
	comp=Z,53nm,0.2s						
AKT				smax	smax		
	comp=E,184nm,0.3s						
ZEI	Tsey	1.69	273	*e*Pg	Pn	00 19 53.3	+0.2
ZEI				*e*Sg	Sb	00 20 16.4	+0.3
ZEI	Tsey	1.69	273	c*e*PN	Pn	00 19 53.0	-0.1
ZEI				pmax	pmax		
	comp=Z,75nm,0.2s						
STDR	Stavd-Durt	1.70	294	*e*Pg	Pn	00 19 53.4	+0.4
STDR				*e*Sg	Sb	00 20 16.5	+0.5
STDR	Stavd-Durt	1.70	294	*e*PN	Pn	00 19 53.4	+0.4
STDR				*e*S	Sb	00 20 16.5	+0.5
DRN	Derbent	1.72	113	*e*Pg	Pn	00 19 53.9	+0.6
DRN				*e*Sg	Sb	00 20 16.9	+0.2
DRN	Derbent	1.72	113	*e*PN	Pn	00 19 52.7	-0.6
DRN				*i* S	Sb	00 20 16.8	+0.2
DRN				pmax	pmax		
	comp=Z,59nm,1.9s						
DRN				smax	smax		
	comp=N,250nm,0.7s						
PRTR	Priterechnaya	1.74	307	*e*Pg	Pn	00 19 54.2	+0.6
PRTR				*e*Sg	Sb	00 20 17.3	-0.1
PRTR	Priterechnaya	1.74	307	*e*PN	Pn	00 19 54.2	+0.6
PRTR				*e*S	Sb	00 20 17.3	-0.1
LSNR	Lesken	1.83	289	*e*Pg	Pn	00 19 55.5	+0.6
LSNR				*e*Sg	Sb	00 20 19.9	0.0
LSNR	Lesken	1.83	289	*e*PN	Pn	00 19 55.5	+0.6
DIGR	Digorskoe uzhe	1.93	277	*e*Pg	Pn	00 19 57.0	+0.6
DIGR				*e*Sg	Sn	00 20 22.7	+1.6
DIGR	Digorskoe uzhe	1.93	277	⇓*e*PN	Pn	00 19 56.7	+0.3
ALIG	Mtskhetisjvari	1.98	253	P	Pb	00 19 59.4	0.0
ALIG				S	Sg	00 20 26.1	-0.5
ALIG	Mtskhetisjvari	1.98	253	*e*PN	Pb	00 19 59.4	0.0
ONI	Oni	2.03	268	P	Pb	00 20 00.9	+0.7
ONI				S	Sg	00 20 30.1	+2.0
ONI	Oni	2.03	268	*e*PN	Pb	00 20 00.9	+0.7
ONI				*e*S	Sg	00 20 30.1	+2.0
DMNI	Dmanisi	2.03	228	P	Pb	00 19 59.7	-0.6
DMNI				S	Sb	00 20 27.2	+1.4
NCK	Nalchik	2.06	293	*e*Pg	Pn	00 19 58.8	+0.8
NCK				*e*Sg	Sb	00 20 26.1	-0.4
NCK	Nalchik	2.06	293	*e*PN	Pn	00 19 58.8	+0.8
NCK				*e*S	Sb	00 20 26.1	-0.4
BRNG	Burnasheti	2.07	239	P	Pb	00 20 01.6	+0.7
BRNG				S	Sg	00 20 30.3	+0.8
BRNG	Burnasheti	2.07	239	*e*PN	Pb	00 20 01.6	+0.7
BRNG				*e*S	Sg	00 20 30.2	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTC	Kuba-Taba	2.32	299	ePn	Pn	00 20 03.0	+1.4
KBTC	Kuba-Taba	2.32	299	ePN	Pn	00 20 03.0	+1.4
KBTC				eS	Sg	00 20 36.3	-1.2
TKB	Tkibuli	2.39	262	P	Pb	00 20 06.7	+0.2
TKB				S	Sg	00 20 39.2	-0.7
TKB	Tkibuli	2.39	262	ePN	Pb	00 20 06.6	+0.2
TKB				eS	Sg	00 20 39.2	-0.7
NEY	Neytrino	2.61	283	ePn	Pn	00 20 06.4	+0.7
NEY				eSn	Sn	00 20 39.5	+1.9
NEY	Neytrino	2.61	283	ePN	Pn	00 20 06.4	+0.7
NEY				eS	Sn	00 20 39.5	+1.9
KBZ	Khabaz	2.62	294	dePN	Pn	00 20 05.6	0.0
ABS	Abastumani	2.69	250	P	Pb	00 20 10.9	-0.6
ABS				S	Sg	00 20 48.7	-0.6
ABS	Abastumani	2.69	250	ePN	Pb	00 20 10.9	-0.6
ABS				eS	Sg	00 20 48.7	-0.6
SHA1	Shidzhatmaz	2.78	293	ePn	Pn	00 20 08.7	+0.5
SHA1				eSn	Sn	00 20 44.0	+1.9
SHA1	Shidzhatmaz	2.78	293	ePN	Pn	00 20 08.6	+0.5
SHA1				eS	Sn	00 20 42.0	-0.1
GOF	Gofitskoye	3.27	317⇑	ePN	Pn	00 20 16.9	+2.3
GOF				eS	Sg	00 21 09.2	+1.1
GOF				pmax	pmax		
	comp=Z,25nm,0.3s						
GOF				smax	smax		
	comp=N,65nm,0.4s						
GOF				smax	smax		
	comp=E,110nm,0.6s						
MNK	Minsk	16.85	321	iP	Pn	00 23 17.5	-1.6
	comp=E,3.0nm,1.1s						
MNK				iP	Pn	00 23 17.5	-1.6
	comp=N,27nm,0.8s						
MNK				iP	Pn	00 23 17.5	-1.6
	comp=Z,12nm,0.9s,baz=127						
MNK				iPP	PnPn	00 23 26.9	-1.5
MNK				iPPP	PPP	00 23 34.7	
MNK				iS	Sn	00 26 26.0	-0.2
MNK				iSS	SnSn	00 26 40.6	+1.3
MNK				iSSS	SSS	00 26 53.4	
MNK				iLQ	LQ	00 28 16.1	
MNK				iLR	LR	00 29 33.0	
MNK				iLRM	MLR	00 30 43.8	
	comp=E,174nm,17.4s						
MNK				iLRM	MLR	00 30 43.8	
	comp=N,1µm,17.4s						
MNK				iLRM	MLR	00 30 43.8	
	comp=Z,118nm,17.4s						
MNK	Minsk	16.85	321	iP	Pn	00 23 17.4	-1.6
MNK				iS	Sn	00 26 26.0	-0.2
MNK				pmax	pmax		
	comp=Z,12nm,0.9s						
MNK				pmax	pmax		
	comp=E,3.0nm,1.1s						
MNK				pmax	pmax		
	comp=N,27nm,0.9s						
MNK				MLR	MLR		
	comp=E,174nm,17.0s						
MNK				MLR	MLR		
	comp=N,1µm,17.0s						
MNK				MLR	MLR		
	comp=Z,118nm,17.0s						

*TUL **02** 00:20:59.9±0.8, 35°.57N±0°.02×98°.13W±0°.02, h4km±7km, ML3.3, mb_Lg3.3/75(NEIC), Error ellipse: s-maj=2.8km s-min=1.8km az=189.0*
*ANF **02** 00:21:00.0±0.9, 35°.58N×98°.10W, h2km±8km, ML3.9/17, Error ellipse: s-maj=5.7km s-min=3.3km az=105.0*
*NEIC **02** 00:21:00.9±0.7, 35°.58N±0°.02×98°.12W±0°.02, h5km±7km, Error ellipse: s-maj=2.9km s-min=1.9km az=191.0*
ISC 02 00:21:00.1±1.0**, 35°.60N**±0°.02×**98°.14W**±0°.02**, h8**km±8km**, n135, σ0s.80**/144**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCOK	Bluff Creek, N	0.43	82	Pg	Pg	00 21 08.6	0.0
BCOK				Sg	Sg	00 21 15.0	+0.6
CSTR	Hydro, Custer	0.45	276		Pb	00 21 09.9	-0.5
CSTR				Sg	Sg	00 21 16.3	+1.4
OK009	Oakdale Elemen	0.58	91	Pg	Pg	00 21 11.5	+0.1
OK029	Liberty Lake	0.59	70	Pg	Pg	00 21 11.6	0.0
OK029				Sg	Sg	00 21 19.8	+0.4
OKCSW	OKLAHOMA CITY	0.60	108	Pg	Pg	00 21 11.7	-0.1
OKCSW				Sg	Sg	00 21 19.8	+0.2
OK025	Westminster Rd	0.65	91	Pg	Pg	00 21 12.7	-0.1
OK025				Sg	Sg	00 21 21.8	+0.6
FNO	Franklin	0.69	119	Pg	Pg	00 21 13.2	-0.3
FNO				Sg	Sg	00 21 22.6	+0.1
OK005	Luther M Schoo	0.77	85	Pg	Pg	00 21 15.0	-0.1
OK005				Sg	Sg	00 21 25.2	+0.1
CROK	Carrier	0.91	8	Pg	Pg	00 21 17.8	+0.1
CROK				Sg	Sb	00 21 30.7	+0.1
OK038	West end E0370	1.01	331	Pg	Pg	00 21 18.7	-0.8
WMOK	Wichita Mounta	1.01	212		Pg	00 21 18.6	-0.9
WMOK				Sg	Sg	00 21 32.0	-0.5
WMOK	Wichita Mounta	1.01	212	P	Pg	00 21 18.6	-0.9
	baz=33						
WMOK				S	Sg	00 21 32.0	-0.5
	baz=33						
X34A	Smith Ranch, M	1.02	166	Pg	Pg	00 21 19.5	-0.4
X34A				Sg	Sb	00 21 33.8	+0.1
U32A	Winter Ranch,	1.05	318		Pg	00 21 20.2	-0.1
U32A	Winter Ranch,	1.05	318	P	Pg	00 21 20.1	-0.1
	baz=139						
U32A				S	Sn	00 21 36.5	+0.5
	baz=139						
OK049	E0420 Rd and N	1.05	40		Pg	00 21 20.2	-0.1
OK049				Sg	Sb	00 21 34.6	+0.1
OK033	Mehan	1.07	65	Pg	Pg	00 21 20.3	-0.5
OK031	S. Brethren Rd	1.11	71	Pg	Pg	00 21 20.9	-0.7
OK031				Sg	Sb	00 21 36.2	0.0
ELIS	Ellis County	1.14	295		Pg	00 21 22.0	-0.1
OK035	E0210 Rd and N	1.20	337	Pg	Pg	00 21 23.0	-0.2
OK032	Salt Plains WL	1.21	357	Pg	Pg	00 21 22.9	-0.5
NOKA	Waynoka	1.22	328	Pg	Pg	00 21 23.2	-0.3
OK034	N. Norfolk Rd.	1.23	70		Pg	00 21 22.7	-1.0
OK050	Pawnee Station	1.23	49		Pg	00 21 23.0	-0.8
OK048	Pawnee Station	1.27	49		Pg	00 21 23.9	-0.6
GC02	Grant County #	1.27	10		Pg	00 21 24.1	-0.5
OK046	Pawnee Station	1.28	51		Pg	00 21 23.9	-0.8
QUOK	Quay	1.29	63		Pg	00 21 24.0	-1.0
OK045	Pawnee Station	1.30	49		Pg	00 21 24.5	-0.5
OK044	Pawnee Station	1.33	54		Pn	00 21 24.8	-0.2
DEOK	Depew	1.36	79		Pn	00 21 24.7	-0.7
KAN14	Manchester OK	1.36	6		Pn	00 21 25.5	0.0
BLOK	Blackwell	1.38	32		Pn	00 21 25.8	+0.1
OK051	E0350 and S346	1.39	49		Pn	00 21 26.0	+0.2
KAN17	Caldwell West	1.48	12	Pg	Pn	00 21 27.4	+0.4
KAN13	South Haven SW	1.51	20		Pn	00 21 28.0	+0.5
KAN01	Argonia South	1.58	11		Pn	00 21 29.1	+0.6
KAN09	Caldwell North	1.59	15		Pn	00 21 29.2	+0.6
KAN06	Argonia West S	1.66	8	Pn	Pn	00 21 30.5	+1.0
KS20	Mayfield South	1.70	16	Pn	Pn	00 21 31.1	+1.1
KS21	Milan North St	1.73	13	Pn	Pn	00 21 31.5	+1.0
LOOK	Love County	1.78	154		Pn	00 21 31.9	+0.7
T35A	Sooner Cattle	1.86	44	Pn	Pn	00 21 33.1	+0.8
T35B	Sooner Cattle	1.86	44	P	Pn	00 21 33.2	+0.9
	baz=224,SNR=100						
T35B				S	Sb	00 21 58.8	+1.1
	baz=224						
TUL1	Leonard	1.93	80	Pn	Pn	00 21 34.1	+0.9
TUL1	Leonard	1.93	80	P	Pn	00 21 34.0	+0.7
	baz=260,SNR=54						
TUL1				S	Sb	00 21 59.8	-0.1
	baz=260						
Z35A	Perchaven, San	2.38	162		Pn	00 21 40.4	+1.1
Z35A				IAmb_Lg		00 22 19.5	
	comp=Z,102nm,1.0s						
Z35A	Perchaven, San	2.38	162	P	Pn	00 21 40.6	+1.2
	baz=342,SNR=58						
Z35A				S	Sb	00 22 11.8	-0.8
	baz=342						
X37A	Clayton	2.48	113	Pn	Pn	00 21 41.5	+0.7
X37A				IAmb_Lg		00 22 19.8	
	comp=Z,120nm,0.9s						
X37A	Clayton	2.48	113	P	Pn	00 21 41.7	+0.9
	baz=294,SNR=37						
X37A				S	Sn	00 22 12.9	+1.6
	baz=294						
RLO	Rose Lookout	2.59	76	Pn	Pn	00 21 42.8	+0.5
R32A	Long Quarter,	2.86	351		Pn	00 21 47.2	+1.2
R32A	Long Quarter,	2.86	351	P	Pn	00 21 47.6	+1.6
	baz=170,SNR=27						
AMTX	Amarillo	2.99	257	Pn	Pn	00 21 49.1	+1.3
AMTX				IAmb_Lg		00 22 42.1	
	comp=Z,89nm,0.7s						
U38A	Gravette	3.15	73	Pn	Pn	00 21 50.7	+0.6
U38A	Gravette	3.15	73	P	Pn	00 21 51.4	+1.3
	baz=255,SNR=12						
ABTX	Abilene, Hawle	3.22	203	Pn	Pn	00 21 51.7	+0.7
ABTX	Abilene, Hawle	3.22	203	P	Pn	00 21 51.9	+0.9
	baz=23						
ABTX				S	Sn	00 22 31.0	+1.5
	baz=23						
CBKS	Cedar Bluff	3.46	339		Pn	00 21 55.8	+1.5
CBKS	Cedar Bluff	3.46	339	P	Pn	00 21 55.7	+1.4
	baz=158,SNR=23						
HHAR	Hobbs	3.47	77	Pn	Pn	00 21 54.8	+0.3
Z38A	Mt. Pleasant	3.50	131	Pn	Pn	00 21 55.3	+0.6
Z38A				IAmb_Lg		00 22 57.5	
	comp=Z,59nm,0.8s						
Z38A	Mt. Pleasant	3.50	131	P	Pn	00 21 55.6	+0.9
	baz=313						
WHTX	Lake Whitney,	3.64	171	Pn	Pn	00 21 57.6	+0.8
WHTX				IAmb_Lg		00 23 00.1	
	comp=Z,64nm,0.8s						
WHTX	Lake Whitney,	3.64	171	P	Pn	00 21 57.8	+1.0
	baz=351						
KSU1	Kansas State U	3.70	19	Pn	Pn	00 21 57.8	+0.2
KSU1				IAmb_Lg		00 23 01.8	
	comp=Z,68nm,0.8s						
KSU1	Kansas State U	3.70	19	P	Pn	00 21 58.8	+1.2
	baz=199						
MIAR	Mount Ida	3.88	104	Pn	Pn	00 22 00.9	+0.8
MIAR				IAmb_Lg		00 23 10.0	
	comp=Z,93nm,1.1s						
MIAR	Mount Ida	3.88	104	P	Pn	00 22 01.2	+1.1
	baz=287,SNR=33						
MIAR				S	Sn	00 22 46.6	+0.7
	baz=287						
237A	Washetta, Mont	4.08	151	Pn	Pn	00 22 03.2	+0.5
237A	Washetta, Mont	4.08	151	P	Pn	00 22 03.5	+0.7
	baz=332						
237A				S	Sn	00 22 52.1	+1.4
	baz=332						
MSTX	Muleshoe	4.15	248	Pn	Pn	00 22 04.5	+0.7
MSTX	Muleshoe	4.15	248	P	Pn	00 22 05.1	+1.3
	baz=66						
WLAR	White Oak Lake	4.56	113	Pn	Pn	00 22 09.9	+0.5
WLAR				IAmb_Lg		00 23 31.6	
	comp=Z,43nm,0.8s						
WHAR	Wooly Hollow	4.79	92	Pn	Pn	00 22 12.9	+0.5
WHAR				IAmb_Lg		00 23 38.4	
	comp=Z,48nm,0.9s						
UALR	University of	4.82	98	Pn	Pn	00 22 13.4	+0.5
UALR				IAmb_Lg		00 23 37.2	
	comp=Z,59nm,0.8s						
435B	Jarrell	4.82	174	Pn	Pn	00 22 13.6	+0.5
435B				IAmb_Lg		00 23 44.3	
	comp=Z,47nm,0.8s						
FCAR	Ozark Folk Cen	4.90	85	Pn	Pn	00 22 13.8	-0.2
FCAR				IAmb_Lg		00 23 40.8	
	comp=Z,51nm,0.8s						
KSCO	Kaye Shedlock'	4.94	315	Pn	Pn	00 22 15.1	+0.3
KSCO				IAmb_Lg		00 23 41.3	
	comp=Z,44nm,0.7s						
MGMO	Mountain Grove	4.98	70	Pn	Pn	00 22 15.1	-0.2
MGMO				IAmb_Lg		00 23 49.1	
	comp=Z,42nm,0.8s						
N33A	J Bar K, Exete	5.16	6	IAmb_Lg		00 23 56.7	
	comp=Z,54nm,0.7s						
T25A	Trinidad	5.29	289	Pn	Pn	00 22 20.5	+0.8
JCT	Junction City	5.29	196	Pn	Pn	00 22 18.9	-0.6
JCT				IAmb_Lg		00 23 58.9	
	comp=Z,58nm,0.7s						
CPRX	Cap Rock	5.39	243	Pn	Pn	00 22 21.7	+0.8
R40A	Maddies Statio	5.42	59	Pn	Pn	00 22 21.2	+0.1
R40A	Maddies Statio	5.42	59	P	Pn	00 22 21.4	+0.3
	baz=242						
R40A				S	Sn	00 23 23.7	+0.1
	baz=242						
P38A	Dawn	5.43	41	Pn	Pn	00 22 21.8	+0.4
CCAR	Cane Creek	5.50	106	IAmb_Lg		00 24 02.4	
	comp=Z,67nm,1.0s						
HTMS	Hat Mesa	5.53	237	Pn	Pn	00 22 23.3	+0.5
CLN7	Carlsbad 7	5.68	238	Pn	Pn	00 22 25.0	+0.2
LCAR	Lake Charles	5.69	83	Pn	Pn	00 22 24.0	-0.9
BGNE	Belgrade	5.80	360	Pn	Pn	00 22 26.0	-0.5
BGNE	Belgrade	5.80	360	P	Pn	00 22 26.3	-0.2
	baz=180						
CLNB	Carlsbad	5.82	237	Pn	Pn	00 22 26.7	0.0
CCM	Cathedral Cave	6.05	64	Pn	Pn	00 22 30.1	+0.3
CCM	Cathedral Cave	6.05	64	P	Pn	00 22 30.6	+0.7
	baz=248,SNR=6.6						
OGNE	Ogallala	6.16	331	Pn	Pn	00 22 31.8	+0.4
OGNE				IAmb_Lg		00 24 24.5	
	comp=Z,33nm,0.8s						
P40A	Paris	6.23	49	Pn	Pn	00 22 33.1	+0.8
P40A				IAmb_Lg		00 24 22.0	
	comp=Z,40nm,0.8s						
143A	Socs Landing,	6.28	115	IAmb_Lg		00 24 29.5	
	comp=Z,33nm,0.9s						
SDCO	Great Sand Dun	6.29	292	Pn	Pn	00 22 34.5	+1.0
441A	DeRidder	6.37	138	S	Sn	00 23 49.7	+2.6
	baz=321						
N38A	Joes South For	6.46	35	Pn	Pn	00 22 34.4	-1.1
Q24A	Divide	6.52	303	IAmb_Lg		00 24 36.5	
	comp=Z,44nm,0.7s						
FVM	French Village	6.63	67	Pn	Pn	00 22 38.1	+0.3
735A	Kenedy	6.73	178	IAmb_Lg		00 24 50.3	
	comp=Z,46nm,0.9s						
BRIGG	Briggsdale	6.96	317	Pn	Pn	00 22 43.2	+0.7
BRIGG				IAmb_Lg		00 24 48.0	
	comp=Z,30nm,0.8s						
SLM	Saint Louis	7.00	62	IAmb_Lg		00 24 42.5	
	comp=Z,35nm,1.0s						
CGM3	Cape Girardeau	7.04	74	Pn	Pn	00 22 42.9	-0.6
CGM3				IAmb_Lg		00 24 42.4	
	comp=Z,40nm,1.1s						
OXF	Oxford	7.24	96	IAmb_Lg		00 25 00.3	
	comp=Z,37nm,0.9s						
Y45A	Yeager Farm, C	7.28	101	Pn	Pn	00 22 45.5	-1.3
Y45A				IAmb_Lg		00 25 07.5	
	comp=Z,39nm,0.9s						
833A	Chaparral WMA,	7.33	189	IAmb_Lg		00 25 02.4	
	comp=Z,37nm,1.1s						
SCIA	State Center	7.38	30	IAmb_Lg		00 25 04.5	
	comp=Z,49nm,0.7s						
S44A	Carbondale	7.44	71	Pn	Pn	00 22 48.5	-0.4
S44A				IAmb_Lg		00 25 09.6	
	comp=Z,32nm,0.9s						
SIUC	Southern Illin	7.47	71	Pn	Pn	00 22 48.6	-0.8
SIUC				IAmb_Lg		00 25 00.6	
	comp=Z,31nm,0.8s						
N41A	Harden Midland	7.68	46	IAmb_Lg		00 25 05.4	
	comp=Z,29nm,0.8s						
TX31	Lajitas Ar. Si	7.80	218	Pn	Pn	00 22 54.3	+0.3
TX31	Lajitas Ar. Si	7.80	218	P	Pn	00 22 54.5	+0.5
	baz=35						
TX32	Lajitas Array	7.80	218	Pn	Pn	00 22 54.4	+0.4
TXAR	Lajitas Array	7.80	218	Pn	Pn	00 22 54.2	+0.2
P43A	Skaggs, Pawnee	7.94	57	IAmb_Lg		00 25 25.3	
	comp=Z,26nm,0.7s						
Q44A	Meyer Farm, Va	7.99	63	Pn	Pn	00 22 56.4	-0.1
Q44A				IAmb_Lg		00 25 35.0	
	comp=Z,28nm,0.8s						
Q44A	Meyer Farm, Va	7.99	63	S	Sn	00 24 26.4	-0.5
	baz=248						
PHWY	Pilot Hill	8.09	317	Pn	Pn	00 22 58.9	+0.8
ECSD	EROS Data Cent	8.21	8	Pn	Pn	00 22 59.7	+0.2
PLAL	Pickwick Lake	8.25	91	Pn	Pn	00 22 59.9	-0.2
L40A	Anamosa	8.41	38	IAmb_Lg		00 25 35.3	
	comp=Z,28nm,0.7s						
121A	Cookes Peak, D	8.57	252	IAmb_Lg		00 25 49.9	
	comp=Z,21nm,1.2s						
T47A	Sharon Grove	9.02	78	Pn	Pn	00 23 09.7	-0.8
T47A	Sharon Grove	9.02	78	P	Pn	00 23 09.9	-0.6
	baz=264						
T47A				S	Sn	00 24 48.8	-3.4
	baz=264						
L42A	Oliver, Polo	9.20	43	Pn	Pn	00 23 12.2	-0.8
JFWS	Jewell Farm	9.53	38	IAmb_Lg		00 26 09.7	
	comp=Z,27nm,0.8s						
RSSD	Black Hills	9.64	334	Pn	Pn	00 23 19.5	+0.2
RSSD				IAmb_Lg		00 26 19.4	
	comp=Z,14nm,0.9s						
WCI	Wyandotte Cave	9.84	71	Pn	Pn	00 23 21.4	-0.5
BLO	Bloomington	9.91	65	Pn	Pn	00 23 21.7	-1.1
T50A	Nancy	10.83	79	Pn	Pn	00 23 34.9	-0.4

*IDC **02** 00:21:33.5±1.5, 15°.10N×56°.69E, h0km, mb3.6/7, mbtmp3.6/8, ML2.8/1, MS3.2/13, Error ellipse: s-maj=35.2km s-min=32.0km az=160.0*
ISC 02 00:21:35.2±1.3**, 15°.1N**±0°.2×**56°.7E**±0°.2**, h10**km**, n23, σ1s.20**/8**, mb3.6**/7**, MS3.1**/12**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	8.28	12	Pn	Pn	00 23 35.7	+0.2
	0.1nm,0.3s,baz=248,slow=16,SNR=1.3						
WSAR				LR	LR	00 26 06.5	
	comp=Z,38nm,18.4s,baz=214,slow=33						
	1.6nm,0.7s						
GEYT	Alibeck	22.76	3	LR	LR	00 36 20.1	
	comp=Z,47nm,18.2s,baz=190,slow=39						
EIL	Elat	24.73	310	LR	LR	00 35 53.4	
	comp=Z,22nm,19.0s,baz=94,slow=35						
PALK	Pallekele	24.77	106	LR	LR	00 34 15.0	
	comp=Z,29nm,19.5s,baz=319,slow=31						
KBZ	Khabaz	30.86	340	LR	LR	00 42 19.0	
	comp=Z,37nm,19.5s,baz=162,slow=40						
AAK	Ala-Archa	31.40	26	LR	LR	00 42 13.0	
	comp=Z,38nm,19.9s,baz=170,slow=39						
BRDH	Bariadhala	33.83	72	LR	LR	00 40 53.8	
	comp=Z,62nm,19.6s,baz=310,slow=34						
OPO	Ambohidratompo	34.76	196	LR	LR	00 38 48.5	
	comp=Z,28nm,19.8s,baz=88,slow=30						
MKAR	Makanchi Array	38.11	29	LR	LR	00 44 51.4	
	comp=Z,40nm,21.3s,baz=257,slow=37						
KURBB	Kurchatov Arra	39.56	22	P	P	00 29 06.8	+0.4
	0.1nm,0.2s,baz=224,slow=8.6,SNR=2.0						
	0.1nm,0.2s						
LSZ	Lusaka	41.31	224	LR	LR	00 44 50.8	
	comp=Z,72nm,19.1s,baz=140,slow=34						
ZALV	Zalesovo Beam	44.55	23	P	P	00 29 47.5	+0.3
	0.3nm,0.4s,baz=207,slow=8.1,SNR=1.4						
	0.3nm,0.4s						
VRAC	Vranov	47.21	325	LR	LR	00 54 08.7	
	comp=Z,20nm,21.6s,baz=15,slow=41						
FINES	FINESS Array B	51.20	342	P	P	00 30 38.2	-0.3
	3.5nm,0.9s,baz=140,slow=15,SNR=1.9						
	3.5nm,0.9s						
TSUM	Tsumeb	51.44	230	LR	LR	00 50 30.1	
	comp=Z,71nm,18.8s,baz=144,slow=34						
TORD	Torodi Ar. Bea	53.27	275	P	P	00 30 56.3	+1.6
	0.2nm,0.7s,baz=84,slow=7.1,SNR=1.5						
	0.2nm,0.7s						
ARCES	ARCESS Array B	57.78	348	P	P	00 31 26.5	+0.2
	1.3nm,0.8s,baz=137,slow=7.1,SNR=1.5						
	1.3nm,0.8s						
ESDC	Sonseca Array	58.00	307	P	P	00 31 26.4	-2.0
	0.5nm,0.9s,baz=83,slow=5.9,SNR=5.6						
	0.5nm,0.9s						
H01W3	Cape Leeuwin H	73.74	134	T	T	01 52 52.6	
	baz=302,slow=75,SNR=12						
H01W2	Cape Leeuwin H	73.75	134	T	T	01 52 53.1	
	baz=302,slow=75,SNR=14						
H01W1	Cape Leeuwin H	73.76	134	T	T	01 52 54.0	
	baz=302,slow=75,SNR=13						
ASAR	Alice Springs	84.67	116	P	P	00 34 09.4	-0.4
	0.3nm,0.7s,baz=280,slow=4.7,SNR=5.0						
	0.3nm,0.7s						
STKA	Stephens Creek	93.61	122	LR	LR	01 13 55.7	
	comp=Z,39nm,21.4s,baz=205,slow=34						

*IDC **02** 00:43:08.6±1.4, 26°.38S×27°.43E, h0km, mb3.8/3, mbtmp4.0/8, ML3.9/4, Error ellipse: s-maj=20.5km s-min=14.5km az=103.0*
*PRE **02** 00:43:08.1±2.1, 26°.38S×27°.50E, h2km, ML3.2*
*NEIC **02** 00:43:09.1±2.5, 26°.46S±0°.06×27°.52E±0°.07, h5km±1km, mb4.4/8, Error ellipse: s-maj=11.9km s-min=9.1km az=58.0*
*EAF **02** 00:43:09.7±1.0, 26°.38S×27°.56E, h0km±12km, MD3.5*
*BUL **02** 00:43:09.8±1.1, 26°.39S×27°.55E, h0km±11km, MD3.6*
ISC 02 00:43:09.1±0.8**, 26°.35S**±0°.02×**27°.47E**±0°.03**, h12**km±5km**, n71, σ1s.80**/119**, mb4.3**/7**, 4C-14D, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WDLM	Western Deep L	0.08	209⇓	iP	Pg	00 43 11.5	-0.4
WDLM				AMPG		00 43 11.8	
	comp=Z,29µm,0.3s						
WDLM				eS	Sg	00 43 13.2	-0.8
WDLM				AMSG		00 43 13.2	
	comp=Z,105µm,0.1s						
WDLM				AMSG		00 43 13.3	
	comp=Z,102µm,0.1s						
HRAO	HartRAO	0.50	23⇓	iP	Pg	00 43 18.6	-0.4
HRAO				AMPG		00 43 18.6	
	comp=Z,2µm,0.1s						
HRAO				eS	Sg	00 43 25.1	-0.6
HRAO				AMSG		00 43 25.6	
	comp=Z,26µm,0.2s						
HRAO				AMSG		00 43 25.7	
	comp=Z,47µm,0.1s						
PRYS	Parys	0.58	189⇓	iP	Pg	00 43 19.8	-0.6
PRYS				AMPG		00 43 19.8	
	comp=Z,83nm,0.1s						
PRYS				AMSG		00 43 27.7	
	comp=Z,3µm,0.3s						
PRYS				eS	Sg	00 43 27.8	-0.3
PRYS				IAML		00 43 32.9	
	comp=Z,663nm,1.0s						
KSR	Koster	0.71	314⇓	iP	Pg	00 43 23.2	+0.2
KSR				AMPG		00 43 23.3	
	comp=Z,671nm,0.2s						
KSR				eS	Sg	00 43 32.2	-0.2
KSR				AMSG		00 43 32.4	
	comp=Z,22µm,0.2s						
KSR				AMSG		00 43 32.4	
	comp=Z,8µm,0.2s						
KSR				IAML		00 43 38.3	
	comp=Z,1µm,0.2s						
SLR	Silverton	0.96	50⇓	iP	Pg	00 43 26.6	-1.1
SLR				AMSG		00 43 39.8	
	comp=Z,9µm,0.2s						
SLR				AMSG		00 43 40.0	
	comp=Z,7µm,0.3s						
SLR				eS	Sg	00 43 40.2	0.0
SLR				IAML		00 43 45.8	
	comp=Z,457nm,0.2s						
SNKL	Senekal, Frees	1.93	172⇓	iP	Pb	00 43 44.3	-0.1
SNKL				eS	Sb	00 44 09.0	+0.4
SNKL				IAML		00 44 10.3	
	comp=Z,776nm,0.5s						
SWZ	Schweizer	2.08	246	eP	Pn	00 43 45.3	+1.3
SWZ				eS	Sb	00 44 13.3	+0.6
SWZ				IAML		00 44 14.6	
	comp=Z,280nm,0.3s						
LBTB	Lobatse	2.15	308	Pn	Pb	00 43 47.3	-0.8
	comp=Z,52nm,0.3s,baz=126,slow=18,SNR=532						
LBTB				Lg	Lg	00 44 16.4	
	comp=Z,228nm,0.3s,baz=205,slow=19,SNR=50						
	comp=Z,181nm,0.4s						
LBTB	Lobatse	2.15	308	Pn	Pb	00 43 47.0	-1.1
LBTB	Lobatse	2.15	308⇓	iP	Pb	00 43 47.3	-0.8
LBTB				eS	Sb	00 44 16.2	+1.4
LBTB				IAML		00 44 17.2	
	comp=Z,441nm,0.2s						
LBTB	Lobatse	2.15	308	eP	Pb	00 43 47.0	-1.1
LBTB				eS	Sb	00 44 15.6	+0.8
LBTB	Lobatse	2.15	308	eP	Pb	00 43 47.0	-1.1
LBTB				eS	Sb	00 44 15.6	+0.8
CRLN	Carolina, Mapu	2.33	82⇑	iP	Pn	00 43 48.1	+0.7
CRLN				eS	Sn	00 44 16.1	0.0
CRLN				IAML		00 44 19.9	
	comp=Z,54nm,0.3s						
LEPH	Lephalale, Lim	2.50	7⇑	iP	Pn	00 43 51.7	+1.9
LEPH				eS	Sn	00 44 20.8	+0.5
LEPH				IAML		00 44 26.9	
	comp=Z,227nm,0.6s						
BOSA	Boshof	2.99	221	Pn	Pn	00 43 57.3	+0.9
	comp=Z,7.8nm,0.3s,baz=46,slow=15,SNR=330						
BOSA				Pg	Pb	00 44 02.8	+0.4
	comp=Z,9.6nm,0.3s,baz=45,slow=18,SNR=15						
BOSA				Lg	Lg	00 44 40.5	
	comp=Z,32nm,0.3s,baz=344,slow=18,SNR=4.0						
	comp=Z,21nm,0.3s						
BOSA	Boshof	2.99	221	Pn	Pn	00 43 57.0	+0.5
BOSA	Boshof	2.99	221⇓	iP	Pn	00 43 57.3	+0.9
BOSA				eS	Sn	00 44 33.3	+1.1
BOSA				IAML		00 44 40.5	

	comp=Z,94nm,0.3s						
BOSA	**Boshof**	**2.99**	**221**	eP	**Pn**	**00 43 57.9**	**+1.5**
BOSA				eS	**Sn**	**00 44 34.5**	**+2.2**
BOSA	**Boshof**	**2.99**	**221**	eP	**Pn**	**00 43 57.9**	**+1.5**
BOSA				eS	**Sn**	**00 44 34.5**	**+2.2**
POGA	**Pongola**	**3.92**	**106**	Pn	**Pn**	**00 44 09.4**	**+0.3**
POGA	**Pongola**	**3.92**	**106**	eP	**Pn**	**00 44 09.9**	**+0.8**
POGA				eS	**Sn**	**00 44 54.2**	**-0.8**
POGA				IAML		00 45 10.6	
	comp=Z,48nm,0.4s						
KSTD	**Kokstad**	**4.55**	**160**	eP	**Pn**	**00 44 20.2**	**+2.3**
KSTD				eS	**Sn**	**00 45 10.1**	**-0.8**
KSTD				IAML		00 45 31.2	
	comp=Z,47nm,0.3s						
MOPA	**Mopani**	**4.55**	**52**	eP	**Pn**	**00 44 17.8**	**-0.1**
MOPA				eS	**Sn**	**00 45 09.2**	**-1.6**
MOPA				IAML		00 45 28.4	
	comp=Z,9.3nm,0.3s						
MOPA	**Mopani**	**4.55**	**52**	eP	**Pn**	**00 44 18.4**	**+0.5**
MOPA				eS	**Sn**	**00 45 09.0**	**-1.8**
MOPA	**Mopani**	**4.55**	**52**	eP	**Pn**	**00 44 18.4**	**+0.5**
MOPA				eS	**Sn**	**00 45 09.0**	**-1.8**
HVD	**Gariep Dam**	**4.58**	**202**	eP	**Pn**	**00 44 18.6**	**+0.3**
HVD				eS	**Sn**	**00 45 10.2**	**-1.3**
HVD				IAML		00 45 44.2	
	comp=Z,40nm,0.4s						
MUSN	**Musina, Limpop**	**4.60**	**29**	⇑iP	**Pn**	**00 44 19.8**	**+1.2**
MUSN				eS	**Sn**	**00 45 11.8**	**-0.2**
MUSN				IAML		00 45 39.2	
	comp=Z,66nm,0.5s						
MUSN	**Musina, Limpop**	**4.60**	**29**	eP	**Pn**	**00 44 19.3**	**+0.8**
MUSN				eS	**Sn**	**00 45 11.4**	**-0.6**
MUSN	**Musina, Limpop**	**4.60**	**29**	eP	**Pn**	**00 44 19.3**	**+0.8**
MUSN				eS	**Sn**	**00 45 11.4**	**-0.6**
PKA	**Prieska**	**5.31**	**230**	eP	**Pn**	**00 44 28.1**	**-0.3**
PKA				eS	**Sn**	**00 45 27.1**	**-2.5**
PKA				IAML		00 46 16.2	
	comp=Z,63nm,0.3s						
KEIM	**Keimoes**	**6.22**	**246**	eP	**Pn**	**00 44 41.1**	**+0.2**
KEIM				eS	**Sn**	**00 45 50.0**	**-2.1**
KEIM				IAML		00 46 28.1	
	comp=Z,36nm,0.6s						
BFON	**Badsfontein, M**	**6.35**	**210**	⇓iP	**Pn**	**00 44 43.6**	**+0.9**
BFON				eS	**Sn**	**00 45 52.9**	**-2.4**
BFON				IAML		00 46 37.6	
	comp=Z,44nm,0.4s						
GRAF	**Camdeboo Natio**	**6.45**	**203**	⇓iP	**Pn**	**00 44 44.9**	**+0.9**
GRAF				eS	**Sn**	**00 45 56.2**	**-1.4**
GRAF				IAML		00 46 38.4	
	comp=Z,36nm,0.5s						
SOE	**Somerset East**	**6.55**	**194**	Pn	**Pn**	**00 44 45.9**	**+0.6**
SOE	**Somerset East**	**6.55**	**194**	eP	**Pn**	**00 44 46.8**	**+1.4**
SOE				eS	**Sn**	**00 45 57.8**	**-2.2**
SOE				IAML		00 46 36.1	
	comp=Z,31nm,0.5s						
AUGR	**Augrabies**	**6.71**	**249**	eP	**Pn**	**00 44 50.4**	**+2.8**
AUGR				eS	**Sn**	**00 46 02.5**	**-1.6**
AUGR				IAML		00 46 42.6	
	comp=Z,28nm,0.7s						
BRAK	**Brakfontein**	**6.72**	**215**	eP	**Pn**	**00 44 48.3**	**+0.5**
BRAK				eS	**Sn**	**00 46 01.6**	**-2.7**
BRAK				IAML		00 46 44.5	
	comp=Z,30nm,0.6s						
GRHM	**Grahamstown, E**	**6.96**	**188**	eP	**Pn**	**00 44 51.9**	**+0.9**
GRHM				eS	**Sn**	**00 46 05.5**	**-4.7**
GRHM				IAML		00 46 54.0	
	comp=Z,15nm,0.7s						
ROOI	**Rooidraai Farm**	**7.00**	**208**	⇑iP	**Pn**	**00 44 52.1**	**+0.5**
ROOI				eS	**Sn**	**00 46 09.9**	**-1.4**
ROOI				IAML		00 46 55.3	
	comp=Z,29nm,0.4s						
GRAN	**Grantham**	**7.51**	**217**	⇓iP	**Pn**	**00 44 59.4**	**+0.7**
GRAN				eS	**Sn**	**00 46 19.9**	**-3.9**
GRAN				IAML		00 47 13.4	
	comp=Z,19nm,0.5s						
FRAZ	**Fraserburg**	**7.67**	**222**	⇓iP	**Pn**	**00 45 02.2**	**+1.3**
FRAZ				eS	**Sn**	**00 46 26.0**	**-1.9**
FRAZ				IAML		00 47 10.6	
	comp=Z,23nm,0.6s						
BUFB	**Buffelsbos**	**8.12**	**196**	eP	**Pn**	**00 45 07.0**	**+0.2**
BUFB				eS	**Sn**	**00 46 36.7**	**-1.9**
BUFB				IAML		00 47 22.3	
	comp=Z,12nm,0.7s						
ROSN	**Rosenhof**	**8.13**	**197**	eP	**Pn**	**00 45 07.7**	**+0.7**
ROSN				eS	**Sn**	**00 46 35.0**	**-3.7**
ROSN				IAML		00 47 34.2	
	comp=Z,14nm,0.5s						
KROM	**Kromhout**	**8.14**	**197**	eP	**Pn**	**00 45 07.2**	**+0.1**
KROM				eS	**Sn**	**00 46 34.8**	**-4.3**
KROM				IAML		00 47 22.9	
	comp=Z,14nm,0.4s						
MERW	**Merweville**	**8.15**	**218**	⇓iP	**Pn**	**00 45 09.1**	**+1.7**
MERW				eS	**Sn**	**00 46 38.1**	**-1.4**
MERW				IAML		00 47 44.3	
	comp=Z,20nm,0.7s						
SUR	**Sutherland**	**8.35**	**222**	Pn	**Pn**	**00 45 11.2**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=52,slow=16,SNR=22						
SUR				Sn	**Sn**	**00 46 41.8**	**-2.7**
	comp=Z,1.3nm,0.3s,baz=152,slow=20,SNR=2.1						
SUR				Lg	Lg	00 47 25.3	
	comp=Z,3.8nm,0.3s,baz=125,slow=22,SNR=4.2						
	comp=Z,4.3nm,0.4s						
SUR	**Sutherland**	**8.35**	**222**	Pn	**Pn**	**00 45 10.4**	**+0.2**
CVNA	**Calvinia**	**8.46**	**231**	⇓iP	**Pn**	**00 45 11.7**	**0.0**
CVNA				eS	**Sn**	**00 46 44.0**	**-3.2**
CVNA				IAML		00 47 34.7	
	comp=Z,34nm,0.5s						
GAMM	**Gam**	**8.61**	**314**	i P	**Pn**	**00 45 15.5**	**+1.8**
MATJ	**Matjiesfontein**	**9.12**	**219**	eP	**Pn**	**00 45 21.4**	**+0.8**
MATJ				eS	**Sn**	**00 47 00.8**	**-2.4**
MATJ				IAML		00 48 01.0	
	comp=Z,25nm,0.6s						
KOMG	**Komaggas**	**9.46**	**246**	eP	**Pn**	**00 45 25.8**	**+0.5**
KOMG				eS	**Sn**	**00 47 07.8**	**-3.8**
KOMG				IAML		00 48 18.5	
	comp=Z,15nm,0.6s						
CER	**Ceres**	**9.95**	**224**	eP	**Pn**	**00 45 33.1**	**+1.1**
CER				eS	**Sn**	**00 47 19.8**	**-3.8**
CER				IAML		00 48 30.3	
	comp=Z,16nm,0.6s						
KANON	**KANO**	**10.27**	**312**	i S	**Pn**	**00 45 39.0**	**+2.5**
ELIM	**Elim**	**10.57**	**217**	eP	**Pn**	**00 45 40.2**	**-0.2**
ELIM				eS	**Sn**	**00 47 32.9**	**-6.0**
ELIM				IAML		00 48 42.3	
	comp=Z,8.1nm,0.7s						
LSZ	**Lusaka**	**11.04**	**4**	Pn	**Pn**	**00 45 46.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=188,slow=14,SNR=12						
LSZ				Sn	**Sn**	**00 47 45.4**	**-5.3**
	comp=Z,0.7nm,0.3s,baz=254,slow=19,SNR=5.7						
LSZ				Lg	Lg	00 48 52.0	
	comp=Z,1.2nm,0.3s,baz=76,slow=19,SNR=5.0						
	comp=Z,2.9nm,0.3s						
LSZ	**Lusaka**	**11.04**	**4**	Pn	**Pn**	**00 45 47.1**	**0.0**
TSUM	**Tsumeb**	**11.56**	**306**	Pn	**Pn**	**00 45 54.6**	**+0.4**
	comp=Z,5.6nm,0.4s,baz=123,slow=15,SNR=8.1						
TSUM				Sn	**Sn**	**00 48 02.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=123,slow=20,SNR=2.0						
TSUM				Lg	Lg	00 49 10.5	
	comp=Z,0.7nm,0.3s,baz=282,slow=12,SNR=4.0						
TSUM	**Tsumeb**	**11.56**	**306**	Pn	**Pn**	**00 45 54.4**	**+0.2**
TSUM	**Tsumeb**	**11.56**	**306**	eS	**Sn**	**00 47 58.6**	**-4.8**
TSUM				IAML		00 49 17.6	
	comp=Z,3.9nm,0.6s						
DBIC	**Dimbokro**	**45.39**	**312**	P	**P**	**00 51 28.8**	**+1.0**
TOA0	**Torodi Ar. Sit**	**46.58**	**324**	P	**P**	**00 51 37.6**	**+0.4**
TOA0				IAmb	IAmb	00 51 38.6	
	comp=Z,3.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**46.58**	**324**	P	**P**	**00 51 37.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=139,slow=6.1,SNR=15						
	comp=Z,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**46.58**	**324**	P	**P**	**00 51 37.9**	**+0.7**
SNAA	**Sanae**	**48.40**	**192**	P	**P**	**00 51 51.7**	**+0.9**
SNAA				IAmb	IAmb	00 52 15.9	
	comp=Z,4.7nm,1.5s						
HOPE	**Hope Point**	**53.94**	**221**	P	**P**	**00 52 30.6**	**-1.8**
MLR	**Muntele Rosu**	**71.51**	**359**	P	**P**	**00 54 32.4**	**+2.7**
MLR				IAmb	IAmb	00 54 56.0	
	comp=Z,7.6nm,1.4s						
ESBB	**Sonseca Array**	**71.93**	**335**	P	**P**	**00 54 32.6**	**+0.3**
ESBB				IAmb	IAmb	00 54 56.7	
	comp=Z,4.0nm,1.4s						
ESDC	**Sonseca Array**	**71.93**	**335**	P	**P**	**00 54 34.2**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=155,slow=6.0,SNR=11						
	comp=Z,0.6nm,0.7s						
ESDC	**Sonseca Array**	**71.93**	**335**	P	**P**	**00 54 32.9**	**+0.6**
KKAR	**Karatay Array**	**79.65**	**31**	P	**P**	**00 55 19.1**	**+2.7**
MKAR	**Makanchi Array**	**88.03**	**34**	P	**P**	**00 56 00.7**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=216,slow=5.2,SNR=2.6						
	comp=Z,0.7nm,0.9s						

---

*NEIC **02** 00:48:29.9±0.6, 36°.148N±0°.009×97°.66W±0°.01, h7km±1km, Error ellipse: s-maj=1.5km s-min=1.4km az=109.0*

*TUL **02** 00:48:29.1±0.5, 36°.148N±0°.007×97°.66W±0°.01, h4km±3km, ML3.0, mb_Lg3.0/64(NEIC), Error ellipse: s-maj=1.4km s-min=0.6km az=46.0*

*ANF **02** 00:48:29.4±0.3, 36°.14N×97°.65W, h5km, ML3.6/14, Error ellipse: s-maj=3.7km s-min=3.1km az=28.0*

ISC 02 00:48:29.3±1.1**, 36°.15N**±0°.02×**97°.67W**±0°.02**, h6**km±9km**, n101,** σ0s.70/103**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.39**	**153**		**Pg**	**00 48 37.0**	**+0.1**
OK029				Sg	**Sg**	**00 48 42.5**	**+0.5**
OK049	**E0420 Rd and N**	**0.39**	**49**		**Pg**	**00 48 37.1**	**+0.2**
OK049				Sg	**Sg**	**00 48 42.5**	**+0.5**
CROK	**Carrier**	**0.44**	**325**		**Pg**	**00 48 38.0**	**+0.3**
CROK				Sg	**Sg**	**00 48 43.8**	**+0.4**
BCOK	**Bluff Creek, N**	**0.49**	**174**		**Pg**	**00 48 38.9**	**+0.1**
BCOK				Sg	**Sg**	**00 48 45.8**	**+0.7**
OK033	**Mehan**	**0.60**	**100**		**Pg**	**00 48 40.8**	**-0.1**
OK050	**Pawnee Station**	**0.61**	**66**		**Pg**	**00 48 40.8**	**-0.1**
OK050					**Sg**	**00 48 48.9**	**0.0**
OK025	**Westminster Rd**	**0.63**	**154**		**Pg**	**00 48 41.3**	**0.0**
OK025				Sg	**Sg**	**00 48 50.0**	**+0.6**
OK048	**Pawnee Station**	**0.65**	**65**		**Pg**	**00 48 41.5**	**-0.1**
OK048				Sg	**Sg**	**00 48 49.9**	**-0.1**
OK046	**Pawnee Station**	**0.67**	**68**		**Pg**	**00 48 41.9**	**-0.1**
OK045	**Pawnee Station**	**0.67**	**63**		**Pg**	**00 48 42.1**	**-0.1**
OK045				Sg	**Sg**	**00 48 50.6**	**-0.3**
OK031	**S. Brethren Rd**	**0.70**	**106**		**Pg**	**00 48 42.6**	**-0.1**
OK031				Sg	**Sg**	**00 48 51.6**	**-0.2**
BLOK	**Blackwell**	**0.71**	**31**		**Pg**	**00 48 42.9**	**-0.1**
BLOK				Sg	**Sg**	**00 48 52.5**	**+0.3**
GC02	**Grant County #**	**0.72**	**348**		**Pg**	**00 48 42.9**	**-0.2**
OK044	**Pawnee Station**	**0.74**	**72**		**Pg**	**00 48 43.3**	**-0.2**
OK044				Sg	**Sg**	**00 48 53.1**	**0.0**
OK051	**E0350 and S346**	**0.76**	**62**		**Pg**	**00 48 43.6**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.77**	**166**		**Pg**	**00 48 43.8**	**-0.1**
OKCSW				Sg	**Sg**	**00 48 54.4**	**+0.5**
QUOK	**Quay**	**0.78**	**88**		**Pg**	**00 48 44.0**	**-0.2**
QUOK				IAmb_Lg		00 48 55.5	
	comp=Z,54nm,0.8s						
OK032	**Salt Plains WL**	**0.79**	**327**		**Pg**	**00 48 44.2**	**-0.2**
OK032				Sg	**Sg**	**00 48 54.8**	**+0.2**
OK034	**N. Norfolk Rd.**	**0.79**	**100**		**Pg**	**00 48 44.1**	**-0.3**
OK034				Sg	**Sg**	**00 48 54.8**	**+0.2**
KAN14	**Manchester OK**	**0.84**	**344**		**Pg**	**00 48 45.2**	**-0.2**
KAN13	**South Haven SW**	**0.88**	**10**		**Pg**	**00 48 45.9**	**-0.2**
KAN17	**Caldwell West**	**0.90**	**355**		**Pg**	**00 48 46.3**	**-0.2**
FNO	**Franklin**	**0.92**	**166**		**Pg**	**00 48 46.5**	**-0.3**
OK038	**West end E0370**	**0.93**	**291**		**Pg**	**00 48 45.9**	**-1.2**
OK038				Sg	**Sg**	**00 48 58.3**	**-0.8**
CSTR	**Hydro, Custer**	**0.97**	**239**		**Pg**	**00 48 47.7**	**-0.1**
KAN09	**Caldwell North**	**0.99**	**2**		**Pg**	**00 48 47.9**	**-0.4**
DEOK	**Depew**	**1.00**	**107**		**Pg**	**00 48 47.8**	**-0.6**
DEOK				IAmb_Lg		00 49 00.7	
	comp=Z,41nm,0.8s						
KAN01	**Argonia South**	**1.01**	**356**		**Pg**	**00 48 48.3**	**-0.3**
OK035	**E0210 Rd and N**	**1.01**	**304**	Pg	**Pg**	**00 48 48.2**	**-0.4**
OK011	**Prague**	**1.04**	**129**	Pg	**Pg**	**00 48 48.7**	**-0.5**
KS20	**Mayfield South**	**1.08**	**5**		**Pg**	**00 48 49.7**	**-0.4**
U32A	**Winter Ranch,**	**1.10**	**283**		**Pg**	**00 48 49.8**	**-0.5**
U32A	**Winter Ranch,**	**1.10**	**283**	P	**Pg**	**00 48 49.9**	**-0.5**
	baz=102,SNR=71						
U32A				S	**Sb**	**00 49 05.8**	**+0.4**
	baz=102						
KAN08	**Anthony NE Sta**	**1.10**	**347**		**Pg**	**00 48 50.0**	**-0.4**
KAN06	**Argonia West S**	**1.11**	**352**		**Pg**	**00 48 50.2**	**-0.4**
NOKA	**Waynoka**	**1.13**	**296**	Pg	**Pg**	**00 48 50.4**	**-0.6**
KS21	**Milan North St**	**1.14**	**0**		**Pg**	**00 48 50.7**	**-0.4**
KAN12	**Harper NE Stat**	**1.18**	**347**		**Pg**	**00 48 51.4**	**-0.4**
T35A	**Sooner Cattle**	**1.21**	**50**		**Pg**	**00 48 52.0**	**-0.4**
T35B	**Sooner Cattle**	**1.21**	**50**	P	**Pg**	**00 48 51.9**	**-0.6**
	baz=230,SNR=132						
T35B				S	**Sg**	**00 49 07.5**	**-0.6**
	baz=230						
ELIS	**Ellis County**	**1.42**	**267**	Pg	**Pn**	**00 48 55.6**	**-0.1**
TUL1	**Leonard**	**1.54**	**98**	Pg	**Pn**	**00 48 56.8**	**-0.5**
TUL1				IAmb_Lg		00 49 19.8	
	comp=Z,67nm,0.8s						
TUL1	**Leonard**	**1.54**	**98**	P	**Pn**	**00 48 56.9**	**-0.5**
	baz=280,SNR=120						
TUL1				S	**Sb**	**00 49 18.0**	**0.0**
	baz=280						
X34A	**Smith Ranch, M**	**1.55**	**185**		**Pn**	**00 48 58.0**	**+0.5**
WMOK	**Wichita Mounta**	**1.67**	**213**		**Pn**	**00 48 59.2**	**0.0**
WMOK	**Wichita Mounta**	**1.67**	**213**	P	**Pn**	**00 48 59.2**	**0.0**
	baz=33,SNR=155						
WMOK				S	**Sb**	**00 49 22.2**	**+0.3**
	baz=33						
RLO	**Rose Lookout**	**2.14**	**89**	Pn	**Pn**	**00 49 05.8**	**+0.2**
LOOK	**Love County**	**2.19**	**169**	Pn	**Pn**	**00 49 06.9**	**+0.7**
LOOK				IAmb_Lg		00 49 39.3	
	comp=Z,38nm,0.8s						
R32A	**Long Quarter,**	**2.42**	**340**	P	**Pn**	**00 49 11.3**	**+1.9**
	baz=159						
R32A				S	**Sb**	**00 49 44.0**	**+0.7**
	baz=159						
X37A	**Clayton**	**2.44**	**129**		**Pn**	**00 49 10.2**	**+0.6**
X37A				IAmb_Lg		00 49 49.5	
	comp=Z,56nm,0.8s						
X37A	**Clayton**	**2.44**	**129**	P	**Pn**	**00 49 10.3**	**+0.6**
	baz=311,SNR=25						
X37A				Sb	**Sg**	**00 49 46.2**	**-1.4**
	baz=311						
U38A	**Gravette**	**2.67**	**83**	Pn	**Pn**	**00 49 12.8**	**-0.1**
U38A				IAmb_Lg		00 49 58.8	
	comp=Z,38nm,0.7s						
Z35A	**Perchaven, San**	**2.83**	**173**	P	**Pn**	**00 49 15.9**	**+0.8**
	baz=353						
HHAR	**Hobbs**	**3.02**	**86**	Pn	**Pn**	**00 49 17.3**	**-0.4**
KSU1	**Kansas State U**	**3.07**	**16**		**Pn**	**00 49 18.9**	**+0.6**
KSU1				IAmb_Lg		00 50 10.9	
	comp=Z,34nm,0.8s						
CBKS	**Cedar Bluff**	**3.13**	**329**		**Pn**	**00 49 19.4**	**+0.2**
CBKS	**Cedar Bluff**	**3.13**	**329**	P	**Pn**	**00 49 19.3**	**+0.1**
	baz=148						
AMTX	**Amarillo**	**3.51**	**250**		**Pn**	**00 49 25.5**	**+1.1**
Z38A	**Mt. Pleasant**	**3.63**	**142**	Pn	**Pn**	**00 49 24.7**	**-1.3**
MIAR	**Mount Ida**	**3.71**	**114**	Pn	**Pn**	**00 49 27.6**	**+0.5**
MIAR				IAmb_Lg		00 50 29.5	
	comp=Z,31nm,0.8s						
MIAR	**Mount Ida**	**3.71**	**114**	P	**Pn**	**00 49 28.1**	**+1.0**
	baz=297,SNR=24						
MIAR				S	**Sn**	**00 50 12.4**	**+1.2**
	baz=297						
WHTX	**Lake Whitney,**	**4.15**	**177**	Pn	**Pn**	**00 49 32.4**	**-0.8**
WHTX	**Lake Whitney,**	**4.15**	**177**	P	**Pn**	**00 49 33.4**	**+0.3**
	baz=358						
237A	**Washetta, Mont**	**4.42**	**159**	P	**Pn**	**00 49 36.8**	**0.0**
	baz=340						
237A				S	**Sn**	**00 50 28.3**	**-0.3**
	baz=340						
MGMO	**Mountain Grove**	**4.46**	**75**	IAmb_Lg		00 50 48.1	
	comp=Z,25nm,0.8s						
WHAR	**Wooly Hollow**	**4.46**	**99**	Pn	**Pn**	**00 49 37.9**	**+0.4**
WHAR				IAmb_Lg		00 50 54.7	
	comp=Z,23nm,1.0s						
WLAR	**White Oak Lake**	**4.48**	**122**	Pn	**Pn**	**00 49 36.3**	**-1.4**
WLAR				IAmb_Lg		00 50 56.1	
	comp=Z,27nm,0.7s						
UALR	**University of**	**4.56**	**106**	IAmb_Lg		00 50 54.4	
	comp=Z,24nm,0.8s						
N33A	**J Bar K, Exete**	**4.59**	**2**	IAmb_Lg		00 50 55.2	
	comp=Z,30nm,0.9s						
MSTX	**Muleshoe**	**4.71**	**244**	Pn	**Pn**	**00 49 39.8**	**-1.3**
P38A	**Dawn**	**4.77**	**42**	IAmb_Lg		00 51 04.5	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**4.81**	**62**	Pn	**Pn**	**00 49 41.8**	**-0.4**
R40A				IAmb_Lg		00 51 01.3	
	comp=Z,34nm,0.8s						
R40A	**Maddies Statio**	**4.81**	**62**	P	**Pn**	**00 49 42.5**	**+0.2**
	baz=245,SNR=8.4						
KSCO	**Kaye Shedlock'**	**4.87**	**307**	Pn	**Pn**	**00 49 40.9**	**-2.2**
KSCO				IAmb_Lg		00 51 12.7	
	comp=Z,20nm,0.8s						
N35A	**Tabor**	**4.97**	**18**	IAmb_Lg		00 51 13.0	
	comp=Z,37nm,0.8s						
N35A	**Tabor**	**4.97**	**18**	S	**Sn**	**00 50 42.9**	**+0.7**
	baz=199						
BGNE	**Belgrade**	**5.27**	**356**	IAmb_Lg		00 51 25.2	
	comp=Z,20nm,0.8s						
BGNE	**Belgrade**	**5.27**	**356**	P	**Pn**	**00 49 48.4**	**-0.1**
	baz=176						
LCAR	**Lake Charles**	**5.28**	**89**	IAmb_Lg		00 51 19.0	
	comp=Z,26nm,1.2s						
CCAR	**Cane Creek**	**5.33**	**113**	IAmb_Lg		00 51 28.0	
	comp=Z,26nm,0.8s						
435B	**Jarrell**	**5.35**	**179**	IAmb_Lg		00 51 27.6	
	comp=Z,22nm,0.7s						
T25A	**Trinidad**	**5.51**	**282**	Pn	**Pn**	**00 49 50.3**	**-1.8**
T25A				IAmb_Lg		00 51 39.3	
	comp=Z,29nm,0.8s						
HBAR	**Harrisburg**	**5.73**	**94**	Pn	**Pn**	**00 49 52.3**	**-2.6**
OGNE	**Ogallala**	**5.88**	**326**	IAmb_Lg		00 51 49.5	
	comp=Z,33nm,0.9s						
JCT	**Junction City**	**5.93**	**198**	IAmb_Lg		00 51 48.0	
	comp=Z,21nm,0.8s						
FVM	**French Village**	**6.08**	**70**	Pn	**Pn**	**00 49 58.1**	**-1.5**
143A	**Socs Landing,**	**6.21**	**122**	IAmb_Lg		00 52 02.5	
	comp=Z,20nm,1.0s						
SLM	**Saint Louis**	**6.42**	**65**	IAmb_Lg		00 51 51.8	
	comp=Z,32nm,0.7s						
SDCO	**Great Sand Dun**	**6.47**	**287**	Pn	**Pn**	**00 50 05.6**	**+0.3**
K31A	**O'Neill**	**6.52**	**353**	IAmb_Lg		00 52 04.5	
	comp=Z,31nm,0.7s						
CGM3	**Cape Girardeau**	**6.54**	**78**	IAmb_Lg		00 51 52.7	
	comp=Z,17nm,0.9s						
S44A	**Carbondale**	**6.92**	**75**	IAmb_Lg		00 52 09.5	
	comp=Z,25nm,0.8s						
SIUC	**Southern Illin**	**6.95**	**74**	Pn	**Pn**	**00 50 10.7**	**-0.9**
SIUC				IAmb_Lg		00 52 10.3	
	comp=Z,25nm,0.7s						
Y45A	**Yeager Farm, C**	**7.05**	**106**	IAmb_Lg		00 52 22.9	
	comp=Z,14nm,0.9s						
ECSD	**EROS Data Cent**	**7.62**	**6**	Pn	**Pn**	**00 50 19.7**	**-1.2**
L40A	**Anamosa**	**7.75**	**38**	IAmb_Lg		00 52 40.3	
	comp=Z,19nm,0.8s						
PHWY	**Pilot Hill**	**7.97**	**313**	IAmb_Lg		00 52 53.4	
	comp=Z,12nm,1.0s						
TXAR	**Lajitas Array**	**8.46**	**218**	Pn	**Pn**	**00 50 32.4**	**-0.2**
I37A	**Lemond, Waseca**	**8.51**	**21**	IAmb_Lg		00 53 10.8	
	comp=Z,15nm,0.9s						
JFWS	**Jewell Farm**	**8.86**	**38**	Pn	**Pn**	**00 50 37.4**	**-0.4**
RWWY	**Rawlins**	**9.26**	**310**	IAmb_Lg		00 53 32.2	
	comp=Z,12nm,1.2s						

IDC 02 01:46:58.7±2.1**, 4°.02N**×**127°.30E, h0**km**, mb3.5**/4**, mbtmp3.5**/4**, Error ellipse: s-maj=200.2km s-min=22.0km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.80**	**164**	P	P	01 52 23.1	+0.5
	0.7nm,0.6s,baz=344,slow=10.0,SNR=10.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**28.26**	**167**	P	P	01 52 53.4	-0.5
	0.2nm,0.5s,baz=356,slow=8.7,SNR=5.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**57.64**	**325**	P	P	01 56 51.1	+0.3
	0.4nm,0.6s,baz=110,slow=6.2,SNR=4.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	P	01 57 19.0	-0.3
	0.7nm,0.7s,baz=127,slow=6.0,SNR=8.7						
	0.7nm,0.7s						

---

*IDC **02** 01:54:52.7±2.4, 16°.70N×148°.84E, h0km, mb4.0/8, mbtmp4.0/8, MS3.2/1, Error ellipse: s-maj=80.3km s-min=22.7km az=85.0*

ISC 02 01:54:54.3±2.3**, 16°.7N**±0°.2×**148°.8E**±0°.5**, h10**km**, n9,** σ**0s.34**/8**, mb4.1**/8**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.09**	**202**	P	**P**	**02 02 21.6**	**-0.3**
	1.6nm,0.8s,baz=24,slow=9.3,SNR=10						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**42.68**	**200**	P	**P**	**02 02 51.9**	**+0.4**
	0.2nm,0.6s,baz=26,slow=7.2,SNR=2.1						
	0.2nm,0.6s						
SONM	**Songino Array**	**46.55**	**321**	P	**P**	**02 03 22.3**	**0.0**
	0.8nm,0.6s,baz=135,slow=8.5,SNR=4.8						
	0.8nm,0.6s						
LEM	**Lembang**	**46.97**	**243**	LR	LR	02 25 09.2	
	comp=Z,27nm,19.4s,baz=82,slow=39						
CMAR	**Chiang Mai Arr**	**47.45**	**280**	P	**P**	**02 03 29.5**	**-0.1**
	2.2nm,0.7s,baz=72,slow=5.8,SNR=6.6						
	2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**61.39**	**323**	P	**P**	**02 05 10.7**	**+0.2**
	0.9nm,0.5s,baz=97,slow=7.4,SNR=5.4						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**61.97**	**314**	P	**P**	**02 05 14.7**	**+0.1**
	0.5nm,0.6s,baz=90,slow=8.8,SNR=3.5						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**64.78**	**318**	P	**P**	**02 05 33.5**	**+0.4**
	4.9nm,0.8s,baz=97,slow=6.8,SNR=37						
	4.9nm,0.8s						
FINES	**FINESS Array B**	**89.92**	**336**	P	**P**	**02 07 53.1**	**-0.3**
	5.8nm,1.2s,baz=132,slow=2.1,SNR=4.7						
	5.8nm,1.2s						

---

*IDC **02** 02:14:52.6±1.4, 16°.61N×148°.61E, h0km, mb4.0/10, mbtmp4.0/10, MS2.7/1, Error ellipse: s-maj=42.3km s-min=19.7km az=89.0*

*NEIC **02** 02:14:54.4±0.7, 16°.6N±0°.1×148°.80E±0°.08, h10km±1km, mb4.4/9, Error ellipse: s-maj=24.1km s-min=13.4km az=6.0*

ISC 02 02:14:53.8±0.8**, 16°.6N**±0°.1×**148°.7E**±0°.2**, h10**km**, n25,** σ**0s.52**/25**, mb4.2**/15**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**13.50**	**135**	Pn	**Pn**	**02 18 05.3**	**-0.3**
JGF	**Kuroka**	**21.47**	**334**	P	**P**	**02 19 41.9**	**-0.7**
JGF				IAmb	IAmb	02 19 44.7	
	comp=Z,16nm,0.9s						
MJAR	**Matsushiro Arr**	**21.95**	**337**	P	**P**	**02 19 46.5**	**-1.2**
	comp=Z,1.2nm,0.2s,baz=171,slow=11,SNR=5.1						
	comp=Z,1.2nm,0.2s						
KSRS	**Korea Array**	**27.71**	**323**	P	**P**	**02 20 42.5**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=130,slow=7.0,SNR=5.9						
KSRS				LR	LR	02 31 39.2	
	comp=Z,16nm,18.6s,baz=140,slow=36						
	comp=Z,1.3nm,0.5s						
WB0	**Warramunga Arr**	**38.76**	**202**	P	**P**	**02 22 18.6**	**0.0**
WB0				IAmb	IAmb	02 22 28.7	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**38.88**	**201**	P	**P**	**02 22 20.1**	**+0.4**
WR0				IAmb	IAmb	02 22 30.7	
	comp=Z,5.3nm,0.9s						
WB2	**Warramunga Arr**	**38.94**	**202**	P	**P**	**02 22 20.6**	**+0.5**
WB2				IAmb	IAmb	02 22 30.8	
	comp=Z,5.5nm,0.9s						
WRA	**Warramunga Arr**	**38.94**	**202**	P	**P**	**02 22 20.7**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=24,slow=9.2,SNR=14						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**38.94**	**202**	P	**P**	**02 22 20.6**	**+0.5**
ASAR	**Alice Springs**	**42.53**	**200**	P	**P**	**02 22 49.4**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=22,slow=6.1,SNR=4.2						
	comp=Z,0.3nm,0.7s						
SONM	**Songino Array**	**46.57**	**321**	P	**P**	**02 23 22.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=133,slow=7.1,SNR=9.1						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**46.57**	**321**	P	**P**	**02 23 22.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**47.36**	**280**	P	**P**	**02 23 27.9**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=71,slow=6.2,SNR=11						
	comp=Z,2.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**47.36**	**280**	P	**P**	**02 23 28.4**	**-0.1**
ZALV	**Zalesovo Beam**	**61.42**	**323**	P	**P**	**02 25 10.2**	**0.0**
	comp=Z,2.6nm,0.7s,baz=107,slow=7.7,SNR=10						
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**61.42**	**323**	P	**P**	**02 25 10.1**	**-0.1**
MKAR	**Makanchi Array**	**61.98**	**315**	P	**P**	**02 25 13.6**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=96,slow=9.0,SNR=4.8						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**61.98**	**315**	P	**P**	**02 25 14.5**	**+0.3**
MAKZ	**Makanchi**	**62.19**	**314**	P	**P**	**02 25 15.8**	**+0.2**
ILAR	**Eielson Array**	**64.30**	**25**	P	**P**	**02 25 29.8**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=266,slow=6.0,SNR=3.1						

comp=Z,0.5nm,0.8s
KURK Kurchatov 64.74 319 P P 02 25 32.4 +0.1
BRVK Borovoye 69.97 321 P P 02 26 06.4 +0.9
BRVK IAmb IAmb 02 26 06.9
comp=Z,5.2nm,0.8s
KKAR Karatay Array 70.31 310 P P 02 26 08.2 +0.4
ABKAR Akbulak array 76.82 318 P P 02 26 45.7 -0.2
FINES FINESS Array B 89.98 336 P P 02 27 53.0 -0.3
comp=Z,1.0nm,0.5s,baz=50,slow=4.7,SNR=7.6
comp=Z,1.0nm,0.5s

---

*ROM **02** 02:19:43.3±0.0,42.911N±0.002×13.199E±0.003, h9km,ML2.9/51,Error ellipse: s-maj=0.2km s-min=0.2km az=219.0*
*PRU **02** 02:19:46.3±0.0,42.97N×13.60E,h10km*
ISC 02 02:19:43.6±0.8,**42.91N**±0.002×**13.24E**±0.002,**h10**km±4km, **n77**,σ1s**20**/107,**27C-21D**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMO1	**Montemonaco**	**0.06**	**97**	P	**Pg**	**02 19 46.1**	**+0.2**
MMO1				S	**Sg**	**02 19 47.9**	**+0.4**
T1245	**Castelsantange**	**0.07**	**219**	⇑P	**Pg**	**02 19 45.6**	**-0.4**
T1245				S	**Sg**	**02 19 46.9**	**-0.8**
T1245				AML	AML		
	comp=E,47800μm,0.4s						
T1245				AML	AML		
	comp=E,46400μm,0.5s						
T1245				AML	AML		
	comp=E,47850μm,0.4s						
T1245				AML	AML		
	comp=N,61550μm,1.6s						
T1245				AML	AML		
	comp=N,62250μm,0.5s						
T1245				AML	AML		
	comp=N,61600μm,1.6s						
T1256	**Bolognola (MC)**	**0.10**	**353**	⇑P	**Pg**	**02 19 46.1**	**-0.3**
T1256				S	**Sg**	**02 19 47.8**	**-0.6**
T1256				AML	AML		
	comp=E,32150μm,0.4s						
T1256				AML	AML		
	comp=N,28650μm,0.3s						
T1256				AML	AML		
	comp=N,27900μm,0.3s						
T1256				AML	AML		
	comp=E,32050μm,0.4s						
AM05	**Amandola Campo**	**0.11**	**49**	P	**Pg**	**02 19 46.9**	**+0.5**
AM05				AML	AML		
	comp=N,4460μm,0.4s						
AM05				AML	AML		
	comp=N,1064μm,0.4s						
AM05				AML	AML		
	comp=E,3195μm,1.5s						
AM05				AML	AML		
	comp=E,14100μm,0.8s						
AM05				AML	AML		
	comp=N,1060μm,0.4s						
AM05				AML	AML		
	comp=N,1063μm,0.4s						
AM05				AML	AML		
	comp=N,4465μm,0.4s						
AM05				AML	AML		
	comp=E,3190μm,1.5s						
AM05				AML	AML		
	comp=E,14050μm,0.8s						
NRCA	**Norcia**	**0.12**	**232**	P	**Pg**	**02 19 46.4**	**-0.3**
NRCA				S	**Sg**	**02 19 48.2**	**-0.5**
NRCA				AML	AML		
	comp=E,26800μm,0.5s						
NRCA				AML	AML		
	comp=N,21250μm,0.3s						
NRCA				AML	AML		
	comp=N,21300μm,0.3s						
NRCA				AML	AML		
	comp=E,26850μm,0.5s						
NRCA				AML	AML		
	comp=N,21250μm,0.3s						
NRCA				AML	AML		
	comp=N,22850μm,0.3s						
NRCA				AML	AML		
	comp=E,28050μm,0.5s						
T1241	**Roccafluvione,**	**0.15**	**110**	P	**Pg**	**02 19 47.7**	**+0.7**
T1241				S	**Sg**	**02 19 50.9**	**+1.5**
T1241				AML	AML		
	comp=N,7345μm,0.9s						
T1241				AML	AML		
	comp=N,6990μm,0.9s						
T1241				AML	AML		
	comp=N,7350μm,0.9s						
T1241				AML	AML		
	comp=N,6985μm,0.9s						
T1241				AML	AML		
	comp=E,7655μm,0.4s						
T1241				AML	AML		
	comp=E,7920μm,0.5s						
FEMA	**Monte Fema**	**0.15**	**291**	P	**Pg**	**02 19 46.7**	**-0.4**
FEMA				S	**Sg**	**02 19 49.0**	**-0.6**
FEMA				AML	AML		
	comp=E,23550μm,0.4s						
FEMA				AML	AML		
	comp=E,23600μm,0.4s						
FEMA				AML	AML		
	comp=N,22800μm,1.5s						
T1216	**Preci, Frazion**	**0.17**	**264**	⇑P	**Pg**	**02 19 47.0**	**-0.3**
T1216				S	**Sg**	**02 19 49.5**	**-0.4**
T1216				AML	AML		
	comp=E,29400μm,0.3s						
T1216				AML	AML		
	comp=E,29450μm,0.4s						
T1216				AML	AML		
	comp=N,18950μm,0.3s						
T1216				AML	AML		
	comp=E,29400μm,0.4s						
FDMO	**Fiordimonte**	**0.17**	**319**	⇓P	**Pg**	**02 19 47.1**	**-0.3**
FDMO				S	**Sg**	**02 19 49.5**	**-0.5**
FDMO				AML	AML		
	comp=E,11650μm,0.2s						
FDMO				AML	AML		
	comp=E,11600μm,0.2s						
FDMO				AML	AML		
	comp=N,9005μm,0.3s						
T1204	**Amatrice, Fraz**	**0.24**	**167**	P	**Pb**	**02 19 49.2**	**-0.9**
T1204				S	**Sb**	**02 19 53.7**	**+1.8**
T1204				AML	AML		
	comp=E,2985μm,1.3s						
T1204				AML	AML		
	comp=N,2210μm,0.8s						
T1204				AML	AML		
	comp=E,2995μm,1.3s						
T1204				AML	AML		
	comp=N,2215μm,0.8s						
T1204				AML	AML		
	comp=E,2990μm,1.3s						
T1204				AML	AML		
	comp=N,2205μm,0.8s						
T1243	**Rocca Santa Ma**	**0.26**	**144**	P	**Pb**	**02 19 49.6**	**-0.8**
T1243				S	**Sb**	**02 19 54.5**	**-0.5**
CESI	**CESI - Serrava**	**0.27**	**292**	⇑P	**Pg**	**02 19 48.8**	**-0.3**
CESI				S	**Sg**	**02 19 52.9**	**+0.1**
CESI				AML	AML		
	comp=N,12900μm,0.5s						
CESI				AML	AML		
	comp=E,6620μm,0.3s						
MNTP	**Montappone**	**0.28**	**36**	P	**Pb**	**02 19 50.5**	**-0.3**
MNTP				AML	AML		
	comp=E,5465μm,0.7s						
MNTP				AML	AML		
	comp=E,5460μm,0.7s						
MNTP				AML	AML		
	comp=N,4910μm,1.5s						
SMA1	**SAN MARTINO**	**0.28**	**166**	P	**Pb**	**02 19 50.0**	**-0.9**
SMA1				AML	AML		
	comp=E,3690μm,0.8s						
SMA1				AML	AML		
	comp=N,3025μm,0.5s						
T1215	**Vallo di Nera,**	**0.29**	**249**	⇑P	**Pg**	**02 19 49.5**	**-0.1**
T1215				S	**Sg**	**02 19 53.9**	**+0.4**
T1215				AML	AML		
	comp=E,3300μm,0.4s						
T1215				AML	AML		
	comp=N,2210μm,0.5s						
T1215				AML	AML		
	comp=E,3300μm,0.4s						
T1217	**Poggiodomo (PG**	**0.30**	**230**	P	**Pg**	**02 19 49.7**	**-0.1**
T1217				S	**Sg**	**02 19 54.4**	**+0.7**
T1217				AML	AML		
	comp=E,2710μm,0.7s						
T1217				AML	AML		
	comp=E,2550μm,0.7s						
T1217				AML	AML		
	comp=N,3350μm,1.1s						
T1217				AML	AML		
	comp=E,2555μm,0.7s						
T1217				AML	AML		
	comp=N,3355μm,1.1s						
T1217				AML	AML		
	comp=E,2705μm,0.7s						
T1217				AML	AML		
	comp=N,3340μm,1.1s						
SEF1	**Sefro**	**0.32**	**318**	P	**Pg**	**02 19 50.0**	**-0.1**
SEF1				AML	AML		
	comp=E,12850μm,0.2s						
SEF1				AML	AML		
	comp=N,12900μm,0.2s						
SEF1				AML	AML		
	comp=E,12800μm,0.2s						
SEF1				AML	AML		
	comp=N,12950μm,0.2s						
SSM1	**San Severino M**	**0.33**	**351**	P	**Pb**	**02 19 50.9**	**-0.6**
OFFI	**Offida**	**0.33**	**85**	⇑P	**Pb**	**02 19 51.9**	**+0.4**
OFFI				AML	AML		
	comp=E,4655μm,0.6s						
OFFI				AML	AML		
	comp=N,4305μm,0.6s						
LNSS	**Leonessa**	**0.34**	**206**	⇑P	**Pg**	**02 19 50.8**	**+0.4**
LNSS				AML	AML		
	comp=N,8280μm,0.3s						
LNSS				AML	AML		
	comp=E,4700μm,0.3s						
LNSS				AML	AML		
	comp=N,8285μm,0.3s						
GAG1	**Gagliole**	**0.35**	**339**	⇓P	**Pb**	**02 19 51.0**	**-1.0**
GAG1				AML	AML		
	comp=N,10020μm,0.4s						
GAG1				AML	AML		
	comp=E,11850μm,1.0s						
GAG1				AML	AML		
	comp=N,9995μm,0.4s						
FIU1	**Fiuminata**	**0.36**	**321**	P	**Pb**	**02 19 51.2**	**-1.0**
TERO	**Teramo**	**0.39**	**137**	⇑P	**Pn**	**02 19 52.1**	**-3.3**
TERO				AML	AML		
	comp=E,2535μm,0.4s						
TERO				AML	AML		
	comp=N,4125μm,0.4s						
TERO				AML	AML		
	comp=E,2555μm,0.3s						
TERO				AML	AML		
	comp=N,4255μm,0.4s						
CAMP	**Campotosto**	**0.39**	**162**	⇓P	**Pb**	**02 19 51.8**	**-0.9**
CAMP				AML	AML		
	comp=N,1100μm,0.4s						
CAMP				AML	AML		
	comp=E,882μm,1.3s						
RM33	**Pellescritta (**	**0.40**	**183**	⇓P	**Pb**	**02 19 51.9**	**-0.9**
RM33				AML	AML		
	comp=N,1425μm,0.9s						
RM33				AML	AML		
	comp=N,1490μm,0.9s						
RM33				AML	AML		
	comp=E,1880μm,0.7s						
RM33				AML	AML		
	comp=E,1875μm,1.5s						
RM33				AML	AML		
	comp=N,1430μm,0.9s						
RM33				AML	AML		
	comp=E,1885μm,0.6s						
SNTG	**Esanatoglia**	**0.41**	**328**	⇓P	**Pg**	**02 19 51.5**	**-0.3**
SNTG				AML	AML		
	comp=E,1845μm,0.4s						
SNTG				AML	AML		
	comp=E,1955μm,0.4s						
SNTG				AML	AML		
	comp=E,1850μm,0.5s						
SNTG				AML	AML		
	comp=N,2490μm,0.2s						
SNTG				AML	AML		
	comp=N,2340μm,0.2s						
SNTG				AML	AML		
	comp=E,1950μm,0.4s						
EL6	**Elcito**	**0.43**	**346**	⇓P	**Pb**	**02 19 51.8**	**-1.7**
EL6				S	**Sb**	**02 19 60.0**	**-0.1**
EL6				AML	AML		
	comp=E,4245μm,0.9s						
EL6				AML	AML		
	comp=N,4395μm,0.8s						
EL6				AML	AML		
	comp=E,4240μm,0.9s						
ASSB	**Assisi San Ben**	**0.45**	**288**	⇑P	**Pg**	**02 19 52.0**	**-0.5**
ASSB				AML	AML		
	comp=E,2050μm,1.1s						
ASSB				AML	AML		
	comp=N,2210μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.47**	**175**	⇓P	**Pb**	**02 19 53.1**	**-0.8**
T1247				AML	AML		
	comp=E,1670μm,0.7s						
T1247				AML	AML		
	comp=N,2100μm,0.4s						
T1211	**Morro Reatino**	**0.47**	**218**	S	**Sg**	**02 20 01.0**	**+1.9**
ARRO	**Arrone**	**0.48**	**227**	⇓P	**Pg**	**02 19 53.0**	**0.0**
ARRO				AML	AML		
	comp=E,707μm,1.6s						
ARRO				AML	AML		
	comp=N,810μm,1.6s						
ARRO				AML	AML		
	comp=N,810μm,1.6s						
ARRO				AML	AML		
	comp=E,706μm,1.6s						
TRTR	**Tortoreto Alta**	**0.50**	**101**	⇑P	**Pn**	**02 19 55.5**	**-1.3**
TRTR				AML	AML		
	comp=E,4265μm,0.4s						
TRTR				AML	AML		
	comp=N,4280μm,0.4s						
GIGS	**Gran Sasso**	**0.52**	**152**	⇑P	**Pb**	**02 19 54.2**	**-0.6**
GIGS				AML	AML		
	comp=E,427μm,0.2s						
GIGS				AML	AML		
	comp=N,284μm,0.6s						
ATCC	**AVT- Casa Cast**	**0.52**	**302**	⇑P	**Pg**	**02 19 53.4**	**-0.4**
ATCC				S	**Sg**	**02 20 02.0**	**+1.3**
ATCC				AML	AML		
	comp=E,1745μm,0.5s						
ATCC				AML	AML		
	comp=N,2130μm,1.0s						
FOSV	**Fossato di Vic**	**0.52**	**318**	⇓P	**Pg**	**02 19 53.5**	**-0.3**
FOSV				S	**Sg**	**02 20 02.0**	**+1.2**
FOSV				AML	AML		
	comp=N,2230μm,0.3s						
FOSV				AML	AML		
	comp=N,2235μm,0.3s						
FOSV				AML	AML		
	comp=E,1710μm,1.6s						
PP3	**Marolino**	**0.54**	**30**	P	**Pn**	**02 19 55.4**	**-2.0**
PP3				AML	AML		
	comp=E,3045μm,0.6s						
PP3				AML	AML		
	comp=N,2815μm,0.9s						
PP3				AML	AML		
	comp=E,2915μm,0.6s						
PP3				AML	AML		
	comp=N,2830μm,0.9s						
AQU	**L'Aquila**	**0.56**	**168**	⇓P	**Pb**	**02 19 54.8**	**-0.9**
AQU				AML	AML		
	comp=E,578μm,0.5s						
AQU				AML	AML		
	comp=E,624μm,1.6s						
AQU				AML	AML		
	comp=E,578μm,0.5s						
AQU				AML	AML		
	comp=E,624μm,1.6s						
AQU				AML	AML		
	comp=N,759μm,0.9s						
AQU				AML	AML		
	comp=N,678μm,0.9s						
CESX	**Cesi**	**0.57**	**239**	⇑P	**Pg**	**02 19 54.2**	**-0.5**
CESX				S	**Sg**	**02 20 04.0**	**+1.7**
CESX				AML	AML		
	comp=E,826μm,0.6s						
CESX				AML	AML		
	comp=N,1265μm,0.6s						
SSFR	**Montelago di S**	**0.63**	**328**	⇑P	**Pg**	**02 19 55.4**	**-0.4**
SSFR				S	**Sb**	**02 20 06.0**	**+0.4**
SSFR				AML	AML		
	comp=E,2790μm,0.7s						
SSFR				AML	AML		
	comp=E,2625μm,0.2s						
SSFR				AML	AML		
	comp=N,2415μm,0.7s						
SSFR				AML	AML		
	comp=N,2560μm,0.7s						
ARVD	**Arcevia**	**0.63**	**340**	⇑P	**Pb**	**02 19 55.7**	**-1.1**
ARVD				S	**Sn**	**02 20 07.0**	**-1.8**
ARVD				AML	AML		
	comp=E,798μm,0.9s						
ARVD				AML	AML		
	comp=N,642μm,0.5s						
MURB	**Monte Urbino**	**0.64**	**304**	⇑P	**Pg**	**02 19 55.5**	**-0.5**
MURB				AML	AML		
	comp=N,2745μm,1.0s						
MURB				AML	AML		
	comp=E,2860μm,0.3s						
MURB				AML	AML		
	comp=E,2515μm,0.3s						
MURB				AML	AML		
	comp=N,2795μm,1.0s						
FIAM	**Fiamignano**	**0.65**	**188**	⇑P	**Pg**	**02 19 56.1**	**0.0**
FIAM				S	**Sb**	**02 20 07.0**	**+0.9**
FIAM				AML	AML		
	comp=E,460μm,1.0s						
FIAM				AML	AML		
	comp=N,542μm,1.1s						
FIAM				AML	AML		
	comp=E,460μm,1.0s						
ATFO	**Monte Foce - G**	**0.67**	**313**	⇑P	**Pg**	**02 19 56.2**	**-0.5**
ATFO				S	**Sb**	**02 20 07.0**	**+0.1**
ATFO				AML	AML		
	comp=E,792μm,1.2s						
ATFO				AML	AML		
	comp=N,574μm,0.6s						
VCEL	**Villa Celiera**	**0.68**	**139**	⇓P	**Pn**	**02 19 57.3**	**-2.0**
VCEL				AML	AML		
	comp=E,956μm,0.7s						
VCEL				AML	AML		
	comp=E,955μm,0.7s						
VCEL				AML	AML		
	comp=N,1190μm,1.6s						
FAGN	**Fagnano**	**0.69**	**158**	⇓P	**Pn**	**02 19 57.1**	**-2.3**
FAGN				AML	AML		
	comp=E,1650μm,0.4s						
FAGN				AML	AML		
	comp=N,1230μm,0.6s						
FRON	**Frontone**	**0.72**	**328**	⇓P	**Pg**	**02 19 56.9**	**-0.6**
FRON				AML	AML		
	comp=E,842μm,1.6s						
FRON				AML	AML		
	comp=N,1042μm,0.7s						
FRON				AML	AML		
	comp=E,842μm,1.6s						
FRON				AML	AML		
	comp=N,1043μm,0.7s						
ATVO	**AVT- Monte Val**	**0.78**	**308**	⇑P	**Pg**	**02 19 57.8**	**-0.8**
ATVO				S	**Sg**	**02 20 10.0**	**+1.3**
ATVO				AML	AML		
	comp=N,636μm,0.4s						
ATVO				AML	AML		
	comp=E,488μm,0.7s						
ATVO				AML	AML		
	comp=N,637μm,0.4s						
T0110	**Collepietro**	**0.79**	**150**	⇓P	**Pn**	**02 19 58.7**	**-2.1**
T0110				AML	AML		
	comp=E,776μm,0.7s						
T0110				AML	AML		
	comp=N,1146μm,0.4s						
T0110				AML	AML		
	comp=N,1151μm,0.4s						
SENI	**Senigallia**	**0.80**	**359**	⇑P	**Pn**	**02 20 00.4**	**-0.5**
SENI				AML	AML		
	comp=E,3035μm,0.9s						
SENI				AML	AML		
	comp=N,3220μm,0.3s						
MPAG	**Monte Paganucc**	**0.80**	**334**	P	**Pg**	**02 19 57.6**	**-1.6**
MPAG				S	**Sn**	**02 20 13.0**	**-0.1**
PIEI	**Pieia**	**0.81**	**321**	⇓P	**Pg**	**02 19 58.6**	**-0.8**
PIEI				S	**Sn**	**02 20 12.0**	**-1.4**
PIEI				AML	AML		
	comp=N,402μm,0.2s						
PIEI				AML	AML		
	comp=E,546μm,0.3s						
ATPI	**Pietralunga -**	**0.82**	**312**	⇓P	**Pg**	**02 19 58.8**	**-0.7**
MGAB	**Montegabbione**	**0.83**	**271**	⇑P	**Pg**	**02 19 59.2**	**-0.4**
MGAB				AML	AML		
	comp=N,1176μm,0.5s						
MGAB				AML	AML		
	comp=E,670μm,0.3s						
MGAB				AML	AML		
	comp=E,574μm,0.3s						
MGAB				AML	AML		
	comp=N,1140μm,0.5s						
ATMI	**Monte Miggiano**	**0.83**	**301**	⇓P	**Pg**	**02 19 59.9**	**+0.2**
ATMI				AML	AML		
	comp=N,1215μm,0.4s						
ATMI				AML	AML		
	comp=N,1210μm,0.4s						
ATMI				AML	AML		
	comp=E,768μm,0.3s						
NARO	**Abbazia di Nar**	**0.85**	**326**	⇓P	**Pg**	**02 19 59.3**	**-0.8**
NARO				AML	AML		
	comp=E,373μm,0.4s						
NARO				AML	AML		
	comp=N,341μm,0.8s						
FSSB	**Fossombrone**	**0.85**	**337**	⇓P	**Pb**	**02 19 59.8**	**-0.8**
FSSB				AML	AML		
	comp=E,2075μm,0.3s						
FSSB				AML	AML		
	comp=N,2020μm,0.2s						
BADI	**Badiali**	**0.95**	**310**	⇑P	**Pg**	**02 20 01.3**	**-0.6**
CERT	**Cerreto**	**0.98**	**191**	⇑P	**Pn**	**02 20 04.2**	**+0.8**
SACS	**San Casciano d**	**0.98**	**267**	⇓P	**Pb**	**02 20 01.8**	**-0.9**
SACS				AML	AML		
	comp=N,310μm,1.1s						
SACS				AML	AML		
	comp=E,296μm,0.8s						
SACS				AML	AML		
	comp=N,320μm,0.6s						
SACS				AML	AML		
	comp=E,298μm,0.8s						
SACS				AML	AML		
	comp=E,296μm,0.8s						
SACS				AML	AML		
	comp=N,320μm,0.6s						
SACS				AML	AML		
	comp=N,311μm,1.1s						
LPEL	**Lama dei Pelig**	**1.11**	**141**	⇑P	**Pn**	**02 20 04.7**	**-0.5**
LPEL				AML	AML		
	comp=N,296μm,0.7s						
LPEL				AML	AML		
	comp=E,324μm,0.8s						
MCIV	**Monte Civitell**	**1.16**	**264**	⇑P	**Pn**	**02 20 05.9**	**0.0**
MCIV				AML	AML		
	comp=E,141μm,0.7s						
MCIV				AML	AML		
	comp=N,115μm,1.0s						
SF04	**Casetta**	**1.17**	**267**	P	**Pn**	**02 20 05.3**	**-0.7**
MIDA	**Miranda**	**1.47**	**149**	⇓P	**Pg**	**02 20 12.6**	**+0.8**
TRIV	**Trivento**	**1.50**	**139**	⇑P	**Pg**	**02 20 13.6**	**+1.2**
TREM	**Isole Tremiti**	**1.85**	**114**	⇑P	**Pg**	**02 20 17.8**	**-1.3**
ABTA	**Abfaltersbach**	**3.88**	**353**	*i* Pn	**Pn**	**02 20 44.7**	**+1.4**
	comp=N,3.9nm,0.3s,SNR=11						
FETA	**Feichten**	**4.48**	**337**	*e*Pn	**Pn**	**02 20 53.7**	**+1.9**
	comp=N,1.5nm,0.4s						
WTTA	**Wattenberg**	**4.50**	**346**	*e*Pn	**Pn**	**02 20 54.8**	**+2.8**
	comp=N,1.4nm,0.2s						
WTTA				*i* Sn	**Sn**	**02 21 47.3**	**+2.8**
	comp=N,4.2nm,0.4s						
SQTA	**Sankt Quirin**	**4.55**	**342**	*e*Pn	**Pn**	**02 20 55.2**	**+2.6**
	comp=N,3.7nm,0.5s						
SQTA				*e*Sn	**Sn**	**02 21 47.6**	**+2.1**
	comp=N,4.0nm,0.3s						
WATA	**Walderalm**	**4.58**	**346**	*i* Pn	Pn	02 20 56.3	+3.2
	comp=N,1.7nm,0.3s						
WATA				*i* Sn	**Sn**	**02 21 48.5**	**+2.1**
	comp=N,4.5nm,0.5s						
ARSA	**Arzberg**	**4.63**	**20**	*i* Sn	**Sn**	**02 21 46.4**	**-1.1**
	comp=N,1.3nm,0.2s						
MOTA	**Moosalm**	**4.69**	**342**	*i* Pn	Pn	02 20 57.8	+3.3
	comp=N,1.3nm,0.4s						
MOTA				*e*Sn	**Sn**	**02 21 50.8**	**+1.8**
	comp=N,2.0nm,0.4s						
BIOA	**Bad Ischl, Aus**	**4.79**	**3**	*i* Pn	**Pn**	**02 20 57.4**	**+1.5**
	comp=N,1.2nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BIOA				eSn	Sn	02 21 53.3	+1.9
	comp=N,6.2nm,0.6s						
MOA	Molln	5.00	8	ePn	Pn	02 21 00.4	+1.8
	comp=N,0.2nm,0.1s						
MOA				i Sn	Sn	02 21 57.7	+1.3
	comp=N,0.7nm,0.2s						
CONA	Conrad Observa	5.35	19	i Pn	Pn	02 21 03.5	0.0
	comp=N,0.3nm,0.2s						
CONA				i Sn	Sn	02 22 04.9	-0.3
	comp=N,0.9nm,0.3s						
CKRC	Cesky Krumlov	5.96	7	eSN	Sn	02 22 17.8	-2.4
KHC	Kasperske Hory	6.23	2	ePN	Pn	02 21 15.5	-0.1
KHC				eSN	Sn	02 22 24.7	-2.1

*MDD **02** 02:20:06.3±0.4, 36.°62N×7.°65W, h15km±3km, mb_Lg3.1/35, Error ellipse: s-maj=3.1km s-min=1.9km az=44.0*
*CNRM **02** 02:20:06.5, 36.°54N×7.°63W, h53km, ml2.9*
*SFS **02** 02:20:06.0, 36.°60N×7.°50W, h30km, ML3.2, GOLDO DE CADIZ*
*LDG **02** 02:20:07.1±0.2, 36.°65N×7.°62W, h10km, Ml3.0/5, Error ellipse: s-maj=3.6km s-min=1.8km az=49.0*
*INMG **02** 02:20:07.8±1.7, 36.°63N×7.°60W, h18km±3km, MD3.1, ML2.8, Error ellipse: s-maj=2.4km s-min=2.1km az=47.0*
ISC 02 02:20:05.4±1.1, **36.°65N**±0.°03×**7.°55W**±0.°02, **h29**km±11km, **n107**, σ1.°75/201, **17D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFARO	Faro	0.48	322	ePg	Pn	02 20 17.9	+1.6
PFARO				eSg	Sn	02 20 26.4	+2.7
PFARO				A	A	02 20 31.0	
	692nm,0.2s						
PTAV	Tavira	0.48	350	ePg	Pn	02 20 18.3	+2.0
PTAV				eSg	Sn	02 20 26.0	+2.2
PTAV				A	A	02 20 37.3	
	230nm,0.5s						
PALBU	Albufeira	0.71	309	⇓eP	Pn	02 20 20.9	+1.4
PALBU				eS	Sn	02 20 30.4	+0.9
PALBU				A	A	02 20 38.8	
	377nm,0.8s						
PVAQ	Vaqueiros	0.76	350	⇓iP	Pn	02 20 22.1	+1.9
PVAQ				eS	Sn	02 20 32.0	+1.2
PVAQ				A	A	02 20 33.2	
	295nm,0.4s						
PVAQ	Vaqueiros	0.76	350	P	Pn	02 20 21.5	+1.3
PVAQ				S	Sn	02 20 32.6	+1.8
ARNO	Arenosillo	0.80	55	P	Pb	02 20 19.7	-1.1
ARNO				S	Sn	02 20 34.2	+2.7
EGRO	El Granado	0.89	4	P	Pn	02 20 24.0	+2.1
EGRO				S	Sn	02 20 35.0	+1.3
EGRO				i Vmb_Lg		02 20 36.4	
PPOR	Portimao	0.92	302	eP	Pn	02 20 23.6	+1.2
PPOR				eS	Sb	02 20 35.1	+0.3
PLAGO	Lagos	1.01	296	eP	Pn	02 20 24.9	+1.3
PLAGO				eS	Sn	02 20 38.4	+1.5
PLAGO				A	A	02 20 42.5	
	463nm,0.5s						
PCVE	Castro Verde	1.05	339	⇓eP	Pn	02 20 26.2	+2.0
PCVE				eS	Sn	02 20 39.7	+1.8
PCVE				A	A	02 20 54.1	
	123nm,0.4s						
MORF	Marmelete	1.10	307	eP	Pb	02 20 26.0	+0.2
MORF				eS	Sb	02 20 38.5	-1.3
MORF				IAML		02 20 40.5	
	comp=E,178nm,0.2s						
MORF	Marmelete	1.10	307	⇓iP	Pb	02 20 26.0	+0.2
MORF				eS	Sb	02 20 38.5	-1.3
MORF				A	A	02 20 46.4	
	comp=E,183nm,0.2s						
PFVI	Vila Bisbo	1.13	296	⇓eP	Pb	02 20 26.3	0.0
PFVI				eS	Sb	02 20 39.8	-0.9
PFVI				A	A	02 20 45.9	
	comp=E,81nm,0.1s						
PFVI	Vila Bisbo	1.13	296	P	Pb	02 20 26.7	+0.4
PFVI				S	Sn	02 20 43.0	+3.2
PALJ	Aljezur	1.20	304	eP	Pb	02 20 27.8	+0.3
PALJ				eS	Sb	02 20 42.1	-0.5
PSVI	Cabo S. Vicent	1.22	288	eS	Sb	02 20 42.8	-0.3
PTEO	Sao Teotonio	1.29	314	⇓iP	Pb	02 20 29.3	+0.2
PTEO				eS	Sn	02 20 44.8	+1.0
PTEO				A	A	02 21 02.0	
	comp=E,58nm,0.7s						
MESJ	Messejana	1.30	336	eP	Pb	02 20 29.5	+0.2
MESJ				eS	Sn	02 20 44.1	+0.1
MESJ				IAML		02 20 49.5	
	comp=N,70nm,0.4s						
EMIN	Mina Concepcio	1.32	32	P	Pb	02 20 29.8	+0.2
EMIN				S	Sn	02 20 45.8	+1.3
EMIN				i Vmb_Lg		02 20 46.6	
ESPR	Espera	1.38	80	P	Pb	02 20 31.2	+0.7
ESPR				S	Sn	02 20 47.5	+1.6
ESPR				i Vmb_Lg		02 20 48.8	
PBEJ	Beja	1.40	350	⇓eP	Pb	02 20 30.9	0.0
PBEJ				eS	Sn	02 20 47.8	+1.4
PBEJ				A	A	02 21 05.1	
	comp=N,46nm,0.4s						
PBAR	Barrancos	1.58	15	⇓ePn	Pb	02 20 33.5	-0.4
PBAR				eSn	Sb	02 20 53.1	-0.4
PBAR				A	A	02 20 58.9	
	comp=N,22nm,0.3s						
PNCL	Nicolau / Gran	1.65	332	⇓ePn	Pn	02 20 34.2	+1.8
PNCL				eSn	Sn	02 20 54.0	+1.3
PNCL				A	A	02 21 08.0	
	comp=N,44nm,0.3s						
PSINE	Sines	1.67	322	ePn	Pn	02 20 34.5	+1.8
EJIF	Jimena Fronter	1.69	96	P	Pb	02 20 36.0	+0.2
EJIF				S	Sb	02 20 58.3	+1.6
LIJA	Lijar	1.74	81	P	Pb	02 20 36.9	+0.1
LIJA				S	Sb	02 20 58.5	+0.1
ECEU	Ceuta	1.91	112	P	Pb	02 20 38.9	-0.7
ECEU				S	Sn	02 21 01.9	+2.8
ECEU				i Vmb_Lg		02 21 03.5	
CEU	Ceuta	1.91	112	P	Pb	02 20 39.4	-0.2
CEU				S	Sb	02 21 03.1	0.0
EVO	Evora	1.92	349	P	Pn	02 20 38.1	+2.1
EVO				S	Sn	02 20 58.6	-0.6
EVO	Evora	1.92	349	⇓ePn	Pn	02 20 38.1	+2.1
EVO				eSn	Sn	02 21 00.9	+1.7
EVO				A	A	02 21 03.6	
	comp=N,32nm,0.1s						
EBAD	Badajoz	2.15	11	P	Pn	02 20 41.1	+1.8
EBAD				S	Sn	02 21 05.8	+1.0
EBAD				i Vmb_Lg		02 21 15.9	
PESTR	Estremoz	2.21	359	⇓ePn	Pn	02 20 42.0	+1.8
PESTR				eSn	Sn	02 21 08.0	+1.4
PESTR				A	A	02 21 20.8	
	comp=N,31nm,0.6s						
PESTR	Estremoz	2.21	359	P	Pn	02 20 41.4	+1.2
PESTR				S	Sn	02 21 09.7	+3.1
ECAB	El Cabril	2.22	49	P	Pn	02 20 42.7	+2.5
ECAB				S	Sn	02 21 06.5	-0.2
ECAB				i Vmb_Lg		02 21 15.7	
EMIJ	Mijas	2.24	91	P	Pn	02 20 42.5	+2.0
EMIJ				S	Sn	02 21 06.8	-0.3
EMIJ				i Vmb_Lg		02 21 14.0	
PACT	Alcochete	2.35	335	⇓ePn	Pn	02 20 44.5	+2.6
PACT				eSn	Sb	02 21 13.6	-1.9
PACT				A	A	02 21 40.8	
	comp=N,50nm,0.5s						
CHEFC	Chefchaouen	2.37	130	P	Pn	02 20 45.0	+2.7
CHEFC	Chefchaouen	2.37	130	P	Pn	02 20 45.0	+2.7
CHEFC				S	Sn	02 21 09.7	-0.7
PMST	Lisbon--Monsan	2.45	329	ePn	Pn	02 20 45.6	+2.2
PMST				eSn	Sn	02 21 14.0	+1.6
PMST				A	A	02 21 41.2	
	comp=N,25nm,0.5s						
PMTG	Montargil	2.47	348	⇓ePn	Pn	02 20 45.8	+2.1
PMTG				eSn	Sn	02 21 14.5	+1.6
PMTG				A	A	02 21 16.8	
	comp=N,26nm,0.3s						
EMAL	Malaga-Limoner	2.51	87	P	Pn	02 20 47.3	+3.0
EMAL				S	Sn	02 21 15.5	+1.7
PMAFR	Mafra	2.68	330	ePn	Pn	02 20 48.7	+2.1
PMAFR				eSn	Sn	02 21 19.5	+1.5
PMAFR				A	A	02 21 20.4	
	comp=N,76nm,0.3s						
PMRV	Marv??o	2.78	3	⇓ePn	Pn	02 20 50.0	+2.1
PMRV				eSn	Sn	02 21 21.5	+1.0
PMRV				A	A	02 21 22.2	
	comp=N,30nm,0.3s						
EGOR	Sierra Gorda,	2.80	80	P	Pn	02 20 51.4	+3.0
EGOR				S	Sn	02 21 23.1	+1.9
EGOR				i Vmb_Lg		02 21 27.6	
EADA	Adamuz	2.81	57	P	Pn	02 20 51.0	+2.5
EADA				S	Sn	02 21 22.1	+0.8
EADA				i Vmb_Lg		02 21 25.8	
PVLZ	Peæn de	3.02	118	P	Pn	02 20 53.3	+2.1
PVLZ				S	Sn	02 21 25.8	-0.6
PSBE	So Bento	3.02	341	⇓ePn	Pn	02 20 53.7	+2.4
PSBE				eSn	Sn	02 21 27.3	+0.7
PSBE				A	A	02 21 34.5	
	comp=N,14nm,0.4s						
ELGU	Los Guajares,	3.16	85	P	Pn	02 20 55.7	+2.5
ELGU				S	Sn	02 21 31.6	+1.6
ELGU				i Vmb_Lg		02 21 38.7	
PCBR	Castelo Branco	3.19	1	⇓ePn	Pn	02 20 55.6	+2.1
PCBR				eSn	Sn	02 21 31.0	+0.5
PCBR				A	A	02 21 33.6	
	comp=N,16nm,0.2s						
PALE	Palemas	3.26	115	P	Pn	02 20 57.3	+2.7
PALE				S	Sn	02 21 33.8	+1.4
AVE	Averroes	3.34	178	P	Pn	02 20 56.5	+0.8
AVE				S	Sn	02 21 33.6	-0.8
AVE	Averroes	3.34	178	P	Pn	02 20 56.0	+0.3
AVE				S	Sn	02 21 37.1	+2.6
PCAS	Casmilo, Conde	3.48	348	ePn	Pn	02 20 59.8	+2.3
PCAS				eSn	Sn	02 21 38.0	+0.3
PCAS				A	A	02 21 41.0	
	comp=N,15nm,0.5s						
EPLA	Plasencia	3.60	18	P	Pn	02 21 00.7	+1.5
EPLA				S	Sn	02 21 41.1	+0.3
EPLA				i Vmb_Lg		02 21 42.4	
LCRM	LCR	3.69	142	P	Pn	02 21 00.9	+0.3
LCRM				S	Sn	02 21 44.2	+1.1
IFR	Ifrane	3.70	147	P	Pn	02 21 01.0	+0.1
IFR				S	Sn	02 21 42.5	-1.0
EALB	Alboran	3.72	100	S	Sn	02 21 46.0	+2.4
EALB				i Vmb_Lg		02 21 47.6	
MTE	Manteigas	3.75	0	⇓iPn	Pn	02 21 03.2	+1.9
MTE				eSn	Sn	02 21 44.1	-0.3
MTE				A	A	02 21 46.0	
	comp=N,30nm,0.3s						
EBER	Berja	3.75	85	P	Pn	02 21 03.1	+1.6
EBER				S	Sn	02 21 47.0	+2.2
EBER				i Vmb_Lg		02 21 50.7	
EQES	Quesada	3.76	71	P	Pn	02 21 03.6	+2.1
EQES				S	Sn	02 21 46.9	+2.1
EQES				i Vmb_Lg		02 21 52.4	
PAB	San Pablo	3.84	40	P	Pn	02 21 04.5	+1.9
PAB				S	Sn	02 21 44.7	-2.1
PAB				i Vmb_Lg		02 21 47.3	
PVIS	Viseu	4.07	356	ePn	Pn	02 21 07.6	+1.9
PVIS				eSn	Sn	02 21 53.4	+1.0
PVIS				A	A	02 21 54.5	
	comp=N,16nm,0.1s						
ESDC	Sonseca Array	4.14	42	P	Pn	02 21 09.0	+2.3
ESDC				S	Sn	02 21 52.5	-1.5
ESDC				i Vmb_Lg		02 21 54.6	
CZD	Col de Zad	4.16	149	P	Pn	02 21 08.2	+1.1
CZD	Col de Zad	4.16	149	P	Pn	02 21 08.2	+1.1
CZD				S	Sn	02 21 55.3	+0.4
SRHM	Skhour des Reh	4.18	184	P	Pn	02 21 08.0	+0.8
SRHM	Skhour des Reh	4.18	184	P	Pn	02 21 08.0	+0.8
SRHM				S	Sn	02 21 56.6	+1.5
ENIJ	Nijar	4.30	84	P	Pn	02 21 10.8	+1.9
ENIJ				S	Sn	02 21 59.9	+1.9
ENIJ				i Vmb_Lg		02 22 04.6	
CHAS	Isla Isabel II	4.41	108	P	Pn	02 21 10.5	+0.2
CHAS				S	Sn	02 21 56.8	-3.8
MD31	MD31	4.42	148	P	Pn	02 21 11.0	+0.5
MD31				S	Sn	02 22 01.2	+0.1
MVO	Moncorvo	4.53	5	ePn	Pn	02 21 13.8	+1.8
MVO				eSn	Sn	02 22 02.8	-0.9
MVO				A	A	02 22 04.9	
	comp=N,26nm,0.5s						
MDT	Midelt	4.53	147	P	Pn	02 21 12.8	+0.7
MDT	Midelt	4.53	147	P	Pn	02 21 12.8	+0.7
MDT				S	Sn	02 22 01.7	-2.2
PTO	Porto	4.56	350	ePn	Pn	02 21 14.3	+2.0
PTO				eSn	Sn	02 22 03.5	-0.8
PTO				A	A	02 22 05.9	
	comp=N,56nm,0.1s						
TAF	Taforalt	4.56	112	P	Pn	02 21 14.3	+1.7
TAF				S	Sn	02 22 04.8	+0.2
PVRL	Vila Real	4.62	358	ePn	Pn	02 21 15.1	+1.8
PVRL				eSn	Sn	02 22 05.1	-0.9
PVRL				A	A	02 22 07.9	
	comp=N,17nm,0.3s						
JBK	JBK	4.68	118	P	Pn	02 21 15.0	+0.8
JBK	JBK	4.68	118	P	Pn	02 21 15.0	+0.8
JBK				S	Sn	02 22 05.7	-1.9
POLO	Lamas de Olo	4.72	358	ePn	Pn	02 21 16.6	+1.9
POLO				eSn	Sn	02 22 07.4	-1.1
POLO				A	A	02 22 09.7	
	comp=N,14nm,0.3s						
GUD	Guadarrama	4.79	33	P	Pn	02 21 17.9	+2.2
GUD				S	Sn	02 22 10.1	-0.2
GUD				i Vmb_Lg		02 22 12.9	
EZAR	Zarzadilla de	4.83	74	P	Pn	02 21 17.5	+1.3
EZAR				S	Sn	02 22 11.6	+0.4
EZAR				i Vmb_Lg		02 22 15.0	
UCM	Universidad Co	4.98	41	P	Pn	02 21 21.0	+2.8
UCM				S	Sn	02 22 14.0	-0.7
PCAB	Cabril	5.07	356	ePn	Pn	02 21 21.3	+1.9
PCAB				eSn	Sn	02 22 15.3	-1.6
PCAB				A	A	02 22 18.7	
	comp=N,12nm,0.1s						
ETOB	Tobarra	5.17	66	P	Pn	02 21 22.0	+1.2
ETOB				S	Sn	02 22 18.4	-1.0
ETOB				i Vmb_Lg		02 22 21.3	
EMUR	La Murta	5.17	75	P	Pn	02 21 23.9	+3.0
EMUR				S	Sn	02 22 19.3	-0.3
EMUR				i Vmb_Lg		02 22 22.1	
PBRG	Braganca	5.19	7	ePn	Pn	02 21 23.1	+2.0
PBRG				eSn	Sn	02 22 17.7	-2.2
PBRG				A	A	02 22 20.0	
	comp=N,6.5nm,0.4s						
ELOB	Lobios	5.23	356	P	Pn	02 21 23.3	+1.7
ELOB				S	Sn	02 22 20.4	-0.6
ELOB				i Vmb_Lg		02 22 22.3	
ECAL	Calabor	5.32	7	P	Pn	02 21 24.4	+1.4
ECAL				S	Sn	02 22 22.8	-0.5
ECAL				i Vmb_Lg		02 22 25.0	
PGAV	Gavieira, Arco	5.34	354	ePn	Pn	02 21 25.1	+1.9
PGAV				eSn	Sn	02 22 22.5	-1.2
PGAV				A	A	02 22 26.1	
	comp=N,5.2nm,0.2s						
OUK	Oukaimeden	5.43	183	P	Pn	02 21 25.3	+0.6
OUK				S	Sn	02 22 21.4	-5.1
ETOR	Torete	5.98	44	P	Pn	02 21 35.0	+2.9
ETOR				i Vmb_Lg		02 22 41.4	
TTIG	Tnine Tigouga,	6.13	187	P	Pn	02 21 31.4	-2.7
TTIG	Tnine Tigouga,	6.13	187	P	Pn	02 21 31.5	-2.7
EAGO	Agolada(Pontev	6.16	356	P	Pn	02 21 36.0	+1.6
EAGO				S	Sn	02 22 42.6	-1.3
EAGO				i Vmb_Lg		02 22 44.2	
EMAZ	Mazaricos	6.39	351	P	Pn	02 21 38.9	+1.4
EMAZ				S	Sn	02 22 48.3	-1.1
EMAZ				i Vmb_Lg		02 23 08.7	
EMOS	Mosqueruela	6.68	54	P	Pn	02 21 44.2	+2.6
EMOS				S	Sn	02 22 55.6	-1.1
EMOS				i Vmb_Lg		02 23 25.9	
EPON	Pontenova	6.68	3	P	Pn	02 21 42.9	+1.5
EPON				S	Sn	02 22 55.4	-1.1
EPON				i Vmb_Lg		02 23 29.4	
EARI	Arriondas	6.88	14	P	Pn	02 21 45.6	+1.2
EARI				S	Sn	02 22 59.7	-2.0
EARI				i Vmb_Lg		02 23 19.8	
ELAN	Lanestosa	7.29	24	P	Pn	02 21 50.6	+0.7
ELAN				S	Sn	02 23 09.5	-2.3
ELAN				i Vmb_Lg		02 23 23.1	
EORO	Oroz-Betelu	7.87	36	P	Pn	02 22 00.4	+2.5
EORO				S	Sn	02 23 25.1	-0.9
EORO				i Vmb_Lg		02 23 35.8	
EALK	Alkurruntz	8.04	33	P	Pn	02 22 01.6	+1.4
EALK				S	Sn	02 23 28.0	-2.1
EALK				i Vmb_Lg		02 23 31.0	
SJPF	Ste Jean	8.08	35	ePn	Pn	02 22 03.2	+2.5
SJPF				eSn	Sn	02 23 28.7	-2.4
	comp=N,2.4nm,0.4s						
ETSF	Etsaut	8.24	39	ePn	Pn	02 22 05.0	+2.0
ETSF				eSn	Sn	02 23 32.7	-2.4
	comp=N,1.6nm,0.4s						
EPF	Esparros	8.80	41	ePn	Pn	02 22 12.4	+1.8
EPF				eSn	Sn	02 23 45.9	-2.9
	comp=N,1.3nm,0.4s						
MTLF	Montolieu	10.04	45	eSn	Sn	02 24 15.6	-3.5
	comp=N,0.3nm,0.3s						
CAF	Calviac	11.02	38	ePn	Pn	02 22 42.3	+1.3
QUIF	Quistinic	11.72	15	ePn	Pn	02 22 51.4	+0.9
QUIF				eSn	Sn	02 24 55.1	-5.0
	comp=N,0.2nm,0.2s						

ROM 02 02:23:21.9±0.1, **43.°602N**±0.°006×**11.°02E**±0.°01, **h10**km±1km, **ML1.3**/8, **8C-6D, Error ellipse: s-maj=0.8km s-min=0.6km az=66.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSSC	Osservatorio P	0.18	115	⇓P	Pg	02 23 26.1	+0.4
OSSC				S	Sg	02 23 29.1	+0.7
OSSC				AML	AML		
	comp=E,138µm,0.4s						
OSSC				AML	AML		
	comp=N,136µm,0.5s						
OSSC				AML	AML		
	comp=N,135µm,0.5s						
OSSC				AML	AML		
	comp=E,137µm,0.4s						
CRMI	Carmignano	0.19	349	P	Pg	02 23 26.9	+1.0
CRMI				S	Sg	02 23 29.9	+1.2
CRMI				AML	AML		
	comp=N,154µm,0.9s						
CRMI				AML	AML		
	comp=E,164µm,0.8s						
CRMI				AML	AML		
	comp=E,163µm,0.8s						
CRMI				AML	AML		
	comp=N,154µm,0.9s						
CSNT	Castellina Chi	0.24	123	⇓P	Pg	02 23 27.5	+0.8
CSNT				S	Sg	02 23 31.4	+1.4
CSNT				AML	AML		
	comp=E,58µm,0.9s						
CSNT				AML	AML		
	comp=N,54µm,0.8s						
CSNT				AML	AML		
	comp=N,54µm,1.2s						
PII	Pisa	0.38	289	⇓P	Pb	02 23 30.1	-0.6
PII				S	Sg	02 23 34.9	+0.5
PII				AML	AML		
	comp=N,92µm,0.4s						
PII				AML	AML		
	comp=E,94µm,1.4s						
FROS	Frosini	0.40	166	⇑P	Pb	02 23 30.8	-0.4
FROS				S	Sg	02 23 36.2	+1.0
FROS				AML	AML		
	comp=E,116µm,0.7s						
FROS				AML	AML		
	comp=N,104µm,1.1s						
RUFI	Rufina	0.43	56	⇓P	Pb	02 23 31.2	-0.4
RUFI				S	Sb	02 23 37.1	-1.0
POPM	Popiglio	0.48	337	P	Pb	02 23 32.2	-0.3
POPM				AML	AML		
	comp=N,45µm,0.2s						
POPM				AML	AML		
	comp=E,52µm,0.2s						
POPM	Popiglio	0.48	337	⇓P	Pb	02 23 32.3	-0.3
POPM				AML	AML		
	comp=E,52µm,0.2s						
POPM				AML	AML		
	comp=N,45µm,0.2s						
POPM				AML	AML		
	comp=E,52µm,0.2s						
POPM				AML	AML		
	comp=N,45µm,0.2s						
POPM				AML	AML		
	comp=N,45µm,0.2s						
POPM				AML	AML		
	comp=E,52µm,0.2s						
MAIM	Mastiano	0.49	309	⇓P	Pb	02 23 32.1	-0.6
MAIM				S	Sg	02 23 38.4	+0.4
TRIF	Trifonti	0.49	190	P	Pb	02 23 32.3	-0.4
TRIF				S	Sb	02 23 39.1	-0.9
SEI	Scarperia	0.51	28	⇑P	Pb	02 23 33.1	0.0
SEI				AML	AML		
	comp=E,37µm,0.3s						
SEI				AML	AML		
	comp=N,83µm,0.3s						
SEI				AML	AML		
	comp=E,37µm,1.7s						
BDI	Bagni Di Lucca	0.55	327	P	Pb	02 23 33.4	-0.3
BDI				S	Sg	02 23 40.3	+0.3
CARD	Cardoso	0.58	318	⇑P	Pb	02 23 33.6	-0.5
CARD				AML	AML		
	comp=E,35µm,1.4s						
CARD				AML	AML		
	comp=N,35µm,1.5s						
CARD				AML	AML		
	comp=N,35µm,1.5s						
CARD				AML	AML		
	comp=N,35µm,0.5s						
CARD				AML	AML		
	comp=E,35µm,1.4s						
VLC	Villacollemand	0.72	321	⇑P	Pb	02 23 36.5	-0.1
GROG	Isola di Gorgo	0.84	258	S	Sb	02 23 51.0	+1.1
PIEI	Pieia	1.10	93	S	Sb	02 23 58.0	+0.4
T1221	Campello sul C	1.53	118	S	Sg	02 24 13.0	+2.0
EL6	Elcito	1.54	99	S	Sg	02 24 16.0	+4.6
CING	Cingoli	1.60	97	S	Sg	02 24 16.0	+2.7
RM33	Pellescritta (	1.94	123	S	Sg	02 24 27.0	+2.6
CAMP	Campotosto	2.05	121	S	Sg	02 24 34.0	+6.2
TERO	Teramo	2.13	116	S	Sg	02 24 36.0	+5.7
GIGS	Gran Sasso	2.19	121	S	Sg	02 24 36.0	+3.6
FAGN	Fagnano	2.31	124	S	Sg	02 24 40.0	+4.0
VCEL	Villa Celiera	2.40	119	S	Sg	02 24 40.0	+1.2
T0110	Collepietro	2.45	123	S	Sg	02 24 41.0	+0.4
INTR	Introdacqua	2.65	126	⇑P	Pg	02 24 12.1	-0.6
INTR				AML	AML		
	comp=E,19µm,1.4s						
INTR				AML	AML		
	comp=N,29µm,0.8s						
POFI	Posta Fibreno	2.74	133	⇑P	Pb	02 24 11.0	0.0
POFI				AML	AML		
	comp=E,630µm,0.4s						
POFI				AML	AML		
	comp=N,782µm,0.6s						
POFI				AML	AML		
	comp=E,682µm,0.4s						
POFI				AML	AML		
	comp=N,794µm,0.7s						
VARE	Varese	2.78	325	P	Pb	02 24 11.0	-0.7
BOSI	Bolzano	2.90	4	⇑P	Pn	02 24 10.6	+2.4
CIRO	Champorcher	3.17	310	S	Sb	02 24 60.0	+2.5
HAGA	Augusta	7.05	152	⇑P	Pn	02 25 08.3	+3.1

ROM 02 02:24:09.5±0.1, **41.°698N**±0.°004×**13.°720E**±0.°007, **h7**km, **ML0.8**/4, **1D, Error ellipse: s-maj=0.7km s-min=0.2km az=113.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POFI	Posta Fibreno	0.02	343	S	Sg	02 24 11.9	0.0
POFI				AML	AML		
	comp=E,630µm,0.4s						
POFI				AML	AML		
	comp=E,682µm,0.4s						
POFI				AML	AML		
	comp=E,630µm,1.6s						
POFI				AML	AML		
	comp=E,682µm,1.6s						
POFI				AML	AML		
	comp=N,783µm,0.6s						
POFI				AML	AML		
	comp=N,794µm,0.7s						
LRP	Arpino	0.11	243	P	Pg	02 24 12.4	+0.5
LRP				AML	AML		
	comp=E,86µm,1.4s						
LRP				AML	AML		
	comp=N,99µm,1.6s						
LRP	Arpino	0.11	243	P	Pg	02 24 12.3	+0.4
LRP				S	Sg	02 24 14.4	+0.8
LRP				AML	AML		
	comp=E,86µm,1.4s						
LRP				AML	AML		
	comp=N,99µm,1.6s						
LRP				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,86µm,0.6s						
LRP				AML	AML		
	comp=N,99µm,0.4s						
VVLD	Villa Vallelon	0.19	337	⇓P	Pg	02 24 13.8	+0.5
VVLD				AML	AML		
	comp=E,34µm,0.5s						
VVLD				AML	AML		
	comp=N,43µm,1.0s						
VVLD	Villa Vallelon	0.19	337	P	Pg	02 24 13.8	+0.5
VVLD				S	Sg	02 24 17.1	+1.2
VVLD				AML	AML		
	comp=N,43µm,1.0s						
VVLD				AML	AML		
	comp=E,34µm,0.5s						
INTR	Introdacqua	0.34	24	AML	AML		
	comp=E,19µm,0.6s						
INTR				AML	AML		
	comp=E,19µm,1.4s						
INTR				AML	AML		
	comp=N,29µm,0.8s						
FROS	Frosini	2.42	309	AML	AML		
	comp=E,116µm,0.7s						
FROS				AML	AML		
	comp=N,104µm,1.1s						
CSNT	Castellina Chi	2.52	315	AML	AML		
	comp=N,54µm,0.8s						
CSNT				AML	AML		
	comp=E,58µm,0.9s						
CSNT				AML	AML		
	comp=N,54µm,1.2s						
OSSC	Osservatorio P	2.58	316	AML	AML		
	comp=E,138µm,0.4s						
OSSC				AML	AML		
	comp=N,136µm,0.5s						
OSSC				AML	AML		
	comp=E,137µm,0.4s						
OSSC				AML	AML		
	comp=N,135µm,0.5s						
CRMI	Carmignano	2.91	317	AML	AML		
	comp=N,154µm,0.9s						
CRMI				AML	AML		
	comp=E,164µm,0.8s						
CRMI				AML	AML		
	comp=E,163µm,0.8s						
CRMI				AML	AML		
	comp=N,154µm,0.9s						
SEI	Scarperia	2.93	324	AML	AML		
	comp=E,37µm,0.3s						
SEI				AML	AML		
	comp=N,83µm,0.3s						
SEI				AML	AML		
	comp=E,37µm,1.7s						
PII	Pisa	3.10	312	AML	AML		
	comp=E,94µm,1.4s						
PII				AML	AML		
	comp=N,92µm,0.4s						
CARD	Cardoso	3.33	315	AML	AML		
	comp=E,35µm,1.4s						
CARD				AML	AML		
	comp=N,35µm,1.5s						
CARD				AML	AML		
	comp=N,35µm,1.5s						
CARD				AML	AML		
	comp=N,35µm,0.5s						
CARD				AML	AML		
	comp=E,35µm,1.4s						

*SJA **02** 02:40:26.7±0.7, 24.°23S×67.°20W, h209km±5km, ML4.2, MW4.0*
*NEIC **02** 02:40:27.4±1.3, 24.°28S±0.°01×67.°2W±0.°1, h209km±12km, mb4.1/4, Md4.6(SJA), ML4.4(GUC), Error ellipse: s-maj=15.5km s-min=1.6km az=90.0*
*IDC **02** 02:40:28.4±1.5, 24.°17S×67.°10W, h173km±12km, mb3.0/3, mbtmp3.7/8, Error ellipse: s-maj=24.8km s-min=16.0km az=14.0*
*GUC **02** 02:40:30.3±0.6, 24.°14S×67.°52W, h215km±9km, ML4.4*
*VAO **02** 02:40:30.8±0.8, 24.°02S×67.°37W, h218km±9km, mb3.8*
ISC 02 02:40:27.9±0.6, **24.°24S**±0.°03×**67.°18W**±0.°04, **h182**km±7km, **n114**, σ1§**47**/158, **mb3.4**/4, **12C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.58	324		Pn	02 41 02.8	+1.6
AF01	San Pedro de A	1.58	324	eP	Pn	02 41 02.7	+1.6
SLA	San Lorenzo	1.60	108	eP	Pn	02 41 03.1	+1.9
SLA				eS	Sn	02 41 23.4	-3.6
HJA	Humahuaca	1.92	58	eP	Pn	02 41 06.4	+1.6
AZAP	Zapla	1.93	90	eP	Pn	02 41 06.2	+1.5
LVC	Limon Verde	2.27	315	P	Pn	02 41 09.8	+1.2
	317nm,0.4s,baz=118,slow=8.1,SNR=1304						
LVC				S	Sn	02 41 39.5	-0.6
	210nm,0.3s,baz=304,slow=19,SNR=29						
LVC	Limon Verde	2.27	315		Pn	02 41 09.7	+1.2
LVC	Limon Verde	2.27	315	eP	Pn	02 41 09.7	+1.2
LVC				i S	Sn	02 41 40.1	0.0
LVC	Limon Verde	2.27	315	eP	Pn	02 41 09.9	+1.4
LVC				eS	Sn	02 41 41.3	+1.2
LVC	Limon Verde	2.27	315	eP	Pn	02 41 09.7	+1.2
PB15	IPOC Station P	2.34	296		Pn	02 41 10.2	+1.1
PB15	IPOC Station P	2.34	296	⇑iP	Pn	02 41 10.4	+1.2
PB15				i S	Sn	02 41 40.5	-0.5
PB15	IPOC Station P	2.34	296	eP	Pn	02 41 10.2	+1.1
PB15				eS	Sn	02 41 41.9	+0.9
PB15				eS	Sn	02 41 42.4	+1.3
PB15				IAML		02 41 43.0	
	comp=Z,3µm,0.2s						
GO02	Mina Guanaco	2.37	247		Pn	02 41 10.6	+1.0
GO02	Mina Guanaco	2.37	247	⇑iP	Pn	02 41 10.6	+1.0
GO02				i S	Sn	02 41 41.9	0.0
GO02				IAML		02 41 45.7	
	comp=N,1µm,0.3s						
GO02	Mina Guanaco	2.37	247	eP	Pn	02 41 10.6	+1.0
GO02				eS	Sn	02 41 42.8	+0.8
ASTB	Santa Barbara	2.51	84	eP	Pn	02 41 06.4	-4.7
ASTB				eP	Pn	02 41 12.0	+1.0
YJA	Yavi	2.57	37	eP	Pn	02 41 13.6	+1.6
YJA				eS	Sn	02 41 42.4	-3.8
PB06	IPOC Station P	2.68	304	Pn	Pn	02 41 13.5	+0.5
PB06	IPOC Station P	2.68	304	⇑iP	Pn	02 41 14.1	+1.1
PB06				i S	Sn	02 41 47.2	-0.8
PB06				IAML		02 41 49.4	
	comp=N,930nm,0.2s						
PB06	IPOC Station P	2.68	304	eP	Pn	02 41 14.0	+1.1
PB06				eS	Sn	02 41 48.1	+0.1
PB06				IAML		02 41 53.0	
	comp=Z,639nm,0.6s						
ALOL	LOMAS DE OLMED	2.96	82	eP	Pn	02 41 17.0	+0.8
ALOL				eP	Pn	02 41 17.2	+1.0
ALOL				eS	Sn	02 41 55.6	+1.9
PB14	IPOC Station P	2.96	262		Pn	02 41 16.8	+0.3
PB14	IPOC Station P	2.96	262	⇑iP	Pn	02 41 16.8	+0.3
PB14				i S	Sn	02 41 52.0	-2.3
PB14				IAML		02 41 54.4	
	comp=E,385nm,0.5s						
PB14	IPOC Station P	2.96	262	eP	Pn	02 41 17.2	+0.7
PB14				eS	Sn	02 41 53.3	-1.0
PB14				IAML		02 41 54.3	
	comp=Z,324nm,0.6s						
PB09	IPOC Station P	3.09	322	Pn	Pn	02 41 19.3	+1.4
PB09	IPOC Station P	3.09	322	⇑iP	Pn	02 41 19.3	+1.4
PB09				i S	Sn	02 41 56.6	-0.3
PB09				IAML		02 42 04.8	
	comp=N,323nm,0.3s						
PB09	IPOC Station P	3.09	322	eP	Pn	02 41 19.0	+1.0
PB09				eS	Sn	02 41 57.0	0.0
PB09				IAML		02 41 59.3	
	comp=Z,285nm,0.2s						
AC02	Maricunga	3.12	214	Pn	Pn	02 41 19.5	+0.9
AC02	Maricunga	3.12	214	eP	Pn	02 41 19.8	+1.1
AC02				eP	Pn	02 41 20.0	+1.3
AC02				eS	Sn	02 41 56.9	-1.4
PB10	IPOC Station P	3.17	283	Pn	Pn	02 41 19.4	+0.6
PB10	IPOC Station P	3.17	283	⇑iP	Pn	02 41 19.5	+0.7
PB10				i S	Sn	02 41 55.9	-2.5
PB10	IPOC Station P	3.17	283	eP	Pn	02 41 19.1	+0.3
PB10				eP	Pn	02 41 19.8	+1.0
PB10				eS	Sn	02 41 57.0	-1.4
PB10				eS	Sn	02 41 57.9	-0.5
PB10				IAML		02 42 03.6	
	comp=Z,254nm,0.6s						
PB03	IPOC Station P	3.22	312	Pn	Pn	02 41 19.9	+0.4
PB03	IPOC Station P	3.22	312	⇑iP	Pn	02 41 20.2	+0.6
PB03				i S	Sn	02 41 57.8	-2.0
PB03				IAML		02 42 01.1	
	comp=E,557nm,0.2s						
PB03	IPOC Station P	3.22	312	eP	Pn	02 41 20.0	+0.4
PB03				eS	Sn	02 41 59.3	-0.5
PB03				IAML		02 42 04.1	
	comp=Z,545nm,0.3s						
PB04	IPOC Station P	3.33	304	Pn	Pn	02 41 21.1	+0.3
PB04	IPOC Station P	3.33	304	⇑iP	Pn	02 41 21.2	+0.4
PB04				i S	Sn	02 42 00.2	-1.9
PB04				IAML		02 42 04.2	
	comp=N,594nm,0.2s						
PB04	IPOC Station P	3.33	304	eP	Pn	02 41 21.3	+0.4
PB04				eS	Sn	02 42 01.8	-0.3
PB04				IAML		02 42 06.2	
	comp=Z,409nm,0.6s						
PB07	IPOC Station P	3.53	315	Pn	Pn	02 41 23.8	+0.4
PB07	IPOC Station P	3.53	315	⇑iP	Pn	02 41 23.9	+0.4
PB07				i S	Sn	02 42 04.3	-2.5
PB07	IPOC Station P	3.53	315	eP	Pn	02 41 23.7	+0.3
PB07				eS	Sn	02 42 05.7	-1.1
PB07				IAML		02 42 06.4	
	comp=Z,502nm,0.5s						
AC01	Pan de Azucar	3.63	238	Pn	Pn	02 41 24.0	-0.4
AC01	Pan de Azucar	3.63	238	eP	Pn	02 41 24.0	-0.4
AC01				eS	Sn	02 42 06.5	-2.2
AC01				IAML		02 42 07.2	
	comp=Z,172nm,0.3s						
PB01	IPOC Station P	3.83	326	Pn	Pn	02 41 26.8	-0.3
PB01	IPOC Station P	3.83	326	⇑iP	Pn	02 41 27.2	+0.1
PB01				i S	Sn	02 42 11.2	-2.2
PB01	IPOC Station P	3.83	326	eP	Pn	02 41 27.3	+0.1
PB01				eS	Sn	02 42 12.0	-1.4
PB01				IAML		02 42 14.9	
	comp=Z,199nm,0.2s						
PB02	IPOC Station P	3.84	319	Pn	Pn	02 41 27.1	-0.1
PB02	IPOC Station P	3.84	319	⇑iP	Pn	02 41 27.2	0.0
PB02				i S	Sn	02 42 09.8	-3.7
PB02	IPOC Station P	3.84	319	eP	Pn	02 41 27.4	+0.2
PB02				eS	Sn	02 42 12.2	-1.4
PB02				IAML		02 42 17.5	
	comp=Z,521nm,0.2s						
AC06	Mina Casimiro	4.22	222	Pn	Pn	02 41 31.1	-0.8
GO03	Copiap	4.32	219	Pn	Pn	02 41 32.6	-0.7
GO03	Copiap	4.32	219	eP	Pn	02 41 33.0	-0.3
GO03				eS	Sn	02 42 23.0	-1.5
GO03				eS	Sn	02 42 23.0	-1.5
CYA	Choya	4.36	164	eP	Pn	02 41 34.6	+0.9
PATCX	Punta Patache	4.38	321	Pn	Pn	02 41 33.4	-0.6
PATCX	Punta Patache	4.38	321	eP	Pn	02 41 33.8	-0.3
PATCX	Punta Patache	4.38	321	eP	Pn	02 41 33.6	-0.5
PATCX				eP	Pn	02 41 33.9	-0.1
PATCX				IAML		02 42 30.2	
	comp=Z,123nm,0.4s						
PB08	IPOC Station P	4.47	336	Pn	Pn	02 41 36.1	+0.6
PB08	IPOC Station P	4.47	336	⇑iP	Pn	02 41 36.3	+0.7
PB08				i S	Sn	02 42 27.2	-1.3
PB08	IPOC Station P	4.47	336	eP	Pn	02 41 35.3	-0.2
TA01	Diego Aracena	4.59	322	Pn	Pn	02 41 36.0	-0.7
TA01	Diego Aracena	4.59	322	eP	Pn	02 41 36.1	-0.7
TA01				i S	Sn	02 42 26.4	-4.3
TA01	Diego Aracena	4.59	322	eP	Pn	02 41 36.5	-0.3
TA01				IAML		02 42 38.9	
	comp=Z,102nm,0.7s						
HMBC	Humberstone	4.67	327	eP	Pn	02 41 36.6	-1.3
HMBC				i S	Sn	02 42 28.4	-4.4
TA02	Huaiquique	4.81	325	Pn	Pn	02 41 39.2	-0.3
GO01	Chusmiza	4.92	337	Pn	Pn	02 41 41.4	0.0
PB11	IPOC Station P	5.02	332	Pn	Pn	02 41 41.1	-1.3
PB11	IPOC Station P	5.02	332	eP	Pn	02 41 41.3	-1.1
PB11				i S	Sn	02 42 36.4	-4.4
AC04	Llanos de Chal	5.27	221	Pn	Pn	02 41 43.6	-1.9
AC05	El Transito	5.35	211	Pn	Pn	02 41 46.0	-0.6
AC05	El Transito	5.35	211	eS	Sn	02 42 46.7	-1.8
LCO	Las Campanas	5.70	213	Pn	Pn	02 41 49.3	-2.0
LCO	Las Campanas	5.70	213	eP	Pn	02 41 49.8	-1.4
PB16	IPOC Station P	6.27	339	Pn	Pn	02 41 58.0	-1.1
PB12	IPOC Station P	6.32	332	Pn	Pn	02 41 57.7	-1.7
GO04	Tololo Observa	6.73	208	Pn	Pn	02 42 02.9	-1.8
CO03	El Pedregal	7.27	205	Pn	Pn	02 42 10.8	-0.8
CO02	Combarbal	7.71	205	Pn	Pn	02 42 16.4	-1.1
LPAZ	La Paz	7.96	353	P	Pn	02 42 21.2	-0.2
	comp=Z,8.5nm,0.3s,baz=145,slow=4.5,SNR=88						
LPAZ				S	Sn	02 43 48.6	-2.6
	comp=Z,1.8nm,0.5s,baz=49,slow=19,SNR=2.1						
LPAZ	La Paz	7.96	353	Pn	Pn	02 42 21.6	+0.1
LPAZ	La Paz	7.96	353	eP	Pn	02 42 22.1	+0.7
CPUP	Villa Florida	9.15	105	P	Pn	02 42 36.3	-0.1
	comp=Z,0.9nm,0.5s,baz=262,slow=10.0,SNR=3.1						
CPUP	Villa Florida	9.15	105	Pn	Pn	02 42 34.3	-2.1
BBSD	Serra de San D	9.33	42	eP	Pn	02 42 40.5	+1.7
SIV	San Ignacio	10.01	36	P	Pn	02 42 47.9	+0.1
	comp=Z,1.0nm,0.4s,baz=229,slow=9.0,SNR=6.4						
RODS	Rosario do Sul	12.27	122	eP	P	02 43 23.0	+1.3
FRBT	Francisco Belt	12.91	101	eP	P	02 43 29.9	+1.0
PTGB	Pitanga	13.78	95	eP	P	02 43 39.9	+1.4
PLTB	Pedras Altas	14.13	125	Pn	Pn	02 43 38.1	-2.1
TRQA	Tornquist	14.47	163		Pn	02 43 42.3	-2.1
GO06	Curarrehue	15.72	192	P	Pn	02 43 55.9	-3.8
GO06				IAmb	IAmb	02 43 58.7	
	comp=Z,12nm,1.4s						
PLCA	Paso Flores	16.68	189	P	Pn	02 44 12.5	+1.2
	comp=Z,1.1nm,0.8s,baz=114,slow=16,SNR=1.7						
ARAG	Araguaiana, MT	16.75	62	eP	Pn	02 44 13.4	+1.2
IPMB	Ipameri, GO	18.75	74	eP	P	02 44 33.7	+0.3
SNDB	Serra Nova Dou	19.39	54	eP	P	02 44 39.9	-0.3
BDFB	Brasilia	19.93	68	P	P	02 44 45.7	-0.4
	comp=Z,4.2nm,0.6s,baz=250,slow=11,SNR=6.5						
BDFB	Brasilia	19.93	68	P	P	02 44 44.0	-2.2
BDFB	Brasilia	19.93	68	eP	P	02 44 46.8	+0.6
JANB	Januaria	23.37	71	eP	P	02 45 19.8	-0.6
SDBA	SAO DESIDERIO	24.16	65	eP	P	02 45 27.5	-0.2
SMTB	Santa Maria do	24.17	54	eP	P	02 45 28.9	+1.2
VNA3	Neumayer Olymp	56.98	161	P	P	02 49 55.7	+1.6
VNA2	Neumayer--Watz	57.55	160	P	P	02 49 59.5	+1.5
	baz=289,slow=6.0						
SNAA	Sanae	59.18	161	P	P	02 50 10.5	+1.1
SNAA	Sanae	59.18	161	P	P	02 50 09.1	-0.3
TROLL	Troll, Antarti	60.89	161	P	P	02 50 22.9	+1.7
TXAR	Lajitas Array	63.78	325	P	P	02 50 42.9	+2.1
	comp=Z,0.2nm,0.6s,baz=126,slow=6.4,SNR=4.5						
	comp=Z,0.2nm,0.6s						
QSPA	South Pole Qui	65.96	180	P	P	02 50 52.6	-1.8
QSPA				IAmb	IAmb	02 51 10.4	
	comp=Z,3.7nm,1.2s						
TORD	Torodi Ar. Bea	76.81	69	P	P	02 52 00.8	+0.8
	comp=Z,0.5nm,0.4s,baz=255,slow=6.2,SNR=9.9						
	comp=Z,0.5nm,0.4s						
PDAR	Pinedale Array	77.27	329	P	P	02 52 03.2	+0.8
	comp=Z,0.1nm,0.5s,baz=133,slow=7.7,SNR=2.3						
	comp=Z,0.1nm,0.5s						
ASAR	Alice Springs	128.17	205	PKP	PKiKP	02 59 14.4	+0.5
	comp=Z,0.6nm,0.7s,baz=138,slow=1.4,SNR=8.3						
WRA	Warramunga Arr	131.33	207	PKP	PKiKP	02 59 21.0	+0.7
	comp=Z,0.5nm,0.5s,baz=162,slow=1.8,SNR=13						
ZALV	Zalesovo Beam	143.69	28	PKP	PKPdf	02 59 41.1	+0.2
	comp=Z,0.7nm,0.5s,baz=275,slow=5.2,SNR=3.6						
MKAR	Makanchi Array	146.82	40	PKPbc	PKPbc	02 59 48.8	+0.1
	comp=Z,1.6nm,0.5s,baz=333,slow=2.5,SNR=12						

*RSPR **02** 03:20:29.7, 19.°31N×64.°51W, h25km±15km, MD3.4/10*
*NEIC **02** 03:20:29.8±1.1, 19.°20N±0.°09×64.°58W±0.°04, h26km±17km, Error ellipse: s-maj=12.9km s-min=5.6km az=184.0*
ISC 02 03:20:25.9±1.6, **19.°42N**±0.°08×**64.°56W**±0.°03, **h27**km, **n48**, σ1§**60**/58, **9C-5D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.00	183	⇑eP	Pb	03 20 44.7	+0.1
TBVI	Tortola	1.00	183	eS	Sn	03 20 56.0	-1.4
TBVI	Tortola	1.00	183		Pb	03 20 44.7	+0.1
TBVI					Sn	03 20 56.0	-1.4
SJVI	Gifft Hill Sch	1.10	191	⇓eP	Pb	03 20 46.1	-0.2
SJVI	Gifft Hill Sch	1.10	191	eS	Sb	03 20 58.7	-1.6
SJVI	Gifft Hill Sch	1.10	191		Pb	03 20 46.1	-0.2
SJVI					Sb	03 20 58.7	-1.6
STVI	Saint Thomas	1.13	199	⇑eP	Pb	03 20 46.4	-0.4
STVI	Saint Thomas	1.13	199	eS	Sb	03 20 59.7	-1.3
STVI	Saint Thomas	1.13	199		Pb	03 20 46.4	-0.4
STVI					Sb	03 20 59.7	-1.3
STVI	Saint Thomas	1.13	199	IAML		03 21 02.9	
	comp=N,244nm,0.4s						
STVI				IAML		03 21 03.7	
	comp=E,163nm,0.5s						
CUPR	Culebra, Puert	1.30	212	⇓eP	Pb	03 20 49.1	-0.6
CUPR	Culebra, Puert	1.30	212	eS	Sb	03 21 04.6	-1.4
CUPR	Culebra, Puert	1.30	212		Pb	03 20 49.1	-0.6
CUPR					Sb	03 21 04.6	-1.4
CUPR	Culebra, Puert	1.30	212	IAML		03 21 07.4	
	comp=N,126nm,0.3s						
CDVI	St. Croix	1.67	187	⇑eP	Pb	03 20 55.7	-0.3
CDVI	St. Croix	1.67	187		Pb	03 20 55.7	-0.3
CDVI	St. Croix	1.67	187	eP	Pb	03 20 56.0	0.0
CDVI				eS	Sb	03 21 16.4	-0.2
CBYP	Canovanas	1.68	227	⇑eP	Pb	03 20 54.8	-1.3
CBYP	Canovanas	1.68	227	eS	Sb	03 21 15.2	-1.6
CBYP	Canovanas	1.68	227		Pb	03 20 54.8	-1.3
CBYP					Sb	03 21 15.2	-1.6
GCPR	Guaynabo City	1.82	233	⇑eP	Pb	03 20 56.7	-1.8
GCPR	Guaynabo City	1.82	233	eS	Sn	03 21 18.5	+0.9
GCPR	Guaynabo City	1.82	233		Pb	03 20 56.7	-1.8
GCPR					Sn	03 21 18.5	+0.9
SMRT	St. Maarten	1.96	134	Pn	Pb	03 20 59.6	-1.3
SMRT				Sn	Sb	03 21 21.8	-3.2
SMRT				IAML		03 21 35.0	
	comp=N,111nm,0.2s						
SMRT				IAML		03 21 38.5	
	comp=E,134nm,0.3s						
SMRT	St. Maarten	1.96	134	eP	Pb	03 21 01.8	+0.9
SMRT				eS	Sb	03 21 23.3	-1.6
SJG	San Juan	1.99	229		Pb	03 20 59.4	-2.1
SJG				IAML		03 21 26.7	
	comp=E,55nm,0.5s						
IGPR	InterUniversit	2.06	226	⇓eP	Pb	03 21 00.6	-2.0
IGPR	InterUniversit	2.06	226	eS	Sn	03 21 24.2	+0.7
CELP	Cerrillos	2.33	235	⇑eP	Pn	03 21 04.4	+1.9
CELP	Cerrillos	2.33	235	eS	Sn	03 21 31.4	+1.0
CELP	Cerrillos	2.33	235		Pn	03 21 04.4	+1.9
CELP					Sn	03 21 31.4	+1.0
CELP	Cerrillos	2.33	235	IAML		03 21 42.7	
	comp=E,37nm,0.5s						
AOPR	Arecibo Observ	2.34	243	⇑eP	Pb	03 21 04.8	-2.5
AOPR	Arecibo Observ	2.34	243	eS	Sn	03 21 32.2	+1.8
AOPR	Arecibo Observ	2.34	243		Pb	03 21 04.8	-2.5
AOPR					Sn	03 21 32.2	+1.8
AOPR	Arecibo Observ	2.34	243	eP	Pn	03 21 04.0	+1.4
AOPR				eS	Sn	03 21 32.4	+1.9
UUPR	Utuado, UPR, P	2.35	241	⇓eP	Pb	03 21 05.0	-2.6
UUPR	Utuado, UPR, P	2.35	241		Pb	03 21 05.0	-2.6
LSP	Las Mesas	2.69	243	⇑eP	Pn	03 21 10.1	+2.6
MLPR	Magueyes Islan	2.76	239	⇓eP	Pn	03 21 10.5	+2.1
MLPR	Magueyes Islan	2.76	239	eS	Sn	03 21 42.4	+1.5
MLPR	Magueyes Islan	2.76	239		Pn	03 21 10.5	+2.1
MLPR					Sn	03 21 42.4	+1.5
MLPR	Magueyes Islan	2.76	239	IAML		03 21 48.4	
	comp=E,25nm,2.2s						
MLPR				IAML		03 22 23.6	
	comp=N,27nm,3.0s						
CRPR	Cabo Rojo, PR	2.80	240	⇑eP	Pn	03 21 11.1	+2.3
CRPR	Cabo Rojo, PR	2.80	240	eS	Sn	03 21 42.9	+1.2
CRPR	Cabo Rojo, PR	2.80	240		Pn	03 21 11.1	+2.3
CRPR					Sn	03 21 42.9	+1.2
CRPR	Cabo Rojo, PR	2.80	240	IAML		03 21 49.9	
	comp=N,34nm,1.1s						
CRPR				IAML		03 22 10.2	
	comp=E,25nm,2.3s						
ANBD	Bethesda, Anti	3.55	131	eP	Pn	03 21 20.3	+1.0
ANBD				eS	Sn	03 22 00.7	+0.2

ROM 02 03:21:45.8±0.1, **42.°904N**±0.°005×**13.°212E**±0.°005, **h9**km, **ML2.4**/12, **8C-7D, Error ellipse: s-maj=0.6km s-min=0.4km az=359.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1245	Castelsantange	0.05	201	⇓P	Pg	03 21 47.9	-0.1
T1245				S	Sg	03 21 49.0	-0.4
T1245				AML	AML		
	comp=E,17750µm,0.3s						
T1245				AML	AML		
	comp=E,17750µm,0.3s						
T1245				AML	AML		
	comp=N,19000µm,0.4s						
T1245				AML	AML		
	comp=E,17950µm,0.3s						
T1245				AML	AML		
	comp=E,17700µm,0.3s						
T1245				AML	AML		
	comp=N,18150µm,0.4s						
MMO1	Montemonaco	0.08	93	⇑P	Pg	03 21 48.6	+0.4
MMO1				S	Sg	03 21 49.9	0.0
NRCA	Norcia	0.10	226	⇓P	Pg	03 21 48.9	+0.5
NRCA				S	Sg	03 21 50.8	+0.6
T1256	Bolognola (MC)	0.10	6	⇑P	Pg	03 21 47.9	-0.6
T1256				S	Sg	03 21 51.0	+0.5
T1256				AML	AML		
	comp=E,11550µm,1.2s						
T1256				AML	AML		
	comp=E,11900µm,0.4s						
T1256				AML	AML		
	comp=N,19050µm,0.6s						
T1256				AML	AML		
	comp=N,17750µm,0.6s						
AM05	Amandola Campo	0.13	55	⇑P	Pg	03 21 49.5	+0.7
AM05				S	Sg	03 21 52.0	+1.2
AM05				AML	AML		
	comp=E,876µm,0.4s						
AM05				AML	AML		
	comp=N,1020µm,0.5s						
AM05				AML	AML		
	comp=N,210µm,0.1s						
AM05				AML	AML		
	comp=E,3540µm,0.3s						
T1216	Preci, Frazion	0.14	265	P	Pg	03 21 49.7	+0.7
T1216				S	Sg	03 21 52.4	+1.1
FDMO	Fiordimonte	0.16	325	⇑P	Pg	03 21 45.5	-3.8
FDMO				AML	AML		
	comp=N,15250µm,0.2s						
FDMO				AML	AML		
	comp=E,16100µm,0.6s						
T1241	Roccafluvione,	0.17	106	⇓P	Pg	03 21 50.3	+0.9
T1241				S	Sg	03 21 53.0	+1.1
T1241				AML	AML		
	comp=E,826µm,0.7s						
T1241				AML	AML		
	comp=N,906µm,0.5s						
T1241				AML	AML		
	comp=N,1730µm,0.4s						
T1241				AML	AML		
	comp=N,1790µm,0.6s						
T1241				AML	AML		
	comp=E,1890µm,1.5s						
T1241				AML	AML		
	comp=E,2020µm,1.5s						
T1204	Amatrice, Fraz	0.24	161	⇓P	Pg	03 21 51.4	+0.7
T1204				S	Sg	03 21 55.8	+1.7
T1204				AML	AML		
	comp=E,1248µm,0.3s						
T1204				AML	AML		
	comp=N,813µm,0.6s						
T1243	Rocca Santa Ma	0.27	140	⇑P	Pg	03 21 51.9	+0.6
T1243				S	Sb	03 21 56.5	-1.2
T1215	Vallo di Nera,	0.27	248	P	Pg	03 21 52.1	+0.7
T1215				S	Sg	03 21 56.3	+1.3
T1217	Poggiodomo (PG	0.28	227	⇓P	Pb	03 21 52.3	-0.7
T1217				S	Sb	03 21 57.1	-0.9
SMA1	SAN MARTINO	0.29	162	⇓P	Pg	03 21 52.2	+0.6
SMA1				S	Sb	03 21 56.9	-1.2
SMA1				AML	AML		
	comp=N,1304µm,1.4s						
SMA1				AML	AML		
	comp=E,1240µm,1.0s						
LNSS	Leonessa	0.33	203	P	Pb	03 21 53.2	-0.6
LNSS				S	Sb	03 21 59.0	-0.2
RM33	Pellescritta (	0.40	180	⇑P	Pg	03 21 54.2	+0.6
RM33				AML	AML		
	comp=N,419µm,0.5s						
RM33				AML	AML		
	comp=E,449µm,0.4s						
CAMP	Campotosto	0.40	158	⇓P	Pg	03 21 54.0	+0.4
CAMP				AML	AML		
	comp=N,374µm,0.8s						
CAMP				AML	AML		
	comp=E,450µm,0.3s						

TERO	**Teramo**	**0.40**	**134**	P	Pg	03	21	54.3 +0.6
TERO				S	Sb	03	22	00.9 -0.5
TERO				AML	AML			
	comp=E,552µm,0.4s							
TERO				AML	AML			
	comp=N,633µm,0.4s							
ASSB	**Assisi San Ben**	**0.43**	**289**	S	Sg	03	21	55.0 -4.9
T1211	**Morro Reatino**	**0.46**	**215**	S	Sb	03	22	03.0 +0.1
T1247	**Pizzolo (AQ)**	**0.47**	**172**	⇑P	Pg	03	21	55.4 +0.5
T1247				S	Sb	03	22	04.0 +0.8
T1247				AML	AML			
	comp=N,625µm,0.7s							
T1247				AML	AML			
	comp=E,574µm,1.1s							
ATCC	**AVT- Casa Cast**	**0.51**	**304**	S	Sg	03	21	57.0 -5.3
FOSV	**Fossato di Vic**	**0.51**	**320**	S	Sg	03	21	57.0 -5.5
GIGS	**Gran Sasso**	**0.53**	**150**	⇑P	Pg	03	21	56.3 +0.3
GIGS				AML	AML			
	comp=N,117µm,1.0s							
GIGS				AML	AML			
	comp=E,99µm,1.2s							
MMUR	**Monte Murano**	**0.56**	**344**	P	Pg	03	21	50.8 -5.9

PRU ***02*** *03:22:42.9±0.0, 42°.94N×13°.89E, h10km*
VIE 02 03:22:44.6±1.5, 43°.11N×13°.27E, h8km, mb2.6/4, ml2.4/6,
Error ellipse: s-maj=17.4km s-min=11.5km az=105.0
111 km SE of San Marino, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTA	**Abfaltersbach**	**3.68**	**352**	*e*Pn	Pn	03 23 41.7	-0.2
	0.8nm,0.2s						
SQTA	**Sankt Quirin**	**4.36**	**341**	*i* Pn	Pn	03 23 52.0	+0.6
	1.9nm,0.4s						
WATA	**Walderalm**	**4.39**	**345**	*i* Pn	Pn	03 23 53.3	+1.6
	1.8nm,0.4s						
MOTA	**Moosalm**	**4.50**	**341**	*i* Pn	Pn	03 23 55.5	+2.2
	0.4nm,0.2s						
MOTA				*e*Sn	Sn	03 24 48.8	+2.9
	1.5nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.59**	**3**	*i* Pn	Pn	03 23 53.4	-1.0
	0.8nm,0.3s						
BIOA				*i* Sn	Sn	03 24 49.6	+1.7
	1.8nm,0.3s						
MOA	**Molln**	**4.79**	**8**	*i* Pn	Pn	03 23 56.8	-0.3
	0.2nm,0.1s						
MOA				*i* Sn	Sn	03 24 54.7	+1.9
	0.6nm,0.2s						
KHC	**Kasperske Hory**	**6.03**	**2**	*e*PN	Pn	03 24 13.9	-0.2
KHC				*e*SN	Sn	03 25 21.5	-1.8

ROM ***02*** *03:32:15.4±0.0, 43°.077N±0°.003×13°.074E±0°.004, h9km, ML2.8/27, Error ellipse: s-maj=0.3km s-min=0.2km az=47.0*
PRU ***02*** *03:32:19.5±0.0, 43°.16N×13°.45E, h10km*
ISC 02 03:32:16.2±0.8, 43°.07N±0°.02×13°.10E±0°.02, h5km±5km, n69, σ1°.20/97, 7C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.04**	**197**	P	**Pg**	**03 32 17.3**	**-0.1**
FDMO				S	**Sg**	**03 32 18.3**	**0.0**
T1256	**Bolognola (MC)**	**0.11**	**126**	⇓P	**Pg**	**03 32 19.0**	**+0.4**
T1256				S	**Sg**	**03 32 21.2**	**+1.0**
T1256				AML	AML		
	comp=E,5995µm,0.5s						
T1256				AML	AML		
	comp=N,10255µm,0.6s						
T1256				AML	AML		
	comp=E,5700µm,1.5s						
T1256				AML	AML		
	comp=N,10260µm,0.6s						
T1256				AML	AML		
	comp=N,10265µm,0.6s						
T1256				AML	AML		
	comp=N,10220µm,0.7s						
T1256				AML	AML		
	comp=N,9540µm,0.7s						
T1256				AML	AML		
	comp=E,5705µm,1.5s						
FEMA	**Monte Fema**	**0.12**	**199**	P	**Pg**	**03 32 18.9**	**+0.3**
FEMA				S	**Sg**	**03 32 21.1**	**+0.8**
FEMA				AML	AML		
	comp=E,24300µm,0.7s						
FEMA				AML	AML		
	comp=N,19000µm,1.0s						
FEMA				AML	AML		
	comp=E,24300µm,0.7s						
FEMA				AML	AML		
	comp=N,19050µm,1.0s						
MDAR	**Monte D'Aria**	**0.12**	**14**	P	**Pg**	**03 32 18.8**	**0.0**
MDAR				S	**Sg**	**03 32 21.0**	**+0.4**
SEF1	**Sefro**	**0.14**	**304**	P	**Pg**	**03 32 18.7**	**-0.3**
SEF1				S	**Sg**	**03 32 20.8**	**0.0**
PIO1	**Pioraco**	**0.14**	**321**	P	**Pg**	**03 32 18.6**	**-0.4**
PIO1				S	**Sg**	**03 32 20.9**	**0.0**
CESI	**CESI - Serrava**	**0.16**	**245**	P	**Pg**	**03 32 19.4**	**0.0**
CESI				S	**Sg**	**03 32 22.2**	**+0.7**
CESI				AML	AML		
	comp=N,8665µm,0.4s						
CESI				AML	AML		
	comp=E,6745µm,0.2s						
SSM1	**San Severino M**	**0.17**	**19**	P	**Pg**	**03 32 19.4**	**-0.1**
GAG1	**Gagliole**	**0.17**	**351**	P	**Pg**	**03 32 19.6**	**+0.1**
FIU1	**Fiuminata**	**0.17**	**313**	P	**Pg**	**03 32 19.3**	**-0.3**
FIU1				S	**Sg**	**03 32 22.0**	**+0.1**
GUMA	**Gualdo di Mace**	**0.17**	**93**	P	**Pg**	**03 32 20.4**	**+0.8**
GUMA				S	**Sg**	**03 32 24.1**	**+2.2**
AM05	**Amandola Campo**	**0.21**	**117**	P	**Pg**	**03 32 20.8**	**+0.6**
AM05				S	**Sg**	**03 32 24.7**	**+1.7**
AM05				AML	AML		
	comp=E,1395µm,1.1s						
AM05				AML	AML		
	comp=N,368µm,0.3s						
AM05				AML	AML		
	comp=E,1390µm,1.1s						
AM05				AML	AML		
	comp=N,1175µm,1.2s						
AM05				AML	AML		
	comp=N,1180µm,1.2s						
AM05				AML	AML		
	comp=E,5490µm,1.1s						
SNTG	**Esanatoglia**	**0.22**	**327**	P	**Pg**	**03 32 20.2**	**-0.3**
SNTG				S	**Sg**	**03 32 23.7**	**+0.3**
T1245	**Castelsantange**	**0.22**	**164**	P	**Pg**	**03 32 21.0**	**+0.4**
T1245				S	**Sg**	**03 32 25.2**	**+1.6**
MMO1	**Montemonaco**	**0.24**	**136**	P	**Pg**	**03 32 21.2**	**+0.3**
MMO1				S	**Sg**	**03 32 25.6**	**+1.6**
NRCA	**Norcia**	**0.24**	**178**	P	**Pg**	**03 32 21.1**	**+0.2**
NRCA				S	**Sg**	**03 32 25.4**	**+1.5**
NRCA				AML	AML		
	comp=E,9085µm,1.1s						
NRCA				AML	AML		
	comp=N,9885µm,0.2s						
NRCA				AML	AML		
	comp=E,9460µm,1.3s						
NRCA				AML	AML		
	comp=E,9080µm,1.1s						
NRCA				AML	AML		
	comp=N,10595µm,0.2s						
NRCA				AML	AML		
	comp=N,9865µm,0.2s						
EL6	**Elcito**	**0.26**	**360**	P	**Pg**	**03 32 21.2**	**-0.1**
EL6				S	**Sg**	**03 32 25.6**	**+1.0**
EL6				AML	AML		
	comp=E,6530µm,0.3s						
EL6				AML	AML		
	comp=N,8030µm,0.3s						
MNTP	**Montappone**	**0.28**	**76**	P	**Pg**	**03 32 22.5**	**+1.0**
T1215	**Vallo di Nera,**	**0.32**	**213**	P	**Pg**	**03 32 22.4**	**0.0**
T1215				S	**Sg**	**03 32 27.6**	**+1.0**
T1215				AML	AML		
	comp=E,1660µm,0.5s						
T1215				AML	AML		
	comp=N,2170µm,1.5s						
T1215				AML	AML		
	comp=E,1570µm,0.3s						
T1215				AML	AML		
	comp=N,2220µm,1.5s						
T1215				AML	AML		
	comp=N,2170µm,1.5s						
T1215				AML	AML		
	comp=N,2235µm,1.5s						
T1215				AML	AML		
	comp=E,1572µm,0.3s						
T1215				AML	AML		
	comp=E,1655µm,0.5s						
T1241	**Roccafluvione,**	**0.32**	**132**	⇓P	**Pb**	**03 32 22.8**	**-1.7**
T1241				S	**Sb**	**03 32 28.5**	**-1.4**
T1241				AML	AML		
	comp=E,1860µm,0.6s						
T1241				AML	AML		
	comp=N,1920µm,1.5s						
T1241				AML	AML		
	comp=N,1865µm,0.6s						
T1241				AML	AML		
	comp=E,1930µm,0.7s						
T1241				AML	AML		
	comp=N,1860µm,0.6s						
ASSB	**Assisi San Ben**	**0.33**	**265**	P	**Pg**	**03 32 22.2**	**-0.4**
ASSB				S	**Sg**	**03 32 27.4**	**+0.6**
T1217	**Poggiodomo (PG**	**0.38**	**199**	P	**Pg**	**03 32 23.5**	**0.0**
T1217				S	**Sg**	**03 32 29.8**	**+1.3**
T1217				AML	AML		
	comp=E,2135µm,0.4s						
T1217				AML	AML		
	comp=N,4225µm,1.3s						
T1217				AML	AML		
	comp=E,2130µm,0.4s						
T1217				AML	AML		
	comp=N,4020µm,1.3s						
T1217				AML	AML		
	comp=E,2130µm,0.4s						
T1217				AML	AML		
	comp=N,4010µm,1.3s						
T1217				AML	AML		
	comp=N,4220µm,1.3s						
T1217				AML	AML		
	comp=N,4020µm,1.3s						
T1204	**Amatrice, Fraz**	**0.43**	**158**	⇓P	**Pg**	**03 32 24.5**	**+0.1**
SSFR	**Montelago di S**	**0.43**	**327**	S	**Sb**	**03 32 32.0**	**-1.2**
OFFI	**Offida**	**0.45**	**107**	P	**Pn**	**03 32 26.3**	**-3.0**
OFFI				AML	AML		
	comp=N,3635µm,0.6s						
OFFI				AML	AML		
	comp=E,2145µm,0.9s						
T1243	**Rocca Santa Ma**	**0.45**	**146**	P	**Pg**	**03 32 24.8**	**-0.1**
LNSS	**Leonessa**	**0.47**	**186**	P	**Pg**	**03 32 25.2**	**-0.1**
LNSS				AML	AML		
	comp=N,2225µm,0.8s						
LNSS				AML	AML		
	comp=E,858µm,1.4s						
SMA1	**SAN MARTINO**	**0.47**	**159**	⇓P	**Pg**	**03 32 25.2**	**-0.1**
SMA1				S	**Sb**	**03 32 33.2**	**-1.2**
SMA1				AML	AML		
	comp=E,1450µm,1.0s						
SMA1				AML	AML		
	comp=N,1820µm,0.5s						
SMA1				AML	AML		
	comp=N,1815µm,0.5s						
FRON	**Frontone**	**0.52**	**328**	AML	AML		
	comp=N,1795µm,0.4s						
FRON				AML	AML		
	comp=E,1062µm,0.7s						
ARRO	**Arrone**	**0.55**	**207**	⇑P	**Pg**	**03 32 26.5**	**-0.3**
ARRO				AML	AML		
	comp=E,1570µm,0.3s						
ARRO				AML	AML		
	comp=E,1575µm,0.3s						
ARRO				AML	AML		
	comp=N,1225µm,0.2s						
RM33	**Pellescritta (**	**0.57**	**172**	P	**Pg**	**03 32 26.8**	**-0.3**
RM33				AML	AML		
	comp=E,946µm,0.3s						
RM33				AML	AML		
	comp=N,818µm,0.3s						
RM33				AML	AML		
	comp=E,945µm,0.3s						
RM33				AML	AML		
	comp=N,772µm,0.3s						
RM33				AML	AML		
	comp=E,948µm,0.3s						
T1211	**Morro Reatino**	**0.57**	**199**	P	**Pg**	**03 32 26.8**	**-0.3**
T1211				AML	AML		
	comp=E,1740µm,0.4s						
T1211				AML	AML		
	comp=N,2065µm,0.2s						
T1211				AML	AML		
	comp=E,1755µm,0.4s						
T1211				AML	AML		
	comp=N,2030µm,1.5s						
T1211				AML	AML		
	comp=N,2065µm,0.3s						
T1211				AML	AML		
	comp=E,1740µm,0.3s						
CAMP	**Campotosto**	**0.58**	**157**	⇓P	**Pg**	**03 32 27.0**	**-0.4**
CAMP				AML	AML		
	comp=E,1007µm,0.3s						
CAMP				AML	AML		
	comp=N,370µm,0.4s						
TERO	**Teramo**	**0.58**	**140**	P	**Pb**	**03 32 27.1**	**-1.7**
TERO				AML	AML		
	comp=N,618µm,0.4s						
TERO				AML	AML		
	comp=N,656µm,0.4s						
TERO				AML	AML		
	comp=E,744µm,0.4s						
TERO				AML	AML		
	comp=N,619µm,0.4s						
TERO				AML	AML		
	comp=E,714µm,1.1s						
ATVO	**AVT- Monte Val**	**0.60**	**302**	P	**Pg**	**03 32 26.9**	**-0.7**
ATVO				S	**Sg**	**03 32 36.0**	**+0.6**
CESX	**Cesi**	**0.60**	**220**	⇑P	**Pg**	**03 32 27.1**	**-0.6**
CESX				S	**Sg**	**03 32 36.4**	**+0.9**
CESX				AML	AML		
	comp=E,1580µm,0.5s						
CESX				AML	AML		
	comp=N,1485µm,0.3s						
MPAG	**Monte Paganucc**	**0.61**	**336**	S	**Sb**	**03 32 38.0**	**-0.3**
PIEI	**Pieia**	**0.62**	**318**	S	**Sb**	**03 32 38.0**	**-0.6**
ATPI	**Pietralunga -**	**0.64**	**307**	S	**Sb**	**03 32 39.0**	**0.0**
T1247	**Pizzolo (AQ)**	**0.65**	**167**	⇓P	**Pg**	**03 32 28.0**	**-0.5**
T1247				AML	AML		
	comp=N,932µm,0.9s						
T1247				AML	AML		
	comp=E,842µm,0.6s						
TRTR	**Tortoreto Alta**	**0.65**	**114**	⇑P	**Pn**	**03 32 30.1**	**-1.9**
TRTR				AML	AML		
	comp=E,2315µm,0.5s						
TRTR				AML	AML		
	comp=N,1935µm,0.4s						
ATMI	**Monte Miggiano**	**0.66**	**294**	S	**Sg**	**03 32 40.0**	**+2.4**
FSSB	**Fossombrone**	**0.66**	**339**	P	**Pb**	**03 32 28.6**	**-1.7**
FSSB				S	**Sn**	**03 32 41.0**	**-2.1**
FSSB				AML	AML		
	comp=N,2770µm,0.8s						
FSSB				AML	AML		
	comp=E,2115µm,0.5s						
APEC	**Apecchio**	**0.70**	**315**	S	**Sb**	**03 32 42.0**	**+1.3**
GIGS	**Gran Sasso**	**0.71**	**151**	P	**Pn**	**03 32 32.5**	**-0.4**
BADI	**Badiali**	**0.76**	**305**	S	**Sb**	**03 32 43.0**	**+0.3**
PE3	**Peglio**	**0.77**	**325**	P	**Pb**	**03 32 30.8**	**-1.2**
FIAM	**Fiamignano**	**0.80**	**179**	⇑P	**Pg**	**03 32 30.9**	**-0.7**
FIAM				S	**Sg**	**03 32 44.0**	**+2.0**
FIAM				AML	AML		
	comp=E,412µm,0.5s						
FIAM				AML	AML		
	comp=N,332µm,0.6s						
VCEL	**Villa Celiera**	**0.87**	**141**	P	**Pb**	**03 32 32.5**	**-1.2**
VCEL				AML	AML		
	comp=E,617µm,0.6s						
VCEL				AML	AML		
	comp=N,536µm,0.6s						
VCEL				AML	AML		
	comp=E,616µm,0.6s						
VCEL				AML	AML		
	comp=N,535µm,0.6s						
CAFI	**Castiglion Fio**	**0.87**	**288**	AML	AML		
	comp=E,355µm,0.3s						
CAFI				AML	AML		
	comp=N,298µm,0.6s						
FAGN	**Fagnano**	**0.88**	**156**	⇑P	**Pb**	**03 32 32.9**	**-1.0**
FAGN				AML	AML		
	comp=E,982µm,0.4s						
FAGN				AML	AML		
	comp=N,1016µm,0.6s						
SRES	**S.Oreste - Sor**	**0.94**	**208**	⇓P	**Pg**	**03 32 33.4**	**-0.8**
SRES				AML	AML		
	comp=N,299µm,0.5s						
SRES				AML	AML		
	comp=E,317µm,1.3s						
T0110	**Collepietro**	**0.98**	**149**	⇓P	**Pg**	**03 32 33.9**	**-1.1**
T0110				AML	AML		
	comp=N,568µm,0.4s						
T0110				AML	AML		
	comp=E,539µm,0.5s						
CRE	**Caprese Michel**	**1.00**	**304**	⇓P	**Pb**	**03 32 36.5**	**+0.4**
CRE				AML	AML		
	comp=E,220µm,0.5s						
CRE				AML	AML		
	comp=N,347µm,0.3s						
MTCE	**Montecelio**	**1.08**	**194**	⇑P	**Pg**	**03 32 37.5**	**+0.6**
MTCE				AML	AML		
	comp=E,346µm,0.4s						
MTCE				AML	AML		
	comp=N,168µm,0.8s						
CAFR	**Castel Frentan**	**1.25**	**132**	⇓P	**Pn**	**03 32 42.0**	**+1.7**
LPEL	**Lama dei Pelig**	**1.30**	**142**	S	**Sn**	**03 33 01.0**	**+2.2**
RUFI	**Rufina**	**1.39**	**304**	⇑P	**Pg**	**03 32 43.0**	**+0.2**
OBKA	**Obir**	**3.59**	**16**	*e*Pn	**Pn**	**03 33 11.7**	**-0.8**
	comp=N,0.6nm,0.2s						
ABTA	**Abfaltersbach**	**3.70**	**354**	*i* Pn	**Pn**	**03 33 14.9**	**+0.8**
	comp=N,1.7nm,0.3s						
ABTA				*i* Sn	**Sn**	**03 33 56.8**	**-1.2**
	comp=N,0.7nm,0.2s						
FETA	**Feichten**	**4.29**	**338**	*e*Pn	**Pn**	**03 33 23.7**	**+1.5**
	comp=N,1.3nm,0.3s						
WTTA	**Wattenberg**	**4.32**	**347**	*i* Pn	**Pn**	**03 33 24.2**	**+1.6**
	comp=N,1.0nm,0.3s						
SQTA	**Sankt Quirin**	**4.36**	**343**	*i* Pn	**Pn**	**03 33 25.3**	**+2.2**
	comp=N,1.5nm,0.3s						
WATA	**Walderalm**	**4.40**	**346**	*e*Pn	**Pn**	**03 33 26.2**	**+2.5**
	comp=N,1.9nm,0.3s						
WATA				*e*Sn	**Sn**	**03 34 17.4**	**+2.0**
	comp=N,2.4nm,0.3s						
MOTA	**Moosalm**	**4.50**	**342**	*i* Pn	**Pn**	**03 33 27.5**	**+2.4**
	comp=N,0.7nm,0.2s						
MOTA				*e*Sn	**Sn**	**03 34 20.1**	**+2.2**
	comp=N,3.3nm,0.6s						
BIOA	**Bad Ischl, Aus**	**4.63**	**4**	*i* Pn	**Pn**	**03 33 27.5**	**+0.7**
	comp=N,1.4nm,0.3s						
BIOA				*e*Sn	**Sn**	**03 34 22.1**	**+1.1**
	comp=N,2.1nm,0.4s						
DAVA	**Damuels**	**4.79**	**333**	*i* Pn	**Pn**	**03 33 30.5**	**+1.4**
	comp=N,0.7nm,0.2s						
MOA	**Molln**	**4.85**	**9**	*e*Pn	**Pn**	**03 33 31.7**	**+1.9**
	comp=N,0.5nm,0.2s						
MOA				*i* Sn	**Sn**	**03 34 25.9**	**-0.4**
	comp=N,1.4nm,0.3s						
KHC	**Kasperske Hory**	**6.07**	**3**	*e*PN	**Pn**	**03 33 46.5**	**0.0**
KHC				*e*SN	**Sn**	**03 34 53.4**	**-3.0**

ROM 02 03:34:11.0±0.1, 42°.871N±0°.002×13°.124E±0°.003,
h8km, ML2.5/44, 28C-16D, Error ellipse: s-maj=0.2km
s-min=0.1km az=331.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**191**	⇑P	Pg	03 34 12.9	+0.1
NRCA				S	Sg	03 34 13.9	-0.2
NRCA				AML	AML		
	comp=E,49100µm,0.2s						
NRCA				AML	AML		
	comp=N,71800µm,0.2s						
NRCA				AML	AML		
	comp=N,74650µm,0.1s						
NRCA				AML	AML		
	comp=N,71850µm,0.2s						
NRCA				AML	AML		
	comp=E,56600µm,0.2s						
T1245	**Castelsantange**	**0.05**	**107**	P	Pg	03 34 13.1	+0.1
T1245				S	Sg	03 34 14.3	-0.1
T1245				AML	AML		
	comp=E,53550µm,0.4s						
T1245				AML	AML		
	comp=N,49950µm,0.2s						
T1245				AML	AML		
	comp=E,47050µm,0.4s						
T1245				AML	AML		
	comp=N,51200µm,1.1s						
FEMA	**Monte Fema**	**0.11**	**329**	⇓P	Pg	03 34 14.2	+0.5
FEMA				S	Sg	03 34 16.1	+0.5
MMO1	**Montemonaco**	**0.15**	**79**	⇑P	Pg	03 34 14.8	+0.5
MMO1				S	Sg	03 34 17.5	+0.8
T1256	**Bolognola (MC)**	**0.15**	**29**	P	Pg	03 34 14.8	+0.4
T1256				S	Sg	03 34 17.7	+0.9
T1256				AML	AML		
	comp=E,2920µm,1.2s						
T1256				AML	AML		
	comp=N,2850µm,0.6s						
T1256				AML	AML		
	comp=E,2990µm,1.2s						
T1256				AML	AML		
	comp=N,2855µm,0.6s						
T1256				AML	AML		
	comp=E,2995µm,1.2s						
T1256				AML	AML		
	comp=E,2915µm,1.2s						
T1256				AML	AML		
	comp=N,2675µm,0.2s						
FDMO	**Fiordimonte**	**0.17**	**351**	⇑P	Pg	03 34 15.1	+0.5
FDMO				S	Sg	03 34 18.0	+1.0
FDMO				AML	AML		
	comp=E,4700µm,1.3s						
FDMO				AML	AML		
	comp=E,4695µm,1.3s						
FDMO				AML	AML		
	comp=N,4340µm,0.2s						
AM05	**Amandola Campo**	**0.20**	**57**	⇑P	Pg	03 34 15.8	+0.7
AM05				S	Sg	03 34 19.2	+1.3
AM05				AML	AML		
	comp=E,2610µm,0.8s						
AM05				AML	AML		
	comp=N,272µm,0.1s						
AM05				AML	AML		
	comp=E,643µm,0.8s						
AM05				AML	AML		
	comp=N,726µm,0.3s						
AM05				AML	AML		
	comp=E,2605µm,0.8s						
T1215	**Vallo di Nera,**	**0.20**	**250**	⇑P	Pg	03 34 15.9	+0.8
T1215				S	Sg	03 34 19.5	+1.5
T1215				AML	AML		
	comp=E,3310µm,0.4s						
T1215				AML	AML		
	comp=E,3230µm,0.4s						
T1215				AML	AML		
	comp=N,3170µm,0.5s						
T1215				AML	AML		
	comp=N,2956µm,0.5s						
T1215				AML	AML		
	comp=N,3165µm,0.5s						
T1215				AML	AML		
	comp=N,2945µm,0.5s						
T1215				AML	AML		
	comp=E,3315µm,0.4s						
CESI	**CESI - Serrava**	**0.21**	**310**	⇑P	Pg	03 34 15.9	+0.6
CESI				S	Sg	03 34 19.6	+1.3
CESI				AML	AML		
	comp=N,9045µm,0.4s						
CESI				AML	AML		
	comp=E,4150µm,0.5s						
T1217	**Poggiodomo (PG**	**0.21**	**222**	⇑P	Pg	03 34 16.2	+0.8
T1217				S	Sg	03 34 20.1	+1.7
T1217				AML	AML		
	comp=N,1840µm,1.4s						
T1217				AML	AML		
	comp=N,1845µm,1.4s						
T1217				AML	AML		
	comp=E,1445µm,0.7s						
T1241	**Roccafluvione,**	**0.23**	**94**	⇑P	Pg	03 34 16.5	+0.8
T1241				S	Sg	03 34 20.1	+1.3
T1241				AML	AML		
	comp=E,2780µm,0.4s						
T1241				AML	AML		
	comp=N,1965µm,0.7s						
T1241				AML	AML		
	comp=E,2780µm,0.4s						
T1241				AML	AML		
	comp=N,2085µm,0.7s						
T1241				AML	AML		
	comp=E,2785µm,0.4s						
T1241				AML	AML		
	comp=N,2090µm,0.7s						

T1241 AML AML
comp=N,1960µm,0.7s
GUMA Gualdo di Mace 0.25 39 ⇑P Pg 03 34 16.9 +0.9
GUMA S Sg 03 34 21.2 +1.9
GUMA AML AML
comp=E,5365µm,0.6s
GUMA AML AML
comp=N,5885µm,0.4s
GUMA AML AML
comp=E,5360µm,0.6s
GUMA AML AML
comp=E,6265µm,0.4s
GUMA AML AML
comp=N,5820µm,0.2s
LNSS Leonessa 0.28 193 ⇑P Pg 03 34 17.2 +0.7
LNSS S Sb 03 34 21.9 -1.2
LNSS AML AML
comp=E,650µm,0.8s
LNSS AML AML
comp=N,2310µm,1.1s
LNSS AML AML
comp=E,650µm,0.8s
SMA1 SAN MARTINO 0.29 147 AML AML
comp=N,1034µm,0.3s
SMA1 AML AML
comp=E,871µm,0.6s
T1243 Rocca Santa Ma 0.29 126 P Pb 03 34 18.5 -0.1
T1243 S Sb 03 34 22.5 -1.2
MNTP Montappone 0.37 43 ⇓P Pb 03 34 19.5 -0.3
MNTP AML AML
comp=E,1695µm,1.1s
MNTP AML AML
comp=N,1305µm,1.4s
MNTP AML AML
comp=E,1690µm,1.1s
RM33 Pellescritta (0.37 170 ⇑P Pg 03 34 18.8 +0.5
RM33 AML AML
comp=N,1320µm,1.6s
RM33 AML AML
comp=E,808µm,1.2s
RM33 AML AML
comp=E,834µm,1.0s
RM33 AML AML
comp=E,808µm,1.2s
RM33 AML AML
comp=N,1335µm,1.6s
RM33 AML AML
comp=E,834µm,1.0s
RM33 AML AML
comp=N,1315µm,1.6s
GAG1 Gagliole 0.37 354 ⇓P Pb 03 34 19.1 -0.8
ASSB Assisi San Ben 0.38 297 ⇓P Pg 03 34 19.0 +0.4
ASSB S Sb 03 34 25.2 -1.0
ASSB AML AML
comp=E,1251µm,0.5s
ASSB AML AML
comp=N,1105µm,0.5s
T1211 Morro Reatino 0.39 211 P Pg 03 34 18.1 -0.6
T1211 S Sb 03 34 27.0 +0.6
T1211 AML AML
comp=E,776µm,0.7s
T1211 AML AML
comp=N,898µm,0.2s
ARRO Arrone 0.39 222 ⇑P Pg 03 34 19.3 +0.6
ARRO AML AML
comp=E,688µm,0.2s
ARRO AML AML
comp=N,557µm,1.2s
ARRO AML AML
comp=N,558µm,1.2s
ARRO AML AML
comp=E,688µm,0.2s
CAMP Campotosto 0.40 148 ⇓P Pg 03 34 19.3 +0.5
CAMP AML AML
comp=N,258µm,0.2s
CAMP AML AML
comp=E,298µm,0.2s
SNTG Esanatoglia 0.41 341 ⇓P Pg 03 34 19.6 +0.6
SNTG AML AML
comp=E,794µm,0.4s
SNTG AML AML
comp=N,1010µm,1.2s
SNTG AML AML
comp=E,792µm,0.4s
SNTG AML AML
comp=E,795µm,0.4s
SNTG AML AML
comp=N,1009µm,1.2s
SNTG AML AML
comp=N,1110µm,1.2s
SNTG AML AML
comp=E,791µm,0.4s
OFFI Offida 0.42 81 ⇑P Pb 03 34 20.5 -0.1
OFFI AML AML
comp=N,1087µm,0.6s
OFFI AML AML
comp=E,878µm,0.6s
TERO Teramo 0.43 125 ⇓P Pg 03 34 19.9 +0.4
TERO AML AML
comp=E,431µm,1.2s
TERO AML AML
comp=N,856µm,0.3s
T1247 Pizzolo (AQ) 0.45 163 ⇓P Pg 03 34 20.5 +0.7
T1247 AML AML
comp=E,598µm,1.0s
T1247 AML AML
comp=N,629µm,0.8s
EL6 Elcito 0.46 358 ⇑P Pg 03 34 20.4 +0.3
EL6 AML AML
comp=E,3450µm,0.2s
EL6 AML AML
comp=N,4250µm,0.2s
EL6 AML AML
comp=E,3445µm,0.2s
ATCC AVT- Casa Cast 0.47 312 ⇓P Pg 03 34 20.8 +0.5
ATCC AML AML
comp=N,990µm,1.4s
ATCC AML AML
comp=E,1255µm,0.4s
ATCC AML AML
comp=N,988µm,1.4s
ATCC AML AML
comp=E,1260µm,0.4s
ATCC AML AML
comp=N,989µm,1.4s
CESX Cesi 0.48 237 ⇑P Pg 03 34 20.8 +0.4
CESX S Sb 03 34 28.2 -0.6
CESX AML AML
comp=E,673µm,0.4s
CESX AML AML
comp=N,660µm,0.5s
FOSV Fossato di Vic 0.50 328 ⇓P Pg 03 34 21.2 +0.4
FOSV AML AML
comp=E,1088µm,0.9s
FOSV AML AML
comp=N,1115µm,0.3s
FOSV AML AML
comp=N,1120µm,0.3s
FOSV AML AML
comp=E,1088µm,0.9s
CING Cingoli 0.51 6 ⇑P Pg 03 34 21.2 +0.3
CING AML AML
comp=E,930µm,0.2s
CING AML AML
comp=N,912µm,0.2s
GIGS Gran Sasso 0.53 142 P Pg 03 34 21.8 +0.4
GIGS AML AML
comp=E,86µm,0.5s
GIGS AML AML
comp=N,68µm,0.8s
AQU L'Aquila 0.56 158 ⇑P Pg 03 34 22.2 +0.4
AQU AML AML
comp=N,217µm,1.3s
AQU AML AML
comp=N,218µm,1.3s
AQU AML AML
comp=E,348µm,1.1s
MMUR Monte Murano 0.58 351 S Sb 03 34 31.0 -0.8
MURB Monte Urbino 0.59 312 ⇑P Pg 03 34 22.9 +0.5
MURB S Sb 03 34 33.0 +0.9
MURB AML AML
comp=E,1164µm,1.0s
MURB AML AML
comp=N,935µm,0.8s
MURB AML AML
comp=N,936µm,0.8s
MURB AML AML
comp=E,1395µm,1.4s
MURB AML AML
comp=N,1220µm,0.1s
MURB AML AML
comp=E,1170µm,1.0s
FIAM Fiamignano 0.60 181 ⇑P Pg 03 34 22.7 0.0
FIAM S Sb 03 34 33.0 +0.5
FIAM AML AML
comp=E,232µm,1.1s
FIAM AML AML
comp=N,198µm,0.9s
SSFR Montelago di S 0.62 336 ⇓P Pg 03 34 23.4 +0.4
SSFR AML AML
comp=N,1625µm,0.2s
SSFR AML AML
comp=E,1415µm,0.2s
SSFR AML AML
comp=N,1625µm,0.2s
SSFR AML AML
comp=E,1630µm,0.2s
PP3 Marolino 0.62 35 ⇓P Pb 03 34 24.4 +0.4
PP3 AML AML
comp=E,1109µm,0.8s
PP3 AML AML
comp=N,1260µm,0.3s
PP3 AML AML
comp=N,1265µm,0.3s
PP3 AML AML
comp=E,1113µm,0.9s
PP3 AML AML
comp=E,1090µm,0.8s
PP3 AML AML
comp=N,1235µm,0.3s
ATFO Monte Foce - G 0.64 321 P Pg 03 34 23.6 +0.2
ATFO AML AML
comp=E,361µm,1.2s
ATFO AML AML
comp=N,248µm,0.2s
ARVD Arcevia 0.64 348 ⇑P Pg 03 34 23.8 +0.3
ARVD S Sb 03 34 34.0 +0.4
ARVD AML AML
comp=E,464µm,0.3s
ARVD AML AML
comp=N,468µm,0.3s
ATTE AVT- Monte Tez 0.65 300 ⇑P Pn 03 34 26.9 +0.2
FRON Frontone 0.71 336 ⇑P Pg 03 34 24.8 +0.1
FRON AML AML
comp=E,465µm,0.2s
FRON AML AML
comp=N,568µm,0.4s
VCEL Villa Celiera 0.71 132 ⇑P Pg 03 34 25.2 +0.5
VCEL AML AML
comp=N,234µm,0.5s
VCEL AML AML
comp=E,258µm,0.4s
VCEL AML AML
comp=N,235µm,0.5s
ATVO AVT- Monte Val 0.73 314 ⇓P Pg 03 34 25.2 0.0
ATVO AML AML
comp=E,264µm,1.4s
ATVO AML AML
comp=N,172µm,0.6s
ATVO AML AML
comp=N,172µm,0.6s
MGAB Montegabbione 0.74 274 ⇑P Pb 03 34 26.1 -0.2
MGAB AML AML
comp=N,756µm,0.5s
MGAB AML AML
comp=N,816µm,0.5s
MGAB AML AML
comp=E,306µm,0.7s
MGAB AML AML
comp=E,310µm,0.7s
ATPI Pietralunga - 0.78 318 ⇑P Pg 03 34 26.3 +0.2
ATPI S Sb 03 34 39.0 +1.3
ATPI AML AML
comp=E,156µm,1.4s
ATPI AML AML
comp=E,156µm,1.4s
ATPI AML AML
comp=N,146µm,0.5s
PIEI Pieia 0.79 327 P Pg 03 34 26.1 -0.2
PIEI S Sn 03 34 40.0 -0.5
PIEI AML AML
comp=N,200µm,0.9s
PIEI AML AML
comp=E,222µm,0.2s
MPAG Monte Paganucc 0.80 341 ⇑P Pg 03 34 26.7 +0.2
MPAG S Sn 03 34 40.0 -0.9
MPAG AML AML
comp=E,570µm,0.3s
MPAG AML AML
comp=N,314µm,0.3s
T0110 Collepietro 0.81 143 ⇓P Pb 03 34 27.2 -0.1
T0110 AML AML
comp=E,248µm,0.4s
T0110 AML AML
comp=N,204µm,0.5s
T0110 AML AML
comp=N,204µm,0.5s
FSSB Fossombrone 0.86 343 P Pg 03 34 27.6 +0.1
FSSB S Sn 03 34 42.0 -0.2
FSSB AML AML
comp=E,812µm,1.0s
FSSB AML AML
comp=N,1630µm,0.3s
SACS San Casciano d 0.89 269 P Pb 03 34 28.8 0.0
SACS AML AML
comp=E,187µm,1.5s
SACS AML AML
comp=N,136µm,0.8s
BADI Badiali 0.91 315 ⇓P Pb 03 34 28.9 -0.1
CERT Cerreto 0.93 187 ⇑P Pb 03 34 29.5 +0.2
CERT AML AML
comp=N,136µm,0.4s
CERT AML AML
comp=E,209µm,0.4s
CAFI Castiglion Fio 0.96 299 ⇓P Pb 03 34 29.8 -0.1
CAFI AML AML
comp=E,108µm,0.7s
CAFI AML AML
comp=N,119µm,0.7s
MCIV Monte Civitell 1.07 266 ⇑P Pn 03 34 33.9 +1.6
SF01 Poggio Pratacc 1.15 268 P Pn 03 34 34.9 +1.5
SFI Santa Sofia 1.39 318 P Pg 03 34 37.6 -0.1
MTCR Monte La Croce 1.93 307 P Pg 03 34 48.0 -0.1

*BJI **02** 03:44:30.0±0.0,54.˚80N×163.˚60E,h10km,mb5.0/72, mB5.1/48,Ms5.3/70,Ms7 5.0/67*
*IDC **02** 03:44:30.3±0.4,54.˚84N×163.˚57E,h0km,mb5.1/32, mbtmp5.1/36,ML5.7/3,MS4.5/84,Error ellipse: s-maj=12.2km s-min=8.7km az=162.0*
*NEIC **02** 03:44:31.7±1.5,54.˚75N±0.˚08×163.˚7E±0.˚1,h10km±1km, mb5.4/548,Error ellipse: s-maj=13.4km s-min=9.5km az=164.0*
*KRSC **02** 03:44:31.1±1.2,54.˚70N×163.˚79E,h68km±23km,ML5.9*
*GCMT **02** 03:44:34.7±0.1,54.˚81N±0.˚01×163.˚82E±0.˚01,h26km, MW5.3/145,Moment Tensor Solution. s96,c142; s145,c256; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr0.04±.02; Mθθ-0.93±.02; Mφφ0.88±.02; Mrθ0.43±.04; Mθφ0.68±.02; Mφr0.36±.04; Best double couple: Mo1.26700×10^17 NP1:ϕs64.00000°,δ85.00000°, λ25.00000°. NP2:ϕs332.00000°,δ65.00000°,λ174.00000°. Principal axes: T 1.3020, Plg21.0000°, Azm291.0000°; N -0.0700, Plg64.0000°, Azm75.0000°; P -1.2320, Plg14.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **02** 03:44:38.7±0.9,54.˚78N×162.˚89E,h68km,mb5.6/69, MS4.7/28 Error ellipse: s-maj=5.4km s-min=3.6km az=100.9*
ISC 02 03:44:32.3±0.2,54.˚76N±0.˚03×163.˚67E±0.˚03,h15km, h15km:pP-P,n1507,σ1ŝ33/1410,mb5.3/451,MS4.8/127, 68C-51D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.14**	**261**	*e*P	**Pn**		**03 44 53.6**	**-0.1**
MKZ	**Mys Kozlova**	**1.14**	**261**	PN	**Pn**		**03 44 53.6**	**-0.1**
BKI	**Bering**	**1.40**	**70**	*e*P	**Pn**		**03 44 55.6**	**-1.7**
BKI				*e*S	**Sn**		**03 45 11.4**	**-4.0**
KBTR	**Krutoberegovo**	**1.53**	**342**	*i* P	**Pn**		**03 44 58.1**	**-1.0**
KBTR	**Krutoberegovo**	**1.53**	**342**	PN	**Pn**		**03 44 58.1**	**-1.0**
KBG	**Krutoberegovo**	**1.60**	**340**	*e*P	**Pn**		**03 44 59.1**	**-0.9**
KBG				*e*S	**Sn**		**03 45 19.6**	**-0.7**
KBG	**Krutoberegovo**	**1.60**	**340**	PN	**Pn**		**03 44 59.1**	**-0.9**
KBG				S	**Sn**		**03 45 19.6**	**-0.7**
TUMD	**Tumrok D**	**1.94**	**285**	*e*P	**Pn**		**03 45 05.5**	**+0.8**
TUMD				*e*S	**Sb**		**03 45 30.5**	**-0.7**
ZLN	**Zelenaya**	**2.06**	**309**	*e*P	**Pn**		**03 45 07.9**	**+1.4**
ZLN	**Zelenaya**	**2.06**	**309**	PN	**Pn**		**03 45 07.9**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.07**	**306**	*e*P	**Pn**		**03 45 08.1**	**+1.5**
BZGR				*e*S	**Sb**		**03 45 34.4**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**2.07**	**306**	PN	**Pn**		**03 45 08.1**	**+1.5**
TUMR	**Tumrok**	**2.10**	**286**	*i* P	**Pn**		**03 45 08.5**	**+1.6**
TUMR	**Tumrok**	**2.10**	**286**	PN	**Pn**		**03 45 05.5**	**-1.4**
TUMR				S	**Sn**		**03 45 30.5**	**-2.3**
CIRR	**Tsirk**	**2.15**	**310**	*e*P	**Pn**		**03 45 09.1**	**+1.4**
CIRR	**Tsirk**	**2.15**	**310**	PN	**Pn**		**03 45 09.1**	**+1.4**
LGNR	**Loginova**	**2.16**	**309**	*i* P	**Pn**		**03 45 09.6**	**+1.7**
LGNR	**Loginova**	**2.16**	**309**	PN	**Pn**		**03 45 09.6**	**+1.7**
BZMR	**Bezymyannaya**	**2.17**	**304**	*e*P	**Pn**		**03 45 09.4**	**+1.5**
BZMR	**Bezymyannaya**	**2.17**	**304**	PN	**Pn**		**03 45 09.4**	**+1.5**
BZWR	**Bezymyannyi-We**	**2.18**	**305**	*e*P	**Pn**		**03 45 09.7**	**+1.6**
BZWR	**Bezymyannyi-We**	**2.18**	**305**	PN	**Pn**		**03 45 09.7**	**+1.6**
KMNR	**Kamenistaya**	**2.20**	**298**	*i* P	**Pn**		**03 45 09.9**	**+1.5**
KMNR	**Kamenistaya**	**2.20**	**298**	PN	**Pn**		**03 45 09.9**	**+1.5**
SMKR	**Semkarok**	**2.21**	**327**	*e*P	**Pn**		**03 45 09.2**	**+0.7**
SMKR	**Semkarok**	**2.21**	**327**	PN	**Pn**		**03 45 09.2**	**+0.7**
KIRR	**Kirishev**	**2.25**	**304**	*e*P	**Pn**		**03 45 10.4**	**+1.4**
KIRR	**Kirishev**	**2.25**	**304**	PN	**Pn**		**03 45 10.4**	**+1.4**
BDR	**Baidarnaya**	**2.29**	**323**	*e*P	**Pn**		**03 45 10.6**	**+1.0**
BDR	**Baidarnaya**	**2.29**	**323**	PN	**Pn**		**03 45 10.6**	**+1.0**
KRSR	**Krestovskiy**	**2.29**	**311**	*e*P	**Pn**		**03 45 10.1**	**+0.5**
KRSR	**Krestovskiy**	**2.29**	**311**	PN	**Pn**		**03 45 10.1**	**+0.5**
KPT	**Kopyto**	**2.31**	**303**	*e*P	**Pn**		**03 45 11.3**	**+1.4**
KPT	**Kopyto**	**2.31**	**303**	PN	**Pn**		**03 45 11.3**	**+1.4**
KLY	**Klyuchi**	**2.32**	**314**	*e*P	**Pn**		**03 45 09.8**	**-0.1**
KLY				*e*S	**Sn**		**03 45 37.8**	**-0.2**
KLY	**Klyuchi**	**2.32**	**314**	PN	**Pn**		**03 45 09.8**	**-0.1**
KLY				S	**Sn**		**03 45 37.8**	**-0.2**
SRKR	**Sorokina**	**2.37**	**324**	*e*P	**Pn**		**03 45 11.6**	**+0.9**
SRKR	**Sorokina**	**2.37**	**324**	PN	**Pn**		**03 45 11.6**	**+0.9**
KOZ	**Kozyrevsk**	**2.53**	**303**	*e*P	**Pn**		**03 45 14.6**	**+1.8**
KOZ				*e*S	**Sn**		**03 45 43.0**	**-0.3**
KII	**Karymskiy**	**2.57**	**255**	*e*P	**Pn**		**03 45 14.8**	**+1.4**
KII	**Karymskiy**	**2.57**	**255**	PN	**Pn**		**03 45 14.8**	**+1.4**
SPN	**Mys Shipunski**	**2.72**	**234**	*e*P	**Pn**		**03 45 15.4**	**0.0**
SPN				*e*S	**Sn**		**03 45 45.7**	**-2.3**
SPN	**Mys Shipunski**	**2.72**	**234**	PN	**Pn**		**03 45 15.4**	**0.0**
SPN				S	**Sn**		**03 45 45.7**	**-2.3**
SRDR	**Sredinnyy**	**2.74**	**306**	*e*P	**Pn**		**03 45 17.3**	**+1.6**
SRDR	**Sredinnyy**	**2.74**	**306**	PN	**Pn**		**03 45 17.3**	**+1.6**
NLC	**Nalytchevo**	**3.01**	**240**	*e*P	**Pn**		**03 45 18.9**	**-0.4**
NLC				*e*S	**Sn**		**03 45 52.9**	**-2.2**
NLC	**Nalytchevo**	**3.01**	**240**	PN	**Pn**		**03 45 18.9**	**-0.4**
NLC				S	**Sn**		**03 45 52.9**	**-2.2**
ESO	**Esso**	**3.07**	**294**	*e*P	**Pn**		**03 45 21.4**	**+1.2**
ESO	**Esso**	**3.07**	**294**	PN	**Pn**		**03 45 21.4**	**+1.2**
SDLR	**Sedlovina**	**3.19**	**244**	*e*P	**Pn**		**03 45 22.5**	**+0.5**
SDLR	**Sedlovina**	**3.19**	**244**	PN	**Pn**		**03 45 22.5**	**+0.5**
SMAR	**Somma**	**3.24**	**244**	*i* P	**Pn**		**03 45 23.4**	**+0.7**
SMAR				*e*S	**Sn**		**03 46 00.1**	**-1.0**
SMAR	**Somma**	**3.24**	**244**	PN	**Pn**		**03 45 23.4**	**+0.7**
SMAR				S	**Sn**		**03 46 00.1**	**-1.0**
KRER	**Koryakskii**	**3.25**	**245**	*i* P	**Pn**		**03 45 24.1**	**+1.3**
KRER				*e*S	**Sn**		**03 46 00.7**	**-0.6**
KRER	**Koryakskii**	**3.25**	**245**	PN	**Pn**		**03 45 24.1**	**+1.3**
KRER				S	**Sn**		**03 46 00.7**	**-0.6**
UGLR	**Uglovaya**	**3.25**	**243**	*e*P	**Pn**		**03 45 23.7**	**+0.8**
UGLR	**Uglovaya**	**3.25**	**243**	PN	**Pn**		**03 45 23.7**	**+0.8**
AVH	**Avacha**	**3.27**	**245**	*e*P	**Pn**		**03 45 24.2**	**+1.2**
AVH				*e*S	**Sn**		**03 46 01.6**	**-0.1**
AVH	**Avacha**	**3.27**	**245**	PN	**Pn**		**03 45 24.3**	**+1.2**
AVH				S	**Sn**		**03 45 59.4**	**-2.3**
KRX	**Arik**	**3.27**	**247**	*i* P	**Pn**		**03 45 24.2**	**+1.1**
KRX				*e*S	**Sn**		**03 45 59.8**	**-2.1**
KRX	**Arik**	**3.27**	**247**	PN	**Pn**		**03 45 24.2**	**+1.1**
KRX				S	**Sn**		**03 45 59.8**	**-2.1**
KOK	**Koryaka**	**3.31**	**246**	*i* P	**Pn**		**03 45 24.8**	**+1.2**
KOK				*e*S	**Sn**		**03 46 01.8**	**-0.9**
KOK	**Koryaka**	**3.31**	**246**	PN	**Pn**		**03 45 24.8**	**+1.2**
KOK				S	**Sn**		**03 46 01.8**	**-0.9**
DALK	**Dalny**	**3.38**	**241**	*e*P	**Pn**		**03 45 24.8**	**+0.3**
DALK				*e*S	**Sn**		**03 46 02.3**	**-2.0**
DALK	**Dalny**	**3.38**	**241**	PN	**Pn**		**03 45 24.8**	**+0.3**
DALK				S	**Sn**		**03 46 02.3**	**-2.0**
PET	**Petropavlovsk**	**3.44**	**242**		**Pn**		**03 45 25.7**	**+0.4**
PET				Sn	**Sn**		**03 46 03.6**	**-2.1**
PET	**Petropavlovsk**	**3.44**	**242**	P	**Pn**		**03 45 26.2**	**+0.9**
PET	**Petropavlovsk**	**3.44**	**242**	*e*P	**Pn**		**03 45 25.8**	**+0.5**
PET				*e*S	**Sn**		**03 46 04.3**	**-1.4**
PET	**Petropavlovsk**	**3.44**	**242**	*e*PN	**Pn**		**03 45 25.7**	**+0.4**
PET				*e*S	**Sn**		**03 46 05.0**	**-0.7**
PET				pmax	pmax			
	comp=Z,834nm,0.5s							
PET				smax	smax			
	comp=E,8µm,0.5s							
PET				smax	smax			
	comp=N,9µm,0.7s							
PET				MLR	MLR			
	comp=Z,10µm,13.0s							
PET				MLR	MLR			
	comp=Z,8µm,12.0s							
GNL	**Ganaly**	**3.53**	**255**	*e*P	**Pn**		**03 45 28.7**	**+2.1**
GNL	**Ganaly**	**3.53**	**255**	PN	**Pn**		**03 45 28.7**	**+2.1**
KRMR	**Karymshinskiy**	**3.81**	**242**	*e*P	**Pn**		**03 45 31.3**	**+0.9**
KRMR				*e*S	**Sn**		**03 46 13.8**	**-1.1**
KRMR	**Karymshinskiy**	**3.81**	**242**	PN	**Pn**		**03 45 31.3**	**+0.9**
KRMR				S	**Sn**		**03 46 13.8**	**-1.1**
RUS	**Russkaya**	**3.85**	**235**	*i* P	**Pn**		**03 45 30.6**	**-0.4**
RUS				*e*S	**Sn**		**03 46 13.9**	**-2.0**
RUS	**Russkaya**	**3.85**	**235**	PN	**Pn**		**03 45 30.6**	**-0.4**
RUS				S	**Sn**		**03 46 13.9**	**-2.0**
PEA0B	**Petropavlovsk-**	**3.90**	**247**		**Pn**		**03 45 32.6**	**+1.1**
PEA0B	**Petropavlovsk-**	**3.90**	**247**	*d* PN	**Pn**		**03 45 33.0**	**+1.4**
PETK	**Petropavlovsk-**	**3.90**	**247**	Pn	**Pn**		**03 45 32.1**	**+0.6**
	comp=Z,370nm,0.5s,baz=64,slow=13,SNR=469							
PETK				Sn	**Sn**		**03 46 17.6**	**+0.6**
	comp=Z,265nm,0.3s,baz=90,slow=7.5,SNR=5.3							
PETK				LR	LR		03 47 15.9	
	comp=Z,4µm,20.4s,baz=66,slow=43							
PETK	**Petropavlovsk-**	**3.90**	**247**		**Pn**		**03 45 31.3**	**-0.3**
PETK	**Petropavlovsk-**	**3.90**	**247**	PN	**Pn**		**03 45 31.3**	**-0.3**
MTVR	**Mutnovka**	**3.98**	**237**	*e*P	**Pn**		**03 45 33.2**	**+0.3**
MTVR				*e*S	**Sn**		**03 46 17.7**	**-1.6**
MTVR	**Mutnovka**	**3.98**	**237**	PN	**Pn**		**03 45 33.2**	**+0.3**
MTVR				S	**Sn**		**03 46 17.7**	**-1.6**
GRL	**Gorelyy**	**4.00**	**239**	*i* P	**Pn**		**03 45 34.0**	**+1.0**
GRL				*e*S	**Sn**		**03 46 18.9**	**-0.7**
GRL	**Gorelyy**	**4.00**	**239**	PN	**Pn**		**03 45 34.0**	**+1.0**
GRL				S	**Sn**		**03 46 18.9**	**-0.7**
ASAK	**Asacha**	**4.18**	**238**	*e*P	**Pn**		**03 45 36.7**	**+1.1**
ASAK				*e*S	**Sn**		**03 46 23.9**	**-0.2**
ASAK	**Asacha**	**4.18**	**238**	PN	**Pn**		**03 45 36.7**	**+1.1**
ASAK				S	**Sn**		**03 46 23.9**	**-0.2**
APC	**Apacha**	**4.27**	**247**	*e*P	**Pn**		**03 45 38.7**	**+2.0**
APC				*e*S	**Sn**		**03 46 27.1**	**+0.9**
APC	**Apacha**	**4.27**	**247**	PN	**Pn**		**03 45 38.7**	**+2.0**
APC				S	**Sn**		**03 46 27.1**	**+0.9**
KDTR	**Khodutka, Kamc**	**4.47**	**231**	*e*P	**Pn**		**03 45 39.3**	**-0.1**
KDTR				*e*S	**Sn**		**03 46 28.3**	**-2.8**
KDTR	**Khodutka, Kamc**	**4.47**	**231**	PN	**Pn**		**03 45 39.3**	**-0.1**
KDTR				S	**Sn**		**03 46 27.0**	**-4.1**
OSSR	**Ossora**	**4.52**	**356**	*e*P	**Pn**		**03 45 40.6**	**+0.6**
OSSR	**Ossora**	**4.52**	**356**	PN	**Pn**		**03 45 40.6**	**+0.6**
PALN	**Palana**	**4.79**	**336**	*e*P	**Pn**		**03 45 46.7**	**+2.9**
PALN	**Palana**	**4.79**	**336**	PN	**Pn**		**03 45 46.5**	**+2.7**
PAU	**Pauzhetka**	**5.28**	**234**	*e*P	**Pn**		**03 45 51.1**	**+0.5**
PAU	**Pauzhetka**	**5.28**	**234**	PN	**Pn**		**03 45 51.1**	**+0.5**
TILK	**Tilichiki**	**5.86**	**12**	*e*P	**Pn**		**03 45 59.9**	**+1.5**
TILK				*e*S	**Sn**		**03 47 03.9**	**-1.3**
TILK	**Tilichiki**	**5.86**	**12**	PN	**Pn**		**03 45 59.4**	**+1.0**
SKR	**Severo-Kuril's**	**6.14**	**231**	*e*P	**Pn**		**03 46 02.2**	**-0.1**
SKR	**Severo-Kuril's**	**6.14**	**231**	*e*PN	**Pn**		**03 46 02.3**	**-0.1**
SKR				*e*S	**Sn**		**03 47 08.8**	**-3.4**
SKR				pmax	pmax			
	comp=Z,247nm,0.5s							
SKR				smax	smax			
	comp=E,981nm,0.5s							
SKR				smax	smax			

	comp=N,731nm,0.4s						
SHEM	Shemya Is, Ala	6.51	104	Pn	Pn	03 46 06.6	-0.9
	comp=N,26nm,0.3s,baz=16,slow=1.0,SNR=27						
SHEM				Sn	Sn	03 47 14.3	-7.1
	comp=N,32nm,0.3s,baz=317,slow=22,SNR=12						
SHEM				LR	LR	03 49 08.9	
	comp=N,3µm,18.0s,baz=278,slow=42						
	comp=N,414nm,0.8s						
SMY	Shemya	6.51	104	Pn	Pn	03 46 06.6	-0.9
KMSK	Kamenskaya	7.84	9	eP	Pn	03 46 27.4	+1.7
KMSK				eS	Sn	03 47 52.2	-1.9
KMSK	Kamenskaya	7.84	9	PN	Pn	03 46 27.4	+1.7
MA2	Magadan	8.51	310	Pn	Pn	03 46 36.1	+1.4
	comp=N,4.3nm,0.3s,baz=120,slow=9.8,SNR=15						
MA2				LR	LR	03 50 23.3	
	comp=N,4µm,18.4s,baz=114,slow=42						
	comp=N,43nm,0.6s						
MA2	Magadan	8.51	310	Pn	Pn	03 46 35.9	+1.1
MA2	Magadan	8.51	310	P	Pn	03 46 38.9	+4.1
MA2	Magadan	8.51	310	dePN	Pn	03 46 35.4	+0.6
AMKA	Amchitka	10.00	103	Pn	Pn	03 46 55.5	+0.3
SEY	Seymchan	10.05	329	Pn	Pn	03 46 57.8	+1.8
	comp=N,0.4nm,0.3s,baz=134,slow=12,SNR=16						
SEY				LR	LR	03 51 14.3	
	comp=N,4µm,21.5s,baz=133,slow=41						
SEY	Seymchan	10.05	329⇑	ePN	Pn	03 46 57.5	+1.6
KIWB	Kanaga Island	11.83	96		Pn	03 47 19.9	-0.4
ADK	Adak	12.09	96	Pn	Pn	03 47 22.9	-0.9
OKH	Okha	12.21	273	c iPN	Pn	03 47 28.5	+3.0
OKH				pmax	pmax		
	comp=Z,300nm,9.5s						
OKH				MLR	MLR		
	comp=Z,3µm,15.0s						
OKH				MLR	MLR		
	comp=E,5µm,14.0s						
OKH				MLR	MLR		
	comp=N,3µm,13.0s						
TYV	Tymovskoe	13.28	262	ePN	Pn	03 47 43.6	+3.5
TYV				eS	Sn	03 50 08.4	+1.1
TYV				pmax	pmax		
	comp=Z,75nm,1.1s						
TYV				pmax	pmax		
	comp=Z,600nm,3.4s						
TYV				smax	smax		
	comp=E,40nm,1.1s						
TYV				smax	smax		
	comp=N,700nm,6.1s						
TYV				smax	smax		
	comp=E,500nm,6.1s						
TYV				MLR	MLR		
	comp=N,6µm,16.0s						
TYV				MLR	MLR		
	comp=Z,2µm,16.0s						
BILL	Bilibino	13.38	4		Pn	03 47 43.7	+2.3
BILL	Bilibino	13.38	4	c iPN	Pn	03 47 44.7	+3.3
BILL				pmax	pmax		
	comp=Z,163nm,1.2s						
BILL				MLR	MLR		
	comp=Z,3µm,12.0s						
KUR	Kuril'sk	13.90	233	d iP	Pn	03 47 46.8	-1.8
KUR				S	Sn	03 50 14.0	-8.5
KUR				pmax	pmax		
	comp=Z,243nm,0.5s						
UGL	Uglegorsk	14.46	256	eP	P	03 48 02.9	-0.1
UGL				S	Sn	03 50 37.6	+1.4
UGL				pmax	pmax		
	comp=Z,138nm,0.6s						
UGL				pmax	pmax		
	comp=Z,1µm,8.0s						
UGL				MLR	MLR		
	comp=Z,2µm,14.0s						
UGL				MLR	MLR		
	comp=N,6µm,15.0s						
UGL				MLR	MLR		
	comp=E,4µm,15.0s						
YSS	Yuzh-Sakhalins	15.30	248		Pn	03 48 07.4	-0.1
YSS				IAmb	IAmb	03 48 14.6	
	comp=Z,107nm,0.7s						
YSS	Yuzh-Sakhalins	15.30	248	P	Pn	03 48 09.0	+1.5
YSS	Yuzh-Sakhalins	15.30	248	eP	Pn	03 48 08.5	+1.0
YSS				eS	Sn	03 50 59.0	+2.4
YSS				pmax	pmax		
	comp=Z,400nm,3.3s						
YSS				pmax	pmax		
	comp=Z,130nm,0.8s						
YSS				MLR	MLR		
	comp=Z,6µm,15.0s						
YSS				MLR	MLR		
	comp=E,3µm,16.0s						
GAMB	Gambell	15.39	44		Pn	03 48 06.4	-2.2
GAMB	Gambell	15.39	44	P	Pn	03 48 09.2	+0.6
	baz=245						
CLES	Cleveland East	15.71	86		Pn	03 48 12.9	+0.1
CLES				IAmb	IAmb	03 48 19.2	
	comp=Z,1µm,1.0s						
YUK	Yuzh-Kuril'sk	15.75	234⇓	eP	Pn	03 48 09.7	-3.6
NIKH	Nikolski High	16.27	85		Pn	03 48 20.1	+0.2
NIKH				IAmb	IAmb	03 48 27.9	
	comp=Z,277nm,1.1s						
NIKH	Nikolski High	16.27	85	P	Pn	03 48 19.7	-0.3
	baz=287						
NIKH	Nikolski High	16.27	85	P	Pn	03 48 19.3	-0.7
GRNR	Gornyy	16.92	268⇓	iP	P	03 48 30.4	+0.2
GRNR				pmax	pmax		
	comp=E,10.0nm,0.8s						
GRNR				pmax	pmax		
	comp=N,5.0nm,0.5s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.7s						
GRNR				MLR	MLR		
	comp=E,2µm,14.0s						
GRNR				MLR	MLR		
	comp=N,1µm,13.0s						
GRNR				MLR	MLR		
	comp=Z,2µm,14.0s						
UNV	Unalaska Valle	17.37	81	P	Pn	03 48 34.1	+0.2
UNV				IAmb	IAmb	03 48 38.4	
	comp=Z,197nm,1.0s						
UNV	Unalaska Valle	17.37	81	P	Pn	03 48 33.3	-0.6
	baz=285,SNR=10						
TNA	Tin City	17.61	41	P	P	03 48 37.4	-0.4
TNA	Tin City	17.61	41	P	Pn	03 48 36.8	0.0
	baz=246						
AKUT	Akutan	17.72	79		Pn	03 48 37.6	-0.6
AKUT				IAmb	IAmb	03 48 42.1	
	comp=Z,259nm,1.1s						
ANM	Nome	18.26	45	P	Pn	03 48 43.5	-1.3
	baz=252						
JEM	Erimo	18.57	235	P	P	03 48 46.6	-1.8
ERM	Erimo	18.57	235	P	P	03 48 46.7	-1.7
ERM	Erimo	18.57	235	d iP	P	03 48 43.2	-5.2
JEW	Eniwo	18.78	240	P	P	03 48 49.3	-1.5
JEW				IAmb	IAmb	03 48 59.5	
	comp=Z,164nm,0.6s						
JEW	Eniwo	18.78	240	P	P	03 48 49.0	-1.8
FALS	False Pass	18.88	76	P	P	03 48 49.8	-2.0
FALS				IAmb	IAmb	03 48 54.8	
	comp=Z,130nm,0.7s						
FALS	False Pass	18.88	76	P	P	03 48 50.2	-1.5
	baz=283						
YAK	Yakutsk	19.05	306	P	P	03 48 52.8	-0.8
	comp=Z,4.3nm,0.3s,baz=88,slow=2.6,SNR=107						
YAK				LR	LR	03 56 54.2	
	comp=Z,2µm,18.5s,baz=106,slow=39						
	comp=Z,376nm,0.6s						
YAK	Yakutsk	19.05	306	P	P	03 48 52.1	-1.5
YAK	Yakutsk	19.05	306	eP	P	03 48 52.6	-1.0
YAK				eS	Sn	03 52 24.9	-2.3
YAK				pmax	pmax		
	comp=Z,540nm,0.8s						
YAK				pmax	pmax		
	comp=N,24nm,0.8s						
YAK				pmax	pmax		
	comp=E,83nm,0.8s						
YAK				smax	smax		
	comp=E,130nm,1.1s						
YAK				smax	smax		
	comp=N,103nm,1.1s						
YAK				MLR	MLR		
	comp=Z,1µm,17.0s						
TEY	Ternei	19.85	252⇑	eP	P	03 49 02.7	+0.3
TEY				pmax	pmax		
	comp=N,20nm,0.8s						
TEY				pmax	pmax		
	comp=E,30nm,0.8s						
TEY				pmax	pmax		
	comp=Z,50nm,0.7s						
TEY				pmax	pmax		
	comp=E,100nm,1.2s						
TEY				pmax	pmax		
	comp=N,100nm,2.6s						
TEY				pmax	pmax		
	comp=Z,200nm,1.3s						
KLR	Kul'dur	20.30	267	P	P	03 49 05.6	-1.7
	comp=Z,21nm,1.0s,baz=50,slow=11,SNR=23						
KLR				LR	LR	03 57 51.9	
	comp=Z,1µm,18.6s,baz=66,slow=40						
	comp=Z,21nm,1.0s						
KLR	Kul'dur	20.30	267⇓	eP	P	03 49 04.9	-2.4
KLR				pmax	pmax		
	comp=Z,33nm,1.3s						
KLR				MLR	MLR		
	comp=Z,1µm,13.0s						
SDPT	Sand Point	20.41	74	P	P	03 49 06.8	-1.7
SDPT				IAmb	IAmb	03 49 20.9	
	comp=Z,99nm,0.9s						
SDPT	Sand Point	20.41	74	P	P	03 49 08.0	-0.4
	baz=283						
JTM	Tenmabayashi	20.51	236	P	P	03 49 05.9	-3.8
JTM				IAmb	IAmb	03 49 11.1	
	comp=Z,84nm,0.7s						
N16K	Nishlik Lake	20.69	59	P	P	03 49 12.3	+0.7
	baz=271,SNR=25						
CHNA	Chernabura Isl	21.03	75	P	P	03 49 14.5	-0.7
	baz=285						
CNBA	Chernabura Isl	21.04	75	P	P	03 49 14.8	-0.5
CNBA				IAmb	IAmb	03 49 17.3	
	comp=Z,135nm,1.2s						
O16K	Kokwok River B	21.07	61	P	P	03 49 16.2	+0.6
	baz=274,SNR=8.9						
ZEA	Zeya	21.16	282	eP	P	03 49 14.9	-1.7
ZEA				e		03 49 32.6	
ZEA				eS	S	03 52 54.6	-17
ZEA				e		03 53 27.1	
ZEA				pmax	pmax		
	comp=Z,40nm,0.9s						
ZEA				smax	smax		
	comp=E,200nm,6.2s						
ZEA				MLR	MLR		
	comp=N,800nm,13.0s						
ZEA				MLR	MLR		
	comp=E,800nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,800nm,14.0s						
P16K	Nushagak River	21.16	63	P	P	03 49 16.2	-0.4
	baz=275,SNR=6.3						
CHGN	Chignik	21.34	70	P	P	03 49 17.4	-1.0
CHGN				IAmb	IAmb	03 49 35.5	
	comp=Z,244nm,1.0s						
CHGN	Chignik	21.34	70	P	P	03 49 18.9	+0.4
	baz=282,SNR=22						
O17K	Koliganek Bris	21.56	61	P	P	03 49 20.8	0.0
	baz=274						
R16K	Pilot Point	21.56	67	P	P	03 49 21.0	+0.2
	baz=279						
GCSA	Galena City Sc	21.86	47	P	P	03 49 24.0	0.0
	baz=262						
Q16K	King Salmon	21.89	63	P	P	03 49 24.5	+0.2
	baz=277						
P17K	Kvichak River	21.94	62	P	P	03 49 25.1	+0.2
	baz=276,SNR=12						
TTA	Tatalina	22.06	52	P	P	03 49 25.7	-0.6
TTA	Tatalina	22.06	52	P	P	03 49 26.7	+0.5
	baz=267,SNR=11						
TTA	Tatalina	22.06	52	P	P	03 49 25.7	-0.6
TTA				pmax	pmax		
	comp=Z,104nm,1.2s						
N18K	Kilae Creek	22.11	58	P	P	03 49 26.8	0.0
N18K				IAmb	IAmb	03 49 43.5	
	comp=Z,89nm,0.9s						
N18K	Kilae Creek	22.11	58	P	P	03 49 27.2	+0.4
	baz=272,SNR=20						
SVW2	Sparrevohn	22.24	57	P	P	03 49 27.2	-1.0
Q17K	Contact Creek	22.35	64	P	P	03 49 29.0	-0.4
	baz=278,SNR=5.6						
HEH	HeiHe	22.35	273	eP	P	03 49 25.1	-4.3
HEH				S	S	03 53 25.0	-9.4
HEH				pmax	pmax		
	comp=Z,91nm,0.6s						
HEH				pmax	pmax		
	comp=Z,230nm,4.7s						
HEH				LR	LR		
	comp=Z,5µm,16.8s						
HEH				LR	LR		
	comp=Z,2µm,15.4s						
HEH				LR	LR		
	comp=Z,2µm,14.9s						
O18K	Koktuh Hills	22.50	60	P	P	03 49 30.4	-0.6
O18K	Koktuh Hills	22.50	60	P	P	03 49 31.4	+0.4
	baz=275						
TIXI	Tiksi	22.53	332	P	P	03 49 30.8	-0.3
	comp=Z,116nm,0.5s,baz=90,slow=23,SNR=193						
TIXI				S	S	03 53 35.4	-1.9
	comp=Z,10nm,0.9s,baz=270,slow=23,SNR=5.8						
TIXI				LR	LR	03 58 49.1	
	comp=Z,2µm,19.5s,baz=355,slow=38						
	comp=Z,116nm,0.5s						
TIXI	Tiksi	22.53	332	P	P	03 49 30.8	-0.3
TIXI				IAmb	IAmb	03 49 33.7	
	comp=Z,144nm,0.7s						
TIXI	Tiksi	22.53	332	c iP	P	03 49 30.7	-0.3
TIXI				pmax	pmax		
	comp=Z,248nm,1.3s						
TIXI				MLR	MLR		
	comp=Z,3µm,14.0s						
P18K	Big Mountain,	22.54	61	P	P	03 49 30.0	-1.4
P18K	Big Mountain,	22.54	61	P	P	03 49 30.5	-0.9
	baz=276						
L19K	White Mountain	22.57	54	P	P	03 49 30.8	-0.9
L19K	White Mountain	22.57	54	P	P	03 49 31.1	-0.6
	baz=270						
Q18K	Katmai Hardscr	22.75	63	P	P	03 49 33.0	-0.6
	baz=278,SNR=9.1						
N19K	Bonanza Creek	22.79	58	P	P	03 49 32.1	-2.0
N19K				IAmb	IAmb	03 49 40.6	
	comp=Z,102nm,1.0s						
N19K	Bonanza Creek	22.79	58	P	P	03 49 33.9	-0.2
	baz=273,SNR=17						
M19K	Big River Lodg	22.80	55	P	P	03 49 33.1	-0.9
M19K				IAmb	IAmb	03 49 40.3	
	comp=Z,82nm,1.1s						
M19K	Big River Lodg	22.80	55	P	P	03 49 32.4	-1.7
	baz=271						
O19K	Port Alsworth	22.92	59	P	P	03 49 35.4	+0.1
O19K	Port Alsworth	22.92	59	P	P	03 49 32.2	-3.0
	baz=275						
USA0B	Ussuriysk Arra	22.94	256	P	P	03 49 34.0	-1.7
USA0B	Ussuriysk Arra	22.94	256	ceP	P	03 49 33.9	-1.7
USRK	Ussuriysk Ar.	22.94	256	P	P	03 49 34.0	-1.7
	comp=Z,8.4nm,0.7s,baz=54,slow=11,SNR=12						
USRK				LR	LR	03 58 57.0	
	comp=Z,3µm,18.7s,baz=48,slow=38						
	comp=Z,8.4nm,0.7s						
USRK	Ussuriysk Ar.	22.94	256	P	P	03 49 33.2	-2.5
USRK	Ussuriysk Ar.	22.94	256	P	P	03 49 33.2	-2.5
K20K	Telida	22.96	51	P	P	03 49 34.9	-0.9
K20K				IAmb	IAmb	03 49 41.7	
	comp=Z,131nm,1.1s						
K20K	Telida	22.96	51	P	P	03 49 34.0	-1.8
	baz=268,SNR=8.9						
JMM	Marumori	22.96	232	P	P	03 49 36.2	+0.2
CHIR	Chirikof Islan	22.98	71	P	P	03 49 34.2	-1.7
	baz=284						
J20K	Nowinta River	22.98	49	P	P	03 49 35.5	-0.4
J20K				IAmb	IAmb	03 49 41.6	
	comp=Z,100nm,0.9s						
J20K	Nowinta River	22.98	49	P	P	03 49 35.0	-0.9
	baz=266,SNR=72						
L20K	Farewell, AK	23.03	53	P	P	03 49 36.1	-0.4
	baz=270,SNR=5.7						
IMAR	Indian Mountai	23.34	44	P	P	03 49 39.3	-0.2
M20K	Styx River	23.39	55	P	P	03 49 39.8	-0.4
M20K				IAmb	IAmb	03 49 46.4	
	comp=Z,105nm,1.1s						
M20K	Styx River	23.39	55	P	P	03 49 40.2	0.0
	baz=272						
Q19K	Cape Douglas,	23.41	62	P	P	03 49 39.7	-0.7
Q19K				IAmb	IAmb	03 50 02.6	
	comp=Z,254nm,1.6s						
Q19K	Cape Douglas,	23.41	62	P	P	03 49 39.7	-0.7
	baz=278						
G21K	Allakaket	23.52	43	P	P	03 49 41.1	-0.3
	baz=261						
P19K	Oil Pt	23.52	60	P	P	03 49 40.3	-1.1
	baz=277						
ILSW	Iliamna Southw	23.53	60	P	P	03 49 39.7	-1.9
ILSW				IAmb	IAmb	03 50 04.2	
	comp=Z,241nm,1.7s						
SII	Sitkinak Islan	23.58	68	P	P	03 49 40.6	-1.4
SII				IAmb	IAmb	03 49 54.2	
	comp=Z,83nm,0.8s						
SII	Sitkinak Islan	23.58	68	P	P	03 49 41.1	-1.0
	baz=283						
SII	Sitkinak Islan	23.58	68	P	P	03 49 45.0	+3.0
F21K	Alatna River	23.65	41	P	P	03 49 43.0	+0.3
	baz=259,SNR=30						
RSO	Redoubt South	23.67	58	P	P	03 49 42.8	-0.3
H21K	Melozitna Rive	23.68	45	P	P	03 49 43.3	+0.3
H21K				IAmb	IAmb	03 49 48.1	
	comp=Z,182nm,1.3s						
H21K	Melozitna Rive	23.68	45	P	P	03 49 42.9	-0.1
	baz=264,SNR=77						
CHUM	Lake Minchumin	23.76	50	P	P	03 49 42.7	-1.0
	baz=268,SNR=16						
O20K	Slope Mountain	23.77	59	P	P	03 49 43.9	-0.1
	baz=276						
A21K	Barrow	23.78	31	P	P	03 49 44.1	+0.3
	baz=247						
PPLA	Purkeypile	23.81	52	P	P	03 49 45.0	+0.6
PPLA	Purkeypile	23.81	52	P	P	03 49 44.2	-0.2
	baz=270,SNR=16						
CAST	Castle Rocks	23.86	51	P	P	03 49 45.0	+0.3
CAST				IAmb	IAmb	03 49 49.5	
	comp=Z,159nm,1.4s						
CAST	Castle Rocks	23.86	51	P	P	03 49 45.2	+0.5
	baz=269,SNR=45						
N20K	Mount Spurr	23.87	56	P	P	03 49 45.6	+0.7
	baz=274,SNR=20						
SPCR	Spurr Chakacha	23.87	56	P	P	03 49 45.1	+0.2
	baz=274,SNR=9.5						
OHAK	Old Harbor	23.91	66	P	P	03 49 43.6	-1.5
OHAK				IAmb	IAmb	03 50 00.0	
	comp=Z,100nm,1.2s						
OHAK	Old Harbor	23.91	66	P	P	03 49 43.9	-1.2
	baz=282,SNR=8.0						
SPU	Mount Spurr	23.95	56	P	P	03 49 45.6	0.0
I21K	Tanana	23.98	47	P	P	03 49 45.8	+0.1
I21K				IAmb	IAmb	03 50 08.5	
	comp=Z,244nm,1.7s						
I21K	Tanana	23.98	47	P	P	03 49 44.9	-0.9
	baz=265,SNR=13						
JSD	Sado	24.02	236	P	P	03 49 46.7	+0.4
JSD	Sado	24.02	236	P	P	03 49 47.7	+1.4
MDJ	Mudanjiang	24.04	259	P	P	03 49 43.6	-2.9
MDJ	Mudanjiang	24.04	259	P	P	03 49 43.1	-3.4
MDJ				pP	pP	03 49 47.0	-2.5
MDJ				S	S	03 54 03.2	+0.2
MDJ				sS	sS	03 54 09.1	+0.8
MDJ				pmax	pmax		
	comp=Z,54nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,190nm,3.7s						
MDJ				LR	LR		
	comp=Z,2µm,14.0s						
MDJ				LR	LR		
	comp=Z,3µm,15.1s						
MDJ				LR	LR		
	comp=Z,4µm,14.4s						
Q20K	Shuyak Island	24.10	63	P	P	03 49 47.6	+0.6
	baz=280,SNR=7.6						
SKT	Skwentna	24.14	54	P	P	03 49 47.8	+0.5
SKT				IAmb	IAmb	03 49 53.3	
	comp=Z,164nm,1.1s						
SKT	Skwentna	24.14	54	P	P	03 49 47.4	0.0
	baz=273,SNR=33						
KDAK	Kodiak Island	24.16	65	P	P	03 49 46.1	-1.4
	comp=Z,24nm,0.6s,baz=308,slow=5.4,SNR=37						
	comp=Z,24nm,0.6s						
KDAK	Kodiak Island	24.16	65	P	P	03 49 46.6	-0.9
KDAK	Kodiak Island	24.16	65	P	P	03 49 46.3	-1.2
	baz=282						
F22K	John River	24.19	41	P	P	03 49 47.1	-0.7
	baz=260						
H22K	Ishtalitna Cre	24.29	45	P	P	03 49 48.1	-0.6
	baz=264,SNR=37						
HOM	Homer	24.32	60	P	P	03 49 47.2	-1.8
	baz=278						
BPAW	Bear Paw Mtn.	24.36	49	P	P	03 49 49.7	+0.4
BPAW				IAmb	IAmb	03 49 54.9	
	comp=Z,144nm,1.1s						
BPAW	Bear Paw Mtn.	24.36	49	P	P	03 49 49.3	+0.1
	baz=269,SNR=19						
G22K	Bettles	24.36	42	P	P	03 49 48.6	-0.7
	baz=262						
KTH	Kantishna Hill	24.38	51	P	P	03 49 49.8	+0.3
KTH				IAmb	IAmb	03 49 56.5	
	comp=Z,149nm,1.1s						
CAPN	Captain Cook N	24.42	57	P	P	03 49 48.7	-1.2
	baz=276						
E22K	Anaktuvuk Pass	24.44	39	P	P	03 49 49.9	-0.2
	baz=259						
MSHR	Mys Shultsa	24.44	254⇑	iP	P	03 49 48.3	-1.9
MLY	Manley	24.50	47	P	P	03 49 50.1	-0.5
MLY	Manley	24.50	47	P	P	03 49 50.6	0.0
	baz=267,SNR=27						
CNPM	China Poot	24.54	60	P	P	03 49 50.6	-0.4
CNPM				IAmb	IAmb	03 50 08.7	
	comp=Z,140nm,1.0s						
SUA	Susitna One	24.55	56	P	P	03 49 51.2	0.0
SUA	Susitna One	24.55	56	P	P	03 49 51.3	0.0
	baz=275,SNR=23						
BNX	BinXian	24.64	264 ⇓	P	P	03 49 49.4	-2.5
BNX				PP	PnPn	03 50 25.6	+2.3
BNX				S	S	03 54 10.3	-2.2
BNX				pmax	pmax		
	comp=Z,17nm,1.0s						
BNX				pmax	pmax		
	comp=Z,130nm,3.5s						
BNX				LR	LR		
	comp=Z,3µm,13.7s						
BNX				LR	LR		
	comp=Z,2µm,12.9s						
BNX				LR	LR		
	comp=Z,3µm,13.8s						
TRF	Thorofare Moun	24.66	51	P	P	03 49 52.9	+0.6
TRF	Thorofare Moun	24.66	51	P	P	03 49 52.3	+0.1
	baz=271,SNR=76						
CUT	Chulitna	24.71	53	P	P	03 49 52.7	+0.3
CUT	Chulitna	24.71	53	P	P	03 49 52.4	-0.1
	baz=273,SNR=21						
BRSE	Bradley Lake S	24.76	60	P	P	03 49 53.2	+0.2
	baz=279						
M22K	Willow	24.83	55	P	P	03 49 53.5	0.0
M22K	Willow	24.83	55	P	P	03 49 53.4	0.0
	baz=275,SNR=7.8						
COLD	Coldfoot	24.91	42	P	P	03 49 54.3	+0.1
COLD	Coldfoot	24.91	42	P	P	03 49 54.6	+0.3
	baz=263						
G23K	Bananza Creek	24.92	43	P	P	03 49 54.3	-0.1
	baz=264,SNR=27						
D23K	Nanushuk River	25.01	38	P	P	03 49 54.2	-1.0
	baz=258,SNR=16						
BWN	Browne	25.02	49	P	P	03 49 56.2	+0.9
H23K	Yukon River	25.04	45	P	P	03 49 56.0	+0.5
H23K	Yukon River	25.04	45	P	P	03 49 55.6	+0.1
	baz=266,SNR=68						
RC01	Rabbit Creek A	25.08	56	P	P	03 49 55.5	-0.3
	baz=276						
I23K	Minto, Yukon-K	25.08	47	P	P	03 49 56.4	+0.6
I23K	Minto, Yukon-K	25.08	47	P	P	03 49 55.6	-0.2
	baz=268,SNR=71						
O22K	Cooper Landing	25.16	58	P	P	03 49 56.8	+0.3
	baz=278						
NEA2	Nenana	25.20	48	P	P	03 49 56.6	-0.3
NEA2				IAmb	IAmb	03 50 02.6	
	comp=Z,121nm,1.0s						
NEA2	Nenana	25.20	48	P	P	03 49 56.6	-0.3
	baz=270,SNR=18						
C23K	Itkillik River	25.22	36	P	P	03 49 57.6	+0.6
	baz=257,SNR=34						
MJB9	Matsu-Tunnel	25.24	234	P	P	03 50 00.4	+2.9
MJAR	Matsushiro Arr	25.24	234	P	P	03 49 58.9	+1.5
	comp=Z,75nm,0.7s,baz=26,slow=7.8,SNR=140						
MJAR				S	S	03 54 25.5	+3.1
	comp=Z,1.1nm,0.6s,baz=19,slow=38,SNR=1.5						
	comp=Z,75nm,0.7s						
MAJO	Matsushiro	25.24	234	P	P	03 49 59.0	+1.5
MAJO	Matsushiro	25.24	234	P	P	03 49 59.4	+1.9
MAJO	Matsushiro	25.24	234⇓	eP	P	03 49 57.7	+0.2

MAJO pmax pmax
comp=Z,188nm,0.8s
E23K Chandalar 25.24 40 P **P** **03 49 57.4 +0.1**
baz=262,SNR=83
MCK McKinley 25.26 50 P **P** **03 49 57.9 +0.4**
MCK IAmb IAmb 03 50 02.8
comp=Z,133nm,1.2s
MCK McKinley 25.26 50 P **P** **03 49 57.0 -0.5**
baz=271,SNR=31
MCK McKinley 25.26 50 P **P** **03 49 57.9 +0.4**
MCK pmax pmax
comp=Z,133nm,1.2s
RND Reindeer 25.31 51 P **P** **03 49 57.7 -0.3**
RND IAmb IAmb 03 50 03.5
comp=Z,101nm,1.0s
RND Reindeer 25.31 51 P **P** **03 49 57.7 -0.3**
RND pmax pmax
comp=Z,101nm,1.0s
PMR Palmer 25.31 55 P **P** **03 49 55.9 -2.0**
PMR Palmer 25.31 55 P **P** **03 49 58.0 +0.1**
baz=276
PMR Palmer 25.31 55 P **P** **03 49 55.9 -2.0**
PMR pmax pmax
comp=Z,27nm,0.9s
SEW Seward 25.35 59 P **P** **03 49 57.6 -0.6**
SEW IAmb IAmb 03 50 14.9
comp=Z,117nm,1.0s
SEW Seward 25.35 59 P **P** **03 49 58.5 +0.3**
baz=279
TOLK Toolik Lake Re 25.35 39 P **P** **03 49 58.4 +0.1**
TOLK Toolik Lake Re 25.35 39 P **P** **03 49 58.5 +0.3**
baz=260,SNR=60
WAT1 Susitna Watana 25.48 52 P **P** **03 49 59.3 -0.1**
baz=274
MDM Murphy Dome 25.56 47 P **P** **03 50 00.5 +0.4**
MDM IAmb IAmb 03 50 05.6
comp=Z,85nm,1.1s
WRH Wood River Hil 25.62 48 P **P** **03 50 00.8 +0.1**
KNK Knik Glacier 25.65 55 P **P** **03 50 00.9 -0.2**
KNK Knik Glacier 25.65 55 P **P** **03 50 01.7 +0.6**
baz=277,SNR=13
E24K Your Creek 25.67 40 P **P** **03 50 01.1 -0.1**
baz=263,SNR=91
SML Sawmill 25.67 55 P **P** **03 50 01.3 +0.1**
SML IAmb IAmb 03 50 06.6
comp=Z,113nm,0.9s
SML Sawmill 25.67 55 P **P** **03 50 00.9 -0.4**
baz=276,SNR=12
D24K Happy Valley 25.70 37 P **P** **03 50 00.9 -0.5**
baz=260
TCOL CIGO, UAF Yank 25.72 47 P **P** **03 50 01.6 +0.1**
TCOL IAmb IAmb 03 50 06.5
comp=Z,79nm,0.9s
TCOL CIGO, UAF Yank 25.72 47 P **P** **03 50 01.3 -0.2**
baz=270,SNR=15
COLA College 25.72 47 P **P** **03 50 01.8 +0.3**
COLA IAmb IAmb 03 50 06.5
comp=Z,73nm,0.9s
COLA College 25.72 47 P **P** **03 50 01.5 -0.1**
baz=270
COLA College 25.72 47 P **P** **03 50 02.1 +0.5**
COLA College 25.72 47 *d* *i*P **P** **03 50 01.7 +0.1**
COLA pmax pmax
comp=Z,101nm,1.1s
H24K Noodor Dome 25.73 45 P **P** **03 50 00.6 -1.1**
H24K IAmb IAmb 03 50 27.4
comp=Z,56nm,1.1s
H24K Noodor Dome 25.73 45 P **P** **03 50 00.5 -1.1**
baz=268,SNR=33
CCB Clear Creek Bu 25.74 48 P **P** **03 50 02.1 +0.4**
PWL Port Wells 25.78 57 P **P** **03 50 02.4 +0.1**
PWL Port Wells 25.78 57 P **P** **03 50 00.3 -1.9**
baz=278,SNR=15
F24K Squaw Lake 25.83 41 P **P** **03 50 02.2 -0.4**
baz=264,SNR=34
C24K Franklin Bluff 25.85 36 P **P** **03 50 02.8 +0.1**
baz=259
WAT6 Susitna Watana 25.87 53 P **P** **03 50 03.4 +0.2**
baz=275,SNR=14
POKR Poker Plat Res 25.90 47 P **P** **03 50 03.6 +0.3**
POKR IAmb IAmb 03 50 07.8
comp=Z,45nm,0.8s
POKR Poker Plat Res 25.90 47 P **P** **03 50 02.6 -0.6**
baz=270,SNR=13
G24K Hadweenzic Riv 25.93 43 P **P** **03 50 04.3 +0.8**
baz=267,SNR=56
M23K Glacier View 25.95 55 P **P** **03 50 04.3 +0.5**
baz=276,SNR=16
DHY Denali Highway 26.00 52 P **P** **03 50 04.6 +0.3**
DHY IAmb IAmb 03 50 11.3
comp=Z,99nm,1.1s
DHY Denali Highway 26.00 52 P **P** **03 50 04.4 0.0**
baz=274,SNR=25
HDA Harding Lake 26.12 48 P **P** **03 50 04.5 -0.7**
HDA IAmb IAmb 03 50 08.6
comp=Z,46nm,0.9s
HDA Harding Lake 26.12 48 P **P** **03 50 04.9 -0.3**
baz=272,SNR=21
IL31 26.13 48 P **P** **03 50 05.2 -0.1**
IL31 IAmb IAmb 03 50 19.8
comp=Z,69nm,1.0s
ILAR Eielson Array 26.13 48 P **P** **03 50 05.0 -0.4**
comp=Z,42nm,0.9s,baz=262,slow=8.5,SNR=170
ILAR LR LR 04 01 21.9
comp=Z,716nm,18.0s,baz=260,slow=39
comp=Z,42nm,0.9s
ILAR Eielson Array 26.13 48 P **P** **03 50 05.5 +0.2**
SCM Sheep Creek Mo 26.14 54 P **P** **03 50 05.4 -0.1**
SCM Sheep Creek Mo 26.14 54 P **P** **03 50 07.1 +1.6**
baz=277,SNR=19
SCM Sheep Creek Mo 26.14 54 P **P** **03 50 05.4 -0.1**
SCM pmax pmax
comp=Z,210nm,0.8s
GLI Glacier Island 26.38 56 P **P** **03 50 08.4 +0.8**
GLI IAmb IAmb 03 50 23.3
comp=Z,81nm,0.8s
GLI Glacier Island 26.38 56 P **P** **03 50 07.3 -0.3**
baz=279
JGF Kuroka 26.40 234 P **P** **03 50 08.4 +0.3**
JGF IAmb IAmb 03 50 10.6
comp=Z,78nm,0.9s
JGF Kuroka 26.40 234 P **P** **03 50 09.7 +1.6**
comp=Z,100nm,0.7s
G25K Bearman Lake 26.48 43 P **P** **03 50 09.4 +1.1**
baz=268,SNR=9.2
H25K Birch Creek 26.58 44 P **P** **03 50 09.1 -0.2**
baz=269,SNR=10
D25K Kavik River 26.59 37 P **P** **03 50 09.1 -0.4**
baz=262,SNR=31
M24K Tolsona, Glenn 26.65 54 P **P** **03 50 10.6 +0.5**
M24K Tolsona, Glenn 26.65 54 P **P** **03 50 10.6 +0.5**
baz=277,SNR=16
K24K Donnelly Dome 26.66 50 P **P** **03 50 08.4 -1.8**
baz=274,SNR=9.4
F25K Christian Rive 26.70 41 P **P** **03 50 10.7 +0.2**
baz=266,SNR=22
PRP Porcupine Dome 26.70 46 P **P** **03 50 10.5 -0.1**
PRP IAmb IAmb 03 50 15.6
comp=Z,89nm,1.0s
PRP Porcupine Dome 26.70 46 P **P** **03 50 10.7 +0.1**
baz=271,SNR=52
FID Port Fidalgo 26.70 57 P **P** **03 50 09.3 -1.2**
FID IAmb IAmb 03 50 16.9
comp=Z,78nm,1.0s
E25K Arctic Village 26.76 40 P **P** **03 50 11.1 +0.1**
baz=266,SNR=20
INU Inuyama 26.77 235 P **P** **03 50 12.2 +0.9**
INU IAmb IAmb 03 50 27.9
comp=Z,62nm,0.5s
INU Inuyama 26.77 235 P **P** **03 50 13.9 +2.6**
J25K Salcha River, 26.79 48 P **P** **03 50 10.2 -1.1**
J25K Salcha River, 26.79 48 P **P** **03 50 10.2 -1.1**
baz=273,SNR=16
FYU Fort Yukon 26.82 44 P **P** **03 50 11.8 +0.4**
KLU Klutina 26.85 55 P **P** **03 50 11.1 -0.8**
baz=278,SNR=9.2
PAX Paxson 26.87 52 P **P** **03 50 11.0 -1.1**
baz=276,SNR=9.2
CN2 Changchun 26.90 262 *e*P **P** **03 50 09.6 -2.9**
CN2 *e*PP **PnPn** **03 50 54.3 0.0**
CN2 *e*S **S** **03 54 44.8 -3.7**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,180nm,5.0s
CN2 LR LR
comp=Z,4µm,15.0s
CN2 LR LR
comp=Z,2µm,15.0s
CN2 LR LR
comp=Z,2µm,15.0s
DIV Divide 26.98 56 P **P** **03 50 13.6 +0.5**
DIV IAmb IAmb 03 50 17.8
comp=Z,73nm,1.0s
RIDG Independent Ri 27.08 50 P **P** **03 50 14.1 +0.1**
baz=275
HARP HAARP 27.08 53 P **P** **03 50 14.6 +0.7**
baz=277,SNR=5.2
EYAK Cordova Ski Ar 27.09 57 P **P** **03 50 13.8 -0.2**
baz=280
BMAR Burnt Mountain 27.10 42 P **P** **03 50 14.9 +0.8**
C26K Camden Bay 27.18 36 P **P** **03 50 15.0 +0.4**
baz=263,SNR=11
HIA Hailar 27.23 277 P **P** **03 50 13.8 -1.6**
HIA IAmb IAmb 03 50 16.2
comp=Z,36nm,0.7s
HIA Hailar 27.23 277 P **P** **03 50 13.8 -1.6**
HIA pmax pmax
comp=Z,36nm,0.7s
BOD Bodaibo 27.23 297 *e*P **P** **03 50 12.3 -3.0**
BOD pmax pmax
comp=Z,50nm,0.9s
F26K Sheenjek River 27.27 41 P **P** **03 50 15.7 +0.1**
baz=268,SNR=27
JHJ Hachijo jima 2 27.39 228 LR LR 04 01 41.6
comp=Z,425nm,20.6s,baz=25,slow=38
G26K Porcupine Rive 27.40 43 P **P** **03 50 16.8 +0.1**
baz=270,SNR=48
DOT Dot Lake 27.43 50 P **P** **03 50 16.3 -0.8**
SCRK Sand Creek 27.44 49 P **P** **03 50 16.7 -0.6**
SCRK IAmb IAmb 03 50 21.1
comp=Z,92nm,1.0s
SCRK Sand Creek 27.44 49 P **P** **03 50 16.4 -0.9**
baz=275,SNR=43
N25K Chitina, Valde 27.46 54 P **P** **03 50 18.0 +0.6**
N25K IAmb IAmb 03 50 34.7
comp=Z,120nm,1.6s
N25K Chitina, Valde 27.46 54 P **P** **03 50 17.3 -0.1**
baz=279,SNR=8.0
C27K Jago River 27.56 37 P **P** **03 50 18.5 +0.3**
baz=264,SNR=22
BMRM Bremner River 27.56 56 P **P** **03 50 18.2 -0.1**
baz=280,SNR=9.4
J26L Joseph Creek 27.58 48 P **P** **03 50 17.7 -0.8**
J26L Joseph Creek 27.58 48 P **P** **03 50 18.4 -0.1**
baz=274
MENT Mentasta 27.67 51 P **P** **03 50 19.8 +0.5**
MENT IAmb IAmb 03 50 48.9
comp=Z,44nm,0.9s
I26K Coal Creek Min 27.70 46 P **P** **03 50 19.7 +0.3**
I26K Coal Creek Min 27.70 46 P **P** **03 50 20.1 +0.8**
baz=273
L26K Log Cabin Wild 27.83 51 P **P** **03 50 20.2 -0.5**
L26K Log Cabin Wild 27.83 51 P **P** **03 50 19.5 -1.1**
baz=278
GLB Gilahina Butte 27.86 55 P **P** **03 50 20.9 -0.1**
GLB IAmb IAmb 03 50 26.3
comp=Z,78nm,1.3s
M26K Nabesna, AK 28.08 53 P **P** **03 50 24.4 +1.5**
baz=279,SNR=12
G27K Doyon Strip 28.24 43 P **P** **03 50 23.9 -0.3**
baz=272,SNR=23
MCARA McCarthy VSAT 28.24 55 P **P** **03 50 24.3 0.0**
baz=281
E27K Coeen River 28.25 40 P **P** **03 50 22.6 -1.7**
baz=269,SNR=14
K27K Chicken 28.27 49 P **P** **03 50 24.0 -0.5**
K27K IAmb IAmb 03 50 29.4
comp=Z,77nm,0.9s
K27K Chicken 28.27 49 P **P** **03 50 23.1 -1.4**
baz=277
H27K Steamboat Moun 28.32 44 P **P** **03 50 24.2 -0.7**
baz=273,SNR=42
I27K Kandik River 28.32 46 P **P** **03 50 24.8 -0.2**
baz=274
TGL Tana Glacier 28.46 56 P **P** **03 50 25.9 -0.5**
TGL IAmb IAmb 03 50 31.1
comp=Z,50nm,1.0s
L27K Beaver Creek, 28.51 51 P **P** **03 50 27.1 +0.4**
L27K IAmb IAmb 03 50 32.4
comp=Z,97nm,1.0s
L27K Beaver Creek, 28.51 51 P **P** **03 50 26.5 -0.2**
baz=279,SNR=58
BCAR Beaver Creek A 28.53 51 P **P** **03 50 27.3 +0.4**
EGAK Eagle 28.58 47 P **P** **03 50 27.1 -0.2**
EGAK IAmb IAmb 03 50 39.0
comp=Z,40nm,0.9s
EGAK Eagle 28.58 47 P **P** **03 50 26.7 -0.6**
baz=276,SNR=24
M27K Edge Creek, AK 28.60 52 P **P** **03 50 27.6 -0.1**
M27K IAmb IAmb 03 50 57.9
comp=Z,87nm,1.1s
M27K Edge Creek, AK 28.60 52 P **P** **03 50 27.1 -0.6**
baz=280,SNR=13
JHS Saijyo 28.95 240 P **P** **03 50 30.6 -0.2**
BARN Barnard Glacie 28.95 55 P **P** **03 50 30.9 0.0**
BARN IAmb IAmb 03 51 02.2
comp=Z,37nm,0.9s
MESA MESA 29.01 57 P **P** **03 50 31.3 -0.1**
MESA MESA 29.01 57 P **P** **03 50 30.9 -0.5**
baz=284
BVCY Beaver Creek 29.06 52 P **P** **03 50 32.0 +0.4**
baz=280,SNR=17
CTG Chitna Glacier 29.12 55 P **P** **03 50 32.1 -0.2**
baz=283
CTGM Chitina Glacie 29.13 55 P **P** **03 50 32.1 -0.2**
LOGN Logan Glacier 29.32 55 P **P** **03 50 32.3 -1.8**
TABL Table Mountain 29.34 56 P **P** **03 50 33.6 -0.7**
TABL IAmb IAmb 03 50 39.2
comp=Z,41nm,0.9s
YUK3 Moose Creek 29.36 53 P **P** **03 50 35.4 +0.9**
baz=282,SNR=6.0
DAWY Dawson 29.43 49 P **P** **03 50 35.2 +0.3**
DAWY Dawson 29.43 49 P **P** **03 50 34.5 -0.4**
baz=279,SNR=13
JMN Monobe 29.59 237 P **P** **03 50 36.8 +0.3**
I29M Ogilvie Camp, 29.72 46 P **P** **03 50 37.5 +0.2**
I29M IAmb IAmb 03 50 42.3
comp=Z,54nm,1.2s
I29M Ogilvie Camp, 29.72 46 P **P** **03 50 37.6 +0.2**
baz=277,SNR=28
O28M Mount Upton 29.72 55 P **P** **03 50 37.3 -0.4**
baz=284,SNR=10
KS19 Wonju Array Si 29.79 249 P **P** **03 50 37.7 -0.5**
KSRS Korea Array 29.79 249 P **P** **03 50 38.0 -0.2**
comp=Z,12nm,0.7s,baz=39,slow=8.9,SNR=37
KSRS PcP **PcP** **03 53 43.9 +2.5**
comp=Z,1.1nm,0.8s,baz=38,slow=4.6,SNR=1.3
comp=Z,12nm,0.7s
YUK8 Steele Glacier 29.80 54 P **P** **03 50 38.6 +0.1**
baz=283
KSAR Wonju Array Be 29.82 249 P **P** **03 50 38.5 0.0**
KSAR Wonju Array Be 29.82 249 P **P** **03 50 38.5 0.0**
PCA Pinnacle 29.85 57 P **P** **03 50 39.3 +0.6**
PCA IAmb IAmb 03 50 44.0
comp=Z,75nm,0.8s
PINM Pinnacle 29.86 57 P **P** **03 50 38.5 -0.2**
baz=285
M29M Somme Creek 30.14 52 P **P** **03 50 42.0 +0.7**
baz=282,SNR=13
L29M L29M 30.16 50 P **P** **03 50 42.1 +0.7**
baz=281,SNR=42
EPYK Eagle Plains 30.24 44 P **P** **03 50 42.3 +0.3**
EPYK IAmb IAmb 03 50 55.9
comp=Z,92nm,1.2s
EPYK Eagle Plains 30.24 44 P **P** **03 50 42.1 +0.1**
baz=277,SNR=30
K29M Barlow Dome 30.29 49 P **P** **03 50 42.3 -0.2**
baz=280,SNR=9.3
YUK4 Talbot Arm 30.31 54 P **P** **03 50 42.6 -0.3**
baz=284
G30M tAoh Zraii Nji 30.36 42 P **P** **03 50 42.5 -0.6**
baz=276,SNR=18
PNL Peninsula 30.39 57 P **P** **03 50 43.4 0.0**
baz=286
YUK6 Outpost Mounta 30.54 55 P **P** **03 50 44.2 -0.7**
baz=285
O29M Mount Kennedy 30.61 56 P **P** **03 50 44.3 -1.2**
baz=286
M30M Minto, Yukon 30.87 51 P **P** **03 50 47.8 +0.2**
M30M Minto, Yukon 30.87 51 P **P** **03 50 48.3 +0.7**
baz=283,SNR=10
HYT Haines Junctio 30.98 55 P **P** **03 50 49.8 +1.1**
HYT IAmb IAmb 03 50 54.6
comp=Z,50nm,1.1s
HYT Haines Junctio 30.98 55 P **P** **03 50 49.5 +0.8**
baz=286,SNR=10
N30M Aishikik Lake 31.01 53 P **P** **03 50 49.0 +0.1**
baz=285
JTU Tsushima 31.22 244 P **P** **03 50 51.7 +0.9**
INK Inuvik 31.25 40 P **P** **03 50 51.3 +0.5**
comp=Z,17nm,0.7s,baz=280,slow=7.4,SNR=29
comp=Z,17nm,0.7s
INK Inuvik 31.25 40 P **P** **03 50 51.7 +0.9**
INK IAmb IAmb 03 50 55.5
comp=Z,36nm,1.1s
INK Inuvik 31.25 40 P **P** **03 50 51.5 +0.7**
baz=276,SNR=24
F31M Tsiigehtchic 31.27 41 P **P** **03 50 51.2 +0.2**
baz=278,SNR=13
P30M Million Dollar 31.43 56 P **P** **03 50 53.6 +1.0**
baz=287
N31M Braeburn, Yuko 31.61 53 P **P** **03 50 55.1 +1.0**
baz=286
O30N Mendenhall 31.66 54 P **P** **03 50 54.7 +0.1**
baz=286
M31M Drury Creek, Y 32.05 51 P **P** **03 50 58.4 +0.4**
M31M IAmb IAmb 03 51 04.2
comp=Z,46nm,0.9s
M31M Drury Creek, Y 32.05 51 P **P** **03 51 00.2 +2.3**
baz=285,SNR=25
XLT XiLinHaoTe 32.26 270 *e*P **P** **03 50 58.1 -2.0**
XLT pP pP 03 51 02.0 -1.2
XLT sP sP 03 51 05.1 +0.6
XLT S **S** **03 56 11.8 -0.9**
XLT sS sS 03 56 23.2 +5.0
XLT pmax pmax
comp=Z,17nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.4s
XLT LR LR
comp=Z,3µm,17.7s
XLT LR LR
comp=Z,2µm,17.6s
XLT LR LR
comp=Z,2µm,15.7s
WHY Whitehorse 32.26 54 P **P** **03 51 01.2 +1.3**
WHY IAmb IAmb 03 51 06.4
comp=Z,46nm,1.1s
WHY Whitehorse 32.26 54 P **P** **03 51 01.9 +2.0**
baz=287,SNR=12
DL2 Dalian 32.27 258 P **P** **03 50 58.2 -1.9**
DL2 pmax pmax
comp=Z,43nm,0.8s
DL2 LR LR
comp=Z,4µm,22.7s
DL2 LR LR
comp=Z,3µm,21.2s
DL2 LR LR
comp=Z,2µm,15.9s
SKAG Skagway 32.42 56 P **P** **03 51 02.1 +0.8**
SKAG IAmb IAmb 03 51 07.8
comp=Z,40nm,1.1s
SKAG Skagway 32.42 56 P **P** **03 51 02.4 +1.2**
baz=289
FARO Faro, Yukon 32.51 51 P **P** **03 51 03.4 +1.4**
FARO Faro, Yukon 32.51 51 P **P** **03 51 04.4 +2.4**
baz=286,SNR=10
N32M Quiet Lake 32.95 53 P **P** **03 51 05.8 -0.1**
baz=288
BESE Bessie Mountai 32.95 58 IAmb IAmb 03 51 20.7
comp=Z,35nm,0.9s
JSU Suzuyama 33.07 239 P **P** **03 51 08.7 +1.4**
JSU IAmb IAmb 03 51 21.8
comp=Z,47nm,0.8s
JSU Suzuyama 33.07 239 P **P** **03 51 09.1 +1.9**
P32M Atlin 33.16 56 P **P** **03 51 07.9 +0.2**
baz=290
R32K Eaglecrest 33.23 58 P **P** **03 51 10.1 +1.9**
baz=291,SNR=12
JIS Juneau Island 33.29 58 P **P** **03 51 11.0 +2.2**
MMPY Sheldon Lake, 33.33 50 P **P** **03 51 11.0 +1.8**
baz=287,SNR=20
P33M Teslin, Yukon 33.37 54 P **P** **03 51 10.5 +0.9**
baz=289,SNR=11
S32K Killisnoo 33.50 60 P **P** **03 51 10.7 +0.1**
baz=292
A36M Sachs Harbour 33.60 32 P **P** **03 51 11.7 +0.3**
A36M IAmb IAmb 03 51 16.3
comp=Z,57nm,0.9s
A36M Sachs Harbour 33.60 32 P **P** **03 51 11.5 +0.1**
baz=278
Q32M Nakina River 34.07 56 P **P** **03 51 17.5 +1.6**
baz=292,SNR=8.4
C36M Paulatuk 34.46 37 IAmb IAmb 03 51 32.3
comp=Z,60nm,1.0s
C36M Paulatuk 34.46 37 P **P** **03 51 18.5 -0.3**
baz=283,SNR=20
R33M Jennings River 34.54 55 P **P** **03 51 20.7 +0.9**
baz=292,SNR=12
BJI Beijing 34.63 265 P **P** **03 51 19.7 -0.9**
BJI PP **PP** **03 52 37.6 -1.4**
BJI S **S** **03 56 42.0 -7.3**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI pmax pmax
comp=Z,58nm,5.3s
BJI LR LR
comp=Z,820nm,15.5s
BJI LR LR
comp=Z,2µm,15.8s
BJI LR LR
comp=Z,3µm,14.5s
U33K Whale Pass 34.78 61 P **P** **03 51 21.2 -0.5**
baz=295
TGTN Hyland Airport 35.01 51 P **P** **03 51 25.0 +1.2**
baz=290,SNR=14
S34M Telegraph Cree 35.03 58 P **P** **03 51 23.8 -0.1**
baz=294,SNR=7.6
WRAK Wrangell Islan 35.04 60 IAmb IAmb 03 51 29.4
comp=Z,44nm,0.9s
WRAK Wrangell Islan 35.04 60 P **P** **03 51 23.9 -0.1**
baz=295
H11N2 WAKE ISLAND Hy 35.05 175 T T 04 28 52.0
baz=355,slow=76
H11N3 WAKE ISLAND Hy 35.07 175 T T 04 28 52.0
baz=355,slow=76
H11N1 WAKE ISLAND Hy 35.07 175 T T 04 29 06.9
baz=355,slow=76
ULN Ulaanbaatar 35.19 283 P **P** **03 51 24.5 -1.1**
ULN Ulaanbaatar 35.19 283 P **P** **03 51 24.3 -1.4**
ULN Ulaanbaatar 35.19 283 P **P** **03 51 25.3 -0.3**
comp=Z,1µmcomp=Z,131nm,0.9s
ULN Ulaanbaatar 35.19 283 *e*P **P** **03 51 24.8 -0.8**
ULN pmax pmax
comp=Z,29nm,0.9s
WTLY Watson Lake, Y 35.29 53 IAmb IAmb 03 51 32.4
comp=Z,35nm,1.0s
WTLY Watson Lake, Y 35.29 53 P **P** **03 51 27.4 +1.2**
baz=292,SNR=12
DLBC Dease Lake 35.36 56 LR LR 04 05 28.9
comp=Z,1µm,21.3s,baz=300,slow=36
DLBC Dease Lake 35.36 56 IAmb IAmb 03 51 34.0
comp=Z,41nm,0.8s
DLBC Dease Lake 35.36 56 P **P** **03 51 26.9 +0.1**
baz=294,SNR=14
SONM Songino Array 35.58 283 P **P** **03 51 27.8 -1.1**
comp=Z,30nm,0.5s,baz=57,slow=8.5,SNR=34
SONM PcP **PcP** **03 53 58.4 +0.9**
comp=Z,5.1nm,0.6s,baz=100,slow=1.6,SNR=5.1
SONM LR LR 04 07 29.4
comp=Z,1µm,20.0s,baz=54,slow=39
comp=Z,30nm,0.5s
SONM Songino Array 35.58 283 P **P** **03 51 28.2 -0.7**
SONM IAmb IAmb 03 51 32.9
comp=Z,30nm,0.7s
SONM Songino Array 35.58 283 P **P** **03 51 28.2 -0.7**
SONM pmax pmax
comp=Z,30nm,0.7s
NRIK Noril'sk 35.79 324 P **P** **03 51 28.9 -1.4**
comp=Z,5.5nm,0.7s,baz=80,slow=8.4,SNR=11
NRIK LR LR 04 05 55.6
comp=Z,2µm,21.8s,baz=75,slow=36
comp=Z,5.5nm,0.7s
NRIK Noril'sk 35.79 324 P **P** **03 51 30.5 +0.2**
NRIK Noril'sk 35.79 324 *ce*P **P** **03 51 28.3 -2.0**
NRIK pmax pmax
comp=Z,16nm,1.1s
T35M Bob Quinn 35.85 59 P **P** **03 51 31.1 +0.1**
baz=295,SNR=5.5

ZAK	Zakamensk	35.97	289	eP	P	03 51 30.6	-1.6
ZAK				pmax	pmax		
	comp=Z,24nm,1.1s						
H11S1	WAKE ISLAND Hy	36.26	175	T	T	04 30 13.2	
	baz=354						
H11S3	WAKE ISLAND Hy	36.27	175	T	T	04 30 17.9	
	baz=354						
H11S2	WAKE ISLAND Hy	36.28	175	T	T	04 30 14.1	
	baz=354						
WRGLY	Wrigley	36.50	47	P	P	03 51 37.4	+1.0
	baz=291						
MOY	Mondy	36.56	292	eP	P	03 51 36.2	-1.0
MOY				pmax	pmax		
	comp=Z,32nm,1.7s						
TIA	Tai'an	36.71	259	P	P	03 51 36.9	-1.6
TIA				SS	SS	03 59 52.6	-9.0
TIA				pmax	pmax		
	comp=Z,20nm,0.7s						
TIA				pmax	pmax		
	comp=Z,110nm,5.7s						
TIA				LR	LR		
	comp=Z,2µm,19.2s						
TIA				LR	LR		
	comp=Z,2µm,20.6s						
TIA				LR	LR		
	comp=Z,1µm,17.8s						
HHC	Hu-ho-hao-te	36.77	270	eP	P	03 51 39.0	-0.2
HHC				sP	pwP	03 51 49.2	+0.8
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,5.3s						
HHC				LR	LR		
	comp=Z,3µm,12.7s						
HHC				LR	LR		
	comp=Z,2µm,13.0s						
HHC				LR	LR		
	comp=Z,3µm,12.5s						
LIRD	Liard River Hi	36.82	53	P	P	03 51 40.9	+1.7
	baz=294,SNR=10						
HNS	HongShan	37.26	263	⇑P	P	03 51 42.7	-0.5
HNS				PP	PP	03 53 07.2	-0.8
HNS				S	S	03 57 32.3	+2.7
HNS				pmax	pmax		
	comp=Z,16nm,0.8s						
HNS				LR	LR		
	comp=Z,2µm,17.9s						
HNS				LR	LR		
	comp=Z,3µm,17.9s						
HNS				LR	LR		
	comp=Z,2µm,14.3s						
KOTAN	Kotaneelee Air	37.46	52	P	P	03 51 45.6	+0.9
	baz=295						
BTO	Baotou	37.83	271	eP	P	03 51 46.1	-2.0
BTO				S	S	03 57 36.9	-1.5
BTO				SS	SnSn	04 00 14.9	-4.0
JOW	Kunigami	38.00	237	LR	LR	04 08 34.8	
	comp=Z,656nm,20.7s,baz=109,slow=38						
SSE	Sheshan	38.23	249	P	P	03 51 50.5	-1.0
SSE				S	S	03 57 45.3	+0.8
SSE				pmax	pmax		
	comp=Z,16nm,0.8s						
SSE				pmax	pmax		
	comp=Z,52nm,6.7s						
SSE				LR	LR		
	comp=Z,410nm,16.1s						
SSE				LR	LR		
	comp=Z,410nm,16.0s						
NJ2	Nanjing	38.78	253	eP	P	03 51 57.8	+1.7
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,350nm,6.6s						
NJ2				LR	LR		
	comp=Z,2µm,16.1s						
NJ2				LR	LR		
	comp=Z,2µm,17.1s						
NJ2				LR	LR		
	comp=Z,1µm,16.1s						
BBB	Bella Bella	39.24	65	LR	LR	04 07 36.1	
	comp=Z,823nm,18.7s,baz=308,slow=35						
EUNU	Eureka	39.81	15	P	P	03 52 05.4	+1.1
EUNU				IAmb	IAmb	03 52 19.1	
	comp=Z,55nm,0.9s						
YKA	Yellowknife Ar	40.50	45	P	P	03 52 10.5	+0.5
	comp=Z,14nm,0.8s,baz=296,slow=8.0,SNR=11						
YKA				LR	LR	04 09 44.4	
	comp=Z,915nm,19.4s,baz=274,slow=37						
	comp=Z,14nm,0.8s						
LYN	LuoYang	40.55	262	⇑iP	P	03 52 09.6	-1.2
LYN				pP	pP	03 52 13.9	0.0
LYN				sP	pwP	03 52 18.9	-1.6
LYN				S	S	03 58 19.4	+0.1
LYN				ScS	ScS	04 02 16.7	+0.9
LYN				pmax	pmax		
	comp=Z,20nm,1.0s						
LYN				pmax	pmax		
	comp=Z,70nm,7.5s						
LYN				LR	LR		
	comp=Z,2µm,21.9s						
LYN				LR	LR		
	comp=Z,2µm,21.0s						
LYN				LR	LR		
	comp=Z,2µm,18.3s						
RES	Resolute Bay	40.97	23	LR	LR	04 12 53.4	
	comp=Z,298nm,18.4s,baz=351,slow=42						
RES	Resolute Bay	40.97	23	P	P	03 52 14.1	+0.4
RES				IAmb	IAmb	03 52 27.2	
	comp=Z,42nm,0.9s						
RES	Resolute Bay	40.97	23	P	P	03 52 14.1	+0.4
RES				pmax	pmax		
	comp=Z,42nm,0.9s						
WHN	Wuhan	42.44	256	⇓P	P	03 52 25.2	-1.1
WHN				S	S	03 58 38.7	-8.6
WHN				LR	LR		
	comp=Z,5µm,15.8s						
WHN				LR	LR		
	comp=Z,5µm,17.1s						
WHN				LR	LR		
	comp=Z,3µm,14.9s						
XAN	Xi'an	42.96	264	eP	P	03 52 28.6	-2.0
XAN				pP	pP	03 52 33.0	-0.8
XAN				S	S	03 58 52.9	-2.2
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN				LR	LR		
	comp=Z,3µm,17.3s						
XAN				LR	LR		
	comp=Z,4µm,18.2s						
XAN				LR	LR		
	comp=Z,3µm,16.3s						
LLLB	Lillooet	43.36	63	P	P	03 52 34.6	+1.0
BRLDA	Berland Lookou	43.61	57	P	P	03 52 36.4	+0.7
GUMO	Guam	43.63	207	LR	LR	04 07 56.1	
	comp=Z,209nm,21.9s,baz=359,slow=32						
ZAA0	Zalesovo Array	43.65	303	P	P	03 52 34.0	-1.9
ZAA0				IAmb	IAmb	03 52 35.0	
	comp=Z,33nm,0.8s						
ZALV	Zalesovo Beam	43.65	303	P	P	03 52 33.9	-1.9
	comp=Z,33nm,0.8s,baz=55,slow=6.9,SNR=106						
ZALV				PP	PP	03 54 14.8	-2.4
	comp=Z,9.2nm,0.8s,baz=48,slow=9.3,SNR=4.1						
ZALV				PcP	PcP	03 54 22.3	-0.4
	comp=Z,5.0nm,0.7s,baz=58,slow=4.8,SNR=2.5						
ZALV				LR	LR	04 12 24.2	
	comp=Z,1µm,18.8s,baz=52,slow=38						
	comp=Z,33nm,0.8s						
ZALV	Zalesovo Beam	43.65	303	P	P	03 52 34.1	-1.7
NOR	Nord	43.88	0	iP	P	03 52 33.3	-4.1
YULB	Yu-li	44.34	242	P	P	03 52 42.6	+0.9
YULB				IAmb	IAmb	03 53 03.8	
	comp=Z,34nm,0.8s						
LZH	Lanzhou	44.45	271	⇑P	P	03 52 41.5	-1.2
LZH				sP	pwP	03 52 49.7	-2.3
LZH				pmax	pmax		
	comp=Z,33nm,1.4s						
LZH				pmax	pmax		
	comp=Z,140nm,4.8s						
LZH				LR	LR		
	comp=Z,3µm,14.8s						
LZH				LR	LR		
	comp=Z,3µm,13.4s						
LZH				LR	LR		
	comp=Z,2µm,13.4s						
GTA	Gaotai	44.51	277	⇑P	P	03 52 42.1	-1.0
GTA				pP	sP	03 52 47.2	-0.4
GTA				S	S	03 59 17.4	-0.4
GTA				pmax	pmax		
	comp=Z,33nm,0.8s						
GTA				pmax	pmax		
	comp=Z,170nm,5.5s						
GTA				LR	LR		
	comp=Z,2µm,20.0s						
GTA				LR	LR		
	comp=Z,2µm,19.6s						
GTA				LR	LR		
	comp=Z,720nm,19.6s						
TPUB	Ta-pu	44.77	243	P	P	03 52 45.9	+0.7
B06A	Marblemount	44.81	66	IAmb	IAmb	03 53 19.8	
	comp=Z,30nm,0.9s						
DGZ	Jazzator, Alta	44.82	297	c iP	P	03 52 44.8	-0.7
DGZ				pmax	pmax		
	comp=Z,211nm,0.8s						
E03A	Lebam	44.91	69	P	P	03 52 46.9	+0.9
E03A				IAmb	IAmb	03 53 02.3	
	comp=Z,63nm,1.1s						
D05A	Enumclaw	45.36	67	P	P	03 52 50.3	+0.7
D05A				IAmb	IAmb	03 53 04.4	
	comp=Z,34nm,0.8s						
ENH	Enshi	45.40	260	IAmb	IAmb	03 52 51.0	
	comp=Z,30nm,0.6s						
KBS	Kingsbay	45.51	353	iP	P	03 52 50.8	+0.4
KBS	Kingsbay	45.51	353	deP	P	03 52 52.5	+2.1
KBS				pmax	pmax		
	comp=Z,80nm,1.7s						
SPA0	Spitsbergen Ar	45.83	351	eP	P	03 52 53.2	+0.3
SPA0				IAmb	IAmb	03 52 54.6	
	comp=Z,40nm,0.9s						
SPITS	Spitsbergen Ar	45.83	351	LR	LR	04 11 41.6	
	comp=Z,682nm,21.2s,baz=356,slow=36						
SPITS	Spitsbergen Ar	45.83	351	P	P	03 52 53.3	+0.3
SPITS				pmax	pmax		
	comp=Z,176nm,1.0s						
SPB2	Spitsbergen Ar	45.83	351	P	P	03 52 53.0	0.0
NEEM	North Greenlan	46.30	10	iP	P	03 52 56.0	-0.9
NEEM				IAmb	IAmb	03 53 00.6	
	comp=Z,21nm,0.8s						
H04A	Detroit Lake	46.84	70	P	P	03 53 00.5	-0.8
H04A				IAmb	IAmb	03 53 15.5	
	comp=Z,27nm,1.0s						
D08A	Wollman Farm,	47.08	66	IAmb	IAmb	03 53 39.6	
	comp=Z,50nm,1.7s						
HAWA	Hanford	47.17	67	P	P	03 53 04.2	+0.3
HAWA				IAmb	IAmb	03 53 18.0	
	comp=Z,32nm,1.2s						
NEW	Newport	47.25	63	LR	LR	04 13 30.0	
	comp=Z,683nm,18.8s,baz=302,slow=37						
NEW	Newport	47.25	63	P	P	03 53 04.5	0.0
NEW	Newport	47.25	63	P	P	03 53 03.6	-0.9
	baz=309						
NEW	Newport	47.25	63	P	P	03 53 04.5	0.0
NEW				pmax	pmax		
	comp=Z,15nm,1.0s						
F07A	Phinny Hill Vi	47.28	68	IAmb	IAmb	03 53 19.0	
	comp=Z,31nm,0.7s						
ZSN	Zaisan	47.56	296	eP	P	03 53 05.2	-1.7
	comp=Z,26nm,0.6s,baz=295						
ZSN	Zaisan	47.56	296	eP	P	03 53 05.1	-1.7
ZSN				pmax	pmax		
	comp=Z,26nm,0.6s						
E09A	Wood Farm, Sta	47.83	66	IAmb	IAmb	03 53 22.8	
	comp=Z,28nm,0.8s						
SEM	Semipalatinsk	48.03	301	eP	P	03 53 12.1	+1.3
	baz=301						
SEM	Semipalatinsk	48.03	301	eP	P	03 53 12.0	+1.3
PINE	Pine Mountain	48.10	70	IAmb	IAmb	03 53 29.2	
	comp=Z,29nm,0.9s						
CD2	Chengdu	48.22	266	P	P	03 53 10.9	-1.3
CD2				pP	pP	03 53 14.0	-1.5
CD2				S	S	04 00 10.4	-0.5
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				LR	LR		
	comp=Z,4µm,19.8s						
CD2				LR	LR		
	comp=Z,3µm,16.7s						
CD2				LR	LR		
	comp=Z,1µm,16.7s						
WALA	Waterton Lakes	48.39	61	IAmb	IAmb	03 53 38.5	
	comp=Z,44nm,1.0s						
WMQ	Urumqi	48.40	290	⇑P	P	03 53 13.4	-0.1
WMQ				pP	sP	03 53 19.4	+1.3
WMQ				pmax	pmax		
	comp=Z,100nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,240nm,4.9s						
WMQ				LR	LR		
	comp=Z,2µm,17.9s						
WMQ				LR	LR		
	comp=Z,2µm,18.7s						
WMQ				LR	LR		
	comp=Z,1µm,21.5s						
YBH	Yreka Blue Hor	48.49	74	LR	LR	04 11 09.3	
	comp=Z,513nm,20.2s,baz=314,slow=33						
YBH	Yreka Blue Hor	48.49	74	IAmb	IAmb	03 53 29.3	
	comp=Z,30nm,1.1s						
KURK	Kurchatov	48.64	302	P	P	03 53 14.3	-0.8
KURK	Kurchatov	48.64	302	P	P	03 53 14.2	-0.9
KURK	Kurchatov	48.64	302	c iP	P	03 53 13.9	-1.2
KURK				pmax	pmax		
	comp=Z,618nm,1.3s						
F10A	Beach Ranch, E	48.67	66	IAmb	IAmb	03 53 42.0	
	comp=Z,103nm,1.9s						
GULI	GuiLin	48.72	255	eP	P	03 53 12.9	-3.1
DAG	Danmarks Havn	48.73	1	iP	P	03 53 14.9	-0.6
DAG				IAmb	IAmb	03 53 22.2	
	comp=Z,8.4nm,0.7s						
KURBB	Kurchatov Arra	48.74	302	LR	LR	04 16 11.7	
	comp=Z,2µm,18.3s,baz=50,slow=39						
KURBB	Kurchatov Arra	48.74	302	P	P	03 53 14.5	-1.4
K05A	Summer Lake	48.83	71	IAmb	IAmb	03 53 32.0	
	comp=Z,45nm,1.2s						
MK31	Makanchi Array	49.32	296	P	P	03 53 18.9	-1.6
MK31	Makanchi Array	49.32	296	c iP	P	03 53 18.8	-1.6
MKAR	Makanchi Array	49.32	296	P	P	03 53 18.9	-1.6
	comp=Z,62nm,0.7s,baz=54,slow=6.7,SNR=232						
MKAR				LR	LR	04 15 31.8	
	comp=Z,1µm,19.8s,baz=45,slow=38						
	comp=Z,62nm,0.7s						
MKAR	Makanchi Array	49.32	296	P	P	03 53 18.7	-1.8
MKAR	Makanchi Array	49.32	296	P	P	03 53 18.7	-1.8
MAKZ	Makanchi	49.48	297	P	P	03 53 20.0	-1.6
MAKZ	Makanchi	49.48	297	P	P	03 53 20.0	-1.6
MAKZ				pmax	pmax		
	comp=Z,53nm,0.8s						
MOD	Modoc Plateau	49.71	72	IAmb	IAmb	03 53 39.3	
	comp=Z,39nm,0.9s						
MSO	Missoula	49.82	63	P	P	03 53 24.2	-0.2
	baz=311						
GYA	Guiyang	49.90	259	⇑P	P	03 53 21.3	-3.9
GYA				sP	pwP	03 53 32.5	-2.5
GYA				S	S	04 00 32.3	-2.5
GYA				pmax	pmax		
	comp=Z,19nm,0.8s						
GYA				LR	LR		
	comp=Z,2µm,15.7s						
GYA				LR	LR		
	comp=Z,1µm,12.2s						
GYA				LR	LR		
	comp=Z,1µm,20.9s						
FCC	Fort Churchill	50.84	41	P	P	03 53 31.7	0.0
FCC				IAmb	IAmb	03 53 45.2	
	comp=Z,60nm,1.0s						
FCC	Fort Churchill	50.84	41	P	P	03 53 31.7	0.0
FCC				pmax	pmax		
	comp=Z,60nm,1.0s						
BVA0	Borovoye Array	50.99	309	P	P	03 53 32.2	-0.8
BVAR	Borovoye Array	50.99	309	LR	LR	04 17 45.5	
	comp=Z,2µm,18.9s,baz=38,slow=39						
BRVK	Borovoye	51.02	309	P	P	03 53 32.6	-0.6
BRVK	Borovoye	51.02	309	P	P	03 53 32.5	-0.8
BRVK	Borovoye	51.02	309	c iP	P	03 53 32.4	-0.8
BRVK				pmax	pmax		
	comp=Z,140nm,1.0s						
EGMT	Eagleton	51.16	59	P	P	03 53 33.7	-0.8
	baz=312						
DBG	Daneborg	51.19	1	iP	P	03 53 33.8	-0.4
DBG				IAmb	IAmb	03 53 46.4	
	comp=Z,11nm,0.9s						
DLMT	Dillon	51.50	64	IAmb	IAmb	03 54 07.4	
	comp=Z,50nm,1.6s						
MPK	Martis Peak	51.65	74	IAmb	IAmb	03 53 56.6	
	comp=Z,61nm,1.1s						
PAHR	Pah Rah Range	51.72	73	IAmb	IAmb	03 53 53.3	
	comp=Z,28nm,1.0s						
HLID	Hailey	51.77	66	P	P	03 53 38.4	-0.8
	baz=313						
BOZ	Bozeman (W)	51.84	63	P	P	03 53 40.4	+0.8
	baz=313						
VCNR	Virginia City	51.86	74	IAmb	IAmb	03 53 54.8	
	comp=Z,26nm,0.9s						
LVZ	Lovozero	51.96	338	P	P	03 53 39.7	-0.4
LVZ				IAmb	IAmb	03 53 40.6	
	comp=Z,62nm,1.0s						
LVZ	Lovozero	51.96	338	P	P	03 53 39.7	-0.4
LVZ				pmax	pmax		
	comp=Z,62nm,1.0s						
BRZS	Berezniki	51.98	305	⇑iP	P	03 53 39.0	-1.5
	comp=Z,63nm,1.0s,baz=305						
BRZS	Berezniki	51.98	305	c iP	P	03 53 39.0	-1.5
BRZS				pmax	pmax		
	comp=Z,63nm,1.0s						
PNTR	Pine Nut	52.03	74	IAmb	IAmb	03 53 56.1	
	comp=Z,47nm,1.0s						
SUMG	Summit	52.03	8	iP	P	03 53 40.8	-0.2
ARA0	ARCESS Array S	52.34	343	eP	P	03 53 42.5	-0.4
ARA0				IAmb	IAmb	03 53 43.0	
	comp=Z,23nm,1.1s						
ARCES	ARCESS Array B	52.34	343	P	P	03 53 42.0	-0.9
	comp=Z,12nm,0.9s,baz=34,slow=9.2,SNR=16						
ARCES				PcP	PcP	03 54 52.7	-1.0
	comp=Z,9.1nm,0.8s,baz=39,slow=5.8,SNR=4.6						
ARCES				LR	LR	04 19 37.6	
	comp=Z,854nm,19.0s,baz=47,slow=40						
	comp=Z,12nm,0.9s						
ARCES	ARCESS Array B	52.34	343	IAmb	IAmb	03 55 35.2	
	comp=Z,79nm,1.8s						
SVE	Sverdlovsk	52.49	318	deP	P	03 53 44.1	0.0
SVE				pmax	pmax		
	comp=Z,37nm,0.8s						
SVE				MLR	MLR		
	comp=Z,2µm,18.0s						
APA	Apatity	52.50	338	⇓iP	P	03 53 40.7	-3.3
APA				iS	S	04 01 04.0	-5.5
APA				pmax	pmax		
	comp=Z,20nm,0.8s						
TDK	Taldyqorghan	52.54	297	eP	P	03 53 42.9	-1.8
	baz=297						
TDK	Taldyqorghan	52.54	297	eP	P	03 53 42.9	-1.8
PZH	PanZhiHua	52.69	264	P	P	03 53 45.8	-0.3
PZH				S	S	04 01 13.0	-0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,170nm,4.3s						
PZH				LR	LR		
	comp=Z,1µm,21.0s						
PZH				LR	LR		
	comp=Z,1µm,18.6s						
PZH				LR	LR		
	comp=Z,950nm,18.8s						
YNR	Norris Junctio	52.94	63	P	P	03 53 47.7	-0.2
PDGK	Podgornoye	53.12	295	iP	P	03 53 48.0	-1.2
PDGK				pmax	pmax		
	comp=Z,40nm,0.9s						
JETT	Jettan, Norway	53.15	345	eP	P	03 53 48.9	0.0
JETT				IAmb	IAmb	03 53 49.3	
	comp=Z,20nm,0.6s						
KMI	Kunming	53.17	262	⇓P	P	03 53 50.2	+0.3
KMI				pP	sP	03 53 53.7	-0.8
KMI				sP	pwP	03 53 56.6	-2.5
KMI				S	S	04 01 23.6	+3.4
KMI				pmax	pmax		
	comp=Z,24nm,0.9s						
KMI				pmax	pmax		
	comp=Z,180nm,3.5s						
KMI				LR	LR		
	comp=Z,3µm,20.7s						
KMI				LR	LR		
	comp=Z,2µm,20.7s						
KMI				LR	LR		
	comp=Z,1µm,17.6s						
YMP	Mirror Lake Pl	53.19	63	IAmb	IAmb	03 54 16.1	
	comp=Z,33nm,1.0s						
KTK1	Kautokeino	53.19	343	eP	P	03 53 48.7	-0.4
KTK1				IAmb	IAmb	03 53 50.6	
	comp=Z,98nm,1.6s						
H17A	Grant Village	53.21	63	P	P	03 53 50.6	+0.6
	baz=314,SNR=5.4						
NVAR	Mina Array Bea	53.21	74	P	P	03 53 51.0	+1.0
	comp=Z,7.8nm,0.8s,baz=295,slow=7.9,SNR=44						
NVAR				LR	LR	04 14 22.2	
	comp=Z,301nm,19.6s,baz=318,slow=34						
	comp=Z,7.8nm,0.8s						
LHV	Little Huntoon	53.23	74	IAmb	IAmb	03 54 08.8	
	comp=Z,60nm,1.3s						
SHLS	Shalkode	53.26	295	eP	P	03 53 47.5	-2.6
	comp=Z,25nm,0.5s,baz=294						
SHLS	Shalkode	53.26	295	eP	P	03 53 47.5	-2.6
SHLS				pmax	pmax		
	comp=Z,25nm,0.5s						
ELK	Elko	53.27	69	LR	LR	04 15 06.6	
	comp=Z,297nm,19.8s,baz=323,slow=34						
TRO	Tromso	53.30	345	eP	P	03 53 49.9	0.0
OTUK	Ortayu	53.34	304	P	P	03 53 49.9	-0.7
RLMT	Red Lodge	53.38	62	IAmb	IAmb	03 54 18.3	
	comp=Z,27nm,0.9s						
RLMT	Red Lodge	53.38	62	P	P	03 53 51.8	+0.7
	baz=314,SNR=14						
KPKS	Kokpek	53.45	295	eP	P	03 53 50.2	-1.4
	comp=Z,13nm,0.8s,baz=295						
KPKS	Kokpek	53.45	295	eP	P	03 53 50.1	-1.4
KPKS				pmax	pmax		
	comp=Z,13nm,0.8s						
MLAC	Mammoth, Mammo	53.48	75	P	P	03 53 50.7	-1.3
	baz=315						
UZB	Uzynbulak	53.50	295	eP	P	03 53 49.9	-2.1
	baz=295						
UZB	Uzynbulak	53.50	295	eP	P	03 53 49.8	-2.1
DGMT	Dagmar	53.57	56	P	P	03 53 54.3	+2.1
	baz=314						
DGMT	Dagmar	53.57	56	P	P	03 53 50.7	-1.5
	baz=314						
ARU	Arti	53.58	318	LR	LR	04 19 21.6	
	comp=Z,2µm,18.7s,baz=38,slow=39						
ARU	Arti	53.58	318	P	P	03 53 51.7	-0.5
ARU				IAmb	IAmb	03 53 52.7	
	comp=Z,40nm,0.7s						
ARU	Arti	53.58	318	c iP	P	03 53 51.8	-0.4
ARU				*PP	pwP	03 54 04.8	+2.6
ARU						03 54 58.3	
ARU				S	S	04 01 24.3	-0.2
ARU				SS	SS	04 05 02.3	-1.8
ARU				pmax	pmax		
	comp=Z,42nm,0.7s						
ARU				MLR	MLR		
	comp=Z,2µm,18.0s						
ZHN	Zhinishke	53.79	295	eP	P	03 53 52.7	-1.4
	baz=295						
ZHN	Zhinishke	53.79	295	eP	P	03 53 52.7	-1.4
LAO	LASA Array	53.82	59	IAmb	IAmb	03 54 19.2	
	comp=Z,46nm,1.1s						
LAO	LASA Array	53.82	59	P	P	03 53 55.6	+1.4
	baz=314						
LAO	LASA Array	53.82	59	P	P	03 53 55.0	+0.9
	baz=314						
QIZ	Qiongzhong	54.00	251	P	P	03 53 57.8	+2.1
QIZ				S	S	04 01 35.7	+4.7
QIZ				LR	LR		
	comp=Z,970nm,22.3s						
QIZ				LR	LR		
	comp=Z,1µm,19.1s						
QIZ				LR	LR		
	comp=Z,1µm,19.1s						
CHKK	Chushkaly	54.06	297	eP	P	03 53 53.9	-2.0
	baz=297						
CHKK	Chushkaly	54.06	297	eP	P	03 53 53.9	-2.0
PRGR	Permogore	54.14	329	⇑iP	P	03 53 56.7	+0.6
PRGR				pmax	pmax		
	comp=Z,92nm,0.6s						
KUU	Kurty	54.37	297	eP	P	03 53 55.7	-2.5
	comp=Z,20nm,0.6s,baz=297						
KUU	Kurty	54.37	297	eP	P	03 53 55.7	-2.5
KUU				pmax	pmax		
	comp=Z,20nm,0.6s						
LCH	Last Change Ra	54.43	74	IAmb	IAmb	03 54 14.0	
	comp=Z,30nm,1.1s						
JMIC	Jan Mayen	54.43	357	LR	LR	04 15 22.3	
	comp=Z,200nm,21.6s,baz=6.5,slow=34						

SMMC	Simmler	54.48	78	P	P	03 53 59.7	+0.6
	baz=316						
MDOK	Medeo	54.52	296	P	P	03 53 58.3	-1.1
AAA	Alma-Ata	54.55	296	eP	P	03 53 58.5	-1.0
	baz=296						
AAA	Alma-Ata	54.55	296	eP	P	03 53 57.5	-2.1
VES	Vestal, Richgr	54.62	76	P	P	03 54 01.0	+1.0
	baz=316,SNR=6.1						
TNSS	Tian-Shan	54.66	296	eP	P	03 53 59.0	-1.8
	baz=296						
TNSS	Tian-Shan	54.66	296	eP	P	03 53 58.9	-1.8
BTLS	Baital	54.73	300	⇑iP	P	03 53 59.5	-1.3
	comp=Z,22nm,1.0s,baz=299						
BTLS	Baital	54.73	300	c iP	P	03 53 59.4	-1.3
BTLS				pmax	pmax		
	comp=Z,22nm,1.0s						
CWC	Cottonwood Cre	54.75	75	P	P	03 54 01.1	-0.1
	baz=316						
GRAC	Grapevine Rang	54.75	74	IAmb	IAmb	03 54 16.5	
	comp=Z,38nm,1.2s						
GRAC	Grapevine Rang	54.75	74	P	P	03 54 02.4	+1.3
	baz=316,SNR=5.4						
R11A	Troy Canyon, C	54.77	72	P	P	03 54 01.2	-0.2
	baz=316,SNR=14						
BW06	Boulder Array	54.88	64	P	P	03 54 03.3	+1.2
	baz=315,SNR=9.5						
PDAR	Pinedale Array	54.88	64	P	P	03 54 03.0	+0.9
	comp=Z,6.9nm,1.1s,baz=313,slow=3.0,SNR=22						
PDAR				LR	LR	04 16 33.9	
	comp=Z,397nm,21.6s,baz=334,slow=35						
	comp=Z,6.9nm,1.1s						
PKM	Mcpherson Peak	54.90	78	P	P	03 54 03.5	+1.2
	baz=317						
DUG	Dugway, Tooele	54.97	68	IAmb	IAmb	03 54 17.8	
	comp=Z,22nm,0.9s						
DUG	Dugway, Tooele	54.97	68	P	P	03 54 02.5	-0.2
	baz=315,SNR=10.0						
SPR3	Spring Creek 3	55.00	70	IAmb	IAmb	03 54 22.3	
	comp=Z,53nm,1.1s						
ISA	Isabella, Lake	55.09	76	P	P	03 54 04.3	+0.8
	baz=316,SNR=5.5						
FRB	Frobisher Bay	55.12	25	LR	LR	04 21 45.0	
	comp=Z,358nm,18.8s,baz=330,slow=41						
S11A	Rachel	55.19	73	IAmb	IAmb	03 54 42.2	
	comp=Z,53nm,1.1s						
KIRV	Kirov	55.29	324	LR	LR	04 21 37.0	
	comp=Z,730nm,21.0s,baz=30,slow=40						
KIRV	Kirov	55.29	324	c iP	P	03 54 04.5	0.0
WCT	Wildcat Mounta	55.31	74	IAmb	IAmb	03 54 23.1	
	comp=Z,33nm,1.4s						
MPMC	Manual Prospec	55.36	75	P	P	03 54 06.5	+0.9
	baz=316,SNR=5.1						
STEI	Steigen	55.40	346	eP	P	03 54 06.0	+0.8
STEI				IAmb	IAmb	03 54 06.3	
	comp=Z,26nm,1.1s						
TPNV	Topopah Spring	55.41	73	IAmb	IAmb	03 54 24.5	
	comp=Z,54nm,1.1s						
TPNV	Topopah Spring	55.41	73	P	P	03 54 05.5	-0.4
	baz=316,SNR=13						
FURC	Furnace Creek,	55.41	74	P	P	03 54 06.6	+0.9
	baz=316,SNR=14						
TKM2	Tokmak 2	55.44	297	P	P	03 54 05.5	-0.7
	SNR=33						
TKM2	Tokmak 2	55.44	297	P	P	03 54 05.0	-1.2
LOF	Lofoten	55.44	347	eP	P	03 54 05.8	+0.4
LOF				IAmb	IAmb	03 54 12.9	
	comp=Z,30nm,0.8s						
SGDS	Sogindy	55.56	298	⇑iP	P	03 54 05.8	-1.0
	comp=Z,32nm,1.9s,baz=298						
SGDS	Sogindy	55.56	298	c iP	P	03 54 05.8	-1.0
SGDS				pmax	pmax		
	comp=Z,32nm,1.9s						
BOOM	Boomskoye usch	55.57	296	P	P	03 54 06.8	-0.2
BOOM				IAmb	IAmb	03 54 10.7	
	comp=Z,32nm,0.9s						
BOOM	Boomskoye usch	55.57	296	P	P	03 54 06.8	-0.2
BOOM				pmax	pmax		
	comp=Z,32nm,1.0s						
ULHL	Ulahol	55.59	296	P	P	03 54 06.7	-0.5
	SNR=16						
PSUT	Pine Spring	55.59	70	IAmb	IAmb	03 54 25.6	
	comp=Z,30nm,1.1s						
LRMC	Laurel Mtn Rad	55.67	76	P	P	03 54 09.1	+1.4
	baz=317,SNR=8.3						
TNCH	TengChong	55.68	265	⇑P	P	03 54 08.8	+0.8
TNCH				pP	sP	03 54 11.9	-0.4
TNCH				S	S	04 01 52.7	-1.1
TNCH				ScS	ScS	04 03 55.1	-1.7
TNCH				pmax	pmax		
	comp=Z,29nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,170nm,3.2s						
TNCH				LR	LR		
	comp=Z,1μm,17.1s						
TNCH				LR	LR		
	comp=Z,1μm,15.7s						
TNCH				LR	LR		
	comp=Z,1μm,16.1s						
GWY	Greenwater Val	55.73	74	IAmb	IAmb	03 54 26.5	
	comp=Z,37nm,0.9s						
MPU	Maple Canyon	55.73	68	IAmb	IAmb	03 54 23.3	
	comp=Z,28nm,1.0s						
PRN	Pahroc Range	55.74	72	IAmb	IAmb	03 54 23.6	
	comp=Z,30nm,0.9s						
USP	Ospenovka	55.76	298	P	P	03 54 08.0	-0.2
	SNR=51						
QSM	Queen of Sheba	55.77	75	IAmb	IAmb	03 54 23.4	
	comp=Z,41nm,1.2s						
SFJD	Kangerlussuaq	55.87	16	LR	LR	04 19 56.2	
	comp=Z,354nm,20.4s,baz=340,slow=38						
FAUS	Fauske	55.91	346	eP	P	03 54 08.9	+0.1
FAUS				IAmb	IAmb	03 54 09.1	
	comp=Z,22nm,0.9s						
EDW2	Edwards Air Fo	55.93	76	P	P	03 54 11.0	+1.5
	baz=317,SNR=8.7						
KBK	Karagaybulak	55.97	297	P	P	03 54 09.6	-0.3
	SNR=25						
ULM	Lac du Bonnet	56.13	49	P	P	03 54 11.6	+0.8
	comp=Z,8.5nm,0.6s,baz=322,slow=10,SNR=4.8						
ULM				LR	LR	04 20 27.1	
	comp=Z,520nm,18.0s,baz=325,slow=38						
	comp=Z,8.5nm,0.6s						
SHOC	Shoshone, Teco	56.15	74	P	P	03 54 11.4	+0.3
	baz=317						
MDND	Maddock	56.18	54	P	P	03 54 11.8	+0.6
	baz=316						
DECC	Green Verdugo	56.19	77	P	P	03 54 12.0	+0.6
	baz=317						
AAK	Ala-Archa	56.21	297	P	P	03 54 11.2	-0.4
	SNR=58						
AAK	Ala-Archa	56.21	297	LR	LR	04 19 49.2	
	comp=Z,1μm,18.6s,baz=46,slow=38						
AAK	Ala-Archa	56.21	297	P	P	03 54 11.3	-0.4
AAK	Ala-Archa	56.21	297	P	P	03 54 11.2	-0.4
AAK	Ala-Archa	56.21	297	i P	P	03 54 11.3	-0.4
	SNR=70						
AAK	Ala-Archa	56.21	297	c iP	P	03 54 11.1	-0.5
AAK				pmax	pmax		
	comp=Z,45nm,0.7s						
GSC	Goldstone, Bar	56.29	75	IAmb	IAmb	03 54 27.0	
	comp=Z,34nm,1.0s						
GSC	Goldstone, Bar	56.29	75	P	P	03 54 14.0	+1.9
	baz=317,SNR=8.5						
NRN	Naryn	56.29	295	IAmb	IAmb	03 54 14.7	
	comp=Z,21nm,0.7s						
LSA	Lhasa	56.41	275	IAmb	IAmb	03 54 16.4	
	comp=Z,25nm,0.6s						
LSA	Lhasa	56.41	275	P	P	03 54 14.1	+0.5
LSA				pmax	pmax		
	comp=Z,27nm,0.9s						
RDMU	Red Mountain	56.44	66	IAmb	IAmb	03 54 57.8	
	comp=Z,29nm,0.6s						
DAV	Davao City (W)	56.47	227	LR	LR	04 16 23.7	
	comp=Z,96nm,21.9s,baz=10,slow=34						
TMUT	Trail Mountain	56.48	68	IAmb	IAmb	03 54 28.9	
	comp=Z,26nm,1.0s						
UCH	Uchtor	56.50	297	P	P	03 54 13.7	-0.3
	SNR=5.2						
K22A	Casper	56.53	62	P	P	03 54 15.1	+1.3
	baz=316						
K22A	Casper	56.53	62	P	P	03 54 15.4	+1.6
	baz=316						
KLMR	Klimovskoe	56.55	331	⇑iP	P	03 54 13.7	+0.2
KLMR				⇓iP	P	03 54 13.7	+0.2
KLMR				⇑iP	P	03 54 13.7	+0.2
KLMR				AMP		03 54 15.0	
	comp=Z,159nm,0.9s						
KLMR				epP	pwP	03 54 27.1	+3.7
KLMR				LQ	LQ	04 14 01.6	
KLMR				LQ	LQ	04 14 01.6	
KLMR				LR	LR	04 15 40.8	
KLMR				AMP		04 22 42.8	
	comp=Z,731nm,16.1s						
KLMR	Klimovskoe	56.55	331	c iP	P	03 54 13.6	+0.1
KLMR				e*PP	pwP	03 54 27.1	+3.7
KLMR				pmax	pmax		
	comp=Z,159nm,0.9s						
KLMR				MLR	MLR		
	comp=Z,731nm,16.0s						
EKS2	Erkin-Say	56.56	298	P	P	03 54 13.9	-0.1
	SNR=6.4						
BFSC	Mount Baldy Ra	56.59	77	P	P	03 54 14.8	+0.5
	baz=317						
E28A	Huff	56.59	55	IAmb	IAmb	03 54 37.7	
	comp=Z,76nm,1.4s						
E28A	Huff	56.59	55	P	P	03 54 15.9	+1.8
	baz=316						
P17A	Butcher Ranch,	56.60	68	IAmb	IAmb	03 54 37.0	
	comp=Z,29nm,1.2s						
WTNK	Soaring Height	56.65	73	IAmb	IAmb	03 54 32.9	
	comp=Z,8.2nm,1.3s						
TUQ	Turquoise Moun	56.69	74	P	P	03 54 16.6	+1.5
	baz=317,SNR=6.7						
RSSD	Black Hills	56.73	59	P	P	03 54 14.5	-0.8
RSSD	Black Hills	56.73	59	P	P	03 54 16.5	+1.1
	baz=316,SNR=7.1						
RSSD	Black Hills	56.73	59	P	P	03 54 15.8	+0.4
	baz=316						
RSSD	Black Hills	56.73	59	P	P	03 54 14.5	-0.8
RSSD				pmax	pmax		
	comp=Z,22nm,1.1s						
P18A	Preston Nutter	56.76	67	IAmb	IAmb	03 54 32.9	
	comp=Z,46nm,1.4s						
CIS	Catalina Islan	56.77	78	P	P	03 54 14.1	-1.5
	baz=317						
HEC	Hector,Ludlow	56.90	75	P	P	03 54 15.2	-1.3
	baz=317						
SRU	San Rafael Swe	56.98	68	IAmb	IAmb	03 54 32.2	
	comp=Z,35nm,1.0s						
BBRC	Big Bear Solar	56.98	76	P	P	03 54 18.2	+0.9
	baz=317						
AML	Almayashu	56.99	297	P	P	03 54 17.3	-0.2
	SNR=13						
ELS	Elsinore Mount	57.15	77	IAmb	IAmb	03 54 35.5	
	comp=Z,34nm,1.4s						
MOR8	Moi Rana	57.16	346	eP	P	03 54 16.4	-1.5
MOR8				IAmb	IAmb	03 54 17.6	
	comp=Z,30nm,1.2s						
PKCU	Pink Cliffs	57.22	70	IAmb	IAmb	03 55 20.1	
	comp=Z,37nm,1.4s						
KNB	Kanab	57.25	71	IAmb	IAmb	03 54 37.4	
	comp=Z,31nm,1.3s						
GMRC	Granite Mounta	57.31	75	P	P	03 54 20.2	+0.7
	baz=317,SNR=11						
MURC	Murrieta	57.31	77	P	P	03 54 19.2	-0.2
	baz=318						
O20A	White River Ci	57.45	65	IAmb	IAmb	03 54 38.0	
	comp=Z,33nm,1.1s						
O20A	White River Ci	57.45	65	P	P	03 54 20.5	0.0
	baz=317						
AGMN	Agassiz Nation	57.57	51	P	P	03 54 21.8	+0.8
	baz=318						
AGMN	Agassiz Nation	57.57	51	P	P	03 54 21.3	+0.4
	baz=318						
DZA	Taraz	57.64	300	eP	P	03 54 20.0	-1.6
	baz=299						
DZA	Taraz	57.64	300	eP	P	03 54 20.0	-1.6
KSH	Kashi	57.69	294	P	P	03 54 25.9	+3.8
KSH				sP	pwP	03 54 33.3	+1.1
KSH				S	S	04 02 24.0	+4.0
KSH				pmax	pmax		
	comp=Z,38nm,0.9s						
KSH				LR	LR		
	comp=Z,1μm,17.9s						
KSH				LR	LR		
	comp=Z,1μm,17.2s						
KSH				LR	LR		
	comp=Z,1μm,16.1s						
BELC	Belle Mtn. Jos	57.69	76	P	P	03 54 22.7	+0.5
	baz=318						
PFO	Pinyon Flats O	57.72	76	LR	LR	04 17 32.9	
	comp=Z,311nm,18.4s,baz=320,slow=34						
PFO	Pinyon Flats O	57.72	76	P	P	03 54 22.2	-0.2
PFO	Pinyon Flats O	57.72	76	P	P	03 54 21.8	-0.6
	baz=318						
PFO	Pinyon Flats O	57.72	76	P	P	03 54 22.2	-0.2
PFO				pmax	pmax		
	comp=Z,11nm,1.1s						
TPFO	Pinon Flats	57.73	76	P	P	03 54 21.6	-0.8
	baz=318						
PMD	Palm Desert	57.74	76	IAmb	IAmb	03 54 37.0	
	comp=Z,14nm,0.9s						
KK31	Karatay Array	57.90	300	P	P	03 54 22.8	-0.5
KK31	Karatay Array	57.90	300	eP	P	03 54 22.4	-1.0
KKAR	Karatay Array	57.90	300	P	P	03 54 22.7	-0.7
KKAR	Karatay Array	57.90	300	P	P	03 54 22.8	-0.5
KKAR				IAmb	IAmb	03 54 24.4	
	comp=Z,65nm,0.8s						
KKAR	Karatay Array	57.90	300	P	P	03 54 22.7	-0.7
KKAR				pmax	pmax		
	comp=Z,65nm,0.8s						
IRM	Iron Mountain	58.06	75	P	P	03 54 24.4	-0.2
	baz=318,SNR=8.0						
BC3	Big Chuckawall	58.25	76	P	P	03 54 25.8	-0.3
	baz=318						
MONP2	Monument Peak	58.27	77	P	P	03 54 26.3	-0.1
	baz=318						
AB31	Akbulak array	58.30	312	eP	P	03 54 25.8	-0.2
ABKAR	Akbulak array	58.30	312	P	P	03 54 25.8	-0.3
ABKAR	Akbulak array	58.30	312	P	P	03 54 25.7	-0.3
ABKAR				IAmb	IAmb	03 54 27.8	
	comp=Z,154nm,1.3s						
PV10	Paradox Valley	58.31	67	IAmb	IAmb	03 54 34.9	
	comp=Z,51nm,1.5s						
PV11	David Mesa, Pa	58.45	67	IAmb	IAmb	03 54 45.2	
	comp=Z,37nm,1.0s						
B35A	Bob, Littlefor	58.48	50	IAmb	IAmb	03 54 41.2	
	comp=Z,22nm,1.1s						
B35A	Bob, Littlefor	58.48	50	P	P	03 54 27.8	+0.5
	baz=318						
NONG	Nongkai	58.50	256	P	P	03 54 30.0	+2.2
	comp=Z,112nm,2.0s						
PDMCI	Parker Dam,Lak	58.51	74	P	P	03 54 27.3	-0.4
	baz=318						
SWSC	Sam W. Stewart	58.58	76	P	P	03 54 27.6	-0.6
	baz=318						
PV13	Radium Mtn., P	58.59	67	IAmb	IAmb	03 54 50.0	
	comp=Z,26nm,0.8s						
IKP	In-Ko-Pah, Jac	58.63	77	P	P	03 54 26.6	-2.1
	baz=318						
BLYC	Blythe	58.70	75	IAmb	IAmb	03 54 46.9	
	comp=Z,28nm,1.3s						
IUG	Iuzhnay	58.84	300	eP	P	03 54 29.7	-0.4
	baz=300						
IUG	Iuzhnay	58.84	300	eP	P	03 54 29.6	-0.4
GLA	Glamis	59.05	76	P	P	03 54 32.2	+0.6
	baz=318						
NSS	Namsos	59.06	346	eP	P	03 54 31.5	+0.4
SHL	Shillong	59.11	271	P	P	03 54 30.6	-1.6
SHL	Shillong	59.11	271	P	P	03 54 31.9	-0.4
	SNR=17						
SHL	Shillong	59.11	271	P	P	03 54 30.6	-1.6
SHL				pmax	pmax		
	comp=Z,38nm,0.8s						
WUAZ	Wupatki	59.15	71	IAmb	IAmb	03 54 51.1	
	comp=Z,26nm,1.3s						
WUAZ	Wupatki	59.15	71	P	P	03 54 32.7	+0.4
	baz=318,SNR=9.8						
F33A	5 Mile Ranch,	59.20	53	IAmb	IAmb	03 54 55.4	
	comp=Z,32nm,1.2s						
F33A	5 Mile Ranch,	59.20	53	P	P	03 54 33.2	+0.8
	baz=318						
MND	Mandalay	59.40	265	P	P	03 54 35.1	+1.1
FINES	FINESS Array B	59.40	338	P	P	03 54 33.6	+0.2
	comp=Z,24nm,0.5s,baz=33,slow=7.6,SNR=184						
FINES				LR	LR	04 24 24.4	
	comp=Z,534nm,18.6s,baz=22,slow=40						
	comp=Z,24nm,0.5s						
MVCO	Mesa Verde	59.46	68	P	P	03 54 34.4	-0.2
	baz=318,SNR=5.9						
EYMN	Ely	59.77	49	IAmb	IAmb	03 54 57.3	
	comp=Z,51nm,1.2s						
EYMN	Ely	59.77	49	P	P	03 54 37.1	+0.8
	baz=320,SNR=9.1						
EYMN	Ely	59.77	49	P	P	03 54 37.4	+1.2
	baz=320,SNR=9.1						
PHRA	Phrae	59.80	259	P	P	03 54 38.3	+1.5
TAS	Tashkent	59.82	300	P	P	03 54 36.8	+0.1
TAS	Tashkent	59.82	300	P	P	03 54 36.8	+0.1
TAS				pmax	pmax		
	comp=Z,292nm,1.6s						
PUL	Pulkovo	59.90	335	d iP	P	03 54 38.0	+1.1
PUL				pmax	pmax		
	comp=Z,154nm,0.9s						
Q24A	Divide	59.93	64	P	P	03 54 38.0	+0.1
	baz=318						
S22A	4UR Ranch, Cre	59.95	66	IAmb	IAmb	03 54 57.6	
	comp=Z,21nm,1.0s						
S22A	4UR Ranch, Cre	59.95	66	P	P	03 54 38.5	+0.4
	baz=318,SNR=20						
BTK	Batken	59.98	298	P	P	03 54 38.0	0.0
BTK	Batken	59.98	298	P	P	03 54 38.0	0.0
BTK				pmax	pmax		
	comp=Z,90nm,0.7s						
TAPN	Taplejung	60.17	276	eP	P	03 54 39.1	-0.5
	comp=Z,125nm,0.8s						
CHTO	Chiang Mai	60.29	260	P	P	03 54 41.0	+0.8
CHTO	Chiang Mai	60.29	260	P	P	03 54 41.0	+0.8
CHTO				pmax	pmax		
	comp=Z,108nm,0.8s						
F36A	Milaca	60.45	52	P	P	03 54 41.3	+0.3
	baz=320						
CM31	Chiang Mai Arr	60.57	260	P	P	03 54 43.7	+1.6
CM31	Chiang Mai Arr	60.57	260	P	P	03 54 44.4	+2.3
	SNR=23						
CMAR	Chiang Mai Arr	60.57	260	P	P	03 54 44.1	+2.0
	comp=Z,76nm,0.7s,baz=22,slow=7.0,SNR=235						
CMAR				LR	LR	04 23 43.1	
	comp=Z,742nm,18.1s,baz=40,slow=39						
	comp=Z,76nm,0.7s						
CMAR	Chiang Mai Arr	60.57	260	P	P	03 54 44.0	+1.9
CMAR	Chiang Mai Arr	60.57	260	P	P	03 54 44.0	+1.9
ECSD	EROS Data Cent	60.63	55	P	P	03 54 43.0	+0.8
	baz=319,SNR=9.7						
ECSD	EROS Data Cent	60.63	55	P	P	03 54 43.5	+1.2
	baz=319,SNR=9.7						
SDCO	Great Sand Dun	60.65	65	P	P	03 54 44.5	+1.7
	baz=318,SNR=14						
SDCO	Great Sand Dun	60.65	65	P	P	03 54 44.5	+1.7
	baz=318,SNR=14						
RAF	Rauma	60.68	340	eP	P	03 54 42.3	+0.1
BORG	Borgarnes	60.76	2	LR	LR	04 23 17.7	
	comp=Z,178nm,18.4s,baz=358,slow=38						
E38A	The Farm, Brul	60.77	50	IAmb	IAmb	03 54 56.8	
	comp=Z,45nm,1.0s						
E38A	The Farm, Brul	60.77	50	P	P	03 54 43.6	+0.5
	baz=320,SNR=12						
BELG	Belogornoye	60.79	321	LR	LR	04 24 32.0	
	comp=Z,918nm,18.3s,baz=40,slow=40						
BELG	Belogornoye	60.79	321	c iP	P	03 54 43.4	+0.3
BELG				pmax	pmax		
	comp=Z,51nm,0.9s						
GUN	Gumba	60.80	278	eP	P	03 54 44.3	+0.3
	comp=Z,70nm,0.5s						
JIRN	Jiri	60.81	277	eP	P	03 54 44.0	-0.1
	comp=Z,82nm,0.9s						
MEF	Metsahovi	60.87	338	eP	P	03 54 43.5	-0.1
214A	Organ Pipe Nat	61.00	75	IAmb	IAmb	03 55 00.4	
	comp=Z,23nm,1.1s						
214A	Organ Pipe Nat	61.00	75	P	P	03 54 44.8	-0.1
	baz=319,SNR=7.4						
GAR	Garm	61.03	297	P	P	03 54 44.6	-0.5
RAMN	Ramite	61.11	276	eP	P	03 54 45.1	-0.9
	comp=Z,160nm,0.7s						
KSCO	Kaye Shedlock'	61.20	63	IAmb	IAmb	03 55 23.1	
	comp=Z,40nm,1.2s						
KSCO	Kaye Shedlock'	61.20	63	P	P	03 54 47.8	+1.5
	baz=319						
KSCO	Kaye Shedlock'	61.20	63	P	P	03 54 46.7	+0.3
	baz=319						
KKN	Kakani	61.23	278	eP	P	03 54 47.0	+0.2
SPMN	Marine on St.	61.27	52	IAmb	IAmb	03 55 00.6	
	comp=Z,36nm,1.0s						
SPMN	Marine on St.	61.27	52	P	P	03 54 47.4	+0.8
	baz=320						
SPMN	Marine on St.	61.27	52	P	P	03 54 45.9	-0.6
	baz=320						
PKI	Pulchoki	61.32	278	eP	P	03 54 46.6	-0.9
	comp=Z,78nm,0.7s						
PKIN	Phulchoki	61.33	278	eP	P	03 54 46.8	-0.7
	comp=Z,76nm,0.6s						
MOS	Moscow	61.37	329	eP	P	03 54 46.4	-0.6
MOS				e		03 55 27.3	
MOS				eS	S	04 03 06.2	-0.5
MOS				pmax	pmax		
	comp=Z,200nm,0.6s						
MOS				pmax	pmax		
	comp=Z,199nm,0.7s						
MOS				MLR	MLR		
	comp=Z,700nm,16.0s						
GKN	Gorkha	61.44	279	eP	P	03 54 48.0	-0.1
DMN	Daman	61.47	278	eP	P	03 54 47.8	-0.6
	comp=Z,210nm,1.2s						
BRDH	Bariadhala	61.47	269	LR	LR	04 25 55.2	
	comp=Z,749nm,18.6s,baz=70,slow=40						
SWI	Sorong	61.50	218	P	P	03 54 50.0	+1.6
	comp=Z,1μmcomp=Z,109nm,1.0s						
SIJI	Sorong	61.51	218	LR	LR	04 17 26.9	
	comp=Z,126nm,21.5s,baz=97,slow=32						
SIJI	Sorong	61.51	218	P	P	03 54 49.5	+1.1
	comp=Z,1μmcomp=Z,96nm,1.1s						
BGNE	Belgrade	61.65	58	P	P	03 54 50.3	+1.1
	baz=319,SNR=6.7						
BGNE	Belgrade	61.65	58	P	P	03 54 48.0	-1.2
	baz=319,SNR=6.7						
DANN	Dangsing	61.68	280	eP	P	03 54 49.5	-0.4
	comp=Z,172nm,0.7s						
T25A	Trinidad	61.68	65	P	P	03 54 49.2	-0.5
	baz=319,SNR=9.0						
DOMB	Dombas	61.84	347	eP	P	03 54 50.1	-0.1
DOMB				IAmb	IAmb	03 54 50.4	
	comp=Z,16nm,0.8s						
TUC	Tucson	61.86	73	P	P	03 54 51.3	+0.5
TUC	Tucson	61.86	73	P	P	03 54 51.7	+0.9
	baz=319						
TUC	Tucson	61.86	73	P	P	03 54 51.3	+0.5
TUC				pmax	pmax		
	comp=Z,13nm,1.2s						
CHGR	Chuyangaron	61.88	298	P	P	03 54 50.3	-0.6
CHGR	Chuyangaron	61.88	298	P	P	03 54 50.3	-0.6
CHGR				pmax	pmax		
	comp=Z,165nm,0.7s						
I37B	Waseca	61.92	53	P	P	03 54 52.4	+1.4
	baz=320,SNR=15						
VSU	Vasula	61.92	336	eP	P	03 54 51.3	+0.6
VSU	Vasula	61.92	336	c iP	P	03 54 51.3	+0.6
VSU				pmax	pmax		
	comp=Z,386nm,1.7s						
AKN	Aaknes	61.97	348	eP	P	03 54 51.8	+0.8
AKN				IAmb	IAmb	03 54 52.6	
	comp=Z,26nm,0.7s						
L34A	Svendsen Farm,	62.09	56	P	P	03 54 52.0	-0.1
	baz=320						
OBN	Obninsk	62.22	329	LR	LR	04 24 20.5	
	comp=Z,164nm,18.7s,baz=24,slow=38						
OBN	Obninsk	62.22	329	P	P	03 54 52.8	+0.1
OBN	Obninsk	62.22	329	c iP	P	03 54 52.8	+0.1
OBN				e		03 55 36.5	
OBN				e		03 57 08.3	
OBN				i S	S	04 03 23.4	+6.0
OBN				pmax	pmax		
	comp=Z,300nm,1.7s						
OBN				MLR	MLR		
	comp=Z,609nm,19.0s						
COWI	Conover	62.22	49	IAmb	IAmb	03 55 13.5	
	comp=Z,42nm,1.2s						
COWI	Conover	62.22	49	P	P	03 54 53.0	+0.1
	baz=321						
ANMO	Albuquerque	62.24	68	P	P	03 54 53.8	+0.3
ANMO	Albuquerque	62.24	68	P	P	03 54 54.9	+1.4
	baz=319,SNR=16						
ANMO	Albuquerque	62.24	68	P	P	03 54 53.6	+0.1
	baz=319						
ANMO	Albuquerque	62.24	68	c eP	P	03 54 54.7	+1.2
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MTSE	Matsula	62.36	338	eP	P	03 54 54.1	+0.5
G40A	Rib Lake	62.40	50	IAmb	IAmb	03 55 07.9	
	comp=Z,23nm,1.1s						
NB2	NORSAR Subarra	62.50	345	P	P	03 54 54.4	-0.2

baz=18,slow=6.9
NB2 NORSAR Subarra 62.50 345 P **P** **03 54 54.4 -0.2**
comp=Z,40nm,1.2s,baz=18,slow=6.9
NOA NORSAR Array B 62.50 345 P **P** **03 54 54.6 0.0**
comp=Z,7.5nm,0.6s,baz=18,slow=6.8,SNR=30
comp=Z,7.5nm,0.6s
Y22A Socorro 62.73 69 P **P** **03 54 58.9 +2.1**
baz=319,SNR=6.4
NC602 NORSAR Array S 62.74 345 *e*P **P** **03 54 55.9 -0.2**
CBKS Cedar Bluff 62.83 61 IAmb IAmb 03 54 58.4
comp=Z,19nm,0.8s
CBKS Cedar Bluff 62.83 61 P **P** **03 54 57.9 +0.7**
baz=320,SNR=6.6
CBKS Cedar Bluff 62.83 61 P **P** **03 54 57.9 +0.7**
baz=320,SNR=6.6
HFS Hagfors 62.98 344 LR LR 04 25 36.3
comp=Z,607nm,18.9s,baz=24,slow=39
HYA Hoyanger 63.05 348 *e*P **P** **03 54 58.7 +0.5**
FAKI Fak Fak 63.08 216 P **P** **03 55 00.0 +1.1**
SCHQ Schefferville 63.17 30 P **P** **03 54 58.8 -0.3**
comp=Z,8.9nm,0.8s,baz=12,slow=3.9,SNR=5.7
SCHQ LR LR 04 26 12.1
comp=Z,563nm,18.9s,baz=314,slow=40
comp=Z,8.9nm,0.8s
SCHQ Schefferville 63.17 30 P **P** **03 54 59.3 +0.1**
SCHQ IAmb IAmb 03 55 13.9
comp=Z,52nm,1.4s
SKAR Skarslia 63.25 347 *e*P **P** **03 54 60.0 +0.3**
SKAR IAmb IAmb 03 55 01.3
comp=Z,62nm,1.5s
N35A Tabor 63.29 57 P **P** **03 55 00.9 +0.7**
baz=320,SNR=8.1
I40A Norwalk 63.29 51 IAmb IAmb 03 55 13.8
comp=Z,28nm,0.9s
I40A Norwalk 63.29 51 P **P** **03 55 00.5 +0.4**
baz=321
121A Cookes Peak, D 63.35 71 P **P** **03 55 02.1 +1.3**
baz=320
319A Douglas 63.40 73 IAmb IAmb 03 55 16.4
comp=Z,31nm,1.1s
NIL Nilore 63.52 291 P **P** **03 55 01.9 +0.1**
NIL Nilore 63.52 291 P **P** **03 55 01.9 +0.1**
NIL pmax pmax
comp=Z,63nm,0.8s
LPSR Galich'ya Gora 63.62 326 *e*P **P** **03 55 01.6 -0.5**
LPSR pmax pmax
comp=Z,200nm,0.7s
SCIA State Center 63.64 54 P **P** **03 55 03.3 +0.9**
baz=321,SNR=8.1
SCIA State Center 63.64 54 P **P** **03 55 02.9 +0.5**
baz=321,SNR=8.1
ASK Askoy 63.84 348 *e*P **P** **03 55 03.9 +0.5**
ASK IAmb IAmb 03 55 04.2
comp=Z,85nm,0.9s
VRH Novokhopyorsk 63.87 324 *e*P **P** **03 55 03.0 -0.7**
VRH pmax pmax
comp=Z,230nm,0.6s
BER Bergen 63.91 348 *e*P **P** **03 55 04.5 +0.6**
I42A Draeger Farm, 64.05 50 IAmb IAmb 03 55 18.7
comp=Z,33nm,1.1s
E46A Sault Ste Mari 64.06 46 IAmb IAmb 03 55 34.6
comp=Z,44nm,1.1s
KONO Kongsberg 64.07 346 *e*P **P** **03 55 05.4 +0.4**
KSU1 Kansas State U 64.17 58 IAmb IAmb 03 55 20.0
comp=Z,33nm,1.0s
KSU1 Kansas State U 64.17 58 P **P** **03 55 05.8 -0.2**
baz=321
KSU1 Kansas State U 64.17 58 P **P** **03 55 05.2 -0.8**
baz=321
JFWS Jewell Farm 64.22 52 P **P** **03 55 05.1 -1.1**
baz=322
VORR Voronezh 64.32 325 *e*P **P** **03 55 05.6 -1.1**
VORR pmax pmax
comp=Z,64nm,1.4s
L40A Anamosa 64.44 53 IAmb IAmb 03 55 21.4
comp=Z,30nm,0.9s
L40A Anamosa 64.44 53 P **P** **03 55 07.5 -0.2**
baz=322
N38A Joes South For 64.49 55 P **P** **03 55 08.7 +0.6**
baz=321,SNR=5.5
ISAL Salakas 64.67 335 *e*P **P** **03 55 09.0 +0.1**
BLS5 Blasjo 64.71 347 *e*P **P** **03 55 09.7 +0.5**
VSR Storozhevoye 64.72 325 *e*P **P** **03 55 09.3 0.0**
VSR pmax pmax
comp=Z,150nm,0.8s
VSVD Vaisvydziai 64.83 336 *e*P **P** **03 55 10.3 +0.3**
AMTX Amarillo 64.83 65 P **P** **03 55 09.4 -1.1**
baz=320
IIGN Ignalina 64.85 335 *e*P **P** **03 55 10.6 +0.5**
MSTX Muleshoe 64.96 66 IAmb IAmb 03 55 33.7
comp=Z,28nm,1.0s
MSTX Muleshoe 64.96 66 P **P** **03 55 12.2 +0.8**
baz=320,SNR=9.1
MSTX Muleshoe 64.96 66 P **P** **03 55 11.0 -0.3**
baz=320,SNR=9.1
KBL Kabul 65.08 295 P **P** **03 55 10.8 -1.5**
KBL Kabul 65.08 295 P **P** **03 55 11.0 -1.3**
SNR=27
KBL Kabul 65.08 295 P **P** **03 55 10.8 -1.5**
KBL pmax pmax
comp=Z,58nm,0.9s
ELIS Ellis County 65.10 62 IAmb IAmb 03 55 22.0
comp=Z,45nm,1.4s
NACGM Naroch 65.11 334 *e*P **P** **03 55 12.6 +0.8**
comp=Z,65nm,0.8s,baz=26
GLMI Grayling 65.17 47 P **P** **03 55 11.5 -0.9**
baz=324
MNK Minsk 65.19 333 *i* P **P** **03 55 13.4 +1.1**
MNK comp=E,5.0nm,0.9s *i* P **P** **03 55 13.4 +1.1**
MNK comp=N,68nm,0.9s *i* P **P** **03 55 13.4 +1.1**
MNK comp=Z,72nm,1.1s,baz=207 *i* pP **pwP** **03 55 26.4 +4.0**
MNK *i* PP **PP** **03 57 36.6 +1.5**
MNK *i* PPP PPP 03 59 09.2
MNK *i* S **S** **04 03 52.6 -1.8**
MNK *i* sS sS 04 04 14.8 +15
MNK *i* SS **SS** **04 08 06.2 +0.2**
MNK *i* SSS SSS 04 11 10.9
MNK *i* LQ LQ 04 20 49.1
MNK *i* LR LR 04 23 59.7
MNK *i* LRM MLR 04 26 07.7
comp=E,62nm,16.0s
MNK *i* LRM MLR 04 26 14.6
comp=N,526nm,17.9s
MNK *i* LRM MLR 04 26 33.8
comp=Z,471nm,18.5s
MNK Minsk 65.19 333 *i* P **P** **03 55 13.4 +1.1**
MNK *i* *PP **pwP** **03 55 26.3 +4.0**
MNK *i* 03 55 45.9
MNK *i* 03 57 36.6
MNK *i* PPP PPP 03 59 09.2
MNK *i* S **S** **04 03 52.6 -1.8**
MNK *i* *SS sS 04 04 14.8 +15
MNK *i* 04 05 04.2
MNK *i* SS **SS** **04 08 06.1 +0.2**
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,72nm,1.1s
MNK pmax pmax
comp=N,68nm,0.9s
MNK MLR MLR
comp=E,62nm,16.0s
MNK MLR MLR
comp=N,526nm,18.0s
MNK MLR MLR
comp=Z,471nm,19.0s
L42A Oliver, Polo 65.20 52 IAmb IAmb 03 55 25.6
comp=Z,30nm,0.9s
L42A Oliver, Polo 65.20 52 P **P** **03 55 11.5 -1.2**
baz=322,SNR=5.3
PBUR Paburge 65.24 337 *e*P **P** **03 55 12.8 +0.1**
PABE Paberze 65.25 336 *e*P **P** **03 55 12.7 0.0**
K43A Burlington 65.25 51 IAmb IAmb 03 55 26.1
comp=Z,30nm,0.9s
K43A Burlington 65.25 51 P **P** **03 55 12.8 -0.2**
baz=323
PMG Port Moresby 65.42 198 LR LR 04 18 25.9
comp=Z,108nm,19.7s,baz=36,slow=31
PMG Port Moresby 65.42 198 P **P** **03 55 14.4 +0.2**
PMG Port Moresby 65.42 198 P **P** **03 55 15.3 +1.1**
comp=Z,839nmcomp=Z,55nm,1.0s
PMG Port Moresby 65.42 198 P **P** **03 55 15.3 +1.1**
PMG Port Moresby 65.42 198 P **P** **03 55 14.4 +0.2**
PMG pmax pmax
comp=Z,46nm,1.0s
SNART Snartemo 65.67 347 *e*P **P** **03 55 16.1 +0.8**
SNART IAmb IAmb 03 55 18.4
comp=Z,768nm,2.1s
L44A Lake County Fo 65.86 51 P **P** **03 55 16.8 -0.1**
baz=323
L44A Lake County Fo 65.86 51 P **P** **03 55 16.8 -0.1**
baz=323
P40A Paris 66.05 55 P **P** **03 55 18.5 +0.4**
baz=322,SNR=12
OK048 Pawnee Station 66.08 61 IAmb IAmb 03 55 22.4
comp=Z,31nm,1.5s
J47A Sunmer 66.36 48 P **P** **03 55 20.6 +0.5**
baz=324
J47A P **P** **03 55 20.6 +0.5**
baz=324
DEL Delary 66.43 342 *i* P **P** **03 55 20.0 -0.3**
M44A Midewin, Midew 66.43 51 P **P** **03 55 20.3 -0.3**
baz=323
WMOK Wichita Mounta 66.45 63 IAmb IAmb 03 55 36.2
comp=Z,22nm,0.9s
WMOK Wichita Mounta 66.45 63 P **P** **03 55 20.3 -0.5**
baz=321,SNR=9.7
WMOK Wichita Mounta 66.45 63 P **P** **03 55 21.9 +1.1**
baz=321,SNR=9.7
OK034 N. Norfolk Rd. 66.52 61 IAmb IAmb 03 55 36.2
comp=Z,26nm,0.9s
HDIL Hopedale 66.52 53 P **P** **03 55 21.2 0.0**
baz=323,SNR=9.7
HDIL Hopedale 66.52 53 P **P** **03 55 21.4 +0.2**
baz=323,SNR=9.7
SBUM Sibu 66.70 238 P **P** **03 55 23.0 +0.4**
SBUM Sibu 66.70 238 P **P** **03 55 25.4 +2.8**
comp=Z,29nm,1.0s
L46A Eue Claire 66.71 50 IAmb IAmb 03 55 35.8
comp=Z,32nm,0.8s
L46A Eue Claire 66.71 50 P **P** **03 55 22.5 +0.2**
baz=324
L46A P **P** **03 55 22.5 +0.2**
baz=324
DEOK Depew 66.76 61 IAmb IAmb 03 55 55.5
comp=Z,21nm,0.9s
R40A Maddies Statio 66.92 56 P **P** **03 55 23.7 -0.1**
baz=322,SNR=18
X34A Smith Ranch, M 67.05 62 **P** **03 55 24.9 +0.3**
TUL1 Leonard 67.06 60 IAmb IAmb 03 55 38.9
comp=Z,29nm,1.1s
TUL1 Leonard 67.06 60 P **P** **03 55 25.0 +0.3**
baz=322
TUL1 Leonard 67.06 60 P **P** **03 55 24.2 -0.5**
baz=322
P43A Skaggs, Pawnee 67.15 53 P **P** **03 55 25.4 +0.2**
baz=323
O44A Mansfield 67.22 52 IAmb IAmb 03 55 39.0
comp=Z,22nm,0.7s
O44A Mansfield 67.22 52 P **P** **03 55 25.1 -0.5**
baz=323
U38A Gravette 67.35 59 IAmb IAmb 03 55 51.3
comp=Z,19nm,1.1s
U38A Gravette 67.35 59 P **P** **03 55 26.1 -0.4**
baz=322
SADO Sadowa 67.46 43 LR LR 04 26 10.1
comp=Z,574nm,18.5s,baz=350,slow=37
L48A N Adams 67.58 48 P **P** **03 55 28.2 +0.3**
baz=324
L48A P **P** **03 55 28.2 +0.3**
baz=324
CCM Cathedral Cave 67.60 56 P **P** **03 55 28.1 +0.1**
CCM IAmb IAmb 03 55 53.7
comp=Z,51nm,1.2s
CCM Cathedral Cave 67.60 56 P **P** **03 55 27.9 -0.1**
baz=323,SNR=11
CCM Cathedral Cave 67.60 56 P **P** **03 55 27.5 -0.5**
baz=323
CCM Cathedral Cave 67.60 56 P **P** **03 55 28.1 +0.1**
CCM pmax pmax
comp=Z,51nm,1.3s
SLM Saint Louis 67.61 54 P **P** **03 55 28.5 +0.3**
baz=323
AAM Ann Arbor 67.62 48 P **P** **03 55 28.1 0.0**
baz=325
ABTX Abilene, Hawle 67.65 65 IAmb IAmb 03 55 50.8
comp=Z,29nm,1.1s
ABTX Abilene, Hawle 67.65 65 P **P** **03 55 29.1 +0.6**
baz=322
ABTX Abilene, Hawle 67.65 65 P **P** **03 55 28.3 -0.2**
baz=322
SFIN Lafayette 67.67 51 IAmb IAmb 03 55 42.3
comp=Z,17nm,0.8s
SFIN Lafayette 67.67 51 P **P** **03 55 28.2 -0.2**
baz=324
SFIN Lafayette 67.67 51 P **P** **03 55 27.6 -0.8**
baz=324
HHAR Hobbs 67.69 59 IAmb IAmb 03 55 42.9
comp=Z,24nm,0.9s
HHAR Hobbs 67.69 59 P **P** **03 55 28.3 -0.3**
baz=322
SURA Surathani 67.70 254 P **P** **03 55 32.7 +3.8**
MGMO Mountain Grove 67.82 57 IAmb IAmb 03 56 08.0
comp=Z,14nm,0.8s
LOOK Love County 67.86 62 IAmb IAmb 03 55 55.7
comp=Z,25nm,1.1s
N47A Urbana 67.89 50 IAmb IAmb 03 55 43.2
comp=Z,36nm,1.0s
N47A Urbana 67.89 50 P **P** **03 55 29.8 -0.1**
baz=324
N47A P **P** **03 55 29.8 -0.1**
baz=324
GEYT Alibeck 67.92 305 P **P** **03 55 30.4 +0.2**
comp=Z,64nm,0.8s,baz=355,slow=3.3,SNR=110
GEYT LR LR 04 28 31.9
comp=Z,1µm,18.2s,baz=48,slow=39
comp=Z,64nm,0.8s
Q44A Meyer Farm, Va 67.97 53 IAmb IAmb 03 55 44.5
comp=Z,34nm,0.9s
Q44A Meyer Farm, Va 67.97 53 P **P** **03 55 30.2 -0.2**
baz=323
TRQ Mont Tremblant 68.00 40 P **P** **03 55 30.6 +0.1**
TRQ IAmb IAmb 03 55 43.5
comp=Z,37nm,1.0s
FVM French Village 68.04 55 P **P** **03 55 31.2 +0.3**
baz=323,SNR=6.7
TX31 Lajitas Ar. Si 68.06 70 P **P** **03 55 31.5 +0.3**
baz=322,SNR=38
TX32 Lajitas Array 68.06 70 IAmb IAmb 03 55 33.3
comp=Z,16nm,0.8s
TXAR Lajitas Array 68.06 70 P **P** **03 55 32.3 +1.1**
comp=Z,12nm,0.7s,baz=298,slow=4.3,SNR=155
comp=Z,12nm,0.7s
SRIT Nakonsritamara 68.18 253 P **P** **03 55 34.9 +2.9**
P46A Rosedale 68.23 52 P **P** **03 55 32.1 +0.1**
baz=324
AKASG Malin Array Be 68.23 331 P **P** **03 55 31.8 -0.1**
comp=Z,33nm,0.6s,baz=28,slow=6.4,SNR=78
AKASG LR LR 04 29 34.7
comp=Z,912nm,18.4s,baz=24,slow=40
comp=Z,33nm,0.6s
AKBB Malin Array Si 68.23 331 *c* *i*P **P** **03 55 31.7 -0.1**
AKBB pmax pmax
comp=Z,72nm,1.2s
X37A Clayton 68.31 61 P **P** **03 55 33.1 +0.5**
baz=322
LPIG La Paz 68.43 79 LR LR 04 18 05.2
comp=Z,154nm,22.0s,baz=291,slow=29
N49A Columbus Grove 68.52 49 IAmb IAmb 03 55 47.3
comp=Z,40nm,1.1s
N49A Columbus Grove 68.52 49 P **P** **03 55 33.8 0.0**
baz=325
N49A P **P** **03 55 33.8 0.0**
baz=325
MAK Makhachkala 68.55 315 *e*P **P** **03 55 30.8 -3.1**
MAK *e* 03 58 01.3
MAK *e*PPP PPP 03 59 41.5
MAK *e*S **S** **04 04 30.1 -5.2**
MAK pmax pmax
comp=Z,120nm,0.8s
GOF Gofitskoye 68.56 319⇑ *e*P **P** **03 55 34.6 +0.6**
GOF pmax pmax
comp=Z,398nm,1.4s
O48B Farmland 68.64 50 P **P** **03 55 33.9 -0.6**
baz=325
O48B Farmland 68.64 50 P **P** **03 55 33.4 -1.1**
baz=325
HRA Herat 68.70 300 P **P** **03 55 35.5 +0.2**
SKLT Songkhla 68.79 252 P **P** **03 55 38.3 +2.5**
comp=Z,5µmcomp=Z,35nm,0.7s
SKLT Songkhla 68.79 252 P **P** **03 55 39.7 +3.9**
S44A Carbondale 68.83 54 P **P** **03 55 35.9 +0.2**
baz=324,SNR=5.8
SPSI Sidrap Palu 68.86 228 P **P** **03 55 37.0 +0.9**
comp=Z,12nm,1.2s
FCAR Ozark Folk Cen 68.89 58 IAmb IAmb 03 55 50.4
comp=Z,37nm,1.0s
MNTQ Montreal, Queb 68.96 39 IAmb IAmb 03 55 49.8
comp=Z,20nm,0.8s
GROC Groznyy 69.04 316 *e*P **P** **03 55 37.2 +0.2**
GROC *e* 03 56 01.3
GROC pmax pmax
comp=Z,117nm,0.9s
O49A Covington 69.06 50 IAmb IAmb 03 55 51.0
comp=Z,30nm,0.9s
O49A Covington 69.06 50 P **P** **03 55 36.5 -0.7**
baz=325
O49A P **P** **03 55 36.5 -0.7**
baz=325
BNSI Bone 69.10 227 P **P** **03 55 37.7 +0.1**
comp=Z,15nm,1.1s
P48A Milroy 69.16 51 P **P** **03 55 37.1 -0.7**
baz=325,SNR=5.9
P48A P **P** **03 55 37.1 -0.7**
baz=325,SNR=5.9
D62A Allapoint, All 69.21 36 IAmb IAmb 03 55 51.1
comp=Z,24nm,1.1s
LCAR Lake Charles 69.22 57 P **P** **03 55 37.8 -0.4**
baz=323
M52A Chesterland 69.23 47 P **P** **03 55 38.6 +0.4**
baz=326
M52A P **P** **03 55 38.6 +0.4**
baz=326
JCT Junction City 69.25 67 IAmb IAmb 03 56 00.7
comp=Z,30nm,0.9s
JCT Junction City 69.25 67 P **P** **03 55 39.1 +0.6**
baz=322,SNR=6.2
JCT Junction City 69.25 67 P **P** **03 55 39.4 +0.8**
baz=322,SNR=6.2
MIAR Mount Ida 69.25 59 IAmb IAmb 03 56 04.2
comp=Z,20nm,1.0s
MIAR Mount Ida 69.25 59 P **P** **03 55 38.8 +0.4**
baz=323,SNR=9.3
MIAR Mount Ida 69.25 59 P **P** **03 55 39.1 +0.7**
baz=323,SNR=9.3
WHAR Wooly Hollow 69.29 58 IAmb IAmb 03 55 52.8
comp=Z,32nm,1.0s
ERPA Erie 69.32 45 P **P** **03 55 37.9 -0.9**
baz=326
LONY Lake Ozonia 69.35 40 P **P** **03 55 39.3 +0.4**
baz=328
P49A Miami Univ. Ec 69.42 50 P **P** **03 55 38.8 -0.6**
baz=325
P49A Miami Univ. Ec 69.42 50 P **P** **03 55 39.1 -0.3**
baz=325
E62A Clayton Lake 69.45 36 IAmb IAmb 03 55 53.1
comp=Z,44nm,1.1s
M53A WI Miller and 69.60 46 P **P** **03 55 40.2 -0.3**
baz=326
ACSO Alum Creek Sta 69.61 49 P **P** **03 55 40.3 -0.3**
baz=326
KVAR Kislovodsk Arr 69.62 319 LR LR 04 27 54.0
comp=Z,895nm,20.3s,baz=284,slow=37
KIV Kislovodsk 69.63 319⇑ P **P** **03 55 41.5 +0.8**
KIV Kislovodsk 69.63 319 P **P** **03 55 41.0 +0.3**
KIV Kislovodsk 69.63 319 P **P** **03 55 40.7 -0.1**
KIV Kislovodsk 69.63 319 *i* P **P** **03 55 40.8 +0.1**
SNR=10
KIV Kislovodsk 69.63 319 *e*P **P** **03 55 41.5 +0.8**
KIV *e* 03 58 16.1
KIV *e*S **S** **04 04 46.5 -1.8**
KIV pmax pmax
comp=Z,48nm,1.1s
KIV pmax pmax
comp=Z,19nm,3.7s
KIV MLR MLR
comp=Z,364nm,17.0s
WVNY West Valley, N 69.65 44 P **P** **03 55 39.6 -1.2**
baz=327
NCK Nalchik 69.66 318⇑ *e*P **P** **03 55 40.7 -0.2**
NCK pmax pmax
comp=Z,109nm,0.9s
AKT Akhty 69.68 314 *e*P **P** **03 55 41.6 +0.4**
AKT *e* 03 56 04.2
AKT pmax pmax
comp=Z,138nm,0.7s
KBZ Khabaz 69.74 318 P **P** **03 55 42.0 +0.7**
comp=Z,100nm,0.9s,baz=42,slow=1.6,SNR=86
KBZ LR LR 04 28 46.7
comp=Z,968nm,21.5s,baz=15,slow=38
comp=Z,100nm,0.9s
KBZ Khabaz 69.74 318 *c* *i*P **P** **03 55 42.2 +1.0**
KBZ pmax pmax
comp=Z,122nm,0.9s
EKA Eskdalemuir Ar 69.74 352 LR LR 04 23 27.2
comp=Z,137nm,21.8s,baz=10.0,slow=34
WCI Wyandotte Cave 69.77 52 P **P** **03 55 42.0 +0.4**
WCI IAmb IAmb 03 55 55.8
comp=Z,23nm,0.8s
WCI Wyandotte Cave 69.77 52 P **P** **03 55 42.0 +0.4**
baz=325
WCI Wyandotte Cave 69.77 52 P **P** **03 55 41.1 -0.5**
baz=325
WCI Wyandotte Cave 69.77 52 P **P** **03 55 42.0 +0.4**
WCI pmax pmax
comp=Z,23nm,0.8s
KAPI Kappang 69.81 227 LR LR 04 25 14.7
comp=Z,68nm,21.7s,baz=12,slow=35
KAPI Kappang 69.81 227 P **P** **03 55 44.3 +2.3**
N53A Lisbon 70.06 47 IAmb IAmb 03 55 56.9
comp=Z,30nm,0.9s
N53A Lisbon 70.06 47 P **P** **03 55 43.4 +0.1**
baz=326
N53A P **P** **03 55 43.4 +0.1**
baz=326
ZEI Tsey 70.14 317 *e*P **P** **03 55 42.4 -1.7**
ZEI pmax pmax
comp=Z,72nm,1.0s
J58A Remsen 70.16 42 IAmb IAmb 03 55 56.7
comp=Z,49nm,1.1s
WLAR White Oak Lake 70.16 60 IAmb IAmb 03 55 59.8
comp=Z,52nm,1.3s
O52A Adamsville 70.20 48 P **P** **03 55 44.4 +0.2**
baz=326,SNR=10
O52A P **P** **03 55 44.4 +0.2**
baz=326,SNR=10
NEY Neytrino 70.21 318⇓ *e*P **P** **03 55 45.8 +1.3**
NEY pmax pmax
comp=Z,6.0nm,0.8s
R49A Shelbyville 70.23 51 IAmb IAmb 03 55 58.8
comp=Z,30nm,1.1s
R49A Shelbyville 70.23 51 P **P** **03 55 44.2 -0.3**
baz=325
R49A P **P** **03 55 44.2 -0.3**
baz=325
L56A Greenwood 70.30 44 P **P** **03 55 44.1 -0.7**
baz=327
L56A P **P** **03 55 44.1 -0.7**
baz=327
G62A West of Eustis 70.32 38 P **P** **03 55 45.1 +0.3**
G62A IAmb IAmb 03 55 58.9
comp=Z,40nm,1.1s
KULM Kulim 70.34 250 IAmb IAmb 03 55 52.5
comp=Z,24nm,0.8s
KULM Kulim 70.34 250 P **P** **03 55 49.7 +4.4**
comp=Z,32nm,0.8s
O53A New Philadelph 70.36 47 IAmb IAmb 03 55 59.1
comp=Z,40nm,0.9s
O53A New Philadelph 70.36 47 P **P** **03 55 44.9 -0.3**
baz=326
M55A Ridgway 70.37 45 IAmb IAmb 03 55 58.8
comp=Z,39nm,0.9s
T47A Sharon Grove 70.41 53 P **P** **03 55 46.2 +0.7**
baz=325,SNR=5.9
LVV L'vov 70.44 334 *e*P **P** **03 55 45.4 -0.1**
Q51A Peebles 70.44 50 IAmb IAmb 03 56 00.2
comp=Z,19nm,0.8s
Q51A Peebles 70.44 50 P **P** **03 55 45.3 -0.5**
baz=326
Q51A P **P** **03 55 45.3 -0.5**
baz=326
P52A Corning 70.47 48 IAmb IAmb 03 55 59.9
comp=Z,22nm,0.8s
P52A Corning 70.47 48 P **P** **03 55 45.3 -0.6**
baz=326
ONI Oni 70.48 317 P **P** **03 55 45.7 -0.3**
ONI IAmb IAmb 03 55 49.0
comp=Z,44nm,0.9s

ONI	Oni	70.48	317	P	P	03 55 45.7	-0.3
ONI				pmax	pmax		
	comp=Z,44nm,0.9s						
BSSI	Bau Bau, Buton	70.51	226	P	P	03 55 46.9	+0.6
	comp=Z,1µmcomp=Z,40nm,1.1s						
R50A	Paris	70.62	51	IAmb	IAmb	03 56 01.1	
	comp=Z,31nm,1.0s						
R50A	Paris	70.62	51	P	P	03 55 47.3	+0.5
	baz=325						
R50A				P	P	03 55 47.3	+0.5
	baz=325						
COEN	Coen	70.62	201	P	P	03 55 46.7	-0.2
COEN				IAmb	IAmb	03 55 48.7	
	comp=Z,41nm,0.9s						
COEN	Coen	70.62	201	P	P	03 55 47.8	+0.9
H62A	Milan	70.65	38	IAmb	IAmb	03 56 01.4	
	comp=Z,34nm,0.9s						
LBNH	Lisbon	70.66	39	P	P	03 55 46.9	-0.1
	baz=330						
WVT	Waverly	70.76	54	P	P	03 55 47.8	+0.1
WVT				IAmb	IAmb	03 56 02.5	
	comp=Z,31nm,0.9s						
WVT	Waverly	70.76	54	P	P	03 55 48.4	+0.7
	baz=324,SNR=11						
WVT	Waverly	70.76	54	P	P	03 55 47.8	+0.1
	baz=324						
WVT	Waverly	70.76	54	P	P	03 55 47.8	+0.1
WVT				pmax	pmax		
	comp=Z,31nm,1.0s						
O54A	Avella	70.77	47	IAmb	IAmb	03 56 01.8	
	comp=Z,20nm,0.9s						
IPM	Ipoh	70.81	250	P	P	03 55 48.2	0.0
IPM				IAmb	IAmb	03 55 53.1	
	comp=Z,34nm,0.8s						
IPM	Ipoh	70.81	250	P	P	03 55 51.9	+3.7
	comp=Z,429nmcomp=Z,53nm,0.9s						
IPM	Ipoh	70.81	250	P	P	03 55 51.9	+3.7
ANN	Anapa	70.83	323	*e*P	P	03 55 39.9	-8.0
ANN				*e**PP	pwP	03 55 58.4	+0.5
ANN				*e*S	S	04 04 46.4	-16
ANN				pmax	pmax		
	comp=Z,73nm,1.0s						
BINY	Binghamton	70.87	43	P	P	03 55 47.6	-0.6
	baz=328						
P53A	Whipple	70.92	48	IAmb	IAmb	03 56 02.6	
	comp=Z,20nm,0.9s						
P53A	Whipple	70.92	48	P	P	03 55 48.7	+0.1
	baz=326						
P53A				P	P	03 55 48.7	+0.1
	baz=326						
Q52A	Bidwell	70.97	49	IAmb	IAmb	03 56 02.3	
	comp=Z,19nm,0.9s						
SOC	Sochi	71.06	320	*e*P	P	03 55 53.8	+4.4
SOC				*e*		03 58 24.5	
SOC				*e*PPP	PPP	04 00 12.0	
SOC				*e*SS	SS	04 09 34.0	-3.0
SOC				pmax	pmax		
	comp=Z,46nm,0.9s						
OJC	Ojcow	71.11	336	*e*P	P	03 55 48.4	-1.2
M57A	Sunshine Farm,	71.14	44	IAmb	IAmb	03 56 03.2	
	comp=Z,34nm,0.8s						
M57A	Sunshine Farm,	71.14	44	P	P	03 55 49.8	-0.1
	baz=328						
M57A				P	P	03 55 49.8	-0.1
	baz=328						
L59A	Walton	71.24	42	IAmb	IAmb	03 56 03.7	
	comp=Z,36nm,1.0s						
KSP	Ksiaz	71.30	339	*e*P	P	03 55 51.5	+0.8
OXF	Oxford	71.32	57	P	P	03 55 51.1	0.0
	baz=324						
OXF	Oxford	71.32	57	P	P	03 55 49.1	-2.0
	baz=324						
U49A	Red Boiling Sp	71.41	53	IAmb	IAmb	03 56 06.0	
	comp=Z,26nm,0.9s						
U49A	Red Boiling Sp	71.41	53	P	P	03 55 51.9	+0.3
	baz=325						
T50A	Nancy	71.42	52	IAmb	IAmb	03 56 06.2	
	comp=Z,31nm,1.1s						
T50A	Nancy	71.42	52	P	P	03 55 52.0	+0.3
	baz=325						
T50A				P	P	03 55 52.0	+0.3
	baz=325						
SSPA	Standing Stone	71.42	45	P	P	03 55 51.1	-0.5
SSPA				IAmb	IAmb	03 56 05.1	
	comp=Z,23nm,1.0s						
SSPA	Standing Stone	71.42	45	P	P	03 55 50.3	-1.4
	baz=328						
MCWV	Mont Chateau	71.43	47	IAmb	IAmb	03 56 06.1	
	comp=Z,43nm,1.0s						
MCWV	Mont Chateau	71.43	47	P	P	03 55 51.8	+0.1
	baz=327						
MCWV	Mont Chateau	71.43	47	P	P	03 55 51.4	-0.3
	baz=327						
S51A	Beattyville	71.48	51	IAmb	IAmb	03 56 06.6	
	comp=Z,17nm,0.8s						
AFI	Afiamalu	71.50	155	LR	LR	04 23 00.5	
	comp=Z,217nm,19.5s,baz=360,slow=32						
CLL	Collm	71.51	341	IAmb	IAmb	03 56 23.0	
	comp=Z,20nm,1.0s						
CLL	Collm	71.51	341	*i* P	P	03 55 52.2	+0.3
	comp=Z,31nm,1.6s						
CLL				*i* x	x	03 56 01.5	
	comp=Z,48nm,1.5s						
CLL				*e*SS	SS	04 09 30.0	-13
CLL				*e*SSS	SSS	04 13 00.0	
CLL				LmV		04 29 00.0	
	comp=Z,500nm,20.8s						
CLL	Collm	71.51	341	*i* P	P	03 55 52.2	+0.3
CLL				pmax	pmax		
	comp=Z,31nm,1.6s						
CLL				MLR	MLR		
	comp=Z,500nm,20.8s						
STHS	Stebnicka Huta	71.51	335	*e*P	P	03 55 52.5	+0.4
STHS	Stebnicka Huta	71.51	335	*e*P	P	03 55 52.5	+0.4
STHS				pmax	pmax		
	comp=Z,37nm,0.9s						
V48A	Smith Brothers	71.56	54	IAmb	IAmb	03 56 07.0	
	comp=Z,44nm,1.0s						
V48A	Smith Brothers	71.56	54	P	P	03 55 52.9	+0.4
	baz=325,SNR=7.5						
Q54A	Coxs Mills	71.57	48	IAmb	IAmb	03 56 16.7	
	comp=Z,52nm,1.4s						
Q54A	Coxs Mills	71.57	48	P	P	03 55 52.7	+0.1
	baz=327						
Q54A				P	P	03 55 52.7	+0.1
	baz=327						
OSTC	Ostas	71.58	339	*e*P	P	03 55 53.3	+0.8
OSTC				AMS	AMS	04 31 10.0	
	comp=Z,800nm,20.1s						
CHVC	Chvalec	71.59	339	*e*P	P	03 55 53.4	+0.9
CHVC				AMS	AMS	04 31 30.0	
	comp=Z,600nm,9.9s						
R53A	Hurricane	71.63	49	IAmb	IAmb	03 56 07.2	
	comp=Z,49nm,1.0s						
R53A	Hurricane	71.63	49	P	P	03 55 53.3	+0.3
	baz=326						
R53A				P	P	03 55 53.3	+0.3
	baz=326						
UPC	Upice	71.67	339	*e*P	P	03 55 53.9	+0.9
UPC				AMS	AMS	04 31 00.0	
	comp=Z,1µm,17.6s						
UPC	Upice	71.67	339	*e*P	P	03 55 53.9	+0.9
UPC				MLR	MLR		
	comp=Z,1µm,17.6s						
KIS	Kishinev	71.68	329	*e*P	P	03 55 53.0	-0.1
	comp=Z,40nm,0.7s						
KIS				*e*L	L	04 24 50.0	
KIS				LRM	MLR	04 30 09.0	
	comp=Z,300nm,19.0s						
KIS	Kishinev	71.68	329	*e*P	P	03 55 53.0	-0.1
KIS				pmax	pmax		
	comp=Z,40nm,0.7s						
KOLS	Kolonicke sedl	71.71	334	*e*P	P	03 55 54.4	+1.2
KOLS	Kolonicke sedl	71.71	334	*e*P	P	03 55 54.4	+1.2
KOLS				pmax	pmax		
	comp=Z,32nm,0.8s						
N58A	Sunbury	71.73	44	IAmb	IAmb	03 56 07.1	
	comp=Z,23nm,0.9s						
N58A	Sunbury	71.73	44	P	P	03 55 52.6	-0.9
	baz=328						
N58A				P	P	03 55 52.6	-0.9
	baz=328						
BRG	Berggiesshubel	71.74	340	*e*P	P	03 55 53.9	+0.5
BRG				Amp		03 55 55.0	
	comp=Z,11nm,1.1s						
BRG				*e*x	x	03 56 06.7	
BRG				Amp		03 56 10.1	

	comp=Z,18nm,1.2s						
BRG				PP	PP	03 58 29.1	-2.8
BRG				Amp		03 58 31.3	
	comp=Z,7.9nm,1.1s						
BRG				Amp		04 28 25.0	
	comp=E,0.5nm,14.6s						
BRG				Amp		04 28 32.0	
	comp=N,0.5nm,18.4s						
BRG				Amp		04 28 35.0	
	comp=Z,0.7nm,24.8s						
BRG	Berggiesshubel	71.74	340	*e*P	P	03 55 53.9	+0.5
BRG				*e*		03 56 06.6	
BRG						03 58 29.1	
BRG				pmax	pmax		
	comp=Z,11nm,1.1s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRG				MLR	MLR		
	comp=E,517nm,14.6s						
BRG				MLR	MLR		
	comp=N,547nm,18.4s						
BRG				MLR	MLR		
	comp=Z,748nm,24.8s						
DPC	Dobruska-Polom	71.76	339	*e*P	P	03 55 54.3	+0.8
DPC				AMS	AMS	04 31 30.0	
	comp=Z,700nm,18.4s						
DPC	Dobruska-Polom	71.76	339	*e*P	P	03 55 54.3	+0.8
DPC				MLR	MLR		
	comp=Z,700nm,18.4s						
MILM	Milestii Mici	71.76	329	⇑*i*P	P	03 55 53.0	-0.5
	comp=Z,76nm,0.9s						
MILM				*e*L	L	04 20 26.0	
MILM				LQM		04 23 56.0	
	comp=Z,900nm,24.0s						
MILM				LRM	MLR	04 29 42.0	
	comp=Z,900nm,19.0s						
MILM	Milestii Mici	71.76	329	⇓P	P	03 55 53.5	0.0
MILM	Milestii Mici	71.76	329*c*	*i*P	P	03 55 53.0	-0.5
MILM				pmax	pmax		
	comp=Z,76nm,1.0s						
Y45A	Yeager Farm, C	71.78	57	P	P	03 55 54.4	+0.6
	baz=324						
SIM	Simferopol'	71.84	325	*e*P	P	03 55 53.8	-0.3
SIM				pmax	pmax		
	comp=Z,28nm,0.9s						
SIM				MLR	MLR		
	comp=Z,860nm,18.0s						
OKC	Ostrava-Krasne	71.84	337	*e*P	P	03 55 54.9	+0.9
OKC				AMS	AMS	04 28 30.0	
	comp=Z,600nm,18.2s						
OKC	Ostrava-Krasne	71.84	337	*e*P	P	03 55 54.9	+0.9
OKC				MLR	MLR		
	comp=Z,600nm,18.2s						
KRLC	Kraliky	71.92	338	*e*P	P	03 55 55.2	+0.7
KRLC				AMS	AMS	04 29 50.0	
	comp=Z,700nm,19.2s						
KRLC	Kraliky	71.92	338	*e*P	P	03 55 55.2	+0.7
KRLC				MLR	MLR		
	comp=Z,700nm,19.2s						
CRVS	Cervenica-Dubn	71.94	335	*e*P	P	03 55 55.2	+0.6
CRVS	Cervenica-Dubn	71.94	335	*e*P	P	03 55 55.2	+0.6
CRVS				pmax	pmax		
	comp=Z,46nm,1.3s						
PVCC	Panska Ves	71.95	340	*e*P	P	03 55 55.1	+0.5
PVCC				AMS	AMS	04 32 00.0	
	comp=Z,500nm,17.0s						
PVCC	Panska Ves	71.95	340	*e*P	P	03 55 55.1	+0.5
PVCC				MLR	MLR		
	comp=Z,500nm,17.0s						
UZH	Uzhgorod	71.98	334*d*	*i*P	P	03 55 55.7	+0.9
UZH				*i*		03 56 07.8	
UZH				*i*		03 56 23.8	
UZH				*e*S	S	04 05 14.8	-0.5
UZH				*e*		04 05 46.6	
MORC	Moravsky Berou	72.03	338	⇓P	P	03 55 56.2	+1.0
MORC	Moravsky Berou	72.03	338	IAmb	IAmb	03 56 11.7	
	comp=Z,64nm,1.7s						
MORC	Moravsky Berou	72.03	338	*e*P	P	03 55 56.0	+0.8
BUR08	Bucovina Ar. S	72.12	332	IAmb	IAmb	03 56 11.6	
	comp=Z,25nm,0.9s						
BURAR	Bucovina Array	72.15	332	⇑P	P	03 55 56.6	+0.6
BURAR	Bucovina Array	72.15	332	IAmb	IAmb	03 56 12.1	
	comp=Z,31nm,0.8s						
KDU	Kakadu	72.18	212	P	P	03 55 56.8	+0.5
	comp=Z,66nm,1.0s						
HRV	Adam Dziewonsk	72.29	40	P	P	03 55 56.0	-0.9
	baz=330						
KARS	Kars	72.30	317	P	P	03 55 57.5	+0.4
KARS	Kars	72.30	317	P	P	03 55 57.5	+0.4
KARS				pmax	pmax		
	comp=Z,161nm,1.0s						
VASR	Vaslui	72.31	330	⇑P	P	03 55 57.4	+0.6
MAUC	Maruska	72.36	337	*e*P	P	03 55 58.3	+1.2
MAUC				AMS	AMS	04 31 20.0	
	comp=Z,1µm,20.3s						
TRPA	Tarpa	72.38	334	⇓P	P	03 55 58.3	+1.1
TRPA	Tarpa	72.38	334	P	P	03 55 58.3	+1.1
SWET	Sewanee	72.40	54	IAmb	IAmb	03 56 11.7	
	comp=Z,43nm,0.9s						
TZTN	Tazewell	72.40	51	IAmb	IAmb	03 56 12.2	
	comp=Z,22nm,1.0s						
TZTN	Tazewell	72.40	51	P	P	03 55 57.9	+0.3
	baz=326						
R55A	Marlinton	72.47	48	IAmb	IAmb	03 56 12.5	
	comp=Z,23nm,0.9s						
R55A	Marlinton	72.47	48	P	P	03 55 58.1	+0.1
	baz=327						
R55A				P	P	03 55 58.1	+0.1
	baz=327						
PRU	Pruhonice	72.47	340	*e*P	P	03 55 58.6	+0.9
PRU				*e*x	x	03 56 12.0	
PRU				AMS	AMS	04 32 50.0	
	comp=Z,700nm,16.9s						
PRU	Pruhonice	72.47	340	*e*P	P	03 55 58.6	+0.9
PRU				*e*		03 56 12.0	
PRU				MLR	MLR		
	comp=Z,700nm,16.9s						
GOPC	GO Pecny, Ondr	72.49	339	*e*P	P	03 55 58.6	+0.7
GOPC	GO Pecny, Ondr	72.49	339	*e*P	P	03 55 58.6	+0.7
X48A	Hartselle	72.50	55	IAmb	IAmb	03 56 12.3	
	comp=Z,32nm,1.1s						
X48A	Hartselle	72.50	55	P	P	03 55 57.9	-0.2
	baz=325						
ABAH	Abaujker	72.56	335	P	P	03 55 59.8	+1.5
NKC	Novy Kostel	72.64	341	*e*P	P	03 55 59.3	+0.5
NKC	Novy Kostel	72.64	341	*e*P	P	03 55 59.3	+0.5
V51A	Loudon	72.65	52	IAmb	IAmb	03 56 13.9	
	comp=Z,22nm,0.9s						
V51A	Loudon	72.65	52	P	P	03 55 59.3	+0.2
	baz=326						
VRAC	Vranov	72.68	338	⇓P	P	03 56 00.6	+1.5
VRAC	Vranov	72.68	338	LR	LR	04 32 33.8	
	comp=Z,634nm,18.8s,baz=24,slow=40						
VRAC	Vranov	72.68	338	*e*P	P	03 55 59.8	+0.7
PAL	Palisades	72.70	42	P	P	03 55 57.6	-1.6
	baz=329						
W50A	Signal Mountai	72.70	53	IAmb	IAmb	03 56 13.8	
	comp=Z,32nm,0.9s						
W50A	Signal Mountai	72.70	53	P	P	03 55 59.7	+0.2
	baz=326,SNR=6.2						
MTN	Manton Dam	72.75	213	P	P	03 56 00.5	+0.8
TESR	Tescani	72.75	330	⇑P	P	03 56 01.2	+1.7
CPCT	Cooper Cave	72.86	52	IAmb	IAmb	03 56 14.6	
	comp=Z,28nm,1.0s						
ARCR	ARCALIA	72.87	332	⇑P	P	03 56 01.7	+1.5
JAVC	Velka Javorina	72.87	337	*e*P	P	03 56 02.0	+1.8
TREC	Trest	72.93	339	*e*P	P	03 56 01.4	+0.9
TREC				AMS	AMS	04 31 20.0	
	comp=Z,600nm,18.4s						
TREC	Trest	72.93	339	*e*P	P	03 56 01.4	+0.9
TREC				MLR	MLR		
	comp=Z,600nm,18.4s						
VLDR	Vladesti	72.94	329	⇑P	P	03 56 01.7	+1.1
VYHS	Vyhne	72.95	336	*e*P	P	03 56 01.6	+1.0
VYHS	Vyhne	72.95	336	*e*P	P	03 56 01.7	+1.1
VYHS				pmax	pmax		
	comp=Z,31nm,1.4s						
KRUC	Moravsky	72.96	338	*e*P	P	03 56 01.5	+0.8
V52A	Sevierville	72.96	52	IAmb	IAmb	03 56 15.4	
	comp=Z,27nm,1.1s						
146A	Union	73.01	57	P	P	03 56 02.0	+0.8
	baz=325						
Z47A	Carrollton	73.03	56	IAmb	IAmb	03 56 33.8	
	comp=Z,43nm,0.9s						
DSRI	Dabo	73.08	244	P	P	03 56 10.8	+9.0

FPAL	Fort Paine	73.10	54	IAmb	IAmb	03 56 16.1	
	comp=Z,48nm,1.0s						
HYBB	Hyderabad (bro	73.17	276	*e*P	P	03 56 02.5	+0.1
HYBB				IVmBBB		03 56 02.8	
	comp=Z,281nm,0.6s						
PANC	Panciu	73.19	330	⇑P	P	03 56 03.4	+1.3
U54A	Nelsons Funny	73.19	50	IAmb	IAmb	03 56 16.8	
	comp=Z,28nm,0.9s						
U54A	Nelsons Funny	73.19	50	P	P	03 56 02.0	-0.4
	baz=327						
U54A				P	P	03 56 02.0	-0.4
	baz=327						
BLA	Blacksburg	73.23	49	IAmb	IAmb	03 56 18.6	
	comp=Z,28nm,1.0s						
BLA	Blacksburg	73.23	49	P	P	03 56 02.9	+0.3
	baz=327						
BLA	Blacksburg	73.23	49	P	P	03 56 00.9	-1.6
	baz=327						
PSZ	Piszkesteto	73.23	335	⇓P	P	03 56 03.6	+1.2
PSZ	Piszkesteto	73.23	335	IAmb	IAmb	03 56 19.2	
	comp=Z,26nm,1.1s						
PSZ	Piszkesteto	73.23	335	P	P	03 56 03.6	+1.2
MSVF	Nonsavu	73.24	166	LR	LR	04 20 53.1	
	comp=Z,200nm,21.0s,baz=3.4,slow=30						
SMOL	Smolenice	73.25	337	*e*P	P	03 56 04.1	+1.7
SMOL				pmax	pmax		
	comp=Z,11nm,1.2s						
Y49A	Blount Mountai	73.29	55	IAmb	IAmb	03 56 20.7	
	comp=Z,22nm,1.0s						
Y49A	Blount Mountai	73.29	55	P	P	03 56 02.7	-0.1
	baz=325						
ODBI	Odobesti	73.32	330	⇑P	P	03 56 04.5	+1.7
VRI	Vrincioaia	73.32	330	⇓P	P	03 56 02.1	-0.8
VRI				⇓P	pP	03 56 04.0	-2.2
PSI	Prapat	73.35	251	LR	LR	04 31 35.1	
	comp=Z,301nm,18.9s,baz=356,slow=38						
PSI	Prapat	73.35	251	P	P	03 56 07.1	+3.5
	comp=Z,481nmcomp=Z,46nm,0.8s						
PSI	Prapat	73.35	251	P	P	03 56 07.4	+3.8
	comp=Z,46nm,0.8s						
MEM	Membach	73.35	345	*d*P	P	03 56 03.1	+0.2
	comp=Z,20nm,0.9s						
PLOR	Plostina	73.36	330	⇑P	P	03 56 03.9	+0.7
BTNL	Ternell	73.36	345	*d*P	P	03 56 03.7	+0.7
	comp=Z,22nm,0.8s						
BTNL				*d*PcP	PcP	03 56 17.0	-2.3
OZUR		73.38	331	⇓P	P	03 56 04.7	+1.5
S57A	Dark Hollow, R	73.40	47	IAmb	IAmb	03 56 18.1	
	comp=Z,29nm,0.9s						
S57A	Dark Hollow, R	73.40	47	P	P	03 56 02.9	-0.6
	baz=328						
S57A				P	P	03 56 02.9	-0.6
	baz=328						
CJR	Cluj-Napoca	73.41	333	⇓P	P	03 56 03.7	+0.2
MODS	Modra-Piesok	73.42	337	*e*P	P	03 56 04.9	+1.5
MODS	Modra-Piesok	73.42	337	*e*P	P	03 56 04.9	+1.5
MODS				pmax	pmax		
	comp=Z,70nm,1.5s						
W52A	Murphy	73.43	52	IAmb	IAmb	03 56 18.7	
	comp=Z,30nm,1.1s						
RPSI	Rantau Prapat	73.44	250	IAmb	IAmb	03 56 08.3	
	comp=Z,30nm,0.9s						
BSTI	Sart Tilman	73.44	346	*d*P	P	03 56 04.5	+1.0
BSTI				*d*PcP	PcP	03 56 16.9	-2.7
KHC	Kasperske Hory	73.47	340	*e*P	P	03 56 04.7	+0.9
KHC				*e*x	x	03 56 20.6	
KHC				AMS	AMS	04 34 30.0	
	comp=Z,600nm,14.4s						
KHC	Kasperske Hory	73.47	340*c*	*i*P	P	03 56 05.0	+1.2
KHC				pmax	pmax		
	comp=Z,32nm,1.3s						
COVR	Voineasa-Covas	73.49	330	⇓P	P	03 56 04.7	+0.8
CFR	Carcaliu	73.53	329	⇑P	P	03 56 03.5	-0.6
DRGR		73.58	333	⇑P	P	03 56 05.8	+1.4
DOPR	Dopca	73.61	331	⇑P	P	03 56 05.9	+1.3
ZST	Bratislava	73.62	337	*e*P	P	03 56 06.5	+1.9
ZST	Bratislava	73.62	337	*e*P	P	03 56 06.5	+1.9
ZST				pmax	pmax		
	comp=Z,118nm,1.8s						
CKRC	Cesky Krumlov	73.62	339	*e*P	P	03 56 05.6	+1.0
CKRC				*e*x	x	03 56 19.8	
CKRC				AMS	AMS	04 33 30.0	
	comp=Z,800nm,16.3s						
BCLA	Clavier	73.64	346	*d*PcP	PcP	03 56 17.5	-3.0
LRAL	Lakeview Retre	73.68	56	P	P	03 56 04.9	-0.3
	baz=325,SNR=5.2						
LRAL	Lakeview Retre	73.68	56	P	P	03 56 04.8	-0.4
	baz=325,SNR=5.2						
SNF	Seneffe	73.69	346	*d*P	P	03 56 05.5	+0.5
SRO	Srobarova	73.71	336	*e*P	P	03 56 06.9	+1.9
SRO	Srobarova	73.71	336	*e*P	P	03 56 07.0	+1.9
SRO				pmax	pmax		
	comp=Z,45nm,1.6s						
GERES	GERESS Array B	73.72	340	P	P	03 56 05.5	+0.2
	comp=Z,4.7nm,0.7s,baz=34,slow=5.0,SNR=33						
GERES				LR	LR	04 34 10.9	
	comp=Z,613nm,18.3s,baz=33,slow=40						
	comp=Z,4.7nm,0.7s						
TPGR	Topolog	73.74	329	⇑P	P	03 56 05.9	+0.6
BMRD	Maredsous	73.83	346	*d*P	P	03 56 06.3	+0.5
	comp=Z,6.0nm,0.9s						
BMRD				*d*PcP	pwP	03 56 18.1	+2.5
KOPT	Kop Dagi	73.84	318	P	P	03 56 06.8	+0.4
NEHR	Nehoiu	73.84	330	⇓P	P	03 56 07.7	+1.7
MLR	Muntele Rosu	73.89	330	⇑P	P	03 56 07.6	+1.2
MLR	Muntele Rosu	73.89	330	LR	LR	04 32 05.3	
	comp=Z,798nm,19.6s,baz=25,slow=39						
MLR	Muntele Rosu	73.89	330	IAmb	IAmb	03 56 09.0	
	comp=Z,24nm,0.7s						
RCHB	Rochefort	73.91	346	*d*PcP	PcP	03 56 19.7	-1.9
T57A	Hurt	73.92	48	P	P	03 56 06.6	+0.1
	baz=328						
T57A				P	P	03 56 06.6	+0.1
	baz=328						
BG3	Lake Jocassee	73.97	52	IAmb	IAmb	03 56 21.5	
	comp=Z,37nm,1.2s						
HARR	Harsova	74.03	329	⇑P	P	03 56 07.6	+0.6
DOU	Dourbes	74.06	346	*d*P	P	03 56 07.5	+0.4
DOU				*d*PcP	PcP	03 56 20.6	-1.7
TIRR	Tirgusor	74.10	328	⇓P	P	03 56 08.2	+0.8
TLBR	Topalu	74.13	329	⇓P	P	03 56 08.6	+1.0
CSKK	Cskako	74.14	336	P	P	03 56 09.2	+1.5
CONA	Conrad Observa	74.15	338	*e*P	P	03 56 09.2	+1.4
	comp=Z,9.6nm,1.0s,SNR=5.3						
CONA				*i* P	PcP	03 56 22.3	-0.5
	comp=Z,26nm,1.2s						
KMMI	Kalianget	74.17	232	P	P	03 56 10.1	+1.9
	comp=Z,28nm,0.7s						
VOIR		74.19	331	⇓P	P	03 56 09.6	+1.5
WLF	Walferdange	74.25	345	*d*PcP	PcP	03 56 22.7	-0.4
RONA	Rosalia, Austr	74.27	338	*e*P	P	03 56 10.0	+1.6
	comp=Z,12nm,1.5s						
RONA				*e*P	PcP	03 56 23.2	-0.1
	comp=Z,34nm,1.4s						
BKNI	Bangkinang	74.27	247	P	P	03 56 14.4	+5.6
BKNI	Bangkinang	74.27	247	P	P	03 56 13.5	+4.7
EGYH	Egyhazaskeszo	74.30	337	P	P	03 56 10.6	+2.0
Z51A	Franklin	74.32	54	IAmb	IAmb	03 56 22.9	
	comp=Z,31nm,1.1s						
Z51A	Franklin	74.32	54	P	P	03 56 09.0	+0.1
	baz=326						
ARR	Arges	74.37	331	⇑P	P	03 56 10.6	+1.5
Y52A	Lilburn	74.38	53	IAmb	IAmb	03 56 24.4	
	comp=Z,25nm,1.0s						
MTSU	Mount Surprise	74.46	199	P	P	03 56 10.2	+0.5
MPLH	Magyarpolny	74.49	337	P	P	03 56 11.5	+1.8
GURO	Guroymak-BITLI	74.49	316	P	P	03 56 10.9	+0.8
GURO				IAmb	IAmb	03 56 12.8	
	comp=Z,89nm,1.8s						
MOA	Molln	74.56	339	*e*P	P	03 56 11.1	+0.9
	comp=Z,4.8nm,0.9s						
MOA				*e*P	PcP	03 56 24.1	-0.4
	comp=Z,19nm,1.2s						
KMSC	Kings Mountain	74.56	50	IAmb	IAmb	03 56 24.0	
	comp=Z,80nm,1.7s						
KMSC	Kings Mountain	74.56	50	P	P	03 56 09.6	-0.7
	baz=327						
ICOR	Ion Corvin	74.59	329	⇓P	P	03 56 11.5	+1.1
GZR	Gura Zlata	74.85	333	⇑P	P	03 56 12.5	+0.6
ARSA	Arzberg	74.86	338	*e*P	P	03 56 13.3	+1.4
	comp=Z,7.1nm,1.2s						
ARSA				*e*P	PcP	03 56 26.1	+0.3
	comp=Z,24nm,1.6s						
T60A	Surry	74.86	46	P	P	03 56 12.7	+0.7
	baz=329						

T60A P P 03 56 12.7 +0.7
baz=329
POO Poona 74.98 281 eP P 03 56 07.0 -6.0
V58A Windy Hill, Pi 74.99 48 IAmb IAmb 03 56 27.8
comp=Z,26nm,1.0s
KOUNC Koumac, New Ca 75.00 179 P P 03 56 14.7 +1.9
152A Waverly Hall 75.07 54 P P 03 56 13.3 0.0
baz=326
SDSI Sungai Dareh 75.12 246 P P 03 56 18.8 +5.1
MORH Mrgy, Hungar 75.13 336 ⇑P P 03 56 13.8 +0.5
MORH Mrgy, Hungar 75.13 336 P P 03 56 13.6 +0.2
BFO Black Forest 75.20 343 P P 03 56 13.7 -0.2
BFO Black Forest 75.20 343 P P 03 56 13.7 -0.2
BFO pmax pmax
comp=Z,12nm,1.0s
GSI Gunungsitoli 75.33 251 P P 03 56 19.2 +4.3
comp=Z,3µmcomp=Z,82nm,0.7s
GSI Gunungsitoli 75.33 251 P P 03 56 19.3 +4.3
COPA Copaceanca 75.34 330 ⇓P P 03 56 14.8 +0.2
HERR Herculane 75.42 333 ⇑P P 03 56 15.2 +0.1
KBA Koelnbreinsper 75.48 340 iP P 03 56 17.4 +1.8
comp=Z,17nm,0.7s
SOKA Soboth 75.51 338 iP P 03 56 16.9 +1.2
comp=Z,12nm,1.2s,SNR=7.4
SOKA eP PcP 03 56 27.7 -1.0
comp=Z,32nm,1.4s
PERS Pernice 75.53 338 iP P 03 56 16.9 +1.1
WATA Walderalm 75.58 341 eP P 03 56 17.0 +0.8
comp=Z,14nm,1.0s
WATA eP PcP 03 56 28.1 -1.0
comp=Z,30nm,1.6s
RETA Reutte 75.59 341 eP P 03 56 17.1 +0.9
comp=Z,7.5nm,0.8s
RETA eP PcP 03 56 28.3 -0.7
comp=Z,15nm,1.5s
WTTA Wattenberg 75.64 341 eP P 03 56 18.0 +1.4
comp=Z,13nm,0.8s,SNR=7.3
MOTA Moosalm 75.66 341 eP P 03 56 17.5 +0.9
comp=Z,12nm,0.8s,SNR=6.8
MOTA eP PcP 03 56 29.3 -0.2
comp=Z,22nm,1.4s
SQTA Sankt Quirin 75.76 341 eP P 03 56 18.4 +1.2
comp=Z,17nm,0.7s,SNR=8.3
SQTA iP PcP 03 56 30.4 +0.6
comp=Z,26nm,1.4s
OBKA Obir 75.78 339 eP P 03 56 18.3 +1.1
OBKA Obir 75.78 339 eP P 03 56 18.5 +1.3
comp=Z,18nm,0.9s,SNR=10
OBKA eP PcP 03 56 30.3 +0.5
comp=Z,33nm,1.1s
FRGS Fruska Gora 75.84 335 ⇓P P 03 56 18.0 +0.4
FRGS Fruska Gora 75.84 335 eP P 03 56 17.9 +0.4
MYKA Terra Mystica 75.85 339 eP P 03 56 18.1 +0.4
comp=Z,5.8nm,0.8s
MYKA eP PcP 03 56 30.8 +0.6
comp=Z,11nm,1.1s
154A Montrose 75.87 53 P P 03 56 17.6 -0.2
baz=327
ABTA Abfaltersbach 75.97 340 eP P 03 56 19.3 +1.0
comp=Z,15nm,1.2s,SNR=8.2
ABTA eP PcP 03 56 31.2 +0.6
comp=Z,28nm,1.4s
GOLS Golise 76.02 338 iP P 03 56 19.5 +1.0
CTA Charters Tower 76.02 197 LR LR 04 25 59.2
comp=Z,85nm,20.8s,baz=54,slow=33
CTA Charters Tower 76.02 197 P P 03 56 19.1 +0.5
CTAO Charters Tower 76.02 197 P P 03 56 18.9 +0.3
CTAO IAmb IAmb 03 56 20.3
comp=Z,41nm,1.1s
CTAO Charters Tower 76.02 197 P P 03 56 19.1 +0.5
CTAO Charters Tower 76.02 197 P P 03 56 18.9 +0.3
CTAO pmax pmax
comp=Z,41nm,1.1s
PWJI Pagerwojo 76.03 233 P P 03 56 19.1 +0.3
comp=Z,38nm,1.0s
FETA Feichten 76.05 341 eP P 03 56 20.1 +1.3
comp=Z,15nm,0.9s,SNR=7.4
FETA eP PcP 03 56 30.4 -0.7
comp=Z,24nm,1.0s
MARD Mardin 76.06 316 P P 03 56 19.4 +0.4
KNRA Kununurra 76.17 215 P P 03 56 19.2 -0.4
KNRA IAmb IAmb 03 56 21.4
comp=Z,66nm,1.2s
KNRA Kununurra 76.17 215 P P 03 56 20.7 +1.2
PLVB Pleven 76.19 331 ⇑P P 03 56 20.0 +0.4
CIMO Cimolais 76.40 340 IAmb IAmb 03 57 15.6
comp=Z,4.9nm,0.9s
DAVOX Davos/Dischmat 76.43 342 LR LR 04 32 13.0
comp=Z,515nm,21.7s,baz=29,slow=38
BLKB Belogradchik 76.52 332 ⇑P P 03 56 21.2 -0.2
CEY Cerknica 76.53 338 eP P 03 56 21.4 -0.1
DZM Mont Dzumac 76.55 177 LR LR 04 27 41.3
comp=Z,217nm,18.3s,baz=22,slow=34
DZM Mont Dzumac 76.55 177 IAmb IAmb 03 56 25.0
comp=Z,41nm,1.1s
DZM Mont Dzumac 76.55 177 P P 03 56 23.6 +1.9
NOUC Port Laguerre 76.58 177 P P 03 56 24.0 +2.3
BOJS Bojanci 76.58 338 iP P 03 56 22.4 +0.7
TIGA Tifton 76.62 54 P P 03 56 21.0 -1.2
baz=327
BR131 Keskin Array S 76.63 323 IAmb IAmb 03 56 23.9
comp=Z,40nm,0.9s
BR131 Keskin Array S 76.63 323 P P 03 56 22.4 +0.1
BR131 Keskin Array S 76.63 323 c iP P 03 56 22.7 +0.5
BRTR Keskin Array B 76.63 323 P P 03 56 22.8 +0.5
comp=Z,19nm,0.8s,baz=39,slow=4.3,SNR=64
BRTR LR LR 04 33 08.2
comp=Z,543nm,19.7s,baz=32,slow=38
comp=Z,19nm,0.8s
BRTR Keskin Array B 76.63 323 iP P 03 56 22.7 +0.5
BRTR pmax pmax
comp=Z,20nm,0.8s
A051A Mrakovica 76.67 336 eP P 03 56 21.0 -1.3
BOVS Bovan 76.77 333 ⇓P P 03 56 22.4 -0.4
DIVS Divibare 76.78 334 eP P 03 56 23.2 +0.2
ANTO Ankara 76.80 323 P P 03 56 22.4 -0.7
ANTO IAmb IAmb 03 56 25.2
comp=Z,46nm,0.9s
ANTO Ankara 76.80 323 P P 03 56 23.5 +0.4
ANTO Ankara 76.80 323 P P 03 56 22.4 -0.7
ANTO pmax pmax
comp=Z,46nm,0.9s
CTI Castel Tesino 76.81 340 IAmb IAmb 03 56 54.2
comp=Z,28nm,1.3s
BR231 Keskin MP Arra 76.83 323 IAmb IAmb 03 56 25.5
comp=Z,46nm,0.9s
BLY Banja Luka 76.86 336 eP P 03 56 23.4 +0.1
HAPS Han Pijesak,BI 77.06 335 eP P 03 56 25.2 +0.6
BBLS Lazići 77.15 334 eP P 03 56 25.8 +0.8
MGRS Mrkonjic Grad 77.19 336 eP P 03 56 26.2 +1.0
VTS Vitosha 77.30 331 ⇑P P 03 56 26.2 +0.2
SALO Salr 77.43 341 P P 03 56 26.4 -0.2
SALO IAmb IAmb 03 56 42.8
comp=Z,17nm,0.8s
GAZ Gaziantep 77.58 319 IAmb IAmb 03 56 29.8
comp=Z,46nm,0.9s
BORA Eskisehir 77.58 325 IAmb IAmb 03 56 43.1
comp=Z,15nm,0.8s
QIS Mount Isa 77.79 203 P P 03 56 28.6 0.0
JASK Jask - Hormozg 77.80 298 P P 03 56 29.1 +0.3
BRY Bratogost 78.27 335 eP P 03 56 31.7 +0.3
SKO Skopje 78.39 332 iP P 03 56 32.6 +0.7
STIP Stip 78.44 332 iP P 03 56 31.8 -0.4
WR0 Warramunga Arr 78.48 208 IAmb IAmb 03 56 33.4
comp=Z,22nm,0.8s
WRAB Tennant Creek 78.50 208 P P 03 56 33.1 +0.5
WRAB Tennant Creek 78.50 208 d iP P 03 56 33.0 +0.5
WRAB pmax pmax
comp=Z,40nm,0.9s
WB2 Warramunga Arr 78.51 208 IAmb IAmb 03 56 34.1
comp=Z,45nm,0.9s
WRA Warramunga Arr 78.52 208 P P 03 56 32.6 0.0
comp=Z,28nm,0.8s,baz=21,slow=6.0,SNR=168
WRA LR LR 04 29 31.8
comp=Z,83nm,21.9s,baz=10,slow=34
comp=Z,28nm,0.8s
SHME Shamm 78.53 299 P P 03 56 32.9 0.0
SNR=9.4
SHME Shamm 78.53 299 iP P 03 56 32.8 -0.1
SNR=29
WB1 Warramunga Ar. 78.53 208 P P 03 56 33.3 +0.6
PDG Podgorica 78.53 334 ⇑P P 03 56 33.0 +0.4
PDG Podgorica 78.53 334 IAmb IAmb 03 56 49.4
comp=Z,27nm,0.8s
BANOM Banah 78.55 299 P P 03 56 34.0 +0.9
SNR=11
BANOM Banah 78.55 299 iP P 03 56 32.9 -0.1
SNR=28
ZCCA Zocca 78.57 340 IAmb IAmb 03 56 49.4
comp=Z,51nm,1.1s
VAY Valandovo 78.68 331 iP P 03 56 34.4 +0.9
HCY Herceg Novi 78.71 334 eP P 03 56 35.6 +2.0
DRME Dracevica, Mon 78.78 334 eP P 03 56 33.0 -1.0
TAOE Nuku Hiva Isla 78.80 123 eLR LR 04 21 00.8
comp=Z,503nm,30.2s
MASF Masafi 79.08 299 P P 03 56 37.6 +1.7
SNR=9.6
MSFE Esma-Masafi 79.09 299 iP P 03 56 35.7 -0.3
SNR=12
OHR Ohrid 79.36 332 iP P 03 56 38.0 +0.7
UOSS Minazif 79.41 298 P P 03 56 37.2 -0.5
HATD Hatta, Dubai 79.54 298 iP P 03 56 38.2 -0.3
SNR=22
WSAR Wadi Sarin 79.55 295 P P 03 56 39.2 +0.7
BIDO Bidbid 79.58 296 P P 03 56 41.0 +2.3
SNR=5.5
NAZ Nazwa, Dubai 79.64 299 iP P 03 56 38.8 -0.2
SNR=25
ASHO Ashiyiah 79.69 298 P P 03 56 40.0 +0.6
SNR=11
ASHO Ashiyiah 79.69 298 iP P 03 56 39.0 -0.3
SNR=22
FAQ Al Faqa, Dubai 79.88 299 iP P 03 56 39.8 -0.5
SNR=16
WBK Wadi Bani Khal 79.89 295 P P 03 56 42.0 +1.6
SNR=8.7
PCHI Peechi 79.94 274 eP P 03 56 40.4 -0.3
PCHI eS S 04 06 40.3 -3.6
HOQ Hoqain 79.96 297 P P 03 56 41.0 +0.2
SNR=17
SMDO Samad 80.00 296 P P 03 56 42.0 +0.9
SNR=9.6
PALK Pallekele 80.04 268 LR LR 04 38 19.3
comp=Z,292nm,19.0s,baz=145,slow=40
PALK Pallekele 80.04 268 P P 03 56 41.5 +0.1
PALK Pallekele 80.04 268 P P 03 56 43.2 +1.8
PALK Pallekele 80.04 268 P P 03 56 47.4 +6.1
PALK Pallekele 80.04 268 P P 03 56 41.5 +0.1
PALK pmax pmax
comp=Z,19nm,0.8s
ASUD Al Ashush, Dub 80.11 299 iP P 03 56 41.5 0.0
SNR=12
AJN Ajban 80.34 299 P P 03 56 44.3 +1.5
SNR=5.3
AJN Ajban 80.34 299 iP P 03 56 42.2 -0.5
SNR=6.1
ALNE Al Ain 80.37 298 P P 03 56 43.1 +0.2
SNR=11
ALNE Al Ain 80.37 298 iP P 03 56 42.6 -0.4
SNR=6.9
ARQ Araqi 80.57 297 P P 03 56 44.3 +0.3
SNR=9.8
BSY Bisya 80.70 296 P P 03 56 45.1 +0.4
SNR=18
SCTE Santa Cesarea 80.95 334 IAmb IAmb 03 57 03.2
comp=Z,44nm,0.9s
SHMA Al-Shehemyia 81.26 303 P P 03 56 48.0 +0.4
SAKB Bahrain 81.37 303 P P 03 56 48.8 +0.5
MHTO MHTO 81.75 295 P P 03 56 51.0 +0.7
SNR=42
UMZA Um Al Zommool 81.78 298 P P 03 56 51.4 +1.0
RAR Rarotonga 81.88 146 LR LR 04 24 53.4
comp=Z,111nm,19.8s,baz=321,slow=30
RMQ Roma 81.92 193 P P 03 56 52.7 +1.8
MMAI Mount Meron Ar 81.93 318 LR LR 04 36 00.5
comp=Z,51nm,19.0s,baz=280,slow=38
ASF Jabal al Asfar 82.09 317 LR LR 04 38 18.3
comp=Z,460nm,20.2s,baz=49,slow=39
AS01 Alice Springs 82.17 207 P P 03 56 53.5 +1.2
AS31 Alice Springs 82.18 207 IAmb IAmb 03 56 54.2
comp=Z,12nm,0.6s
ASAR Alice Springs 82.18 207 P P 03 56 53.5 +1.1
comp=Z,32nm,0.6s,baz=16,slow=5.1,SNR=265
ASAR LR LR 04 30 48.9
comp=Z,134nm,21.7s,baz=350,slow=34
comp=Z,32nm,0.6s
TIP Timpagrande 82.23 335 IAmb IAmb 03 57 29.8
comp=Z,30nm,1.2s
SMRA Abu-Samra 82.26 302 P P 03 56 53.8 +0.8
PPT Papeete 82.28 135 LR LR 04 30 41.2
comp=Z,124nm,18.0s,baz=314,slow=34
PPT2 Papeete2 82.30 135 eLR LR 04 22 38.0
comp=Z,416nm,28.8s
PPT2 eLR LR 04 22 38.0
comp=Z,538nm,27.0s
QLP Quilpie 82.72 197 P P 03 56 56.4 +1.4
DQM DQM 82.84 294 P P 03 56 56.5 +0.4
PGAV Gavieira, Arco 83.40 354 eP P 03 56 59.2 +0.4
comp=Z,26nm,1.8s
PGAV Gavieira, Arco 83.40 354 eLR LR 04 24 25.1
comp=Z,253nm,18.0s
PBRG Braganca 83.46 353 eP P 03 56 59.6 +0.6
comp=Z,28nm,1.8s
IDI Anoyia 83.57 327 LR LR 04 38 03.6
comp=Z,288nm,20.9s,baz=36,slow=38
POLO Lamas de Olo 83.96 354 eP P 03 57 02.2 +0.6
comp=Z,9.9nm,1.3s
POLO iLQ LQ 03 57 17.1
MVO Moncorvo 84.12 353 eP P 03 57 03.2 +0.8
comp=Z,24nm,1.6s
MVO iLQ LQ 03 57 15.5
MVO Moncorvo 84.12 353 eLR LR 04 25 03.0
comp=Z,353nm,20.0s
PTO Porto 84.25 354 eP P 03 57 04.2 +1.3
comp=Z,31nm,1.6s
VAE Valguarnera 84.41 336 LR LR 04 37 57.0
comp=Z,378nm,19.7s,baz=4.0,slow=38
INKA Innaminka 84.50 200 P P 03 57 05.7 +1.6
PVIS Viseu 84.62 354 eP P 03 57 05.9 +0.9
comp=Z,22nm,1.4s
PVIS iLQ LQ 03 57 18.1
MTE Manteigas 84.92 353 eP P 03 57 07.7 +1.2
comp=Z,29nm,1.0s
MTE iLQ LQ 03 57 19.6
MTE Manteigas 84.92 353 eLR LR 04 28 56.8
comp=Z,316nm,18.0s
MTE Meigas 84.92 353 IAmb IAmb 03 57 23.6
comp=Z,37nm,1.0s
AULRC Lightning Ridg 84.93 194 P P 03 57 05.8 -0.4
EIL Elat 85.08 317 LR LR 04 41 44.5
comp=Z,375nm,18.7s,baz=32,slow=40
WRKA Warakurna 85.08 212 P P 03 57 07.9 +0.7
RAO Raoul Island 85.16 164 LR LR 04 29 41.5
comp=Z,213nm,19.4s,baz=334,slow=32
PCAS Casmilo, Conde 85.32 354 eP P 03 57 09.6 +1.2
comp=Z,31nm,1.8s
PCAS iLQ LQ 03 57 21.6
ESBB Sonseca Array 85.34 350 IAmb IAmb 03 57 22.7
comp=Z,29nm,1.1s
ESDC Sonseca Array 85.34 350 P P 03 57 09.1 +0.5
comp=Z,19nm,0.9s,baz=357,slow=4.8,SNR=185
comp=Z,19nm,0.9s
ESDC Sonseca Array 85.34 350 IAmb IAmb 03 57 22.7
comp=Z,24nm,1.1s
PCBR Castelo Branco 85.47 353 eP P 03 57 10.3 +1.2
comp=Z,23nm,1.2s
PCBR iLQ LQ 03 57 22.4
PAB San Pablo 85.51 351 P P 03 57 08.1 -1.3
PAB IAmb IAmb 03 57 30.5
comp=Z,20nm,1.2s
PAB San Pablo 85.51 351 P P 03 57 08.1 -1.3
PAB pmax pmax
comp=Z,20nm,1.2s
OOD Oodnadatta 85.67 205 P P 03 57 11.0 +1.0
DOK Doka 85.71 296 P P 03 57 11.1 +0.4
RAYN Ar Rayn 85.86 306 P P 03 57 11.2 -0.2
RAYN Ar Rayn 85.86 306 iP P 03 57 11.2 -0.2
SNR=48
RAYN Ar Rayn 85.86 306 P P 03 57 11.2 -0.2
RAYN pmax pmax
comp=Z,59nm,0.9s
PMRV Marv??o 85.87 353 eP P 03 57 11.5 +0.3
comp=Z,23nm,1.5s
PMRV iLQ LQ 03 57 25.1
PMRV Marv??o 85.87 353 eLR LR 04 26 20.3
comp=Z,252nm,18.0s
PSBE So Bento 85.88 354 eP P 03 57 12.2 +1.0
comp=Z,35nm,2.1s
PSBE iLQ LQ 03 57 24.3
DMTO DMTO 86.03 295 P P 03 57 12.5 +0.3
PMTG Montargil 86.28 354 eP P 03 57 14.2 +1.0
comp=Z,17nm,1.4s
PMTG iLQ LQ 03 57 26.3
PESTR Estremoz 86.44 353 eP P 03 57 14.5 +0.5
comp=Z,25nm,1.9s
PESTR iLQ LQ 03 57 30.8
PMAFR Mafra 86.46 354 iLQ LQ 03 57 31.0
WHFO Wadi Hawf 86.48 296 P P 03 57 14.2 -0.3
EVO Evora 86.81 353 eP P 03 57 16.2 +0.4
comp=Z,13nm,2.1s
EVO iLQ LQ 03 57 28.1
PBAR Barrancos 87.09 353 eP P 03 57 17.9 +0.7
comp=Z,22nm,1.8s
ABTO Aybut 87.20 296 P P 03 57 17.8 -0.2
KEST Kesra 87.20 339 P P 03 57 18.0 +0.1
comp=Z,4.0nm,0.7s,baz=324,slow=3.3,SNR=8.3
comp=Z,4.0nm,0.7s
KEST Kesra 87.20 339 P P 03 57 18.2 +0.3
PNCL Nicolau / Gran 87.26 354 eP P 03 57 18.2 +0.3
comp=Z,26nm,1.7s
PNCL iLQ LQ 03 57 28.1
CMSA Cobar Meteorol 87.33 195 P P 03 57 19.9 +1.9
TBI Tubuai 87.53 138 eLR LR 04 25 03.1
comp=Z,1µm,27.2s
TBI eLR LR 04 25 03.3
comp=Z,4µm,28.2s
LCRK Leigh Creek 87.64 202 P P 03 57 20.7 +1.1
PCVE Castro Verde 87.70 353 eP P 03 57 21.0 +0.9
comp=Z,18nm,1.7s
PCVE iLQ LQ 03 57 33.3
PVAQ Vaqueiros 87.91 353 eP P 03 57 22.1 +1.0
comp=Z,26nm,1.5s
PVAQ Vaqueiros 87.91 353 eLR LR 04 26 34.0
comp=Z,304nm,18.0s
STKA Stephens Creek 88.35 199 P P 03 57 23.6 +0.6
comp=Z,18nm,1.0s,baz=345,slow=8.4,SNR=17
STKA LR LR 04 37 51.4
comp=Z,146nm,18.7s,baz=15,slow=36
comp=Z,18nm,1.0s
STKA Stephens Creek 88.35 199 P P 03 57 24.0 +1.1
HTT Hallett 90.38 200 P P 03 57 33.9 +1.4
comp=Z,22nm,1.3s
FORT Forrest 90.54 210 P P 03 57 33.9 +0.7
comp=Z,53nm,0.8s
URZ Urewera 93.37 169 LR LR 04 35 06.4
comp=Z,165nm,19.6s,baz=66,slow=32
JTS Las Juntas de 93.63 67 LR LR 04 45 01.9
comp=Z,141nm,18.0s,baz=38,slow=39
SJG San Juan 95.96 47 LR LR 04 41 56.6
comp=Z,187nm,21.7s,baz=320,slow=36
NWAO Narrogin (SRO) 96.02 218 LR LR 04 36 34.7
comp=Z,91nm,20.7s,baz=134,slow=32
ATD Arta Tunnel 97.42 302 LR LR 04 47 38.6
comp=Z,535nm,19.1s,baz=8.5,slow=39
RPZ Rata Peaks 98.30 175 LR LR 04 35 58.9
comp=Z,340nm,20.9s,baz=304,slow=31
TORD Torodi Ar. Bea 110.65 341 PP PP 04 03 35.6 -4.3
comp=Z,1.2nm,0.8s,baz=6.1,slow=4.5,SNR=5.4
DBIC Dimbokro 118.05 347 PKP PKPdf 04 03 18.6 0.0
comp=Z,2.3nm,0.6s,baz=99,slow=3.0,SNR=5.8
LPAZ La Paz 124.85 67 PKP PKPdf 04 03 32.1 -0.2
comp=Z,0.9nm,0.7s,baz=14,slow=4.2,SNR=4.2
SIV San Ignacio 128.25 60 PKP PKPdf 04 03 37.5 -0.5
comp=Z,0.9nm,0.5s,baz=278,slow=3.7,SNR=7.3
BDFB Brasilia 133.91 45 PKP PKiKP 04 03 49.7 -0.4
comp=Z,0.9nm,0.4s,baz=187,slow=19,SNR=2.2
BOSA Boshof 140.30 294 PKhKP PKPpre 04 03 51.6
comp=Z,2.2nm,1.0s,baz=106,slow=3.3,SNR=3.6
PLCA Paso Flores 141.93 91 PKhKP PKPpre 04 03 59.6
comp=Z,2.0nm,0.9s,baz=273,slow=7.4,SNR=3.6
MAW Mawson 142.59 218 PKhKP PKPpre 04 03 59.6
comp=Z,2.3nm,0.8s,baz=185,slow=4.7,SNR=2.7
PLTB Pedras Altas 145.06 64 PKPdf 04 04 08.6 +0.1
BELA Belgrano 2 155.90 171 PKPdf PKPdf 04 04 24.6 +0.7
BELA PKPab PKPab 04 04 50.6 -0.5
TROLL Troll, Antarti 160.91 198 PKPab PKPab 04 05 11.8 -1.3
SNAA Sanae 162.05 194 PKPab PKPab 04 05 16.5 -1.5
VNA3 Neumayer Olymp 163.20 187 PKPab PKPab 04 05 22.0 -0.9
VNA2 Neumayer--Watz 163.30 190 PKPab PKPab 04 05 22.8 -0.6
baz=184,slow=4.0
VNA1 Neumayer--Stat 163.65 190 PKPab PKPab 04 05 23.5 -1.4

JMA 02 03:47:43.8±0.2, 31°.1N±0°.3×129°.1E±0°.8, h14km±1km, MV2.8/25, SW OFF KYUSHU, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.80	43	P	Pg	03 47 58.8	-0.6
JSJ				eS	Sg	03 48 09.6	-0.2
JKC	Kuchinoerabu	1.15	123	P	Pb	03 48 05.1	-0.3
JKC				eS	Sb	03 48 19.3	-0.9
JSU	Suzuyama	1.25	70	P	Pn	03 48 07.0	+0.1
JSU				eS	Sb	03 48 23.2	0.0
JNN	Nakanoshima	1.42	151	eP	Pn	03 48 09.4	+0.2
JNN				eS	Sn	03 48 27.4	-0.4
JYAK	Yakushimahirau	1.50	124	P	Pn	03 48 09.3	-1.0
JYAK				eS	Sn	03 48 28.4	-1.3
JFU	Fukue jima 2	1.58	350	P	Pn	03 48 11.9	+0.4
JTN	Tanegashima 3	1.69	104	eP	Pn	03 48 12.6	-0.3
JTN				eS	Sn	03 48 34.5	0.0

*NOU **02** 04:25:12.9, 35°.73S×179°.37E, h303km, MLv4.7/10, Off E. Coast of N. Island, N.Z.*

WEL 02 04:24:43.6±1.1, 34°.5S±14°×177°.9W±1°.9, h362km±13km, M4.1/43, mB4.7/30, ML5.0/48, MLv4.8/43, Mw(mB)4.0/30, Error ellipse: s-maj=0.0km s-min=0.0km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	4.60	203	P	Pn	04 25 59.0	-0.5
HAZ	Te Kaha	4.78	209	P	Pn	04 26 00.3	-1.1
PKGZ	Pakihiroa	4.78	206	P	Pn	04 26 00.3	-1.1
PUZ	Puketiti	4.88	204	P	Pn	04 26 01.5	-0.9
PUZ				S	S	04 27 06.4	0.0
RUGZ	Raukumara Rang	5.00	209	P	Pn	04 26 02.9	-1.0
TWGZ	Tauwhareparae	5.07	205	P	Pn	04 26 06.5	+2.0
TWGZ				S	S	04 27 12.0	+1.9
CNGZ	Carnagh Statio	5.28	202	P	Pn	04 26 08.7	+2.0
TKGZ	Te Karaka	5.36	205	P	Pn	04 26 06.2	-1.3
MWZ	Matawai	5.38	208	P	Pn	04 26 08.2	+0.2
MWZ				S	S	04 27 16.5	+0.2
URZ	Urewera	5.49	211	P	Pn	04 26 08.8	-0.4
URZ	Urewera	5.49	211	P	Pn	04 26 07.7	-1.3
URZ				S	S	04 27 16.6	-1.8
RIGZ	Rimuhau	5.62	204	P	Pn	04 26 09.2	-1.4
RIGZ				S	S	04 27 20.9	-0.2
KNZ	Kokohu	5.94	204	P	Pn	04 26 15.1	+1.1
MHGZ	Mahia Peninsul	5.98	202	P	Pn	04 26 16.3	+1.8
RAHZ	Arahi	6.06	208	P	Pn	04 26 14.9	-0.6
MTHZ	Maungataniwha	6.10	210	P	Pn	04 26 16.1	+0.1
WHHZ	Waihua	6.14	206	P	Pn	04 26 17.2	+0.9
WHHZ				S	S	04 27 34.2	+2.5
MRHZ	Matea Rd	6.27	213	P	Pn	04 26 17.7	-0.1
NMHZ	Naumai	6.33	209	P	Pn	04 26 17.8	-0.7
ARHZ	Aropaoanui	6.39	207	P	Pn	04 26 20.3	+1.1
WATZ	Wairara	6.50	217	P	Pn	04 26 21.2	+0.7
BKZ	Black Stump Fm	6.51	210	P	Pn	04 26 21.2	+0.6
BKZ	Black Stump Fm	6.51	210	P	Pn	04 26 20.9	+0.3
MCHZ	McNeill Hill	6.67	208	P	Pn	04 26 22.6	+0.3
KWHZ	Kaweka Forest	6.76	210	P	Pn	04 26 20.7	-2.8
HIZ	Hauiti	6.82	222	P	P	04 26 26.2	+0.8
HIZ	Hauiti	6.82	222	P	P	04 26 25.5	+0.1
NTVZ	North Tongarir	6.83	215	P	Pn	04 26 24.7	+0.4
TMVZ	Te Maari	6.83	215	P	Pn	04 26 24.3	0.0
ETVZ	East Tongariro	6.84	215	P	Pn	04 26 24.7	+0.2
KRVZ	Karewarewa	6.84	215	P	Pn	04 26 25.0	+0.5
NNVZ	North Ngauruho	6.88	215	P	Pn	04 26 25.5	+0.5
WTVZ	West Tongariro	6.88	216	P	Pn	04 26 25.3	+0.3
OTVZ	Oturere	6.88	215	P	Pn	04 26 25.1	+0.1
KAHZ	Kahuranaki	6.90	205	P	Pn	04 26 25.2	+0.1
SNVZ	South Ngauruho	6.91	215	P	Pn	04 26 24.7	-0.7
TWVZ	Taurewa	6.92	217	P	Pn	04 26 25.2	-0.2
NGZ	Ngauruhoe	6.92	215	P	Pn	04 26 25.7	+0.2
BHHZ	Black Hill Sta	6.97	211	P	Pn	04 26 25.4	-0.4
TUVZ	Tukino	6.97	214	P	Pn	04 26 25.9	-0.1
MOVZ	Moawhango	7.04	213	P	Pn	04 26 25.7	-1.0
WNVZ	Wahianoa	7.04	214	P	Pn	04 26 26.8	-0.1
PXZ	Pawanui	7.12	205	P	Pn	04 26 28.1	+0.6
PKVZ	Pokaka	7.14	216	P	Pn	04 26 27.8	-0.1
MTVZ	Mangateitei	7.15	215	P	P	04 26 31.7	+2.5
PNHZ	Pukenui	7.26	209	P	Pn	04 26 28.4	-0.9
VRZ	Vera Road	7.31	219	P	P	04 26 30.4	-0.6

PRHZ	Porangahau	7.41	205	P	Pn	04 26 31.1	+0.2
TSZ	Takapari Road	7.49	209	P	Pn	04 26 31.4	-0.5
DVHZ	Dannevirke	7.61	207	P	Pn	04 26 33.4	+0.1
ANWZ	Angora Road	7.64	205	P	P	04 26 35.2	+0.6
WAZ	Wanganui	7.67	215	P	Pn	04 26 33.9	-0.1
NEZ	North Egmont	7.78	222	P	P	04 26 36.7	+0.3
KHEZ	Kahui Hut	7.84	222	P	P	04 26 37.2	+0.1
KHEZ	Kahui Hut	7.84	222	P	P	04 26 37.4	+0.3
POWZ	Post Office Ro	7.84	209	P	Pn	04 26 36.0	0.0
PRWZ	Pori Road	7.91	207	P	P	04 26 37.5	-0.3
BFZ	Birch Farm	7.91	206	P	P	04 26 37.6	-0.2
BFZ	Birch Farm	7.91	206	P	Pn	04 26 36.9	+0.1
TIWZ	Tintock	8.13	207	P	Pn	04 26 40.0	+0.6
CPWZ	Castlepoint	8.13	205	P	P	04 26 41.3	-0.2
MRZ	Mangatainoka R	8.15	209	P	Pn	04 26 38.5	-1.1
HOWZ	Holdsworth Sta	8.38	208	P	Pn	04 26 41.8	-0.4
TMWZ	Te Maipa	8.41	206	P	Pn	04 26 43.2	+0.5
OGWZ	Otaki Gorge	8.45	210	P	Pn	04 26 42.6	-0.4
KIW	Kapiti Island	8.60	211	P	Pn	04 26 43.8	-1.0
MTW	Mount Morrison	8.61	207	P	Pn	04 26 44.7	-0.2
CAW	Cannon Point	8.73	209	P	Pn	04 26 45.5	-0.9
TRWZ	Traveller	8.74	206	P	Pn	04 26 47.5	+0.9
PAWZ	Paruwai Farm	8.83	207	P	Pn	04 26 47.5	0.0
MSWZ	Moikau Station	8.92	208	P	Pn	04 26 48.6	-0.1
DUWZ	D'Urville Isla	9.00	215	P	Pn	04 26 48.3	-1.4
PLWZ	Palliser	9.05	207	P	Pn	04 26 49.7	-0.6
SNZO	South Karori	9.05	210	P	Pn	04 26 49.6	-0.6
TCW	Tory Channel	9.16	212	P	Pn	04 26 50.0	-1.5
TUWZ	Tuamarina	9.48	213	P	Pn	04 26 53.7	-1.6
TKNZ	Takaka Hill	9.65	218	P	Pn	04 26 56.7	-0.6
QRZ	Quartz Range	9.72	220	P	Pn	04 26 58.3	+0.1
BSWZ	Blackbirch Sta	9.74	212	P	Pn	04 26 58.1	-0.3
MRNZ	Matariki Terra	10.02	217	P	Pn	04 27 01.5	-0.2
KHZ	Kahutara	10.46	211	P	Pn	04 27 06.4	-0.4
RPZ	Rata Peaks	12.60	214	P	Pn	04 27 33.1	+1.0
ODZ	Otahua Downs	13.82	211	P	Pn	04 27 49.0	+2.7

*NEIC **02** 04:26:53.2±2.0, 36.30N±0.02×96.65W±0.03, h6km±4km, Error ellipse: s-maj=3.6km s-min=2.3km az=90.0*

*IDC **02** 04:26:53.5±0.6, 36.39N×96.64W, h0km, mb4.1/12, mbtmp4.2/21, ML4.2/9, MS3.9/31, Error ellipse: s-maj=10.0km s-min=7.7km az=168.0*

*ANF **02** 04:26:53.5±0.2, 36.34N×96.63W, h3km, ML5.7/26, Error ellipse: s-maj=2.3km s-min=2.2km az=69.0*

*NEIC **02** 04:26:53.7, 36.30N×96.67W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.21; $M_{\theta\theta}$4.24; $M_{\phi\phi}$-4.02; $M_{r\theta}$-1.04; $M_{\theta\phi}$-1.49; $M_{\phi r}$-0.50; Fault plane solution: $M_0$4.54000×10^{15} NP1:ϕ_s325.15000°, δ75.49000°, λ1.14000°. NP2:ϕ_s234.86000°, δ88.89000°, λ165.49000°. Principal axes: T 4.6787, Plg11.0000°, Azm189.0000°; N -0.2850, Plg75.0000°, Azm51.0000°; P -4.3937, Plg9.0000°, Azm281.0000°;*

*TUL **02** 04:26:54±2.3, 36.31N±0.02×96.67W±0.03, h4km±5km, ML4.5, mb4.4/45(NEIC), mb_Lg4.9/122(NEIC), Mwr4.4/85(NEIC) Error ellipse: s-maj=3.6km s-min=2.3km az=74.0*

ISC 02 04:26:53.5±1.0**, 36.33N**±0.02×**96.61W**±0.02**, h6**km±7km**, n493,** σ_1^s**24**/515**, mb4.4**/20**, MS4.0**/22**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK044	Pawnee Station	0.15	288	Pg	Pg	04 26 57.0	+0.3
OK044				Sg	Sg	04 26 59.0	+0.2
QUOK	Quay	0.17	206	Pg	Pg	04 26 57.2	+0.2
QUOK				Sg	Sg	04 26 59.4	+0.1
OK046	Pawnee Station	0.25	287	Pg	Pg	04 26 58.6	+0.2
OK046				Sg	Sg	04 27 01.9	+0.2
OK051	E0350 and S346	0.25	315	Pg	Pg	04 26 59.2	+0.7
OK051				Sg	Sg	04 27 02.9	+1.0
OK045	Pawnee Station	0.28	296		Pg	04 26 59.3	+0.3
OK048	Pawnee Station	0.28	289	Pg	Pg	04 26 59.2	+0.2
OK048				Sg	Sg	04 27 03.0	+0.2
OK050	Pawnee Station	0.30	283		Pg	04 26 59.6	+0.1
OK034	N. Norfolk Rd.	0.33	194	Pg	Pg	04 27 00.2	+0.3
OK033	Mehan	0.39	223	Pg	Pg	04 27 01.0	0.0
OK031	S. Brethren Rd	0.41	206	Pg	Pg	04 27 01.7	+0.1
DEOK	Depew	0.49	169	Pg	Pg	04 27 03.7	+0.6
OK049	E0420 Rd and N	0.56	278		Pg	04 27 04.4	0.0
T35A	Sooner Cattle	0.59	8	Pg	Pb	04 27 06.2	-0.2
T35B	Sooner Cattle	0.59	8	P	Pb	04 27 06.1	-0.3
	baz=190,SNR=1000						
T35B				S	Sb	04 27 14.9	-0.2
	baz=190						
BLOK	Blackwell	0.65	312		Pb	04 27 06.3	-1.0
BLOK				IAmb_Lg		04 27 14.0	
	comp=Z,2µm,0.7s						
TUL1	Leonard	0.78	122	Pg	Pb	04 27 09.6	0.0
TUL1	Leonard	0.78	122	P	Pb	04 27 09.7	0.0
	baz=300,SNR=1000						
TUL1				S	Sb	04 27 20.4	-0.1
	baz=300						
TUL1	Leonard	0.78	122	P	Pb	04 27 09.7	0.0
	baz=300,SNR=1000						
OK005	Luther M Schoo	0.82	215	Pg	Pg	04 27 09.1	-0.2
OK011	Prague	0.84	184		Pg	04 27 09.6	-0.1
OK029	Liberty Lake	0.86	232		Pg	04 27 09.6	-0.5
OK025	Westminster Rd	0.95	219	Pg	Pg	04 27 11.0	-0.7
KAN13	South Haven SW	0.98	315	Pg	Pb	04 27 12.2	-0.7
OK009	Oakdale Elemen	0.99	222		Pg	04 27 12.1	-0.5
BCOK	Bluff Creek, N	1.05	231	Pg	Pg	04 27 12.9	-0.8
BCOK				IAmb_Lg		04 27 26.4	
	comp=Z,1µm,0.8s						
CROK	Carrier	1.12	280	Pg	Pg	04 27 14.5	-0.5
CROK				IAmb_Lg		04 27 29.9	
	comp=Z,1µm,0.8s						
GC02	Grant County #	1.13	298	Pg	Pg	04 27 14.9	-0.4
OKCSW	OKLAHOMA CITY	1.14	216		Pg	04 27 14.2	-1.1
KAN09	Caldwell North	1.14	315		Pb	04 27 15.5	-0.2
KAN17	Caldwell West	1.17	308	Pg	Pg	04 27 15.7	-0.3
KS20	Mayfield South	1.18	320		Pb	04 27 16.1	-0.2
KAN01	Argonia South	1.24	312	Pg	Pb	04 27 17.1	-0.3
FNO	Franklin	1.24	211		Pg	04 27 16.1	-1.3
KAN14	Manchester OK	1.25	301		Pg	04 27 17.1	-0.5
KS21	Milan North St	1.28	319	Pg	Pn	04 27 18.1	+0.1
RLO	Rose Lookout	1.30	97		Pb	04 27 18.8	+0.4
KAN06	Argonia West S	1.36	313		Pg	04 27 19.2	-0.4
OK032	Salt Plains WL	1.37	291	Pg	Pn	04 27 19.0	-0.3
KAN08	Anthony NE Sta	1.41	310	Pg	Pb	04 27 20.1	-0.3
KAN12	Harper NE Stat	1.48	312	Pg	Pb	04 27 21.2	-0.2
OK035	E0210 Rd and N	1.73	283		Pb	04 27 24.9	-0.9
OK035				IAmb_Lg		04 27 50.6	
	comp=Z,7µm,0.9s						
U38A	Gravette	1.80	86		Pb	04 27 27.1	+0.2
U38A	Gravette	1.80	86	P	Pb	04 27 27.0	+0.1
	baz=266,SNR=1000						
CSTR	Hydro, Custer	1.81	249	Pn	Pn	04 27 26.1	+0.7
CSTR				IAmb_Lg		04 27 50.7	
	comp=Z,247nm,0.9s						
NOKA	Waynoka	1.89	280		Pn	04 27 27.1	+0.7
NOKA				IAmb_Lg		04 27 54.8	
	comp=Z,5µm,0.8s						
U32A	Winter Ranch,	1.93	272		Pn	04 27 27.2	+0.3
U32A				IAmb_Lg		04 27 55.7	
	comp=Z,7µm,0.9s						
U32A	Winter Ranch,	1.93	272	P	Pn	04 27 27.4	+0.5
	baz=92,SNR=509						
U32A				Sb	Sb	04 27 53.6	+0.1
	baz=92						
X34A	Smith Ranch, M	1.99	210	Pn	Pn	04 27 28.7	+1.0
X34A				IAmb_Lg		04 27 58.7	
	comp=Z,6µm,0.9s						
X37A	Clayton	2.01	149		Pn	04 27 29.4	+1.4
X37A	Clayton	2.01	149	P	Pn	04 27 29.4	+1.4
	baz=329,SNR=1000						
HHAR	Hobbs	2.16	90	Pn	Pb	04 27 32.2	-0.9
HHAR				IAmb_Lg		04 28 09.8	
	comp=Z,3µm,0.9s						
ELIS	Ellis County	2.28	264	IAmb_Lg		04 28 05.9	
	comp=Z,2µm,0.8s						
LOOK	Love County	2.37	191	Pn	Pn	04 27 33.5	+0.5
LOOK				IAmb_Lg		04 28 10.8	
	comp=Z,3µm,0.7s						
WMOK	Wichita Mounta	2.37	229		Pn	04 27 33.4	+0.3
WMOK	Wichita Mounta	2.37	229	P	Pn	04 27 33.7	+0.6
	baz=47,SNR=662						
WMOK				S	Sn	04 28 03.6	+1.1
	baz=47						
WMOK	Wichita Mounta	2.37	229	P	Pn	04 27 33.6	+0.6
	baz=47,SNR=545						
R32A	Long Quarter,	2.68	322		Pn	04 27 38.6	+1.3
R32A				IAmb_Lg		04 28 23.0	
	comp=Z,3µm,1.0s						
R32A	Long Quarter,	2.68	322	P	Pn	04 27 38.6	+1.3
	baz=142,SNR=41						
R32A				S	Sn	04 28 11.5	+1.4
	baz=142						
KSU1	Kansas State U	2.77	0	Pn	Pn	04 27 39.7	+1.2
KSU1	Kansas State U	2.77	0	P	Pn	04 27 39.8	+1.3
	baz=181,SNR=71						
KSU1	Kansas State U	2.77	0	P	Pn	04 27 39.8	+1.3
	baz=181,SNR=219						
Z35A	Perchaven, San	3.03	190		Pn	04 27 42.7	+0.6
Z35A	Perchaven, San	3.03	190	P	Pn	04 27 42.8	+0.6
	baz=9.3,SNR=112						
MIAR	Mount Ida	3.05	125	Pn	Pn	04 27 44.3	+2.0
MIAR	Mount Ida	3.05	125	P	Pn	04 27 44.0	+1.7
	baz=306,SNR=238						
MIAR				S	Sn	04 28 21.6	+2.4
	baz=306						
MIAR	Mount Ida	3.05	125	P	Pn	04 27 44.3	+2.0
	baz=306,SNR=220						
Z38A	Mt. Pleasant	3.34	156		Pn	04 27 47.5	+1.2
Z38A				IAmb_Lg		04 28 44.6	
	comp=Z,2µm,0.8s						
Z38A	Mt. Pleasant	3.34	156	P	Pn	04 27 47.8	+1.5
	baz=336,SNR=33						
Z38A				S	Sn	04 28 28.4	+2.1
	baz=336						
CBKS	Cedar Bluff	3.51	316		Pn	04 27 49.8	+1.0
CBKS	Cedar Bluff	3.51	316	P	Pn	04 27 49.8	+1.0
	baz=135,SNR=120						
CBKS				S	Sn	04 28 30.6	-0.1
	baz=135						
CBKS	Cedar Bluff	3.51	316	P	Pn	04 27 49.8	+1.0
	baz=135,SNR=37						
MGMO	Mountain Grove	3.59	75		Pn	04 27 52.1	+2.3
MGMO				IAmb_Lg		04 28 51.0	
	comp=Z,5µm,0.8s						
FCAR	Ozark Folk Cen	3.66	96		Pn	04 27 52.2	+1.5
FCAR				IAmb_Lg		04 29 00.2	
	comp=Z,2µm,0.8s						
WHAR	Wooly Hollow	3.66	105		Pn	04 27 52.3	+1.5
WHAR				IAmb_Lg		04 28 55.5	
	comp=Z,5µm,0.8s						
UALR	University of	3.81	113		Pn	04 27 54.7	+1.9
UALR				IAmb_Lg		04 29 05.8	
	comp=Z,2µm,0.8s						
WLAR	White Oak Lake	3.90	131		Pn	04 27 55.3	+1.3
WLAR				IAmb_Lg		04 29 04.3	
	comp=Z,3µm,1.0s						
R40A	Maddies Statio	3.98	59		Pn	04 27 56.5	+1.4
R40A				IAmb_Lg		04 29 03.8	
	comp=Z,3µm,0.8s						
R40A	Maddies Statio	3.98	59	P	Pn	04 27 57.3	+2.2
	baz=242,SNR=322						
R40A				S	Sn	04 28 45.0	+2.9
	baz=242						
P38A	Dawn	4.09	36	IAmb_Lg		04 29 07.5	
	comp=Z,4µm,0.8s						
P38A	Dawn	4.09	36	P	Pn	04 27 58.0	+1.3
	baz=218,SNR=168						
P38A				S	Sn	04 28 47.5	+2.5
	baz=218						
237A	Washetta, Mont	4.37	171		Pn	04 28 01.1	+0.7
237A	Washetta, Mont	4.37	171	P	Pn	04 28 01.1	+0.7
	baz=351,SNR=68						
237A				S	Sn	04 28 51.4	-0.2
	baz=351						
AMTX	Amarillo	4.37	252		Pn	04 28 01.7	+1.1
AMTX				IAmb_Lg		04 29 13.7	
	comp=Z,3µm,0.7s						
AMTX	Amarillo	4.37	252	P	Pn	04 28 01.4	+0.8
	baz=69,SNR=15						
AMTX	Amarillo	4.37	252	P	Pn	04 28 01.1	+0.5
	baz=69						
WHTX	Lake Whitney,	4.38	189		Pn	04 28 01.2	+0.5
WHTX	Lake Whitney,	4.38	189	P	Pn	04 28 00.9	+0.3
	baz=8.6,SNR=94						
WHTX	Lake Whitney,	4.38	189	P	Pn	04 28 00.9	+0.3
	baz=8.6,SNR=41						
LCAR	Lake Charles	4.42	92		Pn	04 28 02.4	+1.2
LCAR				IAmb_Lg		04 29 16.1	
	comp=Z,2µm,0.8s						
LCAR	Lake Charles	4.42	92	P	Pn	04 28 02.4	+1.2
	baz=275,SNR=92						
N33B	J Bar K, Exete	4.45	352	P	Pn	04 28 02.6	+0.9
	baz=172,SNR=49						
N33B				S	Sn	04 28 54.4	+0.6
	baz=172						
N33A	J Bar K, Exete	4.45	352		Pn	04 28 02.6	+0.9
N33A				IAmb_Lg		04 29 24.2	
	comp=Z,4µm,0.9s						
ABTX	Abilene, Hawle	4.46	215	Pn	Pn	04 28 01.8	-0.1
ABTX	Abilene, Hawle	4.46	215	P	Pn	04 28 01.7	-0.1
	baz=33,SNR=8.5						
ABTX	Abilene, Hawle	4.46	215	P	Pn	04 28 01.6	-0.2
	baz=33,SNR=11						
N35A	Tabor	4.59	9	Pn	Pn	04 28 04.9	+1.3
N35A				IAmb_Lg		04 29 23.1	
	comp=Z,2µm,0.8s						
N35A	Tabor	4.59	9	P	Pn	04 28 04.7	+1.2
	baz=190,SNR=109						
CCM	Cathedral Cave	4.62	66	Pn	Pn	04 28 06.0	+2.1
CCM				IAmb_Lg		04 29 31.7	
	comp=Z,3µm,0.8s						
CCM	Cathedral Cave	4.62	66	P	Pn	04 28 05.9	+1.9
	baz=250,SNR=172						
CCM				S	Sn	04 28 59.5	+1.6
	baz=250						
CCM	Cathedral Cave	4.62	66	P	Pn	04 28 05.6	+1.7
	baz=250						
CCAR	Cane Creek	4.64	120		Pn	04 28 05.8	+1.6
CCAR				IAmb_Lg		04 29 30.3	
	comp=Z,2µm,0.9s						
CCAR	Cane Creek	4.64	120	P	Pn	04 28 05.4	+1.3
	baz=302,SNR=50						
P40A	Paris	4.82	47		Pn	04 28 08.2	+1.5
P40A	Paris	4.82	47	P	Pn	04 28 08.0	+1.3
	baz=230,SNR=65						
P40A				S	Sn	04 29 04.2	+1.3
	baz=230						
NATX	Nacogdoches	4.83	160		Pn	04 28 07.5	+0.7
NATX				IAmb_Lg		04 29 40.1	
	comp=Z,2µm,0.7s						
NATX	Nacogdoches	4.83	160	P	Pn	04 28 07.3	+0.4
	baz=341						
NATX				S	Sn	04 29 02.7	-0.5
	baz=341						
NATX	Nacogdoches	4.83	160	P	Pn	04 28 07.2	+0.3
	baz=341,SNR=9.5						
HBAR	Harrisburg	4.89	97		Pn	04 28 08.9	+1.3
PBMO	Poplar Bluff	5.00	83		Pn	04 28 11.2	+2.1
PBMO				IAmb_Lg		04 29 38.8	
	comp=Z,2µm,0.8s						
N38A	Joes South For	5.19	30		Pn	04 28 13.0	+1.3
N38A				IAmb_Lg		04 29 45.2	
	comp=Z,3µm,0.8s						
N38A	Joes South For	5.19	30	P	Pn	04 28 12.7	+1.0
	baz=212,SNR=42						
FVM	French Village	5.21	70		Pn	04 28 13.8	+1.7
FVM				IAmb_Lg		04 29 40.7	
	comp=Z,3µm,0.7s						
FVM	French Village	5.21	70	P	Pn	04 28 13.6	+1.5
	baz=253,SNR=60						
FVM				S	Sn	04 29 13.1	+0.6
	baz=253						
BGNE	Belgrade	5.21	347		Pn	04 28 13.0	+0.9
BGNE				IAmb_Lg		04 29 47.1	
	comp=Z,3µm,0.8s						
BGNE	Belgrade	5.21	347	P	Pn	04 28 12.9	+0.8
	baz=167,SNR=117						
BGNE				S	Sn	04 29 11.7	-0.9
	baz=167						
BGNE	Belgrade	5.21	347	P	Pn	04 28 13.0	+0.9
	baz=167,SNR=120						
GNAR	Gosnell	5.35	92	IAmb_Lg		04 29 50.3	
	comp=Z,2µm,0.8s						
KSCO	Kaye Shedlock'	5.47	301	Pn	Pn	04 28 16.4	+0.6
KSCO				IAmb_Lg		04 29 59.4	
	comp=Z,2µm,0.9s						
KSCO	Kaye Shedlock'	5.47	301	P	Pn	04 28 16.3	+0.6
	baz=118,SNR=94						
KSCO	Kaye Shedlock'	5.47	301	P	Pn	04 28 16.0	+0.3
	baz=118,SNR=46						
PARMO	Parma	5.54	84		Pn	04 28 18.2	+1.6
MET	Memphis--Engin	5.56	101	IAmb_Lg		04 29 55.7	
	comp=Z,2µm,0.8s						
MSTX	Muleshoe	5.57	247	Pn	Pn	04 28 17.2	+0.1
MSTX	Muleshoe	5.57	247	P	Pn	04 28 16.5	-0.5
	baz=63,SNR=53						
MSTX	Muleshoe	5.57	247	P	Pn	04 28 17.1	+0.1
	baz=63,SNR=16						
SLM	Saint Louis	5.57	64		Pn	04 28 18.4	+1.4
SLM	Saint Louis	5.57	64	S	Sn	04 29 21.8	+0.5
	baz=247						
PVMO	Portageville	5.58	87	IAmb_Lg		04 29 56.1	
	comp=Z,2µm,0.9s						
435B	Jarrell	5.59	189	Pn	Pn	04 28 17.3	0.0
435B				IAmb_Lg		04 30 03.6	
	comp=Z,1µm,0.7s						
435B	Jarrell	5.59	189	P	Pn	04 28 17.2	0.0
	baz=7.8,SNR=22						
435B	Jarrell	5.59	189	P	Pn	04 28 16.9	-0.3
	baz=7.8						
143A	Socs Landing,	5.62	129	P	Pn	04 28 18.4	+0.8
	baz=311,SNR=61						
143A				S	Sn	04 29 22.7	+0.2
	baz=311						
L34A	Svendsen Farm,	5.64	2		Pn	04 28 19.0	+1.1
L34A	Svendsen Farm,	5.64	2	P	Pn	04 28 18.9	+1.0
	baz=182,SNR=13						
CGM3	Cape Girardeau	5.66	78		Pn	04 28 19.5	+1.2
CGM3				IAmb_Lg		04 29 59.1	
	comp=Z,2µm,0.8s						
LNXT	Lenox	5.76	90		Pn	04 28 21.0	+1.3
HALT	Halls	5.90	92		Pn	04 28 22.5	+0.9
GLAT	Glass	5.92	88		Pn	04 28 23.1	+1.4
HICK	Hickman	5.96	86		Pn	04 28 23.9	+1.6
S44A	Carbondale	6.04	75	P	Pn	04 28 24.8	+1.3
	baz=259,SNR=119						
S44A				S	Sn	04 29 33.7	+0.7
	baz=259						
W45A	Hickory Valley	6.15	99		Pn	04 28 25.1	+0.2
W45A	Hickory Valley	6.15	99	P	Pn	04 28 25.2	+0.2
	baz=283,SNR=18						
OXF	Oxford	6.16	105		Pn	04 28 25.6	+0.6
OXF				IAmb_Lg		04 30 12.6	
	comp=Z,2µm,1.1s						
OXF	Oxford	6.16	105	P	Pn	04 28 25.3	+0.3
	baz=289						
OXF	Oxford	6.16	105	P	Pn	04 28 25.3	+0.3
	baz=289						
SCIA	State Center	6.17	24		Pn	04 28 26.4	+1.2
SCIA				IAmb_Lg		04 30 23.8	
	comp=Z,2µm,0.7s						
SCIA	State Center	6.17	24	P	Pn	04 28 26.0	+0.8
	baz=206,SNR=43						
SCIA	State Center	6.17	24	P	Pn	04 28 26.1	+1.0
	baz=206,SNR=37						
441A	DeRidder	6.25	152		Pn	04 28 28.2	+1.8
441A				IAmb_Lg		04 30 28.7	
	comp=Z,962nm,0.9s						
441A	DeRidder	6.25	152	P	Pn	04 28 28.2	+1.8
	baz=334,SNR=9.7						
UTMT	University of	6.26	88		Pn	04 28 27.8	+1.4
OGNE	Ogallala	6.26	319	Pn	Pn	04 28 28.2	+1.6
OGNE	Ogallala	6.26	319	P	Pn	04 28 28.2	+1.6
	baz=136,SNR=58						
OGNE	Ogallala	6.26	319	P	Pn	04 28 27.7	+1.1
	baz=136,SNR=94						
N41A	Harden Midland	6.29	44		Pn	04 28 28.5	+1.7
N41A	Harden Midland	6.29	44	P	Pn	04 28 28.4	+1.6
	baz=228,SNR=18						
Y45A	Yeager Farm, C	6.29	111		Pn	04 28 28.4	+1.5
Y45A				IAmb_Lg		04 30 31.5	
	comp=Z,1µm,0.9s						
Y45A	Yeager Farm, C	6.29	111	P	Pn	04 28 28.5	+1.5
	baz=295,SNR=20						
T25A	Trinidad	6.31	280	Pn	Pn	04 28 27.9	+0.4
T25A				IAmb_Lg		04 30 15.1	
	comp=Z,1µm,0.8s						
T25A	Trinidad	6.31	280	P	Pn	04 28 27.3	-0.1
	baz=95,SNR=147						
HKT	Hockley	6.39	174	Pn	Pn	04 28 28.5	+0.3
JCT	Junction City	6.41	205	Pn	Pn	04 28 28.1	-0.5
JCT				IAmb_Lg		04 30 21.2	
	comp=Z,2µm,0.8s						
JCT	Junction City	6.41	205	P	Pn	04 28 28.1	-0.5
	baz=24,SNR=18						
JCT	Junction City	6.41	205	P	Pn	04 28 28.4	-0.2
	baz=24,SNR=20						
T45A	Paducah	6.44	81		Pn	04 28 29.9	+0.9
VBMS	Vicksburg	6.50	127	P	Pn	04 28 30.5	+0.8
	baz=311						
VBMS	Vicksburg	6.50	127	P	Pn	04 28 30.2	+0.5
	baz=311,SNR=7.2						
K31A	O'Neill	6.50	346	IAmb_Lg		04 30 37.0	
	comp=Z,2µm,0.7s						
K31A	O'Neill	6.50	346	P	Pn	04 28 31.1	+1.3
	baz=165,SNR=23						
P43A	Skaggs, Pawnee	6.50	57	P	Pn	04 28 31.6	+1.7
	baz=242,SNR=30						
P43A				S	Sn	04 29 43.8	-0.6
	baz=242						
Q44A	Meyer Farm, Va	6.55	65	P	Pn	04 28 32.1	+1.6
	baz=249,SNR=32						
Q44A				S	Sn	04 29 46.7	+1.1
	baz=249						
344A	Westbrook Farm	6.89	133	P	Pn	04 28 35.8	+0.6
	baz=316,SNR=7.2						
K38A	Parkersburg	6.98	24	P	Pn	04 28 36.8	+0.5
	baz=206,SNR=33						
PLAL	Pickwick Lake	7.08	98	Pn	Pn	04 28 37.8	+0.1
PLAL				IAmb_Lg		04 30 46.2	
	comp=Z,1µm,1.1s						
L40A	Anamosa	7.09	35	IAmb_Lg		04 30 40.9	
	comp=Z,2µm,0.9s						
L40A	Anamosa	7.09	35	P	Pn	04 28 38.4	+0.5
	baz=218						
WVT	Waverly	7.10	89	Pn	Pn	04 28 38.8	+0.8
WVT				IAmb_Lg		04 31 01.1	
	comp=Z,699nm,0.9s						
WVT	Waverly	7.10	89	P	Pn	04 28 38.5	+0.4
	baz=274,SNR=25						
WVT	Waverly	7.10	89	P	Pn	04 28 37.9	-0.1
	baz=274						
HDIL	Hopedale	7.13	51	P	Pn	04 28 39.4	+1.1
	baz=236,SNR=32						
HDIL	Hopedale	7.13	51	P	Pn	04 28 39.5	+1.1
	baz=236,SNR=57						
OLIL	Olney	7.18	68	S	Sn	04 30 00.5	-0.5
	baz=253						
146A	Union	7.24	118	IAmb_Lg		04 31 00.9	
	comp=Z,665nm,0.8s						
146A	Union	7.24	118	P	Pn	04 28 41.0	+1.1
	baz=302						
SDCO	Great Sand Dun	7.25	284	IAmb_Lg		04 30 55.8	
	comp=Z,791nm,1.1s						
SDCO	Great Sand Dun	7.25	284	P	Pn	04 28 41.3	+1.0
	baz=99,SNR=60						
SDCO	Great Sand Dun	7.25	284	P	Pn	04 28 40.6	+0.3
	baz=99,SNR=146						
Q24A	Divide	7.27	294		Pn	04 28 40.6	0.0
Q24A				IAmb_Lg		04 30 53.1	
	comp=Z,1µm,0.8s						
Q24A	Divide	7.27	294	P	Pn	04 28 40.1	-0.5
	baz=109,SNR=45						
BRIGG	Briggsdale	7.39	307	IAmb_Lg		04 31 01.8	
	comp=Z,2µm,0.7s						
ECSD	EROS Data Cent	7.40	360	P	Pn	04 28 42.7	+0.6
	baz=180,SNR=319						
ECSD	EROS Data Cent	7.40	360	P	Pn	04 28 42.5	+0.5
	baz=180,SNR=150						
O44A	Mansfield	7.46	57	P	Pn	04 28 44.4	+1.4
	baz=242,SNR=11						
735A	Kenedy	7.52	188	P	Pn	04 28 44.6	+0.9
	baz=7.2,SNR=66						
T47A	Sharon Grove	7.67	82	P	Pn	04 28 46.5	+0.6
	baz=268,SNR=50						
Z47A	Carrollton	7.69	111	P	Pn	04 28 48.0	+1.9
	baz=296,SNR=12						
L42A	Oliver, Polo	7.83	41	P	Pn	04 28 48.4	+0.5
	baz=226,SNR=8.5						
V48A	Smith Brothers	7.96	91	IAmb_Lg		04 31 13.1	
	comp=Z,926nm,1.1s						
X48A	Hartselle	8.04	101	IAmb_Lg		04 31 11.4	
	comp=Z,780nm,1.2s						
I37A	Lemond, Waseca	8.06	17	IAmb_Lg		04 31 21.8	
	comp=Z,1µm,1.1s						
I37B	Waseca	8.06	17	P	Pn	04 28 50.6	-0.6
	baz=199,SNR=16						
ANMO	Albuquerque	8.13	263	Pn	Pn	04 28 54.3	+2.0
	comp=Z,0.4nm,0.3s,baz=71,slow=12,SNR=7.7						

ANMO Pg Pb 04 29 21.3 +6.4
comp=Z,5.0nm,0.3s,baz=81,slow=18,SNR=22
ANMO Lg Lg 04 31 10.4
comp=Z,13nm,0.3s,baz=149,slow=20,SNR=6.2
ANMO LR LR 04 32 06.5
comp=Z,1µm,18.6s,baz=74,slow=38
comp=Z,1.6nm,0.4s
ANMO Albuquerque 8.13 263 Pn **Pn 04 28 52.8 +0.5**
ANMO Albuquerque 8.13 263 P **Pn 04 28 52.5 +0.1**
baz=78
JFWS Jewell Farm 8.21 35 Pn **Pn 04 28 53.3 +0.1**
JFWS IAmb_Lg 04 31 20.8
comp=Z,2µm,0.8s
JFWS Jewell Farm 8.21 35 P **Pn 04 28 53.0 -0.2**
baz=219,SNR=81
JFWS Jewell Farm 8.21 35 P **Pn 04 28 53.2 0.0**
baz=219,SNR=59
S22A 4UR Ranch, Cre 8.29 283 P **Pn 04 28 55.4 +0.7**
baz=97,SNR=17
SUSD Miller 8.30 348 **Pn 04 28 54.5 0.0**
SUSD IAmb_Lg 04 31 32.5
comp=Z,1µm,0.8s
SUSD Miller 8.30 348 P **Pn 04 28 54.2 -0.3**
baz=167,SNR=6.1
SUSD Miller 8.30 348 P **Pn 04 28 54.5 0.0**
baz=167,SNR=7.9
833A Chaparral WMA, 8.32 197 IAmb_Lg 04 31 37.6
comp=Z,546nm,1.0s
833A Chaparral WMA, 8.32 197 P **Pn 04 28 54.4 -0.3**
baz=16,SNR=45
833A Chaparral WMA, 8.32 197 P **Pn 04 28 54.4 -0.3**
baz=16,SNR=51
M44A Midewin, Midew 8.38 50 IAmb_Lg 04 31 22.7
comp=Z,1µm,0.7s
M44A Midewin, Midew 8.38 50 P **Pn 04 28 56.7 +1.2**
baz=236
WCI Wyandotte Cave 8.44 74 Pn **Pn 04 28 57.6 +1.2**
WCI Wyandotte Cave 8.44 74 P **Pn 04 28 57.2 +0.8**
baz=260,SNR=34
WCI S **Sn 04 30 30.9 -1.2**
baz=260
WCI Wyandotte Cave 8.44 74 P **Pn 04 28 57.2 +0.8**
baz=260
BNM Barren Site 8.48 258 **Pn 04 28 56.5 -0.6**
SFIN Lafayette 8.50 59 IAmb_Lg 04 31 25.5
comp=Z,1µm,0.8s
SFIN Lafayette 8.50 59 P **Pn 04 28 57.9 +0.7**
baz=244,SNR=19
SFIN Lafayette 8.50 59 P **Pn 04 28 58.2 +1.0**
baz=244,SNR=24
PHWY Pilot Hill 8.50 308 **Pn 04 28 57.4 -0.1**
PHWY IAmb_Lg 04 31 28.6
comp=Z,939nm,1.0s
LRAL Lakeview Retre 8.57 110 P **Pn 04 28 59.1 +0.9**
baz=295,SNR=20
LRAL Lakeview Retre 8.57 110 P **Pn 04 28 59.0 +0.8**
baz=295,SNR=17
HQIL Hanson Quary C 8.73 49 IAmb_Lg 04 31 40.1
comp=Z,3µm,1.0s
U49A Red Boiling Sp 8.74 86 P **Pn 04 29 01.6 +1.1**
baz=272,SNR=19
I40A Norwalk 8.84 29 IAmb_Lg 04 31 41.1
comp=Z,776nm,0.8s
I40A Norwalk 8.84 29 P **Pn 04 29 01.9 0.0**
baz=213,SNR=47
L44A Lake County Fo 8.93 46 P **Pn 04 29 03.0 0.0**
baz=232,SNR=18
K43A Burlington 9.03 43 **Pn 04 29 04.5 +0.1**
K43A Burlington 9.03 43 P **Pn 04 29 04.3 -0.1**
baz=228,SNR=18
TX31 Lajitas Ar. Si 9.15 222 **Pn 04 29 05.5 -0.7**
TX31 Lajitas Ar. Si 9.15 222 P **Pn 04 29 05.5 -0.7**
baz=38,SNR=9.8
TXAR Lajitas Array 9.15 222 Pn **Pn 04 29 05.4 -0.9**
comp=Z,0.3nm,0.3s,baz=47,slow=11,SNR=30
TXAR Lg Lg 04 31 38.4
comp=Z,17nm,0.3s,baz=51,slow=32,SNR=8.4
comp=Z,2.5nm,0.5s
R49A Shelbyville 9.32 74 P **Pn 04 29 09.6 +1.1**
baz=261,SNR=19
R49A P **Pn 04 29 09.6 +1.1**
baz=261,SNR=19
SPMN Marine on St. 9.35 17 IAmb_Lg 04 32 08.5
comp=Z,557nm,0.9s
SPMN Marine on St. 9.35 17 P **Pn 04 29 07.9 -0.8**
baz=199,SNR=30
SPMN Marine on St. 9.35 17 P **Pn 04 29 07.6 -1.1**
baz=199,SNR=126
P48A Milroy 9.38 67 **Pn 04 29 09.8 +0.5**
P48A Milroy 9.38 67 P **Pn 04 29 10.0 +0.8**
baz=254
P48A P **Pn 04 29 10.0 +0.8**
baz=254
BRAL Brewton 9.48 120 S **Sn 04 30 55.8 -1.6**
baz=305
BRAL Brewton 9.48 120 P **Pn 04 29 11.4 +0.8**
baz=305,SNR=8.2
T50A Nancy 9.49 82 P **Pn 04 29 11.3 +0.5**
baz=269
T50A P **Pn 04 29 11.3 +0.5**
baz=269
F33A 5 Mile Ranch, 9.51 1 IAmb_Lg 04 31 50.4
comp=Z,501nm,1.0s
F33A 5 Mile Ranch, 9.51 1 P **Pn 04 29 10.8 -0.2**
baz=182
MVCO Mesa Verde 9.58 279 P **Pn 04 29 13.8 +1.6**
baz=92,SNR=6.9
I42A Draeger Farm, 9.58 36 IAmb_Lg 04 32 00.7
comp=Z,1µm,1.1s
I42A Draeger Farm, 9.58 36 P **Pn 04 29 12.3 +0.3**
baz=220,SNR=58
250A Grady 9.61 114 P **Pn 04 29 12.4 0.0**
baz=300,SNR=26
RSSD Black Hills 9.63 326 Pn **Pn 04 29 13.6 +0.7**
RSSD IAmb_Lg 04 32 15.4
comp=Z,950nm,1.0s
RSSD Black Hills 9.63 326 P **Pn 04 29 13.3 +0.4**
baz=142,SNR=54
RSSD Black Hills 9.63 326 P **Pn 04 29 13.9 +1.0**
baz=142
N47A Urbana 9.68 59 P **Pn 04 29 13.5 +0.2**
baz=245
N47A P **Pn 04 29 13.5 +0.2**
baz=245
X51A Calhoun 9.75 97 P **Pn 04 29 15.3 +0.9**
baz=284
X51A P **Pn 04 29 15.3 +0.9**
baz=284
F36A Milaca 9.81 13 IAmb_Lg 04 32 07.0
comp=Z,456nm,1.3s
L46A Eue Claire 9.82 52 P **Pn 04 29 15.7 +0.5**
baz=238,SNR=7.9
L46A P **Pn 04 29 15.7 +0.5**
baz=238,SNR=7.9
O48B Farmland 9.82 63 P **Pn 04 29 14.6 -0.8**
baz=250,SNR=12
O48B Farmland 9.82 63 P **Pn 04 29 15.1 -0.3**
baz=250,SNR=18
O20A White River Ci 9.91 296 P **Pn 04 29 17.7 +1.1**
baz=109,SNR=5.2
K22A Casper 9.92 313 **Pn 04 29 16.9 0.0**
K22A Casper 9.92 313 P **Pn 04 29 16.1 -0.7**
baz=126
K22A Casper 9.92 313 P **Pn 04 29 16.4 -0.4**
baz=126,SNR=32
P49A Miami Univ. Ec 9.93 68 P **Pn 04 29 16.6 -0.1**
baz=255
P49A Miami Univ. Ec 9.93 68 P **Pn 04 29 16.7 -0.1**
baz=255,SNR=9.5
V51A Loudon 9.94 89 P **Pn 04 29 18.4 +1.4**
baz=276,SNR=32
R50A Paris 9.98 75 **Pn 04 29 18.3 +0.8**
R50A Paris 9.98 75 P **Pn 04 29 17.9 +0.4**
baz=262,SNR=16
R50A P **Pn 04 29 17.9 +0.4**
baz=262,SNR=16
G40A Rib Lake 10.17 27 P **Pn 04 29 19.7 -0.3**
baz=211,SNR=22
W52A Murphy 10.39 93 P **Pn 04 29 23.9 +0.7**
baz=280
TKL Tuckaleechee C 10.43 90 Pn **Pn 04 29 23.5 -0.1**
comp=Z,2.7nm,0.3s,baz=234,slow=8.3,SNR=37
TKL Sn **Sn 04 31 21.3 +0.5**
comp=Z,7.2nm,0.3s,baz=357,slow=12,SNR=2.3
TKL Lg Lg 04 32 18.7
comp=Z,15nm,0.3s,baz=178,slow=20,SNR=12
comp=Z,11nm,0.5s
TKL Tuckaleechee C 10.43 90 **Pn 04 29 24.2 +0.6**
baz=277,SNR=14
S51A Beattyville 10.50 79 P **Pn 04 29 25.5 +0.9**
baz=267,SNR=30
S51A P **Pn 04 29 25.5 +0.9**
baz=267,SNR=30
TZTN Tazewell 10.53 85 P **Pn 04 29 26.2 +1.1**
baz=273,SNR=22
TZTN Tazewell 10.53 85 P **Pn 04 29 25.8 +0.8**
baz=273,SNR=8.7
V52A Sevierville 10.55 89 P **Pn 04 29 26.1 +0.8**
baz=276,SNR=11
H43A Windswept, Lux 10.56 37 Pn **Pn 04 29 25.4 0.0**
H43A Windswept, Lux 10.56 37 P **Pn 04 29 25.6 +0.2**
baz=223,SNR=90
E28A Huff 10.69 345 P **Pn 04 29 25.7 -1.4**
baz=162,SNR=18
451A Vernon 10.71 119 P **Pn 04 29 26.8 -0.7**
baz=305
352A Blakely 10.85 113 **Pn 04 29 29.0 -0.4**
352A Blakely 10.85 113 P **Pn 04 29 28.7 -0.6**
baz=300,SNR=8.6
Q51A Peebles 10.86 72 P **Pn 04 29 29.5 0.0**
baz=260,SNR=16
Q51A P **Pn 04 29 29.5 0.0**
baz=260,SNR=16
E38A The Farm, Brul 10.95 19 P **Pn 04 29 29.3 -1.4**
baz=202,SNR=18
L48A N Adams 10.99 56 P **Pn 04 29 31.6 +0.3**
baz=243,SNR=16
L48A P **Pn 04 29 31.6 +0.3**
baz=243,SNR=16
I45A Fountain 11.05 43 P **Pn 04 29 32.8 +0.7**
baz=229,SNR=8.9
I45A P **Pn 04 29 32.8 +0.7**
baz=229,SNR=8.9
P51A Williamsport 11.16 70 P **Pn 04 29 34.3 +0.6**
baz=258
P51A P **Pn 04 29 34.3 +0.6**
baz=258
GOGA Godfrey 11.18 101 P **Pn 04 29 34.1 +0.2**
baz=289
GOGA Godfrey 11.18 101 P **Pn 04 29 33.6 -0.4**
baz=289
V53A Saluda 11.20 89 **Pn 04 29 35.1 +0.9**
P18A Preston Nutter 11.25 291 **Pn 04 29 35.3 +0.1**
COWI Conover 11.27 28 **Pn 04 29 34.4 -0.7**
COWI Conover 11.27 28 P **Pn 04 29 34.4 -0.7**
baz=212
F42A Maple Grove Fa 11.38 32 P **Pn 04 29 35.8 -0.8**
baz=217
J47A Sunmer 11.39 49 P **Pn 04 29 36.1 -0.7**
baz=237,SNR=8.0
J47A P **Pn 04 29 36.1 -0.7**
baz=237,SNR=8.0
ACSO Alum Creek Sta 11.40 66 Pn **Pn 04 29 36.6 -0.4**
ACSO Alum Creek Sta 11.40 66 P **Pn 04 29 36.8 -0.1**
baz=254,SNR=6.8
ACSO Alum Creek Sta 11.40 66 P **Pn 04 29 36.7 -0.2**
baz=254,SNR=27
AAM Ann Arbor 11.67 55 P **Pn 04 29 41.4 +0.8**
baz=243
AAM Ann Arbor 11.67 55 P **Pn 04 29 40.5 0.0**
baz=243,SNR=11
Q52A Bidwell 11.68 73 P **Pn 04 29 41.1 +0.4**
baz=261,SNR=39
Q52A P **Pn 04 29 41.1 +0.4**
baz=261,SNR=39
MDND Maddock 11.72 350 P **Pn 04 29 38.7 -2.6**
baz=168
M50A Fremont 11.73 60 S **Sn 04 31 46.7 -5.9**
baz=249
M50A S **Sn 04 31 46.7 -5.9**
baz=249
R53A Hurricane 11.85 76 P **Pn 04 29 43.0 0.0**
baz=265,SNR=29
R53A P **Pn 04 29 43.0 0.0**
baz=265,SNR=29
TIGA Tifton 11.87 110 P **Pn 04 29 43.2 -0.2**
baz=298
TIGA Tifton 11.87 110 P **Pn 04 29 40.6 -2.8**
baz=298
BW06 Boulder Array 11.88 307 **Pn 04 29 42.4 -1.3**
BW06 Boulder Array 11.88 307 P **Pn 04 29 41.8 -1.9**
baz=119,SNR=22
PDAR Pinedale Array 11.88 307 Pn **Pn 04 29 42.6 -1.1**
comp=Z,1.7nm,0.3s,baz=121,slow=14,SNR=60
PDAR Lg Lg 04 33 03.8
comp=Z,5.0nm,0.3s,baz=107,slow=35,SNR=3.2
PDAR LR LR 04 34 46.5
comp=Z,224nm,21.8s,baz=122,slow=40
comp=Z,5.8nm,0.5s
P52A Corning 11.89 70 P **Pn 04 29 43.4 -0.3**
baz=258,SNR=30
U54A Nelsons Funny 11.92 85 P **Pn 04 29 44.8 +0.6**
baz=273
U54A P **Pn 04 29 44.8 +0.6**
baz=273
AGMN Agassiz Nation 11.98 2 P **Pn 04 29 42.3 -2.5**
baz=183
AGMN Agassiz Nation 11.98 2 P **Pn 04 29 42.0 -2.8**
baz=183,SNR=52
WUAZ Wupatki 12.00 270 P Pn 04 29 40.2 -5.1
baz=82
G45A Suttons Bay 12.03 40 P **Pn 04 29 43.5 -2.0**
baz=227,SNR=6.6
G45A P **Pn 04 29 43.5 -2.0**
baz=227,SNR=6.6
N51A Ashland 12.04 63 P **Pn 04 29 46.5 +0.8**
baz=252,SNR=6.6
N51A P **Pn 04 29 46.5 +0.8**
baz=252,SNR=6.6
HPIG 12.12 222 Pn **Pn 04 29 46.0 -1.0**
B35A Bob, Littlefor 12.21 9 P **Pn 04 29 46.5 -1.5**
baz=191
EYMN Ely 12.21 16 P **Pn 04 29 45.2 -2.8**
baz=200
EYMN Ely 12.21 16 P **Pn 04 29 45.2 -2.8**
baz=200,SNR=26
O52A Adamsville 12.22 68 P **Pn 04 29 48.6 +0.4**
baz=257,SNR=7.0
O52A P **Pn 04 29 48.6 +0.4**
baz=257,SNR=7.0
D41A Chassel 12.29 27 P **Pn 04 29 47.1 -1.9**
baz=212
S54A Dingess, Beckl 12.31 79 P **Pn 04 29 48.9 -0.6**
baz=268,SNR=20
S54A P **Pn 04 29 48.9 -0.6**
baz=268,SNR=20
S54A S **Sn 04 32 01.0 -6.1**
baz=268
S54A S **Sn 04 32 01.0 -6.1**
baz=268
E43A Lone Tree Farm 12.36 33 P **Pn 04 29 47.9 -2.1**
baz=219
P53A Whipple 12.43 71 P **Pn 04 29 50.7 -0.4**
baz=260,SNR=21
P53A P **Pn 04 29 50.7 -0.4**
baz=260,SNR=21
GLMI Grayling 12.45 43 P **Pn 04 29 50.1 -1.2**
baz=231,SNR=17
GLMI Grayling 12.45 43 P **Pn 04 29 50.3 -1.0**
baz=231,SNR=34
V55A Taylorsville 12.47 88 P **Pn 04 29 51.5 -0.1**
baz=277
V55A P **Pn 04 29 51.5 -0.1**
baz=277
KMSC Kings Mountain 12.47 91 P **Pn 04 29 51.9 +0.3**
baz=280
KMSC Kings Mountain 12.47 91 P **Pn 04 29 51.7 +0.1**
baz=280,SNR=7.6
K50A Casco 12.56 55 P **Pn 04 29 53.0 +0.2**
baz=244
K50A P **Pn 04 29 53.0 +0.2**
baz=244
LAO LASA Array 12.60 328 Pn **Pn 04 29 51.5 -1.8**
LAO LASA Array 12.60 328 P **Pn 04 29 51.6 -1.7**
baz=142,SNR=8.4
O53A New Philadelph 12.72 67 P **Pn 04 29 53.9 -1.1**
baz=257,SNR=17
Q54A Coxs Mills 12.79 73 P **Pn 04 29 55.3 -0.5**
baz=263
Q54A P **Pn 04 29 55.3 -0.5**
baz=263
AHID Auburn Hatcher 12.89 304 **Pn 04 29 56.5 -1.0**
I49A Point Hope 12.99 50 P **Pn 04 29 57.2 -1.5**
baz=239
I49A P **Pn 04 29 57.2 -1.5**
baz=239
RLMT Red Lodge 13.00 316 P **Pn 04 29 57.8 -1.1**
baz=128,SNR=14
BLA Blacksburg 13.02 81 P **Pn 04 29 59.0 -0.1**
baz=271,SNR=21
BLA S **Sn 04 32 19.0 -5.3**
baz=271
BLA Blacksburg 13.02 81 P **Pn 04 29 59.0 -0.1**
baz=271,SNR=21
U56A King 13.09 85 P **Pn 04 30 00.6 +0.5**
baz=275
U56A P **Pn 04 30 00.6 +0.5**
baz=275
N53A Lisbon 13.13 65 P **Pn 04 29 59.3 -1.3**
baz=255
N53A P **Pn 04 29 59.3 -1.3**
baz=255
R55A Marlinton 13.28 77 **Pn 04 30 02.0 -0.6**
R55A Marlinton 13.28 77 P **Pn 04 30 01.4 -1.3**
baz=267,SNR=31
R55A P **Pn 04 30 01.4 -1.3**
baz=267,SNR=31
DUG Dugway, Tooele 13.30 292 P **Pn 04 30 00.7 -2.3**
baz=102
IMW Indian Meadow 13.31 309 **Pn 04 30 02.4 -0.9**
O54A Avella 13.33 68 **Pn 04 30 03.7 +0.5**
H17A Grant Village 13.34 311 P **Pn 04 30 03.6 -0.1**
baz=123
DGMT Dagmar 13.36 338 Pn **Pn 04 30 01.6 -2.0**
DGMT Dagmar 13.36 338 P **Pn 04 30 00.9 -2.8**
baz=153,SNR=12
DGMT Dagmar 13.36 338 P **Pn 04 30 01.0 -2.6**
baz=153,SNR=19
M53A WI Miller and 13.42 63 P **Pn 04 30 02.8 -1.7**
baz=253
MCWV Mont Chateau 13.64 71 P **Pn 04 30 05.6 -1.8**
baz=261
NHSC New Hope 13.90 99 P **Pn 04 30 11.9 +0.8**
baz=288
ULM Lac du Bonnet 13.93 2 Pn **Pn 04 30 07.3 -4.1**
comp=Z,8.9nm,0.3s,baz=180,slow=12,SNR=38
ULM Sn Sn 04 32 34.7 -12
comp=Z,8.3nm,0.3s,baz=62,slow=16,SNR=3.4
ULM Lg Lg 04 34 03.2
baz=108,slow=19
ULM LR LR 04 35 47.6
comp=Z,580nm,20.9s,baz=150,slow=38
comp=Z,38nm,0.5s
T57A Hurt 13.96 82 P **Pn 04 30 11.8 0.0**
baz=272
T57A P **Pn 04 30 11.8 0.0**
baz=272
Q56A Snyder Ridge, 14.07 74 P **Pn 04 30 11.6 -1.7**
baz=264
Q56A P **Pn 04 30 11.6 -1.7**
baz=264
ERPA Erie 14.12 61 P **Pn 04 30 13.6 -0.4**
baz=251
S57A Dark Hollow, R 14.18 79 P **Pn 04 30 14.3 -0.6**
baz=270
S57A P **Pn 04 30 14.3 -0.6**
baz=270
BOZ Bozeman (W) 14.62 314 P **Pn 04 30 19.2 -1.9**
baz=124
V12A Nelson 14.77 273 Pn **Pn 04 30 22.8 -0.4**
PRN Pahroc Range 14.80 280 **Pn 04 30 23.6 +0.1**
M55A Ridgway 14.81 64 P **Pn 04 30 21.3 -2.3**
baz=256
M55A P **Pn 04 30 21.3 -2.3**
baz=256
P57A Homestead Farm 15.02 72 P **Pn 04 30 24.3 -2.0**
baz=264
P57A P **Pn 04 30 24.3 -2.0**
baz=264
R58B Mineral 15.03 78 Pn **Pn 04 30 25.3 -1.2**
R58B Mineral 15.03 78 P **Pn 04 30 25.0 -1.6**
baz=269
R58B P **Pn 04 30 25.0 -1.6**
baz=269
BCYI Bear Canyon 15.07 307 Pn **Pn 04 30 26.9 -0.3**
DLMT Dillon 15.07 312 Pn **Pn 04 30 28.5 +1.3**
EGMT Eagleton 15.19 324 **Pn 04 30 27.2 -1.5**
EGMT Eagleton 15.19 324 P **Pn 04 30 28.4 -0.3**
baz=136,SNR=7.5
ELK Elko 15.22 292 Pn **Pn 04 30 27.0 -2.3**
baz=218,slow=8.2,SNR=1.9
ELK Lg Lg 04 34 47.2
comp=Z,0.1nm,0.3s,baz=126,slow=17,SNR=2.6
ELK LR LR 04 36 30.6
comp=Z,560nm,19.8s,baz=104,slow=38
ELK Elko 15.22 292 IAmb IAmb 04 30 39.6
comp=Z,6.0nm,0.8s
R11A Troy Canyon, C 15.23 283 Pn **Pn 04 30 28.7 -0.7**
R11A Troy Canyon, C 15.23 283 P **Pn 04 30 29.8 +0.5**
baz=92,SNR=11
CNNC Cliffs of the 15.24 89 Pn **Pn 04 30 29.5 +0.3**
CNNC Cliffs of the 15.24 89 P **Pn 04 30 29.0 -0.2**
baz=280
SSPA Standing Stone 15.28 68 Pn **Pn 04 30 28.0 -1.9**
SSPA IAmb IAmb 04 30 51.1
comp=Z,14nm,0.7s
SSPA Standing Stone 15.28 68 P **Pn 04 30 27.9 -1.9**
baz=260
IRM Iron Mountain 15.30 267 P **Pn 04 30 31.0 +0.9**
baz=77
T59A Double "B" Far 15.32 82 Pn **Pn 04 30 28.4 -1.9**
T59A IAmb IAmb 04 30 30.2
comp=Z,23nm,0.8s
T59A Double "B" Far 15.32 82 P **Pn 04 30 28.2 -2.1**
baz=273
T59A P **Pn 04 30 28.2 -2.1**
baz=273
HRY Holter Researc 15.39 317 Pn **Pn 04 30 28.9 -2.4**
HLID Hailey 15.43 303 P **Pn 04 30 32.8 +0.8**
baz=112,SNR=5.6
GMRC Granite Mounta 15.58 270 P **Pn 04 30 35.2 +1.3**
baz=79,SNR=8.0
TUQ Turquoise Moun 15.68 272 P **Pn 04 30 37.2 +2.0**
baz=81
SADO Sadowa 15.71 52 Pn **Pn 04 30 31.6 -3.8**
comp=Z,1.3nm,0.3s,baz=268,slow=12,SNR=8.5
SADO Sn Sn 04 33 18.6 -11
comp=Z,3.7nm,0.3s,baz=274,slow=12,SNR=2.2
SADO Lg Lg 04 34 56.5
comp=Z,6.3nm,0.3s,baz=281,slow=19,SNR=2.3
SADO LR LR 04 36 42.4
comp=Z,305nm,19.8s,baz=196,slow=38
comp=Z,4.1nm,0.5s
TPNV Topopah Spring 15.78 278 P **Pn 04 30 38.0 +1.5**
baz=86
L56A Greenwood 15.85 63 P **Pn 04 30 36.0 -1.3**
baz=255,SNR=6.2
L56A P **Pn 04 30 36.0 -1.3**
baz=255,SNR=6.2
SHOC Shoshone, Teco 15.90 274 P **Pn 04 30 37.3 -0.7**
baz=83
T60A Surry 15.96 81 Pn **Pn 04 30 38.3 -0.4**
T60A IAmb IAmb 04 31 11.2
comp=Z,30nm,0.8s
WCT Wildcat Mounta 16.09 278 Pn **Pn 04 30 40.1 -0.4**
GWY Greenwater Val 16.18 275 Pn **Pn 04 30 40.3 -1.4**
N58A Sunbury 16.19 68 Pn **Pn 04 30 39.1 -2.6**
N58A IAmb IAmb 04 31 16.3
comp=Z,13nm,0.8s
V61A Roper 16.21 86 Pn **Pn 04 30 40.6 -1.3**
FURC Furnace Creek, 16.31 277 P **P 04 30 45.9 -0.3**
baz=84
GSC Goldstone, Bar 16.41 272 P **Pn 04 30 43.9 -0.7**
baz=81
PFO Pinyon Flats O 16.49 266 LR LR 04 37 57.4
comp=Z,164nm,18.1s,baz=96,slow=40
ESJX Sierra Juarez 16.57 261 IAmb IAmb 04 30 55.0
comp=Z,25nm,1.7s
MSO Missoula 16.64 314 P **Pn 04 30 48.1 +0.6**
baz=123
BMN Battle Mountai 16.66 290 IAmb IAmb 04 30 55.5
comp=Z,22nm,1.0s
BBRC Big Bear Solar 16.71 269 P **P 04 30 51.8 +0.9**
baz=77
MPMC Manual Prospec 16.86 275 P **P 04 30 52.6 +0.1**
baz=83,SNR=6.5
GEDE Greenville 16.88 72 P **Pn 04 30 48.5 -1.9**
baz=265
LPIG La Paz 16.96 228 LR LR 04 37 47.0
comp=Z,184nm,20.1s,baz=44,slow=38
BINY Binghamton 17.00 64 P **Pn 04 30 51.1 -0.8**
baz=257

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BINY	Binghamton	17.00	64	P	Pn	04 30 51.2	-0.8
	baz=257						
KSPA	Keystone Colle	17.02	66	P	Pn	04 30 50.3	-1.9
	baz=259						
MURC	Murrieta	17.09	267	P	P	04 30 55.2	+0.3
	baz=75						
LRMC	Laurel Mtn Rad	17.09	273	P	P	04 30 54.7	-0.3
	baz=81						
KVN	Kaiserville	17.22	286	Pn	Pn	04 30 55.2	+0.3
KVN				IAmb	IAmb	04 31 00.9	
	comp=Z,15nm,0.9s						
NV11	Mina Array Sit	17.25	283	IAmb	IAmb	04 31 01.2	
	comp=Z,23nm,1.1s						
CWC	Cottonwood Cre	17.29	277	P	Pn	04 30 55.6	-0.1
	baz=84						
NVAR	Mina Array Bea	17.36	283	P	P	04 30 58.8	+0.7
	comp=Z,0.2nm,0.3s,baz=85,slow=11,SNR=39						
NVAR				Lg	Lg	04 35 56.2	
	comp=Z,0.1nm,0.3s,baz=93,slow=33,SNR=1.3						
NVAR				LR	LR	04 38 48.7	
	comp=Z,111nm,20.5s,baz=88,slow=42						
	comp=Z,8.0nm,0.9s						
EDW2	Edwards Air Fo	17.45	272	P	P	04 30 59.0	+0.1
	baz=79						
LHV	Little Huntoon	17.52	283	IAmb	IAmb	04 31 03.8	
	comp=Z,26nm,0.8s						
L59A	Walton	17.68	64	P	Pn	04 31 00.1	-0.4
	baz=258						
L59A				P	Pn	04 31 00.1	-0.4
	baz=258						
ISA	Isabella, Lake	17.70	274	P	P	04 31 02.8	+1.1
	baz=82,SNR=5.5						
PAL	Palisades	18.32	68	P	Pn	04 31 07.3	-1.0
	baz=262						
PNTR	Pine Nut	18.39	286	IAmb	IAmb	04 31 13.1	
	comp=Z,9.9nm,0.7s						
LONY	Lake Ozonia	18.66	57	P	P	04 31 11.8	-0.3
	baz=251						
FFC	Flin Flon	18.77	350	P	P	04 31 11.1	-2.2
TLIG	Tlapa	18.77	186	P	P	04 31 13.0	-0.6
CMIG	Matias Romero	19.22	175	P	Pn	04 31 20.9	+1.5
	comp=Z,1.0nm,0.3s,baz=350,slow=11,SNR=17						
CMIG				S	Sn	04 34 44.6	-10
	comp=Z,4.6nm,0.9s,baz=219,slow=22,SNR=2.7						
CMIG				Lg	Lg	04 37 00.1	
	comp=Z,0.2nm,0.3s,baz=301,slow=20,SNR=1.7						
	comp=Z,21nm,0.7s						
NEW	Newport	19.23	315	P	Pn	04 31 20.1	+0.8
	comp=Z,0.1nm,0.3s,baz=122,slow=9.7,SNR=8.8						
NEW				Lg	Lg	04 36 42.9	
	comp=Z,0.2nm,0.3s,baz=198,slow=23,SNR=2.4						
NEW				LR	LR	04 38 07.5	
	comp=Z,168nm,21.7s,baz=120,slow=35						
	comp=Z,3.4nm,0.8s						
NEW	Newport	19.23	315	P	Pn	04 31 20.4	+1.1
	baz=121						
L61B	Northampton	19.45	64	P	P	04 31 21.6	+0.8
	baz=260						
K05A	Summer Lake	19.75	296	IAmb	IAmb	04 31 41.5	
	comp=Z,24nm,1.1s						
PINE	Pine Mountain	20.01	299	P	P	04 31 27.2	0.0
G06A	Carlson Farm,	20.19	304	P	P	04 31 27.7	-1.2
G06A				IAmb	IAmb	04 31 34.4	
	comp=Z,32nm,1.5s						
LBNH	Lisbon	20.37	60	P	P	04 31 31.3	+0.4
LBNH				IAmb	IAmb	04 32 11.4	
	comp=Z,28nm,1.6s						
EDM	Edmonton	20.57	330	P	P	04 31 32.5	-0.4
EDM				IAmb	IAmb	04 31 38.9	
	comp=Z,19nm,0.7s						
YBH	Yreka Blue Hor	20.94	293	P	P	04 31 37.3	+0.2
	comp=Z,14nm,0.9s,baz=44,slow=2.9,SNR=9.9						
YBH				LR	LR	04 40 43.9	
	comp=Z,205nm,19.2s,baz=90,slow=40						
	comp=Z,14nm,0.9s						
YBH	Yreka Blue Hor	20.94	293	P	P	04 31 37.2	0.0
YBH				IAmb	IAmb	04 31 43.1	
	comp=Z,19nm,0.9s						
HUMO	Hull Mountain	21.24	295	P	P	04 31 37.4	-2.8
HUMO				IAmb	IAmb	04 31 48.2	
	comp=Z,13nm,1.1s						
I63A	Otisfield	21.27	61	P	P	04 31 40.2	-0.3
I63A				IAmb	IAmb	04 32 07.4	
	comp=Z,42nm,1.8s						
G62A	West of Eustis	21.58	58	P	P	04 31 44.8	+0.8
G62A				IAmb	IAmb	04 32 25.5	
	comp=Z,32nm,1.7s						
FCC	Fort Churchill	22.51	3	P	P	04 31 54.3	+0.6
E62A	Clayton Lake	22.65	55	P	P	04 31 56.4	+1.0
E62A				IAmb	IAmb	04 32 35.0	
	comp=Z,28nm,1.4s						
F63A	Nahmakanta, Br	22.68	57	P	P	04 31 56.4	+0.8
BRLDA	Berland Lookou	22.88	327	P	P	04 31 58.5	+0.7
BRLDA				IAmb	IAmb	04 32 07.8	
	comp=Z,12nm,0.8s						
D62A	Allapoint, All	23.10	54	P	P	04 32 01.0	+1.0
D62A				IAmb	IAmb	04 32 14.2	
	comp=Z,28nm,1.6s						
F64A	Sherman	23.23	57	P	P	04 32 01.3	0.0
BATG	Bathurst New B	25.11	55	P	P	04 32 18.3	-0.8
BATG				IAmb	IAmb	04 32 19.0	
	comp=Z,12nm,1.1s						
BBB	Bella Bella	27.29	315	LR	LR	04 44 04.5	
	comp=Z,263nm,19.7s,baz=120,slow=38						
SCHQ	Schefferville	27.55	38	P	P	04 32 41.7	+0.6
	comp=Z,4.0nm,0.5s,baz=237,slow=8.9,SNR=11						
SCHQ				LR	LR	04 42 25.3	
	comp=Z,249nm,19.1s,baz=224,slow=34						
	comp=Z,4.0nm,0.5s						
SCHQ	Schefferville	27.55	38	P	P	04 32 41.5	+0.5
YKA	Yellowknife Ar	28.48	342	P	P	04 32 49.1	-0.1
	comp=Z,2.5nm,0.8s,baz=141,slow=8.7,SNR=4.8						
	comp=Z,2.5nm,0.8s						
CVTR	Volcan Turrial	28.67	153	P	P	04 32 49.9	-1.9
FRB	Frobisher Bay	32.31	23	LR	LR	04 46 30.3	
	comp=Z,457nm,18.3s,baz=196,slow=36						
EPYK	Eagle Plains	37.93	335	P	P	04 34 12.2	+0.7
	baz=122						
INK	Inuvik	38.04	339	P	P	04 34 11.7	-0.6
	comp=Z,1.7nm,0.7s,baz=119,slow=13,SNR=3.7						
INK				LR	LR	04 50 27.5	
	comp=Z,244nm,21.6s,baz=198,slow=37						
	comp=Z,1.7nm,0.7s						
RES	Resolute Bay	38.45	1	P	P	04 34 15.3	-0.4
	comp=Z,2.7nm,0.8s,baz=184,slow=9.9,SNR=4.4						
RES				LR	LR	04 51 02.1	
	comp=Z,179nm,18.1s,baz=172,slow=38						
	comp=Z,2.7nm,0.8s						
EGAK	Eagle	38.78	331	P	P	04 34 18.9	+0.3
	baz=115						
H27K	Steamboat Moun	39.56	333	P	P	04 34 26.9	+1.8
	baz=116						
J26L	Joseph Creek	39.62	330	P	P	04 34 27.4	+1.7
	baz=112						
SFJD	Kangerlussuaq	40.28	26	LR	LR	04 51 18.9	
	comp=Z,266nm,19.7s,baz=218,slow=36						
E27K	Coleen River	40.49	336	P	P	04 34 32.9	+0.1
	baz=118						
ILAR	Eielson Array	41.05	330	P	P	04 34 39.2	+1.7
	comp=Z,3.4nm,0.8s,baz=107,slow=7.1,SNR=21						
	comp=Z,3.4nm,0.8s						
F25K	Christian Rive	41.61	334	P	P	04 34 43.5	+1.4
	baz=113						
KDAK	Kodiak Island	42.26	319	LR	LR	04 50 18.8	
	comp=Z,125nm,21.6s,baz=60,slow=33						
I21K	Tanana	43.25	330	P	P	04 34 56.5	+1.2
	baz=104						
TOLK	Toolik Lake Re	43.36	335	P	P	04 34 54.7	-1.6
	baz=110						
O19K	Port Alsworth	43.41	322	P	P	04 34 57.1	+0.4
	baz=97						
G22K	Bettles	43.52	332	P	P	04 34 57.9	+0.4
	baz=106						
H21K	Melozitna Rive	43.70	330	P	P	04 34 60.0	+1.0
	baz=104						
F22K	John River	43.94	333	P	P	04 35 01.9	+1.0
	baz=106						
J20K	Nowinta River	43.94	328	P	P	04 35 02.4	+1.5
	baz=101						
BORG	Borgarnes	51.63	32	LR	LR	04 56 24.9	
	comp=Z,138nm,18.5s,baz=260,slow=34						
JMIC	Jan Mayen	55.53	23	LR	LR	04 59 57.3	
	comp=Z,124nm,18.1s,baz=143,slow=36						
LPAZ	La Paz	58.85	148	P	P	04 36 54.6	+0.7
	comp=Z,0.7nm,0.6s,baz=328,slow=5.2,SNR=3.0						
	comp=Z,0.7nm,0.6s						
SPITS	Spitsbergen Ar	59.20	13	LR	LR	05 02 28.2	
	comp=Z,168nm,18.9s,baz=281,slow=36						
JETT	Jettan, Norway	64.96	20	*e*P	P	04 37 34.9	+1.2
HAMF	Hammerfest	65.15	18	*e*P	P	04 37 36.0	+1.2
KTK1	Kautokeino	66.08	20	*e*P	P	04 37 42.1	+1.1
KTK1				IAmb	IAmb	04 37 43.6	
	comp=Z,9.3nm,0.8s						
ARA0	ARCESS Array S	66.35	19	*e*P	P	04 37 43.3	+0.6
ARCES	ARCESS Array B	66.35	19	P	P	04 37 42.7	0.0
	comp=Z,3.9nm,0.8s,baz=312,slow=5.2,SNR=15						
ARCES				LR	LR	05 06 48.5	
	comp=Z,144nm,18.3s,baz=290,slow=36						
	comp=Z,3.9nm,0.8s						
NOA	NORSAR Array B	66.74	30	LR	LR	05 05 22.7	
	comp=Z,86nm,21.3s,baz=305,slow=35						
HFS	Hagfors	68.26	30	LR	LR	05 07 55.6	
	comp=Z,110nm,20.0s,baz=80,slow=36						
MA2	Magadan	69.53	330	LR	LR	05 09 48.9	
	comp=Z,77nm,19.0s,baz=288,slow=37						
ESDC	Sonseca Array	69.74	55	P	P	04 38 06.0	+1.5
	comp=Z,1.1nm,0.8s,baz=301,slow=6.6,SNR=11						
ESDC				LR	LR	05 07 18.3	
	comp=Z,77nm,18.2s,baz=31,slow=35						
	comp=Z,1.1nm,0.8s						
FINES	FINESS Array B	72.08	25	P	P	04 38 19.6	+1.4
	comp=Z,3.2nm,0.8s,baz=327,slow=3.2,SNR=7.2						
	comp=Z,3.2nm,0.8s						
GERES	GERESS Array B	75.07	40	P	P	04 38 37.4	+1.1
	comp=Z,0.3nm,0.6s,baz=292,slow=5.2,SNR=2.4						
	comp=Z,0.3nm,0.6s						
VRAC	Vranov	76.25	38	LR	LR	05 12 26.7	
	comp=Z,70nm,19.4s,baz=107,slow=36						
AKASG	Malin Array Be	81.11	31	P	P	04 39 10.7	+1.1
	comp=Z,0.5nm,0.4s,baz=312,slow=4.5,SNR=7.8						
AKASG				LR	LR	05 14 19.5	
	comp=Z,46nm,21.3s,baz=222,slow=35						
	comp=Z,0.5nm,0.4s						
MLR	Muntele Rosu	83.48	37	LR	LR	05 16 53.9	
	comp=Z,77nm,18.8s,baz=200,slow=36						
TORD	Torodi Ar. Bea	88.88	75	LR	LR	05 16 22.2	
	comp=Z,126nm,19.5s,baz=221,slow=33						
KBZ	Khabaz	92.23	28	LR	LR	05 20 32.3	
	comp=Z,85nm,20.4s,baz=56,slow=35						
KURBB	Kurchatov Arra	93.32	3	LR	LR	05 24 51.8	
	comp=Z,130nm,21.4s,baz=195,slow=37						
HHC	Hu-ho-hao-te	98.96	339	*e*P	P	04 40 34.4	-0.8
HHC				pmax	pmax		
	comp=Z,35nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,6.7s						
WMQ	Urumqi	100.13	357	*e*P	Pdif	04 40 42.9	+2.6
PZH	PanZhiHua	115.15	342	PKP	PKPdf	04 45 37.8	+1.5

*NNC **02** 04:30:43.8±4.4, 53°.37N×90°.66E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=35.3km s-min=28.4km az=75.0, Suspected Mining explosion.*

IDC 02 04:30:38.8±3.1**, 53°.69N×90°.92E, h0**km**, mbtmp3.5**/3**, ML3.0**/3**, 7C-5D, Error ellipse: s-maj=26.5km s-min=22.7km az=52.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.62	277	I	I	04 54 30.0	
	baz=90,slow=338,SNR=3.0						
ZAA0	Zalesovo Array	3.62	276	⇑Pn	Pb	04 31 41.7	-2.0
	2.8nm,0.8s,baz=38,slow=23						
ZAA0				⇑Lg	Lg	04 32 33.6	
	24nm,1.0s,baz=38,slow=23						
ZALV	Zalesovo Beam	3.62	276	Pn	Pn	04 31 37.5	+1.4
	1.9nm,0.3s,baz=91,slow=9.1,SNR=27						
ZALV				Lg	Lg	04 32 32.5	
	4.5nm,0.3s,baz=90,slow=27,SNR=12						
	4.9nm,0.4s						
KURK	Kurchatov	8.12	253	⇓Pn	Pn	04 32 36.8	-1.0
	4.9nm,1.1s,baz=38,slow=23						
KURK				⇓Sn	Sn	04 34 07.7	-2.5
	15nm,0.9s,baz=38,slow=23						
KURK				⇑Lg	Lg	04 34 54.8	
	64nm,1.1s,baz=38,slow=23						
KURBB	Kurchatov Arra	8.21	253	Pn	Pn	04 32 39.1	0.0
	0.4nm,0.3s,baz=64,slow=14,SNR=20						
KURBB				Sn	Sn	04 34 10.4	-2.1
	0.1nm,0.3s,baz=68,slow=27,SNR=11						
KURBB				Lg	Lg	04 34 59.6	
	0.1nm,0.3s,baz=66,slow=33,SNR=7.5						
	2.1nm,0.4s						
KURBB	Kurchatov Arra	8.21	253	⇓Pn	Pn	04 32 39.2	0.0
	3.2nm,0.4s,baz=38,slow=23						
KURBB				⇑Sn	Sn	04 34 14.5	+1.9
	43nm,0.8s,baz=38,slow=23						
KURBB				⇑Lg	Lg	04 34 57.7	
	36nm,0.8s,baz=38,slow=23						
MK31	Makanchi Array	8.84	222	⇓Pn	Pn	04 32 46.4	-1.4
	6.3nm,1.3s,baz=32,slow=13,SNR=12						
MK31				⇑Sn	Sn	04 34 28.0	-0.1
	8.4nm,0.9s,baz=38,slow=23,SNR=5.0						
MKAR	Makanchi Array	8.84	222	Pn	Pn	04 32 48.0	+0.2
	0.4nm,0.3s,baz=38,slow=13,SNR=13						
MKAR				Sn	Sn	04 34 28.4	+0.4
	0.2nm,0.3s,baz=32,slow=12,SNR=3.2						
MKAR				Lg	Lg	04 35 17.6	
	0.1nm,0.3s,baz=40,slow=27,SNR=5.5						
	0.6nm,0.4s						
MAKZ	Makanchi	8.96	223	⇑Pn	Pn	04 32 48.6	-0.8
	3.9nm,1.0s,baz=38,slow=23						
MAKZ				⇓Sn	Sn	04 34 31.2	+0.4
	7.9nm,0.9s,baz=38,slow=23						
SONM	Songino Array	11.41	115	Lg	Lg	04 36 32.8	
	baz=306,slow=27						
AAK	Ala-Archa	15.53	231	Lg	Lg	04 38 52.1	
	0.2nm,0.3s,baz=182,slow=20,SNR=1.3						

*MAN **02** 04:32:26.6, 19°.89N×121°.91E, h19km, mb4.1, ML2.9, MS2.6*

IDC 02 04:32:34.9±1.6**, 18°.04N×121°.52E, h0**km**, mb3.8**/4**, mbtmp3.8**/4**, Error ellipse: s-maj=81.6km s-min=24.3km az=83.0, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	32.19	341	P	P	04 39 04.7	+0.1
	0.5nm,0.3s,baz=157,slow=7.7,SNR=1.4						
	0.5nm,0.3s						
WRA	Warramunga Arr	39.79	161	P	P	04 40 09.9	0.0
	0.4nm,0.6s,baz=341,slow=9.0,SNR=7.4						
	0.4nm,0.6s						
ASAR	Alice Springs	43.18	163	P	P	04 40 37.5	-0.3
	0.3nm,0.4s,baz=346,slow=7.2,SNR=4.4						
	0.3nm,0.4s						
PETK	Petropavlovsk-	44.88	30	P	P	04 40 50.8	-0.2
	1.9nm,0.6s,baz=252,slow=7.4,SNR=4.2						
	1.9nm,0.6s						

*IDC **02** 04:41:50.0±0.9, 14°.16N×56°.62E, h0km, mb3.8/16, mbtmp3.8/16, MS3.7/9, Error ellipse: s-maj=25.1km s-min=17.9km az=24.0*

*NEIC **02** 04:41:53.2±1.9, 14°.5N±0°.1×56°.7E±0°.1, h10km±2km, mb4.4/20, Error ellipse: s-maj=25.5km s-min=20.2km az=133.0*

ISC 02 04:41:53.7±0.7**, 14°.4N**±0°.1×**56°.65E**±0°.09**, h19**km**, n47, σ1.03**/40**, mb4.2**/24**, MS3.7**/8**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	9.00	12	LR	LR	04 47 20.9	
	comp=Z,962nm,20.1s,baz=187,slow=36						
RAYN	Ar Rayn	13.91	312		Pn	04 45 08.6	-1.4
HRA	Herat	20.55	13	P	P	04 46 31.2	-0.2
KBL	Kabul	22.98	27	P	P	04 46 56.7	-0.9
GEYT	Alibeck	23.48	3	P	P	04 47 03.8	+1.4
	1.8nm,0.5s,baz=206,slow=9.6,SNR=5.5						
GEYT				LR	LR	04 57 12.4	
	comp=Z,153nm,18.9s,baz=170,slow=39						
	1.8nm,0.5s						
GEYT	Alibeck	23.48	3	P	P	04 47 02.0	-0.4
GEYT				IAmb	IAmb	04 47 05.0	
	comp=Z,14nm,1.3s						
GYA0B	ALIBECK ARRAY	23.48	3	P	P	04 47 00.9	-1.4
GYA0B				IAmb	IAmb	04 47 22.0	
	comp=Z,12nm,1.1s						
LODK	Lodwar	23.65	245	P	P	04 47 05.9	+1.6
LODK				IAmb	IAmb	04 47 23.0	
	comp=Z,15nm,1.5s						
NIL	Nilore	24.39	35	P	P	04 47 11.1	+0.2
NIL				IAmb	IAmb	04 47 43.0	
	comp=Z,18nm,1.4s						
KMBO	Kilima Mbogo	24.62	233	P	P	04 47 14.1	+0.6
KIBK	Kibwezi	24.82	229	P	P	04 47 15.7	+0.6
KIBK				IAmb	IAmb	04 47 22.1	
	comp=Z,8.1nm,1.0s						
MARD	Mardin	26.85	331	P	P	04 47 34.2	+0.8
BTK	Batken	28.43	23	P	P	04 47 44.2	-3.2
BTK				IAmb	IAmb	04 47 56.2	
	comp=Z,14nm,1.3s						
ONI	Oni	30.32	340	P	P	04 48 03.2	-0.9
KKAR	Karatay Array	31.00	20	P	P	04 48 10.5	+0.4
KBZ	Khabaz	31.52	341	LR	LR	05 02 55.8	
	comp=Z,125nm,18.2s,baz=154,slow=40						
AAK	Ala-Archa	32.08	25	P	P	04 48 18.3	-1.5
BRTR	Keskin Array B	32.32	326	P	P	04 48 23.2	+1.3
	comp=Z,0.7nm,0.8s,baz=144,slow=7.0,SNR=2.2						
BRTR				LR	LR	05 03 17.6	
	comp=Z,133nm,18.5s,baz=150,slow=40						
	comp=Z,0.7nm,0.8s						
BRDH	Bariadhala	34.12	71	LR	LR	05 03 28.0	
	comp=Z,166nm,18.2s,baz=266,slow=38						
ABKAR	Akbulak array	34.88	4	P	P	04 48 44.4	+0.6
ABKAR	Akbulak array	34.88	4	P	P	04 48 44.6	+0.8
ABKAR				IAmb	IAmb	04 48 51.3	
	comp=Z,6.3nm,1.2s						
MKAR	Makanchi Array	38.77	28	P	P	04 49 17.6	+0.5
	comp=Z,0.6nm,0.6s,baz=215,slow=8.5,SNR=3.9						
MKAR				LR	LR	05 06 60.0	
	comp=Z,110nm,20.8s,baz=269,slow=39						
	comp=Z,0.6nm,0.6s						
BVAR	Borovoye Array	40.06	13	LR	LR	05 05 57.6	
	comp=Z,79nm,19.4s,baz=263,slow=36						
KURBB	Kurchatov Arra	40.26	22	P	P	04 49 30.9	+1.6
	comp=Z,0.7nm,0.8s,baz=219,slow=8.5,SNR=7.0						
	comp=Z,0.7nm,0.8s						
CMAR	Chiang Mai Arr	40.71	78	P	P	04 49 35.0	+1.5
	comp=Z,0.7nm,0.3s,baz=276,slow=10.0,SNR=4.5						
	comp=Z,0.7nm,0.3s						
AKASG	Malin Array Be	42.48	334	P	P	04 49 48.0	+0.5
	comp=Z,0.1nm,0.3s,baz=144,slow=7.0,SNR=1.6						
	comp=Z,0.1nm,0.3s						
ZALV	Zalesovo Beam	45.24	23	P	P	04 50 10.4	+0.7
	comp=Z,1.9nm,0.7s,baz=231,slow=8.2,SNR=7.6						
ZALV				LR	LR	05 10 15.7	
	comp=Z,96nm,22.0s,baz=348,slow=38						
	comp=Z,1.9nm,0.7s						
TAM	Tamanrasset	48.98	288	P	P	04 50 39.4	-0.2
TAM				IAmb	IAmb	04 50 41.3	
	comp=Z,2.0nm,0.6s						
GERES	GERESS Array B	49.16	323	P	P	04 50 41.0	+0.5
	comp=Z,0.3nm,0.6s,baz=88,slow=5.1,SNR=2.0						
	comp=Z,0.3nm,0.6s						
FINES	FINESS Array B	51.87	342	P	P	04 51 01.0	+0.4
	comp=Z,2.4nm,0.7s,baz=126,slow=7.1,SNR=6.3						
	comp=Z,2.4nm,0.7s						
SONM	Songino Array	52.82	40	P	P	04 51 08.3	+0.2
	comp=Z,0.6nm,0.7s,baz=241,slow=7.9,SNR=3.9						
	comp=Z,0.6nm,0.7s						
TORD	Torodi Ar. Bea	53.28	276	P	P	04 51 11.3	-0.5
	comp=Z,0.7nm,0.7s,baz=98,slow=6.3,SNR=7.3						
	comp=Z,0.7nm,0.7s						
KEV	Kevo	58.36	348	P	P	04 51 47.2	-0.1
ESBB	Sonseca Array	58.40	308	P	P	04 51 48.7	+0.4
ESBB				IAmb	IAmb	04 52 08.4	
	comp=Z,4.8nm,1.3s						
ESDC	Sonseca Array	58.40	308	P	P	04 51 48.0	-0.3
	comp=Z,0.9nm,0.6s,baz=83,slow=6.3,SNR=14						
	comp=Z,0.9nm,0.6s						
ESDC	Sonseca Array	58.40	308	P	P	04 51 48.0	-0.3
ARCES	ARCESS Array B	58.48	348	P	P	04 51 48.5	+0.2
	comp=Z,1.7nm,0.5s,baz=143,slow=7.7,SNR=19						
	comp=Z,1.7nm,0.5s						
ARCES	ARCESS Array B	58.48	348	P	P	04 51 48.5	+0.2
DBIC	Dimbokro	60.81	270	P	P	04 52 04.7	-0.5
KSRS	Korea Array	66.61	55	P	P	04 52 42.5	-0.6
	comp=Z,1.2nm,0.6s,baz=268,slow=6.8,SNR=4.8						
KSRS				LR	LR	05 23 51.8	
	comp=Z,44nm,18.2s,baz=275,slow=38						
	comp=Z,1.2nm,0.6s						
H01W3	Cape Leeuwin H	73.28	134	T	T	06 13 10.7	
	baz=302,slow=75,SNR=33						
H01W2	Cape Leeuwin H	73.29	134	T	T	06 13 08.5	
	baz=302,slow=75,SNR=27						
H01W1	Cape Leeuwin H	73.30	134	T	T	06 13 09.4	
	baz=302,slow=75,SNR=32						
WRA	Warramunga Arr	83.65	112	P	P	04 54 20.4	-1.3
	comp=Z,0.6nm,0.8s,baz=304,slow=4.0,SNR=9.7						
	comp=Z,0.6nm,0.8s						
ASAR	Alice Springs	84.41	116	P	P	04 54 23.9	-1.6
	comp=Z,0.8nm,0.6s,baz=291,slow=4.9,SNR=12						
	comp=Z,0.8nm,0.6s						
PDAR	Pinedale Array	121.73	348	PKP	PKPdf	05 00 46.9	-0.2
	comp=Z,0.1nm,0.4s,baz=106,slow=3.2,SNR=2.4						
NVAR	Mina Array Bea	127.25	355	PKP	PKiKP	05 00 58.8	+0.6
	comp=Z,0.3nm,0.6s,baz=349,slow=0.9,SNR=4.3						

KRSC 02 05:18:47.7±1.5**, 54°.40N×164°.33E, h50**km±28km**, ML3.6, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	Bering	1.25	49	P	Pn	05 19 10.2	+1.5
BKI				S	Sn	05 19 24.9	+0.6
MKZ	Mys Kozlova	1.53	277	P	Pn	05 19 15.1	+2.6
MKZ				S	Sn	05 19 33.4	+2.3
KBTR	Krutoberegovo	2.01	335	P	Pn	05 19 20.2	+1.1
KBTR				S	Sn	05 19 44.3	+1.3
KBG	Krutoberegovo	2.08	334	S	Sn	05 19 46.2	+1.5
TUMD	Tumrok D	2.42	291	P	Pn	05 19 28.0	+3.3
TUMD				S	Sn	05 19 56.3	+3.3
TUMR	Tumrok	2.58	292	P	Pn	05 19 30.9	+3.9
TUMR				S	Sn	05 20 01.8	+4.7
BZGR	Bezymyannyi-Gr	2.59	308	P	Pn	05 19 31.1	+3.9
BZGR				S	Sn	05 20 02.1	+4.6
BZMR	Bezymyannaya	2.69	306	P	Pn	05 19 32.1	+3.6
BZWR	Bezymyannyi-We	2.70	307	P	Pn	05 19 32.7	+4.0
BZWR				S	Sn	05 20 05.2	+5.0
KMNR	Kamenistaya	2.72	302	P	Pn	05 19 32.4	+3.5
KMNR				S	Sn	05 20 03.8	+3.2
SMKR	Semkarok	2.73	324	P	Pn	05 19 31.9	+2.9
SMKR				S	Sn	05 20 02.7	+1.9
KIRR	Kirishev	2.77	306	P	Pn	05 19 33.9	+4.3
KIRR				S	Sn	05 20 06.7	+4.8
BDR	Baidarnaya	2.81	322	S	Sn	05 20 08.0	+5.3
KRSR	Krestovskiy	2.82	312	S	Sn	05 20 07.1	+4.0
KPT	Kopyto	2.83	305	P	Pn	05 19 34.3	+3.9
SPN	Mys Shipunski	2.87	245	S	Sn	05 20 05.7	+1.5
SRKR	Sorokina	2.89	323	P	Pn	05 19 33.9	+2.7
SRKR				S	Sn	05 20 06.5	+1.8
KII	Karymskiy	2.89	265	S	Sn	05 20 07.4	+2.6
SRDR	Sredinnyy	3.26	308	P	Pn	05 19 40.1	+3.8
SRDR				S	Sn	05 20 18.0	+4.2
SDLR	Sedlovina	3.42	253	P	Pn	05 19 41.8	+3.3
SDLR				S	Sn	05 20 20.2	+2.4
SMAR	Somma	3.47	253	P	Pn	05 19 43.2	+3.9
SMAR				S	Sn	05 20 21.1	+1.9
AVH	Avacha	3.50	253	P	Pn	05 19 43.9	+4.2
AVH				S	Sn	05 20 23.0	+3.1
KRX	Arik	3.52	255	S	Sn	05 20 22.8	+2.4
ESO	Esso	3.57	298	P	Pn	05 19 43.8	+3.3
ESO				S	Sn	05 20 24.3	+2.8
GNL	Ganaly	3.83	262	P	Pn	05 19 48.7	+4.5
RUS	Russkaya	4.00	243	P	Pn	05 19 51.4	+5.0
MTVR	Mutnovka	4.15	245	S	Sn	05 20 37.8	+2.0
GRL	Gorelyy	4.17	246	P	Pn	05 19 53.1	+4.2

*TAP **02** 05:20:55.2, 24°.70N×122°.11E, h10km, ML3.2, C*

*JMA **02** 05:20:56.1±0.1, 24°.7N±0°.3×122°.1E±0°.4, h36km±4km, MV3.0/9, TAIWAN REGION*

ISC 02 05:20:55.4±1.1**, 24°.69N**±0°.02×**122°.13E**±0°.02**, h9**km±9km**, n84, σ0.55**/101**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		0.24	311	*i* P	Pg	05 21 00.2	0.0
	baz=313						
TWC	Suao	0.27	252	*i* P	Pg	05 21 00.4	-0.3
	baz=247						
TWB1	Santiao Chiao	0.34	338	*i* P	Pg	05 21 02.2	+0.1
	baz=341						
TIPB	Shuangxi	0.39	316	*e*P	Pg	05 21 03.1	0.0
	baz=309						
TIPB				S	Sg	05 21 07.8	-0.5
	baz=309						
TWE	Neicheng	0.42	274	P	Pg	05 21 03.2	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=266						
TWE				eS	Sb	05 21 10.4	-1.1
	baz=266						
ENA	Nanau	0.44	234	P	Pg	05 21 03.7	-0.3
	baz=229						
SXI1	Grass Mountain	0.46	330	i P	Pg	05 21 04.8	+0.3
	baz=338						
NWF	Wu-fen Shan	0.49	320	eP	Pg	05 21 05.2	+0.2
	baz=312						
WFSB	Wu-fen Shan	0.49	320	i P	Pg	05 21 05.2	+0.2
	baz=312						
FUSB	Fushanzhiwuyua	0.50	278	eP	Pg	05 21 04.8	-0.3
	baz=278						
FUSB				eS	Sg	05 21 12.6	+1.0
	baz=278						
ENTT	Nioudou	0.51	264	eP	Pg	05 21 04.3	-1.1
	baz=262						
TNOU	National Taiwa	0.56	325	P	Pg	05 21 06.3	0.0
	baz=318						
NDT	Datong Townshi	0.57	261	eP	Pg	05 21 04.8	-1.6
	baz=267						
LATG	Datong	0.57	254	eP	Pg	05 21 06.2	-0.3
	baz=260						
TWA	Mucha	0.57	300	i P	Pg	05 21 06.6	+0.1
	baz=291						
TWA				eS	Sg	05 21 14.0	-0.1
	baz=291						
NWLT	Wulai	0.58	279	i P	Pg	05 21 06.5	-0.1
	baz=278						
NHDH	Xindian Distri	0.61	296	eP	Pb	05 21 08.0	-0.3
	baz=296						
TATO	Taipei	0.65	296	i P	Pg	05 21 07.9	0.0
	baz=296						
TAP	Taipei	0.66	302	eS	Sg	05 21 17.2	+0.2
	baz=295						
YM01	YM01	0.68	312	P	Pg	05 21 09.0	+0.4
	baz=312						
YHNB	Yeheng	0.69	268	P	Pg	05 21 08.3	-0.4
	baz=276						
YM08	YM08	0.70	315	i P	Pg	05 21 09.2	+0.3
	baz=307						
NSK	Sanguang	0.70	269	eP	Pg	05 21 07.5	-1.4
	baz=277						
ETL	Fush Village	0.70	221	eP	Pg	05 21 08.7	-0.3
	baz=212						
NACB	Ninganchiao	0.71	223	i P	Pg	05 21 08.5	-0.6
	baz=214						
NNSB	Datong	0.73	249	eP	Pg	05 21 09.8	+0.3
	baz=247						
NNS	Nan Shan	0.73	250	eP	Pg	05 21 08.6	-1.0
	baz=248						
ANP	Anpu	0.74	312	eP	Pb	05 21 10.2	-0.4
	baz=312						
ETLH	Xiulin Townshi	0.76	231	eP	Pg	05 21 09.8	-0.3
	baz=235						
TWS1	Kuangyinshan	0.76	302	eP	Pb	05 21 11.1	+0.2
	baz=295						
TWS1				eS	Sn	05 21 22.8	-1.3
	baz=295						
NTST	Danshui	0.78	308	eP	Pn	05 21 11.8	-0.8
	baz=308						
TWD	Chiawan	0.78	219	eP	Pg	05 21 09.9	-0.5
	baz=216						
JYNG	Yonagunijimaku	0.78	108	P	Pb	05 21 11.6	+0.3
JYNG				S	Sb	05 21 22.7	+0.7
YOJ	Yonaguni jima	0.83	106	eP	Pb	05 21 12.4	+0.3
	baz=105						
YOJ				eS	Sb	05 21 23.9	+0.3
	baz=105						
YOJ	Yonaguni jima	0.83	106	P	Pb	05 21 12.4	+0.3
YOJ				S	Sb	05 21 23.8	+0.3
NCUH	Zhongli	0.90	288	eP	Pb	05 21 13.2	-0.1
	baz=295						
NCUH				i S	Sn	05 21 27.1	-0.4
	baz=295						
FUSS	Fushou	0.92	241	eP	Pg	05 21 13.2	+0.1
	baz=239						
NFF	Wufeng Townshi	0.92	267	eP	Pg	05 21 13.3	+0.1
	baz=258						
ETM	Tongmen	0.93	219	eP	Pg	05 21 12.7	-0.5
	baz=216						
PCYT	Pengchaiyu	0.94	357	eP	Pg	05 21 13.4	0.0
	baz=7.0						
WHF	Hehuan Shan	0.96	236	eP	Pg	05 21 13.6	-0.3
	baz=235						
WHF				S	Sg	05 21 26.8	+0.4
	baz=235						
TWT	Tachien	0.97	244	eP	Pb	05 21 14.7	+0.1
	baz=242						
TDCB	Techi	0.98	244	eP	Pg	05 21 14.3	-0.1
	baz=242						
LIOB	Emei	1.01	268	eP	Pn	05 21 16.0	+0.1
	baz=267						
NSTT	Nanjuang	1.03	267	eP	Pn	05 21 16.7	+0.6
	baz=255						
NSTT				eS	Sn	05 21 30.9	+0.2
	baz=255						
SBCB	Hsinchu	1.04	276	eP	Pb	05 21 15.8	+0.1
	baz=292						
SBCB				eS	Sn	05 21 31.7	+0.7
	baz=292						
CHGB	Renai	1.07	234	eP	Pg	05 21 15.8	-0.3
	baz=238						
ESL	Shilin	1.08	216	eP	Pg	05 21 16.1	-0.1
	baz=222						
OWD	Renai	1.14	230	eP	Pb	05 21 17.0	-0.4
	baz=222						
WHP	Taichung City	1.15	249	eP	Pb	05 21 17.6	-0.1
	baz=242						
WUSB	Renai	1.16	233	eP	Pb	05 21 17.2	-0.5
	baz=221						
EGFH	Guangfu	1.20	212	eP	Pb	05 21 18.2	-0.2
	baz=216						
NMLH	Miaoli	1.23	263	eS	Sn	05 21 37.2	+1.6
	baz=254						
NSY	Sanyi	1.27	258	eP	Pb	05 21 19.8	+0.1
	baz=246						
WCS	Beigang Elemen	1.28	241	eP	Pn	05 21 19.4	-0.1
	baz=245						
DPDB	Guoxing	1.28	239	eP	Pb	05 21 19.8	+0.1
	baz=237						
TWQ1	Liyutan	1.28	255	eP	Pg	05 21 20.0	-0.1
	baz=253						
VWDT	VWDT	1.30	224	eP	Pn	05 21 19.6	-0.2
	baz=221						
HGSD	Ruisui	1.36	208	eP	Pb	05 21 21.0	0.0
	baz=187						
SMLT	Sun Moon Lake	1.38	235	eP	Pb	05 21 21.4	-0.1
	baz=232						
EHY	Hungye	1.39	212	eP	Pn	05 21 21.1	0.0
	baz=208						
SSLB	Suanglung	1.40	230	eP	Pn	05 21 21.4	+0.2
	baz=238						
TYC	Yuchr	1.40	236	eP	Pn	05 21 21.4	+0.2
	baz=234						
YULB	Yu-li	1.50	211	eP	Pn	05 21 23.0	+0.4
	baz=205						
IRIF	Iriomote-Funau	1.50	103	eP	Pn	05 21 21.8	-0.8
IRIF				S	Sn	05 21 41.5	-0.9
EYUL	Yuli	1.53	209	eP	Pb	05 21 24.0	0.0
	baz=220						
WHYT	Xinyi Township	1.53	230	eP	Pg	05 21 24.9	+0.2
	baz=227						
TWF1	Yuli	1.53	210	eP	Pb	05 21 24.0	-0.1
	baz=220						
FULB	Fuli	1.67	207	eP	Pn	05 21 25.4	+0.5
	baz=183						
ALS	Alishan	1.69	226	eP	Pb	05 21 26.9	0.0
	baz=206						
JKRS	Kuro-shima	1.77	104	P	Pn	05 21 26.0	-0.3
JKRS				eS	Sn	05 21 47.9	-1.1
WRL	Guolierlin Hig	1.78	244	eP	Pb	05 21 27.5	-0.8
	baz=257						
WRL				eS	Sb	05 21 51.4	+0.7
	baz=257						
ELDTW	Lidau	1.81	214	eP	Pn	05 21 27.5	+0.6
	baz=193						
JIJ	Ishigaki jima	1.86	100	eP	Pn	05 21 27.5	-0.1
JIJ				eS	Sn	05 21 49.9	-1.4
EDH	Donghe	1.87	204	eP	Pn	05 21 28.3	+0.6
	baz=182						
CHN4	Tsaushan	1.94	227	eP	Pb	05 21 30.7	-0.2
	baz=222						
TPUB	Ta-pu	1.95	225	eP	Pb	05 21 31.1	0.0
	baz=219						
STYH	Taoyuan	1.96	220	eP	Pn	05 21 29.9	+1.0
	baz=214						
STYT	Tauyuan	1.97	220	eP	Pb	05 21 31.3	-0.3
	baz=214						
JISG	Ishigakijimahi	1.99	93	P	Pn	05 21 29.4	+0.1
JISG				eS	Sn	05 21 54.9	+0.6
WTP	Ta-pu	2.00	224	eP	Pb	05 21 32.0	0.0
	baz=218						
TWK	Hsinying	2.06	227	eP	Pb	05 21 33.4	+0.2
	baz=220						
WSL	Shuilin Townsh	2.09	237	eP	Pn	05 21 31.8	+1.1
	baz=233						
CHN1	Nanshi	2.10	225	eP	Pb	05 21 33.6	-0.1
	baz=218						

MAN 02 05:27:13.3, 17°.93N×120°.78E, h62^{km}, mb4.1, ML2.9, MS2.6, Luzon

*JMA **02** 05:33:25.6±0.0, 40°.0N±0°.1×140°.5E±0°.2, h6^{km}, MD4.2/18, MV4.2/18, NORTHERN AKITA PREF*
JMA Felt III J1 at NORTHERN AKITA PREF .
*NIED **02** 05:33:25.6, 40°.02N×140°.47E, h6^{km}, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}6.06; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-5.53; $M_{r\theta}$6.08; $M_{\theta\phi}$3.65; $M_{\phi r}$-1.10; Fault plane solution: $M_0$9.18000×10^{14} NP1: ϕ_s357.00000°, δ36.00000°, λ138.00000°. NP2: ϕ_s123.00000°, δ67.00000°, λ61.00000°.*
*NEIC **02** 05:33:26.6±2.4, 39°.99N±0°.05×140°.50E±0°.10, h10^{km}±5^{km}, mb4.7/29 Error ellipse: s-maj=11.0km s-min=6.0km az=111.0*
*IDC **02** 05:33:31.0±2.1, 39°.99N×140°.32E, h57^{km}±19^{km}, mb3.8/24, mbtmp4.1/28, ML2.9/3, MS2.9/2, Error ellipse: s-maj=15.3km s-min=11.0km az=90.0*
ISC 02 05:33:26.0±0.9**, 40°.04N**±0°.03×**140°.49E**±0°.03**, h15**^{km}±5^{km}**, n113,** σ1§**49**/106**, mb4.5**/38**, 6D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	Hinai	0.19	36	⇓P	Pg	05 33 30.0	-0.5
JAH				⇓S	Sg	05 33 33.3	-0.2
JAH	Hinai	0.19	36	A	A	05 33 30.0	
	comp=E,80nm,1.1s,comp=E,111nm,0.9s						
JNTW	Noshirotokiwa	0.34	313	i P	Pg	05 33 32.6	-0.5
JNTW				S	Sg	05 33 38.1	+0.1
JNTW	Noshirotokiwa	0.34	313	A	A	05 33 32.6	
	comp=E,32nm,2.4s,comp=E,46nm,0.6s						
JSZI	Iwateshizukuis	0.46	130	A	A	05 33 34.8	
	comp=E,22nm,3.1s,comp=E,23nm,3.9s						
JYW	Yuwa	0.54	204	A	A	05 33 35.7	
	comp=E,107nm,0.4s,comp=E,40nm,0.9s						
JHHS	Hirosakihyakuz	0.62	351	A	A	05 33 38.0	
	comp=E,20nm,3.8s,comp=E,36nm,4.3s						
JKZ	Kuzumaki	0.65	94	i P	Pg	05 33 38.4	-0.3
JKZ				S	Sg	05 33 46.9	-0.3
JRG	Rokugo	0.65	170	⇓iP	Pg	05 33 38.1	-0.7
JRG				⇓S	Sg	05 33 47.1	-0.3
JRG	Rokugo	0.65	170	A	A	05 33 38.1	
	comp=E,32nm,0.5s,comp=E,25nm,0.4s						
JIW	Iwasaki	0.67	326	i P	Pg	05 33 38.0	-1.2
JIW				S	Sg	05 33 46.9	-1.1
JIW	Iwasaki	0.67	326	A	A	05 33 38.0	
	comp=E,9.0nm,0.6s,comp=E,8.0nm,0.5s						
JOM	Ohasama	0.83	132	⇓iP	Pg	05 33 41.2	-1.0
JOM				⇓S	Sg	05 33 52.9	-0.3
JANG	Nango	0.85	66	P	Pg	05 33 42.0	-0.6
JANG				S	Sg	05 33 53.3	-0.5
JTM	Tenmabayashi	0.87	30	Pg	Pg	05 33 42.5	-0.4
JTM	Tenmabayashi	0.87	30	P	Pg	05 33 42.4	-0.5
JTM	Tenmabayashi	0.87	30	P	Pg	05 33 42.4	-0.5
JTM				S	Sg	05 33 53.4	-0.9
JKEN	Kujiedanarisaw	0.95	79	A	A	05 33 44.1	
	comp=E,16nm,0.3s,comp=E,14nm,0.3s						
JSI2	Shiura 2	1.02	357	A	A	05 33 45.3	
	comp=E,5.0nm,0.6s,comp=E,8.0nm,0.8s						
JOG3	Oga3	1.09	264	A	A	05 33 35.7	
	comp=E,14nm,3.0s,comp=E,13nm,1.9s						
JYYZ	Yamagatayuza	1.11	203	A	A	05 33 46.1	
	comp=E,11nm,1.2s,comp=E,11nm,0.7s						
JYK	Kaneyama	1.12	185	A	A	05 33 46.4	
	comp=E,6.0nm,0.7s,comp=E,3.0nm,5.3s						
JAHD	Aomorihigashid	1.39	27	A	A	05 33 51.6	
	comp=E,20nm,1.5s,comp=E,15nm,1.1s						
JOT	Ohata	1.41	17	A	A	05 33 51.9	
	comp=E,3.0nm,1.4s,comp=E,4.0nm,1.3s						
JSR	Shiriuchi	1.49	358	A	A	05 33 53.2	
	comp=E,7.0nm,0.6s,comp=E,7.0nm,1.0s						
JYA	Atsumi	1.56	203	A	A	05 33 53.6	
	comp=E,16nm,1.3s,comp=E,19nm,2.0s						
JOU	Okura	1.68	175	A	A	05 33 55.4	
	comp=E,4.0nm,3.0s,comp=E,3.0nm,1.4s						
JYS	Shirataka	1.84	191	A	A	05 33 57.8	
	comp=E,10.0nm,0.6s,comp=E,10.0nm,1.5s						
JMM	Marumori	2.18	174		Pn	05 34 02.1	+0.4
JSD	Sado	2.65	222	Pn	Pn	05 34 07.7	-0.4
JSD	Sado	2.65	222	P	Pn	05 34 07.7	-0.4
ERM	Erimo	2.82	45	P	Pn	05 34 13.6	+3.1
JEM	Erimo	2.82	45	P	Pn	05 34 13.6	+3.1
JEW	Eniwo	2.89	14		Pn	05 34 14.8	+3.3
JEW	Eniwo	2.89	14	P	Pn	05 34 13.8	+2.3
MJB9	Matsu-Tunnel	3.92	208		Pn	05 34 26.6	+0.8
MAJO	Matsushiro	3.92	208	Pn	Pn	05 34 25.8	+0.1
MAJO	Matsushiro	3.92	208	P	Pn	05 34 27.2	+1.5
MJAR	Matsushiro Arr	3.92	208	P	Pn	05 34 26.9	+1.2
	0.8nm,0.3s,baz=354,slow=16,SNR=11						
MJAR				S	Sn	05 35 12.1	+0.6
	9.5nm,0.6s,baz=268,slow=22,SNR=4.9						
	3.4nm,0.4s						
JGF	Kuroka	5.08	210		Pn	05 34 44.0	+2.4
USRK	Ussuriysk Ar.	7.56	306	P	Pn	05 35 15.7	0.0
	1.2nm,0.3s,baz=108,slow=14,SNR=14						
USRK				S	Sn	05 36 37.9	-3.3
	5.8nm,0.6s,baz=113,slow=25,SNR=5.4						
	2.3nm,0.4s						
USRK	Ussuriysk Ar.	7.56	306	Pn	Pn	05 35 17.1	+1.4
JHS	Saijyo	7.72	232	Pn	Pn	05 35 20.2	+2.4
JMN	Monobe	8.23	222	Pn	Pn	05 35 25.0	+0.1
KSRS	Korea Array	10.15	259	P	Pn	05 35 53.5	+2.3
	20nm,0.6s,baz=66,slow=14,SNR=51						
KSRS				S	Sn	05 37 46.1	+1.4
	15nm,0.8s,baz=74,slow=24,SNR=13						
KSRS				LR	LR	05 39 13.2	
	comp=Z,66nm,22.0s,baz=60,slow=34						
KS19	Wonju Array Si	10.18	260		Pn	05 35 54.2	+2.7
KS19					Sn	05 37 49.5	+4.0
KSAR	Wonju Array Be	10.19	259		Pn	05 35 53.5	+1.9
TJN	Taejon	10.96	255		Pn	05 36 04.4	+2.3
KLR	Kul'dur	11.09	329	P	Pn	05 36 08.1	+4.1
	0.1nm,0.3s,baz=135,slow=12,SNR=6.8						
	3.1nm,0.9s						
SEY	Seymchan	24.01	13	P	P	05 38 39.1	-0.8
	2.2nm,0.6s,baz=232,slow=20,SNR=2.1						
	2.2nm,0.6s						
SONM	Songino Array	25.60	299	P	P	05 38 55.9	+1.2
	0.3nm,0.3s,baz=81,slow=14,SNR=1.9						
	0.3nm,0.3s						
SHEM	Shemya Is, Ala	26.17	50	LR	LR	05 48 42.9	
	comp=Z,28nm,21.8s,baz=294,slow=35						
TIXI	Tiksi	32.23	353	P	P	05 39 51.5	-1.7
	2.5nm,0.3s,baz=270,slow=23,SNR=3.7						
	2.5nm,0.3s						
ZALV	Zalesovo Beam	39.40	310	P	P	05 40 54.1	-0.7
	0.6nm,0.3s,baz=98,slow=10,SNR=2.1						
	0.6nm,0.3s						
CMAR	Chiang Mai Arr	41.67	251	P	P	05 41 13.7	-0.3
	0.6nm,0.4s,baz=41,slow=8.4,SNR=1.2						
	0.6nm,0.4s						
MK31	Makanchi Array	41.97	299	P	P	05 41 15.9	-0.4
MKAR	Makanchi Array	41.97	299	P	P	05 41 15.2	-1.0
	0.5nm,0.5s,baz=83,slow=11,SNR=6.9						
	0.5nm,0.5s						
MKAR	Makanchi Array	41.97	299	P	P	05 41 15.9	-0.4
KURK	Kurchatov	43.56	306	P	P	05 41 28.8	-0.2
SVW2	Sparrevohn	43.62	39	P	P	05 41 29.9	+0.5
KURBB	Kurchatov Arra	43.63	305	P	P	05 41 29.2	-0.4
	2.7nm,0.4s,baz=80,slow=8.5,SNR=31						
KURBB				PcP	PcP	05 43 15.6	-1.1
	0.2nm,0.3s,baz=90,slow=3.9,SNR=4.2						
	2.7nm,0.4s						
O18K	Koktuh Hills	43.85	41	P	P	05 41 32.8	+1.6
O18K				IAmb	IAmb	05 41 58.0	
	comp=Z,22nm,1.4s						
J20K	Nowinta River	44.26	35	P	P	05 41 36.2	+1.8
J20K				IAmb	IAmb	05 42 05.8	
	comp=Z,20nm,1.4s						
IMAR	Indian Mountai	44.47	32	P	P	05 41 37.7	+1.6
H21K	Melozitna Rive	44.85	33	IAmb	IAmb	05 41 41.4	
	comp=Z,4.2nm,0.7s						
OHAK	Old Harbor	45.09	45	P	P	05 41 41.6	+0.5
CAST	Castle Rocks	45.18	36	P	P	05 41 43.5	+1.6
KDAK	Kodiak Island	45.39	44	P	P	05 41 44.4	+0.9
MDM	Murphy Dome	46.79	34	P	P	05 41 56.3	+1.8
MDM				IAmb	IAmb	05 41 57.2	
	comp=Z,9.8nm,1.3s						
H24K	Noodor Dome	46.88	32	IAmb	IAmb	05 41 58.4	
	comp=Z,8.3nm,0.9s						
SML	Sawmill	47.04	38	P	P	05 41 58.4	+1.9
IL31		47.38	34	P	P	05 42 00.7	+1.7
ILAR	Eielson Array	47.38	34	P	P	05 42 00.1	+1.0
	comp=Z,1.9nm,0.7s,baz=273,slow=6.2,SNR=19						
	comp=Z,1.9nm,0.7s						
ILAR	Eielson Array	47.38	34	P	P	05 42 00.5	+1.4
BOOM	Boomskoye usch	47.53	295	P	P	05 42 01.1	+0.3
BOOM				IAmb	IAmb	05 42 03.2	
	comp=Z,6.6nm,1.4s						
PRP	Porcupine Dome	47.88	33	P	P	05 42 05.2	+2.0
PRP				IAmb	IAmb	05 42 05.8	
	comp=Z,5.0nm,0.7s						
BVAR	Borovoye Array	48.05	310	P	P	05 42 03.5	-1.0
	comp=Z,5.3nm,0.7s,baz=80,slow=16,SNR=3.1						
	comp=Z,5.3nm,0.7s						
BMAR	Burnt Mountain	48.08	30	P	P	05 42 06.9	+2.4
SCRK	Sand Creek	48.72	35	P	P	05 42 10.6	+0.9
SCRK				IAmb	IAmb	05 42 11.3	
	comp=Z,5.1nm,0.8s						
BMRM	Bremner River	48.94	39	P	P	05 42 12.3	+1.1
K27K	Chicken	49.55	34	P	P	05 42 17.7	+1.9
L27K	Beaver Creek,	49.83	36	P	P	05 42 19.1	+1.0
BCAR	Beaver Creek A	49.85	36	P	P	05 42 20.0	+1.8
M27K	Edge Creek, AK	49.95	37	P	P	05 42 20.7	+1.7
M27K				IAmb	IAmb	05 42 22.7	
	comp=Z,16nm,1.4s						
KKAR	Karatay Array	51.04	298	P	P	05 42 27.6	+0.1
EPYK	Eagle Plains	51.30	31	P	P	05 42 31.2	+2.2
INK	Inuvik	52.06	28	P	P	05 42 36.0	+1.4
	comp=Z,6.7nm,0.6s,baz=289,slow=6.9,SNR=13						
	comp=Z,6.7nm,0.6s						
INK	Inuvik	52.06	28	P	P	05 42 36.2	+1.5
INK				IAmb	IAmb	05 42 36.8	
	comp=Z,7.6nm,0.8s						
M30M	Minto, Yukon	52.19	36	P	P	05 42 37.6	+1.8
M30M				IAmb	IAmb	05 42 57.5	
	comp=Z,14nm,1.5s						
HYT	Haines Junctio	52.35	38	P	P	05 42 39.7	+2.6
HYT				IAmb	IAmb	05 43 19.2	
	comp=Z,8.6nm,1.2s						
ARU	Arti	53.66	317	P	P	05 42 45.9	-0.7
	comp=Z,3.2nm,0.3s,baz=62,slow=1.6,SNR=6.0						
	comp=Z,3.2nm,0.3s						
ABKAR	Akbulak array	55.48	308	P	P	05 43 00.2	+0.2
EUNU	Eureka	57.33	9	P	P	05 43 13.6	+0.8
WB0	Warramunga Arr	59.76	187	P	P	05 43 29.3	-1.0
WB0				IAmb	IAmb	05 43 33.9	
	comp=Z,4.1nm,0.9s						
RES	Resolute Bay	59.88	15	P	P	05 43 31.0	+0.5
RES				IAmb	IAmb	05 43 40.8	
	comp=Z,11nm,1.4s						
WB2	Warramunga Arr	59.94	187	P	P	05 43 30.7	-0.9
WB2				IAmb	IAmb	05 44 05.9	
	comp=Z,11nm,1.5s						
WRA	Warramunga Arr	59.94	187	P	P	05 43 30.8	-0.8
	comp=Z,1.5nm,0.8s,baz=3.6,slow=7.1,SNR=14						
WRA				PcP	PcP	05 44 17.7	-0.1
	comp=Z,0.4nm,0.5s,baz=0.2,slow=4.5,SNR=4.8						
	comp=Z,1.5nm,0.8s						
WRA	Warramunga Arr	59.94	187	P	P	05 43 31.1	-0.5
ARCES	ARCESS Array B	60.94	339	P	P	05 43 36.9	-1.0
	comp=Z,2.8nm,1.0s,baz=60,slow=7.4,SNR=5.8						
	comp=Z,2.8nm,1.0s						
GEYT	Alibeck	61.79	297	P	P	05 43 43.2	-1.0
	comp=Z,1.8nm,0.6s,baz=72,slow=4.7,SNR=2.7						
	comp=Z,1.8nm,0.6s						
ASAR	Alice Springs	63.67	187	P	P	05 43 54.0	-2.7
	comp=Z,1.1nm,0.8s,baz=0.8,slow=7.6,SNR=9.0						
	comp=Z,1.1nm,0.8s						
FINES	FINESS Array B	65.83	331	P	P	05 44 09.7	-0.6
	comp=Z,3.2nm,0.7s,baz=28,slow=4.5,SNR=6.6						
	comp=Z,3.2nm,0.7s						
FINES	FINESS Array B	65.83	331	P	P	05 44 10.4	+0.1
KBZ	Khabaz	68.42	309	P	P	05 44 27.2	+0.2
	comp=Z,2.6nm,0.8s,baz=30,slow=6.9,SNR=2.7						
	comp=Z,2.6nm,0.8s						
NB2	NORSAR Subarra	71.14	337	P	P	05 44 43.3	-0.3
	comp=Z,0.8nm,0.6s,baz=40,slow=6.2						
NOA	NORSAR Array B	71.14	337	P	P	05 44 42.4	-1.3
	comp=Z,1.9nm,0.8s,baz=40,slow=6.0,SNR=4.4						
	comp=Z,1.9nm,0.8s						
AKASG	Malin Array Be	71.49	321	P	P	05 44 44.2	-1.6
	comp=Z,1.1nm,0.6s,baz=44,slow=6.6,SNR=5.1						
	comp=Z,1.1nm,0.6s						
NVAR	Mina Array Bea	73.77	53	P	P	05 45 00.5	+0.5
	comp=Z,0.8nm,0.7s,baz=298,slow=6.4,SNR=5.3						
	comp=Z,0.8nm,0.7s						
PDAR	Pinedale Array	76.08	45	P	P	05 45 13.8	+0.7
	comp=Z,0.7nm,0.6s,baz=260,slow=2.5,SNR=12						
	comp=Z,0.7nm,0.6s						
BRTR	Keskin Array B	76.34	311	P	P	05 45 12.9	-1.6
	comp=Z,0.4nm,0.6s,baz=47,slow=4.5,SNR=1.9						
	comp=Z,0.4nm,0.6s						
GERES	GERESS Array B	79.79	327	P	P	05 45 33.3	-0.2
	comp=Z,0.2nm,0.3s,baz=11,slow=7.0,SNR=2.4						
	comp=Z,0.2nm,0.3s						
TXAR	Lajitas Array	88.85	52	P	P	05 46 20.5	+0.7
	comp=Z,0.4nm,0.7s,baz=298,slow=3.3,SNR=4.8						
	comp=Z,0.4nm,0.7s						
LPAZ	La Paz	145.67	55	PKPbc	PKPdf	05 53 05.5	+0.6
	comp=Z,1.5nm,0.4s,baz=0.8,slow=4.0,SNR=17						

*NEIC **02** 05:46:50.8±1.5, 1°.96N±0°.10×123°.0E±0°.1, h436^{km}±7^{km}, mb4.3/38, Error ellipse: s-maj=16.4km s-min=13.6km az=66.0*
*DJA **02** 05:46:51.2±0.2, 2°N±3°×12°3E±°, h421^{km}±3^{km}, M4.5/22, mB4.8/10, mb4.7/22, MLv5.0/12, Mw(mB)4.1/10*
*IDC **02** 05:46:51.4±1.2, 1°.98N×123°.09E, h448^{km}±13^{km}, mb3.5/20, mbtmp4.4/24, Error ellipse: s-maj=15.0km s-min=7.4km az=70.0*
ISC 02 05:46:51.4±0.3**, 1°.97N**±0°.05×**123°.07E**±0°.06**, h450**^{km}**, n156,** σ1§**32**/166**, mb4.1**/41**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.32	183	P	P	05 47 45.5	-3.3
MRSI	Marisa	1.86	217	P	P	05 47 48.5	-2.7
TOLI2	Tolitoli	2.44	250	P	P	05 47 51.7	-2.8
TOLI2	Tolitoli	2.44	250	P	P	05 47 51.9	-2.7
SGSI	Sangihe	2.99	55	P	P	05 47 56.8	-1.6
LUWI	Luwuk	3.00	186	P	P	05 47 55.2	-3.3
LUWI	Luwuk	3.00	186	P	P	05 47 55.1	-3.4
LUWI	Luwuk	3.00	186	P	P	05 47 55.5	-3.0
APSI	Ampana	3.19	206	P	P	05 47 57.6	-2.3
MPSI	Mapaga	3.56	243	P	P	05 48 00.1	-2.7
TNTI	Ternate	4.46	105	P	P	05 48 08.4	-2.3
TNTI	Ternate	4.46	105	P	P	05 48 08.6	-2.1
TNTI	Ternate	4.46	105	P	P	05 48 09.4	-1.3
GAMI	Galela, Maluku	4.72	91	P	P	05 48 10.7	-2.4
SANI	Sanana	4.94	144	P	P	05 48 12.0	-3.3
	2.1nm6μm261nm,0.5s						
SANI	Sanana	4.94	144	P	P	05 48 12.2	-3.1
LBMI	Labuha	5.13	120	P	P	05 48 15.6	-1.5
MYLDM	Lahad Datu	5.56	305	P	P	05 48 21.3	-0.1
MYLDM	Lahad Datu	5.56	305	P	P	05 48 21.3	-0.1
	0.4nm110nm,0.7s						
DAV	Davao City (W)	5.65	26	S	S	05 49 33.8	-2.6
	152nm,0.3s,baz=66,slow=20,SNR=1.9						
KKSI	Kolaka, Sulawe	6.26	193	P	P	05 48 27.9	-0.5
	0.3nm72nm,0.7s						
NLAI	Namlea	6.56	142	P	P	05 48 32.6	+1.1
	0.6nm83nm,0.8s						
SPSI	Sidrap Palu	6.75	209	P	P	05 48 32.4	-1.2
	0.4nm1μm105nm,0.8s						
BNSI	Bone	6.98	205	P	P	05 48 35.1	-0.9
	0.2nm646nm72nm,0.9s						
KRAI	Karang Ratu	7.48	135	P	P	05 48 42.6	+1.3
	1.1nm5μm283nm,1.1s						
AAI	Ambon	7.60	138	P	P	05 48 43.8	+1.2
	0.7nm174nm,0.5s						
KAPI	Kappang	7.69	206	P	P	05 48 42.7	-0.8
	61nm,0.7s,baz=22,slow=5.5,SNR=31						
KAPI				S	S	05 50 11.4	-3.9
	5.4nm,0.3s,baz=9.9,slow=23,SNR=6.4						

KAPI Kappang 7.69 206 P P 05 48 42.5 -0.9
KAPI Kappang 7.69 206 P P 05 48 42.9 -0.6
0.2nm845nm80nm,0.8s
BKSI Bulukumba 7.82 202 P P 05 48 44.6 -0.3
0.2nm646nm77nm,0.7s
MSAI Masohi 7.88 132 P P 05 48 46.7 +1.1
0.3nm58nm,0.6s
KKM Kota Kinabalu 7.95 301 P P 05 48 45.4 -1.0
KKM Kota Kinabalu 7.95 301 P P 05 48 45.7 -0.7
SWI Sorong 8.66 109 P P 05 48 54.3 +0.3
108nm,0.9s
SIJI Sorong 8.67 109 P P 05 48 54.7 +0.6
48nm,0.5s,baz=312,slow=11,SNR=7.9
SIJI Sorong 8.67 109 P P 05 48 54.7 +0.6
88nm,0.9s
BNDI Bandanaira 9.39 133 P P 05 49 02.7 +0.7
336nm,0.6s
BNDI Bandanaira 9.39 133 P P 05 49 02.6 +0.6
FAKI Fak Fak 10.38 118 P P 05 49 13.5 +0.8
FAKI Fak Fak 10.38 118 P P 05 49 13.6 +0.8
2µm160nm,0.8s
FAKI Fak Fak 10.38 118 P P 05 49 13.8 +1.0
SBUM Sibu 10.85 273 P P 05 49 17.9 +0.1
SBUM Sibu 10.85 273 P P 05 49 17.7 -0.2
52nm,0.8s
PLAI Plampang 11.95 206 P P 05 49 29.6 -0.2
BATI Baumata 12.11 177 P P 05 49 32.5 +0.9
27nm,0.4s,baz=2.1,slow=14,SNR=1.9
KSM Kuching 12.76 268 P P 05 49 38.2 -0.4
KSM Kuching 12.76 268 P P 05 49 38.5 -0.1
803nm86nm,0.8s
KSM Kuching 12.76 268 P P 05 49 39.0 +0.4
JAGI Jajag, Banyuwa 13.66 220 P P 05 49 47.6 -0.7
CTJI Waduk Cacaban 16.48 237 P P 05 50 20.7 +2.4
65nm,0.8s
MTN Manton Dam 16.75 152 P P 05 50 20.5 -0.7
KDU Kakadu 17.30 148 P P 05 50 26.4 -0.5
LEM Lembang 17.72 240 P P 05 50 33.4 +1.7
25nm,0.7s,baz=90,slow=20,SNR=2.1
RPSI Rantau Prapat 24.14 272 P P 05 51 28.9 -1.4
RPSI IAmb IAmb 05 51 30.6
comp=Z,6.7nm,0.9s
RPSI Rantau Prapat 24.14 272 P P 05 51 30.1 -0.3
PSI Prapat 24.14 272 P P 05 51 30.1 -0.5
comp=Z,2.8nm,0.5s,baz=96,slow=10,SNR=4.9
comp=Z,2.8nm,0.5s
PSI Prapat 24.14 272 P P 05 51 31.1 +0.6
comp=Z,9.8nm,1.1s
SRIT Nakonsritamara 24.26 287 P P 05 51 32.3 +0.8
WB0 Warramunga Arr 24.29 153 P P 05 51 31.1 -0.5
WRAB Tennant Creek 24.42 154 P P 05 51 33.2 +0.4
WRA Warramunga Arr 24.42 154 P P 05 51 32.2 -0.6
comp=Z,0.7nm,0.5s,baz=334,slow=9.5,SNR=27
WRA PcP **PcP 05 54 57.5 +0.2**
comp=Z,0.7nm,0.4s,baz=348,slow=1.9,SNR=6.5
WRA S **S 05 55 17.3 -2.6**
comp=Z,3.5nm,0.8s,baz=334,slow=16,SNR=8.2
WRA ScP **ScP 05 57 54.5 +1.5**
comp=Z,0.3nm,0.7s,baz=342,slow=2.8,SNR=4.9
comp=Z,0.7nm,0.5s
WRA Warramunga Arr 24.42 154 P P 05 51 30.8 -2.0
WB2 Warramunga Arr 24.43 154 P P 05 51 32.5 -0.4
WR0 Warramunga Arr 24.53 153 P P 05 51 33.6 -0.1
WRKA Warakurna 27.32 170 P P 05 51 59.4 +1.0
ASAR Alice Springs 27.57 158 P P 05 52 00.8 +0.1
comp=Z,0.4nm,0.3s,baz=331,slow=8.2,SNR=12
ASAR PcP **PcP 05 55 05.3 +0.6**
comp=Z,1.6nm,0.4s,baz=345,slow=2.4,SNR=13
ASAR S **S 05 56 08.5 -1.0**
comp=Z,1.3nm,1.0s,baz=353,slow=20,SNR=7.1
ASAR ScP **ScP 05 58 02.5 +0.2**
comp=Z,0.6nm,0.6s,baz=328,slow=3.2,SNR=4.6
comp=Z,0.4nm,0.3s
AS01 Alice Springs 27.59 158 P P 05 52 02.3 +1.4
MEEK Meekatharra 28.76 188 P P 05 52 11.0 -0.1
CMAR Chiang Mai Arr 28.78 306 P P 05 52 11.9 +0.6
comp=Z,1.1nm,0.4s,baz=129,slow=7.3,SNR=6.0
CMAR PcP **PcP 05 55 08.9 +1.1**
comp=Z,1.7nm,0.3s,baz=128,slow=1.5,SNR=4.8
comp=Z,1.1nm,0.4s
JCJ Chichijima 30.99 35 P P 05 52 30.0 -0.4
MORW Morawa 31.59 192 P P 05 52 35.5 -0.1
MORW IAmb IAmb 05 52 38.5
comp=Z,8.3nm,0.9s
MORW Morawa 31.59 192 P P 05 52 35.9 +0.3
JNU Nakatsue 31.85 12 S 05 57 12.9 -2.6
OOD Oodnadatta 31.98 159 P P 05 52 39.4 +0.4
comp=Z,12nm,2.3s
FORT Forrest 32.91 172 P P 05 52 45.2 -1.6
FORT IAmb IAmb 05 53 09.5
comp=Z,16nm,1.1s
FORT Forrest 32.91 172 P P 05 52 46.9 0.0
BLDU Ballidu 32.96 190 P P 05 52 48.1 +0.8
MUG Mulgathing 33.74 163 P P 05 52 54.5 +0.5
XAN Xi'an 34.54 339 P P 05 53 01.3 +0.6
XAN pmax pmax
comp=Z,12nm,0.8s
KSRS Korea Array 35.60 7 P P 05 53 09.2 -0.2
comp=Z,1.0nm,0.5s,baz=183,slow=9.4,SNR=2.2
comp=Z,1.0nm,0.5s
BBOO Buckleboo 36.71 162 P P 05 53 19.5 +0.7
BBOO IAmb IAmb 05 53 45.8
comp=Z,28nm,1.5s
BBOO Buckleboo 36.71 162 P P 05 53 19.1 +0.3
MJAR Matsushiro Arr 37.14 20 P P 05 53 21.6 -0.8
comp=Z,4.6nm,0.7s,baz=190,slow=8.5,SNR=7.7
comp=Z,4.6nm,0.7s
STKA Stephens Creek 37.97 154 P P 05 53 30.4 +1.1
comp=Z,2.1nm,0.2s,baz=326,slow=8.8,SNR=15
comp=Z,2.1nm,0.2s
STKA Stephens Creek 37.97 154 P P 05 53 30.3 +1.1
STKA Stephens Creek 37.97 154 P P 05 53 30.9 +1.6
HTT Hallett 38.25 158 P P 05 53 33.5 +1.9
USRK Ussuriysk Ar. 42.79 9 P P 05 54 08.1 +0.2
comp=Z,3.4nm,0.6s,baz=185,slow=7.2,SNR=5.6
comp=Z,3.4nm,0.6s
RAMN Ramite 42.88 309 eP P 05 54 10.1 +0.9
comp=Z,17nm,0.7s
RAMN Ramite 42.88 309 eP P 05 54 10.1 +0.9
comp=Z,23nm,0.8s
JIRN Jiri 43.54 309 eP P 05 54 15.2 +0.7
JIRN Jiri 43.54 309 eP P 05 54 15.1 +0.6
comp=Z,12nm,0.6s
GUN Gumba 43.91 310 eP P 05 54 17.8 +0.5
comp=Z,15nm,0.5s
GUN Gumba 43.91 310 eP P 05 54 17.8 +0.5
PKI Pulchoki 44.11 309 eP P 05 54 19.0 +0.1
PKI Pulchoki 44.11 309 eP P 05 54 19.0 +0.1
PKIN Phulchoki 44.12 309 eP P 05 54 19.2 +0.3
comp=Z,5.0nm,0.5s
PKIN Phulchoki 44.12 309 eP P 05 54 19.3 +0.3
CAN Canberra 44.33 149 P P 05 54 22.6 +2.5
CAN IAmb IAmb 05 54 23.4
comp=Z,9.7nm,0.8s
CAN Canberra 44.33 149 P P 05 54 22.6 +2.5
GKN Gorkha 44.91 309 eP P 05 54 25.5 +0.6
GKN Gorkha 44.91 309 eP P 05 54 25.6 +0.6
comp=Z,5.9nm,0.3s
KOLN Koldanda 45.62 308 ePg P 05 54 31.1 +0.7
KOLN Koldanda 45.62 308 eP P 05 54 31.2 +0.8
comp=Z,2.9nm,0.8s
DANN Dangsing 45.76 309 eP P 05 54 31.9 +0.3
DANN Dangsing 45.76 309 eP P 05 54 32.1 +0.5
comp=Z,34nm,0.8s
PYUN Piuthan 46.25 308 eP P 05 54 35.8 +0.5
PYUN Piuthan 46.25 308 eP P 05 54 36.0 +0.7
ULN Ulaanbaatar 47.77 345 P P 05 54 46.5 +0.1
ULN Ulaanbaatar 47.77 345 P P 05 54 48.1 +1.7
comp=Z,31nm,0.8s
SONM Songino Array 47.91 345 P P 05 54 47.9 +0.5
comp=Z,5.8nm,0.7s,baz=160,slow=9.1,SNR=25
SONM PcP **PcP 05 56 07.1 -0.4**
comp=Z,0.8nm,0.7s,baz=132,slow=4.1,SNR=1.9
comp=Z,5.8nm,0.7s
SONM Songino Array 47.91 345 P P 05 54 48.7 +1.2
MK31 Makanchi Array 56.99 328 P P 05 55 53.3 +0.4
MKAR Makanchi Array 56.99 328 P P 05 55 53.3 +0.4
comp=Z,2.3nm,0.4s,baz=123,slow=8.0,SNR=31
MKAR PcP **PcP 05 56 41.8 -0.1**
comp=Z,1.1nm,0.6s,baz=126,slow=4.1,SNR=5.7
comp=Z,2.3nm,0.4s
PETK Petropavlovsk- 58.47 24 P P 05 56 03.7 +0.9
comp=Z,3.1nm,0.6s,baz=206,slow=4.5,SNR=7.3
comp=Z,3.1nm,0.6s
AAK Ala-Archa 59.27 320 P P 05 56 10.2 +1.6
comp=Z,1.9nm,0.4s,baz=107,slow=7.1,SNR=4.4
comp=Z,1.9nm,0.4s
ZALV Zalesovo Beam 60.56 335 P P 05 56 15.4 -1.4
comp=Z,1.1nm,0.3s,baz=125,slow=6.4,SNR=4.6
comp=Z,1.1nm,0.3s
KURBB Kurchatov Arra 61.31 329 P P 05 56 21.4 -0.4
comp=Z,2.4nm,0.5s,baz=130,slow=5.8,SNR=28
KURBB PcP **PcP 05 56 58.1 -1.0**
comp=Z,0.4nm,0.5s,baz=119,slow=3.6,SNR=1.9
comp=Z,2.4nm,0.5s
KURK Kurchatov 61.32 330 P P 05 56 22.2 +0.4
KURK IAmb IAmb 05 56 23.4
comp=Z,8.0nm,0.5s
KHZ Kahutara 63.38 140 P P 05 56 35.7 +0.2
BVAR Borovoye Array 66.85 329 P P 05 56 57.1 -0.2
comp=Z,4.5nm,0.6s,baz=131,slow=6.5,SNR=3.4
comp=Z,4.5nm,0.6s
GEYT Alibeck 69.18 310 P P 05 57 12.0 +0.1
comp=Z,1.3nm,0.4s,baz=90,slow=4.6,SNR=1.7
comp=Z,1.3nm,0.4s
TIXI Tiksi 69.68 2 P P 05 57 14.1 -0.1
TIXI IAmb IAmb 05 57 14.6
comp=Z,5.1nm,0.6s
ABKAR Akbulak array 71.23 322 P P 05 57 23.8 0.0
NRIK Noril'sk 71.30 347 P P 05 57 23.7 -0.2
comp=Z,2.0nm,0.4s,baz=133,slow=7.3,SNR=4.3
comp=Z,2.0nm,0.4s
AKUT Akutan 77.44 35 P P 05 57 59.0 +0.1
VOI Vohitsoka 78.02 247 P P 05 58 02.8 -0.2
VOI IAmb IAmb 05 58 12.9
comp=Z,20nm,1.5s
CHGN Chignik 82.00 33 P P 05 58 23.3 +0.3
VNDA Vanda 82.17 172 P P 05 58 24.1 +0.5
comp=Z,1.5nm,0.6s,baz=322,slow=6.3,SNR=16
comp=Z,1.5nm,0.6s
VNDA Vanda 82.17 172 P P 05 58 24.3 +0.8
SII Sitkinak Islan 84.36 33 P P 05 58 36.4 +1.4
L19K White Mountain 84.56 28 P P 05 58 37.3 +1.4
L19K IAmb IAmb 05 58 54.8
comp=Z,10nm,1.3s
J20K Nowinta River 85.09 26 P P 05 58 39.8 +1.5
J20K IAmb IAmb 05 58 40.3
comp=Z,2.6nm,0.7s
KDAK Kodiak Island 85.32 32 P P 05 58 40.0 +0.4
IMAR Indian Mountai 85.43 24 P P 05 58 40.6 +0.6
H21K Melozitna Rive 85.79 24 P P 05 58 42.6 +0.8
H21K IAmb IAmb 05 58 51.4
comp=Z,6.8nm,1.4s
CAST Castle Rocks 85.94 27 P P 05 58 43.4 +0.9
CAST IAmb IAmb 05 58 51.7
comp=Z,7.1nm,1.5s
SKT Skwentna 86.11 28 P P 05 58 43.8 +0.5
SKT IAmb IAmb 05 59 11.7
comp=Z,7.9nm,1.4s
SUA Susitna One 86.45 29 P P 05 58 46.0 +0.9
COLD Coldfoot 86.93 23 P P 05 58 47.6 +0.5
COLD IAmb IAmb 05 58 50.1
comp=Z,7.5nm,1.3s
H23K Yukon River 87.14 24 P P 05 58 49.4 +1.2
H23K IAmb IAmb 05 58 50.1
comp=Z,9.9nm,1.5s
SML Sawmill 87.62 28 P P 05 58 50.7 +0.1
ILAR Eielson Array 88.25 25 P P 05 58 52.8 -0.7
comp=Z,0.5nm,0.5s,baz=247,slow=4.8,SNR=8.1
comp=Z,0.5nm,0.5s
BMAR Burnt Mountain 89.11 23 P P 05 58 59.2 +1.8
BCAR Beaver Creek A 90.60 27 P P 05 59 05.5 +1.1
ARCES ARCESS Array B 90.82 340 P P 05 59 04.0 -1.3
comp=Z,1.4nm,0.7s,baz=90,slow=4.0,SNR=7.0
comp=Z,1.4nm,0.7s
BARN Barnard Glacie 90.85 29 P P 05 59 06.7 +0.9
CTGM Chitina Glacie 91.02 29 P P 05 59 08.0 +1.5
CTGM IAmb IAmb 05 59 43.0
comp=Z,8.8nm,1.1s
QSPA South Pole Qui 91.89 180 P P 05 59 11.3 +0.9
QSPA IAmb IAmb 05 59 12.9
comp=Z,5.2nm,1.4s
M30M Minto, Yukon 92.94 27 P P 05 59 17.0 +1.8
M30M IAmb IAmb 05 59 28.4
comp=Z,7.9nm,1.4s
WHY Whitehorse 94.19 29 P P 05 59 22.7 +1.6
TORD Torodi Ar. Bea 119.94 286 PKP PKiKP 06 04 50.5 -0.5
comp=Z,1.0nm,0.6s,baz=43,slow=1.9,SNR=7.5
TXAR Lajitas Array 125.56 51 PKP PKiKP 06 05 02.4 +0.5
comp=Z,0.5nm,0.8s,baz=300,slow=2.0,SNR=4.1
CROK Carrier 125.95 41 PKPdf 06 05 00.6 -1.3
NATX Nacogdoches 130.96 44 PKPpre 06 05 02.0
TLIG Tlapa 134.62 63 PKPdf 06 05 15.8 -3.1

*ROM **02** 05:52:36.1±0.0,43.°039N±0.°002×13.°058E±0.°003, h10km,ML3.0/38,Error ellipse: s-maj=0.2km s-min=0.2km az=51.0*
*PRU **02** 05:52:39.8±0.0,43.°13N×13.°87E,h10km*
ISC 02 05:52:36.6±0.8,43.03N±0.°02×13.06E±0.°02,h13km±4km, n67,σ0s95/102,17C-10D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**73**	P	**Pg**	**05 52 38.2**	**-0.7**
FDMO				S	**Sg**	**05 52 39.2**	**-1.3**
FDMO				AML	AML		
FDMO				AML	AML		
FDMO				AML	AML		
	comp=E,83400µm,0.2s						
FEMA	**Monte Fema**	**0.07**	**183**	⇑P	**Pg**	**05 52 39.0**	**-0.3**
FEMA				S	**Sg**	**05 52 40.8**	**-0.4**
FEMA				AML	AML		
	comp=E,61300µm,0.4s						
FEMA				AML	AML		
	comp=E,61300µm,0.5s						
FEMA				AML	AML		
	comp=N,39050µm,0.3s						
FEMA				AML	AML		
	comp=N,39000µm,0.3s						
T1256	**Bolognola (MC)**	**0.13**	**100**	P	**Pg**	**05 52 39.8**	**-0.3**
T1256				S	**Sg**	**05 52 42.1**	**-0.3**
T1256				AML	AML		
	comp=E,27500µm,0.3s						
T1256				AML	AML		
	comp=E,27550µm,0.3s						
T1256				AML	AML		
	comp=E,29550µm,0.3s						
T1256				AML	AML		
	comp=N,34500µm,0.3s						
T1256				AML	AML		
	comp=N,31650µm,0.3s						
T1256				AML	AML		
	comp=E,29500µm,0.3s						
SEF1	**Sefro**	**0.14**	**326**	P	**Pg**	**05 52 39.9**	**-0.2**
SEF1				S	**Sg**	**05 52 42.4**	**-0.2**
SEF1				AML	AML		
	comp=N,14950µm,0.2s						
SEF1				AML	AML		
	comp=N,15000µm,0.2s						
SEF1				AML	AML		
	comp=E,16900µm,0.3s						
T1216	**Preci, Frazion**	**0.14**	**191**	P	**Pg**	**05 52 40.1**	**+0.1**
T1216				S	**Sg**	**05 52 42.9**	**+0.3**
PIO1	**Pioraco**	**0.16**	**341**	P	**Pg**	**05 52 40.1**	**-0.3**
PIO1				S	**Sg**	**05 52 42.8**	**-0.2**
PIO1				AML	AML		
	comp=E,6215µm,0.4s						
PIO1				AML	AML		
	comp=N,13145µm,0.2s						
PIO1				AML	AML		
	comp=N,13100µm,0.2s						
MDAR	**Monte D'Aria**	**0.17**	**21**	P	**Pg**	**05 52 40.4**	**-0.3**
MDAR				S	**Sg**	**05 52 43.2**	**-0.3**
MDAR				AML	AML		
	comp=E,11430µm,0.4s						
MDAR				AML	AML		
	comp=N,13900µm,0.3s						
MDAR				AML	AML		
	comp=E,11435µm,0.4s						
MDAR				AML	AML		
	comp=E,11395µm,0.4s						
MDAR				AML	AML		
	comp=N,13850µm,0.3s						
FIU1	**Fiuminata**	**0.18**	**330**	P	**Pg**	**05 52 40.6**	**-0.1**
FIU1				S	**Sg**	**05 52 43.8**	**+0.1**
FIU1				AML	AML		
	comp=E,3440µm,0.9s						
FIU1				AML	AML		
	comp=N,3725µm,1.6s						
T1245	**Castelsantange**	**0.20**	**151**	P	**Pg**	**05 52 41.1**	**0.0**
T1245				S	**Sg**	**05 52 44.8**	**+0.6**
T1245				AML	AML		
	comp=E,13650µm,1.3s						
T1245				AML	AML		
	comp=E,13700µm,1.3s						
T1245				AML	AML		
	comp=E,14050µm,1.3s						
T1245				AML	AML		
	comp=E,13700µm,1.3s						
T1245				AML	AML		
	comp=N,21000µm,0.3s						
T1245				AML	AML		
	comp=N,18950µm,0.3s						
NRCA	**Norcia**	**0.20**	**167**	P	**Pg**	**05 52 41.1**	**+0.1**
NRCA				S	**Sg**	**05 52 44.7**	**+0.6**
GUMA	**Gualdo di Mace**	**0.21**	**81**	⇑P	**Pg**	**05 52 41.4**	**+0.2**
GUMA				S	**Sb**	**05 52 45.2**	**-0.9**
GUMA				AML	AML		
	comp=E,32450µm,0.4s						
GUMA				AML	AML		
	comp=N,28200µm,0.5s						
GUMA				AML	AML		
	comp=N,28150µm,0.5s						
GUMA				AML	AML		
	comp=E,32500µm,0.4s						
GUMA				AML	AML		
	comp=E,32800µm,0.5s						
GUMA				AML	AML		
	comp=N,40750µm,0.4s						
GAG1	**Gagliole**	**0.21**	**2**	P	**Pg**	**05 52 41.2**	**0.0**
SSM1	**San Severino M**	**0.22**	**24**	P	**Pg**	**05 52 41.1**	**-0.2**
SSM1				S	**Sg**	**05 52 44.8**	**+0.3**
AM05	**Amandola Campo**	**0.22**	**103**	P	**Pg**	**05 52 41.5**	**+0.1**
AM05				S	**Sg**	**05 52 45.2**	**+0.5**
MMO1	**Montemonaco**	**0.24**	**123**	P	**Pg**	**05 52 41.7**	**0.0**
MMO1				S	**Sg**	**05 52 45.7**	**+0.6**
SNTG	**Esanatoglia**	**0.24**	**340**	P	**Pg**	**05 52 41.5**	**-0.2**
SNTG				S	**Sg**	**05 52 45.5**	**+0.3**
SNTG				AML	AML		
	comp=E,3125µm,0.6s						
SNTG				AML	AML		
	comp=N,4030µm,0.8s						
SNTG				AML	AML		
	comp=E,3120µm,0.6s						
SNTG				AML	AML		
	comp=E,3155µm,0.7s						
SNTG				AML	AML		
	comp=N,4210µm,0.8s						
SNTG				AML	AML		
	comp=N,4215µm,0.8s						
SNTG				AML	AML		
	comp=E,3125µm,0.7s						
T1215	**Vallo di Nera,**	**0.27**	**211**	P	**Pg**	**05 52 42.4**	**+0.2**
T1215				S	**Sb**	**05 52 46.9**	**-0.9**
ASSB	**Assisi San Ben**	**0.29**	**273**	⇑P	**Pg**	**05 52 42.7**	**+0.1**
ASSB				AML	AML		
	comp=E,13950µm,0.3s						
ASSB				AML	AML		
	comp=N,14150µm,0.3s						
EL6	**Elcito**	**0.30**	**6**	⇑P	**Pg**	**05 52 42.6**	**-0.2**
T1241	**Roccafluvione,**	**0.33**	**122**	P	**Pg**	**05 52 43.3**	**0.0**
T1241				S	**Sb**	**05 52 48.8**	**-0.7**
T1217	**Poggiodomo (PG**	**0.33**	**196**	P	**Pg**	**05 52 43.5**	**+0.2**
T1217				S	**Sb**	**05 52 49.0**	**-0.7**
TRE1	**Treia**	**0.34**	**34**	P	**Pb**	**05 52 43.9**	**-0.6**
TRE1				AML	AML		
	comp=E,5335µm,0.6s						
TRE1				AML	AML		
	comp=N,4980µm,1.3s						
ATCC	**AVT- Casa Cast**	**0.34**	**297**	P	**Pn**	**05 52 47.5**	**+0.1**
CING	**Cingoli**	**0.36**	**16**	⇑P	**Pg**	**05 52 43.7**	**-0.2**
CING				AML	AML		
	comp=N,3265µm,0.1s						
CING				AML	AML		
	comp=E,3055µm,0.7s						
T1204	**Amatrice, Fraz**	**0.40**	**151**	P	**Pg**	**05 52 44.7**	**+0.1**
T1204				S	**Sb**	**05 52 51.4**	**-0.4**
T1204				AML	AML		
	comp=E,3820µm,1.4s						
T1204				AML	AML		
	comp=N,1795µm,1.4s						
MMUR	**Monte Murano**	**0.41**	**354**	P	**Pg**	**05 52 42.6**	**-2.2**
MMUR				AML	AML		
	comp=E,4405µm,0.5s						
MMUR				AML	AML		
	comp=E,4410µm,0.5s						
MMUR				AML	AML		
	comp=N,4310µm,1.6s						
LNSS	**Leonessa**	**0.43**	**181**	P	**Pg**	**05 52 45.1**	**0.0**
LNSS				S	**Sb**	**05 52 52.0**	**-0.5**
T1243	**Rocca Santa Ma**	**0.44**	**139**	P	**Pg**	**05 52 45.2**	**-0.1**
T1243				S	**Sb**	**05 52 52.3**	**-0.6**
SMA1	**SAN MARTINO**	**0.45**	**153**	P	**Pg**	**05 52 45.5**	**+0.1**
SMA1				S	**Sb**	**05 52 52.4**	**-0.7**
MURB	**Monte Urbino**	**0.45**	**301**	⇑P	**Pg**	**05 52 45.7**	**+0.1**
MURB				AML	AML		
	comp=E,4100µm,0.3s						
MURB				AML	AML		
	comp=E,4775µm,0.2s						
MURB				AML	AML		
	comp=E,4095µm,0.2s						
MURB				AML	AML		
	comp=N,3335µm,0.2s						
MURB				AML	AML		
	comp=E,4770µm,0.2s						
MURB				AML	AML		
	comp=N,3745µm,0.2s						
SSFR	**Montelago di S**	**0.45**	**334**	⇓P	**Pg**	**05 52 45.5**	**-0.1**
SSFR				S	**Sb**	**05 52 54.0**	**+0.8**
SSFR				AML	AML		
	comp=E,8870µm,0.2s						
SSFR				AML	AML		
	comp=N,5020µm,0.7s						
SSFR				AML	AML		
	comp=N,5810µm,1.4s						
SSFR				AML	AML		
	comp=E,7140µm,0.2s						
ARVD	**Arcevia**	**0.48**	**350**	⇑P	**Pg**	**05 52 45.7**	**-0.3**
ARVD				AML	AML		
	comp=N,949µm,0.2s						
ARVD				AML	AML		
	comp=E,1910µm,1.0s						
ATFO	**Monte Foce - G**	**0.49**	**314**	⇓P	**Pg**	**05 52 46.2**	**0.0**
ATFO				AML	AML		
	comp=E,1094µm,0.6s						
ATFO				AML	AML		
	comp=N,990µm,1.2s						
ATFO				AML	AML		
	comp=E,1089µm,0.6s						
ARRO	**Arrone**	**0.50**	**205**	P	**Pg**	**05 52 46.4**	**0.0**
ARRO				S	**Sb**	**05 52 54.3**	**-0.1**
PP3	**Marolino**	**0.53**	**49**	P	**Pg**	**05 52 47.0**	**0.0**
PP3				AML	AML		
	comp=N,2170µm,0.2s						
PP3				AML	AML		
	comp=N,2080µm,0.2s						
PP3				AML	AML		
	comp=E,1770µm,0.3s						
PP3				AML	AML		
	comp=E,1650µm,0.3s						
ATTE	**AVT- Monte Tez**	**0.54**	**288**	⇑P	**Pg**	**05 52 46.9**	**-0.3**
ATTE				AML	AML		
	comp=E,670µm,0.7s						
ATTE				AML	AML		
	comp=N,890µm,0.4s						
ATTE				AML	AML		
	comp=N,890µm,0.4s						
ATTE				AML	AML		
	comp=E,670µm,0.7s						
FRON	**Frontone**	**0.54**	**334**	⇑P	**Pg**	**05 52 46.9**	**-0.3**
FRON				AML	AML		
	comp=N,1620µm,0.3s						
FRON				AML	AML		
	comp=E,1220µm,0.2s						
CESX	**Cesi**	**0.55**	**220**	⇑P	**Pg**	**05 52 47.1**	**-0.1**
CESX				S	**Sb**	**05 52 56.0**	**+0.2**
CESX				AML	AML		
	comp=N,2975µm,0.9s						
CESX				AML	AML		
	comp=E,2290µm,0.3s						
TERO	**Teramo**	**0.57**	**135**	P	**Pg**	**05 52 47.5**	**-0.2**
TERO				S	**Sb**	**05 52 56.5**	**-0.1**
TERO				AML	AML		
	comp=N,1555µm,0.5s						
TERO				AML	AML		
	comp=E,1184µm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**307**	⇑P	**Pg**	**05 52 47.9**	**-0.2**

ATVO					AML	AML			
	comp=E,666µm,0.4s								
ATVO					AML	AML			
	comp=N,826µm,1.6s								
PIEI	**Pieia**	**0.63**	**323**	⇑P		**Pg**	**05**	**52**	**48.5 -0.4**
PIEI				S		**Sb**	**05**	**52**	**59.0 +0.6**
PIEI				AML		AML			
	comp=E,791µm,0.4s								
PIEI				AML		AML			
	comp=N,688µm,0.3s								
ATPI	**Pietralunga -**	**0.64**	**312**	⇓P		**Pg**	**05**	**52**	**48.9 -0.1**
ATPI				AML		AML			
	comp=N,448µm,0.4s								
ATPI				AML		AML			
	comp=E,570µm,1.1s								
MPAG	**Monte Paganucc**	**0.64**	**340**	⇑P		**Pg**	**05**	**52**	**48.7 -0.3**
MPAG				S		**Sn**	**05**	**52**	**60.0 -1.6**
MPAG				AML		AML			
	comp=E,1400µm,1.6s								
MPAG				AML		AML			
	comp=E,1405µm,1.6s								
MPAG				AML		AML			
	comp=N,1260µm,0.3s								
ATMI	**Monte Miggiano**	**0.65**	**298**	⇑P		**Pn**	**05**	**52**	**51.4 -0.3**
ATMI				AML		AML			
	comp=N,1610µm,0.4s								
ATMI				AML		AML			
	comp=E,1305µm,0.8s								
AOI	**Ancona**	**0.66**	**37**	⇑P		**Pg**	**05**	**52**	**49.2 -0.1**
AOI				AML		AML			
	comp=E,570µm,0.3s								
AOI				AML		AML			
	comp=N,503µm,0.4s								
NARO	**Abbazia di Nar**	**0.68**	**329**	⇓P		**Pg**	**05**	**52**	**49.2 -0.5**
NARO				S		**Sn**	**05**	**53**	**01.0 -1.4**
NARO				AML		AML			
	comp=E,620µm,0.2s								
NARO				AML		AML			
	comp=N,438µm,0.3s								
SENI	**Senigallia**	**0.69**	**11**	⇓P		**Pb**	**05**	**52**	**50.6 +0.2**
SENI				AML		AML			
	comp=N,600µm,1.1s								
SENI				AML		AML			
	comp=E,725µm,0.4s								
FSSB	**Fossombrone**	**0.69**	**343**	⇑P		**Pg**	**05**	**52**	**50.0 -0.1**
FSSB				S		**Sn**	**05**	**53**	**02.0 -0.9**
FSSB				AML		AML			
	comp=E,2805µm,0.3s								
FSSB				AML		AML			
	comp=N,4455µm,0.3s								
MGAB	**Montegabbione**	**0.70**	**261**	⇓P		**Pg**	**05**	**52**	**50.1 -0.1**
MGAB				AML		AML			
	comp=E,1515µm,1.6s								
MGAB				AML		AML			
	comp=N,1830µm,0.4s								
MGAB				AML		AML			
	comp=E,1465µm,1.6s								
MGAB				AML		AML			
	comp=N,1825µm,1.3s								
BADI	**Badiali**	**0.76**	**309**	P		**Pg**	**05**	**52**	**51.3 0.0**
PE3	**Peglio**	**0.78**	**329**	⇑P		**Pb**	**05**	**52**	**52.5 +0.4**
CAFI	**Castiglion Fio**	**0.85**	**291**	⇓P		**Pg**	**05**	**52**	**52.9 -0.1**
CAFI				AML		AML			
	comp=E,392µm,0.5s								
CAFI				AML		AML			
	comp=N,340µm,1.3s								
SACS	**San Casciano d**	**0.86**	**258**	P		**Pg**	**05**	**52**	**52.9 -0.3**
SACS				AML		AML			
	comp=E,460µm,1.6s								
SACS				AML		AML			
	comp=N,502µm,0.8s								
SACS				AML		AML			
	comp=E,417µm,1.6s								
SACS				AML		AML			
	comp=N,522µm,0.8s								
CRE	**Caprese Michel**	**1.00**	**307**	⇓P		**Pn**	**05**	**52**	**56.5 +0.1**
CRE				AML		AML			
	comp=N,283µm,0.3s								
CRE				AML		AML			
	comp=E,190µm,0.3s								
MCIV	**Monte Civitell**	**1.04**	**257**	⇓P		**Pn**	**05**	**52**	**57.3 +0.3**
BRJN	**Brijuni**	**1.94**	**15**	⇓P		**Pn**	**05**	**53**	**09.8 +0.5**
FERS	**Ferrara-Casagl**	**2.17**	**330**	S		**Sn**	**05**	**53**	**36.0 -3.2**
OBKA	**Obir**	**3.64**	**16**	*i* Pn		**Pn**	**05**	**53**	**33.8 +1.1**
	comp=E,1.9nm,0.2s								
ABTA	**Abfaltersbach**	**3.74**	**354**	*i* Pn		**Pn**	**05**	**53**	**35.9 +1.8**
	comp=E,1.2nm,0.1s								
ABTA				*i* Sn		**Sn**	**05**	**54**	**18.6 +0.6**
	comp=E,2.6nm,0.3s								
FETA	**Feichten**	**4.32**	**338**	*i* Pn		**Pn**	**05**	**53**	**44.5 +2.4**
	comp=E,1.8nm,0.5s								
WTTA	**Wattenberg**	**4.35**	**347**	*e*Pn		**Pn**	**05**	**53**	**46.0 +3.3**
	comp=E,1.7nm,0.3s								
WTTA				*e*Sn		**Sn**	**05**	**54**	**35.8 +2.6**
	comp=E,6.7nm,0.4s								
SQTA	**Sankt Quirin**	**4.39**	**343**	*i* Pn		**Pn**	**05**	**53**	**46.4 +3.4**
	comp=E,1.3nm,0.2s								
ARSA	**Arzberg**	**4.57**	**22**	*i* Pn		**Pn**	**05**	**53**	**45.8 +0.4**
	comp=E,2.4nm,0.3s								
ARSA				*i* Sn		**Sn**	**05**	**54**	**36.9 -1.5**
	comp=E,3.9nm,0.5s								
MOA	**Molln**	**4.89**	**10**	*i* Pn		**Pn**	**05**	**53**	**51.0 +1.1**
	comp=E,1.8nm,0.3s								
MOA				*i* Sn		**Sn**	**05**	**54**	**47.2 +0.8**
	comp=E,1.9nm,0.3s								
CONA	**Conrad Observa**	**5.28**	**21**	*i* Pn		**Pn**	**05**	**53**	**55.8 +0.6**
	comp=E,1.7nm,0.3s								
CKRC	**Cesky Krumlov**	**5.86**	**8**	*e*SN		**Sn**	**05**	**55**	**07.9 -2.2**
KHC	**Kasperske Hory**	**6.11**	**3**	*e*PN		**Pn**	**05**	**54**	**07.1 +0.4**
KHC				*e*SN		**Sn**	**05**	**55**	**14.0 -2.5**

LDG ***02*** *06:08:47.9±0.1, 43.°03N×13.°02E, h10km, Ml3.4/9, Error ellipse: s-maj=4.4km s-min=2.6km az=41.0*
ROM ***02*** *06:08:48.1±0.0, 43.°033N±0.°002×13.°051E±0.°003, h9km, ML3.5/59, Error ellipse: s-maj=0.2km s-min=0.1km az=69.0*
IDC ***02*** *06:08:49.2±2.6, 43.°19N×13.°47E, h0km, mbtmp3.5/3, ML3.2/3, Error ellipse: s-maj=88.1km s-min=21.7km az=99.0*
PRU ***02*** *06:08:49.8±0.0, 43.°01N×13.°52E, h10km*
ISC 02 06:08:48.3±0.7, 43.°02N±0.°01×13.°00E±0.°02, h12km±4km, n149, σ1=91/205, 33C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.07**	**76**	⇓P		**Pg**		**06 08 50.0**	**-0.8**
FDMO				S		**Sg**		**06 08 51.1**	**-1.6**
FDMO				AML		AML			
FDMO				AML		AML			
FEMA	**Monte Fema**	**0.07**	**146**	⇑P		**Pg**		**06 08 50.9**	**-0.1**
FEMA				S		**Sg**		**06 08 52.6**	**-0.3**
FEMA				AML		AML			
FEMA				AML		AML			
FEMA				AML		AML			
FEMA				AML		AML			
T1216	**Preci, Frazion**	**0.13**	**173**	⇑P		**Pg**		**06 08 52.0**	**+0.4**
T1216				S		**Sg**		**06 08 54.6**	**+0.7**
T1216				AML		AML			
T1216				AML		AML			
	comp=E,93100µm,1.3s								
SEF1	**Sefro**	**0.13**	**344**	⇓P		**Pg**		**06 08 51.8**	**+0.2**
SEF1				S		**Sg**		**06 08 54.4**	**+0.4**
SEF1				AML		AML			
	comp=N,30550µm,1.5s								
SEF1				AML		AML			
	comp=N,30500µm,1.5s								
SEF1				AML		AML			
	comp=E,39050µm,1.1s								
PIO1	**Pioraco**	**0.16**	**357**	P		**Pg**		**06 08 52.0**	**0.0**
PIO1				S		**Sg**		**06 08 54.8**	**+0.2**
PIO1				AML		AML			
	comp=E,17900µm,0.5s								
PIO1				AML		AML			
	comp=N,28150µm,0.4s								
PIO1				AML		AML			
	comp=N,28150µm,0.4s								
CSP1	**Cessapalombo**	**0.17**	**65**	⇑P		**Pg**		**06 08 51.5**	**-0.7**
CSP1				S		**Sg**		**06 08 53.6**	**-1.4**
T1256	**Bolognola (MC)**	**0.17**	**95**	⇑P		**Pg**		**06 08 51.6**	**-0.6**
T1256				S		**Sg**		**06 08 53.9**	**-1.1**
T1256				AML		AML			
T1256				AML		AML			
T1256				AML		AML			
T1256				AML		AML			
T1256				AML		AML			
FIU1	**Fiuminata**	**0.17**	**344**	P		**Pg**		**06 08 52.5**	**+0.2**
FIU1				S		**Sg**		**06 08 55.8**	**+0.8**
FIU1				AML		AML			
	comp=E,7020µm,1.5s								
FIU1				AML		AML			
	comp=N,7820µm,1.4s								
FIU1				AML		AML			
	comp=E,7025µm,1.5s								
MDAR	**Monte D'Aria**	**0.20**	**32**	P		**Pg**		**06 08 52.3**	**-0.5**
MDAR				S		**Sg**		**06 08 55.1**	**-0.8**
MDAR				AML		AML			
	comp=E,38250µm,0.4s								
MDAR				AML		AML			
	comp=N,43750µm,0.4s								
MDAR				AML		AML			
	comp=E,38200µm,0.4s								
MDAR				AML		AML			
	comp=N,43750µm,0.4s								
NRCA	**Norcia**	**0.21**	**155**	⇑P		**Pg**		**06 08 53.0**	**+0.2**
NRCA				S		**Sg**		**06 08 56.5**	**+0.6**
NRCA				AML		AML			
	comp=E,68800µm,0.8s								
NRCA				AML		AML			
	comp=N,50750µm,0.2s								
NRCA				AML		AML			
	comp=N,54900µm,0.2s								
NRCA				AML		AML			
	comp=E,73600µm,0.8s								
NRCA				AML		AML			
	comp=N,50800µm,0.2s								
NRCA				AML		AML			
	comp=E,68750µm,0.8s								
T1245	**Castelsantange**	**0.22**	**139**	⇑P		**Pg**		**06 08 52.9**	**-0.1**
T1245				S		**Sg**		**06 08 56.7**	**+0.5**
T1245				AML		AML			
	comp=E,40050µm,0.2s								
T1245				AML		AML			
	comp=N,68850µm,1.1s								
T1245				AML		AML			
	comp=E,44350µm,0.2s								
T1245				AML		AML			
	comp=N,64700µm,1.1s								
GAG1	**Gagliole**	**0.22**	**13**	⇑P		**Pg**		**06 08 53.0**	**-0.1**
GAG1				S		**Sg**		**06 08 56.6**	**+0.2**
GAG1				AML		AML			
	comp=E,50950µm,0.4s								
GAG1				AML		AML			
	comp=N,65800µm,0.5s								
GAG1				AML		AML			
	comp=E,50950µm,0.5s								
T1215	**Vallo di Nera,**	**0.24**	**203**	⇑P		**Pg**		**06 08 54.2**	**+0.9**
T1215				S		**Sg**		**06 08 58.6**	**+1.9**
T1215				AML		AML			
	comp=E,14900µm,0.5s								
T1215				AML		AML			
	comp=N,11950µm,0.4s								
T1215				AML		AML			
	comp=E,14850µm,0.5s								
T1215				AML		AML			
	comp=N,12000µm,0.4s								
T1215				AML		AML			
	comp=E,14900µm,0.5s								
T1215				AML		AML			
	comp=N,11950µm,1.3s								
SNTG	**Esanatoglia**	**0.24**	**350**	⇑P		**Pg**		**06 08 53.4**	**+0.1**
SNTG				S		**Sg**		**06 08 57.4**	**+0.6**
SNTG				AML		AML			
	comp=N,7380µm,0.6s								
SNTG				AML		AML			
	comp=N,7320µm,0.6s								
SNTG				AML		AML			
	comp=E,7220µm,0.6s								
SNTG				AML		AML			
	comp=E,7330µm,0.6s								
SNTG				AML		AML			
	comp=N,7385µm,0.6s								
SSM1	**San Severino M**	**0.25**	**32**	P		**Pg**		**06 08 53.0**	**-0.4**
SSM1				S		**Sg**		**06 08 56.7**	**-0.3**
ASSB	**Assisi San Ben**	**0.25**	**275**	⇑P		**Pg**		**06 08 54.6**	**+1.1**
ASSB				S		**Sg**		**06 08 59.3**	**+2.3**
ASSB				AML		AML			
	comp=E,26250µm,0.4s								
ASSB				AML		AML			
	comp=N,24400µm,0.4s								
GUMA	**Gualdo di Mace**	**0.25**	**80**	⇑P		**Pg**		**06 08 53.3**	**-0.3**
GUMA				S		**Sg**		**06 08 57.0**	**-0.1**
GUMA				AML		AML			
GUMA				AML		AML			
GUMA				AML		AML			
GUMA				AML		AML			
GUMA				AML		AML			
AM05	**Amandola Campo**	**0.27**	**99**	⇑P		**Pg**		**06 08 53.4**	**-0.4**
AM05				S		**Sg**		**06 08 57.0**	**-0.5**
AM05				AML		AML			
	comp=E,10650µm,0.1s								
AM05				AML		AML			
	comp=E,45650µm,1.0s								
AM05				AML		AML			
	comp=N,13100µm,0.3s								
AM05				AML		AML			
	comp=N,4100µm,1.3s								
AM05				AML		AML			
	comp=E,10700µm,0.1s								
AM05				AML		AML			
	comp=E,45700µm,1.0s								
MMO1	**Montemonaco**	**0.27**	**116**	⇑P		**Pg**		**06 08 53.6**	**-0.4**
MMO1				S		**Sg**		**06 08 57.5**	**-0.2**
ATCC	**AVT- Casa Cast**	**0.31**	**302**	⇑P		**Pb**		**06 08 55.5**	**-0.2**
ATCC				S		**Sb**		**06 09 01.3**	**+0.5**
ATCC				AML		AML			
	comp=N,14550µm,0.2s								
ATCC				AML		AML			
	comp=E,11150µm,0.7s								
T1217	**Poggiodomo (PG**	**0.31**	**189**	⇑P		**Pb**		**06 08 55.4**	**-0.4**
T1217				S		**Sb**		**06 09 00.8**	**-0.1**
T1217				AML		AML			
	comp=N,21900µm,0.9s								
T1217				AML		AML			
	comp=E,14600µm,0.2s								
T1217				AML		AML			
	comp=N,22150µm,0.9s								
T1217				AML		AML			
	comp=E,14750µm,0.2s								
T1217				AML		AML			
	comp=N,22100µm,0.9s								
T1217				AML		AML			
	comp=N,21950µm,0.9s								
T1217				AML		AML			
	comp=E,14650µm,0.2s								
EL6	**Elcito**	**0.32**	**14**	⇑P		**Pg**		**06 08 54.5**	**-0.3**
EL6				S		**Sg**		**06 08 59.4**	**+0.2**
EL6				AML		AML			
	comp=N,26350µm,0.4s								
EL6				AML		AML			
	comp=E,20750µm,0.4s								
FOSV	**Fossato di Vic**	**0.32**	**328**	⇑P		**Pb**		**06 08 55.4**	**-0.6**
FOSV				S		**Sb**		**06 09 00.8**	**-0.4**
FOSV				AML		AML			
	comp=N,7880µm,0.6s								
FOSV				AML		AML			
	comp=E,5395µm,0.8s								
FOSV				AML		AML			
	comp=N,7870µm,0.6s								
FOSV				AML		AML			
	comp=E,5390µm,0.8s								
FOSV				AML		AML			
	comp=N,7860µm,0.6s								
T1244	**Arquata del Tr**	**0.34**	**140**	⇑P		**Pg**		**06 08 55.3**	**0.0**
T1244				S		**Sg**		**06 09 00.9**	**+1.0**
T1241	**Roccafluvione,**	**0.36**	**117**	P		**Pg**		**06 08 55.1**	**-0.4**
T1241				S		**Sg**		**06 09 00.5**	**+0.2**
T1241				AML		AML			
	comp=N,30900µm,0.2s								
T1241				AML		AML			
	comp=N,30000µm,0.2s								
T1241				AML		AML			
	comp=E,15850µm,0.9s								
T1241				AML		AML			
	comp=E,16300µm,0.9s								
T1241				AML		AML			
	comp=N,29950µm,0.2s								
T1241				AML		AML			
	comp=N,30850µm,0.2s								
MNTP	**Montappone**	**0.37**	**71**	⇑P		**Pg**		**06 08 55.6**	**0.0**
TRE1	**Treia**	**0.37**	**38**	⇑P		**Pg**		**06 08 55.6**	**-0.2**
TRE1				AML		AML			
	comp=N,19700µm,0.4s								
TRE1				AML		AML			
	comp=E,19300µm,0.4s								
CING	**Cingoli**	**0.38**	**22**	⇑P		**Pg**		**06 08 55.6**	**-0.4**
CING				S		**Sg**		**06 09 01.4**	**+0.3**
CING				AML		AML			
	comp=E,7995µm,0.4s								
CING				AML		AML			
	comp=N,6600µm,0.9s								
T1201	**Domo (RI)**	**0.41**	**153**	P		**Pg**		**06 08 56.7**	**+0.3**
T1201				S		**Sb**		**06 09 03.4**	**-0.2**
T1204	**Amatrice, Fraz**	**0.42**	**145**	P		**Pg**		**06 08 56.5**	**0.0**
T1204				S		**Sg**		**06 09 03.1**	**+0.9**
LNSS	**Leonessa**	**0.42**	**176**	P		**Pg**		**06 08 57.0**	**+0.4**
LNSS				S		**Sb**		**06 09 03.7**	**-0.3**
LNSS				AML		AML			
	comp=N,18250µm,1.2s								
LNSS				AML		AML			
	comp=E,6150µm,0.7s								
MMUR	**Monte Murano**	**0.42**	**0**	P		**Pg**		**06 08 56.5**	**-0.1**
MURB	**Monte Urbino**	**0.42**	**305**	⇑P		**Pb**		**06 08 57.6**	**-0.1**
MURB				AML		AML			
	comp=E,9950µm,0.3s								
MURB				AML		AML			
	comp=N,10285µm,0.2s								
MURB				AML		AML			
	comp=E,10985µm,0.3s								
MURB				AML		AML			
	comp=E,9965µm,0.3s								
MURB				AML		AML			
	comp=N,10275µm,0.2s								
MURB				AML		AML			
	comp=N,10670µm,0.2s								
SSFR	**Montelago di S**	**0.44**	**339**	P		**Pg**		**06 08 57.3**	**+0.3**
SSFR				S		**Sb**		**06 09 04.9**	**+0.2**
SSFR				AML		AML			
	comp=E,9620µm,0.3s								
SSFR				AML		AML			
	comp=N,9395µm,1.0s								
SSFR				AML		AML			
	comp=E,10710µm,0.2s								
SSFR				AML		AML			
	comp=N,10610µm,1.0s								
SMA1	**SAN MARTINO**	**0.46**	**147**	⇓P		**Pg**		**06 08 57.3**	**-0.1**
SMA1				AML		AML			
	comp=N,8305µm,0.8s								
SMA1				AML		AML			
	comp=N,8310µm,0.8s								
SMA1				AML		AML			
	comp=E,7755µm,0.8s								
T1243	**Rocca Santa Ma**	**0.46**	**134**	P		**Pg**		**06 08 57.0**	**-0.4**
ATFO	**Monte Foce - G**	**0.47**	**318**	⇑P		**Pb**		**06 08 58.1**	**-0.4**
ATFO				AML		AML			
	comp=E,3930µm,1.1s								
ATFO				AML		AML			
	comp=N,2650µm,0.5s								
ARRO	**Arrone**	**0.47**	**201**	P		**Pb**		**06 08 58.2**	**-0.3**
ARRO				AML		AML			
	comp=E,7990µm,0.2s								
ARRO				AML		AML			
	comp=N,4940µm,1.6s								
ARVD	**Arcevia**	**0.48**	**355**	⇑P		**Pg**		**06 08 57.6**	**-0.1**
ARVD				S		**Sb**		**06 09 05.2**	**-0.5**
ARVD				AML		AML			
	comp=N,2725µm,0.8s								
ARVD				AML		AML			
	comp=E,3355µm,1.0s								
T1211	**Morro Reatino**	**0.50**	**192**	⇑P		**Pb**		**06 08 58.6**	**-0.4**
T1211				S		**Sb**		**06 09 06.9**	**+0.7**
T1211				AML		AML			
	comp=E,6120µm,0.3s								
T1211				AML		AML			
	comp=N,13350µm,1.1s								
T1211				AML		AML			
	comp=N,13450µm,1.1s								
T1211				AML		AML			
	comp=E,6125µm,0.3s								
T1211				AML		AML			
	comp=E,6145µm,0.2s								
T1211				AML		AML			
	comp=N,13500µm,1.1s								
T1211				AML		AML			
	comp=N,13300µm,1.1s								
ATTE	**AVT- Monte Tez**	**0.50**	**291**	P		**Pb**		**06 08 59.3**	**+0.2**
CESX	**Cesi**	**0.51**	**217**	⇑P		**Pb**		**06 08 59.0**	**-0.2**
CESX				S		**Sb**		**06 09 07.3**	**+0.8**
CESX				AML		AML			
	comp=E,8090µm,0.6s								
CESX				AML		AML			
	comp=N,9580µm,1.0s								
OFFI	**Offida**	**0.51**	**99**	⇑P		**Pg**		**06 08 58.6**	**+0.3**
OFFI				AML		AML			
	comp=E,18150µm,0.5s								
OFFI				AML		AML			
	comp=N,13750µm,0.4s								
ATLO	**AVT- Montelove**	**0.52**	**305**	P		**Pb**		**06 08 59.0**	**-0.4**
FRON	**Frontone**	**0.54**	**338**	⇑P		**Pg**		**06 08 58.8**	**0.0**
FRON				AML		AML			
	comp=N,4225µm,0.4s								
FRON				AML		AML			
	comp=N,4220µm,0.4s								
FRON				AML		AML			
	comp=E,2960µm,0.8s								
RM33	**Pellescritta (**	**0.54**	**162**	P		**Pg**		**06 08 58.7**	**0.0**
RM33				S		**Sb**		**06 09 07.6**	**+0.3**
RM33				AML		AML			
	comp=E,4710µm,1.3s								
RM33				AML		AML			
	comp=N,5980µm,1.4s								
RM33				AML		AML			
	comp=E,4435µm,1.3s								
RM33				AML		AML			
	comp=N,6060µm,1.4s								
RM33				AML		AML			
	comp=N,5975µm,1.5s								
RM33				AML		AML			
	comp=E,4705µm,1.3s								
RM33				AML		AML			
	comp=E,4430µm,1.3s								
TB01	**Gubbio**	**0.55**	**312**	P		**Pb**		**06 08 59.5**	**-0.4**
TB02	**Pietralunga**	**0.55**	**309**	P		**Pb**		**06 08 59.6**	**-0.3**
ATBU	**Serra di Buran**	**0.56**	**324**	P		**Pb**		**06 08 59.8**	**-0.3**
ATVO	**AVT- Monte Val**	**0.56**	**310**	⇑P		**Pb**		**06 08 59.8**	**-0.3**
ATVO				AML		AML			
	comp=E,1810µm,0.3s								
ATVO				AML		AML			
	comp=N,2480µm,0.5s								
CIMA	**Civitanova Mar**	**0.57**	**60**	⇑P		**Pg**		**06 08 59.5**	**+0.2**
T1246	**Crognaleto (TE**	**0.57**	**140**	⇑P		**Pg**		**06 08 58.9**	**-0.5**
T1246				S		**Sg**		**06 09 07.3**	**+0.3**
CAMP	**Campotosto**	**0.57**	**148**	P		**Pg**		**06 08 59.1**	**-0.4**
CAMP				AML		AML			
	comp=N,2445µm,0.5s								
CAMP				AML		AML			
	comp=E,3260µm,0.2s								
PP3	**Marolino**	**0.57**	**51**	⇑P		**Pg**		**06 08 59.6**	**+0.2**
PP3				AML		AML			
	comp=E,6135µm,1.1s								
PP3				AML		AML			
	comp=N,6155µm,0.3s								
PP3				AML		AML			
	comp=E,6030µm,1.2s								
PP3				AML		AML			
	comp=N,6840µm,0.3s								
PP3				AML		AML			
	comp=E,6140µm,1.2s								
PP3				AML		AML			
	comp=E,6035µm,1.2s								
CADA	**Capodarco di F**	**0.59**	**72**	P		**Pg**		**06 09 00.1**	**+0.4**
CADA				AML		AML			
	comp=E,16000µm,0.8s								
CADA				AML		AML			
	comp=N,13850µm,0.5s								
CADA				AML		AML			
	comp=E,15950µm,0.8s								
CADA				AML		AML			
	comp=N,13850µm,0.5s								
TERO	**Teramo**	**0.60**	**131**	P		**Pg**		**06 08 59.4**	**-0.6**
TERO				S		**Sg**		**06 09 08.3**	**+0.5**
TERO				AML		AML			
	comp=E,5075µm,1.4s								
TERO				AML		AML			
	comp=N,7135µm,0.4s								
TERO				AML		AML			

comp=N,7140µm,0.4s
TERO AML AML
comp=E,5415µm,0.9s
TERO AML AML
comp=N,7555µm,0.4s
ATPC Poggio Castell 0.61 320 P **Pb 06 09 00.6 -0.2**
ATPI Pietralunga - 0.61 315 P **Pb 06 09 00.7 -0.2**
ATPI AML AML
comp=E,1450µm,1.4s
ATPI AML AML
comp=N,1480µm,1.2s
ATPI AML AML
comp=N,1475µm,1.2s
PIEI Pieia 0.62 327 P **Pg 06 09 00.4 +0.1**
PIEI AML AML
comp=E,2025µm,0.3s
PIEI AML AML
comp=N,1695µm,0.2s
T1247 Pizzolo (AQ) 0.62 159 P **Pg 06 09 00.2 -0.1**
T1247 AML AML
comp=E,4620µm,0.2s
T1247 AML AML
comp=N,6350µm,0.4s
MPAG Monte Paganucc 0.63 344 P **Pg 06 09 00.6 0.0**
MPAG AML AML
comp=N,2570µm,0.4s
MPAG AML AML
comp=E,3220µm,0.3s
MGAB Montegabbione 0.66 261 P **Pb 06 09 01.9 +0.2**
MGAB AML AML
comp=N,5280µm,0.5s
MGAB AML AML
comp=E,3770µm,0.5s
MGAB AML AML
comp=N,4945µm,0.6s
MGAB AML AML
comp=E,4005µm,0.4s
NARO Abbazia di Nar 0.66 333 P **Pg 06 09 01.1 0.0**
NARO AML AML
comp=N,938µm,0.5s
NARO AML AML
comp=E,1480µm,0.3s
AOI Ancona 0.69 40 ⇑P **Pg 06 09 01.1 -0.6**
AOI AML AML
comp=E,1510µm,0.4s
AOI AML AML
comp=N,2035µm,0.4s
AOI AML AML
comp=E,1505µm,0.4s
FSSB Fossombrone 0.69 347 P **Pg 06 09 01.6 -0.1**
FSSB AML AML
comp=E,9325µm,0.3s
FSSB AML AML
comp=N,8235µm,0.4s
PCRO Pietralacroce 0.71 33 P **Pg 06 09 01.7 -0.3**
SENI Senigallia 0.71 14 P **Pg 06 09 02.2 +0.3**
TRTR Tortoreto Alta 0.71 107 P **Pg 06 09 02.2 +0.3**
TRTR AML AML
comp=E,11700µm,1.2s
TRTR AML AML
comp=N,11310µm,1.3s
GIGS Gran Sasso 0.71 143 P **Pg 06 09 01.0 -1.0**
GIGS AML AML
comp=E,1135µm,0.2s
GIGS AML AML
comp=N,1075µm,1.2s
ATMC Monte Cedrone 0.73 306 P **Pb 06 09 03.5 +0.7**
AQU L'Aquila 0.73 156 P **Pg 06 09 01.9 -0.5**
FIAM Fiamignano 0.76 173 P **Pg 06 09 02.8 -0.1**
FIAM S **Sb 06 09 14.2 +0.5**
FIAM AML AML
comp=E,1810µm,0.5s
FIAM AML AML
comp=N,1860µm,0.9s
CAFI Castiglion Fio 0.81 293 P **Pb 06 09 04.8 +0.5**
CAFI AML AML
comp=E,1300µm,0.8s
CAFI AML AML
comp=N,1020µm,1.4s
CAFI AML AML
comp=E,1305µm,0.8s
CAFI AML AML
comp=E,1345µm,0.8s
CAFI AML AML
comp=N,1085µm,1.4s
CAFI AML AML
comp=N,1020µm,1.4s
SACS San Casciano d 0.82 258 P **Pb 06 09 05.0 +0.6**
SACS AML AML
comp=E,1510µm,1.4s
SACS AML AML
comp=N,1800µm,0.6s
SACS AML AML
comp=E,1325µm,1.4s
SACS AML AML
comp=N,1660µm,0.6s
SSP9 Sansepolcro 0.84 312 P **Pn 06 09 06.0 0.0**
SRES S.Oreste - Sor 0.86 205 P **Pb 06 09 05.0 -0.1**
SRES AML AML
comp=E,1765µm,0.6s
SRES AML AML
comp=N,1515µm,0.3s
FAGN Fagnano 0.87 150 P **Pg 06 09 04.9 -0.2**
FAGN AML AML
comp=E,6010µm,0.4s
FAGN AML AML
comp=N,3965µm,0.4s
VCEL Villa Celiera 0.88 135 P **Pg 06 09 04.7 -0.6**
VCEL AML AML
comp=E,3675µm,0.4s
VCEL AML AML
comp=E,3680µm,0.4s
VCEL AML AML
comp=N,3055µm,0.4s
CRE Caprese Michel 0.97 309 P **Pn 06 09 07.8 0.0**
CRE AML AML
comp=N,846µm,1.3s
CRE AML AML
comp=E,688µm,0.4s
T0110 Collepietro 0.98 144 P **Pg 06 09 06.0 -1.2**
T0110 AML AML
comp=E,4160µm,0.4s
T0110 AML AML
comp=N,3875µm,0.6s
MCIV Monte Civitell 1.00 256 P **Pn 06 09 08.9 +0.7**
MCIV AML AML
comp=N,448µm,0.6s
MCIV AML AML
comp=E,564µm,0.5s
MTCE Montecelio 1.01 191 P **Pg 06 09 07.6 -0.2**
SF13 Bagnolo 1.03 259 P **Pn 06 09 09.1 +0.5**
SF14 Selvena 1.05 256 P **Pn 06 09 09.3 +0.5**
CERT Cerreto 1.07 181 P **Pg 06 09 08.2 -0.6**
CERT AML AML
comp=N,1545µm,0.7s
CERT AML AML
comp=E,2285µm,0.6s
ARCI Arcidosso 1.13 262 P **Pn 06 09 11.1 +1.1**
ASQU Asqua 1.17 312 P **Pn 06 09 11.3 +0.7**
TOLF Tolfa 1.21 218 P **Pn 06 09 11.6 +0.7**
SFI Santa Sofia 1.22 317 P **Pn 06 09 12.5 +1.4**
VVLD Villa Vallelon 1.24 158 P **Pn 06 09 12.6 +1.2**
GUAR Guarcino 1.25 169 P **Pn 06 09 12.4 +0.9**
RUFI Rufina 1.36 308 P **Pg 06 09 14.1 -0.3**
FROS Frosini 1.36 279 P **Pg 06 09 13.9 -0.5**
OSSC Osservatorio P 1.37 292 P **Pn 06 09 13.5 +0.2**
POFI Posta Fibreno 1.41 158 P **Pg 06 09 15.3 0.0**
LRP Arpino 1.44 162 P **Pg 06 09 16.6 +0.7**
GIUL Giuliano Di Ro 1.47 172 P **Pb 06 09 16.1 +0.5**
MAON Monte Argentar 1.50 247 P **Pb 06 09 15.8 -0.2**
CASP Castiglione de 1.58 262 P **Pn 06 09 16.3 +0.1**
CERA Filignano 1.61 152 P **Pg 06 09 19.1 -0.1**
FRES Fresagrandinar 1.62 130 P **Pb 06 09 18.6 +0.5**
MIDA Miranda 1.66 145 P **Pn 06 09 18.3 +1.0**
VAGA Valle Agricola 1.85 150 P **Pb 06 09 22.6 +0.6**
MELA Melanico ??? S 2.05 129 P **Pb 06 09 25.2 -0.3**
SGRT San Giovanni R 2.40 121 P **Pn 06 09 28.9 +1.5**
PGF Pioggiola 2.98 262 *e*P **Pn 06 09 36.8 +1.4**
PGF *e*Sn **Sn 06 10 07.8 -3.3**
comp=E,38nm,0.9s
MYKA Terra Mystica 3.64 7 *i* Pn **Pn 06 09 45.4 +0.9**
comp=E,4.4nm,0.3s
OBKA Obir 3.66 17 *e*Pn **Pn 06 09 45.5 +0.7**
comp=E,6.8nm,0.2s
SBF Sospel 4.14 284 *e*P **Pn 06 09 53.0 +1.7**

FETA Feichten 4.31 339 *e*Pn **Pn 06 09 57.6 +3.9**
comp=E,4.2nm,0.3s,SNR=5.2
FETA *e*Sn **Sn 06 10 50.1 +6.1**
comp=E,8.6nm,0.5s
SQTA Sankt Quirin 4.39 344 *e*Pn **Pn 06 09 59.0 +4.2**
comp=E,13nm,0.3s
WATA Walderalm 4.43 347 *i* Pn **Pn 06 09 58.9 +3.5**
comp=E,4.7nm,0.3s
WATA *i* Sn **Sn 06 10 50.9 +4.0**
comp=E,20nm,0.3s
MOTA Moosalm 4.53 343 *i* Pn **Pn 06 09 59.4 +2.7**
comp=E,3.8nm,0.3s
MOTA *e*Sn **Sn 06 10 53.6 +4.3**
comp=E,11nm,0.4s
ARSA Arzberg 4.59 22 *i* Pn **Pn 06 09 57.9 +0.4**
comp=E,5.1nm,0.3s,SNR=8.3
ARSA *i* Sn **Sn 06 10 49.2 -1.6**
comp=E,5.1nm,0.4s
BIOA Bad Ischl, Aus 4.69 5 *i* Pn **Pn 06 10 00.3 +1.4**
comp=E,10nm,0.2s,SNR=6.8
BIOA *i* Sn **Sn 06 10 55.1 +1.8**
comp=E,14nm,0.3s
LMR La Mourre 4.75 276 *e*P **Pn 06 10 01.4 +1.7**
DAVA Damuels 4.80 334 *i* Pn **Pn 06 10 03.4 +2.9**
comp=E,9.3nm,0.5s
MBDF Montbardon 4.81 293 *e*P **Pn 06 10 02.8 +2.2**
MBDF *e*Sn **Sn 06 10 51.3 -5.1**
MOA Molln 4.91 10 *i* Pn **Pn 06 10 02.9 +1.1**
comp=E,3.3nm,0.2s,SNR=6.3
MOA *i* Sn **Sn 06 10 59.0 +0.4**
comp=E,15nm,0.5s
LPG La Plagne 5.12 301 *e*P **Pn 06 10 07.2 +2.2**
LPG *e*Sn **Sn 06 10 58.8 -5.4**
comp=E,12nm,0.7s
LPL La Plagne 5.14 301 *e*P **Pn 06 10 07.4 +2.1**
LPL *e*Sn **Sn 06 10 59.3 -5.3**
comp=E,14nm,0.9s
RONA Rosalia, Austr 5.22 25 *i* P **Pn 06 10 06.0 -0.2**
comp=E,5.4nm,0.4s,SNR=4.4
CONA Conrad Observa 5.31 21 *i* Pn **Pn 06 10 07.6 +0.3**
comp=E,4.7nm,0.3s,SNR=8.8
CONA *i* Sn **Sn 06 11 05.5 -2.9**
comp=E,7.8nm,0.5s
ORIF Oris-en-Rattie 5.47 293 *e*P **Pn 06 10 12.1 +2.4**
ORIF *e*Sn **Sn 06 11 07.4 -5.2**
comp=E,21nm,1.1s
SMRF Simiane la Rot 5.48 283 *e*P **Pn 06 10 13.4 +3.7**
GERES GERESS Array B 5.85 5 Pn **Pn 06 10 15.2 +0.4**
comp=E,0.8nm,0.3s,baz=180,slow=11,SNR=8.9
GERES Sn **Sn 06 11 19.8 -2.0**
comp=E,3.1nm,0.3s,baz=182,slow=28,SNR=8.5
comp=E,1.6nm,0.4s
CKRC Cesky Krumlov 5.87 9 *e*SN **Sn 06 11 20.0 -2.3**
CABF La Chapelle 6.08 309 *e*P **Pn 06 10 20.8 +2.7**
KHC Kasperske Hory 6.13 4 *e*PN **Pn 06 10 18.8 +0.2**
KHC *e*SN **Sn 06 11 26.8 -1.7**
HINF Hinteralfeld 6.46 320 *e*P **Pn 06 10 25.3 +2.2**
HINF *e*Sn **Sn 06 11 30.3 -6.4**
comp=E,10nm,0.5s
CDF Champ du Feu 6.71 325 *e*P **Pn 06 10 29.2 +2.5**
CDF *e*Sn **Sn 06 11 36.4 -6.7**
comp=E,9.8nm,0.6s
LASF Ste Croix 6.72 282 *e*P **Pn 06 10 29.5 +2.7**
HAU Haudompre 6.83 319 *e*P **Pn 06 10 30.8 +2.6**
HAU *e*Sn **Sn 06 11 39.2 -6.6**
comp=E,17nm,0.5s
PRU Pruhonice 7.05 8 *e*SN **Sn 06 11 49.5 -1.7**
NKC Novy Kostel 7.22 357 *e*SN **Sn 06 11 54.9 -0.7**
SMF Signal de Mont 7.45 302 *e*P **Pn 06 10 39.6 +2.9**
SMF *e*Sn **Sn 06 11 54.3 -6.8**
comp=E,65nm,1.7s
PAGF Fort de Pagny 7.51 320 *e*P **Pn 06 10 40.3 +2.8**
SFTF Sexfontaines 7.61 316 *e*P **Pn 06 10 41.8 +2.8**
baz=133
LOR Lormes 7.73 306 *e*P **Pn 06 10 43.4 +2.8**
baz=123
LOR *e*Sn **Sn 06 12 00.9 -7.1**
comp=E,6.5nm,0.6s
MEZF Maizieres J'vi 7.80 317 *e*P **Pn 06 10 44.2 +2.7**
baz=122
KEST Kesra 7.81 202 Pn Pn 06 10 47.9 +6.2
comp=E,0.3nm,0.3s,baz=31,slow=18,SNR=2.6
comp=E,2.7nm,0.8s
AVF Avril sur Loir 7.81 302 *e*P **Pn 06 10 44.3 +2.6**
SSF Saint Saulge 7.84 304 *e*P **Pn 06 10 44.9 +2.8**
MTLF Montolieu 7.89 276 *e*P **Pn 06 10 46.1 +3.4**
BGF Bois d'Agland 8.04 300 *e*P **Pn 06 10 47.2 +2.4**
CAF Calviac 8.11 287 *e*P **Pn 06 10 48.7 +2.9**
CLL Collm 8.29 0 *e*(Sn) **Sn 06 12 19.0 -2.7**
CLL *ex* x 06 12 57.0
CLL *e*Sg **Sg 06 13 16.0 +1.9**
LDF La Druitiere 10.71 306 *e*P **Pn 06 11 23.3 +1.9**
FINES FINESS Array B 20.04 19 P **P 06 13 20.6 -0.3**
comp=E,0.1nm,0.3s,baz=202,slow=10,SNR=3.8
comp=E,1.6nm,0.7s

DRS **02** *06:11:28.2±0.0,41°.45N×50°.93E,h26km*
MOS 02 06:11:26.7±0.0,41°.52N×50°.26E,h16km,MPVA3.8,
Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**1.53**	**290**	*e*Pg	Pg	06 11 56.4	+0.3
DRN				*e*Sg	Sg	06 12 17.7	+1.7
KSMR	**Kasumkent**	**1.60**	**274**	*e*Pg	Pg	06 11 57.8	+0.3
KSMR				*e*Sg	Sg	06 12 19.8	+1.5
AKT	**Akhty**	**1.90**	**270**	*e*Pg	Pb	06 12 02.0	+1.0
AKT				*e*Sg	Sg	06 12 28.0	+0.2
URKR	**Urkarakh**	**2.06**	**289**	*e*Pg	Pb	06 12 03.9	0.0
URKR				*e*Sg	Sg	06 12 31.6	-1.6
KMKR	**Kumukh**	**2.44**	**286**	*e*Pn	Pb	06 12 09.1	-1.2
KMKR				*e*Sn	Sb	06 12 40.6	+0.4
GNBR	**Gunib**	**2.60**	**291**	*e*Pn	Pb	06 12 11.4	-1.6
GNBR				*e*Sn	Sb	06 12 44.8	-0.1
KRNR	**Karanay**	**2.81**	**299**	*e*Pn	Pb	06 12 14.0	-2.6
KRNR				*e*Sn	Sb	06 12 50.0	-0.8
XNZR	**Khunzakh**	**2.84**	**292**	*e*Pn	Pb	06 12 14.7	-2.4
XNZR				*e*Sn	Sb	06 12 50.7	-0.9
DBC	**Dubki**	**2.95**	**302**	*e*Pn	Pn	06 12 15.7	+2.7
DBC				*e*Sn	Sb	06 12 52.4	-2.4
BTLR	**Botlikh**	**3.21**	**292**	*e*Pn	Pn	06 12 19.8	+3.2
BTLR				*e*Sn	Sb	06 12 59.6	-2.8
DVE	**Vedeno**	**3.39**	**296**	*e*Pn	Pn	06 12 21.6	+2.6
DVE				*e*Sn	Sn	06 13 03.0	+4.2
KMGR	**Komgaron**	**4.28**	**293**	*e*Pn	Pn	06 12 34.4	+3.1
ZEI	**Tsey**	**4.89**	**287**	*e*Pn	Pn	06 12 43.0	+3.2
DIGR	**Digorskoe uzhe**	**5.15**	**288**	*e*Pn	Pn	06 12 46.2	+3.0

IDC **02** *06:33:28.5±3.7,30°.98S×178°.93W,h0km,mb4.3/4,*
mbtmp4.3/5,ML3.8/1,MS3.3/2,Error ellipse: s-maj=82.6km
s-min=30.8km az=47.0
ISC 02 06:33:35.2±1.6,31°.2S±0°.1×179°.2W±0°.2,h35km,n11,
σ0s34/10,mb4.3/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.67**	**203**	Pn	**Pn**	**06 35 24.8**	**+0.4**
	1.2nm,0.3s,baz=352,slow=4.1,SNR=19						
URZ				Sn	**Sn**	**06 36 49.7**	**-0.4**
	0.4nm,0.3s,baz=35,slow=13,SNR=1.2						
	6.6nm,0.6s						
MSVF	**Nonsavu**	**13.66**	**349**	LR	LR	06 40 13.7	
	comp=Z,20nm,19.1s,baz=151,slow=30						
STKA	**Stephens Creek**	**33.34**	**258**	P	**P**	**06 40 09.8**	**-0.1**
	2.1nm,0.8s,baz=96,slow=13,SNR=4.0						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**42.08**	**268**	P	**P**	**06 41 24.2**	**+0.2**
	2.3nm,0.4s,baz=105,slow=7.4,SNR=41						
	2.3nm,0.4s						
WRA	**Warramunga Arr**	**43.15**	**274**	P	**P**	**06 41 32.6**	**0.0**
	3.6nm,0.3s,baz=112,slow=7.9,SNR=75						
	3.6nm,0.3s						
BATI	**Baumata**	**56.78**	**279**	LR	LR	07 05 11.0	
	comp=Z,142nm,21.4s,baz=336,slow=33						
QSPA	**South Pole Qui**	**58.90**	**180**	P	**P**	**06 43 30.7**	**+0.2**
	1.3nm,0.5s,baz=52,slow=8.5,SNR=13						
	1.3nm,0.5s						
SNAA	**Sanae**	**77.37**	**179**	P	**P**	**06 45 25.6**	**-0.4**
VNA3	**Neumayer Olymp**	**77.56**	**177**	P	**P**	**06 45 26.9**	**-0.2**
VNA2	**Neumayer--Watz**	**77.98**	**177**	P	**P**	**06 45 29.5**	**+0.1**
	baz=171,slow=5.0						
VNA1	**Neumayer--Stat**	**78.22**	**177**	P	**P**	**06 45 30.3**	**-0.4**

IDC **02** *06:41:11.5±3.1,42°.86N×13°.96E,h0km,mb3.3/1,*
mbtmp3.3/3,ML3.3/2,MS3.0/1,Error ellipse:
s-maj=133.1km s-min=15.8km az=98.0
LDG **02** *06:41:12.4±0.1,42°.80N×13°.19E,h10km,Ml3.6/10,Error*
ellipse: s-maj=3.4km s-min=2.2km az=48.0
ROM **02** *06:41:13.0±0.0,42°.790N±0°.002×13°.167E±0°.003,*
h9km,ML3.5/69,Error ellipse: s-maj=0.2km s-min=0.1km
az=70.0
PRU **02** *06:41:14.5±0.0,42°.80N×13°.52E,h10km*
ISC 02 06:41:13.3±0.7,42°.78N±0°.01×13°.11E±0°.02,h14km±4km,
n158,σ1s70/226,30C-12D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**2**	⇑P	**Pg**	**06 41 15.5**	**-0.5**
NRCA				S	**Sg**	**06 41 16.8**	**-1.1**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	**Castelsantange**	**0.09**	**38**	⇑P	**Pg**	**06 41 15.7**	**-0.8**
T1245				S	**Sg**	**06 41 17.1**	**-1.6**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1216	**Preci, Frazion**	**0.13**	**328**	⇑P	**Pb**	**06 41 16.9**	**-0.6**
T1216				S	**Sg**	**06 41 19.4**	**+0.2**
T1216				AML	AML		
	comp=E,37250µm,0.4s						
T1216				AML	AML		
	comp=N,51450µm,0.3s						
T1216				AML	AML		
	comp=N,51450µm,0.3s						
T1216				AML	AML		
	comp=N,51500µm,0.3s						
T1244	**Arquata del Tr**	**0.14**	**101**	P	**Pg**	**06 41 16.3**	**-0.7**
T1217	**Poggiodomo (PG**	**0.15**	**242**	⇑P	**Pb**	**06 41 17.8**	**-0.2**
T1217				S	**Sg**	**06 41 20.8**	**+1.1**
T1217				AML	AML		
	comp=E,24500µm,0.6s						
T1217				AML	AML		
	comp=N,26800µm,0.4s						
T1217				AML	AML		
	comp=N,25750µm,0.4s						
T1217				AML	AML		
	comp=E,24550µm,0.6s						
T1217				AML	AML		
	comp=E,24200µm,0.6s						
T1201	**Domo (RI)**	**0.16**	**141**	P	**Pg**	**06 41 17.3**	**0.0**
T1201				S	**Sg**	**06 41 20.2**	**+0.2**
T1215	**Vallo di Nera,**	**0.18**	**276**	⇑P	**Pb**	**06 41 18.2**	**-0.2**
T1215				S	**Sg**	**06 41 21.8**	**+1.4**
T1215				AML	AML		
	comp=E,16650µm,1.1s						
T1215				AML	AML		
	comp=N,23050µm,0.7s						
T1215				AML	AML		
	comp=N,23600µm,0.8s						
T1215				AML	AML		
	comp=E,16700µm,1.1s						
T1215				AML	AML		
	comp=E,17250µm,1.1s						
T1215				AML	AML		
	comp=N,23550µm,0.8s						
T1215				AML	AML		
	comp=E,17200µm,1.2s						
T1215				AML	AML		
	comp=E,16650µm,1.2s						
T1215				AML	AML		
	comp=N,23050µm,0.7s						
FEMA	**Monte Fema**	**0.18**	**346**	P	**Pg**	**06 41 17.7**	**+0.1**
FEMA				S	**Sg**	**06 41 20.9**	**+0.3**
FEMA				AML	AML		
	comp=E,47300µm,0.5s						
FEMA				AML	AML		
	comp=N,40000µm,1.6s						
FEMA				AML	AML		
	comp=E,47300µm,0.5s						
FEMA				AML	AML		
	comp=N,40000µm,1.6s						
T1204	**Amatrice, Fraz**	**0.19**	**125**	P	**Pg**	**06 41 17.2**	**-0.4**
T1204				S	**Sg**	**06 41 20.3**	**-0.4**
T1204				AML	AML		
	comp=N,19650µm,0.2s						
T1204				AML	AML		
	comp=E,31800µm,0.2s						
T1204				AML	AML		
	comp=E,31850µm,0.2s						
LNSS	**Leonessa**	**0.19**	**196**	⇑P	**Pb**	**06 41 18.2**	**-0.4**
LNSS				S	**Sg**	**06 41 22.1**	**+1.4**
MMO1	**Montemonaco**	**0.20**	**54**	⇑P	**Pg**	**06 41 17.0**	**-0.8**
MMO1				S	**Sg**	**06 41 19.8**	**-1.1**
SMA1	**SAN MARTINO**	**0.23**	**133**	P	**Pg**	**06 41 17.9**	**-0.4**
SMA1				S	**Sg**	**06 41 22.2**	**+0.5**
SMA1				AML	AML		
	comp=E,33400µm,0.7s						
SMA1				AML	AML		
	comp=N,29650µm,0.4s						
T1256	**Bolognola (MC)**	**0.24**	**21**	⇑P	**Pg**	**06 41 18.1**	**-0.5**
T1256				S	**Sg**	**06 41 21.7**	**-0.4**
T1256				AML	AML		
	comp=E,38350µm,0.3s						
T1256				AML	AML		
	comp=E,39450µm,0.3s						
T1256				AML	AML		
	comp=N,27100µm,0.5s						
T1256				AML	AML		
	comp=E,38300µm,0.3s						
T1256				AML	AML		
	comp=N,27150µm,0.5s						
T1256				AML	AML		
	comp=E,39400µm,0.3s						
T1256				AML	AML		
	comp=N,27150µm,0.5s						
T1241	**Roccafluvione,**	**0.25**	**73**	⇑P	**Pg**	**06 41 17.8**	**-0.7**
T1241				S	**Sg**	**06 41 21.2**	**-1.0**
T1241				AML	AML		
	comp=E,28800µm,0.8s						
T1241				AML	AML		
	comp=N,36950µm,0.4s						
T1241				AML	AML		
	comp=E,29000µm,0.8s						
T1241				AML	AML		
	comp=N,36150µm,0.4s						
FDMO	**Fiordimonte**	**0.25**	**356**	⇑P	**Pg**	**06 41 18.7**	**-0.1**
FDMO				S	**Sg**	**06 41 22.7**	**+0.3**
FDMO				AML	AML		
	comp=N,26300µm,1.0s						
FDMO				AML	AML		
	comp=E,14900µm,1.2s						
AM05	**Amandola Campo**	**0.26**	**42**	⇑P	**Pg**	**06 41 18.3**	**-0.5**
AM05				S	**Sg**	**06 41 22.3**	**-0.3**
AM05				AML	AML		
	comp=E,23050µm,0.4s						
AM05				AML	AML		
	comp=E,5475µm,0.2s						
AM05				AML	AML		
	comp=E,23100µm,0.4s						
AM05				AML	AML		
	comp=N,2145µm,0.1s						
AM05				AML	AML		
	comp=N,6395µm,0.5s						
T1243	**Rocca Santa Ma**	**0.26**	**109**	P	**Pg**	**06 41 18.2**	**-0.7**
T1243				S	**Sg**	**06 41 22.0**	**-0.7**
RM33	**Pellescritta (**	**0.28**	**165**	⇑P	**Pg**	**06 41 19.3**	**0.0**
RM33				S	**Sb**	**06 41 24.1**	**-0.8**
RM33				AML	AML		
	comp=N,20300µm,0.2s						
RM33				AML	AML		
	comp=E,31750µm,0.2s						
RM33				AML	AML		
	comp=E,31300µm,0.2s						
RM33				AML	AML		
	comp=E,31750µm,0.2s						
RM33				AML	AML		
	comp=N,19800µm,0.2s						
T1211	**Morro Reatino**	**0.31**	**217**	⇑P	**Pb**	**06 41 20.4**	**-0.3**
T1211				S	**Sb**	**06 41 26.2**	**+0.5**
T1211				AML	AML		
	comp=E,12150µm,0.3s						
T1211				AML	AML		
	comp=N,18150µm,0.3s						

T1211 AML AML
comp=E,12250µm,0.3s
T1211 AML AML
comp=N,18200µm,0.3s
T1211 AML AML
comp=N,18200µm,0.3s
T1211 AML AML
comp=N,18150µm,0.3s
T1211 AML AML
comp=E,12250µm,0.3s
T1211 AML AML
comp=N,18200µm,0.3s
T1211 AML AML
comp=N,18150µm,0.3s
GUMA Gualdo di Mace 0.32 30 ⇑P Pg 06 41 19.8 -0.2
GUMA S Sg 06 41 24.8 +0.3
GUMA AML AML
comp=E,49550µm,0.7s
GUMA AML AML
comp=N,80100µm,0.4s
GUMA AML AML
comp=N,76550µm,0.6s
GUMA AML AML
comp=E,49500µm,0.7s
GUMA AML AML
comp=E,64300µm,0.4s
ARRO Arrone 0.33 231 ⇑P Pb 06 41 20.8 -0.1
ARRO AML AML
comp=E,7675µm,0.2s
ARRO AML AML
comp=N,6625µm,0.9s
ARRO AML AML
comp=N,6620µm,0.9s
CAMP Campotosto 0.33 138 ⇓P Pg 06 41 19.7 -0.4
CAMP S Sg 06 41 24.3 -0.4
CAMP AML AML
comp=N,6035µm,0.6s
CAMP AML AML
comp=E,5915µm,0.6s
T1246 Crognaleto (TE 0.35 125 ⇑P Pg 06 41 19.7 -0.6
T1246 S Sg 06 41 24.9 -0.2
T1247 Pizzolo (AQ) 0.37 158 ⇑P Pg 06 41 20.7 -0.1
T1247 S Sg 06 41 26.2 +0.4
T1247 AML AML
comp=E,12900µm,0.3s
T1247 AML AML
comp=N,12800µm,0.9s
SEF1 Sefro 0.38 342 P Pg 06 41 21.1 +0.1
SEF1 S Sb 06 41 27.3 -0.4
SEF1 AML AML
comp=E,24000µm,1.2s
SEF1 AML AML
comp=N,26900µm,0.2s
TERO Teramo 0.40 114 P Pg 06 41 20.4 -0.9
TERO S Sg 06 41 26.1 -0.6
TERO AML AML
comp=N,7840µm,0.3s
TERO AML AML
comp=E,5645µm,1.3s
TERO AML AML
comp=N,7860µm,0.3s
TERO AML AML
comp=E,6340µm,0.1s
TERO AML AML
comp=N,8870µm,0.3s
PIO1 Pioraco 0.41 347 P Pg 06 41 21.4 0.0
PIO1 S Sb 06 41 28.0 -0.3
PIO1 AML AML
comp=E,6005µm,1.4s
PIO1 AML AML
comp=N,10550µm,0.4s
PIO1 AML AML
comp=N,10500µm,0.4s
MDAR Monte D'Aria 0.41 3 P Pg 06 41 21.3 -0.2
MDAR S Sg 06 41 27.5 +0.4
ASSB Assisi San Ben 0.42 308 ⇓P Pb 06 41 22.2 -0.4
ASSB S Sb 06 41 29.0 +0.2
ASSB AML AML
comp=E,8890µm,0.3s
ASSB AML AML
comp=N,11300µm,0.8s
FIU1 Fiuminata 0.42 342 P Pg 06 41 21.9 +0.1
FIU1 S Sb 06 41 28.8 -0.1
FIU1 AML AML
comp=E,9105µm,0.3s
FIU1 AML AML
comp=N,9275µm,1.5s
FIU1 AML AML
comp=E,9060µm,0.3s
FIU1 AML AML
comp=N,9315µm,1.5s
CESX Cesi 0.43 246 ⇑P Pb 06 41 22.5 -0.1
CESX S Sb 06 41 30.0 +1.0
CESX AML AML
comp=E,5460µm,0.6s
CESX AML AML
comp=N,5905µm,0.7s
MNTP Montappone 0.44 37 P Pg 06 41 22.2 +0.1
MNTP S Sb 06 41 29.6 +0.3
MNTP AML AML
comp=E,19650µm,0.2s
MNTP AML AML
comp=N,19450µm,0.3s
MNTP AML AML
comp=E,19650µm,0.2s
MNTP AML AML
comp=N,19400µm,0.3s
SSM1 San Severino M 0.45 6 P Pg 06 41 22.0 -0.2
SSM1 S Sg 06 41 28.9 +0.7
OFFI Offida 0.45 70 P Pg 06 41 22.2 0.0
OFFI AML AML
comp=E,11650µm,0.4s
OFFI AML AML
comp=N,15300µm,0.8s
GAG1 Gagliole 0.46 356 ⇑P Pg 06 41 22.4 +0.1
GAG1 S Sb 06 41 29.5 -0.3
GAG1 AML AML
comp=N,18300µm,0.2s
GAG1 AML AML
comp=N,18250µm,0.2s
GAG1 AML AML
comp=E,28650µm,0.9s
GIGS Gran Sasso 0.47 135 P Pg 06 41 21.9 -0.7
GIGS S Sg 06 41 28.8 -0.3
GIGS AML AML
comp=N,883µm,0.5s
GIGS AML AML
comp=E,1095µm,0.8s
GIGS AML AML
comp=N,884µm,0.5s
AQU L'Aquila 0.48 153 ⇑P Pg 06 41 22.6 -0.2
AQU S Sg 06 41 29.4 +0.2
AQU AML AML
comp=E,5755µm,1.6s
AQU AML AML
comp=E,5925µm,1.6s
AQU AML AML
comp=N,4470µm,0.3s
AQU AML AML
comp=N,4410µm,0.3s
SNTG Esanatoglia 0.49 345 ⇓P Pg 06 41 22.9 -0.1
SNTG S Sb 06 41 30.3 -0.4
SNTG AML AML
comp=E,4290µm,0.3s
SNTG AML AML
comp=E,4375µm,1.0s
SNTG AML AML
comp=E,4295µm,0.3s
SNTG AML AML
comp=N,5035µm,0.3s
SNTG AML AML
comp=E,4290µm,0.3s
SNTG AML AML
comp=E,4380µm,1.0s
SNTG AML AML
comp=N,5100µm,0.3s
FIAM Fiamignano 0.52 180 ⇑P Pg 06 41 23.4 -0.1
FIAM S Sb 06 41 31.3 -0.3
FIAM AML AML
comp=E,4275µm,1.4s
FIAM AML AML
comp=N,5060µm,0.8s
FIAM AML AML
comp=N,5055µm,0.8s
FIAM AML AML
comp=E,4280µm,1.4s

ATCC AVT- Casa Cast 0.53 319 ⇓P Pb 06 41 24.1 -0.3
ATCC S Sb 06 41 32.7 +0.8
ATCC AML AML
comp=N,7475µm,0.5s
ATCC AML AML
comp=E,8715µm,1.4s
EL6 Elcito 0.55 359 ⇓P Pg 06 41 23.8 -0.2
EL6 S Sb 06 41 32.3 -0.1
EL6 AML AML
comp=E,10160µm,0.3s
EL6 AML AML
comp=E,10155µm,0.3s
EL6 AML AML
comp=N,11350µm,0.3s
EL6 AML AML
comp=N,11400µm,0.3s
TRE1 Treia 0.55 16 P Pg 06 41 24.4 +0.3
TRE1 S Sb 06 41 33.0 +0.6
TRE1 AML AML
comp=E,18600µm,0.4s
TRE1 AML AML
comp=N,11250µm,0.7s
FOSV Fossato di Vic 0.57 333 ⇓P Pb 06 41 24.5 -0.6
FOSV S Sb 06 41 33.6 +0.5
FOSV AML AML
comp=N,9145µm,0.2s
FOSV AML AML
comp=E,7845µm,0.2s
FOSV AML AML
comp=E,7840µm,0.2s
TRTR Tortoreto Alta 0.59 87 ⇑P Pg 06 41 25.1 +0.2
TRTR AML AML
comp=N,8620µm,0.5s
TRTR AML AML
comp=E,11600µm,0.5s
CING Cingoli 0.59 6 ⇑P Pg 06 41 24.5 -0.4
CING S Sb 06 41 33.7 -0.1
CING AML AML
comp=N,3430µm,0.9s
CING AML AML
comp=E,4470µm,1.3s
FAGN Fagnano 0.62 146 P Pg 06 41 25.2 -0.3
FAGN AML AML
comp=N,6050µm,0.5s
FAGN AML AML
comp=E,6510µm,0.6s
CADA Capodarco di F 0.63 49 ⇑P Pg 06 41 26.3 +0.7
CADA AML AML
comp=N,12850µm,0.5s
CADA AML AML
comp=E,12550µm,0.7s
CADA AML AML
comp=N,12865µm,0.5s
MURB Monte Urbino 0.64 318 ⇑P Pb 06 41 26.1 -0.3
MURB S Sn 06 41 36.4 -1.8
MURB AML AML
comp=E,11250µm,0.3s
MURB AML AML
comp=N,12700µm,1.5s
MURB AML AML
comp=E,12250µm,0.3s
MURB AML AML
comp=E,11300µm,0.3s
MURB AML AML
comp=N,13850µm,1.5s
MURB AML AML
comp=N,12700µm,1.6s
MMUR Monte Murano 0.66 353 P Pg 06 41 26.0 -0.2
MMUR S Sb 06 41 36.5 +0.7
VCEL Villa Celiera 0.66 126 ⇓P Pg 06 41 25.8 -0.4
VCEL AML AML
comp=N,3165µm,0.3s
VCEL AML AML
comp=E,3205µm,1.2s
ATTE AVT- Monte Tez 0.69 307 P Pb 06 41 27.2 0.0
ATTE S Sb 06 41 37.4 +0.7
ATTE AML AML
comp=E,2055µm,1.4s
ATTE AML AML
comp=N,2340µm,0.7s
SSFR Montelago di S 0.69 340 ⇑P Pg 06 41 26.7 -0.1
SSFR S Sb 06 41 37.4 +0.7
SSFR AML AML
comp=E,12350µm,0.2s
SSFR AML AML
comp=E,12700µm,0.3s
SSFR AML AML
comp=N,14750µm,0.3s
SSFR AML AML
comp=N,14200µm,0.2s
PP3 Marolino 0.70 31 ⇓P Pg 06 41 26.9 +0.1
PP3 AML AML
comp=N,30750µm,0.3s
PP3 AML AML
comp=E,30500µm,0.4s
PP3 AML AML
comp=N,32600µm,0.4s
PP3 AML AML
comp=E,30550µm,0.4s
PP3 AML AML
comp=N,32550µm,0.4s
PP3 AML AML
comp=E,32400µm,0.4s
ATFO Monte Foce - G 0.70 326 P Pb 06 41 27.0 -0.4
ATFO S Sb 06 41 38.1 +1.1
ATFO AML AML
comp=N,3100µm,0.2s
ATFO AML AML
comp=E,3070µm,1.3s
SRES S.Oreste - Sor 0.70 219 P Pb 06 41 27.0 -0.3
SRES AML AML
comp=N,1415µm,0.4s
SRES AML AML
comp=E,1050µm,0.9s
ARVD Arcevia 0.72 350 P Pg 06 41 27.0 -0.3
ARVD S Sb 06 41 38.2 +0.7
ARVD AML AML
comp=E,3030µm,0.3s
ARVD AML AML
comp=N,2215µm,0.8s
ATLO AVT- Montelove 0.74 316 P Pb 06 41 27.8 -0.2
ATLO S Sn 06 41 39.2 -1.3
T0110 Collepietro 0.74 138 P Pg 06 41 26.8 -0.9
T0110 AML AML
comp=E,3190µm,0.8s
T0110 AML AML
comp=E,3195µm,0.8s
T0110 AML AML
comp=N,3835µm,0.6s
MGAB Montegabbione 0.75 280 P Pn 06 41 28.3 -1.1
MGAB AML AML
comp=E,7755µm,0.9s
MGAB AML AML
comp=N,6950µm,0.4s
MGAB AML AML
comp=E,6965µm,0.5s
MGAB AML AML
comp=N,6485µm,0.4s
TB01 Gubbio 0.78 321 P Pb 06 41 28.3 -0.3
TB01 S Sn 06 41 40.1 -1.3
ATVA AVT- Monte Val 0.78 309 P Pb 06 41 28.6 0.0
ATVA S Sn 06 41 40.5 -1.0
FRON Frontone 0.79 339 ⇓P Pg 06 41 28.1 -0.4
FRON S Sb 06 41 40.0 +0.7
FRON AML AML
comp=N,4420µm,0.3s
FRON AML AML
comp=E,4225µm,0.2s
ATVO AVT- Monte Val 0.79 319 ⇓P Pb 06 41 28.5 -0.3
ATVO S Sb 06 41 39.9 +0.5
ATVO AML AML
comp=N,1735µm,0.3s
ATVO AML AML
comp=E,1675µm,0.7s
PTQR Pietraquaria 0.79 164 ⇑P Pg 06 41 28.2 -0.4
PTQR AML AML
comp=N,947µm,0.4s
PTQR AML AML
comp=N,948µm,0.4s
PTQR AML AML
comp=E,824µm,0.6s
TB03 Pietralunga 0.80 320 P Pb 06 41 28.8 -0.3
TB03 S Sb 06 41 40.3 +0.5
ATBU Serra di Buran 0.81 329 P Pb 06 41 29.0 -0.1
ATBU S Sb 06 41 40.1 +0.2
MTCE Montecelio 0.81 200 P Pb 06 41 28.4 -0.7

MTCE AML AML
comp=E,1660µm,0.5s
MTCE AML AML
comp=N,1205µm,1.0s
ATMI Monte Miggiano 0.83 312 ⇑P Pn 06 41 29.7 -0.9
ATMI S Sn 06 41 41.8 -0.8
ATMI AML AML
comp=E,5925µm,0.4s
ATMI AML AML
comp=N,5850µm,0.4s
CERT Cerreto 0.84 187 P Pg 06 41 28.8 -0.8
CERT AML AML
comp=N,1755µm,0.4s
CERT AML AML
comp=E,2065µm,1.0s
ATPC Poggio Castell 0.84 326 P Pb 06 41 29.6 -0.1
ATPI Pietralunga - 0.84 322 ⇑P Pb 06 41 29.6 -0.2
ATPI AML AML
comp=N,1385µm,1.2s
ATPI AML AML
comp=N,1380µm,1.2s
ATPI AML AML
comp=E,1945µm,0.4s
AOI Ancona 0.85 25 ⇑P Pg 06 41 29.0 -0.6
AOI AML AML
comp=N,2880µm,0.3s
AOI AML AML
comp=E,2420µm,0.3s
PIEI Pieia 0.86 331 P Pg 06 41 29.6 -0.4
PIEI S Sn 06 41 43.0 -0.5
PIEI AML AML
comp=N,1450µm,0.2s
PIEI AML AML
comp=E,2365µm,0.3s
SACS San Casciano d 0.89 275 P Pn 06 41 31.1 -0.3
SACS AML AML
comp=N,2165µm,1.2s
SACS AML AML
comp=E,1655µm,1.5s
SACS AML AML
comp=N,2205µm,1.2s
SACS AML AML
comp=E,1635µm,1.1s
APEC Apecchio 0.93 327 P Pb 06 41 31.0 -0.2
SENI Senigallia 0.93 5 AML AML
comp=E,9910µm,0.6s
SENI AML AML
comp=N,11850µm,1.0s
SENI AML AML
comp=E,2710µm,0.5s
SENI AML AML
comp=E,2715µm,0.5s
SENI AML AML
comp=N,11850µm,1.0s
SENI AML AML
comp=N,1655µm,0.7s
SENI AML AML
comp=E,9925µm,0.6s
FSSB Fossombrone 0.94 345 P Pg 06 41 31.1 -0.4
FSSB AML AML
comp=E,11800µm,0.3s
FSSB AML AML
comp=N,16300µm,0.3s
ATMC Monte Cedrone 0.94 315 P Pn 06 41 32.1 -0.1
BADI Badiali 0.96 319 AML AML
comp=E,100µm,0.4s
BADI AML AML
comp=N,940µm,0.5s
LATE Laterza 0.98 260 P Pn 06 41 32.8 +0.2
GUAR Guarcino 1.00 171 P Pn 06 41 32.7 -0.3
CAFI Castiglion Fio 1.00 303 ⇓P Pn 06 41 32.9 -0.1
CAFI AML AML
comp=E,1925µm,0.6s
CAFI AML AML
comp=N,1380µm,0.5s
CAFI AML AML
comp=N,1460µm,0.6s
CAFI AML AML
comp=E,1920µm,0.6s
CAFI AML AML
comp=E,1945µm,0.6s
CAFI AML AML
comp=N,1375µm,0.5s
CAFI AML AML
comp=N,1455µm,0.6s
PE3 Peglio 1.02 334 P Pn 06 41 33.2 0.0
RMP Rome, Mte Porz 1.02 197 P Pn 06 41 33.9 +0.8
MCIV Monte Civitell 1.06 270 P Pn 06 41 34.4 +0.7
MCIV AML AML
comp=E,1135µm,0.4s
MCIV AML AML
comp=N,792µm,0.5s
SSP9 Sansepolcro 1.07 318 P Pn 06 41 34.6 +0.8
MA9 Marino 1.07 198 P Pn 06 41 34.1 +0.3
SAMA S.Maria delle 1.07 201 P Pn 06 41 33.7 -0.2
LPEL Lama dei Pelig 1.08 133 P Pb 06 41 32.6 -1.2
LPEL AML AML
comp=E,792µm,0.8s
LPEL AML AML
comp=N,776µm,0.8s
TOLF Tolfa 1.09 229 ⇓P Pn 06 41 34.4 +0.3
TOLF AML AML
comp=N,910µm,0.4s
TOLF AML AML
comp=E,756µm,0.8s
SF13 Bagnolo 1.10 272 P Pn 06 41 35.0 +0.7
SF13 S Sn 06 41 49.9 +0.6
SF14 Selvena 1.10 269 P Pn 06 41 35.2 +0.9
LAV9 Lanuvio 1.15 196 AML AML
comp=E,2280µm,0.5s
LAV9 AML AML
comp=N,3005µm,0.6s
LAV9 AML AML
comp=E,2215µm,0.6s
LAV9 AML AML
comp=N,3170µm,0.6s
POFI Posta Fibreno 1.16 157 P Pb 06 41 34.0 -1.1
CPGN Carpegna, Ital 1.17 331 P Pn 06 41 35.9 +0.5
CRE Caprese Michel 1.19 315 P Pg 06 41 36.0 -0.3
CRE AML AML
comp=E,660µm,0.4s
CRE AML AML
comp=N,658µm,1.5s
ARCI Arcidosso 1.21 274 P Pg 06 41 37.2 +0.7
GIUL Giuliano Di Ro 1.23 175 P Pn 06 41 34.8 -1.2
RSM Repubblica di 1.24 337 P Pg 06 41 37.0 -0.2
ASQU Asqua 1.40 317 P Pg 06 41 39.6 -0.5
MIDA Miranda 1.42 143 P Pn 06 41 38.4 -0.4
SFI Santa Sofia 1.45 321 P Pg 06 41 40.8 -0.3
FROS Frosini 1.50 287 P Pg 06 41 41.4 -0.6
CSNT Castellina Chi 1.50 298 P Pg 06 41 41.2 -0.9
MAON Monte Argentar 1.50 257 P Pg 06 41 41.0 -1.1
MAON AML AML
comp=N,235µm,1.3s
MAON AML AML
comp=E,240µm,0.8s
OSSC Osservatorio P 1.55 299 P Pb 06 41 40.7 -1.1
RUFI Rufina 1.57 313 P Pg 06 41 42.7 -0.8
CASP Castiglione de 1.65 271 P Pb 06 41 42.8 -0.7
CASP AML AML
comp=E,138µm,0.6s
CASP AML AML
comp=N,89µm,1.3s
TRIF Trifonti 1.66 282 P Pb 06 41 43.3 -0.2
MODR Mondragone 1.73 160 P Pb 06 41 45.0 +0.1
BRIS BRISIGHELLA 1.79 320 P Pn 06 41 44.1 +0.2
MPPT Montemurlo 1.88 309 P Pb 06 41 46.8 -0.7
A318A Donoratico (LI 1.89 281 P Pb 06 41 47.2 -0.4
MTCR Monte La Croce 1.98 310 P Pn 06 41 47.3 +0.8
CELB S.Piero in Cam 2.14 270 P Pn 06 41 49.5 +0.9
PZUN Potenza 2.94 136 S Sn 06 42 35.0 +0.4
PGF Pioggiola 3.04 267 *e*P Pn 06 42 03.1 +2.0
PGF *e*Sn Sn 06 42 35.6 -1.7
comp=N,48nm,0.9s
ABTA Abfaltersbach 3.99 354 *e*Pn Pn 06 42 16.1 +2.1
comp=N,26nm,0.5s,SNR=6.0
SBF Sospel 4.28 287 *e*P Pn 06 42 20.7 +2.6
FETA Feichten 4.56 339 *e*Pg Pn 06 42 25.3 +3.2
comp=N,5.2nm,0.6s
WTTA Wattenberg 4.60 347 *e*Pn Pn 06 42 25.9 +3.4
comp=N,4.6nm,0.2s
WTTA *e*Sn Sn 06 43 17.6 +1.7
comp=N,7.2nm,0.3s
SQTA Sankt Quirin 4.64 344 *i* Pn Pn 06 42 26.6 +3.6
comp=N,5.7nm,0.3s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SQTA				eSn	Sn	06 43 19.9	+3.2
	comp=N,12nm,0.4s						
WATA	Walderalm	4.68	347	i Pn	Pn	06 42 27.1	+3.5
	comp=N,5.2nm,0.2s						
MOTA	Moosalm	4.78	343	i Pn	Pn	06 42 28.0	+3.0
	comp=N,2.5nm,0.3s						
MOTA				i Sn	Sn	06 43 24.3	+4.1
	comp=N,15nm,0.6s						
LMR	La Mourre	4.87	279	eP	Pn	06 42 27.5	+1.4
BIOA	Bad Ischl, Aus	4.92	4	ePn	Pn	06 42 29.4	+2.6
	comp=N,6.4nm,0.3s						
BIOA				Sg	Sn	06 43 24.9	+1.4
	comp=N,23nm,0.5s						
MBDF	Montbardon	4.99	295	eP	Pn	06 42 30.5	+2.7
DAVA	Damuels	5.05	334	ePn	Pn	06 42 31.1	+2.4
	comp=N,5.3nm,0.3s						
MOA	Molln	5.13	9	i Pn	Pn	06 42 31.6	+1.9
	comp=N,1.1nm,0.2s						
MOA				eSn	Sn	06 43 27.8	-0.9
	comp=N,5.3nm,0.4s						
LPG	La Plagne	5.32	303	eP	Pn	06 42 34.7	+2.2
LPG				eSn	Sn	06 43 30.0	-3.8
	comp=N,22nm,1.0s						
LPL	La Plagne	5.34	303	eP	Pn	06 42 35.5	+2.7
RONA	Rosalia, Austr	5.41	23	ePn	Pn	06 42 36.1	+2.6
	comp=N,3.3nm,0.5s						
CONA	Conrad Observa	5.50	20	i Pn	Pn	06 42 35.8	+1.0
	comp=N,0.9nm,0.2s						
CONA				i Sn	Sn	06 43 35.9	-1.9
	comp=N,3.7nm,0.5s						
SMRF	Simiane la Rot	5.62	285	ePn	Pn	06 42 31.8	-4.6
ORIF	Oris-en-Rattie	5.65	295	eP	Pn	06 42 39.8	+2.9
GERES	GERESS Array B	6.08	4	Pn	Pn	06 42 42.2	-0.5
	comp=N,0.5nm,0.3s,baz=182,slow=13,SNR=5.8						
GERES				Sn	Sn	06 43 50.1	-2.0
	comp=N,1.3nm,0.3s,baz=175,slow=24,SNR=5.3						
	comp=N,0.8nm,0.4s						
CKRC	Cesky Krumlov	6.09	7	eSN	Sn	06 43 51.0	-1.4
CABF	La Chapelle	6.30	310	eP	Pn	06 42 47.2	+1.4
KHC	Kasperske Hory	6.36	3	ePN	Pn	06 42 47.1	+0.6
KHC				eSN	Sn	06 43 56.4	-2.5
VIVF	Saint-Julien-l	6.45	292	ePn	Pn	06 42 46.0	-1.8
VIVF				eSn	Sn	06 43 56.6	-4.5
	comp=N,48nm,1.6s						
HINF	Hinteralfeld	6.69	321	eP	Pn	06 42 53.7	+2.6
HINF				eSn	Sn	06 44 02.4	-4.8
	comp=N,9.2nm,0.5s						
CDF	Champ du Feu	6.96	326	eP	Pn	06 42 56.1	+1.3
CDF				eSn	Sn	06 44 08.3	-5.5
	comp=N,5.0nm,0.4s						
HAU	Haudompre	7.06	320	eP	Pn	06 42 58.2	+2.0
HAU				eSn	Sn	06 44 10.5	-5.8
	comp=N,10nm,0.4s						
KEST	Kesra	7.62	204	Pn	Pn	06 43 08.9	+5.0
	comp=N,0.3nm,0.3s,baz=18,slow=6.4,SNR=2.0						
	comp=N,1.5nm,0.5s						
SMF	Signal de Mont	7.65	303	eP	Pn	06 43 07.2	+3.0
SMF				eSn	Sn	06 44 24.8	-5.9
	comp=N,32nm,1.4s						
SFTF	Sexfontaines	7.84	316	eP	Pn	06 43 09.9	+3.0
LOR	Lormes	7.94	308	eP	Pn	06 43 11.9	+3.7
	baz=109						
LOR				eSn	Sn	06 44 31.8	-6.0
	comp=N,55nm,1.6s						
MTLF	Montolieu	8.00	278	eP	Pn	06 43 12.0	+3.0
AVF	Avril sur Loir	8.01	303	eP	Pn	06 43 11.5	+2.3
BRG	Berggiesshubel	8.11	4	e(P)	Pb	06 43 24.2	-9.3
BRG				Amp		06 43 26.1	
	comp=Z,3.3nm,0.7s						
BRG				ex	x	06 44 36.8	
BRG				ex	x	06 45 55.4	
BRG				Amp		06 46 04.4	
	comp=Z,5.4nm,1.1s						
CAF	Calviac	8.27	289	eP	Pn	06 43 16.5	+3.8
CAF				eSn	Sn	06 44 40.5	-5.4
	comp=Z,51nm,2.0s						
CLL	Collm	8.53	360	eSg	Sg	06 45 41.0	-5.7
TCF	Toulx Ste Croi	8.54	298	eP	Pn	06 43 20.0	+3.5
RJF	Les Rejaudoux	8.72	291	eP	Pn	06 43 22.9	+3.9
GRR	Gorron	11.27	305	ePn	Pn	06 43 51.4	-2.5
GRR	Gorron	11.27	305	eP	Pn	06 43 57.4	+3.5
GNI	Garni	23.78	86	LR	LR	06 57 56.9	
	comp=Z,33nm,19.1s,baz=247,slow=43						
TORD	Torodi Ar. Bea	31.14	202	P	P	06 47 34.4	+2.8
	comp=Z,0.3nm,0.8s,baz=28,slow=11,SNR=3.0						
	comp=Z,0.3nm,0.8s						

---

*NNC **02** 06:49:39.0±3.1, 54°.32N×87°.22E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=46.8km s-min=17.6km az=172.0, Suspected Mining explosion.*

IDC 02 06:49:44.6±2.8**, 54°.33N×86°.62E, h0km, mbtmp3.3**/2**, ML2.8**/2**, 7C-2D, Error ellipse: s-maj=22.2km s-min=14.2km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.13	251	I	I	06 59 10.0	
	baz=68,slow=330,SNR=5.0						
ZAA0	Zalesovo Array	1.13	251	⇑P	Pg	06 50 05.3	-0.9
	0.9nm,0.7s						
ZAA0				⇑S	Sn	06 50 26.2	+2.4
	16nm,0.9s						
ZALV	Zalesovo Beam	1.13	251	Pg	Pg	06 50 05.6	-0.6
	1.5nm,0.3s,baz=67,slow=16,SNR=23						
ZALV				Lg	Lg	06 50 21.4	
	2.9nm,0.3s,baz=72,slow=29,SNR=9.0						
KURK	Kurchatov	6.08	237	⇑Pn	Pn	06 51 16.5	+0.8
	4.4nm,0.9s						
KURK				⇑Sn	Sn	06 52 27.9	+2.1
	2.9nm,0.7s						
KURK				⇑Lg	Lg	06 52 59.1	
	15nm,1.1s						
KURBB	Kurchatov Arra	6.18	236	Pn	Pn	06 51 17.9	+0.9
	0.2nm,0.3s,baz=54,slow=14,SNR=28						
KURBB				Sn	Sn	06 52 28.0	-0.3
	0.1nm,0.3s,baz=51,slow=21,SNR=2.8						
KURBB				Lg	Lg	06 52 59.9	
	0.1nm,0.3s,baz=46,slow=27,SNR=6.3						
	4.5nm,0.8s						
KURBB	Kurchatov Arra	6.18	236	⇑Pn	Pn	06 51 17.9	+0.9
	7.9nm,1.1s						
KURBB				⇓Sn	Sn	06 52 29.4	+1.1
	11nm,0.7s						
KURBB				⇑Lg	Lg	06 53 05.5	
	31nm,0.9s						
MK31	Makanchi Array	8.03	202	⇓Pn	Pn	06 51 39.2	-3.3
	0.5nm,0.4s,baz=30,slow=13,SNR=5.0						
MKAR	Makanchi Array	8.03	202	Pn	Pn	06 51 43.4	+0.9
	0.2nm,0.3s,baz=25,slow=13,SNR=5.4						
MKAR				Sn	Sn	06 53 13.2	-0.8
	0.2nm,0.3s,baz=24,slow=24,SNR=2.0						
MKAR				Lg	Lg	06 53 58.7	
	0.1nm,0.3s,baz=22,slow=33,SNR=11						
	1.0nm,0.8s						

---

*IDC **02** 06:53:18.9±0.7, 6°.68N×72°.89W, h169km±7km, mb3.2/4, mbtmp3.8/7, Error ellipse: s-maj=22.0km s-min=7.4km az=133.0*

*RSNC **02** 06:53:20.3±1.0, 6°.81N×73°.14W, h152km±4km, ML3.6, Mw3.8, Fault plane solution: NP1:φs116.00000°, δ12.00000°, λ158.00000°.*

ISC 02 06:53:18.6±0.8**, 6°.84N**±0°.03×**73°.07W**±0°.04**, h159**km±6km**, n42, σ1s.38**/70**, mb3.4**/4**, 4C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	204⇓	iP	Pn	06 53 40.6	+0.1
BARC				eS	Sn	06 53 56.0	-1.2
BARC				IAML		06 53 56.7	
	comp=Z,1µm,0.3s						
PAMC	Pamplona, Colo	0.62	37⇑	eP	Pn	06 53 43.5	+1.3
PAMC				IAML		06 54 03.4	
	comp=Z,307nm,0.2s						
BRRC	Barranca, Sant	0.69	292⇑	iP	Pn	06 53 42.4	+0.4
BRRC				eS	Sn	06 53 59.7	-0.2
BRRC				IAML		06 54 02.7	
	comp=Z,680nm,0.2s						
RUSC	La Rusia	0.94	181⇓	eP	Pn	06 53 44.5	+0.1
RUSC				eS	Sn	06 54 03.4	-0.8
RUSC				IAML		06 54 04.3	
	comp=Z,403nm,0.2s						
TAMC	Tame, Arauca	1.33	108⇓	eP	Pn	06 53 49.1	+1.8
TAMC				eS	Sn	06 54 10.7	+1.4
PTBC	PUERTO BERRIO,	1.41	258⇑	eP	Pn	06 53 47.0	-1.0
PTBC				eS	Sn	06 54 08.5	-2.0
PTBC				IAML		06 54 15.8	
	comp=Z,454nm,0.3s						
SPBC	San Pablo de B	1.55	220	eP	Pn	06 53 49.3	-0.1
SPBC				eS	Sn	06 54 12.7	-0.5
SPBC				IAML		06 54 16.0	
	comp=Z,807nm,0.2s						
ZARC	Zaragoza, Cauc	1.89	290	eP	Pn	06 53 52.9	-0.2
ZARC				eS	Sn	06 54 18.5	-1.0
ZARC				IAML		06 54 23.8	
	comp=Z,474nm,0.3s						
NORC	Norcasia	2.19	235⇑	eP	Pn	06 53 56.4	-0.3
NORC				eS	Sn	06 54 25.1	-0.8
NORC				IAML		06 54 34.0	
	comp=Z,299nm,0.4s						
CHIC	Chingaza	2.29	197⇓	eP	Pn	06 53 58.5	+0.3
CHIC				IAML		06 54 33.2	
	comp=Z,269nm,0.4s						
ROSC	El Rosal	2.35	212	P	Pn	06 54 00.4	+1.6
	comp=Z,103nm,0.3s,baz=121,slow=20,SNR=274						
ROSC				S	Sn	06 54 30.6	+0.9
	comp=Z,846nm,0.4s,baz=71,slow=20,SNR=29						
ROSC	El Rosal	2.35	212	eP	Pn	06 54 00.4	+1.6
ROSC				eS	Sn	06 54 30.7	+0.9
ROSC				IAML		06 54 35.3	
	comp=Z,836nm,0.4s						
HELC	Santa Helena	2.53	255	eP	Pn	06 54 00.4	-0.4
HELC				eS	Sn	06 54 33.4	0.0
HELC				IAML		06 54 41.0	
	comp=Z,235nm,0.3s						
UREC	San Jos de Ur	2.60	290	eP	Pn	06 54 00.3	-1.2
UREC				eS	Sn	06 54 31.3	-3.4
UREC				IAML		06 54 42.8	
	comp=Z,281nm,0.2s						
LL1C	La Loma 1 Cana	2.72	350	eP	Pn	06 54 05.8	+2.8
LL1C				eS	Sn	06 54 40.3	+3.0
LL1C				IAML		06 54 50.1	
	comp=Z,596nm,0.7s						
VILC	Villavicencio,	2.78	193	eP	Pn	06 54 04.4	+0.6
VILC				eS	Sn	06 54 38.7	-0.2
PTGC	Puerto Gaitan,	2.79	160⇓	iP	Pn	06 54 03.8	0.0
PTGC				eS	Sn	06 54 37.0	-1.7
PTGC				IAML		06 54 39.9	
	comp=Z,149nm,0.3s						
GUY2C	Guyana, Caldas	2.79	235	eP	Pn	06 54 04.4	+0.2
GUY2C				eS	Sn	06 54 42.9	+3.5
GUY2C				IAML		06 54 46.9	
	comp=Z,292nm,0.3s						
NIZA	Niza - Manizal	2.97	234	eP	Pn	06 54 08.0	+1.7
NIZA				eS	Sn	06 54 45.1	+1.9
CBOC	Ciudad Bolivar	3.08	252	eP	Pn	06 54 07.9	+0.3
CBOC				eS	Sn	06 54 45.5	+0.1
CBOC				IAML		06 54 58.2	
	comp=Z,64nm,0.2s						
DBBC	Dabeiba	3.12	273	eP	Pn	06 54 08.6	+0.7
SDV	Santo Domingo	3.15	50	P	Pn	06 54 09.6	+1.1
	comp=Z,84nm,0.3s,baz=222,slow=9.1,SNR=26						
SDV				S	Sn	06 54 47.4	+0.2
	comp=Z,56nm,0.4s,baz=266,slow=19,SNR=8.2						
ARGC	Ariguani, Magd	3.21	339	eP	Pn	06 54 10.7	+1.6
ARGC				eS	Sn	06 54 50.5	+2.2
ARGC				IAML		06 54 56.4	
	comp=Z,60nm,0.3s						
ANIL	Santa Ana	3.29	225	eP	Pn	06 54 11.0	+0.6
ANIL				eS	Sn	06 54 51.9	+1.4
PRAC	Prado	3.60	210	eP	Pn	06 54 13.7	-0.3
PRAC				eS	Sn	06 54 56.5	-0.6
PRAC				IAML		06 55 03.1	
	comp=Z,253nm,0.3s						
ORTC	Ortega, Tolima	3.63	217	eP	Pn	06 54 14.6	+0.2
ORTC				eS	Sn	06 54 58.5	+0.7
ORTC				IAML		06 55 02.0	
	comp=Z,174nm,0.2s						
SJCC	San Jacinto, C	3.68	326	eP	Pn	06 54 14.2	-0.9
SJCC				eS	Sn	06 54 55.8	-3.2
SJCC				IAML		06 55 00.0	
	comp=Z,65nm,0.4s						
PLMC	San Jos del P	3.73	239	eP	Pn	06 54 16.1	+0.3
PLMC				IAML		06 55 06.0	
	comp=Z,62nm,0.3s						
LCBC	Los crdobas,	3.83	302	eP	Pn	06 54 17.1	+0.2
LCBC				IAML		06 55 06.5	
	comp=Z,101nm,0.2s						
CRJC	Cerrejon, Guaj	4.16	3	eP	Pn	06 54 20.9	-0.3
CRJC				eS	Sn	06 55 08.7	-1.4
CRJC				IAML		06 55 11.7	
	comp=Z,100nm,0.4s						
GUVC	San Jose del G	4.29	174	eP	Pn	06 54 23.1	+0.2
GUVC				eS	Sn	06 55 11.6	-1.6
GUVC				IAML		06 55 19.4	
	comp=Z,56nm,0.3s						
YOTC	Yotoco, Valle	4.32	229	eP	Pn	06 54 22.8	-0.7
BETC	Betania	4.76	210	eP	Pn	06 54 28.9	-0.2
BETC				IAML		06 55 26.9	
	comp=Z,18nm,0.1s						
URIC	Uribia, Colomb	4.94	12	eP	Pn	06 54 31.2	-0.2
URIC				IAML		06 55 33.6	
	comp=Z,16nm,0.4s						
FLOC	Florencia	5.83	206	eP	Pn	06 54 43.0	-0.1
FLOC				eS	Sn	06 55 48.6	-0.8
FLOC				IAML		06 55 53.5	
	comp=Z,9.0nm,0.3s						
PCRV	Puerto La Cruz	8.97	68	P	Pn	06 55 26.1	+1.0
	comp=Z,3.3nm,0.6s,baz=232,slow=8.7,SNR=7.4						
PCRV				S	Sn	06 57 05.0	0.0
	comp=Z,2.4nm,0.6s,baz=310,slow=18,SNR=1.5						
SIV	San Ignacio	25.61	152	P	P	06 58 29.1	-4.3
	comp=Z,1.1nm,1.0s,baz=282,slow=19,SNR=3.0						
	comp=Z,1.1nm,1.0s						
TXAR	Lajitas Array	36.48	312	P	P	07 00 09.3	+0.6
	comp=Z,0.3nm,0.4s,baz=126,slow=9.2,SNR=4.8						
	comp=Z,0.3nm,0.4s						
PDAR	Pinedale Array	48.09	324	P	P	07 01 42.9	+0.4
	comp=Z,0.2nm,0.5s,baz=129,slow=14,SNR=2.6						
	comp=Z,0.2nm,0.5s						
SCHQ	Schefferville	48.12	5	P	P	07 01 43.0	+0.8
	comp=Z,2.6nm,0.6s,baz=217,slow=7.8,SNR=4.1						
	comp=Z,2.6nm,0.6s						
ASAR	Alice Springs	149.16	234	PKPbc	PKPbc	07 12 48.4	-0.8
	comp=Z,0.1nm,0.4s,baz=104,slow=3.9,SNR=1.3						
WRA	Warramunga Arr	150.39	241	PKPbc	PKPbc	07 12 51.7	-0.5
	comp=Z,0.2nm,0.4s,baz=106,slow=3.0,SNR=8.5						

---

*SJA **02** 07:21:29.5±0.6, 22°.49S×68°.49W, h153km±3km, ML5.0, MW4.7*

*MOS **02** 07:21:30.1±1.3, 22°.63S×68°.22W, h113km, mb5.0/11, Error ellipse: s-maj=13.4km s-min=8.2km az=98.2*

*BJI **02** 07:21:31.0±0.0, 22°.60S×68°.30W, h118km, mB5.0/1*

*VAO **02** 07:21:31.1±0.3, 22°.18S×68°.14W, h97km±3km, mb5.4*

*NEIC **02** 07:21:31.9±2.1, 22°.43S±0°.05×68°.36W±0°.08, h117km±4km, mb5.0/87, Mww4.9, Mwr4.9(GUC), Error ellipse: s-maj=10.4km s-min=7.4km az=85.0*

*NEIC **02** 07:21:32, 22°.40S×68°.48W, h130km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.70; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-0.84; $M_{r\theta}$1.04; $M_{\theta\phi}$0.08; $M_{\phi r}$-2.39; Fault plane solution: $M_0 2.72000\times10^{16}$ NP1:φs17.00000°, δ10.00000°, λ129.00000°. NP2:φs157.00000°, δ82.00000°, λ84.00000°. Principal axes: T 2.6999, Plg52.0000°, Azm60.0000°; N 0.0486, Plg6.0000°, Azm158.0000°; P -2.7485, Plg37.0000°, Azm253.0000°;*

*GUC **02** 07:21:32.3±0.8, 22°.47S×68°.51W, h134km±5km, ML5.0*

*IDC **02** 07:21:32.9±0.4, 22°.38S×68°.10W, h123km±3km, mb4.6/14, mbtmp4.9/19, MS3.8/13, Error ellipse: s-maj=13.8km s-min=11.3km az=66.0*

*GCMT **02** 07:21:36.9±0.3, 22°.46S±0°.02×68°.49W±0°.03, h141km±4km, MW5.0/96, Moment Tensor Solution. s17,c19; s96,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43±.14; $M_{\theta\theta}$0.20±.19; $M_{\phi\phi}$0.23±.23; $M_{r\theta}$1.50±.08; $M_{\theta\phi}$0.25±.16; $M_{\phi r}$-2.96±.11; Best double couple: $M_0 3.33000\times10^{16}$ NP1:φs334.00000°, δ88.00000°, λ-93.00000°. NP2: φs208.00000°, δ3.00000°, λ-36.00000°. Principal axes: T 3.1280, Plg43.0000°, Azm66.0000°; N 0.4030, Plg3.0000°, Azm334.0000°; P -3.5320, Plg47.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 07:21:31.3±0.3**, 22°.43S**±0°.03×**68°.31W**±0°.04**, h121**km±2km**, h121km:pP-P, n421, σ1s.63**/468**, mb5.0**/85**, 10C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.54	167		Pn	07 21 50.5	+0.5
LVC	Limon Verde	0.58	252	P	Pn	07 21 50.0	-0.2
	17µm,0.3s,baz=94,slow=5.1						
LVC				S	Sn	07 22 04.0	-0.6
	10µm,0.3s,baz=305,slow=20,SNR=64						
LVC	Limon Verde	0.58	252	Pn	Pn	07 21 50.4	+0.1
LVC	Limon Verde	0.58	252	eP	Pn	07 21 50.1	-0.2
LVC				eS	Sn	07 22 05.0	+0.3
LVC	Limon Verde	0.58	252	eP	Pn	07 21 50.3	+0.1
LVC				eS	Sn	07 22 03.6	-1.0
LVC	Limon Verde	0.58	252	P	Pn	07 21 50.4	+0.1
PB09	IPOC Station P	1.07	306		Pn	07 21 55.2	+1.0
PB09	IPOC Station P	1.07	306	eP	Pn	07 21 55.1	+0.8
PB09				i S	Sn	07 22 12.1	+0.5
PB09				IAML		07 22 14.9	
	comp=E,17µm,0.3s						
PB09	IPOC Station P	1.07	306	eP	Pn	07 21 55.1	+0.8
PB09				eS	Sn	07 22 13.9	+2.2
PB09				IAML		07 22 15.3	
	comp=Z,14µm,0.9s						
PB09				eS		07 22 17.0	
PB06	IPOC Station P	1.20	256		Pn	07 21 55.6	0.0
PB06	IPOC Station P	1.20	256	eP	Pn	07 21 55.3	-0.3
PB06				i S	Sn	07 22 13.2	-0.8
PB06				IAML		07 22 17.9	
	comp=E,20µm,0.4s						
PB06	IPOC Station P	1.20	256	eP	Pn	07 21 55.4	-0.2
PB06				eS	Sn	07 22 13.9	-0.2
PB06				eS		07 22 14.7	
PB06				IAML		07 22 15.7	
	comp=Z,15µm,0.3s						
PB15	IPOC Station P	1.32	234		Pn	07 21 57.0	0.0
PB15	IPOC Station P	1.32	234	eP	Pn	07 21 57.0	0.0
PB15				i S	Sn	07 22 16.1	-0.4
PB15	IPOC Station P	1.32	234	eP	Pn	07 21 56.9	-0.1
PB15				eS	Sn	07 22 16.9	+0.3
PB15				IAML		07 22 17.7	
	comp=Z,59µm,0.3s						
PB03	IPOC Station P	1.39	285		Pn	07 21 57.7	0.0
PB03	IPOC Station P	1.39	285	eP	Pn	07 21 57.6	-0.1
PB03				i S	Sn	07 22 16.8	-0.9
PB03				IAML		07 22 18.3	
	comp=N,31µm,0.2s						
PB03	IPOC Station P	1.39	285	eP	Pn	07 21 57.5	-0.1
PB03				eS	Sn	07 22 17.5	-0.2
PB03				IAML		07 22 20.1	
	comp=Z,21µm,0.2s						
PB07	IPOC Station P	1.62	295		Pn	07 22 00.6	+0.2
PB04	IPOC Station P	1.71	273	Pn	Pn	07 22 01.0	-0.3
PB04	IPOC Station P	1.71	273	eP	Pn	07 22 00.9	-0.5
PB04				i S	Sn	07 22 22.4	-1.9
PB04				IAML		07 22 26.9	
	comp=N,23µm,0.4s						
PB04	IPOC Station P	1.71	273	eP	Pn	07 22 00.8	-0.5
PB04				eS	Sn	07 22 23.4	-0.9
PB04				IAML		07 22 25.5	
	comp=Z,15µm,0.2s						
PB01	IPOC Station P	1.76	321		Pn	07 22 02.7	+0.8
PB01	IPOC Station P	1.76	321	eP	Pn	07 22 02.5	+0.6
PB01				i S	Sn	07 22 25.2	-0.1
PB01				IAML		07 22 28.1	
	comp=E,11µm,0.2s						
PB01	IPOC Station P	1.76	321	eP	Pn	07 22 02.4	+0.4
PB01				eS	Sn	07 22 26.5	+1.2
PB01				IAML		07 22 28.6	
	comp=Z,7µm,0.2s						
PB02	IPOC Station P	1.84	306		Pn	07 22 02.9	0.0
PB10	IPOC Station P	2.33	242	Pn	Pn	07 22 07.8	-1.2
PB10	IPOC Station P	2.33	242	eP	Pn	07 22 07.6	-1.4
PB10				i S	Sn	07 22 34.6	-3.3
PB10				IAML		07 22 36.2	
	comp=N,11µm,0.5s						
PB10	IPOC Station P	2.33	242	eP	Pn	07 22 02.4	-6.6
PB10				eP	Pn	07 22 07.0	-2.0
PB10				eS	Sn	07 22 35.9	-2.1
PB10				IAML		07 22 40.7	
	comp=Z,4µm,1.0s						
PATCX	Punta Patache	2.34	313		Pn	07 22 09.0	-0.3
PATCX	Punta Patache	2.34	313	eP	Pn	07 22 08.7	-0.5
PATCX				i S	Sn	07 22 36.7	-1.6
PATCX				IAML		07 22 46.6	
	comp=N,11µm,0.3s						
PATCX	Punta Patache	2.34	313	eP	Pn	07 22 08.8	-0.4
PATCX				eP	Pn	07 22 08.9	-0.3
PATCX				eP	Pn	07 22 08.9	-0.3
PATCX				eP	Pn	07 22 09.1	-0.1
PATCX				IAML		07 22 42.3	
	comp=Z,6µm,0.8s						
PB08	IPOC Station P	2.41	341	Pn	Pn	07 22 12.1	+1.8
PB08	IPOC Station P	2.41	341	eP	Pn	07 22 12.0	+1.7
PB08				i S	Sn	07 22 41.6	+1.4
PB08	IPOC Station P	2.41	341	eP	Pn	07 22 11.9	+1.7
PB08				eP	Pn	07 22 12.1	+1.8
PB08				eP	Pn	07 22 12.2	+1.8
PB08				eS	Sn	07 22 42.4	+2.2
TA01	Diego Aracena	2.54	316		Pn	07 22 11.5	-0.2
TA01	Diego Aracena	2.54	316	eP	Pn	07 22 10.6	-1.0
TA01				i S	Sn	07 22 40.8	-1.9
TA01				IAML		07 22 50.7	
	comp=E,7µm,0.4s						
TA01	Diego Aracena	2.54	316	eP	Pn	07 22 11.2	-0.5
TA01				eS	Sn	07 22 44.4	+1.7
TA01				IAML		07 22 52.8	
	comp=Z,3µm,0.6s						
HMBC	Humberstone	2.59	325	eP	Pn	07 22 12.0	-0.4
HMBC				i S	Sn	07 22 43.1	-1.0
HMBC				IAML		07 22 48.5	
	comp=E,7µm,0.4s						
YJA	Yavi	2.60	85	eP	Pn	07 22 10.4	-2.4
YJA				eP	Pn	07 22 16.0	+3.2
YJA				eP	Pn	07 22 16.2	+3.4
YJA				eS	Sn	07 22 32.1	-13
TA02	Huaiquique	2.74	321		Pn	07 22 13.8	-0.3
TA02	Huaiquique	2.74	321	eP	Pn	07 22 14.0	-0.2
TA02				eS	Sn	07 22 47.3	+0.1
TA02				IAML		07 22 54.1	
	comp=Z,3µm,0.3s						
HJA	Humahuaca	2.79	107	eP	Pn	07 22 17.9	+2.7
HJA				eS	Sn	07 22 34.1	-15
GO01	Chusmiza	2.87	343		Pn	07 22 17.4	+1.1
GO01	Chusmiza	2.87	343	eP	Pn	07 22 17.4	+1.1
GO01				i S	Sn	07 22 52.5	+1.6
GO01	Chusmiza	2.87	343	eP	Pn	07 22 17.0	+0.7
GO01				eS	Sn	07 22 53.0	+2.0
PB14	IPOC Station P	2.91	221	Pn	Pn	07 22 15.8	-1.0
PB14	IPOC Station P	2.91	221	eP	Pn	07 22 15.0	-1.7
PB14				eS	Sn	07 22 48.8	-3.0
PB14				IAML		07 22 55.3	
	comp=Z,4µm,0.7s						
PB11	IPOC Station P	2.94	334		Pn	07 22 16.8	-0.1
PB11	IPOC Station P	2.94	334	eP	Pn	07 22 16.7	-0.2
PB11				i S	Sn	07 22 51.3	-0.8
PB11	IPOC Station P	2.94	334	eP	Pn	07 22 16.0	-0.9
PB11				eP	Pn	07 22 16.9	-0.1
PB11				eP	Pn	07 22 17.0	0.0
PB11				eS	Sn	07 22 52.2	+0.1
PB11				IAML		07 22 55.5	
	comp=Z,3µm,0.2s						
GO02	Mina Guanaco	2.97	203	Pn	Pn	07 22 16.9	-0.5
GO02	Mina Guanaco	2.97	203	eP	Pn	07 22 16.0	-1.4
GO02				eS	Sn	07 22 52.0	-1.0
SLA	San Lorenzo	3.44	132	eP	Pn	07 22 26.0	+2.5
AZAP	Zapla	3.48	122	eP	Pn	07 22 26.0	+1.9
AZAP				eS	Sn	07 23 04.6	-0.3
PB16	IPOC Station P	4.22	344	Pn	Pn	07 22 35.1	+0.7
PB16	IPOC Station P	4.22	344	eS	Sn	07 23 10.4	-13
PB12	IPOC Station P	4.24	333	Pn	Pn	07 22 32.8	-1.4
PB12	IPOC Station P	4.24	333	eP	Pn	07 22 32.8	-1.4
AC01	Pan de Azucar	4.25	209	Pn	Pn	07 22 32.1	-2.1
AC02	Maricunga	4.45	189	Pn	Pn	07 22 37.0	-0.3
AC02	Maricunga	4.45	189	eS	Sn	07 23 36.3	+7.7
AC06	Mina Casimiro	5.25	200		Pn	07 22 44.3	-3.3
GO03	Copiap	5.43	198		Pn	07 22 47.2	-2.9
LPAZ	La Paz	6.11	2	P	Pn	07 23 01.4	+1.6
	comp=Z,108nm,0.3s,baz=188,slow=6.3,SNR=572						
LPAZ				S	Sn	07 23 59.4	-9.4
	comp=Z,29nm,0.4s,baz=217,slow=4.4,SNR=1.9						
AC04	Llanos de Chal	6.27	203		Pn	07 22 56.7	-4.6

LCO Las Campanas 6.90 198 Pn 07 23 05.6 -4.5
LCO Las Campanas 6.90 198 P Pn 07 23 05.6 -4.5
CO01 Juntas del Tor 7.69 192 Pn 07 23 18.1 -2.6
GO04 Tololo Observa 8.03 196 Pn 07 23 20.3 -5.0
BBSD Serra de San D 8.93 56 *e*P Pn 07 23 35.1 -2.2
BBSD *e*S Sn 07 25 08.8 -7.4
BBRB Robore, Bolivi 8.98 64 *e*P Pn 07 23 34.7 -3.3
ZON Zonda 9.09 182 Pn 07 23 35.2 -4.2
ZON Zonda 9.09 182 P Pn 07 23 35.2 -4.2
SIV San Ignacio 9.36 48 P Pn 07 23 40.9 -2.4
comp=Z,128nm,0.4s,baz=232,slow=7.6,SNR=1312
SIV S Sn 07 25 19.0 -7.9
comp=Z,62nm,0.3s,baz=124,slow=21,SNR=14
MURT Porto Murtinho 9.95 88 *e*P Pn 07 23 49.1 -2.0
CPUP Villa Florida 10.73 113 P Pn 07 23 59.5 -2.1
comp=Z,18nm,0.7s,baz=290,slow=12,SNR=32
CPUP Villa Florida 10.73 113 Pn 07 23 59.7 -1.9
CPUP Villa Florida 10.73 113 P Pn 07 23 59.7 -1.9
PTLB Pontes e Lacer 11.11 53 Pn Pn 07 24 04.1 -2.6
PTLB Pontes e Lacer 11.11 53 *e*P Pn 07 24 04.0 -2.6
MT03 Universidad Ad 11.20 190 Pn 07 24 03.1 -4.7
ANTJ Antonio Joao (11.41 90 *e*P Pn 07 24 07.4 -3.3
AQDB Aquidauana 11.90 83 Pn 07 24 15.1 -2.1
AQDB Aquidauana 11.90 83 *e*P Pn 07 24 15.3 -1.8
AQDB *e*S Sn 07 26 23.7 -4.5
VILB Vilhena 12.18 41 Pn Pn 07 24 19.5 -1.4
VILB Vilhena 12.18 41 *e*P Pn 07 24 18.7 -2.2
VILB *e*S Sn 07 26 28.9 -6.2
AZCA Azaras, Argent 12.49 119 *e*P Pn 07 24 25.0 +0.2
ETMB Extrema 12.70 9 Pn Pn 07 24 24.6 -3.0
ETMB Extrema 12.70 9 *e*P Pn 07 24 24.8 -2.8
NNA Nana 13.19 320 P P 07 24 38.4 -1.1
comp=Z,3.6nm,0.3s,baz=128,slow=19,SNR=1.5
NNA S Sn 07 26 56.7 -3.0
comp=Z,4.6nm,0.3s,baz=78,slow=13,SNR=2.0
NNA LR LR 07 30 07.5
comp=Z,78nm,21.6s,baz=149,slow=39
SALV Santo Antonio 13.57 64 *e*P Pn 07 24 36.7 -2.1
RODS Rosario do Sul 14.14 127 *e*P P 07 24 49.9 0.0
VA04 Juan Fernndez 14.52 217 Pn Pn 07 24 46.3 -4.6
C2SB Chapadao do Su 14.94 79 *e*P Pn 07 24 55.2 -1.0
PTGB Pitanga 15.07 102 *e*P Pn 07 24 57.8 -0.2
ALGR Alto Alegre (B 15.17 118 *e*P P 07 25 01.7 +0.3
ITAB Concordia 15.45 111 P Pn 07 25 02.6 0.0
ITAB Concordia 15.45 111 *e*P P 07 25 04.4 0.0
PCMB Pacaembu 15.83 90 *e*P Pn 07 25 07.0 -0.5
PLTB Pedras Altas 16.05 129 Pn Pn 07 25 07.2 -2.8
TRQA Tornquist 16.50 162 P Pn 07 25 13.3 -2.3
TRQA Tornquist 16.50 162 P Pn 07 25 13.3 -2.3
CLDB Colider 16.59 48 *e*P Pn 07 25 14.6 -2.2
ARAG Araguaiana, MT 16.96 70 *e*P P 07 25 20.6 -0.6
ITRB Iturama 16.97 84 *e*P P 07 25 20.2 -1.2
CNLB Canela 17.13 117 *e*P P 07 25 22.3 -0.9
FRTB Fartura 17.30 97 *e*P Pn 07 25 25.3 -0.1
GO06 Curarrehue 17.32 188 P P 07 25 21.0 -4.1
LR03 Panguipulli 17.49 190 P P 07 25 24.7 -2.3
ATAH Atahualpa 18.05 326 P Pn 07 25 37.6 +2.8
comp=Z,4.2nm,0.8s,baz=58,slow=22,SNR=1.0
TBTG Tabatinga, AM 18.20 355 P P 07 25 34.3 -0.6
PLCA Paso Flores 18.35 185 P P 07 25 36.2 -0.2
comp=Z,24nm,0.9s,baz=11,slow=13,SNR=48
PLCA LR LR 07 34 21.4
comp=Z,297nm,19.8s,baz=358,slow=42
PLCA Paso Flores 18.35 185 P P 07 25 35.6 -0.8
PLCA Paso Flores 18.35 185 P P 07 25 35.6 -0.8
BB19B Bebedouro 18.43 90 *e*P P 07 25 37.4 0.0
LL03 Petrohue 18.97 190 P P 07 25 41.8 -1.4
RCLB Rio Claro- Sao 19.21 94 *e*P P 07 25 45.6 -0.3
LL05 Los Muermos 19.42 192 P P 07 25 47.0 -1.0
VAO Valinhos 19.70 96 *e*P P 07 25 50.8 -0.5
NPGB Novo Progresso 19.74 41 *e*P P 07 25 49.9 -1.8
BDFB Brasilia 20.33 74 P P 07 25 57.5 -0.7
comp=Z,26nm,0.6s,baz=260,slow=11,SNR=62
BDFB LR LR 07 35 37.8
comp=Z,396nm,19.3s,baz=292,slow=42
comp=Z,26nm,0.6s
BDFB Brasilia 20.33 74 P P 07 25 57.3 -0.8
MACA Manacapuru-AM 20.53 22 P P 07 25 59.0 -1.2
MACA Manacapuru-AM 20.53 22 *e*P P 07 25 58.8 -1.4
PMNB Patos De Minas 20.85 83 *e*P P 07 26 02.8 -0.9
LL02 Futaleuf 20.92 187 P P 07 26 01.0 -3.1
PARB Paraibuna 20.92 97 *e*P P 07 26 03.4 -1.0
GO07 Milladeo Hill, 21.11 191 P P 07 26 03.8 -2.3
MCRA Macar, Loja 21.20 326 P P 07 26 09.2 +1.8
ITTB Itaituba 21.69 36 *e*P P 07 26 10.6 -2.0
BSCB Bom Sucesso 21.91 91 *e*P P 07 26 13.9 -1.1
SGCB S£o Gabriel d 22.20 3 *e*P P 07 26 17.1 -0.9
AY01 Puyuhuapi 22.23 188 P P 07 26 16.0 -1.9
COYC Coyhaique 23.29 187 P P 07 26 25.6 -2.7
SJMB Sao Joao De Ma 25.65 87 *e*P P 07 26 48.7 -1.2
BOAV Boa Vista 25.82 18 IAmb IAmb 07 26 53.5
comp=Z,170nm,1.1s
BOAV Boa Vista 25.82 18 *e*P P 07 26 51.2 -0.1
ROSC El Rosal 27.73 347 LR LR 07 39 50.2
comp=Z,117nm,18.9s,baz=164,slow=40
RUSC La Rusia 28.53 350 P P 07 27 16.4 +0.2
EFI East Falkland 30.26 167 *i* P P 07 27 29.1 -1.4
EFI pmax pmax
comp=Z,26nm,1.1s
BAUV El Baul 31.18 1 IAmb IAmb 07 27 39.8
comp=Z,32nm,1.0s
BAUV El Baul 31.18 1 *e* P 07 27 38.9 0.0
SDV Santo Domingo 31.20 356 LR LR 07 42 39.8
comp=Z,92nm,21.9s,baz=137,slow=41
MDP Montagnes des 31.36 31 LR LR 07 41 21.7
comp=Z,144nm,19.1s,baz=171,slow=38
MPGF Montagnes des 31.37 31 P P 07 27 39.3 -1.4
PCRV Puerto La Cruz 32.60 7 P P 07 27 51.7 +0.2
comp=Z,4.7nm,0.4s,baz=294,slow=5.0,SNR=11
comp=Z,4.7nm,0.4s
TOSP Speyside 34.37 14 P P 07 28 07.3 +0.5
TOSP Speyside 34.37 14 *e* P 07 28 07.5 +0.7
GRFF Grenada Fort F 34.86 11 *e* P 07 28 12.0 +1.0
GRGR Grenville 34.96 11 P P 07 28 12.8 +0.9
GRGR Grenville 34.96 11 *e* P 07 28 12.0 +0.1
GCMP Grenada, Carri 35.35 12 *e* P 07 28 17.6 +2.4
RCBR Riachuelo 35.37 67 P P 07 28 15.3 -0.2
comp=Z,42nm,0.8s,baz=35,slow=9.5,SNR=10
RCBR LR LR 07 43 17.8
comp=Z,94nm,19.5s,baz=354,slow=37
comp=Z,42nm,0.8s
RCBR Riachuelo 35.37 67 P P 07 28 15.3 -0.2
RCBR Riachuelo 35.37 67 P P 07 28 15.4 -0.1
RCBR pmax pmax
comp=Z,55nm,1.0s
RCBR Riachuelo 35.37 67 P P 07 28 14.7 -0.8
SSV Crater Summit 36.21 12 *e* P 07 28 22.8 +0.1
JTS Las Juntas de 36.38 332 *i* P P 07 28 21.2 -2.8
JTS pmax pmax
comp=Z,21nm,2.1s
MCLT Moule a Chique 36.63 12 *e* P 07 28 26.2 +0.1
SLB Belfond 36.73 12 *e* P 07 28 29.3 +2.3
SLBI Saint Lucia, B 36.93 12 *e* P 07 28 29.3 +0.7
FDF Fort de France 37.59 11 *e* P 07 28 32.6 -1.6
FDF Fort de France 37.59 11 P P 07 28 32.2 -2.0
DSLB Salisbury 38.23 11 *e* P 07 28 37.5 -2.1
ANBD Bethesda, Anti 39.75 10 *e* P 07 28 48.7 -3.5
CELP Cerrillos 40.29 3 P P 07 28 55.3 -1.3
CELP IAmb IAmb 07 28 57.1
comp=Z,42nm,1.1s
ANWB Willy Bob 40.36 10 *e* P 07 28 53.9 -3.3
SMRT St. Maarten 40.55 8 P P 07 28 56.1 -2.7
SMRT IAmb IAmb 07 29 00.6
comp=Z,50nm,1.2s
SMRT St. Maarten 40.55 8 *e* P 07 28 55.8 -3.1
SNET Serv Nac Est T 41.34 328 P P 07 29 01.8 -3.6
PMSA Palmer Station 42.43 177 P P 07 29 14.8 +1.3
comp=Z,19nm,0.8s,baz=351,slow=5.0,SNR=4.8
comp=Z,19nm,0.8s
Y58A Scranton 57.05 349 P P 07 31 06.1 +1.5
baz=168
Y58A P P 07 31 06.1 +1.5
baz=168
X58A Rowland 57.63 349 IAmb IAmb 07 31 10.5
comp=Z,20nm,0.9s
X58A Rowland 57.63 349 P P 07 31 10.1 +1.4
baz=168
X58A P P 07 31 10.1 +1.4
baz=168
BELA Belgrano 2 57.76 172 P P 07 31 10.2 +1.1
HODGE Hodges 57.89 346 P P 07 31 11.5 +1.1
baz=165
342A Flagon Creek P 58.24 336 IAmb IAmb 07 31 47.5
comp=Z,23nm,1.0s
342B Flagon Creek P 58.24 336 P P 07 31 14.9 +1.9
baz=154
W57A Gilead 58.33 349 P P 07 31 14.7 +1.2
W57A IAmb IAmb 07 31 15.7
comp=Z,16nm,0.9s
W57A Gilead 58.33 349 P P 07 31 14.2 +0.7
baz=167
W57A P P 07 31 14.2 +0.7
baz=167
PAULI Pauline 58.36 347 P P 07 31 15.2 +1.4
baz=165
KMSC Kings Mountain 58.57 347 IAmb IAmb 07 31 17.6
comp=Z,25nm,1.4s
KMSC Kings Mountain 58.57 347 P P 07 31 16.2 +1.0
baz=166
KMSC Kings Mountain 58.57 347 P P 07 31 16.0 +0.8
baz=166
V58A Windy Hill, Pi 58.80 350 IAmb IAmb 07 31 18.5
comp=Z,15nm,0.9s
V58A Windy Hill, Pi 58.80 350 P P 07 31 17.7 +0.9
baz=168
V58A P P 07 31 17.7 +0.9
baz=168
X51A Calhoun 58.82 344 P P 07 31 17.5 +0.5
baz=162
X51A P P 07 31 17.5 +0.5
baz=162
VNA3 Neumayer Olymp 59.02 161 P P 07 31 18.8 +0.8
VNA3 Neumayer Olymp 59.02 161 pP pP 07 31 50.2 +2.4
VNA1 Neumayer--Stat 59.23 160 P P 07 31 20.7 +1.3
V55A Taylorsville 59.23 348 P P 07 31 21.0 +1.1
baz=166,SNR=5.5
V55A P P 07 31 21.0 +1.1
baz=166,SNR=5.5
X48A Hartselle 59.30 342 P P 07 31 20.7 +0.4
X48A IAmb IAmb 07 31 21.5
comp=Z,11nm,1.0s
X48A Hartselle 59.30 342 P P 07 31 20.6 +0.3
baz=160
V53A Saluda 59.39 346 P P 07 31 21.6 +0.7
baz=164
V53A P P 07 31 21.6 +0.7
baz=164
W50A Signal Mountai 59.54 344 IAmb IAmb 07 31 23.4
comp=Z,17nm,1.1s
W50A Signal Mountai 59.54 344 P P 07 31 22.4 +0.4
baz=162
VNA2 Neumayer--Watz 59.60 161 P P 07 31 22.8 +0.9
baz=280,slow=7.0
TKL Tuckaleechee C 59.60 345 LR LR 07 59 15.4
comp=Z,95nm,18.9s,baz=82,slow=38
TKL Tuckaleechee C 59.60 345 P P 07 31 22.7 +0.4
baz=164
SWET Sewanee 59.72 343 IAmb IAmb 07 31 24.3
comp=Z,15nm,1.1s
T59A Double "B" Far 59.72 351 P P 07 31 24.2 +1.1
T59A IAmb IAmb 07 31 24.9
comp=Z,19nm,0.9s
T59A Double "B" Far 59.72 351 P P 07 31 23.8 +0.7
baz=170,SNR=6.6
T59A P P 07 31 23.8 +0.7
baz=170,SNR=6.6
T60A Surry 59.78 352 P P 07 31 24.9 +1.5
baz=171
T60A P P 07 31 24.9 +1.5
baz=171
T57A Hurt 60.00 350 IAmb IAmb 07 31 27.0
comp=Z,14nm,0.8s
T57A Hurt 60.00 350 P P 07 31 26.4 +1.3
baz=168
T57A P P 07 31 26.4 +1.3
baz=168
U54A Nelsons Funny 60.00 347 IAmb IAmb 07 31 27.6
comp=Z,13nm,0.7s
U54A Nelsons Funny 60.00 347 P P 07 31 26.0 +0.8
baz=166
U54A P P 07 31 26.0 +0.8
baz=166
BLA Blacksburg 60.41 349 IAmb IAmb 07 31 31.1
comp=Z,19nm,0.9s
BLA Blacksburg 60.41 349 P P 07 31 29.1 +1.2
baz=167
BLA Blacksburg 60.41 349 P P 07 31 29.9 +2.0
baz=167
V48A Smith Brothers 60.45 343 IAmb IAmb 07 32 02.1
comp=Z,33nm,1.6s
V48A Smith Brothers 60.45 343 P P 07 31 28.4 +0.3
baz=160
CLTN Cedars of Leba 60.65 343 P P 07 31 30.3 +0.9
CLTN IAmb IAmb 07 31 30.6
comp=Z,13nm,1.0s
S57A Dark Hollow, R 60.70 350 IAmb IAmb 07 31 32.0
comp=Z,22nm,1.1s
S57A Dark Hollow, R 60.70 350 P P 07 31 30.6 +0.8
baz=169,SNR=5.4
S57A P P 07 31 30.6 +0.8
baz=169,SNR=5.4
R58B Mineral 60.74 351 IAmb IAmb 07 31 32.1
comp=Z,18nm,0.9s
R58B Mineral 60.74 351 P P 07 31 31.2 +1.2
baz=170,SNR=5.6
R58B P P 07 31 31.2 +1.2
baz=170,SNR=5.6
WVT Waverly 61.10 342 P P 07 31 31.2 -1.2
WVT Waverly 61.10 342 P P 07 31 32.3 -0.2
baz=160
WVT Waverly 61.10 342 P P 07 31 32.4 -0.1
baz=160
WVT Waverly 61.10 342 P P 07 31 31.3 -1.2
WVT pmax pmax
comp=Z,9.0nm,1.0s
S54A Dingess, Beckl 61.14 348 P P 07 31 33.6 +0.8
S54A IAmb IAmb 07 31 52.0
comp=Z,16nm,1.1s
T50A Nancy 61.15 345 P P 07 31 32.6 -0.2
baz=163
T50A P P 07 31 32.6 -0.2
baz=163
SNAA Sanae 61.23 161 P P 07 31 33.7 +0.7
SNAA Sanae 61.23 161 P P 07 31 34.0 +0.9
SNAA Sanae 61.23 161 ⇓ *i*P P 07 31 33.8 +0.7
SNAA Sanae 61.23 161 P P 07 31 34.0 +0.9
SNAA pmax pmax
comp=Z,9.0nm,0.8s
MIAR Mount Ida 61.54 336 P P 07 31 36.1 +0.6
baz=154
T47A Sharon Grove 61.70 343 P P 07 31 36.4 -0.1
baz=160
TXAR Lajitas Array 61.70 325 P P 07 31 38.0 +1.2
comp=Z,0.3nm,0.5s,baz=151,slow=8.2,SNR=8.2
TXAR pP pP 07 32 08.1 +0.8
comp=Z,0.5nm,0.5s,baz=150,slow=7.5,SNR=6.3
Q56A Snyder Ridge, 61.99 350 IAmb IAmb 07 31 41.0
comp=Z,24nm,1.0s
Q56A Snyder Ridge, 61.99 350 P P 07 31 39.8 +1.3
baz=169,SNR=5.0
Q56A P P 07 31 39.8 +1.3
baz=169,SNR=5.0
SDMD Soldier's Deli 62.03 353 P P 07 31 39.8 +1.1
baz=171
Q54A Coxs Mills 62.20 349 P P 07 31 40.7 +0.8
baz=167
Q54A P P 07 31 40.7 +0.8
baz=167
P57A Homestead Farm 62.25 352 IAmb IAmb 07 31 42.7
comp=Z,17nm,0.9s
P57A Homestead Farm 62.25 352 P P 07 31 41.7 +1.6
baz=170,SNR=5.3
P57A P P 07 31 41.7 +1.6
baz=170,SNR=5.3
TUPA Temple Univers 62.60 354 P P 07 31 43.4 +1.0
baz=173
MCWV Mont Chateau 62.70 350 P P 07 31 44.7 +1.6
baz=168
BBTS Babate 62.70 59 LR LR 07 57 59.1
comp=Z,71nm,21.0s,baz=226,slow=35
TROLL Troll, Antarti 62.94 161 P P 07 31 45.7 +1.1
TROLL Troll, Antarti 62.94 161 pP pP 07 32 16.1 +1.3
SSPA Standing Stone 63.37 352 P P 07 31 49.4 +1.9
baz=170
N58A Sunbury 63.42 353 P P 07 31 48.5 +0.6
baz=171,SNR=7.0
N58A P P 07 31 48.5 +0.6
baz=171,SNR=7.0
O53A New Philadelph 63.50 349 P P 07 31 49.2 +0.8
baz=167
ACSO Alum Creek Sta 63.82 348 P P 07 31 51.0 +0.5
baz=165
CCM Cathedral Cave 63.91 340 P P 07 31 51.1 -0.1
baz=156
CCM Cathedral Cave 63.91 340 P P 07 31 51.3 +0.2
baz=156
CCM Cathedral Cave 63.91 340 P P 07 31 50.1 -1.0
KSPA Keystone Colle 64.03 354 P P 07 31 53.4 +1.5
baz=172
NPNY Mohonk Preserv 64.08 355 P P 07 31 53.5 +1.3
baz=174
O48B Farmland 64.31 346 P P 07 31 53.5 -0.3
baz=163
O48B Farmland 64.31 346 P P 07 31 53.7 -0.1
baz=163
L59A Walton 64.59 354 P P 07 31 57.0 +1.4
baz=173,SNR=8.0
L59A P P 07 31 57.0 +1.4
baz=173,SNR=8.0
L61B Northampton 64.68 356 P P 07 31 56.9 +0.8
baz=176
BINY Binghamton 64.69 354 IAmb IAmb 07 31 58.5
comp=Z,23nm,1.0s
BINY Binghamton 64.69 354 P P 07 31 57.0 +0.8
baz=172,SNR=6.0
BINY Binghamton 64.69 354 P P 07 31 57.8 +1.6
baz=172
MSTX Muleshoe 64.97 329 P P 07 31 59.0 +0.6
baz=145
TRY Troy 65.02 356 IAmb IAmb 07 32 00.9
comp=Z,22nm,0.9s
HCNY Howe Caverns 65.04 355 P P 07 31 59.6 +1.2
baz=174
P40A Paris 65.51 340 P P 07 32 02.4 +0.9
baz=156
NVL N'lazarevskaya 65.77 159 *e*P P 07 32 03.7 +0.9
NVL *e*S S 07 40 27.4 -12
NVL pmax pmax
comp=Z,11nm,0.8s
J59A Piesco 65.81 355 P P 07 32 04.8 +1.4
baz=174,SNR=7.2
J59A P P 07 32 04.8 +1.4
baz=174,SNR=7.2
LBNH Lisbon 66.42 357 IAmb IAmb 07 32 43.9
comp=Z,37nm,1.4s
LBNH Lisbon 66.42 357 P P 07 32 09.6 +2.4
baz=176
EMMW East Machias 66.81 1 P P 07 32 10.5 +0.8
EMMW IAmb IAmb 07 32 11.9
comp=Z,20nm,0.9s
LONY Lake Ozonia 66.97 355 IAmb IAmb 07 32 12.9
comp=Z,22nm,1.0s
LONY Lake Ozonia 66.97 355 P P 07 32 12.0 +1.3
baz=174
BMNY Brushton-Moira 67.18 355 P P 07 32 13.8 +1.8
baz=174,SNR=6.2
G65A Princeton 67.30 1 P P 07 32 13.0 +0.2
G65A IAmb IAmb 07 32 15.1
comp=Z,25nm,0.9s
G65A Princeton 67.30 1 P P 07 32 14.2 +1.4
baz=181,SNR=5.2
G65A P P 07 32 14.2 +1.4
baz=181,SNR=5.2
G62A West of Eustis 67.35 358 P P 07 32 14.7 +1.6
baz=178,SNR=14
G62A P P 07 32 14.7 +1.6
baz=178,SNR=14
PKME Peaks-Kenny Pk 67.37 359 IAmb IAmb 07 32 15.5
comp=Z,22nm,0.8s
PKME Peaks-Kenny Pk 67.37 359 P P 07 32 14.5 +1.3
baz=179,SNR=6.8
PKME Peaks-Kenny Pk 67.37 359 P P 07 32 14.5 +1.3
baz=179
ANMO Albuquerque 67.58 327 P P 07 32 15.5 +0.5
ANMO Albuquerque 67.58 327 P P 07 32 15.5 +0.5
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 67.58 327 P P 07 32 13.8 -1.2
ANMO pP pP 07 32 47.3 +1.4
ANMO sP sP 07 33 00.9 +1.5
QSPA South Pole Qui 67.77 180 P P 07 32 17.1 +1.3
QSPA IAmb IAmb 07 32 17.6
comp=Z,13nm,0.6s
QSPA South Pole Qui 67.77 180 P P 07 32 15.5 -0.3
QSPA pP pP 07 32 46.3 -0.1
QSPA sP sP 07 33 01.5 +1.6
F64A Sherman 67.96 360 P P 07 32 18.2 +1.2
baz=180,SNR=7.4
F64A P P 07 32 18.2 +1.2
baz=180,SNR=7.4
JFWS Jewell Farm 68.09 343 P P 07 32 18.4 +0.6
baz=158
LIC Lamto 68.12 73 ⇑ *i*P P 07 32 18.6 0.0
comp=Z,16nm,0.3s
TIC Toumodi 68.31 73 ⇑ *i*P P 07 32 20.1 +0.2
comp=Z,6.7nm,0.3s
KIC Kosan Boka 68.43 73 ⇑ *e*P P 07 32 20.8 +0.2
comp=Z,23nm,0.4s
DBIC Dimbokro 68.47 73 P P 07 32 20.9 +0.2
comp=Z,34nm,0.8s,baz=284,slow=4.8,SNR=43
DBIC LR LR 08 02 42.6
comp=Z,92nm,18.5s,baz=182,slow=36
comp=Z,34nm,0.8s
DBIC Dimbokro 68.47 73 P P 07 32 21.1 +0.2
DBIC Dimbokro 68.47 73 ⇑ *i*P P 07 32 21.0 +0.2
DBIC Dimbokro 68.47 73 P P 07 32 21.1 +0.2
DBIC pmax pmax
comp=Z,51nm,1.0s
DBIC Dimbokro 68.47 73 P P 07 32 19.9 -0.9
TRQ Mont Tremblant 68.56 355 IAmb IAmb 07 32 22.6
comp=Z,19nm,0.8s
GLMI Grayling 68.56 348 P P 07 32 22.1 +1.4
baz=164
E62A Clayton Lake 68.73 359 P P 07 32 23.4 +1.7
E62A IAmb IAmb 07 32 24.3
comp=Z,30nm,0.9s
E62A Clayton Lake 68.73 359 P P 07 32 23.4 +1.7
baz=179,SNR=9.0
E62A P P 07 32 23.4 +1.7
baz=179,SNR=9.0
PQI Presque Isle 68.77 0 IAmb IAmb 07 32 24.2
comp=Z,30nm,1.1s
D62A Allapoint, All 69.18 359 IAmb IAmb 07 32 26.8
comp=Z,34nm,0.9s
D62A Allapoint, All 69.18 359 P P 07 32 25.4 +1.0
baz=179,SNR=11
D62A P P 07 32 25.4 +1.0
baz=179,SNR=11
BGNE Belgrade 69.28 336 P P 07 32 26.7 +1.4
baz=151
SDCO Great Sand Dun 69.32 329 P P 07 32 27.7 +1.7
baz=144
SDCO Great Sand Dun 69.32 329 P P 07 32 28.6 +2.7
baz=144
BATG Bathurst New B 69.41 2 P P 07 32 27.2 +1.4
BATG IAmb IAmb 07 32 28.2
comp=Z,21nm,1.0s
LATQ La Tuque 69.60 357 IAmb IAmb 07 32 29.3
comp=Z,20nm,1.0s
TAOE Nuku Hiva Isla 69.94 268 *e*LR LR 07 53 53.7
comp=Z,42nm,25.0s
D41A Chassel 71.54 346 P P 07 32 39.4 +0.6
baz=160
F36A Milaca 71.72 342 P P 07 32 40.3 +0.3
baz=156
PFO Pinyon Flats O 72.17 319 *i* P P 07 32 42.7 -0.4
PFO pmax pmax
comp=Z,13nm,1.1s
TBI Tubuai 73.72 251 *e*LR LR 07 55 38.2
comp=Z,320nm,28.8s
TBI *e*LR LR 07 55 38.3
comp=Z,1µm,23.0s
B35A Bob, Littlefor 74.05 343 P P 07 32 54.2 +0.5
baz=156
AGMN Agassiz Nation 74.61 341 P P 07 32 57.7 +0.8
baz=154
PDAR Pinedale Array 75.19 330 P P 07 33 02.2 +1.6
comp=Z,0.4nm,0.6s,baz=111,slow=8.1,SNR=4.1
MDND Maddock 75.39 339 P P 07 33 03.1 +1.7
baz=150
PPT2 Papeete2 75.64 257 *e*LR LR 07 56 31.5
comp=Z,103nm,40.8s
PPT2 *e*LR LR 07 56 31.5
comp=Z,102nm,31.5s
VNDA Vanda 76.04 190 P P 07 33 06.7 +1.9
comp=Z,1.9nm,0.9s,baz=127,slow=2.6,SNR=6.7
VNDA pP pP 07 33 37.6 +1.5
comp=Z,3.2nm,0.9s,baz=122,slow=3.1,SNR=7.0

	comp=Z,1.9nm,0.9s						
VNDA	Vanda	76.04	190	P	P	07 33 06.5	+1.8
CER	Ceres	76.11	121	eP	P	07 33 07.6	+1.6
ULM	Lac du Bonnet	76.36	342	P	P	07 33 07.4	+0.5
	comp=Z,5.4nm,0.7s,baz=184,slow=7.8,SNR=4.1						
ULM				pP	pP	07 33 39.0	+0.5
	comp=Z,5.0nm,0.6s,baz=145,slow=5.1,SNR=3.1						
	comp=Z,5.4nm,0.7s						
NVAR	Mina Array Bea	76.56	322	P	P	07 33 10.1	+1.6
	comp=Z,0.6nm,0.9s,baz=125,slow=7.4,SNR=4.1						
NVAR				pP	pP	07 33 42.0	+2.0
	comp=Z,0.9nm,0.6s,baz=158,slow=8.1,SNR=6.4						
RLMT	Red Lodge	76.89	332	P	P	07 33 12.6	+2.3
	baz=142						
SCHQ	Schefferville	76.95	1	P	P	07 33 11.2	+1.1
	comp=Z,5.2nm,0.7s,baz=354,slow=2.4,SNR=5.8						
	comp=Z,5.2nm,0.7s						
TOA0	Torodi Ar. Sit	77.14	70	P	P	07 33 11.7	-0.4
TORD	Torodi Ar. Bea	77.14	70	P	P	07 33 11.8	-0.3
	comp=Z,23nm,0.5s,baz=251,slow=5.1,SNR=186						
TORD				pP	pP	07 33 44.1	-0.1
	comp=Z,6.1nm,0.7s,baz=254,slow=5.3,SNR=1.7						
	comp=Z,23nm,0.5s						
TORD	Torodi Ar. Bea	77.14	70	P	P	07 33 11.9	-0.1
MERW	Merweville	78.11	120	eP	P	07 33 18.5	+1.2
MERW				IAmb	IAmb	07 33 22.0	
	comp=Z,7.8nm,0.7s						
HLID	Hailey	78.12	328	P	P	07 33 20.2	+3.1
	baz=137						
FRAZ	Fraserburg	78.26	120⇑	iP	P	07 33 20.0	+1.8
FRAZ				IAmb	IAmb	07 33 20.4	
	comp=Z,30nm,0.8s						
AUGR	Augrabies	78.47	116	eP	P	07 33 20.8	+1.4
GRAN	Grantham	78.75	120⇑	iP	P	07 33 22.2	+1.4
GRAN				IAmb	IAmb	07 33 23.3	
	comp=Z,17nm,0.6s						
KEIM	Keimoes	78.96	116	eP	P	07 33 23.5	+1.4
KEIM				IAmb	IAmb	07 33 24.3	
	comp=Z,23nm,0.7s						
TSUM	Tsumeb	79.24	106	P	P	07 33 25.1	+1.3
TSUM				IAmb	IAmb	07 33 26.1	
	comp=Z,35nm,0.9s						
TSUM	Tsumeb	79.24	106⇑	iP	P	07 33 25.0	+1.3
TSUM				IAmb	IAmb	07 33 25.8	
	comp=Z,35nm,0.9s						
GRAF	Camdeboo Natio	80.60	121	eP	P	07 33 33.3	+2.5
GRAF				IAmb	IAmb	07 33 35.0	
	comp=Z,443nm,2.7s						
MORF	Marmelete	81.73	44	eP	P	07 33 38.7	+2.2
	comp=Z,54nm,1.9s						
PTEO	Sao Teotonio	81.83	44	eP	P	07 33 39.8	+2.9
	comp=Z,57nm,1.4s						
MDT	Midelt	81.92	50	LR	LR	08 09 20.7	
	comp=Z,123nm,18.9s,baz=164,slow=35						
HVD	Gariep Dam	82.00	120	eP	P	07 33 39.2	+0.9
HVD				IAmb	IAmb	07 33 40.0	
	comp=Z,21nm,0.7s						
PNCL	Nicolau / Gran	82.29	43	eP	P	07 33 41.1	+1.8
PCVE	Castro Verde	82.32	44	eP	P	07 33 41.4	+1.9
	comp=Z,21nm,1.8s						
BOSA	Boshof	82.52	118	P	P	07 33 41.5	+0.4
	comp=Z,13nm,0.7s,baz=256,slow=4.1,SNR=19						
	comp=Z,13nm,0.7s						
BOSA	Boshof	82.52	118	P	P	07 33 41.7	+0.6
BOSA				IAmb	IAmb	07 33 42.7	
	comp=Z,21nm,1.0s						
BOSA	Boshof	82.52	118⇑	iP	P	07 33 41.7	+0.6
BOSA				IAmb	IAmb	07 33 42.2	
	comp=Z,20nm,1.0s						
BOSA	Boshof	82.52	118	P	P	07 33 41.7	+0.6
BOSA				pmax	pmax		
	comp=Z,21nm,1.0s						
PBEJ	Beja	82.66	44	eP	P	07 33 43.3	+2.0
	comp=Z,18nm,1.3s						
NEW	Newport	82.82	330	LR	LR	08 17 49.8	
	comp=Z,73nm,18.2s,baz=16,slow=41						
EVO	Evora	82.86	43	eP	P	07 33 43.3	+1.0
	comp=Z,23nm,2.1s						
PSBE	So Bento	82.95	42	eP	P	07 33 43.3	+0.5
	comp=Z,36nm,1.9s						
PMTG	Montargil	83.04	43	eP	P	07 33 44.5	+1.3
	comp=Z,27nm,1.4s						
PBAR	Barrancos	83.28	44	eP	P	07 33 46.1	+1.7
	comp=Z,19nm,1.6s						
MAW	Mawson	83.29	163	P	P	07 33 45.5	+1.4
	comp=Z,4.1nm,0.5s,baz=216,slow=6.8,SNR=22						
MAW				pP	pP	07 34 17.6	+1.7
	comp=Z,3.5nm,0.6s,baz=238,slow=8.6,SNR=3.8						
	comp=Z,4.1nm,0.5s						
PESTR	Estremoz	83.33	43	eP	P	07 33 45.3	+0.6
	comp=Z,20nm,1.7s						
PMRV	Marv??o	83.78	43	eP	P	07 33 48.0	+1.0
	comp=Z,19nm,1.6s						
PCBR	Castelo Branco	83.96	43	eP	P	07 33 49.2	+1.3
	comp=Z,9.9nm,2.2s						
LBTB	Lobatse	84.13	115	P	P	07 33 50.2	+0.9
LBTB	Lobatse	84.13	115⇑	iP	P	07 33 50.2	+0.9
LBTB				IAmb	IAmb	07 33 51.0	
	comp=Z,27nm,0.8s						
LBTB	Lobatse	84.13	115	P	P	07 33 50.2	+0.9
LBTB				pmax	pmax		
	comp=Z,28nm,0.9s						
MTE	Manteigas	84.25	42	eP	P	07 33 50.6	+1.2
	comp=Z,21nm,1.1s						
MTE	Manteigas	84.25	42	IAmb	IAmb	07 33 52.0	
	comp=Z,25nm,1.3s						
PCAB	Cabril	84.72	41	eP	P	07 33 52.7	+1.0
	comp=Z,25nm,1.2s						
EDM	Edmonton	84.83	335	pP	pP	07 34 24.3	0.0
MVO	Moncorvo	85.01	42	eP	P	07 33 54.7	+1.5
	comp=Z,32nm,1.5s						
PBRG	Braganca	85.56	41	eP	P	07 33 57.1	+1.2
	comp=Z,14nm,1.6s						
PAB	San Pablo	85.78	44	P	P	07 33 57.8	+0.7
PAB				IAmb	IAmb	07 33 59.4	
	comp=Z,27nm,1.1s						
PAB	San Pablo	85.78	44	P	P	07 33 57.8	+0.7
PAB				pmax	pmax		
	comp=Z,27nm,1.1s						
ESDC	Sonseca Array	86.10	44	P	P	07 33 59.8	+1.2
	comp=Z,12nm,1.1s,baz=235,slow=5.1,SNR=38						
	comp=Z,12nm,1.1s						
ESDC	Sonseca Array	86.10	44	IAmb	IAmb	07 34 01.1	
	comp=Z,19nm,1.2s						
ESBB	Sonseca Array	86.10	44	IAmb	IAmb	07 34 01.1	
	comp=Z,19nm,1.2s						
LEPH	Lephalale, Lim	86.42	114	eP	P	07 34 02.3	+1.5
LEPH				IAmb	IAmb	07 34 03.1	
	comp=Z,13nm,0.8s						
YKA	Yellowknife Ar	92.24	340	P	P	07 34 27.2	+0.3
	comp=Z,2.8nm,0.7s,baz=229,slow=10,SNR=2.4						
YKA				pP	pP	07 35 00.7	+1.3
	comp=Z,3.1nm,0.8s,baz=151,slow=3.5,SNR=4.4						
	comp=Z,2.8nm,0.7s						
KEST	Kesra	93.42	53	P	P	07 34 34.6	+1.4
	comp=Z,4.7nm,0.8s,baz=334,slow=3.1,SNR=4.8						
	comp=Z,4.7nm,0.8s						
MBAR	Mbarara	98.14	94	LR	LR	08 15 32.9	
	comp=Z,69nm,18.9s,baz=154,slow=33						
OBN	Obninsk	116.55	38⇑	ePKIKP	PKiKP	07 40 00.8	+0.3
OBN				e		07 40 35.0	
OBN				e		07 41 07.5	
OBN				ePPP	PPP	07 43 42.8	
OBN				e		07 46 52.9	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KIV	Kislovodsk	120.12	51	ePKIKP	PKiKP	07 40 08.6	+0.6
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBZ	Khabaz	120.26	51	PKP	PKiKP	07 40 09.2	+1.1
	comp=Z,3.1nm,1.0s,baz=271,slow=3.4,SNR=3.6						
BELG	Belogornoye	123.21	41	i PKIKP	PKiKP	07 40 14.3	+0.7
BELG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	Bilibino	123.58	338⇓	ePKIKP	PKPdf	07 40 13.5	-0.2
BILL				e		07 40 47.6	
BILL				e		07 41 56.5	
BILL				ePPP	PPP	07 44 40.0	
BILL				eSS	SS	07 58 53.9	+19
BILL				eSSS	SSS	08 03 19.4	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ARU	Arti	128.59	35	PKP	PKiKP	07 40 25.8	+1.5
	comp=Z,3.3nm,0.3s,baz=286,slow=1.0,SNR=6.9						
ARU	Arti	128.59	35	i PKIKP	PKiKP	07 40 24.7	+0.4
ARU						07 42 31.6	
ARU						07 47 24.1	
ARU				SS	SS	07 59 42.2	+4.1
ASAR	Alice Springs	129.35	207	PKP	PKiKP	07 40 26.8	-0.2
	comp=Z,2.2nm,0.7s,baz=129,slow=1.7,SNR=24						
ASAR				pPKP	pPKPdf	07 41 00.1	+0.1
	comp=Z,0.8nm,0.6s,baz=148,slow=3.1,SNR=5.3						
TIXI	Tiksi	129.78	353	PKP	PKiKP	07 40 26.2	-0.1
	comp=Z,0.7nm,0.3s,baz=270,slow=4.1,SNR=4.5						
TIXI	Tiksi	129.78	353	i PKIKP	PKiKP	07 40 26.1	-0.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NRIK	Noril'sk	130.87	11	i PKIKP	PKiKP	07 40 28.5	0.0
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SEY	Seymchan	131.17	337	PKP	PKPdf	07 40 28.6	+0.3
	comp=Z,1.4nm,0.7s,baz=90,slow=4.0,SNR=3.1						
ABKAR	Akbulak array	131.44	43	PKPdf	PKiKP	07 40 30.7	+0.5
GEYT	Alibeck	131.81	59	PKP	PKiKP	07 40 31.3	-0.1
	comp=Z,1.7nm,0.5s,baz=220,slow=3.9,SNR=3.6						
GEYT				SKPbc	SKPbc	07 43 45.0	-0.2
	comp=Z,1.0nm,0.3s,baz=269,slow=13,SNR=3.5						
WRA	Warramunga Arr	132.43	209	PKP	PKiKP	07 40 33.0	-0.3
	comp=Z,2.7nm,0.7s,baz=160,slow=1.7,SNR=42						
WRA				pPKP	pPKPdf	07 41 06.2	+0.3
	comp=Z,0.9nm,0.6s,baz=159,slow=1.8,SNR=3.8						
WRA				SKPbc	SKPab	07 43 49.7	+0.5
	comp=Z,3.9nm,1.1s,baz=139,slow=3.8,SNR=9.6						
WRA	Warramunga Arr	132.43	209		PKPdf	07 40 32.2	+0.1
BRVK	Borovoye	136.16	35	i PKIKP	PKiKP	07 40 39.1	-0.6
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	Borovoye Array	136.23	35	PKP	PKiKP	07 40 40.0	+0.2
	comp=Z,6.9nm,0.7s,baz=320,slow=3.8,SNR=5.7						
YAK	Yakutsk	138.54	347	PKP	PKiKP	07 40 44.7	+0.5
	comp=Z,8.0nm,0.3s,baz=283,slow=1.6,SNR=1.9						
YAK	Yakutsk	138.54	347	i PKIKP	PKiKP	07 40 43.6	-0.6
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
KURK	Kurchatov	141.79	34	i PKIKP	PKPdf	07 40 47.3	-1.0
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURBB	Kurchatov Arra	141.79	34	PKhKP	PKPpre	07 40 44.9	
	comp=Z,0.5nm,0.3s,baz=298,slow=2.2,SNR=1.5						
KURBB				PKP	PKiKP	07 40 50.4	-0.9
	comp=Z,1.9nm,0.7s,baz=307,slow=2.7,SNR=8.3						
ZAA0	Zalesovo Array	142.54	26		PKPdf	07 40 46.6	-2.9
ZALV	Zalesovo Beam	142.54	26	PKP	PKPdf	07 40 48.1	-1.4
	comp=Z,1.5nm,0.4s,baz=336,slow=3.9,SNR=6.9						
ZALV				pPKP	pPKPdf	07 41 24.6	+1.1
	comp=Z,3.2nm,0.7s,baz=293,slow=2.8,SNR=3.3						
AAK	Ala-Archa	143.12	48	PKP	PKPdf	07 40 51.2	0.0
	comp=Z,3.2nm,0.8s,baz=181,slow=2.0,SNR=6.3						
AAK	Ala-Archa	143.12	48	PKPdf	PKPbc	07 40 49.7	+1.3
NIL	Nilore	144.46	63	PKPdf	PKPbc	07 40 52.6	+0.1
NIL	Nilore	144.46	63	PKIKP	PKPbc	07 40 52.6	+0.1
NRN	Naryn	144.60	49	PKPdf	PKPdf	07 40 54.8	+0.8
NRN	Naryn	144.60	49	PKIKP	PKPdf	07 40 54.8	+0.8
BOD	Bodaibo	144.61	358	ePKIKP	PKPab	07 40 52.0	+0.1
BOD				pmax	pmax		
	comp=Z,18nm,1.6s						
KSH	Kashi	145.23	52	PKPbc	PKPab	07 40 56.1	+1.0
MK31	Makanchi Array	146.04	37		PKPbc	07 40 57.3	+0.3
MK31	Makanchi Array	146.04	37	PKP2	PKPbc	07 40 57.3	+0.3
MKAR	Makanchi Array	146.04	37	PKPbc	PKPab	07 40 57.6	-0.1
	comp=Z,19nm,0.8s,baz=314,slow=2.8,SNR=67						
MKAR				pPKPbc	pPKPbc	07 41 30.8	0.0
	comp=Z,5.1nm,0.8s,baz=349,slow=2.6,SNR=4.3						
MKAR	Makanchi Array	146.04	37		PKPbc	07 40 57.4	+0.3
HYBB	Hyderabad (bro	148.49	93	ePKPdf	PKPdf	07 41 00.3	-0.5
KLR	Kul'dur	148.89	334	PKPbc	PKiKP	07 41 05.7	-0.3
	comp=Z,1.1nm,0.5s,baz=158,slow=7.7,SNR=2.6						
KLR				pPKPbc	pPKPbc	07 41 37.1	-1.0
	comp=Z,3.8nm,0.8s,baz=9.3,slow=2.8,SNR=4.6						
HEH	HeiHe	149.61	340	ePKPbc	PKPbc	07 41 06.8	+0.4
WMQ	Urumqi	150.88	37	ePKPbc	PKPdf	07 41 03.7	-0.3
USRK	Ussuriysk Ar.	152.59	327	PKPbc	PKiKP	07 41 14.6	+0.9
	comp=Z,0.8nm,0.5s,baz=70,slow=2.3,SNR=4.2						
USRK				pPKPbc	pPKPbc	07 41 47.6	+0.5
	comp=Z,4.0nm,0.9s,baz=23,slow=4.7,SNR=4.6						
SONM	Songino Array	154.29	8	PKP	PKPdf	07 41 11.0	+2.1
	comp=Z,0.9nm,0.7s,baz=342,slow=1.3,SNR=5.9						
SONM				PKPbc	PKiKP	07 41 18.7	+1.4
	comp=Z,0.7nm,0.5s,baz=303,slow=2.7,SNR=2.6						
SONM				PKPab	PKPab	07 41 32.5	+0.8
	comp=Z,2.4nm,0.8s,baz=324,slow=4.0,SNR=8.9						
CN2	Changchun	155.83	335	ePKP	PKPdf	07 41 09.1	-1.9
CN2				PP	PP	07 45 16.8	+1.7
CN2				SKS	SKSdf	07 48 03.9	-2.3
CN2				SKKS	SKKSac	07 51 53.9	+0.3
CN2				SS	SS	08 04 54.2	+1.9
CN2				AMB	AMB		
	comp=Z,90nm,6.0s						
CN2				LR	LR		
	comp=Z,130nm,19.0s						
CN2				LR	LR		
	comp=Z,110nm,19.0s						
CN2				LR	LR		
	comp=Z,100nm,20.0s						
GTA	Gaotai	160.27	28	eP	PKPab	07 41 59.1	+1.4
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC	Hu-ho-hao-te	161.63	0	ePKP	PKPdf	07 41 19.8	+1.7
CMAR	Chiang Mai Arr	167.42	106	PKPab	PKPab	07 42 29.3	-0.4
	comp=Z,1.9nm,0.3s,baz=250,slow=5.6,SNR=7.6						
TNCH	TengChong	167.66	75	ePKP	PKPdf	07 41 22.4	-1.5
TNCH				pPKP	pPKPdf	07 41 55.0	-2.9
NJ2	Nanjing	168.49	328	ePKP	PKPdf	07 41 28.1	+4.1
CD2	Chengdu	168.97	38	ePKP	PKPdf	07 41 23.3	-1.2
PZH	PanZhiHua	170.07	64	PKP	PKPdf	07 41 23.0	-2.3
KMI	Kunming	171.37	70	PKP	PKPdf	07 41 26.5	+0.3

IDC 02 07:32:26.9±1.0, 50°.06N×78°.77E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=14.4km s-min=6.2km az=64.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.59	345	Pg	Pg	07 32 38.2	0.0
	1.2nm,0.3s,baz=166,slow=19,SNR=23						
KURBB				Lg	Lg	07 32 47.0	
	1.1nm,0.3s,baz=164,slow=33,SNR=12						
MKAR	Makanchi Array	4.02	143	Pn	Pn	07 33 30.1	+0.4
	0.3nm,0.3s,baz=320,slow=10,SNR=19						
MKAR				Pg	Pb	07 33 36.5	-2.1
	0.5nm,0.3s,baz=328,slow=16,SNR=10						
MKAR				Sn	Sn	07 34 19.0	+1.4
	0.2nm,0.3s,baz=333,slow=21,SNR=2.6						
MKAR				Lg	Lg	07 34 33.7	
	0.9nm,0.3s,baz=329,slow=27,SNR=13						
	0.3nm,0.3s						
ZALV	Zalesovo Beam	5.40	41	Pn	Pn	07 33 50.8	+2.2
	0.5nm,0.3s,baz=231,slow=14,SNR=5.4						
	0.8nm,0.3s						
I46RU	ZALESOVO INFRA	5.40	41	I		08 02 30.0	
	baz=226,slow=326,SNR=7.6						

NAO 02 07:39:00.8±1.2, 73°.03N×5°.74E, ML3.9
IDC 02 07:39:02.7±0.5, 73°.03N×5°.91E, h0km, mb4.1/24, mbtmp4.1/30, ML3.8/6, MS3.5/40, Error ellipse: s-maj=13.2km s-min=10.2km az=60.0
NEIC 02 07:39:04.1±2.0, 73°.03N±0°.07×6°.0E±0°.2, h10km±1km, mb4.6/60, Error ellipse: s-maj=12.9km s-min=10.8km az=57.0
BER 02 07:39:06.2±2.3, 73°.04N×5°.95E, h22km±23km, ML2.7, ML3.9(NAO), Confirmed Earthquake
DNK 02 07:39:33.0±3.2, 74°.66N×1°.55W, h0km±44km, ML1.6
ISC 02 07:39:04.0±0.4, 73°.02N±0°.04×6°.19E±0°.05, h11km, n178, σ2s.05/147, mb4.5/50, MS3.5/37, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BJO1	Bjornoya	3.89	62	Pn	Pn	07 40 01.9	-1.6
BJO1				Sn	Sn	07 40 47.1	-2.0
BJO1	Bjornoya	3.89	62	eP	Pn	07 40 02.3	-1.2
HSPB	Hornsund (broa	4.67	27	eP	Pn	07 40 12.1	-2.2
JMIC	Jan Mayen	4.99	253	Pn	Pn	07 40 16.6	-2.1
JMIC	Jan Mayen	4.99	253	Pn	Pn	07 40 16.4	-2.3
	16nm,0.3s,baz=33,slow=4.0,SNR=13						
JMIC				LR	LR	07 41 40.4	
	comp=Z,215nm,18.9s,baz=50,slow=32						
	70nm,0.4s						
JMIC	Jan Mayen	4.99	253	eP	Pn	07 40 16.6	-2.1
TRO	Tromso	5.32	124	eP	Pn	07 40 23.3	+0.1
TRO				eS	Sn	07 41 20.7	-3.6
TRO				IAML		07 41 24.1	
	comp=Z,20nm,0.5s						
BRBA	Barentsburg A	5.44	18	Pn	Pn	07 40 24.4	-0.4
BRBA	Barentsburg A	5.44	18	eP	Pn	07 40 24.5	-0.4
BRBB	Barentsburg B	5.47	18	Pn	Pn	07 40 24.3	-1.0
BRBB	Barentsburg B	5.47	18	eP	Pn	07 40 25.9	+0.7
LOF	Lofoten	5.49	150	eP	Pn	07 40 24.9	-0.6
LOF				eS	Sn	07 41 22.2	-6.4
LOF				IAML		07 41 23.1	
	comp=Z,46nm,0.5s						
JETT	Jettan, Norway	5.74	120	Pn	Pn	07 40 29.4	+0.4
JETT				Sn	Sn	07 41 30.6	-4.2
JETT	Jettan, Norway	5.74	120	Pn	Pn	07 40 29.4	+0.4
JETT				Sn	Sn	07 41 30.6	-4.2
SPB2	Spitsbergen Ar	5.76	21		Pn	07 40 28.3	-0.9
SPA0	Spitsbergen Ar	5.76	21	Pn	Pn	07 40 28.0	-1.2
	baz=212,slow=16						
SPA0	Spitsbergen Ar	5.76	21	Pn	Pn	07 40 28.0	-1.2
	baz=212,slow=16						
SPITS	Spitsbergen Ar	5.76	21	Pn	Pn	07 40 27.9	-1.3
	baz=206,slow=17						
	comp=Z,11nm,0.5s						
STEI	Steigen	5.94	145	eP	Pn	07 40 32.4	+0.7
STEI				eS	Sn	07 41 35.4	-4.3
STEI				IAML		07 41 38.7	
	comp=Z,16nm,0.5s						
HAMF	Hammerfest	5.96	105	Pn	Pn	07 40 31.0	-1.0
HAMF				Sn	Sn	07 41 35.3	-4.8
HAMF	Hammerfest	5.96	105	eP	Pn	07 40 31.1	-0.9
HAMF				eS	Sn	07 41 35.6	-4.5
HAMF				IAML		07 41 37.9	
	comp=Z,15nm,0.4s						
HOPEN	Hopen	6.04	46	Pn	Pn	07 40 31.8	-1.3
HOPEN	Hopen	6.04	46	eP	Pn	07 40 31.9	-1.2
KBS	Kingsbay	6.09	11	Pn	Pn	07 40 32.0	-1.8
KBS	Kingsbay	6.09	11	Pn	Pn	07 40 32.0	-1.8
KBS	Kingsbay	6.09	11	eP	Pn	07 40 32.1	-1.7
KBS				i S	Sb	07 42 00.4	-2.3
KBS	Kingsbay	6.09	11	eP	Pn	07 40 33.2	-0.5
KIF	Kilpisjarvi	6.23	123	Pn	Pn	07 40 35.9	+0.2
KIF	Kilpisjarvi	6.23	123	eP	Pn	07 40 35.6	-0.2
KIF				eS	Sn	07 41 41.9	-4.9
FAUS	Fauske	6.45	147	eP	Pn	07 40 39.0	+0.3
FAUS				eS	Sn	07 41 45.8	-6.3
FAUS				IAML		07 41 50.7	
	comp=Z,13nm,0.6s						
KTK1	Kautokeino	6.84	118	eP	Pn	07 40 44.5	+0.3
ARA0	ARCESS Array S	7.11	110	Pn	Pn	07 40 47.6	-0.2
	baz=309,slow=12						
ARA0				Sn	Sn	07 42 01.2	-7.2
	baz=307,slow=18						
ARCES	ARCESS Array B	7.11	110	Pn	Pn	07 40 47.9	+0.1
	comp=Z,0.8nm,0.3s,baz=325,slow=10,SNR=40						
ARCES				Sn	Sn	07 42 01.4	-7.0
	comp=Z,0.5nm,0.3s,baz=313,slow=22,SNR=2.2						
	comp=Z,6.1nm,0.6s						
ARCES	ARCESS Array B	7.11	110	Pn	Pn	07 40 48.8	+1.0
KEV	Kevo	7.40	106	Pn	Pn	07 40 51.2	-0.5
DBG	Daneborg	7.52	292	Pn	Pn	07 40 47.5	-5.8
DBG				Sn	Sn	07 42 04.8	-14
DBG	Daneborg	7.52	292	i P	Pn	07 40 47.5	-5.8
SCO	Scoresbysund	9.13	268	Pn	Pn	07 41 13.3	-2.1
SCO	Scoresbysund	9.13	268	eP	Pn	07 41 12.0	-3.4
NOR	Nord	9.84	340	Pn	Pn	07 41 21.6	-3.5
NOR	Nord	9.84	340	eP	Pn	07 41 22.0	-3.1
NOR				i S	Sn	07 42 44.2	-31
NOR				IAML		07 43 13.5	
	comp=Z,1.1nm,0.5s						
APA0	Apatity Array	10.46	108	Pn	Pn	07 41 31.6	-2.0
	baz=329,slow=14						
LVZ	Lovozero	10.73	104		Pn	07 41 35.8	-1.6
NC204	NORSAR Array S	11.93	169	Pn	Pn	07 41 54.1	+0.3
NC303	NORSAR Array S	12.02	168	Pn	Pn	07 41 55.3	+0.4
NC405	NORSAR Array S	12.15	167	Pn	Pn	07 41 57.2	+0.5
NB201	NORSAR Array S	12.19	168	Pn	Pn	07 41 57.0	-0.2
NB2	NORSAR Subarra	12.19	168	Pn	Pn	07 41 57.5	+0.1
	baz=346,slow=12						
NOA	NORSAR Array B	12.19	168	Pn	Pn	07 41 56.8	-0.5
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=4.0						
NOA				LR	LR	07 46 24.0	
	comp=Z,120nm,19.9s,baz=345,slow=36						
NRA0	NORESS Array S	12.51	168	Pn	Pn	07 42 01.1	-0.6
	baz=6.3,slow=18						
HFS	Hagfors	13.27	163	Pn	Pn	07 42 11.1	-0.8
	baz=347,slow=16						
HFS	Hagfors	13.27	163	Pn	Pn	07 42 11.7	-0.2
	comp=Z,0.7nm,0.3s,baz=347,slow=12,SNR=15						
HFS				Sn	Sn	07 44 30.4	-8.9
	comp=Z,0.3nm,0.3s,baz=11,slow=24,SNR=2.4						
HFS				LR	LR	07 46 57.2	
	comp=Z,233nm,19.4s,baz=304,slow=36						
	comp=Z,2.4nm,0.4s						
FIA0	FINESS Array S	13.82	137	Pn	Pn	07 42 18.4	-1.1
	baz=337,slow=11						
FINES	FINESS Array B	13.82	137	Pn	Pn	07 42 19.0	-0.6
	comp=Z,0.3nm,0.3s,baz=352,slow=12,SNR=8.9						
FINES				LR	LR	07 47 08.8	
	comp=Z,278nm,20.6s,baz=10.0,slow=35						
	comp=Z,2.5nm,0.7s						
FINES	FINESS Array B	13.82	137	Pn	Pn	07 42 19.2	-0.3
KLMR	Klimovskoe	17.51	117	ePn	P	07 43 08.6	-0.2
KLMR				AMP		07 43 11.4	
	comp=Z,45nm,1.7s						
EKA	Eskdalemuir Ar	18.18	197	P	Pn	07 43 15.0	-1.0
	baz=12,slow=14						
	comp=Z,1.5nm,0.7s						
SFJD	Kangerlussuaq	19.58	281	LR	LR	07 49 12.7	
	comp=Z,102nm,20.5s,baz=37,slow=31						
NACGM	Naroch	20.09	144	eP	Pn	07 43 43.1	+4.2
	comp=Z,24nm,0.9s						
EUNU	Eureka	20.12	330	P	P	07 43 38.0	+0.7
MNK	Minsk	20.67	142	i P	P	07 43 43.5	+0.1
	comp=E,2.0nm,0.7s						
MNK				i P	P	07 43 43.5	+0.1
	comp=N,27nm,0.8s						
MNK				i P	P	07 43 43.5	+0.1
	comp=Z,10.0nm,0.6s,baz=342						
MNK				i PP	PnPn	07 44 01.7	+0.8
MNK				i PPP	PPP	07 44 09.6	
MNK				i S	Sn	07 47 36.8	-1.7
MNK				i SS	SnSn	07 47 58.2	+5.5
MNK				i SSS	SSS	07 48 11.4	
MNK				i LR	LR	07 50 38.4	
MNK				i LRM	MLR	07 53 04.7	
	comp=Z,58nm,17.4s						
MNK				i LRM	MLR	07 53 25.4	
	comp=N,279nm,16.8s						
MNK				i LRM	MLR	07 53 26.0	
	comp=E,45nm,19.3s						
OBN	Obninsk	21.88	129	LR	LR	07 52 12.9	
	comp=E,45nm,21.3s,baz=352,slow=36						
CLL	Collm	22.00	169	eP	P	07 44 00.0	+2.3
	comp=Z,18nm,1.6s						
CLL				i (sP)	pwP	07 44 04.2	+1.0
CLL				ePPP	PPP	07 44 29.0	
KIRV	Kirov	22.12	108	P	P	07 43 60.0	+1.0
	comp=Z,7.9nm,0.4s,baz=342,slow=7.0,SNR=1.7						
KIRV				LR	LR	07 52 27.9	
	comp=Z,142nm,20.6s,baz=326,slow=36						
	comp=Z,7.9nm,0.4s						
BRG	Berggiesshubel	22.49	167	eP	P	07 44 05.1	+2.1
BRG				Amp		07 44 06.8	
	comp=Z,14nm,1.2s						
BRG				ex	x	07 45 03.9	
BRG				Amp		07 45 05.2	
	comp=Z,15nm,1.5s						
CHVC	Chvalec	22.93	164	eP	P	07 44 09.9	+2.2
NKC	Novy Kostel	23.04	170	eP	P	07 44 11.0	+2.2
DPC	Dobruska-Polom	23.19	163	eP	P	07 44 11.9	+1.5
DPC				AMS	AMS	07 53 20.0	
	comp=Z,200nm,17.4s						
MORC	Moravsky Berou	23.86	162	P	P	07 44 17.7	+0.6
MORC				IAmb	IAmb	07 44 31.1	
	comp=Z,18nm,1.4s						
MORC	Moravsky Berou	23.86	162	eP	P	07 44 18.2	+1.2
KHC	Kasperske Hory	24.20	168	eP	P	07 44 21.2	+1.0
VRAC	Vranov	24.24	163	P	P	07 44 21.3	+0.7
	comp=Z,5.0nm,0.8s,baz=339,slow=8.2,SNR=5.2						
VRAC				LR	LR	07 53 37.3	
	comp=Z,124nm,18.9s,baz=348,slow=36						
	comp=Z,5.0nm,0.8s						
VRAC	Vranov	24.24	163	eP	P	07 44 21.9	+1.4
KRUC	Moravsky	24.47	164	eP	P	07 44 26.2	+3.6
GEC2	GERESS Array S	24.49	168	P	P	07 44 22.9	-0.1
GEC2				IAmb	IAmb	07 44 37.2	

comp=Z,16nm,1.4s
GERES GERESS Array B 24.49 168 P **P 07 44 24.6 +1.6**
comp=Z,1.7nm,0.7s,baz=1.4,slow=11,SNR=7.4
GERES LR LR 07 54 20.1
comp=Z,80nm,18.7s,baz=338,slow=37
comp=Z,1.7nm,0.7s
GERES GERESS Array B 24.49 168 P **P 07 44 23.7 +0.8**
AKASG Malin Array Be 24.55 143 P **P 07 44 23.4 +0.2**
comp=Z,4.0nm,0.7s,baz=344,slow=9.7,SNR=18
AKASG LR LR 07 53 54.4
comp=Z,274nm,18.4s,baz=14,slow=36
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 24.55 143 P **P 07 44 21.6 -1.6**
AKBB IAmb IAmb 07 44 37.9
comp=Z,19nm,1.2s
NRIK Noril'sk 24.59 57 P **P 07 44 24.3 +0.7**
comp=Z,2.8nm,0.6s,baz=354,slow=9.5,SNR=5.0
comp=Z,2.8nm,0.6s
NRIK Noril'sk 24.59 57 P **P 07 44 23.8 +0.3**
STHS Stebnicka Huta 24.61 156 *e*P **P 07 44 25.5 +1.6**
JAVC Velka Javorina 24.78 162 *e*P **P 07 44 26.9 +1.4**
BFO Black Forest 24.80 177 P **P 07 44 26.4 +0.8**
ECH Echery 24.90 178 P **P 07 44 27.7 +1.3**
ECH IAmb IAmb 07 44 34.0
comp=Z,8.9nm,0.9s
RES Resolute Bay 24.98 322 LR LR 07 54 28.3
comp=Z,162nm,18.9s,baz=7.0,slow=37
CRVS Cervenica-Dubn 25.14 156 *e*P **P 07 44 33.8 +5.1**
KOLS Kolonicke sedl 25.21 155 *e*P **P 07 44 31.7 +2.4**
MODS Modra-Piesok 25.23 162 *e*P **P 07 44 31.8 +2.3**
VYHS Vyhne 25.26 160 *e*P **P 07 44 32.5 +2.8**
DAVOX Davos/Dischmat 26.38 174 LR LR 07 54 18.5
comp=Z,55nm,19.4s,baz=56,slow=35
ARU Arti 26.56 100 P **P 07 44 42.7 +1.2**
comp=Z,2.2nm,0.4s,baz=336,slow=5.4,SNR=5.5
ARU LR LR 07 55 28.9
comp=Z,38nm,20.0s,baz=314,slow=37
comp=Z,2.2nm,0.4s
ARU Arti 26.56 100 P **P 07 44 42.4 +1.0**
ARU IAmb IAmb 07 45 14.4
comp=Z,8.8nm,0.9s
BUR08 Bucovina Ar. S 26.87 151 P **P 07 44 45.5 +1.1**
BUR08 IAmb IAmb 07 44 53.9
comp=Z,17nm,1.4s
BURAR Bucovina Array 26.90 151 P **P 07 44 45.8 +1.1**
FRB Frobisher Bay 27.06 289 LR LR 07 54 24.3
comp=Z,63nm,20.6s,baz=354,slow=34
BELG Belogornoye 27.09 117 P **P 07 44 46.3 +0.1**
comp=Z,10nm,0.7s,baz=250,slow=9.8,SNR=4.4
BELG LR LR 07 55 10.3
comp=Z,84nm,20.8s,baz=268,slow=36
comp=Z,10nm,0.7s
MLR Muntele Rosu 29.09 151 P **P 07 45 06.6 +2.4**
comp=Z,1.8nm,0.5s,baz=254,slow=6.5,SNR=5.0
comp=Z,1.8nm,0.5s
TIXI Tiksi 31.08 31 P **P 07 45 22.0 +0.5**
comp=Z,1.3nm,0.2s,baz=270,slow=20,SNR=7.3
comp=Z,1.3nm,0.2s
TIXI Tiksi 31.08 31 P **P 07 45 22.2 +0.7**
TIXI IAmb IAmb 07 45 30.0
comp=Z,9.0nm,0.9s
BVAR Borovoye Array 32.96 92 P **P 07 45 39.8 +1.6**
comp=Z,4.8nm,0.6s,baz=319,slow=8.2,SNR=4.9
comp=Z,4.8nm,0.6s
ABKAR Akbulak array 33.29 106 P **P 07 45 42.0 +0.9**
ABKAR Akbulak array 33.29 106 P **P 07 45 42.2 +1.2**
ABKAR IAmb IAmb 07 45 48.6
comp=Z,8.1nm,1.0s
ESDC Sonseca Array 33.80 194 P **P 07 45 45.7 0.0**
comp=Z,0.6nm,0.6s,baz=359,slow=8.5,SNR=4.9
comp=Z,0.6nm,0.6s
SCHQ Schefferville 33.98 278 LR LR 07 57 20.4
comp=Z,85nm,19.8s,baz=58,slow=32
KBZ Khabaz 33.99 129 P **P 07 45 49.0 +1.9**
comp=Z,1.8nm,0.8s,baz=260,slow=11,SNR=2.4
KBZ LR LR 08 00 03.9
comp=Z,128nm,18.7s,baz=359,slow=37
comp=Z,1.8nm,0.8s
BRTR Keskin Array B 35.95 143 P **P 07 46 06.4 +2.1**
comp=Z,1.9nm,0.6s,baz=343,slow=6.0,SNR=7.7
BRTR LR LR 08 02 04.1
comp=Z,78nm,18.7s,baz=10,slow=38
comp=Z,1.9nm,0.6s
ZALV Zalesovo Beam 36.37 78 P **P 07 46 08.4 +0.8**
comp=Z,0.8nm,0.5s,baz=330,slow=8.3,SNR=2.5
ZALV LR LR 08 03 42.7
comp=Z,45nm,20.7s,baz=339,slow=41
comp=Z,0.8nm,0.5s
KURK Kurchatov 37.42 86 P **P 07 46 17.7 +1.2**
GNI Garni 37.81 129 LR LR 08 02 04.4
comp=Z,101nm,20.3s,baz=306,slow=36
YKA Yellowknife Ar 39.03 321 LR LR 08 02 39.8
comp=Z,132nm,18.1s,baz=292,slow=36
YAK Yakutsk 39.95 38 LR LR 08 04 28.9
comp=Z,39nm,18.7s,baz=253,slow=38
J26L Joseph Creek 41.25 341 P **P 07 46 49.4 +1.0**
IL31 41.29 343 P **P 07 46 49.4 +0.7**
ILAR Eielson Array 41.29 343 P **P 07 46 49.5 +0.9**
comp=Z,1.2nm,0.8s,baz=3.6,slow=7.9,SNR=13
comp=Z,1.2nm,0.8s
K27K Chicken 41.56 340 P **P 07 46 51.9 +1.0**
SCRK Sand Creek 41.80 341 P **P 07 46 55.1 +2.0**
KK31 Karatay Array 41.92 99 P **P 07 46 56.2 +2.1**
KKAR Karatay Array 41.92 99 P **P 07 46 55.2 +1.1**
KKAR Karatay Array 41.92 99 IAmb IAmb 07 47 02.0
comp=Z,3.2nm,0.8s
MKAR Makanchi Array 42.01 85 P **P 07 46 55.9 +1.1**
comp=Z,1.2nm,0.8s,baz=336,slow=8.0,SNR=4.1
MKAR LR LR 08 08 24.1
comp=Z,38nm,19.3s,baz=330,slow=42
comp=Z,1.2nm,0.8s
SEY Seymchan 42.41 22 P **P 07 46 58.9 +1.1**
comp=Z,2.7nm,0.7s,baz=30,slow=13,SNR=6.2
comp=Z,2.7nm,0.7s
GEYT Alibeck 43.25 115 P **P 07 47 07.0 +2.1**
comp=Z,5.4nm,0.6s,baz=316,slow=8.3,SNR=8.3
GEYT LR LR 08 06 58.5
comp=Z,108nm,19.8s,baz=330,slow=39
comp=Z,5.4nm,0.6s
GEYT Alibeck 43.25 115 P **P 07 47 05.5 +0.5**
GEYT IAmb IAmb 07 47 12.9
comp=Z,12nm,1.1s
AAK Ala-Archa 43.51 95 LR LR 08 05 58.9
comp=Z,37nm,20.4s,baz=148,slow=37
BOOM Boomskoye usch 44.07 94 P **P 07 47 11.2 -0.5**
DLBC Dease Lake 45.46 329 LR LR 08 06 40.8
comp=Z,152nm,18.5s,baz=8.5,slow=36
SONM Songino Array 47.83 63 P **P 07 47 41.6 +0.3**
comp=Z,0.7nm,0.9s,baz=340,slow=13,SNR=3.9
comp=Z,0.7nm,0.9s
EGMT Eagleton 51.52 310 IAmb IAmb 07 48 11.0
comp=Z,8.8nm,0.9s
KLR Kul'dur 52.42 42 LR LR 08 12 05.6
comp=Z,50nm,19.1s,baz=210,slow=38
PETK Petropavlovsk- 52.63 21 P **P 07 48 17.3 0.0**
comp=Z,6.3nm,0.9s,baz=324,slow=7.1,SNR=3.0
comp=Z,6.3nm,0.9s
NEW Newport 52.89 316 LR LR 08 09 27.4
comp=Z,101nm,19.6s,baz=58,slow=34
RLMT Red Lodge 54.15 308 IAmb IAmb 07 48 31.1
comp=Z,5.3nm,0.9s
LRM Limekiln Ridge 54.21 311 P **P 07 48 28.4 -0.9**
V58A Windy Hill, Pi 54.82 278 P **P 07 48 33.9 +0.4**
YHL Hebgen Lake 54.84 309 IAmb IAmb 07 48 36.4
comp=Z,7.3nm,1.0s
H17A Grant Village 55.14 309 IAmb IAmb 07 48 44.1
comp=Z,8.3nm,0.9s
MOOW Moose Ponds 55.79 309 P **P 07 48 40.7 -0.1**
LOHW Long Hollow 55.89 308 IAmb IAmb 07 48 43.9
comp=Z,4.7nm,1.1s
FXWY Fox Creek 55.96 309 IAmb IAmb 07 48 49.3
comp=Z,4.1nm,0.9s
SNOW Snow King Moun 56.06 309 IAmb IAmb 07 48 49.6
comp=Z,4.2nm,0.9s
BW06 Boulder Array 56.45 307 IAmb IAmb 07 48 51.6
comp=Z,6.9nm,1.0s
PD31 Pinedale Array 56.45 307 IAmb IAmb 07 48 51.6
comp=Z,6.2nm,1.0s
PDAR Pinedale Array 56.45 307 P **P 07 48 45.4 -0.1**
comp=Z,3.4nm,0.9s,baz=38,slow=4.5,SNR=23
PDAR LR LR 08 11 11.8
comp=Z,35nm,20.2s,baz=321,slow=34
comp=Z,3.4nm,0.9s
PDAR Pinedale Array 56.45 307 P **P 07 48 44.5 -1.0**
USRK Ussuriysk Ar. 57.28 44 LR LR 08 15 56.4
comp=Z,27nm,19.8s,baz=121,slow=39
MGMO Mountain Grove 57.29 290 IAmb IAmb 07 48 56.3
comp=Z,6.2nm,0.9s
HWUT Hardware Ranch 58.01 309 IAmb IAmb 07 49 08.1
comp=Z,4.9nm,1.1s
RDMU Red Mountain 58.53 306 IAmb IAmb 07 49 06.7
comp=Z,6.7nm,1.0s
SMCO Snowmass 59.23 304 P **P 07 49 05.2 -0.1**
SMCO IAmb IAmb 07 49 17.8
comp=Z,5.1nm,1.1s
DUG Dugway, Tooele 59.64 309 IAmb IAmb 07 49 19.9
comp=Z,9.0nm,1.4s
ELK Elko 59.66 311 LR LR 08 15 46.7
comp=Z,91nm,18.1s,baz=316,slow=37
P17A Butcher Ranch, 59.85 307 IAmb IAmb 07 49 12.6
comp=Z,4.6nm,1.1s
TORD Torodi Ar. Bea 59.91 185 P **P 07 49 09.6 -0.1**
comp=Z,1.1nm,0.8s,baz=6.6,slow=7.3,SNR=6.6
comp=Z,1.1nm,0.8s
MIAR Mount Ida 60.10 290 P **P 07 49 10.7 -0.2**
SRU San Rafael Swe 60.14 307 IAmb IAmb 07 49 18.0
comp=Z,6.2nm,1.1s
YBH Yreka Blue Hor 60.28 318 LR LR 08 13 32.9
comp=Z,84nm,19.4s,baz=18,slow=34
S22A 4UR Ranch, Cre 60.55 303 IAmb IAmb 07 49 20.8
comp=Z,5.4nm,1.1s
PSUT Pine Spring 61.47 309 IAmb IAmb 07 49 28.1
comp=Z,4.8nm,1.0s
MVCO Mesa Verde 61.47 304 P **P 07 49 21.3 +0.9**
NVAR Mina Array Bea 62.55 313 P **P 07 49 28.0 +0.4**
comp=Z,0.4nm,0.6s,baz=46,slow=3.9,SNR=2.7
NVAR LR LR 08 18 18.6
comp=Z,83nm,18.7s,baz=314,slow=38
comp=Z,0.4nm,0.6s
LCMT Little Creek M 62.78 308 IAmb IAmb 07 49 36.8
comp=Z,4.4nm,1.0s
KSRS Korea Array 62.88 50 LR LR 08 20 32.2
comp=Z,14nm,18.1s,baz=195,slow=40
U15A North Rim 63.12 307 IAmb IAmb 07 49 38.1
comp=Z,4.1nm,1.1s
ANMO Albuquerque 63.12 302 LR LR 08 18 37.8
comp=Z,59nm,18.7s,baz=356,slow=38
PFO Pinyon Flats O 66.77 310 LR LR 08 22 01.0
comp=Z,50nm,18.8s,baz=315,slow=39
BRDH Bariadhala 67.17 87 LR LR 08 24 19.5
comp=Z,45nm,19.2s,baz=77,slow=40
SJG San Juan 67.66 258 LR LR 08 14 16.9
comp=Z,17nm,21.1s,baz=72,slow=31
TX32 Lajitas Array 67.74 297 P **P 07 50 00.9 -0.4**
TX32 IAmb IAmb 07 50 35.4
comp=Z,4.1nm,1.2s
TXAR Lajitas Array 67.74 297 P **P 07 50 01.4 +0.2**
comp=Z,0.9nm,0.8s,baz=55,slow=5.2,SNR=11
TXAR LR LR 08 18 28.6
comp=Z,53nm,18.4s,baz=339,slow=35
comp=Z,0.9nm,0.8s
CMIG Matias Romero 76.98 286 LR LR 08 24 46.7
comp=Z,27nm,21.6s,baz=294,slow=36
WRA Warramunga Arr 119.66 58 PKP **PKPdf 07 57 51.5 -1.8**
comp=Z,0.3nm,0.7s,baz=329,slow=2.2,SNR=1.2
ASAR Alice Springs 123.11 60 PKP **PKPdf 07 57 59.0 -0.9**
comp=Z,0.5nm,0.6s,baz=356,slow=1.8,SNR=7.9
VNA1 Neumayer--Stat 143.75 188 PKPdf PKPbc 07 58 34.9 +0.4
baz=73,slow=6.0
VNA2 Neumayer--Watz 143.99 188 PKPdf PKPab 07 58 34.9 +0.2
baz=357,slow=4.0
VNA3 Neumayer Olymp 144.40 189 PKPbc **PKPab 07 58 36.5 +0.2**
baz=73,slow=6.0
SNAA Sanae 144.59 185 PKPbc PKPbc 07 58 37.4 +0.2
baz=73,slow=6.0
TROLL Troll, Antarti 144.83 182 PKPbc PKPbc 07 58 38.5 +0.4
baz=73,slow=6.0

*MAN **02** 07:52:11.6, 9°.58N×126°.05E, h32km, mb4.8, ML3.7, MS3.6*
*NEIC **02** 07:52:11.6±1.2, 9°.62N±0°.10×126°.28E±0°.04, h62km±13km, mb4.4/12, Error ellipse: s-maj=13.9km s-min=6.0km az=185.0*
*IDC **02** 07:52:13.7±2.3, 9°.63N×126°.07E, h88km±23km, mb3.8/12, mbtmp4.2/14, MS2.9/3, Error ellipse: s-maj=37.9km s-min=12.9km az=80.0*
ISC 02 07:52:10.5±1.2, **9°.70N**±0°.05×**126°.15E**±0°.07, **h57**km±11km, **n52**, σ**1s.29**/54, **mb4.2**/18, **7C-7D, Mindanao**

Code Station Name Δ° AZ° Phase ID (Op / ISC) Time (h m s) Res (ISC)
SCPH Surigao 0.66 278⇑*i*P **Pn 07 52 23.9 -0.1**
SCPH *i* S **Sn 07 52 32.9 -1.0**
MSLP Maasin 1.34 289⇑*i*P **Pn 07 52 34.3 +1.3**
BIPH Bislig 1.52 172⇓*e*P **Pn 07 52 35.2 -0.2**
BIPH *i* S **Sn 07 52 54.3 +0.2**
CGP Cagayan de Oro 1.89 229⇑*e*P **Pn 07 52 40.4 -0.1**
CGP *e*S **Sn 07 53 01.5 -1.7**
BUKP Musuan 2.10 211⇑*i*P **Pn 07 52 44.4 +1.0**
BUKP *i* S **Sn 07 53 10.1 +1.7**
LLP Lapu-Lapu 2.24 286⇓*e*P **Pn 07 52 46.3 +1.1**
LLP *i* S **Sn 07 53 13.2 +1.5**
TBP Tagbilaran 2.25 270⇓*e*P **Pn 07 52 45.8 +0.4**
TBP *i* S **Sn 07 53 11.8 -0.3**
DAV Davao City (W) 2.67 192 P **Pn 07 52 53.2 +2.1**
453nm,0.3s,baz=345,slow=2.9,SNR=7.4
DAV S **Sn 07 53 25.3 +3.0**
213nm,0.3s,baz=290,slow=23,SNR=9.6
DAV LR LR 07 54 01.2
comp=Z,320nm,20.8s,baz=342,slow=42
DAV Davao City (W) 2.67 192 Pn 07 52 52.9 +1.8
KCP Kidapawan 2.87 201⇑*i*P **Pn 07 52 55.2 +1.3**
KCP *i* S **Sn 07 53 28.7 +1.5**
SNPH Sibulan 2.89 263⇑*e*P **Pn 07 52 54.8 +0.6**
SNPH *e*S **Sn 07 53 29.3 +1.4**
CTBH Cotabato--PC H 3.10 218⇓*i*P **Pn 07 52 57.2 +0.2**
PAGZ Pagadian 3.29 236⇓*i*P **Pn 07 53 00.3 +0.7**
CNOP Candoni, Negro 3.46 272⇑*i*P **Pn 07 53 02.9 +1.0**
GSPH General Santos 3.78 198⇓*e*P **Pn 07 53 08.2 +1.8**
RCP Roxas 3.82 299⇓*e*P **Pn 07 53 09.2 +2.3**
MYLDM Lahad Datu 8.81 240 Pn **Pn 07 54 17.5 +2.2**
TPUB Ta-pu 14.52 339 Pn **P 07 55 37.2 -1.0**
SBUM Sibu 15.60 243 P 07 55 51.2 +1.0
KAPI Kappang 15.94 204 P **P 07 55 52.9 -1.1**
7.2nm,0.9s,baz=51,slow=13,SNR=4.9
KAPI LR LR 08 02 12.3
comp=Z,52nm,19.3s,baz=17,slow=38
KNRA Kununurra 25.34 174 P **P 07 57 31.4 -0.9**
KSRS Korea Array 27.68 3 LR LR 08 08 05.3
comp=Z,16nm,21.3s,baz=250,slow=34
WB0 Warramunga Arr 30.38 165 P **P 07 58 15.8 -1.6**
WB0 IAmb IAmb 07 58 16.5
comp=Z,4.5nm,0.7s
WRA Warramunga Arr 30.54 165 P **P 07 58 17.3 -1.5**
comp=Z,2.7nm,0.6s,baz=341,slow=9.1,SNR=41
comp=Z,2.7nm,0.6s
WRA Warramunga Arr 30.54 165 P **P 07 58 17.2 -1.6**
WB2 Warramunga Arr 30.54 165 P **P 07 58 16.7 -2.1**
WB2 IAmb IAmb 07 58 18.0
comp=Z,4.2nm,0.7s
WR0 Warramunga Arr 30.61 164 P 07 58 17.9 -1.4
WR0 IAmb IAmb 07 58 25.2
comp=Z,3.8nm,0.9s
MBWA Marble Bar 31.30 192 P 07 58 23.9 -1.6
MBWA IAmb IAmb 07 58 56.0
comp=Z,20nm,1.4s
PSA00 Pilbara Seismi 31.68 191 P 07 58 28.1 -0.7
PSA00 IAmb IAmb 07 59 09.9
comp=Z,14nm,1.2s
AS31 Alice Springs 34.01 167 P **P 07 58 48.4 -0.8**
AS31 IAmb IAmb 07 58 52.8
comp=Z,2.0nm,0.6s
ASAR Alice Springs 34.01 167 P **P 07 58 47.9 -1.3**
comp=Z,2.7nm,0.4s,baz=352,slow=6.8,SNR=69
comp=Z,2.7nm,0.4s
ASAR Alice Springs 34.01 167 P **P 07 58 47.7 -1.6**
USRK Ussuriysk Ar. 34.75 7 P **P 07 58 55.7 +0.4**
comp=Z,2.5nm,0.7s,baz=188,slow=8.0,SNR=5.4
comp=Z,2.5nm,0.7s
KLR Kul'dur 39.69 6 P **P 07 59 37.7 +0.6**
comp=Z,1.2nm,0.6s,baz=199,slow=4.3,SNR=4.4
comp=Z,1.2nm,0.6s
H11S3 WAKE ISLAND Hy 40.20 73 T T 08 42 49.0
baz=262,slow=75,SNR=88
H11S1 WAKE ISLAND Hy 40.22 73 T T 08 42 41.7
baz=262,slow=75,SNR=45
H11S2 WAKE ISLAND Hy 40.22 73 T T 08 42 41.8
baz=262,slow=75,SNR=66
FORT Forrest 40.28 177 P **P 07 59 42.0 -0.3**
H11N1 WAKE ISLAND Hy 40.55 71 T T 08 43 05.7
baz=262,slow=75,SNR=33
H11N2 WAKE ISLAND Hy 40.56 71 T T 08 43 09.2
baz=262,slow=75,SNR=39
H11N3 WAKE ISLAND Hy 40.57 71 T T 08 43 07.0
baz=262,slow=75,SNR=33
SONM Songino Array 41.51 340 P **P 07 59 51.9 -0.5**
comp=Z,0.2nm,0.4s,baz=156,slow=9.6,SNR=1.7
comp=Z,0.2nm,0.4s
BBOO Buckleboo 43.31 168 P **P 08 00 06.7 -0.3**
STKA Stephens Creek 43.90 161 P **P 08 00 11.4 -0.3**
comp=Z,3.8nm,0.6s,baz=345,slow=8.1,SNR=16
comp=Z,3.8nm,0.6s
STKA Stephens Creek 43.90 161 P **P 08 00 11.2 -0.5**
PETK Petropavlovsk- 50.21 24 P **P 08 01 02.7 +2.1**
comp=Z,1.3nm,0.5s,baz=212,slow=10,SNR=1.3
comp=Z,1.3nm,0.5s
DZM Mont Dzumac 50.58 129 P **P 08 01 04.2 +0.2**
comp=Z,3.8nm,0.9s,baz=356,slow=21,SNR=2.5
comp=Z,3.8nm,0.9s
MKAR Makanchi Array 52.41 323 P **P 08 01 17.0 -0.3**
comp=Z,0.3nm,0.5s,baz=118,slow=7.7,SNR=2.2
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 84.69 340 P **P 08 04 38.3 +0.3**
comp=Z,2.4nm,1.0s,baz=82,slow=7.5,SNR=1.4
comp=Z,2.4nm,1.0s
FINES FINESS Array B 86.34 332 P **P 08 04 45.5 -0.8**
comp=Z,3.5nm,0.9s,baz=168,slow=1.3,SNR=3.4
comp=Z,3.5nm,0.9s
VNDA Vanda 89.38 173 P **P 08 05 00.7 +0.3**
comp=Z,1.1nm,0.9s,baz=292,slow=6.1,SNR=6.8
comp=Z,1.1nm,0.9s
PLCA Paso Flores 145.73 157 PKPbc **PKPdf 08 11 43.2 0.0**
comp=Z,1.1nm,0.8s,baz=269,slow=3.5,SNR=5.0

*IDC **02** 08:08:10.1±0.6, 5°.67S×151°.21E, h0km, mb4.1/13, mbtmp4.1/15, ML2.8/2, MS3.5/17, Error ellipse: s-maj=21.2km s-min=13.3km az=114.0*
*NEIC **02** 08:08:17.1±2.1, 5°.96S±0°.08×151°.50E±0°.10, h53km±5km, mb4.5/22, Error ellipse: s-maj=16.2km s-min=8.4km az=124.0*
*DJA **02** 08:08:19.5±0.4, 6°S±3°×15°1E±°, h84km±5km, M5.0/12, mB5.0/4, mb4.7/12, MLv5.3/2, Mw(mB)4.4/4*
ISC 02 08:08:16.0±0.4, **5°.86S**±0°.06×**151°.37E**±0°.07, **h41**km, **n79**, σ**1s.70**/76, **mb4.4**/29, **MS3.4**/14, **New Britain region**

Code Station Name Δ° AZ° Phase ID (Op / ISC) Time (h m s) Res (ISC)
RABL Rabaul 1.84 26 Pn 08 08 46.7 +1.5
RABL Rabaul 1.84 26 P **Pn 08 08 47.2 +2.1**
PMG Port Moresby 5.46 230 Pn **Pn 08 09 35.1 +0.3**
9.1nm,0.3s,baz=44,slow=13,SNR=14
PMG Sn **Sn 08 10 36.5 +0.1**
19nm,0.3s,baz=128,slow=20,SNR=10
PMG LR LR 08 11 27.4
comp=Z,168nm,19.7s,baz=39,slow=36
32nm,0.5s
PMG Port Moresby 5.46 230 Pn 08 09 36.5 +1.7
PMG Port Moresby 5.46 230 P **Pn 08 09 35.5 +0.6**
1.0nm1μm85nm,0.9s
PMG S **Sn 08 10 35.1 -1.3**
1.0nm1μm85nm,0.9s
PMG Port Moresby 5.46 230 P **Pn 08 09 37.0 +2.1**
PMG Port Moresby 5.46 230 P **Pn 08 09 36.9 +2.1**
MANU Manus Island 5.51 313 P **Pn 08 09 39.7 +4.2**
HNR Honiara 9.21 113 Pn **Pn 08 10 28.6 +2.2**
269nm,0.3s,baz=267,slow=19,SNR=2.4
HNR LR LR 08 13 34.9
comp=Z,3μm,20.7s,baz=256,slow=34
HNR Honiara 9.21 113 Pn **Pn 08 10 23.3 -3.1**
COEN Coen 11.39 224 Pn **Pn 08 10 55.2 -1.1**
MTSU Mount Surprise 14.01 209 P **Pn 08 11 32.5 +0.5**
PATS Pohnpei 14.39 29 Pn **Pn 08 11 36.9 -0.3**
CTA Charters Tower 14.99 199 Pn **Pn 08 11 44.9 -0.3**
0.1nm,0.3s,baz=16,slow=16,SNR=2.6
CTA LR LR 08 17 46.6
comp=Z,188nm,18.1s,baz=74,slow=38
2.4nm,0.9s
CTAO Charters Tower 14.99 199 P 08 11 49.6 -0.3
QIS Mount Isa 18.54 217 P **Pn 08 12 28.9 -0.9**
EIDS Eidsvold 19.40 181 P 08 12 38.0 -0.7
EIDS Eidsvold 19.40 181 P **Pn 08 12 38.6 -1.5**
KDU Kakadu 19.83 249 P **Pn 08 12 44.9 -0.4**
GUMO Guam 20.37 342 LR LR 08 19 19.4
comp=Z,68nm,20.1s,baz=174,slow=33
RMQ Roma 20.66 187 P **P 08 12 52.5 +0.1**
WB0 Warramunga Arr 21.53 229 P **P 08 13 01.8 0.0**
WB0 IAmb IAmb 08 13 06.2
comp=Z,53nm,1.4s
WR0 Warramunga Arr 21.54 228 P **P 08 13 01.9 0.0**
WR0 IAmb IAmb 08 13 06.8
comp=Z,21nm,1.1s
WRAB Tennant Creek 21.66 228 P **P 08 13 03.0 -0.2**
WRAB IAmb IAmb 08 13 20.3
comp=Z,12nm,0.7s
WRAB Tennant Creek 21.66 228 P **P 08 13 03.7 +0.4**
WB2 Warramunga Arr 21.67 228 P **P 08 13 03.0 -0.3**
WB2 IAmb IAmb 08 13 32.2
comp=Z,14nm,0.9s
WRA Warramunga Arr 21.68 228 P **P 08 13 01.0 -2.4**
comp=Z,3.9nm,0.7s,baz=54,slow=11,SNR=32
WRA PcP **PcP 08 17 04.3 +0.5**
comp=Z,1.4nm,0.9s,baz=29,slow=1.6,SNR=5.1
WRA ScP **ScP 08 20 42.5 +4.7**
comp=Z,0.4nm,0.5s,baz=55,slow=2.8,SNR=6.4
comp=Z,3.9nm,0.7s
WRA Warramunga Arr 21.68 228 P **P 08 13 02.0 -1.4**
QLP Quilpie 21.70 198 P **P 08 13 02.5 -1.0**
DZM Mont Dzumac 21.73 139 P **P 08 13 05.5 +1.5**
comp=Z,4.3nm,0.9s,baz=308,slow=12,SNR=2.4
comp=Z,4.3nm,0.9s
INKA Innaminka 23.99 204 P **P 08 13 26.4 -0.4**
KNRA Kununurra 24.23 244 P **P 08 13 28.9 -0.3**
KNRA IAmb IAmb 08 13 45.8
comp=Z,18nm,0.8s
AS01 Alice Springs 24.38 222 P **P 08 13 30.8 +0.2**
AS31 Alice Springs 24.41 222 P **P 08 13 30.9 0.0**
ASAR Alice Springs 24.41 222 P **P 08 13 30.5 -0.4**
comp=Z,5.8nm,0.7s,baz=55,slow=9.5,SNR=40
ASAR PcP **PcP 08 17 10.7 +1.3**
comp=Z,0.2nm,0.5s,baz=37,slow=5.0,SNR=1.6
ASAR S **S 08 17 55.5 +7.4**
comp=Z,0.8nm,0.9s,baz=38,slow=20,SNR=4.3
ASAR ScP **ScP 08 20 48.4 +3.3**
comp=Z,0.2nm,0.7s,baz=32,slow=3.6,SNR=2.0
ASAR LR LR 08 23 00.8
comp=Z,106nm,18.5s,baz=27,slow=36
comp=Z,5.8nm,0.7s
ASAR Alice Springs 24.41 222 P **P 08 13 31.1 +0.3**
STKA Stephens Creek 27.45 198 P **P 08 13 57.6 -0.5**
comp=Z,2.8nm,0.8s,baz=7.4,slow=8.8,SNR=5.1
STKA LR LR 08 24 47.8
comp=Z,100nm,18.1s,baz=22,slow=36
comp=Z,2.8nm,0.8s
DAV Davao City (W) 28.76 296 LR LR 08 22 37.9
comp=Z,57nm,20.9s,baz=168,slow=30
FORT Forrest 33.07 219 P **P 08 14 46.1 -1.8**
MBWA Marble Bar 34.21 241 P **P 08 14 58.0 +0.1**
KLNI Mataram 35.08 264 P **P 08 15 03.5 -2.1**
comp=Z,22nm,0.8s
IGBI Denpasar 36.03 263 P **P 08 15 11.1 -2.7**
comp=Z,58nm,0.9s
JAGI Jajag, Banyuwa 37.01 264 P **P 08 15 19.8 -2.2**
JAGI Jajag, Banyuwa 37.01 264 P **P 08 15 19.7 -2.4**
comp=Z,26nm,0.9s
PWJI Pagerwojo 39.32 265 P **P 08 15 39.8 -1.8**
comp=Z,20nm,1.0s
URZ Urewera 39.83 148 LR LR 08 31 36.3
comp=Z,114nm,18.1s,baz=315,slow=35
KSRS Korea Array 48.33 335 P **P 08 16 51.9 -1.6**
comp=Z,0.4nm,0.3s,baz=160,slow=11,SNR=1.5
comp=Z,0.4nm,0.3s
USRK Ussuriysk Ar. 52.81 343 LR LR 08 38 31.1
comp=Z,36nm,19.1s,baz=152,slow=35
CMAR Chiang Mai Arr 57.05 296 LR LR 08 43 16.9
comp=Z,12nm,18.1s,baz=165,slow=37
KLR Kul'dur 57.47 345 LR LR 08 43 40.6
comp=Z,20nm,18.2s,baz=152,slow=37
PETK Petropavlovsk- 58.99 4 P **P 08 18 10.8 -0.5**
comp=Z,3.1nm,0.8s,baz=183,slow=5.8,SNR=1.5
comp=Z,3.1nm,0.8s
SHEM Shemya Is, Ala 61.48 16 LR LR 08 41 02.8
comp=Z,60nm,19.9s,baz=308,slow=32
MA2 Magadan 65.23 360 LR LR 08 50 32.8
comp=Z,24nm,18.0s,baz=156,slow=39
SONM Songino Array 66.47 329 P **P 08 19 00.5 -0.9**
comp=Z,0.9nm,0.5s,baz=149,slow=7.1,SNR=4.8
SONM LR LR 08 47 26.4
comp=Z,36nm,20.6s,baz=38,slow=36

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=Z,0.9nm,0.5s						
YAK	Yakutsk	69.74	349	LR	LR	08 49 57.8	
	comp=Z,25nm,19.7s,baz=91,slow=36						
PALK	Pallekele	71.70	280	LR	LR	08 54 10.9	
	comp=Z,24nm,19.2s,baz=245,slow=39						
VNDA	Vanda	71.83	178	P	P	08 19 35.1	+1.1
	comp=Z,0.6nm,1.0s,baz=343,slow=4.1,SNR=2.5						
	comp=Z,0.6nm,1.0s						
MKAR	Makanchi Array	80.19	319	P	P	08 20 21.2	-1.0
	comp=Z,0.7nm,0.8s,baz=116,slow=3.4,SNR=2.6						
	comp=Z,0.7nm,0.8s						
ZALV	Zalesovo Beam	81.25	327	P	P	08 20 25.2	-2.4
	comp=Z,0.5nm,0.5s,baz=127,slow=9.2,SNR=1.3						
	comp=Z,0.5nm,0.5s						
IL31		83.67	22	P	P	08 20 38.9	-1.2
IL31				IAmb	IAmb	08 20 41.2	
	comp=Z,2.8nm,0.8s						
ILAR	Eielson Array	83.67	22	P	P	08 20 39.2	-0.8
	comp=Z,2.3nm,0.6s,baz=249,slow=4.8,SNR=21						
	comp=Z,2.3nm,0.6s						
ILAR	Eielson Array	83.67	22	P	P	08 20 39.7	-0.4
COLD	Coldfoot	83.72	19	P	P	08 20 41.7	+1.4
H24K	Noodor Dome	83.82	21	P	P	08 20 40.5	-0.4
H24K				IAmb	IAmb	08 20 43.5	
	comp=Z,10nm,1.4s						
MAW	Mawson	84.05	203	P	P	08 20 42.4	+0.4
	comp=Z,2.4nm,0.8s,baz=64,slow=4.2,SNR=2.8						
	comp=Z,2.4nm,0.8s						
QSPA	South Pole Qui	84.11	180	P	P	08 20 42.3	-0.2
QSPA				IAmb	IAmb	08 21 13.7	
	comp=Z,4.1nm,1.1s						
J25K	Salcha River,	84.18	23	P	P	08 20 42.5	-0.2
J25K				IAmb	IAmb	08 20 44.4	
	comp=Z,5.0nm,0.7s						
BARN	Barnard Glacie	84.22	27	P	P	08 20 43.7	+0.5
DOT	Dot Lake	84.27	24	P	P	08 20 44.3	+1.1
DOT				IAmb	IAmb	08 20 59.3	
	comp=Z,7.6nm,1.2s						
L26K	Log Cabin Wild	84.30	25	P	P	08 20 43.8	+0.4
L26K				IAmb	IAmb	08 20 48.9	
	comp=Z,5.8nm,1.2s						
SCRK	Sand Creek	84.44	24	P	P	08 20 45.1	+0.9
SCRK				IAmb	IAmb	08 21 08.1	
	comp=Z,8.5nm,1.4s						
M27K	Edge Creek, AK	84.64	25	P	P	08 20 46.2	+1.0
L27K	Beaver Creek,	84.94	25	P	P	08 20 46.4	-0.3
NVAR	Mina Array Bea	93.86	52	P	P	08 21 31.1	+1.4
	comp=Z,1.0nm,0.7s,baz=255,slow=6.0,SNR=8.9						
	comp=Z,1.0nm,0.7s						
ARU	Arti	96.40	326	LR	LR	09 04 23.6	
	comp=Z,33nm,21.3s,baz=77,slow=35						
GERES	GERESS Array B	124.19	327	PKP	PKiKP	08 27 11.0	+0.2
	comp=Z,1.7nm,0.7s,baz=90,slow=1.0,SNR=11						
ESDC	Sonseca Array	139.66	330	PKP	PKiKP	08 27 41.3	-0.9
	comp=Z,0.4nm,0.6s,baz=48,slow=1.9,SNR=1.2						
TORD	Torodi Ar. Bea	149.25	286	PKPbc	PKPbc	08 28 00.9	-0.4
	comp=Z,4.8nm,0.6s,baz=69,slow=3.1,SNR=29						
BDFB	Brasilia	151.28	138	PKPbc	PKPbc	08 28 06.1	-0.2
	comp=Z,3.7nm,0.6s,baz=230,slow=4.3,SNR=5.8						
BDFB				PKPab	sPKPdf	08 28 17.1	-0.2
	comp=Z,3.3nm,0.6s,baz=243,slow=4.5,SNR=4.6						

---

*IDC **02** 08:43:40.7±2.1, 6°.34S×130°.49E, h0km, mb3.8/2, mbtmp3.7/4, ML3.7/2, MS4.4/1, Error ellipse: s-maj=130.4km s-min=28.9km az=68.0*

ISC 02 08:43:58.0±1.4**, 7°.2S**±0°.1×**129°.5E**±0°.2**, h139km, n16, σ1s.82**/16**, mb3.7**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTN	Manton Dam	5.87	164	P	Pn	08 45 24.5	+1.6
	24nm,0.6s						
KDU	Kakadu	6.23	152	P	Pn	08 45 28.6	+0.8
KNRA	Kununurra	8.48	184	P	Pn	08 45 59.0	+1.1
	9.7nm,0.5s						
WRAB	Tennant Creek	13.54	160	P	Pn	08 47 02.6	-2.1
	5.0nm,2.2s						
WRA	Warramunga Arr	13.55	160	Pn	Pn	08 47 02.1	-2.7
	0.3nm,0.3s,baz=347,slow=13,SNR=23						
WRA				Sn	Sn	08 49 26.6	-8.0
	0.6nm,0.3s,baz=336,slow=22,SNR=8.5						
	1.1nm,0.7s						
COEN	Coen	15.08	118	P	Pn	08 47 25.3	+1.3
	8.5nm,0.9s						
QIS	Mount Isa	16.55	145	P	P	08 47 43.7	+1.5
	5.7nm,1.7s						
ASAR	Alice Springs	16.95	166	P	P	08 47 47.9	+1.3
	0.4nm,0.3s,baz=345,slow=10,SNR=33						
ASAR				S	S	08 50 52.6	-3.6
	0.3nm,0.5s,baz=353,slow=30,SNR=4.5						
	1.1nm,0.6s						
AS01	Alice Springs	16.96	166	P	P	08 47 48.3	+1.6
	2.6nm,0.5s						
WRKA	Warakurna	17.80	183	P	P	08 47 56.9	+1.0
	7.8nm,2.1s						
OOD	Oodnadatta	21.34	165	P	P	08 48 35.1	+0.9
	13nm,2.9s						
INKA	Innaminka	23.09	154	P	P	08 48 50.5	-1.1
	10nm,2.3s						
MULG	Mulgathing	23.39	170	P	P	08 48 55.8	+1.4
	7.5nm,2.4s						
STKA	Stephens Creek	27.06	157	P	P	08 49 27.4	-0.1
	1.6nm,0.8s,baz=344,slow=15,SNR=1.8						
	1.6nm,0.8s						
URZ	Urewera	52.94	133	LR	LR	09 16 49.3	
	comp=Z,329nm,18.3s,baz=95,slow=38						
MKAR	Makanchi Array	68.07	327	P	P	08 54 41.7	-1.0
	0.3nm,0.5s,baz=119,slow=7.8,SNR=2.5						
	0.3nm,0.5s						

IDC 02 08:48:52.2±3.4**, 53°.45N×87°.57E, h0km, mbtmp2.5**/2**, ML1.9**/2**, Error ellipse: s-maj=33.7km s-min=18.6km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.71	288	I		09 00 20.0	
	baz=104,slow=334,SNR=0.7						
ZALV	Zalesovo Beam	1.71	288	Pn	Pn	08 49 23.6	+0.3
	0.6nm,0.3s,baz=110,slow=13,SNR=6.4						
ZALV				Lg	Lg	08 49 45.5	
	0.8nm,0.3s,baz=109,slow=26,SNR=4.0						
KURBB	Kurchatov Arra	6.26	247	Pn	Pn	08 50 26.9	+1.3
	baz=62,slow=14,SNR=2.4						
	0.1nm,0.3s						
MKAR	Makanchi Array	7.48	209	Pn	Pn	08 50 43.0	+0.5
	baz=29,slow=13,SNR=1.6						
	0.2nm,0.4s						

---

*TIF **02** 08:52:29.7, 42°.51N×43°.51E, h14km*
*NORS **02** 08:52:29.4±0.0, 42°.47N×43°.39E, h7km, MPVA4.3*
*MOS **02** 08:52:30.4±0.0, 42°.52N×43°.39E, h9km, MPVA4.0*
*ISK **02** 08:52:30.2, 42°.45N×43°.20E, h2km, ML3.3/7*
*DDA **02** 08:52:31.0±0.0, 42°.66N×43°.70E, h39km, ML3.1*

ISC 02 08:52:30.2±0.7**, 42°.51N**±0°.01×**43°.41E**±0°.01**, h10km**±4km**, n120, σ1s.16**/230**, 2C-1D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONI	Oni	0.09	19	P	Pg	08 52 33.1	+0.3
ONI				S	Sg	08 52 35.1	+0.6
ONI	Oni	0.09	19	ePg	Pg	08 52 33.1	+0.3
ONI				eSg	Sg	08 52 35.1	+0.6
ONI	Oni	0.09	19	ePG	Pg	08 52 33.0	+0.3
TKB	Tkibuli	0.35	244	P	Pb	08 52 38.6	+0.1
TKB				S	Sb	08 52 45.2	+1.1
TKB	Tkibuli	0.35	244	ePG	Pb	08 52 38.6	+0.1
TKB				eS	Sb	08 52 45.2	+1.1
DIGR	Digorskoe uzhe	0.41	17	i Pg	Pg	08 52 37.9	-0.6
DIGR				eSg	Sg	08 52 43.7	-0.3
DIGR	Digorskoe uzhe	0.41	17	i PG	Pg	08 52 37.9	-0.6
DIGR				eS	Sg	08 52 43.6	-0.3
ALIG	Mtskhetisjvari	0.44	156	P	Pg	08 52 38.8	0.0
ALIG				S	Sg	08 52 45.2	+0.6
ALIG	Mtskhetisjvari	0.44	156	ePG	Pg	08 52 38.7	0.0
ALIG				eS	Sg	08 52 45.1	+0.6
ZEI	Tsey	0.46	52	i Pg	Pg	08 52 38.4	-0.9
ZEI				eSg	Sg	08 52 44.3	-1.0
ZEI	Tsey	0.46	52	i PG	Pg	08 52 38.4	-0.9
ZEI				eS	Sg	08 52 44.3	-1.0
LACR	Lac	0.73	63	i Pg	Pg	08 52 43.1	-1.2
LACR				eSg	Sg	08 52 52.4	-1.4
LACR	Lac	0.73	63	i PG	Pg	08 52 43.1	-1.2
LACR				eS	Sg	08 52 52.4	-1.4
KORR	Kora	0.76	39	i Pg	Pg	08 52 44.4	-0.5
KORR				eSg	Sb	08 52 55.5	-0.4
KORR	Kora	0.76	39	i PG	Pg	08 52 44.3	-0.5
KORR				pmax	pmax		
	comp=Z,191nm,0.2s						
GUDG	Gudauri	0.79	93	P	Pg	08 52 44.4	-1.1
GUDG				S	Sg	08 52 54.5	-1.4
GUDG	Gudauri	0.79	93	ePG	Pg	08 52 44.3	-1.1
GUDG				eS	Sg	08 52 54.4	-1.4
LSNR	Lesken	0.83	21	ePg	Pg	08 52 46.0	-0.2
LSNR				eSg	Sb	08 52 58.3	+0.1
LSNR	Lesken	0.83	21	i PG	Pg	08 52 45.7	-0.6
LSNR				eS	Sg	08 52 57.0	-0.1
ABS	Abastumani	0.87	211	P	Pb	08 52 47.6	0.0
ABS				S	Sn	08 53 00.8	-0.8
ABS	Abastumani	0.87	211	ePG	Pb	08 52 47.6	0.0
ABS				eS	Sn	08 53 00.8	-0.8
PNSH	Pansheti	0.90	81	P	Pg	08 52 46.1	-1.5
PNSH	Pansheti	0.90	81	ePG	Pg	08 52 46.1	-1.5
NEY	Neytrino	0.90	326	ePg	Pb	08 52 47.6	-0.5
NEY				eSg	Sb	08 52 59.5	-0.8
NEY	Neytrino	0.90	326	ePG	Pb	08 52 47.6	-0.5
NEY				eS	Sb	08 52 59.5	-0.8
ARNR	Ardon	0.93	43	ePg	Pg	08 52 48.1	0.0
ARNR				eSg	Sb	08 53 01.6	+0.6
ARNR	Ardon	0.93	43	ePG	Pg	08 52 48.1	0.0
ARNR				eS	Sb	08 53 01.6	+0.6
BRNG	Burnasheti	0.93	161	P	Pg	08 52 48.7	+0.4
BRNG				S	Sb	08 53 02.2	+1.0
BRNG	Burnasheti	0.93	161	ePG	Pg	08 52 48.6	+0.4
BRNG				eS	Sb	08 53 02.2	+1.0
NCK	Nalchik	1.00	8	ePg	Pg	08 52 48.7	-0.8
NCK				eSg	Sn	08 53 04.0	-0.7
NCK	Nalchik	1.00	8	ePG	Pn	08 52 50.3	-0.1
NCK				eS	Sn	08 53 04.5	-0.1
VLKR	Vladikavkaz	1.08	59	ePg	Pg	08 52 50.8	-0.1
VLKR				eSg	Sn	08 53 06.7	+0.1
VLKR	Vladikavkaz	1.08	59	ePG	Pb	08 52 51.3	+0.3
VLKR				eS	Sn	08 53 06.7	+0.1
AKH	Akhalkalaki	1.09	177	PG	Pg	08 52 51.3	0.0
AKH				SG	Sb	08 53 06.9	+1.0
AKH	Akhalkalaki	1.09	177	P	Pg	08 52 51.3	0.0
AKH				S	Sb	08 53 06.9	+1.0
AKH	Akhalkalaki	1.09	177	ePg	Pg	08 52 51.1	-0.2
AKH				eSg	Sb	08 53 06.5	+0.6
AKH	Akhalkalaki	1.09	177	ePG	Pg	08 52 51.3	0.0
AKH				eS	Sb	08 53 06.8	+1.0
BTKR	Batakoyurt	1.20	43	ePg	Pg	08 52 53.7	+0.4
BTKR				eSg	Sn	08 53 11.9	+2.3
BTKR	Batakoyurt	1.20	43	ePG	Pg	08 52 53.7	+0.4
BTKR				eS	Sn	08 53 11.9	+2.3
KMGR	Komgaron	1.20	62	ePg	Pb	08 52 53.2	0.0
KMGR				eSg	Sb	08 53 09.1	+0.2
KMGR	Komgaron	1.20	62	ePG	Pb	08 52 53.2	0.0
KMGR				eS	Sb	08 53 09.1	+0.2
KBZ	Khabaz	1.28	343	ePg	Pn	08 52 54.0	-0.2
KBZ				eSg	Sg	08 53 11.0	-0.4
KBZ	Khabaz	1.28	343	i PG	Pg	08 52 54.4	-0.4
KBZ				pmax	pmax		
	comp=Z,11nm,0.4s						
SHTL	Shatili	1.29	83	P	Pn	08 52 53.2	-1.4
SHTL	Shatili	1.29	83	ePG	Pn	08 52 53.2	-1.4
DMNI	Dmanisi	1.31	153	P	Pn	08 52 54.1	-0.6
DMNI				S	Sb	08 53 11.5	-0.5
KBTC	Kuba-Taba	1.31	360	ePg	Pg	08 52 55.5	+0.1
KBTC				eSg	Sn	08 53 14.1	+1.7
KBTC	Kuba-Taba	1.31	360	ePG	Pg	08 52 55.5	+0.1
KBTC				eS	Sn	08 53 14.1	+1.7
KZRT	Kazreti	1.34	146	P	Pn	08 52 54.5	-0.6
KZRT				S	Sb	08 53 12.0	-0.7
KZRT	Kazreti	1.34	146	ePG	Pn	08 52 54.4	-0.6
KZRT				eS	Sb	08 53 12.0	-0.7
SHA1	Shidzhatmaz	1.35	336	ePg	Pg	08 52 56.0	-0.1
SHA1				eSg	Sn	08 53 13.9	+0.3
SHA1	Shidzhatmaz	1.35	336	ePG	Pg	08 52 56.1	-0.1
SHA1				eS	Sn	08 53 14.1	+0.5
PRTR	Priterechnaya	1.40	27	ePg	Pg	08 52 57.1	0.0
PRTR				eSg	Sg	08 53 17.0	+1.7
PRTR	Priterechnaya	1.40	27	ePG	Pg	08 52 57.9	+0.8
PRTR				eS	Sg	08 53 18.2	+2.9
DOMR	Dombai	1.53	302	ePg	Pg	08 52 59.9	+0.3
DOMR				eSg	Sg	08 53 19.6	+0.1
DOMR	Dombai	1.53	302	ePG	Pg	08 52 59.9	+0.3
DOMR				eS	Sg	08 53 19.6	+0.1
KIV0	Kislovodsk Arr	1.54	340	i Pg	Pg	08 52 59.3	-0.5
KIV0				eSg	Sg	08 53 19.7	-0.2
KIV	Kislovodsk	1.54	340	ePg	Pb	08 52 59.0	-0.1
KIV				eSg	Sg	08 53 19.6	-0.2
KIV	Kislovodsk	1.54	340⇓	i PG	Pg	08 52 59.3	-0.6
KIV				eS	Sg	08 53 19.7	-0.2
TRKR	Terskaya	1.56	38	ePg	Pg	08 52 59.8	-0.3
TRKR				eSg	Sg	08 53 21.3	+1.0
TRKR	Terskaya	1.56	38	ePG	Pg	08 53 00.0	-0.1
TRKR				eS	Sg	08 53 22.5	+2.3
BATM	Batumi	1.56	235	P	Pg	08 52 59.6	-0.6
BATM				S	Sg	08 53 21.4	+0.9
BATM	Batumi	1.56	235	ePg	Pg	08 52 59.6	-0.6
BATM				eSg	Sg	08 53 21.4	+0.9
BATM	Batumi	1.56	235	ePG	Pg	08 52 59.6	-0.6
BATM				eS	Sg	08 53 21.4	+0.9
BEYR	Belyy Ugol+	1.57	344	ePg	Pg	08 52 59.8	-0.5
BEYR				eSg	Sg	08 53 19.9	-0.8
BEYR	Belyy Ugol+	1.57	344	ePG	Pg	08 52 59.8	-0.5
BEYR				eS	Sg	08 53 19.9	-0.8
DGRG	David-gareji	1.80	125	P	Pn	08 53 02.7	+1.2
DGRG				S	Sg	08 53 28.1	0.0
DGRG	David-gareji	1.80	125	ePN	Pn	08 53 02.6	+1.2
DGRG				eS	Sg	08 53 28.1	0.0
DAGI	Agillar	1.81	219	P	Pb	08 53 03.6	0.0
DAGI				S	Sg	08 53 28.8	+0.3
DAGI				i AML	AML	08 53 32.0	
	comp=Z,79nm,0.5s						
EAK	Akyaka	1.82	175	P	Pn	08 53 01.1	-0.8
EAK				S	Sn	08 53 25.6	+0.5
HOPA	Hopa-Artvin	1.84	233	PN	Pn	08 53 01.5	-0.5
GROC	Groznyy	1.89	67	ePg	Pb	08 53 04.1	-0.7
GROC				eSg	Sb	08 53 28.5	0.0
GROC	Groznyy	1.89	67	ePN	Pb	08 53 04.1	-0.7
GROC				eS	Sb	08 53 28.5	0.0
ARXR	Arkhyz	1.89	305	ePg	Pn	08 53 03.1	+0.3
ARXR				eSg	Sg	08 53 30.8	-0.2
ARXR	Arkhyz	1.89	305	ePN	Pn	08 53 03.1	+0.3
ARXR				eS	Sg	08 53 30.8	-0.2
KARS	Kars	1.89	188	PN	Pn	08 53 03.7	+0.9
KARS				SN	Sb	08 53 28.4	-0.3
KARS	Kars	1.89	188	PN	Pn	08 53 03.6	+0.8
DBAD	Bademkaya	1.96	221	P	Pb	08 53 05.7	-0.5
DBAD				S	Sg	08 53 32.8	-0.5
DBAD				i AML	AML	08 53 36.0	
	comp=Z,212nm,0.4s						
DBAD				i AML	AML	08 53 37.0	
	comp=Z,221nm,0.4s						
DDEM	Demirkent	2.04	218	P	Pb	08 53 07.6	+0.2
DDEM				S	Sg	08 53 35.0	-0.6
DDEM				i AML	AML	08 53 37.0	
	comp=Z,400nm,0.3s						
DVE	Vedeno	2.05	76	ePg	Pb	08 53 07.4	-0.2
DVE				eSg	Sb	08 53 34.4	+1.2
DVE	Vedeno	2.05	76	ePN	Pb	08 53 07.4	-0.2
DVE				eS	Sb	08 53 34.4	+1.2
BTLR	Botlikh	2.08	85	ePg	Pb	08 53 08.0	-0.2
BTLR				eSg	Sb	08 53 34.7	+0.6
BTLR	Botlikh	2.08	85	ePN	Pb	08 53 08.0	-0.2
BTLR				eS	Sb	08 53 34.7	+0.6
SENK	Senkaya-Erzuru	2.10	203	PN	Pn	08 53 05.9	+0.2
SENK				SN	Sn	08 53 32.2	+0.2
LGD	Lagodekhi	2.21	107	P	Pb	08 53 10.1	-0.2
LGD				S	Sb	08 53 39.6	+1.9
LGD	Lagodekhi	2.21	107	ePg	Pb	08 53 10.1	-0.2
LGD				eSg	Sb	08 53 39.6	+1.9
LGD	Lagodekhi	2.21	107	ePN	Pb	08 53 10.1	-0.2
LGD				eS	Sb	08 53 39.6	+1.9
ALER	Alexandrovskoy	2.29	351	ePn	Pb	08 53 10.0	-1.6
ALER				eSn	Sb	08 53 39.8	-0.2
ALER	Alexandrovskoy	2.29	351	ePN	Pb	08 53 10.0	-1.6
ALER				eS	Sb	08 53 39.8	-0.2
AHMR	Akhmetovskaya	2.39	315	ePn	Pn	08 53 08.9	-0.7
AHMR				eSn	Sn	08 53 38.7	-0.3
AHMR	Akhmetovskaya	2.39	315	ePN	Pn	08 53 08.9	-0.7
AHMR				eS	Sn	08 53 38.7	-0.3
CHOM	Cayeli-Rize	2.43	236	PN	Pn	08 53 09.9	-0.2
CHOM				SN	Sn	08 53 39.2	-0.7
XNZR	Khunzakh	2.43	88	ePn	Pb	08 53 12.6	-1.6
XNZR				eSn	Sn	08 53 42.8	+2.6
DLMR	Dylym	2.44	75	ePn	Pn	08 53 10.4	+0.3
DLMR				eSn	Sn	08 53 41.4	+1.4
DLMR	Dylym	2.44	75	ePN	Pn	08 53 10.4	+0.3
DLMR				eS	Sn	08 53 41.4	+1.4
HNZR	Khunzah	2.44	88	ePN	Pn	08 53 10.1	-0.3
HNZR				eS	Sn	08 53 41.0	+0.6
GNI	Garni	2.56	157	ePn	Pb	08 53 15.7	-0.6
GNI				eSn	Sb	08 53 47.4	-0.5
GNI	Garni	2.56	157	ePN	Pb	08 53 15.7	-0.6
GNI				eS	Sb	08 53 47.4	-0.5
GOF	Gofitskoye	2.57	354⇑	ePN	Pb	08 53 15.5	-0.9
GOF				eS	Sg	08 53 54.0	+1.3
GOF				smax	smax		
	comp=N,155nm,0.9s						
GOF				smax	smax		
	comp=E,33nm,0.4s						
DBC	Dubki	2.57	77	ePn	Pb	08 53 15.1	-1.4
DBC				eSn	Sn	08 53 45.5	+2.1
DBC	Dubki	2.57	77	ePN	Pn	08 53 11.5	-0.5
DBC				eS	Sn	08 53 44.1	+0.7
KRNR	Karanay	2.60	82	ePn	Pn	08 53 14.4	+1.9
KRNR				eSn	Sn	08 53 45.7	+1.6
KRNR	Karanay	2.60	82	ePN	Pn	08 53 14.4	+1.9
KRNR				eS	Sn	08 53 45.7	+1.6
GNBR	Gunib	2.63	91	ePn	Pn	08 53 14.6	+1.7
GNBR				eSn	Sb	08 53 48.1	-1.8
GNBR	Gunib	2.63	91	ePN	Pn	08 53 14.6	+1.7
GNBR				eS	Sb	08 53 48.2	-1.8
KOTA	Agri, Merkez-K	2.70	183	P	Pn	08 53 15.6	+1.6
BUJR	Buynaksk	2.75	82	ePn	Pn	08 53 15.8	+1.4
BUJR				eSn	Sn	08 53 49.3	+1.6
BUJR	Buynaksk	2.75	82	ePN	Pn	08 53 15.8	+1.4
BUJR				eS	Sn	08 53 49.3	+1.6
KOPR	Koprukoy-ERZUR	2.77	206	PN	Pn	08 53 15.6	+0.7
GUZR	Guzeripl'	2.83	303	ePn	Pb	08 53 18.1	-2.8
GUZR				eSn	Sn	08 53 52.0	+2.1
GUZR	Guzeripl'	2.83	303	ePN	Pb	08 53 18.1	-2.8
GUZR				eS	Sn	08 53 52.0	+2.1
GANJ	Ganja	2.87	129	PN	Pb	08 53 19.5	-2.0
SEKA	Sheki	3.11	113	PN	Pb	08 53 23.9	-1.8
AKT	Akhty	3.38	106	ePn	Pn	08 53 24.5	+1.3
AKT				eSn	Sn	08 54 02.3	-1.1
AKT	Akhty	3.38	106	ePN	Pn	08 53 24.5	+1.3
AKT				eS	Sn	08 54 02.3	-1.1
ESPY	Espiye-Giresun	3.85	247	PN	Pn	08 53 29.9	+0.3
BELG	Belogornoye	10.29	15	i P	Pn	08 54 59.9	+2.0
BELG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	Obninsk	13.39	343⇑	eP	Pn	08 55 41.8	+1.6
OBN				eS	Sn	08 58 12.9	+3.9
OBN				pmax	pmax		
	comp=Z,18nm,0.3s						
OBN				MLR	MLR		
	comp=Z,30nm,13.0s						
MNK	Minsk	15.77	325	i P	Pn	08 56 10.2	-2.0
	comp=E,2.0nm,0.6s						
MNK				i P	Pn	08 56 10.2	-2.0
	comp=N,14nm,0.7s						
MNK				i P	Pn	08 56 10.2	-2.0
	comp=Z,30nm,0.6s,baz=133						
MNK				i PP	pP	08 56 18.7	-0.6
MNK				i PPP	PPP	08 56 26.3	
MNK				i S	Sn	08 59 06.5	-0.5
MNK				i SS	S	08 59 20.6	-1.1
MNK				i SSS	SSS	08 59 33.2	
MNK				i LR	LR	09 01 27.6	
MNK				i LRM	MLR	09 03 56.9	
	comp=Z,49nm,11.0s						
MNK				i LRM	MLR	09 03 57.7	
	comp=E,18nm,14.4s						
MNK				i LRM	MLR	09 04 30.8	
	comp=N,175nm,12.7s						
MNK	Minsk	15.77	325	i P	Pn	08 56 10.2	-2.0
MNK				i S	Sn	08 59 06.4	-0.5
MNK				pmax	pmax		
	comp=E,2.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,14nm,0.7s						
MNK				pmax	pmax		
	comp=Z,30nm,0.6s						
MNK				MLR	MLR		
	comp=Z,49nm,11.0s						
MNK				MLR	MLR		
	comp=E,18nm,14.0s						
MNK				MLR	MLR		
	comp=N,175nm,13.0s						

IDC 02 08:56:03.0±3.2**, 54°.27N×87°.59E, h0km, mbtmp2.7**/2**, ML2.3**/2**, Error ellipse: s-maj=28.5km s-min=20.9km az=44.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.66	260	I		09 06 30.0	
	baz=79,slow=338,SNR=3.0						
ZALV	Zalesovo Beam	1.66	260	Pn	Pn	08 56 32.4	-1.0
	1.2nm,0.3s,baz=78,slow=15,SNR=10.0						
ZALV				Lg	Lg	08 56 55.8	
	1.2nm,0.3s,baz=76,slow=25,SNR=4.7						
KURBB	Kurchatov Arra	6.63	240	Pn	Pn	08 57 42.3	+0.7
	0.1nm,0.3s,baz=53,slow=14,SNR=5.8						
KURBB				Lg	Lg	08 59 33.5	
	baz=57,slow=32,SNR=3.0						
	0.8nm,0.7s						
MKAR	Makanchi Array	8.21	206	Pn	Pn	08 58 04.6	+1.3
	0.1nm,0.3s,baz=28,slow=15,SNR=1.3						
	0.1nm,0.3s						

---

*IDC **02** 09:02:09.8±0.6, 18°.65S×173°.51W, h0km, mb4.5/15, mbtmp4.5/17, ML4.1/2, MS4.0/44, Error ellipse: s-maj=24.7km s-min=14.2km az=124.0*
*NEIC **02** 09:02:10.7±1.3, 18°.6S±0°.1×172°.89W±0°.07, h35km±2km, mb4.8/29, Error ellipse: s-maj=18.2km s-min=11.0km az=13.0*
*NOU **02** 09:02:13.8, 18°.49S×172°.79W, h76km, mb4.9/41, Tonga Islands Region*

ISC 02 09:02:09.9±0.3**, 18°.64S**±0°.06×**173°.01W**±0°.05**, h19km, n225, σ2s.14**/174**, mb4.8**/29**, MS4.0**/44**, 12C-6D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	2.95	99	Pn	Pn	09 02 53.6	-2.1
NIUE				Sn	Sn	09 03 26.3	-4.3
NIUE	Niue	2.95	99	P	Pn	09 02 55.0	-0.7
AFI	Afiamalu	4.85	14	Pn	Pn	09 03 24.5	+2.6
	6.3nm,0.3s,baz=183,slow=12,SNR=12						
AFI				Sn	Sn	09 04 12.7	-5.0
	62nm,0.3s,baz=34,slow=23,SNR=8.5						
AFI				LR	LR	09 05 02.7	
	comp=Z,444nm,18.9s,baz=175,slow=35						
	14nm,0.3s						
AFI	Afiamalu	4.85	14	Pn	Pn	09 03 20.8	-1.2
AFI	Afiamalu	4.85	14	P	Pn	09 03 22.7	+0.7
MSVF	Nonsavu	8.55	275	Pn	Pn	09 04 14.5	+1.7
	1.5nm,0.3s,baz=119,slow=15,SNR=16						
MSVF				LR	LR	09 07 07.1	
	comp=Z,3µm,18.9s,baz=141,slow=37						
MSVF	Nonsavu	8.55	275	Pn	Pn	09 04 13.7	+0.9
MSVF	Nonsavu	8.55	275	P	Pn	09 04 18.5	+5.7
RAO	Raoul Island	11.47	202	LR	LR	09 08 51.4	
	comp=Z,297nm,18.1s,baz=2.5,slow=36						
RAR	Rarotonga	12.71	104	Pn	Pn	09 05 08.5	-1.2
	14nm,0.3s,baz=234,slow=3.9,SNR=34						
RAR				LR	LR	09 09 20.1	
	comp=Z,332nm,18.4s,baz=244,slow=33						
RAR	Rarotonga	12.71	104	Pn	Pn	09 05 07.4	-2.3
RAR	Rarotonga	12.71	104	P	Pn	09 05 08.5	-1.2
MARNC	Mare, Loyalty	18.04	258	P	Pn	09 06 17.9	-1.6
LIFNC	LIFOU	18.72	260	P	P	09 06 25.8	-1.6
LIFNC				IAmb	IAmb	09 06 29.9	
	comp=Z,58nm,1.0s						
YATNC	Mamie plateau,	19.15	256	P	P	09 06 32.2	0.0
OUENC	Ouen Island, N	19.24	255	P	P	09 06 32.6	-0.5
OUENC				IAmb	IAmb	09 06 34.0	
	comp=Z,38nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OUENC	Ouen Island, N	19.24	255	P	P	09 06 33.5	+0.3
DZM	Mont Dzumac	19.56	256	ePn	P	09 06 35.8	-1.0
	comp=Z,79nm,0.9s						
DZM				eLR	LR	09 11 17.2	
	comp=Z,619nm,21.9s						
DZM	Mont Dzumac	19.56	256	P	P	09 06 36.3	-0.5
	comp=Z,0.8nm,0.3s,baz=83,slow=17,SNR=28						
DZM				LR	LR	09 13 11.6	
	comp=Z,738nm,18.1s,baz=58,slow=35						
	comp=Z,38nm,0.9s						
DZM	Mont Dzumac	19.56	256	P	P	09 06 36.6	-0.3
DZM				IAmb	IAmb	09 06 38.3	
	comp=Z,32nm,0.8s						
DZM	Mont Dzumac	19.56	256	P	P	09 06 37.4	+0.6
	comp=Z,42nm,0.9s						
ONTNC	Ouen Toro	19.58	256		P	09 06 34.6	-2.3
ONTNC				IAmb	IAmb	09 06 54.6	
	comp=Z,36nm,0.8s						
NOUC	Port Laguerre	19.70	256	P	Pn	09 06 39.5	-0.2
OUZ	Omahuta	20.34	213	P	P	09 06 44.0	-1.1
OUZ	Omahuta	20.34	213	P	Pn	09 06 46.5	-0.7
KUZ	Kuaotunu	20.58	207	P	Pn	09 06 49.0	-1.0
URZ	Urewera	21.36	202	P	P	09 06 56.6	+0.6
	comp=Z,18nm,0.5s,baz=26,slow=2.0,SNR=18						
	comp=Z,18nm,0.5s						
URZ	Urewera	21.36	202	P	P	09 06 54.8	-1.3
URZ				IAmb	IAmb	09 07 23.3	
	comp=Z,59nm,1.1s						
URZ	Urewera	21.36	202	P	P	09 06 56.7	+0.6
PPT2	Papeete2	22.29	91	eP	P	09 07 04.9	-1.5
	comp=Z,73nm,26.2s						
PPT2				eLR	LR	09 12 26.7	
	comp=Z,322nm,25.0s						
PPT2				eLR	LR	09 12 27.0	
	comp=Z,509nm,25.5s						
PPT2	Papeete2	22.29	91	eT	T	09 30 11.3	
	comp=Z,4.9nm,0.2s						
PPT	Papeete	22.30	91	LR	LR	09 14 05.0	
	comp=Z,183nm,18.7s,baz=266,slow=31						
BKZ	Black Stump Fm	22.39	202	P	P	09 07 07.4	+0.2
HIZ	Hauiti	22.44	206	P	P	09 07 09.7	+2.0
TBI	Tubuai	22.47	106	eP	P	09 07 06.4	-1.7
	comp=Z,299nm,24.2s						
TBI				eLR	LR	09 12 31.5	
	comp=Z,6µm,26.0s						
TBI				eLR	LR	09 12 31.8	
	comp=Z,2µm,27.2s						
VRZ	Vera Road	23.01	205	P	P	09 07 16.7	+3.0
PNHZ	Pukenui	23.16	201	P	P	09 07 15.2	-0.1
TSZ	Takapari Road	23.37	202	P	P	09 07 17.1	-0.3
DVHZ	Dannevirke	23.51	201	P	P	09 07 19.6	+0.9
BFZ	Birch Farm	23.83	201	P	P	09 07 23.9	+2.1
BFZ	Birch Farm	23.83	201	P	P	09 07 23.8	+2.1
MRZ	Mangatainoka R	24.04	202	P	P	09 07 24.5	+0.7
WEL	Wellington	24.88	202	P	P	09 07 23.4	-7.9
SNZO	South Karori	24.92	202	P	P	09 07 32.8	+1.0
TCW	Tory Channel	24.99	203	P	P	09 07 32.2	-0.2
TUWZ	Tuamarina	25.31	203	P	P	09 07 35.9	+0.7
QRZ	Quartz Range	25.36	206	P	P	09 07 36.7	+1.0
QRZ	Quartz Range	25.36	206	P	P	09 07 38.7	+3.0
MRNZ	Matariki Terra	25.74	205	P	P	09 07 43.6	+4.3
THZ	Tophouse	25.99	205	P	P	09 07 42.6	+1.0
KHZ	Kahutara	26.31	203	P	P	09 07 44.5	+0.2
KHZ	Kahutara	26.31	203	P	P	09 07 47.2	+2.9
HNR	Honiara	27.75	286	LR	LR	09 17 20.3	
	comp=Z,8µm,18.4s,baz=83,slow=33						
RPZ	Rata Peaks	28.37	205	P	P	09 08 05.4	+2.6
	comp=Z,6.2nm,0.3s,baz=62,slow=1.2,SNR=16						
	comp=Z,6.2nm,0.3s						
JCZ	Jackson Bay	29.61	207	P	P	09 08 13.7	-0.2
TAOE	Nuku Hiva Isla	33.31	78	eLR	LR	09 17 33.1	
	comp=Z,196nm,23.0s						
EIDS	Eidsvold	33.89	252	P	P	09 08 49.4	-2.3
EIDS				IAmb	IAmb	09 09 12.1	
	comp=Z,10nm,1.0s						
ARMA	Armidale	34.10	243	P	P	09 08 52.3	-1.4
ARMA	Armidale	34.10	243	P	P	09 08 52.5	-1.2
CNB	Canberra Magne	37.16	236	P	P	09 09 18.6	-1.2
CAN	Canberra	37.45	236	P	P	09 09 20.8	-1.4
CAN	Canberra	37.45	236	P	P	09 09 23.0	+0.8
CTA	Charters Tower	38.40	261	LR	LR	09 24 05.9	
	comp=Z,335nm,18.7s,baz=85,slow=35						
CTA	Charters Tower	38.40	261	P	P	09 09 28.7	-1.7
CTAO	Charters Tower	38.40	261	P	P	09 09 28.5	-1.9
CTAO				IAmb	IAmb	09 09 33.1	
	comp=Z,20nm,0.8s						
CTAO	Charters Tower	38.40	261	P	P	09 09 28.9	-1.5
CTAO	Charters Tower	38.40	261	P	P	09 09 27.8	-2.6
CTAO				sP	pwP	09 09 40.4	-0.1
PMG	Port Moresby	39.64	278	LR	LR	09 24 21.8	
	comp=Z,636nm,18.1s,baz=104,slow=34						
TOO	Toolangi	40.78	234	P	P	09 09 48.9	-1.2
TOO	Toolangi	40.78	234	P	P	09 09 50.2	+0.1
COEN	Coen	42.24	270	P	P	09 10 00.3	-2.0
COEN				IAmb	IAmb	09 10 04.1	
	comp=Z,14nm,1.1s						
COEN	Coen	42.24	270	P	P	09 10 01.7	-0.5
STKA	Stephens Creek	42.83	243	P	P	09 10 04.8	-2.1
	comp=Z,5.6nm,0.7s,baz=93,slow=12,SNR=13						
STKA				LR	LR	09 26 18.5	
	comp=Z,217nm,18.4s,baz=48,slow=34						
	comp=Z,5.6nm,0.7s						
STKA	Stephens Creek	42.83	243	P	P	09 10 05.4	-1.4
STKA	Stephens Creek	42.83	243	P	P	09 10 05.5	-1.4
INKA	Innaminka	43.26	249	P	P	09 10 09.2	-1.1
QIS	Mount Isa	44.56	259	P	P	09 10 20.8	-0.2
HTT	Hallett	45.25	241	P	P	09 10 25.7	-0.6
LCRK	Leigh Creek	45.59	245	P	P	09 10 27.4	-1.6
BBOO	Buckleboo	47.58	242	P	P	09 10 42.5	-2.1
BBOO	Buckleboo	47.58	242	P	P	09 10 44.9	+0.3
OOD	Oodnadatta	47.74	249	P	P	09 10 44.9	-1.0
MULG	Mulgathing	49.17	246	P	P	09 10 55.1	-1.8
WR0	Warramunga Arr	49.35	259	P	P	09 10 56.4	-2.0
WR0				IAmb	IAmb	09 10 58.5	
	comp=Z,5.9nm,0.8s						
AS01	Alice Springs	49.49	254	P	P	09 10 58.4	-1.1
WB0	Warramunga Arr	49.52	260	P	P	09 10 57.5	-2.2
WB2	Warramunga Arr	49.53	259	P	P	09 10 57.7	-2.2
WB2				IAmb	IAmb	09 10 59.6	
	comp=Z,17nm,1.0s						
WRAB	Tennant Creek	49.53	259	P	P	09 10 57.4	-2.5
WRAB				IAmb	IAmb	09 11 01.1	
	comp=Z,12nm,0.7s						
WRAB	Tennant Creek	49.53	259	P	P	09 10 57.7	-2.1
WRAB	Tennant Creek	49.53	259	P	P	09 10 56.6	-3.2
WRAB				pP	pwP	09 11 08.9	-1.3
AS31	Alice Springs	49.54	254	P	P	09 10 58.8	-1.1
AS31				IAmb	IAmb	09 10 59.5	
	comp=Z,7.7nm,0.7s						
ASAR	Alice Springs	49.54	254	P	P	09 10 57.9	-1.9
	comp=Z,33nm,0.7s,baz=94,slow=7.9,SNR=275						
ASAR				PcP	PcP	09 12 23.1	+1.4
	comp=Z,2.7nm,0.6s,baz=101,slow=4.4,SNR=4.5						
ASAR				S	S	09 18 00.1	-6.9
	comp=Z,0.9nm,0.9s,baz=93,slow=14,SNR=7.1						
ASAR				LR	LR	09 30 50.3	
	comp=Z,198nm,18.3s,baz=125,slow=35						
	comp=Z,33nm,0.7s						
ASAR	Alice Springs	49.54	254	P	P	09 10 58.4	-1.5
WRA	Warramunga Arr	49.54	259	P	P	09 10 57.8	-2.2
	comp=Z,4.7nm,0.4s,baz=99,slow=5.9,SNR=100						
WRA				LR	LR	09 31 02.9	
	comp=Z,452nm,18.7s,baz=92,slow=35						
	comp=Z,4.7nm,0.4s						
WRA	Warramunga Arr	49.54	259	P	P	09 10 57.6	-2.3
GUMO	Guam	52.44	305	LR	LR	09 30 46.5	
	comp=Z,78nm,20.1s,baz=109,slow=33						
MTN	Manton Dam	53.90	267	P	P	09 11 30.7	-1.8
FORT	Forrest	54.34	245	P	P	09 11 34.2	-1.3
FORT	Forrest	54.34	245	P	P	09 11 35.0	-0.5
WRKA	Warakurna	54.51	252	P	P	09 11 35.8	-1.1
KNRA	Kununurra	55.51	263	P	P	09 11 43.2	-0.9
KNRA				IAmb	IAmb	09 11 58.4	
	comp=Z,15nm,0.9s						
KNRA	Kununurra	55.51	263	P	P	09 11 43.9	-0.3
FAKI	Fak Fak	55.76	279	P	P	09 11 43.1	-2.9
	comp=Z,1µmcomp=Z,14nm,1.0s						
FAKI	Fak Fak	55.76	279	P	P	09 11 44.7	-1.3
SIJI	Sorong	57.40	281	LR	LR	09 34 35.4	
	comp=Z,113nm,21.1s,baz=100,slow=34						
RPN	Rapa Nui	58.74	111	LR	LR	09 32 26.3	
	comp=Z,100nm,21.8s,baz=8.0,slow=31						
VNDA	Vanda	60.21	186	P	P	09 12 18.0	+1.8
	comp=Z,1.1nm,1.0s,baz=12,slow=5.5,SNR=5.9						
	comp=Z,1.1nm,1.0s						
VNDA	Vanda	60.21	186	P	P	09 12 13.9	-2.3
SOEI	Soe	61.20	269	P	P	09 12 21.2	-2.9
SOEI	Soe	61.20	269	P	P	09 12 29.4	+5.3
BATI	Baumata	61.65	268	LR	LR	09 38 37.0	
	comp=Z,119nm,19.7s,baz=160,slow=36						
PSA00	Pilbara Seismi	62.68	255	P	P	09 12 31.9	-1.9
PSA00				IAmb	IAmb	09 12 44.1	
	comp=Z,6.8nm,1.1s						
MBWA	Marble Bar	62.86	255	P	P	09 12 34.3	-0.8
JCJ	Chichijima	62.88	315	LR	LR	09 35 51.7	
	comp=Z,217nm,19.9s,baz=120,slow=32						
MEEK	Meekatharra	62.97	249	P	P	09 12 35.5	-0.3
MORW	Morawa	64.88	246	P	P	09 12 47.5	-0.8
MORW				IAmb	IAmb	09 13 05.4	
	comp=Z,8.5nm,1.0s						
CCD	Concordia, Ant	65.44	195	P	P	09 12 52.5	+1.0
CCD				sP	pwP	09 13 06.8	+4.8
DAV	Davao City (W)	65.70	287	LR	LR	09 39 15.2	
	comp=Z,56nm,19.8s,baz=149,slow=34						
QSPA	South Pole Qui	71.42	180	LR	LR	09 43 59.7	
	comp=Z,86nm,18.0s,baz=30,slow=35						
QSPA	South Pole Qui	71.42	180	P	P	09 13 34.3	+5.5
QSPA				pP	PcP	09 13 47.2	-1.1
MJAR	Matsushiro Arr	71.65	320	P	P	09 13 30.4	0.0
	comp=Z,2.7nm,0.9s,baz=165,slow=5.3,SNR=5.7						
MJAR				LR	LR	09 39 09.5	
	comp=Z,93nm,21.6s,baz=130,slow=31						
	comp=Z,2.7nm,0.9s						
SHEM	Shemya Is, Ala	71.95	352	LR	LR	09 43 18.0	
	comp=Z,80nm,18.6s,baz=305,slow=34						
JOW	Kunigami	72.70	307	LR	LR	09 38 46.5	
	comp=Z,150nm,20.2s,baz=338,slow=30						
LPIG	La Paz	74.43	57	LR	LR	09 41 54.1	
	comp=Z,64nm,19.5s,baz=261,slow=32						
PFO	Pinyon Flats O	74.86	46	LR	LR	09 40 59.6	
	comp=Z,84nm,19.8s,baz=282,slow=31						
PETK	Petropavlovsk-	75.81	342	P	P	09 13 56.4	+1.9
	comp=Z,7.6nm,1.1s,baz=93,slow=9.9,SNR=5.1						
	comp=Z,7.6nm,1.1s						
NVAR	Mina Array Bea	76.49	41	P	P	09 14 02.7	+3.8
	comp=Z,0.7nm,0.8s,baz=231,slow=9.9,SNR=5.9						
	comp=Z,0.7nm,0.8s						
LEM	Lembang	77.81	267	LR	LR	09 47 37.5	
	comp=Z,58nm,21.0s,baz=230,slow=35						
KSM	Kuching	77.86	276	P	P	09 14 08.8	+1.9
KDAK	Kodiak Island	78.01	11	LR	LR	09 43 00.4	
	comp=Z,96nm,18.6s,baz=222,slow=31						
KSRS	Korea Array	78.73	316	P	P	09 14 13.1	+2.0
	comp=Z,3.1nm,0.8s,baz=132,slow=6.8,SNR=9.5						
KSRS				LR	LR	09 45 39.3	
	comp=Z,51nm,19.3s,baz=110,slow=33						
	comp=Z,3.1nm,0.8s						
ELK	Elko	79.77	41	LR	LR	09 47 04.5	
	comp=Z,90nm,18.5s,baz=292,slow=34						
USRK	Ussuriysk Ar.	80.19	323	LR	LR	09 45 06.1	
	comp=Z,150nm,20.1s,baz=134,slow=32						
TXAR	Lajitas Array	82.11	56	P	P	09 14 34.5	+4.8
	comp=Z,2.0nm,1.2s,baz=232,slow=6.2,SNR=7.6						
TXAR				LR	LR	09 46 10.5	
	comp=Z,56nm,18.1s,baz=294,slow=32						
	comp=Z,2.0nm,1.2s						
NJ2	Nanjing	82.41	307	eP	P	09 14 36.2	+5.2
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
H03S2	Juan Fernandez	83.11	123	T	T	10 47 22.9	
	baz=249,slow=75,SNR=3.6						
H03S1	Juan Fernandez	83.13	123	T	T	10 47 23.5	
	baz=249,slow=75,SNR=4.2						
H03S3	Juan Fernandez	83.13	123	T	T	10 47 22.2	
	baz=249,slow=75,SNR=5.3						
NEW	Newport	83.17	34	LR	LR	09 46 49.5	
	comp=Z,140nm,18.5s,baz=234,slow=32						
MA2	Magadan	83.35	342	LR	LR	09 51 31.8	
	comp=Z,36nm,18.1s,baz=138,slow=36						
KLR	Kul'dur	83.43	327	LR	LR	09 46 51.7	
	comp=Z,29nm,20.5s,baz=142,slow=32						
CN2	Changchun	83.80	320	eP	P	09 14 36.5	-1.5
CN2				esP	sP	09 14 45.6	+1.4
CN2	Changchun	83.80	320	SKS	S	09 24 54.8	-5.4
CN2	Changchun	83.80	320	esS	sS	09 25 08.8	+2.1
CN2	Changchun	83.80	320	eSS	SS	09 30 29.3	+1.0
CN2				LR	LR		
	comp=N,140nm,20.0s						
CN2				LR	LR		
	comp=E,200nm,20.0s						
CN2				LR	LR		
	comp=Z,110nm,22.0s						
PDAR	Pinedale Array	84.42	41	P	P	09 14 44.7	+3.2
	comp=Z,0.9nm,1.0s,baz=222,slow=2.0,SNR=5.8						
PDAR				LR	LR	09 47 03.0	
	comp=Z,32nm,20.2s,baz=288,slow=32						
	comp=Z,0.9nm,1.0s						
CMIG	Matias Romero	84.62	70	LR	LR	09 43 45.5	
	comp=Z,37nm,19.7s,baz=254,slow=29						
MAW	Mawson	84.86	199	P	P	09 14 44.2	+1.2
	comp=Z,3.3nm,0.9s,baz=51,slow=15,SNR=3.5						
MAW				LR	LR	09 52 07.3	
	comp=Z,254nm,18.3s,baz=24,slow=35						
	comp=Z,3.3nm,0.9s						
ILAR	Eielson Array	85.54	11	P	P	09 14 49.5	+3.3
	comp=Z,2.6nm,0.9s,baz=234,slow=5.6,SNR=16						
	comp=Z,2.6nm,0.9s						
PLCA	Paso Flores	87.07	132	LR	LR	09 49 35.8	
	comp=Z,57nm,18.9s,baz=197,slow=33						
PSI	Prapat	89.05	273	P	P	09 15 06.9	+2.3
TROLL	Troll, Antarti	89.53	179	PcP	PcP	09 15 07.6	+0.5
VNA3	Neumayer Olymp	89.61	175	PcP	PcP	09 15 12.2	+4.9
SNAA	Sanae	89.67	177	PcP	PcP	09 15 12.1	+4.5
SNAA	Sanae	89.67	177	LR	LR	09 54 42.5	
	comp=Z,70nm,18.5s,baz=184,slow=35						
VNA2	Neumayer--Watz	90.11	175	PcP	PcP	09 15 10.7	+1.1
	baz=186,slow=4.0						
VNA1	Neumayer--Stat	90.31	175	PcP	PcP	09 15 15.4	+5.1
JTS	Las Juntas de	91.42	80	LR	LR	09 47 16.8	
	comp=Z,44nm,18.5s,baz=2.0,slow=30						
HHC	Hu-ho-hao-te	91.49	313	eP	P	09 15 17.2	+1.9
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,270nm,4.4s						
NNA	Nana	91.95	103	LR	LR	09 47 46.7	
	comp=Z,32nm,18.7s,baz=232,slow=30						
ATAH	Atahualpa	92.09	98	LR	LR	09 49 23.4	
	comp=Z,85nm,18.2s,baz=223,slow=31						
CD2	Chengdu	93.81	301	eP	P	09 15 24.4	-1.8
CMAR	Chiang Mai Arr	93.98	288	P	P	09 15 28.2	+1.0
	comp=Z,1.5nm,0.3s,baz=105,slow=3.1,SNR=8.2						
CMAR				LR	LR	09 56 31.4	
	comp=Z,37nm,18.8s,baz=180,slow=35						
	comp=Z,1.5nm,0.3s						
PZH	PanZhiHua	94.05	296	P	P	09 15 27.2	-0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,6.4s						
LVC	Limon Verde	95.28	116	LR	LR	09 50 22.7	
	comp=Z,50nm,18.8s,baz=218,slow=30						
SONM	Songino Array	97.49	318	LR	LR	09 54 31.8	
	comp=Z,44nm,20.7s,baz=136,slow=32						
LPAZ	La Paz	98.35	110	LR	LR	09 52 41.1	
	comp=Z,41nm,18.1s,baz=175,slow=31						
BVAR	Borovoye Array	120.64	321	PKP	PKiKP	09 21 02.8	+2.4
	comp=Z,4.6nm,0.5s,baz=79,slow=2.9,SNR=4.9						
ARCES	ARCESS Array B	127.85	352	PKP	PKiKP	09 21 17.6	+3.4
	comp=Z,2.3nm,0.9s,baz=46,slow=3.5,SNR=3.7						
BELG	Belogornoye	133.79	326	PKP	PKiKP	09 21 28.3	+1.7
	comp=Z,9.0nm,0.9s,baz=126,slow=2.9,SNR=4.3						
NACGM	Naroch	140.77	342	⇓ePKiKP	PKPdf	09 21 36.9	-1.2
	comp=Z,12nm,0.8s						
AKASG	Malin Array Be	143.45	336	PKP	PKPdf	09 21 43.4	+0.4
	comp=Z,1.8nm,0.6s,baz=38,slow=3.8,SNR=10						
KSP	Ksiaz	147.03	349	ePKP	PKiKP	09 21 55.6	+1.8
CLL	Collm	147.06	353	i x	x	09 22 10.0	
	comp=Z,37nm,1.2s						
CLL	Collm	147.06	353	ePKPbc	PKPbc	09 21 50.0	-1.3
CLL	Collm	147.06	353	ePKiKP	PKiKP	09 21 53.0	-0.8
CLL	Collm	147.06	353	ex	x	09 21 55.0	
	comp=Z,18nm,1.1s						
CLL	Collm	147.06	353	i pPKiKP	PKiKP	09 22 04.9	+11
BRG	Berggiesshubel	147.37	352	Amp		09 22 12.3	
	comp=Z,13nm,1.0s						
BRG	Berggiesshubel	147.37	352	ePKP	PKiKP	09 21 56.0	+1.5
BRG	Berggiesshubel	147.37	352	Amp		09 21 58.3	
	comp=Z,8.3nm,1.0s						
BRG	Berggiesshubel	147.37	352	ex	x	09 22 11.6	
BURAR	Bucovina Array	147.49	337	⇓P	PKiKP	09 21 57.4	+2.4
CRVS	Cervenica-Dubn	147.62	342	e	PKPab	09 22 14.3	+19
MORC	Moravsky Berou	147.80	347	⇑P	PKPab	09 21 58.1	+2.2
MORC	Moravsky Berou	147.80	347	ePKP	PKPab	09 21 57.6	+1.7
TRPA	Tarpa	147.98	340	⇑P	PKPab	09 21 57.8	+1.2
TPGR	Topolog	148.33	330	⇑P	PKPab	09 21 59.6	+1.5
VRAC	Vranov	148.44	348	PKPbc	PKPab	09 21 59.1	+0.7
	comp=Z,1.5nm,0.3s,baz=166,slow=12,SNR=1.7						
VRAC	Vranov	148.44	348	ePKP	PKPab	09 21 59.3	+0.9
OZUR		148.52	335	⇑P	PKPab	09 22 00.4	+1.5
JAVC	Velka Javorina	148.64	346	ePKP	PKPab	09 22 00.5	+1.2
HARR	Harsova	148.69	331	⇑P	PKPab	09 22 00.3	+0.7
VYHS	Vyhne	148.71	345	e	PKPab	09 22 14.8	+15
VYHS	Vyhne	148.71	345	ePKP	PKiKP	09 21 57.4	0.0
KRUC	Moravsky	148.72	348	ePKP	PKPab	09 21 59.3	-0.2
BRTR	Keskin Array B	148.85	318	PKPbc	PKPab	09 21 59.8	-0.9
	comp=Z,5.1nm,0.9s,baz=162,slow=2.0,SNR=9.1						
MLR	Muntele Rosu	148.94	334	⇓P	PKPab	09 22 01.0	+0.3
MLR	Muntele Rosu	148.94	334	PKPbc	PKPab	09 22 00.6	-0.2
	comp=Z,3.7nm,0.8s,baz=202,slow=3.3,SNR=4.9						
DRGR		149.09	339	⇑P	PKPab	09 22 00.2	-1.0
VOIR		149.35	335	⇓P	PKPab	09 22 02.2	-0.1
GERES	GERESS Array B	149.38	351	PKPbc	PKPab	09 22 01.8	-0.6
	comp=Z,0.9nm,0.6s,baz=48,slow=2.0,SNR=8.3						
ARR	Arges	149.58	335	⇑P	PKPab	09 22 02.6	-0.7
CONA	Conrad Observa	149.90	348	eP	PKPab	09 22 03.4	-1.1
	comp=Z,10nm,1.2s						
CONA				eS		09 22 18.4	
	comp=Z,22nm,1.3s						
RONA	Rosalia, Austr	150.03	347	eP	PKPab	09 22 03.6	-1.4
	comp=Z,10nm,1.2s						
RONA				eS		09 22 18.4	
	comp=Z,16nm,0.9s						
BZS	Buzias	150.49	339	⇑P	PKPab	09 22 04.1	-2.7
ARSA	Arzberg	150.62	348	i P	PKPab	09 22 04.1	-3.3
	comp=Z,5.8nm,1.1s						
ARSA				eS		09 22 19.3	
	comp=Z,9.0nm,1.1s						
HERR	Herculane	150.84	337	⇑P	PKPab	09 22 04.5	-3.8
MORH	Mrgy, Hungar	150.86	343	⇓P	PKPab	09 22 05.1	-3.2
RETA	Reutte	151.06	355	i P	PKPab	09 22 05.3	-3.9
	comp=Z,6.4nm,1.0s						
RETA				eS		09 22 20.3	
	comp=Z,13nm,1.0s						
WATA	Walderalm	151.13	354	i S		09 22 20.7	
	comp=Z,15nm,0.9s						
KBA	Koelnbreinsper	151.16	351	eP	PKiKP	09 22 05.4	+2.7
	comp=Z,3.1nm,0.7s						
KBA				eS		09 22 20.5	
	comp=Z,9.8nm,0.7s						
MOTA	Moosalm	151.17	354	i P	PKPab	09 22 06.1	-3.8
	comp=Z,7.8nm,1.0s						
MOTA				eS		09 22 21.0	
	comp=Z,26nm,1.0s						
MDVR	Moldovita	151.18	338	⇑P	PKiKP	09 22 05.1	+2.5
WTTA	Wattenberg	151.20	353	eP	PKPab	09 22 05.7	-4.2
	comp=Z,5.5nm,0.5s						
WTTA				eS		09 22 20.8	
	comp=Z,11nm,0.7s						
SOKA	Soboth	151.26	348	eP	PKiKP	09 22 05.6	+2.9
	comp=Z,10nm,1.3s						
SOKA				i S		09 22 20.5	
	comp=Z,14nm,1.2s						
SQTA	Sankt Quirin	151.29	354	eS		09 22 21.2	
	comp=Z,22nm,1.3s						
DAVA	Damuels	151.33	356	i S		09 22 20.9	
	comp=Z,18nm,0.9s						
FRGS	Fruska Gora	151.48	341	⇑P	PKiKP	09 22 05.0	+1.8
FETA	Feichten	151.53	355	i P	PKPab	09 22 06.6	-4.7
	comp=Z,5.1nm,0.8s						
FETA				i S		09 22 21.6	
	comp=Z,24nm,1.3s						
ABTA	Abfaltersbach	151.60	352	i P	PKiKP	09 22 06.3	+2.9
	comp=Z,9.9nm,1.0s						
ABTA				eS		09 22 21.4	
	comp=Z,27nm,1.1s						
BLKB	Belogradchik	151.81	335	⇓P	PKiKP	09 22 07.3	+3.3
DAVOX	Davos/Dischmat	151.84	356	PKPbc	PKPab	09 22 07.9	-4.8
	comp=Z,4.0nm,0.6s,baz=313,slow=4.8,SNR=5.2						
BOVS	Bovan	152.17	337	⇑P	PKiKP	09 22 06.8	+2.2
EIL	Elat	152.30	299	PKPbc	PKiKP	09 22 08.1	+2.7
	comp=Z,8.4nm,0.8s,baz=357,slow=6.0,SNR=4.3						

ROM 02 09:19:49.4±0.1, 42.777N±0.003×13.141E±0.004, h12km, ML1.8/2, Error ellipse: s-maj=0.3km s-min=0.1km az=159.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.06	341	P	Pg	09 19 52.1	+0.2
NRCA				S	Sg	09 19 53.8	+0.1
NRCA				AML	AML		
	comp=E,3242µm,0.0s						
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,2240µm,0.4s						
T1245	Castelsantange	0.09	23	P	Pg	09 19 52.6	+0.3
T1245				AML	AML		
	comp=E,1405µm,0.2s						
T1245				AML	AML		
	comp=N,1775µm,0.2s						
T1245				AML	AML		
	comp=E,1385µm,0.2s						
T1245				AML	AML		
	comp=N,1735µm,0.2s						
T1245				AML	AML		
	comp=E,15050µm,0.2s						
T1245				AML	AML		
	comp=N,8055µm,0.4s						
T1245				AML	AML		
	comp=E,14750µm,0.2s						
T1245				AML	AML		
	comp=N,8415µm,0.5s						
T1201	Domo (RI)	0.14	146	P	Pb	09 19 53.5	-0.5
T1204	Amatrice, Fraz	0.16	128	P	Pg	09 19 53.7	+0.4
T1204				S	Sg	09 19 56.8	+0.8
T1217	Poggiodomo (PG	0.17	247	P	Pg	09 19 53.7	+0.4
T1217				S	Sg	09 19 56.7	+0.7
MMO1	Montemonaco	0.18	48	P	Pg	09 19 53.8	+0.2
LNSS	Leonessa	0.19	203	P	Pg	09 19 54.0	+0.4
LNSS				S	Sg	09 19 57.5	+0.9
LNSS				AML	AML		
	comp=N,879µm,0.2s						
LNSS				AML	AML		
	comp=E,295µm,0.2s						
T1215	Vallo di Nera,	0.20	277	P	Pg	09 19 54.2	+0.4
T1215				S	Sg	09 19 57.7	+0.8
T1241	Roccafluvione,	0.23	69	P	Pg	09 19 54.6	+0.4
T1241				S	Sg	09 19 58.5	+0.9
T1243	Rocca Santa Ma	0.24	109	P	Pg	09 19 54.8	+0.3
T1243				S	Sg	09 19 58.7	+0.7
AM05	Amandola Campo	0.25	38	P	Pg	09 19 55.3	+0.6
RM33	Pellescritta (	0.27	169	P	Pg	09 19 55.4	+0.3
RM33				S	Sb	09 20 00.1	-0.8
CESI	CESI - Serrava	0.29	323	P	Pb	09 19 56.0	-0.6
CAMP	Campotosto	0.31	141	P	Pg	09 19 55.8	+0.1
ARRO	Arrone	0.34	235	P	Pg	09 19 56.5	+0.3
TERO	Teramo	0.37	114	P	Pg	09 19 57.0	+0.2
TERO				AML	AML		
	comp=N,184µm,0.3s						
TERO				AML	AML		
	comp=E,174µm,0.1s						
FIAM	Fiamignano	0.51	182	S	Sb	09 20 08.0	+0.3

IDC 02 09:29:02.3±2.2, 12.05N×140.55E, h0km, mb3.5/4, mbtmp3.5/4, MS3.6/1, Error ellipse: s-maj=204.7km s-min=26.3km az=109.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.38	191	P	P	09 35 33.1	-0.7
	0.2nm,0.8s,baz=13,slow=9.6,SNR=1.8						
	0.2nm,0.8s						
ASAR	Alice Springs	36.09	190	P	P	09 36 06.5	+0.4
	0.3nm,0.7s,baz=19,slow=12,SNR=5.6						
	0.3nm,0.7s						
BRDH	Bariadhala	47.67	290	LR	LR	09 57 04.1	
	comp=Z,68nm,21.3s,baz=93,slow=35						
ILAR	Eielson Array	71.76	26	P	P	09 40 26.1	-0.2
	0.5nm,0.6s,baz=247,slow=6.2,SNR=6.5						
	0.5nm,0.6s						
NVAR	Mina Array Bea	91.16	50	P	P	09 42 10.2	+0.4
	0.3nm,0.6s,baz=280,slow=5.1,SNR=3.9						
	0.3nm,0.6s						

SJA ***02*** *09:44:16.4±0.8, 29°.81S×72°.40W, h11km±3km, ML4.0, MW4.1*
IDC ***02*** *09:44:20.6±1.4, 29°.93S×71°.80W, h0km, mb3.5/2, mbtmp3.6/6, ML3.7/4, MS3.3/1, Error ellipse: s-maj=53.5km s-min=29.6km az=96.0*
GUC ***02*** *09:44:24.2±0.6, 30°.03S×71°.86W, h17km±3km, ML3.6*
ISC 02 09:44:19.6±0.7**, 29°.96S**±0°.02×**72°.13W**±0°.04**, h10km, n43, σ2s.24**/81**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO05	La Serena	0.78	88	eP	Pn	09 44 35.9	-0.8
CO05				iS	Sb	09 44 44.2	-1.7
CO05				IAML		09 44 50.2	
	comp=E,7μm,0.4s						
CO06	Fray Jorge	0.84	149	eP	Pn	09 44 38.0	+0.5
CO06				iS	Sn	09 44 47.9	-2.0
CO06				IAML		09 44 55.7	
	comp=E,2μm,0.4s						
GO04	Tololo Observa	1.18	101	eP	Pn	09 44 42.7	+0.3
GO04	Tololo Observa	1.18	101	eP	Pn	09 44 43.0	+0.6
GO04				eS	Sn	09 44 59.1	+0.5
CO03	El Pedregal	1.53	126	eP	Pg	09 44 48.6	-0.3
CO03				iS	Sg	09 45 07.3	-1.5
CO03				IAML		09 45 13.7	
	comp=E,2μm,0.3s						
LCO	Las Campanas	1.56	53	eP	Pb	09 44 48.0	-0.8
CO02	Combarbal	1.58	142	eP	Pg	09 44 50.1	+0.1
CO02				iS	Sg	09 45 10.1	-0.5
CO02				IAML		09 45 21.0	
	comp=E,4μm,0.1s						
CO02	Combarbal	1.58	142	eP	Pg	09 44 50.4	+0.4
CO02				eS	Sg	09 45 13.0	+2.5
CO02				IAML		09 45 19.7	
	comp=Z,2μm,0.6s						
CO01	Juntas del Tor	1.77	91	eP	Pg	09 44 52.5	-1.1
CO01				iS	Sg	09 45 15.1	-1.5
CO01	Juntas del Tor	1.77	91	eP	Pb	09 44 52.0	-0.3
CO01				eP	Pg	09 44 52.6	-1.1
CO01				eS	Sg	09 45 16.5	-0.1
CO01				IAML		09 45 18.1	
	comp=Z,669nm,0.4s						
AC05	El Transito	1.97	56	eP	Pb	09 44 54.0	-1.7
AC05				eS	Sb	09 45 20.2	-0.1
AC05				IAML		09 45 25.1	
	comp=Z,1μm,0.9s						
AC04	Llanos de Chal	1.98	28	eP	Pn	09 44 52.0	-1.2
AC04				eS	Sn	09 45 18.2	+0.2
AROD	Rodeo	2.32	96	eP	Pb	09 45 01.9	+0.2
AROD				eS	Sg	09 45 35.3	+1.2
ACDV	Cuesta del Vie	2.62	95	eP	Pg	09 45 07.8	-2.1
ACDV				eP	Pb	09 45 08.0	+1.2
ACDV				eS	Sg	09 45 44.3	+0.4
ACCO	Cerro Coronel	2.73	104	eP	Pb	09 45 08.0	-0.7
ACCO				eS	Sg	09 45 47.9	+0.6
GO03	Copiap	2.88	36	eP	Pn	09 45 05.5	-0.3
GO03				eS	Sb	09 45 45.7	-0.9
RTLS	Leoncito	3.05	128	eP	Pb	09 45 13.0	-1.3
RTLS				eS	Sg	09 45 55.2	-2.6
RTLS				IAML		09 46 04.3	
	comp=Z,388nm,0.7s						
VA03	San Esteban	3.11	155	eP	Pn	09 45 07.2	-1.7
VA03				eP	Pb	09 45 12.6	-2.5
VA03				eP	Pb	09 45 13.0	-2.1
VA03				eS	Sb	09 45 52.4	-0.7
VA03				IAML		09 46 10.4	
	comp=Z,436nm,1.0s						
ROC1	El Roble	3.16	163	eP	Pn	09 45 12.2	+2.5
ROC1				eS	Sb	09 45 51.6	-3.1
MT02	Curacav	3.40	166	eP	Pn	09 45 10.7	-2.1
MT02				eP	Pb	09 45 15.0	-5.0
MT02				eS	Sg	09 46 10.7	+1.8
MT02				IAML		09 46 21.8	
	comp=Z,167nm,0.8s						
PEL	Peldehue	3.41	159	eP	Pb	09 45 16.3	-3.9
PEL				eS	Sb	09 45 59.4	-2.3
MT05	Renca	3.63	161	eP	Pn	09 45 19.0	+3.1
MT05				eS	Sg	09 46 17.2	+1.1
MT05				IAML		09 46 30.6	
	comp=Z,262nm,0.9s						
MT03	Universidad Ad	3.79	159	eP	Pn	09 45 22.0	+3.8
MT03				eS	Sb	09 46 07.2	-5.5
MT03				IAML		09 46 31.6	
	comp=Z,303nm,1.8s						
ASAL	Salagasta	3.86	134	eP	Pn	09 45 20.2	+1.1
ASAL				eP	Pb	09 45 25.0	-2.8
ASAL				eP	Pb	09 45 25.2	-2.6
ASAL				eS	Sg	09 46 22.7	-0.8
MT01	Popeta	3.97	169	eP	Pn	09 45 17.2	-3.4
MT01				eP	Pn	09 45 22.7	+2.1
MT01				eP	Pn	09 45 23.0	+2.4
MT01				eS	Sg	09 46 26.7	-0.4
MT01				IAML		09 46 34.4	
	comp=Z,110nm,1.6s						
ARCO	CERRO ARCO	3.97	137	eP	Pb	09 45 27.0	-2.8
ARCO				eS	Sg	09 46 22.7	-4.5
ARCO				IAML		09 46 34.2	
	comp=Z,159nm,1.3s						
AC01	Pan de Azucar	4.03	20	eP	Pn	09 45 19.0	-2.4
AC01				eP	Pn	09 45 19.5	-1.9
AC01				eS	Sg	09 46 26.7	-2.3
AC01				IAML		09 46 33.7	
	comp=Z,124nm,1.3s						
AC02	Maricunga	4.08	41	eP	Pn	09 45 23.5	+0.9
AC02				eS	Sb	09 46 24.2	+2.7
AC02				IAML		09 46 35.4	
	comp=Z,182nm,1.2s						
AVFE	Valle Fertil	4.11	101	eP	Pn	09 45 26.4	+3.9
AVFE				eP	Pn	09 45 26.7	+4.2
AVFE				eS	Sg	09 46 25.2	-6.3
AVFE				IAML		09 46 36.7	
	comp=Z,96nm,0.5s						
AAGR	Agrelo	4.21	139	eP	Pn	09 45 25.2	+1.2
AAGR				eP	Pb	09 45 30.0	-3.8
AAGR				eS	Sg	09 46 34.7	-0.1
BO01	Tunca	4.51	169	eP	Pn	09 45 31.0	+3.0
APLL	PUNTA DE LOS L	4.87	97	eP	Pn	09 45 36.7	+3.6
APLL				eS	Sb	09 46 45.2	+1.3
BO02	Sierra Bellavi	4.96	167	eS	Sn	09 46 36.5	+4.8
GO02	Mina Guanaco	5.28	26	eS	Sn	09 46 38.2	-1.8
LVC	Limon Verde	7.87	22	Pn	Pn	09 46 12.5	-1.9
	comp=Z,0.4nm,0.3s,baz=164,slow=5.5,SNR=6.4						
	comp=Z,0.9nm,0.3s						
PLCA	Paso Flores	10.83	174	Pn	Pn	09 46 56.1	+1.3
	comp=Z,0.3nm,0.3s,baz=340,slow=14,SNR=14						
	comp=Z,1.4nm,0.5s						
CPUP	Villa Florida	13.55	78	LR	LR	09 52 30.6	
	comp=Z,127nm,19.7s,baz=236,slow=37						
LPAZ	La Paz	14.09	16	Pn	Pn	09 47 41.3	+1.3
	comp=Z,0.1nm,0.3s,baz=199,slow=6.2,SNR=2.5						
	comp=Z,0.6nm,0.5s						
SIV	San Ignacio	17.21	39	P	P	09 48 21.4	-0.5
	baz=223,slow=9.9,SNR=12						
	comp=Z,2.8nm,0.8s						
TXAR	Lajitas Array	66.19	330	P	P	09 55 10.6	+3.0
	comp=Z,0.1nm,0.6s,baz=167,slow=9.0,SNR=2.1						
	comp=Z,0.1nm,0.6s						
TORD	Torodi Ar. Bea	82.92	71	P	P	09 56 45.6	+0.5
	comp=Z,0.7nm,0.8s,baz=238,slow=4.9,SNR=3.5						
	comp=Z,0.7nm,0.8s						
KURBB	Kurchatov Arra	149.87	38	PKPbc	PKiKP	10 04 12.1	+1.5
	comp=Z,0.3nm,0.2s,baz=300,slow=2.9,SNR=1.6						
ZALV	Zalesovo Beam	150.78	28	PKPbc	PKiKP	10 04 14.2	+1.8
	comp=Z,2.7nm,0.7s,baz=310,slow=3.9,SNR=12						

WEL ***02*** *09:54:00, 37°.38S×178°.82E, h46km, ML4.9, Mw4.8, Moment Tensor Solution. s5 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.50; $M_{\theta\theta}$1.28; $M_{\phi\phi}$0.23; $M_{r\theta}$-1.05; $M_{\theta\phi}$1.32; $M_{\phi r}$0.21; Fault plane solution: $M_0$2.19000×10^{16} NP1: ϕ_s209.00000°, δ41.00000°, λ-134.00000°. NP2: ϕ_s81.00000°, δ62.00000°, λ-59.00000°. Principal axes: T 2326.8500, Plg12.0000°, Azm149.0000°; N -2057.8900, Plg27.0000°, Azm245.0000°; P -268.9600, Plg60.0000°, Azm38.0000°;*
NOU ***02*** *09:54:08.8, 37°.54S×179°.83E, h0km, mb4.8/37, Off E. Coast of N. Island, N.Z.*
NEIC ***02*** *09:54:14.5±1.4, 37°.65S±0°.08×179°.30E±0°.05, h10km±1km, mb4.7/21, ML4.8(WEL), Error ellipse: s-maj=14.2km s-min=6.7km az=4.0*
WEL ***02*** *09:54:21.0±0.9, 37°S±4°×17°9E±°, h23km±4km, M4.9/40, ML5.2/40, MLv4.9/40, Error ellipse: s-maj=0.0km s-min=0.0km az=94.0*
IDC ***02*** *09:54:28.5±1.7, 37°.47S×178°.33E, h81km±13km, mb4.2/9, mbtmp4.4/11, MS3.7/35, Error ellipse: s-maj=20.2km s-min=15.6km az=81.0*
ISC 02 09:54:21.6±1.0**, 37°.48S**±0°.05×**178°.83E**±0°.07**, h39km**±8km**, n271, σ1s.87**/243**, mb4.6**/20**, MS3.8**/34**, 3C, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.42	259		Pn	09 54 30.8	-0.3
MXZ				Sg	Sn	09 54 37.5	-0.5
MXZ	Matakaoa Point	0.42	259	P	Pn	09 54 31.1	0.0
MXZ	Matakaoa Point	0.42	259	P	Pn	09 54 30.9	-0.2
MXZ				S	Sn	09 54 37.8	-0.2
WMGZ	Waiomatatini S	0.47	224	P	Pn	09 54 33.4	+1.6
WMGZ				S	Sn	09 54 42.1	+3.0
PKGZ	Pakihiroa	0.72	236	P	Pn	09 54 36.3	+1.0
PKGZ				S	Sn	09 54 47.0	+1.8
PUZ	Puketiti	0.74	217	P	Pn	09 54 37.1	+1.5
PUZ				S	Sn	09 54 48.6	+2.8
HAZ	Te Kaha	0.88	251	P	Pn	09 54 38.1	+0.8
HAZ				S	Sn	09 54 50.5	+1.6
TWGZ	Tauwhareparae	0.97	224	P	Pn	09 54 40.4	+1.7
TWGZ				S	Sn	09 54 54.6	+3.3
RUGZ	Raukumara Rang	1.03	242	P	Pn	09 54 41.0	+1.4
RUGZ				S	Sn	09 54 55.6	+2.6
CNGZ	Carnagh Statio	1.12	206	P	Pn	09 54 42.7	+2.0
CNGZ				S	Sn	09 55 00.2	+5.4
TKGZ	Te Karaka	1.23	219	P	Pn	09 54 43.5	+1.2
TKGZ				S	Sn	09 55 00.3	+2.7
WIZ	White Island	1.31	267	P	Pn	09 54 43.4	+0.1
WSRZ	White Island S	1.31	268	P	Pn	09 54 44.5	+1.1
MWZ	Matawai	1.34	230	P	Pn	09 54 44.9	+1.1
MWZ				S	Sn	09 55 03.6	+3.3
RIGZ	Rimuhau	1.49	214	P	Pn	09 54 46.9	+1.1
RIGZ				S	Sn	09 55 06.8	+2.9
RAGZ	Rawiri	1.51	227	P	Pn	09 54 47.3	+1.2
WHRZ	Whale Island	1.52	255	P	Pn	09 54 47.4	+1.2
URZ	Urewera	1.57	240	P	Pn	09 54 48.4	+1.6
	3μm,0.3s,baz=114,slow=1.9,SNR=6375						
URZ				S	Sn	09 55 07.5	+1.6
	7μm,0.4s,baz=26,slow=22,SNR=9.1						
URZ	Urewera	1.57	240		Pn	09 54 47.9	+1.1
URZ	Urewera	1.57	240	P	Pn	09 54 48.4	+1.6
URZ	Urewera	1.57	240	P	Pn	09 54 48.0	+1.1
URZ				S	Sn	09 55 08.4	+2.5
SNGZ	Shannon Statio	1.75	222	P	Pn	09 54 50.3	+0.9
EDRZ	Edgecumbe	1.77	249	P	Pn	09 54 50.9	+1.2
MARZ	Manawahe	1.78	253	P	Pn	09 54 50.4	+0.6
KNZ	Kokohu	1.79	210	P	Pn	09 54 50.0	+0.2
MHGZ	Mahia Peninsul	1.82	203	P	Pn	09 54 51.1	+0.8
OPRZ	Ohinepanea	1.84	258	P	Pn	09 54 50.9	+0.3
RTZ	Ruatahuna	1.85	232	P	Pn	09 54 52.3	+1.5
MUGZ	Murupara	1.91	238	P	Pn	09 54 52.5	+0.9
MKRZ	Makatiti	1.98	250	P	Pn	09 54 54.4	+1.7
RAHZ	Arahi	1.99	223	P	Pn	09 54 53.6	+0.9
TARZ	Mount Tarawera	1.99	247	P	Pn	09 54 53.9	+1.1
LIRZ	Lichensteins R	2.01	254	P	Pn	09 54 54.0	+1.0
RRRZ	Republican Roa	2.02	244	P	Pn	09 54 54.4	+1.2
WHHZ	Waihua	2.03	218	P	Pn	09 54 54.1	+0.9
OMRZ	Omania	2.05	251	P	Pn	09 54 54.4	+1.0
TGRZ	Tauranga	2.06	262	P	Pn	09 54 53.9	+0.3
MYRZ	Mayor Island	2.07	275	P	Pn	09 54 54.1	+0.3
MTHZ	Maungataniwha	2.08	228	P	Pn	09 54 55.3	+1.4
MTHZ				S	Sn	09 55 20.8	+2.1
HLRZ	Highlands Stat	2.11	248	P	Pn	09 54 55.4	+1.1
KARZ	Kaharoa	2.12	254	P	Pn	09 54 55.2	+0.8
PRRZ	Plateau Road	2.18	241	P	Pn	09 54 56.0	+0.8
NGRZ	Ngongotaha	2.18	253	P	Pn	09 54 56.7	+1.3
UTU	Utuhina	2.20	251	P	Pn	09 54 57.3	+1.8
HSRZ	Hossack Road	2.21	247	P	Pn	09 54 57.2	+1.5
HRRZ	Handcock Road	2.21	245	P	Pn	09 54 56.7	+1.0
ALRZ	Allen Road	2.24	240	P	Pn	09 54 57.0	+0.9
NMHZ	Naumai	2.27	224	P	Pn	09 54 57.9	+1.3
ARHZ	Aropaoanui	2.29	218	P	Pn	09 54 57.7	+0.9
GRRZ	Galatos Road	2.32	247	P	Pn	09 54 58.8	+1.6
KMRZ	Kaimai	2.32	260	P	Pn	09 54 58.4	+1.1
MRHZ	Matea Rd	2.33	234	P	Pn	09 54 58.2	+0.8
WPRZ	Whakapapatarin	2.35	243	P	Pn	09 54 58.8	+1.1
BKZ	Black Stump Fm	2.49	227		Pn	09 55 00.3	+0.7
BKZ	Black Stump Fm	2.49	227	P	Pn	09 55 00.9	+1.3
BKZ	Black Stump Fm	2.49	227	P	Pn	09 55 00.5	+0.9
WHTZ	Whakaora	2.56	242	P	Pn	09 55 02.6	+2.0
CKHZ	Cape Kidnapper	2.57	212	P	Pn	09 55 00.4	-0.2
HATZ	Hinemaiaia	2.58	236	P	Pn	09 55 01.9	+1.1
MCHZ	McNeill Hill	2.58	220	P	Pn	09 55 01.4	+0.6
KUZ	Kuaotunu	2.59	286	P	Pn	09 55 00.0	-0.9
KUZ	Kuaotunu	2.59	286	P	Pn	09 54 60.0	-0.9
TOZ	Tahuroa Road	2.66	264	P	Pn	09 55 02.0	+0.2
KWHZ	Kaweka Forest	2.71	224	P	Pn	09 55 03.0	+0.3
WATZ	Wairara	2.73	242	P	Pn	09 55 04.5	+1.5
TLZ	Tolley Road	2.74	251	P	Pn	09 55 03.8	+0.8
KAHZ	Kahuranaki	2.77	213	P	Pn	09 55 03.1	-0.4
RITZ	Rihia Road	2.78	237	P	Pn	09 55 04.7	+1.1
RATZ	Rangitukua	2.78	239	P	Pn	09 55 04.7	+1.2
KATZ	Kakaramea	2.88	238	P	Pn	09 55 06.4	+1.3
MKAZ	Moumakai	2.95	276	P	Pn	09 55 05.9	0.0
TMVZ	Te Maari	2.95	235	P	Pn	09 55 06.6	+0.6
BHHZ	Black Hill Sta	2.96	226	P	Pn	09 55 06.7	+0.7
ETVZ	East Tongariro	2.96	235	P	Pn	09 55 06.7	+0.6
NTVZ	North Tongarir	2.96	236	P	Pn	09 55 07.0	+0.9
GRZ	Great Barrier	2.97	293	P	Pn	09 55 05.7	-0.4
PXZ	Pawanui	2.98	211	P	Pn	09 55 05.3	-0.9
KRVZ	Karewarewa	2.98	236	P	Pn	09 55 07.4	+1.0
OTVZ	Oturere	3.00	235	P	Pn	09 55 07.7	+0.9
NNVZ	North Ngauruho	3.02	236	P	Pn	09 55 07.8	+0.8
WTVZ	West Tongariro	3.03	236	P	Pn	09 55 07.9	+0.9
SNVZ	South Ngauruho	3.03	235	P	Pn	09 55 08.0	+0.9
WIAZ	Waiheke Island	3.03	282	P	Pn	09 55 06.9	-0.1
NGZ	Ngauruhoe	3.05	235	P	Pn	09 55 08.1	+0.7
TUVZ	Tukino	3.07	233	P	Pn	09 55 08.4	+0.8
MOVZ	Moawhango	3.09	231	P	Pn	09 55 08.0	+0.1
TWVZ	Taurewa	3.11	238	P	Pn	09 55 09.0	+0.9
WHVZ	Whangaehu Hut	3.12	234	P	Pn	09 55 09.1	+0.7
FWVZ	Far West T-bar	3.13	234	P	Pn	09 55 09.2	+0.7
WNVZ	Wahianoa	3.14	233	P	Pn	09 55 09.2	+0.6
TRVZ	Turoa	3.15	234	P	Pn	09 55 09.5	+0.7
ETAZ	East Tamaki Re	3.16	278	P	Pn	09 55 09.2	+0.5
PNHZ	Pukenui	3.18	219	P	Pn	09 55 08.3	-0.8
WPHZ	Waipukurau	3.19	215	P	Pn	09 55 08.6	-0.5
MBAZ	Motutapu North	3.22	282	P	Pn	09 55 09.8	+0.2
MTVZ	Mangateitei	3.25	233	P	Pn	09 55 10.5	+0.5
PRHZ	Porangahau	3.27	211	P	Pn	09 55 09.0	-1.3
PKVZ	Pokaka	3.28	236	P	Pn	09 55 11.4	+0.9
HIZ	Hauiti	3.31	251		Pn	09 55 12.1	+1.4
HIZ	Hauiti	3.31	251	P	Pn	09 55 12.7	+2.0
HIZ	Hauiti	3.31	251	P	Pn	09 55 12.4	+1.6
ABAZ	Army Bay	3.32	284	P	Pn	09 55 11.3	+0.4
EPAZ	Eden Park BICE	3.32	279	P	Pn	09 55 12.1	+1.2
HBAZ	Herne Bay Bore	3.33	280	P	Pn	09 55 12.2	+1.1
AWAZ	Awhitu Peninsu	3.37	276	P	Pn	09 55 12.7	+1.1
TSZ	Takapari Road	3.41	220	P	Pn	09 55 11.2	-1.1
WTAZ	Waiatarua	3.44	278	P	Pn	09 55 13.7	+1.0
RVAZ	Riverhead Bore	3.47	281	P	Pn	09 55 13.7	+0.7
ANWZ	Angora Road	3.50	211	P	Pn	09 55 12.0	-1.3
DVHZ	Dannevirke	3.50	216	P	Pn	09 55 12.3	-1.2
VRZ	Vera Road	3.60	242	P	Pn	09 55 16.2	+1.4
POWZ	Post Office Ro	3.76	218	P	Pn	09 55 16.4	-0.6
WAZ	Wanganui	3.77	232	P	Pn	09 55 17.8	+0.7
BFZ	Birch Farm	3.78	211		Pn	09 55 15.3	-1.9
BFZ	Birch Farm	3.78	211	P	Pn	09 55 15.6	-1.7
BFZ	Birch Farm	3.78	211	P	Pn	09 55 15.5	-1.7
PRWZ	Pori Road	3.79	215	P	Pn	09 55 16.5	-0.9
OHWZ	Ohakea	3.87	224	P	Pn	09 55 18.9	+0.5
MHEZ	Mangahewa	3.89	244	P	Pn	09 55 22.1	+3.3
WCZ	Waipu Caves	3.92	292	P	Pn	09 55 19.6	+0.4
CPWZ	Castlepoint	3.99	210	P	Pn	09 55 18.6	-1.5
LREZ	Lake Rotokare	4.00	239	P	Pn	09 55 21.9	+1.6
TIWZ	Tintock	4.01	214	P	Pn	09 55 19.5	-0.9
DREZ	Durham Road	4.02	243	P	Pn	09 55 23.3	+2.8
MRZ	Mangatainoka R	4.06	218	P	Pn	09 55 19.5	-1.6
PREZ	Palmer Road	4.11	242	P	Pn	09 55 24.8	+3.0
NEZ	North Egmont	4.13	243	P	Pn	09 55 24.6	+2.4
PKE	Pukeiti	4.17	244	P	Pn	09 55 25.9	+3.1
KHEZ	Kahui Hut	4.20	243	P	Pn	09 55 25.4	+2.4
KHEZ	Kahui Hut	4.20	243	P	Pn	09 55 25.6	+2.6
NBEZ	Newall Road No	4.29	244	P	Pn	09 55 27.6	+3.3
NMEZ	Namu Road	4.34	242	P	Pn	09 55 27.5	+2.5
OUZ	Omahuta	4.79	297	Pn	Pn	09 55 31.4	+0.3
OUZ	Omahuta	4.79	297	P	Pn	09 55 31.9	+0.7
OUZ	Omahuta	4.79	297	P	Pn	09 55 31.8	+0.7
MSWZ	Moikau Station	4.81	214		Pn	09 55 27.9	-3.5
PLWZ	Palliser	4.93	213		Pn	09 55 29.5	-3.6
SNZO	South Karori	4.98	219		Pn	09 55 31.0	-2.7
SNZO	South Karori	4.98	219	P	Pn	09 55 30.6	-3.2
TUWZ	Tuamarina	5.46	222		Pn	09 55 37.8	-2.6
CMWZ	Cape Campbell	5.56	218		Pn	09 55 38.0	-3.6
NNZ	Nelson	5.64	227		Pn	09 55 39.9	-2.9
BSWZ	Blackbirch Sta	5.70	221	Pn	Pn	09 55 40.2	-3.5
QRZ	Quartz Range	5.93	234		Pn	09 55 44.5	-2.3
QRZ	Quartz Range	5.93	234	P	Pn	09 55 44.2	-2.6
THZ	Tophouse	6.26	225		Pn	09 55 48.8	-2.6
KHZ	Kahutara	6.39	218	Pn	Pn	09 55 50.0	-3.1
KHZ	Kahutara	6.39	218	P	Pn	09 55 49.3	-3.7
CTZ	Chatham Island	7.14	152	P	Pn	09 56 04.5	+1.1
LTZ	Lake Taylor	7.30	221		Pn	09 56 02.1	-3.5
MQZ	McQueen's Vall	7.79	215	Pn	Pn	09 56 08.3	-4.0
OXZ	Oxford	7.80	219		Pn	09 56 08.6	-3.9
RPZ	Rata Peaks	8.59	221	P	Pn	09 56 20.1	-3.2
	23nm,0.3s,baz=55,slow=1.6,SNR=84						
RPZ				S	Sn	09 57 49.3	-9.4
	53nm,0.4s,baz=155,slow=18,SNR=17						
RPZ				LR	LR	10 00 14.6	
	comp=Z,867nm,21.8s,baz=47,slow=42						
RPZ	Rata Peaks	8.59	221		Pn	09 56 19.9	-3.3
RPZ	Rata Peaks	8.59	221	P	Pn	09 56 20.2	-3.0
RAO	Raoul Island	8.64	19	LR	LR	09 58 32.8	
	comp=Z,82nm,22.0s,baz=157,slow=28						
FOZ	Fox Glacier	9.14	226	Pn	Pn	09 56 27.6	-3.3
LBZ	Lake Benmore	9.50	221		Pn	09 56 31.7	-4.1
ODZ	Otahua Downs	9.75	217	Pn	Pn	09 56 35.2	-3.9
ODZ	Otahua Downs	9.75	217	P	Pn	09 56 34.9	-4.2
JCZ	Jackson Bay	10.06	226	P	Pn	09 56 39.7	-3.9
WKZ	Wanaka	10.41	222	Pn	Pn	09 56 43.5	-4.8
MLZ	Mavora Lakes	11.25	222	Pn	Pn	09 56 56.0	-3.8
SYZ	Scrubby Hill	11.56	215	P	Pn	09 57 01.1	-2.8
WHZ	Wether Hill Ro	11.69	221	Pn	Pn	09 57 01.4	-4.3
DCZ	Deep Cove	11.84	224	Pn	Pn	09 57 03.4	-4.2
PYZ	Puysegur Point	12.54	222	Pn	Pn	09 57 13.4	-3.8
DZM	Mont Dzumac	18.72	322	eLR	LR	10 03 04.7	
	comp=Z,571nm,23.9s						
DZM	Mont Dzumac	18.72	322	P	Pn	09 58 39.5	+1.9
	5.3nm,0.9s,baz=168,slow=12,SNR=6.0						
DZM				LR	LR	10 04 26.5	
	comp=Z,366nm,21.2s,baz=208,slow=32						
LIFNC	LIFOU	19.45	326	P	P	09 58 45.1	+0.3
LIFNC				IAmb	IAmb	09 59 09.2	
	comp=Z,35nm,0.9s						
MSVF	Nonsavu	19.68	358	P	Pn	09 58 49.8	+0.6
	comp=Z,4.9nm,0.7s,baz=235,slow=18,SNR=5.6						
MSVF				LR	LR	10 04 53.2	
	comp=Z,246nm,20.6s,baz=174,slow=32						
MSVF	Nonsavu	19.68	358	P	P	09 58 45.3	-2.2
MSVF				IAmb	IAmb	09 58 55.4	
	comp=Z,52nm,1.4s						
MSVF	Nonsavu	19.68	358	P	P	09 58 39.3	-8.2
CAN	Canberra	24.07	266	P	P	09 59 34.4	+1.2
CAN				IAmb	IAmb	09 59 55.0	
	comp=Z,34nm,1.4s						
TAU	Tasmania Unive	24.59	247	P	P	09 59 38.5	+0.7
TAU	Tasmania Unive	24.59	247	P	P	09 59 34.6	-3.2
RAR	Rarotonga	24.62	55	LR	LR	10 07 53.0	
	comp=Z,89nm,19.3s,baz=226,slow=32						
AFI	Afiamalu	24.92	22	P	P	09 59 46.9	+5.8
	comp=Z,17nm,0.9s,baz=185,slow=10,SNR=5.6						
	comp=Z,17nm,0.9s						
TOO	Toolangi	26.37	260	P	P	09 59 53.7	-0.4
TOO				IAmb	IAmb	10 00 02.2	
	comp=Z,20nm,1.1s						
CMSA	Cobar Meteorol	27.85	272	P	P	10 00 04.7	-2.7
TBI	Tubuai	30.59	72	eLR	LR	10 08 21.7	
	comp=Z,962nm,29.2s						
TBI				eLR	LR	10 08 22.0	
	comp=Z,3μm,25.2s						
TBI	Tubuai	30.59	72	eT	T	10 32 18.7	
	comp=Z,51nm,0.4s						
STKA	Stephens Creek	30.99	269	P	P	10 00 35.4	+0.1
	comp=Z,5.7nm,0.7s,baz=99,slow=9.5,SNR=12						
STKA				LR	LR	10 11 31.0	
	comp=Z,185nm,21.2s,baz=96,slow=33						
	comp=Z,5.7nm,0.7s						
STKA	Stephens Creek	30.99	269	P	P	10 00 34.3	-1.0
STKA	Stephens Creek	30.99	269	P	P	10 00 35.8	+0.6
HTT	Hallett	32.59	265	P	P	10 00 49.9	+0.5
HNR	Honiara	32.72	324	LR	LR	10 12 33.7	
	comp=Z,862nm,19.5s,baz=180,slow=33						
CTA	Charters Tower	33.18	292	LR	LR	10 12 54.4	
	comp=Z,183nm,21.2s,baz=104,slow=34						
CTAO	Charters Tower	33.18	292	P	P	10 00 54.2	-0.3
CTAO				IAmb	IAmb	10 01 01.0	
	comp=Z,7.7nm,0.9s						
INKA	Innaminka	33.33	276	P	P	10 00 56.7	+0.9
PPT2	Papeete2	34.07	63	eLR	LR	10 10 00.0	
	comp=Z,262nm,28.2s						
PPT2				eLR	LR	10 10 00.3	
	comp=Z,213nm,27.5s						
PPT2	Papeete2	34.07	63	eT	T	10 36 47.2	
	comp=Z,7.4nm,0.3s						
PPT	Papeete	34.09	63	LR	LR	10 10 47.8	
	comp=Z,162nm,21.5s,baz=248,slow=28						
LCRK	Leigh Creek	34.21	270	P	P	10 01 03.4	0.0
TIAR	Tiarei	34.26	63	eT	T	10 36 59.6	
	comp=Z,1.6nm,0.3s						
MEH	Mehetia	34.97	65	eT	T	10 38 03.9	
	comp=Z,14nm,0.3s						
BBOO	Buckleboo	35.06	265	P	P	10 01 10.2	-0.6
BBOO				IAmb	IAmb	10 01 27.0	
	comp=Z,26nm,1.4s						
BBOO	Buckleboo	35.06	265	P	P	10 01 10.0	-0.8
OOD	Oodnadatta	37.32	272	P	P	10 01 29.3	-0.8
MULG	Mulgathing	37.58	267	P	P	10 01 31.6	-0.7
QIS	Mount Isa	37.91	285	P	P	10 01 35.5	+0.3
COEN	Coen	39.40	297	P	P	10 01 47.6	0.0
COEN				IAmb	IAmb	10 01 53.6	
	comp=Z,21nm,1.0s						
COEN	Coen	39.40	297	P	P	10 01 47.5	-0.2
PMG	Port Moresby	39.96	306	LR	LR	10 18 05.3	
	comp=Z,85nm,19.3s,baz=93,slow=36						
AS01	Alice Springs	40.65	277	P	P	10 01 57.5	-0.6
AS31	Alice Springs	40.69	277	P	P	10 01 57.8	-0.6
ASAR	Alice Springs	40.69	277	P	P	10 01 57.7	-0.7
	comp=Z,7.3nm,0.7s,baz=124,slow=8.4,SNR=130						
ASAR				S	S	10 08 00.9	-5.1
	comp=Z,1.1nm,0.9s,baz=132,slow=14,SNR=7.5						
ASAR				LR	LR	10 19 05.3	
	comp=Z,134nm,18.2s,baz=138,slow=37						
	comp=Z,7.3nm,0.7s						
VNDA	Vanda	40.81	186	P	P	10 02 01.3	+2.6
	comp=Z,0.3nm,1.0s,baz=16,slow=2.3,SNR=1.1						
VNDA				LR	LR	10 15 41.9	
	comp=Z,95nm,19.1s,baz=285,slow=31						
VNDA	Vanda	40.81	186	P	P	10 01 54.1	-4.6
FORT	Forrest	42.14	264	P	P	10 02 09.3	-0.8
FORT				IAmb	IAmb	10 02 14.5	
	comp=Z,20nm,0.8s						
FORT	Forrest	42.14	264	P	P	10 02 09.1	-1.1
WR0	Warramunga Arr	42.16	282	P	P	10 02 09.9	-0.6
WR0				IAmb	IAmb	10 02 35.9	
	comp=Z,12nm,1.1s						
WB2	Warramunga Arr	42.32	282	P	P	10 02 10.8	-1.0
WRAB	Tennant Creek	42.32	282	P	P	10 02 10.7	-1.1
WRA	Warramunga Arr	42.33	282	P	P	10 02 10.6	-1.3
	comp=Z,4.4nm,0.6s,baz=126,slow=6.6,SNR=96						
WRA				LR	LR	10 20 08.9	
	comp=Z,170nm,18.5s,baz=120,slow=37						
	comp=Z,4.4nm,0.6s						
WRA	Warramunga Arr	42.33	282	P	P	10 02 10.7	-1.1
WB0	Warramunga Arr	42.38	282	P	P	10 02 11.3	-1.0
WB0				IAmb	IAmb	10 02 12.0	
	comp=Z,6.9nm,0.6s						
WRKA	Warakurna	44.46	271	P	P	10 02 27.4	-1.7
TAOE	Nuku Hiva Isla	46.70	63	eLR	LR	10 15 51.0	
	comp=Z,156nm,28.0s						
MTN	Manton Dam	49.00	287	P	P	10 03 03.9	-0.7
MTN	Manton Dam	49.00	287	P	P	10 03 03.5	-1.1
KNRA	Kununurra	49.11	282	P	P	10 03 04.8	-0.6
KNRA	Kununurra	49.11	282	P	P	10 03 04.8	-0.6
KLBR	Kellerberrin	49.89	258	P	P	10 03 10.4	-0.9
MEEK	Meekatharra	51.40	264	P	P	10 03 21.3	-1.4
MORW	Morawa	52.32	260	P	P	10 03 27.9	-1.5
MORW				IAmb	IAmb	10 03 29.5	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,15nm,1.1s						
MORW	Morawa	52.32	260	P	P	10 03 28.3	-1.2
QSPA	South Pole Qui	52.65	180	P	P	10 03 34.3	+2.8
	comp=Z,1.8nm,0.5s,baz=322,slow=0.8,SNR=22						
	comp=Z,1.8nm,0.5s						
PSA00	Pilbara Seismi	52.91	270	P	P	10 03 32.2	-1.8
BATI	Baumata	56.36	284	LR	LR	10 29 36.2	
	comp=Z,104nm,18.8s,baz=213,slow=38						
SIJI	Sorong	56.92	298	LR	LR	10 27 33.1	
	comp=Z,56nm,21.9s,baz=208,slow=35						
GUMO	Guam	59.99	321	LR	LR	10 27 23.4	
	comp=Z,27nm,21.6s,baz=172,slow=33						
KAPI	Kappang	62.62	286	LR	LR	10 33 44.3	
	comp=Z,62nm,18.2s,baz=128,slow=38						
MAW	Mawson	64.77	202	LR	LR	10 31 14.6	
	comp=Z,157nm,18.5s,baz=28,slow=34						
PMSA	Palmer Station	66.92	156	LR	LR	10 30 01.9	
	comp=Z,59nm,21.5s,baz=244,slow=32						
LEM	Lembang	70.98	276	LR	LR	10 37 36.7	
	comp=Z,69nm,20.5s,baz=173,slow=37						
H03S2	Juan Fernandez	78.73	124	T	T	11 32 51.8	
	baz=231,slow=74,SNR=27						
H03S1	Juan Fernandez	78.74	124	T	T	11 32 54.1	
	baz=231,slow=74,SNR=22						
H03S3	Juan Fernandez	78.75	124	T	T	11 32 53.0	
	baz=231,slow=74,SNR=24						
H03N3	Juan Fernandez	78.96	124	T	T	11 32 60.0	
	baz=234,slow=72,SNR=237						
H03N2	Juan Fernandez	78.97	124	T	T	11 33 03.4	
	baz=234,slow=72,SNR=167						
H03N1	Juan Fernandez	78.98	124	T	T	11 32 57.5	
	baz=234,slow=72,SNR=199						
PLCA	Paso Flores	79.57	134	P	P	10 06 28.9	+4.2
	comp=Z,1.4nm,0.7s,baz=217,slow=11,SNR=3.6						
	comp=Z,1.4nm,0.7s						
MJAR	Matsushiro Arr	82.70	328	LR	LR	10 42 31.3	
	comp=Z,11nm,18.4s,baz=178,slow=35						
PSI	Prapat	83.69	278	LR	LR	10 45 06.4	
	comp=Z,80nm,20.0s,baz=142,slow=36						
KSRS	Korea Array	88.15	322	P	P	10 07 10.7	+2.7
	comp=Z,2.7nm,0.8s,baz=138,slow=5.9,SNR=8.5						
KSRS				LR	LR	10 44 06.3	
	comp=Z,10.0nm,19.7s,baz=65,slow=34						
	comp=Z,2.7nm,0.8s						
LPIG	La Paz	90.44	60	LR	LR	10 40 05.5	
	comp=Z,30nm,19.9s,baz=262,slow=30						
PETK	Petropavlovsk-	92.07	347	LR	LR	10 44 31.4	
	comp=Z,20nm,18.4s,baz=131,slow=33						
PFO	Pinyon Flats O	92.88	49	LR	LR	10 42 25.6	
	comp=Z,50nm,19.3s,baz=278,slow=31						
CMAR	Chiang Mai Arr	93.33	291	P	P	10 07 34.0	+1.4
	comp=Z,1.3nm,0.6s,baz=144,slow=3.2,SNR=1.3						
CMAR				LR	LR	10 53 27.5	
	comp=Z,14nm,19.3s,baz=185,slow=38						
	comp=Z,1.3nm,0.6s						
NNA	Nana	93.88	108	LR	LR	10 42 23.8	
	comp=Z,23nm,18.1s,baz=216,slow=30						
YBH	Yreka Blue Hor	95.18	40	LR	LR	10 40 33.9	
	comp=Z,38nm,21.8s,baz=296,slow=29						
KLR	Kul'dur	95.88	331	LR	LR	10 48 12.6	
	comp=Z,18nm,18.7s,baz=180,slow=34						
PZH	PanZhiHua	96.30	299	P	P	10 07 48.2	+2.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,4.1s						
CMIG	Matias Romero	97.34	74	LR	LR	10 43 57.9	
	comp=Z,29nm,20.4s,baz=240,slow=30						
LPAZ	La Paz	97.47	117	P	Pdif	10 07 56.5	+4.0
	comp=Z,0.8nm,0.8s,baz=187,slow=3.1,SNR=4.1						
	comp=Z,0.8nm,0.8s						
KDAK	Kodiak Island	97.90	15	LR	LR	10 49 31.0	
	comp=Z,50nm,18.3s,baz=212,slow=34						
TXAR	Lajitas Array	98.34	59	LR	LR	10 47 20.4	
	comp=Z,26nm,18.4s,baz=294,slow=32						
ELK	Elko	98.48	45	LR	LR	10 53 17.1	
	comp=Z,38nm,18.2s,baz=281,slow=36						
Y22D	IRIS PASSCAL I	99.13	54	P	Pdif	10 07 55.2	-3.6
HHC	Hu-ho-hao-te	99.30	315	eP	Pdif	10 08 00.0	+0.7
HHC				pmax	pmax		
	comp=Z,30nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,5.1s						
MA2	Magadan	99.46	346	LR	LR	10 47 16.2	
	comp=Z,25nm,20.2s,baz=150,slow=32						
WMQ	Urumqi	115.44	307	eP	PKPdf	10 12 58.0	-0.8
ARCES	ARCESS Array B	144.81	344	PKP	PKPab	10 13 52.0	-0.2
	comp=Z,2.4nm,0.5s,baz=48,slow=1.8,SNR=18						
LIC	Lamto	148.69	173	⇑ePKP1	PKiKP	10 14 06.8	+0.2
	comp=Z,15nm,0.5s						
KIC	Kosan Boka	148.85	173	⇑iPKP1	PKiKP	10 14 07.1	+0.2
	comp=Z,3.6nm,0.4s						
TIC	Toumodi	149.11	173	⇑ePKP1	PKPbc	10 14 06.0	-0.2
	comp=Z,4.8nm,0.3s						
MMAI	Mount Meron Ar	149.93	273	PKPbc	PKPbc	10 14 07.9	+0.1
	comp=Z,1.1nm,0.4s,baz=90,slow=4.3,SNR=2.0						
FINES	FINESS Array B	150.60	333	PKPbc	PKPbc	10 14 08.0	-0.3
	comp=Z,2.2nm,0.4s,baz=40,slow=3.3,SNR=17						
BRTR	Keskin Array B	152.81	286	PKPbc	PKPbc	10 14 14.0	-0.3
	comp=Z,1.1nm,0.7s,baz=90,slow=1.4,SNR=2.5						
TORD	Torodi Ar. Bea	155.63	187	PKP	PKPdf	10 14 12.6	+1.0
	comp=Z,0.3nm,0.6s,baz=116,slow=3.4,SNR=2.8						
TORD				PKPbc	pPKPdf	10 14 21.4	-2.4
	comp=Z,0.4nm,0.5s,baz=120,slow=0.1,SNR=4.0						
TORD				PKPab	PKPab	10 14 39.1	+1.5
	comp=Z,1.9nm,0.8s,baz=168,slow=3.7,SNR=8.1						

---

*IDC **02** 10:07:30.7±1.0, 52.°06N×169.°74W, h0km, mb3.6/8, mbtmp3.6/10, ML3.4/2, Error ellipse: s-maj=33.5km s-min=19.9km az=174.0*

*AEIC **02** 10:07:36.3±2.7, 51.°92N±0.°09×169.°5W±0.°1, h25km±8km, ML3.0, Error ellipse: s-maj=14.9km s-min=7.0km az=141.0*

*NEIC **02** 10:07:36.1±2.3, 52.°04N±0.°08×169.°6W±0.°1, h19km±14km, Error ellipse: s-maj=11.8km s-min=10.2km az=170.0*

ISC 02 10:07:35.2±0.8**, 51.°96N**±0.°10×**169.°60W**±0.°07**, h30km, n27,** σ**1.s50**/27**, mb3.7**/8**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLES	Cleveland East	0.89	348		Pb	10 07 51.7	-0.3
NIKH	Nikolski High	1.11	24		Pb	10 07 54.7	-1.2
NIKH	Nikolski High	1.11	24		Sb	10 08 10.8	+0.7
UNV	Unalaska Valle	2.66	44		Pn	10 08 16.6	+0.6
UNV	Unalaska Valle	2.66	44		Sn	10 08 47.2	0.0
ADK	Adak	4.39	272	Pn	Pn	10 08 42.3	+2.6
KIWB	Kanaga Island	4.68	272	Pn	Pn	10 08 46.4	+2.8
SDPT	Sand Point	6.40	54	Pn	Pn	10 09 09.7	+2.4
AMKA	Amchitka	6.93	270	Pn	Pn	10 09 16.0	+1.4
CHGN	Chignik	7.88	52	Pn	Pn	10 09 28.6	+1.1
CHIR	Chirikof Islan	9.11	59	Pn	Pn	10 09 44.7	+0.1
OHAK	Old Harbor	10.82	54	Pn	Pn	10 10 06.8	-1.1
O18K	Koktuh Hills	11.29	40	Pn	Pn	10 10 17.4	+3.2
KDAK	Kodiak Island	11.39	53	Pn	Pn	10 10 14.4	-1.2
	0.3nm,0.3s,baz=256,slow=5.2,SNR=7.1						
KDAK	Kodiak Island	11.39	53	Pn	Pn	10 10 15.6	-0.1
Q19K	Cape Douglas,	11.42	46	Pn	Pn	10 10 17.4	+1.3
CNPM	China Poot	12.79	46	Pn	Pn	10 10 34.0	-0.8
ILAR	Eielson Array	17.37	34	P	Pn	10 11 32.9	-2.2
	0.1nm,0.3s,baz=232,slow=10,SNR=6.4						
	0.2nm,0.4s						
PETK	Petropavlovsk-	19.84	286	P	P	10 12 02.0	-1.2
	1.1nm,0.3s,baz=81,slow=14,SNR=3.0						
	2.3nm,0.4s						
SEY	Seymchan	22.85	313	P	P	10 12 33.7	-1.8
	1.2nm,0.5s,baz=41,slow=11,SNR=2.5						
	1.2nm,0.5s						
DLBC	Dease Lake	23.22	58	P	P	10 12 39.4	-0.2
	1.7nm,0.5s,baz=279,slow=19,SNR=2.8						
	1.7nm,0.5s						
KLR	Kul'dur	36.46	290	P	P	10 14 35.7	-1.4
	0.7nm,0.5s,baz=60,slow=9.0,SNR=2.4						
	0.7nm,0.5s						
PDAR	Pinedale Array	40.62	78	P	P	10 15 13.1	+0.7
	0.1nm,0.5s,baz=289,slow=6.5,SNR=1.5						
	0.1nm,0.5s						
TXAR	Lajitas Array	52.90	88	P	P	10 16 48.9	+0.5
	0.2nm,0.6s,baz=320,slow=6.5,SNR=3.9						
	0.2nm,0.6s						
FINES	FINESS Array B	66.26	352	P	P	10 18 19.7	-0.1
	3.1nm,0.9s,baz=2.9,slow=5.6,SNR=3.0						
	3.1nm,0.9s						
WRA	Warramunga Arr	86.64	231	P	P	10 20 15.3	-0.4
	0.2nm,0.8s,baz=38,slow=5.5,SNR=1.1						
	0.2nm,0.8s						
ASAR	Alice Springs	90.02	230	P	P	10 20 32.3	+0.6
	0.5nm,0.5s,baz=30,slow=4.8,SNR=11						
	0.5nm,0.5s						

IDC 02 10:12:29.6±3.6**, 54.°50N**×**86.°85E, h0km, mbtmp3.1**/2**, ML2.8**/2**, Error ellipse: s-maj=32.5km s-min=19.8km az=51.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.31	246	I		10 22 10.0	
	baz=67,slow=333,SNR=1.4						
ZALV	Zalesovo Beam	1.31	246	Pg	Pg	10 12 53.2	-1.6
	1.8nm,0.3s,baz=64,slow=14,SNR=12						
ZALV				Lg	Lg	10 13 11.4	
	1.7nm,0.3s,baz=60,slow=26,SNR=4.3						
KURBB	Kurchatov Arra	6.39	236	Pn	Pn	10 14 06.4	+1.5
	0.2nm,0.3s,baz=52,slow=13,SNR=2.4						
	0.7nm,0.3s						
MKAR	Makanchi Array	8.24	202	Pn	Pn	10 14 31.5	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=2.2						
	0.3nm,0.3s						

---

*IDC **02** 10:23:16.7±2.0, 23.°11S×179.°86W, h556km±25km, mb3.0/6, mbtmp4.1/8, Error ellipse: s-maj=36.2km s-min=19.9km az=50.0*

*NEIC **02** 10:23:16.4±2.3, 23.°1S±0.°2×179.°7W±0.°1, h558km±19km, mb4.1/8, Error ellipse: s-maj=26.1km s-min=13.2km az=142.0*

ISC 02 10:23:15.7±0.8**, 23.°2S**±0.°1×**179.°8W**±0.°1**, h543km, n21,** σ**1.s11**/19**, mb4.0**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.76	339	P	P	10 24 53.5	+1.5
	16nm,0.4s,baz=138,slow=14,SNR=35						
MSVF	Nonsavu	5.76	339	P	P	10 24 53.3	+1.3
AFI	Afiamalu	11.95	41	P	P	10 25 52.8	-1.1
URZ	Urewera	15.28	189	P	P	10 26 26.9	-1.0
	4.2nm,0.3s,baz=10,slow=3.1,SNR=14						
PLWZ	Palliser	18.81	192	P	P	10 27 01.1	-0.1
RPZ	Rata Peaks	21.84	198	P	P	10 27 27.9	-0.6
	3.3nm,0.6s,baz=288,slow=21,SNR=1.1						
	3.3nm,0.6s						
CTA	Charters Tower	31.64	269	P	P	10 28 55.0	+0.2
	3.2nm,0.3s,baz=94,slow=10,SNR=11						
	3.2nm,0.3s						
CTAO	Charters Tower	31.64	269	P	P	10 28 55.7	+0.8
CTAO				IAmb	IAmb	10 28 56.1	
	comp=Z,3.8nm,0.5s						
ASAR	Alice Springs	42.32	260	P	P	10 30 22.2	-0.1
	comp=Z,0.9nm,1.0s,baz=90,slow=8.2,SNR=7.9						
	comp=Z,0.9nm,1.0s						
WB2	Warramunga Arr	42.61	265	P	P	10 30 24.0	-0.7
WB2				IAmb	IAmb	10 30 45.7	
	comp=Z,9.9nm,1.4s						
WB0	Warramunga Arr	42.62	266	P	P	10 30 23.4	-1.3
WB0				IAmb	IAmb	10 30 29.1	
	comp=Z,8.6nm,1.5s						
WRA	Warramunga Arr	42.62	265	P	P	10 30 24.1	-0.7
	comp=Z,0.7nm,0.6s,baz=96,slow=8.4,SNR=37						
	comp=Z,0.7nm,0.6s						
WRA	Warramunga Arr	42.62	265	P	P	10 30 24.3	-0.5
KNRA	Kununurra	48.86	269	P	P	10 31 11.9	-0.4
VNDA	Vanda	55.12	185	P	P	10 31 57.5	+1.2
	comp=Z,0.7nm,0.5s,baz=13,slow=7.5,SNR=10						
	comp=Z,0.7nm,0.5s						
VNDA	Vanda	55.12	185	P	P	10 31 58.3	+2.0
MORW	Morawa	57.28	249	P	P	10 32 10.7	-1.4
QSPA	South Pole Qui	66.92	180	P	P	10 33 15.2	+1.1
QSPA				IAmb	IAmb	10 33 15.7	
	comp=Z,2.8nm,0.6s						
SNAA	Sanae	85.40	179	P	P	10 34 54.7	-0.9
	comp=Z,0.5nm,0.5s,baz=170,slow=6.1,SNR=2.3						
	comp=Z,0.5nm,0.5s						
HFS	Hagfors	141.86	349	PKhKP	PKPpre	10 41 39.7	
	comp=Z,1.1nm,0.3s,baz=48,slow=2.2,SNR=7.8						
AKASG	Malin Array Be	144.44	328	PKP	PKPbc	10 41 48.1	-2.0
	comp=Z,0.1nm,0.3s,baz=45,slow=3.8,SNR=4.1						

IDC 02 10:29:41.2±8.2**, 2.°53S**×**126.°80E, h95km**±90km**, mb3.1**/2**, mbtmp3.6**/4**, ML3.6**/2**, Error ellipse: s-maj=68.1km s-min=23.8km az=86.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	4.76	70	P	Pn	10 30 49.5	-1.2
	6.5nm,0.3s,baz=256,slow=23,SNR=15						
SIJI				S	Sn	10 31 46.2	+1.6
	8.4nm,0.4s,baz=112,slow=24,SNR=1.8						
	14nm,0.3s						
WRA	Warramunga Arr	18.81	158	P	P	10 33 54.0	+0.5
	0.1nm,0.3s,baz=340,slow=12,SNR=7.8						
	1.5nm,0.8s						
ASAR	Alice Springs	22.11	162	P	P	10 34 28.6	-0.4
	0.7nm,0.8s,baz=344,slow=11,SNR=14						
	0.7nm,0.8s						
MKAR	Makanchi Array	62.76	327	P	P	10 39 56.6	+0.1
	0.4nm,0.6s,baz=120,slow=8.5,SNR=2.2						
	0.4nm,0.6s						

---

*DNK **02** 10:40:42.5±2.3, 57.°20N×18.°58E, h0km, ML1.9(UPP), Suspected explosion*

UPP 02 10:40:26.0±1.8**, 56.°73N**×**20.°50E, h0km, ML1.9, Suspected explosion, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOTU	Gotland	1.43	313	P	Pn	10 40 51.8	-1.3
GOTU				S	Sn	10 41 14.2	+1.7
GOTU	Gotland	1.43	313	P	Pn	10 40 51.8	-1.3
GOTU				S	Sn	10 41 14.2	+1.7
VSTU	Vaestervik	2.35	295	P	Pn	10 41 06.8	+1.0
VSTU	Vaestervik	2.35	295	P	Pn	10 41 06.8	+1.0
OSKU	Oskarshamn	2.46	283	P	Pn	10 41 07.8	+0.6
OSKU	Oskarshamn	2.46	283	P	Pn	10 41 07.8	+0.6
BLEU	Blekinge	2.63	263	P	Pn	10 41 08.8	-0.8
BLEU	Blekinge	2.63	263	P	Pn	10 41 08.8	-0.8
VIKU	Vikbolandet	2.71	313	P	Pn	10 41 11.1	+0.4
VIKU	Vikbolandet	2.71	313	P	Pn	10 41 11.1	+0.4
EKSU	Eksjoe	2.96	289	P	Pn	10 41 15.0	+0.8
EKSU	Eksjoe	2.96	289	P	Pn	10 41 15.0	+0.8
VXJU	Vaexsjoe	3.06	276	P	Pn	10 41 15.6	0.0
VXJU	Vaexsjoe	3.06	276	P	Pn	10 41 15.6	0.0
LNKU	Linkoeping	3.09	301	P	Pn	10 41 16.3	+0.4
LNKU	Linkoeping	3.09	301	P	Pn	10 41 16.3	+0.4

---

*IDC **02** 10:46:39.5±2.3, 38.°11N×73.°70E, h144km±22km, mb3.6/7, mbtmp4.1/13, Error ellipse: s-maj=18.2km s-min=16.9km az=34.0*

*BJI **02** 10:46:40.6±0.0, 38.°18N×73.°50E, h170km, mb4.3/4*

*NEIC **02** 10:46:42.0±1.1, 38.°21N±0.°07×73.°46E±0.°05, h158km±9km, mb4.4/7, Error ellipse: s-maj=11.2km s-min=2.6km az=152.0*

*SOME **02** 10:46:42.3, 39.°02N×73.°02E, h5km*

*NNC **02** 10:46:45.7±10.0, 38.°70N×73.°46E, h0km, mb4.9, mpv4.4, Error ellipse: s-maj=84.5km s-min=58.6km az=164.0*

ISC 02 10:46:39.1±0.5**, 38.°04N**±0.°04×**73.°53E**±0.°05**, h150km, n81,** σ**2.s59**/88**, mb4.0**/9**, 3C-7D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRK	Karamyk	1.98	317		Pn	10 47 15.9	+1.7
KSH	Kashi	2.41	52	P	Pn	10 47 17.0	-2.2
KSH				S	Sn	10 47 41.8	-8.3
KSH				smax	smax		
	comp=N,2µm,0.7s						
KSH				smax	smax		
	comp=E,1µm,0.6s						
GAR	Garm	2.70	292		Pn	10 47 24.2	+1.4
BTK	Batken	2.92	314		Pn	10 47 27.6	+2.1
CHGR	Chuyangaron	3.50	281		Pn	10 47 34.0	+1.1
NRN	Naryn	3.88	29	Pn	Pn	10 47 38.6	+0.5
AML	Almayashu	4.09	2	P	Pn	10 47 41.8	+1.0
	SNR=77						
UCH	Uchtor	4.25	10	P	Pn	10 47 44.1	+1.2
	SNR=21						
CHCP	Chirah Chowk	4.38	183	⇓P	Pn	10 47 49.2	+4.8
NIL	Nilore	4.39	183		Pn	10 47 49.1	+4.7
CEP	Cherat	4.41	198	⇓P	Pn	10 47 49.8	+4.9
EKS2	Erkin-Say	4.62	2	P	Pn	10 47 49.0	+1.5
	SNR=99						
AAK	Ala-Archa	4.65	9	P	Pn	10 47 49.4	+1.4
	SNR=24						
AAK	Ala-Archa	4.65	9	P	Pn	10 47 48.0	+0.1
	12nm,0.3s,baz=183,slow=8.8,SNR=36						
AAK				S	Sn	10 48 40.1	-1.5
	41nm,0.3s,baz=202,slow=10,SNR=6.2						
AAK	Ala-Archa	4.65	9	Pn	Pn	10 47 49.0	+1.1
ULHL	Ulahol	4.68	25	P	Pn	10 47 49.5	+1.1
	SNR=7.0						
MRKS	Merke	4.70	357	eP	Pn	10 47 49.8	+1.2
	168nm,0.1s						
MRKS				eS	Sn	10 48 39.6	-3.2
	684nm,0.5s						
KBK	Karagaybulak	4.74	13	P	Pn	10 47 50.8	+1.8
	SNR=6.1						
BOOM	Boomskoye usch	4.81	22		Pn	10 47 51.3	+1.3
IUG	Iuzhnay	4.90	328	eP	Pn	10 47 52.6	+1.4
	2µm,0.3s						
IUG				eS	Sn	10 48 44.3	-3.2
	790nm,0.0s						
KBL	Kabul	5.04	227	Pn	Pn	10 47 57.0	+3.9
CHMS	Chumysh	5.04	10	P	Pn	10 47 54.3	+1.3
	SNR=9.4						
CHMS	Chumysh	5.04	10	⇓P	Pn	10 47 53.7	+0.7
	26nm,0.7s						
CHMS				⇑S	Sn	10 48 48.7	-1.9
	50nm,0.7s						
TKM2	Tokmak 2	5.12	17	P	Pn	10 47 55.6	+1.4
	SNR=91						
TKM2	Tokmak 2	5.12	17	⇓P	Pn	10 47 55.4	+1.1
	46nm,0.6s						
TKM2				⇓S	Sn	10 48 51.1	-1.8
	37nm,0.7s						
USP	Ospenovka	5.27	8	P	Pn	10 47 56.9	+0.9
	SNR=12						
JMU	Jammu	5.43	168	eP	Pn	10 48 01.6	+3.4
JMU				eS	Sn	10 49 00.5	+0.6
THW	Thamme Wali	5.44	196	P	Pn	10 48 01.6	+3.3
SGDS	Sogindy	5.47	8	eP	Pn	10 48 05.4	+6.7
	3.8nm,0.2s						
SGDS				eS	Sn	10 49 06.4	+5.5
	20nm,0.3s						
MTBS	Maitube	5.54	23	eP	Pn	10 48 12.4	+13
	2.4nm,0.1s						
MTBS				eS	Sn	10 49 17.9	+15
	15nm,0.4s						
KK31	Karatay Array	5.55	336	Pn	Pn	10 48 00.4	+0.6
KK31	Karatay Array	5.55	336	⇑P	Pn	10 48 00.1	+0.3
	31nm,0.3s,baz=138,slow=12						
KK31				⇓S	Sn	10 48 58.3	-4.6
	66nm,0.3s,baz=142,slow=22						
KKAR	Karatay Array	5.55	336	Pn	Pn	10 48 00.4	+0.6
KKAR	Karatay Array	5.55	336		Pn	10 48 00.3	+0.5
TNSS	Tian-Shan	5.63	26	eP	Pn	10 48 14.6	+14
	8.2nm,0.1s						
TNSS				eS	Sn	10 49 22.4	+17
	11nm,0.2s						
MDOK	Medeo	5.77	26	eP	Pn	10 48 17.0	+14
	4.3nm,0.1s						
MDOK				eS	Sn	10 49 26.5	+18
	16nm,1.0s						
KRBS	Karabastau	5.88	15	eP	Pn	10 48 16.0	+12
	4.3nm,0.1s						
KRBS				eS	Sn	10 49 24.3	+14
	33nm,0.2s						
KTBS	Karatobe	6.15	22	eP	Pn	10 48 21.8	+14
	4.6nm,0.3s						
KTBS				eS	Sn	10 49 34.3	+17
	49nm,0.7s						
KUU	Kurty	6.22	19	eP	Pn	10 48 22.5	+14
	4.6nm,2.0s						
KUU				eS	Sn	10 49 35.7	+17
	29nm,0.2s						
BHK	Bhakra	7.02	159	eP	Pn	10 48 22.6	+3.2
BHK				eS	Sn	10 49 36.4	-1.7
SMLA	Simla	7.52	155	eP	Pn	10 48 27.5	+1.5
SMLA				eS	Sn	10 49 45.7	-4.2
SMLA				IAML		10 49 51.1	
	comp=N,119nm,0.1s						
SMLA				IAML		10 49 55.9	
	comp=E,129nm,0.4s						
DDI	Dehra Dun	8.56	153	eP	Pn	10 48 41.7	+1.7
DDI				eS	Sn	10 50 10.6	-4.7
NDI	New Delhi	9.83	161	eP	Pn	10 48 59.0	+2.2
NDI				eS	Sn	10 50 43.0	-2.7
PTH	Pithoragarh	10.13	145	eP	Pn	10 49 01.1	+0.2
SONA	Sohna	10.21	162	eP	Pn	10 49 04.0	+2.2
SONA				eS	Sn	10 50 49.4	-5.4
LGTI	Lohaghat	10.23	145	eP	Pn	10 49 02.1	0.0
LGTI				eS	Sn	10 50 47.0	-8.2
MAKZ	Makanchi	10.75	33	Pn	Pn	10 49 09.9	+1.1
MK31	Makanchi Array	10.87	34	Pn	Pn	10 49 10.7	+0.2
MKAR	Makanchi Array	10.87	34	P	Pn	10 49 08.9	-1.6
	comp=E,1.5nm,0.7s,baz=214,slow=15,SNR=7.4						
MKAR	Makanchi Array	10.87	34	Pn	Pn	10 49 11.7	+1.2
AJM	Ajmer	11.57	175	eP	Pn	10 49 20.3	+0.6
AJM				eS	Sn	10 51 23.6	-4.1
WMQ	Urumqi	12.16	57	eP	P	10 49 30.5	-3.2
WMQ				pmax	pmax		
	comp=E,7.0nm,0.7s						
GEYT	Alibeck	12.17	274	P	Pn	10 49 30.4	+2.9
	comp=E,0.9nm,0.3s,baz=103,slow=11,SNR=1.7						
GEYT				S	Sn	10 51 34.4	-7.6
	comp=E,3.7nm,0.3s,baz=70,slow=19,SNR=2.8						
KURBB	Kurchatov Arra	13.07	14	P	Pn	10 49 36.6	-2.4
	comp=E,4.0nm,1.1s,baz=203,slow=12,SNR=11						
KURK	Kurchatov	13.18	14	P	P	10 49 45.6	+0.8
KURK	Kurchatov	13.18	14	⇑P	P	10 49 43.6	-1.2
	comp=E,20nm,0.7s						
JHNI	Jhansi	13.24	160	eP	Pn	10 49 43.5	+2.2
ABKAR	Akbulak array	14.89	323		Pn	10 50 00.6	-1.3
ABKAR	Akbulak array	14.89	323		Pn	10 50 01.1	-0.8
BHPL	Bhopal	15.12	166	eP	Pn	10 50 05.5	+0.4
BHPL				IAmb	IAmb	10 50 08.0	
	comp=Z,6.5nm,0.7s						
BHPL				eS	Sn	10 52 41.7	-12
BRVK	Borovoye	15.19	352		Pn	10 50 05.4	-0.1
BRVK				IAmb	IAmb	10 50 10.1	
	comp=Z,13nm,0.7s						
ZAA0	Zalesovo Array	17.70	22	P	Pn	10 50 35.6	-0.4
ZAA0				IAmb	IAmb	10 50 36.3	
	comp=Z,14nm,0.7s						
ZALV	Zalesovo Beam	17.70	22	P	Pn	10 50 35.5	-0.6
	comp=Z,14nm,0.6s,baz=219,slow=11,SNR=54						
ZALV	Zalesovo Beam	17.70	22	P	Pn	10 50 35.6	-0.4
WSAR	Wadi Sarin	19.51	225	P	Pn	10 50 57.5	-0.1
	comp=Z,7.7nm,0.7s,baz=63,slow=6.1,SNR=7.9						
ARU	Arti	20.93	336	P	P	10 51 09.9	+0.2
	comp=Z,3.5nm,0.3s,baz=148,slow=7.6,SNR=14						
	comp=Z,3.5nm,0.3s						
ARU	Arti	20.93	336	P	P	10 51 09.3	-0.4
ARU				IAmb	IAmb	10 51 11.7	
	comp=Z,15nm,1.0s						
LZH	Lanzhou	24.22	85	⇓P	P	10 51 43.6	+1.6
LZH				pP	pP	10 52 19.4	+5.9
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
SONM	Songino Array	25.80	57	pP	pP	10 52 32.9	+4.1
	comp=Z,0.9nm,0.7s,baz=252,slow=10,SNR=5.0						
FIA1	FINESS Array S	37.37	324	P	P	10 53 38.5	+1.6
FINES	FINESS Array B	37.37	324	P	P	10 53 38.6	+1.8
	comp=Z,1.2nm,0.4s,baz=119,slow=11,SNR=12						
	comp=Z,1.2nm,0.4s						
ARCES	ARCESS Array B	40.52	336	P	P	10 54 03.9	+1.0
	comp=Z,1.7nm,0.5s,baz=101,slow=5.6,SNR=13						
	comp=Z,1.7nm,0.5s						
ARCES	ARCESS Array B	40.52	336	P	P	10 54 04.8	+1.9
ARCES				IAmb	IAmb	10 54 24.8	
	comp=Z,9.8nm,1.3s						
CLL	Collm	43.82	308	ePx	Px	10 54 35.0	
CLL				epP	pP	10 55 07.0	+2.5
NOA	NORSAR Array B	44.39	322	P	P	10 54 35.7	+1.4
	comp=Z,1.2nm,0.8s,baz=97,slow=7.6,SNR=2.6						
	comp=Z,1.2nm,0.8s						
TORD	Torodi Ar. Bea	67.76	270	P	P	10 57 21.9	+1.0
	comp=Z,2.4nm,0.6s,baz=46,slow=5.6,SNR=15						
	comp=Z,2.4nm,0.6s						
TORD	Torodi Ar. Bea	67.76	270	P	P	10 57 21.8	+1.0
TOLK	Toolik Lake Re	68.91	16	P	P	10 57 28.9	+1.7
TOLK				IAmb	IAmb	10 57 54.1	
	comp=Z,15nm,1.4s						
WRA	Warramunga Arr	81.13	124	P	P	10 58 38.2	+0.4
	comp=Z,1.1nm,0.7s,baz=326,slow=5.1,SNR=19						
WRA				pP	pP	10 59 19.9	+3.4

comp=Z,0.3nm,0.5s,baz=329,slow=5.3,SNR=5.0
comp=Z,1.1nm,0.7s
ASAR Alice Springs 83.51 127 P **P 10 58 51.5 +1.3**
comp=Z,0.5nm,0.7s,baz=313,slow=4.5,SNR=10
comp=Z,0.5nm,0.7s
PLCA Paso Flores 152.23 253 PKPbc **PKiKP 11 06 18.3 +1.3**
comp=Z,0.8nm,0.7s,baz=31,slow=6.9,SNR=4.0

IDC 02 11:08:57.6±419.0**, 56.85N×41.91E, h0km, Error ellipse: s-maj=136.6km s-min=56.8km az=93.0, Baltic States-Belarus-Northwestern Russia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I43RU DUBNA INFRASON 2.59 269 I 11 25 10.0
baz=85,slow=333,SNR=1.3
I31KZ AKTYUBINSK INF 11.53 117 I 12 18 50.0
baz=314,slow=330,SNR=1.9
I37NO I37NO 16.05 329 I 12 54 00.0
baz=129,slow=266,SNR=1.7

---

*AZER **02** 11:11:02.5±0.7, 35.24N×49.28E, h10km±33km, Error ellipse: s-maj=108.4km s-min=8.0km az=339.0*
*TEH **02** 11:11:08.4, 35.68N×48.98E, h6km, ML4.2*
*MOS **02** 11:11:08.7±1.5, 35.54N×48.72E, h11km, mb4.5/13, MS3.2/5, Error ellipse: s-maj=10.5km s-min=5.3km az=97.0*
*IDC **02** 11:11:09.2±0.8, 35.57N×48.88E, h0km, mb4.0/16, mbtmp4.0/21, ML4.0/5, MS3.3/16, Error ellipse: s-maj=16.7km s-min=13.9km az=11.0*
*NEIC **02** 11:11:11.8±3.1, 35.65N±0.06×48.95E±0.07, h10km±1km, mb4.2/12, mb_Lg4.2(TEH), Error ellipse: s-maj=10.7km s-min=8.8km az=224.0*
ISC 02 11:11:10.9±0.4**, 35.69N**±0.02×**48.91E**±0.02**, h10km, n182,** σ**2.11**/195**, mb4.2**/30**, MS3.3**/15**, 8C, Western Iran**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
QABG Abgarm-Qazvin 0.55 88 ePg **Pg 11 11 18.7 -2.9**
QABG eSg **Sg 11 11 26.3 -2.6**
IRAZ Razeghan 0.88 109 ePg **Pg 11 11 25.9 -2.0**
IRAZ eSg **Sg 11 11 38.1 -1.3**
HAGD Aghdareh 0.89 168 ePg **Pg 11 11 26.0 -2.0**
HAGD e 11 11 39.5
comp=Z,76µm,0.3s
ZNJK Zanjan 0.99 350 ePg **Pg 11 11 29.0 -1.0**
JIR1 Jirandeh 1.24 35 ePg **Pn 11 11 33.1 -1.4**
JIR1 eSg **Sb 11 11 49.9 -0.8**
JIR1 e 11 11 56.9
comp=Z,81µm,0.4s
IGZV Ghazvin 1.27 57 ePg **Pn 11 11 33.3 -1.5**
IGZV eSg **Sg 11 11 50.9 -0.8**
IGZV e 11 11 51.4
comp=Z,58µm,0.7s
IMHD Mahdasht 1.43 90 ePg **Pb 11 11 36.5 -1.2**
IMHD eSg **Sb 11 11 55.3 -0.7**
IMHD e 11 11 59.3
comp=Z,18µm,0.3s
ASAO Ashtian 1.47 141 Pb 11 11 36.7 -1.7
ASAO Ashtian 1.47 141 ePg **Pb 11 11 36.7 -1.7**
GIDE GILAN DEYLAMAN 1.47 33 Pn 11 11 37.1 -0.5
GIDE GILAN DEYLAMAN 1.47 33 ePg **Pn 11 11 37.1 -0.5**
IBZA Bozab 1.49 215 ePg **Pn 11 11 37.0 -1.0**
HSAM Samen 1.50 190 ePn **Pn 11 11 37.1 -1.0**
HSAM e 11 11 59.2
comp=Z,62µm,0.4s
QALM Alamut, Qazvin 1.59 62 ePn **Pn 11 11 38.4 -0.9**
QALM eSg **Sg 11 12 01.2 -0.8**
QALM e 11 12 04.9
comp=Z,38µm,0.5s
LHJ2 Lahijan - Gila 1.74 32 ePn **Pb 11 11 41.6 -1.3**
ILIN Lien 1.77 245 ePn **Pg 11 11 43.0 -1.8**
CHTH Charan 1.81 83 ePn **Pb 11 11 42.7 -1.6**
CSN1 Caspian 1.87 5 ePn **Pb 11 11 44.6 -0.5**
IKOM Komasi 1.90 218 ePn **Pb 11 11 44.4 -1.4**
IKOM e 11 12 24.2
comp=Z,43µm,1.0s
KLST Kelardasht - M 1.93 64 ePn **Pb 11 11 44.7 -1.5**
KLST e 11 12 15.1
comp=Z,42µm,0.5s
IHSB Hasanabad 1.95 97 ePn **Pb 11 11 44.5 -2.0**
KER Kermanshah 1.96 229 ePn **Pb 11 11 45.5 -1.2**
KER e 11 12 23.6
comp=Z,23µm,0.8s
IQOM Qom 1.96 115 ePn **Pb 11 11 45.1 -1.7**
IQOM e 11 11 47.3
comp=Z,11µm,0.7s
IDOB Doab 2.00 198 ePn **Pb 11 11 45.6 -1.8**
IDOB e 11 12 17.4
comp=Z,24µm,0.6s
TEH Tehran 2.01 88 ePn **Pb 11 11 46.2 -1.4**
TEH e 11 12 23.5
comp=Z,28µm,0.8s
TEHA Amirabad Tehra 2.02 88 ePn **Pb 11 11 46.0 -1.7**
TEHA e 11 12 18.5
comp=Z,28µm,0.6s
IHSH Hashtrud 2.08 321 ePn **Pb 11 11 47.8 -1.2**
IHSH e 11 11 57.0
comp=Z,11µm,0.3s
KCHF Cheshme Sefid, 2.09 228 ePn **Pb 11 11 47.9 -1.0**
KCHF e 11 11 55.6
comp=Z,31µm,0.6s
KHMZ Khomeyn 2.13 156 ePn **Pb 11 11 47.5 -2.2**
IKMR Kamar-syah 2.21 191 ePn **Pb 11 11 49.3 -1.7**
IKMR e 11 12 30.9
comp=Z,38µm,0.7s
IDHR Dehrash 2.29 245 ePn **Pb 11 11 50.4 -2.0**
GHVR GHOM 2.30 121 ePn **Pb 11 11 49.8 -2.7**
ISRB Sarab 2.35 335 ePn **Pb 11 11 51.0 -2.4**
ISRB e 11 12 31.6
comp=Z,14µm,0.6s
IGHG Ghaleghazi 2.35 235 ePn **Pb 11 11 50.9 -2.6**
IVRN Varamin 2.41 106 ePn **Pn 11 11 51.2 +0.8**
IVRN e 11 12 01.2
comp=Z,5µm,1.0s
DAMV Damavand 2.49 91 ePn **Pn 11 11 52.1 +0.3**
IDMV Damavand 2.55 92 ePn **Pn 11 11 53.2 +0.7**
IDMV e 11 12 31.9
comp=Z,15µm,1.0s
IBST Bostanabad 2.58 322 ePn **Pb 11 11 54.3 -3.0**
IBST e 11 12 34.1
comp=Z,5µm,0.5s
GAS1 Astara - Iran 2.69 359 ePn **Pb 11 11 56.3 -2.7**
GAS1 e 11 12 40.3
comp=Z,14µm,0.4s
MAHB Mahabad 2.80 293 ePn **Pn 11 11 56.9 +1.0**
MAHB e 11 12 44.7
comp=Z,8µm,0.6s
QAMS Qamsar 2.83 133 ePn **Pn 11 11 57.3 +0.9**
QAMS e 11 12 11.8
comp=Z,7µm,0.4s
IPRN Peran 2.83 78 ePn **Pn 11 11 57.2 +0.9**
IPRN e 11 13 03.4
comp=Z,10µm,1.0s
ASTR Astara 2.86 358 P **Pn 11 11 57.4 +0.8**
SNR=7.4
ASTR S **Sg 11 12 42.2 -0.6**
LRK Lerik 2.98 351 P **Pb 11 12 00.4 -3.7**
SNR=23
LRK S **Sg 11 12 45.5 -1.0**
LKRN Lenkeran, Azer 3.01 358 P **Pn 11 12 00.0 +1.4**
SNR=7.7
LKRN S **Sg 11 12 45.0 -2.6**
LKRN Lenkeran, Azer 3.01 358 P **Pn 11 12 00.0 +1.4**
IHRS Heris 3.02 331 ePn **Pn 11 12 00.1 +1.2**
IHRS e 11 12 14.4
comp=Z,9µm,0.4s
ISFB Sefidab 3.04 115 ePn **Pn 11 11 59.7 +0.5**
IAZR Azarshahr 3.08 311 ePn **Pn 11 12 01.5 +1.8**
IAZR e 11 13 00.8
comp=Z,9µm,0.9s
IFIR Firoozkooh 3.13 90 ePn **Pn 11 12 02.0 +1.5**
IFIR e 11 12 57.1
comp=Z,4µm,0.5s
KRSH Karshahi 3.16 122 ePn **Pn 11 12 01.7 +0.8**
KRSH e 11 13 04.9
comp=Z,5µm,0.8s
IKLH Kolahrood 3.24 136 ePn **Pn 11 12 02.2 +0.2**
IKLH e 11 13 07.2
comp=Z,5µm,0.6s
YRD Yardimli 3.26 351 P **Pn 11 12 04.3 +2.0**
SNR=36
YRD S **Sg 11 12 52.7 -2.9**
DHL1 Dehloran 3.29 205 ePn **Pn 11 12 04.3 +1.8**
ILAS Lasjerd 3.32 94 ePn **Pn 11 12 04.3 +1.2**
ILAS e 11 13 19.4
comp=Z,3µm,0.7s
TVRZ Varzaqan 3.33 328 ePn **Pn 11 12 04.7 +1.6**
TVRZ e 11 13 12.9
comp=Z,6µm,0.7s
IPIR Pirpir 3.42 151 ePn **Pn 11 12 06.2 +1.6**
IPIR e 11 13 09.2
comp=Z,7µm,0.8s
GLBA Clilabad 3.56 354 P **Pn 11 12 07.4 +1.2**
SNR=7.4
GLBA S **Sb 11 13 00.6 +3.3**
ISHB Shabestar 3.69 315 e Pg 11 12 36.2 +15
comp=Z,3µm,0.5s
SHK1 Shahrekord 3.74 153 ePn **Pn 11 12 09.8 +1.0**
QRD Qoradiz 3.97 342 P **Pn 11 12 14.5 +2.8**
SNR=17
QRD S **Sb 11 13 10.4 +1.5**
IZEF Zefreh 3.98 134 ePn **Pn 11 12 13.2 +1.1**
ORD Ordubad 3.98 325 P **Pn 11 12 14.7 +2.8**
SNR=18
ORD S **Sb 11 13 11.0 +1.7**
AMIS Naft Sefid 4.03 175 ePn **Pn 11 12 13.4 +0.7**
IGLO Ghaloghah 4.07 77 ePn **Pn 11 12 14.5 +1.2**
BLQ Beylaqan 4.16 345 P **Pn 11 12 17.1 +2.7**
SNR=8.0
BLQ S **Sb 11 13 15.2 +0.8**
IBRJ Brojen 4.25 152 ePn **Pn 11 12 16.8 +0.8**
IBRJ e 11 13 35.7
comp=Z,3µm,0.7s
ALIB Äli-Bayra 4.26 1 S **Sb 11 13 15.7 -1.5**
NASN Na'in 4.33 131 ePn **Pn 11 12 18.6 +1.5**
NAX Nakhchivan 4.41 323 P **Pn 11 12 21.6 +3.6**
SNR=5.8
NAX S **Sb 11 13 21.4 -0.3**
NAX Nakhchivan 4.41 323 P **Pn 11 12 21.5 +3.6**
SBZ Shahbuz 4.56 325 P Pn 11 12 23.8 +3.9
SNR=6.7
SBZ S **Sb 11 13 26.6 +0.6**
AGDM Agdam 4.63 343 P **Pn 11 12 23.8 +3.0**
SNR=8.0
AGDM S **Sb 11 13 28.7 +0.7**
ANAR Anarak 4.70 121 ePn **Pn 11 12 23.1 +1.1**
BRDA Brd 4.76 344 P **Pn 11 12 26.3 +3.7**
SNR=12
BRDA S **Sb 11 13 29.5 -2.2**
GBS Qobustan 4.83 0 S **Sb 11 13 30.9 -2.9**
IRAM Ramesheh 4.84 142 ePn **Pn 11 12 25.0 +1.1**
IRAM e 11 13 53.6
comp=Z,1µm,0.6s
MAKU Maku 4.96 319 ePn **Pn 11 12 27.5 +1.9**
MAKU ePn Pb 11 12 28.1 -10
GANJ Ganja 5.35 338 P Pn 11 12 35.4 +4.6
GANJ S **Sb 11 13 44.0 -4.6**
SIZA Siyzn 5.37 360 P **Pn 11 12 34.4 +3.2**
SIZA S **Sb 11 13 42.9 -6.5**
XNQ Khinaliq 5.50 354 P **Pn 11 12 36.2 +3.1**
XNQ S **Sb 11 13 48.3 -4.9**
GNI Garni 5.53 325 Pg **Pb 11 12 50.4 +2.7**
comp=Z,1.3nm,0.3s,baz=143,slow=11,SNR=4.1
GNI Lg Lg 11 14 09.1
comp=Z,2.2nm,0.3s,baz=194,slow=12,SNR=1.4
GNI Garni 5.53 325 Pn **Pn 11 12 33.7 +0.2**
GNI Garni 5.53 325 P **Pn 11 12 33.7 +0.2**
GDB GEDABAY 5.60 335 P Pn 11 12 39.0 +4.7
GDB S **Sb 11 13 50.6 -5.4**
QUBA Quba, Azerbaij 5.66 357 P **Pn 11 12 38.6 +3.5**
QUBA S **Sb 11 13 52.2 -5.5**
SEKA Sheki 5.67 347 P Pn 11 12 39.1 +4.0
SEKA Sheki 5.67 347 P Pn 11 12 39.1 +3.9
YZKH Yazd 5.75 123 ePn **Pn 11 12 37.5 +1.1**
SHRO Shahrood 5.78 85 ePn **Pn 11 12 37.4 +0.7**
QSAR Qusar 5.83 355 P Pn 11 12 41.9 +4.5
QSAR S **Sb 11 13 56.1 -6.6**
QZX Qazax, Azerbai 6.03 334 S **Sb 11 14 00.9 -7.4**
MRVT Maraveh tapeh 6.09 69 ePn **Pn 11 12 41.2 +0.1**
ZKTA Zakatala 6.20 344 S **Sb 11 14 04.8 -8.3**
TNSJ Nastanj 6.56 103 ePn **Pn 11 12 48.7 +1.1**
MARD Mardin 6.74 286 Pn **Pn 11 12 50.0 0.0**
TPRV Parvadeh(Tabas 6.96 110 ePn **Pn 11 12 54.2 +1.2**
TABS Tabas 7.07 104 ePn **Pn 11 12 55.3 +0.9**
TKDS Koohdasht(Taba 7.08 105 ePn **Pn 11 12 55.8 +1.2**
MAK Makhachkala 7.34 352 eP **Pn 11 12 55.0 -3.0**
MAK eS **Sn 11 14 17.7 -3.6**
MAK pmax pmax
comp=Z,338nm,1.0s
MAK MLR MLR
comp=Z,317nm,9.0s
GEYT Alibeck 7.72 70 Pn **Pn 11 13 05.3 +2.0**
comp=Z,0.6nm,0.3s,baz=264,slow=14,SNR=2.9
GEYT LR LR 11 16 12.4
comp=Z,48nm,22.0s,baz=248,slow=39
comp=Z,2.4nm,0.5s
GEYT Alibeck 7.72 70 Pn 11 13 07.5 +4.2
GYA0B ALIBECK ARRAY 7.72 70 Pn Pn 11 13 08.5 +5.2
ZEI Tsey 8.08 333 eP Pn 11 13 18.5 +10
ZEI pmax pmax
comp=Z,4.0nm,0.8s
AFRZ Afriz 8.64 102 Pn **Pn 11 13 17.1 +1.0**
AFRZ Afriz 8.64 102 ePn **Pn 11 13 17.1 +1.0**
BSRN Basiran 9.28 111 ePn **Pn 11 13 25.8 +1.0**
SHA1 Shidzhatmaz 9.36 331 i P **Pn 11 13 28.6 +2.6**
KIV Kislovodsk 9.53 332 eP **Pn 11 13 29.6 +1.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,53nm,11.0s
SHRT Shahrakht 9.60 99 ePn **Pn 11 13 30.7 +1.6**
SOC Sochi 10.59 321 eP **Pn 11 13 40.7 -1.9**
SOC e 11 15 38.9
SOC MLR MLR
comp=Z,148nm,13.0s
EIL Elat 13.20 247 LR LR 11 20 33.8
comp=Z,217nm,18.6s,baz=60,slow=43
WSAR Wadi Sarin 15.01 143 Pn **Pn 11 14 40.9 -2.3**
comp=Z,0.2nm,0.3s,baz=359,slow=15,SNR=1.9
comp=Z,2.0nm,0.7s
ABKAR Akbulak array 15.78 27 Pn 11 14 53.0 -0.1
ABKAR Akbulak array 15.78 27 Pn 11 14 52.6 -0.5
ABKAR IAmb IAmb 11 15 01.8
comp=Z,3.5nm,0.8s
VRH Novokhopyorsk 16.34 344 eP **P 11 15 01.1 -2.1**
VRH pmax pmax
comp=Z,20nm,0.7s
BELG Belogornoye 16.72 357 Pn **P 11 15 06.1 -1.2**
comp=Z,1.0nm,0.3s,baz=294,slow=3.1,SNR=4.1
BELG LR LR 11 23 26.2
comp=Z,42nm,18.9s,baz=168,slow=44
comp=Z,16nm,0.7s
BELG Belogornoye 16.72 357 i P **P 11 15 06.2 -1.1**
BELG pmax pmax
comp=Z,4.0nm,0.9s
VSR Storozhevoye 17.03 339 eP **Pn 11 15 07.4 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.2s
KARP Karpathos 17.68 276 P **P 11 15 19.8 +1.7**
KK31 Karatay Array 18.23 60 P **P 11 15 26.9 +2.7**
KK31 Karatay Array 18.23 60 P **P 11 15 26.9 +2.7**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 18.23 60 P **P 11 15 25.1 +0.9**
KKAR Karatay Array 18.23 60 P **P 11 15 26.1 +1.9**
KKAR IAmb IAmb 11 15 51.6
comp=Z,6.1nm,0.9s
KKAR Karatay Array 18.23 60 P **P 11 15 25.1 +0.9**
KKAR pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 18.33 340 eP **Pn 11 15 22.1 -2.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
IDI Anoyia 19.56 276 P **Pn 11 15 39.3 -0.8**
comp=Z,0.6nm,0.3s,baz=289,slow=18,SNR=3.2
comp=Z,11nm,0.9s
IDI Anoyia 19.56 276 P **Pn 11 15 40.5 +0.5**
MLR Muntele Rosu 19.94 306 P **Pn 11 15 44.3 -0.3**
comp=Z,0.2nm,0.3s,baz=196,slow=14,SNR=3.7
comp=Z,2.6nm,0.7s
AKASG Malin Array Be 20.66 323 P **P 11 15 50.3 -0.3**
comp=Z,3.0nm,0.8s,baz=130,slow=10,SNR=13
AKASG LR LR 11 25 35.1
comp=Z,34nm,18.5s,baz=64,slow=42
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 20.66 323 P **P 11 15 50.7 +0.1**
AKBB IAmb IAmb 11 16 00.1
comp=Z,23nm,1.4s
AKBB Malin Array Si 20.66 323 ceP **P 11 15 50.3 -0.3**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 20.97 63 LR LR 11 25 41.5
comp=Z,62nm,19.8s,baz=244,slow=41
AAK Ala-Archa 20.97 63 ceP Pn 11 15 58.6 +1.8
AAK pmax pmax
comp=Z,6.0nm,2.0s
OBN Obninsk 21.20 340⇑eP **P 11 15 55.1 -1.3**
OBN e 11 16 16.1
OBN eS **S 11 19 53.1 +1.1**
OBN pmax pmax
comp=Z,12nm,0.8s
OBN MLR MLR
comp=Z,109nm,19.0s
BURAR Bucovina Array 21.24 311 P **P 11 15 58.1 +1.1**
BUR08 Bucovina Ar. S 21.27 311 P **P 11 15 58.2 +0.9**
BUR08 IAmb IAmb 11 16 16.0
comp=Z,11nm,1.4s
MOS Moscow 21.48 342 eP **P 11 15 59.4 0.0**
MOS e 11 16 18.0
MOS pmax pmax
comp=Z,46nm,0.6s
ITM Ithomi 21.74 282 P **P 11 16 04.7 +2.3**
ITM IAmb IAmb 11 16 17.3
comp=Z,18nm,1.2s
ARU Arti 21.75 15 P **P 11 16 02.7 +0.4**
comp=Z,2.0nm,0.3s,baz=167,slow=19,SNR=5.3
ARU LR LR 11 26 55.0
comp=Z,80nm,18.8s,baz=211,slow=43
comp=Z,2.0nm,0.3s
ARU Arti 21.75 15 P **P 11 16 03.0 +0.7**
ARU Arti 21.75 15c iP **P 11 16 03.0 +0.7**
ARU S **S 11 20 04.6 +1.8**
ARU pmax pmax
comp=Z,17nm,1.4s
ARU MLR MLR
comp=Z,125nm,17.0s
KIRV Kirov 22.90 1 P **P 11 16 15.4 +0.9**
comp=Z,14nm,0.4s,baz=269,slow=10,SNR=3.8
KIRV LR LR 11 27 27.7
comp=Z,50nm,18.1s,baz=177,slow=42
comp=Z,14nm,0.4s
KIRV Kirov 22.90 1ceP **P 11 16 16.4 +1.9**
BRVK Borovoye 22.98 34 P **P 11 16 16.1 +0.6**
BRVK IAmb IAmb 11 16 23.8
comp=Z,14nm,1.2s
BRVK Borovoye 22.98 34ceP **P 11 16 17.0 +1.6**
BRVK pmax pmax
comp=Z,12nm,1.2s
BVAR Borovoye Array 23.00 34 P **P 11 16 17.1 +1.4**
comp=Z,5.0nm,0.7s,baz=224,slow=7.7,SNR=15
comp=Z,5.0nm,0.7s
MNK Minsk 23.80 329 i P **P 11 16 22.2 -1.4**
comp=E,4.0nm,0.9s
MNK i P **P 11 16 22.2 -1.4**
comp=N,22nm,0.8s
MNK i P **P 11 16 22.2 -1.4**
comp=Z,12nm,0.6s,baz=314
MNK i PP **PnPn 11 16 49.4 -1.8**
MNK i PPP PPP 11 16 57.3
MNK i S **S 11 20 38.1 -0.9**
MNK i SS **SnSn 11 21 16.8 -0.5**
MNK i SSS SSS 11 21 30.2
MNK i LQ LQ 11 23 16.6
MNK i LR LR 11 25 05.9
MNK i LRM MLR 11 26 27.7
comp=N,327nm,20.4s
MNK i LRM MLR 11 26 41.7
comp=Z,84nm,17.9s
MNK i LRM MLR 11 27 09.2
comp=E,70nm,23.6s
MNK Minsk 23.80 329 i P **P 11 16 22.1 -1.4**
MNK i PPP PPP 11 16 57.2
MNK i S **S 11 20 38.1 -0.9**
MNK i SSS SSS 11 21 30.2
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.6s
MNK pmax pmax
comp=N,22nm,0.8s
MNK MLR MLR
comp=N,327nm,20.0s
MNK MLR MLR
comp=Z,84nm,18.0s
MNK MLR MLR
comp=E,70nm,24.0s
ATD Arta Tunnel 24.68 194 LR LR 11 26 56.2
comp=E,128nm,20.3s,baz=38,slow=39
KLMR Klimovskoe 25.89 349 eP **P 11 16 41.3 -1.3**
KLMR AMP 11 16 42.8
comp=Z,10.0nm,0.7s
KLMR ePP **PnPn 11 17 18.3 -1.4**
KLMR Klimovskoe 25.89 349 eP **P 11 16 41.3 -1.3**
KLMR e 11 17 18.2
KLMR pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 26.04 46 P **P 11 16 45.3 +1.2**
comp=Z,1.2nm,0.7s,baz=249,slow=9.1,SNR=6.8
comp=Z,1.2nm,0.7s
PRGR Permogore 26.05 356 eP **P 11 16 43.5 -0.5**
PRGR pmax pmax
comp=Z,19nm,0.6s
KURK Kurchatov 26.13 46 i P **P 11 16 45.9 +1.0**
KURK pmax pmax
comp=Z,6.0nm,1.3s
VSU Vasula 27.08 334 i P **P 11 16 54.8 +1.4**
VSU pmax pmax
comp=Z,61nm,1.0s
MKAR Makanchi Array 27.24 56 P **P 11 16 56.6 +1.5**
comp=Z,1.2nm,0.8s,baz=261,slow=8.0,SNR=6.1
MKAR LR LR 11 29 27.4
comp=Z,29nm,20.8s,baz=264,slow=40
comp=Z,1.2nm,0.8s
VAE Valguarnera 27.67 284 LR LR 11 28 07.4
comp=Z,55nm,20.6s,baz=244,slow=37
FINES FINESS Array B 29.55 338 P **P 11 17 16.9 +1.6**
comp=Z,4.8nm,0.9s,baz=139,slow=12,SNR=3.4
comp=Z,4.8nm,0.9s
FINES FINESS Array B 29.55 338 eP **P 11 17 18.0 +2.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 30.88 42 P **P 11 17 26.8 -0.4**
comp=Z,0.7nm,0.5s,baz=262,slow=8.6,SNR=2.6
comp=Z,0.7nm,0.5s
DGZ Jazzator, Alta 31.21 51 i P **P 11 17 33.3 +2.9**
DGZ pmax pmax
comp=Z,5.0nm,1.6s
HFS Hagfors 33.31 328 LR LR 11 32 11.0
comp=Z,89nm,18.4s,baz=154,slow=38
NOA NORSAR Array B 34.82 329 LR LR 11 33 09.5
comp=Z,71nm,18.2s,baz=120,slow=38
ARCES ARCESS Array B 36.24 346 P **P 11 18 14.8 +1.1**
comp=Z,1.4nm,0.7s,baz=100,slow=2.8,SNR=5.0
comp=Z,1.4nm,0.7s
ARCES ARCESS Array B 36.24 346 eP **P 11 18 14.8 +1.1**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
NRIK Noril'sk 39.76 20ceP **P 11 18 45.5 +2.1**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
PALK Pallekele 40.59 127 LR LR 11 37 31.2
comp=Z,26nm,19.2s,baz=355,slow=39
ESDC Sonseca Array 41.53 292 P **P 11 18 57.9 -0.6**
comp=Z,0.8nm,0.8s,baz=68,slow=8.5,SNR=6.5
comp=Z,0.8nm,0.8s
CMAR Chiang Mai Arr 47.23 98 P **P 11 19 44.2 0.0**
comp=Z,1.4nm,0.7s,baz=298,slow=8.6,SNR=9.9
comp=Z,1.4nm,0.7s
TORD Torodi Ar. Bea 47.94 254 P **P 11 19 48.8 -1.0**
comp=Z,0.9nm,0.8s,baz=36,slow=6.2,SNR=5.7
comp=Z,0.9nm,0.8s
BORG Borgarnes 50.00 328 LR LR 11 42 28.7
comp=Z,64nm,18.3s,baz=178,slow=38
TIXI Tiksi 53.42 23ceP **P 11 20 32.4 +2.0**
TIXI pmax pmax
comp=Z,4.0nm,1.7s
YAK Yakutsk 54.98 35 i P **P 11 20 44.2 +2.3**
YAK pmax pmax
comp=Z,5.0nm,0.7s
KLR Kul'dur 59.66 49 i P **P 11 21 15.8 +0.7**
KLR pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,10.0nm,2.3s						
KSRS	**Korea Array**	**61.63**	**63**	P	**P**	**11 21 28.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=289,slow=8.4,SNR=2.4						
	comp=Z,0.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**61.70**	**54**	P	**P**	**11 21 28.6**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=280,slow=8.1,SNR=2.6						
	comp=Z,1.9nm,0.6s						
RES	**Resolute Bay**	**67.33**	**350**	LR	LR	11 53 54.0	
	comp=Z,55nm,18.4s,baz=310,slow=38						
BOSA	**Boshof**	**67.74**	**202**	P	**P**	**11 22 08.4**	**-0.3**
	comp=Z,5.4nm,1.0s,baz=359,slow=7.9,SNR=5.5						
	comp=Z,5.4nm,1.0s						
SUR	**Sutherland**	**72.66**	**205**	LR	LR	11 57 47.3	
	comp=Z,100nm,18.1s,baz=128,slow=39						
ILAR	**Eielson Array**	**79.10**	**7**	P	**P**	**11 23 16.2**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=337,slow=4.8,SNR=4.3						
	comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**79.10**	**7**	*e*P	**P**	**11 23 18.8**	**+3.7**

IDC 02 11:23:53.1±3.5**, 6°.38S×148°.33E, h0km, mb3.2**/1**, mbtmp3.3**/3**, ML3.5**/1**, MS2.7**/1**, Error ellipse: s-maj=106.7km s-min=34.7km az=106.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**201**	Pn	Pn	11 24 45.7	+0.7
	5.3nm,0.3s,baz=106,slow=18,SNR=2.5						
PMG				Sn	Sn	11 25 25.4	+1.2
	20nm,0.3s,baz=216,slow=11,SNR=8.4						
WRA	**Warramunga Arr**	**19.14**	**224**	P	P	11 28 17.2	-0.9
	0.2nm,0.3s,baz=49,slow=10,SNR=15						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**22.09**	**217**	P	P	11 28 49.8	-0.3
	0.6nm,0.6s,baz=52,slow=8.8,SNR=20						
	0.6nm,0.6s						
DAV	**Davao City (W)**	**26.34**	**300**	LR	LR	11 40 38.2	
	comp=Z,18nm,19.3s,baz=326,slow=38						
TORD	**Torodi Ar. Bea**	**146.46**	**284**	PKPbc	PKPbc	11 43 37.0	-0.3
	0.3nm,0.4s,baz=75,slow=5.4,SNR=5.7						

*INET **02** 11:43:36.5±0.9, 10°.11N×84°.15W, h82km±5km, MW2.8*
*UCR **02** 11:43:36.6±1.1, 10°.12N×84°.20W, h83km±2km, MW3.7*
ISC 02 11:43:36.7±1.7**, 10°.12N**±0°.05×**84°.19W**±0°.05**, h84**km±10km**, n48,** σ0s45/61**, 11D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HDC	**Heredia**	**0.14**	**149**	*e*P	**Pn**	**11 43 48.8**	**-0.3**
HDC				*e*S	**Sn**	**11 43 58.3**	**+0.2**
HDC3	**Heredia 3**	**0.14**	**148**	*e*P	**Pn**	**11 43 48.8**	**-0.3**
HDC3				*e*S	**Sn**	**11 43 58.2**	**+0.1**
HDC3	**Heredia 3**	**0.14**	**148**	*e*P	**Pn**	**11 43 48.8**	**-0.3**
HDC3				*e*S	**Sn**	**11 43 58.1**	**0.0**
OCM	**Ochomogo**	**0.31**	**135**	*e*P	**Pn**	**11 43 49.5**	**-0.4**
RIFO	**Rio Frio, Sara**	**0.33**	**53**	*e*P	**Pn**	**11 43 49.4**	**-0.2**
HAYA	**Volcan Irazu**	**0.36**	**112**	*e*P	**Pn**	**11 43 50.4**	**0.0**
VTRT	**Volcan Turrial**	**0.40**	**107**	*e*P	**Pn**	**11 43 50.7**	**+0.2**
LCR2	**La Lucha 2**	**0.41**	**155**	*e*P	**Pn**	**11 43 50.1**	**-0.5**
RIMA	**Rio Macho**	**0.47**	**138**	*e*P	**Pn**	**11 43 50.6**	**-0.3**
RIMA	**Rio Macho**	**0.47**	**138**	*e*P	**Pn**	**11 43 50.6**	**-0.3**
RIMA				*e*S	**Sn**	**11 44 01.5**	**+0.1**
VTCV	**VTCV, Calle Va**	**0.47**	**107**	*e*P	**Pn**	**11 43 51.3**	**+0.4**
FORC	**Fortuna**	**0.59**	**306**	⇓*e*P	**Pn**	**11 43 51.4**	**-0.3**
FORC				*e*S	**Sn**	**11 44 03.2**	**+0.4**
VACR	**Volcan Arenal**	**0.60**	**306**	*e*P	**Pn**	**11 43 51.4**	**-0.4**
CASO	**Castillo**	**0.62**	**300**	⇓*i*P	**Pn**	**11 43 51.7**	**-0.4**
CEDE	**Laguna Cedeo**	**0.63**	**306**	⇓*i*P	**Pn**	**11 43 51.9**	**-0.2**
JACO	**JACO, Garabito**	**0.65**	**226**	*e*P	**Pn**	**11 43 51.9**	**-0.3**
JACO	**JACO, Garabito**	**0.65**	**226**	*e*P	**Pn**	**11 43 51.9**	**-0.3**
JACO				*e*S	**Sn**	**11 44 04.4**	**+0.6**
CDM	**Cerro de Muert**	**0.70**	**143**	*e*P	**Pn**	**11 43 52.8**	**-0.5**
CDM	**Cerro de Muert**	**0.70**	**143**	*e*P	**Pn**	**11 43 52.8**	**-0.5**
CDM				*e*S	**Sn**	**11 44 05.2**	**-0.2**
JTS	**Las Juntas de**	**0.78**	**283**	*e*P	**Pn**	**11 43 53.0**	**-0.6**
JTS	**Las Juntas de**	**0.78**	**283**	*e*P	**Pn**	**11 43 53.0**	**-0.6**
JTS				*e*S	**Sn**	**11 44 05.8**	**-0.3**
MRVA	**Moravia de Chi**	**0.79**	**112**	*e*P	**Pn**	**11 43 54.0**	**+0.2**
EDDO	**Dominical**	**0.92**	**160**	*e*P	**Pn**	**11 43 55.3**	**+0.2**
ACAL	**Aguas Claras**	**0.98**	**302**	⇓*i*P	**Pn**	**11 43 55.5**	**-0.4**
PTEN	**Parque Tenorio**	**0.99**	**307**	⇓*i*P	**Pn**	**11 43 55.6**	**-0.4**
VERA	**Finca Concepci**	**0.99**	**317**	⇓*i*P	**Pn**	**11 43 55.5**	**-0.4**
POPE	**POPE, Guanacas**	**1.06**	**267**	*e*P	**Pn**	**11 43 56.6**	**-0.2**
CUI	**Cuipilapa**	**1.10**	**299**	*e*P	**Pn**	**11 43 57.1**	**-0.2**
CUI				*e*S	**Sn**	**11 44 14.2**	**+1.4**
COLC	**Colonia**	**1.14**	**299**	⇓*i*P	**Pn**	**11 43 57.5**	**-0.3**
HORNC	**Hornillas**	**1.14**	**301**	*e*P	**Pn**	**11 43 57.5**	**-0.4**
VMAR	**Armenia, Volca**	**1.15**	**307**	*e*P	**Pn**	**11 43 57.5**	**-0.4**
MESS	**Mesas**	**1.17**	**302**	*e*P	**Pn**	**11 43 57.9**	**-0.3**
GUAB	**Guayabo de Bag**	**1.18**	**300**	*e*P	**Pn**	**11 43 57.9**	**-0.4**
LIM1	**Limonal**	**1.20**	**299**	⇓*i*P	**Pn**	**11 43 58.1**	**-0.4**
SRBA	**San Rafael, Bu**	**1.20**	**137**	*e*P	**Pn**	**11 43 58.2**	**-0.3**
ORTG	**Ortega, Santa**	**1.28**	**281**	*e*P	**Pn**	**11 43 59.2**	**-0.2**
ORTG	**Ortega, Santa**	**1.28**	**281**	*e*P	**Pn**	**11 43 59.6**	**+0.2**
ORTG				*e*S	**Sn**	**11 44 17.9**	**+1.3**
DUNO	**Dulce Nombre,**	**1.29**	**268**	*e*P	**Pn**	**11 43 59.3**	**-0.2**
DUNO				*e*S	**Sn**	**11 44 17.3**	**+0.5**
VRLE	**La Escondida,**	**1.34**	**300**	*e*P	**Pn**	**11 43 60.0**	**-0.3**
BUAI	**Buenos Aires**	**1.36**	**304**	*i* P	**Pn**	**11 44 00.1**	**-0.4**
BUAI				*e*S	**Sn**	**11 44 18.8**	**+0.5**
BUEV	**Buena Vista**	**1.38**	**299**	⇓*i*P	**Pn**	**11 44 00.4**	**-0.4**
GB1A	**Borinquen Arri**	**1.38**	**300**	*e*P	**Pn**	**11 44 00.9**	**+0.1**
LAPC	**Finca la Perla**	**1.39**	**298**	⇓*i*P	**Pn**	**11 44 00.3**	**-0.5**
GBS3	**Finca Las Img**	**1.41**	**298**	⇓*i*P	**Pn**	**11 44 00.6**	**-0.5**
SAJU	**San Juanillo,**	**1.50**	**268**	*e*P	**Pn**	**11 44 01.5**	**-0.8**
ESPN	**Las Esperanzas**	**2.07**	**357**	*e*P	**Pn**	**11 44 09.5**	**-0.2**
ACON	**Acoyapa**	**2.08**	**332**	*i* P	**Pn**	**11 44 09.6**	**-0.3**
ACON	**Acoyapa**	**2.08**	**332**	*e*P	**Pn**	**11 44 09.5**	**-0.3**
ACON				*e*S	**Sn**	**11 44 34.5**	**-0.6**

*ASRS **02** 11:50:00.9±0.4, 50°N±2°×9°0E±°, h5km, MLh3.6/13, Error ellipse: s-maj=3.9km s-min=2.2km az=149.9, confirmed*
*NNC **02** 11:50:05.7±1.8, 50°.25N×90°.12E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=14.9km s-min=8.5km az=83.0*
ISC 02 11:50:01.9±1.1**, 50°.21N**±0°.05×**90°.41E**±0°.03**, h10**km**, n31,** σ**2s08**/49**, 3C-3D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**1.33**	**266**	Pg	**Pb**	**11 50 26.0**	**-1.0**
CUR				Sg	**Sg**	**11 50 44.4**	**-0.3**
ULGR	**Ulagan, Altay**	**1.62**	**286**	Pg	**Pg**	**11 50 33.4**	**+0.5**
ULGR				Sg	**Sg**	**11 50 54.5**	**+0.5**
CHBI	**Chibit, Altay**	**1.87**	**274**	Pg	**Pg**	**11 50 37.6**	**-0.1**
CHBI				Sg	**Sg**	**11 51 03.3**	**+1.4**
DGZ	**Jazzator, Alta**	**1.99**	**256**	Pg	**Pb**	**11 50 38.1**	**-0.1**
DGZ				Sg	**Sb**	**11 51 03.7**	**+0.5**
ARTR	**Artybash**	**2.54**	**310**	Pn	**Pg**	**11 50 48.0**	**-2.5**
ARTR				Pg	Pb	11 50 51.4	+3.8
ARTR				Sg	**Sg**	**11 51 25.7**	**+2.2**
DJO	**Djoy, Khakassi**	**2.63**	**11**	Pg	**Pg**	**11 50 50.5**	**-1.8**
DJO				Sg	**Sg**	**11 51 27.5**	**+1.2**
DJOS	**Djoyskaya Sosn**	**2.67**	**13**	Pg	**Pg**	**11 50 52.8**	**-0.2**
DJOS				Sg	**Sg**	**11 51 27.8**	**+0.3**
CERR	**Cheremushki**	**2.73**	**13**	Pg	**Pg**	**11 50 54.7**	**+0.7**
CERR				Sg	**Sg**	**11 51 30.3**	**+1.0**
KZLR	**Kyzyl**	**2.96**	**58**	Sg	**Sg**	**11 51 33.0**	**-4.0**
TASR	**Tashtagol**	**3.01**	**329**	Pg	**Pg**	**11 50 59.7**	**+0.3**
TASR				Sg	**Sg**	**11 51 39.5**	**+1.1**
ARDR	**Aradan**	**3.04**	**37**	Pg	**Pg**	**11 50 57.8**	**-2.2**
ARDR				Sg	**Sg**	**11 51 38.0**	**-1.4**
GALT	**Gorno-Altaysk,**	**3.32**	**304**	Pg	**Pg**	**11 51 05.4**	**0.0**
GALT				Sg	**Sg**	**11 51 48.4**	**0.0**
LUZB	**Luzhba, Kemero**	**3.59**	**345**	Pg	**Pg**	**11 51 09.2**	**-1.3**
LUZB				Sg	**Sg**	**11 51 57.3**	**+0.3**
UKR	**Ust'-Kan**	**3.67**	**284**	Pg	**Pg**	**11 51 09.4**	**-2.7**
UKR				Sg	**Sg**	**11 51 57.9**	**-1.7**
MALIN	**Malinovka, Kuz**	**3.76**	**330**	Pg	**Pg**	**11 51 09.4**	**-4.5**
MALIN				Sg	**Sg**	**11 52 02.0**	**-0.6**
TAIL	**Tailep, Kuzbas**	**3.81**	**330**	Sg	**Sg**	**11 52 03.9**	**-0.2**
ELT	**Eltsovka**	**4.01**	**321**	Pn	**Pn**	**11 51 05.9**	**+2.6**
ELT				Pg	**Pg**	**11 51 17.2**	**-1.4**
ELT				Sg	**Sg**	**11 52 10.3**	**-0.2**
ERU	**Erunakovo, Kuz**	**4.36**	**336**	Sg	**Sg**	**11 52 22.4**	**+0.6**
VCHU	**Verkh-Chumysh,**	**4.48**	**328**	Sg	**Sg**	**11 52 26.9**	**+1.2**
POMOR	**Pomortsevo, Ku**	**4.84**	**332**	Sg	**Sg**	**11 52 37.3**	**+0.3**
BJR1	**Bachatsky 1, K**	**4.85**	**328**	Sg	**Sg**	**11 52 38.4**	**+0.9**
ZAA0	**Zalesovo Array**	**5.09**	**320**	⇑Lg	Lg	11 52 42.4	
	3.8nm,0.9s						
SALR	**Pechorkino, Sa**	**5.11**	**327**	Pg	**Pg**	**11 51 36.3**	**-3.4**
SALR				Sg	**Sg**	**11 52 39.9**	**-6.0**
MINR	**Mina**	**5.24**	**25**	Pg	**Pg**	**11 51 41.5**	**-0.6**
MINR				Sg	**Sg**	**11 52 51.8**	**+1.9**
BRCR	**Berchikul'**	**5.59**	**348**	Pg	**Pg**	**11 51 45.1**	**-3.7**
BRCR				Sg	**Sg**	**11 53 02.0**	**+0.9**
NVSII	**Novosibirsk**	**6.38**	**319**	Sg	**Sg**	**11 53 26.0**	**-0.5**
NVS	**Novosibirsk**	**6.38**	**319**	Sg	**Sg**	**11 53 26.8**	**+0.3**
MK31	**Makanchi Array**	**6.38**	**241**	⇓Pn	**Pn**	**11 51 39.0**	**+3.0**
	0.2nm,0.3s,baz=56,slow=17,SNR=9.2						
MK31				Pg	**Pg**	**11 52 00.3**	**-3.8**
	3.0nm,0.6s,baz=63,slow=16,SNR=5.5						
MK31				⇓Lg	Lg	11 53 24.8	
	5.4nm,0.5s,baz=53,slow=32,SNR=3.7						
GZLN	**Zheleznogorsk**	**6.50**	**17**	Sg	**Sg**	**11 53 31.6**	**+1.1**
MAKZ	**Makanchi**	**6.55**	**242**	⇑Pg	**Pg**	**11 52 02.7**	**-4.6**
	2.8nm,0.7s						
MAKZ				⇓Lg	Lg	11 53 27.8	
	9.1nm,0.8s						
KURBB	**Kurchatov Arra**	**7.60**	**278**	⇑Lg	Lg	11 54 01.9	
	32nm,0.8s						

LJU 02 11:57:10.2, 46°.39N×15°.07E, h0km, Confirmed Rockburst, Northwestern Balkan Peninsula

*MCSM **02** 11:57:41.8±0.3, 41°N±2°×3°4E±°, h6km±2km, mb4.6*
*MED_RC **02** 11:57:41.0±0.5, 40°.81N×34°.25E, h14km±3km, MW4.5/16, Moment Tensor Solution. Mantle waves: s16,c19; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.38±.85; $M_{\theta\theta}$-4.14±.74; $M_{\phi\phi}$3.75±.56; $M_{r\theta}$3.25±1.41; $M_{\theta\phi}$-5.78±.45; $M_{\phi r}$3.16±1.17; Best double couple: $M_0$8.15000×10^{15} NP1:ϕ_s196.00000°, δ82.00000°, λ-27.00000°. NP2:ϕ_s290.00000°, δ63.00000°, λ-171.00000°. Principal axes: T 7.1000, Plg13.0000°, Azm246.0000°; N 2.0800, Plg62.0000°, Azm2.0000°; P -9.1900, Plg25.0000°, Azm150.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*CFUSG **02** 11:57:41.9, 40°.75N×34°.30E, h5km, mb4.0/6, Northern Turkey Magtype MSH 3.7 from 6 stations*
*IDC **02** 11:57:42.5±0.4, 40°.73N×34°.25E, h0km, mb4.4/31, mbtmp4.4/42, ML4.1/10, MS3.6/43, Error ellipse: s-maj=8.2km s-min=6.3km az=125.0*
*DDA **02** 11:57:42.4±0.0, 40°.75N×34°.28E, h6km±1km, MW4.7*
*ISK **02** 11:57:42.0, 40°.77N×34°.31E, h9km, ML4.7/45*
*MOS **02** 11:57:43.7±1.1, 40°.79N×34°.27E, h20km, mb4.7/22, MS3.0/6, Error ellipse: s-maj=5.8km s-min=3.7km az=79.6*
*NEIC **02** 11:57:44.1±1.0, 40°.80N±0°.05×34°.21E±0°.06, h10km±1km, mb4.3/34, ML4.7(ISK), Error ellipse: s-maj=8.6km s-min=6.8km az=140.0*
ISC 02 11:57:43.4±0.7**, 40°.77N**±0°.01×**34°.30E**±0°.02**, h4**km±4km**, n376,** σ**1s48**/417**, mb4.5**/57**, MS3.6**/35**, 45C-9D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.33**	**322**	PG	**Pg**	**11 57 49.7**	**-0.2**
TOS				SG	**Sg**	**11 57 54.4**	**+0.1**
KAGI	**orum-Kargı**	**0.39**	**21**	P	**Pg**	**11 57 50.7**	**-0.2**
KAGI				S	**Sg**	**11 57 56.8**	**+0.8**
ILGA	**Ilgaz**	**0.52**	**303**		**Pg**	**11 57 53.1**	**-0.2**
ILGA	**Ilgaz**	**0.52**	**303**	P	**Pg**	**11 57 53.2**	**-0.2**
ILGA				S	**Sg**	**11 58 01.0**	**+0.8**
CANT	**Cankiri**	**0.54**	**252**	PG	**Pg**	**11 57 53.4**	**-0.4**
CORM	**Corum**	**0.65**	**157**	PG	**Pg**	**11 57 54.8**	**-1.0**
KMON	**Kastamonu**	**0.71**	**327**	PG	**Pg**	**11 57 56.9**	**-0.2**
KMON				SG	**Sg**	**11 58 07.1**	**+0.8**
ELDT	**Eldivan**	**0.72**	**247**	P	**Pg**	**11 57 56.5**	**-0.6**
ELDT				S	**Sg**	**11 58 06.4**	**-0.1**
COAL	**Corum-Alaca**	**0.74**	**134**	P	**Pg**	**11 57 56.8**	**-0.7**
COAL				S	**Sg**	**11 58 07.5**	**+0.4**
BOYA	**Sinop/Boyabat-**	**0.81**	**21**	P	**Pg**	**11 57 58.1**	**-0.9**
BOYA				S	**Sg**	**11 58 09.1**	**-0.4**
DELI	**KIRIKKALE**	**0.83**	**200**	P	**Pg**	**11 57 58.1**	**-1.1**
DELI				S	**Sg**	**11 58 09.1**	**-0.8**
PELI	**Kastamonı-Ara**	**0.91**	**306**	P	**Pg**	**11 58 00.3**	**-0.5**
PELI				S	**Sg**	**11 58 13.3**	**+0.6**
HAVZ	**Havza**	**1.12**	**74**	P	**Pg**	**11 58 03.6**	**-1.2**
HAVZ				S	**Sb**	**11 58 20.4**	**+0.2**
DIKM	**Dikmen**	**1.14**	**39**	⇑P	**Pg**	**11 58 04.4**	**-0.7**
DIKM				⇑S	**Sb**	**11 58 20.7**	**-0.1**
DIKM	**Dikmen**	**1.14**	**39**	PN	**Pg**	**11 58 04.2**	**-1.0**
DIKM	**Dikmen**	**1.14**	**39**	Pg	**Pg**	**11 58 04.1**	**-1.1**
CDAG	**Cicekdag**	**1.15**	**177**	P	**Pg**	**11 58 04.2**	**-1.2**
CDAG				S	**Sg**	**11 58 20.1**	**-0.2**
CKRK	**Yozgat, Cekere**	**1.16**	**127**	P	**Pg**	**11 58 04.0**	**-1.6**
CKRK				S	**Sn**	**11 58 23.3**	**+0.6**
BR106	**Keskin Array S**	**1.16**	**207**	Pg	**Pg**	**11 58 03.6**	**-2.0**
BR131	**Keskin Array S**	**1.16**	**206**		**Pg**	**11 58 04.1**	**-1.6**
BR131	**Keskin Array S**	**1.16**	**206**	*d i*P	**Pg**	**11 58 04.0**	**-1.6**
BRTR	**Keskin Array B**	**1.16**	**206**	Pg	**Pg**	**11 58 03.8**	**-1.9**
	389nm,0.3s,baz=34,slow=13,SNR=1786						
BRTR				Lg	Lg	11 58 19.4	
	770nm,0.3s,baz=36,slow=23,SNR=5.7						
BRTR	**Keskin Array B**	**1.16**	**206**	PN	**Pg**	**11 58 04.2**	**-1.4**
BRTR	**Keskin Array B**	**1.16**	**206**	Pn	**Pg**	**11 58 04.2**	**-1.4**
BRTR	**Keskin Array B**	**1.16**	**206**	*i* P	**Pg**	**11 58 03.7**	**-1.9**
BRTR				pmax	pmax		
	comp=Z,2μm,0.4s						
YARM	**Yarimca-Ladik(**	**1.17**	**82**	PN	**Pg**	**11 58 04.5**	**-1.3**
BR105	**Keskin Array S**	**1.18**	**206**	Pg	**Pg**	**11 58 03.8**	**-2.1**
BR104	**Keskin Array S**	**1.18**	**205**	Pg	**Pg**	**11 58 03.7**	**-2.2**
AMSY	**Amasya-Merkez**	**1.18**	**96**	P	**Pg**	**11 58 05.6**	**-0.3**
AMSY				S	**Sn**	**11 58 23.2**	**0.0**
BZK	**Bozkurt**	**1.21**	**350**	⇑S	**Sg**	**11 58 21.5**	**-0.6**
BZK	**Bozkurt**	**1.21**	**350**	PN	**Pg**	**11 58 03.3**	**-3.2**
BZK	**Bozkurt**	**1.21**	**350**		**Pg**	**11 58 03.3**	**-3.2**
KIZO	**Buyukkizoglu-L**	**1.25**	**84**	PN	**Pg**	**11 58 05.9**	**-1.4**
SAFT	**Safranbolu**	**1.30**	**291**	PN	**Pg**	**11 58 06.7**	**-1.7**
KBUK	**KARABUK-Merkez**	**1.34**	**291**	P	**Pn**	**11 58 07.7**	**-1.3**
KBUK				S	**Sg**	**11 58 26.3**	**-0.3**
KVT	**Kavak**	**1.36**	**76**	PN	**Pn**	**11 58 07.7**	**-1.5**
YOZ	**Yozgat**	**1.38**	**145**	PN	**Pn**	**11 58 07.8**	**-1.7**
CMDR	**Camlidere-ANKA**	**1.41**	**259**	P	**Pn**	**11 58 09.3**	**-0.7**
CMDR				S	**Sn**	**11 58 30.6**	**+1.5**
SINO	**SINOP_Merkez**	**1.42**	**28**	P	**Pn**	**11 58 09.2**	**-0.8**
SINO				P	**Pb**	**11 58 09.4**	**-0.9**
SINO				S	**Sn**	**11 58 29.3**	**+0.3**
SINO				S	**Sg**	**11 58 29.9**	**+1.0**
ANTO	**Ankara**	**1.46**	**232**	⇑P	**Pn**	**11 58 10.5**	**-0.2**
ANTO	**Ankara**	**1.46**	**232**	PN	**Pn**	**11 58 09.5**	**-1.1**
ANTO	**Ankara**	**1.46**	**232**		**Pn**	**11 58 09.7**	**-0.9**
ANTO	**Ankara**	**1.46**	**232**	P	**Pn**	**11 58 09.7**	**-0.9**
LOD	**Lodumlu**	**1.47**	**233**	PN	**Pn**	**11 58 08.4**	**-2.3**
KAMT	**Kaman**	**1.47**	**198**	PN	**Pn**	**11 58 09.5**	**-1.3**
BR231	**Keskin MP Arra**	**1.49**	**232**		**Pn**	**11 58 10.3**	**-0.7**
CIDE	**Kastamonu/Cide**	**1.50**	**318**	P	**Pn**	**11 58 11.1**	**0.0**
CIDE				S	**Sg**	**11 58 33.1**	**+1.4**
BBAL	**Bala**	**1.52**	**217**	P	**Pn**	**11 58 10.5**	**-1.1**
BBAL				S	**Sn**	**11 58 31.4**	**-0.4**
HACI	**Hacifakili, Ak**	**1.53**	**134**	P	**Pn**	**11 58 11.1**	**-0.6**
HACI				S	**Sg**	**11 58 34.1**	**+1.5**
SAMS	**Samsun-Alacam**	**1.55**	**67**	P	**Pn**	**11 58 11.5**	**-0.2**
SAMS				S	**Sg**	**11 58 34.2**	**+1.2**
SIRC	**Yozgat**	**1.58**	**155**	P	**Pn**	**11 58 11.6**	**-0.7**
SIRC				S	**Sb**	**11 58 33.4**	**-0.2**
KOZK	**Kozakli-Nevseh**	**1.62**	**164**	PN	**Pn**	**11 58 11.5**	**-1.4**
AFSR	**Afar-Bala (An**	**1.62**	**216**	PN	**Pn**	**11 58 11.4**	**-1.5**
KIRS	**Kirsehir-Merke**	**1.67**	**190**	P	**Pn**	**11 58 12.1**	**-1.3**
KIRS				S	**Sg**	**11 58 36.7**	**-0.1**
BCAM	**Yenicaga**	**1.69**	**272**	P	**Pn**	**11 58 13.0**	**-0.9**
BCAM				S	**Sg**	**11 58 37.8**	**0.0**
TOKA	**Tokat**	**1.72**	**104**		**Pn**	**11 58 14.4**	**+0.2**
TOKA	**Tokat**	**1.72**	**104**	P	**Pn**	**11 58 14.5**	**+0.3**
TOKA				S	**Sg**	**11 58 38.8**	**+0.1**
BTIN	**Bartın**	**1.77**	**300**	P	**Pn**	**11 58 14.7**	**-0.1**
BTIN				S	**Sg**	**11 58 40.5**	**+0.3**
TOKT	**Tokat**	**1.77**	**104**	PN	**Pn**	**11 58 13.5**	**-1.4**
DEVR	**Zonguldak/Devr**	**1.80**	**283**	P	**Pn**	**11 58 14.5**	**-0.6**
DEVR				S	**Sg**	**11 58 43.2**	**+2.1**
YAYX	**Yaylak**	**1.87**	**192**	PN	**Pn**	**11 58 15.1**	**-1.2**
KIBS	**BOLU**	**1.89**	**260**	P	**Pn**	**11 58 16.2**	**-0.4**
KIBS				S	**Sg**	**11 58 44.9**	**+0.7**
SERE	**Sereflikochisa**	**1.91**	**197**	PN	**Pn**	**11 58 15.7**	**-1.1**
KKUL	**Konya-Kulu**	**1.92**	**214**	P	**Pn**	**11 58 16.4**	**-0.6**
KKUL				S	**Sg**	**11 58 44.7**	**-0.3**
KULU	**Kulu**	**2.00**	**210**	PN	**Pn**	**11 58 17.1**	**-0.9**
AVNS	**Nevsehir-Avano**	**2.01**	**168**	P	**Pn**	**11 58 18.0**	**-0.2**
AVNS				S	**Sb**	**11 58 46.3**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**2.02**	**132**	P	**Pn**	**11 58 18.5**	**+0.2**
CUSAR				S	**Sg**	**11 58 48.5**	**+0.3**
YUVA	**Yuva-Kibriscik**	**2.02**	**260**	PN	**Pn**	**11 58 17.6**	**-0.8**
GUNE	**Kayseri**	**2.13**	**151**	P	**Pb**	**11 58 21.9**	**-0.7**
GUNE				S	**Sg**	**11 58 53.9**	**+2.1**
AKSY	**AKSARAY - Alti**	**2.16**	**191**	P	**Pn**	**11 58 20.0**	**-0.2**
AKSY				S	**Sb**	**11 58 51.3**	**+1.0**
YIGI	**Dzce**	**2.17**	**276**	P	**Pn**	**11 58 20.1**	**-0.2**
YIGI				S	**Sg**	**11 58 53.1**	**+0.2**
KDZE	**Karadeniz Ereo**	**2.22**	**285**	⇑P	**Pn**	**11 58 20.9**	**-0.1**
KDZE	**Karadeniz Ereo**	**2.22**	**285**	PN	**Pn**	**11 58 20.5**	**-0.5**
SVSK	**Karacayir**	**2.23**	**112**	PN	**Pn**	**11 58 19.9**	**-1.3**
BNN	**Bunyan**	**2.26**	**148**	PN	**Pn**	**11 58 20.6**	**-1.1**
BNN	**Bunyan**	**2.26**	**148**		**Pn**	**11 58 21.0**	**-0.7**
BNN	**Bunyan**	**2.26**	**148**	Pn	**Pn**	**11 58 20.8**	**-0.9**
RSDY	**Resadiye-TOKAT**	**2.34**	**98**	PN	**Pn**	**11 58 21.4**	**-1.2**
MDUB	**Mudurnu**	**2.38**	**264**	PN	**Pn**	**11 58 22.4**	**-0.8**
MDUB	**Mudurnu**	**2.38**	**264**	Pn	**Pn**	**11 58 21.6**	**-1.6**
CUAYA	**Sivas-Altinyay**	**2.41**	**128**	P	**Pn**	**11 58 24.8**	**+1.1**
CUAYA				S	**Sg**	**11 59 01.2**	**+0.4**
GULA	**Gulagac**	**2.43**	**181**	PN	**Pn**	**11 58 22.9**	**-1.0**
CHBY	**Cihanbeyli**	**2.44**	**207**	PN	**Pn**	**11 58 23.1**	**-1.0**
SVRH	**Sivrihisar-ESK**	**2.51**	**239**	PN	**Pn**	**11 58 23.9**	**-1.1**
SULT	**Sultanhani-AKS**	**2.64**	**193**	PN	**Pn**	**11 58 25.9**	**-1.0**
KIZT	**Kizilcal**	**2.65**	**225**	PN	**Pn**	**11 58 26.3**	**-0.7**
NIDE	**Nigde/Merkez-G**	**2.79**	**172**	P	**Pn**	**11 58 30.3**	**+1.3**
CUKAN	**kangal_SIVAS**	**2.84**	**120**	P	**Pn**	**11 58 30.1**	**+0.5**
CIFT	**Cifteler, Eski**	**2.85**	**241**	PN	**Pn**	**11 58 28.7**	**-1.1**
SARI	**SarD1z-Kayseri**	**2.88**	**145**	PN	**Pn**	**11 58 29.6**	**-0.6**
GULT	**Gulveren**	**2.90**	**264**	PN	**Pn**	**11 58 30.0**	**-0.4**
SGAZ	**Eskisehir, Sey**	**2.93**	**246**	P	**Pn**	**11 58 29.7**	**-1.1**
LADK	**Ladik-KONYA**	**2.97**	**211**	PN	**Pn**	**11 58 30.6**	**-0.8**
SAUV	**Serdivan-Sakar**	**3.02**	**271**	PN	**Pn**	**11 58 31.4**	**-0.5**
YESY	**Yesilyurt**	**3.02**	**188**	PN	**Pn**	**11 58 31.8**	**-0.3**
BORA	**Eskisehir**	**3.07**	**254**	Pn	**Pn**	**11 58 31.7**	**-1.0**
CMRD	**Camardi-Nigde**	**3.15**	**170**	PN	**Pn**	**11 58 33.3**	**-0.6**
KONT	**Konya--Tatoy**	**3.20**	**209**	PN	**Pn**	**11 58 33.9**	**-0.6**
ELBS	**KAHRAMANMARAS**	**3.29**	**137**	P	**Pn**	**11 58 35.6**	**-0.1**
ESPY	**Espiye-Giresun**	**3.37**	**86**	PN	**Pn**	**11 58 36.4**	**-0.3**
CAVI	**Cavuskoy**	**3.44**	**262**	PN	**Pn**	**11 58 37.9**	**+0.1**
ADVT	**Abdulvahap**	**3.49**	**266**	PN	**Pn**	**11 58 38.5**	**+0.1**
HRT	**Hereke**	**3.51**	**272**	PN	**Pn**	**11 58 38.8**	**0.0**
SILT	**Sile**	**3.54**	**278**	PN	**Pn**	**11 58 39.3**	**+0.2**
YAL	**Yalta**	**3.71**	**358**	*e*P	**Pn**	**11 58 41.6**	**+0.1**
YAL				Pm		11 58 45.4	
	comp=Z,99nm,0.5s						
YAL				*e*S	**Sn**	**11 59 27.1**	**+1.5**
YAL				Sm		11 59 29.8	
	comp=N,98nm,0.4s						
YAL				Sm		11 59 29.8	
	comp=E,176nm,0.4s						
YAL	**Yalta**	**3.71**	**358**	*e*P	**Pn**	**11 58 41.6**	**+0.1**
YLVH	**Yalova**	**3.74**	**270**	PN	**Pn**	**11 58 42.0**	**+0.1**
YLV	**Yalova**	**3.75**	**268**	PN	**Pn**	**11 58 41.5**	**-0.6**
SEV	**Sevastopol'**	**3.80**	**353**	*e*P	**Pn**	**11 58 41.9**	**-0.7**
SEV				Pm		11 58 48.0	
	comp=Z,38nm,0.3s						
SEV				*e*S	**Sn**	**11 59 27.7**	**0.0**
SEV				Sm		11 59 33.6	
	comp=N,64nm,0.4s						
SEV				Sm		11 59 33.6	
	comp=E,52nm,0.4s						
SEV	**Sevastopol'**	**3.80**	**353**	*e*P	**Pn**	**11 58 41.9**	**-0.7**
SEV				*e*S	**Sn**	**11 59 27.7**	**0.0**
ALU	**Alushta**	**3.91**	**1**	*e*P	**Pn**	**11 58 45.5**	**+1.4**
ALU				Pm		11 58 49.0	
	comp=Z,260nm,1.0s						
ALU				*e*S	**Sn**	**11 59 32.8**	**+2.4**
ALU				Sm		11 59 34.0	
	comp=N,75nm,0.6s						
ALU				Sm		11 59 34.0	
	comp=E,58nm,0.4s						
ALU	**Alushta**	**3.91**	**1**	*e*P	**Pn**	**11 58 45.5**	**+1.4**
ALU				*e*S	**Sn**	**11 59 32.8**	**+2.4**
SUDU	**Sudak**	**4.15**	**7**	*e*P	**Pn**	**11 58 47.4**	**0.0**
SUDU				Pm		11 58 51.8	
	comp=Z,357nm,1.2s						
SUDU				*e*S	**Sn**	**11 59 36.8**	**+0.5**
SUDU				Sm		11 59 45.1	
	comp=N,2μm,1.5s						
SUDU				Sm		11 59 45.1	
	comp=E,301nm,0.8s						
SUDU	**Sudak**	**4.15**	**7**	*e*P	**Pn**	**11 58 47.4**	**0.0**
SUDU				*e*S	**Sn**	**11 59 36.8**	**+0.5**
KTUT	**Trabzon**	**4.15**	**85**	⇑P	**Pn**	**11 58 48.0**	**+0.5**
ISP	**Isparta**	**4.15**	**226**	Pn	**Pn**	**11 58 46.4**	**-1.3**
ISP	**Isparta**	**4.15**	**226**	*i* P	**Pn**	**11 58 47.2**	**-0.5**
SIM	**Simferopol'**	**4.17**	**358**	*e*P	**Pn**	**11 58 49.5**	**+1.7**
SIM				Pm		11 58 59.5	
	comp=Z,260nm,1.1s						
SIM				*e*S	**Sn**	**11 59 40.3**	**+3.2**
SIM				Sm		11 59 51.0	
	comp=N,826nm,0.9s						
SIM				Sm		11 59 51.0	
	comp=E,569nm,1.1s						
SIM	**Simferopol'**	**4.17**	**358**	*e*P	**Pn**	**11 58 50.5**	**+2.7**
SIM				*e*S	**Sn**	**11 59 39.6**	**+2.5**
SIM				pmax	pmax		
	comp=Z,230nm,0.8s						
SIM				smax	smax		
	comp=E,878nm,1.3s						
SIM				smax	smax		
	comp=N,851nm,1.0s						
GAZ	**Gaziantep**	**4.25**	**147**		**Pn**	**11 58 49.7**	**+0.7**
FEO	**Feodosiya**	**4.32**	**10**	*e*P	**Pn**	**11 58 50.1**	**+0.3**
FEO				Pm		11 58 56.4	
	comp=Z,382nm,0.6s						
FEO				*e*S	**Sn**	**11 59 42.9**	**+2.3**
FEO				Sm		11 59 47.4	
	comp=N,307nm,0.8s						
FEO				Sm		11 59 47.4	
	comp=E,317nm,1.0s						
FEO	**Feodosiya**	**4.32**	**10**	P	**Pn**	**11 58 50.1**	**+0.3**
FEO				*e*S	**Sn**	**11 59 42.9**	**+2.3**
ANN	**Anapa**	**4.64**	**29**	*e*P	**Pn**	**11 58 53.1**	**-1.1**
ANN				*e*S	**Sn**	**11 59 47.4**	**-1.1**
ANN				pmax	pmax		
	comp=Z,46nm,0.7s						
ANN				MLR	MLR		
	comp=Z,237nm,7.0s						
SOC	**Sochi**	**4.91**	**53**	*e*P	**Pn**	**11 58 56.7**	**-1.2**
SOC				*e*		11 59 55.3	
SOC				pmax	pmax		
	comp=Z,35nm,1.1s						
SOC				MLR	MLR		
	comp=Z,273nm,13.0s						
MANT	**Manisa**	**4.98**	**245**		**Pn**	**11 58 58.2**	**-0.9**
MANR	**Mangalia**	**5.21**	**308**	⇓P	**Pn**	**11 59 02.0**	**-0.1**
ELL	**Elmali**	**5.28**	**222**		**Pn**	**11 59 04.6**	**+1.4**
ELL	**Elmali**	**5.28**	**222**	P	**Pn**	**11 59 04.6**	**+1.4**
EFOR	**EFORIE**	**5.34**	**310**	⇑P	**Pn**	**11 59 03.3**	**-0.5**
TIRR	**Tirgusor**	**5.69**	**312**	⇑P	**Pn**	**11 59 07.9**	**-0.7**
TIRR	**Tirgusor**	**5.69**	**312**	Pn	**Pn**	**11 59 07.3**	**-1.4**
TIRR	**Tirgusor**	**5.69**	**312**	P	**Pn**	**11 59 07.3**	**-1.4**
AKAS	**Kas**	**5.84**	**221**		**Pn**	**11 59 12.3**	**+1.5**
ICOR	**Ion Corvin**	**5.85**	**307**	⇑P	**Pn**	**11 59 10.3**	**-0.6**
CSS	**Mathiatis**	**5.85**	**188**	Pn	**Pn**	**11 59 11.1**	**+0.2**
TPGR	**Topolog**	**5.94**	**315**	⇑P	**Pn**	**11 59 10.9**	**-1.3**
HARR	**Harsova**	**6.11**	**312**	⇓P	**Pn**	**11 59 13.0**	**-1.3**
MARD	**Mardin**	**6.12**	**122**	Pn	**Pn**	**11 59 15.9**	**+1.3**
CFR	**Carcaliu**	**6.31**	**316**	⇑P	**Pn**	**11 59 16.4**	**-0.7**
ARG	**Arkhangelos**	**6.64**	**229**	Pn	**Pn**	**11 59 21.4**	**-0.4**
ARG	**Arkhangelos**	**6.64**	**229**	P	**Pn**	**11 59 21.4**	**-0.4**
RDO	**Rodhopi**	**6.64**	**276**		**Pn**	**11 59 21.4**	**-0.3**
KARS	**Kars**	**6.68**	**88**	Pn	**Pn**	**11 59 23.0**	**+0.6**
KARS	**Kars**	**6.68**	**88**	P	**Pn**	**11 59 23.0**	**+0.6**
NEY	**Neytrino**	**6.75**	**66**	*i* P	**Pn**	**11 59 24.2**	**+0.9**
NEY				pmax	pmax		
	comp=Z,6.0nm,0.5s						
VLDR	**Vladesti**	**6.80**	**320**	⇑P	**Pn**	**11 59 22.5**	**-1.4**
SHA1	**Shidzhatmaz**	**6.87**	**62**	*i* P	**Pn**	**11 59 25.9**	**+0.8**
KIV	**Kislovodsk**	**6.98**	**60**	⇑P	**Pn**	**11 59 26.4**	**0.0**
KIV	**Kislovodsk**	**6.98**	**60**		**Pn**	**11 59 26.8**	**+0.4**
KIV	**Kislovodsk**	**6.98**	**60**	*e*P	**Pn**	**11 59 27.2**	**+0.8**
KIV				pmax	pmax		
	comp=Z,51nm,1.0s						
KIV				MLR	MLR		
	comp=Z,126nm,10.0s						
KVAR	**Kislovodsk Arr**	**6.99**	**60**	Pn	**Pn**	**11 59 27.3**	**+0.7**
	baz=270,slow=20						
	comp=Z,8.4nm,0.5s						

KBZ Khabaz 7.03 62 Pn **Pn 11 59 27.9 +0.9**
comp=Z,0.9nm,0.3s,baz=229,slow=11,SNR=25
KBZ LR LR 12 03 15.8
comp=Z,436nm,18.2s,baz=264,slow=47
comp=Z,19nm,0.8s
KBZ Khabaz 7.03 62 *ce*P **Pn 11 59 26.9 -0.1**
ONI Oni 7.09 72 *e* **Pn 11 59 28.5 +0.6**
ONI Oni 7.09 72 P **Pn 11 59 28.5 +0.6**
ISR Istrita 7.16 310 ⇑P **Pn 11 59 28.7 -0.1**
MILM Milestii Mici 7.31 329 *e*P **Pn 11 59 29.0 -1.8**
comp=Z,44nm,0.4s
MILM *e*S **Sn 12 00 59.0 +4.8**
MILM *e*L L 12 02 45.0
MILM LRM MLR 12 06 36.0
comp=Z,300nm,5.0s
MILM Milestii Mici 7.31 329 ⇑P **Pn 11 59 29.7 -1.2**
MILM Milestii Mici 7.31 329 *e*P **Pn 11 59 29.0 -1.8**
MILM *e*S **Sn 12 00 59.0 +4.8**
MILM pmax pmax
comp=Z,44nm,0.4s
BISRR Bisoca 7.31 313 ⇑P **Pn 11 59 31.1 0.0**
SECR 7.39 308 ⇑P **Pn 11 59 31.7 -0.3**
ZEI Tsey 7.46 71 *e*P **Pn 11 59 33.6 +0.5**
ZEI pmax pmax
comp=Z,39nm,0.8s
NEHR Nehoiu 7.47 311 ⇑P **Pn 11 59 32.8 -0.4**
VRI Vrincioaia 7.50 315 ⇑P **Pn 11 59 33.3 -0.2**
VASR Vaslui 7.52 323 ⇑P **Pn 11 59 32.3 -1.5**
PLOR Plostina 7.54 315 ⇓P **Pn 11 59 34.2 +0.1**
PLVB Pleven 7.66 293 ⇑P **Pn 11 59 35.8 +0.2**
KARP Karpathos 7.67 229 Pn **Pn 11 59 35.2 -0.6**
MLR Muntele Rosu 7.71 310 ⇑P **Pn 11 59 36.0 -0.5**
MLR Muntele Rosu 7.71 310 Pn **Pn 11 59 36.3 -0.2**
comp=Z,2.0nm,0.3s,baz=109,slow=14,SNR=6.4
MLR LR LR 12 03 27.8
comp=Z,388nm,18.8s,baz=138,slow=45
comp=Z,4.7nm,0.4s
MLR Muntele Rosu 7.71 310 **Pn 11 59 35.4 -1.1**
APE Apeiranthos 7.77 244 *i*P **Pn 11 59 36.9 -0.4**
COVR Voineasa-Covas 7.78 313 ⇑P **Pn 11 59 37.5 +0.2**
MMAI Mount Meron Ar 7.79 173 LR LR 12 03 15.5
comp=Z,386nm,19.9s,baz=332,slow=43
TESR Tescani 7.97 319 ⇑P **Pn 11 59 39.2 -0.8**
GNI Garni 7.99 91 *i*P **Pn 11 59 42.4 +2.0**
GNI pmax pmax
comp=Z,6.0nm,1.0s
OZUR 8.16 313 ⇑P **Pn 11 59 41.9 -0.7**
VOIR 8.21 308 ⇑P **Pn 11 59 42.8 -0.5**
DOPR Dopca 8.31 312 ⇑P **Pn 11 59 43.7 -0.9**
ARR Arges 8.43 306 ⇓P **Pn 11 59 44.8 -1.5**
ASF Jabal al Asfar 8.84 165 Pn **Pn 11 59 52.1 +0.1**
comp=Z,0.6nm,0.3s,baz=170,slow=3.6,SNR=2.0
ASF LR LR 12 03 47.0
comp=Z,597nm,18.5s,baz=304,slow=41
comp=Z,1.7nm,0.3s
LOT Lotru 9.00 305 ⇓P **Pn 11 59 54.3 0.0**
BLKB Belogradchik 9.08 292 ⇓P **Pn 11 59 55.4 +0.2**
IDI Anoyia 9.22 237 ⇑P **Pn 11 59 57.2 0.0**
IDI Anoyia 9.22 237 Pn **Pn 11 59 57.0 -0.1**
comp=Z,1.8nm,0.3s,baz=52,slow=14,SNR=14
IDI LR LR 12 04 00.6
comp=Z,565nm,18.3s,baz=65,slow=41
comp=Z,8.6nm,0.5s
IDI Anoyia 9.22 237 Pn **Pn 11 59 58.3 +1.2**
BURAR Bucovina Array 9.44 319 ⇓P **Pn 11 59 59.3 -1.0**
BURAR Bucovina Array 9.44 319 **Pn 11 59 58.7 -1.5**
BUR08 Bucovina Ar. S 9.47 319 Pn **Pn 11 59 58.8 -1.8**
KMPD K-Podol'skiy 9.58 327 Pn **Pn 11 59 59.8 -2.1**
comp=Z,41nm,1.1s
GZR Gura Zlata 9.61 303 ⇑P **Pn 12 00 01.7 -0.7**
BOVS Bovan 9.77 291 ⇑P **Pn 12 00 04.3 -0.3**
MAK Makhachkala 10.09 73 *e*P **Pn 12 00 05.2 -3.8**
MAK *e*S **Sn 12 01 57.3 -5.4**
MAK pmax pmax
comp=Z,353nm,1.4s
MAK MLR MLR
comp=Z,186nm,14.0s
AK06 Malin Array Si 10.44 342 Pn **Pn 12 00 11.4 -2.3**
BZS Buzias 10.44 302 ⇑P **Pn 12 00 13.5 -0.3**
AK11 Malin Array Si 10.53 342 Pn **Pn 12 00 12.1 -2.9**
AK11 pP 12 00 14.5
AK16 Malin Array Si 10.54 342 Pn **Pn 12 00 12.3 -2.8**
AKASG Malin Array Be 10.54 342 Pn **Pn 12 00 12.1 -3.0**
comp=Z,8.2nm,0.3s,baz=153,slow=13,SNR=56
AKASG Sn **Sn 12 02 07.4 -6.1**
comp=Z,2.1nm,0.3s,baz=145,slow=24,SNR=5.1
AKASG LR LR 12 05 07.5
comp=Z,284nm,20.6s,baz=164,slow=42
comp=Z,21nm,0.6s
AKASG Malin Array Be 10.54 342 **Pn 12 00 12.3 -2.8**
AKASG Malin Array Be 10.54 342 P **Pn 12 00 12.3 -2.8**
AKBB Malin Array Si 10.54 342 **Pn 12 00 14.0 -1.1**
AKBB Malin Array Si 10.54 342 Pn **Pn 12 00 13.6 -1.5**
AKBB Malin Array Si 10.54 342 P **Pn 12 00 14.0 -1.1**
AK15 Malin Array Si 10.56 342 Pn **Pn 12 00 12.6 -2.7**
AK15 pP 12 00 14.7
AK04 Malin Array Si 10.57 342 Pn **Pn 12 00 12.7 -2.9**
AK04 pP 12 00 14.9
AK22 Malin Array Si 10.63 342 Pn **Pn 12 00 13.5 -2.9**
AK22 pP 12 00 15.5
AK21 Malin Array Si 10.65 342 Pn **Pn 12 00 13.8 -2.8**
AK21 pP 12 00 15.8
VSR Storozhevoye 10.98 16 *e*P **Pn 12 00 20.3 -0.8**
VSR *e*S **Sn 12 02 19.5 -4.8**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR smax smax
comp=N,130nm,0.9s
DIVS Divibare 11.08 292 Pn **Pn 12 00 22.1 -0.5**
EIL Elat 11.09 177 LR LR 12 05 55.0
comp=N,229nm,18.7s,baz=61,slow=45
TRPA Tarpa 11.16 315 P **Pn 12 00 25.4 +1.8**
VORR Voronezh 11.41 16 *e*P **Pn 12 00 28.8 +1.7**
VORR pmax pmax
comp=Z,50nm,0.4s
LVV L'vov 11.57 325 *e*P **Pn 12 00 27.1 -2.1**
UZH Uzhgorod 11.59 317 *e*P **Pn 12 00 30.7 +1.2**
UZH *e*S **Sn 12 02 42.0 +2.6**
VRH Novokhopyorsk 11.63 24 *e*P **Pn 12 00 30.6 +0.6**
VRH *e*S **Sn 12 02 34.4 -5.9**
VRH pmax pmax
comp=Z,70nm,0.8s
VRH smax smax
comp=N,270nm,0.8s
KOLS Kolonicke sedl 11.79 318 *e*PN **Pn 12 00 34.6 +2.3**
KOLS Kolonicke sedl 11.79 318 *e*P **Pn 12 00 34.6 +2.3**
RNPP5 Staryi Chortor 11.97 334 Pn **Pn 12 00 32.9 -1.8**
RNPP1 Kostyukhnivka 12.11 334 Pn **Pn 12 00 34.2 -2.4**
RNPP9 Sopachiv 12.12 334 Pn **Pn 12 00 34.9 -1.9**
CRVS Cervenica-Dubn 12.20 316 *e*PN **Pn 12 00 35.8 -2.0**
CRVS Cervenica-Dubn 12.20 316 *e*P **Pn 12 00 35.8 -2.0**
LPSR Galich'ya Gora 12.25 13 *e*P **Pn 12 00 39.0 +0.5**
LPSR *e*S **Sn 12 02 49.4 -5.9**
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR smax smax
comp=N,30nm,0.7s
STHS Stebnicka Huta 12.62 318 *e*PN **Pn 12 00 44.9 +1.3**
STHS Stebnicka Huta 12.62 318 *e*P **Pn 12 00 44.9 +1.3**
CUC Castrocucco 14.11 273 **Pn 12 01 03.3 -0.8**
JAVC Velka Javorina 14.28 310 *e*PN **Pn 12 01 04.2 -2.1**
MNK Minsk 14.39 345 *i*P **Pn 12 01 04.5 -3.2**
MNK *i*P **Pn 12 01 04.5 -3.2**
comp=E,3.0nm,0.8s
MNK *i*P **Pn 12 01 04.5 -3.2**
comp=N,37nm,0.8s
MNK *i*P **Pn 12 01 04.5 -3.2**
comp=Z,24nm,0.8s,baz=160
MNK *i*PP **P 12 01 12.5 -2.3**
MNK *i*PPP PPP 12 01 20.1
MNK *i*S **Sn 12 03 45.1 -2.6**
MNK *i*SS **SnSn 12 03 58.8 -1.3**
MNK *i*SSS SSS 12 04 11.3
MNK *i*LQ LQ 12 05 17.6
MNK *i*LR LR 12 05 33.5
MNK *i*LRM MLR 12 07 38.1
comp=E,68nm,19.2s
MNK *i*LRM MLR 12 07 40.0
comp=N,606nm,22.4s
MNK *i*LRM MLR 12 07 48.3
comp=Z,246nm,21.7s
MNK Minsk 14.39 345 *i*P **Pn 12 01 04.5 -3.2**
MNK *i*S **Sn 12 03 45.0 -2.6**
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,37nm,0.9s
MNK MLR MLR
comp=E,68nm,19.0s
MNK MLR MLR
comp=N,606nm,22.0s
MNK MLR MLR
comp=Z,246nm,22.0s
OBN Obninsk 14.43 5⇑*e*P **Pn 12 01 07.9 -0.3**
OBN pmax pmax
comp=Z,17nm,0.8s
BELG Belogornoye 14.77 34 Pn **Pn 12 01 13.0 +0.1**
comp=Z,1.0nm,0.3s,baz=53,slow=7.5,SNR=3.6
comp=Z,18nm,0.7s
BELG Belogornoye 14.77 34 *i*P **Pn 12 01 13.4 +0.5**
BELG pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 14.81 313 *e*PN **Pn 12 01 11.8 -1.7**
NACGM Naroch 15.00 343 *e*P **Pn 12 01 14.8 -1.1**
comp=Z,40nm,0.9s,baz=157
VRAC Vranov 15.12 310 Pn **Pn 12 01 18.2 +0.6**
comp=Z,0.3nm,0.3s,baz=115,slow=15,SNR=3.9
VRAC LR LR 12 08 04.2
comp=Z,116nm,19.9s,baz=122,slow=41
comp=Z,1.7nm,0.3s
VRAC Vranov 15.12 310 *e*PN **Pn 12 01 15.9 -1.7**
KRUC Moravsky 15.12 309 *e*PN **Pn 12 01 16.2 -1.5**
MOS Moscow 15.13 7 *e*P **Pn 12 01 16.1 -1.7**
MOS *e* 12 04 08.4
KRLC Kraliky 15.38 313 AMS AMS 12 09 40.0
comp=Z,300nm,12.9s
DPC Dobruska-Polom 15.78 313 *e*P **P 12 01 31.2 +0.8**
DPC Dobruska-Polom 15.78 313 *e*P **P 12 01 31.2 +0.8**
UPC Upice 16.03 313 *e*P **P 12 01 34.7 +1.6**
UPC Upice 16.03 313 *e*P **P 12 01 34.7 +1.6**
CHVC Chvalec 16.05 314 *e*P **P 12 01 33.9 +0.6**
CKRC Cesky Krumlov 16.27 306 *e*P **P 12 01 37.1 +1.3**
CKRC AMS AMS 12 10 00.0
comp=Z,200nm,13.3s
CLUD Cludinico 16.50 297 IAmb IAmb 12 01 44.3
comp=Z,30nm,1.0s
STAL STALIGIAL 16.57 296 **Pn 12 01 35.7 -0.8**
STAL IAmb IAmb 12 01 44.7
comp=Z,24nm,1.2s
PRU Pruhonice 16.61 310 AMS AMS 12 10 20.0
comp=Z,300nm,12.5s
GEC2 GERESS Array S 16.66 306 **Pn 12 01 36.6 -1.1**
GERES GERESS Array B 16.66 306 Pn **P 12 01 39.0 -1.1**
comp=Z,2.1nm,0.8s,baz=105,slow=15,SNR=6.7
GERES LR LR 12 09 04.9
comp=Z,142nm,21.3s,baz=114,slow=41
CIMO Cimolais 16.76 297 IAmb IAmb 12 01 47.5
comp=Z,16nm,1.3s
KHC Kasperske Hory 16.84 307 *e*P **Pn 12 01 40.0 +0.1**
KHC AMS AMS 12 11 00.0
comp=Z,300nm,9.0s
KHC Kasperske Hory 16.84 307 *i*P **Pn 12 01 40.8 +0.9**
KHC pmax pmax
comp=Z,15nm,1.3s
CTI Castel Tesino 17.26 295 P **Pn 12 01 43.9 -1.4**
CTI Castel Tesino 17.26 295 P **Pn 12 01 43.9 -1.4**
CTI pmax pmax
comp=Z,15nm,1.1s
BRG Berggiesshubel 17.36 312 *e*P **P 12 01 51.2 +3.4**
BRG Amp 12 01 53.0
comp=Z,7.6nm,1.0s
BRG Amp 12 10 41.0
comp=Z,0.3nm,14.6s
BRG Amp 12 11 05.0
comp=E,0.2nm,18.2s
BRG Amp 12 11 09.0
comp=N,0.2nm,13.9s
BRG Berggiesshubel 17.36 312 *e*P **P 12 01 51.1 +3.4**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=Z,316nm,14.6s
BRG MLR MLR
comp=E,183nm,18.2s
BRG MLR MLR
comp=N,238nm,13.9s
CLL Collm 18.09 313 P **Pn 12 01 53.5 -1.9**
CLL Collm 18.09 313 *i*P **P 12 01 55.6 -0.2**
CLL comp=Z,13nm,1.0s *i* pP **sP 12 01 58.0 +0.1**
CLL comp=Z,13nm,1.0s *i* (PP) 12 02 04.2
CLL *i* pPP 12 02 08.3
CLL *e*PPP PPP 12 02 13.0
CLL LmV 12 10 00.0
comp=Z,200nm,19.1s
CLL Collm 18.09 313 *i*P **P 12 01 55.6 -0.2**
CLL pmax pmax
comp=Z,13nm,1.0s
FUORN Ofenpass-Fuorn 18.30 297 P **Pn 12 01 57.1 -1.2**
VSU Vasula 18.35 347 *i*P **Pn 12 01 57.3 -1.2**
VSU pmax pmax
comp=Z,155nm,1.1s
DAVOX Davos/Dischmat 18.59 297 P **Pn 12 02 02.5 +0.8**
comp=Z,0.5nm,0.3s,baz=110,slow=7.3,SNR=5.2
DAVOX LR LR 12 11 11.9
comp=Z,124nm,18.3s,baz=80,slow=44
comp=Z,3.7nm,0.7s
GEYT Alibeck 18.63 91 P **Pn 12 02 02.8 +0.6**
comp=Z,0.5nm,0.3s,baz=286,slow=11,SNR=10
GEYT LR LR 12 10 26.7
comp=Z,92nm,18.2s,baz=314,slow=41
comp=Z,10nm,1.0s
GEYT Alibeck 18.63 91 P **P 12 02 01.8 -0.2**
GEYT IAmb IAmb 12 02 06.6
comp=Z,16nm,1.1s
GYA0B ALIBECK ARRAY 18.63 91 P **Pn 12 02 02.0 -0.1**
GYA0B IAmb IAmb 12 02 06.6
comp=Z,14nm,0.9s
ABKAR Akbulak array 19.94 56 P **P 12 02 16.0 -0.2**
ABKAR Akbulak array 19.94 56 P **P 12 02 15.7 -0.5**
ABKAR IAmb IAmb 12 02 34.8
comp=Z,7.3nm,0.9s
KEST Kesra 20.20 264 P **P 12 02 19.3 +0.1**
comp=Z,8.4nm,0.8s,baz=27,slow=7.0,SNR=4.7
KEST LR LR 12 11 44.7
comp=Z,255nm,18.5s,baz=332,slow=42
comp=Z,8.4nm,0.8s
KEST Kesra 20.20 264 P **P 12 02 18.6 -0.6**
KEST IAmb IAmb 12 02 28.9
comp=Z,20nm,1.1s
KIRV Kirov 20.25 23 P Pn 12 02 20.5 -0.8
comp=Z,15nm,0.6s,baz=350,slow=4.6,SNR=5.9
comp=Z,15nm,0.6s
KIRV Kirov 20.25 23 *ce*P Pn 12 02 20.9 -0.4
SENIN Lac Senin/Sane 20.29 295 P **P 12 02 19.5 -0.8**
SENIN IAmb IAmb 12 02 29.3
comp=Z,17nm,0.8s
KLMR Klimovskoe 20.36 7 *e*P **P 12 02 19.1 -1.6**
KLMR AMP 12 02 29.8
comp=Z,26nm,1.1s
KLMR Klimovskoe 20.36 7 *e*P **P 12 02 19.0 -1.6**
KLMR pmax pmax
comp=Z,26nm,1.1s
ECH Echery 20.66 300 IAmb IAmb 12 02 31.1
comp=Z,20nm,1.3s
FINES FINESS Array B 21.30 349 P **P 12 02 32.1 +1.4**
comp=Z,8.8nm,0.7s,baz=155,slow=9.7,SNR=14
FINES LR LR 12 12 18.3
comp=Z,130nm,19.4s,baz=168,slow=41
comp=Z,8.8nm,0.7s
PRGR Permogore 22.00 15 *e*P **P 12 02 36.6 -1.7**
PRGR *e*S **S 12 06 39.9 -1.4**
PRGR pmax pmax
comp=Z,27nm,0.7s
ARU Arti 22.25 37 P **P 12 02 40.5 -0.5**
comp=Z,14nm,0.6s,baz=234,slow=7.0,SNR=20
ARU LR LR 12 11 59.2
comp=Z,56nm,18.2s,baz=208,slow=38
comp=Z,14nm,0.6s
ARU Arti 22.25 37 P **P 12 02 39.4 -1.6**
ARU Arti 22.25 37 *c* *i*P **P 12 02 40.4 -0.6**
ARU 12 03 03.3
ARU S **S 12 06 46.3 +0.1**
ARU pmax pmax
comp=Z,17nm,0.7s
HRA Herat 22.99 97 P **P 12 02 48.4 -0.9**
HRA IAmb IAmb 12 02 54.5
comp=Z,14nm,1.1s
HFS Hagfors 23.22 333 P **P 12 02 50.3 -0.9**
comp=Z,8.2nm,0.8s,baz=132,slow=10,SNR=6.9
HFS LR LR 12 13 50.6
comp=Z,137nm,18.5s,baz=118,slow=42
comp=Z,8.2nm,0.8s
KONO Kongsberg 24.38 329 *i*P **P 12 03 03.2 +0.8**
KONO pmax pmax
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 24.72 333 P **P 12 03 06.7 +1.2**
comp=Z,6.3nm,1.1s,baz=131,slow=10
NOA NORSAR Array B 24.72 333 P **P 12 03 05.7 +0.1**
comp=Z,2.7nm,0.9s,baz=133,slow=8.8,SNR=5.1
NOA LR LR 12 14 45.6
comp=Z,107nm,18.2s,baz=145,slow=41
comp=Z,2.7nm,0.9s
CHGR Chuyangaron 26.80 83 P **P 12 03 24.4 -0.2**
CHGR Chuyangaron 26.80 83 P **P 12 03 24.4 -0.2**
CHGR pmax pmax
comp=Z,24nm,0.9s
WSAR Wadi Sarin 26.91 123 P **P 12 03 26.1 +0.5**
comp=Z,6.2nm,0.9s,baz=310,slow=9.0,SNR=5.8
comp=Z,6.2nm,0.9s
KK31 Karatay Array 26.91 73 P **P 12 03 25.9 +0.4**
KK31 IAmb IAmb 12 03 32.4
comp=Z,8.7nm,0.9s
KK31 Karatay Array 26.91 73 P **P 12 03 25.9 +0.4**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 26.91 73 P **P 12 03 25.2 -0.3**
KKAR Karatay Array 26.91 73 IAmb IAmb 12 03 32.4
comp=Z,8.7nm,0.9s
KKAR Karatay Array 26.91 73 P **P 12 03 25.2 -0.3**
BRVK Borovoye 27.18 51 P **P 12 03 27.4 -0.4**
BRVK IAmb IAmb 12 03 47.4
comp=Z,4.6nm,0.8s
BRVK Borovoye 27.18 51 *ce*P **P 12 03 29.0 +1.3**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 27.23 51 P **P 12 03 29.8 +1.5**
comp=Z,4.9nm,1.0s,baz=267,slow=5.8,SNR=9.0
BVAR LR LR 12 16 59.5
comp=Z,116nm,20.1s,baz=256,slow=42
comp=Z,4.9nm,1.0s
GAR Garm 27.58 82 P **P 12 03 31.8 +0.1**
EKA Eskdalemuir Ar 28.55 313 P **P 12 03 39.2 -0.8**
comp=Z,1.3nm,0.6s,baz=111,slow=9.3,SNR=3.9
EKA LR LR 12 18 20.6
comp=Z,111nm,18.3s,baz=109,slow=43
comp=Z,1.3nm,0.6s
ESBB Sonseca Array 29.08 281 P **P 12 03 42.7 -2.2**
ESBB IAmb IAmb 12 03 46.9
comp=Z,4.8nm,0.8s
ESDC Sonseca Array 29.08 281 P **P 12 03 43.5 -1.4**
comp=Z,3.9nm,0.7s,baz=68,slow=8.9,SNR=25
ESDC LR LR 12 17 29.1
comp=Z,82nm,18.4s,baz=90,slow=41
comp=Z,3.9nm,0.7s
ESDC Sonseca Array 29.08 281 P **P 12 03 43.1 -1.9**
ARCES ARCESS Array B 29.20 354 P **P 12 03 45.6 0.0**
comp=Z,5.3nm,0.7s,baz=171,slow=8.2,SNR=19
ARCES LR LR 12 17 03.9
comp=Z,96nm,19.1s,baz=164,slow=40
comp=Z,5.3nm,0.7s
PAB San Pablo 29.40 280 P **P 12 03 46.6 -1.2**
PAB IAmb IAmb 12 03 50.2
comp=Z,5.1nm,0.9s
PAB San Pablo 29.40 280 P **P 12 03 46.7 -1.2**
PAB pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 29.88 73 P **P 12 03 53.3 +1.2**
comp=Z,4.4nm,0.8s,baz=252,slow=5.8,SNR=11
AAK LR LR 12 19 05.1
comp=Z,47nm,19.5s,baz=264,slow=43
comp=Z,4.4nm,0.8s
AAK Ala-Archa 29.88 73 P **P 12 03 51.5 -0.6**
AAK IAmb IAmb 12 03 56.6
comp=Z,5.7nm,0.9s
AAK Ala-Archa 29.88 73 *ce*P **P 12 03 53.4 +1.3**
AAK pmax pmax
comp=Z,6.0nm,0.8s
ATD Arta Tunnel 30.09 163 LR LR 12 15 35.7
comp=Z,82nm,18.9s,baz=41,slow=36
KSH Kashi 31.67 78 P **P 12 04 08.0 +0.1**
KSH sP sP 12 04 18.8 +8.6
KSH pmax pmax
comp=Z,11nm,0.8s
PGAV Gavieira, Arco 31.73 286 *e*P P 12 04 14.2 +5.8
comp=Z,30nm,1.5s
PVIS Viseu 31.74 284 *e*P **P 12 04 12.1 +3.7**
comp=Z,20nm,1.7s
PBAR Barrancos 31.80 279 *e*P **P 12 04 08.8 -0.2**
comp=Z,14nm,1.7s
MDT Midelt 31.94 268 P **P 12 04 10.6 +0.2**
comp=Z,2.8nm,0.8s,baz=86,slow=7.7,SNR=5.0
comp=Z,2.8nm,0.8s
KURBB Kurchatov Arra 31.99 57 P **P 12 04 10.5 0.0**
comp=Z,9.9nm,1.0s,baz=277,slow=9.3,SNR=37
KURBB PcP **PcP 12 07 00.3 0.0**
comp=Z,2.1nm,0.9s,baz=259,slow=3.6,SNR=6.7
comp=Z,9.9nm,1.0s
PESTR Estremoz 32.01 280 *e*P **P 12 04 12.0 +1.2**
comp=Z,13nm,1.7s
KURK Kurchatov 32.05 57 P **P 12 04 10.5 -0.5**
KURK Kurchatov 32.05 57 *ce*P **P 12 04 11.8 +0.8**
KURK pmax pmax
comp=Z,17nm,1.7s
PMTG Montargil 32.43 281 *e*P **P 12 04 14.9 +0.5**
comp=Z,13nm,1.2s
MK31 Makanchi Array 34.73 64 P **P 12 04 34.3 -0.1**
MK31 IAmb IAmb 12 04 38.2
comp=Z,5.2nm,0.8s
MK31 Makanchi Array 34.73 64 P **P 12 04 34.3 -0.1**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 34.73 64 P **P 12 04 34.7 +0.3**
comp=Z,8.0nm,0.9s,baz=276,slow=6.8,SNR=24
MKAR LR LR 12 20 49.9
comp=Z,42nm,19.7s,baz=293,slow=40
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 34.73 64 P **P 12 04 34.3 -0.1**
MKAR Makanchi Array 34.73 64 *i*P **P 12 04 35.7 +1.3**
MKAR pmax pmax
comp=Z,8.0nm,0.9s
ZAA0 Zalesovo Array 35.89 51 P **P 12 04 44.3 +0.1**
ZALV Zalesovo Beam 35.89 51 P **P 12 04 44.2 -0.1**
comp=Z,5.6nm,0.5s,baz=260,slow=8.1,SNR=24
ZALV LR LR 12 22 32.2
comp=Z,67nm,19.7s,baz=291,slow=41
comp=Z,5.6nm,0.5s
ZALV Zalesovo Beam 35.89 51 P **P 12 04 43.8 -0.5**
ZALV Zalesovo Beam 35.89 51 *i*P **P 12 04 45.0 +0.7**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
JMIC Jan Mayen 37.13 338 LR LR 12 18 44.9
comp=Z,44nm,19.7s,baz=181,slow=34
LODK Lodwar 37.20 178 P **P 12 04 56.0 +0.1**
DGZ Jazzator, Alta 37.76 58 *i*P **P 12 05 00.9 +0.5**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
WMQ Urumqi 39.05 67 *e*P **P 12 05 13.9 +2.6**
WMQ pP sP 12 05 18.2 +4.6
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ LR LR
comp=E,96nm,15.7s
WMQ LR LR
comp=Z,100nm,19.1s
TOA0 Torodi Ar. Sit 39.62 235 P **P 12 05 14.9 -1.3**
TOA0 IAmb IAmb 12 05 21.6
comp=Z,5.0nm,0.8s
TORD Torodi Ar. Bea 39.62 235 P **P 12 05 15.3 -0.9**
comp=Z,4.1nm,0.7s,baz=40,slow=8.7,SNR=16
comp=Z,4.1nm,0.7s
TORD Torodi Ar. Bea 39.62 235 P **P 12 05 15.2 -1.0**
TORD IAmb IAmb 12 05 22.4
comp=Z,4.0nm,0.8s
NRIK Noril'sk 39.70 26 P **P 12 05 16.9 +0.7**
comp=Z,3.3nm,0.7s,baz=258,slow=6.4,SNR=5.9
comp=Z,3.3nm,0.7s
NRIK Noril'sk 39.70 26 *ce*P **P 12 05 18.7 +2.5**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
MBAR Mbarara 41.31 185 LR LR 12 25 43.8
comp=Z,94nm,19.3s,baz=150,slow=41
PSCM Serra do Cume 46.41 288 *e*S **S 12 12 55.0 -4.3**
PSCM A A 12 12 58.3
comp=Z,71nm,0.2s

GTA	**Gaotai**	**49.07**	**69**	*e*P	**P**	**12 06 34.1**	**+2.3**
GTA				pP	sP	12 06 42.6	+8.5
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,48nm,9.4s						
GTA				LR	LR		
	comp=N,65nm,15.6s						
GTA				LR	LR		
	comp=E,83nm,17.4s						
GTA				LR	LR		
	comp=Z,78nm,18.5s						
SONM	**Songino Array**	**50.36**	**56**	P	**P**	**12 06 42.9**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=292,slow=9.0,SNR=10						
SONM				LR	LR	12 30 59.2	
	comp=Z,118nm,19.6s,baz=306,slow=40						
	comp=Z,1.8nm,0.7s						
ULN	**Ulaanbaatar**	**50.76**	**56**	*ce*P	**P**	**12 06 44.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,12nm,1.7s						
BBTS	**Babate**	**51.10**	**255**	LR	LR	12 30 46.8	
	comp=Z,154nm,19.3s,baz=64,slow=39						
PALK	**Pallekele**	**53.03**	**116**	LR	LR	12 29 40.1	
	comp=Z,56nm,18.6s,baz=49,slow=36						
TIXI	**Tiksi**	**53.28**	**23**	P	**P**	**12 07 03.9**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=269,slow=24,SNR=10						
	comp=Z,2.4nm,0.8s						
TIXI	**Tiksi**	**53.28**	**23**	P	**P**	**12 07 02.2**	**-0.5**
TIXI				IAmb	IAmb	12 07 09.1	
	comp=Z,4.7nm,1.1s						
TIXI	**Tiksi**	**53.28**	**23**	*ce*P	**P**	**12 07 04.3**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,12nm,2.5s						
LZH	**Lanzhou**	**53.38**	**71**	⇑P	**P**	**12 07 07.5**	**+3.2**
LZH				pP	sP	12 07 12.0	+5.4
LZH				sP	pP	12 07 15.3	+9.3
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LSZ	**Lusaka**	**56.05**	**187**	LR	LR	12 31 28.0	
	comp=Z,164nm,18.5s,baz=140,slow=36						
HHC	**Hu-ho-hao-te**	**56.58**	**62**	*e*P	**P**	**12 07 26.7**	**-0.5**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,93nm,5.4s						
PZH	**PanZhiHua**	**56.65**	**82**	P	**P**	**12 07 29.5**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,180nm,4.8s						
YAK	**Yakutsk**	**57.31**	**34**	*ce*P	**P**	**12 07 33.8**	**+1.9**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.11**	**92**	P	**P**	**12 07 44.8**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=302,slow=7.1,SNR=9.9						
CMAR				LR	LR	12 37 01.8	
	comp=Z,37nm,19.8s,baz=285,slow=40						
	comp=Z,1.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**59.11**	**92**	*i* P	**P**	**12 07 46.7**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FRB	**Frobisher Bay**	**59.50**	**330**	LR	LR	12 33 40.1	
	comp=Z,66nm,18.1s,baz=312,slow=36						
SCHQ	**Schefferville**	**63.52**	**321**	P	**P**	**12 08 14.1**	**-0.5**
	comp=Z,6.6nm,1.0s,baz=69,slow=8.1,SNR=4.0						
SCHQ				LR	LR	12 37 08.6	
	comp=Z,38nm,19.8s,baz=170,slow=37						
	comp=Z,6.6nm,1.0s						
KLR	**Kul'dur**	**64.74**	**46**	P	**P**	**12 08 23.3**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=292,slow=10,SNR=4.7						
KLR				LR	LR	12 40 41.8	
	comp=Z,69nm,18.2s,baz=293,slow=40						
	comp=Z,2.6nm,0.8s						
KLR	**Kul'dur**	**64.74**	**46**	*ce*P	**P**	**12 08 24.5**	**+1.9**
KLR				pmax	pmax		
	comp=Z,13nm,2.5s						
SEY	**Seymchan**	**65.48**	**26**	P	**P**	**12 08 28.6**	**+1.3**
	comp=Z,7.2nm,0.8s,baz=280,slow=6.2,SNR=11						
	comp=Z,7.2nm,0.8s						
SEY	**Seymchan**	**65.48**	**26**	*ce*P	**P**	**12 08 30.3**	**+3.1**
SEY				pmax	pmax		
	comp=Z,14nm,1.3s						
BILL	**Bilibino**	**65.69**	**18**	⇓*e*P	**P**	**12 08 29.8**	**+1.3**
BILL				*e*		12 09 04.7	
BILL				*e*		12 10 55.9	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,30nm,17.0s						
NJ2	**Nanjing**	**66.12**	**68**	*e*P	P	12 08 37.2	+5.3
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**67.74**	**50**	P	**P**	**12 08 42.9**	**+1.0**
	comp=Z,4.6nm,0.8s,baz=309,slow=6.1,SNR=4.3						
	comp=Z,4.6nm,0.8s						
KSRS	**Korea Array**	**69.16**	**58**	P	**P**	**12 08 50.5**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=301,slow=5.5,SNR=10						
KSRS				LR	LR	12 43 00.7	
	comp=Z,85nm,19.1s,baz=300,slow=39						
	comp=Z,3.7nm,0.8s						
BOSA	**Boshof**	**69.54**	**188**	P	**P**	**12 08 52.2**	**-1.1**
	comp=Z,4.4nm,0.8s,baz=3.5,slow=8.3,SNR=6.1						
	comp=Z,4.4nm,0.8s						
YKA	**Yellowknife Ar**	**74.08**	**346**	P	**P**	**12 09 20.6**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=31,slow=5.8,SNR=4.2						
	comp=Z,4.4nm,0.8s						
ILAR	**Eielson Array**	**74.79**	**1**	P	**P**	**12 09 24.6**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=335,slow=4.0,SNR=3.8						
	comp=Z,0.4nm,0.7s						
SADO	**Sadowa**	**76.03**	**318**	LR	LR	12 43 20.8	
	comp=Z,79nm,18.1s,baz=14,slow=36						
MJAR	**Matsushiro Arr**	**76.20**	**54**	P	**P**	**12 09 33.8**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=343,slow=3.0,SNR=3.3						
MJAR				LR	LR	12 47 00.8	
	comp=Z,25nm,18.6s,baz=303,slow=39						
	comp=Z,2.6nm,0.9s						
RCBR	**Riachuelo**	**79.03**	**252**	LR	LR	12 45 38.3	
	comp=Z,65nm,19.0s,baz=156,slow=36						
ULM	**Lac du Bonnet**	**79.38**	**330**	P	**P**	**12 09 52.1**	**+1.8**
	comp=Z,6.6nm,1.0s,baz=33,slow=6.9,SNR=3.7						
	comp=Z,6.6nm,1.0s						
LEM	**Lembang**	**81.97**	**106**	LR	LR	12 50 53.3	
	comp=Z,43nm,18.6s,baz=207,slow=39						
TKL	**Tuckaleechee C**	**85.04**	**314**	LR	LR	12 48 45.0	
	comp=Z,43nm,18.7s,baz=36,slow=36						
NEW	**Newport**	**87.80**	**341**	LR	LR	12 50 19.9	
	comp=Z,48nm,18.1s,baz=292,slow=36						
YBH	**Yreka Blue Hor**	**95.27**	**343**	LR	LR	12 54 33.8	
	comp=Z,66nm,18.0s,baz=355,slow=36						
ANMO	**Albuquerque**	**96.44**	**328**	LR	LR	12 57 50.8	
	comp=Z,60nm,18.5s,baz=30,slow=37						

*ISK **02** 12:02:53.4, 40°.78N×34°.30E, h7km, ML3.9/23*
*DDA **02** 12:02:53.7±0.0, 40°.78N×34°.30E, h16km±1km, MW3.9*
*IDC **02** 12:02:53.4±0.7, 40°.62N×34°.44E, h0km, mb3.9/8, mbtmp3.9/12, ML3.7/4, Error ellipse: s-maj=14.0km s-min=7.4km az=124.0*
*CFUSG **02** 12:02:53.5, 40°.80N×34°.30E, h5km, mb3.2/4, Northern Turkey Magtype MSH 3.5 from 2 stations*
ISC 02 12:02:53.8±1.1**, 40°.78N**±0°.02×**34°.28E**±0°.02**, h5**km±8km**, n64,** σ**1^{s}97**/81**, mb3.8**/8**, 9C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.32**	**322**	PG	**Pg**	**12 03 00.7**	**+0.7**
TOS				SG	**Sg**	**12 03 05.1**	**+0.8**
KAGI	**orum-Kargı**	**0.39**	**23**	P	**Pg**	**12 03 01.5**	**+0.3**
KAGI				S	**Sb**	**12 03 07.5**	**-1.9**
CANT	**Cankiri**	**0.53**	**251**	PG	**Pg**	**12 03 04.5**	**+0.5**
CANT				SG	**Sb**	**12 03 12.6**	**-1.0**
CORM	**Corum**	**0.66**	**156**	PG	**Pg**	**12 03 05.9**	**-0.5**
CORM				SG	**Sb**	**12 03 15.8**	**-1.5**
KMON	**Kastamonu**	**0.70**	**328**	PG	**Pg**	**12 03 07.7**	**+0.4**
KMON				SG	**Sb**	**12 03 18.2**	**-0.3**
BOYA	**Sinop/Boyabat-**	**0.81**	**22**	P	**Pb**	**12 03 09.0**	**-1.4**
BOYA				S	**Sg**	**12 03 20.3**	**+0.5**
PELI	**Kastamonı-Ara**	**0.90**	**306**	P	**Pg**	**12 03 11.5**	**+0.4**
PELI				S	**Sn**	**12 03 24.2**	**-2.3**
DIKM	**Dikmen**	**1.14**	**40**	⇓P	**Pg**	**12 03 15.3**	**-0.2**
DIKM	**Dikmen**	**1.14**	**40**	PN	**Pg**	**12 03 15.4**	**-0.2**
DIKM				SN	**Sg**	**12 03 31.9**	**+1.6**
BRTR	**Keskin Array B**	**1.16**	**205**	Pg	**Pn**	**12 03 14.8**	**-2.0**
	83nm,0.3s,baz=32,slow=14,SNR=106						
BRTR				Lg	Lg	12 03 30.2	
	154nm,0.3s,baz=349,slow=22,SNR=6.2						
BRTR				LR	LR	12 03 59.0	
	comp=Z,526nm,18.5s,baz=358,slow=60						
BZK	**Bozkurt**	**1.20**	**350**	⇑P	**Pn**	**12 03 14.8**	**-2.3**
KIZO	**Buyukkizoglu-L**	**1.26**	**84**	PN	**Pb**	**12 03 17.2**	**-0.8**
SAFT	**Safranbolu**	**1.29**	**291**	PN	**Pb**	**12 03 18.3**	**-0.2**
KVT	**Kavak**	**1.37**	**77**	PN	**Pb**	**12 03 19.1**	**-0.8**
KVT				SN	**Sg**	**12 03 38.5**	**+0.7**
SINO	**SINOP_Merkez**	**1.42**	**29**	P	**Pb**	**12 03 20.0**	**-0.6**
SINO				S	**Sg**	**12 03 40.7**	**+1.4**
ANTO	**Ankara**	**1.46**	**232**	⇑P	**Pg**	**12 03 21.5**	**-0.2**
LOD	**Lodumlu**	**1.46**	**233**	PN	**Pn**	**12 03 19.7**	**-1.2**
KAMT	**Kaman**	**1.48**	**197**	PN	**Pb**	**12 03 20.9**	**-0.8**
KAMT				SN	**Sg**	**12 03 41.1**	**-0.1**
SIRC	**Yozgat**	**1.59**	**155**	P	**Pb**	**12 03 22.7**	**-1.0**
SIRC				S	**Sg**	**12 03 44.2**	**-0.6**
KOZK	**Kozakli-Nevseh**	**1.63**	**164**	PN	**Pb**	**12 03 23.5**	**-0.9**
BTIN	**Bartın**	**1.75**	**300**	P	**Pb**	**12 03 26.2**	**-0.2**
TOKT	**Tokat**	**1.78**	**104**	PN	**Pb**	**12 03 25.7**	**-1.3**
TOKT				SN	**Sb**	**12 03 48.5**	**-1.1**
YAYX	**Yaylak**	**1.88**	**191**	PN	**Pb**	**12 03 26.8**	**-1.7**
KIBS	**BOLU**	**1.89**	**260**	P	**Pb**	**12 03 27.9**	**-0.8**
SERE	**Sereflikochisa**	**1.91**	**197**	PN	**Pb**	**12 03 27.3**	**-1.9**
KKUL	**Konya-Kulu**	**1.92**	**214**	P	**Pb**	**12 03 27.3**	**-2.0**
KULU	**Kulu**	**2.00**	**210**	PN	**Pb**	**12 03 28.7**	**-1.9**
YUVA	**Yuva-Kibriscik**	**2.01**	**260**	PN	**Pn**	**12 03 28.3**	**-0.2**
GUNE	**Kayseri**	**2.14**	**151**	P	**Pb**	**12 03 32.7**	**-0.4**
YIGI	**Dzce**	**2.16**	**276**	P	**Pb**	**12 03 31.5**	**-1.7**
KDZE	**Karadeniz Ereo**	**2.21**	**285**	⇑P	**Pb**	**12 03 32.0**	**-2.3**
KDZE	**Karadeniz Ereo**	**2.21**	**285**	PN	**Pb**	**12 03 32.2**	**-2.0**
SVSK	**Karacayir**	**2.25**	**112**	PN	**Pb**	**12 03 32.2**	**-2.6**
AUMIH	**MIHALICIK**	**2.33**	**248**	PN	**Pb**	**12 03 33.6**	**-2.6**
RSDY	**Resadiye-TOKAT**	**2.35**	**98**	PN	**Pb**	**12 03 33.7**	**-2.9**
MDUB	**Mudurnu**	**2.37**	**263**	PN	**Pn**	**12 03 34.1**	**+0.8**
CUAYA	**Sivas-Altinyay**	**2.42**	**128**	P	**Pb**	**12 03 35.0**	**-2.9**
GULA	**Gulagac**	**2.43**	**181**	PN	**Pn**	**12 03 34.9**	**+0.6**
CHBY	**Cihanbeyli**	**2.44**	**207**	PN	**Pn**	**12 03 34.8**	**+0.4**
AUSIV	**SIVRIHISAR**	**2.49**	**238**	PN	**Pn**	**12 03 35.8**	**+0.7**
SVRH	**Sivrihisar-ESK**	**2.50**	**239**	PN	**Pn**	**12 03 35.8**	**+0.6**
SGAZ	**Eskisehir, Sey**	**2.92**	**246**	P	**Pn**	**12 03 40.6**	**-0.3**
YAL	**Yalta**	**3.71**	**359**	*e*P	**Pn**	**12 03 54.4**	**+2.8**
YAL				Pm		12 03 55.0	
	comp=Z,48nm,0.7s						
YAL				*e*S	**Sb**	**12 04 39.9**	**-4.9**
YAL				Sm		12 04 42.0	
	comp=N,37nm,0.3s						
YAL				Sm		12 04 42.0	
	comp=E,51nm,0.5s						
SEV	**Sevastopol'**	**3.79**	**353**	*e*P	**Pn**	**12 03 55.2**	**+2.5**
SEV				Pm		12 04 02.3	
	comp=Z,16nm,0.4s						
SEV				*e*S	**Sb**	**12 04 42.4**	**-4.8**
SEV				Sm		12 04 42.8	
	comp=N,9.0nm,0.4s						
SEV				Sm		12 04 42.8	
	comp=E,19nm,0.4s						
ALU	**Alushta**	**3.90**	**1**	*e*P	**Pn**	**12 03 56.5**	**+2.2**
ALU				Pm		12 03 59.5	
	comp=Z,24nm,0.3s						
ALU				*e*S	**Sb**	**12 04 43.8**	**-6.6**
ALU				Sm		12 04 46.5	
	comp=N,14nm,0.2s						
ALU				Sm		12 04 46.5	
	comp=E,28nm,0.5s						
SUDU	**Sudak**	**4.14**	**7**	*e*P	**Pn**	**12 03 59.6**	**+2.0**
SUDU				Pm		12 04 03.4	
	comp=Z,25nm,0.6s						
SUDU				*e*S	**Sb**	**12 04 50.1**	**-7.3**
SUDU				Sm		12 04 50.5	
	comp=N,54nm,0.6s						
SUDU				Sm		12 04 50.5	
	comp=E,22nm,0.5s						
TIRR	**Tirgusor**	**5.68**	**312**	⇑P	**Pn**	**12 04 18.1**	**-0.6**
TPGR	**Topolog**	**5.93**	**315**	⇑P	**Pn**	**12 04 21.6**	**-0.6**
CFR	**Carcaliu**	**6.29**	**316**	⇑P	**Pn**	**12 04 27.1**	**-0.1**
KVAR	**Kislovodsk Arr**	**6.99**	**60**	Pn	**Pn**	**12 04 37.9**	**+1.0**
	baz=240,slow=20						
	comp=E,5.6nm,0.6s						
KBZ	**Khabaz**	**7.04**	**62**	Pn	**Pn**	**12 04 39.4**	**+2.0**
	comp=E,0.3nm,0.3s,baz=225,slow=9.8,SNR=2.6						
	comp=E,6.3nm,0.8s						
VRI	**Vrincioaia**	**7.49**	**315**	⇑P	**Pn**	**12 04 43.4**	**-0.2**
MLR	**Muntele Rosu**	**7.70**	**310**	Pn	Pn	12 04 52.2	+5.6
	comp=E,0.4nm,0.3s,baz=108,slow=20,SNR=1.1						
	comp=E,2.5nm,0.5s						
VOIR		**8.20**	**308**	⇑P	**Pn**	**12 04 53.6**	**+0.2**
BURAR	**Bucovina Array**	**9.43**	**319**	⇑P	**Pn**	**12 05 10.6**	**+0.2**
AKASG	**Malin Array Be**	**10.53**	**342**	Pn	**Pn**	**12 05 25.1**	**0.0**
	comp=E,1.9nm,0.3s,baz=155,slow=13,SNR=4.3						
AKASG				Sn	**Sn**	**12 07 22.1**	**-1.3**
	comp=E,0.8nm,0.3s,baz=154,slow=24,SNR=2.8						
	comp=E,3.9nm,0.6s						
FINES	**FINESS Array B**	**21.29**	**349**	P	**P**	**12 07 44.2**	**+3.4**
	comp=E,2.8nm,0.8s,baz=186,slow=13,SNR=1.4						
	comp=E,2.8nm,0.8s						
ARU	**Arti**	**22.25**	**37**	P	**P**	**12 07 53.2**	**+2.0**
	comp=E,2.6nm,0.3s,baz=153,slow=16,SNR=4.2						
	comp=E,2.6nm,0.3s						
ESDC	**Sonseca Array**	**29.07**	**280**	P	**P**	**12 08 55.4**	**+0.3**
	comp=E,1.0nm,0.7s,baz=66,slow=8.8,SNR=5.7						
	comp=E,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**29.19**	**354**	P	**P**	**12 08 58.2**	**+2.5**
	comp=E,1.6nm,0.7s,baz=166,slow=12,SNR=4.4						
	comp=E,1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**32.00**	**57**	P	**P**	**12 09 21.6**	**+0.9**
	comp=E,0.9nm,0.6s,baz=275,slow=9.5,SNR=6.2						
	comp=E,0.9nm,0.6s						
MKAR	**Makanchi Array**	**34.73**	**64**	P	**P**	**12 09 45.7**	**+1.0**
	comp=E,0.7nm,0.6s,baz=272,slow=6.4,SNR=4.2						
	comp=E,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**35.89**	**51**	P	**P**	**12 09 55.0**	**+0.5**
	comp=E,1.0nm,0.5s,baz=262,slow=8.8,SNR=4.5						
	comp=E,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**39.62**	**235**	P	**P**	**12 10 27.4**	**+1.0**
	comp=E,0.8nm,0.7s,baz=34,slow=9.5,SNR=5.5						
	comp=E,0.8nm,0.7s						

*NOU **02** 12:03:35.1, 37°.37S×179°.80E, h0km, MLv4.4/9, Off E. Coast of N. Island, N.Z.*
*WEL **02** 12:03:47.6±0.8, 37°S±4°×17°9E±°, h20km, M3.5/17, ML3.8/21, MLv3.5/17, Error ellipse: s-maj=0.0km s-min=0.0km az=98.5*
ISC 02 12:03:45.0±2.8**, 37°.41S**±0°.08×**179°.1E**±0°.1**, h24**km±14km**, n93,** σ**0^{s}94**/105**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.62**	**255**	P	**Pb**	**12 03 57.6**	**+0.4**
MXZ	**Matakaoa Point**	**0.62**	**255**	P	**Pb**	**12 03 57.3**	**+0.2**
MXZ				S	**Sb**	**12 04 04.0**	**-1.4**
WMGZ	**Waiomatatini S**	**0.66**	**231**	P	**Pn**	**12 03 59.9**	**+1.2**
WMGZ				S	**Sn**	**12 04 08.6**	**+0.3**
PKGZ	**Pakihiroa**	**0.91**	**238**	P	**Pn**	**12 04 02.9**	**+0.5**
PKGZ				S	**Sb**	**12 04 13.7**	**-0.3**
PUZ	**Puketiti**	**0.92**	**224**	P	**Pn**	**12 04 03.7**	**+1.3**
PUZ				S	**Sn**	**12 04 15.2**	**+0.4**
HAZ	**Te Kaha**	**1.07**	**251**	P	**Pn**	**12 04 04.2**	**-0.2**
HAZ				S	**Sb**	**12 04 17.7**	**-0.8**
TWGZ	**Tauwhareparae**	**1.15**	**228**	P	**Pb**	**12 04 06.9**	**+0.7**
TWGZ				S	**Sb**	**12 04 21.3**	**+0.6**
RUGZ	**Raukumara Rang**	**1.23**	**243**	P	**Pb**	**12 04 07.6**	**0.0**
RUGZ				S	**Sn**	**12 04 22.4**	**-0.3**
CNGZ	**Carnagh Statio**	**1.27**	**212**	P	**Pb**	**12 04 09.4**	**+1.2**
TKGZ	**Te Karaka**	**1.41**	**223**	P	**Pb**	**12 04 10.0**	**-0.5**
TKGZ				S	**Sn**	**12 04 26.6**	**-0.2**
MWZ	**Matawai**	**1.52**	**232**	P	**Pn**	**12 04 11.4**	**+0.6**
MWZ				S	**Sn**	**12 04 29.1**	**-0.7**
RIGZ	**Rimuhau**	**1.65**	**218**	P	**Pn**	**12 04 13.4**	**+0.9**
RIGZ				S	**Sn**	**12 04 33.3**	**+0.3**
RAGZ	**Rawiri**	**1.69**	**230**	P	**Pn**	**12 04 14.0**	**+0.9**
RAGZ				S	**Sn**	**12 04 33.2**	**-0.9**
WHRZ	**Whale Island**	**1.71**	**254**	P	**Pn**	**12 04 14.2**	**+0.8**
URZ	**Urewera**	**1.76**	**241**	P	**Pn**	**12 04 14.8**	**+0.8**
URZ	**Urewera**	**1.76**	**241**	P	**Pn**	**12 04 14.7**	**+0.7**
URZ				S	**Sn**	**12 04 34.5**	**-1.1**
SNGZ	**Shannon Statio**	**1.93**	**224**	P	**Pn**	**12 04 17.0**	**+0.7**
KNZ	**Kokohu**	**1.94**	**214**	P	**Pn**	**12 04 16.8**	**+0.3**
EDRZ	**Edgecumbe**	**1.97**	**249**	P	**Pn**	**12 04 17.4**	**+0.6**
OPRZ	**Ohinepanea**	**2.04**	**257**	P	**Pn**	**12 04 17.6**	**-0.2**
RTZ	**Ruatahuna**	**2.04**	**233**	P	**Pn**	**12 04 18.7**	**+0.8**
MUGZ	**Murupara**	**2.10**	**239**	P	**Pn**	**12 04 19.1**	**+0.5**
RAHZ	**Arahi**	**2.16**	**225**	P	**Pn**	**12 04 20.5**	**+1.0**
TARZ	**Mount Tarawera**	**2.18**	**247**	P	**Pn**	**12 04 20.7**	**+0.8**
WHHZ	**Waihua**	**2.20**	**220**	P	**Pn**	**12 04 20.8**	**+0.7**
RRRZ	**Republican Roa**	**2.22**	**244**	P	**Pn**	**12 04 21.0**	**+0.8**
OMRZ	**Omania**	**2.24**	**251**	P	**Pn**	**12 04 21.3**	**+0.7**
TGRZ	**Tauranga**	**2.25**	**261**	P	**Pn**	**12 04 20.6**	**0.0**
MTHZ	**Maungataniwha**	**2.27**	**230**	P	**Pn**	**12 04 21.8**	**+0.9**
HLRZ	**Highlands Stat**	**2.30**	**248**	P	**Pn**	**12 04 22.2**	**+0.7**
KARZ	**Kaharoa**	**2.31**	**254**	P	**Pn**	**12 04 21.7**	**+0.1**
PRRZ	**Plateau Road**	**2.37**	**242**	P	**Pn**	**12 04 23.0**	**+0.6**
NGRZ	**Ngongotaha**	**2.38**	**252**	P	**Pn**	**12 04 22.9**	**+0.4**
UTU	**Utuhina**	**2.40**	**250**	P	**Pn**	**12 04 23.4**	**+0.7**
HSRZ	**Hossack Road**	**2.40**	**247**	P	**Pn**	**12 04 23.9**	**+1.1**
HRRZ	**Handcock Road**	**2.40**	**245**	P	**Pn**	**12 04 23.2**	**+0.4**
ALRZ	**Allen Road**	**2.44**	**241**	P	**Pn**	**12 04 23.5**	**+0.3**
NMHZ	**Naumai**	**2.45**	**226**	P	**Pn**	**12 04 24.7**	**+1.2**
ARHZ	**Aropaoanui**	**2.46**	**221**	P	**Pn**	**12 04 24.5**	**+0.9**
GRRZ	**Galatos Road**	**2.52**	**247**	P	**Pn**	**12 04 25.2**	**+0.8**
MRHZ	**Matea Rd**	**2.52**	**235**	P	**Pn**	**12 04 24.8**	**+0.3**
BKZ	**Black Stump Fm**	**2.67**	**228**	P	**Pn**	**12 04 27.0**	**+0.4**
BKZ	**Black Stump Fm**	**2.67**	**228**	P	**Pn**	**12 04 27.0**	**+0.4**
CKHZ	**Cape Kidnapper**	**2.73**	**214**	P	**Pn**	**12 04 27.4**	**+0.1**
KUZ	**Kuaotunu**	**2.75**	**283**	P	**Pn**	**12 04 26.5**	**-1.0**
KUZ	**Kuaotunu**	**2.75**	**283**	P	**Pn**	**12 04 26.6**	**-1.0**
MCHZ	**McNeill Hill**	**2.75**	**222**	P	**Pn**	**12 04 28.0**	**+0.4**
TOZ	**Tahuroa Road**	**2.84**	**262**	P	**Pn**	**12 04 28.8**	**-0.1**
KWHZ	**Kaweka Forest**	**2.89**	**225**	P	**Pn**	**12 04 29.7**	**+0.2**
KAHZ	**Kahuranaki**	**2.93**	**215**	P	**Pn**	**12 04 29.8**	**-0.3**
TLZ	**Tolley Road**	**2.93**	**251**	P	**Pn**	**12 04 30.4**	**+0.3**
RITZ	**Rihia Road**	**2.97**	**237**	P	**Pn**	**12 04 31.3**	**+0.7**
RATZ	**Rangitukua**	**2.97**	**240**	P	**Pn**	**12 04 31.4**	**+0.7**
GRZ	**Great Barrier**	**3.11**	**291**	P	**Pn**	**12 04 32.6**	**0.0**
MKAZ	**Moumakai**	**3.12**	**274**	P	**Pn**	**12 04 32.8**	**+0.1**
PXZ	**Pawanui**	**3.13**	**213**	P	**Pn**	**12 04 31.8**	**-1.0**
BHHZ	**Black Hill Sta**	**3.14**	**228**	P	**Pn**	**12 04 33.3**	**+0.4**
TMVZ	**Te Maari**	**3.14**	**236**	P	**Pn**	**12 04 33.3**	**+0.2**
ETVZ	**East Tongariro**	**3.15**	**236**	P	**Pn**	**12 04 33.3**	**+0.1**
NTVZ	**North Tongarir**	**3.15**	**237**	P	**Pn**	**12 04 33.6**	**+0.4**
KRVZ	**Karewarewa**	**3.17**	**237**	P	**Pn**	**12 04 33.9**	**+0.4**
OTVZ	**Oturere**	**3.19**	**236**	P	**Pn**	**12 04 34.0**	**+0.2**
WIAZ	**Waiheke Island**	**3.20**	**280**	P	**Pn**	**12 04 34.0**	**+0.2**
NNVZ	**North Ngauruho**	**3.21**	**237**	P	**Pn**	**12 04 34.5**	**+0.4**
WTVZ	**West Tongariro**	**3.22**	**237**	P	**Pn**	**12 04 34.5**	**+0.4**
SNVZ	**South Ngauruho**	**3.22**	**236**	P	**Pn**	**12 04 34.6**	**+0.3**
NGZ	**Ngauruhoe**	**3.24**	**236**	P	**Pn**	**12 04 34.8**	**+0.3**
TUVZ	**Tukino**	**3.26**	**234**	P	**Pn**	**12 04 35.0**	**+0.3**
MOVZ	**Moawhango**	**3.27**	**231**	P	**Pn**	**12 04 34.5**	**-0.3**
ETAZ	**East Tamaki Re**	**3.33**	**277**	P	**Pn**	**12 04 36.3**	**+0.7**
PNHZ	**Pukenui**	**3.35**	**221**	P	**Pn**	**12 04 35.3**	**-0.7**
MBAZ	**Motutapu North**	**3.39**	**280**	P	**Pn**	**12 04 37.3**	**+1.0**
PRHZ	**Porangahau**	**3.42**	**213**	P	**Pn**	**12 04 35.6**	**-1.2**
MTVZ	**Mangateitei**	**3.44**	**234**	P	**Pn**	**12 04 37.1**	**0.0**
PKVZ	**Pokaka**	**3.47**	**236**	P	**Pn**	**12 04 38.3**	**+0.8**
HIZ	**Hauiti**	**3.50**	**250**	P	**Pn**	**12 04 38.9**	**+1.1**
HIZ	**Hauiti**	**3.50**	**250**	P	**Pn**	**12 04 39.0**	**+1.1**
TSZ	**Takapari Road**	**3.59**	**222**	P	**Pn**	**12 04 37.8**	**-1.4**
RVAZ	**Riverhead Bore**	**3.64**	**279**	P	**Pn**	**12 04 40.7**	**+0.9**
VRZ	**Vera Road**	**3.79**	**242**	P	**Pn**	**12 04 42.7**	**+0.8**
BFZ	**Birch Farm**	**3.93**	**213**	P	**Pn**	**12 04 42.1**	**-1.7**
WAZ	**Wanganui**	**3.96**	**232**	P	**Pn**	**12 04 45.0**	**+0.8**
WCZ	**Waipu Caves**	**4.06**	**290**	P	**Pn**	**12 04 46.0**	**+0.4**
LREZ	**Lake Rotokare**	**4.19**	**239**	P	**Pn**	**12 04 48.7**	**+1.3**
MRZ	**Mangatainoka R**	**4.23**	**219**	P	**Pn**	**12 04 46.0**	**-1.9**
NEZ	**North Egmont**	**4.32**	**243**	P	**Pn**	**12 04 51.2**	**+2.0**
PKE	**Pukeiti**	**4.37**	**244**	P	**Pn**	**12 04 52.5**	**+2.7**
KHEZ	**Kahui Hut**	**4.39**	**243**	P	**Pn**	**12 04 51.6**	**+1.4**
OUZ	**Omahuta**	**4.92**	**295**	P	**Pn**	**12 04 58.5**	**+1.1**
OUZ	**Omahuta**	**4.92**	**295**	P	**Pn**	**12 04 58.5**	**+1.1**
QRZ	**Quartz Range**	**6.12**	**234**	P	**Pn**	**12 05 12.0**	**-1.8**
	61nm,1.9s						
KHZ	**Kahutara**	**6.56**	**219**	P	**Pn**	**12 05 18.0**	**-1.8**
CTZ	**Chatham Island**	**7.12**	**154**	P	**Pn**	**12 05 31.5**	**+3.9**

*IDC **02** 12:11:15.7±3.9, 36°.34N×71°.28E, h113km±35km, mb3.3/5, mbtmp3.7/10, Error ellipse: s-maj=30.4km s-min=22.8km az=169.0*
ISC 02 12:11:14.8±1.1**, 36°.3N**±0°.1×**71°.2E**±0°.1**, h100**km**, n17,** σ**1^{s}91**/19**, mb3.2**/5**, 1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.09**	**17**	P	**Pn**	**12 12 44.5**	**+1.9**
	SNR=108						
EKS2	**Erkin-Say**	**6.62**	**16**	P	**Pn**	**12 12 51.8**	**+2.2**
	SNR=18						
AAK	**Ala-Archa**	**6.78**	**21**	P	**Pn**	**12 12 54.1**	**+2.4**
	SNR=13						
AAK	**Ala-Archa**	**6.78**	**21**	P	**Pn**	**12 12 53.5**	**+1.8**
	7.4nm,0.3s,baz=189,slow=3.9,SNR=30						
AAK				S	**Sn**	**12 14 06.9**	**-0.6**
	2.3nm,0.4s,baz=145,slow=21,SNR=1.6						
KK31	**Karatay Array**	**6.78**	**355**	P	**Pn**	**12 12 53.3**	**+1.6**
	9.5nm,0.4s,baz=180,slow=13,SNR=82						
KK31				⇓S	**Sn**	**12 14 03.4**	**-3.9**
	2.8nm,0.3s,baz=186,slow=26						
CHMS	**Chumysh**	**7.18**	**21**	P	**Pn**	**12 13 00.1**	**+2.9**
	SNR=5.8						
USP	**Ospenovka**	**7.36**	**19**	P	**Pn**	**12 13 01.7**	**+2.1**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.39**	**26**	P	**Pn**	**12 13 02.1**	**+2.1**
	SNR=7.7						
GEYT	**Alibeck**	**10.60**	**283**	P	**Pn**	**12 13 44.8**	**+1.2**
	1.1nm,0.3s,baz=109,slow=7.9,SNR=1.9						
MKAR	**Makanchi Array**	**13.31**	**35**	P	**Pn**	**12 14 19.6**	**0.0**
	0.6nm,0.9s,baz=214,slow=7.7,SNR=2.1						
KURBB	**Kurchatov Arra**	**15.22**	**18**	P	**Pn**	**12 14 43.9**	**-0.2**
	0.2nm,0.4s,baz=204,slow=11,SNR=3.0						
ZALV	**Zalesovo Beam**	**19.99**	**24**	P	**P**	**12 15 39.1**	**0.0**
	2.2nm,0.3s,baz=215,slow=11,SNR=9.7						
FINES	**FINESS Array B**	**37.73**	**326**	P	**P**	**12 18 21.0**	**+0.6**
	2.6nm,0.9s,baz=96,slow=13,SNR=1.4						
	2.6nm,0.9s						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**12 18 50.0**	**-0.6**
	3.3nm,1.0s,baz=108,slow=8.8,SNR=2.4						
	3.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P	**P**	**12 21 48.9**	**-1.4**
	0.1nm,0.5s,baz=58,slow=5.1,SNR=1.6						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**81.74**	**122**	P	**P**	**12 23 21.5**	**-1.1**
	0.4nm,1.0s,baz=318,slow=6.3,SNR=2.1						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**84.00**	**125**	P	**P**	**12 23 33.9**	**-0.3**
	0.2nm,0.8s,baz=293,slow=4.9,SNR=1.5						
	0.2nm,0.8s						

*DRS **02** 12:18:57.3±0.0, 41°.07N×47°.92E, h16km*
*MOS **02** 12:18:57.4±0.0, 41°.24N×47°.94E, h20km, MPVA3.6*
ISC 02 12:18:59.2±2.4**, 41°.3N**±0°.1×**47°.96E**±0°.06**, h8**km±10km**, n14,** σ**0^{s}94**/28**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKT	**Akhty**	**0.29**	**323**	*i* Pg	**Pg**	**12 19 04.7**	**-0.2**
AKT				*e*Sg	**Sb**	**12 19 10.1**	**-1.7**
KSMR	**Kasumkent**	**0.37**	**19**	*e*Pg	**Pg**	**12 19 06.7**	**+0.2**
KSMR				*e*Sg	**Sb**	**12 19 13.1**	**-1.0**
DRN	**Derbent**	**0.83**	**19**	*e*Pg	**Pg**	**12 19 15.1**	**0.0**
DRN				*e*Sg	**Sb**	**12 19 27.3**	**+0.2**
URKR	**Urkarakh**	**0.95**	**345**	*e*Pg	**Pg**	**12 19 17.1**	**-0.3**
URKR				*e*Sg	**Sb**	**12 19 31.4**	**+0.6**
KMKR	**Kumukh**	**1.09**	**324**	*e*Pg	**Pg**	**12 19 19.3**	**-0.9**
KMKR				*e*Sg	**Sb**	**12 19 34.9**	**-0.1**
GNBR	**Gunib**	**1.36**	**327**	*e*Pg	**Pn**	**12 19 23.4**	**-1.2**
GNBR				*e*Sg	**Sn**	**12 19 42.9**	**+0.1**
LGD	**Lagodekhi**	**1.42**	**295**	P	**Pb**	**12 19 25.7**	**-0.2**
LGD				S	**Sg**	**12 19 47.4**	**+2.6**
XNZR	**Khunzakh**	**1.60**	**324**	*e*Pg	**Pn**	**12 19 27.6**	**-0.4**
XNZR				*e*Sg	**Sg**	**12 19 49.9**	**-0.6**
BTLR	**Botlikh**	**1.92**	**318**	*e*Pg	**Pn**	**12 19 32.0**	**-0.2**
BTLR				*e*Sg	**Sb**	**12 19 58.3**	**-0.3**
DBC	**Dubki**	**1.96**	**335**	*e*Pg	**Pn**	**12 19 33.1**	**+0.2**
DBC				*e*Sg	**Sb**	**12 19 59.6**	**-0.2**
DVE	**Vedeno**	**2.19**	**322**	*e*Pg	**Pn**	**12 19 35.5**	**-0.5**
DVE				*e*Sg	**Sn**	**12 20 04.5**	**+1.3**
KMGR	**Komgaron**	**2.93**	**309**	*e*Pn	**Pn**	**12 19 45.5**	**-0.6**
KMGR				*e*Sn	**Sn**	**12 20 22.9**	**+1.5**
LACR	**Lac**	**3.15**	**301**	*e*Pn	**Pn**	**12 19 48.5**	**-0.8**
LACR				*e*Sn	**Sn**	**12 20 28.1**	**+0.9**
ZEI	**Tsey**	**3.39**	**298**	*e*Pn	**Pn**	**12 19 52.0**	**-0.7**
ZEI				*e*Sn	**Sn**	**12 20 34.1**	**+0.9**

ISK 02 12:32:59.5, 37°.57N×26°.78E, h1km, ML2.0/2
DDA 02 12:32:53.5±0.0, 39°.08N×27°.54E, h7km±7km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.30	134	P	Pg	12 32 59.6	+0.3
AKHS				i AML	AML	12 33 08.0	
	comp=E,39nm,0.5s						
STEP	BALIKESIR_Sava	0.32	25	P	Pb	12 33 00.9	-0.8
STEP				S	Sb	12 33 06.1	-1.0
STEP				i AML	AML	12 33 07.0	
	comp=N,38nm,0.5s						
STEP				i AML	AML	12 33 11.0	
	comp=E,60nm,0.8s						
ZEDA	zmir-Bergama	0.38	252	P	Pg	12 33 00.3	-0.5
ZEDA				S	Sb	12 33 08.1	-0.5
ZEDA				i AML	AML	12 33 09.0	
	comp=N,36nm,0.5s						
BALY	Balya	0.66	5	P	Pg	12 33 04.6	-1.6
BALY				S	Sb	12 33 15.8	-0.9
DURS	Dursunbey	0.89	54	P	Pg	12 33 09.4	-1.2
DURS				i AML	AML	12 33 21.0	
	comp=N,14nm,0.0s						
DURS				i AML	AML	12 33 21.0	
	comp=E,16nm,0.0s						
DURS				S	Sn	12 33 26.1	+0.4
MANT	Manisa	0.99	126	P	Pb	12 33 13.6	+0.4
MANT				S	Sn	12 33 29.0	+0.6
MANT				i AML	AML	12 33 30.0	
	comp=E,12nm,0.9s						
MANT				i AML	AML	12 33 32.0	
	comp=N,14nm,0.9s						
BAYC	CANAKKALE_Bayr	1.01	311	P	Pb	12 33 13.4	+0.1
BAYC				S	Sn	12 33 29.7	+1.1
BAYC				i AML	AML	12 33 30.0	
	comp=N,26nm,0.6s						
BAYC				i AML	AML	12 33 33.0	
	comp=E,13nm,0.6s						
URLA	Izmir	1.03	226	PG	Pn	12 33 15.9	+1.5
URLA				SG	Sb	12 33 27.9	+0.4
AYDB	Zeytinkoy-Aydi	1.17	166	PG	Pn	12 33 19.0	+2.6
AYDB				SG	Sn	12 33 33.0	+0.4
CHOS	Chios island	1.35	240	PG	Pg	12 33 19.5	0.0
CHOS				SG	Sb	12 33 34.3	-2.5

IDC 02 12:36:34.4±1.1, 58°.38S×25°.26W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=50.5km s-min=33.1km az=89.0
ISC 02 12:36:39.3±1.0, 58°.6S±0°.2×25°.0W±0°.3, h35km, n10, σ1s08/10, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.04	157	P	Pn	12 39 54.5	-0.9
VNA3	Neumayer Olymp	14.24	160	P	Pn	12 39 57.3	-0.8
VNA2	Neumayer--Watz	14.43	156	P	Pn	12 39 59.3	-1.4
	baz=320,slow=13						
SNAA	Sanae	15.98	154	P	Pn	12 40 20.8	-0.4
TROLL	Troll, Antarti	17.49	151	P	Pn	12 40 40.1	-0.1
VNDA	Vanda	44.12	182	P	P	12 44 45.4	+1.9
	0.7nm,0.8s,baz=178,slow=5.7,SNR=5.9						
	0.7nm,0.8s						
LPAZ	La Paz	52.76	305	P	P	12 45 50.6	-0.8
	0.5nm,0.4s,baz=146,slow=7.3,SNR=2.8						
	0.5nm,0.4s						
TORD	Torodi Ar. Bea	74.71	27	P	P	12 48 15.7	+0.5
	0.5nm,0.4s,baz=203,slow=6.6,SNR=6.7						
	0.5nm,0.4s						
SONM	Songino Array	149.66	89	PKPbc	PKPbc	12 56 24.0	-0.2
	0.4nm,0.5s,baz=251,slow=4.4,SNR=2.3						
ILAR	Eielson Array	152.61	308	PKPbc	PKPbc	12 56 30.0	-0.4
	0.6nm,0.4s,baz=138,slow=4.2,SNR=15						

IDC 02 12:55:38.2±1.8, 0°.34S×132°.70E, h0km, mb3.7/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=27.9km s-min=17.1km az=177.0
DJA 02 12:55:39.2±3.4, 0°S±15°×13°3E±°, h12km±35km, M4.1/7, mb4.8/1, mB6.1/1, MLv3.8/7, Mw(mB)5.8/1
ISC 02 12:55:42.8±1.3, 0°.4S±0°.1×132°.57E±0°.06, h35km, n11, σ2s42/12, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	1.39	249	Pg	Pn	12 56 06.0	+0.2
	43nm,0.3s,baz=261,slow=7.7,SNR=129						
SIJI				Lg	Lg	12 56 26.9	
	81nm,0.3s,baz=275,slow=19,SNR=47						
SIJI	Sorong	1.39	249	P	Pn	12 56 06.0	+0.2
MWPI	Manokwari, Pap	1.57	111	P	Pn	12 56 07.8	-0.4
RKPI	Ransiki, Papua	1.96	125	P	Pn	12 56 15.4	+1.7
FAKI	Fak Fak	2.55	187	P	Pn	12 56 24.5	+2.8
MSAI	Masohi	4.69	231	P	Pn	12 56 50.7	-0.4
BNDI	Bandanaira	4.90	213	P	Pn	12 56 56.8	+2.7
WRA	Warramunga Arr	19.52	175	P	Pn	13 00 09.0	+0.1
	0.3nm,0.3s,baz=353,slow=12,SNR=22						
WRA				S	S	13 03 40.5	-5.6
	0.6nm,0.9s,baz=16,slow=22,SNR=4.0						
	1.3nm,0.4s						
ASAR	Alice Springs	23.19	177	P	P	13 00 46.9	+0.2
	0.7nm,0.3s,baz=358,slow=15,SNR=22						
	0.7nm,0.3s						
STKA	Stephens Creek	32.47	166	P	P	13 02 09.2	-0.9
	2.3nm,1.0s,baz=324,slow=11,SNR=2.8						
	2.3nm,1.0s						
MKAR	Makanchi Array	64.26	324	P	P	13 06 15.9	+1.3
	0.4nm,0.8s,baz=114,slow=7.0,SNR=2.1						
	0.4nm,0.8s						

DRS 02 13:30:57.4±0.0, 42°.04N×46°.18E, h17km
MOS 02 13:30:57.4±0.0, 42°.16N×46°.48E, h48km, MPVA3.3
ISC 02 13:31:00.1±1.3, 42°.14N±0°.04×46°.46E±0°.03, h44km±12km, n13, σ1s02/26, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	Lagodekhi	0.35	209	P	Pn	13 31 08.8	-0.4
LGD				S	Sn	13 31 17.0	+1.3
GNBR	Gunib	0.45	56	i Pg	Pn	13 31 09.8	-0.7
GNBR				eSg	Sn	13 31 17.8	0.0
KMKR	Kumukh	0.47	91	ePg	Pn	13 31 10.1	-0.8
KMKR				eSg	Sn	13 31 18.2	-0.3
BTLR	Botlikh	0.55	341	ePg	Pn	13 31 11.3	-0.5
BTLR				eSg	Sn	13 31 20.2	+0.1
BUJR	Buynaksk	0.83	35	ePg	Pn	13 31 15.2	-0.3
BUJR				eSg	Sn	13 31 27.6	+0.9
URKR	Urkarakh	0.87	88	ePg	Pn	13 31 15.8	-0.3
URKR				eSg	Sn	13 31 28.8	+1.1
DBC	Dubki	0.92	17	i Pg	Pn	13 31 16.3	-0.4
DBC				eSg	Sn	13 31 29.9	+1.0
SHTL	Shatili	1.10	298	P	Pn	13 31 19.8	+0.5
SHTL				S	Sn	13 31 36.4	+3.1
AKT	Akhty	1.15	124	ePg	Pn	13 31 19.3	-0.6
AKT				eSg	Sn	13 31 34.7	+0.1
KSMR	Kasumkent	1.35	113	ePg	Pn	13 31 22.4	-0.3
KSMR				eSg	Sn	13 31 40.7	+1.3
LACR	Lac	1.74	294	ePg	Pn	13 31 26.9	-1.1
LACR				eSg	Sn	13 31 48.9	-0.2
ZEI	Tsey	2.00	290	ePg	Pn	13 31 30.4	-1.2
ZEI				eSg	Sn	13 31 55.5	-0.1
DIGR	Digorskoe uzhe	2.26	291	ePn	Pn	13 31 34.1	-1.1
DIGR				eSn	Sn	13 32 01.9	-0.1

IDC 02 13:36:51.7±1.4, 3°.13S×126°.32E, h0km, mb3.9/3, mbtmp4.0/5, ML4.0/2, Error ellipse: s-maj=44.0km s-min=16.9km az=72.0
ISC 02 13:36:56.5±1.4, 3°.0S±0°.1×126°.4E±0°.1, h32km, n5, σ1s10/7, mb4.0/3, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.30	66	Pn	Pn	13 38 14.4	+0.9
	7.0nm,0.3s,baz=256,slow=21,SNR=14						
SIJI				Sn	Sn	13 39 12.7	-0.8
	3.2nm,0.3s,baz=304,slow=23,SNR=13						
	14nm,0.2s						
WRA	Warramunga Arr	18.50	156	P	Pn	13 41 10.6	+0.1
	0.4nm,0.3s,baz=335,slow=12,SNR=38						
	1.5nm,0.5s						
ASAR	Alice Springs	21.75	161	P	P	13 41 45.6	+0.1
	4.5nm,0.6s,baz=342,slow=12,SNR=123						
ASAR				S	S	13 45 46.0	+1.3
	1.1nm,0.9s,baz=342,slow=18,SNR=6.6						
	4.5nm,0.6s						
STKA	Stephens Creek	32.05	155	P	P	13 43 19.2	-1.3
	0.9nm,0.7s,baz=325,slow=12,SNR=1.9						
	0.9nm,0.7s						
MKAR	Makanchi Array	62.98	328	P	P	13 47 20.4	+0.2
	0.9nm,0.6s,baz=125,slow=8.4,SNR=5.7						
	0.9nm,0.6s						

SOME 02 14:06:03.7, 47°.43N×86°.18E, h0km
NNC 02 14:05:58.9±9.3, 48°.41N×86°.72E, h0km, mb3.8, mpv3.4, 7C-2D, Error ellipse: s-maj=62.0km s-min=21.9km az=86.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	1.57	233	eP	Pn	14 06 26.8	-1.3
	112nm,0.0s						
ZSN				eS	Sn	14 06 41.6	-7.5
	138nm,0.1s						
MK31	Makanchi Array	3.41	243	⇑Pg	Pb	14 06 59.9	-0.2
	1.3nm,0.2s,baz=82,slow=15,SNR=163						
MK31				⇑Sn	Sn	14 07 35.8	+1.5
	13nm,0.5s						
MK31				⇑Lg	Lg	14 07 44.7	
	34nm,0.6s						
MAKZ	Makanchi	3.59	245	⇓Pg	Pg	14 07 05.9	-1.7
	10nm,0.4s						
MAKZ				⇑Lg	Lg	14 07 52.7	
	10nm,0.4s						
SEM	Semipalatinsk	4.68	298	eP	Pg	14 07 35.9	+7.4
	2.7nm,0.0s						
SEM				eS	Sg	14 08 39.9	+11
	22nm,0.0s						
KURK	Kurchatov	5.76	297	⇑Sn	Sn	14 08 32.7	+0.5
	1.4nm,0.3s						
KURK				⇑Lg	Lg	14 09 02.8	
	30nm,0.7s						
KURBB	Kurchatov Arra	5.78	296	⇓Sn	Sn	14 08 33.6	+0.9
	9.0nm,0.6s						
KURBB				⇑Lg	Lg	14 09 03.8	
	40nm,0.6s						

IDC 02 14:16:47.2±2.2, 1°.44N×125°.83E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=204.6km s-min=26.1km az=65.0
DJA 02 14:16:51.1±0.3, 2°N±4°×12°7E±°, h10km, M3.8/9, mb4.3/1, MLv3.6/9
ISC 02 14:16:53.1±1.2, 1°.75N±0°.07×126°.65E±0°.06, h50km, n11, σ0s79/11, mb3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	Galela, Maluku	1.14	86	P	Pn	14 17 13.3	+0.5
TNTI	Ternate	1.21	144	P	Pn	14 17 13.4	-0.3
SGSI	Sangihe	2.22	330	P	Pn	14 17 27.9	+0.4
LBMI	Labuha	2.52	160	P	Pn	14 17 32.2	+0.5
GTOI	Gorontalo	3.80	253	P	Pn	14 17 50.1	+0.9
SANI	Sanana	3.83	190	P	Pn	14 17 50.3	+0.7
MRSI	Marisa	4.87	255	P	Pn	14 18 03.1	-0.8
APSI	Ampana	5.66	242	P	Pn	14 18 15.2	+0.6
WRA	Warramunga Arr	22.84	161	P	P	14 21 51.1	-1.2
	1.3nm,0.5s,baz=337,slow=10,SNR=14						
	1.3nm,0.5s						
ASAR	Alice Springs	26.23	165	P	P	14 22 24.3	+0.7
	0.3nm,0.3s,baz=345,slow=11,SNR=15						
	0.3nm,0.3s						
MKAR	Makanchi Array	59.13	326	P	P	14 26 48.4	-0.3
	0.3nm,0.5s,baz=118,slow=8.8,SNR=4.3						
	0.3nm,0.5s						

BER 02 14:18:02.0±1.8, 58°.21N×6°.23E, h0km, ML1.6, Explosion
DNK 02 14:18:01.8±2.7, 58°.29N×6°.34E, h0km, ML2.2, ML1.6(BER), Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	Snartemo	0.46	83	i P	Pg	14 18 09.8	-0.9
SNART	Snartemo	0.46	83	eP	Pg	14 18 10.6	-0.1
SNART				eS	Sg	14 18 16.3	-0.4
SNART	Snartemo	0.46	83	eP	Pg	14 18 10.6	-0.1
STAV	Stavanger	0.73	333	eP	Pg	14 18 15.6	-0.2
STAV				eS	Sg	14 18 26.2	+1.0
STAV				IAML		14 18 31.2	
	comp=Z,20nm,0.1s						
KMY	Karmoy	1.09	329	eP	Pg	14 18 22.0	-0.6
KMY				eS	Sb	14 18 37.7	-0.5
KMY				IAML		14 18 40.4	
	comp=Z,17nm,0.2s						
KMY	Karmoy	1.09	329	eP	Pg	14 18 22.0	-0.6
KMY				eS	Sb	14 18 37.7	-0.5
KMY				IAML		14 18 40.4	
	comp=Z,17nm,0.2s						
BLS5	Blasjo	1.14	3	eP	Pg	14 18 22.8	-0.8
BLS5				eS	Sb	14 18 40.4	+0.7
BLS5				IAML		14 18 46.2	
	comp=Z,14nm,0.1s						
BLS5	Blasjo	1.14	3	eP	Pg	14 18 22.8	-0.8
BLS5				eS	Sb	14 18 40.4	+0.7
BLS5				IAML		14 18 46.2	
	comp=Z,14nm,0.1s						
HOMB	Homborsund	1.15	90	i P	Pg	14 18 22.6	-1.2
HOMB				eS	Sb	14 18 40.4	+0.5
HOMB	Homborsund	1.15	90	eP	Pg	14 18 23.4	-0.4
HOMB				eS	Sb	14 18 40.1	+0.3
HOMB				IAML		14 18 42.6	
	comp=Z,15nm,0.1s						
HOMB	Homborsund	1.15	90	eP	Pg	14 18 23.4	-0.4
HOMB				eS	Sb	14 18 40.1	+0.3
HOMB				IAML		14 18 42.6	
	comp=Z,15nm,0.1s						
ODD1	Odda	1.64	5	eP	Pn	14 18 31.9	+0.1
ODD1				eS	Sn	14 18 52.7	-0.9
ODD1				IAML		14 18 54.2	
	comp=Z,10.0nm,0.1s						
ODD1	Odda	1.64	5	eP	Pn	14 18 31.9	+0.1
ODD1				eS	Sn	14 18 52.7	-0.9
ODD1				IAML		14 18 54.2	
	comp=Z,10.0nm,0.1s						
KONO	Kongsberg	2.17	50	eP	Pb	14 18 40.6	-1.4
KONO				eS	Sn	14 19 07.6	+0.8
KONO				IAML		14 19 11.0	
	comp=Z,6.9nm,0.4s						
KONO	Kongsberg	2.17	50	eP	Pb	14 18 40.6	-1.4
KONO				eS	Sn	14 19 07.6	+0.8
KONO				IAML		14 19 11.0	
	comp=Z,6.9nm,0.4s						
ASK	Askoy	2.28	346	eP	Pn	14 18 39.7	-0.9
ASK				IAML		14 19 14.0	
	comp=Z,11nm,0.2s						
ASK	Askoy	2.28	346	eP	Pn	14 18 39.7	-0.9
ASK				IAML		14 19 14.0	
	comp=Z,11nm,0.2s						
SKAR	Skarslia	2.60	22	eP	Pn	14 18 45.0	-0.2
SKAR	Skarslia	2.60	22	eP	Pn	14 18 45.0	-0.2
STRU	Stroemstad	2.64	71	i P	Pn	14 18 44.1	-1.5
STRU				eS	Sn	14 19 15.7	-2.6
STRU	Stroemstad	2.64	71	eS	Sn	14 19 15.7	-2.6
STRU	Stroemstad	2.64	71	eS	Sn	14 19 15.7	-2.6
TJOU	Tjoern	2.81	93	i S	Sn	14 19 19.7	-2.9
HYA	Hoyanger	2.89	359	eP	Pn	14 18 48.4	-0.5
HYA				eS	Sn	14 19 22.2	-2.1
HYA	Hoyanger	2.89	359	eP	Pn	14 18 48.4	-0.5
HYA				eS	Sn	14 19 22.2	-2.1
SUE	Sulen	2.89	345	eP	Pn	14 18 47.9	-1.1
SUE				eS	Sn	14 19 21.9	-2.6
SUE				IAML		14 19 36.4	
	comp=Z,5.2nm,0.5s						
SUE	Sulen	2.89	345	eP	Pn	14 18 47.9	-1.1
SUE				eS	Sn	14 19 21.9	-2.6
SUE				IAML		14 19 36.4	
	comp=Z,5.2nm,0.5s						
ONAU	Onsala	3.12	104	i S	Sn	14 19 27.1	-2.9
NC602	NORSAR Array S	3.61	45	e	Pn	14 18 57.9	-1.0
NC602				eS	Sn	14 19 39.2	-3.1
NC602	NORSAR Array S	3.61	45	e	Pn	14 18 57.9	-1.0
NC602				eS	Sn	14 19 39.2	-3.1
AKN	Aaknes	3.92	5	eP	Pn	14 19 02.6	-0.5
AKN				eS	Sn	14 19 47.4	-2.5
AKN	Aaknes	3.92	5	eP	Pn	14 19 02.6	-0.5
AKN				eS	Sn	14 19 47.4	-2.5

IDC 02 14:42:32.9±5.8, 5°.72S×147°.49E, h199km±64km, mb2.7/1, mbtmp3.4/3, Error ellipse: s-maj=131.3km s-min=47.8km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.68	185	P	Pn	14 43 31.4	+0.7
	5.2nm,0.3s,baz=11,slow=11,SNR=13						
PMG				S	Sn	14 44 16.3	+0.1
	7.9nm,0.3s,baz=276,slow=21,SNR=7.1						
WRA	Warramunga Arr	19.06	221	P	P	14 46 40.2	-0.2
	0.5nm,0.2s,baz=41,slow=12,SNR=19						
ASAR	Alice Springs	22.13	215	P	P	14 47 13.1	+0.5
	0.3nm,0.3s,baz=49,slow=8.5,SNR=16						
	0.3nm,0.3s						
TORD	Torodi Ar. Bea	145.49	285	PKPbc	PKPdf	15 01 47.4	-1.0
	0.1nm,0.3s,baz=74,slow=2.1,SNR=1.7						

NEIC 02 14:50:18.8±1.1, 11°.5S±0°.1×166°.7E±0°.1, h120km±12km, mb4.4/15, Error ellipse: s-maj=25.7km s-min=3.6km az=215.0
IDC 02 14:50:20.3±3.4, 11°.59S×166°.50E, h129km±29km, mb3.7/11, mbtmp4.2/13, MS3.2/4, Error ellipse: s-maj=22.6km s-min=18.7km az=92.0
ISC 02 14:50:17.1±0.8, 11°.49S±0°.09×166°.6E±0°.1, h100km, n41, σ1s24/34, mb4.1/18, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.87	287	P	Pn	14 51 57.6	+2.3
	335nm,0.4s,baz=155,slow=7.1,SNR=4.4						
HNR				LR	LR	14 54 24.5	
	comp=Z,916nm,19.2s,baz=174,slow=36						
HNR	Honiara	6.87	287	Pn	Pn	14 51 56.7	+1.4
KOUNC	Koumac, New Ca	9.28	194	Pn	Pn	14 52 30.0	+1.9
DZM	Mont Dzumac	10.52	181	P	Pn	14 52 46.7	+1.7
	2.3nm,0.4s,baz=326,slow=10,SNR=35						
DZM				LR	LR	14 55 56.7	
	comp=Z,50nm,18.2s,baz=23,slow=32						
DZM	Mont Dzumac	10.52	181	Pn	Pn	14 52 46.2	+1.2
ONTNC	Ouen Toro	10.76	181	Pn	Pn	14 52 48.1	0.0
OUENC	Ouen Island, N	10.87	179	Pn	Pn	14 52 51.3	+1.7
MSVF	Nonsavu	12.68	121	LR	LR	14 57 27.7	
	comp=Z,54nm,18.3s,baz=74,slow=34						
EIDS	Eidsvold	20.16	225	P	P	14 54 45.1	+1.5
EIDS				IAmb	IAmb	14 54 45.5	
	comp=Z,7.9nm,0.8s						
CTA	Charters Tower	21.36	244	P	P	14 54 56.6	+0.1
	comp=Z,3.0nm,0.6s,baz=84,slow=12,SNR=7.2						
	comp=Z,3.0nm,0.6s						
CTAO	Charters Tower	21.36	244	P	P	14 54 56.2	-0.3
ARMA	Armidale	23.42	214	P	P	14 55 17.7	+0.2
ARMA				IAmb	IAmb	14 55 42.3	
	comp=Z,20nm,1.4s						
H11S2	WAKE ISLAND Hy	29.79	0	T	T	15 27 14.9	
	baz=181,slow=76,SNR=6.9						
H11S3	WAKE ISLAND Hy	29.80	0	T	T	15 27 12.9	
	baz=181,slow=76,SNR=3.6						
H11S1	WAKE ISLAND Hy	29.81	0	T	T	15 27 16.9	
	baz=181,slow=76,SNR=3.5						
THZ	Tophouse	30.65	171	P	P	14 56 23.1	+1.0
STKA	Stephens Creek	30.72	225	P	P	14 56 21.7	-1.0
	comp=Z,2.4nm,0.7s,baz=50,slow=11,SNR=6.3						
	comp=Z,2.4nm,0.7s						
STKA	Stephens Creek	30.72	225	P	P	14 56 22.2	-0.6
H11N1	WAKE ISLAND Hy	31.01	0	T	T	15 28 42.6	
	baz=180						
H11N3	WAKE ISLAND Hy	31.01	1	T	T	15 28 45.2	
	baz=180,slow=74,SNR=3.3						
H11N2	WAKE ISLAND Hy	31.03	1	T	T	15 28 48.2	
	baz=180,slow=74,SNR=2.8						
WB0	Warramunga Arr	32.06	251	P	P	14 56 33.5	-1.2
WB0				IAmb	IAmb	14 56 37.2	
	comp=Z,4.5nm,1.0s						
WRA	Warramunga Arr	32.14	251	P	P	14 56 34.1	-1.3
	comp=Z,1.7nm,0.6s,baz=84,slow=9.4,SNR=17						
	comp=Z,1.7nm,0.6s						
TOO	Toolangi	32.15	213	P	P	14 56 34.7	-0.5
TOO				IAmb	IAmb	14 57 01.7	
	comp=Z,19nm,1.3s						
MQZ	McQueen's Vall	32.52	172	P	P	14 56 38.1	-0.2
AS31	Alice Springs	33.36	244	P	P	14 56 44.2	-1.8
ASAR	Alice Springs	33.36	244	P	P	14 56 44.2	-1.8
	comp=Z,2.3nm,0.7s,baz=70,slow=9.6,SNR=39						
ASAR				PcP	PcP	14 59 24.9	-0.8
	comp=Z,0.6nm,0.6s,baz=59,slow=3.0,SNR=5.3						
	comp=Z,2.3nm,0.7s						
BBOO	Buckleboo	35.16	228	P	P	14 57 00.4	-1.0
PPT	Papeete	42.76	103	LR	LR	15 11 15.1	
	comp=Z,41nm,20.3s,baz=71,slow=29						
PSA00	Pilbara Seismi	45.79	251	P	P	14 58 28.5	-0.6
PSA00				IAmb	IAmb	14 59 11.7	
	comp=Z,13nm,1.1s						
MBWA	Marble Bar	45.87	252	P	P	14 58 28.7	-1.1
MBWA				IAmb	IAmb	14 58 30.2	
	comp=Z,16nm,1.0s						
VNDA	Vanda	66.07	181	P	P	15 00 52.5	-0.4
	comp=Z,1.2nm,0.7s,baz=355,slow=6.4,SNR=17						
	comp=Z,1.2nm,0.7s						
VNDA	Vanda	66.07	181	P	P	15 00 52.6	-0.2
VNDA				IAmb	IAmb	15 00 52.9	
	comp=Z,1.2nm,0.7s						
CMAR	Chiang Mai Arr	73.07	293	P	P	15 01 37.8	+0.8
	comp=Z,2.6nm,0.9s,baz=124,slow=4.8,SNR=16						
	comp=Z,2.6nm,0.9s						
QSPA	South Pole Qui	78.52	180	P	P	15 02 06.2	-1.0
QSPA				IAmb	IAmb	15 02 07.3	
	comp=Z,3.7nm,0.9s						
SONM	Songino Array	79.53	324	P	P	15 02 14.5	+1.4
	comp=Z,0.7nm,0.6s,baz=130,slow=6.0,SNR=2.6						
	comp=Z,0.7nm,0.6s						
ILAR	Eielson Array	83.66	18	P	P	15 02 33.7	-0.5
	comp=Z,0.6nm,0.9s,baz=241,slow=4.9,SNR=12						
	comp=Z,0.6nm,0.9s						
NVAR	Mina Array Bea	85.66	50	P	P	15 02 46.5	+1.3
	comp=Z,0.3nm,0.6s,baz=230,slow=6.7,SNR=4.8						
	comp=Z,0.3nm,0.6s						
ZALV	Zalesovo Beam	94.42	324	P	P	15 03 24.1	-1.6
	comp=Z,0.5nm,0.5s,baz=64,slow=3.4,SNR=2.2						
	comp=Z,0.5nm,0.5s						
MK31	Makanchi Array	94.43	317	P	P	15 03 25.4	-0.6
MK31				IAmb	IAmb	15 03 51.6	
	comp=Z,5.3nm,1.4s						
MKAR	Makanchi Array	94.43	317	P	P	15 03 24.3	-1.6
	comp=Z,2.1nm,0.6s,baz=89,slow=5.9,SNR=16						
	comp=Z,2.1nm,0.6s						

IDC 02 14:52:15.9±1.3, 45°.72N×125°.10W, h0km, mb3.5/1, mbtmp3.4/6, ML3.5/5, MS2.9/3, Error ellipse: s-maj=19.1km s-min=12.3km az=75.0
NEIC 02 14:52:19.5±1.6, 46°.19N±0°.03×123°.97W±0°.04, h30km±7km, Error ellipse: s-maj=4.1km s-min=3.7km az=98.0
SEA 02 14:52:19.1±1.6, 46°.20N±0°.02×124°.02W±0°.06, h38km±3km, ML3.6/35, ML3.2/60(NEIC), Error ellipse: s-maj=6.5km s-min=2.4km az=103.0
PNSN 02 14:52:19.1, 46°.20N×124°.02W, h38km, MD3.5, Fault plane solution: NP1:φs260.00000°, δ75.00000°, λ0.00000°.
ISC 02 14:52:19.8±1.0, 46°.21N±0°.03×124°.03W±0°.04, h31km±5km, n128, σ1s12/130, Near coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEGW	Megler CREST B	0.12	59		Pb	14 52 24.8	-0.6
MEGW					Sb	14 52 28.9	-0.3
SEAS	Seaside SMO	0.22	161		Pn	14 52 25.7	-1.3
SEAS					Sn	14 52 30.6	-0.9
B022	Seaside	0.26	165		Pn	14 52 26.0	-1.5
B022					Sn	14 52 30.9	-1.5
RADR	Rader Ridge	0.27	36		Pn	14 52 26.4	-1.3
RADR				IAML		14 52 32.5	
	comp=E,10μm,0.7s						
RADR				IAML		14 52 32.6	
	comp=N,6μm,0.5s						
RADR	Rader Ridge	0.27	36		Sn	14 52 32.2	-0.6
E03A	Lebam	0.47	43		Pb	14 52 28.9	-0.8
E03A	Lebam	0.47	43		Sb	14 52 36.6	+0.1
B019	Raymond	0.52	30		Pb	14 52 30.2	-0.4
BMW	Boistfort Moun	0.61	64		Pn	14 52 30.9	-1.6

B023	**Clatskanie**	**0.67**	**98**		**Pn**	**14 52 31.2**	**-1.9**
B023					**Sn**	**14 52 40.5**	**-2.0**
KMOR	**Kings Mountain**	**0.68**	**147**		**Pn**	**14 52 31.6**	**-1.8**
ALST	**Alston**	**0.70**	**98**		**Pn**	**14 52 32.1**	**-1.5**
F04D	**Rainier, OR**	**0.72**	**99**		**Pn**	**14 52 32.1**	**-1.7**
B017	**Montesano**	**0.85**	**22**		**Pn**	**14 52 34.8**	**-0.9**
RVW	**Rose Valley**	**0.89**	**93**		**Pn**	**14 52 34.7**	**-1.5**
RRHS	**Rochester High**	**0.90**	**49**		**Pn**	**14 52 35.5**	**-0.9**
WISH	**Wishkah**	**0.93**	**11**		**Pn**	**14 52 36.0**	**-0.8**
WISH				IAML		14 52 49.7	
	comp=N,788nm,0.1s						
WISH				IAML		14 53 03.3	
	comp=E,662nm,1.1s						
CPW	**Capitol Peak**	**0.98**	**38**		**Pn**	**14 52 36.5**	**-1.1**
HEBO	**Mount Hebo**	**1.01**	**169**		**Pn**	**14 52 36.6**	**-1.3**
HEBO				IAML		14 52 55.1	
	comp=E,824nm,0.5s						
HEBO				IAML		14 52 56.2	
	comp=N,880nm,0.4s						
WPO	**West Portland**	**1.07**	**126**		**Pn**	**14 52 37.6**	**-1.1**
G03D	**McMinnville, O**	**1.13**	**151**		**Pn**	**14 52 38.5**	**-1.0**
G03D					**Sn**	**14 52 53.1**	**-0.8**
EGRN	**Evergreen Coll**	**1.13**	**39**		**Pn**	**14 52 38.7**	**-0.8**
F04A	**Amboy**	**1.15**	**103**		**Pn**	**14 52 38.5**	**-1.3**
FL2	**Flat Top 2**	**1.16**	**90**		**Pn**	**14 52 38.7**	**-1.4**
ERK	**Elk Rock**	**1.17**	**84**		**Pn**	**14 52 38.5**	**-1.7**
B203	**Quarry, Mount**	**1.18**	**91**		**Pn**	**14 52 38.8**	**-1.4**
B203					**Sn**	**14 52 53.9**	**-1.3**
NLWA	**Neilton Lookou**	**1.19**	**5**		**Pn**	**14 52 39.6**	**-0.8**
NLWA				IAML		14 52 54.9	
	comp=N,653nm,0.3s						
NLWA				IAML		14 53 07.3	
	comp=N,372nm,0.6s						
SMW	**South Mountain**	**1.21**	**23**		**Pn**	**14 52 39.8**	**-0.9**
B201	**Coldwater, Mou**	**1.23**	**85**		**Pn**	**14 52 39.3**	**-1.6**
JRO	**Jston Ridge Ob**	**1.26**	**86**		**Pn**	**14 52 39.9**	**-1.4**
SWF2	**Southwest Flan**	**1.26**	**91**		**Pn**	**14 52 41.5**	**+0.1**
MTMW	**Mount Mitchell**	**1.27**	**97**		**Pn**	**14 52 40.5**	**-1.1**
SEPW	**September Lobe**	**1.27**	**90**		**Pn**	**14 52 40.9**	**-0.8**
HSR	**South Ridge**	**1.28**	**91**		**Pn**	**14 52 40.8**	**-1.0**
BOLM	**Sugar Bowl**	**1.29**	**89**		**Pn**	**14 52 41.5**	**-0.4**
KOSW	**Kosmos**	**1.30**	**78**		**Pn**	**14 52 40.8**	**-1.1**
B202	**Windy Ridge, M**	**1.31**	**88**		**Pn**	**14 52 40.7**	**-1.4**
OLQ	**Olympics--Lake**	**1.32**	**6**		**Pn**	**14 52 41.2**	**-0.9**
PGO	**Gresham**	**1.32**	**123**		**Pn**	**14 52 41.9**	**-0.3**
CDFW	**Cedar Flats**	**1.38**	**93**		**Pn**	**14 52 42.1**	**-0.9**
GHW	**Garrison Hill**	**1.47**	**55**		**Pn**	**14 52 43.7**	**-0.5**
B941	**Kapowsin**	**1.47**	**57**		**Pn**	**14 52 43.5**	**-0.6**
G04A	**Mulino**	**1.48**	**132**		**Pn**	**14 52 43.9**	**-0.4**
GMW	**Gold Mountain**	**1.59**	**32**		**Pn**	**14 52 44.9**	**-1.0**
GNW	**Green Mountain**	**1.59**	**31**		**Pn**	**14 52 44.9**	**-0.9**
HDW	**Hoodsport**	**1.59**	**24**		**Pn**	**14 52 45.1**	**-0.9**
LON	**Longmire**	**1.63**	**70**		**Pn**	**14 52 45.7**	**-0.7**
LON				IAML		14 53 09.0	
	comp=N,212nm,0.6s						
LON	**Longmire**	**1.63**	**70**		**Pn**	**14 52 45.9**	**-0.5**
VVHS	**Vashon High Sc**	**1.63**	**41**		**Pn**	**14 52 46.2**	**-0.1**
REMR	**Mount Rainier-**	**1.63**	**67**		**Pn**	**14 52 46.1**	**-0.5**
OSD	**Olympics--Snow**	**1.63**	**8**		**Pn**	**14 52 46.0**	**-0.7**
C04A	**Brinnon**	**1.68**	**25**		**Pn**	**14 52 46.3**	**-0.7**
OBSR	**Observation Ro**	**1.68**	**65**		**Pn**	**14 52 48.1**	**+0.8**
ASR	**Mount Adams--S**	**1.69**	**91**		**Pn**	**14 52 46.9**	**-0.4**
COR	**Corvallis**	**1.70**	**162**		**Pn**	**14 52 46.8**	**-0.6**
APM	**Augspurger Mou**	**1.70**	**105**		**Pn**	**14 52 47.4**	**-0.1**
GLK	**Glacier Lake**	**1.71**	**77**		**Pn**	**14 52 47.5**	**-0.1**
D05A	**Enumclaw**	**1.71**	**54**		**Pn**	**14 52 47.2**	**-0.3**
D05A				IAML		14 53 16.0	
	comp=N,334nm,1.1s						
GULW	**Guler Mountain**	**1.71**	**99**		**Pn**	**14 52 47.5**	**-0.2**
PANH	**Panhandle Gap,**	**1.77**	**67**		**Pn**	**14 52 48.1**	**-0.4**
FMW	**Mount Fremont**	**1.78**	**65**		**Pn**	**14 52 48.3**	**-0.3**
B013	**Quilcene**	**1.78**	**25**		**Pn**	**14 52 47.7**	**-0.7**
B013	**Quilcene**	**1.78**	**25**		**Pn**	**14 52 47.7**	**-0.7**
C03A	**Quillayute Air**	**1.78**	**348**	Pn	**Pn**	**14 52 48.0**	**-0.5**
C03A				IAML		14 53 14.7	
	comp=E,295nm,3.8s						
C03A				IAML		14 53 25.4	
	comp=N,298nm,3.6s						
WPW	**White Pass**	**1.78**	**73**		**Pn**	**14 52 48.4**	**-0.2**
VLL	**Laurance Lake**	**1.80**	**113**		**Pn**	**14 52 48.8**	**-0.1**
TDH	**Tom, Dick, Har**	**1.81**	**120**		**Pn**	**14 52 48.8**	**-0.3**
SP2	**Seward Park 2**	**1.82**	**41**		**Pn**	**14 52 49.2**	**+0.3**
OBC	**Olympics--Boni**	**1.83**	**359**		**Pn**	**14 52 48.8**	**-0.5**
GSM	**Grass Mountain**	**1.83**	**56**		**Pn**	**14 52 49.3**	**0.0**
TIMB	**Timberline**	**1.84**	**117**		**Pn**	**14 52 49.5**	**0.0**
P403	**Sandy Floe Qua**	**1.86**	**358**		**Pn**	**14 52 48.7**	**-0.9**
HOOD	**Mount Hood Mea**	**1.88**	**117**		**Pn**	**14 52 49.8**	**-0.2**
HOOD				IAML		14 53 18.2	
	comp=N,294nm,0.6s						
HOOD				IAML		14 53 25.0	
	comp=E,326nm,0.9s						
B04A	**Port Angeles**	**1.89**	**11**	Pn	**Pn**	**14 52 49.2**	**-0.7**
B04A	**Port Angeles**	**1.89**	**11**		**Pn**	**14 52 49.4**	**-0.5**
SHRK	**Shell Rock**	**1.90**	**112**		Pn	14 52 45.8	-4.4
RATT	**Rattlesnake La**	**1.96**	**51**		**Pn**	**14 52 50.7**	**-0.1**
H04A	**Detroit Lake**	**2.00**	**139**	Pn	**Pn**	**14 52 50.9**	**-0.6**
VFP	**Flag Point**	**2.00**	**115**		**Pn**	**14 52 51.6**	**0.0**
VBEM	**Beaver Butte**	**2.06**	**123**		**Pn**	**14 52 52.5**	**+0.1**
OCP	**Olym-Cheeka Pk**	**2.13**	**349**		**Pn**	**14 52 52.9**	**-0.4**
BUCK	**Buck Mountain**	**2.14**	**160**	Pn	**Pn**	**14 52 53.7**	**+0.2**
BUCK				IAML		14 53 29.1	
	comp=N,134nm,1.5s						
BUCK				IAML		14 53 32.2	
	comp=E,153nm,0.7s						
C05A	**Tolt Reservoir**	**2.19**	**46**		**Pn**	**14 52 53.8**	**-0.3**
BROR	**Big Rock Looko**	**2.23**	**150**		**Pn**	**14 52 54.5**	**-0.2**
RNO	**Roman Nose**	**2.30**	**175**		**Pn**	**14 52 55.3**	**-0.4**
YA2	**Yakima**	**2.44**	**81**		Pn	14 53 01.3	+3.7
JCW	**Jim Creek**	**2.45**	**35**		**Pn**	**14 52 57.3**	**-0.4**
PRLK	**Prince Lake**	**2.47**	**143**		**Pn**	**14 52 58.8**	**+0.7**
B011	**North Saanich**	**2.48**	**9**		**Pn**	**14 52 57.2**	**-0.8**
EBG	**Ellensburg**	**2.49**	**72**		**Pn**	**14 52 58.6**	**+0.3**
LTY	**Liberty**	**2.54**	**64**		**Pn**	**14 52 58.7**	**-0.3**
LTY				IAML		14 53 45.1	
	comp=N,87nm,0.8s						
TBM	**Table Mountain**	**2.55**	**67**		**Pn**	**14 52 59.9**	**+0.7**
TCBUT	**Trout Creek Bu**	**2.58**	**139**		**Pn**	**14 53 02.2**	**+2.6**
B926	**Mesachie Lake**	**2.62**	**358**		**Pn**	**14 52 59.2**	**-0.8**
HBO	**Huckleberry Mo**	**2.65**	**152**		**Pn**	**14 53 00.6**	**0.0**
WRW	**Wenatchee Ridg**	**2.71**	**51**		**Pn**	**14 53 01.7**	**+0.3**
B928	**Bamfield**	**2.73**	**344**		**Pn**	**14 53 00.6**	**-1.0**
RPW	**Rockport**	**2.82**	**36**		**Pn**	**14 53 02.6**	**-0.2**
SLFW	**Sugar Loaf**	**2.85**	**56**		**Pn**	**14 53 03.6**	**+0.2**
F07A	**Phinny Hill Vi**	**2.87**	**95**	Pn	**Pn**	**14 53 03.0**	**-0.5**
F07A				IAML		14 53 53.3	
	comp=N,140nm,0.6s						
F07A				IAML		14 53 55.7	
	comp=E,105nm,0.5s						
ETW	**Entiat**	**2.89**	**60**		**Pn**	**14 53 04.5**	**+0.6**
OZB	**Mount Ozzard**	**2.93**	**341**	Pn	**Pn**	**14 53 03.3**	**-1.0**
B927	**Port Alberni**	**3.06**	**350**		**Pn**	**14 53 05.5**	**-0.5**
HAWA	**Hanford**	**3.12**	**85**	Pn	**Pn**	**14 53 06.8**	**-0.1**
HAWA				IAML		14 54 09.9	
	comp=E,56nm,1.9s						
DBO	**Dodson Butte**	**3.14**	**169**	Pn	**Pn**	**14 53 07.7**	**+0.5**
DBO				IAML		14 54 03.2	
	comp=E,67nm,2.5s						
NLW	**Nelson Butte**	**3.14**	**52**		**Pn**	**14 53 07.1**	**-0.1**
EPH	**Ephrata**	**3.25**	**68**		**Pn**	**14 53 08.6**	**-0.2**
PINE	**Pine Mountain**	**3.26**	**137**	Pn	**Pn**	**14 53 08.3**	**-0.7**
PINE				IAML		14 54 12.8	
	comp=E,46nm,1.1s						
PINE				IAML		14 54 24.2	
	comp=N,52nm,1.3s						
D08A	**Wollman Farm,**	**3.62**	**75**	Pn	**Pn**	**14 53 12.6**	**-1.2**
D08A				IAML		14 54 30.2	
	comp=N,36nm,1.2s						
G08A	**Pilot Rock**	**3.66**	**103**	Pn	**Pn**	**14 53 13.7**	**-0.8**
G08A				IAML		14 54 19.3	
	comp=N,36nm,1.0s						
I07A	**Izee**	**3.84**	**122**	Pn	**Pn**	**14 53 16.5**	**-0.4**
B08A	**Colville Reser**	**3.85**	**54**	Pn	**Pn**	**14 53 15.7**	**-1.3**
E09A	**Wood Farm, Sta**	**4.08**	**84**	Pn	**Pn**	**14 53 19.4**	**-0.8**
E09A				IAML		14 54 36.7	
	comp=N,31nm,1.2s						
K05A	**Summer Lake**	**4.14**	**146**	Pn	**Pn**	**14 53 21.4**	**+0.4**
K05A				IAML		14 54 03.9	
	comp=N,32nm,4.0s						
K05A				IAML		14 55 23.7	
	comp=E,38nm,4.6s						
C09A	**Chrisman Ranch**	**4.25**	**66**		**Pn**	**14 53 21.9**	**-0.5**
YBH	**Yreka Blue Hor**	**4.57**	**168**	Pn	**Pn**	**14 53 26.3**	**-0.6**
	comp=E,0.5nm,0.3s,baz=342,slow=13,SNR=3.0						
	comp=E,1.6nm,0.5s						
YBH	**Yreka Blue Hor**	**4.57**	**168**	Pn	**Pn**	**14 53 27.8**	**+0.9**
LLLB	**Lillooet**	**4.63**	**17**	Pn	**Pn**	**14 53 27.8**	**+0.1**
J08A	**Circle Bar Ran**	**4.87**	**124**		**Pn**	**14 53 30.1**	**-0.9**
J08A				IAML		14 55 09.6	
	comp=N,14nm,1.3s						
J08A				IAML		14 55 17.1	
	comp=E,21nm,2.1s						
NEW	**Newport**	**5.13**	**64**	Pn	**Pb**	**14 53 46.7**	**-2.2**
	comp=E,0.9nm,0.3s,baz=243,slow=12,SNR=3.3						
NEW				Sn	**Sb**	**14 54 56.8**	**+6.8**
	comp=E,0.9nm,0.3s,baz=89,slow=14,SNR=4.0						
	comp=E,2.6nm,0.4s						
PLID	**Pearl Lake**	**5.74**	**98**	Pn	**Pn**	**14 53 43.0**	**0.0**
BBB	**Bella Bella**	**6.56**	**337**	Pn	**Pn**	**14 53 55.8**	**+1.8**
	comp=E,0.8nm,0.3s,baz=165,slow=7.5,SNR=14						
	comp=E,13nm,0.9s						
BBB	**Bella Bella**	**6.56**	**337**	Pn	**Pn**	**14 53 55.9**	**+1.9**
ELK	**Elko**	**8.40**	**127**	LR	LR	14 58 00.0	
	comp=E,82nm,19.8s,baz=330,slow=39						
NVAR	**Mina Array Bea**	**8.85**	**149**	Pn	**Pn**	**14 54 26.9**	**+1.1**
	comp=E,0.1nm,0.3s,baz=326,slow=12,SNR=8.7						
	comp=E,1.0nm,0.7s						
PDAR	**Pinedale Array**	**10.89**	**103**	Pn	Pn	14 55 05.7	+12
	comp=E,0.1nm,0.3s,baz=292,slow=4.8,SNR=2.1						
PDAR				LR	LR	15 00 17.1	
	comp=E,39nm,19.9s,baz=306,slow=42						
	comp=E,0.2nm,0.5s						
ULM	**Lac du Bonnet**	**19.13**	**68**	LR	LR	15 05 32.9	
	comp=E,58nm,18.7s,baz=316,slow=40						
TXAR	**Lajitas Array**	**23.19**	**130**	P	**P**	**14 57 25.9**	**+1.9**
	comp=E,1.8nm,1.1s,baz=331,slow=7.2,SNR=8.8						
	comp=E,1.8nm,1.1s						

*NSSP **02** 14:52:52.2, 38°.48N×43°.98E, h7km, Ms3.7*
*DDA **02** 14:52:54.7±0.0, 38°.66N×43°.48E, h3km±3km, MW3.6*
*ISK **02** 14:52:54.2, 38°.68N×43°.56E, h2km, ML3.7/7*
*AZER **02** 14:52:58.7±0.3, 38°.79N×43°.98E, h3km±1km, Error ellipse: s-maj=3.2km s-min=2.0km az=243.0*
ISC 02 14:52:55.9±0.9**, 38°.70N**±0°.02×**43°.45E**±0°.02**, h14**km±7km**,** **n56,** σ**1s46**/90**, 6C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**204**	PG	**Pg**	**14 53 00.0**	**+0.6**
VMUR	**Van-Muradiye**	**0.30**	**18**	P	**Pg**	**14 53 01.1**	**-1.2**
VMUR				S	**Sg**	**14 53 07.0**	**+0.3**
VMUR				*i* AML	AML	14 53 09.0	
	comp=N,6µm,0.5s						
VMUR				*i* AML	AML	14 53 10.0	
	comp=E,8µm,0.3s						
OZAP	**Van, Ozalp-Mer**	**0.43**	**95**	P	**Pg**	**14 53 02.7**	**-1.9**
OZAP				S	**Sg**	**14 53 09.5**	**-0.9**
GEVA	**Gevas**	**0.50**	**218**	P	**Pb**	**14 53 05.3**	**-1.2**
GEVA				S	**Sb**	**14 53 11.9**	**-1.8**
CLDR	**Caldiran**	**0.57**	**39**	PG	**Pg**	**14 53 05.2**	**-2.0**
CLDR				SG	**Sg**	**14 53 14.1**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.58**	**281**	P	**Pb**	**14 53 07.3**	**-0.6**
ADCV				S	**Sb**	**14 53 16.1**	**0.0**
MLAZ	**Malazgirt-MUS**	**0.83**	**302**	PG	**Pb**	**14 53 11.9**	**-0.3**
MLAZ				SG	**Sn**	**14 53 25.6**	**+0.2**
DYDN	**Diyadin**	**0.86**	**12**	P	**Pg**	**14 53 11.3**	**-1.4**
PERV	**Siirt/Pervari-**	**1.04**	**224**	P	**Pn**	**14 53 16.1**	**-0.1**
PERV				S	**Sn**	**14 53 33.7**	**+3.1**
BLIS	**Bitlis-Merkez**	**1.09**	**255**	P	**Pg**	**14 53 15.9**	**-1.0**
BLIS				S	**Sn**	**14 53 31.1**	**-0.7**
KOTA	**Agri, Merkez-K**	**1.11**	**350**	P	**Pb**	**14 53 15.7**	**-1.4**
KOTA				S	**Sb**	**14 53 30.5**	**-1.1**
HAKT	**HAKKARI**	**1.16**	**170**	P	**Pb**	**14 53 16.7**	**-1.2**
HAKT				S	**Sn**	**14 53 34.5**	**+0.8**
EKAR	**Karacoban**	**1.21**	**298**	P	**Pn**	**14 53 18.0**	**-0.7**
EKAR				S	**Sn**	**14 53 37.3**	**+2.2**
IGDI	**IGDIR**	**1.26**	**23**	P	**Pn**	**14 53 19.1**	**-0.1**
IGDI				S	**Sg**	**14 53 38.2**	**+1.5**
YOVA	**Hakkari_Yksek**	**1.29**	**149**	P	**Pb**	**14 53 18.9**	**-1.3**
YOVA				S	**Sg**	**14 53 42.6**	**+4.8**
EATA	**Eleskirt**	**1.38**	**328**	P	**Pb**	**14 53 21.4**	**-0.3**
EATA				S	**Sg**	**14 53 41.2**	**+0.8**
TASB	**TASBURUN-IGDIR**	**1.42**	**25**	PN	**Pb**	**14 53 21.9**	**-0.3**
TASB				SN	**Sg**	**14 53 41.7**	**0.0**
CUKT	**Cukurca**	**1.46**	**175**	PN	**Pn**	**14 53 21.3**	**-0.7**
HYR	**Heyderabad**	**1.49**	**47**	P	**Pb**	**14 53 23.2**	**-0.2**
	SNR=70						
HYR				S	**Sb**	**14 53 42.3**	**+0.2**
MUSM	**Mu-Merkez**	**1.52**	**271**	P	**Pb**	**14 53 23.1**	**-0.8**
MUSM				S	**Sg**	**14 53 43.8**	**-1.0**
METS	**Metsamor**	**1.53**	**18**	*e*P	**Pg**	**14 53 24.7**	**-0.6**
METS				*e*S	**Sg**	**14 53 47.8**	**+2.7**
NRKZ	**NAREK**	**1.60**	**36**	⇑*i*P	**Pn**	**14 53 23.6**	**-0.2**
NRKZ				⇑S	**Sb**	**14 53 46.4**	**+0.9**
VRTB	**Varto-Mus**	**1.62**	**287**	PN	**Pg**	**14 53 25.9**	**-1.2**
ARUZ	**Aruch**	**1.65**	**17**	⇑*i*P	**Pg**	**14 53 27.2**	**-0.5**
ARUZ				⇑*i*S	**Sg**	**14 53 52.5**	**+3.2**
NAX	**Nakhchivan**	**1.66**	**73**	P	**Pb**	**14 53 26.1**	**-0.3**
	SNR=45						
NAX				S	**Sn**	**14 53 45.0**	**-0.9**
DIGO	**Kars**	**1.71**	**358**	P	**Pn**	**14 53 25.8**	**+0.2**
GNI	**Garni**	**1.76**	**34**	⇑*i*P	**Pb**	**14 53 27.3**	**-0.7**
GNI				⇑*i*S	**Sg**	**14 53 52.3**	**-0.2**
GNI	**Garni**	**1.76**	**34**	PN	**Pn**	**14 53 26.2**	**+0.1**
SBZ	**Shahbuz**	**1.78**	**66**	P	**Pb**	**14 53 27.3**	**-1.0**
	SNR=246						
SBZ				S	**Sn**	**14 53 48.7**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.79**	**317**	PN	**Pb**	**14 53 28.2**	**-0.3**
HOMI	**Horasan**	**1.80**	**319**	P	**Pb**	**14 53 28.0**	**-0.8**
HOMI				S	**Sg**	**14 53 54.8**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.85**	**253**	PN	**Pb**	**14 53 29.1**	**-0.5**
SLHN	**Bingol, Solhan**	**1.91**	**278**	P	**Pg**	**14 53 31.4**	**-1.2**
KARS	**Kars**	**1.94**	**352**	PN	**Pn**	**14 53 29.6**	**+0.9**
KARO	**Karliova-Bingo**	**1.97**	**289**	PN	**Pb**	**14 53 30.9**	**-0.7**
EAK	**Akyaka**	**1.98**	**3**	P	**Pg**	**14 53 34.5**	**+0.4**
ORD	**Ordubad**	**2.00**	**83**	P	**Pb**	**14 53 30.7**	**-1.4**
	SNR=8.0						
ORD				S	**Sn**	**14 53 54.1**	**-0.1**
EJDE	**Erzurum, Palan**	**2.01**	**305**	P	**Pb**	**14 53 31.5**	**-1.0**
EJDE				S	**Sg**	**14 54 00.9**	**+0.2**
ERZM	**Erzurum**	**2.02**	**307**	P	**Pg**	**14 53 33.2**	**-1.4**
ERZM				S	**Sg**	**14 54 01.4**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.04**	**336**	PN	**Pb**	**14 53 31.5**	**-1.4**
MIDY	**Mardin/Midyat-**	**2.07**	**232**	P	**Pb**	**14 53 31.9**	**-1.4**
EMRE	**Erzurum,Aziziy**	**2.33**	**305**	P	**Pb**	**14 53 38.5**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.38**	**289**	PN	**Pb**	**14 53 36.7**	**-1.9**
MAZI	**Mazidag**	**2.67**	**243**	PN	**Pn**	**14 53 39.9**	**+1.2**
GDB	**GEDABAY**	**2.69**	**41**	P	**Pn**	**14 53 40.4**	**+1.5**
	SNR=20						
GDB				S	**Sb**	**14 54 16.5**	**-0.3**
DYBB	**Diyarbakir**	**2.71**	**255**	PN	**Pb**	**14 53 41.4**	**-2.8**
QZX	**Qazax, Azerbai**	**2.78**	**32**	P	**Pb**	**14 53 43.9**	**-1.5**
	SNR=12						
GANJ	**Ganja**	**2.95**	**48**	P	**Pn**	**14 53 44.3**	**+2.0**
	SNR=13						
GANJ				S	**Sb**	**14 54 21.3**	**-2.8**
ERZN	**Erzincan**	**3.03**	**288**	PN	**Pn**	**14 53 46.2**	**+2.6**
AGDM	**Agdam**	**3.16**	**62**	P	**Pn**	**14 53 47.2**	**+1.9**
AGDM				S	**Sn**	**14 54 23.9**	**+1.1**
PTK	**Pertek**	**3.18**	**275**	PN	**Pn**	**14 53 48.1**	**+2.4**
BRDA	**Brd**	**3.28**	**60**	P	**Pn**	**14 53 49.7**	**+2.9**
BRDA				S	**Sn**	**14 54 26.6**	**+1.0**
BLQ	**Beylaqan**	**3.35**	**71**	P	**Pn**	**14 53 49.1**	**+1.3**
BLQ				S	**Sn**	**14 54 26.2**	**-1.2**
YRD	**Yardimli**	**3.75**	**85**	P	**Pn**	**14 53 55.6**	**+2.1**
	SNR=12						
LRK	**Lerik**	**3.83**	**89**	P	**Pn**	**14 53 56.5**	**+1.9**
	SNR=6.0						
LRK				S	**Sn**	**14 54 40.9**	**+1.4**
GLBA	**Clilabad**	**3.89**	**80**	P	**Pn**	**14 53 57.5**	**+2.2**
GLBA				S	**Sn**	**14 54 40.2**	**-0.5**

*IDC **02** 14:53:46.8±2.0, 6°.89S×129°.88E, h131km±25km, mb3.3/1, mbtmp3.9/5, Error ellipse: s-maj=38.3km s-min=17.3km az=100.0*
ISC 02 14:53:48.2±1.0**, 6°.98S**±0°.06×**129°.8E**±0°.1**, h150**km**, n13,** σ**3s29**/16**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.82**	**123**	P	**Pn**	**14 54 25.0**	**+3.6**
FAKI	**Fak Fak**	**4.73**	**32**	P	**Pn**	**14 54 57.3**	**-0.8**
MTN	**Manton Dam**	**5.99**	**167**	P	**Pn**	**14 55 16.1**	**+1.3**
SIJI	**Sorong**	**6.25**	**14**	P	**Pn**	**14 55 16.9**	**-1.4**
	1.8nm,0.3s,baz=150,slow=21,SNR=12						
SIJI				S	**Sn**	**14 56 24.0**	**-4.9**
	7.3nm,0.2s,baz=248,slow=23,SNR=8.9						
KDU	**Kakadu**	**6.27**	**155**	P	**Pn**	**14 55 19.7**	**+1.1**
BATI	**Baumata**	**6.83**	**242**	P	**Pn**	**14 55 25.9**	**-0.2**
	14nm,0.4s,baz=105,slow=6.2,SNR=3.6						
KNRA	**Kununurra**	**8.70**	**186**	P	**Pn**	**14 55 50.4**	**-0.7**
WRA	**Warramunga Arr**	**13.63**	**161**	P	**Pn**	**14 56 53.8**	**-1.8**
	0.9nm,0.5s,baz=348,slow=13,SNR=22						
WRA				S	**Sn**	**14 59 20.6**	**-6.0**
	2.4nm,0.5s,baz=334,slow=22,SNR=6.4						
COEN	**Coen**	**14.90**	**119**	P	**P**	**14 57 17.7**	**+4.3**
QIS	**Mount Isa**	**16.53**	**146**	P	**Pn**	**14 57 34.6**	**+3.0**
ASAR	**Alice Springs**	**17.07**	**167**	P	**Pn**	**14 57 39.6**	**+1.6**
	2.3nm,0.5s,baz=346,slow=10,SNR=64						
ASAR				S	**S**	**15 00 42.9**	**-4.9**
	0.5nm,0.6s,baz=358,slow=26,SNR=5.9						
AS01	**Alice Springs**	**17.07**	**167**	P	**Pn**	**14 57 40.1**	**+2.0**
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**15 04 32.2**	**+0.5**
	0.8nm,0.9s,baz=121,slow=7.2,SNR=4.6						
	0.8nm,0.9s						

*JMA **02** 14:55:31.6±0.2, 30°.7N±0°.5×14°3E±°, h114km, MV3.1/13, FAR E OFF IZU ISLANDS*
*IDC **02** 14:55:31.4±1.1, 30°.37N×141°.87E, h0km, mb3.6/5, mbtmp3.6/7, ML3.3/2, Error ellipse: s-maj=42.6km s-min=20.3km az=86.0*
ISC 02 14:55:34.6±0.8**, 30°.39N**±0°.06×**141°.9E**±0°.2**, h23**km**, n13,** σ**1s58**/17**, mb3.6**/5**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.29**	**176**	P	**Pn**	**14 56 26.6**	**+1.9**
CBIJ				*e*S	**Sb**	**14 57 08.8**	**-3.0**
JCJ	**Chichijima**	**3.29**	**176**	Pn	**Pn**	**14 56 24.5**	**-0.2**
	6.3nm,0.3s,baz=78,slow=23,SNR=6.0						
JCJ				Sn	**Sn**	**14 57 03.6**	**+0.5**
	7.2nm,0.3s,baz=282,slow=21,SNR=1.6						
	126nm,0.9s						
JOD2	**Odawara 2**	**5.41**	**335**	*e*P	**Pn**	**14 56 54.5**	**+0.6**
JHU	**Hanno**	**5.88**	**339**	*e*P	**Pn**	**14 56 59.7**	**-0.6**
JHU				*e*S	**Sn**	**14 58 07.0**	**0.0**
JRY	**Ryogami san**	**6.15**	**337**	P	**Pn**	**14 57 03.5**	**-0.6**
JRY				*e*S	**Sn**	**14 58 14.0**	**+0.2**
JHO	**Hitachi**	**6.31**	**350**	P	**Pn**	**14 57 03.0**	**-3.2**
JAG	**Ashikaga**	**6.36**	**342**	*e*P	**Pn**	**14 57 05.1**	**-1.8**
MJAR	**Matsushiro Arr**	**6.87**	**334**	Pn	**Pn**	**14 57 11.8**	**-2.1**
	0.2nm,0.3s,baz=160,slow=11,SNR=14						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**48.24**	**307**	P	**P**	**15 04 14.5**	**+0.8**
	0.2nm,0.6s,baz=96,slow=10,SNR=1.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**50.57**	**189**	P	**P**	**15 04 31.7**	**+0.2**
	1.3nm,0.6s,baz=6.9,slow=7.7,SNR=14						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**54.29**	**189**	P	**P**	**15 04 59.0**	**-0.1**
	0.4nm,0.6s,baz=12,slow=6.6,SNR=7.2						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**78.68**	**52**	P	**P**	**15 07 36.8**	**+1.5**
	0.2nm,0.5s,baz=296,slow=4.8,SNR=2.6						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**93.82**	**53**	P	**P**	**15 08 50.4**	**-0.1**
	0.1nm,0.4s,baz=347,slow=3.1,SNR=1.9						
	0.1nm,0.4s						

*ATH **02** 15:05:38.4, 34°.42N×26°.19E, h13km±5km, ML3.2/4, Error ellipse: s-maj=6.3km s-min=2.1km az=1.0*
*IDC **02** 15:05:39.4±1.7, 34°.24N×26°.71E, h0km, mb3.8/4, mbtmp3.8/5, ML3.1/1, MS2.9/1, Error ellipse: s-maj=67.5km s-min=27.0km az=141.0*
*THE **02** 15:05:40.9, 34°.56N×26°.17E, h0km±2km, ML2.7/4, Error ellipse: s-maj=4.1km s-min=1.3km az=135.0*
ISC 02 15:05:40.3±2.2**, 34°.54N**±0°.08×**26°.21E**±0°.05**, h5**km±13km**,** **n19,** σ**1s21**/24**, mb3.8**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.57**	**1**	P	**Pg**	**15 05 51.6**	**+0.4**
ZKR				S	**Sb**	**15 06 01.7**	**+0.4**
	2µm,0.4s						
ZKR	**Zakros**	**0.57**	**1**	P	**Pg**	**15 05 51.6**	**+0.4**
ZKR				S	**Sb**	**15 06 01.6**	**+0.3**
ZKR				AML	AML	15 06 02.5	
	comp=E,6775µm,0.5s						
ZKR				AML	AML	15 06 02.6	
	comp=N,2881µm,0.3s						
FRMA	**Ierapetra Chan**	**0.61**	**320**	P	**Pg**	**15 05 51.4**	**-0.6**
FRMA				S	**Sg**	**15 06 00.5**	**+0.5**
	comp=N,440nm,0.4s						
FRMA	**Ierapetra Chan**	**0.61**	**320**	P	**Pg**	**15 05 51.1**	**-0.9**
STIA	**Sitia Lasithi**	**0.67**	**352**	P	**Pg**	**15 05 53.2**	**+0.2**
STIA				S	**Sb**	**15 06 04.5**	**+0.5**
STIA	**Sitia Lasithi**	**0.67**	**352**	P	**Pg**	**15 05 53.2**	**+0.2**
STIA				S	**Sb**	**15 06 03.9**	**-0.1**
STIA				AML	AML	15 06 04.9	
	comp=E,7287µm,0.4s						
STIA				AML	AML	15 06 05.4	
	comp=N,7194µm,0.5s						
KSTL	**Kastelli Herak**	**1.21**	**309**	P	Pn	15 05 58.0	-5.8
KARP	**Karpathos**	**1.27**	**38**	P	**Pg**	**15 06 05.2**	**+0.5**
KARP	**Karpathos**	**1.27**	**38**	P	**Pn**	**15 06 02.5**	**-2.3**
KARP				AML	AML	15 06 32.0	
	comp=N,1351µm,0.6s						
KARP				AML	AML	15 06 37.6	
	comp=E,1257µm,0.8s						
IDI	**Anoyia**	**1.31**	**305**	P	**Pn**	**15 06 05.0**	**-0.4**
IDI				S	**Sg**	**15 06 22.9**	**+0.4**
	comp=E,238nm,0.9s						
IDI	**Anoyia**	**1.31**	**305**	P	**Pn**	**15 06 02.8**	**-2.6**
IDI				AML	AML	15 06 24.5	
	comp=N,581µm,0.6s						
IDI				AML	AML	15 06 31.5	
	comp=E,333µm,0.6s						
GVDS	**Gavdos**	**1.77**	**280**	P	**Pn**	**15 06 11.1**	**-0.5**
GVD	**Gavdhos**	**1.77**	**280**	P	**Pn**	**15 06 11.8**	**+0.2**
GVD				S	**Sb**	**15 06 34.6**	**-1.2**
	comp=E,290nm,0.5s						
VAE	**Valguarnera**	**9.99**	**290**	LR	LR	15 13 28.0	
	comp=E,67nm,19.0s,baz=248,slow=44						
KBZ	**Khabaz**	**15.85**	**50**	Pn	**P**	**15 09 27.7**	**-0.1**
	comp=E,0.1nm,0.3s,baz=207,slow=4.5,SNR=3.6						
	comp=E,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.77**	**232**	P	**P**	**15 11 58.3**	**+1.4**
	comp=E,0.5nm,0.8s,baz=38,slow=7.3,SNR=3.0						
	comp=E,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**35.05**	**360**	P	**P**	**15 12 36.0**	**+2.3**
	comp=E,2.4nm,1.0s,baz=163,slow=9.4,SNR=2.3						
	comp=E,2.4nm,1.0s						
MKAR	**Makanchi Array**	**43.40**	**56**	P	**P**	**15 13 41.9**	**-1.9**
	comp=E,1.4nm,0.7s,baz=269,slow=8.3,SNR=8.1						
	comp=E,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**44.81**	**46**	P	**P**	**15 13 53.7**	**-1.3**
	comp=E,0.5nm,0.4s,baz=264,slow=8.8,SNR=2.6						
	comp=E,0.5nm,0.4s						

*IDC **02** 15:18:06.6±1.4, 6°.17S×127°.77E, h389km±19km, mb3.0/1, mbtmp3.6/5, Error ellipse: s-maj=26.9km s-min=12.9km az=80.0*
ISC 02 15:18:07.0±1.0**, 6°.15S**±0°.09×**127°.8E**±0°.2**, h400**km**, n5,** σ**1s72**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.77**	**226**	P	**Pn**	**15 19 36.2**	**-1.0**
	6.8nm,0.3s,baz=98,slow=15,SNR=1.8						
SIJI	**Sorong**	**6.26**	**33**	P	**Pn**	**15 19 43.7**	**+1.1**
	8.8nm,0.6s,baz=192,slow=22,SNR=29						
SIJI				S	**S**	**15 20 58.5**	**-2.0**
	2.6nm,0.3s,baz=201,slow=22,SNR=8.3						
WRA	**Warramunga Arr**	**15.09**	**156**	P	**P**	**15 21 21.1**	**+0.6**
	0.3nm,0.2s,baz=331,slow=11,SNR=17						
WRA				S	**S**	**15 23 58.5**	**-2.2**
	0.3nm,0.7s,baz=322,slow=20,SNR=2.6						
ASAR	**Alice Springs**	**18.36**	**162**	P	**P**	**15 21 56.2**	**+0.7**
	0.2nm,0.3s,baz=347,slow=12,SNR=13						
ASAR				S	**S**	**15 25 05.6**	**+1.6**
	0.2nm,0.7s,baz=325,slow=19,SNR=4.3						
MKAR	**Makanchi Array**	**66.36**	**328**	P	**P**	**15 28 14.8**	**+0.5**
	0.4nm,0.4s,baz=120,slow=8.3,SNR=9.5						
	0.4nm,0.4s						

ROM 02 15:53:02.7±0.1, 43.°031N±0.°003×13.°045E±0.°005, h10km, ML3.4/9, Error ellipse: s-maj=0.4km s-min=0.3km az=73.0
PRU 02 15:53:04.9±0.0, 43.°04N×13.°45E, h10km
IDC 02 15:53:06.9±3.1, 43.°35N×13.°36E, h0km, mb3.5/1, mbtmp3.6/4, ML3.1/3, MS2.4/1, Error ellipse: s-maj=46.3km s-min=25.0km az=64.0
ISC 02 15:53:03.5±0.8, 43.°03N±0.°02×13.°08E±0.°02, h10km±4km, n81, σ1.°28/95, Central Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.01	38	P	Pg	15 53 04.7	-0.6
FDMO				S	Sg	15 53 06.0	-0.6
FEMA	Monte Fema	0.07	199	P	Pg	15 53 05.5	-0.4
FEMA				S	Sg	15 53 07.4	-0.3
CSP1	Cessapalombo	0.11	56	P	Pg	15 53 06.4	0.0
CSP1				S	Sg	15 53 08.8	+0.4
T1256	Bolognola (MC)	0.11	104	P	Pg	15 53 06.4	0.0
T1256				S	Sg	15 53 08.9	+0.5
T1216	Preci, Frazion	0.15	198	P	Pg	15 53 06.6	-0.3
SEF1	Sefro	0.15	319	P	Pg	15 53 06.5	-0.4
PIO1	Pioraco	0.16	334	P	Pg	15 53 06.8	-0.4
MDAR	Monte D'Aria	0.17	15	P	Pg	15 53 07.1	-0.1
GUMA	Gualdo di Mace	0.19	80	P	Pg	15 53 08.0	+0.4
GUMA				S	Sg	15 53 11.9	+1.6
FIU1	Fiuminata	0.19	325	P	Pg	15 53 07.3	-0.3
T1245	Castelsantange	0.19	156	P	Pg	15 53 06.8	-0.9
T1245				AML	AML		
	comp=E,31150µm,0.4s						
T1245				AML	AML		
	comp=N,35300µm,1.4s						
T1245				AML	AML		
	comp=E,29300µm,0.4s						
T1245				AML	AML		
	comp=N,34950µm,0.5s						
T1245				AML	AML		
	comp=N,57850µm,0.7s						
T1245				AML	AML		
T1245				AML	AML		
NRCA	Norcia	0.20	173	AML	AML		
	comp=E,26850µm,0.2s						
NRCA				AML	AML		
	comp=E,26900µm,0.2s						
NRCA				AML	AML		
	comp=N,23450µm,0.2s						
NRCA				AML	AML		
	comp=N,23400µm,0.2s						
NRCA				AML	AML		
	comp=E,28950µm,0.2s						
NRCA				AML	AML		
	comp=N,23450µm,0.2s						
NRCA				AML	AML		
	comp=N,24950µm,0.2s						
AM05	Amandola Campo	0.21	105	P	Pg	15 53 08.1	+0.3
GAG1	Gagliole	0.21	357	P	Pg	15 53 07.8	0.0
SSM1	San Severino M	0.21	19	P	Pg	15 53 07.8	-0.1
MMO1	Montemonaco	0.22	126	P	Pg	15 53 08.2	0.0
MMO1				S	Sg	15 53 12.3	+1.0
SNTG	Esanatoglia	0.25	335	P	Pg	15 53 08.1	-0.5
SNTG				S	Sg	15 53 12.2	+0.2
T1215	Vallo di Nera,	0.28	214	P	Pg	15 53 08.8	-0.4
T1215				S	Sg	15 53 13.2	+0.3
EL6	Elcito	0.30	3	P	Pg	15 53 09.2	-0.3
EL6				S	Sg	15 53 14.4	+0.8
MNTP	Montappone	0.30	69	P	Pg	15 53 10.3	+0.7
T1241	Roccafluvione,	0.31	124	P	Pg	15 53 09.7	0.0
T1241				S	Sg	15 53 15.3	+1.4
ASSB	Assisi San Ben	0.31	272	S	Sg	15 53 10.0	-3.9
TRE1	Treia	0.33	31	P	Pg	15 53 10.5	+0.4
T1217	Poggiodomo (PG	0.34	199	P	Pg	15 53 10.0	-0.3
T1217				S	Sg	15 53 15.4	+0.7
T1217				AML	AML		
	comp=E,9530µm,1.0s						
T1217				AML	AML		
	comp=N,15650µm,0.3s						
T1217				AML	AML		
	comp=E,9445µm,1.0s						
T1217				AML	AML		
	comp=N,15550µm,0.3s						
CING	Cingoli	0.35	13	P	Pg	15 53 10.3	-0.2
FOSV	Fossato di Vic	0.35	318	P	Pg	15 53 10.0	-0.6
FOSV				S	Sg	15 53 15.6	+0.3
T1201	Domo (RI)	0.39	162	P	Pg	15 53 11.0	-0.3
T1204	Amatrice, Fraz	0.40	154	P	Pg	15 53 11.3	-0.1
T1204				AML	AML		
	comp=E,7025µm,1.1s						
T1204				AML	AML		
	comp=N,6060µm,1.0s						
T1204				AML	AML		
	comp=E,7060µm,1.1s						
T1204				AML	AML		
	comp=N,6100µm,1.0s						
T1204				AML	AML		
	comp=E,7050µm,1.1s						
T1204				AML	AML		
	comp=N,6070µm,1.0s						
T1204				AML	AML		
	comp=N,6095µm,1.0s						
T1204				AML	AML		
	comp=E,7055µm,1.1s						
LNSS	Leonessa	0.43	184	P	Pg	15 53 10.7	-1.2
LNSS				S	Sg	15 53 18.6	+0.9
T1243	Rocca Santa Ma	0.43	141	P	Pg	15 53 11.9	-0.1
T1243				S	Sb	15 53 18.8	-1.0
SMA1	SAN MARTINO	0.44	155	P	Pg	15 53 12.1	-0.1
SMA1				AML	AML		
	comp=E,4060µm,1.6s						
SMA1				AML	AML		
	comp=N,3680µm,1.6s						
SMA1				AML	AML		
	comp=E,4525µm,0.6s						
SMA1				AML	AML		
	comp=N,4450µm,1.0s						
OFFI	Offida	0.45	102	P	Pb	15 53 13.2	-0.4
ARRO	Arrone	0.51	207	P	Pg	15 53 12.8	-0.6
T1211	Morro Reatino	0.53	199	P	Pg	15 53 13.4	-0.4
RM33	Pellescritta (	0.53	169	P	Pg	15 53 13.6	-0.2
T1246	Crognaleto (TE	0.54	146	P	Pg	15 53 13.6	-0.4
TERO	Teramo	0.56	137	P	Pg	15 53 14.0	-0.4
TERO				S	Sb	15 53 23.1	-0.5
TERO				AML	AML		
	comp=N,4760µm,0.4s						
TERO				AML	AML		
	comp=E,3450µm,0.4s						
TERO				AML	AML		
	comp=E,3255µm,0.4s						
TERO				AML	AML		
	comp=N,4480µm,0.4s						
T1247	Pizzolo (AQ)	0.61	165	P	Pg	15 53 15.2	-0.1
AQU	L'Aquila	0.72	161	P	Pg	15 53 16.7	-0.6
FIAM	Fiamignano	0.76	178	P	Pg	15 53 16.7	-1.5
FAGN	Fagnano	0.85	154	P	Pg	15 53 19.1	-0.8
LIK	San Giovanni I	1.57	167	AML	AML		
	comp=N,864µm,0.8s						
LIK				AML	AML		
	comp=E,677µm,0.7s						
BDI	Bagni Di Lucca	2.08	301	AML	AML		
	comp=N,52µm,0.8s						
BDI				AML	AML		
	comp=E,69µm,0.4s						
CEY	Cerknica	2.87	19	ePn	Pn	15 53 49.5	+0.1
PZUN	Potenza	3.13	139	AML	AML		
	comp=N,410µm,0.1s						
PZUN				AML	AML		
	comp=E,135µm,1.3s						
SRKY	Kupres RS	3.14	69	ePn	Pn	15 53 54.7	+1.5
MGRS	Mrkonjic Grad	3.21	63	ePn	Pn	15 53 52.5	-1.6
STON	Ston	3.39	91	ePn	Pn	15 53 55.3	-1.2
A051A	Mrakovica	3.40	53	ePn	Pn	15 53 57.8	+1.2
BLY	Banja Luka	3.43	59	ePn	Pb	15 54 02.5	-1.8
MYKA	Terra Mystica	3.62	6	ePn	Pn	15 54 00.4	+0.7
	comp=E,5.8nm,0.3s,SNR=5.2						
MYKA				i Sn	Sn	15 54 43.1	+0.6
	comp=E,11nm,0.3s						
OBKA	Obir	3.63	16	ePn	Pn	15 54 00.0	+0.2
OBKA	Obir	3.63	16	ePn	Pn	15 54 00.3	+0.5
	comp=E,2.1nm,0.2s,SNR=7.1						
ABTA	Abfaltersbach	3.74	354	ePn	Pn	15 54 02.6	+1.3
	comp=E,6.1nm,0.3s						
ABTA				eSn	Sn	15 54 45.4	0.0
	comp=E,25nm,0.9s						
TREB	Trebinje	3.88	93	ePn	Pn	15 54 04.1	+0.9
BRY	Bratogost	4.01	90	ePn	Pn	15 54 04.9	-0.2
HCY	Herceg Novi	4.03	96	ePn	Pn	15 54 03.8	-1.4
KBA	Koelnbreinsper	4.05	3	i Pn	Pn	15 54 06.9	+1.2
	comp=E,4.1nm,0.2s						
UPM	Unac-Piva	4.27	86	ePn	Pn	15 54 10.7	+2.0
FETA	Feichten	4.32	338	i Pn	Pn	15 54 11.7	+2.3
	comp=E,6.1nm,0.4s						
WTTA	Wattenberg	4.35	347	ePn	Pn	15 54 11.9	+2.0
	comp=E,2.8nm,0.3s						
DAVOX	Davos/Dischmat	4.38	330	Pn	Pn	15 54 12.3	+2.0
	comp=E,2.7nm,0.3s,baz=148,slow=17,SNR=15						
DAVOX				Sn	Sn	15 55 05.7	+4.2
	comp=E,1.7nm,0.3s,baz=56,slow=12,SNR=4.2						
	comp=E,11nm,0.4s						
SQTA	Sankt Quirin	4.39	343	ePn	Pn	15 54 11.3	+1.0
	comp=E,6.8nm,0.3s,SNR=6.3						
WATA	Walderalm	4.43	347	i Pn	Pn	15 54 12.5	+1.6
	comp=E,2.3nm,0.2s						
MOTA	Moosalm	4.53	343	i Pn	Pn	15 54 13.8	+1.5
	comp=E,3.2nm,0.3s						
ARSA	Arzberg	4.56	21	i Pn	Pn	15 54 12.3	-0.2
	comp=E,3.9nm,0.3s						
ARSA				i Sn	Sn	15 55 03.8	-1.7
	comp=E,4.3nm,0.3s						
DRME	Dracevica, Mon	4.58	99	ePn	Pn	15 54 14.0	+1.2
RUDO	Rudo	4.62	81	ePn	Pn	15 54 10.6	-2.8
BBLS	Lazići	4.68	78	ePn	Pn	15 54 14.9	+0.7
MOA	Molln	4.89	9	ePn	Pn	15 54 17.7	+0.6
	comp=E,5.0nm,0.5s,SNR=7.7						
MOA				eSn	Sn	15 55 14.1	+0.4
	comp=E,15nm,0.5s						
RONA	Rosalia, Austr	5.19	25	i Pn	Pn	15 54 21.9	+0.7
	comp=E,3.3nm,0.3s,SNR=5.2						
CONA	Conrad Observa	5.27	21	i Pn	Pn	15 54 22.4	0.0
	comp=E,2.6nm,0.2s,SNR=7.6						
CONA				eSn	Sn	15 55 21.5	-1.7
	comp=E,5.5nm,0.4s						
GERES	GERESS Array B	5.83	4	Pn	Pn	15 54 30.0	-0.1
	comp=E,0.6nm,0.3s,baz=173,slow=13,SNR=8.2						
GERES				Sn	Sn	15 55 34.1	-2.9
	comp=E,3.0nm,0.3s,baz=176,slow=25,SNR=10						
	comp=E,1.1nm,0.4s						
CKRC	Cesky Krumlov	5.85	8	eSN	Sn	15 55 34.8	-2.6
KHC	Kasperske Hory	6.11	3	ePN	Pn	15 54 34.0	+0.2
KHC				eSN	Sn	15 55 41.5	-2.3
NKC	Novy Kostel	7.22	357	eSN	Sn	15 56 09.4	-1.6
BRG	Berggiesshubel	7.87	4	eP	Pn	15 55 04.8	+6.9
BRG				Amp		15 55 06.7	
	comp=Z,2.4nm,0.6s						
BRG				ex	x	15 56 22.4	
BRG				ex	x	15 57 23.4	
BRG				Amp		15 57 54.5	
	comp=Z,8.6nm,1.4s						
CLL	Collm	8.28	360	ex	x	15 56 32.0	
CLL				eSg	Sg	15 57 24.0	-5.0
CLL				ex	x	15 57 49.0	
OBN	Obninsk	19.45	43	LR	LR	16 06 09.2	
	comp=Z,12nm,20.0s,baz=26,slow=41						
FINES	FINESS Array B	20.01	18	P	Pn	15 57 38.4	+0.6
	comp=Z,0.1nm,0.3s,baz=214,slow=9.8,SNR=1.0						
	comp=Z,2.1nm,0.9s						
MKAR	Makanchi Array	47.71	60	P	P	16 01 42.6	+2.4
	comp=Z,0.4nm,0.6s,baz=292,slow=6.4,SNR=4.5						
	comp=Z,0.4nm,0.6s						

HVO 02 16:01:38.1±0.6, 19.°21N±0.°07×155.°49W±0.°02, h37km±3km, Md2.6/33, ML2.3/42(NEIC), Error ellipse: s-maj=11.0km s-min=2.0km az=173.0
NEIC 02 16:01:36.6±0.6, 19.°22N±0.°02×155.°489W±0.°009, h42km±3km, Error ellipse: s-maj=3.5km s-min=1.0km az=188.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.09	80		Pn	16 01 43.8	+0.4
KHU	Kahuku	0.12	281		Pn	16 01 43.7	-0.1
AIN	Ainahou	0.15	11		Pn	16 01 44.2	+0.3
AIN					Sn	16 01 49.2	+0.1
HLP	Hilina Pali	0.19	67		Pn	16 01 43.9	-0.1
SDHHI	Sand Hill	0.25	48	Pn	Pn	16 01 44.7	0.0
SDHHI				Sn	Sn	16 01 49.7	-0.6
WRMHI	West Rim	0.26	44		Pn	16 01 44.8	+0.1
RIM	Rim	0.27	50		Pn	16 01 44.8	-0.1
RIM				IAML		16 01 50.5	
	comp=E,387nm,0.8s						
RIM				IAML		16 01 52.9	
	comp=N,606nm,0.5s						
UWE	Uwekahuna	0.27	43		Pn	16 01 44.9	0.0
UWE				IAML		16 01 48.0	
	comp=N,591nm,1.8s						
UWE				IAML		16 01 50.5	
	comp=E,782nm,1.3s						
NPH	North Pit	0.27	46	Pn	Pn	16 01 44.9	0.0
KKO	Keanakako`i	0.27	50		Pn	16 01 44.9	0.0
KKO				IAML		16 01 51.2	
	comp=N,426nm,0.9s						
KKO				IAML		16 01 53.4	
	comp=E,398nm,0.4s						
OBL	Observatory Le	0.27	45		Pn	16 01 45.0	0.0
OBL				Sn	Sn	16 01 50.5	-0.2
OBL				IAML		16 01 52.8	
	comp=E,644nm,0.4s						
MWH	Moku‘aweowe	0.28	339		Pn	16 01 45.4	0.0
MWH				IAML		16 01 51.2	
	comp=E,368nm,1.1s						
MWH				IAML		16 01 51.4	
	comp=N,374nm,1.1s						
UWB	Uwekahuna B	0.28	45	Pn	Pn	16 01 44.8	-0.2
BYL	Byron's Ledge	0.29	49	Pn	Pn	16 01 45.0	0.0
BYL				IAML		16 01 50.5	
	comp=E,417nm,1.0s						
BYL				IAML		16 01 51.7	
	comp=N,264nm,0.5s						
MLH	Mauna Loa	0.29	20		Pn	16 01 45.4	+0.2
MLH				IAML		16 01 51.1	
	comp=N,302nm,0.3s						
MLH				IAML		16 01 51.1	
	comp=E,280nm,0.9s						
SBLHI	Steaming Bluff	0.29	46		Pn	16 01 45.0	0.0
SBLHI					Sn	16 01 49.9	-1.1
SBLHI				IAML		16 01 50.4	
	comp=E,427nm,0.2s						
HATHI	Halema‘uma‘u T	0.29	47	Pn	Pn	16 01 45.0	-0.1
HATHI				IAML		16 01 50.4	
	comp=N,480nm,0.4s						
HATHI				IAML		16 01 53.7	
	comp=E,393nm,0.8s						
PUH	Pauahi	0.30	60		Pn	16 01 45.0	-0.1
PUH				IAML		16 01 50.5	
	comp=E,269nm,0.3s						
PUH				IAML		16 01 51.6	
	comp=N,435nm,0.8s						
RSD	Rainshed	0.31	40		Pn	16 01 45.3	0.0
RSD				Sn	Sn	16 01 50.5	-0.9
MLOA	Mauna Loa Obse	0.32	345		Pn	16 01 45.8	+0.1
MLOA				Sn	Sn	16 01 51.4	-0.7
MLOA				IAML		16 01 51.5	
	comp=E,465nm,0.2s						
MLOA				IAML		16 01 53.8	
	comp=N,265nm,0.6s						
KNHH	Kane Nui o Ham	0.34	63		Pn	16 01 45.6	0.0
KNHH					Sn	16 01 51.8	0.0
ALEP	Alea Permanent	0.35	335		Pn	16 01 45.9	-0.1
ALEP					Sn	16 01 52.3	-0.2
HMH	Humu‘ula Sheep	0.38	1		Pn	16 01 46.8	+0.5
HMH				IAML		16 01 56.4	
	comp=E,192nm,1.8s						
HMH				IAML		16 01 56.8	
	comp=N,224nm,1.1s						
JCUZ	Jacuzzi	0.40	66	Pn	Pn	16 01 46.1	-0.1
CPH	Captain Cook	0.48	303		Sn	16 01 54.0	-0.8
JOKA	Jonika Flow	0.50	65		Pn	16 01 47.3	-0.2
JOKA					Sn	16 01 53.9	-1.3
KHLU	Kahalu`u	0.53	314		Pn	16 01 47.9	0.0
KHLU				Sn	Sn	16 01 54.9	-1.0
HUH	Hualalai	0.56	325		Pn	16 01 48.8	+0.3
HPAH	Hawaii Prepara	0.83	346	Pn	Pn	16 01 51.6	-0.3
HPAH				Sn	Sn	16 02 01.4	-1.7

BJI 02 16:15:18.4±0.0, 30.°55S×177.°46W, h11km, mb5.0/7, mB5.6/5, Ms4.9/2, Ms7 4.6/2
NOU 02 16:15:19.1, 30.°75S×176.°88W, h31km, mb4.9/47, Kermadec Islands Region
IDC 02 16:15:23.9±3.7, 30.°47S×177.°70W, h30km±25km, mb4.4/12, mbtmp4.5/12, MS4.3/52, Error ellipse: s-maj=20.0km s-min=14.8km az=91.0
NEIC 02 16:15:24.1±1.5, 30.°50S±0.°08×177.°7W±0.°2, h35km±2km, mb5.0/26, Error ellipse: s-maj=27.9km s-min=12.2km az=76.0
GCMT 02 16:15:27.0±0.3, 30.°65S±0.°02×177.°50W±0.°02, h35km, MW5.1/80, Moment Tensor Solution. s68,c96; s80,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.86±.20; $M_{\theta\theta}$-0.33±.14; $M_{\phi\phi}$-4.53±.12; $M_{r\theta}$0.54±.17; $M_{\theta\phi}$-0.71±.10; $M_{\phi r}$2.62±.12; Best double couple: $M_0$5.45400×10^{16} NP1:ϕ_s10.00000°,δ60.00000°,λ91.00000°. NP2: ϕ_s188.00000°,δ30.00000°,λ88.00000°. Principal axes: T 5.5620, Plg75.0000°, Azm283.0000°; N -0.2150, Plg1.0000°, Azm190.0000°; P -5.3460, Plg15.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 02 16:15:23.5±0.3, 30.°65S±0.°04×177.°64W±0.°06, h35km, n243, σ1.°81/208, mb4.8/27, MS4.4/52, Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.40	350	P	Pn	16 15 45.0	-1.6
GLKZ				S	Sn	16 16 01.1	-2.7
RAO	Raoul Island	1.41	350	Pn	Pn	16 15 45.4	-1.4
	584nm,0.3s,baz=97,slow=7.7,SNR=49						
RAO				Sn	Sn	16 16 01.0	-3.1
	4µm,0.3s,baz=73,slow=22,SNR=15						
RAO				LR	LR	16 16 21.4	
	comp=Z,10µm,18.3s,baz=134,slow=47						
RAO	Raoul Island	1.41	350		Pn	16 15 45.2	-1.6
RAO				Sn	Sn	16 16 00.3	-3.8
RAO	Raoul Island	1.41	350	P	Pn	16 15 46.0	-0.7
RIZ	Raoul Island	1.42	350	P	Pn	16 15 45.8	-1.1
RIZ				S	Sn	16 16 03.2	-1.1
MXZ	Matakaoa Point	7.67	205	P	Pn	16 17 08.6	-4.2
MXZ				S	Sn	16 18 35.2	-3.2
WMGZ	Waiomatatini S	7.87	203	P	Pn	16 17 12.8	-2.6
WMGZ				S	Sn	16 18 41.0	-2.1
HAZ	Te Kaha	8.04	207	P	Pn	16 17 14.6	-3.2
HAZ				S	Sn	16 18 46.8	-0.7
PKGZ	Pakihiroa	8.05	205	P	Pn	16 17 14.6	-3.3
PKGZ				S	Sn	16 18 43.1	-4.6
PUZ	Puketiti	8.15	204	P	Pn	16 17 16.0	-3.3
PUZ				S	Sn	16 18 48.9	-1.2
KUZ	Kuaotunu	8.22	221	P	Pn	16 17 22.0	+1.7
KUZ	Kuaotunu	8.22	221	P	Pn	16 17 23.1	+2.8
RUGZ	Raukumara Rang	8.26	207	P	Pn	16 17 18.3	-2.7
RUGZ				S	Sn	16 18 50.5	-2.7
TWGZ	Tauwhareparae	8.34	205	P	Pn	16 17 18.9	-3.0
TWGZ				S	Sn	16 18 52.6	-2.3
CNGZ	Carnagh Statio	8.54	203	P	Pn	16 17 20.8	-3.7
WCZ	Waipu Caves	8.54	230	P	Pn	16 17 32.5	+7.9
TKGZ	Te Karaka	8.62	204	P	Pn	16 17 23.5	-2.2
TKGZ				S	Sn	16 18 56.2	-5.4
OPRZ	Ohinepanea	8.64	212	P	Pn	16 17 25.8	-0.2
OPRZ				S	Sn	16 19 06.2	+4.0
OUZ	Omahuta	8.66	236	Pn	Pn	16 17 32.3	+6.0
OUZ	Omahuta	8.66	236	P	Pn	16 17 32.0	+5.6
OUZ	Omahuta	8.66	236	P	Pn	16 17 31.1	+4.7
URZ	Urewera	8.74	208	Pn	Pn	16 17 26.6	-0.8
	2.1nm,0.3s,baz=350,slow=5.0,SNR=17						
URZ				Sn	Sn	16 19 03.9	-0.8
	8.9nm,0.3s,baz=142,slow=24,SNR=11						
URZ	Urewera	8.74	208	Pn	Pn	16 17 26.3	-1.1
URZ	Urewera	8.74	208	P	Pn	16 17 26.8	-0.6
URZ	Urewera	8.74	208	P	Pn	16 17 24.5	-2.9
URZ				S	Sn	16 18 59.9	-4.8
RAGZ	Rawiri	8.83	206	P	Pn	16 17 25.3	-3.4
RAGZ				S	Sn	16 19 03.5	-3.4
MUGZ	Murupara	9.07	209	P	Pn	16 17 26.5	-5.4
MUGZ				S	Sn	16 19 09.8	-2.9
SNGZ	Shannon Statio	9.11	206	P	Pn	16 17 30.2	-2.2
SNGZ				S	Sn	16 19 09.8	-3.9
BKZ	Black Stump Fm	9.77	208	Pn	Pn	16 17 37.1	-4.5
BKZ	Black Stump Fm	9.77	208	P	Pn	16 17 38.0	-3.5
HIZ	Hauiti	9.99	216	P	Pn	16 17 44.8	+0.3
TUWZ	Tuamarina	12.73	210	Pn	Pn	16 18 17.8	-4.2
QRZ	Quartz Range	12.91	215	P	Pn	16 18 24.8	+0.3
CTZ	Chatham Island	13.09	177	P	Pn	16 18 23.6	-3.3
MSVF	Nonsavu	13.44	342	LR	LR	16 22 57.0	
	comp=Z,2µm,18.8s,baz=179,slow=34						
MSVF	Nonsavu	13.44	342	P	Pn	16 18 30.6	-1.3
KHZ	Kahutara	13.71	209	P	Pn	16 18 30.8	-4.5
RPZ	Rata Peaks	15.83	211	Pn	Pn	16 19 03.0	-0.7
	2.4nm,0.3s,baz=13,slow=1.3,SNR=13						
RPZ				Sn	Sn	16 21 42.7	-15
	1.4nm,0.3s,baz=12,slow=20,SNR=2.0						
RPZ	Rata Peaks	15.83	211	P	Pn	16 19 02.8	-0.9
OUENC	Ouen Island, N	16.12	297	P	P	16 19 10.8	+0.4
YATNC	Mamie plateau,	16.28	298	P	P	16 19 14.4	+2.2
DZM	Mont Dzumac	16.61	297	ePn	Pn	16 19 13.5	-0.4
	124nm,1.3s						
DZM				eLR	LR	16 23 00.9	
	comp=Z,3µm,24.1s						
DZM	Mont Dzumac	16.61	297	Pn	P	16 19 17.2	+1.2
	0.4nm,0.3s,baz=58,slow=19,SNR=10						
DZM				LR	LR	16 24 35.9	
	comp=Z,2µm,18.2s,baz=158,slow=34						
DZM	Mont Dzumac	16.61	297	P	P	16 19 17.9	+1.9
ODZ	Otahua Downs	17.07	209	P	Pn	16 19 17.7	-1.6
JCZ	Jackson Bay	17.18	215	P	Pn	16 19 18.3	-2.5
AFI	Afiamalu	17.51	19	LR	LR	16 25 57.8	
	comp=Z,249nm,20.4s,baz=196,slow=36						
AFI	Afiamalu	17.51	19	P	Pn	16 19 21.1	-4.0
RAR	Rarotonga	18.59	64	LR	LR	16 25 03.7	
	comp=Z,584nm,21.2s,baz=224,slow=31						
SYZ	Scrubby Hill	18.89	209	P	P	16 19 40.5	-0.4
WHZ	Wether Hill Ro	18.92	212	P	P	16 19 38.0	-3.2
KOUNC	Koumac, New Ca	19.13	297	P	Pn	16 19 48.0	+3.3
TBI	Tubuai	26.09	81	eS	S	16 25 23.4	+0.3
	1µm,28.0s						
TBI				eLR	LR	16 27 24.3	
	comp=Z,26µm,23.5s						
TBI				eLR	LR	16 27 24.3	
	comp=Z,7µm,27.2s						
TBI	Tubuai	26.09	81	eT	T	16 48 25.6	
	17nm,0.3s						
ARMA	Armidale	26.44	263	P	P	16 20 57.0	-0.3
	baz=26,SNR=13						
ARMA	Armidale	26.44	263	P	P	16 20 59.5	+2.2
ARMA				IAmb	IAmb	16 21 09.6	
	comp=Z,49nm,1.6s						
ARMA	Armidale	26.44	263	P	P	16 21 00.9	+3.6
CNB	Canberra Magne	28.00	252	P	P	16 21 10.7	-0.5
	baz=27,SNR=6.4						
CNB	Canberra Magne	28.00	252	P	P	16 21 14.0	+2.8
EIDS	Eidsvold	28.06	273	P	P	16 21 13.7	+1.9
	baz=27,SNR=5.8						
EIDS	Eidsvold	28.06	273	P	P	16 21 12.2	+0.4
MILA	Mila	28.21	248	P	P	16 21 13.0	-0.2
	baz=27,SNR=3.9						
CAN	Canberra	28.29	252	P	P	16 21 14.4	+0.6
CAN				IAmb	IAmb	16 21 24.8	
	comp=Z,19nm,1.1s						
PPT2	Papeete2	28.63	69	eS	S	16 26 04.7	+1.3
	comp=Z,233nm,24.8s						
PPT2				eLR	LR	16 28 34.4	
	comp=Z,1µm,26.0s						
PPT2				eLR	LR	16 28 34.8	
	comp=Z,880nm,25.5s						
PPT2	Papeete2	28.63	69	eT	T	16 51 12.2	
	comp=Z,4.9nm,0.3s						
PPT	Papeete	28.64	69	LR	LR	16 29 41.5	
	comp=Z,398nm,21.1s,baz=244,slow=30						
HNR	Honiara	29.70	311	LR	LR	16 31 25.9	
	comp=Z,5µm,21.8s,baz=166,slow=33						
MEH	Mehetia	29.71	72	eT	T	16 53 20.9	
	comp=Z,6.9nm,0.2s						
RMQ	Roma	29.74	270	P	P	16 21 27.7	+1.0
	baz=29,SNR=25						
RMQ	Roma	29.74	270	P	P	16 21 29.3	+2.6
TOO	Toolangi	31.16	247	P	P	16 21 39.4	+0.2
TOO				IAmb	IAmb	16 21 45.0	
	comp=Z,40nm,1.5s						
TOO	Toolangi	31.16	247	P	P	16 21 40.9	+1.8
CMSA	Cobar Meteorol	31.33	259	P	P	16 21 41.5	+0.8
	baz=30,SNR=31						
CMSA	Cobar Meteorol	31.33	259	P	P	16 21 42.4	+1.8
QLP	Quilpie	33.61	267	P	P	16 22 01.3	+0.6
	baz=33,SNR=5.1						

CTA Charters Tower 34.15 279 P P 16 22 07.3 +1.9
comp=Z,14nm,0.5s,baz=104,slow=9.6,SNR=48
CTA LR LR 16 34 49.8
comp=Z,1µm,18.2s,baz=116,slow=34
comp=Z,14nm,0.5s
CTA Charters Tower 34.15 279 P P 16 22 07.2 +1.8
CTAO Charters Tower 34.15 279 P P 16 22 06.6 +1.2
CTAO IAmb IAmb 16 22 09.7
comp=Z,26nm,0.8s
CTAO Charters Tower 34.15 279 P P 16 22 07.2 +1.8
CTAO Charters Tower 34.15 279 P P 16 22 06.5 +1.2
STKA Stephens Creek 34.73 257 P P 16 22 12.7 +2.3
comp=Z,25nm,0.5s,baz=100,slow=11,SNR=91
STKA LR LR 16 35 19.7
comp=Z,673nm,18.4s,baz=78,slow=34
comp=Z,25nm,0.5s
STKA Stephens Creek 34.73 257 P P 16 22 10.5 +0.1
baz=34,SNR=26
STKA Stephens Creek 34.73 257 P P 16 22 11.3 +1.0
STKA IAmb IAmb 16 22 14.0
comp=Z,18nm,1.3s
STKA Stephens Creek 34.73 257 P P 16 22 12.2 +1.8
INKA Innaminka 36.30 264 P P 16 22 26.1 +2.2
MTSU Mount Surprise 36.65 281 P P 16 22 28.4 +1.4
baz=36,SNR=24
MTSU Mount Surprise 36.65 281 P P 16 22 28.2 +1.2
HTT Hallett 36.74 254 P P 16 22 27.2 -0.4
baz=36,SNR=29
HTT Hallett 36.74 254 P P 16 22 28.9 +1.3
LCRK Leigh Creek 37.84 259 P P 16 22 38.3 +1.4
WHYH Whyalla 37.91 254 P P 16 22 39.4 +1.9
PMG Port Moresby 39.00 295 LR LR 16 36 28.8
comp=Z,417nm,21.1s,baz=118,slow=32
BBOO Buckleboo 39.20 254 P P 16 22 49.3 +0.9
baz=38,SNR=12
BBOO Buckleboo 39.20 254 P P 16 22 48.6 +0.2
BBOO IAmb IAmb 16 22 49.8
comp=Z,45nm,1.4s
BBOO Buckleboo 39.20 254 P P 16 22 48.9 +0.5
QIS Mount Isa 39.65 274 P P 16 22 53.2 +1.0
baz=39,SNR=7.6
QIS Mount Isa 39.65 274 P P 16 22 53.3 +1.1
OOD Oodnadatta 40.61 262 P P 16 23 01.2 +1.1
TAOE Nuku Hiva Isla 41.12 66 *e*S S 16 29 17.5 +2.1
comp=Z,187nm,26.9s
TAOE *e*LR LR 16 34 21.2
comp=Z,874nm,26.9s
MULG Mulgathing 41.38 258 P P 16 23 07.0 +0.6
AS01 Alice Springs 43.37 267 P P 16 23 22.6 -0.1
AS31 Alice Springs 43.41 267 P P 16 23 22.6 -0.5
ASAR Alice Springs 43.41 267 P P 16 23 22.4 -0.7
comp=Z,4.9nm,0.4s,baz=105,slow=7.2,SNR=174
ASAR ScP ScP 16 29 01.6 +1.7
comp=Z,0.5nm,0.6s,baz=120,slow=4.3,SNR=4.8
ASAR LR LR 16 41 22.2
comp=Z,938nm,18.0s,baz=112,slow=36
comp=Z,4.9nm,0.4s
WR0 Warramunga Arr 44.24 272 P P 16 23 29.1 -0.6
WR0 IAmb IAmb 16 23 31.8
comp=Z,16nm,0.9s
WB2 Warramunga Arr 44.41 272 P P 16 23 30.6 -0.5
WRAB Tennant Creek 44.41 272 P P 16 23 30.3 -0.9
WRAB IAmb IAmb 16 23 33.2
comp=Z,32nm,1.1s
WRAB Tennant Creek 44.41 272 P P 16 23 30.8 -0.3
WRAB Tennant Creek 44.41 272 P P 16 23 30.6 -0.6
WRA Warramunga Arr 44.42 272 P P 16 23 30.6 -0.5
comp=Z,13nm,0.4s,baz=111,slow=8.0,SNR=200
WRA S S 16 30 01.7 -2.1
comp=Z,0.3nm,0.8s,baz=144,slow=23,SNR=2.4
WRA LR LR 16 41 06.2
comp=Z,552nm,18.7s,baz=104,slow=35
comp=Z,13nm,0.4s
WRA Warramunga Arr 44.42 272 P P 16 23 30.2 -0.9
WB0 Warramunga Arr 44.45 272 P P 16 23 30.9 -0.5
FORT Forrest 46.29 255 P P 16 23 46.2 +0.4
baz=45,SNR=14
FORT Forrest 46.29 255 P P 16 23 44.8 -1.0
FORT Forrest 46.29 255 P P 16 23 46.4 +0.6
WRKA Warakurna 47.76 263 P P 16 23 56.4 -1.1
baz=47,SNR=19
WRKA Warakurna 47.76 263 P P 16 23 56.6 -0.9
SBA Scott Base 47.81 184 P P 16 23 59.8 +2.7
VNDA Vanda 47.88 186 P P 16 24 00.0 +2.4
comp=Z,0.6nm,0.8s,baz=22,slow=6.7,SNR=5.8
VNDA LR LR 16 39 28.0
comp=Z,105nm,21.1s,baz=4.5,slow=30
comp=Z,0.6nm,0.8s
VNDA Vanda 47.88 186 P P 16 23 58.1 +0.5
VNDA Vanda 47.88 186 P P 16 24 00.3 +2.7
KDU Kakadu 49.27 280 P P 16 24 09.3 +0.2
baz=49,SNR=6.1
KDU Kakadu 49.27 280 P P 16 24 09.3 +0.2
MTN Manton Dam 50.33 279 P P 16 24 17.1 -0.1
baz=50,SNR=8.5
MTN Manton Dam 50.33 279 P P 16 24 16.1 -1.0
MTN IAmb IAmb 16 25 30.8
comp=Z,38nm,1.4s
MTN Manton Dam 50.33 279 P P 16 24 17.3 +0.1
KNRA Kununurra 51.04 274 P P 16 24 22.1 -0.4
baz=50,SNR=25
KNRA Kununurra 51.04 274 P P 16 24 22.1 -0.4
KNRA Kununurra 51.04 274 P P 16 24 22.3 -0.2
CCD Concordia, Ant 52.80 196 P P 16 24 35.8 +0.5
NWAO Narrogin (SRO) 54.60 249 LR LR 16 46 17.8
comp=Z,359nm,20.0s,baz=279,slow=34
FAKI Fak Fak 54.72 290 P P 16 24 48.9 -0.8
FAKI IAmb IAmb 16 25 16.3
comp=Z,21nm,1.1s
FAKI Fak Fak 54.72 290 P P 16 24 49.1 -0.6
CASY Casey 55.07 208 P P 16 24 51.9 +0.4
PSA00 Pilbara Seismi 56.25 263 P P 16 25 00.2 -0.5
MBWA Marble Bar 56.51 264 P P 16 25 01.9 -0.6
MBWA IAmb IAmb 16 25 36.4
comp=Z,31nm,1.4s
SIJI Sorong 56.72 291 LR LR 16 49 04.5
comp=Z,175nm,20.2s,baz=110,slow=36
SIJI Sorong 56.72 291 P P 16 25 03.8 -0.2
comp=Z,8.9nm,1.0s
MORW Morawa 56.76 253 P P 16 25 00.4 -3.8
baz=56,SNR=3.4
MORW Morawa 56.76 253 P P 16 25 02.4 -1.9
MORW IAmb IAmb 16 26 34.8
comp=Z,41nm,1.5s
MORW Morawa 56.76 253 P P 16 25 03.2 -1.0
GUMO Guam 56.88 315 LR LR 16 47 28.2
comp=Z,151nm,19.4s,baz=118,slow=34
BATI Baumata 57.99 277 LR LR 16 50 21.5
comp=Z,1µm,19.3s,baz=148,slow=36
RPN Rapa Nui 59.07 105 LR LR 16 44 35.1
comp=Z,262nm,20.4s,baz=344,slow=30
QSPA South Pole Qui 59.46 180 P P 16 25 25.2 +2.5
comp=Z,6.3nm,1.1s,baz=341,slow=1.3,SNR=11
QSPA LR LR 16 47 00.6
comp=Z,166nm,21.5s,baz=36,slow=32
comp=Z,6.3nm,1.1s
QSPA South Pole Qui 59.46 180 P P 16 25 24.2 +1.5
QSPA South Pole Qui 59.46 180 P P 16 25 24.4 +1.7
KAPI Kappang 63.96 280 LR LR 16 54 28.6
comp=Z,279nm,18.4s,baz=118,slow=37
DAV Davao City (W) 66.01 295 LR LR 16 54 55.0
comp=Z,48nm,18.6s,baz=132,slow=36
JCJ Chichijima 69.07 322 LR LR 16 50 41.5
comp=Z,194nm,21.6s,baz=154,slow=31
BELA Belgrano 2 69.50 172 P P 16 26 27.9 0.0
BELA IAmb IAmb 16 26 58.1
comp=Z,16nm,1.5s
PMSA Palmer Station 71.91 156 LR LR 16 50 09.2
comp=Z,203nm,21.9s,baz=291,slow=29
MAW Mawson 72.19 201 P P 16 26 44.8 +0.4
comp=Z,3.9nm,1.0s,baz=129,slow=11,SNR=4.3
MAW LR LR 16 57 23.9
comp=Z,238nm,20.3s,baz=93,slow=35
comp=Z,3.9nm,1.0s
MAW Mawson 72.19 201 P P 16 26 44.0 -0.4
LEM Lembang 73.44 272 LR LR 17 01 07.5
comp=Z,286nm,18.8s,baz=141,slow=37
JHJ Hachijo jima 2 75.12 324 LR LR 16 57 04.6
comp=Z,63nm,19.2s,baz=295,slow=33
TROLL Troll, Antarti 77.63 180 P P 16 27 17.5 +1.6
SNAA Sanae 77.90 178 P P 16 27 18.5 +1.2
SNAA Sanae 77.90 178 LR LR 17 00 13.9
comp=Z,121nm,19.0s,baz=192,slow=34
SNAA Sanae 77.90 178 P P 16 27 18.1 +0.7
SNAA IAmb IAmb 16 27 35.0
comp=Z,11nm,1.2s

VNA3 Neumayer Olymp 78.04 176 P P 16 27 19.0 +0.9
VNA2 Neumayer--Watz 78.48 177 P P 16 27 22.0 +1.5
baz=179,slow=5.0
MJAR Matsushiro Arr 78.62 325 LR LR 16 59 51.1
comp=Z,49nm,18.5s,baz=154,slow=34
VNA1 Neumayer--Stat 78.70 176 P P 16 27 23.2 +1.5
H03S2 Juan Fernandez 80.07 123 T T 17 56 50.3
baz=238,slow=74,SNR=29
H03S1 Juan Fernandez 80.08 123 T T 17 56 51.5
baz=238,slow=74,SNR=35
H03S3 Juan Fernandez 80.08 123 T T 17 56 50.4
baz=238,slow=74,SNR=30
H03N3 Juan Fernandez 80.26 123 T T 17 57 02.8
baz=242,slow=72,SNR=8.5
H03N2 Juan Fernandez 80.26 123 T T 17 57 02.8
baz=242,slow=72,SNR=6.7
H03N1 Juan Fernandez 80.28 123 T T 17 56 58.1
baz=242,slow=72,SNR=11
PLCA Paso Flores 82.11 133 P P 16 27 43.5 +2.8
comp=Z,1.6nm,0.9s,baz=293,slow=13,SNR=2.1
PLCA LR LR 16 55 43.9
comp=Z,219nm,21.2s,baz=209,slow=29
comp=Z,1.6nm,0.9s
SHEM Shemya Is, Ala 83.34 355 LR LR 16 59 36.3
comp=Z,241nm,18.9s,baz=276,slow=32
LPIG La Paz 84.40 58 LR LR 17 00 23.8
comp=Z,218nm,18.1s,baz=218,slow=32
KSRS Korea Array 84.74 319 LR LR 17 05 07.5
comp=Z,49nm,18.1s,baz=150,slow=35
PSI Prapat 85.77 276 LR LR 17 06 32.1
comp=Z,209nm,21.6s,baz=140,slow=36
PETK Petropavlovsk- 86.13 345 P P 16 28 00.5 +0.1
comp=Z,4.4nm,0.6s,baz=120,slow=8.2,SNR=16
PETK LR LR 17 00 08.6
comp=Z,122nm,21.7s,baz=154,slow=31
comp=Z,4.4nm,0.6s
PFO Pinyon Flats O 86.14 47 LR LR 17 04 29.4
comp=Z,98nm,18.7s,baz=225,slow=34
USRK Ussuriysk Ar. 87.54 326 P P 16 28 06.3 -1.2
comp=Z,1.5nm,0.8s,baz=158,slow=1.6,SNR=3.8
comp=Z,1.5nm,0.8s
YBH Yreka Blue Hor 88.03 38 LR LR 16 58 36.7
comp=Z,93nm,21.7s,baz=232,slow=30
NVAR Mina Array Bea 88.21 43 P P 16 28 10.7 -0.5
comp=Z,1.2nm,0.9s,baz=221,slow=8.0,SNR=6.2
NVAR LR LR 17 01 35.3
comp=Z,185nm,19.3s,baz=250,slow=31
comp=Z,1.2nm,0.9s
CN2 Changchun 90.53 323 *e*P P 16 28 20.0 -1.6
CN2 SS SS 16 45 14.4 -2.2
CN2 LR LR
comp=Z,150nm,18.0s
CN2 LR LR
comp=Z,160nm,18.0s
CN2 LR LR
comp=Z,140nm,20.0s
KLR Kul'dur 91.41 330 LR LR 17 04 38.1
comp=Z,123nm,20.7s,baz=107,slow=32
ELK Elko 91.51 42 LR LR 17 03 48.2
comp=Z,186nm,19.4s,baz=244,slow=32
TXAR Lajitas Array 92.26 57 P P 16 28 32.2 +2.1
comp=Z,1.4nm,1.1s,baz=210,slow=7.1,SNR=4.5
TXAR LR LR 17 03 23.8
comp=Z,126nm,19.2s,baz=230,slow=31
comp=Z,1.4nm,1.1s
CMIG Matias Romero 92.53 72 LR LR 17 01 55.8
comp=Z,48nm,19.7s,baz=202,slow=30
NNA Nana 93.05 106 LR LR 17 00 54.7
comp=Z,148nm,21.9s,baz=204,slow=29
BBB Bella Bella 93.17 28 LR LR 17 01 43.2
comp=Z,118nm,21.9s,baz=241,slow=30
ANMO Albuquerque 93.49 51 LR LR 17 04 35.9
comp=Z,129nm,18.8s,baz=242,slow=32
LVC Limon Verde 93.54 119 LR LR 17 02 07.4
comp=Z,164nm,20.9s,baz=223,slow=30
MA2 Magadan 93.61 345 LR LR 17 05 28.2
comp=Z,192nm,21.9s,baz=170,slow=32
ATAH Atahualpa 94.29 101 LR LR 17 01 14.5
comp=Z,103nm,21.7s,baz=230,slow=29
NEW Newport 95.39 36 LR LR 17 05 41.2
comp=Z,140nm,19.1s,baz=224,slow=32
PZH PanZhiHua 95.70 297 P P 16 28 47.1 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,220nm,5.5s
PDAR Pinedale Array 96.10 43 LR LR 17 06 28.9
comp=Z,108nm,19.4s,baz=254,slow=32
CD2 Chengdu 96.48 302 *e*P P 16 28 49.5 +0.1
HHC Hu-ho-hao-te 96.63 314 *e*P P 16 28 50.3 +0.4
DLBC Dease Lake 97.22 23 LR LR 17 07 35.2
comp=Z,97nm,18.9s,baz=247,slow=32
TNCH TengChong 97.44 295 *e*P Pdif 16 28 55.2 +1.0
TNCH pP pP 16 28 59.4 -4.6
TNCH pmax pmax
comp=Z,6.0nm,0.4s
JTS Las Juntas de 97.45 82 LR LR 17 02 41.2
comp=Z,112nm,21.8s,baz=316,slow=29
LPAZ La Paz 97.76 114 LR LR 17 04 43.0
comp=Z,71nm,21.3s,baz=232,slow=30
CPUP Villa Florida 99.59 128 LR LR 17 06 04.6
comp=Z,114nm,21.4s,baz=228,slow=30
WMQ Urumqi 113.62 308 *e*PKP PKiKP 16 33 59.2 +1.2
MK31 Makanchi Array 118.17 310 PKPdf PKPdf 16 34 05.7 -1.0
MKAR Makanchi Array 118.17 310 PKP PKPdf 16 34 06.3 -0.3
comp=Z,0.8nm,0.5s,baz=215,slow=1.2,SNR=9.3
MKAR Makanchi Array 118.17 310 PKPdf PKPdf 16 34 05.9 -0.8
ZALV Zalesovo Beam 118.42 318 PKP PKiKP 16 34 06.7 -0.2
comp=Z,0.8nm,0.8s,baz=180,slow=1.4,SNR=1.9
NRN Naryn 121.13 303 PKPdf PKPdf 16 34 12.0 -0.9
BOOM Boomskoye usch 121.44 304 PKPdf PKPdf 16 34 13.0 -0.3
KURK Kurchatov 121.45 314 PKPdf PKPdf 16 34 11.5 -1.2
GAR Garm 124.75 298 PKPdf PKiKP 16 34 20.2 +0.2
KK31 Karatay Array 125.47 303 PKPdf PKPdf 16 34 20.5 -0.3
KKAR Karatay Array 125.47 303 PKPdf PKPdf 16 34 20.6 -0.2
KKAR Karatay Array 125.47 303 PKPdf PKPdf 16 34 20.6 -0.2
CHGR Chuyangaron 125.55 298 PKPdf PKPdf 16 34 20.0 -1.2
BRVK Borovoye 126.87 316 PKPdf PKiKP 16 34 23.1 -0.4
GEYT Alibeck 133.95 295 PKP PKPdf 16 34 37.2 +0.1
comp=Z,2.2nm,0.6s,baz=211,slow=1.7,SNR=6.2
ARCES ARCESS Array B 138.90 348 PKhKP PKPpre 16 34 36.8
comp=Z,1.3nm,0.7s,baz=62,slow=2.9,SNR=5.3
ARCES PKP PKPdf 16 34 45.0 -0.3
comp=Z,2.0nm,0.6s,baz=64,slow=3.3,SNR=8.3
FAUS Fauske 142.43 352 *e*PKPdf PKPdf 16 34 48.1 -3.5
FIA1 FINESS Array S 145.48 340 PKPbc PKPdf 16 34 56.6 -0.5
FINES FINESS Array B 145.48 340 PKPbc PKPab 16 34 57.2 -0.2
comp=Z,31nm,0.5s,baz=62,slow=3.2,SNR=206
FINES FINESS Array B 145.48 340 PKPbc PKPdf 16 34 56.6 -0.5
KBZ Khabaz 145.51 304 PKPbc PKPab 16 34 58.2 +0.1
comp=Z,4.4nm,0.8s,baz=220,slow=3.3,SNR=5.9
OBN Obninsk 145.55 325 PKPdf 16 34 57.3 -0.1
NSS Namsos 145.56 353 *e*PKPab PKPab 16 34 57.5 -0.1
MEF Metsahovi 146.96 340 *e*P PKPbc 16 35 01.9 +0.2
RAF Rauma 147.02 343 *e*P PKPab 16 35 02.4 -1.0
AAL Aland 148.19 343 *e*P PKPbc 16 35 05.2 +0.2
DOMB Dombas 148.29 354 *e*pPKPdf PKPbc 16 35 05.2 -0.1
MTSE Matsula 148.35 339 *e*P PKiKP 16 35 06.1 -0.9
NB2 NORSAR Subarra 149.04 352 PKP PKPbc 16 35 07.6 +0.3
comp=Z,3.6nm,0.6s,baz=13,slow=4.3
NOA NORSAR Array B 149.04 352 PKPbc PKiKP 16 35 07.8 -0.7
comp=Z,0.9nm,0.6s,baz=62,slow=1.9,SNR=3.2
NC602 NORSAR Array S 149.29 351 PKPbc PKPbc 16 35 07.3 -0.5
NC602 NORSAR Array S 149.29 351 *e*PKPbc PKPbc 16 35 07.8 -0.1
SKAR Skarslia 149.70 354 *e*PKPbc PKiKP 16 35 09.6 -0.3
VIKU Vikbolandet 150.47 345 *e*P PKPbc 16 35 10.8 +0.1
PABE Paberze 150.81 335 *e*P PKiKP 16 35 12.3 0.0
AKASG Malin Array Be 151.69 323 PKPbc PKiKP 16 35 13.9 -0.3
comp=Z,11nm,0.7s,baz=48,slow=2.8,SNR=26
AKASG Malin Array Be 151.69 323 PKPbc PKPbc 16 35 13.2 -0.7
AKBB Malin Array Si 151.69 323 PKPbc 16 35 13.3 -0.5
HOMB Homborsund 152.06 353 *e*PKPbc PKiKP 16 35 15.2 +0.5
SNART Snartemo 152.11 355 *e*PKPbc PKiKP 16 35 15.3 +0.4
BRTR Keskin Array B 152.99 298 PKPbc PKiKP 16 35 17.4 -0.2
comp=Z,2.3nm,0.6s,baz=128,slow=5.4,SNR=7.0
GERES GERESS Array B 159.88 338 PKPab PKPab 16 35 58.5 +0.5
comp=Z,0.8nm,0.8s,baz=31,slow=3.1,SNR=5.3
TORD Torodi Ar. Bea 162.57 178 PKP PKPdf 16 35 24.8 +2.4
comp=Z,1.7nm,1.1s,baz=186,slow=1.5,SNR=4.0
TORD PKPab PKPab 16 36 11.7 +1.4
comp=Z,2.1nm,1.0s,baz=189,slow=2.8,SNR=5.1

IDC 02 16:52:55.4±23.0**, 14°.25S×165°.75E, h0**km**, mb3.7**/3**, mbtmp3.7**/4**, ML2.6**/1**, Error ellipse: s-maj=405.8km s-min=49.5km az=51.0, Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
DZM Mont Dzumac 7.81 175 Pn Pn 16 54 50.5 +0.1
0.1nm,0.3s,baz=292,slow=20,SNR=2.0
DZM Sn Sn 16 56 14.7 -4.9
0.1nm,0.3s,baz=44,slow=20,SNR=1.3
3.0nm,0.9s
STKA Stephens Creek 28.21 227 P P 16 58 49.3 -0.7
1.2nm,0.5s,baz=40,slow=9.0,SNR=6.0
1.2nm,0.5s
WRA Warramunga Arr 30.52 255 P P 16 59 10.7 0.0
0.7nm,1.1s,baz=85,slow=9.2,SNR=2.3
0.7nm,1.1s
ASAR Alice Springs 31.48 248 P P 16 59 19.6 +0.5
0.3nm,0.4s,baz=74,slow=9.6,SNR=13
0.3nm,0.4s

---

*ROM **02** 16:56:51.3±0.0, 42°.891N±0°.002×13°.150E±0°.003, h9km, ML2.9/7, Error ellipse: s-maj=0.2km s-min=0.0km az=73.0*
*PRU **02** 16:56:54.9±0.0, 42°.99N×14°.30E, h10km*
ISC 02 16:56:51.2±0.8**, 42°.89N**±0°.01×**13°.14E**±0°.02**, h11**km±4km**, n59, σ0s.82**/104**, 24C-6D, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
T1245 Castelsantange 0.05 130 ⇓P Pg 16 56 53.4 -0.1
T1245 S Sg 16 56 54.6 -0.6
NRCA Norcia 0.06 198 ⇑P Pg 16 56 53.8 +0.2
NRCA S Sg 16 56 55.2 +0.1
T1216 Preci, Frazion 0.09 272 ⇑P Pg 16 56 54.4 +0.6
T1216 S Sg 16 56 56.3 +0.6
FEMA Monte Fema 0.10 319 P Pg 16 56 54.4 +0.4
FEMA S Sg 16 56 56.3 +0.2
T1256 Bolognola (MC) 0.14 28 ⇑P Pg 16 56 54.7 +0.1
T1256 S Sg 16 56 57.0 0.0
MMO1 Montemonaco 0.14 85 ⇑P Pg 16 56 54.8 +0.2
MMO1 S Sg 16 56 57.0 +0.1
FDMO Fiordimonte 0.15 346 ⇑P Pg 16 56 55.1 +0.3
FDMO S Sg 16 56 57.7 +0.5
AM05 Amandola Campo 0.18 60 ⇑P Pg 16 56 55.7 +0.5
AM05 S Sg 16 56 58.5 +0.5
CESI CESI - Serrava 0.21 304 ⇓P Pb 16 56 56.5 -0.7
CESI S Sg 16 56 59.8 +1.1
T1215 Vallo di Nera, 0.22 247 ⇑P Pb 16 56 56.7 -0.5
T1215 S Sg 16 57 00.6 +1.7
T1215 AML AML
comp=E,6710µm,0.5s
T1215 AML AML
comp=N,5465µm,0.3s
T1215 AML AML
comp=E,6705µm,0.5s
T1215 AML AML
comp=N,5085µm,0.5s
T1215 AML AML
comp=E,6365µm,0.5s
T1215 AML AML
comp=N,5465µm,0.3s
T1215 AML AML
comp=N,5080µm,0.6s
T1241 Roccafluvione, 0.22 98 ⇑P Pg 16 56 56.4 +0.5
T1241 S Sg 16 56 59.9 +1.0
GUMA Gualdo di Mace 0.23 40 ⇑P Pb 16 56 56.7 -0.7
GUMA S Sg 16 57 00.7 +1.4
T1217 Poggiodomo (PG 0.23 221 ⇑P Pb 16 56 57.0 -0.5
T1217 S Sg 16 57 01.2 +1.9
T1201 Domo (RI) 0.24 160 P Pb 16 56 57.4 -0.4
T1201 S Sg 16 57 01.8 +2.1
T1204 Amatrice, Fraz 0.25 148 P Pb 16 56 57.1 -0.8
T1204 S Sg 16 57 01.5 +1.6
T1204 AML AML
comp=E,4870µm,0.8s
T1204 AML AML
comp=N,3735µm,1.0s
T1204 AML AML
comp=N,3740µm,1.0s
T1204 AML AML
comp=E,4865µm,0.8s
LNSS Leonessa 0.29 194 ⇑P Pb 16 56 58.0 -0.6
LNSS S Sb 16 57 02.9 -0.6
LNSS AML AML
comp=E,3250µm,0.7s
LNSS AML AML
comp=N,15500µm,0.4s
SEF1 Sefro 0.29 332 P Pb 16 56 57.8 -0.8
SEF1 S Sb 16 57 02.6 -0.9
SMA1 SAN MARTINO 0.29 150 P Pg 16 56 57.8 +0.5
SMA1 S Sb 16 57 02.6 -1.0
T1243 Rocca Santa Ma 0.30 130 P Pg 16 56 57.8 +0.5
T1243 S Sb 16 57 02.6 -1.1
MDAR Monte D'Aria 0.30 1 P Pg 16 56 57.8 +0.4
MDAR S Sb 16 57 02.9 -1.0
PIO1 Pioraco 0.31 339 P Pb 16 56 58.4 -0.6
PIO1 S Sb 16 57 03.2 -0.8
FIU1 Fiuminata 0.34 333 P Pb 16 56 58.6 -0.7
FIU1 S Sb 16 57 04.2 -0.5
SSM1 San Severino M 0.34 5 P Pg 16 56 58.6 +0.5
SSM1 S Sb 16 57 04.1 -0.8
MNTP Montappone 0.35 44 ⇑P Pb 16 56 59.2 -0.3
MNTP S Sb 16 57 05.2 +0.1
GAG1 Gagliole 0.35 352 P Pb 16 56 59.0 -0.7
GAG1 S Sb 16 57 04.8 -0.4
RM33 Pellescritta (0.38 172 ⇑P Pb 16 56 59.5 -0.7
RM33 S Sb 16 57 05.7 -0.4
RM33 AML AML
comp=E,2300µm,0.8s
RM33 AML AML
comp=E,2305µm,0.8s
RM33 AML AML
comp=N,3975µm,0.3s
RM33 AML AML
comp=N,3950µm,0.3s
RM33 AML AML
comp=N,3980µm,0.3s
RM33 AML AML
comp=E,2300µm,0.8s
RM33 AML AML
comp=E,2300µm,0.8s
ASSB Assisi San Ben 0.39 294 P Pb 16 56 59.5 -0.6
ASSB S Sb 16 57 05.5 -0.7
SNTG Esanatoglia 0.40 339 ⇑P Pg 16 56 59.5 +0.4
SNTG S Sb 16 57 05.8 -0.7
T1246 Crognaleto (TE 0.40 139 P Pg 16 56 59.6 +0.4
T1246 S Sb 16 57 05.6 -1.1
CAMP Campotosto 0.40 150 ⇑P Pg 16 56 59.7 +0.4
CAMP S Sb 16 57 06.1 -0.6
CAMP AML AML
comp=E,1450µm,0.2s
CAMP AML AML
comp=N,1160µm,0.2s
OFFI Offida 0.41 83 ⇑P Pb 16 57 00.6 +0.1
T1211 Morro Reatino 0.41 211 ⇑P Pb 16 57 00.1 -0.6
T1211 S Sb 16 57 06.9 0.0
ARRO Arrone 0.41 222 ⇑P Pb 16 57 00.2 -0.4
ARRO S Sb 16 57 07.0 +0.1
TERO Teramo 0.43 127 P Pg 16 57 00.2 +0.4
TERO S Sb 16 57 07.0 -0.6
TERO AML AML
comp=E,1700µm,0.5s
TERO AML AML
comp=E,1695µm,0.5s
TERO AML AML
comp=E,1785µm,0.5s
TERO AML AML
comp=N,2080µm,0.6s
TERO AML AML
comp=N,1995µm,0.6s
EL6 Elcito 0.44 357 ⇑P Pg 16 57 00.3 +0.4
EL6 S Sb 16 57 07.5 -0.4
TRE1 Treia 0.44 17 P Pb 16 57 00.8 -0.3
T1247 Pizzolo (AQ) 0.46 165 ⇑P Pg 16 57 00.8 +0.5
T1247 S Sb 16 57 08.3 0.0
T1247 AML AML
comp=E,2310µm,0.9s
T1247 AML AML
comp=N,3320µm,0.3s
ATCC AVT- Casa Cast 0.47 309 ⇓P Pb 16 57 01.2 -0.5
ATCC S Sb 16 57 08.8 +0.2
CING Cingoli 0.49 5 ⇑P Pg 16 57 01.1 +0.3
CING S Sb 16 57 08.9 -0.3
FOSV Fossato di Vic 0.49 326 ⇓P Pb 16 57 01.4 -0.6
FOSV S Sb 16 57 09.2 -0.1

CESX	**Cesi**	**0.50**	**236**	⇑P	**Pb**	**16 57 01.5**	**-0.5**
CESX				S	**Sb**	**16 57 09.2**	**-0.1**
GIGS	**Gran Sasso**	**0.54**	**144**	P	**Pg**	**16 57 01.9**	**+0.1**
GIGS				S	**Sb**	**16 57 09.9**	**-0.7**
MMUR	**Monte Murano**	**0.56**	**350**	P	**Pb**	**16 57 02.8**	**-0.4**
MMUR				S	**Sb**	**16 57 11.6**	**+0.3**
MMUR	comp=E,3925μm,0.3s			AML	AML		
MMUR	comp=N,3430μm,0.3s			AML	AML		
AQU	**L'Aquila**	**0.57**	**160**	P	**Pg**	**16 57 02.6**	**+0.3**
MURB	**Monte Urbino**	**0.59**	**310**	P	**Pb**	**16 57 03.2**	**-0.4**
SSFR	**Montelago di S**	**0.61**	**335**	P	**Pb**	**16 57 03.5**	**-0.5**
FIAM	**Fiamignano**	**0.62**	**181**	⇑P	**Pg**	**16 57 03.5**	**+0.2**
FIAM				S	**Sb**	**16 57 12.5**	**-0.5**
ATFO	**Monte Foce - G**	**0.63**	**319**	⇓P	**Pb**	**16 57 03.9**	**-0.5**
ATFO				S	**Sb**	**16 57 13.3**	**-0.1**
VCEL	**Villa Celiera**	**0.71**	**133**	P	**Pb**	**16 57 05.6**	**-0.3**
SRES	**S.Oreste - Sor**	**0.80**	**216**	P	**Pg**	**16 57 06.8**	**+0.1**
SRES				S	**Sb**	**16 57 18.3**	**+0.3**
SRES	comp=E,726μm,0.4s			AML	AML		
SRES	comp=N,786μm,0.3s			AML	AML		
T0110	**Collepietro**	**0.81**	**144**	P	**Pg**	**16 57 06.7**	**-0.2**
MODR	**Mondragone**	**1.83**	**162**	⇑P	**Pg**	**16 57 27.7**	**+1.4**
SGRT	**San Giovanni R**	**2.24**	**119**	⇓P	**Pb**	**16 57 31.5**	**-0.3**
ABTA	**Abfaltersbach**	**3.88**	**354**	*i* Pn	**Pn**	**16 57 53.1**	**+2.1**
	comp=N,5.3nm,0.3s						
RORO	**Rocca Rossa**	**3.89**	**290**	P	**Pn**	**16 57 48.9**	**-2.0**
TDS	**Terranova Siba**	**4.03**	**142**	P	**Pn**	**16 57 50.3**	**-2.6**
FETA	**Feichten**	**4.47**	**338**	*e*Pn	**Pn**	**16 58 00.3**	**+1.1**
	comp=N,1.7nm,0.3s						
MOTA	**Moosalm**	**4.68**	**343**	*i* Pn	**Pn**	**16 58 04.0**	**+1.9**
	comp=N,1.7nm,0.3s						
KHC	**Kasperske Hory**	**6.25**	**3**	*e*PN	**Pn**	**16 58 24.9**	**+1.4**
KHC				*e*SN	**Sn**	**16 59 33.3**	**-1.6**

*PRU **02** 17:08:30.7±0.0, 43.°01N×14.°17E, h10km*
*ROM **02** 17:08:31.1±0.3, 43.°16N±0.°01×14.°10E±0.°02, h7km±1km, ML3.2/32, Error ellipse: s-maj=1.8km s-min=0.3km az=221.0*

ISC 02 17:08:31.4±1.0, 43.°11N±0.°02×14.°11E±0.°02, h11km±8km, n89, σ1s04/101, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CADA	**Capodarco di F**	**0.27**	**289**	P	**Pg**	**17 08 36.7**	**-0.2**
CADA				S	**Sg**	**17 08 41.3**	**+0.7**
TRTR	**Tortoreto Alta**	**0.33**	**206**	P	**Pb**	**17 08 39.8**	**+0.5**
OFFI	**Offida**	**0.36**	**241**	P	**Pb**	**17 08 38.8**	**-0.9**
CIMA	**Civitanova Mar**	**0.38**	**302**	P	**Pg**	**17 08 39.1**	**+0.2**
CIMA				S	**Sb**	**17 08 45.8**	**-0.1**
PP3	**Marolino**	**0.46**	**307**	P	**Pb**	**17 08 42.1**	**+0.7**
MNTP	**Montappone**	**0.47**	**274**	P	**Pg**	**17 08 40.5**	**-0.1**
MNTP				S	**Sb**	**17 08 48.4**	**-0.2**
GUMA	**Gualdo di Mace**	**0.57**	**266**	P	**Pg**	**17 08 42.2**	**-0.3**
GUMA				S	**Sb**	**17 08 51.7**	**+0.2**
AOI	**Ancona**	**0.58**	**320**	P	**Pg**	**17 08 42.5**	**-0.1**
TERO	**Teramo**	**0.61**	**218**	P	**Pb**	**17 08 43.2**	**-0.9**
T1243	**Rocca Santa Ma**	**0.64**	**230**	P	**Pg**	**17 08 43.1**	**-0.6**
CSP1	**Cessapalombo**	**0.66**	**269**	P	**Pg**	**17 08 43.4**	**-0.8**
CSP1				S	**Sg**	**17 08 53.5**	**+0.6**
T1244	**Arquata del Tr**	**0.69**	**240**	P	**Pg**	**17 08 44.0**	**-0.7**
T1244				S	**Sb**	**17 08 54.6**	**-0.4**
CING	**Cingoli**	**0.72**	**292**	P	**Pg**	**17 08 44.5**	**-0.8**
T1245	**Castelsantange**	**0.72**	**250**	AML	AML		
	comp=E,3180μm,0.5s						
T1245	comp=E,3175μm,0.5s			AML	AML		
T1245	comp=E,3240μm,0.3s			AML	AML		
T1245	comp=N,5560μm,0.7s			AML	AML		
T1245	comp=N,5565μm,0.7s			AML	AML		
T1245	comp=N,5150μm,0.8s			AML	AML		
T1245	comp=N,5150μm,1.2s			AML	AML		
T1245	comp=E,3235μm,0.3s			AML	AML		
	comp=N,5560μm,1.3s						
SMA1	**SAN MARTINO**	**0.74**	**230**	AML	AML		
	comp=E,1690μm,0.3s						
SMA1	comp=N,2175μm,0.6s			AML	AML		
SMA1	comp=N,2180μm,0.6s			AML	AML		
SMA1	comp=N,2180μm,1.4s			AML	AML		
FDMO	**Fiordimonte**	**0.75**	**265**	AML	AML		
	comp=N,1990μm,0.2s						
FDMO	comp=E,5895μm,1.5s			AML	AML		
FDMO	comp=E,5895μm,0.5s			AML	AML		
GIGS	**Gran Sasso**	**0.77**	**211**	P	**Pb**	**17 08 46.6**	**-0.2**
CAMP	**Campotosto**	**0.77**	**222**	P	**Pg**	**17 08 45.5**	**-0.8**
EL6	**Elcito**	**0.77**	**287**	P	**Pg**	**17 08 45.3**	**-1.0**
NRCA	**Norcia**	**0.78**	**250**	AML	AML		
	comp=E,2385μm,0.2s						
NRCA	comp=N,1700μm,0.6s			AML	AML		
T1216	**Preci, Frazion**	**0.83**	**255**	AML	AML		
	comp=N,2120μm,0.3s						
T1216	comp=E,2465μm,0.5s			AML	AML		
T1216	comp=N,2120μm,0.3s			AML	AML		
T1216	comp=E,2467μm,0.5s			AML	AML		
T1216	comp=E,2465μm,0.6s			AML	AML		
SNTG	**Esanatoglia**	**0.87**	**280**	P	**Pg**	**17 08 46.8**	**-1.3**
SNTG				S	**Sg**	**17 09 00.1**	**+0.6**
RM33	**Pellescritta (**	**0.89**	**228**	P	**Pn**	**17 08 50.1**	**+0.2**
RM33	comp=E,2105μm,1.2s			AML	AML		
RM33	comp=N,1790μm,0.3s			AML	AML		
RM33	comp=N,1800μm,0.3s			AML	AML		
RM33	comp=E,2060μm,0.3s			AML	AML		
RM33	comp=E,2105μm,0.8s			AML	AML		
CAFR	**Castel Frentan**	**0.90**	**169**	P	**Pn**	**17 08 49.7**	**-0.1**
T0110	**Collepietro**	**0.91**	**196**	P	**Pn**	**17 08 51.7**	**+1.5**
T0110	comp=E,1745μm,0.5s			AML	AML		
T0110	comp=N,1760μm,0.4s			AML	AML		
FAGN	**Fagnano**	**0.93**	**205**	P	**Pn**	**17 08 51.0**	**+0.7**
FAGN	comp=E,2435μm,0.7s			AML	AML		
FAGN	comp=E,2435μm,1.3s			AML	AML		
FAGN	comp=N,2290μm,0.4s			AML	AML		
ARVD	**Arcevia**	**0.94**	**295**	P	**Pg**	**17 08 48.2**	**-1.2**
ARVD	comp=E,1245μm,0.5s			AML	AML		
ARVD	comp=N,1305μm,0.8s			AML	AML		
ARVD	comp=N,1305μm,1.2s			AML	AML		
FOSV	**Fossato di Vic**	**1.00**	**281**	P	**Pg**	**17 08 47.6**	**-3.1**
FOSV				S	**Sb**	**17 09 04.7**	**+0.7**
FOSV	comp=N,1420μm,1.1s			AML	AML		
FOSV	comp=E,1605μm,1.4s			AML	AML		
FOSV	comp=N,1425μm,1.1s			AML	AML		
FOSV	comp=E,1605μm,0.6s			AML	AML		
FOSV	comp=N,1425μm,0.9s			AML	AML		
LPEL	**Lama dei Pelig**	**1.06**	**177**	P	**Pn**	**17 08 53.1**	**+0.9**
LPEL	comp=E,1059μm,0.8s			AML	AML		
LPEL	comp=E,791μm,1.2s			AML	AML		
LPEL	comp=N,791μm,0.8s			AML	AML		
ATCC	**AVT- Casa Cast**	**1.08**	**275**	P	**Pg**	**17 08 50.7**	**-1.5**
ATCC	comp=N,1820μm,0.6s			AML	AML		
ATCC	comp=N,1815μm,0.6s			AML	AML		
ATCC	comp=N,1815μm,1.4s			AML	AML		
ATCC	comp=E,1740μm,1.5s			AML	AML		
T1211	**Morro Reatino**	**1.09**	**239**	P	**Pn**	**17 08 53.2**	**+0.6**
T1211	comp=E,1210μm,1.0s			AML	AML		
T1211	comp=N,2360μm,1.2s			AML	AML		
T1211	comp=E,1243μm,1.0s			AML	AML		
T1211	comp=N,2360μm,1.2s			AML	AML		
T1211	comp=N,2365μm,1.2s			AML	AML		
T1211	comp=E,1210μm,1.0s			AML	AML		
T1211	comp=E,1215μm,1.0s			AML	AML		
FIAM	**Fiamignano**	**1.11**	**221**	P	**Pn**	**17 08 54.4**	**+1.4**
FIAM	comp=N,631μm,0.7s			AML	AML		
FIAM	comp=E,692μm,0.5s			AML	AML		
FIAM	comp=E,691μm,0.5s			AML	AML		
FIAM	comp=N,631μm,1.3s			AML	AML		
DUGI	**Dugi Otok**	**1.12**	**38**	*e*Pg	**Pn**	**17 08 53.8**	**+0.8**
DUGI				Sg	**Sn**	**17 09 10.1**	**+1.7**
MURB	**Monte Urbino**	**1.17**	**278**	P	**Pb**	**17 08 51.4**	**-2.3**
MURB				S	**Sn**	**17 09 10.5**	**+0.8**
MURB	comp=E,5875μm,0.4s			AML	AML		
MURB	comp=N,3190μm,0.3s			AML	AML		
MURB	comp=E,6420μm,0.4s			AML	AML		
MURB	comp=N,3385μm,0.3s			AML	AML		
MURB	comp=E,5870μm,0.4s			AML	AML		
MURB	comp=N,3185μm,0.3s			AML	AML		
PTQR	**Pietraquaria**	**1.21**	**206**	P	**Pn**	**17 08 55.3**	**+1.1**
PTQR	comp=E,280μm,1.3s			AML	AML		
PTQR	comp=N,323μm,0.7s			AML	AML		
PTQR	comp=E,280μm,0.7s			AML	AML		
FRES	**Fresagrandinar**	**1.21**	**160**	P	**Pn**	**17 08 54.9**	**+0.8**
FRES	comp=N,332μm,0.4s			AML	AML		
FRES	comp=E,600μm,0.6s			AML	AML		
FRES	comp=N,333μm,0.4s			AML	AML		
FRES	comp=E,600μm,1.4s			AML	AML		
ATVO	**AVT- Monte Val**	**1.27**	**283**	P	**Pn**	**17 08 54.1**	**-1.0**
ATVO	comp=E,958μm,1.3s			AML	AML		
ATVO	comp=N,820μm,0.5s			AML	AML		
VVLD	**Villa Vallelon**	**1.29**	**196**	P	**Pg**	**17 08 55.9**	**-0.1**
VVLD	comp=E,488μm,0.8s			AML	AML		
VVLD	comp=N,410μm,0.6s			AML	AML		
VVLD	comp=N,410μm,0.6s			AML	AML		
VIRC	**Vir**	**1.37**	**30**	*e*Pg	**Pg**	**17 08 57.2**	**-0.4**
VIRC				Sg	**Sg**	**17 09 15.9**	**+0.5**
TRIV	**Trivento**	**1.38**	**166**	P	**Pg**	**17 08 57.8**	**0.0**
TRIV	comp=E,358μm,0.6s			AML	AML		
TRIV	comp=E,358μm,0.6s			AML	AML		
TRIV	comp=N,370μm,0.7s			AML	AML		
TRIV	comp=N,370μm,1.3s			AML	AML		
MORI	**Morici**	**1.39**	**56**	*e*Pn	**Pg**	**17 08 57.9**	**-0.1**
MORI				Sg	**Sg**	**17 09 18.6**	**+2.6**
RNI2	**Rionero Sannit**	**1.41**	**179**	P	**Pg**	**17 08 58.1**	**-0.2**
RNI2	comp=E,620μm,0.9s			AML	AML		
RNI2	comp=N,555μm,1.0s			AML	AML		
RNI2	comp=N,544μm,1.0s			AML	AML		
RNI2	comp=E,654μm,0.9s			AML	AML		
RNI2	comp=N,544μm,1.0s			AML	AML		
	comp=N,555μm,1.0s						
POFI	**Posta Fibreno**	**1.42**	**192**	P	**Pg**	**17 08 58.3**	**-0.3**
TREM	**Isole Tremiti**	**1.43**	**133**	P	**Pg**	**17 08 59.4**	**+0.6**
CERT	**Cerreto**	**1.43**	**216**	P	**Pg**	**17 08 59.2**	**+0.5**
CERT	comp=N,546μm,0.5s			AML	AML		
CERT	comp=E,670μm,0.4s			AML	AML		
CERT	comp=N,546μm,1.5s			AML	AML		
MIDA	**Miranda**	**1.47**	**176**	P	**Pg**	**17 08 58.6**	**-1.0**
MIDA	comp=E,414μm,0.4s			AML	AML		
MIDA	comp=N,372μm,0.5s			AML	AML		
MIDA	comp=E,414μm,1.6s			AML	AML		
CERA	**Filignano**	**1.51**	**183**	P	**Pg**	**17 08 59.5**	**-0.8**
CERA	comp=N,648μm,1.4s			AML	AML		
CERA	comp=E,593μm,1.6s			AML	AML		
CERA	comp=N,674μm,1.4s			AML	AML		
CERA	comp=E,556μm,1.6s			AML	AML		
CERA	comp=E,556μm,0.4s			AML	AML		
CERA	comp=E,593μm,0.4s			AML	AML		
CERA	comp=N,674μm,0.6s			AML	AML		
CERA	comp=N,648μm,0.6s			AML	AML		
LRP	**Arpino**	**1.51**	**195**	P	**Pg**	**17 08 59.9**	**-0.4**
LRP	comp=E,264μm,0.9s			AML	AML		
LRP	comp=N,322μm,0.4s			AML	AML		
LRP	comp=E,264μm,0.9s			AML	AML		
NVLJ	**Novalja**	**1.56**	**20**	*e*Pn	**Pb**	**17 09 00.1**	**0.0**
NVLJ				Sg	**Sg**	**17 09 21.1**	**-0.4**
MELA	**Melanico ??? S**	**1.59**	**151**	P	**Pg**	**17 09 00.5**	**-1.4**
MELA	comp=N,1148μm,0.5s			AML	AML		
MELA	comp=E,1305μm,0.4s			AML	AML		
MELA	comp=E,1380μm,0.4s			AML	AML		
MELA	comp=N,1248μm,0.3s			AML	AML		
MELA	comp=E,1380μm,1.6s			AML	AML		
MELA	comp=E,1305μm,1.6s			AML	AML		
MELA	comp=N,1146μm,0.5s			AML	AML		
VAGA	**Valle Agricola**	**1.69**	**177**	P	**Pg**	**17 09 02.7**	**-1.2**
VAGA	comp=N,254μm,0.6s			AML	AML		
VAGA	comp=E,196μm,0.4s			AML	AML		
VAGA	comp=E,196μm,1.6s			AML	AML		
HVAR	**Hvar**	**1.71**	**87**	*e*Pn	**Pg**	**17 09 03.0**	**-1.2**
HVAR				Sn	**Sg**	**17 09 25.9**	**-0.5**
APRC	**Apricena**	**1.72**	**141**	P	**Pb**	**17 09 02.1**	**-0.8**
APRC	comp=E,478μm,0.3s			AML	AML		
APRC	comp=N,579μm,0.6s			AML	AML		
APRC	comp=N,580μm,0.6s			AML	AML		
APRC	comp=E,477μm,0.3s			AML	AML		
SGRT	**San Giovanni R**	**1.81**	**138**	P	**Pb**	**17 09 03.5**	**-1.1**
SGRT	comp=E,572μm,1.1s			AML	AML		
SGRT	comp=N,587μm,0.4s			AML	AML		
SGRT	comp=E,572μm,0.9s			AML	AML		
BRJN	**Brijuni**	**1.82**	**352**	*e*Pn	**Pn**	**17 09 02.1**	**-0.4**
BRJN	**Brijuni**	**1.82**	**352**	P	**Pn**	**17 09 03.1**	**+0.6**
LATB	**Latina**	**1.82**	**208**	AML	AML		
LATB	comp=N,54μm,0.7s			AML	AML		
LATB	comp=E,74μm,0.8s			AML	AML		
LATB	comp=N,54μm,1.3s			AML	AML		
LATB	comp=N,54μm,1.3s			AML	AML		
LATB	comp=E,74μm,0.8s			AML	AML		
UDBI	**Udbina**	**1.86**	**40**	*e*Pn	**Pb**	**17 09 05.2**	**-0.1**
UDBI				Sn	**Sg**	**17 09 30.1**	**-1.0**
KIJV	**Kijevo**	**1.89**	**61**	*e*Pn	**Pb**	**17 09 06.0**	**0.0**
KIJV				Sn	**Sg**	**17 09 33.2**	**+1.0**
SMRN	**Sveta Marina**	**1.93**	**1**	*e*Pn	**Pn**	**17 09 04.2**	**+0.2**
VITU	**Vitulano (BN)**	**1.96**	**168**	AML	AML		
VITU	comp=E,172μm,1.5s			AML	AML		
VITU	comp=E,172μm,0.5s			AML	AML		
VITU	comp=N,255μm,0.5s			AML	AML		
PLIT	**Plitvice**	**2.08**	**31**	*e*Pn	**Pb**	**17 09 08.6**	**-0.5**
MAKA	**Makarska**	**2.13**	**84**	*e*Pn	**Pb**	**17 09 09.6**	**-0.4**
MAKA				Sn	**Sb**	**17 09 35.6**	**-0.8**
RICI	**Ricice**	**2.24**	**79**	*e*Pn	**Pb**	**17 09 11.8**	**0.0**
RICI				Sn	**Sb**	**17 09 40.3**	**+0.7**
SNAL	**S. Angelo Dei**	**2.33**	**159**	P	**Pn**	**17 09 10.6**	**+1.0**
SNAL	comp=E,139μm,1.0s			AML	AML		
SNAL	comp=E,148μm,1.4s			AML	AML		
SNAL	comp=N,202μm,0.7s			AML	AML		
SNAL	comp=E,148μm,0.6s			AML	AML		
SRKY	**Kupres RS**	**2.42**	**66**	*e*Pn	**Pb**	**17 09 14.7**	**-0.2**
MGRS	**Mrkonjic Grad**	**2.52**	**58**	*e*Pn	**Pb**	**17 09 15.9**	**-0.7**
CEY	**Cerknica**	**2.64**	**5**	*e*Pn	**Pn**	**17 09 14.2**	**+0.3**
STON	**Ston**	**2.64**	**94**	*e*Pn	**Pn**	**17 09 11.4**	**-2.5**
BLY	**Banja Luka**	**2.76**	**52**	*e*Pn	**Pb**	**17 09 20.7**	**0.0**
A051A	**Mrakovica**	**2.77**	**46**	*e*Pn	**Pb**	**17 09 18.7**	**-2.2**
MIGL	**Miglionico**	**3.05**	**144**	P	**Pn**	**17 09 20.1**	**+0.7**
MIGL	comp=N,402μm,0.6s			AML	AML		
MIGL	comp=E,407μm,0.9s			AML	AML		
MIGL	comp=N,402μm,1.4s			AML	AML		
TREB	**Trebinje**	**3.14**	**96**	*e*Pn	**Pn**	**17 09 20.4**	**-0.3**
OBKA	**Obir**	**3.42**	**5**	*e*Pn	**Pn**	**17 09 23.6**	**-1.0**
OBKA	**Obir**	**3.42**	**5**	*i* Pn	**Pn**	**17 09 25.8**	**+1.1**
	comp=N,0.7nm,0.1s						
MYKA	**Terra Mystica**	**3.54**	**355**	*i* Pn	**Pn**	**17 09 26.9**	**+0.7**
	comp=N,0.7nm,0.1s						
ABTA	**Abfaltersbach**	**3.81**	**343**	*i* Pn	**Pn**	**17 09 30.6**	**+0.5**
	comp=N,0.3nm,0.1s						
DRME	**Dracevica, Mon**	**3.85**	**102**	*e*Pn	**Pn**	**17 09 30.4**	**-0.1**
BBLS	**Lazići**	**3.93**	**77**	*e*Pn	**Pn**	**17 09 32.6**	**+1.0**
WTTA	**Wattenberg**	**4.51**	**338**	*i* Pn	**Pn**	**17 09 40.5**	**+0.8**
	comp=N,0.5nm,0.1s						
FETA	**Feichten**	**4.59**	**330**	*i* Pn	**Pn**	**17 09 42.2**	**+1.5**
	comp=N,2.4nm,0.6s						
WATA	**Walderalm**	**4.59**	**338**	*i* Pn	**Pn**	**17 09 42.6**	**+1.8**
	comp=N,1.4nm,0.2s						
SQTA	**Sankt Quirin**	**4.60**	**334**	*i* Pn	**Pn**	**17 09 42.7**	**+1.9**
	comp=N,1.7nm,0.2s						
MOTA	**Moosalm**	**4.74**	**334**	*e*Pn	**Pn**	**17 09 44.4**	**+1.6**
	comp=N,0.4nm,0.1s						
CONA	**Conrad Observa**	**4.97**	**14**	*i* Pn	**Pn**	**17 09 47.1**	**+1.1**
	comp=N,0.3nm,0.2s						
RETA	**Reutte**	**4.97**	**333**	*e*Pn	**Pn**	**17 09 48.1**	**+2.0**
	comp=N,0.8nm,0.2s						
DAVA	**Damuels**	**5.14**	**326**	*i* Pn	**Pn**	**17 09 50.8**	**+2.5**
	comp=N,1.7nm,0.2s						
CKRC	**Cesky Krumlov**	**5.71**	**1**	*e*SN	**Sn**	**17 11 01.3**	**-0.4**
KHC	**Kasperske Hory**	**6.04**	**357**	*e*PN	**Pn**	**17 10 00.6**	**+0.1**
KHC				*e*SN	**Sn**	**17 11 08.3**	**-1.3**

*IDC **02** 17:17:03.2±14.0, 15.°10S×166.°07E, h0km, mb3.5/3, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=238.2km s-min=37.6km az=58.0*
*NOU **02** 17:17:09.4, 15.°29S×167.°60E, h101km, MLv4.0/11, Vanuatu Islands*

ISC 02 17:17:02.0±2.4, 14.°8S±0.°2×167.°0E±0.°2, h57km, n11, σ1s01/11, mb3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.12**	**159**	P	**Pn**	**17 17 49.9**	**+1.2**
RTV	**Rentapao**	**3.26**	**156**	P	**Pn**	**17 17 51.0**	**+0.3**
LIFNC	**LIFOU**	**5.95**	**178**	P	**Pn**	**17 18 28.3**	**+0.7**
KOUNC	Koumac, New Ca	6.30	204	P	Pn	17 18 38.5	+6.2
MARNC	Mare, Loyalty	6.72	172	P	**Pn**	**17 18 36.6**	**-1.5**
YATNC	Mamie plateau,	7.23	181	P	**Pn**	**17 18 44.4**	**-0.7**
DZM	**Mont Dzumac**	**7.26**	**184**	Pn	**Pn**	**17 18 46.5**	**+0.9**
	3.1nm,0.3s,baz=18,slow=20,SNR=63						
DZM				Sn	**Sn**	**17 20 06.2**	**-0.5**
	2.0nm,0.3s,baz=322,slow=22,SNR=6.6 13nm,0.3s						
NOUC	**Port Laguerre**	**7.30**	**185**	P	**Pn**	**17 18 47.5**	**+1.4**
STKA	**Stephens Creek**	**28.78**	**229**	P	**P**	**17 22 54.8**	**+0.2**
	0.5nm,0.4s,baz=74,slow=15,SNR=4.3 0.5nm,0.4s						
WRA	**Warramunga Arr**	**31.59**	**256**	P	**P**	**17 23 19.4**	**-0.2**
	0.3nm,1.0s,baz=85,slow=8.8,SNR=1.9 0.3nm,1.0s						
ASAR	**Alice Springs**	**32.44**	**249**	P	**P**	**17 23 26.5**	**-0.6**
	0.3nm,0.5s,baz=79,slow=9.1,SNR=12 0.3nm,0.5s						

MAN 02 17:20:20.6, 5.°80N×124.°45E, h38km, mb3.9, ML2.6, MS2.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.57**	**60**	⇓*e*P	Pn	17 20 33.8	+1.3
GSPH				*i* S	Sn	17 20 43.0	+2.2
CTBH	**Cotabato--PC H**	**1.43**	**352**	⇑*e*P	Pn	17 20 44.9	+0.9
CTBH				*i* S	Sn	17 21 00.2	-1.4

*NEIC **02** 17:28:58.4±1.3, 56.°7S±0.°1×28.°2W±0.°3, h104km±13km, mb4.4/18, Error ellipse: s-maj=25.3km s-min=11.8km az=57.0*
*IDC **02** 17:28:58.8±11.0, 56.°13S×26.°55W, h144km±101km, mb3.7/5, mbtmp4.1/5, MS3.3/1, Error ellipse: s-maj=40.6km s-min=21.2km az=70.0*

ISC 02 17:28:56.0±0.8, 56.°4S±0.°1×27.°6W±0.°1, h112km, n35, σ1s97/30, mb4.3/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.50**	**289**	Pn	**Pn**	**17 30 14.5**	**-0.9**
HOPE				Sn	**Sn**	**17 31 13.0**	**-4.4**
VNA3	**Neumayer Olymp**	**16.74**	**160**	P	**Pn**	**17 32 42.0**	**-1.4**
VNA2	**Neumayer--Watz**	**16.95**	**157**	P	**Pn**	**17 32 43.2**	**-2.8**
	baz=324,slow=17						
SNAA	**Sanae**	**18.52**	**155**	P	**Pn**	**17 33 04.7**	**-0.1**
SNAA	**Sanae**	**18.52**	**155**	P	**P**	**17 33 01.3**	**-2.0**
PMSA	**Palmer Station**	**19.50**	**230**	LR	LR	17 40 01.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,75nm,18.6s,baz=352,slow=33						
BELA	Belgrano 2	21.71	184	P	P	17 33 37.6	+0.1
BELA				IAmb	IAmb	17 33 43.9	
	comp=Z,5.2nm,0.9s						
TRQA	Tornquist	29.25	294	P	P	17 34 48.4	+1.1
QSPA	South Pole Qui	33.85	180	P	P	17 35 28.6	+1.2
QSPA				IAmb	IAmb	17 35 37.1	
	comp=Z,3.6nm,0.8s						
CPUP	Villa Florida	36.88	312	P	P	17 35 54.4	+0.9
	comp=Z,1.6nm,0.5s,baz=155,slow=9.7,SNR=3.1						
	comp=Z,1.6nm,0.5s						
GO02	Mina Guanaco	43.45	298	P	P	17 36 49.9	+1.7
LVC	Limon Verde	45.28	301	P	P	17 37 05.7	+2.9
LVC				IAmb	IAmb	17 37 07.8	
	comp=Z,7.0nm,0.8s						
SBA	Scott Base	45.71	184	P	P	17 37 05.7	+0.6
PB09	IPOC Station P	46.13	301		P	17 37 09.5	+0.3
PB03	IPOC Station P	46.16	300	P	P	17 37 10.4	+1.0
PB03				IAmb	IAmb	17 37 16.8	
	comp=Z,14nm,1.1s						
VNDA	Vanda	46.21	183	P	P	17 37 10.8	+1.8
	comp=Z,1.0nm,0.7s,baz=183,slow=8.0,SNR=11						
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	46.21	183	P	P	17 37 09.3	+0.4
PB07	IPOC Station P	46.50	300	P	P	17 37 14.5	+2.4
PB02	IPOC Station P	46.85	301	P	P	17 37 15.9	+1.1
PB08	IPOC Station P	47.51	302	P	P	17 37 23.2	+3.0
PB08				IAmb	IAmb	17 37 24.3	
	comp=Z,18nm,1.5s						
GO01	Chusmiza	47.94	303	P	P	17 37 25.6	+2.0
GO01				IAmb	IAmb	17 37 27.2	
	comp=Z,3.9nm,0.7s						
H10S2	ASCENSION HYDR	48.40	17	T	T	18 30 09.9	
	baz=188						
H10S3	ASCENSION HYDR	48.41	17	T	T	18 30 10.4	
	baz=32						
PB16	IPOC Station P	49.24	303	P	P	17 37 35.0	+1.3
PB16				IAmb	IAmb	17 37 59.9	
	comp=Z,16nm,1.5s						
H10N1	ASCENSION HYDR	49.52	17	T	T	18 31 09.5	
	baz=188,slow=75,SNR=8.0						
H10N3	ASCENSION HYDR	49.52	17	T	T	18 31 07.4	
	baz=188,slow=75,SNR=33						
H10N2	ASCENSION HYDR	49.54	17	T	T	18 31 07.3	
	baz=188,slow=75,SNR=19						
LPAZ	La Paz	50.40	306	P	P	17 37 44.6	+2.2
	comp=Z,3.1nm,0.5s,baz=117,slow=4.7,SNR=21						
	comp=Z,3.1nm,0.5s						
LPAZ	La Paz	50.40	306	P	P	17 37 44.8	+2.3
LPAZ				IAmb	IAmb	17 37 45.8	
	comp=Z,3.7nm,0.5s						
MCRA	Macar, Loja	66.33	300	P	P	17 39 34.4	+1.9
MCRA				IAmb	IAmb	17 39 35.4	
	comp=Z,3.5nm,0.7s						
COHC	Cochancay	67.66	302	P	P	17 39 40.9	0.0
COHC				IAmb	IAmb	17 39 45.2	
	comp=Z,1.5nm,0.8s						
TORD	Torodi Ar. Bea	73.47	30	P	P	17 40 12.6	-3.5
	comp=Z,0.5nm,0.4s,baz=193,slow=6.6,SNR=7.2						
	comp=Z,0.5nm,0.4s						
ASAR	Alice Springs	98.72	163	P	P	17 42 22.5	-0.2
	comp=Z,0.4nm,1.0s,baz=189,slow=4.0,SNR=5.0						
	comp=Z,0.4nm,1.0s						
ILAR	Eielson Array	150.18	311	PKPbc	PKPbc	17 48 31.4	-0.7
	comp=Z,0.9nm,0.6s,baz=90,slow=0.9,SNR=10						
SONM	Songino Array	150.97	87	PKPbc	PKPdf	17 48 30.9	+2.0
	comp=Z,0.3nm,0.4s,baz=243,slow=3.4,SNR=4.4						

NOU 02 17:54:12.6, 14°.75S×167°.06E, h97km, MLv4.4/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.15	160	P	Pn	17 55 00.3	0.0
RTV	Rentapao	3.30	157	P	Pn	17 55 03.6	+1.3
LIFNC	LIFOU	6.00	178	P	Pn	17 55 38.1	-0.7
MARNC	Mare, Loyalty	6.76	172	P	Pn	17 55 48.9	-0.3
YATNC	Mamie plateau,	7.27	181	P	Pn	17 55 54.8	-1.4
DZM	Mont Dzumac	7.30	184	P	Pn	17 55 57.0	+0.3
NOUC	Port Laguerre	7.35	185	P	Pn	17 55 58.0	+0.8
OUENC	Ouen Island, N	7.63	182	P	Pn	17 56 01.2	+0.1

IDC 02 17:57:31.5±1.7, 15°.29S×172°.07W, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/4, Error ellipse: s-maj=54.3km s-min=19.9km az=126.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.40	12	Pn	Pn	17 57 58.4	0.0
	25nm,0.3s,baz=213,slow=2.2,SNR=14						
AFI				Sn	Sb	17 58 17.1	+0.1
	71nm,0.3s,baz=131,slow=21,SNR=7.0						
MSVF	Nonsavu	9.79	254	LR	LR	18 02 54.2	
	comp=Z,109nm,18.9s,baz=60,slow=33						
DZM	Mont Dzumac	21.43	248	LR	LR	18 09 40.1	
	comp=Z,40nm,18.1s,baz=41,slow=34						
PPT	Papeete	21.69	99	LR	LR	18 08 05.9	
	comp=Z,33nm,20.3s,baz=276,slow=29						
H11S2	WAKE ISLAND Hy	39.55	327	T	T	18 47 47.9	
	baz=144						
H11S3	WAKE ISLAND Hy	39.56	327	T	T	18 47 40.5	
	baz=144						
H11S1	WAKE ISLAND Hy	39.56	327	T	T	18 47 48.0	
	baz=144						
H11N3	WAKE ISLAND Hy	40.47	329	T	T	18 48 49.4	
	baz=145						
H11N1	WAKE ISLAND Hy	40.48	329	T	T	18 48 43.7	
	baz=145						
H11N2	WAKE ISLAND Hy	40.49	329	T	T	18 48 41.0	
	baz=145						
WRA	Warramunga Arr	51.12	257	P	P	18 06 36.2	-0.2
	0.5nm,0.8s,baz=95,slow=6.6,SNR=5.1						
	0.5nm,0.8s						
ASAR	Alice Springs	51.37	252	P	P	18 06 38.0	-0.3
	1.9nm,0.8s,baz=85,slow=8.5,SNR=28						
ASAR				LR	LR	18 27 11.2	
	comp=Z,43nm,19.0s,baz=240,slow=35						
	1.9nm,0.8s						
TXAR	Lajitas Array	79.48	56	P	P	18 09 39.6	-0.8
	0.3nm,0.8s,baz=220,slow=5.4,SNR=2.6						
	0.3nm,0.8s						
ILAR	Eielson Array	82.09	11	P	P	18 09 55.1	+1.7
	0.3nm,0.8s,baz=210,slow=7.1,SNR=1.9						
	0.3nm,0.8s						

*NEIC **02** 18:20:40.6±0.7, 19°.423N±0°.008×155°.601W±0°.009, h7km±3km, Error ellipse: s-maj=1.3km s-min=1.2km az=54.0*

HVO 02 18:20:40.2±0.8, 19°.424N±0°.008×155°.611W±0°.009, h4km±4km, ML3.3/35, ML3.2/44(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=59.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MWH	Moku‘aweowe	0.06	12		Pg	18 20 43.7	+1.8
MLOA	Mauna Loa Obse	0.12	16		Pg	18 20 43.2	+0.6
MLOA					Sg	18 20 45.4	+1.1
MLOA	Mauna Loa Obse	0.12	16	IAML		18 20 46.0	
	comp=E,8µm,0.8s						
ALEP	Alea Permanent	0.12	345		Pg	18 20 43.3	+0.6
ALEP					Sg	18 20 45.6	+1.1
AIN	Ainahou	0.15	110		Pg	18 20 44.1	+0.8
AIN					Sg	18 20 46.1	+0.8
KHU	Kahuku	0.18	181		Pg	18 20 44.0	+0.3
KHU	Kahuku	0.18	181	IAML		18 20 49.8	
	comp=E,5µm,0.5s						
KHU				IAML		18 20 49.8	
	comp=N,5µm,0.6s						
HMH	Humu‘ula Sheep	0.21	34		Pg	18 20 45.0	+0.6
HMH					Sg	18 20 48.6	+1.3
HMH	Humu‘ula Sheep	0.21	34	IAML		18 20 49.1	
	comp=N,712nm,0.5s						
HMH				IAML		18 20 49.5	
	comp=E,2µm,0.6s						
MLH	Mauna Loa	0.22	72		Pg	18 20 45.3	+0.7
MLH	Mauna Loa	0.22	72	IAML		18 20 49.7	
	comp=E,2µm,0.5s						
MLH				IAML		18 20 50.0	
	comp=N,5µm,0.5s						
HTC	Hot Caves	0.27	133		Pg	18 20 45.7	+0.3
WRMHI	West Rim	0.29	93		Pg	18 20 46.3	+0.4
WRMHI					Sg	18 20 50.5	+0.7
CPH	Captain Cook	0.30	283		Pg	18 20 46.7	+0.8
UWE	Uwekahuna	0.30	90		Pg	18 20 46.6	+0.6
UWE					Sg	18 20 50.8	+0.8
UWE	Uwekahuna	0.30	90	IAML		18 20 54.1	
	comp=N,6µm,0.5s						
UWE				IAML		18 20 56.0	
	comp=E,6µm,0.3s						
SDHHI	Sand Hill	0.30	96		Sg	18 20 50.6	+0.6
OBL	Observatory Le	0.31	91		Pg	18 20 46.4	+0.3
OBL					Sg	18 20 50.7	+0.5
NPH	North Pit	0.31	92		Sg	18 20 50.7	+0.4
NPH	North Pit	0.31	92	Pg	Pg	18 20 45.6	-0.6
NPH	North Pit	0.31	92	IAML		18 20 51.2	
	comp=E,1µm,0.8s						
NPH				IAML		18 20 55.0	
	comp=N,2µm,0.3s						
HLP	Hilina Pali	0.31	114		Pg	18 20 46.6	+0.4
HLP	Hilina Pali	0.31	114	IAML		18 20 52.9	
	comp=N,4µm,0.6s						
HLP				IAML		18 20 54.6	
	comp=E,6µm,0.6s						
UWB	Uwekahuna B	0.31	90		Pg	18 20 46.5	+0.3
UWB					Sg	18 20 50.8	+0.4
KHLU	Kahalu`u	0.32	302		Pg	18 20 47.1	+0.8
KHLU					Sg	18 20 50.8	+0.4
KHLU	Kahalu`u	0.32	302	IAML		18 20 57.1	
	comp=N,4µm,0.5s						
RSD	Rainshed	0.32	83		Pg	18 20 47.0	+0.7
RIM	Rim	0.32	95		Pg	18 20 46.6	+0.3
RIM					Sg	18 20 50.8	+0.2
RIM	Rim	0.32	95	IAML		18 20 54.9	
	comp=N,4µm,0.6s						
RIM				IAML		18 20 57.6	
	comp=E,3µm,0.5s						
SBLHI	Steaming Bluff	0.32	89		Pg	18 20 46.5	+0.1
SBLHI	Steaming Bluff	0.32	89	IAML		18 20 55.1	
	comp=E,3µm,0.5s						
SBLHI				IAML		18 20 55.4	
	comp=N,4µm,0.4s						
KKO	Keanakako`i	0.33	94		Pg	18 20 46.7	+0.2
KKO					Sg	18 20 50.1	-0.7
KKO	Keanakako`i	0.33	94	IAML		18 20 54.1	
	comp=E,3µm,0.9s						
HATHI	Halema‘uma‘u T	0.33	90	Pg	Pg	18 20 46.0	-0.6
HATHI				IAML		18 20 53.7	
	comp=N,3µm,0.6s						
BYL	Byron's Ledge	0.33	92		Pg	18 20 45.4	-1.2
BYL				IAML		18 20 57.1	
	comp=E,3µm,0.4s						
HUH	Hualalai	0.34	321		Pb	18 20 47.9	-1.0
HUH	Hualalai	0.34	321	IAML		18 20 58.1	
	comp=E,3µm,0.4s						
HUH				IAML		18 20 58.4	
	comp=N,4µm,0.5s						
POHA	Pohakuloa	0.34	13		Pg	18 20 46.2	-0.6
POHA				IAML		18 20 57.8	
	comp=N,2µm,0.4s						
POHA				IAML		18 20 58.2	
	comp=N,2µm,0.8s						
PUH	Pauahi	0.38	97		Pg	18 20 47.3	-0.2
PUH				IAML		18 20 57.6	
	comp=E,1µm,0.7s						
PUH				IAML		18 20 59.5	
	comp=N,2µm,0.8s						
KNHH	Kane Nui o Ham	0.42	96		Pg	18 20 48.9	+0.6
NPOC	North of Pu‘u	0.47	94		Pg	18 20 49.6	+0.3
NPOC					Sg	18 20 56.8	+1.3
NPOC	North of Pu‘u	0.47	94	IAML		18 20 59.8	
	comp=E,2µm,0.7s						
NPOC				IAML		18 21 00.1	
	comp=N,2µm,0.6s						
JOKA	Jonika Flow	0.57	89		Pg	18 20 50.7	-0.4
JOKA					Sg	18 20 59.1	+0.5
HPAH	Hawaii Prepara	0.61	352		Pg	18 20 51.6	-0.3

*GUC **02** 18:35:39.4±0.7, 21°.02S×68°.99W, h107km±4km, ML3.7*
*IDC **02** 18:35:40.9±1.8, 21°.13S×68°.97W, h118km±18km, mb3.7/2, mbtmp4.1/3, Error ellipse: s-maj=51.2km s-min=21.1km az=92.0*
*VAO **02** 18:35:41.8±0.4, 21°.09S×68°.47W, h90km±5km, mb4.1*

ISC 02 18:35:38.8±0.7, 20°.99S±0°.03×68°.93W±0°.06, h103km±8km, n50, σ1s.41/66, 11C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.53	264⇑	eP	Pn	18 35 55.2	0.0
PB01				eS	Sn	18 36 07.7	+0.2
PB01				IAML		18 36 08.5	
	comp=E,5µm,0.3s						
PB09	IPOC Station P	0.86	200⇓	eP	Pn	18 35 58.6	+0.4
PB09				eS	Sn	18 36 13.4	+0.7
PB09				IAML		18 36 15.2	
	comp=N,2µm,0.2s						
PB08	IPOC Station P	0.87	346⇓	eP	Pn	18 35 59.8	+1.2
PB08				eS	Sn	18 36 14.8	+1.5
PB08				IAML		18 36 16.1	
	comp=E,1µm,0.5s						
PB02	IPOC Station P	0.96	250⇑	eP	Pn	18 35 59.0	-0.1
PB02				eS	Sn	18 36 14.1	-0.4
PB02				IAML		18 36 17.4	
	comp=E,6µm,0.6s						
HMBC	Humberstone	1.14	308⇑	eP	Pn	18 36 01.1	-0.1
HMBC				eS	Sn	18 36 17.5	-0.5
HMBC				IAML		18 36 18.8	
	comp=N,3µm,0.3s						
PB07	IPOC Station P	1.16	230⇑	eP	Pn	18 36 01.0	-0.4
PB07				eS	Sn	18 36 17.5	-0.9
PB07				IAML		18 36 19.5	
	comp=E,2µm,0.5s						
PATCX	Punta Patache	1.16	278⇑	eP	Pn	18 36 01.2	-0.1
PATCX				eS	Sn	18 36 17.7	-0.5
PATCX				IAML		18 36 19.3	
	comp=E,2µm,0.5s						
TA01	Diego Aracena	1.25	290⇑	eP	Pn	18 36 01.9	-0.3
TA01				eS	Sn	18 36 19.3	-0.5
TA01				IAML		18 36 20.2	
	comp=E,2µm,0.3s						
PB03	IPOC Station P	1.30	216⇑	eP	Pn	18 36 02.7	-0.4
PB03				eS	Sn	18 36 20.7	-0.7
PB03				IAML		18 36 25.4	
	comp=E,1µm,0.3s						
TA02	Huaiquique	1.33	302⇑	eP	Pn	18 36 02.5	-0.8
TA02				eS	Sn	18 36 21.4	-0.4
TA02				IAML		18 36 23.5	
	comp=N,1µm,0.1s						
GO01	Chusmiza	1.34	349⇑	eP	Pn	18 36 05.0	+1.2
GO01				eS	Sn	18 36 24.0	+1.4
GO01				IAML		18 36 25.5	
	comp=N,1µm,0.4s						
PB11	IPOC Station P	1.40	331⇑	eP	Pn	18 36 04.5	+0.3
PB11				eS	Sn	18 36 23.6	+0.2
PB11				IAML		18 36 25.4	
	comp=N,2µm,0.4s						
LVC	Limon Verde	1.61	179	P	Pn	18 36 07.7	+0.6
	comp=N,37nm,0.3s,baz=6.7,slow=11,SNR=147						
LVC				S	Sn	18 36 29.1	+0.7
	comp=N,330nm,0.3s,baz=351,slow=5.9,SNR=57						
LVC	Limon Verde	1.61	179	eP	Pn	18 36 07.6	+0.6
LVC				eS	Sn	18 36 29.1	+0.7
LVC	Limon Verde	1.61	179	eP	Pn	18 36 07.7	+0.6
LVC				eS	Sn	18 36 29.2	+0.9
PB04	IPOC Station P	1.76	220	eP	Pn	18 36 07.8	-0.8
PB04				eS	Sn	18 36 30.0	-1.3
PB04				IAML		18 36 35.4	
	comp=N,917nm,0.2s						
PB06	IPOC Station P	1.81	199⇑	eP	Pn	18 36 09.0	-0.3
PB06				eS	Sn	18 36 31.6	-0.8
PB06				IAML		18 36 36.9	
	comp=E,894nm,0.4s						
LPAZ	La Paz	4.74	9	P	Pn	18 36 53.0	+4.4
	comp=E,8.6nm,0.3s,baz=194,slow=5.9,SNR=70						
LPAZ				S	Sn	18 37 38.6	-4.1
	comp=E,2.1nm,0.5s,baz=204,slow=7.9,SNR=1.6						
LPAZ	La Paz	4.74	9	eP	Pn	18 36 51.5	+2.9
BBSD	Serra de San D	8.72	66	eP	Pn	18 37 39.3	-3.0
SIV	San Ignacio	8.96	58	P	Pn	18 37 43.2	-2.2
	comp=E,8.1nm,0.5s,baz=239,slow=10,SNR=42						
BBRB	Robore, Bolivi	9.01	74	eP	Pn	18 37 42.5	-3.6
PTLB	Pontes e Lacer	10.81	61	eP	Pn	18 38 09.1	-1.5
VILB	Vilhena	11.55	48	eP	Pn	18 38 19.7	-0.9
ANTJ	Antonio Joao (	12.07	97	eP	Pn	18 38 24.4	-3.1
AQDB	Aquidauana	12.39	90	eP	Pn	18 38 29.5	-2.2
SALV	Santo Antonio	13.54	70	eP	Pn	18 38 46.0	-0.7
CZSB	Cruzeiro do Su	13.68	344	eP	P	18 38 55.7	+2.0
AZCA	Azaras, Argent	13.73	123	eP	Pn	18 38 47.9	-1.2
ITQB	Itaqui	14.08	130	eP	Pn	18 38 52.6	-1.0
RPRD	Ribas do Rio P	14.26	91	eP	Pn	18 38 54.0	-2.0
UNIS	Unistalda (Bra	14.90	125	eP	Pn	18 39 03.9	-0.3
PDRB	Porto dos Gac	14.96	53	eP	P	18 39 06.4	-1.6
FRBT	Francisco Belt	15.38	112	eP	Pn	18 39 09.2	-1.1
CLDB	Colider	16.13	53	eP	P	18 39 21.8	+0.8
DVLD	Doverlandia	16.45	78	eP	P	18 39 23.0	-1.5
BB19B	Bebedouro	19.05	94	eP	P	18 39 51.7	-1.4
SNDB	Serra Nova Dou	19.12	65	eP	P	18 39 52.6	-1.3
IPMB	Ipameri, GO	19.76	85	eP	P	18 39 59.4	-1.4
RCLB	Rio Claro- Sao	19.93	98	eP	P	18 40 01.5	-1.2
VAO	Valinhos	20.46	100	eP	P	18 40 07.5	-0.9
BDFB	Brasilia	20.55	78	P	Pn	18 40 10.9	-1.6
	comp=E,3.2nm,0.5s,baz=251,slow=8.1,SNR=6.1						
	comp=E,3.2nm,0.5s						
PMNB	Patos De Minas	21.30	87	eP	P	18 40 16.8	-0.7
SMTB	Santa Maria do	23.85	63	eP	P	18 40 43.2	+0.4
MC01	Montes Claros	24.02	84	eP	P	18 40 43.1	-1.3
JANB	Januaria	24.12	80	eP	P	18 40 45.7	+0.4
SDBA	SAO DESIDERIO	24.52	73	eP	P	18 40 48.6	-0.3
MCPB	Macapa, AP	26.30	41	eP	P	18 41 07.8	+2.8
TORD	Torodi Ar. Bea	77.20	70	P	P	18 47 23.1	+1.1
	comp=E,1.0nm,0.4s,baz=256,slow=6.1,SNR=10						
	comp=E,1.0nm,0.4s						
MKAR	Makanchi Array	145.23	35	PKPbc	PKPab	18 55 03.9	-0.6
	comp=E,0.3nm,0.5s,baz=313,slow=3.8,SNR=3.3						

IDC 02 18:49:12.4±3.5, 30°.67N×140°.90E, h0km, mb3.5/3, mbtmp3.5/4, ML2.8/1, MS2.8/1, Error ellipse: s-maj=148.0km s-min=25.9km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.27	340	Pn	Pn	18 50 44.5	-1.7
	0.2nm,0.3s,baz=160,slow=12,SNR=14						
	2.2nm,0.4s						
DAV	Davao City (W)	27.52	215	LR	LR	19 03 44.8	
	comp=Z,19nm,20.6s,baz=4.5,slow=32						
MKAR	Makanchi Array	47.38	307	P	P	18 57 49.2	+0.9
	0.3nm,0.7s,baz=90,slow=9.2,SNR=2.2						
	0.3nm,0.7s						
WRA	Warramunga Arr	50.71	188	P	P	18 58 13.7	-0.4
	0.4nm,0.4s,baz=3.7,slow=7.4,SNR=20						
	0.4nm,0.4s						
ASAR	Alice Springs	54.44	188	P	P	18 58 41.5	-0.1
	0.3nm,0.6s,baz=6.7,slow=6.2,SNR=7.8						
	0.3nm,0.6s						

*IDC **02** 19:06:59.8±1.9, 10°.16S×159°.26E, h0km, mb3.8/6, mbtmp3.8/7, ML3.9/1, MS3.3/10, Error ellipse: s-maj=71.8km s-min=18.0km az=140.0*

ISC 02 19:07:03.0±1.9, 10°.2S±0°.3×159°.4E±0°.3, h22km, n16, σ1s.06/9, mb3.7/6, MS3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.96	38	Pn	Pb	19 07 21.2	+0.2
	8µm,0.3s,baz=220,slow=10,SNR=275						
HNR				Sn	Sb	19 07 33.1	-0.2
	44µm,0.3s,baz=148,slow=12,SNR=32						
PMG	Port Moresby	12.04	273	LR	LR	19 14 06.6	
	comp=Z,90nm,18.6s,baz=334,slow=36						
DZM	Mont Dzumac	13.63	151	LR	LR	19 14 22.4	
	comp=Z,67nm,20.7s,baz=29,slow=32						
CTA	Charters Tower	16.00	231	Pn	Pn	19 10 47.5	+0.7
	0.3nm,0.3s,baz=58,slow=13,SNR=3.9						
CTA				LR	LR	19 15 58.9	
	comp=Z,35nm,18.6s,baz=63,slow=34						
	2.6nm,0.5s						
MSVF	Nonsavu	19.63	114	LR	LR	19 17 48.1	
	comp=Z,74nm,20.8s,baz=94,slow=33						
WRA	Warramunga Arr	25.98	245	P	P	19 12 33.9	-0.5
	0.7nm,0.5s,baz=71,slow=9.8,SNR=15						
	0.7nm,0.5s						
STKA	Stephens Creek	27.12	215	LR	LR	19 22 10.4	
	comp=Z,57nm,18.5s,baz=218,slow=34						
ASAR	Alice Springs	27.72	238	P	P	19 12 49.9	-0.2
	0.4nm,0.7s,baz=63,slow=10,SNR=5.4						
ASAR				LR	LR	19 22 23.7	
	comp=Z,41nm,21.7s,baz=84,slow=33						
	0.4nm,0.7s						
URZ	Urewera	32.17	153	LR	LR	19 25 29.8	
	comp=Z,71nm,19.8s,baz=8.5,slow=34						
JCJ	Chichijima	40.64	336	LR	LR	19 29 30.3	
	comp=Z,355nm,19.8s,baz=72,slow=33						
PETK	Petropavlovsk-	63.07	359	LR	LR	19 43 59.9	
	comp=Z,46nm,18.4s,baz=146,slow=35						
KLR	Kul'dur	63.95	340	LR	LR	19 44 03.7	
	comp=Z,34nm,19.7s,baz=142,slow=35						
CMAR	Chiang Mai Arr	66.03	295	P	P	19 17 47.1	-1.4
	3.5nm,1.0s,baz=125,slow=4.7,SNR=4.0						
	3.5nm,1.0s						
SONM	Songino Array	74.36	326	P	P	19 18 41.0	+1.9
	0.6nm,0.7s,baz=120,slow=5.2,SNR=2.2						
	0.6nm,0.7s						
ILAR	Eielson Array	84.81	20	P	P	19 19 34.9	-0.6
	0.2nm,0.4s,baz=250,slow=5.2,SNR=1.8						
	0.2nm,0.4s						
MKAR	Makanchi Array	88.64	318	P	P	19 19 54.5	-0.1
	0.4nm,0.6s,baz=101,slow=5.3,SNR=2.5						
	0.4nm,0.6s						

*IDC **02** 19:13:22.4±1.0, 35°.81N×21°.74E, h0km, mb3.9/12, mbtmp3.8/23, ML3.4/10, MS2.8/1, Error ellipse: s-maj=20.7km s-min=13.3km az=10.0*
*NEIC **02** 19:13:25.5±1.4, 35°.6N±0°.1×21°.58E±0°.10, h30km±10km, mb4.2/3, Error ellipse: s-maj=17.2km s-min=8.6km az=211.0*
*ATH **02** 19:13:26.6, 35°.60N×21°.47E, h30km±13km, ML3.6/10, Error ellipse: s-maj=14.8km s-min=2.0km az=224.0*
*THE **02** 19:13:27.0, 35°.63N×21°.51E, h31km±47km, ML3.5/11, Error ellipse: s-maj=47.4km s-min=0.8km az=71.0*

ISC 02 19:13:25.6±1.4, 35°.66N±0°.05×21°.53E±0°.04, h34km±3km, n111, σ2s.05/135, mb4.0/13, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PYL	PYLOS	1.24	8	P	Pn	19 13 47.3	+0.7
PYL				S	Sn	19 14 04.6	+2.5
PYL	PYLOS	1.24	8	P	Pn	19 13 47.3	+0.7
PYL				S	Sn	19 14 03.8	+1.7
KTHR	Kythira	1.34	63	P	Pn	19 13 49.4	+1.6
KTHR				S	Sb	19 14 06.9	0.0
	1µm,0.3s						
KTHR	Kythira	1.34	63	P	Pn	19 13 49.5	+1.6
KTHR				S	Sb	19 14 06.6	-0.4
KTHR				AML	AML	19 14 12.9	
	comp=N,11045µm,0.4s						
KTHR				AML	AML	19 14 13.1	
	comp=E,9632µm,0.3s						
KTHA	Kythira Island	1.38	64	P	Pn	19 13 50.2	+1.7
KTHA				S	Sb	19 14 07.6	-0.5
	comp=E,2µm,0.6s						
KTHA	Kythira Island	1.38	64	P	Pn	19 13 50.1	+1.7
KTHA				S	Sn	19 14 07.0	+1.5
KTHA				AML	AML	19 14 12.2	
	comp=E,4912µm,0.5s						
KTHA				AML	AML	19 14 17.0	
	comp=N,2023µm,0.8s						
ANKY	Antikythira Is	1.46	81	P	Pn	19 13 51.3	+1.8
ANKY				S	Sb	19 14 09.2	-1.1
	comp=N,2µm,0.8s						
ANKY	Antikythira Is	1.46	81	P	Pn	19 13 51.3	+1.8
ANKY				S	Sb	19 14 09.6	-0.7
ANKY				AML	AML	19 14 15.9	
	comp=N,4064µm,0.7s						
ANKY				AML	AML	19 14 16.7	
	comp=E,3859µm,1.0s						
ITM	Ithomi	1.55	12		Pn	19 13 51.9	+1.2
ITM	Ithomi	1.55	12	P	Pn	19 13 52.0	+1.2
ITM				S	Sn	19 14 12.3	+2.6
	comp=E,950nm,0.4s						
ITM	Ithomi	1.55	12	P	Pn	19 13 51.9	+1.2
ITM				AML	AML	19 14 21.6	
	comp=N,2379µm,0.5s						
ITM				AML	AML	19 14 31.6	
	comp=E,1714µm,0.5s						
VLI	Veliai	1.55	47	P	Pn	19 13 53.0	+2.2
VLI				S	Sb	19 14 12.7	-0.3

comp=E,1μm,0.8s
VLI Velíai 1.55 47 P **Pn** **19 13 52.5 +1.7**
VLI S **Sn** **19 14 11.5 +1.8**
VLI AML AML 19 14 17.2
comp=N,2584μm,0.7s
VLI AML AML 19 14 19.6
comp=E,2297μm,0.5s
MNVA Monemvasia 1.59 50 P **Pn** **19 13 53.5 +2.1**
KNDR Palaiochora Ch 1.81 103 P **Pn** **19 13 55.4 +1.1**
KNDR S **Sn** **19 14 17.2 +1.0**
comp=E,518nm,0.9s
KNDR Palaiochora Ch 1.81 103 P **Pn** **19 13 55.5 +1.1**
KNDR AML AML 19 14 37.3
comp=E,3760μm,0.7s
KNDR AML AML 19 14 39.4
comp=N,2439μm,0.9s
IMMV Iera Moni Meta 2.01 95 P **Pn** **19 13 58.7 +1.6**
IMMV S **Sn** **19 14 22.4 +1.3**
comp=N,1μm,0.5s
LTHK Lithakia 2.12 345 P **Pn** **19 13 59.9 +1.3**
LTHK Lithakia 2.12 345 P **Pn** **19 13 59.9 +1.3**
KRND KRANIDI 2.16 37 P **Pn** **19 14 00.2 +1.1**
KRND KRANIDI 2.16 37 P **Pn** **19 14 00.3 +1.1**
KRND AML AML 19 14 40.7
comp=E,827μm,0.4s
KRND AML AML 19 14 45.5
comp=N,1158μm,0.6s
GVD Gavdhos 2.25 111 P **Pn** **19 14 01.2 +0.8**
GVD Gavdhos 2.25 111 P **Pn** **19 14 01.2 +0.8**
GVD AML AML 19 14 31.7
comp=N,1342μm,0.3s
GVD AML AML 19 14 34.6
comp=E,1125μm,0.4s
GVDS Gavdos 2.25 111 P **Pn** **19 14 00.9 +0.5**
DRO Drossia 2.29 4 P **Pn** **19 14 03.7 +2.7**
DRO S **Sn** **19 14 29.8 +1.8**
comp=E,510nm,0.5s
DRO Drossia 2.29 4 P **Pn** **19 14 03.8 +2.7**
DRO AML AML 19 14 54.8
comp=E,1486μm,0.5s
DRO AML AML 19 14 55.2
comp=N,1164μm,0.6s
RLS Riolos of Patr 2.39 359 P **Pn** **19 14 04.9 +2.6**
RLS S **Sn** **19 14 33.4 +2.9**
RLS Riolos of Patr 2.39 359 P **Pn** **19 14 05.1 +2.7**
PSDA Pessada-Kefalo 2.56 343 P **Pn** **19 14 06.3 +1.6**
PSDA Pessada-Kefalo 2.56 343 P **Pn** **19 14 06.2 +1.6**
LAKA Lakka 2.60 8 P **Pn** **19 14 08.0 +2.8**
LAKA S **Sn** **19 14 38.5 +2.9**
comp=N,710nm,0.7s
LAKA Lakka 2.60 8 P **Pn** **19 14 08.4 +3.2**
VLS Valsamata 2.62 344 P **Pn** **19 14 07.0 +1.4**
VLS Valsamata 2.62 344 P **Pn** **19 14 06.9 +1.4**
KEF3 Kipouria, Keph 2.71 340 P **Pn** **19 14 08.4 +1.7**
DMLN Damoulianata-K 2.73 341 P **Pn** **19 14 08.5 +1.4**
DMLN S **Sn** **19 14 40.8 +1.9**
KEF4 Livadi, Kephal 2.74 341 P **Pn** **19 14 08.3 +1.2**
KEF4 S **Sn** **19 14 40.4 +1.4**
IDI Anoyia 2.77 97 Pn **Pn** **19 14 08.1 +0.5**
comp=N,4.4nm,0.3s,baz=252,slow=12,SNR=53
IDI Sn **Sn** **19 14 39.8 -0.1**
comp=N,49nm,0.3s,baz=219,slow=3.3,SNR=13
comp=N,12nm,0.4s
IDI Anoyia 2.77 97 **Pn** **19 14 08.7 +1.7**
IDI Anoyia 2.77 97 P **Pn** **19 14 09.1 +1.5**
EFP Efpalio 2.77 6 P **Pn** **19 14 11.4 +3.7**
EFP AML AML 19 14 57.5
comp=E,469μm,0.6s
EFP AML AML 19 15 13.1
comp=N,364μm,0.7s
SERG Sergoula 2.78 9 P **Pn** **19 14 11.0 +3.3**
VLY Voula,Athens 2.84 39 P **Pn** **19 14 09.0 +0.4**
VLY S **Sn** **19 14 43.5 +1.9**
comp=N,192nm,0.5s
VILL Villia 2.88 29 P **Pn** **19 14 10.9 +1.8**
FSK Fiskardo 2.90 345 P **Pn** **19 14 11.8 +2.5**
FSK S **Sn** **19 14 45.3 +2.4**
comp=N,110nm,0.2s
ANX Ano Chora 2.94 6 P **Pn** **19 14 14.5 +4.5**
PVO Paravola 2.95 360 P **Pn** **19 14 14.1 +4.1**
PTL Penteli 3.03 38 P **Pn** **19 14 12.5 +1.3**
EVGI Lefkada island 3.03 347 P **Pn** **19 14 13.7 +2.5**
NYDR Nydri-Lefkada 3.12 348 P **Pn** **19 14 14.9 +2.6**
LKD2 Lefkada island 3.20 348 P **Pn** **19 14 16.2 +2.7**
AXAR Agios Charalam 3.23 16 P **Pn** **19 14 17.6 +3.7**
AXAR Agios Charalam 3.23 16 P **Pn** **19 14 16.9 +3.1**
TSLK Tsoukalades, L 3.23 348 P **Pn** **19 14 16.7 +2.8**
EVR Evrytania 3.25 4 P **Pn** **19 14 18.6 +4.3**
SANT Santorini 3.26 76 **Pn** **19 14 14.4 0.0**
MAKR Makrakomi, Fth 3.38 8 P **Pn** **19 14 20.2 +4.2**
MAKR Makrakomi, Fth 3.38 8 P **Pn** **19 14 19.9 +4.0**
THL Klokotos Trika 3.91 6 P **Pn** **19 14 25.5 +2.2**
KEK Kerkira 4.27 342 Pn **Pn** **19 14 28.9 +0.7**
KEK Kerkira 4.27 342 P **Pn** **19 14 29.3 +1.1**
KARP Karpathos 4.59 90 Pn **Pn** **19 14 32.8 +0.2**
KARP Karpathos 4.59 90 P **Pn** **19 14 34.0 +1.4**
SCTE Santa Cesarea 5.02 332 Pn **Pn** **19 14 39.1 +0.5**
FNA Florina 5.11 359 Pn **Pn** **19 14 41.2 +1.4**
TIP Timpagrande 5.17 314 **Pn** **19 14 41.4 +0.8**
CEL Celeste 5.20 302 **Pn** **19 14 42.0 +1.0**
ARG Arkhangelos 5.38 82 Pn **Pn** **19 14 43.2 -0.2**
OHR Ohrid 5.47 354 *i* Pn **Pn** **19 14 46.9 +2.1**
VAY Valandovo 5.71 8 *i* Pn **Pn** **19 14 49.5 +1.5**
VAY *i* Sn **Sn** **19 15 48.7 -3.5**
TIR Tirane 5.82 348 Pn **Pn** **19 14 50.4 +0.8**
RAFF Raffo Rosso 5.98 287 Pn **Pn** **19 14 53.8 +2.1**
VAE Valguarnera 6.01 290 Pn **Pn** **19 14 56.7 +4.6**
comp=N,1.1nm,0.3s,baz=200,slow=22,SNR=1.7
VAE Sn **Sn** **19 15 57.5 -2.2**
comp=N,2.4nm,0.3s,baz=318,slow=13,SNR=2.3
comp=N,5.9nm,0.6s
CUC Castrocucco 6.25 315 Pn **Pn** **19 14 57.0 +1.5**
RDO Rodhopi 6.31 29 **Pn** **19 14 57.0 +0.7**
AKAS Kas 6.58 83 Pn **Pn** **19 14 58.6 -1.4**
ELL Elmali 6.86 78 **Pn** **19 15 03.1 -0.8**
PDG Podgorica 6.98 346 Pn **Pn** **19 15 04.8 -0.6**
VTS Vitosha 7.07 10 Pn **Pn** **19 15 07.0 +0.3**
SGRT San Giovanni R 7.58 325 Pn **Pn** **19 15 13.6 -0.1**
DIVS Divibare 8.51 352 Pn **Pn** **19 15 24.7 -1.7**
INTR Introdacqua 8.69 319 Pn Pn 19 15 25.8 -3.1
CSS Mathiatis 9.67 91 Pn **Pn** **19 15 39.5 -2.8**
KEST Kesra 9.91 274 Pn **Pn** **19 15 49.8 +4.1**
comp=N,0.1nm,0.3s,baz=8.1,slow=14,SNR=2.1
KEST Sn **Sn** **19 17 31.8 -4.0**
comp=N,0.2nm,0.3s,baz=66,slow=12,SNR=1.9
comp=N,1.9nm,0.7s
BRTR Keskin Array B 10.41 64 Pn **Pn** **19 15 52.5 -0.2**
comp=N,0.2nm,0.3s,baz=253,slow=8.9,SNR=1.5
comp=N,0.7nm,0.5s
EIL Elat 12.79 114 Pn **Pn** **19 16 22.9 -2.0**
comp=N,1.3nm,0.3s,baz=216,slow=4.1,SNR=12
EIL Sn Sn 19 18 31.1 -15
comp=N,0.7nm,0.3s,baz=183,slow=7.7,SNR=1.9
comp=N,4.5nm,0.4s
ASF Jabal al Asfar 13.23 101 Pn **Pn** **19 16 31.0 -0.1**
comp=N,0.2nm,0.3s,baz=307,slow=5.1,SNR=1.7
ASF Sn Sn 19 18 47.6 -9.4
comp=N,0.2nm,0.3s,baz=355,slow=8.5,SNR=1.6
comp=N,0.8nm,0.4s
DAVOX Davos/Dischmat 14.13 325 Pn **Pn** **19 16 45.3 +1.9**
comp=N,0.2nm,0.3s,baz=157,slow=18,SNR=2.6
DAVOX Sn **Sn** **19 19 13.0 -6.0**
comp=N,2.3nm,0.9s
GERES GERESS Array B 14.38 339 Pn **Pn** **19 16 45.8 -0.9**
comp=N,0.1nm,0.3s,baz=155,slow=12,SNR=1.9
GERES Sn Sn 19 19 15.1 -10
comp=N,0.2nm,0.3s,baz=149,slow=23,SNR=2.7
GERES LR LR 19 23 47.0
comp=N,34nm,18.4s,baz=210,slow=44
comp=N,0.5nm,0.5s
AKASG Malin Array Be 16.03 18 Pn **Pn** **19 17 05.1 -3.2**
comp=N,0.4nm,0.3s,baz=211,slow=12,SNR=2.2
comp=N,0.2nm,0.3s
KBZ Khabaz 18.28 57 P **P** **19 17 36.6 +0.3**
comp=N,0.2nm,0.3s,baz=242,slow=10.0,SNR=5.0
comp=N,2.5nm,0.7s
GNI Garni 18.84 69 P **P** **19 17 43.2 +0.5**
comp=N,2.4nm,0.6s,baz=246,slow=20,SNR=1.1
ESDC Sonseca Array 20.55 289 P **P** **19 18 04.2 +3.0**
comp=N,0.8nm,0.9s,baz=89,slow=8.5,SNR=4.3
comp=N,0.8nm,0.9s
BELG Belogornoye 24.93 40 P **P** **19 18 45.0 -0.4**
comp=N,16nm,0.9s,baz=44,slow=3.5,SNR=7.9
comp=N,16nm,0.9s
HFS Hagfors 25.01 351 P **P** **19 18 45.9 -0.1**
comp=N,1.2nm,0.5s,baz=169,slow=8.8,SNR=1.3
comp=N,1.2nm,0.5s
EKA Eskdalemuir Ar 25.96 327 P **P** **19 18 56.8 +2.0**
comp=N,2.0nm,0.7s,baz=121,slow=8.4,SNR=8.0
comp=N,2.0nm,0.7s
FINES FINESS Array B 25.96 5 P **P** **19 18 54.0 -0.7**
comp=N,3.7nm,0.8s,baz=167,slow=8.1,SNR=2.3
comp=N,3.7nm,0.8s
FINES FINESS Array B 25.96 5 P **P** **19 18 56.1 +1.5**
NOA NORSAR Array B 26.24 349 P **P** **19 18 58.0 +0.8**
comp=N,0.7nm,0.9s,baz=154,slow=9.9,SNR=2.3
comp=N,0.7nm,0.9s
TORD Torodi Ar. Bea 28.67 224 P **P** **19 19 22.3 +2.9**
comp=N,0.8nm,0.6s,baz=35,slow=9.6,SNR=5.6
comp=N,0.8nm,0.6s
GEYT Alibeck 29.27 75 P **P** **19 19 22.9 -1.8**
comp=N,0.7nm,0.5s,baz=270,slow=13,SNR=1.6
comp=N,0.7nm,0.5s
ABKAR Akbulak array 31.07 52 P **P** **19 19 39.5 -0.8**
ARCES ARCESS Array B 34.00 2 P **P** **19 20 05.4 -0.4**
comp=N,2.5nm,0.9s,baz=186,slow=10,SNR=4.9
comp=N,2.5nm,0.9s
KKAR Karatay Array 38.13 64 P **P** **19 20 41.6 +0.1**
GAR Garm 38.57 70 P **P** **19 20 45.9 +0.6**
GAR IAmb IAmb 19 20 47.0
comp=Z,4.5nm,0.8s
MK31 Makanchi Array 45.97 56 P **P** **19 21 45.1 -0.3**
MK31 IAmb IAmb 19 22 01.0
comp=Z,1.8nm,0.6s
MKAR Makanchi Array 45.97 56 P **P** **19 21 45.3 -0.1**
comp=Z,1.2nm,0.5s,baz=268,slow=7.6,SNR=29
comp=Z,1.2nm,0.5s
MKAR Makanchi Array 45.97 56 P **P** **19 21 44.9 -0.4**
ZALV Zalesovo Beam 46.80 46 P **P** **19 21 50.9 -0.8**
comp=Z,0.7nm,0.3s,baz=273,slow=9.1,SNR=5.8
comp=Z,0.7nm,0.3s
ZALV Zalesovo Beam 46.80 46 P **P** **19 21 51.0 -0.7**
SONM Songino Array 61.44 50 P **P** **19 23 39.0 +0.3**
comp=Z,0.5nm,0.6s,baz=286,slow=7.3,SNR=2.8
comp=Z,0.5nm,0.6s

*JMA **02** 19:26:30.7±0.3,31.1N±1.0×14.3E±, h48km,MV4.3/26, FAR E OFF IZU ISLANDS*
*NIED **02** 19:26:30.7,31.12N×142.85E,h48km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.51; Mθθ0.29; Mϕϕ-2.80; Mrθ4.03; Mθϕ0.62; Mϕr0.94; Fault plane solution: M₀4.35000×10¹⁵ NP1: ϕs154.00000°,δ39.00000°,λ33.00000°. NP2:ϕs37.00000°, δ70.00000°,λ124.00000°.*
*MOS **02** 19:26:31.7±1.1,31.09N×142.09E,h19km,mb4.6/26, MS3.8/4 Error ellipse: s-maj=13.8km s-min=6.1km az=113.0*
*IDC **02** 19:26:31.0±0.6,31.05N×142.02E,h0km,mb4.1/22, mbtmp4.1/26,ML3.7/4,MS3.5/16,Error ellipse: s-maj=17.6km s-min=13.1km az=77.0*
*NEIC **02** 19:26:34.6±1.5,31.08N±0.07×141.9E±0.1,h19km±4km, mb4.6/33,Error ellipse: s-maj=16.2km s-min=8.5km az=69.0*
ISC 02 19:26:34.5±0.5,31.03N±0.05×142.03E±0.07,h24km,n144, σ1§33/142,**mb4.4**/54,**MS3.7**/16,**11C-2D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JHJ2	**Mitsune**	**2.80**	**318**	Pn	**Pn**		**19 27 16.1**	**-1.7**
JHJ	**Hachijo jima 2**	**2.82**	**318**	Pn	**Pn**		**19 27 17.4**	**-0.7**
	37nm,0.3s,baz=130,slow=17,SNR=4.1							
JHJ				Sn	**Sn**		**19 27 47.0**	**-4.4**
	62nm,0.3s,baz=234,slow=23,SNR=4.9							
JHJ				LR	LR		19 28 35.5	
	comp=Z,669nm,18.4s,baz=76,slow=45							
	283nm,0.9s							
BSO1	**Boso 1**	**3.72**	**346**	*eP*	**Pn**		**19 27 29.4**	**-0.5**
BSO1				*eS*	**Sn**		**19 28 12.9**	**+0.2**
CBIJ	**Chichi jima**	**3.93**	**178**	P	**Pn**		**19 27 31.9**	**-1.4**
JCJ	**Chichijima**	**3.93**	**178**	Pn	**Pn**		**19 27 31.8**	**-1.5**
	7.1nm,0.3s,baz=270,slow=14,SNR=2.3							
JCJ				Sn	**Sn**		**19 28 14.4**	**-4.2**
	18nm,0.3s,baz=291,slow=22,SNR=2.3							
	25nm,0.4s							
JCJ	**Chichijima**	**3.93**	**178**	Pn	**Pn**		**19 27 33.3**	**0.0**
JOD2	**Odawara 2**	**4.89**	**330**	P	**Pn**		**19 27 48.1**	**+1.6**
JOD2				*eS*	**Sn**		**19 28 42.1**	**-0.2**
JHU	**Hanno**	**5.33**	**335**	P	**Pn**		**19 27 52.8**	**+0.2**
JHU				*eS*	**Sn**		**19 28 52.6**	**-0.5**
JYT	**Yasato**	**5.40**	**344**	*eS*	**Sn**		**19 28 51.4**	**-3.6**
JNY	**Yasuok**	**5.55**	**322**	*eP*	**Pn**		**19 27 58.8**	**+3.1**
JRY	**Ryogami san**	**5.62**	**333**	P	**Pn**		**19 27 57.8**	**+1.3**
JHO	**Hitachi**	**5.70**	**348**	P	**Pn**		**19 27 56.5**	**-1.1**
JAG	**Ashikaga**	**5.79**	**339**	P	**Pn**		**19 27 58.8**	**-0.1**
JGF	**Kuroka**	**6.00**	**321**	Pn	**Pn**		**19 28 02.2**	**+0.3**
INU	**Inuyama**	**6.02**	**317**	Pn	**Pn**		**19 27 59.7**	**-2.3**
MJAR	**Matsushiro Arr**	**6.35**	**331**	Pn	**Pn**		**19 28 06.9**	**+0.3**
	0.6nm,0.3s,baz=156,slow=11,SNR=63							
MJAR				Sn	**Sn**		**19 29 17.1**	**-1.2**
	0.1nm,0.3s,baz=194,slow=40,SNR=1.4							
MJAR				LR	LR		19 30 41.8	
	comp=Z,301nm,18.6s,baz=168,slow=40							
	20nm,0.7s							
MAJO	**Matsushiro**	**6.35**	**331**	Pn	**Pn**		**19 28 07.2**	**+0.6**
MAJO	**Matsushiro**	**6.35**	**331**	*d iP*	**Pn**		**19 28 07.9**	**+1.3**
MJB9	**Matsu-Tunnel**	**6.36**	**331**		**Pn**		**19 28 10.1**	**+3.5**
JMM	**Marumori**	**6.89**	**352**		**Pn**		**19 28 12.2**	**-1.9**
ERM	**Erimo**	**11.00**	**4**	*i* P	**Pn**		**19 29 09.2**	**-1.1**
JOW	**Kunigami**	**12.75**	**254**	LR	LR		19 34 37.9	
	comp=Z,216nm,18.1s,baz=172,slow=38							
KSRS	**Korea Array**	**13.31**	**303**	Pn	**Pn**		**19 29 45.9**	**+4.0**
	0.3nm,0.3s,baz=111,slow=13,SNR=4.3							
YSS	**Yuzh-Sakhalins**	**15.91**	**2**	*eP*	**Pn**		**19 30 14.8**	**-1.9**
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS				MLR	MLR			
	comp=Z,400nm,17.0s							
KLR	**Kul'dur**	**19.77**	**340**	P	**P**		**19 31 01.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=161,slow=7.5,SNR=8.9							
	comp=Z,2.2nm,0.7s							
KLR	**Kul'dur**	**19.77**	**340**	*i* P	**P**		**19 31 02.2**	**-0.5**
KLR				pmax	pmax			
	comp=Z,3.0nm,1.1s							
YULB	**Yu-li**	**19.93**	**253**	P	**P**		**19 31 03.7**	**-1.0**
YULB				IAmb	IAmb		19 31 05.1	
	comp=Z,25nm,0.8s							
SSLB	**Suanglung**	**20.04**	**254**	P	**P**		**19 31 05.4**	**-0.5**
BJT	**Baijiatuan**	**22.82**	**300**	P	**P**		**19 31 33.4**	**-2.2**
BJT	**Baijiatuan**	**22.82**	**300**	P	**P**		**19 31 33.4**	**-2.2**
BJT				pmax	pmax			
	comp=Z,11nm,1.0s							
HIA	**Hailar**	**24.79**	**324**	P	**P**		**19 31 53.3**	**-1.1**
HIA				IAmb	IAmb		19 31 56.6	
	comp=Z,7.8nm,0.7s							
HIA	**Hailar**	**24.79**	**324**	P	**P**		**19 31 53.3**	**-1.1**
HIA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
ZEA	**Zeya**	**25.08**	**339**	*eP*	**P**		**19 32 01.0**	**+4.0**
ZEA				pmax	pmax			
	comp=N,10.0nm,1.2s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.1s							
H11S3	**WAKE ISLAND Hy**	**25.57**	**113**	T	T		19 59 14.2	
	baz=306							
H11S1	**WAKE ISLAND Hy**	**25.57**	**113**	T	T		19 59 25.5	
	baz=306							
H11S2	**WAKE ISLAND Hy**	**25.58**	**113**	T	T		19 59 26.4	
	baz=306							
DAV	**Davao City (W)**	**28.38**	**216**	LR	LR		19 43 42.3	
	comp=Z,45nm,19.8s,baz=43,slow=36							
ULN	**Ulaanbaatar**	**31.48**	**312**	P	**P**		**19 32 54.5**	**+0.1**
ULN				IAmb	IAmb		19 32 56.2	
	comp=Z,16nm,1.4s							
ULN	**Ulaanbaatar**	**31.48**	**312**	*ceP*	**P**		**19 32 54.8**	**+0.4**
ULN				pmax	pmax			
	comp=Z,11nm,1.3s							
SHEM	**Shemya Is, Ala**	**31.83**	**38**	LR	LR		19 44 07.4	
	comp=Z,43nm,19.9s,baz=292,slow=33							
SONM	**Songino Array**	**31.89**	**312**	P	**P**		**19 32 58.3**	**+0.4**
	comp=Z,5.7nm,1.2s,baz=121,slow=8.7,SNR=16							
	comp=Z,5.7nm,1.2s							
YAK	**Yakutsk**	**32.03**	**349**	*ceP*	**P**		**19 32 59.3**	**+0.4**
YAK				pmax	pmax			
	comp=Z,8.0nm,1.3s							
ZAK	**Zakamensk**	**34.65**	**315**	*eP*	**P**		**19 33 22.2**	**+0.2**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.5s							

BILL Bilibino 39.67 14 *eP* **P** **19 34 01.2 -3.0**
BILL *e* 19 35 37.4
BILL pmax pmax
comp=Z,10.0nm,1.4s
BILL MLR MLR
comp=Z,41nm,15.0s
CMAR Chiang Mai Arr 40.85 262 P **P** **19 34 14.4 -0.2**
comp=Z,0.4nm,0.6s,baz=57,slow=6.6,SNR=5.3
CMAR LR LR 19 52 24.1
comp=Z,56nm,19.4s,baz=80,slow=38
comp=Z,0.4nm,0.6s
CMAR Chiang Mai Arr 40.85 262 *ceP* **P** **19 34 18.0 +3.4**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
TIXI Tiksi 41.30 354 P **P** **19 34 17.6 0.0**
comp=Z,0.5nm,0.5s,baz=270,slow=23,SNR=3.9
comp=Z,0.5nm,0.5s
TIXI Tiksi 41.30 354 *i* P **P** **19 34 16.8 -0.8**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
DGZ Jazzator, Alta 44.52 311 *i* P **P** **19 34 45.6 +1.4**
DGZ pmax pmax
comp=Z,13nm,2.6s
MTN Manton Dam 44.86 195 P **P** **19 34 47.2 +0.1**
MTN IAmb IAmb 19 35 00.9
comp=Z,12nm,1.2s
ZAA0 Zalesovo Array 46.49 317 P **P** **19 34 59.8 +0.2**
ZAA0 IAmb IAmb 19 35 01.1
comp=Z,5.3nm,0.9s
ZALV Zalesovo Beam 46.49 317 P **P** **19 34 59.3 -0.2**
comp=Z,2.4nm,0.7s,baz=101,slow=7.7,SNR=14
ZALV PcP **PcP** **19 36 33.6 -0.1**
comp=Z,1.5nm,0.7s,baz=81,slow=2.5,SNR=4.8
comp=Z,2.4nm,0.7s
ZALV Zalesovo Beam 46.49 317 P **P** **19 34 59.5 0.0**
ZALV Zalesovo Beam 46.49 317 *i* P **P** **19 35 00.3 +0.8**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 47.94 307 P **P** **19 35 10.9 -0.1**
MK31 Makanchi Array 47.94 307 P **P** **19 35 10.9 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 47.94 307 P **P** **19 35 11.2 +0.2**
comp=Z,2.8nm,0.8s,baz=93,slow=9.2,SNR=14
comp=Z,2.8nm,0.8s
MKAR Makanchi Array 47.94 307 P **P** **19 35 10.9 -0.1**
MKAR Makanchi Array 47.94 307 P **P** **19 35 10.9 -0.1**
RAMN Ramite 48.24 280 *eP* **P** **19 35 12.1 -1.8**
comp=Z,10nm,0.9s
RAMN Ramite 48.24 280 *eP* **P** **19 35 12.4 -1.5**
JIRN Jiri 48.37 281 *eP* **P** **19 35 14.0 -1.0**
comp=Z,10nm,0.6s
JIRN Jiri 48.37 281 *eP* **P** **19 35 14.0 -1.0**
comp=Z,10nm,0.6s
GUN Gumba 48.55 281 *eP* **P** **19 35 16.1 -0.3**
GUN Gumba 48.55 281 *eP* **P** **19 35 15.2 -1.2**
comp=Z,18nm,0.9s
NRIK Noril'sk 48.96 337 P **P** **19 35 18.6 +0.2**
comp=Z,1.9nm,0.4s,baz=109,slow=12,SNR=4.1
comp=Z,1.9nm,0.4s
NRIK Noril'sk 48.96 337 P **P** **19 35 18.5 0.0**
NRIK IAmb IAmb 19 35 20.4
comp=Z,11nm,1.4s
NRIK Noril'sk 48.96 337 *eP* **P** **19 35 19.2 +0.7**
NRIK pmax pmax
comp=Z,7.0nm,1.2s
PKI Pulchoki 49.05 281 *eP* **P** **19 35 18.4 -1.8**
DMN Daman 49.29 281 *eP* **P** **19 35 20.1 -1.9**
comp=Z,4.8nm,0.3s
PSI Prapat 49.40 244 LR LR 19 55 40.5
comp=Z,44nm,20.2s,baz=167,slow=35
GKN Gorkha 49.56 282 *eP* **P** **19 35 22.4 -1.5**
GKN Gorkha 49.56 282 *eP* **P** **19 35 22.7 -1.2**
KURK Kurchatov 50.19 312 P **P** **19 35 27.6 -0.5**
KURK IAmb IAmb 19 35 29.0
comp=Z,6.1nm,0.8s
KURK Kurchatov 50.19 312 *eP* **P** **19 35 28.3 +0.2**
KURK pmax pmax
comp=Z,7.0nm,1.0s
DANN Dangsing 50.19 283 *eP* **P** **19 35 28.2 -0.6**
DANN Dangsing 50.19 283 *eP* **P** **19 35 28.3 -0.6**
PYUN Piuthan 50.92 283 *eP* **P** **19 35 32.5 -1.7**
comp=Z,4.7nm,0.5s
PYUN Piuthan 50.92 283 *eP* **P** **19 35 33.4 -0.8**
comp=Z,13nm,0.8s
CTA Charters Tower 50.99 175 P **P** **19 35 35.3 +0.9**
comp=Z,1.9nm,0.7s,baz=21,slow=5.4,SNR=5.5
comp=Z,1.9nm,0.7s
CTAO Charters Tower 50.99 175 P **P** **19 35 35.8 +1.4**
CTAO IAmb IAmb 19 35 55.4
comp=Z,9.8nm,1.2s
CTAO Charters Tower 50.99 175 P **P** **19 35 35.8 +1.4**
CTAO pmax pmax
comp=Z,10.0nm,1.3s
WB0 Warramunga Arr 51.04 189 P **P** **19 35 35.0 +0.2**
WB0 IAmb IAmb 19 35 35.5
comp=Z,5.3nm,0.9s
WR0 Warramunga Arr 51.21 189 P **P** **19 35 36.1 +0.1**
WR0 IAmb IAmb 19 35 36.4
comp=Z,8.5nm,1.3s
WRAB Tennant Creek 51.21 189 *i* P **P** **19 35 36.4 +0.3**
WRAB pmax pmax
comp=Z,5.0nm,1.1s
WB2 Warramunga Arr 51.22 189 P **P** **19 35 35.9 -0.2**
WRA Warramunga Arr 51.22 189 P **P** **19 35 36.1 0.0**
comp=Z,2.4nm,0.6s,baz=5.6,slow=7.7,SNR=60
comp=Z,2.4nm,0.6s
WRA Warramunga Arr 51.22 189 P **P** **19 35 36.1 0.0**
WRA Warramunga Arr 51.22 189 *i* P **P** **19 35 36.2 0.0**
WRA pmax pmax
comp=Z,3.0nm,0.6s
KDAK Kodiak Island 51.34 39 P **P** **19 35 35.5 -1.2**
comp=Z,4.1nm,0.7s,baz=291,slow=8.6,SNR=7.1
KDAK LR LR 19 55 48.9
comp=Z,37nm,21.0s,baz=234,slow=34
comp=Z,4.1nm,0.7s
NRN Naryn 53.10 301 P **P** **19 35 49.5 -1.0**
NRN Naryn 53.10 301 P **P** **19 35 49.5 -1.0**
NRN pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 53.97 303 LR LR 19 59 29.6
comp=Z,86nm,18.6s,baz=99,slow=37
AAK Ala-Archa 53.97 303 *ceP* **P** **19 35 57.3 +0.7**
AAK pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 54.35 30 P **P** **19 35 59.6 +0.7**
comp=Z,1.0nm,0.7s,baz=268,slow=6.3,SNR=12
comp=Z,1.0nm,0.7s
AS31 Alice Springs 54.94 189 P **P** **19 36 04.1 +0.5**
ASAR Alice Springs 54.94 189 P **P** **19 36 03.8 +0.2**
comp=Z,1.2nm,0.6s,baz=358,slow=5.1,SNR=45
comp=Z,1.2nm,0.6s
ASAR Alice Springs 54.94 189 P **P** **19 36 02.8 -0.8**
BVAR Borovoye Array 55.10 316 LR LR 20 00 43.6
comp=Z,70nm,18.2s,baz=81,slow=37
BRVK Borovoye 55.16 316 *i* P **P** **19 36 05.4 +0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.6s
J26L Joseph Creek 55.78 30 P **P** **19 36 09.9 +0.6**
L27K Beaver Creek, 56.61 32 P **P** **19 36 16.8 +1.7**
L27K IAmb IAmb 19 36 27.6
comp=Z,4.8nm,1.1s
BCAR Beaver Creek A 56.63 32 **P** **19 36 16.7 +1.4**
KK31 Karatay Array 56.73 304 P **P** **19 36 16.5 +0.1**
KK31 Karatay Array 56.73 304 P **P** **19 36 16.5 +0.1**
KK31 pmax pmax
comp=Z,11nm,1.1s
KKAR Karatay Array 56.73 304 P **P** **19 36 16.2 -0.1**
KKAR Karatay Array 56.73 304 P **P** **19 36 16.2 -0.1**
KKAR pmax pmax
comp=Z,11nm,1.1s
NIL Nilore 57.17 292 P **P** **19 36 18.4 -1.2**
NIL Nilore 57.17 292 P **P** **19 36 18.4 -1.2**
NIL pmax pmax
comp=Z,10.0nm,0.5s
CHGR Chuyangaron 58.87 299 P **P** **19 36 31.5 0.0**
CHGR Chuyangaron 58.87 299 P **P** **19 36 31.5 0.0**
CHGR pmax pmax
comp=Z,15nm,0.8s
INK Inuvik 59.53 25 P **P** **19 36 34.7 -0.7**
comp=Z,0.8nm,0.4s,baz=30,slow=8.1,SNR=5.6
comp=Z,0.8nm,0.4s
ARU Arti 61.26 321 P **P** **19 36 47.8 +0.3**
ARU Arti 61.26 321 *c iP* **P** **19 36 47.6 +0.1**
ARU 19 37 24.0
ARU 19 38 58.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARU				S	S	19 45 08.2	+2.2
ARU				SS	SS	19 49 05.3	-0.6
ARU				pmax	pmax		
	comp=Z,11nm,0.9s						
ABKAR	Akbulak array	62.29	313	P	P	19 36 53.9	-0.6
ABKAR				IAmb	IAmb	19 36 55.8	
	comp=Z,4.0nm,0.9s						
C36M	Paulatuk	62.68	23	P	P	19 36 57.1	+0.3
C36M				IAmb	IAmb	19 36 59.0	
	comp=Z,7.0nm,1.1s						
HRA	Herat	65.53	297	P	P	19 37 16.4	0.0
HRA				IAmb	IAmb	19 37 18.1	
	comp=Z,4.9nm,1.1s						
GEYT	Alibeck	67.30	302	P	P	19 37 28.1	+0.7
	comp=Z,6.5nm,1.2s,baz=52,slow=2.4,SNR=5.8						
GEYT				LR	LR	20 08 37.8	
	comp=Z,52nm,20.1s,baz=269,slow=38						
	comp=Z,6.5nm,1.2s						
GEYT	Alibeck	67.30	302	P	P	19 37 28.5	+1.1
GEYT				IAmb	IAmb	19 37 38.0	
	comp=Z,4.5nm,1.1s						
MAK	Makhachkala	72.63	310	eP	P	19 37 59.6	-0.4
MAK				eS	S	19 47 24.3	+0.8
MAK				pmax	pmax		
	comp=Z,212nm,1.2s						
MAK				MLR	MLR		
	comp=Z,100nm,14.0s						
OBN	Obninsk	73.24	325	⇓eP	P	19 38 04.0	+0.6
OBN				e		19 40 48.2	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,65nm,17.0s						
FINES	FINESS Array B	74.37	333	P	P	19 38 09.3	-0.6
	comp=Z,2.4nm,0.9s,baz=35,slow=5.1,SNR=1.5						
	comp=Z,2.4nm,0.9s						
KBZ	Khabaz	75.25	312	P	P	19 38 16.2	+0.8
	comp=Z,3.6nm,0.8s,baz=75,slow=5.7,SNR=6.0						
KBZ				LR	LR	20 13 37.7	
	comp=Z,41nm,19.2s,baz=164,slow=38						
	comp=Z,3.6nm,0.8s						
KBZ	Khabaz	75.25	312	ceP	P	19 38 15.7	+0.4
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	Kislovodsk	75.28	313	eP	P	19 38 18.1	+2.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BEKR	Beckworth	76.11	52	P	P	19 38 21.4	+0.9
DGAR	Diego Garcia	76.63	253	ceP	P	19 38 23.7	+0.1
DGAR				pmax	pmax		
	comp=Z,122nm,1.7s						
NVAR	Mina Array Bea	78.21	52	P	P	19 38 33.6	+1.2
	comp=Z,0.9nm,0.6s,baz=289,slow=5.5,SNR=7.5						
	comp=Z,0.9nm,0.6s						
AKASG	Malin Array Be	79.38	323	P	P	19 38 37.9	-0.4
	comp=Z,1.7nm,0.6s,baz=50,slow=6.0,SNR=7.9						
	comp=Z,1.7nm,0.6s						
AKBB	Malin Array Si	79.38	323	P	P	19 38 38.7	+0.4
AKBB				IAmb	IAmb	19 38 52.7	
	comp=Z,4.4nm,0.7s						
AKBB	Malin Array Si	79.38	323	P	P	19 38 38.7	+0.4
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HFS	Hagfors	79.77	336	P	P	19 38 40.5	+0.2
	comp=Z,1.4nm,0.6s,baz=51,slow=10.0,SNR=1.3						
	comp=Z,1.4nm,0.6s						
NB2	NORSAR Subarra	79.92	338	P	P	19 38 41.0	-0.2
	comp=Z,1.5nm,0.8s,baz=41,slow=5.3						
NOA	NORSAR Array B	79.92	338	P	P	19 38 40.7	-0.5
	comp=Z,1.1nm,0.7s,baz=41,slow=5.3,SNR=5.6						
NOA				LR	LR	20 17 08.3	
	comp=Z,25nm,19.4s,baz=35,slow=38						
	comp=Z,1.1nm,0.7s						
PDAR	Pinedale Array	81.52	45	P	P	19 38 51.5	+1.2
	comp=Z,1.0nm,0.9s,baz=328,slow=3.2,SNR=2.7						
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	83.24	313	P	P	19 39 00.4	+1.2
	comp=Z,2.4nm,0.8s,baz=98,slow=4.4,SNR=6.4						
	comp=Z,2.4nm,0.8s						
BRTR	Keskin Array B	83.24	313	ceP	P	19 39 00.5	+1.2
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RAYN	Ar Rayn	83.45	293	P	P	19 39 01.5	+1.0
RAYN	Ar Rayn	83.45	293	P	P	19 39 01.5	+1.0
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ULM	Lac du Bonnet	84.23	33	LR	LR	20 17 30.7	
	comp=Z,28nm,19.7s,baz=316,slow=36						
ANMO	Albuquerque	88.05	50	LR	LR	20 18 46.4	
	comp=Z,46nm,18.4s,baz=274,slow=36						
LPIG	La Paz	91.70	61	LR	LR	20 16 36.4	
	comp=Z,29nm,18.8s,baz=234,slow=33						
TXAR	Lajitas Array	93.35	53	P	P	19 39 49.4	+1.4
	comp=Z,0.5nm,0.7s,baz=292,slow=3.1,SNR=5.3						
	comp=Z,0.5nm,0.7s						
LPAZ	La Paz	148.84	69	PKPbc	PKPbc	19 46 21.7	+0.2
	comp=Z,1.2nm,0.7s,baz=11,slow=0.7,SNR=6.5						

*NOU **02** 19:30:49.9, 38.°24S×176.°21E, h192km, MLv3.5/10, North Island, New Zealand*
*WEL **02** 19:30:54.2±0.6, 38°S±4°×17°6E±°, h147km±5km, M3.0/55, MLv3.0/55, Error ellipse: s-maj=0.0km s-min=0.0km az=147.2*
ISC 02 19:30:47.7±1.3**, 38.°22S**±0.°05×**176.°24E**±0.°05**, h200**km**, n126,** σ**2.s01**/133**, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HSRZ	Hossack Road	0.10	176	P	Pn	19 31 14.7	+0.9
OMRZ	Omania	0.15	44	P	Pn	19 31 14.6	+0.6
GRRZ	Galatos Road	0.17	217	P	Pn	19 31 15.1	+1.2
HRRZ	Handcock Road	0.18	168	P	Pn	19 31 15.0	+1.0
KARZ	Kaharoa	0.20	2	P	Pn	19 31 15.0	+0.9
TARZ	Mount Tarawera	0.21	95	P	Pn	19 31 15.1	+1.0
PRRZ	Plateau Road	0.31	156	P	Pn	19 31 15.2	+1.0
ALRZ	Allen Road	0.35	166	P	Pn	19 31 15.4	+1.1
KMRZ	Kaimai	0.44	328	P	Pn	19 31 15.7	+1.1
WHTZ	Whakaora	0.50	206	P	Pn	19 31 16.4	+1.6
TLZ	Tolley Road	0.56	258	P	Pn	19 31 16.5	+1.5
WATZ	Wairara	0.63	219	P	Pn	19 31 16.6	+1.2
MRHZ	Matea Rd	0.63	167	P	Pn	19 31 16.6	+1.2
MRHZ				S	Sn	19 31 33.4	-3.7
URZ	Urewera	0.69	94	P	Pn	19 31 16.3	+0.8
URZ	Urewera	0.69	94	P	Pn	19 31 16.4	+0.8
URZ				S	Sn	19 31 33.6	-3.5
RTZ	Ruatahuna	0.71	124	P	Pn	19 31 17.0	+1.2
RTZ				S	Sn	19 31 35.2	-2.4
RATZ	Rangitukua	0.74	209	P	Pn	19 31 17.4	+1.4
TOZ	Tahuroa Road	0.76	310	P	Pn	19 31 17.4	+1.5
TOZ				S	Sn	19 31 36.1	-1.6
MTHZ	Maungataniwha	0.79	143	P	Pn	19 31 17.7	+1.5
MTHZ				S	Sn	19 31 35.9	-2.6
RITZ	Rihia Road	0.81	201	P	Pn	19 31 18.2	+1.9
RAHZ	Arahi	0.97	137	P	Pn	19 31 19.4	+2.2
BKZ	Black Stump Fm	0.97	168	P	Pn	19 31 18.7	+1.4
BKZ	Black Stump Fm	0.97	168	P	Pn	19 31 18.9	+1.6
BKZ				S	Sn	19 31 37.5	-2.9
RAGZ	Rawiri	0.97	107	P	Pn	19 31 19.2	+1.9
NTVZ	North Tongarir	0.98	206	P	Pn	19 31 19.2	+1.7
NMHZ	Naumai	0.99	153	P	Pn	19 31 19.9	+2.5
NMHZ				S	Sn	19 31 39.7	-0.9
TMVZ	Te Maari	0.99	205	P	Pn	19 31 19.1	+1.7
ETVZ	East Tongariro	1.01	204	P	Pn	19 31 19.3	+1.7
MWZ	Matawai	1.02	97	P	Pn	19 31 19.2	+1.6
WTVZ	West Tongariro	1.03	209	P	Pn	19 31 19.4	+1.7
SNGZ	Shannon Statio	1.03	123	P	Pn	19 31 19.9	+2.2
NNVZ	North Ngauruho	1.03	208	P	Pn	19 31 19.6	+1.8
OTVZ	Oturere	1.05	205	P	Pn	19 31 20.0	+2.1
TWVZ	Taurewa	1.06	216	P	Pn	19 31 19.7	+1.7
SNVZ	South Ngauruho	1.07	206	P	Pn	19 31 20.0	+1.9
NGZ	Ngauruhoe	1.08	207	P	Pn	19 31 19.9	+1.7
HIZ	Hauiti	1.12	254	P	Pn	19 31 20.3	+2.0
HIZ	Hauiti	1.12	254	P	Pn	19 31 20.4	+2.0
TUVZ	Tukino	1.14	203	P	Pn	19 31 20.6	+2.0
WHHZ	Waihua	1.16	138	P	Pn	19 31 21.0	+2.4
RUGZ	Raukumara Rang	1.17	78	P	Pn	19 31 19.5	+0.7
FWVZ	Far West T-bar	1.17	207	P	Pn	19 31 20.6	+1.7
WHVZ	Whangaehu Hut	1.18	205	P	Pn	19 31 20.2	+1.3
ARHZ	Aropaoanui	1.20	151	P	Pn	19 31 21.2	+2.4
TRVZ	Turoa	1.21	206	P	Pn	19 31 21.2	+2.1
KWHZ	Kaweka Forest	1.22	173	P	Pn	19 31 21.1	+2.1
WNVZ	Wahianoa	1.22	204	P	Pn	19 31 21.1	+1.9
MOVZ	Moawhango	1.25	197	P	Pn	19 31 20.9	+1.6
PKVZ	Pokaka	1.28	213	P	Pn	19 31 21.5	+2.0
BHHZ	Black Hill Sta	1.28	186	P	Pn	19 31 21.4	+1.8
MCHZ	McNeill Hill	1.28	164	P	Pn	19 31 22.3	+2.8
RIGZ	Rimuhau	1.29	113	P	Pn	19 31 22.0	+2.4
HAZ	Te Kaha	1.31	70	P	Pn	19 31 21.1	+1.4
MTVZ	Mangateitei	1.31	207	P	Pn	19 31 21.9	+2.1
TWGZ	Tauwhareparae	1.38	89	P	Pn	19 31 22.7	+2.3
KNZ	Kokohu	1.38	126	P	Pn	19 31 22.6	+2.3
MKAZ	Moumakai	1.40	322	P	Pn	19 31 22.7	+2.2
VRZ	Vera Road	1.47	231	P	Pn	19 31 23.7	+2.6
PKGZ	Pakihiroa	1.49	78	P	Pn	19 31 23.5	+2.2
KUZ	Kuaotunu	1.52	344	P	Pn	19 31 23.4	+1.8
KUZ	Kuaotunu	1.52	344	P	Pn	19 31 23.6	+2.0
CNGZ	Carnagh Statio	1.57	100	P	Pn	19 31 25.0	+3.0
CKHZ	Cape Kidnapper	1.58	156	P	Pn	19 31 24.9	+2.9
PUZ	Puketiti	1.60	85	P	Pn	19 31 24.4	+2.1
MHGZ	Mahia Peninsul	1.61	126	P	Pn	19 31 25.2	+2.9
KAHZ	Kahuranaki	1.65	163	P	Pn	19 31 25.6	+2.8
WIAZ	Waiheke Island	1.67	328	P	Pn	19 31 25.4	+2.5
PNHZ	Pukenui	1.69	181	P	Pn	19 31 25.3	+2.1
AWAZ	Awhitu Peninsu	1.71	312	P	Pn	19 31 25.8	+2.5
MXZ	Matakaoa Point	1.76	69	P	Pn	19 31 26.1	+2.3
MXZ	Matakaoa Point	1.76	69	P	Pn	19 31 26.3	+2.5
WMGZ	Waiomatatini S	1.77	78	P	Pn	19 31 26.1	+2.3
MBAZ	Motutapu North	1.79	323	P	Pn	19 31 26.7	+2.6
WAZ	Wanganui	1.82	212	P	Pn	19 31 26.9	+2.5
TSZ	Takapari Road	1.85	187	P	Pn	19 31 26.9	+2.2
WPHZ	Waipukurau	1.85	175	P	Pn	19 31 27.1	+2.4
DREZ	Durham Road	1.86	238	P	Pn	19 31 28.1	+3.4
PXZ	Pawanui	1.88	165	P	Pn	19 31 27.5	+2.6
LREZ	Lake Rotokare	1.90	228	P	Pn	19 31 28.2	+3.2
PREZ	Palmer Road	1.97	235	P	Pn	19 31 28.7	+2.8
NEZ	North Egmont	1.98	237	P	Pn	19 31 29.5	+3.5
PKE	Pukeiti	2.01	240	P	Pn	19 31 29.6	+3.3
PRHZ	Porangahau	2.07	172	P	Pn	19 31 29.5	+2.6
DVHZ	Dannevirke	2.08	181	P	Pn	19 31 29.2	+2.2
POWZ	Post Office Ro	2.20	189	P	Pn	19 31 30.4	+2.2
ANWZ	Angora Road	2.25	175	P	Pn	19 31 31.5	+2.8
PRWZ	Pori Road	2.34	185	P	Pn	19 31 32.3	+2.5
BFZ	Birch Farm	2.46	180	P	Pn	19 31 33.2	+2.2
BFZ	Birch Farm	2.46	180	P	Pn	19 31 33.3	+2.2
MRZ	Mangatainoka R	2.49	192	P	Pn	19 31 33.4	+2.0
TIWZ	Tintock	2.57	186	P	Pn	19 31 34.5	+2.2
CPWZ	Castlepoint	2.69	181	P	Pn	19 31 36.4	+2.8
OGWZ	Otaki Gorge	2.73	197	P	Pn	19 31 36.1	+2.1
HOWZ	Holdsworth Sta	2.73	192	P	Pn	19 31 35.9	+1.8
KIW	Kapiti Island	2.83	201	P	Pn	19 31 36.9	+1.6
TMWZ	Te Maipa	2.90	185	P	Pn	19 31 37.9	+1.8
MTW	Mount Morrison	2.99	191	P	Pn	19 31 38.7	+1.6
CAW	Cannon Point	3.02	197	P	Pn	19 31 39.3	+1.8
DUWZ	D'Urville Isla	3.14	214	P	Pn	19 31 40.5	+1.5
TRWZ	Traveller	3.21	187	P	Pn	19 31 41.4	+1.7
PAWZ	Paruwai Farm	3.22	191	P	Pn	19 31 41.5	+1.6
WEL	Wellington	3.27	200	P	Pn	19 31 42.1	+1.7
MSWZ	Moikau Station	3.29	193	P	Pn	19 31 42.1	+1.4
SNZO	South Karori	3.31	200	P	Pn	19 31 42.3	+1.4
TCW	Tory Channel	3.35	206	P	Pn	19 31 42.8	+1.4
PLWZ	Palliser	3.43	192	P	Pn	19 31 43.8	+1.3
TUWZ	Tuamarina	3.66	208	P	Pn	19 31 46.7	+1.5
NNZ	Nelson	3.72	215	P	Pn	19 31 47.5	+1.6
CMWZ	Cape Campbell	3.85	203	P	Pn	19 31 49.9	+2.3
QRZ	Quartz Range	3.87	227	P	Pn	19 31 48.7	+0.9
QRZ	Quartz Range	3.87	227	P	Pn	19 31 48.8	+0.9
BSWZ	Blackbirch Sta	3.94	207	P	Pn	19 31 50.2	+1.7
MRNZ	Matariki Terra	4.16	219	P	Pn	19 31 52.5	+1.2
THZ	Tophouse	4.37	215	P	Pn	19 31 55.5	+1.4
KHZ	Kahutara	4.67	205	P	Pn	19 31 59.6	+1.8
KHZ	Kahutara	4.67	205	P	Pn	19 31 59.3	+1.5
DSZ	Denniston Nort	4.90	223	P	Pn	19 32 01.2	+0.4
GVZ	Greta Valley S	5.33	206	P	Pn	19 32 07.6	+1.4
LTZ	Lake Taylor	5.47	212	P	Pn	19 32 09.5	+1.5
INZ	Inchbonnie	5.80	218	P	Pn	19 32 12.3	+0.1
OKCZ	Okains Bay	6.00	203	P	Pn	19 32 15.9	+1.1
MQZ	McQueen's Vall	6.12	205	P	Pn	19 32 16.6	+0.3
AKCZ	Akaroa Harbour	6.18	203	P	Pn	19 32 18.3	+1.1
TMZ	Timaru	7.31	211	P	Pn	19 32 32.9	+1.0
ODZ	Otahua Downs	8.00	210	P	Pn	19 32 42.6	+1.8
ODZ	Otahua Downs	8.00	210	P	Pn	19 32 42.4	+1.6

*NEIC **02** 19:32:47.8±2.6, 45.°23N±0.°04×106.°79W±0.°06, h0km±2km, ML3.1/68, Error ellipse: s-maj=8.1km s-min=5.8km az=118.0*
*IDC **02** 19:32:48.2±1.4, 44.°99N×106.°90W, h0km, mbtmp3.5/2, ML2.9/2, Error ellipse: s-maj=61.8km s-min=9.9km az=135.0*
ISC 02 19:32:47.0±1.0**, 45.°16N**±0.°05×**106.°71W**±0.°06**, h0**km**, n53,** σ**1.s37**/52**, Montana**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAO	LASA Array	1.56	12	Pn	Pb	19 33 16.9	0.0
LAO				IAML		19 33 46.1	
	299nm,0.8s						
LAO				IAML		19 33 48.3	
	228nm,0.8s						
RLMT	Red Lodge	1.81	270	Pn	Pn	19 33 18.0	-1.7
RLMT				IAML		19 33 49.2	
	133nm,0.8s						
RSSD	Black Hills	2.17	118	Pn	Pb	19 33 26.6	-0.7
RSSD				IAML		19 34 08.0	
	146nm,0.6s						
RSSD				IAML		19 34 10.4	
	86nm,0.7s						
GCMT	Greycliff	2.17	288	Pn	Pn	19 33 23.8	-0.8
GCMT				Sn	Sn	19 33 51.0	-1.3
YMP	Mirror Lake Pl	2.48	261	Pn	Pn	19 33 27.5	-1.5
K22A	Casper	2.52	177	Pn	Pn	19 33 29.1	-0.2
K22A				IAML		19 34 18.1	
	comp=E,65nm,0.8s						
LKWY	Lake	2.69	258		Pn	19 33 33.1	+1.2
LKWY				IAML		19 34 28.0	
	comp=E,59nm,1.9s						
LKWY				IAML		19 34 29.6	
	comp=E,73nm,0.8s						
YUF	Upper Falls	2.74	262		Pn	19 33 33.9	+1.4
YUF				IAML		19 34 17.9	
	comp=N,55nm,1.8s						
YNR	Norris Junctio	2.86	262	Pn	Pn	19 33 34.3	+0.2
YNR				IAML		19 34 17.2	
	comp=N,44nm,1.0s						
H17A	Grant Village	2.86	256	Pn	Pn	19 33 35.0	+0.9
YHH	Holmes Hill	2.96	264	Pn	Pn	19 33 36.0	+0.4
YFT	Old Faithful	3.02	258	Pn	Pn	19 33 35.5	-0.9
FLWY	Flagg Ranch	3.05	251	Pn	Pn	19 33 36.7	0.0
FLWY				IAML		19 34 27.6	
	comp=N,63nm,2.1s						
YMR	Madison River	3.06	262		Pn	19 33 38.8	+1.9
YMR				IAML		19 34 48.4	
	comp=E,75nm,1.1s						
BW06	Boulder Array	3.16	222		Pn	19 33 39.6	+1.4
BW06				IAML		19 34 24.5	
	comp=E,33nm,0.7s						
BW06				IAML		19 34 27.2	
	comp=E,38nm,0.7s						
PD31	Pinedale Array	3.16	222		Pn	19 33 39.8	+1.6
PDAR	Pinedale Array	3.16	222	Pn	Pn	19 33 39.5	+1.3
	comp=E,1.4nm,0.3s,baz=50,slow=17,SNR=39						
PDAR				Lg	Lg	19 34 19.1	
	comp=E,4.7nm,0.3s,baz=42,slow=30,SNR=5.2						
	comp=E,3.0nm,0.4s						
YHL	Hebgen Lake	3.19	266		Pn	19 33 38.5	-0.2
YHL				IAML		19 34 30.1	
	comp=N,56nm,1.3s						
YHL				IAML		19 34 52.0	
	comp=E,66nm,0.9s						
LOHW	Long Hollow	3.19	242		Pn	19 33 38.1	-0.6
YHB	Horse Butte	3.21	264		Pn	19 33 41.3	+2.4
YHB				IAML		19 34 33.1	
	comp=N,39nm,1.0s						
MOOW	Moose Ponds	3.22	245		Pn	19 33 39.2	+0.1
IMW	Indian Meadow	3.28	249		Pn	19 33 42.0	+2.0
IMW				IAML		19 34 34.6	
	comp=N,52nm,0.8s						
IMW				IAML		19 34 39.2	
	comp=N,56nm,0.7s						
QLMT	Earthquake Lak	3.37	266		Pn	19 33 40.0	-1.0
SNOW	Snow King Moun	3.37	241		Pn	19 33 39.0	-2.1
SNOW				IAML		19 34 43.6	
	comp=N,33nm,1.2s						
SNOW				IAML		19 35 45.0	
	comp=N,45nm,4.0s						
FXWY	Fox Creek	3.45	245		Pn	19 33 41.2	-1.0
TPAW	Teton Pass	3.47	243		Pn	19 33 44.0	+1.4
TPAW				IAML		19 34 56.1	
	comp=N,25nm,1.2s						
REDW	Red Top Meadow	3.48	240		Pn	19 33 43.9	+1.3
REDW				IAML		19 35 01.0	
	comp=N,42nm,2.5s						
REDW				IAML		19 35 52.1	
	comp=N,35nm,3.7s						
RWWY	Rawlins	3.49	186		Pn	19 33 41.2	-1.6
RWWY				IAML		19 34 42.6	
	comp=N,37nm,1.1s						
RWWY				IAML		19 35 01.8	
	comp=N,36nm,0.8s						
BOZ	Bozeman (W)	3.50	279	Pn	Pn	19 33 41.2	-1.5
BOZ				IAML		19 34 45.6	
	comp=N,29nm,0.8s						
EGMT	Eagleton	3.55	325		Pn	19 33 42.4	-1.0
DGMT	Dagmar	3.73	27		Pn	19 33 46.1	+0.2
PHWY	Pilot Hill	3.97	166	Pn	Pn	19 33 50.3	+0.9
PHWY				IAML		19 34 53.3	
	comp=N,18nm,2.3s						
PHWY				IAML		19 34 57.9	
	comp=N,22nm,1.7s						
AHID	Auburn Hatcher	3.98	234	Pn	Pn	19 33 48.1	-1.3
AHID				IAML		19 34 55.1	
	comp=N,21nm,1.9s						
AHID				IAML		19 35 03.3	
	comp=N,26nm,0.9s						
LRM	Limekiln Ridge	4.09	281		Pn	19 33 50.0	-1.1
DLMT	Dillon	4.16	275		Pn	19 33 51.5	-0.4
N23A	Red Feather La	4.30	172		Pn	19 33 54.3	+0.3
MCMT	McKenzie Canyo	4.37	268	Pn	Pn	19 33 56.1	+1.2
BCYI	Bear Canyon	4.85	262		Pn	19 34 00.9	-0.6
HWUT	Hardware Ranch	5.02	227		Pn	19 34 04.8	+1.1
HWUT				IAML		19 35 42.6	
	comp=N,14nm,1.4s						
RDMU	Red Mountain	5.05	206	Pn	Pn	19 34 05.1	+0.9
O20A	White River Ci	5.15	193	Pn	Pn	19 34 04.7	-0.9
MSO	Missoula	5.31	291	Pn	Pn	19 34 07.1	-0.5
HVU	Hansel Valley	5.56	235		Pn	19 34 12.0	+0.9
HLID	Hailey	5.75	257		Pn	19 34 18.0	+4.2
P18A	Preston Nutter	6.12	207		Pn	19 34 18.4	-0.5
SRU	San Rafael Swe	6.68	206	Pn	Pn	19 34 25.3	-1.3
PV07	Paradox Valley	6.87	193	Pn	Pn	19 34 28.0	-1.2
PV15	Paradox Valley	6.94	192	Pn	Pn	19 34 28.2	-2.0
PV20	West Nyswonger	7.02	195	Pn	Pn	19 34 29.4	-1.9
PV01	Paradox Valley	7.16	192	Pn	Pn	19 34 32.4	-0.8
NEW	Newport	7.80	297	Lg	Lg	19 36 48.8	
	comp=N,0.2nm,0.3s,baz=44,slow=23,SNR=2.1						
I10CA	LAC DU BONNET	8.79	51	I		20 25 45.0	
	comp=N,0.1nm,1.8s,baz=232,slow=295,SNR=8.4						
ULM	Lac du Bonnet	8.90	51	Pn	Pn	19 34 58.7	+1.9
	comp=N,0.3nm,0.3s,baz=235,slow=13,SNR=7.0						
ULM				Lg	Lg	19 37 24.0	
	comp=N,0.3nm,0.3s,baz=351,slow=22,SNR=1.7						
	comp=N,3.6nm,0.7s						

*SNET **02** 19:35:34.6±1.0, 13.°78N×90.°80W, h27km±4km, ML3.8*
*UCR **02** 19:35:34.8±1.0, 13.°79N×90.°80W, h27km±6km, ML3.7*
*GCG **02** 19:35:39.3±0.7, 14.°12N×90.°84W, h59km±11km, MD4.0*
ISC 02 19:35:34.9±1.7**, 13.°7N**±0.°1×**90.°82W**±0.°05**, h35**km**, n36,** σ**0.s65**/41**, 4C-7D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.76	16	eP	Pn	19 35 50.4	+0.9
FUG	Fuego 3	0.79	358	eP	Pn	19 35 50.3	+0.5
SULM	Suchitepequez,	0.97	312	eP	Pn	19 35 53.5	+1.5
NBG	Las Nubes	1.04	26	eP	Pn	19 35 54.5	+1.2
NUBE	Las Nubes	1.04	76	⇓eP	Pn	19 35 53.0	-0.1
NUBE				eS	Sn	19 36 06.5	-0.1
NUBE	Las Nubes	1.04	76	⇓eP	Pn	19 35 53.0	-0.1
NUBE				eS	Sn	19 36 06.5	-0.1
SLOZ	Alcaldia de Sa	1.07	70	⇓eP	Pn	19 35 53.7	+0.2
SLOZ				eS	Sn	19 36 08.0	+0.8
RTR	El Retiro	1.17	78	⇑iP	Pn	19 35 55.5	+0.6
RTR	El Retiro	1.17	78	⇑iP	Pn	19 35 55.5	+0.6
CEVE	Cerro Verde	1.17	81	eP	Pn	19 35 55.3	+0.2
CEVE	Cerro Verde	1.17	81	eP	Pn	19 35 55.3	+0.2
SBLS	San Blas	1.18	81	⇑eP	Pn	19 35 55.3	+0.2
SBLS	San Blas	1.18	81	⇑eP	Pn	19 35 55.3	+0.2
SNJE	San Jose	1.20	80	eP	Pn	19 35 55.7	+0.3
SNJE	San Jose	1.20	80	eP	Pn	19 35 55.7	+0.3
RTAL	Retalhuleu	1.21	316	eP	Pn	19 35 55.3	-0.1
RTAL				eS	Sn	19 36 09.8	-0.8
STG3	Santiaguito 3,	1.28	325	eP	Pn	19 35 57.2	+0.8
STG3				eS	Sn	19 36 10.4	-2.1
BOQS	Boqueron	1.50	87	eP	Pn	19 36 00.1	+0.6
BOQS	Boqueron	1.50	87	eP	Pn	19 36 00.1	+0.6
UEES	Universidad Ev	1.54	87	eP	Pn	19 36 00.3	+0.3
UEES				IAML		19 36 23.3	
	comp=Z,1μm,0.2s						
UEES	Universidad Ev	1.54	87	eP	Pn	19 36 00.3	+0.3
UEES				IAML		19 36 23.3	
	comp=Z,1μm,0.2s						
SNET	Serv Nac Est T	1.54	89	eP	Pn	19 36 00.3	+0.3
SNET	Serv Nac Est T	1.54	89	eP	Pn	19 36 00.3	+0.3
MTO3	Montecristo	1.60	62	⇓iP	Pn	19 36 00.3	-0.6
MTO3	Montecristo	1.60	62	⇓iP	Pn	19 36 00.3	-0.6
ESQI	Esquipulas	1.69	58	⇓iP	Pn	19 36 01.8	-0.3
LFRS	El Faro	1.71	91	eP	Pn	19 36 02.7	+0.3
LFRS	El Faro	1.71	91	eP	Pn	19 36 02.7	+0.3
MRL	Marmol	1.80	38	eP	Pn	19 36 04.1	+0.5
PAVA	Las Pavas	1.83	88	eP	Pn	19 36 04.1	+0.1
PAVA	Las Pavas	1.83	88	eP	Pn	19 36 04.1	+0.1
COEG	Centro de Oper	1.89	91	eP	Pn	19 36 05.3	+0.6
COEG				IAML		19 36 37.2	
	comp=Z,899nm,0.4s						
COEG	Centro de Oper	1.89	91	eP	Pn	19 36 05.3	+0.6
COEG				IAML		19 36 37.2	
	comp=Z,899nm,0.4s						
P5NO	Presa 5 de nov	2.03	80	⇓iP	Pn	19 36 06.0	-0.7
PQSS	Presa 15 de Se	2.20	90	eP	Pn	19 36 09.1	+0.2
PQSS	Presa 15 de Se	2.20	90	eP	Pn	19 36 09.1	+0.2

*PRU **02** 19:37:48.2±0.0, 42.°73N×13.°34E, h0km, M4.3*
*IDC **02** 19:37:49.8±1.0, 42.°92N×12.°93E, h0km, mb3.9/11, mbtmp3.9/19, ML3.6/7, MS3.0/16, Error ellipse: s-maj=17.2km s-min=12.0km az=85.0*
*ROM **02** 19:37:49.6±0.0, 42.°877N±0.°002×13.°061E±0.°003, h8km, ML4.1/5, Mw3.7, Error ellipse: s-maj=0.2km s-min=0.1km az=77.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-4.30; $M_{\theta\theta}$1.46; $M_{\phi\phi}$2.84; $M_{r\theta}$0.27; $M_{\theta\phi}$-1.64; $M_{\phi r}$-0.21; Fault plane solution: $M_0$4.12923×10^{14} NP1:ϕ_s148.00000°, δ43.00000°, λ-88.00000°. NP2:ϕ_s325.00000°, δ47.00000°, λ-92.00000°.*
*LDG **02** 19:37:49.1±0.1, 42.°89N×13.°14E, h9km, Ml3.5/27 Error ellipse: s-maj=2.1km s-min=1.6km az=58.0*
*PDG **02** 19:37:50.5±0.5, 42.°91N×13.°13E, h7km, ML4.0/12, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
*NEIC **02** 19:37:50.5±1.9, 42.°89N±0.°05×13.°03E±0.°07, h5km±6km, Error ellipse: s-maj=8.1km s-min=6.6km az=225.0*
*MED_RC **02** 19:37:52.0±0.4, 42.°75N×12.°74E, h12km±3km, MW4.0/9, Moment Tensor Solution.Mantle waves: s9,c9; Duration: 1.s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.92±.22; $M_{\theta\theta}$0.34±.19; $M_{\phi\phi}$0.59±.11; $M_{r\theta}$-0.53±.41; $M_{\theta\phi}$-0.02±.12; $M_{\phi r}$1.13±.28; Best double couple: $M_0$1.45000×10^{15} NP1:ϕ_s157.00000°, δ75.00000°, λ-93.00000°. NP2: ϕ_s350.00000°, δ16.00000°, λ-78.00000°. Principal axes: T 1.2700, Plg29.0000°, Azm250.0000°; N 0.3600, Plg3.0000°, Azm158.0000°; P -1.6400, Plg60.0000°, Azm62.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*STR **02** 19:37:53.7±1.8, 43°N±9°×1°3E±1°5, h10km, MLv4.0/28 Error ellipse: s-maj=0.0km s-min=0.0km az=98.9, preliminary*
ISC 02 19:37:50.4±0.7**, 42.°86N**±0.°01×**13.°03E**±0.°01**, h6**km±4km**, n445,** σ**2.s07**/558**, mb4.2**/16**, MS2.9**/5**, 40C-33D, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1216	Preci, Frazion	0.03	348	⇑P	Pg	19 37 51.1	-0.6
T1216				S	Sg	19 37 52.3	-0.4

T1216 AML AML
T1216 AML AML
T1216 AML AML
T1216 AML AML
T1216 AML AML
T1216 AML AML
T1216 AML AML
NRCA Norcia 0.07 115 Pg **Pg** 19 37 51.7 -0.6
NRCA Norcia 0.07 115 ⇓P **Pg** 19 37 51.7 -0.6
NRCA S **Sg** 19 37 53.0 -0.6
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
FEMA Monte Fema 0.10 10 P **Pg** 19 37 52.0 -0.7
FEMA S **Sg** 19 37 54.0 -0.4
T1245 Castelsantange 0.12 93 ⇑P **Pg** 19 37 52.3 -0.7
T1245 S **Sg** 19 37 54.4 -0.5
T1245 AML AML
T1245 AML AML
T1245 AML AML
T1245 AML AML
T1215 Vallo di Nera, 0.13 242 P **Pg** 19 37 53.8 +0.6
T1215 S **Sg** 19 37 57.1 +2.0
T1215 AML AML
comp=E,60500µm,0.4s
T1215 AML AML
comp=E,64550µm,0.4s
T1215 AML AML
comp=N,59650µm,1.2s
T1215 AML AML
comp=E,60500µm,0.4s
T1215 AML AML
comp=N,59100µm,1.6s
T1215 AML AML
comp=E,64550µm,0.4s
T1215 AML AML
comp=N,59650µm,1.2s
T1215 AML AML
comp=N,59800µm,1.2s
T1215 AML AML
comp=E,60550µm,0.4s
T1215 AML AML
comp=N,59100µm,1.6s
T1215 AML AML
comp=N,59700µm,1.2s
T1217 Poggiodomo (PG 0.17 205 P **Pg** 19 37 54.4 +0.6
T1217 S **Sg** 19 37 58.2 +2.0
T1217 AML AML
comp=N,91950µm,0.6s
T1217 AML AML
comp=E,84750µm,1.0s
T1217 AML AML
comp=N,87950µm,0.6s
T1217 AML AML
comp=N,88000µm,0.6s
T1217 AML AML
comp=E,85350µm,0.9s
T1217 AML AML
comp=N,91950µm,0.6s
T1217 AML AML
comp=E,84900µm,0.9s
T1217 AML AML
comp=N,88200µm,0.6s
FDMO Fiordimonte 0.18 14 **Pg** 19 37 53.5 -0.6
FDMO Fiordimonte 0.18 14 ⇑P **Pg** 19 37 53.5 -0.6
FDMO S **Sg** 19 37 56.5 0.0
T1256 Bolognola (MC) 0.20 46 ⇑P **Pg** 19 37 53.8 -0.8
T1256 S **Sg** 19 37 56.4 -1.0
MMO1 Montemonaco 0.22 81 ⇑P **Pg** 19 37 54.2 -0.6
MMO1 S **Sg** 19 37 57.8 -0.1
T1244 Arquata del Tr 0.23 118 P **Pg** 19 37 54.8 -0.2
T1244 S **Sg** 19 37 59.0 +1.0
LNSS Leonessa 0.26 178 ⇓P **Pg** 19 37 55.9 +0.3
LNSS S **Sg** 19 38 00.7 +1.6
CSP1 Cessapalombo 0.26 30 ⇑P **Pg** 19 37 55.0 -0.7
CSP1 S **Sg** 19 37 59.4 +0.2
T1201 Domo (RI) 0.26 141 P **Pg** 19 37 55.9 +0.3
T1201 S **Sg** 19 38 00.8 +1.7
AM05 Amandola Campo 0.27 64 ⇑P **Pg** 19 37 55.0 -0.6
AM05 S **Sg** 19 37 59.4 +0.2
T1204 Amatrice, Fraz 0.28 131 P **Pg** 19 37 55.9 -0.1
T1204 S **Sg** 19 38 00.9 +1.1
T1204 AML AML
comp=E,47900µm,0.9s
T1204 AML AML
comp=E,48000µm,0.9s
T1204 AML AML
comp=N,46400µm,1.0s
SEF1 Sefro 0.29 348 P **Pg** 19 37 55.8 -0.3
SEF1 S **Sg** 19 38 01.3 +1.3
T1241 Roccafluvione, 0.30 91 P **Pg** 19 37 55.8 -0.5
T1241 S **Sg** 19 38 00.7 +0.5
GUMA Gualdo di Mace 0.30 49 ⇑P **Pg** 19 37 55.9 -0.5
GUMA S **Sg** 19 38 01.2 +0.8
PIO1 Pioraco 0.32 354 P **Pg** 19 37 56.6 -0.1
PIO1 S **Sg** 19 38 02.0 +1.1
ASSB Assisi San Ben 0.32 304 P **Pg** 19 37 56.8 0.0
ASSB S **Sb** 19 38 02.8 -1.4
SMA1 SAN MARTINO 0.33 136 P **Pg** 19 37 56.4 -0.5
SMA1 S **Sg** 19 38 02.4 +1.3
FIU1 Fiuminata 0.33 348 P **Pg** 19 37 56.8 -0.1
FIU1 S **Sg** 19 38 02.6 +1.2
MDAR Monte D'Aria 0.34 14 P **Pg** 19 37 56.5 -0.6
MDAR S **Sg** 19 38 02.2 +0.6
ARRO Arrone 0.34 214 P **Pg** 19 37 57.7 +0.5
ARRO S **Sb** 19 38 04.5 -0.1
T1243 Rocca Santa Ma 0.35 118 ⇓P **Pg** 19 37 56.8 -0.5
T1243 S **Sg** 19 38 02.3 +0.3
T1211 Morro Reatino 0.35 201 P **Pg** 19 37 57.5 +0.1
T1211 S **Sb** 19 38 04.2 -0.8
GAG1 Gagliole 0.38 4 P **Pg** 19 37 57.5 -0.3
GAG1 S **Sg** 19 38 04.0 +1.3
RM33 Pellescritta (0.38 159 ⇓P **Pg** 19 37 57.6 -0.2
RM33 S **Sg** 19 38 03.9 +1.0
SSM1 San Severino M 0.38 17 P **Pg** 19 37 57.2 -0.7
SNTG Esanatoglia 0.40 351 P **Pg** 19 37 57.6 -0.5
SNTG S **Sg** 19 38 04.1 +0.7
CESX Cesi 0.42 233 Pg **Pg** 19 37 58.8 +0.3
CESX Cesi 0.42 233 ⇓P **Pg** 19 37 58.8 +0.3
CESX S **Sb** 19 38 06.3 -0.4
MNTP Montappone 0.42 50 P **Pg** 19 37 58.5 -0.2
ATCC AVT- Casa Cast 0.43 319 P **Pg** 19 37 58.6 -0.1
ATCC S **Sb** 19 38 06.7 -0.5
CAMP Campotosto 0.43 139 Pg **Pg** 19 37 58.3 -0.5
CAMP Campotosto 0.43 139 ⇓P **Pg** 19 37 58.3 -0.5
CAMP S **Sg** 19 38 05.0 +0.5
T1246 Crognaleto (TE 0.44 129 ⇓P **Pg** 19 37 58.4 -0.7
T1246 S **Sg** 19 38 05.5 +0.6
T1247 Pizzolo (AQ) 0.47 155 ⇓P **Pg** 19 37 59.1 -0.4
T1247 S **Sg** 19 38 06.9 +1.3
EL6 Elcito 0.47 7 P **Pg** 19 37 58.8 -0.7
EL6 S **Sg** 19 38 07.0 +1.3
FOSV Fossato di Vic 0.47 336 P **Pg** 19 37 59.2 -0.4
FOSV S **Sb** 19 38 07.1 -1.3
TERO Teramo 0.49 119 P **Pg** 19 37 59.1 -0.8
TERO S **Sg** 19 38 06.6 +0.4
TERO AML AML
comp=E,16850µm,1.1s
TERO AML AML
comp=N,26300µm,0.5s
TERO AML AML
comp=E,17350µm,1.1s
TERO AML AML
comp=N,27050µm,0.5s
OFFI Offida 0.49 81 ⇑P **Pg** 19 38 00.2 +0.3
TRE1 Treia 0.49 25 P **Pg** 19 37 60.0 0.0
CING Cingoli 0.53 13 ⇑P **Pg** 19 37 59.8 -0.8
CING S **Sg** 19 38 08.4 +0.9
MURB Monte Urbino 0.54 317 **Pg** 19 38 00.3 -0.7
MURB Monte Urbino 0.54 317 P **Pg** 19 38 01.0 +0.1
GIGS Gran Sasso 0.57 136 ⇓P **Pg** 19 38 00.5 -1.0
AQU L'Aquila 0.58 151 Pg **Pg** 19 38 01.0 -0.6
AQU L'Aquila 0.58 151 ⇓P **Pg** 19 38 01.1 -0.6
ATTE AVT- Monte Tez 0.60 304 P **Pg** 19 38 02.0 0.0
FIAM Fiamignano 0.60 174 ⇓P **Pg** 19 38 01.5 -0.5
SSFR Montelago di S 0.60 343 ⇑P **Pg** 19 38 01.4 -0.6
ATFO Monte Foce - G 0.60 327 P **Pg** 19 38 01.8 -0.3
CADA Capodarco di F 0.63 58 P **Pb** 19 38 03.4 -0.4
ARVD Arcevia 0.64 354 P **Pg** 19 38 01.9 -0.8

ATLO AVT- Montelove 0.64 315 P **Pg** 19 38 02.3 -0.4
CIMA Civitanova Mar 0.65 47 P **Pg** 19 38 03.4 +0.5
TRTR Tortoreto Alta 0.66 95 P **Pg** 19 38 03.5 +0.5
PP3 Marolino 0.67 39 ⇑P **Pg** 19 38 03.2 -0.1
MGAB Montegabbione 0.67 274 ⇓P **Pg** 19 38 03.6 +0.2
TB01 Gubbio 0.68 320 ⇓P **Pg** 19 38 02.9 -0.5
ATVA AVT- Monte Val 0.68 308 P **Pg** 19 38 03.4 -0.2
ATVO AVT- Monte Val 0.69 319 P **Pg** 19 38 03.2 -0.5
FRON Frontone 0.69 341 P **Pg** 19 38 02.9 -0.8
TB03 Pietralunga 0.70 320 P **Pg** 19 38 03.3 -0.6
ATBU Serra di Buran 0.70 330 P **Pg** 19 38 03.8 -0.2
FAGN Fagnano 0.72 145 ⇓P **Pg** 19 38 03.2 -1.1
ATMI Monte Miggiano 0.73 310 P **Pg** 19 38 04.5 0.0
SRES S.Oreste - Sor 0.73 212 ⇓P **Pg** 19 38 04.4 -0.1
ATPI Pietralunga - 0.74 322 P **Pg** 19 38 04.4 -0.3
ATPC Poggio Castell 0.74 326 ⇓P **Pg** 19 38 04.4 -0.4
PIEI Pieia 0.76 332 P **Pg** 19 38 04.2 -0.9
VCEL Villa Celiera 0.76 128 ⇓P **Pg** 19 38 04.2 -0.9
COR1 Corinaldo 0.77 359 P **Pg** 19 38 05.0 -0.3
MPAG Monte Paganucc 0.79 346 P **Pg** 19 38 04.8 -0.8
AOI Ancona 0.81 31 P **Pg** 19 38 05.1 -0.8
SACS San Casciano d 0.82 269 P **Pg** 19 38 06.6 +0.4
ATMC Monte Cedrone 0.84 314 P **Pg** 19 38 06.3 -0.3
T0110 Collepietro 0.84 139 ⇓P **Pg** 19 38 05.3 -1.4
FSSB Fossombrone 0.85 348 P **Pg** 19 38 05.8 -0.9
MTCE Montecelio 0.87 194 ⇓P **Pg** 19 38 06.1 -1.0
PTQR Pietraquaria 0.89 162 ⇓P **Pg** 19 38 06.1 -1.3
CAFI Castiglion Fio 0.91 301 ⇓P **Pg** 19 38 07.7 -0.1
CERT Cerreto 0.92 182 ⇑P **Pg** 19 38 07.0 -1.0
PE3 Peglio 0.92 335 ⇑P **Pg** 19 38 07.8 -0.3
LATE Laterza 0.94 255 **Pg** 19 38 08.3 0.0
LATE Laterza 0.94 255 P **Pg** 19 38 08.4 0.0
SF11 Podere del Sol 0.99 271 P **Pg** 19 38 09.4 0.0
MCIV Monte Civitell 1.00 266 ⇑P **Pg** 19 38 09.7 +0.2
SF13 Bagnolo 1.04 268 P **Pg** 19 38 10.4 +0.1
SF14 Selvena 1.04 265 P **Pg** 19 38 10.4 -0.1
CPGN Carpegna, Ital 1.07 331 P **Pb** 19 38 11.4 0.0
INTR Introdacqua 1.07 142 Pg 19 38 03.5 -7.5
RMP Rome, Mte Porz 1.08 193 ⇑P **Pg** 19 38 10.1 -1.0
VVLD Villa Vallelon 1.08 156 P **Pg** 19 38 10.2 -1.0
GUAR Guarcino 1.09 169 P **Pg** 19 38 10.5 -0.8
CRE Caprese Michel 1.09 314 ⇑P **Pg** 19 38 11.2 -0.2
TOLF Tolfa 1.10 224 ⇓P **Pg** 19 38 10.9 -0.7
CAFR Castel Frentan 1.16 123 P **Pg** 19 38 11.4 -1.4
LPEL Lama dei Pelig 1.18 133 ⇑P **Pg** 19 38 11.1 -2.0
ASQU Asqua 1.30 316 P **Pn** 19 38 14.6 -0.6
GIUL Giuliano Di Ro 1.31 173 P **Pn** 19 38 14.8 -0.5
SFI Santa Sofia 1.35 321 P **Pn** 19 38 15.3 -0.5
CSNT Castellina Chi 1.41 296 P **Pn** 19 38 15.6 -1.0
FROS Frosini 1.42 285 P **Pn** 19 38 16.4 -0.3
OSSC Osservatorio P 1.46 297 Pn **Pn** 19 38 14.9 -2.4
OSSC Osservatorio P 1.46 297 P **Pn** 19 38 15.2 -2.2
CERA Filignano 1.46 149 P **Pn** 19 38 15.9 -1.5
RUFI Rufina 1.48 312 P **Pb** 19 38 18.0 -0.3
FRES Fresagrandinar 1.51 126 P **Pn** 19 38 17.4 -0.6
MIDA Miranda 1.52 143 P **Pn** 19 38 17.3 -1.0
TRIV Trivento 1.57 134 P **Pn** 19 38 18.8 -0.1
TRIF Trifonti 1.58 280 P **Pn** 19 38 19.0 0.0
CASP Castiglione de 1.59 268 Pn **Pn** 19 38 18.4 -0.7
CASP Castiglione de 1.59 268 P **Pn** 19 38 18.8 -0.4
VAGA Valle Agricola 1.70 148 P **Pn** 19 38 20.8 +0.1
BSSO Busso 1.76 138 P **Pg** 19 38 23.9 -0.3
MPPT Montemurlo 1.79 308 P **Pn** 19 38 21.5 -0.4
CIGN Sant'Elia a Pi 1.84 130 P **Pn** 19 38 23.0 +0.4
SACR S. Croce Del S 1.93 139 P **Pn** 19 38 23.8 0.0
MELA Melanico ??? S 1.94 126 P **Pn** 19 38 24.1 +0.3
GAM1 Gambatesa 1.94 133 P **Pb** 19 38 25.5 +0.2
TREM Isole Tremiti 1.98 111 P **Pn** 19 38 24.2 -0.2
TREM S **Sn** 19 38 46.6 -3.0
CELB S.Piero in Cam 2.08 268 P **Pn** 19 38 25.5 -0.3
ZCCA Zocca 2.10 316 **Pn** 19 38 25.6 -0.7
PSB1 Pescosannita 2.11 140 P **Pb** 19 38 28.4 -0.6
MAIM Mastiano 2.13 300 P **Pn** 19 38 26.9 +0.4
PAOL Paolisi 2.16 147 **Pn** 19 38 28.4 +1.4
APRC Apricena 2.17 120 P **Pn** 19 38 27.5 +0.4
MOCO Biccari - m.te 2.18 133 P **Pn** 19 38 27.4 +0.2
SGRT San Giovanni R 2.30 118 **Pn** 19 38 29.4 +0.4
SGRT San Giovanni R 2.30 118 P **Pn** 19 38 29.6 +0.6
SGRT S **Sn** 19 38 59.1 +1.6
VLC Villacollemand 2.32 305 **Pn** 19 38 29.0 -0.2
SGTA Sant Agata di 2.45 134 P **Pn** 19 38 31.5 +0.5
CAFE Carife 2.47 137 P **Pn** 19 38 32.3 +1.1
SNAL S. Angelo Dei 2.53 139 P **Pn** 19 38 33.2 +1.1
LIO3 Lioni 2.54 140 P **Pb** 19 38 34.5 -2.0
TEOL Teolo 2.68 339 **Pn** 19 38 33.9 -0.2
TEOL Teolo 2.68 339 P **Pn** 19 38 34.3 +0.2
VULT Monte Vulture 2.71 134 P **Pn** 19 38 36.0 +1.4
PRMA PARMA 2.73 315 **Pn** 19 38 33.4 -1.4
SKDS Skadanscina 2.77 14 *i* Pn **Pn** 19 38 34.9 -0.6
SKDS *i* Sn **Sn** 19 39 08.8 -0.5
SKDS IAML 19 39 35.7
comp=Z,935nm,1.5s
MRLC Muro Lucano 2.80 138 P **Pn** 19 38 37.4 +1.6
SMPL Sampolo 2.87 256 P **Pn** 19 38 37.1 +0.3
PALZ Palazzo San Ge 2.91 130 P **Pn** 19 38 38.4 +1.1
CORF Corte 2.92 260 P **Pn** 19 38 38.4 +1.0
MSSA Maissana 2.93 301 **Pn** 19 38 37.9 +0.2
MRVN Minervino Murg 2.97 126 P **Pn** 19 38 38.6 +0.5
TREG Tregnago 2.98 334 P **Pn** 19 38 39.6 +1.4
PGF Pioggiola 2.98 265 *e*P **Pn** 19 38 39.1 +0.7
PGF *e*Sn **Sn** 19 39 10.3 -4.2
comp=Z,12nm,0.4s
PGF Pioggiola 2.98 265 P **Pn** 19 38 39.2 +0.8
CEY Cerknica 3.04 19 *e*Pn **Pn** 19 38 38.8 -0.3
MARN Marana (Italy) 3.07 335 P **Pn** 19 38 40.6 +1.2
ROVR Rover Verones 3.12 334 P **Pn** 19 38 40.8 +0.6
ROVR S **Sn** 19 39 17.4 -0.4
CGRP Cima Grappa 3.14 344 P **Pn** 19 38 40.7 +0.1
CGRP S **Sn** 19 39 17.4 -1.1
SABO M.te Sabotino 3.14 7 **Pn** 19 38 40.4 -0.1
CAE Caneva 3.17 353 P **Pn** 19 38 41.0 +0.1
VARN Col Varnada, M 3.20 348 P **Pn** 19 38 41.5 +0.2
BALD Monte Baldo 3.23 331 P **Pn** 19 38 42.9 +1.0
SRKY Kupres RS 3.24 67 *e*Pn **Pn** 19 38 43.7 +1.8
PTRP Pietrapertosa 3.26 135 P **Pn** 19 38 43.9 +1.7
SALO Salr 3.29 325 **Pn** 19 38 44.2 +1.9
SALO Salr 3.29 328 P **Pn** 19 38 44.2 +1.7
AJAC Base Areonaval 3.29 255 P **Pn** 19 38 43.7 +1.3
MGRS Mrkonjic Grad 3.33 61 *e*Pn **Pn** 19 38 44.1 +1.1
CTI Castel Tesino 3.33 343 **Pn** 19 38 43.6 +0.5
CTI Castel Tesino 3.33 343 P **Pn** 19 38 43.5 +0.4
LJU Ljubljana 3.36 18 *i* Pn **Pn** 19 38 43.7 +0.3
BAD Bernadia 3.38 3 P **Pn** 19 38 43.6 0.0
MPRI Monte Prat 3.38 360 P **Pn** 19 38 44.0 +0.3
MPRI S **Sn** 19 39 22.4 -1.7
STAL STALIGIAL 3.40 356 **Pn** 19 38 44.0 -0.1
STAL STALIGIAL 3.40 356 P **Pn** 19 38 44.0 -0.1
MIGL Miglionico 3.41 130 P **Pn** 19 38 45.2 +1.1
STON Ston 3.44 88 *e*Pn **Pn** 19 38 43.9 -0.5
LUSI Trento, Gardas 3.44 335 P **Pn** 19 38 45.5 +0.9
CIMO Cimolais 3.47 353 **Pn** 19 38 44.9 -0.1
CIMO Cimolais 3.47 353 P **Pn** 19 38 44.9 -0.1
AGOR Agordo 3.49 349 P **Pn** 19 38 45.6 +0.4
MATE Matera 3.53 128 ⇑P **Pn** 19 38 47.4 +1.7
MATE ⇓S **Sn** 19 39 38.8 +3.1
A051A Mrakovica 3.53 51 *e*Pn **Pn** 19 38 46.7 +0.9
GAGG Gaggia 3.54 336 P **Pn** 19 38 47.1 +1.0
BLY Banja Luka 3.55 57 *e*Pn **Pn** 19 38 47.3 +1.3
CUC Castrocucco 3.55 143 **Pn** 19 38 48.4 +2.3
CLUD Cludinico 3.59 358 Pn **Pn** 19 38 46.7 0.0
PRED Cave del Predi 3.60 6 **Pn** 19 38 46.8 +0.1
MABI Malga Bissina 3.66 331 P **Pn** 19 38 48.9 +1.2
KOSI Kohlern 3.79 342 P **Pn** 19 38 50.5 +1.0
MYKA Terra Mystica 3.79 6 *e*Pn **Pn** 19 38 49.9 +0.5
comp=Z,26nm,0.3s,SNR=31
MYKA *e*Sn **Sn** 19 39 36.5 +2.2
comp=Z,47nm,0.6s
OBKA Obir 3.80 16 *e*Pn **Pn** 19 38 49.9 +0.3
OBKA Obir 3.80 16 *i* Pn **Pn** 19 38 49.5 -0.1
comp=Z,2.6nm,0.2s
OBKA Obir 3.80 16 *e*Pn **Pn** 19 38 50.0 +0.3
APPI Appiano 3.84 341 P **Pn** 19 38 50.8 +0.7
ABTA Abfaltersbach 3.90 355 *i* Pn **Pn** 19 38 51.9 +0.9
comp=Z,82nm,0.5s,SNR=53
ABTA *i* Sn **Sn** 19 39 40.7 +3.6
comp=Z,209nm,0.7s
TREB Trebinje 3.92 90 *e*Pn **Pn** 19 38 51.7 +0.6
A052A Srbac 3.94 54 *e*Pn **Pb** 19 39 01.3 +1.1
BRY Bratogost 4.05 88 *e*Pn **Pn** 19 38 53.4 +0.3
BRY Bratogost 4.05 88 ⇑*i*Pn **Pn** 19 38 53.1 0.0

BRY *i* Sn **Sn** 19 39 40.8 0.0
HCY Herceg Novi 4.05 94 *e*Pn **Pn** 19 38 53.8 +0.8
HCY Herceg Novi 4.05 94 *e*Pn **Pn** 19 38 53.2 +0.2
HCY *i* Sn **Sn** 19 39 40.9 +0.2
SOKA Soboth 4.07 20 *i* Pn **Pn** 19 38 53.5 +0.2
comp=Z,3.6nm,0.3s,SNR=6.9
BRMO Bormio 4.08 333 P **Pn** 19 38 55.1 +1.7
BERNI Berninapass 4.15 330 P **Pn** 19 38 55.9 +1.4
MUGIO Muggio 4.18 318 P **Pn** 19 38 55.0 +0.2
SBF Sospel 4.20 286 *e*P **Pn** 19 38 56.1 +1.1
SBF *e*Sn **Sn** 19 39 39.3 -5.1
comp=Z,32nm,0.5s
KBA Koelnbreinsper 4.22 3 *i* Pn **Pn** 19 38 56.3 +0.8
comp=Z,108nm,0.7s,SNR=41
KBA *e*Sn **Sn** 19 39 44.6 -0.5
comp=Z,48nm,0.5s
KBA Koelnbreinsper 4.22 3 *e*Pn **Pn** 19 38 56.2 +0.8
KBA *e*Sn **Sn** 19 39 45.3 +0.2
FUORN Ofenpass-Fuorn 4.24 333 **Pn** 19 38 57.8 +2.1
UPM Unac-Piva 4.32 84 *e*Pn **Pn** 19 38 58.8 +2.0
UPM Unac-Piva 4.32 84 ⇑*i*Pn **Pn** 19 38 56.8 0.0
UPM *i* Sn **Sn** 19 39 47.2 -0.4
CEME Cevo 4.35 92 ⇓*i*Pn **Pn** 19 38 57.3 +0.2
CEME *i* Sn **Sn** 19 39 48.2 0.0
NKME Niksic 4.36 89 *e*Pn **Pn** 19 38 57.4 +0.2
NKME *i* Sn **Sn** 19 39 48.3 -0.1
BUM Brajici-Budva 4.37 95 ⇓*i*Pn **Pn** 19 38 57.6 +0.2
BUM *i* Sn **Sn** 19 39 48.5 -0.1
TUE Stuetta 4.46 325 **Pn** 19 38 58.3 -0.4
FETA Feichten 4.47 339 *e*Pn **Pn** 19 39 00.5 +1.8
comp=Z,35nm,0.7s,SNR=25
HAPS Han Pijesak,Bl 4.48 72 *e*Pn **Pn** 19 38 59.7 +0.8
BEHE Becsehely 4.49 35 P **Pb** 19 39 05.4 -4.2
WTTA Wattenberg 4.51 348 *e*Pn **Pn** 19 39 01.1 +1.8
comp=Z,20nm,0.5s,SNR=17
WTTA Wattenberg 4.51 348 *e*Pn **Pn** 19 39 01.2 +1.8
DAVOX Davos/Dischmat 4.51 331 Pn **Pn** 19 39 02.6 +3.2
comp=Z,4.0nm,0.3s,baz=147,slow=15,SNR=78
DAVOX Sn **Sn** 19 39 53.5 +1.2
comp=Z,2.3nm,0.3s,baz=278,slow=23,SNR=11
DAVOX LR LR 19 41 17.7
comp=Z,126nm,20.0s,baz=87,slow=47
SQTA Sankt Quirin 4.54 344 **Pn** 19 39 01.9 +2.0
SQTA **Sn** 19 39 55.8 +2.8
SQTA Sankt Quirin 4.54 344 *i* Pn **Pn** 19 39 01.9 +2.0
comp=Z,18nm,0.3s,SNR=16
SQTA *e*Sn **Sn** 19 39 55.8 +2.8
comp=Z,53nm,0.5s
WATA Walderalm 4.59 348 **Pn** 19 39 02.7 +2.3
WATA Walderalm 4.59 348 *e*Pn **Pn** 19 39 02.7 +2.3
comp=Z,39nm,0.5s,SNR=20
DRME Dracevica, Mon 4.60 96 *e*Pn **Pn** 19 39 01.2 +0.7
DRME Dracevica, Mon 4.60 96 ⇑*i*Pn **Pn** 19 39 00.8 +0.3
DRME *i* Sn **Sn** 19 39 54.2 0.0
PDG Podgorica 4.61 93 ⇑P **Pn** 19 39 01.7 +1.0
PDG ⇑S **Sn** 19 39 54.8 +0.3
PDG Podgorica 4.61 93 **Pn** 19 39 01.5 +0.8
TTG Podgorica 4.61 93 ⇓*i*Pn **Pn** 19 39 00.9 +0.3
TTG *i* Sn **Sn** 19 39 54.5 0.0
TIP Timpagrande 4.64 141 ⇑P **Pn** 19 39 03.5 +2.4
TIP Timpagrande 4.64 141 **Pn** 19 39 03.2 +2.1
PLE Pljevlja 4.68 82 ⇑*i*Pn **Pn** 19 39 01.8 +0.1
PLE *i* Sn **Sn** 19 39 56.0 -0.4
MOTA Moosalm 4.68 344 **Pn** 19 39 03.9 +2.2
MOTA **Sn** 19 39 57.7 +1.2
MOTA Moosalm 4.68 344 *i* Pn **Pn** 19 39 03.9 +2.2
comp=Z,10nm,0.5s,SNR=14
MOTA *e*Sn **Sn** 19 39 57.7 +1.2
comp=Z,77nm,0.9s
ULC Ulcinj 4.69 99 ⇑*i*Pn **Pn** 19 39 02.0 +0.3
ULC *i* Sn **Sn** 19 39 56.4 0.0
RUDO Rudo 4.70 79 *e*Pn **Pn** 19 39 02.3 +0.5
ARSA Arzberg 4.73 21 *i* Pn **Pn** 19 39 02.0 -0.3
comp=Z,5.7nm,0.3s
ARSA *i* Sn **Sn** 19 39 55.9 -1.5
comp=Z,14nm,0.5s
ARSA Arzberg 4.73 21 *e*Pn **Pn** 19 39 02.2 -0.1
ARSA *e*Sn **Sn** 19 39 55.1 -2.3
BBLS Lazići 4.76 76 *e*Pn **Pn** 19 39 03.9 +1.2
KOME Kolasin 4.77 88 ⇓*i*Pn **Pn** 19 39 03.0 +0.1
KOME *i* Sn **Sn** 19 39 58.2 -0.3
SURF Saint Ours 4.79 292 P **Pn** 19 39 04.7 +1.4
LMR La Mourre 4.80 278 *e*P **Pn** 19 39 03.6 +0.4
LMR *e*Sn **Sn** 19 39 53.5 -5.5
comp=Z,4.0nm,0.5s
JAUF Jausiers 4.82 291 P **Pn** 19 39 05.5 +1.9
PART Garmisch-Parte 4.83 344 *e*Pn **Pn** 19 39 06.2 +2.5
KOVH Kovagotottos 4.86 47 P **Pn** 19 39 04.9 +0.9
RJOB Jochberg 4.88 358 *e*Pn **Pn** 19 39 05.2 +1.1
RJOB *e*Sn **Sn** 19 40 04.9 +3.8
RETA Reutte 4.89 342 *i* Pn **Pn** 19 39 06.8 +2.2
comp=Z,3.9nm,0.3s,SNR=6.2
RETA *i* Sn **Sn** 19 40 03.4 +1.9
comp=Z,40nm,0.7s
MBDF Montbardon 4.90 294 *e*P **Pn** 19 39 05.7 +1.0
MBDF *e*Sn **Sn** 19 39 55.8 -5.9
comp=Z,49nm,0.9s
TRIGF Trigance 4.91 283 P **Pn** 19 39 07.1 +2.3
OBER Oberstdorf 4.94 338 *e*Pn **Pn** 19 39 08.2 +3.0
CREF Crivoux 4.94 292 P **Pn** 19 39 07.5 +2.2
SCTE Santa Cesarea 4.95 122 Pn **Pn** 19 39 06.3 +1.1
DAVA Damuels 4.95 334 *e*Pn **Pn** 19 39 07.6 +2.2
comp=Z,23nm,0.5s,SNR=18
DAVA *e*Sn **Sn** 19 40 04.6 +1.5
comp=Z,62nm,0.7s
DAVA Damuels 4.95 334 *e*Pn **Pn** 19 39 07.9 +2.4
DAVA *e*Sn **Sn** 19 40 09.6 +6.5
OGAG Argentiere 4.97 291 P **Pn** 19 39 09.5 +3.9
IVA Berane 5.05 88 *e*Pn **Pn** 19 39 06.9 +0.2
IVA *i* Sn **Sn** 19 40 04.8 -0.5
OGDI Digne 5.05 287 P **Pn** 19 39 12.7 +6.0
MOA Molln 5.06 9 *i* Pn **Pn** 19 39 07.4 +0.6
comp=Z,47nm,0.7s,SNR=24
MOA *i* Sn **Sn** 19 40 06.4 +0.8
comp=Z,32nm,0.6s
MOA Molln 5.06 9 *e*Pn **Pn** 19 39 07.4 +0.6
MOA *e*Sn **Sn** 19 40 07.3 +1.7
PVY Plav 5.11 91 *e*Pn **Pn** 19 39 07.9 +0.3
PVY *i* Sn **Sn** 19 40 06.6 -0.4
DIX Grande Dixence 5.15 311 P **Pn** 19 39 10.9 +2.6
DIVS Divibare 5.22 74 **Pn** 19 39 09.4 +0.4
DIVS Divibare 5.22 74 *e*Pn **Pn** 19 39 09.1 +0.1
LPG La Plagne 5.22 302 *e*P **Pn** 19 39 10.2 +0.9
LPG *e*Sn **Sn** 19 40 00.0 -10
comp=Z,84nm,1.2s
MORH Mrgy, Hungar 5.23 48 ⇑P **Pn** 19 39 10.1 +1.1
MORH Mrgy, Hungar 5.23 48 P **Pn** 19 39 11.7 +2.7
UBR Ueberruh 5.24 338 *e*Pn **Pn** 19 39 11.6 +2.3
UBR *e*Sn **Sn** 19 40 11.8 +1.8
LPL La Plagne 5.25 303 *e*P **Pn** 19 39 11.1 +1.6
LPL *e*Sn **Sn** 19 40 04.2 -6.2
comp=Z,49nm,0.9s
CLTB Caltabellotta 5.28 178 Pn **Pn** 19 39 11.9 +2.0
TIR Tirane 5.31 104 ⇑P **Pn** 19 39 11.0 +0.8
TIR Tirane 5.31 104 Pn **Pn** 19 39 10.9 +0.8
RONA Rosalia, Austr 5.36 24 **Pn** 19 39 11.1 +0.2
RONA Rosalia, Austr 5.36 24 *i* Pn **Pn** 19 39 11.1 +0.2
comp=Z,2.5nm,0.2s,SNR=6.5
MPLH Magyarpolny 5.36 35 P **Pn** 19 39 12.0 +1.1
SENIN Lac Senin/Sane 5.38 313 Pn **Pn** 19 39 13.1 +1.7
RSL Roselend 5.39 304 P **Pn** 19 39 13.8 +2.3
FRGS Fruska Gora 5.40 63 ⇑P **Pn** 19 39 12.7 +1.2
FRGS Fruska Gora 5.40 63 *e*Pn **Pn** 19 39 10.2 -1.3
VLO Vlora 5.40 114 **Pn** 19 39 12.6 +1.1
CONA Conrad Observa 5.44 21 *e*Pn **Pn** 19 39 12.2 +0.1
comp=Z,5.0nm,0.3s,SNR=11
CONA *e*Sn **Sn** 19 40 13.4 -1.7
comp=Z,9.9nm,0.5s
VAE Valguarnera 5.48 168 Pn Pb 19 39 20.1 -6.5
comp=Z,1.2nm,0.3s,baz=342,slow=6.4,SNR=4.1
GDM Grand'Maison 5.50 298 P **Pn** 19 39 16.0 +3.0
OGSI Sixt 5.51 308 P **Pn** 19 39 14.2 +1.2
SMRF Simiane la Rot 5.54 284 *e*P **Pn** 19 39 15.2 +1.8
SMRF *e*Sn **Sn** 19 40 11.1 -6.3
comp=Z,7.5nm,0.7s
AIGLE Aigle 5.56 311 P **Pn** 19 39 16.4 +2.7
AIGLE Aigle 5.56 311 S **Sn** 19 40 24.6 +6.7
ORIF Oris-en-Rattie 5.56 294 *e*P **Pn** 19 39 15.8 +2.1
ORIF *e*Sn **Sn** 19 40 11.5 -6.4
comp=Z,34nm,0.9s
ORIF Oris-en-Rattie 5.56 294 P **Pn** 19 39 17.2 +3.5
TORNY Torny/Romont 5.82 314 P **Pn** 19 39 20.1 +2.8
BALST Balsthal 5.85 322 P **Pn** 19 39 19.2 +1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SLE	**Schleitheim**	**5.85**	**328**	P	**Pn**	**19 39 19.1**	**+1.4**
SLE	**Schleitheim**	**5.85**	**328**	S	**Sn**	**19 40 27.2**	**+2.2**
OGSM	**Saint Maurice**	**5.94**	**300**	P	**Pn**	**19 39 20.7**	**+1.9**
KEK	**Kerkira**	**5.99**	**119**	Pn	**Pn**	**19 39 20.4**	**+0.8**
GEC2	**GERESS Array S**	**6.00**	**4**	Pn	**Pn**	**19 39 19.1**	**-0.7**
GEC2	**GERESS Array S**	**6.00**	**4**	*e*Pn	**Pn**	**19 39 19.6**	**-0.2**
GEC2				*e*Sn	**Sn**	**19 40 27.8**	**-1.0**
GERES	**GERESS Array B**	**6.00**	**4**	Pn	**Pn**	**19 39 18.8**	**-1.0**
	comp=Z,3.2nm,0.3s,baz=190,slow=10,SNR=48						
GERES				Sn	**Sn**	**19 40 27.6**	**-1.2**
	comp=Z,2.6nm,0.3s,baz=183,slow=33,SNR=4.2						
GERES				LR	LR	19 42 29.5	
	comp=Z,64nm,19.7s,baz=129,slow=47						
	comp=Z,3.3nm,0.3s						
GERES	**GERESS Array B**	**6.00**	**4**		**Pn**	**19 39 18.4**	**-1.4**
GERES	**GERESS Array B**	**6.00**	**4**	P	**Pn**	**19 39 18.8**	**-1.0**
CKRC	**Cesky Krumlov**	**6.02**	**8**	*e*PN	**Pn**	**19 39 18.9**	**-1.1**
CKRC				*e*SN	**Sn**	**19 40 27.2**	**-2.1**
OHR	**Ohrid**	**6.05**	**104**	*i* Pn	**Pn**	**19 39 22.6**	**+2.1**
ZST	**Bratislava**	**6.05**	**27**	*e*PN	**Pn**	**19 39 22.7**	**+2.3**
ZST				*e*SN	**Sn**	**19 40 28.4**	**-1.5**
ZST	**Bratislava**	**6.05**	**27**	*e*P	**Pn**	**19 39 22.7**	**+2.3**
GIMEL	**St. Georges /**	**6.06**	**310**	P	**Pn**	**19 39 22.7**	**+2.2**
BOURR	**Bourrignon**	**6.11**	**320**	P	**Pn**	**19 39 22.6**	**+1.4**
BOURR	**Bourrignon**	**6.11**	**320**	S	**Sn**	**19 40 35.8**	**+4.4**
FELD	**Feldberg im Sc**	**6.13**	**327**	P	**Pn**	**19 39 22.7**	**+1.1**
BRANT	**Les Verrieres**	**6.18**	**313**	P	**Pn**	**19 39 23.9**	**+1.6**
CABF	**La Chapelle**	**6.20**	**310**	*e*P	**Pn**	**19 39 24.2**	**+1.7**
CABF				*e*Sn	**Sn**	**19 40 26.7**	**-7.1**
	comp=Z,65nm,1.0s						
OG35	**Corcelles**	**6.21**	**303**	P	**Pn**	**19 39 25.4**	**+2.7**
KIZ	**Kirchzarten**	**6.23**	**327**	P	**Pn**	**19 39 23.9**	**+1.0**
MODS	**Modra-Piesok**	**6.26**	**27**	*e*PN	**Pn**	**19 39 25.2**	**+1.9**
MODS				*e*SN	**Sn**	**19 40 39.2**	**+4.0**
MODS	**Modra-Piesok**	**6.26**	**27**	*e*P	**Pn**	**19 39 25.2**	**+1.9**
KHC	**Kasperske Hory**	**6.28**	**3**		**Pn**	**19 39 23.0**	**-0.6**
KHC	**Kasperske Hory**	**6.28**	**3**	*e*PN	**Pn**	**19 39 22.8**	**-0.8**
KHC				*e*SN	**Sn**	**19 40 34.7**	**-0.9**
KHC	**Kasperske Hory**	**6.28**	**3**	P	**Pn**	**19 39 23.0**	**-0.6**
WET	**Wettzell**	**6.28**	**359**	*e*Pn	**Pn**	**19 39 23.0**	**-0.6**
WET				*e*Sn	**Sn**	**19 40 32.3**	**-3.3**
CHMF	**Charmoille**	**6.29**	**316**	P	**Pn**	**19 39 25.7**	**+2.0**
VIVF	**Saint-Julien-l**	**6.36**	**291**	*e*P	**Pn**	**19 39 26.8**	**+2.1**
VIVF				*e*Sn	**Sn**	**19 40 30.7**	**-6.9**
	comp=Z,2.5nm,0.6s						
RIVEL	**MONT RIVEL**	**6.38**	**310**	P	**Pn**	**19 39 26.2**	**+1.3**
RIVEL				S	**Sn**	**19 40 36.6**	**-1.5**
BFO	**Black Forest**	**6.38**	**331**	Pn	**Pn**	**19 39 26.1**	**+1.1**
BFO	**Black Forest**	**6.38**	**331**	P	**Pn**	**19 39 26.1**	**+1.1**
BOVS	**Bovan**	**6.38**	**80**	⇑P	**Pn**	**19 39 25.5**	**+0.5**
VOGT	**Vogtsburg - To**	**6.43**	**326**	P	**Pn**	**19 39 27.0**	**+1.3**
VOGT	**Vogtsburg - To**	**6.43**	**326**	S	**Sn**	**19 40 40.1**	**+0.7**
STU	**Stuttgart**	**6.49**	**337**		**Pn**	**19 39 24.5**	**-1.9**
STU	**Stuttgart**	**6.49**	**337**	P	**Pn**	**19 39 24.5**	**-1.9**
MOF	**Molkenrain**	**6.49**	**322**	P	**Pn**	**19 39 27.5**	**+1.0**
MDVR	**Moldovita**	**6.57**	**70**	⇑P	**Pn**	**19 39 28.3**	**+0.8**
SSB	**Saint Sauveur**	**6.57**	**294**	Pn	**Pn**	**19 39 27.9**	**+0.3**
SSB	**Saint Sauveur**	**6.57**	**294**	P	**Pn**	**19 39 29.5**	**+1.9**
FNA	**Florina**	**6.57**	**106**		**Pn**	**19 39 28.4**	**+0.8**
FNA	**Florina**	**6.57**	**106**	P	**Pn**	**19 39 28.4**	**+0.8**
HINF	**Hinteralfeld**	**6.59**	**321**	*e*P	**Pn**	**19 39 28.8**	**+1.0**
HINF				*e*Sn	**Sn**	**19 40 35.8**	**-7.5**
	comp=Z,32nm,0.6s						
RONF	**Ronchamp**	**6.61**	**319**	P	**Pn**	**19 39 29.2**	**+1.1**
RONF				S	**Sn**	**19 40 45.0**	**+1.2**
KRUC	**Moravsky**	**6.63**	**20**	*e*PN	**Pn**	**19 39 26.8**	**-1.5**
ECH	**Echery**	**6.75**	**324**		**Pn**	**19 39 29.2**	**-0.8**
ECH	**Echery**	**6.75**	**324**	P	**Pn**	**19 39 30.7**	**+0.7**
ECH				S	**Sn**	**19 40 46.3**	**-0.9**
ECH	**Echery**	**6.75**	**324**	P	**Pn**	**19 39 29.3**	**-0.8**
BZS	**Buzias**	**6.75**	**63**	⇑P	**Pn**	**19 39 31.0**	**+0.9**
LASF	**Ste Croix**	**6.78**	**283**	*e*P	**Pn**	**19 39 32.6**	**+2.1**
LASF				*e*Sn	**Sn**	**19 40 40.8**	**-7.2**
	comp=Z,2.1nm,0.5s						
WLS	**Welschbruch**	**6.83**	**326**	P	**Pn**	**19 39 32.2**	**+1.2**
CDF	**Champ du Feu**	**6.86**	**326**	*e*P	**Pn**	**19 39 32.4**	**+0.9**
CDF				*e*Sn	**Sn**	**19 40 42.2**	**-7.7**
	comp=Z,26nm,0.6s						
VRAC	**Vranov**	**6.91**	**20**	Pn	**Pn**	**19 39 31.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=207,slow=11,SNR=4.3						
VRAC				Sn	**Sn**	**19 40 45.5**	**-5.4**
	comp=Z,0.3nm,0.3s,baz=155,slow=19,SNR=2.0						
VRAC				Lg	Lg	19 41 32.4	
	comp=Z,0.2nm,0.3s,baz=326,slow=18,SNR=1.5						
VRAC				LR	LR	19 42 56.4	
	comp=Z,116nm,18.5s,baz=208,slow=45						
	comp=Z,3.2nm,0.6s						
VRAC	**Vranov**	**6.91**	**20**	*e*PN	**Pn**	**19 39 31.5**	**-0.6**
ROTZ	**Rotzenmuhle**	**6.93**	**356**	*e*Pn	**Pn**	**19 39 31.4**	**-1.1**
ROTZ				*e*Sn	**Sn**	**19 40 47.3**	**-4.3**
GRFO	**Grafenberg**	**6.94**	**350**	Pn	**Pn**	**19 39 33.5**	**+0.9**
GRFO	**Grafenberg**	**6.94**	**350**	P	**Pn**	**19 39 33.5**	**+0.9**
GRA1	**Grafenberg Arr**	**6.94**	**350**	Pn	**Pn**	**19 39 33.5**	**+0.9**
GRF	**Grafenberg Arr**	**6.94**	**350**	P	**Pn**	**19 39 33.6**	**+0.9**
VYHS	**Vyhne**	**6.95**	**34**	*e*PN	**Pn**	**19 39 35.9**	**+3.2**
HAU	**Haudompre**	**6.96**	**320**	*e*P	**Pn**	**19 39 33.8**	**+0.9**
HAU				*e*Sn	**Sn**	**19 40 44.6**	**-7.8**
	comp=Z,82nm,0.8s						
PSZ	**Piszkesteto**	**6.99**	**41**	Pn	**Pn**	**19 39 29.9**	**-3.5**
SIRR	**Siria**	**7.04**	**58**	⇑P	**Pn**	**19 39 35.6**	**+1.6**
HERR	**Herculane**	**7.08**	**70**	⇑P	**Pn**	**19 39 35.3**	**+0.8**
BLKB	**Belogradchik**	**7.09**	**81**	⇑P	**Pn**	**19 39 35.4**	**+0.7**
MANZ	**Manzenberg**	**7.15**	**355**	*e*Pn	**Pn**	**19 39 36.3**	**+0.8**
MANZ				*e*Sn	**Sn**	**19 40 52.9**	**-4.2**
GOPC	**GO Pecny, Ondr**	**7.16**	**9**	*e*PN	**Pn**	**19 39 33.9**	**-1.7**
PRU	**Pruhonice**	**7.20**	**8**	*e*PN	**Pn**	**19 39 34.9**	**-1.3**
PRU				*e*SN	**Sn**	**19 40 55.9**	**-2.3**
VAY	**Valandovo**	**7.26**	**99**	*i* Pn	**Pn**	**19 39 37.4**	**+0.3**
NKC	**Novy Kostel**	**7.38**	**357**	*e*PN	**Pn**	**19 39 37.3**	**-1.4**
NKC				*e*SN	**Sn**	**19 41 01.4**	**-1.3**
GZR	**Gura Zlata**	**7.46**	**67**	⇓P	**Pn**	**19 39 40.8**	**+1.0**
VTS	**Vitosha**	**7.52**	**88**	⇑P	**Pn**	**19 39 41.8**	**+1.1**
VTS	**Vitosha**	**7.52**	**88**	Pn	**Pn**	**19 39 39.2**	**-1.5**
SMF	**Signal de Mont**	**7.55**	**303**	*e*P	**Pn**	**19 39 42.9**	**+1.9**
SMF				*e*Sn	**Sn**	**19 40 58.8**	**-8.1**
	comp=Z,38nm,1.1s						
MORC	**Moravsky Berou**	**7.59**	**23**	⇑P	**Pn**	**19 39 42.5**	**+1.0**
MORC	**Moravsky Berou**	**7.59**	**23**	Pn	**Pn**	**19 39 41.3**	**-0.2**
MORC	**Moravsky Berou**	**7.59**	**23**	*e*PN	**Pn**	**19 39 41.1**	**-0.4**
PAGF	**Fort de Pagny**	**7.65**	**321**	*e*P	**Pn**	**19 39 44.3**	**+2.0**
PAGF				*e*Sn	**Sn**	**19 41 01.0**	**-8.2**
	comp=Z,89nm,1.1s						
KEST	**Kesra**	**7.67**	**203**	Pn	**Pn**	**19 39 47.1**	**+4.4**
	comp=Z,0.5nm,0.3s,baz=326,slow=10,SNR=9.4						
KEST				Sn	**Sn**	**19 41 11.2**	**+1.3**
	baz=248,slow=21						
KEST				LR	LR	19 42 21.4	
	comp=Z,65nm,18.8s,baz=292,slow=35						
KEST	**Kesra**	**7.67**	**203**	Pn	**Pn**	**19 39 45.9**	**+3.2**
SFTF	**Sexfontaines**	**7.74**	**316**	*e*P	**Pn**	**19 39 44.9**	**+1.3**
DPC	**Dobruska-Polom**	**7.82**	**16**	*e*PN	**Pn**	**19 39 42.8**	**-2.0**
LOR	**Lormes**	**7.84**	**307**	*e*P	**Pn**	**19 39 46.9**	**+1.9**
	baz=122						
LOR				*e*Sn	**Sn**	**19 41 05.9**	**-8.1**
	comp=Z,21nm,0.9s						
MOX	**Moxa**	**7.84**	**353**	*e*Pn	**Pn**	**19 39 44.7**	**-0.3**
MOX				*e*Sn	**Sn**	**19 41 08.3**	**-5.7**
AVF	**Avril sur Loir**	**7.92**	**303**	*e*P	**Pn**	**19 39 48.2**	**+2.2**
AVF				*e*Sn	**Sn**	**19 41 07.6**	**-8.2**
	comp=Z,16nm,0.9s						
MTLF	**Montolieu**	**7.93**	**277**	*e*P	**Pn**	**19 39 48.6**	**+2.5**
MTLF				*e*Sn	**Sn**	**19 41 08.2**	**-7.9**
	comp=Z,0.7nm,0.3s						
SSF	**Saint Saulge**	**7.95**	**305**	*e*P	**Pn**	**19 39 48.0**	**+1.6**
SSF				*e*Sn	**Sn**	**19 41 08.6**	**-8.0**
	comp=Z,13nm,0.9s						
SAVF	**Savonnieres en**	**7.97**	**319**	*e*P	**Pn**	**19 39 49.0**	**+2.2**
CHVC	**Chvalec**	**8.00**	**14**	*e*PN	**Pn**	**19 39 46.1**	**-1.1**
TNS	**Taunus Mts**	**8.01**	**338**	*e*Pn	**Pn**	**19 39 49.0**	**+1.7**
BRG	**Berggiesshubel**	**8.04**	**4**	*e*P	**Pn**	**19 39 49.0**	**+1.3**
BRG				Amp		19 39 50.2	
	comp=Z,3.8nm,0.6s						
BRG				*e*x	x	19 41 15.3	
BRG				*e*x	x	19 42 26.5	
BRG				Amp		19 42 44.3	
	comp=Z,52nm,1.3s						
BRG				Amp		19 42 48.0	
	comp=E,0.2nm,14.4s						
BRG				Amp		19 43 18.0	
	comp=N,0.2nm,13.5s						
BRG				Amp		19 43 21.0	
	comp=Z,0.2nm,10.3s						
MARR	**Marisel-Cluj**	**8.13**	**59**	⇑P	**Pn**	**19 39 50.5**	**+1.5**
BGF	**Bois d'Agland**	**8.14**	**300**	*e*P	**Pn**	**19 39 50.9**	**+1.9**
BGF				*e*Sn	**Sn**	**19 41 12.9**	**-8.3**
	comp=Z,11nm,0.7s						
CAF	**Calviac**	**8.18**	**288**	*e*P	**Pn**	**19 39 52.2**	**+2.5**
CAF				*e*Sn	**Sn**	**19 41 14.3**	**-8.1**
	comp=Z,3.7nm,0.7s						
TCF	**Toulx Ste Croi**	**8.45**	**298**	*e*P	**Pn**	**19 39 55.9**	**+2.6**
TCF				*e*Sn	**Sn**	**19 41 20.5**	**-8.4**
	comp=Z,1.2nm,0.5s						
CLL	**Collm**	**8.45**	**360**	Pn	**Pn**	**19 39 51.7**	**-1.5**
CLL	**Collm**	**8.45**	**360**	*e*Pn	**Pn**	**19 39 52.0**	**-1.2**
CLL				*e*x	x	19 40 02.0	
CLL				*e*Sn	Sn	19 41 18.0	-11
CLL				*e*x	x	19 41 33.0	
CLL				*e*x	x	19 41 55.0	
CLL				*e*x	x	19 42 01.0	
CLL				*e*x	x	19 42 10.0	
CLL				*e*Sg	**Sg**	**19 42 23.0**	**+1.6**
	comp=Z,60nm,1.5s						
PLVB	**Pleven**	**8.50**	**83**	⇓P	**Pn**	**19 39 55.2**	**+1.2**
VOIR		**9.02**	**69**	⇑P	**Pn**	**19 40 03.0**	**+1.8**
LFF	**La Frestale**	**9.11**	**287**	*e*P	**Pn**	**19 40 04.1**	**+1.7**
LFF				*e*Sn	**Sn**	**19 41 36.5**	**-8.7**
	comp=Z,1.2nm,0.3s						
EPF	**Esparros**	**9.31**	**275**	*e*P	**Pn**	**19 40 07.7**	**+2.6**
DOPR	**Dopca**	**9.38**	**66**	⇓P	**Pn**	**19 40 07.8**	**+1.8**
RDO	**Rodhopi**	**9.47**	**96**	Pn	**Pn**	**19 40 04.2**	**-3.1**
MLR	**Muntele Rosu**	**9.65**	**70**	⇓P	**Pn**	**19 40 11.7**	**+1.8**
MLR	**Muntele Rosu**	**9.65**	**70**	Pn	**Pn**	**19 40 11.6**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=268,slow=17,SNR=4.0						
MLR				LR	LR	19 44 42.8	
	comp=Z,223nm,20.1s,baz=252,slow=43						
	comp=Z,4.0nm,0.7s						
MLR	**Muntele Rosu**	**9.65**	**70**	Pn	**Pn**	**19 40 07.5**	**-2.4**
BURAR	**Bucovina Array**	**9.82**	**57**	⇓P	**Pn**	**19 40 14.1**	**+1.9**
VRI	**Vrincioaia**	**10.26**	**68**	⇓P	**Pn**	**19 40 19.1**	**+1.0**
GRR	**Gorron**	**11.18**	**304**	*e*P	**Pn**	**19 40 33.1**	**+2.5**
IDI	**Anoyia**	**11.92**	**125**	Pn	**Pn**	**19 40 43.7**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=314,slow=14,SNR=1.8						
IDI				Sn	**Sn**	**19 42 49.1**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=304,slow=10,SNR=1.3						
	comp=Z,5.6nm,1.0s						
ROSF	**Rostrenen**	**12.65**	**301**	*e*P	**Pn**	**19 40 51.8**	**+1.0**
ESDC	**Sonseca Array**	**13.17**	**262**	Pn	**Pn**	**19 40 57.9**	**-0.2**
	baz=82,slow=14,SNR=5.9						
ESDC				LR	LR	19 46 07.7	
	comp=Z,83nm,18.9s,baz=78,slow=38						
	comp=Z,0.9nm,0.9s						
AKASG	**Malin Array Be**	**13.57**	**49**	Pn	**Pn**	**19 41 05.2**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=243,slow=11,SNR=2.3						
	comp=Z,0.2nm,0.3s						
ELL	**Elmali**	**14.33**	**110**	P	**P**	**19 41 22.8**	**+1.7**
NACGM	**Naroch**	**15.03**	**32**	*e*P	**Pn**	**19 41 23.1**	**-0.1**
	comp=Z,11nm,0.7s,baz=224						
BRTR	**Keskin Array B**	**15.80**	**94**	Pn	**P**	**19 41 40.0**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=288,slow=9.8,SNR=4.5						
BRTR				LR	LR	19 48 43.7	
	comp=Z,94nm,20.6s,baz=295,slow=41						
BRTR	**Keskin Array B**	**15.80**	**94**	P	**P**	**19 41 39.6**	**+2.1**
EKA	**Eskdalemuir Ar**	**16.32**	**325**	Pn	**Pn**	**19 41 40.8**	**+0.8**
	baz=128,slow=14						
EKA				LR	LR	19 47 47.4	
	comp=Z,81nm,18.8s,baz=161,slow=37						
	comp=Z,4.0nm,1.0s						
MDT	**Midelt**	**17.14**	**240**	LR	LR	19 47 45.1	
	comp=Z,30nm,18.6s,baz=148,slow=35						
HFS	**Hagfors**	**17.30**	**1**	LR	LR	19 49 12.3	
	comp=Z,68nm,18.5s,baz=186,slow=40						
NOA	**NORSAR Array B**	**18.24**	**357**	P	**Pn**	**19 42 04.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=175,slow=11,SNR=6.1						
NOA				LR	LR	19 49 51.2	
	comp=Z,22nm,21.1s,baz=185,slow=40						
FINES	**FINESS Array B**	**20.18**	**18**	P	Pn	19 42 26.4	-0.9
	comp=Z,3.8nm,0.8s,baz=208,slow=7.9,SNR=6.7						
FINES				LR	LR	19 51 16.7	
	comp=Z,57nm,19.1s,baz=212,slow=40						
	comp=Z,3.8nm,0.8s						
FINES	**FINESS Array B**	**20.18**	**18**	P	**P**	**19 42 24.9**	**-0.5**
TAM	**Tamanrasset**	**20.97**	**200**	P	**P**	**19 42 33.6**	**-0.8**
KIV	**Kislovodsk**	**21.53**	**77**	P	**P**	**19 42 37.8**	**-2.4**
KIV				IAmb	IAmb	19 42 45.1	
	comp=Z,12nm,1.0s						
ASF	**Jabal al Asfar**	**21.66**	**112**	P	**P**	**19 42 43.0**	**+1.2**
	comp=Z,3.2nm,0.9s,baz=312,slow=6.6,SNR=3.1						
	comp=Z,3.2nm,0.9s						
KBZ	**Khabaz**	**21.71**	**77**	P	**P**	**19 42 42.8**	**+0.8**
	comp=Z,11nm,1.0s,baz=297,slow=6.9,SNR=13						
KBZ				LR	LR	19 52 58.8	
	comp=Z,41nm,19.4s,baz=204,slow=42						
	comp=Z,11nm,1.0s						
GURO	**Guroymak-BITLI**	**22.35**	**91**	P	**P**	**19 42 49.0**	**-0.2**
BELG	**Belogornoye**	**24.97**	**56**	P	**P**	**19 43 15.7**	**+1.2**
	comp=Z,10nm,0.9s,baz=261,slow=0.9,SNR=6.6						
BELG				LR	LR	19 54 16.7	
	comp=Z,37nm,18.2s,baz=220,slow=40						
	comp=Z,10nm,0.9s						
CMLA	**Cha da Macela**	**29.65**	**273**	P	**P**	**19 43 56.6**	**-0.1**
TOA0	**Torodi Ar. Sit**	**31.19**	**202**	P	**P**	**19 44 10.0**	**-0.3**
TOA0				IAmb	IAmb	19 44 11.1	
	comp=Z,4.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**31.19**	**202**	P	**P**	**19 44 10.3**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=7.7,slow=8.4,SNR=10						
	comp=Z,2.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.19**	**202**	P	**P**	**19 44 09.5**	**-0.9**
TORD				IAmb	IAmb	19 44 12.4	
	comp=Z,3.0nm,1.1s						
ARU	**Arti**	**31.82**	**49**	P	**P**	**19 44 14.5**	**-1.1**
ARU				IAmb	IAmb	19 44 16.5	
	comp=Z,4.4nm,0.7s						
ABKAR	**Akbulak array**	**32.74**	**62**	P	**P**	**19 44 23.1**	**-0.6**
GEYT	**Alibeck**	**34.37**	**83**	P	**P**	**19 44 39.0**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=280,slow=12,SNR=3.0						
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**38.70**	**54**	P	**P**	**19 45 15.9**	**+1.1**
BRVK				IAmb	IAmb	19 45 23.1	
	comp=Z,5.5nm,0.9s						
KK31	**Karatay Array**	**41.33**	**69**	P	**P**	**19 45 35.4**	**-1.4**
KKAR	**Karatay Array**	**41.33**	**69**	P	**P**	**19 45 35.9**	**-0.9**
AAK	**Ala-Archa**	**44.23**	**68**	P	**P**	**19 46 01.4**	**+0.9**
AAK				IAmb	IAmb	19 46 11.1	
	comp=Z,6.8nm,1.5s						
KURK	**Kurchatov**	**44.25**	**56**	P	**P**	**19 45 59.4**	**-0.9**
KSH	**Kashi**	**46.51**	**72**	P	**P**	**19 46 20.7**	**+2.1**
KSH				pP	sP	19 46 26.1	+4.3
KSH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZALV	**Zalesovo Beam**	**46.96**	**50**	P	**P**	**19 46 21.5**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=299,slow=12,SNR=4.7						
	comp=Z,0.5nm,0.4s						
NIL	**Nilore**	**47.28**	**80**	P	**P**	**19 46 23.5**	**-1.1**
MKAR	**Makanchi Array**	**47.83**	**60**	P	**P**	**19 46 29.4**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=282,slow=6.8,SNR=8.0						
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**47.83**	**60**	P	**P**	**19 46 29.1**	**+0.4**
SONM	**Songino Array**	**61.85**	**50**	P	**P**	**19 48 11.7**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=292,slow=8.6,SNR=6.6						
	comp=Z,0.9nm,0.7s						
YAK	**Yakutsk**	**63.75**	**28**	LR	LR	20 20 20.2	
	comp=Z,18nm,20.9s,baz=244,slow=40						
YAK	**Yakutsk**	**63.75**	**28**	P	**P**	**19 48 22.4**	**-0.2**
IMAR	**Indian Mountai**	**71.00**	**354**	P	**P**	**19 49 11.0**	**+2.6**
H21K	**Melozitna Rive**	**71.26**	**354**	P	**P**	**19 49 12.1**	**+2.1**
ILAR	**Eielson Array**	**71.55**	**351**	P	**P**	**19 49 13.4**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=8.1,slow=5.8,SNR=7.5						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**74.75**	**79**	P	**P**	**19 49 31.0**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=306,slow=7.2,SNR=14						
CMAR				LR	LR	20 31 55.7	
	comp=Z,7.9nm,18.6s,baz=100,slow=43						
	comp=Z,1.3nm,0.8s						

TRN 02 20:01:55.6, 16°82N×62°14W, h140^{km}, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.42**	**58**	*e*P	Pn	20 02 16.9	+1.4
ANBD				*e*S	Sn	20 02 31.1	+0.6
ABD	**La Joyeuse, An**	**0.71**	**119**	*e*P	Pn	20 02 18.4	+1.3
ABD				*e*S	Sn	20 02 34.9	+1.4
ANWB	**Willy Bob**	**0.91**	**22**	*e*P	Pn	20 02 20.8	+2.2
ANWB	**Willy Bob**	**0.91**	**22**	*e*	Pn	20 02 29.1	+10
ANWB				*e*S	Sn	20 02 38.0	+1.8
CBE	**Ff, Capester**	**0.91**	**146**	*e*P	Pn	20 02 20.2	+1.4
CBE				*e*S	Sn	20 02 38.1	+1.8
TBG	**Guadaloupe-3**	**1.08**	**154**	*e*P	Pn	20 02 21.1	+0.9
TBG				*e*S	Sn	20 02 40.7	+1.9
TDBA	**Terre de Bas,**	**1.08**	**153**	*e*P	Pn	20 02 21.1	+0.8
TDBA				*e*S	Sn	20 02 40.3	+1.3
MAGL	**Barre de l'ile**	**1.20**	**136**	*e*P	Pn	20 02 22.5	+1.1
MAGL				*e*S	Sn	20 02 41.8	+0.9
MDCT	**Cottage Hill,**	**1.36**	**151**	*e*P	Pn	20 02 24.2	+1.1
MDCT				*e*S	Sn	20 02 44.6	+0.7
MDVC	**Dominica, Viel**	**1.39**	**150**	*e*P	Pn	20 02 24.5	+1.2
MDVC				*e*S	Sn	20 02 44.9	+0.4
SMRT	**St. Maarten**	**1.51**	**324**	*e*P	Pn	20 02 25.7	+1.1
SMRT				*e*S	Sn	20 02 46.7	-0.1
DSLB	**Salisbury**	**1.54**	**153**	*e*P	Pn	20 02 25.8	+0.8
DSLB				*e*S	Sn	20 02 49.1	+1.8
BIM	**Bigot**	**2.51**	**156**	*e*P	Pn	20 02 38.1	+1.6
BIM				*e*S	Sn	20 03 08.4	+0.4
MPOM	**Morne Pois Mar**	**2.67**	**152**	*e*P	Pn	20 02 39.0	+0.6
MPOM				*e*S	Sn	20 03 11.6	+0.2
AOPR	**Arecibo Observ**	**4.66**	**290**	*e*P	Pn	20 03 05.2	+0.9
AOPR	**Arecibo Observ**	**4.66**	**290**	*e*S	Sn	20 03 56.8	-0.9

KRSC ***02*** *20:06:50.8±1.5, 54°72N×163°87E, h63^{km}±30^{km}, ML4.1*
IDC ***02*** *20:06:50.5±0.8, 54°85N×163°70E, h0^{km}, mb3.8/15, mbtmp3.9/18, ML4.6/2, MS2.9/5, Error ellipse: s-maj=21.4km s-min=16.1km az=159.0*
NEIC ***02*** *20:06:52.2±1.1, 54°9N±0°2×163°7E±0°1, h10^{km}±2^{km}, mb4.4/21, Error ellipse: s-maj=29.7km s-min=13.2km az=171.0*
MOS ***02*** *20:06:53.3±0.7, 54°74N×163°82E, h39^{km}, mb4.6/2, Error ellipse: s-maj=6.3km s-min=5.3km az=93.7*
ISC 02 20:06:51.8±4.5**, 54°73N**±0°03×**163°86E**±0°03**, h14**^{km}±29^{km}**, n137, σ1**^{s}**33**/179**, mb4.2**/26**, MS3.3**/3**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.25**	**263**	*e*P	**Pn**	**20 07 14.0**	**-0.8**
MKZ				*e*S	**Sb**	**20 07 28.4**	**-2.6**
MKZ	**Mys Kozlova**	**1.25**	**263**	PN	**Pn**	**20 07 14.0**	**-0.8**
MKZ				S	**Sb**	**20 07 28.4**	**-2.6**
BKI	**Bering**	**1.31**	**68**	*e*P	**Pn**	**20 07 15.3**	**-0.2**
BKI				*e*S	**Sb**	**20 07 31.2**	**-1.4**
BKI	**Bering**	**1.31**	**68**	PN	**Pn**	**20 07 15.3**	**-0.2**
BKI				S	**Sb**	**20 07 31.2**	**-1.4**
KBTR	**Krutoberegovo**	**1.59**	**339**	*e*P	**Pn**	**20 07 17.7**	**-1.8**
KBTR				*e*S	**Sn**	**20 07 36.5**	**-3.4**
KBTR	**Krutoberegovo**	**1.59**	**339**	PN	**Pn**	**20 07 17.7**	**-1.8**
KBTR				S	**Sn**	**20 07 36.5**	**-3.4**
KBG	**Krutoberegovo**	**1.66**	**337**	*e*P	**Pn**	**20 07 18.7**	**-1.7**
KBG				*e*S	**Sn**	**20 07 38.9**	**-2.6**
KBG	**Krutoberegovo**	**1.66**	**337**	PN	**Pn**	**20 07 18.7**	**-1.7**
KBG				S	**Sn**	**20 07 38.9**	**-2.6**
TUMD	**Tumrok D**	**2.05**	**285**	*e*P	**Pn**	**20 07 25.8**	**0.0**
TUMD				*e*S	**Sn**	**20 07 50.7**	**-0.5**
ZLN	**Zelenaya**	**2.17**	**308**	*e*P	**Pn**	**20 07 28.3**	**+0.8**
ZLN				*e*S	**Sn**	**20 07 55.0**	**+0.8**
ZLN	**Zelenaya**	**2.17**	**308**	PN	**Pn**	**20 07 28.3**	**+0.8**
ZLN				S	**Sn**	**20 07 55.0**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**2.18**	**305**	*e*P	**Pn**	**20 07 28.3**	**+0.7**
BZGR				*e*S	**Sn**	**20 07 54.5**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.18**	**305**	PN	**Pn**	**20 07 28.3**	**+0.7**
BZGR				S	**Sn**	**20 07 54.5**	**+0.1**
TUMR	**Tumrok**	**2.21**	**286**	*e*P	**Pn**	**20 07 28.7**	**+0.6**
TUMR				*e*S	**Sn**	**20 07 54.9**	**-0.3**
TUMR	**Tumrok**	**2.21**	**286**	PN	**Pn**	**20 07 28.7**	**+0.6**
TUMR				S	**Sn**	**20 07 54.9**	**-0.3**
CIRR	**Tsirk**	**2.25**	**309**	P	**Pn**	**20 07 29.1**	**+0.4**
CIRR	**Tsirk**	**2.25**	**309**	PN	**Pn**	**20 07 29.1**	**+0.4**
LGNR	**Loginova**	**2.26**	**308**	*e*P	**Pn**	**20 07 30.0**	**+1.1**
LGNR	**Loginova**	**2.26**	**308**	PN	**Pn**	**20 07 30.0**	**+1.1**
BZMR	**Bezymyannaya**	**2.27**	**303**	*e*P	**Pn**	**20 07 29.7**	**+0.7**
BZMR				*e*S	**Sn**	**20 07 55.5**	**-1.3**
BZMR	**Bezymyannaya**	**2.27**	**303**	PN	**Pn**	**20 07 29.7**	**+0.7**
BZMR				S	**Sn**	**20 07 55.5**	**-1.3**
BZWR	**Bezymyannyi-We**	**2.28**	**304**	*e*P	**Pn**	**20 07 29.8**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.28**	**304**	PN	**Pn**	**20 07 29.8**	**+0.6**
SMKR	**Semkarok**	**2.30**	**325**	*e*P	**Pn**	**20 07 28.9**	**-0.4**
SMKR				*e*S	**Sn**	**20 07 56.2**	**-1.1**
SMKR	**Semkarok**	**2.30**	**325**	PN	**Pn**	**20 07 28.9**	**-0.4**
SMKR				S	**Sn**	**20 07 56.2**	**-1.1**
KMNR	**Kamenistaya**	**2.31**	**298**	*e*P	**Pn**	**20 07 30.0**	**+0.5**
KMNR				*e*S	**Sn**	**20 07 58.1**	**+0.3**
KMNR	**Kamenistaya**	**2.31**	**298**	PN	**Pn**	**20 07 30.0**	**+0.5**
KMNR				S	**Sn**	**20 07 58.1**	**+0.3**
KIRR	**Kirishev**	**2.35**	**303**	*e*P	**Pn**	**20 07 30.9**	**+0.8**
KIRR				*e*S	**Sn**	**20 07 59.0**	**+0.2**
KIRR	**Kirishev**	**2.35**	**303**	PN	**Pn**	**20 07 30.9**	**+0.8**
KIRR				S	**Sn**	**20 07 59.0**	**+0.2**
BDR	**Baidarnaya**	**2.38**	**322**	*e*P	**Pn**	**20 07 30.9**	**+0.5**
BDR	**Baidarnaya**	**2.38**	**322**	PN	**Pn**	**20 07 30.9**	**+0.5**
KRSR	**Krestovskiy**	**2.40**	**310**	*e*P	**Pn**	**20 07 30.6**	**0.0**
KRSR				*e*S	**Sn**	**20 07 58.7**	**-1.1**
KRSR	**Krestovskiy**	**2.40**	**310**	PN	**Pn**	**20 07 30.6**	**0.0**
KRSR				S	**Sn**	**20 07 58.7**	**-1.1**
KLY	**Klyuchi**	**2.42**	**312**	*e*P	**Pn**	**20 07 29.7**	**-1.1**
KLY				*e*S	**Sn**	**20 07 57.7**	**-2.4**
KLY	**Klyuchi**	**2.42**	**312**	PN	**Pn**	**20 07 29.7**	**-1.1**
KLY				S	**Sn**	**20 07 57.7**	**-2.4**
KPT	**Kopyto**	**2.42**	**302**	*e*P	**Pn**	**20 07 32.1**	**+1.2**
KPT				S	**Sn**	**20 08 00.7**	**+0.4**
KPT	**Kopyto**	**2.42**	**302**	PN	**Pn**	**20 07 32.1**	**+1.2**
KPT				S	**Sn**	**20 08 00.7**	**+0.4**
SRKR	**Sorokina**	**2.46**	**323**	*e*P	**Pn**	**20 07 31.5**	**0.0**
SRKR				*e*S	**Sn**	**20 08 01.4**	**+0.1**
SRKR	**Sorokina**	**2.46**	**323**	PN	**Pn**	**20 07 31.5**	**0.0**
SRKR				S	**Sn**	**20 08 01.4**	**+0.1**
KOZ	**Kozyrevsk**	**2.63**	**302**	*e*P	**Pn**	**20 07 35.2**	**+1.4**
KOZ				*e*S	**Sn**	**20 08 05.4**	**-0.2**
KOZ	**Kozyrevsk**	**2.63**	**302**	PN	**Pn**	**20 07 35.2**	**+1.4**
KOZ				S	**Sn**	**20 08 05.4**	**-0.2**
KII	**Karymskiy**	**2.67**	**257**	*e*P	**Pn**	**20 07 35.0**	**+0.6**
KII				*e*S	**Sn**	**20 08 05.4**	**-1.2**
KII	**Karymskiy**	**2.67**	**257**	PN	**Pn**	**20 07 35.0**	**+0.6**
KII				S	**Sn**	**20 08 05.4**	**-1.2**
SPN	**Mys Shipunski**	**2.80**	**236**	*e*P	**Pn**	**20 07 35.6**	**-0.5**
SPN	**Mys Shipunski**	**2.80**	**236**	PN	**Pn**	**20 07 35.6**	**-0.5**
SRDR	**Sredinnyy**	**2.84**	**306**	*e*P	**Pn**	**20 07 37.4**	**+0.7**
SRDR				*e*S	**Sn**	**20 08 10.9**	**+0.2**
SRDR	**Sredinnyy**	**2.84**	**306**	PN	**Pn**	**20 07 37.4**	**+0.7**
SRDR				S	**Sn**	**20 08 10.9**	**+0.2**
NLC	**Nalytchevo**	**3.09**	**241**	*e*P	**Pn**	**20 07 39.8**	**-0.3**
NLC				*e*S	**Sn**	**20 08 13.2**	**-3.6**
NLC	**Nalytchevo**	**3.09**	**241**	PN	**Pn**	**20 07 39.8**	**-0.3**
SMAR	**Somma**	**3.33**	**246**	*e*P	**Pn**	**20 07 43.8**	**+0.2**
SMAR	**Somma**	**3.33**	**246**	PN	**Pn**	**20 07 43.8**	**+0.2**
KRER	**Koryakskii**	**3.34**	**247**	P	**Pn**	**20 07 44.5**	**+0.8**
KRER	**Koryakskii**	**3.34**	**247**	PN	**Pn**	**20 07 44.5**	**+0.8**
UGLR	**Uglovaya**	**3.34**	**245**	P	**Pn**	**20 07 45.0**	**+1.3**
UGLR	**Uglovaya**	**3.34**	**245**	PN	**Pn**	**20 07 45.0**	**+1.3**
AVH	**Avacha**	**3.36**	**246**	*e*P	**Pn**	**20 07 44.7**	**+0.8**
AVH	**Avacha**	**3.36**	**246**	PN	**Pn**	**20 07 44.7**	**+0.8**
KRX	**Arik**	**3.37**	**248**	*e*P	**Pn**	**20 07 44.7**	**+0.7**
KRX	**Arik**	**3.37**	**248**	PN	**Pn**	**20 07 44.7**	**+0.7**
KOK	**Koryaka**	**3.40**	**247**	*e*P	**Pn**	**20 07 45.1**	**+0.6**
KOK	**Koryaka**	**3.40**	**247**	PN	**Pn**	**20 07 45.1**	**+0.6**
DALK	**Dalny**	**3.47**	**243**	P	**Pn**	**20 07 46.1**	**+0.8**
DALK				*e*S	**Sn**	**20 08 23.1**	**-3.0**
DALK	**Dalny**	**3.47**	**243**	PN	**Pn**	**20 07 46.1**	**+0.8**
PET	**Petropavlovsk**	**3.52**	**243**	Pn	**Pn**	**20 07 45.2**	**-0.9**
PET	**Petropavlovsk**	**3.52**	**243**	P	**Pn**	**20 07 47.1**	**+1.1**
PET				*e*S	**Sn**	**20 08 24.5**	**-3.0**
PET	**Petropavlovsk**	**3.52**	**243**	*e*PN	**Pn**	**20 07 46.1**	**+0.1**
GNL	**Ganaly**	**3.63**	**256**	*e*P	**Pn**	**20 07 48.9**	**+1.3**
GNL	**Ganaly**	**3.63**	**256**	PN	**Pn**	**20 07 48.9**	**+1.3**
KRMR	**Karymshinskiy**	**3.90**	**243**	*e*P	**Pn**	**20 07 51.8**	**+0.6**
KRMR				*e*S	**Sn**	**20 08 34.9**	**-1.7**
KRMR	**Karymshinskiy**	**3.90**	**243**	PN	**Pn**	**20 07 51.8**	**+0.6**
RUS	**Russkaya**	**3.93**	**236**	*e*P	**Pn**	**20 07 51.3**	**-0.3**
RUS				*e*S	**Sn**	**20 08 33.6**	**-3.9**
RUS	**Russkaya**	**3.93**	**236**	PN	**Pn**	**20 07 51.3**	**-0.3**
PEA0B	**Petropavlovsk-**	**3.99**	**248**	Pn	**Pn**	**20 07 53.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**3.99**	**248**	PN	**Pn**	**20 07 53.4**	**+1.0**
PETK	**Petropavlovsk-**	**3.99**	**248**	Pn	**Pn**	**20 07 53.3**	**+0.8**
	3.2nm,0.5s,baz=82,slow=18,SNR=27						
PETK				Sn	**Sn**	**20 08 39.8**	**+0.8**
	1.1nm,0.3s,baz=96,slow=39,SNR=2.4						
PETK				LR	LR	20 08 57.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,30nm,19.7s,baz=28,slow=32						
PETK	**Petropavlovsk-**	**3.99**	**248**	Pn	**Pn**	**20 07 52.9**	**+0.4**
MTVR	**Mutnovka**	**4.06**	**239**	*e*P	**Pn**	**20 07 53.9**	**+0.3**
MTVR				*e*S	**Sn**	**20 08 37.9**	**-3.1**
MTVR	**Mutnovka**	**4.06**	**239**	PN	**Pn**	**20 07 53.9**	**+0.3**
GRL	**Gorelyy**	**4.08**	**240**	*e*P	**Pn**	**20 07 54.6**	**+0.8**
GRL	**Gorelyy**	**4.08**	**240**	PN	**Pn**	**20 07 54.6**	**+0.8**
ASAK	**Asacha**	**4.26**	**239**	*e*P	**Pn**	**20 07 57.1**	**+0.8**
ASAK				*e*S	**Sn**	**20 08 44.3**	**-1.5**
ASAK	**Asacha**	**4.26**	**239**	PN	**Pn**	**20 07 57.1**	**+0.8**
APC	**Apacha**	**4.36**	**248**	*e*P	**Pn**	**20 07 58.3**	**+0.7**
APC	**Apacha**	**4.36**	**248**	PN	**Pn**	**20 07 58.3**	**+0.7**
KDTR	**Khodutka, Kamc**	**4.54**	**232**	*e*P	**Pn**	**20 08 00.3**	**+0.3**
KDTR				*e*S	**Sn**	**20 08 47.8**	**-4.7**
KDTR	**Khodutka, Kamc**	**4.54**	**232**	PN	**Pn**	**20 08 00.3**	**+0.3**
OSSR	**Ossora**	**4.55**	**355**	*e*P	**Pn**	**20 08 00.1**	**0.0**
OSSR				*e*S	**Sn**	**20 08 48.0**	**-4.7**
OSSR	**Ossora**	**4.55**	**355**	PN	**Pn**	**20 08 00.1**	**0.0**
SHEM	**Shemya Is, Ala**	**6.40**	**104**	Pn	**Pn**	**20 08 28.4**	**+2.9**
	4.7nm,0.3s,baz=270,slow=19,SNR=1.4						
	42nm,0.8s						
SMY	**Shemya**	**6.40**	**104**	Pn	**Pn**	**20 08 28.5**	**+3.0**
SMY	**Shemya**	**6.40**	**104**	PN	**Pn**	**20 08 28.5**	**+3.0**
MA2	**Magadan**	**8.61**	**310**	LR	LR	20 12 40.5	
	comp=Z,51nm,18.7s,baz=105,slow=41						
YAK	**Yakutsk**	**19.16**	**306**	P	**P**	**20 11 12.7**	**-1.7**
	0.1nm,0.3s,baz=75,slow=1.0,SNR=2.1						
	2.8nm,0.4s						
TIXI	**Tiksi**	**22.61**	**332**	P	**P**	**20 11 51.8**	**+0.3**
	1.4nm,0.4s,baz=90,slow=22,SNR=12						
	1.4nm,0.4s						
K20K	**Telida**	**22.89**	**51**	P	**P**	**20 11 54.8**	**+0.1**
K20K				IAmb	IAmb	20 11 58.0	
	comp=Z,14nm,1.4s						
J20K	**Nowinta River**	**22.91**	**49**	P	**P**	**20 11 55.0**	**+0.2**
IMAR	**Indian Mountai**	**23.28**	**44**	P	**P**	**20 11 58.2**	**-0.4**
H21K	**Melozitna Rive**	**23.62**	**45**	P	**P**	**20 12 03.9**	**+1.9**
PPLA	**Purkeypile**	**23.74**	**52**	P	**P**	**20 12 04.5**	**+1.3**
PPLA				IAmb	IAmb	20 12 33.8	
	comp=Z,28nm,1.5s						
CAST	**Castle Rocks**	**23.79**	**51**	P	**P**	**20 12 04.6**	**+1.0**
SKT	**Skwentna**	**24.07**	**54**	P	**P**	**20 12 08.2**	**+1.9**
SKT				IAmb	IAmb	20 12 21.5	
	comp=Z,12nm,1.4s						
SUA	**Susitna One**	**24.48**	**56**	P	**P**	**20 12 11.0**	**+0.8**
TRF	**Thorofare Moun**	**24.59**	**51**	P	**P**	**20 12 12.2**	**+1.0**
TRF				IAmb	IAmb	20 12 13.5	
	comp=Z,13nm,1.2s						
H23K	**Yukon River**	**24.98**	**45**	P	**P**	**20 12 15.7**	**+1.1**
I23K	**Minto, Yukon-K**	**25.02**	**47**	P	**P**	**20 12 15.6**	**+0.8**
I23K				IAmb	IAmb	20 12 17.7	
	comp=Z,8.0nm,1.4s						
TOLK	**Toolik Lake Re**	**25.30**	**38**	P	**P**	**20 12 18.2**	**+0.7**
TOLK				IAmb	IAmb	20 12 25.1	
	comp=Z,13nm,1.3s						
SML	**Sawmill**	**25.59**	**55**	P	**P**	**20 12 20.8**	**+0.6**
SML				IAmb	IAmb	20 12 48.0	
	comp=Z,23nm,1.4s						
CCB	**Clear Creek Bu**	**25.68**	**48**	P	**P**	**20 12 21.1**	**+0.3**
PWL	**Port Wells**	**25.70**	**57**	P	**P**	**20 12 21.6**	**+0.4**
DHY	**Denali Highway**	**25.93**	**52**	P	**P**	**20 12 24.0**	**+0.7**
DHY				IAmb	IAmb	20 13 04.2	
	comp=Z,11nm,1.4s						
SCM	**Sheep Creek Mo**	**26.06**	**54**	P	**P**	**20 12 25.4**	**+1.0**
SCM	**Sheep Creek Mo**	**26.06**	**54**	P	**P**	**20 12 25.4**	**+1.0**
ILAR	**Eielson Array**	**26.07**	**48**	P	**P**	**20 12 24.1**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=266,slow=9.4,SNR=11						
	comp=Z,1.1nm,0.8s						
BMAR	**Burnt Mountain**	**27.04**	**42**	P	**P**	**20 12 34.4**	**+1.2**
INK	**Inuvik**	**31.19**	**40**	P	**P**	**20 13 10.9**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=260,slow=4.0,SNR=4.4						
	comp=Z,1.1nm,0.5s						
C36M	**Paulatuk**	**34.41**	**37**	P	**P**	**20 13 38.8**	**+0.8**
C36M				IAmb	IAmb	20 13 42.7	
	comp=Z,14nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**35.02**	**175**	T	T	20 51 14.7	
	baz=358						
H11N3	**WAKE ISLAND Hy**	**35.03**	**175**	T	T	20 51 39.7	
	baz=358,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.03**	**175**	T	T	20 51 24.3	
	baz=358,slow=74						
SONM	**Songino Array**	**35.70**	**283**	P	**P**	**20 13 50.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=61,slow=6.3,SNR=2.5						
SONM				LR	LR	20 28 12.2	
	comp=Z,26nm,19.4s,baz=30,slow=36						
	comp=Z,0.3nm,0.4s						
SPITS	**Spitsbergen Ar**	**45.87**	**351**	P	**P**	**20 15 13.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=61,slow=12,SNR=6.4						
	comp=Z,1.7nm,0.5s						
SPB2	**Spitsbergen Ar**	**45.87**	**351**	P	**P**	**20 15 13.6**	**+0.7**
KURK	**Kurchatov**	**48.74**	**303**	P	**P**	**20 15 34.6**	**-1.0**
KURK				IAmb	IAmb	20 15 35.5	
	comp=Z,5.5nm,1.0s						
KURK	**Kurchatov**	**48.74**	**303**	P	**P**	**20 15 34.6**	**-1.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MK31	**Makanchi Array**	**49.43**	**297**	P	**P**	**20 15 39.8**	**-1.2**
MK31				IAmb	IAmb	20 15 47.8	
	comp=Z,4.9nm,1.4s						
MK31	**Makanchi Array**	**49.43**	**297**	P	**P**	**20 15 39.8**	**-1.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MKAR	**Makanchi Array**	**49.43**	**297**	P	**P**	**20 15 39.8**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=58,slow=5.9,SNR=5.3						
MKAR				LR	LR	20 38 37.4	
	comp=Z,28nm,18.6s,baz=319,slow=39						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**51.10**	**309**	P	**P**	**20 15 51.7**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=60,slow=7.0,SNR=2.3						
	comp=Z,0.6nm,0.4s						
ARU	**Arti**	**53.68**	**318**	LR	LR	20 39 36.4	
	comp=Z,24nm,19.2s,baz=16,slow=37						
FINES	**FINESS Array B**	**59.47**	**338**	P	**P**	**20 16 52.5**	**-1.0**
	comp=Z,2.9nm,1.0s,baz=35,slow=5.1,SNR=4.7						
	comp=Z,2.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**60.68**	**260**	P	**P**	**20 17 03.4**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=24,slow=7.3,SNR=6.6						
	comp=Z,0.7nm,0.5s						
BELG	**Belogornoye**	**60.88**	**321**	P	**P**	**20 17 03.2**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=22,slow=11,SNR=3.6						
	comp=Z,2.9nm,0.6s						
TXAR	**Lajitas Array**	**67.96**	**70**	P	**P**	**20 17 52.1**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=316,slow=3.8,SNR=3.5						
	comp=Z,0.3nm,0.6s						
GEYT	**Alibeck**	**68.03**	**305**	P	**P**	**20 17 50.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=75,slow=12,SNR=2.0						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**78.55**	**208**	P	**P**	**20 18 53.4**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=26,slow=6.2,SNR=1.7						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**82.21**	**208**	P	**P**	**20 19 13.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=18,slow=5.0,SNR=5.6						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**85.39**	**351**	P	**P**	**20 19 29.1**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=8.7,slow=4.9,SNR=5.6						
	comp=Z,0.9nm,0.9s						

*IDC **02** 20:20:39.9±2.7, 37°.42N×72°.01E, h173^{km}±22^{km}, mb3.2/5, mbtmp3.8/12, Error ellipse: s-maj=31.8km s-min=14.9km az=146.0*

*NNC **02** 20:20:44.9±4.0, 37°.96N×72°.19E, h247^{km}±69^{km}, mb2.9, mpv4.0, Error ellipse: s-maj=47.2km s-min=24.8km az=1.0*

ISC 02 20:20:40.4±0.7**, 37°.50N**±0°.06×**72°.11E**±0°.06**, h200^{km}, n36, σ2^{s}35**/43**, mb3.3**/5**, 3C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.79**	**14**	P	**Pn**	**20 21 53.6**	**+1.1**
	SNR=302						
UCH	**Uchtor**	**5.07**	**21**	P	**Pn**	**20 21 57.4**	**+1.2**
	SNR=29						
EKS2	**Erkin-Say**	**5.31**	**13**	P	**Pn**	**20 22 00.3**	**+1.4**
	SNR=29						
AAK	**Ala-Archa**	**5.45**	**19**	P	**Pn**	**20 22 02.2**	**+1.6**
	SNR=66						
AAK	**Ala-Archa**	**5.45**	**19**	P	**Pn**	**20 22 02.3**	**+1.6**
	34nm,0.4s,baz=179,slow=5.7,SNR=142						
AAK				S	**Sn**	**20 23 03.3**	**-0.7**
	30nm,0.5s,baz=327,slow=22,SNR=23						
KBK	**Karagaybulak**	**5.59**	**22**	P	**Pn**	**20 22 04.6**	**+2.1**
	SNR=12						
ULHL	**Ulahol**	**5.71**	**33**	P	**Pn**	**20 22 04.6**	**+0.6**
	SNR=50						
KK31	**Karatay Array**	**5.73**	**348**	P	**Pn**	**20 22 05.6**	**+1.5**
	5.4nm,0.4s,baz=164,slow=12,SNR=80						
KK31				⇓S	**Sn**	**20 23 07.6**	**-2.8**
	52nm,0.4s,baz=163,slow=22						
CHMS	**Chumysh**	**5.85**	**19**	P	**Pn**	**20 22 07.1**	**+1.4**
	SNR=17						
CHMS	**Chumysh**	**5.85**	**19**	⇑P	**Pn**	**20 22 07.0**	**+1.3**
	9.8nm,0.4s						
CHMS				⇑S	**Sn**	**20 23 11.4**	**-1.9**
	50nm,0.8s						
TKM2	**Tokmak 2**	**6.04**	**25**	P	**Pn**	**20 22 09.5**	**+1.2**
	SNR=18						
TKM2	**Tokmak 2**	**6.04**	**25**	P	**Pn**	**20 22 08.4**	**+0.1**
TKM2				S	**Sn**	**20 23 11.4**	**-6.5**
USP	**Ospenovka**	**6.04**	**17**	P	**Pn**	**20 22 09.0**	**+0.8**
	SNR=14						
MDOK	**Medeo**	**6.80**	**32**	P	**Pn**	**20 22 19.1**	**+0.9**
PDGK	**Podgornoye**	**8.10**	**42**	P	**Pn**	**20 22 33.5**	**-1.5**
PDGK				S	**Sn**	**20 24 03.0**	**-3.3**
GEYT	**Alibeck**	**11.09**	**276**	P	**Pn**	**20 23 13.8**	**+0.1**
	1.9nm,0.3s,baz=98,slow=11,SNR=21						
GEYT				S	**Sn**	**20 25 13.2**	**-4.3**
	2.2nm,0.4s,baz=102,slow=14,SNR=2.4						
GYB4	**ALIBECK ARRAY**	**11.11**	**277**	P	**Pn**	**20 23 13.1**	**-0.8**
MKAR	**Makanchi Array**	**11.96**	**36**	P	**Pn**	**20 23 26.0**	**+1.3**
	0.5nm,0.8s,baz=222,slow=16,SNR=2.1						
PYUN	**Piuthan**	**13.09**	**133**	*e*P	**Pn**	**20 23 37.0**	**-2.3**
	23nm,0.3s						
DANN	**Dangsing**	**13.37**	**130**	*e*P	**Pn**	**20 23 40.9**	**-2.0**
	36nm,0.3s						
KOLN	**Koldanda**	**13.70**	**132**	*e*P	**Pn**	**20 23 45.5**	**-1.3**
	1.5nm,0.3s						
KURBB	**Kurchatov Arra**	**13.90**	**17**	P	**P**	**20 23 52.4**	**+1.5**
	0.4nm,0.2s,baz=206,slow=11,SNR=4.1						
GKN	**Gorkha**	**14.16**	**128**	*e*P	**Pn**	**20 23 51.1**	**-1.4**
	80nm,0.4s						
AB31	**Akbulak array**	**14.68**	**327**	P	**P**	**20 23 59.8**	**+0.2**
	3.4nm,0.4s,baz=143,slow=11,SNR=184						
AB31				⇑S	**S**	**20 26 34.9**	**-6.7**
	1.6nm,0.3s,baz=143,slow=11						
DMN	**Daman**	**14.73**	**128**	*e*P	**Pn**	**20 23 58.3**	**-1.3**
	8.1nm,0.2s						
PKI	**Pulchoki**	**14.95**	**128**	*e*P	**Pn**	**20 24 00.4**	**-2.0**
	18nm,0.3s						
GUN	**Gumba**	**15.01**	**126**	*e*P	**Pn**	**20 24 01.5**	**-1.7**
	35nm,0.4s						
BVAR	**Borovoye Array**	**15.57**	**356**	P	**Pn**	**20 24 12.2**	**+2.8**
	1.2nm,0.6s,baz=158,slow=11,SNR=3.4						
RAMN	**Ramite**	**16.14**	**127**	*e*P	**P**	**20 24 14.7**	**-1.5**
WSAR	**Wadi Sarin**	**18.33**	**223**	P	**Pn**	**20 24 40.9**	**-1.6**
	1.7nm,0.6s,baz=70,slow=11,SNR=1.8						
ZALV	**Zalesovo Beam**	**18.64**	**24**	P	**Pn**	**20 24 45.2**	**-0.4**
	0.9nm,0.3s,baz=211,slow=8.7,SNR=7.4						
SONM	**Songino Array**	**27.04**	**57**	P	**P**	**20 26 06.8**	**+2.6**
	0.2nm,0.3s,baz=261,slow=9.6,SNR=2.3						
	0.2nm,0.3s						
ARCES	**ARCESS Array B**	**40.57**	**337**	P	**P**	**20 28 02.8**	**+2.8**
	0.5nm,0.5s,baz=104,slow=7.6,SNR=4.6						
	0.5nm,0.5s						
NOA	**NORSAR Array B**	**44.12**	**322**	P	**P**	**20 28 31.1**	**+2.4**
	0.4nm,0.5s,baz=106,slow=8.3,SNR=1.6						
	0.4nm,0.5s						
ESDC	**Sonseca Array**	**57.78**	**298**	P	**P**	**20 30 13.3**	**+2.6**
	0.4nm,0.6s,baz=55,slow=8.1,SNR=5.8						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.62**	**269**	P	**P**	**20 31 10.7**	**+0.9**
	1.6nm,0.4s,baz=49,slow=6.1,SNR=40						
	1.6nm,0.4s						

KRSC 02 20:31:49.1±2.2**, 52°.79N**×**170°.13E, h24^{km}**±61^{km}**, ML4.0, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**3.44**	**316**	S	Sn	20 33 23.3	+2.2
MKZ	**Mys Kozlova**	**5.29**	**293**	P	Pn	20 33 10.0	+3.4
MKZ				S	Sn	20 34 12.4	+5.6
TUMR	**Tumrok**	**6.39**	**297**	P	Pn	20 33 26.4	+4.7
AVH	**Avacha**	**6.89**	**278**	P	Pn	20 33 33.7	+5.2
AVH				S	Sn	20 34 52.2	+6.1
KRX	**Arik**	**6.94**	**279**	P	Pn	20 33 33.6	+4.3
KRX				S	Sn	20 34 53.3	+5.8
RUS	**Russkaya**	**7.08**	**272**	P	Pn	20 33 36.1	+5.0
RUS				S	Sn	20 34 55.9	+5.1
KRMR	**Karymshinskiy**	**7.27**	**275**	S	Sn	20 35 01.8	+6.3
MTVR	**Mutnovka**	**7.28**	**272**	S	Sn	20 35 01.0	+5.2
GNL	**Ganaly**	**7.37**	**282**	P	Pn	20 33 41.5	+6.3
KDTR	**Khodutka, Kamc**	**7.46**	**267**	S	Sn	20 35 03.5	+3.6

*NEIC **02** 20:43:36.3±0.7, 19°.6N±0°.1×112°.97E±0°.09, h10^{km}±1^{km}, mb4.3/7, ML4.4(BJI), Error ellipse: s-maj=19.7km s-min=11.1km az=148.0*

ISC 02 20:43:36.4±0.9**, 19°.6N**±0°.1×**113°.14E**±0°.07**, h10^{km}, n19, σ1^{s}79**/19**, mb4.3**/5**, South China Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCO	**Taipa Grande**	**2.56**	**9**	P	**Pn**	**20 44 22.0**	**+4.0**
HKPS	**Hong Kong Po S**	**2.85**	**19**	Pn	**Pn**	**20 44 22.4**	**+0.5**
QIZ	**Qiongzhong**	**3.16**	**261**	Pn	**Pn**	**20 44 23.8**	**-2.4**
QIZ	**Qiongzhong**	**3.16**	**261**	Pg	**Pn**	**20 44 24.4**	**-1.8**
QIZ				Sg	**Sb**	**20 45 14.2**	**+3.0**
QIZ				smax	smax		
	comp=N,2μm,0.8s						
QIZ				smax	smax		
	comp=E,770nm,0.7s						
KNMB	**Chin-men Tao**	**6.88**	**44**	Pn	**Pn**	**20 45 17.5**	**+0.1**
TPUB	**Ta-pu**	**7.90**	**61**	Pn	**Pn**	**20 45 31.6**	**+0.1**
TWG	**Pinlang**	**8.08**	**65**	Pn	**Pn**	**20 45 35.2**	**+1.3**
SSLB	**Suanglung**	**8.39**	**59**	Pn	**Pn**	**20 45 39.4**	**+1.2**
YULB	**Yu-li**	**8.49**	**62**	Pn	**Pn**	**20 45 41.0**	**+1.5**
NACB	**Ninganchiao**	**9.09**	**58**	Pn	**Pn**	**20 45 50.0**	**+2.3**
YHNB	**Yeheng**	**9.16**	**55**	Pn	**Pn**	**20 45 50.3**	**+1.5**
TNCH	**TengChong**	**14.57**	**295**	*e*P	Pn	20 46 55.8	-7.1
TNCH				pP	P	20 47 08.3	-1.2
TNCH				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LSA	**Lhasa**	**22.35**	**301**		**P**	**20 48 34.5**	**-0.6**
LSA				IAmb	IAmb	20 48 57.4	
	comp=Z,3.5nm,0.9s						
WB0	**Warramunga Arr**	**44.31**	**151**	P	**P**	**20 51 46.0**	**-0.7**
WB0				IAmb	IAmb	20 52 16.9	
	comp=Z,10.0nm,1.5s						
WRA	**Warramunga Arr**	**44.43**	**151**	P	**P**	**20 51 47.3**	**-0.5**
WB2	**Warramunga Arr**	**44.44**	**151**	P	**P**	**20 51 47.5**	**-0.3**
WB2				IAmb	IAmb	20 52 25.8	
	comp=Z,9.6nm,1.4s						
WR0	**Warramunga Arr**	**44.54**	**151**	P	**P**	**20 51 48.4**	**-0.2**
WR0				IAmb	IAmb	20 52 17.1	
	comp=Z,6.0nm,1.2s						
BRVK	**Borovoye**	**46.94**	**326**	P	**P**	**20 52 05.5**	**-1.6**
BRVK				IAmb	IAmb	20 52 07.6	
	comp=Z,2.7nm,1.1s						
FALS	**False Pass**	**70.49**	**38**	P	**P**	**20 54 50.7**	**-0.4**

ISC 02 20:48:06.8±1.2**, 67°.50N**±0°.08×**143°.98W**±0°.05**, h13^{km}**±18^{km}**, n8, σ0^{s}81**/12**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F26K	**Sheenjek River**	**0.21**	**342**	P	**Pg**	**20 48 11.5**	**0.0**
	baz=155,SNR=34						
F26K				S	**Sg**	**20 48 14.1**	**-0.5**
	baz=155						
G26K	**Porcupine Rive**	**0.55**	**172**	P	**Pb**	**20 48 18.9**	**+0.6**
	baz=354,SNR=10						
G26K				S	**Sb**	**20 48 26.2**	**+0.1**
	baz=354						
F25K	**Christian Rive**	**0.65**	**280**	P	**Pb**	**20 48 20.2**	**+0.3**
	baz=95,SNR=7.0						
F25K				S	**Sg**	**20 48 28.4**	**+0.5**
	baz=95						
G27K	**Doyon Strip**	**1.14**	**126**	S	**Sg**	**20 48 44.3**	**+0.8**
	baz=310						
F24K	**Squaw Lake**	**1.50**	**273**	P	**Pg**	**20 48 35.3**	**-0.3**
	baz=88,SNR=7.2						
F24K				S	**Sg**	**20 48 55.0**	**-0.1**
	baz=88						
G24K	**Hadweenzic Riv**	**1.58**	**241**	S	**Sg**	**20 48 58.6**	**+0.9**
	baz=58						
PRP	**Porcupine Dome**	**2.08**	**198**	S	**Sb**	**20 49 09.0**	**-1.2**
	baz=17						
I27K	**Kandik River**	**2.12**	**152**	Sb	**Sg**	**20 49 13.8**	**-1.1**
	baz=335						

*IDC **02** 21:01:36.6±2.1, 43°.60N×105°.39W, h0^{km}, mb3.9/1, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=59.4km s-min=8.9km az=151.0*

*NEIC **02** 21:01:38.8±1.6, 43°.68N±0°.05×105°.28W±0°.06, h0^{km}±2^{km}, ML3.4/60, Error ellipse: s-maj=9.5km s-min=5.5km az=321.0*

ISC 02 21:01:37.7±1.0**, 43°.67N**±0°.05×**105°.28W**±0°.05**, h0^{km}, n40, σ1^{s}39**/40**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**63**	Pg	**Pg**	**21 01 57.4**	**+0.4**
K22A	**Casper**	**1.36**	**222**	Pn	**Pg**	**21 02 02.7**	**-1.2**
K22A				IAML		21 02 26.0	
	comp=E,383nm,0.6s						
K22A				IAML		21 02 26.9	
	comp=N,402nm,0.7s						
PHWY	**Pilot Hill**	**2.37**	**183**	Pn	**Pn**	**21 02 18.9**	**+0.9**
RWWY	**Rawlins**	**2.44**	**216**		**Pn**	**21 02 20.6**	**+1.6**
RWWY				IAML		21 02 55.6	
	comp=N,212nm,0.8s						
RWWY				IAML		21 02 56.8	
	comp=N,223nm,1.2s						
N23A	**Red Feather La**	**2.81**	**190**		**Pn**	**21 02 25.2**	**+1.1**
LAO	**LASA Array**	**3.10**	**348**	Pn	**Pn**	**21 02 27.9**	**0.0**
LAO				IAML		21 03 36.0	
	comp=N,148nm,0.9s						
BRIGG	**Briggsdale**	**3.16**	**167**	Pn	**Pn**	**21 02 30.4**	**+1.6**
RLMT	**Red Lodge**	**3.21**	**298**	Pn	**Pn**	**21 02 30.2**	**+0.7**
RLMT				IAML		21 03 32.0	
	comp=N,79nm,0.8s						
RLMT				IAML		21 03 32.5	
	comp=N,49nm,1.1s						
BW06	**Boulder Array**	**3.26**	**255**		**Pn**	**21 02 31.0**	**+0.7**
BW06				IAML		21 03 19.2	
	comp=N,74nm,0.6s						
BW06				IAML		21 03 19.5	
	comp=N,47nm,0.4s						
PD31	**Pinedale Array**	**3.26**	**255**		**Pn**	**21 02 30.6**	**+0.4**
PDAR	**Pinedale Array**	**3.26**	**255**	Pn	**Pn**	**21 02 30.8**	**+0.6**
	comp=N,4.1nm,0.3s,baz=80,slow=17,SNR=40						
PDAR				Lg	Lg	21 03 15.9	
	comp=N,5.0nm,0.3s,baz=78,slow=20,SNR=2.5						
	comp=N,5.2nm,0.4s						
OGNE	**Ogallala**	**3.63**	**137**		**Pn**	**21 02 35.3**	**+0.1**
YMP	**Mirror Lake Pl**	**3.67**	**289**		**Pn**	**21 02 36.7**	**+0.8**
YMP				IAML		21 04 04.8	
	comp=E,81nm,1.1s						
GCMT	**Greycliff**	**3.78**	**306**	Pn	**Pn**	**21 02 37.9**	**+0.5**
LOHW	**Long Hollow**	**3.87**	**271**		**Pn**	**21 02 40.0**	**+1.4**
LOHW				IAML		21 03 46.9	
	comp=E,33nm,0.9s						
H17A	**Grant Village**	**3.89**	**283**	Pn	**Pn**	**21 02 41.1**	**+2.2**
H17A				IAML		21 03 42.8	
	comp=N,39nm,1.0s						
H17A				IAML		21 03 43.7	
	comp=E,48nm,1.6s						
FLWY	**Flagg Ranch**	**3.94**	**278**		**Pn**	**21 02 41.3**	**+1.6**
FLWY				IAML		21 04 11.0	
	comp=E,66nm,1.2s						
MOOW	**Moose Ponds**	**3.97**	**273**		**Pn**	**21 02 41.8**	**+1.9**
SNOW	**Snow King Moun**	**3.99**	**269**		**Pn**	**21 02 42.5**	**+2.2**
SNOW				IAML		21 03 56.5	
	comp=E,73nm,1.5s						
SNOW				IAML		21 03 58.1	
	comp=E,71nm,1.1s						
YNR	**Norris Junctio**	**4.02**	**287**		**Pn**	**21 02 42.9**	**+2.1**
YNR				IAML		21 04 15.0	
	comp=E,26nm,2.5s						
REDW	**Red Top Meadow**	**4.07**	**268**		**Pn**	**21 02 43.0**	**+1.6**
REDW				IAML		21 04 09.9	
	comp=E,60nm,1.2s						
TPAW	**Teton Pass**	**4.13**	**270**	Pn	**Pn**	**21 02 44.1**	**+1.8**
TPAW				IAML		21 04 01.8	
	comp=E,25nm,1.1s						
TPAW				IAML		21 04 06.2	
	comp=E,41nm,1.1s						
YHH	**Holmes Hill**	**4.16**	**288**	Pn	**Pn**	**21 02 43.5**	**+0.8**
O20A	**White River Ci**	**4.17**	**213**	Pn	**Pn**	**21 02 43.2**	**+0.5**
O20A				IAML		21 04 37.9	
	comp=E,58nm,2.0s						
FXWY	**Fox Creek**	**4.17**	**272**		**Pn**	**21 02 44.1**	**+1.3**
AHID	**Auburn Hatcher**	**4.35**	**260**		**Pn**	**21 02 48.2**	**+2.9**
AHID				IAML		21 04 01.1	
	comp=E,52nm,1.0s						
E28A	**Huff**	**4.36**	**47**		**Pn**	**21 02 46.2**	**+1.1**
RDMU	**Red Mountain**	**4.45**	**227**		**Pn**	**21 02 48.3**	**+1.7**
RDMU				IAML		21 03 56.4	
	comp=E,33nm,1.1s						
RDMU				IAML		21 04 20.1	
	comp=N,36nm,1.1s						
DGMT	**Dagmar**	**4.86**	**9**		**Pn**	**21 02 52.1**	**0.0**
KSCO	**Kaye Shedlock'**	**5.06**	**156**		**Pn**	**21 02 53.8**	**-1.1**
HWUT	**Hardware Ranch**	**5.08**	**248**		**Pn**	**21 02 56.1**	**+1.0**
TCUT	**Toone Canyon**	**5.21**	**243**		**Pn**	**21 02 57.7**	**+0.7**
EGMT	**Eagleton**	**5.36**	**326**	Pn	**Pn**	**21 02 59.7**	**+0.7**
PV07	**Paradox Valley**	**5.81**	**207**		**Pn**	**21 03 06.2**	**+0.9**
SDCO	**Great Sand Dun**	**5.92**	**182**	Pn	**Pn**	**21 03 08.6**	**+1.8**
T25A	**Trinidad**	**6.55**	**174**	Pn	**Pn**	**21 03 17.9**	**+2.4**
DUG	**Dugway, Tooele**	**6.60**	**241**		**Pn**	**21 03 16.5**	**+0.3**
ELK	**Elko**	**7.95**	**252**	Pn	**Pn**	**21 03 35.5**	**+0.8**
	comp=N,0.1nm,0.3s,baz=62,slow=17,SNR=3.1						
ELK				Lg	Lg	21 05 39.4	
	comp=N,0.1nm,0.3s,baz=210,slow=17,SNR=1.6						
	comp=N,0.3nm,0.4s						
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**21 03 49.7**	**-1.8**
	comp=N,1.7nm,0.3s,baz=235,slow=14,SNR=7.6						
ULM				Lg	Lg	21 06 23.5	
	comp=N,0.1nm,0.3s,baz=330,slow=20,SNR=2.1						
	comp=N,4.7nm,0.4s						
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**21 11 54.8**	**-0.9**
	comp=N,1.0nm,0.7s,baz=334,slow=6.0,SNR=4.6						
	comp=N,1.0nm,0.7s						

*WEL **02** 21:07:55.2±0.5, 33°S±6°×17°9W±1°4, h218^{km}±8^{km}, M4.7/37, mB5.2/37, ML5.3/30, MLv5.2/37, Mw(mB)4.6/37, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1*

*IDC **02** 21:07:58.1±8.9, 33°.37S×179°.97E, h248^{km}±94^{km}, mb3.5/2, mbtmp4.4/4, Error ellipse: s-maj=118.4km s-min=45.2km az=4.0*

*NOU **02** 21:08:00.1, 33°.69S×179°.57W, h313^{km}, mb4.5/13, South of Kermadec Islands*

ISC 02 21:07:53.0±1.2**, 33°.32S**±0°.08×**179°.3W**±0°.2**, h200^{km}, n88, σ2^{s}87**/107**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.21**	**16**	P	**Pn**	**21 08 57.1**	**-0.3**
GLKZ				S	**Sn**	**21 09 46.6**	**-1.4**
MXZ	**Matakaoa Point**	**4.67**	**204**	P	Pn	21 09 10.0	+6.8
MXZ	**Matakaoa Point**	**4.67**	**204**	P	**Pn**	**21 09 06.6**	**+3.4**
MXZ				S	**Sn**	**21 10 01.1**	**+2.6**
WMGZ	**Waiomatatini S**	**4.87**	**202**	P	**Pn**	**21 09 10.0**	**+4.3**
WMGZ				S	**Sn**	**21 10 08.9**	**+5.8**
HAZ	**Te Kaha**	**5.04**	**208**	P	**Pn**	**21 09 11.7**	**+3.9**
HAZ				S	**Sn**	**21 10 08.6**	**+1.7**
PKGZ	**Pakihiroa**	**5.04**	**205**	P	**Pn**	**21 09 11.3**	**+3.3**
PKGZ				S	**Sn**	**21 10 10.4**	**+3.2**
PUZ	**Puketiti**	**5.15**	**202**	P	**Pn**	**21 09 12.7**	**+3.4**
PUZ				S	**Sn**	**21 10 13.2**	**+3.6**
GRZ	**Great Barrier**	**5.23**	**235**	P	**Pn**	**21 09 12.1**	**+1.9**
RUGZ	**Raukumara Rang**	**5.26**	**207**	P	**Pn**	**21 09 13.2**	**+2.4**
RUGZ				S	**Sn**	**21 10 13.3**	**+1.1**
TWGZ	**Tauwhareparae**	**5.34**	**204**	P	**Pn**	**21 09 15.7**	**+4.0**
TWGZ				S	**Sn**	**21 10 17.7**	**+3.8**
KUZ	**Kuaotunu**	**5.34**	**229**	P	**Pn**	**21 09 15.6**	**+3.9**
KUZ	**Kuaotunu**	**5.34**	**229**	P	**Pn**	**21 09 14.7**	**+3.0**
CNGZ	**Carnagh Statio**	**5.54**	**201**	P	**Pn**	**21 09 17.2**	**+2.8**
CNGZ				S	**Sn**	**21 10 15.0**	**-3.7**
TKGZ	**Te Karaka**	**5.62**	**204**	P	**Pn**	**21 09 17.4**	**+2.2**
TKGZ				S	**Sn**	**21 10 21.8**	**+1.4**
MWZ	**Matawai**	**5.64**	**207**	P	**Pn**	**21 09 17.8**	**+2.3**
MWZ				S	**Sn**	**21 10 21.4**	**+0.4**
URZ	**Urewera**	**5.74**	**210**	P	**Pn**	**21 09 19.3**	**+2.5**
	34nm,0.3s,baz=66,slow=3.2,SNR=37						
URZ				S	**Sn**	**21 10 21.7**	**-1.4**
	43nm,0.4s,baz=138,slow=22,SNR=12						
URZ	**Urewera**	**5.74**	**210**	P	**Pn**	**21 09 21.2**	**+4.4**
TLZ	**Tolley Road**	**6.54**	**219**	P	**Pn**	**21 09 32.0**	**+4.8**
BKZ	**Black Stump Fm**	**6.76**	**209**	P	**Pn**	**21 09 33.7**	**+3.5**
BKZ	**Black Stump Fm**	**6.76**	**209**	P	**Pn**	**21 09 33.0**	**+2.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BKZ				S	Sn	21 10 46.5	-0.7
RITZ	Rihia Road	6.88	213	P	Pn	21 09 35.8	+4.1
KATZ	Kakaramea	6.96	214	P	Pn	21 09 36.9	+4.1
CKHZ	Cape Kidnapper	6.98	204	P	Pn	21 09 36.9	+4.1
CKHZ				S	Sn	21 10 51.0	-1.1
KWHZ	Kaweka Forest	7.01	208	P	Pn	21 09 35.3	+1.9
KWHZ				S	Sn	21 10 52.1	-1.0
HIZ	Hauiti	7.04	221	P	Pn	21 09 39.0	+5.3
HIZ	Hauiti	7.04	221	P	Pn	21 09 37.5	+3.8
ETVZ	East Tongariro	7.08	213	P	Pn	21 09 36.3	+2.0
WTVZ	West Tongariro	7.12	214	P	Pn	21 09 38.2	+3.4
NNVZ	North Ngauruho	7.12	214	P	Pn	21 09 38.5	+3.6
OTVZ	Oturere	7.12	214	P	Pn	21 09 38.5	+3.6
SNVZ	South Ngauruho	7.15	214	P	Pn	21 09 35.2	-0.1
NGZ	Ngauruhoe	7.16	214	P	Pn	21 09 38.7	+3.2
TUVZ	Tukino	7.21	213	P	Pn	21 09 38.6	+2.5
BHHZ	Black Hill Sta	7.21	210	S	Sn	21 10 55.8	-2.1
FWVZ	Far West T-bar	7.25	214	P	Pn	21 09 39.7	+3.1
WHVZ	Whangaehu Hut	7.25	213	P	Pn	21 09 39.2	+2.6
WNVZ	Wahianoa	7.29	213	P	Pn	21 09 39.6	+2.6
PKVZ	Pokaka	7.37	215	P	Pn	21 09 41.1	+3.1
PXZ	Pawanui	7.38	204	P	Pn	21 09 39.5	+1.4
PXZ				S	Sn	21 10 59.7	-2.0
MTVZ	Mangateitei	7.39	214	P	Pn	21 09 41.2	+2.9
PNHZ	Pukenui	7.52	208	P	Pn	21 09 39.7	-0.3
PNHZ				S	Sn	21 11 00.5	-4.5
VRZ	Vera Road	7.54	218	P	Pn	21 09 43.8	+3.6
WPHZ	Waipukurau	7.56	206	P	Pn	21 09 41.6	+1.2
WPHZ				S	Sn	21 11 04.0	-2.0
PRHZ	Porangahau	7.67	204	P	Pn	21 09 43.6	+1.7
PRHZ				S	Sn	21 11 07.2	-1.4
TSZ	Takapari Road	7.74	208	P	Pn	21 09 43.1	+0.3
DVHZ	Dannevirke	7.87	206	P	Pn	21 09 46.1	+1.6
DVHZ				S	Sn	21 11 07.6	-5.6
DREZ	Durham Road	7.88	220	P	Pn	21 09 48.9	+4.3
WAZ	Wanganui	7.91	214	P	Pn	21 09 47.1	+2.1
NEZ	North Egmont	7.99	220	P	Pn	21 09 50.1	+3.9
PKE	Pukeiti	8.00	221	P	Pn	21 09 50.3	+4.1
KHEZ	Kahui Hut	8.05	220	P	Pn	21 09 50.8	+3.8
KHEZ	Kahui Hut	8.05	220	P	Pn	21 09 50.7	+3.8
POWZ	Post Office Ro	8.10	208	P	Pn	21 09 49.0	+1.6
POWZ				S	Sn	21 11 18.3	-0.4
PRWZ	Pori Road	8.16	206	P	Pn	21 09 50.7	+2.4
BFZ	Birch Farm	8.18	205	P	Pn	21 09 50.7	+2.2
BFZ	Birch Farm	8.18	205	P	Pn	21 09 49.2	+0.8
BFZ				S	Sn	21 11 15.8	-4.7
TIWZ	Tintock	8.39	206	P	Pn	21 09 52.7	+1.5
TIWZ				S	Sn	21 11 19.0	-6.5
CPWZ	Castlepoint	8.39	204	P	Pn	21 09 54.1	+2.8
MRZ	Mangatainoka R	8.40	208	P	Pn	21 09 51.0	-0.4
MRZ				S	Sn	21 11 18.0	-7.9
HOWZ	Holdsworth Sta	8.63	207	P	Pn	21 09 54.6	+0.2
TMWZ	Te Maipa	8.68	205	P	Pn	21 09 55.8	+0.8
OGWZ	Otaki Gorge	8.70	209	P	Pn	21 09 53.4	-1.9
KIW	Kapiti Island	8.84	210	P	Pn	21 09 55.3	-1.9
MTW	Mount Morrison	8.86	207	P	Pn	21 09 56.9	-0.5
CAW	Cannon Point	8.99	208	P	Pn	21 09 58.1	-0.9
TRWZ	Traveller	9.01	205	P	Pn	21 10 00.2	+0.9
PAWZ	Paruwai Farm	9.09	206	P	Pn	21 10 00.5	+0.2
MSWZ	Moikau Station	9.18	207	P	Pn	21 10 00.9	-0.7
DUWZ	D'Urville Isla	9.24	214	P	Pn	21 10 01.1	-1.2
WEL	Wellington	9.26	209	P	Pn	21 10 02.3	-0.2
SNZO	South Karori	9.30	209	P	Pn	21 10 02.3	-0.8
PLWZ	Palliser	9.31	206	P	Pn	21 10 02.3	-1.0
TCW	Tory Channel	9.40	211	P	Pn	21 10 02.9	-1.5
TUWZ	Tuamarina	9.73	212	P	Pn	21 10 06.4	-2.2
CMWZ	Cape Campbell	9.87	210	P	Pn	21 10 10.4	-0.1
TKNZ	Takaka Hill	9.88	217	P	Pn	21 10 08.5	-2.1
QRZ	Quartz Range	9.95	219	P	Pn	21 10 11.6	+0.1
QRZ	Quartz Range	9.95	219	P	Pn	21 10 08.8	-2.6
BSWZ	Blackbirch Sta	9.99	211	P	Pn	21 10 10.2	-1.8
THZ	Tophouse	10.46	214	P	Pn	21 10 15.7	-2.5
KHZ	Kahutara	10.71	210	P	Pn	21 10 19.9	-1.3
RPZ	Rata Peaks	12.84	213	P	Pn	21 10 45.7	-2.7
	14nm,0.5s,baz=213,slow=2.3,SNR=16						
RPZ				S	Sn	21 12 57.8	-14
	5.6nm,0.6s,baz=180,slow=20,SNR=1.7						
RPZ	Rata Peaks	12.84	213	P	Pn	21 10 46.7	-1.7
ODZ	Otahua Downs	14.06	211	P	Pn	21 11 03.4	-0.2
JCZ	Jackson Bay	14.20	217	P	Pn	21 11 01.5	-4.0
ASAR	Alice Springs	41.97	271	P	P	21 15 20.2	-4.3
	1.8nm,1.0s,baz=110,slow=7.3,SNR=11						
	1.8nm,1.0s						
WRA	Warramunga Arr	43.22	276	P	P	21 15 29.9	-4.8
	1.5nm,0.3s,baz=115,slow=7.7,SNR=46						
	1.5nm,0.3s						
FINES	FINESS Array B	147.46	338	PKPbc	PKPdf	21 27 10.7	+1.0
	7.6nm,1.1s,baz=48,slow=2.1,SNR=5.1						

---

*VIE **02** 21:17:50.5±0.3, 49°.84N×18°.63E, h0km, mb2.2/3, ml2.6/3, Error ellipse: s-maj=6.5km s-min=2.6km az=163.0 27 km E of Ostrava Suspected Mining induced.*
*PRU **02** 21:17:51.7±0.0, 49°.84N×18°.50E, h0km, Mining Induced Event Csm, E=9.3e+05*
*IPEC **02** 21:17:51.4±0.3, 49°.83N×18°.58E, h0km, ML2.3/5, Error ellipse: s-maj=2.0km s-min=1.5km az=69.0*
ISC 02 21:17:50.8±0.8, **49°.83N**±0°.03×**18°.56E**±0°.02, **h0**km, **n34**, σ**0s.83**/63, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.27	271	ePG	Pg	21 17 56.5	+0.5
OKC				eSG	Sg	21 18 00.4	+1.0
	comp=Z,108nm,0.3s						
RAC	Raciborz	0.35	317	ePG	Pb	21 18 00.5	+0.6
RAC				eSG	Sb	21 18 05.1	-0.8
MORC	Moravsky Berou	0.66	266	ePG	Pg	21 18 04.4	+0.9
MORC				eSG	Sg	21 18 12.3	+0.1
MORC	Moravsky Berou	0.66	266	ePg	Pg	21 18 04.3	+0.8
	baz=85						
MORC				eSg	Sg	21 18 12.2	+0.1
	73nm,0.4s,baz=85						
MAUC	Maruska	0.67	226	ePG	Pg	21 18 03.7	+0.1
MAUC				eSG	Sb	21 18 13.9	-1.3
	comp=Z,142nm,0.5s						
ANAC	Anensky vrch	0.80	288	ePg	Pg	21 18 06.8	+0.6
	baz=107						
ANAC				eSg	Sg	21 18 16.9	+0.3
	59nm,0.4s,baz=107						
OJC	Ojcow	0.89	64	ePg	Pg	21 18 05.9	-1.9
OJC				eSg	Sg	21 18 18.4	-0.9
JAVC	Velka Javorina	1.14	211	ePG	Pb	21 18 13.3	-0.1
JAVC	Velka Javorina	1.14	211	ePg	Pb	21 18 13.2	-0.1
	baz=31						
KRLC	Kraliky	1.18	283	eSG	Sg	21 18 28.6	0.0
	comp=Z,55nm,0.3s						
VYHS	Vyhne	1.35	172	ePG	Pg	21 18 16.5	-0.2
VYHS				eSG	Sn	21 18 35.5	-0.1
VYHS				eLG	Lg	21 18 39.7	
VRAC	Vranov	1.39	249	ePG	Pg	21 18 17.3	0.0
VRAC				eSG	Sg	21 18 35.3	0.0
VRAC	Vranov	1.39	249	ePg	Pg	21 18 17.3	0.0
	baz=67						
VRAC				eSg	Sg	21 18 35.2	0.0
	42nm,0.3s,baz=67						
DPC	Dobruska-Polom	1.53	291	ePG	Pn	21 18 19.3	-0.2
DPC				eSG	Sg	21 18 39.6	-0.5
	comp=Z,42nm,0.7s						
KRUC	Moravsky	1.61	242	ePG	Pn	21 18 20.7	+0.2
KRUC				eSG	Sn	21 18 41.9	-0.1
KRUC	Moravsky	1.61	242	ePg	Pn	21 18 20.6	+0.1
	baz=61						
KRUC				eSg	Sn	21 18 41.9	-0.1
	24nm,0.2s,baz=61						
OSTC	Ostas	1.68	297	ePG	Pn	21 18 21.8	+0.4
OSTC				eSG	Sb	21 18 44.3	+0.2
	comp=Z,48nm,1.0s						
MODS	Modra-Piesok	1.69	211	ePG	Pn	21 18 21.9	+0.4
MODS				eSG	Sn	21 18 43.8	0.0
MODS				eLG	Lg	21 18 45.1	
KSP	Ksiaz	1.77	306	ePg	Pn	21 18 22.4	-0.4
KSP				eSg	Sn	21 18 45.8	-0.2
UPC	Upice	1.77	293	ePG	Pn	21 18 23.5	+0.7
UPC				eSG	Sb	21 18 47.2	+0.2
	comp=Z,30nm,0.8s						
CHVC	Chvalec	1.78	296	ePG	Pn	21 18 23.3	+0.4
CHVC				eSG	Sb	21 18 47.1	-0.1
	comp=Z,27nm,0.7s						
STHS	Stebnicka Huta	1.79	102	ePG	Pg	21 18 25.3	+0.2
STHS				eSG	Sg	21 18 50.4	+2.1
STHS				eLG	Lg	21 18 53.2	
KECS	Kecovo	1.85	136	ePN	Pn	21 18 23.5	-0.2
KECS				eSN	Sn	21 18 47.0	-0.8
GOPC	GO Pecny, Ondr	2.44	273	ePG	Pb	21 18 35.5	-0.1
GOPC				eSG	Sb	21 19 07.7	+1.4
	comp=Z,7.3nm,0.3s						
KOLS	Kolonicke sedl	2.58	109	ePG	Pg	21 18 41.9	+1.6
KOLS				eSN	Sn	21 19 06.7	+0.7
PRU	Pruhonice	2.60	275	ePG	Pb	21 18 38.8	+0.5
PRU				eSG	Sg	21 19 13.5	-0.9
	comp=Z,11nm,0.4s						
RONA	Rosalia, Austr	2.61	216	i Pn	Pn	21 18 34.8	+0.5
	0.9nm,0.1s						
RONA				i Sn	Sn	21 19 07.0	+0.4
	2.2nm,0.2s						
CONA	Conrad Observa	2.61	224	i Pn	Pn	21 18 33.8	-0.5
	2.3nm,0.3s						
PVCC	Panska Ves	2.66	287	ePG	Pb	21 18 40.0	+0.7
PVCC				eSG	Sg	21 19 15.0	-1.2
	comp=Z,22nm,0.4s						
CKRC	Cesky Krumlov	2.96	252	ePG	Pb	21 18 44.9	+0.5
CKRC				eSG	Sg	21 19 24.5	-1.4
BRG	Berggiesshubel	3.14	291	Pg	Pb	21 18 48.7	+1.2
BRG				Sg	Sg	21 19 29.5	-2.0
BRG				Amp		21 19 33.5	
	comp=Z,6.7nm,0.4s						
KHC	Kasperske Hory	3.33	260	ePG	Pb	21 18 50.9	+0.2
KHC				eSG	Sg	21 19 36.1	-1.5
	comp=Z,9.0nm,0.5s						
MOA	Molln	3.46	237	i Pn	Pn	21 18 45.3	-0.7
	comp=Z,0.3nm,0.1s						
MOA				i Sn	Sn	21 19 26.3	-1.4
	comp=Z,1.4nm,0.3s						
NKC	Novy Kostel	3.96	278	eSG	Sg	21 19 56.1	-2.0
	comp=Z,9.0nm,0.5s						

---

*IDC **02** 21:29:37.0±1.0, 13°.42N×50°.72E, h0km, mb3.8/9, mbtmp3.9/11, ML3.5/2, MS3.2/13, Error ellipse: s-maj=27.8km s-min=21.2km az=174.0*
*NEIC **02** 21:29:39.4±1.2, 13°.4N±0°.2×50°.7E±0°.1, h10km±2km, mb4.2/9, Error ellipse: s-maj=34.7km s-min=6.0km az=140.0*
*OMAN **02** 21:30:23.0±12.0, 16°.00N×52°.49E, h33km±572km, ml2.3/4, Error ellipse: s-maj=746.3km s-min=28.5km az=41.0*
ISC 02 21:29:40.2±0.9, **13°.4N**±0°.1×**50°.7E**±0°.1, **h21**km, **n38**, σ**0s.83**/28, **mb4.1**/12, **MS3.1**/13, **Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	Aybut	4.64	33	P	Pn	21 30 48.4	-0.9
	SNR=79						
ABTO				S	Pb	21 31 07.9	+6.8
RBK	Rabkut	5.29	40	P	Pn	21 30 57.8	-0.3
	SNR=7.9						
WHFO	Wadi Hawf	5.36	33	P	Pn	21 30 58.2	-0.9
	SNR=38						
DMTO	DMTO	5.92	44	P	Pn	21 31 06.7	-0.1
	SNR=23						
DOK	Doka	6.13	32	P	Pn	21 31 08.8	-0.8
	SNR=14						
ATD	Arta Tunnel	7.87	257	Pn	Pn	21 31 33.5	0.0
	2.2nm,0.3s,baz=341,slow=7.9,SNR=7.6						
	3.8nm,0.3s						
ATD	Arta Tunnel	7.87	257	Pn	Pn	21 31 32.4	-1.2
WSAR	Wadi Sarin	12.33	37	Pn	Pn	21 32 33.5	-1.2
	0.1nm,0.3s,baz=230,slow=16,SNR=1.8						
	2.3nm,0.8s						
LODK	Lodwar	18.10	238	P	P	21 33 50.9	0.0
EIL	Elat	21.74	320	LR	LR	21 42 50.7	
	comp=Z,54nm,20.7s,baz=94,slow=36						
GEYT	Alibeck	25.27	14	P	P	21 35 05.9	+0.7
	2.6nm,0.8s,baz=157,slow=7.8,SNR=3.8						
GEYT				LR	LR	21 47 00.5	
	comp=Z,114nm,19.2s,baz=162,slow=41						
	2.6nm,0.8s						
GEYT	Alibeck	25.27	14	P	P	21 35 05.1	-0.1
GEYT				IAmb	IAmb	21 35 14.8	
	comp=Z,5.2nm,1.2s						
GNI	Garni	27.11	350	LR	LR	21 48 07.0	
	comp=Z,50nm,20.2s,baz=150,slow=41						
KBZ	Khabaz	30.91	349	LR	LR	21 50 43.8	
	comp=Z,73nm,20.1s,baz=170,slow=41						
DRK	Karamyk	31.94	32	P	P	21 36 03.1	-1.8
KKAR	Karatay Array	34.15	26	P	P	21 36 25.6	+1.8
LSZ	Lusaka	36.18	219	LR	LR	21 51 40.7	
	comp=Z,66nm,19.5s,baz=164,slow=37						
BELG	Belogornoye	38.93	357	LR	LR	21 57 02.9	
	comp=Z,22nm,18.0s,baz=170,slow=42						
AKASG	Malin Array Be	41.05	339	P	P	21 37 22.1	0.0
	comp=Z,0.2nm,0.3s,baz=146,slow=7.9,SNR=2.1						
	comp=Z,0.2nm,0.3s						
BVAR	Borovoye Array	42.50	18	LR	LR	21 57 49.5	
	comp=Z,25nm,19.0s,baz=273,slow=40						
MK31	Makanchi Array	42.52	32	P	P	21 37 35.1	+0.9
MKAR	Makanchi Array	42.52	32	P	P	21 37 33.6	-0.6
	comp=Z,0.5nm,0.5s,baz=217,slow=8.1,SNR=6.1						
MKAR				LR	LR	21 57 14.2	
	comp=Z,26nm,18.9s,baz=182,slow=39						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	42.52	32	P	P	21 37 35.5	+1.2
AQU	L'Aquila	43.20	319	P	P	21 37 40.1	+0.3
KURK	Kurchatov	43.56	26	P	P	21 37 43.0	+0.4
KURK				IAmb	IAmb	21 37 46.8	
	comp=Z,5.7nm,1.4s						
LBTB	Lobatse	45.38	213	LR	LR	21 55 36.9	
	comp=Z,51nm,18.2s,baz=100,slow=34						
CMAR	Chiang Mai Arr	46.58	77	P	P	21 38 07.4	+0.3
	comp=Z,0.6nm,0.3s,baz=267,slow=7.9,SNR=1.9						
	comp=Z,0.6nm,0.3s						
TOA0	Torodi Ar. Sit	47.59	276	P	P	21 38 14.7	-0.3
TOA0				IAmb	IAmb	21 38 21.3	
	comp=Z,2.5nm,1.0s						
TORD	Torodi Ar. Bea	47.59	276	P	P	21 38 15.2	+0.2
	comp=Z,0.5nm,0.7s,baz=90,slow=9.1,SNR=3.8						
	comp=Z,0.5nm,0.7s						
DAVOX	Davos/Dischmat	47.62	323	LR	LR	22 01 23.5	
	comp=Z,38nm,18.9s,baz=88,slow=40						
ZAA0	Zalesovo Array	48.53	26	P	P	21 38 22.1	+0.4
ZAA0				IAmb	IAmb	21 38 24.1	
	comp=Z,2.2nm,1.1s						
ZALV	Zalesovo Beam	48.53	26	P	P	21 38 21.6	-0.1
	comp=Z,1.5nm,0.6s,baz=230,slow=9.1,SNR=7.4						
ZALV				LR	LR	22 01 38.9	
	comp=Z,20nm,18.4s,baz=47,slow=40						
	comp=Z,1.5nm,0.6s						
ZALV	Zalesovo Beam	48.53	26	P	P	21 38 22.3	+0.6
ESDC	Sonseca Array	54.44	309	P	P	21 39 07.0	+0.7
	comp=Z,1.0nm,1.0s,baz=99,slow=6.4,SNR=6.0						
	comp=Z,1.0nm,1.0s						
NOA	NORSAR Array B	55.43	338	LR	LR	22 08 02.8	
	comp=Z,7.9nm,19.5s,baz=340,slow=42						
SONM	Songino Array	57.33	41	LR	LR	22 06 58.9	
	comp=Z,23nm,18.7s,baz=170,slow=39						
WRA	Warramunga Arr	88.71	111	P	P	21 42 31.9	-0.9
	comp=Z,1.3nm,0.9s,baz=301,slow=3.5,SNR=10						
	comp=Z,1.3nm,0.9s						
ASAR	Alice Springs	89.26	114	P	P	21 42 36.0	+0.6
	comp=Z,1.2nm,0.8s,baz=284,slow=4.7,SNR=9.6						
	comp=Z,1.2nm,0.8s						

---

*IDC **02** 21:35:12.8±1.8, 56°.32S×27°.56W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=75.3km s-min=46.8km az=5.0*
ISC 02 21:35:28.3±1.0, **55°.9S**±0°.2×**27°.7W**±0°.3, **h112**km, **n9**, σ**0s.42**/9, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.03	158	P	Pn	21 39 19.5	+0.4
VNA3	Neumayer Olymp	17.21	160	P	P	21 39 21.1	-0.2
VNA2	Neumayer--Watz	17.42	158	P	P	21 39 23.6	0.0
	baz=315,slow=13						
SNAA	Sanae	18.98	156	P	P	21 39 40.5	-0.2
TROLL	Troll, Antarti	20.49	153	P	P	21 39 57.0	-0.1
LPAZ	La Paz	50.06	306	P	P	21 44 12.6	+0.3
	0.5nm,0.4s,baz=152,slow=6.6,SNR=2.0						
	0.5nm,0.4s						
TORD	Torodi Ar. Bea	73.08	30	P	P	21 46 46.4	+0.3
	0.6nm,0.4s,baz=198,slow=6.5,SNR=11						
	0.6nm,0.4s						
ILAR	Eielson Array	149.81	312	PKPbc	PKPbc	21 55 03.0	-0.6
	1.8nm,0.8s,baz=132,slow=3.3,SNR=15						
SONM	Songino Array	151.01	87	PKPbc	PKPbc	21 55 06.6	-0.6
	1.0nm,0.4s,baz=218,slow=3.8,SNR=12						

---

*ROM **02** 21:57:34.0±0.1, 42°.881N±0°.003×13°.185E±0°.004, h8km±1km, ML3.3/60, Error ellipse: s-maj=0.3km s-min=0.0km az=15.0*
*IDC **02** 21:57:34.0±1.4, 42°.99N×13°.47E, h0km, mb3.3/2, mbtmp3.5/6, ML3.1/4, MS3.2/2, Error ellipse: s-maj=31.2km s-min=14.1km az=89.0*
*PRU **02** 21:57:35.4±0.0, 42°.85N×13°.60E, h10km*
*STR **02** 21:57:36.9±0.8, 43°N±9°×1°3E±°, h10km, MLv3.6/17, Error ellipse: s-maj=0.0km s-min=0.0km az=49.0, preliminary*
ISC 02 21:57:34.4±0.8, **42°.87N**±0°.01×**13°.20E**±0°.02, **h5**km±4km, **n124**, σ**1s.46**/164, **21C-29D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	Castelsantange	0.01	214	P	Pg	21 57 35.3	-0.4
T1245				S	Sg	21 57 36.1	-0.4
NRCA	Norcia	0.07	242	P	Pg	21 57 36.2	+0.1
NRCA				S	Sg	21 57 38.3	+1.0
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
MMO1	Montemonaco	0.10	71	⇑P	Pg	21 57 36.6	-0.1
MMO1				S	Sg	21 57 38.8	+0.7
T1216	Preci, Frazion	0.13	280	⇑P	Pg	21 57 37.2	0.0
T1216				S	Sg	21 57 39.9	+0.9
T1216				AML	AML		
	comp=E,98400μm,1.4s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,98450μm,1.4s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,98700μm,1.4s						
T1216				AML	AML		
T1256	Bolognola (MC)	0.14	9	⇑P	Pg	21 57 37.1	-0.3
T1256				S	Sg	21 57 39.3	-0.1
T1256				AML	AML		
	comp=N,34350μm,1.2s						
T1256				AML	AML		
	comp=E,40300μm,0.8s						
T1256				AML	AML		
	comp=N,36650μm,1.2s						
T1256				AML	AML		
	comp=E,40300μm,0.7s						
T1256				AML	AML		
	comp=N,36700μm,1.2s						
T1256				AML	AML		
	comp=E,38800μm,0.8s						
T1256				AML	AML		
	comp=N,34400μm,1.2s						
FEMA	Monte Fema	0.14	311	P	Pg	21 57 37.2	-0.2
FEMA				S	Sg	21 57 39.8	+0.4
FEMA				AML	AML		
	comp=N,38750μm,0.5s						
FEMA				AML	AML		
	comp=E,41400μm,1.2s						
AM05	Amandola Campo	0.16	46	⇑P	Pg	21 57 37.7	+0.1
AM05				S	Sg	21 57 40.8	+1.0
AM05				AML	AML		
	comp=E,6115μm,0.9s						
AM05				AML	AML		
	comp=N,9380μm,0.2s						
AM05				AML	AML		
	comp=N,9385μm,0.2s						
AM05				AML	AML		
	comp=N,1755μm,1.1s						
AM05				AML	AML		
	comp=E,25700μm,0.5s						
T1241	Roccafluvione,	0.17	93	⇑P	Pg	21 57 38.2	+0.3
T1241				S	Sg	21 57 41.8	+1.6
T1241				AML	AML		
	comp=E,22650μm,0.5s						
T1241				AML	AML		
	comp=N,37300μm,0.6s						
FDMO	Fiordimonte	0.19	335	P	Pg	21 57 37.9	-0.3
FDMO				S	Sg	21 57 41.1	+0.4
FDMO				AML	AML		
	comp=N,67050μm,0.3s						
FDMO				AML	AML		
	comp=E,63450μm,0.2s						
T1204	Amatrice, Fraz	0.21	155	P	Pg	21 57 39.3	+0.7
T1204				S	Sg	21 57 43.4	+2.0
T1204				AML	AML		
	comp=E,10840μm,0.4s						
T1204				AML	AML		
	comp=N,9745μm,1.1s						
T1204				AML	AML		
	comp=E,10820μm,0.4s						
T1204				AML	AML		
	comp=N,9760μm,1.1s						
T1204				AML	AML		
	comp=N,9780μm,1.1s						
T1204				AML	AML		
	comp=E,10830μm,0.4s						
GUMA	Gualdo di Mace	0.22	27	P	Pg	21 57 39.0	+0.2
GUMA				S	Sg	21 57 43.0	+1.3
GUMA				AML	AML		
	comp=E,49350μm,0.6s						
GUMA				AML	AML		
	comp=N,46450μm,0.5s						
GUMA				AML	AML		
	comp=E,34750μm,0.8s						
GUMA				AML	AML		
	comp=N,47300μm,0.7s						
T1217	Poggiodomo (PG	0.25	232	P	Pg	21 57 39.7	+0.4
T1217				S	Sg	21 57 44.6	+2.0
T1217				AML	AML		
	comp=N,13200μm,1.6s						
T1217				AML	AML		
	comp=E,10500μm,0.7s						
T1217				AML	AML		
	comp=N,13200μm,1.6s						
T1217				AML	AML		
	comp=E,10750μm,0.7s						
T1217				AML	AML		
	comp=N,13200μm,1.6s						
T1217				AML	AML		
	comp=N,13200μm,1.6s						
T1217				AML	AML		
	comp=E,10475μm,0.7s						
T1217				AML	AML		
	comp=E,10750μm,0.7s						
T1215	Vallo di Nera,	0.25	255	P	Pg	21 57 39.6	+0.3
T1215				S	Sg	21 57 43.9	+1.2
T1215				AML	AML		
	comp=E,10750μm,0.3s						
T1215				AML	AML		
	comp=N,10655μm,1.5s						
T1215				AML	AML		
	comp=E,11250μm,0.3s						
T1215				AML	AML		
	comp=E,10700μm,0.3s						
T1215				AML	AML		
	comp=N,10615μm,1.5s						
T1215				AML	AML		
	comp=E,11300μm,0.3s						
T1215				AML	AML		
	comp=N,10515μm,1.0s						
T1215				AML	AML		
	comp=N,10640μm,1.5s						
T1215				AML	AML		
	comp=E,11305μm,0.3s						
T1215				AML	AML		
	comp=N,10530μm,1.0s						
T1243	Rocca Santa Ma	0.25	132	P	Pg	21 57 39.6	+0.2
T1243				S	Sg	21 57 44.8	+2.1
CESI	CESI - Serrava	0.26	303	⇓P	Pg	21 57 39.3	-0.1
CESI				S	Sg	21 57 43.8	+0.9
CESI				AML	AML		
	comp=E,17700μm,0.3s						
CESI				AML	AML		
	comp=N,41050μm,0.9s						
SMA1	SAN MARTINO	0.26	157	P	Pg	21 57 39.9	+0.4
SMA1				S	Sg	21 57 45.0	+2.1
SMA1				AML	AML		
	comp=E,9020μm,0.8s						
SMA1				AML	AML		
	comp=E,9025μm,0.8s						
SMA1				AML	AML		
	comp=N,11000μm,0.5s						
LNSS	Leonessa	0.29	204	P	Pg	21 57 40.2	+0.2
LNSS				AML	AML		

comp=N,13550µm,0.4s
LNSS AML AML

comp=E,5575µm,1.2s
MDAR Monte D'Aria 0.33 353 P Pg 21 57 38.5 -2.3
SEF1 Sefro 0.34 327 P Pg 21 57 40.6 -0.3
SEF1 S Sg **21 57 46.1 +0.7**
SEF1 AML AML

comp=E,17300µm,0.2s
SEF1 AML AML

comp=E,17250µm,0.2s
SEF1 AML AML

comp=N,17100µm,0.2s
MNTP Montappone 0.34 36 P Pg 21 57 41.7 +0.8
MNTP S Sg **21 57 48.1 +2.7**
MNTP AML AML

comp=E,16750µm,0.8s
MNTP AML AML

comp=N,14400µm,1.3s
MNTP AML AML

comp=E,16700µm,0.8s
MNTP AML AML

comp=N,14400µm,1.3s
RM33 Pellescritta (0.36 178 ⇓P Pg 21 57 40.7 -0.7
RM33 AML AML

comp=N,4895µm,0.3s
RM33 AML AML

comp=E,5820µm,1.2s
RM33 AML AML

comp=N,4775µm,0.3s
RM33 AML AML

comp=E,5790µm,1.2s
RM33 AML AML

comp=E,5815µm,1.2s
RM33 AML AML

comp=N,4900µm,0.3s
RM33 AML AML

comp=N,4770µm,0.3s
SSM1 San Severino M 0.36 358 ⇓P Pg 21 57 41.9 +0.5
OFFI Offida 0.36 79 ⇑P Pg 21 57 42.5 +1.0
OFFI AML AML

comp=E,12500µm,0.8s
OFFI AML AML

comp=N,16000µm,1.4s
CAMP Campotosto 0.37 155 ⇓P Pg 21 57 40.8 -0.8
CAMP AML AML

comp=E,3155µm,1.0s
CAMP AML AML

comp=N,3995µm,1.6s
FIU1 Fiuminata 0.38 329 ⇓P Pg 21 57 41.6 -0.2
GAG1 Gagliole 0.38 346 ⇑P Pg 21 57 42.1 +0.2
TERO Teramo 0.39 129 P Pg 21 57 41.7 -0.2
TERO AML AML

comp=N,8630µm,0.3s
TERO AML AML

comp=E,4340µm,0.6s
TERO AML AML

comp=N,8895µm,0.3s
TERO AML AML

comp=N,8635µm,0.3s
TERO AML AML

comp=E,4200µm,0.9s
T1211 Morro Reatino 0.42 217 ⇑P Pb 21 57 43.0 -1.3
T1211 S Sb **21 57 51.0 0.0**
T1211 AML AML

comp=N,10015µm,1.1s
T1211 AML AML

comp=E,4590µm,1.0s
T1211 AML AML

comp=N,9840µm,1.1s
T1211 AML AML

comp=E,4465µm,1.1s
T1211 AML AML

comp=N,10005µm,1.1s
T1211 AML AML

comp=N,9855µm,1.1s
ARRO Arrone 0.43 228 ⇑P Pb 21 57 43.0 -1.5
ARRO AML AML

comp=E,3560µm,0.7s
ARRO AML AML

comp=N,3520µm,1.4s
ARRO AML AML

comp=E,3555µm,0.7s
SNTG Esanatoglia 0.43 334 P Pg 21 57 42.3 -0.5
SNTG AML AML

comp=E,3170µm,1.0s
SNTG AML AML

comp=N,3635µm,0.3s
SNTG AML AML

comp=E,3185µm,1.0s
SNTG AML AML

comp=N,3635µm,0.2s
SNTG AML AML

comp=N,3835µm,0.3s
SNTG AML AML

comp=E,3170µm,0.9s
T1247 Pizzolo (AQ) 0.43 170 ⇓P Pg 21 57 43.0 +0.2
T1247 AML AML

comp=E,5410µm,1.2s
T1247 AML AML

comp=E,5415µm,1.2s
T1247 AML AML

comp=N,5130µm,1.6s
ASSB Assisi San Ben 0.43 294 ⇓P Pg 21 57 42.4 -0.4
ASSB AML AML

comp=E,5130µm,0.9s
ASSB AML AML

comp=N,6115µm,0.7s
TRE1 Treia 0.45 11 ⇓P Pg 21 57 44.4 +1.2
TRE1 AML AML

comp=N,12800µm,0.7s
TRE1 AML AML

comp=E,15750µm,0.8s
EL6 Elcito 0.47 351 ⇑P Pg 21 57 43.0 -0.4
EL6 S Sg **21 57 52.0 +2.4**
EL6 AML AML

comp=E,9515µm,0.2s
EL6 AML AML

comp=N,11850µm,0.2s
EL6 AML AML

comp=E,9520µm,0.2s
GIGS Gran Sasso 0.50 147 P Pg 21 57 43.6 -0.4
GIGS AML AML

comp=N,712µm,1.6s
GIGS AML AML

comp=N,712µm,1.6s
GIGS AML AML

comp=E,834µm,0.3s
CING Cingoli 0.51 360 P Pg 21 57 43.8 -0.4
CING AML AML

comp=N,2595µm,0.4s
CING AML AML

comp=E,3170µm,1.1s
ATCC AVT- Casa Cast 0.52 308 ⇓P Pg 21 57 44.0 -0.4
ATCC S Sg **21 57 53.0 +1.8**
ATCC AML AML

comp=E,5430µm,1.1s
ATCC AML AML

comp=E,5425µm,1.1s
ATCC AML AML

comp=N,4360µm,1.3s
CESX Cesi 0.52 241 ⇑P Pg 21 57 44.3 -0.2
CESX S Sb **21 57 54.0 +0.1**
CESX AML AML

comp=E,3785µm,0.4s
CESX AML AML

comp=N,4145µm,0.7s
TRTR Tortoreto Alta 0.53 96 ⇓P Pg 21 57 46.0 +1.4
TRTR AML AML

comp=E,11040µm,0.8s
TRTR AML AML

comp=N,10700µm,0.4s
AQU L'Aquila 0.53 163 ⇓P Pb 21 57 45.0 -1.3
AQU AML AML

comp=E,3750µm,1.4s
AQU AML AML

comp=N,3290µm,0.7s
AQU AML AML

comp=E,3780µm,1.5s
AQU AML AML

comp=N,3265µm,0.7s
AQU AML AML

comp=E,3755µm,1.4s
AQU AML AML

comp=N,3285µm,0.7s
FOSV Fossato di Vic 0.53 323 ⇓P Pg 21 57 44.2 -0.5
FOSV S Sg **21 57 53.0 +1.3**
FOSV AML AML

comp=E,5450µm,0.3s
FOSV AML AML

comp=N,4220µm,1.3s
PP3 Marolino 0.59 30 ⇑P Pg 21 57 46.7 +0.8
PP3 AML AML

comp=E,7285µm,1.0s
PP3 AML AML

comp=N,7330µm,1.5s
PP3 AML AML

comp=N,7325µm,1.5s
PP3 AML AML

comp=E,7285µm,1.0s
PP3 AML AML

comp=E,7395µm,1.0s
PP3 AML AML

comp=N,7510µm,0.9s
FIAM Fiamignano 0.60 186 P Pg 21 57 45.1 -0.9
FIAM S Sn **21 57 57.0 -2.8**
FIAM AML AML

comp=N,1900µm,1.2s
FIAM AML AML

comp=E,1920µm,1.5s
MURB Monte Urbino 0.63 309 ⇓P Pg 21 57 46.2 -0.4
MURB S Sg **21 57 57.0 +2.2**
MURB AML AML

comp=E,4700µm,1.4s
MURB AML AML

comp=N,4850µm,1.4s
MURB AML AML

comp=N,4715µm,1.4s
MURB AML AML

comp=E,4850µm,1.4s
MURB AML AML

comp=E,4705µm,1.4s
MURB AML AML

comp=N,4855µm,1.4s
SSFR Montelago di S 0.65 332 ⇑P Pg 21 57 46.9 0.0
SSFR AML AML

comp=E,7055µm,0.3s
SSFR AML AML

comp=E,5285µm,0.2s
SSFR AML AML

comp=N,5105µm,0.2s
SSFR AML AML

comp=E,7050µm,0.3s
SSFR AML AML

comp=E,7280µm,0.3s
SSFR AML AML

comp=N,5100µm,0.2s
ARVD Arcevia 0.66 344 ⇓P Pg 21 57 46.5 -0.6
ARVD S Sg **21 57 58.0 +2.3**
ARVD AML AML

comp=E,2305µm,0.8s
ARVD AML AML

comp=N,1515µm,0.2s
FAGN Fagnano 0.67 154 ⇓P Pg 21 57 47.4 +0.2
FAGN AML AML

comp=E,3115µm,0.6s
FAGN AML AML

comp=N,3320µm,0.4s
VCEL Villa Celiera 0.67 135 ⇓P Pg 21 57 47.5 +0.2
VCEL AML AML

comp=N,4980µm,1.3s
VCEL AML AML

comp=E,2400µm,0.8s
VCEL AML AML

comp=N,4985µm,1.3s
ATFO Monte Foce - G 0.68 318 P Pg 21 57 46.6 -0.9
ATFO AML AML

comp=E,2360µm,1.1s
ATFO AML AML

comp=N,1955µm,1.0s
ATTE AVT- Monte Tez 0.70 298 ⇓P Pg 21 57 47.6 -0.3
ATTE AML AML

comp=E,1245µm,0.8s
ATTE AML AML

comp=N,1097µm,1.4s
ATTE AML AML

comp=E,1250µm,0.8s
ATTE AML AML

comp=N,1098µm,1.4s
FRON Frontone 0.74 332 ⇓P Pg 21 57 47.8 -0.8
FRON AML AML

comp=E,1745µm,0.8s
FRON AML AML

comp=N,2405µm,0.9s
AOI Ancona 0.74 23 ⇑P Pg 21 57 49.2 +0.5
AOI S Sg **21 58 02.0 +3.6**
AOI AML AML

comp=N,1690µm,0.4s
AOI AML AML

comp=E,2205µm,0.4s
T0110 Collepietro 0.77 146 P Pg 21 57 48.8 -0.4
T0110 AML AML

comp=E,3490µm,0.5s
T0110 AML AML

comp=N,2700µm,1.3s
ATVO AVT- Monte Val 0.78 312 ⇓P Pg 21 57 48.4 -0.9
ATVO AML AML

comp=E,1105µm,0.7s
ATVO AML AML

comp=N,1185µm,1.6s
COR1 Corinaldo 0.78 349 P Pg 21 57 49.3 -0.1
COR1 AML AML

comp=E,2050µm,0.8s
COR1 AML AML

comp=N,3455µm,1.5s
COR1 AML AML

comp=E,4275µm,0.8s
COR1 AML AML

comp=N,4575µm,1.5s
COR1 AML AML

comp=E,2055µm,0.8s
COR1 AML AML

comp=N,3465µm,1.5s
MGAB Montegabbione 0.80 274 P Pg 21 57 49.5 -0.3
MGAB AML AML

comp=N,3925µm,0.9s
MGAB AML AML

comp=E,2820µm,1.3s
MGAB AML AML

comp=N,4215µm,0.9s
MGAB AML AML

comp=E,2240µm,1.3s
SRES S.Oreste - Sor 0.81 219 ⇓P Pb 21 57 50.2 -0.7
SRES AML AML

comp=E,1054µm,0.9s
SRES AML AML

comp=N,1410µm,0.4s
ATPI Pietralunga - 0.82 315 P Pg 21 57 49.0 -1.2
ATPI AML AML

comp=E,1420µm,0.9s
ATPI AML AML

comp=N,1105µm,1.1s
ATMI Monte Miggiano 0.83 305 ⇑P Pg 21 57 50.3 0.0
ATMI AML AML

comp=N,3575µm,0.6s
ATMI AML AML

comp=E,2880µm,1.1s
PIEI Pieia 0.83 324 ⇓P Pg 21 57 49.2 -1.1
PIEI AML AML

comp=E,990µm,0.3s
PIEI AML AML

comp=N,848µm,1.0s
MPAG Monte Paganucc 0.83 337 P Pg 21 57 49.8 -0.5
MPAG S Sg **21 58 04.0 +2.9**
MPAG AML AML

comp=E,1655µm,1.1s
MPAG AML AML

comp=N,1645µm,1.0s
MPAG AML AML

comp=E,1650µm,1.1s
SENI Senigallia 0.84 2 P Pg 21 57 51.8 +1.3
NARO Abbazia di Nar 0.87 329 P Pg 21 57 50.2 -0.9
NARO AML AML

comp=N,662µm,1.6s
NARO AML AML

comp=N,662µm,1.6s
NARO AML AML

comp=E,748µm,1.4s
FSSB Fossombrone 0.88 340 P Pg 21 57 50.3 -1.0
FSSB S Sb **21 58 06.0 +1.7**
CERT Cerreto 0.93 190 ⇓P Pb 21 57 52.1 -0.9
CERT AML AML

comp=E,2120µm,0.9s
CERT AML AML

comp=N,1340µm,0.4s
SACS San Casciano d 0.95 269 ⇓P Pg 21 57 52.8 +0.2
SACS AML AML

comp=E,1640µm,1.2s
SACS AML AML

comp=E,1575µm,1.2s
SACS AML AML

comp=N,1155µm,0.8s
SACS AML AML

comp=N,1120µm,0.8s
BADI Badiali 0.95 313 P Pg 21 57 51.9 -0.7
PE3 Peglio 0.97 329 ⇓P Pg 21 57 52.1 -1.0
CAFI Castiglion Fio 1.01 298 ⇓P Pg 21 57 53.0 -0.9
CAFI AML AML

comp=E,755µm,1.3s
CAFI AML AML

comp=E,808µm,1.3s
CAFI AML AML

comp=N,634µm,0.8s
CAFI AML AML

comp=N,666µm,0.8s
SSP9 Sansepolcro 1.05 313 ⇑P Pn 21 57 56.6 +0.8
LPEL Lama dei Pelig 1.10 138 ⇓P Pg 21 57 55.3 -0.1
LPEL AML AML

comp=E,1050µm,1.1s
LPEL AML AML

comp=N,813µm,0.6s
CRE Caprese Michel 1.18 310 ⇑P Pg 21 57 56.8 -0.3
CRE AML AML

comp=N,483µm,1.2s
CRE AML AML

comp=E,422µm,0.6s
LATB Latina 1.38 187 ⇓P Pg 21 58 02.0 +1.1
CERA Filignano 1.41 154 ⇓P Pg 21 58 03.2 +1.8
TRIV Trivento 1.49 137 ⇑P Pg 21 58 03.9 +0.9
RUFI Rufina 1.57 309 ⇓P Pn 21 58 03.2 +0.3
LMD Lutirano 1.62 319 ⇑P Pb 21 58 05.6 +0.8
BRIS BRISIGHELLA 1.77 317 ⇑P Pb 21 58 07.8 +0.4
BRJN Brijuni 2.08 11 ⇑P Pn 21 58 10.3 +0.5
PGF Pioggiola 3.11 266 P Pn 21 58 25.1 +0.9
MYKA Terra Mystica 3.78 5 *e*Pn Pn 21 58 34.0 +0.7
comp=E,2.2nm,0.2s,SNR=4.7
ABTA Abfaltersbach 3.91 353 *e*Pn Pn 21 58 35.9 +0.7
comp=E,18nm,0.4s,SNR=37
ABTA *i* Sn **Sn 21 59 20.9 -0.6**
comp=E,26nm,0.7s
FETA Feichten 4.51 338 *e*Pn Pn 21 58 45.4 +2.0
comp=E,3.3nm,0.3s,SNR=8.3
FETA *e*Sn **Sn 21 59 38.2 +1.9**
comp=E,11nm,0.8s
WTTA Wattenberg 4.53 346 *i* Pn Pn 21 58 45.5 +1.7
comp=E,2.3nm,0.2s,SNR=8.3
WTTA *e*Sn **Sn 21 59 37.7 +0.8**
comp=E,15nm,0.6s
DAVOX Davos/Dischmat 4.57 330 Pn Pn 21 58 46.7 +2.4
comp=E,1.8nm,0.3s,baz=134,slow=15,SNR=18
DAVOX Sn **Sn 21 59 37.6 -0.2**
comp=E,0.7nm,0.3s,baz=356,slow=19,SNR=1.9
comp=E,6.0nm,0.4s
SQTA Sankt Quirin 4.58 343 *e*Pn Pn 21 58 46.2 +1.8
comp=E,11nm,0.4s,SNR=20
WATA Walderalm 4.61 346 *e*Pn Pn 21 58 47.0 +2.1
comp=E,5.5nm,0.3s,SNR=14
WATA *i* Sn **Sn 21 59 40.6 +1.7**
comp=E,14nm,0.6s
CALF Calern 4.66 283 P Pn 21 58 39.9 -5.7
ARSA Arzberg 4.68 20 *i* Sn Sn 21 59 38.3 -2.1
comp=E,2.6nm,0.4s
MOTA Moosalm 4.72 342 *e*Pn Pn 21 58 48.0 +1.7
comp=E,6.3nm,0.5s,SNR=12
MOTA *e*Sn **Sn 21 59 44.1 +2.7**
comp=E,8.3nm,0.5s
SURF Saint Ours 4.90 291 P Pn 21 58 52.7 +3.8
RETA Reutte 4.93 340 *i* Pn Pn 21 58 51.1 +1.9
comp=E,2.7nm,0.3s,SNR=9.1
JAUF Jausiers 4.93 291 P Pn 21 58 50.6 +1.3
DAVA Damuels 5.00 333 *i* Pn Pn 21 58 52.3 +2.0
comp=E,2.1nm,0.2s
DAVA *e*Sn **Sn 21 59 51.0 +2.5**
comp=E,12nm,0.7s
TRIGF Trigance 5.03 282 P Pn 21 58 51.8 +1.2
MOA Molln 5.04 8 *i* Pn Pn 21 58 51.3 +0.7
comp=E,1.6nm,0.2s
MOA *e*Sn **Sn 21 59 49.7 +0.5**
comp=E,5.7nm,0.4s
DIX Grande Dixence 5.24 310 P Pn 21 58 56.2 +2.6
CONA Conrad Observa 5.40 19 *i* Pn Pn 21 58 55.7 +0.1
comp=E,1.0nm,0.2s
CONA *e*Sn **Sn 21 59 56.3 -1.8**
comp=E,2.6nm,0.4s
RSL Roselend 5.50 303 P Pn 21 58 59.8 +2.7
DGSI Sixt 5.61 307 P Pn 21 59 01.4 +2.9
AIGLE Aigle 5.65 310 P Pn 21 59 01.3 +2.3
TORNY Torny/Romont 5.91 314 P Pn 21 59 04.3 +1.7
SLE Schleitheim 5.91 328 P Pn 21 59 03.0 +0.4
BALST Balsthal 5.93 321 P Pn 21 59 04.1 +1.2
GERES GERESS Array B 5.99 3 Pn Pn 21 59 02.6 -1.1
comp=E,0.6nm,0.3s,baz=177,slow=13,SNR=14
GERES Sn **Sn 22 00 08.6 -4.1**
comp=E,0.8nm,0.3s,baz=176,slow=24,SNR=9.1
comp=E,0.7nm,0.3s
CKRC Cesky Krumlov 6.00 7 *e*PN Pn 21 59 03.1 -0.8
CKRC *e*SN **Sn 22 00 10.4 -2.6**
BGURR Bourrignon 6.19 319 P Pn 21 59 07.5 +1.1
FELD Feldberg im Sc 6.20 326 P Pn 21 59 07.0 +0.4
KHC Kasperske Hory 6.27 2 *e*PN Pn 21 59 06.8 -0.7
KHC *e*SN **Sn 22 00 16.1 -3.4**
KIZ Kirchzarten 6.30 326 P Pn 21 59 08.9 +1.0
CHMF Charmoille 6.38 316 P Pn 21 59 09.6 +0.6
VOGT Vogtsburg - To 6.50 325 P Pn 21 59 11.4 +0.7
MOF Molkenrain 6.56 322 P Pn 21 59 12.1 +0.5
RONF Ronchamp 6.69 319 P Pn 21 59 14.2 +0.9
ECH Echery 6.82 324 P Pn 21 59 15.4 +0.2
ECH S **Sn 22 00 33.0 -0.1**
WLS Welschbruch 6.89 326 P Pn 21 59 16.7 +0.6
CIEL Dossenheim-sur 7.22 328 P Pn 21 59 22.0 +1.5
KEST Kesra 7.72 204 Pn Pn 21 59 30.9 +3.3
comp=E,0.1nm,0.3s,baz=38,slow=19,SNR=2.1
comp=E,1.2nm,0.8s
CLL Collm 8.45 359 *ex* x 22 01 22.0
CLL *e*Sg **Sg 22 02 00.0 -5.4**
MLR Muntele Rosu 9.53 70 LR LR 22 04 25.4
comp=E,59nm,21.9s,baz=256,slow=44
IDI Anoyia 11.82 126 Pn Pn 22 00 21.8 -1.8
comp=E,0.1nm,0.3s,baz=304,slow=7.6,SNR=1.5
IDI Sn **Sn 22 02 32.7 -3.2**
comp=E,0.1nm,0.3s,baz=270,slow=20,SNR=1.9
comp=E,7.9nm,1.1s
ASF Jabal al Asfar 21.55 112 LR LR 22 13 25.5
comp=E,142nm,19.8s,baz=105,slow=44
TORD Torodi Ar. Bea 31.24 202 P P 22 03 55.9 +0.9
comp=E,0.3nm,0.8s,baz=19,slow=9.2,SNR=2.2
comp=E,0.3nm,0.8s
MKAR Makanchi Array 47.72 60 P P 22 06 11.8 -0.2
comp=E,0.3nm,0.7s,baz=282,slow=7.3,SNR=2.3
comp=E,0.3nm,0.7s

IDC ***02*** *22:21:11.0±1.6,39.°77N×53.°14E,h0km,mb2.8/2, mbtmp3.4/7,ML2.7/3,MS2.8/1,Error ellipse: s-maj=30.2km s-min=13.0km az=1.0*
TEH ***02*** *22:21:13.5,39.°95N×53.°09E,h20km,ML3.7*
AZER ***02*** *22:21:17.0±0.1,39.°73N×52.°91E,h28km±9km, Error ellipse: s-maj=17.6km s-min=1.8km az=272.0*
DRS ***02*** *22:21:21.1±0.0,39.°49N×53.°30E,h30km*
ISC 02 22:21:16.2±0.9,39.°91N±0.°05×53.°18E±0.°05,h35km,n55,
σ1s99/87,3C,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**3.18**	**146**	*e*			22 22 06.3	
	comp=Z,1µm,0.4s							
IMND				*e*Pn		**Pn**	**22 22 05.3**	**+1.6**
MRVT	**Maraveh tapeh**	**3.20**	**134**	*e*Pn		**Pn**	**22 22 05.5**	**+1.4**
ATGJ	**Altiaghaj**	**3.37**	**288**	P		**Pn**	**22 22 08.1**	**+1.7**
ATGJ				S		**Sn**	**22 22 48.7**	**+3.4**
IGLO	**Ghaloghah**	**3.44**	**171**	*e*			22 22 56.4	
	comp=Z,824nm,0.3s							
IGLO				*e*Pn		**Pn**	**22 22 08.6**	**+1.0**
SIZA	**Siyzn**	**3.46**	**291**	S		**Sn**	**22 22 50.7**	**+3.2**
PQL	**Pirkuli**	**3.61**	**286**	P		**Pn**	**22 22 11.6**	**+1.8**
PQL				S		**Sn**	**22 22 53.9**	**+2.7**
LKRN	**Lenkeran, Azer**	**3.62**	**252**	P		**Pn**	**22 22 10.6**	**+0.9**
LKRN				S		**Sn**	**22 22 51.2**	**+0.1**
SAAT	**Saatly**	**3.66**	**271**	P		**Pn**	**22 22 13.6**	**+3.3**
SAAT				S		**Sn**	**22 22 56.4**	**+4.3**

ASTR	Astara	3.66	250	P	Pn	22 22 11.0	+0.7
	SNR=5.8						
ASTR				S	Sn	22 22 52.2	0.0
LHJ2	Lahijan - Gila	3.67	223	*e*Pn	Pn	22 22 10.2	-0.2
IPRN	Peran	3.72	190	*e*Pn	Pn	22 22 12.1	+0.8
IPRN				*e*		22 22 58.1	
	comp=Z,1µm,0.2s						
GLBA	Clilabad	3.76	261	P	Pn	22 22 12.9	+1.3
	SNR=18						
GLBA				S	Sn	22 22 55.6	+1.0
QUBA	Quba, Azerbaij	3.84	294	P	Pn	22 22 15.7	+2.8
QUBA				S	Sn	22 23 00.1	+3.3
YRD	Yardimli	3.95	257	P	Pn	22 22 15.2	+0.8
	SNR=13						
YRD				S	Sn	22 22 59.2	-0.5
LRK	Lerik	3.96	253	P	Pn	22 22 15.3	+0.7
	SNR=12						
LRK				S	Sn	22 22 59.4	-0.5
QALM	Alamut, Qazvin	4.01	211	*e*Pn	Pn	22 22 15.4	+0.1
QSAR	Qusar	4.06	295	P	Pn	22 22 17.8	+1.9
QSAR				S	Sn	22 23 04.9	+2.7
KSMR	Kasumkent	4.19	295	*e*Pn	Pn	22 22 19.8	+2.1
	comp=Z,1.0nm,0.5s						
KSMR				*e*Sn	Sn	22 23 08.4	+3.0
	comp=Z,59nm,0.3s						
QBL	Gabala	4.20	286	P	Pn	22 22 19.3	+1.5
QBL				S	Sn	22 23 06.5	+0.8
ZRD	Zardab	4.23	277	P	Pn	22 22 19.7	+1.7
ZRD				S	Sn	22 23 09.1	+2.9
IFIR	Firoozkooh	4.28	185	*e*Pn	Pn	22 22 20.8	+1.7
IFIR				*e*		22 22 23.6	
	comp=Z,534nm,0.3s						
BLQ	Beylaqan	4.33	269	P	Pn	22 22 20.6	+1.1
BLQ				S	Sn	22 23 08.5	-0.3
GEYT	Alibeck	4.33	116	Pn	Pn	22 22 19.9	+0.2
	comp=Z,28nm,0.3s,baz=299,slow=15,SNR=68						
GEYT				Sn	Sn	22 23 08.4	-0.5
	comp=Z,7.1nm,0.3s,baz=296,slow=14,SNR=3.0						
GYA0B	ALIBECK ARRAY	4.33	116	⇑Pn	Pn	22 22 21.6	+2.0
GYA0B				⇑Sn	Sn	22 23 06.1	-2.9
AKT	Akhty	4.42	292	*e*Pn	Pn	22 22 21.9	+1.0
	comp=Z,9.0nm,0.5s						
AKT				*e*Sn	Sn	22 23 11.6	+0.3
	comp=Z,48nm,0.3s						
ILAS	Lasjerd	4.53	182	*e*Pn	Pn	22 22 24.9	+2.4
QRD	Qoradiz	4.54	266	P	Pn	22 22 23.3	+0.9
QRD				S	Sn	22 23 15.4	+1.4
BRDA	Brd	4.61	276	P	Pn	22 22 25.2	+1.8
BRDA				S	Sn	22 23 16.5	+0.8
AGDM	Agdam	4.66	274	P	Pn	22 22 25.1	+1.0
AGDM				S	Sn	22 23 18.1	+1.1
SEKA	Sheki	4.73	288	P	Pn	22 22 26.4	+1.3
SEKA				S	Sn	22 23 19.4	+0.6
ISRB	Sarab	4.78	246	*e*Pn	Pn	22 22 26.0	+0.1
ISRB				*e*		22 23 23.1	
	comp=Z,680nm,0.2s						
IEMG	Emamgholi	4.96	118	*e*		22 23 32.4	
	comp=Z,1µm,0.2s						
KMKR	Kumukh	5.10	298	*e*Pn	Pn	22 22 31.9	+1.6
	comp=Z,1.0nm,0.3s						
KMKR				*e*Sn	Sn	22 23 31.1	+3.1
	comp=Z,12nm,0.3s						
ZKTA	Zakatala	5.26	291	P	Pn	22 22 34.4	+2.0
ZKTA				S	Sn	22 23 34.3	+2.5
GANJ	Ganja	5.29	280	P	Pn	22 22 33.3	+0.5
GANJ				S	Sn	22 23 31.5	-1.0
IAKL	Akhelmad	5.50	125	*e*Pn	Pn	22 22 37.1	+1.3
XNZR	Khunzakh	5.54	300	*e*Pn	Pn	22 22 38.1	+1.8
	comp=Z,4.0nm,0.4s						
XNZR				*e*Sn	Sn	22 23 41.6	+2.8
	comp=Z,20nm,0.5s						
KRNR	Karanay	5.54	304	*e*Pn	Pn	22 22 37.8	+1.5
	comp=Z,10.0nm,0.5s						
KRNR				*e*Sn	Sn	22 23 40.4	+1.7
	comp=Z,12nm,0.3s						
ISFB	Sefidab	5.60	188	*e*Pn	Pn	22 22 39.1	+2.0
ORD	Ordubad	5.65	262	P	Pn	22 22 39.6	+2.0
ORD				S	Sn	22 23 41.8	+0.5
DBC	Dubki	5.69	305	*e*Pn	Pn	22 22 40.0	+1.7
	comp=Z,4.0nm,0.2s						
DBC				*e*Sn	Sn	22 23 44.9	+2.6
	comp=Z,8.0nm,0.3s						
GDB	GEDABAY	5.73	280	P	Pn	22 22 40.2	+1.3
GDB				S	Sn	22 23 41.8	-1.7
BTLR	Botlikh	5.91	300	*e*Pn	Pn	22 22 41.7	+0.3
	comp=Z,10.0nm,0.4s						
BTLR				*e*Sn	Sn	22 23 48.3	+0.4
QZX	Qazax, Azerbai	6.06	283	P	Pn	22 22 44.9	+1.7
QZX				S	Sn	22 23 50.5	-0.9
GNI	Garni	6.48	275	Pn	Pn	22 22 50.6	+1.4
	comp=Z,2.1nm,0.5s,baz=66,slow=12,SNR=1.2						
GNI				Sn	Sn	22 24 04.7	+2.8
	comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=1.6						
TKDS	Koohdasht(Taba	7.04	152	*e*Pn	Pn	22 22 59.0	+2.1
AFRZ	Afriz	7.99	142	*e*Pn	Pn	22 23 12.5	+2.5
KBZ	Khabaz	8.57	300	Pn	Pn	22 23 17.1	-0.5
	comp=Z,0.1nm,0.3s,baz=122,slow=13,SNR=1.9						
KBZ				Sn	Sn	22 24 48.6	-4.4
	comp=Z,0.2nm,0.3s,baz=114,slow=20,SNR=2.0						
	comp=Z,0.9nm,0.5s						
KVAR	Kislovodsk Arr	8.79	301	Pn	Pn	22 23 21.0	+0.1
	baz=307,slow=20						
KVAR				Sn	Sn	22 24 52.8	-5.9
	baz=356,slow=17						
	comp=Z,3.3nm,1.0s						
AB31	Akbulak array	10.51	25	Pn	Pn	22 23 42.7	-1.6
	comp=Z,0.1nm,0.2s,baz=206,slow=13,SNR=14						
AB31				⇑Sn	Sn	22 25 29.9	-11
	comp=Z,1.0nm,0.3s,baz=200,slow=25,SNR=14						
BELG	Belogornoye	13.06	345	Pn	Pn	22 24 15.4	-3.6
	comp=Z,0.8nm,0.3s,baz=181,slow=21,SNR=5.9						
BELG				Sn	Sn	22 26 30.2	-13
	comp=Z,0.6nm,0.3s,baz=125,slow=23,SNR=9.5						
ARU	Arti	16.90	10	Pn	Pn	22 25 07.3	-2.5
	baz=254,slow=20,SNR=2.2						
ARU				Sn	Sn	22 27 59.3	-17
	baz=107,slow=19,SNR=1.8						
	comp=Z,0.7nm,0.3s						
EIL	Elat	18.09	241	LR	LR	22 33 52.7	
	comp=Z,30nm,21.4s,baz=66,slow=42						
KURBB	Kurchatov Arra	20.71	50	P	P	22 25 52.7	-0.5
	comp=Z,0.2nm,0.4s,baz=255,slow=11,SNR=3.3						
	comp=Z,0.2nm,0.4s						
MKAR	Makanchi Array	22.18	62	P	P	22 26 08.3	-0.8
	comp=Z,0.3nm,0.6s,baz=251,slow=9.0,SNR=1.9						
	comp=Z,0.3nm,0.6s						

*IDC **02** 22:24:03.8±0.6,72°.94N×5°.74E,h0km,mb3.7/19, mbtmp3.8/26,ML3.2/6,MS3.5/51,Error ellipse: s-maj=14.5km s-min=11.1km az=53.0*

*NEIC **02** 22:24:04.3±1.4,73°.07N±0°.08×5°.8E±0°.3,h10km±1km, mb4.3/13,Error ellipse: s-maj=13.8km s-min=12.5km az=223.0*

*BER **02** 22:24:06.3±0.6,73°.07N×6°.10E,h10km,ML2.4, ML3.4(NAO),Confirmed Earthquake*

ISC 02 22:24:05.2±0.5,**72°.99N**±0°.05×**6°.10E**±0°.05,**h11**km,**n135**, σ**2s.32**/118,**mb4.0**/27,**MS3.5**/45,**Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BJO1	Bjornoya	3.93	61	Pn	Pn	22 25 04.4	-0.9
BJO1	Bjornoya	3.93	61	*e*P	Pn	22 25 03.8	-1.5
HSPB	Hornsund (broa	4.71	27	Pn	Pn	22 25 14.4	-1.7
HSPB	Hornsund (broa	4.71	27	*e*P	Pn	22 25 14.4	-1.7
JMIC	Jan Mayen	4.95	253	Pn	Pn	22 25 17.8	-1.6
JMIC	Jan Mayen	4.95	253	Pn	Pn	22 25 17.8	-1.6
	40nm,0.4s,baz=56,slow=4.0,SNR=8.8						
JMIC				LR	LR	22 26 41.4	
	comp=Z,170nm,19.3s,baz=56,slow=33						
JMIC	Jan Mayen	4.95	253	*e*P	Pn	22 25 18.6	-0.8
JMI	Jan Mayen	5.04	253	*e*P	Pn	22 25 19.9	-0.8
TRO	Tromso	5.32	123	*e*P	Pn	22 25 24.4	0.0
TRO				*e*S	Sn	22 26 20.7	-4.9
TRO				IAML		22 26 24.6	
	comp=Z,14nm,0.3s						
LOF	Lofoten	5.47	149	*e*P	Pn	22 25 27.6	+1.1
LOF				*e*S	Sn	22 26 23.3	-6.0
LOF				IAML		22 26 25.3	
	comp=Z,18nm,0.4s						
BRBA	Barentsburg A	5.48	18	Pn	Pn	22 25 26.1	-0.5
BRBB	Barentsburg B	5.51	18	Pn	Pn	22 25 25.9	-1.1
JETT	Jettan, Norway	5.75	120	Pn	Pn	22 25 31.4	+1.1
JETT				Sn	Sn	22 26 32.8	-3.4

JETT Jettan, Norway 5.75 120 Pn Pn 22 25 31.4 +1.1
JETT Sn Sn 22 26 32.8 -3.4

SPB2	Spitsbergen Ar	5.80	21	Pn	Pn	22 25 28.6	-2.4
SPA0	Spitsbergen Ar	5.80	21	Pn	Pn	22 25 29.5	-1.6
	baz=209,slow=16						
SPA0	Spitsbergen Ar	5.80	21	Pn	Pn	22 25 29.5	-1.6
	baz=209,slow=16						
SPITS	Spitsbergen Ar	5.80	21	Pn	Pn	22 25 29.6	-1.4
	baz=203,slow=16						
	comp=Z,4.1nm,0.4s						
STEI	Steigen	5.93	144	*e*P	Pn	22 25 33.4	+0.7
STEI				*e*S	Sn	22 26 34.4	-6.1
STEI				IAML		22 26 41.2	
	comp=Z,6.8nm,0.4s						
HAMF	Hammerfest	5.98	105	Pn	Pn	22 25 32.7	-0.7
HAMF				Sn	Sn	22 26 37.3	-4.4
HAMF	Hammerfest	5.98	105	*e*P	Pn	22 25 32.8	-0.7
KBS	Kingsbay	6.13	11	Pn	Pn	22 25 34.0	-1.6
KBS	Kingsbay	6.13	11	Pn	Pn	22 25 33.4	-2.1
KBS	Kingsbay	6.13	11	*e*P	Pn	22 25 34.0	-1.6
KBS				IAML		22 27 30.3	
	comp=Z,4.2nm,0.5s						
KIF	Kilpisjarvi	6.24	123	Pn	Pn	22 25 37.3	+0.4
KIF				Sn	Sn	22 26 42.2	-5.9
KIF	Kilpisjarvi	6.24	123	*e*P	Pn	22 25 37.0	+0.1
KIF				*e*S	Sn	22 26 42.3	-5.9
FAUS	Fauske	6.43	147	*e*P	Pn	22 25 39.9	+0.2
FAUS				*e*S	Sn	22 26 46.6	-6.4
FAUS				IAML		22 26 52.9	
	comp=Z,6.0nm,0.6s						
KTK1	Kautokeino	6.85	117	*e*P	Pn	22 25 46.7	+1.3
KONS	Konsvik	6.95	156	*e*P	Pn	22 25 46.7	-0.1
KONS				*e*S	Sn	22 26 59.4	-6.4
ARA0	ARCESS Array S	7.12	110	Pn	Pn	22 25 49.7	+0.5
	baz=320,slow=12						
ARA0				Sn	Sn	22 27 07.0	-3.0
	baz=314,slow=22						
ARCES	ARCESS Array B	7.12	110	Pn	Pn	22 25 49.8	+0.6
	comp=Z,0.4nm,0.3s,baz=324,slow=11,SNR=33						
ARCES				Sn	Sn	22 27 07.0	-3.0
	comp=Z,0.6nm,0.3s,baz=318,slow=22,SNR=4.5						
	comp=Z,1.0nm,0.3s						
ARCES	ARCESS Array B	7.12	110	Pn	Pn	22 25 50.2	+1.0
KEV	Kevo	7.41	106	Pn	Pn	22 25 52.6	-0.5
DBG	Daneborg	7.51	293	Pn	Pn	22 25 49.4	-5.0
SCO	Scoresbysund	9.10	268	Pn	Pn	22 26 13.4	-2.8
APA0	Apatity Array	10.47	108	Pn	Pn	22 26 34.1	-0.8
	baz=301,slow=14						
APA0				Sn	Sn	22 28 24.5	-7.6
	baz=324,slow=22						
LVZ	Lovozero	10.75	104	Pn	Pn	22 26 37.2	-1.6
NC204	NORSAR Array S	11.90	169	Pn	Pn	22 26 54.8	+0.2
NB2	NORSAR Subarra	12.16	168	Pn	Pn	22 26 59.4	+1.2
	baz=346,slow=14						
NOA	NORSAR Array B	12.16	168	Pn	Pn	22 26 58.2	+0.1
	baz=338,slow=14,SNR=3.6						
NOA				Sn	Sn	22 29 16.1	+2.6
	baz=58,slow=22,SNR=3.7						
NOA				LR	LR	22 31 25.1	
	comp=Z,144nm,20.5s,baz=355,slow=36						
	comp=Z,0.4nm,0.3s						
NRA0	NORESS Array S	12.48	168	Pn	Pn	22 27 02.9	+0.4
	baz=356,slow=14						
BORG	Borgarnes	12.74	244	LR	LR	22 30 48.4	
	comp=Z,57nm,20.2s,baz=357,slow=32						
HFS	Hagfors	13.24	163	Pn	Pn	22 27 13.3	+0.5
	baz=352,slow=14						
HFS	Hagfors	13.24	163	Pn	Pn	22 27 12.8	0.0
	comp=Z,0.7nm,0.3s,baz=354,slow=12,SNR=21						
HFS				Sn	Sn	22 29 33.4	-6.4
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=2.9						
HFS				LR	LR	22 31 58.9	
	comp=Z,253nm,20.1s,baz=20,slow=36						
	comp=Z,1.5nm,0.3s						
FIA1	FINESS Array S	13.81	137	Pn	Pn	22 27 19.9	-0.7
FIA0	FINESS Array S	13.82	137	Pn	Pn	22 27 20.0	-0.6
	baz=333,slow=9.3						
FINES	FINESS Array B	13.82	137	Pn	Pn	22 27 20.5	-0.1
	comp=Z,0.2nm,0.3s,baz=204,slow=17,SNR=3.7						
FINES				LR	LR	22 32 21.0	
	comp=Z,256nm,19.9s,baz=19,slow=36						
	comp=Z,1.7nm,0.6s						
FINES	FINESS Array B	13.82	137	Pn	Pn	22 27 20.4	-0.2
KLMR	Klimovskoe	17.52	116	*e*Pn	P	22 28 14.2	+4.1
KLMR				AMP		22 28 17.8	
	comp=Z,33nm,1.5s						
EKA	Eskdalemuir Ar	18.13	197	P	Pn	22 28 16.3	-0.3
	baz=12,slow=14						
EKA				LR	LR	22 34 00.6	
	comp=Z,127nm,18.4s,baz=26,slow=33						
	comp=Z,1.4nm,0.8s						
SFJD	Kangerlussuaq	19.56	281	LR	LR	22 35 08.4	
	comp=Z,201nm,18.8s,baz=34,slow=34						
NACGM	Naroch	20.07	144	*e*P	Pn	22 28 43.3	+3.3
	comp=Z,17nm,0.9s,baz=342						
MNK	Minsk	20.65	142	*i* P	P	22 28 45.0	+0.6
	comp=E,2.0nm,0.8s						
MNK				*i* P	P	22 28 45.0	+0.6
	comp=N,26nm,0.8s						
MNK				*i* P	P	22 28 45.0	+0.6
	comp=Z,16nm,0.9s,baz=341						
MNK				*i* PP	PnPn	22 29 03.1	+1.2
MNK				*i* PPP	PPP	22 29 11.0	
MNK				*i* S	S	22 32 37.9	+3.1
MNK				*i* SS	SnSn	22 32 59.1	+5.5
MNK				*i* SSS	SSS	22 33 12.3	
MNK				*i* LQ	LQ	22 34 15.8	
MNK				*i* LR	LR	22 35 03.5	
MNK				*i* LRM	MLR	22 36 29.9	
	comp=Z,279nm,17.4s						
MNK				*i* LRM	MLR	22 36 38.9	
	comp=E,17nm,18.1s						
MNK				*i* LRM	MLR	22 36 59.5	
	comp=N,187nm,16.1s						
OBN	Obninsk	21.88	129	LR	LR	22 37 13.6	
	comp=N,48nm,21.9s,baz=218,slow=36						
OBN	Obninsk	21.88	129	P	P	22 28 58.1	+0.6
KIRV	Kirov	22.14	108	P	P	22 29 01.6	+1.3
	comp=N,2.7nm,0.7s,baz=290,slow=18,SNR=1.4						
KIRV				LR	LR	22 37 54.3	
	comp=N,97nm,20.5s,baz=335,slow=37						
	comp=N,2.7nm,0.7s						
NKC	Novy Kostel	23.01	170	*e*P	P	22 29 12.4	+2.7
DPC	Dobruska-Polom	23.16	163	*e*P	P	22 29 15.1	+3.8
PRU	Pruhonice	23.38	166	*e*P	P	22 29 21.1	+7.6
OJC	Ojcow	23.63	158	P	P	22 29 15.5	-0.4
OJC				IAmb	IAmb	22 29 41.0	
	comp=Z,15nm,1.4s						
OKC	Ostrava-Krasne	23.83	160	*e*P	P	22 29 24.5	+6.6
MORC	Moravsky Berou	23.84	161	P	P	22 29 17.6	-0.4
MORC	Moravsky Berou	23.84	161	*e*P	P	22 29 19.7	+1.7
KHC	Kasperske Hory	24.17	168	*e*P	P	22 29 20.2	-0.9
VRAC	Vranov	24.22	163	P	P	22 29 21.7	+0.2
	comp=Z,2.6nm,0.6s,baz=333,slow=9.1,SNR=5.1						
VRAC				LR	LR	22 38 58.5	
	comp=Z,116nm,18.9s,baz=356,slow=37						
	comp=Z,2.6nm,0.6s						
VRAC	Vranov	24.22	163	*e*P	P	22 29 22.4	+0.9
GEC2	GERESS Array S	24.46	168	P	P	22 29 23.9	0.0
GEC2				IAmb	IAmb	22 29 33.5	
	comp=Z,9.0nm,1.1s						
GERES	GERESS Array B	24.46	168	P	P	22 29 24.3	+0.4
	comp=Z,1.5nm,0.9s,baz=8.9,slow=9.5,SNR=6.4						
GERES				LR	LR	22 39 12.6	
	comp=Z,65nm,21.1s,baz=32,slow=37						
	comp=Z,1.5nm,0.9s						
AKASG	Malin Array Be	24.53	143	P	P	22 29 24.8	+0.4
	comp=Z,1.7nm,0.7s,baz=345,slow=9.6,SNR=8.9						
AKASG				LR	LR	22 38 46.6	
	comp=Z,278nm,19.7s,baz=3.0,slow=36						
	comp=Z,1.7nm,0.7s						
AKBB	Malin Array Si	24.53	143	P	P	22 29 24.7	+0.3
AKBB				IAmb	IAmb	22 29 50.1	
	comp=Z,7.4nm,1.1s						
STHS	Stebnicka Huta	24.59	156	*e*P	P	22 29 27.3	+2.4
NRIK	Noril'sk	24.63	57	P	P	22 29 27.4	+2.3
	comp=Z,2.0nm,0.6s,baz=338,slow=3.2,SNR=1.9						
	comp=Z,2.0nm,0.6s						
NRIK	Noril'sk	24.63	57	P	P	22 29 25.3	+0.2
NRIK				IAmb	IAmb	22 29 38.7	
	comp=Z,7.1nm,0.9s						
RES	Resolute Bay	24.99	322	LR	LR	22 39 29.5	
	comp=Z,197nm,18.5s,baz=22,slow=37						
KOLS	Kolonicke sedl	25.19	154	*e*P	P	22 29 32.5	+2.2
VYHS	Vyhne	25.23	160	*e*P	P	22 29 32.5	+1.8
CONA	Conrad Observa	25.53	165	*e*P	P	22 29 35.6	+2.1
	comp=Z,8.7nm,1.5s						
MOTA	Moosalm	25.83	172	*e*P	P	22 29 39.4	+3.1
	comp=Z,13nm,1.9s						
DAVA	Damuels	25.84	174	*e*P	P	22 29 38.5	+2.1
	comp=Z,15nm,1.2s						
SQTA	Sankt Quirin	25.95	172	*e*P	P	22 29 41.0	+3.6
	comp=Z,6.1nm,1.1s						
DAVOX	Davos/Dischmat	26.35	174	LR	LR	22 39 54.4	
	comp=Z,88nm,19.5s,baz=38,slow=36						
ARU	Arti	26.58	100	P	P	22 29 44.0	+1.1
	comp=Z,0.6nm,0.3s,baz=331,slow=10,SNR=1.7						
ARU				LR	LR	22 41 10.8	
	comp=Z,39nm,19.3s,baz=324,slow=38						
	comp=Z,0.6nm,0.3s						
ARU	Arti	26.58	100	P	P	22 29 43.0	+0.2
ARU				IAmb	IAmb	22 30 08.0	
	comp=Z,5.3nm,0.9s						
SOKA	Soboth	26.71	166	*e*P	P	22 29 43.1	-1.0
	comp=Z,4.2nm,1.4s						
BURAR	Bucovina Array	26.88	151	P	P	22 29 45.7	-0.1
FRB	Frobisher Bay	27.05	289	LR	LR	22 39 13.8	
	comp=Z,61nm,18.1s,baz=36,slow=34						
BELG	Belogornoye	27.09	117	P	P	22 29 48.0	+0.6
	comp=Z,5.2nm,0.8s,baz=279,slow=9.6,SNR=2.4						
BELG				LR	LR	22 40 44.6	
	comp=Z,72nm,20.2s,baz=92,slow=37						
	comp=Z,5.2nm,0.8s						
MLR	Muntele Rosu	29.07	151	LR	LR	22 41 57.5	
	comp=Z,228nm,18.9s,baz=12,slow=37						
TIXI	Tiksi	31.13	31	LR	LR	22 43 27.5	
	comp=Z,17nm,20.1s,baz=268,slow=37						
TIXI	Tiksi	31.13	31	P	P	22 30 22.2	-0.9
BVAR	Borovoye Array	32.99	92	LR	LR	22 46 53.8	
	comp=Z,28nm,20.8s,baz=2.7,slow=41						
ABKAR	Akbulak array	33.30	106	P	P	22 30 42.6	+0.2
ABKAR				IAmb	IAmb	22 30 50.4	
	comp=Z,5.0nm,1.0s						
KVAR	Kislovodsk Arr	33.72	129	LR	LR	22 44 52.0	
	comp=Z,84nm,19.5s,baz=280,slow=37						
ESDC	Sonseca Array	33.76	194	P	P	22 30 46.4	-0.1
	comp=Z,0.7nm,1.0s,baz=267,slow=26,SNR=4.9						
	comp=Z,0.7nm,1.0s						
SCHQ	Schefferville	33.95	278	LR	LR	22 42 48.1	
	comp=Z,84nm,19.4s,baz=68,slow=33						
KBZ	Khabaz	33.99	129	LR	LR	22 45 05.1	
	comp=Z,128nm,19.8s,baz=7.5,slow=37						
BRTR	Keskin Array B	35.94	143	P	P	22 31 06.0	+0.6
	comp=Z,1.4nm,0.9s,baz=342,slow=7.8,SNR=5.3						
BRTR				LR	LR	22 46 57.5	
	comp=Z,74nm,20.5s,baz=4.5,slow=38						
	comp=Z,1.4nm,0.9s						
BRTR	Keskin Array B	35.94	143	P	P	22 31 05.3	-0.1
ZALV	Zalesovo Beam	36.40	78	P	P	22 31 10.3	+1.2
	comp=Z,0.3nm,0.3s,baz=319,slow=8.6,SNR=1.7						
ZALV				LR	LR	22 49 16.7	
	comp=Z,25nm,20.2s,baz=325,slow=41						
	comp=Z,0.3nm,0.3s						
INK	Inuvik	36.51	336	P	P	22 31 10.2	+0.5
	comp=Z,2.2nm,1.0s,baz=10.0,slow=17,SNR=2.9						
INK				LR	LR	22 48 15.6	
	comp=Z,78nm,18.4s,baz=202,slow=40						
	comp=Z,2.2nm,1.0s						
KEST	Kesra	37.37	176	LR	LR	22 46 27.6	
	comp=Z,60nm,18.1s,baz=306,slow=36						
GNI	Garni	37.81	129	LR	LR	22 47 16.2	
	comp=Z,80nm,20.1s,baz=323,slow=37						
IDI	Anoyia	38.96	155	LR	LR	22 49 01.2	
	comp=Z,37nm,18.5s,baz=51,slow=38						
YKA	Yellowknife Ar	39.05	321	LR	LR	22 47 31.8	
	comp=Z,82nm,18.8s,baz=292,slow=36						
ILAR	Eielson Array	41.32	343	P	P	22 31 50.9	+0.8
	comp=Z,1.3nm,1.1s,baz=356,slow=7.2,SNR=5.9						
	comp=Z,1.3nm,1.1s						
KK31	Karatay Array	41.94	99	P	P	22 31 56.9	+1.4
KKAR	Karatay Array	41.94	99	P	P	22 31 57.2	+1.7
MKAR	Makanchi Array	42.04	85	P	P	22 31 57.6	+1.3
	comp=Z,0.1nm,0.5s,baz=339,slow=3.1,SNR=1.4						
MKAR				LR	LR	22 52 12.9	
	comp=Z,24nm,20.8s,baz=316,slow=40						
	comp=Z,0.1nm,0.5s						
MMAI	Mount Meron Ar	42.78	143	LR	LR	22 52 27.6	
	comp=Z,42nm,18.1s,baz=66,slow=40						
GEYT	Alibeck	43.26	115	P	P	22 32 07.2	+0.9
	comp=Z,2.4nm,0.9s,baz=336,slow=11,SNR=5.0						
GEYT				LR	LR	22 52 00.6	
	comp=Z,102nm,21.2s,baz=340,slow=39						
	comp=Z,2.4nm,0.9s						
GEYT	Alibeck	43.26	115	P	P	22 32 07.2	+0.9
GEYT				IAmb	IAmb	22 32 15.2	
	comp=Z,6.0nm,0.9s						
AAK	Ala-Archa	43.53	95	LR	LR	22 52 32.9	
	comp=Z,25nm,20.1s,baz=308,slow=39						
DLBC	Dease Lake	45.48	329	LR	LR	22 52 34.0	
	comp=Z,100nm,18.1s,baz=320,slow=38						
ULM	Lac du Bonnet	46.09	299	LR	LR	22 51 27.0	
	comp=Z,132nm,18.7s,baz=14,slow=36						
SADO	Sadowa	46.51	282	LR	LR	22 50 52.1	
	comp=Z,70nm,18.5s,baz=30,slow=35						
SONM	Songino Array	47.88	63	P	P	22 32 44.1	+1.3
	comp=Z,0.7nm,1.0s,baz=343,slow=4.5,SNR=3.6						
	comp=Z,0.7nm,1.0s						
KLR	Kul'dur	52.47	42	LR	LR	22 56 47.2	
	comp=Z,36nm,20.2s,baz=327,slow=37						
NEW	Newport	52.90	316	LR	LR	22 54 05.0	
	comp=Z,82nm,18.1s,baz=16,slow=34						
TKL	Tuckaleechee C	56.28	282	LR	LR	22 56 53.6	
	comp=Z,35nm,20.9s,baz=0.5,slow=35						
BW06	Boulder Array	56.45	307	P	P	22 33 46.6	-0.1
PDAR	Pinedale Array	56.45	307	P	P	22 33 46.5	-0.2
	comp=Z,1.5nm,0.9s,baz=46,slow=6.4,SNR=9.7						
PDAR				LR	LR	22 58 06.8	
	comp=Z,48nm,18.2s,baz=14,slow=36						
	comp=Z,1.5nm,0.9s						
PDAR	Pinedale Array	56.45	307	P	P	22 33 46.2	-0.5
ELK	Elko	59.67	311	LR	LR	23 00 12.4	
	comp=Z,80nm,18.9s,baz=347,slow=36						
TORD	Torodi Ar. Bea	59.87	185	P	P	22 34 10.8	+0.1
	comp=Z,0.8nm,0.9s,baz=16,slow=5.9,SNR=4.7						
	comp=Z,0.8nm,0.9s						
YBH	Yreka Blue Hor	60.28	318	LR	LR	23 00 39.5	
	comp=Z,108nm,18.6s,baz=3.5,slow=36						
NVAR	Mina Array Bea	62.55	313	P	P	22 34 28.9	+0.1
	comp=Z,0.2nm,0.6s,baz=17,slow=6.9,SNR=1.8						
	comp=Z,0.2nm,0.6s						
KSRS	Korea Array	62.92	49	LR	LR	23 04 44.6	
	comp=Z,11nm,19.2s,baz=25,slow=39						
ANMO	Albuquerque	63.12	302	LR	LR	23 02 17.5	
	comp=Z,72nm,18.1s,baz=26,slow=36						
PFO	Pinyon Flats O	66.77	310	LR	LR	23 04 40.1	
	comp=Z,71nm,18.7s,baz=312,slow=36						
SJG	San Juan	67.62	258	LR	LR	22 58 44.2	
	comp=Z,16nm,21.2s,baz=264,slow=31						
TXAR	Lajitas Array	67.73	297	P	P	22 35 02.0	-0.4
	comp=Z,0.2nm,0.5s,baz=66,slow=4.3,SNR=3.7						
TXAR				LR	LR	23 04 45.0	
	comp=Z,54nm,18.4s,baz=352,slow=36						
	comp=Z,0.2nm,0.5s						
CMAR	Chiang Mai Arr	73.33	82	LR	LR	23 15 21.9	
	comp=Z,12nm,18.1s,baz=210,slow=42						
JTS	Las Juntas de	80.54	274	LR	LR	23 15 05.2	
	comp=Z,23nm,18.3s,baz=12,slow=38						
ATAH	Atahualpa	95.16	263	LR	LR	23 16 28.1	
	comp=Z,19nm,22.0s,baz=26,slow=33						
ASAR	Alice Springs	123.16	60	PKP	PKiKP	22 43 00.8	-0.7
	comp=Z,0.2nm,0.5s,baz=13,slow=3.2,SNR=1.9						

*NEIC **02** 22:30:57.4±1.0,23°.7S±0°.2×179°.7W±0°.3,h539km±27km, mb4.2/13,Error ellipse: s-maj=45.9km s-min=22.3km az=55.0*

*IDC **02** 22:31:04.5±20.0,23°.13S×179°.19E,h542km±219km, mb3.1/3,mbtmp4.1/4,Error ellipse: s-maj=578.3km s-min=99.7km az=92.0*

ISC 02 22:30:56.9±1.9,**23°.6S**±0°.1×**179°.6W**±0°.3,**h550**km,**n18**, σ**0s.68**/18,**mb4.1**/8,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.24	339	P	P	22 32 38.1	+0.2
	8.8nm,0.5s,baz=177,slow=17,SNR=11						
BKZ	Black Stump Fm	15.86	191	P	P	22 34 13.3	-1.7
BKZ				IAmb	IAmb	22 34 23.7	
	comp=Z,25nm,1.3s						
LTZ	Lake Taylor	20.27	197	P	P	22 34 56.1	+0.9
CTAO	Charters Tower	31.82	270	P	P	22 36 37.4	+0.2
CTAO				IAmb	IAmb	22 36 38.6	
	comp=Z,4.3nm,0.7s						
STKA	Stephens Creek	35.16	248	P	P	22 37 06.0	+1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,2.0nm,0.9s,baz=88,slow=10.0,SNR=4.3						
	comp=Z,2.0nm,0.9s						
STKA	Stephens Creek	35.16	248	P	P	22 37 05.8	+0.8
STKA				IAmb	IAmb	22 37 08.3	
	comp=Z,2.5nm,1.4s						
COEN	Coen	36.42	279	P	P	22 37 15.0	-0.7
BBOO	Buckleboo	39.88	247	P	P	22 37 43.1	-0.5
AS31	Alice Springs	42.43	260	P	P	22 38 03.9	0.0
ASAR	Alice Springs	42.43	260	P	P	22 38 04.2	+0.3
	comp=Z,1.9nm,0.8s,baz=94,slow=7.3,SNR=16						
	comp=Z,1.9nm,0.8s						
ASAR	Alice Springs	42.43	260	P	P	22 38 03.9	0.0
WR0	Warramunga Arr	42.59	266	P	P	22 38 04.5	-0.8
WR0				IAmb	IAmb	22 38 09.5	
	comp=Z,3.7nm,1.2s						
WRA	Warramunga Arr	42.78	266	P	P	22 38 06.3	-0.4
	comp=Z,2.1nm,0.5s,baz=102,slow=8.2,SNR=28						
	comp=Z,2.1nm,0.5s						
WRA	Warramunga Arr	42.78	266	P	P	22 38 06.3	-0.4
KNRA	Kununurra	49.04	269	P	P	22 38 54.3	0.0
KNRA				IAmb	IAmb	22 39 18.1	
	comp=Z,27nm,1.4s						
VNDA	Vanda	54.70	185	P	P	22 39 34.5	+0.5
MBWA	Marble Bar	55.77	260	P	P	22 39 42.5	+0.1
MBWA				IAmb	IAmb	22 39 55.1	
	comp=Z,32nm,1.5s						
MORW	Morawa	57.30	250	P	P	22 39 53.0	+0.1
MORW				IAmb	IAmb	22 40 04.1	
	comp=Z,27nm,1.4s						

*IDC **02** 22:43:27.1±0.8, 27°.51N×91°.44E, h0km, mb3.6/14, mbtmp3.7/16, ML3.9/2, MS3.3/2, Error ellipse: s-maj=29.5km s-min=14.9km az=62.0*

ISC 02 22:43:32.4±0.7, 27°.39N±0°.06×91°.4E±0°.1, h35km, n19, σ1^{s}97/19, mb3.6/12, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	2.31	355	Pn	Pn	22 44 11.2	+2.9
LSA				Sn	Sn	22 44 40.5	+4.8
LSA				smax	smax		
	comp=N,690nm,0.6s						
LSA				smax	smax		
	comp=E,930nm,0.5s						
BRDH	Bariadhala	4.70	177	Pn	Pn	22 44 42.4	+1.6
	comp=E,8.7nm,0.3s,baz=161,slow=24,SNR=5.1						
BRDH				Sn	Sn	22 45 38.4	+4.2
	comp=E,17nm,0.3s,baz=346,slow=23,SNR=5.6						
	comp=E,56nm,0.3s						
CMAR	Chiang Mai Arr	11.30	140	Pn	Pn	22 46 11.3	-0.1
	comp=E,0.2nm,0.3s,baz=318,slow=13,SNR=6.5						
	comp=E,1.0nm,0.4s						
AAK	Ala-Archa	20.49	322	P	P	22 48 06.1	-1.3
	comp=E,0.3nm,0.2s,baz=140,slow=9.8,SNR=1.9						
	comp=E,0.3nm,0.2s						
MKAR	Makanchi Array	20.64	342	P	P	22 48 08.2	-0.7
	comp=E,2.1nm,0.8s,baz=152,slow=13,SNR=17						
	comp=E,2.1nm,0.8s						
SONM	Songino Array	23.55	26	P	P	22 48 38.0	-1.5
	comp=E,0.8nm,0.7s,baz=220,slow=12,SNR=6.1						
	comp=E,0.8nm,0.7s						
KURBB	Kurchatov Arra	25.18	341	P	P	22 48 53.4	-0.9
	comp=E,0.6nm,0.5s,baz=153,slow=9.7,SNR=5.5						
	comp=E,0.6nm,0.5s						
ZALV	Zalesovo Beam	26.96	351	P	P	22 49 09.6	-0.9
	comp=E,1.1nm,0.5s,baz=181,slow=13,SNR=6.6						
	comp=E,1.1nm,0.5s						
BVAR	Borovoye Array	29.98	334	P	P	22 49 36.1	-1.3
	comp=E,0.4nm,0.5s,baz=133,slow=11,SNR=3.1						
	comp=E,0.4nm,0.5s						
MJAR	Matsushiro Arr	40.44	65	P	P	22 51 06.6	-0.9
	comp=E,1.4nm,0.6s,baz=277,slow=9.8,SNR=2.4						
	comp=E,1.4nm,0.6s						
EIL	Elat	49.19	287	LR	LR	23 18 42.7	
	comp=E,28nm,19.4s,baz=201,slow=43						
AKASG	Malin Array Be	51.87	314	P	P	22 52 36.0	-1.1
	comp=E,0.2nm,0.3s,baz=81,slow=6.2,SNR=3.7						
	comp=E,0.2nm,0.3s						
FINES	FINESS Array B	54.55	328	P	P	22 52 56.1	-0.5
	comp=E,4.4nm,1.1s,baz=106,slow=8.8,SNR=4.3						
	comp=E,4.4nm,1.1s						
ARCES	ARCESS Array B	56.20	337	P	P	22 53 08.2	-0.3
	comp=E,3.1nm,1.0s,baz=89,slow=7.4,SNR=2.1						
	comp=E,3.1nm,1.0s						
GERES	GERESS Array B	62.02	313	P	P	22 53 49.2	0.0
	comp=E,0.4nm,0.5s,baz=80,slow=7.3,SNR=4.4						
	comp=E,0.4nm,0.5s						
WRA	Warramunga Arr	62.82	134	P	P	22 53 54.8	0.0
	comp=E,0.5nm,0.9s,baz=327,slow=6.8,SNR=2.1						
	comp=E,0.5nm,0.9s						
ASAR	Alice Springs	65.29	137	P	P	22 54 10.7	-0.3
	comp=E,0.2nm,0.5s,baz=302,slow=5.3,SNR=1.8						
	comp=E,0.2nm,0.5s						
ILAR	Eielson Array	77.70	22	P	P	22 55 24.7	-0.5
	comp=E,0.3nm,0.8s,baz=311,slow=5.9,SNR=2.1						
	comp=E,0.3nm,0.8s						
SFJD	Kangerlussuaq	81.63	346	LR	LR	23 35 30.9	
	comp=E,15nm,18.5s,baz=9.5,slow=38						

*DDA **02** 22:47:40.4±0.0, 38°.39N×26°.73E, h7km±3km, ML1.1*

ISK 02 22:47:40.5, 38°.43N×26°.68E, h4km, ML2.5/3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.10	221	PG	Pg	22 47 42.9	+0.4
URLA				SG	Sg	22 47 44.9	+1.1
URLA	Izmir	0.10	221	P	Pg	22 47 42.8	+0.4
URLA				S	Sg	22 47 45.2	+1.4
ZEYE	Izmir, Urla-Ze	0.24	215	P	Pg	22 47 45.7	+0.6
ZEYE				S	Sg	22 47 49.7	+1.6
DGB	zmir	0.41	157	P	Pg	22 47 48.1	-0.3
DGB				S	Sg	22 47 52.8	-1.1
DGB				*i* AML	AML	22 47 53.0	
	comp=E,21nm,0.2s						
DGB				*i* AML	AML	22 47 53.0	
	comp=N,16nm,0.2s						
CHOS	Chios island	0.49	265	PG	Pg	22 47 50.8	+0.9
CHOS				SG	Sb	22 47 58.3	-1.0
DKL	Dikili	0.66	16	PG	Pb	22 47 54.1	-0.5
GOMA	Golmarmara-Man	1.01	74	PG	Pb	22 48 00.6	0.0
GOMA				SG	Sb	22 48 15.1	+0.8

IDC 02 22:48:13.6±6.0, 15°.89S×177°.61W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=295.8km s-min=31.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.78	257	P	P	22 56 37.2	-0.1
	0.2nm,0.4s,baz=92,slow=7.7,SNR=2.0						
	0.2nm,0.4s						
ASAR	Alice Springs	46.10	252	P	P	22 56 39.8	-0.1
	1.0nm,0.5s,baz=88,slow=7.9,SNR=12						
	1.0nm,0.5s						
ILAR	Eielson Array	83.76	13	P	P	23 00 43.8	-0.3
	1.8nm,1.2s,baz=224,slow=5.1,SNR=8.2						
	1.8nm,1.2s						
YKA	Yellowknife Ar	92.19	24	P	P	23 01 25.2	+0.5
	2.7nm,0.7s,baz=243,slow=5.1,SNR=3.0						
	2.7nm,0.7s						

*TIF **02** 22:53:06.8, 40°.65N×43°.73E, h10km±1km*
*ISK **02** 22:53:07.4, 40°.57N×43°.69E, h6km, ML2.6/7*
*DDA **02** 22:53:08.3±0.0, 40°.68N×43°.57E, h8km±3km, ML2.3*

ISC 02 22:53:07.2±0.8, 40°.65N±0°.02×43°.71E±0°.02, h11km±6km, n31, σ1^{s}38/59, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EAK	Akyaka	0.09	295	P	Pg	22 53 09.8	-0.1
EAK				S	Sg	22 53 12.3	+0.3
KARS	Kars	0.48	268	PG	Pg	22 53 16.9	+0.2
KARS				SG	Sg	22 53 23.5	+0.4
METS	Metsamor	0.57	150	P	Pg	22 53 18.8	+0.4
METS				S	Sg	22 53 26.8	+0.9
DMNI	Dmanisi	0.77	28	P	Pg	22 53 22.4	+0.2
DMNI				S	Sg	22 53 33.3	+1.1
TASB	TASBURUN-IGDIR	0.78	149	PG	Pg	22 53 22.0	-0.2
TASB				SG	Sg	22 53 31.9	-0.4
IGDI	IGDIR	0.83	160	P	Pg	22 53 22.5	-0.7
IGDI				S	Sg	22 53 33.6	-0.4
KZRT	Kazreti	0.90	35	P	Pg	22 53 24.6	0.0
KZRT				S	Sg	22 53 36.6	+0.2
GNI	Garni	0.93	122	PG	Pg	22 53 25.2	+0.1
GNI				SG	Sb	22 53 38.3	+0.4
KOTA	Agri, Merkez-K	0.93	205	P	Pb	22 53 26.3	+0.8
KOTA				S	Sn	22 53 39.9	+0.1
BRNG	Burnasheti	0.98	5	P	Pg	22 53 26.5	+0.5
BRNG				S	Sb	22 53 40.0	+0.7
SENK	Senkaya-Erzuru	1.04	266	PG	Pg	22 53 26.9	-0.4
DYDN	Diyadin	1.10	181	P	Pn	22 53 30.2	+1.4
DYDN				*i* AML	AML	22 53 50.0	
	comp=E,48nm,0.9s						
AGRB	Hanur-Agry	1.21	208	PN	Pg	22 53 29.8	-0.6
EATA	Eleskirt	1.22	230	P	Pg	22 53 29.9	-0.8
EATA				S	Sb	22 53 46.6	+0.2
ABS	Abastumani	1.30	329	P	Pn	22 53 32.0	+0.5
DAGI	Agillar	1.43	288	P	Pg	22 53 34.6	-0.1
DAGI				S	Sg	22 53 53.2	0.0
ALIG	Mtskhetisjvari	1.46	358	P	Pb	22 53 35.1	+0.7
ALIG				S	Sg	22 53 55.5	+1.4
DGRG	David-gareji	1.49	57	P	Pn	22 53 34.8	+0.8
DGRG				S	Sb	22 53 55.2	+1.3
HOMI	Horasan	1.51	247	P	Pn	22 53 33.5	-0.9
HOMI				*i* AML	AML	22 54 06.0	
	comp=N,46nm,0.8s						
HOMI				*i* AML	AML	22 54 08.0	
	comp=E,46nm,0.5s						
DDEM	Demirkent	1.51	280	P	Pb	22 53 35.1	-0.2
DDEM				S	Sn	22 53 54.4	+0.3
DDEM				*i* AML	AML	22 54 01.0	
	comp=N,46nm,0.5s						
DDEM				*i* AML	AML	22 54 08.0	
	comp=E,41nm,0.4s						
KOPR	Koprukoy-ERZUR	1.57	246	PN	Pn	22 53 35.8	+0.7
DBAD	Bademkaya	1.57	284	P	Pb	22 53 36.4	0.0
DBOC	Borcka	1.70	295	P	Pb	22 53 38.5	+0.1
DBOC				S	Sn	22 53 59.5	+0.8
TKB	Tkibuli	1.79	343	P	Pb	22 53 40.6	+0.6
TKB				S	Sg	22 54 04.8	+0.2
GUDG	Gudauri	1.90	17	P	Pb	22 53 42.9	+0.8
GUDG				S	Sg	22 54 08.8	+0.4
ONI	Oni	1.95	354	PN	Pb	22 53 42.9	+0.1
ONI	Oni	1.95	354	P	Pb	22 53 43.6	+0.8
ONI				S	Sg	22 54 09.6	-0.3
PNSH	Pansheti	2.10	19	P	Pg	22 53 47.0	-0.4
PNSH				S	Sg	22 54 14.9	+0.2
LGD	Lagodekhi	2.25	57	P	Pb	22 53 47.9	+0.1
LGD				S	Sg	22 54 18.5	-0.9
SHTL	Shatili	2.28	28	P	Pb	22 53 49.1	+0.6
SHTL				S	Sg	22 54 19.6	-0.9
MNK	Minsk	17.44	328	*i* P	Pn	22 57 08.8	-1.4
	comp=E,2.0nm,0.9s						
MNK				*i* P	Pn	22 57 08.8	-1.4
	comp=N,26nm,0.8s						
MNK				*i* P	Pn	22 57 08.8	-1.4
	comp=Z,8.0nm,0.9s,baz=137						
MNK				*i* PP	PnPn	22 57 19.2	-1.2
MNK				*i* PPP	PPP	22 57 26.9	
MNK				*i* S	Sn	23 00 25.9	+1.7
MNK				*i* SS	SnSn	23 00 40.8	+3.3
MNK				*i* SSS	SSS	23 00 53.6	
MNK				*i* LR	LR	23 03 43.2	
MNK				*i* LRM	MLR	23 04 40.6	
	comp=Z,35nm,16.1s						
MNK				*i* LRM	MLR	23 04 45.1	
	comp=N,125nm,14.2s						
MNK				*i* LRM	MLR	23 04 48.3	
	comp=E,3.0nm,15.5s						

*IDC **02** 23:03:30.1±2.5, 13°.63N×90°.19W, h82km±15km, mb3.5/7, mbtmp3.9/8, MS3.0/5, Error ellipse: s-maj=35.9km s-min=18.9km az=51.0*
*NEIC **02** 23:03:32.2±2.2, 13°.77N±0°.06×90°.73W±0°.05, h81km±6km, mb4.2/16, Md3.9(SNET), Error ellipse: s-maj=9.9km s-min=5.8km az=203.0*
*GCG **02** 23:03:35.5±0.6, 14°.04N×90°.77W, h70km±9km, MD4.1*

ISC 02 23:03:32.0±0.9, 13°.76N±0°.06×90°.71W±0°.04, h90km±7km, n80, σ1^{s}00/91, mb4.2/11, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCG	Pacaya	0.64	9	*e*P	Pn	23 03 47.9	-0.2
FUG	Fuego 3	0.69	350	*e*P	Pn	23 03 48.2	-0.5
NBG	Las Nubes	0.90	23	*e*P	Pn	23 03 51.5	+0.7
NBG				*e*S	Sn	23 04 07.5	+2.7
NUBE	Las Nubes	0.92	81⇓	*e*P	Pn	23 03 50.5	-0.4
NUBE				*e*S	Sn	23 04 04.0	-1.1
SLOZ	Alcaldia de Sa	0.94	74	*e*P	Pn	23 03 50.5	-0.5
SLOZ				*e*S	Sn	23 04 04.5	-0.8
SULM	Suchitepequez,	0.99	303	*e*P	Pn	23 03 51.7	+0.2
RTR	El Retiro	1.05	82	*e*P	Pn	23 03 52.2	-0.2
CEVE	Cerro Verde	1.06	86⇓	*e*P	Pn	23 03 52.6	0.0
CEVE				*e*S	Sn	23 04 07.5	-0.6
SBLS	San Blas	1.06	86	*e*P	Pn	23 03 52.4	-0.2
SNJE	San Jose	1.08	84	*e*P	Pn	23 03 52.6	-0.2
SNJE				*e*S	Sn	23 04 08.9	+0.5
RTAL	Retalhuleu	1.22	309	Pn	Pn	23 03 53.1	-1.1
RTAL				Sn	Sn	23 04 09.2	-1.8
STG3	Santiaguito 3,	1.26	319	*e*P	Pn	23 03 54.9	0.0
APG	El Apazote	1.26	11	P	Pn	23 03 54.7	-0.3
	baz=193,slow=3.5						
APG				S	Sn	23 04 12.5	+0.3
	baz=263,slow=1.0						
BOQS	Boqueron	1.39	91	*e*P	Pn	23 03 56.5	-0.1
BOQS				*e*S	Sn	23 04 16.1	+0.9
UEES	Universidad Ev	1.43	92	*e*P	Pn	23 03 56.9	-0.1
SNET	Serv Nac Est T	1.44	93	Pn	Pn	23 03 56.4	-0.7
SNET	Serv Nac Est T	1.44	93	*e*P	Pn	23 03 57.0	0.0
SNET				*e*S	Sn	23 04 16.0	-0.1
MTO3	Montecristo	1.46	64	Pn	Pn	23 03 57.0	-0.4
MTO3				Sn	Sn	23 04 15.4	-1.2
MTO3	Montecristo	1.46	64⇓	*e*P	Pn	23 03 57.0	-0.4
ESQI	Esquipulas	1.55	59	Pn	Pn	23 03 58.3	-0.2
ESQI				Sn	Sn	23 04 17.9	-0.6
ESQI	Esquipulas	1.55	59	*e*P	Pn	23 03 58.3	-0.2
ESQI				*e*S	Sn	23 04 18.3	-0.2
LFU	La Fuente	1.56	90	*e*P	Pn	23 03 58.5	0.0
LFRS	El Faro	1.61	95	*e*P	Pn	23 03 58.9	-0.3
MRL	Marmol	1.65	37	*e*P	Pn	23 04 00.9	+1.1
SJTE	Alcalda de S	1.67	95	*e*P	Pn	23 03 59.8	-0.1
HUEH	Huehuetenango	1.73	334	Pn	Pn	23 04 00.1	-0.7
HUEH				Sn	Sn	23 04 21.2	-1.6
PAVA	Las Pavas	1.73	91	*e*P	Pn	23 04 00.9	+0.1
COEG	Centro de Oper	1.79	94	*e*P	Pn	23 04 01.8	+0.3
SNVI	San Vicente	1.83	94	*e*P	Pn	23 04 02.0	-0.1
PQSS	Presa 15 de Se	2.10	93	*e*P	Pn	23 04 05.7	+0.2
COEB	Comit de Eme	2.14	97	*e*P	Pn	23 04 06.3	+0.2
LCND	La Caada	2.78	99	*e*P	Pn	23 04 14.6	0.0
CNCH	Conchagua	2.84	99	*e*P	Pn	23 04 16.1	+0.6
CCIG	Comitan	2.86	331	Pn	Pn	23 04 16.6	+0.8
PETF	Flores	3.24	15	Pn	Pn	23 04 21.7	+0.9
PETF				Sn	Sn	23 04 59.2	+0.8
TGUH	Tegucigalpa,Un	3.35	85		Pn	23 04 21.5	-0.9
CRIN	San Cristobal	3.72	106	Pn	Pn	23 04 27.7	+0.4
CNGN	Cerro Negro	4.11	107	Pn	Pn	23 04 32.2	-0.4
MATN	Matagalpa	4.73	99	Pn	Pn	23 04 41.2	+0.1
BOAB	BOACO BROADBAN	5.09	104		Pn	23 04 45.9	0.0
CMIG	Matias Romero	5.21	310	P	Pn	23 04 48.0	+0.6
	4.0nm,0.3s,baz=153,slow=11,SNR=14						
CMIG				S	Sn	23 05 47.1	+0.8
	12nm,0.3s,baz=55,slow=19,SNR=6.7						
CMIG				LR	LR	23 06 36.7	
	comp=Z,19nm,20.1s,baz=30,slow=33						
ORTG	Ortega, Santa	6.15	123	Pn	Pn	23 05 02.6	+2.2
DUNO	Dulce Nombre,	6.28	125	Pn	Pn	23 05 04.0	+1.9
JTS	Las Juntas de	6.61	121	P	Pn	23 04 56.6	-10
	5.6nm,0.4s,baz=278,slow=20,SNR=4.7						
TEIG	Tepich	6.84	20		Pn	23 05 09.8	+0.1
JACO	JACO, Garabito	7.19	124	Pn	Pn	23 05 15.0	+0.5
RIMA	Rio Macho	7.79	120	Pn	Pn	23 05 23.0	0.0
TLIG	Tlapa	8.45	298		Pn	23 05 32.8	+0.9
SOR	Soroa	11.58	38	Pn	Pn	23 06 16.4	+2.1
Z47A	Carrollton	19.50	7	P	P	23 07 53.1	+1.1
Z47A				IAmb	IAmb	23 07 54.4	
	comp=Z,14nm,0.7s						
TXAR	Lajitas Array	19.60	324	P	Pn	23 07 55.9	+0.4
	comp=Z,0.7nm,0.5s,baz=154,slow=12,SNR=9.6						
	comp=Z,0.7nm,0.5s						
TXAR	Lajitas Array	19.60	324	P	P	23 07 54.9	+1.6
TX31	Lajitas Ar. Si	19.60	324	P	Pn	23 07 55.3	-0.1
GOGA	Godfrey	20.64	17	P	P	23 08 05.6	+1.2
GOGA				IAmb	IAmb	23 08 07.5	
	comp=Z,5.8nm,0.6s						
MIAR	Mount Ida	20.86	353	P	P	23 08 06.2	-0.5
FPAL	Fort Paine	21.20	12	P	P	23 08 10.7	+0.3
FPAL				IAmb	IAmb	23 08 13.2	
	comp=Z,8.7nm,0.7s						
WMOK	Wichita Mounta	22.12	342	P	P	23 08 19.3	-0.9
FNO	Franklin	22.24	345	P	P	23 08 20.6	-0.9
WVT	Waverly	22.42	6	P	P	23 08 23.5	+0.1
WVT				IAmb	IAmb	23 08 44.8	
	comp=Z,9.0nm,1.1s						
TKL	Tuckaleechee C	22.68	15	P	P	23 08 26.0	-0.1
	comp=Z,4.8nm,0.6s,baz=180,slow=11,SNR=13						
	comp=Z,4.8nm,0.6s						
TKL	Tuckaleechee C	22.68	15	P	P	23 08 26.1	-0.1
TKL				IAmb	IAmb	23 08 26.5	
	comp=Z,6.9nm,0.8s						
BAUV	El Baul	22.73	100	P	P	23 08 26.0	-0.8
BAUV				IAmb	IAmb	23 08 27.6	
	comp=Z,4.7nm,0.7s						
121A	Cookes Peak, D	24.34	323	P	P	23 08 42.7	+1.0
121A				IAmb	IAmb	23 08 46.2	
	comp=Z,9.3nm,0.9s						
WCI	Wyandotte Cave	24.68	8	P	P	23 08 44.1	-0.4
BOAV	Boa Vista	31.90	108		P	23 09 49.0	-0.3
BOAV				IAmb	IAmb	23 09 50.4	
	comp=Z,1.6nm,0.7s						
SADO	Sadowa	32.44	15	LR	LR	23 24 51.3	
	comp=Z,29nm,18.5s,baz=6.0,slow=40						
SADO	Sadowa	32.44	15	P	P	23 09 52.5	-1.1
SADO				IAmb	IAmb	23 09 52.7	
	comp=Z,4.8nm,0.8s						
DELO	Deloro Mine	32.63	17	P	P	23 09 54.0	-1.2
PDAR	Pinedale Array	33.16	334	LR	LR	23 27 28.0	
	comp=Z,30nm,18.5s,baz=272,slow=43						
NVAR	Mina Array Bea	34.65	320	P	P	23 10 16.1	+3.0
	comp=Z,3.0nm,0.7s,baz=134,slow=8.6,SNR=26						
NVAR				PcP	PcP	23 12 47.3	+1.7
	comp=Z,1.0nm,0.7s,baz=131,slow=3.7,SNR=7.8						
	comp=Z,3.0nm,0.7s						
NVAR	Mina Array Bea	34.65	320	P	P	23 10 14.7	+1.6
MCMT	McKenzie Canyo	36.24	333	P	P	23 10 27.8	+1.1
NEW	Newport	40.77	333	LR	LR	23 32 37.6	
	comp=Z,44nm,19.9s,baz=271,slow=42						
SCHQ	Schefferville	45.02	19	P	P	23 11 36.8	-1.7
	comp=Z,2.0nm,0.5s,baz=220,slow=7.4,SNR=9.9						
	comp=Z,2.0nm,0.5s						
INK	Inuvik	61.02	343	P	P	23 13 34.9	-0.9
	comp=Z,1.6nm,0.8s,baz=111,slow=4.3,SNR=3.7						
	comp=Z,1.6nm,0.8s						
ILAR	Eielson Array	63.55	337	P	P	23 13 52.1	-0.7
	comp=Z,0.3nm,0.7s,baz=178,slow=4.7,SNR=5.9						
	comp=Z,0.3nm,0.7s						
SPITS	Spitsbergen Ar	80.07	12	LR	LR	23 52 52.3	
	comp=Z,26nm,19.5s,baz=302,slow=37						
TORD	Torodi Ar. Bea	89.22	77	P	P	23 16 15.4	-3.2
	comp=Z,0.2nm,0.5s,baz=291,slow=5.6,SNR=4.6						
	comp=Z,0.2nm,0.5s						
WRA	Warramunga Arr	136.54	255	PKP	PKPdf	23 22 44.3	-0.2
	comp=Z,0.5nm,1.1s,baz=92,slow=2.7,SNR=2.2						
CMAR	Chiang Mai Arr	146.60	343	PKPbc	PKPdf	23 23 03.8	+1.2
	comp=Z,1.8nm,0.3s,baz=337,slow=3.1,SNR=8.1						

*MOS **02** 23:23:03.6±2.0, 37°.29N×57°.31E, h10km, mb4.1/10, Error ellipse: s-maj=6.5km s-min=5.7km az=28.7*
*TEH **02** 23:23:04.1, 37°.34N×57°.36E, h8km, ML3.9*
*NEIC **02** 23:23:05.9±1.9, 37°.38N±0°.05×57°.35E±0°.06, h10km±1km, mb4.1/19, mb_Lg3.9(TEH), Error ellipse: s-maj=9.7km s-min=5.5km az=135.0*
*IDC **02** 23:23:05.6±1.0, 37°.48N×57°.15E, h0km, mb3.8/14, mbtmp3.9/22, ML3.4/7, MS2.9/4, Error ellipse: s-maj=18.7km s-min=7.0km az=172.0*

ISC 02 23:23:06.6±0.5, 37°.43N±0°.05×57°.32E±0°.03, h14km, n172, σ1^{s}80/178, mb4.0/25, MS2.6/4, 6C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BJRD	Bojnurd	0.28	15	Pg	Pg	23 23 12.6	0.0
BJRD	Bojnurd	0.28	15	*e*Pg	Pg	23 23 12.7	+0.1
GEYT	Alibeck	0.81	52	Pg	Pb	23 23 22.1	-0.4
	88nm,0.3s,baz=226,slow=22,SNR=175						
GEYT				Lg	Lg	23 23 34.8	
	230nm,0.3s,baz=215,slow=12,SNR=11						
GEYT				LR	LR	23 23 57.2	
	comp=Z,436nm,20.2s,baz=318,slow=58						
GEYT	Alibeck	0.81	52		Pb	23 23 21.7	-0.8
GYA0B	ALIBECK ARRAY	0.81	52		Pb	23 23 21.8	-0.7
GYA0B				Sg	Sb	23 23 33.2	0.0
MRVT	Maraveh tapeh	1.00	284	Pg	Pb	23 23 24.8	-1.0
MRVT	Maraveh tapeh	1.00	284	*e*Pg	Pb	23 23 24.9	-0.9
IEMG	Emamgholi	1.06	90	Pg	Pb	23 23 25.2	-1.8
IEMG	Emamgholi	1.06	90	*e*Pg	Pb	23 23 25.2	-1.8
IEMG				*e*		23 23 45.6	
	comp=Z,26μm,0.4s						
IAKL	Akhelmad	1.42	125	*e*Pg	Pn	23 23 30.2	-2.1
IAKL				*e*		23 23 33.8	
	comp=Z,17μm,0.3s						
IMND	Minoodasht	1.53	264	Pn	Pn	23 23 34.2	+0.7
IMND	Minoodasht	1.53	264	*e*Pn	Pn	23 23 34.3	+0.7
IMND				*e*		23 24 03.4	
	comp=Z,15μm,0.6s						
IKRD	Kardeh	1.87	110	*e*Pn	Pn	23 23 38.7	+0.2
IKRD				*e*		23 24 12.7	
	comp=Z,13μm,0.8s						
IMOG	Moghan	2.09	129	*e*Pn	Pn	23 23 40.3	-1.2
IMYA	Miami	2.48	115	*e*Pn	Pn	23 23 47.4	+0.6
TBHD	Torbat heydari	2.54	142	Pn	Pn	23 23 47.4	-0.2
TBHD	Torbat heydari	2.54	142	*e*Pn	Pn	23 23 47.4	-0.2
JRKH	Jarkhoshk	2.87	121	*e*Pn	Pn	23 23 51.9	-0.2
JRKH				*e*		23 24 00.9	
	comp=Z,5μm,0.6s						
IGLO	Ghaloghah	2.94	253	*e*Pn	Pn	23 23 54.8	+1.6
TBJM	Torbat-e-JAM	3.25	131	*e*Pn	Pn	23 23 58.2	+0.8
IANJ	Anjilo	3.37	235	*e*Pn	Pn	23 23 59.7	+0.6
IANJ				*e*		23 25 06.9	
	comp=Z,2μm,0.7s						
TNSJ	Nastanj	3.51	190	*e*Pn	Pn	23 24 00.4	-0.4
ISHM	Shahmirzad	3.62	245	*e*Pn	Pn	23 24 03.5	+0.9
ISHM				*e*		23 25 04.1	
	comp=Z,3μm,0.4s						
TABS	Tabas	3.78	183	*e*Pn	Pn	23 24 04.5	0.0
TKDS	Koohdasht(Taba	3.81	182	*e*Pn	Pn	23 24 05.0	0.0
ILAS	Lasjerd	4.07	241	*e*Pn	Pn	23 24 09.1	+0.4
ILAS				*e*		23 25 40.9	
	comp=Z,1μm,0.6s						
IFIR	Firoozkooh	4.09	245	*e*Pn	Pn	23 24 10.2	+1.3
IFIR				*e*		23 25 20.1	
	comp=Z,1μm,0.5s						
IPRN	Peran	4.17	255	*e*Pn	Pn	23 24 11.3	+1.4
AFRZ	Afriz	4.23	160	*e*Pn	Pn	23 24 11.0	+0.2
TPRV	Parvadeh(Tabas	4.42	187	*e*Pn	Pn	23 24 13.3	-0.1
SHRT	Shahrakht	4.49	146	*e*Pn	Pn	23 24 13.7	-0.6
IDMV	Damavand	4.64	248	*e*Pn	Pn	23 24 18.0	+1.4
IDMV				*e*		23 25 44.7	
	comp=Z,1μm,0.8s						
DAMV	Damavand	4.67	249	*e*Pn	Pn	23 24 19.6	+2.7
ITEG	Tejag	4.67	165	*e*Pn	Pn	23 24 17.3	+0.4
HRA	Herat	5.02	126	Pn	Pn	23 24 18.4	-3.3
KLST	Kelardasht - M	5.09	262	*e*Pn	Pn	23 24 24.4	+1.6
ISFB	Sefidab	5.14	235	*e*Pn	Pn	23 24 23.8	+0.5
ANAR	Anarak	5.15	216	*e*Pn	Pn	23 24 23.0	-0.4
CHTH	Charan	5.20	255	*e*Pn	Pn	23 24 25.6	+1.3
QALM	Alamut, Qazvin	5.44	261	*e*Pn	Pn	23 24 29.3	+1.8
KRSH	Karshahi	5.45	232	*e*Pn	Pn	23 24 28.0	+0.4
YZKH	Yazd	5.50	205	*e*Pn	Pn	23 24 28.3	0.0
BSRN	Basiran	5.65	164	*e*Pn	Pn	23 24 30.1	-0.3
IQOM	Qom	5.68	245	*e*Pn	Pn	23 24 31.6	+0.8
GHVR	GHOM	5.70	241	*e*Pn	Pn	23 24 32.2	+1.2
GIDE	GILAN DEYLAMAN	5.94	267	*e*Pn	Pn	23 24 35.8	+1.5
QAMS	Qamsar	6.07	234	*e*Pn	Pn	23 24 36.7	+0.5
IZEF	Zefreh	6.10	224	*e*Pn	Pn	23 24 37.4	+0.8
IKLH	Kolahrood	6.23	231	*e*Pn	Pn	23 24 38.5	+0.1
ISAD	Sadrabad	6.26	210	*e*Pn	Pn	23 24 38.6	-0.3
IRAZ	Razeghan	6.29	253	*e*Pn	Pn	23 24 41.3	+2.1
IMEH	Mehriz	6.43	201	*e*Pn	Pn	23 24 40.5	-0.6
QABG	Abgarm-Qazvin	6.46	257	*e*Pn	Pn	23 24 43.7	+2.2
IGAR	Gharneh	6.63	222	*e*Pn	Pn	23 24 44.7	+0.9
IRAM	Ramesheh	6.93	217	*e*Pn	Pn	23 24 48.7	+0.8
ZNJK	Zanjan	6.95	266	*e*Pn	Pn	23 24 49.6	+1.4
KHMZ	Khomeyn	7.04	241	*e*Pn	Pn	23 24 50.0	+0.6
KHGB	Koh Gabri	7.07	186	*e*Pn	Pn	23 24 50.4	+0.5
IPIR	Pirpir	7.08	230	*e*Pn	Pn	23 24 52.2	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHK1	**Shahrekord**	**7.34**	**228**	ePn	**Pn**	**23 24 54.4**	**+0.8**
IBRJ	**Brojen**	**7.43**	**224**	ePn	**Pn**	**23 24 56.7**	**+1.8**
KRBR	**Kerman**	**7.44**	**184**	ePn	**Pn**	**23 24 55.8**	**+0.7**
ISRB	**Sarab**	**7.67**	**276**	ePn	**Pn**	**23 24 58.8**	**+0.7**
IBST	**Bostanabad**	**8.29**	**275**	ePn	**Pn**	**23 25 08.0**	**+1.4**
ZHSF	**Zahedan**	**8.31**	**159**	ePn	**Pn**	**23 25 06.7**	**-0.2**
SNGE	**Sanandaj**	**8.38**	**257**	ePn	**Pn**	**23 25 09.4**	**+1.5**
AKT	**Akhty**	**8.45**	**302**	eP	**Pn**	**23 25 09.6**	**+1.0**
AKT				eS	**Sn**	**23 26 44.6**	**+0.8**
AKT				pmax	pmax		
	comp=Z,9.0nm,0.4s						
AKT				smax	smax		
	comp=N,46nm,0.5s						
AKT				smax	smax		
	comp=E,32nm,0.4s						
SEKA	**Sheki**	**8.70**	**299**	P	**Pn**	**23 25 12.9**	**+0.8**
GANJ	**Ganja**	**9.14**	**294**	P	**Pn**	**23 25 18.2**	**+0.1**
ISHB	**Shabestar**	**9.29**	**279**	ePn	**Pn**	**23 25 21.4**	**+1.0**
CHGR	**Chuyangaron**	**9.42**	**79**	Pn	**Pn**	**23 25 20.7**	**-1.3**
CHGR	**Chuyangaron**	**9.42**	**79**	P	**Pn**	**23 25 20.7**	**-1.3**
KBL	**Kabul**	**9.93**	**103**	Pn	**Pn**	**23 25 28.2**	**-0.9**
KBL	**Kabul**	**9.93**	**103**	P	**Pn**	**23 25 28.2**	**-0.9**
MAKU	**Maku**	**10.10**	**285**	ePn	**Pn**	**23 25 33.7**	**+2.3**
GNI	**Garni**	**10.19**	**289**	Pn	**Pn**	**23 25 32.4**	**-0.2**
	comp=E,13nm,1.2s,baz=282,slow=9.3,SNR=3.6						
GNI				Sn	**Sn**	**23 27 23.6**	**-3.0**
	comp=E,0.2nm,0.3s,baz=68,slow=19,SNR=1.6						
GNI	**Garni**	**10.19**	**289**	Pn	**Pn**	**23 25 33.9**	**+1.3**
GNI	**Garni**	**10.19**	**289**	i P	**Pn**	**23 25 33.7**	**+1.1**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GAR	**Garm**	**10.35**	**77**		**Pn**	**23 25 33.8**	**-0.9**
BTK	**Batken**	**10.87**	**72**		**Pn**	**23 25 40.2**	**-1.6**
BTK	**Batken**	**10.87**	**72**	P	**Pn**	**23 25 40.2**	**-1.6**
DRK	**Karamyk**	**11.54**	**75**		**Pn**	**23 25 49.9**	**-1.3**
KK31	**Karatay Array**	**11.56**	**57**	Pn	**Pn**	**23 25 50.9**	**-0.3**
KK31	**Karatay Array**	**11.56**	**57**	P	**Pn**	**23 25 50.9**	**-0.3**
KKAR	**Karatay Array**	**11.56**	**57**	Pn	**Pn**	**23 25 50.1**	**-1.1**
KKAR	**Karatay Array**	**11.56**	**57**		**Pn**	**23 25 50.6**	**-0.5**
KKAR	**Karatay Array**	**11.56**	**57**	P	**Pn**	**23 25 50.6**	**-0.5**
ONI	**Oni**	**11.81**	**300**	Pn	**Pn**	**23 25 55.0**	**+0.3**
ONI	**Oni**	**11.81**	**300**	P	**Pn**	**23 25 55.0**	**+0.3**
ABKAR	**Akbulak array**	**11.97**	**8**	Pn	**Pn**	**23 25 56.0**	**-0.8**
ABKAR	**Akbulak array**	**11.97**	**8**		**Pn**	**23 25 56.0**	**-0.8**
NCK	**Nalchik**	**12.07**	**304**	i P	**Pn**	**23 26 00.6**	**+2.4**
NCK				pmax	pmax		
	comp=Z,18nm,0.2s						
NEY	**Neytrino**	**12.55**	**302**	i P	**Pn**	**23 26 07.0**	**+2.1**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBZ	**Khabaz**	**12.63**	**304**	Pn	**Pn**	**23 26 04.2**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=131,slow=7.1,SNR=13						
KBZ				Sn	**Sn**	**23 28 19.7**	**-6.5**
	comp=Z,0.1nm,0.3s,baz=133,slow=19,SNR=1.0						
	comp=Z,5.3nm,0.6s						
KBZ	**Khabaz**	**12.63**	**304**	ceP	**Pn**	**23 26 03.6**	**-2.2**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SHA1	**Shidzhatmaz**	**12.79**	**304**	i P	**Pn**	**23 26 07.6**	**-0.7**
KVAR	**Kislovodsk Arr**	**12.86**	**305**	Pn	**Pn**	**23 26 08.2**	**-0.9**
	baz=128,slow=19						
KVAR				Sn	**Sn**	**23 28 26.8**	**-5.2**
	baz=219,slow=19						
	comp=Z,2.4nm,0.4s						
KIV	**Kislovodsk**	**12.87**	**305**		**Pn**	**23 26 08.1**	**-1.0**
KIV	**Kislovodsk**	**12.87**	**305**	eP	**Pn**	**23 26 08.5**	**-0.6**
KIV				eS	**Sn**	**23 28 32.0**	**-0.1**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
NIL	**Nilore**	**13.51**	**101**		**Pn**	**23 26 15.5**	**-2.4**
NIL	**Nilore**	**13.51**	**101**	P	**Pn**	**23 26 15.5**	**-2.4**
AAK	**Ala-Archa**	**14.14**	**63**	Pn	**Pn**	**23 26 26.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=250,slow=7.9,SNR=8.8						
AAK				Sn	**Sn**	**23 28 58.5**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=72,slow=20,SNR=1.9						
AAK				LR	LR	23 32 44.6	
	comp=Z,64nm,20.3s,baz=252,slow=41						
	comp=Z,2.1nm,0.7s						
AAK	**Ala-Archa**	**14.14**	**63**	Pn	**Pn**	**23 26 25.6**	**-1.1**
KSH	**Kashi**	**14.76**	**76**	P	**Pn**	**23 26 30.8**	**-4.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NRN	**Naryn**	**14.98**	**69**		**Pn**	**23 26 34.7**	**-3.4**
NRN	**Naryn**	**14.98**	**69**	P	**Pn**	**23 26 34.7**	**-3.4**
BOOM	**Boomskoye usch**	**15.14**	**65**		**Pn**	**23 26 37.7**	**-2.5**
BOOM				IAmb	IAmb	23 26 51.9	
	comp=Z,8.0nm,0.9s						
BOOM	**Boomskoye usch**	**15.14**	**65**	P	**Pn**	**23 26 37.7**	**-2.5**
BOOM				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BELG	**Belogornoye**	**16.44**	**339**	Pn	**Pn**	**23 26 55.1**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=131,slow=14,SNR=2.0						
BELG				Sn	**Sn**	**23 29 50.6**	**-8.1**
	comp=Z,0.3nm,0.3s,baz=300,slow=20,SNR=1.9						
	comp=Z,4.0nm,0.6s						
BELG	**Belogornoye**	**16.44**	**339**	i P	**P**	**23 27 02.4**	**+3.0**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANN	**Anapa**	**16.67**	**302**	eP	**Pn**	**23 26 58.6**	**-1.1**
ANN				pmax	pmax		
	comp=Z,84nm,1.0s						
RAYN	**Ar Rayn**	**17.18**	**220**		**Pn**	**23 27 06.5**	**+0.2**
RAYN	**Ar Rayn**	**17.18**	**220**	P	**Pn**	**23 27 06.5**	**+0.2**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BRVK	**Borovoye**	**18.05**	**26**	P	**Pn**	**23 27 16.1**	**-0.8**
BRVK	**Borovoye**	**18.05**	**26**	i P	**P**	**23 27 20.4**	**+3.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**18.06**	**26**	P	**P**	**23 27 17.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=207,slow=9.1,SNR=5.7						
BVAR				S	**Sn**	**23 30 36.1**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=216,slow=19,SNR=1.5						
	comp=Z,3.0nm,0.6s						
BRTR	**Keskin Array B**	**18.65**	**284**	P	**P**	**23 27 24.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=76,slow=12,SNR=1.9						
	comp=Z,0.9nm,0.8s						
ARU	**Arti**	**19.02**	**2**	P	**Pn**	**23 27 29.7**	**+1.0**
	baz=181,slow=7.2,SNR=6.1						
ARU				S	Sn	23 30 48.5	-13
	comp=Z,1.2nm,0.6s,baz=197,slow=19,SNR=1.9						
	comp=Z,1.6nm,0.4s						
ARU	**Arti**	**19.02**	**2**	P	**Pn**	**23 27 28.7**	**0.0**
ARU				IAmb	IAmb	23 27 36.4	
	comp=Z,6.3nm,1.0s						
ARU	**Arti**	**19.02**	**2**	d i P	**Pn**	**23 27 31.2**	**+2.5**
ARU				S	**S**	**23 31 09.8**	**+6.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VORR	**Voronezh**	**19.14**	**324**	eP	**P**	**23 27 29.4**	**+0.2**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KURBB	**Kurchatov Arra**	**20.07**	**42**	P	Pn	23 27 42.2	+1.0
	comp=Z,1.3nm,0.6s,baz=241,slow=11,SNR=6.1						
	comp=Z,1.3nm,0.6s						
EIL	**Elat**	**20.16**	**254**	P	Pn	23 27 41.5	-0.9
	comp=Z,1.4nm,0.4s,baz=76,slow=12,SNR=1.4						
EIL				LR	LR	23 36 49.0	
	comp=Z,77nm,18.2s,baz=140,slow=41						
	comp=Z,1.4nm,0.4s						
KURK	**Kurchatov**	**20.17**	**42**	P	**P**	**23 27 40.6**	**+0.1**
KURK	**Kurchatov**	**20.17**	**42**	i P	Pn	23 27 45.6	+3.2
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	**Makanchi Array**	**20.68**	**55**	P	**P**	**23 27 45.9**	**-0.2**
MK31	**Makanchi Array**	**20.68**	**55**	P	**P**	**23 27 45.9**	**-0.2**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**20.68**	**55**	P	Pn	23 27 48.3	-0.1
	comp=Z,1.7nm,0.6s,baz=246,slow=9.7,SNR=14						
MKAR				LR	LR	23 35 58.7	
	comp=Z,20nm,19.8s,baz=252,slow=37						
	comp=Z,1.7nm,0.6s						
MKAR	**Makanchi Array**	**20.68**	**55**	P	**P**	**23 27 45.8**	**-0.3**
KIRV	**Kirov**	**21.79**	**349**	i P	**P**	**23 28 01.3**	**+3.5**
ELL	**Elmali**	**21.85**	**277**	P	**P**	**23 27 56.5**	**-2.4**
ELL	**Elmali**	**21.85**	**277**	P	**P**	**23 27 56.5**	**-2.4**
ELL				pmax	pmax		
	comp=Z,33nm,0.9s						
OBN	**Obninsk**	**22.62**	**328**	⇑eP	**P**	**23 28 08.6**	**+1.8**
OBN				e		23 28 32.6	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,22nm,14.0s						
AKASG	**Malin Array Be**	**23.98**	**313**	P	**P**	**23 28 20.8**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=113,slow=7.9,SNR=4.7						
	comp=Z,1.8nm,0.7s						
AKBB	**Malin Array Si**	**23.98**	**313**	P	**P**	**23 28 19.6**	**-0.9**
AKBB				IAmb	IAmb	23 28 29.5	
	comp=Z,7.6nm,0.8s						
AKBB	**Malin Array Si**	**23.98**	**313**	ceP	**P**	**23 28 21.0**	**+0.5**
AKBB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MLR	**Muntele Rosu**	**24.73**	**299**	P	**P**	**23 28 30.9**	**+3.2**
	comp=Z,1.3nm,0.5s,baz=356,slow=6.7,SNR=4.4						
MLR	**Muntele Rosu**	**24.73**	**299**	P	**P**	**23 28 26.2**	**-1.4**
MLR				IAmb	IAmb	23 28 44.1	
	comp=Z,8.9nm,1.3s						
MLR	**Muntele Rosu**	**24.73**	**299**	P	**P**	**23 28 26.2**	**-1.4**
MLR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
DGZ	**Jazzator, Alta**	**24.85**	**51**	i P	**P**	**23 28 32.3**	**+3.6**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAA0	**Zalesovo Array**	**25.10**	**40**	P	**P**	**23 28 30.6**	**-0.1**
ZAA0				IAmb	IAmb	23 28 37.1	
	comp=Z,3.8nm,1.1s						
ZALV	**Zalesovo Beam**	**25.10**	**40**	P	**P**	**23 28 32.2**	**+1.5**
	comp=Z,1.2nm,0.4s,baz=250,slow=9.8,SNR=7.6						
ZALV				LR	LR	23 38 21.0	
	comp=Z,12nm,20.2s,baz=120,slow=36						
	comp=Z,1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**25.10**	**40**	P	**P**	**23 28 30.6**	**-0.1**
ZALV	**Zalesovo Beam**	**25.10**	**40**	i P	**P**	**23 28 32.5**	**+1.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BURAR	**Bucovina Array**	**25.59**	**304**	P	**P**	**23 28 36.4**	**+1.0**
BURAR				IAmb	IAmb	23 28 40.5	
	comp=Z,2.2nm,0.7s						
BUR08	**Bucovina Ar. S**	**25.61**	**304**	P	**P**	**23 28 36.1**	**+0.7**
BUR08				IAmb	IAmb	23 28 39.5	
	comp=Z,2.6nm,0.8s						
KLMR	**Klimovskoe**	**26.00**	**340**	P	**P**	**23 28 36.2**	**-2.6**
KLMR				AMP		23 28 37.7	
	comp=Z,22nm,2.0s						
KLMR				ePP	**PnPn**	**23 29 16.6**	**+0.1**
KLMR	**Klimovskoe**	**26.00**	**340**	P	**P**	**23 28 36.1**	**-2.7**
KLMR				e		23 29 16.5	
KLMR				pmax	pmax		
	comp=Z,22nm,2.0s						
IDI	**Anoyia**	**26.14**	**275**	P	**P**	**23 28 41.5**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=45,slow=11,SNR=7.0						
	comp=Z,3.8nm,0.7s						
IDI	**Anoyia**	**26.14**	**275**	P	**P**	**23 28 41.1**	**+0.8**
IDI				IAmb	IAmb	23 28 50.5	
	comp=Z,12nm,1.4s						
FINES	**FINESS Array B**	**30.93**	**331**	P	**P**	**23 29 23.6**	**+0.9**
	comp=Z,7.0nm,1.0s,baz=134,slow=8.0,SNR=3.3						
	comp=Z,7.0nm,1.0s						
ARCES	**ARCESS Array B**	**36.44**	**342**	P	**P**	**23 30 11.8**	**+1.3**
	comp=Z,4.1nm,1.1s,baz=139,slow=8.4,SNR=7.5						
	comp=Z,4.1nm,1.1s						
PALK	**Pallekele**	**36.78**	**139**	ceP	**P**	**23 30 14.3**	**+0.3**
NC405	**NORSAR Array S**	**36.91**	**325**	P	**P**	**23 30 15.3**	**+0.6**
SONM	**Songino Array**	**37.01**	**58**	P	**P**	**23 30 17.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=269,slow=8.6,SNR=2.5						
	comp=Z,0.3nm,0.5s						
NOA	**NORSAR Array B**	**37.12**	**324**	P	**P**	**23 30 17.5**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=116,slow=8.0,SNR=4.0						
	comp=Z,1.4nm,0.8s						
ULN	**Ulaanbaatar**	**37.45**	**58**	ceP	**P**	**23 30 23.1**	**+3.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.95**	**106**	P	**P**	**23 30 50.2**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=310,slow=7.0,SNR=6.6						
	comp=Z,0.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**40.95**	**106**	ceP	P	23 30 53.2	+4.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ESDC	**Sonseca Array**	**47.15**	**293**	P	**P**	**23 31 38.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=58,slow=7.5,SNR=8.2						
	comp=Z,0.8nm,0.7s						
KLR	**Kul'dur**	**53.34**	**52**	i P	**P**	**23 32 29.2**	**+4.0**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TOA0	**Torodi Ar. Sit**	**54.93**	**259**	P	**P**	**23 32 35.7**	**-1.5**
TOA0				IAmb	IAmb	23 32 59.9	
	comp=Z,5.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**54.93**	**259**	P	**P**	**23 32 36.2**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=53,slow=7.2,SNR=6.1						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**54.93**	**259**	P	**P**	**23 32 36.1**	**-1.1**
TORD				IAmb	IAmb	23 32 45.1	
	comp=Z,0.9nm,1.0s						
BMAR	**Burnt Mountain**	**74.15**	**9**	P	**P**	**23 34 43.2**	**+1.0**
IMAR	**Indian Mountai**	**74.15**	**13**	P	**P**	**23 34 42.4**	**+0.2**
H21K	**Melozitna Rive**	**74.61**	**12**	P	**P**	**23 34 45.2**	**+0.3**
I26K	**Coal Creek Min**	**76.35**	**9**	P	**P**	**23 34 55.6**	**+0.7**
I26K				IAmb	IAmb	23 35 19.3	
	comp=Z,5.1nm,1.4s						
ILAR	**Eielson Array**	**76.37**	**10**	P	**P**	**23 34 55.5**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=2.9,slow=2.5,SNR=3.3						
	comp=Z,0.4nm,0.9s						
BCAR	**Beaver Creek A**	**78.68**	**9**	P	**P**	**23 35 08.9**	**+1.0**
SCM	**Sheep Creek Mo**	**79.08**	**12**	P	**P**	**23 35 10.2**	**0.0**
SCM	**Sheep Creek Mo**	**79.08**	**12**	P	**P**	**23 35 10.2**	**0.0**
SCM				pmax	pmax		
	comp=Z,39nm,1.5s						

SNET ***02*** *23:41:57.9±0.8, 13.°29N×90.°55W, h13km±999km, ML2.7*
GCG ***02*** *23:41:59.9±0.5, 13.°84N×90.°77W, h56km±22km, MD3.2*
ISC 02 23:41:55.9±3.6**, 13.°5N**±0.°1×**90.°80W**±0.°09**, h25**km±23km**, n8, σ0.s55**/15**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.89**	**12**	eP	**Pn**	**23 42 13.1**	**+0.1**
PCG				eS	**Sn**	**23 42 25.8**	**+0.4**
FUG	**Fuego 3**	**0.93**	**358**	eP	**Pn**	**23 42 13.7**	**+0.2**
FUG				eS	**Sn**	**23 42 25.6**	**-0.5**
NUBE	**Las Nubes**	**1.06**	**69**	eP	**Pn**	**23 42 15.6**	**+0.3**
NUBE				eS	**Sb**	**23 42 29.0**	**-0.4**
NBG	**Las Nubes**	**1.15**	**22**	eP	**Pn**	**23 42 16.9**	**+0.2**
NBG				eS	**Sb**	**23 42 32.6**	**+0.6**
CEVE	**Cerro Verde**	**1.19**	**75**	eP	**Pn**	**23 42 17.7**	**+0.5**
CEVE				eS	**Sb**	**23 42 32.5**	**-0.4**
CEVE				IAML		23 42 36.1	
	comp=Z,271nm,0.4s						
SBLS	**San Blas**	**1.19**	**74**	eP	**Pn**	**23 42 17.7**	**+0.5**
SNJE	**San Jose**	**1.22**	**73**	eP	**Pn**	**23 42 17.6**	**+0.2**
SNJE				eS	**Sb**	**23 42 33.4**	**-0.4**
STG3	**Santiaguito 3,**	**1.40**	**328**	eP	**Pn**	**23 42 20.6**	**+0.6**
STG3				eS	**Sn**	**23 42 36.8**	**-1.0**

ROM 02 23:44:14.4±0.1**, 42.°661N**±0.°005×**13.°258E**±0.°005**, h13**km±1km**, ML2.0**/13**, 10C-3D, Error ellipse: s-maj=0.5km s-min=0.3km az=347.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.05**	**71**	AML	AML		
	comp=N,2758µm,1.0s						
T1204				AML	AML		
	comp=E,5870µm,0.5s						
T1204				AML	AML		
	comp=N,2750µm,1.0s						
SMA1	**SAN MARTINO**	**0.07**	**118**	AML	AML		
	comp=E,14500µm,0.2s						
SMA1				AML	AML		
	comp=N,7055µm,0.2s						
SMA1				AML	AML		
	comp=N,7060µm,0.2s						
T1243	**Rocca Santa Ma**	**0.14**	**76**	⇑P	Pb	23 44 18.7	-0.4
T1243				S	Sg	23 44 21.4	+0.7
RM33	**Pellescritta (**	**0.15**	**192**	⇑P	Pg	23 44 18.6	+0.4
RM33				S	Sg	23 44 21.2	+0.3
RM33				AML	AML		
	comp=E,1795µm,0.6s						
RM33				AML	AML		
	comp=N,1205µm,0.3s						
RM33				AML	AML		
	comp=N,1190µm,0.5s						
RM33				AML	AML		
	comp=N,1207µm,0.3s						
RM33				AML	AML		
	comp=E,1805µm,0.6s						
RM33				AML	AML		
	comp=N,1190µm,0.5s						
RM33				AML	AML		
	comp=E,1795µm,0.6s						
CAMP	**Campotosto**	**0.17**	**138**	⇑P	Pg	23 44 18.9	+0.5
CAMP				S	Sg	23 44 21.7	+0.4
CAMP				AML	AML		
	comp=E,376µm,0.6s						
CAMP				AML	AML		
	comp=N,281µm,0.9s						
LNSS	**Leonessa**	**0.17**	**250**	⇑P	Pg	23 44 18.9	+0.5
LNSS				S	Sg	23 44 21.9	+0.6
LNSS				AML	AML		
	comp=E,654µm,1.3s						
LNSS				AML	AML		
	comp=N,1885µm,0.1s						
LNSS				AML	AML		
	comp=E,655µm,1.3s						
T1247	**Pizzolo (AQ)**	**0.22**	**172**	⇓P	Pb	23 44 23.7	+3.3
T1247				AML	AML		
	comp=N,642µm,1.2s						
T1247				AML	AML		
	comp=N,641µm,1.2s						
T1247				AML	AML		
	comp=E,562µm,0.2s						
MMO1	**Montemonaco**	**0.24**	**12**	⇓P	Pg	23 44 19.1	-0.6
MMO1				S	Sg	23 44 23.9	+0.6
T1217	**Poggiodomo (PG**	**0.25**	**282**	AML	AML		
	comp=N,488µm,0.4s						
T1217				AML	AML		
	comp=E,300µm,0.5s						
TERO	**Teramo**	**0.26**	**98**	⇑P	Pg	23 44 20.4	+0.5
TERO				S	Sg	23 44 24.4	+0.8
TERO				AML	AML		
	comp=E,574µm,1.3s						
TERO				AML	AML		
	comp=N,788µm,0.1s						
GIGS	**Gran Sasso**	**0.31**	**132**	⇑P	Pg	23 44 21.2	+0.3
GIGS				AML	AML		
	comp=N,66µm,0.3s						
GIGS				AML	AML		
	comp=E,91µm,0.3s						
T1211	**Morro Reatino**	**0.32**	**247**	⇑P	Pg	23 44 21.4	+0.3
T1211				S	Sb	23 44 26.6	-0.7
T1211				AML	AML		
	comp=E,370µm,0.1s						
T1211				AML	AML		
	comp=N,427µm,0.3s						
AQU	**L'Aquila**	**0.33**	**161**	⇑P	Pg	23 44 18.7	-2.3
AQU				AML	AML		
	comp=N,148µm,0.8s						
AQU				AML	AML		
	comp=E,132µm,0.2s						
ARRO	**Arrone**	**0.37**	**257**	⇑P	Pg	23 44 22.2	+0.3
FIAM	**Fiamignano**	**0.41**	**195**	⇑P	Pg	23 44 22.7	+0.2
FIAM				AML	AML		
	comp=N,131µm,0.8s						
FIAM				AML	AML		
	comp=E,208µm,0.3s						
OFFI	**Offida**	**0.42**	**49**	S	Sg	23 44 25.0	-3.4
T0110	**Collepietro**	**0.58**	**138**	⇓P	Pg	23 44 26.1	+0.3
T0110				AML	AML		
	comp=E,154µm,0.5s						
T0110				AML	AML		
	comp=N,142µm,0.3s						

IDC ***03*** *00:21:34.5±1.0, 33.°63S×179.°82W, h0km, mb4.5/5, mbtmp4.5/9, ML4.8/4, MS3.2/4, Error ellipse: s-maj=25.6km s-min=21.6km az=100.0*
WEL ***03*** *00:21:35.0±0.8, 34°S±7°×17°9W±1°7, h33km, M4.7/13, mB5.2/6, ML4.9/14, MLv4.7/13, Mw(mB)4.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7*
NEIC ***03*** *00:21:38.0±1.8, 33.°68S±0.°08×179.°1W±0.°2, h34km±8km, mb4.3/11, Error ellipse: s-maj=23.7km s-min=10.3km az=107.0*
ISC 03 00:21:38.1±0.7**, 33.°58S**±0.°06×**179.°1W**±0.°1**, h48**km**, n53, σ1.s72**/58**, mb4.3**/10**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.42**	**14**	P	**Pn**	**00 22 38.7**	**-3.9**
GLKZ				S	**Sn**	**00 23 28.7**	**-4.1**
RAO	**Raoul Island**	**4.43**	**14**	Pn	**Pn**	**00 22 46.3**	**+3.5**
	66nm,0.3s,baz=144,slow=19,SNR=1.5						
RAO				Sn	**Sn**	**00 23 32.3**	**-0.7**
	72nm,0.3s,baz=197,slow=19,SNR=1.8						
	201nm,0.4s						
RAO	**Raoul Island**	**4.43**	**14**	Pn	**Pn**	**00 22 44.1**	**+1.4**
RAO				Sn	**Sn**	**00 23 32.6**	**-0.5**
MXZ	**Matakaoa Point**	**4.50**	**207**	Pn	**Pn**	**00 22 42.3**	**-1.5**
MXZ	**Matakaoa Point**	**4.50**	**207**	P	**Pn**	**00 22 42.9**	**-0.8**
MXZ				S	**Sn**	**00 23 35.5**	**+0.7**
WMGZ	**Waiomatatini S**	**4.69**	**205**	P	**Pn**	**00 22 46.2**	**-0.1**
WMGZ				S	**Sn**	**00 23 41.4**	**+2.0**
PKGZ	**Pakihiroa**	**4.88**	**207**	P	**Pn**	**00 22 47.7**	**-1.2**
PKGZ				S	**Sn**	**00 23 44.6**	**+0.5**
HAZ	**Te Kaha**	**4.88**	**210**	P	**Pn**	**00 22 47.4**	**-1.5**
HAZ				S	**Sn**	**00 23 43.9**	**-0.2**
WIZ	**White Island**	**4.97**	**216**	P	**Pn**	**00 22 49.2**	**-0.9**
PUZ	**Puketiti**	**4.97**	**205**	P	**Pn**	**00 22 49.2**	**-1.0**
PUZ				S	**Sn**	**00 23 45.9**	**-0.5**
RUGZ	**Raukumara Rang**	**5.10**	**210**	P	**Pn**	**00 22 51.1**	**-1.0**
RUGZ				S	**Sn**	**00 23 49.2**	**-0.5**
TWGZ	**Tauwhareparae**	**5.17**	**206**	P	**Pn**	**00 22 52.0**	**-0.9**
TWGZ				S	**Sn**	**00 23 50.6**	**-0.6**
GRZ	**Great Barrier**	**5.21**	**238**	P	**Pn**	**00 22 54.0**	**+0.7**
KUZ	**Kuaotunu**	**5.29**	**232**	P	**Pn**	**00 22 55.6**	**+1.1**
CNGZ	**Carnagh Statio**	**5.36**	**203**	P	**Pn**	**00 22 53.9**	**-1.6**
CNGZ				S	**Sn**	**00 23 54.1**	**-1.8**
TKGZ	**Te Karaka**	**5.45**	**206**	S	**Sn**	**00 23 56.5**	**-1.4**
MWZ	**Matawai**	**5.48**	**209**	P	**Pn**	**00 22 56.2**	**-0.9**
MWZ				S	**Sn**	**00 23 57.5**	**-1.4**
URZ	**Urewera**	**5.59**	**212**	Pn	**Pn**	**00 22 56.0**	**-2.7**
	15nm,0.3s,baz=63,slow=16,SNR=23						
URZ				Sn	**Sn**	**00 23 57.2**	**-4.4**
	4.4nm,0.3s,baz=18,slow=20,SNR=2.3						
	30nm,0.3s						
URZ	**Urewera**	**5.59**	**212**		**Pn**	**00 22 56.3**	**-2.4**
URZ	**Urewera**	**5.59**	**212**	P	**Pn**	**00 22 57.9**	**-0.7**
URZ				S	**Sn**	**00 24 01.6**	**0.0**
RAGZ	**Rawiri**	**5.66**	**209**	P	**Pn**	**00 22 57.9**	**-1.9**
RIGZ	**Rimuhau**	**5.71**	**205**	P	**Pn**	**00 22 58.7**	**-1.7**
MKAZ	**Moumakai**	**5.86**	**231**	P	**Pn**	**00 23 00.2**	**-2.2**
SNGZ	**Shannon Statio**	**5.94**	**208**	P	**Pn**	**00 23 00.7**	**-2.7**
BKZ	**Black Stump Fm**	**6.61**	**211**		**Pn**	**00 23 09.5**	**-3.2**
RPZ	**Rata Peaks**	**12.70**	**214**	Pn	Pn	00 24 29.4	-6.6
	0.9nm,0.3s,baz=45,slow=20,SNR=1.5						
RPZ				Sn	Sn	00 26 42.2	-14
	0.6nm,0.3s,baz=45,slow=19,SNR=1.3						
	3.9nm,0.4s						
MSVF	**Nonsavu**	**15.98**	**350**	Pn	**Pn**	**00 25 20.5**	**+0.7**
	0.5nm,0.3s,baz=151,slow=16,SNR=5.1						
MSVF				LR	LR	00 30 01.9	
	comp=Z,153nm,21.4s,baz=178,slow=32						
	7.7nm,0.8s						
MSVF	**Nonsavu**	**15.98**	**350**	Pn	**P**	**00 25 21.3**	**-1.3**
MSVF				IAmb	IAmb	00 25 24.1	
	comp=Z,9.7nm,0.8s						
DZM	**Mont Dzumac**	**17.15**	**308**	LR	LR	00 29 23.9	
	comp=Z,60nm,20.8s,baz=90,slow=28						
EIDS	**Eidsvold**	**27.15**	**280**	P	**P**	**00 27 17.6**	**+0.7**
EIDS				IAmb	IAmb	00 27 39.2	
	comp=Z,6.3nm,1.1s						
STKA	**Stephens Creek**	**32.98**	**262**	LR	LR	00 39 58.3	
	comp=Z,37nm,18.2s,baz=12,slow=34						
CTAO	**Charters Tower**	**33.54**	**285**	P	**P**	**00 28 14.7**	**+1.2**
CTAO				IAmb	IAmb	00 28 15.4	
	comp=Z,5.8nm,0.9s						
PMG	**Port Moresby**	**39.25**	**300**	LR	LR	00 43 12.5	
	comp=Z,41nm,21.2s,baz=72,slow=34						
ASAR	**Alice Springs**	**42.11**	**271**	P	**P**	**00 29 24.3**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=111,slow=7.5,SNR=18						
ASAR				PcP	**PcP**	**00 31 19.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=119,slow=4.8,SNR=2.1						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**42.11**	**271**	P	**P**	**00 29 26.4**	**+0.6**
WR0	**Warramunga Arr**	**43.22**	**276**	P	**P**	**00 29 34.1**	**-0.6**
WR0				IAmb	IAmb	00 29 55.0	
	comp=Z,8.1nm,1.2s						
WRA	**Warramunga Arr**	**43.39**	**276**	P	**P**	**00 29 34.4**	**-1.7**
	comp=Z,1.4nm,0.4s,baz=117,slow=7.7,SNR=48						
WRA				PcP	**PcP**	**00 31 24.6**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=117,slow=3.1,SNR=1.2						
	comp=Z,1.4nm,0.4s						
WRA	**Warramunga Arr**	**43.39**	**276**	P	**P**	**00 29 34.8**	**-1.3**

FORT	**Forrest**	**44.41**	**259**	P	**P**	**00 29 44.4**	**+0.2**
KNRA	**Kununurra**	**50.10**	**278**	P	**P**	**00 30 28.2**	**-0.4**
QSPA	**South Pole Qui**	**56.54**	**180**	P	**P**	**00 31 18.2**	**+2.8**
	comp=Z,2.7nm,0.7s,baz=30,slow=3.1,SNR=8.9						
	comp=Z,2.7nm,0.7s						
QSPA	**South Pole Qui**	**56.54**	**180**	P	**P**	**00 31 16.7**	**+1.3**
QSPA				IAmb	IAmb	00 31 25.8	
	comp=Z,5.5nm,0.8s						
RPN	**Rapa Nui**	**59.54**	**104**	P	P	00 31 44.6	+7.9
	comp=Z,27nm,0.6s,baz=243,slow=6.8,SNR=1.9						
	comp=Z,27nm,0.6s						
BELA	**Belgrano 2**	**66.77**	**172**	P	**P**	**00 32 23.6**	**-0.3**
BELA				IAmb	IAmb	00 32 45.0	
	comp=Z,6.3nm,1.2s						
MAW	**Mawson**	**69.02**	**201**	P	**P**	**00 32 39.0**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=142,slow=4.7,SNR=6.3						
	comp=Z,3.2nm,0.8s						
MAW	**Mawson**	**69.02**	**201**	P	**P**	**00 32 38.9**	**+0.9**
SNAA	**Sanae**	**75.01**	**179**	P	**P**	**00 33 15.1**	**+1.0**
SNAA				IAmb	IAmb	00 33 21.6	
	comp=Z,2.0nm,0.9s						
H03S2	**Juan Fernandez**	**79.49**	**124**	T	T	02 01 55.5	
	baz=235,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**79.50**	**124**	T	T	02 01 57.6	
	baz=235,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**79.51**	**124**	T	T	02 01 57.6	
	baz=235,slow=74,SNR=11						
H03N3	**Juan Fernandez**	**79.70**	**123**	T	T	02 02 08.0	
	baz=239,slow=72,SNR=11						
H03N2	**Juan Fernandez**	**79.71**	**123**	T	T	02 02 04.7	
	baz=239,slow=72,SNR=10.0						
H03N1	**Juan Fernandez**	**79.72**	**123**	T	T	02 02 05.1	
	baz=239,slow=72,SNR=15						

---

*IDC **03** 00:35:01.0±0.5, 43.°08N×13.°03E, h0km, mb4.6/34, mbtmp4.6/48, ML4.2/14, MS4.1/88, Error ellipse: s-maj=9.5km s-min=8.9km az=158.0*

*BJI **03** 00:35:00.3±0.0, 43.°19N×12.°81E, h13km, mb4.7/46, mB5.1/28, Ms4.8/28, Ms7 4.6/31*

*MED_RC **03** 00:35:01.0±0.3, 43.°00N×13.°11E, h11km±1km, MW4.8/13, Moment Tensor Solution.Mantle waves: s13,c18; Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.69±.10; $M_{\theta\theta}$0.40±.06; $M_{\phi\phi}$1.30±.07; $M_{r\theta}$1.09±.25; $M_{\theta\phi}$-0.65±.04; $M_{\phi r}$-1.26±.22; Best double couple: $M_0$2.35000×10^{16} NP1:ϕ_s323.00000°, δ68.00000°, λ-97.00000°. NP2:ϕ_s160.00000°, δ23.00000°, λ-74.00000°. Principal axes: T 2.3100, Plg22.0000°, Azm58.0000°; N 0.1000, Plg6.0000°, Azm326.0000°; P -2.4000, Plg67.0000°, Azm221.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=40s.*

*MOS **03** 00:35:01.3±1.0, 43.°11N×13.°07E, h13km, mb5.1/62, MS4.3/32 Error ellipse: s-maj=4.0km s-min=2.7km az=65.4*

*BEO **03** 00:35:01.0±0.6, 43.°01N×12.°99E, h0km, ML4.9/18*

*PRU **03** 00:35:01.7±0.0, 43.°13N×12.°91E, h0km, M5.0*

*PDG **03** 00:35:01.7±0.8, 43.°05N×13.°09E, h12km, MD4.9/2, ML4.8/13, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

*ROM **03** 00:35:01.3±0.0, 43.°028N±0.°001×13.°049E±0.°003, h8km, ML4.8/169, Mw4.7, Error ellipse: s-maj=0.2km s-min=0.1km az=67.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.99; $M_{\theta\theta}$0.14; $M_{\phi\phi}$0.85; $M_{r\theta}$0.57; $M_{\theta\phi}$-0.45; $M_{\phi r}$-0.77; Fault plane solution: $M_0$1.40545×10^{16} NP1:ϕ_s162.00000°, δ24.00000°, λ-76.00000°. NP2:ϕ_s327.00000°, δ67.00000°, λ-96.00000°.*

*LDG **03** 00:35:01.5±0.1, 42.°95N×12.°97E, h9km, Ml4.5/46 Error ellipse: s-maj=4.3km s-min=2.2km az=45.0*

*CRAAG **03** 00:35:01.6, 43.°03N×13.°05E, Mw4.8*

*NEIC **03** 00:35:02.6±1.5, 43.°04N±0.°04×13.°01E±0.°06, h10km±1km, mb5.0/148, Mwr4.8/28, ML4.8(ROM), Error ellipse: s-maj=7.9km s-min=6.0km az=221.0*

*NEIC **03** 00:35:02.5, 43.°01N×13.°00E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.68; $M_{\theta\theta}$0.22; $M_{\phi\phi}$1.46; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.55; $M_{\phi r}$0.28; Fault plane solution: $M_0$1.84000×10^{16} NP1:ϕ_s319.42000°, δ48.46000°, λ-118.57000°. NP2:ϕ_s178.82000°, δ48.90000°, λ-61.64000°. Principal axes: T 1.6671, Plg0.0000°, Azm249.0000°; N 0.3057, Plg21.0000°, Azm339.0000°; P -1.9729, Plg69.0000°, Azm159.0000°;*

*GCMT **03** 00:35:03.6±0.2, 42.°97N±0.°03×13.°12E±0.°02, h12km, MW4.9/99, Moment Tensor Solution. s23,c25; s99,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.79±.05; $M_{\theta\theta}$0.36±.05; $M_{\phi\phi}$1.42±.04; $M_{r\theta}$0.91±.21; $M_{\theta\phi}$-0.72±.04; $M_{\phi r}$-1.47±.17; Best double couple: $M_0$2.48600×10^{16} NP1:ϕ_s330.00000°, δ67.00000°, λ-93.00000°. NP2: ϕ_s156.00000°, δ23.00000°, λ-84.00000°. Principal axes: T 2.4810, Plg22.0000°, Azm62.0000°; N 0.0040, Plg2.0000°, Azm331.0000°; P -2.4900, Plg68.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*STR **03** 00:35:04.5±0.3, 43°N±6°×1°3E±°, h10km, mb4.8/18*

*BNS **03** 00:35:05.8±0.3, 43.°07N×12.°96E, h10km, ML4.7*

ISC 03 00:35:02.0±0.6, **43.°03N**±0.°01×**13.°03E**±0.°01, **h6**km±3km, **n1382**, σ**1s74**/1506, **mb5.0**/147, **MS4.2**/98, **134C-81D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.07**	**169**	⇑P	**Pg**	**00 35 03.9**	**0.0**
FEMA				S	**Sg**	**00 35 04.7**	**-0.4**
SEF1	**Sefro**	**0.13**	**332**	⇑P	**Pg**	**00 35 04.9**	**+0.1**
SEF1				S	**Sg**	**00 35 07.8**	**+1.1**
T1216	**Preci, Frazion**	**0.14**	**184**	⇑P	**Pg**	**00 35 05.0**	**+0.1**
T1216				S	**Sg**	**00 35 07.9**	**+1.0**
T1216				AML	AML		
T1216				AML	AML		
T1256	**Bolognola (MC)**	**0.14**	**99**	⇑P	**Pg**	**00 35 04.9**	**-0.2**
T1256				S	**Sg**	**00 35 07.4**	**+0.3**
PIO1	**Pioraco**	**0.15**	**347**	⇓P	**Pg**	**00 35 05.2**	**0.0**
PIO1				S	**Sg**	**00 35 08.4**	**+1.2**
FIU1	**Fiuminata**	**0.17**	**335**	⇓P	**Pg**	**00 35 05.6**	**0.0**
FIU1				S	**Sg**	**00 35 09.3**	**+1.4**
FIU1				AML	AML		
FIU1				AML	AML		
FIU1				AML	AML		
FIU1				AML	AML		
MDAR	**Monte D'Aria**	**0.18**	**27**	⇑P	**Pg**	**00 35 05.5**	**-0.2**
MDAR				S	**Sg**	**00 35 08.5**	**+0.3**
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
NRCA	**Norcia**	**0.20**	**163**		**Pg**	**00 35 06.0**	**-0.1**
NRCA				Sg	**Sg**	**00 35 09.7**	**+0.8**
NRCA	**Norcia**	**0.20**	**163**	⇑P	**Pg**	**00 35 06.0**	**-0.1**
NRCA				S	**Sg**	**00 35 09.7**	**+0.8**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	**Castelsantange**	**0.21**	**146**	⇓P	**Pg**	**00 35 06.2**	**0.0**
T1245				S	**Sg**	**00 35 09.8**	**+0.8**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
GAG1	**Gagliole**	**0.21**	**7**	P	**Pg**	**00 35 06.3**	**+0.1**
GAG1				S	**Sg**	**00 35 10.2**	**+1.2**
GAG1				AML	AML		
GAG1				AML	AML		
GUMA	**Gualdo di Mace**	**0.23**	**81**	⇑P	**Pg**	**00 35 06.3**	**-0.2**
GUMA				S	**Sg**	**00 35 10.4**	**+0.9**
GUMA				AML	AML		
GUMA				AML	AML		
SSM1	**San Severino M**	**0.23**	**28**	⇑P	**Pg**	**00 35 06.1**	**-0.4**
SSM1				S	**Sg**	**00 35 09.8**	**+0.3**
SNTG	**Esanatoglia**	**0.23**	**344**	⇓P	**Pg**	**00 35 06.7**	**0.0**
SNTG				S	**Sg**	**00 35 10.9**	**+1.1**
SNTG				AML	AML		
SNTG				AML	AML		
SNTG				AML	AML		
SNTG				AML	AML		
SNTG				AML	AML		
AM05	**Amandola Campo**	**0.24**	**102**	⇑P	**Pg**	**00 35 06.4**	**-0.3**
AM05				S	**Sg**	**00 35 10.4**	**+0.4**
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
AM05				AML	AML		
MMO1	**Montemonaco**	**0.25**	**121**	⇑P	**Pg**	**00 35 06.8**	**-0.2**
MMO1				S	**Sg**	**00 35 10.9**	**+0.5**
T1215	**Vallo di Nera,**	**0.26**	**208**	⇑P	**Pg**	**00 35 07.3**	**+0.2**
T1215				S	**Sg**	**00 35 11.7**	**+1.2**
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
T1215				AML	AML		
ASSB	**Assisi San Ben**	**0.27**	**273**	⇑P	**Pg**	**00 35 07.7**	**+0.3**
EL6	**Elcito**	**0.30**	**10**	⇑P	**Pg**	**00 35 07.7**	**-0.3**
EL6				S	**Sg**	**00 35 12.9**	**+0.8**
EL6				AML	AML		
EL6				AML	AML		
EL6				AML	AML		
EL6				AML	AML		
ATCC	**AVT- Casa Cast**	**0.33**	**299**	⇑P	**Pg**	**00 35 08.7**	**+0.3**
ATCC				S	**Sb**	**00 35 14.8**	**-1.0**
T1217	**Poggiodomo (PG**	**0.33**	**193**	⇑P	**Pg**	**00 35 08.4**	**+0.1**
T1217				S	**Sg**	**00 35 14.1**	**+1.4**
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
T1217				AML	AML		
FOSV	**Fossato di Vic**	**0.33**	**323**	⇑P	**Pg**	**00 35 08.6**	**+0.1**
FOSV				S	**Sg**	**00 35 14.5**	**+1.7**
FOSV				AML	AML		
FOSV				AML	AML		
FOSV				AML	AML		
T1244	**Arquata del Tr**	**0.34**	**144**	P	**Pg**	**00 35 08.5**	**-0.1**
T1244				S	**Sg**	**00 35 14.1**	**+1.0**
MNTP	**Montappone**	**0.34**	**71**	⇑P	**Pg**	**00 35 08.7**	**0.0**
MNTP				S	**Sg**	**00 35 14.8**	**+1.7**
MNTP				AML	AML		
MNTP				AML	AML		
T1241	**Roccafluvione,**	**0.34**	**120**	P	**Pg**	**00 35 08.2**	**-0.4**
T1241				S	**Sg**	**00 35 13.9**	**+0.7**
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
TRE1	**Treia**	**0.35**	**36**	P	**Pg**	**00 35 08.8**	**0.0**
TRE1				S	**Sg**	**00 35 14.9**	**+1.5**
TRE1				AML	AML		
TRE1				AML	AML		
TRE1				AML	AML		
CING	**Cingoli**	**0.37**	**19**	⇑P	**Pg**	**00 35 08.7**	**-0.5**
CING				S	**Sg**	**00 35 14.5**	**+0.5**
CING				AML	AML		
CING				AML	AML		
T1201	**Domo (RI)**	**0.41**	**156**	P	**Pg**	**00 35 09.7**	**-0.2**
T1201				S	**Sb**	**00 35 16.8**	**-1.3**
T1204	**Amatrice, Fraz**	**0.41**	**149**	P	**Pg**	**00 35 09.6**	**-0.4**
T1204				S	**Sg**	**00 35 16.4**	**+1.0**
T1204				AML	AML		
T1204				AML	AML		
MMUR	**Monte Murano**	**0.41**	**357**	P	**Pg**	**00 35 09.8**	**-0.2**
MMUR				S	**Sg**	**00 35 16.5**	**+1.0**
MMUR				AML	AML		
MMUR				AML	AML		
MMUR				AML	AML		
MMUR				AML	AML		
LNSS	**Leonessa**	**0.43**	**179**	⇑P	**Pg**	**00 35 10.1**	**-0.2**
LNSS				S	**Sg**	**00 35 17.0**	**+1.1**
MURB	**Monte Urbino**	**0.44**	**302**		**Pg**	**00 35 10.4**	**-0.1**
MURB	**Monte Urbino**	**0.44**	**302**	P	**Pg**	**00 35 10.8**	**+0.3**
MURB				S	**Sb**	**00 35 18.7**	**-0.3**
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
SSFR	**Montelago di S**	**0.45**	**336**	P	**Pg**	**00 35 10.5**	**-0.2**
SSFR				S	**Sb**	**00 35 18.2**	**-1.1**
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
T1243	**Rocca Santa Ma**	**0.45**	**137**	P	**Pg**	**00 35 10.1**	**-0.6**
T1243				S	**Sg**	**00 35 17.3**	**+0.6**
SMA1	**SAN MARTINO**	**0.46**	**151**	P	**Pg**	**00 35 10.5**	**-0.4**
SMA1				S	**Sg**	**00 35 17.7**	**+0.9**
SMA1				AML	AML		
SMA1				AML	AML		
ARVD	**Arcevia**	**0.47**	**352**	⇑P	**Pg**	**00 35 10.7**	**-0.4**
ARVD				S	**Sg**	**00 35 18.4**	**+1.1**
ARVD				AML	AML		
ARVD				AML	AML		
	comp=N,77200µm,0.4s						
ATFO	**Monte Foce - G**	**0.48**	**315**	P	**Pg**	**00 35 11.2**	**0.0**
ATFO				AML	AML		
ATFO				AML	AML		
OFFI	**Offida**	**0.49**	**101**	⇑P	**Pg**	**00 35 12.0**	**+0.5**
OFFI				AML	AML		
OFFI				AML	AML		
ARRO	**Arrone**	**0.49**	**204**	⇑P	**Pg**	**00 35 11.5**	**0.0**
ARRO				S	**Sb**	**00 35 19.3**	**-1.1**
ARRO				AML	AML		
ARRO				AML	AML		
ARRO				AML	AML		
T1211	**Morro Reatino**	**0.51**	**195**	P	**Pg**	**00 35 11.7**	**-0.2**
T1211				S	**Sb**	**00 35 19.9**	**-1.3**
T1211				AML	AML		
T1211				AML	AML		
T1211				AML	AML		
T1211				AML	AML		
ATTE	**AVT- Monte Tez**	**0.52**	**289**	⇑P	**Pg**	**00 35 12.3**	**+0.2**
ATTE				AML	AML		
	comp=E,73350µm,1.6s						
ATTE				AML	AML		
	comp=N,76150µm,1.1s						
CESX	**Cesi**	**0.54**	**219**		**Pg**	**00 35 11.9**	**-0.4**
CESX	**Cesi**	**0.54**	**219**	⇑P	**Pg**	**00 35 12.1**	**-0.3**
CESX				S	**Sb**	**00 35 20.8**	**-1.0**
CESX				AML	AML		
CESX				AML	AML		
FRON	**Frontone**	**0.54**	**336**	P	**Pg**	**00 35 11.9**	**-0.5**
FRON				AML	AML		
	comp=E,79000µm,0.6s						
FRON				AML	AML		
FRON				AML	AML		
ATLO	**AVT- Montelove**	**0.54**	**302**	P	**Pg**	**00 35 12.5**	**+0.1**
RM33	**Pellescritta (**	**0.54**	**165**	⇓P	**Pg**	**00 35 12.0**	**-0.4**
RM33				S	**Sg**	**00 35 20.4**	**+1.0**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
CIMA	**Civitanova Mar**	**0.54**	**59**	P	**Pg**	**00 35 12.8**	**+0.4**
CIMA				AML	AML		
CIMA				AML	AML		
CIMA				AML	AML		
PP3	**Marolino**	**0.55**	**50**	⇑P	**Pg**	**00 35 12.8**	**+0.3**
PP3				AML	AML		
PP3				AML	AML		
PP3				AML	AML		
PP3				AML	AML		
PP3				AML	AML		
CADA	**Capodarco di F**	**0.56**	**73**	P	**Pg**	**00 35 13.6**	**+0.8**
CADA				AML	AML		
CADA				AML	AML		
CADA				AML	AML		
TB01	**Gubbio**	**0.56**	**309**	P	**Pg**	**00 35 12.8**	**0.0**
T1246	**Crognaleto (TE**	**0.56**	**143**	P	**Pg**	**00 35 12.3**	**-0.6**
CAMP	**Campotosto**	**0.57**	**150**		**Pg**	**00 35 12.2**	**-0.8**
CAMP	**Campotosto**	**0.57**	**150**	⇓P	**Pg**	**00 35 12.4**	**-0.6**
CAMP				S	**Sg**	**00 35 20.9**	**+0.6**
CAMP				AML	AML		
CAMP				AML	AML		
TB02	**Pietralunga**	**0.57**	**307**	P	**Pg**	**00 35 12.9**	**0.0**
ATBU	**Serra di Buran**	**0.57**	**322**	P	**Pg**	**00 35 13.2**	**+0.2**
ATVO	**AVT- Monte Val**	**0.58**	**308**	P	**Pg**	**00 35 12.9**	**-0.2**
ATVO				AML	AML		
	comp=E,58650µm,0.7s						
ATVO				AML	AML		
	comp=N,60400µm,1.0s						
TERO	**Teramo**	**0.59**	**134**	P	**Pg**	**00 35 12.6**	**-0.7**
TERO				S	**Sg**	**00 35 21.3**	**+0.4**
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TB03	**Pietralunga**	**0.59**	**309**	P	**Pg**	**00 35 13.3**	**0.0**
ATVA	**AVT- Monte Val**	**0.60**	**295**	⇑P	**Pg**	**00 35 13.6**	**0.0**
COR1	**Corinaldo**	**0.60**	**358**	⇑P	**Pg**	**00 35 13.9**	**+0.2**
COR1				AML	AML		
COR1				AML	AML		
COR1				AML	AML		
COR1				AML	AML		
COR1				AML	AML		
ATPC	**Poggio Castell**	**0.62**	**317**	⇑P	**Pg**	**00 35 13.9**	**+0.1**
T1247	**Pizzolo (AQ)**	**0.62**	**161**	⇓P	**Pg**	**00 35 13.4**	**-0.5**
T1247				S	**Sg**	**00 35 23.0**	**+1.0**
T1247				AML	AML		
T1247				AML	AML		
PIEI	**Pieia**	**0.62**	**325**	P	**Pg**	**00 35 13.8**	**-0.2**
PIEI				S	**Sb**	**00 35 24.0**	**-0.3**
PIEI				AML	AML		
	comp=E,46850µm,1.3s						
PIEI				AML	AML		
	comp=N,49050µm,1.3s						
ATPI	**Pietralunga -**	**0.62**	**313**	P	**Pg**	**00 35 14.1**	**0.0**
MPAG	**Monte Paganucc**	**0.63**	**342**	P	**Pg**	**00 35 13.8**	**-0.4**
MPAG				AML	AML		
	comp=N,68450µm,1.3s						
MPAG				AML	AML		
	comp=N,71600µm,1.3s						
MPAG				AML	AML		
	comp=E,78750µm,0.5s						
MPAG				AML	AML		
	comp=N,68450µm,1.3s						
MPAG				AML	AML		
	comp=N,71650µm,1.3s						
MPAG				AML	AML		
	comp=E,79500µm,0.5s						
ATMI	**Monte Miggiano**	**0.64**	**299**	P	**Pg**	**00 35 14.5**	**+0.3**
ATMI				AML	AML		
ATMI				AML	AML		
AOI	**Ancona**	**0.67**	**39**	P	**Pg**	**00 35 14.2**	**-0.6**
AOI				AML	AML		
	comp=E,53450µm,0.7s						
AOI				AML	AML		
	comp=N,59450µm,0.6s						
NARO	**Abbazia di Nar**	**0.67**	**331**	P	**Pg**	**00 35 14.3**	**-0.6**
NARO				AML	AML		
	comp=E,40900µm,0.6s						
NARO				AML	AML		
	comp=N,37050µm,0.6s						
PCRO	**Pietralacroce**	**0.68**	**32**	P	**Pg**	**00 35 15.3**	**+0.1**
MGAB	**Montegabbione**	**0.69**	**260**	P	**Pg**	**00 35 15.3**	**+0.1**
MGAB				AML	AML		
MGAB				AML	AML		
MGAB				AML	AML		
MGAB				AML	AML		
TRTR	**Tortoreto Alta**	**0.69**	**109**	⇑P	**Pg**	**00 35 15.6**	**+0.5**
TRTR				AML	AML		
TRTR				AML	AML		
FSSB	**Fossombrone**	**0.69**	**344**	P	**Pg**	**00 35 14.9**	**-0.4**
FSSB				AML	AML		
FSSB				AML	AML		
SENI	**Senigallia**	**0.69**	**12**	P	**Pg**	**00 35 15.6**	**+0.3**
SENI				AML	AML		
SENI				AML	AML		
SENI				AML	AML		
SENI				AML	AML		
SENI				AML	AML		
GIGS	**Gran Sasso**	**0.70**	**145**	P	**Pg**	**00 35 14.5**	**-1.0**
GIGS				AML	AML		
	comp=N,34750µm,0.4s						
GIGS				AML	AML		
	comp=E,36600µm,1.2s						
CDCA	**Citt' di Caste**	**0.72**	**307**	P	**Pg**	**00 35 16.3**	**+0.4**
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,96100µm,0.6s						
AQU	**L'Aquila**	**0.73**	**158**		**Pg**	**00 35 15.1**	**-0.9**
AQU	**L'Aquila**	**0.73**	**158**	P	**Pg**	**00 35 15.2**	**-0.9**
AQU				AML	AML		
	comp=E,94750µm,1.2s						
AQU				AML	AML		
	comp=E,97150µm,1.3s						
AQU				AML	AML		
AQU				AML	AML		
AQU	**L'Aquila**	**0.73**	**158**	P	**Pg**	**00 35 15.1**	**-0.9**
ATMC	**Monte Cedrone**	**0.74**	**305**	⇑P	**Pg**	**00 35 16.3**	**0.0**
BADI	**Badiali**	**0.75**	**310**	AML	AML		
	comp=N,36050µm,1.3s						
BADI				AML	AML		
	comp=E,1650µm,0.8s						
FIAM	**Fiamignano**	**0.76**	**175**	⇓P	**Pg**	**00 35 15.9**	**-0.8**
FIAM				AML	AML		
	comp=E,89050µm,0.7s						
FIAM				AML	AML		
	comp=N,90100µm,1.5s						
PE3	**Peglio**	**0.77**	**330**	P	**Pg**	**00 35 17.0**	**+0.2**
PE3				AML	AML		
	comp=N,354µm,1.0s						
PE3				AML	AML		
	comp=E,319µm,1.2s						
CAFI	**Castiglion Fio**	**0.83**	**291**	P	**Pg**	**00 35 18.0**	**0.0**
CAFI				AML	AML		
	comp=E,40400µm,1.1s						
CAFI				AML	AML		
	comp=N,50550µm,1.2s						
CAFI				AML	AML		
	comp=N,49200µm,1.2s						
CAFI				AML	AML		
	comp=E,41550µm,1.1s						
SACS	**San Casciano d**	**0.84**	**258**	P	**Pg**	**00 35 18.5**	**+0.3**
SACS				AML	AML		
	comp=N,60550µm,1.5s						
SACS				AML	AML		
	comp=N,62350µm,1.5s						
SACS				AML	AML		
	comp=E,81450µm,1.3s						
SACS				AML	AML		
	comp=E,75300µm,1.3s						
SSP9	**Sansepolcro**	**0.85**	**310**	P	**Pg**	**00 35 18.4**	**0.0**
SSP9				AML	AML		
	comp=E,52450µm,1.5s						
SSP9				AML	AML		
	comp=N,65950µm,1.5s						
FAGN	**Fagnano**	**0.86**	**152**	P	**Pg**	**00 35 17.7**	**-0.9**
FAGN				AML	AML		
FAGN				AML	AML		
VCEL	**Villa Celiera**	**0.87**	**137**	P	**Pg**	**00 35 17.9**	**-0.9**
VCEL				AML	AML		
VCEL				AML	AML		
SRES	**S.Oreste - Sor**	**0.88**	**206**	P	**Pg**	**00 35 18.2**	**-0.7**
SRES				AML	AML		
	comp=E,67150µm,0.6s						
SRES				AML	AML		
	comp=N,48950µm,0.4s						
CPGN	**Carpegna, Ital**	**0.93**	**326**	P	**Pb**	**00 35 20.4**	**-0.2**
T0110	**Collepietro**	**0.97**	**145**	P	**Pg**	**00 35 19.3**	**-1.4**
T0110				AML	AML		
T0110				AML	AML		
CRE	**Caprese Michel**	**0.98**	**307**	P	**Pg**	**00 35 20.6**	**-0.3**
CRE				AML	AML		
	comp=E,23500µm,0.5s						
CRE				AML	AML		
	comp=N,28600µm,1.1s						
LATE	**Laterza**	**0.99**	**246**		**Pg**	**00 35 20.5**	**-0.5**
LATE	**Laterza**	**0.99**	**246**	P	**Pg**	**00 35 20.7**	**-0.4**
RSM	**Repubblica di**	**0.99**	**335**	P	**Pb**	**00 35 21.6**	**-0.1**
SF11	**Podere del Sol**	**1.01**	**261**	P	**Pg**	**00 35 21.6**	**+0.3**
SF04	**Casetta**	**1.02**	**260**	AML	AML		
	comp=N,21000µm,1.6s						

SF04 AML AML
comp=E,30750µm,0.4s
MCIV Monte Civitell 1.03 256 P **Pg 00 35 21.1 -0.6**
MCIV AML AML
comp=E,25150µm,0.5s
MCIV AML AML
comp=N,23700µm,1.2s
MTCE Montecelio 1.03 192 P **Pg 00 35 20.4 -1.3**
MTCE AML AML
comp=N,58050µm,1.4s
MTCE AML AML
comp=E,71200µm,1.4s
PTQR Pietraquaria 1.04 165 P **Pg 00 35 20.2 -1.8**
PTQR AML AML
comp=N,33500µm,1.5s
PTQR AML AML
comp=E,41850µm,0.8s
SF13 Bagnolo 1.06 259 P **Pg 00 35 22.3 0.0**
SF14 Selvena 1.08 256 P **Pg 00 35 22.8 +0.1**
CERT Cerreto 1.08 182 P **Pg 00 35 21.4 -1.3**
CERT AML AML
comp=N,55350µm,1.3s
CERT AML AML
comp=E,75350µm,0.6s
SF01 Poggio Pratacc 1.10 259 AML AML
comp=E,41500µm,0.7s
SF01 AML AML
comp=N,38950µm,1.0s
ARCI Arcidosso 1.16 262 P **Pg 00 35 23.9 -0.2**
ARCI AML AML
comp=N,8800µm,1.3s
ARCI AML AML
comp=E,8950µm,1.6s
RCAV Rocca di Cave 1.18 183 P **Pg 00 35 22.8 -1.9**
BLLA Bellaria 1.19 340 P **Pn 00 35 25.5 +0.5**
BLLA AML AML
comp=N,80050µm,1.6s
BLLA AML AML
comp=E,62750µm,1.1s
ASQU Asqua 1.19 311 P **Pg 00 35 24.4 -0.3**
ASQU AML AML
comp=E,23600µm,1.0s
ASQU AML AML
comp=N,23350µm,0.7s
SFI Santa Sofia 1.23 316 P **Pg 00 35 25.6 0.0**
SFI AML AML
comp=N,23650µm,1.6s
SFI AML AML
comp=N,23850µm,1.6s
SFI AML AML
comp=E,20200µm,0.8s
SFI AML AML
comp=E,20500µm,0.8s
TOLF Tolfa 1.23 219 P **Pg 00 35 23.9 -1.7**
TOLF AML AML
comp=N,18100µm,0.8s
TOLF AML AML
comp=E,23350µm,0.5s
VVLD Villa Vallelon 1.24 159 P **Pg 00 35 24.2 -1.6**
VVLD AML AML
comp=E,51100µm,0.7s
VVLD AML AML
comp=N,53300µm,0.7s
RMP Rome, Mte Porz 1.24 191 P **Pg 00 35 24.2 -1.6**
RMP AML AML
comp=E,61700µm,1.2s
RMP AML AML
comp=N,59550µm,1.4s
GUAR Guarcino 1.25 170 P **Pg 00 35 25.7 -0.3**
GUAR AML AML
comp=N,44100µm,1.4s
GUAR AML AML
comp=E,47600µm,1.2s
CAFR Castel Frentan 1.26 129 P **Pn 00 35 25.4 -0.7**
CAFR AML AML
comp=N,61000µm,0.8s
CAFR AML AML
comp=E,39750µm,0.8s
ROM9 Roma 1.26 198 P **Pn 00 35 25.7 -0.5**
A309A Martorano (FC) 1.27 334 P **Pg 00 35 26.7 +0.2**
MA9 Marino 1.29 192 P **Pn 00 35 25.1 -1.4**
MA9 AML AML
comp=N,70250µm,0.6s
MA9 AML AML
comp=E,69850µm,0.7s
SAMA S.Maria delle 1.29 195 P **Pn 00 35 25.6 -0.9**
SAMA AML AML
comp=N,34750µm,1.0s
SAMA AML AML
comp=E,43450µm,1.6s
RDP Rocca di Papa 1.29 190 P **Pn 00 35 25.1 -1.5**
RDP AML AML
RDP AML AML
comp=N,87250µm,0.6s
VIVA Pratoni del Vi 1.29 189 P **Pn 00 35 25.1 -1.5**
VIVA AML AML
comp=E,94150µm,0.5s
VIVA AML AML
comp=N,95600µm,0.5s
LPEL Lama dei Pelig 1.30 139 P **Pn 00 35 25.2 -1.6**
LPEL AML AML
comp=E,58250µm,0.7s
LPEL AML AML
comp=N,52600µm,0.7s
CSNT Castellina Chi 1.35 290 P **Pn 00 35 27.1 -0.3**
CSNT AML AML
comp=N,16850µm,0.9s
CSNT AML AML
comp=E,11250µm,1.1s
LAV9 Lanuvio 1.37 190 P **Pn 00 35 26.7 -1.0**
LAV9 AML AML
comp=N,98900µm,0.4s
LAV9 AML AML
comp=E,87200µm,1.4s
LAV9 AML AML
LAV9 AML AML
comp=E,95850µm,1.4s
RUFI Rufina 1.37 307 P **Pn 00 35 27.0 -0.7**
RUFI AML AML
comp=N,16900µm,1.3s
RUFI AML AML
comp=E,16750µm,0.9s
FROS Frosini 1.39 278 P **Pn 00 35 26.8 -1.1**
FROS AML AML
comp=N,29100µm,1.3s
FROS AML AML
comp=E,37250µm,1.2s
OSSC Osservatorio P 1.39 291 **Pn 00 35 24.9 -3.1**
OSSC Osservatorio P 1.39 291 P **Pn 00 35 25.3 -2.8**
POFI Posta Fibreno 1.41 159 P **Pn 00 35 27.2 -1.0**
POFI AML AML
comp=E,37150µm,0.8s
POFI AML AML
comp=N,30450µm,1.5s
POFI AML AML
comp=E,38550µm,0.8s
POFI AML AML
comp=N,31700µm,1.5s
LMD Lutirano 1.42 318 P **Pn 00 35 28.5 +0.1**
LMD AML AML
comp=E,15150µm,0.8s
LMD AML AML
comp=N,22650µm,0.8s
BRSN Barisano 1.43 331 P **Pg 00 35 29.8 +0.3**
LRP Arpino 1.44 163 P **Pn 00 35 28.9 +0.2**
LRP AML AML
comp=E,18600µm,1.0s
LRP AML AML
comp=N,26500µm,0.8s
GIUL Giuliano Di Ro 1.48 173 P **Pn 00 35 28.8 -0.4**
GIUL AML AML
comp=N,22600µm,1.5s
GIUL AML AML
comp=E,23500µm,0.7s
FIR Firenze 1.49 300 P **Pn 00 35 27.4 -2.0**
MAON Monte Argentar 1.52 247 P **Pn 00 35 28.5 -1.2**
MAON AML AML
comp=E,9860µm,0.8s
MAON AML AML
comp=N,9065µm,1.6s
LATB Latina 1.54 182 P **Pn 00 35 28.7 -1.2**
LATB AML AML
comp=E,6615µm,1.6s
LATB AML AML
comp=N,8955µm,1.6s
TRIF Trifonti 1.56 274 P **Pn 00 35 29.5 -0.9**
TRIF AML AML
comp=E,10250µm,1.3s
TRIF AML AML
comp=N,8555µm,0.8s
RNI2 Rionero Sannit 1.56 148 P **Pn 00 35 30.7 +0.3**
RNI2 AML AML
comp=N,51050µm,1.0s
RNI2 AML AML
comp=E,43750µm,0.9s
RNI2 AML AML
comp=N,52550µm,1.0s
RNI2 AML AML
comp=E,43350µm,0.8s
BRIS BRISIGHELLA 1.57 316 P **Pn 00 35 31.1 +0.6**
BRIS AML AML
comp=E,25900µm,0.8s
BRIS AML AML
comp=N,26600µm,1.4s
BRIS AML AML
comp=N,27200µm,1.4s
BRIS AML AML
comp=E,25500µm,0.9s
LIK San Giovanni I 1.57 165 P **Pn 00 35 30.3 -0.1**
LIK AML AML
comp=N,39500µm,0.9s
LIK AML AML
comp=E,40900µm,0.5s
CERA Filignano 1.61 153 P **Pn 00 35 30.8 -0.1**
CERA AML AML
comp=E,46550µm,0.7s
CERA AML AML
comp=E,47550µm,0.7s
CERA AML AML
comp=N,37550µm,0.6s
CERA AML AML
comp=N,36450µm,0.6s
FRES Fresagrandinar 1.61 131 P **Pb 00 35 31.8 -0.3**
FRES AML AML
comp=N,16200µm,1.0s
FRES AML AML
comp=E,21650µm,0.6s
CASP Castiglione de 1.61 262 **Pn 00 35 28.9 -2.1**
CASP Castiglione de 1.61 262 P **Pn 00 35 29.6 -1.4**
CASP AML AML
comp=E,3825µm,0.9s
CASP AML AML
comp=N,4430µm,0.8s
IMOL Imola, Italy 1.62 325 P **Pg 00 35 34.1 +0.9**
IMOL AML AML
comp=N,27150µm,1.6s
IMOL AML AML
comp=E,33600µm,1.4s
MIDA Miranda 1.66 146 P **Pn 00 35 31.3 -0.4**
MIDA AML AML
comp=E,26300µm,0.8s
MIDA AML AML
comp=E,27550µm,0.8s
MIDA AML AML
comp=N,26050µm,1.2s
MIDA AML AML
comp=N,26300µm,1.2s
CRMI Carmignano 1.68 298 P **Pn 00 35 31.6 -0.3**
CRMI AML AML
comp=N,7390µm,1.3s
CRMI AML AML
comp=E,9105µm,1.6s
CRMI AML AML
comp=N,925µm,1.3s
CRMI AML AML
comp=E,1160µm,1.6s
MPPT Montemurlo 1.69 304 P **Pb 00 35 33.3 -0.2**
MPPT AML AML
comp=E,12900µm,0.9s
MPPT AML AML
comp=N,8715µm,1.6s
TRIV Trivento 1.69 138 P **Pb 00 35 33.8 +0.3**
TRIV AML AML
comp=N,58100µm,0.7s
TRIV AML AML
comp=E,32250µm,1.2s
TRIV AML AML
comp=N,30500µm,1.1s
TRIV AML AML
comp=E,57250µm,1.6s
A308A Longastrino (F 1.72 335 P **Pb 00 35 34.4 +0.4**
MTRZ Monterenzio 1.76 320 P **Pb 00 35 35.0 +0.2**
MTCR Monte La Croce 1.78 305 P **Pn 00 35 32.7 -0.8**
MTCR AML AML
comp=E,9025µm,0.8s
MTCR AML AML
comp=N,15200µm,0.9s
CMPO Campotto Po 1.79 331 P **Pg 00 35 35.9 -0.4**
VAGA Valle Agricola 1.84 151 P **Pn 00 35 34.9 +0.7**
VAGA AML AML
comp=E,14300µm,1.4s
VAGA AML AML
comp=N,13450µm,1.1s
VAGA AML AML
comp=E,14750µm,1.4s
VAGA AML AML
comp=N,13800µm,1.1s
BSSO Busso 1.88 141 P **Pb 00 35 36.7 -0.2**
BSSO AML AML
comp=N,27450µm,1.5s
BSSO AML AML
comp=N,11050µm,1.5s
BSSO AML AML
comp=E,7840µm,1.6s
BSSO AML AML
comp=E,19250µm,1.6s
POPM Popiglio 1.94 302 P **Pn 00 35 35.0 -0.5**
CIGN Sant'Elia a Pi 1.95 134 P **Pn 00 35 36.6 +0.9**
CIGN AML AML
comp=N,13700µm,1.3s
CIGN AML AML
comp=E,14450µm,1.3s
PII Pisa 1.95 292 P **Pn 00 35 35.3 -0.4**
PII AML AML
comp=E,5395µm,1.0s
PII AML AML
comp=N,7450µm,0.8s
MODR Mondragone 1.98 161 P **Pn 00 35 36.6 +0.5**
MODR AML AML
comp=N,8800µm,1.4s
MODR AML AML
comp=E,9990µm,1.5s
ZCCA Zocca 1.99 312 **Pn 00 35 37.3 +1.0**
ZCCA Zocca 1.99 312 P **Pb 00 35 38.9 +0.3**
PIGN Pignataro Magg 2.02 155 P **Pn 00 35 36.9 +0.3**
PIGN AML AML
comp=E,8760µm,0.9s
PIGN AML AML
comp=N,9165µm,1.6s
PIGN AML AML
comp=N,8735µm,1.6s
PIGN AML AML
comp=E,8945µm,1.2s
MELA Melanico ??? S 2.04 130 P **Pn 00 35 37.4 +0.5**
MELA AML AML
comp=E,40750µm,1.3s
MELA AML AML
comp=N,38450µm,0.9s
MELA AML AML
comp=N,39400µm,0.9s
MELA AML AML
comp=E,42300µm,1.3s
TREM Isole Tremiti 2.04 115 P **Pn 00 35 37.0 +0.1**
TREM AML AML
comp=N,40100µm,0.8s
TREM AML AML
comp=E,28750µm,0.6s
BDI Bagni Di Lucca 2.05 301 P **Pn 00 35 36.2 -0.9**
BDI AML AML
comp=N,3215µm,1.6s
BDI AML AML
comp=E,7780µm,1.4s
BDI AML AML
comp=N,6710µm,1.0s
BDI AML AML
comp=E,2755µm,1.2s
MAIM Mastiano 2.05 296 P **Pn 00 35 36.9 -0.1**
MAIM AML AML
comp=N,5165µm,1.0s
MAIM AML AML
comp=E,5470µm,0.6s
SACR S. Croce Del S 2.05 142 P **Pb 00 35 38.9 -0.8**
SACR AML AML
comp=E,10610µm,1.2s
SACR AML AML
comp=N,17900µm,1.2s
GATE Gambatesa 2.06 137 P **Pb 00 35 40.2 +0.4**
GATE AML AML
comp=N,9775µm,1.0s
GATE AML AML
comp=N,9490µm,1.6s
GATE AML AML
comp=E,11580µm,1.4s
GATE AML AML
comp=E,9110µm,1.5s
CARD Cardoso 2.10 299 P **Pn 00 35 36.8 -1.0**
CARD AML AML
comp=N,5340µm,1.6s
CARD AML AML
comp=E,5375µm,1.4s
VITU Vitulano (BN) 2.19 147 P **Pn 00 35 39.6 +0.6**
VITU AML AML
comp=E,4025µm,1.5s
VITU AML AML
comp=N,13750µm,1.5s
VITU AML AML
comp=N,13550µm,1.5s
VITU AML AML
comp=E,8675µm,1.4s
GSCL Gusciola 2.21 308 P **Pn 00 35 39.5 +0.3**
GSCL AML AML
comp=N,8610µm,1.0s
GSCL AML AML
comp=E,8730µm,1.6s
VLC Villacollemand 2.23 301 **Pn 00 35 38.4 -1.1**
VLC Villacollemand 2.23 301 P **Pn 00 35 38.8 -0.7**
VLC AML AML
comp=N,4930µm,1.3s
VLC AML AML
comp=N,4910µm,1.2s
VLC AML AML
comp=E,4085µm,1.1s
VLC AML AML
comp=E,4105µm,1.1s
PSB1 Pescosannita 2.24 143 P **Pn 00 35 40.9 +1.3**
PSB1 AML AML
comp=N,13250µm,1.2s
PSB1 AML AML
comp=E,12150µm,1.2s
PSB1 AML AML
comp=N,13450µm,1.2s
PSB1 AML AML
comp=E,12000µm,1.3s
VENT Ventotene 2.25 172 P **Pn 00 35 40.5 +0.8**
VENT AML AML
comp=N,11950µm,1.6s
VENT AML AML
comp=E,11160µm,1.3s
APRC Apricena 2.25 124 P **Pn 00 35 40.1 +0.2**
APRC AML AML
comp=E,16350µm,1.3s
APRC AML AML
comp=N,17650µm,1.6s
PAOL Paolisi 2.30 150 **Pn 00 35 40.7 +0.2**
SERM Sermide 2.34 328 P **Pb 00 35 43.8 -0.8**
SERM AML AML
comp=E,6260µm,0.9s
SERM AML AML
comp=N,6005µm,0.9s
SERM AML AML
comp=E,9485µm,0.6s
SERM AML AML
comp=N,8865µm,0.7s
CAVE Cavezzo 2.35 322 P **Pb 00 35 43.7 -1.0**
CAVE AML AML
comp=E,13550µm,0.9s
CAVE AML AML
comp=N,13250µm,1.2s
EQUI Equi 2.38 299 P **Pn 00 35 41.2 -0.3**
EQUI AML AML
comp=N,2595µm,0.8s
EQUI AML AML
comp=E,2525µm,1.0s
SGRT San Giovanni R 2.38 121 **Pn 00 35 40.6 -1.0**
SGRT San Giovanni R 2.38 121 P **Pn 00 35 42.0 +0.4**
SGRT AML AML
comp=E,20200µm,1.5s
SGRT AML AML
comp=N,11100µm,1.5s
MRB1 Monte Rocchett 2.39 142 P **Pb 00 35 43.9 -1.5**
MRB1 AML AML
comp=N,18750µm,0.8s
MRB1 AML AML
comp=N,19300µm,0.8s
MRB1 AML AML
comp=E,11830µm,0.7s
MRB1 AML AML
comp=E,11820µm,0.7s
RIY Rijeka 2.52 24 *e*Pn **Pn 00 35 43.0 -0.5**
RIY *e*Sn **Sn 00 36 15.5 +1.0**
TEOL Teolo 2.53 338 **Pn 00 35 42.3 -1.3**
PLMA Palmaria, Port 2.53 295 P **Pn 00 35 43.0 -0.5**
PLMA AML AML
comp=N,2000µm,1.6s
PLMA AML AML
comp=E,1615µm,0.8s
CAFE Carife 2.59 140 P **Pn 00 35 46.2 +1.7**
CAFE AML AML
comp=N,8560µm,1.5s
CAFE AML AML
comp=E,11600µm,1.6s
CAFE AML AML
comp=E,11700µm,1.6s
CAFE AML AML
comp=N,8745µm,1.5s
GRAM Graiana 2.60 305 P **Pn 00 35 45.2 +0.6**
GRAM AML AML
comp=N,7165µm,1.6s
GRAM AML AML
comp=E,8250µm,1.2s
SKDS Skadanscina 2.61 15 *i*Pn **Pn 00 35 43.5 -1.2**
SKDS *i*Sn **Sn 00 36 16.2 -0.6**
PRMA PARMA 2.62 312 **Pn 00 35 45.8 +1.0**
OPPE Oppeano 2.64 330 P **Pn 00 35 46.5 +1.4**
OPPE AML AML
comp=N,17100µm,0.8s
OPPE AML AML
comp=E,15800µm,1.0s
SNAL S. Angelo Dei 2.66 142 P **Pn 00 35 46.8 +1.4**
SNAL AML AML
comp=E,15350µm,1.2s
SNAL AML AML
comp=N,11850µm,1.6s
SNAL AML AML
comp=E,14450µm,1.2s
SNAL AML AML
comp=N,12400µm,1.6s
CAPA Cerignola FG 2.79 131 P **Pn 00 35 48.4 +1.2**
CAPA AML AML
comp=E,28350µm,0.9s
CAPA AML AML
comp=N,19800µm,1.5s
MSSA Maissana 2.85 298 **Pn 00 35 47.8 -0.4**
MSSA Maissana 2.85 298 P **Pn 00 35 47.8 -0.4**
MSSA AML AML
comp=E,2805µm,1.6s
MSSA AML AML
comp=N,2880µm,1.4s
CEY Cerknica 2.89 20 ⇑*i*Pn **Pn 00 35 47.6 -0.9**
MRLC Muro Lucano 2.92 140 P **Pn 00 35 50.5 +1.6**
MRLC AML AML
comp=N,4440µm,1.3s
MRLC AML AML
comp=E,4620µm,1.5s
MRLC AML AML
comp=N,4540µm,1.3s
MRLC AML AML
comp=E,4510µm,1.5s
SMPL Sampolo 2.92 253 P **Pn 00 35 48.7 -0.3**
SMPL AML AML
comp=N,508µm,1.6s
SMPL AML AML
comp=E,469µm,1.5s
ROVR Rover Verones 2.97 332 P **Pn 00 35 50.3 +0.5**
ROVR AML AML
comp=N,2125µm,0.8s
ROVR AML AML
comp=N,5435µm,0.8s
ROVR AML AML
comp=E,4955µm,0.8s

ROVR AML AML
comp=E,1915µm,0.7s
SABO M.te Sabotino 2.98 8 Pn 00 35 49.1 -0.8
SABO M.te Sabotino 2.98 8 P **Pn 00 35 49.0 -0.8**
SABO AML AML
comp=E,57900µm,1.6s
SABO AML AML
comp=N,14450µm,0.8s
SABO AML AML
comp=E,14300µm,1.3s
SABO AML AML
comp=N,57250µm,0.8s
CGRP Cima Grappa 2.98 343 P **Pn 00 35 50.2 +0.2**
CGRP AML AML
comp=E,9510µm,0.8s
CGRP AML AML
comp=N,10700µm,1.0s
CGRP AML AML
comp=E,9550µm,0.8s
CGRP AML AML
comp=N,10785µm,1.0s
PGF Pioggiola 3.01 262 *e*P **Pn 00 35 50.2 -0.1**
PGF *e*Sn **Sn 00 36 22.4 -4.2**
comp=N,659nm,0.8s
PGF Pioggiola 3.01 262 AML AML
comp=N,629µm,1.3s
PGF AML AML
comp=E,680µm,1.6s
PALZ Palazzo San Ge 3.02 133 P **Pn 00 35 50.5 +0.2**
PALZ AML AML
comp=E,16700µm,0.8s
PALZ AML AML
comp=N,29950µm,1.3s
VARN Col Varnada, M 3.04 348 P **Pn 00 35 50.1 -0.5**
VARN AML AML
comp=E,12850µm,0.9s
VARN AML AML
comp=N,10300µm,0.7s
VARN AML AML
comp=E,12750µm,0.9s
VARN AML AML
comp=N,10190µm,0.7s
CDRU Civita di Ruta 3.06 145 P **Pn 00 35 51.6 +0.7**
CDRU AML AML
comp=N,1375µm,1.3s
CDRU AML AML
comp=E,2040µm,1.2s
MRVN Minervino Murg 3.07 129 P **Pn 00 35 51.5 +0.4**
MRVN AML AML
comp=E,5150µm,1.3s
MRVN AML AML
comp=N,5625µm,0.9s
GORR Gorreto 3.13 302 P **Pn 00 35 52.4 +0.5**
SALO Salr 3.15 326 Pn 00 35 52.2 0.0
SALO Salr 3.15 326 P **Pn 00 35 53.0 +0.8**
SALO AML AML
comp=N,7190µm,1.5s
SALO AML AML
comp=E,6115µm,0.8s
SALO AML AML
comp=E,6045µm,0.9s
SALO AML AML
comp=N,7920µm,1.4s
CTI Castel Tesino 3.17 342 Pn 00 35 52.1 -0.4
CTI Castel Tesino 3.17 342 P **Pn 00 35 52.9 +0.3**
CTI AML AML
comp=E,5650µm,0.8s
CTI AML AML
comp=N,5020µm,0.7s
CTI Castel Tesino 3.17 342 P **Pn 00 35 52.2 -0.4**
SRKY Kupres RS 3.18 70⇑ *i*Pn **Pn 00 35 53.2 +0.6**
LJU Ljubljana 3.20 19 *i* Pn **Pn 00 35 52.6 -0.2**
LJU *i* Sn **Sn 00 36 31.4 +0.1**
LJU IAML 00 37 09.1
comp=Z,2µm,0.7s
CMPR Campora 3.20 147 P **Pn 00 35 54.5 +1.6**
CMPR AML AML
comp=E,2040µm,1.2s
CMPR AML AML
comp=N,1700µm,1.3s
MPRI Monte Prat 3.21 359 P **Pn 00 35 52.7 -0.3**
MPRI AML AML
comp=E,10565µm,0.9s
MPRI AML AML
comp=N,11905µm,0.6s
MPRI AML AML
comp=N,9090µm,0.6s
MPRI AML AML
comp=E,13750µm,0.9s
CADS Cadrg 3.24 9 *i* Pn **Pn 00 35 52.4 -1.0**
CADS *i* Sn **Sn 00 36 31.1 -1.1**
CADS IAML 00 36 52.9
comp=Z,2µm,0.7s
STAL STALIGIAL 3.24 356 Pn 00 35 52.8 -0.6
STAL STALIGIAL 3.24 356 P **Pn 00 35 52.8 -0.6**
STAL AML AML
comp=E,6250µm,0.6s
STAL AML AML
comp=E,7725µm,0.6s
STAL AML AML
comp=N,5130µm,0.8s
STAL AML AML
comp=N,4865µm,0.7s
MGRS Mrkonjic Grad 3.25 63⇑ *i*Pn **Pn 00 35 54.1 +0.6**
LUSI Trento, Gardas 3.29 334 P **Pn 00 35 54.5 +0.4**
LUSI AML AML
comp=E,4540µm,0.9s
LUSI AML AML
comp=N,4860µm,0.7s
PRIJ Prijedor 3.29 53 *e*Pn **Pn 00 35 54.4 +0.3**
CIMO Cimolais 3.31 353 Pn 00 35 53.5 -0.8
CIMO Cimolais 3.31 353 P **Pn 00 35 53.5 -0.8**
CIMO AML AML
comp=N,2005µm,1.4s
CIMO AML AML
comp=E,2170µm,0.9s
CIMO AML AML
comp=E,2205µm,0.9s
CIMO AML AML
comp=N,2040µm,1.4s
AGOR Agordo 3.33 348 P **Pn 00 35 54.5 -0.1**
AGOR AML AML
comp=E,3905µm,1.6s
AGOR AML AML
comp=N,3405µm,1.6s
AGOR AML AML
comp=N,2635µm,1.6s
AGOR AML AML
comp=E,3055µm,1.6s
AJAC Base Areonaval 3.34 252 P **Pn 00 35 55.2 +0.5**
AJAC AML AML
comp=N,811µm,1.2s
AJAC AML AML
comp=E,894µm,0.9s
PTCC Patocco-Chiusa 3.38 4 P **Pn 00 35 54.4 -1.0**
PTCC AML AML
comp=E,3740µm,0.7s
PTCC AML AML
comp=N,3500µm,1.4s
GAGG Gaggia 3.39 335 P **Pn 00 35 56.2 +0.6**
GAGG AML AML
comp=E,7310µm,0.9s
GAGG AML AML
comp=N,6695µm,1.1s
GAGG AML AML
comp=N,7140µm,0.9s
GAGG AML AML
comp=E,6615µm,1.1s
AMUR Altamura 3.41 127 P **Pn 00 35 55.7 +0.1**
AMUR AML AML
comp=E,5355µm,1.2s
AMUR AML AML
comp=N,4300µm,1.0s
MCEL Monticello 3.41 142 P **Pn 00 35 57.4 +1.6**
MCEL AML AML
comp=N,3025µm,1.5s
MCEL AML AML
comp=E,2870µm,1.4s
MCEL AML AML
comp=E,2895µm,1.4s
MCEL AML AML
comp=N,3090µm,1.5s
A051A Mrakovica 3.43 53⇑ *i*Pn **Pn 00 35 55.5 -0.5**
CLUD Cludinico 3.43 358 Pn 00 35 55.5 -0.4
CLUD Cludinico 3.43 358 P **Pn 00 35 55.3 -0.7**
CLUD AML AML
comp=E,7675µm,1.3s
CLUD AML AML
comp=N,5775µm,1.3s
CLUD AML AML
comp=N,5770µm,1.3s
CLUD AML AML
comp=E,7685µm,1.3s
STON Ston 3.43 91⇑ *i*Pn **Pn 00 35 54.3 -1.7**
STON Ston 3.43 91 *e*Pn **Pn 00 35 54.2 -1.8**
STON *e*Sn **Sn 00 36 36.7 -0.2**
MTSN Montesano sull 3.43 143 P **Pn 00 35 57.2 +1.1**
MTSN AML AML
comp=E,1920µm,1.3s
MTSN AML AML
comp=N,1600µm,1.0s
PRED Cave del Predi 3.43 6 Pn 00 35 55.4 -0.7
ZONE Zone 3.44 324 P **Pn 00 35 56.6 +0.5**
ZONE AML AML
comp=E,558µm,1.0s
ZONE AML AML
comp=E,2375µm,1.3s
ZONE AML AML
comp=N,2820µm,1.6s
ZONE AML AML
comp=N,3345µm,0.8s
MGR Morigerati 3.45 146 P **Pn 00 35 57.7 +1.4**
MGR AML AML
comp=E,1450µm,1.4s
MGR AML AML
comp=N,3570µm,1.0s
MGR AML AML
comp=N,1295µm,0.8s
MGR AML AML
comp=E,1465µm,1.4s
BLY Banja Luka 3.46 59⇑ *i*Pn **Pn 00 35 56.0 -0.4**
BLY Banja Luka 3.46 59 *e*Pn **Pn 00 35 56.7 +0.3**
AG11 Viggiano (PZ) 3.47 140 AML AML
comp=N,4870µm,1.6s
AG11 AML AML
comp=E,3105µm,1.0s
SARZ Sarezzano 3.50 303 P **Pn 00 35 59.6 +2.7**
ZAG Zagreb 3.51 36 AML AML
comp=N,11310µm,1.3s
ZAG AML AML
comp=E,10310µm,1.0s
MIGL Miglionico 3.52 132 P **Pn 00 35 58.4 +1.2**
MIGL AML AML
comp=E,21350µm,1.2s
MIGL AML AML
comp=N,19300µm,1.0s
MABI Malga Bissina 3.52 330 P **Pn 00 35 58.1 +0.7**
MABI AML AML
comp=N,1055µm,0.6s
MABI AML AML
comp=E,1200µm,0.6s
ZOU Zoufplan 3.53 359 P **Pn 00 35 57.0 -0.5**
ZOU AML AML
comp=N,6155µm,1.3s
ZOU AML AML
comp=N,6130µm,1.3s
ZOU AML AML
comp=E,7355µm,1.1s
ZOU AML AML
comp=E,7195µm,1.1s
ACOM Acomizza, Ital 3.54 5 P **Pn 00 35 57.2 -0.4**
ACOM AML AML
comp=E,7225µm,0.9s
ACOM AML AML
comp=E,7270µm,0.9s
ACOM AML AML
comp=N,8405µm,0.7s
ACOM AML AML
comp=N,8220µm,0.7s
SIRI Monte Sirino - 3.55 142 P **Pn 00 35 59.1 +1.4**
SIRI AML AML
comp=E,2765µm,1.4s
SIRI AML AML
comp=N,2265µm,1.1s
SIRI AML AML
comp=N,2275µm,1.1s
SIRI AML AML
comp=E,2795µm,1.3s
FVI Forni Avoltri 3.57 357 P **Pn 00 35 57.6 -0.4**
FVI AML AML
comp=E,4205µm,1.0s
FVI AML AML
comp=N,4325µm,0.6s
MYKA Terra Mystica 3.63 7 *e*Pn **Pn 00 35 58.5 -0.2**
comp=N,218nm,0.4s,SNR=187
KOSI Kohlern 3.63 342 P **Pn 00 35 59.9 +1.1**
KOSI AML AML
comp=E,5235µm,0.7s
KOSI AML AML
comp=N,6970µm,0.7s
MATE Matera 3.63 130⇓ P **Pn 00 35 59.6 +0.9**
MATE ⇑ S **Sn 00 36 42.5 +0.6**
MATE Matera 3.63 130 P **Pn 00 35 59.8 +1.1**
MATE AML AML
comp=E,6045µm,1.1s
MATE AML AML
comp=N,5130µm,1.2s
QLNO Quiliano 3.64 292 P **Pn 00 35 59.4 +0.5**
OBKA Obir 3.64 17⇑ *i*Pn **Pn 00 35 58.1 -0.9**
OBKA Obir 3.64 17 *i* Pn **Pn 00 35 58.3 -0.7**
comp=N,86nm,0.3s,SNR=42
BOSI Bolzano 3.67 341 AML AML
comp=E,17150µm,0.9s
BOSI AML AML
comp=N,16000µm,1.0s
CANO Canova, Maglio 3.67 290 P **Pn 00 35 58.8 -0.6**
CANO AML AML
comp=E,4390µm,1.2s
CANO AML AML
comp=N,1028µm,1.5s
APPI Appiano 3.68 340 AML AML
comp=N,3150µm,1.3s
APPI AML AML
comp=E,2715µm,1.3s
CUC Castrocucco 3.68 144 Pn 00 36 00.7 +1.2
CUC Castrocucco 3.68 144 P **Pn 00 36 01.4 +1.8**
CUC AML AML
comp=E,2115µm,1.0s
CUC AML AML
comp=N,1315µm,1.1s
CUC AML AML
comp=N,1080µm,1.1s
CUC AML AML
comp=E,1730µm,1.0s
LTRZ Laterza 3.73 129 AML AML
comp=E,4685µm,0.9s
LTRZ AML AML
comp=N,6420µm,1.2s
ABTA Abfaltersbach 3.74 355 *e*Pn **Pn 00 36 00.6 +0.4**
comp=N,80nm,0.3s,SNR=417
NOCI Noci 3.75 125 AML AML
comp=E,3950µm,1.2s
NOCI AML AML
comp=N,4370µm,1.2s
BRES Bressanone 3.78 346 AML AML
comp=N,4800µm,1.3s
BRES AML AML
comp=E,5085µm,1.0s
A052A Srbac 3.84 56⇑ *i*Pn **Pn 00 36 00.5 -1.1**
SOKA Soboth 3.92 21 *i* Pn **Pn 00 36 02.0 -0.8**
comp=E,60nm,0.5s,SNR=64
ORI Oriolo Calabro 3.92 138 AML AML
comp=N,4470µm,0.7s
ORI AML AML
comp=E,3185µm,0.6s
TREB Trebinje 3.92 93 *e*Pn **Pn 00 36 02.3 -0.4**
TREB Trebinje 3.92 93 *e*Pn **Pn 00 36 02.6 -0.1**
TREB *e*Sn **Sn 00 36 49.1 0.0**
MGRO Montegrosso 3.93 287 AML AML
comp=N,822µm,1.3s
MGRO AML AML
comp=E,687µm,0.8s
BRMO Bormio 3.93 332 AML AML
comp=E,1350µm,1.3s
BRMO AML AML
comp=N,1315µm,0.6s
RISI Rein 3.98 351 AML AML
comp=E,8520µm,0.5s
RISI AML AML
comp=N,8515µm,0.4s
MOSI Grossmontoni 4.00 335 AML AML
comp=N,9750µm,0.8s
MOSI AML AML
comp=E,6070µm,1.0s
BERNI Berninapass 4.00 329 AML AML
comp=E,1495µm,0.9s
BERNI AML AML
comp=N,1180µm,0.8s
SALB San Lorenzo Be 4.01 141 AML AML
comp=N,1140µm,1.6s
SALB AML AML
comp=E,1175µm,1.2s
SALB AML AML
comp=N,1014µm,0.8s
SALB AML AML
comp=E,1179µm,0.9s
DOB Doboj 4.04 63 *e*Pn **Pn 00 36 03.1 -1.2**
BRY Bratogost 4.04 90⇑ *i*Pn **Pn 00 36 04.3 -0.3**
BRY Bratogost 4.04 90⇓ *i*Pn **Pn 00 36 04.2 -0.3**
BRY *i* Sn **Sn 00 36 52.2 -0.1**
TAR1 Taranto 4.05 127 AML AML
comp=N,4115µm,1.3s
TAR1 AML AML
comp=E,5365µm,1.1s
KBA Koelnbreinsper 4.05 3 *i* Pn **Pn 00 36 05.2 +0.5**
comp=E,102nm,0.3s,SNR=39
MUGIO Muggio 4.06 317 AML AML
comp=N,1092µm,0.7s
MUGIO AML AML
comp=E,870µm,0.8s
ROSI Rosskopf 4.06 344 AML AML
comp=E,4705µm,1.0s
ROSI AML AML
comp=N,5825µm,0.8s
HCY Herceg Novi 4.07 96⇑ *i*Pn **Pn 00 36 03.8 -0.9**
HCY Herceg Novi 4.07 96⇑ *i*Pn **Pn 00 36 04.6 -0.1**
HCY *i* Sn **Sn 00 36 52.8 +0.2**
FUORN Ofenpass-Fuorn 4.09 332 Pn 00 36 06.7 +1.3
KOGS Kog 4.12 33 AML AML
comp=E,25100µm,0.9s
KOGS AML AML
comp=N,34000µm,1.0s
CET2 Cetraro 4.13 147 AML AML
comp=N,1715µm,1.6s
CET2 AML AML
comp=E,1915µm,0.9s
SBF Sospel 4.16 283 *e*P **Pn 00 36 06.0 -0.1**
SBF *e*Sn **Sn 00 36 49.3 -5.7**
comp=E,417nm,0.5s
VARE Varese 4.17 314 AML AML
comp=E,1500µm,0.9s
VARE AML AML
comp=N,1940µm,1.6s
UPM Unac-Piva 4.30 86 *e*Pn **Pn 00 36 09.2 +1.0**
UPM Unac-Piva 4.30 86⇓ *i*Pn **Pn 00 36 07.8 -0.4**
UPM *i* Sn **Sn 00 36 58.4 -0.3**
FETA Feichten 4.31 339 *e*Pn **Pn 00 36 09.3 +1.0**
comp=N,9.1nm,0.6s,SNR=236
TUE Stuetta 4.33 324 Pn 00 36 09.3 +0.8
WTTA Wattenberg 4.35 347 *e*Pn **Pn 00 36 09.7 +1.0**
comp=N,137nm,0.3s,SNR=93
WTTA Wattenberg 4.35 347 AML AML
comp=N,3695µm,1.0s
WTTA AML AML
comp=E,3660µm,1.0s
BEHE Becsehely 4.35 36 P **Pn 00 36 08.3 -0.3**
BEHE S **Sn 00 36 59.8 +0.2**
NKME Niksic 4.36 91⇓ *i*Pn **Pn 00 36 08.6 -0.2**
NKME *i* Sn **Sn 00 36 59.8 -0.1**
CEME Cevo 4.36 94⇓ *i*Pn **Pn 00 36 08.7 -0.1**
CEME *i* Sn **Sn 00 37 00.0 +0.1**
DAVOX Davos/Dischmat 4.37 330 Pn **Pn 00 36 09.4 +0.3**
comp=E,88nm,0.3s,baz=131,slow=9.7,SNR=166
DAVOX Sn **Sn 00 37 00.7 +0.4**
baz=156,slow=23
DAVOX LR LR 00 38 27.3
comp=E,2µm,19.7s,baz=142,slow=48
comp=E,243nm,0.4s
BUM Brajici-Budva 4.38 98⇓ *i*Pn **Pn 00 36 09.0 -0.1**
BUM *i* Sn **Sn 00 37 00.6 +0.1**
SQTA Sankt Quirin 4.38 344 Pn 00 36 10.5 +1.3
SQTA Sankt Quirin 4.38 344 *e*Pn **Pn 00 36 10.5 +1.3**
comp=E,252nm,0.4s,SNR=174
SQTA Sankt Quirin 4.38 344 P **Pn 00 36 10.5 +1.3**
WATA Walderalm 4.43 347 Pn 00 36 11.1 +1.3
WATA Walderalm 4.43 347 *e*Pn **Pn 00 36 11.1 +1.3**
comp=E,198nm,0.4s,SNR=173
WATA Walderalm 4.43 347 P **Pn 00 36 11.1 +1.3**
HAPS Han Pijesak,Bl 4.43 74⇑ *i*Pn **Pn 00 36 09.9 +0.1**
CAR1 CAROLEI 4.47 146 AML AML
comp=E,1144µm,1.0s
CAR1 AML AML
comp=N,963µm,1.5s
CAR1 AML AML
comp=E,1148µm,1.1s
CAR1 AML AML
comp=N,948µm,1.5s
CELI Celico 4.47 143 AML AML
comp=N,1840µm,1.1s
CELI AML AML
comp=E,794µm,1.3s
CELI AML AML
comp=N,702µm,1.1s
CELI AML AML
comp=E,1965µm,1.2s
MOTA Moosalm 4.53 343 Pn 00 36 12.2 +1.0
MOTA Moosalm 4.53 343 *e*Pn **Pn 00 36 12.2 +1.0**
comp=E,167nm,0.4s,SNR=110
MOTA Moosalm 4.53 343 P **Pn 00 36 12.2 +1.0**
PZZ Stroppo 4.53 291 AML AML
comp=E,452µm,1.0s
PZZ AML AML
comp=N,630µm,1.3s
TRAV Traversella 4.53 305 AML AML
comp=E,653µm,0.8s
TRAV AML AML
comp=N,716µm,0.8s
BHB Bricherasio 4.54 295 AML AML
comp=N,452µm,1.3s
BHB AML AML
comp=E,422µm,1.3s
ARSA Arzberg 4.57 22 *i* Pn **Pn 00 36 10.9 -0.8**
comp=E,171nm,0.5s,SNR=58
DRME Dracevica, Mon 4.62 98⇑ *i*Pn **Pn 00 36 12.6 +0.3**
DRME Dracevica, Mon 4.62 98⇓ *i*Pn **Pn 00 36 12.3 0.0**
DRME *i* Sn **Sn 00 37 06.3 +0.1**
PDG Podgorica 4.62 95⇓ P **Pn 00 36 12.9 +0.6**
PDG ⇑ S **Sn 00 37 07.2 +0.9**
PDG Podgorica 4.62 95 Pn 00 36 12.6 +0.2
PDG Podgorica 4.62 95 *e*Pn **Pn 00 36 12.6 +0.2**
PDG *e*Sn **Sn 00 37 05.9 -0.4**
PDG Podgorica 4.62 95 AML AML
comp=E,1520µm,1.1s
PDG AML AML
comp=N,2985µm,1.2s
PDG AML AML
comp=N,2325µm,1.2s
PDG AML AML
comp=E,1215µm,1.1s
TTG Podgorica 4.62 95⇓ *i*Pn **Pn 00 36 12.3 -0.1**
TTG *i* Sn **Sn 00 37 06.4 +0.1**
FUSIO Fusio 4.63 319 AML AML
comp=E,1710µm,1.4s
FUSIO AML AML
comp=N,1135µm,0.7s
PLE Pljevlja 4.66 84 *e*Pn **Pn 00 36 12.7 -0.3**
PLE *i* Sn **Sn 00 37 07.0 -0.4**
RUDO Rudo 4.66 81⇑ *i*Pn **Pn 00 36 12.5 -0.4**
CIRO Champorcher 4.69 305 AML AML
comp=N,618µm,1.5s
CIRO AML AML
comp=E,548µm,0.8s
RJOB Jochberg 4.71 358 *e*Pn **Pn 00 36 14.0 +0.4**
RJOB *e*Sn **Sn 00 37 09.7 +1.1**
BBLS Lazići 4.71 78⇑ *i*Pn **Pn 00 36 13.5 -0.2**
BBLS Lazići 4.71 78 *e*Pn **Pn 00 36 14.0 +0.3**
BBLS *e*Sn **Sn 00 37 08.1 -0.6**
ULC Ulcinj 4.72 101⇑ *i*Pn **Pn 00 36 13.7 0.0**
ULC *i* Sn **Sn 00 37 08.4 -0.3**
RETA Reutte 4.74 341 *e*Pn **Pn 00 36 15.3 +1.3**
comp=E,47nm,0.3s,SNR=80
KOVH Kovagotottos 4.74 48 P **Pn 00 36 12.5 -1.4**
KOME Kolasin 4.76 90⇑ *i*Pn **Pn 00 36 14.3 -0.1**
KOME *i* Sn **Sn 00 37 09.6 -0.3**
TIP Timpagrande 4.77 143⇓ P **Pn 00 36 15.9 +1.4**
TIP Timpagrande 4.77 143 Pn 00 36 15.8 +1.4
LMR La Mourre 4.78 276 *e*P **Pn 00 36 14.0 -0.5**
LMR *e*Sn **Sn 00 37 04.2 -6.0**

comp=E,29nm,0.4s
DAVA Damuels 4.80 333 *e*Pn **Pn 00 36 16.4 +1.4**
comp=E,60nm,0.4s,SNR=132
MBDF Montbardon 4.83 293 *e*P **Pn 00 36 15.8 +0.4**
MBDF *e*Sn **Sn 00 37 05.6 -6.1**
comp=E,227nm,0.7s
BLJ Bijeljina 4.83 67⇑ *i*Pn **Pn 00 36 13.2 -2.0**
MOA Molln 4.90 10 *e*Pn **Pn 00 36 16.1 -0.1**
MOA *e*Sn **Sn 00 37 12.9 -0.2**
MOA Molln 4.90 10 *i* Pn **Pn 00 36 16.3 +0.1**
comp=E,98nm,0.5s,SNR=146
TEKS Tekeris 4.94 70 *e*Pn **Pn 00 36 15.0 -1.8**
TEKS Tekeris 4.94 70 *e*Pn **Pn 00 36 15.4 -1.4**
SCTE Santa Cesarea 5.04 124 *e*P **Pn 00 36 18.5 +0.5**
IVA Berane 5.04 89⇓ *i*Pn **Pn 00 36 18.1 -0.1**
IVA *i* Sn **Sn 00 37 16.3 -0.4**
SJES Sjenica 5.08 85 *e*Pn **Pn 00 36 19.4 +0.6**
SJES *e*Sn **Sn 00 37 16.4 -1.5**
UBR Ueberruh 5.09 337 *e*Pn **Pn 00 36 19.9 +1.1**
PVY Plav 5.12 93⇑ *i*Pn **Pn 00 36 19.1 -0.1**
PVY *i* Sn **Sn 00 37 18.3 -0.3**
MORH Mrgy, Hungar 5.12 50⇑ P **Pn 00 36 18.3 -0.8**
MORH Mrgy, Hungar 5.12 50 P **Pn 00 36 17.7 -1.4**
LPG La Plagne 5.14 301 *e*P **Pn 00 36 21.3 +1.6**
LPG *e*Sn **Sn 00 37 12.0 -7.5**
comp=E,486nm,0.8s
LPL La Plagne 5.16 301 *e*P **Pn 00 36 21.5 +1.5**
LPL *e*Sn **Sn 00 37 13.7 -6.2**
comp=E,298nm,0.7s
DIVS Divibare 5.17 76 **Pn 00 36 19.5 -0.5**
DIVS Divibare 5.17 76⇑ *i*Pn **Pn 00 36 19.0 -1.0**
DIVS Divibare 5.17 76 *e*Pn **Pn 00 36 19.6 -0.4**
DIVS *e*Sn **Sn 00 37 18.9 -1.0**
TIH Tihany 5.18 40 P **Pn 00 36 19.9 -0.2**
RONA Rosalia, Austr 5.21 25 **Pn 00 36 19.4 -1.0**
RONA Rosalia, Austr 5.21 25 *i* Pn **Pn 00 36 19.5 -1.0**
comp=E,173nm,0.6s,SNR=99
IVAS Ivanjica 5.23 82 *e*Pn **Pn 00 36 20.2 -0.5**
IVAS *e*Sn **Sn 00 37 19.8 -1.5**
MPLH Magyarpolny 5.23 36 P **Pn 00 36 19.9 -0.8**
CEL Celeste 5.24 154 **Pn 00 36 22.1 +1.2**
SENIN Lac Senin/Sane 5.27 311 Pn **Pn 00 36 22.4 +1.0**
SOP Sopron 5.28 27 P **Pn 00 36 20.4 -0.9**
FUR Furstenfeldbru 5.28 347 *e*Pn **Pn 00 36 22.3 +0.9**
CONA Conrad Observa 5.29 21 *i* Pn **Pn 00 36 20.8 -0.8**
comp=E,76nm,0.3s,SNR=108
FRGS Fruska Gora 5.33 64⇑ P **Pn 00 36 21.0 -1.0**
FRGS Fruska Gora 5.33 64⇑ *i*Pn **Pn 00 36 20.8 -1.2**
FRGS Fruska Gora 5.33 64 *e*Pn **Pn 00 36 20.8 -1.2**
EGYH Egyhazaskeszo 5.33 33 P **Pn 00 36 21.6 -0.5**
TIR Tirane 5.35 106⇑ P **Pn 00 36 22.7 +0.4**
TIR Tirane 5.35 106 **Pn 00 36 22.4 +0.1**
TIR Tirane 5.35 106 *e*Pn **Pn 00 36 22.4 +0.1**
TIR *e*Sn **Sn 00 37 22.6 -1.6**
TIR Tirane 5.35 106⇑ P **Pn 00 36 22.7 +0.4**
CLTB Caltabellotta 5.45 178 Pn **Pn 00 36 26.0 +2.2**
VLO Vlora 5.47 116 **Pn 00 36 23.9 -0.1**
VLO Vlora 5.47 116 P **Pn 00 36 23.9 -0.1**
TRUS Trudelj 5.49 75 *e*Pn **Pn 00 36 23.6 -0.6**
TRUS *e*Sn **Sn 00 37 24.9 -2.7**
ORIF Oris-en-Rattie 5.50 293 *e*P **Pn 00 36 25.9 +1.5**
ORIF *e*Sn **Sn 00 37 21.3 -6.7**
comp=E,160nm,0.7s
SMRF Simiane la Rot 5.50 282 *e*P **Pn 00 36 25.6 +1.1**
SMRF *e*Sn **Sn 00 37 21.6 -6.5**
comp=E,144nm,0.9s
VAE Valguarnera 5.64 169 Pn Pn 00 36 31.4 +4.9
comp=E,1.4nm,0.3s,baz=27,slow=6.3,SNR=8.3
GRUS Gruza 5.66 79 *e*Pn **Pn 00 36 26.3 -0.3**
GRUS *e*Sn **Sn 00 37 30.1 -1.8**
CSKK Cskako 5.69 39 P Pn 00 36 20.2 -6.8
GEC2 GERESS Array S 5.83 4 **Pn 00 36 28.1 -1.1**
GEC2 GERESS Array S 5.83 4 *e*Pn **Pn 00 36 28.0 -1.1**
GEC2 *e*Sn **Sn 00 37 31.7 -4.7**
GERES GERESS Array B 5.83 4 Pn **Pn 00 36 26.6 -2.5**
comp=E,18nm,0.3s,baz=159,slow=12,SNR=244
GERES Sn **Sn 00 37 32.7 -3.6**
comp=E,61nm,0.3s,baz=179,slow=25,SNR=13
GERES Lg Lg 00 38 05.5
baz=198,slow=28
comp=E,37nm,0.5s
CKRC Cesky Krumlov 5.86 8 *e*PN **Pn 00 36 27.9 -1.5**
CKRC *e*SN **Sn 00 37 32.8 -4.0**
ZST Bratislava 5.90 28 *e*PN **Pn 00 36 28.9 -1.0**
ZST *e*SN **Sn 00 37 34.1 -3.7**
ZST *e*LG Lg 00 38 32.5
ZST Bratislava 5.90 28 *e*P **Pn 00 36 28.9 -1.0**
ZST *e* 00 37 34.1
SELS Selova 5.92 85 *e*Pn **Pn 00 36 29.7 -0.5**
SELS *e*Sn **Sn 00 37 36.7 -1.7**
SRO Srobarova 6.06 36 *e*PN **Pn 00 36 31.4 -0.6**
SRO *e*PG **Pg 00 36 58.7 +0.7**
SRO *e*SN **Sn 00 37 31.7 -4.5**
SRO *e*LG Lg 00 38 47.4
SRO Srobarova 6.06 36 *e*P **Pn 00 36 31.4 -0.6**
SRO *e* 00 37 37.2
SRO MLR MLR
comp=Z,600nm,1.2s
KEK Kerkira 6.07 121 **Pn 00 36 32.9 +0.6**
OHR Ohrid 6.09 106 *i* Pn **Pn 00 36 33.5 +0.9**
OHR *i* Sn **Sn 00 37 40.5 -2.1**
CABF La Chapelle 6.10 308 *e*P **Pn 00 36 34.2 +1.5**
CABF *e*Sn **Sn 00 37 35.7 -7.1**
comp=Z,813nm,1.2s
KHC Kasperske Hory 6.11 3 **Pn 00 36 31.8 -1.1**
KHC Kasperske Hory 6.11 3 *e*PN **Pn 00 36 31.9 -1.0**
KHC *e*SN **Sn 00 37 38.0 -5.1**
KHC AMS AMS 00 39 00.0
comp=Z,5μm,11.3s
KHC Kasperske Hory 6.11 3 *i* P **Pn 00 36 31.7 -1.1**
KHC pmax pmax
comp=Z,225nm,0.9s
MODS Modra-Piesok 6.12 28 *e*PN **Pn 00 36 31.6 -1.3**
MODS *e*PG **Pg 00 36 59.4 +0.3**
MODS *e*SN **Sn 00 37 40.8 -2.3**
MODS *e*LG Lg 00 38 45.7
MODS Modra-Piesok 6.12 28 *e*P **Pn 00 36 31.6 -1.3**
MODS *e* 00 37 40.8
MODS MLR MLR
comp=Z,2μm,1.5s
WET Wettzell 6.12 359 *e*Pn **Pn 00 36 31.5 -1.4**
WET *e*Sn **Sn 00 37 35.6 -7.5**
BUD Budapest 6.14 41 P **Pn 00 36 34.8 +1.6**
BFO Black Forest 6.24 330 **Pn 00 36 34.7 +0.1**
BFO Black Forest 6.24 330 *e*Pn **Pn 00 36 34.3 -0.3**
BFO *e*Sn **Sn 00 37 40.8 -5.4**
BFO Black Forest 6.24 330 P **Pn 00 36 35.8 +1.2**
BFO Black Forest 6.24 330 P **Pn 00 36 34.7 +0.1**
BANR Banloc 6.28 65⇑ P **Pn 00 36 35.7 +0.6**
SMOL Smolenice 6.29 28 *e*P **Pn 00 36 33.9 -1.3**
SMOL *e* 00 37 48.9
SMOL MLR MLR
comp=Z,200nm,1.2s
SKO Skopje 6.30 97 *i* Pn **Pn 00 36 35.9 +0.4**
VIVF Saint-Julien-l 6.30 290 *e*P **Pn 00 36 36.5 +1.0**
VIVF *e*Sn **Sn 00 37 40.1 -7.7**
comp=Z,69nm,0.8s
STU Stuttgart 6.33 336 Pn **Pn 00 36 36.5 +0.6**
STU Stuttgart 6.33 336 P **Pn 00 36 36.5 +0.6**
BOVS Bovan 6.36 82⇓ P **Pn 00 36 36.6 +0.4**
BOVS Bovan 6.36 82 *e*Pn **Pn 00 36 35.1 -1.1**
BOVS *e*Sn **Sn 00 37 46.3 -2.7**
AMBH Ambrzfalva 6.41 56⇑ P **Pn 00 36 38.7 +1.8**
KUBS Kucevo 6.41 75 *e*Pn **Pn 00 36 35.5 -1.5**
BARS Barje 6.45 89 *e*Pn **Pn 00 36 37.3 -0.2**
TIM Timisoara 6.46 62⇓ P **Pn 00 36 39.3 +1.7**
TIM Timisoara 6.46 62⇓ P **Pn 00 36 39.3 +1.7**
HINF Hinteralfeld 6.46 320 *e*P **Pn 00 36 37.9 +0.2**
HINF *e*Sn **Sn 00 37 44.3 -7.5**
comp=Z,773nm,0.8s
KRUC Moravsky 6.47 20 *e*PN **Pn 00 36 35.9 -1.8**
KRUC *e*SN **Sn 00 37 48.0 -3.8**
TREC Trest 6.49 14 *e*PN **Pn 00 36 36.2 -1.9**
TREC *e*SN **Sn 00 37 48.3 -4.1**
TREC AMS AMS 00 39 20.0
comp=Z,6μm,13.9s
TREC Trest 6.49 14 *e*P **Pn 00 36 36.2 -1.9**
TREC *e* 00 37 48.3
TREC MLR MLR
comp=Z,6μm,13.9s
SSB Saint Sauveur 6.51 293 **Pn 00 36 38.8 +0.5**
SSB Saint Sauveur 6.51 293 P **Pn 00 36 38.8 +0.5**

MDVR Moldovita 6.51 71⇓ P **Pn 00 36 37.6 -0.7**
FNA Florina 6.62 107 **Pn 00 36 39.9 +0.1**
FNA Florina 6.62 107 P **Pn 00 36 39.9 +0.1**
ECH Echery 6.62 324 **Pn 00 36 39.8 0.0**
ECH Echery 6.62 324 P **Pn 00 36 39.8 0.0**
BSZH Besenyszg 6.66 48⇑ P **Pn 00 36 42.4 +2.1**
JAVC Velka Javorina 6.67 27 *e*PN **Pn 00 36 39.9 -0.6**
BZS Buzias 6.68 64⇓ P **Pn 00 36 41.3 +0.7**
BZS Buzias 6.68 64⇓ P **Pn 00 36 41.3 +0.7**
CDF Champ du Feu 6.72 325 *e*P **Pn 00 36 41.4 +0.1**
CDF *e*Sn **Sn 00 37 50.4 -7.7**
comp=Z,474nm,0.8s
ZAGS Zajecar 6.75 80 *e*Pn **Pn 00 36 40.6 -0.9**
LASF Ste Croix 6.75 282 *e*P **Pn 00 36 41.4 -0.2**
LASF *e*Sn **Sn 00 37 51.0 -7.7**
comp=Z,139nm,1.2s
VRAC Vranov 6.75 20⇑ P **Pn 00 36 41.2 -0.3**
VRAC Vranov 6.75 20 Pn **Pn 00 36 40.2 -1.3**
comp=Z,4.1nm,0.3s,baz=201,slow=13,SNR=22
VRAC Sn **Sn 00 37 50.5 -8.2**
comp=Z,7.2nm,0.3s,baz=302,slow=23,SNR=7.6
VRAC Lg Lg 00 38 34.9
comp=Z,2.1nm,0.3s,baz=130,slow=23,SNR=1.2
VRAC LR LR 00 40 06.3
comp=Z,1μm,18.4s,baz=211,slow=46
comp=Z,12nm,0.3s
VRAC Vranov 6.75 20 *e*PN **Pn 00 36 39.8 -1.8**
VRAC *e*SN **Sn 00 37 54.7 -4.0**
VRAC Vranov 6.75 20⇑ P **Pn 00 36 41.2 -0.3**
ROTZ Rotzenmuhle 6.76 355 *e*Pn **Pn 00 36 39.9 -1.9**
ROTZ *e*Sn **Sn 00 37 53.0 -6.0**
GRA1 Grafenberg Arr 6.78 350 **Pn 00 36 41.5 -0.4**
GRF Grafenberg Arr 6.78 350 *e*Pn **Pn 00 36 42.0 0.0**
GRF Grafenberg Arr 6.78 350 P **Pn 00 36 41.6 -0.4**
GRFO Grafenberg 6.78 350 **Pn 00 36 41.7 -0.3**
GRFO Grafenberg 6.78 350 P **Pn 00 36 41.7 -0.3**
VYHS Vyhne 6.81 35 *e*PN **Pn 00 36 40.8 -1.5**
VYHS *e*PG **Pg 00 37 09.7 -2.6**
VYHS *e*SN **Sn 00 37 56.1 -4.0**
VYHS *e*LG Lg 00 39 33.8
VYHS Vyhne 6.81 35 *e*P **Pn 00 36 40.8 -1.5**
VYHS *e* 00 37 56.1
VYHS MLR MLR
comp=Z,700nm,2.1s
HAU Haudompre 6.84 319 *e*P **Pn 00 36 42.9 +0.1**
HAU *e*Sn **Sn 00 37 53.3 -7.6**
comp=Z,866nm,0.7s
PSZ Piszkesteto 6.87 42⇓ P **Pn 00 36 44.5 +1.3**
PSZ Piszkesteto 6.87 42 Pn **Pn 00 36 43.2 -0.1**
PSZ Piszkesteto 6.87 42 P **Pn 00 36 44.8 +1.6**
PSZ Piszkesteto 6.87 42⇓ P **Pn 00 36 44.5 +1.3**
SIRR Siria 6.95 59⇑ P **Pn 00 36 46.1 +1.7**
MANZ Manzenberg 6.99 355 *e*Pn **Pn 00 36 43.5 -1.3**
MANZ *e*Sn **Sn 00 37 59.0 -5.6**
GOPC GO Pecny, Ondr 6.99 9 *e*PN **Pn 00 36 42.8 -2.1**
GOPC *e*SN **Sn 00 38 00.2 -4.5**
GOPC AMS AMS 00 39 30.0
comp=Z,5μm,8.7s
GOPC GO Pecny, Ondr 6.99 9 *e*P **Pn 00 36 42.8 -2.1**
GOPC *e* 00 38 00.2
GOPC MLR MLR
comp=Z,5μm,8.7s
HERR Herculane 7.02 72⇓ P **Pn 00 36 46.2 +0.9**
ZAPS Zavoj 7.03 85 *e*Pn **Pn 00 36 45.1 -0.3**
ZAPS *e*Sn **Sn 00 38 02.9 -2.7**
PRU Pruhonice 7.04 8 *e*PN **Pn 00 36 43.6 -1.9**
PRU *e*SN **Sn 00 38 01.0 -4.8**
PRU AMS AMS 00 39 30.0
comp=Z,4μm,14.0s
PRU Pruhonice 7.04 8 *e*P **Pn 00 36 43.6 -1.9**
PRU *e* 00 38 01.0
PRU MLR MLR
comp=Z,4μm,14.0s
BLKB Belogradchik 7.06 82⇑ P **Pn 00 36 45.9 0.0**
MAUC Maruska 7.16 26 *e*PN **Pn 00 36 46.4 -0.8**
MAUC AMS AMS 00 40 10.0
comp=Z,7μm,13.2s
NKC Novy Kostel 7.22 357 *e*PN **Pn 00 36 46.0 -2.0**
NKC *e*SN **Sn 00 38 04.1 -6.1**
NKC AMS AMS 00 39 50.0
comp=Z,4μm,12.4s
NKC Novy Kostel 7.22 357 *e*P **Pn 00 36 46.0 -2.0**
NKC *e* 00 38 04.1
NKC MLR MLR
comp=Z,4μm,12.4s
WERN Wernitzgruen 7.27 357 *e*Pn **Pn 00 36 47.7 -1.1**
MAHO Mahon 7.29 248 **Pn 00 36 48.8 -0.2**
VAY Valandovo 7.29 100 *i* Pn **Pn 00 36 48.4 -0.5**
VAY *i* Sn **Sn 00 38 07.5 -4.5**
GUNZ Gunzen 7.35 356 *e*Pn **Pn 00 36 47.8 -2.0**
GUNZ *e*Sn **Sn 00 38 09.7 -3.4**
GZR Gura Zlata 7.39 68 P **Pn 00 36 50.0 -0.4**
TANN Tannenbergstha 7.40 357 *e*Pn **Pn 00 36 49.3 -1.2**
BORR Bors 7.41 54⇓ P **Pn 00 36 47.9 -2.7**
MORC Moravsky Berou 7.43 23⇑ P **Pn 00 36 50.6 -0.4**
MORC Moravsky Berou 7.43 23 **Pn 00 36 49.6 -1.3**
MORC Moravsky Berou 7.43 23 *e*PN **Pn 00 36 49.4 -1.6**
MORC Moravsky Berou 7.43 23⇑ P **Pn 00 36 50.6 -0.4**
WERD Werda 7.44 356 *e*Pn **Pn 00 36 49.9 -1.1**
SMF Signal de Mont 7.46 302 *e*P **Pn 00 36 51.7 +0.3**
SMF *e*Sn **Sn 00 38 08.3 -8.0**
comp=Z,225nm,0.7s
PLN Plauen 7.48 356 *e*Pn **Pn 00 36 51.3 -0.3**
KRLC Kraliky 7.51 19 *e*PN **Pn 00 36 50.9 -1.1**
KRLC AMS AMS 00 39 50.0
comp=Z,4μm,11.7s
KRLC Kraliky 7.51 19 *e*P **Pn 00 36 50.9 -1.1**
KRLC MLR MLR
comp=Z,4μm,11.7s
VTS Vitosha 7.51 90⇓ P **Pn 00 36 53.5 +1.3**
VTS Vitosha 7.51 90 **Pn 00 36 52.0 -0.3**
VTS Vitosha 7.51 90⇓ P **Pn 00 36 53.5 +1.3**
PAGF Fort de Pagny 7.52 320 *e*P **Pn 00 36 53.1 +1.0**
PAGF *e*Sn **Sn 00 38 09.8 -7.9**
comp=Z,563nm,0.9s
SRE Strehaia 7.53 74⇓ P **Pn 00 36 53.9 +1.6**
SRE Strehaia 7.53 74⇓ P **Pn 00 36 53.9 +1.6**
KECS Kecovo 7.54 41 *e*PN **Pn 00 36 54.5 +2.1**
KECS *e*PG **Pg 00 36 26.0 -0.4**
KECS *e*SN **Sn 00 38 10.6 -7.6**
KECS *e*LG Lg 00 39 42.9
KECS Kecovo 7.54 41 *e*P **Pn 00 36 54.5 +2.1**
KECS *e* 00 38 10.6
BAIL Bailesti 7.56 79⇑ P **Pn 00 36 54.2 +1.5**
PVCC Panska Ves 7.58 7 *e*PN **Pn 00 36 50.9 -2.0**
PVCC AMS AMS 00 39 50.0
comp=Z,3μm,14.5s
PVCC Panska Ves 7.58 7 *e*P **Pn 00 36 50.9 -2.0**
PVCC MLR MLR
comp=Z,3μm,14.5s
DEV Deva 7.62 65⇓ P **Pn 00 36 55.0 +1.5**
DEV Deva 7.62 65⇓ P **Pn 00 36 55.0 +1.5**
SFTF Sexfontaines 7.62 315 *e*P **Pn 00 36 53.7 +0.1**
SFTF *e*Sn **Sn 00 38 12.7 -7.6**
comp=Z,196nm,0.8s
LTVH Ltavrtes, Hu 7.63 52⇑ P **Pn 00 36 55.4 +1.8**
LTVH Ltavrtes, Hu 7.63 52 P **Pn 00 36 56.4 +2.9**
DPC Dobruska-Polom 7.66 16 *e*PN **Pn 00 36 51.4 -2.7**
DPC AMS AMS 00 39 50.0
comp=Z,4μm,11.9s
DPC Dobruska-Polom 7.66 16 *e*P **Pn 00 36 51.4 -2.7**
DPC MLR MLR
comp=Z,4μm,11.9s
OKC Ostrava-Krasne 7.67 26 *e*PN **Pn 00 36 52.5 -1.7**
OKC *e*SN **Sn 00 38 16.2 -5.1**
OKC AMS AMS 00 40 00.0
comp=Z,3μm,14.3s
OKC Ostrava-Krasne 7.67 26 *e*P **Pn 00 36 52.5 -1.7**
OKC *e* 00 38 16.2
OKC MLR MLR
comp=Z,3μm,14.3s
MOX Moxa 7.68 353 *e*Pn **Pn 00 36 51.8 -2.6**
MOX *e*Sn **Sn 00 38 17.1 -4.5**
LOR Lormes 7.74 306 *e*P **Pn 00 36 56.0 +0.8**
baz=124
LOR *e*Sn **Sn 00 38 15.1 -8.1**
comp=Z,144nm,0.6s
UPC Upice 7.75 14 *e*PN **Pn 00 36 53.1 -2.2**
UPC AMS AMS 00 40 00.0
comp=Z,5μm,12.2s
UPC Upice 7.75 14 *e*P **Pn 00 36 53.1 -2.2**
UPC MLR MLR
comp=Z,5μm,12.2s

ABAH Abaujker 7.79 45 P **Pn 00 36 55.9 0.0**
MEZF Maizieres J'vi 7.81 317 *e*P **Pn 00 36 56.8 +0.7**
MEZF *e*Sn **Sn 00 38 17.1 -7.7**
comp=Z,371nm,1.0s
KEST Kesra 7.83 203 Pn **Pn 00 36 60.0 +3.5**
comp=Z,12nm,0.3s,baz=336,slow=3.8,SNR=255
KEST Sn **Sn 00 38 26.2 +0.8**
baz=343,slow=17
KEST LR LR 00 40 08.0
comp=Z,3μm,18.4s,baz=350,slow=39
AVF Avril sur Loir 7.83 302 *e*P **Pn 00 36 56.8 +0.4**
AVF *e*Sn **Sn 00 38 17.0 -8.3**
comp=Z,80nm,0.7s
DRGR 7.83 58⇑ P **Pn 00 36 58.2 +1.7**
DRGR 7.83 58⇑ P **Pn 00 36 58.2 +1.7**
OSTC Ostas 7.84 15 *e*PN **Pn 00 36 54.5 -2.0**
OSTC AMS AMS 00 40 00.0
comp=Z,5μm,13.6s
CHVC Chvalec 7.84 14 *e*PN **Pn 00 36 54.4 -2.1**
CHVC AMS AMS 00 39 50.0
comp=Z,5μm,13.5s
SAVF Savonnieres en 7.85 318 *e*P **Pn 00 36 57.8 +1.1**
SAVF *e*Sn **Sn 00 38 17.6 -8.2**
comp=Z,175nm,0.7s
SSF Saint Saulge 7.86 304 *e*P **Pn 00 36 57.0 +0.2**
SSF *e*Sn **Sn 00 38 17.5 -8.4**
comp=Z,65nm,0.6s
BRG Berggiesshubel 7.87 4 *i* P **Pn 00 36 55.9 -1.0**
BRG Amp 00 36 59.7
comp=Z,19nm,0.5s
BRG *ex* x 00 37 32.0
BRG *ex* x 00 38 20.3
BRG *ex* x 00 39 17.2
BRG Amp 00 39 42.4
comp=Z,334nm,1.1s
BRG Amp 00 40 24.0
comp=Z,3.9nm,12.3s
BRG Amp 00 40 27.0
comp=N,2.2nm,10.8s
BRG Amp 00 40 32.0
comp=E,1.4nm,7.6s
BRG Berggiesshubel 7.87 4 *e*Pn **Pn 00 36 55.6 -1.3**
BRG Berggiesshubel 7.87 4 *i* P **Pn 00 36 55.9 -1.0**
BRG *e* 00 38 20.3
BRG pmax pmax
comp=Z,19nm,0.5s
BRG MLR MLR
comp=Z,4μm,12.3s
BRG MLR MLR
comp=N,2μm,10.8s
BRG MLR MLR
comp=E,1μm,7.6s
FBE Freiberg 7.90 1 *e*Pn **Pn 00 36 56.0 -1.3**
FBE *e*Sn **Sn 00 38 20.4 -6.5**
MTLF Montolieu 7.91 276 *e*P **Pn 00 36 57.6 +0.1**
MTLF *e*Sn **Sn 00 38 18.9 -8.4**
comp=E,73nm,1.0s
NAST IGS Nastaetten 8.00 335 *e*Pn **Pn 00 37 00.8 +2.1**
BGF Bois d'Agland 8.06 299 *e*P **Pn 00 37 00.7 +1.2**
BGF *e*Sn **Sn 00 38 22.5 -8.4**
comp=E,120nm,0.6s
LOT Lotru 8.08 69⇑ P **Pn 00 37 00.4 +0.5**
KSP Ksiaz 8.13 15 *e*P **Pn 00 36 59.7 -0.8**
CAF Calviac 8.13 287 *e*P **Pn 00 37 02.3 +1.7**
CAF *e*Sn **Sn 00 38 24.3 -8.5**
comp=E,35nm,0.9s
MESR Meseseni 8.14 56⇑ P **Pn 00 37 02.3 +1.7**
WLF Walferdange 8.16 327 Pn **Pn 00 37 02.2 +1.3**
WLF Walferdange 8.16 327 P **Pn 00 37 02.2 +1.3**
BGG Burgeitz 8.18 333 *e*Pn **Pn 00 37 03.1 +2.0**
KOE Koeppel 8.24 336 *e*Pn **Pn 00 37 03.8 +1.7**
CLL Collm 8.28 360 **Pn 00 37 01.5 -1.1**
CLL Collm 8.28 360 *e*Pn **Pn 00 37 02.0 -0.6**
CLL *ex* x 00 37 06.0
CLL *e*Pg **Pg 00 37 36.0 -4.5**
CLL *e*(Sn) **Sn 00 38 32.0 -4.3**
CLL *ex* x 00 38 39.0
CLL *ex* x 00 38 46.0
CLL *ex* x 00 38 59.0
CLL *ex* x 00 39 02.0
CLL *e*Sg **Sg 00 39 26.0 -1.7**
comp=Z,447nm,1.2s
CLL Lmax 00 40 00.0
CLL Collm 8.28 360 *e*Pn **Pn 00 37 01.3 -1.2**
CLL Collm 8.28 360 *e*P **Pn 00 37 02.0 -0.6**
CLL *e* 00 38 32.0
CRVS Cervenica-Dubn 8.30 42 *e*PN **Pn 00 37 04.6 +1.7**
CRVS *e*PG **Pg 00 37 38.9 -2.0**
CRVS *e*SN Sn 00 38 25.1 -12
CRVS *e*LG Lg 00 40 09.3
CRVS Cervenica-Dubn 8.30 42 *e*P **Pn 00 37 04.6 +1.7**
CRVS MLR MLR
comp=Z,800nm,2.5s
VLAD Vladila 8.32 79⇑ P **Pn 00 37 04.1 +0.9**
CBBR Cluj-Babes-Bol 8.35 60⇑ P **Pn 00 37 04.5 +1.0**
CJR Cluj-Napoca 8.36 60⇓ P **Pn 00 37 05.1 +1.4**
CJR Cluj-Napoca 8.36 60⇓ P **Pn 00 37 05.1 +1.4**
TCF Toulx Ste Croi 8.37 297 *e*P **Pn 00 37 05.2 +1.3**
TCF *e*Sn **Sn 00 38 29.8 -8.9**
comp=Z,39nm,0.8s
TRPA Tarpa 8.39 49⇓ P **Pn 00 37 05.8 +1.7**
TRPA Tarpa 8.39 49 P **Pn 00 37 06.4 +2.3**
HILG Hillesheim 8.47 331 *e*Pn **Pn 00 37 06.9 +1.7**
PLVB Pleven 8.47 84⇑ P **Pn 00 37 06.2 +0.9**
HYF Humbligny 8.48 304 *e*P **Pn 00 37 06.4 +1.1**
HYF *e*Sn **Sn 00 38 32.6 -8.6**
UZH Uzhgorod 8.55 46 *e*P **Pn 00 37 08.2 +1.9**
UZH *e*S **Sn 00 38 46.2 +3.2**
UZH MLR MLR
comp=N,500nm,9.0s
UZH MLR MLR
comp=E,350nm,9.0s
UZH MLR MLR
comp=Z,500nm,9.0s
STHS Stebnicka Huta 8.55 39 *e*PN **Pn 00 37 07.6 +1.3**
STHS Stebnicka Huta 8.55 39 *e*P **Pn 00 37 07.6 +1.3**
OJC Ojcow 8.56 31 *e*P **Pn 00 37 07.1 +0.7**
OJC Ojcow 8.56 31 **Pn 00 37 06.2 -0.2**
OJC Ojcow 8.56 31 P **Pn 00 37 06.2 -0.2**
RJF Les Rejaudoux 8.59 289 *e*P **Pn 00 37 08.9 +2.2**
RJF *e*Sn Sn 00 38 34.8 -9.1
comp=Z,31nm,1.0s
ARR Arges 8.66 70⇑ P **Pn 00 37 09.2 +1.4**
STB Steinbach 8.67 333 *e*Pn **Pn 00 37 09.3 +1.4**
STB *e*Sn **Sn 00 38 43.5 -2.5**
comp=Z,26nm,0.7s
BMR Baia Mare 8.71 54⇑ P **Pn 00 37 10.0 +1.6**
BMR Baia Mare 8.71 54⇑ P **Pn 00 37 10.0 +1.6**
KOLS Kolonicke sedl 8.73 44 *e*PN **Pn 00 37 11.8 +3.1**
KOLS *e*PG **Pg 00 37 52.3 +3.3**
KOLS Kolonicke sedl 8.73 44 *e*P **Pn 00 37 11.8 +3.1**
KASTN Kahler Asten 8.76 341 *e*Pn **Pn 00 37 09.0 -0.1**
BHOU Houvegnez 8.77 329 *dx* **Pn 00 37 11.9 +2.7**
BHOU *dS* **Sn 00 38 49.0 +0.6**
HUMR Humele 8.78 76⇑ P **Pn 00 37 09.6 +0.3**
HOBG Hohbusch 8.86 336 *e*Pn **Pn 00 37 12.1 +1.7**
KLL Kalltalsperre 8.90 331 *e*Pn **Pn 00 37 12.5 +1.5**
BTNL Ternell 8.91 330 *dx* **Pn 00 37 13.6 +2.3**
COPA Copaceanca 8.92 79⇓ P **Pn 00 37 12.6 +1.3**
RCHB Rochefort 8.92 326 *dx* **Pn 00 37 12.6 +1.3**
RCHB *dx* x 00 37 17.2
MTUR Matau 8.93 72⇑ P **Pn 00 37 12.7 +1.2**
MTUR Matau 8.93 72⇑ P **Pn 00 37 12.7 +1.2**
DREG Dreilaegerbach 8.94 331 *e*Pn **Pn 00 37 13.1 +1.5**
VOIR 8.96 70⇑ P **Pn 00 37 13.6 +1.6**
VOIR 8.96 70⇑ P **Pn 00 37 13.6 +1.6**
ITM Ithomi 8.97 128 Pn **Pn 00 37 13.4 +1.3**
MEM Membach 8.98 330 *dx* **Pn 00 37 14.5 +2.4**
ARCR ARCALIA 8.98 59⇓ P **Pn 00 37 13.9 +1.8**
SET Setif 9.01 223 P Pn 00 37 19.0 +6.3
GIVF Givet 9.05 324 *e*P **Pn 00 37 15.6 +2.5**
GIVF *e*Sn Sn 00 38 46.2 -9.1
comp=Z,226nm,0.9s
CLF Chambon-Foret 9.06 307 Pn **Pn 00 37 12.9 -0.3**
LFF La Frestale 9.07 286 *e*P **Pn 00 37 14.8 +1.5**
LFF *e*Sn Sn 00 38 46.4 -9.3
comp=Z,19nm,0.7s
BCLA Clavier 9.10 327 *dx* **Pn 00 37 15.8 +2.1**
BCLA *d*PP **PnPn 00 37 21.6 +0.4**
BCLA *dS* **Sn 00 38 54.0 -2.4**
BSTI Sart Tilman 9.12 329 *dx* **Pn 00 37 16.4 +2.4**
DOU Dourbes 9.14 324 *dx* **Pn 00 37 16.3 +1.9**
DOU *dS* **Sn 00 38 56.7 -0.9**

DOU dpS 00 39 00.2
DOU dsS 00 39 09.3
BGES Gesves 9.15 326 dx **Pn 00 37 16.4 +1.9**
BGES dx x 00 37 27.5
BGES dS **Sn 00 38 55.7 -2.1**
BMRD Maredsous 9.22 325 dx **Pn 00 37 17.1 +1.7**
BMRD dS **Sn 00 38 59.2 -0.3**
BEBN Eben Emael 9.25 330 dx **Pn 00 37 17.0 +1.2**
BAIF Baives 9.29 322 eP **Pn 00 37 18.3 +1.9**
BAIF eSn Sn 00 38 51.8 -9.3
comp=Z,93nm,0.8s
EPF Esparros 9.30 274 eP **Pn 00 37 19.5 +2.9**
EPF eSn Sn 00 38 52.0 -9.5
comp=Z,17nm,0.8s
DOPR Dopca 9.31 67 ⇓P **Pn 00 37 18.3 +1.7**
SGRR Singureni 9.46 78 ⇑P **Pn 00 37 19.4 +0.6**
RDO Rodhopi 9.49 97 **Pn 00 37 18.9 -0.2**
SNF Seneffe 9.59 324 dx **Pn 00 37 22.4 +2.0**
MLR Muntele Rosu 9.59 71 ⇑P **Pn 00 37 21.5 +0.9**
MLR Muntele Rosu 9.59 71 Pn **Pn 00 37 21.2 +0.6**
comp=Z,1.7nm,0.3s,baz=244,slow=5.0,SNR=43
MLR Lg Lg 00 39 57.6
comp=Z,0.2nm,0.3s,baz=307,slow=20,SNR=1.4
MLR LR LR 00 41 55.4
comp=Z,3μm,19.1s,baz=264,slow=43
comp=Z,38nm,0.8s
MLR Muntele Rosu 9.59 71 **Pn 00 37 21.9 +1.3**
MLR Muntele Rosu 9.59 71 ⇑P **Pn 00 37 21.5 +0.9**
OZUR 9.61 67 ⇑P **Pn 00 37 21.6 +0.8**
SULR 9.70 76 ⇓P **Pn 00 37 22.4 +0.5**
BURAR Bucovina Array 9.73 58 ⇑P **Pn 00 37 24.3 +1.8**
BURAR Bucovina Array 9.73 58 Pn **Pn 00 37 23.4 +0.9**
BURAR Bucovina Array 9.73 58 ⇑P **Pn 00 37 24.3 +1.8**
BUR08 Bucovina Ar. S 9.73 58 Pn **Pn 00 37 23.5 +1.0**
NEHR Nehoiu 9.82 71 ⇑P **Pn 00 37 25.4 +1.7**
COVR Voineasa-Covas 9.83 69 ⇓P **Pn 00 37 25.3 +1.4**
RAZG Razgrad 9.84 82 ⇑P **Pn 00 37 24.5 +0.5**
ISR Istrita 9.95 73 ⇑P **Pn 00 37 27.0 +1.5**
ISR Istrita 9.95 73 ⇑P **Pn 00 37 27.0 +1.5**
ETSF Etsaut 9.97 274 eP **Pn 00 37 28.6 +2.8**
ETSF eSn Sn 00 39 08.2 -10
comp=Z,8.7nm,0.7s
MFF Saint Martin d 10.02 295 eP **Pn 00 37 28.3 +1.9**
MFF eSn Sn 00 39 09.3 -10
comp=Z,18nm,0.7s
LEHL Lehliu 10.08 77 ⇑P **Pn 00 37 27.9 +0.7**
PLOR Plostina 10.14 69 ⇑P **Pn 00 37 28.4 +0.3**
PLOR Plostina 10.14 69 ⇑P **Pn 00 37 28.4 +0.3**
LVV L'vov 10.18 44 eP **Pn 00 37 30.2 +1.6**
LVV MLR MLR
comp=E,4μm,8.7s
LVV MLR MLR
comp=N,3μm,8.8s
LVV MLR MLR
comp=Z,4μm,8.5s
VRI Vrincioaia 10.20 69 ⇓P **Pn 00 37 29.6 +0.7**
VRI Vrincioaia 10.20 69 ⇓P **Pn 00 37 29.6 +0.7**
TESR Tescani 10.29 66 ⇓P **Pn 00 37 31.3 +1.2**
RASA Rasa 10.31 79 ⇓P **Pn 00 37 27.3 -3.0**
SJPF Ste Jean 10.44 275 eP **Pn 00 37 33.9 +1.8**
SJPF eSn Sn 00 39 19.3 -10
comp=Z,17nm,1.0s
PANC Panciu 10.49 69 ⇑P **Pn 00 37 28.5 -4.3**
GHRR 10.70 69 ⇓P **Pn 00 37 36.9 +1.2**
LDF La Druitiere 10.73 306 eP **Pn 00 37 37.4 +1.3**
LDF eSn Sn 00 39 26.4 -10
comp=Z,34nm,0.7s
ICOR Ion Corvin 10.78 79 ⇑P **Pn 00 37 36.6 -0.2**
HARR Harsova 10.89 76 ⇑P **Pn 00 37 39.0 +0.7**
HARR Harsova 10.89 76 ⇑P **Pn 00 37 39.0 +0.7**
TLBR Topalu 10.96 77 ⇑P **Pn 00 37 40.8 +1.5**
FLN La Foliniere 11.02 306 eP **Pn 00 37 41.9 +1.9**
FLN eSn Sn 00 39 33.0 -11
comp=Z,34nm,0.7s
SCTR Scanteiesti 11.04 71 ⇑P **Pn 00 37 41.5 +1.2**
VASR Vaslui 11.09 66 ⇓P **Pn 00 37 42.1 +1.1**
GRR Gorron 11.09 304 eP **Pn 00 37 42.1 +1.1**
GRR eSn Sn 00 39 34.5 -11
comp=Z,76nm,1.1s
VLDR Vladesti 11.12 70 ⇑P **Pn 00 37 42.8 +1.3**
TIRR Tirgusor 11.22 77 Pn **Pn 00 37 41.5 -1.3**
TIRR Tirgusor 11.22 77 P **Pn 00 37 41.5 -1.3**
TPGR Topolog 11.25 75 ⇑P **Pn 00 37 43.3 +0.1**
APE Apeiranthos 11.27 118 ⇑P **Pn 00 37 43.7 +0.1**
APE Apeiranthos 11.27 118 ⇑P **Pn 00 37 43.7 +0.1**
SANT Santorini 11.65 121 ⇑P **Pn 00 37 49.4 +0.6**
SANT Santorini 11.65 121 **Pn 00 37 47.7 -1.1**
MILM Milestii Mici 11.83 65 ⇑*i*P **Pn 00 37 51.0 -0.2**
comp=Z,100nm,1.7s
MILM eS **Sn 00 40 04.0 +0.6**
MILM eL L 00 42 34.0
MILM LRM MLR 00 43 21.0
comp=Z,2μm,11.0s
MILM Milestii Mici 11.83 65 ⇓P **Pn 00 37 51.6 +0.5**
MILM Milestii Mici 11.83 65*c* *i*P **Pn 00 37 51.0 -0.2**
MILM eS **Sn 00 40 04.0 +0.6**
MILM pmax pmax
comp=Z,100nm,1.7s
MILM MLR MLR
comp=Z,5μm,12.0s
MILM MLR MLR
comp=N,2μm,11.0s
MILM MLR MLR
comp=E,4μm,12.0s
KIS Kishinev 11.86 65 eP **Pn 00 37 51.0 -0.5**
KIS eL L 00 42 39.0
KIS LRM MLR 00 43 22.0
comp=E,2μm,11.0s
KIS Kishinev 11.86 65 eP **Pn 00 37 51.0 -0.5**
KIS *e* 00 40 11.0
KIS MLR MLR
comp=E,2μm,11.0s
KIS MLR MLR
comp=Z,2μm,11.0s
IDI Anoyia 12.01 126 ⇓P **Pn 00 37 54.0 +0.2**
IDI Anoyia 12.01 126 Pn **Pn 00 37 53.4 -0.3**
comp=Z,0.7nm,0.3s,baz=314,slow=13,SNR=20
IDI Sn Sn 00 39 57.9 -10
comp=Z,1.3nm,0.3s,baz=298,slow=18,SNR=2.4
IDI LR LR 00 43 48.2
comp=Z,239nm,19.1s,baz=320,slow=44
comp=Z,9.2nm,0.9s
IDI Anoyia 12.01 126 **Pn 00 37 53.7 -0.1**
SGMF Saint Gilles 12.09 301 eP **Pn 00 37 55.0 +0.3**
SGMF eSn Sn 00 39 58.9 -11
comp=Z,20nm,0.8s
QUIF Quistinic 12.37 299 eP **Pn 00 37 59.7 +1.2**
QUIF eSn Sn 00 40 05.6 -11
comp=Z,15nm,0.7s
ROSF Rostrenen 12.57 301 eP **Pn 00 38 03.4 +2.2**
ROSF eSn Sn 00 40 10.2 -11
comp=Z,15nm,0.7s
MANT Manisa 12.61 106 Pn **Pn 00 38 01.7 -0.4**
ESBB Sonseca Array 13.20 261 **Pn 00 38 08.7 -1.2**
ESDC Sonseca Array 13.20 261 Pn **Pn 00 38 09.3 -0.7**
comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=17
ESDC LR LR 00 43 18.0
comp=Z,1μm,18.3s,baz=62,slow=38
comp=Z,2.6nm,0.9s
ESDC Sonseca Array 13.20 261 **Pn 00 38 08.8 -1.2**
KARP Karpathos 13.24 120 Pn **Pn 00 38 10.7 +0.2**
AKASG Malin Array Be 13.46 50 Pn **Pn 00 38 11.7 -1.7**
comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=11
AKASG LR LR 00 44 10.2
comp=Z,840nm,19.5s,baz=234,slow=41
comp=Z,7.5nm,1.0s
AKASG Malin Array Be 13.46 50 Pn **Pn 00 38 11.8 -1.5**
AKASG Malin Array Be 13.46 50 P **Pn 00 38 11.8 -1.5**
AKBB Malin Array Si 13.46 50 **Pn 00 38 11.6 -1.8**
AKBB Malin Array Si 13.46 50*ce*P **Pn 00 38 12.3 -1.0**
ARG Arkhangelos 13.47 115 Pn **Pn 00 38 12.7 -0.9**
ARG Arkhangelos 13.47 115 P **Pn 00 38 12.7 -0.9**
PAB San Pablo 13.52 261 **Pn 00 38 12.2 -2.2**
PAB San Pablo 13.52 261 P **Pn 00 38 16.6 +2.2**
PAB San Pablo 13.52 261 ⇑P **Pn 00 38 14.9 +0.5**
MDUB Mudurnu 13.80 95 **Pn 00 38 16.3 -1.9**
ISP Isparta 14.30 105 Pn **Pn 00 38 23.9 -1.1**
ISP Isparta 14.30 105 *i* P **Pn 00 38 24.3 -0.7**
ISP pmax pmax
comp=Z,15nm,0.9s
PABE Paberze 14.36 26 **Pn 00 38 25.2 -0.4**
PABE Paberze 14.36 26 eP **Pn 00 38 29.0 +3.4**
PABE IAmb IAmb 00 38 38.9
comp=Z,69nm,1.1s
ELL Elmali 14.39 110 **Pn 00 38 26.2 0.0**
ELL Elmali 14.39 110 P **Pn 00 38 26.2 0.0**
AKAS Kas 14.45 112 **Pn 00 38 26.9 -0.3**
TAF Taforalt 14.54 241 P **P 00 38 33.0 -2.0**
PBRG Braganca 14.66 272 eP **P 00 38 38.7 +2.4**
comp=Z,31nm,2.0s
NACGM Naroch 14.89 32⇑*i*P **Pn 00 38 31.5 -1.4**
comp=Z,64nm,1.2s,baz=223
JBK JBK 14.94 240 P **P 00 38 39.0 -0.6**
MVO Moncorvo 15.01 270 eP **P 00 38 42.5 +2.3**
comp=Z,57nm,1.8s
MVO eLR LR 00 42 44.5
comp=Z,757nm,20.0s
IIGN Ignalina 15.01 30 eP **Pn 00 38 34.5 0.0**
MNK Minsk 15.05 35 *i* P **Pn 00 38 32.3 -2.7**
comp=E,2.0nm,0.8s
MNK *i* P **Pn 00 38 32.3 -2.7**
comp=N,15nm,0.8s
MNK *i* P **Pn 00 38 32.3 -2.7**
comp=Z,11nm,0.8s,baz=226
MNK *i* PP **PnPn 00 38 43.1 +0.1**
MNK *i* S **Sn 00 41 19.1 -2.8**
MNK *i* SS **SnSn 00 41 33.0 -1.4**
MNK *i* LQ LQ 00 42 56.0
MNK *i* LR LR 00 44 04.3
MNK *i* LRM MLR 00 44 56.2
comp=N,471nm,14.4s
MNK *i* LRM MLR 00 45 06.1
comp=E,100nm,14.4s
MNK *i* LRM MLR 00 45 10.3
comp=Z,1μm,14.6s
MNK Minsk 15.05 35 *i* P **Pn 00 38 32.3 -2.7**
MNK *i* S **Sn 00 41 19.1 -2.8**
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK MLR MLR
comp=N,471nm,14.0s
MNK MLR MLR
comp=E,100nm,14.0s
MNK MLR MLR
comp=Z,1μm,15.0s
BR231 Keskin MP Arra 15.15 95 Pn **Pn 00 38 36.0 -0.5**
ISAL Salakas 15.15 30 eP **Pn 00 38 34.2 -2.1**
ISAL IAmb IAmb 00 38 45.9
comp=Z,15nm,1.1s
ANTO Ankara 15.15 95 Pn **Pn 00 38 35.7 -0.8**
ANTO Ankara 15.15 95 P **P 00 38 40.6 -1.2**
ANTO P **P 00 38 40.6 -1.2**
ANTO Ankara 15.15 95 P **Pn 00 38 35.7 -0.8**
ANTO pmax pmax
comp=Z,14nm,0.9s
PALE Palemas 15.29 245 P **P 00 38 43.0 -0.3**
PVRL Vila Real 15.49 271 eP **P 00 38 43.9 -1.6**
comp=Z,38nm,1.8s
ILGA Ilgaz 15.49 90 **Pn 00 38 40.4 -0.9**
POLO Lamas de Olo 15.52 271 eP **P 00 38 45.9 0.0**
comp=Z,19nm,1.7s
MTE Manteigas 15.59 267 eP **P 00 38 45.3 -1.3**
comp=Z,63nm,1.4s
MTE eLR LR 00 43 21.4
comp=Z,1μm,18.0s
MTE Manteigas 15.59 267 **Pn 00 38 42.7 +0.4**
PCAB Cabril 15.62 272 eP **P 00 38 52.4 +5.5**
comp=Z,39nm,1.8s
AKLM AKL 15.66 243 P **P 00 38 47.1 -0.4**
FIGM Figuig 15.68 231 P **P 00 38 46.0 -1.8**
PCBR Castelo Branco 15.71 265 eP **P 00 38 48.3 +0.5**
comp=Z,37nm,1.5s
PGAV Gavieira, Arco 15.75 273 eP **P 00 38 50.7 +2.3**
comp=Z,46nm,1.8s
PGAV eLR LR 00 43 11.3
comp=Z,557nm,20.0s
PVIS Viseu 15.76 269 eP **P 00 38 47.6 -0.9**
comp=Z,34nm,1.4s
PMRV Marv??o 15.78 264 eP **P 00 38 49.3 +0.6**
comp=Z,25nm,1.3s
PMRV eLR LR 00 43 26.4
comp=Z,886nm,18.0s
BR131 Keskin Array S 15.81 95 Pn **Pn 00 38 44.7 -0.6**
BR131 Keskin Array S 15.81 95 P **Pn 00 38 47.1 +1.8**
SNR=11
BR131 P **Pn 00 38 47.1 +1.8**
SNR=11
BR131 Keskin Array S 15.81 95 *i* P **Pn 00 38 44.9 -0.3**
BRTR Keskin Array B 15.81 95 Pn **Pn 00 38 45.0 -0.4**
comp=Z,0.2nm,0.3s,baz=284,slow=11,SNR=18
BRTR LR LR 00 46 06.6
comp=Z,1μm,18.6s,baz=298,slow=42
comp=Z,6.5nm,0.9s
BRTR Keskin Array B 15.81 95 **Pn 00 38 44.7 -0.6**
BRTR Keskin Array B 15.81 95*ce*P **Pn 00 38 45.2 -0.1**
BRTR pmax pmax
comp=Z,7.0nm,1.0s
PBAR Barrancos 15.99 259 eP **P 00 38 49.3 -1.7**
comp=Z,86nm,1.5s
PESTR Estremoz 16.12 262 eP **P 00 38 53.8 +1.4**
comp=Z,72nm,1.4s
PESTR Estremoz 16.12 262 **Pn 00 38 48.7 -0.4**
PESTR Estremoz 16.12 262 P **P 00 38 53.9 +1.4**
EKA Eskdalemuir Ar 16.18 325 Pn **Pn 00 38 49.3 -0.5**
baz=137,slow=14
EKA Sn **Sn 00 41 43.9 -5.5**
baz=142,slow=24
EKA LR LR 00 45 34.7
comp=Z,284nm,18.5s,baz=138,slow=39
comp=Z,1.8nm,0.4s
ESK Eskdalemuir 16.19 325 Pn **Pn 00 38 50.4 +0.5**
ESK Eskdalemuir 16.19 325 P **P 00 38 59.6 +6.5**
ESK Eskdalemuir 16.19 325 P **Pn 00 38 50.4 +0.5**
ESK pmax pmax
comp=Z,58nm,1.6s
PCAS Casmilo, Conde 16.39 267 eP **P 00 38 57.6 +2.2**
comp=Z,62nm,1.3s
DSB Dublin 16.45 315 **Pn 00 38 53.5 +0.3**
PMTG Montargil 16.51 263 eP **P 00 38 57.6 +0.8**
comp=Z,64nm,1.5s
EVO Evora 16.55 261 eP **P 00 38 57.3 +0.1**
comp=Z,52nm,1.5s
KONO Kongsberg 16.78 354 **Pn 00 38 57.1 -0.2**
KONO Kongsberg 16.78 354 P **P 00 39 02.2 +2.6**
KONO Kongsberg 16.78 354 ⇓P **P 00 39 00.0 +0.4**
KONO Kongsberg 16.78 354 eP **P 00 39 00.9 +1.3**
KONO IAmb IAmb 00 39 02.5
comp=Z,49nm,1.2s
PVAQ Vaqueiros 16.80 257 eP **P 00 39 00.1 +0.1**
comp=Z,39nm,1.6s
PVAQ eLR LR 00 43 32.1
comp=Z,501nm,18.0s
PVAQ Vaqueiros 16.80 257 Pn **Pn 00 38 57.5 -0.3**
LCRM LCR 16.82 242 P **P 00 39 04.0 +3.5**
BLS5 Blasjo 16.91 348 eP **P 00 39 00.7 -0.4**
MESJ Messejana 16.98 259 eP **Pn 00 39 00.3 +0.3**
MESJ IAmb IAmb 00 39 05.3
comp=Z,12nm,1.2s
MESJ eS **Sn 00 42 10.5 +1.6**
MESJ Messejana 16.98 259 eP **Pn 00 39 00.3 +0.3**
MESJ eS **Sn 00 42 10.4 +1.6**
MESJ pmax pmax
comp=Z,13nm,1.2s
UPP Uppsala 17.09 8 eP **P 00 39 02.8 -0.2**
PNCL Nicolau / Gran 17.09 261 eP **P 00 39 09.1 +5.9**
comp=Z,31nm,1.7s
HFS Hagfors 17.13 1 P **Pn 00 39 00.8 -1.0**
comp=Z,0.8nm,0.3s,baz=173,slow=13,SNR=16
HFS LR LR 00 46 32.1
comp=Z,965nm,18.5s,baz=184,slow=40
comp=Z,11nm,0.6s
MDT Midelt 17.22 240 P **Pn 00 39 02.5 -0.7**
comp=Z,0.1nm,0.3s,baz=64,slow=11,SNR=14
MDT LR LR 00 44 44.1
comp=Z,299nm,19.9s,baz=42,slow=34
comp=Z,1.8nm,0.8s
MDT Midelt 17.22 240 P **P 00 39 06.8 +2.0**
ODD1 Odda 17.36 349 eP **P 00 39 07.2 +1.1**
MORF Marmelete 17.51 258 eP **Pn 00 39 06.8 0.0**
MORF IAmb IAmb 00 39 13.9
comp=Z,136nm,2.0s
MORF eS **Sn 00 42 23.3 +1.3**
MORF Marmelete 17.51 258 eP **Pn 00 39 06.7 0.0**
MORF eS **Sn 00 42 23.3 +1.3**
MORF pmax pmax
comp=Z,136nm,2.0s
ANN Anapa 17.66 76 eP **Pn 00 39 06.6 -1.8**
ANN eS **Sn 00 42 22.8 -2.5**
ANN pmax pmax
comp=Z,145nm,1.9s
ANN MLR MLR
comp=Z,873nm,11.0s
ANN MLR MLR
comp=E,349nm,10.0s
VSU Vasula 17.66 24 eP **Pn 00 39 06.6 -1.7**
VSU Vasula 17.66 24 *i* P **Pn 00 39 07.1 -1.2**
VSU pmax pmax
comp=Z,164nm,1.4s
TOKA Tokat 17.71 91 P **P 00 39 10.1 0.0**
NC602 NORSAR Array S 17.76 358 P **Pn 00 39 09.4 -0.1**
NC602 IAmb IAmb 00 39 18.4
comp=Z,139nm,1.4s
NC602 NORSAR Array S 17.76 358 eP **Pn 00 39 09.9 +0.3**
NC602 IAmb IAmb 00 39 12.7
comp=Z,28nm,1.0s
NAO01 NORSAR Array S 17.89 357 P **Pn 00 39 11.4 +0.2**
NAO01 IAmb IAmb 00 39 14.5
comp=Z,299nm,1.9s
SKAR Skarslia 17.91 352 eP **Pn 00 39 11.5 0.0**
NB2 NORSAR Subarra 18.07 357 P **Pn 00 39 13.2 -0.3**
baz=176,slow=11
NB2 NORSAR Subarra 18.07 357 P **Pn 00 39 13.2 -0.3**
comp=Z,18nm,0.8s,baz=176,slow=11
NOA NORSAR Array B 18.07 357 P **Pn 00 39 13.0 -0.5**
comp=Z,0.1nm,0.3s,baz=174,slow=12,SNR=20
NOA LR LR 00 47 01.1
comp=Z,757nm,18.9s,baz=175,slow=40
comp=Z,8.0nm,0.9s
NOA NORSAR Array B 18.07 357 P **Pn 00 39 13.0 -0.5**
NB201 NORSAR Array S 18.08 357 P **Pn 00 39 13.8 +0.2**
NB201 IAmb IAmb 00 39 21.9
comp=Z,194nm,1.6s
NC405 NORSAR Array S 18.13 358 P **Pn 00 39 13.0 -1.2**
ZHG ZHG 18.14 245 P **P 00 39 19.0 +4.1**
MEF Metsahovi 18.55 18 eP **P 00 39 19.3 +0.2**
AVE Averroes 18.74 246 P **P 00 39 20.4 -1.1**
RAF Rauma 18.77 13 eP **P 00 39 21.6 0.0**
DOMB Dombas 19.19 354 eP **Pn 00 39 27.6 +0.5**
GAZ Gaziantep 19.37 99 P **P 00 39 28.3 -0.1**
SOC Sochi 19.41 79 eP Pn 00 39 39.5 +10
SOC MLR MLR
comp=Z,439nm,16.0s
OBN Obninsk 19.48 43 Pn **P 00 39 27.8 -1.5**
comp=Z,0.8nm,0.3s,baz=334,slow=0.8,SNR=16
OBN LR LR 00 47 18.6
comp=Z,132nm,19.9s,baz=221,slow=38
comp=Z,11nm,0.7s
OBN Obninsk 19.48 43 P **P 00 39 27.2 -2.2**
OBN IAmb IAmb 00 39 30.1
comp=Z,50nm,0.8s
OBN Obninsk 19.48 43 P **P 00 39 28.4 -1.0**
OBN Obninsk 19.48 43⇓*i*P **P 00 39 27.1 -2.2**
OBN eS **Sn 00 43 01.5 -7.7**
OBN pmax pmax
comp=Z,62nm,0.9s
OBN MLR MLR
comp=Z,675nm,13.0s
VSR Storozhevoye 19.50 56 eP **P 00 39 26.8 -2.8**
VSR pmax pmax
comp=Z,60nm,1.3s
VSR MLR MLR
comp=Z,1μm,12.0s
AKN Aaknes 19.51 352 eP **Pn 00 39 32.5 +1.6**
SRHM Skhour des Reh 19.57 244 P **Pn 00 39 35.0 +3.1**
VORR Voronezh 19.64 55⇓*i*P **P 00 39 30.3 -0.9**
VORR pmax pmax
comp=Z,118nm,2.1s
VORR MLR MLR
comp=Z,1μm,15.0s
LPSR Galich'ya Gora 19.75 52 eP **P 00 39 29.5 -2.9**
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,1μm,9.0s
KTUT Trabzon 19.95 87 ⇑P **Pn 00 39 35.8 -0.5**
FINES FINESS Array B 20.03 18 P **P 00 39 34.0 -1.2**
comp=Z,2.5nm,0.3s,baz=204,slow=9.1,SNR=62
FINES LR LR 00 47 55.9
comp=Z,632nm,19.3s,baz=210,slow=39
comp=Z,19nm,0.7s
FINES FINESS Array B 20.03 18 P **P 00 39 34.7 -0.6**
FINES FINESS Array B 20.03 18 P **P 00 39 34.7 -0.6**
FIA1 FINESS Array S 20.03 18 P **P 00 39 34.4 -0.9**
MMAI Mount Meron Ar 20.21 112 LR LR 00 49 20.5
comp=Z,328nm,20.2s,baz=220,slow=42
MOS Moscow 20.31 43 eP **P 00 39 35.3 -3.1**
MOS *e* 00 39 41.2
MOS eS **S 00 43 21.9 -4.3**
MOS pmax pmax
comp=Z,141nm,1.3s
MOS pmax pmax
comp=E,84nm,1.0s
MOS pmax pmax
comp=E,200nm,1.7s
MOS pmax pmax
comp=Z,200nm,1.7s
MOS MLR MLR
comp=Z,2μm,11.0s
MOS MLR MLR
comp=N,1μm,12.0s
MOS MLR MLR
comp=E,2μm,11.0s
TBLU Trondheim 20.32 356 eP Pn 00 39 41.8 +1.3
OUK Oukaimeden 20.36 241 P Pn 00 39 42.0 +0.4
KOPT Kop Dagi 20.75 89 P **P 00 39 44.0 +0.3**
KOPT IAmb IAmb 00 39 51.3
comp=Z,88nm,1.1s
VRH Novokhopyorsk 21.06 57 eP **P 00 39 43.2 -3.4**
VRH pmax pmax
comp=Z,160nm,1.6s
VRH MLR MLR
comp=Z,1μm,13.0s
TAM Tamanrasset 21.13 200 P **P 00 39 49.0 +1.3**
TAM Tamanrasset 21.13 200 P **P 00 39 49.0 +1.3**
TAM pmax pmax
comp=Z,63nm,1.3s
GHAJ Ghor Haditha 21.36 116 P **P 00 39 50.3 +0.4**
KIV Kislovodsk 21.49 77 ⇓P **P 00 39 51.1 -0.2**
KIV Kislovodsk 21.49 77 P **P 00 39 50.7 -0.7**
KIV Kislovodsk 21.49 77 P **P 00 39 52.0 +0.6**
KIV Kislovodsk 21.49 77 *i* P **P 00 39 51.8 +0.4**
SNR=38
KIV Kislovodsk 21.49 77 P **P 00 39 52.0 +0.6**
KIV Kislovodsk 21.49 77 ⇓P **P 00 39 51.1 -0.2**
KVAR Kislovodsk Arr 21.49 77 P **P 00 39 51.6 +0.2**
comp=Z,13nm,0.9s,baz=162,slow=21,SNR=26
KVAR S **S 00 43 48.8 -1.2**
comp=Z,0.7nm,0.4s,baz=252,slow=20,SNR=0.8
KVAR LR LR 00 50 10.5
comp=Z,499nm,18.5s,baz=260,slow=42
comp=Z,13nm,0.9s
SHA1 Shidzhatmaz 21.50 78*c* *i*P **P 00 39 51.4 -0.2**
NSS Namsos 21.55 359 eP **P 00 39 53.7 +2.0**
NSS IAmb IAmb 00 39 55.9
comp=Z,48nm,1.0s
KBZ Khabaz 21.67 78 P **P 00 39 54.1 +0.9**
comp=Z,47nm,0.9s,baz=292,slow=8.3,SNR=60
KBZ S Sn 00 44 00.2 -1.8
comp=Z,1.3nm,0.9s,baz=248,slow=17,SNR=1.1
KBZ LR LR 00 50 58.2
comp=Z,354nm,18.6s,baz=284,slow=44
comp=Z,47nm,0.9s
KBZ Khabaz 21.67 78*ce*P **P 00 39 54.0 +0.8**
KBZ pmax pmax
comp=Z,46nm,0.9s
ASF Jabal al Asfar 21.72 112 P **P 00 39 55.1 +1.2**
comp=Z,8.7nm,0.6s,baz=325,slow=3.3,SNR=16
comp=Z,8.7nm,0.6s
MARD Mardin 21.90 96 P **P 00 39 55.4 -0.5**
MARD IAmb IAmb 00 40 00.5
comp=Z,57nm,1.1s
EIL Elat 22.04 120 P **P 00 39 58.1 +0.8**
comp=Z,8.9nm,0.9s,baz=327,slow=6.9,SNR=6.5
EIL S **S 00 44 00.7 -0.1**
comp=Z,3.0nm,0.5s,baz=167,slow=23,SNR=2.4
comp=Z,8.9nm,0.9s
ONI Oni 22.27 81 P **P 00 39 59.8 +0.1**
ONI IAmb IAmb 00 40 07.5
comp=Z,36nm,0.9s
ONI Oni 22.27 81 P **P 00 39 59.8 +0.1**
ONI pmax pmax

comp=Z,36nm,0.9s
GURO Guroymak-BITLI 22.35 92 P **P** **00 40 00.4 -0.3**
GURO IAmb IAmb 00 40 09.1
comp=Z,114nm,1.6s
KARS Kars 22.46 86 P **P** **00 40 02.0 +0.1**
KARS Kars 22.46 86 P **P** **00 40 02.0 +0.1**
KARS pmax pmax
comp=Z,383nm,1.3s
ZEI Tsey 22.55 80 *e*P **P** **00 40 03.5 +0.6**
ZEI pmax pmax
comp=Z,85nm,1.8s
MOR8 Moi Rana 23.20 1 *e*P **P** **00 40 12.3 +3.0**
GNI Garni 23.82 86 P **P** **00 40 16.0 +0.2**
comp=Z,22nm,0.9s,baz=215,slow=2.5,SNR=12
GNI LR LR 00 52 44.6
comp=Z,288nm,18.2s,baz=260,slow=45
comp=Z,22nm,0.9s
GNI Garni 23.82 86 P **P** **00 40 14.7 -1.1**
GNI Garni 23.82 86 P **P** **00 40 16.2 +0.4**
GNI P **P** **00 40 16.2 +0.4**
GNI Garni 23.82 86 P **P** **00 40 16.0 +0.2**
GNI Garni 23.82 86 P **P** **00 40 17.8 +2.0**
GNI Garni 23.82 86*c**e*P **P** **00 40 16.2 +0.4**
GNI pmax pmax
comp=Z,8.0nm,0.8s
GROC Groznyy 23.84 78 *e*P **P** **00 40 16.9 +1.1**
GROC *e* 00 40 44.7
GROC *e* 00 44 01.0
GROC *e*S **S** **00 44 36.3 +4.4**
GROC pmax pmax
comp=Z,31nm,0.6s
KLMR Klimovskoe 23.91 33⇑ *i*P **P** **00 40 14.8 -1.5**
KLMR ⇑ *i*P **P** **00 40 14.8 -1.5**
KLMR ⇑ *i*P **P** **00 40 14.8 -1.5**
KLMR AMP 00 40 19.0
comp=Z,149nm,1.3s
KLMR *e*PcP **PcP** **00 43 57.4 -1.2**
KLMR S **S** **00 44 32.5 -0.2**
KLMR S **S** **00 44 32.5 -0.2**
KLMR LQ LQ 00 48 00.5
KLMR LQ LQ 00 48 00.5
KLMR LR LR 00 49 08.8
KLMR AMP 00 51 34.0
comp=Z,530nm,8.0s
KLMR Klimovskoe 23.91 33*c i*P **P** **00 40 14.8 -1.5**
KLMR *e* 00 43 57.3
KLMR S **S** **00 44 32.4 -0.2**
KLMR pmax pmax
comp=Z,149nm,1.3s
KLMR MLR MLR
comp=Z,530nm,8.0s
BELG Belogornoye 24.88 56 P **P** **00 40 24.9 -0.2**
comp=Z,70nm,0.9s,baz=249,slow=1.6,SNR=39
BELG PcP **PcP** **00 43 59.4 -1.4**
comp=Z,15nm,1.1s,baz=198,slow=3.2,SNR=2.2
BELG LR LR 00 51 18.5
comp=Z,527nm,19.2s,baz=257,slow=39
comp=Z,70nm,0.9s
BELG Belogornoye 24.88 56*c i*P **P** **00 40 24.6 -0.6**
BELG pmax pmax
comp=Z,23nm,1.1s
STEI Steigen 24.99 2 *e*P **P** **00 40 27.3 +1.3**
MAK Makhachkala 25.11 78 *e*P **P** **00 40 21.9 -5.5**
MAK *e*S **S** **00 44 43.8 -8.6**
MAK pmax pmax
comp=Z,275nm,1.3s
MAK MLR MLR
comp=Z,800nm,12.0s
AKT Akhty 25.62 82 *e*P **P** **00 40 33.2 +1.0**
AKT *e* 00 41 09.2
AKT pmax pmax
comp=Z,105nm,1.5s
KTK1 Kautokeino 26.59 8 *e*P **P** **00 40 40.1 -0.5**
KTK1 IAmb IAmb 00 40 45.1
comp=Z,60nm,1.4s
PRGR Permogore 26.82 35 *e*P **P** **00 40 41.5 -1.2**
PRGR pmax pmax
comp=Z,28nm,0.8s
TRO Tromso 26.84 5 *e*P **P** **00 40 42.4 -0.4**
TRO IAmb IAmb 00 40 44.4
comp=Z,16nm,0.8s
APA Apatity 26.92 17⇓ *i*P P 00 40 32.1 -11
APA MLR MLR
comp=Z,2µm,11.0s
KIRV Kirov 27.33 43 P **P** **00 40 46.2 -1.0**
comp=Z,17nm,0.7s,baz=266,slow=8.0,SNR=13
KIRV LR LR 00 52 38.1
comp=Z,529nm,18.7s,baz=247,slow=39
comp=Z,17nm,0.7s
KIRV Kirov 27.33 43*c**e*P **P** **00 40 45.6 -1.7**
ARCES ARCESS Array B 27.34 10 P **P** **00 40 47.2 -0.1**
comp=Z,5.3nm,0.9s,baz=187,slow=7.2,SNR=7.0
ARCES PcP **PcP** **00 44 05.5 -0.8**
comp=Z,3.8nm,0.9s,baz=193,slow=2.8,SNR=2.9
ARCES LR LR 00 52 22.9
comp=Z,471nm,19.4s,baz=204,slow=38
comp=Z,5.3nm,0.9s
BORG Borgarnes 29.09 330 LR LR 00 53 15.9
comp=Z,146nm,19.9s,baz=138,slow=38
JMIC Jan Mayen 30.01 346 LR LR 00 54 38.3
comp=Z,188nm,18.6s,baz=122,slow=39
TOA0 Torodi Ar. Sit 31.35 202 P **P** **00 41 22.3 -1.0**
TOA0 Torodi Ar. Sit 31.35 202 P **P** **00 41 22.2 -1.0**
SNR=5.3
TORD Torodi Ar. Bea 31.35 202 P **P** **00 41 22.8 -0.5**
comp=Z,9.3nm,0.9s,baz=13,slow=8.2,SNR=44
TORD PcP **PcP** **00 44 16.4 -0.9**
comp=Z,0.9nm,0.9s,baz=349,slow=3.6,SNR=2.9
TORD LR LR 00 55 16.1
comp=Z,810nm,18.1s,baz=4.5,slow=39
comp=Z,9.3nm,0.9s
TORD Torodi Ar. Bea 31.35 202 P **P** **00 41 22.5 -0.8**
ARU Arti 31.71 49 P **P** **00 41 25.5 -0.7**
comp=Z,43nm,0.7s,baz=263,slow=6.5,SNR=49
ARU LR LR 00 54 58.8
comp=Z,485nm,18.8s,baz=251,slow=38
comp=Z,43nm,0.7s
ARU Arti 31.71 49 P **P** **00 41 24.5 -1.7**
ARU Arti 31.71 49*c i*P **P** **00 41 25.1 -1.1**
ARU 00 42 26.4
ARU 00 44 18.7
ARU S **S** **00 46 34.5 -1.4**
ARU SS **SnSn** **00 48 23.6 +1.7**
ARU pmax pmax
comp=Z,58nm,0.8s
ARU MLR MLR
comp=Z,842nm,13.0s
AB31 Akbulak array 32.66 62 *i*P **P** **00 41 33.9 -0.7**
ABKAR Akbulak array 32.66 62 P **P** **00 41 33.7 -0.9**
ABKAR Akbulak array 32.66 62 P **P** **00 41 33.8 -0.9**
ABKAR IAmb IAmb 00 41 37.0
comp=Z,9.5nm,0.9s
SVE Sverdlovsk 32.88 48⇑ *e*P **P** **00 41 36.5 0.0**
SVE *e*S **S** **00 46 57.4 +3.2**
SVE pmax pmax
comp=Z,86nm,1.5s
SVE MLR MLR
comp=Z,816nm,12.0s
RAYN Ar Rayn 33.10 116 P **P** **00 41 38.4 -0.4**
RAYN IAmb IAmb 00 42 11.9
comp=Z,47nm,2.0s
RAYN Ar Rayn 33.10 116 P **P** **00 41 39.3 +0.5**
RAYN Ar Rayn 33.10 116 P **P** **00 41 38.4 -0.4**
RAYN Ar Rayn 33.10 116 P **P** **00 41 41.3 +2.5**
RAYN Ar Rayn 33.10 116 P **P** **00 41 38.4 -0.4**
RAYN pmax pmax
comp=Z,47nm,2.0s
GEYT Alibeck 34.35 83 P **P** **00 41 49.4 -0.1**
comp=Z,7.7nm,0.8s,baz=284,slow=8.8,SNR=15
GEYT LR LR 01 00 11.4
comp=Z,193nm,19.9s,baz=316,slow=44
comp=Z,7.7nm,0.8s
GEYT Alibeck 34.35 83 P **P** **00 41 48.3 -1.2**
GEYT IAmb IAmb 00 41 53.1
comp=Z,14nm,0.9s
GYA0B ALIBECK ARRAY 34.35 83 P **P** **00 41 48.3 -1.2**
GYA0B IAmb IAmb 00 41 53.1
comp=Z,13nm,0.9s
SPA0 Spitsbergen Ar 35.29 1 *e*P **P** **00 41 56.8 -0.3**
SPITS Spitsbergen Ar 35.29 1 P **P** **00 41 57.1 0.0**
comp=Z,21nm,0.9s,baz=159,slow=9.8,SNR=4.8
SPITS LR LR 00 56 06.5
comp=Z,212nm,21.7s,baz=152,slow=36
comp=Z,21nm,0.9s
GHWR Ruwais 37.85 107 P **P** **00 42 20.1 +0.6**
GHWR P **P** **00 42 20.1 +0.6**
BBTS Babate 37.97 231 LR LR 00 58 45.1
comp=Z,432nm,18.1s,baz=50,slow=38
BRVK Borovoye 38.60 54 P **P** **00 42 25.8 +0.2**
BRVK IAmb IAmb 00 42 29.4
comp=Z,43nm,0.9s
BRVK Borovoye 38.60 54 P **P** **00 42 26.0 +0.4**
BRVK Borovoye 38.60 54*ce*P **P** **00 42 25.4 -0.2**
BRVK pmax pmax
comp=Z,82nm,1.7s
BVAR Borovoye Array 38.67 54 P **P** **00 42 26.9 +0.7**
comp=Z,19nm,0.8s,baz=275,slow=8.3,SNR=38
BVAR PP **PP** **00 43 51.8 -2.6**
comp=Z,2.1nm,0.6s,baz=278,slow=10.0,SNR=1.9
BVAR LR LR 00 59 41.3
comp=Z,486nm,18.6s,baz=277,slow=38
comp=Z,19nm,0.8s
MZWR Madinat Zayed 38.68 106 P **P** **00 42 27.2 +0.6**
MZWR P **P** **00 42 27.2 +0.6**
SHME Shamm 38.87 102 P **P** **00 42 27.7 -0.5**
SHME Shamm 38.87 102 P **P** **00 42 26.8 -1.3**
HRA Herat 38.88 86 P **P** **00 42 28.4 -0.1**
BANOM Banah 39.06 102 P **P** **00 42 29.6 -0.2**
BANOM P **P** **00 42 29.6 -0.2**
BANOM Banah 39.06 102 P **P** **00 42 28.6 -1.2**
ASUD Al Ashush, Dub 39.16 104 P **P** **00 42 31.2 +0.6**
SNR=6.5
ASUD Al Ashush, Dub 39.16 104 *i* P **P** **00 42 30.7 +0.1**
SNR=7.4
NAZ Nazwa, Dubai 39.17 103 P **P** **00 42 31.1 +0.5**
SNR=6.8
NAZ P **P** **00 42 31.1 +0.5**
SNR=6.8
NAZ Nazwa, Dubai 39.17 103 *i* P **P** **00 42 30.6 -0.1**
SNR=6.4
FAQ Al Faqa, Dubai 39.27 104 P **P** **00 42 32.8 +1.3**
FAQ Al Faqa, Dubai 39.27 104 P **P** **00 42 30.4 -1.2**
MASF Masafi 39.30 102 P **P** **00 42 30.5 -1.2**
SNR=5.6
MSFE Esma-Masafi 39.30 102 *i* P **P** **00 42 30.2 -1.6**
SNR=6.5
DBIC Dimbokro 39.50 209 P **P** **00 42 32.2 -1.3**
comp=Z,2.4nm,0.5s,baz=7.0,slow=9.4,SNR=6.9
DBIC LR LR 00 59 55.5
comp=Z,519nm,18.6s,baz=6.0,slow=38
comp=Z,2.4nm,0.5s
DBIC Dimbokro 39.50 209 P **P** **00 42 32.1 -1.3**
DBIC Dimbokro 39.50 209 P **P** **00 42 32.1 -1.3**
DBIC pmax pmax
comp=Z,17nm,1.3s
UOSS Minazif 39.59 103 P **P** **00 42 33.4 -0.7**
UOSS IAmb IAmb 00 42 36.2
comp=Z,33nm,1.1s
HATD Hatta, Dubai 39.61 103 P **P** **00 42 34.2 -0.1**
SNR=8.1
HATD P **P** **00 42 34.2 -0.1**
SNR=8.1
HATD Hatta, Dubai 39.61 103 *i* P **P** **00 42 33.9 -0.5**
SNR=13
ASHO Ashiyiah 39.65 103 P **P** **00 42 34.4 -0.3**
SNR=8.9
ASHO P **P** **00 42 34.4 -0.3**
SNR=8.9
ASHO Ashiyiah 39.65 103 *i* P **P** **00 42 34.0 -0.6**
SNR=21
ALNE Al Ain 39.82 104 P **P** **00 42 36.1 0.0**
SNR=11
ALNE Al Ain 39.82 104 *i* P **P** **00 42 36.0 -0.1**
SNR=11
IVI Ivigtut 40.01 319 P **P** **00 42 37.0 -0.2**
IVI IAmb IAmb 00 42 59.9
comp=Z,38nm,1.1s
UMZA Um Al Zommool 40.25 107 P **P** **00 42 39.9 +0.3**
UMZA P **P** **00 42 39.9 +0.3**
ATD Arta Tunnel 40.66 132 P **P** **00 42 45.4 +2.3**
BRZS Berezniki 40.67 59 *e*P **P** **00 42 42.1 -0.8**
comp=Z,4.6nm,0.6s,baz=59
BRZS Berezniki 40.67 59 *e*P **P** **00 42 42.1 -0.8**
BRZS pmax pmax
comp=Z,5.0nm,0.6s
ARQ Araqi 40.82 105 P **P** **00 42 44.7 +0.3**
SNR=9.0
OTUK Ortayu 40.90 61 P **P** **00 42 44.6 -0.2**
SFJD Kangerlussuaq 41.14 328 P **P** **00 42 46.3 -0.2**
comp=Z,9.3nm,0.8s,baz=114,slow=4.2,SNR=4.3
SFJD LR LR 01 01 19.5
comp=Z,181nm,19.8s,baz=90,slow=38
comp=Z,9.3nm,0.8s
SFJD Kangerlussuaq 41.14 328 P **P** **00 42 46.3 -0.2**
SFJD IAmb IAmb 00 43 00.4
comp=Z,71nm,1.6s
SFJD Kangerlussuaq 41.14 328 P **P** **00 42 46.3 -0.2**
SFJD pmax pmax
comp=Z,71nm,1.6s
HOQ Hoqain 41.22 104 P **P** **00 42 48.5 +0.8**
SNR=6.8
HOQ P **P** **00 42 48.5 +0.8**
SNR=6.8
KK31 Karatay Array 41.27 69 P **P** **00 42 47.7 -0.1**
KK31 Karatay Array 41.27 69 *i* P **P** **00 42 47.9 0.0**
KKAR Karatay Array 41.27 69 P **P** **00 42 47.8 -0.1**
KKAR Karatay Array 41.27 69 P **P** **00 42 47.7 -0.1**
KKAR IAmb IAmb 00 42 52.5
comp=Z,16nm,0.9s
KKAR Karatay Array 41.27 69 P **P** **00 42 47.8 -0.1**
IUG Iuzhnay 41.27 71 *e*P **P** **00 42 47.1 -1.0**
baz=71
IUG Iuzhnay 41.27 71 *e*P **P** **00 42 47.0 -1.0**
BSY Bisya 41.67 105 P **P** **00 42 51.3 -0.1**
SNR=5.6
CHGR Chuyangaron 42.02 76 P **P** **00 42 53.9 -0.2**
CHGR IAmb IAmb 00 42 57.7
comp=Z,31nm,0.8s
CHGR Chuyangaron 42.02 76 P **P** **00 42 53.9 -0.2**
CHGR pmax pmax
comp=Z,31nm,0.8s
SMDO Samad 42.08 104 P **P** **00 42 54.4 -0.4**
SNR=12
SMDO P **P** **00 42 54.4 -0.4**
SNR=12
WSAR Wadi Sarin 42.38 103 LR LR 01 04 12.7
comp=Z,138nm,18.9s,baz=319,slow=41
WSAR Wadi Sarin 42.38 103 P **P** **00 42 58.9 +1.7**
WHFO Wadi Hawf 42.53 113 P **P** **00 42 58.8 +0.3**
WHFO P **P** **00 42 58.8 +0.3**
JMDO Jabal Madar 42.55 104 P **P** **00 42 58.0 -0.6**
SNR=8.6
JMDO P **P** **00 42 58.0 -0.6**
SNR=8.6
ABTO Aybut 42.61 114 P **P** **00 42 59.5 +0.3**
BTK Batken 42.62 74 P **P** **00 42 58.7 -0.4**
BTK IAmb IAmb 00 43 00.9
comp=Z,36nm,1.6s
BTK Batken 42.62 74 P **P** **00 42 58.7 -0.4**
BTK pmax pmax
comp=Z,36nm,1.7s
GAR Garm 42.70 75 P **P** **00 42 59.9 +0.2**
GAR IAmb IAmb 00 43 05.9
comp=Z,33nm,0.9s
NGCH Negor - Chabah 42.89 98 P **P** **00 43 03.3 +2.0**
BTLS Baital 42.99 65 *e*P **P** **00 43 00.6 -1.4**
comp=Z,5.6nm,1.1s,baz=66
BTLS Baital 42.99 65 *e*P **P** **00 43 00.5 -1.4**
BTLS pmax pmax
comp=Z,6.0nm,1.1s
WBK Wadi Bani Khal 43.02 103 P **P** **00 43 03.3 +0.9**
SNR=5.7
WBK P **P** **00 43 03.3 +0.9**
SNR=5.7
RBK Rabkut 43.12 113 P **P** **00 43 04.0 +0.8**
SNR=10
MHTO MHTO 43.35 106 P **P** **00 43 05.2 +0.2**
SNR=9.1
MHTO P **P** **00 43 05.2 +0.2**
SNR=9.1
DMTO DMTO 43.47 112 P **P** **00 43 05.4 -0.6**
SNR=5.1
DRK Karamyk 43.55 74 P **P** **00 43 06.7 -0.1**
DRK IAmb IAmb 00 43 10.5
comp=Z,62nm,1.8s
DQM DQM 43.75 107 P **P** **00 43 07.8 -0.4**
SNR=5.4
DQM P **P** **00 43 07.8 -0.4**
SNR=5.4
KBL Kabul 43.77 82 P **P** **00 43 08.3 -0.3**
KBL Kabul 43.77 82 P **P** **00 43 06.9 -1.6**
KBL Kabul 43.77 82 P **P** **00 43 08.3 -0.3**
KBL pmax pmax
comp=Z,13nm,1.6s
SGDS Sogindy 43.95 67 *e*P **P** **00 43 08.5 -1.2**
comp=Z,7.5nm,1.7s,baz=68
SGDS Sogindy 43.95 67 *e*P **P** **00 43 08.5 -1.2**
SGDS pmax pmax
comp=Z,7.0nm,1.7s
KURBB Kurchatov Arra 44.12 56 LR LR 01 02 55.7
comp=Z,375nm,19.5s,baz=232,slow=38
KURBB Kurchatov Arra 44.12 56 P **P** **00 43 10.2 -0.7**
KURK Kurchatov 44.15 56 P **P** **00 43 10.3 -0.9**
KURK IAmb IAmb 00 43 14.0
comp=Z,19nm,0.9s
KURK Kurchatov 44.15 56 P **P** **00 43 10.8 -0.4**
KURK Kurchatov 44.15 56 P **P** **00 43 11.0 -0.1**
KURK Kurchatov 44.15 56*ce*P **P** **00 43 10.6 -0.5**
KURK pmax pmax
comp=Z,40nm,1.7s
LODK Lodwar 44.16 147 P **P** **00 43 11.5 -0.2**
LODK Lodwar 44.16 147 P **P** **00 43 12.9 +1.3**
AAK Ala-Archa 44.16 69 LR LR 01 06 01.7
comp=Z,467nm,19.2s,baz=308,slow=42
AAK Ala-Archa 44.16 69 P **P** **00 43 11.6 +0.1**
AAK IAmb IAmb 00 43 13.7
comp=Z,26nm,1.4s
AAK Ala-Archa 44.16 69 P **P** **00 43 12.5 +0.9**
AAK Ala-Archa 44.16 69 *i* P **P** **00 43 11.8 +0.3**
SNR=15
AAK Ala-Archa 44.16 69 P **P** **00 43 12.9 +1.3**
AAK Ala-Archa 44.16 69*ce*P **P** **00 43 12.4 +0.9**
AAK pmax pmax
comp=Z,27nm,1.7s
KUU Kurty 44.94 66 *e*P **P** **00 43 16.4 -1.2**
baz=66
KUU Kurty 44.94 66 *e*P **P** **00 43 16.4 -1.2**
NRIK Noril'sk 45.16 29 P **P** **00 43 19.8 +0.8**
comp=Z,4.7nm,0.6s,baz=271,slow=6.8,SNR=9.4
NRIK LR LR 01 04 56.1
comp=Z,286nm,18.3s,baz=270,slow=40
comp=Z,4.7nm,0.6s
NRIK Noril'sk 45.16 29 P **P** **00 43 19.8 +0.8**
NRIK IAmb IAmb 00 43 22.4
comp=Z,19nm,1.4s
NRIK Noril'sk 45.16 29*ce*P **P** **00 43 19.9 +0.9**
NRIK pmax pmax
comp=Z,16nm,1.4s
BOOM Boomskoye usch 45.20 68 P **P** **00 43 19.2 -0.7**
BOOM Boomskoye usch 45.20 68 P **P** **00 43 19.2 -0.7**
BOOM pmax pmax
comp=Z,6.0nm,0.9s
NRN Naryn 45.67 69 P **P** **00 43 23.6 -0.1**
NRN IAmb IAmb 00 43 28.0
comp=Z,32nm,1.9s
NRN Naryn 45.67 69 P **P** **00 43 23.7 -0.1**
NRN pmax pmax
comp=Z,32nm,1.9s
MDOK Medeo 45.69 67 P **P** **00 43 24.2 +0.5**
ARXS Arharly 45.81 65 *e*P **P** **00 43 23.2 -1.4**
KSH Kashi 46.45 72 P **P** **00 43 30.3 +0.5**
KSH sP sP 00 43 37.0 +4.2
KSH S **S** **00 50 18.7 +0.6**
KSH pmax pmax
comp=Z,30nm,0.9s
KSH pmax pmax
comp=Z,150nm,4.0s
KSH LR LR
comp=Z,230nm,11.3s
KSH LR LR
comp=Z,420nm,13.1s
KSH LR LR
comp=Z,450nm,17.2s
SATY Saty 46.65 66 *e*P **P** **00 43 30.3 -1.0**
comp=Z,14nm,1.9s,baz=66
SATY Saty 46.65 66 *e*P **P** **00 43 30.2 -1.0**
SATY pmax pmax
comp=Z,15nm,1.9s
KPKS Kokpek 46.67 66 *e*P **P** **00 43 30.1 -1.3**
baz=66
KPKS Kokpek 46.67 66 *e*P **P** **00 43 30.1 -1.3**
ZAA0 Zalesovo Array 46.85 50 P **P** **00 43 31.8 -0.7**
ZAA0 IAmb IAmb 00 43 35.0
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 46.85 50 P **P** **00 43 32.3 -0.2**
comp=Z,9.6nm,0.8s,baz=280,slow=8.2,SNR=27
ZALV PP **PP** **00 45 21.2 -1.2**
comp=Z,4.8nm,0.9s,baz=297,slow=9.8,SNR=5.2
ZALV LR LR 01 04 36.7
comp=Z,284nm,19.5s,baz=266,slow=38
comp=Z,9.6nm,0.8s
ZALV Zalesovo Beam 46.85 50 P **P** **00 43 31.7 -0.8**
ZALV Zalesovo Beam 46.85 50 *i* P **P** **00 43 34.4 +1.9**
ZALV pmax pmax
comp=Z,9.0nm,0.8s
UZB Uzynbulak 47.02 66 *e*P **P** **00 43 32.2 -2.0**
baz=66
UZB Uzynbulak 47.02 66 *e*P **P** **00 43 32.2 -2.0**
NIL Nilore 47.25 80 P **P** **00 43 35.8 -0.1**
NIL Nilore 47.25 80 P **P** **00 43 37.0 +1.1**
NIL Nilore 47.25 80 P **P** **00 43 37.4 +1.4**
NIL Nilore 47.25 80 P **P** **00 43 35.8 -0.1**
NIL pmax pmax
comp=Z,22nm,1.1s
PDGK Podgornoye 47.26 66 *i* P **P** **00 43 36.0 -0.1**
PDGK pmax pmax
comp=Z,20nm,1.2s
SHLS Shalkode 47.31 66 *e*P **P** **00 43 37.1 +0.6**
baz=66
SHLS Shalkode 47.31 66 *e*P **P** **00 43 37.0 +0.6**
MAKZ Makanchi 47.54 60 P **P** **00 43 36.9 -1.1**
MAKZ IAmb IAmb 00 43 42.1
comp=Z,11nm,1.1s
MAKZ Makanchi 47.54 60 P **P** **00 43 40.4 +2.4**
MAKZ Makanchi 47.54 60 P **P** **00 43 36.9 -1.1**
MAKZ pmax pmax
comp=Z,11nm,1.1s
DRLN Deer Lake 47.64 303 P **P** **00 43 37.2 -1.5**
MK31 Makanchi Array 47.74 60 P **P** **00 43 39.1 -0.5**
MK31 IAmb IAmb 00 43 43.5
comp=Z,9.7nm,0.8s
MK31 Makanchi Array 47.74 60 P **P** **00 43 39.1 -0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 47.74 60 P **P** **00 43 39.5 -0.1**
comp=Z,12nm,0.6s,baz=288,slow=6.8,SNR=62
MKAR LR LR 01 08 01.2
comp=Z,402nm,18.6s,baz=312,slow=42
comp=Z,12nm,0.6s
MKAR Makanchi Array 47.74 60 P **P** **00 43 39.2 -0.4**
FRB Frobisher Bay 48.95 324 LR LR 01 04 56.3
comp=Z,204nm,18.9s,baz=52,slow=37
KMBO Kilima Mbogo 49.06 147 P **P** **00 43 50.1 -0.2**
KMBO Kilima Mbogo 49.06 147 P **P** **00 43 51.1 +0.9**
KMBO Kilima Mbogo 49.06 147 P **P** **00 43 52.6 +2.4**
KMBO Kilima Mbogo 49.06 147 P **P** **00 43 50.1 -0.2**
KMBO pmax pmax
comp=Z,11nm,1.5s
ZSN Zaisan 49.12 59 *e*P **P** **00 43 49.3 -0.9**
baz=59
ZSN Zaisan 49.12 59 *e*P **P** **00 43 49.3 -0.9**
EUNU Eureka 49.56 347 P **P** **00 43 53.3 +0.2**
SCHQ Schefferville 51.01 313 P **P** **00 44 04.2 -0.2**
comp=Z,7.5nm,0.8s,baz=82,slow=4.2,SNR=9.4
SCHQ LR LR 01 04 40.4
comp=Z,161nm,19.1s,baz=56,slow=35
comp=Z,7.5nm,0.8s
SCHQ Schefferville 51.01 313 P **P** **00 44 03.7 -0.7**
SCHQ IAmb IAmb 00 44 04.2
comp=Z,19nm,1.1s
GBN Guysborough 51.67 300 P **P** **00 44 08.3 -1.1**
WMQ Urumqi 52.45 62 *e*P **P** **00 44 18.6 +3.2**
WMQ pP sP 00 44 22.5 +4.1
WMQ S **S** **00 51 44.3 +2.4**
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ LR LR
comp=Z,330nm,20.3s
WMQ LR LR
comp=Z,410nm,21.7s
WMQ LR LR
comp=Z,260nm,23.1s
HAL Halifax 53.33 300 P **P** **00 44 20.6 -1.2**
HAL Halifax 53.33 300 P **P** **00 44 20.6 -1.2**
HAL pmax pmax
comp=Z,75nm,1.4s

RES Resolute Bay 53.45 342 LR LR 01 08 34.3
comp=Z,154nm,18.6s,baz=35,slow=38
BATG Bathurst New B 53.67 304 P **P** **00 44 23.1 -1.1**
TIXI Tiksi 57.06 20 P **P** **00 44 48.3 0.0**
comp=Z,2.7nm,0.3s,baz=90,slow=21,SNR=9.2
TIXI LR LR 01 13 20.3
comp=Z,315nm,18.1s,baz=270,slow=40
comp=Z,2.7nm,0.3s
TIXI Tiksi 57.06 20 P **P** **00 44 48.3 0.0**
TIXI lAmb lAmb 00 44 52.5
comp=Z,30nm,1.8s
TIXI Tiksi 57.06 20 P **P** **00 44 50.5 +2.2**
TIXI Tiksi 57.06 20 *ce*P **P** **00 44 49.7 +1.4**
TIXI pmax pmax
comp=Z,15nm,1.7s
PYUN Piuthan 57.28 81 *e*P **P** **00 44 50.0 -0.7**
DANN Dangsing 57.69 80 *e*P **P** **00 44 53.4 -0.4**
KOLN Koldanda 57.91 81 *e*P **P** **00 44 54.5 -0.7**
comp=Z,20nm,1.9s
GKN Gorkha 58.52 80 *e*P **P** **00 44 58.7 -0.7**
ZAK Zakamensk 58.65 49 *e*P **P** **00 45 00.1 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
DMN Daman 59.09 80 *e*P **P** **00 45 02.9 -0.6**
PKI Pulchoki 59.33 80 *e*P **P** **00 45 04.1 -1.1**
GUN Gumba 59.47 79 *e*P **P** **00 45 05.6 -0.6**
LSZ Lusaka 59.66 163 LR LR 01 15 24.4
comp=Z,99nm,18.2s,baz=356,slow=41
JIRN Jiri 59.84 79 *e*P **P** **00 45 08.8 0.0**
BOD Bodaibo 60.02 37 *e*P P 00 45 03.9 -5.2
BOD pmax pmax
comp=Z,15nm,1.4s
HYBB Hyderabad (bro 60.50 93 *e*P **P** **00 45 11.9 -1.1**
RAMN Ramite 60.55 79 *e*P **P** **00 45 12.8 -0.8**
comp=Z,48nm,0.8s
GOMU GeErMu 61.02 66 P **P** **00 45 18.2 +1.4**
GOMU pmax pmax
comp=Z,4.0nm,1.6s
GOMU pmax pmax
comp=Z,120nm,4.4s
GOMU LR LR
comp=Z,220nm,14.0s
GOMU LR LR
comp=Z,140nm,13.4s
GOMU LR LR
comp=Z,150nm,12.2s
MSEY Mahe Island 61.03 130 P **P** **00 45 21.0 +4.3**
A36M Sachs Harbour 61.58 346 P **P** **00 45 19.8 +0.2**
A36M lAmb lAmb 00 45 21.9
comp=Z,11nm,0.9s
A36M Sachs Harbour 61.58 346 P **P** **00 45 20.3 +0.8**
baz=34
SONM Songino Array 61.74 50 P **P** **00 45 21.5 +0.3**
comp=Z,4.8nm,0.7s,baz=292,slow=6.5,SNR=33
SONM LR LR 01 14 19.4
comp=Z,399nm,19.3s,baz=332,slow=38
comp=Z,4.8nm,0.7s
SONM Songino Array 61.74 50 P **P** **00 45 21.5 +0.3**
SONM Songino Array 61.74 50 P **P** **00 45 21.5 +0.3**
SONM pmax pmax
comp=Z,29nm,1.5s
TSUM Tsumeb 62.06 175 LR LR 01 12 44.1
comp=Z,118nm,18.4s,baz=335,slow=36
ULN Ulaanbaatar 62.09 49 P **P** **00 45 23.6 0.0**
ULN lAmb lAmb 00 45 29.4
comp=Z,18nm,1.4s
ULN Ulaanbaatar 62.09 49 P **P** **00 45 22.9 -0.7**
comp=Z,40nm,1.3s
ULN Ulaanbaatar 62.09 49 P **P** **00 45 24.9 +1.3**
ULN Ulaanbaatar 62.09 49 *ce*P **P** **00 45 23.3 -0.3**
ULN pmax pmax
comp=Z,18nm,1.7s
LSA Lhasa 62.19 74 P **P** **00 45 24.4 -0.4**
LSA Lhasa 62.19 74 P **P** **00 45 21.9 -3.0**
LSA P **P** **00 45 21.9 -3.0**
LSA Lhasa 62.19 74 P **P** **00 45 24.5 -0.4**
LSA pmax pmax
comp=Z,38nm,1.7s
GTA Gaotai 62.50 61 *e*P **P** **00 45 27.0 +0.6**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,100nm,4.9s
GTA LR LR
comp=Z,270nm,19.6s
GTA LR LR
comp=Z,260nm,20.7s
GTA LR LR
comp=Z,390nm,19.6s
SADO Sadowa 62.78 307 LR LR 01 11 20.6
comp=Z,101nm,19.3s,baz=61,slow=35
C36M Paulatuk 63.57 344 P **P** **00 45 33.2 +0.3**
baz=34
YAK Yakutsk 63.60 28 LR LR 01 16 18.2
comp=Z,155nm,18.1s,baz=270,slow=39
YAK Yakutsk 63.60 28 P **P** **00 45 32.6 -0.5**
YAK Yakutsk 63.60 28 *e*P **P** **00 45 33.1 -0.1**
YAK *e* 00 46 12.2
YAK *e* 00 47 53.6
YAK *e*PPP PPP 00 49 22.6
YAK *e*S **S** **00 54 07.7 +0.7**
YAK *e**SS **PnS** **00 54 32.6 +10**
YAK *e* 00 55 25.6
YAK *e*SS **SS** **00 58 18.1 +4.7**
YAK pmax pmax
comp=Z,34nm,1.5s
YAK pmax pmax
comp=N,14nm,1.5s
YAK pmax pmax
comp=E,16nm,1.4s
YAK pmax pmax
comp=Z,157nm,4.1s
YAK pmax pmax
comp=N,89nm,3.1s
YAK pmax pmax
comp=E,76nm,2.9s
YAK smax smax
comp=E,87nm,2.7s
YAK smax smax
comp=N,74nm,2.5s
YAK MLR MLR
comp=Z,275nm,16.0s
YAK MLR MLR
comp=N,186nm,18.0s
SSPA Standing Stone 64.40 302 P **P** **00 45 39.3 +0.6**
baz=54
SHL Shillong 65.17 78 P **P** **00 45 43.1 -1.2**
SHL Shillong 65.17 78 P **P** **00 45 45.2 +0.9**
SNR=12
SHL Shillong 65.17 78 P **P** **00 45 43.1 -1.2**
SHL pmax pmax
comp=Z,21nm,1.0s
RCBR Riachuelo 65.75 235 LR LR 01 13 01.7
comp=Z,84nm,19.3s,baz=154,slow=35
INK Inuvik 66.19 347 LR LR 01 16 21.4
comp=Z,45nm,20.5s,baz=116,slow=38
INK Inuvik 66.19 347 P **P** **00 45 49.5 -0.4**
INK lAmb lAmb 00 45 55.0
comp=Z,10nm,1.1s
INK Inuvik 66.19 347 P **P** **00 45 50.4 +0.5**
baz=26
INK Inuvik 66.19 347 P **P** **00 45 49.5 -0.4**
INK pmax pmax
comp=Z,10.0nm,1.1s
C27K Jago River 66.36 351 P **P** **00 45 51.5 +0.5**
baz=18
O53A New Philadelph 66.67 304 P **P** **00 45 53.4 -0.1**
baz=53
BRDH Bariadhala 66.77 80 LR LR 01 23 04.5
comp=Z,120nm,20.2s,baz=278,slow=43
YKA Yellowknife Ar 66.78 336 P **P** **00 45 54.0 +0.2**
comp=Z,6.7nm,0.8s,baz=38,slow=5.9,SNR=5.7
YKA LR LR 01 15 58.8
comp=Z,136nm,18.0s,baz=20,slow=37
comp=Z,6.7nm,0.8s
YKA Yellowknife Ar 66.78 336 *i* P **P** **00 45 54.4 +0.6**
YKA pmax pmax
comp=Z,7.0nm,0.8s
C23K Itkillik River 66.81 354 P **P** **00 45 55.1 +1.2**
baz=13
F31M Tsiigehtchic 67.01 347 P **P** **00 45 56.3 +1.2**
baz=26,SNR=11
LZH Lanzhou 67.03 62 *e*P **P** **00 45 51.7 -4.3**
LZH pmax pmax
comp=Z,13nm,1.2s
LZH LR LR
comp=Z,400nm,19.2s
LZH LR LR
comp=Z,350nm,17.9s
LZH LR LR
comp=Z,420nm,20.3s
D24K Happy Valley 67.33 353 P **P** **00 45 57.1 -0.1**
baz=14
BILL Bilibino 67.44 11 *e*P **P** **00 45 57.9 0.0**
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL MLR MLR
comp=Z,123nm,19.0s
E27K Coleen River 67.48 350 P **P** **00 45 59.2 +1.0**
baz=20
P52A Corning 67.60 304 P **P** **00 45 59.6 +0.2**
baz=52
COWI Conover 67.62 313 P **P** **00 45 58.5 -0.9**
COWI lAmb lAmb 00 46 03.0
comp=Z,19nm,1.3s
D23K Nanushuk River 67.67 354 P **P** **00 45 59.8 +0.5**
baz=13
EYMN Ely 67.69 315 P **P** **00 45 59.6 -0.2**
baz=50
ACSO Alum Creek Sta 67.75 305 P **P** **00 46 00.6 +0.2**
baz=52
G30M tAoh Zraii Nji 67.83 347 P **P** **00 46 00.5 +0.1**
baz=24
TOLK Toolik Lake Re 67.89 353 P **P** **00 46 00.7 -0.1**
baz=14
HIA Hailar 67.94 43 P **P** **00 46 01.6 +0.2**
HIA lAmb lAmb 00 46 22.1
comp=Z,8.0nm,0.8s
HIA Hailar 67.94 43 P **P** **00 46 01.6 +0.2**
HIA pmax pmax
comp=Z,8.0nm,0.8s
E25K Arctic Village 68.01 352 P **P** **00 46 02.0 +0.4**
baz=17
BLA Blacksburg 68.03 301 P **P** **00 46 02.0 -0.1**
baz=52
FFC Flin Flon 68.04 325 P **P** **00 46 02.1 +0.2**
FFC Flin Flon 68.04 325 P **P** **00 46 03.4 +1.5**
FFC Flin Flon 68.04 325 P **P** **00 46 02.1 +0.2**
FFC pmax pmax
comp=Z,28nm,1.4s
F26K Sheenjek River 68.26 351 P **P** **00 46 03.0 -0.1**
baz=18
ULM Lac du Bonnet 68.36 319 P **P** **00 46 04.0 +0.1**
comp=Z,9.8nm,1.0s,baz=33,slow=7.2,SNR=3.7
ULM LR LR 01 15 32.2
comp=Z,132nm,18.6s,baz=30,slow=36
comp=Z,9.8nm,1.0s
ZEA Zeya 68.39 36 *e*P **P** **00 46 06.8 +2.7**
ZEA *e* 00 54 55.9
E23K Chandalar 68.47 353 P **P** **00 46 04.2 -0.3**
baz=14
EPYK Eagle Plains 68.47 347 P **P** **00 46 04.5 0.0**
EPYK Eagle Plains 68.47 347 P **P** **00 46 04.1 -0.4**
baz=23
F25K Christian Rive 68.52 351 P **P** **00 46 04.2 -0.6**
baz=17
BMAR Burnt Mountain 68.56 351 P **P** **00 46 05.6 +0.6**
WRGLY Wrigley 68.57 340 P **P** **00 46 05.4 +0.4**
baz=33
LBTB Lobatse 68.69 168 LR LR 01 17 30.2
comp=Z,60nm,18.6s,baz=356,slow=37
LBTB Lobatse 68.69 168 P **P** **00 46 06.9 +0.6**
LBTB Lobatse 68.69 168 P **P** **00 46 06.9 +0.6**
LBTB pmax pmax
comp=Z,31nm,1.7s
Q51A Peebles 68.72 304 P **P** **00 46 05.5 -1.0**
Q51A lAmb lAmb 00 46 09.5
comp=Z,12nm,1.1s
PALK Pallekele 68.78 100 LR LR 01 20 06.0
comp=Z,46nm,18.2s,baz=60,slow=39
G27K Doyon Strip 68.79 350 P **P** **00 46 07.5 +1.1**
baz=20
F24K Squaw Lake 68.83 352 P **P** **00 46 07.6 +0.9**
baz=15
HHC Hu-ho-hao-te 68.87 54 *e*P **P** **00 46 06.8 -0.7**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,190nm,5.4s
HHC LR LR
comp=Z,490nm,11.4s
HHC LR LR
comp=Z,530nm,12.7s
HHC LR LR
comp=Z,1µm,14.6s
G26K Porcupine Rive 68.93 350 P **P** **00 46 07.9 +0.7**
baz=18,SNR=10.0
F22K John River 69.22 354 P **P** **00 46 09.4 +0.3**
baz=12
H27K Steamboat Moun 69.32 349 P **P** **00 46 10.3 +0.5**
baz=20,SNR=12
COLD Coldfoot 69.33 353 P **P** **00 46 10.0 +0.2**
baz=13
G25K Bearman Lake 69.37 351 P **P** **00 46 10.6 +0.6**
baz=16
FYU Fort Yukon 69.47 351 P **P** **00 46 12.0 +1.4**
XLT XiLinHaoTe 69.50 49 *e*P **P** **00 46 12.7 +1.4**
XLT pP sP 00 46 16.7 +2.3
XLT sP pP 00 46 19.2 +5.6
XLT sS sS 00 55 25.6 +2.5
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,80nm,6.1s
XLT LR LR
comp=Z,42nm,15.4s
XLT LR LR
comp=Z,350nm,14.0s
XLT LR LR
comp=Z,710nm,15.2s
SEY Seymchan 69.51 19 P **P** **00 46 12.1 +1.2**
comp=Z,3.8nm,0.7s,baz=323,slow=3.3,SNR=5.0
comp=Z,3.8nm,0.7s
SEY Seymchan 69.51 19 *i* P **P** **00 46 11.2 +0.3**
SEY pmax pmax
comp=Z,6.0nm,1.0s
G24K Hadweenzic Riv 69.58 352 P **P** **00 46 11.8 +0.4**
baz=15
F21K Alatna River 69.60 354 P **P** **00 46 11.8 +0.3**
baz=10
AGMN Agassiz Nation 69.66 318 P **P** **00 46 12.3 +0.2**
baz=48
I29M Ogilvie Camp, 69.66 348 P **P** **00 46 11.4 -0.5**
I29M lAmb lAmb 00 46 16.7
comp=Z,15nm,1.1s
I29M Ogilvie Camp, 69.66 348 P **P** **00 46 12.5 +0.6**
baz=22,SNR=8.3
G22K Bettles 69.74 354 P **P** **00 46 13.6 +1.3**
baz=12
G23K Bananza Creek 69.82 353 P **P** **00 46 14.1 +1.2**
baz=13
H25K Birch Creek 69.82 351 P **P** **00 46 14.1 +1.3**
baz=16,SNR=5.6
I27K Kandik River 69.92 349 P **P** **00 46 15.1 +1.6**
baz=20
SJG San Juan 70.06 276 LR LR 01 11 20.4
comp=Z,86nm,21.8s,baz=60,slow=31
CD2 Chengdu 70.15 66 P **P** **00 46 13.7 -1.8**
JFWS Jewell Farm 70.27 311 P **P** **00 46 16.4 +0.4**
baz=49
G21K Allakaket 70.30 354 P **P** **00 46 16.6 +0.9**
baz=10
I26K Coal Creek Min 70.42 350 P **P** **00 46 17.5 +1.0**
baz=18
NHSC New Hope 70.42 297 P **P** **00 46 17.8 +0.8**
baz=51
H24K Noodor Dome 70.46 352 P **P** **00 46 16.8 0.0**
H24K lAmb lAmb 00 46 26.0
comp=Z,14nm,1.4s
H24K Noodor Dome 70.46 352 P **P** **00 46 18.2 +1.4**
baz=15
PRP Porcupine Dome 70.51 351 P **P** **00 46 18.4 +1.2**
baz=16
HILA High Level 70.63 335 P **P** **00 46 18.2 +0.4**
EGAK Eagle 70.64 349 P **P** **00 46 18.7 +0.9**
baz=20
H23K Yukon River 70.64 352 P **P** **00 46 19.0 +1.1**
baz=13
H22K Ishtalitna Cre 70.74 353 P **P** **00 46 19.2 +0.8**
baz=12
IMAR Indian Mountai 70.84 354 P **P** **00 46 19.9 +0.9**
MMPY Sheldon Lake, 70.88 343 P **P** **00 46 20.5 +1.1**
baz=27
HEH HeiHe 70.91 38 *e*P **P** **00 46 19.7 0.0**
HEH pP **pP** **00 46 21.7 -0.3**
HEH S **S** **00 55 38.4 +3.0**
HEH pmax pmax
comp=Z,21nm,0.8s
HEH pmax pmax
comp=Z,140nm,6.1s
HEH LR LR
comp=Z,530nm,13.2s
HEH LR LR
comp=Z,670nm,14.3s
HEH LR LR
comp=Z,1µm,13.2s
K29M Barlow Dome 70.94 347 P **P** **00 46 20.8 +1.0**
baz=22
DAWY Dawson 71.04 348 P **P** **00 46 21.1 +0.8**
DAWY lAmb lAmb 00 46 26.0
comp=Z,20nm,1.3s
DAWY Dawson 71.04 348 P **P** **00 46 21.8 +1.4**
baz=21,SNR=8.2
H21K Melozitna Rive 71.09 354 P **P** **00 46 22.0 +1.4**
H21K Melozitna Rive 71.09 354 P **P** **00 46 22.9 +2.4**
baz=11,SNR=15
TKL Tuckaleechee C 71.11 301 LR LR 01 16 48.5
comp=Z,53nm,20.3s,baz=59,slow=35
POKR Poker Plat Res 71.11 351 P **P** **00 46 22.0 +1.2**
baz=15
TGTN Hyland Airport 71.19 342 P **P** **00 46 22.4 +1.1**
baz=29
J26L Joseph Creek 71.24 350 P **P** **00 46 22.1 +0.5**
J26L lAmb lAmb 00 46 36.8
comp=Z,19nm,1.4s
J26L Joseph Creek 71.24 350 P **P** **00 46 22.8 +1.2**
baz=18,SNR=11
I23K Minto, Yukon-K 71.28 352 P **P** **00 46 23.4 +1.7**
baz=14
KOTAN Kotaneelee Air 71.35 339 P **P** **00 46 22.9 +0.6**
baz=32
MDM Murphy Dome 71.35 352 P **P** **00 46 22.6 +0.4**
J25K Salcha River, 71.36 350 P **P** **00 46 23.7 +1.4**
baz=16
IL31 71.39 351 P **P** **00 46 22.6 +0.3**
IL31 lAmb lAmb 00 46 33.8
comp=Z,12nm,1.3s
ILAR Eielson Array 71.39 351 P **P** **00 46 22.9 +0.6**
comp=Z,3.2nm,0.8s,baz=2.6,slow=6.1,SNR=21
ILAR LR LR 01 18 13.0
comp=Z,65nm,20.8s,baz=14,slow=36
comp=Z,3.2nm,0.8s
ILAR Eielson Array 71.39 351 P **P** **00 46 21.9 -0.5**
ILAR Eielson Array 71.39 351 P **P** **00 46 23.0 +0.6**
K27K Chicken 71.48 349 P **P** **00 46 24.2 +1.2**
baz=19
I21K Tanana 71.49 353 P **P** **00 46 24.6 +1.6**
baz=12,SNR=6.4
MLY Manley 71.53 353 P **P** **00 46 24.2 +0.9**
MLY lAmb lAmb 00 46 46.9
comp=Z,15nm,1.3s
MLY Manley 71.53 353 P **P** **00 46 24.9 +1.6**
baz=12
PZH PanZhiHua 71.55 71 P **P** **00 46 24.7 +0.6**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
XAN Xi'an 71.56 61 ⇓P **P** **00 46 24.8 +0.8**
XAN pP sP 00 46 29.6 +2.5
XAN pmax pmax
comp=Z,24nm,1.1s
XAN LR LR
comp=Z,410nm,22.0s
XAN LR LR
comp=Z,390nm,22.0s
XAN LR LR
comp=Z,500nm,17.2s
FARO Faro, Yukon 71.66 344 P **P** **00 46 26.2 +2.1**
baz=25
L29M L29M 71.73 347 P **P** **00 46 26.0 +1.5**
baz=22
HDA Harding Lake 71.75 351 P **P** **00 46 24.9 +0.3**
HDA lAmb lAmb 00 46 30.8
comp=Z,10nm,0.8s
HDA Harding Lake 71.75 351 P **P** **00 46 25.8 +1.2**
baz=15
SCRK Sand Creek 71.80 350 P **P** **00 46 25.7 +0.7**
SCRK lAmb lAmb 00 46 30.1
comp=Z,33nm,1.9s
SCRK Sand Creek 71.80 350 P **P** **00 46 26.2 +1.2**
baz=18
NEA2 Nenana 71.80 352 P **P** **00 46 26.0 +1.1**
baz=14
M31M Drury Creek, Y 71.89 345 P **P** **00 46 27.0 +1.5**
baz=24
MA2 Magadan 72.00 21 P **P** **00 46 27.5 +1.4**
comp=Z,23nm,0.9s,baz=356,slow=10,SNR=4.4
MA2 LR LR 01 22 08.9
comp=Z,246nm,18.4s,baz=328,slow=39
comp=Z,23nm,0.9s
MA2 Magadan 72.00 21 *i* P **P** **00 46 26.0 -0.1**
MA2 pmax pmax
comp=Z,20nm,0.9s
BJI Beijing 72.08 52 P **P** **00 46 27.7 +0.8**
BJI S **S** **00 55 52.8 +3.6**
BJI pmax pmax
comp=Z,14nm,1.8s
BJI LR LR
comp=Z,84nm,12.5s
BJI LR LR
comp=Z,200nm,13.8s
BJI LR LR
comp=Z,440nm,16.3s
BJT Baijiatuau 72.09 52 P **P** **00 46 27.2 +0.2**
BJT lAmb lAmb 00 46 31.4
comp=Z,23nm,1.4s
BJT Baijiatuau 72.09 52 P **P** **00 46 27.2 +0.2**
BJT pmax pmax
comp=Z,23nm,1.4s
RIDG Independent Ri 72.14 350 P **P** **00 46 28.4 +1.5**
baz=17
BOSA Boshof 72.17 169 P **P** **00 46 27.0 -0.6**
comp=Z,2.7nm,0.8s,baz=8.5,slow=6.5,SNR=4.0
BOSA LR LR 01 21 54.8
comp=Z,164nm,18.8s,baz=1.5,slow=39
comp=Z,2.7nm,0.8s
BOSA Boshof 72.17 169 P **P** **00 46 26.6 -0.9**
BOSA Boshof 72.17 169 P **P** **00 46 26.6 -0.9**
BOSA pmax pmax
comp=Z,52nm,2.0s
K24K Donnelly Dome 72.19 350 P **P** **00 46 28.1 +0.8**
baz=16
T47A Sharon Grove 72.30 304 P **P** **00 46 27.1 -1.3**
T47A lAmb lAmb 00 46 31.7
comp=Z,13nm,0.9s
BCAR Beaver Creek A 72.35 348 P **P** **00 46 29.3 +1.0**
L27K Beaver Creek, 72.36 348 P **P** **00 46 29.4 +1.0**
baz=19
M29M Somme Creek 72.41 347 P **P** **00 46 30.2 +1.5**
baz=22
BPAW Bear Paw Mtn. 72.47 353 P **P** **00 46 29.1 +0.2**
BPAW lAmb lAmb 00 46 40.7
comp=Z,22nm,1.4s
BPAW Bear Paw Mtn. 72.47 353 P **P** **00 46 30.1 +1.2**
baz=12
WTLY Watson Lake, Y 72.55 341 P **P** **00 46 30.7 +1.3**
baz=28
N32M Quiet Lake 72.58 344 P **P** **00 46 31.5 +1.8**
baz=25
L26K Log Cabin Wild 72.62 349 P **P** **00 46 31.4 +1.6**
baz=18
MCK McKinley 72.62 352 P **P** **00 46 31.3 +1.4**
baz=14
J20K Nowinta River 72.66 354 P **P** **00 46 31.6 +1.6**
baz=9.8
ANM Nome 72.74 359 P **P** **00 46 31.7 +1.2**
baz=1.2
CHUM Lake Minchumin 72.80 353 P **P** **00 46 32.4 +1.6**
baz=11,SNR=8.7
N31M Braeburn, Yuko 72.81 345 P **P** **00 46 32.3 +1.3**
baz=23
BVCY Beaver Creek 72.83 348 P **P** **00 46 32.6 +1.5**
baz=20
PAX Paxson 72.96 350 P **P** **00 46 32.9 +1.0**
baz=16
HNS HongShan 72.96 55 ⇑P **P** **00 46 36.0 +3.8**
HNS S **SKiKP** **00 56 03.1 -2.5**
HNS pmax pmax
comp=Z,11nm,1.2s

HNS LR LR
comp=Z,170nm,15.1s
HNS LR LR
comp=Z,210nm,11.2s
HNS LR LR
comp=Z,220nm,12.2s
TRF Thorofare Moun 73.04 352 P **P** **00 46 33.1 +0.7**
TRF Thorofare Moun 73.04 352 P **P** **00 46 33.5 +1.0**
baz=13
M27K Edge Creek, AK 73.04 348 P **P** **00 46 34.0 +1.5**
baz=19
N30M Aishikik Lake 73.08 346 P **P** **00 46 34.1 +1.4**
baz=22
DHY Denali Highway 73.09 351 P **P** **00 46 34.4 +1.6**
baz=15,SNR=13
KMI Kunming 73.11 71 ⇓P **P** **00 46 34.0 +0.4**
KMI pmax pmax
comp=Z,17nm,1.8s
KMI LR LR
comp=Z,200nm,35.8s
ECSD EROS Data Cent 73.16 314 P **P** **00 46 32.8 -0.6**
ECSD IAmb IAmb 00 46 34.0
comp=Z,12nm,1.2s
ECSD EROS Data Cent 73.16 314 P **P** **00 46 32.9 -0.4**
baz=46
M26K Nabesna, AK 73.16 349 P **P** **00 46 34.9 +1.8**
baz=18
CAST Castle Rocks 73.24 353 P **P** **00 46 34.1 +0.6**
CAST IAmb IAmb 00 46 39.6
comp=Z,18nm,1.4s
CAST Castle Rocks 73.24 353 P **P** **00 46 34.9 +1.4**
baz=11
WVT Waverly 73.31 304 P **P** **00 46 32.6 -1.7**
WVT IAmb IAmb 00 46 34.3
comp=Z,16nm,1.5s
WVT Waverly 73.31 304 P **P** **00 46 34.2 -0.1**
WVT Waverly 73.31 304 P **P** **00 46 32.6 -1.7**
WVT pmax pmax
comp=Z,15nm,1.5s
YUK3 Moose Creek 73.37 347 P **P** **00 46 36.4 +1.8**
baz=20
P33M Teslin, Yukon 73.38 343 P **P** **00 46 35.3 +0.8**
P33M Teslin, Yukon 73.38 343 P **P** **00 46 35.8 +1.4**
baz=25
WAT1 Susitna Watana 73.46 351 P **P** **00 46 36.3 +1.5**
baz=14
K20K Telida 73.46 354 P **P** **00 46 36.3 +1.5**
baz=9.8,SNR=5.6
HARP HAARP 73.47 350 P **P** **00 46 36.4 +1.5**
baz=16
YUK4 Talbot Arm 73.47 346 P **P** **00 46 35.3 +0.2**
baz=21
DGMT Dagmar 73.49 322 P **P** **00 46 35.2 0.0**
DGMT Dagmar 73.49 322 P **P** **00 46 36.1 +0.9**
baz=43
O30N Mendenhall 73.53 345 P **P** **00 46 36.6 +1.3**
baz=23
KLR Kul'dur 73.59 37 P **P** **00 46 35.6 -0.2**
comp=Z,3.8nm,0.9s,baz=328,slow=6.9,SNR=9.8
KLR LR LR 01 22 49.1
comp=Z,526nm,18.8s,baz=320,slow=39
comp=Z,3.8nm,0.9s
KLR Kul'dur 73.59 37 *ce*P **P** **00 46 36.6 +0.8**
KLR pmax pmax
comp=Z,22nm,2.5s
WAT6 Susitna Watana 73.61 351 P **P** **00 46 36.9 +1.0**
baz=15
R33M Jennings River 73.70 342 P **P** **00 46 37.8 +1.4**
baz=27
TIGA Tifton 73.70 298 P **P** **00 46 38.3 +1.6**
baz=49
HYT Haines Junctio 73.75 345 P **P** **00 46 38.0 +1.4**
baz=22
PPLA Purkeypile 73.76 353 P **P** **00 46 37.0 +0.2**
PPLA Purkeypile 73.76 353 P **P** **00 46 38.0 +1.3**
baz=11
YUK6 Outpost Mounta 73.79 346 P **P** **00 46 38.4 +1.3**
baz=21
M24K Tolsona, Glenn 73.88 350 P **P** **00 46 38.7 +1.3**
baz=16
TTA Tatalina 74.02 355 P **P** **00 46 39.3 +1.1**
baz=8.3
CUT Chulitna 74.06 352 P **P** **00 46 39.4 +1.1**
baz=13
CCM Cathedral Cave 74.06 307 P **P** **00 46 37.6 -1.1**
baz=48
P32M Atlin 74.13 343 P **P** **00 46 40.1 +1.2**
baz=25
MCARA McCarthy VSAT 74.14 348 P **P** **00 46 40.4 +1.6**
baz=18
PLAL Pickwick Lake 74.21 303 P **P** **00 46 38.0 -1.7**
O28M Mount Upton 74.27 347 P **P** **00 46 41.6 +1.7**
baz=20
SCM Sheep Creek Mo 74.29 350 P **P** **00 46 41.5 +1.8**
baz=15
P30M Million Dollar 74.30 345 P **P** **00 46 41.1 +1.3**
baz=22
DLBC Dease Lake 74.33 341 LR LR 01 21 54.8
comp=Z,316nm,18.4s,baz=72,slow=38
DLBC Dease Lake 74.33 341 P **P** **00 46 41.6 +1.5**
baz=27
M23K Glacier View 74.38 351 P **P** **00 46 38.4 -1.8**
baz=14
Q32M Nakina River 74.39 342 P **P** **00 46 37.7 -2.8**
baz=26
O29M Mount Kennedy 74.43 346 P **P** **00 46 40.1 -0.5**
baz=21
SML Sawmill 74.43 351 P **P** **00 46 39.9 -0.7**
baz=14
KLU Klutina 74.44 350 P **P** **00 46 40.5 -0.2**
baz=16
CHTO Chiang Mai 74.49 79 P **P** **00 46 40.5 -1.0**
CHTO IAmb IAmb 00 46 47.8
comp=Z,19nm,1.1s
CHTO Chiang Mai 74.49 79 P **P** **00 46 40.5 -1.0**
CHTO pmax pmax
comp=Z,19nm,1.2s
R40A Maddies Statio 74.50 308 P **P** **00 46 40.2 -1.1**
R40A IAmb IAmb 00 46 41.3
comp=Z,24nm,1.6s
CN2 Changchun 74.54 44 *e*P **P** **00 46 40.1 -1.3**
CN2 S **SKiKP** **00 56 11.7 +3.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,13.0s
SKAG Skagway 74.59 344 P **P** **00 46 41.6 +0.3**
baz=24
SKT Skwentna 74.60 353 P **P** **00 46 41.1 -0.4**
baz=12
L19K White Mountain 74.69 354 P **P** **00 46 42.8 +0.8**
baz=9.2
CM31 Chiang Mai Arr 74.72 79 P **P** **00 46 42.0 -0.9**
CMAR Chiang Mai Arr 74.72 79 P **P** **00 46 43.1 +0.3**
comp=Z,6.4nm,0.8s,baz=304,slow=7.3,SNR=26
CMAR LR LR 01 26 25.4
comp=Z,74nm,20.8s,baz=310,slow=41
comp=Z,6.4nm,0.8s
CMAR Chiang Mai Arr 74.72 79 P **P** **00 46 42.2 -0.6**
CMAR Chiang Mai Arr 74.72 79 *i* P **P** **00 46 42.9 +0.1**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
PMR Palmer 74.73 351 P **P** **00 46 43.9 +1.7**
baz=13
BMRM Bremner River 74.77 349 P **P** **00 46 43.2 +0.7**
baz=17
KNK Knik Glacier 74.83 351 P **P** **00 46 43.0 +0.2**
baz=14
LRAL Lakeview Retre 74.83 301 P **P** **00 46 42.8 -0.5**
baz=48
M20K Styx River 74.84 353 P **P** **00 46 42.8 -0.2**
baz=10
P29M Windy Craggy 74.90 345 P **P** **00 46 43.6 +0.3**
baz=22
PINM Pinnacle 74.92 347 P **P** **00 46 44.1 +0.6**
baz=20
M19K Big River Lodg 74.92 354 P **P** **00 46 44.1 +0.7**
baz=9.5
GYA Guiyang 74.95 68 ⇓P **P** **00 46 46.3 +2.1**
GYA pmax pmax
comp=Z,18nm,1.4s
SUA Susitna One 75.03 352 P **P** **00 46 43.6 -0.5**
baz=12
S34M Telegraph Cree 75.07 341 P **P** **00 46 45.3 +1.1**
baz=26
GLI Glacier Island 75.18 350 P **P** **00 46 45.4 +0.5**
baz=15
TIA Tai'an 75.19 54 P **P** **00 46 47.3 +1.9**
TIA pmax pmax
comp=Z,9.0nm,1.9s
RC01 Rabbit Creek A 75.29 351 P **P** **00 46 46.0 +0.5**
baz=13
PWL Port Wells 75.36 351 P **P** **00 46 46.1 +0.3**
baz=14
SUR Sutherland 75.38 173 LR LR 01 21 33.9
comp=Z,143nm,20.8s,baz=352,slow=37
LAO LASA Array 75.73 322 P **P** **00 46 48.7 +0.4**
LAO IAmb IAmb 00 46 50.7
comp=Z,27nm,1.2s
LAO LASA Array 75.73 322 P **P** **00 46 48.8 +0.4**
baz=41,SNR=5.8
FCAR Ozark Folk Cen 76.05 306 P **P** **00 46 49.1 -1.1**
FCAR IAmb IAmb 00 46 50.6
comp=Z,24nm,1.5s
S31K Pelican 76.15 344 P **P** **00 46 51.3 +0.9**
baz=23
EGMT Eagleton 76.27 324 P **P** **00 46 51.9 +0.5**
EGMT Eagleton 76.27 324 P **P** **00 46 53.0 +1.6**
baz=39,SNR=9.7
KSU1 Kansas State U 76.39 311 P **P** **00 46 51.1 -1.1**
KSU1 IAmb IAmb 00 46 58.7
comp=Z,19nm,0.9s
KSU1 Kansas State U 76.39 311 P **P** **00 46 51.6 -0.5**
baz=45
WHAR Wooly Hollow 76.55 306 P **P** **00 46 52.6 -0.5**
WHAR IAmb IAmb 00 46 53.7
comp=Z,22nm,1.3s
RSSD Black Hills 76.62 319 P **P** **00 46 53.3 -0.3**
RSSD Black Hills 76.62 319 P **P** **00 46 53.3 -0.3**
baz=42
RSSD Black Hills 76.62 319 P **P** **00 46 54.8 +1.2**
RSSD Black Hills 76.62 319 P **P** **00 46 53.3 -0.3**
RSSD pmax pmax
comp=Z,12nm,1.5s
HHAR Hobbs 76.84 307 P **P** **00 46 53.8 -1.0**
HHAR IAmb IAmb 00 46 54.7
comp=Z,16nm,1.4s
U38A Gravette 76.99 308 P **P** **00 46 54.5 -1.1**
U38A IAmb IAmb 00 46 58.6
comp=Z,12nm,1.1s
WALA Waterton Lakes 77.16 327 P **P** **00 46 56.4 -0.1**
WALA IAmb IAmb 00 46 59.0
comp=Z,18nm,1.1s
BAUV El Baul 77.44 271 P **P** **00 46 57.3 -1.0**
USRK Ussuriysk Ar. 77.47 40 LR LR 01 24 16.9
comp=Z,135nm,18.4s,baz=304,slow=38
USRK Ussuriysk Ar. 77.47 40 P **P** **00 46 57.9 -0.2**
USRK Ussuriysk Ar. 77.47 40 P **P** **00 46 57.9 -0.2**
MIAR Mount Ida 77.83 306 P **P** **00 46 59.9 -0.4**
MIAR IAmb IAmb 00 47 01.2
comp=Z,18nm,1.2s
MIAR Mount Ida 77.83 306 P **P** **00 47 00.1 -0.2**
baz=46,SNR=8.0
MIAR Mount Ida 77.83 306 P **P** **00 46 59.9 -0.4**
MIAR pmax pmax
comp=Z,18nm,1.3s
HRY Holter Researc 78.17 325 P **P** **00 47 02.6 +0.4**
RLMT Red Lodge 78.30 322 P **P** **00 47 03.4 +0.3**
baz=39
CBKS Cedar Bluff 78.30 313 P **P** **00 47 02.3 -0.6**
CBKS IAmb IAmb 00 47 04.5
comp=Z,10nm,0.9s
CBKS Cedar Bluff 78.30 313 P **P** **00 47 02.5 -0.4**
baz=44
CBKS Cedar Bluff 78.30 313 P **P** **00 47 02.3 -0.6**
CBKS pmax pmax
comp=Z,10.0nm,0.9s
OK051 E0350 and S346 78.35 309 **P** **00 47 02.8 -0.4**
K22A Casper 78.92 319 P **P** **00 47 05.9 -0.5**
K22A IAmb IAmb 00 47 10.1
comp=Z,16nm,1.4s
K22A Casper 78.92 319 P **P** **00 47 06.7 +0.3**
baz=40
MSO Missoula 78.96 326 P **P** **00 47 06.8 +0.3**
baz=36,SNR=6.2
BOZ Bozeman (W) 78.97 324 P **P** **00 47 06.7 +0.1**
BOZ IAmb IAmb 00 47 09.0
comp=Z,17nm,1.0s
BOZ Bozeman (W) 78.97 324 P **P** **00 47 07.3 +0.7**
baz=38,SNR=6.6
BOZ Bozeman (W) 78.97 324 P **P** **00 47 06.7 +0.1**
BOZ pmax pmax
comp=Z,17nm,1.0s
NEW Newport 79.05 329 LR LR 01 24 17.1
comp=Z,142nm,18.4s,baz=39,slow=37
NEW Newport 79.05 329 P **P** **00 47 07.6 +0.8**
baz=35,SNR=8.2
NJ2 Nanjing 79.09 56 *e*P **P** **00 47 06.2 -1.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
YHL Hebgen Lake 79.36 323 P **P** **00 47 09.2 +0.2**
YHL IAmb IAmb 00 47 11.7
comp=Z,21nm,1.2s
SDV Santo Domingo 79.38 272 LR LR 01 18 02.6
comp=Z,66nm,21.1s,baz=54,slow=32
SDV Santo Domingo 79.38 272 P **P** **00 47 08.3 -1.0**
H17A Grant Village 79.45 323 P **P** **00 47 11.6 +2.2**
baz=38,SNR=9.8
PETK Petropavlovsk- 79.53 21 LR LR 01 27 24.9
comp=Z,163nm,19.0s,baz=334,slow=40
KSCO Kaye Shedlock' 79.69 314 P **P** **00 47 10.8 +0.2**
baz=42
YSS Yuzh-Sakhalins 79.96 32 P **P** **00 47 12.3 +0.5**
YSS Yuzh-Sakhalins 79.96 32 P **P** **00 47 13.8 +2.0**
YSS Yuzh-Sakhalins 79.96 32 *e*P **P** **00 47 12.6 +0.9**
YSS pmax pmax
comp=Z,200nm,2.0s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS MLR MLR
comp=N,200nm,16.0s
MOOW Moose Ponds 80.03 322 P **P** **00 47 13.3 +0.8**
MOOW IAmb IAmb 00 47 15.1
comp=Z,16nm,1.3s
SPIA Saint Paul Isl 80.12 2 P **P** **00 47 13.3 +0.9**
baz=358
BW06 Boulder Array 80.26 321 P **P** **00 47 13.1 -0.7**
baz=39
PD31 Pinedale Array 80.26 321 P **P** **00 47 13.2 -0.6**
PDAR Pinedale Array 80.26 321 P **P** **00 47 13.6 -0.2**
comp=Z,1.3nm,0.8s,baz=55,slow=5.6,SNR=9.4
comp=Z,1.3nm,0.8s
PDAR Pinedale Array 80.26 321 P **P** **00 47 13.5 -0.3**
WMOK Wichita Mounta 80.72 309 P **P** **00 47 15.7 -0.4**
WMOK Wichita Mounta 80.72 309 P **P** **00 47 16.1 0.0**
baz=44
WMOK Wichita Mounta 80.72 309 P **P** **00 47 15.7 -0.4**
WMOK pmax pmax
comp=Z,8.0nm,0.9s
BCYI Bear Canyon 80.75 324 P **P** **00 47 16.6 +0.1**
BDFB Brasilia 80.80 239 P **P** **00 47 16.8 0.0**
comp=Z,4.3nm,0.8s,baz=24,slow=6.1,SNR=7.0
comp=Z,4.3nm,0.8s
BDFB Brasilia 80.80 239 P **P** **00 47 16.7 0.0**
BDFB IAmb IAmb 00 49 56.0
comp=Z,41nm,1.8s
AHID Auburn Hatcher 80.97 322 P **P** **00 47 17.4 -0.1**
AHID IAmb IAmb 00 47 20.1
comp=Z,40nm,1.9s
Q24A Divide 81.03 316 P **P** **00 47 18.9 +0.7**
baz=41,SNR=9.4
O20A White River Ci 81.68 319 P **P** **00 47 21.5 +0.2**
baz=39,SNR=6.5
HLID Hailey 81.79 324 P **P** **00 47 22.3 +0.5**
baz=36,SNR=6.9
BMO Blue Mountains 81.93 327 P **P** **00 47 22.6 +0.1**
BMO Blue Mountains 81.93 327 P **P** **00 47 22.6 +0.1**
BMO pmax pmax
comp=Z,41nm,1.0s
T25A Trinidad 82.03 314 P **P** **00 47 23.8 +0.5**
baz=41
HWUT Hardware Ranch 82.09 321 P **P** **00 47 23.9 +0.3**
HWUT IAmb IAmb 00 47 25.3
comp=Z,18nm,1.1s
SDCO Great Sand Dun 82.14 315 P **P** **00 47 23.9 0.0**
baz=40
HVU Hansel Valley 82.50 322 P **P** **00 47 25.4 -0.2**
HVU Hansel Valley 82.50 322 P **P** **00 47 25.4 -0.2**
HVU pmax pmax
comp=Z,9.0nm,1.1s
ABTX Abilene, Hawle 82.75 308 P **P** **00 47 27.4 +0.6**
baz=43
S22A 4UR Ranch, Cre 82.82 316 P **P** **00 47 27.3 -0.2**
S22A IAmb IAmb 00 47 29.5
comp=Z,12nm,1.2s
S22A 4UR Ranch, Cre 82.82 316 P **P** **00 47 28.6 +1.1**
baz=40,SNR=9.5
SHEM Shemya Is, Ala 83.23 11 LR LR 01 27 26.4
comp=Z,48nm,20.1s,baz=274,slow=38
DUG Dugway, Tooele 83.79 321 P **P** **00 47 32.6 +0.3**
DUG IAmb IAmb 00 47 34.1
comp=Z,9.8nm,1.1s
DUG Dugway, Tooele 83.79 321 P **P** **00 47 33.4 +1.1**
baz=37,SNR=7.7
DUG Dugway, Tooele 83.79 321 P **P** **00 47 32.6 +0.3**
DUG pmax pmax
comp=Z,10.0nm,1.1s
MVCO Mesa Verde 84.07 317 P **P** **00 47 33.9 0.0**
MVCO IAmb IAmb 00 47 35.6
comp=Z,11nm,1.0s
MVCO Mesa Verde 84.07 317 P **P** **00 47 35.0 +1.1**
baz=39,SNR=7.6
JCT Junction City 84.40 307 P **P** **00 47 35.5 +0.1**
JCT IAmb IAmb 00 47 36.9
comp=Z,11nm,1.1s
JCT Junction City 84.40 307 P **P** **00 47 36.0 +0.6**
baz=43
JCT Junction City 84.40 307 P **P** **00 47 35.5 +0.1**
JCT pmax pmax
comp=Z,11nm,1.1s
ELK Elko 84.43 323 LR LR 01 26 46.0
comp=Z,81nm,18.9s,baz=34,slow=37
ANMO Albuquerque 84.77 314 LR LR 01 23 56.7
comp=Z,192nm,20.4s,baz=46,slow=35
ANMO Albuquerque 84.77 314 P **P** **00 47 37.5 +0.1**
ANMO Albuquerque 84.77 314 P **P** **00 47 38.2 +0.8**
baz=40
ANMO Albuquerque 84.77 314 P **P** **00 47 38.7 +1.3**
ANMO Albuquerque 84.77 314 P **P** **00 47 37.5 +0.1**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ROSC El Rosal 84.79 272 LR LR 01 21 01.7
comp=Z,202nm,21.9s,baz=44,slow=33
MVU Marysvale 84.86 320 P **P** **00 47 38.3 +0.4**
PSI Prapat 85.10 91 LR LR 01 30 03.9
comp=Z,88nm,18.5s,baz=302,slow=39
BNM Barren Site 85.47 314 P **P** **00 47 41.3 +0.4**
MJAR Matsushiro Arr 86.40 41 P **P** **00 47 46.0 +0.7**
comp=Z,2.3nm,0.6s,baz=327,slow=4.8,SNR=4.9
MJAR LR LR 01 30 26.5
comp=Z,284nm,18.4s,baz=326,slow=38
comp=Z,2.3nm,0.6s
MJAR Matsushiro Arr 86.40 41 P **P** **00 47 46.0 +0.7**
R11A Troy Canyon, C 86.54 322 P **P** **00 47 45.8 -0.3**
baz=35
YBH Yreka Blue Hor 86.69 328 LR LR 01 27 10.2
comp=Z,127nm,18.3s,baz=20,slow=36
WUAZ Wupatki 86.83 318 P **P** **00 47 47.0 -0.6**
baz=37
121A Cookes Peak, D 87.33 313 P **P** **00 47 49.2 -0.8**
baz=39
TXAR Lajitas Array 87.49 309 P **P** **00 47 51.1 +0.3**
comp=Z,4.4nm,1.1s,baz=57,slow=4.6,SNR=14
TXAR LR LR 01 26 53.4
comp=Z,79nm,18.8s,baz=42,slow=36
comp=Z,4.4nm,1.1s
TXAR Lajitas Array 87.49 309 P **P** **00 47 50.6 -0.2**
TX32 Lajitas Array 87.50 309 P **P** **00 47 50.9 0.0**
TX32 IAmb IAmb 00 47 52.8
comp=Z,12nm,1.4s
NVAR Mina Array Bea 87.68 324 P **P** **00 47 51.8 +0.1**
comp=Z,1.0nm,0.9s,baz=35,slow=3.6,SNR=5.7
NVAR LR LR 01 28 10.2
comp=Z,111nm,18.3s,baz=30,slow=36
comp=Z,1.0nm,0.9s
TPNV Topopah Spring 87.99 322 P **P** **00 47 52.5 -0.6**
baz=34
JTS Las Juntas de 88.83 283 LR LR 01 24 35.4
comp=Z,75nm,18.0s,baz=94,slow=34
TUC Tucson 89.08 315 P **P** **00 47 57.7 -0.6**
TUC IAmb IAmb 00 48 00.5
comp=Z,7.3nm,1.1s
TUC Tucson 89.08 315 P **P** **00 47 59.0 +0.7**
baz=37
TUC Tucson 89.08 315 P **P** **00 47 59.7 +1.4**
TUC Tucson 89.08 315 P **P** **00 47 57.7 -0.6**
TUC pmax pmax
comp=Z,7.0nm,1.2s
PDMCI Parker Dam,Lak 89.16 319 P **P** **00 47 59.0 +0.5**
baz=36
CWC Cottonwood Cre 89.24 323 P **P** **00 47 58.5 -0.5**
baz=33
MPMC Manual Prospec 89.29 322 P **P** **00 47 58.1 -1.2**
baz=34
GMRC Granite Mounta 89.49 320 P **P** **00 48 00.3 0.0**
baz=35
SIV San Ignacio 89.60 248 LR LR 01 28 10.4
comp=Z,75nm,18.1s,baz=98,slow=36
IRM Iron Mountain 89.76 319 P **P** **00 48 02.1 +0.7**
baz=35
JHJ Hachijo jima 2 89.91 42 LR LR 01 32 16.4
comp=Z,189nm,18.8s,baz=102,slow=38
ISA Isabella, Lake 90.06 322 P **P** **00 48 03.1 +0.3**
baz=33
214A Organ Pipe Nat 90.39 316 P **P** **00 48 04.6 +0.3**
baz=36
PFO Pinyon Flats O 90.83 320 LR LR 01 30 05.9
comp=Z,138nm,18.5s,baz=40,slow=36
PFO Pinyon Flats O 90.83 320 P **P** **00 48 06.8 +0.3**
baz=34
TPFO Pinon Flats 90.83 320 P **P** **00 48 06.8 +0.3**
baz=34
CMIG Matias Romero 90.98 294 LR LR 01 24 37.8
comp=Z,57nm,21.0s,baz=17,slow=33
MONP2 Monument Peak 91.41 319 P **P** **00 48 09.2 -0.1**
baz=34
IKP In-Ko-Pah, Jac 91.46 319 P **P** **00 48 08.8 -0.5**
baz=34
SNCC San Nicolas Is 92.55 322 P **P** **00 48 14.1 -0.2**
baz=33
CPUP Villa Florida 94.52 238 LR LR 01 29 30.6
comp=Z,60nm,18.1s,baz=48,slow=35
LPAZ La Paz 94.67 252 LR LR 01 27 51.5
comp=Z,54nm,18.5s,baz=56,slow=34
LPIG La Paz 95.29 310 LR LR 01 29 26.5
comp=Z,52nm,20.4s,baz=28,slow=34
ATAH Atahualpa 95.85 266 LR LR 01 26 45.6
comp=Z,106nm,20.7s,baz=36,slow=32
JCJ Chichijima 96.01 44 LR LR 01 36 20.9
comp=Z,83nm,19.0s,baz=339,slow=38
LEM Lembang 97.96 92 LR LR 01 36 48.8
comp=Z,40nm,21.4s,baz=324,slow=38
NNA Nana 97.97 261 LR LR 01 28 23.3
comp=Z,55nm,19.8s,baz=22,slow=33
LVC Limon Verde 99.49 248 LR LR 01 32 18.1
comp=Z,35nm,19.6s,baz=35,slow=34
WRA Warramunga Arr 126.09 84 PKP **PKPdf** **00 54 04.1 -1.3**
comp=Z,0.6nm,0.7s,baz=331,slow=1.9,SNR=8.6
ASAR Alice Springs 128.05 88 PKP **PKPdf** **00 54 08.2 -0.9**
comp=Z,0.9nm,0.6s,baz=284,slow=1.1,SNR=9.3
ASAR PP **PP** **00 56 15.1 +2.6**
comp=Z,0.2nm,0.3s,baz=316,slow=8.8,SNR=4.1
TAOE Nuku Hiva Isla 138.65 318 *e*LR LR 01 39 15.8
comp=Z,103nm,24.5s
PPT2 Papeete2 150.65 324 *e*LR LR 01 44 49.5
comp=Z,79nm,27.8s
TBI Tubuai 155.60 318 *e*LR LR 01 47 07.6
comp=Z,293nm,26.5s

ISK **03** *00:46:50.9,37.°81N×26.°51E,h6km,ML2.5/11*
THE **03** *00:46:51.0,37.°80N×26.°50E,h17km±1km,ML2.2/4,Error ellipse: s-maj=1.5km s-min=0.7km az=78.0*
ATH **03** *00:46:51.1,37.°77N×26.°43E,h9km±2km,ML2.3/5,Error ellipse: s-maj=2.9km s-min=1.3km az=194.0*
DDA **03** *00:46:51.5±0.0,37.°80N×26.°53E,h7km±3km,ML2.3*
ISC 03 00:46:50.8±1.0,37.78N±0.02×26.46E±0.02,h12km±8km,
n35,σ0972/60,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.30**	**103**	P	**Pg**	**00 46 57.3**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SMG				S	Sg	00 47 01.7	+0.5
	752nm,0.2s						
SMG	Samos	0.30	103	P	Pg	00 46 57.3	+0.3
SMG				S	Sg	00 47 01.4	+0.2
SMG				AML	AML	00 47 02.1	
	comp=N,1472µm,0.2s						
SMG				AML	AML	00 47 02.5	
	comp=E,1030µm,0.2s						
DGB	zmir	0.43	50	P	Pg	00 46 58.8	-0.5
DGB				S	Sg	00 47 04.8	-0.3
ZEYE	Izmir, Urla-Ze	0.46	4	P	Pg	00 46 59.9	-0.1
ZEYE				S	Sb	00 47 06.9	-0.9
ZEYE				*i* AML	AML	00 47 07.0	
	comp=E,519nm,0.3s						
ZEYE				*i* AML	AML	00 47 09.0	
	comp=E,342nm,0.2s						
URLA	Izmir	0.59	10	PG	Pg	00 47 01.3	-1.1
URLA				SG	Sb	00 47 10.4	-1.1
URLA	Izmir	0.59	10	P	Pg	00 47 01.1	-1.3
URLA				S	Sg	00 47 09.6	-0.6
URLA				*i* AML	AML	00 47 12.0	
	comp=E,171nm,0.3s						
GCAM	G?zelcaml?	0.62	97	PG	Pg	00 47 02.9	+0.1
GCAM				SG	Sb	00 47 11.6	-0.5
GCAM	G?zelcaml?	0.62	97	P	Pg	00 47 02.4	-0.4
GCAM				S	Sg	00 47 10.5	-0.5
CHOS	Chios island	0.69	332	PG	Pg	00 47 04.6	+0.4
CHOS				SG	Sb	00 47 14.4	0.0
CHOS	Chios island	0.69	332	P	Pg	00 47 04.2	0.0
CHOS				S	Sb	00 47 14.1	-0.3
	comp=E,162nm,0.3s						
CHOS	Chios island	0.69	332	P	Pg	00 47 04.3	0.0
CHOS				S	Sg	00 47 13.7	+0.4
CHOS				AML	AML	00 47 18.0	
	comp=E,382µm,0.3s						
CHOS				AML	AML	00 47 18.9	
	comp=N,267µm,0.3s						
DDIM	Aydin, Didim	0.70	117	P	Pb	00 47 04.8	-0.1
DDIM				S	Sb	00 47 14.4	-0.1
BLCB	Balcova	0.76	37	P	Pg	00 47 05.0	-0.5
BLCB				S	Sb	00 47 15.4	-0.9
FOCM	Foa	0.96	13	PG	Pg	00 47 09.1	-0.2
FOCM				SG	Sb	00 47 22.4	+0.4
BODT	Bodrum	0.98	136	P	Pg	00 47 08.7	-1.0
BODT				S	Sg	00 47 22.3	-0.2
APE	Apeiranthos	1.02	227	P	Pg	00 47 09.7	-0.9
APE				S	Sg	00 47 24.1	+0.2
	comp=N,112nm,0.2s						
APE	Apeiranthos	1.02	227	P	Pg	00 47 09.6	-0.9
APE				S	Sg	00 47 23.1	-0.7
APE				AML	AML	00 47 27.0	
	comp=N,193µm,0.2s						
APE				AML	AML	00 47 28.1	
	comp=E,246µm,0.3s						
KOSK	Kos Island	1.10	158	PN	Pn	00 47 12.8	+0.7
KOSK	Kos Island	1.10	158	P	Pg	00 47 11.2	-0.8
KOSK				S	Sg	00 47 26.1	-0.3
	comp=E,92nm,0.5s						
KOSK	Kos Island	1.10	158	P	Pg	00 47 12.4	+0.4
KOSK				S	Sg	00 47 27.1	+0.7
KOSK				AML	AML	00 47 30.6	
	comp=N,456µm,0.4s						
KOSK				AML	AML	00 47 32.5	
	comp=E,599µm,0.4s						
AYDN	Tasoluk	1.13	95	P	Pn	00 47 12.7	+0.2
AYDN				S	Sg	00 47 26.4	-0.9
ZEDA	zmir-Bergama	1.28	22	P	Pn	00 47 13.5	-1.1
ZEDA				S	Sn	00 47 33.1	+1.3
NIS1	Nisyros Isl.	1.30	154	PN	Pg	00 47 16.7	+0.8
DKL	Dikili	1.34	15	PN	Pb	00 47 15.9	0.0
DKL				SN	Sg	00 47 35.0	+1.1
DAT	Datca	1.37	139	PN	Pb	00 47 17.2	+0.7
PRK	Paraskevi	1.48	354	P	Pn	00 47 17.3	0.0
PRK				S	Sn	00 47 35.5	-1.0
PRK				AML	AML	00 47 41.8	
	comp=N,464µm,0.4s						
PRK				AML	AML	00 47 42.0	
	comp=E,357µm,0.7s						
GOMA	Golmarmara-Man	1.48	51	PN	Pb	00 47 18.1	-0.1
AYVA	Ayvalik	1.54	7	P	Pg	00 47 20.0	-0.4
AYVA				S	Sg	00 47 41.1	+0.7
AYVA				*i* AML	AML	00 47 43.0	
	comp=E,34nm,0.8s						
AYVA				*i* AML	AML	00 47 46.0	
	comp=E,32nm,0.5s						
SANT	Santorini	1.62	210	PN	Pb	00 47 21.4	+0.8
THR5	Thira Island,	1.62	214	P	Pn	00 47 18.4	-0.8
THR6	Thira Island,	1.65	211	P	Pn	00 47 19.5	-0.1
TURN	Turunc	1.74	125	PN	Pb	00 47 22.2	-0.4
MANT	Manisa	1.80	66	P	Pg	00 47 25.0	-0.4
MANT				S	Sb	00 47 46.3	-0.1
GELI	Tayfur-Gelibol	2.62	0	PN	Pn	00 47 34.6	+1.7
KRBG	Karabiga-Canak	2.69	14	PN	Pn	00 47 35.7	+1.8

*IDC **03** 00:52:39.4±1.3, 24°.33S×179°.88W, h483km±13km, mb3.6/11, mbtmp4.4/13, Error ellipse: s-maj=15.3km s-min=14.4km az=88.0*

*NEIC **03** 00:52:40.1±1.9, 24°.5S±0°.1×179°.8W±0°.2, h495km±9km, mb4.4/23, Error ellipse: s-maj=23.9km s-min=17.9km az=68.0*

ISC 03 00:52:40.1±0.5**, 24°.46S**±0°.07×**179°.82W**±0°.09**, h500**km**, n62,** σ**1s.35**/64**, mb4.3**/23**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	5.07	161	P	P	00 54 07.6	0.0
	383nm,0.3s,baz=346,slow=3.7,SNR=7.0						
RAO				S	S	00 55 14.7	-4.3
	305nm,0.5s,baz=275,slow=23,SNR=1.4						
RAO	Raoul Island	5.07	161	P	P	00 54 07.1	-0.5
GLKZ	Green Lake	5.07	161	P	P	00 54 06.9	-0.8
GLKZ				S	S	00 55 16.1	-3.1
MSVF	Nonsavu	6.98	343	P	P	00 54 24.7	-1.7
	6.5nm,0.4s,baz=173,slow=6.6,SNR=16						
MSVF	Nonsavu	6.98	343	P	P	00 54 24.2	-2.1
MARNC	Mare, Loyalty	11.58	282	P	P	00 55 14.0	-0.3
OUENC	Ouen Island, N	12.41	277	P	P	00 55 23.7	+0.6
LIFNC	LIFOU	12.50	284	P	P	00 55 23.1	-1.0
DZM	Mont Dzumac	12.85	278	P	P	00 55 28.0	+0.2
	26nm,0.8s,baz=86,slow=17,SNR=19						
DZM	Mont Dzumac	12.85	278	P	P	00 55 28.2	+0.4
URZ	Urewera	14.00	190	S	S	00 58 06.9	-0.9
	8.9nm,0.5s,baz=302,slow=19,SNR=3.9						
BKZ	Black Stump Fm	14.99	191	P	P	00 55 49.8	-0.3
QRZ	Quartz Range	17.53	200	P	P	00 56 15.8	-0.2
LHI	Lord Howe Isla	19.91	245	P	P	00 56 39.3	+1.3
RPZ	Rata Peaks	20.61	199	P	P	00 56 44.6	+0.5
	9.4nm,0.9s,baz=58,slow=13,SNR=2.2						
	9.4nm,0.9s						
ARMA	Armidale	25.98	250	P	P	00 57 33.0	+0.5
ARMA				IAmb	IAmb	00 57 34.2	
	comp=Z,4.6nm,0.7s						
CAN	Canberra	29.01	241	P	P	00 57 59.5	+0.6
CAN				IAmb	IAmb	00 58 09.1	
	comp=Z,29nm,1.4s						
CTA	Charters Tower	31.65	271	P	P	00 58 22.2	+0.4
	comp=Z,40nm,0.5s,baz=90,slow=12,SNR=73						
	comp=Z,40nm,0.5s						
CTAO	Charters Tower	31.65	271	P	P	00 58 21.8	-0.1
TOO	Toolangi	32.29	238	P	P	00 58 27.2	+0.1
TOO				IAmb	IAmb	00 58 34.1	
	comp=Z,24nm,1.4s						
TAU	Tasmania Unive	32.68	228	P	P	00 58 30.5	+0.2
STKA	Stephens Creek	34.67	249	P	P	00 58 47.7	+0.3
	comp=Z,7.3nm,0.4s,baz=95,slow=11,SNR=36						
	comp=Z,7.3nm,0.4s						
STKA	Stephens Creek	34.67	249	P	P	00 58 47.6	+0.3
COEN	Coen	36.37	280	P	P	00 59 01.8	+0.1
COEN				IAmb	IAmb	00 59 03.3	
	comp=Z,12nm,1.0s						
BBOO	Buckleboo	39.38	248	P	P	00 59 25.3	-0.7
BBOO				IAmb	IAmb	00 59 25.5	
	comp=Z,31nm,1.4s						
AS31	Alice Springs	42.11	261	P	P	00 59 47.2	-0.8
AS31				IAmb	IAmb	00 59 49.2	
	comp=Z,2.3nm,0.3s						
ASAR	Alice Springs	42.11	261	P	P	00 59 47.6	-0.4
	comp=Z,2.7nm,0.4s,baz=98,slow=7.2,SNR=35						
ASAR				PcP	PcP	01 01 31.6	+0.3
	comp=Z,0.6nm,0.5s,baz=104,slow=4.1,SNR=3.1						
ASAR				ScP	ScP	01 04 37.6	+3.6
	comp=Z,0.7nm,0.6s,baz=115,slow=3.9,SNR=4.6						
	comp=Z,2.7nm,0.4s						
ASAR	Alice Springs	42.11	261	P	P	00 59 46.1	-1.9
WR0	Warramunga Arr	42.35	267	P	P	00 59 48.8	-1.1
WR0				IAmb	IAmb	00 59 50.6	
	comp=Z,6.1nm,0.7s						
WB0	Warramunga Arr	42.53	267	P	P	00 59 50.4	-1.0
WB0				IAmb	IAmb	00 59 51.2	
	comp=Z,12nm,0.6s						
WRA	Warramunga Arr	42.54	267	P	P	00 59 50.5	-0.9
	comp=Z,7.9nm,0.5s,baz=101,slow=8.0,SNR=130						
WRA				ScP	ScP	01 04 39.3	+3.5
	comp=Z,2.9nm,0.9s,baz=101,slow=4.3,SNR=11						
	comp=Z,7.9nm,0.5s						
WRA	Warramunga Arr	42.54	267	P	P	00 59 49.3	-2.1
FORT	Forrest	46.27	250	P	P	01 00 19.0	-1.2
MTN	Manton Dam	47.66	275	P	P	01 00 29.8	-1.1
MTN				IAmb	IAmb	01 00 33.4	
	comp=Z,19nm,1.4s						
KNRA	Kununurra	48.85	270	P	P	01 00 39.1	-0.6
KNRA				IAmb	IAmb	01 00 39.9	
	comp=Z,16nm,0.7s						
VNDA	Vanda	53.84	185	P	P	01 01 16.9	+1.9
	comp=Z,0.4nm,0.6s,baz=23,slow=7.7,SNR=2.2						
VNDA				PcP	PcP	01 02 14.3	+1.5
	comp=Z,0.4nm,0.5s,baz=45,slow=4.3,SNR=2.2						
	comp=Z,0.4nm,0.6s						
PSA00	Pilbara Seismi	55.23	260	P	P	01 01 24.6	-1.1
PSA00				IAmb	IAmb	01 01 32.7	
	comp=Z,25nm,1.4s						
MBWA	Marble Bar	55.44	260	P	P	01 01 26.1	-1.1
MBWA				IAmb	IAmb	01 01 41.0	
	comp=Z,20nm,1.3s						
MORW	Morawa	56.84	250	P	P	01 01 35.8	-1.0
MORW				IAmb	IAmb	01 01 37.5	
	comp=Z,12nm,0.9s						
QSPA	South Pole Qui	65.62	180	P	P	01 02 35.9	+1.9
	comp=Z,1.7nm,0.5s,baz=76,slow=4.2,SNR=6.5						
	comp=Z,1.7nm,0.5s						
QSPA	South Pole Qui	65.62	180	P	P	01 02 34.8	+0.8
MAW	Mawson	77.28	200	P	P	01 03 43.5	+1.4
	comp=Z,3.1nm,0.5s,baz=140,slow=5.0,SNR=16						
	comp=Z,3.1nm,0.5s						
MAW	Mawson	77.28	200	P	P	01 03 43.3	+1.3
PETK	Petropavlovsk-	79.68	346	P	P	01 03 54.3	-0.7
	comp=Z,1.9nm,0.6s,baz=145,slow=6.0,SNR=1.4						
	comp=Z,1.9nm,0.6s						
SNAA	Sanae	84.11	179	P	P	01 04 17.7	+0.2
NVAR	Mina Array Bea	85.04	44	P	P	01 04 23.3	+0.5
	comp=Z,0.5nm,0.8s,baz=236,slow=7.5,SNR=2.8						
	comp=Z,0.5nm,0.8s						
CMAR	Chiang Mai Arr	89.87	290		P	01 04 46.8	+1.0
TXAR	Lajitas Array	90.59	58	P	P	01 04 49.7	+0.8
	comp=Z,1.0nm,0.8s,baz=214,slow=6.8,SNR=11						
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	132.47	348	PKP	PKPdf	01 10 56.6	+0.1
	comp=Z,1.0nm,0.8s,baz=44,slow=4.0,SNR=5.3						
FINES	FINESS Array B	139.03	341	PKP	PKPdf	01 11 10.4	+1.5
	comp=Z,2.0nm,0.6s,baz=84,slow=1.6,SNR=9.7						
NOA	NORSAR Array B	142.66	351	PKhKP	PKPpre	01 11 10.3	
	comp=Z,0.6nm,0.9s,baz=41,slow=2.0,SNR=1.5						
HFS	Hagfors	143.12	349	PKhKP	PKPpre	01 11 13.4	
	comp=Z,4.9nm,0.4s,baz=48,slow=3.0,SNR=53						
MARD	Mardin	143.15	300		PKPab	01 11 15.3	+0.5
PABE	Paberze	144.39	337		PKPbc	01 11 18.5	+0.1
AKASG	Malin Array Be	145.53	327	PKPbc	PKPdf	01 11 21.3	+0.6
	comp=Z,4.3nm,0.6s,baz=48,slow=4.0,SNR=13						
ASF	Jabal al Asfar	146.90	292	PKPbc	PKPbc	01 11 25.9	-0.7
	comp=Z,2.6nm,0.7s,baz=71,slow=2.7,SNR=6.4						
BR131	Keskin Array S	148.04	307		PKPbc	01 11 29.4	0.0
BRTR	Keskin Array B	148.04	307	PKPbc	PKPbc	01 11 29.1	-0.2
	comp=Z,2.3nm,0.7s,baz=116,slow=3.4,SNR=14						
MMAI	Mount Meron Ar	148.08	294	PKPbc	PKiKP	01 11 30.6	-0.2
	baz=77,slow=6.2						
EKA	Eskdalemuir Ar	149.06	4	PKPbc	PKPbc	01 11 30.8	-0.3
	comp=Z,1.3nm,0.7s,baz=0.9,slow=2.9,SNR=6.3						
OJC	Ojcow	150.11	334		PKPbc	01 11 31.8	-2.0
TORD	Torodi Ar. Bea	168.66	188	PKPab	PKPab	01 13 02.8	-0.4
	comp=Z,0.3nm,0.5s,baz=176,slow=4.6,SNR=4.5						

*DNK **03** 00:59:16.3±2.1, 51°.53N×16°.36E, h0km, ML2.8, ML2.2(UPP), Suspected explosion*

*IPEC **03** 00:59:17.0±0.3, 51°.47N×16°.19E, h1km, ML2.8/5, Error ellipse: s-maj=2.2km s-min=1.1km az=37.0*

*UPP **03** 00:59:18.9±2.9, 51°.52N×15°.72E, h0km, ML2.2, Suspected explosion*

*PRU **03** 00:59:18.4±0.0, 51°.40N×16°.13E, h0km*

*IDC **03** 00:59:18.1±0.8, 51°.39N×16°.23E, h0km, mbtmp3.3/7, ML2.9/7, Error ellipse: s-maj=13.9km s-min=6.8km az=113.0*

ISC 03 00:59:15.8±0.6**, 51°.52N**±0°.03×**16°.22E**±0°.02**, h0**km**, n61,** σ**1s.34**/119**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	176	*i* Pg	Pg	00 59 29.3	+0.5
KSP				*e*Sg	Sg	00 59 37.3	-0.4
CHVC	Chvalec	0.94	186	*e*PG	Pg	00 59 34.1	+0.2
CHVC				*e*SG	Sg	00 59 45.6	-0.4
	comp=Z,83nm,0.5s						
OSTC	Ostas	0.97	180	*e*PG	Pg	00 59 34.4	0.0
OSTC				*e*SG	Sg	00 59 45.5	-1.4
	comp=Z,99nm,0.6s						
UPC	Upice	1.02	187	*e*PG	Pg	00 59 35.2	-0.2
UPC				*e*SG	Sg	00 59 48.1	-0.6
	comp=Z,220nm,0.4s						
DPC	Dobruska-Polom	1.18	177	*e*PG	Pg	00 59 38.1	-0.2
DPC				*e*SG	Sg	00 59 52.3	-1.3
	comp=Z,93nm,0.5s						
PVCC	Panska Ves	1.44	227	*e*PG	Pn	00 59 43.2	0.0
PVCC				*e*SG	Sg	01 00 02.0	-0.1
	comp=Z,318nm,0.3s						
KRLC	Kraliky	1.49	166	*e*PG	Pn	00 59 43.3	-0.6
KRLC				*e*SG	Sg	01 00 02.1	-1.6
	comp=Z,75nm,0.9s						
BRG	Berggiesshubel	1.57	246	Pn	Pn	00 59 44.9	-0.1
BRG				Pg	Pg	00 59 46.8	+0.9
BRG				Sg	Sg	01 00 07.1	+0.8
BRG				Amp		01 00 10.8	
	comp=Z,72nm,0.4s						
GOPC	GO Pecny, Ondr	1.85	210	*e*PG	Pn	00 59 48.9	+0.1
GOPC				*e*SG	Sb	01 00 14.0	-0.2
	comp=Z,39nm,0.4s						
PRU	Pruhonice	1.87	215	*e*PG	Pn	00 59 49.1	0.0
PRU				*e*SG	Sn	01 00 14.2	+0.9
	comp=Z,77nm,0.6s						
MORC	Moravsky Berou	1.94	154	*e*PN	Pn	00 59 50.1	0.0
MORC				*e*SG	Sb	01 00 16.4	-0.4
MORC	Moravsky Berou	1.94	154	*e*Pn	Pn	00 59 50.1	0.0
	baz=334						
MORC				*e*Sg	Sb	01 00 16.3	-0.5
	comp=Z,53nm,0.8s,baz=334						
CLL	Collm	2.02	265	*e*Pg	Pg	00 59 55.0	+0.4
CLL				*e*x	x	01 00 10.0	
CLL				*e*Sg	Sg	01 00 22.0	+1.2
OKC	Ostrava-Krasne	2.09	143	*e*PG	Pb	00 59 54.7	+0.2
OKC				*e*SG	Sb	01 00 21.3	+0.3
	comp=Z,60nm,0.6s						
VRAC	Vranov	2.23	174	Pn	Pn	00 59 54.9	+0.8
	comp=Z,3.8nm,0.3s,baz=350,slow=18,SNR=18						
VRAC				Lg	Lg	01 00 22.9	
	comp=Z,7.0nm,0.3s,baz=90,slow=20,SNR=9.7						
	comp=Z,9.7nm,0.4s						
VRAC	Vranov	2.23	174	*e*PN	Pn	00 59 54.3	+0.2
VRAC				*e*SG	Sb	01 00 25.1	0.0
VRAC	Vranov	2.23	174	*e*Pn	Pn	00 59 54.2	+0.2
	baz=353						
VRAC				*e*Sg	Sb	01 00 25.1	0.0
	comp=Z,51nm,0.9s,baz=353						
TREC	Trest	2.28	192	*e*PG	Pn	00 59 56.1	+1.4
TREC				*e*SG	Sb	01 00 26.4	-0.1
	comp=Z,22nm,0.3s						
MAUC	Maruska	2.39	154	*e*PN	Pn	00 59 56.8	+0.5
MAUC				*e*PG	Pb	00 59 59.8	0.0
MAUC				*e*SG	Sg	01 00 31.8	-0.9
	comp=Z,152nm,0.9s						
KRUC	Moravsky	2.47	177	*e*PN	Pn	00 59 57.9	+0.6
KRUC				*e*SG	Sb	01 00 32.6	+0.7
KRUC	Moravsky	2.47	177	*e*Pn	Pn	00 59 57.9	+0.6
	baz=357						
KRUC				*e*Sg	Sb	01 00 32.6	+0.7
	comp=Z,50nm,0.9s,baz=357						
OJC	Ojcow	2.62	118	*e*Pg	Pb	01 00 03.3	-0.3
OJC				*e*Sg	Sg	01 00 38.6	-1.3
NKC	Novy Kostel	2.71	243	*e*PN	Pn	01 00 01.3	+0.6
NKC				*e*PG	Pb	01 00 05.7	+0.4
NKC				*e*SG	Sg	01 00 43.0	0.0
	comp=Z,51nm,0.5s						
JAVC	Velka Javorina	2.83	160	*e*PN	Pn	01 00 03.0	+0.7
KHC	Kasperske Hory	2.93	216	*e*PN	Pn	01 00 04.4	+0.7
KHC				*e*PG	Pb	01 00 09.5	+0.5
KHC				*e*SG	Sb	01 00 47.4	+2.1
	comp=Z,21nm,0.5s						
CKRC	Cesky Krumlov	2.97	205	*e*PN	Pn	01 00 05.1	+0.9
CKRC				*e*PG	Pb	01 00 09.8	+0.2
CKRC				*e*SG	Sb	01 00 48.3	+1.9
GERES	GERESS Array B	3.13	212	Pn	Pn	01 00 07.5	+1.0
	comp=Z,0.9nm,0.3s,baz=34,slow=13,SNR=22						
GERES				Pg	Pb	01 00 12.9	+0.5
	comp=Z,9.3nm,0.3s,baz=36,slow=17,SNR=52						
GERES				Sn	Sn	01 00 45.0	+0.4
	comp=Z,2.7nm,0.3s,baz=34,slow=26,SNR=5.6						
GERES				Lg	Lg	01 00 53.0	
	comp=Z,8.3nm,0.3s,baz=29,slow=27,SNR=10						
	comp=Z,2.0nm,0.5s						
MODS	Modra-Piesok	3.23	167	*e*PN	Pn	01 00 02.4	-5.3
MODS				*e*PG	Pg	01 00 18.0	+0.4
MODS				*e*SG	Sg	01 00 57.5	-1.9
MODS				*e*LG	Lg	01 01 04.4	
ZST	Bratislava	3.38	170	*e*PN	Pn	01 00 04.3	-5.5
ZST				*e*PG	Pg	01 00 20.7	+0.1
ZST				*e*SG	Sb	01 00 58.0	-0.2
ZST				*e*LG	Lg	01 01 19.5	
VYHS	Vyhne	3.47	150	*e*PN	Pn	01 00 11.1	0.0
VYHS				*e*PG	Pg	01 00 22.7	+0.4
VYHS				*e*SN	Sn	01 00 42.1	-11
VYHS				*e*SG	Sb	01 01 02.7	+1.9
VYHS				*e*LG	Lg	01 01 19.9	
CONA	Conrad Observa	3.60	184	*i* Pn	Pn	01 00 14.3	+1.3
	comp=Z,1.9nm,0.3s						
BSD	Bornholm Skovb	3.68	348	*i* P	Pn	01 00 14.7	+0.8
BSD				*i* S	Sn	01 00 56.9	-1.1
BSD				IAML		01 01 00.1	
	comp=Z,13nm,0.7s						
STHS	Stebnicka Huta	3.84	121	*e*PN	Pn	01 00 18.2	+2.0
STHS				*e*PG	Pg	01 00 31.1	+1.7
STHS				*e*SG	Sg	01 01 22.8	+3.6
STHS				*e*LG	Lg	01 01 36.3	
MOA	Molln	3.89	200	*e*Pn	Pn	01 00 17.7	+0.8
	comp=Z,2.8nm,0.4s,SNR=8.5						
KECS	Kecovo	4.10	136	*e*PG	Pg	01 00 36.3	+1.9
KECS				*e*SG	Sg	01 01 31.6	+4.0
KECS				*e*LG	Lg	01 01 37.8	
CRVS	Cervenica-Dubn	4.27	126	*e*PN	Pn	01 00 20.4	-1.7
CRVS				*e*PG	Pg	01 00 38.1	+0.5
CRVS				*e*SG	Sg	01 01 36.2	+3.3
LUNU	Lund	4.44	339	*i* P	Pn	01 00 24.8	+0.5
LUNU				P	Pn	01 00 25.3	+1.0
LUNU				*i* S	Sn	01 01 15.6	-1.0
LUNU				S	Sn	01 01 16.7	+0.1
LUNU	Lund	4.44	339	P	Pn	01 00 25.3	+1.0
LUNU				S	Sn	01 01 16.7	+0.1
KOLS	Kolonicke sedl	4.67	121	*e*PN	Pn	01 00 28.0	+0.4
KOLS				*e*PG	Pg	01 00 49.8	+4.5
KOLS				*e*SN	Sn	01 01 21.5	-1.0
KOLS				*e*SG	Sg	01 01 57.9	+12
KOLS				*e*LG	Lg	01 02 10.5	
BLEU	Blekinge	4.80	357	*i* P	Pn	01 00 30.1	+0.9
BJUU	Bjuv	4.94	339	P	Pn	01 00 31.6	+0.5
BJUU				*i* P	Pn	01 00 34.1	+2.9
BJUU				*i* S	Sn	01 01 26.5	-2.4
BJUU				S	Sn	01 01 27.7	-1.3
BJUU	Bjuv	4.94	339	P	Pn	01 00 31.6	+0.5
BJUU				S	Sn	01 01 27.7	-1.3
DEL	Delary	5.15	345	*i* P	Pn	01 00 33.6	-0.5
DEL				P	Pn	01 00 34.9	+0.8
DEL				*i* S	Sn	01 01 33.1	-1.1
DEL				S	Sn	01 01 33.2	-0.9
DEL	Delary	5.15	345	P	Pn	01 00 34.9	+0.8
DEL				S	Sn	01 01 33.2	-0.9
WATA	Walderalm	5.17	218	*e*Pn	Pn	01 00 35.6	+1.0
	comp=Z,3.4nm,0.5s						
WTTA	Wattenberg	5.21	217	*i* Pn	Pn	01 00 37.0	+1.9
	comp=Z,0.7nm,0.3s						
MOTA	Moosalm	5.35	221	*i* Pn	Pn	01 00 38.9	+1.9
	comp=Z,1.7nm,0.5s						
ABTA	Abfaltersbach	5.36	208	*i* Pn	Pn	01 00 38.6	+1.4
	comp=Z,0.7nm,0.5s						
RETA	Reutte	5.38	223	*e*Pn	Pn	01 00 37.6	+0.2
	comp=Z,1.7nm,0.5s,SNR=5.0						
SQTA	Sankt Quirin	5.41	219	*i* Pn	Pn	01 00 39.6	+1.8
	comp=Z,1.5nm,0.2s						
FABU	Falkenberg	5.86	341	P	Pn	01 00 45.8	+2.0
FABU				*i* S	Sn	01 01 51.5	-0.2
FABU	Falkenberg	5.86	341	P	Pn	01 00 45.8	+2.0
DAVA	Damuels	5.92	227	*i* Pn	Pn	01 00 45.0	+0.1
	comp=Z,0.9nm,0.3s						
GNOU	Gnosjoe	5.96	347	P	Pn	01 00 46.2	+1.1
GNOU	Gnosjoe	5.96	347	P	Pn	01 00 46.2	+1.1
DAVOX	Davos/Dischmat	6.31	224	Pn	Pn	01 00 51.0	+0.7
	comp=Z,0.2nm,0.3s,baz=45,slow=8.6,SNR=2.5						
DAVOX				Sn	Sn	01 02 05.6	+2.6
	baz=32,slow=19						
DAVOX				Lg	Lg	01 02 34.0	
	baz=34,slow=18						
	comp=Z,0.8nm,0.4s						
AKASG	Malin Array Be	8.23	91	Pn	Pn	01 01 14.5	-1.9
	comp=Z,0.5nm,0.3s,baz=280,slow=12,SNR=3.3						
	comp=Z,0.2nm,0.3s						
HFS	Hagfors	8.75	352	Pn	Pn	01 01 24.3	+0.8
	comp=Z,0.1nm,0.3s,baz=172,slow=15,SNR=4.3						
	comp=Z,1.4nm,0.5s						
FINES	FINESS Array B	11.32	25	Pn	Pn	01 01 58.2	-0.5
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=7.1						
FINES				Sn	Sn	01 04 01.1	-4.7
	comp=Z,0.2nm,0.3s,baz=215,slow=22,SNR=2.2						
	comp=Z,3.0nm,0.7s						
EKA	Eskdalemuir Ar	12.16	296	Pn	Pn	01 02 07.8	-2.3
	baz=99,slow=14						
ARCES	ARCESS Array B	18.60	10	Pn	P	01 03 33.1	-1.2
	comp=Z,0.1nm,0.3s,baz=194,slow=11,SNR=8.2						
	comp=Z,0.5nm,0.4s						

*JMA **03** 01:02:24.1±0.7, 36°N±2°×12°9E±°, h0km, MV2.7/6, S KOREAN PENINSULA REG*

*KMA **03** 01:02:26.2±0.1, 35°.76N×129°.19E, h19km, Error ellipse: s-maj=1.0km s-min=0.7km az=257.0*

ISC 03 01:02:25.5±1.3**, 35°.76N**±0°.05×**129°.16E**±0°.09**, h10**km**, n7,** σ**0s.36**/8**, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOCB	Yeongcheon	0.28	323	P	Pb	01 02 32.7	+0.1
	SNR=30						
KSPHA	Pohang	0.47	22	P	Pb	01 02 35.5	-0.4
	SNR=18						
KSBUS	Busan	0.51	184	P	Pb	01 02 36.4	-0.1
	SNR=37						
JTU	Tsushima	1.25	171	P	Pn	01 02 48.6	-0.4
JTU				*e*S	Sb	01 03 05.4	+0.3
JTSM	Tsushimamitsus	1.43	172	*e*P	Pb	01 02 52.0	-0.1
JHGM	Hagimishima	1.89	120	*e*P	Pn	01 02 58.4	+0.5
JTY	Toyota	2.16	133	*e*S	Sb	01 03 31.6	0.0

*NEIC **03** 01:03:15.4±2.0, 21°.4S±0°.2×178°.12W±0°.05, h429km±12km, mb4.5/25, Error ellipse: s-maj=26.5km s-min=6.4km az=182.0*

*IDC **03** 01:03:15.3±1.5, 20°.90S×178°.10W, h455km±15km, mb3.5/12, mbtmp4.3/13, Error ellipse: s-maj=16.9km s-min=12.1km az=140.0*

ISC 03 01:03:14.7±0.5**, 21°.07S**±0°.06×**178°.01W**±0°.08**, h450**km**, n77,** σ**1s.74**/86**, mb4.1**/21**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.98	311	P	P	01 04 39.4	+0.4
	6.4nm,0.4s,baz=148,slow=6.9,SNR=12						
MSVF				S	S	01 05 51.3	+3.6
	33nm,1.1s,baz=91,slow=19,SNR=4.1						
MSVF	Nonsavu	4.98	311	P	P	01 04 39.3	+0.3
NIUE	Niue	7.85	77	P	P	01 05 10.5	+1.9
RAO	Raoul Island	8.15	179	S	S	01 06 44.8	-2.8
	222nm,0.3s,baz=76,slow=23,SNR=1.6						
GLKZ	Green Lake	8.16	179	P	P	01 05 08.1	-3.6
GLKZ				S	S	01 06 44.3	-3.5
AFI	Afiamalu	9.28	41	P	P	01 05 18.2	-5.9

40nm,0.4s,baz=220,slow=16,SNR=10
AFI S S 01 06 57.0 -13
10.0nm,0.3s,baz=243,slow=18,SNR=2.0
MXZ Matakaoa Point 16.74 190 P P 01 06 44.3 +0.2
WMGZ Waiomatatini S 16.98 190 P P 01 06 46.7 +0.1
HAZ Te Kaha 17.02 191 P P 01 06 46.5 -0.6
HAZ S S 01 09 48.7 +6.3
PKGZ Pakihiroa 17.10 191 P P 01 06 47.6 -0.4
RUGZ Raukumara Rang 17.25 192 P P 01 06 48.2 -1.3
RUGZ S S 01 09 43.5 -3.3
PUZ Puketiti 17.25 190 P P 01 06 49.4 -0.1
PUZ S S 01 09 55.5 +8.8
TWGZ Tauwhareparae 17.40 191 P P 01 06 51.4 +0.3
TWGZ S S 01 10 01.8 +12
MWZ Matawai 17.63 192 P P 01 06 52.5 -1.0
URZ Urewera 17.64 193 P P 01 06 51.3 -2.3
19nm,0.3s,baz=17,slow=15,SNR=12
URZ S S 01 09 52.9 -0.8
8.1nm,0.7s,baz=212,slow=17,SNR=2.7
URZ Urewera 17.64 193 P P 01 06 50.8 -2.8
URZ IAmb IAmb 01 06 53.1
comp=Z,24nm,0.8s
URZ Urewera 17.64 193 P P 01 06 51.6 -2.0
URZ S S 01 09 54.5 +0.8
RAGZ Rawiri 17.81 192 P P 01 06 54.7 -0.7
RAGZ S S 01 09 56.6 -0.3
RIGZ Rimuhau 17.95 191 P P 01 06 55.9 -0.9
HIZ Hauiti 18.44 198 P P 01 06 57.6 -3.9
HIZ IAmb IAmb 01 07 13.8
comp=Z,43nm,1.1s
BKZ Black Stump Fm 18.64 193 P P 01 07 01.5 -2.1
BKZ IAmb IAmb 01 07 09.1
comp=Z,12nm,0.5s
BFZ Birch Farm 20.15 193 P P 01 07 17.2 -0.1
BFZ IAmb IAmb 01 07 23.1
comp=Z,24nm,0.7s
SNZO South Karori 21.10 195 P P 01 07 26.2 +0.4
PLWZ Palliser 21.22 194 P P 01 07 25.8 -1.2
QRZ Quartz Range 21.27 200 P P 01 07 27.4 0.0
NNZ Nelson 21.37 198 P P 01 07 27.9 -0.4
NNZ IAmb IAmb 01 07 31.6
comp=Z,24nm,0.8s
TUWZ Tuamarina 21.41 197 P P 01 07 27.5 -1.2
BSWZ Blackbirch Sta 21.70 197 P P 01 07 30.8 -0.6
THZ Tophouse 22.01 198 P P 01 07 33.9 -0.3
KHZ Kahutara 22.44 197 P P 01 07 37.8 -0.2
LTZ Lake Taylor 23.13 198 P P 01 07 45.4 +1.1
OXZ Oxford 23.70 198 P P 01 07 50.1 +0.8
MQZ McQueen's Vall 23.88 197 P P 01 07 52.1 +1.2
MQZ IAmb IAmb 01 08 00.1
comp=Z,12nm,0.7s
RPZ Rata Peaks 24.35 199 P P 01 07 57.7 +2.5
comp=Z,20nm,0.6s,baz=16,slow=7.4,SNR=7.3
comp=Z,20nm,0.6s
WHZ Wether Hill Ro 27.30 202 P P 01 08 22.2 +0.9
WHZ IAmb IAmb 01 08 30.7
comp=Z,23nm,1.2s
ARMA Armidale 28.81 245 P P 01 08 34.2 -0.7
ARMA IAmb IAmb 01 08 37.3
comp=Z,5.3nm,0.6s
TOO Toolangi 35.55 234 P P 01 09 32.6 +0.1
TOO IAmb IAmb 01 09 39.2
comp=Z,12nm,1.1s
STKA Stephens Creek 37.53 245 P P 01 09 48.7 -0.3
comp=Z,4.4nm,0.6s,baz=88,slow=9.7,SNR=12
comp=Z,4.4nm,0.6s
STKA Stephens Creek 37.53 245 P P 01 09 49.0 0.0
BBOO Buckleboo 42.29 244 P P 01 10 27.5 +0.1
BBOO IAmb IAmb 01 10 28.1
comp=Z,12nm,0.8s
WR0 Warramunga Arr 44.32 263 P P 01 10 43.1 -0.4
AS31 Alice Springs 44.38 257 P P 01 10 44.6 +0.7
ASAR Alice Springs 44.38 257 P P 01 10 43.8 -0.2
comp=Z,4.7nm,0.5s,baz=97,slow=8.0,SNR=54
ASAR PcP **PcP 01 12 18.3 -0.3**
comp=Z,0.5nm,0.6s,baz=98,slow=4.3,SNR=2.4
ASAR ScP **ScP 01 15 28.6 +1.4**
comp=Z,0.3nm,0.6s,baz=108,slow=5.9,SNR=1.9
ASAR S S **01 16 44.2 -0.6**
comp=Z,0.7nm,0.9s,baz=94,slow=15,SNR=5.7
comp=Z,4.7nm,0.5s
WB0 Warramunga Arr 44.49 263 P P 01 10 44.6 -0.3
WB0 IAmb IAmb 01 10 45.1
comp=Z,3.3nm,0.6s
WB2 Warramunga Arr 44.50 263 P P 01 10 44.4 -0.5
WRA Warramunga Arr 44.51 263 P P 01 10 44.2 -0.8
comp=Z,2.1nm,0.8s,baz=97,slow=7.6,SNR=28
WRA S S **01 16 46.1 -0.7**
comp=Z,0.4nm,0.9s,baz=95,slow=12,SNR=2.8
comp=Z,2.1nm,0.8s
WRA Warramunga Arr 44.51 263 P P 01 10 44.5 -0.5
SBA Scott Base 57.31 184 P P 01 12 19.9 +2.2
VNDA Vanda 57.34 185 P P 01 12 19.2 +1.2
comp=Z,1.7nm,0.6s,baz=1.8,slow=7.4,SNR=8.1
comp=Z,1.7nm,0.6s
QSPA South Pole Qui 69.00 180 P P 01 13 34.7 +1.1
QSPA IAmb IAmb 01 13 35.4
comp=Z,9.3nm,0.8s
MJAR Matsushiro Arr 70.66 324 P P 01 13 42.5 -1.3
comp=Z,0.9nm,0.5s,baz=150,slow=5.5,SNR=1.8
comp=Z,0.9nm,0.5s
PETK Petropavlovsk- 76.81 345 P P 01 14 16.9 -1.7
comp=Z,4.5nm,0.8s,baz=166,slow=7.4,SNR=2.4
comp=Z,4.5nm,0.8s
SMAI San Martin Ant 78.08 159 P P 01 14 26.4 +0.9
BELA Belgrano 2 79.00 173 P P 01 14 30.1 -0.2
BELA IAmb IAmb 01 14 30.4
comp=Z,4.9nm,0.6s
MAW Mawson 81.03 200 P P 01 14 41.5 +0.5
comp=Z,1.4nm,0.6s,baz=135,slow=10.0,SNR=2.3
comp=Z,1.4nm,0.6s
NVAR Mina Array Bea 81.44 43 P P 01 14 43.6 -0.4
comp=Z,0.4nm,0.7s,baz=218,slow=10.0,SNR=3.9
comp=Z,0.4nm,0.7s
TROLL Troll, Antarti 87.17 180 P P 01 15 11.2 -0.4
SNAA Sanae 87.44 178 P P 01 15 11.8 -1.1
VNA3 Neumayer Olymp 87.58 176 P P 01 15 12.7 -0.7
VNA2 Neumayer--Watz 88.02 177 P P 01 15 14.9 -0.6
baz=172,slow=4.0
ILAR Eielson Array 88.87 13 P P 01 15 17.5 -1.8
comp=Z,0.9nm,0.5s,baz=213,slow=5.6,SNR=16
comp=Z,0.9nm,0.5s
PDAR Pinedale Array 89.38 43 P P 01 15 22.2 -0.3
comp=Z,0.3nm,0.3s,baz=186,slow=6.4,SNR=1.7
comp=Z,0.3nm,0.3s
CMAR Chiang Mai Arr 90.29 290 P P 01 15 27.6 +0.6
comp=Z,0.5nm,0.3s,baz=122,slow=3.0,SNR=4.9
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 129.47 350 PKP PKPdf 01 21 30.9 +0.3
comp=Z,0.6nm,0.4s,baz=38,slow=2.2,SNR=8.0
BELG Belogornoye 133.05 323 PKP PKPdf 01 21 38.5 +0.8
comp=Z,3.5nm,0.5s,baz=76,slow=4.2,SNR=2.4
FINES FINESS Array B 136.31 344 PKP PKPdf 01 21 42.8 -0.8
comp=Z,3.5nm,0.9s,baz=42,slow=2.3,SNR=4.8
HFS Hagfors 140.10 351 PKhKP PKPpre 01 21 43.1
comp=Z,1.3nm,0.4s,baz=60,slow=3.8,SNR=11
AKASG Malin Array Be 143.50 331 PKhKP PKPpre 01 21 54.1
comp=Z,5.5nm,0.5s,baz=45,slow=4.6,SNR=30
EKA Eskdalemuir Ar 145.57 5 PKPbc PKPdf 01 22 01.1 +0.7
comp=Z,0.8nm,0.4s,baz=328,slow=2.9,SNR=10
ASF Jabal al Asfar 147.02 297 PKPbc PKPbc 01 22 06.5 0.0
comp=Z,1.3nm,0.8s,baz=55,slow=6.8,SNR=4.3
BR131 Keskin Array S 147.21 312 PKPbc 01 22 06.5 -0.3
BRTR Keskin Array B 147.21 312 PKPbc PKPbc 01 22 06.6 -0.3
comp=Z,1.7nm,0.6s,baz=119,slow=4.7,SNR=11
BUR08 Bucovina Ar. S 147.53 330 PKPbc 01 22 06.7 -0.7
MLR Muntele Rosu 148.69 327 PKPbc PKPbc 01 22 10.3 -0.1
comp=Z,1.8nm,0.6s,baz=333,slow=6.8,SNR=2.6
GERES GERESS Array B 150.74 344 PKPbc PKPbc 01 22 14.3 -0.9
comp=Z,1.1nm,0.6s,baz=28,slow=3.2,SNR=5.5
DAVOX Davos/Dischmat 153.56 348 PKPbc PKPbc 01 22 21.6 +0.1
comp=Z,1.9nm,0.6s,baz=346,slow=4.2,SNR=1.6
TORD Torodi Ar. Bea 172.12 178 PKP PKPdf 01 22 30.3 -1.5
comp=Z,0.4nm,0.9s,baz=229,slow=1.3,SNR=1.6
TORD PKPab **PKPab 01 23 57.3 -0.6**
comp=Z,0.5nm,0.7s,baz=171,slow=4.1,SNR=3.6

*ROM **03** 01:08:19.0±0.0, 42.858N×0.002×13.075E×0.003, h11km, ML3.0/11, Error ellipse: s-maj=0.2km s-min=0.0km az=172.0*
*PRU **03** 01:08:22.5±0.0, 42.92N×13.48E, h10km*
ISC 03 01:08:19.6±0.9, **42.89N**±0.002×**13.08E**±0.003, **h13**km±5km, **n25**, σ1§**53**/39, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1216	**Preci, Frazion**	**0.04**	**268**	P	**Pg**	**01 08 21.7**	**-0.4**
T1216				S	**Sg**	**01 08 23.3**	**-0.5**
T1216				AML	AML		
	comp=E,27250μm,0.3s						
T1216				AML	AML		
	comp=N,21800μm,0.1s						
T1216				AML	AML		
	comp=E,28150μm,0.3s						
NRCA	**Norcia**	**0.07**	**154**	P	**Pg**	**01 08 21.5**	**-0.8**
NRCA				S	**Sg**	**01 08 23.0**	**-1.2**
FEMA	**Monte Fema**	**0.07**	**345**	P	**Pg**	**01 08 22.5**	**0.0**
FEMA				S	**Sg**	**01 08 24.7**	**+0.2**
T1245	**Castelsantange**	**0.09**	**113**	P	**Pg**	**01 08 22.1**	**-0.5**
T1245				S	**Sg**	**01 08 24.1**	**-0.7**
T1256	**Bolognola (MC)**	**0.16**	**44**	P	**Pg**	**01 08 23.6**	**+0.1**
T1256				S	**Sg**	**01 08 26.9**	**+0.6**
CESI	**CESI - Serrava**	**0.17**	**312**	P	**Pg**	**01 08 23.8**	**+0.2**
CESI				S	**Sg**	**01 08 27.2**	**+0.8**
CESI				AML	AML		
	comp=E,18550μm,0.2s						
CESI				AML	AML		
	comp=N,29500μm,0.4s						
T1215	**Vallo di Nera,**	**0.18**	**240**	P	**Pg**	**01 08 23.2**	**-0.5**
T1215				S	**Sg**	**01 08 26.0**	**-0.6**
MMO1	**Montemonaco**	**0.18**	**88**	P	**Pg**	**01 08 23.7**	**-0.2**
MMO1				S	**Sg**	**01 08 26.9**	**+0.1**
T1217	**Poggiodomo (PG**	**0.21**	**211**	P	**Pg**	**01 08 23.5**	**-0.7**
T1217				S	**Sg**	**01 08 26.7**	**-0.7**
T1217				AML	AML		
	comp=N,8225μm,0.3s						
T1217				AML	AML		
	comp=E,5640μm,0.8s						
T1217				AML	AML		
	comp=N,8090μm,0.3s						
T1217				AML	AML		
	comp=E,5520μm,0.8s						
AM05	**Amandola Campo**	**0.22**	**67**	P	**Pb**	**01 08 24.6**	**-1.0**
AM05				S	**Sg**	**01 08 28.5**	**+0.8**
GUMA	**Gualdo di Mace**	**0.26**	**48**	S	**Sg**	**01 08 26.0**	**-2.7**
SEF1	**Sefro**	**0.27**	**340**	S	**Sg**	**01 08 26.0**	**-3.2**
T1204	**Amatrice, Fraz**	**0.28**	**141**	P	**Pg**	**01 08 24.8**	**-0.8**
T1204				S	**Sg**	**01 08 29.3**	**-0.2**
T1204				AML	AML		
	comp=E,5225μm,0.3s						
T1204				AML	AML		
	comp=N,3450μm,1.0s						
LNSS	**Leonessa**	**0.29**	**185**	P	**Pg**	**01 08 24.7**	**-1.0**
LNSS				S	**Sg**	**01 08 29.0**	**-0.7**
LNSS				AML	AML		
	comp=N,10800μm,0.1s						
LNSS				AML	AML		
	comp=E,2540μm,0.5s						
FIU1	**Fiuminata**	**0.32**	**340**	S	**Sg**	**01 08 27.0**	**-3.5**
SMA1	**SAN MARTINO**	**0.32**	**144**	P	**Pg**	**01 08 25.5**	**-0.8**
SMA1				S	**Sg**	**01 08 30.4**	**-0.3**
SSM1	**San Severino M**	**0.34**	**12**	S	**Sg**	**01 08 28.0**	**-3.3**
T1211	**Morro Reatino**	**0.39**	**204**	P	**Pg**	**01 08 26.6**	**-1.0**
T1211				S	**Sg**	**01 08 32.7**	**-0.1**
T1211				AML	AML		
	comp=E,3435μm,1.2s						
T1211				AML	AML		
	comp=N,4120μm,0.2s						
RM33	**Pellescritta (**	**0.40**	**165**	P	**Pg**	**01 08 26.5**	**-1.1**
RM33				AML	AML		
	comp=E,1850μm,0.2s						
RM33				AML	AML		
	comp=N,2290μm,0.3s						
RM33				AML	AML		
	comp=E,1770μm,1.5s						
RM33				AML	AML		
	comp=N,2280μm,0.3s						
MYKA	**Terra Mystica**	**3.76**	**6**	*e*Pn	**Pn**	**01 09 19.6**	**+2.3**
	comp=N,0.7nm,0.1s						
ABTA	**Abfaltersbach**	**3.88**	**354**	*e*Pn	**Pn**	**01 09 21.1**	**+2.1**
	comp=N,0.1nm,0.1s						
FETA	**Feichten**	**4.45**	**339**	*i* Pn	Pn	01 09 34.5	+7.5
	comp=N,0.4nm,0.2s						
SQTA	**Sankt Quirin**	**4.53**	**344**	Pn	**Pn**	**01 09 31.0**	**+3.0**
	comp=N,1.6nm,0.3s						
CKRC	**Cesky Krumlov**	**5.99**	**8**	*e*SN	**Sn**	**01 10 54.8**	**-1.6**
KHC	**Kasperske Hory**	**6.25**	**3**	*e*PN	**Pn**	**01 09 54.2**	**+2.7**
KHC				*e*SN	**Sn**	**01 11 02.6**	**-0.2**

*IDC **03** 01:18:31.8±1.5, 42.75N×13.41E, h0km, mb3.2/1, mbtmp3.3/6, ML3.1/5, Error ellipse: s-maj=35.2km s-min=14.8km az=94.0*
*ROM **03** 01:18:31.0±0.1, 42.655N±0.002×13.314E±0.004, h8km, ML3.1/43, Error ellipse: s-maj=0.3km s-min=0.2km az=215.0*
*PRU **03** 01:18:33.2±0.0, 42.58N×13.52E, h10km*
ISC 03 01:18:31.8±0.8, **42.65N**±0.002×**13.32E**±0.002, **h5**km±4km, **n88**, σ1§**09**/110, **17C-31D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.02**	**157**	P	**Pg**	**01 18 32.7**	**-0.3**
SMA1				S	**Sg**	**01 18 33.5**	**-0.2**
SMA1				AML	AML		
SMA1				AML	AML		
T1204	**Amatrice, Fraz**	**0.03**	**348**	P	**Pg**	**01 18 32.7**	**-0.3**
T1204				S	**Sg**	**01 18 33.4**	**-0.5**
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1201	**Domo (RI)**	**0.05**	**278**	P	**Pg**	**01 18 33.3**	**+0.1**
T1201				S	**Sg**	**01 18 34.9**	**+0.6**
T1243	**Rocca Santa Ma**	**0.10**	**63**	⇑P	**Pg**	**01 18 34.1**	**0.0**
T1243				S	**Sg**	**01 18 36.1**	**+0.5**
CAMP	**Campotosto**	**0.13**	**151**	⇓P	**Pg**	**01 18 34.6**	**0.0**
CAMP				S	**Sg**	**01 18 36.8**	**+0.5**
CAMP				AML	AML		
	comp=N,13750μm,0.7s						
CAMP				AML	AML		
	comp=E,10640μm,0.9s						
T1246	**Crognaleto (TE**	**0.14**	**118**	P	**Pg**	**01 18 34.8**	**+0.1**
T1246				S	**Sg**	**01 18 37.3**	**+0.7**
RM33	**Pellescritta (**	**0.16**	**210**	⇓P	**Pg**	**01 18 35.4**	**+0.3**
RM33				S	**Sg**	**01 18 38.4**	**+1.1**
RM33				AML	AML		
	comp=N,30050μm,1.3s						
RM33				AML	AML		
	comp=N,29750μm,1.3s						
RM33				AML	AML		
	comp=E,28350μm,0.7s						
RM33				AML	AML		
	comp=E,28350μm,0.7s						
RM33				AML	AML		
	comp=N,30100μm,1.3s						
TERO	**Teramo**	**0.21**	**97**	⇓P	**Pg**	**01 18 36.0**	**+0.1**
TERO				S	**Sg**	**01 18 39.6**	**+0.9**
TERO				AML	AML		
	comp=E,53600μm,0.3s						
TERO				AML	AML		
	comp=N,30550μm,1.2s						
TERO				AML	AML		
	comp=N,32250μm,1.2s						
TERO				AML	AML		
	comp=E,53650μm,0.3s						
TERO				AML	AML		
	comp=E,57050μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.21**	**185**	⇓P	**Pg**	**01 18 36.1**	**+0.2**
T1247				S	**Sg**	**01 18 40.1**	**+1.4**
T1247				AML	AML		
	comp=N,35750μm,0.5s						
T1247				AML	AML		
	comp=E,19000μm,0.7s						
LNSS	**Leonessa**	**0.21**	**257**	⇑P	**Pg**	**01 18 36.3**	**+0.2**
LNSS				AML	AML		
	comp=E,9075μm,0.5s						
LNSS				AML	AML		
	comp=N,16550μm,0.3s						
T1241	**Roccafluvione,**	**0.22**	**21**	P	**Pg**	**01 18 36.2**	**+0.1**
T1241				S	**Sg**	**01 18 39.9**	**+0.7**
T1245	**Castelsantange**	**0.23**	**334**	P	**Pg**	**01 18 36.4**	**0.0**
T1245				AML	AML		
	comp=N,19300μm,1.4s						
T1245				AML	AML		
	comp=E,14150μm,0.5s						
T1245				AML	AML		
	comp=E,13650μm,0.5s						
T1245				AML	AML		
	comp=N,18500μm,1.4s						
T1245				AML	AML		
	comp=N,19300μm,1.4s						
T1245				AML	AML		
	comp=E,13650μm,0.5s						
NRCA	**Norcia**	**0.24**	**320**	P	**Pg**	**01 18 36.5**	**0.0**
NRCA				AML	AML		
	comp=N,7915μm,0.6s						
NRCA				AML	AML		
	comp=E,10900μm,0.2s						
NRCA				AML	AML		
	comp=N,7920μm,0.6s						
NRCA				AML	AML		
	comp=N,8220μm,1.1s						
NRCA				AML	AML		
	comp=E,10250μm,0.2s						
MMO1	**Montemonaco**	**0.25**	**0**	P	**Pg**	**01 18 36.8**	**+0.1**
MMO1				S	**Sg**	**01 18 41.1**	**+1.1**
GIGS	**Gran Sasso**	**0.27**	**138**	⇓P	**Pg**	**01 18 36.9**	**-0.2**
GIGS				S	**Sg**	**01 18 41.1**	**+0.4**
GIGS				AML	AML		
	comp=E,2395μm,1.3s						
GIGS				AML	AML		
	comp=N,1980μm,0.4s						
T1217	**Poggiodomo (PG**	**0.30**	**282**	P	**Pg**	**01 18 37.6**	**-0.1**
T1217				S	**Sg**	**01 18 42.5**	**+1.0**
AQU	**L'Aquila**	**0.30**	**169**	⇓P	**Pg**	**01 18 37.6**	**-0.1**
AQU				AML	AML		
	comp=E,5890μm,1.3s						
AQU				AML	AML		
	comp=N,7130μm,0.7s						
AQU				AML	AML		
	comp=N,6665μm,0.7s						
AQU				AML	AML		
	comp=E,5500μm,0.4s						
AM05	**Amandola Campo**	**0.33**	**4**	P	**Pg**	**01 18 38.3**	**+0.1**
AM05				S	**Sb**	**01 18 43.9**	**-2.0**
T1216	**Preci, Frazion**	**0.33**	**317**	P	**Pg**	**01 18 38.0**	**-0.2**
T1216				AML	AML		
	comp=E,10945μm,0.4s						
T1216				AML	AML		
	comp=N,10350μm,0.3s						
T1216				AML	AML		
	comp=E,10965μm,0.4s						
T1216				AML	AML		
	comp=N,10365μm,0.3s						
T1216				AML	AML		
	comp=E,10950μm,0.4s						
T1216				AML	AML		
	comp=N,10390μm,0.3s						
T1216				AML	AML		
	comp=E,10925μm,0.4s						
T1256	**Bolognola (MC)**	**0.36**	**349**	P	**Pg**	**01 18 38.7**	**-0.2**
T1211	**Morro Reatino**	**0.36**	**251**	⇑P	**Pg**	**01 18 38.8**	**-0.2**
T1211				AML	AML		
	comp=E,4185μm,0.1s						
T1211				AML	AML		
	comp=N,9235μm,0.4s						
T1211				AML	AML		
	comp=N,9345μm,0.4s						
T1211				AML	AML		
	comp=E,4190μm,0.1s						
T1211				AML	AML		
	comp=E,4260μm,0.1s						
T1211				AML	AML		
	comp=N,9335μm,0.4s						
T1215	**Vallo di Nera,**	**0.37**	**294**	P	**Pg**	**01 18 38.8**	**-0.2**
T1215				S	**Sg**	**01 18 44.8**	**+1.0**
OFFI	**Offida**	**0.39**	**43**	⇓P	**Pb**	**01 18 40.2**	**-1.0**
OFFI				AML	AML		
	comp=N,9515μm,0.3s						
OFFI				AML	AML		
	comp=E,11000μm,0.3s						
FIAM	**Fiamignano**	**0.41**	**202**	⇓P	**Pg**	**01 18 39.3**	**-0.5**
FIAM				AML	AML		
	comp=E,4050μm,0.5s						
FIAM				AML	AML		
	comp=N,2735μm,0.5s						
FIAM				AML	AML		
	comp=N,2730μm,0.5s						
GUMA	**Gualdo di Mace**	**0.41**	**1**	P	**Pg**	**01 18 40.0**	**+0.2**
ARRO	**Arrone**	**0.42**	**260**	P	**Pg**	**01 18 39.6**	**-0.3**
FAGN	**Fagnano**	**0.43**	**153**	⇓P	**Pg**	**01 18 39.6**	**-0.5**
FAGN				S	**Sb**	**01 18 50.0**	**+1.2**
FAGN				AML	AML		
	comp=E,7660μm,0.6s						
FAGN				AML	AML		
	comp=N,8035μm,0.4s						
VCEL	**Villa Celiera**	**0.46**	**124**	⇓P	**Pg**	**01 18 41.0**	**+0.3**
VCEL				S	**Sb**	**01 18 48.9**	**-0.8**
VCEL				AML	AML		
	comp=N,4965μm,0.3s						
VCEL				AML	AML		
	comp=E,6040μm,0.2s						
TRTR	**Tortoreto Alta**	**0.46**	**70**	⇓P	**Pb**	**01 18 42.0**	**-0.5**
TRTR				AML	AML		
	comp=E,7185μm,1.2s						
TRTR				AML	AML		
	comp=N,7080μm,1.0s						
CESI	**CESI - Serrava**	**0.47**	**319**	P	**Pg**	**01 18 40.6**	**-0.3**
T0110	**Collepietro**	**0.54**	**141**	⇓P	**Pg**	**01 18 41.5**	**-0.7**
T0110				S	**Sb**	**01 18 51.0**	**-1.0**
T0110				AML	AML		
	comp=E,5145μm,0.4s						
T0110				AML	AML		
	comp=N,4615μm,0.3s						
CESX	**Cesi**	**0.55**	**266**	⇑P	**Pg**	**01 18 41.8**	**-0.6**
CESX				AML	AML		
	comp=E,2405μm,1.5s						
CESX				AML	AML		
	comp=N,2825μm,0.5s						
ASSB	**Assisi San Ben**	**0.63**	**309**	P	**Pg**	**01 18 43.2**	**-0.7**
PTQR	**Pietraquaria**	**0.63**	**175**	P	**Pg**	**01 18 43.0**	**-0.9**
PTQR				AML	AML		
	comp=N,643μm,0.5s						
PTQR				AML	AML		
	comp=E,759μm,1.4s						
SNTG	**Esanatoglia**	**0.67**	**335**	P	**Pg**	**01 18 43.9**	**-0.7**
SRES	**S.Oreste - Sor**	**0.73**	**236**	⇓P	**Pg**	**01 18 45.4**	**-0.5**
SRES				AML	AML		
	comp=E,612μm,1.3s						
SRES				AML	AML		
	comp=N,752μm,0.8s						
ATCC	**AVT- Casa Cast**	**0.73**	**317**	P	**Pg**	**01 18 45.2**	**-0.7**
CERT	**Cerreto**	**0.74**	**200**	⇓P	**Pg**	**01 18 44.9**	**-1.3**
CERT				AML	AML		
	comp=E,1570μm,0.7s						
CERT				AML	AML		
	comp=N,962μm,0.5s						
MTCE	**Montecelio**	**0.76**	**215**	⇑P	**Pg**	**01 18 45.3**	**-1.1**
MTCE				AML	AML		
	comp=N,984μm,1.3s						
MTCE				AML	AML		
	comp=E,1310μm,0.6s						
FOSV	**Fossato di Vic**	**0.77**	**328**	P	**Pg**	**01 18 45.7**	**-0.8**
VVLD	**Villa Vallelon**	**0.81**	**164**	⇑P	**Pg**	**01 18 46.6**	**-0.7**
VVLD				AML	AML		
	comp=N,719μm,0.9s						
VVLD				AML	AML		
	comp=E,597μm,0.6s						
RCAV	**Rocca di Cave**	**0.85**	**199**	⇓P	**Pn**	**01 18 50.1**	**-0.5**
GUAR	**Guarcino**	**0.85**	**181**	P	**Pg**	**01 18 48.7**	**+0.5**
GUAR				AML	AML		
	comp=E,958μm,1.3s						
GUAR				AML	AML		
	comp=N,1245μm,0.5s						
CAFR	**Castel Frentan**	**0.87**	**119**	⇑P	**Pg**	**01 18 47.8**	**-0.6**
CAFR				AML	AML		
	comp=N,598μm,0.4s						
CAFR				AML	AML		
	comp=E,468μm,0.4s						
LPEL	**Lama dei Pelig**	**0.88**	**133**	P	**Pg**	**01 18 47.0**	**-1.7**
LPEL				S	**Sb**	**01 19 02.0**	**+0.3**
LPEL				AML	AML		
	comp=E,954μm,0.9s						
LPEL				AML	AML		
	comp=N,742μm,0.5s						
RMP	**Rome, Mte Porz**	**0.96**	**209**	⇓P	**Pn**	**01 18 51.9**	**-0.1**
RMP				AML	AML		
	comp=E,1056μm,0.4s						
RMP				AML	AML		
	comp=N,1425μm,0.4s						
POFI	**Posta Fibreno**	**0.98**	**163**	P	**Pg**	**01 18 49.2**	**-1.3**
POFI				AML	AML		
	comp=E,658μm,1.2s						
POFI				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,412µm,1.1s						
POFI				AML	AML		
	comp=E,698µm,1.3s						
POFI				AML	AML		
	comp=N,412µm,1.1s						
VIVA	**Pratoni del Vi**	**0.99**	**205**	⇑P	**Pn**	**01 18 52.5**	**0.0**
VIVA				AML	AML		
	comp=N,2540µm,0.4s						
VIVA				AML	AML		
	comp=E,2675µm,0.4s						
RDP	**Rocca di Papa**	**1.00**	**207**	⇓P	**Pn**	**01 18 52.5**	**-0.1**
RDP				AML	AML		
	comp=E,2745µm,0.7s						
RDP				AML	AML		
	comp=N,2810µm,0.5s						
MA9	**Marino**	**1.01**	**210**	⇓P	**Pn**	**01 18 52.5**	**-0.2**
MA9				AML	AML		
	comp=E,3085µm,0.6s						
MA9				AML	AML		
	comp=N,2080µm,0.6s						
LRP	**Arpino**	**1.02**	**169**	⇑P	**Pg**	**01 18 51.7**	**+0.3**
LRP				AML	AML		
	comp=E,267µm,0.6s						
LRP				AML	AML		
	comp=N,441µm,1.1s						
LAV9	**Lanuvio**	**1.08**	**206**	⇓P	**Pn**	**01 18 53.5**	**-0.1**
LAV9				AML	AML		
	comp=E,2345µm,0.5s						
LAV9				AML	AML		
	comp=E,2395µm,0.5s						
LAV9				AML	AML		
	comp=N,1800µm,0.4s						
LAV9				AML	AML		
	comp=N,1925µm,0.4s						
GIUL	**Giuliano Di Ro**	**1.09**	**183**	⇓P	**Pg**	**01 18 52.5**	**-0.3**
GIUL				AML	AML		
	comp=E,437µm,1.0s						
GIUL				AML	AML		
	comp=N,616µm,1.0s						
TOLF	**Tolfa**	**1.14**	**240**	⇓P	**Pg**	**01 18 52.7**	**-1.1**
TOLF				AML	AML		
	comp=E,486µm,0.7s						
TOLF				AML	AML		
	comp=N,465µm,0.5s						
CERA	**Filignano**	**1.17**	**154**	⇑P	**Pg**	**01 18 52.7**	**-1.6**
CERA				AML	AML		
	comp=E,588µm,0.8s						
CERA				AML	AML		
	comp=N,572µm,1.0s						
CERA				AML	AML		
	comp=N,564µm,1.0s						
CERA				AML	AML		
	comp=E,606µm,0.8s						
LATB	**Latina**	**1.19**	**193**	⇓P	**Pb**	**01 18 54.8**	**0.0**
LATB				AML	AML		
	comp=N,127µm,1.2s						
LATB				AML	AML		
	comp=E,139µm,0.7s						
MIDA	**Miranda**	**1.22**	**145**	⇑P	**Pb**	**01 18 53.2**	**-2.3**
MIDA				AML	AML		
	comp=N,492µm,1.2s						
MIDA				AML	AML		
	comp=E,314µm,1.0s						
MIDA				AML	AML		
	comp=E,320µm,1.0s						
MIDA				AML	AML		
	comp=N,266µm,1.4s						
TRIV	**Trivento**	**1.27**	**134**	⇓P	**Pg**	**01 18 57.4**	**+1.2**
TRIV				AML	AML		
	comp=E,318µm,0.8s						
TRIV				AML	AML		
	comp=N,310µm,0.8s						
CPGN	**Carpegna, Ital**	**1.36**	**328**	AML	AML		
	comp=E,536µm,0.5s						
CPGN				AML	AML		
	comp=N,650µm,1.4s						
VAGA	**Valle Agricola**	**1.41**	**151**	⇓P	**Pg**	**01 19 00.2**	**+1.4**
VAGA				AML	AML		
	comp=E,150µm,1.3s						
VAGA				AML	AML		
	comp=N,246µm,1.1s						
VAGA				AML	AML		
	comp=E,166µm,1.4s						
VAGA				AML	AML		
	comp=N,254µm,1.1s						
VITU	**Vitulano (BN)**	**1.76**	**146**	⇓P	**Pg**	**01 19 06.4**	**+0.8**
VITU				AML	AML		
	comp=N,152µm,1.3s						
VITU				AML	AML		
	comp=E,136µm,0.5s						
CASP	**Castiglione de**	**1.82**	**275**	⇓P	**Pn**	**01 19 01.8**	**-2.0**
TRIF	**Trifonti**	**1.84**	**285**	⇑P	**Pn**	**01 19 03.9**	**-0.3**
APRC	**Apricena**	**1.88**	**118**	⇑P	**Pb**	**01 19 05.8**	**-0.8**
APRC				AML	AML		
	comp=E,157µm,1.5s						
APRC				AML	AML		
	comp=N,232µm,1.4s						
CMPR	**Campora**	**2.76**	**147**	S	**Sn**	**01 19 46.0**	**-4.7**
NOCI	**Noci**	**3.36**	**122**	⇑P	**Pn**	**01 19 25.7**	**+0.7**
ROVR	**Rover Verones**	**3.41**	**332**	⇓P	**Pn**	**01 19 26.8**	**+1.0**
SALO	**Salr**	**3.59**	**327**	⇓P	**Pn**	**01 19 29.8**	**+1.6**
CTI	**Castel Tesino**	**3.60**	**341**	P	**Pn**	**01 19 28.8**	**+0.3**
LUSI	**Trento, Gardas**	**3.72**	**334**	P	**Pn**	**01 19 30.7**	**+0.6**
GAGG	**Gaggia**	**3.83**	**335**	⇑P	**Pn**	**01 19 32.7**	**+1.1**
KOSI	**Kohlern**	**4.06**	**341**	⇑P	**Pn**	**01 19 35.7**	**+1.0**
ABTA	**Abfaltersbach**	**4.14**	**352**	*e*Pn	**Pn**	**01 19 36.3**	**+0.5**
	comp=N,17nm,0.5s,SNR=20						
BRES	**Bressanone**	**4.20**	**345**	⇓P	**Pn**	**01 19 38.0**	**+1.1**
VSL	**Villasalto**	**4.34**	**225**	⇓P	**Pn**	**01 19 39.4**	**+0.9**
PDG	**Podgorica**	**4.39**	**91**	⇓P	**Pn**	**01 19 40.7**	**+1.6**
ROSI	**Rosskopf**	**4.49**	**343**	⇑P	**Pn**	**01 19 41.7**	**+1.0**
DAVOX	**Davos/Dischmat**	**4.80**	**330**	Pn	**Pn**	**01 19 46.8**	**+1.7**
	comp=N,1.2nm,0.3s,baz=142,slow=18,SNR=15						
DAVOX				Sn	**Sn**	**01 20 42.7**	**+1.6**
	comp=N,0.4nm,0.3s,baz=150,slow=20,SNR=2.4						
	comp=N,4.4nm,0.5s						
SQTA	**Sankt Quirin**	**4.81**	**343**	*i* Pn	**Pn**	**01 19 46.2**	**+1.1**
	comp=N,1.8nm,0.2s,SNR=8.8						
WATA	**Walderalm**	**4.85**	**346**	*e*Pn	**Pn**	**01 19 47.0**	**+1.4**
	comp=N,3.6nm,0.2s,SNR=6.5						
RETA	**Reutte**	**5.17**	**340**	*i* Pn	**Pn**	**01 19 51.0**	**+1.1**
	comp=N,1.6nm,0.3s,SNR=6.6						
GERES	**GERESS Array B**	**6.20**	**2**	Pn	**Pn**	**01 20 03.5**	**-0.6**
	comp=N,0.3nm,0.3s,baz=176,slow=14,SNR=5.5						
GERES				Sn	**Sn**	**01 21 12.7**	**-2.7**
	comp=N,0.5nm,0.3s,baz=174,slow=22,SNR=1.5						
	comp=N,0.4nm,0.3s						
CKRC	**Cesky Krumlov**	**6.21**	**6**	*e*PN	**Pn**	**01 20 05.2**	**+1.0**
CKRC				*e*SN	**Sn**	**01 21 13.4**	**-2.1**
KHC	**Kasperske Hory**	**6.48**	**1**	*e*PN	**Pn**	**01 20 09.4**	**+1.4**
KHC				*e*SN	**Sn**	**01 21 20.9**	**-1.4**
KEST	**Kesra**	**7.57**	**205**	Pn	**Pn**	**01 20 25.7**	**+2.8**
	comp=N,0.2nm,0.3s,baz=27,slow=6.8,SNR=2.0						
	comp=N,1.7nm,0.7s						
IDI	**Anoyia**	**11.62**	**125**	Pn	**Pn**	**01 21 20.4**	**+2.1**
	comp=N,0.1nm,0.3s,baz=322,slow=18,SNR=1.6						
	comp=N,2.1nm,0.9s						
ESDC	**Sonseca Array**	**13.36**	**263**	Pn	**Pn**	**01 21 42.9**	**+0.7**
	baz=66,slow=13,SNR=2.1						
	comp=N,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.07**	**202**	P	**P**	**01 24 51.8**	**+0.8**
	comp=N,0.4nm,1.0s,baz=16,slow=9.5,SNR=2.3						
	comp=N,0.4nm,1.0s						

IDC 03 01:32:32.5±8.7**, 22.77S**×**66.11W, h256**km±137km**,**
mb3.7/2**, mbtmp4.0**/4**, Error ellipse: s-maj=186.5km s-min=19.8km az=105.0, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.72**	**343**	P	Pn	01 34 12.2	+1.6
	1.0nm,0.3s,baz=185,slow=11,SNR=14						
LPAZ				S	S	01 35 27.8	-1.2
	2.9nm,0.7s,baz=246,slow=20,SNR=2.7						
PLCA	**Paso Flores**	**18.30**	**191**	P	P	01 36 26.1	-1.9
	1.8nm,0.7s,baz=6.3,slow=5.8,SNR=3.4						
PMSA	**Palmer Station**	**42.02**	**179**	P	P	01 39 59.4	+0.8
	16nm,0.9s,baz=352,slow=7.1,SNR=6.5						
	16nm,0.9s						
TORD	**Torodi Ar. Bea**	**75.36**	**69**	P	P	01 43 48.2	-0.2
	0.4nm,0.5s,baz=254,slow=6.2,SNR=8.1						
	0.4nm,0.5s						

---

*NNC **03** 01:43:26.5±1.2, 44.11N×84.38E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=10.4km s-min=4.2km az=129.0
*SOME **03** 01:43:28.5, 44.18N×84.25E, h5km*
ISC 03 01:43:26.7±1.8**, 44.14N**±0.07×**84.32E**±0.08**, h10**km**, n41,**
σ**2.15**/57**, 11C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.01**	**332**	Pn	**Pn**	**01 44 15.0**	**+0.5**
	0.6nm,0.2s,baz=148,slow=14,SNR=173						
MK31				⇑Pg	**Pg**	**01 44 22.8**	**-1.6**
	5.2nm,0.3s,baz=151,slow=15,SNR=71						
MK31				⇑Lg	Lg	01 45 03.6	
	13nm,0.3s,baz=147,slow=28,SNR=11						
MAKZ	**Makanchi**	**3.13**	**329**	⇑Pn	**Pn**	**01 44 16.8**	**+0.7**
	2.3nm,0.8s						
MAKZ				⇓Pg	**Pg**	**01 44 25.4**	**-1.3**
	5.8nm,0.5s						
MAKZ				⇓Lg	Lg	01 45 08.2	
	29nm,0.6s						
DJR	**Jarkent**	**3.26**	**275**	*e*P	**Pg**	**01 44 27.9**	**-1.3**
	7.3nm,0.2s						
DJR				*e*S	**Sg**	**01 45 10.8**	**-0.6**
	49nm,0.3s						
DJR	**Jarkent**	**3.26**	**275**	Pg	**Pg**	**01 44 27.1**	**-2.1**
	6.0nm,0.3s						
DJR				Lg	Lg	01 45 10.8	
	49nm,0.3s						
ZSN	**Zaisan**	**3.33**	**6**	*e*P	**Pg**	**01 44 29.1**	**-1.4**
	14nm,0.2s						
ZSN				*e*S	**Sg**	**01 45 12.5**	**-1.1**
	48nm,0.5s						
ZSN	**Zaisan**	**3.33**	**6**	Pg	**Pg**	**01 44 29.1**	**-1.4**
	14nm,0.2s						
ZSN				Lg	Lg	01 45 12.3	
	48nm,0.5s						
PDGK	**Podgornoye**	**3.59**	**259**	Pg	**Pb**	**01 44 31.6**	**+1.2**
	0.7nm,0.2s						
PDGK				Lg	Lg	01 45 17.4	
	9.5nm,0.4s						
PDGK	**Podgornoye**	**3.59**	**259**	⇓Pn	**Pn**	**01 44 23.9**	**+1.3**
	2.4nm,0.3s						
PDGK				⇓Sn	**Sn**	**01 45 09.1**	**+3.9**
	27nm,0.8s						
PDGK				⇑Lg	Lg	01 45 23.0	
	16nm,0.5s						
SHLS	**Shalkode**	**3.66**	**256**	*e*P	**Pb**	**01 44 29.9**	**-1.7**
	7.9nm,0.3s						
SHLS				*e*S	**Sb**	**01 45 13.7**	**-2.3**
	60nm,0.9s						
SHLS	**Shalkode**	**3.66**	**256**	Pg	**Pb**	**01 44 28.4**	**-3.1**
	8.1nm,0.2s						
SHLS				Lg	Lg	01 45 11.6	
	61nm,0.7s						
UZB	**Uzynbulak**	**3.97**	**257**	*e*P	**Pg**	**01 44 41.2**	**-1.6**
	3.0nm,0.3s						
UZB				*e*S	**Sg**	**01 45 33.3**	**-1.0**
	19nm,0.7s						
UZB	**Uzynbulak**	**3.97**	**257**	Pg	**Pg**	**01 44 40.1**	**-2.7**
	4.4nm,0.5s						
UZB				Lg	Lg	01 45 31.3	
	14nm,0.3s						
BLB	**Baldybastay**	**4.21**	**271**	*e*P	**Pg**	**01 44 46.1**	**-1.2**
	9.3nm,0.2s						
BLB				*e*S	**Sg**	**01 45 41.9**	**+0.2**
	44nm,0.3s						
BLB	**Baldybastay**	**4.21**	**271**	Pg	**Pg**	**01 44 45.1**	**-2.2**
	10nm,0.2s						
BLB				Lg	Lg	01 45 41.3	
	44nm,0.3s						
TDK	**Taldyqorghan**	**4.31**	**284**	*e*P	**Pg**	**01 44 47.5**	**-1.7**
	26nm,0.3s						
TDK				*e*S	**Sg**	**01 45 44.4**	**-0.8**
	103nm,0.3s						
TDK	**Taldyqorghan**	**4.31**	**284**	Pg	**Pg**	**01 44 48.5**	**-0.7**
	39nm,0.3s						
TDK				Lg	Lg	01 45 46.0	
	103nm,0.3s						
SATY	**Saty**	**4.43**	**258**	*e*P	**Pg**	**01 44 49.5**	**-2.1**
	3.6nm,0.4s						
SATY				*e*S	**Sg**	**01 45 47.4**	**-1.6**
	21nm,0.5s						
SATY	**Saty**	**4.43**	**258**	Pg	**Pb**	**01 44 46.8**	**+2.1**
	4.6nm,0.2s						
SATY				Lg	Lg	01 45 43.4	
	14nm,0.3s						
KOTS	**Kotyrbulak**	**5.31**	**263**	*e*P	**Pg**	**01 45 06.8**	**-1.5**
	2.5nm,0.3s						
KOTS				*e*S	**Sg**	**01 46 17.3**	**+0.3**
	40nm,0.6s						
MDOK	**Medeo**	**5.37**	**262**	*e*P	**Pg**	**01 45 08.0**	**-1.5**
	2.3nm,0.7s						
MDOK				*e*S	**Sg**	**01 46 19.7**	**+0.8**
	7.7nm,0.5s						
MDOK	**Medeo**	**5.37**	**262**	⇓Pn	**Pn**	**01 44 48.4**	**+1.5**
	5.3nm,0.5s						
MDOK				⇑Sn	**Sn**	**01 45 52.8**	**+3.9**
	6.4nm,0.6s						
MDOK				⇑Lg	Lg	01 46 18.1	
	9.7nm,0.6s						
TNSS	**Tian-Shan**	**5.47**	**261**	*e*P	**Pg**	**01 45 09.7**	**-1.7**
	3.1nm,0.8s						
TNSS				*e*S	**Sg**	**01 46 22.6**	**+0.3**
	4.2nm,0.5s						
TNSS	**Tian-Shan**	**5.47**	**261**	Pg	**Pb**	**01 45 06.2**	**+3.6**
	3.7nm,0.4s						
TNSS				Lg	Lg	01 46 15.8	
	2.9nm,0.4s						
KTBS	**Karatobe**	**5.54**	**268**	*e*P	**Pg**	**01 45 10.9**	**-1.7**
	2.1nm,0.4s						
KTBS				*e*S	**Sg**	**01 46 24.6**	**+0.3**
	25nm,0.6s						
KTBS	**Karatobe**	**5.54**	**268**	Pg	**Pg**	**01 45 10.5**	**-2.2**
	2.1nm,0.4s						
KTBS				Lg	Lg	01 46 23.8	
	25nm,0.6s						
KUU	**Kurty**	**5.76**	**270**	*e*P	**Pg**	**01 45 14.7**	**-2.3**
	1.5nm,0.1s						
KUU				*e*S	**Sg**	**01 46 30.9**	**-0.7**
	18nm,0.6s						
KUU	**Kurty**	**5.76**	**270**	Pg	**Pg**	**01 45 13.5**	**-3.5**
	1.5nm,0.1s						
KUU				Lg	Lg	01 46 29.0	
	18nm,0.6s						
MTBS	**Maitube**	**5.82**	**263**	*e*P	**Pg**	**01 45 16.5**	**-1.5**
	1.6nm,0.6s						
MTBS				*e*S	**Sg**	**01 46 34.3**	**+1.0**
	10.0nm,1.1s						
MTBS	**Maitube**	**5.82**	**263**	Pg	**Pg**	**01 45 13.4**	**-4.6**
	1.8nm,0.3s						
MTBS				Lg	Lg	01 46 28.2	
	10.0nm,0.5s						
KST	**Kastek**	**6.17**	**263**	*e*P	**Pg**	**01 45 21.9**	**-2.9**
	1.8nm,0.4s						
KST				*e*S	**Sg**	**01 46 43.6**	**-1.1**
	7.3nm,0.6s						
KST	**Kastek**	**6.17**	**263**	Pg	**Pg**	**01 45 20.5**	**-4.3**
	3.2nm,0.8s						
KST				Lg	Lg	01 46 41.6	
	7.3nm,0.6s						
KRBS	**Karabastau**	**6.26**	**269**	*e*P	**Pg**	**01 45 23.8**	**-2.8**
	1.6nm,0.7s						
KRBS				*e*S	**Sg**	**01 46 46.7**	**-0.9**
	5.4nm,0.5s						
KRBS	**Karabastau**	**6.26**	**269**	Pg	**Pg**	**01 45 22.6**	**-4.0**
	2.2nm,0.4s						
KRBS				Lg	Lg	01 46 44.8	
	4.8nm,0.4s						
DGS	**Degeres**	**6.26**	**265**	*e*P	**Pg**	**01 45 23.9**	**-2.7**
	3.5nm,0.5s						
DGS				*e*S	**Sg**	**01 46 47.0**	**-0.7**
	12nm,0.6s						
DGS	**Degeres**	**6.26**	**265**	Pg	**Pg**	**01 45 23.1**	**-3.5**
	3.5nm,0.5s						
DGS				Lg	Lg	01 46 45.9	
	12nm,0.6s						
TKM2	**Tokmak 2**	**6.46**	**262**	⇓Pn	**Pn**	**01 45 03.3**	**+1.3**
	7.3nm,1.3s						
TKM2				⇑Lg	Lg	01 46 54.0	
	5.7nm,0.7s						
KURBB	**Kurchatov Arra**	**7.58**	**331**	⇑Pn	**Pn**	**01 45 16.5**	**-0.6**
	1.6nm,0.5s						
KURBB				⇑Lg	Lg	01 47 30.3	
	48nm,0.9s						
KURK	**Kurchatov**	**7.63**	**332**	⇑Lg	Lg	01 47 29.2	
	15nm,0.6s						
MRKS	**Merke**	**8.20**	**264**	Pg	Pg	01 45 57.6	-5.9
	1.6nm,0.6s						
MRKS				Lg	Lg	01 47 45.6	
	1.6nm,0.3s						
OTUK	**Ortayu**	**9.27**	**300**	⇑Lg	Lg	01 48 24.2	
	6.0nm,0.8s						
BRZS	**Berezniki**	**9.86**	**310**	Pg	Pg	01 46 32.3	
	1.1nm,0.3s						
BRZS				Lg	Lg	01 48 44.8	
	3.3nm,0.1s						

---

*TRN **03** 01:44:26.4, 10.57N×62.50W, h63km, MD4.0*
*FUNV **03** 01:44:27.8, 10.59N×62.46W, h31km, MW3.6*
ISC 03 01:44:25.6±1.3**, 10.56N**±0.06×**62.49W**±0.04**, h76**km±15km**,**
n38, σ**1.74**/57**, 1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.75**	**279**	*e*P	**Pn**	**01 44 42.6**	**+1.1**
CRUV				*e*S	**Sn**	**01 44 52.2**	**-1.1**
TRN	**Trinidad (W)**	**1.07**	**85**	⇓*i*P	**Pn**	**01 44 46.5**	**+1.3**
TRN				*e*S	**Sn**	**01 44 59.6**	**-0.4**
GRFF	**Grenada Fort F**	**1.65**	**26**	*e*P	**Pn**	**01 44 53.2**	**+0.4**
GRFF				*e*S	**Sn**	**01 45 13.2**	**-0.2**
GRGR	**Grenville**	**1.76**	**28**	*e*P	**Pn**	**01 44 54.6**	**+0.4**
GRGR				*e*S	**Sn**	**01 45 16.1**	**+0.2**
TOSP	**Speyside**	**2.05**	**69**	*e*P	**Pn**	**01 44 58.6**	**+0.5**
TOSP				*e*S	**Sn**	**01 45 22.6**	**-0.2**
PCRV	**Puerto La Cruz**	**2.15**	**260**	*e*P	**Pn**	**01 45 01.1**	**+1.6**
PCRV				*e*S	**Sn**	**01 45 26.1**	**+0.7**
GCMP	**Grenada, Carri**	**2.17**	**28**	*e*P	**Pn**	**01 45 00.4**	**+0.6**
GCMP				*e*S	**Sn**	**01 45 24.9**	**-0.9**
PRGV	**PARIAGUAN**	**2.78**	**230**	*e*P	**Pn**	**01 45 10.1**	**+2.1**
PRGV				*e*S	**Sn**	**01 45 42.0**	**+1.3**
SVB	**Belmont**	**2.95**	**24**	*e*P	**Pn**	**01 45 11.2**	**+0.9**
SVB				*e*S	**Sn**	**01 45 45.3**	**+0.6**
SSV	**Crater Summit**	**3.02**	**25**	*e*P	**Pn**	**01 45 12.2**	**+0.9**
SSV				*e*S	**Sn**	**01 45 46.2**	**-0.4**
MCLT	**Moule a Chique**	**3.47**	**26**	*e*P	**Pn**	**01 45 18.0**	**+0.6**
MCLT				*e*S	**Sn**	**01 45 55.8**	**-1.6**
SLB	**Belfond**	**3.54**	**23**	*e*P	**Pn**	**01 45 20.5**	**+2.2**
SLB				*e*S	**Sn**	**01 45 58.9**	**-0.1**
SLBI	**Saint Lucia, B**	**3.74**	**23**	*e*P	**Pn**	**01 45 22.9**	**+1.9**
SLBI	**Saint Lucia, B**	**3.74**	**23**	*e*S	**Sn**	**01 46 03.6**	**-0.3**
SLBI				*e*		01 46 01.5	
MERV	**Las Mercedes**	**3.98**	**251**	*e*P	**Pn**	**01 45 26.0**	**+1.8**
MERV				*e*S	**Sn**	**01 46 07.9**	**-1.8**
BIM	**Bigot**	**4.17**	**19**	*e*P	**Pn**	**01 45 28.0**	**+1.1**
BIM				*e*S	**Sn**	**01 46 12.6**	**-1.7**
MPOM	**Morne Pois Mar**	**4.17**	**22**	*e*P	**Pn**	**01 45 28.2**	**+1.4**
MPOM				*e*S	**Sn**	**01 46 12.8**	**-1.6**
FDF	**Fort de France**	**4.34**	**17**	*e*P	**Pn**	**01 45 31.4**	**+2.1**
FDF	**Fort de France**	**4.34**	**17**	*e*S	**Sn**	**01 46 17.1**	**-1.7**
CARV	**Caracas**	**4.37**	**270**	*e*P	**Pn**	**01 45 31.0**	**+1.3**
CARV				*e*S	**Sn**	**01 46 17.8**	**-1.6**
ILAM	**Ilet Lapin Mar**	**4.47**	**20**	*e*P	**Pn**	**01 45 32.9**	**+1.9**
DSLB	**Salisbury**	**4.95**	**12**	*e*P	**Pn**	**01 45 39.5**	**+2.0**
DSLB	**Salisbury**	**4.95**	**12**	*e*S	**Sn**	**01 46 32.2**	**-1.4**
CACV	**CAICARA DEL OR**	**4.99**	**234**	*e*P	**Pn**	**01 45 34.0**	**-4.1**
CACV				*e*S	Sn	01 46 23.4	-11
BENV	**Beln**	**5.07**	**264**	*e*P	**Pn**	**01 45 40.5**	**+1.3**
BENV				*e*S	**Sn**	**01 46 34.8**	**-1.7**
MAGL	**Barre de l'ile**	**5.48**	**12**	*e*P	**Pn**	**01 45 46.6**	**+1.9**
MAGL	**Barre de l'ile**	**5.48**	**12**	*e*S	**Sn**	**01 46 44.1**	**-2.4**
CBE	**Ff, Capester**	**5.54**	**9**	*e*P	**Pn**	**01 45 46.3**	**+0.7**
CBE	**Ff, Capester**	**5.54**	**9**	*e*S	**Sn**	**01 46 45.7**	**-2.2**
BAUV	**El Baul**	**5.71**	**254**	*e*P	**Pn**	**01 45 49.1**	**+1.2**
BAUV	**El Baul**	**5.71**	**254**	*e*S	**Sn**	**01 46 49.5**	**-2.6**
BAUV	**El Baul**	**5.71**	**254**	*e*P	**Pn**	**01 45 48.9**	**+1.1**
BAUV				*e*S	**Sn**	**01 46 48.2**	**-3.8**
MAPV	**Macapo**	**5.92**	**263**	*e*P	**Pn**	**01 45 52.0**	**+1.2**
MAPV				*e*S	**Sn**	**01 46 53.9**	**-3.5**
MBFL	**Flemmings, Mon**	**6.15**	**2**	*e*P	**Pn**	**01 45 55.1**	**+1.2**
MBFL	**Flemmings, Mon**	**6.15**	**2**	*e*S	**Sn**	**01 47 00.3**	**-2.7**
ANBD	**Bethesda, Anti**	**6.48**	**6**	*e*P	**Pn**	**01 46 00.1**	**+1.6**
ANBD	**Bethesda, Anti**	**6.48**	**6**	*e*S	**Sn**	**01 47 08.1**	**-2.9**
ANWB	**Willy Bob**	**7.09**	**5**	*e*P	**Pn**	**01 46 08.2**	**+1.4**

---

*SSNC **03** 01:57:47.7±0.9, 19.56N×78.05W, h15km±9km, MD2.9, ML2.2, MW2.6*
*JSN **03** 01:57:49.4±0.4, 19.53N×77.88W, h30km±999km, MD3.2*
ISC 03 01:57:47.1±2.1**, 19.56N**±0.04×**78.02W**±0.06**, h32**km±20km**,**
n9, σ**1.11**/16**, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**1.08**	**62**	*e*P	**Pn**	**01 58 06.0**	**0.0**
LMGC				*e*S	**Sb**	**01 58 19.9**	**-1.2**
LMGC				IAML		01 58 20.4	
	comp=E,111nm,0.1s						
LMGC				IAML		01 58 20.6	
	comp=N,120nm,0.1s						
MTDJ	**Mount Denham**	**1.40**	**161**	*e*P	**Pn**	**01 58 10.7**	**+0.2**
MTDJ				*e*S	**Sn**	**01 58 27.4**	**-0.5**
MTDJ				IAML		01 58 28.9	
	comp=N,91nm,0.2s						
MTDJ				IAML		01 58 29.0	
	comp=N,110nm,0.3s						
MCJ	**Malvern**	**1.65**	**169**	*i* P	**Pn**	**01 58 14.9**	**+0.9**
MCJ				*i* S	**Sn**	**01 58 34.2**	**0.0**
CCCC	**Cccc**	**1.65**	**8**	*e*P	**Pn**	**01 58 16.2**	**+2.3**
CCCC				*e*S	**Sb**	**01 58 38.1**	**+0.7**
CCCC				IAML		01 58 40.5	
	comp=N,13nm,0.4s						
CCCC				IAML		01 58 42.1	
	comp=E,10.0nm,0.4s						
STH	**Stony Hill**	**1.86**	**142**	*i* P	**Pn**	**01 58 17.1**	**+0.3**
PCJ	**Portland Cotta**	**1.98**	**155**	*i* P	**Pn**	**01 58 19.3**	**+0.9**
RCC	**Rio Carpintero**	**2.23**	**78**	*e*P	**Pn**	**01 58 22.1**	**+0.3**
RCC				*e*S	**Sn**	**01 58 47.6**	**-0.8**
RCC				IAML		01 58 50.5	
	comp=E,15nm,0.2s						
RCC				IAML		01 58 50.8	
	comp=N,9.2nm,0.1s						
GTBY	**Guantanamo Bay**	**2.77**	**82**	*e*P	**Pn**	**01 58 30.1**	**+0.9**
GTBY				*e*S	**Sn**	**01 59 01.6**	**0.0**
MGV	**Manicaragua**	**3.13**	**325**	*e*P	**Pn**	**01 58 34.1**	**-0.1**
MGV				*e*S	**Sn**	**01 59 08.6**	**-2.0**
MGV				IAML		01 59 09.9	
	comp=E,1.5nm,0.5s						
MGV				IAML		01 59 11.2	
	comp=N,2.2nm,0.5s						

---

*INET **03** 02:04:34.1±1.0, 12.84N×87.09W, h1km±6km, MW3.2*
*SNET **03** 02:04:36.9±0.8, 12.87N×87.10W, h17km±4km, ML3.6*
*UCR **03** 02:04:36.9±0.8, 12.88N×87.09W, h18km±4km, ML3.6*
ISC 03 02:04:36.2±1.0**, 12.88N**±0.06×**87.07W**±0.04**, h16**km±8km**,**
n30, σ**0.47**/43**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.18**	**175**	*e*P	**Pg**	**02 04 40.7**	**+0.1**
TELN	**Telica**	**0.36**	**140**	*e*P	**Pg**	**02 04 43.7**	**+0.1**
COPN	**Copaltepe**	**0.83**	**146**	*e*P	**Pb**	**02 04 52.0**	**-0.3**
CNCH	**Conchagua**	**0.85**	**298**	*e*P	**Pb**	**02 04 52.0**	**-0.5**
CNCH				*e*S	**Sg**	**02 05 04.3**	**+0.4**
CNCH				IAML		02 05 07.5	
	comp=Z,8µm,0.1s						
CNCH	**Conchagua**	**0.85**	**298**	*e*P	**Pb**	**02 04 52.0**	**-0.5**
CNCH				*e*S	**Sg**	**02 05 04.3**	**+0.4**
CNCH				IAML		02 05 07.5	
	comp=Z,8µm,0.1s						
LCND	**La Caada**	**0.91**	**298**	*e*P	**Pb**	**02 04 53.0**	**-0.6**
LCND				*e*S	**Sb**	**02 05 05.5**	**0.0**
LCND	**La Caada**	**0.91**	**298**	*e*P	**Pb**	**02 04 53.0**	**-0.6**
LCND				*e*S	**Sb**	**02 05 05.5**	**0.0**
HUEN		**1.02**	**122**	*e*P	**Pb**	**02 04 54.9**	**-0.6**
MGAN	**Managua**	**1.08**	**132**	*e*P	**Pb**	**02 04 55.8**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.19**	**350**	*e*P	**Pn**	**02 04 58.1**	**-0.2**
TGUH				*e*S	**Sb**	**02 05 14.1**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.19**	**350**	*e*P	**Pn**	**02 04 58.1**	**-0.2**
TGUH				*e*S	**Sb**	**02 05 14.1**	**+0.5**
VSM	**San Miguel**	**1.30**	**295**	*e*P	**Pn**	**02 04 59.9**	**0.0**
VSM	**San Miguel**	**1.30**	**295**	*e*P	**Pn**	**02 04 59.9**	**0.0**
BOAB	**BOACO BROADBAN**	**1.43**	**107**	*e*P	**Pn**	**02 05 00.7**	**-0.7**
ALJI	**Alcalda de J**	**1.53**	**287**	*e*P	**Pn**	**02 05 03.2**	**+0.4**
ALJI				*e*S	**Sn**	**02 05 23.0**	**+0.5**
ALJI	**Alcalda de J**	**1.53**	**287**	*e*P	**Pn**	**02 05 03.2**	**+0.4**
ALJI				*e*S	**Sn**	**02 05 23.0**	**+0.5**
COEB	**Comit de Eme**	**1.55**	**293**	*e*P	**Pn**	**02 05 03.5**	**+0.2**
COEB				*e*S	**Sn**	**02 05 23.6**	**+0.4**
COEB	**Comit de Eme**	**1.55**	**293**	*e*P	**Pn**	**02 05 03.5**	**+0.2**
COEB				*e*S	**Sn**	**02 05 23.6**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PQSS	Presa 15 de Se	1.63	297	eP	Pn	02 05 04.2	-0.1
PQSS	Presa 15 de Se	1.63	297	eP	Pn	02 05 04.2	-0.1
COEG	Centro de Oper	1.92	293	eP	Pn	02 05 08.0	-0.2
COEG				eS	Sb	02 05 33.6	-0.9
COEG				IAML		02 05 40.1	
	comp=Z,371nm,0.4s						
COEG	Centro de Oper	1.92	293	eP	Pn	02 05 08.0	-0.2
COEG				eS	Sb	02 05 33.6	-0.9
COEG				IAML		02 05 40.1	
	comp=Z,371nm,0.4s						
CONN	Concepcion	1.92	133	eP	Pn	02 05 08.6	+0.4
P5NO	Presa 5 de nov	1.98	304	eP	Pn	02 05 09.0	0.0
P5NO				IAML		02 05 38.2	
	comp=Z,327nm,0.5s						
PAVA	Las Pavas	2.00	295	eP	Pn	02 05 09.9	+0.4
PAVA				IAML		02 05 41.9	
	comp=Z,184nm,0.6s						
PAVA	Las Pavas	2.00	295	eP	Pn	02 05 09.9	+0.4
PAVA				IAML		02 05 41.9	
	comp=Z,184nm,0.6s						
SJTE	Alcalda de S	2.03	291	eP	Pn	02 05 09.7	-0.1
SJTE	Alcalda de S	2.03	291	eP	Pn	02 05 09.7	-0.1
ACON	Acoyapa	2.06	116	eP	Pn	02 05 11.3	+1.2
ACON				eS	Sb	02 05 38.4	-0.1
ESPN	Las Esperanzas	2.78	104	eP	Pn	02 05 19.8	-0.3

*SJA **03** 02:17:01.7±0.7, 31°.48S×72°.01W, h12^{km}, ML4.1, MW3.8*
*IDC **03** 02:17:01.4±1.3, 31°.41S×71°.71W, h0^{km}, mb4.4/2, mbtmp3.8/7, ML3.6/5, MS2.9/1, Error ellipse: s-maj=44.9km s-min=22.2km az=103.0*
*GUC **03** 02:17:06.6±0.8, 31°.50S×71°.66W, h42^{km}±3^{km}, ML4.0*
*NEIC **03** 02:17:07.5±1.3, 31°.48S±0°.04×71°.7W±0°.1, h31^{km}±9^{km}, Error ellipse: s-maj=12.9km s-min=5.1km az=98.0*
ISC 03 02:17:02.8±1.5**, 31°.46S**±0°.02×**71°.85W**±0°.04**, h12**^{km}±9^{km}**, n91, σ1^{s}92**/119**, mb4.4**/4**, 3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	Combarbal	0.77	71		Pg	02 17 19.3	+1.5
CO02					Sb	02 17 28.5	-0.3
CO02	Combarbal	0.77	71	⇓iP	Pg	02 17 19.4	+1.6
CO02				IAML		02 17 33.0	
	comp=N,18μm,0.2s						
CO02	Combarbal	0.77	71	eP	Pb	02 17 19.0	+0.7
CO02				eS	Sn	02 17 31.9	+0.5
CO02				IAML		02 17 32.4	
	comp=Z,6μm,0.2s						
CO06	Fray Jorge	0.80	14		Pn	02 17 22.2	+2.1
CO06				Sn	Sn	02 17 33.2	+1.3
CO06	Fray Jorge	0.80	14	eP	Pn	02 17 22.1	+2.1
CO06				iS	Sn	02 17 32.9	+1.0
CO06				IAML		02 17 34.9	
	comp=N,8μm,0.5s						
CO03	El Pedregal	1.17	59		Pb	02 17 25.8	+0.7
CO03	El Pedregal	1.17	59	⇑eP	Pb	02 17 25.9	+0.7
CO03				iS	Sb	02 17 39.9	-0.5
CO03				IAML		02 17 43.4	
	comp=N,5μm,0.4s						
VA06	Catapilco	1.20	157	Pn	Pn	02 17 26.2	+0.8
VA06	Catapilco	1.20	157	eP	Pn	02 17 26.3	+0.8
VA06				iS	Sb	02 17 40.3	-0.7
VA06				IAML		02 17 43.6	
	comp=E,10μm,0.2s						
GO04	Tololo Observa	1.57	36		Pb	02 17 32.8	+0.8
GO04	Tololo Observa	1.57	36	⇑iP	Pb	02 17 33.1	+1.1
GO04				iS	Sb	02 17 53.0	+1.1
GO04	Tololo Observa	1.57	36	eP	Pb	02 17 33.0	+1.1
CO05	La Serena	1.62	19	Pn	Pb	02 17 33.9	+1.2
CO05	La Serena	1.62	19	eP	Pb	02 17 34.0	+1.3
CO05				iS	Sb	02 17 54.7	+1.5
CO05				IAML		02 18 03.8	
	comp=N,2μm,0.2s						
ROCH	El Roble	1.67	155	⇑eP	Pn	02 17 33.5	+1.3
ROCH				⇓eP	Pn	02 17 33.5	+1.3
ROCH				iS	Sn	02 17 52.9	-0.8
ROCH				iS	Sb	02 17 53.1	-1.7
ROCH				IAML		02 17 59.3	
	comp=N,3μm,0.7s						
ROCH				IAML		02 17 59.3	
	comp=N,5μm,0.5s						
ROC1	El Roble	1.67	155		Pn	02 17 33.3	+1.1
ROC1	El Roble	1.67	155	eP	Pn	02 17 33.0	+0.8
VA03	San Esteban	1.71	140		Pn	02 17 33.7	+1.1
VA03	San Esteban	1.71	140	eP	Pn	02 17 34.0	+1.4
VA03				iS	Sn	02 17 54.3	-0.2
VA03				IAML		02 17 58.4	
	comp=E,7μm,0.2s						
VA03	San Esteban	1.71	140	eP	Pn	02 17 28.7	-3.9
VA03				eP	Pn	02 17 34.0	+1.4
VA03				IAML		02 17 58.5	
	comp=Z,3μm,0.7s						
MT02	Curacav	1.90	162		Pn	02 17 36.4	+1.3
MT02	Curacav	1.90	162	eP	Pn	02 17 36.0	+0.9
PEL	Peldehue	1.95	150	eP	Pn	02 17 38.0	+2.1
CO01	Juntas del Tor	2.12	46		Pb	02 17 41.2	0.0
CO01	Juntas del Tor	2.12	46	eP	Pb	02 17 41.0	-0.3
CO01				eS	Sb	02 18 07.9	+0.3
CO01				IAML		02 18 18.0	
	comp=Z,862nm,0.6s						
MT05	Renca	2.15	154		Pn	02 17 40.5	+2.0
MT05	Renca	2.15	154	eP	Pn	02 17 40.0	+1.4
MT05				eP	Pb	02 17 40.7	-1.0
MT05				eS	Sn	02 18 03.7	-1.5
MT05				IAML		02 18 13.3	
	comp=Z,938nm,0.3s						
VA05	Santo Domingo	2.20	175		Pn	02 17 40.4	+1.1
RTLS	Leoncito	2.21	100	eP	Pb	02 17 42.9	0.0
RTLS				eS	Sn	02 18 06.2	-0.8
RTLS				IAML		02 18 15.1	
	comp=Z,512nm,0.4s						
FCH	Farellones	2.29	145	eP	Pn	02 17 42.7	+2.0
FCH				iS	Sn	02 18 09.3	+0.3
FCH				IAML		02 18 19.2	
	comp=E,743nm,0.4s						
MT03	Universidad Ad	2.33	151		Pn	02 17 43.0	+1.9
MT03	Universidad Ad	2.33	151	eP	Pn	02 17 43.0	+1.9
MT03				eS	Sn	02 18 09.7	0.0
MT03				IAML		02 18 18.6	
	comp=Z,1μm,0.8s						
AROD	Rodeo	2.42	58	eP	Pb	02 17 47.0	+0.5
AROD				eS	Sn	02 18 13.2	+0.9
MT09	Talagante	2.42	163		Pn	02 17 44.5	+2.0
MT09	Talagante	2.42	163	eP	Pn	02 17 44.5	+2.0
MT09				iS	Sn	02 18 10.6	-1.6
MT09				IAML		02 18 25.9	
	comp=N,1μm,0.2s						
MT01	Popeta	2.45	168		Pn	02 17 44.2	+1.5
MT01	Popeta	2.45	168	eP	Pn	02 17 44.0	+1.3
MT01				eS	Sn	02 18 12.2	-0.5
MT01				IAML		02 18 21.3	
	comp=Z,477nm,0.3s						
ACCO	Cerro Coronel	2.55	71	eP	Pb	02 17 48.0	-0.7
ACCO				eS	Sg	02 18 24.1	-0.6
LCO	Las Campanas	2.63	23	Pn	Pn	02 17 47.8	+2.4
LCO	Las Campanas	2.63	23	eP	Pn	02 17 48.0	+2.5
LCO				eP	Pn	02 17 48.0	+2.5
LCO				eS	Sn	02 18 17.2	-0.3
LCO				IAML		02 18 34.3	
	comp=Z,3μm,0.3s						
ACDV	Cuesta del Vie	2.68	62	eP	Pb	02 17 51.0	+0.1
ACDV				eS	Sg	02 18 27.5	-1.5
ACDV				IAML		02 18 34.4	
	comp=Z,252nm,1.0s						
ZON	Zonda	2.71	93	eP	Pb	02 17 50.0	-1.4
ZON				eS	Sg	02 18 28.7	-1.4
ZON				IAML		02 18 37.5	
	comp=Z,379nm,0.5s						
LMEL	Las Melosas	2.76	150		Pn	02 17 49.3	+2.2
ASAL	Salagasta	2.80	115	eP	Pb	02 17 52.0	-0.9
ARCO	CERRO ARCO	2.84	120	eP	Pb	02 17 53.0	-0.5
ARCO				IAML		02 18 36.8	
	comp=Z,318nm,0.4s						
RTCV	Cerro Valdivia	2.85	99	eP	Pb	02 17 54.0	+0.2
RTLL	Cerro Villicun	2.89	88	eP	Pn	02 17 52.0	+3.2
AC05	El Transito	2.95	28		Pn	02 17 52.8	+3.1
AC05	El Transito	2.95	28	eP	Pn	02 17 53.0	+3.3
AC05				eS	Sn	02 18 28.2	+3.1
AC05				IAML		02 18 42.7	
	comp=Z,761nm,1.0s						
BO01	Tunca	3.00	168	Pn	Pn	02 17 51.9	+1.8
BO01	Tunca	3.00	168	eP	Pn	02 17 52.0	+1.8
BO01				eP	Pn	02 17 52.0	+1.8
BO01				eS	Sn	02 18 29.2	+3.1
BO01				IAML		02 18 41.1	
	comp=Z,298nm,0.6s						
AAGR	Agrelo	3.03	123	eP	Pb	02 17 55.8	-1.1
AAGR				eS	Sb	02 18 34.7	+0.7
AC04	Llanos de Chal	3.31	12		Pn	02 17 56.7	+2.2
AC04	Llanos de Chal	3.31	12	eP	Pn	02 17 57.0	+2.5
AC04				eS	Sb	02 18 41.2	-0.6
AC04				IAML		02 18 54.0	
	comp=Z,290nm,0.7s						
BO02	Sierra Bellavi	3.45	165		Pn	02 17 58.8	+2.3
BO02	Sierra Bellavi	3.45	165	eP	Pn	02 17 58.0	+1.5
BO02				eS	Sn	02 18 40.7	+3.4
BO02				IAML		02 18 53.4	
	comp=Z,481nm,1.0s						
GO05	Huala	3.54	181	Pn	Pn	02 17 58.0	+0.3
GO05	Huala	3.54	181	eP	Pn	02 17 59.0	+1.3
GO05				eS	Sb	02 18 52.2	+3.7
GO03	Copiap	4.10	21	Pn	Pn	02 18 07.9	+2.4
GO03	Copiap	4.10	21	eP	Pn	02 18 08.1	+2.6
GO03				eS	Sb	02 19 00.2	-4.4
AC06	Mina Casimiro	4.29	18		Pn	02 18 10.4	+2.4
ML02	Panimavida	4.31	175	Pn	Pn	02 18 09.8	+1.5
ACLC	CERRO LA CRUZ	4.69	66	eP	Pn	02 18 17.0	+3.3
ACLC				eS	Sn	02 19 13.2	+5.0
ACLC				IAML		02 19 19.3	
	comp=Z,457nm,0.5s						
APLL	PUNTA DE LOS L	4.70	78	eP	Pn	02 18 16.8	+3.1
APLL				eS	Sn	02 19 12.7	+4.6
AC02	Maricunga	5.18	28	Pn	Pn	02 18 23.2	+2.5
AC02	Maricunga	5.18	28	eP	Pn	02 18 23.5	+2.7
AC02				eS	Sb	02 19 30.7	-5.6
H03N1	Juan Fernandez	6.29	250	T	T	02 25 22.8	
	baz=78,slow=72,SNR=5674						
H03N3	Juan Fernandez	6.30	250	T	T	02 25 20.6	
	baz=78,slow=72,SNR=5865						
H03N2	Juan Fernandez	6.30	250	T	T	02 25 16.1	
	baz=78,slow=72,SNR=4497						
H03S3	Juan Fernandez	6.40	246	T	T	02 25 37.2	
	baz=73,slow=78,SNR=16						
H03S1	Juan Fernandez	6.41	246	T	T	02 25 33.2	
	baz=73,slow=78,SNR=12						
H03S2	Juan Fernandez	6.42	246	T	T	02 25 30.5	
	baz=73,slow=78,SNR=21						
LVC	Limon Verde	9.19	17	Pn	Pn	02 19 15.2	-0.5
	comp=Z,0.2nm,0.3s,baz=225,slow=20,SNR=1.9						
LVC				Sn	Sn	02 20 58.9	-0.4
	comp=Z,0.5nm,0.3s,baz=127,slow=18,SNR=1.4						
	comp=Z,2.7nm,0.7s						
PLCA	Paso Flores	9.32	174	Pn	Pn	02 19 17.4	+0.4
	comp=Z,0.2nm,0.3s,baz=331,slow=11,SNR=4.8						
PLCA				Sn	Sn	02 21 06.3	+4.5
	baz=288,slow=20						
	comp=Z,0.8nm,0.4s						
CPUP	Villa Florida	13.71	72	Pn	Pn	02 20 15.1	-2.0
	comp=Z,0.1nm,0.3s,baz=239,slow=9.2,SNR=1.6						
CPUP				Sn	Sn	02 22 49.8	+0.4
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=2.2						
CPUP				LR	LR	02 26 23.8	
	comp=Z,54nm,20.8s,baz=234,slow=41						
	comp=Z,1.6nm,0.8s						
LPAZ	La Paz	15.48	14	Pn	Pn	02 20 41.0	-0.7
	comp=Z,0.1nm,0.3s,baz=190,slow=19,SNR=1.5						
	comp=Z,0.6nm,0.7s						
PLTB	Pedras Altas	15.56	96	Pn	Pn	02 20 39.3	-2.8
PLTB				IAmb	IAmb	02 20 43.8	
	comp=Z,1.8nm,0.8s						
SIV	San Ignacio	18.27	35	P	Pn	02 21 14.7	-1.6
	baz=249,slow=8.2,SNR=3.9						
	comp=Z,1.3nm,0.6s						
ETMB	Extrema	22.16	15	P	P	02 21 60.0	+1.2
ETMB				IAmb	IAmb	02 22 17.9	
	comp=Z,3.1nm,0.9s						
PMSA	Palmer Station	33.69	174	P	P	02 23 40.8	-2.6
PMSA				IAmb	IAmb	02 23 51.6	
	comp=Z,62nm,1.4s						
BOSA	Boshof	81.12	118	P	P	02 29 18.7	+0.2
	comp=Z,3.0nm,0.9s,baz=183,slow=5.4,SNR=3.1						
	comp=Z,3.0nm,0.9s						
TORD	Torodi Ar. Bea	83.20	70	P	P	02 29 28.9	-0.5
	comp=Z,2.1nm,0.7s,baz=258,slow=4.3,SNR=14						
	comp=Z,2.1nm,0.7s						
WRA	Warramunga Arr	123.05	210	PKP	PKPdf	02 35 59.8	-0.1
	comp=Z,0.2nm,0.7s,baz=153,slow=1.6,SNR=1.4						
H11S2	WAKE ISLAND Hy	125.93	271	T	T	04 54 56.1	
	baz=117,slow=75,SNR=41						
H11S1	WAKE ISLAND Hy	125.94	271	T	T	04 54 57.0	
	baz=117,slow=75,SNR=55						
H11S3	WAKE ISLAND Hy	125.94	271	T	T	04 54 57.6	
	baz=117,slow=75,SNR=49						
H11N3	WAKE ISLAND Hy	126.28	272	T	T	04 55 23.5	
	baz=116,slow=75,SNR=38						
H11N1	WAKE ISLAND Hy	126.29	272	T	T	04 55 24.6	
	baz=116,slow=75,SNR=10						
H11N2	WAKE ISLAND Hy	126.29	272	T	T	04 55 24.8	
	baz=116,slow=75,SNR=83						
ZALV	Zalesovo Beam	151.97	30	PKPbc	PKPbc	02 36 58.1	+0.7
	comp=Z,7.7nm,0.5s,baz=299,slow=3.2,SNR=28						
MKAR	Makanchi Array	154.92	45	PKPbc	PKPbc	02 37 04.5	+0.4
	comp=Z,0.4nm,0.7s,baz=285,slow=2.8,SNR=2.4						

*ROM **03** 02:38:32.7±0.0, 42°.970N±0°.003×13°.149E±0°.003, h10^{km}, ML3.2/73, Error ellipse: s-maj=0.2km s-min=0.2km az=155.0*
*PRU **03** 02:38:33.2±0.0, 42°.89N×13°.52E, h10^{km}*
*STR **03** 02:38:36.5±1.6, 43°N±6°×1°3E±1°4, h10^{km}, MLv3.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=98.4, preliminary*
ISC 03 02:38:33.5±0.8**, 42°.97N**±0°.01×**13°.15E**±0°.02**, h9**^{km}±4^{km}**, n157, σ1^{s}03**/187**, 55C-27D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1256	Bolognola (MC)	0.07	55	⇑P	Pg	02 38 35.3	-0.5
T1256				S	Sg	02 38 36.8	-0.5
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
FEMA	Monte Fema	0.07	266	⇑P	Pg	02 38 35.5	-0.2
FEMA				S	Sg	02 38 37.2	-0.1
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
T1245	Castelsantange	0.12	166	P	Pg	02 38 36.2	-0.1
T1245				S	Sg	02 38 38.8	+0.5
T1245				AML	AML		
	comp=E,56800μm,1.0s						
T1245				AML	AML		
	comp=N,57600μm,0.3s						
T1245				AML	AML		
	comp=E,53300μm,1.0s						
T1245				AML	AML		
	comp=N,57600μm,0.3s						
T1245				AML	AML		
	comp=N,57300μm,0.3s						
T1216	Preci, Frazion	0.12	231	⇑P	Pg	02 38 36.3	-0.1
T1216				S	Sg	02 38 38.6	+0.3
T1216				AML	AML		
	comp=E,89550μm,1.1s						
T1216				AML	AML		
	comp=N,49950μm,0.3s						
T1216				AML	AML		
	comp=E,89400μm,1.1s						
T1216				AML	AML		
	comp=N,49950μm,0.3s						
T1216				AML	AML		
	comp=E,89750μm,1.1s						
NRCA	Norcia	0.14	191	⇑P	Pg	02 38 36.5	-0.1
NRCA				S	Sg	02 38 38.9	+0.1
NRCA				AML	AML		
	comp=E,74950μm,0.4s						
NRCA				AML	AML		
	comp=N,66450μm,0.1s						
MMO1	Montemonaco	0.15	118	⇑P	Pg	02 38 36.6	-0.1
MMO1				S	Sg	02 38 39.2	+0.2
AM05	Amandola Campo	0.15	86	⇑P	Pg	02 38 36.7	0.0
AM05				S	Sg	02 38 39.4	+0.4
AM05				AML	AML		
	comp=E,9280μm,1.3s						
AM05				AML	AML		
	comp=N,9890μm,0.4s						
AM05				AML	AML		
	comp=N,2995μm,0.4s						
AM05				AML	AML		
	comp=E,9310μm,1.3s						
AM05				AML	AML		
	comp=N,9915μm,0.4s						
AM05				AML	AML		
	comp=N,9935μm,0.4s						
AM05				AML	AML		
	comp=E,9285μm,1.3s						
AM05				AML	AML		
	comp=E,41050μm,0.5s						
AM05				AML	AML		
	comp=N,2990μm,0.4s						
GUMA	Gualdo di Mace	0.17	55	⇑P	Pg	02 38 37.2	+0.1
GUMA				S	Sg	02 38 40.4	+0.9
GUMA				AML	AML		
	comp=E,53750μm,0.4s						
GUMA				AML	AML		
	comp=E,53800μm,0.4s						
GUMA				AML	AML		
	comp=N,63000μm,0.3s						
GUMA				AML	AML		
	comp=N,71050μm,0.2s						
GUMA				AML	AML		
	comp=E,68800μm,0.3s						
CESI	CESI - Serrava	0.18	282	⇑P	Pg	02 38 37.4	0.0
CESI				S	Sg	02 38 40.7	+0.7
CESI				AML	AML		
	comp=N,25900μm,0.6s						
CESI				AML	AML		
	comp=E,21500μm,0.5s						
MDAR	Monte D'Aria	0.23	358	P	Pg	02 38 37.9	-0.3
MDAR				AML	AML		
	comp=E,8425μm,0.3s						
MDAR				AML	AML		
	comp=N,8235μm,1.3s						
MDAR				AML	AML		
	comp=E,8425μm,0.3s						
MDAR				AML	AML		
	comp=E,8420μm,0.3s						
MDAR				AML	AML		
	comp=N,8240μm,1.3s						
SEF1	Sefro	0.23	320	P	Pg	02 38 38.0	-0.3
SEF1				S	Sg	02 38 42.0	+0.5
SEF1				AML	AML		
	comp=E,25800μm,0.3s						
SEF1				AML	AML		
	comp=N,20600μm,0.3s						
SEF1				AML	AML		
	comp=E,25850μm,0.3s						
T1241	Roccafluvione,	0.23	118	P	Pg	02 38 38.1	-0.1
T1241				S	Sg	02 38 42.3	+0.8
T1241				AML	AML		
	comp=E,15100μm,0.4s						
T1241				AML	AML		
	comp=N,15595μm,0.5s						
T1241				AML	AML		
	comp=E,14000μm,0.4s						
T1241				AML	AML		
	comp=N,16315μm,0.5s						
T1241				AML	AML		
	comp=N,15615μm,0.5s						
T1241				AML	AML		
	comp=N,16305μm,0.5s						
T1241				AML	AML		
	comp=N,15640μm,0.5s						
T1241				AML	AML		
	comp=N,16300μm,0.5s						
T1241				AML	AML		
	comp=E,15150μm,0.4s						
T1241				AML	AML		
	comp=E,13950μm,0.4s						
PIO1	Pioraco	0.24	330	P	Pg	02 38 38.1	-0.3
PIO1				AML	AML		
	comp=N,9475μm,1.5s						
PIO1				AML	AML		
	comp=E,6380μm,0.6s						
PIO1				AML	AML		
	comp=N,9470μm,1.5s						
SSM1	San Severino M	0.26	4	P	Pg	02 38 38.5	-0.3
T1215	Vallo di Nera,	0.27	231	P	Pg	02 38 38.8	-0.1
T1215				S	Sg	02 38 43.1	+0.6
T1215				AML	AML		
	comp=E,5680μm,0.4s						
T1215				AML	AML		
	comp=N,7465μm,0.1s						
T1215				AML	AML		
	comp=E,5135μm,0.4s						
T1215				AML	AML		
	comp=N,8040μm,0.1s						
T1215				AML	AML		
	comp=E,5680μm,0.4s						
T1215				AML	AML		
	comp=E,5135μm,0.4s						
T1215				AML	AML		
	comp=N,8050μm,0.1s						
FIU1	Fiuminata	0.27	324	P	Pg	02 38 38.7	-0.3
GAG1	Gagliole	0.28	347	P	Pg	02 38 39.0	-0.1
GAG1				AML	AML		
	comp=E,13385μm,0.3s						
GAG1				AML	AML		
	comp=N,13965μm,1.1s						
GAG1				AML	AML		
	comp=E,13375μm,0.3s						
GAG1				AML	AML		
	comp=N,13950μm,1.1s						
MNTP	Montappone	0.29	54	P	Pg	02 38 39.6	+0.3
MNTP				AML	AML		
	comp=E,13400μm,1.5s						
MNTP				AML	AML		
	comp=N,11125μm,0.7s						
MNTP				AML	AML		
	comp=E,13400μm,1.5s						
MNTP				AML	AML		
	comp=N,11130μm,0.7s						
T1217	Poggiodomo (PG	0.30	212	⇑P	Pg	02 38 39.4	-0.1
T1217				S	Sg	02 38 44.4	+0.8
T1217				AML	AML		
	comp=E,9855μm,0.7s						
T1217				AML	AML		
	comp=N,26100μm,0.2s						
T1217				AML	AML		
	comp=E,9835μm,0.7s						
T1217				AML	AML		
	comp=E,9570μm,0.7s						
T1217				AML	AML		
	comp=N,25700μm,0.2s						
T1204	Amatrice, Fraz	0.32	157	⇓P	Pg	02 38 39.7	-0.1
T1204				AML	AML		
	comp=E,10780μm,0.2s						
T1204				AML	AML		
	comp=N,7415μm,0.4s						
T1204				AML	AML		
	comp=E,10790μm,0.2s						
T1204				AML	AML		
	comp=N,7400μm,0.4s						
T1204				AML	AML		
	comp=E,10810μm,0.2s						
T1204				AML	AML		
	comp=N,7410μm,0.4s						
SNTG	Esanatoglia	0.33	332	⇑P	Pg	02 38 39.6	-0.4
SNTG				AML	AML		
	comp=N,2670μm,1.3s						
SNTG				AML	AML		
	comp=N,2510μm,1.3s						
SNTG				AML	AML		
	comp=N,2665μm,1.3s						
SNTG				AML	AML		
	comp=E,3080μm,0.1s						
SNTG				AML	AML		
	comp=E,2980μm,0.2s						
T1243	Rocca Santa Ma	0.35	141	⇑P	Pg	02 38 40.1	-0.3
EL6	Elcito	0.36	354	⇓P	Pg	02 38 40.4	-0.3
EL6				AML	AML		
	comp=E,6470μm,0.4s						
EL6				AML	AML		
	comp=N,6295μm,0.3s						
EL6				AML	AML		
	comp=E,6475μm,0.4s						
TRE1	Treia	0.36	19	⇓P	Pg	02 38 41.0	+0.3
TRE1				AML	AML		
	comp=E,10470μm,0.4s						

TRE1 AML AML
comp=E,10435µm,0.4s
TRE1 AML AML
comp=N,6675µm,0.7s
SMA1 SAN MARTINO 0.36 158 ⇓P **Pg 02 38 40.4 -0.3**
SMA1 AML AML
comp=N,7295µm,0.5s
SMA1 AML AML
comp=E,5885µm,0.3s
ASSB Assisi San Ben 0.37 282 ⇑P **Pg 02 38 40.5 -0.3**
ASSB AML AML
comp=E,6005µm,0.4s
ASSB AML AML
comp=N,6770µm,0.3s
LNSS Leonessa 0.37 193 ⇑P **Pg 02 38 40.6 -0.3**
LNSS AML AML
comp=E,5170µm,0.7s
LNSS AML AML
comp=N,17200µm,0.7s
OFFI Offida 0.39 95 ⇑P **Pg 02 38 41.9 +0.6**
OFFI AML AML
comp=N,12100µm,0.6s
OFFI AML AML
comp=E,9780µm,1.1s
CING Cingoli 0.41 5 ⇑P **Pg 02 38 41.1 -0.5**
CING AML AML
comp=E,3280µm,1.1s
CING AML AML
comp=N,2385µm,0.3s
ATCC AVT- Casa Cast 0.43 300 ⇑P **Pg 02 38 41.7 -0.3**
ATCC S **Sg 02 38 48.7 +1.0**
ATCC AML AML
comp=N,8165µm,0.9s
ATCC AML AML
comp=N,8170µm,0.9s
ATCC AML AML
comp=E,7780µm,0.4s
FOSV Fossato di Vic 0.43 319 P **Pg 02 38 41.6 -0.4**
RM33 Pellescritta (0.46 174 ⇑P **Pg 02 38 42.1 -0.4**
RM33 AML AML
comp=E,4830µm,0.1s
RM33 AML AML
comp=N,4390µm,0.3s
RM33 AML AML
comp=E,4785µm,0.1s
RM33 AML AML
comp=E,4790µm,0.1s
RM33 AML AML
comp=E,4825µm,0.1s
RM33 AML AML
comp=N,4395µm,0.3s
RM33 AML AML
comp=N,4395µm,0.3s
CAMP Campotosto 0.47 156 ⇓P **Pg 02 38 42.2 -0.5**
CAMP AML AML
comp=E,3270µm,0.3s
CAMP AML AML
comp=N,2625µm,0.3s
TERO Teramo 0.48 136 ⇓P **Pg 02 38 42.4 -0.4**
TERO AML AML
comp=E,4710µm,0.6s
TERO AML AML
comp=N,5350µm,1.4s
TERO AML AML
comp=N,5875µm,1.4s
TERO AML AML
comp=E,5150µm,0.6s
TERO AML AML
comp=E,4705µm,0.6s
ARRO Arrone 0.48 216 ⇑P **Pg 02 38 42.5 -0.3**
T1211 Morro Reatino 0.49 207 ⇑P **Pg 02 38 42.6 -0.4**
T1211 S **Sb 02 38 52.0 +0.4**
T1211 AML AML
comp=N,5780µm,1.3s
T1211 AML AML
comp=N,5980µm,1.3s
T1211 AML AML
comp=E,4795µm,1.2s
T1211 AML AML
comp=N,5970µm,1.3s
T1211 AML AML
comp=N,5985µm,1.3s
T1211 AML AML
comp=E,4810µm,1.2s
T1211 AML AML
comp=N,5775µm,1.3s
PP3 Marolino 0.53 39 ⇑P **Pg 02 38 44.2 +0.5**
PP3 AML AML
comp=E,6685µm,0.9s
PP3 AML AML
comp=N,5425µm,0.6s
PP3 AML AML
comp=E,6980µm,0.9s
PP3 AML AML
comp=N,5450µm,0.6s
PP3 AML AML
comp=N,5425µm,0.6s
T1247 Pizzolo (AQ) 0.54 168 ⇑P **Pg 02 38 43.5 -0.5**
T1247 AML AML
comp=N,4360µm,1.4s
T1247 AML AML
comp=E,5640µm,0.7s
SSFR Montelago di S 0.54 330 ⇓P **Pg 02 38 43.5 -0.5**
SSFR AML AML
comp=N,8335µm,0.2s
SSFR AML AML
comp=E,6765µm,0.2s
SSFR AML AML
comp=N,7455µm,0.2s
SSFR AML AML
comp=E,7085µm,0.7s
MURB Monte Urbino 0.55 303 ⇑P **Pg 02 38 43.7 -0.4**
MURB AML AML
comp=E,8675µm,0.3s
MURB AML AML
comp=E,8695µm,0.3s
MURB AML AML
comp=N,6730µm,0.3s
MURB AML AML
comp=N,8170µm,0.2s
MURB AML AML
comp=E,9605µm,0.3s
ARVD Arcevia 0.55 344 ⇑P **Pg 02 38 43.8 -0.4**
ARVD S **Sb 02 38 53.0 -0.4**
ARVD AML AML
comp=N,906µm,0.9s
ARVD AML AML
comp=E,1500µm,0.2s
CESX Cesi 0.55 230 ⇑P **Pg 02 38 43.6 -0.6**
CESX S **Sb 02 38 54.0 +0.6**
CESX AML AML
comp=E,3895µm,0.4s
CESX AML AML
comp=N,3515µm,1.5s
ATFO Monte Foce - G 0.58 313 ⇑P **Pg 02 38 44.1 -0.7**
ATFO AML AML
comp=N,1500µm,0.5s
ATFO AML AML
comp=E,1790µm,0.9s
TRTR Tortoreto Alta 0.58 106 ⇑P **Pb 02 38 45.6 -0.3**
TRTR AML AML
comp=E,13200µm,0.5s
TRTR AML AML
comp=N,9560µm,0.4s
GIGS Gran Sasso 0.60 149 ⇑P **Pg 02 38 44.3 -0.9**
GIGS AML AML
comp=E,1035µm,0.1s
GIGS AML AML
comp=N,1028µm,0.3s
GIGS AML AML
comp=N,1029µm,0.3s
ATTE AVT- Monte Tez 0.63 292 ⇑P **Pg 02 38 45.0 -0.7**
ATTE AML AML
comp=E,1250µm,0.3s
ATTE AML AML
comp=N,1345µm,0.8s
FRON Frontone 0.63 331 ⇓P **Pg 02 38 45.1 -0.7**
FRON AML AML
comp=E,1505µm,0.4s
FRON AML AML
comp=N,2585µm,0.3s
FRON AML AML
comp=N,2580µm,0.3s
FRON AML AML
comp=E,1500µm,0.4s
AQU L'Aquila 0.64 163 ⇑P **Pg 02 38 45.2 -0.7**
AQU AML AML
comp=E,1970µm,0.6s
AQU AML AML
comp=E,1900µm,0.7s
AQU AML AML
comp=N,1500µm,1.0s
AQU AML AML
comp=N,1515µm,0.9s
AOI Ancona 0.67 29 ⇑P **Pg 02 38 46.4 0.0**
AOI AML AML
comp=N,1210µm,0.4s
AOI AML AML
comp=E,1300µm,0.4s
COR1 Corinaldo 0.67 351 ⇑P **Pg 02 38 46.8 +0.3**
COR1 AML AML
comp=E,1750µm,0.7s
COR1 AML AML
comp=N,2620µm,1.4s
COR1 AML AML
comp=N,2610µm,1.4s
ATVO AVT- Monte Val 0.68 308 ⇑P **Pg 02 38 46.0 -0.7**
ATVO S **Sb 02 38 57.0 -0.3**
ATVO AML AML
comp=N,1710µm,0.5s
ATVO AML AML
comp=E,1345µm,0.4s
FIAM Fiamignano 0.70 182 ⇑P **Pg 02 38 46.1 -1.0**
FIAM S **Sb 02 38 57.0 -0.7**
FIAM AML AML
comp=N,1038µm,0.3s
FIAM AML AML
comp=E,1175µm,0.4s
FIAM AML AML
comp=N,1042µm,0.3s
FIAM AML AML
comp=N,1038µm,0.3s
MPAG Monte Paganucc 0.72 337 ⇓P **Pg 02 38 47.0 -0.4**
MPAG AML AML
comp=E,1930µm,1.6s
MPAG AML AML
comp=N,2230µm,1.2s
MPAG AML AML
comp=E,1925µm,1.6s
MPAG AML AML
comp=N,1130µm,1.3s
MPAG AML AML
comp=E,1064µm,0.6s
MPAG AML AML
comp=N,2230µm,1.2s
PIEI Pieia 0.72 322 ⇓P **Pg 02 38 46.7 -0.8**
PIEI S **Sb 02 38 59.0 +0.6**
PIEI AML AML
comp=E,1104µm,1.2s
PIEI AML AML
comp=N,877µm,0.8s
ATPI Pietralunga - 0.73 312 ⇑P **Pg 02 38 46.9 -0.7**
ATPI S **Sb 02 38 59.0 +0.4**
ATPI AML AML
comp=E,1475µm,0.5s
ATPI AML AML
comp=N,1265µm,1.0s
ATMI Monte Miggiano 0.74 300 P **Pg 02 38 47.4 -0.5**
ATMI S **Sb 02 38 60.0 +1.1**
ATMI AML AML
comp=N,2935µm,0.9s
ATMI AML AML
comp=E,3150µm,0.4s
MGAB Montegabbione 0.77 266 ⇑P **Pg 02 38 47.5 -0.7**
MGAB AML AML
comp=E,2440µm,0.5s
MGAB AML AML
comp=N,2075µm,0.5s
MGAB AML AML
comp=E,2225µm,0.4s
MGAB AML AML
comp=N,2150µm,0.6s
NARO Abbazia di Nar 0.77 327 P **Pg 02 38 47.3 -1.0**
NARO S **Sb 02 38 60.0 +0.4**
NARO AML AML
comp=N,750µm,0.7s
NARO AML AML
comp=E,796µm,0.8s
NARO AML AML
comp=N,749µm,0.7s
VCEL Villa Celiera 0.77 138 ⇓P **Pg 02 38 47.7 -0.6**
VCEL AML AML
comp=E,3225µm,0.9s
VCEL AML AML
comp=N,2510µm,0.9s
VCEL AML AML
comp=E,3230µm,0.9s
FAGN Fagnano 0.77 155 ⇑P **Pg 02 38 47.0 -1.4**
FAGN AML AML
comp=N,3380µm,0.3s
FAGN AML AML
comp=E,3715µm,0.4s
FSSB Fossombrone 0.77 340 ⇑P **Pg 02 38 47.9 -0.5**
FSSB AML AML
comp=E,3755µm,0.4s
FSSB AML AML
comp=N,4200µm,0.4s
APEC Apecchio 0.80 318 ⇓P **Pg 02 38 48.5 -0.4**
BADI Badiali 0.86 310 ⇑P **Pg 02 38 49.3 -0.7**
PE3 Peglio 0.87 327 ⇑P **Pg 02 38 50.0 -0.2**
SRES S.Oreste - Sor 0.87 213 ⇑P **Pg 02 38 49.1 -1.1**
SRES AML AML
comp=E,1001µm,0.5s
SRES AML AML
comp=N,1415µm,0.7s
T0110 Collepietro 0.87 148 ⇓P **Pg 02 38 49.1 -1.2**
T0110 AML AML
comp=E,2620µm,0.5s
T0110 AML AML
comp=N,2590µm,1.2s
SACS San Casciano d 0.92 263 ⇓P **Pg 02 38 51.0 -0.2**
SACS AML AML
comp=E,692µm,1.3s
SACS AML AML
comp=E,641µm,1.2s
SACS AML AML
comp=N,880µm,1.0s
SACS AML AML
comp=N,884µm,1.0s
CAFI Castiglion Fio 0.94 293 ⇑P **Pg 02 38 50.7 -0.9**
CAFI S **Sn 02 39 06.0 -0.5**
CAFI AML AML
comp=E,730µm,1.5s
CAFI AML AML
comp=E,767µm,1.5s
CAFI AML AML
comp=N,631µm,0.8s
CAFI AML AML
comp=N,661µm,0.8s
SSP9 Sansepolcro 0.96 309 ⇑P **Pg 02 38 51.4 -0.6**
PTQR Pietraquaria 0.96 169 ⇓P **Pg 02 38 52.2 +0.2**
PTQR AML AML
comp=E,668µm,0.4s
PTQR AML AML
comp=N,884µm,0.5s
MTCE Montecelio 0.99 198 ⇓P **Pg 02 38 51.2 -1.3**
MTCE S **Sn 02 39 07.0 -0.8**
MTCE AML AML
comp=E,782µm,1.1s
MTCE AML AML
comp=N,588µm,1.4s
CERT Cerreto 1.03 187 ⇑P **Pg 02 38 52.6 -0.6**
CERT AML AML
comp=N,1028µm,0.5s
CERT AML AML
comp=E,1685µm,0.5s
LATE Laterza 1.05 251 ⇓P **Pg 02 38 53.7 -0.1**
MCIV Monte Civitell 1.10 261 ⇓P **Pg 02 38 54.1 -0.6**
MCIV AML AML
comp=N,421µm,0.8s
MCIV AML AML
comp=E,422µm,0.9s
SF04 Casetta 1.10 264 ⇑P **Pg 02 38 53.8 -0.9**
SF04 AML AML
comp=N,383µm,1.3s
SF04 AML AML
comp=E,462µm,1.1s
CAFR Castel Frentan 1.15 130 ⇑P **Pn 02 38 57.2 +1.4**
SF01 Poggio Pratacc 1.18 263 ⇓P **Pb 02 38 55.6 -0.5**
LPEL Lama dei Pelig 1.20 140 ⇓P **Pb 02 38 56.0 -0.3**
LPEL AML AML
comp=N,822µm,0.9s
LPEL AML AML
comp=E,1125µm,0.6s
TOLF Tolfa 1.24 224 ⇓P **Pn 02 38 55.9 -1.1**
TOLF AML AML
comp=E,582µm,0.5s
TOLF AML AML
comp=N,442µm,1.1s
ASQU Asqua 1.29 310 ⇓P **Pn 02 38 57.3 -0.6**
ASQU AML AML
comp=E,353µm,0.7s
ASQU AML AML
comp=N,411µm,1.2s
POFI Posta Fibreno 1.32 161 ⇑P **Pg 02 38 59.6 +0.8**
SFI Santa Sofia 1.33 315 ⇑P **Pg 02 38 59.4 +0.3**
LRP Arpino 1.36 166 ⇑P **Pg 02 39 00.6 +1.1**
CSNT Castellina Chi 1.45 291 ⇓P **Pn 02 38 59.7 -0.3**
CSNT AML AML
comp=N,256µm,0.8s
CSNT AML AML
comp=E,192µm,0.4s
FROS Frosini 1.48 280 ⇓P **Pb 02 39 01.0 -0.3**
FROS AML AML
comp=N,260µm,0.8s
FROS AML AML
comp=E,336µm,0.5s
FRES Fresagrandinar 1.50 131 ⇓P **Pg 02 39 02.4 +0.1**
CERA Filignano 1.51 155 ⇑P **Pg 02 39 02.6 +0.1**
MIDA Miranda 1.56 148 ⇑P **Pg 02 39 03.0 -0.4**
TRIV Trivento 1.59 139 ⇑P **Pg 02 39 03.8 -0.2**
TRIF Trifonti 1.66 276 ⇓P **Pn 02 39 02.9 +0.1**
TRIF AML AML
comp=N,122µm,1.6s
TRIF AML AML
comp=E,236µm,0.8s
APRC Apricena 2.15 124 ⇓P **Pn 02 39 10.5 +1.0**
VULT Monte Vulture 2.73 137 S **Sn 02 39 50.0 -0.7**
CEY Cerknica 2.92 18 *e*Pn **Pn 02 39 19.2 -0.9**
SMPL Sampolo 2.99 254 P **Pn 02 39 22.3 +1.3**
CORF Corte 3.02 259 P **Pn 02 39 22.3 +0.7**
SABO M.te Sabotino 3.03 6 ⇑P **Pn 02 39 21.4 -0.3**
SABO AML AML
comp=E,664µm,0.5s
SABO AML AML
comp=E,172µm,0.5s
SABO AML AML
comp=N,155µm,0.5s
SABO AML AML
comp=N,711µm,0.9s
CGRP Cima Grappa 3.07 342 ⇑P **Pn 02 39 22.8 +0.5**
CGRP S **Sn 02 39 59.0 -0.3**
PGF Pioggiola 3.09 264 P **Pn 02 39 22.5 -0.1**
VARN Col Varnada, M 3.12 346 S **Sn 02 39 60.0 -0.3**
SRKY Kupres RS 3.12 68 *e*Pn **Pn 02 39 23.5 +0.5**
MGRS Mrkonjic Grad 3.20 62 *e*Pn **Pn 02 39 23.4 -0.6**
SALO Salr 3.25 325 ⇑P **Pn 02 39 27.3 +2.6**
CTI Castel Tesino 3.26 341 P **Pn 02 39 24.8 -0.1**
CTI AML AML
comp=E,112µm,0.9s
CTI AML AML
comp=N,105µm,1.2s
PRIJ Prijedor 3.26 51 *e*Pn **Pn 02 39 26.1 +1.2**
AMUR Altamura 3.30 127 S **Sn 02 40 06.0 +1.3**
STAL STALIGIAL 3.31 355 ⇑P **Pn 02 39 26.1 +0.6**
STAL AML AML
comp=E,142µm,0.8s
STAL AML AML
comp=N,107µm,1.4s
STON Ston 3.34 90 *e*Pn **Pn 02 39 24.2 -1.7**
A051A Mrakovica 3.40 52 *e*Pn **Pn 02 39 27.5 +0.8**
AJAC Base Areonaval 3.41 254 P **Pn 02 39 27.4 +0.6**
BLY Banja Luka 3.42 57 *e*Pn **Pb 02 39 32.5 -1.7**
OBKA Obir 3.68 15 *e*Pn **Pn 02 39 30.7 0.0**
ABTA Abfaltersbach 3.81 353 *i* Pn **Pn 02 39 33.2 +0.8**
comp=N,17nm,0.4s,SNR=31
TREB Trebinje 3.83 92 *e*Pn **Pn 02 39 32.3 -0.4**
KBA Koelnbreinsper 4.11 2 *i* Pn **Pn 02 39 37.8 +1.1**
comp=N,1.2nm,0.2s
SAOF Saorge 4.20 286 P **Pn 02 39 39.0 +1.3**
TURF col de Turini 4.31 285 P **Pn 02 39 40.2 +0.8**
HAPS Han Pijesak,BI 4.36 73 *e*Pn **Pn 02 39 41.3 +1.2**
FETA Feichten 4.40 338 *e*Pn **Pn 02 39 42.5 +1.9**
comp=N,5.9nm,0.4s
WTTA Wattenberg 4.43 347 *e*Pn **Pn 02 39 43.1 +2.1**
comp=N,2.3nm,0.3s
SQTA Sankt Quirin 4.47 343 *e*P **Pn 02 39 43.0 +1.4**
comp=N,3.9nm,0.3s,SNR=11
SQTA *e*Pn Pb 02 39 43.5 -8.8
comp=N,8.7nm,0.4s
WATA Walderalm 4.51 346 *i* Pn **Pn 02 39 43.9 +1.8**
comp=N,8.6nm,0.4s
DRME Dracevica, Mon 4.52 98 *e*Pn **Pn 02 39 42.4 +0.2**
RUDO Rudo 4.59 80 *e*Pn **Pn 02 39 42.8 -0.3**
CALF Calern 4.61 282 P **Pn 02 39 43.3 -0.2**
BBLS Lazići 4.64 77 *e*Pn **Pn 02 39 44.2 +0.3**
RETA Reutte 4.82 340 *e*P **Pn 02 39 48.2 +1.8**
comp=N,1.5nm,0.3s,SNR=5.7
SURF Saint Ours 4.84 290 P **Pn 02 39 47.4 +0.8**
JAUF Jausiers 4.87 290 P **Pn 02 39 49.4 +2.3**
DAVA Damuels 4.90 333 *e*Pn **Pn 02 39 48.5 +1.0**
comp=N,1.5nm,0.2s
MOA Molln 4.95 9 *i* Pn **Pn 02 39 49.0 +1.0**
comp=N,0.8nm,0.2s
TRIGF Trigance 4.98 281 P **Pn 02 39 49.2 +0.7**
CREF Crivoux 4.99 291 P **Pn 02 39 51.6 +2.9**
DIVS Divibare 5.10 75 *e*Pn **Pn 02 39 48.6 -1.6**
DIX Grande Dixence 5.15 309 P **Pn 02 39 53.3 +2.2**
DIX Grande Dixence 5.15 309 S **Sn 02 40 52.0 +1.2**
FRGS Fruska Gora 5.27 63 *e*Pn **Pn 02 39 55.0 +2.5**
CONA Conrad Observa 5.31 20 *i* Pn **Pn 02 39 54.9 +1.7**
comp=N,0.9nm,0.2s
RSL Roselend 5.41 302 P **Pn 02 39 56.9 +2.4**
RSL S **Sn 02 40 59.7 +2.6**
SULZ Cheisacher 5.78 324 P **Pn 02 40 02.0 +2.5**
GRN Grenoble 5.80 296 P **Pn 02 40 02.9 +3.1**
BALST Balsthal 5.83 320 P **Pn 02 40 01.0 +0.8**
CKRC Cesky Krumlov 5.91 7 *e*PN **Pn 02 40 00.0 -1.2**
CKRC *e*SN **Sn 02 41 06.7 -2.3**
OGSM Saint Maurice 5.97 299 P **Pn 02 40 04.7 +2.7**
GIMEL St. Georges / 6.06 308 P **Pn 02 40 06.2 +2.8**
BOURR Bourrignon 6.09 319 P **Pn 02 40 04.6 +0.9**
BOURR Bourrignon 6.09 319 S **Sn 02 41 13.5 -0.1**
FELD Feldberg im Sc 6.10 325 P **Pn 02 40 04.3 +0.3**
KHC Kasperske Hory 6.17 3 *e*PN **Pn 02 40 04.2 -0.6**
KHC *e*SN **Sn 02 41 13.1 -2.4**
BRANT Les Verrieres 6.18 312 P **Pn 02 40 07.0 +2.0**
BRANT Les Verrieres 6.18 312 S **Sn 02 41 14.8 -1.1**
KIZ Kirchzarten 6.20 325 P **Pn 02 40 05.6 +0.4**
CHMF Charmoille 6.28 315 P **Pn 02 40 07.3 +1.0**
CHMF S **Sn 02 41 15.8 -2.5**
VOGT Vogtsburg - To 6.40 325 P **Pn 02 40 08.3 +0.4**
MOF Molkenrain 6.46 321 P **Pn 02 40 09.4 +0.5**
ECH Echery 6.72 323 P **Pn 02 40 12.8 +0.4**
WLS Welschbruch 6.79 325 P **Pn 02 40 13.8 +0.5**
NKC Novy Kostel 7.28 356 *e*SN **Sn 02 41 40.9 -2.0**

IDC 03 02:39:26.5±5.4, 7°.19S×125°.45E, h340km±65km, mb3.0/1, mbtmp3.6/4, Error ellipse: s-maj=113.3km s-min=24.6km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.48**	**210**	P	Pn		02 40 30.6	+0.8
	44nm,0.4s,baz=108,slow=4.7,SNR=5.1							
BATI				S	S		02 41 20.6	+0.1
	39nm,0.3s,baz=56,slow=18,SNR=7.2							
WRA	**Warramunga Arr**	**15.33**	**147**	P	P		02 42 45.2	-0.1
	0.3nm,0.4s,baz=326,slow=11,SNR=15							
ASAR	**Alice Springs**	**18.29**	**155**	P	P		02 43 17.0	0.0
	0.3nm,0.3s,baz=322,slow=8.2,SNR=12							
MKAR	**Makanchi Array**	**65.99**	**329**	P	P		02 49 37.1	-0.1
	0.4nm,0.5s,baz=127,slow=7.7,SNR=3.8							
	0.4nm,0.5s							

MAN 03 02:48:46.2, 9°.12N×125°.59E, h30km, mb3.8, ML2.5, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.67**	**352**	*e*P	Pn		02 48 59.9	+0.2
MSLP	**Maasin**	**1.24**	**325**	⇑*i*P	Pb		02 49 17.0	+8.0

*IDC **03** 02:52:35.6±5.0, 35°.68N×71°.32E, h198km±33km, mb3.3/4,*

mbtmp4.0/9, Error ellipse: s-maj=68.8km s-min=23.0km az=149.0

ISC 03 02:52:44.0±0.8, **36°.56N**±0°.07×**70°.85E**±0°.09, **h250km**, **n28**, σ1s.34/23, **mb3.4**/3, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.86	162	P	Pn	02 53 37.8	+2.5
CEP				S	S	02 54 16.0	+0.2
CHCP	Chirah Chowk	3.51	145	P	Pn	02 53 44.1	+1.9
THW	Thamme Wali	3.83	169	P	Pn	02 53 47.3	+1.4
KSH	Kashi	5.00	52	Pn	Pn	02 53 56.7	-3.2
KSH				pP		02 54 00.1	
KSH				Sn	S	02 54 50.3	-10
AML	Almayashu	5.98	21	P	Pn	02 54 12.4	+0.2
	SNR=250						
UCH	Uchtor	6.33	25	P	Pn	02 54 17.5	+0.9
	SNR=15						
EKS2	Erkin-Say	6.50	19	P	Pn	02 54 19.1	+0.7
	SNR=25						
AAK	Ala-Archa	6.69	24	P	Pn	02 54 21.6	+0.8
	SNR=39						
AAK	Ala-Archa	6.69	24	P	Pn	02 54 21.6	+0.8
	18nm,0.3s,baz=195,slow=7.0,SNR=76						
AAK				S	S	02 55 36.9	-1.6
	2.6nm,0.4s,baz=142,slow=19,SNR=1.1						
ULHL	Ulahol	7.04	35	P	Pn	02 54 26.2	+0.8
	SNR=26						
USP	Ospenovka	7.26	22	P	Pn	02 54 28.9	+1.0
	SNR=10						
TKM2	Tokmak 2	7.33	28	P	Pn	02 54 29.4	+0.4
	SNR=20						
GEYT	Alibeck	10.25	281	P	Pn	02 55 04.8	-0.9
	2.4nm,0.5s,baz=104,slow=12,SNR=5.2						
PYUN	Piuthan	13.28	126	eP	P	02 55 44.3	-0.7
	25nm,0.4s						
MKAR	Makanchi Array	13.31	36	P	P	02 55 44.2	-0.9
	2.7nm,0.6s,baz=221,slow=12,SNR=23						
DANN	Dangsing	13.62	123	eP	P	02 55 48.8	-0.2
	17nm,0.4s						
KOLN	Koldanda	13.89	125	eP	P	02 55 52.2	+0.3
GKN	Gorkha	14.44	122	eP	P	02 55 59.0	+1.2
	20nm,0.3s						
KURBB	Kurchatov Arra	15.10	19	P	Pn	02 56 05.6	+0.4
	1.9nm,0.6s,baz=210,slow=11,SNR=17						
PKI	Pulchoki	15.24	122	eP	Pn	02 56 09.1	+1.6
GUN	Gumba	15.35	120	eP	Pn	02 56 10.3	+1.5
	18nm,0.3s						
JIRN	Jiri	15.72	120	eP	Pn	02 56 15.1	+1.8
	17nm,0.4s						
RAMN	Ramite	16.45	121	eP	Pn	02 56 23.2	+1.5
	17nm,0.5s						
BVAR	Borovoye Array	16.47	359	P	Pn	02 56 23.2	+1.8
	1.9nm,0.3s,baz=173,slow=12,SNR=12						
ZALV	Zalesovo Beam	19.91	25	P	P	02 56 58.2	+1.4
	2.2nm,0.3s,baz=212,slow=10,SNR=11						
	2.2nm,0.3s						
FINES	FINESS Array B	37.37	326	P	P	02 59 36.6	+4.1
	3.4nm,0.9s,baz=119,slow=12,SNR=1.7						
	3.4nm,0.9s						
ARCES	ARCESS Array B	41.04	338	P	P	03 00 07.5	+4.8
	1.2nm,0.8s,baz=123,slow=6.7,SNR=3.6						
	1.2nm,0.8s						
TORD	Torodi Ar. Bea	65.60	269	P	P	03 03 00.8	-0.9
	0.2nm,0.4s,baz=44,slow=5.6,SNR=2.2						
	0.2nm,0.4s						

IDC 03 03:12:45.1±23.0, **25°.10S**×**68°.68E**, **h0km**, **mb3.6**/3, **mbtmp3.6**/3, **MS2.9**/1, **Error ellipse: s-maj=775.9km s-min=44.9km az=52.0**, **Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	17.73	12	T	T	03 33 32.7	
	baz=190,slow=76,SNR=25						
H08S2	Diego Garcia H	17.74	12	T	T	03 33 34.5	
	baz=190,slow=76,SNR=36						
H08S3	Diego Garcia H	17.75	12	T	T	03 33 34.5	
	baz=190,slow=76,SNR=34						
H01W2	Cape Leeuwin H	40.27	115	T	T	04 02 56.7	
	baz=273,slow=75,SNR=4.1						
H01W3	Cape Leeuwin H	40.27	115	T	T	04 02 56.9	
	baz=273,slow=75,SNR=4.5						
H01W1	Cape Leeuwin H	40.28	115	T	T	04 03 01.0	
	baz=273,slow=75,SNR=5.4						
CMAR	Chiang Mai Arr	52.37	37	LR	LR	03 40 32.0	
	comp=Z,13nm,21.3s,baz=150,slow=32						
ASAR	Alice Springs	58.88	103	P	P	03 22 45.9	-0.3
	0.4nm,0.6s,baz=253,slow=6.7,SNR=4.6						
	0.4nm,0.6s						
WRA	Warramunga Arr	60.35	100	P	P	03 22 56.6	+0.2
	0.4nm,0.7s,baz=256,slow=6.6,SNR=5.9						
	0.4nm,0.7s						
MKAR	Makanchi Array	72.61	10	P	P	03 24 14.2	+0.1
	0.5nm,0.7s,baz=188,slow=5.8,SNR=3.9						
	0.5nm,0.7s						

*REN **03** 03:25:00.8±1.8, 39°.83N±0°.01×118°.83W±0°.02, h8km±6km, ML2.7/23, ML2.6/50(NEIC), Error ellipse: s-maj=2.4km s-min=1.6km az=56.0*

NEIC 03 03:25:00.6±1.4, **39°.85N**±0°.02×**118°.82W**±0°.02, **h13km**±3km, **Error ellipse: s-maj=3.1km s-min=2.0km az=165.0**, **Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAHR	Pah Rah Range	0.46	253		Pg	03 25 09.5	-0.2
PAHR					Sg	03 25 15.9	0.0
PAHR	Pah Rah Range	0.46	253	IAML		03 25 16.1	
	comp=E,440nm,0.6s						
PAHR				IAML		03 25 21.5	
	comp=N,179nm,1.1s						
WVA	Winnemucca Val	0.78	278		Pg	03 25 15.5	-0.3
WVA					Sb	03 25 26.5	-0.2
VCNR	Virginia City	0.85	230		Pg	03 25 16.4	-0.6
VCNR					Sg	03 25 27.9	-0.2
PEAR	Peavine Mounta	0.91	255		Pg	03 25 17.8	-0.5
PEAR					Sg	03 25 30.3	0.0
YERR	Yerington	0.92	201		Pg	03 25 17.9	-0.4
YERR	Yerington	0.92	201	IAML		03 25 33.6	
	comp=N,133nm,0.6s						
YERR				IAML		03 25 33.6	
	comp=E,185nm,0.9s						
KVN	Kaiserville	0.97	145		Pg	03 25 19.0	-0.3
KVN					Sb	03 25 32.3	+0.2
KVN	Kaiserville	0.97	145	IAML		03 25 34.9	
	comp=E,183nm,1.0s						
KVN				IAML		03 25 35.0	
	comp=N,159nm,0.7s						
PNTR	Pine Nut	0.97	219		Pg	03 25 18.6	-0.7
PNTR					Sg	03 25 31.9	-0.1
PNTR	Pine Nut	0.97	219	IAML		03 25 35.3	
	comp=N,192nm,0.7s						
PLTX	Planet X, Gerl	0.99	330		Pg	03 25 19.9	+0.2
PLTX					Sn	03 25 34.2	-0.1
PLTX	Planet X, Gerl	0.99	330	IAML		03 25 41.0	
	comp=N,887nm,0.7s						
BABR	Babbit Peak	1.02	257		Pb	03 25 19.9	-0.4
MPK	Martis Peak	1.09	240		Pb	03 25 20.7	-0.6
MPK					Sg	03 25 35.9	+0.1
MPK	Martis Peak	1.09	240	IAML		03 25 38.5	
	comp=E,162nm,0.8s						
MPK				IAML		03 25 38.6	
	comp=N,169nm,0.8s						
LOY	Loyalton	1.11	261		Pb	03 25 21.2	-0.5
BEKR	Beckworth	1.19	272		Pn	03 25 22.5	-0.5
BEKR					Sb	03 25 38.4	0.0
BEKR	Beckworth	1.19	272	IAML		03 25 38.5	
	comp=N,83nm,0.4s						
RYN	Ryan	1.24	169		Pn	03 25 23.3	-0.4
RYN					Sg	03 25 41.1	+0.6
RYN	Ryan	1.24	169	IAML		03 25 41.3	
	comp=E,88nm,0.5s						
RYN				IAML		03 25 42.5	
	comp=N,106nm,0.7s						
DONR	Donner Summit	1.26	247		Pn	03 25 23.5	-0.6
EMB	Emerald Bay	1.32	229		Pn	03 25 24.5	-0.4
EMB					Sg	03 25 43.0	-0.2
BMN	Battle Mountai	1.36	64		Pn	03 25 24.8	-0.5
BMN	Battle Mountai	1.36	64	IAML		03 25 46.7	
	comp=E,166nm,0.4s						
NV09	Mina Array Sit	1.46	165		Pn	03 25 26.7	0.0
NVAR	Mina Array Bea	1.47	164		Pn	03 25 26.9	0.0
NV08	Mina Array Sit	1.49	165		Pn	03 25 27.2	0.0
NV11	Mina Array Sit	1.50	160		Pn	03 25 27.3	-0.1
NV11	Mina Array Sit	1.50	160	IAML		03 25 49.7	
	comp=E,104nm,0.8s						
NV11				IAML		03 25 50.7	
	comp=N,51nm,0.6s						
LHV	Little Huntoon	1.61	171		Pn	03 25 29.2	+0.6
Q09A	Carvers	1.62	128		Pb	03 25 30.4	-0.1
AFDM	Forest Hills D	1.90	242		Pn	03 25 32.5	-0.1
KPK	Kanaka Peak	1.94	263		Pn	03 25 33.3	+0.1
ORV	Oroville	2.09	263		Pn	03 25 34.8	-0.5
TPH	Tonopah	2.16	144	Pn	Pn	03 25 37.7	+1.3
LBCM	Butte Creek Ri	2.17	298		Pb	03 25 39.6	-0.2
CMB	Columbia Colle	2.18	215		Pn	03 25 37.6	+1.0
MOD	Modoc Plateau	2.34	332		Pb	03 25 42.3	-0.5
MOD				IAML		03 26 19.2	
	comp=E,43nm,0.6s						
MOD				IAML		03 26 28.5	
	comp=N,28nm,2.8s						
MZP	Montezuma Peak	2.42	152		Pn	03 25 39.6	-0.4
WVOR	Wild Horse Val	2.59	3		Pb	03 25 47.2	+0.3
WVOR				IAML		03 26 21.0	
	comp=N,18nm,4.7s						
ELK	Elko	2.88	71		Pn	03 25 47.1	+0.8
ELK				IAML		03 26 34.5	
	comp=N,35nm,0.4s						
ELK				IAML		03 26 34.7	
	comp=N,29nm,0.6s						
R11A	Troy Canyon, C	2.92	120		Pb	03 25 50.0	-2.7
R11A				IAML		03 26 34.0	
	comp=N,18nm,0.9s						
R11A				IAML		03 26 35.1	
	comp=E,14nm,0.8s						
S11A	Rachel	3.25	132		Pn	03 25 53.2	+1.8
K05A	Summer Lake	3.28	332	Pn	Pn	03 25 53.2	+1.4
J08A	Circle Bar Ran	3.52	4	Pn	Pn	03 25 56.4	+1.4
SPR3	Spring Creek 3	3.58	102	Pn	Pn	03 25 58.4	+2.4
PRN	Pahroc Range	3.82	128	Pn	Pn	03 26 01.2	+1.9
PSUT	Pine Spring	4.07	107		Pn	03 26 03.2	+0.5
SHPR	Sheep Range	4.41	138	Pn	Pn	03 26 07.8	+0.6
DUG	Dugway, Tooele	4.62	84	Pn	Pn	03 26 10.2	0.0

*PRU **03** 03:48:00.6±0.0, 42°.96N×13°.91E, h10km*

ROM 03 03:47:60.0±0.1, **43°.008N**±0°.003×**13°.064E**±0°.004, **h8km**, **ML2.6**/10, **Error ellipse: s-maj=0.3km s-min=0.2km az=71.0**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.05	193	P	Pg	03 48 02.3	+0.6
FEMA				S	Sg	03 48 03.8	+0.8
FEMA				AML	AML		
	comp=E,19950µm,1.3s						
FEMA				AML	AML		
	comp=N,16400µm,0.5s						
T1256	Bolognola (MC)	0.12	91	P	Pg	03 48 03.2	+0.5
T1256				S	Sg	03 48 05.6	+1.0
T1216	Preci, Frazion	0.12	196	AML	AML		
	comp=E,9100µm,0.9s						
T1216				AML	AML		
	comp=N,9540µm,0.4s						
SEF1	Sefro	0.16	328	P	Pg	03 48 03.6	+0.2
SEF1				S	Sg	03 48 06.8	+1.2
T1245	Castelsantange	0.18	149	AML	AML		
	comp=E,4920µm,0.3s						
T1245				AML	AML		
	comp=N,7155µm,0.6s						
T1245				AML	AML		
	comp=E,5305µm,0.3s						
T1245				AML	AML		
	comp=N,7640µm,0.6s						
PIO1	Pioraco	0.18	341	P	Pg	03 48 04.2	+0.5
PIO1				S	Sg	03 48 07.6	+1.4
MDAR	Monte D'Aria	0.19	17	P	Pg	03 48 04.4	+0.5
MDAR				S	Sg	03 48 07.8	+1.2
AM05	Amandola Campo	0.21	98	P	Pg	03 48 05.0	+0.7
AM05				S	Sg	03 48 08.8	+1.7
AM05				AML	AML		
	comp=N,224µm,0.8s						
AM05				AML	AML		
	comp=E,3830µm,0.5s						
AM05				AML	AML		
	comp=N,824µm,1.0s						
AM05				AML	AML		
	comp=E,800µm,0.6s						
MMO1	Montemonaco	0.22	119	P	Pg	03 48 05.0	+0.6
MMO1				S	Sg	03 48 08.8	+1.3
GAG1	Gagliole	0.23	1	P	Pg	03 48 05.4	+0.8
GAG1				S	Sg	03 48 09.7	+2.0
SSM1	San Severino M	0.24	20	P	Pg	03 48 05.1	+0.5
SSM1				S	Sg	03 48 09.1	+1.2
T1215	Vallo di Nera,	0.25	215	P	Pg	03 48 05.7	+0.7
T1215				S	Sb	03 48 09.9	-1.5
T1215				AML	AML		
	comp=N,1180µm,1.6s						
T1215				AML	AML		
	comp=E,1525µm,0.3s						
SNTG	Esanatoglia	0.26	340	P	Pg	03 48 05.7	+0.5
SNTG				S	Sg	03 48 10.1	+1.3
SNTG				AML	AML		
	comp=N,2405µm,0.1s						
SNTG				AML	AML		
	comp=N,2130µm,0.1s						
SNTG				AML	AML		
	comp=E,2910µm,0.5s						
SNTG				AML	AML		
	comp=E,2795µm,0.5s						
ASSB	Assisi San Ben	0.30	277	P	Pg	03 48 06.4	+0.5
ASSB				S	Sb	03 48 11.5	-1.3
ASSB				AML	AML		
	comp=E,3425µm,0.5s						
ASSB				AML	AML		
	comp=N,3255µm,0.4s						
T1241	Roccafluvione,	0.31	119	P	Pg	03 48 06.7	+0.6
T1241				S	Sb	03 48 11.8	-1.2
T1241				AML	AML		
	comp=E,954µm,0.8s						
T1241				AML	AML		
	comp=N,1011µm,0.4s						
T1241				AML	AML		
	comp=E,962µm,0.8s						
T1241				AML	AML		
	comp=N,1000µm,0.4s						
T1217	Poggiodomo (PG	0.31	198	P	Pg	03 48 06.9	+0.8
T1217				S	Sb	03 48 12.1	-1.0
MNTP	Montappone	0.32	66	P	Pb	03 48 07.5	-0.5
ATCC	AVT- Casa Cast	0.36	300	P	Pb	03 48 07.8	-0.8
ATCC				S	Sb	03 48 13.7	-0.7
FOSV	Fossato di Vic	0.36	322	P	Pg	03 48 07.4	+0.3
FOSV				S	Sb	03 48 13.8	-0.8
LNSS	Leonessa	0.41	182	P	Pg	03 48 08.3	+0.5
LNSS				S	Sb	03 48 15.2	-0.6
T1243	Rocca Santa Ma	0.42	138	P	Pg	03 48 08.8	+0.6
T1243				S	Sb	03 48 15.8	-0.5
MURB	Monte Urbino	0.47	303	P	Pg	03 48 09.5	+0.4
MURB				S	Sb	03 48 17.4	-0.3
ARRO	Arrone	0.48	207	P	Pg	03 48 09.7	+0.4
ARRO				S	Sb	03 48 17.2	-0.7
ARVD	Arcevia	0.50	350	P	Pg	03 48 10.3	+0.7
ARVD				S	Sb	03 48 17.9	-0.6
ARVD				AML	AML		
	comp=N,973µm,0.7s						
ARVD				AML	AML		
	comp=E,1515µm,0.1s						
ATFO	Monte Foce - G	0.51	315	P	Pg	03 48 10.1	+0.3
ATFO				S	Sb	03 48 18.9	+0.1
RM33	Pellescritta (	0.51	167	P	Pg	03 48 10.4	+0.6
RM33				S	Sb	03 48 18.7	-0.2
RM33				AML	AML		
	comp=N,956µm,0.9s						
RM33				AML	AML		
	comp=N,347µm,0.3s						
RM33				AML	AML		
	comp=E,393µm,1.4s						
RM33				AML	AML		
	comp=E,1090µm,0.9s						
CESX	Cesi	0.53	222	P	Pg	03 48 10.7	+0.4
CESX				S	Sb	03 48 19.6	+0.1
ATTE	AVT- Monte Tez	0.55	290	P	Pb	03 48 12.1	+0.1
ATTE				S	Sb	03 48 19.3	-0.8
FRON	Frontone	0.57	334	P	Pg	03 48 11.0	+0.1
FRON				S	Sb	03 48 20.3	-0.1
ATMI	Monte Miggiano	0.67	300	P	Pb	03 48 14.0	+0.1
ATMI				S	Sb	03 48 23.5	+0.2
NARO	Abbazia di Nar	0.70	330	AML	AML		
	comp=N,318µm,1.2s						
NARO				AML	AML		
	comp=E,318µm,0.5s						
SKDS	Skadanscina	2.63	15	*i* Pn	Pn	03 48 42.7	0.0
CADS	Cadrg	3.25	8	*i* Pn	Pn	03 48 51.6	+0.2
ABTA	Abfaltersbach	3.76	354	*e*Pn	Pn	03 48 59.5	+1.2
	comp=E,1.0nm,0.2s						
SQTA	Sankt Quirin	4.41	343	*i* Pn	Pn	03 49 09.7	+2.4
	comp=E,1.1nm,0.2s						
MOA	Molln	4.92	9	*i* Pn	Pn	03 49 15.1	+0.9
	comp=E,1.7nm,0.4s						
KHC	Kasperske Hory	6.13	3	*e*PN	Pn	03 49 30.3	-0.6
KHC				*e*SN	Sn	03 50 39.3	-2.0

*IDC **03** 04:01:47.9±1.1, 6°.03S×150°.99E, h0km, mb3.9/5, mbtmp3.9/6, ML1.6/1, MS3.7/2, Error ellipse: s-maj=51.9km s-min=22.9km az=127.0*

ISC 03 04:01:54.0±1.1, **6°.0S**±0°.3×**150°.9E**±0°.3, **h43km**, **n10**, σ1s.05/10, **mb3.8**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.01	228	Pn	Pn	04 03 05.9	-0.9
	1.4nm,0.3s,baz=170,slow=23,SNR=1.4						
PMG				Sn	Sn	04 04 04.3	+0.9
	3.6nm,0.3s,baz=274,slow=17,SNR=5.4						
	6.1nm,0.4s						
WRA	Warramunga Arr	21.23	228	P	P	04 06 36.2	-0.3
	3.5nm,0.7s,baz=53,slow=10,SNR=23						
WRA				PcP	PcP	04 10 42.9	+2.2
	0.4nm,0.9s,baz=43,slow=2.2,SNR=2.8						
	3.5nm,0.7s						
ASAR	Alice Springs	23.98	221	P	P	04 07 04.5	-0.3
	3.6nm,0.5s,baz=57,slow=8.9,SNR=39						
	3.6nm,0.5s						
STKA	Stephens Creek	27.15	198	P	P	04 07 33.8	+0.4
	2.5nm,0.9s,baz=45,slow=10.0,SNR=3.8						
	2.5nm,0.9s						
BATI	Baumata	27.29	259	LR	LR	04 20 38.5	
	comp=Z,50nm,20.0s,baz=186,slow=41						
VNDA	Vanda	71.67	178	P	P	04 13 10.2	-0.7
	0.7nm,0.8s,baz=328,slow=6.2,SNR=6.6						
	0.7nm,0.8s						
ILAR	Eielson Array	84.00	22	P	P	04 14 19.3	-0.3
	0.2nm,0.6s,baz=255,slow=5.6,SNR=5.4						
	0.2nm,0.6s						
BBB	Bella Bella	89.21	37	LR	LR	04 45 17.4	
	comp=Z,117nm,21.5s,baz=272,slow=29						
TORD	Torodi Ar. Bea	148.87	285	PKPbc	PKPbc	04 21 37.7	-0.5
	0.3nm,0.4s,baz=59,slow=33,SNR=7.3						
BDFB	Brasilia	151.44	139	PKPbc	PKiKP	04 21 45.5	+0.5
	1.2nm,0.7s,baz=171,slow=11,SNR=2.0						

*IDC **03** 04:12:02.1±2.7, 6°.84S×130°.61E, h69km±24km, mb3.8/8, mbtmp4.1/9, MS2.1/1, Error ellipse: s-maj=23.8km s-min=16.9km az=96.0*

*DJA **03** 04:12:02.0±0.3, 7°S±2°×13°1E±°, h122km±7km, M4.6/13, mb4.6/10, mB5.1/7, MLv4.7/13, Mw(mB)4.4/7*

*NEIC **03** 04:12:02.3±1.7, 6°.95S±0°.07×130°.78E±0°.06, h104km±10km, mb4.4/8, Error ellipse: s-maj=10.0km s-min=7.6km az=210.0*

ISC 03 04:12:02.2±0.5, **6°.94S**±0°.04×**130°.77E**±0°.06, **h100km**, **n63**, σ2s.13/65, **mb4.2**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.17	153	Pn	Pn	04 12 25.7	+1.2
SAUI				Sn	Sn	04 12 40.7	-0.7
SAUI	Saumlaki	1.17	153	P	Pn	04 12 25.8	+1.2
SAUI				S	Sn	04 12 44.4	+3.0
SAUI	Saumlaki	1.17	153	P	Pn	04 12 26.1	+1.6
BNDI	Bandanaira	2.55	340	P	Pn	04 12 43.4	+1.4
BNDI	Bandanaira	2.55	340	P	Pn	04 12 44.2	+2.2
MSAI	Masohi	4.01	333	P	Pn	04 13 03.5	+1.9
AAI	Ambon	4.12	321	P	Pn	04 13 03.7	+0.6
FAKI	Fak Fak	4.25	20	Pn	Pn	04 13 05.2	+0.3
FAKI	Fak Fak	4.25	20	P	Pn	04 13 04.9	0.0
FAKI	Fak Fak	4.25	20	P	Pn	04 13 05.4	+0.5
KRAI	Karang Ratu	4.30	326	P	Pn	04 13 07.3	+1.7
NLAI	Namlea	5.18	315	P	Pn	04 13 17.7	+0.2
	0.3nm5µm86nm,0.7s						
MTN	Manton Dam	5.88	177	Pn	Pn	04 13 26.8	-0.2
MTN	Manton Dam	5.88	177	P	Pn	04 13 27.0	0.0
KDU	Kakadu	5.96	164	P	Pn	04 13 27.5	-0.5
SIJI	Sorong	6.05	5	P	Pn	04 13 28.4	-0.8
	14nm,0.2s,baz=99,slow=15,SNR=25						
SIJI				S	Sn	04 14 29.9	-7.2
	66nm,0.2s,baz=246,slow=23,SNR=13						
SIJI	Sorong	6.05	5	P	Pn	04 13 28.4	-0.8
	1.1nm5µm24nm,0.4s						
RKPI	Ransiki, Papua	6.37	32	P	Pn	04 13 33.4	-0.2
	2.1nm3µm108nm,0.6s						
SANI	Sanana	6.80	315	P	Pn	04 13 40.0	+0.5
	0.1nm679nm41nm,0.7s						
SANI	Sanana	6.80	315	P	Pn	04 13 43.5	+4.0
SOEI	Soe	7.02	246	Pn	Pn	04 13 42.5	0.0
SOEI	Soe	7.02	246	P	Pn	04 13 40.9	-1.7
	0.7nm1µm86nm,0.6s						
SOEI	Soe	7.02	246	P	Pn	04 13 43.6	+1.0
LBMI	Labuha	7.05	332	P	Pn	04 13 42.8	-0.2
	0.3nm69nm,0.7s						
BATI	Baumata	7.75	245	P	Pn	04 13 51.5	-0.9
	68nm,0.4s,baz=84,slow=0.8,SNR=10						
BATI				S	Sn	04 15 15.9	-2.6
	78nm,0.3s,baz=90,slow=21,SNR=9.3						
BATI	Baumata	7.75	245	P	Pn	04 13 50.9	-1.4
	0.5nm2µm60nm,0.4s						
KNRA	Kununurra	8.91	193	Pn	Pn	04 14 06.9	-1.2
KNRA	Kununurra	8.91	193	P	Pn	04 14 07.7	-0.4
BKSI	Bulukumba	10.71	278	P	Pn	04 14 40.1	+7.4
APSI	Ampana	10.89	303	P	Pn	04 14 39.5	+4.4
KAPI	Kappang	11.12	279	LR	LR	04 18 59.4	
	comp=Z,9.6nm,21.5s,baz=82,slow=38						
MRSI	Marisa	11.48	310	P	Pn	04 14 45.4	+2.3
WB0	Warramunga Arr	13.23	165	Pn	Pn	04 15 02.3	-4.0
WRA	Warramunga Arr	13.39	165	P	Pn	04 15 04.5	-3.8
	3.4nm,0.4s,baz=348,slow=13,SNR=64						
WRA				S	Sn	04 17 25.2	-10
	11nm,0.7s,baz=343,slow=21,SNR=13						
WRA	Warramunga Arr	13.39	165	Pn	Pn	04 15 04.2	-4.1
WB2	Warramunga Arr	13.39	165	Pn	Pn	04 15 04.2	-4.1
WR0	Warramunga Arr	13.45	165		Pn	04 15 06.4	-2.8
COEN	Coen	14.05	121	Pn	Pn	04 15 16.1	-0.8
COEN	Coen	14.05	121	P	Pn	04 15 18.0	+1.1
QIS	Mount Isa	16.02	149	P	Pn	04 15 41.3	-0.6
AS31	Alice Springs	16.91	170		P	04 15 52.3	-0.9
ASAR	Alice Springs	16.91	170	P	Pn	04 15 51.9	-0.9
	3.9nm,0.4s,baz=0.8,slow=10,SNR=72						
ASAR				S	Sn	04 18 48.5	-12
	1.1nm,0.6s,baz=337,slow=18,SNR=4.2						
ASAR	Alice Springs	16.91	170		P	04 15 52.8	-0.4
PSA00	Pilbara Seismi	17.98	215	Pn	Pn	04 16 05.5	-0.3
WRKA	Warakurna	18.16	187	P	Pn	04 16 07.0	-1.0
CTA	Charters Tower	19.91	133	P	Pn	04 16 30.4	+1.7
	2.3nm,0.5s,baz=301,slow=12,SNR=3.7						
	2.3nm,0.5s						
BBOO	Buckleboo	26.21	170	P	P	04 17 26.4	-1.3
BBOO				IAmb	IAmb	04 17 53.3	
	comp=Z,31nm,1.5s						
HNR	Honiara	28.98	97	P	P	04 17 50.7	-2.0
MJAR	Matsushiro Arr	43.81	9	P	P	04 19 59.6	+1.4
	comp=Z,2.7nm,0.7s,baz=167,slow=11,SNR=5.9						
	comp=Z,2.7nm,0.7s						
WAKE	Wake Island	43.91	53	P	P	04 19 58.5	-0.8
USRK	Ussuriysk Ar.	50.91	1	P	P	04 20 55.3	+2.2
	comp=Z,1.1nm,0.5s,baz=192,slow=5.0,SNR=2.6						
	comp=Z,1.1nm,0.5s						
ULN	Ulaanbaatar	58.44	341	P	P	04 21 47.2	-0.6
ULN				IAmb	IAmb	04 21 52.0	
	comp=Z,5.0nm,0.7s						
SONM	Songino Array	58.63	341	P	P	04 21 52.0	+3.0
	comp=Z,1.5nm,0.6s,baz=163,slow=7.6,SNR=5.9						
	comp=Z,1.5nm,0.6s						
MK31	Makanchi Array	68.59	326	P	P	04 22 53.7	-0.8
MK31				IAmb	IAmb	04 22 58.0	
	comp=Z,3.4nm,1.0s						
MKAR	Makanchi Array	68.59	326	P	P	04 22 57.5	+3.0
	comp=Z,2.7nm,0.6s,baz=112,slow=8.9,SNR=30						
	comp=Z,2.7nm,0.6s						
MKAR	Makanchi Array	68.59	326	P	P	04 22 54.0	-0.5
ZALV	Zalesovo Beam	71.86	333	P	P	04 23 15.6	+1.4
	comp=Z,1.4nm,0.5s,baz=107,slow=5.1,SNR=6.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.4nm,0.5s						
VNDA	**Vanda**	**72.42**	**173**	P	**P**	**04 23 20.9**	**+3.7**
	comp=Z,0.2nm,0.4s,baz=264,slow=18,SNR=1.6						
	comp=Z,0.2nm,0.4s						
KURK	**Kurchatov**	**72.86**	**328**	P	**P**	**04 23 19.2**	**-1.0**
KURK				IAmb	IAmb	04 23 23.8	
	comp=Z,3.5nm,0.8s						
NRIK	**Noril'sk**	**81.68**	**346**	P	**P**	**04 24 12.3**	**+3.2**
	comp=Z,1.7nm,0.3s,baz=219,slow=2.0,SNR=4.0						
	comp=Z,1.7nm,0.3s						
TORD	**Torodi Ar. Bea**	**129.55**	**281**	PKP	**PKiKP**	**04 31 03.0**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=70,slow=1.7,SNR=2.7						
CPUP	**Villa Florida**	**146.01**	**167**	PKPbc	**PKiKP**	**04 31 34.5**	**0.0**
	comp=Z,2.2nm,0.9s,baz=243,slow=5.2,SNR=2.3						
LPAZ	**La Paz**	**150.29**	**141**	PKPbc	**PKPab**	**04 31 48.1**	**-1.9**
	comp=Z,1.7nm,0.7s,baz=24,slow=5.3,SNR=9.5						

MAN 03 04:30:52.0, 14°.84N×119°.29E, h31km, mb4.0, ML2.8, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LQP	**Lukban**	**2.29**	**108**	⇓*e*P	Pb	04 31 35.1	+2.3

*PRU **03** 04:30:58.3±0.0, 51°.57N×16°.09E, h0km*
ISC 03 04:30:57.3±0.8**, 51°.60N**±0°.03×**16°.11E**±0°.03**, h0km, n26, σ1s.36**/54**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**171**	*e*Pg	**Pg**	**04 31 12.5**	**+0.5**
KSP				*e*Sg	**Sg**	**04 31 22.2**	**+0.2**
CHVC	**Chvalec**	**1.02**	**182**	*e*PG	**Pg**	**04 31 17.4**	**+0.6**
CHVC				*e*SG	**Sg**	**04 31 29.4**	**-0.5**
	comp=Z,22nm,0.5s						
OSTC	**Ostas**	**1.05**	**176**	*e*PG	**Pg**	**04 31 17.9**	**+0.5**
OSTC				*e*SG	**Sg**	**04 31 31.2**	**+0.2**
	comp=Z,22nm,0.4s						
UPC	**Upice**	**1.10**	**183**	*e*PG	**Pg**	**04 31 18.6**	**+0.3**
UPC				*e*SG	**Sg**	**04 31 32.3**	**-0.3**
	comp=Z,28nm,0.3s						
DPC	**Dobruska-Polom**	**1.26**	**174**	*e*PG	**Pg**	**04 31 21.1**	**-0.4**
DPC				*e*SG	**Sg**	**04 31 37.1**	**-0.7**
	comp=Z,11nm,0.3s						
PVCC	**Panska Ves**	**1.45**	**223**	*e*PG	**Pn**	**04 31 25.3**	**+0.5**
PVCC				*e*SG	**Sg**	**04 31 43.7**	**-0.1**
	comp=Z,73nm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**243**	Pg	**Pb**	**04 31 27.2**	**+0.4**
BRG				Sg	**Sn**	**04 31 47.2**	**+0.4**
BRG				Amp		04 31 50.1	
	comp=Z,31nm,0.4s						
KRLC	**Kraliky**	**1.59**	**164**	*e*PG	**Pn**	**04 31 27.1**	**+0.4**
KRLC				*e*SG	**Sn**	**04 31 47.4**	**-0.6**
	comp=Z,11nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.89**	**207**	*e*PG	**Pb**	**04 31 32.3**	**-0.3**
GOPC				*e*SG	**Sb**	**04 31 56.3**	**-0.5**
	comp=Z,8.9nm,0.5s						
PRU	**Pruhonice**	**1.90**	**212**	*e*PG	**Pb**	**04 31 32.5**	**-0.3**
PRU				*e*SG	**Sb**	**04 31 56.9**	**-0.1**
	comp=Z,19nm,0.3s						
CLL	**Collm**	**1.96**	**263**	*e*Pg	**Pb**	**04 31 35.0**	**+1.1**
CLL				*e*Sg	**Sb**	**04 32 00.0**	**+1.0**
	comp=Z,11nm,0.8s						
MORC	**Moravsky Berou**	**2.04**	**153**	*e*PN	**Pn**	**04 31 32.9**	**-0.1**
MORC				*e*SG	**Sb**	**04 32 01.1**	**-0.2**
OKC	**Ostrava-Krasne**	**2.19**	**143**	*e*PG	**Pb**	**04 31 38.9**	**+1.1**
OKC				*e*SG	**Sg**	**04 32 07.2**	**-0.5**
	comp=Z,11nm,0.6s						
VRAC	**Vranov**	**2.32**	**172**	*e*PN	**Pn**	**04 31 37.1**	**+0.4**
VRAC				*e*SG	**Sg**	**04 32 10.5**	**-1.2**
TREC	**Trest**	**2.34**	**190**	*e*PG	**Pb**	**04 31 41.2**	**+0.8**
TREC				*e*SG	**Sg**	**04 32 11.7**	**-0.9**
	comp=Z,7.9nm,0.2s						
MAUC	**Maruska**	**2.50**	**153**	*e*PG	**Pb**	**04 31 44.0**	**+1.0**
MAUC				*e*SG	**Sg**	**04 32 17.2**	**-0.2**
	comp=Z,19nm,0.9s						
KRUC	**Moravsky**	**2.55**	**176**	*e*PN	**Pn**	**04 31 40.6**	**+0.7**
KRUC				*e*SG	**Sg**	**04 32 17.7**	**-1.5**
NKC	**Novy Kostel**	**2.69**	**241**	*e*PG	**Pb**	**04 31 47.4**	**+1.1**
NKC				*e*SG	**Sg**	**04 32 23.5**	**-0.2**
	comp=Z,42nm,1.2s						
KHC	**Kasperske Hory**	**2.96**	**214**	*e*PN	**Pn**	**04 31 46.1**	**+0.6**
KHC				*e*PG	**Pb**	**04 31 51.5**	**+0.6**
KHC				*e*SN	**Sn**	**04 32 21.8**	**+0.1**
KHC				*e*SG	**Sg**	**04 32 30.8**	**-1.5**
	comp=Z,5.9nm,0.9s						
CKRC	**Cesky Krumlov**	**3.02**	**203**	*e*PN	**Pn**	**04 31 47.0**	**+0.7**
CKRC				*e*PG	**Pb**	**04 31 52.7**	**+0.8**
CKRC				*e*SG	**Sg**	**04 32 32.5**	**-1.7**
MODS	**Modra-Piesok**	**3.32**	**166**	*e*PN	Pn	04 31 44.4	-6.1
MODS				*e*PG	**Pg**	**04 32 01.0**	**+0.1**
MODS				*e*SN	Sn	04 32 15.7	-15
MODS				*e*SG	**Sg**	**04 32 43.7**	**-0.2**
BSD	**Bornholm Skovb**	**3.59**	**349**	*i* P	**Pn**	**04 31 54.1**	**-0.1**
BSD				*i* S	**Sn**	**04 32 35.1**	**-2.1**
BSD				IAML		04 32 37.9	
	comp=Z,13nm,0.8s						
STHS	**Stebnicka Huta**	**3.94**	**122**	*e*PG	**Pg**	**04 32 16.7**	**+3.9**
STHS				*e*SN	**Sn**	**04 32 40.5**	**-5.5**
LUNU	**Lund**	**4.34**	**340**	*e*P	**Pn**	**04 32 06.0**	**+1.5**
LUNU				*i* S	**Sn**	**04 32 53.5**	**-2.2**
BLEU	**Blekinge**	**4.71**	**358**	*i* S	**Sn**	**04 33 02.8**	**-2.1**
BJUU	**Bjuv**	**4.84**	**339**	*i* P	**Pn**	**04 32 11.6**	**+0.3**
BJUU				*i* S	**Sn**	**04 33 04.5**	**-3.4**

*INET **03** 04:39:22.1±0.8, 11°.29N×87°.35W, h10km±8km, MW3.3*
*IDC **03** 04:39:23.7±6.1, 12°.38N×87°.02W, h0km, mb3.0/2, mbtmp3.0/2, Error ellipse: s-maj=271.3km s-min=95.5km az=61.0*
ISC 03 04:39:20.3±1.4**, 11°.32N**±0°.09×**87°.38W**±0°.09**, h10km, n11, σ1s.36**/14**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.15**	**42**	*e*P	**Pn**	**04 39 43.0**	**+0.6**
CNGN	**Cerro Negro**	**1.35**	**29**	*e*P	**Pn**	**04 39 45.0**	**-0.2**
CNGN				*e*S	**Sg**	**04 40 04.0**	**+0.4**
MGAN	**Managua**	**1.38**	**53**	*e*P	**Pb**	**04 39 45.8**	**-0.3**
TELN	**Telica**	**1.38**	**23**	*e*P	**Pg**	**04 39 46.7**	**-0.2**
CRIN	**San Cristobal**	**1.41**	**13**	*e*P	**Pn**	**04 39 46.4**	**+0.3**
CRIN				*e*S	**Sg**	**04 40 06.6**	**+1.0**
CONN	**Concepcion**	**1.73**	**82**	*e*P	**Pn**	**04 39 50.3**	**-0.1**
MATN	**Matagalpa**	**2.14**	**41**	*e*P	**Pn**	**04 39 56.4**	**+0.3**
ACON	**Acoyapa**	**2.25**	**73**	*e*P	**Pn**	**04 39 57.3**	**-0.3**
ACON				*e*S	**Sn**	**04 40 25.4**	**-0.1**
TXAR	**Lajitas Array**	**23.50**	**322**	P	**P**	**04 44 29.3**	**-1.2**
	0.2nm,0.5s,baz=143,slow=11,SNR=5.3						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**36.80**	**332**	P	**P**	**04 46 26.9**	**-1.7**
	0.2nm,0.5s,baz=140,slow=7.1,SNR=2.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**139.01**	**253**	PKP	**PKiKP**	**04 58 54.1**	**+3.7**
	0.3nm,0.9s,baz=86,slow=1.8,SNR=2.2						

*IDC **03** 04:41:04.5±0.8, 25°.40N×125°.56E, h0km, mb3.7/9, mbtmp3.7/11, ML3.7/2, MS2.6/1, Error ellipse: s-maj=30.9km s-min=16.9km az=72.0*
*JMA **03** 04:41:07.6±0.1, 25°.4N±0°.8×125°.8E±0°.7, h35km±2km, MV3.9/21, NEAR MIYAKOJIMA ISLAND*
*NIED **03** 04:41:07.6, 25°.39N×125°.80E, h35km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.22; $M_{\theta\theta}$0.32; $M_{\phi\phi}$0.90; $M_{r\theta}$-0.30; $M_{\theta\phi}$-0.02; $M_{\phi r}$-0.47; Fault plane solution: $M_0$1.19000×10^{15} NP1: ϕ_s173.00000°, δ33.00000°, λ-106.00000°. NP2: ϕ_s12.00000°, δ58.00000°, λ-80.00000°.*
ISC 03 04:41:06.8±1.2**, 25°.40N**±0°.07×**125°.80E**±0°.05**, h15km**±9km**, n40, σ0s.98**/56**, mb3.6**/9**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.69**	**226**	*i* P	**Pb**	**04 41 20.6**	**+0.1**
JIKM				S	**Sb**	**04 41 30.3**	**+0.4**
JOGS	**Gusukube**	**0.73**	**209**	P	**Pg**	**04 41 21.1**	**0.0**
JOGS				S	**Sg**	**04 41 31.0**	**+0.2**
JMJ	**Miyako jima 2**	**0.74**	**218**	P	**Pb**	**04 41 22.0**	**+0.6**
JMJ2	**Miyako jima3**	**0.79**	**213**	*i* P	**Pg**	**04 41 22.0**	**-0.1**
JMJ2				S	**Sg**	**04 41 32.6**	**+0.1**
JIRB	**Irabujima**	**0.81**	**225**	P	**Pg**	**04 41 22.0**	**-0.5**
JIRB				*e*S	**Sg**	**04 41 32.9**	**-0.2**
JTJ	**Tarama**	**1.25**	**233**	P	**Pn**	**04 41 29.2**	**-0.5**
JTJ				S	**Sb**	**04 41 44.9**	**-1.1**
JKE	**Kume jima 2**	**1.28**	**44**	P	**Pn**	**04 41 30.1**	**0.0**
JKE				*e*S	**Sb**	**04 41 46.4**	**-0.4**
JISG	**Ishigakijimahi**	**1.58**	**239**	P	**Pn**	**04 41 34.1**	**-0.1**
JISG				*e*S	**Sn**	**04 41 53.9**	**-0.4**
JAGN	**Aguni-jima**	**1.75**	**47**	P	**Pn**	**04 41 36.9**	**+0.3**
JAGN				*e*S	**Sn**	**04 41 58.5**	**-0.3**
JIJ	**Ishigaki jima**	**1.83**	**236**	P	**Pn**	**04 41 37.4**	**-0.2**
JIJ				S	**Sn**	**04 41 59.7**	**-0.8**
JJT3	**Tamagusuku3**	**1.94**	**67**	P	**Pb**	**04 41 41.7**	**-0.1**
JJT3				S	**Sb**	**04 42 06.0**	**+0.2**
JKRS	**Kuro-shima**	**2.00**	**235**	P	**Pn**	**04 41 40.3**	**+0.3**
JKRS				S	**Sn**	**04 42 04.8**	**+0.1**
IRIF	**Iriomote-Funau**	**2.16**	**241**	P	**Pn**	**04 41 42.6**	**+0.4**
IRIF				*e*S	**Sn**	**04 42 08.3**	**-0.4**
HATJ	**Hateruma jima**	**2.25**	**234**	P	**Pn**	**04 41 44.2**	**+0.7**
HATJ				S	**Sn**	**04 42 10.5**	**-0.6**
JNTH	**Nagotoyohara**	**2.29**	**60**	*e*P	**Pn**	**04 41 44.6**	**+0.6**
JNTH				S	**Sn**	**04 42 11.8**	**-0.1**
JIH	**Iheya**	**2.54**	**50**	*e*P	**Pn**	**04 41 48.2**	**+0.8**
JIH				S	**Sn**	**04 42 17.8**	**-0.2**
JOW	**Kunigami**	**2.64**	**57**	Pn	**Pn**	**04 41 50.7**	**+1.8**
	30nm,0.3s,baz=133,slow=16,SNR=24						
JOW				Sn	**Sn**	**04 42 22.8**	**+2.1**
	26nm,0.3s,baz=150,slow=24,SNR=5.6						
	91nm,0.5s						
JOW	**Kunigami**	**2.64**	**57**	P	**Pb**	**04 41 52.1**	**-1.7**
JOW	**Kunigami**	**2.64**	**57**	P	**Pn**	**04 41 49.7**	**+0.8**
JOW				S	**Sn**	**04 42 21.0**	**+0.4**
YOJ	**Yonaguni jima**	**2.70**	**250**	P	**Pn**	**04 41 51.4**	**+1.8**
YOJ	**Yonaguni jima**	**2.70**	**250**	P	**Pn**	**04 41 50.4**	**+0.8**
YOJ				S	**Sn**	**04 42 22.3**	**+0.3**
JYNG	**Yonagunijimaku**	**2.76**	**251**	P	**Pn**	**04 41 51.1**	**+0.6**
JYNG				S	**Sn**	**04 42 23.6**	**+0.1**
NACB	**Ninganchiao**	**4.01**	**253**	P	**Pn**	**04 42 09.5**	**+1.8**
YHNB	**Yeheng**	**4.08**	**261**	P	**Pn**	**04 42 12.3**	**+3.6**
YULB	**Yu-li**	**4.57**	**245**	P	**Pn**	**04 42 15.1**	**-0.3**
SSLB	**Suanglung**	**4.69**	**251**	P	**Pn**	**04 42 18.5**	**+1.4**
TPUB	**Ta-pu**	**5.16**	**247**	P	**Pn**	**04 42 24.8**	**+1.3**
KSRS	**Korea Array**	**12.15**	**8**	Pn	**Pn**	**04 44 00.4**	**+1.1**
	0.2nm,0.3s,baz=196,slow=13,SNR=2.5						
KSRS				LR	LR	04 49 08.4	
	comp=Z,25nm,19.2s,baz=190,slow=40						
	0.8nm,0.5s						
SONM	**Songino Array**	**27.12**	**331**	P	**P**	**04 46 48.1**	**-1.2**
	0.4nm,0.6s,baz=133,slow=11,SNR=1.7						
	0.4nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**38.26**	**90**	T	T	05 28 54.6	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**38.26**	**90**	T	T	05 28 50.6	
	baz=283,slow=74						
H11N3	**WAKE ISLAND Hy**	**38.27**	**90**	T	T	05 28 56.5	
	baz=283,slow=74						
MKAR	**Makanchi Array**	**40.48**	**313**	P	**P**	**04 48 43.8**	**-1.1**
	0.2nm,0.4s,baz=93,slow=8.2,SNR=2.1						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**41.61**	**324**	P	**P**	**04 48 52.3**	**-1.7**
	0.6nm,0.6s,baz=100,slow=7.9,SNR=2.1						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**43.96**	**318**	P	**P**	**04 49 12.1**	**-1.1**
	0.2nm,0.3s,baz=108,slow=9.3,SNR=2.9						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**45.83**	**169**	P	**P**	**04 49 28.5**	**+0.2**
	1.3nm,0.7s,baz=350,slow=8.2,SNR=15						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**49.41**	**170**	P	**P**	**04 49 56.5**	**+0.3**
	0.9nm,0.9s,baz=8.6,slow=7.8,SNR=6.7						
	0.9nm,0.9s						
STKA	**Stephens Creek**	**58.92**	**164**	P	**P**	**04 51 05.8**	**+0.5**
	1.1nm,0.6s,baz=340,slow=12,SNR=3.1						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**66.19**	**28**	P	**P**	**04 51 54.2**	**+0.6**
	0.4nm,0.8s,baz=277,slow=7.2,SNR=2.2						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**72.50**	**330**	P	**P**	**04 52 32.3**	**-0.3**
	1.6nm,0.9s,baz=54,slow=7.1,SNR=5.4						
	1.6nm,0.9s						

*IDC **03** 04:43:09.5±0.5, 17°.01S×172°.94W, h0km, mb4.4/15, mbtmp4.4/15, MS3.9/16, Error ellipse: s-maj=23.7km s-min=14.9km az=133.0*
*NEIC **03** 04:43:10.6±1.8, 17°.09S±0°.04×172°.5W±0°.1, h20km±6km, mb4.6/18, Error ellipse: s-maj=18.1km s-min=2.8km az=71.0*
ISC 03 04:43:10.5±0.4**, 17°.08S**±0°.06×**172°.52W**±0°.06**, h17km, n81, σ2s.14**/67**, mb4.5**/25**, MS3.9**/19**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.17**	**129**	Pn	**Pn**	**04 43 56.7**	**-2.8**
AFI	**Afiamalu**	**3.23**	**13**	Pn	**Pn**	**04 43 58.4**	**-2.2**
	12nm,0.3s,baz=211,slow=1.0,SNR=12						
AFI				Sn	**Sn**	**04 44 34.3**	**-4.4**
	24nm,0.3s,baz=75,slow=22,SNR=8.2						
AFI	**Afiamalu**	**3.23**	**13**	Pn	**Pn**	**04 43 58.2**	**-2.3**
MSVF	**Nonsavu**	**9.03**	**264**	Pn	**Pn**	**04 45 24.7**	**+4.5**
	1.0nm,0.3s,baz=102,slow=11,SNR=18						
RAR	**Rarotonga**	**12.72**	**111**	Pn	**Pn**	**04 46 06.2**	**-4.6**
	2.5nm,0.3s,baz=254,slow=6.7,SNR=4.9						
RAR				LR	LR	04 50 46.6	
	comp=Z,570nm,19.1s,baz=256,slow=35						
RAR	**Rarotonga**	**12.72**	**111**	Pn	**Pn**	**04 46 07.5**	**-3.2**
DZM	**Mont Dzumac**	**20.43**	**253**	*e*P	**P**	**04 47 45.3**	**-1.9**
	91nm,25.8s						
DZM				*e*S	**S**	**04 51 29.0**	**-6.6**
	86nm,24.0s						
DZM				*e*LR	LR	04 52 32.8	
	comp=Z,552nm,25.4s						
DZM	**Mont Dzumac**	**20.43**	**253**	P	Pn	04 47 49.0	-0.3
	3.6nm,0.8s,baz=110,slow=21,SNR=1.9						
DZM				LR	LR	04 54 15.5	
	comp=Z,264nm,19.6s,baz=44,slow=33						
OUZ	**Omahuta**	**21.91**	**212**	P	**P**	**04 48 03.2**	**+0.3**
OUZ				IAmb	IAmb	04 48 38.8	
	comp=Z,46nm,1.4s						
PPT2	**Papeete2**	**21.91**	**95**	*e*P	**P**	**04 48 01.9**	**-1.2**
	comp=Z,109nm,27.8s						
PPT2				*e*LR	LR	04 53 18.3	
	comp=Z,300nm,26.0s						
PPT2				*e*LR	LR	04 53 18.6	
	comp=Z,338nm,25.0s						
PPT	**Papeete**	**21.91**	**95**	LR	LR	04 55 11.3	
	comp=Z,374nm,18.1s,baz=262,slow=32						
TBI	**Tubuai**	**22.50**	**110**	*e*P	**P**	**04 48 08.4**	**-1.0**
	comp=Z,213nm,29.0s						
TBI				*e*LR	LR	04 53 36.5	
	comp=Z,7μm,24.8s						
TBI				*e*LR	LR	04 53 36.8	
	comp=Z,1μm,23.5s						
URZ	**Urewera**	**22.98**	**201**	P	**P**	**04 48 15.6**	**+1.4**
	comp=Z,22nm,0.7s,baz=54,slow=2.7,SNR=11						
	comp=Z,22nm,0.7s						
BKZ	**Black Stump Fm**	**24.01**	**201**	P	**P**	**04 48 23.5**	**-0.9**
BKZ				IAmb	IAmb	04 49 00.7	
	comp=Z,42nm,1.5s						
HIZ	**Hauiti**	**24.05**	**205**	P	**P**	**04 48 22.6**	**-2.2**
QRZ	**Quartz Range**	**26.96**	**206**	P	**P**	**04 48 50.9**	**-0.3**
HNR	**Honiara**	**27.83**	**282**	LR	LR	04 58 15.1	
	comp=Z,8μm,20.3s,baz=132,slow=33						
RPZ	**Rata Peaks**	**29.98**	**204**	P	**P**	**04 49 18.6**	**+0.5**
	comp=Z,11nm,1.0s,baz=315,slow=12,SNR=1.7						
	comp=Z,11nm,1.0s						
TAOE	**Nuku Hiva Isla**	**32.55**	**80**	*e*LR	LR	04 58 11.0	
	comp=Z,183nm,24.7s						
CTA	**Charters Tower**	**39.12**	**259**	P	**P**	**04 50 35.1**	**-2.4**
	comp=Z,3.0nm,0.7s,baz=118,slow=12,SNR=4.1						
CTA				LR	LR	05 06 18.9	
	comp=Z,296nm,18.1s,baz=81,slow=36						
	comp=Z,3.0nm,0.7s						
PMG	**Port Moresby**	**39.92**	**276**	LR	LR	05 04 27.2	
	comp=Z,157nm,20.8s,baz=74,slow=32						
H11S2	**WAKE ISLAND Hy**	**40.83**	**329**	T	T	05 35 21.3	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**40.84**	**329**	T	T	05 35 22.1	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**40.85**	**329**	T	T	05 35 26.4	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**41.78**	**330**	T	T	05 35 56.7	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**41.78**	**330**	T	T	05 36 04.1	
	baz=153						
H11N2	**WAKE ISLAND Hy**	**41.80**	**330**	T	T	05 36 12.0	
	baz=153						
STKA	**Stephens Creek**	**43.96**	**242**	P	**P**	**04 51 14.9**	**-2.1**
	comp=Z,1.5nm,0.6s,baz=50,slow=11,SNR=5.1						
STKA				LR	LR	05 07 20.1	
	comp=Z,94nm,19.8s,baz=39,slow=33						
	comp=Z,1.5nm,0.6s						
STKA	**Stephens Creek**	**43.96**	**242**	P	**P**	**04 51 16.2**	**-0.8**
BBOO	**Buckleboo**	**48.73**	**241**	P	**P**	**04 51 53.6**	**-0.9**
WR0	**Warramunga Arr**	**50.12**	**258**	P	**P**	**04 52 03.3**	**-1.9**
WR0				IAmb	IAmb	04 52 07.7	
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**50.27**	**258**	P	**P**	**04 52 05.3**	**-1.1**
WB0				IAmb	IAmb	04 52 09.5	
	comp=Z,6.5nm,0.8s						
WB2	**Warramunga Arr**	**50.30**	**258**	P	**P**	**04 52 04.5**	**-2.1**
WB2				IAmb	IAmb	04 52 20.7	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**50.31**	**258**	P	**P**	**04 52 05.1**	**-1.6**
	comp=Z,3.0nm,0.7s,baz=98,slow=6.9,SNR=22						
WRA				PcP	**PcP**	**04 53 25.8**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=89,slow=3.7,SNR=2.0						
WRA				LR	LR	05 13 08.3	
	comp=Z,265nm,18.0s,baz=100,slow=36						
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**50.31**	**258**	P	**P**	**04 52 05.1**	**-1.6**
AS31	**Alice Springs**	**50.42**	**253**	P	**P**	**04 52 06.0**	**-1.5**
ASAR	**Alice Springs**	**50.42**	**253**	P	**P**	**04 52 06.5**	**-1.0**
	comp=Z,10nm,0.6s,baz=85,slow=8.6,SNR=87						
ASAR				PcP	**PcP**	**04 53 27.2**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=96,slow=5.1,SNR=1.0						
ASAR				S	**S**	**04 59 17.2**	**-3.4**
	comp=Z,0.4nm,0.8s,baz=86,slow=14,SNR=2.2						
ASAR				LR	LR	05 13 58.8	
	comp=Z,192nm,18.2s,baz=101,slow=37						
	comp=Z,10nm,0.6s						
GUMO	**Guam**	**51.95**	**303**	LR	LR	05 10 41.6	
	comp=Z,54nm,21.5s,baz=150,slow=32						
SIJI	**Sorong**	**57.58**	**280**	LR	LR	05 16 54.4	
	comp=Z,99nm,20.3s,baz=226,slow=35						
VNDA	**Vanda**	**61.80**	**186**	P	**P**	**04 53 30.3**	**+2.3**
	comp=Z,1.9nm,1.0s,baz=343,slow=4.4,SNR=6.3						
	comp=Z,1.9nm,1.0s						
BATI	**Baumata**	**62.17**	**267**	LR	LR	05 18 20.1	
	comp=Z,146nm,21.3s,baz=192,slow=34						
PSA00	**Pilbara Seismi**	**63.55**	**254**	P	**P**	**04 53 38.4**	**-2.2**
DAV	**Davao City (W)**	**65.71**	**286**	LR	LR	05 21 05.1	
	comp=Z,64nm,18.0s,baz=87,slow=35						
KAPI	**Kappang**	**67.27**	**272**	LR	LR	05 20 37.2	
	comp=Z,34nm,21.1s,baz=119,slow=34						
MJAR	**Matsushiro Arr**	**70.76**	**320**	LR	LR	05 19 18.6	
	comp=Z,42nm,19.9s,baz=133,slow=31						
QSPA	**South Pole Qui**	**72.98**	**180**	P	**P**	**04 54 40.8**	**+1.7**
QSPA				IAmb	IAmb	04 54 43.5	
	comp=Z,6.9nm,0.9s						
PETK	**Petropavlovsk-**	**74.48**	**342**	P	**P**	**04 54 48.8**	**+1.1**
	comp=Z,4.7nm,0.9s,baz=134,slow=8.3,SNR=2.5						
	comp=Z,4.7nm,0.9s						
QSM	**Queen of Sheba**	**74.50**	**44**	P	**P**	**04 54 47.2**	**-1.1**
QSM				IAmb	IAmb	04 54 54.5	
	comp=Z,5.7nm,1.1s						
NVAR	**Mina Array Bea**	**75.01**	**41**	P	**P**	**04 54 55.0**	**+3.5**
	comp=Z,2.0nm,0.9s,baz=229,slow=8.5,SNR=13						
	comp=Z,2.0nm,0.9s						
GMN	**Gold Mountain**	**75.02**	**43**	P	**P**	**04 54 53.1**	**+1.6**
GMN				IAmb	IAmb	04 54 57.9	
	comp=Z,5.6nm,1.2s						
KVN	**Kaiserville**	**75.51**	**41**	P	**P**	**04 54 53.7**	**-0.6**
KVN				IAmb	IAmb	04 55 00.2	
	comp=Z,5.0nm,1.2s						
PSUT	**Pine Spring**	**77.93**	**43**	P	**P**	**04 55 07.4**	**-0.6**
KSRS	**Korea Array**	**77.94**	**315**	P	**P**	**04 55 08.4**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=123,slow=4.5,SNR=2.9						
	comp=Z,0.6nm,0.4s						
KSAR	**Wonju Array Be**	**77.96**	**315**	P	**P**	**04 55 07.7**	**-0.2**
TXAR	**Lajitas Array**	**80.85**	**56**	P	**P**	**04 55 27.3**	**+3.3**
	comp=Z,2.0nm,1.1s,baz=217,slow=6.0,SNR=11						
	comp=Z,2.0nm,1.1s						
PDAR	**Pinedale Array**	**82.95**	**41**	P	**P**	**04 55 37.7**	**+2.8**
	comp=Z,1.7nm,0.9s,baz=201,slow=3.8,SNR=8.6						
	comp=Z,1.7nm,0.9s						
CMIG	**Matias Romero**	**83.65**	**70**	LR	LR	05 27 55.0	
	comp=Z,165nm,18.1s,baz=102,slow=32						
ILAR	**Eielson Array**	**83.92**	**11**	P	**P**	**04 55 40.8**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=226,slow=6.5,SNR=9.5						
	comp=Z,0.9nm,0.8s						
PLCA	**Paso Flores**	**87.76**	**132**	P	**P**	**04 56 02.6**	**+3.6**
	comp=Z,1.6nm,0.7s,baz=229,slow=6.5,SNR=3.6						
	comp=Z,1.6nm,0.7s						
JTS	**Las Juntas de**	**90.68**	**80**	LR	LR	05 30 44.3	
	comp=Z,184nm,18.1s,baz=35,slow=31						
SNAA	**Sanae**	**91.19**	**177**	P	**P**	**04 56 16.2**	**+1.8**
SNAA				IAmb	IAmb	04 56 24.4	
	comp=Z,5.4nm,1.3s						
CMAR	**Chiang Mai Arr**	**93.94**	**288**	P	**P**	**04 56 28.3**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=98,slow=3.1,SNR=8.0						
	comp=Z,1.8nm,0.3s						
MKAR	**Makanchi Array**	**112.60**	**314**	PKiKP	**PKiKP**	**05 01 48.6**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=100,slow=1.8,SNR=2.6						
AKASG	**Malin Array Be**	**142.21**	**337**	PKhKP	PKPpre	05 02 38.6	
	comp=Z,0.4nm,0.4s,baz=42,slow=1.7,SNR=1.6						
KMBO	**Kilima Mbogo**	**145.52**	**241**	PKPbc	**PKPbc**	**05 02 49.3**	**0.0**
	comp=Z,0.2nm,0.7s,baz=29,slow=24,SNR=2.1						
OSTC	**Ostas**	**145.87**	**350**	*e*PKP	**PKiKP**	**05 02 52.9**	**+0.4**
DPC	**Dobruska-Polom**	**146.06**	**350**	*e*PKP	**PKiKP**	**05 02 53.0**	**+0.1**
VRAC	**Vranov**	**147.01**	**349**	PKPbc	**PKPbc**	**05 02 52.1**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=352,slow=7.1,SNR=1.6						
KHC	**Kasperske Hory**	**147.65**	**353**	*e*PKP	**PKPab**	**05 02 57.2**	**+0.9**
MLR	**Muntele Rosu**	**147.74**	**335**	PKPbc	**PKPbc**	**05 02 55.3**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=111,slow=13,SNR=2.7						
CKRC	**Cesky Krumlov**	**147.85**	**352**	*e*PKP	**PKPab**	**05 02 59.2**	**+2.1**
GERES	**GERESS Array B**	**147.91**	**352**	PKPbc	**PKPbc**	**05 02 54.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=29,slow=3.0,SNR=7.8						
BRTR	**Keskin Array B**	**147.98**	**320**	PKPbc	**PKiKP**	**05 02 56.4**	**-0.9**
	comp=Z,3.7nm,1.0s,baz=100,slow=1.5,SNR=10						
CONA	**Conrad Observa**	**148.47**	**349**	*e*P	**PKPab**	**05 03 00.4**	**+0.7**
	comp=Z,8.2nm,0.9s						
WTTA	**Wattenberg**	**149.70**	**354**	*i* P	**PKPab**	**05 03 03.0**	**-1.8**
	comp=Z,6.6nm,0.6s						
DAVA	**Damuels**	**149.81**	**357**	*e*P	**PKPab**	**05 03 03.1**	**-2.1**
	comp=Z,6.6nm,1.0s						
FETA	**Feichten**	**150.02**	**356**	*e*P	**PKPab**	**05 03 04.5**	**-1.5**
	comp=Z,4.2nm,1.0s						
ABTA	**Abfaltersbach**	**150.12**	**353**	*e*P	**PKiKP**	**05 03 03.1**	**+1.7**
	comp=Z,10nm,0.9s						
DAVOX	**Davos/Dischmat**	**150.31**	**357**	PKPbc	**PKiKP**	**05 03 02.4**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=350,slow=22,SNR=5.6						
ESDC	**Sonseca Array**	**155.38**	**22**	PKPab	**PKPab**	**05 03 30.6**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=336,slow=2.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**173.18**	**124**	PKP	**PKPdf**	**05 03 21.6**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=214,slow=1.6,SNR=1.9						
TORD				PKPab	**pPKPab**	**05 04 49.5**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=208,slow=2.8,SNR=3.7						

IDC 03 04:45:04.9±5.3**, 6°.05S×150°.44E, h0km, mb3.2**/3**, mbtmp3.3**/3**, Error ellipse: s-maj=156.2km s-min=38.8km az=106.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.87**	**227**	P	P	04 49 48.3	-0.5
	0.4nm,0.6s,baz=52,slow=11,SNR=4.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**23.67**	**221**	P	P	04 50 18.6	+0.2
	0.5nm,0.6s,baz=57,slow=9.2,SNR=6.8						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**79.73**	**320**	P	P	04 57 15.0	+0.1
	0.5nm,0.8s,baz=96,slow=5.8,SNR=2.2						
	0.5nm,0.8s						

*SFS **03** 04:55:15.0, 36°.84N×4°.03W, h50km, ML2.2, SAYALONGA (MALAGA)*
*INMG **03** 04:55:16.6±1.5, 36°.88N×4°.10W, h60km±7km, ML1.8, Error ellipse: s-maj=4.0km s-min=2.6km az=158.0*
*CNRM **03** 04:55:17.3, 36°.37N×4°.49W, h80km, ml2.2*
MDD 03 04:55:15.6±0.4**, 36°.80N×4°.02W, h67km**±4km**, Mb2.4**/21**, 19C-2D, Error ellipse: s-maj=3.0km s-min=2.2km az=161.0, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOR	**Sierra Gorda,**	**0.31**	**347**	P	Pn	04 55 26.2	-0.6
EGOR				S	Sn	04 55 33.3	-1.6
ELGU	**Los Guajares,**	**0.32**	**79**	⇓P	Pn	04 55 26.2	-0.5
ELGU				⇑*i*Vmb_V		04 55 26.7	
	588nm,SNR=19						
ELGU				S	Sn	04 55 33.6	-1.3
EMAL	**Malaga-Limoner**	**0.33**	**263**	P	Pn	04 55 26.6	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMAL				S	Sn	04 55 33.9	-0.9
EQUE	Quentar	0.61	49	S	Sn	04 55 39.2	-0.4
EMIJ	Mijas	0.65	249	P	Pn	04 55 29.7	-0.1
EMIJ				S	Sn	04 55 39.6	-0.6
EBER	Berja	0.91	84	P	Pn	04 55 31.2	-1.8
EBER				⇑iVmb_V		04 55 33.3	
	52nm,SNR=1.2						
EBER				S	Sn	04 55 43.8	-2.1
EALB	Alboran	1.17	137	P	Pn	04 55 34.9	-1.3
EALB				⇑iVmb_V		04 55 35.3	
	220nm,SNR=2.4						
EALB				S	Sn	04 55 49.4	-2.2
EQES	Quesada	1.25	37	P	Pn	04 55 36.9	-0.4
EQES				⇑iVmb_V		04 55 37.5	
	95nm,SNR=2.1						
EQES				S	Sn	04 55 52.5	-1.1
EADA	Adamuz	1.43	342	⇑P	Pn	04 55 39.0	-0.6
EADA				⇑iVmb_V		04 55 39.3	
	120nm,SNR=2.2						
EADA				S	Sn	04 55 55.0	-2.6
ENIJ	Nijar	1.46	83	P	Pn	04 55 39.1	-0.9
ENIJ				⇑iVmb_V		04 55 39.7	
	69nm,SNR=1.5						
ESPR	Espera	1.47	273	⇑iVmb_V		04 55 41.3	
	36nm,SNR=0.6						
ESPR				S	Sn	04 55 58.6	0.0
PALE	Palemas	1.59	178	P	Pn	04 55 41.3	-0.4
PALE				S	Sn	04 55 54.7	-6.6
ECAB	El Cabril	1.69	319	P	Pn	04 55 42.0	-1.1
ECAB				⇑iVmb_V		04 55 42.6	
	57nm,SNR=1.4						
ECAB				S	Sn	04 56 01.0	-2.8
EMEL	Melilla	1.73	150	P	Pn	04 55 43.1	-0.5
EZAR	Zarzadilla de	2.14	59	⇑iVmb_V		04 55 49.6	
	50nm,SNR=0.7						
EZAR				S	Sn	04 56 14.0	-0.8
EMIN	Mina Concepcio	2.32	295	⇓P	Pn	04 55 50.5	-1.1
EMIN				⇑iVmb_V		04 55 50.6	
	96nm,SNR=1.9						
EMIN				S	Sn	04 56 16.4	-2.7
ETOB	Tobarra	2.69	46	P	Pn	04 55 55.7	-0.9
ETOB				⇑iVmb_V		04 55 56.0	
	36nm,SNR=0.5						
JBK	JBK	2.73	154	P	Pn	04 55 56.7	-0.7
JBK				S	Sn	04 56 27.5	-1.9
PAB	San Pablo	2.75	355	P	Pn	04 55 56.7	-0.8
PAB				⇑iVmb_V		04 55 57.2	
	37nm,SNR=1.3						
PAB				S	Sn	04 56 25.6	-4.0
PBAR	Barrancos	2.76	301	eP	Pn	04 55 57.0	-0.6
PBAR				eS	Sn	04 56 26.6	-3.2
PBAR				A	A	04 56 50.0	
	1.2nm,0.7s						
EGRO	El Granado	2.86	286	P	Pn	04 55 58.1	-0.7
EGRO				⇑iVmb_V		04 55 59.0	
	52nm,SNR=0.7						
EGRO				S	Sn	04 56 28.8	-3.4
ESDC	Sonseca Array	2.87	1	⇑iVmb_V		04 55 59.4	
	19nm,SNR=0.4						
ESDC				S	Sn	04 56 29.9	-2.5
PVAQ	Vaqueiros	3.02	283	eP	Pn	04 56 00.1	-0.9
PVAQ				eS	Sn	04 56 32.7	-3.3
PVAQ				A	A	04 56 34.5	
	3.1nm,0.2s						
PVAQ	Vaqueiros	3.02	283	P	Pn	04 56 00.1	-0.9
PVAQ				S	Sn	04 56 33.5	-2.5
EBAD	Badajoz	3.07	310	P	Pn	04 56 00.8	-0.9
EBAD				S	Sn	04 56 33.9	-3.4
PCVE	Castro Verde	3.31	286	eP	Pn	04 56 04.8	-0.2
PCVE				eS	Sn	04 56 40.6	-2.6
PESTR	Estremoz	3.50	307	eP	Pn	04 56 06.9	-0.7
PESTR				eS	Sn	04 56 45.5	-2.3
PESTR				A	A	04 56 55.5	
	1.8nm,0.6s						
PESTR	Estremoz	3.50	307	P	Pn	04 56 07.5	-0.1
PESTR				S	Sn	04 56 51.1	+3.3
EVO	Evora	3.61	300	eS	Sn	04 56 47.1	-3.3
EPLA	Plasencia	3.63	334	P	Pn	04 56 09.2	-0.3
EPLA				⇑iVmb_V		04 56 10.2	
	49nm,SNR=0.8						
EPLA				S	Sn	04 56 47.9	-3.3
ECHE	Chera	3.68	40	P	Pn	04 56 09.3	-0.8
ECHE				⇑iVmb_V		04 56 09.9	
	25nm,SNR=0.3						
PMRV	Marv??o	3.73	316	eP	Pn	04 56 10.7	-0.1
PMRV				eS	Sn	04 56 50.5	-3.0
PMRV				A	A	04 56 52.7	
	1.1nm,0.8s						
MORF	Marmelete	3.74	279	eP	Pn	04 56 10.7	-0.2
MORF				eS	Sn	04 56 50.3	-3.4
MORF				A	A	04 56 52.0	
	2.2nm,0.9s						
PNCL	Nicolau / Gran	3.82	291	eP	Pn	04 56 11.7	-0.2
PNCL				eS	Sn	04 56 53.2	-2.4
PNCL				A	A	04 56 55.6	
	1.7nm,0.7s						
PTEO	Sao Teotonio	3.83	283	eP	Pn	04 56 12.0	-0.1
PTEO				eS	Sn	04 56 53.5	-2.3
PTEO				A	A	04 57 08.0	
	5.9nm,0.7s						
GUD	Guadarrama	3.83	358	⇑iVmb_V		04 56 12.5	
	32nm,SNR=0.8						
GUD				S	Sn	04 56 53.8	-2.4
PFVI	Vila Bisbo	3.86	276	eP	Pn	04 56 12.2	-0.4
PFVI				eS	Sn	04 56 53.5	-3.2
PFVI				A	A	04 57 13.4	
	4.7nm,0.7s						
PFVI	Vila Bisbo	3.86	276	P	Pn	04 56 09.8	-2.8
PFVI				S	Sn	04 56 51.1	-5.6
PCBR	Castelo Branco	4.07	319	eP	Pn	04 56 15.5	+0.1
PACT	Alcochete	4.29	299	eP	Pn	04 56 18.6	+0.3
ETOR	Torete	4.29	20	P	Pn	04 56 17.9	-0.7
ETOR				⇑iVmb_V		04 56 18.8	
	50nm,SNR=0.6						
ETOR				S	Sn	04 57 03.2	-4.2
MTE	Manteigas	4.53	324	eP	Pn	04 56 22.0	+0.3
PVIS	Viseu	4.94	323	eP	Pn	04 56 27.4	+0.1
PBRG	Braganca	5.42	338	eP	Pn	04 56 34.1	+0.2
POLO	Lamas de Olo	5.42	328	eP	Pn	04 56 34.2	+0.2
POLO				eS	Sn	04 57 33.4	-1.7

*UPA **03** 04:59:00.9±2.8, 12°.43N×88°.86W, h26km±238km, MW4.9*
*IDC **03** 04:59:04.4±0.5, 12°.34N×87°.59W, h0km, mb4.6/20, mbtmp4.5/23, ML3.3/3, MS4.4/50, Error ellipse: s-maj=21.4km s-min=10.8km az=56.0*
*UCR **03** 04:59:07.5±2.0, 12°.18N×88°.03W, h5km, ML4.9, mb5.1(NEIC)*
*SNET **03** 04:59:09.0±0.8, 12°.20N×88°.06W, h12km±5km, ML5.1*
*NEIC **03** 04:59:11.9, 12°.24N×87°.82W, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-3.75; $M_{\theta\theta}$0.13; $M_{\phi\phi}$3.62; $M_{r\theta}$-1.56; $M_{\theta\phi}$0.75; $M_{\phi r}$3.04; Fault plane solution: $M_0$5.08000×10^{16} NP1:ϕ_s168.57000°, δ66.41000°, λ-108.80000°. NP2:ϕ_s28.96000°, δ29.83000°, λ-53.57000°. Principal axes: T 4.7153, Plg19.0000°, Azm273.0000°; N 0.6626, Plg17.0000°, Azm176.0000°; P -5.3779, Plg64.0000°, Azm48.0000°;*
*GCMT **03** 04:59:12.0±0.2, 12°.08N±0°.01×88°.17W±0°.01, h27km, MW5.1/109, Moment Tensor Solution. s96,c131; s109,c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.49±.15; $M_{\theta\theta}$3.98±.11; $M_{\phi\phi}$1.52±.12; $M_{r\theta}$1.19±.20; $M_{\theta\phi}$-3.29±.08; $M_{\phi r}$0.78±.21; Best double couple: $M_0$6.07100×10^{16} NP1:ϕ_s291.00000°, δ49.00000°, λ-109.00000°. NP2:ϕ_s139.00000°, δ44.00000°, λ-69.00000°. Principal axes: T 6.2870, Plg3.0000°, Azm34.0000°; N -0.4230, Plg14.0000°, Azm304.0000°; P -5.8540, Plg75.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 04:59:12.0±1.9, 12°.27N±0°.06×87°.83W±0°.05, h41km±4km, mb4.9/458, Mwr5.1/25, Md5.1(SNET) Error ellipse: s-maj=9.0km s-min=5.8km az=208.0*
*INET **03** 04:59:13.2±0.8, 12°.26N×87°.67W, h15km±50km, MW4.9*
*GCG **03** 04:59:29.6±1.5, 13°.45N×88°.95W, h162km±105km, MD4.6*
ISC 03 04:59:10.4±0.3**, 12°.26N**±0°.04×**87°.86W**±0°.03**, h38**km±2km**, n719, σ1ˢ44**/565**, mb4.9**/228**, MS4.5**/55**, 3C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.90	61		Pn	04 59 28.2	+1.6
CRIN				Sn	Sn	04 59 40.4	+1.9
CRIN	San Cristobal	0.90	61	eP	Pn	04 59 28.2	+1.6
CNCH	Conchagua	1.01	1	eP	Pn	04 59 28.9	+0.7
CNCH				eS	Sn	04 59 44.5	+3.3
CNCH				IAML		04 59 49.5	
	comp=Z,100µm,0.4s						
CNCH	Conchagua	1.01	1	eP	Pn	04 59 28.9	+0.7
CNCH				eS	Sn	04 59 44.5	+3.3
CNCH				IAML		04 59 49.5	
	comp=Z,100µm,0.4s						
LCND	La Caada	1.04	358	eP	Pn	04 59 29.1	+0.6
LCND				eS	Sn	04 59 44.8	+3.0
LCND				IAML		04 59 52.0	
	comp=Z,23µm,0.4s						
LCND	La Caada	1.04	358	eP	Pn	04 59 29.1	+0.6
LCND				eS	Sn	04 59 44.8	+3.0
LCND				IAML		04 59 52.0	
	comp=Z,23µm,0.4s						
TELN	Telica	1.06	71	eP	Pn	04 59 29.8	+1.0
CNGN	Cerro Negro	1.16	78		Pn	04 59 29.6	-0.5
CNGN				Sn	Sn	04 59 45.2	+0.5
CNGN	Cerro Negro	1.16	78	eP	Pn	04 59 29.7	-0.4
VSM	San Miguel	1.23	341	eP	Pn	04 59 31.8	+0.5
VSM	San Miguel	1.23	341	eP	Pn	04 59 31.8	+0.5
COPN	Copaltepe	1.24	94	eP	Pn	04 59 32.0	+0.8
ALJI	Alcalda de J	1.27	327	eP	Pn	04 59 31.1	-0.5
ALJI				eS	Sn	04 59 47.5	+0.1
ALJI	Alcalda de J	1.27	327	eP	Pn	04 59 31.1	-0.5
ALJI				eS	Sn	04 59 47.5	+0.1
COEB	Comit de Eme	1.39	332	eP	Pn	04 59 33.0	-0.5
COEB				eS	Sn	04 59 52.3	+1.6
COEB	Comit de Eme	1.39	332	eP	Pn	04 59 33.0	-0.5
COEB				eS	Sn	04 59 52.3	+1.6
PQSS	Presa 15 de Se	1.52	333	eP	Pn	04 59 35.0	0.0
PQSS				eS	Sn	04 59 55.9	+2.3
PQSS	Presa 15 de Se	1.52	333	eP	Pn	04 59 35.0	0.0
PQSS				eS	Sn	04 59 55.9	+2.3
BRAN	Las Pilas	1.54	73	eP	Pn	04 59 35.9	+0.5
MGAN	Managua	1.58	94	eP	Pn	04 59 36.7	+0.9
MGAN				eP		04 59 36.7	
SNVI	San Vicente	1.65	325	eP	Pn	04 59 37.0	0.0
SNVI	San Vicente	1.65	325	eP	Pn	04 59 37.0	0.0
COEG	Centro de Oper	1.68	324	eP	Pn	04 59 36.8	-0.5
COEG				eS	Sn	04 59 59.6	+1.9
COEG	Centro de Oper	1.68	324	eP	Pn	04 59 36.8	-0.5
COEG				eS	Sn	04 59 59.6	+1.9
MASN	Masaya	1.69	99	eP	Pn	04 59 38.5	+1.1
SJTE	Alcalda de S	1.75	320	eP	Pn	04 59 38.2	-0.1
SJTE				eS	Sn	05 00 00.8	+1.3
SJTE	Alcalda de S	1.75	320	eP	Pn	04 59 38.2	-0.1
SJTE				eS	Sn	05 00 00.8	+1.3
PAVA	Las Pavas	1.79	324	eP	Pn	04 59 38.7	-0.1
PAVA				eS	Sn	05 00 01.8	+1.4
PAVA	Las Pavas	1.79	324	eP	Pn	04 59 38.7	-0.1
PAVA				eS	Sn	05 00 01.8	+1.4
LFRS	El Faro	1.79	319	eP	Pn	04 59 38.3	-0.6
LFRS	El Faro	1.79	319	eP	Pn	04 59 38.3	-0.6
LBRS	Las Brisas	1.87	322	eP	Pn	04 59 39.8	-0.2
LBRS	Las Brisas	1.87	322	eP	Pn	04 59 39.8	-0.2
TGUH	Tegucigalpa,Un	1.87	18		Pn	04 59 41.9	+1.9
TGUH	Tegucigalpa,Un	1.87	18	eP	Pn	04 59 41.9	+1.9
TGUH	Tegucigalpa,Un	1.87	18	eP	Pn	04 59 41.9	+1.9
LFU	La Fuente	1.92	320	eP	Pn	04 59 40.9	+0.2
LFU	La Fuente	1.92	320	eP	Pn	04 59 40.9	+0.2
P5NO	Presa 5 de nov	1.93	333	eP	Pn	04 59 40.9	+0.2
SNET	Serv Nac Est T	1.95	317		Pn	04 59 42.1	+1.0
SNET				Sn	Sn	05 00 05.2	+0.8
SNET	Serv Nac Est T	1.95	317	eP	Pn	04 59 40.8	-0.3
SNET				eS	Sn	05 00 05.9	+1.6
SNET	Serv Nac Est T	1.95	317	eP	Pn	04 59 40.8	-0.3
SNET				eS	Sn	05 00 05.9	+1.6
UEES	Universidad Ev	1.98	317	eP	Pn	04 59 41.2	-0.3
UEES				eS	Sn	05 00 06.2	+1.1
UEES	Universidad Ev	1.98	317	eP	Pn	04 59 41.2	-0.3
UEES				eS	Sn	05 00 06.2	+1.1
MATN	Matagalpa	2.00	70		Pn	04 59 42.9	+1.1
MATN	Matagalpa	2.00	70	eP	Pn	04 59 42.9	+1.1
BOQS	Boqueron	2.02	317	eP	Pn	04 59 42.4	+0.2
BOQS				⇓eS	Sn	05 00 08.0	+1.7
BOQS	Boqueron	2.02	317	eP	Pn	04 59 42.4	+0.2
BOQS				⇓eS	Sn	05 00 08.0	+1.7
CONN	Concepcion	2.29	107	eP	Pn	04 59 46.0	+0.3
CEVE	Cerro Verde	2.32	312	eP	Pn	04 59 46.2	-0.2
CEVE				IAML		05 00 28.6	
	comp=Z,9µm,0.6s						
CEVE	Cerro Verde	2.32	312	eP	Pn	04 59 46.2	-0.2
CEVE				IAML		05 00 28.6	
	comp=Z,9µm,0.6s						
SBLS	San Blas	2.33	312	eP	Pn	04 59 46.1	-0.4
SBLS	San Blas	2.33	312	eP	Pn	04 59 46.1	-0.4
SNJE	San Jose	2.34	313	eP	Pn	04 59 46.7	+0.2
SNJE	San Jose	2.34	313	eP	Pn	04 59 46.7	+0.2
NUBE	Las Nubes	2.48	311	eP	Pn	04 59 47.8	-0.7
NUBE				eS	Sn	05 00 17.1	-0.6
NUBE	Las Nubes	2.48	311	eP	Pn	04 59 47.8	-0.7
NUBE				eS	Sn	05 00 17.1	-0.6
SLOZ	Alcaldia de Sa	2.57	313	eP	Pn	04 59 49.4	-0.2
SLOZ				eS	Sn	05 00 20.9	+1.3
MTO3	Montecristo	2.58	326		Pn	04 59 50.2	+0.3
MTO3	Montecristo	2.58	326	eP	Pn	04 59 50.2	+0.3
MTO3	Montecristo	2.58	326	eP	Pn	04 59 50.2	+0.3
ACON	Acoyapa	2.64	96		Pn	04 59 50.7	+0.3
ACON	Acoyapa	2.64	96	eP	Pn	04 59 50.8	+0.3
GBS3	Finca Las Img	2.77	122	eP	Pn	04 59 53.5	+1.1
LAPC	Finca la Perla	2.80	122	eP	Pn	04 59 53.8	+1.1
GB1A	Borinquen Arri	2.80	121	eP	Pn	04 59 53.2	+0.3
BUAI	Buenos Aires	2.83	119	⇑eP	Pn	04 59 54.5	+1.3
GPS3	Bodega del ICE	2.86	121	eP	Pn	04 59 55.0	+1.3
LIM1	Limonal	2.99	121	eP	Pn	04 59 56.7	+1.4
GUAB	Guayabo de Bag	3.00	121	eP	Pn	04 59 57.1	+1.5
MESS	Mesas	3.02	120	eP	Pn	04 59 56.3	+0.6
ORTG	Ortega, Santa	3.02	129		Pn	04 59 56.2	+0.4
ORTG	Ortega, Santa	3.02	129	eP	Pn	04 59 56.1	+0.4
ORTG	Ortega, Santa	3.02	129	eP	Pn	04 59 56.4	+0.7
SAJU	San Juanillo,	3.03	136	eP	Pn	04 59 57.9	+2.0
HORNC	Hornillas	3.04	120	eP	Pn	04 59 56.9	+0.8
COLC	Colonia	3.05	121	eP	Pn	04 59 57.2	+1.0
VMAR	Armenia, Volca	3.05	118	eP	Pn	04 59 57.4	+1.3
CUI	Cuipilapa	3.08	121	eP	Pn	04 59 57.9	+1.2
DUNO	Dulce Nombre,	3.17	133		Pn	04 59 57.8	-0.1
DUNO	Dulce Nombre,	3.17	133	eP	Pn	04 59 57.8	-0.1
ACAL	Aguas Claras	3.20	120	eP	Pn	04 59 59.2	+0.8
PTEN	Parque Tenorio	3.21	118	eP	Pn	04 59 59.2	+0.9
VERA	Finca Concepci	3.24	115	eP	Pn	04 59 59.2	+0.4
INDI	Punta indio, G	3.32	136	eP	Pn	04 59 59.4	-0.4
MRL	Marmol	3.32	328	eP	Pn	05 00 04.0	+4.0
NBG	Las Nubes	3.35	314	eP	Pn	05 00 03.7	+3.2
NBG				eS	Sn	05 00 33.5	-5.7
PCG	Pacaya	3.41	309	eP	Pn	05 00 05.5	+4.1
PCG				eS	Sn	05 00 28.0	-13
JTS	Las Juntas de	3.46	124	Pn	Pn	05 00 02.7	+0.9
	comp=Z,13nm,0.3s,baz=9.8,slow=17,SNR=30						
JTS				Sn	Sn	05 00 41.1	-0.4
	comp=Z,82nm,0.3s,baz=17,slow=18,SNR=4.2						
JTS				Lg	Lg	05 00 55.3	
	comp=Z,85nm,0.3s,baz=210,slow=20,SNR=5.5						
JTS	Las Juntas de	3.46	124	eP	Pn	05 00 03.2	+1.5
JTS	Las Juntas de	3.46	124	eP	Pn	05 00 05.7	+3.9
JTS				eS	Sn	05 00 54.9	+13
ESPN	Las Esperanzas	3.48	91		Pn	05 00 03.1	+1.1
CEDE	Laguna Cedeo	3.56	119	⇑eP	Pn	05 00 04.6	+1.3
CASO	Castillo	3.56	120	⇑eP	Pn	05 00 07.2	+3.9
FORC	Fortuna	3.60	119	eP	Pn	05 00 05.6	+1.9
FUG	Fuego 3	3.63	307	eP	Pn	05 00 06.2	+1.9
FUG				eS	Sn	05 00 39.8	-6.1
JACO	JACO, Garabito	4.07	129		Pn	05 00 11.6	+1.5
JACO	JACO, Garabito	4.07	129	eP	Pn	05 00 12.2	+2.0
SULM	Suchitepequez,	4.14	300	eP	Pn	05 00 15.9	+4.7
HDC	Heredia	4.30	121		Pn	05 00 14.7	+1.2
HDC	Heredia	4.30	121	eP	Pn	05 00 15.2	+1.7
HDC	Heredia	4.30	121	eP	Pn	05 00 17.0	+3.5
HDC				eS	Sn	05 01 16.4	+14
STG3	Santiaguito 3,	4.36	304	eP	Pn	05 00 16.5	+2.2
LCR2	La Lucha 2	4.54	123	eP	Pn	05 00 19.5	+2.7
HAYA	Volcan Irazu	4.54	120	eP	Pn	05 00 21.4	+4.3
RIMA	Rio Macho	4.64	122		Pn	05 00 19.6	+1.4
RIMA	Rio Macho	4.64	122	eP	Pn	05 00 20.4	+2.2
RIMA	Rio Macho	4.64	122	eP	Pn	05 00 19.9	+1.7
CDM	Cerro de Muert	4.84	123	eP	Pn	05 00 23.4	+2.3
CDM	Cerro de Muert	4.84	123	eP	Pn	05 00 23.6	+2.5
BATAN	Batan	4.89	116		Pn	05 00 23.6	+2.1
BATAN	Batan	4.89	116	eP	Pn	05 00 27.3	+5.8
PEZE	Perez Zeledon,	5.00	124		Pn	05 00 25.1	+2.0
PEZE	Perez Zeledon,	5.00	124	eP	Pn	05 00 25.5	+2.4
PEZE	Perez Zeledon,	5.00	124	eP	Pn	05 00 25.3	+2.2
SRBA	San Rafael, Bu	5.35	124		Pn	05 00 29.6	+1.8
SRBA	San Rafael, Bu	5.35	124	eP	Pn	05 00 29.7	+1.8
EDPN	Palmar Norte	5.43	127	eP	Pn	05 00 32.3	+3.5
CCIG	Comitan	5.76	314		Pn	05 00 36.5	+2.9
CNI2	El Empalme, Bo	5.99	118	iP	Pn	05 00 40.0	+3.3
CNI2				eS	Sn	05 01 42.9	-1.2
CDITO	Canoas	6.12	126		Pn	05 00 39.9	+1.5
BRU2	Volcan	6.14	124		Pn	05 00 40.6	+1.9
BRU2	Volcan	6.14	124	iP	Pn	05 00 41.2	+2.5
BRU2				eS	Sn	05 01 46.6	-1.2
CCOL	Caracol de Cor	6.14	128	eP	Pn	05 00 40.9	+2.2
BC3P	Paso Ancho	6.19	123	eP	Pn	05 00 42.2	+2.7
BCO2	Palmira	6.31	123	iP	Pn	05 00 43.8	+2.6
PRVC	Isla de Provid	6.43	79		Pn	05 00 44.8	+2.2
PRVC	Isla de Provid	6.43	79	iP	Pn	05 00 45.5	+3.0
DVD	David	6.54	125	iP	Pn	05 00 46.2	+2.1
REME3	Remedios, Chir	7.16	124	eP	Pn	05 00 58.0	+5.3
TEIG	Tepich	7.93	357	Pn	Pn	05 01 03.1	-0.1
MARI3	Mariato, Verag	8.17	124	eP	Pn	05 01 11.0	+4.5
CMIG	Matias Romero	8.32	306	Pn	Pn	05 01 08.4	-0.2
	comp=Z,1.4nm,0.3s,baz=123,slow=10,SNR=2.8						
CMIG				Sn	Sn	05 02 42.0	+0.6
	comp=Z,2.1nm,0.3s,baz=248,slow=19,SNR=1.6						
	comp=Z,3.5nm,0.3s						
VTON	El Valle, Cocl	8.44	115	eP	Pn	05 01 14.4	+4.2
BCIP	Isla Barro Col	8.46	111		Pn	05 01 12.0	+1.6
BCIP	Isla Barro Col	8.46	111	eP	Pn	05 01 13.3	+2.8
CHIT3	Chitre	8.48	120	eP	Pn	05 01 14.2	+3.4
CHOR3	La Chorrera	8.63	112	eP	Pn	05 01 16.2	+3.4
UPA	Univ. de Panam	8.80	111	eP	Pn	05 01 21.1	+5.8
CHPO	Chepo, Panama	9.12	109	eP	Pn	05 01 23.3	+3.7
TLIG	Tlapa	11.61	298		Pn	05 01 55.7	+1.9
UREC	San Jos de Ur	12.94	109	iP	Pn	05 02 14.7	+2.8
HELC	Santa Helena	13.58	115	Pn	Pn	05 02 20.1	-0.7
GTBY	Guantanamo Bay	14.42	56	Pn	Pn	05 02 32.2	+0.3
MOIG	Morelia	14.78	302		Pn	05 02 38.4	+1.3
TULM	Tulcn-Chalpat	15.21	138	Pn	Pn	05 02 43.3	+0.3
TULM				IAmb	IAmb	05 03 05.7	
	comp=Z,88nm,1.1s						
ROSC	El Rosal	15.28	118	Pn	Pn	05 02 38.3	-5.5
	comp=Z,0.9nm,0.3s,baz=100,slow=19,SNR=2.0						
ROSC				LR	LR	05 09 12.5	
	comp=Z,2µm,18.7s,baz=328,slow=40						
ROSC				ScP	ScP	05 11 24.6	+5.1
	comp=Z,3.3nm,0.4s,baz=127,slow=22,SNR=2.2						
	comp=Z,2.9nm,0.4s						
IMBA	Imbabura, San	15.28	140	Pn	Pn	05 02 44.0	0.0
PULU	Pululahua	15.30	142	P	Pn	05 02 46.2	+2.1
URIC	Uribia, Colomb	15.53	90		Pn	05 02 47.8	+1.0
RUSC	La Rusia	15.89	112		Pn	05 02 52.2	+0.2
SLOR	San Lorenzo -	15.90	144	P	Pn	05 02 53.4	+1.3
CHSH	Refugio Sur-Vo	16.32	146	P	Pn	05 02 57.7	+0.3
CHSH				IAmb	IAmb	05 03 06.0	
	comp=Z,52nm,0.9s						
PORT	Chimborazo Vol	16.35	146	Pn	Pn	05 02 58.9	+1.1
PORT				IAmb	IAmb	05 03 05.8	
	comp=Z,224nm,1.3s						
COHC	Cochancay	16.95	149	P	Pn	05 03 05.0	+0.2
SDV	Santo Domingo	17.26	100	P	Pn	05 03 04.5	-4.4
	comp=Z,1.2nm,0.3s,baz=355,slow=11,SNR=1.5						
SDV				LR	LR	05 11 37.9	
	comp=Z,1µm,18.1s,baz=292,slow=44						
	comp=Z,3.5nm,0.3s						
SDV	Santo Domingo	17.26	100		P	05 03 09.4	-0.6
SDDR	Presa de Saban	17.29	65		pP	05 03 19.0	-0.9
ZAIG	Zacatecas	17.48	309	Pn	P	05 03 13.5	+1.0
ZAIG					Pn	05 03 13.8	+2.1
ARNL	Arenillas	17.51	153	P	Pn	05 03 11.9	+0.1
656A	Willston	17.73	15	P	P	05 03 17.5	+2.7
656A				IAmb	IAmb	05 03 23.6	
	comp=Z,160nm,1.4s						
BOSC	San Juan Bosco	17.92	148	P	P	05 03 17.6	+0.4
MCRA	Macar, Loja	18.30	154	P	Pn	05 03 22.3	+0.8
451A	Vernon	18.37	6	P	Pn	05 03 22.8	+0.6
451A				IAmb	IAmb	05 03 30.8	
	comp=Z,89nm,0.9s						
735A	Kenedy	18.94	332	P	Pn	05 03 29.9	+0.8
735A				IAmb	IAmb	05 03 39.0	
	comp=Z,92nm,1.0s						
441A	DeRidder	19.05	346	P	Pn	05 03 31.5	+1.1
346A	Big Creek Wild	19.09	356	P	Pn	05 03 31.7	+0.8
346A				IAmb	IAmb	05 03 36.0	
	comp=Z,59nm,0.8s						
HKT	Hockley	19.09	338		Pn	05 03 31.2	+0.3
833A	Chaparral WMA,	19.28	328	P	Pn	05 03 33.1	-0.1
833A	Chaparral WMA,	19.28	328	P	Pn	05 03 33.2	+0.1
	baz=144,SNR=110						
344A	Westbrook Farm	19.28	353	P	Pn	05 03 34.6	+1.4
344A				IAmb	IAmb	05 03 38.5	
	comp=Z,98nm,0.8s						
352A	Blakely	19.32	8	P	Pn	05 03 35.3	+1.7
352A				IAmb	IAmb	05 03 42.4	
	comp=Z,77nm,0.9s						
TIGA	Tifton	19.49	11	P	Pn	05 03 36.7	+1.0
TIGA	Tifton	19.49	11	P	Pn	05 03 37.5	+1.9
	baz=192,SNR=9.6						
250A	Grady	19.68	4	P	P	05 03 36.8	+0.5
BAUV	El Baul	19.75	98	P	P	05 03 36.3	-0.9
VBMS	Vicksburg	20.01	353	P	P	05 03 40.5	+0.6
VBMS				IAmb	IAmb	05 03 46.2	
	comp=Z,71nm,0.8s						
VBMS	Vicksburg	20.01	353	P	Pn	05 03 43.4	+1.5
	baz=172,SNR=10						
146A	Union	20.31	357	P	P	05 03 44.0	+0.8
146A				IAmb	IAmb	05 03 53.0	
	comp=Z,98nm,1.1s						
NATX	Nacogdoches	20.39	343	P	P	05 03 44.7	+0.6
NATX	Nacogdoches	20.39	343	P	Pn	05 03 45.7	-0.6
	baz=161,SNR=6.1						
435B	Jarrell	20.51	335	P	P	05 03 45.8	+0.4
435B				IAmb	IAmb	05 03 52.8	
	comp=Z,62nm,0.8s						
435B	Jarrell	20.51	335	P	Pn	05 03 46.6	-1.1
	baz=152						
152A	Waverly Hall	20.51	8	P	Pn	05 03 46.8	-1.0
152A				IAmb	IAmb	05 03 51.5	
	comp=Z,38nm,0.8s						
LRAL	Lakeview Retre	20.69	2	P	Pn	05 03 49.2	-0.6
LRAL	Lakeview Retre	20.69	2	P	Pn	05 03 51.1	+1.3
	baz=182,SNR=18						
154A	Montrose	20.72	11	P	Pn	05 03 49.0	-1.2
Z47A	Carrollton	20.84	359	P	P	05 03 49.5	+0.6
Z47A				IAmb	IAmb	05 03 59.0	
	comp=Z,68nm,0.8s						
237A	Washetta, Mont	20.96	341	P	P	05 03 50.2	0.0
Z51A	Franklin	21.10	6	P	P	05 03 54.0	+2.3
Z51A				IAmb	IAmb	05 04 01.5	
	comp=Z,36nm,0.8s						
JCT	Junction City	21.24	330	P	P	05 03 53.4	+0.2
JCT	Junction City	21.24	330	P	P	05 03 55.6	+2.4
	baz=146,SNR=51						
GOGA	Godfrey	21.43	10	P	P	05 03 57.1	+1.9
GOGA				IAmb	IAmb	05 04 03.2	
	comp=Z,66nm,0.9s						
GOGA	Godfrey	21.43	10	P	P	05 03 58.3	+3.0
	baz=192,SNR=31						
ATAH	Atahualpa	21.44	154	P	P	05 03 54.8	-1.2
	comp=Z,30nm,1.0s,baz=358,slow=6.4,SNR=15						
ATAH				LR	LR	05 11 28.8	
	comp=Z,2µm,18.2s,baz=326,slow=35						
	comp=Z,30nm,1.0s						
WHTX	Lake Whitney,	21.53	337	P	P	05 03 55.4	-0.9
WHTX				IAmb	IAmb	05 04 20.4	
	comp=Z,58nm,1.0s						
WHTX	Lake Whitney,	21.53	337	P	P	05 03 57.9	+1.6
	baz=154						
Y49A	Blount Mountai	21.54	3	P	P	05 03 56.3	-0.1
Y49A				IAmb	IAmb	05 04 08.6	
	comp=Z,33nm,0.7s						
Y45A	Yeager Farm, C	21.56	356	P	P	05 03 57.9	+1.3
Y45A				IAmb	IAmb	05 04 25.6	
	comp=Z,78nm,1.2s						
SJG	San Juan	21.73	72	P	P	05 03 58.8	+0.2
	comp=Z,12nm,0.8s,baz=294,slow=2.6,SNR=2.5						
Y52A	Lilburn	21.78	9	P	P	05 03 59.5	+0.5
CCAR	Cane Creek	21.85	351	P	P	05 04 00.4	+0.6

CCAR IAmb IAmb 05 04 11.5
comp=Z,58nm,0.9s
WLAR White Oak Lake 21.86 348 P P 05 04 02.1 +2.2
Z38A Mt. Pleasant 21.89 344 P P 05 04 00.2 0.0
Z38A IAmb IAmb 05 04 06.3
comp=Z,108nm,1.4s
NHSC New Hope 21.91 17 P P 05 04 04.8 +4.4
baz=200
X48A Hartselle 22.10 2 P P 05 04 02.3 -0.1
X48A IAmb IAmb 05 04 13.8
comp=Z,41nm,1.1s
OXF Oxford 22.19 357 P P 05 04 04.0 +0.6
OXF IAmb IAmb 05 04 10.5
comp=Z,74nm,1.1s
OXF Oxford 22.19 357 P P 05 04 05.5 +2.0
baz=176
HPIG 22.20 314 P P 05 04 04.9 +1.1
HPIG IAmb IAmb 05 04 10.7
comp=Z,32nm,0.8s
FPAL Fort Paine 22.27 5 P P 05 04 06.2 +1.9
X51A Calhoun 22.37 7 P P 05 04 07.3 +1.9
X51A IAmb IAmb 05 04 18.0
comp=Z,56nm,1.2s
HODGE Hodges 22.46 12 P P 05 04 06.7 +0.4
HODGE IAmb IAmb 05 04 13.7
comp=Z,33nm,0.7s
TXAR Lajitas Array 22.47 322 P P 05 04 07.6 +1.0
comp=Z,115nm,0.8s,baz=140,slow=9.0,SNR=240
TXAR PcP PcP 05 08 01.2 +1.2
comp=Z,7.4nm,1.0s,baz=143,slow=3.1,SNR=7.3
TXAR ScP ScP 05 11 38.8 +4.0
comp=Z,2.9nm,1.0s,baz=134,slow=3.9,SNR=11
TXAR LR LR 05 14 39.6
comp=Z,406nm,20.1s,baz=136,slow=41
TXAR Lajitas Array 22.47 322 P P 05 04 07.4 +0.8
TXAR PcP 05 07 59.2 -0.9
TX31 Lajitas Ar. Si 22.47 322 P P 05 04 07.8 +1.2
TX32 Lajitas Array 22.47 322 P P 05 04 08.0 +1.4
PLAL Pickwick Lake 22.62 360 P P 05 04 08.9 +0.9
Z35A Perchaven, San 22.66 339 P P 05 04 08.9 +0.4
Y57A Sumter 22.70 16 P P 05 04 09.2 +0.4
Y57A IAmb IAmb 05 04 22.8
comp=Z,59nm,1.1s
JSC Jenkinsville 22.73 14 P P 05 04 10.2 +1.1
UALR University of 22.78 350 P P 05 04 11.0 +1.3
UALR IAmb IAmb 05 04 14.5
comp=Z,50nm,0.8s
MIAR Mount Ida 22.79 348 P P 05 04 11.3 +1.6
MIAR Mount Ida 22.79 348 P P 05 04 10.8 +1.1
baz=166,SNR=80
Y58A Scranton 22.80 18 P P 05 04 11.3 +1.4
Y58A IAmb IAmb 05 04 36.0
comp=Z,51nm,0.9s
W45A Hickory Valley 22.82 357 P P 05 04 11.6 +1.4
W45A IAmb IAmb 05 04 16.4
comp=Z,80nm,1.1s
PCRV Puerto La Cruz 22.87 93 P P 05 04 09.1 -1.8
comp=Z,11nm,0.9s,baz=150,slow=14,SNR=3.3
comp=Z,11nm,0.9s
SWET Sewanee 22.92 4 P P 05 04 12.1 +0.9
SWET IAmb IAmb 05 04 15.6
comp=Z,22nm,0.7s
W50A Signal Mountai 22.95 5 P P 05 04 11.6 +0.1
W50A IAmb IAmb 05 04 25.5
comp=Z,25nm,0.8s
ABTX Abilene, Hawle 22.97 334 P P 05 04 11.8 +0.1
ABTX Abilene, Hawle 22.97 334 P P 05 04 12.7 +1.0
baz=149,SNR=51
W52A Murphy 23.01 8 P P 05 04 11.4 -0.7
W52A IAmb IAmb 05 04 31.2
comp=Z,53nm,1.4s
BG3 Lake Jocassee 23.07 10 P P 05 04 13.8 +1.2
BG3 IAmb IAmb 05 04 42.8
comp=Z,80nm,1.3s
PAULI Pauline 23.12 13 P P 05 04 13.2 0.0
PAULI IAmb IAmb 05 04 42.7
comp=Z,36nm,1.1s
Y59A Loris 23.13 19 P P 05 04 13.9 +0.7
Y59A IAmb IAmb 05 04 27.5
comp=Z,45nm,0.8s
LOOK Love County 23.24 340 P 05 04 14.9 +0.5
LOOK IAmb IAmb 05 04 19.9
comp=Z,285nm,1.2s
X37A Clayton 23.25 344 P 05 04 15.3 +0.8
X37A IAmb IAmb 05 04 44.1
comp=Z,53nm,0.9s
BIRD Birdtown, Kers 23.27 16 P P 05 04 16.4 +1.7
BIRD IAmb IAmb 05 04 19.0
comp=Z,26nm,0.8s
WHAR Wooly Hollow 23.27 351 P P 05 04 16.1 +1.4
WHAR IAmb IAmb 05 04 41.9
comp=Z,34nm,1.0s
Y60A Bolivia 23.36 21 P P 05 04 15.9 +0.4
V48A Smith Brothers 23.39 2 P P 05 04 17.0 +1.1
X58A Rowland 23.50 18 P P 05 04 18.2 +1.3
X58A IAmb IAmb 05 04 21.5
comp=Z,43nm,0.9s
KMSC Kings Mountain 23.53 13 P P 05 04 19.3 +2.1
KMSC IAmb IAmb 05 04 24.7
comp=Z,25nm,0.8s
KMSC Kings Mountain 23.53 13 P P 05 04 18.5 +1.3
baz=196,SNR=13
TKL Tuckaleechee C 23.58 8 P P 05 04 17.3 -0.4
comp=Z,12nm,0.8s,baz=180,slow=11,SNR=18
comp=Z,12nm,0.8s
TKL Tuckaleechee C 23.58 8 P P 05 04 20.0 +2.3
TKL IAmb IAmb 05 04 25.4
comp=Z,58nm,0.9s
V51A Loudon 23.65 7 P P 05 04 18.1 -0.3
V53A Saluda 23.75 10 P P 05 04 20.5 +1.2
V53A IAmb IAmb 05 04 28.2
comp=Z,38nm,0.6s
WVT Waverly 23.76 0 P P 05 04 21.4 +2.0
WVT Waverly 23.76 0 P P 05 04 20.6 +1.3
baz=180
CLTN Cedars of Leba 23.77 3 P P 05 04 20.0 +0.6
CLTN IAmb IAmb 05 04 25.6
comp=Z,26nm,0.8s
LNXT Lenox 23.78 357 P P 05 04 21.2 +1.7
V52A Sevierville 23.79 9 P P 05 04 21.4 +1.7
V52A IAmb IAmb 05 04 48.3
comp=Z,51nm,1.2s
FCAR Ozark Folk Cen 23.84 351 P P 05 04 20.1 0.0
FCAR IAmb IAmb 05 04 23.2
comp=Z,31nm,0.7s
SLBS Sierra La Lagu 23.85 301 P P 05 04 21.9 +1.5
W57A Gilead 23.88 16 P P 05 04 21.6 +1.1
W57A IAmb IAmb 05 04 24.6
comp=Z,28nm,0.7s
LCAR Lake Charles 23.89 353 P P 05 04 22.2 +1.6
LCAR IAmb IAmb 05 04 22.5
comp=Z,24nm,0.6s
X34A Smith Ranch, M 24.02 339 P 05 04 22.8 +1.0
TBTG Tabatinga, AM 24.19 131 P P 05 04 23.7 +0.1
TBTG IAmb IAmb 05 04 27.7
comp=Z,50nm,1.1s
U49A Red Boiling Sp 24.22 4 P P 05 04 24.2 +0.6
V55A Taylorsville 24.24 13 P P 05 04 23.2 -0.6
WMOK Wichita Mounta 24.48 338 IAmb IAmb 05 04 29.6
comp=Z,36nm,0.7s
WMOK Wichita Mounta 24.48 338 P P 05 04 26.3 +0.2
baz=154,SNR=52
TZTN Tazewell 24.49 8 IAmb IAmb 05 04 52.2
comp=Z,28nm,1.0s
TZTN Tazewell 24.49 8 P P 05 04 28.0 +1.9
baz=190
HHAR Hobbs 24.54 348 IAmb IAmb 05 04 31.8
comp=Z,37nm,0.7s
SMRT St. Maarten 24.59 73 P P 05 04 25.6 -1.6
CNNC Cliffs of the 24.59 20 IAmb IAmb 05 04 32.8
comp=Z,34nm,0.8s
CNNC Cliffs of the 24.59 20 P P 05 04 27.7 +0.7
baz=204
TUL1 Leonard 24.61 344 P P 05 04 27.7 +0.5
baz=161,SNR=34
RLO Rose Lookout 24.66 346 IAmb IAmb 05 04 32.0
comp=Z,47nm,0.7s
DEOK Depew 24.74 343 IAmb IAmb 05 04 30.6
comp=Z,39nm,0.7s
CLNB Carlsbad 24.76 326 P P 05 04 29.1 +0.4
U38A Gravette 24.78 347 IAmb IAmb 05 04 31.9
comp=Z,36nm,0.8s
BCOK Bluff Creek, N 24.91 341 IAmb IAmb 05 04 34.7
comp=Z,132nm,1.2s
U56A King 24.91 14 IAmb IAmb 05 05 00.2
comp=Z,32nm,1.1s

CZSB Cruzeiro do Su 24.93 142 P P 05 04 30.3 +0.1
CZSB IAmb IAmb 05 04 35.2
comp=Z,201nm,1.3s
CGM3 Cape Girardeau 24.98 357 P P 05 04 30.7 +0.2
CGM3 IAmb IAmb 05 04 32.6
comp=Z,15nm,0.7s
CGM3 PcP 05 08 04.2 -0.9
MGMO Mountain Grove 25.10 352 P P 05 04 31.9 +0.3
MGMO PcP PcP 05 08 05.8 +0.3
QUOK Quay 25.11 343 IAmb IAmb 05 04 34.5
comp=Z,108nm,0.8s
CSTR Hydro, Custer 25.26 339 IAmb IAmb 05 04 36.4
comp=Z,11nm,0.7s
S44A Carbondale 25.36 357 IAmb IAmb 05 04 40.0
comp=Z,26nm,1.0s
MSTX Muleshoe 25.53 330 P P 05 04 36.0 +0.3
MSTX PcP PcP 05 08 05.2 -1.4
MSTX Muleshoe 25.53 330 P P 05 04 36.0 +0.3
baz=144,SNR=156
S51A Beattyville 25.56 8 IAmb IAmb 05 05 04.5
comp=Z,25nm,0.9s
USIN University of 25.60 0 IAmb IAmb 05 04 40.9
comp=Z,21nm,0.8s
U59A Littleton 25.64 19 IAmb IAmb 05 04 42.5
comp=Z,23nm,0.9s
BLA Blacksburg 25.72 14 IAmb IAmb 05 05 01.3
comp=Z,37nm,1.2s
BLA Blacksburg 25.72 14 P P 05 04 38.6 +1.3
baz=197
T35A Scorer Cattle 25.75 344 IAmb IAmb 05 04 44.0
comp=Z,41nm,0.9s
AMTX Amarillo 25.78 333 P P 05 04 38.1 +0.2
baz=148
CROK Carrier 25.80 341 IAmb IAmb 05 04 42.1
comp=Z,56nm,0.8s
BLOK Blackwell 25.80 343 IAmb IAmb 05 04 44.0
comp=Z,81nm,1.1s
T57A Hurt 25.81 16 IAmb IAmb 05 05 07.0
comp=Z,48nm,1.5s
CCM Cathedral Cave 25.86 354 P P 05 04 37.5 -1.1
CCM IAmb IAmb 05 04 40.9
comp=Z,28nm,0.7s
CCM PcP PcP 05 08 07.5 +0.4
CCM Cathedral Cave 25.86 354 P P 05 04 38.8 +0.3
baz=172
ELIS Ellis County 25.89 338 IAmb IAmb 05 04 44.7
comp=Z,88nm,1.0s
WCI Wyandotte Cave 25.90 3 P P 05 04 38.6 -0.2
WCI IAmb IAmb 05 04 41.4
comp=Z,29nm,0.7s
WCI Wyandotte Cave 25.90 3 P P 05 04 39.3 +0.5
baz=184
KAN13 South Haven SW 26.12 342 IAmb IAmb 05 04 46.8
comp=Z,42nm,0.8s
OK032 Salt Plains WL 26.15 341 IAmb IAmb 05 04 45.6
comp=Z,51nm,0.9s
KAN14 Manchester OK 26.21 341 IAmb IAmb 05 04 47.4
comp=Z,43nm,1.0s
R40A Madden Statio 26.22 352 IAmb IAmb 05 04 44.4
comp=Z,18nm,0.6s
NOKA Waynoka 26.23 340 IAmb IAmb 05 04 45.5
comp=Z,258nm,0.8s
T59A Double "B" Far 26.29 19 IAmb IAmb 05 05 11.3
comp=Z,32nm,1.1s
KS20 Mayfield South 26.34 342 IAmb IAmb 05 04 45.2
comp=Z,36nm,0.7s
OLIL Olney 26.36 360 IAmb IAmb 05 04 48.9
comp=Z,24nm,0.9s
NNA Nana 26.46 155 LR LR 05 13 19.8
comp=Z,470nm,21.3s,baz=312,slow=32
Q44A Meyer Farm, Va 26.55 358 IAmb IAmb 05 04 46.7
comp=Z,28nm,0.7s
T60A Surry 26.71 20 IAmb IAmb 05 05 08.0
comp=Z,42nm,1.1s
Q51A Peebles 26.95 8 IAmb IAmb 05 04 54.6
comp=Z,33nm,0.6s
Q52A Bidwell 27.05 10 IAmb IAmb 05 05 16.6
comp=Z,18nm,0.8s
121A Cookes Peak, D 27.23 321 IAmb IAmb 05 05 00.5
comp=Z,36nm,0.8s
121A Cookes Peak, D 27.23 321 P P 05 04 54.1 +3.0
baz=134,SNR=18
P49A Miami Univ. Ec 27.30 5 IAmb IAmb 05 05 19.0
comp=Z,29nm,1.4s
P49A Miami Univ. Ec 27.30 5 P P 05 04 52.2 +0.7
baz=187
Q54A Cox's Mills 27.33 12 IAmb IAmb 05 04 58.5
comp=Z,17nm,0.8s
P40A Paris 27.41 353 P P 05 04 51.9 -0.6
P40A PcP 05 08 10.4 -0.3
319A Douglas 27.43 317 IAmb IAmb 05 05 11.5
comp=Z,24nm,1.1s
CBN Corbin Frederi 27.48 18 IAmb IAmb 05 04 57.5
comp=Z,24nm,0.7s
P53A Whipple 27.71 11 IAmb IAmb 05 05 02.2
comp=Z,28nm,0.8s
P52A Corning 27.73 10 P P 05 04 56.6 +1.3
baz=192
O44A Mansfield 27.79 359 IAmb IAmb 05 04 57.5
comp=Z,15nm,0.6s
R32A Long Quarter, 27.79 342 IAmb IAmb 05 04 58.6
comp=Z,35nm,0.8s
Y22D IRIS PASSCAL I 27.80 324 P P 05 04 57.2 +1.0
baz=137
Y22F Passcal Instru 27.80 324 P P 05 04 57.8 +1.6
baz=137
KSU1 Kansas State U 27.84 345 IAmb IAmb 05 04 58.9
comp=Z,29nm,0.9s
KSU1 Kansas State U 27.84 345 P P 05 04 56.8 +0.5
baz=162,SNR=5.5
O48B Farmland 27.99 4 P P 05 04 58.0 +0.4
baz=186
SFIN Lafayette 28.01 1 P P 05 04 58.0 +0.1
baz=182
ACSO Alum Creek Sta 28.19 8 P P 05 05 00.3 +0.9
baz=190
ANMO Albuquerque 28.19 326 P P 05 05 01.5 +1.8
comp=Z,5.8nm,0.8s,baz=164,slow=13,SNR=24
ANMO PcP PcP 05 08 12.9 0.0
comp=Z,6.4nm,0.9s,baz=152,slow=3.5,SNR=5.3
ANMO LR LR 05 18 00.6
comp=Z,270nm,19.4s,baz=109,slow=40
comp=Z,5.8nm,0.8s
ANMO Albuquerque 28.19 326 P P 05 05 01.9 +2.2
ANMO PcP PcP 05 08 14.2 +1.2
ANMO Albuquerque 28.19 326 P P 05 05 00.4 +0.7
baz=139
MCWV Mont Chateau 28.19 13 P P 05 04 59.5 0.0
baz=197
HDIL Hopedale 28.21 358 P P 05 05 00.1 +0.5
HDIL IAmb IAmb 05 05 05.5
comp=Z,13nm,0.6s
HDIL Hopedale 28.21 358 P P 05 04 60.0 +0.4
baz=177
O52A Adamsville 28.25 10 IAmb IAmb 05 05 03.9
comp=Z,28nm,1.2s
N41A Harden Midland 28.46 355 IAmb IAmb 05 05 03.1
comp=Z,23nm,0.7s
CBKS Cedar Bluff 28.48 340 P P 05 05 02.3 +0.3
CBKS IAmb IAmb 05 05 05.0
comp=Z,34nm,0.7s
CBKS Cedar Bluff 28.48 340 P P 05 05 02.8 +0.8
baz=155,SNR=14
P57A Homestead Farm 28.48 16 IAmb IAmb 05 05 07.2
comp=Z,26nm,0.8s
O53A New Philadelph 28.49 11 IAmb IAmb 05 05 08.6
comp=Z,18nm,0.8s
O53A New Philadelph 28.49 11 P P 05 05 03.2 +1.2
baz=194
O54A Avella 28.58 12 IAmb IAmb 05 05 06.9
comp=Z,17nm,0.7s
N49A Columbus Grove 28.73 6 IAmb IAmb 05 05 09.9
comp=Z,18nm,0.8s
N38A Joes South For 28.81 352 IAmb IAmb 05 05 08.7
comp=Z,32nm,0.7s
T25A Trinidad 28.88 332 IAmb IAmb 05 05 11.5
comp=Z,32nm,0.8s
T25A Trinidad 28.88 332 P P 05 05 07.5 +1.7
baz=145,SNR=28
TUC Tucson 29.01 317 P P 05 05 07.5 +0.6
TUC Tucson 29.01 317 P P 05 05 09.2 +2.3
baz=128
N53A Lisbon 29.09 11 IAmb IAmb 05 05 11.4
comp=Z,20nm,1.0s
N35A Tabor 29.30 348 IAmb IAmb 05 05 12.7
comp=Z,28nm,0.7s
M50A Fremont 29.33 7 IAmb IAmb 05 05 15.5
comp=Z,20nm,0.9s

SSPA Standing Stone 29.59 15 P P 05 05 13.0 +1.1
SSPA Standing Stone 29.59 15 P P 05 05 13.7 +1.8
baz=200
L46A Eue Claire 29.67 2 IAmb IAmb 05 05 13.3
comp=Z,18nm,0.7s
L42A Oliver, Polo 29.67 357 IAmb IAmb 05 05 15.2
comp=Z,15nm,0.8s
KSCO Kaye Shedlock' 29.70 336 IAmb IAmb 05 05 17.1
comp=Z,30nm,0.8s
KSCO Kaye Shedlock' 29.70 336 P P 05 05 13.9 +0.9
baz=150,SNR=7.9
L48A N Adams 29.72 5 IAmb IAmb 05 05 17.9
comp=Z,17nm,0.6s
L40A Anamosa 29.83 355 IAmb IAmb 05 05 15.6
comp=Z,16nm,0.7s
SDCO Great Sand Dun 29.88 331 IAmb IAmb 05 05 19.8
comp=Z,12nm,0.7s
SDCO Great Sand Dun 29.88 331 P P 05 05 15.6 +0.7
baz=144,SNR=27
SCIA State Center 29.90 352 IAmb IAmb 05 05 17.8
comp=Z,38nm,1.1s
AAM Ann Arbor 30.15 6 IAmb IAmb 05 05 20.1
comp=Z,14nm,0.8s
W18A Petrified Fore 30.18 323 IAmb IAmb 05 05 23.9
comp=Z,14nm,0.8s
W18A Petrified Fore 30.18 323 P P 05 05 20.1 +2.7
baz=134
LUPA Lehigh Univers 30.29 19 IAmb IAmb 05 05 22.9
comp=Z,13nm,0.7s
BGNE Belgrade 30.40 345 P P 05 05 19.5 +0.5
baz=160,SNR=9.6
M57A Sunshine Farm, 30.45 16 IAmb IAmb 05 05 26.0
comp=Z,16nm,0.7s
ERPA Erie 30.52 12 IAmb IAmb 05 05 24.0
comp=Z,20nm,0.8s
ERPA Erie 30.52 12 P P 05 05 20.7 +0.6
baz=195
S22A 4UR Ranch, Cre 30.52 330 IAmb IAmb 05 05 25.4
comp=Z,12nm,0.7s
S22A 4UR Ranch, Cre 30.52 330 P P 05 05 22.0 +1.5
baz=141,SNR=28
JFWS Jewell Farm 30.61 357 IAmb IAmb 05 05 24.5
comp=Z,9.0nm,0.5s
JFWS Jewell Farm 30.61 357 P P 05 05 22.1 +1.2
baz=175
BRNJ Basking Ridge 30.63 20 IAmb IAmb 05 05 25.8
comp=Z,18nm,0.8s
Q24A Divide 30.71 333 P P 05 05 22.9 +0.8
baz=146
ETMB Extrema 30.72 135 P P 05 05 21.9 -0.2
ETMB IAmb IAmb 05 05 34.8
comp=Z,58nm,0.9s
J47A Sunmer 30.98 4 IAmb IAmb 05 05 26.2
comp=Z,15nm,0.6s
MVCO Mesa Verde 30.98 327 P P 05 05 25.3 +0.8
baz=138,SNR=10
MACA Manacapuru-AM 31.05 118 P P 05 05 24.6 -0.4
MACA IAmb IAmb 05 05 53.0
comp=Z,14nm,0.7s
WVNY West Valley, N 31.09 13 IAmb IAmb 05 05 29.0
comp=Z,14nm,0.9s
PAL Palisades 31.14 21 P P 05 05 26.9 +1.4
baz=207
OGNE Ogallala 31.17 339 IAmb IAmb 05 05 30.7
comp=Z,30nm,0.9s
OGNE Ogallala 31.17 339 P P 05 05 28.2 +2.3
baz=153
WUAZ Wupatki 31.44 321 IAmb IAmb 05 05 35.2
comp=Z,24nm,1.4s
WUAZ Wupatki 31.44 321 P P 05 05 29.9 +1.4
baz=132,SNR=10
I42A Draeger Farm, 31.53 359 IAmb IAmb 05 05 31.7
comp=Z,28nm,1.1s
MMNY Mt. Morris Dam 31.56 14 IAmb IAmb 05 05 35.4
comp=Z,18nm,1.1s
BINY Binghamton 31.57 17 IAmb IAmb 05 05 33.6
comp=Z,25nm,1.0s
BINY Binghamton 31.57 17 P P 05 05 30.7 +1.4
baz=202,SNR=5.3
I40A Norwalk 31.61 356 IAmb IAmb 05 05 30.9
comp=Z,14nm,0.8s
BRIGG Briggsdale 31.71 336 IAmb IAmb 05 05 37.8
comp=Z,22nm,0.9s
SMCO Snowmass 31.72 331 IAmb IAmb 05 05 35.9
comp=Z,17nm,0.8s
PV15 Paradox Valley 31.82 328 IAmb IAmb 05 05 44.1
comp=Z,14nm,0.9s
L59A Walton 31.84 18 IAmb IAmb 05 05 36.1
comp=Z,24nm,0.8s
PV13 Radium Mtn., P 31.86 328 IAmb IAmb 05 05 40.5
comp=Z,20nm,0.8s
K57A Scipio Center 31.91 16 IAmb IAmb 05 05 35.6
comp=Z,10nm,0.7s
PV07 Paradox Valley 31.97 328 IAmb IAmb 05 05 40.7
comp=Z,16nm,0.9s
I37A Lemond, Waseca 32.00 352 IAmb IAmb 05 05 36.1
comp=Z,42nm,1.3s
H43A Windswept, Lux 32.09 0 IAmb IAmb 05 05 36.9
comp=Z,12nm,0.8s
PV10 Paradox Valley 32.13 328 IAmb IAmb 05 05 42.7
comp=Z,21nm,0.8s
PV23 Carpenter Ridg 32.17 328 IAmb IAmb 05 05 43.1
comp=Z,28nm,0.9s
ECSD EROS Data Cent 32.26 348 P P 05 05 34.8 -0.5
ECSD PcP PcP 05 08 23.6 +0.5
ECSD EROS Data Cent 32.26 348 P P 05 05 35.1 -0.3
baz=164,SNR=24
UCCT U. Connecticut 32.43 22 IAmb IAmb 05 06 01.8
comp=Z,25nm,1.0s
PDMCI Parker Dam,Lak 32.45 317 P P 05 05 37.6 +0.5
baz=126
GLMI Grayling 32.57 4 P P 05 05 38.4 +0.3
baz=186
J57A Williamstown 32.69 16 IAmb IAmb 05 05 42.0
comp=Z,9.6nm,0.8s
TRY Troy 32.76 19 IAmb IAmb 05 05 44.8
comp=Z,27nm,0.9s
PHWY Pilot Hill 32.78 335 IAmb IAmb 05 05 45.2
comp=Z,8.5nm,0.7s
L61B Northampton 32.84 21 IAmb IAmb 05 05 44.5
comp=Z,21nm,0.8s
L61B Northampton 32.84 21 P P 05 05 40.8 +0.3
baz=208
G40A Rib Lake 32.95 357 IAmb IAmb 05 05 46.5
comp=Z,23nm,1.2s
BC3 Big Chuckawall 32.97 315 P P 05 05 42.8 +1.0
baz=124
IRM Iron Mountain 33.04 316 P P 05 05 43.3 +1.0
baz=125
O20A White River Ci 33.08 331 P P 05 05 44.0 +1.2
O20A PcP PcP 05 08 26.1 +0.4
O20A White River Ci 33.08 331 P P 05 05 44.5 +1.6
baz=142,SNR=50
SPMN Marine on St. 33.12 354 P P 05 05 42.2 -0.6
baz=171,SNR=17
SADO Sadowa 33.24 11 LR LR 05 20 58.9
comp=Z,509nm,18.8s,baz=190,slow=40
SADO Sadowa 33.24 11 IAmb IAmb 05 05 47.0
comp=Z,16nm,0.7s
PKCU Pink Cliffs 33.28 323 IAmb IAmb 05 05 54.5
comp=Z,15nm,1.0s
SUSD Miller 33.45 346 P P 05 05 43.7 -2.1
baz=160,SNR=5.4
SRU San Rafael Swe 33.45 327 IAmb IAmb 05 05 54.9
comp=Z,10nm,0.8s
PMD Palm Desert 33.61 314 IAmb IAmb 05 05 51.2
comp=Z,5.4nm,1.0s
Q16A Castle Valley 33.66 326 IAmb IAmb 05 05 53.2
comp=Z,9.1nm,0.6s
P18A Preston Nutter 33.69 328 IAmb IAmb 05 05 58.9
comp=Z,13nm,0.9s
COWI Conover 33.74 358 IAmb IAmb 05 05 53.1
comp=Z,12nm,0.8s
GMRC Granite Mounta 33.75 316 P P 05 05 48.9 +0.3
baz=125
V12A Nelson 33.76 318 IAmb IAmb 05 05 57.8
comp=Z,13nm,1.0s
F36A Milaca 33.83 353 IAmb IAmb 05 05 50.8
comp=Z,33nm,1.2s
P17A Butcher Ranch, 33.83 327 IAmb IAmb 05 05 53.0
comp=Z,18nm,0.7s
RWWY Rawlins 33.84 334 IAmb IAmb 05 05 54.3
comp=Z,27nm,0.9s
E43A Lone Tree Farm 34.01 1 IAmb IAmb 05 05 52.9
comp=Z,13nm,0.7s
RDMU Red Mountain 34.06 330 P P 05 05 52.4 +1.0
RDMU IAmb IAmb 05 06 05.6
comp=Z,9.9nm,0.8s

RDMU PcP 05 08 29.2 +0.7
MURC Murrieta 34.16 313 P P 05 05 52.1 -0.1
baz=122
LONY Lake Ozonia 34.19 17 IAmb IAmb 05 06 03.7
comp=Z,32nm,1.5s
LONY Lake Ozonia 34.19 17 P P 05 05 53.4 +1.2
baz=203,SNR=5.4
HEC Hector,Ludlow 34.23 316 P P 05 05 53.5 +0.8
baz=124
K22A Casper 34.34 335 IAmb IAmb 05 05 58.1
comp=Z,17nm,0.8s
K22A Casper 34.34 335 P P 05 05 55.2 +1.5
baz=146,SNR=5.8
E38A The Farm, Brul 34.37 355 IAmb IAmb 05 05 55.1
comp=Z,14nm,0.7s
LPAZ La Paz 34.43 145 P P 05 05 53.3 -1.9
comp=Z,2.6nm,0.8s,baz=352,slow=7.7,SNR=9.0
LPAZ LR LR 05 19 52.5
comp=Z,1µm,20.2s,baz=310,slow=36
comp=Z,2.6nm,0.8s
LPAZ La Paz 34.43 145 P P 05 05 55.4 +0.2
LPAZ pP pP 05 06 04.1 -1.8
SHPR Sheep Range 34.43 319 P P 05 05 54.4 -0.2
SHPR PcP 05 08 29.8 +0.2
I62A Tamworth 34.57 21 P P 05 05 55.0 -0.5
RSSD Black Hills 34.66 339 P P 05 05 58.1 +1.5
RSSD IAmb IAmb 05 06 01.3
comp=Z,18nm,0.7s
RSSD Black Hills 34.66 339 P P 05 05 58.1 +1.5
baz=152
RSSD Black Hills 34.66 339 P P 05 05 57.9 +1.3
RSSD pP pP 05 06 07.0 -0.3
D41A Chassel 34.69 359 IAmb IAmb 05 05 58.2
comp=Z,20nm,1.1s
MPU Maple Canyon 34.70 327 IAmb IAmb 05 06 05.1
comp=Z,15nm,0.9s
GSC Goldstone, Bar 34.81 316 P P 05 05 58.6 +0.7
baz=124
NLU North Lily Min 34.89 327 PcP PcP 05 08 33.5 +2.5
JLU Jordanelle 35.03 328 IAmb IAmb 05 06 05.5
comp=Z,8.8nm,0.7s
CTU Camp Tracy 35.25 328 IAmb IAmb 05 06 09.9
comp=Z,27nm,1.3s
MNTQ Montreal, Queb 35.28 17 IAmb IAmb 05 06 27.0
comp=Z,16nm,0.9s
PB16 IPOC Station P 35.38 149 IAmb IAmb 05 06 09.2
comp=Z,16nm,1.1s
TPNV Topopah Spring 35.40 319 IAmb IAmb 05 06 12.0
comp=Z,16nm,1.2s
TPNV Topopah Spring 35.40 319 P P 05 06 04.2 +1.3
baz=127
EDW2 Edwards Air Fo 35.40 315 P P 05 06 04.0 +1.2
baz=122
DUG Dugway, Tooele 35.46 326 IAmb IAmb 05 06 13.1
comp=Z,11nm,0.8s
DUG Dugway, Tooele 35.46 326 P P 05 06 05.2 +1.8
baz=135
MDP Montagnes des 35.50 98 LR LR 05 22 02.6
comp=Z,895nm,18.7s,baz=272,slow=39
S11A Rachel 35.50 320 IAmb IAmb 05 06 07.9
comp=Z,13nm,1.0s
SPR3 Spring Creek 3 35.51 323 P P 05 06 05.2 +1.1
SPR3 IAmb IAmb 05 06 09.5
comp=Z,6.4nm,0.7s
SPR3 PcP PcP 05 08 31.7 -1.2
LRMC Laurel Mtn Rad 35.51 316 P P 05 06 04.8 +0.9
baz=123
FURC Furnace Creek, 35.51 318 P P 05 06 05.0 +1.3
baz=126
CCAC Calif City Air 35.56 315 IAmb IAmb 05 06 09.7
comp=Z,9.0nm,0.8s
MPMC Manual Prospec 35.70 317 P P 05 06 05.8 +0.3
baz=124
EYMN Ely 35.70 356 IAmb IAmb 05 06 05.9
comp=Z,9.5nm,0.7s
EYMN Ely 35.70 356 P P 05 06 04.5 -0.7
baz=174
BW06 Boulder Array 35.75 332 IAmb IAmb 05 06 10.0
comp=Z,13nm,0.8s
BW06 Boulder Array 35.75 332 P P 05 06 06.0 0.0
baz=142,SNR=27
PD31 Pinedale Array 35.75 332 IAmb IAmb 05 06 10.0
comp=Z,12nm,0.8s
PDAR Pinedale Array 35.75 332 P P 05 06 06.2 +0.2
comp=Z,14nm,0.8s,baz=133,slow=8.7,SNR=47
PDAR PcP PcP 05 08 33.1 -0.3
comp=Z,6.0nm,1.1s,baz=140,slow=3.3,SNR=5.1
comp=Z,14nm,0.8s
HWUT Hardware Ranch 35.83 329 P P 05 06 06.9 +0.3
HWUT PcP 05 08 33.8 +0.2
R11A Troy Canyon, C 35.84 321 P P 05 06 07.7 +1.0
baz=129
G62A West of Eustis 36.02 21 IAmb IAmb 05 06 11.3
comp=Z,19nm,0.9s
BGU Big Grassy Mou 36.10 327 IAmb IAmb 05 06 17.2
comp=Z,8.6nm,0.8s
CWC Cottonwood Cre 36.30 317 P P 05 06 12.6 +1.9
baz=124
B35A Bob, Littlefor 36.32 353 IAmb IAmb 05 06 33.1
comp=Z,18nm,1.2s
PKME Peaks-Kenny Pk 36.51 22 IAmb IAmb 05 06 15.4
comp=Z,21nm,1.0s
PKME Peaks-Kenny Pk 36.51 22 P P 05 06 13.6 +1.5
baz=211
AGMN Agassiz Nation 36.54 351 P P 05 06 12.9 +0.5
baz=167,SNR=13
HVU Hansel Valley 36.57 328 IAmb IAmb 05 06 22.3
comp=Z,19nm,0.8s
VES Vestal, Richgr 36.66 315 P P 05 06 14.0 +0.5
baz=122
GO01 Chusmiza 36.67 150 IAmb IAmb 05 06 17.9
comp=Z,20nm,1.4s
MDND Maddock 36.81 347 P P 05 06 14.7 0.0
baz=161,SNR=17
FXWY Fox Creek 37.10 332 IAmb IAmb 05 06 25.4
comp=Z,14nm,0.8s
VILB Vilhena 37.15 131 IAmb IAmb 05 06 20.4
comp=Z,83nm,1.1s
ELK Elko 37.19 325 P P 05 06 18.0 -0.2
ELK PcP PcP 05 08 37.5 -0.2
IMW Indian Meadow 37.26 332 IAmb IAmb 05 06 26.1
comp=Z,20nm,0.7s
F64A Sherman 37.36 23 IAmb IAmb 05 06 22.3
comp=Z,16nm,0.9s
H17A Grant Village 37.49 333 IAmb IAmb 05 06 27.0
comp=Z,16nm,0.8s
H17A Grant Village 37.49 333 P P 05 06 22.0 +1.2
baz=142,SNR=17
NV11 Mina Array Sit 37.49 319 PcP 05 08 40.8 +2.1
YPP Pitchstone Pla 37.49 333 IAmb IAmb 05 06 30.9
comp=Z,15nm,0.7s
RLMT Red Lodge 37.50 335 IAmb IAmb 05 06 25.9
comp=Z,19nm,0.7s
RLMT Red Lodge 37.50 335 P P 05 06 21.1 +0.3
baz=144,SNR=15
LKWY Lake 37.54 333 IAmb IAmb 05 06 38.3
comp=Z,20nm,0.9s
YMP Mirror Lake Pl 37.58 334 IAmb IAmb 05 06 42.0
comp=Z,22nm,0.8s
NVAR Mina Array Bea 37.58 319 P P 05 06 22.9 +1.2
comp=Z,6.7nm,0.7s,baz=132,slow=5.9,SNR=34
NVAR PcP PcP 05 08 39.6 +0.6
comp=Z,13nm,0.9s,baz=135,slow=3.5,SNR=20
NVAR ScP ScP 05 12 27.2 +3.6
comp=Z,5.5nm,0.9s,baz=139,slow=4.5,SNR=18
comp=Z,6.7nm,0.7s
NVAR Mina Array Bea 37.58 319 PcP 05 08 40.7 +1.7
LHV Little Huntoon 37.61 319 IAmb IAmb 05 06 28.2
comp=Z,14nm,0.8s
LAO LASA Array 37.66 339 IAmb IAmb 05 06 30.2
comp=Z,14nm,0.9s
LAO LASA Array 37.66 339 P P 05 06 22.9 +0.9
baz=150
YNR Norris Junctio 37.78 333 IAmb IAmb 05 06 28.7
comp=Z,22nm,0.8s
YHH Holmes Hill 37.92 333 IAmb IAmb 05 06 33.4
comp=Z,19nm,0.8s
D62A Allapoint, All 38.15 21 IAmb IAmb 05 06 28.8
comp=Z,18nm,0.9s
ULM Lac du Bonnet 38.45 352 P P 05 06 27.5 -0.9
comp=Z,21nm,0.7s,baz=165,slow=9.0,SNR=19
ULM LR LR 05 25 14.8
comp=Z,237nm,18.7s,baz=160,slow=41
comp=Z,21nm,0.7s
ULM Lac du Bonnet 38.45 352 IAmb IAmb 05 06 29.7
comp=Z,22nm,0.7s
DGMT Dagmar 38.58 343 P P 05 06 30.0 +0.4
baz=154,SNR=37

SIV San Ignacio 38.60 136 LR LR 05 22 58.1
comp=Z,961nm,18.8s,baz=312,slow=37
HLID Hailey 38.69 329 P P 05 06 31.8 +0.9
baz=136,SNR=21
PNTR Pine Nut 38.79 319 IAmb IAmb 05 06 39.5
comp=Z,14nm,0.8s
BOZ Bozeman (W) 38.89 333 IAmb IAmb 05 06 37.0
comp=Z,16nm,0.7s
BOZ Bozeman (W) 38.89 333 P P 05 06 33.8 +1.3
baz=141,SNR=15
MPK Martis Peak 39.18 319 IAmb IAmb 05 06 42.8
comp=Z,16nm,1.0s
LVC Limon Verde 39.32 152 LR LR 05 22 30.5
comp=Z,548nm,19.8s,baz=316,slow=36
BATG Bathurst New B 39.42 23 IAmb IAmb 05 06 38.8
comp=Z,29nm,1.2s
PTLB Pontes e Lacer 39.58 133 P P 05 06 37.8 -0.4
PTLB IAmb IAmb 05 06 49.0
comp=Z,16nm,1.3s
BEKR Beckworth 39.72 320 P P 05 06 40.4 +0.9
HRY Holter Researc 39.85 334 P P 05 06 41.0 +0.6
EGMT Eagleton 40.07 337 IAmb IAmb 05 06 46.4
comp=Z,20nm,0.9s
EGMT Eagleton 40.07 337 P P 05 06 41.7 -0.5
baz=146
WVOR Wild Horse Val 40.22 324 P P 05 06 44.4 +0.9
WVOR IAmb IAmb 05 06 50.8
comp=Z,14nm,0.8s
PLID Pearl Lake 40.58 329 IAmb IAmb 05 06 54.4
comp=Z,20nm,1.0s
MSO Missoula 40.87 333 IAmb IAmb 05 06 57.0
comp=Z,44nm,1.2s
MSO Missoula 40.87 333 P P 05 06 49.3 +0.5
baz=139,SNR=13
F10A Beach Ranch, E 41.81 329 IAmb IAmb 05 07 01.1
comp=Z,23nm,0.8s
YBH Yreka Blue Hor 42.24 320 LR LR 05 26 18.4
comp=Z,836nm,20.6s,baz=145,slow=39
PINE Pine Mountain 42.39 324 IAmb IAmb 05 07 08.0
comp=Z,15nm,0.8s
E09A Wood Farm, Sta 42.65 329 IAmb IAmb 05 07 07.3
comp=Z,15nm,0.8s
HAWA Hanford 43.27 328 P P 05 07 09.7 +1.4
HAWA IAmb IAmb 05 07 12.6
comp=Z,12nm,0.8s
NEW Newport 43.38 332 LR LR 05 30 39.4
comp=Z,582nm,18.1s,baz=137,slow=44
NEW Newport 43.38 332 P P 05 07 08.6 -0.6
NEW Newport 43.38 332 P P 05 07 09.7 +0.5
baz=136,SNR=9.5
D08A Wollman Farm, 43.41 329 P P 05 07 10.4 +1.0
D08A IAmb IAmb 05 07 13.7
comp=Z,27nm,0.8s
C09A Chrisman Ranch 43.60 330 IAmb IAmb 05 07 15.2
comp=Z,20nm,0.6s
H04A Detroit Lake 43.64 324 P P 05 07 13.3 +2.0
H04A IAmb IAmb 05 07 14.9
comp=Z,18nm,0.8s
FFC Flin Flon 43.80 348 P P 05 07 14.1 +1.7
FFC IAmb IAmb 05 07 23.5
comp=Z,24nm,1.3s
FFC Flin Flon 43.80 348 P P 05 07 11.9 -0.5
FFC pP pP 05 07 23.5 +0.1
RPN Rapa Nui 44.36 208 LR LR 05 21 00.6
comp=Z,937nm,18.9s,baz=27,slow=30
LTY Liberty 44.43 328 IAmb IAmb 05 07 22.4
comp=Z,14nm,0.8s
B08A Colville Reser 44.50 330 IAmb IAmb 05 07 22.6
comp=Z,17nm,0.8s
LON Longmire 44.70 327 IAmb IAmb 05 07 29.3
comp=Z,17nm,0.9s
D05A Enumclaw 45.08 327 IAmb IAmb 05 07 25.8
comp=Z,21nm,0.7s
AQDB Aquidauana 45.37 135 P P 05 07 26.4 +1.0
AQDB IAmb IAmb 05 07 37.4
comp=Z,31nm,1.4s
SCHQ Schefferville 45.57 17 P P 05 07 25.3 -1.2
comp=Z,14nm,0.4s,baz=232,slow=5.0,SNR=49
SCHQ LR LR 05 28 03.4
comp=Z,619nm,18.7s,baz=210,slow=38
comp=Z,14nm,0.4s
SCHQ Schefferville 45.57 17 P P 05 07 25.4 -1.2
B06A Marblemount 45.67 329 P P 05 07 27.8 +0.4
H03N2 Juan Fernandez 46.24 170 T T 05 56 58.0
baz=348,slow=76,SNR=17
H03N1 Juan Fernandez 46.24 170 T T 05 56 58.4
baz=348,slow=76,SNR=16
H03N3 Juan Fernandez 46.25 170 T T 05 56 56.7
baz=348,slow=76,SNR=17
LLLB Lillooet 47.25 331 P P 05 07 40.6 +0.8
BDFB Brasilia 48.20 124 P P 05 07 47.0 -0.7
comp=Z,10nm,0.8s,baz=284,slow=8.7,SNR=13
BDFB LR LR 05 28 42.0
comp=Z,765nm,19.9s,baz=317,slow=37
comp=Z,10nm,0.8s
CPUP Villa Florida 48.51 143 P P 05 07 48.5 -1.2
comp=Z,4.5nm,1.0s,baz=328,slow=7.8,SNR=4.8
CPUP LR LR 05 29 48.0
comp=Z,626nm,18.4s,baz=316,slow=38
comp=Z,4.5nm,1.0s
BBB Bella Bella 51.28 329 LR LR 05 32 39.1
comp=Z,300nm,18.5s,baz=268,slow=39
FRB Frobisher Bay 53.18 11 LR LR 05 33 16.5
comp=Z,688nm,18.2s,baz=196,slow=39
YKA Yellowknife Ar 53.69 345 P P 05 08 27.0 -1.2
comp=Z,8.6nm,0.7s,baz=141,slow=7.6,SNR=15
YKA PcP PcP 05 09 33.1 -0.9
comp=Z,2.7nm,0.8s,baz=150,slow=4.4,SNR=4.5
YKA LR LR 05 34 03.6
comp=Z,202nm,19.1s,baz=108,slow=39
comp=Z,8.6nm,0.7s
RCBR Riachuelo 54.69 106 LR LR 05 32 43.0
comp=Z,612nm,21.7s,baz=90,slow=37
PLCA Paso Flores 55.11 164 P P 05 08 39.0 +0.1
comp=Z,8.2nm,0.8s,baz=341,slow=8.1,SNR=11
comp=Z,8.2nm,0.8s
PLCA Paso Flores 55.11 164 P P 05 08 39.0 +0.1
PLCA IAmb IAmb 05 08 41.5
comp=Z,15nm,0.9s
PLCA Paso Flores 55.11 164 P P 05 08 37.9 -1.0
PLCA pP pP 05 08 50.7 +0.6
DLBC Dease Lake 55.91 335 LR LR 05 35 38.6
comp=Z,576nm,21.8s,baz=116,slow=39
DLBC Dease Lake 55.91 335 IAmb IAmb 05 08 48.9
comp=Z,19nm,0.9s
DLBC Dease Lake 55.91 335 P P 05 08 44.8 +0.3
baz=128,SNR=8.7
TAOE Nuku Hiva Isla 56.05 250 eP P 05 08 49.6 +3.5
comp=Z,89nm,24.5s
TAOE eS S 05 16 34.0 +1.5
comp=Z,276nm,25.7s
TAOE eLR LR 05 25 09.0
comp=Z,554nm,22.2s
R33M Jennings River 56.88 335 P P 05 08 52.5 +1.1
baz=127
LL02 Futaleuf 57.09 166 P P 05 08 53.5 +0.5
LL02 IAmb IAmb 05 08 55.9
comp=Z,18nm,1.1s
Q32M Nakina River 57.16 334 P P 05 08 54.5 +1.0
baz=126
RKT Rikitea 58.00 233 eT T 06 11 29.0
comp=Z,4.9nm,0.3s
S31K Pelican 58.35 332 P P 05 09 02.7 +1.1
baz=121
MMPY Sheldon Lake, 58.97 338 P P 05 09 05.8 -0.2
baz=128
COYC Coyhaique 59.30 167 P P 05 09 08.6 +0.4
O30N Mendenhall 59.77 335 P P 05 09 10.4 -1.1
baz=122
P29M Windy Craggy 59.88 333 P P 05 09 12.2 0.0
baz=120
SFJD Kangerlussuaq 60.01 16 P P 05 09 11.4 -1.4
comp=Z,12nm,1.1s,baz=62,slow=0.5,SNR=3.7
SFJD LR LR 05 36 43.8
comp=Z,332nm,18.0s,baz=215,slow=38
comp=Z,12nm,1.1s
N31M Braeburn, Yuko 60.04 336 P P 05 09 12.8 -0.5
baz=123
PNL Peninsula 60.63 333 P P 05 09 16.8 -0.6
baz=119
YUK8 Steele Glacier 61.57 334 P P 05 09 22.9 -1.1
baz=119
M29M Somme Creek 61.62 336 P P 05 09 23.5 -0.6
baz=121,SNR=6.7
L29M L29M 61.83 337 P P 05 09 24.9 -0.5
baz=122
RES Resolute Bay 62.53 358 P P 05 09 28.6 -1.3
RES IAmb IAmb 05 09 31.5
comp=Z,15nm,0.9s
DAWY Dawson 62.81 337 P P 05 09 31.2 -0.8
baz=121
M27K Edge Creek, AK 62.97 335 P P 05 09 31.6 -1.6
baz=117
MCARA McCarthy VSAT 63.02 334 P P 05 09 32.5 -0.9
baz=116
I29M Ogilvie Camp, 63.09 339 P P 05 09 33.3 -0.5
baz=122
INK Inuvik 63.27 343 LR LR 05 41 03.7
comp=Z,239nm,18.0s,baz=146,slow=40
INK Inuvik 63.27 343 IAmb IAmb 05 09 56.3
comp=Z,7.3nm,1.1s
INK Inuvik 63.27 343 P P 05 09 34.7 -0.2
baz=128
L27K Beaver Creek, 63.27 336 IAmb IAmb 05 09 37.6
comp=Z,17nm,1.4s
L27K Beaver Creek, 63.27 336 P P 05 09 34.7 -0.4
baz=118
G30M tAoh Zraii Nji 63.29 341 P P 05 09 35.2 +0.1
baz=125
N25K Chitina, Valde 63.79 334 P P 05 09 39.1 +0.5
baz=114
EGAK Eagle 63.83 337 P P 05 09 38.3 -0.4
baz=119
EYAK Cordova Ski Ar 63.88 332 P P 05 09 39.0 0.0
baz=113
KLU Klutina 64.33 333 P P 05 09 41.9 -0.1
baz=113
I27K Kandik River 64.41 338 P P 05 09 42.5 0.0
baz=119
J26L Joseph Creek 64.62 337 IAmb IAmb 05 09 49.7
comp=Z,7.2nm,0.8s
J26L Joseph Creek 64.62 337 P P 05 09 44.3 +0.4
baz=117
M24K Tolsona, Glenn 64.68 334 P P 05 09 44.8 +0.5
baz=113
H27K Steamboat Moun 64.68 339 P P 05 09 44.0 -0.3
baz=120,SNR=9.5
RIDG Independent Ri 64.79 336 IAmb IAmb 05 09 50.6
comp=Z,26nm,1.3s
I26K Coal Creek Min 64.83 338 IAmb IAmb 05 09 47.3
comp=Z,21nm,1.4s
I26K Coal Creek Min 64.83 338 P P 05 09 45.6 +0.4
baz=117
G27K Doyon Strip 65.01 339 P P 05 09 45.9 -0.5
baz=120
SCM Sheep Creek Mo 65.08 333 P P 05 09 46.0 -1.0
baz=112
PWL Port Wells 65.18 332 P P 05 09 47.1 -0.5
baz=110
K24K Donnelly Dome 65.20 336 P P 05 09 47.9 +0.2
baz=114
J25K Salcha River, 65.37 336 P P 05 09 48.4 -0.4
baz=115
WAT6 Susitna Watana 65.54 334 P P 05 09 49.7 -0.3
baz=112
GHO Glory Hole Cre 65.77 333 IAmb IAmb 05 09 52.9
comp=Z,14nm,1.0s
PRP Porcupine Dome 65.81 337 P P 05 09 51.8 0.0
baz=115
G26K Porcupine Rive 65.82 339 P P 05 09 51.7 +0.1
baz=118
IL31 66.03 336 IAmb IAmb 05 09 59.2
comp=Z,15nm,1.4s
ILAR Eielson Array 66.03 336 P P 05 09 52.0 -0.9
comp=Z,2.5nm,0.8s,baz=142,slow=4.5,SNR=25
ILAR PP PP 05 12 19.8 +1.3
comp=Z,1.2nm,0.8s,baz=113,slow=7.1,SNR=6.0
ILAR LR LR 05 41 15.6
comp=Z,320nm,21.1s,baz=96,slow=38
comp=Z,2.5nm,0.8s
H25K Birch Creek 66.24 338 P P 05 09 53.2 -1.1
baz=115
F26K Sheenjek River 66.29 340 P P 05 09 54.1 -0.6
baz=117
RND Reindeer 66.31 335 IAmb IAmb 05 09 57.9
comp=Z,11nm,0.8s
BMAR Burnt Mountain 66.31 339 P P 05 09 54.6 -0.2
POKR Poker Plat Res 66.38 337 P P 05 09 54.6 -0.6
baz=113
MCK McKinley 66.46 335 P P 05 09 56.0 +0.2
baz=111
SUA Susitna One 66.48 332 P P 05 09 54.7 -1.4
baz=108
OHAK Old Harbor 66.54 327 P P 05 09 55.8 -0.5
baz=104
G25K Bearman Lake 66.56 338 P P 05 09 56.8 +0.5
baz=115
CUT Chulitna 66.58 333 P P 05 09 56.6 +0.1
baz=109
F25K Christian Rive 66.75 339 P P 05 09 57.4 -0.3
baz=116
H24K Noodor Dome 66.84 337 P P 05 09 57.8 -0.4
baz=113
SII Sitkinak Islan 66.86 327 P P 05 09 58.1 -0.3
baz=103
TRF Thorofare Moun 66.93 334 P P 05 09 58.7 -0.3
baz=110
E25K Arctic Village 66.96 340 P P 05 09 58.8 -0.1
baz=116
SKT Skwentna 67.00 333 P P 05 09 58.5 -0.7
baz=108
G24K Hadweenzic Riv 67.03 338 P P 05 09 58.5 -0.9
baz=114
C27K Jago River 67.06 342 P P 05 10 00.4 +0.9
baz=119
I23K Minto, Yukon-K 67.15 336 IAmb IAmb 05 10 02.5
comp=Z,6.5nm,0.8s
I23K Minto, Yukon-K 67.15 336 P P 05 09 59.8 -0.3
baz=111,SNR=5.2
BPAW Bear Paw Mtn. 67.44 335 P P 05 10 01.1 -1.0
baz=109
PPLA Purkeypile 67.57 333 P P 05 10 02.7 -0.3
baz=108
MLY Manley 67.65 336 P P 05 10 03.6 +0.2
baz=110
M20K Styx River 67.69 332 P P 05 10 02.3 -1.4
baz=106
PPT2 Papeete2 67.77 245 eP P 05 10 08.1 +3.2
comp=Z,95nm,25.2s
PPT2 eS S 05 19 01.9 +1.3
comp=Z,162nm,26.0s
PPT2 eSS SS 05 23 24.0 +1.3
comp=Z,104nm,26.8s
PPT2 eLR LR 05 30 35.0
comp=Z,270nm,21.2s
PPT2 eLR LR 05 30 35.4
comp=Z,286nm,21.0s
E24K Your Creek 67.94 339 P P 05 10 03.3 -1.8
baz=113
Q17K Contact Creek 68.13 328 P P 05 10 06.3 -0.3
baz=102
O18K Koktuh Hills 68.15 330 P P 05 10 06.2 -0.3
baz=104
H22K Ishtalitna Cre 68.20 337 P P 05 10 06.0 -0.8
baz=110
L20K Farewell, AK 68.20 333 P P 05 10 07.1 +0.3
baz=106
COLD Coldfoot 68.22 338 P P 05 10 06.8 0.0
baz=111
M19K Big River Lodg 68.28 332 P P 05 10 06.3 -1.0
baz=105
E23K Chandalar 68.32 339 P P 05 10 08.2 +0.6
baz=112
D24K Happy Valley 68.48 340 P P 05 10 07.3 -1.1
baz=113
K20K Telida 68.52 334 P P 05 10 07.8 -1.0
baz=106
TOLK Toolik Lake Re 68.53 340 P P 05 10 07.6 -1.2
baz=112
C24K Franklin Bluff 68.67 341 P P 05 10 09.6 +0.1
baz=114
H21K Melozitna Rive 68.68 336 P P 05 10 10.4 +0.6
baz=108
F22K John River 69.04 338 P P 05 10 11.6 -0.4
baz=109
BORG Borgarnes 69.05 25 LR LR 05 41 38.2
comp=Z,96nm,18.1s,baz=256,slow=37
CHGN Chignik 69.11 326 P P 05 10 11.5 -1.0
baz=100
BBTS Babate 69.14 79 LR LR 05 35 38.6
comp=Z,316nm,21.5s,baz=259,slow=32
G21K Allakaket 69.22 337 P P 05 10 12.5 -0.5
baz=108
F21K Alatna River 69.42 338 P P 05 10 14.0 -0.4
baz=108
TBI Tubuai 69.88 239 eP P 05 10 20.9 +3.1
comp=Z,185nm,29.8s

TBI				eS	S	05 19 26.7	+1.5
	comp=Z,513nm,25.8s						
TBI	Tubuai	69.88	239	eT	T	06 26 20.4	
	comp=Z,3.9nm,0.2s						
SDPT	Sand Point	70.12	325	P	P	05 10 18.5	-0.3
	baz=97						
ALE	Alert	71.03	3	P	P	05 10 23.2	-0.7
ALE				sP	PcP	05 10 42.6	-1.4
A21K	Barrow	71.71	342	P	P	05 10 29.0	+0.9
	baz=106						
JMIC	Jan Mayen	75.01	19	LR	LR	05 43 48.1	
	comp=Z,114nm,18.4s,baz=247,slow=36						
EKA	Eskdalemuir Ar	77.01	36	P	P	05 10 57.8	-1.5
	comp=Z,3.0nm,0.9s,baz=266,slow=5.6,SNR=5.0						
EKA				LR	LR	05 39 06.2	
	comp=Z,114nm,21.8s,baz=276,slow=31						
	comp=Z,3.0nm,0.9s						
ESDC	Sonseca Array	77.62	52	P	P	05 11 00.4	-2.7
	comp=Z,0.8nm,0.8s,baz=284,slow=5.7,SNR=8.3						
ESDC				LR	LR	05 43 37.3	
	comp=Z,167nm,18.2s,baz=259,slow=34						
	comp=Z,0.8nm,0.8s						
MDT	Midelt	77.84	59	LR	LR	05 42 18.0	
	comp=Z,316nm,19.1s,baz=290,slow=33						
RAR	Rarotonga	78.04	245	LR	LR	05 38 07.3	
	comp=Z,328nm,18.4s,baz=114,slow=30						
PMSA	Palmer Station	78.90	170	LR	LR	05 41 56.2	
	comp=Z,354nm,18.4s,baz=282,slow=33						
SPITS	Spitsbergen Ar	80.97	12	LR	LR	05 50 13.9	
	comp=Z,442nm,19.0s,baz=262,slow=38						
NOA	NORSAR Array B	83.72	29	P	P	05 11 34.7	-0.7
	comp=Z,0.8nm,0.8s,baz=283,slow=5.0,SNR=2.5						
NOA				LR	LR	05 47 31.9	
	comp=Z,156nm,19.8s,baz=280,slow=35						
	comp=Z,0.8nm,0.8s						
HFS	Hagfors	85.14	29	LR	LR	05 47 32.3	
	comp=Z,142nm,19.5s,baz=258,slow=34						
DAVOX	Davos/Dischmat	86.39	43	LR	LR	05 45 49.7	
	comp=Z,229nm,20.6s,baz=276,slow=33						
ARCES	ARCESS Array B	86.49	19	P	P	05 11 47.8	-1.2
	comp=Z,4.6nm,1.0s,baz=296,slow=4.4,SNR=6.7						
ARCES				LR	LR	05 50 27.4	
	comp=Z,145nm,18.0s,baz=314,slow=36						
	comp=Z,4.6nm,1.0s						
TORD	Torodi Ar. Bea	86.84	77	P	P	05 11 49.9	-1.8
	comp=Z,0.2nm,0.5s,baz=294,slow=4.3,SNR=1.8						
AFI	Afiamalu	87.13	255	LR	LR	05 43 19.9	
	comp=Z,236nm,18.1s,baz=72,slow=30						
GERES	GERESS Array B	88.33	40	LR	LR	05 47 15.2	
	comp=Z,296nm,21.2s,baz=266,slow=33						
KRUC	Moravsky	89.96	40	ePKP		05 02 58.5	
VRAC	Vranov	90.00	39	LR	LR	05 50 33.1	
	comp=Z,225nm,18.6s,baz=280,slow=34						
VRAC	Vranov	90.00	39	ePKP		05 02 57.7	
FINES	FINESS Array B	90.31	26	LR	LR	05 53 48.1	
	comp=Z,196nm,18.3s,baz=286,slow=36						
MORC	Moravsky Berou	90.43	39	ePKP		05 02 55.6	
TIXI	Tiksi	92.75	349	P	P	05 12 17.4	-0.9
	comp=Z,3.7nm,0.5s,baz=270,slow=23,SNR=9.1						
	comp=Z,3.7nm,0.5s						
TIXI	Tiksi	92.75	349	P	P	05 12 17.6	-0.7
TIXI				IAmb	IAmb	05 12 19.3	
	comp=Z,5.0nm,1.1s						
PETK	Petropavlovsk-	94.33	327	LR	LR	05 55 44.1	
	comp=Z,71nm,21.4s,baz=70,slow=36						
MA2	Magadan	94.44	334	LR	LR	06 01 24.5	
	comp=Z,70nm,18.2s,baz=53,slow=40						
AKASG	Malin Array Be	96.90	35	LR	LR	05 55 47.2	
	comp=Z,212nm,19.2s,baz=270,slow=35						
MLR	Muntele Rosu	97.32	40	LR	LR	05 53 36.3	
	comp=Z,183nm,20.7s,baz=294,slow=34						
MSVF	Nonsavu	97.49	254	LR	LR	05 49 00.4	
	comp=Z,257nm,18.4s,baz=35,slow=31						
NRIK	Noril'sk	98.54	2	LR	LR	06 00 15.8	
	comp=Z,138nm,19.4s,baz=2.5,slow=37						
SNAA	Sanae	99.98	161	LR	LR	05 50 30.6	
	comp=Z,125nm,21.0s,baz=197,slow=31						
DZM	Mont Dzumac	108.92	251	eLR	LR	05 49 39.4	
	comp=Z,228nm,22.6s						
BOSA	Boshof	115.97	116	PKP	PKiKP	05 17 50.0	-0.1
	comp=Z,2.1nm,0.8s,baz=260,slow=4.5,SNR=3.9						
KURBB	Kurchatov Arra	116.26	10	PKP	PKiKP	05 17 49.2	-0.6
	comp=Z,1.2nm,0.7s,baz=341,slow=1.9,SNR=12						
SONM	Songino Array	118.84	349	PKP	PKPdf	05 17 53.8	-1.3
	comp=Z,1.4nm,0.6s,baz=327,slow=1.0,SNR=6.6						
KSRS	Korea Array	120.22	327	PKP	PKiKP	05 17 58.5	+0.6
	comp=Z,6.2nm,0.9s,baz=22,slow=1.5,SNR=13						
KSAR	Wonju Array Be	120.25	327	PKPdf	PKPdf	05 17 57.7	-0.2
MKAR	Makanchi Array	120.55	8	PKP	PKPdf	05 17 56.9	-1.4
	comp=Z,0.6nm,0.7s,baz=72,slow=4.0,SNR=3.9						
AAK	Ala-Archa	123.02	15	PKP	PKPdf	05 18 02.9	-0.4
	comp=Z,0.5nm,0.3s,baz=227,slow=6.6,SNR=4.1						
WMQ	Urumqi	124.04	4	ePKP	PKiKP	05 18 07.0	+1.6
HHC	Hu-ho-hao-te	124.18	342	ePKP	PKiKP	05 18 06.4	+0.6
HHC				LR	LR		
	comp=Z,400nm,14.6s						
HHC				LR	LR		
	comp=Z,230nm,15.2s						
HHC				LR	LR		
	comp=Z,350nm,15.9s						
HNS	HongShan	126.25	338	PKP	PKiKP	05 18 10.3	+0.5
GTA	Gaotai	128.10	352	ePKP	PKiKP	05 18 15.7	+2.0
GTA				LR	LR		
	comp=Z,100nm,19.6s						
GTA				LR	LR		
	comp=Z,140nm,17.8s						
GTA				LR	LR		
	comp=Z,120nm,18.9s						
STKA	Stephens Creek	130.66	238	PKP	PKiKP	05 18 18.4	-0.4
	comp=Z,1.6nm,0.5s,baz=110,slow=6.7,SNR=3.8						
LZH	Lanzhou	130.66	347	ePKP	PKiKP	05 18 19.1	+0.1
LZH				sPKP		05 18 38.2	
LZH				LR	LR		
	comp=Z,310nm,17.2s						
LZH				LR	LR		
	comp=Z,320nm,18.9s						
LZH				LR	LR		
	comp=Z,350nm,18.5s						
XAN	Xi'an	131.27	341	PKP	PKiKP	05 18 22.1	+2.0
XAN				sPKP		05 18 36.2	
XAN				LR	LR		
	comp=Z,250nm,18.6s						
XAN				LR	LR		
	comp=Z,250nm,16.5s						
XAN				LR	LR		
	comp=Z,290nm,21.3s						
WRAB	Tennant Creek	138.83	254		PKPdf	05 18 34.1	+0.6
ASAR	Alice Springs	138.83	248	PKhKP	PKPpre	05 18 24.8	
	comp=Z,1.4nm,0.8s,baz=109,slow=2.3,SNR=7.4						
ASAR				PKP	PKPdf	05 18 33.6	+0.1
	comp=Z,3.7nm,1.0s,baz=112,slow=2.3,SNR=9.2						
WRA	Warramunga Arr	138.84	254	PKhKP	PKPpre	05 18 28.2	
	comp=Z,1.2nm,0.8s,baz=93,slow=2.3,SNR=5.3						
WRA				PKP	PKPdf	05 18 34.2	+0.6
	comp=Z,5.4nm,0.9s,baz=92,slow=2.0,SNR=15						
PZH	PanZhiHua	140.35	346	PKP	PKPdf	05 18 37.2	+0.8
CHTO	Chiang Mai	148.40	348		PKPdf	05 18 50.6	+0.2
MYLDM	Lahad Datu	148.59	302		PKiKP	05 18 55.1	-0.9
CMAR	Chiang Mai Arr	148.75	347	PKPbc	PKPbc	05 18 53.6	-1.1
	comp=Z,13nm,0.8s,baz=327,slow=2.3,SNR=22						
KAPI	Kappang	151.79	282	PKPbc	PKPbc	05 19 00.5	-1.6
	comp=Z,3.1nm,0.6s,baz=190,slow=22,SNR=1.8						
MBWA	Marble Bar	152.18	248		PKiKP	05 19 02.8	-0.3

*IDC **03** 05:09:03.4±0.8, 25°.46N×125°.63E, h0km, mb3.8/10, mbtmp3.7/12, ML3.8/1, Error ellipse: s-maj=29.3km s-min=16.6km az=71.0*

*NIED **03** 05:09:07.0, 25°.36N×125°.81E, h37km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.44; $M_{\theta\theta}$0.36; $M_{\phi\phi}$1.07; $M_{r\theta}$-0.18; $M_{\theta\phi}$-0.04; $M_{\phi r}$-0.46; Fault plane solution: $M_0$1.35000×10^{15} NP1: ϕ_s172.00000°, δ35.00000°, λ-100.00000°. NP2: ϕ_s4.00000°, δ55.00000°, λ-83.00000°.*

*JMA **03** 05:09:07.0±0.1, 25°.4N±0°.7×125°.8E±0°.7, h37km±2km, MD4.2/22, MV4.0/22, NEAR MIYAKOJIMA ISLAND*

ISC 03 05:09:08.4±1.0, **25°.37N**±0°.06×**125°.78E**±0°.05, **h37**km±1km, **n39**, σ**0.s93**/51, **mb3.7**/10, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.66	227	i P	Pn	05 09 20.0	-1.2
JIKM				S	Sn	05 09 29.5	-0.8
JIKM	Ikemajima	0.66	227	A	A	05 09 20.0	
	comp=E,20nm,0.6s,comp=E,24nm,1.7s						
JOGS	Gusukube	0.69	209	P	Pn	05 09 20.4	-1.3
JOGS				S	Sn	05 09 30.3	-0.9
JOGS	Gusukube	0.69	209	A	A	05 09 20.4	
	comp=E,19nm,1.4s,comp=E,30nm,2.6s						
JMJ2	Miyako jima3	0.75	213	P	Pn	05 09 21.2	-1.1
JMJ2				eS	Sn	05 09 31.6	-0.8
JMJ2	Miyako jima3	0.75	213	A	A	05 09 21.2	
	comp=E,21nm,3.5s,comp=E,20nm,0.7s						
JIRB	Irabujima	0.77	226	P	Pn	05 09 21.4	-1.3
JIRB				eS	Sn	05 09 32.2	-0.9
JTJ	Tarama	1.22	234	P	Pn	05 09 28.5	-0.3
JTJ				eS	Sn	05 09 44.2	+0.1
JTJ	Tarama	1.22	234	A	A	05 09 28.5	
	comp=E,10.0nm,0.7s,comp=E,10.0nm,5.7s						
JKE	Kume jima 2	1.31	43	P	Pn	05 09 29.5	-0.7
JKE				eS	Sn	05 09 45.9	-0.6
JISG	Ishigakijimahi	1.54	240	eP	Pn	05 09 33.6	+0.2
JISG				eS	Sn	05 09 53.0	+0.9
JISG	Ishigakijimahi	1.54	240	A	A	05 09 33.6	
	comp=E,7.0nm,0.6s,comp=E,7.0nm,0.6s						
JAGN	Aguni-jima	1.79	47	P	Pn	05 09 36.5	-0.2
JAGN				eS	Sn	05 09 58.0	-0.2
JIJ	Ishigaki jima	1.79	236	P	Pn	05 09 36.8	0.0
JIJ				eS	Sn	05 09 59.2	+0.9
JKRS	Kuro-shima	1.96	235	P	Pn	05 09 39.6	+0.5
JKRS				eS	Sn	05 10 03.6	+1.1
JJT3	Tamagusuku3	1.96	66	P	Pn	05 09 40.5	+1.4
JJT3				eS	Sn	05 10 04.8	+2.3
IRIF	Iriomote-Funau	2.13	241	P	Pn	05 09 41.7	+0.4
IRIF				S	Sn	05 10 07.8	+1.3
HATJ	Hateruma jima	2.22	234	P	Pn	05 09 43.4	+0.7
HATJ				eS	Sn	05 10 09.9	+1.1
JNTH	Nagotoyohara	2.32	60	P	Pn	05 09 43.9	-0.2
JNTH				S	Sn	05 10 11.0	-0.3
JIH	Iheya	2.57	49	P	Pn	05 09 47.6	+0.2
JIH				S	Sn	05 10 17.5	0.0
YOJ	Yonaguni jima	2.67	251	P	Pn	05 09 49.9	+1.0
YOJ				S	Sn	05 10 21.1	+1.2
JOW	Kunigami	2.67	56	Pn	Pn	05 09 49.4	+0.5
	26nm,0.3s,baz=135,slow=21,SNR=20						
JOW				Sn	Sn	05 10 19.8	-0.3
	33nm,0.3s,baz=184,slow=24,SNR=2.3						
	84nm,0.4s						
JOW	Kunigami	2.67	56	eP	Pn	05 09 49.5	+0.6
JOW				S	Sn	05 10 20.1	+0.1
JYNG	Yonagunijimaku	2.73	251	P	Pn	05 09 51.0	+1.3
JYNG				S	Sn	05 10 23.0	+1.6
JYRO	Yoronjima	2.91	55	P	Pn	05 09 52.3	+0.2
JYRO				S	Sn	05 10 25.9	0.0
KSRS	Korea Array	12.19	8	Pn	Pn	05 11 58.5	-0.8
	0.4nm,0.3s,baz=190,slow=14,SNR=1.0						
SONM	Songino Array	27.15	331	P	P	05 14 47.7	-0.5
	0.2nm,0.5s,baz=141,slow=9.3,SNR=1.3						
	0.2nm,0.5s						
H11N1	WAKE ISLAND Hy	38.28	90	T	T	05 56 50.9	
	baz=283						
H11N2	WAKE ISLAND Hy	38.28	90	T	T	05 56 44.6	
	baz=283						
H11N3	WAKE ISLAND Hy	38.29	90	T	T	05 56 51.5	
	baz=283						
MKAR	Makanchi Array	40.49	313	P	P	05 16 42.5	-1.1
	0.4nm,0.6s,baz=92,slow=7.2,SNR=2.7						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	41.62	324	P	P	05 16 51.9	-0.9
	0.8nm,0.5s,baz=97,slow=7.8,SNR=2.4						
	0.8nm,0.5s						
KURBB	Kurchatov Arra	43.98	318	P	P	05 17 11.3	-0.6
	0.8nm,0.8s,baz=106,slow=8.0,SNR=5.2						
	0.8nm,0.8s						
WRA	Warramunga Arr	45.80	169	P	P	05 17 28.0	+1.4
	2.2nm,0.7s,baz=352,slow=8.2,SNR=14						
	2.2nm,0.7s						
ASAR	Alice Springs	49.38	170	P	P	05 17 55.7	+1.3
	0.6nm,0.6s,baz=345,slow=7.0,SNR=7.1						
	0.6nm,0.6s						
STKA	Stephens Creek	58.90	164	P	P	05 19 04.9	+1.3
	2.0nm,0.8s,baz=342,slow=3.2,SNR=2.2						
	2.0nm,0.8s						
ILAR	Eielson Array	66.23	28	P	P	05 19 52.0	-0.2
	0.4nm,0.7s,baz=252,slow=5.3,SNR=5.5						
	0.4nm,0.7s						
FINES	FINESS Array B	72.52	330	P	P	05 20 30.7	-0.4
	1.0nm,0.7s,baz=64,slow=9.4,SNR=1.3						
	1.0nm,0.7s						
AKASG	Malin Array Be	74.74	319	P	P	05 20 43.8	-0.5
	0.5nm,0.5s,baz=64,slow=6.5,SNR=2.6						
	0.5nm,0.5s						

*ARE **03** 05:10:01±5.4, 11°.5S±0°.1×78°.0W±0°.1, h40km±9km, Error ellipse: s-maj=0.0km s-min=0.0km az=132.0*

NEIC 03 05:10:03.6±0.9, **11°.5S**±0°.1×**77°.7W**±0°.1, **h64**km±18km, **mb4.1**/2, **ML4.5**(ARE), **Error ellipse: s-maj=19.3km s-min=12.0km az=216.0, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	0.97	119		Pn	05 10 21.5	0.0
NNA				Sn	Sn	05 10 34.6	-0.2
CZSB	Cruzeiro do Su	6.20	53		Pn	05 11 32.1	-0.5
MCRA	Macar, Loja	7.43	342		Pn	05 11 48.1	-1.4
ARNL	Arenillas	8.25	343	Pn	Pn	05 12 00.2	-0.4
BOSC	San Juan Bosco	8.34	355		Pn	05 11 59.7	-2.3
COHC	Cochancay	9.11	350		Pn	05 12 12.6	+0.1
CHSH	Refugio Sur-Vo	10.02	353		Pn	05 12 24.9	-0.4
PORT	Chimborazo Vol	10.04	354		Pn	05 12 25.5	-0.1
SLOR	San Lorenzo -	10.74	356		Pn	05 12 39.4	+4.3
ETMB	Extrema	11.42	83		Pn	05 12 43.3	-0.7
PB03	IPOC Station P	12.95	145	Pn	Pn	05 13 03.7	-1.4
BOAV	Boa Vista	21.97	52	P	P	05 14 51.9	-0.5
BOAV				IAmb	IAmb	05 15 00.3	
	comp=Z,6.4nm,1.3s						
BAUV	El Baul	22.48	26	P	P	05 14 57.9	0.0
BAUV				IAmb	IAmb	05 15 18.8	
	comp=Z,12nm,1.0s						

IDC 03 05:10:27.7±8.1, **22°.55S**×**147°.84E**, **h0**km, **mbtmp3.3**/3, **ML3.1**/3, **Error ellipse: s-maj=78.6km s-min=41.7km az=74.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	10.82	210	Pn	Pn	05 13 03.9	-0.1
	0.2nm,0.3s,baz=39,slow=14,SNR=4.3						
STKA				Sn	Sn	05 15 02.2	-3.7
	0.1nm,0.3s,baz=280,slow=5.4,SNR=1.8						
STKA				Lg	Lg	05 16 10.5	
	0.1nm,0.3s,baz=239,slow=14,SNR=1.5						
	0.8nm,0.4s						
WRA	Warramunga Arr	12.85	279	Pn	Pn	05 13 30.9	-0.9
	baz=98,slow=12,SNR=2.2						
WRA				Sn	Sn	05 15 56.5	+0.8
	baz=105,slow=24,SNR=1.3						
	0.3nm,0.8s						
ASAR	Alice Springs	12.88	262	Pn	Pn	05 13 33.4	+1.3
	0.1nm,0.3s,baz=85,slow=14,SNR=2.5						
ASAR				Sn	Sn	05 15 58.0	+1.8
	baz=74,slow=24,SNR=1.5						
	0.3nm,0.4s						

NOU 03 05:15:53.4, 16°.43S×**167°.57E, h0**km, **MLv4.0**/8, **Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	1.42	155	P	Pb	05 16 20.7	0.0
LIFNC	LIFOU	4.33	184	P	Pn	05 16 59.1	-1.5
YATNC	Mamie plateau,	5.64	186	P	Pn	05 17 16.9	-1.6
NOUC	Port Laguerre	5.77	192	P	Pn	05 17 20.4	+0.1
ONTNC	Ouen Toro	5.94	190	P	Pn	05 17 23.5	+0.8
OUENC	Ouen Island, N	6.00	186	P	Pn	05 17 24.0	+0.6

IDC 03 05:20:14.5±3.2, **17°.66S**×**171°.29W, h0**km, **mb4.1**/2, **mbtmp4.2**/4, **ML4.9**/1, **MS3.8**/9, **Error ellipse: s-maj=78.5km s-min=36.5km az=122.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.76	353	Pn	Pn	05 21 14.1	+0.3
	19nm,0.3s,baz=168,slow=8.2						
AFI				Sn	Sn	05 21 49.9	-9.0
	11nm,0.3s,baz=31,slow=23,SNR=1.7						
MSVF	Nonsavu	10.16	268	Pn	Pn	05 22 41.9	0.0
	0.3nm,0.3s,baz=122,slow=12,SNR=5.5						
MSVF				LR	LR	05 25 31.7	
	comp=Z,596nm,19.2s,baz=116,slow=31						
	13nm,0.8s						
DZM	Mont Dzumac	21.39	255	LR	LR	05 31 41.5	
	comp=Z,70nm,20.3s,baz=42,slow=32						
HNR	Honiara	29.11	283	LR	LR	05 35 30.0	
	comp=Z,3µm,19.8s,baz=134,slow=32						
CTA	Charters Tower	40.17	260	LR	LR	05 42 11.2	
	comp=Z,50nm,19.5s,baz=80,slow=33						
WRA	Warramunga Arr	51.34	258	P	P	05 29 20.8	-0.4
	0.6nm,0.4s,baz=97,slow=7.6,SNR=15						
	0.6nm,0.4s						
ASAR	Alice Springs	51.38	254	P	P	05 29 21.7	+0.3
	2.9nm,0.6s,baz=88,slow=8.4,SNR=43						
	2.9nm,0.6s						
VNDA	Vanda	61.36	186	LR	LR	05 52 34.2	
	comp=Z,144nm,19.6s,baz=112,slow=32						
PLCA	Paso Flores	86.50	132	LR	LR	06 02 25.1	
	comp=Z,47nm,19.2s,baz=184,slow=29						
ATAH	Atahualpa	90.60	98	LR	LR	06 06 18.3	
	comp=Z,52nm,18.6s,baz=272,slow=30						
LVC	Limon Verde	94.22	115	LR	LR	06 08 06.2	
	comp=Z,25nm,19.2s,baz=234,slow=30						
LPAZ	La Paz	97.14	110	LR	LR	06 09 40.2	
	comp=Z,43nm,19.1s,baz=88,slow=30						
SONM	Songino Array	97.87	318	LR	LR	06 15 35.7	
	comp=Z,89nm,19.8s,baz=15,slow=34						
BRTR	Keskin Array B	149.18	321	PKPbc	PKPbc	05 40 04.6	-0.9
	0.5nm,0.6s,baz=47,slow=3.0,SNR=2.3						

*IDC **03** 05:36:57.9±0.6, 11°.16N×148°.14E, h0km, mb4.4/17, mbtmp4.4/18, ML5.0/1, MS3.5/14, Error ellipse: s-maj=20.8km s-min=15.4km az=84.0*

*NEIC **03** 05:37:00.9±0.9, 11°.10N±0°.08×148°.07E±0°.09, h10km±1km, mb4.8/87, Error ellipse: s-maj=17.1km s-min=12.2km az=230.0*

ISC 03 05:36:59.9±0.4, **11°.16N**±0°.07×**148°.06E**±0°.08, **h10**km, **n111**, σ**1.s25**/75, **mb4.7**/60, **MS3.6**/13, **Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.94	308	Pn	Pn	05 38 01.9	+1.4
	88nm,0.3s,baz=124,slow=8.0,SNR=25						
GUMO				Sn	Sn	05 38 43.2	-3.7
	291nm,0.3s,baz=38,slow=19,SNR=22						
GUMO				LR	LR	05 39 52.7	
	comp=Z,161nm,19.1s,baz=142,slow=44						
	175nm,0.3s						
GUMO	Guam	3.94	308	Pn	Pn	05 38 00.8	+0.3
PATS	Pohnpei	11.00	112	Pn	Pn	05 39 36.7	-0.8
MANU	Manus Island	13.13	183	Pn	Pn	05 40 05.6	-1.1
H11S3	WAKE ISLAND Hy	19.42	66	T	T	06 02 03.0	
	baz=249						
H11S2	WAKE ISLAND Hy	19.44	66	T	T	06 02 04.1	
	baz=249,slow=74						
H11S1	WAKE ISLAND Hy	19.44	66	T	T	06 02 05.0	
	baz=249,slow=74						
H11N1	WAKE ISLAND Hy	20.03	63	T	T	06 02 51.5	
	baz=246,slow=74,SNR=89						
H11N2	WAKE ISLAND Hy	20.05	63	T	T	06 02 50.8	
	baz=246,slow=74,SNR=113						
H11N3	WAKE ISLAND Hy	20.05	63	T	T	06 02 53.3	
	baz=246,slow=74,SNR=134						
SIJI	Sorong	20.53	235	LR	LR	05 47 43.1	
	comp=Z,164nm,21.4s,baz=46,slow=31						
FAKI	Fak Fak	21.05	229	P	P	05 41 44.4	+0.2
FAKI				IAmb	IAmb	05 41 47.0	
	comp=Z,39nm,0.9s						
DAV	Davao City (W)	22.56	262	LR	LR	05 49 03.7	
	comp=Z,55nm,21.6s,baz=124,slow=32						
MTN	Manton Dam	29.17	216	P	P	05 43 01.5	-0.1
MTN				IAmb	IAmb	05 43 02.1	
	comp=Z,12nm,0.9s						
CTAO	Charters Tower	31.10	183	P	P	05 43 17.5	-1.1
KSRS	Korea Array	31.82	329	P	P	05 43 25.8	+1.0
	comp=Z,0.7nm,0.4s,baz=156,slow=9.5,SNR=2.7						
	comp=Z,0.7nm,0.4s						
KAPI	Kappang	32.43	242	LR	LR	05 55 43.4	
	comp=Z,24nm,20.7s,baz=106,slow=35						
KNRA	Kununurra	32.80	216	P	P	05 43 32.6	-1.0
KNRA				IAmb	IAmb	05 43 34.0	
	comp=Z,8.0nm,0.8s						
WB0	Warramunga Arr	33.55	204	P	P	05 43 39.7	-0.4
WB0				IAmb	IAmb	05 43 41.1	
	comp=Z,11nm,1.2s						
WR0	Warramunga Arr	33.66	203	P	P	05 43 40.9	-0.3
WR0				IAmb	IAmb	05 43 42.1	
	comp=Z,7.9nm,0.8s						
WRAB	Tennant Creek	33.71	204	P	P	05 43 41.4	-0.2
WRAB				IAmb	IAmb	05 43 42.6	
	comp=Z,12nm,0.9s						
WB2	Warramunga Arr	33.72	204	P	P	05 43 41.4	-0.3
WB2				IAmb	IAmb	05 43 42.7	
	comp=Z,14nm,1.0s						
WRA	Warramunga Arr	33.73	204	P	P	05 43 41.5	-0.2
	comp=Z,7.4nm,0.9s,baz=29,slow=9.5,SNR=48						
WRA				PcP	PcP	05 46 21.2	-0.2
	comp=Z,0.4nm,0.8s,baz=32,slow=4.1,SNR=1.9						
	comp=Z,7.4nm,0.9s						
WRA	Warramunga Arr	33.73	204	P	P	05 43 41.3	-0.4
ASAR	Alice Springs	37.27	202	P	P	05 44 12.2	0.0
	comp=Z,3.3nm,0.8s,baz=32,slow=6.8,SNR=33						
ASAR				PP	PnPn	05 45 45.1	+7.3
	comp=Z,0.9nm,0.9s,baz=21,slow=11,SNR=4.2						
ASAR				PcP	PcP	05 46 30.9	-1.0
	comp=Z,0.6nm,0.6s,baz=44,slow=3.0,SNR=4.8						
	comp=Z,3.3nm,0.8s						
KLR	Kul'dur	40.30	343	P	P	05 44 37.0	-0.3
	comp=Z,2.2nm,0.8s,baz=117,slow=6.9,SNR=4.0						
	comp=Z,2.2nm,0.8s						
STKA	Stephens Creek	43.23	188	LR	LR	06 04 56.0	
	comp=Z,134nm,19.8s,baz=34,slow=39						
LEM	Lembang	44.03	248	LR	LR	06 04 00.6	
	comp=Z,58nm,19.1s,baz=149,slow=37						
BBOO	Buckleboo	45.20	194	P	P	05 45 17.0	-0.2
BBOO				IAmb	IAmb	05 45 19.7	
	comp=Z,20nm,1.5s						
FORT	Forrest	45.91	204	P	P	05 45 23.0	+0.1
SHEM	Shemya Is, Ala	46.46	22	LR	LR	06 01 52.5	
	comp=Z,112nm,21.8s,baz=316,slow=32						
AFI	Afiamalu	46.98	121	LR	LR	06 02 02.5	
	comp=Z,40nm,18.7s,baz=138,slow=32						
CMAR	Chiang Mai Arr	47.92	285	P	P	05 45 39.3	+0.4
	comp=Z,0.6nm,0.3s,baz=81,slow=5.8,SNR=1.3						
	comp=Z,0.6nm,0.3s						
ULN	Ulaanbaatar	50.15	325	P	P	05 45 56.4	+0.7
SONM	Songino Array	50.50	325	P	P	05 45 58.6	+0.2
	comp=Z,2.9nm,1.0s,baz=128,slow=6.6,SNR=9.8						
	comp=Z,2.9nm,1.0s						
SONM	Songino Array	50.50	325	P	P	05 45 58.9	+0.4
NIUE	Niue	51.16	126	P	P	05 46 02.9	-0.7
BKZ	Black Stump Fm	56.64	154	P	P	05 46 43.3	-0.1
N19K	Bonanza Creek	64.77	27	P	P	05 47 39.4	+0.8
TTA	Tatalina	65.01	25	P	P	05 47 40.9	+0.8
TTA				IAmb	IAmb	05 47 48.8	
	comp=Z,8.0nm,1.4s						
L19K	White Mountain	65.17	26	P	P	05 47 42.2	+1.2
L19K				IAmb	IAmb	05 47 43.0	
	comp=Z,9.0nm,1.1s						
MK31	Makanchi Array	65.39	316		P	05 47 43.6	+0.9
MK31				IAmb	IAmb	05 47 44.3	
	comp=Z,4.5nm,0.9s						
MKAR	Makanchi Array	65.39	316	P	P	05 47 43.5	+0.7
	comp=Z,4.6nm,0.8s,baz=93,slow=8.6,SNR=16						
	comp=Z,4.6nm,0.8s						
MKAR	Makanchi Array	65.39	316		P	05 47 43.8	+1.0
ZALV	Zalesovo Beam	65.40	325	P	P	05 47 42.3	-0.3
	comp=Z,0.7nm,0.4s,baz=92,slow=7.6,SNR=3.6						
	comp=Z,0.7nm,0.4s						
K20K	Telida	65.99	25	P	P	05 47 48.1	+1.7
K20K				IAmb	IAmb	05 47 48.1	
	comp=Z,5.8nm,1.1s						
J20K	Nowinta River	66.30	24	P	P	05 47 50.0	+1.6
PPLA	Purkeypile	66.59	26	P	P	05 47 51.1	+0.8
PPLA				IAmb	IAmb	05 47 51.9	
	comp=Z,6.0nm,0.8s						
CAST	Castle Rocks	66.83	25	P	P	05 47 52.5	+0.8
KTH	Kantishna Hill	67.37	25	P	P	05 47 55.5	+0.3
PPT	Papeete	67.88	114	P	P	05 47 58.6	-0.5
	comp=Z,33nm,1.1s,baz=222,slow=20,SNR=1.4						
PPT				LR	LR	06 11 01.2	
	comp=Z,35nm,20.1s,baz=328,slow=30						
	comp=Z,33nm,1.1s						
MLY	Manley	67.99	24	P	P	05 47 60.0	+0.9

KURK	Kurchatov	68.44	320		P	05 48 02.4	+0.3
I23K	Minto, Yukon-K	68.58	24	P	P	05 48 03.7	+1.0
COLD	Coldfoot	69.03	22	P	P	05 48 06.8	+1.4
NRIK	Noril'sk	69.44	341	P	P	05 48 07.7	-0.3
	comp=Z,5.0nm,0.9s,baz=99,slow=8.1,SNR=4.8						
	comp=Z,5.0nm,0.9s						
ILAR	Eielson Array	69.45	25	P	P	05 48 07.1	-1.0
	comp=Z,2.6nm,0.8s,baz=253,slow=6.1,SNR=27						
	comp=Z,2.6nm,0.8s						
SCRK	Sand Creek	70.43	26	P	P	05 48 14.9	+0.6
L27K	Beaver Creek,	71.14	27	IAmb	IAmb	05 48 20.1	
	comp=Z,4.7nm,0.8s						
K27K	Chicken	71.26	26	IAmb	IAmb	05 48 21.2	
	comp=Z,5.4nm,0.9s						
DAWY	Dawson	72.42	26	P	P	05 48 27.2	+1.0
INK	Inuvik	75.42	22	P	P	05 48 43.2	-0.5
	comp=Z,5.8nm,0.9s,baz=253,slow=5.9,SNR=15						
	comp=Z,5.8nm,0.9s						
INK	Inuvik	75.42	22	P	P	05 48 44.1	+0.5
INK				IAmb	IAmb	05 48 44.6	
	comp=Z,7.3nm,0.9s						
LON	Longmire	82.07	44	P	P	05 49 21.6	+0.8
LON				IAmb	IAmb	05 49 27.6	
	comp=Z,8.8nm,1.2s						
YBH	Yreka Blue Hor	82.11	49	LR	LR	06 23 21.1	
	comp=Z,47nm,19.0s,baz=288,slow=34						
YBH	Yreka Blue Hor	82.11	49	P	P	05 49 22.0	+0.9
YBH				IAmb	IAmb	05 49 22.8	
	comp=Z,14nm,1.2s						
LTY	Liberty	82.77	43	P	P	05 49 25.1	+0.6
LTY				IAmb	IAmb	05 49 28.4	
	comp=Z,12nm,1.5s						
PINE	Pine Mountain	83.10	47		P	05 49 27.7	+1.3
GEYT	Alibeck	83.19	307	P	P	05 49 27.2	+0.4
GEYT				IAmb	IAmb	05 49 33.6	
	comp=Z,7.7nm,1.4s						
K05A	Summer Lake	83.30	48	P	P	05 49 28.8	+1.3
ORV	Oroville	83.33	51	IAmb	IAmb	05 49 28.5	
	comp=Z,5.2nm,0.9s						
AFDM	Forest Hills D	83.84	52	IAmb	IAmb	05 49 31.8	
	comp=Z,5.1nm,0.9s						
MOD	Modoc Plateau	83.86	49	P	P	05 49 31.2	+0.9
MOD				IAmb	IAmb	05 49 31.9	
	comp=Z,4.1nm,0.8s						
BEKR	Beckworth	84.15	51	IAmb	IAmb	05 49 33.2	
	comp=Z,5.6nm,0.7s						
PAHR	Pah Rah Range	84.92	51	P	P	05 49 36.3	+0.6
J08A	Circle Bar Ran	84.94	47	P	P	05 49 35.2	-0.5
YERR	Yerington	85.16	51	IAmb	IAmb	05 49 39.2	
	comp=Z,8.4nm,1.3s						
RYN	Ryan	85.78	52	IAmb	IAmb	05 49 41.8	
	comp=Z,4.1nm,0.8s						
NVAR	Mina Array Bea	85.98	52	P	P	05 49 41.6	+0.5
	comp=Z,4.4nm,0.6s,baz=274,slow=5.2,SNR=38						
	comp=Z,4.4nm,0.6s						
KVN	Kaiserville	86.02	51	P	P	05 49 42.3	+1.1
KVN				IAmb	IAmb	05 49 42.8	
	comp=Z,5.1nm,0.8s						
PLID	Pearl Lake	86.35	45	IAmb	IAmb	05 49 43.8	
	comp=Z,5.9nm,1.1s						
MFID	Camas Ranch	86.82	47	IAmb	IAmb	05 49 46.6	
	comp=Z,5.3nm,0.9s						
WCT	Wildcat Mounta	87.61	53	IAmb	IAmb	05 49 50.4	
	comp=Z,4.2nm,0.7s						
HLID	Hailey	87.79	46	IAmb	IAmb	05 49 52.1	
	comp=Z,3.9nm,1.1s						
ELK	Elko	87.83	49	LR	LR	06 24 45.5	
	comp=Z,32nm,18.8s,baz=284,slow=33						
ELK	Elko	87.83	49	IAmb	IAmb	05 49 51.8	
	comp=Z,4.3nm,0.8s						
TPNV	Topopah Spring	87.88	53	IAmb	IAmb	05 49 53.5	
	comp=Z,2.9nm,0.8s						
BCYI	Bear Canyon	88.33	45	P	P	05 49 53.4	+1.0
PFO	Pinyon Flats O	88.42	56	LR	LR	06 20 28.7	
	comp=Z,42nm,21.8s,baz=264,slow=30						
PFO	Pinyon Flats O	88.42	56	P	P	05 49 53.1	+0.2
PFO				IAmb	IAmb	05 49 53.9	
	comp=Z,4.3nm,0.8s						
VNDA	Vanda	88.87	177	P	P	05 49 53.5	-0.3
	comp=Z,0.6nm,1.0s,baz=343,slow=19,SNR=2.0						
	comp=Z,0.6nm,1.0s						
VNDA	Vanda	88.87	177	P	P	05 49 53.9	+0.1
SPR3	Spring Creek 3	88.90	51	IAmb	IAmb	05 49 57.2	
	comp=Z,4.8nm,0.8s						
PSUT	Pine Spring	89.37	51	IAmb	IAmb	05 49 59.1	
	comp=Z,6.8nm,0.8s						
HVU	Hansel Valley	89.39	48	IAmb	IAmb	05 49 59.3	
	comp=Z,6.9nm,1.1s						
YHL	Hebgen Lake	89.72	44	IAmb	IAmb	05 50 01.8	
	comp=Z,11nm,1.4s						
DUG	Dugway, Tooele	89.75	49	IAmb	IAmb	05 50 00.8	
	comp=Z,5.7nm,0.9s						
HWUT	Hardware Ranch	90.31	48	IAmb	IAmb	05 50 03.2	
	comp=Z,6.2nm,1.2s						
ARCES	ARCESS Array B	90.33	343	P	P	05 49 59.5	-1.4
	comp=Z,3.2nm,0.8s,baz=50,slow=7.2,SNR=3.8						
	comp=Z,3.2nm,0.8s						
JLU	Jordanelle	90.66	48	IAmb	IAmb	05 50 04.4	
	comp=Z,3.0nm,0.7s						
U15A	North Rim	91.09	53	IAmb	IAmb	05 50 07.7	
	comp=Z,4.4nm,0.8s						
PDAR	Pinedale Array	91.43	46	P	P	05 50 06.5	-0.5
	comp=Z,0.5nm,0.7s,baz=263,slow=1.2,SNR=3.9						
PDAR				LR	LR	06 30 53.3	
	comp=Z,26nm,19.1s,baz=310,slow=35						
	comp=Z,0.5nm,0.7s						
WUAZ	Wupatki	92.04	53	IAmb	IAmb	05 50 11.9	
	comp=Z,5.4nm,0.9s						
SMCO	Snowmass	94.36	49	IAmb	IAmb	05 50 22.1	
	comp=Z,3.8nm,0.8s						
FINES	FINESS Array B	94.65	336	P	P	05 50 18.9	-2.1
	comp=Z,1.8nm,0.8s,baz=29,slow=6.3,SNR=4.1						
	comp=Z,1.8nm,0.8s						
ANMO	Albuquerque	96.06	53	LR	LR	06 31 25.4	
	comp=Z,22nm,18.9s,baz=305,slow=34						
TXAR	Lajitas Array	100.08	57	P	Pdif	05 50 46.3	-0.1
	comp=Z,0.2nm,0.8s,baz=255,slow=2.7,SNR=1.2						
TORD	Torodi Ar. Bea	138.80	305	PKP	PKPdf	05 56 27.3	-0.2
	comp=Z,0.2nm,0.8s,baz=66,slow=1.7,SNR=1.3						
LPAZ	La Paz	144.51	102	PKP	PKPab	05 56 37.8	+1.0
	comp=Z,2.9nm,0.8s,baz=248,slow=1.9,SNR=14						
DBIC	Dimbokro	147.75	302	PKPbc	PKPdf	05 56 44.0	+0.7
	comp=Z,4.4nm,0.8s,baz=52,slow=1.9,SNR=7.2						
CPUP	Villa Florida	151.70	126	PKPbc	PKPbc	05 56 55.0	-0.5
	comp=Z,1.1nm,0.6s,baz=186,slow=4.3,SNR=3.1						

---

*ZUR **03** 05:48:22.0, 47°.78N×8°.78E, h8km±1km, MLh3.0/96, Error ellipse: s-maj=1.9km s-min=0.5km az=337.0*
*LDG **03** 05:48:22.4±0.0, 47°.78N×8°.77E, h5km, Md3.3/2, Ml3.2/43, Error ellipse: s-maj=0.7km s-min=0.7km az=45.0*
*BUG **03** 05:48:22.3±0.0, 47°.81N×8°.78E, h13km±2km, MD3.3/10, ML3.5/12*
*STR **03** 05:48:22.6±0.2, 48°N±2°×°±°, h4km±3km, MLv3.1/43, Error ellipse: s-maj=0.0km s-min=0.0km az=163.0, preliminary*
*BGR **03** 05:48:23.0±0.2, 47°.78N×8°.76E, h10km, ML2.9/15, Error ellipse: s-maj=2.2km s-min=2.2km az=161.0*
*PRU **03** 05:48:23.2±0.0, 47°.85N×8°.88E, h0km*
*BNS **03** 05:48:24.0±0.3, 47°.84N×8°.82E, h5km, ML2.5*
*GEN **03** 05:48:36.3, 46°.74N×8°.98E, h54km±7km, Ml0.0*
ISC 03 05:48:21.2±0.6**, 47°.79N**±0°.01×**8°.758E**±0°.009**, h14**km±3km**, n301,** σ1s.**29**/457**, 74C-43D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHS	Schaffhausen,	0.11	228	⇑Pg	Pg	05 48 24.9	+0.3
SCHS				Sg	Sg	05 48 26.8	0.0
SCHS	Schaffhausen,	0.11	228	⇑Pg	Pg	05 48 24.9	+0.3
SCHS				Sg	Sg	05 48 26.8	0.0
SCHS	Schaffhausen,	0.11	228	⇑Pg	Pg	05 48 24.9	+0.3
SCHS				Sg	Sg	05 48 26.8	0.0
EMING	Emmingen-Lipti	0.12	28	⇓Pg	Pg	05 48 24.9	+0.2
EMING				Sg	Sg	05 48 26.9	-0.2
EMING	Emmingen-Lipti	0.12	28	⇓Pg	Pg	05 48 24.9	+0.2
EMING				Sg	Sg	05 48 26.9	-0.2
EMING	Emmingen-Lipti	0.12	28	⇓Pg	Pg	05 48 24.9	+0.2
EMING				Sg	Sg	05 48 26.9	-0.2
EMING	Emmingen-Lipti	0.12	28	⇓Pg	Pg	05 48 24.9	+0.2
EMING				Sg	Sg	05 48 26.9	-0.2
STEIN	Stein am Rhein	0.14	147	⇓Pg	Pg	05 48 25.0	+0.1
STEIN				Sg	Sg	05 48 27.1	-0.2
STEIN	Stein am Rhein	0.14	147	⇓Pg	Pg	05 48 25.0	+0.1
STEIN				Sg	Sg	05 48 27.1	-0.2
STEIN	Stein am Rhein	0.14	147	⇓Pg	Pg	05 48 24.9	+0.1
STEIN				Sg	Sg	05 48 27.1	-0.2
STEIN	Stein am Rhein	0.14	147	⇓*i*Pg	Pg	05 48 25.0	+0.1
STEIN				Sg	Sg	05 48 27.1	-0.2
TRULL	Truellikon	0.14	201	⇓Pg	Pg	05 48 25.4	+0.4
TRULL				Sg	Sg	05 48 27.8	+0.3
TRULL	Truellikon	0.14	201	⇓Pg	Pg	05 48 25.4	+0.4
TRULL				Sg	Sg	05 48 27.8	+0.3
TRULL	Truellikon	0.14	201	⇓Pg	Pg	05 48 25.4	+0.4
TRULL				Sg	Sg	05 48 27.8	+0.3
SLE	Schleitheim	0.18	264	⇑Pg	Pg	05 48 26.3	+0.7
SLE	Schleitheim	0.18	264	⇑Pg	Pg	05 48 26.3	+0.7
SLE	Schleitheim	0.18	264	⇑Pg	Pg	05 48 26.2	+0.7
SLE	Schleitheim	0.18	264	⇑Pg	Pg	05 48 26.2	+0.7
SLE	Schleitheim	0.18	264	⇑Pg	Pg	05 48 26.3	+0.7
WALHA	Wallhausen, DE	0.25	97	⇑Pg	Pg	05 48 26.9	+0.4
WALHA	Wallhausen, DE	0.25	97	⇑Pg	Pg	05 48 26.9	+0.4
WALHA	Wallhausen, DE	0.25	97	⇑Pg	Pg	05 48 26.9	+0.4
WALHA				Sg	Sg	05 48 30.3	+0.1
WALHA	Wallhausen, DE	0.25	97	⇑*i*Pg	Pg	05 48 26.9	+0.4
WALHA				Sg	Sg	05 48 30.3	+0.1
FLACH	Flaach	0.25	211	Sg	Sb	05 48 31.3	-0.3
FLACH	Flaach	0.25	211	Sg	Sb	05 48 31.3	-0.3
FLACH	Flaach	0.25	211	⇑Pg	Pb	05 48 27.4	-0.1
FLACH				Sg	Sb	05 48 31.2	-0.5
STIEG	Stiegenhof Hun	0.29	194	⇓Pg	Pb	05 48 28.2	-0.1
STIEG				Sg	Sb	05 48 32.5	-0.5
STIEG	Stiegenhof Hun	0.29	194	⇓Pg	Pb	05 48 28.2	-0.1
STIEG				Sg	Sb	05 48 32.5	-0.5
STIEG	Stiegenhof Hun	0.29	194	⇓Pg	Pb	05 48 28.2	-0.1
STIEG				Sg	Sb	05 48 32.4	-0.5
WEIN	Weingarten	0.30	149	⇓Pg	Pb	05 48 28.1	-0.2
WEIN				Sg	Sb	05 48 32.6	-0.5
WEIN	Weingarten	0.30	149	⇓Pg	Pb	05 48 28.1	-0.2
WEIN				Sg	Sb	05 48 32.6	-0.5
WEIN	Weingarten	0.30	149	⇓Pg	Pb	05 48 28.1	-0.2
WEIN				Sg	Sb	05 48 32.5	-0.5
EBUEL	Kantonsschule	0.30	208	⇓Pg	Pb	05 48 28.6	+0.2
EBUEL	Kantonsschule	0.30	208	Pg	Pb	05 48 28.3	-0.1
SKLW	Kloten, Waffen	0.35	202	Sg	Sb	05 48 34.1	-0.4
SKLW	Kloten, Waffen	0.35	202	Sg	Sb	05 48 34.0	-0.4
METMA	Mettma DE	0.35	258	⇑Pg	Pb	05 48 29.3	+0.1
METMA				Sg	Sb	05 48 34.2	-0.3
METMA	Mettma DE	0.35	258	⇑Pg	Pb	05 48 29.3	+0.1
METMA				Sg	Sb	05 48 34.2	-0.3
METMA	Mettma DE	0.35	258	⇑Pg	Pb	05 48 29.3	+0.1
METMA				Sg	Sb	05 48 34.2	-0.3
METMA	Mettma DE	0.35	258	⇑*i*Pg	Pb	05 48 29.3	+0.1
METMA				Sg	Sb	05 48 34.3	-0.3
METMA				SmS		05 48 40.7	
GUT	Gutenstein	0.37	40	⇓Pg	Pb	05 48 29.5	-0.1
GUT				Sg	Sb	05 48 34.7	-0.6
GUT	Gutenstein	0.37	40	⇓Pg	Pb	05 48 29.5	-0.1
GUT				Sg	Sb	05 48 34.7	-0.6
GUT	Gutenstein	0.37	40	⇓Pg	Pb	05 48 29.5	-0.1
GUT				Sg	Sb	05 48 34.6	-0.6
GUT	Gutenstein	0.37	40	⇓*i*Pg	Pb	05 48 29.5	-0.1
GUT				Sg	Sb	05 48 34.6	-0.6
GUT	Gutenstein	0.37	40	⇓Pg	Pb	05 48 29.5	-0.1
WILA	Wila	0.38	165	⇓Pg	Pb	05 48 29.8	0.0
WILA	Wila	0.38	165	⇓Pg	Pb	05 48 29.8	0.0
WILA	Wila	0.38	165	⇓Pg	Pb	05 48 29.8	0.0
WILA				Sg	Sb	05 48 35.3	-0.3
WILA	Wila	0.38	165	⇓*i*Pg	Pb	05 48 29.8	0.0
WILA				Sg	Sb	05 48 35.4	-0.3
ACHB	Acheberg	0.39	240	⇑Pg	Pb	05 48 30.2	+0.3
ACHB				Sg	Sb	05 48 36.0	+0.1
ACHB	Acheberg	0.39	240	⇑Pg	Pb	05 48 30.2	+0.3
ACHB				Sg	Sb	05 48 36.0	+0.1
ACHB	Acheberg	0.39	240	⇑Pg	Pb	05 48 30.2	+0.3
ACHB				Sg	Sb	05 48 35.8	0.0
BERGE	Lenzkirch (DE)	0.40	283	⇑Pg	Pb	05 48 30.4	+0.3
BERGE				Sg	Sb	05 48 36.2	+0.1
BERGE	Lenzkirch (DE)	0.40	283	⇑Pg	Pb	05 48 30.4	+0.3
BERGE				Sg	Sb	05 48 36.2	+0.1
BERGE	Lenzkirch (DE)	0.40	283	⇑Pg	Pb	05 48 30.4	+0.3
BERGE				Sg	Sb	05 48 36.2	+0.1
BERGE	Lenzkirch (DE)	0.40	283	⇑*i*Pg	Pb	05 48 30.4	+0.3
BERGE				Sg	Sb	05 48 36.1	+0.1
ZUR	Degenried	0.43	196	Pg	Pb	05 48 30.7	+0.1
ZUR	Degenried	0.43	196	⇓Pg	Pb	05 48 30.8	+0.1
ZUR	Degenried	0.43	196	⇓Pg	Pb	05 48 30.8	+0.1
ZUR				Sg	Sb	05 48 36.8	-0.2
ZUR	Degenried	0.43	196	⇓Pg	Pb	05 48 30.7	+0.1
ZUR	Degenried	0.43	196	Sg	Sb	05 48 36.7	-0.2
EWZT2	Wettswil, ZR	0.48	202	Sg	Sb	05 48 38.6	+0.2
EWZT2	Wettswil, ZR	0.48	202	⇓Pg	Pb	05 48 31.7	+0.2
EWZT2				Sg	Sb	05 48 38.5	+0.2
SULZ	Cheisacher	0.51	240	⇑Pg	Pb	05 48 32.4	+0.5
SULZ				Sg	Sb	05 48 39.5	+0.3
SULZ	Cheisacher	0.51	240	⇑Pg	Pb	05 48 32.4	+0.5
SULZ				Sg	Sb	05 48 39.5	+0.3
SULZ	Cheisacher	0.51	240	⇑Pg	Pb	05 48 32.4	+0.5
SULZ				Sg	Sb	05 48 39.5	+0.3
SULZ	Cheisacher	0.51	240	⇑*i*Pg	Pb	05 48 32.4	+0.5
SULZ				Sg	Sb	05 48 39.6	+0.5
SULZ	Cheisacher	0.51	240	⇑Pg	Pb	05 48 32.3	+0.5
FELD	Feldberg im Sc	0.52	281	⇑Pg	Pb	05 48 32.5	+0.4
FELD	Feldberg im Sc	0.52	281	⇑Pg	Pb	05 48 32.5	+0.4
FELD	Feldberg im Sc	0.52	281	⇑Pg	Pb	05 48 32.5	+0.4
FELD				Sg	Sb	05 48 39.8	+0.3
FELD				SmS		05 48 43.8	
FELD	Feldberg im Sc	0.52	281	⇑*i*Pg	Pb	05 48 32.5	+0.4
FELD				Sg	Sb	05 48 39.8	+0.3
FELD				SmS		05 48 43.8	
FELD	Feldberg im Sc	0.52	281	⇑Pg	Pb	05 48 32.5	+0.4
SGT00	Sennhlsen	0.52	134	Pg	Pb	05 48 32.2	+0.1
SGT00				Sg	Sb	05 48 39.4	-0.1
SGT00	Sennhlsen	0.52	134	⇑Pg	Pb	05 48 32.2	+0.1
SGT00				Sg	Sb	05 48 39.4	-0.1
SGT00	Sennhlsen	0.52	134	⇑Pg	Pb	05 48 32.2	+0.1
SGT00				Sg	Sb	05 48 39.4	-0.1
SARE	Arbon, Evangel	0.53	120	Sg	Sb	05 48 39.8	+0.1
SARE	Arbon, Evangel	0.53	120	Sg	Sb	05 48 39.8	+0.1
SARE	Arbon, Evangel	0.53	120	Sg	Sb	05 48 39.8	+0.1
SGT05	Eggersriet	0.58	126	⇑Pg	Pb	05 48 33.4	+0.2
SGT05				Sg	Sb	05 48 41.6	+0.2
SGT05	Eggersriet	0.58	126	⇑Pg	Pb	05 48 33.4	+0.2
SGT05				Sg	Sb	05 48 41.6	+0.2
SGT05	Eggersriet	0.58	126	⇑Pg	Pb	05 48 33.4	+0.2
SGT05				Sg	Sb	05 48 41.6	+0.2
KIZ	Kirchzarten	0.59	287	⇑Pg	Pb	05 48 33.9	+0.6
KIZ	Kirchzarten	0.59	287	⇑Pg	Pb	05 48 33.9	+0.6
KIZ	Kirchzarten	0.59	287	⇑Pg	Pb	05 48 33.9	+0.6
KIZ				Sg	Sb	05 48 41.9	+0.4
KIZ	Kirchzarten	0.59	287	⇑Pg	Pb	05 48 33.9	+0.6
KIZ				Sg	Sb	05 48 42.1	+0.6
KIZ				SmS		05 48 45.2	
KIZ	Kirchzarten	0.59	287	⇑Pg	Pb	05 48 33.9	+0.6
KIZ	Kirchzarten	0.59	287	Sg	Sb	05 48 41.9	+0.4
SGT04	Schlatt-Haslen	0.59	137	Pg	Pb	05 48 33.8	+0.4
SGT04				Sg	Sb	05 48 42.2	+0.6
SGT04	Schlatt-Haslen	0.59	137	⇑Pg	Pb	05 48 33.8	+0.4
SGT04				Sg	Sb	05 48 42.2	+0.6
SGT04	Schlatt-Haslen	0.59	137	⇑Pg	Pb	05 48 33.8	+0.4
SGT04				Sg	Sb	05 48 42.2	+0.6
EMMET	Emmethof	0.61	236	⇑Pg	Pb	05 48 34.4	+0.7
EMMET	Emmethof	0.61	236	⇑Pg	Pb	05 48 34.4	+0.7
EMMET	Emmethof	0.61	236	⇑Pg	Pb	05 48 34.3	+0.7
BFO	Black Forest	0.62	332	⇓Pg	Pb	05 48 34.2	+0.4
BFO	Black Forest	0.62	332	⇓*i*Pg	Pb	05 48 34.2	+0.4
BFO				PmP		05 48 36.3	
BFO				*e*Sg	Sb	05 48 43.4	+1.1
BFO				SmS		05 48 46.1	
HAMIK	Hmikon, Dlik	0.63	212	Sg	Sb	05 48 43.6	+0.9
HAMIK	Hmikon, Dlik	0.63	212	Pg	Pb	05 48 34.6	+0.6
ROTHE	Rothenfluh	0.65	242	⇑Pg	Pb	05 48 35.0	+0.8
ROTHE	Rothenfluh	0.65	242	⇑Pg	Pb	05 48 35.0	+0.8
ROTHE	Rothenfluh	0.65	242	⇑Pg	Pb	05 48 35.0	+0.8
FBB	Freiburg im Br	0.65	290	Pg	Pb	05 48 35.0	+0.7
FBB				SmS		05 48 46.7	
ENDD	Endenburg	0.69	265	⇑Pg	Pb	05 48 35.7	+0.7
ENDD				PmP		05 48 37.3	
ENDD				Sg	Sb	05 48 45.4	+1.0
ENDD				SmS		05 48 47.9	
SKAF	Kaiseraugst-Fr	0.74	251	⇑Pg	Pb	05 48 36.6	+0.8
DAGMA	Lutertal, Dagm	0.75	223	⇑Pg	Pb	05 48 36.8	+0.8
DAGMA				Sg	Sb	05 48 47.1	+1.0
BUCH	Bad Urach	0.78	31	Pg	Pb	05 48 37.0	+0.6
BUCH				PmP		05 48 38.6	
BUCH				Sg	Sb	05 48 47.9	+1.0
BUCH				SmS		05 48 50.5	
SLUB	Luzern Bramber	0.79	203	Pg	Pb	05 48 37.5	+0.8
SLUB				Sg	Sb	05 48 48.2	+1.0
VOGT	Vogtsburg - To	0.79	292	Pg	Pb	05 48 37.7	+0.9
VOGT				SmS		05 48 50.7	
VOGT	Vogtsburg - To	0.79	292	Sg	Sb	05 48 49.0	+1.7
VOGT	Vogtsburg - To	0.79	292	⇑Pg	Pb	05 48 37.6	+0.9
OPP	Oppenau	0.81	332	Pg	Pb	05 48 37.7	+0.7
OPP				PmP		05 48 38.8	
OPP	Oppenau	0.81	332	Pg	Pb	05 48 37.7	+0.7
OPP	Oppenau	0.81	332	Sg	Sb	05 48 49.2	+1.4
MUO	Muotathal	0.82	186	⇓Pg	Pb	05 48 38.1	+0.8
MUO	Muotathal	0.82	186	⇓Pg	Pb	05 48 38.1	+0.8
MUO	Muotathal	0.82	186	⇓Pg	Pb	05 48 38.1	+0.8
MUO				Sg	Sb	05 48 49.6	+1.3
PLONS	Plons/SG	0.85	150	⇓Pg	Pb	05 48 38.3	+0.6
PLONS				Sg	Sb	05 48 49.8	+0.9
PLONS	Plons/SG	0.85	150	*e*Pg	Pb	05 48 38.4	+0.6
PLONS				*e*Sg	Sb	05 48 49.9	+0.9
BALST	Balsthal	0.85	238	⇑Pg	Pb	05 48 38.6	+0.9
BALST	Balsthal	0.85	238	Pg	Pb	05 48 38.6	+0.9
BALST				*e*Sg	Sb	05 48 50.8	+1.8
BALST	Balsthal	0.85	238	⇑Pg	Pb	05 48 38.6	+0.9
DAVA	Damuels	0.91	123	*e*Pg	Pn	05 48 39.4	-0.2
	20nm,0.2s						
DAVA				*e*Pn	Pb	05 48 41.2	+2.4
	25nm,0.2s						
DAVA				*e*Sg	Sn	05 48 52.4	-0.3
	266nm,0.2s						
DAVA	Damuels	0.91	123	Pg	Pn	05 48 39.7	+0.1
UBR	Ueberruh	0.92	96	⇑Pg	Pn	05 48 39.8	+0.1
UBR	Ueberruh	0.92	96	Pg	Pn	05 48 39.8	+0.1
UBR				PmP		05 48 41.1	
UBR				*e*Sg	Sn	05 48 52.5	-0.2
BNALP	Bannalp	0.94	194	⇓Pg	Pn	05 48 40.4	+0.3
PANIX	Pigniu (Panix)	0.99	166	Pg	Pn	05 48 40.8	0.0
GALG	Neuhausen (Enz	1.00	1	Pg	Pn	05 48 41.2	+0.3
GALG				PmP		05 48 41.9	
BABA	Baden-Baden-Ne	1.01	338	Pn	Pn	05 48 41.4	+0.5
BABA				PmP		05 48 42.0	
STU	Stuttgart	1.03	16	*e*Pg	Pn	05 48 41.6	+0.4
STU				*e*Sg	Sn	05 48 56.2	+0.8
MOF	Molkenrain	1.10	274	⇑Pg	Pn	05 48 43.0	+0.8
MOF				Sg	Sb	05 48 57.5	+1.4
BOURR	Bourrignon	1.11	250	⇑Pn	Pn	05 48 43.1	+0.8
BOURR	Bourrignon	1.11	250	Pn	Pn	05 48 43.0	+0.8
BOURR	Bourrignon	1.11	250	Sg	Sn	05 48 59.0	+1.7
BOURR	Bourrignon	1.11	250	⇑Pg	Pn	05 48 43.1	+0.8
OBER	Oberstdorf	1.11	109	*e*Pg	Pn	05 48 43.9	+1.6
OBER				*e*Sg	Sn	05 48 58.8	+1.4
HASLI	Hasliberg/Brie	1.11	202	Pg	Pn	05 48 43.5	+1.2
WLS	Welschbruch	1.13	304	Pg	Pn	05 48 44.2	+1.5
WLS	Welschbruch	1.13	304	⇓Pg	Pn	05 48 44.1	+1.5
WLS				Sg	Sn	05 48 59.1	+1.1
MTI02	Mont Terri, (H	1.15	250	⇑Pn	Pn	05 48 43.6	+0.7
MTI03	Mont Terri (fr	1.15	250	⇑Pn	Pn	05 48 43.7	+0.8
ECH	Echery	1.16	292	Pn	Pn	05 48 43.7	+0.7
ECH	Echery	1.16	292	Pn	Pn	05 48 43.7	+0.7
ECH				Pg	Pg	05 48 44.6	+1.1
ECH				SmS		05 49 00.2	
ECH	Echery	1.16	292	Pg	Pn	05 48 43.8	+0.9
ECH				Sg	Sn	05 48 59.8	+1.2
CDF	Champ du Feu	1.18	303	*e*Pn	Pn	05 48 44.2	+0.9
CDF	Champ du Feu	1.18	303	*e*Pg	Pn	05 48 44.8	+1.5
CDF				*e*Sg	Sn	05 48 59.9	+0.8
	867nm,0.4s						
NALPS	Val Nalps	1.19	180	⇓Pg	Pn	05 48 44.8	+1.2
SVAM	Vaz, Muldain	1.21	154	Pg	Pn	05 48 45.1	+1.4
SAIRA	Les Sairains D	1.23	248	⇑Pn	Pb	05 48 44.7	+0.5
HDH	Heidenheim-Cha	1.26	50	Sg	Sn	05 49 02.5	+1.4
HINF	Hinteralfeld	1.28	272	*e*Pn	Pn	05 48 45.1	+0.4
HINF	Hinteralfeld	1.28	272	*e*Pg	Pg	05 48 46.5	+0.6
HINF				*e*Sg	Sn	05 49 03.2	+1.5
	124nm,0.4s						
SZBH	soultz borehol	1.29	333	⇓Pg	Pg	05 48 45.7	-0.4
FUSIO	Fusio	1.33	183	⇓Pg	Pg	05 48 47.3	+0.5
FUSIO	Fusio	1.33	183	P	Pg	05 48 47.3	+0.5
VDL	Val di Lei	1.39	160	⇓Pg	Pg	05 48 48.2	+0.4
VDL	Val di Lei	1.39	160	P	Pg	05 48 48.2	+0.4
RETA	Reutte	1.39	102	*e*Pn	Pg	05 48 47.5	-0.5
	0.9nm,0.1s						
RETA				*e*Pg	Pb	05 48 48.4	+1.6
	38nm,0.3s,SNR=91						
RETA				*e*Sg	Sg	05 49 07.2	+1.3
	64nm,0.3s						
RETA	Reutte	1.39	102	Pn	Pg	05 48 47.4	-0.5
RETA				Pg	Pb	05 48 48.5	+1.6
CIEL	Dossenheim-sur	1.40	319	Pn	Pb	05 48 47.2	+0.1
CIEL				Sg	Sb	05 49 04.8	0.0
RONF	Ronchamp	1.43	268	⇑Pn	Pn	05 48 47.1	+0.5
RONF				Sg	Sn	05 49 04.6	-0.6
PEB	Petersbachel	1.46	332	Pn	Pb	05 48 47.9	-0.2
CHMF	Charmoille	1.52	250	⇑Pn	Pn	05 48 48.6	+0.5
CHMF	Charmoille	1.52	250	Pn	Pn	05 48 48.6	+0.5
CHMF				Pg	Pg	05 48 51.4	+0.9
CHMF	Charmoille	1.52	250	⇑Pn	Pn	05 48 48.5	+0.5
FETA	Feichten	1.54	119	Pg	Pg	05 48 50.2	-0.6
FETA	Feichten	1.54	119	*e*Pg	Pg	05 48 51.4	+0.6
	13nm,0.2s,SNR=54						
FETA				*e*Sg	Sg	05 49 12.3	+1.5
	24nm,0.3s						
NORI	Noerdlinger Ri	1.56	52	*e*Sg	Sg	05 49 11.9	+0.4
TORNY	Torny/Romont	1.59	231	Sn	Sg	05 49 13.6	+1.2
TORNY	Torny/Romont	1.59	231	Pn	Pb	05 48 51.0	+0.7
KTD	Kalmit	1.60	344	Pn	Pn	05 48 49.8	+0.8
PART	Garmisch-Parte	1.62	99	*e*Pg	Pg	05 48 52.8	+0.5
PART				*e*Sg	Sg	05 49 14.4	+1.2
BERNI	Berninapass	1.62	147	P	Pg	05 48 53.2	+0.8
SIMPL	Simplonpass	1.63	198	P	Pg	05 48 53.5	+1.1
HAU	Haudompre	1.64	279	*e*Pn	Pn	05 48 50.5	+1.0
HAU	Haudompre	1.64	279	*e*Pg	Pg	05 48 52.1	-0.5
HAU				*e*Sg	Sg	05 49 14.3	+0.4
	166nm,0.3s						
MOTA	Moosalm	1.65	105	*e*Pn	Pb	05 48 51.4	0.0
	1.1nm,0.1s,SNR=28						
MOTA				*e*Pg	Pg	05 48 52.7	-0.1
	10nm,0.2s						
MOTA				*e*Sg	Sg	05 49 14.8	+0.5
	68nm,0.2s						
EMBD	Embd, Matterta	1.69	202	P	Pg	05 48 54.2	+0.6
EMBD	Embd, Matterta	1.69	202	Sn	Sg	05 49 16.7	+1.1
EMBD	Embd, Matterta	1.69	202	⇑Pn	Pg	05 48 54.5	+0.8
FUR	Furstenfeldbru	1.73	76	Pn	Pg	05 48 54.9	+0.4
FUR				*e*Sn	Sb	05 49 14.3	-0.2
FUR				*e*Sg	Sg	05 49 17.5	+0.5
SQTA	Sankt Quirin	1.75	108	Pn	Pb	05 48 53.3	+0.1
	1.3nm,0.2s,SNR=25						
SQTA				*e*Pg	Pg	05 48 54.7	-0.2
	13nm,0.2s						
SQTA				Sn	Sg	05 49 16.5	-1.2
	95nm,0.4s						
BRANT	Les Verrieres	1.77	242	Pn	Pn	05 48 52.3	+0.9
BRANT	Les Verrieres	1.77	242	Pg	Pg	05 48 55.9	+0.7
BRANT	Les Verrieres	1.77	242	Pn	Pn	05 48 52.3	+0.9
BRANT	Les Verrieres	1.77	242	Sn	Sg	05 49 18.3	+0.1
BOUC	Bouclans	1.78	253	⇑Pn	Pn	05 48 52.1	+0.6
BOUC				Pg	Pg	05 48 56.1	+0.7
MMK	Mattmark	1.82	198	P	Pg	05 48 55.4	-0.7
AIGLE	Aigle	1.90	221	Sn	Sg	05 49 22.3	+0.1
AIGLE	Aigle	1.90	221	Pn	Pg	05 48 58.7	+1.0
DIX	Grande Dixence	1.94	209	⇑Pn	Pg	05 48 58.7	+0.3
WATA	Walderalm	1.96	102	Pg	Pg	05 48 58.1	-0.7
	2.3nm,0.1s,SNR=8.3						
WATA				*e*Sn	Sb	05 49 21.8	+0.7
	22nm,0.3s						
SATI	Passo dei Sala	2.00	198	P	Pb	05 48 58.3	+0.7
WTTA	Wattenberg	2.02	104	*e*Pn	Pb	05 48 57.8	+0.1
	3.6nm,0.1s,SNR=10						
WTTA				*e*Sn	Sb	05 49 22.8	0.0
	12nm,0.2s						
GIMEL	St. Georges /	2.11	235	Pg	Pg	05 49 02.4	+0.7
GIMEL	St. Georges /	2.11	235	Pn	Pn	05 48 57.0	+0.9
CABF	La Chapelle	2.17	238	*e*Pn	Pn	05 48 57.8	+0.9
CABF	La Chapelle	2.17	238	*e*Pg	Pg	05 49 02.9	+0.2
CABF				*e*Sg	Sg	05 49 31.1	+0.3
	41nm,0.3s						
PAGF	Fort de Pagny	2.17	292	*e*Pg	Pg	05 49 03.0	+0.2
	baz=116						
PAGF				*e*Sg	Sg	05 49 30.7	-0.3
	59nm,0.4s,baz=116						
RIVEL	MONT RIVEL	2.19	243	⇑Pn	Pn	05 48 57.7	+0.6
RIVEL				Pg	Pg	05 49 03.7	+0.6

ABH	Alteburg	2.25	340	Pg	Pg	05 49 04.5	+0.2
ABH	Alteburg	2.25	340	⇑Pn	Pn	05 48 59.3	+1.3
TNS	Taunus Mts	2.45	355	Pn	Pn	05 49 01.8	+1.1
SFTF	Sexfontaines	2.53	281	ePn	Pn	05 49 02.5	+0.7
SFTF	Sexfontaines	2.53	281	ePg	Pg	05 49 09.4	-0.3
	baz=102						
SFTF				eSg	Sg	05 49 42.4	-0.2
	91nm,0.6s,baz=112						
WLF	Walferdange	2.55	318	Pn	Pg	05 49 10.8	+0.7
RSL	Roselend	2.56	216	⇑Pn	Pg	05 49 10.5	+0.3
SAVF	Savonnieres en	2.57	290	ePn	Pn	05 49 03.0	+0.7
	baz=111						
SAVF	Savonnieres en	2.57	290	ePg	Pg	05 49 10.1	-0.3
	baz=110						
SAVF				eSg	Sg	05 49 43.1	-0.6
	34nm,0.3s,baz=120						
MEZF	Maizieres J'vi	2.58	288	ePn	Pn	05 49 02.9	+0.4
	baz=110						
MEZF	Maizieres J'vi	2.58	288	ePg	Pg	05 49 10.4	-0.3
	baz=109						
MEZF				eSg	Sg	05 49 43.7	-0.5
	40nm,0.4s,baz=119						
BGG	Burgeitz	2.60	339	ePn	Pn	05 49 04.4	+1.7
BGG				eSn	Sn	05 49 35.6	+1.6
	15nm,0.7s						
LPL	La Plagne	2.66	212	ePn	Pn	05 49 04.3	+0.5
LPL	La Plagne	2.66	212	ePg	Pg	05 49 12.3	+0.1
LPL				eSg	Sg	05 49 46.3	-0.5
	25nm,0.6s						
LPG	La Plagne	2.67	212	ePn	Pn	05 49 05.1	+1.1
LPG	La Plagne	2.67	212	ePg	Pg	05 49 12.2	-0.2
LPG				eSg	Sg	05 49 46.7	-0.4
	40nm,0.5s						
RJOB	Jochberg	2.72	90	ePn	Pb	05 49 07.1	-2.6
KOE	Koeppel	2.73	346	ePn	Pn	05 49 06.7	+2.2
ABTA	Abfaltersbach	2.76	111	ePn	Pb	05 49 08.6	-1.7
	2.4nm,0.2s						
AHRW	Bad Neuenahr-A	2.97	339	Pn	Pn	05 49 10.4	+2.6
WET	Wettzell	3.06	62	Pn	Pn	05 49 09.5	+0.4
STB	Steinbach	3.08	337	ePn	Pn	05 49 11.3	+1.9
MANZ	Manzenberg	3.12	44	eSn	Sn	05 49 45.7	-1.3
UBBA	Unterbreizbach	3.14	15	Pg	Pg	05 49 21.8	+0.4
KBA	Koelnbreinsper	3.19	101	i Pn	Pn	05 49 14.2	+3.1
	7.6nm,0.2s						
KLL	Kalltalsperre	3.28	332	ePn	Pn	05 49 14.2	+2.0
BIOA	Bad Ischl, Aus	3.29	90	i Pn	Pn	05 49 14.2	+1.9
	2.9nm,0.2s						
DREG	Dreilaegerbach	3.32	331	ePn	Pn	05 49 14.8	+2.1
HOBG	Hohbusch	3.33	344	ePn	Pn	05 49 14.9	+2.1
MBDF	Montbardon	3.35	205	ePn	Pn	05 49 14.4	+1.1
MBDF	Montbardon	3.35	205	ePg	Pg	05 49 25.1	-0.3
MBDF				eSn	Sn	05 49 51.5	-1.4
MBDF				eSg	Sg	05 50 08.2	-0.7
	32nm,0.6s						
LOR	Lormes	3.36	263	ePn	Pn	05 49 14.1	+0.9
	baz=85						
LOR	Lormes	3.36	263	ePg	Pg	05 49 24.6	-0.9
	baz=82						
LOR				eSg	Sg	05 50 08.1	-0.9
	16nm,0.3s,baz=88						
KASTN	Kahler Asten	3.43	356	Pn	Pn	05 49 15.8	+1.6
NKC	Novy Kostel	3.45	43	ePG	Pg	05 49 27.3	0.0
NKC				eSN	Sn	05 49 54.0	-1.1
NKC				eSG	Sg	05 50 10.2	-1.7
	comp=Z,30nm,0.6s						
GEC2	GERESS Array S	3.47	70	ePn	Pn	05 49 15.6	+0.9
GIVF	Givet	3.48	313	ePn	Pn	05 49 15.4	+0.6
GIVF	Givet	3.48	313	eP	Pn	05 49 18.5	+3.7
GIVF				eSn	Sn	05 49 53.9	-1.9
GIVF				eSg	Sg	05 50 11.4	-1.5
	26nm,0.5s						
KHC	Kasperske Hory	3.48	65	ePN	Pn	05 49 16.6	+1.7
KHC				ePG	Pg	05 49 26.5	-1.3
KHC				eSN	Sn	05 49 53.9	-1.9
KHC				eSG	Sg	05 50 11.5	-1.4
	comp=Z,32nm,0.6s						
ORIF	Oris-en-Rattie	3.49	216	ePn	Pn	05 49 16.1	+1.0
ORIF	Oris-en-Rattie	3.49	216	ePg	Pg	05 49 27.2	-0.9
ORIF				eSn	Sn	05 49 55.3	-0.9
ORIF				eSg	Sg	05 50 11.4	-1.9
	20nm,0.4s						
HGN	Heimansgroeve	3.51	329	Pn	Pn	05 49 17.7	+2.5
SMF	Signal de Mont	3.54	253	ePn	Pn	05 49 16.5	+0.8
SMF	Signal de Mont	3.54	253	ePg	Pg	05 49 27.7	-1.3
SMF				eSn	Sn	05 49 55.5	-1.8
SMF				eSg	Sg	05 50 13.5	-1.3
	29nm,0.4s						
SSF	Saint Saulge	3.64	260	ePn	Pn	05 49 18.7	+1.7
SSF	Saint Saulge	3.64	260	ePg	Pg	05 49 29.9	-1.0
SSF				eSn	Sn	05 49 58.4	-1.3
SSF				eSg	Sg	05 50 16.5	-1.5
	18nm,0.4s						
MOA	Molln	3.71	87	i Pn	Pn	05 49 19.7	+1.7
	0.8nm,0.1s						
BAIF	Baives	3.77	309	ePn	Pn	05 49 18.9	+0.1
BAIF	Baives	3.77	309	eP	Pn	05 49 22.3	+3.5
BAIF				eSn	Sn	05 50 00.8	-2.0
BAIF				eSg	Sg	05 50 20.2	-1.9
	26nm,0.7s						
AVF	Avril sur Loir	3.81	257	ePn	Pn	05 49 20.6	+1.2
AVF	Avril sur Loir	3.81	257	ePg	Pg	05 49 33.1	-1.1
AVF				eSn	Sn	05 50 01.2	-2.7
AVF				eSg	Sg	05 50 21.6	-1.9
	4.1nm,0.2s						
CKRC	Cesky Krumlov	3.85	72	ePG	Pg	05 49 34.3	-0.6
CKRC				eSN	Sn	05 50 03.2	-1.7
CKRC				eSG	Sg	05 50 24.3	-0.4
SBF	Sospel	4.03	194	ePn	Pn	05 49 22.1	-0.4
SBF	Sospel	4.03	194	eP	Pn	05 49 26.4	+3.9
SBF				eSn	Sn	05 50 08.9	-0.6
	8.1nm,0.3s						
VIVF	Saint-Julien-l	4.07	226	ePn	Pn	05 49 23.7	+0.7
VIVF	Saint-Julien-l	4.07	226	ePg	Pg	05 49 38.0	-1.2
VIVF				eSn	Sn	05 50 08.2	-2.3
VIVF				eSg	Sg	05 50 28.3	-3.6
	14nm,0.3s						
HYF	Humbligny	4.18	265	ePn	Pn	05 49 26.0	+1.6
HYF	Humbligny	4.18	265	ePg	Pg	05 49 39.7	-1.5
HYF				eSg	Sg	05 50 33.2	-2.1
BGF	Bois d'Agland	4.21	255	ePn	Pn	05 49 25.8	+0.8
BGF	Bois d'Agland	4.21	255	ePg	Pg	05 49 40.6	-1.3
BGF				eSn	Sn	05 50 12.7	-1.2
	17nm,0.3s						
BGF				eSg	Sg	05 50 34.5	-2.0
	17nm,0.3s						
PRU	Pruhonice	4.41	58	ePG	Pg	05 49 43.3	-2.2
PRU				eSG	Sg	05 50 40.6	-2.0
	comp=Z,12nm,0.6s						
SMRF	Simiane la Rot	4.41	211	ePn	Pn	05 49 28.5	+0.8
SMRF	Simiane la Rot	4.41	211	ePg	Pg	05 49 44.5	-1.1
SMRF				eSn	Sn	05 50 17.6	-1.2
SMRF				eSg	Sg	05 50 40.7	-2.0
	2.0nm,0.3s						
SOKA	Soboth	4.42	102	i Pn	Pn	05 49 29.9	+2.1
	2.5nm,0.2s						
GOPC	GO Pecny, Ondr	4.51	60	eSG	Sg	05 50 44.8	-1.3
	comp=Z,11nm,0.5s						
PVCC	Panska Ves	4.70	52	eSG	Sg	05 50 49.6	-2.3
	comp=Z,22nm,0.4s						
TCF	Toulx Ste Croi	4.72	254	ePn	Pn	05 49 32.2	+0.3
TCF	Toulx Ste Croi	4.72	254	ePg	Pg	05 49 49.3	-2.3
TCF				eSn	Sn	05 50 24.2	-2.2
TCF				eSg	Sg	05 50 49.0	-3.7
	12nm,0.6s						
LMR	La Mourre	4.72	200	ePn	Pn	05 49 32.1	+0.2
LMR	La Mourre	4.72	200	eP	Pn	05 49 36.2	+4.3
LMR				eSn	Sn	05 50 24.2	-2.2
	1.7nm,0.3s						
CONA	Conrad Observa	4.78	86	i Pn	Pn	05 49 34.2	+1.4
	3.3nm,0.3s						
LASF	Ste Croix	5.04	224	ePn	Pn	05 49 36.2	-0.2
LASF	Ste Croix	5.04	224	ePg	Pg	05 49 56.0	-1.7
LASF				eSn	Sn	05 50 31.3	-3.1
LASF				eSg	Sg	05 51 00.8	-2.2
	3.4nm,0.3s						
CAF	Calviac	5.44	241	ePn	Pn	05 49 42.5	+0.6
CAF	Calviac	5.44	241	ePg	Pg	05 50 03.3	-2.1
CAF				eSn	Sn	05 50 41.4	-2.9
CAF				eSg	Sg	05 51 13.2	-2.7
	2.3nm,0.3s						
UPC	Upice	5.48	58	eSG	Sg	05 51 15.1	-2.0
	comp=Z,18nm,0.8s						
CHVC	Chvalec	5.55	57	eSG	Sg	05 51 17.3	-1.8
	comp=Z,16nm,0.8s						
RJF	Les Rejaudoux	5.58	246	ePn	Pn	05 49 44.5	+0.8
RJF	Les Rejaudoux	5.58	246	ePg	Pg	05 50 04.6	-3.3
RJF				eSn	Sn	05 50 45.5	-2.0
RJF				eSg	Sg	05 51 17.2	-2.9
	1.1nm,0.2s						
DPC	Dobruska-Polom	5.59	60	eSG	Sg	05 51 18.4	-2.3
	comp=Z,7.1nm,0.5s						
OSTC	Ostas	5.62	58	eSG	Sg	05 51 19.4	-2.1
	comp=Z,17nm,1.0s						
KRLC	Kraliky	5.76	64	eSG	Sg	05 51 24.4	-1.6
	comp=Z,5.7nm,0.6s						
LDF	La Druitiere	5.99	281	ePn	Pn	05 49 49.4	0.0
LDF	La Druitiere	5.99	281	ePg	Pg	05 50 13.2	-2.7
LDF				eSg	Sg	05 51 29.6	-3.8
	5.2nm,0.4s						
MFF	Saint Martin d	6.18	262	ePn	Pn	05 49 52.3	+0.3
MFF	Saint Martin d	6.18	262	ePg	Pg	05 50 16.3	-3.2
MFF				eSn	Sn	05 50 59.2	-3.2
MFF				eSg	Sg	05 51 36.2	-3.3
	2.7nm,0.3s						
MAUC	Maruska	6.22	72	eSG	Sg	05 51 38.7	-2.1
	25nm,0.9s						
LFF	La Frestale	6.24	246	ePn	Pn	05 49 52.9	+0.2
LFF	La Frestale	6.24	246	ePg	Pg	05 50 16.8	-3.7
LFF				eSn	Sn	05 51 00.4	-3.3
LFF				eSg	Sg	05 51 37.3	-3.9
	3.0nm,0.3s						
FLN	La Foliniere	6.25	282	ePn	Pn	05 49 55.1	+2.3
	baz=100						
FLN	La Foliniere	6.25	282	ePg	Pg	05 50 18.0	-2.7
FLN				eSn	Sn	05 51 00.4	-3.5
FLN				eSg	Sg	05 51 37.6	-3.9
	26nm,0.9s						
MTLF	Montolieu	6.39	228	ePn	Pn	05 49 55.6	+0.8
MTLF	Montolieu	6.39	228	ePg	Pg	05 50 20.8	-2.6
MTLF				eSg	Sg	05 51 42.8	-3.3
	1.5nm,0.3s						
GRR	Gorron	6.47	279	ePn	Pn	05 49 56.7	+0.8
GRR	Gorron	6.47	279	ePg	Pg	05 50 22.1	-2.9
GRR				eSn	Sn	05 51 05.7	-3.8
GRR				eSg	Sg	05 51 44.9	-3.9
	4.4nm,0.3s						
OKC	Ostrava-Krasne	6.53	68	eSG	Sg	05 51 48.5	-2.2
	7.2nm,0.5s						
SGMF	Saint Gilles	7.60	278	ePn	Pn	05 50 11.7	+0.2
SGMF	Saint Gilles	7.60	278	ePg	Pg	05 50 43.4	-3.3
SGMF				eSn	Sn	05 51 32.8	-4.5
SGMF				eSg	Sg	05 52 21.4	-3.6
	1.1nm,0.2s						
QUIF	Quistinic	8.02	275	ePn	Pn	05 50 18.5	+1.3
QUIF	Quistinic	8.02	275	ePg	Pg	05 50 50.3	-4.4
QUIF				eSn	Sn	05 51 43.7	-4.0
	1.3nm,0.3s						
ROSF	Rostrenen	8.08	278	ePn	Pn	05 50 18.7	+0.7
ROSF				eSg	Sg	05 52 36.2	-4.1
	1.0nm,0.3s						

IDC 03 05:59:05.6±999.0, 50°.65N×55°.36E, h0km, Error ellipse: s-maj=635.9km s-min=39.9km az=96.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	1.73	97	I		06 11 20.0	
	0.3nm,0.6s,baz=278,slow=321,SNR=2.8						
I46RU	ZALESOVO INFRA	18.26	68	I		07 45 20.0	
	baz=270,slow=315,SNR=0.5						
I34MN	SONGINO INFRAS	32.93	75	I		09 18 20.0	
	baz=298,slow=315,SNR=0.7						

NEIC 03 06:08:53.2±1.4, 24°.30S±0°.07×67°.6W±0°.1, h209km±11km, mb4.2/5, Md4.3(SJA), ML4.3(GUC), Error ellipse: s-maj=19.6km s-min=9.7km az=97.0
GUC 03 06:08:53.7±0.6, 24°.24S×67°.49W, h199km±10km, ML4.3
IDC 03 06:08:56.5±1.2, 23°.68S×67°.26W, h198km±14km, mb2.9/1, mbtmp3.8/5, MS2.7/1, Error ellipse: s-maj=28.0km s-min=19.9km az=176.0
ISC 03 06:08:53.3±0.7, 24°.21S±0°.04×67°.60W±0°.08, h207km±8km, n51, σ1s34/63, mb4.3/3, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.36	337		Pn	06 09 26.4	-0.4
PB15	IPOC Station P	1.98	300	Pn	Pn	06 09 33.4	+1.0
PB15	IPOC Station P	1.98	300	⇑iP	Pn	06 09 33.5	+1.1
PB15				iS	Sn	06 10 03.2	+0.5
LVC	Limon Verde	1.99	323	P	Pn	06 09 33.1	+0.5
	33nm,0.3s,baz=122,slow=6.9,SNR=214						
LVC				S	Sn	06 10 03.0	-0.3
	164nm,0.3s,baz=146,slow=23,SNR=84						
LVC	Limon Verde	1.99	323	eP	Pn	06 09 33.0	+0.3
LVC				iS	Sn	06 10 02.9	-0.4
GO02	Mina Guanaco	2.04	242	Pn	Pn	06 09 33.5	+0.5
GO02				Sn	Sn	06 10 04.7	+0.6
GO02	Mina Guanaco	2.04	242	⇑iP	Pn	06 09 33.7	+0.6
GO02				iS	Sn	06 10 04.7	+0.6
GO02				IAML		06 10 08.1	
	comp=N,2μm,0.1s						
PB06	IPOC Station P	2.35	309		Pn	06 09 37.1	+1.0
PB06	IPOC Station P	2.35	309	⇑iP	Pn	06 09 37.3	+1.1
PB06				iS	Sn	06 10 09.8	+0.3
PB06				IAML		06 10 12.0	
	comp=E,948nm,0.2s						
PB14	IPOC Station P	2.59	260	Pn	Pn	06 09 39.9	+1.0
PB10	IPOC Station P	2.79	284	Pn	Pn	06 09 42.1	+1.3
PB10	IPOC Station P	2.79	284	eP	Pn	06 09 42.5	+1.7
PB10				iS	Sn	06 10 18.6	+0.5
PB10				IAML		06 10 24.6	
	comp=N,422nm,0.4s						
PB09	IPOC Station P	2.84	328		Pn	06 09 42.9	+1.3
PB09	IPOC Station P	2.84	328	⇑eP	Pn	06 09 43.0	+1.3
PB09				iS	Sn	06 10 19.5	+0.1
PB09				IAML		06 10 22.0	
	comp=E,223nm,0.4s						
PB03	IPOC Station P	2.92	317		Pn	06 09 43.5	+0.9
PB03	IPOC Station P	2.92	317	eP	Pn	06 09 43.5	+0.9
PB03				iS	Sn	06 10 19.8	-1.3
PB03				IAML		06 10 22.0	
	comp=E,403nm,0.3s						
AC02	Maricunga	2.96	207	Pn	Pn	06 09 43.0	-0.3
AC02	Maricunga	2.96	207	⇑iP	Pn	06 09 43.1	-0.2
AC02				iS	Sn	06 10 21.9	-0.6
AC02				IAML		06 10 26.2	
PB04	IPOC Station P	2.99	308	Pn	Pn	06 09 44.2	+0.8
PB04	IPOC Station P	2.99	308	eP	Pn	06 09 44.5	+1.1
PB04				iS	Sn	06 10 22.4	-0.2
PB04				IAML		06 10 26.8	
	comp=N,540nm,0.3s						
AC01	Pan de Azucar	3.33	234	Pn	Pn	06 09 46.8	-0.3
PB01	IPOC Station P	3.60	331		Pn	06 09 51.1	+0.6
AC06	Mina Casimiro	4.00	218		Pn	06 09 54.2	-1.1
GO03	Copiap	4.12	215		Pn	06 09 55.8	-1.1
GO03	Copiap	4.12	215	eP	Pn	06 09 55.6	-1.2
GO03				iS	Sn	06 10 44.8	-2.1
PB08	IPOC Station P	4.29	340		Pn	06 10 00.4	+0.9
PB08	IPOC Station P	4.29	340	eP	Pn	06 10 00.2	+0.8
PB08				iS	Sn	06 10 50.1	-1.3
GO01	Chusmiza	4.75	342		Pn	06 10 07.0	+1.7
PB11	IPOC Station P	4.82	336	Pn	Pn	06 10 05.3	-0.4
AC04	Llanos de Chal	5.05	217	Pn	Pn	06 10 06.9	-1.6
AC05	El Transito	5.19	207		Pn	06 10 09.3	-1.1
LCO	Las Campanas	5.53	209	Pn	Pn	06 10 13.1	-1.8
PB16	IPOC Station P	6.11	343	Pn	Pn	06 10 24.0	+1.4
CO01	Juntas del Tor	6.16	201	Pn	Pn	06 10 23.1	+0.1
GO04	Tololo Observa	6.59	205	Pn	Pn	06 10 26.5	-1.9
CO02	Combarbal	7.59	203	Pn	Pn	06 10 39.3	-2.0
LPAZ	La Paz	7.89	356	P	Pn	06 10 46.4	+0.6
	comp=N,2.3nm,0.3s,baz=162,slow=9.5,SNR=58						
LPAZ				S	Sn	06 12 11.7	-3.8
	comp=N,0.9nm,0.6s,baz=138,slow=9.6,SNR=2.6						
LPAZ	La Paz	7.89	356	Pn	Pn	06 10 46.7	+0.8
CPUP	Villa Florida	9.54	105	P	Pn	06 11 09.3	+2.8
	comp=N,2.1nm,0.7s,baz=264,slow=16,SNR=4.9						
CPUP				LR	LR	06 14 36.8	
	comp=N,41nm,18.8s,baz=224,slow=36						
SIV	San Ignacio	10.22	38	P	Pn	06 11 10.4	-4.9
	comp=N,2.5nm,0.4s,baz=221,slow=12,SNR=24						
PTLB	Pontes e Lacer	11.80	44		Pn	06 11 35.8	+0.2
PLCA	Paso Flores	16.66	188	P	Pn	06 12 43.8	+8.5
	comp=N,2.2nm,0.7s,baz=350,slow=13,SNR=5.7						
PLCA	Paso Flores	16.66	188	P	P	06 12 31.7	-2.3
PLCA				IAmb	IAmb	06 12 44.6	
	comp=Z,5.2nm,0.9s						
BDFB	Brasilia	20.27	69	P	P	06 13 11.3	-2.1
	comp=Z,4.4nm,0.8s,baz=227,slow=12,SNR=6.9						
MACA	Manacapuru-AM	21.96	19	P	P	06 13 31.0	+0.3
MACA				IAmb	IAmb	06 13 31.9	
	comp=Z,6.9nm,0.5s						
URIC	Uribia, Colomb	35.95	353	P	P	06 15 32.6	-1.7
URIC				IAmb	IAmb	06 15 50.7	
	comp=Z,9.7nm,1.1s						
HOPE	Hope Point	37.94	150	P	P	06 15 49.2	-1.4
SNAA	Sanae	59.34	161	P	P	06 18 33.2	-0.1
TORD	Torodi Ar. Bea	77.16	69	P	P	06 20 25.8	+1.2
	comp=Z,0.2nm,0.6s,baz=248,slow=6.9,SNR=1.4						
	comp=Z,0.2nm,0.6s						
ASAR	Alice Springs	128.03	205	PKP	PKiKP	06 27 39.4	+3.4
	comp=Z,0.1nm,0.4s,baz=163,slow=3.5,SNR=2.8						
MKAR	Makanchi Array	147.03	39	PKPbc	PKiKP	06 28 15.2	+1.4
	comp=Z,0.9nm,0.7s,baz=319,slow=4.2,SNR=5.1						

TRN 03 06:18:45.8, 18°.78N×64°.01W, h23km, MD4.0
RSPR 03 06:18:47.8, 18°.81N×63°.85W, h22km±19km, MD3.1/6
NEIC 03 06:18:48.3±0.8, 18°.8N±0°.1×63°.99W±0°.02, h42km±28km, Error ellipse: s-maj=20.8km s-min=2.2km az=183.0
ISC 03 06:18:45.6±2.1, 19°.0N±0°.1×63°.97W±0°.03, h24km±15km, n34, σ0s96/47, 7C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBVI	Tortola	0.82	229	⇓eP	Pn	06 19 01.6	-0.1
TBVI	Tortola	0.82	229		Pn	06 19 01.6	-0.1
TBVI					Sb	06 19 12.0	+0.3
TBVI	Tortola	0.82	229	⇓eP	Pn	06 19 01.6	-0.1
TBVI				eS	Sb	06 19 12.0	+0.3
SJVI	Gifft Hill Sch	0.98	231	⇑eP	Pb	06 19 04.0	0.0
SJVI	Gifft Hill Sch	0.98	231	eS	Sb	06 19 16.8	+0.2
SJVI	Gifft Hill Sch	0.98	231		Pb	06 19 04.0	0.0
SJVI					Sb	06 19 16.8	+0.2
SJVI	Gifft Hill Sch	0.98	231		Pb	06 19 04.0	0.0
SJVI				IAML		06 19 16.9	
	comp=N,75nm,0.2s						
SJVI				IAML		06 19 20.3	
	comp=E,62nm,0.2s						
STVI	Saint Thomas	1.11	237	⇓eP	Pn	06 19 05.9	+0.2
STVI	Saint Thomas	1.11	237		Pn	06 19 05.7	0.0
STVI					Sn	06 19 20.9	+0.7
STVI				IAML		06 19 21.3	
	comp=N,123nm,0.2s						
STVI				IAML		06 19 22.0	
	comp=E,114nm,0.2s						
STVI	Saint Thomas	1.11	237	⇓eP	Pn	06 19 05.9	+0.2
STVI				eS	Sb	06 19 19.8	-0.4
SMRT	St. Maarten	1.24	137		Pb	06 19 08.1	-0.3
SMRT				IAML		06 19 28.6	
	comp=N,205nm,0.2s						
SMRT				IAML		06 19 28.7	
	comp=E,172nm,0.2s						
SMRT	St. Maarten	1.24	137	eP	Pb	06 19 07.8	-0.6
SMRT				eS	Sb	06 19 26.0	+2.1
CUPR	Culebra, Puert	1.40	243	⇑eP	Pn	06 19 10.1	+0.3
CUPR	Culebra, Puert	1.40	243		Pn	06 19 10.0	+0.3
CDVI	St. Croix	1.42	212	Pn	Pb	06 19 11.2	-0.2
CDVI				IAML		06 19 34.6	
	comp=E,170nm,0.5s						
CDVI	St. Croix	1.42	212	eP	Pb	06 19 11.2	-0.2
CDVI				eS	Sn	06 19 26.4	-1.4
CBYP	Canovanas	1.92	249	⇑eP	Pn	06 19 17.8	+0.9
CBYP	Canovanas	1.92	249	Pn	Pn	06 19 17.4	+0.5
CBYP					Pb	06 19 17.5	-2.4
CBYP				IAML		06 19 55.5	
	comp=E,89nm,0.2s						
CBYP	Canovanas	1.92	249	⇑eP	Pn	06 19 17.8	+0.9
CBYP				eS	Sn	06 19 41.2	+1.0
HUMP	Col San Antoni	1.96	246	⇑eP	Pn	06 19 18.0	+0.6
HUMP	Col San Antoni	1.96	246		Pn	06 19 17.7	+0.3
HUMP					Pn	06 19 18.0	+0.6
HUMP	Col San Antoni	1.96	246	⇑eP	Pn	06 19 18.0	+0.6
HUMP				eS	Sn	06 19 42.1	+0.9
SJG	San Juan	2.23	248	eP	Pn	06 19 17.8	-3.4
IGPR	InterUniversit	2.26	244	⇑eP	Pn	06 19 22.8	+1.3
ANWB	Willy Bob	2.44	121	Pn	Pn	06 19 23.8	-0.2
ANWB				IAML		06 20 19.8	
	comp=E,45nm,2.7s						
ANWB				IAML		06 20 41.1	
	comp=E,43nm,2.5s						
ANWB	Willy Bob	2.44	121	eP	Pn	06 19 23.8	-0.2
CELP	Cerrillos	2.63	251	Pn	Pn	06 19 27.6	+1.0
CELP				IAML		06 19 59.2	
	comp=N,29nm,3.7s						
CELP				IAML		06 20 29.9	
	comp=E,20nm,3.3s						
AOPR	Arecibo Observ	2.71	257	Pn	Pn	06 19 28.9	+1.1
AOPR	Arecibo Observ	2.71	257	eP	Pn	06 19 27.9	+0.2
MBFL	Flemmings, Mon	2.76	142	eP	Pn	06 19 28.8	+0.4
MBFL				eS	Sn	06 19 59.8	-1.4
ANBD	Bethesda, Anti	2.83	132	eP	Pn	06 19 30.1	+0.8
ANBD				eS	Sn	06 20 02.0	-0.8
AGPR	Aguadilla, PR	3.02	261	Pn	Pn	06 19 32.8	+0.9
MLPR	Magueyes Islan	3.08	252	Pn	Pn	06 19 33.6	+0.8
MLPR				IAML		06 20 16.2	
	comp=E,34nm,3.0s						
MLPR				IAML		06 21 34.3	
	comp=N,28nm,3.1s						
CRPR	Cabo Rojo, PR	3.13	253	Pn	Pn	06 19 34.3	+0.8
CRPR				IAML		06 20 35.9	
	comp=N,31nm,2.4s						
CRPR				IAML		06 21 22.4	
	comp=E,30nm,2.8s						

INET 03 06:24:24.0±0.5, 12°.17N×87°.86W, h3km±5km, MW3.5
SNET 03 06:24:26.0±1.1, 12°.28N×88°.13W, h23km±5km, ML3.7
UCR 03 06:24:26.0±1.1, 12°.27N×88°.12W, h24km±5km, ML3.7
ISC 03 06:24:22.7±2.8, 12°.10N±0°.10×87°.99W±0°.06, h27km±19km, n39, σ1s00/59, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.09	57	eP	Pn	06 24 43.2	+0.9
CNCH	Conchagua	1.18	7	eP	Pn	06 24 44.1	+0.6
CNCH				eS	Sb	06 25 00.2	+0.8
CNCH				IAML		06 25 03.3	
	comp=Z,5μm,0.4s						
CNCH	Conchagua	1.18	7	eP	Pn	06 24 44.1	+0.6
CNCH				eS	Sb	06 25 00.2	+0.8
CNCH				IAML		06 25 03.3	
	comp=Z,5μm,0.4s						
LCND	La Caada	1.21	4	eP	Pn	06 24 44.7	+0.9
LCND				eS	Sb	06 24 60.0	-0.1
LCND				IAML		06 25 08.7	
	comp=Z,2μm,0.5s						
LCND	La Caada	1.21	4	eP	Pn	06 24 44.7	+0.9
LCND				eS	Sb	06 24 60.0	-0.1
LCND				IAML		06 25 08.7	
	comp=Z,2μm,0.5s						
CNGN	Cerro Negro	1.32	72	eP	Pn	06 24 44.6	-0.8
ALJI	Alcalda de J	1.35	335	eP	Pn	06 24 46.3	+0.6
ALJI				eS	Sn	06 25 00.9	-1.8
ALJI	Alcalda de J	1.35	335	eP	Pn	06 24 46.3	+0.6
ALJI				eS	Sn	06 25 00.9	-1.8
VSM	San Miguel	1.35	348	eP	Pn	06 24 47.4	+1.4
VSM	San Miguel	1.35	348	eP	Pn	06 24 47.4	+1.4
COPN	Copaltepe	1.37	87	eP	Pn	06 24 46.5	+0.5
COEB	Comit de Eme	1.49	339	eP	Pn	06 24 48.3	+0.5
COEB				eS	Sb	06 25 06.4	-1.9
COEB	Comit de Eme	1.49	339	eP	Pn	06 24 48.3	+0.5
COEB				eS	Sb	06 25 06.4	-1.9
PQSS	Presa 15 de Se	1.61	340	eP	Pn	06 24 50.4	+1.0
PQSS				eS	Sn	06 25 08.5	-0.8
PQSS	Presa 15 de Se	1.61	340	eP	Pn	06 24 50.4	+1.0
PQSS				eS	Sn	06 25 08.5	-0.8
MGAN	Managua	1.70	88	eP	Pn	06 24 51.5	+0.9
MGAN				eP	Pb	06 24 51.7	-1.7
COEG	Centro de Oper	1.74	330	eP	Pn	06 24 52.0	+0.7
COEG				eS	Sn	06 25 12.8	+0.1
COEG	Centro de Oper	1.74	330	eP	Pn	06 24 52.0	+0.7
COEG				eS	Sn	06 25 12.8	+0.1
WILN	Americas 2	1.76	88	eP	Pn	06 24 52.4	+1.0
SJTE	Alcalda de S	1.80	327	eP	Pn	06 24 52.8	+0.7
SJTE				eS	Sn	06 25 13.3	-0.8
SJTE	Alcalda de S	1.80	327	eP	Pn	06 24 52.8	+0.7

SJTE				eS	**Sn**	**06 25 13.3**	**-0.8**
LFRS	**El Faro**	**1.84**	**325**	eP	**Pn**	**06 24 53.6**	**+0.9**
LFRS				eS	**Sn**	**06 25 14.5**	**-0.7**
LFRS	**El Faro**	**1.84**	**325**	eP	**Pn**	**06 24 53.6**	**+0.9**
LFRS				eS	**Sn**	**06 25 14.5**	**-0.7**
PAVA	**Las Pavas**	**1.85**	**330**	eP	**Pn**	**06 24 54.0**	**+1.2**
PAVA				eS	**Sn**	**06 25 15.3**	**-0.1**
PAVA	**Las Pavas**	**1.85**	**330**	eP	**Pn**	**06 24 54.0**	**+1.2**
PAVA				eS	**Sn**	**06 25 15.3**	**-0.1**
SNET	**Serv Nac Est T**	**1.99**	**323**	eP	**Pn**	**06 24 55.3**	**+0.7**
SNET				eS	**Sn**	**06 25 18.2**	**-0.5**
SNET				IAML		06 25 25.5	
	comp=Z,396nm,0.3s						
SNET	**Serv Nac Est T**	**1.99**	**323**	eP	**Pn**	**06 24 55.3**	**+0.7**
SNET				eS	**Sn**	**06 25 18.2**	**-0.5**
SNET				IAML		06 25 25.5	
	comp=Z,396nm,0.3s						
P5NO	**Presa 5 de nov**	**2.02**	**338**	eP	**Pn**	**06 24 56.2**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.07**	**20**	eP	**Pn**	**06 24 56.8**	**+1.1**
TGUH	**Tegucigalpa,Un**	**2.07**	**20**	eP	**Pn**	**06 24 56.8**	**+1.1**
TGUH	**Tegucigalpa,Un**	**2.07**	**20**	eP	**Pn**	**06 24 57.0**	**+1.3**
MATN	**Matagalpa**	**2.17**	**68**	eP	**Pn**	**06 24 57.7**	**+0.5**
CEVE	**Cerro Verde**	**2.34**	**317**	eP	**Pn**	**06 25 01.1**	**+1.4**
CEVE	**Cerro Verde**	**2.34**	**317**	eP	**Pn**	**06 25 01.1**	**+1.4**
NUBE	**Las Nubes**	**2.50**	**316**	eP	**Pn**	**06 25 02.5**	**+0.7**
NUBE	**Las Nubes**	**2.50**	**316**	eP	**Pn**	**06 25 02.5**	**+0.7**
MTO3	**Montecristo**	**2.65**	**330**	eP	**Pn**	**06 25 05.2**	**+1.3**
MTO3	**Montecristo**	**2.65**	**330**	eP	**Pn**	**06 25 05.2**	**+1.3**
MTO3	**Montecristo**	**2.65**	**330**	eP	**Pn**	**06 25 05.3**	**+1.5**

*CNRM **03** 06:27:47.6, 36°.67N×11°.38W, h0km, ml2.9*
*MDD **03** 06:27:58.3±0.8, 36°.83N×10°.55W, h0km, mb_Lg3.2/17, Error ellipse: s-maj=6.3km s-min=4.3km az=45.0*
*INMG **03** 06:27:59.8±1.2, 36°.67N×10°.71W, h31km, ML2.5, Error ellipse: s-maj=4.1km s-min=2.8km az=68.0*
ISC 03 06:27:53.3±2.3**, 36°.64N**±0°.05×**10°.75W**±0°.08**, h19**km±5km**, n69,** σ**2.41**/124**, 9C, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**1.46**	**74**	eSn	**Sg**	**06 28 39.3**	**-1.3**
PFVI	**Vila Bisbo**	**1.62**	**72**	⇑iPn	**Pg**	**06 28 24.1**	**-0.5**
PFVI				eSn	**Sn**	**06 28 41.9**	**+0.7**
PFVI				A	A	06 28 42.3	
	64nm,0.2s						
PFVI	**Vila Bisbo**	**1.62**	**72**	P	**Pg**	**06 28 23.6**	**-0.9**
PFVI	**Vila Bisbo**	**1.62**	**72**	P	**Pg**	**06 28 23.6**	**-0.9**
PFVI				S	**Sn**	**06 28 40.5**	**-0.8**
PALJ	**Aljezur**	**1.71**	**66**	eSn	**Sn**	**06 28 44.4**	**+1.1**
PLAGO	**Lagos**	**1.72**	**74**	eSn	**Sn**	**06 28 44.8**	**+1.2**
MORF	**Marmelete**	**1.81**	**68**	eP	**Pb**	**06 28 26.7**	**+0.9**
MORF				eS	**Sn**	**06 28 46.6**	**+0.7**
MORF				IAML		06 28 47.8	
	comp=N,64nm,0.1s						
MORF	**Marmelete**	**1.81**	**68**	⇑iPn	**Pb**	**06 28 26.7**	**+0.9**
MORF				eSn	**Sn**	**06 28 46.7**	**+0.8**
MORF				A	A	06 28 49.1	
	comp=N,39nm,0.2s						
PPOR	**Portimao**	**1.84**	**74**	eSn	**Sn**	**06 28 47.8**	**+1.1**
PTEO	**Sao Teotonio**	**1.86**	**60**	⇑ePn	**Pb**	**06 28 27.4**	**+0.7**
PTEO				eSn	**Sn**	**06 28 47.9**	**+0.8**
PTEO				A	A	06 28 48.8	
	comp=N,22nm,0.5s						
PALBU	**Albufeira**	**2.06**	**76**	eSn	**Sn**	**06 28 53.1**	**+1.1**
PNCL	**Nicolau / Gran**	**2.30**	**50**	⇑ePn	**Pb**	**06 28 33.4**	**-0.8**
PNCL				eSn	**Sn**	**06 28 58.8**	**+0.8**
PNCL				A	A	06 29 01.1	
	comp=N,14nm,0.2s						
MESJ	**Messejana**	**2.35**	**59**	eP	**Pb**	**06 28 34.0**	**-1.1**
MESJ				eS	**Sn**	**06 28 59.4**	**+0.1**
MESJ				IAML		06 29 01.3	
	comp=N,7.9nm,0.1s						
PCVE	**Castro Verde**	**2.38**	**65**	⇑ePn	**Pb**	**06 28 34.7**	**-0.9**
PCVE				eSn	**Sn**	**06 29 00.4**	**+0.3**
PCVE				A	A	06 29 03.4	
	comp=N,15nm,0.2s						
PMST	**Lisbon--Monsan**	**2.44**	**30**	ePn	**Pb**	**06 28 35.1**	**-1.4**
PMST				eSn	**Sn**	**06 29 01.0**	**-0.4**
PMST				A	A	06 29 04.3	
	comp=N,39nm,0.4s						
PVAQ	**Vaqueiros**	**2.55**	**72**	⇑ePn	**Pb**	**06 28 37.1**	**-1.3**
PVAQ				eSn	**Sn**	**06 29 04.4**	**+0.3**
PVAQ				A	A	06 29 06.9	
	comp=N,25nm,0.1s						
PVAQ	**Vaqueiros**	**2.55**	**72**	P	**Pb**	**06 28 36.8**	**-1.6**
PVAQ	**Vaqueiros**	**2.55**	**72**	P	**Pb**	**06 28 36.8**	**-1.6**
PVAQ				S	**Sn**	**06 29 04.0**	**0.0**
PMAFR	**Mafra**	**2.59**	**26**	⇑ePn	**Pn**	**06 28 37.0**	**+2.8**
PMAFR				eSn	**Sn**	**06 29 04.9**	**-0.3**
PMAFR				A	A	06 29 08.6	
	comp=N,66nm,0.2s						
PACT	**Alcochete**	**2.61**	**35**	ePn	**Pb**	**06 28 37.9**	**-1.7**
PACT				eSn	**Sn**	**06 29 07.0**	**+1.3**
PACT				A	A	06 29 19.4	
	comp=N,34nm,0.8s						
PBEJ	**Beja**	**2.69**	**58**	ePn	**Pb**	**06 28 39.1**	**-1.7**
PBEJ				eSn	**Sn**	**06 29 07.9**	**+0.4**
PBEJ				A	A	06 29 12.1	
	comp=N,6.8nm,0.4s						
EGRO	**El Granado**	**2.76**	**70**	P	**Pn**	**06 28 39.8**	**+3.2**
EGRO				S	**Sn**	**06 29 09.4**	**0.0**
EGRO				i Vmb_Lg		06 29 11.0	
EVO	**Evora**	**2.88**	**48**	P	**Pn**	**06 28 41.0**	**+2.8**
EVO				S	**Sn**	**06 29 12.4**	**0.0**
EVO	**Evora**	**2.88**	**48**	ePn	**Pn**	**06 28 41.2**	**+3.0**
EVO				eSn	**Sn**	**06 29 13.0**	**+0.6**
EVO				A	A	06 29 14.3	
	comp=N,18nm,0.1s						
PMTG	**Montargil**	**3.14**	**39**	ePn	**Pn**	**06 28 44.4**	**+2.6**
PMTG				eSn	**Sn**	**06 29 18.8**	**0.0**
PMTG				A	A	06 29 22.5	
	comp=N,6.2nm,0.5s						
PSBE	**So Bento**	**3.26**	**28**	ePn	**Pn**	**06 28 46.3**	**+2.8**
PSBE				eSn	**Sn**	**06 29 22.2**	**+0.5**
PSBE				A	A	06 29 24.3	
	comp=N,14nm,0.3s						
PBAR	**Barrancos**	**3.33**	**61**	ePn	**Pn**	**06 28 47.5**	**+3.1**
PBAR				eSn	**Sn**	**06 29 23.1**	**-0.3**
PBAR				A	A	06 29 27.4	
	comp=N,6.3nm,0.5s						
PESTR	**Estremoz**	**3.35**	**47**	ePn	**Pn**	**06 28 47.8**	**+3.1**
PESTR				eSn	**Sn**	**06 29 24.2**	**+0.2**
PESTR				A	A	06 29 39.7	
	comp=N,4.1nm,0.6s						
PESTR	**Estremoz**	**3.35**	**47**	P	**Pn**	**06 28 46.5**	**+1.8**
PESTR				S	**Sn**	**06 29 23.2**	**-0.7**
EMIN	**Mina Concepcio**	**3.45**	**70**	P	**Pn**	**06 28 48.9**	**+2.9**
EMIN				S	**Sn**	**06 29 25.5**	**-0.8**
EMIN				i Vmb_Lg		06 29 27.5	
EBAD	**Badajoz**	**3.64**	**53**	P	**Pn**	**06 28 51.2**	**+2.5**
EBAD				S	**Sn**	**06 29 30.8**	**-0.3**
EBAD				i Vmb_Lg		06 29 35.5	
PCAS	**Casmilo, Conde**	**3.84**	**27**	ePn	**Pn**	**06 28 54.4**	**+3.0**
PCAS				eSn	**Sn**	**06 29 35.9**	**-0.2**
PCAS				A	A	06 29 38.1	
	comp=N,9.6nm,0.2s						
PMRV	**Marv??o**	**3.85**	**43**	⇑ePn	**Pn**	**06 28 54.0**	**+2.5**
PMRV				eSn	**Sn**	**06 29 34.9**	**-1.3**
PMRV				A	A	06 29 37.3	
	comp=N,5.1nm,0.2s						
ESPR	**Espera**	**3.94**	**85**	⇑P	**Pn**	**06 28 56.3**	**+3.6**
ESPR				S	**Sn**	**06 29 38.6**	**+0.2**
ESPR				i Vmb_Lg		06 29 39.8	
PCBR	**Castelo Branco**	**4.11**	**38**	ePn	**Pn**	**06 28 57.8**	**+2.7**
PCBR				eSn	**Sn**	**06 29 41.5**	**-1.1**
PCBR				A	A	06 29 44.3	
	comp=N,2.5nm,0.4s						
ECAB	**El Cabril**	**4.48**	**70**	P	**Pn**	**06 29 03.3**	**+3.0**
ECAB				S	**Sn**	**06 29 50.2**	**-1.7**
ECAB				i Vmb_Lg		06 29 52.2	
MTE	**Manteigas**	**4.52**	**33**	ePn	**Pn**	**06 29 03.4**	**+2.6**
MTE				eSn	**Sn**	**06 29 51.1**	**-1.8**
MTE				A	A	06 29 53.5	
	comp=N,6.7nm,0.2s						
PVIS	**Viseu**	**4.64**	**28**	ePn	**Pn**	**06 29 05.3**	**+2.8**
PVIS				eSn	**Sn**	**06 29 54.9**	**-1.0**
PVIS				A	A	06 29 57.2	
	comp=N,15nm,0.3s						
CHEFC	**Chefchaouen**	**4.65**	**108**	P	**Pn**	**06 29 05.7**	**+3.1**
CHEFC				S	**Sn**	**06 29 49.2**	**-7.0**
SRHM	**Skhour des Reh**	**4.78**	**150**	P	**Pn**	**06 29 08.0**	**+3.6**
EMIJ	**Mijas**	**4.81**	**89**	P	**Pn**	**06 29 08.6**	**+3.8**
EMIJ				S	**Sn**	**06 29 57.9**	**-2.1**
EMIJ				i Vmb_Lg		06 30 04.7	
EPLA	**Plasencia**	**5.02**	**46**	P	**Pn**	**06 29 10.4**	**+2.8**
EPLA				S	**Sn**	**06 30 03.5**	**-1.6**
EPLA				i Vmb_Lg		06 30 07.8	
EADA	**Adamuz**	**5.15**	**71**	P	**Pn**	**06 29 12.6**	**+3.1**
EADA				S	**Sn**	**06 30 06.7**	**-1.6**
EADA				i Vmb_Lg		06 30 09.6	
PVRL	**Vila Real**	**5.20**	**26**	eSn	**Sn**	**06 30 07.6**	**-2.0**
PVRL				A	A	06 30 10.4	
	comp=N,8.3nm,0.4s						
POLO	**Lamas de Olo**	**5.26**	**25**	ePn	**Pn**	**06 29 13.4**	**+2.4**
POLO				eSn	**Sn**	**06 30 08.9**	**-2.2**
POLO				A	A	06 30 10.8	
	comp=N,2.3nm,0.3s						
EGOR	**Sierra Gorda,**	**5.35**	**83**	S	**Sn**	**06 30 13.1**	**-0.3**
EGOR				i Vmb_Lg		06 30 18.0	
MVO	**Moncorvo**	**5.37**	**32**	ePn	**Pn**	**06 29 14.8**	**+2.3**
MVO				eSn	**Sn**	**06 30 11.5**	**-2.4**
MVO				A	A	06 30 12.8	
	comp=N,5.9nm,0.4s						
PCAB	**Cabril**	**5.49**	**22**	ePn	**Pn**	**06 29 16.6**	**+2.5**
PCAB				eSn	**Sn**	**06 30 14.3**	**-2.4**
PCAB				A	A	06 30 16.1	
	comp=N,4.9nm,0.3s						
ELOB	**Lobios**	**5.62**	**21**	P	**Pn**	**06 29 18.6**	**+2.6**
ELOB				S	**Sn**	**06 30 15.9**	**-4.2**
ELOB				i Vmb_Lg		06 30 20.6	
LCRM	**LCR**	**5.66**	**120**	P	**Pn**	**06 29 19.0**	**+2.5**
LCRM	**LCR**	**5.66**	**120**	P	**Pn**	**06 29 19.0**	**+2.5**
LCRM				S	**Sn**	**06 30 16.8**	**-4.2**
PGAV	**Gavieira, Arco**	**5.66**	**19**	ePn	**Pn**	**06 29 19.3**	**+2.8**
PGAV				eSn	**Sn**	**06 30 18.1**	**-2.8**
PGAV				A	A	06 30 21.7	
	comp=N,5.2nm,0.4s						
ELGU	**Los Guajares,**	**5.73**	**86**	P	**Pn**	**06 29 20.9**	**+3.5**
ELGU				S	**Sn**	**06 30 22.6**	**0.0**
ELGU				i Vmb_Lg		06 30 28.7	
PAB	**San Pablo**	**5.83**	**58**	P	**Pn**	**06 29 21.1**	**+2.4**
PAB				S	**Sn**	**06 30 22.4**	**-2.6**
PAB				i Vmb_Lg		06 30 29.1	
PAB	**San Pablo**	**5.83**	**58**	P	**Pn**	**06 29 21.4**	**+2.7**
OUK	**Oukaimeden**	**5.92**	**155**	P	**Pn**	**06 29 22.2**	**+1.8**
OUK				S	**Sn**	**06 30 25.0**	**-2.9**
PBRG	**Braganca**	**6.03**	**30**	ePn	**Pn**	**06 29 24.1**	**+2.6**
PBRG				eSn	**Sn**	**06 30 27.2**	**-2.7**
PBRG				A	A	06 30 29.8	
	comp=N,3.1nm,0.2s						
ECAL	**Calabor**	**6.14**	**29**	P	**Pn**	**06 29 25.6**	**+2.4**
ECAL				S	**Sn**	**06 30 29.8**	**-3.1**
ECAL				i Vmb_Lg		06 30 34.2	
MD31	**MD31**	**6.20**	**126**	P	**Pn**	**06 29 25.9**	**+2.0**
MD31				S	**Sn**	**06 30 30.4**	**-4.0**
EQES	**Quesada**	**6.24**	**77**	P	**Pn**	**06 29 27.1**	**+2.6**
EQES				S	**Sn**	**06 30 33.0**	**-2.2**
EQES				i Vmb_Lg		06 30 36.6	
MDT	**Midelt**	**6.34**	**125**	P	**Pn**	**06 29 28.0**	**+2.2**
MDT	**Midelt**	**6.34**	**125**	P	**Pn**	**06 29 28.0**	**+2.2**
MDT				S	**Sn**	**06 30 32.9**	**-4.8**
TTIG	**Tnine Tigouga,**	**6.37**	**162**	P	**Pn**	**06 29 26.0**	**-0.4**
EMAZ	**Mazaricos**	**6.45**	**12**	P	**Pn**	**06 29 29.1**	**+1.9**
EMAZ				S	**Sn**	**06 30 34.0**	**-6.3**
EMAZ				i Vmb_Lg		06 30 40.8	
GUD	**Guadarrama**	**6.53**	**50**	P	**Pn**	**06 29 30.8**	**+2.3**
GUD				S	**Sn**	**06 30 40.8**	**-1.7**
EPON	**Pontenova**	**7.23**	**21**	P	**Pn**	**06 29 40.1**	**+2.1**
EPON				S	**Sn**	**06 30 53.7**	**-5.8**
EPON				i Vmb_Lg		06 31 01.2	
ETOB	**Tobarra**	**7.57**	**72**	P	**Pn**	**06 29 45.2**	**+2.5**
ETOB				S	**Sn**	**06 31 06.0**	**-2.1**
EARI	**Arriondas**	**7.90**	**31**	P	**Pn**	**06 29 51.0**	**+3.8**
EARI				S	**Sn**	**06 31 12.4**	**-3.6**
ETOR	**Torete**	**7.97**	**56**	P	**Pn**	**06 29 50.8**	**+2.5**
ETOR				S	**Sn**	**06 31 14.7**	**-3.3**

*IDC **03** 06:49:47.8±0.9, 31°.29S×13°.51W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=43.2km s-min=33.6km az=96.0*
ISC 03 06:49:48.7±0.9**, 31°.2S**±0°.2×**13°.5W**±0°.3**, h10**km**, n10,** σ**0.63**/8**, mb4.1**/3**, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**5.93**	**171**	T	T	06 57 08.1	
	SNR=6.6						
H09W1	**TRISTAN DA CUN**	**5.96**	**171**	T	T	06 57 10.6	
	SNR=5.5						
BDFB	**Brasilia**	**35.09**	**288**	P	**P**	**06 56 42.6**	**+0.2**
	2.0nm,0.5s,baz=135,slow=10.0,SNR=3.5						
	2.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**46.44**	**21**	P	**P**	**06 58 16.3**	**+0.5**
	2.0nm,1.0s,baz=200,slow=7.9,SNR=6.5						
	2.0nm,1.0s						
VNDA	**Vanda**	**71.49**	**179**	P	**P**	**07 01 09.7**	**+0.6**
	0.8nm,0.9s,baz=202,slow=3.0,SNR=3.5						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**117.13**	**146**	PKP	**PKiKP**	**07 08 34.5**	**-0.2**
	0.4nm,0.7s,baz=192,slow=1.6,SNR=7.2						
WRA	**Warramunga Arr**	**120.50**	**144**	PKP	**PKPdf**	**07 08 40.5**	**-0.7**
	0.2nm,0.8s,baz=210,slow=2.2,SNR=2.0						
ILAR	**Eielson Array**	**135.90**	**333**	PKP	**PKiKP**	**07 09 09.8**	**-0.8**
	0.5nm,0.8s,baz=4.1,slow=1.8,SNR=7.0						
SEY	**Seymchan**	**146.99**	**12**	PKPbc	**PKiKP**	**07 09 32.9**	**-0.5**
	6.9nm,0.8s,baz=324,slow=2.1,SNR=10						
KLR	**Kul'dur**	**148.29**	**45**	PKPbc	**PKPbc**	**07 09 35.1**	**+0.3**
	2.7nm,0.6s,baz=301,slow=5.4,SNR=9.1						

*DJA **03** 06:51:59.2±0.4, 7°S±4°×12°9E±°, h225km±11km, M4.5/8, mb4.3/8, mB5.4/4, MLv4.5/8, Mw(mB)4.8/4*
*IDC **03** 06:52:00.0±2.3, 7°.19S×129°.44E, h157km±25km, mb3.2/1, mbtmp4.2/5, Error ellipse: s-maj=35.6km s-min=23.6km az=93.0*
ISC 03 06:51:59.3±0.9**, 7°.11S**±0°.06×**129°.32E**±0°.07**, h200**km**, n15,** σ**2.69**/18**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.15**	**114**	P	**Pn**	**06 52 39.6**	**+0.3**
SAUI				S	**Sn**	**06 53 06.8**	**-3.6**
BNDI	**Bandanaira**	**2.63**	**13**	P	**Pn**	**06 52 46.8**	**+2.1**
FAKI	**Fak Fak**	**5.08**	**35**	P	**Pn**	**06 53 14.9**	**+0.1**
	0.3nm29nm,0.6s						
SOEI	**Soe**	**5.65**	**242**	P	**Pn**	**06 53 23.4**	**+1.2**
	0.4nm24nm,0.6s						
BATI	**Baumata**	**6.38**	**241**	P	**Pn**	**06 53 32.7**	**+1.1**
	43nm,0.5s,baz=157,slow=2.7,SNR=5.6						
BATI				S	**Sn**	**06 54 40.2**	**-4.5**
	48nm,0.3s,baz=323,slow=6.2,SNR=8.0						
BATI	**Baumata**	**6.38**	**241**	P	**Pn**	**06 53 33.0**	**+1.4**
	0.3nm57nm,0.9s						
SIJI	**Sorong**	**6.50**	**17**	P	**Pn**	**06 53 34.5**	**+1.4**
	4.5nm,0.3s,baz=26,slow=24,SNR=1.2						
SIJI				S	**Sn**	**06 54 42.4**	**-4.9**
	8.0nm,0.5s,baz=210,slow=22,SNR=2.2						
SIJI	**Sorong**	**6.50**	**17**	P	**Pn**	**06 53 33.0**	**0.0**
	0.1nm14nm,0.9s						
RKPI	**Ransiki, Papua**	**7.37**	**41**	P	**Pn**	**06 53 46.0**	**+1.6**
	0.8nm11μm130nm,0.5s						
PLAI	**Plampang**	**11.56**	**261**	P	**Pn**	**06 54 38.2**	**-0.5**
	25nm,1.2s						
TWSI	**Taliwang, Sumb**	**12.43**	**262**	P	**Pn**	**06 54 49.5**	**-0.2**
WRA	**Warramunga Arr**	**13.65**	**160**	P	**Pn**	**06 55 04.2**	**-0.8**
	3.3nm,0.5s,baz=339,slow=12,SNR=18						
WRA				S	S	06 57 29.2	-8.0
	4.2nm,0.5s,baz=326,slow=24,SNR=7.6						
ASAR	**Alice Springs**	**17.04**	**166**	P	**Pn**	**06 55 49.1**	**+3.0**
	6.7nm,0.5s,baz=345,slow=10,SNR=126						
ASAR				S	**S**	**06 58 51.8**	**-0.4**
	0.6nm,0.4s,baz=311,slow=17,SNR=5.4						
MKAR	**Makanchi Array**	**67.95**	**327**	P	P	07 02 42.5	+5.9
	0.3nm,0.5s,baz=114,slow=7.2,SNR=2.0						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**128.17**	**281**	PKP	**PKiKP**	**07 10 48.6**	**+5.2**
	0.3nm,0.7s,baz=74,slow=1.5,SNR=1.7						

*RSPR **03** 06:52:40.7, 18°.90N×64°.16W, h37km±17km, MD2.6/3*
NEIC 03 06:52:40.7±0.9**, 18°.1N**±0°.3×**64°.09W**±0°.09**, h41**km±45km**, 3C-2D, Error ellipse: s-maj=42.9km s-min=12.3km az=185.0, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.58**	**300**	⇓eP	Pn	06 52 52.5	0.0
TBVI	**Tortola**	**0.58**	**300**		Pn	06 52 52.5	0.0
TBVI					Sn	06 53 01.2	+0.2
TBVI	**Tortola**	**0.58**	**300**	⇓eP	Pn	06 52 52.5	0.0
TBVI				eS	Sn	06 53 01.2	+0.2
SJVI	**Gifft Hill Sch**	**0.68**	**288**	Pn	Pn	06 52 52.8	-1.1
SJVI				IAML		06 52 59.4	
	comp=N,26nm,2.8s						
SJVI				Sn	Sn	06 53 02.4	-1.0
STVI	**Saint Thomas**	**0.85**	**286**	⇑eP	Pn	06 52 56.3	+0.1
STVI	**Saint Thomas**	**0.85**	**286**		Pn	06 52 55.6	-0.6
STVI					Sn	06 53 07.8	+0.2
STVI	**Saint Thomas**	**0.85**	**286**	⇑eP	Pn	06 52 56.3	+0.1
STVI				eS	Sn	06 53 08.1	+0.5
CUPR	**Culebra, Puert**	**1.15**	**279**	⇑eP	Pn	06 52 59.7	-0.6
CUPR	**Culebra, Puert**	**1.15**	**279**	eS	Sn	06 53 15.4	+0.6
CUPR	**Culebra, Puert**	**1.15**	**279**		Pn	06 52 59.6	-0.7
CUPR					Sn	06 53 15.0	+0.1
CUPR				IAML		06 53 17.4	
	comp=N,15nm,0.8s						
HUMP	**Col San Antoni**	**1.68**	**271**	Pn	Pn	06 53 07.8	+0.2
HUMP				IAML		06 53 34.9	
	comp=E,19nm,3.0s						
HUMP				IAML		06 53 50.6	
	comp=N,21nm,2.6s						
CBYP	**Canovanas**	**1.69**	**275**	Pn	Pn	06 53 08.4	+0.6

*IDC **03** 07:04:22.0±1.0, 31°.36S×13°.44W, h0km, mb3.9/4, mbtmp3.9/4, MS3.9/35, Error ellipse: s-maj=42.6km s-min=28.9km az=94.0*
*NEIC **03** 07:04:25.2±2.4, 31°.51S±0°.04×13°.1W±0°.1, h10km±1km, mb4.4/15, Error ellipse: s-maj=20.1km s-min=6.7km az=85.0*
ISC 03 07:04:24.3±0.5**, 31°.41S**±0°.09×**13°.2W**±0°.1**, h10**km**, n55,** σ**1.36**/21**, mb4.3**/12**, MS3.9**/35**, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**5.69**	**173**	Pn	**Pn**	**07 05 47.8**	**-1.0**
H09W1	**TRISTAN DA CUN**	**5.71**	**173**	T	T	07 11 48.3	
	SNR=7.9						
SHEL	**Horse Pasture**	**16.82**	**26**		**P**	**07 08 22.8**	**+0.6**
SHEL				IAmb	IAmb	07 08 44.1	
	comp=Z,64nm,0.9s						
SUR	**Sutherland**	**28.83**	**101**	LR	LR	07 19 37.8	
	comp=Z,317nm,19.4s,baz=268,slow=32						
TSUM	**Tsumeb**	**30.27**	**74**	LR	LR	07 20 52.8	
	comp=Z,459nm,18.6s,baz=325,slow=32						
TSUM	**Tsumeb**	**30.27**	**74**	P	**P**	**07 10 37.1**	**+1.4**
TSUM				IAmb	IAmb	07 10 38.9	
	comp=Z,5.6nm,1.1s						
RCBR	**Riachuelo**	**33.17**	**315**	LR	LR	07 21 10.7	
	comp=Z,143nm,19.6s,baz=304,slow=31						
BOSA	**Boshof**	**33.31**	**95**	LR	LR	07 22 29.1	
	comp=Z,184nm,19.1s,baz=196,slow=32						
LBTB	**Lobatse**	**34.65**	**89**	LR	LR	07 22 40.2	
	comp=Z,209nm,21.4s,baz=239,slow=32						
LBTB	**Lobatse**	**34.65**	**89**	P	**P**	**07 11 13.9**	**-0.2**
LBTB				IAmb	IAmb	07 11 37.5	
	comp=Z,6.1nm,1.1s						
BDFB	**Brasilia**	**35.39**	**288**	P	**P**	**07 11 17.8**	**-2.8**
	comp=Z,3.7nm,0.9s,baz=117,slow=6.8,SNR=4.5						
	comp=Z,3.7nm,0.9s						
DBIC	**Dimbokro**	**38.70**	**13**	LR	LR	07 23 50.8	
	comp=Z,24nm,18.6s,baz=129,slow=30						
CPUP	**Villa Florida**	**38.78**	**266**	LR	LR	07 24 58.0	
	comp=Z,230nm,21.2s,baz=98,slow=32						
SNAA	**Sanae**	**40.70**	**175**	P	**P**	**07 12 03.9**	**-0.8**
LSZ	**Lusaka**	**40.99**	**77**	LR	LR	07 26 59.2	
	comp=Z,260nm,21.8s,baz=228,slow=33						
PMSA	**Palmer Station**	**45.58**	**208**	LR	LR	07 28 12.2	
	comp=Z,69nm,19.8s,baz=103,slow=31						
BBTS	**Babate**	**45.92**	**356**	LR	LR	07 28 24.1	
	comp=Z,82nm,18.9s,baz=155,slow=32						
SIV	**San Ignacio**	**46.08**	**278**	LR	LR	07 29 57.7	
	comp=Z,253nm,19.7s,baz=104,slow=34						
PLCA	**Paso Flores**	**46.55**	**242**	LR	LR	07 32 13.4	
	comp=Z,91nm,19.2s,baz=52,slow=36						
TOA0	**Torodi Ar. Sit**	**46.56**	**20**	P	**P**	**07 12 51.6**	**-0.8**
TOA0				IAmb	IAmb	07 13 03.6	
	comp=Z,2.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**46.56**	**20**	P	**P**	**07 12 51.5**	**-0.8**
	comp=Z,2.2nm,1.0s,baz=184,slow=5.9,SNR=8.9						
TORD				LR	LR	07 28 47.0	
	comp=Z,58nm,18.6s,baz=216,slow=32						
	comp=Z,2.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**46.56**	**20**	P	**P**	**07 12 52.1**	**-0.3**
AY01	**Puyuhuapi**	**47.68**	**237**	P	**P**	**07 13 02.7**	**+1.8**
VA03	**San Esteban**	**48.09**	**252**	P	**P**	**07 13 06.0**	**+1.6**
VA03				IAmb	IAmb	07 13 15.8	
	comp=Z,18nm,1.1s						
LVC	**Limon Verde**	**49.95**	**266**	LR	LR	07 32 22.8	
	comp=Z,154nm,22.0s,baz=110,slow=34						
PB14	**IPOC Station P**	**50.48**	**263**	P	**P**	**07 13 24.5**	**+1.6**
PB14				IAmb	IAmb	07 13 50.5	
	comp=Z,6.4nm,1.1s						
MBAR	**Mbarara**	**51.61**	**62**	LR	LR	07 33 24.5	
	comp=Z,192nm,19.9s,baz=302,slow=34						
LPAZ	**La Paz**	**51.95**	**273**	LR	LR	07 34 21.6	
	comp=Z,142nm,19.2s,baz=120,slow=35						
MDP	**Montagnes des**	**52.27**	**307**	LR	LR	07 33 19.2	
	comp=Z,139nm,19.9s,baz=96,slow=33						
MAW	**Mawson**	**56.09**	**153**	LR	LR	07 33 30.6	
	comp=Z,108nm,19.8s,baz=314,slow=31						
TAM	**Tamanrasset**	**56.81**	**21**	P	**P**	**07 14 08.8**	**-0.3**
LODK	**Lodwar**	**57.72**	**62**	P	**P**	**07 14 15.4**	**-0.2**
LODK				IAmb	IAmb	07 14 31.1	
	comp=Z,2.2nm,1.1s						
QSPA	**South Pole Qui**	**58.83**	**180**	P	**P**	**07 14 23.6**	**+0.9**
QSPA				IAmb	IAmb	07 14 24.1	
	comp=Z,2.3nm,1.0s						
NNA	**Nana**	**61.41**	**273**	LR	LR	07 40 47.3	
	comp=Z,72nm,18.1s,baz=154,slow=36						
PCRV	**Puerto La Cruz**	**64.30**	**301**	LR	LR	07 40 34.3	
	comp=Z,144nm,20.4s,slow=34						
MDT	**Midelt**	**64.40**	**8**	LR	LR	07 39 06.7	
	comp=Z,84nm,18.7s,baz=182,slow=32						
ATAH	**Atahualpa**	**65.17**	**277**	LR	LR	07 43 47.4	
	comp=Z,121nm,18.9s,baz=159,slow=36						
GDSD	**La Dsirade Is**	**66.05**	**309**	P	**P**	**07 15 13.5**	**+2.0**
BOSC	**San Juan Bosco**	**67.35**	**281**	P	**P**	**07 15 18.4**	**-1.8**
BOSC				IAmb	IAmb	07 15 24.9	
	comp=Z,2.5nm,0.8s						
SDV	**Santo Domingo**	**67.96**	**296**	LR	LR	07 43 33.1	
	comp=Z,252nm,18.9s,baz=92,slow=35						
ROSC	**El Rosal**	**68.41**	**290**	LR	LR	07 44 26.9	
	comp=Z,247nm,18.1s,baz=102,slow=35						
ATD	**Arta Tunnel**	**68.59**	**61**	LR	LR	07 43 09.4	
	comp=Z,63nm,20.1s,baz=63,slow=34						
SJG	**San Juan**	**70.75**	**306**	LR	LR	07 45 19.6	
	comp=Z,38nm,20.1s,baz=106,slow=35						
ESDC	**Sonseca Array**	**71.25**	**8**	P	**P**	**07 15 43.4**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=185,slow=7.2,SNR=4.5						
	comp=Z,0.9nm,1.0s						
VNDA	**Vanda**	**71.28**	**179**	P	**P**	**07 15 43.8**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=187,slow=5.5,SNR=5.2						
VNDA				LR	LR	07 43 30.8	
	comp=Z,36nm,19.2s,baz=242,slow=33						
	comp=Z,0.4nm,0.8s						
EIL	**Elat**	**76.06**	**42**	LR	LR	07 46 05.5	
	comp=Z,53nm,21.9s,baz=245,slow=33						
MMAI	**Mount Meron Ar**	**78.83**	**40**	LR	LR	07 50 52.6	
	comp=Z,24nm,18.1s,baz=238,slow=35						
JTS	**Las Juntas de**	**80.13**	**288**	LR	LR	07 50 27.5	
	comp=Z,108nm,20.7s,baz=194,slow=35						
GERES	**GERESS Array B**	**83.44**	**18**	LR	LR	07 52 53.9	
	comp=Z,23nm,18.1s,baz=178,slow=35						
VRAC	**Vranov**	**84.64**	**19**	LR	LR	07 52 51.2	
	comp=Z,30nm,19.4s,baz=199,slow=34						
WSAR	**Wadi Sarin**	**87.61**	**61**	LR	LR	07 55 18.8	
	comp=Z,61nm,19.6s,baz=234,slow=35						
CMIG	**Matias Romero**	**91.90**	**289**	LR	LR	07 57 20.5	
	comp=Z,24nm,20.2s,baz=134,slow=35						
PALK	**Pallekele**	**97.06**	**86**	LR	LR	07 57 25.5	
	comp=Z,109nm,18.6s,baz=326,slow=33						
ASAR	**Alice Springs**	**116.82**	**146**	PKP	**PKPdf**	**07 23 08.0**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=200,slow=1.3,SNR=8.1						
WRA	**Warramunga Arr**	**120.19**	**144**	PKP	**PKPdf**	**07 23 15.5**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=237,slow=2.0,SNR=4.8						

IDC 03 07:37:34.2±2.5, 54°20N×86°37E, h0km, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=20.1km s-min=13.1km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**255**	I		07 45 00.0	
	baz=74,slow=330,SNR=2.6						
ZALV	**Zalesovo Beam**	**0.95**	**255**	Pg	Pg	07 37 50.7	-1.7
	3.5nm,0.3s,baz=74,slow=17,SNR=24						
ZALV				Lg	Lg	07 38 06.3	
	7.6nm,0.3s,baz=74,slow=30,SNR=18						
KURBB	**Kurchatov Arra**	**5.98**	**236**	Pn	Pn	07 39 05.2	+1.3
	0.2nm,0.3s,baz=53,slow=14,SNR=7.0						
KURBB				Lg	Lg	07 40 43.1	
	baz=50,slow=31,SNR=1.3						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**7.85**	**201**	Pn	Pn	07 39 30.7	+1.1
	0.5nm,0.3s,baz=25,slow=14,SNR=15						
MKAR				Lg	Lg	07 41 41.0	
	0.1nm,0.3s,baz=18,slow=31,SNR=1.7						
	0.7nm,0.3s						

*IDC **03** 07:39:07.6±1.6, 42°.90N×13°.45E, h0km, mb3.5/3, mbtmp3.5/6, ML3.1/3, Error ellipse: s-maj=37.6km s-min=16.9km az=91.0*

*ROM **03** 07:39:07.7±0.0, 42°.834N±0°.003×13°.121E±0°.003, h10km, ML3.4/69, Error ellipse: s-maj=0.2km s-min=0.2km az=93.0*

*PRU **03** 07:39:09.9±0.0, 42°.83N×13°.56E, h10km*

ISC 03 07:39:08.2±0.7, 42°.82N±0°.01×13°.12E±0°.02, h11km±4km, n126, σ1§06/165, 46C-25D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.01**	**333**	⇓P	**Pg**	**07 39 09.8**	**-0.4**
NRCA				S	**Sg**	**07 39 10.9**	**-0.8**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	**Castelsantange**	**0.06**	**55**	P	**Pg**	**07 39 10.2**	**-0.4**
T1245				S	**Sg**	**07 39 11.8**	**-0.6**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
FEMA	**Monte Fema**	**0.15**	**339**	⇓P	**Pg**	**07 39 11.6**	**-0.2**
FEMA				S	**Sg**	**07 39 14.0**	**-0.2**
FEMA				AML	AML		
	comp=E,74850μm,0.6s						
FEMA				AML	AML		
	comp=E,74850μm,0.7s						
FEMA				AML	AML		
	comp=N,83400μm,1.0s						
MMO1	**Montemonaco**	**0.17**	**63**	⇑P	**Pg**	**07 39 11.9**	**-0.1**
MMO1				S	**Sg**	**07 39 14.8**	**+0.1**
T1217	**Poggiodomo (PG**	**0.18**	**232**	⇑P	**Pg**	**07 39 12.4**	**+0.2**
T1217				S	**Sg**	**07 39 15.6**	**+0.7**
T1217				AML	AML		
	comp=E,14000μm,0.4s						
T1217				AML	AML		
	comp=E,13750μm,0.4s						
T1217				AML	AML		
	comp=N,19300μm,0.3s						
T1217				AML	AML		
	comp=E,13750μm,0.4s						
T1217				AML	AML		
	comp=N,18650μm,0.3s						
T1217				AML	AML		
	comp=E,14000μm,0.4s						
T1217				AML	AML		
	comp=E,13800μm,0.4s						
T1215	**Vallo di Nera,**	**0.19**	**264**	⇑P	**Pg**	**07 39 12.4**	**+0.1**
T1215				S	**Sg**	**07 39 15.8**	**+0.6**
T1215				AML	AML		
	comp=E,13200μm,0.6s						
T1215				AML	AML		
	comp=E,13150μm,0.6s						
T1215				AML	AML		
	comp=N,14850μm,0.8s						
T1215				AML	AML		
	comp=N,14600μm,0.4s						
T1215				AML	AML		
	comp=N,14800μm,0.8s						
T1215				AML	AML		
	comp=E,13150μm,0.6s						
T1256	**Bolognola (MC)**	**0.20**	**23**	⇑P	**Pg**	**07 39 12.3**	**-0.3**
T1256				S	**Sg**	**07 39 15.7**	**+0.1**
T1256				AML	AML		
	comp=E,45150μm,0.9s						
T1256				AML	AML		
	comp=N,40400μm,1.0s						
T1256				AML	AML		
	comp=E,46000μm,0.8s						
T1256				AML	AML		
	comp=N,37150μm,1.0s						
T1256				AML	AML		
	comp=E,46050μm,0.8s						
T1256				AML	AML		
	comp=N,40350μm,1.0s						
T1256				AML	AML		
	comp=E,45100μm,0.8s						
T1204	**Amatrice, Fraz**	**0.20**	**136**	⇑P	**Pg**	**07 39 12.9**	**+0.3**
T1204				S	**Sg**	**07 39 16.9**	**+1.2**
T1204				AML	AML		
	comp=N,19400μm,0.5s						
T1204				AML	AML		
	comp=E,19850μm,0.6s						
T1204				AML	AML		
	comp=E,19800μm,0.6s						
LNSS	**Leonessa**	**0.23**	**195**	P	**Pg**	**07 39 13.2**	**+0.2**
LNSS				S	**Sg**	**07 39 17.4**	**+1.2**
LNSS				AML	AML		
	comp=E,17100μm,0.2s						
LNSS				AML	AML		
	comp=N,45500μm,0.4s						
AM05	**Amandola Campo**	**0.23**	**47**	P	**Pg**	**07 39 13.0**	**0.0**
AM05				S	**Sg**	**07 39 16.6**	**+0.3**
AM05				AML	AML		
	comp=N,2070μm,0.5s						
AM05				AML	AML		
	comp=N,2075μm,0.5s						
AM05				AML	AML		
	comp=N,7055μm,0.6s						
AM05				AML	AML		
	comp=E,8390μm,0.3s						
AM05				AML	AML		
	comp=E,33050μm,0.9s						
T1241	**Roccafluvione,**	**0.23**	**81**	⇑P	**Pg**	**07 39 13.1**	**0.0**
T1241				S	**Sg**	**07 39 16.9**	**+0.6**
T1241				AML	AML		
	comp=N,19650μm,0.7s						
T1241				AML	AML		
	comp=E,25800μm,0.6s						
T1241				AML	AML		
	comp=N,19600μm,0.7s						
T1241				AML	AML		
	comp=E,25600μm,0.6s						
T1241				AML	AML		
	comp=N,19650μm,0.7s						
T1241				AML	AML		
	comp=E,25800μm,0.6s						
T1241				AML	AML		
	comp=N,18550μm,0.7s						
CESI	**CESI - Serrava**	**0.24**	**319**	⇑P	**Pg**	**07 39 13.2**	**-0.1**
CESI				S	**Sg**	**07 39 17.1**	**+0.4**
CESI				AML	AML		
	comp=N,82900μm,0.3s						
CESI				AML	AML		
	comp=E,47950μm,0.3s						
T1243	**Rocca Santa Ma**	**0.27**	**118**	P	**Pg**	**07 39 13.7**	**-0.1**
T1243				S	**Sg**	**07 39 18.7**	**+1.1**
CSP1	**Cessapalombo**	**0.28**	**13**	P	**Pg**	**07 39 13.6**	**-0.4**
CSP1				AML	AML		
	comp=E,12690μm,0.6s						
CSP1				AML	AML		
	comp=N,17570μm,1.3s						
CSP1				AML	AML		
	comp=E,12795μm,0.6s						
CSP1				AML	AML		
	comp=N,17500μm,1.3s						
GUMA	**Gualdo di Mace**	**0.29**	**33**	P	**Pg**	**07 39 14.2**	**+0.1**
GUMA				S	**Sg**	**07 39 19.1**	**+1.1**
GUMA				AML	AML		
	comp=E,44300μm,0.6s						
GUMA				AML	AML		
	comp=E,48200μm,0.5s						
GUMA				AML	AML		
	comp=E,44350μm,0.6s						
GUMA				AML	AML		
	comp=N,43150μm,0.5s						
GUMA				AML	AML		
	comp=N,43850μm,0.5s						
GUMA				AML	AML		
	comp=N,43100μm,0.5s						
RM33	**Pellescritta (**	**0.32**	**168**	⇑P	**Pg**	**07 39 14.8**	**+0.1**
RM33				S	**Sb**	**07 39 20.6**	**-0.7**
RM33				AML	AML		
	comp=E,5280μm,0.6s						
RM33				AML	AML		
	comp=E,5180μm,0.6s						
RM33				AML	AML		
	comp=N,5950μm,0.5s						
RM33				AML	AML		
	comp=N,5935μm,0.5s						
RM33				AML	AML		
	comp=E,5285μm,0.6s						
RM33				AML	AML		
	comp=E,5175μm,0.6s						
RM33				AML	AML		
	comp=N,5930μm,0.5s						
T1211	**Morro Reatino**	**0.35**	**214**	⇑P	**Pg**	**07 39 15.3**	**+0.1**
T1211				S	**Sb**	**07 39 21.2**	**-0.9**
T1211				AML	AML		
	comp=E,8065μm,1.5s						
T1211				AML	AML		
	comp=N,15700μm,1.3s						
T1211				AML	AML		
	comp=E,8025μm,1.5s						
T1211				AML	AML		
	comp=E,8065μm,1.5s						
T1211				AML	AML		
	comp=E,8005μm,1.5s						
T1211				AML	AML		
	comp=N,15400μm,1.3s						
T1211				AML	AML		
	comp=N,15350μm,1.3s						
CAMP	**Campotosto**	**0.36**	**143**	P	**Pg**	**07 39 15.3**	**-0.1**
CAMP				S	**Sg**	**07 39 21.1**	**+1.0**
CAMP				AML	AML		
	comp=E,2825μm,0.6s						
CAMP				AML	AML		
	comp=N,3010μm,0.8s						
ARRO	**Arrone**	**0.36**	**227**	⇑P	**Pg**	**07 39 15.4**	**+0.1**
ARRO				S	**Sb**	**07 39 21.5**	**-0.7**
ARRO				AML	AML		
	comp=E,6200μm,0.2s						
ARRO				AML	AML		
	comp=N,6300μm,0.7s						
MDAR	**Monte D'Aria**	**0.37**	**2**	P	**Pg**	**07 39 15.4**	**-0.2**
MDAR				AML	AML		
	comp=E,15100μm,0.6s						
MDAR				AML	AML		
	comp=N,20500μm,0.3s						
MDAR				AML	AML		
	comp=E,15100μm,0.6s						
MDAR				AML	AML		
	comp=N,20550μm,0.4s						
PIO1	**Pioraco**	**0.37**	**344**	⇑P	**Pg**	**07 39 15.7**	**+0.1**
FIU1	**Fiuminata**	**0.39**	**339**	⇓P	**Pg**	**07 39 15.9**	**-0.1**
T1247	**Pizzolo (AQ)**	**0.40**	**161**	P	**Pg**	**07 39 16.3**	**+0.1**
T1247				AML	AML		
	comp=N,5235μm,0.4s						
T1247				AML	AML		
	comp=E,6405μm,0.8s						
ASSB	**Assisi San Ben**	**0.41**	**303**	⇑P	**Pg**	**07 39 15.9**	**-0.3**
ASSB				S	**Sg**	**07 39 22.2**	**+0.5**
ASSB				AML	AML		
	comp=E,18650μm,0.2s						
ASSB				AML	AML		
	comp=N,18550μm,0.2s						
TERO	**Teramo**	**0.41**	**119**	⇑P	**Pg**	**07 39 16.0**	**-0.2**
TERO				S	**Sb**	**07 39 22.9**	**-0.9**
TERO				AML	AML		
	comp=E,5480μm,0.6s						
TERO				AML	AML		
	comp=E,5950μm,0.6s						
TERO				AML	AML		
	comp=N,7260μm,0.4s						
TERO				AML	AML		
	comp=E,5485μm,0.6s						
TERO				AML	AML		
	comp=N,6840μm,0.6s						
SSM1	**San Severino M**	**0.41**	**6**	P	**Pg**	**07 39 16.1**	**-0.2**
GAG1	**Gagliole**	**0.42**	**355**	⇑P	**Pg**	**07 39 16.3**	**-0.2**
GAG1				AML	AML		
	comp=E,23650μm,0.3s						
GAG1				AML	AML		
	comp=E,23600μm,0.3s						
GAG1				AML	AML		
	comp=N,23250μm,1.0s						
OFFI	**Offida**	**0.43**	**75**	⇑P	**Pb**	**07 39 17.3**	**-0.5**
OFFI				AML	AML		
	comp=E,9395μm,0.5s						
OFFI				AML	AML		
	comp=N,12100μm,0.7s						
CESX	**Cesi**	**0.45**	**242**	⇑P	**Pg**	**07 39 16.9**	**-0.2**
CESX				S	**Sb**	**07 39 24.1**	**-0.8**
CESX				AML	AML		
	comp=N,9265μm,0.4s						
CESX				AML	AML		
	comp=E,8015μm,1.3s						
SNTG	**Esanatoglia**	**0.45**	**343**	P	**Pg**	**07 39 16.6**	**-0.5**
SNTG				S	**Sb**	**07 39 25.0**	**-0.1**
SNTG				AML	AML		
	comp=E,3740μm,0.8s						
SNTG				AML	AML		
	comp=N,3995μm,0.5s						
SNTG				AML	AML		
	comp=E,3740μm,0.8s						
SNTG				AML	AML		
	comp=N,3995μm,0.6s						
SNTG				AML	AML		
	comp=E,3835μm,0.8s						
SNTG				AML	AML		
	comp=N,4105μm,1.4s						
GIGS	**Gran Sasso**	**0.50**	**138**	P	**Pg**	**07 39 17.4**	**-0.5**
GIGS				AML	AML		
	comp=E,892μm,0.6s						
GIGS				AML	AML		
	comp=N,666μm,0.8s						
ATCC	**AVT- Casa Cast**	**0.51**	**316**	⇑P	**Pg**	**07 39 17.9**	**-0.3**
EL6	**Elcito**	**0.51**	**358**	⇑P	**Pg**	**07 39 17.6**	**-0.5**
EL6				S	**Sb**	**07 39 26.0**	**-0.7**
EL6				AML	AML		
	comp=E,10650μm,0.3s						
EL6				AML	AML		
	comp=N,15800μm,0.3s						
EL6				AML	AML		
	comp=N,15850μm,0.3s						
TRE1	**Treia**	**0.51**	**16**	⇑P	**Pg**	**07 39 18.4**	**+0.2**
TRE1				AML	AML		
	comp=N,9870μm,0.4s						
TRE1				AML	AML		
	comp=N,9835μm,0.4s						
TRE1				AML	AML		
	comp=E,16750μm,0.4s						
FOSV	**Fossato di Vic**	**0.54**	**331**	⇑P	**Pg**	**07 39 18.4**	**-0.4**
FOSV				AML	AML		
	comp=N,5070μm,0.9s						
FOSV				AML	AML		
	comp=E,3630μm,1.4s						
FOSV				AML	AML		
	comp=N,5065μm,0.9s						
FIAM	**Fiamignano**	**0.55**	**180**	⇑P	**Pg**	**07 39 18.7**	**-0.4**
FIAM				S	**Sb**	**07 39 27.3**	**-0.7**
FIAM				AML	AML		
	comp=N,2620μm,0.4s						
FIAM				AML	AML		
	comp=E,2735μm,1.0s						
CING	**Cingoli**	**0.56**	**6**	⇑P	**Pg**	**07 39 18.5**	**-0.6**
CING				AML	AML		
	comp=N,4290μm,0.3s						
CING				AML	AML		
	comp=E,4570μm,0.6s						
TRTR	**Tortoreto Alta**	**0.58**	**91**	⇑P	**Pb**	**07 39 20.5**	**+0.1**
TRTR				AML	AML		
	comp=E,8775μm,0.7s						
TRTR				AML	AML		
	comp=N,9780μm,0.5s						
CADA	**Capodarco di F**	**0.60**	**51**	⇑P	**Pb**	**07 39 21.1**	**+0.4**
CADA				AML	AML		
	comp=N,10650μm,1.0s						
CADA				AML	AML		
	comp=E,11250μm,0.5s						
MURB	**Monte Urbino**	**0.62**	**315**	⇑P	**Pg**	**07 39 19.9**	**-0.4**
MURB				S	**Sb**	**07 39 31.0**	**+1.1**
MURB				AML	AML		
	comp=E,11400μm,0.3s						
MURB				AML	AML		
	comp=N,9965μm,1.1s						
MURB				AML	AML		
	comp=E,12450μm,0.3s						
MURB				AML	AML		
	comp=E,11350μm,0.3s						
MURB				AML	AML		
	comp=N,9975μm,1.1s						
MURB				AML	AML		
	comp=N,10205μm,1.1s						
MMUR	**Monte Murano**	**0.63**	**352**	S	**Sb**	**07 39 31.0**	**+0.9**
FAGN	**Fagnano**	**0.65**	**148**	P	**Pb**	**07 39 21.4**	**-0.2**
FAGN				AML	AML		
	comp=N,3610μm,0.4s						
FAGN				AML	AML		
	comp=E,3555μm,0.4s						
PP3	**Marolino**	**0.66**	**33**	⇑P	**Pb**	**07 39 21.6**	**-0.2**
PP3				AML	AML		
	comp=E,8465μm,0.3s						
PP3				AML	AML		
	comp=N,7665μm,0.5s						
PP3				AML	AML		
	comp=E,9010μm,0.3s						
PP3				AML	AML		
	comp=E,8990μm,0.3s						
PP3				AML	AML		
	comp=N,7880μm,0.5s						
PP3				AML	AML		
	comp=E,8475μm,0.3s						
SSFR	**Montelago di S**	**0.66**	**338**	⇓P	**Pb**	**07 39 21.9**	**0.0**
SSFR				S	**Sb**	**07 39 32.0**	**+0.9**
SSFR				AML	AML		
	comp=E,6005μm,0.2s						
SSFR				AML	AML		
	comp=N,7980μm,1.0s						
SSFR				AML	AML		
	comp=N,8860μm,0.2s						
SSFR				AML	AML		
	comp=E,5040μm,0.2s						
SSFR				AML	AML		
	comp=E,6005μm,0.2s						
ATFO	**Monte Foce - G**	**0.68**	**324**	⇓P	**Pg**	**07 39 20.9**	**-0.5**
ATFO				S	**Sb**	**07 39 32.0**	**+0.4**
ATFO				AML	AML		
	comp=E,3045μm,0.6s						
ATFO				AML	AML		
	comp=N,2590μm,0.4s						
ATTE	**AVT- Monte Tez**	**0.68**	**304**	⇓P	**Pg**	**07 39 21.0**	**-0.4**
ATTE				AML	AML		
	comp=N,2440μm,0.3s						
ATTE				AML	AML		
	comp=E,2830μm,0.3s						
VCEL	**Villa Celiera**	**0.68**	**129**	⇑P	**Pg**	**07 39 21.3**	**-0.2**
VCEL				S	**Sn**	**07 39 34.0**	**-0.6**
VCEL				AML	AML		
	comp=N,2855μm,1.4s						
VCEL				AML	AML		
	comp=E,3335μm,0.6s						
VCEL				AML	AML		
	comp=N,2850μm,1.4s						
ARVD	**Arcevia**	**0.69**	**349**	⇑P	**Pg**	**07 39 20.9**	**-0.7**
ARVD				S	**Sb**	**07 39 32.0**	**+0.2**
ARVD				AML	AML		
	comp=N,1560μm,1.4s						
ARVD				AML	AML		
	comp=E,2425μm,0.2s						
SRES	**S.Oreste - Sor**	**0.74**	**218**	P	**Pg**	**07 39 21.9**	**-0.6**
SRES				AML	AML		
	comp=E,2860μm,0.9s						
SRES				AML	AML		
	comp=N,3225μm,0.6s						
MGAB	**Montegabbione**	**0.75**	**277**	⇑P	**Pg**	**07 39 22.3**	**-0.4**
MGAB				S	**Sn**	**07 39 36.0**	**-0.2**
MGAB				AML	AML		
	comp=E,6465μm,1.4s						
MGAB				AML	AML		
	comp=N,7215μm,0.3s						
MGAB				AML	AML		
	comp=E,6470μm,1.4s						
FRON	**Frontone**	**0.75**	**337**	⇓P	**Pg**	**07 39 22.1**	**-0.7**
FRON				AML	AML		
	comp=E,2185μm,1.4s						
FRON				AML	AML		
	comp=N,2515μm,0.3s						
ATVO	**AVT- Monte Val**	**0.77**	**317**	⇑P	**Pg**	**07 39 22.3**	**-0.8**
ATVO				AML	AML		
	comp=N,1980μm,0.3s						
ATVO				AML	AML		
	comp=E,2705μm,0.9s						
T0110	**Collepietro**	**0.77**	**141**	⇑P	**Pg**	**07 39 22.5**	**-0.6**
T0110				AML	AML		
	comp=E,2460μm,0.6s						
T0110				AML	AML		
	comp=N,3110μm,0.4s						
AOI	**Ancona**	**0.81**	**26**	P	**Pg**	**07 39 23.6**	**-0.3**
AOI				AML	AML		
	comp=N,3240μm,0.3s						
AOI				AML	AML		
	comp=E,3735μm,1.1s						
ATMI	**Monte Miggiano**	**0.81**	**310**	⇓P	**Pg**	**07 39 23.4**	**-0.5**
ATMI				S	**Sn**	**07 39 37.0**	**-0.7**
ATMI				AML	AML		
	comp=E,7780μm,0.3s						
ATMI				AML	AML		
	comp=N,5965μm,0.8s						
COR1	**Corinaldo**	**0.81**	**354**	⇑P	**Pg**	**07 39 23.7**	**-0.2**
COR1				AML	AML		
	comp=E,6235μm,0.7s						
COR1				AML	AML		
	comp=N,4910μm,0.5s						
COR1				AML	AML		
	comp=E,6230μm,0.7s						
COR1				AML	AML		
	comp=E,3105μm,0.7s						
COR1				AML	AML		
	comp=N,4920μm,0.5s						
COR1				AML	AML		
	comp=N,4915μm,0.5s						
ATPI	**Pietralunga -**	**0.82**	**320**	P	**Pg**	**07 39 22.9**	**-1.1**
ATPI				S	**Sn**	**07 39 37.0**	**-1.0**
ATPI				AML	AML		
	comp=N,1730μm,1.6s						
ATPI				AML	AML		
	comp=E,2030μm,0.6s						
PIEI	**Pieia**	**0.83**	**329**	⇑P	**Pg**	**07 39 23.3**	**-1.0**
PIEI				S	**Sn**	**07 39 37.0**	**-1.3**
PIEI				AML	AML		
	comp=N,1510μm,0.2s						
PIEI				AML	AML		
	comp=E,1750μm,0.7s						
MTCE	**Montecelio**	**0.85**	**200**	⇓P	**Pn**	**07 39 25.5**	**-0.6**
MTCE				AML	AML		
	comp=E,1910μm,0.4s						
MTCE				AML	AML		
	comp=N,1450μm,0.6s						
MPAG	**Monte Paganucc**	**0.85**	**342**	⇑P	**Pg**	**07 39 23.8**	**-0.8**
MPAG				S	**Sn**	**07 39 38.0**	**-0.8**
MPAG				AML	AML		
	comp=E,2050μm,1.6s						
MPAG				AML	AML		
	comp=N,2520μm,0.9s						
MPAG				AML	AML		
	comp=E,1995μm,1.5s						
MPAG				AML	AML		
	comp=E,2015μm,1.6s						
MPAG				AML	AML		
	comp=N,2005μm,0.9s						
MPAG				AML	AML		
	comp=E,1990μm,1.5s						
CERT	**Cerreto**	**0.88**	**187**	⇑P	**Pg**	**07 39 24.1**	**-1.1**
CERT				AML	AML		
	comp=E,2865μm,0.5s						
CERT				AML	AML		
	comp=N,1820μm,0.4s						
NARO	**Abbazia di Nar**	**0.88**	**334**	P	**Pg**	**07 39 24.5**	**-0.8**
NARO				S	**Sn**	**07 39 39.0**	**-0.4**
NARO				AML	AML		
	comp=E,1185μm,0.6s						

NARO				AML	AML		
	comp=N,870µm,1.3s						
SENI	**Senigallia**	**0.89**	**5**	⇓P	**Pb**	**07 39 25.7**	**+0.1**
SENI				AML	AML		
	comp=N,8025µm,1.3s						
SENI				AML	AML		
	comp=E,10200µm,1.6s						
SACS	**San Casciano d**	**0.89**	**272**	⇑P	**Pg**	**07 39 25.0**	**-0.5**
SACS				AML	AML		
	comp=N,2950µm,0.7s						
SACS				AML	AML		
	comp=E,2030µm,0.7s						
SACS				AML	AML		
	comp=N,2880µm,0.7s						
SACS				AML	AML		
	comp=E,2035µm,0.7s						
FSSB	**Fossombrone**	**0.91**	**344**	P	**Pg**	**07 39 23.0**	**-2.7**
BADI	**Badiali**	**0.94**	**317**	⇓P	**Pg**	**07 39 25.8**	**-0.6**
PE3	**Peglio**	**0.99**	**333**	P	**Pg**	**07 39 26.3**	**-0.9**
PE3				AML	AML		
	comp=E,20µm,1.2s						
PE3				AML	AML		
	comp=N,20µm,0.4s						
CAFI	**Castiglion Fio**	**0.99**	**301**	⇑P	**Pg**	**07 39 26.7**	**-0.6**
CAFI				S	**Sn**	**07 39 42.0**	**-0.1**
CAFI				AML	AML		
	comp=N,1980µm,0.8s						
CAFI				AML	AML		
	comp=N,2065µm,0.8s						
CAFI				AML	AML		
	comp=E,2575µm,0.5s						
CAFI				AML	AML		
	comp=E,2605µm,0.4s						
LATE	**Laterza**	**0.99**	**258**	P	**Pb**	**07 39 27.2**	**-0.3**
VVLD	**Villa Vallelon**	**1.02**	**159**	⇓P	**Pn**	**07 39 29.1**	**+0.5**
VVLD				AML	AML		
	comp=E,887µm,0.6s						
VVLD				AML	AML		
	comp=N,1085µm,1.1s						
MCIV	**Monte Civitell**	**1.06**	**268**	⇓P	**Pg**	**07 39 28.3**	**-0.4**
MCIV				AML	AML		
	comp=E,878µm,0.5s						
MCIV				AML	AML		
	comp=N,1070µm,0.5s						
SF04	**Casetta**	**1.07**	**271**	⇑P	**Pg**	**07 39 28.8**	**-0.1**
LPEL	**Lama dei Pelig**	**1.10**	**134**	P	**Pb**	**07 39 27.9**	**-1.5**
LPEL				AML	AML		
	comp=E,1510µm,0.6s						
LPEL				AML	AML		
	comp=N,1017µm,1.1s						
TOLF	**Tolfa**	**1.12**	**228**	⇑P	**Pb**	**07 39 29.0**	**-0.7**
TOLF				AML	AML		
	comp=E,1495µm,0.6s						
TOLF				AML	AML		
	comp=N,1380µm,0.4s						
CRE	**Caprese Michel**	**1.17**	**313**	⇓P	**Pb**	**07 39 30.1**	**-0.4**
CRE				AML	AML		
	comp=E,781µm,0.3s						
CRE				AML	AML		
	comp=N,912µm,0.3s						
GIUL	**Giuliano Di Ro**	**1.27**	**176**	⇓P	**Pg**	**07 39 33.6**	**+1.1**
FROS	**Frosini**	**1.49**	**286**	⇓P	**Pn**	**07 39 34.6**	**-0.4**
FROS				AML	AML		
	comp=E,554µm,0.7s						
FROS				AML	AML		
	comp=N,402µm,0.8s						
TRIV	**Trivento**	**1.50**	**134**	⇓P	**Pg**	**07 39 37.7**	**+0.8**
RUFI	**Rufina**	**1.56**	**311**	⇑P	**Pn**	**07 39 35.9**	**0.0**
RUFI				AML	AML		
	comp=E,514µm,0.9s						
RUFI				AML	AML		
	comp=N,450µm,0.6s						
TRIF	**Trifonti**	**1.66**	**281**	⇑P	**Pn**	**07 39 37.6**	**+0.3**
TRIF				AML	AML		
	comp=N,223µm,0.6s						
TRIF				AML	AML		
	comp=E,290µm,0.7s						
CASP	**Castiglione de**	**1.66**	**270**	⇑P	**Pn**	**07 39 37.1**	**-0.2**
CASP				AML	AML		
	comp=E,175µm,1.0s						
CASP				AML	AML		
	comp=N,168µm,1.3s						
MELA	**Melanico ??? S**	**1.86**	**126**	⇑P	**Pg**	**07 39 44.6**	**+0.8**
TREM	**Isole Tremiti**	**1.90**	**111**	⇓P	**Pn**	**07 39 40.6**	**0.0**
TREM				AML	AML		
	comp=N,832µm,0.9s						
TREM				AML	AML		
	comp=E,678µm,0.8s						
BRJN	**Brijuni**	**2.13**	**12**	⇑P	**Pn**	**07 39 44.6**	**+0.8**
CAFE	**Carife**	**2.39**	**138**	P	**Pb**	**07 39 50.4**	**-0.9**
VLC	**Villacollemand**	**2.40**	**305**	⇑P	**Pn**	**07 39 49.1**	**+1.6**
NDIM	**Novi di Modena**	**2.62**	**323**	S	**Sb**	**07 40 27.0**	**-0.3**
VULT	**Monte Vulture**	**2.64**	**134**	S	**Sn**	**07 40 24.0**	**+1.1**
PZUN	**Potenza**	**2.96**	**136**	⇓P	**Pn**	**07 39 52.9**	**-2.3**
CEY	**Cerknica**	**3.06**	**17**	*e*Pn	**Pn**	**07 39 56.0**	**-0.6**
ROVR	**Rover Verones**	**3.19**	**333**	⇓P	**Pn**	**07 40 00.3**	**+1.9**
CGRP	**Cima Grappa**	**3.20**	**343**	⇓P	**Pn**	**07 39 59.7**	**+1.1**
CGRP				S	**Sn**	**07 40 37.0**	**+0.1**
MGRS	**Mrkonjic Grad**	**3.29**	**60**	*e*Pn	**Pn**	**07 40 01.9**	**+2.2**
SIRI	**Monte Sirino -**	**3.35**	**141**	⇓P	**Pb**	**07 40 07.4**	**-0.3**
SIRI				S	**Sn**	**07 40 41.0**	**+0.6**
DOSS	**Dosso del Somm**	**3.36**	**336**	⇓P	**Pn**	**07 40 03.0**	**+2.2**
SALO	**Salr**	**3.36**	**327**	⇑P	**Pn**	**07 40 02.8**	**+2.1**
STON	**Ston**	**3.37**	**88**	*e*Pn	**Pn**	**07 39 59.5**	**-1.2**
CTI	**Castel Tesino**	**3.39**	**342**	⇓P	**Pn**	**07 40 03.0**	**+1.8**
STAL	**STALIGIAL**	**3.45**	**355**	⇓P	**Pn**	**07 40 02.6**	**+0.6**
STAL				AML	AML		
	comp=E,208µm,0.3s						
STAL				AML	AML		
	comp=N,150µm,0.8s						
A051A	**Mrakovica**	**3.50**	**50**	*e*Pn	**Pn**	**07 40 03.3**	**+0.6**
BLY	**Banja Luka**	**3.52**	**55**	*e*Pn	**Pb**	**07 40 10.2**	**-0.2**
OBKA	**Obir**	**3.82**	**15**	*e*Pn	**Pn**	**07 40 09.7**	**+2.6**
MYKA	**Terra Mystica**	**3.83**	**5**	*e*Pn	**Pn**	**07 40 08.7**	**+1.6**
	comp=N,4.1nm,0.2s						
TREB	**Trebinje**	**3.85**	**90**	*e*Pn	**Pn**	**07 40 07.3**	**-0.1**
ABTA	**Abfaltersbach**	**3.95**	**354**	*e*Pn	**Pn**	**07 40 10.4**	**+1.5**
	comp=N,4.7nm,0.2s						
BRY	**Bratogost**	**3.98**	**87**	*e*Pn	**Pn**	**07 40 09.4**	**0.0**
KBA	**Koelnbreinsper**	**4.26**	**2**	*i* Pn	**Pn**	**07 40 15.1**	**+1.9**
	comp=N,1.4nm,0.1s						
DRME	**Dracevica, Mon**	**4.53**	**96**	*e*Pn	**Pn**	**07 40 18.1**	**+1.4**
WTTA	**Wattenberg**	**4.56**	**347**	*e*Pn	**Pn**	**07 40 20.6**	**+3.2**
	comp=N,1.9nm,0.2s						
DAVOX	**Davos/Dischmat**	**4.58**	**331**	Pn	**Pn**	**07 40 21.0**	**+3.4**
	comp=N,2.1nm,0.3s,baz=138,slow=16,SNR=15						
DAVOX				Sn	**Sn**	**07 41 13.7**	**+2.8**
	comp=N,1.4nm,0.3s,baz=294,slow=23,SNR=4.2						
	comp=N,6.3nm,0.3s						
SQTA	**Sankt Quirin**	**4.60**	**344**	*i* Pn	**Pn**	**07 40 20.7**	**+2.9**
	comp=N,2.7nm,0.1s						
BBLS	**Lazići**	**4.70**	**75**	*e*Pn	Pb	07 40 25.0	-5.7
MOTA	**Moosalm**	**4.74**	**343**	*e*Pn	**Pn**	**07 40 22.2**	**+2.4**
	comp=N,8.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.88**	**4**	*i* Pn	**Pn**	**07 40 23.0**	**+1.4**
	comp=N,4.6nm,0.2s						
MOA	**Molln**	**5.09**	**9**	*i* Pn	**Pn**	**07 40 25.5**	**+1.0**
	comp=N,11nm,0.4s						
DIVS	**Divibare**	**5.16**	**73**	*e*Pn	Pn	07 40 30.4	+4.9
CONA	**Conrad Observa**	**5.46**	**20**	*i* Pn	**Pn**	**07 40 29.0**	**-0.5**
	comp=N,0.6nm,0.2s						
GERES	**GERESS Array B**	**6.04**	**4**	Pn	**Pn**	**07 40 37.5**	**-0.1**
	comp=N,0.7nm,0.3s,baz=176,slow=14,SNR=5.9						
GERES				Sn	**Sn**	**07 41 44.5**	**-2.1**
	comp=N,2.8nm,0.3s,baz=182,slow=24,SNR=11						
	comp=N,0.8nm,0.4s						
CKRC	**Cesky Krumlov**	**6.06**	**7**	*e*SN	**Sn**	**07 41 45.6**	**-1.4**
KHC	**Kasperske Hory**	**6.32**	**3**	*e*PN	**Pn**	**07 40 41.7**	**+0.4**
KHC				*e*SN	**Sn**	**07 41 50.7**	**-2.8**
NKC	**Novy Kostel**	**7.43**	**357**	*e*SN	**Sn**	**07 42 19.1**	**-1.7**
CLL	**Collm**	**8.49**	**359**	*e*Sg	**Sg**	**07 43 37.0**	**-3.5**
NOA	**NORSAR Array B**	**18.28**	**357**	P	**P**	**07 43 21.7**	**-0.1**
	baz=171,slow=12,SNR=1.6						
	comp=N,0.5nm,0.7s						
FINES	**FINESS Array B**	**20.20**	**18**	P	**P**	**07 43 42.4**	**-0.3**
	comp=N,2.7nm,0.9s,baz=200,slow=12,SNR=1.4						
	comp=N,2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.18**	**202**	P	**P**	**07 45 28.9**	**+1.5**
	comp=N,0.2nm,0.3s,baz=23,slow=8.7,SNR=2.4						
	comp=N,0.2nm,0.3s						
MKAR	**Makanchi Array**	**47.79**	**60**	P	**P**	**07 47 45.0**	**-0.4**
	comp=N,0.4nm,0.7s,baz=276,slow=9.6,SNR=2.2						
	comp=N,0.4nm,0.7s						

*SNET **03** 07:41:21.1±1.0, 13°.35N×90°.96W, h14^{km}±6^{km}, ML3.2*
*GCG **03** 07:41:30.3±0.4, 14°.05N×91°.04W, h64^{km}±8^{km}, MD4.0*
ISC 03 07:41:15.1±3.5, **13°.0N**±0°.2×**91°.03W**±0°.09, **h11**^{km}±15^{km}, **n17**, σ**0^{s}76**/23, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.38**	**338**	*e*P	**Pg**	**07 41 43.3**	**+1.7**
PCG	**Pacaya**	**1.42**	**17**	*e*P	**Pg**	**07 41 42.6**	**+0.2**
FUG	**Fuego 3**	**1.43**	**7**	*e*P	**Pg**	**07 41 42.7**	**+0.1**
NUBE	**Las Nubes**	**1.50**	**54**	*e*P	**Pb**	**07 41 43.2**	**+0.2**
NUBE				*e*S	**Sn**	**07 42 01.3**	**-0.4**
LOAL	**Lomas de Alarc**	**1.55**	**51**	*e*P	**Pg**	**07 41 44.8**	**-0.1**
LOAL				*e*S	**Sn**	**07 42 02.1**	**-0.8**
SLOZ	**Alcaldia de Sa**	**1.57**	**50**	*e*P	**Pg**	**07 41 44.9**	**-0.3**
CEVE	**Cerro Verde**	**1.58**	**59**	*e*P	**Pg**	**07 41 45.8**	**+0.3**
CEVE				*e*S	**Sb**	**07 42 05.3**	**+0.6**
CEVE				IAML		07 42 12.2	
	comp=Z,1µm,0.3s						
SBLS	**San Blas**	**1.59**	**59**	*e*P	**Pg**	**07 41 46.1**	**+0.4**
SBLS				*e*S	**Sb**	**07 42 05.4**	**+0.5**
RTR	**El Retiro**	**1.60**	**57**	*e*P	**Pg**	**07 41 45.9**	**+0.1**
RTR				*e*S	**Sb**	**07 42 06.4**	**+1.2**
SNJE	**San Jose**	**1.62**	**59**	*e*P	**Pg**	**07 41 46.4**	**+0.2**
NBG	**Las Nubes**	**1.69**	**23**	*e*P	**Pg**	**07 41 47.5**	**0.0**
UNIC	**Universidad Ca**	**1.73**	**56**	*e*P	**Pg**	**07 41 47.6**	**-0.6**
UNIC				*e*S	**Sn**	**07 42 07.9**	**+0.6**
STG3	**Santiaguito 3,**	**1.76**	**343**	*e*P	**Pg**	**07 41 47.1**	**-1.8**
SNET	**Serv Nac Est T**	**1.87**	**69**	*e*P	**Pg**	**07 41 50.6**	**-0.3**
UEES	**Universidad Ev**	**1.87**	**68**	*e*P	**Pg**	**07 41 50.9**	**-0.1**
MTO3	**Montecristo**	**2.12**	**50**	*e*P	**Pb**	**07 41 53.2**	**-0.5**
MRL	**Marmol**	**2.42**	**32**	*e*P	**Pb**	**07 41 58.3**	**-0.6**

*SOME **03** 07:44:03.3, 39°.50N×73°.40E, h5^{km}*
*KRNET **03** 07:44:05.7±0.1, 39°.54N×73°.49E, mb3.7*
*MOS **03** 07:44:06.9±0.3, 39°.50N×73°.52E, h15^{km}, mb3.8/3, Error ellipse: s-maj=11.5km s-min=6.1km az=78.7*
MOS Felt (II-III) at Bordobo.
*ISU **03** 07:44:06, 39°.67N×73°.71E, h11^{km}*
*NNC **03** 07:44:08.9±1.5, 39°.64N×73°.63E, h0^{km}, mb4.0, mpv3.6, Error ellipse: s-maj=12.1km s-min=7.2km az=176.0*
ISC 03 07:44:07.8±1.6, **39°.48N**±0°.04×**73°.39E**±0°.03, **h17**^{km}±5^{km}, **n82**, σ**2^{s}09**/132, **mb3.6**/3, **32C-23D**, **Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.23**	**270**	⇑*e*P	**Pb**	**07 44 30.4**	**-0.4**
	baz=68						
DRK				⇑*i*S	**Sn**	**07 44 48.1**	**+1.2**
	baz=68						
TSTA	**Tashata**	**1.30**	**328**	P	**Pn**	**07 44 31.7**	**+0.4**
TSTA				S	**Sb**	**07 44 50.0**	**+1.7**
ANR	**Andizhan**	**1.50**	**328**	P	**Sb**	**07 44 58.8**	**+4.9**
FRG	**Fergana**	**1.52**	**306**	P	**Pn**	**07 44 35.9**	**+1.6**
FRG				S	**Sg**	**07 44 58.2**	**+1.3**
BTK	**Batken**	**2.06**	**287**	⇑*i*P	**Pn**	**07 44 43.8**	**+2.0**
	baz=85						
BTK				⇑*i*S	**Sb**	**07 45 12.0**	**+1.7**
	baz=85						
BTK	**Batken**	**2.06**	**287**	PN	**Pn**	**07 44 43.8**	**+2.0**
BTK				S	**Sb**	**07 45 12.0**	**+1.7**
GAR	**Garm**	**2.44**	**260**	⇑*i*P	**Pn**	**07 44 49.4**	**+2.5**
	baz=59						
GAR				⇑*i*S	**Sb**	**07 45 21.3**	**+0.3**
	baz=59						
GAR	**Garm**	**2.44**	**260**	*i* PN	**Pn**	**07 44 49.4**	**+2.5**
GAR				S	**Sb**	**07 45 21.3**	**+0.3**
ARLS	**Aral**	**2.48**	**16**	⇑*i*P	**Pn**	**07 44 47.6**	**0.0**
	baz=15						
ARLS				⇑*i*S	**Sn**	**07 45 18.6**	**+1.0**
	baz=15						
ARLS	**Aral**	**2.48**	**16**	*i* PN	**Pn**	**07 44 47.6**	**0.0**
ARLS				S	**Sn**	**07 45 18.6**	**+1.0**
ARK	**Arkit**	**2.56**	**335**	⇑*i*P	**Pn**	**07 44 49.7**	**+1.1**
	baz=33						
ARK				⇑*i*S	**Sn**	**07 45 21.7**	**+2.3**
	baz=33						
ARK	**Arkit**	**2.56**	**335**	*i* PN	**Pn**	**07 44 49.7**	**+1.1**
ARK				S	**Sn**	**07 45 21.7**	**+2.3**
AML	**Almayashu**	**2.66**	**5**	P	**Pn**	**07 44 50.4**	**+0.2**
	SNR=82						
AML	**Almayashu**	**2.66**	**5**	*i* PN	**Pn**	**07 44 50.5**	**+0.2**
AML				S	**Sn**	**07 45 23.7**	**+1.4**
TRKS	**Terek-Say**	**2.67**	**321**	⇓*i*P	**Pn**	**07 44 50.9**	**+0.7**
	baz=18						
TRKS				⇓*i*S	**Sn**	**07 45 23.4**	**+1.1**
	baz=18						
TRKS	**Terek-Say**	**2.67**	**321**	*i* PN	**Pn**	**07 44 50.9**	**+0.7**
TRKS				S	**Sn**	**07 45 23.4**	**+1.1**
NRN	**Naryn**	**2.79**	**45**	⇑*i*P	**Pn**	**07 44 51.4**	**-0.5**
	baz=44						
NRN				⇑*i*S	**Sn**	**07 45 24.8**	**-0.6**
	baz=44						
NRN	**Naryn**	**2.79**	**45**	*i* PN	**Pn**	**07 44 51.4**	**-0.5**
NRN				S	**Sn**	**07 45 24.8**	**-0.6**
UCH	**Uchtor**	**2.87**	**17**	P	**Pn**	**07 44 54.5**	**+1.3**
	SNR=29						
UCH	**Uchtor**	**2.87**	**17**	⇓*i*P	**Pn**	**07 44 53.5**	**+0.3**
	baz=16						
UCH				⇓*i*S	**Sn**	**07 45 28.5**	**+0.8**
	baz=16						
UCH	**Uchtor**	**2.87**	**17**	*i* PN	**Pn**	**07 44 53.5**	**+0.3**
UCH				S	**Sn**	**07 45 28.5**	**+0.8**
EKS2	**Erkin-Say**	**3.19**	**5**	P	**Pn**	**07 44 59.9**	**+2.6**
	SNR=11						
EKS2	**Erkin-Say**	**3.19**	**5**	⇓*i*P	**Pn**	**07 44 58.0**	**+0.7**
	baz=4.0						
EKS2				⇓*i*S	**Sn**	**07 45 35.7**	**+0.7**
	baz=4.0						
EKS2	**Erkin-Say**	**3.19**	**5**	*e*PN	**Pn**	**07 44 58.0**	**+0.7**
AAK	**Ala-Archa**	**3.26**	**14**	P	**Pn**	**07 45 00.3**	**+2.0**
	SNR=16						
AAK	**Ala-Archa**	**3.26**	**14**	⇑*i*P	**Pn**	**07 44 58.8**	**+0.4**
	baz=13						
AAK				⇑*i*S	**Sn**	**07 45 37.5**	**+0.7**
	baz=13						
AAK	**Ala-Archa**	**3.26**	**14**	⇓*e*PN	**Pn**	**07 44 58.7**	**+0.4**
MRKS	**Merke**	**3.26**	**358**	*e*P	**Pb**	**07 45 05.0**	**-0.3**
	15nm,0.7s						
MRKS				*e*S	**Sb**	**07 45 46.7**	**+1.9**
	62nm,0.4s						
MRKS	**Merke**	**3.26**	**358**	Pg	**Pb**	**07 45 05.1**	**-0.3**
	28nm,0.4s						
MRKS				Lg	Lg	07 45 46.7	
	62nm,0.4s						
CHMG	**Chimgan**	**3.30**	**310**	P	**Sb**	**07 45 47.2**	**+1.2**
KBK	**Karagaybulak**	**3.38**	**20**	⇓*i*P	**Pn**	**07 45 00.5**	**+0.5**
	baz=19						
KBK				⇓*i*S	**Sn**	**07 45 39.9**	**0.0**
	baz=19						
KBK	**Karagaybulak**	**3.38**	**20**	*i* PN	**Pn**	**07 45 00.5**	**+0.5**
KBK				S	**Sn**	**07 45 39.9**	**0.0**
CHGR	**Chuyangaron**	**3.40**	**257**	⇑*i*P	**Pn**	**07 45 02.8**	**+2.7**
	baz=57						
CHGR				⇑*i*S	**Sn**	**07 45 44.7**	**+4.7**
	baz=57						
CHGR	**Chuyangaron**	**3.40**	**257**	*i* PN	**Pn**	**07 45 02.8**	**+2.7**
CHGR				S	**Sn**	**07 45 44.7**	**+4.7**
ULHL	**Ulahol**	**3.51**	**37**	P	**Pb**	**07 45 08.6**	**-0.9**
	SNR=19						
ULHL	**Ulahol**	**3.51**	**37**	⇓*i*P	**Pn**	**07 45 01.8**	**+0.1**
	baz=37						
ULHL				⇓*i*S	**Sn**	**07 45 42.8**	**-0.2**
	baz=37						
ULHL	**Ulahol**	**3.51**	**37**	*i* PN	**Pn**	**07 45 01.8**	**+0.1**
ULHL				S	**Sn**	**07 45 42.8**	**-0.2**
CHMS	**Chumysh**	**3.66**	**16**	⇑*e*P	**Pn**	**07 45 03.9**	**+0.2**
	baz=15						
CHMS				⇑*i*S	**Sn**	**07 45 46.6**	**+0.1**
	baz=15						
CHMS	**Chumysh**	**3.66**	**16**	⇑Pn	**Pn**	**07 45 04.7**	**+1.0**
	5.0nm,0.4s						
CHMS				⇑Lg	Lg	07 45 59.8	
	19nm,0.7s						
CHMS	**Chumysh**	**3.66**	**16**	*e*PN	**Pn**	**07 45 03.9**	**+0.2**
IUG	**Iuzhnay**	**3.69**	**317**	*e*P	**Pb**	**07 45 10.2**	**-2.3**
	299nm,0.4s						
IUG				*e*S	**Sb**	**07 45 54.9**	**-2.1**
	65nm,0.7s						
IUG	**Iuzhnay**	**3.69**	**317**	Pg	**Pb**	**07 45 10.1**	**-2.4**
	326nm,0.4s						
IUG				Lg	Lg	07 45 54.9	
	64nm,0.6s						
DZA	**Taraz**	**3.75**	**336**	*e*P	Pn	07 45 11.0	+6.1
	49nm,0.1s						
DZA				*e*S	**Sn**	**07 45 56.1**	**+7.6**
	130nm,0.2s						
TKM2	**Tokmak 2**	**3.82**	**25**	⇓*i*P	**Pn**	**07 45 06.3**	**+0.3**
	baz=24						
TKM2				⇓*i*S	**Sn**	**07 45 50.3**	**-0.3**
	baz=24						
TKM2	**Tokmak 2**	**3.82**	**25**	⇓Pn	**Pn**	**07 45 06.4**	**+0.3**
	4.0nm,0.5s						
TKM2				⇑Pg	**Pb**	**07 45 15.3**	**+0.4**
	3.5nm,0.4s						
TKM2				⇑Lg	Lg	07 46 02.7	
	34nm,0.8s						
TKM2	**Tokmak 2**	**3.82**	**25**	*e*PN	**Pn**	**07 45 06.3**	**+0.3**
USP	**Ospenovka**	**3.87**	**12**	⇑*i*P	**Pn**	**07 45 07.1**	**+0.5**
	baz=11						
USP				⇑*i*S	**Sn**	**07 45 52.1**	**+0.3**
	baz=11						
USP	**Ospenovka**	**3.87**	**12**	*e*PN	**Pn**	**07 45 07.1**	**+0.5**
CHM	**Chimkent**	**4.03**	**316**	*e*P	**Pb**	**07 45 16.3**	**-2.1**
	104nm,0.2s						
CHM				*e*S	**Sb**	**07 46 05.4**	**-1.5**
	193nm,0.3s						
KST	**Kastek**	**4.05**	**28**	*e*P	**Pb**	**07 45 18.8**	**0.0**
	5.2nm,0.7s						
KST				*e*S	**Sb**	**07 46 10.1**	**+2.5**
	49nm,0.8s						
KST	**Kastek**	**4.05**	**28**	Pg	**Pb**	**07 45 18.6**	**-0.1**
	11nm,0.6s						
KST				Lg	Lg	07 46 10.1	
	49nm,0.8s						
SGDS	**Sogindy**	**4.08**	**13**	*e*P	**Pb**	**07 45 20.2**	**+1.0**
	4.8nm,0.4s						
SGDS				*e*S	**Sb**	**07 46 12.2**	**+4.1**
	26nm,0.7s						
DGS	**Degeres**	**4.16**	**25**	*e*P	**Pb**	**07 45 22.0**	**+1.4**
	14nm,0.4s						
DGS				*e*S	**Sb**	**07 46 15.9**	**+5.2**
	41nm,0.7s						
DGS	**Degeres**	**4.16**	**25**	Pg	**Pb**	**07 45 22.0**	**+1.4**
	13nm,0.5s						
DGS				Lg	Lg	07 46 15.9	
	41nm,0.7s						
KK31	**Karatay Array**	**4.22**	**330**	⇑Pn	**Pn**	**07 45 13.8**	**+2.4**
	1.8nm,0.3s,baz=138,slow=12,SNR=24						
KK31				⇓Pg	**Pb**	**07 45 23.7**	**+2.1**
	3.4nm,0.4s,baz=153,slow=16,SNR=4.5						
KK31				⇑Sn	**Sn**	**07 46 05.9**	**+5.7**
	8.8nm,0.5s						
KK31				⇓Lg	Lg	07 46 21.0	
	7.6nm,0.4s,baz=150,slow=30,SNR=4.0						
KKAR	**Karatay Array**	**4.22**	**330**	⇓*i*P	**Pn**	**07 45 12.8**	**+1.5**
	baz=29						
KKAR				⇓*i*S	**Sn**	**07 46 01.7**	**+1.5**
	baz=29						
KKAR	**Karatay Array**	**4.22**	**330**	*i* PN	**Pn**	**07 45 12.8**	**+1.5**
KKAR				S	**Sn**	**07 46 01.7**	**+1.5**
IZV	**Izvestkoviy**	**4.30**	**33**	*e*P	**Pb**	**07 45 23.1**	**0.0**
	0.3nm,0.2s						
IZV				*e*S	**Sb**	**07 46 17.6**	**+2.8**
	55nm,0.7s						
IZV	**Izvestkoviy**	**4.30**	**33**	Pg	**Pb**	**07 45 23.1**	**0.0**
	0.3nm,0.2s						
IZV				Lg	Lg	07 46 17.6	
	55nm,0.7s						
MTBS	**Maitube**	**4.30**	**31**	*e*P	**Pb**	**07 45 22.4**	**-0.7**
	8.1nm,0.4s						
MTBS				*e*S	**Sb**	**07 46 15.8**	**+1.1**
	21nm,0.6s						
MTBS	**Maitube**	**4.30**	**31**	Pg	**Pb**	**07 45 22.4**	**-0.7**
	8.1nm,0.4s						
MTBS				Lg	Lg	07 46 15.8	
	21nm,0.6s						
TNSS	**Tian-Shan**	**4.45**	**36**	*e*P	**Pb**	**07 45 25.8**	**+0.1**
	5.9nm,0.5s						
TNSS				*e*S	**Sb**	**07 46 22.4**	**+3.2**
	20nm,0.7s						
TNSS	**Tian-Shan**	**4.45**	**36**	Pg	**Pb**	**07 45 25.8**	**+0.1**
	5.9nm,0.5s						
TNSS				Lg	Lg	07 46 22.4	
	20nm,0.7s						
MDOK	**Medeo**	**4.59**	**36**	*e*P	**Pb**	**07 45 28.5**	**+0.4**
	4.6nm,0.3s						
MDOK				*e*S	**Sb**	**07 46 26.3**	**+3.2**
	20nm,0.9s						
MDOK	**Medeo**	**4.59**	**36**	Pg	**Pb**	**07 45 28.5**	**+0.4**
	4.6nm,0.3s						
MDOK				Pg	**Pb**	**07 45 30.5**	**+2.5**
	9.5nm,1.0s						
MDOK				Lg	Lg	07 46 26.3	
	20nm,0.9s						
MDOK				Lg	Lg	07 46 27.6	
	22nm,0.8s						
KTBS	**Karatobe**	**4.89**	**29**	*e*P	**Pb**	**07 45 33.6**	**+0.5**
	6.6nm,0.6s						
KTBS				*e*S	**Sb**	**07 46 35.3**	**+3.6**
	40nm,0.7s						
KTBS	**Karatobe**	**4.89**	**29**	Pg	**Pb**	**07 45 33.6**	**+0.5**
	6.6nm,0.6s						
KTBS				Lg	Lg	07 46 35.3	
	40nm,0.7s						
KUU	**Kurty**	**4.93**	**26**	*e*P	**Pb**	**07 45 34.7**	**+1.0**
KUU				*e*S	**Sb**	**07 46 36.8**	**+4.2**
	7.0nm,0.5s						
KUU	**Kurty**	**4.93**	**26**	Pg	**Pb**	**07 45 34.7**	**+1.0**
KUU				Lg	Lg	07 46 36.8	
	7.0nm,0.5s						
BTLS	**Baital**	**5.58**	**5**	*e*P	**Pb**	**07 45 47.1**	**+2.5**
	4.0nm,1.1s						
BTLS				*e*S	**Sb**	**07 46 58.5**	**+7.2**
	8.3nm,0.9s						
ARXS	**Arharly**	**5.77**	**34**	*e*P	**Pb**	**07 45 49.7**	**+1.7**
	5.9nm,0.9s						
ARXS				*e*S	**Sb**	**07 47 02.8**	**+5.9**
	16nm,0.4s						
ARXS	**Arharly**	**5.77**	**34**	Pg	**Pb**	**07 45 49.7**	**+1.7**
	5.9nm,0.9s						
ARXS				Lg	Lg	07 47 02.8	
	16nm,0.4s						
PDGK	**Podgornoye**	**5.98**	**48**	⇑Pn	**Pn**	**07 45 34.0**	**-1.7**
	1.3nm,0.6s						
PDGK				⇓Pg	**Pb**	**07 45 55.3**	**+3.6**
	3.1nm,0.8s						
PDGK				⇓Lg	Lg	07 47 11.2	
	9.5nm,0.8s						
MK31	**Makanchi Array**	**9.78**	**39**	⇑*e*P	Pn	07 46 23.6	-4.0
BRVK	**Borovoye**	**13.75**	**352**	⇑*e*P	**Pn**	**07 47 19.4**	**-2.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
DGZ	**Jazzator, Alta**	**14.28**	**40**	⇓*e*P	**Pn**	**07 47 29.2**	**0.0**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.7s						
ZALV	**Zalesovo Beam**	**16.42**	**24**	*i* P	**Pn**	**07 47 57.7**	**+0.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**19.58**	**335***c*	*i*P	**P**	**07 48 32.9**	**-1.8**
ARU				S	**S**	**07 52 12.9**	**-2.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BELG	**Belogornoye**	**21.94**	**315**	⇑*e*P	**P**	**07 48 59.1**	**-1.2**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KBZ	**Khabaz**	**23.12**	**290**	⇑*e*P	**P**	**07 49 10.0**	**-2.9**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN	**Ulaanbaatar**	**25.59**	**60**	⇓*e*P	**P**	**07 49 35.4**	**-0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PALK	**Pallekele**	**32.74**	**166**	⇓*e*P	**P**	**07 50 41.4**	**+1.6**

*IDC **03** 07:59:16.9±5.6, 6°.22S×150°.84E, h111^{km}±46^{km}, mb3.4/4, mbtmp3.8/5, MS3.2/2, Error ellipse: s-maj=58.9km s-min=34.3km az=116.0*
ISC 03 07:59:15.5±1.2, **6°.2S**±0°.3×**150°.9E**±0°.3, **h100**^{km}, **n9**, σ**1^{s}27**/8, **mb3.5**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.95**	**229**	P	**Pn**	**08 00 29.2**	**+1.7**
	11nm,0.7s,baz=20,slow=15,SNR=2.6						
PMG				S	**Sn**	**08 01 22.5**	**-1.1**
	24nm,0.7s,baz=56,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**21.17**	**228**	P	**P**	**08 03 51.3**	**-1.6**
	3.0nm,0.8s,baz=53,slow=11,SNR=32						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	3.0nm,0.8s						
DZM	Mont Dzumac	21.79	138	LR	LR	08 11 48.4	
	comp=Z,40nm,18.6s,baz=46,slow=34						
ASAR	Alice Springs	23.91	222	P	P	08 04 19.6	-0.7
	3.4nm,0.6s,baz=58,slow=9.0,SNR=84						
	3.4nm,0.6s						
KLR	Kul'dur	57.65	345	LR	LR	08 33 22.8	
	comp=Z,30nm,18.3s,baz=271,slow=36						
VNDA	Vanda	71.56	178	P	P	08 10 25.6	+0.3
	0.4nm,0.7s,baz=332,slow=8.1,SNR=5.3						
	0.4nm,0.7s						
ILAR	Eielson Array	84.11	22	P	P	08 11 34.7	-0.3
	0.4nm,0.9s,baz=234,slow=4.7,SNR=1.9						
	0.4nm,0.9s						
TORD	Torodi Ar. Bea	148.92	285	PKPbc	PKPbc	08 18 53.4	+0.6
	1.1nm,0.9s,baz=73,slow=2.8,SNR=4.5						
BDFB	Brasilia	151.34	139	PKPbc	PKPbc	08 18 58.1	-0.6
	0.8nm,0.4s,baz=230,slow=8.3,SNR=3.1						

*DJA **03** 07:59:49.5±1.8, 6°S±4°×10°4E±°, h15km±15km, M3.2/6, mb1.9/1, MLv3.9/6*
*IDC **03** 07:59:50.7±2.4, 5°.41S×103°.46E, h0km, mb4.0/8, mbtmp4.0/8, MS2.6/1, Error ellipse: s-maj=96.8km s-min=19.3km az=57.0*
ISC 03 07:59:47.3±0.9, **6°.35S**±0°.07×**103°.65E**±0°.07, **h10km, n25,** σ1^s**58**/16, **mb4.1**/8, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASI	Kota Agung	1.17	46	P	Pg	08 00 10.6	+0.8
LWLI	Liwa	1.38	17	P	Pb	08 00 14.0	+0.7
LWLI				S	Sg	08 00 32.3	+0.5
BLSI	Bandar Lampung	1.86	59	P	Pn	08 00 20.5	+1.3
KLI	Kotabumi	1.90	39	P	Pn	08 00 21.4	+1.6
MNAI	Manna	2.09	341	P	Pn	08 00 23.9	+1.5
KSI	Kapahiang	2.88	338	P	Pn	08 00 34.9	+1.6
MASI	Maura Aman, Be	3.48	336	P	Pn	08 00 43.4	+1.8
CNJI	Cibinong	3.58	106	P	Pn	08 00 44.2	+1.3
LEM	Lembang	3.97	97	LR	LR	08 02 22.8	
	comp=Z,72nm,18.5s,baz=258,slow=35						
COCO	West Island	8.89	229	P	Pn	08 01 57.6	+1.7
CMAR	Chiang Mai Arr	25.08	349	P	P	08 05 10.5	-1.8
	1.7nm,0.4s,baz=182,slow=9.5,SNR=7.1						
	1.7nm,0.4s						
H01W3	Cape Leeuwin H	30.00	163	T	T	08 37 17.9	
	baz=340						
H01W2	Cape Leeuwin H	30.02	163	T	T	08 37 16.0	
	baz=340						
H01W1	Cape Leeuwin H	30.02	163	T	T	08 37 21.4	
	baz=340						
H08S2	Diego Garcia H	30.95	266	T	T	08 38 15.2	
	baz=89,slow=75,SNR=8.8						
H08S3	Diego Garcia H	30.96	266	T	T	08 38 21.5	
	baz=89,slow=75,SNR=10						
H08S1	Diego Carcia H	30.97	266	T	T	08 38 32.6	
	baz=89,slow=75,SNR=5.7						
WRA	Warramunga Arr	32.72	117	P	P	08 06 31.1	+11
	0.6nm,0.8s,baz=302,slow=9.1,SNR=3.1						
	0.6nm,0.8s						
ASAR	Alice Springs	33.79	124	P	P	08 06 40.7	+11
	0.3nm,0.4s,baz=291,slow=8.4,SNR=4.1						
	0.3nm,0.4s						
STKA	Stephens Creek	43.56	131	P	P	08 08 03.8	+12
	0.7nm,0.3s,baz=310,slow=18,SNR=2.5						
	0.7nm,0.3s						
SONM	Songino Array	54.00	2	P	P	08 09 10.9	-0.8
	1.4nm,0.7s,baz=180,slow=8.7,SNR=8.1						
	1.4nm,0.7s						
MKAR	Makanchi Array	56.20	342	P	P	08 09 25.1	-2.4
	1.3nm,0.7s,baz=140,slow=9.1,SNR=8.0						
	1.3nm,0.7s						
USRK	Ussuriysk Ar.	56.43	24	P	P	08 09 27.7	-1.5
	2.5nm,0.7s,baz=142,slow=5.3,SNR=4.2						
	2.5nm,0.7s						
ZALV	Zalesovo Beam	62.13	348	P	P	08 10 06.8	-1.5
	1.5nm,0.4s,baz=143,slow=6.2,SNR=5.1						
	1.5nm,0.4s						
TXAR	Lajitas Array	145.55	45	PKPbc	PKPdf	08 19 27.0	+0.3
	0.7nm,0.7s,baz=289,slow=1.6,SNR=8.7						

IDC 03 08:05:11.8±3.3, **53°.50N**×**87°.28E, h0km, mbtmp2.7**/2, **ML2.0**/2, **Error ellipse: s-maj=30.6km s-min=16.6km az=66.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.53	288	I		08 16 25.0	
	baz=104,slow=335,SNR=6.4						
ZALV	Zalesovo Beam	1.53	288	Pg	Pn	08 05 40.6	+0.2
	0.3nm,0.3s,baz=108,slow=14,SNR=3.9						
ZALV				Lg	Lg	08 05 58.9	
	0.4nm,0.3s,baz=102,slow=27,SNR=5.6						
KURBB	Kurchatov Arra	6.12	245	Pn	Pn	08 06 44.9	+1.6
	baz=64,slow=14,SNR=1.2						
	0.4nm,0.3s						
MKAR	Makanchi Array	7.44	208	Pn	Pn	08 07 01.9	+0.4
	baz=21,slow=15,SNR=1.5						
MKAR				Lg	Lg	08 09 06.4	
	0.2nm,0.3s,baz=26,slow=21,SNR=5.6						
	0.3nm,0.7s						

IDC 03 08:07:25.6±3.6, **6°.46S**×**150°.49E, h0km, mb3.6**/2, **mbtmp3.7**/2, **Error ellipse: s-maj=130.8km s-min=48.2km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.63	228	P	P	08 12 07.0	+0.2
	1.6nm,0.8s,baz=52,slow=11,SNR=19						
	1.6nm,0.8s						
ASAR	Alice Springs	23.39	221	P	P	08 12 35.4	-0.8
	2.4nm,0.7s,baz=58,slow=9.1,SNR=42						
	2.4nm,0.7s						
TORD	Torodi Ar. Bea	148.56	285	PKPbc	PKPbc	08 27 15.6	0.0
	0.7nm,0.7s,baz=80,slow=2.1,SNR=4.0						

IDC 03 08:09:33.6±3.6, **5°.51S**×**150°.11E, h0km, mb3.4**/2, **mbtmp3.6**/2, **Error ellipse: s-maj=129.9km s-min=49.0km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.00	226	P	P	08 14 18.7	-0.2
	0.5nm,0.4s,baz=50,slow=10,SNR=6.5						
	0.5nm,0.4s						
ASAR	Alice Springs	23.86	219	P	P	08 14 48.6	-0.4
	1.8nm,0.7s,baz=58,slow=9.1,SNR=14						
	1.8nm,0.7s						
TORD	Torodi Ar. Bea	147.95	286	PKPbc	PKPbc	08 29 21.8	-0.2
	0.2nm,0.5s,baz=106,slow=4.7,SNR=2.3						

IDC 03 08:16:29.1±3.5, **53°.71N**×**88°.03E, h0km, mbtmp2.9**/2, **ML2.7**/2, **Error ellipse: s-maj=34.3km s-min=19.4km az=50.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.92	278	I		08 29 45.0	
	baz=96,slow=340,SNR=9.8						
ZALV	Zalesovo Beam	1.92	278	Pn	Pn	08 17 03.5	+0.5
	1.2nm,0.3s,baz=98,slow=16,SNR=12						
ZALV				Lg	Lg	08 17 29.8	
	2.1nm,0.3s,baz=92,slow=29,SNR=12						
KURBB	Kurchatov Arra	6.61	246	Pn	Pn	08 18 07.6	+0.2
	0.1nm,0.3s,baz=63,slow=14,SNR=7.4						
	0.5nm,0.3s						
MKAR	Makanchi Array	7.84	210	Pn	Pn	08 18 25.7	+1.3
	0.1nm,0.3s,baz=24,slow=13,SNR=4.2						
	0.1nm,0.3s						

*SOME **03** 08:17:55.4, 43°.60N×82°.20E, h15km*
*NNC **03** 08:18:00.4±2.6, 43°.82N×81°.88E, h0km, mb3.0, mpv3.1, Error ellipse: s-maj=25.8km s-min=12.5km az=135.0*
ISC 03 08:17:56.3±2.4, **43°.70N**±0°.10×**82°.10E**±0°.08, **h9km**±15km, **n14,** σ1^s**49**/23, **2C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.94	260	Pg	Pb	08 18 32.1	+0.3
	1.6nm,0.0s						
PDGK				Lg	Lg	08 18 58.9	
	5.4nm,0.3s						
PDGK	Podgornoye	1.94	260	⇓Pn	Pn	08 18 31.7	+2.2
	1.9nm,0.3s						
PDGK				⇓Sn	Sb	08 18 57.3	+1.2
	4.2nm,0.4s						
SHLS	Shalkode	2.00	255	*e*P	Pn	08 18 28.8	-1.5
	2.6nm,0.3s						
SHLS				*e*S	Sn	08 18 53.2	-2.3
	11nm,0.5s						
SHLS	Shalkode	2.00	255	P	Pn	08 18 29.3	-1.0
	7.3nm,0.2s						
SHLS				S	Sn	08 18 53.9	-1.7
	11nm,0.5s						
UZB	Uzynbulak	2.31	257	*e*P	Pb	08 18 39.3	+1.1
	2.7nm,0.4s						
UZB				*e*S	Sg	08 19 10.9	+0.4
	9.5nm,0.3s						
UZB	Uzynbulak	2.31	257	Pg	Pb	08 18 39.3	+1.1
	2.7nm,0.4s						
UZB				Lg	Lg	08 19 10.9	
	9.5nm,0.3s						
KPKS	Kokpek	2.50	266	*e*P	Pb	08 18 42.4	+1.1
	1.6nm,0.1s						
KPKS				*e*S	Sg	08 19 16.2	-0.2
	13nm,0.3s						
BLB	Baldybastay	2.65	280	*e*P	Pb	08 18 45.4	+1.4
	2.8nm,0.2s						
BLB				*e*S	Sg	08 19 21.5	+0.1
	8.1nm,0.5s						
BLB	Baldybastay	2.65	280	Pg	Pb	08 18 45.4	+1.4
	2.8nm,0.2s						
BLB				Lg	Lg	08 19 21.5	
	8.1nm,0.5s						
TDK	Taldyqorghan	2.95	297	*e*P	Pb	08 18 50.1	+1.1
	20nm,0.1s						
TDK				*e*S	Sg	08 19 29.7	-1.4
	34nm,0.3s						
TDK	Taldyqorghan	2.95	297	Pg	Pb	08 18 50.1	+1.1
	20nm,0.1s						
TDK				Lg	Lg	08 19 29.7	
	34nm,0.3s						
MK31	Makanchi Array	3.09	2	⇑Pg	Pg	08 18 55.1	-0.4
	0.6nm,0.6s,baz=186,slow=15,SNR=5.1						
MK31				⇑Lg	Lg	08 19 37.7	
	2.2nm,0.7s,baz=191,slow=29,SNR=3.5						
ARXS	Arharly	3.13	281	*e*P	Pb	08 18 53.1	+1.0
	1.5nm,0.4s						
ARXS				*e*S	Sg	08 19 34.5	-2.3
	2.8nm,0.2s						
ZSN	Zaisan	4.22	26	*e*P	Pb	08 19 10.3	-0.3
	3.4nm,0.6s						
ZSN				*e*S	Sb	08 20 04.0	+2.3
	2.6nm,0.4s						

IDC 03 08:18:40.5±3.7, **53°.69N**×**90°.77E, h0km, mbtmp3.0**/3, **ML2.3**/3, **Error ellipse: s-maj=33.7km s-min=26.9km az=29.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.54	277	I		08 42 50.0	
	baz=90,slow=333,SNR=1.6						
ZALV	Zalesovo Beam	3.54	277	Pn	Pn	08 19 37.2	+0.5
	0.3nm,0.3s,baz=96,slow=15,SNR=3.2						
ZALV				Lg	Lg	08 20 31.6	
	0.4nm,0.3s,baz=96,slow=26,SNR=3.7						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	8.13	253	Pn	Pn	08 20 39.3	-0.3
	0.1nm,0.3s,baz=66,slow=15,SNR=7.4						
KURBB				Sn	Sn	08 22 11.2	-1.0
	baz=67,slow=26,SNR=2.5						
KURBB				Lg	Lg	08 22 58.5	
	baz=63,slow=34						
	1.2nm,0.6s						
MKAR	Makanchi Array	8.78	222	Pn	Pn	08 20 49.4	+0.8
	0.1nm,0.3s,baz=40,slow=15,SNR=3.3						
MKAR				Lg	Lg	08 23 18.9	
	baz=34,slow=31						
	0.5nm,0.5s						

DJA 03 08:24:30.8±0.4, **2°S**±3°×**10°1E**±°, **h43km**±10km, **M3.7**/7, **MLv3.7**/7, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	1.04	231	P	Pn	08 24 49.4	+0.4
SDSI	Sungai Dareh	1.31	28	P	Pn	08 24 52.8	+0.2
SDSI				S	Sn	08 25 09.4	+0.5
PPI	Padang Panjang	1.69	345	P	Pn	08 24 58.6	+0.8
MASI	Maura Aman, Be	1.75	126	P	Pn	08 24 58.7	-0.1
SISI	Saibi	1.89	294	P	Pn	08 25 00.3	-0.3
SISI				S	Sn	08 25 23.6	+0.3
UBSI	University, Be	2.20	139	P	Pn	08 25 04.7	-0.1
MNAI	Manna	3.10	137	P	Pn	08 25 17.1	-0.1
PBSI	Pulau Batu	3.25	309	P	Pn	08 25 19.2	-0.1

IDC 03 08:34:46.8±3.7, **2°.42S**×**140°.46E, h0km, mb3.5**/2, **mbtmp3.7**/3, **ML4.0**/1, **MS3.1**/3, **Error ellipse: s-maj=127.5km s-min=31.7km az=87.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	9.62	136	LR	LR	08 41 37.7	
	comp=Z,48nm,21.8s,baz=342,slow=43						
WRA	Warramunga Arr	18.42	199	P	Pn	08 39 03.0	-0.8
	0.5nm,0.3s,baz=19,slow=12,SNR=30						
	1.1nm,0.4s						
ASAR	Alice Springs	22.06	196	P	P	08 39 43.0	-0.4
	1.4nm,0.6s,baz=27,slow=10,SNR=28						
	1.4nm,0.6s						
STKA	Stephens Creek	29.32	178	LR	LR	08 52 32.3	
	comp=Z,40nm,19.3s,baz=32,slow=36						
KSRS	Korea Array	41.34	345	LR	LR	08 55 49.2	
	comp=Z,44nm,21.6s,baz=120,slow=30						
MKAR	Makanchi Array	70.64	322	P	P	08 46 04.8	+0.6
	0.3nm,0.6s,baz=115,slow=6.8,SNR=1.5						
	0.3nm,0.6s						

*NIED **03** 08:50:21.2, 32°.10N×135°.97E, h31km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.22; $M_{\theta\theta}$0.97; $M_{\phi\phi}$2.24; $M_{r\theta}$2.29; $M_{\theta\phi}$4.38; $M_{\phi r}$5.81; Fault plane solution: $M_0$7.95000×10^{14} NP1:ϕ_s74.00000°, δ26.00000°, λ-38.00000°. NP2:ϕ_s200.00000°, δ74.00000°, λ-111.00000°.*
JMA 03 08:50:21.2±0.2, **32°.1N**±0°.7×**136°.0E**±0°.5, **h31km, MV3.7**/32, **SHIKOKU BASIN, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWKM	Wakayamakushim	1.36	352	*i* P	Pn	08 50 44.9	+0.8
JWKM				S	Sn	08 51 01.1	+0.1
TTO1	TONANKAI O.B.S	1.67	24	P	Pn	08 50 49.5	+1.4
TTO1				*e*X		08 51 10.9	
JMMH	Miemihama	1.72	1	*i* P	Pn	08 50 50.1	+1.1
JMMH				S	Sn	08 51 10.0	+0.1
JTNC	Tanabenakahech	1.74	350	*i* P	Pn	08 50 50.5	+1.1
JTNC				S	Sn	08 51 10.9	+0.4
JWM	Minabe	1.82	344	P	Pn	08 50 51.8	+1.3
JWM				S	Sn	08 51 12.8	+0.3
TTO2	TONANKAI O.B.S	1.86	28	*i* P	Pn	08 50 52.0	+1.4
TTO2				*e*X		08 51 16.7	
JAI	Aioi	2.12	323	*i* P	Pn	08 50 55.9	+1.4
JAI				S	Sn	08 51 21.7	+1.9
JWY	Kouya	2.14	352	P	Pn	08 50 56.7	+1.8
JWY				S	Sn	08 51 22.2	+1.8
JKN2	Miekihoku	2.15	7	*i* P	Pn	08 50 56.4	+1.4
JKN2				S	Sn	08 51 21.2	+0.7
JIE	Ise	2.37	15	*i* P	Pn	08 50 59.6	+1.7
JIE				S	Sn	08 51 26.7	+0.7
TK02	Tokai 2	2.38	39	*e*X		08 51 26.6	
JMN	Monobe	2.40	313	P	Pn	08 50 59.9	+1.5
JMN				S	Sn	08 51 29.1	+2.3
JAWN	Awajishima-nag	2.54	340	P	Pn	08 51 02.7	+2.3
JAWN				S	Sn	08 51 31.9	+1.6
JHE	Heguri	2.56	355	P	Pn	08 51 03.0	+2.3
JHE				S	Sn	08 51 32.5	+1.8
TSUJ	Tsu 2	2.63	8	*e*P	Pn	08 51 03.5	+2.0
TSUJ				*e*S	Sn	08 51 33.6	+1.2

*IDC **03** 08:53:52.2±1.4, 53°.44N×169°.45W, h109km±11km, mb4.0/35, mbtmp4.3/37, MS3.2/4, Error ellipse: s-maj=13.8km s-min=8.4km az=180.0*
*NEIC **03** 08:53:52.1±2.0, 53°.21N±0°.08×169°.3W±0°.1, h107km±5km, mb4.6/56, ML4.1/6, ML4.2(AEIC), Error ellipse: s-maj=12.2km s-min=8.0km az=157.0*
*AEIC **03** 08:53:54.2±3.1, 52°.97N±0°.09×169°.1W±0°.1, h103km±3km, Error ellipse: s-maj=13.2km s-min=8.0km az=158.0*
ISC 03 08:53:50.7±0.4, **53°.26N**±0°.07×**169°.30W**±0°.05, **h100km, n404,** σ1^s**38**/402, **mb4.3**/47, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.39	137	Pn	Pn	08 54 07.9	+2.2
NIKH	Nikolski High	0.39	137		Sn	08 54 19.4	+2.4
NIKH	Nikolski High	0.39	137	P	Pn	08 54 07.9	+2.2
	baz=305						
NIKH	Nikolski High	0.39	137	P	Pn	08 54 07.8	+2.2
CLES	Cleveland East	0.56	220	Pn	Pn	08 54 09.1	+2.2
CLES				IAML		08 54 15.6	
	comp=E,11μm,0.7s						
UNV	Unalaska Valle	1.77	69	Pn	Pn	08 54 22.7	+2.5
UNV	Unalaska Valle	1.77	69		Sn	08 54 45.4	+2.7
UNV	Unalaska Valle	1.77	69	P	Pn	08 54 22.7	+2.5
	baz=245,SNR=55						
AKUT	Akutan	2.27	66	Pn	Pn	08 54 29.8	+3.1
FALS	False Pass	3.82	63		Pn	08 54 49.7	+2.5
FALS	False Pass	3.82	63	P	Pn	08 54 49.8	+2.6
	baz=244,SNR=12						
SPIA	Saint Paul Isl	3.97	352		Pn	08 54 53.3	+4.0
SPIA	Saint Paul Isl	3.97	352	P	Pn	08 54 53.2	+4.0
	baz=171,SNR=6.6						
ADK	Adak	4.71	256	IAML		08 55 58.9	
	comp=E,155nm,1.1s						
ADK				IAML		08 56 01.1	
	comp=E,158nm,1.4s						
ADK	Adak	4.71	256	Pn	Pn	08 55 02.5	+3.1
ADK	Adak	4.71	256	P	Pn	08 55 02.3	+3.0
KIWB	Kanaga Island	4.99	257		Pn	08 55 06.4	+3.2
SDPT	Sand Point	5.57	64	Pn	Pn	08 55 12.8	+1.7
SDPT	Sand Point	5.57	64	P	Pn	08 55 12.5	+1.4
	baz=249,SNR=8.4						
CNBA	Chernabura Isl	5.93	71		Pn	08 55 16.3	+0.4
CHNA	Chernabura Isl	5.93	71	P	Pn	08 55 16.4	+0.5
	baz=257						
CHGN	Chignik	7.00	60		Pn	08 55 30.7	+0.4
CHGN	Chignik	7.00	60	P	Pn	08 55 31.3	+1.0
	baz=247						
CHIR	Chirikof Islan	8.36	67		Pn	08 55 48.4	-0.4
CHIR	Chirikof Islan	8.36	67	P	Pn	08 55 48.5	-0.4
	baz=256						
P16K	Nushagak River	8.56	43	P	Pn	08 55 53.2	+1.7
	baz=231,SNR=8.8						
O16K	Kokwok River B	8.87	40	P	Pn	08 55 57.9	+2.1
	baz=228,SNR=10						
Q16K	King Salmon	8.92	47	P	Pn	08 55 58.3	+1.8
	baz=237						
Q17K	Contact Creek	9.07	51	P	Pn	08 56 00.2	+1.6
	baz=241						
N16K	Nishlik Lake	9.24	34	P	Pn	08 56 03.9	+3.1
	baz=222,SNR=20						
P17K	Kvichak River	9.30	45	P	Pn	08 56 03.6	+2.0
	baz=235						
SII	Sitkinak Islan	9.31	63	Pn	Pn	08 56 01.0	-0.8
SII	Sitkinak Islan	9.31	63	P	Pn	08 56 01.2	-0.6
	baz=254						
SII	Sitkinak Islan	9.31	63	P	Pn	08 56 01.0	-0.8
O17K	Koliganek Bris	9.38	41	P	Pn	08 56 04.9	+2.3
	baz=230,SNR=9.4						
Q18K	Katmai Hardscr	9.66	50	P	Pn	08 56 08.5	+1.9
	baz=241,SNR=6.2						
P18K	Big Mountain,	9.93	46		Pn	08 56 12.7	+2.5
P18K	Big Mountain,	9.93	46	P	Pn	08 56 11.6	+1.4
	baz=237						
OHAK	Old Harbor	9.96	60	P	Pn	08 56 09.2	-1.4
	baz=252						
O18K	Koktuh Hills	10.19	44	Pn	Pn	08 56 16.3	+2.5
O18K	Koktuh Hills	10.19	44	P	Pn	08 56 15.9	+2.1
	baz=235,SNR=10						
Q19K	Cape Douglas,	10.42	51	P	Pn	08 56 16.3	-0.5
	baz=243						
N18K	Kilae Creek	10.42	39	Pn	Pn	08 56 19.2	+2.4
N18K	Kilae Creek	10.42	39	P	Pn	08 56 19.4	+2.6
	baz=229						
KDAK	Kodiak Island	10.50	58	P	Pn	08 56 17.3	-0.6
	baz=250						
O19K	Port Alsworth	10.75	44	P	Pn	08 56 22.0	+0.7
	baz=235						
SVW2	Sparrevohn	10.80	38		Pn	08 56 24.6	+2.6
Q20K	Shuyak Island	10.88	54	P	Pn	08 56 22.4	-0.7
	baz=247						
P19K	Oil Pt	10.94	48	P	Pn	08 56 24.1	+0.2
	baz=240						
N19K	Bonanza Creek	11.04	41	Pn	Pn	08 56 28.4	+3.0
N19K	Bonanza Creek	11.04	41	P	Pn	08 56 27.8	+2.4
	baz=232,SNR=8.3						
ANM	Nome	11.52	9	Pn	Pn	08 56 34.5	+2.9
M19K	Big River Lodg	11.76	37		Pn	08 56 37.6	+2.6
M19K	Big River Lodg	11.76	37	P	Pn	08 56 38.3	+3.3
	baz=228						
L19K	White Mountain	11.79	35		Pn	08 56 37.3	+2.0
L19K	White Mountain	11.79	35	P	Pn	08 56 37.8	+2.5
	baz=226,SNR=16						
TTA	Tatalina	11.95	31	P	Pn	08 56 40.6	+3.1
	baz=221,SNR=12						
BRSE	Bradley Lake S	12.11	50	P	Pn	08 56 37.5	-2.1
	baz=245						
N20K	Mount Spurr	12.18	42	P	Pn	08 56 38.5	-2.0
	baz=236						
SPCR	Spurr Chakacha	12.18	42	P	Pn	08 56 39.0	-1.5
	baz=236						
M20K	Styx River	12.21	39		Pn	08 56 44.1	+3.2
M20K	Styx River	12.21	39	P	Pn	08 56 44.2	+3.2
	baz=231						
L20K	Farewell, AK	12.32	35	P	Pn	08 56 45.0	+2.6
	baz=228						
SEW	Seward	12.85	50	P	Pn	08 56 47.4	-1.9
	baz=246						
K20K	Telida	12.87	32		Pn	08 56 52.3	+2.8
K20K	Telida	12.87	32	P	Pn	08 56 52.7	+3.2
	baz=224,SNR=10						
SKT	Skwentna	12.88	40		Pn	08 56 53.2	+3.5
SKT	Skwentna	12.88	40	P	Pn	08 56 53.0	+3.2
	baz=234,SNR=8.0						
O22K	Cooper Landing	12.88	48	P	Pn	08 56 48.9	-0.9
	baz=244						
SUA	Susitna One	12.91	43		Pn	08 56 51.0	+0.8
SUA	Susitna One	12.91	43	P	Pn	08 56 52.0	+1.8
	baz=238						
GCSA	Galena City Sc	13.14	24	P	Pn	08 56 55.6	+2.5
	baz=214,SNR=8.9						
RC01	Rabbit Creek A	13.15	46	P	Pn	08 56 53.9	+0.7
	baz=241						
PPLA	Purkeypile	13.19	36		Pn	08 56 57.2	+3.4
PPLA	Purkeypile	13.19	36	P	Pn	08 56 56.5	+2.6
	baz=230,SNR=13						
M22K	Willow	13.32	43	P	Pn	08 56 56.7	+1.3
	baz=238						
J20K	Nowinta River	13.44	30	P	Pn	08 56 59.5	+2.5
	baz=222,SNR=19						
CAST	Castle Rocks	13.56	35	P	Pn	08 57 01.5	+2.8
	baz=228,SNR=104						
CUT	Chulitna	13.61	40	P	Pn	08 57 01.2	+2.0
	baz=236						
PMR	Palmer	13.65	44		Pn	08 57 00.1	+0.4
PMR	Palmer	13.65	44	P	Pn	08 57 01.1	+1.4
	baz=240,SNR=6.2						
PWL	Port Wells	13.66	48	P	Pn	08 56 58.3	-1.7
	baz=245,SNR=19						
P23K	Montague Islan	13.77	52	P	Pn	08 57 01.4	+0.1
	baz=249						
CHUM	Lake Minchumin	13.80	33	P	Pn	08 57 04.4	+2.8
	baz=227,SNR=5.4						
GHO	Glory Hole Cre	13.82	44		Pn	08 57 02.7	+0.6
KNK	Knik Glacier	13.85	46	P	Pn	08 57 02.2	-0.1
	baz=242,SNR=14						
KTH	Kantishna Hill	14.05	36		Pn	08 57 07.3	+2.3
SML	Sawmill	14.09	44		Pn	08 57 05.9	+0.4
SML	Sawmill	14.09	44	P	Pn	08 57 05.7	+0.2
	baz=241,SNR=19						
TRF	Thorofare Moun	14.21	37		Pn	08 57 09.1	+1.9
TRF	Thorofare Moun	14.21	37	P	Pn	08 57 09.1	+1.9
	baz=232,SNR=18						
GLI	Glacier Island	14.23	49	P	Pn	08 57 07.2	0.0
	baz=247,SNR=5.8						
M23K	Glacier View	14.34	45	P	Pn	08 57 08.7	+0.1
	baz=242,SNR=56						

BPAW **Bear Paw Mtn.** 14.38 34 Pn 08 57 11.6 +2.5
BPAW **Bear Paw Mtn.** 14.38 34 P Pn 08 57 11.7 +2.5
baz=229,SNR=53
WAT1 **Susitna Watana** 14.51 40 P Pn 08 57 12.2 +1.3
baz=237
SCM **Sheep Creek Mo** 14.52 45 P Pn 08 57 11.3 +0.3
baz=243,SNR=43
WAT6 **Susitna Watana** 14.70 42 P Pn 08 57 14.0 +0.5
baz=240,SNR=19
RND **Reindeer** 14.71 38 Pn Pn 08 57 13.2 -0.3
EYAK **Cordova Ski Ar** 14.73 51 P Pn 08 57 12.6 -1.0
baz=250
I21K **Tanana** 14.81 29 P Pn 08 57 16.4 +1.8
baz=224,SNR=8.1
MCK **McKinley** 14.87 37 Pn 08 57 16.0 +0.6
MCK **McKinley** 14.87 37 P Pn 08 57 16.4 +1.0
baz=234,SNR=23
H21K **Melozitna Rive** 14.92 27 Pn 08 57 18.2 +2.1
H21K **Melozitna Rive** 14.92 27 P Pn 08 57 18.1 +2.0
baz=221,SNR=15
IMAR **Indian Mountai** 14.92 25 Pn 08 57 16.9 +0.9
BWN **Browne** 14.94 35 Pn 08 57 19.4 +3.1
BWN IAmb IAmb 08 57 22.9
comp=Z,75nm,1.2s
KLU **Klutina** 14.99 47 P Pn 08 57 14.8 -2.2
baz=246,SNR=40
MLY **Manley** 15.08 31 P Pn 08 57 20.9 +2.8
baz=227,SNR=42
DHY **Denali Highway** 15.10 41 Pn 08 57 20.3 +1.9
DHY **Denali Highway** 15.10 41 P Pn 08 57 19.0 +0.6
baz=239,SNR=8.5
M24K **Tolsona, Glenn** 15.13 45 Pn 08 57 20.5 +1.7
M24K **Tolsona, Glenn** 15.13 45 P Pn 08 57 19.8 +1.0
baz=244,SNR=24
NEA2 **Nenana** 15.34 34 P Pn 08 57 22.3 +0.9
baz=231,SNR=13
BMRM **Bremner River** 15.40 50 P Pn 08 57 21.1 -1.0
baz=250
G21K **Aliakaket** 15.40 24 P Pn 08 57 24.4 +2.3
baz=217
H22K **Ishtalitna Cre** 15.50 28 P Pn 08 57 26.3 +3.0
baz=223,SNR=16
I23K **Minto, Yukon-K** 15.60 32 P Pn 08 57 26.7 +2.2
baz=229,SNR=37
N25K **Chitina, Valde** 15.62 48 P Pn 08 57 24.9 -0.1
baz=248,SNR=22
HARP **HAARP** 15.69 45 P Pn 08 57 26.7 +1.0
baz=245,SNR=22
PAX **Paxson** 15.81 43 P Pn 08 57 27.5 +0.2
baz=242,SNR=13
TCOL **CIGO, UAF Yank** 15.92 35 P Pn 08 57 29.3 +0.7
baz=232,SNR=12
COLA **College** 15.93 35 P Pn 08 57 29.0 +0.4
baz=232
HDA **Harding Lake** 15.97 37 P Pn 08 57 29.1 -0.2
baz=235,SNR=17
F21K **Alatna River** 15.97 23 P Pn 08 57 31.5 +2.3
baz=216,SNR=12
H23K **Yukon River** 15.99 30 P Pn 08 57 30.9 +1.4
baz=227,SNR=21
K24K **Donnelly Dome** 16.09 40 P Pn 08 57 31.8 +1.2
baz=239,SNR=15
ILAR **Eielson Array** 16.20 36 P Pn 08 57 31.1 -1.0
comp=Z,6.3nm,0.5s,baz=236,slow=11,SNR=79
ILAR S Sn 09 00 30.1 -1.1
comp=Z,0.4nm,0.7s,baz=222,slow=26,SNR=1.7
ILAR PcP PcP 09 02 20.3 +0.1
comp=Z,1.0nm,0.6s,baz=279,slow=3.1,SNR=6.8
ILAR ScP ScP 09 05 43.3 -1.9
comp=Z,1.5nm,0.9s,baz=272,slow=3.2,SNR=9.9
POKR **Poker Plat Res** 16.21 34 P Pn 08 57 32.9 +0.7
POKR **Poker Plat Res** 16.21 34 P Pn 08 57 32.0 -0.2
baz=233
G22K **Bettles** 16.22 26 P Pn 08 57 34.7 +2.4
baz=220,SNR=8.1
MCARA **McCarthy VSAT** 16.26 50 P Pn 08 57 31.6 -1.2
baz=251
ISLE **Juniper Island** 16.36 53 P Pn 08 57 34.9 +0.7
ISLE IAmb IAmb 08 57 39.0
comp=Z,25nm,0.7s
RIDG **Independent Ri** 16.42 41 P Pn 08 57 36.1 +1.3
baz=241
MESA **MESA** 16.44 54 P Pn 08 57 36.1 +0.8
MESA IAmb IAmb 08 57 40.3
comp=Z,78nm,1.1s
MESA **MESA** 16.44 54 P Pn 08 57 36.4 +1.2
baz=256,SNR=7.2
G23K **Bananza Creek** 16.47 28 P P 08 57 37.9 +1.6
baz=224,SNR=11
H24K **Noodor Dome** 16.51 32 P Pn 08 57 36.9 +1.0
H24K IAmb IAmb 08 57 40.8
comp=Z,29nm,1.0s
H24K **Noodor Dome** 16.51 32 P Pn 08 57 36.8 +0.9
baz=230,SNR=17
MENT **Mentasta** 16.52 44 P Pn 08 57 36.1 +0.1
MENT IAmb IAmb 08 57 41.8
comp=Z,21nm,0.5s
YAH **Yahtse** 16.58 54 P Pn 08 57 36.9 -0.2
M26K **Nabesna, AK** 16.61 46 P Pn 08 57 36.9 -0.3
M26K IAmb IAmb 08 57 39.0
comp=Z,35nm,1.0s
M26K **Nabesna, AK** 16.61 46 P Pn 08 57 37.0 -0.3
baz=248,SNR=23
J25K **Salcha River,** 16.66 38 P Pn 08 57 37.8 +0.1
baz=238
DOT **Dot Lake** 16.68 42 P Pn 08 57 37.7 -0.4
L26K **Log Cabin Wild** 16.71 44 P Pn 08 57 38.2 -0.2
L26K IAmb IAmb 08 57 39.8
comp=Z,19nm,0.6s
L26K **Log Cabin Wild** 16.71 44 P Pn 08 57 38.5 +0.1
baz=245,SNR=18
BARN **Barnard Glacie** 16.80 51 P Pn 08 57 40.0 +0.4
BARN IAmb IAmb 08 57 43.2
comp=Z,23nm,0.6s
COLD **Coldfoot** 16.80 26 P P 08 57 41.6 +1.8
COLD IAmb IAmb 08 58 08.1
comp=Z,47nm,1.1s
COLD **Coldfoot** 16.80 26 P Pn 08 57 41.3 +2.0
baz=222,SNR=8.5
SCRK **Sand Creek** 16.86 41 P Pn 08 57 39.8 -0.5
baz=242,SNR=20
TABL **Table Mountain** 16.89 54 P Pn 08 57 41.8 +1.0
TABL IAmb IAmb 08 57 43.8
comp=Z,32nm,0.8s
M27K **Edge Creek, AK** 17.09 47 P Pn 08 57 43.2 0.0
M27K IAmb IAmb 08 57 45.8
comp=Z,51nm,1.1s
M27K **Edge Creek, AK** 17.09 47 P Pn 08 57 43.5 +0.4
baz=250,SNR=23
PRP **Porcupine Dome** 17.10 35 P Pn 08 57 43.1 -0.1
baz=235,SNR=16
G24K **Hadweenzic Riv** 17.20 30 P Pn 08 57 46.0 +1.8
baz=228,SNR=13
PCA **Pinnacle** 17.25 55 P P 08 57 46.0 +1.0
PCA IAmb IAmb 08 57 50.5
comp=Z,40nm,0.7s
PINM **Pinnacle** 17.26 55 P P 08 57 46.1 +0.9
baz=259,SNR=8.3
J26L **Joseph Creek** 17.27 39 P P 08 57 44.4 -0.9
baz=241,SNR=72
L27K **Beaver Creek,** 17.36 45 P P 08 57 46.2 +0.1
baz=248,SNR=8.6
O28M **Mount Upton** 17.42 53 P P 08 57 48.3 +1.1
baz=257,SNR=14
H25K **Birch Creek** 17.44 33 P P 08 57 47.3 +0.3
baz=232,SNR=8.8
YUK3 **Moose Creek** 17.55 50 P P 08 57 48.1 -0.3
baz=253,SNR=19
BVCY **Beaver Creek** 17.55 47 P P 08 57 48.3 0.0
baz=251
E23K **Chandalar** 17.56 25 P P 08 57 47.7 -0.8
baz=222
PNL **Peninsula** 17.61 57 P P 08 57 49.5 +0.6
baz=261
F24K **Squaw Lake** 17.63 28 P P 08 57 49.7 +0.6
baz=226
K27K **Chicken** 17.64 42 P P 08 57 49.2 0.0
baz=244
G25K **Bearman Lake** 17.66 31 P P 08 57 49.9 +0.5
baz=231
YUK8 **Steele Glacier** 17.74 51 P P 08 57 50.7 +0.1
baz=256,SNR=7.9
I26K **Coal Creek Min** 17.82 37 P P 08 57 50.5 -0.7
baz=239
O29M **Mount Kennedy** 18.12 55 P P 08 57 56.1 +1.5
baz=260,SNR=29
YUK4 **Talbot Arm** 18.28 52 P P 08 57 57.2 +0.7
baz=257,SNR=8.9
EGAK **Eagle** 18.32 40 P P 08 57 57.6 +0.9
baz=244,SNR=47
YUK6 **Outpost Mounta** 18.33 53 P P 08 57 57.6 +0.5
baz=258,SNR=8.2
P29M **Windy Craggy** 18.44 57 P P 08 58 00.2 +2.1
baz=263,SNR=28
I27K **Kandik River** 18.53 37 P P 08 57 58.8 -0.2
baz=241,SNR=33
M29M **Somme Creek** 18.63 48 P P 08 58 00.7 +0.5
baz=254,SNR=22
C23K **Itkillik River** 18.71 20 P Pn 08 58 04.2 +1.8
baz=216
HYT **Haines Junctio** 18.73 54 P P 08 58 02.9 +1.6
baz=260,SNR=48
DAWY **Dawson** 18.74 43 P P 08 58 01.5 +0.2
baz=248,SNR=17
H27K **Steamboat Moun** 18.87 36 P P 08 58 02.4 -0.3
baz=239,SNR=33
P30M **Million Dollar** 18.89 56 P P 08 58 05.2 +2.2
baz=262
L29M **L29M** 18.96 46 P P 08 58 04.1 +0.3
baz=252,SNR=13
N30M **Aishikik Lake** 19.04 52 P P 08 58 05.8 +1.2
baz=258,SNR=16
PLBC **Pleasant Camp** 19.12 58 P P 08 58 07.0 +1.5
baz=265,SNR=8.0
G27K **Doyon Strip** 19.12 34 P P 08 58 06.0 +0.6
baz=238,SNR=20
S31K **Pelican** 19.14 63 P P 08 58 07.3 +1.8
baz=269,SNR=14
J29M **Klondike Camp** 19.36 42 P P 08 58 09.5 +1.4
J29M IAmb IAmb 08 58 17.8
comp=Z,28nm,0.6s
J29M **Klondike Camp** 19.36 42 P P 08 58 09.3 +1.2
baz=249
O30N **Mendenhall** 19.40 54 P P 08 58 09.6 +1.0
baz=262,SNR=14
M30M **Minto, Yukon** 19.41 48 P P 08 58 09.2 +0.5
M30M **Minto, Yukon** 19.41 48 P P 08 58 09.0 +0.3
baz=256
K29M **Barlow Dome** 19.45 45 P P 08 58 08.9 -0.2
baz=251,SNR=15
SKAG **Skagway** 19.65 58 P P 08 58 12.2 +1.0
baz=266,SNR=6.5
N31M **Braeburn, Yuko** 19.66 52 P P 08 58 12.4 +1.0
baz=260,SNR=7.9
I29M **Ogilvie Camp,** 19.67 40 P P 08 58 10.4 -0.9
baz=246,SNR=42
PETK **Petropavlovsk-** 19.69 283 P P 08 58 11.3 -0.3
comp=Z,4.2nm,0.7s,baz=90,slow=15,SNR=8.5
PETK LR LR 09 06 30.7
comp=Z,26nm,18.7s,baz=75,slow=39
PETK **Petropavlovsk-** 19.69 283 P Pn 08 58 25.0 +11
comp=Z,3.1nm,0.5s,baz=77,slow=17,SNR=2.2
WHY **Whitehorse** 19.98 55 P P 08 58 15.7 +0.9
WHY IAmb IAmb 08 58 20.6
comp=Z,42nm,0.8s
WHY **Whitehorse** 19.98 55 P P 08 58 16.6 +1.7
baz=263,SNR=15
S32K **Killisnoo** 20.04 64 P P 08 58 16.7 +1.4
baz=272
MAYO **Mayo, Yukon** 20.07 46 P P 08 58 15.4 -0.3
baz=254
JIS **Juneau Island** 20.11 62 P P 08 58 16.6 +0.4
JIS IAmb IAmb 08 58 29.9
comp=Z,18nm,0.7s
C27K **Jago River** 20.19 26 P P 08 58 19.0 +2.0
baz=228
M31M **Drury Creek, Y** 20.43 50 P P 08 58 19.0 -0.6
M31M **Drury Creek, Y** 20.43 50 P P 08 58 19.5 -0.1
baz=259
P32M **Atlin** 20.48 58 P P 08 58 21.1 +0.9
baz=267,SNR=7.4
EPYK **Eagle Plains** 20.67 38 P P 08 58 20.8 -1.4
baz=246,SNR=30
N32M **Quiet Lake** 20.91 53 P P 08 58 26.0 +1.3
baz=264
FARO **Faro, Yukon** 20.92 50 P P 08 58 25.5 +0.7
FARO **Faro, Yukon** 20.92 50 P P 08 58 25.8 +0.9
baz=260
P33M **Teslin, Yukon** 20.96 56 P P 08 58 26.1 +0.7
P33M IAmb IAmb 08 58 34.0
comp=Z,32nm,0.9s
P33M **Teslin, Yukon** 20.96 56 P P 08 58 26.5 +1.1
baz=266,SNR=18
G30M **tAoh Zraii Nji** 21.10 37 P P 08 58 26.9 +0.2
baz=245,SNR=16
Q32M **Nakina River** 21.21 60 P P 08 58 28.1 -0.2
baz=270
S34M **Telegraph Cree** 21.86 62 P P 08 58 35.9 +1.0
baz=274,SNR=8.7
R33M **Jennings River** 21.88 58 P P 08 58 36.9 +1.7
baz=270,SNR=12
MMPY **Sheldon Lake,** 21.93 50 P P 08 58 36.3 +0.6
baz=262
SEY **Seymchan** 22.11 311 P P 08 58 37.2 -0.2
comp=Z,9.3nm,0.8s,baz=108,slow=11,SNR=17
SEY PcP PcP 09 02 30.8 +0.2
comp=Z,1.4nm,0.6s,baz=111,slow=5.7,SNR=16
SEY ScP ScP 09 05 57.4 -1.2
comp=Z,6.2nm,0.9s,baz=124,slow=3.6,SNR=6.7
comp=Z,9.3nm,0.8s
F31M **Tsiigehtchic** 22.17 36 P P 08 58 36.3 -1.7
baz=247
DLBC **Dease Lake** 22.40 61 P P 08 58 42.9 +2.3
comp=Z,37nm,0.8s,baz=277,slow=9.9,SNR=35
comp=Z,37nm,0.8s
DLBC **Dease Lake** 22.40 61 P P 08 58 42.0 +1.3
baz=273,SNR=16
T35M **Bob Quinn** 22.42 65 P P 08 58 40.8 0.0
baz=277
INK **Inuvik** 22.58 34 P P 08 58 40.9 -1.4
comp=Z,12nm,0.6s,baz=245,slow=8.8,SNR=34
INK PcP PcP 09 02 32.0 +0.6
comp=Z,4.0nm,0.5s,baz=237,slow=0.4,SNR=9.8
INK ScP ScP 09 05 58.6 -1.1
comp=Z,1.5nm,0.9s,baz=254,slow=0.4,SNR=4.4
comp=Z,12nm,0.6s
INK **Inuvik** 22.58 34 P P 08 58 53.4 +11
comp=Z,2.5nm,0.5s,baz=255,slow=11,SNR=4.3
comp=Z,2.5nm,0.5s
INK **Inuvik** 22.58 34 P P 08 58 40.8 -1.5
baz=246,SNR=22
MA2 **Magadan** 22.69 302 P P 08 58 43.5 -0.1
comp=Z,3.6nm,0.3s,baz=102,slow=14,SNR=2.7
comp=Z,3.6nm,0.3s
WTLY **Wmon Lake, Y** 22.97 56 P P 08 58 46.5 +0.2
baz=270
TGTN **Hyland Airport** 23.24 53 P P 08 58 48.4 -0.5
baz=267
LIRD **Liard River Hi** 24.37 58 P P 08 58 59.3 +0.3
baz=274
KOTAN **Kotaneelee Air** 25.34 56 P P 08 59 08.3 +0.4
baz=274
WRGLY **Wrigley** 25.54 49 P P 08 59 09.7 +0.2
baz=268
FLDN **Fort Liard** 25.62 56 P P 08 59 11.3 +0.9
baz=274
C36M **Paulatuk** 26.17 35 P P 08 59 16.0 +0.9
baz=255
YKA **Yellowknife Ar** 29.63 50 P P 08 59 45.7 -0.4
comp=Z,1.3nm,0.6s,baz=273,slow=8.2,SNR=10
YKA PcP PcP 09 02 48.7 +0.8
comp=Z,2.5nm,0.6s,baz=283,slow=2.6,SNR=12
YKA ScP ScP 09 06 19.4 -1.0
comp=Z,1.4nm,0.7s,baz=298,slow=4.0,SNR=4.5
comp=Z,1.3nm,0.6s
YKA **Yellowknife Ar** 29.63 50 P P 08 59 56.1 +10
comp=Z,1.1nm,0.7s,baz=270,slow=8.4,SNR=5.0
comp=Z,1.1nm,0.7s
LTY **Liberty** 31.16 81 P P 09 00 00.7 +0.9
B08A **Colville Reser** 31.42 78 P P 09 00 03.0 +0.9
B08A IAmb IAmb 09 00 04.6
comp=Z,12nm,0.7s
TIXI **Tiksi** 32.00 328 P P 09 00 04.2 -2.6
comp=Z,0.7nm,0.3s,baz=90,slow=20,SNR=5.2
TIXI PcP PcP 09 02 53.5 -0.5
comp=Z,3.8nm,0.4s,baz=90,slow=20,SNR=7.9
TIXI ScP ScP 09 06 26.0 -2.1
comp=Z,2.3nm,0.8s,baz=90,slow=20,SNR=5.8
comp=Z,0.7nm,0.3s
EDM **Edmonton** 32.75 67 P P 09 00 14.8 +1.1
NEW **Newport** 32.76 77 P P 09 00 15.0 +1.2
comp=Z,10.0nm,0.8s,baz=296,slow=7.8,SNR=19
comp=Z,10.0nm,0.8s
NEW **Newport** 32.76 77 P P 09 00 14.3 +0.5
NEW IAmb IAmb 09 00 16.0
comp=Z,9.1nm,0.8s
NEW **Newport** 32.76 77 P P 09 00 14.7 +0.9
baz=298,SNR=8.3
KIP **Kipapa** 32.94 160 P P 09 00 17.9 +2.5
YBH **Yreka Blue Hor** 32.95 91 P P 09 00 18.0 +2.5
comp=Z,1.2nm,0.8s,baz=330,slow=8.1,SNR=2.1
comp=Z,1.2nm,0.8s
F10A **Beach Ranch, E** 33.85 81 P P 09 00 24.2 +0.9
F10A IAmb IAmb 09 00 26.1
comp=Z,7.2nm,1.0s
MOD **Modoc Plateau** 34.29 89 P P 09 00 29.4 +2.1
J08A **Circle Bar Ran** 34.54 86 P P 09 00 30.4 +1.0
J08A IAmb IAmb 09 00 32.2
comp=Z,3.8nm,0.6s
WVOR **Wild Horse Val** 34.98 87 P P 09 00 34.9 +1.7
MSO **Missoula** 35.35 78 P P 09 00 36.9 +0.6
MSO **Missoula** 35.35 78 P P 09 00 35.9 -0.3
baz=301
RES **Resolute Bay** 35.55 26 P P 09 00 36.6 -0.9
comp=Z,1.6nm,0.8s,baz=279,slow=13,SNR=2.1
RES PcP PcP 09 03 04.4 +0.3
comp=Z,5.7nm,0.7s,baz=265,slow=3.2,SNR=9.4
comp=Z,1.6nm,0.8s
PAHR **Pah Rah Range** 36.18 91 P P 09 00 44.9 +1.4
YERR **Yerington** 36.73 92 P P 09 00 49.5 +1.3
HLID **Hailey** 36.85 82 P P 09 00 49.9 +0.7
HLID **Hailey** 36.85 82 P P 09 00 50.1 +0.9
baz=305,SNR=6.6
EUNU **Eureka** 36.86 17 P P 09 00 49.2 +0.5
EUNU IAmb IAmb 09 01 01.0
comp=Z,15nm,1.4s
BCYI **Bear Canyon** 37.03 81 P P 09 00 51.4 +0.7
MCMT **McKenzie Canyo** 37.07 80 P P 09 00 51.8 +0.7
EGMT **Eagleton** 37.16 73 P P 09 00 50.9 -0.7
baz=301
BOZ **Bozeman (W)** 37.36 78 P P 09 00 54.4 +1.0
BOZ IAmb IAmb 09 00 55.2
comp=Z,6.1nm,0.6s
BOZ **Bozeman (W)** 37.36 78 P P 09 00 54.1 +0.7
baz=303,SNR=7.7
NVAR **Mina Array Bea** 37.64 92 P P 09 00 57.8 +1.9
comp=Z,2.0nm,0.7s,baz=311,slow=8.2,SNR=19
NVAR PcP PcP 09 03 12.0 +0.7
comp=Z,0.6nm,0.7s,baz=290,slow=3.7,SNR=3.2
NVAR ScP ScP 09 06 49.0 -0.3
comp=Z,0.2nm,0.5s,baz=316,slow=5.0,SNR=3.2
comp=Z,2.0nm,0.7s
NVAR **Mina Array Bea** 37.64 92 P P 09 01 05.4 +9.4
comp=Z,1.3nm,0.7s,baz=301,slow=8.0,SNR=8.2
comp=Z,1.3nm,0.7s
ELK **Elko** 38.03 87 LR LR 09 13 52.4
comp=Z,25nm,20.7s,baz=286,slow=31
YHH **Holmes Hill** 38.27 78 P P 09 01 01.8 +0.5
YHH IAmb IAmb 09 01 03.6
comp=Z,12nm,0.9s
H17A **Grant Village** 38.65 79 P P 09 01 06.0 +1.6
baz=304,SNR=5.3
VES **Vestal, Richgr** 38.88 96 P P 09 01 06.4 +0.2
baz=312
RLMT **Red Lodge** 39.01 77 P P 09 01 07.5 +0.2
baz=304,SNR=5.6
CWC **Cottonwood Cre** 39.08 94 P P 09 01 08.3 +0.3
baz=312
R11A **Troy Canyon, C** 39.33 90 P P 09 01 09.1 -1.0
baz=310
H11S1 **WAKE ISLAND Hy** 39.37 217 T T 09 43 37.7
baz=23,slow=76,SNR=93
ISA **Isabella, Lake** 39.37 96 P P 09 01 10.1 -0.2
baz=313
H11S2 **WAKE ISLAND Hy** 39.38 217 T T 09 43 38.8
baz=23,slow=76,SNR=54
H11S3 **WAKE ISLAND Hy** 39.39 217 T T 09 43 42.3
baz=23,slow=76,SNR=37
MPMC **Manual Prospec** 39.69 94 P P 09 01 13.2 +0.1
baz=312
FURC **Furnace Creek,** 39.80 93 P P 09 01 14.6 +0.9
baz=312
DUG **Dugway, Tooele** 39.82 86 P P 09 01 15.2 +1.2
baz=308
TPNV **Topopah Spring** 39.84 92 P P 09 01 15.0 +0.7
baz=311
LAO **LASA Array** 39.91 73 P P 09 01 14.5 -0.1
baz=303
BW06 **Boulder Array** 40.20 80 P P 09 01 18.1 +0.8
BW06 IAmb IAmb 09 01 19.1
comp=Z,6.1nm,0.7s
BW06 **Boulder Array** 40.20 80 P P 09 01 17.8 +0.6
baz=306,SNR=8.8
PDAR **Pinedale Array** 40.20 80 P P 09 01 18.1 +0.9
comp=Z,4.4nm,0.7s,baz=297,slow=4.0,SNR=40
PDAR PcP PcP 09 03 20.0 +0.6
comp=Z,0.1nm,0.3s,baz=150,slow=3.3,SNR=0.9
PDAR ScP ScP 09 06 57.5 -1.6
comp=Z,1.3nm,0.9s,baz=324,slow=2.6,SNR=2.9
comp=Z,4.4nm,0.7s
PDAR **Pinedale Array** 40.20 80 P P 09 01 17.6 +0.3
SHOC **Shoshone, Teco** 40.53 93 P P 09 01 20.2 +0.4
baz=312
GSC **Goldstone, Bar** 40.61 95 P P 09 01 19.9 -0.7
baz=313
HEC **Hector,Ludlow** 41.22 95 P P 09 01 25.7 +0.2
baz=313
GMRC **Granite Mounta** 41.65 94 P P 09 01 30.5 +1.3
baz=313
PFO **Pinyon Flats O** 41.98 96 P P 09 01 32.7 +0.9
comp=Z,1.8nm,0.7s,baz=309,slow=6.5,SNR=2.3
comp=Z,1.8nm,0.7s
PFO **Pinyon Flats O** 41.98 96 P P 09 01 32.9 +1.1
baz=314
K22A **Casper** 42.06 78 P P 09 01 32.8 +0.3
baz=307
IRM **Iron Mountain** 42.39 94 P P 09 01 34.8 -0.2
baz=314
MONP2 **Monument Peak** 42.51 97 P P 09 01 37.2 +1.0
baz=315
O20A **White River Ci** 42.59 82 P P 09 01 37.4 +0.6
baz=309,SNR=16
RSSD **Black Hills** 42.64 75 P P 09 01 37.3 +0.2
baz=306
MDND **Maddock** 43.01 68 P P 09 01 40.0 +0.2
baz=304
N23A **Red Feather La** 43.48 80 P P 09 01 44.1 +0.1
baz=308
ULM **Lac du Bonnet** 43.70 63 P P 09 01 45.6 +0.3
comp=Z,10nm,0.6s,baz=308,slow=8.5,SNR=12
comp=Z,10nm,0.6s
JCJ **Chichijima** 44.20 253 P P 09 01 48.1 -1.4
comp=Z,97nm,0.7s,baz=90,slow=16,SNR=2.5
MVCO **Mesa Verde** 44.33 86 P P 09 01 51.0 +0.2
baz=311
AGMN **Agassiz Nation** 44.81 65 P P 09 01 53.8 -0.5
AGMN IAmb IAmb 09 01 55.0
comp=Z,12nm,0.8s
AGMN **Agassiz Nation** 44.81 65 P P 09 01 54.1 -0.1
baz=305
S22A **4UR Ranch, Cre** 44.97 84 P P 09 01 56.1 +0.1
baz=311
KSRS **Korea Array** 45.35 276 P P 09 01 59.0 +0.5
comp=Z,0.5nm,0.5s,baz=70,slow=7.2,SNR=1.7
KSRS PcP PcP 09 03 37.0 +0.7
comp=Z,2.8nm,0.7s,baz=56,slow=4.1,SNR=7.4
comp=Z,0.5nm,0.5s
SUSD **Miller** 45.37 71 P P 09 01 59.0 +0.3
baz=307
OGNE **Ogallala** 45.75 77 P P 09 02 02.3 +0.4
OGNE IAmb IAmb 09 02 03.2
comp=Z,12nm,1.1s
OGNE **Ogallala** 45.75 77 P P 09 02 01.5 -0.3
baz=309
SDCO **Great Sand Dun** 45.77 83 P P 09 02 03.1 +0.8
SDCO **Great Sand Dun** 45.77 83 P P 09 02 03.0 +0.8
baz=311,SNR=8.7
KSCO **Kaye Shedlock'** 46.65 80 P P 09 02 09.9 +0.9
baz=310
T25A **Trinidad** 46.82 83 P P 09 02 11.3 +0.9
baz=312,SNR=7.8
ECSD **EROS Data Cent** 47.13 71 P P 09 02 12.0 -0.5
baz=308,SNR=5.8
EYMN **Ely** 47.38 63 P P 09 02 14.0 -0.4
baz=307
Y22F **Passcal Instru** 47.39 88 P P 09 02 15.8 +1.1
baz=314
BGNE **Belgrade** 47.72 74 P P 09 02 16.9 -0.2
baz=310
SPMN **Marine on St.** 48.34 67 P P 09 02 21.9 +0.2
baz=308
CBKS **Cedar Bluff** 48.48 78 P P 09 02 23.2 +0.3
baz=311

SPITS	Spitsbergen Ar	48.78	358	P	P	09 02 24.4	-0.3
	comp=Z,4.2nm,0.8s,baz=41,slow=9.6,SNR=1.3						
SPITS				PcP	PcP	09 03 47.6	-0.4
	comp=Z,11nm,0.9s,baz=72,slow=4.7,SNR=5.2						
	comp=Z,4.2nm,0.8s						
SPITS	Spitsbergen Ar	48.78	358	P	P	09 02 35.8	+11
	comp=Z,1.5nm,0.5s,baz=55,slow=4.4,SNR=5.9						
	comp=Z,1.5nm,0.5s						
MSTX	Muleshoe	49.95	85	P	P	09 02 34.2	-0.1
	baz=314						
AMTX	Amarillo	49.97	83	P	P	09 02 33.8	-0.6
	baz=313						
KSU1	Kansas State U	50.12	75	P	P	09 02 34.6	-0.8
	baz=312						
SONM	Songino Array	50.89	300	P	P	09 02 41.1	-0.1
	comp=Z,0.8nm,0.7s,baz=60,slow=8.5,SNR=4.2						
SONM				PcP	PcP	09 03 56.5	+0.1
	comp=Z,1.2nm,0.6s,baz=38,slow=2.6,SNR=2.7						
SONM				ScP	ScP	09 07 41.3	-1.9
	comp=Z,0.8nm,0.8s,baz=45,slow=4.6,SNR=3.7						
	comp=Z,0.8nm,0.7s						
SONM	Songino Array	50.89	300	P	P	09 02 52.7	+11
	comp=Z,0.7nm,0.5s,baz=74,slow=2.8,SNR=3.9						
	comp=Z,0.7nm,0.5s						
JFWS	Jewell Farm	51.23	68	P	P	09 02 42.9	-0.8
	baz=311						
WMOK	Wichita Mounta	51.80	81	P	P	09 02 48.9	+0.8
	baz=314,SNR=9.8						
TX32	Lajitas Array	52.69	90	P	P	09 02 55.4	+0.5
TX32				IAmb	IAmb	09 03 22.1	
	comp=Z,4.4nm,0.8s						
TXAR	Lajitas Array	52.69	90	P	P	09 02 55.7	+0.8
	comp=Z,0.8nm,0.5s,baz=304,slow=5.8,SNR=26						
	comp=Z,0.8nm,0.5s						
TXAR	Lajitas Array	52.69	90	P	P	09 02 55.5	+0.7
TUL1	Leonard	52.75	78	P	P	09 02 53.9	-1.2
	baz=314						
ABTX	Abilene, Hawle	52.76	84	P	P	09 02 55.9	+0.7
	baz=315						
R40A	Maddies Statio	53.17	73	P	P	09 02 56.8	-1.3
HDIL	Hopedale	53.33	69	P	P	09 02 58.4	-0.9
	baz=312,SNR=5.3						
X37A	Clayton	53.91	79	P	P	09 03 04.0	+0.5
X37A				IAmb	IAmb	09 03 04.6	
	comp=Z,5.9nm,0.6s						
CCM	Cathedral Cave	53.92	73	P	P	09 03 02.3	-1.3
	baz=313						
JCT	Junction City	54.19	86	P	P	09 03 05.5	-0.2
	baz=316						
SFIN	Lafayette	54.68	68	P	P	09 03 08.1	-0.9
	baz=313						
SCHQ	Schefferville	54.76	44	P	P	09 03 08.8	-0.6
	comp=Z,3.6nm,0.8s,baz=304,slow=7.3,SNR=5.4						
	comp=Z,3.6nm,0.8s						
SCHQ	Schefferville	54.76	44	P	P	09 03 20.2	+11
	comp=Z,2.9nm,0.5s,baz=306,slow=6.2,SNR=9.7						
	comp=Z,2.9nm,0.5s						
MIAR	Mount Ida	55.00	78	P	P	09 03 10.7	-0.8
	baz=315						
O48B	Farmland	55.84	67	P	P	09 03 16.3	-1.2
	baz=314						
WCI	Wyandotte Cave	56.62	69	P	P	09 03 22.4	-0.5
	baz=314						
DELO	Deloro Mine	56.91	59	P	P	09 03 24.8	-0.1
T47A	Sharon Grove	57.03	71	P	P	09 03 25.2	-0.6
ARCES	ARCESS Array B	57.04	354	P	P	09 03 25.6	+0.1
	comp=Z,2.9nm,0.8s,baz=19,slow=9.1,SNR=5.8						
	comp=Z,2.9nm,0.8s						
ARCES	ARCESS Array B	57.04	354	P	P	09 03 35.7	+10
	comp=Z,4.1nm,1.1s,baz=20,slow=8.0,SNR=6.1						
	comp=Z,4.1nm,1.1s						
WVT	Waverly	57.22	72	P	P	09 03 25.9	-1.3
	baz=315						
ERPA	Erie	57.35	62	P	P	09 03 27.0	-1.0
	baz=314						
OXF	Oxford	57.46	75	P	P	09 03 28.5	-0.4
OXF	Oxford	57.46	75	P	P	09 03 28.6	-0.3
	baz=315						
M53A	WI Miller and	57.46	63	P	P	09 03 28.1	-0.7
	baz=314						
J55A	Hilton	57.68	60	P	P	09 03 30.3	-0.1
O53A	New Philadelph	58.01	64	P	P	09 03 31.8	-0.9
	baz=315						
LONY	Lake Ozonia	58.38	57	P	P	09 03 34.5	-0.7
LONY	Lake Ozonia	58.38	57	P	P	09 03 34.5	-0.7
	baz=315,SNR=9.0						
M55A	Ridgway	58.45	62	P	P	09 03 35.4	-0.5
L56A	Greenwood	58.62	61	P	P	09 03 36.8	-0.2
NCB	Newcomb	59.02	57	P	P	09 03 39.4	-0.3
MCWV	Mont Chateau	59.16	64	P	P	09 03 39.8	-1.0
	baz=316						
TZTN	Tazewell	59.35	69	P	P	09 03 41.8	-0.3
	baz=316						
BINY	Binghamton	59.39	60	P	P	09 03 42.7	+0.4
	baz=316,SNR=5.4						
SSPA	Standing Stone	59.51	62	P	P	09 03 42.8	-0.3
	baz=316						
LRAL	Lakeview Retre	59.91	74	P	P	09 03 44.6	-1.3
	baz=316						
LBNH	Lisbon	59.98	55	P	P	09 03 45.4	-0.8
	baz=316						
PKME	Peaks-Kenny Pk	60.51	53	P	P	09 03 49.2	-0.6
	baz=317						
BLA	Blacksburg	60.61	66	P	P	09 03 50.4	-0.3
	baz=316						
L61B	Northampton	60.90	57	P	P	09 03 52.2	-0.3
	baz=317						
PAL	Palisades	61.33	59	P	P	09 03 55.3	-0.1
	baz=317						
HRV	Adam Dziewonsk	61.42	57	P	P	09 03 55.0	-1.1
	baz=317						
KMSC	Kings Mountain	61.60	69	P	P	09 03 56.1	-1.3
	baz=317						
GOGA	Godfrey	61.66	71	P	P	09 03 56.4	-1.4
	baz=317						
KURBB	Kurchatov Arra	61.85	318	P	P	09 03 58.0	-0.8
	comp=Z,0.8nm,0.7s,baz=46,slow=6.6,SNR=5.9						
	comp=Z,0.8nm,0.7s						
KURBB	Kurchatov Arra	61.85	318	P	P	09 04 10.2	+11
	comp=Z,1.6nm,0.8s,baz=45,slow=7.1,SNR=7.4						
	comp=Z,1.6nm,0.8s						
MKAR	Makanchi Array	63.23	313	P	P	09 04 06.6	-1.5
	comp=Z,1.2nm,0.9s,baz=39,slow=5.5,SNR=4.5						
	comp=Z,1.2nm,0.9s						
MKAR	Makanchi Array	63.23	313	P	P	09 04 17.9	+10
	comp=Z,0.9nm,0.6s,baz=54,slow=6.7,SNR=5.5						
	comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	63.23	313	P	P	09 04 07.0	-1.1
NHSC	New Hope	63.75	69	P	P	09 04 10.6	-1.0
	baz=318						
ARU	Arti	63.85	333	P	P	09 04 11.3	-0.6
	comp=Z,6.5nm,0.2s,baz=333,slow=6.8,SNR=7.6						
	comp=Z,6.5nm,0.2s						
ARU	Arti	63.85	333	P	P	09 04 23.0	+11
	comp=Z,6.4nm,0.2s,baz=353,slow=5.4,SNR=5.8						
FINES	FINESS Array B	65.00	352	P	P	09 04 18.6	-0.7
	comp=Z,3.0nm,0.7s,baz=7.1,slow=7.7,SNR=12						
FINES				LR	LR	09 34 42.8	
	comp=Z,19nm,18.7s,baz=337,slow=38						
	comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	65.00	352	P	P	09 04 29.1	+10
	comp=Z,5.9nm,0.9s,baz=27,slow=6.7,SNR=10.0						
	comp=Z,5.9nm,0.9s						
NB2	NORSAR Subarra	66.05	360	P	P	09 04 25.5	-0.7
	comp=Z,1.7nm,0.7s,baz=0.4,slow=6.5						
NOA	NORSAR Array B	66.05	360	P	P	09 04 25.6	-0.6
	comp=Z,1.9nm,0.7s,baz=0.7,slow=6.3,SNR=8.4						
NOA				LR	LR	09 32 47.6	
	comp=Z,5.6nm,18.4s,baz=265,slow=36						
	comp=Z,1.9nm,0.7s						
NOA	NORSAR Array B	66.05	360	P	P	09 04 36.5	+10
	comp=Z,0.5nm,0.6s,baz=344,slow=16,SNR=1.3						
	comp=Z,0.5nm,0.6s						
HNR	Honiara	67.71	213	LR	LR	09 30 02.9	
	comp=Z,116nm,21.4s,baz=180,slow=32						
SIJI	Sorong	72.94	244	P	P	09 05 08.6	-0.5
	comp=Z,6.9nm,0.5s,baz=342,slow=14,SNR=2.2						
	comp=Z,6.9nm,0.5s						
AKASG	Malin Array Be	75.25	348	P	P	09 05 20.6	-1.4
	comp=Z,3.5nm,0.6s,baz=13,slow=5.6,SNR=12						
	comp=Z,3.5nm,0.6s						
AKASG	Malin Array Be	75.25	348	P	P	09 05 31.9	+10
	comp=Z,1.1nm,0.5s,baz=13,slow=5.9,SNR=4.4						
	comp=Z,1.1nm,0.5s						
CMAR	Chiang Mai Arr	76.47	283	P	P	09 05 29.6	+0.1
	comp=Z,2.8nm,0.6s,baz=22,slow=6.8,SNR=12						
	comp=Z,2.8nm,0.6s						
CMAR	Chiang Mai Arr	76.47	283	P	P	09 05 40.9	+11
	comp=Z,2.0nm,0.5s,baz=22,slow=3.1,SNR=6.7						
	comp=Z,2.0nm,0.5s						
GERES	GERESS Array B	78.24	358	P	P	09 05 38.8	-0.3
	comp=Z,0.6nm,0.4s,baz=20,slow=4.4,SNR=7.1						
	comp=Z,0.6nm,0.4s						
KBZ	Khabaz	79.51	337	P	P	09 05 46.0	+0.1
	comp=Z,3.0nm,0.8s,baz=176,slow=1.3,SNR=5.8						
	comp=Z,3.0nm,0.8s						
GEYT	Alibeck	80.34	324	P	P	09 05 50.0	-0.6
	comp=Z,3.8nm,0.7s,baz=0.0,slow=4.3,SNR=5.3						
	comp=Z,3.8nm,0.7s						
CTA	Charters Tower	82.52	222	P	P	09 06 02.6	+0.6
	comp=Z,1.5nm,0.6s,baz=18,slow=3.2,SNR=1.9						
	comp=Z,1.5nm,0.6s						
ESDC	Sonseca Array	86.58	11	P	P	09 06 21.8	-0.7
	comp=Z,1.2nm,0.7s,baz=337,slow=4.3,SNR=8.9						
	comp=Z,1.2nm,0.7s						
ESDC	Sonseca Array	86.58	11	P	P	09 06 32.1	+10
	comp=Z,0.9nm,0.5s,baz=81,slow=38,SNR=3.2						
	comp=Z,0.9nm,0.5s						
WRA	Warramunga Arr	87.59	232	P	P	09 06 27.4	0.0
	comp=Z,0.9nm,0.9s,baz=32,slow=5.8,SNR=8.6						
	comp=Z,0.9nm,0.9s						
WRA	Warramunga Arr	87.59	232	P	P	09 06 27.2	-0.2
PSI	Prapat	88.84	273	P	P	09 06 33.4	-0.3
	comp=Z,13nm,0.6s,baz=34,slow=5.8,SNR=6.8						
	comp=Z,13nm,0.6s						
ASAR	Alice Springs	91.00	230	P	P	09 06 44.2	+0.8
	comp=Z,0.5nm,0.4s,baz=24,slow=4.6,SNR=10						
	comp=Z,0.5nm,0.4s						
ASAR	Alice Springs	91.00	230	P	P	09 06 44.8	+1.4
MAW	Mawson	151.59	220	PKPbc	PKPbc	09 13 32.7	+1.2
	comp=Z,1.4nm,0.7s,baz=99,slow=4.8,SNR=3.8						
BOSA	Boshof	153.15	331	PKPbc	PKPbc	09 13 36.4	-0.1
	comp=Z,2.6nm,0.4s,baz=7.6,slow=1.7,SNR=17						

IDC 03 09:01:30.2±7.8, 47°.75N×153°.18E, h131km±115km, mb3.1/3, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=377.2km s-min=31.3km az=129.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.09	27	P	Pn	09 02 57.9	0.0
	1.2nm,0.3s,baz=200,slow=12,SNR=19						
	7.4nm,0.6s						
WRA	Warramunga Arr	69.47	199	P	P	09 12 23.4	-0.8
	0.5nm,0.9s,baz=13,slow=6.5,SNR=2.5						
	0.5nm,0.9s						
ASAR	Alice Springs	73.17	198	P	P	09 12 46.9	+0.5
	0.3nm,0.4s,baz=10,slow=5.4,SNR=8.7						
	0.3nm,0.4s						
TXAR	Lajitas Array	76.96	61	P	P	09 13 08.4	0.0
	0.2nm,0.5s,baz=306,slow=3.2,SNR=4.8						
	0.2nm,0.5s						

IDC 03 09:17:37.7±5.2, 8°.24S×118°.59E, h196km±45km, mb3.3/4, mbtmp3.8/7, Error ellipse: s-maj=83.3km s-min=11.6km az=61.0

DJA 03 09:17:37.4±0.4, 8°S±5°×11°9E±°, h179km±6km, M4.1/11, mb4.1/2, mB5.5/1, MLv4.1/11, Mw(mB)5.0/1

ISC 03 09:17:37.0±0.8, 8°.34S±0°.07×118°.57E±0°.05, h200km, n22, σ1.08/26, mb3.6/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	Plampang	0.92	238	P	Pn	09 18 05.5	-0.7
PLAI				S	Sn	09 18 26.2	-2.7
KLNI	Mataram	2.45	268	P	Pn	09 18 19.6	-0.7
KLNI				S	Sn	09 18 53.0	-1.0
BSSI	Bau Bau, Buton	2.90	41	P	Pn	09 18 24.4	-1.1
KHKI	Kahang-Kahang	2.93	269	P	Pn	09 18 25.6	-0.2
SRBI	Singaraja	3.33	274	P	Pn	09 18 30.4	-0.2
BKSI	Bulukumba	3.37	27	P	Pn	09 18 30.5	-0.6
IGBI	Denpasar	3.42	262	P	Pn	09 18 31.4	-0.2
KAPI	Kappang	3.51	20	P	Pn	09 18 32.3	-0.4
	47nm,0.5s,baz=202,slow=7.0,SNR=22						
KAPI				S	Sn	09 19 15.7	-0.8
	12nm,0.4s,baz=188,slow=20,SNR=1.7						
KAPI	Kappang	3.51	20	P	Pn	09 18 32.1	-0.7
MMRI	Maumere	3.64	95	P	Pn	09 18 33.4	-1.0
BNSI	Bone	4.20	21	P	Pn	09 18 41.7	+0.4
JAGI	Jajag, Banyuwa	4.37	268	P	Pn	09 18 43.3	-0.1
BATI	Baumata	5.36	111	P	Pn	09 18 57.0	+0.9
	32nm,0.3s,baz=277,slow=3.3,SNR=6.1						
BATI				S	Sn	09 19 57.3	-1.2
	44nm,0.3s,baz=282,slow=10,SNR=5.8						
BATI	Baumata	5.36	111	P	Pn	09 18 56.3	+0.2
	0.4nm61nm,1.0s						
SOEI	Soe	5.80	104	P	Pn	09 19 01.6	-0.2
PCJI	Pacitan	7.32	271	P	Pn	09 19 22.0	+0.6
WRA	Warramunga Arr	19.13	129	P	Pn	09 21 47.5	-1.0
	0.2nm,0.3s,baz=303,slow=12,SNR=20						
ASAR	Alice Springs	21.17	138	P	P	09 22 09.6	+2.7
	1.3nm,0.5s,baz=316,slow=8.7,SNR=48						
	1.3nm,0.5s						
SONM	Songino Array	56.96	350	P	P	09 27 02.1	+0.5
	0.6nm,0.6s,baz=176,slow=10.0,SNR=3.8						
	0.6nm,0.6s						
MKAR	Makanchi Array	63.68	333	P	P	09 27 47.2	+0.2
	0.4nm,0.5s,baz=147,slow=6.2,SNR=4.3						
	0.4nm,0.5s						
ZALV	Zalesovo Beam	68.28	339	P	P	09 28 15.5	-0.6
	1.1nm,0.4s,baz=131,slow=5.9,SNR=1.9						
	1.1nm,0.4s						
TORD	Torodi Ar. Bea	117.92	280	PKP	PKiKP	09 36 02.1	+1.3
	0.3nm,0.3s,baz=96,slow=1.4,SNR=2.0						

IDC 03 09:19:03.7±2.1, 6°.57S×129°.47E, h0km, mb3.9/1, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=56.8km s-min=31.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	6.79	237	Pn	Pn	09 20 45.7	+1.0
	18nm,0.3s,baz=159,slow=5.2,SNR=4.3						
BATI				Sn	Sn	09 21 50.3	-12
	8.1nm,0.3s,baz=265,slow=23,SNR=1.4						
	54nm,0.5s						
WRA	Warramunga Arr	14.11	161	Pn	Pn	09 22 25.4	+0.4
	0.3nm,0.3s,baz=340,slow=13,SNR=6.9						
WRA				Sn	Sn	09 24 48.4	-14
	0.5nm,0.3s,baz=322,slow=23,SNR=6.5						
	0.6nm,0.5s						
ASAR	Alice Springs	17.53	166	Pn	Pn	09 23 08.8	-0.9
	0.2nm,0.3s,baz=338,slow=9.9,SNR=16						
ASAR				Sn	Sn	09 26 11.8	-14
	0.1nm,0.3s,baz=323,slow=21,SNR=4.6						
	1.1nm,0.6s						
MKAR	Makanchi Array	67.58	327	P	P	09 30 02.0	-0.1
	0.5nm,0.4s,baz=123,slow=7.7,SNR=5.9						
	0.5nm,0.4s						

JMA 03 09:20:57.7±0.1, 27°.2N±0°.9×143°.7E±0°.5, h25km, MV4.1/13, NEAR CHICHIJIMA ISLAND

IDC 03 09:20:58.5±1.7, 26°.42N×141°.10E, h0km, mb3.7/2, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=47.8km s-min=18.7km az=126.0

ISC 03 09:21:00.9±4.0, 27°.2N±0°.2×143°.7E±0°.2, h35km, n9, σ0.50/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.31	267	P	Pn	09 21 21.6	-1.1
CBIJ				S	Sn	09 21 39.1	+0.1
JCJ	Chichijima	1.31	267	Pn	Pn	09 21 22.9	+0.3
	15nm,0.3s,baz=270,slow=14,SNR=10						
JCJ				Sn	Sn	09 21 38.8	-0.1
	80nm,0.3s,baz=288,slow=22,SNR=27						
JHH2	Haha-jima-NKT2	1.42	248	eS	Sn	09 21 42.2	+0.5
BSO3	Boso 3	8.08	341	P	Pn	09 22 55.4	0.0
JHU	Hanno	9.43	338	eP	Pn	09 23 14.0	-0.2
JHU				eS	Sn	09 24 59.0	0.0
JRY	Ryogami san	9.71	337	P	Pn	09 23 18.5	+0.4
MJAR	Matsushiro Arr	10.43	335	Pn	Pn	09 23 28.1	+0.2
	0.2nm,0.3s,baz=161,slow=11,SNR=6.3						
	1.7nm,0.4s						
WRA	Warramunga Arr	47.69	192	P	P	09 29 26.1	-8.0
	1.7nm,0.6s,baz=14,slow=8.3,SNR=4.9						
	1.7nm,0.6s						
ASAR	Alice Springs	51.40	191	P	P	09 29 58.3	-4.1
	0.3nm,0.6s,baz=359,slow=6.3,SNR=5.8						
	0.3nm,0.6s						

JMA 03 09:31:24.8±0.4, 33°N±1°×14°2E±°, h63km, MV3.7/50, FAR E OFF IZU ISLANDS

IDC 03 09:31:26.0±4.5, 32°.14N×141°.36E, h0km, mb3.5/5, mbtmp3.5/6, ML2.7/1, Error ellipse: s-maj=173.2km s-min=22.6km az=69.0

ISC 03 09:31:26.5±1.3, 32°.85N±0°.08×142°.4E±0°.1, h33km, n24, σ1.80/33, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	2.17	326	P	Pn	09 31 58.9	-0.9
BSO1				S	Sn	09 32 25.3	+0.1
JHJ2	Mitsune	2.21	277	P	Pn	09 31 58.9	-2.0
BSO3	Boso 3	2.52	321	P	Pn	09 32 04.2	-0.7
BSO3				eS	Sn	09 32 33.6	-0.7
JMYK	Miyake Tsubota	2.70	297	eP	Pn	09 32 05.9	-1.6
BSO4	Boso 4	2.76	321	P	Pn	09 32 07.6	-0.7
JOD2	Odawara 2	3.67	312	P	Pn	09 32 19.3	-1.7
JYT	Yasato	3.84	332	P	Pn	09 32 24.0	+0.7
JYT				eS	Sn	09 33 07.3	0.0
JHU	Hanno	3.97	320	P	Pn	09 32 24.6	-0.4
JHU				eS	Sn	09 33 09.3	-1.2
JHO	Hitachi	4.05	338	P	Pn	09 32 24.8	-1.5
JHO				eS	Sn	09 33 09.5	-3.1
JYN	Shimob	4.17	310	P	Pn	09 32 26.9	-0.9
JRY	Ryogami san	4.30	318	P	Pn	09 32 28.6	-1.0
JRY				S	Sn	09 33 17.3	-1.4
JAG	Ashikaga	4.33	326	P	Pn	09 32 29.1	-0.9
JAG				S	Sn	09 33 17.3	-2.0
JNY	Yasuok	4.54	305	eP	Pn	09 32 33.8	+0.7
JFK	Kawauchi	4.68	345	P	Pn	09 32 33.0	-1.9
JOTO	OTAMA OYAMA	5.00	341	P	Pn	09 32 38.7	-0.6
JOTO				eS	Sn	09 33 31.5	-4.5
JIE	Ise	5.02	289	P	Pn	09 32 38.5	-1.0
MJAR	Matsushiro Arr	5.07	318	Pn	Pn	09 32 41.2	+1.1
	0.3nm,0.3s,baz=152,slow=13,SNR=14						
MJAR				Sn	Sn	09 33 35.4	-2.2
	0.2nm,0.3s,baz=242,slow=26,SNR=4.2						
	2.1nm,0.3s						
MAT	Matsushiro	5.07	318	P	Pn	09 32 40.1	0.0
JKN2	Miekihoku	5.33	287	P	Pn	09 32 42.8	-0.9
SONM	Songino Array	30.96	310	P	P	09 37 43.9	+3.3
	0.4nm,0.5s,baz=107,slow=7.7,SNR=2.3						
	0.4nm,0.5s						
MKAR	Makanchi Array	47.14	306	P	P	09 39 56.8	+1.2
	0.4nm,0.5s,baz=94,slow=8.2,SNR=2.5						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	49.30	311	P	P	09 40 15.6	+3.5
	0.6nm,0.5s,baz=83,slow=7.6,SNR=3.1						
	0.6nm,0.5s						
WRA	Warramunga Arr	53.06	190	P	P	09 40 38.3	-2.3
	0.6nm,0.7s,baz=5.9,slow=7.6,SNR=9.1						
	0.6nm,0.7s						
ASAR	Alice Springs	56.79	189	P	P	09 41 06.2	-1.3
	0.1nm,0.5s,baz=6.2,slow=7.1,SNR=1.3						
	0.1nm,0.5s						

MAN 03 09:35:13.3, 8°.91N×126°.17E, h1km, mb4.0, ML2.7, MS2.3, Mindanao

TAP 03 09:42:46.9, 23°.93N×121°.48E, h15km, ML3.6, 6C-16D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETM	Tongmen	0.04	12	i P	Pg	09 42 49.9	+0.1
	baz=11						
ETM				eS	Sg	09 42 51.6	0.0
	baz=11						
TEYL	Yanliau Villag	0.12	120	⇑ iP	Pb	09 42 50.8	-0.1
	baz=103						
TEYL				S	Sb	09 42 53.6	+0.1
	baz=103						
HWA	Hwalien	0.12	66	⇑ iP	Pb	09 42 51.1	+0.3
	baz=68						
HWA				i S	Sb	09 42 54.3	+0.8
	baz=68						
ESL	Shilin	0.12	202	⇑ iP	Pg	09 42 50.4	-0.1
	baz=199						
ESL				i S	Sg	09 42 52.6	-0.2
	baz=199						
TWD	Chiawan	0.18	34	⇑ iP	Pg	09 42 51.5	+0.2
	baz=29						
TWD				i S	Sg	09 42 54.7	+0.5
	baz=29						
TEGC	Jichi Village	0.22	167	eP	Pg	09 42 52.2	+0.3
	baz=171						
TEGC				eS	Sb	09 42 56.0	-0.4
	baz=171						
EGFH	Guangfu	0.26	191	P	Pg	09 42 52.4	-0.2
	baz=197						
EGFH				eS	Sg	09 42 56.1	-0.4
	baz=197						
ETL	Fush Village	0.26	29	P	Pg	09 42 52.6	0.0
	baz=29						
ETL				S	Sg	09 42 56.3	-0.2
	baz=29						
NACB	Ninganchiao	0.27	22	⇑ iP	Pg	09 42 52.7	+0.1
	baz=22						
NACB				i S	Sg	09 42 56.3	-0.2
	baz=22						
ETLH	Xiulin Townshi	0.28	360	⇓ iP	Pg	09 42 53.0	+0.1
	baz=359						
ETLH				S	Sg	09 42 56.7	-0.3
	baz=359						
OWD	Renai	0.28	275	⇓ iP	Pg	09 42 53.2	+0.2
	baz=280						
OWD				S	Sg	09 42 57.4	+0.2
	baz=280						
WHF	Hehuan Shan	0.29	317	⇓ iP	Pg	09 42 53.5	+0.1
	baz=318						
WHF				i S	Sg	09 42 58.0	+0.1
	baz=318						
CHGB	Renai	0.31	295	⇓ iP	Pg	09 42 53.9	+0.3
	baz=299						
CHGB				i S	Sb	09 42 58.8	-0.5
	baz=299						
WUSB	Renai	0.34	281	⇓ iP	Pb	09 42 54.4	-0.3
	baz=285						
WUSB				S	Sg	09 42 58.3	-0.6
	baz=285						
VWDT	VWDT	0.36	241	⇓ iP	Pb	09 42 54.6	-0.3
	baz=241						
VWDT				i S	Sg	09 42 59.5	+0.3
	baz=241						
FUSS	Fushou	0.39	325	⇓ iP	Pb	09 42 55.3	-0.2
	baz=325						
FUSS				i S	Sg	09 43 00.6	+0.3
	baz=325						
TWT	Tachien	0.43	319	P	Pb	09 42 56.1	-0.2
	baz=311						
TWT				eS	Sb	09 43 02.1	-0.4
	baz=311						
HGSD	Ruisui	0.44	187	P	Pg	09 42 55.9	+0.2
	baz=193						
HGSD				S	Sg	09 43 01.5	-0.1
	baz=193						
TDCB	Techi	0.44	317	⇓ iP	Pb	09 42 56.3	-0.1
	baz=311						
TDCB				S	Sg	09 43 01.6	-0.2
	baz=311						
EHY	Hungye	0.45	199	eP	Pg	09 42 55.0	-0.8
	baz=192						
EHY				eS	Sg	09 43 01.1	-0.8
	baz=192						
WPL	Puli Township	0.49	280	P	Pb	09 42 56.9	-0.3
	baz=280						
SSLB	Suanglung	0.51	254	⇓ iP	Pg	09 42 56.8	-0.1
	baz=262						
SSLB				i S	Sg	09 43 03.5	-0.2
	baz=262						
NNSB	Datong	0.51	350	i P	Pg	09 42 57.3	+0.3
	baz=349						
NNSB				S	Sg	09 43 03.5	-0.3
	baz=349						
NNS	Nan Shan	0.52	349	⇓ iP	Pg	09 42 56.5	-0.8
	baz=349						
NNS				i S	Sg	09 43 03.4	-0.8
	baz=349						
SMLT	Sun Moon Lake	0.54	265	⇓ iP	Pg	09 42 57.7	+0.2
	baz=273						
SMLT				i S	Sb	09 43 05.2	-0.4
	baz=273						
WCS	Beigang Elemen	0.54	284	⇓ iP	Pg	09 42 56.9	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=284						
WCS				S	Sg	09 43 04.2	-0.6
	baz=284						
ENA	Nanau	0.55	25⇑	iP	Pg	09 42 57.7	-0.1
	baz=25						
ENA				S	Sg	09 43 04.8	-0.3
	baz=25						
YULB	Yu-li	0.56	198	P	Pg	09 42 56.6	-1.4
	baz=190						
YULB				eS	Sg	09 43 05.2	-0.2
	baz=190						
TYC	Yuchr	0.57	268⇓	iP	Pg	09 42 58.2	0.0
	baz=276						
TYC				i S	Sg	09 43 05.7	-0.2
	baz=276						
EYUL	Yuli	0.60	195	eP	Pg	09 42 58.8	+0.1
	baz=202						
EYUL				S	Sg	09 43 06.3	-0.3
	baz=202						
WHP	Taichung City	0.60	305	⇓P	Pb	09 42 59.1	0.0
	baz=300						
WHP				eS	Sg	09 43 07.1	+0.3
	baz=300						
LATG	Datong	0.61	4	P	Pg	09 42 58.9	0.0
	baz=354						
LATG				S	Sg	09 43 06.7	-0.3
	baz=354						
WHYT	Xinyi Township	0.62	248	eP	Pb	09 42 59.6	+0.1
	baz=253						
WHYT				S	Sg	09 43 07.7	+0.3
	baz=253						
YUS	Yu-Shan	0.66	228	eP	Pg	09 43 00.0	+0.2
	baz=217						
YUS				eS	Sg	09 43 08.1	-0.5
	baz=217						
NDT	Datong Townshi	0.67	2	eP	Pg	09 42 58.0	-2.1
	baz=3.0						
WJS	Zhushan	0.70	261	eP	Pn	09 43 01.9	-0.2
	baz=264						
WJS				S	Sn	09 43 12.2	-0.5
	baz=264						
ENTT	Nioudou	0.71	6	P	Pg	09 42 59.9	-0.9
	baz=6.0						
ENTT				eS	Sg	09 43 09.2	-1.1
	baz=6.0						
WNT	Mingjian	0.73	266	eP	Pn	09 43 02.4	-0.3
	baz=268						
WNT				eS	Sn	09 43 13.0	-0.6
	baz=268						
YHNB	Yeheng	0.74	352⇓	iP	Pb	09 43 01.6	+0.1
	baz=344						
YHNB				S	Sg	09 43 11.1	-0.2
	baz=344						
ALS	Alishan	0.75	236	eP	Pb	09 43 01.8	0.0
	baz=226						
ALS				S	Sg	09 43 11.2	-0.3
	baz=226						
NSK	Sanguang	0.75	351⇓	iP	Pg	09 43 00.7	-0.9
	baz=343						
NSK				S	Sg	09 43 10.6	-1.0
	baz=343						
TWC	Suao	0.76	26	eP	Pg	09 43 01.3	-0.4
	baz=26						
TWC				S	Sg	09 43 11.7	+0.1
	baz=26						
TCU	Taichung	0.77	287	eP	Pn	09 43 03.1	-0.1
	baz=285						
TCU				eS	Sn	09 43 15.1	+0.6
	baz=285						
TWQ1	Liyutan	0.77	303	eP	Pn	09 43 03.2	0.0
	baz=303						
TWQ1				eS	Sb	09 43 13.1	+0.8
	baz=303						
NFF	Wufeng Townshi	0.78	335	eP	Pg	09 43 01.4	-0.7
	baz=334						
NFF				S	Sg	09 43 11.8	-0.5
	baz=334						
TWE	Neicheng	0.81	12	eP	Pb	09 43 02.3	-0.3
	baz=13						
TWE				eS	Sg	09 43 12.8	-0.4
	baz=13						
CHN5	Tsauling	0.81	246	eP	Pg	09 43 02.6	0.0
	baz=237						
CHN5				eS	Sn	09 43 14.8	-0.7
	baz=237						
EHD	Haiduan	0.82	198	eP	Pb	09 43 00.9	-1.9
	baz=198						
EHD				eS	Sg	09 43 11.3	-2.2
	baz=198						
NSTT	Nanjuang	0.83	328	P	Pg	09 43 03.4	+0.4
	baz=328						
NSTT				eS	Sg	09 43 14.0	+0.1
	baz=328						
CHKT	Chengkung	0.83	188	eP	Pb	09 43 01.6	-1.4
	baz=186						
CHKT				eS	Sb	09 43 13.3	-0.6
	baz=186						
FUSB	Fushanzhiwuyua	0.83	6	P	Pb	09 43 03.0	-0.1
	baz=356						
FUSB				eS	Sg	09 43 13.4	-0.7
	baz=356						
LIOB	Emei	0.83	329	P	Pn	09 43 03.6	-0.4
	baz=329						
LIOB				eS	Sg	09 43 15.0	+0.9
	baz=329						
NWLT	Wulai	0.85	1	P	Pb	09 43 02.3	-1.0
	baz=1.0						
NWLT				eS	Sb	09 43 13.2	-1.2
	baz=1.0						
ELDTW	Lidau	0.85	210	P	Pb	09 43 02.9	-0.5
	baz=218						
ELDTW				eS	Sb	09 43 13.9	-0.8
	baz=218						
WCHH	Zhanghua	0.86	280	eP	Pn	09 43 05.3	+0.9
	baz=280						
WCHH				eS	Sn	09 43 18.1	+1.4
	baz=280						
NMLH	Miaoli	0.88	314	eP	Pn	09 43 05.2	+0.6
	baz=322						
NMLH				eS	Sg	09 43 16.3	+0.8
	baz=322						
WDJ	Dajia District	0.88	299	eP	Pn	09 43 04.7	+0.1
	baz=305						
WDJ				eS	Sn	09 43 18.8	+1.7
	baz=305						
WDLH	Douliu	0.90	255	P	Pn	09 43 05.0	+0.1
	baz=254						
WDLH				eS	Sn	09 43 18.0	+0.4
	baz=254						
WCKO	Fanlu	0.94	239	eP	Pb	09 43 04.8	-0.1
	baz=232						
WCKO				eS	Sn	09 43 18.6	-0.1
	baz=232						
EDH	Donghe	0.96	190	eP	Pb	09 43 03.6	-1.7
	baz=189						
EDH				eS	Sb	09 43 17.4	-0.4
	baz=189						
SBCB	Hsinchu	0.97	332	eP	Pn	09 43 06.2	+0.2
	baz=333						
STYH	Taoyuan	1.00	221	eP	Pb	09 43 04.6	-1.2
	baz=214						
STYH				eS	Sb	09 43 17.5	-1.2
	baz=214						
CHN4	Tsaushan	1.00	235	P	Pb	09 43 05.8	-0.1
	baz=235						
TPUB	Ta-pu	1.00	232	P	Pn	09 43 06.5	+0.1
	baz=225						
TPUB				eS	Sn	09 43 20.5	+0.2
	baz=225						
CHN2	Minshiung	1.00	247	eP	Pb	09 43 06.1	+0.1
	baz=260						
CHN2				eS	Sn	09 43 21.2	+0.9
	baz=260						
WRL	Guolierlin Hig	1.01	269	eP	Pb	09 43 05.4	-0.7
	baz=268						
WRL				eS	Sg	09 43 20.1	+0.3
	baz=268						
NHDH	Xindian Distri	1.03	2	eP	Pn	09 43 06.8	0.0
	baz=12						
WTP	Ta-pu	1.05	230	eP	Pg	09 43 07.7	+0.5
	baz=229						
WTP				eS	Sn	09 43 21.3	-0.1
	baz=229						
TWA	Mucha	1.05	5	eP	Pb	09 43 06.5	-0.3
	baz=358						
TWA				eS	Sb	09 43 20.2	-0.1
	baz=358						
CHY	Chiayi	1.06	246	eP	Pg	09 43 07.3	-0.1
	baz=258						
CHY				eS	Sn	09 43 22.5	+0.8
	baz=258						
LONT	Longtian	1.07	198	eP	Pb	09 43 07.1	0.0
	baz=197						
LONT				eS	Sn	09 43 21.8	-0.1
	baz=197						
NCUH	Zhongli	1.07	345	eP	Pg	09 43 08.2	+0.6
	baz=357						
NCU	National Centr	1.07	345	eP	Pg	09 43 09.0	+1.4
	baz=357						
TIPB	Shuangxi	1.08	17	eP	Pb	09 43 07.2	-0.2
	baz=16						
TIPB				eS	Sb	09 43 20.2	-1.1
	baz=16						
TWK	Hsinying	1.13	234	eP	Pg	09 43 08.5	-0.1
	baz=228						
TWK				eS	Sg	09 43 24.5	+1.1
	baz=228						
CHN1	Nanshi	1.15	230	eP	Pg	09 43 08.8	-0.3
	baz=220						
CHN1				eS	Sg	09 43 25.7	+1.7
	baz=220						
SNST	Tainan City	1.15	232	eP	Pg	09 43 10.9	+1.9
	baz=222						
SNST				eS	Sg	09 43 27.0	+3.0
	baz=222						
TWG	Pinlang	1.17	199	eP	Pg	09 43 09.1	-0.2
	baz=184						
TWG				eS	Sb	09 43 23.3	-0.3
	baz=184						
TWGBT	Beinan	1.17	199	eP	Pn	09 43 08.5	-0.1
	baz=184						
TWS1	Kuangyinshan	1.17	357	eP	Pb	09 43 09.0	+0.3
	baz=10.0						
TWS1				eS	Sg	09 43 27.2	+2.5
	baz=10.0						
NWF	Wu-fen Shan	1.17	13	eP	Pg	09 43 09.8	+0.3
	baz=13						
NWF				eS	Sn	09 43 24.6	+0.1
	baz=13						
TWB1	Santiao Chiao	1.17	23	eP	Pn	09 43 07.8	-0.9
	baz=15						
SGST	Jiashian	1.18	225	eP	Pn	09 43 08.8	0.0
	baz=216						
SGST				eS	Sg	09 43 25.6	+0.5
	baz=216						
SXI1	Grass Mountain	1.22	17	eP	Pn	09 43 09.0	-0.3
	baz=19						
YM01	YM01	1.22	4	eP	Pb	09 43 09.7	+0.1
	baz=6.0						
ICHU	Yijhu	1.24	243	eP	Pg	09 43 10.6	-0.2
	baz=242						
SCST	Cishan	1.38	221	eP	Pg	09 43 13.0	-0.5
	baz=220						
ECL	Taimali	1.41	200	eP	Pn	09 43 11.7	-0.2
	baz=184						
SSD	Sandimen	1.41	214	eP	Pn	09 43 12.4	+0.4
	baz=224						
TSMG	Majia	1.44	213	eP	Pb	09 43 13.3	-0.1
	baz=223						
YOJ	Yonaguni jima	1.49	69	eP	Pn	09 43 11.7	-1.3
	baz=68						
TSCK	Chigu Township	1.50	239	eP	Pn	09 43 12.5	-0.7
	baz=237						
MASBT	Mashibuluo	1.53	211	eP	Pn	09 43 13.0	-0.6
	baz=199						
EAST	Anshuo	1.65	201	eP	Pb	09 43 17.0	+0.1
	baz=187						
SCZT	Fangliau	1.74	207	eP	Pb	09 43 17.8	-0.8
	baz=199						
PHUB	P'eng-hu	1.80	257	eP	Pn	09 43 17.9	+0.5
	baz=255						
WDGT	Dungji	1.80	249	eP	Pn	09 43 18.3	+1.0
	baz=246						
SLIU	Shizi	1.82	200	eP	Pb	09 43 19.8	0.0
	baz=184						
LYUB	Lan-yu	1.92	177	eP	Pn	09 43 15.9	-3.0
	baz=164						
SMST	Manzhou Townsh	1.99	198	eP	Pb	09 43 22.1	-0.7
	baz=179						
VWUC	VWUC	2.13	300	eP	Pn	09 43 20.9	-1.0
	baz=302						
PTMZ	Houxiangcun	2.42	298	eP	Pn	09 43 25.0	-0.9
	baz=300						
KNM	Kinmen	2.83	281	eP	Pn	09 43 32.6	+1.2
	baz=279						
KNMB	Chin-men Tao	2.88	281	eP	Pn	09 43 31.7	-0.4
	baz=281						

*IDC **03** 09:57:08.7±1.5, 3°.20S×130°.44E, h0km, mb3.6/2, mbtmp3.6/4, ML3.2/2, MS2.9/7, Error ellipse: s-maj=67.7km s-min=16.9km az=84.0*
*DJA **03** 09:57:15.7±1.6, 3°S±5°×13°0E±°, h29km±16km, M3.5/9, MLv3.5/9*
ISC 03 09:57:11.8±0.8**, 3°.00S**±0°.05×**130°.42E**±0°.04**, h24**km**, n18,** σ3s.18/17**, MS3.0**/4**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	Masohi	1.53	257	P	Pb	09 57 40.6	+1.1
BNDI	Bandanaira	1.60	199	P	Pb	09 57 42.2	+1.5
FAKI	Fak Fak	1.83	88	P	Pb	09 57 46.4	+1.8
FAKI				S	Sb	09 58 10.5	+3.4
KRAI	Karang Ratu	2.05	261	P	Pb	09 57 48.0	-0.3
SIJI	Sorong	2.27	22	Pn	Pn	09 57 49.7	+1.8
	4.1nm,0.3s,baz=177,slow=11,SNR=22						
SIJI				Sn	Sn	09 58 11.5	-3.7
	5.3nm,0.3s,baz=195,slow=17,SNR=6.4						
SIJI				LR	LR	09 58 51.1	
	comp=Z,83nm,20.5s,baz=256,slow=42						
	9.5nm,0.2s						
SIJI	Sorong	2.27	22	P	Pb	09 57 51.1	-1.1
AAI	Ambon	2.33	253	P	Pn	09 57 51.0	+2.4
NLAI	Namlea	3.32	266	P	Pn	09 58 05.0	+2.7
LBMI	Labuha	3.74	309	P	Pn	09 58 09.9	+1.8
SANI	Sanana	4.53	282	P	Pn	09 58 19.4	+0.5
KAPI	Kappang	10.83	259	LR	LR	10 05 05.5	
	comp=Z,73nm,19.4s,baz=76,slow=44						
DAV	Davao City (W)	11.10	334	LR	LR	10 04 43.3	
	comp=Z,96nm,18.3s,baz=62,slow=40						
WRA	Warramunga Arr	17.27	167	P	Pn	10 01 10.4	-1.2
	0.1nm,0.3s,baz=348,slow=12,SNR=4.9						
WRA				S	Sn	10 04 14.3	-8.9
	0.6nm,1.0s,baz=35,slow=24,SNR=1.7						
	0.6nm,0.9s						
ASAR	Alice Springs	20.82	171	P	P	10 01 51.5	-0.4
	1.1nm,0.3s,baz=349,slow=11,SNR=36						
ASAR				S	S	10 05 41.3	-1.9
	0.1nm,0.4s,baz=348,slow=22,SNR=2.7						
	1.1nm,0.3s						
LEM	Lembang	23.03	260	LR	LR	10 12 31.0	
	comp=Z,46nm,21.4s,baz=58,slow=40						
DZM	Mont Dzumac	39.77	121	LR	LR	10 20 09.0	
	comp=Z,58nm,18.1s,baz=252,slow=35						
KSRS	Korea Array	40.31	357	LR	LR	10 20 35.6	
	comp=Z,7.2nm,21.1s,baz=205,slow=35						
MKAR	Makanchi Array	65.15	326	P	P	10 07 52.6	+1.7
	0.5nm,0.7s,baz=125,slow=7.7,SNR=2.7						
MKAR				LR	LR	10 38 56.5	
	comp=Z,10nm,18.4s,baz=334,slow=38						
	0.5nm,0.7s						

HEL 03 09:59:51.5±0.5**, 61°.01N**×**27°.94E, h0**km**, ML1.1, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.51	202	PG	Pg	10 00 00.7	-0.5
VJF				SG	Sg	10 00 07.7	-0.2
FIA0	FINESS Array S	1.00	297	PB	Pg	10 00 10.4	-0.3
	baz=118						
FIA0				SB	Sg	10 00 23.1	-0.6
PVF	Pernaja	1.12	246	PG	Pg	10 00 11.1	-1.9
PVF				MSG		10 00 25.7	
	comp=Z,1.5nm,0.2s						
PVF				SB	Sg	10 00 27.4	-0.1
KAF	Kangasniemi	1.36	325	PG	Pg	10 00 15.9	-1.6
	baz=145						
KAF				MSG		10 00 32.5	
	comp=Z,0.8nm,0.2s						
MEF	Metsahovi	1.92	247	MSG		10 00 48.8	
	comp=Z,1.4nm,0.2s						
MEF				SG	Sb	10 00 51.5	-0.3
JOF	Joensuu	2.49	38	SG	Sg	10 01 10.6	-0.8
JOF	Joensuu	2.49	38	SB	Sg	10 01 10.6	-0.8
OUF	Merijarvi	3.68	338	PB	Pb	10 00 54.9	-2.4
OUF				SN	Sn	10 01 29.7	-3.9
OUF	Merijarvi	3.68	338	PN	Pb	10 00 54.9	-2.4
OUF				SG	Sn	10 01 29.7	-3.9
OBF0	Syolatti, Pyha	3.89	336	PB	Pb	10 00 57.1	-3.8
OBF0	Syolatti, Pyha	3.89	336	PN	Pb	10 00 57.1	-3.8
OBF8	Ulkokalla	3.92	330	PG	Pb	10 01 02.3	+0.8
OBF8				SN	Sn	10 01 36.2	-3.4
OBF8	Ulkokalla	3.92	330	PN	Pb	10 01 02.3	+0.8
OBF8				SN	Sn	10 01 36.2	-3.4
AAL	Aland	4.01	261	SG	Sb	10 01 53.6	+1.7
OBF4	Vikkela, Lumij	4.03	342	PN	Pn	10 00 52.5	-1.9
BURU	Burvik	4.68	323	PG	Pb	10 01 15.7	+1.3

*UPP **03** 10:00:01.4±3.2, 64°.28N×32°.22E, h0km, ML1.7, Suspected explosion*
*KOLA **03** 10:00:11.2, 64°.72N×30°.67E, h0km, ML2.2*
HEL 03 10:00:12.4±0.1**, 64°.85N**×**30°.50E, h0**km**, ML1.9, Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RMF	Romuvaara	0.68	202	PG	Pg	10 00 24.9	-0.5
	baz=17						
KU6	Riekki	1.21	348	PG	Pg	10 00 34.0	-1.6
	baz=163						
KU6				SG	Sg	10 00 47.5	-3.7
KU6				MSG		10 00 49.0	
	comp=Z,6.2nm,0.2s						
MSF	Maaselka	1.23	331	PG	Pg	10 00 34.8	-1.2
	baz=148						
MSF				SN	Sn	10 00 53.7	-0.5
OLKF	Oulanka, Finla	1.55	343	PG	Pn	10 00 40.1	-1.1
OLKF				SN	Sn	10 01 02.0	0.0
JOF	Joensuu	1.97	169	PB	Pn	10 00 46.5	-0.5
OUL	Oulu	1.97	279	PG	Pn	10 00 47.6	+0.6
OUL				SG	Sb	10 01 13.6	-0.6
OBF4	Vikkela, Lumij	2.31	272	PB	Pn	10 00 51.8	+0.2
	baz=89						
RNF	Rovaniemi	2.56	316	PB	Pn	10 00 55.2	+0.1
	baz=130						
RNF				SG	Sb	10 01 31.2	0.0
TOF	Tornio	2.86	298	PB	Pn	10 01 00.3	+1.2
TOF				MSG		10 01 36.4	
	comp=Z,5.1nm,0.2s						
TOF				SG	Sb	10 01 38.8	-0.9
VRF	Varrio	2.94	353	PN	Pn	10 01 00.3	+0.1
VRF				MSG		10 01 38.7	
	comp=Z,1.9nm,0.2s						
VRF				SG	Sb	10 01 42.5	+0.6
APA0	Apatity Array	2.95	19	P	Pn	10 00 59.7	-0.7
APA0				S	Sn	10 01 37.4	+0.9
SGF	Sodankyl	3.07	330	PG	Pb	10 01 06.8	-1.0
SGF				SG	Sb	10 01 46.4	+0.7
KALU	Kalix	3.16	292	PN	Pn	10 01 01.9	-1.5
KALU				SB	Sn	10 01 43.8	+2.1
KAF	Kangasniemi	3.33	216	PG	Pb	10 01 11.9	-0.3
LVZ	Lovozero	3.49	27	SG	Sg	10 02 01.6	-2.8
KLF	Kolari	3.59	315	PN	Pn	10 01 09.6	+0.4
KEF	Keuruu	3.69	226	SG	Sb	10 02 06.4	+2.8
PAJU	Pajala	3.73	309	P	Pn	10 01 11.7	+0.4
PAJU				S	Sb	10 02 07.5	+2.7
PAJU	Pajala	3.73	309	PN	Pn	10 01 11.5	+0.3
SJUU	Sjulsmark	3.81	284	P	Pn	10 01 12.0	-0.2
ERTU	Ertsjaerv	3.84	300	P	Pn	10 01 13.3	+0.7
ERTU	Ertsjaerv	3.84	300	PN	Pn	10 01 13.3	+0.6
VAF	Ylistaro	3.90	246	PN	Pn	10 01 14.9	+1.4
	baz=56						
VAF				SG	Sb	10 02 13.6	+3.9
BURU	Burvik	3.92	270	P	Pn	10 01 12.3	-1.5
BURU	Burvik	3.92	270	PN	Pn	10 01 13.1	-0.7
FIA0	FINESS Array S	3.96	212	SG	Sg	10 02 16.2	-3.4
HARU	Harads	4.18	293	P	Pn	10 01 17.4	0.0
ODEU	Stanfors	4.24	268	P	Pn	10 01 16.4	-1.7
MASU	Masugnsbyn	4.33	311	P	Pn	10 01 19.7	+0.2
UMAU	Umeaa	4.38	262	P	Pn	10 01 18.4	-1.7
UMAU	Umeaa	4.38	262	PN	Pn	10 01 19.1	-0.9
UMAU				SG	Sg	10 02 28.6	-4.2
HEF	Hetta	4.49	326	PN	Pn	10 01 21.9	+0.3
	baz=135						
HEF				SG	Sb	10 02 30.9	+4.2
LILU	Lilltraesk	4.53	280	P	Pn	10 01 21.9	-0.2
VJF	Virojoki	4.53	199	SG	Sb	10 02 29.6	+1.7
DUNU	Dundret	4.66	304	P	Pn	10 01 27.2	+3.4
LANU	Lannavaara	4.69	317	PN	Pn	10 01 24.1	-0.3
SVAU	Svanoeiden	4.71	271	P	Pn	10 01 23.6	-1.0
PRVG	Vayda Guba	4.96	7	P	Pn	10 01 27.7	-0.3
PRVG				S	Sn	10 02 23.1	-2.9
ARCES	ARCESS Array B	5.09	340	P	Pn	10 01 29.1	-0.8
ARCES				S	Sn	10 02 28.6	-0.7

*GCG **03** 10:01:13.9±0.6, 15°.27N×92°.47W, h72km±19km, MD3.9*
*MEX **03** 10:01:15.3±0.8, 14°.86N×92°.24W, h112km±6km, MD4.0*
ISC 03 10:01:16.9±1.5**, 14°.96N**±0°.07×**92°.34W**±0°.05**, h95**km±8km**, n18,** σ1s.00/30**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.09	123	eP	Pn	10 01 29.8	-0.4
THIG				eS	Sn	10 01 41.3	+1.2
PATR	El Naranjo	0.19	33	eP	Pn	10 01 29.6	-1.2
PATR				eS	Sn	10 01 40.8	-0.2
CHUJ	Union Juarez	0.27	59	eP	Pn	10 01 30.0	-1.0
CHUJ				eS	Sn	10 01 41.5	0.0
PAVE	Pavencul	0.29	34	eP	Pn	10 01 30.3	-0.8
PAVE				eS	Sn	10 01 42.5	+0.8
STG3	Santiaguito 3,	0.79	108	eP	Pn	10 01 33.6	-1.3
STG3				eS	Sn	10 01 49.1	+0.7
SULM	Suchitepequez,	0.99	131	eP	Pn	10 01 36.5	-0.4
SULM				eS	Sn	10 01 53.8	+1.9
PCIG		1.13	311	eP	Pn	10 01 38.5	+0.2
PCIG				eS	Sn	10 01 56.1	+1.6
CCIG	Comitan	1.33	9	eP	Pn	10 01 41.1	0.0
CCIG				eS	Sn	10 02 00.0	+0.8
FUG	Fuego 3	1.54	109	eP	Pn	10 01 43.0	-0.5
TGIG		1.96	338	i P	Pn	10 01 48.1	-0.8
TGIG				e		10 02 12.5	
NBG	Las Nubes	1.97	100	eP	Pn	10 01 49.5	+0.4
MRL	Marmol	2.57	87	eP	Pn	10 01 56.0	-1.0
NILT	Santiago Nilte	2.71	306	eP	Pn	10 01 59.4	+0.8
NILT				eS	Sn	10 02 31.9	+1.1
UXUV	UXUV	2.92	324	eP	Pn	10 02 01.6	+0.1
UXUV				i S	Sn	10 02 34.7	-1.1
CMIG	Matias Romero	3.24	311	eP	Pn	10 02 05.8	0.0
CMIG				eS	Sn	10 02 44.8	+1.4
HUIG	Huatulco	3.72	283	eP	Pn	10 02 10.8	-1.4
HUIG				e		10 02 49.7	
NEUV	Arroyo Zacate	4.31	310	eP	Pn	10 02 18.8	-1.4
NEUV				i S	Sn	10 03 09.1	-0.2
PEIG	Puerto Escondi	4.75	283	eP	Pn	10 02 25.3	-0.9
PEIG				e		10 03 13.8	

*SOME **03** 10:30:44.1, 41°.02N×77°.78E, h10km*
*KRNET **03** 10:30:45.3±0.1, 41°.10N×77°.71E, h16km, mb3.0*
*NNC **03** 10:30:46.0±1.0, 41°.10N×77°.81E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=6.9km s-min=4.1km az=172.0*
ISC 03 10:30:47.0±1.9**, 41°.15N**±0°.07×**77°.70E**±0°.04**, h4**km±12km**, n42,** σ1s.31/65**, 9C-18D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.31	283⇓	eP	Pn	10 31 10.9	-1.5
	baz=84						
NRN			⇓	eS	Sg	10 31 29.8	+0.5
	baz=84						
ULHL	Ulahol	1.55	316⇓	eP	Pn	10 31 15.3	-0.3
	baz=17						
ULHL			⇓	eS	Sg	10 31 37.0	+0.2
	baz=17						
ANVS	Anan'yevo	1.64	359⇑	eP	Pb	10 31 16.9	-0.9
	baz=59						
ANVS			⇑	eS	Sg	10 31 40.1	+0.5
	baz=59						
TNSS	Tian-Shan	1.97	344	eP	Pb	10 31 23.6	-0.1
	18nm,0.6s						
TNSS				eS	Sg	10 31 52.1	+1.8
	63nm,0.7s						
TNSS	Tian-Shan	1.97	344	Pg	Pb	10 31 23.5	-0.1

	18nm,0.6s						
TNSS				Lg	Lg	10 31 52.1	
	63nm,0.7s						
IZV	**Izvestkoviy**	**2.06**	**337**	*e*P	**Pb**	**10 31 25.2**	**+0.2**
	33nm,0.4s						
IZV				*e*S	**Sg**	**10 31 54.7**	**+1.6**
	139nm,0.8s						
IZV	**Izvestkoviy**	**2.06**	**337**	Pg	**Pb**	**10 31 25.2**	**+0.2**
	33nm,0.4s						
IZV				Lg	Lg	10 31 54.7	
	139nm,0.8s						
MDOK	**Medeo**	**2.07**	**347**	*e*P	**Pb**	**10 31 25.1**	**-0.1**
	20nm,0.2s						
MDOK				*e*S	**Sg**	**10 31 55.1**	**+1.5**
	83nm,0.7s						
MDOK	**Medeo**	**2.07**	**347**	⇓Pg	**Pb**	**10 31 24.9**	**-0.4**
	32nm,1.0s						
MDOK				Pg	**Pb**	**10 31 25.1**	**-0.1**
	20nm,0.2s						
MDOK				⇓Lg	Lg	10 31 54.9	
	64nm,0.5s						
MDOK				Lg	Lg	10 31 55.1	
	83nm,0.7s						
KOTS	**Kotyrbulak**	**2.13**	**348**	*e*P	**Pb**	**10 31 26.5**	**+0.2**
	15nm,0.3s						
KOTS				*e*S	**Sg**	**10 31 57.5**	**+2.0**
	130nm,0.6s						
KOTS	**Kotyrbulak**	**2.13**	**348**	Pg	**Pb**	**10 31 26.5**	**+0.2**
	15nm,0.3s						
KOTS				Lg	Lg	10 31 57.5	
	130nm,0.6s						
MTBS	**Maitube**	**2.20**	**335**	*e*P	**Pb**	**10 31 27.2**	**-0.2**
	9.9nm,0.3s						
MTBS				*e*S	**Sg**	**10 31 58.4**	**+0.8**
	69nm,0.4s						
MTBS	**Maitube**	**2.20**	**335**	Pg	**Pb**	**10 31 27.2**	**-0.2**
	9.9nm,0.3s						
MTBS				Lg	Lg	10 31 58.4	
	69nm,0.4s						
UZB	**Uzynbulak**	**2.23**	**26**	*e*P	**Pb**	**10 31 27.3**	**-0.6**
	4.4nm,0.4s						
UZB				*e*S	**Sg**	**10 31 58.5**	**-0.1**
	88nm,0.7s						
UZB	**Uzynbulak**	**2.23**	**26**	Pg	**Pb**	**10 31 27.3**	**-0.6**
	4.4nm,0.4s						
UZB				Lg	Lg	10 31 58.5	
	88nm,0.7s						
TKM2	**Tokmak 2**	**2.37**	**319**	⇑*e*P	**Pn**	**10 31 28.0**	**+1.2**
	baz=20						
TKM2				⇑*e*S	**Sb**	**10 31 59.3**	**-0.7**
	baz=20						
TKM2	**Tokmak 2**	**2.37**	**319**	⇓Pg	**Pb**	**10 31 30.5**	**+0.2**
	14nm,0.8s						
TKM2				⇓Lg	Lg	10 32 03.7	
	17nm,0.5s						
SHLS	**Shalkode**	**2.40**	**32**	*e*P	**Pg**	**10 31 33.4**	**+0.5**
	19nm,0.3s						
SHLS				*e*S	**Sg**	**10 32 08.9**	**+5.0**
	250nm,0.3s						
SHLS	**Shalkode**	**2.40**	**32**	Pg	**Pg**	**10 31 33.4**	**+0.5**
	19nm,0.3s						
SHLS				Lg	Lg	10 32 08.9	
	250nm,0.3s						
DGS	**Degeres**	**2.54**	**326**	*e*P	**Pb**	**10 31 33.7**	**+0.5**
	12nm,0.6s						
DGS				*e*S	**Sg**	**10 32 09.2**	**+0.6**
	52nm,0.6s						
DGS	**Degeres**	**2.54**	**326**	Pg	**Pb**	**10 31 33.7**	**+0.5**
	12nm,0.6s						
DGS				Lg	Lg	10 32 09.2	
	52nm,0.6s						
PDGK	**Podgornoye**	**2.55**	**31**	Pg	**Pb**	**10 31 32.5**	**-0.9**
	15nm,0.3s						
PDGK				Lg	Lg	10 32 07.4	
	92nm,0.5s						
PDGK	**Podgornoye**	**2.55**	**31**	⇓Pg	**Pb**	**10 31 31.8**	**-1.6**
	26nm,0.7s						
PDGK				⇓Lg	Lg	10 32 07.4	
	276nm,0.8s						
UCH	**Uchtor**	**2.62**	**295**	⇑*e*P	**Pn**	**10 31 31.6**	**+1.1**
	baz=96						
UCH				⇑*e*S	**Sb**	**10 32 05.4**	**-2.1**
	baz=96						
ARLS	**Aral**	**2.64**	**287**	⇓*e*P	**Pn**	**10 31 31.6**	**+1.1**
	baz=88						
ARLS				⇓*e*S	**Sb**	**10 32 05.4**	**-2.3**
	baz=88						
KTBS	**Karatobe**	**2.67**	**344**	*e*P	**Pb**	**10 31 35.8**	**+0.4**
	11nm,0.3s						
KTBS				*e*S	**Sg**	**10 32 13.0**	**+0.2**
	81nm,0.9s						
KTBS	**Karatobe**	**2.67**	**344**	Pg	**Pb**	**10 31 35.8**	**+0.4**
	11nm,0.3s						
KTBS				Lg	Lg	10 32 13.0	
	81nm,0.9s						
AAK	**Ala-Archa**	**2.82**	**303**	⇓*e*P	**Pn**	**10 31 34.3**	**+1.3**
	baz=4.0						
AAK				⇓*e*S	**Sb**	**10 32 09.8**	**-3.2**
	baz=4.0						
CHMS	**Chumysh**	**2.87**	**311**	⇓Pg	**Pb**	**10 31 40.0**	**+1.2**
	6.2nm,0.7s						
CHMS				⇓Lg	Lg	10 32 20.1	
	12nm,0.7s						
KUU	**Kurty**	**2.92**	**340**	*e*P	**Pb**	**10 31 39.9**	**+0.2**
	3.3nm,0.3s						
KUU				*e*S	**Sg**	**10 32 19.9**	**-1.0**
	40nm,0.9s						
KUU	**Kurty**	**2.92**	**340**	Pg	**Pb**	**10 31 39.8**	**+0.2**
	3.3nm,0.3s						
KUU				Lg	Lg	10 32 19.9	
	40nm,0.9s						
KRBS	**Karabastau**	**2.96**	**330**	*e*P	**Pb**	**10 31 40.4**	**+0.1**
	7.1nm,0.4s						
KRBS				*e*S	**Sg**	**10 32 21.2**	**-0.7**
	19nm,0.2s						
KRBS	**Karabastau**	**2.96**	**330**	Pg	**Pb**	**10 31 40.4**	**+0.1**
	7.1nm,0.4s						
KRBS				Lg	Lg	10 32 21.2	
	19nm,0.2s						
BLB	**Baldybastay**	**3.00**	**11**	*e*P	**Pb**	**10 31 41.1**	**0.0**
	21nm,0.3s						
BLB				*e*S	**Sg**	**10 32 22.1**	**-1.4**
	107nm,0.2s						
BLB	**Baldybastay**	**3.00**	**11**	Pg	**Pb**	**10 31 41.1**	**0.0**
	21nm,0.3s						
BLB				Lg	Lg	10 32 22.1	
	107nm,0.2s						
EKS2	**Erkin-Say**	**3.30**	**299**	⇓*e*P	**Pn**	**10 31 40.8**	**+1.3**
	baz=99						
EKS2				⇓*e*S	**Sn**	**10 32 21.3**	**+2.0**
	baz=99						
DJR	**Jarkent**	**3.54**	**25**	*e*P	**Pb**	**10 31 50.4**	**+0.2**
	3.2nm,0.1s						
DJR				*e*S	**Sg**	**10 32 37.9**	**-2.7**
	23nm,0.3s						
DJR	**Jarkent**	**3.54**	**25**	Pg	**Pb**	**10 31 50.4**	**+0.2**
	3.2nm,0.1s						
DJR				Lg	Lg	10 32 37.9	
	23nm,0.3s						
MRKS	**Merke**	**3.70**	**297**	*e*P	**Pb**	**10 31 55.1**	**+2.1**
	2.8nm,0.5s						
MRKS				*e*S	**Sg**	**10 32 45.9**	**0.0**
	7.3nm,0.5s						
MRKS	**Merke**	**3.70**	**297**	Pg	**Pb**	**10 31 55.1**	**+2.1**
	2.8nm,0.5s						
MRKS				Lg	Lg	10 32 45.9	
	7.3nm,0.5s						
KK31	**Karatay Array**	**5.69**	**292**	⇑Pg	**Pg**	**10 32 34.0**	**-2.1**
	baz=109,slow=15,SNR=6.4						
KK31				⇑Lg	Lg	10 33 50.3	
	5.5nm,1.0s,baz=104,slow=28						
MK31	**Makanchi Array**	**6.54**	**29**	⇑Sn	**Sn**	**10 33 39.5**	**+0.5**
	0.6nm,0.5s						
MK31				Lg	Lg	10 34 09.8	
	1.7nm,0.7s,baz=84,slow=32,SNR=3.2						

---

*IDC **03** 10:53:40.6±1.0,25°.48N×125°.69E,h0^{km},mb3.5/5, mbtmp3.5/6,ML3.5/1,Error ellipse: s-maj=27.3km s-min=21.5km az=86.0*

*JMA **03** 10:53:43.9±0.1,25°.4N±0°.9×125°.8E±0°.9,h37^{km}±3^{km}, MV3.8/22,NEAR MIYAKOJIMA ISLAND*

*NIED **03** 10:53:43.9,25°.37N×125°.81E,h37^{km},MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.80; $M_{\theta\theta}$1.42; $M_{\phi\phi}$4.38; $M_{r\theta}$-2.12; $M_{\theta\phi}$-0.96; $M_{\phi r}$-2.52; Fault plane solution: $M_0$6.02000×10^{14} NP1: ϕ_s151.00000°,δ37.00000°,λ-119.00000°. NP2:ϕ_s6.00000°, δ58.00000°,λ-70.00000°.*

ISC 03 10:53:45.7±1.4**,25°.37N**±0°.08×**125°.77E**±0°.06**,h37**^{km}±2^{km}**, n27,**σ**1s.22**/40**,mb3.4**/5**,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.65**	**227**	*i* P	**Pn**	**10 53 56.9**	**-1.5**
JIKM				S	**Sn**	**10 54 06.6**	**-0.8**
JOGS	**Gusukube**	**0.69**	**209**	*i* P	**Pn**	**10 53 57.4**	**-1.6**
JOGS				S	**Sn**	**10 54 07.0**	**-1.4**
JMJ2	**Miyako jima3**	**0.74**	**213**	P	**Pn**	**10 53 58.2**	**-1.4**
JMJ2				*e*S	**Sn**	**10 54 09.3**	**-0.3**
JIRB	**Irabujima**	**0.76**	**225**	*i* P	**Pn**	**10 53 58.3**	**-1.5**
JIRB				*e*S	**Sn**	**10 54 09.2**	**-1.0**
JTJ	**Tarama**	**1.21**	**234**	P	**Pn**	**10 54 05.5**	**-0.6**
JTJ				S	**Sn**	**10 54 21.1**	**-0.1**
JKE	**Kume jima 2**	**1.32**	**44**	*i* P	**Pn**	**10 54 06.2**	**-1.3**
JKE				S	**Sn**	**10 54 23.3**	**-0.6**
JISG	**Ishigakijimahi**	**1.54**	**240**	P	**Pn**	**10 54 10.2**	**-0.2**
JISG				S	**Sn**	**10 54 30.5**	**+1.3**
JIJ	**Ishigaki jima**	**1.78**	**236**	P	**Pn**	**10 54 13.7**	**-0.2**
JIJ				*e*S	**Sn**	**10 54 35.9**	**+0.5**
JAGN	**Aguni-jima**	**1.80**	**47**	P	**Pn**	**10 54 13.3**	**-0.8**
JAGN				*e*S	**Sn**	**10 54 34.9**	**-0.8**
JKRS	**Kuro-shima**	**1.96**	**235**	P	**Pn**	**10 54 16.6**	**+0.3**
JKRS				*e*S	**Sn**	**10 54 40.8**	**+1.2**
JJT3	**Tamagusuku3**	**1.97**	**66**	P	**Pn**	**10 54 17.1**	**+0.6**
JJT3				*e*S	**Sn**	**10 54 42.5**	**+2.5**
IRIF	**Iriomote-Funau**	**2.12**	**241**	P	**Pn**	**10 54 18.6**	**0.0**
IRIF				*e*S	**Sn**	**10 54 45.0**	**+1.4**
HATJ	**Hateruma jima**	**2.21**	**234**	P	**Pn**	**10 54 21.8**	**+1.9**
HATJ				*e*S	**Sn**	**10 54 48.1**	**+2.2**
JNTH	**Nagotoyohara**	**2.33**	**60**	P	**Pn**	**10 54 21.8**	**+0.4**
JNTH				*e*S	**Sn**	**10 54 48.1**	**-0.7**
JIH	**Iheya**	**2.58**	**49**	P	**Pn**	**10 54 24.2**	**-0.6**
JIH				*e*S	**Sn**	**10 54 54.0**	**-0.9**
YOJ	**Yonaguni jima**	**2.66**	**251**	*e*S	**Sn**	**10 54 58.2**	**+1.1**
JOW	**Kunigami**	**2.68**	**57**	Pn	**Pn**	**10 54 25.8**	**-0.5**
	15nm,0.3s,baz=245,slow=13,SNR=20						
JOW				Sn	**Sn**	**10 55 00.2**	**+2.7**
	35nm,0.3s,baz=135,slow=25,SNR=4.6						
	84nm,0.3s						
JOW	**Kunigami**	**2.68**	**57**	P	**Pn**	**10 54 25.9**	**-0.4**
JYRO	**Yoronjima**	**2.92**	**55**	P	**Pn**	**10 54 29.2**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**38.28**	**90**	T	T	11 41 27.5	
	baz=285						
H11N2	**WAKE ISLAND Hy**	**38.28**	**90**	T	T	11 41 30.8	
	baz=285						
H11N3	**WAKE ISLAND Hy**	**38.30**	**90**	T	T	11 41 32.6	
	baz=285						
MKAR	**Makanchi Array**	**40.48**	**313**	P	**P**	**11 01 20.7**	**-0.1**
	0.2nm,0.4s,baz=94,slow=9.9,SNR=5.2						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**41.62**	**324**	P	**P**	**11 01 28.8**	**-1.2**
	0.4nm,0.3s,baz=115,slow=8.6,SNR=2.4						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**45.80**	**169**	P	**P**	**11 02 05.0**	**+1.1**
	0.7nm,0.7s,baz=351,slow=8.8,SNR=13						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**49.38**	**170**	P	**P**	**11 02 33.2**	**+1.6**
	0.3nm,0.7s,baz=354,slow=8.5,SNR=8.8						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**66.24**	**28**	P	**P**	**11 04 28.9**	**-0.6**
	0.2nm,0.7s,baz=266,slow=5.4,SNR=2.3						
	0.2nm,0.7s						

---

*IDC **03** 10:57:21.5±2.1,58°.90N×1°.26E,h0^{km},mb3.9/1, mbtmp3.9/9,ML3.9/8,Error ellipse: s-maj=42.3km s-min=14.5km az=134.0*

*NAO **03** 10:57:22.9±1.4,58°.77N×1°.56E,ML3.0*

*LDG **03** 10:57:23.8,58°.75N×1°.70E,h30^{km}*

*BER **03** 10:57:25.7±1.6,58°.78N×1°.60E,h15^{km},ML3.3,MW3.3, ML3.9(BGS),Confirmed Earthquake*

*DNK **03** 10:57:27.7±2.5,58°.77N×1°.59E,h40^{km}±9^{km},ML3.8, MW3.3,Probable volcanic*

*BGS **03** 10:57:27.0±0.9,58°.74N×1°.63E,h24^{km}±10^{km},ML3.9*

*HEL **03** 10:57:30.4±0.4,59°.16N×2°.10E,h10^{km},ML3.2,Confirmed Earthquake*

*UPP **03** 10:57:31.2±2.5,58°.70N×2°.71E,h0^{km},ML3.1,Suspected explosion*

ISC 03 10:57:22.1±0.7**,58°.78N**±0°.03×**1°.64E**±0°.03**,h10**^{km}**,n325,** σ**2s.11**/409**,8C-2D,North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMY	**Karmoy**	**1.92**	**75**	Pn	**Pn**	**10 57 57.3**	**+2.6**
KMY				Sn	**Sn**	**10 58 19.6**	**+0.7**
KMY	**Karmoy**	**1.92**	**75**	⇓*i*P	**Pn**	**10 57 57.4**	**+2.6**
KMY				*e*S	**Sn**	**10 58 19.6**	**+0.7**
KMY				IAML		10 58 21.2	
	comp=E,486nm,0.1s						
KMY	**Karmoy**	**1.92**	**75**	⇓*i*P	**Pn**	**10 57 57.4**	**+2.6**
KMY				*e*S	**Sn**	**10 58 19.6**	**+0.7**
KMY				IAML		10 58 21.2	
	comp=E,486nm,0.1s						
LRW	**Lerwick**	**1.98**	**315**	Pn	**Pn**	**10 57 57.9**	**+2.4**
LRW				Sn	**Sn**	**10 58 20.9**	**+0.4**
LRW	**Lerwick**	**1.98**	**315**	*e*P	**Pn**	**10 57 58.0**	**+2.4**
LRW				*e*S	**Sn**	**10 58 19.9**	**-0.6**
LRW				IAML		10 58 22.8	
	comp=N,259nm,0.2s						
LRW				IAML		10 58 33.8	
	comp=E,253nm,0.4s						
LRW	**Lerwick**	**1.98**	**315**	*e*P	**Pn**	**10 57 58.0**	**+2.4**
LRW				*e*S	**Sn**	**10 58 19.9**	**-0.6**
LRW				IAML		10 58 22.8	
	comp=N,259nm,0.2s						
LRW				IAML		10 58 33.8	
	comp=E,253nm,0.4s						
LRW	**Lerwick**	**1.98**	**315**	*e*P	**Pn**	**10 57 58.0**	**+2.4**
LRW				*e*S	**Sn**	**10 58 19.9**	**-0.6**
LRW				IAML		10 58 22.8	
	comp=N,259nm,0.2s						
LRW				IAML		10 58 33.8	
	comp=E,253nm,0.4s						
LRW	**Lerwick**	**1.98**	**315**	*e*P	**Pn**	**10 57 58.0**	**+2.4**
LRW				*e*S	**Sn**	**10 58 19.9**	**-0.6**
LRW				IAML		10 58 22.8	
	comp=N,259nm,0.2s						
STAV	**Stavanger**	**2.12**	**84**	Pn	**Pn**	**10 57 59.8**	**+2.3**
STAV				Sn	**Sn**	**10 58 24.0**	**+0.2**
STAV	**Stavanger**	**2.12**	**84**	*e*P	**Pn**	**10 57 59.8**	**+2.3**
STAV				*e*S	**Sn**	**10 58 23.8**	**0.0**
STAV				IAML		10 58 28.6	
	comp=Z,267nm,0.1s						
BER	**Bergen**	**2.48**	**48**	Pn	**Pn**	**10 58 04.5**	**+2.1**
BER				Sn	**Sn**	**10 58 30.9**	**-1.7**
BER	**Bergen**	**2.48**	**48**	*e*P	**Pn**	**10 58 04.5**	**+2.1**
BER				IAML		10 58 31.4	
	comp=E,126nm,0.1s						
BER				IAML		10 58 33.0	
	comp=N,119nm,0.2s						
BER	**Bergen**	**2.48**	**48**	*e*P	**Pn**	**10 58 04.5**	**+2.1**
BER				IAML		10 58 31.4	
	comp=E,126nm,0.1s						
BER				IAML		10 58 33.0	
	comp=N,119nm,0.2s						
BER	**Bergen**	**2.48**	**48**	*e*P	**Pn**	**10 58 04.6**	**+2.1**
BER				*e*S	**Sn**	**10 58 30.7**	**-1.9**
BER				IAML		10 58 32.6	
	comp=Z,251nm,0.2s						
BER	**Bergen**	**2.48**	**48**	*e*P	**Pn**	**10 58 04.5**	**+2.1**
BER				*e*S	**Sn**	**10 58 30.6**	**-2.1**
BER	**Bergen**	**2.48**	**48**	*e*P	**Pn**	**10 58 04.6**	**+2.1**
BER				*e*S	**Sn**	**10 58 30.7**	**-1.9**
BER				IAML		10 58 32.6	
	comp=Z,251nm,0.2s						
ASK	**Askoy**	**2.49**	**45**	⇑*i*P	**Pn**	**10 58 04.6**	**+2.0**
ASK				*e*S	**Sn**	**10 58 31.0**	**-1.9**
ASK				IAML		10 58 31.9	
	comp=Z,798nm,0.2s						
ASK	**Askoy**	**2.49**	**45**	⇑*i*P	**Pn**	**10 58 04.6**	**+2.0**
ASK				*e*S	**Sn**	**10 58 31.0**	**-1.9**
ASK				IAML		10 58 31.9	
	comp=Z,798nm,0.2s						
BLS5	**Blasjo**	**2.57**	**73**	Pn	**Pn**	**10 58 06.4**	**+2.7**
BLS5				Sn	**Sn**	**10 58 34.6**	**-0.4**
BLS5	**Blasjo**	**2.57**	**73**	*e*P	**Pn**	**10 58 06.4**	**+2.7**
BLS5				*e*S	**Sn**	**10 58 34.8**	**-0.2**
BLS5				IAML		10 58 35.8	
	comp=Z,733nm,0.4s						
BLS5	**Blasjo**	**2.57**	**73**	*e*P	**Pn**	**10 58 06.4**	**+2.7**
BLS5				*e*S	**Sn**	**10 58 34.8**	**-0.2**
BLS5				IAML		10 58 35.8	
	comp=Z,733nm,0.4s						
MLA1	**Latheron**	**2.67**	**262**	*e*P	**Pn**	**10 58 06.6**	**+1.6**
MLA1	**Latheron**	**2.67**	**262**	*e*P	**Pn**	**10 58 06.6**	**+1.6**
MLA1	**Latheron**	**2.67**	**262**	*e*P	**Pn**	**10 58 06.6**	**+1.6**
SUE	**Sulen**	**2.77**	**33**	*e*P	**Pn**	**10 58 08.4**	**+1.9**
SUE				*e*S	**Sn**	**10 58 38.4**	**-1.6**
SUE				IAML		10 58 40.6	
	comp=Z,184nm,0.2s						
SUE	**Sulen**	**2.77**	**33**	*e*P	**Pn**	**10 58 08.4**	**+1.9**
SUE				*e*S	**Sn**	**10 58 38.4**	**-1.6**
SUE				IAML		10 58 40.6	
	comp=Z,184nm,0.2s						
ODD1	**Odda**	**2.80**	**64**	*e*P	**Pn**	**10 58 09.7**	**+2.8**
ODD1				*e*S	**Sn**	**10 58 39.8**	**-0.9**
ODD1				IAML		10 58 42.9	
	comp=Z,303nm,0.2s						
ODD1	**Odda**	**2.80**	**64**	*e*P	**Pn**	**10 58 09.7**	**+2.8**
ODD1				*e*S	**Sn**	**10 58 39.8**	**-0.9**
ODD1				IAML		10 58 42.9	
	comp=Z,303nm,0.2s						
MCD	**Coleburn Disti**	**2.85**	**247**	*e*P	**Pn**	**10 58 09.2**	**+1.6**
MCD				*e*S	**Sn**	**10 58 40.1**	**-1.9**
MCD				IAML		10 58 41.2	
	comp=N,249nm,0.2s						
MCD				IAML		10 59 05.8	
	comp=E,216nm,0.4s						
MCD	**Coleburn Disti**	**2.85**	**247**	*e*P	**Pn**	**10 58 09.2**	**+1.6**
MCD				*e*S	**Sn**	**10 58 40.1**	**-1.9**
MCD				IAML		10 58 41.2	
	comp=N,249nm,0.2s						
MCD				IAML		10 59 05.8	
	comp=E,216nm,0.4s						
MCD	**Coleburn Disti**	**2.85**	**247**	*e*P	**Pn**	**10 58 09.2**	**+1.6**
MCD				*e*S	**Sn**	**10 58 40.1**	**-1.9**
MCD				IAML		10 58 41.2	
	comp=N,249nm,0.2s						
MCD				IAML		10 59 05.8	
	comp=E,216nm,0.4s						
MCD	**Coleburn Disti**	**2.85**	**247**	*e*P	**Pn**	**10 58 09.2**	**+1.6**
MCD				*e*S	**Sn**	**10 58 40.1**	**-1.9**
MCD				IAML		10 58 41.2	
	comp=N,249nm,0.2s						
DRUM	**Mains of Drumt**	**2.89**	**231**	*e*P	**Pn**	**10 58 09.9**	**+1.8**
DRUM				*e*S	**Sn**	**10 58 40.8**	**-2.1**
DRUM				IAML		10 58 41.9	
	comp=E,620nm,0.2s						
DRUM				IAML		10 58 42.9	
	comp=N,502nm,0.3s						
DRUM	**Mains of Drumt**	**2.89**	**231**	*e*P	**Pn**	**10 58 09.9**	**+1.8**
DRUM				*e*S	**Sn**	**10 58 40.8**	**-2.1**
DRUM				IAML		10 58 41.9	
	comp=E,620nm,0.2s						
DRUM				IAML		10 58 42.9	
	comp=N,502nm,0.3s						
DRUM	**Mains of Drumt**	**2.89**	**231**	*e*P	**Pn**	**10 58 09.9**	**+1.8**
DRUM				*e*S	**Sn**	**10 58 40.8**	**-2.1**
DRUM				IAML		10 58 41.9	
	comp=E,620nm,0.2s						
DRUM				IAML		10 58 42.9	
	comp=N,502nm,0.3s						
DRUM	**Mains of Drumt**	**2.89**	**231**	*e*P	**Pn**	**10 58 09.9**	**+1.8**
DRUM				*e*S	**Sn**	**10 58 40.8**	**-2.1**
DRUM				IAML		10 58 41.9	
	comp=E,620nm,0.2s						
BIGH	**Upper Bighouse**	**2.92**	**267**	*e*P	**Pn**	**10 58 09.9**	**+1.4**
BIGH				IAML		10 58 42.0	
	comp=N,251nm,0.1s						
BIGH				IAML		10 58 42.1	
	comp=E,210nm,0.3s						
BIGH	**Upper Bighouse**	**2.92**	**267**	*e*P	**Pn**	**10 58 09.9**	**+1.4**
BIGH				IAML		10 58 42.0	
	comp=N,251nm,0.1s						
BIGH				IAML		10 58 42.1	
	comp=E,210nm,0.3s						
BIGH	**Upper Bighouse**	**2.92**	**267**	*e*P	**Pn**	**10 58 09.9**	**+1.4**
BIGH				IAML		10 58 42.0	
	comp=N,251nm,0.1s						
BIGH				IAML		10 58 42.1	
	comp=E,210nm,0.3s						
BIGH	**Upper Bighouse**	**2.92**	**267**	*e*P	**Pn**	**10 58 09.9**	**+1.4**
BIGH				IAML		10 58 42.0	
	comp=N,251nm,0.1s						
SNART	**Snartemo**	**2.95**	**96**	*i* P	**Pn**	**10 58 10.9**	**+2.0**
SNART				*e*P	**Pn**	**10 58 11.2**	**+2.2**
SNART				*i* S	**Sn**	**10 58 42.9**	**-1.5**
SNART				*e*S	**Sn**	**10 58 43.4**	**-1.0**
SNART				IAML		10 58 45.8	
	comp=Z,287nm,0.2s						
SNART	**Snartemo**	**2.95**	**96**	*e*P	**Pn**	**10 58 11.2**	**+2.2**
SNART				*e*S	**Sn**	**10 58 43.4**	**-1.0**
SNART				IAML		10 58 45.8	
	comp=Z,287nm,0.2s						
FOO	**Floro**	**3.30**	**30**	*e*P	**Pn**	**10 58 15.7**	**+2.0**
FOO				IAML		10 58 52.1	
	comp=E,65nm,0.2s						
FOO				IAML		10 58 53.5	
	comp=N,52nm,0.2s						
FOO	**Floro**	**3.30**	**30**	*e*P	**Pn**	**10 58 15.7**	**+2.0**
FOO				IAML		10 58 52.1	
	comp=E,65nm,0.2s						
FOO				IAML		10 58 53.5	
	comp=N,52nm,0.2s						
FOO	**Floro**	**3.30**	**30**	*e*P	**Pn**	**10 58 15.5**	**+1.7**
FOO				*e*P	**Pn**	**10 58 15.7**	**+2.0**
FOO				*e*S	**Sn**	**10 58 50.1**	**-2.9**
FOO				*e*S	**Sn**	**10 58 51.4**	**-1.6**
FOO				IAML		10 58 52.2	
	comp=Z,156nm,0.3s						
FOO	**Floro**	**3.30**	**30**	*e*P	**Pn**	**10 58 15.9**	**+2.1**
FOO				*e*S	**Sn**	**10 58 51.4**	**-1.6**
FOO	**Floro**	**3.30**	**30**	*e*P	**Pn**	**10 58 15.7**	**+2.0**
FOO				*e*S	**Sn**	**10 58 51.4**	**-1.6**
FOO				IAML		10 58 52.2	
	comp=Z,156nm,0.3s						
HYA	**Hoyanger**	**3.31**	**42**	Pn	**Pn**	**10 58 15.9**	**+2.1**
HYA				Sn	**Sn**	**10 58 51.3**	**-2.0**
HYA	**Hoyanger**	**3.31**	**42**	⇑*i*P	**Pn**	**10 58 16.1**	**+2.1**
HYA				*e*S	**Sn**	**10 58 51.4**	**-1.8**
HYA				IAML		10 58 53.6	
	comp=Z,180nm,0.1s						
HYA	**Hoyanger**	**3.31**	**42**	⇑*i*P	**Pn**	**10 58 16.1**	**+2.1**
HYA				*e*S	**Sn**	**10 58 51.4**	**-1.8**
HYA				IAML		10 58 53.6	
	comp=Z,180nm,0.1s						
EDU	**Dundee**	**3.35**	**230**	*e*P	**Pn**	**10 58 16.2**	**+1.7**
EDU	**Dundee**	**3.35**	**230**	*e*P	**Pn**	**10 58 16.2**	**+1.7**
EDU	**Dundee**	**3.35**	**230**	*e*P	**Pn**	**10 58 16.2**	**+1.7**
MDO	**Dochfour**	**3.46**	**250**	*e*P	**Pn**	**10 58 17.4**	**+1.5**
MDO	**Dochfour**	**3.46**	**250**	*e*P	**Pn**	**10 58 17.4**	**+1.5**
MDO	**Dochfour**	**3.46**	**250**	*e*P	**Pn**	**10 58 17.4**	**+1.5**
MDO	**Dochfour**	**3.46**	**250**	*e*P	**Pn**	**10 58 17.4**	**+1.5**
HOMB	**Homborsund**	**3.64**	**95**	*i* P	**Pn**	**10 58 20.5**	**+2.1**
HOMB				*e*P	**Pn**	**10 58 20.7**	**+2.4**
HOMB				*i* S	**Sn**	**10 58 58.5**	**-2.7**
HOMB				*e*S	**Sn**	**10 58 59.3**	**-1.9**
HOMB				IAML		10 59 01.9	
	comp=Z,110nm,0.1s						
HOMB	**Homborsund**	**3.64**	**95**	*e*P	**Pn**	**10 58 20.7**	**+2.4**
HOMB				*e*S	**Sn**	**10 58 59.3**	**-1.9**
HOMB				IAML		10 59 01.9	
	comp=Z,110nm,0.1s						
ESY	**Stoneypath**	**3.68**	**221**	*e*P	**Pn**	**10 58 20.1**	**+1.2**
ESY	**Stoneypath**	**3.68**	**221**	*e*P	**Pn**	**10 58 20.1**	**+1.2**
ESY	**Stoneypath**	**3.68**	**221**	*e*P	**Pn**	**10 58 20.1**	**+1.2**
ESY	**Stoneypath**	**3.68**	**221**	*e*P	**Pn**	**10 58 20.1**	**+1.2**
INVG	**Invergeldie, C**	**3.86**	**235**	*e*P	**Pn**	**10 58 22.8**	**+1.4**
INVG				IAML		10 59 05.0	
	comp=E,88nm,0.2s						
INVG				IAML		10 59 05.5	
	comp=N,280nm,0.3s						
INVG	**Invergeldie, C**	**3.86**	**235**	*e*P	**Pn**	**10 58 22.8**	**+1.4**
INVG				IAML		10 59 05.0	
	comp=E,88nm,0.2s						
INVG				IAML		10 59 05.5	
	comp=N,280nm,0.3s						
INVG	**Invergeldie, C**	**3.86**	**235**	*e*P	**Pn**	**10 58 22.8**	**+1.4**
INVG				IAML		10 59 05.0	
	comp=E,88nm,0.2s						
INVG				IAML		10 59 05.5	
	comp=N,280nm,0.3s						
INVG	**Invergeldie, C**	**3.86**	**235**	*e*P	**Pn**	**10 58 22.8**	**+1.4**

INVG IAML 10 59 05.0
comp=E,88nm,0.2s
EDI Edinburgh 3.88 224 Pn **Pn** **10 58 23.2 +1.5**
EDI Sn **Sn** **10 59 04.0 -3.1**
EDI Edinburgh 3.88 224 *eP* **Pn** **10 58 23.2 +1.5**
EDI *eS* **Sn** **10 59 03.8 -3.4**
EDI IAML 10 59 04.8
comp=N,295nm,0.4s
EDI IAML 10 59 04.9
comp=E,271nm,0.3s
EDI Edinburgh 3.88 224 *eP* **Pn** **10 58 23.2 +1.5**
EDI *eS* **Sn** **10 59 03.8 -3.4**
EDI IAML 10 59 04.8
comp=N,295nm,0.4s
EDI IAML 10 59 04.9
comp=E,271nm,0.3s
EDI Edinburgh 3.88 224 *eP* **Pn** **10 58 23.2 +1.5**
EDI *eS* **Sn** **10 59 04.0 -3.1**
EDI IAML 10 59 04.8
comp=N,295nm,0.4s
EDI IAML 10 59 04.9
comp=E,271nm,0.3s
EDI Edinburgh 3.88 224 *eP* **Pn** **10 58 23.2 +1.5**
EDI *eS* **Sn** **10 59 04.0 -3.1**
EDI IAML 10 59 04.8
comp=N,295nm,0.4s
SKAR Skarslia 3.88 58 *eP* **Pn** **10 58 24.5 +2.8**
SKAR *eS* **Sn** **10 59 05.4 -1.9**
SKAR IAML 10 59 09.4
comp=Z,130nm,0.2s
SKAR Skarslia 3.88 58 *eP* **Pn** **10 58 24.5 +2.8**
SKAR *eS* **Sn** **10 59 05.4 -1.9**
SKAR IAML 10 59 09.4
comp=Z,130nm,0.2s
KAC Achnashellach 3.89 254 *eP* **Pn** **10 58 22.8 +0.8**
KAC Achnashellach 3.89 254 *eP* **Pn** **10 58 22.8 +0.8**
KAC Achnashellach 3.89 254 *eP* **Pn** **10 58 22.8 +0.8**
KAC Achnashellach 3.89 254 *eP* **Pn** **10 58 22.8 +0.8**
EBL Broad Law 3.94 222 *eP* **Pn** **10 58 23.8 +1.2**
EBL Broad Law 3.94 222 *eP* **Pn** **10 58 23.8 +1.2**
EBL Broad Law 3.94 222 *eP* **Pn** **10 58 23.8 +1.2**
KPL Plockton 4.13 253 *eP* **Pn** **10 58 26.2 +1.0**
KPL *eS* **Sn** **10 59 09.7 -3.8**
KPL IAML 10 59 12.5
comp=E,68nm,0.2s
KPL IAML 10 59 13.5
comp=N,87nm,0.2s
KPL Plockton 4.13 253 *eP* **Pn** **10 58 26.2 +1.0**
KPL *eS* **Sn** **10 59 09.7 -3.8**
KPL IAML 10 59 12.5
comp=E,68nm,0.2s
KPL IAML 10 59 13.5
comp=N,87nm,0.2s
KPL Plockton 4.13 253 *eP* **Pn** **10 58 26.2 +1.0**
KPL *eS* **Sn** **10 59 09.7 -3.8**
KPL IAML 10 59 12.5
comp=E,68nm,0.2s
KPL IAML 10 59 13.5
comp=N,87nm,0.2s
KPL Plockton 4.13 253 *eP* **Pn** **10 58 26.2 +1.0**
KPL *eS* **Sn** **10 59 09.7 -3.8**
KPL IAML 10 59 12.5
comp=E,68nm,0.2s
KON Kongsberg 4.18 75 Pn **Pn** **10 58 28.5 +2.6**
KON Sn **Sn** **10 59 13.1 -1.6**
KONO Kongsberg 4.18 75 *eP* **Pn** **10 58 28.2 +2.3**
KONO Kongsberg 4.18 75 *eP* **Pn** **10 58 28.2 +2.3**
KONO Kongsberg 4.18 75 *eP* **Pn** **10 58 28.5 +2.6**
KONO *eS* **Sn** **10 59 12.9 -1.9**
KONO IAML 10 59 15.3
comp=Z,166nm,0.4s
KONO Kongsberg 4.18 75 *eP* **Pn** **10 58 28.5 +2.6**
KONO *eS* **Sn** **10 59 12.9 -1.9**
KONO IAML 10 59 15.3
comp=Z,166nm,0.4s
AKN Aaknes 4.32 36 Pn **Pn** **10 58 30.1 +2.3**
AKN Sn **Sn** **10 59 15.7 -2.5**
AKN Aaknes 4.32 36⇑ *iP* **Pn** **10 58 30.1 +2.3**
AKN *eS* **Sn** **10 59 15.8 -2.4**
AKN IAML 10 59 18.6
comp=Z,184nm,0.1s
AKN Aaknes 4.32 36⇑ *iP* **Pn** **10 58 30.1 +2.3**
AKN *eS* **Sn** **10 59 15.8 -2.4**
AKN IAML 10 59 18.6
comp=Z,184nm,0.1s
EKA Eskdalemuir Ar 4.33 219 Pn **Pn** **10 58 29.2 +1.2**
EKA Sn **Sn** **10 59 14.5 -4.0**
EKA Eskdalemuir Ar 4.33 219 Pn **Pn** **10 58 29.1 +1.1**
baz=27,slow=12
EKA Sn **Sn** **10 59 14.5 -4.0**
baz=39,slow=24
comp=Z,13nm,0.2s
EKA Eskdalemuir Ar 4.33 219 Pn **Pn** **10 58 29.2 +1.2**
EKA Sn **Sn** **10 59 14.5 -4.0**
EKA Eskdalemuir Ar 4.33 219 Pn **Pn** **10 58 29.2 +1.2**
EKA Sn **Sn** **10 59 14.5 -4.0**
ESK Eskdalemuir 4.36 219 *eP* **Pn** **10 58 29.4 +1.0**
ESK IAML 10 59 20.2
comp=N,118nm,0.4s
ESK IAML 10 59 21.5
comp=E,134nm,0.5s
ESK Eskdalemuir 4.36 219 *eP* **Pn** **10 58 29.4 +1.0**
ESK IAML 10 59 20.2
comp=N,118nm,0.4s
ESK IAML 10 59 21.5
comp=E,134nm,0.5s
ESK Eskdalemuir 4.36 219 *eP* **Pn** **10 58 29.4 +1.0**
ESK *eS* **Sn** **10 59 15.1 -4.0**
ESK IAML 10 59 20.2
comp=N,118nm,0.4s
ESK IAML 10 59 21.5
comp=E,134nm,0.5s
ESK Eskdalemuir 4.36 219 *eP* **Pn** **10 58 29.4 +1.0**
ESK *eS* **Sn** **10 59 15.1 -4.0**
ESK IAML 10 59 20.2
comp=N,118nm,0.4s
GOET G??ttrup 4.41 110 *i P* **Pn** **10 58 31.9 +3.0**
GOET *eS* **Sn** **10 59 19.2 -1.1**
GOET IAML 10 59 27.9
comp=Z,77nm,0.3s
EDMD Edmundbyers 4.42 208 *eP* **Pn** **10 58 29.9 +0.7**
EDMD IAML 10 59 18.7
comp=N,88nm,0.3s
EDMD IAML 10 59 22.4
comp=E,90nm,0.5s
EDMD Edmundbyers 4.42 208 *eP* **Pn** **10 58 29.9 +0.7**
EDMD IAML 10 59 18.7
comp=N,88nm,0.3s
EDMD IAML 10 59 22.4
comp=E,90nm,0.5s
EDMD Edmundbyers 4.42 208 *eP* **Pn** **10 58 29.9 +0.7**
EDMD *eS* **Sn** **10 59 15.9 -4.8**
EDMD IAML 10 59 18.7
comp=N,88nm,0.3s
EDMD IAML 10 59 22.4
comp=E,90nm,0.5s
EDMD Edmundbyers 4.42 208 *eP* **Pn** **10 58 29.9 +0.7**
EDMD *eS* **Sn** **10 59 15.9 -4.8**
EDMD IAML 10 59 18.7
comp=N,88nm,0.3s
PGBU Glenifferbraes 4.46 231 *eP* **Pn** **10 58 31.3 +1.7**
PGBU IAML 10 59 20.4
comp=N,178nm,0.3s
PGBU IAML 10 59 21.4
comp=E,171nm,0.3s
PGBU Glenifferbraes 4.46 231 *eP* **Pn** **10 58 31.3 +1.7**
PGBU IAML 10 59 20.4
comp=N,178nm,0.3s
PGBU IAML 10 59 21.4
comp=E,171nm,0.3s
PGBU Glenifferbraes 4.46 231 *eP* **Pn** **10 58 31.3 +1.7**
PGBU IAML 10 59 20.4
comp=N,178nm,0.3s
LEWI Lewis, Hebride 4.51 266 *eP* **Pn** **10 58 30.4 0.0**
LEWI *eS* Sn 10 59 16.9 -6.0
LEWI IAML 10 59 20.6
comp=E,58nm,1.0s
LEWI IAML 10 59 23.6
comp=N,40nm,0.2s
LEWI Lewis, Hebride 4.51 266 *eP* **Pn** **10 58 30.4 0.0**
LEWI *eS* Sn 10 59 16.9 -6.0
LEWI IAML 10 59 20.6
comp=E,58nm,1.0s
LEWI IAML 10 59 23.6
comp=N,40nm,0.2s
LEWI Lewis, Hebride 4.51 266 *eP* **Pn** **10 58 30.4 0.0**
LEWI *eS* Sn 10 59 16.9 -6.0
LEWI IAML 10 59 20.6
comp=E,58nm,1.0s
LAWE Loch Awe, Argy 4.56 239 *eP* **Pn** **10 58 31.6 +0.6**
LAWE IAML 10 59 22.3
comp=N,223nm,0.2s
LAWE IAML 10 59 22.8
comp=E,230nm,0.1s
LAWE Loch Awe, Argy 4.56 239 *eP* **Pn** **10 58 31.6 +0.6**
LAWE IAML 10 59 22.3
comp=N,223nm,0.2s
LAWE IAML 10 59 22.8
comp=E,230nm,0.1s
LAWE Loch Awe, Argy 4.56 239 *eP* **Pn** **10 58 31.6 +0.6**
LAWE IAML 10 59 22.3
comp=N,223nm,0.2s
LAWE IAML 10 59 22.8
comp=E,230nm,0.1s
LAWE Loch Awe, Argy 4.56 239 *eP* **Pn** **10 58 31.6 +0.6**
LAWE IAML 10 59 22.3
comp=N,223nm,0.2s
GDLE Glaisdale, N Y 4.57 198 *eP* **Pn** **10 58 32.1 +0.9**
GDLE Glaisdale, N Y 4.57 198 *eP* **Pn** **10 58 32.1 +0.9**
GDLE Glaisdale, N Y 4.57 198 *eP* **Pn** **10 58 32.1 +0.9**
GDLE Glaisdale, N Y 4.57 198 *eP* **Pn** **10 58 32.1 +0.9**
MUD Monsted U'grnd 4.67 117 *eP* **Pn** **10 58 34.1 +1.5**
MUD IAML 10 59 27.6
comp=N,74nm,0.2s
MUD IAML 10 59 31.7
comp=E,90nm,0.3s
MUD Monsted U'grnd 4.67 117 *eP* **Pn** **10 58 34.1 +1.5**
MUD IAML 10 59 27.6
comp=N,74nm,0.2s
MUD IAML 10 59 31.7
comp=E,90nm,0.3s
MUD Monsted U'grnd 4.67 117 *eP* **Pn** **10 58 34.1 +1.5**
MUD *i P* **Pn** **10 58 34.2 +1.7**
MUD *eP* **Pn** **10 58 34.7 +2.1**
MUD *i S* **Sn** **10 59 22.8 -3.9**
MUD IAML 10 59 27.6
comp=N,74nm,0.2s
MUD IAML 10 59 31.7
comp=E,90nm,0.3s
MUD IAML 10 59 31.8
comp=Z,40nm,0.4s
MUD Monsted U'grnd 4.67 117 *eP* **Pn** **10 58 34.1 +1.5**
MUD IAML 10 59 31.7
comp=E,90nm,0.3s
OVD Ostervraa, Den 4.78 104 *i P* **Pn** **10 58 34.9 +0.8**
OVD *eS* **Sn** **10 59 29.7 +0.3**
MOL Molde 4.79 35 *eP* **Pn** **10 58 35.6 +1.5**
MOL IAML 10 59 26.6
comp=E,71nm,0.2s
MOL IAML 10 59 27.9
comp=N,86nm,0.3s
MOL Molde 4.79 35 *eP* **Pn** **10 58 35.6 +1.5**
MOL IAML 10 59 26.6
comp=E,71nm,0.2s
MOL IAML 10 59 27.9
comp=N,86nm,0.3s
MOL Molde 4.79 35 *eP* **Pn** **10 58 35.6 +1.5**
MOL *eS* **Sn** **10 59 25.5 -4.1**
MOL *eS* **Sn** **10 59 25.9 -3.6**
MOL IAML 10 59 28.4
comp=Z,54nm,0.1s
MOL Molde 4.79 35 *eP* **Pn** **10 58 35.7 +1.6**
MOL *eS* **Sn** **10 59 26.3 -3.2**
MOL Molde 4.79 35 *eP* **Pn** **10 58 35.6 +1.5**
MOL *eS* **Sn** **10 59 25.9 -3.6**
MOL IAML 10 59 28.4
comp=Z,54nm,0.1s
OSL Oslo 4.79 72 *e* **Pn** **10 58 38.0 +3.8**
OSL *eS* **Sn** **10 59 27.9 -1.8**
OSL IAML 10 59 29.8
comp=Z,130nm,0.2s
OSL Oslo 4.79 72 *e* **Pn** **10 58 38.0 +3.8**
OSL *eS* **Sn** **10 59 27.9 -1.8**
OSL IAML 10 59 29.8
comp=Z,130nm,0.2s
NEWG New Galloway 4.88 224 *eP* **Pn** **10 58 36.9 +1.5**
NEWG *eS* **Sn** **10 59 27.6 -4.2**
NEWG IAML 10 59 31.3
comp=E,59nm,0.3s
NEWG IAML 10 59 32.0
comp=N,89nm,0.2s
NEWG New Galloway 4.88 224 *eP* **Pn** **10 58 36.9 +1.5**
NEWG *eS* **Sn** **10 59 27.6 -4.2**
NEWG IAML 10 59 31.3
comp=E,59nm,0.3s
NEWG IAML 10 59 32.0
comp=N,89nm,0.2s
NEWG New Galloway 4.88 224 *eP* **Pn** **10 58 36.9 +1.5**
NEWG *eS* **Sn** **10 59 27.6 -4.2**
NEWG IAML 10 59 31.3
comp=E,59nm,0.3s
DOMB Dombas 4.93 45⇑ *iP* **Pn** **10 58 39.1 +3.0**
DOMB *eS* **Sn** **10 59 30.7 -2.4**
DOMB IAML 10 59 34.9
comp=Z,84nm,0.2s
DOMB Dombas 4.93 45⇑ *iP* **Pn** **10 58 39.1 +3.0**
DOMB *eS* **Sn** **10 59 30.7 -2.4**
DOMB IAML 10 59 34.9
comp=Z,84nm,0.2s
KESW Keswick, Cumbr 4.95 214 *eP* **Pn** **10 58 37.3 +0.9**
KESW Keswick, Cumbr 4.95 214 *eP* **Pn** **10 58 37.3 +0.9**
KESW Keswick, Cumbr 4.95 214 *eP* **Pn** **10 58 37.3 +0.9**
STRU Stroemstad 4.96 83 P **Pn** **10 58 38.2 +1.8**
STRU *i P* **Pn** **10 58 38.2 +1.8**
STRU *i S* **Sn** **10 59 29.4 -4.4**
STRU S **Sn** **10 59 29.7 -4.1**
STRU Stroemstad 4.96 83 P **Pn** **10 58 38.2 +1.8**
STRU S **Sn** **10 59 29.7 -4.1**
HPK Haverah Park 5.16 202 *eP* **Pn** **10 58 40.2 +0.9**
HPK Haverah Park 5.16 202 *eP* **Pn** **10 58 40.2 +0.9**
HPK Haverah Park 5.16 202 *eP* **Pn** **10 58 40.2 +0.9**
HPK Haverah Park 5.16 202 *eP* **Pn** **10 58 40.2 +0.9**
GAL1 Galloway 5.25 224 *eP* **Pn** **10 58 41.2 +0.8**
GAL1 IAML 10 59 38.2
comp=N,105nm,0.2s
GAL1 IAML 10 59 38.5
comp=E,90nm,0.3s
GAL1 Galloway 5.25 224 *eP* **Pn** **10 58 41.2 +0.8**
GAL1 IAML 10 59 38.2
comp=N,105nm,0.2s
GAL1 IAML 10 59 38.5
comp=E,90nm,0.3s
GAL1 Galloway 5.25 224 *eP* **Pn** **10 58 41.2 +0.8**
GAL1 IAML 10 59 38.2
comp=N,105nm,0.2s
GAL1 IAML 10 59 38.5
comp=E,90nm,0.3s
GAL1 Galloway 5.25 224 *eP* **Pn** **10 58 41.2 +0.8**
GAL1 IAML 10 59 38.2
comp=N,105nm,0.2s
TJOU Tjoern 5.30 94 P **Pn** **10 58 43.1 +1.8**
TJOU *i P* **Pn** **10 58 43.1 +1.8**
TJOU *eS* **Sn** **10 59 37.9 -4.4**
TJOU S **Sn** **10 59 38.4 -4.0**
TJOU Tjoern 5.30 94 P **Pn** **10 58 43.1 +1.8**
TJOU S **Sn** **10 59 38.4 -4.0**
NB2 NORSAR Subarra 5.33 61 Pn **Pn** **10 58 44.1 +2.4**
baz=254,slow=14
NB2 Sn **Sn** **10 59 39.8 -3.2**
baz=249,slow=22
NB2 NORSAR Subarra 5.33 61 Pn **Pn** **10 58 44.1 +2.4**
baz=254,slow=14
NB2 Sn **Sn** **10 59 39.8 -3.2**
baz=249,slow=22
NB2 NORSAR Subarra 5.33 61 Pn **Pn** **10 58 44.1 +2.4**
baz=254,slow=14
NB2 Sn **Sn** **10 59 39.8 -3.2**
baz=249,slow=22
NOA NORSAR Array B 5.33 61 Pn **Pn** **10 58 44.0 +2.4**
comp=N,0.6nm,0.3s,baz=254,slow=12,SNR=55
NOA Sn Sn 10 59 37.8 -5.1
comp=N,1.1nm,0.3s,baz=252,slow=14,SNR=5.6
NOA Lg Lg 11 00 13.4
comp=N,1.1nm,0.3s,baz=146,slow=20,SNR=3.7
comp=N,2.8nm,0.3s
NC602 NORSAR Array S 5.38 64 *eP* **Pn** **10 58 44.9 +2.6**
NC602 *eS* **Sn** **10 59 40.7 -3.4**
NRA0 NORESS Array S 5.38 64 Pn **Pn** **10 58 44.8 +2.5**
baz=261,slow=12
NRA0 Sn **Sn** **10 59 40.7 -3.5**
baz=253,slow=28
NRA0 NORESS Array S 5.38 64 Pn **Pn** **10 58 44.8 +2.5**
baz=261,slow=12
NRA0 Sn **Sn** **10 59 40.7 -3.5**
baz=253,slow=28
NRA0 NORESS Array S 5.38 64 Pn **Pn** **10 58 44.8 +2.5**
baz=261,slow=12
NRA0 Sn **Sn** **10 59 40.7 -3.5**
baz=253,slow=28
SOFL Sornfelli, Far 5.39 311 *eP* **Pn** **10 58 44.5 +2.0**
SOFL *eS* **Sn** **10 59 41.4 -3.1**
SOFL Sornfelli, Far 5.39 311 *eP* **Pn** **10 58 44.5 +2.0**
SOFL *eS* **Sn** **10 59 41.4 -3.1**
VANU Vaenersborg 5.46 89 P **Pn** **10 58 45.5 +2.1**
VANU S **Sn** **10 59 41.7 -4.5**
VANU Vaenersborg 5.46 89 P **Pn** **10 58 45.5 +2.1**
VANU S **Sn** **10 59 41.7 -4.5**
FINU Finntorp 5.62 79 P **Pn** **10 58 47.5 +1.9**
FINU S **Sn** **10 59 45.7 -4.6**
FINU Finntorp 5.62 79 P **Pn** **10 58 47.5 +1.9**
FINU S **Sn** **10 59 45.7 -4.6**
ONAU Onsala 5.63 100 P **Pn** **10 58 47.1 +1.4**
ONAU *i P* **Pn** **10 58 47.1 +1.4**
ONAU *i S* Sn 10 59 44.9 -5.4
ONAU S **Sn** **10 59 45.4 -4.8**
ONAU Onsala 5.63 100 P **Pn** **10 58 47.1 +1.4**
ONAU S **Sn** **10 59 45.4 -4.8**
IOMK Kirk Michael 5.68 220 *eP* **Pn** **10 58 47.1 +0.7**
IOMK Kirk Michael 5.68 220 *eP* **Pn** **10 58 47.1 +0.7**
IOMK Kirk Michael 5.68 220 *eP* **Pn** **10 58 47.1 +0.7**
BORU Boraas 6.00 96 *i P* **Pn** **10 58 52.5 +1.7**
BORU P **Pn** **10 58 52.5 +1.7**
BORU *i S* **Sn** **10 59 54.8 -4.6**
BORU Boraas 6.00 96 P **Pn** **10 58 52.5 +1.7**
NASU Vaermlandsnaes 6.00 84 P **Pn** **10 58 52.5 +1.7**
NASU Vaermlandsnaes 6.00 84 P **Pn** **10 58 52.5 +1.7**
WACR West Acre 6.09 186 *eP* **Pn** **10 58 53.2 +1.1**
WACR IAML 11 00 00.7
comp=N,52nm,0.2s
WACR IAML 11 00 00.8
comp=E,56nm,0.2s
WACR West Acre 6.09 186 *eP* **Pn** **10 58 53.2 +1.1**
WACR IAML 11 00 00.7
comp=N,52nm,0.2s
WACR IAML 11 00 00.8
comp=E,56nm,0.2s
WACR West Acre 6.09 186 *eP* **Pn** **10 58 53.2 +1.1**
WACR IAML 11 00 00.7
comp=N,52nm,0.2s
FABU Falkenberg 6.17 102 P **Pn** **10 58 54.2 +1.1**
FABU *i P* **Pn** **10 58 54.3 +1.1**
FABU *eS* **Sn** **10 59 59.2 -4.5**
FABU Falkenberg 6.17 102 P **Pn** **10 58 54.2 +1.1**
UDD Uddeholm 6.25 73 P **Pn** **10 58 56.0 +1.8**
HFS Hagfors 6.30 72 Pn **Pn** **10 58 56.6 +1.7**
baz=258,slow=16
HFS Sn Sn 11 00 01.7 -5.1
baz=256,slow=28
HFS Hagfors 6.30 72 Pn **Pn** **10 58 56.8 +1.9**
comp=N,1.1nm,0.3s,baz=252,slow=14,SNR=56
HFS Sn **Sn** **11 00 02.1 -4.7**
comp=N,10nm,0.3s,baz=256,slow=24,SNR=16
HFS Lg Lg 11 00 40.7
comp=N,3.0nm,0.3s,baz=261,slow=26,SNR=1.9
comp=N,2.5nm,0.2s
HFS Hagfors 6.30 72 Pn **Pn** **10 58 56.6 +1.7**
baz=258,slow=16
HFS Sn Sn 11 00 01.7 -5.1
baz=256,slow=28
HFS Hagfors 6.30 72 Pn **Pn** **10 58 56.6 +1.7**
baz=258,slow=16
HFS Sn Sn 11 00 01.7 -5.1
baz=256,slow=28
WME Myndd Eilian 6.33 214 *eP* **Pn** **10 58 55.9 +0.5**
WME Myndd Eilian 6.33 214 *eP* **Pn** **10 58 55.9 +0.5**
WME Myndd Eilian 6.33 214 *eP* **Pn** **10 58 55.9 +0.5**
FKPU Falk 6.37 90 P **Pn** **10 58 57.5 +1.5**
FKPU Falk 6.37 90 P **Pn** **10 58 57.5 +1.5**
WLF1 Llynfaes 6.46 214 *eP* **Pn** **10 58 57.6 +0.5**
WLF1 IAML 11 00 06.8
comp=N,25nm,0.4s
WLF1 IAML 11 00 09.0
comp=E,32nm,0.2s
WLF1 Llynfaes 6.46 214 *eP* **Pn** **10 58 57.6 +0.5**
WLF1 IAML 11 00 06.8
comp=N,25nm,0.4s
WLF1 IAML 11 00 09.0
comp=E,32nm,0.2s
WLF1 Llynfaes 6.46 214 *eP* **Pn** **10 58 57.6 +0.5**
WLF1 IAML 11 00 06.8
comp=N,25nm,0.4s
WLF1 IAML 11 00 09.0
comp=E,32nm,0.2s
WLF1 Llynfaes 6.46 214 *eP* **Pn** **10 58 57.6 +0.5**
WLF1 IAML 11 00 06.8
comp=N,25nm,0.4s
YRC Rhoscolyn 6.54 215 *eP* **Pn** **10 58 58.8 +0.6**
YRC Rhoscolyn 6.54 215 *eP* **Pn** **10 58 58.8 +0.6**
YRC Rhoscolyn 6.54 215 *eP* **Pn** **10 58 58.8 +0.6**
COP Copenhagen 6.63 113 *eS* **Sn** **11 00 12.7 -2.2**
COP IAML 11 00 18.8
comp=Z,46nm,0.4s
BJUU Bjuv 6.72 109 *i P* **Pn** **10 59 01.4 +0.8**
BJUU *eS* Sn 11 00 09.8 -7.3
BSEG Bad Segeberg 6.84 131 *ePn* **Pn** **10 59 03.1 +0.8**
BSEG *eSn* Sn 11 00 13.3 -6.8
ASKU Askersund 6.85 83 P **Pn** **10 59 04.5 +2.0**
ASKU Askersund 6.85 83 P **Pn** **10 59 04.5 +2.0**
NRAU Nora 6.94 78 P **Pn** **10 59 05.3 +1.7**
NRAU Nora 6.94 78 P **Pn** **10 59 05.3 +1.7**
DEL Delary 6.96 104 *i P* **Pn** **10 59 06.1 +2.1**
DEL *i S* **Sn** **11 00 20.2 -3.0**
LUNU Lund 7.14 111 *i P* **Pn** **10 59 08.1 +1.5**
LUNU *eS* **Sn** **11 00 24.3 -3.3**
IBBN Ibbenburen 7.35 149 *eSn* Sn 11 00 26.5 -6.2
MONM Monmouth 7.40 202 *eP* **Pn** **10 59 10.9 +0.9**
MONM Monmouth 7.40 202 *eP* **Pn** **10 59 10.9 +0.9**
MONM Monmouth 7.40 202 *eP* **Pn** **10 59 10.9 +0.9**
RETH Rethem/Aller, 7.45 141 *ePn* **Pn** **10 59 12.2 +1.5**
RETH *eSn* Sn 11 00 27.5 -7.8
NSS Namsos 7.57 36 Pn **Pn** **10 59 15.0 +2.6**
NSS Sn **Sn** **11 00 37.5 -0.7**
NSS Namsos 7.57 36 *eP* **Pn** **10 59 14.8 +2.4**
NSS *eS* **Sn** **11 00 34.2 -3.9**
NSS IAML 11 00 37.8
comp=Z,7.5nm,0.2s
NSS Namsos 7.57 36 *eP* **Pn** **10 59 14.8 +2.4**
NSS *eS* **Sn** **11 00 34.2 -3.9**
NSS IAML 11 00 37.8
comp=Z,7.5nm,0.2s
NRDL Niedersach Rie 7.91 139 *ePn* **Pn** **10 59 18.1 +1.2**
NRDL *eSn* Sn 11 00 38.2 -8.1
BLEU Blekinge 8.02 102 *i P* **Pn** **10 59 19.4 +0.9**
BLEU *eS* Sn 11 00 44.1 -5.0
BUG Bochum--Univer 8.03 154 *eSn* Sn 11 00 42.2 -7.1
BSD Bornholm Skovb 8.13 111 *i P* **Pn** **10 59 20.4 +0.4**
BSD *eS* Sn 11 00 44.9 -7.0
BSD IAML 11 00 51.3
comp=Z,14nm,0.8s
ASSE Asse, Remlinge 8.40 139 *ePn* **Pn** **10 59 24.4 +0.7**
ASSE *eSn* Sn 11 00 48.6 -10
FLTG Flechtingen 8.44 136 *ePn* **Pn** **10 59 24.4 +0.1**
FLTG *eSn* Sn 11 00 49.6 -10
KASTN Kahler Asten 8.53 150 *ePn* **Pn** **10 59 27.3 +1.8**
KASTN *eSn* Sn 11 00 54.4 -7.4
CLZ Clausthal 8.54 141 *ePn* **Pn** **10 59 26.0 +0.2**
CLZ *eSn* Sn 11 00 52.0 -10
GTTG Gottingen 8.67 143 *eSn* Sn 11 00 56.3 -8.8
AHRW Bad Neuenahr-A 8.83 157 *ePn* **Pn** **10 59 31.5 +1.9**
AHRW *eSn* Sn 11 01 01.4 -7.7

BAIF Baives 8.86 169 eP Pn 10 59 30.9 +0.8
BAIF eSn Sn 11 01 01.5 -8.4
comp=Z,28nm,0.6s
GIVF Givet 8.89 167 eP Pn 10 59 31.2 +0.8
GIVF eSn Sn 11 01 02.9 -7.6
comp=Z,28nm,0.4s
HEMU Hemsoen 8.93 57 eP Pn 10 59 32.3 +1.4
HEMU eS Sn 11 01 04.5 -6.9
HEMU Hemsoen 8.93 57 eP Pn 10 59 32.3 +1.4
HEMU eS Sn 11 01 04.5 -6.9
HEMU Hemsoen 8.93 57 eP Pn 10 59 32.3 +1.4
HEMU eS Sn 11 01 04.5 -6.9
UBBA Unterbreizbach 9.31 145 eSn Sn 11 01 14.1 -6.8
TNS Taunus Mts 9.44 152 ePn Pn 10 59 38.5 +0.5
TNS eSn Sn 11 01 13.9 -10
AAL Aland 9.44 74 eP Pn 10 59 39.3 +1.3
AAL eS Sn 11 01 18.1 -5.9
AAL Aland 9.44 74 eP Pn 10 59 39.3 +1.3
AAL eS Sn 11 01 18.1 -5.9
AAL Aland 9.44 74 eP Pn 10 59 39.3 +1.3
AAL eS Sn 11 01 18.1 -5.9
MOR8 Moi Rana 9.47 33 e Pn 10 59 43.8 +5.3
WLF Walferdange 9.50 162 eSn Sn 11 01 18.4 -7.2
HUSU Husum 9.66 54 eP Pn 10 59 42.1 +1.2
HUSU eS Sn 11 01 21.5 -7.7
HUSU Husum 9.66 54 eP Pn 10 59 42.1 +1.2
HUSU eS Sn 11 01 21.5 -7.7
HUSU Husum 9.66 54 eP Pn 10 59 42.1 +1.2
HUSU eS Sn 11 01 21.5 -7.7
CLL Collm 9.91 134 ePn Pn 10 59 44.0 -0.5
comp=Z,6.0nm,0.7s
CLL eSn Sn 11 01 24.0 -12
CLL ex x 11 01 57.0
CLL Collm 9.91 134 ePn Pn 10 59 44.2 -0.3
CLL eSn Sn 11 01 25.2 -11
MOX Moxa 9.97 140 ePn Pn 10 59 46.4 +1.0
FLN La Foliniere 10.11 188 ePn Pn 10 59 46.7 -0.5
baz=11
FLN eSn Sn 11 01 30.8 -10
comp=Z,25nm,0.7s
LDF La Druitiere 10.26 187 ePn Pn 10 59 48.3 -0.9
LDF eSn Sn 11 01 33.0 -11
comp=Z,8.8nm,0.3s
PLN Plauen 10.29 139 ePn Pn 10 59 49.9 +0.2
PLN eSn Sn 11 01 29.7 -15
RAF Rauma 10.35 69 eP Pn 10 59 51.9 +1.5
RAF eS Sn 11 01 38.8 -7.4
RAF MSN 11 01 43.2
comp=Z,2.8nm,0.1s
RAF Rauma 10.35 69 eP Pn 10 59 51.9 +1.5
RAF eS Sn 11 01 38.8 -7.4
RAF MSN 11 01 43.2
comp=Z,2.8nm,0.1s
RAF Rauma 10.35 69 eP Pn 10 59 51.9 +1.5
RAF eS Sn 11 01 38.8 -7.4
RAF MSN 11 01 43.2
comp=Z,2.8nm,0.1s
FBE Freiberg 10.36 134 ePn Pn 10 59 50.2 -0.4
FBE eSn Sn 11 01 36.5 -10
WERD Werda 10.38 139 ePn Pn 10 59 50.7 -0.2
SAVF Savonnieres en 10.39 167 ePn Pn 10 59 49.0 -2.0
baz=347
SAVF eSn Sn 11 01 36.7 -11
comp=Z,16nm,0.5s
GUNZ Gunzen 10.46 139 ePn Pn 10 59 51.4 -0.5
TANN Tannenbergstha 10.46 139 ePn Pn 10 59 51.9 0.0
MEZF Maizieres J'vi 10.49 167 ePn Pn 10 59 51.0 -1.4
baz=350
MEZF eSn Sn 11 01 39.8 -10
GRR Gorron 10.51 189 ePn Pn 10 59 50.7 -2.0
GRR eSn Sn 11 01 40.5 -10
comp=Z,15nm,0.4s
PAGF Fort de Pagny 10.52 165 ePn Pn 10 59 50.9 -1.9
baz=338
PAGF eSn Sn 11 01 40.8 -10
comp=Z,13nm,0.4s
WERN Wernitzgruen 10.54 139 ePn Pn 10 59 54.0 +0.9
KPF Kankaanpaa 10.57 65 eP Pn 10 59 54.4 +1.0
KPF eS Sn 11 01 44.8 -7.0
KPF Kankaanpaa 10.57 65 eP Pn 10 59 54.4 +1.0
KPF eS Sn 11 01 44.8 -7.0
FAUS Fauske 10.59 30 eP Pn 10 59 55.7 +2.1
FAUS Fauske 10.59 30 eP Pn 10 59 55.7 +2.1
SFTF Sexfontaines 10.78 168 ePn Pn 10 59 55.1 -1.3
baz=344
SFTF eSn Sn 11 01 47.3 -10
comp=Z,9.5nm,0.2s
SGMF Saint Gilles 10.83 195 ePn Pn 10 59 55.7 -1.4
ROSF Rostrenen 10.86 198 ePn Pn 10 59 56.1 -1.3
ROSF eSn Sn 11 01 48.5 -10
comp=Z,5.9nm,0.3s
CDF Champ du Feu 10.91 160 ePn Pn 10 59 57.9 -0.3
CDF eSn Sn 11 01 49.8 -10
comp=Z,4.6nm,0.4s
VAF Ylistaro 11.07 58 MSN 11 02 01.3
comp=Z,1.5nm,0.1s
VAF Ylistaro 11.07 58 MSN 11 02 01.3
comp=Z,1.5nm,0.1s
VAF Ylistaro 11.07 58 MSN 11 02 01.3
comp=Z,1.5nm,0.1s
HAU Haudompre 11.15 163 eP Pn 11 00 03.8 +2.4
HAU eSn Sn 11 01 55.6 -10
comp=Z,10nm,0.3s
QUIF Quistinic 11.25 197 ePn Pn 11 00 01.5 -1.2
QUIF eSn Sn 11 01 57.9 -10
comp=Z,4.1nm,0.3s
HINF Hinteralfeld 11.41 162 eP Pn 11 00 06.8 +1.8
HINF eSn Sn 11 02 00.9 -12
comp=Z,4.9nm,0.4s
MTSE Matsula 11.51 81 eP Pn 11 00 07.4 +1.1
MTSE eS Sn 11 02 07.3 -7.4
MTSE Matsula 11.51 81 eP Pn 11 00 07.4 +1.1
MTSE eS Sn 11 02 07.3 -7.4
MTSE Matsula 11.51 81 eP Pn 11 00 07.4 +1.1
MTSE eS Sn 11 02 07.3 -7.4
HYF Humbligny 11.54 177 ePn Pn 11 00 05.6 -1.2
HYF eSn Sn 11 02 05.4 -10
LOR Lormes 11.61 172 ePn Pn 11 00 06.4 -1.3
baz=353
LOR eSn Sn 11 02 05.2 -12
comp=Z,9.0nm,0.2s,baz=330
MEF Metsahovi 11.64 73 eS Sn 11 02 09.5 -8.4
MEF MSN 11 02 12.6
comp=Z,3.3nm,0.1s
MEF Metsahovi 11.64 73 eS Sn 11 02 09.5 -8.4
MEF MSN 11 02 12.6
comp=Z,3.3nm,0.1s
MEF Metsahovi 11.64 73 eS Sn 11 02 09.5 -8.4
MEF MSN 11 02 12.6
comp=Z,3.3nm,0.1s
SSF Saint Saulge 11.79 174 ePn Pn 11 00 08.2 -2.0
SSF eSg Sn 11 02 09.3 -12
comp=Z,5.3nm,0.2s
KEF Keuruu 11.93 64 eS Sn 11 02 15.5 -9.4
KEF Keuruu 11.93 64 eS Sn 11 02 15.5 -9.4
KEF Keuruu 11.93 64 eS Sn 11 02 15.5 -9.4
AVF Avril sur Loir 12.05 174 ePn Pn 11 00 11.8 -1.9
AVF eSn Sn 11 02 18.0 -10
comp=Z,95nm,1.9s
GEC2 GERESS Array S 12.22 139 eP Pn 11 00 17.4 +1.3
GERES GERESS Array B 12.22 139 Pn Pn 11 00 17.2 +1.1
comp=Z,0.7nm,0.3s,baz=328,slow=14,SNR=13
comp=Z,1.3nm,0.4s
SMF Signal de Mont 12.22 173 ePn Pn 11 00 15.9 -0.2
SMF eSg Sn 11 02 22.2 -10
comp=Z,5.5nm,0.2s
MFF Saint Martin d 12.24 186 ePn Pn 11 00 13.4 -3.0
MFF eSn Sn 11 02 20.5 -12
comp=Z,8.2nm,0.3s
BGF Bois d'Agland 12.26 176 ePn Pn 11 00 14.4 -2.2
BGF eSn Sn 11 02 22.5 -11
comp=Z,20nm,0.4s
FIA0 FINESS Array S 12.45 67 Pn Pn 11 00 21.4 +2.3
baz=262,slow=12
FIA0 Sn Sn 11 02 29.5 -8.1
baz=269,slow=22
FIA0 FINESS Array S 12.45 67 Pn Pn 11 00 21.4 +2.3
baz=262,slow=12
FIA0 Sn Sn 11 02 29.5 -8.1
baz=269,slow=22
FIA0 FINESS Array S 12.45 67 Pn Pn 11 00 21.4 +2.3
baz=262,slow=12
FIA0 Sn Sn 11 02 29.5 -8.1
baz=269,slow=22
FINES FINESS Array B 12.45 67 Pn Pn 11 00 19.4 +0.4
comp=Z,0.5nm,0.3s,baz=264,slow=12,SNR=19
FINES Sn Sn 11 02 29.4 -8.2
comp=Z,1.1nm,0.3s,baz=269,slow=21,SNR=7.8
comp=Z,2.8nm,0.5s
CABF La Chapelle 12.48 166 ePn Pn 11 00 17.3 -2.4
CABF La Chapelle 12.48 166 eP Pn 11 00 21.1 +1.4
TCF Toulx Ste Croi 12.52 178 ePn Pn 11 00 16.9 -3.2
TCF eSn Sn 11 02 28.4 -11
comp=Z,15nm,0.7s
KAF Kangasniemi 12.59 64 eS Sn 11 02 31.5 -10
KAF Kangasniemi 12.59 64 eS Sn 11 02 31.5 -10
KAF Kangasniemi 12.59 64 eS Sn 11 02 31.5 -10
RJF Les Rejaudoux 13.49 180 ePn Pn 11 00 31.4 -2.0
RJF eSn Sn 11 02 50.6 -13
comp=Z,8.0nm,0.5s
LPL La Plagne 13.64 165 ePn Pn 11 00 36.7 +1.1
LPG La Plagne 13.66 165 ePn Pn 11 00 36.7 +0.7
LFF La Frestale 13.87 183 ePn Pn 11 00 36.4 -2.1
LFF eSn Sn 11 03 01.1 -11
comp=Z,6.0nm,0.3s
CAF Calviac 13.88 179 ePn Pn 11 00 35.2 -3.5
CAF eSn Sn 11 03 01.0 -12
comp=Z,7.6nm,0.5s
VIVF Saint-Julien-l 14.06 171 ePn Pn 11 00 40.4 -0.9
VIVF eSn Sn 11 03 04.2 -13
comp=Z,7.3nm,0.5s
ORIF Oris-en-Rattie 14.12 168 ePn Pn 11 00 42.4 +0.3
ORIF eSn Sn 11 03 08.7 -10
comp=Z,7.1nm,0.5s
MBDF Montbardon 14.42 165 eP Pn 11 00 49.0 +2.8
MBDF eSn Sn 11 03 15.5 -11
LASF Ste Croix 14.79 174 ePn Pn 11 00 49.9 -1.2
ARA0 ARCESS Array S 14.85 34 Pn Pn 11 00 51.0 -0.7
baz=228,slow=14
ARA0 Sn Sn 11 03 25.5 -11
baz=228,slow=22
ARA0 ARCESS Array S 14.85 34 Pn Pn 11 00 51.0 -0.7
baz=228,slow=14
ARA0 eP P 11 00 51.5 -6.2
ARA0 Sn Sn 11 03 25.5 -11
baz=228,slow=22
ARA0 ARCESS Array S 14.85 34 Pn Pn 11 00 51.0 -0.7
baz=228,slow=14
ARA0 Sn Sn 11 03 25.5 -11
baz=228,slow=22
ARCES ARCESS Array B 14.85 34 Pn Pn 11 00 50.4 -1.3
comp=Z,0.3nm,0.3s,baz=228,slow=13,SNR=24
ARCES Sn Sn 11 03 25.7 -10
comp=Z,0.2nm,0.3s,baz=232,slow=20,SNR=2.6
comp=Z,1.0nm,0.3s
MTLF Montolieu 15.46 178 ePn Pn 11 00 58.7 -1.4
LMR La Mourre 15.76 167 ePn Pn 11 01 02.9 -1.0
SJPF Ste Jean 15.79 188 ePn Pn 11 01 02.1 -2.2
EPF Esparros 15.79 184 ePn Pn 11 01 00.8 -3.6
EPF eSn Sn 11 03 47.1 -12
comp=Z,6.5nm,0.7s
ETSF Etsaut 15.96 186 ePn Pn 11 01 02.6 -4.0
ETSF eSn Sn 11 03 50.7 -13
comp=Z,13nm,1.2s
APA0 Apatity Array 16.48 45 P Pn 11 01 10.7 -2.4
baz=240,slow=18
APA0 Apatity Array 16.48 45 P Pn 11 01 10.7 -2.4
baz=240,slow=18
APA0 Apatity Array 16.48 45 P Pn 11 01 10.7 -2.4
baz=240,slow=18
AKASG Malin Array Be 17.75 105 P Pn 11 01 30.7 +1.7
comp=Z,1.2nm,0.3s,baz=309,slow=12,SNR=9.0
comp=Z,2.0nm,0.5s
ESDC Sonseca Array 19.45 193 P P 11 01 50.6 +1.9
comp=Z,0.1nm,0.3s,baz=7.8,slow=11,SNR=6.4
comp=Z,1.1nm,0.6s
TORD Torodi Ar. Bea 45.54 180 P P 11 05 43.2 +1.4
comp=Z,0.6nm,0.3s,baz=352,slow=8.9,SNR=7.8
comp=Z,0.6nm,0.3s

---

*IDC **03** 11:35:16.6±1.1, 5°.82S×151°.11E, h67km±11km, mb3.7/8, mbtmp4.0/9, MS3.0/4, Error ellipse: s-maj=29.1km s-min=8.5km az=126.0*

ISC 03 11:35:14.4±0.7,**5°.9S**±0°.1×**151°.2E**±0°.2,**h43**km,**n13, σ1s.74**/16,**mb3.8**/8,**MS2.8**/3,**New Britain region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KRVT Keravat (AS076 1.77 26 P Pn 11 35 44.8 +2.2
baz=52,slow=19
KRVT S Sn 11 36 06.8 +2.8
baz=90,slow=20
PMG Port Moresby 5.33 229 P Pn 11 36 34.4 +2.8
35nm,0.9s,baz=43,slow=12,SNR=9.7
PMG S Sn 11 37 32.6 +0.8
104nm,0.5s,baz=135,slow=21,SNR=12
CTA Charters Tower 14.91 199 LR LR 11 43 21.7
comp=Z,46nm,21.5s,baz=80,slow=32
WRA Warramunga Arr 21.55 228 P P 11 40 00.2 -0.2
2.3nm,0.6s,baz=53,slow=10,SNR=55
WRA PcP PcP 11 44 01.6 -0.1
0.7nm,0.7s,baz=48,slow=1.5,SNR=5.9
WRA LR LR 11 48 24.0
comp=Z,38nm,19.4s,baz=115,slow=37
2.3nm,0.6s
DZM Mont Dzumac 21.78 139 P P 11 40 04.3 +1.4
2.1nm,0.5s,baz=274,slow=7.3,SNR=7.1
DZM LR LR 11 47 00.1
comp=Z,62nm,21.2s,baz=20,slow=32
2.1nm,0.5s
ASAR Alice Springs 24.29 222 P P 11 40 28.1 0.0
3.0nm,0.7s,baz=57,slow=8.9,SNR=76
ASAR PcP PcP 11 44 06.8 -0.6
0.2nm,0.5s,baz=31,slow=2.4,SNR=1.0
ASAR ScP ScP 11 47 40.8 -1.9
0.1nm,0.6s,baz=67,slow=2.4,SNR=1.9
3.0nm,0.7s
STKA Stephens Creek 27.37 198 P P 11 40 56.0 +0.3
0.6nm,0.4s,baz=11,slow=13,SNR=4.2
0.6nm,0.4s
KAPI Kappang 31.36 270 LR LR 11 55 31.4
comp=Z,19nm,19.0s,baz=75,slow=39
VNDA Vanda 71.79 178 P P 11 46 32.1 +0.1
0.8nm,0.8s,baz=316,slow=6.6,SNR=5.3
0.8nm,0.8s
ILAR Eielson Array 83.76 22 P P 11 47 36.0 -2.8
0.8nm,0.8s,baz=248,slow=4.9,SNR=8.0
0.8nm,0.8s
MAW Mawson 83.96 203 P P 11 47 39.6 -0.1
1.9nm,0.7s,baz=102,slow=7.7,SNR=2.6
1.9nm,0.7s
NVAR Mina Array Bea 93.98 52 P P 11 48 27.4 -1.1
0.8nm,0.8s,baz=243,slow=6.5,SNR=5.9
0.8nm,0.8s
TORD Torodi Ar. Bea 149.14 286 PKPbc PKPbc 11 54 57.5 -1.8
3.5nm,0.7s,baz=68,slow=2.9,SNR=23

---

*NNC **03** 11:49:06.1±12.0, 56°.78N×61°.35E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=105.4km s-min=42.1km az=158.0, Suspected Mining explosion.*
*MIRAS **03** 11:49:07.0±0.0, 56°.98N×61°.45E, h0km, ML2.8/6*

ISC 03 11:49:04.6±0.9,**56°.89N**±0°.03×**61°.35E**±0°.04,**h0**km,**n10, σ1s.17**/38,**4C-6D, Ural Mountains region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SVE Sverdlovsk 0.40 261 iP Pb 11 49 14.9 +0.3
baz=257
SVE iP Pb 11 49 14.9 +0.3
baz=257
SVE iP Pb 11 49 14.9 +0.3
60nm,0.2s,baz=257
SVE eS Sb 11 49 21.5 +0.3
206nm,0.4s,baz=257
SVE eS Sb 11 49 21.5 +0.3
baz=257
SVE eS Sb 11 49 21.5 +0.3
117nm,0.5s,baz=257
SVE iAML AML 11 49 25.5
SVE iAML AML 11 49 25.5
334nm,0.6s
SVE iAML AML 11 49 25.5
352nm,0.8s
KAUR Kamensk Uralsk 0.47 170 eP Pb 11 49 15.6 -0.2
baz=178
KAUR eP Pb 11 49 15.6 -0.2
baz=178
KAUR eP Pb 11 49 15.6 -0.2
baz=178
KAUR eS Sb 11 49 23.2 0.0
baz=178
KAUR eS Sb 11 49 23.2 0.0
baz=178
KAUR eS Sb 11 49 23.2 0.0
baz=178
KAUR iAML AML 11 49 27.7
739nm,0.7s
KAUR iAML AML 11 49 27.7
794nm,0.5s
KAUR iAML AML 11 49 27.7
PR7R Sarany 2.17 321 eP Pn 11 49 42.7 +0.7
baz=319
PR7R eP Pn 11 49 42.7 +0.7
baz=319
PR7R eP Pn 11 49 42.7 +0.7
62nm,0.2s,baz=319
PR7R S Sn 11 50 11.0 +1.4
baz=319
PR7R S Sn 11 50 11.0 +1.4
138nm,0.2s,baz=319
PR7R S Sn 11 50 11.0 +1.4
172nm,0.8s,baz=319
PR7R iAML AML 11 50 13.7
213nm,0.2s
PR3R Kungur 2.43 285 P Pb 11 49 48.3 -0.9
baz=284
PR3R P Pb 11 49 48.3 -0.9
26nm,0.3s,baz=284
PR3R P Pb 11 49 48.3 -0.9
baz=284
PR3R S Sb 11 50 20.2 +0.5
baz=284
PR3R S Sb 11 50 20.2 +0.5
26nm,0.2s,baz=284
PR3R S Sb 11 50 20.2 +0.5
baz=284
PR3R iAML AML 11 50 22.7
51nm,0.5s
SVUR Severouralsk 3.39 348 eS Sb 11 50 46.4 -1.0
baz=347
SVUR eS Sb 11 50 46.4 -1.0
baz=347
SVUR eS Sb 11 50 46.4 -1.0
baz=347
BA1R Ufa 3.94 236 eS Sg 11 51 09.0 -2.0
baz=237
BA1R eS Sg 11 51 09.0 -2.0
baz=237
BA1R eS Sg 11 51 09.0 -2.0
baz=237
BRVK Borovoye 6.42 123 ⇑Pn Pn 11 50 42.0 +1.7
1.4nm,0.5s
BRVK ⇓Sn Sn 11 51 52.8 -1.3
1.2nm,0.4s
BVA0 Borovoye Array 6.49 123 ⇑Pn Pn 11 50 44.0 +2.7
1.5nm,0.6s
BVA0 ⇓Sn Sn 11 51 54.6 -1.3
1.1nm,0.5s
AKTO Aktyubinsk 6.77 198 ⇓Pn Pn 11 50 45.2 +0.1
0.7nm,0.6s
AKTO ⇓Sn Sn 11 52 04.6 +1.8
0.9nm,0.6s
AKTO ⇑Lg Lg 11 52 37.5
1.8nm,0.8s
AB31 Akbulak array 7.70 187 ⇓Pn Pn 11 50 59.5 +1.6
0.1nm,0.3s,baz=350,slow=12,SNR=7.9
AB31 ⇑Sn Sn 11 52 24.1 -1.6
0.4nm,0.5s
AB31 ⇓Lg Lg 11 53 09.3
1.8nm,0.6s,baz=354,slow=28

---

*PRU **03** 11:59:15.2±0.0, 42°.65N×14°.10E, h10km*
*LDG **03** 11:59:16.6±0.2, 42°.84N×13°.28E, h10km, Ml3.5/21, Error ellipse: s-maj=6.8km s-min=5.1km az=32.0*
*IDC **03** 11:59:17.8±1.6, 42°.92N×13°.25E, h0km, mb3.6/2, mbtmp3.5/4, ML3.4/2, MS2.8/2, Error ellipse: s-maj=39.0km s-min=16.9km az=91.0*
*ROM **03** 11:59:17.7±0.0, 42°.908N±0°.002×13°.214E±0°.003, h9km, ML3.5/56, Error ellipse: s-maj=0.2km s-min=0.1km az=70.0*

ISC 03 11:59:17.8±0.7,**42°.90N**±0°.01×**13°.20E**±0°.02,**h13**km±4km,**n169, σ2s.16**/214,**19C-6D, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
NRCA Norcia 0.09 225 ⇓P Pg 11 59 20.7 0.0
NRCA S Sg 11 59 22.9 +0.1
NRCA AML AML
comp=E,92850μm,1.0s
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
comp=E,98200μm,1.0s
NRCA AML AML
comp=E,92800μm,1.0s
MMO1 Montemonaco 0.10 88 ⇑P Pg 11 59 20.1 -0.7
MMO1 S Sg 11 59 21.7 -1.3
T1256 Bolognola (MC) 0.11 10 ⇑P Pg 11 59 20.4 -0.7
T1256 S Sg 11 59 22.3 -1.2
T1256 AML AML
T1256 AML AML
T1256 AML AML
T1256 AML AML
T1256 AML AML
T1256 AML AML
T1256 AML AML
T1256 AML AML
FEMA Monte Fema 0.13 301 ⇑P Pg 11 59 21.2 -0.1
FEMA S Sg 11 59 23.7 0.0
FEMA AML AML
FEMA AML AML
FEMA AML AML
FEMA AML AML
FEMA AML AML
T1216 Preci, Frazion 0.13 268 ⇑P Pg 11 59 21.4 +0.2
T1216 S Sg 11 59 24.3 +0.6
T1216 AML AML
T1216 AML AML
T1216 AML AML
AM05 Amandola Campo 0.14 54 ⇑P Pg 11 59 21.0 -0.3
AM05 S Sg 11 59 23.6 -0.3
AM05 AML AML
comp=N,11500μm,0.8s
AM05 AML AML
comp=E,50350μm,1.5s
AM05 AML AML
comp=E,14400μm,1.5s
AM05 AML AML
comp=N,1400μm,1.2s
AM05 AML AML
comp=E,50400μm,1.5s
T1244 Arquata del Tr 0.16 152 P Pg 11 59 21.9 +0.3
T1244 S Sg 11 59 25.4 +1.0
FDMO Fiordimonte 0.16 330 P Pg 11 59 21.5 -0.2
FDMO S Sg 11 59 24.4 0.0
FDMO AML AML
comp=E,38900μm,0.2s
FDMO AML AML
comp=N,47250μm,1.1s
T1241 Roccafluvione, 0.18 103 ⇑P Pg 11 59 21.8 -0.1
T1241 S Sg 11 59 24.8 +0.1
T1241 AML AML
comp=N,24300μm,0.9s
T1241 AML AML
comp=E,39600μm,1.3s
T1241 AML AML
comp=N,24250μm,0.8s
T1241 AML AML
comp=E,37800μm,1.2s
T1241 AML AML
comp=N,24250μm,0.9s
T1241 AML AML
comp=N,26900μm,0.7s
T1241 AML AML
comp=E,39600μm,1.2s
GUMA Gualdo di Mace 0.20 31 ⇑P Pg 11 59 22.3 0.0
GUMA S Sg 11 59 25.6 +0.3
GUMA AML AML
comp=E,99300μm,0.8s
GUMA AML AML
comp=N,73900μm,0.6s
GUMA AML AML
comp=E,95150μm,0.8s
GUMA AML AML

comp=N,73900µm,0.6s
GUMA AML AML
comp=N,86300µm,0.4s
GUMA AML AML
comp=E,99450µm,0.8s
CSP1 Cessapalombo 0.20 1 ⇑P **Pg 11 59 22.0 -0.3**
CSP1 S **Sg 11 59 25.4 0.0**
T1204 Amatrice, Fraz 0.24 158 ⇓P **Pg 11 59 23.3 +0.4**
T1204 S **Sg 11 59 27.8 +1.3**
T1204 AML AML
comp=E,15600µm,0.6s
T1204 AML AML
comp=N,12925µm,0.8s
T1204 AML AML
comp=N,12900µm,0.8s
T1204 AML AML
comp=N,12895µm,0.8s
T1204 AML AML
comp=E,15650µm,0.6s
T1201 Domo (RI) 0.24 171 P **Pb 11 59 23.7 -0.4**
T1201 S **Sb 11 59 28.3 0.0**
T1215 Vallo di Nera, 0.26 249 P **Pg 11 59 23.9 +0.6**
T1215 S **Sg 11 59 28.6 +1.6**
T1215 AML AML
comp=E,10230µm,0.4s
T1215 AML AML
comp=E,10550µm,0.3s
T1215 AML AML
comp=N,10225µm,0.6s
T1215 AML AML
comp=N,10330µm,0.6s
T1215 AML AML
comp=E,10555µm,0.4s
T1215 AML AML
comp=N,10235µm,0.6s
T1215 AML AML
comp=E,10235µm,0.4s
T1215 AML AML
comp=N,10315µm,0.6s
T1217 Poggiodomo (PG 0.27 227 P **Pg 11 59 24.0 +0.5**
T1217 S **Sg 11 59 29.0 +1.7**
T1217 AML AML
comp=E,12250µm,0.9s
T1217 AML AML
comp=N,12900µm,0.5s
T1217 AML AML
comp=E,11650µm,0.7s
T1217 AML AML
comp=E,11635µm,0.8s
T1217 AML AML
comp=N,13100µm,0.5s
T1217 AML AML
comp=N,12850µm,0.5s
T1217 AML AML
comp=E,12300µm,0.9s
T1217 AML AML
comp=E,11650µm,0.8s
T1243 Rocca Santa Ma 0.27 137 P **Pg 11 59 23.9 +0.3**
T1243 S **Sg 11 59 28.4 +1.0**
SMA1 SAN MARTINO 0.28 159 P **Pg 11 59 24.2 +0.4**
SMA1 S **Sb 11 59 29.1 -0.4**
SMA1 AML AML
comp=N,16500µm,0.6s
SMA1 AML AML
comp=E,22400µm,0.6s
MDAR Monte D'Aria 0.30 352 P **Pg 11 59 24.1 +0.1**
MDAR S **Sg 11 59 28.8 +0.6**
MDAR AML AML
comp=N,19600µm,0.6s
MDAR AML AML
comp=E,15550µm,0.3s
MDAR AML AML
comp=N,19550µm,0.6s
SEF1 Sefro 0.31 324 P **Pg 11 59 24.3 +0.1**
SEF1 S **Sg 11 59 29.8 +1.3**
SEF1 AML AML
comp=E,56500µm,1.6s
SEF1 AML AML
comp=N,39800µm,0.9s
SEF1 AML AML
comp=E,56550µm,1.6s
MNTP Montappone 0.31 39 P **Pb 11 59 24.9 -0.4**
LNSS Leonessa 0.32 202 P **Pg 11 59 25.1 +0.7**
LNSS S **Sb 11 59 30.7 +0.3**
LNSS AML AML
comp=N,22150µm,0.3s
LNSS AML AML
comp=E,12100µm,0.2s
SSM1 San Severino M 0.33 357 P **Pg 11 59 25.0 +0.4**
SSM1 S **Sb 11 59 30.3 -0.5**
FIU1 Fiuminata 0.35 326 P **Pg 11 59 25.1 +0.2**
FIU1 S **Sg 11 59 30.8 +1.0**
FIU1 AML AML
comp=E,9345µm,0.5s
FIU1 AML AML
comp=N,12300µm,0.4s
FIU1 AML AML
comp=N,12250µm,0.4s
FIU1 AML AML
comp=E,9360µm,0.5s
GAG1 Gagliole 0.35 344 P **Pg 11 59 25.3 +0.3**
GAG1 S **Sb 11 59 31.0 -0.5**
OFFI Offida 0.36 84 ⇑P **Pb 11 59 26.0 -0.1**
OFFI AML AML
comp=E,15500µm,0.5s
OFFI AML AML
comp=N,20800µm,0.5s
T1246 Crognaleto (TE 0.38 145 ⇓P **Pb 11 59 25.7 -0.8**
T1246 S **Sb 11 59 32.0 -0.3**
RM33 Pellescritta (0.39 178 P **Pg 11 59 26.0 +0.4**
RM33 S **Sb 11 59 32.8 +0.3**
RM33 AML AML
comp=N,4595µm,1.0s
RM33 AML AML
comp=N,4610µm,0.7s
RM33 AML AML
comp=E,4960µm,0.8s
RM33 AML AML
comp=N,4735µm,1.6s
RM33 AML AML
comp=E,5035µm,0.8s
RM33 AML AML
comp=N,4675µm,1.6s
RM33 AML AML
comp=E,4965µm,0.8s
RM33 AML AML
comp=N,4735µm,1.6s
RM33 AML AML
comp=E,4960µm,0.8s
CAMP Campotosto 0.39 157 ⇓P **Pg 11 59 25.8 +0.1**
CAMP S **Sb 11 59 32.4 -0.3**
CAMP AML AML
comp=N,5955µm,0.7s
CAMP AML AML
comp=E,5555µm,1.1s
CAMP AML AML
comp=N,5950µm,0.7s
TERO Teramo 0.41 132 P **Pb 11 59 25.9 -0.9**
TERO S **Sb 11 59 32.7 -0.3**
TERO AML AML
comp=E,10850µm,0.4s
TERO AML AML
comp=N,17850µm,0.4s
TERO AML AML
comp=E,10845µm,0.4s
TERO AML AML
comp=N,17250µm,0.4s
TERO AML AML
comp=N,17300µm,0.4s
TERO AML AML
comp=E,11150µm,0.4s
TERO AML AML
comp=E,10820µm,0.4s
SNTG Esanatoglia 0.41 332 ⇑P **Pg 11 59 25.9 -0.1**
SNTG S **Sg 11 59 32.3 +0.9**
SNTG AML AML
comp=N,9590µm,0.4s
SNTG AML AML
comp=E,11850µm,0.2s
SNTG AML AML
comp=N,10775µm,0.4s
SNTG AML AML
comp=N,9595µm,0.4s
SNTG AML AML
comp=E,12300µm,0.2s
ASSB Assisi San Ben 0.42 290 P **Pg 11 59 26.5 +0.3**

TRE1 Treia 0.42 11 P **Pb 11 59 26.7 -0.5**
EL6 Elcito 0.44 351 P **Pg 11 59 26.9 +0.3**
EL6 S **Sg 11 59 33.1 +0.6**
EL6 AML AML
comp=E,11450µm,0.2s
EL6 AML AML
comp=N,12950µm,0.2s
T1211 Morro Reatino 0.44 215 P **Pg 11 59 26.7 +0.1**
T1211 S **Sg 11 59 34.6 +2.1**
T1211 AML AML
comp=N,11350µm,0.3s
T1211 AML AML
comp=E,4670µm,0.9s
T1211 AML AML
comp=N,11350µm,0.3s
T1211 AML AML
comp=E,4630µm,0.9s
T1211 AML AML
comp=N,11345µm,0.3s
ARRO Arrone 0.45 225 P **Pg 11 59 27.2 +0.6**
ARRO AML AML
comp=E,4075µm,0.8s
ARRO AML AML
comp=N,3820µm,1.2s
ARRO AML AML
comp=N,3825µm,1.2s
T1247 Pizzolo (AQ) 0.46 171 P **Pg 11 59 27.3 +0.4**
T1247 AML AML
comp=E,6115µm,0.4s
T1247 AML AML
comp=N,5645µm,0.6s
CING Cingoli 0.48 360 P **Pg 11 59 27.3 0.0**
CING AML AML
comp=E,6720µm,1.0s
CING AML AML
comp=N,5310µm,0.5s
ATCC AVT- Casa Cast 0.50 305 ⇑P **Pg 11 59 27.9 +0.3**
ATCC AML AML
comp=E,12550µm,1.5s
ATCC AML AML
comp=N,11770µm,0.8s
ATCC AML AML
comp=N,11795µm,0.8s
ATCC AML AML
comp=N,11790µm,0.8s
ATCC AML AML
comp=E,12600µm,1.5s
CADA Capodarco di F 0.51 54 P **Pb 11 59 28.3 -0.3**
FOSV Fossato di Vic 0.51 321 P **Pg 11 59 27.9 0.0**
FOSV AML AML
comp=E,7180µm,0.4s
FOSV AML AML
comp=N,13650µm,0.4s
GIGS Gran Sasso 0.52 148 ⇑P **Pb 11 59 28.4 -0.5**
GIGS S **Sb 11 59 36.2 -0.2**
GIGS AML AML
comp=E,2830µm,0.6s
GIGS AML AML
comp=N,1175µm,0.3s
TRTR Tcoreto Alta 0.53 99 P **Pb 11 59 29.3 +0.3**
CESX Cesi 0.54 238 P **Pg 11 59 28.5 +0.1**
AQU L'Aquila 0.56 164 P **Pg 11 59 28.8 -0.1**
MMUR Monte Murano 0.56 345 P **Pg 11 59 28.8 -0.2**
PP3 Marolino 0.57 32 P **Pb 11 59 28.9 -0.7**
PP3 AML AML
comp=N,10005µm,1.5s
PP3 AML AML
comp=N,10385µm,1.6s
PP3 AML AML
comp=E,10830µm,1.1s
PP3 AML AML
comp=E,11625µm,1.1s
PP3 AML AML
comp=N,10335µm,1.6s
PP3 AML AML
comp=E,10810µm,1.1s
PP3 AML AML
comp=N,10350µm,1.6s
PP3 AML AML
comp=E,11600µm,1.1s
PP3 AML AML
comp=N,9955µm,1.5s
MURB Monte Urbino 0.61 307 ⇑P **Pg 11 59 30.0 +0.1**
MURB AML AML
comp=E,10690µm,0.3s
MURB AML AML
comp=N,8655µm,0.3s
MURB AML AML
comp=E,10665µm,0.3s
MURB AML AML
comp=N,8650µm,0.3s
MURB AML AML
comp=N,8720µm,0.3s
MURB AML AML
comp=E,11550µm,0.3s
SSFR Montelago di S 0.62 331 P **Pg 11 59 29.8 -0.1**
SSFR AML AML
comp=E,15050µm,0.3s
SSFR AML AML
comp=N,14000µm,0.3s
SSFR AML AML
comp=E,14500µm,0.7s
SSFR AML AML
comp=N,13950µm,0.3s
ARVD Arcevia 0.63 343 P **Pg 11 59 30.0 -0.1**
ARVD S **Sb 11 59 39.5 0.0**
ARVD AML AML
comp=N,3375µm,0.1s
ARVD AML AML
comp=E,2810µm,0.4s
FIAM Fiamignano 0.63 185 P **Pg 11 59 30.1 0.0**
ATFO Monte Foce - G 0.66 316 ⇑P **Pg 11 59 30.6 -0.1**
ATFO S **Sg 11 59 40.3 +1.0**
ATFO AML AML
comp=N,3495µm,0.5s
ATFO AML AML
comp=E,4240µm,1.1s
ATTE AVT- Monte Tez 0.69 296 P **Pg 11 59 31.1 -0.1**
ATTE AML AML
comp=E,2790µm,0.9s
ATTE AML AML
comp=N,2080µm,0.9s
VCEL Villa Celiera 0.69 136 ⇓P **Pb 11 59 31.3 -0.4**
FAGN Fagnano 0.69 156 P **Pb 11 59 31.3 -0.4**
FRON Frontone 0.71 331 ⇑P **Pg 11 59 31.3 -0.4**
FRON AML AML
comp=E,4090µm,1.0s
FRON AML AML
comp=N,6515µm,0.6s
ATLO AVT- Montelove 0.71 306 P **Pg 11 59 31.3 -0.4**
AOI Ancona 0.72 24 P **Pb 11 59 31.5 -0.7**
AOI AML AML
comp=E,2525µm,0.4s
AOI AML AML
comp=N,2995µm,0.4s
AOI AML AML
comp=E,2530µm,0.4s
TB01 Gubbio 0.74 311 P **Pg 11 59 31.9 -0.3**
ATBU Serra di Buran 0.75 321 P **Pg 11 59 32.2 -0.1**
COR1 Corinaldo 0.75 349 P **Pb 11 59 33.2 +0.5**
COR1 AML AML
comp=N,6455µm,1.1s
COR1 AML AML
comp=E,3375µm,0.4s
COR1 AML AML
comp=N,5690µm,0.5s
COR1 AML AML
comp=E,6535µm,0.4s
COR1 AML AML
comp=N,5685µm,0.5s
COR1 AML AML
comp=E,3380µm,0.4s
COR1 AML AML
comp=N,6450µm,1.1s
PCRO Pietralacroce 0.75 19 P **Pg 11 59 32.1 -0.4**
ATVO AVT- Monte Val 0.76 310 ⇑P **Pg 11 59 32.3 -0.2**
ATVO AML AML
comp=E,2945µm,0.3s
ATVO AML AML
comp=N,3100µm,0.5s
TB03 Pietralunga 0.77 311 ⇑P **Pg 11 59 32.4 -0.3**
ATVA AVT- Monte Val 0.77 300 P **Pg 11 59 32.6 -0.2**
T0110 Collepietro 0.80 147 P **Pg 11 59 32.7 -0.5**
ATPC Poggio Castell 0.80 317 ⇑P **Pg 11 59 33.0 -0.3**
MGAB Montegabbione 0.80 272 ⇑P **Pg 11 59 33.4 +0.1**
MGAB AML AML
comp=N,6560µm,0.5s
MGAB AML AML
comp=N,6700µm,0.5s
MGAB AML AML
comp=E,3450µm,0.5s
MGAB AML AML
comp=E,4210µm,0.5s
MPAG Monte Paganucc 0.80 337 P **Pg 11 59 33.0 -0.3**
MPAG AML AML
comp=E,3380µm,1.5s
MPAG AML AML
comp=N,3085µm,0.8s
MPAG AML AML
comp=N,2975µm,0.4s
MPAG AML AML
comp=E,2995µm,0.7s
MPAG AML AML
comp=N,3090µm,0.8s
PIEI Pieia 0.80 323 P **Pg 11 59 33.0 -0.3**
PIEI AML AML
comp=N,1815µm,1.3s
PIEI AML AML
comp=E,2070µm,0.9s
ATPI Pietralunga - 0.80 314 P **Pg 11 59 33.2 -0.2**
ATPI AML AML
comp=E,2990µm,0.6s
ATPI AML AML
comp=N,2130µm,1.3s
ATMI Monte Miggiano 0.81 303 P **Pg 11 59 34.0 +0.5**
SRES S.Oreste - Sor 0.83 218 P **Pg 11 59 33.9 0.0**
FSSB Fossombrone 0.85 339 ⇓P **Pg 11 59 34.1 -0.3**
FSSB AML AML
comp=E,6740µm,1.4s
FSSB AML AML
comp=N,9850µm,0.5s
PTQR Pietraquaria 0.89 170 P **Pg 11 59 34.3 -0.7**
ATMC Monte Cedrone 0.92 307 P **Pg 11 59 35.3 -0.3**
MTCE Montecelio 0.94 201 P **Pg 11 59 35.7 -0.2**
SACS San Casciano d 0.95 268 P **Pg 11 59 35.9 -0.2**
SACS AML AML
comp=E,2055µm,1.0s
SACS AML AML
comp=E,1975µm,0.9s
SACS AML AML
comp=N,1990µm,0.5s
SACS AML AML
comp=N,1840µm,1.0s
PE3 Peglio 0.95 328 P **Pg 11 59 35.2 -1.0**
CERT Cerreto 0.96 190 P **Pg 11 59 35.7 -0.7**
CAFI Castiglion Fio 1.00 296 P **Pg 11 59 36.8 -0.3**
CAFI AML AML
comp=E,1375µm,0.6s
CAFI AML AML
comp=E,1390µm,0.6s
CAFI AML AML
comp=N,1535µm,0.8s
CAFI AML AML
comp=N,1585µm,0.8s
INTR Introdacqua 1.03 149 AML AML
comp=E,1995µm,1.0s
INTR AML AML
comp=E,2µm,1.0s
INTR AML AML
comp=N,3µm,0.9s
INTR AML AML
comp=N,3975µm,0.9s
SSP9 Sansepolcro 1.03 311 P **Pg 11 59 37.8 0.0**
LATE Laterza 1.06 255 P **Pb 11 59 38.2 +0.1**
RCAV Rocca di Cave 1.06 190 P **Pg 11 59 38.3 0.0**
VVLD Villa Vallelon 1.07 163 P **Pb 11 59 38.3 +0.1**
GUAR Guarcino 1.10 176 P **Pb 11 59 38.5 -0.3**
CPGN Carpegna, Ital 1.11 325 P **Pb 11 59 39.0 +0.1**
CPGN AML AML
comp=N,3515µm,1.5s
CPGN AML AML
comp=E,3210µm,0.7s
SF11 Podere del Sol 1.12 269 P **Pb 11 59 39.1 +0.1**
LPEL Lama dei Pelig 1.12 139 P **Pg 11 59 38.2 -1.1**
MCIV Monte Civitell 1.12 265 P **Pb 11 59 38.8 -0.3**
MCIV AML AML
comp=N,949µm,0.6s
MCIV AML AML
comp=E,825µm,1.6s
SF13 Bagnolo 1.16 267 P **Pn 11 59 39.7 -0.2**
CRE Caprese Michel 1.16 309 P **Pb 11 59 39.3 -0.6**
CRE AML AML
comp=N,1175µm,1.2s
CRE AML AML
comp=E,974µm,0.9s
SF14 Selvena 1.17 264 P **Pn 11 59 40.1 +0.1**
TOLF Tolfa 1.22 227 P **Pn 11 59 40.5 0.0**
POFI Posta Fibreno 1.24 162 P **Pn 11 59 41.0 +0.1**
ARCI Arcidosso 1.27 269 P **Pn 11 59 41.9 +0.6**
ARCI AML AML
comp=E,262µm,1.4s
ARCI AML AML
comp=N,232µm,0.6s
ASQU Asqua 1.37 312 P **Pn 11 59 43.3 +0.6**
SFI Santa Sofia 1.41 316 P **Pn 11 59 43.5 +0.3**
CERA Filignano 1.43 155 P **Pb 11 59 44.2 -0.2**
MIDA Miranda 1.48 148 P **Pn 11 59 44.1 -0.1**
CSNT Castellina Chi 1.51 293 P **Pn 11 59 44.7 +0.2**
TRIV Trivento 1.51 138 P **Pb 11 59 45.7 0.0**
FROS Frosini 1.53 283 P **Pn 11 59 45.1 +0.3**
RUFI Rufina 1.55 308 P **Pn 11 59 46.0 +0.9**
MAON Monte Argentar 1.59 254 P **Pn 11 59 46.7 +1.0**
LMD Lutirano 1.60 318 P **Pb 11 59 48.0 +0.7**
VAGA Valle Agricola 1.67 152 P **Pg 11 59 48.9 -0.9**
TRIF Trifonti 1.70 278 P **Pn 11 59 48.1 +0.9**
CIGN Sant'Elia a Pi 1.77 134 P **Pb 11 59 50.3 +0.2**
PTRJ Pietraroja 1.82 147 AML AML
comp=N,2300µm,1.1s
PTRJ AML AML
comp=E,2590µm,1.1s
PTRJ AML AML
comp=N,394µm,1.2s
PTRJ AML AML
comp=E,628µm,1.0s
SGRT San Giovanni R 2.21 120 P **Pb 11 59 56.1 -1.5**
PZUN Potenza 2.98 138 AML AML
comp=E,184µm,0.2s
PZUN AML AML
comp=E,219µm,1.3s
PZUN AML AML
comp=N,253µm,0.1s
PZUN AML AML
comp=N,326µm,0.5s
PGF Pioggiola 3.11 265 *e*P **Pn 12 00 05.4 -1.3**
PGF *e*Sn **Sn 12 00 41.1 -2.7**
comp=N,138nm,1.5s
CGRP Cima Grappa 3.15 342 P **Pn 12 00 08.4 +1.1**
CGRP AML AML
comp=N,512µm,0.7s
CGRP AML AML
comp=E,402µm,0.4s
DOSS Dosso del Somm 3.31 335 P **Pn 12 00 11.7 +2.2**
CTI Castel Tesino 3.34 341 P **Pn 12 00 11.9 +2.0**
CTI AML AML
comp=N,227µm,0.4s
CTI AML AML
comp=E,224µm,0.4s
SIRI Monte Sirino - 3.37 143 AML AML
comp=E,136µm,0.8s
SIRI AML AML
comp=N,129µm,1.4s
STAL STALIGIAL 3.38 354 P **Pn 12 00 12.0 +1.7**
STAL AML AML
comp=N,170µm,1.2s
STAL AML AML
comp=E,214µm,0.4s
CIMO Cimolais 3.46 351 P **Pn 12 00 12.9 +1.6**
CIMO AML AML
comp=E,60µm,1.1s
CIMO AML AML
comp=N,71µm,0.8s
CIMO AML AML
comp=N,72µm,0.7s
CIMO AML AML
comp=E,65µm,0.6s
ACOM Acomizza, Ital 3.66 3 P **Pn 12 00 16.2 +2.0**
ACOM AML AML
comp=E,225µm,1.0s
ACOM AML AML
comp=N,192µm,0.6s
ZOU Zoufplan 3.66 358 P **Pn 12 00 15.7 +1.3**
ZOU AML AML

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,148µm,1.3s						
ZOU				AML	AML		
	comp=E,172µm,1.1s						
ZOU				AML	AML		
	comp=N,160µm,1.1s						
ZOU				AML	AML		
	comp=N,150µm,1.0s						
MYKA	Terra Mystica	3.75	5	i Pn	Pn	12 00 17.1	+1.7
	comp=N,6.4nm,0.4s						
KOSI	Kohlern	3.79	341	P	Pn	12 00 18.8	+2.7
ABTA	Abfaltersbach	3.88	353	i Pn	Pn	12 00 19.9	+2.7
	comp=N,28nm,0.4s,SNR=8.7						
KBA	Koelnbreinsper	4.18	1	ePn	Pn	12 00 23.4	+1.9
	SNR=12						
ROSI	Rosskopf	4.23	343	AML	AML		
	comp=E,186µm,1.5s						
ROSI				AML	AML		
	comp=N,304µm,0.7s						
SBF	Sospel	4.31	285	eP	Pn	12 00 24.4	+1.3
SBF				eSn	Sn	12 01 08.4	-4.9
	comp=N,68nm,1.0s						
FETA	Feichten	4.48	338	ePn	Pn	12 00 29.0	+3.5
	comp=N,13nm,0.8s,SNR=8.8						
WTTA	Wattenberg	4.51	346	ePn	Pn	12 00 29.5	+3.6
	comp=N,10.0nm,0.7s,SNR=5.7						
DAVOX	Davos/Dischmat	4.54	330	Pn	Pn	12 00 30.1	+3.7
	comp=N,3.9nm,0.3s,baz=155,slow=19,SNR=22						
DAVOX				Sn	Sn	12 01 22.3	+3.1
	comp=N,2.3nm,0.3s,baz=180,slow=20,SNR=7.2						
	comp=N,12nm,0.4s						
SQTA	Sankt Quirin	4.55	343	i Pn	Pn	12 00 30.1	+3.7
	comp=N,9.5nm,0.4s,SNR=11						
WATA	Walderalm	4.59	346	ePn	Pn	12 00 30.3	+3.3
	comp=N,17nm,0.5s,SNR=7.7						
ARSA	Arzberg	4.66	20	ePn	Pn	12 00 30.7	+2.9
	comp=N,1.3nm,0.2s						
MOTA	Moosalm	4.69	342	ePn	Pn	12 00 32.0	+3.6
	comp=N,18nm,0.7s,SNR=10						
RETA	Reutte	4.90	340	i Pn	Pn	12 00 35.1	+3.9
	comp=N,7.4nm,0.4s,SNR=6.7						
LMR	La Mourre	4.92	277	eP	Pn	12 00 34.1	+2.7
LMR				eSn	Sn	12 01 21.8	-6.3
	comp=N,0.7nm,0.2s						
DAVA	Damuels	4.98	333	i Pn	Pn	12 00 36.3	+4.0
	comp=N,9.1nm,0.5s,SNR=7.2						
MBDF	Montbardon	5.00	294	eP	Pn	12 00 35.7	+3.1
MBDF				eSn	Sn	12 01 25.0	-5.3
	comp=N,0.4nm,0.2s						
LPG	La Plagne	5.31	302	eP	Pn	12 00 39.1	+2.0
LPG				eSn	Sn	12 01 32.6	-5.7
	comp=N,4.6nm,0.4s						
LPL	La Plagne	5.33	302	eP	Pn	12 00 38.7	+1.4
LPL				eSn	Sn	12 01 32.7	-6.0
	comp=N,26nm,0.9s						
SMRF	Simiane la Rot	5.66	284	eP	Pn	12 00 44.6	+3.0
ORIF	Oris-en-Rattie	5.66	293	eP	Pn	12 00 43.2	+1.5
ORIF				eSn	Sn	12 01 41.1	-5.5
	comp=N,22nm,0.9s						
GERES	GERESS Array B	5.96	3	Pn	Pn	12 00 47.0	+1.2
	comp=N,0.4nm,0.3s,baz=184,slow=11,SNR=10						
GERES				Sn	Sn	12 01 54.9	+1.0
	comp=N,1.7nm,0.3s,baz=184,slow=26,SNR=8.3						
	comp=N,1.5nm,0.6s						
KHC	Kasperske Hory	6.24	2	ePN	Pn	12 00 49.3	-0.3
KHC				eSN	Sn	12 02 01.4	+0.6
CABF	La Chapelle	6.28	309	eP	Pn	12 00 51.6	+1.4
CABF				eSn	Sn	12 01 55.4	-6.4
	comp=N,41nm,1.2s						
VIVF	Saint-Julien-l	6.47	291	eP	Pn	12 00 56.3	+3.6
HINF	Hinteralfeld	6.65	320	eP	Pn	12 00 57.0	+1.8
HINF				eSn	Sn	12 02 06.6	-4.2
	comp=N,28nm,0.6s						
CDF	Champ du Feu	6.90	325	eP	Pn	12 01 00.5	+1.8
CDF				eSn	Sn	12 02 12.8	-4.3
	comp=N,8.7nm,0.4s						
HAU	Haudompre	7.02	319	eP	Pn	12 01 01.5	+1.2
HAU				eSn	Sn	12 02 12.6	-7.3
	comp=N,27nm,0.4s						
SMF	Signal de Mont	7.64	303	eP	Pn	12 01 12.2	+3.4
SMF				eSn	Sn	12 02 27.3	-7.9
	comp=N,8.2nm,0.6s						
PAGF	Fort de Pagny	7.70	320	eP	Pn	12 01 12.8	+3.2
	baz=151						
PAGF				eSn	Sn	12 02 31.8	-4.9
	comp=N,23nm,0.6s						
SFTF	Sexfontaines	7.81	316	eP	Pn	12 01 15.4	+4.4
	baz=136						
LOR	Lormes	7.92	307	eP	Pn	12 01 16.6	+4.0
	baz=124						
LOR				eSn	Sn	12 02 37.1	-5.0
	comp=N,12nm,0.7s						
MEZF	Maizieres J'vi	7.99	317	eP	Pn	12 01 16.0	+2.4
MEZF				eSn	Sn	12 02 35.7	-8.1
	comp=N,17nm,0.5s						
AVF	Avril sur Loir	8.01	302	eP	Pn	12 01 17.8	+4.0
AVF				eSn	Sn	12 02 37.6	-6.5
	comp=N,0.7nm,0.2s						
SSF	Saint Saulge	8.03	305	eP	Pn	12 01 16.8	+2.7
SSF				eSn	Sn	12 02 39.9	-4.9
	comp=N,1.7nm,0.3s						
SAVF	Savonnieres en	8.03	318	eP	Pn	12 01 16.5	+2.4
	comp=N,59nm,1.2s						
MTLF	Montolieu	8.05	277	eP	Pn	12 01 18.3	+3.9
BGF	Bois d'Agland	8.23	300	ePn	Pn	12 01 15.5	-1.3
BGF				eSn	Sn	12 02 43.9	-5.7
	comp=N,5.1nm,0.5s						
CAF	Calviac	8.29	288	eP	Pn	12 01 22.0	+4.3
TCF	Toulx Ste Croi	8.54	297	eP	Pn	12 01 24.8	+3.6
RJF	Les Rejaudoux	8.74	290	eP	Pn	12 01 27.9	+4.0
GIVF	Givet	9.23	324	eP	Pn	12 01 32.8	+2.3
EPF	Esparros	9.43	275	eSn	Sn	12 03 12.2	-7.0
	comp=N,3.5nm,0.4s						
BAIF	Baives	9.47	322	eP	Pn	12 01 36.2	+2.4
MLR	Muntele Rosu	9.52	70	LR	LR	12 06 06.3	
	comp=N,66nm,18.7s,baz=246,slow=43						
BRTR	Keskin Array B	15.68	95	LR	LR	12 10 05.4	
	comp=N,30nm,18.1s,baz=330,slow=41						
TORD	Torodi Ar. Bea	31.27	202	P	P	12 05 39.2	+1.8
	comp=N,0.3nm,0.4s,baz=18,slow=9.8,SNR=2.4						
	comp=N,0.3nm,0.4s						
MKAR	Makanchi Array	47.70	60	P	P	12 07 56.2	+2.2
	comp=N,0.6nm,0.7s,baz=302,slow=8.3,SNR=3.9						
	comp=N,0.6nm,0.7s						

*REN **03** 12:11:09.8±2.5, 40°.68N±0°.05×116°.07W±0°.06, h15km±6km, ML2.8/11, ML2.8/52(NEIC), Error ellipse: s-maj=7.6km s-min=6.4km az=171.0*
*NEIC **03** 12:11:11.0±1.6, 40°.66N±0°.05×116°.14W±0°.01, h10km±6km, Error ellipse: s-maj=7.5km s-min=1.0km az=172.0*
*IDC **03** 12:11:10.9±1.1, 39°.73N×115°.23W, h0km, mbtmp2.7/4, ML3.2/3, Error ellipse: s-maj=22.1km s-min=8.5km az=154.0*
ISC 03 12:11:11.0±1.0**, 40°.66N**±0°.05×**116°.11W**±0°.03**, h10**km**, n36,** σ1s**06**/31**, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	Elko	0.67	82		Pg	12 11 22.4	-1.6
ELK	Elko	0.67	82	IAML		12 11 36.5	
	346nm,0.3s						
ELK				IAML		12 11 37.4	
	325nm,0.4s						
BMN	Battle Mountai	0.87	256		Pg	12 11 27.2	-0.6
BMN	Battle Mountai	0.87	256		Sb	12 11 41.3	+1.2
BMN	Battle Mountai	0.87	256	IAML		12 11 42.0	
	comp=E,790nm,0.3s						
BMN				IAML		12 11 42.2	
	comp=N,631nm,0.3s						
Q12A	Willow Creek R	1.89	148		Pn	12 11 42.5	-1.0
Q09A	Carvers	2.00	205	Pn	Pn	12 11 43.7	-1.3
SPR3	Spring Creek 3	2.15	140		Pn	12 11 47.4	+0.2
SPR3	Spring Creek 3	2.15	140	IAML		12 12 22.7	
	comp=E,76nm,0.5s						
SPR3				IAML		12 12 24.5	
	comp=N,89nm,0.6s						
KVN	Kaiserville	2.21	224		Pn	12 11 47.3	-0.7
R11A	Troy Canyon, C	2.34	170		Pn	12 11 49.1	-0.6
BGU	Big Grassy Mou	2.36	82		Pn	12 11 47.9	-2.0
BGU	Big Grassy Mou	2.36	82	IAML		12 12 28.2	
	comp=N,53nm,0.7s						
PLTX	Planet X, Gerl	2.55	272	Pn	Pn	12 11 52.6	+0.1
PLTX				IAML		12 12 41.6	
	comp=N,145nm,0.8s						
PLTX				IAML		12 12 51.0	
	comp=E,106nm,1.1s						
DUG	Dugway, Tooele	2.56	99		Pn	12 11 53.2	+0.5
DUG				IAML		12 12 36.7	
	comp=E,49nm,0.5s						
DUG				IAML		12 12 39.5	
	comp=E,54nm,0.6s						
WVOR	Wild Horse Val	2.60	314		Pn	12 11 52.2	-1.0
WVOR	Wild Horse Val	2.60	314	IAML		12 12 33.8	
	comp=E,35nm,0.8s						
WVOR				IAML		12 12 33.9	
	comp=E,32nm,0.6s						
PAHR	Pah Rah Range	2.68	250		Pn	12 11 53.6	-0.7
TPH	Tonopah	2.72	199	Pn	Pn	12 11 56.5	+1.6
NV11	Mina Array Sit	2.73	216		Pn	12 11 55.2	+0.2
PSUT	Pine Spring	2.75	140		Pn	12 11 56.0	+0.7
RYN	Ryan	2.75	223		Pn	12 11 56.6	+1.3
RYN				IAML		12 12 40.9	
	comp=N,40nm,0.4s						
RYN				IAML		12 12 42.5	
	comp=E,41nm,0.3s						
NVAR	Mina Array Bea	2.79	218	Pn	Pn	12 11 55.9	-0.1
	comp=E,2.6nm,0.3s,baz=33,slow=13,SNR=37						
NVAR				Sn	Sn	12 12 29.1	-0.7
	comp=E,4.1nm,0.3s,baz=30,slow=29,SNR=7.0						
NVAR				Lg	Lg	12 12 37.8	
	comp=E,4.9nm,0.3s,baz=28,slow=38,SNR=1.7						
	comp=E,2.2nm,0.5s						
NVAR	Mina Array Bea	2.79	218		Pn	12 11 55.6	-0.3
SPUT	South Promonto	2.85	76	Pn	Pn	12 11 57.9	+1.2
SPUT				IAML		12 12 44.5	
	comp=N,32nm,0.6s						
SPUT				IAML		12 12 47.1	
	comp=E,32nm,0.9s						
YERR	Yerington	2.93	236		Pn	12 11 57.1	-0.7
YERR				IAML		12 12 47.0	
	comp=N,32nm,1.0s						
YERR				IAML		12 12 48.0	
	comp=E,52nm,0.8s						
S11A	Rachel	3.02	174	Pn	Pn	12 12 00.7	+1.7
LHV	Little Huntoon	3.03	218		Pn	12 12 00.6	+1.6
LHV				IAML		12 12 50.8	
	comp=N,33nm,0.5s						
LHV				IAML		12 12 50.9	
	comp=E,35nm,0.5s						
VCNR	Virginia City	3.04	245		Pn	12 11 59.3	0.0
VCNR				IAML		12 12 51.3	
	comp=N,31nm,0.5s						
VCNR				IAML		12 12 51.4	
	comp=E,25nm,0.5s						
PNTR	Pine Nut	3.11	241		Pn	12 12 00.4	+0.1
PNTR				IAML		12 12 55.7	
	comp=N,40nm,1.0s						
PNTR				IAML		12 12 56.7	
	comp=E,30nm,0.8s						
HLID	Hailey	3.17	23		Pn	12 12 01.6	+0.5
HLID				IAML		12 12 49.9	
	comp=E,19nm,0.5s						
HLID				IAML		12 12 51.6	
	comp=E,21nm,0.4s						
BEKR	Beckworth	3.34	258		Pn	12 12 03.0	-0.4
TPNV	Topopah Spring	3.70	182	Pn	Pn	12 12 08.3	-0.1
TPNV				IAML		12 13 15.0	
	comp=E,19nm,0.5s						
TPNV				IAML		12 13 17.5	
	comp=E,22nm,0.6s						
YBH	Yreka Blue Hor	5.09	284	Pn	Pb	12 12 41.0	+0.8
	comp=E,0.7nm,0.5s,baz=106,slow=19,SNR=1.0						
PDAR	Pinedale Array	5.34	65	Pn	Pn	12 12 33.1	+2.2
	comp=E,0.1nm,0.3s,baz=245,slow=15,SNR=2.6						
PDAR				Lg	Lg	12 13 57.0	
	comp=E,0.1nm,0.3s,baz=240,slow=31,SNR=0.9						
	comp=E,0.4nm,0.6s						
TXAR	Lajitas Array	15.20	134	Pn	Pn	12 14 33.9	-12
	comp=E,0.1nm,0.3s,baz=315,slow=14,SNR=4.3						
	comp=E,0.1nm,0.3s						

MAN 03 12:35:17.9, 8°.33N×126°.60E, h5km, mb4.2, ML3.0, MS2.6, Mindanao

HEL 03 12:40:00.6±0.1**, 64°.05N×28°.16E, h0km, ML1.6, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	Romuvaara	0.80	77	PB	Pg	12 40 15.9	+0.1
RMF				SB	Sg	12 40 26.8	+0.6
OUL	Oulu	1.43	318	PN	Pn	12 40 27.4	-0.3
	baz=136						
OBF4	Vikkela, Lumij	1.53	301	PN	Pn	12 40 28.7	-0.5
OUF	Merijarvi	1.53	284	PG	Pn	12 40 28.1	-1.0
OUF				MSG		12 40 46.5	
	comp=Z,5.7nm,0.2s						
OUF				SN	Sn	12 40 48.4	-1.3
OBF0	Syolatti, Pyha	1.77	287	PG	Pn	12 40 32.3	-0.1
OBF0				SN	Sn	12 40 55.9	+0.3
JOF	Joensuu	1.81	127	PG	Pn	12 40 32.5	-0.6
	baz=308						
JOF				SG	Sn	12 40 56.0	-0.7
OBF8	Ulkokalla	2.08	280	PG	Pn	12 40 37.7	+1.0
KAF	Kangasniemi	2.12	204	PN	Pn	12 40 37.0	-0.2
KAF				MSG		12 41 03.3	
	comp=Z,2.8nm,0.2s						
KAF				SN	Sn	12 41 05.2	+1.0
KEF	Keuruu	2.41	220	PN	Pn	12 40 41.5	+0.3
KEF				MSG		12 41 11.9	
	comp=Z,1.9nm,0.2s						
KEF				SN	Sn	12 41 12.8	+1.5
TOF	Tornio	2.61	323	PG	Pn	12 40 45.5	+1.6
	baz=140						
TOF				MSG		12 41 17.3	
	comp=Z,1.1nm,0.2s						
VAF	Ylistaro	2.66	250	PB	Pn	12 40 46.1	+1.6
VAF				MSG		12 41 18.9	
	comp=Z,2.2nm,0.2s						
VAF				SB	Sb	12 41 19.7	-2.3
FIA0	FINESS Array S	2.78	201	PN	Pn	12 40 47.0	+0.7
BURU	Burvik	3.00	283	PN	Pn	12 40 49.6	+0.2
UMAU	Umeaa	3.30	270	PN	Pn	12 40 52.9	-0.6
KLF	Kolari	3.64	333	PB	Pn	12 40 60.0	+1.9
	baz=146						

*VAO **03** 12:44:02.5±0.4, 19°.23S×69°.17W, h113km, mb5.1*
*NEIC **03** 12:44:02.7±2.6, 19°.36S±0°.04×69°.29W±0°.06, h113km±4km, mb5.1/132, Mww4.9, Mwr5.0(GUC), Error ellipse: s-maj=8.1km s-min=5.8km az=121.0*
*IDC **03** 12:44:03.1±0.5, 19°.24S×69°.09W, h114km±3km, mb4.4/24, mbtmp4.8/28, MS3.6/19, Error ellipse: s-maj=11.9km s-min=10.2km az=46.0*
*GUC **03** 12:44:03.0±0.8, 19°.34S×69°.35W, h110km±2km, ML5.0*
*NEIC **03** 12:44:06, 19°.45S×69°.40W, h110km, Moment Tensor Solution. Duration: 9s8 Moment tensor: Scale 10^16Nm; Mrr-0.96; Mθθ0.24; Mφφ0.71; Mrθ0.52; Mθφ1.37; Mφr-2.76; Fault plane solution: M0 3.24000×10^16 NP1: φs252.00000°, δ28.00000°, λ-19.00000°. NP2: φs359.00000°, δ81.00000°, λ-116.00000°. Principal axes: T 3.0114, Plg31.0000°, Azm111.0000°; N 0.4187, Plg26.0000°, Azm3.0000°; P -3.4301, Plg47.0000°, Azm241.0000°;*
*GCMT **03** 12:44:07.7±0.3, 19°.23S±0°.02×69°.49W±0°.02, h129km±3km, MW4.9/90, Moment Tensor Solution. s30,c30; s90,c108; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.37±.12; Mθθ0.27±.16; Mφφ1.10±.23; Mrθ0.25±.06; Mθφ-0.30±.19; Mφr-2.92±.11; Best double couple: M0 3.19700×10^16 NP1: φs354.00000°, δ78.00000°, λ-86.00000°. NP2: φs156.00000°, δ12.00000°, λ-108.00000°. Principal axes: T 3.0880, Plg33.0000°, Azm81.0000°; N 0.2190, Plg4.0000°, Azm173.0000°; P -3.3060, Plg56.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 12:44:02.0±0.3**, 19°.31S**±0°.03×**69°.24W**±0°.04**, h110**km±2km**, h110**km**:pP-P, n500,** σ1s**06**/474**, mb5.0**/89**, 12C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.36	174	Pn	Pn	12 44 19.6	+0.9
GO01	Chusmiza	0.36	174	⇓iP	Pn	12 44 19.3	+0.6
GO01				i S	Sn	12 44 32.2	+1.1
GO01				IAML		12 44 33.0	
	comp=N,124µm,0.4s						
PB11	IPOC Station P	0.60	221		Pn	12 44 19.8	0.0
PB11	IPOC Station P	0.60	221	⇑iP	Pn	12 44 19.7	0.0
PB11				i S	Sn	12 44 32.6	-0.5
PB11				IAML		12 44 33.8	
	comp=E,71µm,0.1s						
PB08	IPOC Station P	0.83	175	Pn	Pn	12 44 23.0	+1.0
PB08	IPOC Station P	0.83	175	⇓iP	Pn	12 44 22.9	+0.9
PB08				i S	Sn	12 44 38.2	+1.2
PB08				IAML		12 44 39.3	
	comp=E,71µm,0.2s						
PB16	IPOC Station P	1.00	345	Pn	Pn	12 44 25.2	+1.3
PB16	IPOC Station P	1.00	345	⇓iP	Pn	12 44 25.2	+1.3
PB16				i S	Sn	12 44 41.7	+1.3
PB16				IAML		12 44 43.1	
	comp=E,42µm,0.4s						
HMBC	Humberstone	1.14	212	⇑iP	Pn	12 44 24.5	-0.4
HMBC				eS	Sn	12 44 41.0	-1.1
HMBC				IAML		12 44 45.6	
	comp=N,40µm,0.3s						
PB12	IPOC Station P	1.24	304	Pn	Pn	12 44 25.7	-0.3
PB12	IPOC Station P	1.24	304	⇑iP	Pn	12 44 25.5	-0.5
PB12				i S	Sn	12 44 42.8	-1.3
PB12				IAML		12 44 44.0	
	comp=E,36µm,0.5s						
TA02	Huaiquique	1.27	221		Pn	12 44 25.9	-0.3
TA02	Huaiquique	1.27	221	⇑iP	Pn	12 44 25.6	-0.6
TA02				i S	Sn	12 44 43.0	-1.5
TA02				IAML		12 44 44.8	
	comp=N,90µm,0.2s						
AP01	Chacalluta	1.40	312	Pn	Pn	12 44 27.8	+0.1
AP01	Chacalluta	1.40	312	⇑iP	Pn	12 44 27.8	+0.1
AP01				i S	Sn	12 44 46.5	-0.6
AP01				IAML		12 44 48.1	
	comp=N,62µm,0.6s						
TA01	Diego Aracena	1.53	215		Pn	12 44 28.5	-0.7
TA01	Diego Aracena	1.53	215	⇑iP	Pn	12 44 28.2	-1.0
TA01				i S	Sn	12 44 47.8	-2.1
TA01				IAML		12 44 49.4	
	comp=E,8µm,0.3s						
PATCX	Punta Patache	1.73	210		Pn	12 44 31.3	-0.5
PATCX	Punta Patache	1.73	210	⇑iP	Pn	12 44 30.9	-0.8
PATCX				i S	Sn	12 44 52.2	-2.2
PATCX				IAML		12 45 00.6	
	comp=N,7µm,0.4s						
PB01	IPOC Station P	1.74	188		Pn	12 44 32.2	+0.4
PB01	IPOC Station P	1.74	188	⇑iP	Pn	12 44 32.0	+0.1
PB01				i S	Sn	12 44 54.2	-0.3
PB01				IAML		12 44 56.4	
	comp=N,14µm,0.2s						
PB02	IPOC Station P	2.09	197		Pn	12 44 36.4	+0.1
PB02	IPOC Station P	2.09	197	⇑iP	Pn	12 44 36.0	-0.3
PB02				i S	Sn	12 45 01.1	-1.4
PB02				IAML		12 45 09.7	
	comp=E,11µm,0.4s						
PB09	IPOC Station P	2.47	180		Pn	12 44 42.3	+1.0
PB09	IPOC Station P	2.47	180	⇑iP	Pn	12 44 41.9	+0.6
PB07	IPOC Station P	2.48	194	Pn	Pn	12 44 41.2	-0.2
PB07	IPOC Station P	2.48	194	⇑iP	Pn	12 44 41.0	-0.4
PB03	IPOC Station P	2.77	190		Pn	12 44 45.0	-0.1
PB03	IPOC Station P	2.77	190	⇑iP	Pn	12 44 44.6	-0.5
PB03				IAML		12 45 29.8	
	comp=N,2µm,0.3s						
PB04	IPOC Station P	3.13	196	Pn	Pn	12 44 49.6	-0.3
PB04	IPOC Station P	3.13	196	i P	Pn	12 44 49.2	-0.6
PB04				IAML		12 45 49.0	
	comp=E,3µm,0.6s						
LPAZ	La Paz	3.19	19	P	Pn	12 44 54.0	+2.9
	comp=E,104nm,0.4s,baz=207,slow=6.6,SNR=407						
LPAZ				S	Sn	12 45 26.4	-2.4
	comp=E,168nm,0.7s,baz=220,slow=16,SNR=4.3						
LPAZ	La Paz	3.19	19	Pn	Pn	12 44 54.3	+3.1
LVC	Limon Verde	3.30	175	P	Pn	12 44 54.6	+2.3
	comp=E,420nm,0.5s,baz=27,slow=9.3,SNR=250						
LVC				S	Sn	12 45 31.1	0.0
	comp=E,925nm,0.3s,baz=328,slow=24,SNR=7.5						
LVC	Limon Verde	3.30	175	Pn	Pn	12 44 53.6	+1.3
LVC	Limon Verde	3.30	175	i P	Pn	12 44 53.1	+0.7
LVC	Limon Verde	3.30	175	eP	Pn	12 44 53.8	+1.5
PB06	IPOC Station P	3.39	185		Pn	12 44 53.4	0.0
PB06	IPOC Station P	3.39	185	i P	Pn	12 44 52.9	-0.6
AF01	San Pedro de A	3.75	165	eP	Pn	12 44 59.8	+1.4
PB15	IPOC Station P	3.88	183	Pn	Pn	12 45 00.1	+0.1
PB15	IPOC Station P	3.88	183	⇓iP	Pn	12 45 00.2	+0.1
PB10	IPOC Station P	4.36	196	Pn	Pn	12 45 04.8	-1.4
PB10	IPOC Station P	4.36	196	i P	Pn	12 45 04.7	-1.5
PB14	IPOC Station P	5.40	191	Pn	Pn	12 45 18.2	-2.4
GO02	Mina Guanaco	5.83	183	Pn	Pn	12 45 25.5	-0.9
AC02	Maricunga	7.49	179	Pn	Pn	12 45 47.7	-1.4
AC06	Mina Casimiro	8.07	187		Pn	12 45 52.9	-3.7
SIV	San Ignacio	8.46	68	P	Pn	12 46 00.8	-1.0
	comp=E,96nm,0.5s,baz=254,slow=10,SNR=485						
SIV				S	Sn	12 47 31.6	-4.0
	comp=E,28nm,0.9s,baz=334,slow=21,SNR=1.4						
BBSD	Serra de San D	8.46	77	eP	Pn	12 46 00.5	-1.4
ETMB	Extrema	9.88	18	Pn	Pn	12 46 20.4	-0.7
ETMB	Extrema	9.88	18	eP	Pn	12 46 19.8	-1.3
NNA	Nana	10.32	314	P	Pn	12 46 26.1	-1.1
	comp=E,11nm,0.4s,baz=193,slow=5.4,SNR=5.7						
NNA				S	Sn	12 48 23.2	+2.2
	comp=E,20nm,0.4s,baz=235,slow=20,SNR=3.6						
PTLB	Pontes e Lacer	10.38	70	Pn	Pn	12 46 25.8	-2.0
PTLB	Pontes e Lacer	10.38	70	eP	Pn	12 46 26.0	-1.8
VILB	Vilhena	10.74	55		Pn	12 46 31.1	-1.7
VILB	Vilhena	10.74	55	eP	Pn	12 46 31.1	-1.7
MURT	Porto Murtinho	11.14	104	eP	Pn	12 46 36.3	-1.9
PANT	Pantanal (Braz	11.93	91	eP	Pn	12 46 47.0	-1.6
CZSB	Cruzeiro do Su	11.99	343		Pn	12 46 47.6	-1.9
CZSB	Cruzeiro do Su	11.99	343	eP	Pn	12 46 47.9	-1.6
ANTJ	Antonio Joao (	12.67	104	eP	Pn	12 46 58.2	-0.2
AQDB	Aquidauana	12.79	97	Pn	Pn	12 46 58.9	-1.0
AQDB	Aquidauana	12.79	97	eP	Pn	12 46 59.1	-0.8
CPUP	Villa Florida	13.01	125	P	Pn	12 47 01.9	-0.8
	comp=E,35nm,0.9s,baz=306,slow=11,SNR=30						
CPUP	Villa Florida	13.01	125		Pn	12 47 00.8	-1.9
CPUP	Villa Florida	13.01	125	eP	Pn	12 47 01.7	-1.0
MT02	Curacav	13.99	187		Pn	12 47 15.1	-0.4
MT03	Universidad Ad	14.17	184	P	P	12 47 20.1	-1.8
VA05	Santo Domingo	14.45	188	P	P	12 47 24.4	-0.5
MT09	Talagante	14.49	186	P	P	12 47 25.4	-0.1
LMEL	Las Melosas	14.50	183	P	P	12 47 24.8	-0.9
RPRD	Ribas do Rio P	14.66	97	eP	Pn	12 47 25.0	+0.9
AZCA	Azaras, Argent	14.94	128	eP	Pn	12 47 28.0	+0.4
MCR1	Marechal Candi	15.01	113	eP	Pn	12 47 28.2	-0.3
ATAH	Atahualpa	15.02	322	P	Pn	12 47 30.4	+1.3
	comp=E,13nm,0.9s,baz=163,slow=11,SNR=7.1						
ATAH				LR	LR	12 54 30.6	
	comp=E,167nm,20.9s,baz=164,slow=42						
BO01	Tunca	15.11	186	P	Pn	12 47 29.3	-0.3
ITQB	Itaqui	15.42	134	P	Pn	12 47 34.4	+0.8
ITQB	Itaqui	15.42	134	eP	P	12 47 35.4	-0.3
CLDB	Colider	15.44	59	eP	Pn	12 47 33.3	-0.8
C2SB	Chapadao do Su	15.52	91	eP	Pn	12 47 35.6	+0.7
TRCB	Terra Rica	15.88	105	P	Pn	12 47 38.5	-0.9
CRSM	Crissiumal (Br	16.14	123	eP	Pn	12 47 42.5	-0.1
UNIS	Unistalda (Bra	16.15	130	eP	P	12 47 43.6	-0.3
FRBT	Francisco Belt	16.33	117	eP	Pn	12 47 44.0	-1.0
H03N1	Juan Fernandez	16.51	210	P	P	12 47 49.1	+1.6
	baz=110,slow=14,SNR=13						
H03N1				T	T	13 04 27.1	
	baz=32,slow=72,SNR=34						
H03N2	Juan Fernandez	16.52	210	P	P	12 47 48.7	+1.1
	baz=110,slow=14,SNR=12						
H03N2				T	T	13 04 17.6	
	baz=32,slow=72,SNR=45						
H03N3	Juan Fernandez	16.53	210	P	P	12 47 49.0	+1.3
	baz=110,slow=14,SNR=14						
H03N3				T	T	13 04 18.0	
	baz=32,slow=72,SNR=54						
PTGB	Pitanga	16.80	112	eP	Pn	12 47 50.7	-0.1
RODS	Rosario do Sul	16.81	134	eP	Pn	12 47 50.7	-0.1
PCMB	Pacaembu	17.00	101	eP	P	12 47 53.7	+0.4
ARAG	Araguaiana, MT	17.00	81	eP	Pn	12 47 53.1	-0.1
ALGR	Alto Alegre (B	17.54	126	eP	P	12 47 59.0	-0.3
ITRB	Iturama	17.80	94	eP	Pn	12 48 02.9	-0.1
CPSB	Cacapava Do Su	18.07	131	eP	P	12 48 05.3	+0.3
MACA	Manacapuru-AM	18.10	29	P	P	12 48 04.2	-1.2
MACA	Manacapuru-AM	18.10	29	eP	P	12 48 04.3	-1.1
MCRA	Macar, Loja	18.16	323	P	Pn	12 48 07.0	-0.3
NPGB	Novo Progresso	18.18	50	eP	P	12 48 05.3	-1.0
BOSC	San Juan Bosco	18.43	329	P	P	12 48 09.1	-0.2

SNDB Serra Nova Dou 18.75 70 eP P 12 48 12.0 -0.5
PLTB Pedras Altas 18.75 134 P P 12 48 11.5 -0.9
PLTB Pedras Altas 18.75 134 eP P 12 48 11.4 -1.1
FRTB Fartura 18.76 106 eP P 12 48 12.4 -0.2
SGCB SÃo Gabriel d 19.19 7 eP P 12 48 16.3 -1.1
CNLB Canela 19.47 124 eP P 12 48 19.9 -0.4
BB19B Bebedouro 19.52 99 eP P 12 48 20.3 -0.6
TIJ01 Guaruva-PR 19.64 111 eP P 12 48 22.2 -0.1
TRQA Tornquist 19.72 163 P P 12 48 22.7 -0.2
ITTB Itaituba 19.86 43 eP P 12 48 23.8 -0.7
IPMB Ipameri, GO 19.97 90 eP P 12 48 25.0 -0.8
CHSH Refugio Sur-Vo 20.06 331 P Pn 12 48 28.9 -1.2
GO06 Curarrehue 20.30 185 P P 12 48 27.2 -2.0
RCLB Rio Claro- Sao 20.52 102 eP P 12 48 31.5 -0.2
TER01 Tubarao-SC 20.52 120 eP P 12 48 31.5 -0.1
BDFB Brasilia 20.57 83 P P 12 48 31.2 -1.1
comp=E,52nm,0.5s,baz=266,slow=13,SNR=31
BDFB LR LR 12 58 32.9
comp=E,172nm,18.8s,baz=311,slow=43
comp=E,52nm,0.5s
PET01 Itanhaem-SP 20.98 108 eP P 12 48 36.9 +0.3
VAO Valinhos 21.09 104 eP P 12 48 37.2 -0.6
PLCA Paso Flores 21.38 183 P P 12 48 41.4 +0.6
comp=E,20nm,0.9s,baz=359,slow=11,SNR=18
comp=E,20nm,0.9s
PLCA Paso Flores 21.38 183 P P 12 48 38.9 -1.9
PLCA Paso Flores 21.38 183 eP P 12 48 41.6 +0.8
PMNB Patos De Minas 21.58 92 eP P 12 48 42.6 -0.5
TULM Tulcn-Chalpat 21.60 336 P P 12 48 45.0 +1.3
PARB Paraibuna 22.35 104 eP P 12 48 50.2 -0.9
MALB Monte Alegre 22.71 42 eP P 12 48 52.8 -2.0
PRPB Parauapebas 22.97 58 eP P 12 48 55.9 -1.4
BOAV Boa Vista 23.21 23 P P 12 48 58.7 -0.9
BOAV Boa Vista 23.21 23 eP P 12 48 59.2 -0.3
SMTB Santa Maria do 23.40 67 eP P 12 49 00.9 -0.4
MAN01 Angra dos Reis 23.83 103 eP P 12 49 04.8 -0.5
JANB Januaria 24.18 84 eP P 12 49 06.5 -1.9
MC01 Montes Claros 24.19 88 eP P 12 49 08.2 -0.3
VAS01 Vassouras-RJ 24.29 101 eP P 12 49 09.6 +0.3
SDBA SAO DESIDERIO 24.38 77 eP P 12 49 09.8 -0.3
ROSC El Rosal 24.52 348 P P 12 49 13.1 +1.3
comp=E,9.8nm,0.6s,baz=225,slow=17,SNR=2.0
ROSC LR LR 12 58 47.8
comp=E,83nm,18.4s,baz=238,slow=36
comp=E,9.8nm,0.6s
MCPB Macapa, AP 25.27 44 eP P 12 49 17.8 -0.5
DUB01 Friburgo-RJ 25.27 101 eP P 12 49 18.7 +0.4
RUSC La Rusia 25.33 351 P P 12 49 19.3 0.0
RUSC IAmb IAmb 12 49 21.3
comp=Z,39nm,0.9s
SJMB Sao Joao De Ma 26.52 93 eP P 12 49 29.6 +0.1
TMAB Tom-Au,PA,Br 26.67 53 eP P 12 49 34.6 +3.8
ALF01 Guarapari-ES 26.82 98 eP P 12 49 33.1 +0.9
RIB01 Linhares ES 27.21 95 eP P 12 49 35.5 -0.2
SDV Santo Domingo 28.05 357 P P 12 49 43.4 0.0
comp=Z,4.6nm,0.3s,baz=94,slow=14,SNR=3.3
comp=Z,4.6nm,0.3s
BAUV El Baul 28.10 3 P P 12 49 42.8 -0.8
BAUV IAmb IAmb 12 49 43.8
comp=Z,31nm,0.6s
GUA01 Guaratinga, BA 28.11 89 eP P 12 49 44.1 +0.3
CMC01 Camacan, BA 28.62 87 eP P 12 49 48.1 -0.2
GDU01 Guandu, BA 28.95 83 eP P 12 49 50.8 -0.5
MDP Montagnes des 29.25 36 P P 12 49 53.2 -0.6
comp=Z,7.2nm,0.8s,baz=212,slow=8.2,SNR=5.9
MDP LR LR 13 02 40.2
comp=Z,177nm,20.5s,baz=280,slow=38
comp=Z,7.2nm,0.8s
ROSB Rosrio 29.47 59 eP P 12 49 55.7 -0.2
PCRV Puerto La Cruz 29.65 9 P P 12 49 57.1 -0.2
comp=Z,8.2nm,0.4s,baz=242,slow=2.4,SNR=8.5
comp=Z,8.2nm,0.4s
FDF Fort de France 34.75 14 P P 12 50 38.9 -3.1
RCBR Riachuelo 35.10 72 P P 12 50 44.7 -0.4
comp=Z,57nm,0.8s,baz=267,slow=18,SNR=26
RCBR LR LR 13 06 42.1
comp=Z,216nm,19.1s,baz=5.0,slow=39
comp=Z,57nm,0.8s
RCBR Riachuelo 35.10 72 P P 12 50 44.5 -0.6
RCBR Riachuelo 35.10 72 eP P 12 50 44.2 -0.9
CRIN San Cristobal 36.33 330 PcP 12 53 19.0 +0.9
RPN Rapa Nui 37.54 250 LR LR 13 03 07.0
comp=Z,214nm,21.5s,baz=358,slow=30
MTO3 Montecristo 38.92 328 IAmb IAmb 12 51 20.0
comp=Z,24nm,1.1s
CCIG Comitan 41.93 326 IAmb IAmb 12 52 49.0
comp=Z,18nm,0.6s
PMSA Palmer Station 45.57 177 LR LR 13 10 02.2
comp=Z,33nm,19.8s,baz=281,slow=34
TLIG Tlapa 46.62 320 P P 12 52 19.6 0.0
TLIG IAmb IAmb 12 52 22.5
comp=Z,19nm,0.9s
TIGA Tifton 52.31 344 P P 12 53 02.2 -0.2
baz=163
ZAIG Zacatecas 53.00 321 IAmb IAmb 12 53 10.8
comp=Z,19nm,0.9s
NHSC New Hope 53.16 349 P P 12 53 08.1 -0.5
baz=167
HAW Hawthorne Fire 53.69 347 P P 12 53 12.8 +0.3
baz=166,SNR=6.3
152A Waverly Hall 53.77 344 IAmb IAmb 12 53 13.7
comp=Z,33nm,1.2s
152A Waverly Hall 53.77 344 P P 12 53 13.0 -0.1
baz=162
GOGA Godfrey 54.16 345 P P 12 53 15.0 -0.9
baz=164
JSC Jenkinsville 54.51 348 IAmb IAmb 12 53 19.6
comp=Z,15nm,1.0s
JSC Jenkinsville 54.51 348 P P 12 53 18.2 -0.2
baz=166
HODGE Hodges 54.67 347 P P 12 53 19.9 +0.3
baz=165
BIRD Birdtown, Kers 54.71 349 IAmb IAmb 12 53 21.1
comp=Z,31nm,0.8s
BIRD Birdtown, Kers 54.71 349 P P 12 53 20.4 +0.5
baz=167,SNR=8.0
LRAL Lakeview Retre 54.75 342 P P 12 53 19.9 -0.3
baz=160
LRAL Lakeview Retre 54.75 342 P P 12 53 19.7 -0.5
baz=160
W57A Gilead 55.12 349 P P 12 53 22.8 0.0
baz=168
W57A P P 12 53 22.8 0.0
baz=168
PAULI Pauline 55.15 347 IAmb IAmb 12 53 24.3
comp=Z,16nm,0.9s
PAULI Pauline 55.15 347 P P 12 53 23.1 +0.1
baz=166
HKT Hockley 55.27 332 P P 12 53 23.7 -0.2
HKT IAmb IAmb 12 53 26.1
comp=Z,24nm,1.2s
HKT Hockley 55.27 332 P P 12 53 25.2 +1.2
baz=149
KMSC Kings Mountain 55.36 348 pP pP 12 53 53.2 +0.9
KMSC IAmb IAmb 12 53 53.9
comp=Z,20nm,0.9s
KMSC Kings Mountain 55.36 348 P P 12 53 25.1 +0.6
baz=166,SNR=5.6
KMSC Kings Mountain 55.36 348 P P 12 53 25.2 +0.6
baz=166,SNR=5.6
X51A Calhoun 55.60 344 IAmb IAmb 12 53 27.1
comp=Z,29nm,1.2s
833A Chaparral WMA, 55.61 328 IAmb IAmb 12 53 28.2
comp=Z,39nm,0.9s
833A Chaparral WMA, 55.61 328 P P 12 53 27.0 +0.4
baz=145,SNR=10
833A Chaparral WMA, 55.61 328 P P 12 53 26.5 0.0
baz=145
V55A Taylorsville 56.02 348 IAmb IAmb 12 53 30.8
comp=Z,27nm,0.9s
V55A Taylorsville 56.02 348 P P 12 53 29.8 +0.5
baz=166,SNR=9.6
V55A P P 12 53 29.8 +0.5
baz=166,SNR=9.6
X48A Hartselle 56.09 342 pP pP 12 53 57.8 +0.4
X48A IAmb IAmb 12 54 11.2
comp=Z,22nm,1.1s
X48A Hartselle 56.09 342 P P 12 53 29.5 -0.3
baz=160
V53A Saluda 56.17 347 P P 12 53 30.2 -0.3
baz=165
V53A P P 12 53 30.2 -0.3
baz=165
W50A Signal Mountai 56.32 344 IAmb IAmb 12 53 32.1
comp=Z,20nm,1.1s
W50A Signal Mountai 56.32 344 P P 12 53 31.0 -0.5
baz=162,SNR=6.0
NATX Nacogdoches 56.33 334 P P 12 53 33.0 +1.4
baz=151
NATX Nacogdoches 56.33 334 P P 12 53 32.0 +0.4
baz=151
U56A King 56.35 349 IAmb IAmb 12 53 33.4
comp=Z,25nm,1.1s
TKL Tuckaleechee C 56.38 346 LR LR 13 20 37.0
comp=Z,32nm,18.5s,baz=162,slow=39
TKL Tuckaleechee C 56.38 346 IAmb IAmb 12 53 32.3
comp=Z,13nm,0.9s
TKL Tuckaleechee C 56.38 346 P P 12 53 31.6 -0.3
baz=164
SWET Sewanee 56.50 344 IAmb IAmb 12 54 13.5
comp=Z,14nm,0.8s
V52A Sevierville 56.51 346 P P 12 53 32.0 -0.8
baz=164,SNR=6.3
T59A Double "B" Far 56.53 352 IAmb IAmb 12 53 33.6
comp=Z,12nm,0.8s
T59A Double "B" Far 56.53 352 P P 12 53 32.7 -0.1
baz=171
T59A P P 12 53 32.7 -0.1
baz=171
V51A Loudon 56.65 345 P P 12 53 33.7 -0.1
baz=163
U54A Nelsons Funny 56.79 348 P P 12 53 35.1 +0.2
baz=166,SNR=6.4
U54A P P 12 53 35.1 +0.2
baz=166,SNR=6.4
OXF Oxford 56.86 340 P P 12 53 34.2 -1.0
baz=157
PLAL Pickwick Lake 56.88 342 P P 12 53 33.9 -1.5
PLAL IAmb IAmb 12 53 35.4
comp=Z,14nm,1.0s
237A Washetta, Mont 57.02 333 P P 12 53 38.0 +1.5
baz=150,SNR=5.2
TZTN Tazewell 57.18 346 P P 12 53 37.3 -0.2
baz=164
V48A Smith Brothers 57.23 343 IAmb IAmb 12 53 38.4
comp=Z,57nm,1.5s
V48A Smith Brothers 57.23 343 P P 12 53 37.5 -0.4
baz=160,SNR=5.9
CLTN Cedars of Leba 57.43 344 pP pP 12 54 07.4 +0.2
CLTN IAmb IAmb 12 54 20.7
comp=Z,16nm,1.0s
JCT Junction City 57.58 329 IAmb IAmb 12 53 41.7
comp=Z,16nm,0.9s
JCT Junction City 57.58 329 P P 12 53 40.8 +0.3
baz=146
JCT Junction City 57.58 329 P P 12 53 39.7 -0.8
baz=146
U49A Red Boiling Sp 57.68 344 P P 12 53 40.7 -0.4
baz=162
WHTX Lake Whitney, 57.74 332 IAmb IAmb 12 53 42.9
comp=Z,23nm,0.8s
WHTX Lake Whitney, 57.74 332 P P 12 53 41.2 -0.3
baz=148,SNR=5.6
WHTX Lake Whitney, 57.74 332 P P 12 53 42.0 +0.6
baz=148
WVT Waverly 57.88 342 P P 12 53 40.0 -2.4
WVT IAmb IAmb 12 53 42.3
comp=Z,15nm,0.8s
WVT pP pP 12 54 09.4 -1.0
WVT Waverly 57.88 342 P P 12 53 41.2 -1.1
baz=159,SNR=9.6
WVT Waverly 57.88 342 P P 12 53 41.3 -1.1
baz=159
WVT Waverly 57.88 342 P P 12 53 40.5 -1.9
WVT pP pP 12 54 07.7 -2.6
T50A Nancy 57.93 345 P P 12 53 42.2 -0.6
baz=163
T50A P P 12 53 42.2 -0.6
baz=163
S54A Dingess, Beckl 57.93 349 IAmb IAmb 12 54 12.9
comp=Z,34nm,1.2s
S54A Dingess, Beckl 57.93 349 P P 12 53 43.3 +0.5
baz=167
S54A P P 12 53 43.3 +0.5
baz=167
HPIG 57.98 321 IAmb IAmb 12 53 45.4
comp=Z,26nm,1.3s
S51A Beattyville 58.24 347 P P 12 53 44.2 -0.7
baz=164
S51A P P 12 53 44.2 -0.7
baz=164
SLBS Sierra La Lagu 58.33 315 P P 12 53 43.1 -2.8
SLBS IAmb IAmb 12 53 48.7
comp=Z,53nm,1.4s
MIAR Mount Ida 58.35 336 P P 12 53 45.8 +0.1
baz=153
MIAR Mount Ida 58.35 336 P P 12 53 45.1 -0.6
baz=153
T47A Sharon Grove 58.48 343 P P 12 53 46.2 -0.4
baz=160,SNR=5.6
R53A Hurricane 58.57 348 P P 12 53 47.2 0.0
baz=166
R53A P P 12 53 47.2 0.0
baz=166
TXAR Lajitas Array 58.67 325 P P 12 53 48.5 +0.3
comp=Z,3.3nm,0.8s,baz=144,slow=8.2,SNR=26
TXAR pP pP 12 54 15.6 -0.3
comp=Z,1.4nm,0.8s,baz=153,slow=8.4,SNR=4.0
comp=Z,3.3nm,0.8s
TX31 Lajitas Ar. Si 58.67 325 IAmb IAmb 12 53 49.0
comp=Z,16nm,0.9s
TX31 Lajitas Ar. Si 58.67 325 P P 12 53 47.9 -0.2
baz=142,SNR=6.5
Z35A Perchaven, San 58.79 333 P P 12 53 49.8 +1.0
baz=149
LCAR Lake Charles 58.86 339 P P 12 53 46.6 -2.6
LCAR IAmb IAmb 12 53 49.5
comp=Z,9.9nm,0.9s
LCAR Lake Charles 58.86 339 P P 12 53 48.8 -0.4
baz=156
Q54A Coxs Mills 59.00 349 P P 12 53 49.8 -0.3
baz=167
Q54A P P 12 53 49.8 -0.3
baz=167
R50A Paris 59.02 346 P P 12 53 49.9 -0.4
baz=164
R50A P P 12 53 49.9 -0.4
baz=164
X37A Clayton 59.09 335 P P 12 53 51.4 +0.6
baz=151,SNR=8.0
Q52A Bidwell 59.24 348 P P 12 53 51.9 +0.1
baz=166
Q52A P P 12 53 51.9 +0.1
baz=166
ABTX Abilene, Hawle 59.27 330 P P 12 53 52.0 -0.1
ABTX IAmb IAmb 12 53 53.5
comp=Z,30nm,1.0s
ABTX pP pP 12 54 19.5 -0.4
ABTX Abilene, Hawle 59.27 330 P P 12 53 52.3 +0.1
baz=146
ABTX Abilene, Hawle 59.27 330 P P 12 53 51.8 -0.3
baz=146
LOOK Love County 59.32 333 IAmb IAmb 12 53 54.0
comp=Z,49nm,1.2s
LOOK pP pP 12 54 21.6 +1.1
MCWV Mont Chateau 59.49 351 P P 12 53 54.4 +0.9
baz=168
MCWV Mont Chateau 59.49 351 P P 12 53 54.8 +1.3
baz=168
CGM3 Cape Girardeau 59.51 341 IAmb IAmb 12 53 54.2
comp=Z,38nm,1.2s
P53A Whipple 59.58 349 pP pP 12 54 22.8 +0.6
P53A Whipple 59.58 349 P P 12 53 54.1 -0.1
baz=167,SNR=6.6
P53A P P 12 53 54.1 -0.1
baz=167,SNR=6.6
S44A Carbondale 59.75 342 P P 12 53 55.1 -0.2
baz=158
P52A Corning 59.86 349 P P 12 53 55.6 -0.5
baz=166
X34A Smith Ranch, M 60.12 333 P P 12 53 57.1 -0.8
SSPA Standing Stone 60.18 352 P P 12 53 58.5 +0.3
baz=171
MGMO Mountain Grove 60.22 339 IAmb IAmb 12 53 59.2
comp=Z,19nm,1.0s
O52A Adamsville 60.27 349 IAmb IAmb 12 53 59.6
comp=Z,26nm,1.1s
O52A Adamsville 60.27 349 P P 12 53 58.6 -0.3
baz=166
O52A P P 12 53 58.6 -0.3
baz=166
O53A New Philadelph 60.29 349 P P 12 53 58.4 -0.6
baz=167
P49A Miami Univ. Ec 60.30 346 P P 12 53 58.0 -1.1
baz=163
RLO Rose Lookout 60.33 336 IAmb IAmb 12 54 00.5
comp=Z,32nm,0.8s
FVM French Village 60.37 341 P P 12 53 59.3 -0.3
baz=157,SNR=6.5
TUL1 Leonard 60.41 335 IAmb IAmb 12 54 01.0
comp=Z,33nm,1.1s
TUL1 Leonard 60.41 335 P P 12 54 00.1 +0.2
baz=151
TUL1 Leonard 60.41 335 P P 12 53 59.8 -0.1
baz=151
ACSO Alum Creek Sta 60.60 348 IAmb IAmb 12 54 01.7
comp=Z,21nm,0.8s
ACSO Alum Creek Sta 60.60 348 P P 12 54 00.3 -0.8
baz=165
DEOK Depew 60.63 335 P P 12 54 01.3 -0.1
DEOK IAmb IAmb 12 54 02.4
comp=Z,58nm,0.8s
WMOK Wichita Mounta 60.65 332 P P 12 54 01.1 -0.5
baz=148
OK025 Westminster Rd 60.75 334 IAmb IAmb 12 54 02.7
comp=Z,38nm,1.0s
Q44A Meyer Farm, Va 60.80 342 IAmb IAmb 12 54 02.2
comp=Z,29nm,1.1s
Q44A Meyer Farm, Va 60.80 342 P P 12 54 01.2 -1.2
baz=159
OK029 Liberty Lake 60.98 334 IAmb IAmb 12 54 04.4
comp=Z,30nm,0.8s
QUOK Quay 61.00 335 IAmb IAmb 12 54 04.9
comp=Z,52nm,1.0s
O48B Farmland 61.09 346 P P 12 54 03.6 -0.7
baz=163
R40A Maddies Statio 61.24 339 P P 12 54 05.1 -0.4
baz=155
M53A Wl Miller and 61.37 350 P P 12 54 05.8 -0.4
baz=168
CSTR Hydro, Custer 61.37 333 IAmb IAmb 12 54 07.6
comp=Z,4.7nm,1.1s
N49A Columbus Grove 61.51 347 pP pP 12 54 35.3 -0.1
N49A Columbus Grove 61.51 347 P P 12 54 06.9 -0.3
baz=164,SNR=9.8
N49A P P 12 54 06.9 -0.3
baz=164,SNR=9.8
BINY Binghamton 61.52 354 P P 12 54 07.0 -0.3
baz=173
L61B Northampton 61.53 357 P P 12 54 07.5 +0.1
baz=176
HRV Adam Dziewonsk 61.54 358 P P 12 54 07.0 -0.4
baz=178
T35B Sooner Cattle 61.57 335 P P 12 54 08.1 +0.4
baz=151,SNR=9.1
P43A Skaggs, Pawnee 61.63 342 P P 12 54 07.3 -0.7
baz=158,SNR=5.7
SFIN Lafayette 61.67 345 P P 12 54 07.3 -1.0
baz=161
BLOK Blackwell 61.71 335 P P 12 54 08.6 -0.1
BLOK IAmb IAmb 12 54 09.9
comp=Z,63nm,1.1s
O44A Mansfield 61.81 343 P P 12 54 08.0 -1.2
baz=160
MSTX Muleshoe 61.87 329 IAmb IAmb 12 54 11.4
comp=Z,39nm,1.0s
MSTX pP pP 12 54 37.8 0.0
MSTX Muleshoe 61.87 329 P P 12 54 08.6 -1.3
baz=144,SNR=11
MSTX Muleshoe 61.87 329 P P 12 54 09.5 -0.5
baz=144
BBTS Babate 61.89 61 LR LR 13 19 30.8
comp=Z,90nm,19.4s,baz=298,slow=34
ERPA Erie 61.92 351 P P 12 54 09.4 -0.5
baz=169
AMTX Amarillo 62.09 330 P P 12 54 10.1 -1.2
baz=145
KS20 Mayfield South 62.25 335 IAmb IAmb 12 54 13.4
comp=Z,45nm,1.1s
KAN01 Argonia South 62.27 334 IAmb IAmb 12 54 13.6
comp=Z,36nm,1.0s
HDIL Hopedale 62.42 343 P P 12 54 12.4 -0.8
baz=159
HDIL Hopedale 62.42 343 P P 12 54 11.8 -1.5
baz=159
L48A N Adams 62.55 347 P P 12 54 13.3 -0.8
baz=164,SNR=5.5
L48A P P 12 54 13.3 -0.8
baz=164,SNR=5.5
LBNH Lisbon 63.29 358 P P 12 54 18.9 -0.1
baz=177
319A Douglas 63.38 322 IAmb IAmb 12 54 22.2
comp=Z,21nm,0.8s
121A Cookes Peak, D 63.38 324 IAmb IAmb 12 54 22.5
comp=Z,33nm,1.4s
121A Cookes Peak, D 63.38 324 P P 12 54 20.9 +0.8
baz=139
121A Cookes Peak, D 63.38 324 P P 12 54 20.2 +0.1
baz=139
KSU1 Kansas State U 63.51 336 IAmb IAmb 12 54 21.2
comp=Z,26nm,1.0s
KSU1 Kansas State U 63.51 336 P P 12 54 19.7 -0.8
baz=151
LONY Lake Ozonia 63.81 356 P P 12 54 22.2 -0.2
baz=174
Y22A Socorro 64.00 326 P P 12 54 25.0 +0.9
baz=140,SNR=5.4
K43A Burlington 64.17 344 P P 12 54 23.8 -1.0
baz=160
PKME Peaks-Kenny Pk 64.26 360 P P 12 54 26.1 +0.8
baz=180
L40A Anamosa 64.36 342 P P 12 54 26.1 0.0
baz=157
SADO Sadowa 64.41 352 LR LR 13 24 35.1
comp=Z,22nm,18.8s,baz=354,slow=38
CBKS Cedar Bluff 64.50 334 P P 12 54 27.8 +0.7
baz=148
CBKS Cedar Bluff 64.50 334 P P 12 54 27.0 -0.1
baz=148
ANMO Albuquerque 64.51 327 P P 12 54 27.8 +0.3
ANMO pP pP 12 54 55.5 -0.1
ANMO Albuquerque 64.51 327 P P 12 54 28.3 +0.9
baz=141,SNR=6.2
ANMO Albuquerque 64.51 327 P P 12 54 26.9 -0.5
baz=141
ANMO Albuquerque 64.51 327 P P 12 54 26.9 -0.5
ANMO pP pP 12 54 54.6 -0.9
N35A Tabor 64.70 338 P P 12 54 28.1 -0.2
baz=152
JFWS Jewell Farm 64.87 343 pP pP 12 54 58.6 +0.8
JFWS IAmb IAmb 12 55 01.7
comp=Z,25nm,1.2s
JFWS Jewell Farm 64.87 343 P P 12 54 28.9 -0.5
baz=158
JFWS Jewell Farm 64.87 343 P P 12 54 28.9 -0.5
baz=158
TUC Tucson 64.93 322 P P 12 54 30.8 +0.7
baz=136
T25A Trinidad 65.21 330 IAmb IAmb 12 54 34.0
comp=Z,21nm,1.4s
T25A Trinidad 65.21 330 P P 12 54 32.0 0.0
baz=143
TRQ Mont Tremblant 65.40 356 P P 12 54 32.7 -0.1
TRQ pP pP 12 55 01.9 +0.5
TRQ IAmb IAmb 12 55 03.3
comp=Z,20nm,1.1s
I42A Draeger Farm, 65.43 344 IAmb IAmb 12 54 33.1
comp=Z,15nm,0.7s
I42A Draeger Farm, 65.43 344 P P 12 54 32.9 0.0
baz=160
H43A Windswept, Lux 65.69 346 P P 12 54 34.1 -0.5
baz=161
214A Organ Pipe Nat 65.89 320 IAmb IAmb 12 54 39.0
comp=Z,48nm,1.5s
214A Organ Pipe Nat 65.89 320 P P 12 54 36.5 +0.2
baz=135
KSCO Kaye Shedlock' 65.91 332 IAmb IAmb 12 54 38.1
comp=Z,32nm,1.1s
KSCO Kaye Shedlock' 65.91 332 P P 12 54 36.8 +0.5
baz=146
L34A Svendsen Farm, 65.94 338 P P 12 54 35.9 -0.4
baz=152
BGNE Belgrade 66.09 337 P P 12 54 37.7 +0.4
baz=150
BGNE Belgrade 66.09 337 P P 12 54 37.1 -0.2
baz=150
SDCO Great Sand Dun 66.22 329 P P 12 54 39.5 +1.0
baz=143,SNR=24
SDCO Great Sand Dun 66.22 329 P P 12 54 39.5 +1.0
baz=143
W18A Petrified Fore 66.39 324 P P 12 54 41.0 +1.4
baz=138

I37B Waseca 66.79 341 P **P** 12 54 41.6 -0.1
baz=155
S22A 4UR Ranch, Cre 66.87 328 pP pP 12 55 12.8 +1.8
S22A 4UR Ranch, Cre 66.87 328 P **P** 12 54 43.4 +0.7
baz=141
Q24A Divide 67.02 330 P **P** 12 54 44.3 +0.7
baz=143
OGNE Ogallala 67.25 334 P **P** 12 54 44.6 -0.2
baz=146
OGNE Ogallala 67.25 334 P **P** 12 54 44.9 +0.2
baz=146
MVCO Mesa Verde 67.30 327 IAmb IAmb 12 54 47.4
comp=Z,45nm,1.7s
MVCO Mesa Verde 67.30 327 P **P** 12 54 46.2 +0.8
baz=140
ECSD EROS Data Cent 67.58 339 IAmb IAmb 12 55 16.3
comp=Z,22nm,1.4s
ECSD EROS Data Cent 67.58 339 P **P** 12 54 46.4 -0.3
baz=152,SNR=6.7
ECSD EROS Data Cent 67.58 339 P **P** 12 54 47.3 +0.6
baz=152,SNR=6.7
WUAZ Wupatki 67.59 324 P **P** 12 54 48.7 +1.6
baz=137
SPMN Marine on St. 67.72 342 P **P** 12 54 47.3 -0.2
baz=156
LIC Lamto 68.09 75 *e*P **P** 12 54 49.6 -0.9
comp=Z,37nm,0.9s
TIC Toumodi 68.27 74 *e*P **P** 12 54 50.8 -0.8
comp=Z,46nm,1.1s
D41A Chassel 68.32 346 P **P** 12 54 51.5 +0.3
baz=160
PDMCI Parker Dam,Lak 68.33 321 P **P** 12 54 53.7 +2.2
baz=134
IKP In-Ko-Pah, Jac 68.40 319 P **P** 12 54 54.3 +2.2
baz=132
KIC Kosan Boka 68.41 75 *e*P **P** 12 54 51.8 -0.7
comp=Z,27nm,0.4s
DBIC Dimbokro 68.43 74 P **P** 12 54 52.2 -0.3
comp=Z,38nm,1.0s,baz=224,slow=6.0,SNR=24
comp=Z,38nm,1.0s
DBIC Dimbokro 68.43 74 P **P** 12 54 52.1 -0.5
DBIC IAmb IAmb 12 54 53.2
comp=Z,52nm,1.0s
DBIC Dimbokro 68.43 74 P **P** 12 54 51.0 -1.5
DBIC pP **pP** 12 55 23.1 +1.7
F36A Milaca 68.51 342 P **P** 12 54 52.1 -0.3
baz=156
BC3 Big Chuckawall 68.67 320 P **P** 12 54 55.3 +1.5
baz=133
MONP2 Monument Peak 68.75 319 P **P** 12 54 55.7 +1.2
baz=132
IRM Iron Mountain 68.83 320 P **P** 12 54 56.3 +1.6
baz=134,SNR=11
N23A Red Feather La 68.92 331 P **P** 12 54 56.3 +0.9
baz=143
TAOE Nuku Hiva Isla 69.18 268 *e*P **P** 12 54 58.1 +0.7
comp=Z,40nm,27.4s
TAOE Nuku Hiva Isla 69.18 268 *e*LR LR 13 16 03.9
comp=Z,71nm,39.3s
TAOE Nuku Hiva Isla 69.18 268 *e*T T 14 09 37.8
comp=Z,13nm,0.2s
BELC Belle Mtn. Jos 69.24 320 P **P** 12 54 58.5 +1.1
baz=133
TPFO Pinon Flats 69.25 319 P **P** 12 54 59.2 +1.8
baz=132,SNR=5.7
PFO Pinyon Flats O 69.26 319 P **P** 12 54 58.8 +1.3
comp=Z,9.6nm,0.9s,baz=123,slow=6.4,SNR=4.7
comp=Z,9.6nm,0.9s
PFO Pinyon Flats O 69.26 319 P **P** 12 54 58.7 +1.3
PFO Pinyon Flats O 69.26 319 P **P** 12 54 58.8 +1.3
baz=132,SNR=6.3
PFO Pinyon Flats O 69.26 319 P **P** 12 54 57.8 +0.3
PFO pP **pP** 12 55 27.0 +1.0
F33A 5 Mile Ranch, 69.33 340 P **P** 12 54 57.4 -0.2
baz=153
O20A White River Ci 69.42 329 P **P** 12 54 59.1 +0.7
baz=141
KNB Kanab 69.48 324 IAmb IAmb 12 55 02.1
comp=Z,41nm,1.1s
GMRC Granite Mounta 69.56 320 P **P** 12 55 00.9 +1.5
baz=133,SNR=10
MURC Murrieta 69.71 319 P **P** 12 55 01.1 +1.0
baz=132
EYMN Ely 69.86 344 P **P** 12 55 00.1 -0.6
baz=158
ELS Elsinore Mount 69.89 319 P **P** 12 55 03.2 +1.9
BBRC Big Bear Solar 69.98 319 P **P** 12 55 03.9 +1.9
baz=132
HEC Hector,Ludlow 70.00 320 P **P** 12 55 04.0 +2.0
baz=133
CIS Catalina Islan 70.35 318 P **P** 12 55 05.2 +1.2
baz=131
BFSC Mount Baldy Ra 70.42 319 P **P** 12 55 05.7 +1.1
baz=132,SNR=5.4
K22A Casper 70.58 332 P **P** 12 55 06.6 +1.1
baz=143,SNR=5.2
K22A Casper 70.58 332 P **P** 12 55 06.8 +1.3
baz=143,SNR=5.2
GSC Goldstone, Bar 70.61 320 P **P** 12 55 07.5 +1.9
baz=133,SNR=6.6
RSSD Black Hills 70.70 334 P **P** 12 55 07.1 +0.9
RSSD Black Hills 70.70 334 P **P** 12 55 07.2 +0.9
baz=145,SNR=8.4
RSSD Black Hills 70.70 334 P **P** 12 55 07.5 +1.3
baz=145
RSSD Black Hills 70.70 334 P **P** 12 55 06.3 +0.1
RSSD pP **pP** 12 55 34.7 -0.2
RSSD sP **sP** 12 55 47.1 -0.2
DECC Green Verdugo 70.85 318 P **P** 12 55 08.3 +1.2
baz=131
QSPA South Pole Qui 70.87 180 P **P** 12 55 07.7 +0.8
QSPA sP **sP** 12 55 48.3 +0.4
EDW2 Edwards Air Fo 71.05 319 P **P** 12 55 09.7 +1.4
baz=132,SNR=6.4
LRMC Laurel Mtn Rad 71.25 320 P **P** 12 55 11.0 +1.3
baz=132
TPNV Topopah Spring 71.39 322 P **P** 12 55 12.0 +1.5
baz=133,SNR=13
AGMN Agassiz Nation 71.39 342 P **P** 12 55 10.1 0.0
baz=154
AGMN Agassiz Nation 71.39 342 P **P** 12 55 10.7 +0.7
baz=154
FURC Furnace Creek, 71.42 321 P **P** 12 55 12.3 +1.9
baz=133,SNR=9.4
E28A Huff 71.47 338 P **P** 12 55 11.1 +0.5
baz=149
MPMC Manual Prospec 71.52 320 P **P** 12 55 12.8 +1.4
baz=132,SNR=7.1
SPR3 Spring Creek 3 71.73 324 IAmb IAmb 12 55 15.0
comp=Z,24nm,1.5s
DUG Dugway, Tooele 71.77 326 P **P** 12 55 14.2 +1.5
baz=137,SNR=9.3
ISA Isabella, Lake 71.86 320 P **P** 12 55 14.4 +1.2
ISA Isabella, Lake 71.86 320 P **P** 12 55 15.2 +2.0
baz=131,SNR=9.2
R11A Troy Canyon, C 71.97 323 P **P** 12 55 15.1 +1.1
baz=134,SNR=12
PDAR Pinedale Array 72.07 330 P **P** 12 55 14.7 +0.2
comp=Z,2.2nm,0.8s,baz=141,slow=7.6,SNR=14
comp=Z,2.2nm,0.8s
BW06 Boulder Array 72.07 330 P **P** 12 55 14.8 +0.3
baz=140,SNR=7.8
GRAC Grapevine Rang 72.08 321 P **P** 12 55 15.8 +1.4
baz=132
CWC Cottonwood Cre 72.13 320 P **P** 12 55 16.3 +1.3
baz=132
MDND Maddock 72.19 339 P **P** 12 55 15.8 +1.1
baz=150,SNR=6.7
MDND Maddock 72.19 339 P **P** 12 55 15.1 +0.4
baz=150,SNR=6.7
PKM Mcpherson Peak 72.19 318 P **P** 12 55 16.9 +1.5
baz=130,SNR=7.3
SMMC Simmler 72.58 318 P **P** 12 55 19.3 +1.8
baz=130
ULM Lac du Bonnet 73.15 342 P **P** 12 55 20.1 -0.3
comp=Z,6.9nm,0.6s,baz=148,slow=4.1,SNR=7.5
ULM pP **pP** 12 55 49.1 -0.3
comp=Z,4.1nm,0.6s,baz=162,slow=6.4,SNR=2.8
ULM LR LR 13 31 11.2
comp=Z,24nm,19.7s,baz=328,slow=39
comp=Z,6.9nm,0.6s
ELK Elko 73.46 325 P **P** 12 55 23.9 +1.2
comp=Z,6.1nm,1.1s,baz=130,slow=3.5,SNR=15
comp=Z,6.1nm,1.1s
NVAR Mina Array Bea 73.59 322 P **P** 12 55 25.1 +1.5
comp=Z,6.4nm,0.9s,baz=152,slow=6.9,SNR=37
NVAR pP **pP** 12 55 53.5 +1.2
comp=Z,2.5nm,0.8s,baz=168,slow=6.5,SNR=3.8
comp=Z,6.4nm,0.9s
LAO LASA Array 73.69 334 IAmb IAmb 12 55 25.6
comp=Z,39nm,1.4s
LAO LASA Array 73.69 334 P **P** 12 55 24.7 +1.0
baz=144
LAO LASA Array 73.69 334 P **P** 12 55 24.8 +1.0
baz=144
RLMT Red Lodge 73.75 332 P **P** 12 55 25.2 +0.8
baz=141,SNR=12
H17A Grant Village 73.79 330 P **P** 12 55 26.3 +1.6
baz=140,SNR=9.2
SCHQ Schefferville 73.87 1 P **P** 12 55 25.3 +0.7
comp=Z,5.0nm,1.0s,baz=173,slow=5.6,SNR=2.8
comp=Z,5.0nm,1.0s
TBI Tubuai 73.92 250 *e*LR LR 13 18 14.5
comp=Z,774nm,35.8s
YHH Holmes Hill 74.22 331 IAmb IAmb 12 55 30.1
comp=Z,19nm,0.8s
DGMT Dagmar 74.35 337 IAmb IAmb 12 55 29.6
comp=Z,36nm,0.9s
DGMT Dagmar 74.35 337 P **P** 12 55 28.8 +1.3
baz=146
DGMT Dagmar 74.35 337 P **P** 12 55 28.5 +1.0
baz=146
HLID Hailey 75.04 328 P **P** 12 55 33.9 +2.1
baz=136,SNR=21
BOZ Bozeman (W) 75.19 331 P **P** 12 55 33.8 +1.2
baz=139,SNR=9.1
PPT2 Papeete2 75.53 256 *e*LR LR 13 18 59.8
comp=Z,95nm,39.0s
PPT2 *e*LR LR 13 19 00.1
comp=Z,91nm,28.5s
MFID Camas Ranch 75.65 327 IAmb IAmb 12 55 38.1
comp=Z,21nm,1.1s
EGMT Eagleton 76.21 333 P **P** 12 55 39.4 +1.1
baz=141,SNR=6.1
TOA0 Torodi Ar. Sit 76.92 71 P **P** 12 55 41.2 -1.7
TOA0 IAmb IAmb 12 55 47.2
comp=Z,32nm,0.6s
TORD Torodi Ar. Bea 76.92 71 P **P** 12 55 42.0 -0.9
comp=Z,7.1nm,0.5s,baz=250,slow=5.7,SNR=75
TORD pP **pP** 12 56 12.3 +0.2
comp=Z,8.6nm,0.8s,baz=251,slow=5.0,SNR=3.8
comp=Z,7.1nm,0.5s
MSO Missoula 77.18 330 P **P** 12 55 45.6 +1.9
baz=137,SNR=6.6
YBH Yreka Blue Hor 78.30 322 P **P** 12 55 49.9 -0.2
comp=Z,4.1nm,1.1s,baz=165,slow=12,SNR=3.5
comp=Z,4.1nm,1.1s
VNDA Vanda 78.94 190 P **P** 12 55 54.8 +1.8
comp=Z,3.1nm,1.0s,baz=135,slow=3.4,SNR=12
comp=Z,3.1nm,1.0s
VNDA Vanda 78.94 190 P **P** 12 55 53.6 +0.7
HAWA Hanford 79.61 327 IAmb IAmb 12 55 59.7
comp=Z,24nm,1.2s
NEW Newport 79.71 330 P **P** 12 55 57.8 +0.2
comp=Z,2.7nm,0.7s,baz=173,slow=8.1,SNR=4.5
comp=Z,2.7nm,0.7s
NEW Newport 79.71 330 P **P** 12 55 58.0 +0.4
baz=135
SUR Sutherland 79.95 121 LR LR 13 30 13.5
comp=Z,38nm,20.1s,baz=0.5,slow=35
MDT Midelt 80.59 50 LR LR 13 30 25.8
comp=Z,25nm,19.8s,baz=355,slow=35
TSUM Tsumeb 80.97 107 LR LR 13 30 08.2
comp=Z,48nm,18.9s,baz=149,slow=34
TSUM Tsumeb 80.97 107 P **P** 12 56 05.2 0.0
TSUM pP **pP** 12 56 36.5 +1.6
TAM Tamanrasset 84.12 64 pP pP 12 56 54.2 +2.9
ESDC Sonseca Array 84.50 45 P **P** 12 56 23.0 +0.2
comp=Z,2.2nm,1.1s,baz=247,slow=5.3,SNR=8.6
ESDC pP **pP** 12 56 52.9 +0.1
comp=Z,6.8nm,1.1s,baz=251,slow=4.2,SNR=6.3
comp=Z,2.2nm,1.1s
BOSA Boshof 84.75 118 P **P** 12 56 24.7 +0.1
comp=Z,7.6nm,1.2s,baz=331,slow=3.5,SNR=2.3
BOSA LR LR 13 31 19.4
comp=Z,48nm,18.8s,baz=195,slow=34
comp=Z,7.6nm,1.2s
LBTB Lobatse 86.21 115 LR LR 13 32 59.1
comp=Z,30nm,18.3s,baz=194,slow=34
MAW Mawson 86.50 163 P **P** 12 56 33.5 +1.3
comp=Z,3.4nm,1.1s,baz=259,slow=13,SNR=3.0
comp=Z,3.4nm,1.1s
SFJD Kangerlussuaq 87.16 7 LR LR 13 35 28.0
comp=Z,19nm,21.3s,baz=274,slow=35
YKA Yellowknife Ar 89.03 341 P **P** 12 56 44.9 +0.8
comp=Z,29nm,0.8s,baz=137,slow=4.7,SNR=84
YKA pP **pP** 12 57 14.4 +0.4
comp=Z,6.2nm,0.7s,baz=135,slow=4.8,SNR=4.4
KOTAN Kotaneelee Air 90.70 336 P **P** 12 56 53.9 +1.9
baz=130
LSZ Lusaka 91.82 107 LR LR 13 36 36.6
comp=Z,47nm,18.6s,baz=167,slow=34
DLBC Dease Lake 92.13 333 P **P** 12 56 59.4 +0.7
comp=Z,9.7nm,0.9s,baz=91,slow=4.3,SNR=7.7
comp=Z,9.7nm,0.9s
DLBC Dease Lake 92.13 333 P **P** 12 56 59.5 +0.7
baz=124
WTLY Watson Lake, Y 92.57 334 P **P** 12 57 01.6 +0.9
baz=126
TGTN Hyland Airport 93.19 336 P **P** 12 57 04.4 +0.8
baz=126
RES Resolute Bay 95.20 353 LR LR 13 42 30.7
comp=Z,20nm,18.1s,baz=6.5,slow=37
L29M L29M 97.94 335 P Pdif 12 57 25.9 +0.7
baz=117
YUK3 Moose Creek 98.32 333 P **P** 12 57 27.1 0.0
baz=116
INK Inuvik 98.79 340 P **P** 12 57 28.5 -0.2
comp=Z,1.7nm,0.8s,baz=45,slow=7.5,SNR=4.2
comp=Z,1.7nm,0.8s
INK Inuvik 98.79 340 P Pdif 12 57 29.6 +0.9
baz=121
ILAR Eielson Array 102.15 335 PP PP 13 01 48.9 -8.3
comp=Z,0.2nm,0.6s,baz=97,slow=8.8,SNR=3.2
H11S2 WAKE ISLAND Hy127.27 279 T T 15 22 27.5
baz=102,slow=75,SNR=204
H11S1 WAKE ISLAND Hy127.28 279 T T 15 22 27.9
baz=102,slow=75,SNR=173
H11S3 WAKE ISLAND Hy127.29 279 T T 15 22 33.2
baz=102,slow=75,SNR=170
H11N3 WAKE ISLAND Hy127.29 280 T T 15 22 25.8
baz=100,slow=75,SNR=73
H11N2 WAKE ISLAND Hy127.31 280 T T 15 22 26.8
baz=100,slow=75,SNR=51
H11N1 WAKE ISLAND Hy127.31 280 T T 15 22 30.3
baz=100,slow=75,SNR=38
GEYT Alibeck 130.87 56 PKP **PKPdf** 13 03 01.1 +0.3
comp=Z,1.2nm,0.4s,baz=337,slow=9.4,SNR=2.2
ASAR Alice Springs 131.69 209 PKhKP PKPpre 13 02 52.8
comp=Z,0.2nm,0.6s,baz=138,slow=0.9,SNR=6.2
ASAR PKP **PKPdf** 13 03 02.9 0.0
comp=Z,1.2nm,0.6s,baz=143,slow=1.5,SNR=14
ASAR pPKP pPKPdf 13 03 34.2 +0.3
comp=Z,0.5nm,0.6s,baz=128,slow=1.8,SNR=2.4
ASAR SKPbc **SKPbc** 13 06 18.0 -0.6
comp=Z,1.3nm,0.9s,baz=145,slow=5.2,SNR=6.1
WRA Warramunga Arr 134.66 212 PKhKP PKPpre 13 03 00.5
comp=Z,0.6nm,0.6s,baz=211,slow=1.0,SNR=11
WRA PKP **PKPdf** 13 03 08.7 +0.2
comp=Z,2.7nm,0.7s,baz=156,slow=1.8,SNR=23
WRA pPKP pPKPdf 13 03 38.7 -0.8
comp=Z,1.0nm,0.7s,baz=152,slow=2.1,SNR=3.1
WRA SKPbc **SKPbc** 13 06 27.0 -1.7
comp=Z,1.0nm,1.0s,baz=140,slow=2.5,SNR=4.7
WRA Warramunga Arr 134.66 212 PKPdf **PKPdf** 13 03 03.2 -5.3
ZALV Zalesovo Beam 140.10 24 PKP **PKPdf** 13 03 17.4 0.0
comp=Z,3.8nm,0.8s,baz=298,slow=3.2,SNR=14
ZALV pPKP **pPKPdf** 13 03 48.9 +0.2
comp=Z,2.6nm,0.8s,baz=300,slow=3.3,SNR=3.3
ZALV SKPbc **SKPbc** 13 06 42.6 -0.8
comp=Z,2.0nm,0.8s,baz=298,slow=3.2,SNR=6.0
ZALV Zalesovo Beam 140.10 24 PKPdf **PKPdf** 13 03 18.6 +1.2
MKAR Makanchi Array 144.02 34 PKP PKPbc 13 03 22.8 -0.1
comp=Z,1.2nm,0.8s,baz=270,slow=4.4,SNR=5.9
MKAR pPKP pPKPdf 13 03 55.8 -0.2
comp=Z,1.7nm,0.9s,baz=319,slow=4.8,SNR=3.3
HEH HeiHe 146.40 341 *e*PKPbc **PKPbc** 13 03 30.3 +0.3
WMQ Urumqi 148.84 33 *e*PKPbc **PKPdf** 13 03 33.1 +0.1
FAKI Fak Fak 149.43 226 **PKPdf** 13 03 36.2 +1.5
USRK Ussuriysk Ar. 149.49 329 PKPbc **PKiKP** 13 03 39.4 -0.1
comp=Z,18nm,0.8s,baz=96,slow=1.4,SNR=17
USRK Ussuriysk Ar. 149.49 329 **PKPbc** 13 03 37.8 -0.7
MJAR Matsushiro Arr 150.44 311 PKPbc **PKiKP** 13 03 41.8 0.0
comp=Z,13nm,0.7s,baz=85,slow=1.8,SNR=28
MJAR pPKPbc **pPKPbc** 13 04 10.9 -1.2
comp=Z,2.2nm,0.6s,baz=140,slow=0.9,SNR=1.9
MAJO Matsushiro 150.44 311 **PKiKP** 13 03 41.5 -0.3
SONM Songino Array 151.33 6 PKP **PKPdf** 13 03 38.3 +1.5
comp=Z,1.8nm,0.9s,baz=334,slow=0.4,SNR=7.2
SONM PKPbc **PKiKP** 13 03 43.9 +0.5
comp=Z,11nm,0.8s,baz=325,slow=1.4,SNR=31
SONM pPKPbc **pPKPbc** 13 04 14.1 0.0
comp=Z,9.0nm,0.9s,baz=334,slow=1.5,SNR=6.7
SONM Songino Array 151.33 6 PKPdf **PKPdf** 13 03 37.2 +0.3
ULN Ulaanbaatar 151.36 5 **PKiKP** 13 03 44.5 +1.0
SIJI Sorong 151.59 227 PKPbc **PKiKP** 13 03 45.0 +0.2
comp=Z,16nm,0.7s,baz=3.2,slow=4.9,SNR=9.4
KAPI Kappang 154.26 201 PKPab **PKPab** 13 04 04.9 +0.6
comp=Z,26nm,0.9s,baz=166,slow=6.4,SNR=7.8
KSRS Korea Array 156.52 324 PKPab **PKPab** 13 04 13.9 +0.5
comp=Z,3.2nm,0.9s,baz=49,slow=4.9,SNR=7.0
GTA Gaotai 157.85 23 *e*PKP **PKPdf** 13 03 47.3 +1.2
GTA sPKP 13 04 31.8
HHC Hu-ho-hao-te 158.52 358 *e*PKP **PKPdf** 13 03 46.4 -0.4
HNS HongShan 161.65 350 PKP **PKPdf** 13 03 52.1 +1.8
CD2 Chengdu 166.83 27 *e*PKP **PKPdf** 13 03 53.5 -1.7
CMAR Chiang Mai Arr 168.78 92 PKPab **PKPab** 13 05 07.8 -0.1
comp=Z,1.2nm,0.9s,baz=266,slow=5.3,SNR=7.3
PZH PanZhiHua 169.03 48 PKP **PKPdf** 13 03 55.7 -1.2

---

*NEIC **03** 12:57:33.6, 39.̊66N×123.̊63W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.22; $M_{\theta\theta}$-5.57; $M_{\phi\phi}$5.35; $M_{r\theta}$-1.26; $M_{\theta\phi}$2.83; $M_{\phi r}$1.96; Fault plane solution: $M_0$6.58000×10^{14} NP1:ϕ_s58.70000°, δ69.22000°, λ0.60000°. NP2:ϕ_s328.48000°, δ89.44000°, λ159.22000°. Principal axes: T 6.4653, Plg15.0000°, Azm282.0000°; N 0.2197, Plg69.0000°, Azm147.0000°; P -6.6849, Plg14.0000°, Azm16.0000°;*
*NCEDC **03** 12:57:33.6±1.7, 39.̊66N±0.̊03×123.̊63W±0.̊09, h-1km±8km, Mwr3.8/14, ML3.4/74(NEIC) Error ellipse: s-maj=10.6km s-min=2.0km az=64.0*
NEIC 03 12:57:34.3±2.0, 39.̊65N±0.̊01×123.̊69W±0.̊02, h4km±7km, Error ellipse: s-maj=2.3km s-min=1.0km az=138.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCPM	Cahto Peak	0.09	65		Pg	12 57 35.4	-0.9
KFPM	Farley Peak	0.21	92		Pg	12 57 37.0	-1.3
KIPM	Iron Peak	0.23	45		Pg	12 57 37.6	-1.2
GTC	Three Chop Rid	0.27	157		Pg	12 57 39.2	-0.3
KRKM	Rackout Spring	0.40	102		Pg	12 57 41.4	-0.7
GNAM	Navarro Ridge	0.45	174		Pg	12 57 43.5	+0.5
KBNM	Bluenose Ridge	0.45	57		Pg	12 57 42.5	-0.5
GWRM	Wonder Ranch	0.53	145		Pg	12 57 44.3	-0.2
KMRM	Mail Ridge	0.57	359		Pg	12 57 45.2	-0.1
KMRM					Sb	12 57 55.4	-0.2
KMRM	Mail Ridge	0.57	359	IAML		12 57 58.5	
	comp=N,18µm,0.6s						
KMRM				IAML		12 58 00.0	
	comp=E,11µm,0.8s						
GHMM	Hull Mountain	0.61	104		Pg	12 57 45.2	-0.7
GHOM	Hamilton Openi	0.61	169		Pg	12 57 46.5	+0.5
KSMM	Slide Mountain	0.65	325		Pg	12 57 47.4	+0.6
KCRM	Chalk Rock	0.78	353		Pg	12 57 49.7	+0.3
GVV	Valley View	0.79	80		Pg	12 57 48.9	-0.6
GHLM	Highland Sprin	0.80	139		Pg	12 57 48.9	-0.7
GGUM	Gualala	0.80	169		Pg	12 57 49.1	-0.6
HOPS	Hopland Field	0.81	144		Pg	12 57 49.2	-0.6
HOPS					Sb	12 58 01.6	-0.7
GROM	Round Mountain	0.83	71		Pg	12 57 49.6	-0.6
KMPM	Mount Pierce	0.84	337		Pg	12 57 50.3	0.0
KMPM					Sn	12 58 04.6	-1.2
GHGM	Hogback Ridge	0.85	127		Pg	12 57 49.8	-0.7
GTSM	Trough Springs	0.91	111		Pg	12 57 50.9	-0.8
LBPM	Beegum Peak	0.91	43		Pg	12 57 51.3	-0.5
GDCM	Dry Creek	0.95	158		Pg	12 57 51.9	-0.5
KCTM	Capetown	0.96	329		Pg	12 57 52.6	-0.2
GPMM	Pine Mountain	0.99	144		Pg	12 57 53.0	-0.2
GACM	Adobe Creek	1.01	140		Pg	12 57 52.0	-1.5
GCVM	Cloverdale	1.02	149		Pg	12 57 53.3	-0.6
GBMM	Baldy Mountain	1.06	118		Pg	12 57 53.5	-1.0
KHBM	Hayfork Bally	1.07	20		Pg	12 57 54.1	-0.8
GSSM	Skaggs Springs	1.08	151		Pb	12 57 55.3	-0.3
GDXM	Geysers	1.09	140		Pg	12 57 54.7	-0.5
GSGM	Seigler Mounta	1.09	135		Pg	12 57 54.3	-0.9
GWKM	Walker Ridge	1.10	122		Pg	12 57 54.9	-0.6
GBGM	Boggs Mountain	1.15	136		Pg	12 57 55.7	-0.5
GCRM	Castle Rock Sp	1.16	139		Pg	12 57 55.2	-1.2
GAXM	Alexander Vall	1.19	142		Pg	12 57 56.4	-0.5
JCC	Jacoby Creek,	1.20	348		Pg	12 57 55.5	-1.7
JCC	Jacoby Creek,	1.20	348	IAML		12 58 26.3	
	comp=N,1µm,1.5s						
JCC				IAML		12 58 26.9	
	comp=E,1µm,1.1s						
KHMM	Horse Mountain	1.23	359		Pg	12 57 56.6	-1.2
MNRC	McLaughlin Min	1.24	128		Pg	12 57 56.0	-1.9
NMTM	Middletown	1.28	131		Pg	12 57 56.1	-2.7
NHSM	Mount Saint He	1.30	139		Pg	12 57 56.0	-3.1
LTCM	Tuscan Springs	1.33	65		Pn	12 57 57.0	-2.6
MAC	Mark West Spri	1.33	145		Pn	12 57 57.3	-2.4
LGPM	Granite Peak	1.43	27		Pn	12 57 58.6	-2.5
OSUM	Sutter Buttes	1.47	104		Pn	12 57 58.4	-3.2
NTYM	Taylor	1.49	147		Pn	12 57 59.6	-2.2
NBPM	Berryessa Peak	1.52	130		Pn	12 58 00.9	-1.3
NBPM					Pb	12 58 03.1	0.0
KRPM	Rodgers	1.53	351		Pn	12 58 00.6	-1.9
KRPM	Rodgers	1.53	351	IAML		12 58 39.7	
	comp=E,794nm,0.9s						
SUTB	Sutter Butte	1.53	105		Pn	12 57 59.0	-3.5
OGOM	Van Goodin Ran	1.60	89		Pn	12 57 59.7	-3.7
CVS	Carmenet Viney	1.62	143		Pn	12 58 01.2	-2.4
MCCM	Marconi Confer	1.63	157		Pn	12 58 00.7	-3.0
MCCM	Marconi Confer	1.63	157	IAML		12 58 36.2	
	comp=E,444nm,1.8s						
MCCM				IAML		12 58 45.5	
	comp=N,501nm,1.7s						
LBKM	Bonanza King	1.64	28		Pn	12 58 02.0	-2.0
KOMM	Orleans Mounta	1.64	6		Pn	12 58 01.8	-2.3
NAPC	Atlas Peak	1.65	137		Pn	12 58 01.3	-2.7
NBRB	Beebe Ranch Br	1.65	147		Pn	12 58 01.7	-2.3
ORV	Oroville	1.69	92		Pn	12 58 01.1	-3.6
ORV	Oroville	1.69	92	IAML		12 58 35.1	
	comp=N,83nm,0.8s						
ORV				IAML		12 58 48.6	
	comp=E,90nm,1.0s						
LSHM	Sage Hen Hill	1.71	47		Pn	12 58 02.6	-2.3
OWYM	Wyandotte	1.71	96		Pn	12 58 02.6	-2.3
OHCM	Honcut	1.73	100		Pn	12 58 02.6	-2.6
LCMM	Colby Mountain	1.74	73		Pn	12 58 02.8	-2.7
NOLM	Olema	1.75	156		Pn	12 58 02.5	-3.0
SNT	Sears Point	1.75	146		Pn	12 58 02.6	-2.9
KPK	Kanaka Peak	1.84	91		Pn	12 58 04.2	-2.6
LMEM	Manzanita Entr	1.85	61		Pn	12 58 05.0	-2.1
LRDM	Redding Peak	1.90	64		Pn	12 58 05.3	-2.2
CPMM	Point Molate	1.97	149		Pn	12 58 06.0	-2.5
M03C	McCloud	2.02	36		Pn	12 58 07.4	-1.9
HATC	Hat Creek Radi	2.07	55		Pn	12 58 09.9	0.0
JPRM	Presidio of Sa	2.08	152		Pg	12 58 14.3	+0.1
BRK	Berkeley--Havi	2.10	147		Pg	12 58 14.3	-0.1
CVPM	Vollmer Peak	2.10	146		Pn	12 58 08.8	-1.6
BKS	Berkeley--Byer	2.10	147		Pn	12 58 08.0	-2.3
LAMM	Antelope Mount	2.12	22		Pn	12 58 09.3	-1.4
LBCM	Butte Creek Ri	2.15	56		Pn	12 58 09.5	-1.6
LMPM	Military Pass	2.18	32		Pn	12 58 10.8	-0.7
LBFM	Black Fox Moun	2.18	38		Pn	12 58 10.3	-1.3
YBH	Yreka Blue Hor	2.21	19		Pn	12 58 10.7	-1.2
YBH	Yreka Blue Hor	2.21	19	IAML		12 58 53.0	
	comp=N,164nm,1.0s						
BDM	Black Diamond	2.21	139		Pn	12 58 10.9	-0.9
AFDM	Forest Hills D	2.22	107		Pn	12 58 09.3	-2.7
BGC	Bolinger Road	2.23	145		Pn	12 58 11.0	-1.1
KTRM	Thompson Ridge	2.27	6		Pn	12 58 11.1	-1.7
LTIM	Timbered Crate	2.27	47		Pn	12 58 11.1	-1.6
LHEM	Herd Peak	2.27	29		Pn	12 58 12.0	-0.9
CMOB	Morgan Territo	2.35	141		Pn	12 58 12.5	-1.3
B040	Montague	2.38	23		Pn	12 58 13.0	-1.2
LGMM	Garner Mountai	2.41	35		Pn	12 58 13.4	-1.2
LMHM	Little Mount H	2.47	38		Pn	12 58 12.1	-3.6
CVLM	Vallecito	2.49	144		Pn	12 58 13.5	-2.1
JRSC	Jasper Ridge	2.51	153		Pn	12 58 12.4	-3.5
WENL	Wente Vineyard	2.53	143		Pn	12 58 15.2	-0.9
BGH	Bear Gulch	2.54	155		Pn	12 58 14.8	-1.5
JSFB	Stanford Teles	2.54	152		Pn	12 58 13.8	-2.4
JFP	Foothills Park	2.57	152		Pn	12 58 13.8	-2.9

BEKR	**Beckworth**	**2.58**	**84**		Pn	12 58 15.2	-1.8	
BEKR	**Beckworth**	**2.58**	**84**	IAML		12 58 57.9		
	comp=E,112nm,1.1s							
BEKR				IAML		12 59 01.8		
	comp=N,159nm,0.9s							
KBO	**Bosley Butte**	**2.59**	**351**	Pn	Pn	12 58 15.8	-1.3	
KBO				IAML		12 59 28.1		
	comp=N,192nm,1.5s							
DONR	**Donner Summit**	**2.62**	**95**		Pn	12 58 16.0	-1.7	
JSCM	**Stevens Creek**	**2.66**	**152**		Pn	12 58 15.6	-2.4	
LOY	**Loyalton**	**2.67**	**89**		Pn	12 58 16.9	-1.3	
BABR	**Babbit Peak**	**2.77**	**90**		Pn	12 58 16.4	-3.4	
MPK	**Martis Peak**	**2.85**	**96**		Pn	12 58 20.5	-0.4	
EMB	**Emerald Bay**	**2.86**	**102**	IAML		12 59 12.3		
	comp=E,160nm,0.8s							
EMB				IAML		12 59 19.6		
	comp=N,157nm,0.9s							
HUMO	**Hull Mountain**	**3.01**	**10**		Pn	12 58 21.6	-1.1	
CMB	**Columbia Colle**	**3.04**	**121**		Pn	12 58 23.5	+0.3	
VCNR	**Virginia City**	**3.15**	**95**	IAML		12 59 11.8		
	comp=N,100nm,0.9s							
VCNR				IAML		12 59 14.3		
	comp=E,97nm,0.9s							
PNTR	**Pine Nut**	**3.22**	**99**		Pn	12 58 27.4	+1.5	
KEBM	**Edson Butte**	**3.26**	**352**	Pn	Pb	12 58 30.6	-2.1	
KEBM				IAML		12 59 32.9		
	comp=N,118nm,2.3s							
PAHR	**Pah Rah Range**	**3.32**	**88**	IAML		12 59 26.6		
	comp=N,59nm,1.3s							
SAO	**San Andreas Ge**	**3.38**	**148**		Pn	12 58 26.9	-1.0	
PLTX	**Planet X, Gerl**	**3.40**	**71**	Pn	Pn	12 58 28.8	+0.5	
PLTX				IAML		12 59 36.6		
	comp=E,320nm,1.2s							
PLTX				IAML		12 59 53.1		
	comp=N,353nm,1.4s							
MOD	**Modoc Plateau**	**3.42**	**48**		Pn	12 58 31.0	+2.4	
MOD				IAML		12 59 38.6		
	comp=E,104nm,1.1s							
MOD				IAML		12 59 38.8		
	comp=N,59nm,1.5s							
DBO	**Dodson Butte**	**3.48**	**5**	Pn	Pn	12 58 29.6	+0.2	
DBO				IAML		12 59 39.5		
	comp=N,62nm,1.6s							
DBO				IAML		12 59 43.3		
	comp=E,84nm,2.1s							
YERR	**Yerington**	**3.51**	**99**		Pn	12 58 31.7	+1.8	
YERR				IAML		12 59 20.5		
	comp=N,56nm,0.7s							
YERR				IAML		12 59 42.4		
	comp=E,101nm,0.9s							
BBGB	**Big Mountain B**	**3.71**	**145**	Pn	Pn	12 58 32.9	+0.4	
BBGB				IAML		12 59 06.6		
	comp=E,81nm,0.8s							
BBGB				IAML		13 00 03.5		
	comp=N,111nm,1.6s							
K05A	**Summer Lake**	**3.73**	**34**		Pn	12 58 34.8	+1.9	
K05A				IAML		13 00 29.5		
	comp=E,64nm,4.7s							
MDPB	**Devils Postpil**	**4.13**	**118**		Pn	12 58 39.1	+0.7	
MDPB				IAML		13 00 00.4		
	comp=N,36nm,0.8s							
MDPB				IAML		13 00 05.2		
	comp=E,30nm,1.1s							
RYN	**Ryan**	**4.14**	**103**		Pn	12 58 40.6	+2.0	
RYN				IAML		12 59 58.8		
	comp=N,33nm,1.3s							
OMMB	**Old Mammoth Mi**	**4.20**	**117**		Pn	12 58 41.5	+2.1	
KVN	**Kaiserville**	**4.38**	**96**		Pn	12 58 42.7	+1.0	
KVN				IAML		13 00 18.6		
	comp=E,27nm,1.9s							
NV11	**Mina Array Sit**	**4.48**	**104**		Pn	12 58 44.7	+1.6	
NV11				IAML		13 00 13.1		
	comp=N,36nm,1.6s							
NV11				IAML		13 00 28.6		
	comp=E,33nm,2.1s							
PINE	**Pine Mountain**	**4.62**	**26**		Pn	12 58 44.7	-0.5	
PINE				IAML		13 00 30.7		
	comp=N,38nm,4.6s							
PINE				IAML		13 00 45.3		
	comp=E,41nm,4.8s							
WVOR	**Wild Horse Val**	**4.73**	**52**	Pn	Pn	12 58 50.1	+3.6	
WVOR				IAML		13 00 16.9		
	comp=E,21nm,3.3s							
WVOR				IAML		13 00 30.6		
	comp=E,26nm,2.1s							

IDC ***03*** *13:10:44.7±1.2, 42°.73N×13°.15E, h0km, mb3.6/4, mbtmp3.6/8, ML3.6/4, MS2.9/8, Error ellipse: s-maj=24.6km s-min=15.3km az=103.0*

ROM ***03*** *13:10:45.7±0.0, 42°.688N±0°.002×13°.170E±0°.002, h13km, ML3.7/93, Error ellipse: s-maj=0.2km s-min=0.1km az=245.0*

LDG ***03*** *13:10:45.3±0.1, 42°.70N×13°.17E, h10km, Md3.9/1, Ml3.1/25, Error ellipse: s-maj=2.6km s-min=1.6km az=35.0*

PRU ***03*** *13:10:46.1±0.0, 42°.60N×13°.32E, h10km*

PDG ***03*** *13:10:46.1±0.6, 42°.68N×13°.17E, h14km, ML4.0/12, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

BEO ***03*** *13:10:49.9±0.7, 42°.88N×13°.40E, h10km±1km, ML3.8/17*

ISC 03 13:10:45.7±0.7, **42°.69N**±0°.01×**13°.15E**±0°.02, **h17**km±4km, **n239**, σ2s**28**/310, **mb4.0**/3, **MS3.0**/3, **42C-10D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1201	**Domo (RI)**	**0.08**	**113**	⇓P	**Pg**	**13 10 48.7**	**-0.4**
T1201				S	**Sg**	**13 10 50.7**	**-0.7**
LNSS	**Leonessa**	**0.12**	**223**	⇑P	**Pg**	**13 10 49.5**	**0.0**
LNSS				S	**Sb**	**13 10 52.1**	**-0.1**
T1204	**Amatrice, Fraz**	**0.12**	**96**	⇓P	**Pg**	**13 10 49.2**	**-0.4**
T1204				S	**Sg**	**13 10 51.4**	**-0.8**
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1244	**Arquata del Tr**	**0.13**	**58**	⇑P	**Pg**	**13 10 49.3**	**-0.3**
T1244				S	**Sg**	**13 10 51.6**	**-0.6**
NRCA	**Norcia**	**0.15**	**350**	⇓P	**Pg**	**13 10 49.5**	**-0.3**
NRCA				S	**Sg**	**13 10 52.2**	**-0.4**
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,88000μm,0.2s						
NRCA				AML	AML		
	comp=N,94800μm,0.2s						
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,88050μm,0.2s						
NRCA				AML	AML		
SMA1	**SAN MARTINO**	**0.15**	**113**	⇑P	**Pg**	**13 10 49.6**	**-0.3**
SMA1				S	**Sg**	**13 10 52.1**	**-0.6**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
T1217	**Poggiodomo (PG**	**0.16**	**278**	⇑P	**Pg**	**13 10 50.1**	**+0.1**
T1217				S	**Sb**	**13 10 53.7**	**+0.3**
T1217				AML	AML		
	comp=N,82750μm,0.3s						
T1217				AML	AML		
	comp=N,82950μm,0.3s						
T1217				AML	AML		
	comp=E,34150μm,0.9s						
T1217				AML	AML		
	comp=N,82750μm,0.3s						
T1217				AML	AML		
	comp=E,34100μm,0.9s						
T1217				AML	AML		
	comp=E,34200μm,0.9s						
T1217				AML	AML		
	comp=N,82800μm,0.3s						
T1217				AML	AML		
	comp=E,34150μm,0.9s						
T1217				AML	AML		
	comp=N,82900μm,0.3s						
T1245	**Castelsantange**	**0.17**	**10**	⇓P	**Pg**	**13 10 49.9**	**-0.3**
T1245				S	**Sg**	**13 10 53.1**	**-0.1**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
RM33	**Pellescritta (**	**0.19**	**165**	⇑P	**Pg**	**13 10 50.3**	**-0.1**
RM33				S	**Sg**	**13 10 53.3**	**-0.2**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
T1243	**Rocca Santa Ma**	**0.22**	**88**	⇑P	**Pg**	**13 10 50.5**	**-0.4**
T1243				S	**Sg**	**13 10 54.1**	**-0.3**
T1216	**Preci, Frazion**	**0.22**	**335**	⇑P	**Pg**	**13 10 50.8**	**-0.1**
T1216				S	**Sb**	**13 10 55.1**	**-0.1**
T1216				AML	AML		
	comp=N,53900μm,1.6s						
T1216				AML	AML		
	comp=E,49150μm,0.5s						
T1215	**Vallo di Nera,**	**0.23**	**299**	⇑P	**Pg**	**13 10 51.1**	**+0.1**
T1215				S	**Sb**	**13 10 55.5**	**0.0**
T1215				AML	AML		
	comp=E,15650μm,0.4s						
T1215				AML	AML		
	comp=N,21300μm,1.4s						
T1215				AML	AML		
	comp=E,15000μm,0.3s						
T1215				AML	AML		
	comp=N,21750μm,1.4s						
T1215				AML	AML		
	comp=N,21700μm,1.4s						
T1215				AML	AML		
	comp=N,21350μm,1.4s						
T1215				AML	AML		
	comp=E,15015μm,0.3s						
T1215				AML	AML		
	comp=E,15000μm,0.4s						
T1215				AML	AML		
	comp=N,21650μm,1.4s						
CAMP	**Campotosto**	**0.25**	**128**	⇑P	**Pg**	**13 10 51.0**	**-0.2**
CAMP				S	**Sg**	**13 10 54.6**	**-0.5**
CAMP				AML	AML		
	comp=E,47800μm,0.7s						
CAMP				AML	AML		
	comp=N,37150μm,0.3s						
MMO1	**Montemonaco**	**0.25**	**32**	⇑P	**Pg**	**13 10 51.0**	**-0.3**
MMO1				S	**Sg**	**13 10 55.1**	**0.0**
T1211	**Morro Reatino**	**0.27**	**234**	⇑P	**Pg**	**13 10 51.8**	**+0.2**
T1211				S	**Sb**	**13 10 56.7**	**+0.3**
T1211				AML	AML		
	comp=E,23050μm,1.0s						
T1211				AML	AML		
	comp=E,24250μm,1.0s						
T1211				AML	AML		
	comp=N,37850μm,1.5s						
T1211				AML	AML		
	comp=E,23000μm,1.0s						
T1211				AML	AML		
	comp=N,38300μm,1.5s						
T1211				AML	AML		
	comp=E,24250μm,1.0s						
T1241	**Roccafluvione,**	**0.27**	**51**	⇑P	**Pg**	**13 10 51.3**	**-0.3**
T1241				S	**Sg**	**13 10 55.3**	**-0.3**
T1241				AML	AML		
	comp=E,48000μm,1.1s						
T1241				AML	AML		
	comp=N,28200μm,1.3s						
T1241				AML	AML		
	comp=E,48000μm,1.1s						
T1241				AML	AML		
	comp=N,28250μm,1.3s						
T1241				AML	AML		
	comp=N,29650μm,1.3s						
T1241				AML	AML		
	comp=E,48200μm,1.1s						
T1247	**Pizzolo (AQ)**	**0.27**	**156**	⇑P	**Pg**	**13 10 51.7**	**0.0**
T1247				S	**Sb**	**13 10 56.1**	**-0.5**
T1247				AML	AML		
	comp=N,62850μm,1.6s						
T1247				AML	AML		
	comp=E,72250μm,0.5s						
T1246	**Crognaleto (TE**	**0.28**	**112**	⇑P	**Pg**	**13 10 51.5**	**-0.3**
T1246				S	**Sg**	**13 10 55.5**	**-0.4**
FEMA	**Monte Fema**	**0.28**	**345**	P	**Pg**	**13 10 51.9**	**0.0**
FEMA				S	**Sb**	**13 10 56.8**	**-0.2**
ARRO	**Arrone**	**0.30**	**249**	⇑P	**Pg**	**13 10 52.4**	**+0.3**
ARRO				AML	AML		
	comp=N,12700μm,0.3s						
ARRO				AML	AML		
	comp=E,12400μm,0.7s						
ARRO				AML	AML		
	comp=N,12750μm,0.3s						
T1256	**Bolognola (MC)**	**0.32**	**10**	P	**Pg**	**13 10 52.4**	**-0.2**
T1256				S	**Sb**	**13 10 57.9**	**-0.3**
T1256				AML	AML		
	comp=E,20150μm,0.9s						
T1256				AML	AML		
	comp=N,22750μm,0.6s						
T1256				AML	AML		
	comp=E,20600μm,0.9s						
T1256				AML	AML		
	comp=E,20150μm,0.9s						
T1256				AML	AML		
	comp=N,21800μm,0.6s						
AM05	**Amandola Campo**	**0.33**	**28**	P	**Pg**	**13 10 52.6**	**0.0**
AM05				S	**Sb**	**13 10 57.8**	**-0.3**
AM05				AML	AML		
	comp=E,4915μm,0.9s						
AM05				AML	AML		
	comp=N,1244μm,1.5s						
AM05				AML	AML		
	comp=N,5895μm,0.6s						
AM05				AML	AML		
	comp=E,22100μm,0.6s						
AM05				AML	AML		
	comp=E,4920μm,0.9s						
AM05				AML	AML		
	comp=N,1246μm,1.5s						
TERO	**Teramo**	**0.34**	**101**	⇑P	**Pg**	**13 10 52.4**	**-0.5**
TERO				S	**Sg**	**13 10 57.4**	**-0.4**
TERO				AML	AML		
	comp=N,98050μm,0.5s						
TERO				AML	AML		
TERO				AML	AML		
	comp=E,70500μm,0.4s						
TERO				AML	AML		
	comp=E,73400μm,0.4s						
TERO				AML	AML		
	comp=N,98100μm,0.5s						
FDMO	**Fiordimonte**	**0.35**	**353**	P	**Pg**	**13 10 53.0**	**-0.1**
FDMO				S	**Sb**	**13 10 58.9**	**+0.1**
AQU	**L'Aquila**	**0.38**	**151**	P	**Pg**	**13 10 53.6**	**0.0**
AQU				S	**Sb**	**13 11 00.1**	**+0.3**
AQU				AML	AML		
	comp=E,20400μm,0.3s						
AQU				AML	AML		
	comp=E,21100μm,0.3s						
AQU				AML	AML		
	comp=N,16950μm,0.6s						
AQU				AML	AML		
	comp=N,16350μm,0.6s						
GIGS	**Gran Sasso**	**0.39**	**127**	⇑P	**Pg**	**13 10 53.2**	**-0.5**
GIGS				S	**Sg**	**13 10 59.0**	**-0.2**
GIGS				AML	AML		
	comp=E,14150μm,1.5s						
GIGS				AML	AML		
	comp=N,9160μm,1.4s						
GUMA	**Gualdo di Mace**	**0.40**	**20**	⇑P	**Pg**	**13 10 54.0**	**+0.2**
GUMA				AML	AML		
	comp=N,70400μm,0.5s						
GUMA				AML	AML		
	comp=N,70850μm,0.5s						
GUMA				AML	AML		
	comp=N,70400μm,0.5s						
GUMA				AML	AML		
	comp=E,58100μm,1.2s						
GUMA				AML	AML		
	comp=E,53200μm,0.6s						
FIAM	**Fiamignano**	**0.42**	**183**	⇑P	**Pg**	**13 10 54.2**	**0.0**
FIAM				AML	AML		
	comp=N,16250μm,0.6s						
FIAM				AML	AML		
	comp=E,27250μm,0.7s						
CESX	**Cesi**	**0.43**	**259**	⇑P	**Pg**	**13 10 54.4**	**0.0**
CESX				AML	AML		
	comp=E,9365μm,1.3s						
CESX				AML	AML		
	comp=N,10800μm,0.9s						
OFFI	**Offida**	**0.47**	**58**	⇑P	**Pb**	**13 10 55.6**	**+0.1**
OFFI				AML	AML		
	comp=E,52450μm,0.5s						
OFFI				AML	AML		
	comp=N,58800μm,0.5s						
SEF1	**Sefro**	**0.48**	**342**	P	**Pg**	**13 10 55.4**	**+0.1**
SEF1				AML	AML		
	comp=N,16300μm,0.3s						
SEF1				AML	AML		
	comp=E,18250μm,0.3s						
ASSB	**Assisi San Ben**	**0.50**	**315**	⇑P	**Pg**	**13 10 55.7**	**-0.1**
MNTP	**Montappone**	**0.51**	**28**	P	**Pb**	**13 10 56.3**	**+0.1**
MNTP				AML	AML		
	comp=N,15250μm,1.3s						
MNTP				AML	AML		
	comp=E,19900μm,1.4s						
FIU1	**Fiuminata**	**0.52**	**342**	P	**Pb**	**13 10 56.6**	**+0.2**
FIU1				AML	AML		
	comp=E,6580μm,0.6s						
FIU1				AML	AML		
	comp=N,4035μm,0.3s						
FIU1				AML	AML		
	comp=E,6580μm,0.6s						
FIU1				AML	AML		
	comp=N,4040μm,0.3s						
FAGN	**Fagnano**	**0.53**	**142**	P	**Pg**	**13 10 56.0**	**-0.3**
FAGN				AML	AML		
	comp=E,38700μm,0.4s						
FAGN				AML	AML		
	comp=N,32500μm,1.3s						
GAG1	**Gagliole**	**0.55**	**354**	P	**Pg**	**13 10 56.7**	**0.0**
GAG1				AML	AML		
	comp=E,18850μm,0.4s						
GAG1				AML	AML		
	comp=N,16250μm,0.4s						
TRTR	**Tortoreto Alta**	**0.58**	**78**	P	**Pb**	**13 10 57.8**	**+0.4**
TRTR				AML	AML		
	comp=E,36900μm,0.5s						
TRTR				AML	AML		
	comp=N,45200μm,0.5s						
SNTG	**Esanatoglia**	**0.59**	**345**	P	**Pg**	**13 10 57.1**	**-0.2**
SNTG				AML	AML		
	comp=E,3335μm,0.6s						
SNTG				AML	AML		
	comp=N,4475μm,0.4s						
SNTG				AML	AML		
	comp=N,4475μm,0.4s						
SNTG				AML	AML		
	comp=E,3255μm,0.6s						
SNTG				AML	AML		
	comp=E,3335μm,0.6s						
SNTG				AML	AML		
	comp=N,4740μm,0.4s						
VCEL	**Villa Celiera**	**0.59**	**120**	P	**Pg**	**13 10 57.0**	**-0.4**
VCEL				AML	AML		
	comp=E,43350μm,0.5s						
VCEL				AML	AML		
	comp=N,54150μm,0.3s						
VCEL				AML	AML		
	comp=N,54100μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.62**	**323**	P	**Pg**	**13 10 57.9**	**-0.1**
ATCC				AML	AML		
	comp=N,6890μm,1.4s						
ATCC				AML	AML		
	comp=E,7485μm,1.6s						
EL6	**Elcito**	**0.64**	**357**	P	**Pg**	**13 10 58.0**	**-0.3**
EL6				AML	AML		
	comp=E,9835μm,0.3s						
EL6				AML	AML		
	comp=N,8480μm,0.2s						
EL6				AML	AML		
	comp=N,8465μm,0.2s						
EL6				AML	AML		
	comp=E,9820μm,0.3s						
SRES	**S.Oreste - Sor**	**0.65**	**226**	P	**Pg**	**13 10 58.3**	**-0.3**
SRES				AML	AML		
	comp=N,3515μm,0.6s						
SRES				AML	AML		
	comp=E,3350μm,0.7s						
T0110	**Collepietro**	**0.66**	**134**	P	**Pg**	**13 10 57.9**	**-0.7**
T0110				AML	AML		
	comp=E,20400μm,0.4s						
T0110				AML	AML		
	comp=N,18800μm,0.4s						
FOSV	**Fossato di Vic**	**0.67**	**335**	P	**Pg**	**13 10 58.8**	**0.0**
CING	**Cingoli**	**0.69**	**3**	P	**Pg**	**13 10 58.9**	**-0.3**
CING				AML	AML		
	comp=N,2950μm,0.4s						
CING				AML	AML		
	comp=E,5485μm,0.3s						
PTQR	**Pietraquaria**	**0.69**	**164**	P	**Pg**	**13 10 58.6**	**-0.7**
PTQR				AML	AML		
	comp=E,3395μm,0.7s						
PTQR				AML	AML		
	comp=N,3485μm,1.6s						
MTCE	**Montecelio**	**0.73**	**204**	P	**Pg**	**13 10 59.3**	**-0.7**
MTCE				AML	AML		
	comp=N,3070μm,0.9s						
MTCE				AML	AML		
	comp=E,5065μm,0.8s						
MURB	**Monte Urbino**	**0.73**	**322**	P	**Pg**	**13 11 00.1**	**0.0**
MURB				AML	AML		
	comp=E,17100μm,0.4s						
MURB				AML	AML		
	comp=N,21450μm,0.3s						
MURB				AML	AML		
	comp=E,19150μm,0.4s						
MURB				AML	AML		
	comp=N,22500μm,0.9s						
CERT	**Cerreto**	**0.75**	**189**	P	**Pg**	**13 10 59.5**	**-0.8**
CERT				AML	AML		
	comp=E,8235μm,0.5s						
CERT				AML	AML		
	comp=N,9155μm,0.4s						
PP3	**Marolino**	**0.77**	**26**	P	**Pg**	**13 11 01.1**	**+0.5**
PP3				AML	AML		
	comp=E,29950μm,0.5s						
PP3				AML	AML		
	comp=N,10860μm,0.9s						
PP3				AML	AML		
	comp=E,30200μm,0.5s						
PP3				AML	AML		
	comp=N,10250μm,0.8s						
PP3				AML	AML		
	comp=E,30000μm,0.5s						
PP3				AML	AML		
	comp=N,10200μm,0.8s						
PP3				AML	AML		
	comp=N,10895μm,0.9s						
PP3				AML	AML		
	comp=E,30150μm,0.5s						
ATTE	**AVT- Monte Tez**	**0.77**	**311**	P	**Pb**	**13 11 00.6**	**-0.2**
ATTE				AML	AML		
	comp=E,2830μm,1.5s						
ATTE				AML	AML		
	comp=N,3330μm,0.5s						
SSFR	**Montelago di S**	**0.79**	**340**	P	**Pb**	**13 11 01.1**	**0.0**
SSFR				AML	AML		
	comp=E,6955μm,0.2s						
SSFR				AML	AML		
	comp=E,6750μm,0.2s						
SSFR				AML	AML		
	comp=N,7920μm,0.3s						
SSFR				AML	AML		
	comp=N,6215μm,0.7s						
MGAB	**Montegabbione**	**0.79**	**287**	P	**Pb**	**13 11 01.1**	**0.0**
MGAB				AML	AML		
	comp=E,8435μm,0.7s						
MGAB				AML	AML		
	comp=E,8540μm,0.7s						
MGAB				AML	AML		
	comp=N,5955μm,0.8s						
MGAB				AML	AML		
	comp=N,7230μm,1.4s						
ATFO	**Monte Foce - G**	**0.80**	**328**	P	**Pb**	**13 11 01.2**	**0.0**
ATFO				AML	AML		
	comp=N,3340μm,0.5s						
ATFO				AML	AML		
	comp=E,3625μm,1.4s						
ARVD	**Arcevia**	**0.82**	**349**	P	**Pb**	**13 11 01.3**	**-0.3**
ARVD				AML	AML		
	comp=E,2805μm,1.4s						
ARVD				AML	AML		
	comp=N,3140μm,0.8s						
RCAV	**Rocca di Cave**	**0.85**	**190**	P	**Pb**	**13 11 01.4**	**-0.8**
RCAV				AML	AML		
	comp=N,8485μm,1.0s						
RCAV				AML	AML		
	comp=E,7620μm,0.4s						
ATVO	**AVT- Monte Val**	**0.88**	**322**	P	**Pb**	**13 11 02.4**	**-0.2**
ATVO				AML	AML		
	comp=N,2045μm,1.0s						
ATVO				AML	AML		

comp=E,4080µm,1.2s
FRON Frontone 0.88 340 P Pb 13 11 02.4 -0.2
FRON AML AML
comp=E,2480µm,0.9s
FRON AML AML
comp=N,4865µm,0.5s
VVLD Villa Vallelon 0.89 157 P Pb 13 11 02.3 -0.4
VVLD AML AML
comp=E,3830µm,0.5s
VVLD AML AML
comp=N,3430µm,1.5s
ATMI Monte Miggiano 0.91 315 P Pn 13 11 03.9 +0.1
ATMI AML AML
comp=N,9890µm,0.3s
ATMI AML AML
comp=E,8245µm,1.1s
AOI Ancona 0.92 21 P Pb 13 11 03.2 -0.1
AOI AML AML
comp=E,3430µm,0.5s
AOI AML AML
comp=N,3185µm,1.2s
SACS San Casciano d 0.93 280 P Pg 13 11 03.7 0.0
SACS AML AML
comp=N,3345µm,1.6s
SACS AML AML
comp=N,3350µm,1.6s
SACS AML AML
comp=E,3615µm,0.9s
ATPI Pietralunga - 0.94 325 P Pb 13 11 03.6 +0.1
ATPI AML AML
comp=E,4185µm,1.3s
ATPI AML AML
comp=N,2650µm,0.6s
ATPI AML AML
comp=N,2655µm,0.6s
ATPI AML AML
comp=E,4190µm,1.3s
RMP Rome, Mte Porz 0.94 201 P Pb 13 11 03.6 +0.1
RMP AML AML
comp=N,5380µm,0.5s
RMP AML AML
comp=E,7200µm,0.7s
COR1 Corinaldo 0.95 354 P Pn 13 11 04.9 +0.6
COR1 AML AML
comp=E,5180µm,0.5s
COR1 AML AML
comp=N,8250µm,1.3s
PIEI Pieia 0.96 332 P Pb 13 11 04.1 +0.2
PIEI AML AML
comp=E,2735µm,0.4s
PIEI AML AML
comp=N,3825µm,0.5s
PIEI AML AML
comp=E,2740µm,0.4s
MPAG Monte Paganucc 0.98 343 P Pb 13 11 04.4 +0.1
MPAG AML AML
comp=E,2660µm,0.8s
MPAG AML AML
comp=N,3355µm,0.8s
RDP Rocca di Papa 0.98 199 P Pn 13 11 05.6 +0.8
RDP AML AML
comp=N,16650µm,0.4s
RDP AML AML
comp=E,11650µm,0.4s
LATE Laterza 0.99 266 P Pn 13 11 05.1 +0.2
CAFR Castel Frentan 1.00 117 P Pg 13 11 05.0 -0.1
CAFR AML AML
comp=N,4610µm,0.8s
CAFR AML AML
comp=E,4300µm,0.3s
LPEL Lama dei Pelig 1.00 130 P Pb 13 11 03.6 -1.0
LPEL AML AML
comp=N,4375µm,0.5s
LPEL AML AML
comp=E,5680µm,1.6s
FSSB Fossombrone 1.04 345 P Pb 13 11 05.4 +0.1
FSSB AML AML
comp=E,6430µm,0.4s
FSSB AML AML
comp=N,7670µm,0.4s
BADI Badiali 1.05 321 AML AML
comp=E,104µm,1.3s
BADI AML AML
comp=N,2555µm,0.8s
TOLF Tolfa 1.05 234 P Pb 13 11 05.5 0.0
TOLF AML AML
comp=N,1595µm,0.6s
TOLF AML AML
comp=E,1860µm,0.5s
CAFI Castiglion Fio 1.08 307 P Pn 13 11 06.2 +0.2
CAFI AML AML
comp=E,1585µm,1.6s
CAFI AML AML
comp=N,1320µm,1.6s
CAFI AML AML
comp=E,1640µm,1.6s
CAFI AML AML
comp=N,1365µm,1.4s
MCIV Monte Civitell 1.09 275 P Pg 13 11 07.0 +0.3
MCIV AML AML
comp=E,1266µm,0.7s
MCIV AML AML
comp=N,1415µm,0.9s
LRP Arpino 1.09 162 P Pg 13 11 06.9 +0.1
LRP AML AML
comp=N,3365µm,0.8s
LRP AML AML
comp=E,2200µm,0.6s
SF04 Casetta 1.10 278 AML AML
comp=E,1970µm,0.3s
SF04 AML AML
comp=N,1715µm,0.8s
PE3 Peglio 1.11 335 P Pg 13 11 07.2 0.0
PE3 AML AML
comp=E,16µm,0.5s
PE3 AML AML
comp=N,15µm,0.5s
GIUL Giuliano Di Ro 1.13 176 P Pb 13 11 06.2 -0.6
GIUL AML AML
comp=N,2955µm,0.7s
GIUL AML AML
comp=E,1905µm,0.7s
SSP9 Sansepolcro 1.16 320 P Pg 13 11 09.9 +1.9
ARCI Arcidosso 1.24 278 P Pg 13 11 09.7 0.0
ARCI AML AML
comp=E,580µm,1.6s
ARCI AML AML
comp=N,429µm,1.1s
CPGN Carpegna, Ital 1.27 332 P Pg 13 11 11.0 +0.9
CERA Filignano 1.27 149 P Pn 13 11 08.3 -0.4
CERA AML AML
comp=N,3015µm,0.7s
CERA AML AML
comp=N,2940µm,0.7s
CERA AML AML
comp=E,2980µm,0.6s
CERA AML AML
comp=E,3070µm,0.6s
CRE Caprese Michel 1.28 317 P Pn 13 11 09.1 +0.2
CRE AML AML
comp=E,1184µm,1.3s
CRE AML AML
comp=N,1081µm,1.4s
MIDA Miranda 1.33 141 P Pn 13 11 09.1 -0.6
MIDA AML AML
comp=E,2520µm,0.7s
MIDA AML AML
comp=N,2080µm,0.6s
MIDA AML AML
comp=N,1915µm,0.6s
MIDA AML AML
comp=E,2485µm,0.7s
TRIV Trivento 1.39 131 P Pg 13 11 13.4 +0.9
TRIV AML AML
comp=E,2210µm,0.8s
TRIV AML AML
comp=N,2255µm,0.8s
BSSO Busso 1.57 136 P Pg 13 11 16.0 +0.2
BSSO AML AML
comp=N,1060µm,0.8s
BSSO AML AML
comp=E,381µm,1.6s
BSSO AML AML
comp=N,431µm,0.7s
BSSO AML AML
comp=E,902µm,1.6s
CSNT Castellina Chi 1.57 301 P Pb 13 11 14.8 +0.5
CSNT AML AML
comp=N,452µm,1.0s
CSNT AML AML
comp=E,454µm,0.6s
OSSC Osservatorio P 1.62 302 P Pn 13 11 13.3 -0.3
OSSC AML AML
comp=N,487µm,0.6s
OSSC AML AML
comp=E,584µm,0.5s
RUFI Rufina 1.66 314 P Pb 13 11 15.1 -0.7
CASP Castiglione de 1.68 274 P Pn 13 11 15.3 +0.9
CASP AML AML
comp=N,338µm,1.0s
CASP AML AML
comp=E,217µm,1.6s
TRIF Trifonti 1.70 285 P Pb 13 11 16.1 -0.5
TRIF AML AML
comp=E,406µm,0.8s
TRIF AML AML
comp=N,482µm,0.4s
MELA Melanico ??? S 1.77 123 P Pb 13 11 18.1 +0.4
MELA AML AML
comp=N,3650µm,0.7s
MELA AML AML
comp=E,3585µm,0.5s
MELA AML AML
comp=E,3455µm,0.5s
MELA AML AML
comp=N,3775µm,0.7s
TREM Isole Tremiti 1.84 107 P Pb 13 11 18.5 -0.4
TREM AML AML
comp=E,3150µm,0.8s
TREM AML AML
comp=N,2530µm,0.7s
BRIS BRISIGHELLA 1.89 321 P Pg 13 11 21.0 -0.8
PAOL Paolisi 1.97 147 P Pb 13 11 21.0 -0.1
APRC Apricena 2.01 117 P Pb 13 11 20.7 -1.1
APRC AML AML
comp=E,1415µm,0.7s
APRC AML AML
comp=N,2235µm,1.3s
SGRT San Giovanni R 2.14 115 P Pb 13 11 22.8 -1.3
SGRT AML AML
comp=E,1510µm,1.3s
SGRT AML AML
comp=N,1305µm,0.5s
MAIM Mastiano 2.29 303 P Pn 13 11 24.6 +1.9
MAIM AML AML
comp=E,210µm,1.5s
MAIM AML AML
comp=N,252µm,0.9s
MCRV Calabrutti - M 2.43 141 P Pb 13 11 27.8 -1.3
MCRV AML AML
comp=E,270µm,0.7s
MCRV AML AML
comp=N,310µm,0.4s
PLMA Palmaria, Port 2.76 301 P Pn 13 11 30.5 +1.3
MRVN Minervino Murg 2.80 125 P Pn 13 11 31.7 +2.0
MRVN AML AML
comp=N,288µm,0.7s
MRVN AML AML
comp=E,242µm,0.7s
RIY Rijeka 2.81 20 *e*Pn **Pn 13 11 31.4 +1.6**
RIY *e*Sn **Sn 13 12 03.1 -0.2**
PGF Pioggiola 3.06 269 *e*P **Pn 13 11 35.3 +1.8**
PGF *e*Sn **Sn 13 12 06.5 -3.3**
comp=E,6.1nm,0.3s
AMUR Altamura 3.14 123 P Pn 13 11 36.6 +2.2
AMUR AML AML
comp=E,495µm,0.7s
AMUR AML AML
comp=N,352µm,0.3s
CEY Cerknica 3.19 16 *e*Pn **Pn 13 11 37.8 +2.7**
SIRI Monte Sirino - 3.23 140 AML AML
comp=E,392µm,1.5s
SIRI AML AML
comp=N,248µm,0.2s
SIRI AML AML
comp=E,392µm,1.5s
AJAC Base Areonaval 3.34 258 P Pn 13 11 39.7 +2.5
MGRS Mrkonjic Grad 3.34 58 *e*Pn **Pn 13 11 40.1 +2.9**
MATE Matera 3.35 126 ⇑P **Pn 13 11 38.3 +0.9**
STON Ston 3.36 85 *e*Pn **Pn 13 11 37.4 0.0**
STON Ston 3.36 85 *e*Pn **Pn 13 11 37.9 +0.5**
STON *e*Sn **Sn 13 12 17.3 +0.5**
STON Ston 3.36 85 AML AML
comp=E,196µm,0.8s
STON AML AML
comp=N,198µm,1.0s
LTRZ Laterza 3.45 126 P Pn 13 11 41.1 +2.3
SALO Salr 3.48 328 P Pn 13 11 41.5 +2.4
MPRI Monte Prat 3.55 358 P Pn 13 11 41.7 +1.6
MPRI AML AML
comp=E,325µm,1.2s
MPRI AML AML
comp=N,432µm,0.5s
A051A Mrakovica 3.58 48 *e*Pn **Pn 13 11 41.7 +1.2**
BLY Banja Luka 3.58 53 *e*Pn **Pb 13 11 45.3 -3.2**
BLY Banja Luka 3.58 53 *e*Pn **Pn 13 11 41.6 +1.2**
BLY *e*Sn **Sn 13 12 20.9 -1.4**
LUSI Trento, Gardas 3.63 335 P Pn 13 11 43.6 +2.4
LUSI AML AML
comp=E,196µm,1.4s
LUSI AML AML
comp=N,250µm,0.5s
CIMO Cimolais 3.66 352 P Pn 13 11 42.9 +1.3
CIMO AML AML
comp=E,109µm,1.0s
CIMO AML AML
comp=N,98µm,1.3s
CIMO AML AML
comp=N,88µm,1.2s
CIMO AML AML
comp=E,102µm,1.0s
GAGG Gaggia 3.74 336 P Pn 13 11 45.2 +2.4
ZONE Zone 3.77 326 P Pn 13 11 46.0 +3.0
TREB Trebinje 3.83 88 *e*Pn **Pn 13 11 45.1 +1.1**
TREB Trebinje 3.83 88 *e*Pn **Pn 13 11 45.8 +1.8**
TREB *e*Sn **Sn 13 12 28.8 +0.1**
MABI Malga Bissina 3.86 332 P Pn 13 11 46.8 +2.4
MABI AML AML
comp=E,103µm,0.8s
MABI AML AML
comp=N,86µm,1.3s
ACOM Acomizza, Ital 3.87 4 P Pn 13 11 46.8 +2.2
ACOM AML AML
comp=N,200µm,0.5s
ACOM AML AML
comp=E,318µm,1.6s
OBKA Obir 3.95 14 *e*Pn **Pn 13 11 47.3 +1.7**
OBKA Obir 3.95 14 *e*Pn **Pn 13 11 47.7 +2.0**
comp=E,4.1nm,0.2s
HCY Herceg Novi 3.96 92 *e*Pn **Pn 13 11 45.2 -0.4**
HCY Herceg Novi 3.96 92⇑*i*Pn **Pn 13 11 47.5 +1.9**
HCY *i* Sn **Sn 13 12 34.6 +2.9**
MYKA Terra Mystica 3.96 5 *e*Pn **Pn 13 11 46.1 +0.4**
comp=E,8.6nm,0.5s,SNR=5.1
BRY Bratogost 3.97 85 *e*Pn **Pn 13 11 47.3 +1.3**
BRY Bratogost 3.97 85⇑*i*Pn **Pn 13 11 47.7 +1.7**
BRY *i* Sn **Sn 13 12 35.0 +2.7**
KOSI Kohlern 3.98 342 P Pn 13 11 49.5 +3.4
KOSI AML AML
comp=E,252µm,1.6s
KOSI AML AML
comp=N,240µm,1.6s
ABTA Abfaltersbach 4.08 354 *e*Pn **Pn 13 11 49.9 +2.4**
comp=N,19nm,0.4s,SNR=7.1
UPM Unac-Piva 4.26 81 *e*Pn **Pn 13 11 52.5 +2.5**
UPM Unac-Piva 4.26 81⇓*i*Pn **Pn 13 11 51.7 +1.7**
UPM *i* Sn **Sn 13 12 41.9 +2.5**
CEME Cevo 4.26 90⇑*i*Pn **Pn 13 11 51.7 +1.8**
CEME *i* Sn **Sn 13 12 41.9 +2.6**
BUM Brajici-Budva 4.27 93⇓*i*Pn **Pn 13 11 51.7 +1.7**
BUM *i* Sn **Sn 13 12 42.0 +2.6**
VSL Villasalto 4.28 223 P Pn 13 11 52.2 +2.1
NKME Niksic 4.28 87⇓*i*Pn **Pn 13 11 51.9 +1.8**
NKME *i* Sn **Sn 13 12 42.3 +2.6**
RISI Rein 4.33 350 P Pn 13 11 53.5 +2.6
SBF Sospel 4.33 288 *e*P **Pn 13 11 53.5 +2.6**
SBF *e*Sn **Sn 13 12 36.9 -4.1**
comp=N,13nm,0.3s
KBA Koelnbreinsper 4.39 2 Pn Pn 13 11 53.6 +1.8
comp=N,4.6nm,0.2s
HAPS Han Pijesak,Bl 4.45 70 *e*Pn **Pn 13 11 54.6 +2.0**
DRME Dracevica, Mon 4.50 94 *e*Pn **Pn 13 11 55.2 +2.1**
DRME Dracevica, Mon 4.50 94 *e*Pn **Pn 13 11 54.9 +1.8**
DRME *i* Sn **Sn 13 12 47.6 +2.6**
PDG Podgorica 4.52 91 ⇑P **Pn 13 11 55.5 +2.2**
PDG Podgorica 4.52 91 *e*Pn **Pn 13 11 55.6 +2.2**
PDG *e*Sn **Sn 13 12 44.5 -1.0**
TTG Podgorica 4.52 91⇑*i*Pn **Pn 13 11 55.2 +1.9**
TTG *i* Sn **Sn 13 12 48.2 +2.7**
ULC Ulcinj 4.58 97⇑*i*Pn **Pn 13 11 56.0 +1.8**
ULC *i* Sn **Sn 13 12 49.4 +2.4**
PLE Pljevlja 4.62 80⇑*i*Pn **Pn 13 11 56.7 +1.8**
PLE *i* Sn **Sn 13 12 50.7 +2.5**
RUDO Rudo 4.65 76 *e*Pn **Pn 13 11 57.1 +2.0**
FETA Feichten 4.66 339 *e*Pn **Pn 13 11 58.2 +2.7**
comp=N,1.5nm,0.2s
KOME Kolasin 4.69 86⇑*i*Pn **Pn 13 11 57.7 +1.9**
KOME *i* Sn **Sn 13 12 52.4 +2.5**
WTTA Wattenberg 4.70 347 *i* Pn **Pn 13 11 59.6 +3.6**
comp=N,2.7nm,0.3s
DAVOX Davos/Dischmat 4.71 331 Pn Pn 13 11 59.9 +3.8
comp=N,2.4nm,0.3s,baz=163,slow=18,SNR=12
DAVOX Sn **Sn 13 12 53.5 +3.1**
comp=N,1.3nm,0.3s,baz=135,slow=22,SNR=12
DAVOX LR LR 13 13 45.5
comp=N,34nm,21.7s,baz=77,slow=39
BBLS Lazići 4.72 73 *e*Pn **Pn 13 11 58.5 +2.4**
BBLS Lazići 4.72 73 *e*Pn **Pn 13 11 58.6 +2.4**
BBLS *e*Sn **Sn 13 12 48.8 -1.7**
SQTA Sankt Quirin 4.74 344 *i* Pn **Pn 13 12 00.9 +4.5**
comp=N,3.4nm,0.2s
WATA Walderalm 4.78 347 *e*Pn **Pn 13 12 01.0 +4.0**
comp=N,7.1nm,0.3s
ARSA Arzberg 4.86 19 *e*Pn **Pn 13 12 01.0 +2.9**
comp=N,5.4nm,0.5s,SNR=4.7
MOTA Moosalm 4.88 343 *e*Pn **Pn 13 12 01.6 +3.2**
comp=N,1.7nm,0.2s
LMR La Mourre 4.91 280 *e*P **Pn 13 12 00.2 +1.5**
LMR *e*Sn **Sn 13 12 50.1 -5.1**
comp=N,2.2nm,0.3s
IVA Berane 4.97 86⇓*i*Pn **Pn 13 12 01.5 +1.9**
IVA *i* Sn **Sn 13 12 59.1 +2.4**
BIOA Bad Ischl, Aus 5.01 4 *i* Pn **Pn 13 12 04.2 +4.0**
comp=N,6.2nm,0.4s
PVY Plav 5.03 89 *e*Pn **Pn 13 12 02.3 +1.9**
PVY *i* Sn **Sn 13 13 00.5 +2.3**
SJES Sjenica 5.04 81 *e*Pn **Pn 13 12 03.2 +2.6**
SJES *e*Sn **Sn 13 12 55.8 -2.8**
MBDF Montbardon 5.05 296 *e*P **Pn 13 12 03.5 +2.7**
MBDF *e*Sn **Sn 13 12 54.0 -4.9**
comp=N,2.5nm,0.3s
RETA Reutte 5.09 341 *e*Pn Pn 13 12 06.2 +4.9
comp=N,0.8nm,0.1s
TIR Tirane 5.18 103 ⇑P **Pn 13 12 05.2 +2.7**
TIR Tirane 5.18 103 *e*Pn **Pn 13 12 04.8 +2.3**
TIR *e*Sn **Sn 13 13 02.6 +0.8**
DIVS Divibare 5.18 72 *e*Pn **Pn 13 12 02.6 0.0**
DIVS Divibare 5.18 72 *e*Pn **Pn 13 12 04.5 +1.9**
DIVS *e*Sn **Sn 13 12 58.1 -3.9**
IVAS Ivanjica 5.20 78 *e*Pn **Pn 13 12 04.2 +1.4**
IVAS *e*Sn **Sn 13 13 01.7 -0.8**
MOA Molln 5.22 8 *e*Pn **Pn 13 12 05.0 +2.0**
MOA *e*Sn **Sn 13 13 00.9 -1.9**
MOA Molln 5.22 8 *e*Pn **Pn 13 12 05.1 +2.0**
comp=N,1.3nm,0.2s
MORH Mrgy, Hungar 5.28 46 ⇑P **Pn 13 12 03.3 -0.5**
LPG La Plagne 5.39 304 *e*P **Pn 13 12 08.9 +3.2**
LPG *e*Sn **Sn 13 13 02.9 -4.6**
comp=N,5.0nm,0.3s
FRGS Fruska Gora 5.41 61 ⇑P **Pn 13 12 06.4 +0.8**
FRGS Fruska Gora 5.41 61 *e*Pn **Pn 13 12 05.3 -0.3**
LPL La Plagne 5.42 304 *e*P **Pn 13 12 09.2 +3.3**
LPL *e*Sn **Sn 13 13 02.8 -5.1**
comp=N,4.6nm,0.3s
RONA Rosalia, Austr 5.48 23 *e*Pn **Pn 13 12 07.3 +0.6**
comp=N,2.0nm,0.2s
TRUS Trudelj 5.50 71 *e*Pn **Pn 13 12 08.5 +1.6**
TRUS *e*Sn **Sn 13 13 06.1 -3.7**
CONA Conrad Observa 5.58 19 *e*Pn **Pn 13 12 09.9 +1.9**
comp=N,4.5nm,0.3s,SNR=7.0
GRUS Gruza 5.65 75 *e*Pn **Pn 13 12 10.6 +1.7**
GRUS *e*Sn **Sn 13 13 12.4 -1.1**
SMRF Simiane la Rot 5.67 286 *e*P **Pn 13 12 12.5 +3.3**
SMRF *e*Sn **Sn 13 13 08.5 -5.5**
comp=N,1.3nm,0.4s
ORIF Oris-en-Rattie 5.71 295 *e*P **Pn 13 12 12.8 +3.0**
ORIF *e*Sn **Sn 13 13 09.7 -5.4**
comp=N,7.7nm,0.8s
SELS Selova 5.87 82 *e*Pn **Pn 13 12 13.2 +1.2**
SELS *e*Sn **Sn 13 13 17.0 -2.0**
OHR Ohrid 5.92 103 *i* Pn **Pn 13 12 15.8 +3.1**
GERES GERESS Array B 6.17 3 Pn Pn 13 12 17.3 +1.2
comp=N,0.4nm,0.3s,baz=171,slow=12,SNR=5.5
GERES Sn **Sn 13 13 27.0 +0.7**
comp=N,1.5nm,0.3s,baz=188,slow=16,SNR=2.2
comp=N,0.6nm,0.4s
CKRC Cesky Krumlov 6.18 7 *e*SN **Sn 13 13 26.4 -0.2**
SKO Skopje 6.19 94 *i* Pn **Pn 13 12 18.8 +2.5**
BOVS Bovan 6.33 79 ⇑P **Pn 13 12 19.6 +1.4**
BOVS Bovan 6.33 79 *e*Pn **Pn 13 12 19.2 +1.0**
BOVS *e*Sn **Sn 13 13 28.4 -1.7**
CABF La Chapelle 6.38 310 *e*P **Pn 13 12 22.2 +3.2**
CABF *e*Sn **Sn 13 13 25.6 -5.9**
comp=N,1.8nm,0.3s
BARS Barje 6.38 86 *e*Pn **Pn 13 12 20.5 +1.5**
BARS *e*Sn **Sn 13 13 27.9 -3.6**
KHC Kasperske Hory 6.45 3 *e*PN **Pn 13 12 20.8 +0.9**
KHC *e*SN **Sn 13 13 33.1 0.0**
VIVF Saint-Julien-l 6.51 292 *e*P **Pn 13 12 24.3 +3.6**
VIVF *e*Sn **Sn 13 13 28.8 -5.7**
comp=N,0.9nm,0.2s
MDVR Moldovita 6.55 68 ⇑P **Pn 13 12 23.2 +1.9**
ZAGS Zajecar 6.73 77 *e*Pn **Pn 13 12 25.1 +1.4**
ZAGS *e*Sn **Sn 13 13 36.7 -3.2**
BZS Buzias 6.76 61 ⇑P **Pn 13 12 25.5 +1.4**
KRUC Moravsky 6.76 18 *e*PN **Pn 13 12 24.7 +0.5**
KRUC *e*SN **Sn 13 13 40.5 -0.3**
HINF Hinteralfeld 6.78 321 *e*P **Pn 13 12 27.5 +3.0**
HINF *e*Sn **Sn 13 13 35.4 -5.9**
comp=N,7.4nm,0.2s
LASF Ste Croix 6.91 285 *e*P **Pn 13 12 29.3 +3.1**
LASF *e*Sn **Sn 13 13 39.0 -5.5**
comp=N,1.0nm,0.3s
ZAPS Zavoj 6.98 82 *e*Pn **Pn 13 12 28.9 +1.7**
ZAPS *e*Sn **Sn 13 13 41.7 -4.6**
BLKB Belogradchik 7.03 79 ⇑P **Pn 13 12 29.3 +1.4**
VRAC Vranov 7.04 19 LR LR 13 15 18.8
comp=N,43nm,20.0s,baz=216,slow=39
CDF Champ du Feu 7.05 326 *e*P **Pn 13 12 30.5 +2.3**
CDF *e*Sn **Sn 13 13 41.9 -6.1**
comp=N,3.7nm,0.2s
HERR Herculane 7.06 69 ⇑P **Pn 13 12 29.3 +1.1**
HAU Haudompre 7.15 320 *e*P **Pn 13 12 32.7 +3.1**
HAU *e*Sn **Sn 13 13 44.4 -6.0**
comp=N,25nm,0.5s
VTS Vitosha 7.44 87 ⇓P **Pn 13 12 36.1 +2.5**
GZR Gura Zlata 7.45 65 ⇓P **Pn 13 12 35.9 +2.3**
KEST Kesra 7.55 204 Pn Pn 13 12 36.6 +1.6
comp=N,0.3nm,0.3s,baz=87,slow=19,SNR=3.6
KEST LR LR 13 15 49.1
comp=N,153nm,18.1s,baz=208,slow=40
comp=N,0.7nm,0.4s
NKC Novy Kostel 7.56 357 *e*SN **Sn 13 14 00.2 -0.3**
SMF Signal de Mont 7.72 304 *e*P **Pn 13 12 40.6 +3.3**
SMF *e*Sn **Sn 13 13 57.9 -6.5**
comp=N,1.7nm,0.2s
PAGF Fort de Pagny 7.84 321 *e*P **Pn 13 12 42.5 +3.6**
baz=136
PAGF *e*Sn **Sn 13 14 00.6 -6.6**
comp=N,1.3nm,0.2s
SFTF Sexfontaines 7.93 317 *e*P **Pn 13 12 44.5 +4.3**
baz=133
DRGR 7.95 56 ⇑P **Pn 13 12 41.8 +1.3**
LOR Lormes 8.02 308 *e*P **Pn 13 12 46.0 +4.6**
LOR *e*Sn **Sn 13 14 06.6 -5.1**
comp=N,0.7nm,0.2s
MTLF Montolieu 8.04 278 *e*P **Pn 13 12 46.0 +4.3**
MTLF *e*Sn **Sn 13 14 06.7 -5.5**
comp=N,1.6nm,0.3s
AVF Avril sur Loir 8.09 304 *e*P **Pn 13 12 45.9 +3.6**
AVF *e*Sn **Sn 13 14 06.7 -6.6**
comp=N,0.8nm,0.3s
SSF Saint Saulge 8.12 306 *e*P **Pn 13 12 46.4 +3.6**
SSF *e*Sn **Sn 13 14 07.4 -6.8**
comp=N,1.9nm,0.4s
BRG Berggiesshubel 8.21 4 *e*(P) **Pb 13 13 04.8 -2.4**

BRG				Amp		13 13 14.3	
	comp=Z,1.1nm,0.4s						
BRG				*e*x	x	13 14 13.1	
BRG				*e*x	x	13 15 13.8	
BRG				Amp		13 15 35.4	
	comp=Z,8.4nm,1.1s						
CAF	**Calviac**	**8.32**	**289**	*e*P	**Pn**	**13 12 49.4**	**+3.8**
CAF				*e*Sn	**Sn**	**13 14 12.2**	**-7.0**
	comp=Z,0.7nm,0.2s						
ARR	**Arges**	**8.70**	**68**	⇑P	**Pn**	**13 12 52.3**	**+1.5**
VOIR		**9.00**	**68**	⇑P	**Pn**	**13 12 56.7**	**+1.7**
MLR	**Muntele Rosu**	**9.62**	**69**	Pn	**Pn**	**13 13 05.5**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=313,slow=21,SNR=2.5						
	comp=Z,2.1nm,0.5s						
ESDC	**Sonseca Array**	**13.24**	**263**	Pn	**Pn**	**13 13 53.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=70,slow=14,SNR=5.5						
	comp=Z,0.8nm,0.8s						
HFS	**Hagfors**	**17.47**	**1**	LR	LR	13 22 38.0	
	comp=Z,46nm,19.5s,baz=235,slow=41						
NOA	**NORSAR Array B**	**18.42**	**357**	LR	LR	13 21 47.9	
	comp=Z,26nm,20.9s,baz=165,slow=36						
FINES	**FINESS Array B**	**20.32**	**18**	P	**P**	**13 15 21.3**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=191,slow=14,SNR=1.6						
FINES				LR	LR	13 24 23.9	
	comp=Z,40nm,19.2s,baz=218,slow=40						
	comp=Z,3.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.06**	**202**	P	**P**	**13 17 05.0**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=19,slow=9.2,SNR=2.8						
	comp=Z,0.4nm,0.7s						
ARU	**Arti**	**31.87**	**49**	LR	LR	13 31 44.1	
	comp=Z,32nm,19.5s,baz=258,slow=40						
MKAR	**Makanchi Array**	**47.84**	**60**	P	**P**	**13 19 23.7**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=275,slow=7.1,SNR=4.3						
	comp=Z,1.4nm,0.9s						
SONM	**Songino Array**	**61.90**	**50**	P	**P**	**13 21 05.5**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=290,slow=9.1,SNR=2.8						
	comp=Z,0.3nm,0.3s						
MJAR	**Matsushiro Arr**	**86.59**	**41**	LR	LR	14 06 40.8	
	comp=Z,11nm,18.5s,baz=186,slow=39						

MAN 03 13:22:54.8, 13°.82N×120°.28E, h1^{km}, mb3.6, ML2.4, MS1.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.09**	**197**	⇑*e*P	Pg	13 22 56.7	0.0
LUBP				*i* S	Sg	13 23 00.3	+2.4

MAN 03 13:30:59.2, 12°.57N×119°.78E, h33^{km}, mb4.3, ML3.1, MS2.8, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**1.25**	**21**	⇑*e*P	Pn	13 31 19.9	-0.5

*IDC **03** 13:40:32.9±0.8, 55°.95S×27°.43W, h0^{km}, mb4.1/6, mbtmp4.1/7, ML4.8/1, Error ellipse: s-maj=41.2km s-min=21.2km az=77.0*

*NEIC **03** 13:40:34.0±2.7, 55°.88S±0°.10×27°.8W±0°.4, h10^{km}±2^{km}, mb4.1/6, Error ellipse: s-maj=44.5km s-min=8.9km az=70.0*

ISC 03 13:40:34.2±0.8, **56°.0S**±0°.1×**27°.8W**±0°.1, **h10^{km}, n22,** σ**1s43**/19, **mb4.0**/5, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.27**	**285**		**Pb**	**13 42 06.4**	**+0.1**
SNAA	**Sanae**	**18.96**	**156**	P	**P**	**13 44 56.2**	**+1.0**
	2.8nm,0.3s,baz=303,slow=10,SNR=211						
SNAA				PcP	**PcP**	**13 49 19.0**	**-1.2**
	0.4nm,0.8s,baz=270,slow=5.1,SNR=1.0						
	11nm,0.5s						
SNAA	**Sanae**	**18.96**	**156**	P	**Pn**	**13 44 56.6**	**+0.8**
SNAA				IAmb	IAmb	13 44 57.4	
	comp=Z,11nm,0.6s						
BELA	**Belgrano 2**	**22.14**	**184**	P	**P**	**13 45 29.1**	**-0.4**
QSPA	**South Pole Qui**	**34.29**	**180**	P	**P**	**13 47 21.3**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=244,slow=3.2,SNR=78						
QSPA				PcP	**PcP**	**13 49 54.7**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=134,slow=9.3,SNR=1.6						
	comp=Z,1.7nm,0.3s						
QSPA	**South Pole Qui**	**34.29**	**180**	P	**P**	**13 47 21.3**	**+1.0**
QSPA				IAmb	IAmb	13 47 26.1	
	comp=Z,3.1nm,1.0s						
MAW	**Mawson**	**40.41**	**144**	P	**P**	**13 48 12.1**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=273,slow=7.8,SNR=5.3						
	comp=Z,3.1nm,0.8s						
MAW	**Mawson**	**40.41**	**144**	P	**P**	**13 48 12.3**	**+0.4**
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**13 49 02.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=186,slow=6.8,SNR=16						
	comp=Z,0.9nm,0.6s						
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**13 49 00.2**	**-1.8**
VNDA				IAmb	IAmb	13 49 13.2	
	comp=Z,0.7nm,0.8s						
H10S2	**ASCENSION HYDR**	**48.02**	**18**	T	T	14 41 40.5	
	baz=189						
H10S3	**ASCENSION HYDR**	**48.02**	**18**	T	T	14 41 42.5	
	baz=31						
H10N1	**ASCENSION HYDR**	**49.13**	**18**	T	T	14 42 43.9	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.13**	**18**	T	T	14 43 08.5	
	baz=189						
H10N2	**ASCENSION HYDR**	**49.15**	**18**	T	T	14 43 11.0	
	baz=189						
LPAZ	**La Paz**	**50.06**	**306**	P	**P**	**13 49 32.9**	**+3.2**
	comp=Z,0.7nm,0.4s,baz=118,slow=4.4,SNR=2.8						
	comp=Z,0.7nm,0.4s						
LPAZ	**La Paz**	**50.06**	**306**	P	**P**	**13 49 28.3**	**-1.4**
LPAZ				IAmb	IAmb	13 49 31.2	
	comp=Z,4.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P	**P**	**13 52 06.1**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=197,slow=6.6,SNR=4.5						
	comp=Z,0.5nm,0.4s						
ASAR	**Alice Springs**	**99.17**	**163**	P	**Pdif**	**13 54 14.2**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=187,slow=4.5,SNR=9.4						
	comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**125.41**	**111**	PKP	**PKPdf**	**13 59 33.4**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=238,slow=5.0,SNR=1.9						
ILAR	**Eielson Array**	**149.81**	**312**	PKPbc	**PKPbc**	**14 00 22.2**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=129,slow=2.3,SNR=16						
SONM	**Songino Array**	**151.05**	**87**	PKPbc	**PKPbc**	**14 00 25.3**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=209,slow=3.4,SNR=8.5						

BGS 03 14:19:42.7±0.9, **57°.26N×4°.75W, h5^{km}**±7^{km}**, ML1.7, 2C, United Kingdom**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDO	**Dochfour**	**0.28**	**48**	*e*P	Pg	14 19 48.1	0.0
MDO	**Dochfour**	**0.28**	**48**	*e*P	Pg	14 19 48.1	0.0
KAC	**Achnashellach**	**0.39**	**310**	⇑*i*P	Pg	14 19 50.7	+0.6
KAC	**Achnashellach**	**0.39**	**310**	⇑*i*P	Pg	14 19 50.7	+0.6
KPL	**Plockton**	**0.50**	**280**	*e*P	Pg	14 19 52.8	+0.6
KPL				*e*S	Sg	14 19 59.0	+0.3
KPL				IAML		14 20 00.1	
	comp=N,40nm,0.3s						
KPL				IAML		14 20 05.0	
	comp=E,25nm,0.2s						
KPL	**Plockton**	**0.50**	**280**	*e*P	Pg	14 19 52.8	+0.6
KPL				*e*S	Sg	14 19 59.0	+0.3
KPL				IAML		14 20 00.1	
	comp=N,40nm,0.3s						
KPL				IAML		14 20 05.0	
	comp=E,25nm,0.2s						
MCD	**Coleburn Disti**	**0.87**	**67**	*e*P	Pg	14 19 59.0	-0.4
MCD	**Coleburn Disti**	**0.87**	**67**	*e*P	Pg	14 19 59.0	-0.4
INVG	**Invergeldie, C**	**0.92**	**155**	*e*P	Pg	14 19 59.5	-0.7
INVG				*e*S	Sg	14 20 11.5	-0.7
INVG				IAML		14 20 15.4	
	comp=N,22nm,0.3s						
INVG				IAML		14 20 16.1	
	comp=E,30nm,0.3s						
INVG	**Invergeldie, C**	**0.92**	**155**	*e*P	Pg	14 19 59.5	-0.7
INVG				*e*S	Sg	14 20 11.5	-0.7
INVG				IAML		14 20 15.4	
	comp=N,22nm,0.3s						
INVG				IAML		14 20 16.1	
	comp=E,30nm,0.3s						
LAWE	**Loch Awe, Argy**	**1.06**	**200**	*e*P	Pg	14 20 02.2	-0.7
LAWE				*e*S	Sg	14 20 16.2	-0.6
LAWE				IAML		14 20 20.7	
	comp=N,36nm,0.3s						
LAWE				IAML		14 20 20.7	
	comp=E,29nm,0.3s						
LAWE	**Loch Awe, Argy**	**1.06**	**200**	*e*P	Pg	14 20 02.2	-0.7
LAWE				*e*S	Sg	14 20 16.2	-0.6
LAWE				IAML		14 20 20.7	
	comp=N,36nm,0.3s						
LAWE				IAML		14 20 20.7	
	comp=E,29nm,0.3s						
DRUM	**Mains of Drumt**	**1.28**	**105**	*e*P	Pg	14 20 06.4	-0.9
DRUM				IAML		14 20 25.3	
	comp=E,17nm,0.2s						
DRUM				IAML		14 20 25.6	
	comp=N,40nm,0.3s						
DRUM	**Mains of Drumt**	**1.28**	**105**	*e*P	Pg	14 20 06.4	-0.9
DRUM				IAML		14 20 25.3	
	comp=E,17nm,0.2s						
DRUM				IAML		14 20 25.6	
	comp=N,40nm,0.3s						
BIGH	**Upper Bighouse**	**1.32**	**20**	*e*P	Pn	14 20 06.0	-1.7
BIGH				IAML		14 20 26.2	
	comp=N,9.0nm,0.3s						
BIGH				IAML		14 20 26.2	
	comp=E,11nm,0.4s						
BIGH	**Upper Bighouse**	**1.32**	**20**	*e*P	Pn	14 20 06.0	-1.7
BIGH				IAML		14 20 26.2	
	comp=N,9.0nm,0.3s						
BIGH				IAML		14 20 26.2	
	comp=E,11nm,0.4s						
LEWI	**Lewis, Hebride**	**1.45**	**309**	*e*P	Pn	14 20 07.9	-1.6
LEWI				*e*S	Sb	14 20 27.0	-1.8
LEWI				IAML		14 20 28.6	
	comp=E,6.4nm,0.3s						
LEWI				IAML		14 20 29.4	
	comp=N,11nm,0.3s						
LEWI	**Lewis, Hebride**	**1.45**	**309**	*e*P	Pn	14 20 07.9	-1.6
LEWI				*e*S	Sb	14 20 27.0	-1.8
LEWI				IAML		14 20 28.6	
	comp=E,6.4nm,0.3s						
LEWI				IAML		14 20 29.4	
	comp=N,11nm,0.3s						

*INET **03** 14:22:07.4±1.2, 12°.13N×87°.96W, h15^{km}±29^{km}, ML4.1*

*SNET **03** 14:22:08.0±0.9, 12°.19N×88°.13W, h16^{km}±4^{km}, ML3.3*

ISC 03 14:22:05.0±3.0, **12°.04N**±0°.10×**88°.02W**±0°.06, **h17^{km}**±17^{km}**, n18,** σ**0s71**/28, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.15**	**55**	*e*P	**Pb**	**14 22 27.0**	**+0.5**
CRIN				*e*S	**Sg**	**14 22 41.9**	**-0.4**
CNCH	**Conchagua**	**1.24**	**8**	*e*P	**Pb**	**14 22 27.6**	**-0.5**
CNCH				*e*S	**Sb**	**14 22 43.7**	**-0.2**
CNCH				*e*S	**Sn**	**14 22 44.5**	**+0.3**
LCND	**La Caada**	**1.27**	**6**	*i* P	**Pn**	**14 22 28.1**	**+0.1**
LCND				*e*S	**Sb**	**14 22 44.5**	**-0.1**
LCND				IAML		14 22 47.0	
	comp=Z,1μm,0.4s						
ALJI	**Alcalda de J**	**1.39**	**337**	*e*S	**Sn**	**14 22 46.2**	**-1.4**
COPN	**Copaltepe**	**1.40**	**84**	*e*P	**Pn**	**14 22 30.5**	**+0.7**
COEB	**Comit de Eme**	**1.53**	**341**	*e*P	**Pn**	**14 22 32.0**	**+0.3**
COEB				*e*S	**Sn**	**14 22 50.9**	**-0.4**
COEB				IAML		14 23 00.2	
	comp=Z,338nm,0.4s						
PQSS	**Presa 15 de Se**	**1.66**	**342**	*e*P	**Pn**	**14 22 33.7**	**+0.4**
PQSS				*e*S	**Sn**	**14 22 54.2**	**-0.1**
CAHU	**Cacacuatique**	**1.73**	**354**	*e*S	**Sn**	**14 22 57.2**	**+0.9**
WILN	**Americas 2**	**1.80**	**86**	*e*P	**Pn**	**14 22 34.5**	**-0.7**
SJTE	**Alcalda de S**	**1.84**	**329**	*e*P	**Pn**	**14 22 36.4**	**+0.5**
SJTE				*e*S	**Sn**	**14 22 57.8**	**-1.1**
LFRS	**El Faro**	**1.87**	**327**	*e*S	**Sn**	**14 22 59.4**	**-0.3**
PAVA	**Las Pavas**	**1.89**	**332**	*e*P	**Pn**	**14 22 37.8**	**+1.1**
PAVA				*e*S	**Sn**	**14 22 59.7**	**-0.4**
P5NO	**Presa 5 de nov**	**2.06**	**340**	*e*P	**Pn**	**14 22 39.6**	**+0.7**
P5NO				*e*S	**Sn**	**14 23 03.8**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.13**	**20**	*e*P	**Pn**	**14 22 40.5**	**+0.5**
MATN	**Matagalpa**	**2.23**	**66**	*e*P	**Pn**	**14 22 41.8**	**+0.5**
NUBE	**Las Nubes**	**2.52**	**317**	*e*P	**Pn**	**14 22 45.9**	**+0.5**
NUBE				*e*S	**Sn**	**14 23 15.1**	**-0.8**
NUBE				IAML		14 23 18.9	
	comp=Z,116nm,0.4s						
MTO3	**Montecristo**	**2.68**	**331**	*e*P	**Pn**	**14 22 48.4**	**+0.7**
MTO3	**Montecristo**	**2.68**	**331**	*e*P	**Pn**	**14 22 48.7**	**+1.1**

*JMA **03** 14:33:51.4±0.3, 46°N±2°×14°4E±°, h327^{km}, MV3.3/37, NE OFF HOKKAIDO*

*IDC **03** 14:33:53.2±2.0, 45°.87N×143°.67E, h324^{km}±23^{km}, mb2.9/9, mbtmp3.7/14, Error ellipse: s-maj=26.9km s-min=15.0km az=159.0*

ISC 03 14:33:51.8±0.6, **45°.61N**±0°.07×**143°.78E**±0°.08, **h327^{km}, n33,** σ**1s39**/39, **mb3.2**/10, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.07**	**233**	P	**Pn**	**14 34 35.6**	**+0.3**
JWK2	**Keihoku**	**1.36**	**258**	P	**Pn**	**14 34 37.3**	**+0.6**
JMP	**Maruseppu**	**1.63**	**191**	P	**Pn**	**14 34 39.4**	**+0.9**
JMP				*e*S	**S**	**14 35 16.6**	**+0.7**
JTKR	**Abashiri--Toko**	**1.64**	**177**	P	**Pn**	**14 34 39.8**	**+1.3**
ASAJ	**Asahikawa**	**1.71**	**210**	P	**Pn**	**14 34 40.3**	**+1.3**
JRR	**Rishiri**	**1.80**	**256**	*e*P	**Pn**	**14 34 40.1**	**+0.7**
JSS	**Shosan**	**1.82**	**229**	*e*P	**Pn**	**14 34 40.9**	**+1.2**
JKK2	**Kamakawa 2**	**1.89**	**203**	*e*P	**Pn**	**14 34 41.6**	**+1.3**
JRBN	**Rebuntou**	**1.92**	**265**	*e*P	**Pn**	**14 34 39.6**	**-0.6**
JAR	**Ashorobuto**	**2.31**	**180**	*e*P	**Pn**	**14 34 45.0**	**+1.5**
JHR	**Hokuryu**	**2.37**	**219**	*e*P	**Pn**	**14 34 45.6**	**+1.7**
NEM2	**Nemuro 2**	**2.65**	**147**	*e*P	**Pn**	**14 34 46.4**	**+0.1**
NEM2				*e*S	**S**	**14 35 26.9**	**-3.0**
JAK	**Akkeshi**	**2.70**	**166**	*e*P	**Pn**	**14 34 47.0**	**+0.3**
JAK				*e*S	**S**	**14 35 29.5**	**-1.2**
JCH	**Churui**	**3.01**	**186**	*e*P	**Pn**	**14 34 50.1**	**+0.5**
JCH				*e*S	**S**	**14 35 33.3**	**-2.7**
JEW	**Eniwo**	**3.24**	**212**	*e*P	**Pn**	**14 34 54.0**	**+2.2**
JNBK	**Urakawa-nobuka**	**3.41**	**193**	*e*P	**Pn**	**14 34 54.5**	**+1.0**
JNBK				*e*S	**S**	**14 35 41.9**	**-1.1**
JOT	**Ohata**	**4.67**	**206**	*e*P	**Pn**	**14 35 07.5**	**+0.8**
JOT				*e*S	**S**	**14 36 04.5**	**-2.6**
JOSM	**Okushiri--Mats**	**4.70**	**223**	*e*P	**Pn**	**14 35 08.3**	**+1.2**
USRK	**Ussuriysk Ar.**	**8.49**	**265**	P	**Pn**	**14 35 52.6**	**+1.2**
	5.4nm,0.6s,baz=68,slow=14,SNR=6.2						
KLR	**Kul'dur**	**8.92**	**298**	P	**Pn**	**14 35 56.9**	**+0.4**
	1.8nm,0.6s,baz=107,slow=13,SNR=4.2						
MJAR	**Matsushiro Arr**	**9.98**	**207**	P	**P**	**14 36 12.6**	**+0.5**
	3.4nm,0.6s,baz=19,slow=10,SNR=8.6						
PETK	**Petropavlovsk-**	**11.76**	**45**	P	**P**	**14 36 30.5**	**-1.0**
	2.6nm,0.7s,baz=222,slow=9.4,SNR=7.9						
SEY	**Seymchan**	**18.04**	**13**	P	**P**	**14 37 39.1**	**-0.8**
	7.2nm,0.7s,baz=191,slow=8.5,SNR=19						
SONM	**Songino Array**	**25.56**	**289**	P	**P**	**14 38 52.4**	**+0.7**
	0.5nm,0.5s,baz=84,slow=9.7,SNR=4.1						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**37.96**	**305**	P	**P**	**14 40 37.9**	**-0.7**
	0.5nm,0.4s,baz=75,slow=7.8,SNR=2.4						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**41.44**	**37**	P	**P**	**14 41 07.4**	**+0.5**
	0.7nm,0.6s,baz=276,slow=8.6,SNR=11						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**41.60**	**295**	P	**P**	**14 41 08.6**	**+0.1**
	0.4nm,0.6s,baz=74,slow=7.4,SNR=4.2						
	0.4nm,0.6s						
INK	**Inuvik**	**46.02**	**31**	P	**P**	**14 41 41.9**	**-1.0**
	0.7nm,0.3s,baz=285,slow=2.2,SNR=8.8						
	0.7nm,0.3s						
YKA	**Yellowknife Ar**	**55.58**	**33**	P	**P**	**14 42 53.7**	**0.0**
	1.0nm,0.8s,baz=306,slow=7.2,SNR=2.4						
	1.0nm,0.8s						
GEYT	**Alibeck**	**61.45**	**296**	P	**P**	**14 43 31.8**	**-2.4**
	0.8nm,0.4s,baz=68,slow=11,SNR=1.8						
NVAR	**Mina Array Bea**	**68.60**	**57**	P	**P**	**14 44 22.3**	**+2.1**
	0.2nm,0.5s,baz=317,slow=6.4,SNR=2.4						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**70.51**	**48**	P	**P**	**14 44 33.1**	**+1.4**
	0.2nm,0.4s,baz=298,slow=1.9,SNR=2.2						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**83.57**	**54**	P	**P**	**14 45 45.9**	**+1.9**
	0.2nm,0.4s,baz=326,slow=3.7,SNR=4.1						
	0.2nm,0.4s						

*WEL **03** 14:36:00, 41°.06S×174°.59E, h44^{km}, ML4.4, Mw4.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{15} Nm; M_{rr}1.09; $M_{\theta\theta}$-0.87; $M_{\phi\phi}$-0.22; $M_{r\theta}$0.61; $M_{\theta\phi}$0.27; $M_{\phi r}$-0.39; Fault plane solution: $M_0$1.26000×10^{15} NP1: ϕ_s285.00000°, δ28.00000°, λ79.00000°. NP2: ϕ_s117.00000°, δ63.00000°, λ96.00000°. Principal axes: T 132.3700, Plg72.0000°, Azm40.0000°; N -119.1600, Plg5.0000°, Azm294.0000°; P -13.2100, Plg18.0000°, Azm203.0000°;*

*IDC **03** 14:36:13.7±1.0, 40°.87S×174°.57E, h45^{km}±8^{km}, mb3.8/7, mbtmp4.0/8, ML3.4/1, MS3.1/3 Error ellipse: s-maj=23.8km s-min=11.6km az=141.0*

*WEL **03** 14:36:13.7, 41°S±3°×17°5E±°, h37^{km}±5^{km}, M4.4/31, ML4.7/31, MLv4.4/31, Error ellipse: s-maj=0.0km s-min=0.0km az=120.9*

*NOU **03** 14:36:13.3, 41°.19S×174°.76E, h56^{km}, MLv4.5/15, Cook Strait, New Zealand*

ISC 03 14:36:13.1±0.7, **41°.10S**±0°.03×**174°.60E**±0°.02, **h35^{km}**±1^{km}**, n128,** σ**1s57**/152, **mb4.0**/7, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEL	**Wellington**	**0.22**	**145**	P	**Pn**	**14 36 22.1**	**+1.4**
WEL				S	**Sn**	**14 36 28.0**	**+1.4**
SNZO	**South Karori**	**0.23**	**159**	P	**Pn**	**14 36 22.2**	**+1.5**
TCW	**Tory Channel**	**0.27**	**245**	P	**Pn**	**14 36 21.9**	**+1.0**
TCW				S	**Sn**	**14 36 27.3**	**+0.6**
KIW	**Kapiti Island**	**0.34**	**45**	P	**Pn**	**14 36 22.3**	**+0.8**
KIW				S	**Sn**	**14 36 28.2**	**+0.6**
CAW	**Cannon Point**	**0.35**	**91**	P	**Pn**	**14 36 23.2**	**+1.5**
CAW				S	**Sn**	**14 36 30.2**	**+2.3**
OGWZ	**Otaki Gorge**	**0.52**	**57**	P	**Pn**	**14 36 25.0**	**+0.9**
OGWZ				S	**Sn**	**14 36 32.9**	**+1.3**
MSWZ	**Moikau Station**	**0.58**	**123**	P	**Pn**	**14 36 26.7**	**+1.6**
MSWZ				S	**Sn**	**14 36 36.3**	**+3.0**
DUWZ	**D'Urville Isla**	**0.59**	**300**	P	**Pn**	**14 36 25.6**	**+0.4**
DUWZ				S	**Sn**	**14 36 34.2**	**+0.6**
TUWZ	**Tuamarina**	**0.59**	**236**	P	**Pn**	**14 36 26.2**	**+1.0**
TUWZ				S	**Sn**	**14 36 35.1**	**+1.5**
PLWZ	**Palliser**	**0.68**	**134**	P	**Pn**	**14 36 27.8**	**+1.4**
PLWZ				S	**Sn**	**14 36 38.5**	**+2.7**
MTW	**Mount Morrison**	**0.69**	**95**	P	**Pn**	**14 36 27.6**	**+1.2**
MTW				S	**Sn**	**14 36 38.3**	**+2.5**
PAWZ	**Paruwai Farm**	**0.69**	**115**	P	**Pn**	**14 36 27.8**	**+1.4**
PAWZ				S	**Sn**	**14 36 38.4**	**+2.5**
CMWZ	**Cape Campbell**	**0.71**	**204**	P	**Pn**	**14 36 29.3**	**+2.6**
HOWZ	**Holdsworth Sta**	**0.72**	**74**	P	**Pn**	**14 36 28.1**	**+1.2**
HOWZ				S	**Sn**	**14 36 39.2**	**+2.4**
BSWZ	**Blackbirch Sta**	**0.82**	**221**	P	**Pn**	**14 36 30.0**	**+1.8**
BSWZ				S	**Sn**	**14 36 42.5**	**+3.3**
MRZ	**Mangatainoka R**	**0.86**	**60**	P	**Pn**	**14 36 29.9**	**+1.1**
MRZ				S	**Sn**	**14 36 42.4**	**+2.2**
TRWZ	**Traveller**	**0.87**	**110**	P	**Pn**	**14 36 30.1**	**+1.1**
NNZ	**Nelson**	**0.93**	**262**	P	**Pn**	**14 36 30.6**	**+0.9**
NNZ				S	**Sn**	**14 36 43.5**	**+1.7**
TMWZ	**Te Maipa**	**0.98**	**91**	P	**Pn**	**14 36 31.2**	**+0.9**
TMWZ				S	**Sn**	**14 36 44.7**	**+1.7**
TIWZ	**Tintock**	**1.03**	**72**	P	**Pn**	**14 36 31.8**	**+0.8**
TIWZ				S	**Sn**	**14 36 45.8**	**+1.5**
OHWZ	**Ohakea**	**1.05**	**32**	P	**Pn**	**14 36 32.8**	**+1.5**
OHWZ				S	**Sn**	**14 36 48.2**	**+3.6**
POWZ	**Post Office Ro**	**1.14**	**52**	P	**Pn**	**14 36 33.2**	**+0.7**
PRWZ	**Pori Road**	**1.18**	**63**	P	**Pn**	**14 36 33.9**	**+0.8**
CPWZ	**Castlepoint**	**1.23**	**82**	P	**Pn**	**14 36 34.7**	**+1.0**
TKNZ	**Takaka Hill**	**1.24**	**273**	P	**Pn**	**14 36 35.4**	**+1.4**
BFZ	**Birch Farm**	**1.32**	**72**	P	**Pn**	**14 36 35.4**	**+0.4**
BFZ	**Birch Farm**	**1.32**	**72**	P	**Pn**	**14 36 35.2**	**+0.2**
WAZ	**Wanganui**	**1.38**	**13**	P	**Pn**	**14 36 37.5**	**+1.6**
MRNZ	**Matariki Terra**	**1.42**	**257**	P	**Pn**	**14 36 38.4**	**+1.9**
THZ	**Tophouse**	**1.44**	**242**	P	**Pn**	**14 36 38.0**	**+1.3**
DVHZ	**Dannevirke**	**1.44**	**57**	P	**Pn**	**14 36 36.7**	**+0.1**
DVHZ				S	**Sn**	**14 36 59.3**	**+5.0**
TSZ	**Takapari Road**	**1.47**	**45**	P	**Pn**	**14 36 37.6**	**+0.5**
KHZ	**Kahutara**	**1.54**	**211**	P	**Pn**	**14 36 39.6**	**+1.6**
KHZ	**Kahutara**	**1.54**	**211**	P	**Pn**	**14 36 39.4**	**+1.4**
ANWZ	**Angora Road**	**1.56**	**66**	P	**Pn**	**14 36 38.3**	**-0.1**
QRZ	**Quartz Range**	**1.59**	**279**	P	**Pn**	**14 36 41.0**	**+2.2**
QRZ	**Quartz Range**	**1.59**	**279**	P	**Pn**	**14 36 40.3**	**+1.5**
LREZ	**Lake Rotokare**	**1.64**	**355**	P	**Pn**	**14 36 41.1**	**+1.6**
PNHZ	**Pukenui**	**1.70**	**46**	P	**Pn**	**14 36 40.4**	**+0.1**
WPHZ	**Waipukurau**	**1.74**	**54**	P	**Pn**	**14 36 40.8**	**-0.1**
PRHZ	**Porangahau**	**1.76**	**62**	P	**Pn**	**14 36 40.8**	**-0.3**
NMEZ	**Namu Road**	**1.77**	**342**	P	**Pn**	**14 36 43.2**	**+2.0**
PREZ	**Palmer Road**	**1.79**	**349**	P	**Pn**	**14 36 43.9**	**+2.4**
MTVZ	**Mangateitei**	**1.84**	**22**	P	**Pn**	**14 36 43.7**	**+1.5**
KHEZ	**Kahui Hut**	**1.86**	**346**	P	**Pn**	**14 36 45.1**	**+2.6**
KHEZ	**Kahui Hut**	**1.86**	**346**	P	**Pn**	**14 36 44.3**	**+1.8**
NEZ	**North Egmont**	**1.87**	**348**	P	**Pn**	**14 36 44.8**	**+2.1**
PKVZ	**Pokaka**	**1.90**	**18**	P	**Pn**	**14 36 44.2**	**+1.2**
MOVZ	**Moawhango**	**1.91**	**28**	P	**Pn**	**14 36 43.7**	**+0.5**
NBEZ	**Newall Road No**	**1.91**	**343**	P	**Pn**	**14 36 44.8**	**+1.6**
WNVZ	**Wahianoa**	**1.93**	**24**	P	**Pn**	**14 36 45.0**	**+1.4**
DREZ	**Durham Road**	**1.93**	**351**	P	**Pn**	**14 36 45.4**	**+1.9**
TRVZ	**Turoa**	**1.94**	**22**	P	**Pn**	**14 36 45.5**	**+1.7**
BHHZ	**Black Hill Sta**	**1.96**	**35**	P	**Pn**	**14 36 44.6**	**+0.6**
PKE	**Pukeiti**	**1.96**	**346**	P	**Pn**	**14 36 45.8**	**+1.9**
DRZ	**Dome Shelter**	**1.97**	**22**	P	**Pn**	**14 36 46.9**	**+2.7**
WHVZ	**Whangaehu Hut**	**1.97**	**23**	P	**Pn**	**14 36 45.8**	**+1.6**
VRZ	**Vera Road**	**1.98**	**4**	P	**Pn**	**14 36 45.9**	**+1.8**
FWVZ	**Far West T-bar**	**1.98**	**22**	P	**Pn**	**14 36 45.8**	**+1.4**
TUVZ	**Tukino**	**2.00**	**24**	P	**Pn**	**14 36 45.7**	**+1.2**
PXZ	**Pawanui**	**2.03**	**59**	P	**Pn**	**14 36 44.2**	**-0.6**
MHEZ	**Mangahewa**	**2.03**	**354**	P	**Pn**	**14 36 47.1**	**+2.3**
NGZ	**Ngauruhoe**	**2.07**	**22**	P	**Pn**	**14 36 46.9**	**+1.3**
SNVZ	**South Ngauruho**	**2.07**	**23**	P	**Pn**	**14 36 46.9**	**+1.4**
OTVZ	**Oturere**	**2.10**	**23**	P	**Pn**	**14 36 47.3**	**+1.4**
NNVZ	**North Ngauruho**	**2.11**	**22**	P	**Pn**	**14 36 47.5**	**+1.4**
WTVZ	**West Tongariro**	**2.12**	**21**	P	**Pn**	**14 36 47.6**	**+1.3**
TWVZ	**Taurewa**	**2.13**	**18**	P	**Pn**	**14 36 47.5**	**+1.2**
ETVZ	**East Tongariro**	**2.14**	**24**	P	**Pn**	**14 36 47.5**	**+1.1**
TMVZ	**Te Maari**	**2.15**	**24**	P	**Pn**	**14 36 47.8**	**+1.1**
KRVZ	**Karewarewa**	**2.16**	**22**	P	**Pn**	**14 36 48.0**	**+1.4**
NTVZ	**North Tongarir**	**2.16**	**23**	P	**Pn**	**14 36 48.1**	**+1.3**
KAHZ	**Kahuranaki**	**2.17**	**54**	P	**Pn**	**14 36 46.3**	**-0.5**
KWHZ	**Kaweka Forest**	**2.18**	**40**	P	**Pn**	**14 36 47.3**	**+0.3**
DSZ	**Denniston Nort**	**2.20**	**252**	P	**Pn**	**14 36 48.6**	**+1.4**
GVZ	**Greta Valley S**	**2.20**	**211**	P	**Pn**	**14 36 48.0**	**+0.8**
KATZ	**Kakaramea**	**2.28**	**22**	P	**Pn**	**14 36 51.9**	**+3.5**
MCHZ	**McNeill Hill**	**2.30**	**45**	P	**Pn**	**14 36 48.3**	**-0.3**
RITZ	**Rihia Road**	**2.33**	**25**	P	**Pn**	**14 36 50.1**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.38**	**54**	P	**Pn**	**14 36 48.7**	**-0.9**
RATZ	**Rangitukua**	**2.41**	**22**	P	**Pn**	**14 36 52.0**	**+2.0**
BKZ	**Black Stump Fm**	**2.42**	**38**	P	**Pn**	**14 36 51.3**	**+1.1**
BKZ	**Black Stump Fm**	**2.42**	**38**	P	**Pn**	**14 36 49.7**	**-0.4**
LTZ	**Lake Taylor**	**2.42**	**225**	P	**Pn**	**14 36 51.1**	**+0.9**
HATZ	**Hinemaiaia**	**2.49**	**28**	P	**Pn**	**14 36 53.4**	**+2.3**
AMCZ	**Amberley**	**2.53**	**214**	P	**Pn**	**14 36 52.0**	**+0.4**
WATZ	**Wairara**	**2.54**	**20**	P	**Pn**	**14 36 52.8**	**+0.9**
HIZ	**Hauiti**	**2.59**	**4**	P	**Pn**	**14 36 54.2**	**+1.7**
ARHZ	**Aropaoanui**	**2.60**	**46**	P	**Pn**	**14 36 51.9**	**-0.7**
NMHZ	**Naumai**	**2.62**	**41**	P	**Pn**	**14 36 52.5**	**-0.5**
MRHZ	**Matea Rd**	**2.66**	**32**	P	**Pn**	**14 36 53.0**	**-0.5**
MTHZ	**Maungataniwha**	**2.83**	**38**	P	**Pn**	**14 36 54.9**	**-1.0**
WPRZ	**Whakapapatarin**	**2.84**	**26**	P	**Pn**	**14 36 56.1**	**0.0**
WHHZ	**Waihua**	**2.86**	**46**	P	**Pn**	**14 36 55.5**	**-0.7**
OKCZ	**Okains Bay**	**2.86**	**203**	P	**Pn**	**14 36 56.1**	**-0.1**
INZ	**Inchbonnie**	**2.86**	**234**	P	**Pn**	**14 36 57.0**	**+0.8**
ALRZ	**Allen Road**	**2.87**	**28**	P	**Pn**	**14 36 55.8**	**-0.5**
RAHZ	**Arahi**	**2.90**	**42**	P	**Pn**	**14 36 55.6**	**-1.2**
OXZ	**Oxford**	**2.93**	**220**	P	**Pn**	**14 36 56.7**	**-0.4**
PRRZ	**Plateau Road**	**2.94**	**29**	P	**Pn**	**14 36 56.8**	**-0.6**
MQZ	**McQueen's Vall**	**2.98**	**208**	P	**Pn**	**14 36 56.9**	**-0.9**
AKCZ	**Akaroa Harbour**	**3.04**	**204**	P	**Pn**	**14 36 58.5**	**-0.2**
RTZ	**Ruatahuna**	**3.08**	**37**	P	**Pn**	**14 36 58.3**	**-1.1**
RRRZ	**Republican Roa**	**3.13**	**29**	P	**Pn**	**14 36 59.1**	**-0.9**
SNGZ	**Shannon Statio**	**3.13**	**43**	P	**Pn**	**14 36 58.4**	**-1.6**
RACZ	**Rakaia**	**3.19**	**214**	P	**Pn**	**14 37 00.1**	**-0.7**
MHGZ	**Mahia Peninsul**	**3.20**	**54**	P	**Pn**	**14 36 59.4**	**-1.5**
URZ	**Urewera**	**3.44**	**35**	P	**Pn**	**14 37 02.1**	**-2.0**
	4.1nm,0.3s,baz=329,slow=5.5,SNR=46						
URZ				S	**Sn**	**14 37 40.6**	**-3.0**
	136nm,0.4s,baz=349,slow=20,SNR=5.6						
URZ				LR	LR	14 38 41.5	
	comp=Z,227nm,20.6s,baz=280,slow=45						
	9.3nm,0.3s						
URZ	**Urewera**	**3.44**	**35**	P	**Pn**	**14 37 02.6**	**-1.5**
RPZ	**Rata Peaks**	**3.70**	**224**	P	**Pn**	**14 37 07.7**	**-0.1**
	16nm,0.3s,baz=47,slow=3.4,SNR=53						
RPZ				S	**Sn**	**14 37 47.5**	**-2.7**
	111nm,0.3s,baz=147,slow=23,SNR=23						
RPZ				LR	LR	14 38 56.3	
	comp=Z,246nm,18.1s,baz=30,slow=42						
RPZ	**Rata Peaks**	**3.70**	**224**	P	**Pn**	**14 37 07.7**	**-0.1**

KUZ	Kuaotunu	4.43	12	P	Pn	14 37 18.7	+0.8
MXZ	Matakaoa Point	4.55	40	P	Pn	14 37 19.7	+0.2
ODZ	Otahua Downs	4.89	215	P	Pn	14 37 23.6	-0.5
JCZ	Jackson Bay	5.22	233	P	Pn	14 37 29.4	+0.7
OUZ	Omahuta	5.92	352	P	Pn	14 37 39.5	+1.2
SYZ	Scrubby Hill	6.72	214	P	Pn	14 37 49.0	-0.2
CTZ	Chatham Island	7.01	115	P	Pn	14 37 50.8	-2.5
MSVF	Nonsavu	23.48	8	P	P	14 41 17.4	-2.2
	2.0nm,0.5s,baz=252,slow=20,SNR=5.1						
	2.0nm,0.5s						
CTA	Charters Tower	31.92	302	LR	LR	14 54 31.3	
	comp=Z,30nm,18.6s,baz=81,slow=34						
ASAR	Alice Springs	38.12	284	P	P	14 43 27.4	-1.4
	0.7nm,0.4s,baz=124,slow=7.1,SNR=54						
ASAR				pP	pP	14 43 40.7	+1.6
	0.7nm,0.4s,baz=124,slow=6.7,SNR=7.1						
ASAR				PcP	PcP	14 45 40.5	-2.8
	0.2nm,0.4s,baz=121,slow=3.9,SNR=2.0						
	0.7nm,0.4s						
PPT	Papeete	38.65	63	P	P	14 43 32.3	-1.0
	8.9nm,0.5s,baz=233,slow=18,SNR=1.4						
	8.9nm,0.5s						
WRA	Warramunga Arr	40.13	289	P	P	14 43 44.1	-1.6
	0.4nm,0.3s,baz=126,slow=8.5,SNR=26						
WRA				pP	pP	14 43 57.9	+2.0
	0.4nm,0.3s,baz=126,slow=8.4,SNR=4.6						
	0.4nm,0.3s						
QSPA	South Pole Qui	49.03	180	P	P	14 44 58.5	+2.2
	1.2nm,0.6s,baz=0.1,slow=1.9,SNR=9.2						
	1.2nm,0.6s						
KSRS	Korea Array	89.08	325	P	P	14 49 03.9	-0.3
	1.1nm,0.8s,baz=147,slow=6.2,SNR=3.2						
	1.1nm,0.8s						
CMAR	Chiang Mai Arr	91.62	293	P	P	14 49 15.6	-1.0
	0.5nm,0.7s,baz=122,slow=3.3,SNR=1.6						
	0.5nm,0.7s						
ARCES	ARCESS Array B	147.25	340	PKPbc	PKPdf	14 55 49.4	+0.2
	2.6nm,0.9s,baz=69,slow=2.0,SNR=10						
ARCES				pPKPbc	pPKPdf	14 56 01.4	+0.8
	2.7nm,0.8s,baz=35,slow=4.4,SNR=2.2						
TORD	Torodi Ar. Bea	151.47	195	PKPbc	PKPbc	14 56 02.8	-0.9
	0.8nm,0.5s,baz=149,slow=2.1,SNR=7.0						

IDC 03 14:41:17.6±48.0, 17.78S×178.70W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=881.4km s-min=158.4km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.45	241	P	P	14 48 41.3	-0.1
	0.7nm,0.5s,baz=66,slow=10.0,SNR=2.1						
	0.7nm,0.5s						
WRA	Warramunga Arr	44.38	259	P	P	14 49 30.0	-0.3
	0.5nm,0.4s,baz=95,slow=7.2,SNR=32						
	0.5nm,0.4s						
ASAR	Alice Springs	44.56	254	P	P	14 49 31.7	0.0
	2.1nm,0.6s,baz=87,slow=8.9,SNR=74						
	2.1nm,0.6s						

*ROM **03** 14:41:29.9±0.0, 42.994N±0.002×13.075E±0.003, h9km, ML3.5/59, Error ellipse: s-maj=0.2km s-min=0.1km az=68.0*

*IDC **03** 14:41:31.0±1.4, 43.12N×13.28E, h0km, mb3.5/3, mbtmp3.5/5, ML3.3/2, MS2.5/2, Error ellipse: s-maj=38.6km s-min=14.9km az=96.0*

*PRU **03** 14:41:31.4±0.0, 42.92N×13.80E, h10km*

ISC 03 14:41:30.5±0.7, 42.99N±0.01×13.09E±0.02, h9km±4km, n144, σ0991/176, mb3.5/3, 36C-5D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.04	229	⇑P	Pg	14 41 32.1	-0.3
FEMA				S	Sg	14 41 33.4	-0.3
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FDMO	Fiordimonte	0.05	358	⇓P	Pg	14 41 31.8	-0.6
FDMO				S	Sg	14 41 32.9	-0.8
T1256	Bolognola (MC)	0.10	79	⇑P	Pg	14 41 33.0	-0.1
T1256				S	Sg	14 41 34.9	-0.1
T1256				AML	AML		
	comp=N,88050μm,0.3s						
T1256				AML	AML		
	comp=N,83300μm,0.3s						
T1256				AML	AML		
	comp=E,76000μm,1.3s						
T1256				AML	AML		
	comp=N,83350μm,0.3s						
T1256				AML	AML		
	comp=E,75950μm,1.3s						
T1256				AML	AML		
	comp=E,79800μm,1.3s						
T1256				AML	AML		
	comp=N,88250μm,0.3s						
T1216	Preci, Frazion	0.11	208	⇑P	Pg	14 41 33.2	+0.1
T1216				S	Sg	14 41 35.4	+0.4
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
CSP1	Cessapalombo	0.13	39	⇑P	Pg	14 41 33.4	-0.2
CSP1				S	Sg	14 41 35.8	+0.1
T1245	Castelsantange	0.15	151	⇑P	Pg	14 41 34.0	+0.1
T1245				S	Sg	14 41 36.9	+0.8
T1245				AML	AML		
T1245				AML	AML		
	comp=E,92550μm,0.2s						
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
NRCA	Norcia	0.15	173	⇑P	Pg	14 41 34.1	+0.2
NRCA				S	Sg	14 41 36.5	+0.3
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,99900μm,0.2s						
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
SEF1	Sefro	0.19	327	⇑P	Pg	14 41 34.2	-0.3
SEF1				S	Sg	14 41 37.4	+0.2
SEF1				AML	AML		
	comp=E,25800μm,0.2s						
SEF1				AML	AML		
	comp=E,25750μm,0.2s						
SEF1				AML	AML		
	comp=N,26000μm,0.2s						
SEF1				AML	AML		
	comp=N,26050μm,0.2s						
SEF1				AML	AML		
	comp=E,25800μm,0.3s						
AM05	Amandola Campo	0.19	93	⇑P	Pg	14 41 34.8	+0.2
AM05				S	Sg	14 41 38.2	+1.0
AM05				AML	AML		
	comp=N,3315μm,0.1s						
AM05				AML	AML		
	comp=E,52050μm,0.3s						
AM05				AML	AML		
	comp=N,3310μm,0.1s						
AM05				AML	AML		
	comp=N,20350μm,0.4s						
AM05				AML	AML		
	comp=E,9040μm,0.7s						
GUMA	Gualdo di Mace	0.20	67	⇑P	Pb	14 41 34.9	+0.4
GUMA				S	Sg	14 41 38.6	+1.3
GUMA				AML	AML		
	comp=E,93750μm,0.5s						
GUMA				AML	AML		
	comp=N,60200μm,0.5s						
GUMA				AML	AML		
	comp=E,93700μm,0.5s						
GUMA				AML	AML		
	comp=N,60200μm,0.5s						
GUMA				AML	AML		
	comp=E,78150μm,0.4s						
GUMA				AML	AML		
	comp=N,96550μm,0.5s						
MMO1	Montemonaco	0.20	117	⇑P	Pg	14 41 34.7	+0.1
MMO1				S	Sg	14 41 38.3	+0.9
MDAR	Monte D'Aria	0.21	11	⇑P	Pg	14 41 34.6	-0.3
MDAR				S	Sg	14 41 38.1	+0.3
MDAR				AML	AML		
	comp=E,20750μm,0.5s						
MDAR				AML	AML		
	comp=N,19700μm,0.8s						
MDAR				AML	AML		
	comp=E,20700μm,0.5s						
MDAR				AML	AML		
	comp=N,19750μm,0.8s						
FIU1	Fiuminata	0.23	330	⇑P	Pg	14 41 35.0	-0.3
FIU1				S	Sg	14 41 38.8	+0.3
FIU1				AML	AML		
	comp=E,7355μm,0.4s						
FIU1				AML	AML		
	comp=N,6290μm,0.4s						
FIU1				AML	AML		
	comp=E,7355μm,0.4s						
FIU1				AML	AML		
	comp=N,6290μm,0.4s						
T1215	Vallo di Nera,	0.25	221	⇑P	Pg	14 41 35.7	+0.1
T1215				S	Sg	14 41 39.8	+0.9
T1215				AML	AML		
	comp=N,18700μm,0.3s						
T1215				AML	AML		
	comp=E,14850μm,0.3s						
T1215				AML	AML		
	comp=N,19350μm,0.3s						
T1215				AML	AML		
	comp=E,15100μm,0.7s						
T1215				AML	AML		
	comp=N,18650μm,0.3s						
T1215				AML	AML		
	comp=E,14800μm,0.3s						
T1215				AML	AML		
	comp=E,15050μm,0.7s						
T1215				AML	AML		
	comp=N,18700μm,0.3s						
SSM1	San Severino M	0.25	15	⇑P	Pg	14 41 35.4	-0.1
SSM1				S	Sg	14 41 39.5	+0.6
GAG1	Gagliole	0.25	356	P	Pg	14 41 35.6	0.0
GAG1				S	Sg	14 41 39.8	+0.8
GAG1				AML	AML		
	comp=E,29000μm,0.3s						
GAG1				AML	AML		
	comp=E,28950μm,0.3s						
GAG1				AML	AML		
	comp=N,23450μm,1.0s						
T1244	Arquata del Tr	0.28	146	⇑P	Pg	14 41 36.4	+0.3
T1244				S	Sb	14 41 41.3	-1.3
T1241	Roccafluvione,	0.28	118	⇑P	Pg	14 41 36.3	+0.1
T1241				S	Sb	14 41 41.3	-1.5
T1241				AML	AML		
	comp=E,18600μm,0.5s						
T1241				AML	AML		
	comp=N,16400μm,0.4s						
T1241				AML	AML		
	comp=N,17800μm,0.4s						
T1241				AML	AML		
	comp=E,18650μm,1.5s						
T1241				AML	AML		
	comp=N,16350μm,0.4s						
T1241				AML	AML		
	comp=E,18550μm,0.5s						
T1241				AML	AML		
	comp=E,18600μm,1.5s						
T1241				AML	AML		
	comp=N,17850μm,0.4s						
SNTG	Esanatoglia	0.29	338	P	Pg	14 41 36.0	-0.3
SNTG				S	Sg	14 41 40.6	+0.4
SNTG				AML	AML		
	comp=E,7135μm,0.8s						
SNTG				AML	AML		
	comp=E,7135μm,0.8s						
SNTG				AML	AML		
	comp=N,5840μm,0.3s						
SNTG				AML	AML		
	comp=E,7070μm,0.8s						
SNTG				AML	AML		
	comp=N,5210μm,0.2s						
T1217	Poggiodomo (PG	0.30	203	⇑P	Pg	14 41 36.7	+0.1
T1217				S	Sg	14 41 41.7	+1.2
T1217				AML	AML		
	comp=E,17500μm,0.8s						
T1217				AML	AML		
	comp=N,25450μm,1.2s						
T1217				AML	AML		
	comp=E,17000μm,0.8s						
T1217				AML	AML		
	comp=N,24550μm,1.2s						
T1217				AML	AML		
	comp=E,17500μm,0.8s						
T1217				AML	AML		
	comp=N,24550μm,1.2s						
T1217				AML	AML		
	comp=E,17000μm,0.8s						
T1217				AML	AML		
	comp=N,25450μm,1.2s						
MNTP	Montappone	0.32	62	⇑P	Pb	14 41 37.4	-1.0
MNTP				AML	AML		
	comp=N,16200μm,0.8s						
MNTP				AML	AML		
	comp=E,18600μm,0.6s						
ASSB	Assisi San Ben	0.32	280	⇑P	Pg	14 41 36.7	-0.2
EL6	Elcito	0.34	1	⇑P	Pg	14 41 37.0	-0.3
EL6				S	Sg	14 41 42.4	+0.5
T1201	Domo (RI)	0.35	160	P	Pg	14 41 37.9	+0.4
T1201				S	Sb	14 41 44.0	-0.7
T1204	Amatrice, Fraz	0.35	152	⇓P	Pg	14 41 37.8	+0.2
T1204				S	Sb	14 41 43.6	-1.3
T1204				AML	AML		
	comp=E,15300μm,1.0s						
T1204				AML	AML		
	comp=N,9235μm,0.7s						
T1204				AML	AML		
	comp=E,15350μm,1.0s						
T1204				AML	AML		
	comp=N,9220μm,0.7s						
TRE1	Treia	0.36	27	P	Pg	14 41 37.9	+0.2
TRE1				S	Sb	14 41 44.4	-0.7
TRE1				AML	AML		
	comp=N,13000μm,1.3s						
TRE1				AML	AML		
	comp=E,13900μm,1.2s						
ATCC	AVT- Casa Cast	0.38	301	⇑P	Pg	14 41 37.9	-0.2
ATCC				S	Sg	14 41 44.0	+0.8
ATCC				AML	AML		
	comp=N,15750μm,0.3s						
ATCC				AML	AML		
	comp=E,12050μm,0.6s						
LNSS	Leonessa	0.39	185	P	Pg	14 41 38.2	0.0
LNSS				S	Sg	14 41 44.1	+0.8
LNSS				AML	AML		
	comp=N,22300μm,0.7s						
LNSS				AML	AML		
	comp=E,9645μm,0.3s						
FOSV	Fossato di Vic	0.39	322	⇑P	Pg	14 41 37.9	-0.4
FOSV				S	Sg	14 41 44.0	+0.6
FOSV				AML	AML		
	comp=E,5120μm,0.8s						
FOSV				AML	AML		
	comp=N,7380μm,0.4s						
T1243	Rocca Santa Ma	0.39	138	⇑P	Pg	14 41 38.1	-0.2
T1243				S	Sb	14 41 44.5	-1.5
CINC	Cingoli	0.40	11	⇑P	Pg	14 41 38.0	-0.3
SMA1	SAN MARTINO	0.40	153	P	Pg	14 41 38.4	0.0
SMA1				S	Sb	14 41 44.8	-1.4
SMA1				AML	AML		
	comp=E,19550μm,0.2s						
SMA1				AML	AML		
	comp=N,14650μm,0.2s						
OFFI	Offida	0.44	97	⇑P	Pb	14 41 40.0	-0.5
OFFI				AML	AML		
	comp=E,11545μm,0.9s						
OFFI				AML	AML		
	comp=N,17150μm,0.6s						
MMUR	Monte Murano	0.46	352	P	Pg	14 41 39.2	-0.3
MMUR				AML	AML		
	comp=N,6110μm,0.2s						
MMUR				AML	AML		
	comp=N,6115μm,0.2s						
MMUR				AML	AML		
	comp=E,8105μm,0.2s						
ARRO	Arrone	0.47	210	P	Pg	14 41 39.8	+0.1
ARRO				S	Sg	14 41 47.0	+1.1
ARRO				AML	AML		
	comp=E,9195μm,0.2s						
ARRO				AML	AML		
	comp=N,7545μm,0.7s						
ARRO				AML	AML		
	comp=N,7540μm,0.7s						
T1211	Morro Reatino	0.49	201	⇓P	Pg	14 41 39.9	-0.1
T1211				S	Sg	14 41 47.6	+1.2
T1211				AML	AML		
	comp=E,9155μm,0.7s						
T1211				AML	AML		
	comp=N,12650μm,0.9s						
T1211				AML	AML		
	comp=E,9095μm,0.7s						
T1211				AML	AML		
	comp=N,12700μm,0.9s						
T1211				AML	AML		
	comp=N,12650μm,0.9s						
T1211				AML	AML		
	comp=E,9100μm,0.7s						
T1211				AML	AML		
	comp=E,9155μm,0.8s						
RM33	Pellescritta (	0.49	169	⇓P	Pg	14 41 39.8	-0.2
RM33				S	Sb	14 41 47.7	-1.0
RM33				AML	AML		
	comp=E,6565μm,0.7s						
RM33				AML	AML		
	comp=N,5200μm,0.4s						
RM33				AML	AML		
	comp=E,6460μm,0.7s						
RM33				AML	AML		
	comp=N,5355μm,0.4s						
RM33				AML	AML		
	comp=E,6560μm,0.7s						
RM33				AML	AML		
	comp=N,5195μm,0.4s						
RM33				AML	AML		
	comp=E,6455μm,0.7s						
MURB	Monte Urbino	0.50	304	⇑P	Pg	14 41 39.9	-0.3
MURB				S	Sg	14 41 48.0	+1.3
MURB				AML	AML		
	comp=E,18150μm,0.3s						
MURB				AML	AML		
	comp=E,16600μm,0.3s						
MURB				AML	AML		
	comp=N,14650μm,0.3s						
MURB				AML	AML		
	comp=N,15700μm,0.3s						
T1246	Crognaleto (TE	0.50	144	⇑P	Pg	14 41 40.0	-0.2
T1246				S	Sb	14 41 47.9	-1.2
SSFR	Montelago di S	0.50	333	P	Pg	14 41 39.8	-0.5
SSFR				AML	AML		
	comp=N,9275μm,0.3s						
SSFR				AML	AML		
	comp=N,7550μm,0.3s						
SSFR				AML	AML		
	comp=E,6495μm,0.3s						
SSFR				AML	AML		
	comp=E,8015μm,1.1s						
CAMP	Campotosto	0.51	152	⇑P	Pg	14 41 40.2	-0.2
CAMP				S	Sb	14 41 48.0	-1.3
CAMP				AML	AML		
	comp=E,5180μm,0.8s						
CAMP				AML	AML		
	comp=N,4040μm,0.2s						
ARVD	Arcevia	0.52	348	⇑P	Pg	14 41 40.2	-0.5
ARVD				AML	AML		
	comp=N,2200μm,0.6s						
ARVD				AML	AML		
	comp=E,2765μm,0.9s						
TERO	Teramo	0.53	134	⇑P	Pg	14 41 40.3	-0.4
TERO				S	Sb	14 41 48.6	-1.1
TERO				AML	AML		
	comp=N,11130μm,0.4s						
TERO				AML	AML		
	comp=N,11700μm,0.4s						
TERO				AML	AML		
	comp=E,7040μm,0.3s						
TERO				AML	AML		
	comp=N,11125μm,0.4s						
TERO				AML	AML		
	comp=N,11140μm,0.4s						
TERO				AML	AML		
	comp=E,7460μm,0.3s						
CIMA	Civitanova Mar	0.53	53	P	Pb	14 41 41.6	-0.4
CESX	Cesi	0.53	225	⇑P	Pg	14 41 40.5	-0.4
CESX				S	Sg	14 41 48.6	+0.8
CESX				AML	AML		
	comp=E,11505μm,0.4s						
CESX				AML	AML		
	comp=N,12850μm,0.4s						
CADA	Capodarco di F	0.53	67	P	Pb	14 41 42.2	+0.1
ATFO	Monte Foce - G	0.54	315	⇑P	Pg	14 41 40.5	-0.5
ATFO				AML	AML		
	comp=E,3055μm,1.0s						
ATFO				AML	AML		
	comp=N,2595μm,1.1s						
PP3	Marolino	0.54	44	P	Pb	14 41 41.7	-0.6
PP3				AML	AML		
	comp=E,6480μm,0.5s						
PP3				AML	AML		
	comp=N,7670μm,1.0s						
PP3				AML	AML		
	comp=E,6485μm,0.5s						
PP3				AML	AML		
	comp=N,7200μm,0.9s						
PP3				AML	AML		
	comp=E,6480μm,0.5s						
T1247	Pizzolo (AQ)	0.57	164	⇓P	Pg	14 41 41.2	-0.3
T1247				AML	AML		
	comp=N,5340μm,1.1s						
T1247				AML	AML		
	comp=E,5755μm,0.4s						
ATTE	AVT- Monte Tez	0.58	292	⇑P	Pg	14 41 41.2	-0.6
ATTE				AML	AML		
	comp=N,2595μm,0.8s						
ATTE				AML	AML		
	comp=E,2465μm,0.5s						
FRON	Frontone	0.59	333	P	Pg	14 41 41.5	-0.5
FRON				AML	AML		
	comp=E,1950μm,0.9s						
FRON				AML	AML		
	comp=N,2905μm,0.5s						
FRON				AML	AML		
	comp=N,2910μm,0.5s						
ATLO	AVT- Montelove	0.60	303	P	Pg	14 41 41.5	-0.6
TB01	Gubbio	0.62	310	P	Pg	14 41 41.9	-0.6
ATBU	Serra di Buran	0.63	321	P	Pg	14 41 42.3	-0.4
TB02	Pietralunga	0.63	308	P	Pg	14 41 42.0	-0.7
TRTR	Tortoreto Alta	0.63	106	AML	AML		
	comp=E,15000μm,1.0s						
TRTR				AML	AML		
	comp=N,15200μm,0.4s						
ATVO	AVT- Monte Val	0.64	308	⇑P	Pg	14 41 42.2	-0.7
ATVO				AML	AML		
	comp=E,2220μm,0.9s						
ATVO				AML	AML		
	comp=N,2860μm,0.7s						
GIGS	Gran Sasso	0.64	147	P	Pg	14 41 42.3	-0.7
GIGS				AML	AML		
	comp=N,1190μm,0.5s						
GIGS				AML	AML		
	comp=N,1190μm,0.5s						
GIGS				AML	AML		
	comp=E,1550μm,0.7s						
COR1	Corinaldo	0.65	354	P	Pb	14 41 43.8	-0.2
COR1				AML	AML		
	comp=N,3775μm,0.6s						
COR1				AML	AML		
	comp=E,2640μm,0.4s						
COR1				AML	AML		
	comp=N,3765μm,0.6s						
TB03	Pietralunga	0.65	310	P	Pg	14 41 42.4	-0.6
ATVA	AVT- Monte Val	0.66	297	P	Pg	14 41 42.6	-0.7
AQU	L'Aquila	0.67	160	P	Pb	14 41 44.5	-0.1
AOI	Ancona	0.68	33	⇑P	Pg	14 41 43.3	-0.3
AOI				AML	AML		
	comp=N,1720μm,0.7s						
AOI				AML	AML		
	comp=E,1890μm,0.6s						
ATPC	Poggio Castell	0.68	317	P	Pg	14 41 43.1	-0.5
PIEI	Pieia	0.68	324	P	Pg	14 41 42.9	-0.8
PIEI				AML	AML		
	comp=E,1855μm,1.3s						
PIEI				AML	AML		
	comp=N,1510μm,1.2s						
ATPI	Pietralunga -	0.68	313	⇑P	Pg	14 41 43.1	-0.7
ATPI				AML	AML		

	comp=N,2075µm,0.6s						
ATPI				AML	AML		
	comp=E,2055µm,0.5s						
MPAG	**Monte Paganucc**	**0.69**	**339**	P	**Pg**	**14 41 43.4**	**-0.4**
MPAG				AML	AML		
	comp=N,2715µm,0.8s						
MPAG				AML	AML		
	comp=N,2710µm,0.8s						
MPAG				AML	AML		
	comp=E,2235µm,0.8s						
ATMI	**Monte Miggiano**	**0.69**	**300**	AML	AML		
	comp=N,5730µm,0.4s						
ATMI				AML	AML		
	comp=E,6365µm,0.5s						
PCRO	**Pietralacroce**	**0.70**	**27**	P	**Pb**	**14 41 44.3**	**-0.6**
FIAM	**Fiamignano**	**0.72**	**178**	P	**Pg**	**14 41 43.7**	**-0.7**
FIAM				AML	AML		
	comp=E,2660µm,0.6s						
FIAM				AML	AML		
	comp=N,2405µm,0.5s						
MGAB	**Montegabbione**	**0.72**	**264**	P	**Pg**	**14 41 44.0**	**-0.5**
MGAB				AML	AML		
	comp=E,7390µm,0.5s						
MGAB				AML	AML		
	comp=E,7385µm,0.5s						
MGAB				AML	AML		
	comp=E,8740µm,0.5s						
MGAB				AML	AML		
	comp=N,7555µm,0.6s						
MGAB				AML	AML		
	comp=N,7240µm,0.7s						
SENI	**Senigallia**	**0.72**	**8**	P	**Pb**	**14 41 45.4**	**0.0**
SENI				AML	AML		
	comp=E,7120µm,0.7s						
SENI				AML	AML		
	comp=N,7590µm,0.5s						
SENI				AML	AML		
	comp=E,2440µm,1.0s						
SENI				AML	AML		
	comp=N,2170µm,0.8s						
SENI				AML	AML		
	comp=N,2170µm,0.8s						
SENI				AML	AML		
	comp=N,7595µm,0.5s						
SENI				AML	AML		
	comp=E,2435µm,1.0s						
SENI				AML	AML		
	comp=E,7115µm,0.7s						
FSSB	**Fossombrone**	**0.74**	**342**	P	**Pg**	**14 41 44.3**	**-0.5**
FSSB				AML	AML		
	comp=E,5500µm,0.5s						
FSSB				AML	AML		
	comp=N,5900µm,0.2s						
ATMC	**Monte Cedrone**	**0.80**	**305**	P	**Pg**	**14 41 45.3**	**-0.6**
FAGN	**Fagnano**	**0.81**	**153**	P	**Pb**	**14 41 46.2**	**-0.6**
VCEL	**Villa Celiera**	**0.81**	**137**	AML	AML		
	comp=N,6040µm,0.5s						
VCEL				AML	AML		
	comp=E,9005µm,0.4s						
PE3	**Peglio**	**0.83**	**329**	P	**Pg**	**14 41 46.7**	**+0.2**
PE3				AML	AML		
	comp=E,17µm,0.7s						
PE3				AML	AML		
	comp=N,21µm,0.5s						
SRES	**S.Oreste - Sor**	**0.86**	**210**	P	**Pg**	**14 41 46.8**	**-0.4**
SRES				AML	AML		
	comp=E,2030µm,1.4s						
SRES				AML	AML		
	comp=N,1635µm,0.5s						
SACS	**San Casciano d**	**0.88**	**261**	P	**Pg**	**14 41 47.3**	**-0.2**
SACS				AML	AML		
	comp=E,1765µm,0.8s						
SACS				AML	AML		
	comp=N,2380µm,0.9s						
CAFI	**Castiglion Fio**	**0.89**	**293**	P	**Pg**	**14 41 47.0**	**-0.7**
CAFI				AML	AML		
	comp=E,1255µm,0.9s						
CAFI				AML	AML		
	comp=N,1470µm,1.1s						
CAFI				AML	AML		
	comp=N,1510µm,1.0s						
CAFI				AML	AML		
	comp=E,1290µm,0.9s						
SSP9	**Sansepolcro**	**0.91**	**310**	P	**Pn**	**14 41 49.9**	**+0.3**
T0110	**Collepietro**	**0.92**	**146**	AML	AML		
	comp=E,5180µm,0.4s						
T0110				AML	AML		
	comp=N,4080µm,1.2s						
PTQR	**Pietraquaria**	**0.99**	**167**	P	**Pn**	**14 41 50.1**	**-0.7**
MTCE	**Montecelio**	**1.00**	**195**	P	**Pg**	**14 41 48.8**	**-0.9**
LATE	**Laterza**	**1.02**	**249**	P	**Pg**	**14 41 50.1**	**+0.1**
CERT	**Cerreto**	**1.04**	**184**	P	**Pb**	**14 41 50.9**	**+0.1**
CERT				AML	AML		
	comp=E,1645µm,0.8s						
CERT				AML	AML		
	comp=N,1370µm,1.4s						
SF11	**Podere del Sol**	**1.04**	**264**	P	**Pn**	**14 41 51.9**	**+0.4**
CRE	**Caprese Michel**	**1.04**	**308**	P	**Pg**	**14 41 49.8**	**-0.8**
CRE				AML	AML		
	comp=E,620µm,0.7s						
CRE				AML	AML		
	comp=N,803µm,1.3s						
RSM	**Repubblica di**	**1.05**	**334**	P	**Pn**	**14 41 51.9**	**+0.3**
MCIV	**Monte Civitell**	**1.06**	**259**	P	**Pb**	**14 41 51.2**	**+0.1**
MCIV				AML	AML		
	comp=N,820µm,0.5s						
MCIV				AML	AML		
	comp=E,920µm,0.5s						
SF13	**Bagnolo**	**1.09**	**262**	P	**Pb**	**14 41 51.4**	**-0.3**
SF14	**Selvena**	**1.11**	**258**	P	**Pb**	**14 41 51.6**	**-0.4**
RCAV	**Rocca di Cave**	**1.15**	**185**	P	**Pg**	**14 41 53.1**	**+0.5**
VVLD	**Villa Vallelon**	**1.18**	**160**	P	**Pg**	**14 41 53.7**	**+0.5**
ARCI	**Arcidosso**	**1.19**	**264**	P	**Pn**	**14 41 53.5**	**-0.1**
CAFR	**Castel Frentan**	**1.20**	**129**	P	**Pb**	**14 41 51.8**	**-1.7**
GUAR	**Guarcino**	**1.20**	**172**	P	**Pg**	**14 41 55.3**	**+1.6**
RMP	**Rome, Mte Porz**	**1.21**	**194**	P	**Pn**	**14 41 53.0**	**-0.7**
TOLF	**Tolfa**	**1.23**	**221**	P	**Pn**	**14 41 53.2**	**-0.7**
TOLF				AML	AML		
	comp=E,822µm,1.2s						
TOLF				AML	AML		
	comp=N,740µm,0.4s						
LPEL	**Lama dei Pelig**	**1.24**	**139**	P	**Pn**	**14 41 53.2**	**-0.9**
LPEL				AML	AML		
	comp=N,1495µm,0.8s						
LPEL				AML	AML		
	comp=E,1485µm,1.3s						
ASQU	**Asqua**	**1.25**	**311**	P	**Pn**	**14 41 53.7**	**-0.5**
MA9	**Marino**	**1.26**	**195**	P	**Pg**	**14 41 55.0**	**+0.3**
RDP	**Rocca di Papa**	**1.26**	**193**	P	**Pg**	**14 41 54.9**	**+0.2**
SAMA	**S.Maria delle**	**1.26**	**197**	P	**Pn**	**14 41 53.0**	**-1.3**
SFI	**Santa Sofia**	**1.29**	**316**	P	**Pb**	**14 41 54.9**	**-0.1**
LAV9	**Lanuvio**	**1.34**	**193**	P	**Pg**	**14 41 57.5**	**+1.3**
CSNT	**Castellina Chi**	**1.40**	**291**	P	**Pn**	**14 41 56.0**	**-0.4**
CSNT				AML	AML		
	comp=E,324µm,0.6s						
CSNT				AML	AML		
	comp=N,454µm,1.6s						
RUFI	**Rufina**	**1.43**	**307**	P	**Pn**	**14 41 56.6**	**-0.2**
OSSC	**Osservatorio P**	**1.45**	**292**	P	**Pb**	**14 41 58.0**	**+0.3**
CERA	**Filignano**	**1.55**	**153**	P	**Pg**	**14 42 00.5**	**+0.2**
MIDA	**Miranda**	**1.60**	**147**	P	**Pg**	**14 42 01.2**	**0.0**
TRIF	**Trifonti**	**1.61**	**275**	P	**Pn**	**14 41 58.5**	**-0.7**
TRIF				AML	AML		
	comp=N,439µm,0.7s						
TRIF				AML	AML		
	comp=E,294µm,0.8s						
CASP	**Castiglione de**	**1.65**	**264**	P	**Pn**	**14 41 58.5**	**-1.2**
CASP				AML	AML		
	comp=E,106µm,1.1s						
CASP				AML	AML		
	comp=N,105µm,0.7s						
MELA	**Melanico ??? S**	**1.98**	**130**	P	**Pb**	**14 42 06.6**	**-0.2**
APRC	**Apricena**	**2.19**	**123**	P	**Pb**	**14 42 08.2**	**-2.2**
CGRP	**Cima Grappa**	**3.04**	**343**	P	**Pn**	**14 42 19.5**	**+0.5**
CTI	**Castel Tesino**	**3.23**	**342**	P	**Pn**	**14 42 22.3**	**+0.7**
STAL	**STALIGIAL**	**3.28**	**355**	P	**Pn**	**14 42 22.4**	**+0.1**
LUSI	**Trento, Gardas**	**3.34**	**333**	P	**Pn**	**14 42 23.9**	**+0.8**
CIMO	**Cimolais**	**3.35**	**352**	P	**Pn**	**14 42 23.1**	**-0.1**
MYKA	**Terra Mystica**	**3.66**	**6**	*e*Pn	**Pn**	**14 42 28.1**	**+0.6**
	comp=N,12nm,0.7s						
OBKA	**Obir**	**3.67**	**16**	*e*Pn	**Pn**	**14 42 30.5**	**+2.9**
	comp=N,23nm,0.7s						
ABTA	**Abfaltersbach**	**3.78**	**354**	*i* Pn	**Pn**	**14 42 30.9**	**+1.8**
	comp=N,14nm,0.4s						
KBA	**Koelnbreinsper**	**4.09**	**2**	*e*Pn	**Pn**	**14 42 34.5**	**+1.0**
	comp=N,2.3nm,0.2s						
FETA	**Feichten**	**4.37**	**338**	*e*Pn	**Pn**	**14 42 40.3**	**+3.1**
	comp=N,4.7nm,0.4s						
WTTA	**Wattenberg**	**4.40**	**347**	*e*Pn	**Pn**	**14 42 40.4**	**+2.7**
	comp=N,3.0nm,0.3s						
WATA	**Walderalm**	**4.48**	**347**	*i* Pn	**Pn**	**14 42 41.4**	**+2.7**
	comp=N,8.5nm,0.4s						
MOTA	**Moosalm**	**4.58**	**343**	*e*Pn	**Pn**	**14 42 43.1**	**+2.9**
	comp=N,0.3nm,0.1s						
KOVH	**Kovagotottos**	**4.74**	**47**	P	**Pb**	**14 42 55.2**	**+1.5**
DAVA	**Damuels**	**4.86**	**333**	*i* Pn	**Pn**	**14 42 45.0**	**+1.0**
	comp=N,3.6nm,0.3s						
MOA	**Molln**	**4.93**	**9**	*i* Pn	**Pn**	**14 42 45.5**	**+0.7**
	comp=N,0.6nm,0.1s						
CONA	**Conrad Observa**	**5.31**	**21**	*i* Pn	**Pn**	**14 42 50.4**	**+0.3**
	comp=N,1.1nm,0.2s						
GERES	**GERESS Array B**	**5.87**	**4**	Pn	**Pn**	**14 42 57.8**	**0.0**
	comp=N,0.6nm,0.3s,baz=171,slow=13,SNR=7.1						
GERES				Sn	**Sn**	**14 44 03.3**	**-2.1**
	comp=N,1.8nm,0.3s,baz=181,slow=23,SNR=12						
	comp=N,0.7nm,0.3s						
CKRC	**Cesky Krumlov**	**5.89**	**8**	*e*PN	**Pn**	**14 42 58.3**	**+0.2**
CKRC				*e*SN	**Sn**	**14 44 03.6**	**-2.2**
KHC	**Kasperske Hory**	**6.15**	**3**	*e*PN	**Pn**	**14 43 01.8**	**+0.1**
KHC				*e*SN	**Sn**	**14 44 10.5**	**-1.7**
PRU	**Pruhonice**	**7.07**	**8**	*e*SN	**Sn**	**14 44 32.2**	**-2.5**
KEST	**Kesra**	**7.80**	**203**	Pn	Pn	14 43 29.9	+5.5
	comp=N,0.5nm,0.3s,baz=22,slow=0.6,SNR=4.9						
	comp=N,4.8nm,0.7s						
BRG	**Berggiesshubel**	**7.91**	**4**	*e*P	**Pn**	**14 43 26.4**	**+0.7**
BRG				Amp		14 43 33.7	
	comp=Z,2.3nm,0.7s						
BRG				*e*x	x	14 44 51.6	
BRG				*e*x	x	14 45 59.9	
BRG				Amp		14 46 17.5	
	comp=Z,4.4nm,1.0s						
MLR	**Muntele Rosu**	**9.56**	**70**	LR	LR	14 48 24.7	
	comp=Z,74nm,19.9s,baz=279,slow=44						
IDI	**Anoyia**	**11.95**	**126**	LR	LR	14 51 00.8	
	comp=Z,11nm,20.4s,baz=253,slow=48						
TORD	**Torodi Ar. Bea**	**31.32**	**202**	P	**P**	**14 47 53.6**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=9.0,slow=9.8,SNR=2.4						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**38.66**	**54**	P	**P**	**14 48 54.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=267,slow=8.2,SNR=5.1						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**47.73**	**60**	P	**P**	**14 50 07.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=312,slow=6.7,SNR=3.8						
	comp=Z,0.5nm,0.7s						
NEW	**Newport**	**79.11**	**329**	LR	LR	15 30 52.3	
	comp=Z,152nm,19.2s,baz=270,slow=38						

---

*AAE **03** 14:53:35.1±9.6, 15.°18N×40.°43E, h0^{km}±991^{km}*

EAF 03 14:53:28.0±11.0**, 14.°97N×41.°78E, h3**^{km}±999^{km}**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEND	**Ethiopian Broa**	**3.25**	**193**	*e*P	Pn	14 54 14.1	-5.8
TEND				*i* S	Sn	14 54 57.7	-1.5
TEND				*e*S	Sb	14 54 58.1	-8.3
ATD	**Arta Tunnel**	**3.58**	**163**	*e*P	Pg	14 54 40.9	+4.3
DESE	**Dese**	**4.36**	**209**	*e*P	Pn	14 54 29.8	-5.7
DESE				*e*S	Sn	14 55 13.3	-14
DESE	**Dese**	**4.36**	**209**	*e*P	Pn	14 54 31.2	-4.3
ANKE	**Ethiopia-Afar**	**5.71**	**201**	*e*P	Pn	14 54 54.3	+0.3
ANKE				*e*S	Sn	14 55 56.8	-3.5
ANKE	**Ethiopia-Afar**	**5.71**	**201**	*e*P	Pn	14 54 58.1	+4.0
AAE	**Adis Abeba**	**6.60**	**207**	*e*P	Pn	14 55 09.3	+3.0
AAE				*e*S	Sn	14 56 19.8	-2.4
AAE	**Adis Abeba**	**6.60**	**207**	*e*P	Pn	14 55 05.6	-0.7
AAE				*e*S	Sn	14 56 16.3	-5.9
FURI	**Furi**	**6.76**	**207**	*e*P	Pn	14 55 15.2	+6.7
FURI				*e*S	Sn	14 56 25.9	-0.2
FURI	**Furi**	**6.76**	**207**	*e*P	Pn	14 55 16.1	+7.7

IDC 03 15:00:53.6±2.4**, 7.°29N×136.°54E, h0**^{km}**, mb3.6**/5**, mbtmp3.6**/5**, MS2.9**/2**, Error ellipse: s-maj=91.7km s-min=22.1km az=73.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.15**	**185**	P	P	15 06 39.2	+0.4
	1.1nm,0.8s,baz=1.6,slow=10,SNR=13						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**30.88**	**185**	P	P	15 07 11.6	-0.4
	0.3nm,0.6s,baz=16,slow=12,SNR=18						
	0.3nm,0.6s						
KSRS	**Korea Array**	**31.03**	**347**	LR	LR	15 17 56.2	
	comp=Z,6.7nm,22.0s,baz=235,slow=33						
H11S3	**WAKE ISLAND Hy**	**31.37**	**66**	T	T	15 40 42.8	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**31.38**	**66**	T	T	15 40 38.0	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**31.38**	**66**	T	T	15 40 47.0	
	baz=252						
CMAR	**Chiang Mai Arr**	**38.21**	**291**	P	P	15 08 16.1	+0.5
	0.2nm,0.4s,baz=114,slow=9.0,SNR=1.9						
	0.2nm,0.4s						
SONM	**Songino Array**	**47.84**	**333**	P	P	15 09 33.7	+0.3
	0.7nm,0.8s,baz=151,slow=7.5,SNR=4.1						
	0.7nm,0.8s						
MSVF	**Nonsavu**	**47.94**	**122**	LR	LR	15 26 09.0	
	comp=Z,46nm,21.1s,baz=187,slow=32						
MKAR	**Makanchi Array**	**60.67**	**320**	P	P	15 11 05.7	-1.0
	0.5nm,0.8s,baz=103,slow=8.1,SNR=2.7						
	0.5nm,0.8s						

---

*BEO **03** 15:04:02.3±0.6, 44.°93N×17.°22E, h5^{km}±3^{km}, ML3.8/17*

*PDG **03** 15:04:02.9±0.4, 44.°83N×17.°36E, h5^{km}±1^{km}, ML3.8/12, Error ellipse: s-maj=0.4km s-min=1.0km az=0.0*

*IDC **03** 15:04:04.7±1.4, 45.°08N×17.°31E, h0^{km}, mb3.5/1, mbtmp3.6/6, ML3.5/5, MS2.6/4, Error ellipse: s-maj=17.7km s-min=12.5km az=46.0*

*LDG **03** 15:04:04.0±0.1, 44.°80N×17.°32E, h10^{km}, Ml3.4/16, Error ellipse: s-maj=3.7km s-min=2.3km az=25.0*

*RHSSO **03** 15:04:04.2±0.2, 44.°80N×17.°30E, h3^{km}±1^{km}, ML3.9/19*

*PRU **03** 15:04:06.6±0.0, 44.°97N×17.°31E, h10^{km}*

ISC 03 15:04:04.2±0.7**, 44.°80N**±0.°01×**17.°24E**±0.°02**, h12**^{km}±4^{km}**, n187, **σ**1.°91**/297**, 23C-17D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.06**	**220**	⇑*i*Pg	**Pg**	**15 04 06.5**	**-0.1**
BLY				*e*Sg	**Sg**	**15 04 08.0**	**-0.4**
BLY	**Banja Luka**	**0.06**	**220**	*e*Pg	**Pg**	**15 04 06.5**	**-0.1**
BLY				*e*Sg	**Sg**	**15 04 07.7**	**-0.7**
A051A	**Mrakovica**	**0.32**	**312**	⇑*i*Pg	**Pg**	**15 04 10.9**	**+0.2**
A051A				*e*Sg	**Sg**	**15 04 15.8**	**+0.7**
A052A	**Srbac**	**0.36**	**32**	⇓*i*Pg	**Pg**	**15 04 11.0**	**-0.4**
A052A				*e*Sg	**Sg**	**15 04 16.0**	**-0.2**
MGRS	**Mrkonjic Grad**	**0.40**	**197**	⇓*i*Pg	**Pg**	**15 04 12.2**	**+0.1**
MGRS				*e*Sg	**Sg**	**15 04 18.2**	**+0.8**
PRIJ	**Prijedor**	**0.41**	**296**	⇑*i*Pg	**Pg**	**15 04 12.4**	**0.0**
PRIJ				*e*Sg	**Sg**	**15 04 18.8**	**+0.9**
DOB	**Doboj**	**0.61**	**96**	*e*Pg	**Pg**	**15 04 14.3**	**-1.8**
DOB				*e*Sg	**Sg**	**15 04 22.6**	**-1.6**
SRKY	**Kupres RS**	**0.73**	**184**	*e*Pg	**Pg**	**15 04 17.7**	**-0.7**
SRKY				*e*Sg	**Sg**	**15 04 27.2**	**-0.8**
MOSL	**Moslavina**	**0.89**	**337**	*i* Pg	**Pn**	**15 04 22.1**	**-0.3**
MOSL				Sg	**Sg**	**15 04 32.5**	**-0.4**
KIJV	**Kijevo**	**0.99**	**217**	*i* Pg	**Pb**	**15 04 22.6**	**-0.7**
KIJV				Sg	**Sg**	**15 04 34.0**	**-2.2**
UDBI	**Udbina**	**1.09**	**256**	*i* Pg	**Pb**	**15 04 24.4**	**-0.6**
UDBI				Sg	**Sb**	**15 04 37.9**	**-1.3**
PLIT	**Plitvice**	**1.16**	**275**	*e*Pg	**Pb**	**15 04 24.6**	**-1.5**
PLIT				Sg	**Sb**	**15 04 39.2**	**-1.8**
RICI	**Ricice**	**1.31**	**183**	*e*Pg	**Pg**	**15 04 29.0**	**-0.2**
RICI				Sg	**Sg**	**15 04 46.0**	**-0.2**
ZAG	**Zagreb**	**1.36**	**320**	*e*Pg	**Pg**	**15 04 30.2**	**0.0**
ZAG				Sg	**Sg**	**15 04 48.0**	**+0.1**
HAPS	**Han Pijesak,Bl**	**1.42**	**120**	⇑*i*Pg	**Pn**	**15 04 29.6**	**-0.2**
HAPS				*e*Sg	**Sn**	**15 04 47.9**	**-0.5**
KOVH	**Kovagotottos**	**1.43**	**25**	P	**Pn**	**15 04 28.9**	**-1.0**
KOVH	**Kovagotottos**	**1.43**	**25**	P	**Pn**	**15 04 29.0**	**-0.8**
PTJ	**Puntijarka**	**1.43**	**321**	*e*Pg	**Pg**	**15 04 31.6**	**0.0**
PTJ				Sg	**Sb**	**15 04 49.2**	**+0.3**
BLJ	**Bijeljina**	**1.44**	**90**	*e*Pg	**Pn**	**15 04 28.3**	**-1.8**
BLJ				*e*Sg	**Sn**	**15 04 46.9**	**-2.0**
MORI	**Morici**	**1.44**	**230**	*e*Pg	**Pb**	**15 04 30.7**	**-0.3**
MORI				Sg	**Sn**	**15 04 48.9**	**0.0**
KALN	**Kalnik**	**1.44**	**338**	*e*Pg	**Pg**	**15 04 31.6**	**-0.3**
KALN				Sg	**Sn**	**15 04 48.9**	**-0.1**
OZLJ	**Ozalj**	**1.50**	**304**	*e*Pn	**Pb**	**15 04 32.2**	**+0.4**
OZLJ				Sg	**Sb**	**15 04 51.4**	**+0.6**
MAKA	**Makarska**	**1.52**	**186**	*i* Pn	**Pb**	**15 04 32.2**	**0.0**
MAKA				Sg	**Sg**	**15 04 53.2**	**+0.2**
BOJS	**Bojanci**	**1.57**	**297**	*i* Pn	**Pn**	**15 04 32.0**	**+0.1**
BOJS				*e*Sn	**Sb**	**15 04 53.5**	**+0.4**
BOJS				IAML		15 05 01.5	
	comp=Z,519nm,0.4s						
LOBO	**Lobor**	**1.59**	**329**	*e*Pn	**Pb**	**15 04 33.8**	**+0.4**
LOBO				Sg	**Sb**	**15 04 54.3**	**+0.8**
CRES	**Cresnjev**	**1.63**	**310**	⇑*i*Pn	**Pn**	**15 04 32.5**	**-0.2**
CRES				IAML		15 04 59.7	
	comp=Z,592nm,0.5s						
VIRC	**Vir**	**1.64**	**253**	*e*Pn	**Pb**	**15 04 34.7**	**+0.4**
VIRC				Sn	**Sb**	**15 04 55.9**	**+0.8**
TEKS	**Tekeris**	**1.65**	**98**	*e*Pn	**Pn**	**15 04 31.7**	**-1.3**
TEKS				*e*Sn	**Sn**	**15 04 54.0**	**-0.1**
BEHE	**Becsehely**	**1.70**	**349**	*e*Pn	**Pn**	**15 04 33.8**	**+0.1**
BEHE				*e*Sn	**Sb**	**15 04 57.4**	**+0.6**
BEHE	**Becsehely**	**1.70**	**349**	P	**Pn**	**15 04 34.0**	**+0.3**
NVLJ	**Novalja**	**1.71**	**263**	*e*Pn	**Pb**	**15 04 35.6**	**+0.2**
NVLJ				Sg	**Sn**	**15 04 55.9**	**+0.4**
HVAR	**Hvar**	**1.72**	**200**	*i* Pn	**Pb**	**15 04 36.1**	**+0.4**
HVAR				Sn	**Sg**	**15 04 58.6**	**-0.8**
MORH	**Mrgy, Hungar**	**1.73**	**34**	⇓P	**Pn**	**15 04 33.0**	**-0.9**
MORH				⇑S	**Sb**	**15 04 57.7**	**+0.3**
MORH	**Mrgy, Hungar**	**1.73**	**34**	*e*Pn	**Pb**	**15 04 34.9**	**-0.9**
MORH				*e*Sn	**Sb**	**15 04 56.8**	**-0.6**
MORH	**Mrgy, Hungar**	**1.73**	**34**	P	**Pn**	**15 04 32.8**	**-1.2**
MORH				S	**Sn**	**15 04 54.8**	**-1.1**
DUGI	**Dugi Otok**	**1.76**	**244**	*e*Pn	**Pb**	**15 04 36.5**	**+0.1**
DUGI				Sn	**Sb**	**15 04 58.4**	**-0.1**
BBLS	**Lazići**	**1.81**	**120**	⇑*i*Pn	**Pn**	**15 04 35.1**	**-0.1**
BBLS				*e*Sn	**Sn**	**15 04 58.7**	**+0.6**
BBLS	**Lazići**	**1.81**	**120**	*e*Pn	**Pn**	**15 04 35.3**	**+0.1**
BBLS				*e*Sn	**Sb**	**15 05 00.2**	**+0.3**
FRGS	**Fruska Gora**	**1.86**	**78**	⇓P	**Pn**	**15 04 34.9**	**-1.0**
FRGS				⇓S	**Sb**	**15 05 02.0**	**+0.7**
FRGS	**Fruska Gora**	**1.86**	**78**	*e*Sn	**Sn**	**15 04 59.4**	**+0.2**
FRGS	**Fruska Gora**	**1.86**	**78**	*e*Pn	**Pn**	**15 04 35.1**	**-0.7**
FRGS				*e*Sn	**Sb**	**15 05 00.4**	**-0.8**
RUDO	**Rudo**	**1.93**	**127**	*e*Pn	**Pn**	**15 04 37.0**	**+0.2**
RUDO				*e*Sn	**Sn**	**15 05 01.5**	**+0.5**
RUDO	**Rudo**	**1.93**	**127**	*e*Pn	**Pn**	**15 04 35.9**	**-0.9**
RUDO				*e*Sn	**Sb**	**15 05 03.6**	**+0.2**
STON	**Ston**	**1.95**	**170**	⇑*i*Pn	**Pn**	**15 04 37.5**	**+0.5**
STON				*e*Sn	**Sb**	**15 05 02.6**	**-1.3**
STON	**Ston**	**1.95**	**170**	*e*Pn	**Pn**	**15 04 37.9**	**+0.8**
STON				Sn	**Sn**	**15 05 02.4**	**+0.9**
STON	**Ston**	**1.95**	**170**	*e*Pn	**Pn**	**15 04 37.6**	**+0.5**
STON				*e*Sn	**Sb**	**15 05 03.7**	**-0.2**
UPM	**Unac-Piva**	**2.00**	**142**	⇑*i*Pn	**Pn**	**15 04 38.4**	**+0.5**
UPM				*e*Sn	**Sn**	**15 05 03.8**	**+0.9**
UPM	**Unac-Piva**	**2.00**	**142**	*e*Pn	**Pn**	**15 04 37.9**	**0.0**
UPM				*i* Sn	**Sb**	**15 05 05.7**	**+0.3**
RIY	**Rijeka**	**2.02**	**286**	*e*Pn	**Pb**	**15 04 40.1**	**-0.8**
RIY				Sn	**Sb**	**15 05 05.5**	**-0.5**
LSTV	**Lastovo**	**2.04**	**187**	*e*Pn	**Pb**	**15 04 40.8**	**-0.4**
LSTV				Sn	**Sb**	**15 05 07.3**	**+0.8**
DIVS	**Divibare**	**2.09**	**109**	⇑*i*Pn	**Pn**	**15 04 38.6**	**-0.5**
DIVS				*e*Sn	**Sn**	**15 05 06.1**	**+1.1**
DIVS	**Divibare**	**2.09**	**109**	*e*Pn	**Pn**	**15 04 38.7**	**-0.4**
DIVS				*e*Sn	**Sb**	**15 05 06.5**	**-1.5**
BRY	**Bratogost**	**2.12**	**153**	⇑*i*Pn	**Pn**	**15 04 39.8**	**+0.3**
BRY				*e*Sn	**Sn**	**15 05 06.3**	**+0.6**
BRY	**Bratogost**	**2.12**	**153**	⇓*i*Pn	**Pn**	**15 04 39.9**	**+0.4**
BRY				*i* Sn	**Sb**	**15 05 09.1**	**+0.3**
PLE	**Pljevlja**	**2.13**	**133**	⇓*i*Pn	**Pn**	**15 04 39.6**	**-0.1**
PLE				*i* Sn	**Sb**	**15 05 08.6**	**-0.6**
TIH	**Tihany**	**2.15**	**12**	P	**Pn**	**15 04 39.3**	**-0.5**
TIH	**Tihany**	**2.15**	**12**	P	**Pn**	**15 04 39.3**	**-0.5**
CEY	**Cerknica**	**2.20**	**296**	⇑*i*Pn	**Pn**	**15 04 41.8**	**+1.3**
CEY				*e*Sn	**Sb**	**15 05 10.0**	**-1.1**
SMRN	**Sveta Marina**	**2.21**	**277**	*e*Pn	**Pb**	**15 04 44.0**	**0.0**
SMRN				Sn	**Sn**	**15 05 09.4**	**+1.6**
DBRK	**Dubrovnik**	**2.23**	**163**	*i* Pn	**Pb**	**15 04 43.0**	**-1.3**
TREB	**Trebinje**	**2.23**	**159**	*e*Pn	**Pn**	**15 04 42.1**	**+1.2**
TREB				*e*Sn	**Sb**	**15 05 10.2**	**-1.7**
TREB	**Trebinje**	**2.23**	**159**	*e*Pn	**Pn**	**15 04 42.4**	**+1.5**
TREB				*e*Sn	**Sb**	**15 05 11.7**	**-0.2**
BEO	**Beograd**	**2.30**	**89**	*e*Pn	**Pn**	**15 04 42.4**	**+0.6**
BEO				*e*Sn	**Sn**	**15 05 10.6**	**+0.6**
TRUS	**Trudelj**	**2.33**	**103**	*e*Pn	**Pn**	**15 04 41.9**	**-0.5**
TRUS				*e*Sn	**Sn**	**15 05 12.0**	**+1.0**
NKME	**Niksic**	**2.38**	**148**	⇑*i*Pn	**Pn**	**15 04 43.4**	**+0.4**
NKME				*i* Sn	**Sb**	**15 05 15.2**	**-1.0**
MPLH	**Magyarpolny**	**2.38**	**5**	P	**Pn**	**15 04 43.7**	**+0.7**
MPLH	**Magyarpolny**	**2.38**	**5**	P	**Pn**	**15 04 43.5**	**+0.5**
SKDS	**Skadanscina**	**2.40**	**289**	*i* Pn	**Pn**	**15 04 44.5**	**+1.2**
IVAS	**Ivanjica**	**2.42**	**119**	*e*Pn	**Pn**	**15 04 43.2**	**-0.4**
SOKA	**Soboth**	**2.44**	**321**	*e*Pn	**Pn**	**15 04 44.2**	**+0.4**
	comp=Z,25nm,0.4s,SNR=7.0						
SJES	**Sjenica**	**2.50**	**127**	*e*Pn	**Pn**	**15 04 45.0**	**+0.3**
SJES				*e*Sn	**Sn**	**15 05 16.0**	**+0.9**
SJES	**Sjenica**	**2.50**	**127**	*e*Pn	**Pn**	**15 04 45.3**	**+0.6**
SJES				*e*Sn	**Sn**	**15 05 16.7**	**+1.6**
HCY	**Herceg Novi**	**2.52**	**158**	*e*Pn	**Pn**	**15 04 46.3**	**+1.4**
HCY				*e*Sn	**Sn**	**15 05 17.2**	**+1.7**
HCY	**Herceg Novi**	**2.52**	**158**	⇑*i*Pn	**Pn**	**15 04 45.7**	**+0.8**
HCY				*i* Sn	**Sb**	**15 05 19.1**	**-1.2**
KOME	**Kolasin**	**2.55**	**139**	⇓*i*Pn	**Pn**	**15 04 45.5**	**+0.1**
KOME				*i* Sn	**Sb**	**15 05 18.9**	**-2.3**
OBKA	**Obir**	**2.55**	**313**	*e*Pn	**Pn**	**15 04 47.4**	**+2.0**
OBKA				*e*Sn	**Sb**	**15 05 19.3**	**-1.9**
OBKA	**Obir**	**2.55**	**313**	*e*Pn	**Pn**	**15 04 46.3**	**+0.9**
	comp=Z,54nm,0.5s,SNR=24						
OBKA				Sg	**Sg**	**15 05 26.4**	**+0.3**
	comp=Z,304nm,0.6s						
CEME	**Cevo**	**2.56**	**151**	*e*Pn	**Pn**	**15 04 46.0**	**+0.5**
CEME				*i* Sn	**Sb**	**15 05 19.7**	**-1.7**
EGYH	**Egyhazaskeszo**	**2.62**	**1**	P	**Pn**	**15 04 46.9**	**+0.6**
EGYH	**Egyhazaskeszo**	**2.62**	**1**	P	**Pn**	**15 04 48.1**	**+1.8**
EGYH				S	**Sg**	**15 05 31.1**	**+2.8**
GRUS	**Gruza**	**2.65**	**109**	*e*Pn	**Pn**	**15 04 46.4**	**-0.3**
GRUS				*e*Sn	**Sn**	**15 05 19.3**	**+0.5**
CSKK	**Cskako**	**2.66**	**15**	P	**Pn**	**15 04 47.3**	**+0.5**
CSKK	**Cskako**	**2.66**	**15**	P	**Pn**	**15 04 47.6**	**+0.7**
IVA	**Berane**	**2.72**	**134**	⇑*i*Pn	**Pn**	**15 04 47.7**	**0.0**
IVA				*i* Sn	**Sn**	**15 05 22.7**	**+2.2**
ARSA	**Arzberg**	**2.73**	**335**	*e*Sn	**Sn**	**15 05 22.3**	**+1.5**
ARSA	**Arzberg**	**2.73**	**335**	*e*Pn	**Pn**	**15 04 48.0**	**+0.2**
	comp=Z,16nm,0.3s,SNR=16						
BUM	**Brajici-Budva**	**2.77**	**154**	⇑*i*Pn	**Pn**	**15 04 49.0**	**+0.6**
BUM				*i* Sn	**Sb**	**15 05 24.9**	**-2.6**
PDG	**Podgorica**	**2.78**	**148**	*e*Pn	**Pn**	**15 04 50.1**	**+1.6**
PDG				*e*Sn	**Sn**	**15 05 24.6**	**+2.6**
TTG	**Podgorica**	**2.78**	**148**	⇑*i*Pn	**Pn**	**15 04 49.0**	**+0.5**
TTG				*i* Sn	**Sb**	**15 05 24.9**	**-2.9**
SOP	**Sopron**	**2.92**	**351**	P	**Pn**	**15 04 50.7**	**+0.2**
SOP	**Sopron**	**2.92**	**351**	P	**Pn**	**15 04 50.4**	**0.0**
PVY	**Plav**	**2.96**	**137**	⇓*i*Pn	**Pn**	**15 04 51.1**	**+0.1**
PVY				*i* Sn	**Sn**	**15 05 28.1**	**+1.7**
DRME	**Dracevica, Mon**	**2.97**	**151**	*e*Pn	**Pn**	**15 04 52.7**	**+1.6**
DRME				*e*Sn	**Sn**	**15 05 27.8**	**+1.2**
DRME	**Dracevica, Mon**	**2.97**	**151**	*e*Pn	**Pn**	**15 04 51.7**	**+0.6**
DRME				*i* Sn	**Sn**	**15 05 29.5**	**+2.9**
RONA	**Rosalia, Austr**	**2.98**	**348**	*e*Pn	**Pn**	**15 04 51.4**	**+0.2**
	comp=Z,21nm,0.3s,SNR=23						
SRO	**Srobarova**	**3.11**	**13**	*e*PN	**Pn**	**15 04 53.5**	**+0.6**
MYKA	**Terra Mystica**	**3.12**	**307**	*e*Pn	**Pn**	**15 04 54.9**	**+1.7**
	comp=Z,8.3nm,0.3s,SNR=11						
MYKA				*e*Pg	**Pg**	**15 05 02.3**	**-1.5**
	comp=Z,46nm,0.6s						
MDVR	**Moldovita**	**3.18**	**89**	⇑P	**Pn**	**15 04 54.0**	**-0.1**
ULC	**Ulcinj**	**3.19**	**152**	*e*Pn	**Pn**	**15 04 54.7**	**+0.6**
ULC				*i* Sn	**Sn**	**15 05 34.8**	**+2.8**
KUBS	**Kucevo**	**3.19**	**95**	*e*Pn	**Pn**	**15 04 52.3**	**-1.8**
BZS	**Buzias**	**3.20**	**74**	⇓P	**Pn**	**15 04 53.7**	**-0.5**
SELS	**Selova**	**3.21**	**118**	*e*Pn	**Pn**	**15 04 54.0**	**-0.4**
CONA	**Conrad Observa**	**3.27**	**344**	*e*Pn	**Pn**	**15 04 55.6**	**+0.3**
	comp=Z,23nm,0.3s,SNR=38						
ZST	**Bratislava**	**3.40**	**358**	*e*PN	**Pn**	**15 04 56.8**	**-0.2**
ZST				*e*PG	**Pg**	**15 05 07.9**	**-1.4**
BOVS	**Bovan**	**3.41**	**108**	⇑P	**Pn**	**15 04 56.6**	**-0.5**
BOVS	**Bovan**	**3.41**	**108**	*e*Pn	**Pn**	**15 04 56.7**	**-0.5**
MODS	**Modra-Piesok**	**3.58**	**0**	*e*PN	**Pn**	**15 04 59.3**	**-0.2**
MODS				*e*PG	**Pg**	**15 05 15.2**	**+2.5**
PSZ	**Piszkesteto**	**3.62**	**30**	P	**Pn**	**15 04 60.0**	**-0.1**
PSZ	**Piszkesteto**	**3.62**	**30**	P	**Pn**	**15 04 59.8**	**-0.3**

PSZ S Sg 15 06 01.4 +1.0
HERR Herculane 3.68 87 ⇑P Pn 15 05 00.6 -0.2
MOA Molln 3.68 327 *e*Pn **Pn 15 05 02.1 +1.2**
comp=Z,7.8nm,0.2s,SNR=22
MOA *i* Sn **Sn 15 05 44.7 +0.5**
comp=Z,91nm,0.4s
ZAGS Zajecar 3.71 104 *e*Pn **Pn 15 05 00.7 -0.6**
ZAGS *e*Sn **Sn 15 05 44.0 -1.0**
DJES Djerdap 3.76 90 ⇓P Pn 15 05 02.1 +0.1
ABTA Abfaltersbach 3.84 302 Pg **Pg 15 05 15.9 -1.8**
comp=Z,24nm,0.4s,SNR=8.2
ABTA Sg **Sg 15 06 08.7 +1.3**
comp=Z,107nm,0.8s
VYHS Vyhne 3.86 16 *e*PN **Pn 15 05 03.2 -0.1**
VYHS *e*PG **Pg 15 05 17.0 -1.0**
VYHS *e*SN **Sn 15 05 45.0 -3.5**
VYHS *e*LG Lg 15 06 21.2
JAVC Velka Javorina 4.07 4 *e*PN **Pn 15 05 06.2 -0.1**
BLKB Belogradchik 4.08 105 ⇓P Pn 15 05 06.7 +0.3
SKO Skopje 4.16 131 *i* Pn **Pn 15 05 08.4 +0.9**
MATE Matera 4.17 186 ⇓P Pn 15 05 06.2 -1.3
ZAPS Zavoj 4.17 110 *e*Pn **Pn 15 05 07.8 +0.1**
SRE Strehaia 4.25 90 ⇑P Pn 15 05 09.5 +0.8
KRUC Moravsky 4.30 353 *e*PN **Pn 15 05 08.9 -0.5**
KRUC *e*SN **Sn 15 05 56.9 -2.6**
KECS Kecovo 4.31 30 *e*PN **Pn 15 05 10.4 +0.9**
KECS *e*PG **Pg 15 05 26.2 -0.5**
KECS *e*SG **Sg 15 06 23.5 +1.0**
CKRC Cesky Krumlov 4.50 334 *e*PN **Pn 15 05 13.1 +1.0**
VRAC Vranov 4.53 355 ⇑P Pn 15 05 12.1 -0.5
VRAC Vranov 4.53 355 Pn **Pn 15 05 10.3 -2.3**
comp=Z,1.8nm,0.3s,baz=178,slow=14,SNR=5.2
VRAC Sn **Sn 15 06 00.7 -4.5**
comp=Z,1.6nm,0.3s,baz=246,slow=18,SNR=4.3
comp=Z,4.5nm,0.3s
VRAC Vranov 4.53 355 *e*PN **Pn 15 05 11.9 -0.7**
VRAC *e*SN **Sn 15 06 02.1 -3.1**
MAUC Maruska 4.59 5 *e*PN **Pn 15 05 13.2 -0.1**
WTTA Wattenberg 4.62 304 *e*Pn **Pn 15 05 16.3 +2.4**
comp=Z,4.5nm,0.2s
WATA Walderalm 4.69 305 *e*Pn **Pn 15 05 15.0 +0.2**
comp=Z,4.0nm,0.3s
GERES GERESS Array B 4.72 330 Pn **Pn 15 05 15.0 -0.2**
comp=Z,4.8nm,0.3s,baz=149,slow=16,SNR=32
GERES Sn **Sn 15 06 07.1 -2.9**
comp=Z,4.0nm,0.3s,baz=142,slow=26,SNR=5.1
GERES Lg Lg 15 06 27.1
comp=Z,2.0nm,0.3s,baz=144,slow=27,SNR=2.4
comp=Z,7.5nm,0.3s
VTS Vitosha 4.86 115 ⇓P Pn 15 05 17.0 -0.2
VTS Vitosha 4.86 115 *i* P **Pn 15 05 17.2 0.0**
MPEP Malo Peshtene 4.90 105 *i* P **Pn 15 05 17.9 +0.3**
TRPA Tarpa 4.95 46 P **Pg 15 05 36.2 -2.7**
MOTA Moosalm 4.97 303 *e*Pn **Pn 15 05 22.1 +3.3**
comp=Z,10nm,0.5s
MORC Moravsky Berou 4.99 2 ⇓P Pn 15 05 19.1 +0.3
MORC Moravsky Berou 4.99 2 *e*PN **Pn 15 05 18.2 -0.6**
MORC *e*SN **Sn 15 06 13.5 -2.9**
KHC Kasperske Hory 5.01 331 *e*PN **Pn 15 05 20.9 +0.9**
KHC *e*SN **Sn 15 06 14.9 -2.0**
KHC AMS AMS 15 07 10.0
comp=Z,200nm,6.4s
CRVS Cervenica-Dubn 5.02 34 *e*PG **Pg 15 05 38.7 -1.6**
CRVS *e*SG **Sg 15 06 49.0 +3.7**
CRVS *e*LG Lg 15 07 24.7
FETA Feichten 5.06 298 *e*Pn **Pn 15 05 22.4 +2.5**
comp=Z,4.4nm,0.5s,SNR=8.2
OKC Ostrava-Krasne 5.08 7 *e*PN **Pn 15 05 19.7 -0.4**
KKB Krupnik 5.17 122 P **Pn 15 05 22.6 +1.3**
ARR Arges 5.26 81 ⇓P Pn 15 05 23.6 +0.9
KRLC Kraliky 5.29 357 *e*PN **Pn 15 05 23.4 +0.4**
KRLC *e*SN **Sn 15 06 20.1 -3.8**
STHS Stebnicka Huta 5.37 29 *e*PN **Pn 15 05 24.9 +0.7**
STHS *e*PG **Pg 15 05 46.5 -0.4**
STHS *e*SG **Sg 15 06 59.6 +3.2**
STHS *e*LG Lg 15 07 21.0
GOPC GO Pecny, Ondr 5.38 343 *e*PN **Pn 15 05 24.5 +0.2**
KOLS Kolonicke sedl 5.38 38 *e*PG **Pg 15 05 49.4 +2.2**
PRU Pruhonice 5.51 342 *e*PN **Pn 15 05 25.7 -0.2**
PRU AMS AMS 15 07 30.0
comp=Z,200nm,11.7s
DAVOX Davos/Dischmat 5.52 294 Pn **Pn 15 05 27.9 +1.6**
comp=Z,0.7nm,0.3s,baz=101,slow=5.2,SNR=2.9
DAVOX Sn **Sn 15 06 31.3 +1.6**
comp=Z,1.3nm,0.3s,baz=143,slow=20,SNR=1.7
DAVOX Lg Lg 15 06 57.8
comp=Z,1.5nm,0.3s,baz=142,slow=19,SNR=3.3
DAVOX LR LR 15 07 56.6
comp=Z,60nm,20.0s,baz=99,slow=42
comp=Z,1.4nm,0.3s
VOIR 5.56 81 ⇑P Pn 15 05 28.2 +1.4
DPC Dobruska-Polom 5.59 354 *e*PN **Pn 15 05 27.6 +0.5**
DPC *e*SN **Sn 15 06 27.8 -3.5**
DPC AMS AMS 15 07 20.0
comp=Z,100nm,13.5s
TIP Timpagrande 5.63 184 ⇓P Pn 15 05 26.5 -1.2
MMB Musomiste 5.72 122 P **Pn 15 05 30.7 +1.7**
OSTC Ostas 5.80 354 *e*PN **Pn 15 05 28.8 -1.2**
CHVC Chvalec 5.85 353 *e*PN **Pn 15 05 31.0 +0.3**
PVL Pavlikeni 6.05 102 *i* P **Pn 15 05 32.3 -1.0**
MLR Muntele Rosu 6.20 81 Pn **Pn 15 05 36.9 +1.4**
comp=Z,0.3nm,0.3s,baz=274,slow=17,SNR=1.4
MLR Lg Lg 15 07 14.5
comp=Z,0.4nm,0.3s,baz=288,slow=20,SNR=3.4
comp=Z,1.7nm,0.4s
RZN Rozhen 6.28 117 P **Pn 15 05 37.2 +0.5**
NKC Novy Kostel 6.33 331 *e*PN **Pn 15 05 37.1 -0.2**
NKC *e*SN **Sn 15 06 45.7 -3.8**
PGF Pioggiola 6.39 252 *e*P **Pn 15 05 41.1 +3.0**
PGF *e*Sn **Sn 15 06 45.7 -5.3**
comp=Z,0.5nm,0.3s
SZH Strazhica 6.45 101 P **Pn 15 05 38.8 -0.1**
BRG Berggiesshubel 6.47 341 *e*P **Pn 15 05 40.4 +1.3**
BRG Amp 15 05 47.9
comp=Z,3.3nm,0.6s
BRG *ex* x 15 07 23.3
BRG Amp 15 07 43.5
comp=Z,25nm,1.3s
BRG Amp 15 07 51.0
comp=E,0.2nm,9.6s
BRG Amp 15 07 51.0
comp=N,0.1nm,8.4s
BRG Amp 15 08 03.0
comp=Z,0.1nm,13.4s
SBF Sospel 7.10 266 *e*P **Pn 15 05 50.0 +2.2**
SBF *e*Sn **Sn 15 07 03.0 -5.4**
comp=Z,5.0nm,0.2s
CLL Collm 7.11 338 *e*Pn Pn 15 05 53.0 +5.2
CLL *ex* x 15 06 12.0
CLL *e*Sn Sn 15 06 55.0 -13
CLL *ex* x 15 07 22.0
CLL *ex* x 15 07 27.0
CLL *e*Sb **Sb 15 07 35.0 +2.9**
CLL *e*Sg **Sg 15 07 50.0 -2.0**
comp=Z,33nm,1.1s
CLL Lmax 15 08 00.0
LPG La Plagne 7.45 279 *e*P **Pn 15 05 56.5 +3.6**
LPG *e*Sn **Sn 15 07 12.4 -5.1**
comp=Z,6.6nm,0.5s
MBDF Montbardon 7.46 273 *e*P **Pn 15 05 55.6 +2.8**
MBDF *e*Sn **Sn 15 07 11.2 -6.1**
comp=Z,7.0nm,0.4s
LPL La Plagne 7.47 279 *e*P **Pn 15 05 56.6 +3.6**
LPL *e*Sn **Sn 15 07 11.9 -5.8**
comp=Z,4.4nm,0.3s
CDF Champ du Feu 7.76 301 *e*P **Pn 15 06 00.8 +3.9**
CDF *e*Sn **Sn 15 07 18.4 -6.2**
comp=Z,1.9nm,0.3s
HINF Hinteralfeld 7.80 296 *e*Pn **Pn 15 06 01.4 +3.9**
LMR La Mourre 7.87 263 *e*Pn **Pn 15 05 56.8 -1.5**
LMR *e*Sn **Sn 15 07 21.2 -6.1**
comp=Z,2.2nm,0.3s
CABF La Chapelle 8.02 287 *e*P **Pn 15 06 04.1 +3.6**
ORIF Oris-en-Rattie 8.08 275 *e*Pn **Pn 15 05 59.6 -1.7**
ORIF Oris-en-Rattie 8.08 275 *e*P **Pn 15 06 05.3 +4.0**
ORIF *e*Sn **Sn 15 07 26.6 -5.9**
comp=Z,6.3nm,0.4s
SMRF Simiane la Rot 8.40 268 *e*Pn **Pn 15 06 04.8 -0.9**
SMRF *e*Sn **Sn 15 07 34.5 -5.9**
comp=Z,1.7nm,0.4s
VIVF Saint-Julien-l 8.94 275 *e*Pn **Pn 15 06 11.8 -1.2**
VIVF *e*Sn **Sn 15 07 47.8 -5.8**
comp=Z,1.8nm,0.3s
SMF Signal de Mont 9.56 286 *e*Pn **Pn 15 06 21.2 -0.3**
SMF *e*Sn **Sn 15 08 02.8 -6.0**
comp=Z,3.2nm,0.4s
LASF Ste Croix 9.61 270 *e*Pn **Pn 15 06 19.9 -2.3**
LASF *e*Sn **Sn 15 08 02.6 -7.4**
comp=Z,1.8nm,0.4s
LOR Lormes 9.63 290 *e*P **Pn 15 06 26.8 +4.3**
baz=100
LOR *e*Sn **Sn 15 08 03.6 -7.0**
comp=Z,2.7nm,0.3s
AVF Avril sur Loir 9.91 287 *e*Pn **Pn 15 06 30.5 +4.2**
BGF Bois d'Agland 10.23 285 *e*Pn **Pn 15 06 29.4 -1.3**
IDI Anoyia 11.15 146 LR LR 15 11 32.5
comp=Z,31nm,19.2s,baz=263,slow=39
ESDC Sonseca Array 16.50 259 Pn **Pn 15 07 56.3 +0.8**
comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=2.1
NOA NORSAR Array B 16.66 350 LR LR 15 14 31.7
comp=Z,13nm,21.6s,baz=345,slow=38
FINES FINESS Array B 17.47 14 P **Pn 15 08 07.7 +0.4**
comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=12
comp=Z,2.2nm,0.6s
MMAI Mount Meron Ar 18.34 124 LR LR 15 17 06.6
comp=Z,31nm,18.6s,baz=90,slow=42
TORD Torodi Ar. Bea 34.22 208 P **P 15 10 54.0 +4.3**
comp=Z,0.3nm,0.4s,baz=12,slow=10,SNR=4.5
comp=Z,0.3nm,0.4s

IDC 03 15:04:37.5±3.6, 19°.24N×147°.41E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=151.1km s-min=28.9km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.99**	**199**	P	P	P	15 12 22.1	-0.3
	0.2nm,0.3s,baz=21,slow=8.3,SNR=12							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**44.63**	**198**	P	P	P	15 12 52.0	+0.1
	0.3nm,0.9s,baz=16,slow=7.1,SNR=2.0							
	0.3nm,0.9s							
MKAR	**Makanchi Array**	**59.26**	**314**	P	P	P	15 14 40.8	-0.1
	0.3nm,0.5s,baz=98,slow=8.6,SNR=4.1							
	0.3nm,0.5s							
FINES	**FINESS Array B**	**87.07**	**336**	P	P	P	15 17 24.9	+0.1
	1.2nm,0.9s,baz=70,slow=6.1,SNR=3.8							
	1.2nm,0.9s							

*RHSSO **03** 15:05:50.1±0.4, 44°.81N×17°.27E, h3km±3km, ML2.6/6*
ISC 03 15:05:49.7±1.0, 44°.81N±0°.03×17°.28E±0°.03, h8km±8km, n14, σ0°80/22, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.09**	**230**	*e*Pg	**Pg**	**Pg**	**15 05 51.9**	**0.0**
BLY				*e*Sg	**Sg**	**Sg**	**15 05 53.7**	**+0.2**
A052A	**Srbac**	**0.34**	**29**	*e*Pg	**Pg**	**Pg**	**15 05 55.9**	**-0.4**
A052A				*e*Sg	**Sg**	**Sg**	**15 06 01.9**	**+1.1**
A051A	**Mrakovica**	**0.34**	**307**	*i* Pg	**Pg**	**Pg**	**15 05 56.5**	**+0.2**
A051A				*e*Sg	**Sg**	**Sg**	**15 06 01.2**	**+0.4**
MGRS	**Mrkonjic Grad**	**0.42**	**200**	*e*Pg	**Pg**	**Pg**	**15 05 57.7**	**-0.1**
MGRS				*e*Sg	**Sg**	**Sg**	**15 06 04.1**	**+0.8**
PRIJ	**Prijedor**	**0.44**	**293**	*e*Pg	**Pg**	**Pg**	**15 05 57.6**	**-0.6**
PRIJ				*e*Sg	**Sg**	**Sg**	**15 06 03.9**	**-0.1**
DOB	**Doboj**	**0.59**	**97**	*e*Pg	**Pg**	**Pg**	**15 06 00.3**	**-0.7**
DOB				*e*Sg	**Sg**	**Sg**	**15 06 08.9**	**+0.3**
MOSL	**Moslavina**	**0.89**	**335**	*e*Pg	**Pg**	**Pg**	**15 06 07.4**	**+0.6**
MOSL				Sg	**Sg**	**Sg**	**15 06 18.1**	**-0.1**
PLIT	**Plitvice**	**1.18**	**274**	Sg	**Sg**	**Sg**	**15 06 26.4**	**-1.3**
HAPS	**Han Pijesak,Bl**	**1.40**	**121**	*e*Pg	**Pn**	**Pn**	**15 06 15.4**	**-0.1**
HAPS				*e*Sg	**Sg**	**Sg**	**15 06 34.7**	**+0.2**
BLJ	**Bijeljina**	**1.41**	**90**	*e*Sg	**Sb**	**Sb**	**15 06 33.8**	**-0.6**
PTJ	**Puntijarka**	**1.44**	**320**	Sg	**Sg**	**Sg**	**15 06 33.9**	**-2.0**
KALN	**Kalnik**	**1.45**	**337**	Sg	**Sg**	**Sg**	**15 06 36.5**	**+0.3**
LOBO	**Lobor**	**1.59**	**328**	Sg	**Sg**	**Sg**	**15 06 41.5**	**+0.5**
NVLJ	**Novalja**	**1.74**	**263**	Sg	**Sn**	**Sn**	**15 06 43.6**	**+1.2**

*DJA **03** 15:21:05.8±0.3, 6°.N±3°×12°.6E±°, h169km±2km, M4.7/50, mb4.9/50, mB5.2/30, MLv5.4/12, Mw(mB)4.6/30*
*GCMT **03** 15:21:06.9±0.4, 6°.17N±0°.03×126°.11E±0°.03, h148km±5km, MW4.8/75, Moment Tensor Solution. s3,c3; s75,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.51±.10; Mθθ-1.11±.10; Mφφ0.60±.12; Mrθ0.44±.07; Mrφ-0.89±.09; Mθφ1.39±.08; Best double couple: M0 1.96100×10^16 NP1:φ1=27.00000°, δ80.00000°, λ51.00000°. NP2: φ2=285.00000°, δ40.00000°, λ165.00000°. Principal axes: T 1.9850, Plg41.0000°, Azm261.0000°; N -0.0510, Plg38.0000°, Azm35.0000°; P -1.9370, Plg25.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **03** 15:21:07.6±0.4, 6°.17N×125°.80E, h156km±2km, mb4.3/44, mbtmp4.7/47, MS3.3/11 Error ellipse: s-maj=12.3km s-min=6.5km az=70.0*
*MAN **03** 15:21:08.2, 6°.22N×125°.93E, h135km, mb5.6, ML4.6, MS4.9*
*NEIC **03** 15:21:08.9±2.1, 6°.16N±0°.04×125°.87E±0°.05, h160km±5km, mb4.8/107, Error ellipse: s-maj=9.3km s-min=3.3km az=126.0*
ISC 03 15:21:07.5±0.4, 6°.15N±0°.03×125°.97E±0°.05, h156km±3km, h157km; pP-P, n393, σ1s50/438, mb4.8/114, 3C-13D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.99**	**337**	P	**Pn**	**Pn**	**15 21 32.6**	**-0.3**
	3μm,0.2s,baz=196,slow=7.2,SNR=215							
DAV				S	**Sn**	**Sn**	**15 21 51.6**	**-0.7**
	4μm,0.4s,baz=216,slow=23,SNR=29							
DAV				LR	LR	LR	15 22 04.7	
	comp=Z,2μm,18.1s,baz=25,slow=62							
DAV	**Davao City (W)**	**0.99**	**337**	P	**Pn**	**Pn**	**15 21 32.5**	**-0.3**
DAV				S	**Sn**	**Sn**	**15 21 52.1**	**-0.2**
DAV	**Davao City (W)**	**0.99**	**337**	P	**Pn**	**Pn**	**15 21 32.8**	**-0.1**
GSPH	**General Santos**	**1.02**	**267**	*i* P	**Pn**	**Pn**	**15 21 31.7**	**-1.5**
GSPH				*i* S	**Sn**	**Sn**	**15 21 50.4**	**-2.4**
KCP	**Kidapawan**	**1.22**	**314**	*i* P	**Pn**	**Pn**	**15 21 33.2**	**-1.8**
KCP				*i* S	**Sn**	**Sn**	**15 21 54.0**	**-1.9**
BUKP	**Musuan**	**1.94**	**332**	*i* P	**Pn**	**Pn**	**15 21 42.3**	**-0.2**
BUKP				*i* S	**Sn**	**Sn**	**15 22 10.7**	**+1.4**
CTBH	**Cotabato--PC H**	**2.02**	**302**	*i* P	**Pn**	**Pn**	**15 21 42.6**	**-0.6**
BIPH	**Bislig**	**2.06**	**11**	*i* P	**Pn**	**Pn**	**15 21 42.4**	**-1.3**
BIPH				*i* S	**Sn**	**Sn**	**15 22 09.6**	**-2.1**
SGSI	**Sangihe**	**2.48**	**190**	P	**Pn**	**Pn**	**15 21 49.4**	**+0.6**
CGP	**Cagayan de Oro**	**2.62**	**331**	*i* P	**Pn**	**Pn**	**15 21 50.1**	**-0.3**
CGP				*i* S	**Sn**	**Sn**	**15 22 26.1**	**+2.5**
DCPH	**Dipolog City**	**3.55**	**313**	*e* P	**Pn**	**Pn**	**15 22 02.3**	**+0.2**
DCPH				*i* S	**Sn**	**Sn**	**15 22 48.7**	**+4.2**
SCPH	**Surigao**	**3.64**	**353**	*e* P	**Pn**	**Pn**	**15 22 02.5**	**-0.8**
SCPH				*i* S	**Sn**	**Sn**	**15 22 43.4**	**-3.4**
TBP	**Tagbilaran**	**4.09**	**329**	*i* P	**Pn**	**Pn**	**15 22 09.1**	**-0.1**
MSLP	**Maasin**	**4.11**	**345**	*i* P	**Pn**	**Pn**	**15 22 09.1**	**-0.3**
SNPH	**Sibulan**	**4.17**	**320**	*e* P	**Pn**	**Pn**	**15 22 10.6**	**+0.3**
SNPH				*e* S	**Sn**	**Sn**	**15 23 01.6**	**+2.4**
LLP	**Lapu-Lapu**	**4.59**	**335**	*e* P	**Pn**	**Pn**	**15 22 16.1**	**+0.4**
LLP				*e* S	**Sn**	**Sn**	**15 23 09.8**	**+0.8**
GAMI	**Galela, Maluku**	**4.65**	**157**	P	**Pn**	**Pn**	**15 22 15.8**	**-0.7**
CNOP	**Candoni, Negro**	**4.92**	**318**	*i* P	**Pn**	**Pn**	**15 22 20.5**	**+0.4**
TNTI	**Ternate**	**5.52**	**165**	Pn	**Pn**	**Pn**	**15 22 27.8**	**-0.2**
TNTI				Sn	**Sn**	**Sn**	**15 23 28.4**	**-2.5**
TNTI	**Ternate**	**5.52**	**165**	P	**Pn**	**Pn**	**15 22 27.4**	**-0.6**
	3.1nm10μm925nm,1.0s							
TNTI	**Ternate**	**5.52**	**165**	P	**Pn**	**Pn**	**15 22 28.0**	**0.0**
GTOI	**Gorontalo**	**6.22**	**208**	P	**Pn**	**Pn**	**15 22 37.6**	**+0.3**
	0.3nm1μm59nm,0.8s							
RCP	**Roxas**	**6.25**	**330**	*i* P	**Pn**	**Pn**	**15 22 38.4**	**+0.7**
LBMI	**Labuha**	**6.91**	**167**	P	**Pn**	**Pn**	**15 22 45.3**	**-1.2**
	2.9nm7μm628nm,0.9s							
MRSI	**Marisa**	**6.92**	**216**	P	**Pn**	**Pn**	**15 22 47.1**	**+0.5**
	0.8nm3μm187nm,0.9s							
TOLI2	**Tolitoli**	**7.20**	**226**	Pn	**Pn**	**Pn**	**15 22 50.5**	**+0.2**
TOLI2	**Tolitoli**	**7.20**	**226**	P	**Pn**	**Pn**	**15 22 50.7**	**+0.4**
MYLDM	**Lahad Datu**	**7.50**	**263**	Pn	**Pn**	**Pn**	**15 22 56.2**	**+1.9**
MYLDM	**Lahad Datu**	**7.50**	**263**	P	**Pn**	**Pn**	**15 22 55.5**	**+1.3**
	0.7nm2μm190nm,1.3s							
LUWI	**Luwuk**	**7.82**	**204**			**Pn**	**15 22 59.2**	**+0.6**
LUWI	**Luwuk**	**7.82**	**204**	P	**Pn**	**Pn**	**15 22 58.5**	**-0.1**
	1.4nm7μm221nm,1.0s							
LUWI	**Luwuk**	**7.82**	**204**	P	**Pn**	**Pn**	**15 22 59.8**	**+1.2**
SANI	**Sanana**	**8.14**	**180**	P	**Pn**	**Pn**	**15 23 00.0**	**-2.9**
	16μm1μm,0.6s							
APSI Ampana 8.23 212 P **Pn 15 23 04.4 +0.3**
2μm123nm,1.0s
MPSI Mapaga 8.37 227 P **Pn 15 23 06.7 +0.8**
497nm26nm,0.9s
SIJI Sorong 8.75 143 P **Pn 15 23 10.8 -0.1**
65nm,0.5s,baz=342,slow=10,SNR=12
SIJI S **Sn 15 24 43.1 -5.2**
26nm,0.4s,baz=49,slow=22,SNR=8.9
SIJI LR LR 15 26 36.1
comp=Z,254nm,18.2s,baz=108,slow=37
SIJI Sorong 8.75 143 P **Pn 15 23 09.2 -1.8**
1μm56nm,0.5s
LQP Lukban 9.04 331 *e*P **Pn 15 23 19.1 +4.2**
NLAI Namlea 9.39 173 P **Pn 15 23 17.8 -1.7**
7μm265nm,0.5s
KKM Kota Kinabalu 9.70 270 Pn **Pn 15 23 24.0 +0.4**
KKM Kota Kinabalu 9.70 270 P **Pn 15 23 23.8 +0.1**
65nm,1.1s
KKM Kota Kinabalu 9.70 270 P **Pn 15 23 26.0 +2.3**
KRAI Karang Ratu 9.71 165 P **Pn 15 23 23.1 -0.6**
2μm222nm,0.6s
MSAI Masohi 9.88 163 P **Pn 15 23 24.7 -1.3**
260nm20nm,0.6s
AAI Ambon 10.02 167 P **Pn 15 23 26.3 -1.5**
2μm158nm,0.7s
FAKI Fak Fak 10.97 145 Pn **Pn 15 23 41.2 +0.9**
FAKI Fak Fak 10.97 145 P **Pn 15 23 38.0 -2.4**
1μm129nm,1.0s
FAKI Fak Fak 10.97 145 P **Pn 15 23 41.2 +0.9**
KKSI Kolaka, Sulawe 11.12 203 P **Pn 15 23 41.8 -0.5**
22nm,0.6s
RKPI Ransiki, Papua 11.18 133 P **Pn 15 23 41.1 -2.0**
1μm91nm,0.8s
SPSI Sidrap Palu 11.80 212 P **Pn 15 23 50.9 -0.2**
26nm,0.9s
BNSI Bone 12.00 209 P **Pn 15 23 53.7 -0.1**
782nm82nm,1.2s
BBSI Bau Bau 12.05 196 P **Pn 15 23 53.0 -1.3**
24nm,1.0s
KAPI Kappang 12.71 209 P **Pn 15 24 03.5 +0.7**
12nm,0.6s,baz=20,slow=6.6,SNR=8.5
KAPI Kappang 12.71 209 P **Pn 15 24 02.9 0.0**
28nm,0.8s
BKSI Bulukumba 12.80 207 P **Pn 15 24 03.5 -0.6**
46nm,1.0s
SRPI Serui, Papua 12.98 128 P **Pn 15 24 04.1 -2.3**
43nm,0.7s
BSSI Bau Bau, Buton 13.38 204 P **Pn 15 24 10.5 -0.9**
27nm,1.0s
SBUM Sibu 14.19 256 **P 15 24 23.6 -0.9**
SBUM Sibu 14.19 256 P **Pn 15 24 22.5 +0.8**
1μm146nm,1.1s
BBKI Banjar Baru 14.65 230 P **Pn 15 24 27.8 +0.4**
SAUI Saumlaki 15.01 159 Pn **Pn 15 24 31.6 -0.3**
SAUI Saumlaki 15.01 159 P **Pn 15 24 30.1 -1.8**
7μm784nm,0.8s
MMRI Maumere 15.15 194 **P 15 24 35.9 +0.9**
MMRI Maumere 15.15 194 P **Pn 15 24 32.7 -0.9**
2μm109nm,0.8s
SOEI Soe 15.89 186 **P 15 24 44.3 +0.9**
SOEI Soe 15.89 186 P **Pn 15 24 41.8 -1.0**
2μm188nm,0.8s
KSM Kuching 16.30 254 **Pn 15 24 46.9 -0.9**
KSM Kuching 16.30 254 P **Pn 15 24 47.0 -0.7**
1μm64nm,1.0s
BATI Baumata 16.41 188 P **Pn 15 24 50.4 +1.4**
109nm,0.5s,baz=36,slow=14,SNR=22
BATI S **Sn 15 27 52.9 +0.4**
65nm,0.8s,baz=35,slow=19,SNR=4.6
BATI Baumata 16.41 188 P **P 15 24 47.8 -1.2**
2μm161nm,1.0s
GENI Genyem 16.62 121 P **P 15 24 48.7 -2.7**
3μm322nm,0.8s
PLAI Plampang 16.97 209 P **P 15 24 54.2 -1.0**
1μm71nm,1.0s
TWG Pinlang 17.24 345 P **P 15 24 55.6 -2.4**
TWSI Taliwang, Sumb 17.34 212 P **P 15 24 59.1 -0.2**
45nm,0.6s
KLNI Mataram 17.50 214 P **P 15 25 00.6 -0.5**
952nm117nm,0.8s
YULB Yu-li 17.73 346 P **P 15 25 01.5 -1.9**
SRBI Singaraja 17.75 217 P **P 15 25 03.3 -0.4**
43nm,0.8s
KMMI Kalianget 17.76 223 P **P 15 25 04.2 +0.4**
72nm,0.8s
TPUB Ta-pu 17.81 344 P **P 15 25 03.0 -1.3**
SSLB Suanglung 18.19 345 P **P 15 25 07.2 -1.3**
DLV T Lat 18.19 290 P **Pn 15 25 11.4 +0.8**
JAGI Jajag, Banyuwa 18.70 219 **P 15 25 14.8 +0.6**
YHNB Yeheng 18.94 347 P **P 15 25 16.2 -0.5**
MTN Manton Dam 19.55 165 P **Pn 15 25 24.9 -1.4**
baz=20,SNR=71
MTN Manton Dam 19.55 165 P **Pn 15 25 24.9 -1.4**
MTN Manton Dam 19.55 165 P **Pn 15 25 25.2 -1.1**
UGM Wanagama 20.80 228 P **Pn 15 25 39.8 -1.5**
CTJI Waduk Cacaban 21.24 232 P **P 15 25 40.0 -1.5**
86nm,1.4s
PPBI Pangkal Pinang 21.45 248 P **P 15 25 42.1 -1.7**
69nm,0.9s
KNRA Kununurra 21.86 173 P **P 15 25 48.9 +0.9**
baz=22,SNR=93
KNRA Kununurra 21.86 173 P **P 15 25 49.0 +1.1**
KNRA Kununurra 21.86 173 P **P 15 25 49.7 +1.8**
TPRI Tanjung Pinang 22.02 257 P **P 15 25 48.4 -1.2**
93nm,1.2s
DSRI Dabo 22.35 254 P **P 15 25 51.3 -1.5**
1μm95nm,0.8s
LEM Lembang 22.39 235 P **P 15 25 53.8 +0.3**
51nm,0.9s,baz=92,slow=9.9,SNR=13
LEM S **S 15 29 42.4 -5.8**
7.3nm,0.4s,baz=29,slow=14,SNR=1.5
LEM LR LR 15 37 53.9
comp=Z,63nm,18.3s,baz=96,slow=45
51nm,0.9s
LEM Lembang 22.39 235 P **P 15 25 52.8 -0.7**
76nm,1.1s
MYKOM Kota Tinggi 22.48 260 P **P 15 25 54.3 +0.2**
MYKOM IAmb IAmb 15 25 57.2
comp=Z,54nm,1.1s
MYKOM Kota Tinggi 22.48 260 P **P 15 25 53.3 -0.8**
comp=Z,809nmcomp=Z,58nm,1.7s
BTDF Bukit Timah Da 22.65 259 P **P 15 25 54.0 -1.7**
comp=Z,696nmcomp=Z,59nm,0.9s
BBJI Bungbulang 22.73 234 P **P 15 25 57.9 +1.4**
CBJI Citeko 22.80 237 P **P 15 25 56.7 -0.4**
CNJI Cibinong 23.07 235 P **P 15 25 57.8 -1.7**
comp=Z,42nm,1.0s
KLI Kotabumi 23.75 243 P **P 15 26 05.1 -0.6**
comp=Z,176nm,1.1s
KASI Kota Agung 24.37 242 P **P 15 26 09.4 -2.0**
comp=Z,57nm,0.8s
LWLI Liwa 24.53 244 P **P 15 26 11.6 -1.4**
comp=Z,6μmcomp=Z,106nm,1.0s
IPM Ipoh 24.89 267 P **P 15 26 16.3 +0.1**
IPM IAmb IAmb 15 26 19.6
comp=Z,37nm,1.2s
IPM Ipoh 24.89 267 P **P 15 26 14.0 -2.2**
comp=Z,28nm,1.6s
IPM Ipoh 24.89 267 P **P 15 26 16.9 +0.7**
KULM Kulim 25.21 269 P **P 15 26 18.5 -0.6**
KULM IAmb IAmb 15 26 23.7
comp=Z,84nm,1.9s
MNAI Manna 25.24 246 P **P 15 26 18.6 -0.7**
MASI Maura Aman, Be 25.43 249 P **P 15 26 19.2 -1.9**
comp=Z,97nm,1.1s
SDSI Sungai Dareh 25.49 255 P **P 15 26 19.5 -2.1**
comp=Z,40nm,1.0s
JSU Suzuyama 25.57 9 P **P 15 26 22.9 +0.8**
JSU IAmb IAmb 15 26 23.6
comp=Z,39nm,1.3s
JCJ Chichijima 25.93 35 P **P 15 26 24.3 -1.1**
comp=Z,57nm,0.5s,baz=228,slow=19,SNR=1.9
comp=Z,57nm,0.5s
JCJ Chichijima 25.93 35 P **P 15 26 25.0 -0.4**
PMG Port Moresby 26.17 126 P **P 15 26 28.1 +0.4**
comp=Z,15nm,0.7s,baz=315,slow=6.4,SNR=7.5
comp=Z,15nm,0.7s
PMG Port Moresby 26.17 126 P **P 15 26 27.8 +0.2**
PMG Port Moresby 26.17 126 P **P 15 26 23.4 -4.2**
comp=Z,31nm,1.4s
PMG Port Moresby 26.17 126 P **P 15 26 29.4 +1.8**
SRIT Nakonsritamara 26.26 277 P **P 15 26 31.3 +2.8**
COEN Coen 26.28 140 P **P 15 26 29.7 +1.1**
baz=27,SNR=15
COEN Coen 26.28 140 P **P 15 26 29.4 +0.8**
COEN Coen 26.28 140 P **P 15 26 29.6 +1.0**

NJ2 Nanjing 26.62 346 *e*P **P** **15 26 31.9 +0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
WB0 Warramunga Arr 27.05 162 P **P** **15 26 35.4 -0.1**
WB0 IAmb IAmb 15 26 55.6
comp=Z,33nm,0.9s
PSI Prapat 27.16 264 P **P** **15 26 34.7 -2.0**
comp=Z,4.0nm,0.5s,baz=99,slow=3.4,SNR=8.8
comp=Z,4.0nm,0.5s
PSI Prapat 27.16 264 P **P** **15 26 34.3 -2.4**
PSI Prapat 27.16 264 P **P** **15 26 38.3 +1.6**
comp=Z,21nm,1.8s
RPSI Rantau Prapat 27.18 264 P **P** **15 26 36.5 -0.2**
RPSI IAmb IAmb 15 26 41.2
comp=Z,16nm,1.0s
WRAB Tennant Creek 27.20 163 P **P** **15 26 36.5 -0.3**
WRAB IAmb IAmb 15 26 42.7
comp=Z,18nm,0.8s
WRAB Tennant Creek 27.20 163 P **P** **15 26 37.4 +0.6**
WRA Warramunga Arr 27.20 163 P **P** **15 26 37.4 +0.5**
comp=Z,6.7nm,0.6s,baz=334,slow=11,SNR=115
WRA S **S** **15 31 03.5 -0.8**
comp=Z,2.7nm,1.0s,baz=337,slow=14,SNR=4.4
WRA ScP **ScP** **15 33 19.5 +0.4**
comp=Z,2.1nm,1.0s,baz=332,slow=3.1,SNR=4.8
comp=Z,6.7nm,0.6s
WRA Warramunga Arr 27.20 163 P **P** **15 26 36.0 -0.8**
WB2 Warramunga Arr 27.21 163 P **P** **15 26 36.7 -0.2**
WB2 IAmb IAmb 15 27 18.2
comp=Z,19nm,0.8s
WR0 Warramunga Arr 27.28 162 P **P** **15 26 37.5 0.0**
WR0 IAmb IAmb 15 27 15.0
comp=Z,21nm,0.9s
MBWA Marble Bar 27.82 193 P **P** **15 26 43.0 +0.8**
MBWA IAmb IAmb 15 27 18.3
comp=Z,24nm,1.3s
PHRA Phrae 27.93 298 P **P** **15 26 43.3 0.0**
PSA00 Pilbara Seismi 28.20 192 P **P** **15 26 45.8 +0.2**
PSA00 Pilbara Seismi 28.20 192 P **P** **15 26 46.1 +0.4**
PSA00 IAmb IAmb 15 26 47.0
comp=Z,15nm,0.7s
JMN Monobe 28.41 14 P **P** **15 26 49.3 +1.8**
JMN IAmb IAmb 15 27 45.4
comp=Z,50nm,1.3s
ENH Enshi 28.57 329 P **P** **15 26 47.2 -1.8**
ENH IAmb IAmb 15 26 49.4
comp=Z,14nm,1.1s
ENH Enshi 28.57 329 P **P** **15 26 50.1 +1.1**
GSI Gunungsitoli 28.73 261 P **P** **15 26 48.2 -2.3**
CM31 Chiang Mai Arr 29.05 297 P **P** **15 26 53.0 -0.3**
CMAR Chiang Mai Arr 29.05 297 P **P** **15 26 53.8 +0.5**
comp=Z,4.1nm,0.8s,baz=117,slow=7.1,SNR=28
CMAR PcP **PcP** **15 29 58.6 +0.8**
comp=Z,2.5nm,0.8s,baz=112,slow=0.7,SNR=14
CMAR ScP **ScP** **15 33 25.4 +0.4**
comp=Z,2.0nm,1.0s,baz=156,slow=1.1,SNR=11
comp=Z,4.1nm,0.8s
CMAR Chiang Mai Arr 29.05 297 P **P** **15 26 53.2 -0.1**
CMAR **PcP** **15 29 58.8 +1.0**
KMI Kunming 29.17 313 ⇓P **P** **15 26 56.1 +1.6**
CHTO Chiang Mai 29.18 298 P **P** **15 26 53.7 -0.8**
CHTO IAmb IAmb 15 26 56.1
comp=Z,21nm,1.4s
QIS Mount Isa 29.73 154 P **P** **15 27 00.5 +1.2**
baz=30,SNR=17
QIS Mount Isa 29.73 154 P **P** **15 27 00.6 +1.3**
MTSU Mount Surprise 30.17 143 P **P** **15 27 05.6 +2.4**
baz=30,SNR=24
MTSU Mount Surprise 30.17 143 P **P** **15 27 05.1 +1.9**
AS31 Alice Springs 30.63 166 P **P** **15 27 08.1 +0.9**
ASAR Alice Springs 30.63 166 P **P** **15 27 08.2 +1.0**
comp=Z,9.6nm,0.5s,baz=336,slow=7.5,SNR=172
ASAR PcP **PcP** **15 30 03.0 +1.2**
comp=Z,1.7nm,0.5s,baz=359,slow=2.5,SNR=4.2
ASAR S **S** **15 31 58.8 +0.8**
comp=Z,1.6nm,0.9s,baz=346,slow=18,SNR=5.3
ASAR ScP **ScP** **15 33 30.6 +0.7**
comp=Z,1.1nm,0.8s,baz=346,slow=2.2,SNR=4.4
ASAR LR LR 15 40 06.6
comp=Z,56nm,18.3s,baz=4.5,slow=37
comp=Z,9.6nm,0.5s
ASAR Alice Springs 30.63 166 P **P** **15 27 08.2 +1.0**
ASAR **S** **15 31 57.9 -0.2**
AS01 Alice Springs 30.64 166 P **P** **15 27 08.4 +1.1**
PZH PanZhiHua 30.71 314 P **P** **15 27 10.3 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.2s
WRKA Warakurna 31.08 176 P **P** **15 27 12.2 +1.1**
baz=32,SNR=32
WRKA Warakurna 31.08 176 P **P** **15 27 12.3 +1.2**
KSRS Korea Array 31.21 3 P **P** **15 27 13.7 +1.6**
comp=Z,2.6nm,0.8s,baz=190,slow=9.9,SNR=8.3
KSRS LR LR 15 38 47.0
comp=Z,18nm,21.8s,baz=175,slow=34
comp=Z,2.6nm,0.8s
XAN Xi'an 31.93 333 P **P** **15 27 17.5 -1.0**
XAN pP pP 15 27 52.7 +1.0
XAN pmax pmax
comp=Z,12nm,0.9s
MJAR Matsushiro Ar 32.26 19 P **P** **15 27 21.4 +0.1**
comp=Z,3.1nm,0.8s,baz=204,slow=8.8,SNR=5.8
comp=Z,3.1nm,0.8s
CD2 Chengdu 32.27 323 *e*P **P** **15 27 21.5 0.0**
TNCH TengChong 32.30 309 *e*P **P** **15 27 23.7 +1.6**
TNCH pP pP 15 27 58.2 +2.8
TNCH pmax pmax
comp=Z,8.0nm,0.4s
TV1H Townsville Har 32.53 141 P **P** **15 27 25.9 +2.1**
CTA Charters Tower 32.83 143 P **P** **15 27 28.4 +1.9**
comp=Z,13nm,0.9s,baz=326,slow=10.0,SNR=15
comp=Z,13nm,0.9s
CTA Charters Tower 32.83 143 P **P** **15 27 28.8 +2.3**
CTAO Charters Tower 32.83 143 P **P** **15 27 28.3 +1.8**
CTAO IAmb IAmb 15 27 29.8
comp=Z,47nm,1.4s
CTAO Charters Tower 32.83 143 P **P** **15 27 28.6 +2.1**
MND Mandalay 32.87 302 P **P** **15 27 27.6 +0.8**
comp=Z,6.8nm,0.6s
MEEK Meekatharra 33.36 192 P **P** **15 27 31.8 +0.7**
baz=34,SNR=6.2
BJT Baijiatuau 34.85 347 P **P** **15 27 43.2 -0.5**
BJT IAmb IAmb 15 27 45.4
comp=Z,13nm,0.9s
BJT Baijiatuau 34.85 347 P **P** **15 27 44.6 +0.9**
comp=Z,19nm,0.9s
BJI Beijing 34.88 347 P **P** **15 27 43.7 -0.1**
BJI pP **pP** **15 28 16.7 -0.6**
BJI pmax pmax
comp=Z,15nm,0.9s
OOD Oodnadatta 35.03 165 P **P** **15 27 46.7 +1.4**
LZH Lanzhou 36.05 329 *e*P **P** **15 27 54.8 +0.6**
LZH pP pP 15 28 30.7 +2.5
LZH pmax pmax
comp=Z,22nm,1.2s
LZH LR LR
comp=Z,230nm,17.5s
LZH LR LR
comp=Z,220nm,15.1s
LZH LR LR
comp=Z,160nm,17.5s
MORW Morawa 36.29 195 P **P** **15 27 56.9 +0.8**
baz=37,SNR=7.8
MORW Morawa 36.29 195 P **P** **15 27 56.5 +0.4**
INKA Innaminka 36.59 158 P **P** **15 28 00.3 +1.7**
FORT Forrest 36.77 177 P **P** **15 28 01.4 +1.3**
baz=37,SNR=24
FORT Forrest 36.77 177 P **P** **15 28 01.4 +1.3**
FORT Forrest 36.77 177 P **P** **15 28 01.6 +1.5**
HHC Hu-ho-hao-te 36.88 342 *e*P **P** **15 28 03.7 +2.6**
HHC pmax pmax
comp=Z,31nm,0.7s
HHC pmax pmax
comp=Z,99nm,4.4s
QLP Quilpie 37.04 152 P **P** **15 28 03.6 +1.1**
MULG Mulgathing 37.04 168 P **P** **15 28 04.2 +1.8**
HNR Honiara 37.23 114 LR LR 15 42 06.9
comp=Z,332nm,21.4s,baz=200,slow=34
BLDU Ballidu 37.62 193 P **P** **15 28 08.3 +1.1**
baz=38,SNR=7.6
SHL Shillong 37.87 304 P **P** **15 28 10.2 +0.5**
SHL IAmb IAmb 15 28 10.9
comp=Z,29nm,0.8s
SHL Shillong 37.87 304 P **P** **15 28 10.4 +0.7**
SNR=8.0

LCRK Leigh Creek 38.23 163 P **P** **15 28 14.0 +1.6**
USA0B Ussuriysk Arra 38.27 7 P **P** **15 28 12.3 -0.2**
USA0B IAmb IAmb 15 28 49.2
comp=Z,47nm,1.9s
USRK Ussuriysk Ar. 38.27 7 P **P** **15 28 14.2 +1.6**
comp=Z,3.5nm,0.6s,baz=178,slow=6.6,SNR=6.9
comp=Z,3.5nm,0.6s
USRK Ussuriysk Ar. 38.27 7 P **P** **15 28 12.8 +0.2**
KLBR Kellerberrin 38.34 191 P **P** **15 28 14.5 +1.2**
baz=39,SNR=11
MUN Mundaring 39.04 193 P **P** **15 28 20.3 +1.2**
baz=40,SNR=10
EIDS Eidsvold 39.72 143 P **P** **15 28 25.8 +0.9**
baz=40,SNR=7.0
EIDS Eidsvold 39.72 143 P **P** **15 28 25.8 +0.9**
EIDS IAmb IAmb 15 28 26.8
comp=Z,16nm,0.8s
EIDS Eidsvold 39.72 143 P **P** **15 28 25.8 +0.9**
NWAO Narrogin (SRO) 39.74 192 P **P** **15 28 26.6 +1.7**
baz=40,SNR=13
NWAO P **P** **15 28 26.6 +1.7**
baz=40,SNR=13
NWAO Narrogin (SRO) 39.74 192 P **P** **15 28 25.8 +0.9**
NWAO IAmb IAmb 15 28 27.3
comp=Z,24nm,1.0s
NWAO Narrogin (SRO) 39.74 192 P **P** **15 28 26.0 +1.1**
BBOO Buckleboo 39.91 167 P **P** **15 28 28.1 +1.8**
baz=40,SNR=134
BBOO Buckleboo 39.91 167 P **P** **15 28 28.1 +1.8**
BBOO **PP** **15 29 59.3 -2.2**
BBOO Buckleboo 39.91 167 P **P** **15 28 28.0 +1.6**
WHYH Whyalla 40.49 165 P **P** **15 28 32.9 +1.8**
STKA Stephens Creek 40.65 159 P **P** **15 28 34.1 +1.7**
comp=Z,23nm,0.7s,baz=337,slow=8.3,SNR=76
STKA PP **PP** **15 30 08.5 -1.0**
comp=Z,12nm,0.7s,baz=329,slow=12,SNR=4.7
STKA ScP **ScP** **15 34 07.4 +1.2**
comp=Z,3.4nm,0.9s,baz=335,slow=7.0,SNR=3.3
comp=Z,23nm,0.7s
STKA Stephens Creek 40.65 159 P **P** **15 28 34.1 +1.7**
baz=41,SNR=55
STKA Stephens Creek 40.65 159 P **P** **15 28 34.0 +1.6**
STKA PP **PP** **15 30 08.8 -0.7**
STKA Stephens Creek 40.65 159 P **P** **15 28 34.1 +1.7**
GTA Gaotai 40.65 328 *e*P **P** **15 28 32.6 +0.1**
GTA pP pP 15 29 08.9 +2.1
GTA PcP **PcP** **15 30 32.7 +1.3**
GTA ScP **ScP** **15 34 07.8 +1.4**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.3s
GTA LR LR
comp=Z,140nm,14.2s
GTA LR LR
comp=Z,78nm,14.2s
GTA LR LR
comp=Z,73nm,16.7s
AULRC Lightning Ridg 41.22 150 P **P** **15 28 38.8 +1.7**
HTT Hallett 41.23 163 P **P** **15 28 39.3 +2.1**
baz=42,SNR=16
HTT Hallett 41.23 163 P **P** **15 28 39.4 +2.1**
GOMU GeErMu 41.34 321 P **P** **15 28 38.2 -0.3**
GOMU pmax pmax
comp=Z,2.0nm,0.8s
GOMU pmax pmax
comp=Z,54nm,4.9s
RKGY Rocky Gully 41.42 191 P **P** **15 28 41.4 +2.7**
baz=42,SNR=5.5
H11S3 WAKE ISLAND Hy 41.52 69 T T 16 13 15.2
baz=252,slow=77,SNR=4.8
H11S1 WAKE ISLAND Hy 41.53 69 T T 16 13 17.8
baz=252,slow=77,SNR=3.1
H11S2 WAKE ISLAND Hy 41.53 69 T T 16 13 10.2
baz=252,slow=77,SNR=5.3
CMSA Cobar Meteorol 41.94 154 P **P** **15 28 45.1 +2.1**
baz=42,SNR=8.8
CMSA Cobar Meteorol 41.94 154 P **P** **15 28 44.8 +1.8**
KLR Kul'dur 43.21 6 P **P** **15 28 53.8 +0.8**
comp=Z,1.1nm,0.5s,baz=188,slow=7.5,SNR=4.1
comp=Z,1.1nm,0.5s
AUDCS Dubbo College 43.85 152 P **P** **15 29 00.1 +1.8**
HEH HeiHe 43.97 1 *e*P **P** **15 28 59.8 +0.8**
HEH pmax pmax
comp=Z,7.0nm,1.2s
HEH pmax pmax
comp=Z,100nm,3.5s
ULN Ulaanbaatar 44.60 342 P **P** **15 29 04.0 -0.3**
ULN **PcP** **15 30 43.7 -0.7**
SONM Songino Array 44.78 341 P **P** **15 29 05.7 0.0**
comp=Z,2.0nm,0.8s,baz=162,slow=7.4,SNR=9.6
SONM PcP **PcP** **15 30 45.6 +0.6**
comp=Z,3.1nm,0.7s,baz=163,slow=2.9,SNR=9.5
SONM ScP **ScP** **15 34 23.0 +0.2**
comp=Z,0.4nm,0.7s,baz=172,slow=4.1,SNR=1.9
comp=Z,2.0nm,0.8s
SONM Songino Array 44.78 341 P **P** **15 29 05.0 -0.7**
SONM **PcP** **15 30 44.9 -0.1**
ARPS Mount Arapiles 45.20 162 P **P** **15 29 11.3 +2.2**
baz=46,SNR=10
ARPS Mount Arapiles 45.20 162 P **P** **15 29 11.2 +2.2**
AUMAG Moama Anglican 45.57 159 P **P** **15 29 14.1 +2.2**
CAN Canberra 46.60 154 P **P** **15 29 22.2 +2.2**
CAN IAmb IAmb 15 29 23.8
comp=Z,22nm,0.9s
CAN Canberra 46.60 154 P **P** **15 29 22.6 +2.6**
CAN Canberra 46.60 154 P **P** **15 29 21.4 +1.4**
CAN sP sP 15 30 21.5 +11
CNB Canberra Magne 46.76 154 P **P** **15 29 23.8 +2.6**
baz=47,SNR=10
CNB Canberra Magne 46.76 154 P **P** **15 29 23.2 +1.9**
TOO Toolangi 47.15 159 P **P** **15 29 27.2 +2.9**
baz=48,SNR=6.2
TOO Toolangi 47.15 159 P **P** **15 29 27.1 +2.8**
TOO IAmb IAmb 15 29 28.9
comp=Z,20nm,1.1s
TOO Toolangi 47.15 159 P **P** **15 29 26.6 +2.3**
AUSMG Snowy Mountain 47.37 155 P **P** **15 29 28.3 +2.3**
DZM Mont Dzumac 48.56 127 P **P** **15 29 37.4 +2.0**
DZM IAmb IAmb 15 29 38.2
comp=Z,17nm,0.7s
DZM Mont Dzumac 48.56 127 P **P** **15 29 37.2 +1.8**
LIFNC LIFOU 48.56 125 P **P** **15 29 37.1 +1.8**
LIFNC LIFOU 48.56 125 P **P** **15 29 37.2 +1.8**
YATNC Mamie plateau, 48.91 126 P **P** **15 29 40.3 +2.3**
LHI Lord Howe Isla 49.00 142 P **P** **15 29 41.4 +2.9**
baz=49,SNR=3.3
OUENC Ouen Island, N 49.05 127 P **P** **15 29 41.0 +2.0**
OUENC IAmb IAmb 15 29 41.7
comp=Z,18nm,0.7s
MARNC Mare, Loyalty 49.55 125 P **P** **15 29 44.4 +1.6**
WMQ Urumqi 50.33 324 *e*P **P** **15 29 50.0 +1.5**
PEA0B Petropavlovsk- 53.51 23 P **P** **15 30 14.4 +2.6**
PETK Petropavlovsk- 53.51 23 P **P** **15 30 13.7 +2.0**
comp=Z,3.8nm,0.7s,baz=195,slow=4.9,SNR=14
comp=Z,3.8nm,0.7s
PETK Petropavlovsk- 53.51 23 P **P** **15 30 14.3 +2.5**
PET Petropavlovsk 53.82 24 P **P** **15 30 15.3 +1.3**
MK31 Makanchi Array 55.15 325 P **P** **15 30 23.3 -0.5**
MK31 PcP **PcP** **15 31 23.4 +0.3**
MKAR Makanchi Array 55.15 325 P **P** **15 30 23.1 -0.6**
comp=Z,2.6nm,0.4s,baz=118,slow=5.9,SNR=50
MKAR PcP **PcP** **15 31 23.2 +0.2**
comp=Z,3.4nm,0.7s,baz=128,slow=5.9,SNR=8.0
comp=Z,2.6nm,0.4s
MKAR Makanchi Array 55.15 325 P **P** **15 30 23.2 -0.6**
MKAR pP **pP** **15 31 00.4 +0.4**
MKAR PcP **PcP** **15 31 22.8 -0.3**
MAKZ Makanchi 55.34 325 P **P** **15 30 24.7 -0.5**
MAKZ PcP **PcP** **15 31 23.5 -0.3**
MAKZ Makanchi 55.34 325 P **P** **15 30 23.1 -2.0**
MAKZ pP **pP** **15 30 59.7 -1.7**
MAKZ sP **PcP** **15 31 22.9 -0.9**
KSH Kashi 55.82 314 P **P** **15 30 30.4 +1.6**
KSH pmax pmax
comp=Z,6.0nm,1.2s
YAK Yakutsk 55.83 2 P **P** **15 30 29.1 +0.8**
YAK IAmb IAmb 15 30 31.2
comp=Z,26nm,0.9s
YAK Yakutsk 55.83 2 P **P** **15 30 27.6 -0.7**
YAK sP **sP** **15 31 22.4 +0.6**
NIL Nilore 55.87 307 P **P** **15 30 28.4 -0.8**
MSVF Nonsavu 56.62 116 LR LR 15 52 09.2
comp=Z,23nm,21.8s,baz=281,slow=33
MSVF Nonsavu 56.62 116 P **P** **15 30 36.7 +2.0**

MSVF IAmb IAmb 15 30 38.7
comp=Z,14nm,1.1s
AAK Ala-Archa 58.08 317 P **P** **15 30 42.6 -2.1**
comp=Z,0.8nm,0.4s,baz=145,slow=7.7,SNR=2.7
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 58.10 333 P **P** **15 30 43.1 -1.3**
comp=Z,0.8nm,0.3s,baz=128,slow=6.0,SNR=6.1
comp=Z,0.8nm,0.3s
ZALV Zalesovo Beam 58.10 333 P **P** **15 30 42.2 -2.2**
ZALV pP **pP** **15 31 22.2 +1.5**
KURBB Kurchatov Arra 59.31 327 P **P** **15 30 51.7 -1.1**
comp=Z,3.5nm,0.8s,baz=125,slow=6.0,SNR=28
KURBB PcP **PcP** **15 31 40.3 +1.0**
comp=Z,3.6nm,0.8s,baz=126,slow=6.1,SNR=5.9
comp=Z,3.5nm,0.8s
KURK Kurchatov 59.31 327 P **P** **15 30 51.8 -1.1**
KURK pP **pP** **15 31 31.4 +2.3**
KURK IAmb IAmb 15 31 34.4
comp=Z,23nm,1.4s
KURK Kurchatov 59.31 327 P **P** **15 30 50.5 -2.3**
KURK Kurchatov 59.31 327 P **P** **15 30 50.0 -2.9**
KURK pP **pP** **15 31 31.4 +2.3**
KBL Kabul 59.47 307 P **P** **15 30 53.8 -0.8**
KBL IAmb IAmb 15 30 54.9
comp=Z,16nm,0.8s
KBL Kabul 59.47 307 P **P** **15 30 54.1 -0.4**
SNR=5.8
BTK Batken 59.72 313 P **P** **15 30 55.3 -0.7**
BTK IAmb IAmb 15 30 56.8
comp=Z,22nm,1.2s
GAR Garm 59.75 312 P **P** **15 30 55.3 -1.0**
GAR pP **pP** **15 31 32.1 -0.8**
CHGR Chuyangaron 60.51 311 P **P** **15 31 00.6 -0.8**
CHGR IAmb IAmb 15 31 02.8
comp=Z,16nm,0.8s
KK31 Karatay Array 60.96 316 P **P** **15 31 02.5 -1.8**
KK31 IAmb IAmb 15 31 04.6
comp=Z,12nm,1.2s
KKAR Karatay Array 60.96 316 P **P** **15 31 03.1 -1.2**
KKAR Karatay Array 60.96 316 P **P** **15 31 03.2 -1.1**
KKAR IAmb IAmb 15 31 04.6
comp=Z,12nm,1.2s
DCZ Deep Cove 63.19 149 P **P** **15 31 19.0 0.0**
WHZ Wether Hill Ro 63.89 149 P **P** **15 31 24.7 +1.1**
NNZ Nelson 64.04 142 P **P** **15 31 25.5 +0.9**
THZ Tophouse 64.07 143 P **P** **15 31 25.9 +1.1**
LBZ Lake Benmore 64.10 146 P **P** **15 31 26.7 +1.7**
LBZ **pwP** **15 32 06.3 +1.4**
RPZ Rata Peaks 64.16 145 P **P** **15 31 26.9 +1.5**
LTZ Lake Taylor 64.30 144 P **P** **15 31 27.1 +0.7**
TUWZ Tuamarina 64.50 142 P **P** **15 31 28.5 +0.8**
BSWZ Blackbirch Sta 64.63 142 P **P** **15 31 29.2 +0.7**
NGCH Negor - Chabah 64.67 295 P **P** **15 31 29.4 +0.3**
ODZ Otahua Downs 64.77 147 P **P** **15 31 32.0 +2.7**
KHZ Kahutara 64.83 143 P **P** **15 31 30.6 +0.9**
BKZ Black Stump Fm 64.88 138 P **P** **15 31 31.5 +1.3**
BVAR Borovoye Array 64.89 327 P **P** **15 31 29.2 -0.9**
comp=Z,1.6nm,0.3s,baz=124,slow=7.2,SNR=18
comp=Z,1.6nm,0.3s
BRVK Borovoye 64.97 327 P **P** **15 31 29.5 -1.0**
BRVK Borovoye 64.97 327 P **P** **15 31 29.4 -1.1**
BRVK Borovoye 64.97 327 P **P** **15 31 29.0 -1.5**
BRVK sP **sP** **15 32 25.8 +1.5**
TIXI Tiksi 65.45 1 P **P** **15 31 33.3 0.0**
TIXI IAmb IAmb 15 31 34.6
comp=Z,11nm,1.0s
TIXI Tiksi 65.45 1 P **P** **15 31 32.5 -0.7**
WBK Wadi Bani Khal 66.44 292 P **P** **15 31 39.9 -0.7**
WSAR Wadi Sarin 66.79 293 LR LR 16 05 03.0
comp=Z,14nm,19.0s,baz=131,slow=40
WSAR Wadi Sarin 66.79 293 P **P** **15 31 41.9 -0.9**
SNR=5.1
JMDO Jabal Madar 67.23 292 P **P** **15 31 44.8 -0.7**
SNR=5.2
BIDO Bidbid 67.27 293 P **P** **15 31 45.8 0.0**
SNR=8.4
MHTO MHTO 67.30 290 P **P** **15 31 44.9 -1.0**
SMDO Samad 67.31 292 P **P** **15 31 45.5 -0.7**
DQM DQM 67.67 289 P **P** **15 31 47.9 -0.4**
NRIK Noril'sk 67.92 346 P **P** **15 31 49.2 +0.3**
comp=Z,11nm,0.8s,baz=127,slow=6.0,SNR=18
comp=Z,11nm,0.8s
NRIK Noril'sk 67.92 346 P **P** **15 31 48.9 0.0**
NRIK IAmb IAmb 15 31 50.1
comp=Z,17nm,0.9s
HOQ Hoqain 68.02 293 P **P** **15 31 49.9 -0.6**
SNR=6.7
BSY Bisya 68.08 292 ⇑P **P** **15 31 49.6 -1.3**
GEYT Alibeck 68.81 308 P **P** **15 31 55.0 -0.1**
comp=Z,12nm,0.9s,baz=113,slow=3.3,SNR=23
comp=Z,12nm,0.9s
GEYT Alibeck 68.81 308 P **P** **15 31 54.5 -0.6**
GEYT IAmb IAmb 15 31 56.4
comp=Z,21nm,1.1s
GYA0B ALIBECK ARRAY 68.81 308 P **P** **15 31 54.5 -0.6**
GYA0B IAmb IAmb 15 31 56.3
comp=Z,22nm,1.1s
BANOM Banah 69.06 295 P **P** **15 31 56.4 -0.6**
HATD Hatta, Dubai 69.16 294 P **P** **15 31 56.9 -0.6**
SHME Shamm 69.21 295 P **P** **15 31 57.1 -0.8**
ASHO Ashiyiah 69.22 294 P **P** **15 31 57.0 -0.9**
ALNE Al Ain 69.47 293 P **P** **15 31 59.1 -0.3**
SNR=7.2
ABKAR Akbulak array 69.81 320 P **P** **15 31 59.7 -1.4**
ABKAR **PcP** **15 32 16.0 -6.6**
ABKAR Akbulak array 69.81 320 P **P** **15 31 59.5 -1.5**
ABKAR **PcP** **15 32 15.6 -7.0**
ASUD Al Ashush, Dub 69.88 294 P **P** **15 32 01.4 -0.5**
UMZA Um Al Zommool 69.96 292 P **P** **15 32 01.8 -0.7**
DMTO DMTO 70.10 287 P **P** **15 32 02.7 -0.7**
DOK Doka 70.88 287 P **P** **15 32 07.0 -1.1**
SNR=5.7
MZWR Madinat Zayed 71.17 293 P **P** **15 32 09.0 -0.8**
WHFO Wadi Hawf 71.22 287 P **P** **15 32 09.2 -1.0**
SNR=6.4
ABTO Aybut 71.68 286 P **P** **15 32 12.2 -0.7**
JRN Qarnain Island 72.14 294 P **P** **15 32 14.9 -0.6**
ARU Arti 72.50 327 P **P** **15 32 15.9 -1.1**
comp=Z,2.7nm,0.3s,baz=76,slow=1.5,SNR=12
comp=Z,2.7nm,0.3s
ARU Arti 72.50 327 P **P** **15 32 15.5 -1.6**
KIRV Kirov 77.78 329 P **P** **15 32 46.2 -0.9**
comp=Z,22nm,0.7s,baz=112,slow=4.6,SNR=8.8
comp=Z,22nm,0.7s
BELG Belogornoye 78.04 322 P **P** **15 32 47.6 -1.2**
comp=Z,28nm,0.7s,baz=108,slow=3.2,SNR=13
comp=Z,28nm,0.7s
RAYN Ar Rayn 78.85 293 P **P** **15 32 52.5 -1.4**
RAYN IAmb IAmb 15 32 54.7
comp=Z,18nm,0.8s
RAYN Ar Rayn 78.85 293 P **P** **15 32 53.1 -0.8**
GNI Garni 79.36 310 P **P** **15 32 56.1 -0.4**
comp=Z,2.2nm,0.3s,baz=90,slow=18,SNR=4.4
comp=Z,2.2nm,0.3s
J20K Nowinta River 80.09 26 P **P** **15 33 00.8 +1.1**
J20K IAmb IAmb 15 33 04.0
comp=Z,39nm,1.9s
M20K Styx River 80.32 28 P **P** **15 33 03.3 +2.2**
GEVA Gevas 80.66 308 P **P** **15 33 02.5 -1.1**
GEVA IAmb IAmb 15 33 07.7
comp=Z,14nm,0.8s
KBZ Khabaz 80.78 313 P **P** **15 33 02.6 -1.2**
comp=Z,3.4nm,0.9s,baz=124,slow=7.3,SNR=4.5
comp=Z,3.4nm,0.9s
H21K Melozitna Rive 80.81 25 P **P** **15 33 05.5 +1.9**
CAST Castle Rocks 80.93 27 P **P** **15 33 05.4 +1.2**
KVAR Kislovodsk Arr 80.93 313 P **P** **15 33 03.4 -1.3**
comp=Z,4.2nm,0.8s,baz=116,slow=9.7,SNR=1.8
comp=Z,4.2nm,0.8s
I21K Tanana 81.11 25 P **P** **15 33 06.3 +1.2**
GURO Guroymak-BITLI 81.47 308 P **P** **15 33 08.0 +0.2**
GURO IAmb IAmb 15 33 10.1
comp=Z,16nm,0.8s
MLY Manley 81.63 25 P **P** **15 33 09.4 +1.5**
I23K Minto, Yukon-K 82.22 25 P **P** **15 33 12.4 +1.5**
I23K IAmb IAmb 15 33 49.1
comp=Z,28nm,1.7s
MCK McKinley 82.35 27 P **P** **15 33 12.4 +0.7**
MCK IAmb IAmb 15 33 13.9
comp=Z,18nm,1.1s
SML Sawmill 82.59 29 P **P** **15 33 12.9 -0.1**
SML IAmb IAmb 15 33 16.1
comp=Z,26nm,1.2s
KOPT Kop Dagi 82.62 309 P **P** **15 33 13.4 -0.5**
KOPT IAmb IAmb 15 33 19.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,14nm,0.9s						
MDM	Murphy Dome	82.69	25	P	P	15 33 13.2	-0.3
H24K	Noodor Dome	82.85	24	P	P	15 33 15.3	+1.0
CCB	Clear Creek Bu	82.86	26	P	P	15 33 13.4	-0.9
HDA	Harding Lake	83.23	26	P	P	15 33 15.9	-0.3
IL31		83.26	26	P	P	15 33 16.0	-0.3
IL31				IAmb	IAmb	15 36 16.8	
	comp=Z,6.9nm,0.4s						
ILAR	Eielson Array	83.26	26	P	P	15 33 16.3	0.0
	comp=Z,2.5nm,0.8s,baz=243,slow=4.9,SNR=21						
	comp=Z,2.5nm,0.8s						
ILAR	Eielson Array	83.26	26	P	P	15 33 15.4	-0.9
BMAR	Burnt Mountain	84.16	23	P	P	15 33 21.9	+1.1
RIDG	Independent Ri	84.17	27	P	P	15 33 22.0	+1.0
RIDG				IAmb	IAmb	15 33 39.5	
	comp=Z,14nm,0.8s						
OBN	Obninsk	84.66	325	P	P	15 33 23.0	-0.6
	comp=Z,1.9nm,0.3s,baz=113,slow=3.8,SNR=7.4						
	comp=Z,1.9nm,0.3s						
I26K	Coal Creek Min	84.83	25	P	P	15 33 25.9	+1.6
GAZ	Gaziantep	85.34	307	P	P	15 33 25.9	-1.6
GAZ				IAmb	IAmb	15 33 29.6	
	comp=Z,28nm,1.1s						
VNDA	Vanda	85.91	173	P	P	15 33 30.4	+1.1
	comp=Z,0.7nm,0.7s,baz=320,slow=4.0,SNR=6.1						
	comp=Z,0.7nm,0.7s						
ASF	Jabal al Asfar	85.98	302	P	P	15 33 30.9	+0.1
	comp=Z,15nm,0.8s,baz=82,slow=2.1,SNR=23						
	comp=Z,15nm,0.8s						
BNN	Bunyan	86.28	309	P	P	15 33 31.3	-0.9
MMAI	Mount Meron Ar	87.17	303	P	P	15 33 35.8	-0.7
	comp=Z,3.0nm,0.6s,baz=96,slow=10,SNR=6.3						
	comp=Z,3.0nm,0.6s						
GHAJ	Ghor Haditha	87.19	301	P	P	15 33 36.4	-0.1
GHAJ				IAmb	IAmb	15 33 38.6	
	comp=Z,25nm,1.0s						
EIL	Elat	87.88	299	P	P	15 33 39.7	-0.2
	comp=Z,6.5nm,0.8s,baz=51,slow=6.5,SNR=4.2						
EIL				LR	LR	16 16 50.7	
	comp=Z,11nm,21.6s,baz=56,slow=38						
	comp=Z,6.5nm,0.8s						
BR131	Keskin Array S	87.91	310	P	P	15 33 37.9	-2.1
BR131				IAmb	IAmb	15 33 40.5	
	comp=Z,13nm,0.8s						
BR131	Keskin Array S	87.91	310	P	P	15 33 37.7	-2.3
BRTR	Keskin Array B	87.91	310	P	P	15 33 38.5	-1.5
	comp=Z,6.7nm,0.9s,baz=112,slow=5.5,SNR=15						
	comp=Z,6.7nm,0.9s						
BRTR	Keskin Array B	87.91	310	P	P	15 33 38.0	-2.0
ARCES	ARCESS Array B	87.93	340	P	P	15 33 38.3	-1.0
	comp=Z,12nm,0.9s,baz=67,slow=3.2,SNR=13						
	comp=Z,12nm,0.9s						
ARCES	ARCESS Array B	87.93	340	P	P	15 33 37.6	-1.7
ARCES				IAmb	IAmb	15 33 39.7	
	comp=Z,13nm,0.9s						
SPITS	Spitsbergen Ar	87.97	349	P	P	15 33 39.4	+0.1
	comp=Z,1.5nm,0.3s,baz=92,slow=9.2,SNR=3.0						
	comp=Z,1.5nm,0.3s						
KIBK	Kibwezi	88.18	267	P	P	15 33 41.9	+0.2
FINES	FINESS Array B	89.36	332	P	P	15 33 45.0	-1.1
	comp=Z,7.0nm,0.8s,baz=86,slow=4.1,SNR=15						
	comp=Z,7.0nm,0.8s						
AKASG	Malin Array Be	89.55	321	P	P	15 33 45.9	-1.4
	comp=Z,3.2nm,0.8s,baz=68,slow=3.9,SNR=10						
	comp=Z,3.2nm,0.8s						
AKASG	Malin Array Be	89.55	321	P	P	15 33 44.5	-2.7
AKBB	Malin Array Si	89.55	321	P	P	15 33 45.0	-2.2
AKBB				IAmb	IAmb	15 33 47.2	
	comp=Z,12nm,1.1s						
ELL	Elmali	91.20	307	P	P	15 33 53.3	-2.1
ELL				IAmb	IAmb	15 33 56.3	
	comp=Z,17nm,0.9s						
MLR	Muntele Rosu	92.64	316	P	P	15 33 60.0	-1.9
	comp=Z,2.2nm,0.5s,baz=90,slow=20,SNR=3.9						
	comp=Z,2.2nm,0.5s						
BURAR	Bucovina Array	92.70	318	P	P	15 34 00.8	-1.3
BURAR				IAmb	IAmb	15 34 03.2	
	comp=Z,4.4nm,1.0s						
KARP	Karpathos	93.59	306	P	P	15 34 04.2	-2.2
IDI	Anoyia	95.46	306	P	P	15 34 12.4	-2.5
	comp=Z,3.2nm,0.8s,baz=45,slow=1.4,SNR=3.5						
	comp=Z,3.2nm,0.8s						
HFS	Hagfors	95.54	332	P	P	15 34 12.8	-1.9
	comp=Z,2.0nm,0.7s,baz=101,slow=3.2,SNR=6.1						
HFS				LR	LR	16 25 58.8	
	comp=Z,8.1nm,19.0s,baz=74,slow=41						
	comp=Z,2.0nm,0.7s						
NB2	NORSAR Subarra	96.30	334	P	P	15 34 16.6	-1.6
	baz=65,slow=4.4						
NB2	NORSAR Subarra	96.30	334	P	P	15 34 16.6	-1.6
	comp=Z,4.8nm,1.1s,baz=65,slow=4.4						
NOA	NORSAR Array B	96.30	334	P	P	15 34 16.4	-1.7
	comp=Z,2.4nm,0.9s,baz=65,slow=4.5,SNR=5.8						
NOA				LR	LR	16 22 55.9	
	comp=Z,9.9nm,19.7s,baz=355,slow=38						
	comp=Z,2.4nm,0.9s						
LSZ	Lusaka	99.08	256	LR	LR	16 16 42.2	
	comp=Z,29nm,20.2s,baz=110,slow=34						
GERES	GERESS Array B	99.73	322	P	Pdif	15 34 33.1	-0.8
	comp=Z,0.5nm,0.6s,baz=66,slow=7.6,SNR=4.9						
	comp=Z,0.5nm,0.6s						
TXAR	Lajitas Array	120.69	51	PKP	PKiKP	15 39 42.8	+1.0
	comp=Z,0.2nm,0.7s,baz=256,slow=10,SNR=1.7						
TOA0	Torodi Ar. Sit	121.43	289	P	PKPdf	15 39 42.5	-0.9
TORD	Torodi Ar. Bea	121.43	289	PKP	PKPdf	15 39 42.6	-0.7
	comp=Z,6.7nm,0.8s,baz=82,slow=1.8,SNR=38						
DBIC	Dimbokro	129.30	284	PKP	PKiKP	15 39 59.3	+0.1
	comp=Z,5.3nm,0.7s,baz=92,slow=3.3,SNR=5.2						

*IDC **03** 15:30:43.5±7.2, 25°.96S×28°.81E, h0km, mb3.4/1, mbtmp3.2/2, ML2.6/1, Error ellipse: s-maj=144.3km s-min=25.1km az=122.0*
*EAF **03** 15:30:48.9±1.3, 25°.93S×29°.42E, h0km±16km, MD3.4*
*BUL **03** 15:30:49.8±1.6, 25°.95S×29°.36E, h0km±18km, MD3.5*
ISC 03 15:30:39.6±1.1, **26°.08S**±0°.06×**29°.39E**±0°.06, **h10km, n11,** σ1s.**72**/19, **South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOPA	Mopani	3.14	36	i P	Pb	15 31 36.4	+0.9
MOPA				i S	Sb	15 32 13.2	-0.7
MOPA	Mopani	3.14	36	i P	Pb	15 31 36.4	+0.9
MOPA				i S	Sb	15 32 13.2	-0.7
LBTB	Lobatse	3.59	286	i P	Pb	15 31 44.6	+1.4
LBTB				i S	Sb	15 32 26.4	-0.6
LBTB	Lobatse	3.59	286	i P	Pb	15 31 44.6	+1.4
LBTB				i S	Sb	15 32 26.4	-0.6
MUSN	Musina, Limpop	3.80	7	i P	Pb	15 31 47.3	+0.4
MUSN				i S	Sb	15 32 29.7	-3.3
MUSN	Musina, Limpop	3.80	7	i P	Pb	15 31 47.3	+0.4
MUSN				i S	Sb	15 32 29.7	-3.3
BOSA	Boshof	4.46	235	Pn	Pn	15 31 47.7	+0.3
	0.2nm,0.3s,baz=48,slow=12,SNR=4.3						
BOSA				Sn	Sn	15 32 36.7	-2.8
	1.5nm,0.3s,baz=0.0,slow=20,SNR=4.0						
BOSA				Lg	Lg	15 32 55.4	
	11nm,0.3s,baz=151,slow=22,SNR=21						
	3.1nm,0.8s						
BOSA	Boshof	4.46	235	i P	Pb	15 31 58.5	+0.4
BOSA				i S	Sb	15 32 50.3	-1.7
BOSA	Boshof	4.46	235	i P	Pb	15 31 58.5	+0.4
BOSA				i S	Sb	15 32 50.3	-1.7
I35NA	TSUMEB INFRASO	12.88	300	I		16 47 40.0	
	baz=126,slow=311,SNR=2.9						
TORD	Torodi Ar. Bea	47.41	322	P	P	15 39 16.5	+2.2
	0.3nm,0.6s,baz=142,slow=7.3,SNR=2.6						
	0.3nm,0.6s						

*IDC **03** 15:54:09.7±0.6, 41°.82N×88°.59E, h0km, mb4.0/14, mbtmp4.0/19, ML3.2/5, MS3.1/12, Error ellipse: s-maj=18.2km s-min=10.2km az=45.0*
*NNC **03** 15:54:12.9±1.7, 42°.00N×88°.33E, h0km, mb4.5, mpv4.4, Error ellipse: s-maj=13.3km s-min=11.0km az=148.0*
*SOME **03** 15:54:12.8, 42°.60N×86°.85E, h5km*
*BJI **03** 15:54:13.1±0.0, 41°.78N×88°.56E, h8km, mb4.3/19, mB4.5/11, ML4.3/12, Ms3.7/6, Ms7 3.4/5*
*NEIC **03** 15:54:16.4±2.5, 41°.93N±0°.09×88°.24E±0°.06, h37km±6km, mb4.6/38, ML4.5(BJI), Error ellipse: s-maj=12.7km s-min=5.7km az=163.0*
ISC 03 15:54:11.8±0.4, **41°.90N**±0°.05×**88°.50E**±0°.05, **h10km, n103,** σ2s.**12**/113, **mb4.5**/31, **MS3.0**/8, **10C-11D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMQ	Urumqi	2.01	343	Pg	Pg	15 54 50.0	-0.3
WMQ				Sg	Sg	15 55 18.3	+1.9
WMQ				smax	smax		
	comp=N,4μm,1.3s						
WMQ				smax	smax		
	comp=E,5μm,0.9s						
ZSN	Zaisan	6.12	336	eP	Pn	15 55 47.7	+5.4
	10nm,0.5s						
ZSN				eS	Sn	15 56 55.6	+3.2
	32nm,0.6s						
MK31	Makanchi Array	6.61	320	Pn	Pn	15 55 50.5	+1.5
MK31	Makanchi Array	6.61	320	⇑Pn	Pn	15 55 50.7	+1.6
	7.6nm,0.3s,baz=136,slow=14,SNR=489						
MK31				⇓Sn	Sn	15 57 06.1	+1.7
	19nm,0.5s						
MK31				⇑Lg	Lg	15 57 37.1	
	60nm,0.6s,baz=139,slow=27,SNR=6.4						
MKAR	Makanchi Array	6.61	320	Pn	Pn	15 55 50.3	+1.3
	19nm,0.4s,baz=135,slow=14,SNR=298						
MKAR				Sn	Sn	15 57 06.2	+1.8
	4.3nm,0.3s,baz=140,slow=27,SNR=3.8						
MKAR				Lg	Lg	15 57 44.4	
	11nm,0.3s,baz=136,slow=27,SNR=7.0						
MKAR				LR	LR	15 59 05.6	
	comp=Z,85nm,19.6s,baz=186,slow=44						
MKAR	Makanchi Array	6.61	320	Pn	Pn	15 55 50.5	+1.5
MAKZ	Makanchi	6.78	319		Pn	15 55 52.5	+1.2
MAKZ	Makanchi	6.78	319	⇓Pn	Pn	15 55 52.8	+1.5
	16nm,0.5s						
MAKZ				⇓Sn	Sn	15 57 08.3	-0.1
	10nm,0.5s						
MAKZ				⇑Lg	Lg	15 57 44.4	
	51nm,0.9s						
SHLS	Shalkode	6.80	284	eP	Pn	15 55 51.4	-0.3
	9.5nm,1.2s						
SHLS				eS	Sn	15 57 01.9	-7.3
	138nm,0.7s						
PDGK	Podgornoye	6.80	285	⇑Pn	Pn	15 55 52.9	+1.2
	16nm,0.4s						
PDGK				⇓Sn	Sn	15 57 09.6	+0.3
	179nm,0.6s						
PDGK				⇑Lg	Lg	15 57 46.8	
	225nm,0.8s						
DJR	Jarkent	6.82	294	eP	Pn	15 55 55.9	+3.9
	30nm,0.4s						
DJR				eS	Sn	15 57 09.7	0.0
	68nm,0.4s						
UZB	Uzynbulak	7.11	283	eP	Pn	15 56 00.4	+4.4
	12nm,0.3s						
UZB				eS	Sn	15 57 17.5	+0.5
	63nm,0.7s						
GOMU	GeErMu	7.52	137	Pn	Pn	15 55 59.9	-1.9
GOMU				Sn	Sn	15 57 21.9	-5.3
GOMU				Sg	Sg	15 58 02.8	-10
GOMU				smax	smax		
	comp=N,55nm,0.8s						
GOMU				smax	smax		
	comp=E,82nm,1.0s						
SATY	Saty	7.55	282	eP	Pn	15 56 07.3	+5.3
	12nm,0.2s						
SATY				eS	Sn	15 57 29.4	+1.6
	73nm,0.5s						
TDK	Taldyqorghan	7.97	296	eP	Pn	15 56 13.2	+5.5
	45nm,0.6s						
TDK				eS	Sn	15 57 39.6	+1.7
	218nm,0.6s						
ARXS	Arharly	8.15	290	eP	Pn	15 56 15.3	+5.1
	22nm,0.3s						
ARXS				eS	Sn	15 57 43.1	+0.7
	53nm,0.5s						
MDOK	Medeo	8.55	282	⇑Pn	Pn	15 56 17.8	+2.0
	8.1nm,0.5s						
MDOK				Sn	Sn	15 57 51.5	-0.9
	40nm,0.6s						
MDOK				⇑Lg	Lg	15 58 41.8	
	62nm,0.7s						
GTA	Gaotai	8.95	102	eP	Pn	15 56 28.7	+7.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GTA				pmax	pmax		
	comp=Z,43nm,4.5s						
GTA				LR	LR		
	comp=N,170nm,11.6s						
GTA				LR	LR		
	comp=E,150nm,13.1s						
GTA				LR	LR		
	comp=Z,150nm,13.5s						
NRN	Naryn	9.37	271		Pn	15 56 25.9	-1.2
TKM2	Tokmak 2	9.60	280	⇓Pn	Pn	15 56 30.7	+0.5
	8.6nm,0.5s						
TKM2				⇑Sn	Sn	15 58 17.9	-0.3
	22nm,0.6s						
TKM2				⇑Lg	Lg	15 59 14.5	
	38nm,0.8s						
KSH	Kashi	9.81	260	P	Pn	15 56 39.4	+6.4
KSH				PP	PnPn	15 56 47.3	+6.9
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSH				LR	LR		
	comp=N,98nm,3.8s						
KSH				LR	LR		
	comp=E,130nm,4.0s						
KSH				LR	LR		
	comp=Z,150nm,8.3s						
AAK	Ala-Archa	10.41	279	Pn	Pn	15 56 41.0	-0.2
	0.4nm,0.3s,baz=137,slow=9.2,SNR=4.7						
AAK				Sn	Sn	15 58 37.0	-1.0
	0.8nm,0.3s,baz=82,slow=7.1,SNR=1.9						
AAK				Lg	Lg	15 59 42.2	
	0.3nm,0.3s,baz=37,slow=20,SNR=1.3						
	0.8nm,0.3s						
AAK	Ala-Archa	10.41	279		Pn	15 56 40.7	-0.6
KURBB	Kurchatov Arra	11.11	325	Pn	Pn	15 56 50.5	-0.2
	0.4nm,0.3s,baz=132,slow=13,SNR=53						
KURBB				Sn	Sn	15 58 49.2	-5.7
	baz=147,slow=19,SNR=1.6						
KURBB				Lg	Lg	16 00 05.6	
	0.2nm,0.3s,baz=142,slow=30,SNR=5.7						
	5.4nm,0.7s						
KURBB	Kurchatov Arra	11.11	325	⇓Pn	Pn	15 56 49.8	-0.8
	6.9nm,0.7s						
KURBB				⇓Lg	Lg	15 59 59.1	
	62nm,0.9s						
KURK	Kurchatov	11.14	326	Pn	Pn	15 56 50.4	-0.7
KURK	Kurchatov	11.14	326	⇓Pn	Pn	15 56 49.7	-1.3
	6.3nm,1.0s						
KURK				Lg	Lg	16 00 00.7	
	40nm,1.2s						
ZAA0	Zalesovo Array	12.30	350	Pn	Pn	15 57 06.3	-0.5
ZAA0	Zalesovo Array	12.30	350	⇓Pn	Pn	15 57 06.0	-0.8
	0.6nm,0.8s						
ZAA0				Lg	Lg	16 00 38.8	
	4.2nm,1.4s						
ZALV	Zalesovo Beam	12.30	350	Pn	Pn	15 57 06.4	-0.4
	1.2nm,0.3s,baz=173,slow=14,SNR=18						
ZALV				Sn	Sn	15 59 20.2	-3.7
	0.8nm,0.3s,baz=168,slow=22,SNR=3.9						
ZALV				Lg	Lg	16 00 44.1	
	baz=172,slow=24						
ZALV				LR	LR	16 02 36.1	
	comp=Z,54nm,19.8s,baz=124,slow=41						
	3.6nm,0.4s						
OTUK	Ortayu	13.06	305	⇓Pn	Pn	15 57 15.7	-1.6
	5.1nm,0.5s						
OTUK				Lg	Lg	16 01 05.8	
	25nm,1.4s						
BTK	Batken	13.49	268	Pn	Pn	15 57 25.7	+2.4
SONM	Songino Array	13.99	59	Pn	Pn	15 57 30.1	-0.1
	0.1nm,0.3s,baz=248,slow=14,SNR=1.4						
SONM				Lg	Lg	16 01 36.7	
	0.4nm,0.3s,baz=241,slow=29,SNR=7.6						
SONM				LR	LR	16 03 08.9	
	comp=Z,83nm,18.7s,baz=323,slow=39						
SONM	Songino Array	13.99	59		P	15 57 34.7	-3.5
GAR	Garm	14.15	264		Pn	15 57 28.4	-4.0
NIL	Nilore	14.59	241		Pn	15 57 35.8	-2.5
CHGR	Chuyangaron	15.12	264	Pn	Pn	15 57 42.1	-3.3
BVA0	Borovoye Array	16.50	319	⇓Pn	Pn	15 58 02.6	-0.5
	3.7nm,0.7s						
BVAR	Borovoye Array	16.50	319	Pn	Pn	15 57 58.5	-4.6
	baz=122,slow=14,SNR=3.3						
BVAR				Sn	Sn	16 00 55.8	-10
	baz=116,slow=26,SNR=1.2						
BVAR				Lg	Lg	16 02 55.4	
	baz=95,slow=35,SNR=1.8						
BVAR				LR	LR	16 04 36.7	
	comp=Z,62nm,21.2s,baz=143,slow=38						
	0.8nm,0.3s						
SHL	Shillong	16.53	169		P	15 58 08.4	+1.9
SHL				IAmb	IAmb	15 58 13.1	
	comp=Z,9.7nm,0.6s						
BRVK	Borovoye	16.57	319	Pn	Pn	15 58 02.2	-1.8
BRVK	Borovoye	16.57	319	⇑Pn	Pn	15 58 02.7	-1.3
KBL	Kabul	16.95	251	P	Pn	15 58 07.8	-1.3
HHC	Hu-ho-hao-te	17.34	86	eP	P	15 58 19.8	+4.5
HHC				pmax	pmax		
	comp=Z,32nm,0.9s						
TNCH	TengChong	18.76	151	eP	Pn	15 58 37.2	+5.6
TNCH				pmax	pmax		
	comp=Z,11nm,0.6s						
PZH	PanZhiHua	18.83	141	P	Pn	15 58 39.3	+7.0
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
ABKAR	Akbulak array	21.21	300		P	15 58 55.0	-2.5
HRA	Herat	21.92	259	P	P	15 59 05.5	+0.1
GEYT	Alibeck	23.58	270	P	P	15 59 22.9	+0.4
	comp=Z,0.8nm,0.4s,baz=74,slow=8.0,SNR=3.7						
GEYT				LR	LR	16 09 43.9	
	comp=Z,123nm,21.3s,baz=30,slow=40						
	comp=Z,0.8nm,0.4s						
GEYT	Alibeck	23.58	270	P	P	15 59 22.5	-0.1
ARU	Arti	24.13	317	P	P	15 59 28.2	+0.6
	comp=Z,8.4nm,0.4s,baz=109,slow=5.1,SNR=16						
ARU				LR	LR	16 09 40.4	
	comp=Z,38nm,19.2s,baz=79,slow=38						
	comp=Z,8.4nm,0.4s						
ARU	Arti	24.13	317	P	P	15 59 27.8	+0.2
ARU				IAmb	IAmb	15 59 29.8	
	comp=Z,7.9nm,0.8s						
CM31	Chiang Mai Arr	25.01	156	P	P	15 59 40.2	+4.4
CMAR	Chiang Mai Arr	25.01	156	P	P	15 59 35.4	-0.4
	comp=Z,0.9nm,0.8s,baz=336,slow=9.4,SNR=16						
CMAR				LR	LR	16 10 22.3	
	comp=Z,26nm,18.0s,baz=350,slow=39						
	comp=Z,0.9nm,0.8s						
CMAR	Chiang Mai Arr	25.01	156	P	P	15 59 37.3	+1.4
PHRA	Phrae	25.38	153	P	P	15 59 42.5	+3.3
NJ2	Nanjing	26.05	102	eP	P	15 59 48.1	+2.9
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
NRIK	Noril'sk	27.51	359	P	P	15 59 58.4	+0.4
	comp=Z,0.9nm,0.4s,baz=170,slow=5.6,SNR=3.7						
NRIK				LR	LR	16 11 45.6	
	comp=Z,94nm,19.0s,baz=200,slow=38						
	comp=Z,0.9nm,0.4s						
KSRS	Korea Array	30.48	85	P	P	16 00 21.4	-3.3
	comp=Z,0.5nm,0.4s,baz=292,slow=9.4,SNR=5.7						
KSRS				LR	LR	16 14 07.1	
	comp=Z,20nm,18.2s,baz=60,slow=39						
	comp=Z,0.5nm,0.4s						
KLR	Kul'dur	30.80	61	LR	LR	16 14 12.5	
	comp=Z,25nm,20.8s,baz=282,slow=39						
YAK	Yakutsk	31.61	36	LR	LR	16 13 44.0	
	comp=Z,48nm,19.5s,baz=266,slow=37						
TIXI	Tiksi	35.78	21	P	P	16 01 10.6	+0.1
	comp=Z,1.3nm,0.3s,baz=269,slow=2.5,SNR=6.5						
	comp=Z,1.3nm,0.3s						
FIA1	FINESS Array S	41.45	320	P	P	16 01 57.0	-1.2
FIA1				IAmb	IAmb	16 02 12.3	
	comp=Z,21nm,1.4s						
FINES	FINESS Array B	41.45	320	P	P	16 01 58.3	0.0
	comp=Z,1.6nm,0.8s,baz=98,slow=10.0,SNR=5.8						
	comp=Z,1.6nm,0.8s						
FINES	FINESS Array B	41.45	320	P	P	16 01 57.4	-0.9
ARCES	ARCESS Array B	42.09	332	P	P	16 02 04.2	+0.7
	comp=Z,4.8nm,0.9s,baz=96,slow=8.3,SNR=9.7						
ARCES				PcP	PcP	16 03 57.0	-0.9
	comp=Z,0.8nm,0.5s,baz=104,slow=3.8,SNR=8.1						
ARCES				LR	LR	16 20 41.2	
	comp=Z,31nm,18.5s,baz=204,slow=38						
	comp=Z,4.8nm,0.9s						
ARCES	ARCESS Array B	42.09	332	P	P	16 02 03.8	+0.3
ARCES				IAmb	IAmb	16 02 26.7	
	comp=Z,8.4nm,1.1s						
KKM	Kota Kinabalu	43.38	138	P	P	16 02 21.1	+6.6
NC405	NORSAR Array S	48.36	321	P	P	16 02 52.9	-0.4
NC602	NORSAR Array S	48.53	320	P	P	16 02 54.6	0.0
NB201	NORSAR Array S	48.57	321	P	P	16 02 55.0	+0.1
NB2	NORSAR Subarra	48.61	321	P	P	16 02 54.9	-0.4
	comp=Z,1.2nm,0.5s,baz=76,slow=7.9						
NOA	NORSAR Array B	48.61	321	P	P	16 02 55.1	-0.1
	comp=Z,1.3nm,0.5s,baz=76,slow=7.7,SNR=7.4						
	comp=Z,1.3nm,0.5s						
NBO00	NORSAR Array S	48.82	321	P	P	16 02 56.8	0.0
TOLK	Toolik Lake Re	61.67	21	P	P	16 04 29.7	+0.2
TOLK				IAmb	IAmb	16 04 35.3	
	comp=Z,17nm,1.4s						
IMAR	Indian Mountai	62.30	24	P	P	16 04 34.4	+0.7
COLD	Coldfoot	62.49	22	P	P	16 04 35.8	+0.9
COLD				IAmb	IAmb	16 05 19.0	
	comp=Z,11nm,1.4s						
J20K	Nowinta River	63.39	26	P	P	16 04 42.6	+1.7
J20K				IAmb	IAmb	16 05 15.1	
	comp=Z,6.0nm,1.4s						
BMAR	Burnt Mountain	63.85	20	P	P	16 04 45.2	+1.3
FYU	Fort Yukon	64.33	21	P	P	16 04 49.2	+2.2
L19K	White Mountain	64.50	28	P	P	16 04 49.8	+1.5
L19K				IAmb	IAmb	16 04 50.8	
	comp=Z,6.9nm,1.1s						
BWN	Browne	64.87	24	P	P	16 04 52.3	+1.6
BWN				IAmb	IAmb	16 05 06.2	
	comp=Z,24nm,1.3s						
PPLA	Purkeypile	64.91	26	P	P	16 04 52.3	+1.2
PPLA				IAmb	IAmb	16 05 32.7	
	comp=Z,17nm,1.4s						
ILAR	Eielson Array	65.20	23	P	P	16 04 52.7	-0.1
	comp=Z,0.9nm,0.7s,baz=317,slow=5.0,SNR=11						
	comp=Z,0.9nm,0.7s						
ROCAM	Rodrigues Isla	65.61	206	P	P	16 04 57.2	+1.4
J26L	Joseph Creek	66.35	22	P	P	16 05 00.6	+0.3
ESDC	Sonseca Array	66.53	303	P	P	16 05 01.6	-0.2
	comp=Z,0.8nm,0.5s,baz=45,slow=7.5,SNR=6.1						
	comp=Z,0.8nm,0.5s						
SCRK	Sand Creek	66.63	22	P	P	16 05 02.3	+0.1
SCRK				IAmb	IAmb	16 05 04.1	
	comp=Z,5.0nm,1.2s						
SML	Sawmill	66.95	26	P	P	16 05 03.7	-0.4
SML				IAmb	IAmb	16 05 45.4	
	comp=Z,21nm,1.5s						
SCM	Sheep Creek Mo	67.25	25	P	P	16 05 05.8	-0.3
SCM				IAmb	IAmb	16 05 07.0	
	comp=Z,15nm,1.2s						
M24K	Tolsona, Glenn	67.41	25	P	P	16 05 07.6	+0.5
M24K				IAmb	IAmb	16 05 43.5	
	comp=Z,26nm,1.5s						
CNPM	China Poot	67.62	28	P	P	16 05 10.2	+1.8
DAWY	Dawson	67.82	21	P	P	16 05 09.8	+0.2
DAWY				IAmb	IAmb	16 05 40.1	
	comp=Z,5.4nm,1.4s						
BCAR	Beaver Creek A	67.97	22	P	P	16 05 11.2	+0.7
M27K	Edge Creek, AK	68.50	23	P	P	16 05 15.1	+1.1
M27K				IAmb	IAmb	16 05 16.7	
	comp=Z,8.9nm,1.3s						
HYT	Haines Junctio	70.98	22	P	P	16 05 29.3	0.0
HYT				IAmb	IAmb	16 06 03.8	
	comp=Z,16nm,1.5s						
WRA	Warramunga Arr	74.71	136	P	P	16 05 51.1	-0.6
	comp=Z,0.5nm,0.7s,baz=328,slow=5.7,SNR=8.6						
	comp=Z,0.5nm,0.7s						
WB2	Warramunga Arr	74.72	136	P	P	16 05 51.5	-0.3
WB2				IAmb	IAmb	16 06 15.8	
	comp=Z,4.4nm,1.1s						
WR0	Warramunga Arr	74.83	135	P	P	16 05 51.6	-0.8
WR0				IAmb	IAmb	16 06 22.3	
	comp=Z,8.5nm,1.4s						
AS31	Alice Springs	77.58	138	P	P	16 06 07.5	-0.6
ASAR	Alice Springs	77.58	138	P	P	16 06 07.3	-0.8
	comp=Z,0.3nm,0.6s,baz=322,slow=5.2,SNR=17						
	comp=Z,0.3nm,0.6s						
ASAR	Alice Springs	77.58	138	P	P	16 06 08.0	0.0
TORD	Torodi Ar. Bea	79.00	278	P	P	16 06 15.2	-0.9
	comp=Z,0.9nm,0.5s,baz=42,slow=5.1,SNR=8.1						
	comp=Z,0.9nm,0.5s						

*TEH **03** 15:54:18.7, 32°.47N×47°.91E, h6km, ML3.4*
*ISN **03** 15:54:18.7±1.0, 32°.45N×47°.96E, h25km±6km, ML3.1*
ISC 03 15:54:20.2±1.0, **32°.54N**±0°.05×**47°.90E**±0°.03, **h15km, n35,** σ1s.**26**/41, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.54**	**286**	*e*Pg	**Pg**	**15 54 29.8**	**-1.1**
DHL1				*e*Sg	**Sg**	**15 54 38.8**	**+0.7**
IKFM	**Kafar-mosalman**	**0.99**	**357**	*e*Pn	**Pg**	**15 54 37.9**	**-1.4**
IKFM				*e*		15 54 59.3	
	comp=Z,18μm,0.4s						
IKMR	**Kamar-syah**	**1.06**	**22**	*e*Pg	**Pn**	**15 54 39.6**	**-0.9**
IKMR				*e*Sg	**Sn**	**15 54 56.8**	**+1.8**
IDOB	**Doab**	**1.27**	**11**	*e*Pn	**Pb**	**15 54 42.7**	**-1.3**
IKOM	**Komasi**	**1.67**	**349**	*e*Pn	**Pb**	**15 54 50.1**	**-0.6**
IKOM				*e*		15 55 19.5	
	comp=Z,4μm,0.4s						
RAFI	**Al-Rafai**	**1.72**	**242**	*e*Pg	**Pn**	**15 54 50.0**	**+0.5**
RAFI				*e*Sg	**Sn**	**15 55 12.0**	**+0.8**
RAFI				AML	AML	15 55 17.0	
	comp=E,257nm,0.4s						
IBDR	**Badra**	**1.75**	**290**	*e*Pg	**Pb**	**15 54 52.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**15 55 15.0**	**+1.1**
ILBA	**Ilam Banvizeh**	**1.79**	**308**	*e*Pn	**Pn**	**15 54 50.8**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.88**	**338**	*e*Pn	**Pb**	**15 54 52.8**	**-1.5**
KCHF				*e*		15 55 32.5	
	comp=Z,2μm,0.5s						
IBZA	**Bozab**	**1.93**	**359**	*e*Pn	**Pb**	**15 54 54.5**	**-0.7**
IBZA				*e*		15 55 30.4	
	comp=Z,2μm,0.5s						
KER	**Kermanshah**	**1.95**	**341**	*e*Pn	**Pb**	**15 54 55.0**	**-0.5**
KHMZ	**Khomeyn**	**2.10**	**55**	*e*Pn	**Pb**	**15 54 56.8**	**-1.4**
IGHG	**Ghaleghazi**	**2.11**	**328**	*e*Pn	**Pn**	**15 54 56.2**	**+1.1**
IDHR	**Dehrash**	**2.50**	**330**	*e*Pn	**Pn**	**15 55 01.2**	**+0.7**
IDHR				*e*		15 55 47.4	
	comp=Z,2μm,0.6s						
ILIN	**Lien**	**2.50**	**342**	*e*Pn	**Pb**	**15 55 02.5**	**-2.5**
ILIN				*e*		15 55 48.9	
	comp=Z,890nm,0.5s						
IPIR	**Pirpir**	**2.53**	**86**	*e*Pn	**Pn**	**15 55 01.5**	**+0.5**
IPIR				*e*		15 55 54.0	
	comp=Z,654nm,0.6s						
SHK1	**Shahrekord**	**2.53**	**94**	*e*Pn	**Pn**	**15 55 01.4**	**+0.4**
SNGE	**Sanandaj**	**2.59**	**350**	*e*Pn	**Pb**	**15 55 03.7**	**-2.8**
IBRJ	**Brojen**	**2.92**	**102**	*e*Pn	**Pn**	**15 55 06.6**	**+0.3**
BHD	**Baghdad**	**3.05**	**285**	*e*Pn	**Pn**	**15 55 08.0**	**+0.2**
BHD				*e*Sn	**Sn**	**15 55 45.0**	**+0.9**
QAMS	**Qamsar**	**3.17**	**67**	*e*Pn	**Pn**	**15 55 11.4**	**+1.6**
IKLH	**Kolahrood**	**3.19**	**75**	*e*Pn	**Pn**	**15 55 10.7**	**+0.6**
IRAZ	**Razeghan**	**3.32**	**30**	*e*Pn	**Pn**	**15 55 13.7**	**+1.9**
IRAZ				*e*		15 55 18.0	
	comp=Z,1μm,0.5s						
GHVR	**GHOM**	**3.44**	**55**	*e*Pn	**Pn**	**15 55 14.2**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.46**	**23**	*e*Pn	**Pn**	**15 55 15.6**	**+1.9**
KLNJ	**Kolanjah**	**3.49**	**115**	*e*Pn	**Pn**	**15 55 14.1**	**-0.2**
IQOM	**Qom**	**3.50**	**48**	*e*Pn	**Pn**	**15 55 15.9**	**+1.5**
IZEF	**Zefreh**	**3.75**	**83**	*e*Pn	**Pn**	**15 55 18.5**	**+0.7**
KRSH	**Karshahi**	**3.83**	**67**	*e*Pn	**Pn**	**15 55 19.9**	**+1.2**
IRAM	**Ramesheh**	**3.87**	**100**	*e*Pn	**Pn**	**15 55 20.5**	**+1.1**
IVRN	**Varamin**	**4.02**	**51**	*e*Pn	**Pn**	**15 55 22.7**	**+1.4**
ISFB	**Sefidab**	**4.06**	**62**	*e*Pn	**Pn**	**15 55 24.0**	**+2.2**
IKRK	**Kirkuk**	**4.11**	**315**	*e*Pn	**Pn**	**15 55 23.0**	**+0.5**
IKRK				*e*Sn	**Sn**	**15 56 11.0**	**+0.7**
IKRK				AML	AML	15 56 29.1	
	comp=N,45nm,0.3s						
IKRK				AML	AML	15 56 30.9	
	comp=E,55nm,0.5s						
NASN	**Na'in**	**4.15**	**85**	*e*Pn	**Pn**	**15 55 24.3**	**+1.0**
CHTH	**Charan**	**4.30**	**38**	*e*Pn	**Pn**	**15 55 26.5**	**+1.2**

*IDC **03** 16:11:34.9±0.4, 2°.99S×129°.38E, h0km, mb4.5/21, mbtmp4.5/24, ML4.7/2, MS3.7/25, Error ellipse: s-maj=17.8km s-min=10.7km az=75.0*

*MOS **03** 16:11:35.5±1.0, 3°.03S×129°.34E, h18km, mb4.9/27, Error ellipse: s-maj=11.0km s-min=6.0km az=112.1*

*BJI **03** 16:11:37.9±0.0, 3°.23S×129°.24E, h32km, mb4.7/43, mB5.0/22, Ms4.5/7, Ms7 4.1/7*

*DJA **03** 16:11:38.6±0.7, 3°S±2°×12°9E±°, h21km±7km, M4.8/37, mb5.0/37, mB5.3/19, MLv4.9/18, Mw(mB)4.7/19*

*NEIC **03** 16:11:39.9±2.4, 2°.97S±0°.05×129°.41E±0°.04, h30km±3km, mb5.0/92, Error ellipse: s-maj=8.1km s-min=6.3km az=166.0*

ISC 03 16:11:39.0±0.3**, 3°.04S**±0°.04×**129°.38E**±0°.04**, h28**km**, n312, σ1s.21**/305**, mb4.8**/81**, MS3.8**/23**, 15C-8D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.55**	**236**	P	**Pn**	**16 11 50.7**	**-0.3**
KRAI	**Karang Ratu**	**1.02**	**254**	P	**Pb**	**16 11 58.7**	**+0.5**
AAI	**Ambon**	**1.35**	**242**	P	**Pb**	**16 12 03.9**	**+0.2**
BNDI	**Bandanaira**	**1.56**	**161**	P	**Pb**	**16 12 07.7**	**+0.4**
BNDI	**Bandanaira**	**1.56**	**161**	P	**Pb**	**16 12 07.6**	**+0.3**
NLAI	**Namlea**	**2.29**	**265**	P	**Pn**	**16 12 16.8**	**+1.8**
SIJI	**Sorong**	**2.86**	**41**	Pn	**Pn**	**16 12 22.1**	**-0.8**
	201nm,0.3s,baz=223,slow=22,SNR=1165						
SIJI				Sn	**Sn**	**16 12 55.6**	**-0.9**
	248nm,0.3s,baz=229,slow=19,SNR=19						
SIJI				LR	LR	16 14 02.3	
	comp=Z,2μm,20.4s,baz=245,slow=52						
	913nm,0.5s						
SIJI	**Sorong**	**2.86**	**41**	P	**Pn**	**16 12 22.0**	**-0.8**
FAKI	**Fak Fak**	**2.86**	**88**		**Pn**	**16 12 22.6**	**-0.3**
FAKI	**Fak Fak**	**2.86**	**88**	P	**Pn**	**16 12 23.4**	**+0.5**
FAKI	**Fak Fak**	**2.86**	**88**	P	**Pn**	**16 12 23.2**	**+0.3**
LBMI	**Labuha**	**3.04**	**322**	P	**Pn**	**16 12 24.3**	**-1.0**
SANI	**Sanana**	**3.53**	**286**	P	**Pn**	**16 12 31.3**	**-0.8**
SANI	**Sanana**	**3.53**	**286**	P	**Pn**	**16 12 31.5**	**-0.6**
TNTI	**Ternate**	**4.29**	**332**	Pn	**Pn**	**16 12 41.4**	**-1.1**
TNTI	**Ternate**	**4.29**	**332**	P	**Pn**	**16 12 40.7**	**-1.8**
TNTI	**Ternate**	**4.29**	**332**	P	**Pn**	**16 12 42.0**	**-0.5**
RKPI	**Ransiki, Papua**	**5.03**	**72**	P	**Pn**	**16 12 52.1**	**-0.5**
GAMI	**Galela, Maluku**	**5.10**	**342**	P	**Pn**	**16 12 51.7**	**-2.0**
SAUI	**Saumlaki**	**5.26**	**159**	Pn	**Pn**	**16 12 56.9**	**+1.0**
SAUI	**Saumlaki**	**5.26**	**159**	P	**Pn**	**16 12 58.7**	**+2.8**
	1.5nm4μm257nm,0.8s						
SAUI	**Saumlaki**	**5.26**	**159**	P	**Pn**	**16 12 56.7**	**+0.8**
LUWI	**Luwuk**	**6.90**	**287**		**Pn**	**16 13 17.9**	**-0.5**
LUWI	**Luwuk**	**6.90**	**287**	P	**Pn**	**16 13 18.0**	**-0.4**
	0.7nm2μm223nm,0.9s						
LUWI	**Luwuk**	**6.90**	**287**	P	**Pn**	**16 13 18.3**	**-0.1**
SRPI	**Serui, Papua**	**6.95**	**81**	P	**Pn**	**16 13 18.8**	**-0.3**
	0.8nm3μm191nm,0.5s						
BBSI	**Bau Bau**	**7.21**	**250**	P	**Pn**	**16 13 24.6**	**+1.9**
	0.5nm114nm,1.2s						
KKSI	**Kolaka, Sulawe**	**7.80**	**261**	P	**Pn**	**16 13 32.0**	**+1.2**
	0.1nm974nm44nm,0.8s						
APSI	**Ampana**	**8.02**	**285**	P	**Pn**	**16 13 33.8**	**+0.1**
	1.4nm5μm569nm,1.0s						
MRSI	**Marisa**	**8.22**	**295**	P	**Pn**	**16 13 35.6**	**-0.9**
	1μm131nm,0.8s						
SOEI	**Soe**	**8.38**	**217**	Pn	**Pn**	**16 13 42.9**	**+3.9**
SOEI	**Soe**	**8.38**	**217**	P	**Pn**	**16 13 42.0**	**+3.1**
	2μm225nm,0.9s						
SOEI	**Soe**	**8.38**	**217**	P	**Pn**	**16 13 38.5**	**-0.4**
MMRI	**Maumere**	**9.02**	**232**	Pn	**Pn**	**16 13 48.7**	**+1.2**
MMRI	**Maumere**	**9.02**	**232**	P	**Pn**	**16 13 49.9**	**+2.4**
	2μm129nm,1.1s						
BATI	**Baumata**	**9.11**	**218**	Pn	Pn	16 13 54.5	+5.7
	12nm,0.3s,baz=142,slow=1.8,SNR=27						
BATI				LR	LR	16 17 30.3	
	comp=Z,1μm,21.7s,baz=41,slow=39						
BATI	**Baumata**	**9.11**	**218**	P	**Pn**	**16 13 51.2**	**+2.5**
	1μm167nm,0.8s						
BNSI	**Bone**	**9.36**	**261**	P	**Pn**	**16 13 53.1**	**+1.0**
	45nm,0.8s						
BSSI	**Bau Bau, Buton**	**9.38**	**251**	P	**Pn**	**16 13 54.1**	**+1.6**
	1μm218nm,1.0s						
BKSI	**Bulukumba**	**9.51**	**256**	P	**Pn**	**16 13 55.5**	**+1.3**
	1μm140nm,1.2s						
TOLI2	**Tolitoli**	**9.54**	**296**	Pn	**Pn**	**16 13 53.3**	**-1.3**
TOLI2	**Tolitoli**	**9.54**	**296**	P	**Pn**	**16 13 53.6**	**-1.0**
SPSI	**Sidrap Palu**	**9.64**	**264**	P	**Pn**	**16 13 57.2**	**+1.2**
	1μm62nm,1.0s						
KAPI	**Kappang**	**9.81**	**258**	Pn	**Pn**	**16 14 02.9**	**+4.6**
	2.5nm,0.3s,baz=76,slow=11,SNR=25						
KAPI				LR	LR	16 18 39.0	
	comp=Z,724nm,20.6s,baz=76,slow=43						
KAPI	**Kappang**	**9.81**	**258**	Pn	**Pn**	**16 14 00.6**	**+2.3**
KAPI	**Kappang**	**9.81**	**258**	P	**Pn**	**16 13 59.3**	**+1.0**
	963nm115nm,1.2s						
KAPI	**Kappang**	**9.81**	**258**	*d i*P	**Pn**	**16 14 02.1**	**+3.8**
KAPI				pmax	pmax		
	comp=Z,104nm,0.9s						
MTN	**Manton Dam**	**9.89**	**170**	Pn	**Pn**	**16 14 00.7**	**+1.2**
MTN	**Manton Dam**	**9.89**	**170**	P	**Pn**	**16 14 01.3**	**+1.8**
MPSI	**Mapaga**	**10.06**	**289**	P	**Pn**	**16 14 01.6**	**-0.2**
	comp=Z,58nm,0.8s						
DAV	**Davao City (W)**	**10.74**	**339**	LR	LR	16 18 31.5	
	comp=Z,253nm,21.4s,baz=35,slow=39						
DAV	**Davao City (W)**	**10.74**	**339**		**Pn**	**16 14 08.9**	**-2.2**
GENI	**Genyem**	**10.78**	**88**	P	**Pn**	**16 14 12.0**	**+0.3**
	comp=Z,160nm,0.8s						
CTBH	**Cotabato--PC H**	**11.41**	**333**	⇑*e*P	**Pn**	**16 14 20.1**	**-0.2**
KNRA	**Kununurra**	**12.57**	**183**	Pn	**Pn**	**16 14 37.2**	**+1.1**
KNRA	**Kununurra**	**12.57**	**183**	P	**Pn**	**16 14 36.8**	**+0.7**
PLAI	**Plampang**	**12.89**	**243**	P	**Pn**	**16 14 41.5**	**+0.9**
MYLDM	**Lahad Datu**	**13.60**	**307**	Pn	**Pn**	**16 14 50.1**	**-0.1**
MYLDM	**Lahad Datu**	**13.60**	**307**	P	**Pn**	**16 14 49.2**	**-1.0**
	comp=Z,56nm,1.2s						
BBKI	**Banjar Baru**	**14.53**	**268**	P	**Pn**	**16 15 03.5**	**+0.6**
	comp=Z,61nm,1.1s						
ABJI	**Asem Bagus**	**15.80**	**252**	P	**Pn**	**16 15 20.9**	**+1.2**
	comp=Z,124nm,1.0s						
KMMI	**Kalianget**	**15.86**	**255**	P	**P**	**16 15 22.4**	**-1.6**
	comp=Z,94nm,1.3s						
KKM	**Kota Kinabalu**	**15.95**	**304**	Pn	**Pn**	**16 15 20.1**	**-1.7**
WB0	**Warramunga Arr**	**17.33**	**164**		**Pn**	**16 15 37.3**	**-1.8**
COEN	**Coen**	**17.41**	**129**	P	**Pn**	**16 15 39.4**	**-0.7**
COEN	**Coen**	**17.41**	**129**	P	**Pn**	**16 15 40.5**	**+0.4**
WRAB	**Tennant Creek**	**17.47**	**164**	P	**Pn**	**16 15 39.0**	**-1.9**
WRAB	**Tennant Creek**	**17.47**	**164**	P	**Pn**	**16 15 40.3**	**-0.6**
WRAB	**Tennant Creek**	**17.47**	**164**	P	**Pn**	**16 15 39.0**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,28nm,0.6s						
WRA	**Warramunga Arr**	**17.48**	**164**	P	**Pn**	**16 15 39.2**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=343,slow=12,SNR=76						
WRA				S	**Sn**	**16 18 53.2**	**-1.7**
	comp=Z,3.4nm,0.8s,baz=346,slow=24,SNR=2.6						
	comp=Z,17nm,0.5s						
WRA	**Warramunga Arr**	**17.48**	**164**		**Pn**	**16 15 38.6**	**-2.4**
WB2	**Warramunga Arr**	**17.48**	**164**	P	**Pn**	**16 15 38.8**	**-2.3**
WB1	**Warramunga Ar.**	**17.50**	**164**	P	**Pn**	**16 15 40.0**	**-1.2**
WR0	**Warramunga Arr**	**17.55**	**164**	P	**Pn**	**16 15 39.9**	**-1.9**
KRKI	**Karangkates**	**17.59**	**253**	P	**P**	**16 15 44.3**	**+1.1**
	comp=Z,41nm,0.8s						
MANU	**Manus Island**	**17.99**	**87**	P	**P**	**16 15 49.8**	**+2.1**
MANU				IAmb	IAmb	16 15 53.2	
	comp=Z,46nm,0.8s						
SBUM	**Sibu**	**18.00**	**287**	P	**Pn**	**16 15 46.9**	**-0.6**
SBUM	**Sibu**	**18.00**	**287**	P	**Pn**	**16 15 47.4**	**-0.1**
	comp=Z,319nmcomp=Z,19nm,1.3s						
PWJI	**Pagerwojo**	**18.18**	**253**	P	**P**	**16 15 51.3**	**+1.6**
NGJI	**Ngawi**	**18.36**	**256**	P	**Pn**	**16 15 52.7**	**+1.0**
	comp=Z,77nm,2.1s						
PMG	**Port Moresby**	**18.76**	**110**	P	**Pn**	**16 15 57.4**	**+0.7**
	comp=Z,44nm,1.0s,baz=304,slow=7.3,SNR=7.0						
PMG				LR	LR	16 26 14.0	
	comp=Z,242nm,19.2s,baz=297,slow=47						
PMG	**Port Moresby**	**18.76**	**110**		**P**	**16 15 55.8**	**-0.3**
PMG	**Port Moresby**	**18.76**	**110**	P	**Pn**	**16 15 57.5**	**+0.8**
	comp=Z,44nm,1.0s						
PMG	**Port Moresby**	**18.76**	**110**	*c i*P	**Pn**	**16 15 57.8**	**+1.1**
PMG				pmax	pmax		
	comp=Z,38nm,1.0s						
SMRI	**Semarang**	**19.28**	**257**	P	**P**	**16 16 02.2**	**+0.4**
SMRI				IAmb	IAmb	16 16 04.6	
	comp=Z,83nm,0.7s						
SMRI	**Semarang**	**19.28**	**257**	P	**Pn**	**16 16 02.9**	**-0.1**
	comp=Z,119nm,1.4s						
UGM	**Wanagama**	**19.38**	**255**	P	**P**	**16 16 02.7**	**-0.3**
UGM				IAmb	IAmb	16 16 06.6	
	comp=Z,258nm,1.3s						
KSM	**Kuching**	**19.59**	**283**	P	**P**	**16 16 05.5**	**+0.4**
KSM				IAmb	IAmb	16 16 10.2	
	comp=Z,53nm,1.1s						
KSM	**Kuching**	**19.59**	**283**	P	**P**	**16 16 05.6**	**+0.4**
QIS	**Mount Isa**	**20.06**	**151**	P	**P**	**16 16 10.7**	**+0.4**
MBWA	**Marble Bar**	**20.31**	**207**	P	**P**	**16 16 11.3**	**-1.7**
MBWA	**Marble Bar**	**20.31**	**207**	P	**P**	**16 16 11.9**	**-1.1**
CTJI	**Waduk Cacaban**	**20.50**	**258**	P	**P**	**16 16 15.0**	**-0.1**
	comp=Z,54nm,0.9s						
PSA00	**Pilbara Seismi**	**20.62**	**206**	P	**P**	**16 16 14.5**	**-1.9**
PSA00				IAmb	IAmb	16 16 21.9	
	comp=Z,32nm,1.1s						
PSA00	**Pilbara Seismi**	**20.62**	**206**	P	**P**	**16 16 14.4**	**-2.0**
PSA00				IAmb	IAmb	16 16 25.7	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**20.62**	**206**	P	**P**	**16 16 15.2**	**-1.2**
MTSU	**Mount Surprise**	**20.95**	**137**	P	Pn	16 16 21.6	-1.1
AS31	**Alice Springs**	**20.96**	**168**	P	**P**	**16 16 19.6**	**-0.5**
AS31				IAmb	IAmb	16 16 29.5	
	comp=Z,37nm,0.6s						
ASAR	**Alice Springs**	**20.96**	**168**	P	**P**	**16 16 20.1**	**0.0**
	comp=Z,62nm,0.7s,baz=349,slow=11,SNR=597						
ASAR				S	**S**	**16 20 08.3**	**-4.1**
	comp=Z,8.4nm,1.0s,baz=349,slow=20,SNR=7.9						
ASAR				PcP	**PcP**	**16 20 27.0**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=21,slow=1.6,SNR=5.1						
ASAR				LR	LR	16 25 09.5	
	comp=Z,243nm,18.0s,baz=353,slow=39						
	comp=Z,62nm,0.7s						
AS01	**Alice Springs**	**20.97**	**168**	P	**P**	**16 16 20.5**	**+0.3**
WRKA	**Warakurna**	**21.89**	**183**	P	**P**	**16 16 29.4**	**-0.7**
LEM	**Lembang**	**22.00**	**259**	P	**P**	**16 16 30.7**	**-0.8**
	comp=Z,20nm,0.7s,baz=65,slow=19,SNR=5.0						
	comp=Z,20nm,0.7s						
LEM	**Lembang**	**22.00**	**259**	P	**P**	**16 16 32.4**	**+0.9**
	comp=Z,23nm,1.0s						
BBJI	**Bungbulang**	**22.08**	**258**	P	**P**	**16 16 30.0**	**-2.2**
GUMO	**Guam**	**22.56**	**43**	P	**P**	**16 16 35.7**	**-1.6**
GUMO	**Guam**	**22.56**	**43**	P	**P**	**16 16 35.7**	**-1.6**
GUMO				pmax	pmax		
	comp=Z,562nm,1.7s						
RABL	**Rabaul**	**22.76**	**94**	P	**P**	**16 16 39.4**	**-0.1**
RABL				IAmb	IAmb	16 16 43.7	
	comp=Z,89nm,1.2s						
PPBI	**Pangkal Pinang**	**23.24**	**272**	P	**P**	**16 16 45.0**	**+0.7**
	comp=Z,3μmcomp=Z,35nm,1.1s						
CTA	**Charters Tower**	**23.62**	**137**	P	**P**	**16 16 48.7**	**+0.7**
	comp=Z,11nm,0.9s,baz=317,slow=11,SNR=10						
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**23.62**	**137**	P	**P**	**16 16 49.1**	**+1.0**
CTAO	**Charters Tower**	**23.62**	**137**	P	**P**	**16 16 46.9**	**-1.1**
CTAO				IAmb	IAmb	16 17 04.3	
	comp=Z,27nm,0.8s						
CTAO	**Charters Tower**	**23.62**	**137**	P	**P**	**16 16 49.0**	**+1.0**
CTAO	**Charters Tower**	**23.62**	**137**	P	**P**	**16 16 46.9**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,27nm,0.9s						
GIRL	**Giralia**	**24.40**	**216**	P	**P**	**16 16 57.5**	**+2.2**
OOD	**Oodnadatta**	**25.34**	**167**	P	**P**	**16 17 03.9**	**+0.2**
MEEK	**Meekatharra**	**25.63**	**203**	P	**P**	**16 17 05.6**	**-0.8**
MYKOM	**Kota Tinggi**	**25.97**	**280**	P	**P**	**16 17 10.4**	**+0.8**
MYKOM				IAmb	IAmb	16 17 13.6	
	comp=Z,47nm,1.1s						
INKA	**Innaminka**	**26.85**	**157**	P	**P**	**16 17 17.9**	**+0.5**
MULG	**Mulgathing**	**27.45**	**171**	P	**P**	**16 17 22.6**	**-0.2**
TPUB	**Ta-pu**	**27.54**	**342**	P	**P**	**16 17 24.6**	**+1.0**
TPUB				IAmb	IAmb	16 18 01.9	
	comp=Z,145nm,1.8s						
FORT	**Forrest**	**27.62**	**182**	P	**P**	**16 17 22.6**	**-1.7**
FORT				IAmb	IAmb	16 17 59.0	
	comp=Z,26nm,0.9s						
FORT	**Forrest**	**27.62**	**182**	P	**P**	**16 17 23.4**	**-0.8**
LCRK	**Leigh Creek**	**28.51**	**164**	P	**P**	**16 17 32.4**	**+0.2**
BKNI	**Bangkinang**	**28.53**	**276**	P	**P**	**16 17 33.3**	**+0.7**
BKNI				IAmb	IAmb	16 17 34.9	
	comp=Z,53nm,0.8s						
MORW	**Morawa**	**28.83**	**205**	P	**P**	**16 17 34.1**	**-1.0**
MORW				IAmb	IAmb	16 17 54.3	
	comp=Z,40nm,1.5s						
MORW	**Morawa**	**28.83**	**205**	P	**P**	**16 17 34.7**	**-0.4**
	comp=Z,12nm,1.2s						
IPM	**Ipoh**	**29.30**	**285**	P	**P**	**16 17 39.8**	**+0.3**
IPM				IAmb	IAmb	16 17 42.2	
	comp=Z,39nm,1.0s						
JOW	**Kunigami**	**29.72**	**358**	LR	LR	16 27 36.2	
	comp=Z,129nm,21.8s,baz=112,slow=32						
KULM	**Kulim**	**29.87**	**286**	P	**P**	**16 17 44.9**	**+0.3**
KULM				IAmb	IAmb	16 17 47.8	
	comp=Z,18nm,1.0s						
BLDU	**Ballidu**	**29.93**	**202**	P	**P**	**16 17 45.0**	**+0.2**
BBOO	**Buckleboo**	**30.27**	**169**	P	**P**	**16 17 46.9**	**-0.9**
BBOO				IAmb	IAmb	16 18 56.0	
	comp=Z,9.1nm,0.8s						
BBOO	**Buckleboo**	**30.27**	**169**	P	**P**	**16 17 47.0**	**-0.8**
KLBR	**Kellerberrin**	**30.44**	**200**	P	**P**	**16 17 50.6**	**+1.3**
	comp=Z,28nm,1.3s						
STKA	**Stephens Creek**	**30.90**	**159**	P	**P**	**16 17 53.4**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=341,slow=10,SNR=14						
	comp=Z,3.3nm,0.6s						
STKA	**Stephens Creek**	**30.90**	**159**	P	**P**	**16 17 53.1**	**-0.3**
STKA	**Stephens Creek**	**30.90**	**159**	P	**P**	**16 17 53.5**	**+0.1**
STKA	**Stephens Creek**	**30.90**	**159**	⇑*i*P	**P**	**16 17 53.0**	**-0.3**
RPSI	**Rantau Prapat**	**30.98**	**280**	P	**P**	**16 17 54.0**	**-0.3**
RPSI				IAmb	IAmb	16 17 55.4	
	comp=Z,29nm,0.9s						
PSI	**Prapat**	**31.00**	**281**	P	**P**	**16 17 54.3**	**-0.3**
PSI	**Prapat**	**31.00**	**281**	P	**P**	**16 17 54.0**	**-0.6**
PSI				pmax	pmax		
	comp=Z,29nm,0.9s						
HNR	**Honiara**	**31.02**	**103**	LR	LR	16 32 05.6	
	comp=Z,2μm,19.7s,baz=236,slow=40						
MUN	**Mundaring**	**31.34**	**202**	P	**P**	**16 17 56.2**	**-1.1**
HTT	**Hallett**	**31.52**	**165**	P	**P**	**16 17 59.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**31.84**	**200**	P	**P**	**16 18 02.0**	**+0.4**
	comp=Z,7.3nm,0.8s,baz=5.7,slow=7.1,SNR=2.0						
NWAO				LR	LR	16 31 50.2	
	comp=Z,207nm,19.6s,baz=113,slow=38						
	comp=Z,7.3nm,0.8s						
NWAO	**Narrogin (SRO)**	**31.84**	**200**	P	**P**	**16 18 00.2**	**-1.4**
NWAO				IAmb	IAmb	16 18 40.3	
	comp=Z,34nm,1.3s						
GSI	**Gunungsitoli**	**32.09**	**277**	P	**P**	**16 18 02.5**	**-1.6**
GSI				IAmb	IAmb	16 18 25.1	
	comp=Z,50nm,1.1s						
CMSA	**Cobar Meteorol**	**32.24**	**153**	P	**P**	**16 18 06.2**	**+1.0**
ARPS	**Mount Arapiles**	**35.47**	**163**	P	**P**	**16 18 34.3**	**+1.1**
PHRA	**Phrae**	**35.81**	**308**	P	**P**	**16 18 37.5**	**+1.2**
CM31	**Chiang Mai Arr**	**36.81**	**307**	P	**P**	**16 18 44.7**	**-0.2**
CM31				IAmb	IAmb	16 18 48.4	
	comp=Z,20nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.81**	**307**	P	**P**	**16 18 46.0**	**+1.1**
	comp=Z,6.0nm,0.9s,baz=131,slow=7.0,SNR=36						
CMAR				PcP	**PcP**	**16 21 08.1**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=166,slow=2.5,SNR=6.7						
CMAR				LR	LR	16 36 45.1	
	comp=Z,54nm,19.5s,baz=115,slow=41						
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.81**	**307**	P	**P**	**16 18 45.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**36.81**	**307**	*ce*P	**P**	**16 18 46.0**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CAN	**Canberra**	**36.91**	**153**	P	**P**	**16 18 46.1**	**+0.5**
CAN				IAmb	IAmb	16 19 00.4	
	comp=Z,44nm,1.6s						
CAN	**Canberra**	**36.91**	**153**	P	**P**	**16 18 46.1**	**+0.5**
CAN				pmax	pmax		
	comp=Z,44nm,1.6s						
CHTO	**Chiang Mai**	**37.00**	**307**	P	**P**	**16 18 46.9**	**+0.4**
CHTO	**Chiang Mai**	**37.00**	**307**	P	**P**	**16 18 46.9**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
JTU	**Tsushima**	**37.37**	**0**	P	**P**	**16 18 48.3**	**-1.0**
TOO	**Toolangi**	**37.41**	**159**	P	**P**	**16 18 51.1**	**+1.3**
TOO				IAmb	IAmb	16 18 57.2	
	comp=Z,40nm,1.8s						
TOO	**Toolangi**	**37.41**	**159**	P	**P**	**16 18 51.1**	**+1.3**
TOO				pmax	pmax		
	comp=Z,40nm,1.8s						
KMI	**Kunming**	**38.11**	**319**	⇓P	**P**	**16 18 57.9**	**+1.8**
KMI				pP	pP	16 19 05.2	+0.7
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
TJN	**Taejon**	**39.26**	**357**	⇑*i*P	**P**	**16 19 06.1**	**+0.8**
PZH	**PanZhiHua**	**39.71**	**319**	P	**P**	**16 19 11.7**	**+2.4**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
MJAR	**Matsushiro Arr**	**40.23**	**11**	P	**P**	**16 19 11.3**	**-2.1**
	comp=Z,2.6nm,1.0s,baz=180,slow=9.6,SNR=2.3						
	comp=Z,2.6nm,1.0s						
KSRS	**Korea Array**	**40.31**	**358**	P	**P**	**16 19 11.6**	**-2.4**
	comp=Z,0.7nm,0.6s,baz=173,slow=10.0,SNR=5.1						
	comp=Z,0.7nm,0.6s						
TNCH	**TengChong**	**40.94**	**315**	⇑P	**P**	**16 19 20.2**	**+0.6**
TNCH				pP	sP	16 19 30.4	-1.0
TNCH				pmax	pmax		
	comp=Z,11nm,0.5s						
XAN	**Xi'an**	**41.62**	**334**	*e*P	**P**	**16 19 25.5**	**+0.5**
XAN				pP	pP	16 19 34.4	+1.0
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CD2	**Chengdu**	**41.67**	**326**	*e*P	**P**	**16 19 25.6**	**+0.2**
JSD	**Sado**	**41.69**	**11**	P	**P**	**16 19 23.6**	**-1.8**
JMM	**Marumori**	**42.05**	**14**	P	**P**	**16 19 27.9**	**-0.5**
JMM				IAmb	IAmb	16 19 52.5	
	comp=Z,81nm,1.3s						
TAU	**Tasmania Unive**	**42.80**	**161**	P	**P**	**16 19 34.1**	**-0.2**
TAU	**Tasmania Unive**	**42.80**	**161**	P	**P**	**16 19 34.1**	**-0.2**
TAU				pmax	pmax		
	comp=Z,154nm,1.7s						
TARA	**Tarawa**	**43.74**	**85**	P	**P**	**16 19 42.8**	**+0.4**
BRDH	**Bariadhala**	**44.83**	**307**	LR	LR	16 41 24.8	
	comp=Z,63nm,19.8s,baz=94,slow=40						
SHL	**Shillong**	**46.14**	**310**	P	**P**	**16 20 00.8**	**-0.7**
SHL				IAmb	IAmb	16 20 06.4	
	comp=Z,13nm,0.9s						
SHL	**Shillong**	**46.14**	**310**	P	**P**	**16 20 00.8**	**-0.7**
SHL				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC	**Hu-ho-hao-te**	**46.62**	**341**	*e*P	**P**	**16 20 09.0**	**+4.0**
HHC				pmax	pmax		
	comp=Z,37nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
HHC				LR	LR		
	comp=Z,270nm,14.0s						
HHC				LR	LR		
	comp=Z,310nm,12.7s						
HHC				LR	LR		
	comp=Z,260nm,14.3s						
CN2	**Changchun**	**46.77**	**356**	*e*P	**P**	**16 20 06.8**	**+0.9**
CN2				S	**S**	**16 26 53.1**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
CN2				LR	LR		
	comp=Z,100nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
USA0B	**Ussuriysk Arra**	**47.09**	**3**	P	**P**	**16 20 08.7**	**+0.3**
USA0B				IAmb	IAmb	16 20 37.9	
	comp=Z,60nm,2.0s						
USA0B	**Ussuriysk Arra**	**47.09**	**3**	P	**P**	**16 20 08.7**	**+0.3**
USA0B				pmax	pmax		
	comp=Z,60nm,2.0s						
USRK	**Ussuriysk Ar.**	**47.09**	**3**	P	**P**	**16 20 07.5**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=181,slow=7.6,SNR=15						
	comp=Z,3.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**47.09**	**3**	P	**P**	**16 20 07.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**47.09**	**3**	P	**P**	**16 20 07.8**	**-0.6**
ASAJ	**Asahikawa**	**48.42**	**13**	P	**P**	**16 20 19.2**	**+0.4**
JKA	**Kamikawa-asahi**	**48.42**	**13**	P	**P**	**16 20 19.2**	**+0.4**
PALK	**Pallekele**	**49.65**	**282**	LR	LR	16 43 21.2	
	comp=Z,48nm,20.6s,baz=215,slow=38						
FUNA	**Funafuti**	**49.83**	**99**	P	**P**	**16 20 29.6**	**-0.5**
	comp=Z,133nm,1.5s						
MSVF	**Nonsavu**	**49.87**	**111**	LR	LR	16 40 48.9	
	comp=Z,98nm,21.7s,baz=247,slow=35						
GTA	**Gaotai**	**50.24**	**330**	*e*P	**P**	**16 20 33.4**	**+0.4**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TAPN	**Taplejung**	**50.26**	**310**	*e*P	**P**	**16 20 33.4**	**-0.1**
	comp=Z,19nm,0.6s						
RAMN	**Ramite**	**50.92**	**309**	*e*P	**P**	**16 20 38.7**	**+0.3**
	comp=Z,50nm,0.6s						
JIRN	**Jiri**	**51.58**	**309**	*e*P	**P**	**16 20 43.4**	**-0.2**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**51.94**	**309**	*e*P	**P**	**16 20 46.1**	**-0.1**
	comp=Z,26nm,0.6s						
KLR	**Kul'dur**	**52.10**	**2**	LR	LR	16 43 22.5	
	comp=Z,37nm,20.3s,baz=190,slow=37						
KLR	**Kul'dur**	**52.10**	**2**	*ce*P	**P**	**16 20 49.4**	**+2.8**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.7s						
PKI	**Pulchoki**	**52.14**	**309**	*e*P	**P**	**16 20 47.2**	**-0.5**
	comp=Z,7.8nm,0.5s						
HEH	**HeiHe**	**53.11**	**358**	*e*P	**P**	**16 20 53.4**	**-0.6**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HEH				pmax	pmax		

comp=Z,79nm,4.9s
QRZ Quartz Range 54.04 140 P **P** 16 21 02.6 +1.6
MLZ Mavora Lakes 54.09 147 P **P** 16 21 03.1 +1.7
HYBB Hyderabad (bro 54.09 294 *e*P **P** 16 21 01.9 0.0
WHZ Wether Hill Ro 54.33 148 P **P** 16 21 03.6 +0.5
ULN Ulaanbaatar 54.34 342 P **P** 16 21 03.2 -0.1
ULN Ulaanbaatar 54.34 342⇑ *e*P **P** 16 21 04.2 +0.9
ULN pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 54.52 341 P **P** 16 21 05.4 +0.8
comp=Z,2.0nm,0.8s,baz=157,slow=8.6,SNR=7.9
comp=Z,2.0nm,0.8s
SONM Songino Array 54.52 341 P **P** 16 21 05.2 +0.6
LBZ Lake Benmore 54.64 145 P **P** 16 21 06.5 +1.1
RPZ Rata Peaks 54.75 144 P **P** 16 21 07.8 +1.5
comp=Z,5.8nm,0.7s,baz=300,slow=7.9,SNR=1.5
comp=Z,5.8nm,0.7s
RPZ Rata Peaks 54.75 144 P **P** 16 21 07.7 +1.5
LTZ Lake Taylor 54.95 142 P **P** 16 21 09.4 +1.7
OXZ Oxford 55.11 143 P **P** 16 21 10.1 +1.3
TUWZ Tuamarina 55.26 140 P **P** 16 21 09.9 -0.1
BSWZ Blackbirch Sta 55.37 140 P **P** 16 21 10.8 +0.1
KHZ Kahutara 55.53 141 P **P** 16 21 12.8 +1.0
BKZ Black Stump Fm 55.84 137 P **P** 16 21 14.6 +0.4
URZ Urewera 55.85 135 P **P** 16 21 16.3 +2.1
comp=Z,10nm,0.6s,baz=315,slow=1.4,SNR=4.0
URZ LR LR 16 46 50.0
comp=Z,108nm,18.3s,baz=44,slow=38
comp=Z,10nm,0.6s
RAO Raoul Island 56.33 123 pP pP 16 21 27.4 +0.5
WMQ Urumqi 59.77 326 *e*P **P** 16 21 43.2 +1.5
WMQ pP sP 16 21 53.4 -0.4
WMQ pmax pmax
comp=Z,17nm,0.6s
PEA0B Petropavlovsk- 60.79 19 P **P** 16 21 48.8 +0.4
PEA0B Petropavlovsk- 60.79 19⇑ *e*P **P** 16 21 50.1 +1.7
PETK Petropavlovsk- 60.79 19 P **P** 16 21 48.9 +0.5
comp=Z,16nm,1.0s,baz=201,slow=7.0,SNR=9.4
PETK LR LR 16 44 15.7
comp=Z,40nm,20.9s,baz=204,slow=32
comp=Z,16nm,1.0s
PETK Petropavlovsk- 60.79 19 P **P** 16 21 47.2 -1.3
PET Petropavlovsk 61.04 20 P **P** 16 21 49.0 -1.1
PET Petropavlovsk 61.04 20*c e*P **P** 16 21 50.7 +0.6
PET pmax pmax
comp=Z,48nm,2.5s
DGZ Jazzator, Alta 63.76 331⇓ *e*P **P** 16 22 08.4 -0.2
DGZ pmax pmax
comp=Z,5.0nm,1.1s
DRV Dumont d'Urvil 63.94 175 P **P** 16 22 07.3 -1.9
DRV pP **pP** 16 22 19.9 +1.5
CASY Casey 64.50 188 P **P** 16 22 12.1 -0.8
MK31 Makanchi Array 64.61 326 P **P** 16 22 14.3 +0.2
MK31 Makanchi Array 64.61 326⇑ *e*P **P** 16 22 13.4 -0.7
MKAR Makanchi Array 64.61 326 P **P** 16 22 14.5 +0.5
comp=Z,4.7nm,0.8s,baz=122,slow=8.0,SNR=22
comp=Z,4.7nm,0.8s
MKAR Makanchi Array 64.61 326 P **P** 16 22 13.9 -0.1
KSH Kashi 64.72 317 P **P** 16 22 16.5 +1.4
KSH sP sP 16 22 32.7 +5.5
KSH pmax pmax
comp=Z,3.0nm,0.5s
MAKZ Makanchi 64.79 326 P **P** 16 22 14.3 -0.9
MAKZ lAmb lAmb 16 22 42.2
comp=Z,7.8nm,1.1s
MAKZ Makanchi 64.79 326 P **P** 16 22 14.3 -0.9
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
YAK Yakutsk 64.89 0 P **P** 16 22 14.2 -1.3
YAK lAmb lAmb 16 22 20.4
comp=Z,23nm,0.9s
YAK Yakutsk 64.89 0 *e*P **P** 16 22 15.6 +0.1
YAK *e* 16 22 52.7
YAK *e* 16 24 37.6
YAK *e*PPP PPP 16 26 07.9
YAK *e*S **S** 16 30 56.5 +1.6
YAK *e**SS sS 16 31 21.6 +12
YAK *e* 16 32 02.1
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,72nm,3.6s
YAK pmax pmax
comp=N,47nm,2.2s
YAK pmax pmax
comp=E,65nm,3.3s
YAK smax smax
comp=E,91nm,3.0s
YAK smax smax
comp=N,77nm,2.8s
YAK Yakutsk 64.89 0 P **P** 16 22 15.5 +0.1
AAK Ala-Archa 67.16 319⇑ *e*P **P** 16 22 28.8 -1.9
AAK pmax pmax
comp=Z,3.0nm,1.0s
KBL Kabul 67.78 309 P **P** 16 22 33.6 -1.3
KBL lAmb lAmb 16 22 51.5
comp=Z,9.2nm,1.3s
KBL Kabul 67.78 309 P **P** 16 22 33.6 -1.3
KBL pmax pmax
comp=Z,9.0nm,1.3s
ZAA0 Zalesovo Array 67.79 333 **P** 16 22 31.8 -2.5
ZAA0 lAmb lAmb 16 22 38.6
comp=Z,8.9nm,1.0s
ZALV Zalesovo Beam 67.79 333 P **P** 16 22 33.6 -0.7
comp=Z,11nm,1.1s,baz=131,slow=6.1,SNR=12
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 67.79 333 **P** 16 22 32.2 -2.0
ZALV Zalesovo Beam 67.79 333 *i* P **P** 16 22 33.5 -0.7
ZALV pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 68.06 11⇓ *e*P **P** 16 22 36.4 +0.6
SEY pmax pmax
comp=Z,6.0nm,1.0s
GAR Garm 68.47 314 P **P** 16 22 38.3 -0.8
GAR lAmb lAmb 16 22 56.7
comp=Z,15nm,1.2s
BTK Batken 68.53 315 P **P** 16 22 38.3 -1.1
BTK lAmb lAmb 16 23 03.0
comp=Z,12nm,1.5s
BTK Batken 68.53 315 P **P** 16 22 38.3 -1.1
BTK pmax pmax
comp=Z,12nm,1.5s
KURK Kurchatov 68.85 328 P **P** 16 22 40.5 -0.4
KURK lAmb lAmb 16 22 46.1
comp=Z,15nm,0.9s
KURK Kurchatov 68.85 328*d i*P **P** 16 22 40.9 0.0
KURK pmax pmax
comp=Z,22nm,1.3s
KURK Kurchatov 68.85 328 P **P** 16 22 38.9 -2.0
KURK pP **sP** 16 22 51.5 -1.6
CHGR Chuyangaron 69.18 313 P **P** 16 22 42.3 -1.1
CHGR lAmb lAmb 16 23 00.3
comp=Z,9.9nm,1.0s
CHGR Chuyangaron 69.18 313 P **P** 16 22 42.3 -1.1
CHGR pmax pmax
comp=Z,10.0nm,1.0s
KK31 Karatay Array 69.99 318 P **P** 16 22 47.6 -0.6
KK31 Karatay Array 69.99 318 P **P** 16 22 47.6 -0.6
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 69.99 318 P **P** 16 22 47.7 -0.5
KKAR Karatay Array 69.99 318 P **P** 16 22 47.7 -0.5
RAR Rarotonga 71.05 111 LR LR 16 51 39.3
comp=Z,22nm,21.6s,baz=270,slow=34
WSAR Wadi Sarin 73.61 295 LR LR 16 59 56.8
comp=Z,21nm,18.1s,baz=151,slow=39
MSEY Mahe Island 73.73 266 P **P** 16 23 11.6 +0.3
MSEY lAmb lAmb 16 23 26.2
comp=Z,31nm,1.1s
MSEY Mahe Island 73.73 266 P **P** 16 23 11.6 +0.3
MSEY pmax pmax
comp=Z,31nm,1.1s
BRVK Borovoye 74.48 327 **P** 16 23 14.1 -0.8
BRVK lAmb lAmb 16 23 28.0
comp=Z,5.4nm,0.7s
BRVK Borovoye 74.48 327*d i*P **P** 16 23 15.0 +0.2
BRVK pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 74.56 360 P **P** 16 23 14.3 -0.6
TIXI Tiksi 74.56 360⇓ *e*P **P** 16 23 14.9 0.0
TIXI pmax pmax
comp=Z,2.0nm,0.5s
VNDA Vanda 76.42 173 P **P** 16 23 24.6 -1.0
comp=Z,1.6nm,0.8s,baz=327,slow=5.9,SNR=15
comp=Z,1.6nm,0.8s
VNDA Vanda 76.42 173 P **P** 16 23 25.1 -0.5
VNDA Vanda 76.42 173 P **P** 16 23 25.1 -0.5
VNDA pmax pmax
comp=Z,3.0nm,1.2s
GEYT Alibeck 77.21 310 P **P** 16 23 30.9 0.0
comp=Z,1.3nm,0.6s,baz=103,slow=4.6,SNR=3.7
comp=Z,1.3nm,0.6s
NRIK Noril'sk 77.60 346 P **P** 16 23 32.3 +0.1
comp=Z,2.7nm,0.5s,baz=136,slow=8.1,SNR=5.1
NRIK LR LR 17 01 43.0
comp=Z,72nm,20.0s,baz=149,slow=39
comp=Z,2.7nm,0.5s
NRIK Noril'sk 77.60 346 P **P** 16 23 31.4 -0.8
NRIK Noril'sk 77.60 346*de*P **P** 16 23 32.8 +0.6
NRIK pmax pmax
comp=Z,2.0nm,0.6s
MAW Mawson 78.39 201 P **P** 16 23 37.0 +0.3
comp=Z,4.4nm,0.6s,baz=88,slow=8.0,SNR=15
MAW LR LR 16 56 06.1
comp=Z,80nm,19.7s,baz=42,slow=34
comp=Z,4.4nm,0.6s
MAW Mawson 78.39 201 P **P** 16 23 37.0 +0.3
MAW Mawson 78.39 201 P **P** 16 23 37.0 +0.3
MAW pmax pmax
comp=Z,10.0nm,2.0s
ABKAR Akbulak array 79.05 321 P **P** 16 23 39.4 -1.3
ABKAR lAmb lAmb 16 23 45.1
comp=Z,5.2nm,0.7s
ABKAR Akbulak array 79.05 321 P **P** 16 23 39.5 -1.1
CRZF Crozet Islands 79.20 223 P **P** 16 23 42.3 +0.6
PPT Papeete 80.55 107 LR LR 16 59 40.9
comp=Z,23nm,18.1s,baz=272,slow=36
VOI Vohitsoka 82.00 248 P **P** 16 23 57.6 +0.3
ARU Arti 82.04 328 P **P** 16 23 55.4 -1.2
ARU lAmb lAmb 16 24 11.1
comp=Z,13nm,1.2s
ARU Arti 82.04 328*c i*P **P** 16 23 55.7 -0.9
ARU 16 27 04.9
ARU S **S** 16 34 10.0 +0.9
ARU pmax pmax
comp=Z,6.0nm,1.0s
Q17K Contact Creek 84.59 31 P **P** 16 24 11.2 +1.4
baz=255
SII Sitkinak Islan 85.08 33 P **P** 16 24 13.4 +1.2
RAYN Ar Rayn 85.60 294 P **P** 16 24 15.9 +0.4
RAYN lAmb lAmb 16 24 17.1
comp=Z,17nm,0.9s
RAYN Ar Rayn 85.60 294 P **P** 16 24 16.0 +0.4
RAYN pmax pmax
comp=Z,17nm,1.0s
N19K Bonanza Creek 85.91 28 P **P** 16 24 16.5 +0.1
N19K lAmb lAmb 16 24 19.1
comp=Z,15nm,1.1s
N19K Bonanza Creek 85.91 28 P **P** 16 24 18.4 +2.0
baz=256
L19K White Mountain 86.06 27 P **P** 16 24 17.0 0.0
L19K lAmb lAmb 16 26 09.5
comp=Z,37nm,1.9s
L19K White Mountain 86.06 27 P **P** 16 24 18.5 +1.4
baz=256
KDAK Kodiak Island 86.19 32 LR LR 16 57 44.0
comp=Z,36nm,20.4s,baz=238,slow=32
M19K Big River Lodg 86.21 27 P **P** 16 24 19.8 +2.0
baz=256
M20K Styx River 86.78 28 P **P** 16 24 22.1 +1.5
baz=258
KIRV Kirov 87.35 329*ce*P **P** 16 24 23.4 +0.1
BELG Belogornoye 87.36 323*ce*P **P** 16 24 23.5 0.0
BELG pmax pmax
comp=Z,2.0nm,0.7s
PPLA Purkeypile 87.43 27 P **P** 16 24 24.5 +0.7
baz=258
GEVA Gevas 88.98 308 P **P** 16 24 31.8 0.0
GEVA lAmb lAmb 16 24 33.9
comp=Z,10nm,0.9s
WAT1 Susitna Watana 89.06 27 P **P** 16 24 31.6 +0.1
baz=262
KBZ Khabaz 89.54 314 P **P** 16 24 35.2 +1.2
comp=Z,1.8nm,0.7s,baz=76,slow=8.3,SNR=3.1
comp=Z,1.8nm,0.7s
GURO Guroymak-BITLI 89.80 308 P **P** 16 24 35.7 +0.1
GURO lAmb lAmb 16 24 37.9
comp=Z,12nm,1.3s
ILAR Eielson Array 90.05 25 P **P** 16 24 34.6 -1.4
comp=Z,0.7nm,0.8s,baz=257,slow=6.0,SNR=2.7
ILAR LR LR 17 01 21.5
comp=Z,42nm,19.3s,baz=218,slow=33
comp=Z,0.7nm,0.8s
KMBO Kilima Mbogo 92.07 269 P **P** 16 24 46.9 +0.1
KMBO lAmb lAmb 16 24 48.8
comp=Z,5.4nm,1.1s
KMBO Kilima Mbogo 92.07 269 P **P** 16 24 46.9 +0.1
KMBO pmax pmax
comp=Z,5.0nm,1.2s
I27K Kandik River 92.33 25 P **P** 16 24 47.4 +0.7
baz=268
BVCY Beaver Creek 92.56 28 P **P** 16 24 49.4 +1.7
baz=268
EIL Elat 95.34 299 LR LR 17 17 02.5
comp=Z,28nm,18.1s,baz=96,slow=41
MBAR Mbarara 98.60 269 LR LR 17 04 37.7
comp=Z,50nm,21.7s,baz=82,slow=32
LSZ Lusaka 99.98 254 LR LR 17 08 48.8
comp=Z,27nm,19.7s,baz=116,slow=34
TXAR Lajitas Array 123.36 57 PKP **PKPdf** 16 30 34.0 -0.3
comp=Z,0.3nm,0.6s,baz=282,slow=4.2,SNR=2.4
TORD Torodi Ar. Bea 127.35 284 PKP **PKPdf** 16 30 42.5 +0.3
comp=Z,0.9nm,0.7s,baz=90,slow=2.9,SNR=6.1
PLCA Paso Flores 132.78 159 PKP **PKiKP** 16 30 53.7 +0.6
comp=Z,2.1nm,0.6s,baz=226,slow=9.9,SNR=6.2
CPUP Villa Florida 150.09 168 PKPbc **PKiKP** 16 31 28.8 0.0
comp=Z,7.6nm,0.6s,baz=180,slow=2.0,SNR=18
LPAZ La Paz 154.14 138 PKPbc **PKiKP** 16 31 39.2 +0.9
comp=Z,0.8nm,0.5s,baz=228,slow=5.2,SNR=4.5

*MOS **03** 16:17:26.5±0.7,50°.20N×156°.96E,h56km,mb3.8/2, Error ellipse: s-maj=19.4km s-min=5.0km az=78.0*
*KRSC **03** 16:17:27.5±1.7,50°.39N×157°.19E,h30km±27km, ML3.8*
ISC 03 16:17:28.0±1.4,50°.27N±0°.10×157°.02E±0°.07,h46km±16km, n47,σ1§19/68,8C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.71**	**306**	*e*P		**Pn**	**16 17 41.8**	**+0.1**
SKR				*e*S		**Sn**	**16 17 51.5**	**-0.1**
SKR	**Severo-Kuril's**	**0.71**	**306**⇑	*i*PN		**Pn**	**16 17 41.8**	**+0.1**
SKR				*i* S		**Sn**	**16 17 51.3**	**-0.3**
SKR				pmax	pmax			
	comp=Z,129nm,0.3s							
SKR				smax	smax			
	comp=N,178nm,0.2s							
SKR				smax	smax			
	comp=E,152nm,0.2s							
PAU	**Pauzhetka**	**1.20**	**354**	*e*P		**Pn**	**16 17 48.3**	**-0.1**
PAU				*e*S		**Sn**	**16 18 02.6**	**-1.0**
PAU	**Pauzhetka**	**1.20**	**354**	PN		**Pn**	**16 17 48.3**	**-0.1**
PAU				S		**Sn**	**16 18 02.6**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.68**	**23**	*e*P		**Pn**	**16 17 54.6**	**-0.3**
KDTR				*e*S		**Sn**	**16 18 13.7**	**-1.5**
KDTR	**Khodutka, Kamc**	**1.68**	**23**	PN		**Pn**	**16 17 54.6**	**-0.3**
KDTR				S		**Sn**	**16 18 13.7**	**-1.5**
MTVR	**Mutnovka**	**2.33**	**18**	*e*P		**Pn**	**16 18 04.4**	**+0.4**
MTVR				*e*S		**Sn**	**16 18 31.1**	**-0.4**
MTVR	**Mutnovka**	**2.33**	**18**	PN		**Pn**	**16 18 04.4**	**+0.4**
MTVR				S		**Sn**	**16 18 31.1**	**-0.4**
RUS	**Russkaya**	**2.36**	**23**	*e*P		**Pn**	**16 18 03.7**	**-0.5**
RUS				*e*S		**Sn**	**16 18 30.5**	**-1.4**
RUS	**Russkaya**	**2.36**	**23**	PN		**Pn**	**16 18 03.7**	**-0.5**
RUS				S		**Sn**	**16 18 30.5**	**-1.4**
GRL	**Gorelyy**	**2.38**	**16**	*e*P		**Pn**	**16 18 05.0**	**+0.4**
GRL				*e*S		**Sn**	**16 18 31.9**	**-0.6**
GRL	**Gorelyy**	**2.38**	**16**	PN		**Pn**	**16 18 05.0**	**+0.4**
GRL				S		**Sn**	**16 18 31.9**	**-0.6**
KRMR	**Karymshinskiy**	**2.65**	**15**	*e*P		**Pn**	**16 18 09.8**	**+1.5**
KRMR				*e*S		**Sn**	**16 18 40.3**	**+1.1**
KRMR	**Karymshinskiy**	**2.65**	**15**	PN		**Pn**	**16 18 09.8**	**+1.5**
KRMR				S		**Sn**	**16 18 40.3**	**+1.1**
APC	**Apacha**	**2.66**	**2**	*e*P		**Pn**	**16 18 08.4**	**+0.1**
APC	**Apacha**	**2.66**	**2**	PN		**Pn**	**16 18 08.4**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.87**	**8**⇓	*e*PN		**Pn**	**16 18 11.8**	**+0.5**
PET	**Petropavlovsk**	**2.94**	**20**	*e*P		**Pn**	**16 18 12.9**	**+0.8**
PET				*e*S		**Sn**	**16 18 46.2**	**+0.1**
PET	**Petropavlovsk**	**2.94**	**20**	*de*PN		**Pn**	**16 18 13.0**	**+0.8**
DALK	**Dalny**	**2.97**	**21**	*e*P		**Pn**	**16 18 13.3**	**+0.8**
DALK				*e*S		**Sn**	**16 18 46.8**	**0.0**
DALK	**Dalny**	**2.97**	**21**	PN		**Pn**	**16 18 13.3**	**+0.8**
DALK				S		**Sn**	**16 18 46.8**	**0.0**
UGLR	**Uglovaya**	**3.15**	**20**	*e*P		**Pn**	**16 18 17.0**	**+1.8**
UGLR	**Uglovaya**	**3.15**	**20**	PN		**Pn**	**16 18 17.0**	**+1.8**
AVH	**Avacha**	**3.18**	**19**	*e*P		**Pn**	**16 18 17.7**	**+2.1**
AVH	**Avacha**	**3.18**	**19**	PN		**Pn**	**16 18 17.7**	**+2.1**
KOK	**Koryaka**	**3.19**	**18**	*e*P		**Pn**	**16 18 17.7**	**+2.0**
KOK	**Koryaka**	**3.19**	**18**	PN		**Pn**	**16 18 17.7**	**+2.0**
SMAR	**Somma**	**3.19**	**20**	*e*P		**Pn**	**16 18 17.5**	**+1.6**
SMAR	**Somma**	**3.19**	**20**	PN		**Pn**	**16 18 17.5**	**+1.6**
KRER	**Koryakskii**	**3.22**	**19**	*e*P		**Pn**	**16 18 18.3**	**+2.1**
KRER	**Koryakskii**	**3.22**	**19**	PN		**Pn**	**16 18 18.3**	**+2.1**
SDLR	**Sedlovina**	**3.23**	**20**	*e*P		**Pn**	**16 18 17.0**	**+0.8**
SDLR	**Sedlovina**	**3.23**	**20**	PN		**Pn**	**16 18 17.0**	**+0.8**
NLC	**Nalytchevo**	**3.24**	**26**	*e*S		**Sn**	**16 18 50.8**	**-2.8**
KRX	**Arik**	**3.25**	**17**	*e*P		**Pn**	**16 18 18.3**	**+1.7**
KRX				*e*S		**Sn**	**16 18 55.2**	**+1.1**
KRX	**Arik**	**3.25**	**17**	PN		**Pn**	**16 18 18.3**	**+1.7**
KRX				S		**Sn**	**16 18 55.2**	**+1.1**
SPN	**Mys Shipunski**	**3.39**	**32**	*e*P		**Pn**	**16 18 19.5**	**+1.1**
SPN				*e*S		**Sn**	**16 18 57.2**	**-0.1**
SPN	**Mys Shipunski**	**3.39**	**32**	PN		**Pn**	**16 18 19.5**	**+1.1**
SPN				S		**Sn**	**16 18 57.2**	**-0.1**
GNL	**Ganaly**	**3.48**	**9**	*e*P		**Pn**	**16 18 21.1**	**+1.5**
GNL	**Ganaly**	**3.48**	**9**	PN		**Pn**	**16 18 21.1**	**+1.5**
KUR	**Kuril'sk**	**7.96**	**234**⇑	*e*PN		**Pn**	**16 19 21.6**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**9.83**	**235**⇑	*e*PN		**Pn**	**16 19 47.1**	**+0.5**
USA0B	**Ussuriysk Arra**	**18.00**	**260**⇑	*e*P		**Pn**	**16 21 34.3**	**-0.4**
MSHR	**Mys Shultsa**	**19.35**	**257**⇑	*e*P		**P**	**16 21 47.6**	**-1.8**
TIXI	**Tiksi**	**24.95**	**339**⇑	*e*P		**P**	**16 22 45.4**	**-1.1**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.1s							
COLA	**College**	**31.77**	**42**⇑	*e*P		**P**	**16 23 47.0**	**-0.4**
COLA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
NRIK	**Noril'sk**	**37.16**	**327**⇑	*e*P		**P**	**16 24 35.2**	**+1.3**

*IDC **03** 16:20:53.5±0.7,30°.06S×177°.50W,h0km,mb4.4/8, mbtmp4.3/12,ML4.2/3,MS3.5/9, Error ellipse: s-maj=23.2km s-min=14.9km az=81.0*
*NEIC **03** 16:20:59.7±1.3,30°.05S±0°.06×177°.5W±0°.2,h35km±1km, mb4.5/17, Error ellipse: s-maj=24.3km s-min=10.6km az=90.0*
ISC 03 16:20:58.7±0.6,30°.08S±0°.05×177°.52W±0°.10,h35km,n65, σ2§00/55,mb4.5/10,MS3.6/9,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.89**	**337**	Pn		**Pn**	**16 21 13.9**	**-0.9**
	931nm,0.3s,baz=357,slow=23,SNR=25							
RAO				Sn		**Sn**	**16 21 26.5**	**+0.1**
	2μm,0.3s,baz=263,slow=24,SNR=8.2							
RAO				LR		LR	16 21 30.0	
	comp=Z,341nm,21.2s,baz=94,slow=41							
RAO	**Raoul Island**	**0.89**	**337**			**Pn**	**16 21 14.3**	**-0.4**
RAO	**Raoul Island**	**0.89**	**337**	P		**Pn**	**16 21 14.4**	**-0.3**
MXZ	**Matakaoa Point**	**8.23**	**204**	Pn		**Pn**	**16 22 55.8**	**+0.1**
URZ	**Urewera**	**9.29**	**207**	Pn		**Pn**	**16 23 07.1**	**-3.1**
	0.6nm,0.3s,baz=356,slow=4.7,SNR=7.0							
URZ				Sn		**Sn**	**16 24 50.1**	**-3.3**
	2.9nm,0.3s,baz=72,slow=20,SNR=8.6							
	6.1nm,0.7s							
BKZ	**Black Stump Fm**	**10.32**	**207**	Pn		**Pn**	**16 23 20.9**	**-3.3**
BFZ	**Birch Farm**	**11.74**	**204**			**Pn**	**16 23 41.2**	**-2.4**
MSVF	**Nonsavu**	**12.94**	**341**	Pn		**Pn**	**16 23 57.8**	**-2.4**
	0.2nm,0.3s,baz=78,slow=22,SNR=1.8							
MSVF				Sn		**Sn**	**16 26 19.2**	**-3.8**
	0.4nm,0.3s,baz=180,slow=19,SNR=2.0							
MSVF				LR		LR	16 27 44.5	
	comp=Z,114nm,19.7s,baz=177,slow=32							
	0.6nm,0.5s							
TUWZ	**Tuamarina**	**13.27**	**209**	Pn		**Pn**	**16 24 02.1**	**-2.5**
THZ	**Tophouse**	**13.99**	**211**			**Pn**	**16 24 10.1**	**-4.4**
KHZ	**Kahutara**	**14.26**	**208**	Pn		**Pn**	**16 24 14.2**	**-3.8**
RPZ	**Rata Peaks**	**16.37**	**211**	Pn		**Pn**	**16 24 44.2**	**-1.6**
	0.6nm,0.3s,baz=106,slow=12,SNR=2.0							
RPZ				Sn		Sn	16 27 32.4	-14
	0.5nm,0.3s,baz=24,slow=18,SNR=1.9							
	9.9nm,0.8s							
RPZ	**Rata Peaks**	**16.37**	**211**	Pn		**Pn**	**16 24 42.6**	**-3.2**
RPZ				lAmb	lAmb	lAmb	16 24 53.9	
	comp=Z,56nm,1.5s							
DZM	**Mont Dzumac**	**16.45**	**295**	*e*P		**P**	**16 24 49.7**	**+0.2**
	comp=Z,85nm,26.7s							
DZM				*e*LR		LR	16 28 37.0	
	comp=Z,265nm,24.1s							
DZM	**Mont Dzumac**	**16.45**	**295**	Pn		**P**	**16 24 53.6**	**+4.2**
	comp=Z,0.2nm,0.3s,baz=284,slow=23,SNR=2.4							
DZM				LR		LR	16 30 00.9	
	comp=Z,228nm,18.5s,baz=206,slow=33							
DZM	**Mont Dzumac**	**16.45**	**295**			**P**	**16 24 49.7**	**+0.2**
LIFNC	**LIFOU**	**16.58**	**300**	P		**P**	**16 24 50.7**	**0.0**
LIFNC				lAmb	lAmb	lAmb	16 25 08.9	
	comp=Z,26nm,1.0s							
ODZ	**Otahua Downs**	**17.61**	**209**	P		**Pn**	**16 24 57.9**	**-3.4**
ODZ				lAmb	lAmb	lAmb	16 25 40.4	
	comp=Z,33nm,1.4s							
WKZ	**Wanaka**	**18.16**	**212**	Pn		**Pn**	**16 25 03.6**	**-4.4**
WKZ				lAmb	lAmb	lAmb	16 25 37.2	
	comp=Z,94nm,1.5s							
RAR	**Rarotonga**	**18.25**	**65**	P		**P**	**16 25 06.5**	**-2.7**
	comp=Z,10nm,0.7s,baz=260,slow=12,SNR=1.2							
KOUNC	**Koumac, New Ca**	**18.97**	**296**			**Pn**	**16 25 21.2**	**+3.2**
TBI	**Tubuai**	**25.90**	**82**	*e*LR		LR	16 32 45.2	
	comp=Z,713nm,27.5s							
TBI				*e*LR		LR	16 32 45.4	
	comp=Z,3μm,25.8s							
PPT2	**Papeete2**	**28.34**	**70**	*e*LR		LR	16 33 52.6	
	comp=Z,168nm,26.5s							
PPT2				*e*LR		LR	16 33 53.0	
	comp=Z,142nm,30.5s							
PPT	**Papeete**	**28.35**	**70**	LR		LR	16 38 15.9	
	comp=Z,32nm,18.2s,baz=238,slow=37							
CAN	**Canberra**	**28.57**	**251**	P		**P**	**16 26 54.6**	**+3.1**
CAN				lAmb	lAmb	lAmb	16 27 07.2	
	comp=Z,8.6nm,1.1s							
TOO	**Toolangi**	**31.47**	**246**	P		**P**	**16 27 18.0**	**+0.9**
CTA	**Charters Tower**	**34.16**	**278**	P		**P**	**16 27 42.0**	**+1.2**
	comp=Z,7.3nm,0.7s,baz=100,slow=10,SNR=11							
CTA				LR		LR	16 40 00.9	
	comp=Z,115nm,18.0s,baz=78,slow=34							
	comp=Z,7.3nm,0.7s							
CTAO	**Charters Tower**	**34.16**	**278**	P		**P**	**16 27 41.9**	**+1.2**
CTAO				lAmb	lAmb	lAmb	16 27 46.8	
	comp=Z,10nm,0.8s							
ASAR	**Alice Springs**	**43.54**	**266**	LR		LR	16 46 46.8	
	comp=Z,142nm,18.0s,baz=36,slow=36							
WR0	**Warramunga Arr**	**44.32**	**272**	P		**P**	**16 29 05.9**	**+0.3**
WB2	**Warramunga Arr**	**44.49**	**272**	P		**P**	**16 29 07.1**	**+0.2**
WRAB	**Tennant Creek**	**44.50**	**272**	P		**P**	**16 29 07.0**	**0.0**
WRA	**Warramunga Arr**	**44.50**	**272**	P		**P**	**16 29 06.8**	**-0.2**
	comp=Z,4.4nm,0.5s,baz=111,slow=7.7,SNR=12							
WRA				LR		LR	16 46 29.1	
	comp=Z,48nm,19.5s,baz=57,slow=34							
	comp=Z,4.4nm,0.5s							
WRA	**Warramunga Arr**	**44.50**	**272**	P		**P**	**16 29 06.7**	**-0.3**
WB0	**Warramunga Arr**	**44.52**	**272**	P		**P**	**16 29 06.7**	**-0.5**
CASY	**Casey**	**55.62**	**208**	P		**P**	**16 30 30.7**	**+0.1**
SIJI	**Sorong**	**56.60**	**291**	P		**P**	**16 30 38.0**	**-0.4**
	comp=Z,7.2nm,1.0s,baz=96,slow=10,SNR=5.2							
	comp=Z,7.2nm,1.0s							
QSPA	**South Pole Qui**	**60.03**	**180**	P		**P**	**16 31 02.8**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=18,slow=2.6,SNR=6.5							
	comp=Z,2.7nm,0.9s							
QSPA	**South Pole Qui**	**60.03**	**180**	P		**P**	**16 31 03.5**	**+1.7**
QSPA				lAmb	lAmb	lAmb	16 31 24.2	
	comp=Z,5.9nm,0.8s							
MAW	**Mawson**	**72.76**	**200**	P		**P**	**16 32 24.0**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=90,slow=8.3,SNR=4.8							
	comp=Z,2.9nm,0.8s							
LEM	**Lembang**	**73.52**	**272**	LR		LR	17 06 21.4	
	comp=Z,46nm,18.4s,baz=122,slow=37							
SNAA	**Sanae**	**78.47**	**178**	P		**P**	**16 32 57.6**	**+1.9**
SNAA				lAmb	lAmb	lAmb	16 33 15.7	
	comp=Z,5.4nm,1.3s							
H03S2	**Juan Fernandez**	**80.30**	**123**	T		T	18 02 41.3	
	baz=238,slow=74,SNR=15							
H03S1	**Juan Fernandez**	**80.31**	**123**	T		T	18 02 32.8	

baz=238,slow=74,SNR=12
H03S3 Juan Fernandez 80.31 123 T T 18 02 35.1
baz=238,slow=74,SNR=14
PETK Petropavlovsk- 85.60 345 P **P 16 33 33.3 +0.3**
comp=Z,3.8nm,0.9s,baz=116,slow=6.8,SNR=5.8
comp=Z,3.8nm,0.9s
NVAR Mina Array Bea 87.72 42 P **P 16 33 45.9 +1.8**
comp=Z,0.3nm,0.5s,baz=201,slow=4.8,SNR=3.8
comp=Z,0.3nm,0.5s
KLR Kul'dur 90.97 329 P **P 16 33 59.9 +1.1**
comp=Z,1.3nm,0.7s,baz=135,slow=4.3,SNR=4.0
KLR LR LR 17 13 15.2
comp=Z,12nm,18.2s,baz=118,slow=34
comp=Z,1.3nm,0.7s
ELK Elko 91.02 42 LR LR 17 08 54.7
comp=Z,40nm,19.2s,baz=302,slow=32
MKAR Makanchi Array 117.88 310 PKP **PKPdf 16 39 40.5 -0.8**
comp=Z,0.7nm,0.9s,baz=113,slow=3.3,SNR=2.1
H10N3 ASCENSION HYDR138.92 154 T T 19 16 04.5
baz=204,slow=75,SNR=4.7
H10N1 ASCENSION HYDR138.92 154 T T 19 15 58.9
baz=204,slow=75,SNR=4.8
H10N2 ASCENSION HYDR138.94 154 T T 19 16 04.2
baz=204,slow=75,SNR=4.5
FINES FINESS Array B 144.98 340 PKP PKPbc 16 40 30.6 -0.3
comp=Z,8.0nm,0.7s,baz=74,slow=3.5,SNR=37
KBZ Khabaz 145.27 304 PKPbc **PKPbc 16 40 31.5 -0.8**
comp=Z,0.9nm,0.7s,baz=114,slow=10.0,SNR=1.7
KVAR Kislovodsk Arr 145.38 305 PKPbc **PKPbc 16 40 32.2 -0.6**
comp=Z,2.5nm,0.3s,baz=105,slow=12,SNR=2.5
NB2 NORSAR Subarra148.49 352 PKP **PKPbc 16 40 40.7 -0.4**
comp=Z,4.0nm,0.9s,baz=17,slow=4.6
NOA NORSAR Array B 148.49 352 PKPbc **PKPbc 16 40 40.4 -0.7**
comp=Z,1.1nm,0.6s,baz=15,slow=4.3,SNR=6.7
HFS Hagfors 149.01 349 PKPbc **PKPbc 16 40 41.8 -0.5**
comp=Z,4.4nm,0.8s,baz=68,slow=4.0,SNR=6.0
AKASG Malin Array Be 151.29 323 PKPbc **PKPbc 16 40 48.0 -0.2**
comp=Z,1.7nm,0.6s,baz=49,slow=3.0,SNR=7.3
MMAI Mount Meron Ar 151.85 285 PKPbc **PKiKP 16 40 50.9 +0.4**
comp=Z,5.2nm,0.5s,baz=98,slow=6.0,SNR=8.6
EIL Elat 151.89 277 PKPbc **PKiKP 16 40 50.8 +0.3**
comp=Z,9.3nm,0.9s,baz=90,slow=2.0,SNR=6.7
BRTR Keskin Array B 152.81 299 PKPbc **PKPbc 16 40 51.9 -0.3**
comp=Z,1.0nm,0.5s,baz=72,slow=4.7,SNR=3.6
GERES GERESS Array B 159.39 339 PKPab **PKPab 16 41 31.2 +0.2**
comp=Z,0.6nm,0.7s,baz=24,slow=7.6,SNR=4.9
DAVOX Davos/Dischmat 162.36 343 PKPab **PKPab 16 41 44.6 +0.6**
comp=Z,1.9nm,0.7s,baz=6.6,slow=9.6,SNR=3.9

---

*DJA **03** 16:21:43.7±0.8, 3˚S±2˚×12˚9E±˚, h17km±7km, M4.4/21, mB5.2/3, mb4.4/21, MLv4.3/15, Mw(mB)4.6/3*
*NEIC **03** 16:21:44.9±1.5, 2.˚78S±0.˚06×129.˚40E±0.˚05, h26km±2km, mb4.2/13, Error ellipse: s-maj=9.3km s-min=7.4km az=175.0*
*IDC **03** 16:21:48.8±1.6, 3.˚00S×129.˚60E, h72km±17km, mb3.7/7, mbtmp4.1/11, MS3.6/6, Error ellipse: s-maj=23.8km s-min=12.4km az=120.0*
ISC 03 16:21:44.5±0.5**, 2.˚95S**±0.˚05×**129.˚38E**±0.˚05**, h28**km**, n66,** σ**1.˚28**/66**, mb4.0**/9**, Seram**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MSAI Masohi 0.60 229 P **Pb 16 21 56.0 -0.5**
KRAI Karang Ratu 1.05 250 P **Pn 16 22 04.3 +0.9**
AAI Ambon 1.39 238 P **Pn 16 22 09.0 +0.9**
BNDI Bandanaira 1.65 161 P **Pn 16 22 12.0 +0.4**
NLAI Namlea 2.30 263 P **Pn 16 22 21.5 +0.9**
SIJI Sorong 2.80 42 P **Pn 16 22 28.8 +1.3**
99nm,0.3s,baz=58,slow=11,SNR=154
SIJI S **Sn 16 23 02.4 +2.0**
101nm,0.2s,baz=60,slow=21,SNR=21
SIJI LR LR 16 23 56.7
comp=Z,1μm,18.3s,baz=240,slow=48
SIJI Sorong 2.80 42 P **Pn 16 22 27.9 +0.4**
FAKI Fak Fak 2.87 89 **Pn 16 22 28.5 +0.1**
FAKI Sn **Sn 16 23 01.8 -0.2**
FAKI Fak Fak 2.87 89 P **Pn 16 22 28.8 +0.4**
LBMI Labuha 2.97 321 P **Pn 16 22 30.6 +0.8**
SANI Sanana 3.51 285 P **Pn 16 22 37.0 -0.2**
TNTI Ternate 4.21 331 Pn **Pn 16 22 43.8 -3.1**
TNTI Ternate 4.21 331 P **Pn 16 22 47.5 +0.6**
RKPI Ransiki, Papua 5.00 73 P **Pn 16 22 57.6 -0.2**
GAMI Galela, Maluku 5.02 341 P **Pn 16 22 58.6 +0.6**
0.2nm46nm,1.2s
LUWI Luwuk 6.87 286 Pn **Pn 16 23 22.8 -0.7**
LUWI Sn **Sn 16 24 40.1 -0.7**
LUWI Luwuk 6.87 286 P **Pn 16 23 24.0 +0.5**
0.2nm51nm,1.3s
BBSI Bau Bau 7.24 249 P **Pn 16 23 29.2 +0.6**
0.2nm42nm,1.2s
GTOI Gorontalo 7.30 299 P **Pn 16 23 32.7 +3.3**
0.1nm14nm,0.9s
KKSI Kolaka, Sulawe 7.81 261 P **Pn 16 23 36.9 +0.5**
0.1nm12nm,0.7s
APSI Ampana 7.99 285 P **Pn 16 23 39.7 +0.8**
1μm126nm,0.7s
SOEI Soe 8.46 217 P **Pn 16 23 45.7 +0.3**
37nm,1.5s
BATI Baumata 9.18 218 P Pn 16 24 01.5 +6.3
28nm,0.8s,baz=102,slow=1.1,SNR=6.6
BATI LR LR 16 27 37.9
comp=Z,745nm,21.7s,baz=58,slow=38
BATI Baumata 9.18 218 P **Pn 16 23 55.7 +0.5**
28nm,0.7s
BNSI Bone 9.37 261 P **Pn 16 23 58.6 +0.8**
12nm,1.1s
BSSI Bau Bau, Buton 9.41 250 P **Pn 16 23 59.2 +0.8**
36nm,0.9s
TOLI2 Tolitoli 9.50 295 Pn **Pn 16 23 58.8 -0.7**
TOLI2 Sn **Sn 16 25 43.3 -2.2**
BKSI Bulukumba 9.53 255 P **Pn 16 24 00.8 +0.8**
31nm,1.5s
SPSI Sidrap Palu 9.65 264 P **Pn 16 24 02.2 +0.6**
2μm13nm,0.7s
KAPI Kappang 9.82 258 P Pn 16 24 09.5 +5.5
6.3nm,0.3s,baz=80,slow=9.2,SNR=6.3
KAPI LR LR 16 28 47.1
comp=Z,300nm,21.2s,baz=82,slow=42
KAPI Kappang 9.82 258 Pn **Pn 16 24 03.8 -0.2**
KAPI Kappang 9.82 258 P **Pn 16 24 04.7 +0.7**
20nm,1.2s
MTN Manton Dam 9.98 170 **Pn 16 24 06.3 +0.1**
MTN Sn **Sn 16 25 56.5 -0.8**
MPSI Mapaga 10.03 289 P **Pn 16 24 07.7 +0.9**
10nm,1.1s
DAV Davao City (W) 10.65 339 LR LR 16 29 10.1
comp=Z,161nm,20.0s,baz=107,slow=41
GENI Genyem 10.78 88 P **Pn 16 24 17.4 +0.2**
27nm,1.4s
KNRA Kununurra 12.66 183 **Pn 16 24 43.9 +1.0**
SRBI Singaraja 14.99 250 P **Pn 16 25 15.5 +0.8**
31nm,1.0s
KKM Kota Kinabalu 15.90 304 P **Pn 16 25 27.3 +0.7**
31nm,1.2s
WB0 Warramunga Arr 17.41 164 **Pn 16 25 44.6 -1.0**
WB0 IAmb IAmb 16 26 09.1
comp=Z,11nm,0.9s
COEN Coen 17.47 130 P **Pn 16 25 44.1 -2.3**
COEN IAmb IAmb 16 26 02.4
comp=Z,27nm,1.2s
WRAB Tennant Creek 17.56 164 P **Pn 16 25 45.2 -2.2**
WRA Warramunga Arr 17.57 164 P **Pn 16 25 46.9 -0.7**
comp=Z,1.4nm,0.6s,baz=341,slow=13,SNR=31
WRA Warramunga Arr 17.57 164 P **Pn 16 25 44.3 -3.2**
WB2 Warramunga Arr 17.57 164 P **Pn 16 25 46.8 -0.8**
WB2 IAmb IAmb 16 26 10.9
comp=Z,21nm,1.4s
WR0 Warramunga Arr 17.64 164 P **Pn 16 25 46.5 -1.9**
PSA00 Pilbara Seismi 20.70 206 P **P 16 26 24.5 +1.7**
PSA00 IAmb IAmb 16 26 43.4
comp=Z,13nm,1.4s
PSA00 Pilbara Seismi 20.70 206 P **P 16 26 24.3 +1.6**
PSA00 IAmb IAmb 16 26 43.5
comp=Z,28nm,1.4s
AS31 Alice Springs 21.05 168 P **P 16 26 26.0 -0.6**
AS31 IAmb IAmb 16 26 36.1
comp=Z,5.5nm,0.7s
ASAR Alice Springs 21.05 168 P **P 16 26 26.2 -0.3**
comp=Z,10nm,0.7s,baz=349,slow=11,SNR=41
comp=Z,10nm,0.7s
LEM Lembang 22.02 259 LR LR 16 36 46.8
comp=Z,291nm,19.1s,baz=78,slow=40
NWAO Narrogin (SRO) 31.92 200 P **P 16 28 11.5 +3.7**
CMAR Chiang Mai Arr 36.75 307 P **P 16 28 50.4 +0.4**
comp=Z,0.5nm,0.7s,baz=128,slow=7.3,SNR=5.9
comp=Z,0.5nm,0.7s
SONM Songino Array 54.43 341 P **P 16 31 10.1 +0.7**
comp=Z,1.6nm,1.0s,baz=152,slow=6.5,SNR=5.3
comp=Z,1.6nm,1.0s
PETK Petropavlovsk- 60.71 19 P **P 16 31 52.5 -0.8**
comp=Z,8.0nm,1.0s,baz=227,slow=7.7,SNR=5.1
comp=Z,8.0nm,1.0s
PETK Petropavlovsk- 60.71 19 P **P 16 31 53.8 +0.4**
MKAR Makanchi Array 64.53 326 P **P 16 32 20.6 +1.5**
comp=Z,0.8nm,0.8s,baz=122,slow=8.7,SNR=4.2
comp=Z,0.8nm,0.8s
MKAR Makanchi Array 64.53 326 P **P 16 32 19.6 +0.5**
YAK Yakutsk 64.80 0 P **P 16 32 20.1 -0.4**
ZAA0 Zalesovo Array 67.71 333 P **P 16 32 38.1 -1.1**
ZAA0 IAmb IAmb 16 32 43.7
comp=Z,4.1nm,1.3s
ZALV Zalesovo Beam 67.71 333 P **P 16 32 38.8 -0.4**
comp=Z,0.5nm,0.4s,baz=117,slow=5.2,SNR=4.8
comp=Z,0.5nm,0.4s
ZALV Zalesovo Beam 67.71 333 P **P 16 32 38.3 -1.0**
KURK Kurchatov 68.77 328 P **P 16 32 44.7 -1.2**
ABKAR Akbulak array 78.98 321 P **P 16 33 45.5 -0.3**
ILAR Eielson Array 89.97 25 P **P 16 34 39.1 -2.0**
comp=Z,0.4nm,0.9s,baz=251,slow=2.8,SNR=1.9
comp=Z,0.4nm,0.9s
BRTR Keskin Array B 96.29 309 LR LR 17 25 49.0
comp=Z,16nm,19.3s,baz=100,slow=40

---

*NOU **03** 16:25:10.6, 29.˚45S×137.˚00E, h0km, ML4.2/6, South Australia*
*IDC **03** 16:25:12.2±2.2, 29.˚59S×137.˚25E, h0km, mb4.0/1, mbtmp3.9/4, ML3.8/3, Error ellipse: s-maj=55.0km s-min=15.7km az=48.0*
*NEIC **03** 16:25:12.7±1.1, 29.˚66S±0.˚05×137.˚08E±0.˚08, h5km±3km, Error ellipse: s-maj=10.4km s-min=7.8km az=80.0*
*AUST **03** 16:25:13.0±1.7, 29.˚65S×137.˚13E, h5km±12km, Error ellipse: s-maj=6.4km s-min=4.9km az=45.0*
ISC 03 16:25:12.5±0.6**, 29.˚62S**±0.˚04×**137.˚08E**±0.˚04**, h10**km**, n47,** σ**1.˚53**/62**, South Australia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LCRK Leigh Creek 1.29 130 P **Pn 16 25 36.6 +0.1**
baz=1.2,SNR=272
LCRK S **Sb 16 25 53.5 +0.1**
baz=1.2
LCRK Leigh Creek 1.29 130 P **Pb 16 25 37.2 +0.4**
OOD Oodnadatta 2.19 326 P **Pb 16 25 51.6 -0.7**
baz=2.2,SNR=144
OOD S **Sb 16 26 20.5 +1.0**
baz=2.2
MULG Mulgathing 2.70 255 P **Pn 16 25 57.6 +1.7**
baz=2.7,SNR=50
MULG S **Sn 16 26 32.0 +3.3**
baz=2.7
BBOO Buckleboo 3.29 195 P **Pn 16 26 05.1 +0.9**
baz=3.3,SNR=32
BBOO Buckleboo 3.29 195 **Pn 16 26 05.0 +0.9**
BBOO Sn **Sn 16 26 41.1 -2.4**
BBOO Buckleboo 3.29 195 P **Pn 16 26 05.4 +1.2**
WHYH Whyalla 3.43 173 P **Pn 16 26 07.4 +1.4**
PTPS Port Pirie 3.62 168 P **Pn 16 26 11.4 +2.7**
INKA Innaminka 3.73 61 P **Pn 16 26 11.7 +1.6**
baz=3.7,SNR=42
INKA S **Sn 16 26 56.0 +1.8**
baz=3.7
AUJCS Jamestown Cent 3.80 160 P **Pn 16 26 12.4 +1.3**
baz=3.8
HTT Hallett 4.11 158 P **Pn 16 26 16.5 +1.1**
baz=4.1,SNR=12
HTT S **Sn 16 27 05.6 +1.9**
baz=4.1
HTT Hallett 4.11 158 P **Pn 16 26 16.4 +1.0**
STKA Stephens Creek 4.49 121 Pn **Pn 16 26 20.6 -0.1**
2.8nm,0.3s,baz=306,slow=13,SNR=46
STKA Sn **Sn 16 27 11.9 -1.1**
11nm,0.3s,baz=300,slow=20,SNR=9.4
STKA Lg Lg 16 27 30.7
11nm,0.3s,baz=73,slow=21,SNR=4.3
7.2nm,0.4s
STKA Stephens Creek 4.49 121 P **Pn 16 26 21.7 +1.1**
baz=4.4,SNR=44
STKA S **Sn 16 27 12.8 -0.2**
baz=4.4
STKA Stephens Creek 4.49 121 **Pn 16 26 21.4 +0.7**
STKA Sn **Sn 16 27 12.5 -0.5**
STKA Stephens Creek 4.49 121 P **Pn 16 26 21.9 +1.2**
AS31 Alice Springs 6.58 334 Pn **Pn 16 26 52.0 +2.6**
AS31 Sn **Sn 16 28 02.6 -1.9**
ASAR Alice Springs 6.58 334 Pn **Pn 16 26 51.6 +2.3**
1.6nm,0.3s,baz=150,slow=13,SNR=24
ASAR Sn **Sn 16 28 04.2 -0.2**
6.2nm,0.3s,baz=155,slow=22,SNR=17
ASAR Lg Lg 16 28 41.8
2.1nm,0.3s,baz=152,slow=27,SNR=4.9
7.0nm,0.6s
ASAR Alice Springs 6.58 334 Pn **Pn 16 26 50.4 +1.0**
ASPA Alice Springs 6.58 334 P **Pn 16 26 52.0 +2.7**
baz=6.6
QLP Quilpie 7.01 66 P **Pn 16 26 57.0 +1.7**
baz=7.0,SNR=16
QLP S **Sn 16 28 13.1 -1.9**
baz=7.0
CMSA Cobar Meteorol 7.67 107 P **Pn 16 27 04.5 +0.2**
baz=7.6
FORT Forrest 7.89 259 P **Pn 16 27 07.2 -0.1**
baz=7.9
FORT S **Sn 16 28 32.7 -3.9**
baz=7.9
FORT Forrest 7.89 259 Pn **Pn 16 27 07.5 +0.2**
FORT **Sn 16 28 32.6 -4.0**
ARPS Mount Arapiles 8.17 152 P **Pn 16 27 11.6 +0.5**
baz=8.1
WRKA Warakurna 9.04 298 P **Pn 16 27 24.3 +1.1**
baz=9.1,SNR=19
QIS Mount Isa 9.31 15 P **Pn 16 27 28.1 +1.2**
baz=9.4,SNR=7.3
WR0 Warramunga Arr 9.89 346 Pn **Pn 16 27 35.5 +0.6**
WB2 Warramunga Arr 9.95 345 P **Pn 16 27 36.6 +1.0**
baz=10.0
WB2 Warramunga Arr 9.95 345 Pn **Pn 16 27 36.5 +0.8**
WRA Warramunga Arr 9.95 345 Pn **Pn 16 27 36.5 +0.8**
1.3nm,0.3s,baz=163,slow=13,SNR=18
WRA Sn **Sn 16 29 25.9 -1.6**
1.4nm,0.3s,baz=169,slow=24,SNR=7.2
WRA Lg Lg 16 30 27.4
baz=171,slow=25
2.2nm,0.4s
WRAB Tennant Creek 9.96 345 Pn **Pn 16 27 36.7 +1.0**
WB0 Warramunga Arr 10.11 345 **Pn 16 27 38.5 +0.7**
TOO Toolangi 10.58 141 P **Pn 16 27 44.6 +0.3**
baz=10,SNR=4.7
TOO Toolangi 10.58 141 Pn **Pn 16 27 44.5 +0.2**
RMQ Roma 10.78 76 P **Pn 16 27 47.1 +0.1**
baz=11,SNR=8.1
CAN Canberra 11.56 123 Pn **Pn 16 27 56.5 -1.1**
CTA Charters Tower 12.62 43 P **Pn 16 28 12.0 -0.2**
baz=13
CTAO Charters Tower 12.62 43 Pn **Pn 16 28 11.3 -1.0**
KNRA Kununurra 15.85 329 Pn **Pn 16 28 53.0 -2.8**
KNRA IAmb IAmb 16 28 57.2
comp=Z,16nm,1.1s
PSA00 Pilbara Seismi 17.47 293 P **P 16 29 18.1 +0.6**
PSA00 IAmb IAmb 16 29 41.0
comp=Z,22nm,1.4s
PSA00 Pilbara Seismi 17.47 293 P **P 16 29 18.2 +0.6**
PSA00 IAmb IAmb 16 29 25.4
comp=Z,8.9nm,1.5s
MTN Manton Dam 17.59 340 P **P 16 29 19.8 +1.0**
MTN IAmb IAmb 16 29 28.6
comp=Z,18nm,1.4s
MBWA Marble Bar 17.78 294 P **Pn 16 29 21.0 +0.8**
MBWA IAmb IAmb 16 29 29.5
comp=Z,13nm,1.1s
MORW Morawa 18.35 267 **P 16 29 27.9 +0.7**
MKAR Makanchi Array 90.71 326 P **P 16 38 16.8 +1.4**
comp=Z,0.7nm,0.8s,baz=117,slow=5.4,SNR=2.9
comp=Z,0.7nm,0.8s

MAN 03 16:27:00.7, 10.˚34N×123.˚44E, h29km**, mb3.8, ML2.6, MS2.1, 2D, Cebu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LLP Lapu-Lapu 0.51 93⇓*i*P Pn 16 27 12.6 +0.5
LLP *i* S Sn 16 27 20.9 +1.1
SNPH Sibulan 1.02 192⇓*i*P Pn 16 27 18.9 -0.2
SNPH *i* S Sn 16 27 32.4 0.0

DJA 03 16:33:25.7±0.9**, 0˚S**±3˚×**12˚3E**±˚**, h35**km±19km**, M3.5**/9**, mb4.4**/3**, MLv3.1**/9**, Minahassa Peninsula, Sulawesi**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LUWI Luwuk 0.74 195 P Pn 16 33 40.4 +0.7
GTOI Gorontalo 0.95 3 P Pn 16 33 44.3 +1.7
GTOI S Sn 16 33 58.9 +4.0
MRSI Marisa 1.29 308 P Pn 16 33 47.1 -0.1
MRSI S Sn 16 34 04.1 +0.8
APSI Ampana 1.44 246 P Pn 16 33 49.4 +0.1
MPSI Mapaga 3.13 282 P Pn 16 34 13.1 +0.5
PCI Palu 3.18 259 P Pn 16 34 13.1 -0.1
SANI Sanana 3.48 120 P Pn 16 34 17.4 0.0
LBMI Labuha 4.55 94 P Pn 16 34 32.2 +0.1
KKM Kota Kinabalu 9.24 313 P Pn 16 35 36.9 +0.3
33nm,1.1s
SOEI Soe 9.46 172 P Pn 16 35 39.2 -0.5
12nm,1.1s
PLAI Plampang 9.90 211 P Pn 16 35 46.2 +0.5

---

*NEIC **03** 16:35:09.9±2.5, 39.˚01N±0.˚06×143.˚3E±0.˚1, h10km±1km, mb4.5/9, Error ellipse: s-maj=15.8km s-min=10.0km az=106.0*
*NIED **03** 16:35:11.2, 39.˚08N×143.˚09E, h16km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr3.70; Mθθ0.57; Mφφ-4.28; Mrθ4.23; Mθφ-1.34; Mφr5.76; Fault plane solution: M0 8.30000×10^14 NP1: φs172.00000°, δ19.00000°, λ50.00000°. NP2: φs34.00000°, δ76.00000°, λ102.00000°.*
*JMA **03** 16:35:11.2±0.1, 39.˚1N±0.˚3×143.˚1E±0.˚6, h16km±1km, MV3.9/28, FAR E OFF SANRIKU*
*IDC **03** 16:35:16.8±3.0, 38.˚90N×143.˚18E, h68km±27km, mb3.4/11, mbtmp3.8/14, MS3.3/3, Error ellipse: s-maj=27.4km s-min=18.1km az=94.0*
ISC 03 16:35:11.3±3.6**, 39.˚07N**±0.˚05×**143.˚12E**±0.˚07**, h17**km±22km**, n50,** σ**1.˚60**/51**, mb3.8**/15**, MS3.3**/3**, Off east coast of Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MIYJ Miyakonagasawa 1.13 297 *i* P **Pb 16 35 31.3 -1.0**
MIYJ *e*S **Sb 16 35 45.9 -0.8**
OFUJ Ofunato 1.13 271 *i* P **Pb 16 35 31.7 -0.6**
OFUJ S **Sb 16 35 46.0 -0.7**
JTH Tanohata 1.30 312 *i* P **Pn 16 35 34.4 -0.3**
JKMT Kesennumamotoy 1.31 259 *i* P **Pn 16 35 34.5 -0.3**
JOM Ohasama 1.47 287 *i* P **Pn 16 35 37.0 -0.1**
JOM *e*S **Sn 16 35 55.4 -0.6**
JMK Ichinoseki 1.48 266 *i* P **Pn 16 35 37.2 +0.1**
JMK *e*S **Sb 16 35 56.3 -0.6**
JIO Ouri 1.51 247 *i* P **Pn 16 35 37.6 +0.1**
JANG Nango 1.79 317 P **Pn 16 35 41.2 -0.3**
JANG S **Sn 16 36 03.7 -0.3**
JMM Marumori 2.18 237 **Pn 16 35 47.4 +0.6**
JTM Tenmabayashi 2.33 318 **Pb 16 35 50.5 -2.3**
ERM Erimo 2.94 1 Pn **Pn 16 35 56.8 -0.5**
JSD Sado 3.94 256 Pn **Pn 16 36 13.1 +2.1**
MJAR Matsushiro Arr 4.63 239 P **Pn 16 36 23.6 +3.0**
8.3nm,0.6s,baz=44,slow=12,SNR=34
MAJO Matsushiro 4.63 239 **Pn 16 36 23.5 +3.0**
MJB9 Matsu-Tunnel 4.63 239 Pn 16 36 25.8 +5.3
JGF Kuroka 5.75 235 Pn **Pn 16 36 37.8 +1.9**
INU Inuyama 6.12 235 Pn **Pn 16 36 40.9 0.0**
JHJ2 Mitsune 6.52 205 Pn **Pn 16 36 46.7 +0.3**
JHJ Hachijo jima 2 6.52 205 P **Pn 16 36 48.7 +2.3**
174nm,0.9s,baz=60,slow=23,SNR=1.9
JHJ S **Sn 16 37 58.1 -2.4**
60nm,0.4s,baz=87,slow=22,SNR=1.6
USA0B Ussuriysk Arra 9.78 305 Pn **Pn 16 37 35.1 +4.0**
USRK Ussuriysk Ar. 9.78 305 P **Pn 16 37 35.5 +4.4**
3.2nm,0.7s,baz=116,slow=13,SNR=8.2
USRK Ussuriysk Ar. 9.78 305 Pn **Pn 16 37 34.1 +3.0**
YULB Yu-li 24.25 236 P **P 16 40 25.8 -1.6**
SEY Seymchan 24.55 10 P **P 16 40 31.3 +1.5**
1.2nm,0.5s,baz=187,slow=9.3,SNR=6.1
1.2nm,0.5s
SONM Songino Array 27.84 300 P **P 16 41 00.8 +0.9**
0.7nm,0.6s,baz=91,slow=9.3,SNR=3.6
SONM LR LR 16 52 09.4
comp=Z,73nm,19.2s,baz=156,slow=36
0.7nm,0.6s
H11N2 WAKE ISLAND Hy 28.15 126 T T 17 10 35.7
baz=319,slow=74,SNR=46
H11N1 WAKE ISLAND Hy 28.16 126 T T 17 10 39.6
baz=319,slow=74,SNR=39
H11N3 WAKE ISLAND Hy 28.17 126 T T 17 10 46.9
baz=319,slow=74,SNR=44
ZALV Zalesovo Beam 41.57 311 P **P 16 42 58.2 +0.3**
1.0nm,0.4s,baz=98,slow=8.6,SNR=5.1
ZALV LR LR 17 00 57.3
comp=Z,23nm,20.1s,baz=98,slow=37
1.0nm,0.4s
ZALV Zalesovo Beam 41.57 311 P **P 16 42 57.9 0.0**
CMAR Chiang Mai Arr 43.32 255 P **P 16 43 13.5 +1.0**
0.3nm,0.7s,baz=44,slow=7.5,SNR=2.2
0.3nm,0.7s
MK31 Makanchi Array 44.21 301 P **P 16 43 18.5 -0.9**
MK31 IAmb IAmb 16 43 51.4
comp=Z,7.4nm,1.4s
MKAR Makanchi Array 44.21 301 P **P 16 43 19.5 +0.1**
comp=Z,1.8nm,0.8s,baz=88,slow=9.8,SNR=11
comp=Z,1.8nm,0.8s
MKAR Makanchi Array 44.21 301 P **P 16 43 18.8 -0.6**
KURK Kurchatov 45.76 307 P **P 16 43 31.2 -0.4**
KURK IAmb IAmb 16 43 45.1
comp=Z,4.4nm,0.8s
ILAR Eielson Array 47.06 33 P **P 16 43 42.1 +0.5**
comp=Z,0.6nm,0.8s,baz=275,slow=6.2,SNR=5.3
comp=Z,0.6nm,0.8s
PCA Pinnacle 50.70 39 P **P 16 44 10.2 +0.5**
ABKAR Akbulak array 57.67 310 P **P 16 45 01.1 +0.6**
ABKAR Akbulak array 57.67 310 P **P 16 45 00.7 +0.2**
WB0 Warramunga Arr 59.09 190 P **P 16 45 08.5 -2.2**
WR0 Warramunga Arr 59.26 189 P **P 16 45 11.0 -0.9**
WR0 IAmb IAmb 16 45 22.1
comp=Z,4.6nm,1.2s
WB2 Warramunga Arr 59.27 190 P **P 16 45 10.9 -1.0**
WB2 IAmb IAmb 16 45 23.0
comp=Z,4.1nm,0.9s
WRA Warramunga Arr 59.27 190 P **P 16 45 10.8 -1.2**
comp=Z,0.3nm,0.8s,baz=5.9,slow=7.0,SNR=1.9
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 59.27 190 P **P 16 45 10.9 -1.0**
ASAR Alice Springs 63.00 189 P **P 16 45 33.8 -3.4**
comp=Z,0.5nm,1.2s,baz=344,slow=8.1,SNR=1.7
comp=Z,0.5nm,1.2s
ASAR Alice Springs 63.00 189 P **P 16 45 36.8 -0.4**
FINES FINESS Array B 67.64 332 LR LR 17 19 33.1
comp=Z,38nm,18.8s,baz=353,slow=39
HFS Hagfors 72.78 336 P **P 16 46 38.9 +0.5**
comp=Z,3.7nm,1.1s,baz=56,slow=5.9,SNR=5.3
comp=Z,3.7nm,1.1s
NOA NORSAR Array B 72.82 338 P **P 16 46 38.8 +0.1**
comp=Z,0.4nm,0.7s,baz=36,slow=6.1,SNR=2.6
comp=Z,0.4nm,0.7s
AKASG Malin Array Be 73.50 323 P **P 16 46 42.8 0.0**
comp=Z,0.2nm,0.3s,baz=44,slow=6.2,SNR=1.5
comp=Z,0.2nm,0.3s

---

*DJA **03** 16:44:29.5±0.4, 4˚N±4˚×12˚2E±˚, h607km±5km, M4.3/24, mb4.4/24, mB4.8/13, MLv4.9/10, Mw(mB)4.0/13, MwMwp6.1/2, Mwp6.1/2*
*NEIC **03** 16:44:31.9±1.4, 3.˚67N±0.˚08×122.˚29E±0.˚09, h598km±4km, mb4.5/89, Error ellipse: s-maj=12.9km s-min=11.6km az=67.0*
*IDC **03** 16:44:32.1±0.8, 3.˚66N×122.˚30E, h611km±9km, mb3.5/21, mbtmp4.5/23, Error ellipse: s-maj=13.9km s-min=6.5km az=68.0*
ISC 03 16:44:31.5±0.5**, 3.˚64N**±0.˚04×**122.˚29E**±0.˚06**, h601**km±6km**, n258,** σ**1.˚06**/288**, mb4.4**/69**, 2C, Celebes Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC

TOLI2 Tolitoli 2.93 211 P **P** **16 45 49.2 -1.1**
TOLI2 Tolitoli 2.93 211 P **P** **16 45 49.7 -0.6**
GTOI Gorontalo 3.08 166 P **P** **16 45 49.4 -1.8**
MRSI Marisa 3.16 186 P **P** **16 45 51.3 -0.4**
SGSI Sangihe 3.24 89 P **P** **16 45 50.3 -1.8**
MPSI Mapaga 4.06 216 P **P** **16 45 56.7 -0.7**
MYLDM Lahad Datu 4.07 292 P **P** **16 45 57.4 0.0**
MYLDM Lahad Datu 4.07 292 P **P** **16 45 56.5 -1.0**
KCP Kidapawan 4.36 40 eP **P** **16 45 59.7 +0.1**
APSI Ampana 4.57 188 P **P** **16 46 00.2 -0.9**
LUWI Luwuk 4.68 174 P **P** **16 45 59.5 -2.5**
LUWI Luwuk 4.68 174 P **P** **16 45 59.9 -2.1**
LUWI Luwuk 4.68 174 P **P** **16 46 00.1 -1.9**
DAV Davao City (W) 4.73 44 P **P** **16 46 04.1 +1.8**
136nm,0.4s,baz=200,slow=15,SNR=4.6
DAV S **S** **16 47 17.5 +1.1**
194nm,0.4s,baz=221,slow=20,SNR=1.8
DAV Davao City (W) 4.73 44 P **P** **16 45 59.9 -2.4**
SNPH Sibulan 5.74 9 eP **P** **16 46 10.0 -0.5**
GAMI Galela, Maluku 5.78 108 P **P** **16 46 09.0 -1.8**
TNTI Ternate 5.82 119 P **P** **16 46 10.2 -1.0**
TNTI Ternate 5.82 119 P **P** **16 46 09.5 -1.7**
0.8nm2µm252nm,0.9s
TNTI Ternate 5.82 119 P **P** **16 46 10.4 -0.8**
TBP Tagbilaran 6.21 15 f/P **P** **16 46 14.1 -0.4**
KKM Kota Kinabalu 6.50 292 P **P** **16 46 16.6 -0.6**
KKM Kota Kinabalu 6.50 292 P **P** **16 46 15.8 -1.4**
KKM Kota Kinabalu 6.50 292 P **P** **16 46 16.7 -0.5**
LBMI Labuha 6.73 129 P **P** **16 46 17.5 -1.6**
1.6nm2µm129nm,0.7s
SANI Sanana 6.76 147 P **P** **16 46 17.3 -2.1**
0.6nm2µm60nm,0.6s
SANI Sanana 6.76 147 P **P** **16 46 17.4 -2.0**
BKB Balikpapan 7.26 228 P **P** **16 46 22.1 -1.9**
0.7nm151nm,1.6s
KKSI Kolaka, Sulawe 7.79 185 P **P** **16 46 27.7 -1.2**
0.1nm29nm,0.5s
SPSI Sidrap Palu 7.96 198 P **P** **16 46 29.4 -1.1**
27nm,0.8s
BNSI Bone 8.28 195 P **P** **16 46 32.2 -1.4**
16nm,0.7s
NLAI Namlea 8.36 145 P **P** **16 46 32.8 -1.5**
54nm,0.9s
BBSI Bau Bau 9.07 178 P **P** **16 46 39.8 -1.4**
888µm468nm31nm,0.9s
KRAI Karang Ratu 9.23 138 P **P** **16 46 40.9 -1.8**
1µm105nm,0.8s
AAI Ambon 9.38 141 P **P** **16 46 42.3 -1.9**
1µm80nm,0.6s
MSAI Masohi 9.61 136 P **P** **16 46 44.6 -1.8**
761nm45nm,0.5s
BSSI Bau Bau, Buton 9.88 190 P **P** **16 46 47.6 -1.6**
35nm,0.6s
SIJI Sorong 10.03 116 P **P** **16 46 51.0 +0.3**
19nm,0.4s,baz=331,slow=14,SNR=32
SIJI S **S** **16 48 43.3 -1.6**
2.3nm,0.6s,baz=311,slow=19,SNR=1.4
SIJI Sorong 10.03 116 P **P** **16 46 48.2 -2.5**
455nm26nm,0.7s
SBUM Sibu 10.12 264 P **P** **16 46 52.3 +0.8**
SBUM Sibu 10.12 264 P **P** **16 46 50.3 -1.2**
18nm,0.8s
BNDI Bandanaira 11.12 137 P **P** **16 47 02.3 +0.8**
FAKI Fak Fak 11.90 123 P **P** **16 47 09.8 +0.5**
FAKI Fak Fak 11.90 123 P **P** **16 47 07.6 -1.7**
29nm,1.1s
FAKI Fak Fak 11.90 123 P **P** **16 47 09.9 +0.6**
KSM Kuching 12.16 260 P **P** **16 47 11.7 -0.2**
MMRI Maumere 12.20 180 P **P** **16 47 12.0 -0.3**
MMRI Maumere 12.20 180 P **P** **16 47 11.6 -0.7**
61nm,1.0s
MMRI Maumere 12.20 180 P **P** **16 47 12.7 +0.4**
RKPI Ransiki, Papua 12.94 113 P **P** **16 47 17.4 -2.4**
1µm38nm,0.8s
PLAI Plampang 13.18 200 P **P** **16 47 21.9 -0.3**
SOEI Soe 13.46 172 P **P** **16 47 24.5 -0.7**
SOEI S **S** **16 49 46.4 -1.1**
SOEI Soe 13.46 172 P **P** **16 47 23.0 -2.1**
1µm73nm,0.9s
SOEI Soe 13.46 172 P **P** **16 47 24.9 -0.2**
KLNI Mataram 13.48 207 P **P** **16 47 24.2 -1.1**
27nm,1.5s
BATI Baumata 13.83 174 P **P** **16 47 28.7 -0.1**
309nm,0.4s,baz=7.2,slow=1.5,SNR=188
BATI S **S** **16 49 53.6 -0.3**
35nm,0.7s,baz=342,slow=20,SNR=9.9
BATI Baumata 13.83 174 P **P** **16 47 27.1 -1.7**
5µm458nm,0.5s
JAGI Jajag, Banyuwa 14.51 214 P **P** **16 47 36.5 +1.3**
SAUI Saumlaki 14.64 142 P **P** **16 47 35.7 -0.7**
SAUI Saumlaki 14.64 142 P **P** **16 47 34.9 -1.5**
164nm,0.5s
SAUI Saumlaki 14.64 142 P **P** **16 47 36.7 +0.3**
SRPI Serui, Papua 14.98 111 P **P** **16 47 36.9 -2.7**
2µm66nm,0.8s
PCJI Pacitan 16.16 223 P **P** **16 47 49.2 -1.1**
4µm53nm,1.5s
PPBI Pangkal Pinang 17.14 251 P **P** **16 47 57.8 -1.6**
MYKOM Kota Tinggi 18.50 265 P **P** **16 48 11.4 -0.4**
MYKOM IAmb IAmb 16 48 39.4
comp=Z,23nm,1.2s
MTN Manton Dam 18.59 152 P **P** **16 48 12.6 +0.1**
baz=19,SNR=47
MTN Manton Dam 18.59 152 P **P** **16 48 12.4 -0.1**
MTN Manton Dam 18.59 152 P **P** **16 48 13.0 +0.5**
GENI Genyem 18.92 109 P **P** **16 48 13.5 -2.0**
comp=Z,29nm,0.9s
TPUB Ta-pu 19.61 355 P **P** **16 48 22.3 +0.7**
KNRA Kununurra 20.24 162 P **P** **16 48 28.0 +0.6**
baz=20,SNR=18
KNRA Kununurra 20.24 162 P **P** **16 48 27.7 +0.3**
KNRA Kununurra 20.24 162 P **P** **16 48 28.1 +0.7**
KULM Kulim 21.63 275 P **P** **16 48 39.4 -0.6**
KULM IAmb IAmb 16 48 48.9
comp=Z,26nm,1.5s
MBWA Marble Bar 24.78 186 P **P** **16 49 07.7 -0.1**
MBWA IAmb IAmb 16 49 08.0
comp=Z,13nm,0.5s
MBWA Marble Bar 24.78 186 P **P** **16 49 07.6 -0.1**
GSI Gunungsitoli 24.79 265 P **P** **16 49 08.3 +0.2**
PSA00 Pilbara Seismi 25.17 185 P **P** **16 49 11.1 -0.2**
PSA00 IAmb IAmb 16 49 12.1
comp=Z,14nm,0.8s
PSA00 Pilbara Seismi 25.17 185 P **P** **16 49 09.8 -1.4**
PSA00 IAmb IAmb 16 49 12.0
comp=Z,4,8nm,0.8s
PSA00 Pilbara Seismi 25.17 185 P **P** **16 49 11.3 0.0**
LHMI Lhok Sumawe 25.31 274 P **P** **16 49 13.4 +0.8**
WB0 Warramunga Arr 26.13 153 P **P** **16 49 19.4 -0.3**
PHRA Phrae 26.15 306 P **P** **16 49 20.5 +0.7**
WRAB Tennant Creek 26.26 154 P **P** **16 49 20.8 0.0**
WRAB Tennant Creek 26.26 154 P **P** **16 49 20.8 0.0**
WRA Warramunga Arr 26.26 154 P **P** **16 49 20.8 -0.1**
comp=Z,38nm,0.3s,baz=335,slow=9.6,SNR=601
WRA PcP **PcP** **16 52 25.3 -1.3**
comp=Z,0.6nm,0.5s,baz=296,slow=5.8,SNR=2.0
WRA S **S** **16 53 09.0 -3.7**
comp=Z,2.2nm,0.6s,baz=334,slow=16,SNR=6.2
WRA ScP **ScP** **16 55 10.1 -0.4**
comp=Z,2.3nm,0.6s,baz=344,slow=3.2,SNR=14
WRA Warramunga Arr 26.26 154 P **P** **16 49 19.6 -1.3**
WB2 Warramunga Arr 26.27 154 P **P** **16 49 20.8 -0.1**
baz=26
WB2 Warramunga Arr 26.27 154 P **P** **16 49 20.6 -0.3**
WR0 Warramunga Arr 26.37 153 P **P** **16 49 21.5 -0.3**
WR0 IAmb IAmb 16 49 22.4
comp=Z,28nm,0.9s
COEN Coen 27.11 131 P **P** **16 49 29.3 +0.9**
baz=27,SNR=5.1
COEN Coen 27.11 131 P **P** **16 49 27.6 -0.9**
COEN IAmb IAmb 16 49 28.2
comp=Z,14nm,1.1s
COEN Coen 27.11 131 P **P** **16 49 27.8 -0.6**
CMAR Chiang Mai Arr 27.17 305 P **P** **16 49 29.7 +0.8**
comp=Z,1.3nm,0.9s,baz=133,slow=7.6,SNR=12
CMAR PcP **PcP** **16 52 28.7 -0.1**
comp=Z,1.0nm,0.6s,baz=144,slow=2.7,SNR=10.0
CMAR S **S** **16 53 26.1 -0.8**
comp=Z,0.8nm,0.4s,baz=108,slow=20,SNR=7.1
comp=Z,1.3nm,0.9s
GIRL Giralia 27.29 196 P **P** **16 49 30.7 +1.0**
CHTO Chiang Mai 27.35 305 P **P** **16 49 30.9 +0.5**
PMG Port Moresby 27.97 118 P **P** **16 49 36.1 +0.2**
comp=Z,19nm,0.8s,baz=312,slow=5.0,SNR=8.9
comp=Z,19nm,0.8s

PMG Port Moresby 27.97 118 P **P** **16 49 36.0 +0.2**
PMG IAmb IAmb 16 49 36.9
comp=Z,24nm,0.9s
PMG Port Moresby 27.97 118 P **P** **16 49 36.1 +0.2**
PMG Port Moresby 27.97 118 P **P** **16 49 36.2 +0.3**
NJ2 Nanjing 28.44 354 eP P 16 49 45.5 +5.8
NJ2 pmax pmax
comp=Z,19nm,0.6s
WRKA Warakurna 29.10 169 P **P** **16 49 46.2 +0.7**
baz=29,SNR=33
WRKA Warakurna 29.10 169 P **P** **16 49 46.3 +0.7**
AS31 Alice Springs 29.41 158 P **P** **16 49 48.8 +0.5**
AS31 IAmb IAmb 16 49 49.9
comp=Z,7.6nm,0.6s
ASAR Alice Springs 29.41 158 P **P** **16 49 49.0 +0.7**
comp=Z,18nm,0.5s,baz=337,slow=8.4,SNR=615
ASAR PcP **PcP** **16 52 34.4 -0.1**
comp=Z,0.6nm,0.4s,baz=336,slow=4.3,SNR=2.6
ASAR S **S** **16 54 00.4 -1.1**
comp=Z,4.2nm,0.8s,baz=333,slow=13,SNR=16
ASAR ScP **ScP** **16 55 19.9 -0.4**
comp=Z,4.4nm,0.9s,baz=344,slow=2.8,SNR=17
comp=Z,18nm,0.5s
ASAR Alice Springs 29.41 158 P **P** **16 49 48.9 +0.7**
AS01 Alice Springs 29.43 158 P **P** **16 49 49.2 +0.8**
QIS Mount Isa 29.45 145 P **P** **16 49 49.6 +1.1**
baz=30,SNR=103
QIS Mount Isa 29.45 145 P **P** **16 49 49.7 +1.1**
PZH PanZhiHua 30.06 321 P **P** **16 49 55.3 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.2s
JCJ Chichijima 30.10 37 P **P** **16 49 55.0 +1.0**
MEEK Meekatharra 30.31 187 P **P** **16 49 56.1 +0.2**
baz=30,SNR=18
MEEK Meekatharra 30.31 187 P **P** **16 49 56.1 +0.2**
MTSU Mount Surprise 30.66 136 P **P** **16 50 00.1 +1.2**
baz=31,SNR=17
MTSU Mount Surprise 30.66 136 P **P** **16 50 00.2 +1.2**
XAN Xi'an 32.70 339 P **P** **16 50 16.5 +0.3**
XAN pmax pmax
comp=Z,10.0nm,0.9s
MORW Morawa 33.07 190 P **P** **16 50 19.7 +0.4**
baz=33,SNR=14
MORW Morawa 33.07 190 P **P** **16 50 19.8 +0.6**
MORW IAmb IAmb 16 50 40.6
comp=Z,31nm,1.4s
MORW Morawa 33.07 190 P **P** **16 50 19.7 +0.4**
TV1H Townsville Har 33.16 134 P **P** **16 50 22.1 +2.0**
CTA Charters Tower 33.32 136 P **P** **16 50 23.2 +1.7**
CTAO Charters Tower 33.32 136 P **P** **16 50 22.9 +1.4**
CTAO IAmb IAmb 16 50 24.1
comp=Z,14nm,1.3s
CTAO Charters Tower 33.32 136 P **P** **16 50 23.2 +1.7**
OOD Oodnadatta 33.82 158 P **P** **16 50 26.4 +0.9**
KSRS Korea Array 34.04 8 P **P** **16 50 27.9 +0.7**
comp=Z,2.1nm,0.7s,baz=187,slow=9.1,SNR=7.8
KSRS S **S** **16 55 10.0 -1.4**
comp=Z,1.7nm,0.6s,baz=122,slow=40,SNR=2.0
KSRS ScP **ScP** **16 55 34.8 -1.0**
comp=Z,0.6nm,0.6s,baz=218,slow=3.9,SNR=2.2
comp=Z,2.1nm,0.7s
KS19 Wonju Array Si 34.08 8 P **P** **16 50 28.1 +0.5**
KS19 IAmb IAmb 16 50 37.0
comp=Z,6.7nm,0.9s
BLDU Ballidu 34.48 189 P **P** **16 50 31.0 0.0**
baz=34,SNR=16
BLDU Ballidu 34.48 189 P **P** **16 50 31.3 +0.3**
FORT Forrest 34.67 171 P **P** **16 50 33.5 +1.0**
baz=35,SNR=76
FORT Forrest 34.67 171 P **P** **16 50 33.3 +0.7**
FORT Forrest 34.67 171 P **P** **16 50 33.3 +0.7**
KLBR Kellerberrin 35.30 187 P **P** **16 50 38.2 +0.3**
baz=35,SNR=44
KLBR Kellerberrin 35.30 187 P **P** **16 50 38.1 +0.3**
MULG Mulgathing 35.56 162 P **P** **16 50 41.1 +1.1**
MAJO Matsushiro 35.87 22 P **P** **16 50 41.6 -0.8**
MAJO IAmb IAmb 16 50 49.0
comp=Z,26nm,1.4s
MJAR Matsushiro Arr 35.87 22 P **P** **16 50 41.3 -1.2**
comp=Z,1.0nm,0.4s,baz=194,slow=9.7,SNR=2.5
comp=Z,1.0nm,0.4s
MUN Mundaring 35.89 189 P **P** **16 50 43.4 +0.7**
baz=36,SNR=3.5
MUN Mundaring 35.89 189 P **P** **16 50 43.9 +1.2**
INKA Innaminka 35.92 151 P **P** **16 50 44.9 +2.0**
SHL Shillong 36.43 310 P **P** **16 50 47.6 +0.2**
SHL IAmb IAmb 16 50 48.3
comp=Z,12nm,0.7s
LZH Lanzhou 36.50 334 eP **P** **16 50 48.1 +0.3**
LZH pmax pmax
comp=Z,19nm,1.3s
NWAO Narrogin (SRO) 36.69 187 P **P** **16 50 50.0 +0.8**
baz=37,SNR=12
NWAO P **P** **16 50 50.0 +0.8**
baz=37,SNR=12
NWAO Narrogin (SRO) 36.69 187 P **P** **16 50 49.1 0.0**
NWAO IAmb IAmb 16 50 50.4
comp=Z,13nm,0.6s
NWAO Narrogin (SRO) 36.69 187 P **P** **16 50 50.1 +1.0**
QLP Quilpie 36.79 146 P **P** **16 50 51.5 +1.4**
baz=37,SNR=9.0
QLP Quilpie 36.79 146 P **P** **16 50 51.6 +1.5**
LCRK Leigh Creek 37.16 157 P **P** **16 50 54.2 +1.1**
JMM Marumori 38.04 24 P **P** **16 51 00.3 +0.2**
HHC Hu-ho-hao-te 38.28 347 eP **P** **16 51 02.8 +0.7**
HHC pmax pmax
comp=Z,34nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.5s
RKGY Rocky Gully 38.38 187 P **P** **16 51 04.4 +1.6**
BBOO Buckleboo 38.53 161 P **P** **16 51 05.1 +0.9**
baz=39,SNR=60
BBOO Buckleboo 38.53 161 P **P** **16 51 05.0 +0.8**
BBOO Buckleboo 38.53 161 P **P** **16 51 05.0 +0.9**
RMQ Roma 39.41 141 P **P** **16 51 12.2 +0.9**
baz=40,SNR=4.4
RMQ Roma 39.41 141 P **P** **16 51 11.9 +0.6**
STKA Stephens Creek 39.81 154 P **P** **16 51 15.2 +0.8**
comp=Z,11nm,0.4s,baz=324,slow=6.1,SNR=56
STKA PcP **PP** **16 53 03.1 -0.5**
comp=Z,1.8nm,0.6s,baz=304,slow=9.8,SNR=3.3
STKA ScP **ScP** **16 55 56.8 -0.9**
comp=Z,1.5nm,0.8s,baz=0.0,slow=5.1,SNR=3.6
comp=Z,11nm,0.4s
STKA Stephens Creek 39.81 154 P **P** **16 51 15.4 +1.0**
baz=40,SNR=36
STKA Stephens Creek 39.81 154 P **P** **16 51 15.1 +0.7**
STKA Stephens Creek 39.81 154 P **P** **16 51 15.6 +1.2**
HTT Hallett 40.09 158 P **P** **16 51 18.2 +1.5**
baz=40,SNR=15
HTT Hallett 40.09 158 P **P** **16 51 18.2 +1.5**
EIDS Eidsvold 40.15 137 P **P** **16 51 17.8 +0.6**
EIDS IAmb IAmb 16 51 19.2
comp=Z,8.7nm,1.0s
TAPN Taplejung 40.56 309 eP **P** **16 51 21.2 +0.4**
comp=Z,14nm,0.4s
JTM Tenmabayashi 40.67 22 P **P** **16 51 20.8 -0.3**
JTM Tenmabayashi 40.67 22 P **P** **16 51 21.6 +0.6**
GTA Gaotai 41.03 333 eP **P** **16 51 25.3 +1.2**
GTA pP PcP 16 53 10.1 +0.9
GTA pmax pmax
comp=Z,9.0nm,0.9s
GOMU GeErMu 41.12 325 P **P** **16 51 26.8 +1.6**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,80nm,5.0s
RAMN Ramite 41.23 308 eP **P** **16 51 26.6 +0.5**
comp=Z,30nm,0.7s
USA0B Ussuriysk Arra 41.29 11 P **P** **16 51 25.8 0.0**
USA0B IAmb IAmb 16 51 26.9
comp=Z,6.9nm,0.7s
USA0B PcP **PcP** **16 53 09.6 -0.1**
USRK Ussuriysk Ar. 41.29 11 P **P** **16 51 26.1 +0.3**
comp=Z,5.6nm,0.5s,baz=194,slow=6.4,SNR=38
USRK PcP **pP** **16 53 08.6 -0.6**
comp=Z,1.1nm,0.6s,baz=132,slow=1.8,SNR=4.3
comp=Z,5.6nm,0.5s
USRK Ussuriysk Ar. 41.29 11 P **P** **16 51 26.2 +0.3**
USRK PcP **PcP** **16 53 09.9 +0.1**
CMSA Cobar Meteorol 41.48 149 P **P** **16 51 29.3 +1.7**
baz=42,SNR=19
CMSA Cobar Meteorol 41.48 149 P **P** **16 51 29.5 +1.9**

JIRN Jiri 41.89 308 eP **P** **16 51 32.0 +0.6**
comp=Z,21nm,0.5s
GUN Gumba 42.25 309 eP **P** **16 51 34.7 +0.5**
comp=Z,54nm,0.7s
PKI Pulchoki 42.46 308 eP **P** **16 51 35.9 +0.1**
comp=Z,8.8nm,0.6s
GKN Gorkha 43.26 308 eP **P** **16 51 42.1 +0.3**
comp=Z,27nm,0.8s
DANN Dangsing 44.11 308 eP **P** **16 51 49.0 +0.5**
comp=Z,73nm,0.6s
ARPS Mount Arapiles 44.15 157 P **P** **16 51 49.4 +1.2**
baz=44,SNR=16
ARPS Mount Arapiles 44.15 157 P **P** **16 51 49.5 +1.2**
ULN Ulaanbaatar 45.97 346 P **P** **16 52 03.1 +1.0**
ULN IAmb IAmb 16 52 03.6
comp=Z,8.3nm,0.9s
SONM Songino Array 46.10 345 P **P** **16 52 03.4 +0.2**
comp=Z,7.5nm,0.8s,baz=161,slow=9.0,SNR=42
SONM PcP **PcP** **16 53 26.3 -0.3**
comp=Z,1.6nm,0.7s,baz=180,slow=3.3,SNR=5.7
SONM ScP **ScP** **16 56 23.0 -0.3**
comp=Z,0.4nm,0.5s,baz=176,slow=5.2,SNR=2.8
comp=Z,7.5nm,0.8s
SONM Songino Array 46.10 345 P **P** **16 52 03.8 +0.6**
SONM PcP **PcP** **16 53 26.2 -0.3**
CAN Canberra 46.16 149 P **P** **16 52 05.3 +1.6**
CAN PcP **PcP** **16 53 29.3 +2.4**
CAN Canberra 46.16 149 P **P** **16 52 05.9 +2.2**
TOO Toolangi 46.33 154 P **P** **16 52 06.6 +1.7**
TOO IAmb IAmb 16 52 07.3
comp=Z,8.5nm,0.8s
TOO Toolangi 46.33 154 P **P** **16 52 07.0 +2.1**
CNB Canberra Magne 46.34 149 P **P** **16 52 06.9 +1.9**
baz=46,SNR=29
CNB Canberra Magne 46.34 149 P **P** **16 52 07.0 +1.9**
HEH HeiHe 46.65 5 eP **P** **16 52 07.2 +0.2**
HEH pmax pmax
comp=Z,11nm,0.7s
HEH pmax pmax
comp=Z,80nm,3.6s
WMQ Urumqi 50.34 328 eP **P** **16 52 36.0 +1.5**
WMQ pmax pmax
comp=Z,20nm,0.7s
TAU Tasmania Unive 51.57 157 P **P** **16 52 44.8 +1.5**
MK31 Makanchi Array 55.17 327 P **P** **16 53 09.2 +0.5**
MK31 PcP **PcP** **16 54 00.1 -0.4**
MKAR Makanchi Array 55.17 327 P **P** **16 53 09.2 +0.5**
comp=Z,7.6nm,0.5s,baz=124,slow=8.2,SNR=100
MKAR PcP **PcP** **16 54 00.2 -0.3**
comp=Z,4.2nm,0.6s,baz=122,slow=4.9,SNR=14
comp=Z,7.6nm,0.5s
MAKZ Makanchi 55.34 327 P **P** **16 53 10.1 +0.2**
MAKZ IAmb IAmb 16 53 11.0
comp=Z,7.8nm,0.6s
MAKZ PcP **PcP** **16 54 00.8 -0.4**
NRN Naryn 55.93 319 P **P** **16 53 14.8 +0.4**
PEA0B Petropavlovsk- 57.27 25 P **P** **16 53 23.7 +0.8**
PEA0B IAmb IAmb 16 53 27.7
comp=Z,48nm,1.2s
PETK Petropavlovsk- 57.27 25 P **P** **16 53 23.1 +0.2**
comp=Z,5.0nm,0.8s,baz=212,slow=6.1,SNR=9.4
PETK PcP **PcP** **16 54 07.8 -0.8**
comp=Z,2.9nm,0.9s,baz=246,slow=3.6,SNR=4.6
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 57.27 25 P **P** **16 53 23.1 +0.2**
PETK PcP **PcP** **16 54 08.2 -0.4**
AAK Ala-Archa 57.49 320 P **P** **16 53 26.1 +1.2**
FUNA Funafuti 58.02 102 P **P** **16 53 28.6 -0.1**
KBL Kabul 58.09 309 P **P** **16 53 29.5 +0.4**
KBL IAmb IAmb 16 53 30.0
comp=Z,8.6nm,0.6s
YAK Yakutsk 58.52 4 P **P** **16 53 31.0 -0.1**
YAK IAmb IAmb 16 53 32.3
comp=Z,18nm,0.8s
ZAA0 Zalesovo Array 58.73 335 P **P** **16 53 31.9 -0.8**
ZALV Zalesovo Beam 58.73 335 P **P** **16 53 31.9 -0.8**
comp=Z,2.3nm,0.4s,baz=126,slow=4.2,SNR=14
ZALV PcP **PcP** **16 54 12.9 -1.5**
comp=Z,1.0nm,0.4s,baz=110,slow=4.8,SNR=3.6
comp=Z,2.3nm,0.4s
ZALV Zalesovo Beam 58.73 335 P **P** **16 53 31.5 -1.2**
ZALV PcP **PcP** **16 54 12.5 -1.9**
GAR Garm 58.76 314 P **P** **16 53 33.6 +0.2**
GAR IAmb IAmb 16 53 34.5
comp=Z,18nm,1.1s
BTK Batken 58.83 315 P **P** **16 53 34.3 +0.5**
CHGR Chuyangaron 59.46 313 P **P** **16 53 38.2 +0.1**
KURK Kurchatov 59.49 329 P **P** **16 53 38.1 +0.3**
KURK IAmb IAmb 16 53 38.8
comp=Z,19nm,0.8s
MA2 Magadan 59.95 16 P **P** **16 53 42.1 +1.4**
MA2 IAmb IAmb 16 53 42.2
comp=Z,48nm,1.4s
KK31 Karatay Array 60.31 319 P **P** **16 53 43.4 -0.1**
KKAR Karatay Array 60.31 319 P **P** **16 53 43.9 +0.4**
LBZ Lake Benmore 64.17 144 P **P** **16 54 09.3 +1.0**
LBZ IAmb IAmb 16 54 35.0
comp=Z,37nm,1.4s
RPZ Rata Peaks 64.31 143 P **P** **16 54 10.4 +1.1**
comp=Z,6.5nm,0.8s,baz=324,slow=8.7,SNR=1.8
comp=Z,6.5nm,0.8s
RPZ Rata Peaks 64.31 143 P **P** **16 54 10.2 +0.9**
RPZ IAmb IAmb 16 54 40.2
comp=Z,35nm,1.2s
NNZ Nelson 64.44 139 P **P** **16 54 10.7 +0.6**
LTZ Lake Taylor 64.55 141 P **P** **16 54 11.7 +0.9**
LTZ IAmb IAmb 16 54 21.6
comp=Z,41nm,1.4s
BRVK Borovoye 65.09 328 P **P** **16 54 13.9 0.0**
KHZ Kahutara 65.16 140 P **P** **16 54 15.7 +1.2**
KHZ IAmb IAmb 16 54 34.0
comp=Z,32nm,1.3s
SNZO South Karori 65.35 139 P **P** **16 54 15.5 -0.3**
BKZ Black Stump Fm 65.54 136 P **P** **16 54 17.8 +0.7**
BKZ IAmb IAmb 16 54 49.8
comp=Z,24nm,1.4s
GEYT Alibeck 67.51 310 P **P** **16 54 29.8 +0.5**
comp=Z,4.0nm,0.6s,baz=130,slow=4.5,SNR=9.5
comp=Z,4.0nm,0.6s
GEYT Alibeck 67.51 310 P **P** **16 54 29.8 +0.5**
TIXI Tiksi 68.04 2 P **P** **16 54 31.1 -0.6**
TIXI IAmb IAmb 16 54 31.7
comp=Z,8.2nm,0.8s
ABKAR Akbulak array 69.44 322 P **P** **16 54 40.4 -0.1**
ABKAR Akbulak array 69.44 322 P **P** **16 54 40.2 -0.4**
NRIK Noril'sk 69.51 348 P **P** **16 54 40.4 -0.2**
comp=Z,5.7nm,0.6s,baz=130,slow=6.4,SNR=12
comp=Z,5.7nm,0.6s
NRIK Noril'sk 69.51 348 P **P** **16 54 40.1 -0.4**
NRIK IAmb IAmb 16 54 41.3
comp=Z,6.4nm,0.8s
ARU Arti 72.67 329 P **P** **16 54 58.7 -0.5**
ARU IAmb IAmb 16 54 59.2
comp=Z,5.3nm,0.7s
UNV Unalaska Valle 76.03 35 P **P** **16 55 18.6 +0.4**
UNV IAmb IAmb 16 55 21.7
comp=Z,50nm,1.2s
RAYN Ar Rayn 76.44 293 P **P** **16 55 20.4 -0.7**
VOI Vohitsoka 77.95 247 P **P** **16 55 28.9 -0.5**
VOI IAmb IAmb 16 56 08.3
comp=Z,36nm,1.4s
MAW Mawson 82.17 199 P **P** **16 55 50.3 +0.2**
comp=Z,3.0nm,0.8s,baz=28,slow=21,SNR=6.2
comp=Z,3.0nm,0.8s
MAW Mawson 82.17 199 P **P** **16 55 51.1 +0.9**
CHIR Chirikof Islan 82.55 34 P **P** **16 55 53.0 +0.6**
N18K Kilae Creek 82.83 29 P **P** **16 55 55.2 +1.4**
SVW2 Sparrevohn 83.02 29 P **P** **16 55 55.3 +0.6**
P18K Big Mountain, 83.05 31 P **P** **16 55 55.2 +0.3**
P18K IAmb IAmb 16 56 15.4
comp=Z,9.7nm,0.9s
SII Sitkinak Islan 83.41 34 P **P** **16 55 57.5 +0.8**
N19K Bonanza Creek 83.53 29 P **P** **16 55 58.2 +0.9**
N19K IAmb IAmb 16 56 16.0
comp=Z,7.7nm,1.1s
VNDA Vanda 83.93 172 P **P** **16 55 58.2 -0.6**
comp=Z,0.3nm,0.7s,baz=326,slow=7.4,SNR=2.0
comp=Z,0.3nm,0.7s
VNDA Vanda 83.93 172 P **P** **16 55 59.5 +0.7**
J20K Nowinta River 83.93 26 P **P** **16 55 59.6 +0.5**
OHAK Old Harbor 83.93 33 P **P** **16 55 59.7 +0.5**
OHAK IAmb IAmb 16 56 16.8
comp=Z,32nm,1.5s
ILSW Iliamna Southw 84.14 30 P **P** **16 55 59.8 -0.6**
ILSW IAmb IAmb 16 56 18.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,13nm,1.2s						
IMAR	**Indian Mountai**	**84.23**	**24**	P	**P**	**16 56 00.7**	**+0.1**
KDAK	**Kodiak Island**	**84.34**	**32**	P	**P**	**16 56 02.4**	**+1.2**
KDAK				IAmb	IAmb	16 56 22.7	
	comp=Z,16nm,1.2s						
PPLA	**Purkeypile**	**84.73**	**27**	P	**P**	**16 56 02.9**	**-0.4**
PPLA				IAmb	IAmb	16 56 22.8	
	comp=Z,20nm,1.5s						
CAST	**Castle Rocks**	**84.80**	**27**	P	**P**	**16 56 03.9**	**+0.5**
I21K	**Tanana**	**84.92**	**25**	P	**P**	**16 56 04.4**	**+0.5**
I21K				IAmb	IAmb	16 56 06.5	
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**87.08**	**25**	P	**P**	**16 56 13.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=247,slow=4.9,SNR=12						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**88.99**	**340**	P	**P**	**16 56 21.2**	**-1.7**
	comp=Z,1.9nm,0.6s,baz=104,slow=3.8,SNR=8.9						
	comp=Z,1.9nm,0.6s						
AKASG	**Malin Array Be**	**89.15**	**321**	P	**P**	**16 56 22.7**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=71,slow=5.4,SNR=2.6						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**89.80**	**331**	P	**P**	**16 56 25.4**	**-1.4**
	comp=Z,2.8nm,0.7s,baz=64,slow=3.2,SNR=11						
	comp=Z,2.8nm,0.7s						
NOA	**NORSAR Array B**	**96.86**	**333**	P	**P**	**16 56 57.3**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=72,slow=4.5,SNR=2.7						
	comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**118.72**	**287**	PKP	**PKPdf**	**17 02 12.6**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=97,slow=1.8,SNR=12						
TXAR	**Lajitas Array**	**125.11**	**50**	PKP	**PKPdf**	**17 02 24.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=224,slow=2.5,SNR=1.8						

IDC 03 16:57:28.9±1.1**,28.°06N×101.°87E,h0^{km},mb3.3**/5**, mbtmp3.4**/5**,MS2.4**/2**,Error ellipse: s-maj=42.3km s-min=19.1km az=71.0,Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.93**	**196**	Pg	Pg	17 00 30.8	
	0.1nm,0.3s,baz=14,slow=16,SNR=7.8						
CMAR				Lg	Lg	17 02 42.7	
	0.1nm,0.3s,baz=17,slow=29,SNR=2.7						
CMAR				LR	LR	17 03 27.3	
	comp=Z,20nm,19.6s,baz=255,slow=36						
SONM	**Songino Array**	**20.05**	**9**	P	Pn	17 02 04.9	-0.4
	0.3nm,0.6s,baz=195,slow=14,SNR=2.2						
	0.3nm,0.6s						
KSRS	**Korea Array**	**23.76**	**60**	LR	LR	17 13 58.2	
	comp=Z,9.3nm,18.1s,baz=125,slow=42						
MKAR	**Makanchi Array**	**24.20**	**326**	P	P	17 02 47.0	-0.2
	1.3nm,0.7s,baz=127,slow=10,SNR=9.6						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**28.65**	**328**	P	P	17 03 26.0	-1.1
	0.3nm,0.7s,baz=144,slow=8.7,SNR=3.5						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**57.13**	**143**	P	P	17 07 17.3	-0.2
	0.6nm,0.7s,baz=330,slow=8.1,SNR=10.0						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**59.99**	**146**	P	P	17 07 38.0	+0.6
	0.2nm,0.6s,baz=330,slow=7.3,SNR=2.4						
	0.2nm,0.6s						

ISC 03 17:16:45.4±1.1**,50.°19N**±0.°07×**19.°09E**±0.°03**,h0^{km},n6,** σ**0^{s}89**/12**,Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.45**	**87**	*e*Pg	**Pg**	**17 16 52.8**	**-1.3**
OJC				*e*Sg	**Sg**	**17 16 59.6**	**-0.3**
MORC	**Moravsky Berou**	**1.08**	**248**	*e*PG	**Pg**	**17 17 05.6**	**-0.6**
MORC				*e*SG	**Sg**	**17 17 20.5**	**+0.2**
STHS	**Stebnicka Huta**	**1.59**	**118**	*e*PG	**Pg**	**17 17 16.0**	**0.0**
STHS				*e*SG	**Sg**	**17 17 38.5**	**+1.9**
STHS				*e*LG	Lg	17 17 42.3	
VYHS	**Vyhne**	**1.71**	**186**	*e*PG	**Pn**	**17 17 16.5**	**0.0**
VYHS				*e*SG	**Sg**	**17 17 39.7**	**-0.6**
VYHS				*e*LG	Lg	17 17 41.9	
VRAC	**Vranov**	**1.85**	**242**	*e*PN	**Pn**	**17 17 18.5**	**+0.1**
VRAC				*e*SG	**Sn**	**17 17 42.8**	**+0.3**
KSP	**Ksiaz**	**1.90**	**291**	*e*Pg	**Pn**	**17 17 20.1**	**+1.0**
KSP				*e*Sg	**Sb**	**17 17 45.0**	**-0.3**

IDC 03 17:28:44.5±3.8**,5.°79S×151.°02E,h0^{km},mb3.2**/2**, mbtmp3.3**/2**,Error ellipse: s-maj=139.0km s-min=51.8km az=118.0,New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.46**	**228**	P	P	17 33 34.7	0.0
	0.6nm,0.7s,baz=53,slow=11,SNR=8.1						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**24.23**	**221**	P	P	17 34 03.2	0.0
	0.7nm,0.8s,baz=58,slow=8.9,SNR=14						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.90**	**286**	PKPbc	PKPbc	17 48 34.8	-0.6
	0.2nm,0.4s,baz=58,slow=3.6,SNR=1.5						

---

*IDC **03** 17:42:24.5±1.0,2.°37S×121.°14E,h0^{km},mb3.6/6, mbtmp3.6/8,ML3.2/2,MS2.7/2,Error ellipse: s-maj=31.0km s-min=18.1km az=63.0*

*DJA **03** 17:42:28.4±0.9,2°S±2°×12°1E±°,h26^{km}±8^{km},M4.1/22, mb4.2/8,mB4.7/1,MLv4.1/22,Mw(mB)3.9/1*

ISC 03 17:42:25.3±2.9**,2.°42S**±0.°05×**121.°08E**±0.°06**,h6^{km}**±20^{km}**, n32,** σ**1^{s}03**/38**,mb3.6**/6**,Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.60**	**21**	P	**Pb**	**17 42 55.7**	**+0.4**
APSI				S	**Sg**	**17 43 16.8**	**0.0**
KKSI	**Kolaka, Sulawe**	**1.84**	**162**	P	**Pn**	**17 42 58.8**	**+1.4**
PCI	**Palu**	**1.95**	**320**	P	**Pn**	**17 42 59.9**	**+0.9**
SPSI	**Sidrap Palu**	**2.02**	**220**	P	**Pn**	**17 42 59.3**	**-0.6**
SPSI				S	**Sn**	**17 43 25.2**	**-0.3**
LUWI	**Luwuk**	**2.17**	**51**	P	**Pb**	**17 43 03.9**	**-1.2**
LUWI				S	**Sb**	**17 43 30.5**	**-1.8**
BNSI	**Bone**	**2.20**	**206**	P	**Pn**	**17 43 02.0**	**-0.4**
BNSI				S	**Sn**	**17 43 29.1**	**-0.8**
PMSI	**Majene**	**2.41**	**243**	P	**Pn**	**17 43 05.9**	**+0.5**
PMSI				S	**Sn**	**17 43 34.9**	**-0.4**
KAPI	**Kappang**	**2.90**	**207**	Pn	**Pn**	**17 43 14.0**	**+2.0**
	4.1nm,0.3s,baz=28,slow=7.3,SNR=4.7						
KAPI				Sn	**Sn**	**17 43 49.0**	**+1.7**
	12nm,0.3s,baz=105,slow=20,SNR=15						
KAPI				LR	LR	17 44 15.9	
	comp=Z,41nm,18.4s,baz=24,slow=38						
	8.6nm,0.3s						
KAPI	**Kappang**	**2.90**	**207**	P	**Pn**	**17 43 12.6**	**+0.5**
MPSI	**Mapaga**	**2.98**	**337**	P	**Pn**	**17 43 14.5**	**+1.4**
MRSI	**Marisa**	**3.00**	**17**	P	**Pn**	**17 43 14.0**	**+0.6**
BKSI	**Bulukumba**	**3.04**	**198**	P	**Pn**	**17 43 14.6**	**+0.6**
BKSI				S	**Sn**	**17 43 49.9**	**-0.8**
BBSI	**Bau Bau**	**3.40**	**154**	P	**Pn**	**17 43 19.6**	**+0.7**
GTOI	**Gorontalo**	**3.59**	**33**	P	**Pn**	**17 43 23.3**	**+1.7**
BSSI	**Bau Bau, Buton**	**3.75**	**189**	P	**Pn**	**17 43 24.6**	**+0.9**
BKB	**Balikpapan**	**4.33**	**285**	P	**Pn**	**17 43 33.3**	**+1.5**
SANI	**Sanana**	**4.92**	**86**	P	**Pn**	**17 43 40.5**	**+0.6**
NLAI	**Namlea**	**6.07**	**98**	P	**Pn**	**17 43 56.5**	**+0.8**
	0.1nm6.1nm,1.1s						
MTKI	**Muara Teweh, K**	**6.35**	**283**	P	**Pn**	**17 44 00.0**	**+0.5**
	0.2nm21nm,0.4s						
LBMI	**Labuha**	**6.66**	**75**	P	**Pn**	**17 44 05.5**	**+1.7**
	0.1nm30nm,0.7s						
TNTI	**Ternate**	**7.04**	**63**	P	**Pn**	**17 44 10.6**	**+1.6**
	0.1nm16nm,1.1s						
PLAI	**Plampang**	**7.17**	**207**	P	**Pn**	**17 44 11.1**	**+0.4**
	1.2nm37nm,1.0s						
AAI	**Ambon**	**7.22**	**100**	P	**Pn**	**17 44 12.8**	**+1.3**
	0.1nm20nm,1.3s						
SOEI	**Soe**	**7.95**	**157**	P	**Pn**	**17 44 21.6**	**0.0**
BATI	**Baumata**	**8.15**	**162**	LR	LR	17 47 57.8	
	comp=Z,153nm,19.2s,baz=256,slow=41						
SIJI	**Sorong**	**10.30**	**82**	Pn	**Pn**	**17 44 53.5**	**-0.3**
	0.2nm,0.3s,baz=171,slow=22,SNR=1.9						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**21.71**	**144**	P	**P**	**17 47 16.8**	**-0.6**
	1.2nm,1.0s,baz=323,slow=11,SNR=3.3						
	1.2nm,1.0s						
ASAR	**Alice Springs**	**24.50**	**151**	P	**P**	**17 47 46.4**	**+0.7**
	1.5nm,0.9s,baz=325,slow=7.9,SNR=13						
	1.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.08**	**314**	P	**P**	**17 48 35.9**	**+0.1**
	0.4nm,0.6s,baz=128,slow=7.3,SNR=4.8						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**35.10**	**149**	P	**P**	**17 49 19.4**	**-0.2**
	2.0nm,0.8s,baz=324,slow=8.6,SNR=5.2						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**59.69**	**330**	P	**P**	**17 52 31.1**	**+0.4**
	0.5nm,0.7s,baz=134,slow=8.4,SNR=2.6						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**64.11**	**331**	P	**P**	**17 53 00.0**	**-0.3**
	0.2nm,0.4s,baz=146,slow=5.6,SNR=1.8						
	0.2nm,0.4s						

---

*IDC **03** 17:46:08.4±0.6,16.°67S×173.°68W,h0^{km},mb4.2/11, mbtmp4.2/12,ML4.0/1,MS3.6/34,Error ellipse: s-maj=29.2km s-min=15.9km az=138.0*

*NEIC **03** 17:46:10.6±1.4,16.°55S±0.°08×173.°22W±0.°08,h35^{km}±2^{km}, mb4.4/6,Error ellipse: s-maj=14.5km s-min=11.5km az=32.0*

ISC 03 17:46:09.9±0.6**,16.°7S**±0.°1×**173.°6W**±0.°2**,h10^{km},n71,** σ**0^{s}87**/30**,mb4.3**/14**,MS3.6**/34**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.27**	**33**	Pn	**Pn**	**17 46 59.8**	**-1.5**
	16nm,0.3s,baz=58,slow=5.4,SNR=12						
AFI				Sn	Sn	17 47 32.7	-7.5
	54nm,0.3s,baz=64,slow=22,SNR=7.9						
AFI				LR	LR	17 48 19.0	
	comp=Z,782nm,18.4s,baz=194,slow=40						
	29nm,0.3s						
AFI	**Afiamalu**	**3.27**	**33**	Pn	Pn	17 46 56.5	-4.7
AFI				Sn	Sn	17 47 28.5	-12
NIUE	**Niue**	**4.26**	**125**	Pn	Pn	17 47 09.5	-5.5
NIUE				Sn	Sn	17 47 49.2	-16
MSVF	**Nonsavu**	**8.03**	**261**	LR	LR	17 50 58.7	
	comp=Z,456nm,20.3s,baz=146,slow=36						
RAR	**Rarotonga**	**13.87**	**111**	LR	LR	17 53 28.5	
	comp=Z,102nm,21.7s,baz=259,slow=32						
DZM	**Mont Dzumac**	**19.55**	**251**	*e*LR	LR	17 55 48.8	
	comp=Z,435nm,24.9s						
DZM	**Mont Dzumac**	**19.55**	**251**	LR	LR	17 57 16.6	
	comp=Z,239nm,19.2s,baz=68,slow=34						
PPT2	**Papeete2**	**23.00**	**96**	*e*LR	LR	17 56 26.8	
	comp=Z,205nm,24.8s						
PPT2				*e*LR	LR	17 56 26.9	
	comp=Z,174nm,27.2s						
PPT	**Papeete**	**23.00**	**96**	LR	LR	17 58 09.0	
	comp=Z,95nm,19.2s,baz=292,slow=31						
URZ	**Urewera**	**23.01**	**199**	P	**P**	**17 51 14.7**	**-0.2**
	12nm,0.9s,baz=68,slow=19,SNR=2.4						
URZ				LR	LR	17 59 29.6	
	comp=Z,164nm,20.9s,baz=122,slow=35						
	12nm,0.9s						
TBI	**Tubuai**	**23.64**	**110**	*e*LR	LR	17 56 46.4	
	comp=Z,4μm,26.0s						
TBI				*e*LR	LR	17 56 47.2	
	comp=Z,861nm,26.0s						
TBI	**Tubuai**	**23.64**	**110**	*e*T	T	18 15 28.0	
	5.0nm,0.2s						
HNR	**Honiara**	**26.71**	**282**	LR	LR	18 00 54.4	
	comp=Z,4μm,21.3s,baz=100,slow=33						
TAOE	**Nuku Hiva Isla**	**33.52**	**81**	*e*LR	LR	18 01 18.0	
	comp=Z,117nm,25.3s						
CTA	**Charters Tower**	**38.16**	**259**	LR	LR	18 07 35.8	
	comp=Z,64nm,20.4s,baz=81,slow=34						
PMG	**Port Moresby**	**38.82**	**276**	LR	LR	18 07 17.8	
	comp=Z,78nm,21.3s,baz=74,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.93**	**330**	T	T	18 36 43.9	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	18 36 47.7	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	18 36 53.5	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**40.90**	**331**	T	T	18 37 59.9	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**40.90**	**331**	T	T	18 37 58.0	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**40.92**	**331**	T	T	18 38 01.1	
	baz=150						
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**17 54 10.7**	**-0.9**
	6.5nm,1.0s,baz=38,slow=5.3,SNR=9.7						
STKA				LR	LR	18 09 56.3	
	comp=Z,58nm,20.4s,baz=27,slow=33						
	6.5nm,1.0s						
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**17 54 11.5**	**-0.1**
STKA				IAmb	IAmb	17 54 12.8	
	comp=Z,2.2nm,1.1s						
WB0	**Warramunga Arr**	**49.32**	**258**	P	**P**	**17 54 59.7**	**0.0**
WB0				IAmb	IAmb	17 55 14.8	
	comp=Z,7.5nm,1.4s						
WB2	**Warramunga Arr**	**49.34**	**258**	P	**P**	**17 54 59.0**	**-0.9**
WB2				IAmb	IAmb	17 55 34.1	
	comp=Z,5.7nm,1.1s						
WRA	**Warramunga Arr**	**49.36**	**258**	P	**P**	**17 54 58.5**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=91,slow=7.4,SNR=17						
WRA				LR	LR	18 15 48.1	
	comp=Z,79nm,18.8s,baz=98,slow=36						
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**49.36**	**258**	P	**P**	**17 54 58.6**	**-1.4**
AS31	**Alice Springs**	**49.52**	**253**	P	**P**	**17 55 00.6**	**-0.6**
AS31				IAmb	IAmb	17 55 01.8	
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**49.52**	**253**	P	**P**	**17 55 00.7**	**-0.6**
	comp=Z,9.1nm,0.7s,baz=88,slow=8.4,SNR=138						
ASAR				LR	LR	18 15 05.5	
	comp=Z,60nm,20.1s,baz=87,slow=35						
	comp=Z,9.1nm,0.7s						
ASAR	**Alice Springs**	**49.52**	**253**	P	**P**	**17 54 59.9**	**-1.3**
GUMO	**Guam**	**50.84**	**304**	LR	LR	18 13 50.7	
	comp=Z,34nm,20.8s,baz=169,slow=33						
SIJI	**Sorong**	**56.46**	**280**	P	**P**	**17 55 53.1**	**+0.6**
	comp=Z,6.5nm,1.0s,baz=144,slow=5.1,SNR=3.1						
SIJI				LR	LR	18 19 23.0	
	comp=Z,39nm,20.9s,baz=126,slow=35						
	comp=Z,6.5nm,1.0s						
VNDA	**Vanda**	**62.11**	**186**	P	**P**	**17 56 31.2**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=14,slow=7.7,SNR=8.4						
VNDA				LR	LR	18 21 51.2	
	comp=Z,11nm,18.0s,baz=282,slow=34						
	comp=Z,1.7nm,0.9s						
NWAO	**Narrogin (SRO)**	**63.82**	**241**	LR	LR	18 21 50.3	
	comp=Z,45nm,20.9s,baz=82,slow=34						
DAV	**Davao City (W)**	**64.57**	**286**	LR	LR	18 24 21.0	
	comp=Z,29nm,18.0s,baz=19,slow=36						
MJAR	**Matsushiro Arr**	**69.76**	**320**	LR	LR	18 22 35.5	
	comp=Z,37nm,21.1s,baz=155,slow=31						
QSPA	**South Pole Qui**	**73.39**	**180**	LR	LR	18 25 06.2	
	comp=Z,34nm,21.5s,baz=342,slow=32						
PET	**Petropavlovsk**	**73.41**	**343**	P	P	17 57 37.1	-4.9
PFO	**Pinyon Flats O**	**73.94**	**47**	LR	LR	18 23 26.2	
	comp=Z,78nm,20.1s,baz=274,slow=30						
YBH	**Yreka Blue Hor**	**74.73**	**37**	LR	LR	18 22 49.3	
	comp=Z,115nm,18.8s,baz=309,slow=29						
NVAR	**Mina Array Bea**	**75.41**	**42**	P	**P**	**17 57 54.9**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=237,slow=8.0,SNR=9.0						
	comp=Z,2.1nm,1.0s						
KDAK	**Kodiak Island**	**76.19**	**11**	LR	LR	18 23 14.9	
	comp=Z,94nm,21.5s,baz=180,slow=29						
KSRS	**Korea Array**	**76.90**	**316**	LR	LR	18 26 58.3	
	comp=Z,14nm,20.9s,baz=135,slow=32						
USRK	**Ussuriysk Ar.**	**78.26**	**323**	LR	LR	18 26 02.0	
	comp=Z,58nm,21.9s,baz=122,slow=31						
ELK	**Elko**	**78.67**	**41**	LR	LR	18 25 32.6	
	comp=Z,113nm,19.6s,baz=272,slow=30						
MA2	**Magadan**	**81.29**	**343**	LR	LR	18 27 23.1	
	comp=Z,22nm,21.3s,baz=144,slow=30						
KLR	**Kul'dur**	**81.45**	**327**	LR	LR	18 29 32.4	
	comp=Z,22nm,20.6s,baz=106,slow=32						
TXAR	**Lajitas Array**	**81.49**	**56**	P	**P**	**17 58 28.7**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=217,slow=6.0,SNR=5.7						
TXAR				LR	LR	18 27 22.5	
	comp=Z,42nm,18.9s,baz=284,slow=30						
	comp=Z,0.5nm,0.7s						
NEW	**Newport**	**81.87**	**34**	LR	LR	18 26 58.0	
	comp=Z,98nm,18.9s,baz=262,slow=30						
DLBC	**Dease Lake**	**82.95**	**21**	LR	LR	18 30 39.2	
	comp=Z,80nm,19.2s,baz=251,slow=32						
PMSA	**Palmer Station**	**83.12**	**156**	LR	LR	18 29 06.9	
	comp=Z,41nm,21.1s,baz=272,slow=31						
PDAR	**Pinedale Array**	**83.34**	**42**	P	**P**	**17 58 38.0**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=222,slow=3.8,SNR=12						
PDAR				LR	LR	18 28 44.0	
	comp=Z,82nm,20.9s,baz=284,slow=31						
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**83.72**	**11**	P	**P**	**17 58 39.4**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=234,slow=6.2,SNR=6.5						
ILAR				LR	LR	18 30 27.8	
	comp=Z,53nm,18.9s,baz=182,slow=32						
	comp=Z,0.5nm,0.8s						
H03S2	**Juan Fernandez**	**84.69**	**124**	T	T	19 31 50.5	
	baz=250,slow=75,SNR=9.3						
H03S1	**Juan Fernandez**	**84.70**	**124**	T	T	19 31 59.0	
	baz=250,slow=75,SNR=6.6						
H03S3	**Juan Fernandez**	**84.71**	**124**	T	T	19 32 10.2	
	baz=250,slow=75,SNR=5.6						
CMAR	**Chiang Mai Arr**	**92.80**	**288**	P	**P**	**17 59 24.0**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=100,slow=4.5,SNR=5.1						
CMAR				LR	LR	18 36 57.4	
	comp=Z,14nm,21.9s,baz=100,slow=33						
	comp=Z,0.6nm,0.7s						
ULM	**Lac du Bonnet**	**95.04**	**39**	LR	LR	18 34 03.3	
	comp=Z,104nm,20.8s,baz=295,slow=30						
BVAR	**Borovoye Array**	**118.73**	**322**	PKP	**PKPdf**	**18 04 57.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=25,slow=3.8,SNR=3.0						
AKASG	**Malin Array Be**	**141.41**	**337**	PKP	**PKPdf**	**18 05 40.5**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=27,slow=1.4,SNR=1.7						
CHVC	**Chvalec**	**145.27**	**349**	*e*PKP	**PKPdf**	**18 05 48.7**	**+0.7**
OSTC	**Ostas**	**145.27**	**349**	*e*PKP	**PKPdf**	**18 05 49.0**	**+1.0**
UPC	**Upice**	**145.35**	**349**	*e*PKP	**PKPab**	**18 05 49.0**	**+1.0**
DPC	**Dobruska-Polom**	**145.45**	**349**	*e*PKP	**PKPab**	**18 05 49.5**	**+1.1**
KRLC	**Kraliky**	**145.62**	**348**	*e*PKP	**PKPab**	**18 05 49.8**	**+0.7**
VRAC	**Vranov**	**146.39**	**348**	PKPbc	**PKPbc**	**18 05 51.1**	**0.0**
	comp=Z,2.1nm,0.5s,baz=342,slow=3.2,SNR=2.8						
KHC	**Kasperske Hory**	**147.09**	**351**	*e*PKP	**PKiKP**	**18 05 55.8**	**+0.1**
CKRC	**Cesky Krumlov**	**147.28**	**350**	*e*PKP	**PKPab**	**18 05 55.2**	**-0.2**
GERES	**GERESS Array B**	**147.35**	**351**	PKPbc	**PKPbc**	**18 05 53.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=20,slow=4.3,SNR=7.2						
TORD	**Torodi Ar. Bea**	**174.29**	**127**	PKPab	**PKPab**	**18 07 51.6**	**-1.3**
	comp=Z,1.3nm,1.0s,baz=258,slow=3.0,SNR=4.5						

---

*BER **03** 18:03:44.7±1.2,66.°76N×21.°55E,h0^{km},ML1.7,Suspected explosion*

*KOLA **03** 18:03:44.7,67.°01N×20.°43E,h0^{km},ML2.4*

*UPP **03** 18:03:45.5±0.1,67.°08N×20.°94E,h0^{km},ML2.1,Explosion*

*HEL **03** 18:03:45.4±0.2,67.°01N×20.°88E,h0^{km},ML2.0, ML2.1(UPP),Explosion*

*IDC **03** 18:03:46.1±1.1,67.°06N×21.°31E,h0^{km},mbtmp2.8/3, ML1.9/3,Error ellipse: s-maj=11.2km s-min=5.1km az=147.0*

ISC 03 18:03:45.5±0.7**,67.°09N**±0.°02×**20.°98E**±0.°02**,h0^{km},n53,** σ**1^{s}25**/77**,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**281**	P	**Pg**	**18 03 48.7**	**0.0**
DUNU				S	**Sg**	**18 03 51.1**	**+0.3**
DUNU	**Dundret**	**0.16**	**281**	*i* P	**Pg**	**18 03 48.7**	**0.0**
DUNU				*i* S	**Sg**	**18 03 51.1**	**+0.3**
MASU	**Masugnsbyn**	**0.54**	**47**	P	**Pg**	**18 03 56.2**	**+0.3**
MASU	**Masugnsbyn**	**0.54**	**47**	*i* P	**Pg**	**18 03 56.2**	**+0.3**
ERTU	**Ertsjaerv**	**0.72**	**138**	P	**Pg**	**18 03 59.0**	**-0.3**
ERTU				S	**Sg**	**18 04 08.9**	**+0.3**
ERTU	**Ertsjaerv**	**0.72**	**138**	*e*PB	**Pg**	**18 03 58.7**	**-0.6**
ERTU				*e*S	**Sg**	**18 04 08.5**	**-0.2**
PAJU	**Pajala**	**0.84**	**94**	P	**Pg**	**18 04 01.4**	**-0.2**
PAJU	**Pajala**	**0.84**	**94**	*e*P	**Pg**	**18 04 01.2**	**-0.4**
	baz=279						
PAJU				*e*S	**Sg**	**18 04 12.1**	**-0.3**
RATU	**Laukkuluspa**	**0.91**	**325**	P	**Pg**	**18 04 02.2**	**-0.7**
RATU	**Laukkuluspa**	**0.91**	**325**	*e*P	**Pg**	**18 04 02.2**	**-0.7**
HARU	**Harads**	**0.93**	**180**	P	**Pg**	**18 04 02.6**	**-0.8**
HARU	**Harads**	**0.93**	**180**	*e*P	**Pg**	**18 04 02.6**	**-0.8**
SALU	**Saltoluokta**	**1.01**	**288**	P	**Pg**	**18 04 04.0**	**-0.8**
SALU	**Saltoluokta**	**1.01**	**288**	*e*P	**Pg**	**18 04 04.0**	**-0.8**
LANU	**Lannavaara**	**1.04**	**21**	P	**Pg**	**18 04 04.7**	**-0.7**
LANU	**Lannavaara**	**1.04**	**21**	*e*P	**Pg**	**18 04 04.7**	**-0.7**
NIKU	**Nikkaluokta**	**1.08**	**317**	P	**Pg**	**18 04 05.3**	**-0.9**
NIKU	**Nikkaluokta**	**1.08**	**317**	*e*P	**Pg**	**18 04 05.3**	**-0.9**
KLF	**Kolari**	**1.17**	**82**	*e*P	**Pg**	**18 04 07.3**	**-0.7**
	baz=265						
KLF				*e*SB	**Sb**	**18 04 24.1**	**-0.2**
KOVU	**Salmi**	**1.18**	**345**	P	**Pg**	**18 04 07.3**	**-0.8**
KOVU	**Salmi**	**1.18**	**345**	*e*P	**Pg**	**18 04 07.3**	**-0.8**
KALU	**Kalix**	**1.56**	**141**	*e*S	**Sn**	**18 04 31.8**	**-3.5**
HEF	**Hetta**	**1.67**	**36**	MSG		18 04 33.3	
	comp=Z,10.0nm,0.2s						
HEF				*e*S	**Sg**	**18 04 39.2**	**+0.1**
HEF	**Hetta**	**1.67**	**36**	*e*P	**Pn**	**18 04 16.1**	**0.0**
HEF				*e*S	**Sn**	**18 04 38.1**	**0.0**
TOF	**Tornio**	**1.68**	**126**	*e*PN	**Pn**	**18 04 16.2**	**+0.1**
	baz=307						
TOF				MSG		18 04 36.9	
	comp=Z,17nm,0.2s						
TOF				*e*SN	**Sn**	**18 04 38.8**	**+0.6**
RNF	**Rovaniemi**	**2.05**	**101**	*e*PB	**Pn**	**18 04 22.0**	**+0.9**
RNF				*e*SG	**Sb**	**18 04 50.6**	**+1.1**
KTK1	**Kautokeino**	**2.11**	**23**	*e*P	**Pb**	**18 04 23.4**	**-1.2**
KTK1				*e*S	**Sb**	**18 04 50.2**	**-1.1**
KTK1				IAML		18 04 55.4	
	comp=Z,5.5nm,0.1s						
I37NO	**I37NO**	**2.18**	**337**	I		18 18 20.0	
	baz=152,slow=330,SNR=4.2						
SGF	**Sodankyl**	**2.18**	**78**	*e*PB	**Pn**	**18 04 24.2**	**+1.2**
SGF				*e*SG	**Sg**	**18 04 54.8**	**-0.8**
FAUS	**Fauske**	**2.23**	**280**	*e*P	**Pn**	**18 04 25.0**	**+1.2**
FAUS				*e*S	**Sb**	**18 04 55.4**	**+0.6**
FAUS				IAML		18 04 57.3	
	comp=Z,14nm,0.2s						
STEI	**Steigen**	**2.36**	**294**	*e*P	**Pn**	**18 04 26.4**	**+1.0**
STEI				*e*S	**Sb**	**18 04 59.3**	**+0.8**
STEI				IAML		18 05 05.5	
	comp=Z,4.3nm,0.3s						
JETT	**Jettan, Norway**	**2.49**	**355**	*e*P	**Pb**	**18 04 30.0**	**-1.1**
JETT				*e*S	**Sb**	**18 05 02.9**	**+0.7**
JETT				IAML		18 05 07.0	
	comp=Z,12nm,0.2s						
BURU	**Burvik**	**2.52**	**176**	*e*PB	**Pn**	**18 04 28.5**	**+0.8**
OUL	**Oulu**	**2.84**	**133**	*e*PB	**Pn**	**18 04 34.1**	**+2.0**
	baz=313						
OUL				*e*SG	**Sb**	**18 05 14.0**	**+1.7**
OBF4	**Vikkela, Lumij**	**2.84**	**142**	*e*PB	**Pn**	**18 04 33.3**	**+1.2**
OBF0	**Syolatti, Pyha**	**2.93**	**151**	*e*PB	**Pn**	**18 04 34.8**	**+1.5**
OBF8	**Ulkokalla**	**2.95**	**159**	*e*P	**Pn**	**18 04 30.9**	**-2.7**
ARA0	**ARCESS Array S**	**2.98**	**32**	*e*P	**Pn**	**18 04 34.3**	**+0.4**
ARCES	**ARCESS Array B**	**2.98**	**32**	Pn	**Pn**	**18 04 34.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=212,slow=15,SNR=45						
ARCES				Sn	**Sn**	**18 05 10.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=216,slow=24,SNR=2.6						
	comp=Z,0.9nm,0.2s						
ARCES	**ARCESS Array B**	**2.98**	**32**	P	**Pn**	**18 04 34.3**	**+0.3**
ARCES				S	**Sn**	**18 05 12.3**	**+2.1**
OUF	**Merijarvi**	**3.14**	**149**	*e*PB	**Pn**	**18 04 37.4**	**+1.2**
	baz=332						
UMAU	**Umeaa**	**3.22**	**182**	*e*P	**Pn**	**18 04 37.7**	**+0.4**
	baz=4.0						
UMAU				*e*SB	**Sn**	**18 05 18.2**	**+1.8**
VRF	**Varrio**	**3.39**	**75**	*e*P	**Pn**	**18 04 42.1**	**+2.4**
VRF				*e*SG	**Sg**	**18 05 31.5**	**-2.9**
OLKF	**Oulanka, Finla**	**3.43**	**99**	*e*P	**Pn**	**18 04 41.6**	**+1.4**
OLKF				*e*SG	**Sb**	**18 05 30.6**	**+1.2**
MSF	**Maaselka**	**3.44**	**106**	*e*P	**Pn**	**18 04 41.4**	**+1.1**
MSF				*e*SG	**Sb**	**18 05 32.4**	**+2.8**
KEV	**Kevo**	**3.48**	**37**	*e*P	**Pn**	**18 04 41.2**	**+0.4**
KU6	**Riekki**	**3.72**	**103**	*e*P	**Pn**	**18 04 45.2**	**+1.1**
	baz=291						
KU6				*e*SG	**Sg**	**18 05 43.3**	**-1.5**
HUSU	**Husum**	**3.84**	**192**	*e*PB	**Pn**	**18 04 47.4**	**+1.6**
VAF	**Ylistaro**	**4.13**	**169**	*e*P	**Pn**	**18 04 51.2**	**+1.5**
APA0	**Apatity Array**	**4.67**	**78**	P	**Pn**	**18 04 57.3**	**+0.1**
APA0				S	**Sn**	**18 05 53.8**	**+1.7**
PRVG	**Vayda Guba**	**4.92**	**52**	P	**Pn**	**18 05 03.5**	**+2.9**
PRVG				S	**Sn**	**18 05 59.3**	**+1.2**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**18 05 16.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=6.1						
FINES				Sn	**Sn**	**18 06 24.8**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=344,slow=25,SNR=5.1						
FINES				Lg	Lg	18 06 54.7	
	comp=Z,0.1nm,0.3s,baz=342,slow=26,SNR=1.3						
	comp=Z,2.5nm,1.0s						
NOA	**NORSAR Array B**	**7.42**	**220**	Pn	**Pn**	**18 05 34.7**	**-0.3**
	baz=34,slow=11,SNR=1.2						
	comp=Z,0.3nm,0.7s						

---

*NOU **03** 18:22:13.2,28.°97S×175.°72W,h113^{km},mb4.9/35, Kermadec Islands Region*

*IDC **03** 18:22:16.4±1.7,28.°61S×177.°30W,h41^{km}±13^{km},mb4.3/15, mbtmp4.5/15,MS3.7/31,Error ellipse: s-maj=19.4km s-min=14.7km az=122.0*

*NEIC **03** 18:22:18.2±1.3,28.°71S±0.°09×177.°4W±0.°1,h52^{km}±5^{km},*

mb4.9/77, Error ellipse: s-maj=16.6km s-min=10.7km az=127.0

ISC 03 18:22:16.8±0.5**, 28°.93S**±0°.05×**177°.11W**±0°.06**, h51**km±3km**, h51**km**:pP-P, n294,** σ**2.24**/263**, mb4.9**/59**, MS3.7**/30**,**
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**245**	P	**Pn**	**18 22 32.8**	**+1.2**
	19µm,0.3s,baz=328,slow=1.0,SNR=224						
RAO				S	**Sn**	**18 22 43.8**	**+1.5**
	30µm,0.3s,baz=72,slow=21,SNR=20						
RAO	**Raoul Island**	**0.78**	**245**		**Pn**	**18 22 32.6**	**+1.1**
RIZ	**Raoul Island**	**0.78**	**246**	P	**Pn**	**18 22 32.6**	**+1.0**
GLKZ	**Green Lake**	**0.78**	**245**	P	**Pn**	**18 22 32.3**	**+0.7**
GLKZ				S	**Sn**	**18 22 44.3**	**+1.9**
MXZ	**Matakaoa Point**	**9.43**	**203**	Pn	**Pn**	**18 24 27.9**	**-1.9**
MXZ	**Matakaoa Point**	**9.43**	**203**	P	**Pn**	**18 24 31.6**	**+1.7**
MXZ				S	**Sn**	**18 26 12.4**	**-2.0**
WMGZ	**Waiomatatini S**	**9.62**	**202**	P	**Pn**	**18 24 28.7**	**-3.9**
WMGZ				S	**Sn**	**18 26 19.1**	**-0.1**
HAZ	**Te Kaha**	**9.78**	**205**	P	**Pn**	**18 24 31.0**	**-3.8**
HAZ				S	**Sn**	**18 26 24.4**	**+1.3**
HAZ	**Te Kaha**	**9.78**	**205**	P	**Pn**	**18 24 30.8**	**-4.0**
PKGZ	**Pakihiroa**	**9.80**	**203**	P	Pn	18 24 29.9	-5.2
PKGZ				S	**Sn**	**18 26 19.8**	**-3.8**
PKGZ	**Pakihiroa**	**9.80**	**203**	P	**Pn**	**18 24 31.8**	**-3.2**
PUZ	**Puketiti**	**9.90**	**202**	P	Pn	18 24 31.9	-4.5
PUZ				S	**Sn**	**18 26 22.9**	**-3.3**
PUZ	**Puketiti**	**9.90**	**202**	P	**Pn**	**18 24 32.3**	**-4.2**
PUZ				S	**Sn**	**18 26 24.2**	**-2.0**
RUGZ	**Raukumara Rang**	**10.01**	**204**	P	Pn	18 24 30.4	-7.5
RUGZ				S	**Sn**	**18 26 25.0**	**-3.9**
RUGZ	**Raukumara Rang**	**10.01**	**204**	P	Pn	18 24 32.6	-5.4
RUGZ				S	**Sn**	**18 26 27.0**	**-1.9**
OUZ	**Omahuta**	**10.07**	**229**	Pn	Pn	18 24 46.0	+7.3
OUZ	**Omahuta**	**10.07**	**229**	P	Pn	18 24 46.8	+8.1
TWGZ	**Tauwhareparae**	**10.09**	**203**	P	**Pn**	**18 24 36.6**	**-2.4**
WHRZ	**Whale Island**	**10.18**	**207**	P	**Sn**	**18 26 34.2**	**+1.3**
CNGZ	**Carnagh Statio**	**10.29**	**201**	P	**Pn**	**18 24 37.6**	**-4.2**
CNGZ				S	**Sn**	**18 26 32.4**	**-3.3**
TKGZ	**Te Karaka**	**10.37**	**203**	P	**Pn**	**18 24 42.2**	**-0.6**
TGRZ	**Tauranga**	**10.38**	**211**	P	**Sn**	**18 26 46.5**	**+8.8**
MWZ	**Matawai**	**10.39**	**204**	P	**Pn**	**18 24 39.0**	**-4.1**
MWZ				S	**Sn**	**18 26 36.5**	**-1.6**
MWZ	**Matawai**	**10.39**	**204**	P	**Pn**	**18 24 39.1**	**-4.0**
MWZ				S	**Sn**	**18 26 35.2**	**-2.8**
URZ	**Urewera**	**10.48**	**206**	P	Pn	18 24 38.5	-5.8
	3.2nm,0.3s,baz=351,slow=4.9,SNR=13						
URZ				S	**Sn**	**18 26 34.8**	**-5.3**
	64nm,0.3s,baz=335,slow=21,SNR=13						
URZ	**Urewera**	**10.48**	**206**	Pn	Pn	18 24 38.4	-5.9
URZ	**Urewera**	**10.48**	**206**	P	Pn	18 24 38.9	-5.4
URZ				S	**Sn**	**18 26 37.7**	**-2.4**
URZ	**Urewera**	**10.48**	**206**	P	Pn	18 24 38.0	-6.2
RAGZ	**Rawiri**	**10.57**	**204**	P	**Sn**	**18 26 41.9**	**-0.7**
RIGZ	**Rimuhau**	**10.64**	**202**	P	**Pn**	**18 24 43.0**	**-3.6**
RTZ	**Ruatahuna**	**10.84**	**205**	P	**Sn**	**18 26 47.6**	**-1.6**
SNGZ	**Shannon Statio**	**10.85**	**204**	P	**Sn**	**18 26 47.7**	**-1.8**
KNZ	**Kokohu**	**10.96**	**202**	P	**Sn**	**18 26 44.5**	**-7.3**
MHGZ	**Mahia Peninsul**	**11.00**	**201**	P	**Sn**	**18 26 46.0**	**-7.0**
RAHZ	**Arahi**	**11.06**	**204**	P	**Sn**	**18 26 51.1**	**-3.4**
MTHZ	**Maungataniwha**	**11.10**	**205**	P	**Pn**	**18 24 50.5**	**-2.3**
MTHZ				S	**Sn**	**18 26 52.0**	**-3.4**
BKZ	**Black Stump Fm**	**11.50**	**206**	Pn	Pn	18 24 51.6	-6.8
BKZ	**Black Stump Fm**	**11.50**	**206**	P	**Pn**	**18 24 56.0**	**-2.3**
BKZ				S	**Sn**	**18 26 59.2**	**-6.1**
HIZ	**Hauiti**	**11.66**	**213**	Pn	Pn	18 24 55.8	-4.6
HIZ	**Hauiti**	**11.66**	**213**	P	**Pn**	**18 25 03.0**	**+2.5**
NIUE	**Niue**	**11.80**	**35**	Pn	Pn	18 24 54.9	-7.5
KAHZ	**Kahuranaki**	**11.92**	**203**	P	Pn	18 24 58.8	-5.2
KAHZ				S	**Sn**	**18 27 10.9**	**-4.6**
MSVF	**Nonsavu**	**11.99**	**337**	P	**Pn**	**18 25 04.6**	**-0.6**
	17nm,0.8s,baz=120,slow=14,SNR=12						
MSVF				LR	LR	18 28 50.5	
	comp=Z,524nm,21.1s,baz=154,slow=34						
MSVF	**Nonsavu**	**11.99**	**337**	Pn	**Pn**	**18 25 03.8**	**-1.4**
MSVF	**Nonsavu**	**11.99**	**337**	P	**Pn**	**18 25 08.0**	**+2.8**
TSZ	**Takapari Road**	**12.48**	**205**	P	**Pn**	**18 25 09.6**	**-2.0**
TSZ				S	**Sn**	**18 27 21.8**	**-7.4**
BFZ	**Birch Farm**	**12.93**	**203**	Pn	**Pn**	**18 25 14.2**	**-3.6**
BFZ	**Birch Farm**	**12.93**	**203**	P	Pn	18 25 12.9	-4.8
BFZ				S	Sn	18 27 31.8	-8.2
MRZ	**Mangatainoka R**	**13.15**	**205**	P	Pn	18 25 15.8	-5.0
MRZ				S	Sn	18 27 36.8	-8.6
HOWZ	**Holdsworth Sta**	**13.38**	**205**	P	Pn	18 25 19.1	-4.9
HOWZ				S	Sn	18 27 40.1	-11
OGWZ	**Otaki Gorge**	**13.44**	**206**	P	**Pn**	**18 25 22.8**	**-1.9**
OGWZ				S	Sn	18 27 42.7	-10
MSWZ	**Moikau Station**	**13.93**	**205**	Pn	**Pn**	**18 25 27.8**	**-3.6**
SNZO	**South Karori**	**14.04**	**206**	Pn	Pn	18 25 25.9	-6.9
PLWZ	**Palliser**	**14.06**	**204**	Pn	**Pn**	**18 25 31.7**	**-1.5**
TUWZ	**Tuamarina**	**14.45**	**208**	P	Pn	18 25 32.3	-6.0
THZ	**Tophouse**	**15.16**	**210**	P	**Pn**	**18 25 43.3**	**-4.4**
MARNC	**Mare, Loyalty**	**15.35**	**296**	P	**Pn**	**18 25 49.2**	**-0.9**
MARNC	**Mare, Loyalty**	**15.35**	**296**	P	**P**	**18 25 57.8**	**+3.8**
KHZ	**Kahutara**	**15.44**	**207**	Pn	**Pn**	**18 25 45.2**	**-6.0**
KHZ				IAmb	IAmb	18 25 54.4	
	comp=Z,63nm,0.6s						
LTZ	**Lake Taylor**	**16.26**	**209**		**Pn**	**18 25 59.6**	**-2.2**
DZM	**Mont Dzumac**	**16.33**	**291**	*e*P	**Pn**	**18 26 02.0**	**-0.8**
	comp=Z,148nm,28.8s						
DZM				*e*LR	LR	18 29 44.6	
	comp=Z,856nm,25.1s						
DZM	**Mont Dzumac**	**16.33**	**291**	P	**P**	**18 26 05.6**	**+0.5**
	comp=Z,13nm,0.7s,baz=89,slow=16,SNR=6.6						
DZM				LR	LR	18 30 55.4	
	comp=Z,505nm,21.1s,baz=118,slow=32						
DZM	**Mont Dzumac**	**16.33**	**291**	P	**Pn**	**18 26 00.5**	**-2.3**
DZM	**Mont Dzumac**	**16.33**	**291**	P	**P**	**18 26 09.4**	**+4.4**
LIFNC	**LIFOU**	**16.34**	**296**	P	**Pn**	**18 26 01.6**	**-1.3**
LIFNC	**LIFOU**	**16.34**	**296**	P	**P**	**18 26 08.9**	**+3.9**
NOUC	**Port Laguerre**	**16.43**	**291**	P	**P**	**18 26 11.7**	**+5.7**
OXZ	**Oxford**	**16.81**	**208**	P	**Pn**	**18 26 03.8**	**-4.8**
OXZ				IAmb	IAmb	18 26 10.3	
	comp=Z,45nm,0.4s						
RTV	**Rentapao**	**17.28**	**307**	P	**P**	**18 26 17.9**	**+2.5**
RAR	**Rarotonga**	**17.47**	**68**	P	**Pn**	**18 26 13.3**	**-3.6**
	comp=Z,8.4nm,0.4s,baz=253,slow=9.3,SNR=6.5						
RAR				LR	LR	18 31 36.4	
	comp=Z,185nm,21.1s,baz=212,slow=32						
RAR	**Rarotonga**	**17.47**	**68**	Pn	**Pn**	**18 26 13.1**	**-3.8**
RAR				IAmb	IAmb	18 26 20.6	
	comp=Z,101nm,1.3s						
RPZ	**Rata Peaks**	**17.54**	**210**	P	**Pn**	**18 26 15.8**	**-1.8**
	comp=Z,12nm,0.4s,baz=34,slow=1.6,SNR=16						
RPZ	**Rata Peaks**	**17.54**	**210**	P	**Pn**	**18 26 14.2**	**-3.4**
RPZ	**Rata Peaks**	**17.54**	**210**	P	**Pn**	**18 26 15.8**	**-1.8**
ODZ	**Otahua Downs**	**18.79**	**208**	P	**P**	**18 26 30.3**	**-1.5**
KOUNC	**Koumac, New Ca**	**18.82**	**292**	P	**Pn**	**18 26 36.1**	**+2.7**
WHZ	**Wether Hill Ro**	**20.62**	**211**	P	**P**	**18 26 49.6**	**-2.2**
WHZ				IAmb	IAmb	18 27 09.1	
	comp=Z,125nm,1.8s						
LHI	**Lord Howe Isla**	**20.74**	**257**		**P**	**18 26 54.8**	**+1.5**
LHI	**Lord Howe Isla**	**20.74**	**257**	P	Pn	18 26 56.9	+0.9
TBI	**Tubuai**	**25.41**	**84**	*e*LR	LR	18 34 09.5	
	comp=Z,1µm,23.0s						
TBI				*e*LR	LR	18 34 09.6	
	comp=Z,6µm,24.0s						
TBI	**Tubuai**	**25.41**	**84**	*e*T	T	18 54 44.8	
	comp=Z,9.8nm,0.2s						
PPT2	**Papeete2**	**27.63**	**72**	*e*LR	LR	18 35 10.2	
	comp=Z,227nm,25.5s						
PPT2				*e*LR	LR	18 35 11.3	
	comp=Z,250nm,23.2s						
PPT	**Papeete**	**27.64**	**72**	LR	LR	18 35 55.6	
	comp=Z,124nm,21.3s,baz=200,slow=30						
HNR	**Honiara**	**28.97**	**307**	LR	LR	18 37 56.8	
	comp=Z,933nm,19.6s,baz=177,slow=33						
CAN	**Canberra**	**29.30**	**249**	P	**P**	**18 28 14.4**	**-0.1**
CAN				IAmb	IAmb	18 28 17.9	
	comp=Z,40nm,1.5s						
CAN	**Canberra**	**29.30**	**249**	P	**P**	**18 28 16.0**	**+1.4**
AUDCS	**Dubbo College**	**29.60**	**255**	P	**P**	**18 28 19.0**	**+1.8**
RMQ	**Roma**	**30.25**	**266**	P	**P**	**18 28 24.2**	**+1.2**
AULRC	**Lightning Ridg**	**30.42**	**260**	P	**P**	**18 28 25.8**	**+1.4**
TAU	**Tasmania Unive**	**31.75**	**234**	P	**P**	**18 28 36.4**	**+0.4**
CMSA	**Cobar Meteorol**	**32.15**	**256**	P	**P**	**18 28 40.2**	**+0.6**
TOO	**Toolangi**	**32.27**	**245**	P	**P**	**18 28 40.4**	**-0.3**
TOO				IAmb	IAmb	18 29 52.9	
	comp=Z,35nm,1.8s						
TV1H	**Townsville Har**	**34.21**	**278**	P	**P**	**18 28 58.0**	**+0.3**
CTA	**Charters Tower**	**34.36**	**276**	LR	LR	18 41 43.4	
	comp=Z,228nm,18.5s,baz=92,slow=34						
CTA	**Charters Tower**	**34.36**	**276**	P	**P**	**18 28 58.9**	**-0.2**
CTAO	**Charters Tower**	**34.36**	**276**	P	**P**	**18 28 59.0**	**-0.1**
CTAO				IAmb	IAmb	18 29 00.9	
	comp=Z,21nm,0.7s						
CTAO	**Charters Tower**	**34.36**	**276**	P	**P**	**18 28 59.0**	**-0.1**
CTAO	**Charters Tower**	**34.36**	**276**	P	**P**	**18 28 58.5**	**-0.5**
CTAO				pP	**pwP**	**18 29 12.2**	**-2.0**
STKA	**Stephens Creek**	**35.59**	**255**	P	**P**	**18 29 09.6**	**+0.1**
	comp=Z,5.3nm,0.5s,baz=98,slow=12,SNR=24						
STKA				LR	LR	18 42 07.7	
	comp=Z,102nm,19.2s,baz=39,slow=34						
	comp=Z,5.3nm,0.5s						
STKA	**Stephens Creek**	**35.59**	**255**	P	**P**	**18 29 09.7**	**+0.1**
STKA	**Stephens Creek**	**35.59**	**255**	P	**P**	**18 29 09.9**	**+0.4**
MTSU	**Mount Surprise**	**36.81**	**278**	P	**P**	**18 29 20.4**	**+0.3**
INKA	**Innaminka**	**36.97**	**261**	P	**P**	**18 29 22.0**	**+0.7**
HTT	**Hallett**	**37.67**	**252**	P	**P**	**18 29 27.3**	**0.0**
LCRK	**Leigh Creek**	**38.65**	**256**	P	**P**	**18 29 34.9**	**-0.6**
PMG	**Port Moresby**	**38.71**	**293**	LR	LR	18 43 36.2	
	comp=Z,131nm,19.5s,baz=103,slow=33						
COEN	**Coen**	**39.64**	**284**	P	**P**	**18 29 44.0**	**0.0**
BBOO	**Buckleboo**	**40.13**	**252**	P	**P**	**18 29 46.7**	**-1.1**
BBOO				IAmb	IAmb	18 29 49.4	
	comp=Z,12nm,0.8s						
OOD	**Oodnadatta**	**41.33**	**260**	P	**P**	**18 29 57.7**	**-0.1**
MULG	**Mulgathing**	**42.22**	**256**	P	**P**	**18 30 03.7**	**-1.3**
MANU	**Manus Island**	**43.11**	**302**	P	**P**	**18 30 09.7**	**-2.6**
MANU				IAmb	IAmb	18 31 14.3	
	comp=Z,24nm,1.1s						
AS01	**Alice Springs**	**43.94**	**265**	P	**P**	**18 30 18.0**	**-1.1**
AS31	**Alice Springs**	**43.98**	**265**	P	**P**	**18 30 18.1**	**-1.3**
ASAR	**Alice Springs**	**43.98**	**265**	P	**P**	**18 30 18.1**	**-1.3**
	comp=Z,6.2nm,0.6s,baz=97,slow=6.8,SNR=198						
ASAR				PcP	**PcP**	**18 32 05.7**	**+1.3**
	comp=Z,1.2nm,0.4s,baz=116,slow=5.3,SNR=2.3						
ASAR				ScP	**ScP**	**18 35 53.3**	**+1.2**
	comp=Z,0.1nm,0.6s,baz=116,slow=4.3,SNR=1.5						
ASAR				PKiKP	**PKiKP**	**18 39 04.3**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=73,slow=1.3,SNR=4.5						
ASAR				LR	LR	18 47 18.5	
	comp=Z,170nm,20.3s,baz=110,slow=34						
	comp=Z,6.2nm,0.6s						
ASAR	**Alice Springs**	**43.98**	**265**	P	**P**	**18 30 18.4**	**-1.0**
WR0	**Warramunga Arr**	**44.66**	**270**	P	**P**	**18 30 23.4**	**-1.4**
WB1	**Warramunga Ar.**	**44.83**	**270**	P	**P**	**18 30 25.1**	**-1.0**
WB2	**Warramunga Arr**	**44.83**	**270**	P	**P**	**18 30 24.7**	**-1.5**
WB2				IAmb	IAmb	18 30 26.6	
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**44.83**	**270**	P	**P**	**18 30 24.5**	**-1.6**
WRAB				IAmb	IAmb	18 30 26.6	
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**44.83**	**270**	P	**P**	**18 30 25.2**	**-1.0**
WRAB	**Tennant Creek**	**44.83**	**270**	P	**P**	**18 30 24.8**	**-1.4**
WRA	**Warramunga Arr**	**44.84**	**270**	P	**P**	**18 30 25.0**	**-1.3**
	comp=Z,11nm,0.8s,baz=110,slow=7.7,SNR=138						
WRA				PcP	**PcP**	**18 32 08.2**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=120,slow=3.3,SNR=2.5						
WRA				ScP	**ScP**	**18 35 56.9**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=103,slow=3.6,SNR=2.9						
WRA				PKiKP	**PKiKP**	**18 39 05.6**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=89,slow=0.8,SNR=6.2						
WRA				LR	LR	18 47 23.9	
	comp=Z,81nm,18.8s,baz=95,slow=34						
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**44.84**	**270**	P	**P**	**18 30 24.6**	**-1.7**
WB0	**Warramunga Arr**	**44.86**	**270**	P	**P**	**18 30 24.8**	**-1.6**
WB0				IAmb	IAmb	18 30 26.8	
	comp=Z,15nm,0.8s						
DRV	**Dumont d'Urvil**	**45.79**	**202**	P	**P**	**18 30 33.6**	**+0.6**
DRV				x	x	18 30 42.4	
DRV				pP	**pwP**	**18 30 47.8**	**-1.7**
DRV				sP	**sP**	**18 30 54.3**	**+3.1**
FORT	**Forrest**	**47.19**	**254**	P	**P**	**18 30 43.0**	**-1.6**
FORT	**Forrest**	**47.19**	**254**	P	**P**	**18 30 43.4**	**-1.2**
GENI	**Genyem**	**48.32**	**295**	P	P	18 30 47.3	-6.2
WRKA	**Warakurna**	**48.45**	**261**	P	**P**	**18 30 52.8**	**-1.7**
SBA	**Scott Base**	**49.56**	**184**	P	**P**	**18 31 06.8**	**+4.7**
SBA	**Scott Base**	**49.56**	**184**	P	**P**	**18 31 06.1**	**+4.0**
SBA				pP	**sP**	**18 31 24.7**	**+4.3**
VNDA	**Vanda**	**49.63**	**186**	P	**P**	**18 31 06.4**	**+3.7**
	comp=Z,2.1nm,0.6s,baz=9.7,slow=6.5,SNR=31						
VNDA				LR	LR	18 49 04.3	
	comp=Z,20nm,21.5s,baz=0.5,slow=32						
	comp=Z,2.1nm,0.6s						
VNDA	**Vanda**	**49.63**	**186**	P	**P**	**18 31 06.8**	**+4.1**
VNDA	**Vanda**	**49.63**	**186**	P	**P**	**18 31 05.9**	**+3.2**
VNDA				pP	**pwP**	**18 31 18.3**	**-1.0**
MTN	**Manton Dam**	**50.54**	**277**	P	**P**	**18 31 09.4**	**-1.0**
MTN				IAmb	IAmb	18 31 10.4	
	comp=Z,6.4nm,0.6s						
KNRA	**Kununurra**	**51.39**	**273**	P	**P**	**18 31 15.6**	**-1.2**
KNRA				IAmb	IAmb	18 31 16.8	
	comp=Z,12nm,0.7s						
HPAH	**Hawaii Prepara**	**52.88**	**26**	P	**P**	**18 31 27.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.15**	**268**	P	**P**	**18 31 27.7**	**-2.1**
CCD	**Concordia, Ant**	**54.58**	**196**	P	**P**	**18 31 40.8**	**+0.9**
CCD				x	x	18 31 49.6	
CCD				pP	**sP**	**18 31 57.1**	**-1.2**
KLBR	**Kellerberrin**	**55.57**	**250**	P	**P**	**18 31 45.7**	**-1.6**
NWAO	**Narrogin (SRO)**	**55.65**	**248**	LR	LR	18 54 16.9	
	comp=Z,64nm,18.6s,baz=60,slow=34						
GUMO	**Guam**	**56.00**	**314**	LR	LR	18 55 26.9	
	comp=Z,35nm,18.1s,baz=162,slow=36						
SIJI	**Sorong**	**56.53**	**290**	LR	LR	18 54 21.1	
	comp=Z,36nm,21.6s,baz=243,slow=34						
SIJI	**Sorong**	**56.53**	**290**	P	P	18 31 46.7	-7.7
	comp=Z,16nm,0.8s						
CASY	**Casey**	**56.80**	**207**	P	**P**	**18 31 56.0**	**+0.6**
PSA00	**Pilbara Seismi**	**56.92**	**262**	P	**P**	**18 31 54.9**	**-2.2**
PSA00				IAmb	IAmb	18 31 56.6	
	comp=Z,11nm,1.1s						
PSA00	**Pilbara Seismi**	**56.92**	**262**	P	**P**	**18 31 55.2**	**-1.9**
PSA00				IAmb	IAmb	18 31 56.7	
	comp=Z,23nm,1.1s						
MBWA	**Marble Bar**	**57.17**	**262**	P	**P**	**18 31 56.6**	**-2.2**
MBWA	**Marble Bar**	**57.17**	**262**	P	**P**	**18 31 57.1**	**-1.7**
MBWA	**Marble Bar**	**57.17**	**262**	P	**P**	**18 31 55.9**	**-3.0**
MBWA				pP	**pP**	**18 32 09.4**	**-2.6**
MORW	**Morawa**	**57.70**	**252**	P	**P**	**18 31 59.6**	**-2.9**
SOEI	**Soe**	**57.93**	**277**	P	**P**	**18 32 02.8**	**-1.6**
SOEI	**Soe**	**57.93**	**277**	P	P	18 31 56.4	-8.0
SOEI	**Soe**	**57.93**	**277**	P	**P**	**18 32 02.3**	**-2.1**
BATI	**Baumata**	**58.25**	**276**	LR	LR	18 57 30.8	
	comp=Z,182nm,18.3s,baz=139,slow=36						
NLAI	**Namlea**	**58.73**	**285**	P	P	18 32 01.9	-7.9
	comp=Z,6µmcomp=Z,8.2nm,0.8s						
LBMI	**Labuha**	**59.79**	**288**	P	P	18 32 09.3	-7.8
	comp=Z,1µmcomp=Z,31nm,1.5s						
MMRI	**Maumere**	**60.22**	**277**	P	**P**	**18 32 18.8**	**-1.4**
MMRI	**Maumere**	**60.22**	**277**	P	P	18 32 12.1	-8.0
	comp=Z,30nm,1.2s						
SANI	**Sanana**	**60.30**	**285**	P	P	18 32 12.3	-8.3
	comp=Z,17nm,0.7s						
QSPA	**South Pole Qui**	**61.18**	**180**	LR	LR	18 53 49.4	
	comp=Z,25nm,20.9s,baz=14,slow=31						
QSPA	**South Pole Qui**	**61.18**	**180**	P	**P**	**18 32 29.2**	**+3.2**
QSPA	**South Pole Qui**	**61.18**	**180**	P	**P**	**18 32 28.2**	**+2.2**
QSPA				pP	**sP**	**18 32 47.4**	**+2.9**
GIRL	**Giralia**	**61.38**	**259**	P	**P**	**18 32 26.1**	**-1.8**
BSSI	**Bau Bau, Buton**	**62.93**	**278**	P	P	18 32 29.6	-8.8
	comp=Z,9.5nm,1.4s						
LUWI	**Luwuk**	**63.55**	**284**	P	**P**	**18 32 41.2**	**-1.3**
LUWI				IAmb	IAmb	18 32 44.7	
	comp=Z,24nm,1.0s						
BKSI	**Bulukumba**	**63.65**	**279**	P	P	18 32 34.5	-8.6
	comp=Z,10nm,0.8s						
BNSI	**Bone**	**64.12**	**280**	P	P	18 32 37.5	-8.7
	comp=Z,5.4nm,1.4s						
KAPI	**Kappang**	**64.12**	**279**	LR	LR	18 59 23.2	
	comp=Z,42nm,22.0s,baz=122,slow=35						
PCJI	**Pacitan**	**70.09**	**272**	P	P	18 33 14.7	-9.4
	comp=Z,55nm,1.2s						
BELA	**Belgrano 2**	**71.14**	**172**	P	**P**	**18 33 31.1**	**+1.7**
BELA				IAmb	IAmb	18 33 32.1	
	comp=Z,8.5nm,0.7s						
MAW	**Mawson**	**73.95**	**200**	P	**P**	**18 33 49.0**	**+2.7**
	comp=Z,8.0nm,0.6s,baz=137,slow=7.6,SNR=25						
	comp=Z,8.0nm,0.6s						
MAW	**Mawson**	**73.95**	**200**	P	**P**	**18 33 48.4**	**+2.1**
JOW	**Kunigami**	**76.26**	**311**	LR	LR	19 00 56.6	
	comp=Z,77nm,21.9s,baz=329,slow=31						
MJAR	**Matsushiro Arr**	**77.48**	**325**	P	**P**	**18 34 05.8**	**-1.1**
	comp=Z,5.2nm,0.8s,baz=157,slow=5.6,SNR=8.9						
MJAR				LR	LR	19 01 49.6	
	comp=Z,23nm,21.7s,baz=138,slow=31						
	comp=Z,5.2nm,0.8s						
MAJO	**Matsushiro**	**77.49**	**325**	P	**P**	**18 34 05.6**	**-1.3**
SNAA	**Sanae**	**79.60**	**178**	LR	LR	19 06 40.3	
	comp=Z,21nm,20.6s,baz=186,slow=33						
SNAA	**Sanae**	**79.60**	**178**	P	**P**	**18 34 19.6**	**+1.4**
SNAA				IAmb	IAmb	18 34 21.1	
	comp=Z,13nm,0.9s						
TPRI	**Tanjung Pinang**	**80.26**	**276**	P	P	18 34 12.9	-10
H03S2	**Juan Fernandez**	**80.63**	**123**	T	T	20 04 12.6	
	baz=239,slow=74,SNR=125						
H03S1	**Juan Fernandez**	**80.64**	**123**	T	T	20 04 13.5	
	baz=239,slow=74,SNR=130						
H03S3	**Juan Fernandez**	**80.65**	**123**	T	T	20 04 14.9	
	baz=239,slow=74,SNR=145						
H03N3	**Juan Fernandez**	**80.81**	**123**	T	T	20 04 21.9	
	baz=245,slow=73,SNR=34						
H03N2	**Juan Fernandez**	**80.81**	**123**	T	T	20 04 22.5	
	baz=245,slow=73,SNR=43						
H03N1	**Juan Fernandez**	**80.83**	**123**	T	T	20 04 24.1	
	baz=245,slow=73,SNR=45						
BTDF	**Bukit Timah Da**	**81.13**	**276**	P	P	18 34 17.5	-10
	comp=Z,6.9nm,1.8s						
PLCA	**Paso Flores**	**82.94**	**133**	P	**P**	**18 34 37.6**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=239,slow=10,SNR=3.8						
	comp=Z,2.5nm,0.7s						
LPIG	**La Paz**	**83.10**	**58**	LR	LR	19 08 52.3	
	comp=Z,39nm,18.2s,baz=254,slow=34						
KSRS	**Korea Array**	**83.74**	**319**	P	**P**	**18 34 39.6**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=132,slow=5.3,SNR=7.2						
KSRS				LR	LR	19 10 05.4	
	comp=Z,9.6nm,18.9s,baz=115,slow=34						
	comp=Z,2.5nm,0.8s						
PETK	**Petropavlovsk-**	**84.59**	**345**	P	**P**	**18 34 43.2**	**-1.1**
	comp=Z,9.8nm,0.6s,baz=128,slow=8.0,SNR=41						
PETK				LR	LR	19 04 38.5	
	comp=Z,16nm,20.3s,baz=85,slow=30						
	comp=Z,9.8nm,0.6s						
PFO	**Pinyon Flats O**	**84.64**	**47**	LR	LR	19 03 12.3	
	comp=Z,67nm,21.6s,baz=216,slow=29						
CMB	**Columbia Colle**	**85.15**	**41**	P	**P**	**18 34 48.1**	**+0.6**
AFDM	**Forest Hills D**	**85.44**	**41**	P	**P**	**18 34 49.9**	**+0.9**
GSC	**Goldstone, Bar**	**85.51**	**45**	P	**P**	**18 34 50.4**	**+1.0**
QSM	**Queen of Sheba**	**85.90**	**45**	P	**P**	**18 34 51.5**	**+0.3**
QSM				IAmb	IAmb	18 35 08.9	
	comp=Z,6.9nm,1.0s						
GWY	**Greenwater Val**	**86.16**	**45**	P	**P**	**18 34 53.6**	**+0.9**
GWY				IAmb	IAmb	18 34 54.4	
	comp=Z,4.5nm,0.8s						
LCH	**Last Change Ra**	**86.24**	**44**	P	**P**	**18 34 54.1**	**+1.1**
PNTR	**Pine Nut**	**86.32**	**41**	P	**P**	**18 34 53.5**	**-0.1**
PNTR				IAmb	IAmb	18 34 55.6	
	comp=Z,8.1nm,0.9s						
USRK	**Ussuriysk Ar.**	**86.37**	**326**	P	**P**	**18 34 52.6**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=102,slow=2.4,SNR=6.6						
	comp=Z,4.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**86.37**	**326**	P	**P**	**18 34 53.0**	**-0.4**
LHV	**Little Huntoon**	**86.40**	**42**	P	**P**	**18 34 54.3**	**+0.7**
LHV				IAmb	IAmb	18 35 00.1	
	comp=Z,9.5nm,1.1s						
GMN	**Gold Mountain**	**86.52**	**44**	P	**P**	**18 34 54.9**	**+0.3**
GMN				IAmb	IAmb	18 34 56.6	
	comp=Z,17nm,1.9s						
NVAR	**Mina Array Bea**	**86.64**	**42**	P	**P**	**18 34 56.1**	**+1.0**
	comp=Z,3.6nm,0.7s,baz=221,slow=8.5,SNR=29						
	comp=Z,3.6nm,0.7s						
NV11	**Mina Array Sit**	**86.72**	**42**	P	**P**	**18 34 56.3**	**+0.8**
NV11				IAmb	IAmb	18 34 57.5	
	comp=Z,8.5nm,1.2s						
TPH	**Tonopah**	**87.05**	**43**	P	**P**	**18 34 58.4**	**+1.4**
KVN	**Kaiserville**	**87.16**	**42**	P	**P**	**18 34 58.0**	**+0.4**
KVN				IAmb	IAmb	18 34 59.3	
	comp=Z,5.1nm,0.8s						
TUC	**Tucson**	**87.59**	**51**	P	**P**	**18 35 00.8**	**+1.1**
PRN	**Pahroc Range**	**87.94**	**45**	P	**P**	**18 35 02.8**	**+1.5**
PRN				IAmb	IAmb	18 35 04.2	
	comp=Z,9.0nm,1.1s						
U15A	**North Rim**	**89.07**	**47**	P	**P**	**18 35 07.9**	**+1.1**
U15A				IAmb	IAmb	18 35 56.6	
	comp=Z,8.8nm,0.8s						
KNB	**Kanab**	**89.09**	**46**	P	**P**	**18 35 08.4**	**+1.6**
KNB				IAmb	IAmb	18 37 27.8	
	comp=Z,6.4nm,1.0s						
WUAZ	**Wupatki**	**89.11**	**48**	P	**P**	**18 35 08.6**	**+1.6**
CN2	**Changchun**	**89.44**	**322**	*e*P	**P**	**18 35 06.7**	**-1.3**
121A	**Cookes Peak, D**	**89.78**	**52**	P	**P**	**18 35 08.8**	**-1.3**
ELK	**Elko**	**89.94**	**42**	LR	LR	19 07 16.8	
	comp=Z,55nm,19.6s,baz=281,slow=30						
MTPU	**Mount Pierson**	**90.11**	**46**	P	**P**	**18 35 14.2**	**+2.4**
MTPU				IAmb	IAmb	18 36 23.5	
	comp=Z,5.1nm,0.9s						
KLR	**Kul'dur**	**90.16**	**329**	LR	LR	19 07 24.1	
	comp=Z,26nm,21.3s,baz=156,slow=30						
G08A	**Pilot Rock**	**90.82**	**37**	P	**P**	**18 35 15.5**	**+0.9**
TXAR	**Lajitas Array**	**90.94**	**57**	P	**P**	**18 35 16.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=198,slow=7.9,SNR=4.3						
TXAR				LR	LR	19 08 58.0	
	comp=Z,25nm,19.7s,baz=294,slow=31						
	comp=Z,0.5nm,0.5s						
BMO	**Blue Mountains**	**91.41**	**38**	P	**P**	**18 35 17.8**	**+0.5**
BMO				IAmb	IAmb	18 35 18.8	
	comp=Z,4.0nm,0.9s						
TMUT	**Trail Mountain**	**91.48**	**45**	P	**P**	**18 35 19.5**	**+1.5**
TMUT				IAmb	IAmb	18 35 20.6	
	comp=Z,5.2nm,0.8s						
HVU	**Hansel Valley**	**92.03**	**42**	P	**P**	**18 35 21.2**	**+0.8**
HVU				IAmb	IAmb	18 35 21.9	
	comp=Z,4.0nm,0.7s						
ANMO	**Albuquerque**	**92.06**	**51**	LR	LR	19 11 06.7	
	comp=Z,24nm,18.3s,baz=248,slow=32						
ANMO	**Albuquerque**	**92.06**	**51**	P	**P**	**18 35 21.5**	**+0.8**
E09A	**Wood Farm, Sta**	**92.06**	**36**	P	**P**	**18 35 21.1**	**+0.9**
E09A				IAmb	IAmb	18 35 21.8	
	comp=Z,7.4nm,0.9s						
F10A	**Beach Ranch, E**	**92.19**	**37**	P	**P**	**18 35 20.8**	**0.0**
HLID	**Hailey**	**92.19**	**40**	P	**P**	**18 35 21.9**	**+0.8**
HLID				IAmb	IAmb	18 35 39.0	
	comp=Z,8.1nm,1.3s						
PLID	**Pearl Lake**	**92.27**	**38**	P	**P**	**18 35 22.1**	**+0.6**
PLID				IAmb	IAmb	18 35 23.1	
	comp=Z,5.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.65**	**289**	P	**P**	**18 35 28.9**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=146,slow=4.4,SNR=5.9						
	comp=Z,0.6nm,0.3s						
NEW	**Newport**	**93.73**	**35**	LR	LR	19 08 46.8	
	comp=Z,72nm,20.4s,baz=258,slow=30						
XAN	**Xi'an**	**93.84**	**307**	*e*P	**P**	**18 35 30.0**	**+1.2**
XAN				pP	**pwP**	**18 35 43.0**	**-3.5**
ATAH	**Atahualpa**	**94.16**	**100**	LR	LR	19 08 16.9	
	comp=Z,39nm,19.9s,baz=225,slow=29						
PDAR	**Pinedale Array**	**94.54**	**43**	P	**P**	**18 35 32.2**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=215,slow=3.0,SNR=10						
PDAR				PKKPbc	**PKKPbc**	**18 52 31.0**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=82,slow=5.9,SNR=5.2						
	comp=Z,1.1nm,0.7s						
FLWY	**Flagg Ranch**	**94.64**	**42**	P	**P**	**18 35 33.2**	**+0.8**
FLWY				IAmb	IAmb	18 35 50.4	
	comp=Z,6.9nm,0.9s						
YHL	**Hebgen Lake**	**94.81**	**41**	P	**P**	**18 35 35.2**	**+2.0**
YHL				IAmb	IAmb	18 35 52.8	
	comp=Z,5.4nm,1.1s						
BOZ	**Bozeman (W)**	**95.01**	**40**	P	**P**	**18 35 34.1**	**+0.2**
BOZ				IAmb	IAmb	18 35 52.6	
	comp=Z,12nm,1.8s						
PZH	**PanZhiHua**	**95.32**	**297**	P	**P**	**18 35 37.1**	**+1.3**
ILAR	**Eielson Array**	**96.33**	**13**	P	**P**	**18 35 38.5**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=213,slow=6.9,SNR=5.4						
	comp=Z,0.5nm,0.7s						
YAK	**Yakutsk**	**100.19**	**337**	LR	LR	19 14 01.1	
	comp=Z,24nm,21.9s,baz=89,slow=31						
OPO	**Ambohidratompo**	**116.28**	**228**	PKP	**PKPdf**	**18 40 56.4**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=74,slow=3.8,SNR=5.1						
MKAR	**Makanchi Array**	**117.41**	**310**	PKP	**PKPdf**	**18 40 55.5**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=326,slow=0.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**117.44**	**319**	PKP	**PKPdf**	**18 40 55.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=125,slow=2.0,SNR=5.2						
NRIK	**Noril'sk**	**118.61**	**336**	PKP	**PKPdf**	**18 40 57.1**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=50,slow=3.6,SNR=3.7						
BOSA	**Boshof**	**118.91**	**202**	PKP	**PKiKP**	**18 41 01.7**	**+1.4**
	comp=Z,2.1nm,0.5s,baz=152,slow=2.4,SNR=8.2						
NRN	**Naryn**	**120.58**	**303**	PKPdf	**PKPdf**	**18 41 03.2**	**0.0**
KURK	**Kurchatov**	**120.58**	**314**	PKPdf	**PKPdf**	**18 41 01.5**	**-1.0**
AAK	**Ala-Archa**	**121.93**	**304**	PKP	**PKPdf**	**18 41 05.2**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=136,slow=9.3,SNR=6.4						
KKAR	**Karatay Array**	**124.89**	**304**	PKPdf	**PKPdf**	**18 41 10.6**	**-0.5**
LSZ	**Lusaka**	**129.71**	**212**	PKP	**PKPdf**	**18 41 20.9**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,0.9nm,0.3s,baz=128,slow=13,SNR=1.0						
GEYT	Alibeck	133.62	296	PKP	PKPdf	18 41 27.5	-0.3
	comp=Z,2.2nm,0.7s,baz=153,slow=0.3,SNR=5.8						
GEYT	Alibeck	133.62	296	PKPdf	PKPdf	18 41 27.9	0.0
ARCES	ARCESS Array B	137.31	348	PKhKP	PKPpre	18 41 26.1	
	comp=Z,4.5nm,1.0s,baz=23,slow=4.0,SNR=3.9						
H10S3	ASCENSION HYDR	138.71	153	T	T	21 17 17.4	
	baz=204,slow=74,SNR=49						
H10S2	ASCENSION HYDR	138.71	153	T	T	21 17 16.8	
	baz=16,slow=74,SNR=12						
H10N3	ASCENSION HYDR	139.78	153	T	T	21 18 32.8	
	baz=204,slow=75,SNR=65						
H10N1	ASCENSION HYDR	139.79	153	T	T	21 18 29.9	
	baz=204,slow=75,SNR=79						
H10N2	ASCENSION HYDR	139.80	153	T	T	21 18 28.2	
	baz=204,slow=75,SNR=84						
FINES	FINESS Array B	144.02	341	PKhKP	PKPpre	18 41 42.7	
	comp=Z,3.1nm,0.7s,baz=68,slow=3.6,SNR=15						
ONI	Oni	144.71	304	PKPdf	PKPab	18 41 47.0	+0.2
KBZ	Khabaz	144.91	306	PKP	PKPab	18 41 46.7	-0.7
	comp=Z,3.0nm,0.6s,baz=129,slow=3.5,SNR=13						
KARS	Kars	145.26	300	PKPdf	PKPbc	18 41 49.7	+0.9
GEVA	Gevas	145.49	296	PKPab	PKPdf	18 41 49.8	+0.3
DOMB	Dombas	146.63	355	eP	PKPdf	18 41 50.1	-0.4
DOMB				IAmb	IAmb	18 41 51.4	
	comp=Z,33nm,1.6s						
AKN	Aaknes	146.63	356	eP	PKPdf	18 41 51.9	+1.4
AKN				IAmb	IAmb	18 41 52.9	
	comp=Z,14nm,0.7s						
NC303	NORSAR Array S	147.21	352	eP	PKPdf	18 41 53.3	+1.8
KOPT	Kop Dagi	147.30	300	PKPab	PKPbc	18 41 56.3	+1.2
MARD	Mardin	147.35	295	PKPab	PKPbc	18 41 55.4	+0.3
NB201	NORSAR Array S	147.39	352	eP	PKPdf	18 41 53.8	+2.0
NB2	NORSAR Subarra	147.41	352	PKP	PKPdf	18 41 53.4	+1.5
	comp=Z,5.5nm,0.8s,baz=17,slow=4.6						
NOA	NORSAR Array B	147.41	352	PKPbc	PKPdf	18 41 53.0	+1.1
	comp=Z,2.4nm,0.6s,baz=15,slow=4.5,SNR=16						
NC602	NORSAR Array S	147.66	352	eP	PKPdf	18 41 54.2	+2.0
SKAR	Skarslia	148.04	355	eP	PKPdf	18 41 53.8	+0.9
SKAR				IAmb	IAmb	18 41 59.9	
	comp=Z,22nm,1.4s						
ODD1	Odda	148.91	356	eP	PKPbc	18 41 58.4	0.0
BLS5	Blasjo	149.41	356	eP	PKPdf	18 41 56.1	+1.0
AKASG	Malin Array Be	150.57	325	PKPbc	PKPbc	18 42 02.1	-0.6
	comp=Z,10.0nm,0.6s,baz=49,slow=3.5,SNR=47						
AKASG	Malin Array Be	150.57	325		PKPbc	18 42 01.9	-0.7
AKBB	Malin Array Si	150.57	325		PKPbc	18 42 01.6	-1.0
ASF	Jabal al Asfar	150.60	285	PKPbc	PKPbc	18 42 03.8	+0.4
	comp=Z,15nm,0.8s,baz=102,slow=1.8,SNR=23						
BNN	Bunyan	151.04	299		PKPbc	18 42 03.0	-1.4
MMAI	Mount Meron Ar	151.89	287	PKPbc	PKiKP	18 42 07.7	+0.9
	comp=Z,23nm,0.7s,baz=89,slow=5.9,SNR=30						
EIL	Elat	152.07	279	PKPbc	PKPbc	18 42 07.5	+0.7
	comp=Z,30nm,0.7s,baz=181,slow=0.3,SNR=28						
BRTR	Keskin Array B	152.54	301	PKPbc	PKPbc	18 42 07.5	-0.3
	comp=Z,3.1nm,0.5s,baz=147,slow=4.7,SNR=11						
BRTR	Keskin Array B	152.54	301		PKPbc	18 42 07.1	-0.6
MDUB	Mudurnu	154.14	304		PKPbc	18 42 10.0	-1.2
OSTC	Ostas	156.16	339	ePKPAB	PKPab	18 42 33.2	0.0
CHVC	Chvalec	156.19	339	ePKPAB	PKPab	18 42 33.1	-0.2
UPC	Upice	156.27	339	ePKPAB	PKPab	18 42 33.4	-0.2
DPC	Dobruska-Polom	156.31	338	ePKPAB	PKPab	18 42 34.0	+0.2
KRLC	Kraliky	156.39	337	ePKPAB	PKPab	18 42 33.6	-0.6
KHC	Kasperske Hory	158.22	341	ePKPAB	PKPab	18 42 41.9	-0.2
GERES	GERESS Array B	158.44	340	PKPab	PKPab	18 42 40.8	-2.3
	comp=Z,0.7nm,0.5s,baz=56,slow=2.5,SNR=5.1						
KARP	Karpathos	158.46	294	PKPdf	PKPdf	18 42 07.3	-1.4
KARP				PKPab	PKPab	18 42 41.3	-2.4
TORD	Torodi Ar. Bea	164.26	176	PKP	PKPdf	18 42 15.5	+0.2
	comp=Z,2.0nm,0.9s,baz=252,slow=0.2,SNR=9.7						
TORD				PKPab	PKPab	18 43 10.5	+1.3
	comp=Z,3.3nm,0.7s,baz=182,slow=3.8,SNR=13						
ESDC	Sonseca Array	167.88	26	PKP	PKPdf	18 42 17.3	-0.3
	comp=Z,0.5nm,0.9s,baz=343,slow=3.1,SNR=4.9						
ESDC				PKPab	PKPab	18 43 24.5	-0.3
	comp=Z,0.8nm,0.8s,baz=320,slow=4.1,SNR=6.0						
MDT	Midelt	172.48	57	PKP	PKPdf	18 42 21.5	+1.1
	comp=Z,1.2nm,0.6s,baz=308,slow=2.1,SNR=4.2						

BEO ***03*** *18:22:20.9±0.7, 44°.87N×17°.30E, h3km±6km, ML2.1/6*
RHSSO ***03*** *18:22:21.4±0.2, 44°.80N×17°.27E, h5km±1km, ML2.2/12*
ISC 03 18:22:21.2±0.8**, 44°.81N**±0°.02×**17°.27E**±0°.02**, h9**km±6km**,**
n38, σ**0s.73**/68**, 4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.09	226	⇓iPg	Pg	18 22 23.2	-0.2
BLY				eSg	Sg	18 22 25.1	-0.1
BLY	Banja Luka	0.09	226	ePg	Pg	18 22 23.3	-0.2
BLY				eSg	Sg	18 22 25.3	+0.1
A051A	Mrakovica	0.33	308	⇓iPg	Pg	18 22 27.8	+0.1
A051A				eSg	Sg	18 22 32.9	+0.8
A052A	Srbac	0.34	30	⇓iPg	Pg	18 22 28.3	+0.4
A052A				eSg	Sg	18 22 32.9	+0.5
MGRS	Mrkonjic Grad	0.42	199	⇓iPg	Pg	18 22 29.1	-0.2
MGRS				eSg	Sg	18 22 35.2	+0.4
PRIJ	Prijedor	0.43	293	ePg	Pg	18 22 29.2	-0.4
PRIJ				eSg	Sg	18 22 35.7	+0.4
DOB	Doboj	0.59	97	ePg	Pg	18 22 32.4	-0.3
DOB				eSg	Sg	18 22 41.2	+0.8
MOSL	Moslavina	0.88	336	ePg	Pb	18 22 39.3	+0.6
MOSL				Sg	Sg	18 22 49.1	-0.5
PLIT	Plitvice	1.18	274	ePg	Pg	18 22 42.1	-1.6
PLIT				Sg	Sg	18 22 56.2	-2.8
HAPS	Han Pijesak,Bl	1.40	121	ePg	Pn	18 22 46.6	-0.4
HAPS				eSg	Sn	18 23 06.0	+0.3
KOVH	Kovagotottos	1.40	24	P	Pn	18 22 45.9	-1.0
KOVH				S	Sg	18 23 06.6	+0.3
BLJ	Bijeljina	1.42	90	eSg	Sb	18 23 04.7	-1.3
PTJ	Puntijarka	1.43	320	ePg	Pb	18 22 48.3	+0.3
PTJ				Sg	Sb	18 23 06.2	-0.2
KALN	Kalnik	1.44	337	ePg	Pb	18 22 48.2	0.0
KALN				Sg	Sn	18 23 06.1	-0.4
LOBO	Lobor	1.59	328	ePn	Pb	18 22 50.7	0.0
LOBO				Sg	Sb	18 23 11.3	+0.4
TEKS	Tekeris	1.63	98	ePn	Pn	18 22 50.7	+0.6
TEKS				eSn	Sb	18 23 12.0	-0.1
TEKS	Tekeris	1.63	98	ePn	Pb	18 22 50.9	-0.5
TEKS				eSn	Sn	18 23 11.2	0.0
BEHE	Becsehely	1.70	348	eSn	Sn	18 23 13.4	+0.6
MORH	Mrgy, Hungar	1.70	34	ePn	Pb	18 22 51.9	-0.7
MORH				eSn	Sb	18 23 14.3	+0.2
MORH	Mrgy, Hungar	1.70	34	P	Pb	18 22 52.2	-0.4
MORH				S	Sg	18 23 15.7	-0.2
BBLS	Lazići	1.80	121	ePn	Pn	18 22 52.5	+0.1
BBLS				eSn	Sn	18 23 15.6	+0.2
BBLS	Lazići	1.80	121	ePn	Pn	18 22 52.7	+0.3
BBLS				eSn	Sb	18 23 16.7	-0.2
FRGS	Fruska Gora	1.83	78	ePn	Pn	18 22 53.8	+0.9
FRGS				eSn	Sn	18 23 17.0	+0.8
FRGS	Fruska Gora	1.83	78	ePn	Pn	18 22 52.1	-0.8
FRGS				eSn	Sb	18 23 17.3	-0.6
RUDO	Rudo	1.92	128	ePn	Pn	18 22 55.2	+1.1
RUDO				eSn	Sn	18 23 19.4	+1.0
STON	Ston	1.96	171	ePn	Pn	18 22 55.2	+0.6
STON				eSn	Sn	18 23 20.3	+1.0
STON	Ston	1.96	171	ePn	Pn	18 22 55.7	+1.1
STON				eSn	Sb	18 23 21.4	-0.2
UPM	Unac-Piva	1.99	143	ePn	Pn	18 22 55.7	+0.5
UPM				eSn	Sn	18 23 20.5	+0.2
DIVS	Divibare	2.07	109	ePn	Pn	18 22 56.2	0.0
DIVS				eSn	Sn	18 23 22.1	-0.1
DIVS	Divibare	2.07	109	ePn	Pn	18 22 55.7	-0.5
DIVS				eSn	Sb	18 23 23.9	-1.0
CEY	Cerknica	2.21	296	ePn	Pn	18 22 59.2	+1.1
CEY				eSn	Sn	18 23 25.9	+0.3
TRUS	Trudelj	2.32	104	ePn	Pn	18 23 00.1	+0.6
TRUS				eSn	Sn	18 23 28.3	+0.2
MPLH	Magyarpolny	2.37	4	P	Pn	18 23 00.2	+0.1
IVAS	Ivanjica	2.41	120	ePn	Pn	18 23 01.6	+0.8
OBKA	Obir	2.56	313	eSn	Sn	18 23 35.7	+1.6
GRUS	Gruza	2.63	109	ePn	Pn	18 23 04.6	+0.7
SELS	Selova	3.20	118	ePn	Pn	18 23 11.1	-0.5
BARS	Barje	3.84	120	ePn	Pn	18 23 21.1	+0.6

RHSSO ***03*** *18:22:48.7±0.2, 44°.80N×17°.25E, h3km±1km, ML2.2/13*
BEO ***03*** *18:22:48.9±0.4, 44°.77N×17°.30E, h0km, ML2.2/8*
ISC 03 18:22:48.4±1.3**, 44°.80N**±0°.02×**17°.28E**±0°.03**, h0**km±11km**,**
n27, σ**0s.73**/45**, 3C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.08	234	⇑iPg	Pg	18 22 50.3	+0.3
BLY				eSg	Sg	18 22 51.8	+0.7
BLY	Banja Luka	0.08	234	ePg	Pg	18 22 50.4	+0.4
BLY				eSg	Sg	18 22 51.6	+0.5
A051A	Mrakovica	0.34	309	⇑iPg	Pg	18 22 54.8	-0.1
A051A				eSg	Sg	18 22 59.6	+0.2
A052A	Srbac	0.35	29	⇑iPg	Pg	18 22 55.1	0.0
A052A				eSg	Sg	18 23 00.3	+0.7
MGRS	Mrkonjic Grad	0.41	200	⇓iPg	Pg	18 22 55.9	-0.3
MGRS				eSg	Sg	18 23 01.9	+0.5
PRIJ	Prijedor	0.44	294	ePg	Pg	18 22 56.2	-0.6
PRIJ				eSg	Sg	18 23 02.0	-0.5
SRKY	Kupres RS	0.73	186	ePg	Pg	18 23 01.3	-1.2
SRKY				eSg	Sg	18 23 12.5	+0.5
HAPS	Han Pijesak,Bl	1.39	120	ePg	Pn	18 23 13.9	-1.3
HAPS				eSg	Sb	18 23 33.8	+0.1
KOVH	Kovagotottos	1.41	24	P	Pn	18 23 15.0	-0.4
KOVH				S	Sg	18 23 32.0	-1.8
TEKS	Tekeris	1.62	98	eSn	Sn	18 23 39.1	-0.8
BEHE	Becsehely	1.71	348	ePn	Pn	18 23 18.8	-0.7
BEHE				eSn	Sn	18 23 41.8	-0.2
BEHE	Becsehely	1.71	348	P	Pn	18 23 20.5	+1.0
BEHE				S	Sg	18 23 44.7	+1.4
MORH	Mrgy, Hungar	1.71	34	eSn	Sn	18 23 42.4	+0.4
MORH	Mrgy, Hungar	1.71	34	S	Sn	18 23 42.6	+0.6
BBLS	Lazići	1.79	121	ePn	Pn	18 23 20.2	-0.4
BBLS				eSn	Sn	18 23 44.6	+0.6
BBLS	Lazići	1.79	121	ePn	Pn	18 23 20.9	+0.3
FRGS	Fruska Gora	1.83	78	ePn	Pn	18 23 21.4	+0.2
FRGS				eSn	Sn	18 23 45.5	+0.5
FRGS	Fruska Gora	1.83	78	ePn	Pn	18 23 21.3	+0.1
FRGS				eSg	Sb	18 23 46.7	+0.4
RUDO	Rudo	1.91	127	ePn	Pn	18 23 22.4	+0.2
RUDO				eSn	Sn	18 23 46.9	-0.1
STON	Ston	1.95	171	eSn	Sn	18 23 46.9	-1.0
STON	Ston	1.95	171	ePn	Pn	18 23 23.4	+0.7
STON				eSg	Sb	18 23 49.3	-0.3
DIVS	Divibare	2.06	109	eSn	Sn	18 23 51.5	+0.6
DIVS	Divibare	2.06	109	ePn	Pn	18 23 25.1	+0.7
DIVS				eSn	Sn	18 23 49.5	-1.4
TREB	Trebinje	2.22	159	eSn	Sn	18 23 54.3	-0.3
CEY	Cerknica	2.22	296	ePn	Pn	18 23 26.5	0.0
CEY				eSn	Sn	18 23 54.0	-0.7
TRUS	Trudelj	2.31	103	eSn	Sn	18 23 56.9	+0.1
IVAS	Ivanjica	2.40	120	eSn	Sn	18 24 00.5	+1.4

NEIC ***03*** *18:45:38.2±1.5, 35°.8S±0°.1×178°.9W±0°.1, h10km±1km, mb4.9/31, Error ellipse: s-maj=18.8km s-min=15.6km az=131.0*
WEL ***03*** *18:45:47.6±1.0, 36°S±10°×18°0W±1°2, h95km±36km, M5.0/42, ML5.2/23, MLv5.0/42, Error ellipse: s-maj=0.0km s-min=0.0km az=91.3*
IDC ***03*** *18:45:50.4±2.1, 35°.98S×179°.90W, h58km±15km, mb4.2/11, mbtmp4.4/13, MS3.5/19, Error ellipse: s-maj=21.0km s-min=15.6km az=103.0*
NOU ***03*** *18:45:54.3, 36°.46S×179°.92E, h83km, mb4.8/44, Off E. Coast of N. Island, N.Z.*
ISC 03 18:45:47.6±0.5**, 36°.09S**±0°.05×**179°.58W**±0°.07**, h49**km**,**
n286, σ**1s.90**/275**, mb4.9**/25**, MS3.5**/18**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.24	229		Pn	18 46 23.3	+1.1
MXZ	Matakaoa Point	2.24	229	P	Pn	18 46 23.7	+1.4
MXZ	Matakaoa Point	2.24	229	P	Pn	18 46 23.6	+1.3
MXZ				S	Sn	18 46 50.9	+2.1
WMGZ	Waiomatatini S	2.36	222	P	Pn	18 46 26.4	+2.6
PKGZ	Pakihiroa	2.60	226	P	Pn	18 46 29.4	+2.2
PKGZ				S	Sn	18 47 01.4	+3.8
PUZ	Puketiti	2.63	221	P	Pn	18 46 29.8	+2.2
PUZ				S	Sn	18 47 01.8	+3.5
HAZ	Te Kaha	2.69	231	P	Pn	18 46 30.0	+1.6
TWGZ	Tauwhareparae	2.85	222	P	Pn	18 46 33.0	+2.4
TWGZ				S	Sn	18 47 07.4	+3.6
RUGZ	Raukumara Rang	2.88	229	P	Pn	18 46 33.3	+2.2
WIZ	White Island	2.96	240	P	Pn	18 46 33.1	+1.0
WSRZ	White Island S	2.97	240	P	Pn	18 46 33.0	+0.8
CNGZ	Carnagh Statio	2.97	216	P	Pn	18 46 34.8	+2.6
TKGZ	Te Karaka	3.12	220	P	Pn	18 46 36.3	+2.1
MWZ	Matawai	3.22	225	P	Pn	18 46 37.3	+1.7
MWZ				S	Sn	18 47 15.2	+2.4
WHRZ	Whale Island	3.27	236	P	Pn	18 46 37.7	+1.2
WHRZ				S	Sn	18 47 17.6	+3.5
RIGZ	Rimuhau	3.36	218	P	Pn	18 46 39.1	+1.5
RIGZ				S	Sn	18 47 21.1	+4.8
RAGZ	Rawiri	3.39	224	P	Pn	18 46 39.7	+1.6
RAGZ				S	Sn	18 47 19.6	+2.5
URZ	Urewera	3.42	230	P	Pn	18 46 39.7	+1.4
	649nm,0.5s,baz=337,slow=3.4,SNR=507						
URZ				S	Sn	18 47 17.3	-0.3
	273nm,0.3s,baz=271,slow=22,SNR=3.1						
URZ	Urewera	3.42	230		Pn	18 46 39.6	+1.2
URZ	Urewera	3.42	230	P	Pn	18 46 39.8	+1.4
URZ	Urewera	3.42	230	P	Pn	18 46 39.5	+1.1
MARZ	Manawahe	3.54	237	P	Pn	18 46 41.1	+0.9
OPRZ	Ohinepanea	3.56	239	P	Pn	18 46 41.2	+0.9
MYRZ	Mayor Island	3.56	249	P	Pn	18 46 40.7	+0.3
EDRZ	Edgecumbe	3.56	235	P	Pn	18 46 41.6	+1.1
SNGZ	Shannon Statio	3.64	221	P	Sn	18 47 26.8	+3.7
KNZ	Kokohu	3.65	216	P	Pn	18 46 42.4	+0.8
MHGZ	Mahia Peninsul	3.65	212	P	Pn	18 46 43.2	+1.7
TGRZ	Tauranga	3.71	243	P	Pn	18 46 43.5	+1.0
RTZ	Ruatahuna	3.72	226	P	Pn	18 46 43.7	+1.0
MUGZ	Murupara	3.76	230	P	Sn	18 47 25.3	-0.9
TARZ	Mount Tarawera	3.79	234	P	Pn	18 46 45.2	+1.6
OMRZ	Omania	3.81	237	P	Pn	18 46 44.9	+1.1
RRRZ	Republican Roa	3.84	233	P	Pn	18 46 45.6	+1.3
KUZ	Kuaotunu	3.85	259	P	Pn	18 46 44.3	0.0
KUZ	Kuaotunu	3.85	259	P	Pn	18 46 44.1	-0.2
KARZ	Kaharoa	3.86	239	P	Pn	18 46 45.3	+0.8
RAHZ	Arahi	3.87	222	P	Pn	18 46 45.8	+1.2
HLRZ	Highlands Stat	3.90	235	P	Pn	18 46 46.4	+1.4
WHHZ	Waihua	3.91	219	P	Pn	18 46 46.4	+1.3
MTHZ	Maungataniwha	3.96	225	P	Pn	18 46 47.0	+1.1
KMRZ	Kaimai	3.99	243	P	Pn	18 46 47.0	+0.7
HSRZ	Hossack Road	4.00	235	P	Pn	18 46 48.3	+1.9
PRRZ	Plateau Road	4.01	232	P	Pn	18 46 47.4	+0.9
HRRZ	Handcock Road	4.02	234	P	Pn	18 46 48.2	+1.5
ALRZ	Allen Road	4.08	232	P	Pn	18 46 48.3	+0.8
GRRZ	Galatos Road	4.11	235	P	Pn	18 46 49.6	+1.7
NMHZ	Naumai	4.15	223	P	Pn	18 46 49.8	+1.2
ARHZ	Aropaoanui	4.17	220	P	Pn	18 46 49.8	+1.1
WPRZ	Whakapapatarin	4.17	233	P	Pn	18 46 50.4	+1.7
MRHZ	Matea Rd	4.20	228	P	Pn	18 46 49.6	+0.4
TOZ	Tahuroa Road	4.27	246	P	Pn	18 46 50.6	+0.6
BKZ	Black Stump Fm	4.38	224		Pn	18 46 52.3	+0.7
BKZ	Black Stump Fm	4.38	224	P	Pn	18 46 52.3	+0.7
BKZ	Black Stump Fm	4.38	224	P	Pn	18 46 52.1	+0.5
WHTZ	Whakaora	4.39	233	P	Pn	18 46 53.4	+1.7
HATZ	Hinemaiaia	4.43	230	P	Pn	18 46 53.6	+1.3
CKHZ	Cape Kidnapper	4.44	216	P	Pn	18 46 52.7	+0.4
MCHZ	McNeill Hill	4.46	220	P	Pn	18 46 53.4	+0.7
TLZ	Tolley Road	4.49	239	P	Pn	18 46 55.3	+2.1
WATZ	Wairara	4.56	234	P	Pn	18 46 55.3	+1.2
KWHZ	Kaweka Forest	4.59	222	P	Pn	18 46 55.0	+0.4
RATZ	Rangitukua	4.62	232	P	Pn	18 46 56.4	+1.4
RITZ	Rihia Road	4.63	230	P	Pn	18 46 56.2	+1.1
KAHZ	Kahuranaki	4.64	216	P	Pn	18 46 55.2	0.0
KATZ	Kakaramea	4.73	231	P	Pn	18 46 58.4	+1.9
WTAZ	Waiatarua	4.79	258	P	Pn	18 46 58.4	+1.2
TMVZ	Te Maari	4.81	230	P	Pn	18 46 57.8	+0.2
NTVZ	North Tongarir	4.82	230	P	Pn	18 46 58.4	+0.7
ETVZ	East Tongariro	4.82	230	P	Pn	18 46 57.8	+0.1
PXZ	Pawanui	4.83	214	P	Pn	18 46 57.2	-0.5
KRVZ	Karewarewa	4.84	230	P	Pn	18 46 59.4	+1.4
BHHZ	Black Hill Sta	4.84	224	P	Pn	18 46 58.1	+0.1
OTVZ	Oturere	4.86	229	P	Pn	18 46 59.2	+0.8
NNVZ	North Ngauruho	4.88	230	P	Pn	18 46 59.2	+0.7
WTVZ	West Tongariro	4.88	230	P	Pn	18 46 59.2	+0.6
SNVZ	South Ngauruho	4.89	229	P	Pn	18 46 59.4	+0.6
NGZ	Ngauruhoe	4.91	230	P	Pn	18 46 59.2	+0.2
TUVZ	Tukino	4.94	229	P	Pn	18 47 00.1	+0.8
TWVZ	Taurewa	4.95	232	P	Pn	18 47 00.5	+1.0
MOVZ	Moawhango	4.96	227	P	Pn	18 46 59.2	-0.5
WHVZ	Whangaehu Hut	4.98	229	P	Pn	18 47 01.1	+1.1
FWVZ	Far West T-bar	4.99	229	P	Pn	18 47 01.1	+1.0
WNVZ	Wahianoa	5.01	228	P	Pn	18 47 00.8	+0.4
TRVZ	Turoa	5.02	229	P	Pn	18 47 01.8	+1.2
HIZ	Hauiti	5.05	240		Pn	18 47 01.9	+1.1
HIZ	Hauiti	5.05	240	P	Pn	18 47 02.1	+1.3
HIZ	Hauiti	5.05	240	P	Pn	18 47 02.4	+1.6
WPHZ	Waipukurau	5.06	217	P	Pn	18 47 00.6	-0.3
PNHZ	Pukenui	5.07	220	P	Pn	18 47 00.4	-0.6
MTVZ	Mangateitei	5.12	229	P	Pn	18 47 02.7	+0.9
PRHZ	Porangahau	5.12	214	P	Pn	18 47 01.4	-0.4
PKVZ	Pokaka	5.14	230	P	Pn	18 47 02.9	+0.9
TSZ	Takapari Road	5.30	220	P	Pn	18 47 02.8	-1.4
ANWZ	Angora Road	5.35	214	P	Pn	18 47 03.9	-1.0
DVHZ	Dannevirke	5.37	217	P	Pn	18 47 04.5	-0.7
VRZ	Vera Road	5.42	234	P	Pn	18 47 07.1	+1.2
OUZ	Omahuta	5.62	277	Pn	Pn	18 47 07.5	-1.2
OUZ	Omahuta	5.62	277	P	Pn	18 47 07.7	-1.0
BFZ	Birch Farm	5.63	214	Pn	Pn	18 47 07.1	-1.8
BFZ	Birch Farm	5.63	214	P	Pn	18 47 07.0	-1.8
BFZ	Birch Farm	5.63	214	P	Pn	18 47 07.3	-1.5
WAZ	Wanganui	5.64	228	P	Pn	18 47 09.4	+0.5
POWZ	Post Office Ro	5.64	219	P	Pn	18 47 08.5	-0.4
PRWZ	Pori Road	5.67	217	P	Pn	18 47 08.5	-0.7
MHEZ	Mangahewa	5.69	237	P	Pn	18 47 13.6	+4.1
OHWZ	Ohakea	5.75	223	P	Pn	18 47 11.2	+0.8
DREZ	Durham Road	5.83	236	P	Pn	18 47 13.9	+2.5
LREZ	Lake Rotokare	5.83	233	P	Pn	18 47 12.5	+1.0
CPWZ	Castlepoint	5.84	213	P	Pn	18 47 11.0	-0.6
TIWZ	Tintock	5.88	216	P	Pn	18 47 11.1	-1.0
NEZ	North Egmont	5.94	236	P	Pn	18 47 15.6	+2.6
MRZ	Mangatainoka R	5.94	218	P	Pn	18 47 11.6	-1.3
PKE	Pukeiti	5.97	237	P	Pn	18 47 16.9	+3.5
KHEZ	Kahui Hut	6.00	236	P	Pn	18 47 16.5	+2.6
NBEZ	Newall Road No	6.09	237	P	Pn	18 47 18.8	+3.8
TMWZ	Te Maipa	6.14	214	P	Pn	18 47 13.7	-2.0
HOWZ	Holdsworth Sta	6.15	217	P	Pn	18 47 14.0	-1.9
NMEZ	Namu Road	6.15	235	P	Pn	18 47 19.8	+3.9
OGWZ	Otaki Gorge	6.26	220	P	Pn	18 47 16.0	-1.4
MTW	Mount Morrison	6.36	216	P	Pn	18 47 16.3	-2.4
KIW	Kapiti Island	6.43	221	P	Pn	18 47 18.3	-1.5
TRWZ	Traveller	6.46	213	P	Pn	18 47 17.4	-2.8
CAW	Cannon Point	6.53	218	P	Pn	18 47 19.2	-1.9
PAWZ	Paruwai Farm	6.57	215	P	Pn	18 47 19.4	-2.2
MSWZ	Moikau Station	6.68	216		Pn	18 47 20.7	-2.4
MSWZ	Moikau Station	6.68	216	P	Pn	18 47 20.3	-2.8
PLWZ	Palliser	6.79	215	Pn	Pn	18 47 21.6	-3.1
PLWZ	Palliser	6.79	215	P	Pn	18 47 21.8	-2.9
SNZO	South Karori	6.86	219	Pn	Pn	18 47 23.4	-2.2
SNZO	South Karori	6.86	219	P	Pn	18 47 24.0	-1.6
DUWZ	D'Urville Isla	6.94	225	P	Pn	18 47 24.4	-2.2
RAO	Raoul Island	6.96	12	LR	LR	18 50 00.8	
	comp=Z,299nm,18.4s,baz=151,slow=36						
TCW	Tory Channel	7.02	221	P	Pn	18 47 25.6	-2.1
TUWZ	Tuamarina	7.35	222	Pn	Pn	18 47 29.5	-2.8
TUWZ	Tuamarina	7.35	222	P	Pn	18 47 30.1	-2.2
CMWZ	Cape Campbell	7.44	219	Pn	Pn	18 47 31.2	-2.3
NNZ	Nelson	7.52	225		Pn	18 47 31.6	-3.0
NNZ	Nelson	7.52	225	P	Pn	18 47 32.0	-2.6
BSWZ	Blackbirch Sta	7.59	220	Pn	Pn	18 47 32.7	-2.9
BSWZ	Blackbirch Sta	7.59	220	P	Pn	18 47 33.2	-2.4
TKNZ	Takaka Hill	7.65	228	P	Pn	18 47 34.3	-2.1
QRZ	Quartz Range	7.79	230	Pn	Pn	18 47 34.9	-3.4
QRZ	Quartz Range	7.79	230	P	Pn	18 47 36.6	-1.7
QRZ	Quartz Range	7.79	230	P	Pn	18 47 36.0	-2.3
CTZ	Chatham Island	7.97	164	P	Pn	18 47 45.0	+4.3
MRNZ	Matariki Terra	8.00	226	P	Pn	18 47 37.8	-3.4
THZ	Tophouse	8.14	224		Pn	18 47 40.0	-3.2
THZ	Tophouse	8.14	224	P	Pn	18 47 39.9	-3.4
KHZ	Kahutara	8.27	218	Pn	Pn	18 47 42.3	-2.6
KHZ	Kahutara	8.27	218	P	Pn	18 47 42.7	-2.1
KHZ	Kahutara	8.27	218	P	Pn	18 47 42.1	-2.8
DSZ	Denniston Nort	8.77	227	P	Pn	18 47 48.9	-2.9
GVZ	Greta Valley S	8.93	217	P	Pn	18 47 51.6	-2.3
LTZ	Lake Taylor	9.18	221	Pn	Pn	18 47 53.6	-3.9
LTZ	Lake Taylor	9.18	221	P	Pn	18 47 53.8	-3.6
OKCZ	Okains Bay	9.49	214	P	Pn	18 47 58.9	-2.7
INZ	Inchbonnie	9.60	224	P	Pn	18 47 59.5	-3.5
MQZ	McQueen's Vall	9.66	216		Pn	18 48 00.4	-3.6
MQZ	McQueen's Vall	9.66	216	P	Pn	18 48 00.7	-3.2
AKCZ	Akaroa Harbour	9.67	214	P	Pn	18 48 01.4	-2.7
OXZ	Oxford	9.69	219		Pn	18 48 00.4	-3.9
OXZ	Oxford	9.69	219	P	Pn	18 48 01.0	-3.3
RACZ	Rakaia	9.93	217	P	Pn	18 48 05.0	-2.6
RPZ	Rata Peaks	10.47	221	P	Pn	18 48 10.7	-4.3
	8.0nm,0.3s,baz=66,slow=2.7,SNR=20						
RPZ				S	Sn	18 50 00.6	-10
	18nm,0.4s,baz=126,slow=23,SNR=8.0						
RPZ	Rata Peaks	10.47	221	Pn	Pn	18 48 10.7	-4.3
RPZ					Sn	18 50 06.8	-4.0
RPZ	Rata Peaks	10.47	221	P	Pn	18 48 12.5	-2.5
RPZ	Rata Peaks	10.47	221	P	Pn	18 48 12.0	-3.0
FOZ	Fox Glacier	11.03	224	Pn	Pn	18 48 20.6	-2.0
LBZ	Lake Benmore	11.39	220		Pn	18 48 24.9	-2.7
ODZ	Otahua Downs	11.62	217	Pn	Pn	18 48 24.9	-5.8
ODZ	Otahua Downs	11.62	217	P	Pn	18 48 27.6	-3.1
JCZ	Jackson Bay	11.95	225	P	Pn	18 48 32.5	-2.8
WKZ	Wanaka	12.30	221	Pn	Pn	18 48 34.1	-5.9
MLZ	Mavora Lakes	13.13	221		Pn	18 48 49.0	-2.4
SYZ	Scrubby Hill	13.43	216	P	Pn	18 48 53.8	-1.6
WHZ	Wether Hill Ro	13.57	220	Pn	Pn	18 48 52.0	-5.4
DCZ	Deep Cove	13.72	223		Pn	18 48 56.2	-3.1
MSVF	Nonsavu	18.41	353	P	P	18 49 58.5	-0.4
	4.3nm,0.6s,baz=121,slow=22,SNR=1.3						
MSVF				LR	LR	18 55 24.9	
	comp=Z,250nm,20.7s,baz=201,slow=32						
MSVF	Nonsavu	18.41	353		P	18 49 48.5	-10
DZM	Mont Dzumac	18.53	315	eLR	LR	18 54 16.3	
	comp=Z,368nm,24.0s						
DZM	Mont Dzumac	18.53	315	P	P	18 49 59.3	-0.9
	8.2nm,0.9s,baz=121,slow=19,SNR=1.8						
DZM				LR	LR	18 55 50.7	
	comp=Z,349nm,18.3s,baz=152,slow=33						
DZM	Mont Dzumac	18.53	315	P	P	18 49 57.1	-3.1
DZM	Mont Dzumac	18.53	315	P	Pn	18 50 03.8	+3.0
KOUNC	Koumac, New Ca	20.96	313	P	P	18 50 24.6	-2.0
KOUNC				IAmb	IAmb	18 50 32.1	
	comp=Z,76nm,1.9s						
DVP	Devils Point	21.26	326	P	P	18 50 35.0	+5.2
RAR	Rarotonga	22.78	55	LR	LR	18 58 57.0	
	comp=Z,34nm,18.5s,baz=160,slow=34						
ARMA	Armidale	24.68	275	P	P	18 51 05.2	+1.1
ARMA				IAmb	IAmb	18 51 07.2	
	comp=Z,13nm,1.1s						
ARMA	Armidale	24.68	275	P	P	18 51 04.1	0.0
EIDS	Eidsvold	27.30	285	P	P	18 51 26.5	-1.1
RMQ	Roma	28.60	281	P	P	18 51 40.1	+0.8
TBI	Tubuai	28.95	72	eLR	LR	18 58 45.9	
	comp=Z,335nm,33.8s						
CMSA	Cobar Meteorol	29.11	269	P	P	18 51 44.5	+0.7
PPT2	Papeete2	32.31	63	eLR	LR	19 00 17.8	
	comp=Z,38nm,25.8s						
STKA	Stephens Creek	32.32	266	P	P	18 52 12.4	+0.3
	comp=Z,4.1nm,0.8s,baz=103,slow=12,SNR=8.2						
STKA				LR	LR	19 05 07.4	
	comp=Z,65nm,18.6s,baz=44,slow=36						
	comp=Z,4.1nm,0.8s						
STKA	Stephens Creek	32.32	266	P	P	18 52 12.5	+0.4
STKA	Stephens Creek	32.32	266	P	P	18 52 12.7	+0.6
HNR	Honiara	32.42	320	LR	LR	19 01 35.5	
	comp=Z,622nm,20.5s,baz=156,slow=29						
CTA	Charters Tower	33.89	289	P	P	18 52 26.1	+0.2
	comp=Z,19nm,0.8s,baz=119,slow=9.7,SNR=21						
CTA				LR	LR	19 04 58.7	
	comp=Z,29nm,18.3s,baz=94,slow=34						
	comp=Z,19nm,0.8s						
CTA	Charters Tower	33.89	289	P	P	18 52 26.5	+0.6
CTAO	Charters Tower	33.89	289	P	P	18 52 26.0	+0.2
CTAO				IAmb	IAmb	18 52 27.7	
	comp=Z,23nm,0.8s						
CTAO	Charters Tower	33.89	289	P	P	18 52 26.3	+0.4
HTT	Hallett	34.02	262	P	P	18 52 27.8	+0.9
INKA	Innaminka	34.50	273	P	P	18 52 32.3	+1.2
LCRK	Leigh Creek	35.53	267	P	P	18 52 40.1	+0.2
BBOO	Buckleboo	36.49	262	P	P	18 52 48.1	-0.1
BBOO				IAmb	IAmb	18 53 16.0	
	comp=Z,18nm,1.3s						
BBOO	Buckleboo	36.49	262	P	P	18 52 47.8	-0.4
MTSU	Mount Surprise	36.51	290	P	P	18 52 48.7	+0.2
OOD	Oodnadatta	38.58	269	P	P	18 53 06.0	+0.2
QIS	Mount Isa	38.82	282	P	P	18 53 07.7	-0.2
MULG	Mulgathing	38.95	265	P	P	18 53 08.7	-0.2
COEN	Coen	39.96	294	P	P	18 53 16.9	-0.5

COEN				IAmb	IAmb	18 53 18.1	
	comp=Z,16nm,0.8s						
COEN	**Coen**	**39.96**	**294**	P	**P**	**18 53 17.2**	**-0.2**
PMG	**Port Moresby**	**40.23**	**303**	LR	LR	19 07 02.9	
	comp=Z,75nm,20.9s,baz=102,slow=32						
RABL	**Rabaul**	**41.05**	**314**	P	**P**	**18 53 29.5**	**+3.0**
AS01	**Alice Springs**	**41.79**	**274**	P	**P**	**18 53 32.5**	**0.0**
AS31	**Alice Springs**	**41.83**	**274**	P	**P**	**18 53 32.4**	**-0.5**
ASAR	**Alice Springs**	**41.83**	**274**	P	**P**	**18 53 32.5**	**-0.3**
	comp=Z,7.9nm,0.8s,baz=118,slow=7.5,SNR=67						
ASAR				ScP	**ScP**	**18 59 13.1**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=119,slow=3.9,SNR=6.7						
ASAR				S	**S**	**18 59 43.8**	**-3.5**
	comp=Z,0.9nm,0.8s,baz=128,slow=15,SNR=6.8						
ASAR				LR	LR	19 11 01.8	
	comp=Z,76nm,18.4s,baz=116,slow=36						
	comp=Z,7.9nm,0.8s						
ASAR	**Alice Springs**	**41.83**	**274**	P	**P**	**18 53 31.8**	**-1.0**
WR0	**Warramunga Arr**	**43.16**	**279**	P	**P**	**18 53 42.7**	**-1.0**
WR0				IAmb	IAmb	18 53 44.2	
	comp=Z,15nm,1.1s						
WB1	**Warramunga Ar.**	**43.32**	**279**	P	**P**	**18 53 44.4**	**-0.5**
WB2	**Warramunga Arr**	**43.32**	**279**	P	**P**	**18 53 43.5**	**-1.4**
WB2				IAmb	IAmb	18 53 45.0	
	comp=Z,16nm,0.5s						
WRAB	**Tennant Creek**	**43.33**	**279**	P	**P**	**18 53 43.9**	**-1.1**
WRAB				IAmb	IAmb	18 53 44.9	
	comp=Z,13nm,0.6s						
WRAB	**Tennant Creek**	**43.33**	**279**	P	**P**	**18 53 44.3**	**-0.7**
WRA	**Warramunga Arr**	**43.33**	**279**	P	**P**	**18 53 44.4**	**-0.7**
	comp=Z,12nm,0.7s,baz=119,slow=7.6,SNR=245						
WRA				ScP	**ScP**	**18 59 17.9**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=122,slow=3.9,SNR=2.7						
WRA				S	**S**	**19 00 03.2**	**-6.2**
	comp=Z,0.9nm,1.0s,baz=122,slow=14,SNR=4.9						
WRA				LR	LR	19 10 58.5	
	comp=Z,118nm,21.0s,baz=113,slow=35						
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**43.33**	**279**	P	**P**	**18 53 43.7**	**-1.3**
WB0	**Warramunga Arr**	**43.38**	**279**	P	**P**	**18 53 44.5**	**-0.9**
WB0				IAmb	IAmb	18 53 45.4	
	comp=Z,13nm,0.6s						
FORT	**Forrest**	**43.59**	**261**	P	**P**	**18 53 47.0**	**+0.1**
FORT				IAmb	IAmb	18 54 02.9	
	comp=Z,19nm,0.8s						
FORT	**Forrest**	**43.59**	**261**	P	**P**	**18 53 46.8**	**-0.2**
TAOE	**Nuku Hiva Isla**	**44.93**	**63**	P	P	18 53 47.6	-10
WRKA	**Warakurna**	**45.74**	**269**	P	**P**	**18 54 03.1**	**-1.2**
CASY	**Casey**	**49.53**	**210**	P	**P**	**18 54 34.1**	**+1.2**
MTN	**Manton Dam**	**49.85**	**285**	P	**P**	**18 54 34.4**	**-1.7**
KNRA	**Kununurra**	**50.10**	**280**	P	**P**	**18 54 36.4**	**-1.6**
KNRA				IAmb	IAmb	18 55 10.7	
	comp=Z,28nm,1.4s						
KNRA	**Kununurra**	**50.10**	**280**	P	**P**	**18 54 37.8**	**-0.1**
NWAO	**Narrogin (SRO)**	**51.35**	**254**	P	**P**	**18 54 47.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**51.35**	**254**	P	**P**	**18 54 47.4**	**+0.2**
KLBR	**Kellerberrin**	**51.46**	**256**	P	**P**	**18 54 47.9**	**-0.2**
MUN	**Mundaring**	**52.52**	**255**	P	**P**	**18 54 56.2**	**+0.3**
MEEK	**Meekatharra**	**52.84**	**262**	P	**P**	**18 54 58.0**	**-0.4**
MORW	**Morawa**	**53.84**	**258**	P	**P**	**18 55 06.0**	**+0.3**
MORW	**Morawa**	**53.84**	**258**	P	**P**	**18 55 05.9**	**+0.2**
QSPA	**South Pole Qui**	**54.03**	**180**	P	**P**	**18 55 10.9**	**+4.1**
	comp=Z,4.9nm,0.7s,baz=43,slow=2.0,SNR=15						
QSPA				ScP	**ScP**	**19 00 03.6**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=305,slow=6.0,SNR=3.2						
	comp=Z,4.9nm,0.7s						
QSPA	**South Pole Qui**	**54.03**	**180**	P	**P**	**18 55 04.5**	**-2.2**
QSPA				IAmb	IAmb	18 55 26.3	
	comp=Z,6.8nm,0.8s						
PSA00	**Pilbara Seismi**	**54.21**	**268**	P	**P**	**18 55 07.6**	**-0.9**
PSA00	**Pilbara Seismi**	**54.21**	**268**	P	**P**	**18 55 07.1**	**-1.4**
PSA00				IAmb	IAmb	18 56 03.1	
	comp=Z,22nm,1.3s						
MBWA	**Marble Bar**	**54.51**	**268**	P	**P**	**18 55 08.7**	**-1.9**
MBWA				IAmb	IAmb	18 57 07.1	
	comp=Z,33nm,1.4s						
FAKI	**Fak Fak**	**55.31**	**295**	P	**P**	**18 55 12.7**	**-3.8**
FAKI				IAmb	IAmb	18 55 45.5	
	comp=Z,33nm,1.3s						
FAKI	**Fak Fak**	**55.31**	**295**	P	**P**	**18 55 17.1**	**+0.6**
SOEI	**Soe**	**57.09**	**283**	P	**P**	**18 55 28.0**	**-1.3**
SOEI				IAmb	IAmb	18 55 40.5	
	comp=Z,36nm,1.4s						
SIJI	**Sorong**	**57.42**	**296**	P	**P**	**18 55 31.4**	**-0.2**
	comp=Z,9.1nm,0.7s,baz=83,slow=5.1,SNR=7.3						
SIJI				LR	LR	19 18 35.9	
	comp=Z,45nm,21.7s,baz=164,slow=34						
	comp=Z,9.1nm,0.7s						
MMRI	**Maumere**	**59.36**	**282**	P	**P**	**18 55 42.9**	**-2.2**
GUMO	**Guam**	**59.75**	**319**	LR	LR	19 20 16.3	
	comp=Z,21nm,18.2s,baz=172,slow=35						
KAPI	**Kappang**	**63.50**	**284**	LR	LR	19 25 05.5	
	comp=Z,17nm,19.1s,baz=140,slow=37						
MAW	**Mawson**	**66.54**	**202**	P	**P**	**18 56 33.2**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=75,slow=16,SNR=1.5						
MAW				LR	LR	19 24 27.6	
	comp=Z,49nm,18.7s,baz=90,slow=35						
	comp=Z,1.7nm,0.9s						
LEM	**Lembang**	**72.12**	**275**	LR	LR	19 27 29.5	
	comp=Z,36nm,22.0s,baz=182,slow=35						
SNAA	**Sanae**	**72.51**	**179**	P	**P**	**18 57 06.6**	**-2.2**
SNAA				IAmb	IAmb	18 57 57.4	
	comp=Z,25nm,2.0s						
KKM	**Kota Kinabalu**	**73.19**	**291**	P	**P**	**18 57 13.0**	**-0.8**
H03S2	**Juan Fernandez**	**78.44**	**123**	T	T	20 24 30.0	
	baz=232,slow=74,SNR=17						
H03S1	**Juan Fernandez**	**78.45**	**123**	T	T	20 24 29.5	
	baz=232,slow=74,SNR=15						
H03S3	**Juan Fernandez**	**78.45**	**123**	T	T	20 24 27.8	
	baz=232,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**78.66**	**123**	T	T	20 24 48.1	
	baz=237						
H03N2	**Juan Fernandez**	**78.66**	**123**	T	T	20 24 44.6	
	baz=237						
H03N1	**Juan Fernandez**	**78.68**	**123**	T	T	20 24 45.1	
	baz=237						
PSI	**Prapat**	**84.77**	**277**	LR	LR	19 35 54.5	
	comp=Z,64nm,22.0s,baz=114,slow=36						
KSRS	**Korea Array**	**87.86**	**321**	P	**P**	**18 58 32.0**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=140,slow=5.7,SNR=3.5						
KSRS				LR	LR	19 35 57.6	
	comp=Z,6.1nm,18.5s,baz=165,slow=34						
	comp=Z,1.5nm,0.8s						
PETK	**Petropavlovsk-**	**91.00**	**347**	P	**P**	**18 58 46.2**	**+0.3**
	comp=Z,4.4nm,1.0s,baz=118,slow=7.4,SNR=2.1						
	comp=Z,4.4nm,1.0s						
NNA	**Nana**	**93.08**	**107**	LR	LR	19 35 55.3	
	comp=Z,20nm,18.8s,baz=219,slow=32						
NVAR	**Mina Array Bea**	**93.28**	**44**	P	**P**	**18 58 58.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=230,slow=7.0,SNR=1.5						
	comp=Z,0.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**94.05**	**290**	P	**P**	**18 59 00.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=145,slow=3.8,SNR=4.7						
	comp=Z,0.6nm,0.3s						
KLR	**Kul'dur**	**95.29**	**330**	LR	LR	19 43 47.6	
	comp=Z,12nm,18.1s,baz=154,slow=37						
PZH	**PanZhiHua**	**96.77**	**298**	P	**P**	**18 59 12.5**	**-0.7**
CD2	**Chengdu**	**98.00**	**302**	*e*P	**P**	**18 59 16.1**	**-2.5**
TNCH	**TengChong**	**98.24**	**295**	*e*P	**P**	**18 59 18.9**	**-1.1**
TNCH				pP	**PcP**	**18 59 22.1**	**+2.1**
HHC	**Hu-ho-hao-te**	**99.24**	**314**	*e*P	**Pdif**	**18 59 22.0**	**-2.0**
MKAR	**Makanchi Array**	**120.32**	**308**	PKP	**PKPdf**	**19 04 33.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=196,slow=1.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**121.32**	**316**	PKP	**PKPdf**	**19 04 34.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=64,slow=6.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**123.95**	**311**	PKP	**PKiKP**	**19 04 40.8**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=116,slow=1.9,SNR=18						
BVAR	**Borovoye Array**	**129.42**	**313**	PKP	**PKPdf**	**19 04 50.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=82,slow=3.1,SNR=2.4						
GEYT	**Alibeck**	**134.53**	**290**	SKPbc	**SKPbc**	**19 08 26.3**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=178,slow=5.6,SNR=3.8						
ARU	**Arti**	**136.48**	**317**	PKP	**PKPdf**	**19 05 02.6**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=219,slow=6.5,SNR=3.8						
ARU				SKPbc	**SKPbc**	**19 08 32.2**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=200,slow=9.1,SNR=3.2						
FINES	**FINESS Array B**	**149.90**	**335**	PKPbc	**PKiKP**	**19 05 32.6**	**+0.2**
	comp=Z,6.8nm,0.6s,baz=20,slow=4.4,SNR=11						
BRTR	**Keskin Array B**	**153.63**	**288**	PKPbc	**PKiKP**	**19 05 42.3**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=164,slow=2.3,SNR=4.7						
NOA	**NORSAR Array B**	**154.10**	**348**	PKPbc	**PKiKP**	**19 05 42.7**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=39,slow=2.1,SNR=1.9						
AKASG	**Malin Array Be**	**154.69**	**314**	PKPbc	**PKiKP**	**19 05 43.9**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=58,slow=2.9,SNR=7.4						
TORD	**Torodi Ar. Bea**	**157.13**	**183**	PKPbc	PKPbc	19 05 46.8	
	comp=Z,0.6nm,0.8s,baz=143,slow=0.9,SNR=3.6						
TORD				PKPab	**PKPab**	**19 06 09.8**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=167,slow=3.2,SNR=3.8						

IDC 03 19:01:37.4±7.6**, 30°.44S×178°.62W, h0km, mb3.6**/2**, mbtmp3.6**/2**, Error ellipse: s-maj=319.9km s-min=57.5km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.57**	**267**	P	P	19 09 34.9	-0.4
	0.2nm,0.4s,baz=105,slow=7.1,SNR=1.9						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.56**	**273**	P	P	19 09 43.4	0.0
	0.4nm,0.3s,baz=111,slow=8.1,SNR=28						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	19 21 14.4	-0.8
	3.7nm,0.9s,baz=72,slow=4.5,SNR=7.7						

IDC 03 19:02:05.7±6.2**, 12°.42S×169°.76E, h0km, mb3.5**/3**, mbtmp3.5**/3**, Error ellipse: s-maj=311.3km s-min=33.2km az=140.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.78**	**253**	P	P	19 08 58.2	-0.1
	0.3nm,0.8s,baz=86,slow=9.1,SNR=2.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**35.78**	**247**	P	P	19 09 06.8	-0.1
	0.3nm,0.5s,baz=74,slow=9.1,SNR=8.8						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**83.61**	**17**	P	P	19 14 35.6	0.0
	0.7nm,0.8s,baz=236,slow=5.8,SNR=7.5						
	0.7nm,0.8s						

---

*KOLA **03** 19:02:03.9, 67°.23N×19°.79E, h0km, ML2.4*
*IDC **03** 19:02:07.7±0.8, 67°.15N×20°.78E, h0km, mbtmp3.3/5, ML2.6/5, Error ellipse: s-maj=13.7km s-min=7.1km az=111.0*
*DNK **03** 19:02:07.8±0.6, 67°.19N×20°.65E, h0km, ML2.8(UPP), Suspected explosion*
*HEL **03** 19:02:08.1, 67°.19N×20°.64E, h0km, ML2.3, Confirmed Induced event*
*BER **03** 19:02:08.9±2.4, 67°.01N×21°.02E, h0km±17km, ML2.3, Confirmed Induced event*
*HEL **03** 19:02:08.1±0.0, 67°.19N×20°.65E, h0km, ML2.3, ML2.8(UPP), Confirmed Induced event*
ISC 03 19:02:06.8±0.7**, 67°.18N**±0°.02×**20°.66E**±0°.02**, h0km, n55, σ1s.20**/88**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**210**	P	**Pg**	**19 02 09.3**	**+1.2**
DUNU				S	**Sg**	**19 02 10.5**	**+1.5**
DUNU	**Dundret**	**0.07**	**210**	*i* P	**Pg**	**19 02 09.3**	**+1.2**
DUNU				*i* S	**Sg**	**19 02 10.5**	**+1.5**
MASU	**Masugnsbyn**	**0.59**	**61**	P	**Pg**	**19 02 18.8**	**+0.7**
MASU				S	**Sg**	**19 02 26.9**	**+1.2**
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	**Pg**	**19 02 18.8**	**+0.7**
MASU				*i* S	**Sg**	**19 02 26.9**	**+1.2**
RATU	**Laukkuluspa**	**0.76**	**328**	P	**Pg**	**19 02 21.7**	**+0.3**
RATU	**Laukkuluspa**	**0.76**	**328**	*i* P	**Pg**	**19 02 21.7**	**+0.3**
SALU	**Saltoluokta**	**0.86**	**284**	P	**Pg**	**19 02 23.6**	**+0.4**
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	**Pg**	**19 02 23.6**	**+0.4**
ERTU	**Ertsjaerv**	**0.87**	**136**	P	**Pg**	**19 02 23.6**	**+0.1**
ERTU	**Ertsjaerv**	**0.87**	**136**	*e*P	**Pg**	**19 02 23.6**	**+0.1**
ERTU				*e*S	**Sg**	**19 02 34.9**	**+0.1**
NIKU	**Nikkaluokta**	**0.93**	**319**	P	**Pg**	**19 02 24.7**	**+0.1**
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	**Pg**	**19 02 24.7**	**+0.1**
PAJU	**Pajala**	**0.97**	**98**	P	**Pg**	**19 02 25.5**	**+0.1**
PAJU	**Pajala**	**0.97**	**98**	*e*P	**Pg**	**19 02 25.5**	**+0.1**
PAJU				*e*S	**Sg**	**19 02 38.8**	**+0.8**
LANU	**Lannavaara**	**1.01**	**30**	P	**Pg**	**19 02 26.0**	**-0.1**
LANU	**Lannavaara**	**1.01**	**30**	*e*P	**Pg**	**19 02 25.9**	**-0.1**
LANU				*e*S	**Sg**	**19 02 38.5**	**-0.7**
HARU	**Harads**	**1.03**	**173**	P	**Pg**	**19 02 26.4**	**-0.1**
HARU	**Harads**	**1.03**	**173**	*e*P	**Pg**	**19 02 26.4**	**-0.1**
KOVU	**Salmi**	**1.06**	**350**	P	**Pg**	**19 02 26.9**	**-0.2**
KOVU	**Salmi**	**1.06**	**350**	*e*P	**Pg**	**19 02 26.9**	**-0.2**
KLF	**Kolari**	**1.29**	**86**	*e*P	**Pg**	**19 02 31.2**	**-0.3**
KLF				*e*S	**Sg**	**19 02 47.6**	**-0.6**
HEF	**Hetta**	**1.68**	**41**	*e*P	**Pn**	**19 02 37.6**	**+0.2**
HEF				*e*S	**Sn**	**19 02 59.3**	**-0.3**
HEF	**Hetta**	**1.68**	**41**	*e*P	**Pn**	**19 02 37.8**	**+0.4**
HEF				*e*S	**Sn**	**19 02 59.5**	**-0.1**
SJUU	**Sjulsmark**	**1.73**	**167**	P	**Pn**	**19 02 38.7**	**+0.7**
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	**Pn**	**19 02 38.7**	**+0.7**
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	**Pb**	**19 02 40.8**	**-0.3**
KIF				*e*S	**Sg**	**19 03 05.3**	**-0.2**
KIF				MSG		19 03 08.0	
	comp=Z,24nm,0.2s						
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	**Pb**	**19 02 40.9**	**-0.2**
KIF				*e*S	**Sg**	**19 03 06.7**	**+1.2**
TOF	**Tornio**	**1.83**	**125**	*e*P	**Pn**	**19 02 40.7**	**+1.2**
TOF				*e*S	**Sb**	**19 03 04.9**	**+0.3**
KTK1	**Kautokeino**	**2.08**	**27**	*e*P	**Pb**	**19 02 44.6**	**-0.7**
KTK1				*e*S	**Sb**	**19 03 11.0**	**-0.6**
KTK1	**Kautokeino**	**2.08**	**27**	*e*P	**Pb**	**19 02 44.7**	**-0.6**
KTK1				*e*S	**Sb**	**19 03 11.7**	**+0.1**
KTK1				IAML		19 03 14.0	
	comp=Z,58nm,0.4s						
FAUS	**Fauske**	**2.10**	**278**	*e*P	**Pb**	**19 02 44.9**	**-0.7**
FAUS				*e*S	**Sg**	**19 03 13.8**	**-0.2**
FAUS				IAML		19 03 14.9	
	comp=Z,50nm,0.3s						
RNF	**Rovaniemi**	**2.19**	**103**	*e*P	**Pn**	**19 02 45.8**	**+1.4**
RNF				*e*S	**Sn**	**19 03 13.2**	**+1.0**
RNF				MSG		19 03 17.4	
	comp=Z,17nm,0.2s						
STEI	**Steigen**	**2.21**	**292**	*e*P	**Pn**	**19 02 46.0**	**+1.3**
STEI				*e*S	**Sg**	**19 03 17.0**	**-0.7**
STEI				IAML		19 03 20.2	
	comp=Z,22nm,0.5s						
SGF	**Sodankyl**	**2.29**	**81**	*e*P	**Pn**	**19 02 47.2**	**+1.4**
SGF				*e*S	**Sn**	**19 03 15.9**	**+1.3**
JETT	**Jettan, Norway**	**2.39**	**358**	*e*P	**Pb**	**19 02 50.1**	**-0.5**
JETT				*e*S	**Sb**	**19 03 21.7**	**+1.1**
JETT				IAML		19 03 22.9	
	comp=Z,56nm,0.3s						
TRO	**Tromso**	**2.54**	**346**	*e*P	**Pn**	**19 02 51.2**	**+2.0**
TRO				*e*S	**Sb**	**19 03 23.9**	**-1.1**
TRO				IAML		19 03 28.6	
	comp=Z,38nm,0.4s						
BURU	**Burvik**	**2.63**	**173**	*e*P	**Pn**	**19 02 51.8**	**+1.5**
BURU				*e*S	**Sn**	**19 03 23.1**	**+0.3**
MOR8	**Moi Rana**	**2.67**	**251**	*e*P	**Pn**	**19 02 52.1**	**+1.1**
MOR8				IAML		19 03 29.1	
	comp=Z,24nm,0.4s						
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P	**Pn**	**19 02 56.2**	**+1.1**
ARA0				*e*S	**Sn**	**19 03 31.6**	**+0.2**
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P	**Pn**	**19 02 56.5**	**+1.4**
ARA0				*e*S	**Sn**	**19 03 32.2**	**+0.8**
ARA0				IAML		19 03 38.1	
	comp=Z,8.6nm,0.4s						
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**19 02 56.0**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=214,slow=13,SNR=144						
ARCES				Sn	**Sn**	**19 03 31.9**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=214,slow=24,SNR=8.5						
	comp=Z,1.9nm,0.3s						
ARCES	**ARCESS Array B**	**2.97**	**35**	P	**Pn**	**19 02 55.9**	**+0.9**
ARCES				S	**Sn**	**19 03 30.7**	**-0.6**
KONS	**Konsvik**	**3.06**	**261**	*e*P	**Pn**	**19 02 57.6**	**+1.3**
KONS				*e*S	**Sn**	**19 03 34.7**	**+1.2**
KONS				IAML		19 03 46.9	
	comp=Z,14nm,0.3s						
STOK	**Stokkvaagen**	**3.15**	**258**	*e*P	**Pn**	**19 02 59.1**	**+1.6**
KEV	**Kevo**	**3.49**	**39**	*e*P	**Pn**	**19 03 03.2**	**+1.1**
KEV				*e*S	**Sn**	**19 03 44.5**	**+0.4**
HAMF	**Hammerfest**	**3.64**	**16**	*e*P	**Pn**	**19 03 06.0**	**+1.6**
HAMF				*e*S	**Sn**	**19 03 49.2**	**+1.2**
HAMF				IAML		19 04 06.8	
	comp=Z,10nm,0.4s						
NSS	**Namsos**	**4.45**	**237**	*e*	**Pn**	**19 03 15.6**	**+0.2**
NOD	**Norderasen**	**4.47**	**216**	*e*P	**Pn**	**19 03 15.2**	**-0.5**
APA0	**Apatity Array**	**4.78**	**79**	S	**Sn**	**19 04 15.2**	**-0.7**
PRVG	**Vayda Guba**	**4.96**	**54**	P	**Pn**	**19 03 24.5**	**+2.1**
PRVG				S	**Sn**	**19 04 21.0**	**+0.5**
TERR	**Teriberka**	**5.75**	**63**	S	**Sn**	**19 04 36.3**	**-3.5**
FINES	**FINESS Array B**	**6.22**	**155**	Pn	**Pn**	**19 03 41.1**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=342,slow=14,SNR=21						
FINES				Sn	**Sn**	**19 04 49.8**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=347,slow=24,SNR=7.6						
FINES				Lg	Lg	19 05 21.5	
	comp=Z,1.2nm,0.3s,baz=346,slow=30,SNR=7.6						
	comp=Z,1.4nm,0.4s						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**19 03 55.8**	**-0.4**
	baz=26,slow=12,SNR=2.4						
NOA				Sn	**Sn**	**19 05 16.2**	**-4.7**
	baz=34,slow=20,SNR=2.4						
NOA				Lg	Lg	19 05 57.0	
	comp=Z,0.1nm,0.3s,baz=52,slow=24,SNR=3.5						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**19 04 00.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=13						
HFS				Sn	**Sn**	**19 05 23.6**	**-4.6**
	comp=Z,0.6nm,0.3s,baz=22,slow=24,SNR=8.2						
HFS				Lg	Lg	19 06 02.6	
	comp=Z,0.2nm,0.3s,baz=27,slow=26,SNR=1.9						
	comp=Z,0.7nm,0.3s						
SPITS	**Spitsbergen Ar**	**11.12**	**355**	Pn	**Pn**	**19 04 46.4**	**-0.4**
	baz=142,slow=14						
	comp=Z,4.7nm,0.9s						

IDC 03 19:24:00.3±3.4**, 24°.02N×94°.48E, h92km**±36km**, mb3.1**/3**, mbtmp3.4**/5**, Error ellipse: s-maj=54.5km s-min=23.0km az=51.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.93**	**244**	P	Pn	19 24 44.6	-0.3
	106nm,0.4s,baz=342,slow=20,SNR=3.8						
CMAR	**Chiang Mai Arr**	**6.92**	**142**	P	Pn	19 25 39.5	+0.4
	0.6nm,0.6s,baz=318,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**24.75**	**340**	P	P	19 29 13.2	+0.1
	0.4nm,0.6s,baz=147,slow=9.4,SNR=4.1						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**58.45**	**135**	P	P	19 33 46.5	-0.3
	0.4nm,0.6s,baz=324,slow=7.4,SNR=9.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**60.91**	**138**	P	P	19 34 03.9	+0.2
	0.4nm,0.8s,baz=322,slow=7.2,SNR=6.5						
	0.4nm,0.8s						

BUC 03 19:27:30.3±0.3**, 45°.91N×27°.14E, h28km**±1km**, ml0.6**/2**, 10C-22D, Error ellipse: s-maj=3.1km s-min=2.0km az=12.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PANC	**Panciu**	**0.04**	**173**	⇑P	Pb	19 27 34.6	-0.4
PANC				⇓S	Sb	19 27 38.8	+0.6
PANC	**Panciu**	**0.04**	**173**	⇑P	Pb	19 27 34.6	-0.4
PANC				⇓S	Sb	19 27 38.8	+0.6
ODBI	**Odobesti**	**0.16**	**202**	⇑P	Pb	19 27 36.0	+0.2
ODBI				⇑S	Sb	19 27 40.7	+1.1
ODBI	**Odobesti**	**0.16**	**202**	⇑P	Pb	19 27 36.0	+0.2
ODBI				⇑S	Sb	19 27 40.7	+1.1
VRI	**Vrincioaia**	**0.29**	**261**	⇓P	Pb	19 27 37.0	-0.5
VRI				⇓S	Sb	19 27 42.2	-0.2
VRI	**Vrincioaia**	**0.29**	**261**	⇓P	Pb	19 27 37.0	-0.5
VRI				⇓S	Sb	19 27 42.2	-0.2
PLOR	**Plostina**	**0.35**	**260**	⇓P	Pb	19 27 37.8	-0.4
PLOR				⇑S	Sb	19 27 44.0	+0.2
PLOR	**Plostina**	**0.35**	**260**	⇓P	Pb	19 27 37.8	-0.4
PLOR				⇑S	Sb	19 27 44.0	+0.2
VLDR	**Vladesti**	**0.66**	**95**	⇓P	Pb	19 27 43.3	0.0
VLDR				⇓S	Sn	19 27 53.2	+0.1
VLDR	**Vladesti**	**0.66**	**95**	⇓P	Pb	19 27 43.3	0.0
VLDR				⇓S	Sn	19 27 53.2	+0.1
TESR	**Tescani**	**0.69**	**331**	⇓P	Pb	19 27 43.7	-0.1
TESR				⇑S	Sn	19 27 53.9	-0.1
TESR	**Tescani**	**0.69**	**331**	⇓P	Pb	19 27 43.7	-0.1
TESR				⇑S	Sn	19 27 53.9	-0.1
MLR	**Muntele Rosu**	**0.94**	**244**	⇓P	Pb	19 27 48.6	+0.6
MLR				⇓S	Sn	19 28 01.4	+1.2
MLR	**Muntele Rosu**	**0.94**	**244**	⇓P	Pb	19 27 48.6	+0.6
MLR				⇓S	Sn	19 28 01.4	+1.2
CFR	**Carcaliu**	**1.01**	**136**	⇓P	Pn	19 27 48.3	-0.2
CFR				⇓S	Sn	19 28 01.5	-0.3
CFR	**Carcaliu**	**1.01**	**136**	⇓P	Pn	19 27 48.3	-0.2
CFR				⇓S	Sn	19 28 01.5	-0.3

MAN 03 19:44:39.3, 9°.96N×126°.44E, h32km, mb5.1, ML4.0, MS4.1, Mindanao

---

*IDC **03** 20:02:32.8±2.7, 23°.53N×142°.69E, h68km±26km, mb3.4/9, mbtmp3.8/12, MS3.0/2, Error ellipse: s-maj=36.7km s-min=16.0km az=83.0*
*NEIC **03** 20:02:34.8±1.2, 23°.47N±0°.07×142°.3E±0°.3, h75km±10km, mb4.6/13, Error ellipse: s-maj=33.5km s-min=9.6km az=82.0*
*JMA **03** 20:02:36.8±0.1, 23°.9N±0°.5×14°3E±°, h147km±2km, MV4.6/25, IOTO ISLANDS REGION*
ISC 03 20:02:35.5±0.9**, 23°.64N**±0°.06×**142°.7E**±0°.2**, h102km, n47, σ1s.49**/45**, mb4.1**/16**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.01**	**351**	*e*S	**Sn**	**20 03 57.9**	**+1.0**
CBIJ	**Chichi jima**	**3.47**	**353**	*e*P	**Pn**	**20 03 28.2**	**+0.7**
CBIJ				*e*S	**Sn**	**20 04 07.7**	**-0.1**
JCJ	**Chichijima**	**3.47**	**353**	P	**Pn**	**20 03 27.5**	**-0.1**
	148nm,0.3s,baz=312,slow=23,SNR=31						
JCJ				S	**Sn**	**20 04 06.9**	**-0.9**
	253nm,0.3s,baz=272,slow=19,SNR=17						
JCJ	**Chichijima**	**3.47**	**353**	Pn	**Pn**	**20 03 28.1**	**+0.6**
JCJ					**Sn**	**20 04 05.0**	**-2.7**
GUMO	**Guam**	**10.21**	**168**	Pn	Pn	20 04 52.3	-6.8
BSO1	**Boso 1**	**11.07**	**353**	*e*P	**Pn**	**20 05 09.4**	**-0.8**
BSO3	**Boso 3**	**11.28**	**351**	*e*P	**Pn**	**20 05 12.1**	**-1.2**
BSO4	**Boso 4**	**11.49**	**350**	*e*S	**Sn**	**20 07 19.6**	**-2.9**
JOD2	**Odawara 2**	**12.00**	**346**	*e*P	**Pn**	**20 05 22.5**	**-0.5**
JHU	**Hanno**	**12.52**	**347**	*e*P	**Pn**	**20 05 28.6**	**-1.4**
INU	**Inuyama**	**12.66**	**338**	Pn	**Pn**	**20 05 29.8**	**-2.1**
JRY	**Ryogami san**	**12.76**	**346**	*e*P	**Pn**	**20 05 30.8**	**-2.3**
JGF	**Kuroka**	**12.78**	**340**	Pn	**Pn**	**20 05 31.8**	**-1.7**
JAG	**Ashikaga**	**13.04**	**348**	*e*P	**Pn**	**20 05 33.8**	**-3.0**
JHO	**Hitachi**	**13.05**	**352**	*e*P	**Pn**	**20 05 35.0**	**-1.9**
MJAR	**Matsushiro Arr**	**13.43**	**344**	P	**Pn**	**20 05 41.2**	**-0.6**
	0.9nm,0.4s,baz=158,slow=8.7,SNR=11						
MAJO	**Matsushiro**	**13.43**	**344**	Pn	**Pn**	**20 05 39.1**	**-2.8**
MJB9	**Matsu-Tunnel**	**13.43**	**344**	Pn	**Pn**	**20 05 39.1**	**-2.8**
JMM	**Marumori**	**14.27**	**354**	Pn	**Pn**	**20 05 51.1**	**-1.6**
KSRS	**Korea Array**	**18.71**	**321**	P	**Pn**	**20 06 47.8**	**+0.3**
	1.5nm,0.6s,baz=133,slow=12,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**22.82**	**95**	T	T	20 31 35.4	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**22.82**	**95**	T	T	20 31 35.4	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**22.83**	**95**	T	T	20 31 35.1	
	baz=282						
KLR	**Kul'dur**	**26.95**	**344**	P	**P**	**20 08 09.9**	**+2.7**
	1.0nm,0.4s,baz=153,slow=10,SNR=5.8						
KLR				LR	LR	20 17 41.3	
	comp=Z,20nm,19.0s,baz=197,slow=34						
	1.0nm,0.4s						
SONM	**Songino Array**	**37.56**	**319**	P	**P**	**20 09 40.7**	**+0.7**
	0.2nm,0.4s,baz=120,slow=9.3,SNR=2.0						
	0.2nm,0.4s						
SOEI	**Soe**	**37.77**	**211**	P	**P**	**20 09 40.4**	**-1.6**
MTN	**Manton Dam**	**37.98**	**199**	P	**P**	**20 09 42.4**	**-1.3**
MTN				IAmb	IAmb	20 09 53.1	
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**41.04**	**271**	P	**P**	**20 10 10.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=59,slow=7.6,SNR=2.0						
	comp=Z,0.3nm,0.5s						
KNRA	**Kununurra**	**41.38**	**201**	P	**P**	**20 10 11.7**	**-0.1**
KNRA				IAmb	IAmb	20 10 30.2	
	comp=Z,14nm,1.3s						
WB0	**Warramunga Arr**	**43.90**	**191**	P	**P**	**20 10 31.6**	**-0.5**
WR0	**Warramunga Arr**	**44.06**	**191**	P	**P**	**20 10 32.7**	**-0.8**
WR0				IAmb	IAmb	20 11 08.9	
	comp=Z,9.8nm,1.4s						
WRAB	**Tennant Creek**	**44.07**	**191**	P	**P**	**20 10 32.2**	**-1.3**
WRAB				IAmb	IAmb	20 10 46.4	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**44.08**	**191**	P	**P**	**20 10 33.3**	**-0.3**
WB2				IAmb	IAmb	20 10 34.5	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**44.08**	**191**	P	**P**	**20 10 33.2**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=12,slow=8.1,SNR=46						
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**44.08**	**191**	P	**P**	**20 10 32.4**	**-1.2**

AS31	**Alice Springs**	**47.79**	**191**	P	**P**	**20 11 02.3**	**-0.5**
ASAR	**Alice Springs**	**47.80**	**191**	P	**P**	**20 11 02.1**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=15,slow=8.6,SNR=33						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**47.80**	**191**	P	**P**	**20 11 01.8**	**-0.9**
MKAR	**Makanchi Array**	**53.06**	**312**	P	**P**	**20 11 43.3**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=84,slow=8.6,SNR=4.9						
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**53.06**	**312**	P	**P**	**20 11 42.4**	**+0.2**
KURK	**Kurchatov**	**55.75**	**316**	P	**P**	**20 12 01.5**	**-0.1**
KURK				IAmb	IAmb	20 12 26.8	
	comp=Z,7.5nm,1.4s						
KURBB	**Kurchatov Arra**	**55.80**	**316**	P	**P**	**20 12 03.0**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=91,slow=8.1,SNR=15						
	comp=Z,0.5nm,0.4s						
FORT	**Forrest**	**55.90**	**195**	P	**P**	**20 12 03.1**	**+0.3**
BBOO	**Buckleboo**	**56.49**	**187**	P	**P**	**20 12 06.1**	**-0.9**
J20K	**Nowinta River**	**57.33**	**28**	P	P	20 12 16.6	+4.1
J20K				IAmb	IAmb	20 12 46.5	
	comp=Z,11nm,1.5s						
ILAR	**Eielson Array**	**60.53**	**28**	P	**P**	**20 12 36.4**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=270,slow=7.0,SNR=2.7						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**60.91**	**319**	P	**P**	**20 12 39.0**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=93,slow=2.9,SNR=2.9						
BVAR				LR	LR	20 40 59.7	
	comp=Z,16nm,20.2s,baz=198,slow=38						
	comp=Z,0.3nm,0.4s						

---

*LDG **03** 20:32:39.5±0.2, 42.°79N×13.°24E, h11km, Ml2.7/24, Error ellipse: s-maj=5.6km s-min=3.2km az=61.0*
*ROM **03** 20:32:40.7±0.1, 42.°798N±0.°003×13.°112E±0.°004, h9km, ML3.5/6, Error ellipse: s-maj=0.3km s-min=0.2km az=69.0*
*PRU **03** 20:32:43.2±0.0, 42.°82N×13.°46E, h10km*
*STR **03** 20:32:43.1±0.9, 43˚N±13˚×1˚3E±˚, h10km, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=25.5, preliminary*

ISC 03 20:32:40.7±0.6**, 42.°79N**±0.°01×**13.°07E**±0.°02**, h16**km±3km**, n177,** σ1s**92**/230**, 10C-4D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.06**	**35**	⇓P	**Pg**	**20 32 42.9**	**-0.9**
NRCA				S	**Sg**	**20 32 44.0**	**-1.9**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1216	**Preci, Frazion**	**0.11**	**340**	P	**Pg**	**20 32 44.0**	**-0.3**
T1216				S	**Sg**	**20 32 46.2**	**-0.4**
T1216				AML	AML		
	comp=E,44950µm,1.3s						
T1216				AML	AML		
	comp=E,45000µm,1.3s						
T1216				AML	AML		
	comp=N,64600µm,0.2s						
T1216				AML	AML		
	comp=E,44950µm,1.3s						
T1245	**Castelsantange**	**0.11**	**51**	⇓P	**Pg**	**20 32 43.5**	**-0.9**
T1245				S	**Sg**	**20 32 45.3**	**-1.6**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1217	**Poggiodomo (PG**	**0.13**	**234**	P	**Pg**	**20 32 44.7**	**+0.2**
T1217				S	**Sg**	**20 32 47.4**	**+0.4**
T1217				AML	AML		
	comp=E,17500µm,0.4s						
T1217				AML	AML		
	comp=N,27600µm,0.4s						
T1217				AML	AML		
	comp=N,26950µm,0.4s						
T1217				AML	AML		
	comp=N,27550µm,0.4s						
T1217				AML	AML		
	comp=E,17900µm,0.5s						
T1217				AML	AML		
	comp=N,26950µm,0.4s						
T1217				AML	AML		
	comp=N,27000µm,0.4s						
T1217				AML	AML		
	comp=E,17550µm,0.4s						
T1202	**Accumoli, Fraz**	**0.14**	**126**	⇓P	**Pg**	**20 32 44.2**	**-0.5**
T1202				S	**Sg**	**20 32 46.7**	**-0.6**
T1215	**Vallo di Nera,**	**0.15**	**276**	⇑P	**Pg**	**20 32 45.0**	**+0.3**
T1215				S	**Sg**	**20 32 48.0**	**+0.6**
T1215				AML	AML		
	comp=E,12300µm,1.2s						
T1215				AML	AML		
	comp=N,17100µm,0.2s						
T1215				AML	AML		
	comp=E,12900µm,1.1s						
T1215				AML	AML		
	comp=E,12850µm,1.2s						
T1215				AML	AML		
	comp=N,16650µm,0.2s						
T1244	**Arquata del Tr**	**0.17**	**100**	P	**Pg**	**20 32 44.6**	**-0.5**
T1244				S	**Sg**	**20 32 47.4**	**-0.6**
FEMA	**Monte Fema**	**0.18**	**355**	⇑P	**Pg**	**20 32 44.9**	**-0.3**
FEMA				S	**Sg**	**20 32 47.8**	**-0.4**
T1221	**Campello sul C**	**0.18**	**294**	⇑P	**Pg**	**20 32 45.5**	**+0.3**
T1221				S	**Sg**	**20 32 48.8**	**+0.6**
LNSS	**Leonessa**	**0.18**	**187**	P	**Pg**	**20 32 45.5**	**+0.2**
LNSS				S	**Sg**	**20 32 48.5**	**+0.2**
T1201	**Domo (RI)**	**0.18**	**134**	⇑P	**Pg**	**20 32 45.3**	**0.0**
T1201				S	**Sg**	**20 32 48.6**	**+0.3**
T1204	**Amatrice, Fraz**	**0.21**	**121**	P	**Pg**	**20 32 45.5**	**-0.3**
T1204				S	**Sg**	**20 32 48.8**	**-0.3**
MMO1	**Montemonaco**	**0.22**	**59**	P	**Pg**	**20 32 45.2**	**-0.6**
MMO1				S	**Sg**	**20 32 48.3**	**-1.0**
T1256	**Bolognola (MC)**	**0.25**	**27**	P	**Pg**	**20 32 45.8**	**-0.5**
T1256				S	**Sg**	**20 32 49.7**	**-0.4**
CESI	**CESI - Serrava**	**0.25**	**331**	P	**Pg**	**20 32 46.5**	**+0.2**
CESI				S	**Sg**	**20 32 50.6**	**+0.5**
FDMO	**Fiordimonte**	**0.25**	**3**	P	**Pg**	**20 32 46.1**	**-0.1**
FDMO				S	**Sg**	**20 32 49.9**	**-0.2**
FDMO				AML	AML		
	comp=N,24950µm,0.2s						
FDMO				AML	AML		
	comp=E,18100µm,1.6s						
SMA1	**SAN MARTINO**	**0.25**	**128**	⇑P	**Pg**	**20 32 46.1**	**-0.2**
SMA1				S	**Sg**	**20 32 50.0**	**-0.1**
T1241	**Roccafluvione,**	**0.28**	**75**	P	**Pg**	**20 32 46.2**	**-0.5**
T1241				S	**Sg**	**20 32 50.1**	**-0.7**
AM05	**Amandola Campo**	**0.28**	**47**	P	**Pg**	**20 32 46.5**	**-0.3**
AM05				S	**Sg**	**20 32 50.5**	**-0.5**
T1243	**Rocca Santa Ma**	**0.29**	**108**	P	**Pg**	**20 32 46.5**	**-0.5**
T1243				S	**Sg**	**20 32 50.7**	**-0.6**
RM33	**Pellescritta (**	**0.30**	**159**	P	**Pg**	**20 32 47.0**	**-0.1**
RM33				S	**Sg**	**20 32 51.6**	**+0.2**
T1211	**Morro Reatino**	**0.30**	**212**	P	**Pg**	**20 32 47.6**	**+0.5**
T1211				S	**Sb**	**20 32 52.4**	**-0.1**
ARRO	**Arrone**	**0.30**	**227**	P	**Pb**	**20 32 47.8**	**0.0**
ARRO				S	**Sb**	**20 32 53.1**	**+0.5**
T1220	**Camerino, Fraz**	**0.32**	**2**	⇑P	**Pg**	**20 32 47.4**	**-0.1**
T1220				S	**Sg**	**20 32 52.5**	**+0.3**
GUMA	**Gualdo di Mace**	**0.34**	**35**	⇓P	**Pg**	**20 32 47.7**	**0.0**
GUMA				S	**Sg**	**20 32 52.9**	**+0.3**
CAMP	**Campotosto**	**0.35**	**135**	P	**Pg**	**20 32 47.8**	**-0.3**
CAMP				S	**Sg**	**20 32 52.9**	**-0.2**
SEF1	**Sefro**	**0.37**	**346**	P	**Pg**	**20 32 48.3**	**0.0**
SEF1				S	**Sg**	**20 32 54.1**	**+0.5**
T1246	**Crognaleto (TE**	**0.37**	**123**	P	**Pg**	**20 32 47.9**	**-0.4**
T1246				S	**Sg**	**20 32 53.4**	**-0.2**
T1247	**Pizzolo (AQ)**	**0.38**	**154**	P	**Pg**	**20 32 48.4**	**-0.2**
T1247				S	**Sg**	**20 32 54.6**	**+0.7**
ASSB	**Assisi San Ben**	**0.40**	**310**	P	**Pg**	**20 32 49.0**	**+0.2**
ASSB				S	**Sb**	**20 32 55.1**	**-0.2**
CESX	**Cesi**	**0.40**	**244**	P	**Pb**	**20 32 49.4**	**-0.1**
CESX				S	**Sb**	**20 32 56.0**	**+0.6**
MDAR	**Monte D'Aria**	**0.41**	**7**	P	**Pg**	**20 32 48.9**	**-0.2**
MDAR				S	**Sg**	**20 32 55.1**	**+0.4**
FIU1	**Fiuminata**	**0.41**	**346**	⇑P	**Pg**	**20 32 49.0**	**-0.1**
FIU1				S	**Sg**	**20 32 55.5**	**+0.7**
TERO	**Teramo**	**0.43**	**112**	P	**Pg**	**20 32 48.7**	**-0.6**
TERO				S	**Sg**	**20 32 54.7**	**-0.5**
SSM1	**San Severino M**	**0.45**	**10**	P	**Pg**	**20 32 49.5**	**-0.2**
SSM1				S	**Sg**	**20 32 56.4**	**+0.5**
GAG1	**Gagliole**	**0.45**	**360**	P	**Pg**	**20 32 49.7**	**-0.1**
GAG1				S	**Sg**	**20 32 56.6**	**+0.6**
MNTP	**Montappone**	**0.46**	**40**	P	**Pg**	**20 32 50.1**	**+0.2**
OFFI	**Offida**	**0.48**	**72**	P	**Pg**	**20 32 50.6**	**+0.4**
SNTG	**Esanatoglia**	**0.48**	**349**	P	**Pg**	**20 32 50.1**	**-0.2**
AQU	**L'Aquila**	**0.50**	**150**	⇑P	**Pg**	**20 32 50.2**	**-0.4**
GIGS	**Gran Sasso**	**0.50**	**132**	P	**Pg**	**20 32 49.9**	**-0.8**
ATCC	**AVT- Casa Cast**	**0.51**	**322**	P	**Pg**	**20 32 51.0**	**+0.1**
FIAM	**Fiamignano**	**0.52**	**176**	⇑P	**Pg**	**20 32 50.9**	**-0.1**
EL6	**Elcito**	**0.54**	**2**	P	**Pg**	**20 32 51.2**	**-0.3**
TRE1	**Treia**	**0.55**	**19**	P	**Pg**	**20 32 51.9**	**+0.2**
FOSV	**Fossato di Vic**	**0.56**	**336**	P	**Pg**	**20 32 51.6**	**-0.2**
CING	**Cingoli**	**0.60**	**9**	P	**Pg**	**20 32 52.1**	**-0.4**
TRTR	**Tortoreto Alta**	**0.62**	**88**	P	**Pg**	**20 32 53.4**	**+0.5**
MURB	**Monte Urbino**	**0.62**	**320**	P	**Pg**	**20 32 53.1**	**+0.1**
FAGN	**Fagnano**	**0.64**	**144**	P	**Pg**	**20 32 52.2**	**-1.2**
CADA	**Capodarco di F**	**0.65**	**51**	P	**Pb**	**20 32 54.4**	**+0.7**
MMUR	**Monte Murano**	**0.66**	**355**	P	**Pg**	**20 32 53.5**	**-0.1**
SSFR	**Montelago di S**	**0.68**	**342**	P	**Pg**	**20 32 53.8**	**-0.3**
ATFO	**Monte Foce - G**	**0.69**	**328**	P	**Pg**	**20 32 54.1**	**-0.1**
SRES	**S.Oreste - Sor**	**0.69**	**217**	P	**Pg**	**20 32 54.6**	**+0.4**
PP3	**Marolino**	**0.71**	**34**	P	**Pg**	**20 32 55.0**	**+0.4**
MGAB	**Montegabbione**	**0.72**	**280**	P	**Pb**	**20 32 55.2**	**+0.4**
ARVD	**Arcevia**	**0.72**	**353**	P	**Pg**	**20 32 54.3**	**-0.5**
ATLO	**AVT- Montelove**	**0.72**	**318**	P	**Pg**	**20 32 54.6**	**-0.2**
TB01	**Gubbio**	**0.76**	**322**	P	**Pg**	**20 32 55.2**	**-0.2**
ATVA	**AVT- Monte Val**	**0.76**	**311**	P	**Pg**	**20 32 55.5**	**0.0**
TB02	**Pietralunga**	**0.76**	**321**	P	**Pg**	**20 32 55.3**	**-0.2**
T0110	**Collepietro**	**0.77**	**137**	P	**Pg**	**20 32 54.7**	**-0.9**
ATVO	**AVT- Monte Val**	**0.77**	**321**	P	**Pg**	**20 32 55.4**	**-0.3**
FRON	**Frontone**	**0.77**	**341**	P	**Pg**	**20 32 55.2**	**-0.6**
TB03	**Pietralunga**	**0.78**	**322**	P	**Pg**	**20 32 55.6**	**-0.3**
ATBU	**Serra di Buran**	**0.79**	**331**	P	**Pg**	**20 32 56.0**	**-0.1**
MTCE	**Montecelio**	**0.80**	**198**	P	**Pg**	**20 32 56.1**	**-0.2**
PTQR	**Pietraquaria**	**0.80**	**162**	P	**Pg**	**20 32 55.8**	**-0.6**
ATMI	**Monte Miggiano**	**0.80**	**313**	P	**Pb**	**20 32 56.9**	**+0.5**
ATPI	**Pietralunga -**	**0.82**	**324**	P	**Pg**	**20 32 56.5**	**-0.3**
ATPC	**Poggio Castell**	**0.83**	**327**	P	**Pg**	**20 32 56.6**	**-0.2**
CERT	**Cerreto**	**0.84**	**184**	P	**Pg**	**20 32 56.5**	**-0.5**
PIEI	**Pieia**	**0.85**	**333**	P	**Pg**	**20 32 56.6**	**-0.6**
SACS	**San Casciano d**	**0.86**	**275**	P	**Pb**	**20 32 57.8**	**+0.5**
AOI	**Ancona**	**0.86**	**27**	P	**Pg**	**20 32 57.3**	**-0.1**
MPAG	**Monte Paganucc**	**0.87**	**345**	P	**Pg**	**20 32 57.2**	**-0.5**
PCRO	**Pietralacroce**	**0.89**	**22**	P	**Pb**	**20 32 58.9**	**+1.2**
NARO	**Abbazia di Nar**	**0.90**	**337**	P	**Pg**	**20 32 57.5**	**-0.7**
APEC	**Apecchio**	**0.91**	**329**	P	**Pg**	**20 32 57.8**	**-0.5**
CDCA	**Citt' di Caste**	**0.91**	**318**	P	**Pb**	**20 32 58.6**	**+0.5**
ATMC	**Monte Cedrone**	**0.92**	**316**	P	**Pb**	**20 32 58.7**	**+0.4**
SENI	**Senigallia**	**0.93**	**7**	P	**Pb**	**20 32 59.4**	**+1.1**
FSSB	**Fossombrone**	**0.93**	**347**	P	**Pg**	**20 32 58.2**	**-0.5**
RCAV	**Rocca di Cave**	**0.94**	**186**	P	**Pb**	**20 32 59.5**	**+0.8**
LATE	**Laterza**	**0.95**	**260**	P	**Pb**	**20 32 59.9**	**+1.1**
CAFI	**Castiglion Fio**	**0.97**	**304**	P	**Pg**	**20 32 59.5**	**0.0**
PE3	**Peglio**	**1.00**	**335**	P	**Pg**	**20 33 00.0**	**-0.1**
VVLD	**Villa Vallelon**	**1.00**	**156**	P	**Pg**	**20 32 59.8**	**-0.3**
GUAR	**Guarcino**	**1.01**	**170**	P	**Pb**	**20 33 00.8**	**+1.0**
RMP	**Rome, Mte Porz**	**1.01**	**196**	P	**Pn**	**20 33 01.9**	**+1.6**
MCIV	**Monte Civitell**	**1.03**	**270**	P	**Pn**	**20 33 01.2**	**+0.7**
SF11	**Podere del Sol**	**1.03**	**275**	P	**Pn**	**20 33 01.6**	**+1.1**
SSP9	**Sansepolcro**	**1.04**	**319**	P	**Pn**	**20 33 01.6**	**+0.9**
VIVA	**Pratoni del Vi**	**1.06**	**192**	P	**Pn**	**20 33 02.0**	**+1.1**
MA9	**Marino**	**1.06**	**197**	P	**Pn**	**20 33 02.5**	**+1.5**
RDP	**Rocca di Papa**	**1.06**	**194**	P	**Pn**	**20 33 02.5**	**+1.6**
SAMA	**S.Maria delle**	**1.07**	**200**	P	**Pg**	**20 33 01.1**	**-0.1**
SF13	**Bagnolo**	**1.07**	**272**	P	**Pb**	**20 33 01.7**	**+0.9**
SF14	**Selvena**	**1.07**	**269**	P	**Pn**	**20 33 02.5**	**+1.4**
TOLF	**Tolfa**	**1.07**	**228**	P	**Pg**	**20 33 01.3**	**-0.1**
CAFR	**Castel Frentan**	**1.10**	**120**	P	**Pn**	**20 33 03.0**	**+1.6**
LPEL	**Lama dei Pelig**	**1.11**	**132**	P	**Pg**	**20 33 00.6**	**-1.5**
CPGN	**Carpegna, Ital**	**1.15**	**332**	⇑P	**Pn**	**20 33 03.3**	**+1.0**
CRE	**Caprese Michel**	**1.17**	**316**	P	**Pg**	**20 33 02.2**	**-1.1**
POFI	**Posta Fibreno**	**1.17**	**156**	P	**Pg**	**20 33 02.3**	**-1.0**
ARCI	**Arcidosso**	**1.18**	**274**	P	**Pn**	**20 33 04.5**	**+1.9**
LRP	**Arpino**	**1.20**	**161**	P	**Pn**	**20 33 04.9**	**+2.0**
RSM	**Repubblica di**	**1.23**	**339**	P	**Pn**	**20 33 05.0**	**+1.7**
GIUL	**Giuliano Di Ro**	**1.23**	**174**	P	**Pn**	**20 33 04.6**	**+1.3**
LATB	**Latina**	**1.29**	**184**	P	**Pn**	**20 33 04.5**	**+0.4**
RNI2	**Rionero Sannit**	**1.35**	**143**	P	**Pn**	**20 33 06.1**	**+1.1**
ASQU	**Asqua**	**1.38**	**318**	P	**Pn**	**20 33 06.5**	**+1.1**
CERA	**Filignano**	**1.38**	**149**	P	**Pn**	**20 33 06.3**	**+1.0**
SFI	**Santa Sofia**	**1.43**	**322**	P	**Pn**	**20 33 06.8**	**+0.7**
FRES	**Fresagrandinar**	**1.44**	**124**	P	**Pb**	**20 33 08.2**	**+1.1**
MIDA	**Miranda**	**1.44**	**142**	P	**Pn**	**20 33 06.3**	**+0.1**
FROS	**Frosini**	**1.47**	**287**	P	**Pn**	**20 33 07.7**	**+1.2**
CSNT	**Castellina Chi**	**1.47**	**298**	P	**Pn**	**20 33 07.9**	**+1.3**
OSSC	**Osservatorio P**	**1.52**	**300**	P	**Pn**	**20 33 07.0**	**-0.4**
RUFI	**Rufina**	**1.55**	**313**	P	**Pn**	**20 33 08.9**	**+1.3**
VAGA	**Valle Agricola**	**1.62**	**147**	P	**Pn**	**20 33 10.5**	**+1.8**
TREM	**Isole Tremiti**	**1.92**	**109**	P	**Pn**	**20 33 14.7**	**+2.0**
MTCR	**Monte La Croce**	**1.95**	**310**	P	**Pn**	**20 33 14.5**	**+1.2**
APRC	**Apricena**	**2.10**	**118**	P	**Pn**	**20 33 17.2**	**+1.9**
SGRT	**San Giovanni R**	**2.24**	**117**	P	**Pn**	**20 33 19.0**	**+1.8**
MORSI	**Morsiglia**	**2.73**	**275**	P	**Pn**	**20 33 25.9**	**+2.1**
SMPL	**Sampolo**	**2.89**	**257**	P	**Pn**	**20 33 29.0**	**+3.0**
PGF	**Pioggiola**	**3.01**	**267**	*e*P	**Pn**	**20 33 29.7**	**+1.9**
PGF				*e*Sn	**Sn**	**20 34 01.9**	**-1.7**
	comp=E,3.8nm,0.3s						
PGF	**Pioggiola**	**3.01**	**267**	P	**Pn**	**20 33 29.8**	**+1.9**
MYKA	**Terra Mystica**	**3.87**	**6**	*i* Pn	**Pn**	**20 33 41.9**	**+2.3**
	comp=E,0.8nm,0.2s						
ABTA	**Abfaltersbach**	**3.98**	**354**	*i* Pn	**Pn**	**20 33 44.0**	**+2.8**
	comp=E,2.1nm,0.3s,SNR=10						
SOKA	**Soboth**	**4.13**	**19**	*e*Pn	**Pn**	**20 33 46.9**	**+3.7**
	comp=E,1.3nm,0.4s						
SAOF	**Saorge**	**4.20**	**288**	P	**Pn**	**20 33 46.6**	**+2.6**
SBF	**Sospel**	**4.25**	**287**	*e*P	**Pn**	**20 33 46.6**	**+1.8**
SBF				*e*Sn	**Sn**	**20 34 32.0**	**-2.1**
	comp=E,5.5nm,0.4s						
KBA	**Koelnbreinsper**	**4.30**	**3**	*e*Pn	**Pn**	**20 33 47.9**	**+2.4**
	comp=E,2.1nm,0.2s						
TURF	**col de Turini**	**4.31**	**288**	P	**Pn**	**20 33 47.7**	**+2.0**
SPIF	**crte de Spivo**	**4.43**	**289**	P	Pn	20 33 52.1	+4.7
FETA	**Feichten**	**4.55**	**339**	*e*Pn	**Pn**	**20 33 53.2**	**+4.2**
	comp=E,0.9nm,0.3s						
WTTA	**Wattenberg**	**4.59**	**348**	*i* Pn	**Pn**	**20 33 53.7**	**+4.1**
	comp=E,1.1nm,0.2s						
CALF	**Calern**	**4.59**	**284**	P	**Pn**	**20 33 51.5**	**+1.9**
SQTA	**Sankt Quirin**	**4.63**	**344**	*e*Pn	**Pn**	**20 33 54.0**	**+3.9**
	comp=E,1.2nm,0.2s,SNR=7.2						
WATA	**Walderalm**	**4.67**	**347**	*e*Pn	**Pn**	**20 33 54.7**	**+4.0**
	comp=E,0.8nm,0.2s						
LMR	**La Mourre**	**4.84**	**279**	*e*P	**Pn**	**20 33 54.2**	**+1.4**
LMR				*e*Sn	**Sn**	**20 34 45.9**	**-2.6**
	comp=E,0.3nm,0.2s						
SURF	**Saint Ours**	**4.85**	**293**	P	**Pn**	**20 33 56.3**	**+3.2**
JAUF	**Jausiers**	**4.87**	**292**	P	**Pn**	**20 33 56.9**	**+3.4**
MBDF	**Montbardon**	**4.96**	**295**	*e*P	**Pn**	**20 33 58.1**	**+3.5**
MBDF				*e*Sn	**Sn**	**20 34 48.9**	**-2.8**
	comp=E,1.0nm,0.2s						
TRIGF	**Trigance**	**4.96**	**283**	P	**Pn**	**20 33 57.6**	**+3.0**
RETA	**Reutte**	**4.98**	**342**	*i* Pn	**Pn**	**20 33 58.7**	**+3.9**
	comp=E,2.8nm,0.4s,SNR=5.3						
CREF	**Crivoux**	**5.00**	**293**	P	Pn	20 34 00.1	+4.9
LPG	**La Plagne**	**5.29**	**303**	*e*P	**Pn**	**20 34 03.1**	**+3.7**
LPG				*e*Sn	**Sn**	**20 34 58.0**	**-2.1**
	comp=E,2.5nm,0.4s						
LPL	**La Plagne**	**5.31**	**303**	*e*P	**Pn**	**20 34 03.0**	**+3.4**
LPL				*e*Sn	**Sn**	**20 34 57.3**	**-3.3**
	comp=E,1.1nm,0.3s						
RSL	**Roselend**	**5.46**	**304**	P	Pn	20 34 06.6	+5.0
CONA	**Conrad Observa**	**5.50**	**20**	*i* Pn	**Pn**	**20 34 04.3**	**+2.2**
	comp=E,1.0nm,0.2s						
SMRF	**Simiane la Rot**	**5.59**	**285**	*e*P	**Pn**	**20 34 06.3**	**+3.1**
SMRF				*e*Sn	**Sn**	**20 35 03.9**	**-3.2**
	comp=E,0.9nm,0.5s						
ORIF	**Oris-en-Rattie**	**5.62**	**295**	*e*P	**Pn**	**20 34 07.4**	**+3.7**
ORIF				*e*Sn	**Sn**	**20 35 05.7**	**-2.2**
	comp=E,0.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.62**	**295**	P	Pn	20 34 09.7	+6.1
CKRC	**Cesky Krumlov**	**6.10**	**8**	*e*PN	**Pn**	**20 34 11.0**	**+0.9**
CKRC				*e*SN	**Sn**	**20 35 18.8**	**-0.7**
BRANT	**Les Verrieres**	**6.26**	**314**	P	**Pn**	**20 34 16.0**	**+3.6**
CABF	**La Chapelle**	**6.28**	**310**	*e*P	**Pn**	**20 34 16.2**	**+3.5**
CABF				*e*Sn	**Sn**	**20 35 20.3**	**-3.7**
	comp=E,1.5nm,0.4s						
KHC	**Kasperske Hory**	**6.36**	**3**	*e*PN	**Pn**	**20 34 15.6**	**+1.9**
KHC				*e*SN	**Sn**	**20 35 24.8**	**-1.1**
VIVF	**Saint-Julien-l**	**6.42**	**292**	*e*P	**Pn**	**20 34 19.1**	**+4.5**
BOUC	**Bouclans**	**6.57**	**315**	P	**Pn**	**20 34 19.9**	**+3.2**
HINF	**Hinteralfeld**	**6.67**	**321**	*e*P	**Pn**	**20 34 20.8**	**+2.8**
HINF				*e*Sn	**Sn**	**20 35 29.6**	**-4.1**
	comp=E,4.1nm,0.4s						
LASF	**Ste Croix**	**6.83**	**284**	*e*P	**Pn**	**20 34 23.4**	**+3.2**
LASF				*e*Sn	**Sn**	**20 35 33.4**	**-4.2**
	comp=E,0.5nm,0.3s						
CDF	**Champ du Feu**	**6.94**	**326**	*e*P	**Pn**	**20 34 24.0**	**+2.2**
CDF				*e*Sn	**Sn**	**20 35 36.2**	**-4.2**
	comp=E,1.0nm,0.2s						
HAU	**Haudompre**	**7.04**	**320**	*e*P	**Pn**	**20 34 25.6**	**+2.5**
HAU				*e*Sn	**Sn**	**20 35 38.4**	**-4.4**
	comp=E,3.2nm,0.3s						
SMF	**Signal de Mont**	**7.62**	**304**	*e*P	**Pn**	**20 34 34.1**	**+3.1**
SMF				*e*Sn	**Sn**	**20 35 52.6**	**-4.4**
	comp=E,1.1nm,0.3s						
PAGF	**Fort de Pagny**	**7.73**	**321**	*e*P	**Pn**	**20 34 36.5**	**+4.0**
PAGF				*e*Sn	**Sn**	**20 35 54.7**	**-4.9**
	comp=E,0.3nm,0.1s						
LOR	**Lormes**	**7.91**	**308**	*e*P	**Pn**	**20 34 39.3**	**+4.2**
	baz=124						
LOR				*e*Sn	**Sn**	**20 35 59.4**	**-4.8**
	comp=E,1.2nm,0.3s						
MTLF	**Montolieu**	**7.97**	**278**	*e*P	Pn	20 34 40.6	+4.8
MTLF				*e*Sn	**Sn**	**20 36 00.6**	**-5.0**
	comp=E,0.2nm,0.2s						
AVF	**Avril sur Loir**	**7.99**	**303**	*e*P	**Pn**	**20 34 39.0**	**+3.0**
AVF				*e*Sn	**Sn**	**20 36 01.2**	**-4.8**
	comp=E,0.2nm,0.3s						
MEZF	**Maizieres J'vi**	**8.01**	**318**	*e*P	**Pn**	**20 34 40.4**	**+4.0**
SSF	**Saint Saulge**	**8.02**	**305**	*e*P	**Pn**	**20 34 39.7**	**+3.2**
SSF				*e*Sn	**Sn**	**20 36 01.8**	**-5.0**
	comp=E,0.3nm,0.2s						
BGF	**Bois d'Agland**	**8.20**	**301**	*e*P	**Pn**	**20 34 42.4**	**+3.4**
CAF	**Calviac**	**8.24**	**289**	*e*P	**Pn**	**20 34 42.9**	**+3.4**
TCF	**Toulx Ste Croi**	**8.51**	**298**	*e*Pn	**Pn**	**20 34 41.9**	**-1.4**
TCF				*e*Sn	**Sn**	**20 36 15.4**	**-3.5**
	comp=E,0.5nm,0.3s						

---

*IDC **03** 20:35:48.9±1.6, 9.°19S×25.°11E, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, MS3.1/6, Error ellipse: s-maj=61.8km s-min=30.6km az=87.0*
*NEIC **03** 20:35:50.3±2.0, 9.°25S±0.°09×25.°2E±0.°2, h10km±2km, mb4.1/6, Error ellipse: s-maj=25.6km s-min=14.7km az=102.0*

ISC 03 20:35:49.6±0.7**, 9.°22S**±0.°07×**25.°3E**±0.°1**, h10**km**, n21,** σ1s**44**/16**, mb3.8**/5**, Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**6.67**	**155**		**Pn**	**20 37 28.8**	**+1.0**
MBAR	**Mbarara**	**10.16**	**33**	LR	LR	20 42 20.2	
	comp=Z,68nm,18.9s,baz=198,slow=38						
MBAR	**Mbarara**	**10.16**	**33**	Pn	**Pn**	**20 38 16.3**	**+0.5**
TSUM	**Tsumeb**	**12.39**	**216**	LR	LR	20 43 16.9	
	comp=Z,31nm,20.6s,baz=182,slow=36						
TSUM	**Tsumeb**	**12.39**	**216**		**Pn**	**20 38 45.5**	**-0.8**
KMBO	**Kilima Mbogo**	**14.40**	**57**	Pn	**Pn**	**20 39 13.2**	**-0.7**
LBTB	**Lobatse**	**15.71**	**179**	LR	LR	20 45 32.0	
	comp=Z,54nm,19.5s,baz=16,slow=37						
LBTB	**Lobatse**	**15.71**	**179**	Pn	**Pn**	**20 39 29.9**	**-1.4**
LBTB				IAmb	IAmb	20 39 39.4	
	comp=Z,20nm,1.4s						
LODK	**Lodwar**	**16.10**	**39**	Pn	**Pn**	**20 39 32.0**	**-4.3**
BOSA	**Boshof**	**19.30**	**180**	P	**Pn**	**20 40 16.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=2.3,slow=14,SNR=6.3						
BOSA				LR	LR	20 47 25.3	
	comp=Z,70nm,18.5s,baz=12,slow=36						
	comp=Z,4.6nm,1.1s						
BOSA	**Boshof**	**19.30**	**180**	P	**P**	**20 40 15.7**	**+0.8**
BOSA				IAmb	IAmb	20 40 37.5	
	comp=Z,20nm,1.5s						
SUR	**Sutherland**	**23.41**	**189**	LR	LR	20 50 15.0	
	comp=Z,94nm,18.1s,baz=350,slow=37						
TOA0	**Torodi Ar. Sit**	**32.26**	**313**	P	**P**	**20 42 17.6**	**-1.0**
TOA0				IAmb	IAmb	20 42 24.4	
	comp=Z,2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**32.26**	**313**	P	**P**	**20 42 18.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=122,slow=8.9,SNR=7.0						
	comp=Z,0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**32.26**	**313**	P	**P**	**20 42 18.9**	**+0.3**
TORD				IAmb	IAmb	20 42 25.2	
	comp=Z,1.4nm,0.8s						
KARP	**Karpathos**	**44.56**	**2**	P	**P**	**20 44 02.5**	**+0.7**
VAE	**Valguarnera**	**47.55**	**348**	LR	LR	21 06 34.5	
	comp=Z,66nm,18.6s,baz=132,slow=39						
BRTR	**Keskin Array B**	**49.31**	**9**	P	**P**	**20 44 39.8**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=182,slow=8.7,SNR=4.5						
	comp=Z,1.5nm,0.5s						
GERES	**GERESS Array B**	**58.70**	**351**	P	**P**	**20 45 48.3**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=166,slow=5.0,SNR=5.3						
	comp=Z,0.3nm,0.5s						
AKASG	**Malin Array Be**	**59.77**	**3**	P	**P**	**20 45 55.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=162,slow=5.8,SNR=1.3						
	comp=Z,0.2nm,0.3s						
ABKAR	**Akbulak array**	**65.69**	**24**	P	**P**	**20 46 33.8**	**-0.5**

IDC 03 20:48:13.6±3.3**, 10.°54S**×**152.°28E, h0**km**, mb3.2**/2**, mbtmp3.3**/3**, ML3.3**/1**, MS2.6**/2**, Error ellipse: s-maj=93.7km s-min=52.4km az=121.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**11.13**	**211**	LR	LR	20 54 38.9	
	comp=Z,11nm,21.0s,baz=83,slow=35						
DZM	**Mont Dzumac**	**17.77**	**132**	LR	LR	20 58 12.3	
	comp=Z,59nm,18.6s,baz=23,slow=34						
WRA	**Warramunga Arr**	**19.65**	**239**	P	P	20 52 44.3	0.0
	0.1nm,0.3s,baz=62,slow=11,SNR=12						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**21.84**	**231**	P	P	20 53 08.1	+0.2
	0.5nm,0.7s,baz=56,slow=10,SNR=8.3						
	0.5nm,0.7s						
STKA	**Stephens Creek**	**23.42**	**203**	P	P	20 53 24.2	-0.3
	1.0nm,0.6s,baz=40,slow=10.0,SNR=3.2						
	1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**151.10**	**278**	PKPbc	PKPbc	21 08 09.5	-0.3
	0.4nm,0.7s,baz=79,slow=2.0,SNR=2.8						

---

*NEIC **03** 20:50:28.9±1.6, 2.°76S±0.°07×99.°79E±0.°09, h16km±7km, mb4.3/8, Error ellipse: s-maj=13.9km s-min=9.4km az=59.0*
*DJA **03** 20:50:31.9±0.3, 3˚S±3˚×10˚0E±˚, h50km±5km, M4.4/19, mb4.5/13, mB5.1/4, MLv4.3/19, Mw(mB)4.5/4*
*IDC **03** 20:50:37.5±5.6, 2.°70S×100.°21E, h75km±47km, mb3.7/7, mbtmp4.0/8, ML4.8/1, MS3.2/8, Error ellipse: s-maj=81.3km s-min=18.4km az=52.0*

ISC 03 20:50:31.8±0.6**, 2.°56S**±0.°06×**100.°15E**±0.°07**, h30**km**, n66,** σ1s**59**/52**, mb4.2**/10**, MS3.3**/6**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.24**	**214**	P	**Pb**	**20 50 39.6**	**+1.0**
SISI	**Saibi**	**1.62**	**319**	P	**Pb**	**20 50 59.3**	**-1.8**
SDSI	**Sungai Dareh**	**2.06**	**38**	P	**Pn**	**20 51 07.3**	**+2.9**
PPI	**Padang Panjang**	**2.10**	**7**	P	**Pn**	**20 51 06.5**	**+1.5**
MASI	**Maura Aman, Be**	**2.17**	**106**	P	**Pn**	**20 51 06.4**	**+0.4**
UBSI	**University, Be**	**2.43**	**119**	P	**Pn**	**20 51 09.8**	**+0.2**
KSI	**Kapahiang**	**2.67**	**114**	P	**Pn**	**20 51 13.3**	**+0.4**
BKNI	**Bangkinang**	**3.00**	**17**	Pn	**Pn**	**20 51 19.8**	**+2.4**
BKNI	**Bangkinang**	**3.00**	**17**	P	**Pn**	**20 51 19.1**	**+1.7**
PBSI	**Pulau Batu**	**3.11**	**323**	P	**Pn**	**20 51 20.4**	**+1.5**
MNAI	**Manna**	**3.33**	**123**		**Pn**	**20 51 22.4**	**+0.5**
MNAI	**Manna**	**3.33**	**123**	P	**Pn**	**20 51 22.1**	**+0.2**
MNSI	**Mandailing Nat**	**3.38**	**350**	P	**Pn**	**20 51 23.4**	**+0.8**
LHSI	**Lahat**	**3.60**	**111**	P	**Pn**	**20 51 25.7**	**+0.1**
JMBI	**JAMBI**	**3.61**	**75**	P	**Pn**	**20 51 26.8**	**+1.0**
LWLI	**Liwa**	**4.60**	**122**	P	**Pn**	**20 51 39.7**	**+0.1**
GSI	**Gunungsitoli**	**4.62**	**326**	Pn	**Pn**	**20 51 35.7**	**-4.0**
GSI	**Gunungsitoli**	**4.62**	**326**	P	**Pn**	**20 51 40.6**	**+1.0**
TRSI	**Tarutung**	**4.71**	**345**	P	**Pn**	**20 51 42.4**	**+1.4**
DSRI	**Dabo**	**4.89**	**65**	P	**Pn**	**20 51 44.7**	**+1.4**
	0.2nm22nm,0.9s						
KASI	**Kota Agung**	**5.24**	**124**	P	**Pn**	**20 51 48.3**	**+0.1**
	0.5nm2µm75nm,0.5s						
BTDF	**Bukit Timah Da**	**5.32**	**43**	P	**Pn**	**20 51 51.1**	**+1.8**
	0.1nm6.1nm,0.4s						
RPSI	**Rantau Prapat**	**5.36**	**347**		**Pb**	**20 52 02.1**	**-2.7**
PSI	**Prapat**	**5.46**	**347**	P	Pb	20 52 02.1	-4.5
	5.2nm,0.6s,baz=153,slow=17,SNR=4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PSI	Prapat	5.46	347	P	Pn	20 51 51.3	-0.1
	0.1nm9.1nm,1.1s						
PSI				P	Pn	20 51 51.3	-0.1
	0.1nm9.1nm,1.1s						
TPRI	Tanjung Pinang	5.58	52	P	Pn	20 51 54.4	+1.6
MYKOM	Kota Tinggi	5.69	41	Pn	Pn	20 51 57.8	+3.4
MYKOM	Kota Tinggi	5.69	41	P	Pn	20 51 56.1	+1.7
	0.1nm12nm,1.0s						
KULM	Kulim	7.81	4	Pn	Pn	20 52 26.3	+2.8
CNJI	Cibinong	8.40	124	P	Pn	20 52 29.7	-2.0
	513nm22nm,0.5s						
LEM	Lembang	8.57	120	P	Pn	20 52 37.6	+3.6
	12nm,0.3s,baz=324,slow=17,SNR=6.3						
LEM				LR	LR	20 56 19.8	
	comp=Z,115nm,21.0s,baz=284,slow=40						
	22nm,0.3s						
UGM	Wanagama	11.62	118	Pn	Pn	20 53 14.4	-1.3
UGM	Wanagama	11.62	118	P	Pn	20 53 14.8	-1.0
	96nm,2.1s						
JAGI	Jajag, Banyuwa	15.12	113	P	Pn	20 54 01.7	-1.8
	28nm,1.0s						
RTBI	Rangdo, Negare	15.85	112	P	Pn	20 54 10.7	-2.2
	92nm,1.2s						
TWSI	Taliwang, Sumb	17.74	111	P	P	20 54 36.2	-1.2
	19nm,1.4s						
PLAI	Plampang	18.61	110	P	Pn	20 54 45.9	-1.5
	37nm,1.2s						
KAPI	Kappang	19.71	98	LR	LR	21 02 53.8	
	comp=Z,45nm,20.7s,baz=278,slow=38						
MPSI	Mapaga	19.95	82	P	P	20 55 01.3	-0.4
	11nm,1.4s						
BKSI	Bulukumba	20.11	98	P	P	20 55 02.3	-1.2
PALK	Pallekele	21.72	297	LR	LR	21 03 04.1	
	comp=Z,48nm,18.7s,baz=267,slow=34						
H08S2	Diego Garcia H	27.99	259	T	T	21 25 21.2	
	baz=81,slow=75,SNR=1135						
H08S3	Diego Garcia H	28.00	259	T	T	21 25 19.6	
	baz=81,slow=75,SNR=1104						
H08S1	Diego Carcia H	28.01	259	T	T	21 25 22.6	
	baz=81,slow=75,SNR=474						
H01W3	Cape Leeuwin H	34.70	160	T	T	21 33 55.3	
	baz=335,slow=76,SNR=14						
H01W2	Cape Leeuwin H	34.71	160	T	T	21 33 56.2	
	baz=335,slow=76,SNR=12						
H01W1	Cape Leeuwin H	34.71	160	T	T	21 33 55.9	
	baz=335,slow=76,SNR=13						
WB0	Warramunga Arr	37.56	120	P	P	20 57 43.3	-0.6
WB0				IAmb	IAmb	20 57 56.6	
	comp=Z,3.2nm,0.8s						
WRA	Warramunga Arr	37.59	120	P	P	20 57 43.4	-0.7
	comp=Z,0.5nm,0.4s,baz=304,slow=8.9,SNR=32						
	comp=Z,0.5nm,0.4s						
WRA	Warramunga Arr	37.59	120	P	P	20 57 43.9	-0.2
WB2	Warramunga Arr	37.60	120	P	P	20 57 43.9	-0.2
WB2				IAmb	IAmb	20 57 58.3	
	comp=Z,10.0nm,1.5s						
WR0	Warramunga Arr	37.77	120	P	P	20 57 43.6	-2.0
ASAR	Alice Springs	38.81	126	P	P	20 57 54.1	-0.2
	comp=Z,1.3nm,0.5s,baz=299,slow=8.0,SNR=25						
	comp=Z,1.3nm,0.5s						
STKA	Stephens Creek	48.67	131	P	P	20 59 13.9	+0.4
	comp=Z,1.1nm,0.5s,baz=308,slow=8.9,SNR=5.4						
	comp=Z,1.1nm,0.5s						
GAR	Garm	49.65	329	P	P	20 59 18.8	-2.1
GAR				IAmb	IAmb	20 59 42.0	
	comp=Z,4.1nm,1.0s						
SONM	Songino Array	50.48	5	P	P	20 59 29.0	+1.9
	comp=Z,0.7nm,0.7s,baz=184,slow=9.4,SNR=4.1						
	comp=Z,0.7nm,0.7s						
MKAR	Makanchi Array	51.60	344	P	P	20 59 37.2	+1.7
	comp=Z,0.4nm,0.4s,baz=168,slow=8.4,SNR=4.0						
	comp=Z,0.4nm,0.4s						
USRK	Ussuriysk Ar.	54.58	28	LR	LR	21 24 54.2	
	comp=Z,18nm,18.5s,baz=19,slow=38						
GEYT	Alibeck	55.97	320	P	P	21 00 09.0	+1.4
	comp=Z,1.1nm,0.5s,baz=139,slow=7.3,SNR=3.7						
	comp=Z,1.1nm,0.5s						
KURBB	Kurchatov Arra	56.12	344	LR	LR	21 28 18.1	
	comp=Z,49nm,20.8s,baz=181,slow=40						
ABKAR	Akbulak array	62.20	331	P	P	21 00 50.8	+0.3
EIL	Elat	69.94	303	LR	LR	21 30 27.4	
	comp=Z,22nm,21.0s,baz=111,slow=34						
MMAI	Mount Meron Ar	70.48	306	LR	LR	21 33 53.1	
	comp=Z,16nm,18.6s,baz=136,slow=37						
ARCES	ARCESS Array B	87.05	340	P	P	21 03 15.2	+1.1
	comp=Z,2.3nm,0.9s,baz=99,slow=5.7,SNR=5.3						
	comp=Z,2.3nm,0.9s						
VAE	Valguarnera	88.15	307	LR	LR	21 48 49.2	
	comp=Z,16nm,18.1s,baz=236,slow=40						
TXAR	Lajitas Array	145.05	38	PKPbc	PKPdf	21 10 06.5	-0.7
	comp=Z,0.2nm,0.4s,baz=339,slow=2.2,SNR=1.8						

DJA 03 21:01:19.4±0.5**, 3°S**±4°×**12°9E**±°**, h11**km±4km**, M3.9**/13**, mb4.3**/6**, mB5.5**/1**, MLv3.7**/13**, Mw(mB)5.0**/1**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.32	258	P	Pb	21 01 26.7	-0.4
MSAI				S	Sb	21 01 32.0	-0.3
KRAI	Karang Ratu	0.84	267	P	Pg	21 01 35.9	+0.2
AAI	Ambon	1.12	249	P	Pb	21 01 40.0	-0.8
BNDI	Bandanaira	1.40	152	P	Pn	21 01 44.4	-0.5
NLAI	Namlea	2.14	271	P	Pn	21 01 55.4	+0.4
FAKI	Fak Fak	3.03	83	P	Pn	21 02 07.6	+0.3
SIJI	Sorong	3.14	40	P	Pn	21 02 09.0	+0.2
LBMI	Labuha	3.15	326	P	Pn	21 02 09.3	+0.3
SANI	Sanana	3.47	291	P	Pn	21 02 13.1	-0.3
LUWI	Luwuk	6.83	289	P	Pn	21 02 59.9	+0.2
	0.2nm3μm20nm,0.7s						
GTOI	Gorontalo	7.34	302	P	Pn	21 03 09.3	+2.7
	0.0nm14nm,1.2s						
APSI	Ampana	7.94	287	P	Pn	21 03 15.1	+0.2
	0.2nm32nm,1.2s						
MRSI	Marisa	8.20	297	P	Pn	21 03 18.1	-0.3
	16nm,1.1s						
MMRI	Maumere	8.76	232	P	Pn	21 03 26.4	+0.2

TRN 03 21:06:41.8, 18°81N×60°89W, h25km**, MD3.8, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	1.42	217	eP	Pb	21 07 07.5	-0.1
ANWB				eS	Sb	21 07 25.5	+0.2
ANDO	Antigua, Disas	1.91	208	eP	Pb	21 07 15.0	-1.0
ANDO				eS	Sb	21 07 38.6	-0.9
ANBD	Bethesda, Anti	1.94	206	eP	Pb	21 07 15.0	-1.5
ANBD				eS	Sb	21 07 38.7	-1.6
SMRT	St. Maarten	2.21	250	eS	Sb	21 07 45.9	-2.1
MBFL	Flemmings, Mon	2.41	212	eP	Pn	21 07 20.3	+0.7
MBFL				eS	Sb	21 07 51.8	-2.0
MAGL	Barre de l'ile	2.87	188	eS	Sn	21 08 02.2	+2.4
MDCT	Cottage Hill,	3.22	190	eS	Sn	21 08 10.9	+2.5
DSLB	Salisbury	3.39	189	eP	Pn	21 07 35.4	+2.2
DSLB				eS	Sn	21 08 14.2	+1.5
FDF	Fort de France	4.06	184	eS	Sn	21 08 29.8	+0.5
BIM	Bigot	4.27	182	eP	Pn	21 07 47.8	+2.4
BIM	Bigot	4.27	182	eS	Sn	21 08 35.9	+1.4
MPOM	Morne Pois Mar	4.34	180	eP	Pn	21 07 48.8	+2.6
MPOM	Morne Pois Mar	4.34	180	eS	Sn	21 08 36.9	+0.9
SLBI	Saint Lucia, B	4.76	181	eS	Sn	21 08 46.6	+0.1

*IDC **03** 22:07:53.9±1.8, 31°46N×104°99E, h0km, mb3.9/10, mbtmp3.9/11, ML3.2/1, Error ellipse: s-maj=45.6km s-min=25.8km az=26.0*

*NEIC **03** 22:08:02.1±1.5, 32°2N±0°2×104°9E±0°2, h10km±2km, mb4.1/9, Error ellipse: s-maj=37.2km s-min=18.5km az=201.0*

*BJI **03** 22:08:03.3±0.0, 32°16N×104°62E, h21km, mb4.0/1, ML3.8/19, Ms3.6/3, Ms7 3.3/1*

ISC 03 22:08:01.5±0.5**, 32°17N**±0°04×**104°85E**±0°04**, h14**km**, n36,** σ**1s67**/43**, mb4.0**/15**, 1D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	1.57	217	Pg	Pn	22 08 28.4	-0.6
CD2				Sg	Sb	22 08 49.7	-0.3
CD2				smax	smax		
	comp=N,8μm,0.5s						
CD2				smax	smax		
	comp=E,4μm,0.6s						
XAN	Xi'an	3.89	60	Pn	Pn	22 09 03.4	+2.4
XAN				Pg	Pg	22 09 13.9	-2.2
XAN				Sn	Sn	22 09 45.2	-1.3
XAN				Sg	Sg	22 10 04.7	-1.8
XAN				smax	smax		
	comp=N,440nm,0.7s						
XAN				smax	smax		
	comp=E,350nm,0.6s						
LZH	Lanzhou	3.99	348	Pn	Pn	22 09 05.2	+2.8
LZH				Pg	Pg	22 09 16.5	-1.5
LZH				Sn	Sn	22 09 53.3	+4.2
LZH				Sg	Sg	22 10 06.9	-2.8
LZH				smax	smax		
	comp=N,450nm,1.1s						
LZH				smax	smax		
	comp=E,480nm,1.2s						
LZH				LR	LR		
	comp=N,500nm,10.3s						
LZH				LR	LR		
	comp=E,710nm,12.0s						
LZH				LR	LR		
	comp=Z,390nm,10.2s						
ENH	Enshi	4.40	114	Pn	Pn	22 09 08.6	+0.7
GYA	Guiyang	5.91	164	⇓Pg	Pg	22 09 53.3	-1.4
GYA				Sg	Sg	22 11 16.0	+4.7
GYA				smax	smax		
	comp=N,52nm,0.9s						
GYA				smax	smax		
	comp=E,39nm,1.0s						
GTA	Gaotai	8.30	332	eP	Pn	22 10 02.3	+0.8
SONM	Songino Array	15.69	4	Pn	Pn	22 11 43.9	+1.7
	0.1nm,0.3s,baz=171,slow=12,SNR=2.1						
	0.3nm,0.5s						
WMQ	Urumqi	17.79	316	eP	Pn	22 12 09.0	+0.2
MK31	Makanchi Array	22.61	317	P	P	22 13 03.5	+1.7
MKAR	Makanchi Array	22.61	317	P	P	22 13 02.5	+0.7
	1.3nm,0.7s,baz=117,slow=11,SNR=9.7						
	1.3nm,0.7s						
MKAR	Makanchi Array	22.61	317	P	P	22 13 02.8	+0.9
NRN	Naryn	24.79	300	P	P	22 13 24.6	+1.3
NRN				IAmb	IAmb	22 13 24.8	
	comp=Z,2.2nm,0.7s						
ZAA0	Zalesovo Array	26.05	333	P	P	22 13 34.9	+0.7
ZAA0				IAmb	IAmb	22 13 35.5	
	comp=Z,3.0nm,0.6s						
ZALV	Zalesovo Beam	26.05	333	P	P	22 13 34.9	+0.7
	comp=Z,3.0nm,0.5s,baz=135,slow=10.0,SNR=13						
	comp=Z,3.0nm,0.5s						
ZALV	Zalesovo Beam	26.05	333	P	P	22 13 35.3	+1.1
KURBB	Kurchatov Arra	26.79	321	P	P	22 13 41.2	+0.3
	comp=Z,0.5nm,0.5s,baz=128,slow=9.4,SNR=2.0						
	comp=Z,0.5nm,0.5s						
KURK	Kurchatov	26.79	321	P	P	22 13 40.5	-0.4
JGF	Kuroka	27.14	74	P	P	22 13 45.1	+0.8
JGF				IAmb	IAmb	22 13 49.3	
	comp=Z,5.7nm,0.9s						
YAK	Yakutsk	33.88	21	P	P	22 14 43.0	-0.5
	comp=Z,4.8nm,0.5s,baz=204,slow=1.9,SNR=2.3						
	comp=Z,4.8nm,0.5s						
GUMO	Guam	40.95	107	P	P	22 15 35.8	-8.1
	comp=Z,44nm,0.4s,baz=245,slow=22,SNR=2.3						
TIXI	Tiksi	41.58	11	P	P	22 15 48.6	+0.2
	comp=Z,0.9nm,0.3s,baz=89,slow=23,SNR=8.8						
	comp=Z,0.9nm,0.3s						
ARCES	ARCESS Array B	56.55	336	P	P	22 17 42.7	-0.4
	comp=Z,3.3nm,0.9s,baz=81,slow=7.4,SNR=6.8						
	comp=Z,3.3nm,0.9s						
ARCES	ARCESS Array B	56.55	336	P	P	22 17 43.2	+0.1
ARCES				IAmb	IAmb	22 17 51.6	
	comp=Z,4.5nm,1.1s						
FIA1	FINESS Array S	57.04	326	P	P	22 17 46.9	+0.3
FINES	FINESS Array B	57.04	326	P	P	22 17 46.6	-0.1
	comp=Z,0.8nm,0.4s,baz=91,slow=7.7,SNR=17						
	comp=Z,0.8nm,0.4s						
FINES	FINESS Array B	57.04	326	P	P	22 17 46.7	0.0
AKASG	Malin Array Be	57.12	313	P	P	22 17 45.8	-1.6
	comp=Z,0.2nm,0.3s,baz=70,slow=8.1,SNR=2.4						
	comp=Z,0.2nm,0.3s						
BURAR	Bucovina Array	60.43	310	P	P	22 18 10.8	+0.1
BURAR				IAmb	IAmb	22 18 16.2	
	comp=Z,0.8nm,1.1s						
ARG	Arkhangelos	62.02	297	P	P	22 18 22.6	+1.1
NB2	NORSAR Subarra	64.10	327	P	P	22 18 33.8	-1.2
	comp=Z,0.4nm,0.5s,baz=70,slow=6.5						
NOA	NORSAR Array B	64.10	327	P	P	22 18 34.1	-0.8
	comp=Z,0.5nm,0.5s,baz=71,slow=6.6,SNR=1.6						
	comp=Z,0.5nm,0.5s						
IMAR	Indian Mountai	65.49	26	P	P	22 18 44.4	+0.5
BMAR	Burnt Mountain	68.05	23	P	P	22 19 00.7	+0.4
L27K	Beaver Creek,	71.41	26	P	P	22 19 22.3	+1.3
BCAR	Beaver Creek A	71.42	26	P	P	22 19 22.6	+1.5
ESDC	Sonseca Array	82.77	313	P	P	22 20 21.7	-3.6
	comp=Z,0.2nm,0.7s,baz=38,slow=5.9,SNR=1.7						
	comp=Z,0.2nm,0.7s						

*DJA **03** 22:12:00.1±0.2, 1°N±2°×12°4E±°, h266km±2km, M4.6/26, mB5.4/10, mb4.4/26, MLv4.4/19, Mw(mB)4.8/10*

*NEIC **03** 22:12:01.6±1.7, 1°33N±0°08×124°17E±0°07, h266km±7km, mb4.5/55, Error ellipse: s-maj=12.1km s-min=10.1km az=189.0*

*IDC **03** 22:12:02.3±1.5, 1°38N×124°17E, h287km±14km, mb3.8/26, mbtmp4.5/28, Error ellipse: s-maj=16.8km s-min=8.1km az=71.0*

ISC 03 22:12:01.3±0.3**, 1°31N**±0°04×**124°20E**±0°05**, h276**km**, n130,** σ**1s30**/135**, mb4.3**/53**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.36	240	P	Pn	22 12 39.9	-1.3
MRSI	Marisa	2.40	250	P	Pn	22 12 48.1	-1.4
SGSI	Sangihe	2.71	29	P	Pn	22 12 50.0	-2.5
LUWI	Luwuk	2.74	211		Pn	22 12 50.8	-1.9
LUWI				Sn	S	22 13 28.2	-5.5
LUWI	Luwuk	2.74	211	P	Pn	22 12 51.0	-1.8
LUWI	Luwuk	2.74	211	P	Pn	22 12 51.5	-1.3
TNTI	Ternate	3.22	100		Pn	22 12 56.6	-1.1
TNTI				Sn	S	22 13 39.8	-2.8
TNTI	Ternate	3.22	100	P	Pn	22 12 56.4	-1.3
TNTI	Ternate	3.22	100	P	Pn	22 12 56.7	-1.0
APSI	Ampana	3.37	229	P	Pn	22 12 58.4	-0.9
TOLI2	Tolitoli	3.42	267	Pn	Pn	22 12 59.0	-0.8
TOLI2	Tolitoli	3.42	267	P	Pn	22 12 59.2	-0.6
GAMI	Galela, Maluku	3.63	82	P	Pn	22 13 00.7	-1.5
SANI	Sanana	3.79	152	P	Pn	22 13 01.3	-2.7
SANI	Sanana	3.79	152	P	Pn	22 13 01.7	-2.3
LBMI	Labuha	3.83	120	P	Pn	22 13 03.3	-1.1
MPSI	Mapaga	4.40	257	P	Pn	22 13 09.6	-1.3
NLAI	Namlea	5.37	147	P	Pn	22 13 22.1	-0.3
KRAI	Karang Ratu	6.23	138	P	Pn	22 13 32.5	-0.3
	0.3nm5μm21nm,0.5s						
MSAI	Masohi	6.62	134	P	Pn	22 13 37.4	-0.2
SPSI	Sidrap Palu	6.86	220	P	Pn	22 13 40.4	-0.2
	0.1nm23nm,0.6s						
MYLDM	Lahad Datu	6.86	304	Pn	Pn	22 13 42.7	+2.1
MYLDM	Lahad Datu	6.86	304	P	Pn	22 13 38.9	-1.7
	0.2nm31nm,1.6s						
BBSI	Bau Bau	6.95	193	P	Pn	22 13 41.5	-0.2
	0.3nm27μm14nm,0.6s						
BNSI	Bone	6.99	216	P	Pn	22 13 42.0	-0.2
	0.1nm13nm,1.1s						
SIJI	Sorong	7.39	107	P	Pn	22 13 47.9	+0.6
	4.2nm,0.4s,baz=229,slow=23,SNR=2.9						
SIJI	Sorong	7.39	107	P	Pn	22 13 46.6	-0.7
	0.1nm6.9nm,0.8s						
SOEI	Soe	10.99	180	P	P	22 14 37.8	+2.3
SOEI	Soe	10.99	180	P	Pn	22 14 32.3	+0.2
	4μm27nm,0.8s						
BATI	Baumata	11.46	183	P	P	22 14 39.8	-0.7
	60nm,0.4s,baz=0.1,slow=2.4,SNR=9.1						
BATI	Baumata	11.46	183	P	Pn	22 14 38.0	+0.3
	54nm,0.5s						
PLAI	Plampang	11.93	212	P	Pn	22 14 43.7	+0.2
	32nm,0.9s						
SBUM	Sibu	12.02	276	P	P	22 14 49.1	+2.3
SBUM	Sibu	12.02	276	P	Pn	22 14 43.9	-0.8
	12nm,0.9s						
TWSI	Taliwang, Sumb	12.36	216	P	Pn	22 14 49.1	+0.3
	18nm,1.8s						
SRPI	Serui, Papua	12.45	105	P	Pn	22 14 49.8	-0.1
KLNI	Mataram	12.60	220	P	Pn	22 14 52.0	+0.3
	3μm17nm,0.6s						
PBKI	Pangkalan Bun	13.14	252	P	Pn	22 14 58.1	-0.2
	345μm943nm,0.8s						
KMMI	Kalianget	13.16	231	P	Pn	22 14 58.8	+0.3
	24nm,1.6s						
MTN	Manton Dam	15.66	154	P	Pn	22 15 28.0	-0.4
MTN				IAmb	IAmb	22 15 30.1	
	comp=Z,16nm,0.8s						
GENI	Genyem	16.43	104	P	P	22 15 35.6	+0.1
KNRA	Kununurra	17.47	165	P	P	22 15 47.7	+1.0
YULB	Yu-li	22.13	353	P	P	22 16 34.2	-0.3
YULB				IAmb	IAmb	22 16 36.3	
	comp=Z,28nm,1.1s						
TPUB	Ta-pu	22.13	351	P	P	22 16 34.7	+0.3
SSLB	Suanglung	22.56	352	P	P	22 16 39.5	+1.1
MBWA	Marble Bar	22.76	191	P	P	22 16 40.6	+0.5
MBWA				IAmb	IAmb	22 17 17.1	
	comp=Z,31nm,1.4s						
PSA00	Pilbara Seismi	23.14	190	P	P	22 16 44.3	+0.7
PSA00				IAmb	IAmb	22 16 44.3	
	comp=Z,16nm,1.1s						
WB0	Warramunga Arr	23.21	155		P	22 16 44.9	+0.5
WRAB	Tennant Creek	23.34	155	P	P	22 16 46.3	+0.7
WRA	Warramunga Arr	23.35	155	P	P	22 16 46.0	+0.4
	comp=Z,42nm,0.4s,baz=335,slow=9.8,SNR=520						
WRA				S	S	22 20 33.6	-4.0
	comp=Z,0.7nm,0.6s,baz=338,slow=16,SNR=3.6						
WRA	Warramunga Arr	23.35	155		P	22 16 46.1	+0.5
WRA				IAmb	IAmb	22 16 46.6	
	comp=Z,7.5nm,0.4s						
WB2	Warramunga Arr	23.35	155	P	P	22 16 46.2	+0.6
WR0	Warramunga Arr	23.45	155	P	P	22 16 47.0	+0.6
WR0				IAmb	IAmb	22 16 49.9	
	comp=Z,25nm,0.8s						
PPI	Padang Panjang	23.86	266	P	P	22 16 50.1	-0.2
	comp=Z,192nm,1.1s						
COEN	Coen	24.16	130	P	P	22 16 53.9	+0.9
COEN				IAmb	IAmb	22 16 56.3	
	comp=Z,13nm,0.9s						
PMG	Port Moresby	25.23	115	P	P	22 17 03.4	+0.8
	comp=Z,13nm,0.7s,baz=291,slow=8.6,SNR=2.3						
	comp=Z,13nm,0.7s						
AS31	Alice Springs	26.56	160		P	22 17 15.4	+0.9
AS31				IAmb	IAmb	22 17 16.1	
	comp=Z,3.9nm,0.6s						
ASAR	Alice Springs	26.56	160	P	P	22 17 15.1	+0.6
	comp=Z,7.4nm,0.5s,baz=338,slow=7.4,SNR=146						
ASAR				S	S	22 21 23.7	-4.6
	comp=Z,0.2nm,0.5s,baz=347,slow=20,SNR=2.4						
ASAR				ScP	ScP	22 23 43.5	-1.3
	comp=Z,0.4nm,0.6s,baz=342,slow=3.4,SNR=4.3						
	comp=Z,7.4nm,0.5s						
ASAR	Alice Springs	26.56	160		P	22 17 15.4	+0.9
CMAR	Chiang Mai Arr	30.07	306	P	P	22 17 46.0	+0.4
	comp=Z,0.9nm,0.5s,baz=128,slow=7.2,SNR=4.8						
	comp=Z,0.9nm,0.5s						
CHTO	Chiang Mai	30.25	307	P	P	22 17 48.3	+1.1
JCJ	Chichijima	30.91	32	P	P	22 17 52.3	-0.5
	comp=Z,36nm,0.5s,baz=238,slow=21,SNR=1.1						
MORW	Morawa	31.20	194	P	P	22 17 55.7	+0.4
MORW				IAmb	IAmb	22 18 26.6	
	comp=Z,40nm,1.4s						
FORT	Forrest	32.12	174	P	P	22 18 04.2	+0.9
JMN	Monobe	33.50	15	P	P	22 18 16.6	+1.4
JHS	Saijyo	34.53	13	P	P	22 18 24.6	+0.6
JHS				IAmb	IAmb	22 18 54.8	
	comp=Z,42nm,1.4s						
NWAO	Narrogin (SRO)	34.68	190	P	P	22 18 26.1	+0.8
BBOO	Buckleboo	35.74	163	P	P	22 18 34.9	+0.6
BBOO				IAmb	IAmb	22 18 35.8	
	comp=Z,9.0nm,0.8s						
KSRS	Korea Array	36.13	5	P	P	22 18 37.0	-0.5
	comp=Z,1.3nm,0.6s,baz=181,slow=9.4,SNR=4.7						
	comp=Z,1.3nm,0.6s						
STKA	Stephens Creek	36.90	155	P	P	22 18 45.1	+1.0
	comp=Z,8.3nm,0.3s,baz=336,slow=8.2,SNR=44						
	comp=Z,8.3nm,0.3s						
STKA	Stephens Creek	36.90	155	P	P	22 18 45.4	+1.3
MJAR	Matsushiro Arr	37.38	19	P	P	22 18 47.5	-0.6
	comp=Z,2.0nm,0.6s,baz=186,slow=9.2,SNR=5.9						
	comp=Z,2.0nm,0.6s						
SHL	Shillong	39.38	310	P	P	22 19 06.4	+1.4
SHL				IAmb	IAmb	22 19 07.2	
	comp=Z,5.7nm,0.6s						
ARMA	Armidale	40.97	143	P	P	22 19 20.3	+2.4
LSA	Lhasa	42.24	315	P	P	22 19 30.0	+1.4
CAN	Canberra	43.20	150	P	P	22 19 38.2	+2.7
CAN				IAmb	IAmb	22 19 39.0	
	comp=Z,17nm,0.7s						
USA0B	Ussuriysk Arra	43.26	8	P	P	22 19 36.6	+0.8
USRK	Ussuriysk Ar.	43.26	8	P	P	22 19 36.1	+0.2
	comp=Z,4.6nm,0.4s,baz=191,slow=6.8,SNR=37						
	comp=Z,4.6nm,0.4s						
USRK	Ussuriysk Ar.	43.26	8	P	P	22 19 36.5	+0.6
KLR	Kul'dur	48.18	7	P	P	22 20 13.8	-0.2
	comp=Z,4.6nm,0.5s,baz=204,slow=6.1,SNR=19						
	comp=Z,4.6nm,0.5s						
ULN	Ulaanbaatar	48.69	345	P	P	22 20 19.8	+1.5
ULN	Ulaanbaatar	48.69	345	P	P	22 20 16.6	-1.6
	comp=Z,19nm,1.1s						
SONM	Songino Array	48.84	344	P	P	22 20 18.8	-0.6
	comp=Z,3.2nm,0.7s,baz=158,slow=7.6,SNR=22						
SONM				PcP	PcP	22 21 39.1	-0.3
	comp=Z,0.6nm,0.7s,baz=151,slow=3.3,SNR=2.9						
	comp=Z,3.2nm,0.7s						
SONM	Songino Array	48.84	344	P	P	22 20 20.3	+1.0
MK31	Makanchi Array	58.15	327	P	P	22 21 26.5	-0.1
MK31				IAmb	IAmb	22 21 28.9	
	comp=Z,10nm,1.1s						
MKAR	Makanchi Array	58.15	327	P	P	22 21 26.3	-0.2
	comp=Z,3.2nm,0.3s,baz=124,slow=7.9,SNR=98						
MKAR				PcP	PcP	22 22 14.8	0.0
	comp=Z,2.1nm,0.7s,baz=133,slow=3.6,SNR=5.6						
	comp=Z,3.2nm,0.3s						
MKAR	Makanchi Array	58.15	327	P	P	22 21 26.2	-0.4
PEA0B	Petropavlovsk-	58.62	23	P	P	22 21 31.2	+1.6
PETK	Petropavlovsk-	58.62	23	P	P	22 21 29.3	-0.3
	comp=Z,2.7nm,0.6s,baz=201,slow=3.1,SNR=7.3						
	comp=Z,2.7nm,0.6s						
PETK	Petropavlovsk-	58.62	23	P	P	22 21 30.5	+0.9
NRN	Naryn	58.93	319	P	P	22 21 32.1	-0.3
AAK	Ala-Archa	60.49	320	P	P	22 21 43.2	+0.4
	comp=Z,2.1nm,0.7s,baz=259,slow=12,SNR=6.3						
	comp=Z,2.1nm,0.7s						
AAK	Ala-Archa	60.49	320	P	P	22 21 43.0	+0.2
YAK	Yakutsk	60.71	3	P	P	22 21 44.2	+0.6
KBL	Kabul	61.03	309	P	P	22 21 47.3	+0.7
KBL				IAmb	IAmb	22 21 47.8	
	comp=Z,5.1nm,0.8s						
NNZ	Nelson	61.44	139	P	P	22 21 50.2	+1.3
ZAA0	Zalesovo Array	61.63	335	P	P	22 21 50.2	+0.2
ZALV	Zalesovo Beam	61.63	335	P	P	22 21 47.9	-2.1
	comp=Z,2.7nm,0.5s,baz=130,slow=8.3,SNR=11						
	comp=Z,2.7nm,0.5s						
ZALV	Zalesovo Beam	61.63	335	P	P	22 21 48.4	-1.5
MA2	Magadan	61.66	15	P	P	22 21 51.2	+1.2
MA2				IAmb	IAmb	22 21 58.5	
	comp=Z,37nm,1.3s						
GAR	Garm	61.74	314	P	P	22 21 51.0	-0.1
GAR				IAmb	IAmb	22 21 53.1	
	comp=Z,12nm,0.8s						
CHGR	Chuyangaron	62.44	314	P	P	22 21 55.3	-0.4
CHGR				IAmb	IAmb	22 21 57.1	
	comp=Z,13nm,0.9s						
KURBB	Kurchatov Arra	62.45	329	P	P	22 21 54.4	-1.0
	comp=Z,2.3nm,0.3s,baz=130,slow=6.1,SNR=26						
	comp=Z,2.3nm,0.3s						
KURK	Kurchatov	62.46	329	P	P	22 21 55.0	-0.4
KURK				IAmb	IAmb	22 21 57.0	
	comp=Z,12nm,0.8s						
BKZ	Black Stump Fm	62.55	136	P	P	22 21 58.0	+1.6
BKZ				IAmb	IAmb	22 22 10.4	
	comp=Z,38nm,1.4s						
URZ	Urewera	62.58	135	P	P	22 21 57.8	+1.3
URZ				IAmb	IAmb	22 22 03.2	
	comp=Z,18nm,1.2s						
BVAR	Borovoye Array	67.99	328	P	P	22 22 30.0	-0.8
	comp=Z,2.6nm,0.6s,baz=140,slow=7.9,SNR=14						
	comp=Z,2.6nm,0.6s						
BRVK	Borovoye	68.06	328	P	P	22 22 30.8	-0.5
BRVK				IAmb	IAmb	22 22 32.9	
	comp=Z,5.0nm,1.1s						
TIXI	Tiksi	70.30	2	P	P	22 22 43.9	-0.6
	comp=Z,3.0nm,0.3s,baz=270,slow=20,SNR=39						
	comp=Z,3.0nm,0.3s						
TIXI	Tiksi	70.30	2	P	P	22 22 44.3	-0.2
TIXI				IAmb	IAmb	22 22 45.5	
	comp=Z,3.3nm,0.6s						
GEYT	Alibeck	70.46	310	P	P	22 22 45.5	-0.7
	comp=Z,2.5nm,0.6s,baz=123,slow=5.5,SNR=6.2						
	comp=Z,2.5nm,0.6s						

GEYT	**Alibeck**	**70.46**	**310**	P	**P**	**22 22 45.9**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**70.46**	**310**	P	**P**	**22 22 46.1**	**-0.2**
GYA0B				IAmb	IAmb	22 22 48.4	
	comp=Z,3.9nm,0.9s						
NRIK	**Noril'sk**	**72.18**	**347**	P	**P**	**22 22 55.5**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=117,slow=5.8,SNR=6.2						
	comp=Z,3.7nm,0.6s						
NRIK	**Noril'sk**	**72.18**	**347**	P	**P**	**22 22 56.0**	**+0.2**
NRIK				IAmb	IAmb	22 22 56.5	
	comp=Z,3.6nm,0.6s						
ABKAR	**Akbulak array**	**72.44**	**322**	IAmb	IAmb	22 22 59.3	
	comp=Z,3.3nm,0.8s						
ARU	**Arti**	**75.64**	**329**	P	**P**	**22 23 15.0**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=75,slow=5.8,SNR=6.9						
	comp=Z,3.2nm,0.7s						
RAYN	**Ar Rayn**	**79.11**	**294**	P	**P**	**22 23 35.3**	**-0.7**
SDPT	**Sand Point**	**80.60**	**34**	P	**P**	**22 23 42.6**	**-0.6**
BELG	**Belogornoye**	**80.78**	**323**	P	**P**	**22 23 43.5**	**-0.7**
	comp=Z,5.7nm,0.4s,baz=346,slow=2.4,SNR=4.4						
	comp=Z,5.7nm,0.4s						
KIRV	**Kirov**	**80.98**	**329**	P	**P**	**22 23 44.8**	**-0.3**
	comp=Z,6.2nm,0.6s,baz=272,slow=2.2,SNR=3.6						
	comp=Z,6.2nm,0.6s						
VNDA	**Vanda**	**81.37**	**172**	P	**P**	**22 23 47.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=313,slow=8.9,SNR=6.1						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**81.37**	**172**	P	**P**	**22 23 47.9**	**+1.0**
GEVA	**Gevas**	**82.23**	**308**	P	**P**	**22 23 50.0**	**-2.4**
GEVA				IAmb	IAmb	22 24 24.1	
	comp=Z,9.4nm,0.7s						
GURO	**Guroymak-BITLI**	**83.05**	**309**	IAmb	IAmb	22 24 00.1	
	comp=Z,4.9nm,0.9s						
ILAR	**Eielson Array**	**88.36**	**25**	P	**P**	**22 24 20.2**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=243,slow=6.0,SNR=2.3						
	comp=Z,0.4nm,0.8s						
ARCES	**ARCESS Array B**	**91.82**	**340**	P	**P**	**22 24 36.0**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=97,slow=4.6,SNR=7.1						
	comp=Z,0.9nm,0.6s						
FINES	**FINESS Array B**	**92.75**	**332**	P	**P**	**22 24 40.6**	**-1.4**
	comp=Z,4.0nm,1.1s,baz=66,slow=6.7,SNR=3.7						
	comp=Z,4.0nm,1.1s						
NOA	**NORSAR Array B**	**99.79**	**333**	P	**Pdif**	**22 25 13.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=66,slow=4.4,SNR=1.5						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**121.21**	**286**	PKP	**PKPdf**	**22 30 22.3**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=88,slow=0.1,SNR=5.5						
TORD				SKP		22 33 29.6	
	comp=Z,0.4nm,1.0s,baz=72,slow=4.7,SNR=1.9						

IDC 03 22:35:32.3±2.2**, 6.°14S×128.°89E, h0**km**, mb3.6**/1**, mbtmp3.5**/3**, ML3.6**/2**, Error ellipse: s-maj=157.6km s-min=31.1km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.71**	**159**	Pn	Pn	22 39 02.7	+0.9
	0.3nm,0.3s,baz=342,slow=13,SNR=16						
WRA				Sn	Sn	22 41 33.0	-13
	0.8nm,0.3s,baz=321,slow=25,SNR=7.3						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.08**	**165**	P	Pn	22 39 44.3	-0.8
	0.2nm,0.3s,baz=343,slow=10,SNR=9.9						
ASAR				S	Sn	22 42 55.0	-13
	0.1nm,0.3s,baz=352,slow=26,SNR=1.2						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**66.91**	**327**	P	P	22 46 26.6	+0.1
	0.3nm,0.4s,baz=114,slow=7.9,SNR=5.6						
	0.3nm,0.4s						

*PRU **03** 22:42:53.2±0.0, 50.°16N×19.°16E, h0km*
*MCSM **03** 22:42:53.4±0.4, 50 °N±7 °×1 °9E± °, h5km±3km, ML3.1*
*IPEC **03** 22:42:53.0±0.2, 50.°18N×19.°21E, h0km, ML2.8/4, Error ellipse: s-maj=2.6km s-min=1.0km az=167.0*
*IDC **03** 22:42:53.6±1.0, 49.°93N×19.°14E, h0km, mb3.6/1, mbtmp3.2/6, ML2.6/5, Error ellipse: s-maj=16.5km s-min=7.5km az=150.0*
*VIE **03** 22:42:53.1±0.5, 50.°05N×19.°25E, h0km, mb2.2/4, ml2.6/3, Error ellipse: s-maj=9.5km s-min=3.8km az=154.0 26 km SSE of Sosnowice Suspected Mining induced.*
*BGR **03** 22:42:53.7±0.5, 50.°19N×19.°18E, h1km, ML3.0/8, Error ellipse: s-maj=8.9km s-min=5.6km az=179.0*
ISC 03 22:42:52.0±0.6**, 50.°20N**±0.°03×**19.°17E**±0.°02**, h0**km**, n66, σ1.°36**/111**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.40**	**87**	*e*Pg	**Pg**	**22 43 00.2**	**+0.5**
OJC				*e*Sg	**Sg**	**22 43 06.3**	**+1.4**
OJC	**Ojcow**	**0.40**	**87**	*e*Pg	**Pg**	**22 43 00.3**	**+0.5**
OJC	**Ojcow**	**0.40**	**87**	Pg	**Pg**	**22 43 00.2**	**+0.5**
RAC	**Raciborz**	**0.64**	**260**	*e*PG	**Pn**	**22 43 07.2**	**-1.1**
RAC				*e*SG	**Sb**	**22 43 15.8**	**+0.3**
OKC	**Ostrava-Krasne**	**0.75**	**242**	*e*PG	**Pg**	**22 43 06.3**	**-0.1**
OKC				*e*SG	**Sg**	**22 43 17.1**	**+0.9**
	comp=Z,84nm,0.8s						
OKC	**Ostrava-Krasne**	**0.75**	**242**	*e*Pg	**Pb**	**22 43 08.1**	**+0.2**
OKC				*e*Sg	**Sb**	**22 43 18.9**	**+0.1**
OKC	**Ostrava-Krasne**	**0.75**	**242**	Pg	**Pb**	**22 43 08.3**	**+0.3**
MORC	**Moravsky Berou**	**1.13**	**249**	*e*Pg	**Pn**	**22 43 15.1**	**-0.1**
MORC				*e*Pn	**Pb**	**22 43 15.8**	**+1.3**
MORC	**Moravsky Berou**	**1.13**	**249**	Pg	**Pb**	**22 43 14.6**	**+0.1**
MORC	**Moravsky Berou**	**1.13**	**249**	*e*PG	**Pn**	**22 43 15.0**	**-0.1**
MORC				*e*SG	**Sg**	**22 43 29.1**	**+0.7**
MORC	**Moravsky Berou**	**1.13**	**249**	*e*Pg	**Pn**	**22 43 14.9**	**-0.3**
	baz=69						
MORC				*e*Sg	**Sg**	**22 43 29.1**	**+0.7**
	114nm,0.7s,baz=69						
MAUC	**Maruska**	**1.21**	**227**	*e*PG	**Pg**	**22 43 15.2**	**+0.1**
MAUC				*e*SG	**Sg**	**22 43 30.5**	**-0.2**
	comp=Z,152nm,0.5s						
KRLC	**Kraliky**	**1.54**	**266**	*e*PG	**Pb**	**22 43 21.2**	**-0.2**
KRLC				*e*SG	**Sb**	**22 43 42.7**	**+1.2**
	comp=Z,68nm,0.4s						
KRLC	**Kraliky**	**1.54**	**266**	Pn	**Pg**	**22 43 21.4**	**-0.1**
STHS	**Stebnicka Huta**	**1.56**	**119**	*e*PG	**Pg**	**22 43 22.8**	**+1.0**
STHS				*e*SG	**Sg**	**22 43 42.8**	**+0.9**
STHS				*e*LG	Lg	22 43 53.5	
JAVC	**Velka Javorina**	**1.66**	**217**	*e*PN	**Pb**	**22 43 23.7**	**+0.2**
JAVC	**Velka Javorina**	**1.66**	**217**	*e*Pn	**Pb**	**22 43 23.7**	**+0.2**
	baz=37						
VYHS	**Vyhne**	**1.72**	**187**	*e*PG	**Pn**	**22 43 23.4**	**+0.2**
VYHS				*e*SG	**Sn**	**22 43 45.1**	**-0.8**
VYHS				*e*LG	Lg	22 43 47.5	
VYHS	**Vyhne**	**1.72**	**187**	Pn	**Pn**	**22 43 23.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.83**	**276**	*e*PG	**Pb**	**22 43 26.4**	**0.0**
DPC				*e*SG	**Sg**	**22 43 52.1**	**+1.2**
	comp=Z,46nm,0.4s						
DPC	**Dobruska-Polom**	**1.83**	**276**	*e*Pn	**Pb**	**22 43 26.5**	**+0.1**
DPC				*e*Pg	**Pg**	**22 43 28.1**	**+1.0**
DPC				*e*Sg	**Sg**	**22 43 51.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.83**	**276**	Pn	**Pb**	**22 43 26.5**	**+0.1**
VRAC	**Vranov**	**1.90**	**243**	Pg	**Pn**	**22 43 25.9**	**+0.3**
	3.4nm,0.3s,baz=68,slow=14,SNR=18						
VRAC				Lg	Lg	22 43 49.8	
	6.2nm,0.3s,baz=323,slow=22,SNR=12						
VRAC	**Vranov**	**1.90**	**243**	*e*PN	**Pb**	**22 43 26.7**	**-0.7**
VRAC				*e*SG	**Sg**	**22 43 52.8**	**0.0**
VRAC	**Vranov**	**1.90**	**243**	*e*Pn	**Pb**	**22 43 26.7**	**-0.7**
	baz=62						
VRAC				*e*Sg	**Sg**	**22 43 52.8**	**0.0**
	45nm,0.6s,baz=62						
KECS	**Kecovo**	**1.92**	**153**	*e*PN	**Pn**	**22 43 26.3**	**+0.4**
KECS				*e*SN	**Sn**	**22 43 49.4**	**-1.4**
KECS				*e*LG	Lg	22 43 53.8	
OSTC	**Ostas**	**1.93**	**282**	*e*PG	**Pb**	**22 43 27.6**	**-0.4**
OSTC				*e*SG	**Sg**	**22 43 54.7**	**+0.9**
	comp=Z,29nm,0.7s						
OSTC	**Ostas**	**1.93**	**282**	Pn	**Pb**	**22 43 27.8**	**-0.2**
KSP	**Ksiaz**	**1.95**	**290**	*e*Pg	**Pg**	**22 43 28.9**	**-0.4**
KSP				*e*Sg	**Sg**	**22 43 54.7**	**+0.3**
KSP	**Ksiaz**	**1.95**	**290**	*e*Pn	**Pb**	**22 43 27.9**	**-0.4**
KSP				*e*Pg	**Pg**	**22 43 29.1**	**-0.1**
KSP				*e*Sg	**Sg**	**22 43 55.9**	**+1.4**
CRVS	**Cervenica-Dubn**	**1.98**	**130**	*e*PG	**Pg**	**22 43 30.7**	**+0.8**
CRVS				*e*SG	**Sg**	**22 43 56.8**	**+1.3**
CHVC	**Chvalec**	**2.03**	**282**	*e*PG	**Pb**	**22 43 29.6**	**-0.2**
CHVC				*e*SG	**Sg**	**22 43 58.4**	**+1.2**
	comp=Z,25nm,0.8s						
UPC	**Upice**	**2.05**	**280**	*e*PG	**Pg**	**22 43 31.3**	**+0.1**
UPC				*e*SG	**Sg**	**22 43 58.5**	**+0.8**
	comp=Z,32nm,0.5s						
KRUC	**Moravsky**	**2.13**	**239**	*e*PN	**Pb**	**22 43 30.3**	**-1.2**
KRUC				*e*SG	**Sg**	**22 43 59.9**	**-0.6**
KRUC	**Moravsky**	**2.13**	**239**	*e*Pn	**Pb**	**22 43 30.2**	**-1.2**
	baz=58						
KRUC				*e*Sg	**Sg**	**22 43 59.9**	**-0.6**
	50nm,0.8s,baz=58						
MODS	**Modra-Piesok**	**2.21**	**215**	*e*PN	**Pb**	**22 43 32.3**	**-0.5**
MODS				*e*SN	**Sn**	**22 43 57.6**	**-0.3**
MODS				*e*LG	Lg	22 44 07.9	
PSZ	**Piszkesteto**	**2.33**	**168**	P	**Pb**	**22 43 34.2**	**-0.7**
ABAH	**Abaujker**	**2.34**	**144**	P	**Pg**	**22 43 37.2**	**+0.4**
TREC	**Trest**	**2.56**	**251**	*e*PG	**Pb**	**22 43 39.1**	**+0.4**
TREC				*e*SG	**Sg**	**22 44 14.2**	**+0.2**
	comp=Z,14nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.84**	**266**	*e*PN	**Pn**	**22 43 39.2**	**+0.6**
GOPC				*e*SG	**Sg**	**22 44 23.8**	**+0.6**
	comp=Z,21nm,0.9s						
PVCC	**Panska Ves**	**2.96**	**278**	*e*PG	**Pb**	**22 43 47.0**	**+1.3**
PVCC				*e*SG	**Sg**	**22 44 28.4**	**+1.2**
	comp=Z,33nm,0.8s						
PRU	**Pruhonice**	**2.99**	**268**	*e*PG	**Pb**	**22 43 47.3**	**+1.2**
PRU				*e*SG	**Sg**	**22 44 28.2**	**+0.3**
	comp=Z,11nm,0.6s						
TRPA	**Tarpa**	**3.03**	**132**	P	**Pb**	**22 43 45.0**	**-1.8**
RONA	**Rosalia, Austr**	**3.14**	**218**	*e*Pn	**Pn**	**22 43 44.1**	**+1.4**
	1.2nm,0.2s						
CONA	**Conrad Observa**	**3.15**	**225**	*e*Pn	**Pn**	**22 43 43.6**	**+0.7**
	0.2nm,0.3s						
CONA				*e*Sn	**Sn**	**22 44 18.5**	**-2.6**
	5.4nm,0.6s						
BRG	**Berggiesshubel**	**3.40**	**283**	Pg	**Pg**	**22 43 57.1**	**0.0**
BRG				Sg	**Sg**	**22 44 42.7**	**+1.5**
BRG				Amp		22 44 48.6	
	comp=Z,10nm,0.5s						
BRG	**Berggiesshubel**	**3.40**	**283**	*e*Sg	**Sg**	**22 44 41.3**	**0.0**
CKRC	**Cesky Krumlov**	**3.46**	**248**	*e*PG	**Pb**	**22 43 55.3**	**+1.3**
CKRC				*e*SG	**Sg**	**22 44 42.0**	**-1.0**
KHC	**Kasperske Hory**	**3.79**	**256**	*e*PN	**Pn**	**22 43 52.7**	**+1.1**
KHC				*e*SG	**Sg**	**22 44 53.5**	**-0.1**
	comp=Z,12nm,0.5s						
GEC2	**GERESS Array S**	**3.81**	**251**	*e*Sg	**Sg**	**22 44 52.6**	**-1.8**
GERES	**GERESS Array B**	**3.81**	**251**	Pn	**Pn**	**22 43 53.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=73,slow=14,SNR=5.7						
GERES				Pg	**Pb**	**22 44 01.3**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=67,slow=17,SNR=13						
GERES				Lg	Lg	22 44 52.1	
	comp=Z,1.9nm,0.3s,baz=73,slow=28,SNR=7.6						
	comp=Z,0.3nm,0.3s						
CLL	**Collm**	**4.07**	**288**	*e*Pg	**Pg**	**22 44 14.0**	**+4.0**
CLL				*e*x	x	22 44 31.0	
CLL				*e*x	x	22 44 49.0	
CLL				*e*Sg	**Sg**	**22 45 05.0**	**+2.3**
	comp=Z,13nm,0.8s						
CLL	**Collm**	**4.07**	**288**	*e*Sg	**Sg**	**22 45 02.6**	**-0.1**
WET	**Wettzell**	**4.22**	**258**	*e*Sg	**Sg**	**22 45 06.9**	**-0.6**
NKC	**Novy Kostel**	**4.32**	**273**	*e*PN	**Pn**	**22 44 00.2**	**+1.3**
NKC				*e*SG	**Sg**	**22 45 10.6**	**0.0**
	comp=Z,13nm,0.6s						
KMPD	**K-Podol'skiy**	**5.04**	**106**	Pn	**Pn**	**22 44 09.5**	**+0.8**
KMPD				sP	**Pn**	**22 44 11.1**	**+2.4**
BSD	**Bornholm Skovb**	**5.56**	**334**	*i* P	**Pn**	**22 44 17.9**	**+2.0**
BSD				*i* S	**Sn**	**22 45 18.6**	**-1.8**
BSD				IAML		22 45 23.5	
	comp=Z,6.5nm,0.8s						
BLEU	**Blekinge**	**6.44**	**343**	*i* P	**Pn**	**22 44 29.7**	**+1.8**
BLEU				*i* S	**Sn**	**22 45 39.8**	**-2.2**
AKASG	**Malin Array Be**	**6.44**	**82**	Pn	**Pn**	**22 44 27.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=262,slow=14,SNR=2.3						
AKASG				Pg	**Pb**	**22 44 46.1**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=269,slow=15,SNR=3.7						
AKASG				Lg	Lg	22 46 09.5	
	comp=Z,0.6nm,0.3s,baz=276,slow=25,SNR=1.4						
	comp=Z,0.1nm,0.3s						
AKBB	**Malin Array Si**	**6.44**	**82**	Sn	**Sn**	**22 45 42.5**	**+0.3**
LUNU	**Lund**	**6.45**	**330**	*i* P	**Pn**	**22 44 30.1**	**+2.0**
DEL	**Delary**	**7.04**	**335**	*i* P	**Pn**	**22 44 38.2**	**+2.1**
DAVOX	**Davos/Dischmat**	**7.06**	**245**	Pn	**Pn**	**22 44 38.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=54,slow=17,SNR=2.6						
DAVOX				Sn	**Sn**	**22 45 56.8**	**-0.9**
	baz=180,slow=20						
DAVOX				Lg	Lg	22 46 36.3	
	comp=Z,0.2nm,0.3s,baz=184,slow=22,SNR=1.7						
	comp=Z,0.9nm,0.4s						
HFS	**Hagfors**	**10.43**	**345**	Pn	**Pn**	**22 45 21.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=169,slow=23,SNR=1.0						
HFS				Sn	**Sn**	**22 47 16.8**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=116,slow=38,SNR=1.8						
	comp=Z,1.1nm,0.8s						
FINES	**FINESS Array B**	**11.91**	**16**	Pn	**Pn**	**22 45 42.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=10,SNR=5.8						
FINES				Sn	**Sn**	**22 47 48.5**	**-7.8**
	comp=Z,0.1nm,0.3s,baz=204,slow=18,SNR=4.0						
	comp=Z,3.7nm,1.1s						
MKAR	**Makanchi Array**	**40.86**	**70**	P	**P**	**22 50 37.6**	**+2.3**
	comp=Z,0.8nm,0.9s,baz=308,slow=7.0,SNR=2.0						
	comp=Z,0.8nm,0.9s						

*NEIC **03** 23:05:02.8±1.6, 17.°7S±0.°1×179.°7E±0.°1, h580km±8km, mb4.5/112, Error ellipse: s-maj=17.0km s-min=14.8km az=134.0*
*IDC **03** 23:05:03.8±0.8, 17.°53S×179.°53E, h592km±6km, mb3.4/11, mbtmp4.4/12, Error ellipse: s-maj=20.0km s-min=13.4km az=131.0*
*NOU **03** 23:05:06.8, 17.°82S×179.°34E, h601km, mb4.8/42, Fiji Islands*
ISC 03 23:05:04.1±0.4**, 17.°63S**±0.°08×**179.°63E**±0.°07**, h602**km**, n195, σ1.°20**/202**, mb4.5**/64**, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.51**	**266**	P	**P**	**23 06 16.5**	**-0.5**
	26nm,0.6s,baz=54,slow=1.7,SNR=41						
MSVF				S	**S**	**23 07 13.7**	**-2.4**
	19nm,0.7s,baz=237,slow=21,SNR=1.2						
MSVF	**Nonsavu**	**1.51**	**266**	P	**P**	**23 06 16.6**	**-0.3**
FUNA	**Funafuti**	**9.06**	**357**	P	**P**	**23 07 11.9**	**-1.9**
AFI	**Afiamalu**	**9.06**	**67**	P	**P**	**23 07 09.8**	**-4.1**
	39nm,0.5s,baz=234,slow=2.3,SNR=7.8						
AFI	**Afiamalu**	**9.06**	**67**	P	**P**	**23 07 10.3**	**-3.6**
NIUE	**Niue**	**10.02**	**100**	P	**P**	**23 07 20.7**	**-2.4**
MARNC	**Mare, Loyalty**	**11.58**	**249**		**P**	**23 07 37.3**	**-1.3**
MARNC	**Mare, Loyalty**	**11.58**	**249**	P	**P**	**23 07 36.9**	**-1.8**
LIFNC	**LIFOU**	**12.11**	**253**		**P**	**23 07 42.2**	**-1.8**
LIFNC	**LIFOU**	**12.11**	**253**	P	**P**	**23 07 42.1**	**-1.8**
YATNC	**Mamie plateau,**	**12.77**	**248**	P	**P**	**23 07 49.1**	**-1.4**
OUENC	**Ouen Island, N**	**12.92**	**246**	P	**P**	**23 07 51.0**	**-1.1**
OUENC	**Ouen Island, N**	**12.92**	**246**	P	**P**	**23 07 51.4**	**-0.7**
DZM	**Mont Dzumac**	**13.16**	**248**	P	**P**	**23 07 53.6**	**-1.1**
	27nm,0.6s,baz=81,slow=19,SNR=35						
DZM	**Mont Dzumac**	**13.16**	**248**	P	**P**	**23 07 53.8**	**-0.9**
DZM	**Mont Dzumac**	**13.16**	**248**	P	**P**	**23 07 53.9**	**-0.8**
ONTNC	**Ouen Toro**	**13.23**	**247**	P	**P**	**23 07 54.1**	**-1.1**
NOUC	**Port Laguerre**	**13.30**	**248**	P	**P**	**23 07 55.2**	**-0.7**
KOUNC	**Koumac, New Ca**	**14.79**	**256**	P	**P**	**23 08 10.1**	**-0.2**
OUZ	**Omahuta**	**18.32**	**196**	P	**P**	**23 08 44.2**	**+1.8**
MXZ	**Matakaoa Point**	**19.89**	**183**	P	**P**	**23 08 54.8**	**-1.7**
URZ	**Urewera**	**20.67**	**186**	P	**P**	**23 09 03.9**	**+0.3**
	8.9nm,0.5s,baz=114,slow=2.4,SNR=8.7						
	8.9nm,0.5s						
URZ	**Urewera**	**20.67**	**186**	P	**P**	**23 09 03.8**	**+0.2**
URZ				IAmb	IAmb	23 09 11.8	
	comp=Z,19nm,0.9s						
BKZ	**Black Stump Fm**	**21.63**	**187**	P	**P**	**23 09 13.2**	**+0.9**
BKZ				IAmb	IAmb	23 09 21.6	
	comp=Z,27nm,1.3s						
BFZ	**Birch Farm**	**23.15**	**187**	P	**P**	**23 09 24.2**	**-1.5**
QRZ	**Quartz Range**	**23.91**	**193**	P	**P**	**23 09 32.4**	**0.0**
QRZ	**Quartz Range**	**23.91**	**193**	P	**P**	**23 09 32.6**	**+0.2**
NNZ	**Nelson**	**24.11**	**192**	P	**P**	**23 09 33.2**	**-1.0**
PLWZ	**Palliser**	**24.15**	**188**	P	**P**	**23 09 33.0**	**-1.6**
TUWZ	**Tuamarina**	**24.21**	**190**	P	**P**	**23 09 34.3**	**-0.7**
BSWZ	**Blackbirch Sta**	**24.50**	**190**	P	**P**	**23 09 37.1**	**-0.6**
THZ	**Tophouse**	**24.73**	**192**	P	**P**	**23 09 39.0**	**-0.8**
KHZ	**Kahutara**	**25.24**	**191**	P	**P**	**23 09 42.8**	**-1.3**
KHZ				IAmb	IAmb	23 09 43.5	
	comp=Z,18nm,0.8s						
LTZ	**Lake Taylor**	**25.84**	**192**	P	**P**	**23 09 47.9**	**-1.5**
OXZ	**Oxford**	**26.41**	**193**	P	**P**	**23 09 52.6**	**-1.7**
MQZ	**McQueen's Vall**	**26.65**	**191**	P	**P**	**23 09 54.5**	**-2.0**
FOZ	**Fox Glacier**	**27.12**	**196**	P	**P**	**23 10 00.1**	**-0.4**
EIDS	**Eidsvold**	**27.61**	**249**	P	**P**	**23 10 05.5**	**+0.3**
EIDS				IAmb	IAmb	23 10 05.9	
	comp=Z,24nm,0.8s						
EIDS	**Eidsvold**	**27.61**	**249**	P	**P**	**23 10 05.2**	**0.0**
LBZ	**Lake Benmore**	**27.83**	**195**	P	**P**	**23 10 04.9**	**-1.9**
LBZ				IAmb	IAmb	23 10 33.9	
	comp=Z,42nm,1.5s						
ODZ	**Otahua Downs**	**28.35**	**193**	P	**P**	**23 10 09.5**	**-1.8**
ODZ				IAmb	IAmb	23 10 35.1	
	comp=Z,23nm,1.5s						
ARMA	**Armidale**	**28.48**	**238**	P	**P**	**23 10 13.4**	**+0.7**
ARMA				IAmb	IAmb	23 10 14.1	
	comp=Z,9.6nm,0.8s						
WKZ	**Wanaka**	**28.54**	**196**	P	**P**	**23 10 11.8**	**-1.2**
MLZ	**Mavora Lakes**	**29.28**	**197**	P	**P**	**23 10 19.8**	**+0.4**
MLZ				IAmb	IAmb	23 10 45.7	
	comp=Z,35nm,1.3s						
DCZ	**Deep Cove**	**29.64**	**198**	P	**P**	**23 10 22.8**	**+0.5**
DCZ				IAmb	IAmb	23 10 24.3	
	comp=Z,31nm,1.2s						
WHZ	**Wether Hill Ro**	**29.81**	**197**	P	**P**	**23 10 23.6**	**-0.2**
RMQ	**Roma**	**29.87**	**247**	P	**P**	**23 10 25.6**	**+0.9**
AUDCS	**Dubbo College**	**31.51**	**237**	P	**P**	**23 10 40.1**	**+1.5**
CTA	**Charters Tower**	**31.65**	**260**	P	**P**	**23 10 40.0**	**0.0**
CTAO	**Charters Tower**	**31.65**	**260**	P	**P**	**23 10 40.0**	**0.0**
CTAO	**Charters Tower**	**31.65**	**260**	P	**P**	**23 10 40.1**	**+0.1**
MTSU	**Mount Surprise**	**33.58**	**264**	P	**P**	**23 10 56.1**	**-0.2**
CMSA	**Cobar Meteorol**	**33.67**	**239**	P	**P**	**23 10 57.0**	**+0.2**
QLP	**Quilpie**	**33.89**	**248**	P	**P**	**23 10 58.8**	**+0.1**
COEN	**Coen**	**35.23**	**271**	P	**P**	**23 11 10.7**	**+0.6**
COEN	**Coen**	**35.23**	**271**	P	**P**	**23 11 10.6**	**+0.6**
MANU	**Manus Island**	**35.26**	**292**	P	**P**	**23 11 11.8**	**+1.5**
TOO	**Toolangi**	**35.91**	**229**	P	**P**	**23 11 16.2**	**+0.8**
TOO				IAmb	IAmb	23 11 17.4	
	comp=Z,13nm,0.8s						
TOO	**Toolangi**	**35.91**	**229**	P	**P**	**23 11 15.9**	**+0.6**
INKA	**Innaminka**	**37.12**	**247**	P	**P**	**23 11 25.3**	**0.0**
STKA	**Stephens Creek**	**37.13**	**240**	P	**P**	**23 11 25.7**	**+0.3**
	comp=Z,22nm,0.8s,baz=88,slow=9.2,SNR=33						
	comp=Z,22nm,0.8s						
STKA	**Stephens Creek**	**37.13**	**240**	P	**P**	**23 11 26.3**	**+0.9**
STKA				IAmb	IAmb	23 11 27.0	
	comp=Z,7.8nm,1.1s						
STKA	**Stephens Creek**	**37.13**	**240**	P	**P**	**23 11 26.0**	**+0.6**
HTT	**Hallett**	**39.68**	**239**	P	**P**	**23 11 46.5**	**+0.5**
LCRK	**Leigh Creek**	**39.70**	**243**	P	**P**	**23 11 46.3**	**+0.2**
WHYH	**Whyalla**	**40.70**	**240**	P	**P**	**23 11 54.4**	**+0.4**
GENI	**Genyem**	**41.49**	**287**	P	**P**	**23 12 01.6**	**+1.1**
OOD	**Oodnadatta**	**41.58**	**248**	P	**P**	**23 12 01.7**	**+0.6**
BBOO	**Buckleboo**	**41.91**	**240**	P	**P**	**23 12 03.8**	**+0.2**
BBOO	**Buckleboo**	**41.91**	**240**	P	**P**	**23 12 03.7**	**+0.2**
WR0	**Warramunga Arr**	**42.65**	**259**	P	**P**	**23 12 08.7**	**-0.9**
WR0				IAmb	IAmb	23 12 10.0	
	comp=Z,10nm,0.8s						
WB0	**Warramunga Arr**	**42.80**	**260**	P	**P**	**23 12 09.8**	**-0.9**
WB0				IAmb	IAmb	23 12 10.7	
	comp=Z,19nm,1.1s						
WB2	**Warramunga Arr**	**42.83**	**259**	P	**P**	**23 12 10.0**	**-0.9**
WB2				IAmb	IAmb	23 12 10.9	
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**42.83**	**260**	P	**P**	**23 12 10.1**	**-0.8**
WRAB				IAmb	IAmb	23 12 10.8	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**42.83**	**260**	P	**P**	**23 12 10.1**	**-0.8**
WRA	**Warramunga Arr**	**42.84**	**259**	P	**P**	**23 12 09.9**	**-1.1**
	comp=Z,11nm,0.6s,baz=95,slow=7.1,SNR=179						
WRA				PcP	**PcP**	**23 13 48.7**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=95,slow=3.2,SNR=3.9						
WRA				ScP	**ScP**	**23 16 42.0**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=165,slow=16,SNR=2.8						
WRA				S	**S**	**23 17 46.5**	**-6.8**
	comp=Z,0.5nm,0.9s,baz=92,slow=14,SNR=2.7						
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**42.84**	**259**	P	**P**	**23 12 09.9**	**-1.1**
AS01	**Alice Springs**	**43.02**	**254**	P	**P**	**23 12 12.1**	**-0.3**
AS31	**Alice Springs**	**43.06**	**254**	P	**P**	**23 12 12.9**	**+0.1**
ASAR	**Alice Springs**	**43.06**	**254**	P	**P**	**23 12 12.6**	**-0.2**
	comp=Z,99nm,0.5s,baz=87,slow=8.2,SNR=1314						
ASAR				PcP	**PcP**	**23 13 49.5**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=91,slow=3.7,SNR=3.3						
ASAR				ScP	**ScP**	**23 16 46.8**	**+3.3**
	comp=Z,0.9nm,0.9s,baz=88,slow=5.0,SNR=4.2						
ASAR				S	**S**	**23 17 52.1**	**-4.3**
	comp=Z,2.0nm,0.9s,baz=86,slow=16,SNR=11						
ASAR	**Alice Springs**	**43.06**	**254**	P	**P**	**23 12 13.0**	**+0.2**
MULG	**Mulgathing**	**43.24**	**244**	P	**P**	**23 12 13.6**	**-0.3**
KDU	**Kakadu**	**45.69**	**269**	P	**P**	**23 12 32.8**	**-0.1**
MTN	**Manton Dam**	**46.93**	**269**	P	**P**	**23 12 42.1**	**-0.2**
MTN	**Manton Dam**	**46.93**	**269**	P	**P**	**23 12 41.9**	**-0.4**
WRKA	**Warakurna**	**48.15**	**252**	P	**P**	**23 12 51.5**	**+0.2**
FORT	**Forrest**	**48.44**	**244**	P	**P**	**23 12 52.9**	**-0.3**
FORT	**Forrest**	**48.44**	**244**	P	**P**	**23 12 53.0**	**-0.3**
KNRA	**Kununurra**	**48.65**	**264**	P	**P**	**23 12 54.9**	**-0.1**
KNRA	**Kununurra**	**48.65**	**264**	P	**P**	**23 12 54.8**	**-0.2**
FAKI	**Fak Fak**	**48.69**	**282**	P	**P**	**23 12 55.6**	**+0.2**
FAKI				IAmb	IAmb	23 12 56.6	
	comp=Z,40nm,1.4s						
SOEI	**Soe**	**54.20**	**271**	P	**P**	**23 13 36.8**	**+1.7**
SOEI	**Soe**	**54.20**	**271**	P	**P**	**23 13 37.0**	**+1.9**
PSA00	**Pilbara Seismi**	**56.16**	**256**	P	**P**	**23 13 48.4**	**-0.1**
PSA00				IAmb	IAmb	23 13 49.2	
	comp=Z,32nm,0.7s						
PSA00	**Pilbara Seismi**	**56.16**	**256**	P	**P**	**23 13 48.6**	**+0.1**
PSA00				IAmb	IAmb	23 13 49.3	
	comp=Z,14nm,0.8s						
PSA00	**Pilbara Seismi**	**56.16**	**256**	P	**P**	**23 13 48.4**	**-0.1**
MBWA	**Marble Bar**	**56.33**	**256**	P	**P**	**23 13 49.5**	**-0.1**
MBWA				IAmb	IAmb	23 13 50.3	
	comp=Z,19nm,0.8s						
MEEK	**Meekatharra**	**56.78**	**249**	P	**P**	**23 13 52.5**	**-0.2**
KLBR	**Kellerberrin**	**57.27**	**243**	P	**P**	**23 13 55.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**57.69**	**242**	P	**P**	**23 13 58.9**	**+0.2**
NWAO				IAmb	IAmb	23 13 59.0	
	comp=Z,21nm,0.7s						
MORW	**Morawa**	**58.88**	**246**	P	**P**	**23 14 06.7**	**0.0**
MORW				IAmb	IAmb	23 14 07.0	
	comp=Z,14nm,0.6s						
KAPI	**Kappang**	**59.81**	**274**	P	**P**	**23 14 13.1**	**0.0**
VNDA	**Vanda**	**60.57**	**184**	P	**P**	**23 14 17.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=333,slow=4.2,SNR=1.3						
	comp=Z,0.2nm,0.4s						
VNDA	**Vanda**	**60.57**	**184**	P	**P**	**23 14 18.2**	**+1.2**
TOLI2	**Tolitoli**	**60.83**	**282**	P	**P**	**23 14 21.1**	**+1.2**
TOLI2				IAmb	IAmb	23 14 24.0	
	comp=Z,11nm,0.7s						
GIRL	**Giralia**	**61.18**	**253**	P	**P**	**23 14 22.4**	**+0.3**
CASY	**Casey**	**65.60**	**205**	P	**P**	**23 14 49.6**	**+0.2**
CASY				IAmb	IAmb	23 14 59.1	
	comp=Z,27nm,1.2s						
MJAR	**Matsushiro Arr**	**66.58**	**325**	P	**P**	**23 14 56.3**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=159,slow=6.5,SNR=1.8						
	comp=Z,0.8nm,0.5s						
KKM	**Kota Kinabalu**	**66.86**	**285**	P	**P**	**23 14 58.5**	**+0.2**
KKM				IAmb	IAmb	23 15 04.7	
	comp=Z,20nm,1.0s						
UGM	**Wanagama**	**67.78**	**269**	P	**P**	**23 15 04.2**	**+0.4**
JHS	**Saijyo**	**68.48**	**320**	P	**P**	**23 15 09.2**	**+1.7**
JHS				IAmb	IAmb	23 15 19.5	
	comp=Z,39nm,1.3s						
SSLB	**Suanglung**	**70.52**	**304**	P	**P**	**23 15 19.9**	**0.0**
SSLB				IAmb	IAmb	23 15 26.4	
	comp=Z,50nm,1.5s						
KSM	**Kuching**	**70.79**	**278**	P	**P**	**23 15 23.1**	**+1.4**
KSM				IAmb	IAmb	23 15 23.7	
	comp=Z,23nm,0.7s						
KSM	**Kuching**	**70.79**	**278**	P	**P**	**23 15 22.7**	**+1.0**
UNV	**Unalaska Valle**	**72.18**	**9**	P	**P**	**23 15 28.6**	**-0.2**
UNV				IAmb	IAmb	23 15 29.1	
	comp=Z,20nm,0.8s						
AKUT	**Akutan**	**72.57**	**9**	P	**P**	**23 15 30.8**	**-0.2**
SDPT	**Sand Point**	**74.63**	**12**	P	**P**	**23 15 42.5**	**-0.2**
MNAI	**Manna**	**76.00**	**270**	P	**P**	**23 15 52.1**	**+0.8**
CHIR	**Chirikof Islan**	**76.10**	**14**	P	**P**	**23 15 51.4**	**+0.5**
SII	**Sitkinak Islan**	**77.11**	**15**	P	**P**	**23 15 57.1**	**+0.8**
SII				IAmb	IAmb	23 16 21.4	
	comp=Z,46nm,1.4s						
Q19K	**Cape Douglas,**	**79.38**	**14**	P	**P**	**23 16 09.1**	**+0.7**
Q19K				IAmb	IAmb	23 16 20.3	
	comp=Z,32nm,1.1s						
P18K	**Big Mountain,**	**79.45**	**13**	P	**P**	**23 16 09.2**	**+0.4**
P18K				IAmb	IAmb	23 16 09.8	
	comp=Z,12nm,0.8s						
O18K	**Koktuh Hills**	**79.88**	**13**	P	**P**	**23 16 11.6**	**+0.6**
O18K				IAmb	IAmb	23 16 12.3	
	comp=Z,16nm,0.8s						
PNTR	**Pine Nut**	**80.02**	**44**	P	**P**	**23 16 11.7**	**-0.8**
PNTR				IAmb	IAmb	23 16 15.2	
	comp=Z,8.7nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YERR	Yerington	80.20	44	P	P	23 16 14.7	+1.2
LCH	Last Change Ra	80.37	46	P	P	23 16 15.6	+1.4
O19K	Port Alsworth	80.38	13		P	23 16 14.0	+0.5
O19K				IAmb	IAmb	23 16 14.7	
	comp=Z,18nm,0.7s						
ILSW	Iliamna Southw	80.44	13	P	P	23 16 14.3	+0.3
ILSW				IAmb	IAmb	23 16 14.9	
	comp=Z,8.2nm,0.7s						
CNPM	China Poot	80.47	15	P	P	23 16 14.6	+0.4
CNPM				IAmb	IAmb	23 16 30.8	
	comp=Z,30nm,1.5s						
PAHR	Pah Rah Range	80.49	43	P	P	23 16 16.4	+1.5
N18K	Kilae Creek	80.50	12	P	P	23 16 14.8	+0.6
IPM	Ipoh	80.53	278	P	P	23 16 16.8	+1.4
IPM				IAmb	IAmb	23 16 17.3	
	comp=Z,14nm,0.7s						
NVAR	Mina Array Bea	80.53	45	P	P	23 16 16.3	+1.1
	comp=Z,1.6nm,0.7s,baz=225,slow=7.3,SNR=16						
	comp=Z,1.6nm,0.7s						
NVAR	Mina Array Bea	80.53	45	P	P	23 16 16.7	+1.5
BRLK	Bradley Lake	80.77	15	P	P	23 16 15.9	+0.3
BRLK				IAmb	IAmb	23 16 44.1	
	comp=Z,17nm,1.4s						
N19K	Bonanza Creek	80.91	13	P	P	23 16 16.3	-0.1
N19K				IAmb	IAmb	23 16 16.7	
	comp=Z,14nm,1.5s						
SVW2	Sparrevohn	80.94	12	P	P	23 16 17.0	+0.5
KVN	Kaiserville	80.99	44	P	P	23 16 19.1	+1.6
KULM	Kulim	81.14	278	P	P	23 16 19.4	+0.8
KULM				IAmb	IAmb	23 16 37.7	
	comp=Z,9.9nm,1.0s						
K05A	Summer Lake	81.18	40	P	P	23 16 19.8	+1.4
K05A				IAmb	IAmb	23 16 23.4	
	comp=Z,18nm,1.4s						
H04A	Detroit Lake	81.51	38	P	P	23 16 21.2	+1.4
H04A				IAmb	IAmb	23 16 22.1	
	comp=Z,19nm,1.4s						
PINE	Pine Mountain	81.75	39	P	P	23 16 23.5	+2.3
PINE				IAmb	IAmb	23 16 24.0	
	comp=Z,7.6nm,0.8s						
M19K	Big River Lodg	81.92	12	P	P	23 16 22.1	+0.7
L19K	White Mountain	82.08	12	P	P	23 16 24.0	+1.7
L19K				IAmb	IAmb	23 16 24.6	
	comp=Z,8.1nm,0.8s						
M20K	Styx River	82.16	13	P	P	23 16 23.3	+0.6
SUA	Susitna One	82.30	14	P	P	23 16 24.2	+0.7
BELA	Belgrano 2	82.67	173	P	P	23 16 25.5	+0.3
GLI	Glacier Island	82.68	16	P	P	23 16 25.8	+0.5
GLI				IAmb	IAmb	23 16 46.3	
	comp=Z,18nm,1.0s						
ANM	Nome	82.75	6	P	P	23 16 27.1	+1.6
I07A	Izee	82.77	39	P	P	23 16 28.1	+1.8
GHO	Glory Hole Cre	83.00	14	P	P	23 16 27.5	+0.5
GHO				IAmb	IAmb	23 16 28.2	
	comp=Z,10nm,0.8s						
BMRM	Bremner River	83.42	17	P	P	23 16 29.5	+0.4
BMRM				IAmb	IAmb	23 16 33.5	
	comp=Z,21nm,1.4s						
MAW	Mawson	83.48	200	P	P	23 16 31.1	+1.9
	comp=Z,2.1nm,0.5s,baz=118,slow=4.3,SNR=11						
	comp=Z,2.1nm,0.5s						
MESA	MESA	83.53	18	P	P	23 16 31.1	+1.3
PSUT	Pine Spring	83.62	46	P	P	23 16 32.4	+1.6
G08A	Pilot Rock	83.75	39	P	P	23 16 31.7	+0.6
N25K	Chitina, Valde	83.95	16	P	P	23 16 32.6	+0.9
N25K				IAmb	IAmb	23 16 33.1	
	comp=Z,9.2nm,0.7s						
TABL	Table Mountain	83.98	18	P	P	23 16 32.9	+0.8
TABL				IAmb	IAmb	23 16 40.7	
	comp=Z,34nm,1.2s						
GLB	Gilahina Butte	84.03	17	P	P	23 16 32.7	+0.7
GLB				IAmb	IAmb	23 16 33.3	
	comp=Z,7.4nm,0.8s						
BARN	Barnard Glacie	84.33	18	P	P	23 16 34.7	+1.0
BARN				IAmb	IAmb	23 16 53.0	
	comp=Z,15nm,1.4s						
M27K	Edge Creek, AK	85.31	17	P	P	23 16 39.6	+1.3
M27K				IAmb	IAmb	23 16 41.8	
	comp=Z,8.6nm,1.2s						
PLID	Pearl Lake	85.43	40	P	P	23 16 40.6	+1.2
HLID	Hailey	85.66	42	P	P	23 16 41.9	+1.4
IMAR	Indian Mountai	85.75	11	P	P	23 16 40.6	+0.5
HVU	Hansel Valley	85.87	44	P	P	23 16 43.6	+2.1
L27K	Beaver Creek,	85.89	17	P	P	23 16 41.6	+0.7
BCAR	Beaver Creek A	85.91	17	P	P	23 16 42.2	+1.1
MDM	Murphy Dome	85.92	13	P	P	23 16 41.3	+0.2
ILAR	Eielson Array	86.05	14	P	P	23 16 41.4	-0.2
	comp=Z,1.4nm,0.9s,baz=227,slow=5.7,SNR=14						
	comp=Z,1.4nm,0.9s						
SCRK	Sand Creek	86.08	15	P	P	23 16 42.3	+0.4
K27K	Chicken	86.61	16	P	P	23 16 45.0	+0.7
J26L	Joseph Creek	86.61	15	P	P	23 16 45.6	+1.2
J26L				IAmb	IAmb	23 16 46.2	
	comp=Z,3.9nm,0.7s						
M30M	Minto, Yukon	86.96	19	P	P	23 16 46.7	+0.7
CMAR	Chiang Mai Arr	87.03	290	P	P	23 16 47.7	+0.4
	comp=Z,1.6nm,0.3s,baz=120,slow=3.1,SNR=10						
	comp=Z,1.6nm,0.3s						
DAWY	Dawson	87.36	17	P	P	23 16 48.7	+0.8
I26K	Coal Creek Min	87.38	15	P	P	23 16 48.8	+0.9
I26K				IAmb	IAmb	23 16 58.4	
	comp=Z,9.1nm,1.5s						
EGAK	Eagle	87.45	16	P	P	23 16 48.9	+0.7
EGAK				IAmb	IAmb	23 16 56.3	
	comp=Z,14nm,1.5s						
COLD	Coldfoot	87.50	11	P	P	23 16 49.4	+1.0
COLD				IAmb	IAmb	23 16 50.1	
	comp=Z,4.1nm,1.0s						
DLMT	Dillon	87.67	41	P	P	23 16 51.3	+1.4
PDAR	Pinedale Array	88.45	44	P	P	23 16 53.6	0.0
	comp=Z,0.5nm,0.6s,baz=212,slow=2.2,SNR=4.7						
	comp=Z,0.5nm,0.6s						
PDAR	Pinedale Array	88.45	44	P	P	23 16 54.0	+0.3
SMCO	Snowmass	88.72	48	P	P	23 16 56.9	+1.6
BMAR	Burnt Mountain	88.81	13	P	P	23 16 55.4	+0.9
SNAA	Sanae	90.91	179	P	P	23 17 04.3	0.0
SONM	Songino Array	92.13	320	P	P	23 17 10.0	-0.5
	comp=Z,0.2nm,0.4s,baz=119,slow=5.6,SNR=1.9						
	comp=Z,0.2nm,0.4s						
MKAR	Makanchi Array	107.60	314	PKiKP	PKiKP	23 22 23.3	-0.3
	comp=Z,0.5nm,0.7s,baz=213,slow=1.3,SNR=4.6						
ARCES	ARCESS Array B	125.70	349	PKP	PKPdf	23 22 57.6	0.0
	comp=Z,2.9nm,0.8s,baz=46,slow=3.5,SNR=5.4						
FINES	FINESS Array B	132.40	343	PKhKP	PKPpre	23 23 06.3	
	comp=Z,2.6nm,1.0s,baz=48,slow=2.1,SNR=1.8						
FINES				PKP	PKPdf	23 23 10.9	+0.5
	comp=Z,1.7nm,0.8s,baz=48,slow=4.1,SNR=4.8						
FINES				SKPbc	SKPbc	23 25 41.1	-0.8
	comp=Z,2.0nm,0.8s,baz=64,slow=6.3,SNR=6.5						
BRTR	Keskin Array B	143.25	314	PKP	PKPab	23 23 29.6	+0.1
	comp=Z,3.7nm,0.9s,baz=326,slow=0.9,SNR=7.2						
CLL	Collm	144.76	345	*i* PKPbc	PKPab	23 23 34.6	-0.1
	comp=Z,8.0nm,0.5s						
PRU	Pruhonice	145.56	343	*e*PKP	PKPab	23 23 37.4	-0.5
KHC	Kasperske Hory	146.61	343	*e*PKP	PKiKP	23 23 40.6	-0.6
CKRC	Cesky Krumlov	146.68	342	*e*PKP	PKPbc	23 23 40.4	+1.0
GERES	GERESS Array B	146.83	343	PKPbc	PKPbc	23 23 39.3	-0.6
	comp=Z,1.5nm,0.5s,baz=29,slow=3.5,SNR=15						
TORD	Torodi Ar. Bea	175.11	204	PKP	PKPdf	23 24 06.8	+0.1
	comp=Z,0.2nm,0.8s,baz=132,slow=2.1,SNR=1.3						

*LDG **03** 23:24:34.8±0.1, 42.°86N×13.°09E, h10km, Md3.4/1, Ml2.6/19, Error ellipse: s-maj=2.4km s-min=1.4km az=37.0*
*ROM **03** 23:24:35.6±0.0, 42.°866N±0.°002×13.°099E±0.°004, h10km, ML3.4/4, Error ellipse: s-maj=0.3km s-min=0.1km az=67.0*
*PRU **03** 23:24:39.1±0.0, 42.°88N×13.°54E, h10km*
*STR **03** 23:24:39.3±1.8, 43˚N±10˚×1˚3E±1˚2, h23km±17km, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=120.2, preliminary*
ISC 03 23:24:35.5±0.6**, 42.°86N**±0.°02×**13.°07E**±0.°02**, h16**km±4km**,** **n116,** σ**2.°56**/152**, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.04	134	P	Pg	23 24 38.0	-0.6
NRCA				S	Sg	23 24 39.4	-1.1
T1216	Preci, Frazion	0.05	305	P	Pg	23 24 38.3	-0.2
T1216				S	Sg	23 24 39.9	-0.7
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1245	Castelsantange	0.09	95	P	Pg	23 24 38.4	-0.6
T1245				S	Sg	23 24 40.1	-1.2
FEMA	Monte Fema	0.10	351	P	Pg	23 24 38.8	-0.3
FEMA				S	Sg	23 24 40.8	-0.6
T1215	Vallo di Nera,	0.16	247	P	Pg	23 24 40.1	+0.4
FDMO	Fiordimonte	0.17	4	P	Pg	23 24 39.8	0.0
FDMO				S	Sg	23 24 42.8	0.0
FDMO				AML	AML		
	comp=E,14550µm,1.1s						
FDMO				AML	AML		
	comp=N,14300µm,0.2s						
T1256	Bolognola (MC)	0.18	39	P	Pg	23 24 39.9	-0.2
T1256				S	Sg	23 24 42.6	-0.6
T1217	Poggiodomo (PG	0.18	214	P	Pg	23 24 40.4	+0.3
T1217				S	Sg	23 24 43.9	+0.8
MMO1	Montemonaco	0.19	79	P	Pg	23 24 39.7	-0.4
MMO1				S	Sg	23 24 42.8	-0.5
T1202	Accumoli, Fraz	0.20	145	P	Pg	23 24 40.3	+0.1
AM05	Amandola Campo	0.24	61	P	Pg	23 24 40.7	-0.1
T1204	Amatrice, Fraz	0.26	136	P	Pg	23 24 41.2	-0.1
T1204				S	Sg	23 24 45.6	+0.4
T1204				AML	AML		
	comp=N,5095µm,0.8s						
T1204				AML	AML		
	comp=E,5945µm,0.7s						
T1204				AML	AML		
	comp=N,5090µm,0.8s						
T1204				AML	AML		
	comp=N,5085µm,0.8s						
T1204				AML	AML		
	comp=E,5950µm,0.7s						
LNSS	Leonessa	0.26	185	P	Pg	23 24 41.7	+0.5
LNSS				S	Sg	23 24 45.9	+0.7
T1241	Roccafluvione,	0.27	92	P	Pg	23 24 41.1	-0.1
T1241				S	Sg	23 24 45.1	-0.1
GUMA	Gualdo di Mace	0.28	44	P	Pg	23 24 41.6	+0.1
GUMA				S	Sg	23 24 46.3	+0.7
GUMA				AML	AML		
	comp=E,24950µm,0.6s						
GUMA				AML	AML		
	comp=N,30500µm,0.3s						
GUMA				AML	AML		
	comp=E,33950µm,0.3s						
GUMA				AML	AML		
	comp=N,36400µm,0.7s						
SEF1	Sefro	0.30	342	P	Pg	23 24 42.1	+0.3
SEF1				S	Sg	23 24 47.0	+0.8
SMA1	SAN MARTINO	0.30	140	P	Pg	23 24 41.9	0.0
SMA1				S	Sg	23 24 46.9	+0.4
T1243	Rocca Santa Ma	0.32	121	P	Pg	23 24 42.1	-0.2
MDAR	Monte D'Aria	0.33	9	S	Sg	23 24 44.0	-3.3
FIU1	Fiuminata	0.34	343	P	Pg	23 24 42.8	+0.3
FIU1				S	Sg	23 24 48.3	+0.9
ASSB	Assisi San Ben	0.35	301	P	Pg	23 24 43.1	+0.3
ARRO	Arrone	0.36	218	P	Pg	23 24 43.5	+0.5
T1211	Morro Reatino	0.37	206	P	Pg	23 24 43.6	+0.5
RM33	Pellescritta (	0.37	163	P	Pg	23 24 43.2	+0.1
RM33				S	Sb	23 24 49.6	+0.3
RM33				AML	AML		
	comp=E,1870µm,0.3s						
RM33				AML	AML		
	comp=E,1855µm,0.2s						
RM33				AML	AML		
	comp=N,1375µm,1.4s						
RM33				AML	AML		
	comp=N,1410µm,1.4s						
GAG1	Gagliole	0.37	360	P	Pg	23 24 43.4	+0.3
SNTG	Esanatoglia	0.40	346	P	Pg	23 24 43.8	+0.1
SNTG				S	Sg	23 24 50.1	+0.9
SNTG				AML	AML		
	comp=E,1815µm,0.2s						
SNTG				AML	AML		
	comp=N,1875µm,0.2s						
SNTG				AML	AML		
	comp=E,1820µm,0.2s						
SNTG				AML	AML		
	comp=N,1780µm,0.2s						
SNTG				AML	AML		
	comp=E,1830µm,0.2s						
CAMP	Campotosto	0.41	143	P	Pg	23 24 43.6	-0.2
CESX	Cesi	0.44	235	P	Pg	23 24 44.7	+0.3
ATCC	AVT- Casa Cast	0.45	316	P	Pg	23 24 44.9	+0.4
ATCC				S	Sb	23 24 52.3	+0.7
T1247	Pizzolo (AQ)	0.45	158	P	Pg	23 24 44.5	-0.1
OFFI	Offida	0.46	81	P	Pg	23 24 45.3	+0.7
TERO	Teramo	0.46	121	P	Pg	23 24 44.5	-0.2
TERO				S	Sg	23 24 51.4	+0.4
TERO				AML	AML		
	comp=E,2620µm,0.4s						
TERO				AML	AML		
	comp=N,2840µm,0.6s						
TERO				AML	AML		
	comp=E,2775µm,0.4s						
TERO				AML	AML		
	comp=N,3045µm,0.6s						
EL6	Elcito	0.47	3	P	Pg	23 24 44.8	0.0
FOSV	Fossato di Vic	0.49	332	P	Pg	23 24 45.6	+0.3
FOSV				S	Sb	23 24 53.1	+0.5
CING	Cingoli	0.52	10	P	Pg	23 24 45.9	0.0
CING				S	Sg	23 24 53.7	+0.9
GIGS	Gran Sasso	0.55	138	P	Pg	23 24 45.8	-0.6
SSFR	Montelago di S	0.61	340	P	Pg	23 24 47.6	+0.1
TRTR	Tortoreto Alta	0.62	95	P	Pb	23 24 48.5	+0.5
ATTE	AVT- Monte Tez	0.62	303	P	Pg	23 24 48.0	+0.2
ARVD	Arcevia	0.64	352	P	Pg	23 24 48.0	-0.1
PP3	Marolino	0.65	37	P	Pg	23 24 48.8	+0.6
FRON	Frontone	0.70	339	P	Pg	23 24 49.0	-0.2
MGAB	Montegabbione	0.71	274	P	Pg	23 24 49.8	+0.4
FAGN	Fagnano	0.71	147	P	Pg	23 24 48.8	-0.5
ATVO	AVT- Monte Val	0.71	317	P	Pg	23 24 49.4	0.0
VCEL	Villa Celiera	0.74	129	P	Pg	23 24 49.5	-0.3
SRES	S.Oreste - Sor	0.75	214	P	Pg	23 24 50.4	+0.3
ATPI	Pietralunga -	0.76	320	P	Pg	23 24 50.4	0.0
PIEI	Pieia	0.78	330	P	Pg	23 24 50.8	+0.2
CAFI	Castiglion Fio	0.93	300	P	Pg	23 24 53.9	+0.3
MORSI	Morsiglia	2.73	273	P	Pn	23 25 20.3	+1.8
SMPL	Sampolo	2.90	256	P	Pn	23 25 23.6	+2.6
PGF	Pioggiola	3.02	265	*e*P	Pn	23 25 24.5	+1.8
PGF				*e*Sn	Sn	23 25 55.4	-3.1
	comp=N,4.6nm,0.6s						
PGF	Pioggiola	3.02	265	P	Pn	23 25 24.7	+2.0
CEY	Cerknica	3.03	18	*e*Pn	Pn	23 25 22.6	-0.2
SRKY	Kupres RS	3.21	67	*e*Pn	Pn	23 25 25.6	+0.2
MGRS	Mrkonjic Grad	3.30	61	*e*Pn	Pn	23 25 27.4	+0.9
STON	Ston	3.40	88	*e*Pn	Pn	23 25 27.1	-0.7
A051A	Mrakovica	3.50	51	*e*Pn	Pn	23 25 31.0	+1.7
BLY	Banja Luka	3.52	56	*e*Pn	Pb	23 25 37.4	0.0
OBKA	Obir	3.79	16	*e*Pn	Pn	23 25 34.0	+0.7
TREB	Trebinje	3.89	90	*e*Pn	Pn	23 25 35.3	+0.8
ABTA	Abfaltersbach	3.90	354	*i* Pn	Pn	23 25 37.8	+2.9
	comp=N,0.6nm,0.2s						
BRY	Bratogost	4.02	88	*e*Pn	Pn	23 25 39.4	+2.9
HCY	Herceg Novi	4.02	94	*e*Pn	Pn	23 25 36.2	-0.2
SAOF	Saorge	4.17	287	P	Pn	23 25 40.5	+2.0
KBA	Koelnbreinsper	4.22	3	*i* Pn	Pn	23 25 41.4	+2.2
	comp=N,2.0nm,0.3s						
SBF	Sospel	4.23	286	*e*P	Pn	23 25 41.0	+1.7
SBF				*e*Sn	Sn	23 26 24.2	-4.2
	comp=N,5.4nm,0.4s						
TURF	col de Turini	4.28	287	P	Pn	23 25 42.2	+2.1
UPM	Unac-Piva	4.29	83	*e*Pn	Pn	23 25 42.5	+2.3
SPIF	crte de Spivo	4.41	288	P	Pn	23 25 47.2	+5.3
HAPS	Han Pijesak,Bl	4.45	72	*e*Pn	Pn	23 25 45.5	+3.1
FETA	Feichten	4.48	339	*e*Pn	Pn	23 25 47.2	+4.4
	comp=N,0.7nm,0.2s						
WTTA	Wattenberg	4.51	347	*e*Pn	Pn	23 25 47.4	+4.1
	comp=N,0.9nm,0.2s						
SQTA	Sankt Quirin	4.55	344	*i* Pn	Pn	23 25 48.5	+4.7
	comp=N,1.0nm,0.2s						
DRME	Dracevica, Mon	4.57	96	*e*Pn	Pn	23 25 46.4	+2.5
CALF	Calern	4.58	283	P	Pn	23 25 45.8	+1.8
WATA	Walderalm	4.59	347	*e*Pn	Pn	23 25 48.8	+4.4
	comp=N,1.2nm,0.2s						
RUDO	Rudo	4.66	79	*e*Pn	Pn	23 25 45.8	+0.6
MOTA	Moosalm	4.69	343	*i* Pn	Pn	23 25 50.8	+5.0
	comp=N,0.4nm,0.1s						
BBLS	Lazići	4.72	76	*e*Pn	Pn	23 25 49.1	+3.0
SURF	Saint Ours	4.82	292	P	Pn	23 25 50.6	+3.1
LMR	La Mourre	4.83	278	*e*P	Pn	23 25 48.7	+1.3
LMR				*e*Sn	Sn	23 26 38.5	-4.5
	comp=N,8.8nm,1.0s						
BIOA	Bad Ischl, Aus	4.84	5	*e*Pn	Pn	23 25 51.0	+3.3
	comp=N,5.0nm,0.3s						
JAUF	Jausiers	4.85	291	P	Pn	23 25 50.7	+2.8
RETA	Reutte	4.90	341	*i* Pn	Pn	23 25 52.5	+4.0
	comp=N,0.8nm,0.3s						
MBDF	Montbardon	4.93	294	*e*P	Pn	23 25 51.4	+2.5
MBDF				*e*Sn	Sn	23 26 41.0	-4.6
	comp=N,1.8nm,0.5s						
TRIGF	Trigance	4.94	283	P	Pn	23 25 51.6	+2.5
CREF	Crivoux	4.97	292	P	Pn	23 25 54.6	+5.0
LPG	La Plagne	5.25	302	*e*P	Pn	23 25 58.2	+4.7
LPG				*e*Sn	Sn	23 26 49.0	-4.9
	comp=N,2.5nm,0.6s						
LPL	La Plagne	5.27	302	*e*P	Pn	23 25 57.7	+3.9
LPL				*e*Sn	Sn	23 26 49.5	-4.8
	comp=N,1.2nm,0.4s						
RSL	Roselend	5.42	304	P	Pn	23 25 59.4	+3.7
CONA	Conrad Observa	5.43	20	*i* Pn	Pn	23 25 56.3	+0.5
	comp=N,0.6nm,0.2s						
BSTF	la Bastide-des	5.51	283	P	Pn	23 25 59.3	+2.5
SMRF	Simiane la Rot	5.57	284	*e*P	Pn	23 25 59.7	+2.0
SMRF				*e*Sn	Sn	23 26 56.5	-4.9
	comp=N,0.6nm,0.5s						
ORIF	Oris-en-Rattie	5.59	294	*e*P	Pn	23 26 01.9	+3.9
ORIF				*e*Sn	Sn	23 26 56.9	-5.0
	comp=N,2.5nm,0.7s						
TORNY	Torny/Romont	5.84	314	P	Pn	23 26 05.6	+4.1
BALST	Balsthal	5.87	321	P	Pn	23 26 05.7	+3.9
CKRC	Cesky Krumlov	6.02	8	*e*SN	Sn	23 27 12.1	-0.3
CABF	La Chapelle	6.23	309	*e*P	Pn	23 26 09.8	+3.1
CABF				*e*Sn	Sn	23 27 12.1	-5.5
	comp=N,0.6nm,0.2s						
KHC	Kasperske Hory	6.28	3	*e*PN	Pn	23 26 11.0	+3.6
KHC				*e*SN	Sn	23 27 19.6	+0.8
VIVF	Saint-Julien-l	6.39	291	*e*P	Pn	23 26 13.2	+4.3
VIVF				*e*Sn	Sn	23 27 15.9	-5.6
	comp=N,0.8nm,0.4s						
BOUC	Bouclans	6.52	315	P	Pn	23 26 13.4	+2.8
HINF	Hinteralfeld	6.61	321	*e*P	Pn	23 26 14.9	+2.9
HINF				*e*Sn	Sn	23 27 21.3	-5.7
	comp=N,2.0nm,0.3s						
ECH	Echery	6.77	324	P	Pn	23 26 16.4	+2.2
LASF	Ste Croix	6.81	283	*e*P	Pn	23 26 15.9	+1.2
LASF				*e*Sn	Sn	23 27 26.1	-5.8
	comp=N,1.4nm,0.6s						
CDF	Champ du Feu	6.87	326	*e*P	Pn	23 26 18.0	+2.4
CDF				*e*Sn	Sn	23 27 27.6	-5.9
	comp=N,2.2nm,0.4s						
HAU	Haudompre	6.98	320	*e*P	Pn	23 26 19.4	+2.3
HAU				*e*Sn	Sn	23 27 30.1	-6.0
	comp=N,3.2nm,0.3s						
SMF	Signal de Mont	7.58	303	*e*P	Pn	23 26 26.5	+1.3
SMF				*e*Sn	Sn	23 27 44.6	-6.1
	comp=N,0.8nm,0.3s						
PAGF	Fort de Pagny	7.67	320	*e*P	Pn	23 26 29.5	+3.1
PAGF				*e*Sn	Sn	23 27 46.5	-6.4
	comp=N,1.1nm,0.4s						
SFTF	Sexfontaines	7.76	316	*e*Pn	Pn	23 26 26.1	-1.7
AVF	Avril sur Loir	7.94	303	*e*P	Pn	23 26 34.6	+4.4
	comp=N,0.6nm,0.4s						
CAF	Calviac	8.21	288	*e*P	Pn	23 26 36.9	+3.0
HYF	Humbligny	8.59	304	*e*Pn	Pn	23 26 39.1	0.0
RJF	Les Rejaudoux	8.67	290	*e*P	Pn	23 26 42.3	+2.1
RJF				*e*Sn	Sn	23 28 11.3	-6.2
	comp=N,0.7nm,0.3s						
GRR	Gorron	11.20	304	*e*P	Pn	23 27 17.8	+3.0

*IDC **03** 23:51:39.6±9.5, 18.°18N×102.°53W, h0km, mb3.3/3, mbtmp3.2/4, ML3.5/1, MS3.1/1, Error ellipse: s-maj=189.1km s-min=102.7km az=116.0*
*MEX **03** 23:51:40.7±0.4, 17.°73N×103.°40W, h11km±18km, MD4.2*
ISC 03 23:51:42.0±1.5**, 18.°14N**±0.°09×**103.°02W**±0.°04**,** **h18**km±10km**, n18,** σ**1.°88**/23**, mb3.3**/3**, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.35	295	*i* P	Pg	23 51 50.2	+0.8
MMIG				*e*S	Sb	23 51 58.1	+3.2
COIG	Colima	1.22	328	*e*P	Pn	23 52 03.9	-0.4
COIG				*e*S	Sb	23 52 21.2	+1.2
CDAR	Ciudad de Arme	1.24	310	*i* P	Pn	23 52 01.6	-2.9
CDAR				*e*S	Sb	23 52 18.1	-2.4
R15V		1.38	318	*e*P	Pn	23 52 04.4	-2.0
R15V				*e*S	Sn	23 52 23.4	-0.9
MNGA	Volcan de Coli	1.44	337	*e*P	Pn	23 52 08.7	+1.2
EZ5V		1.44	337	*e*P	Pn	23 52 08.9	+1.3
JUBC	Volcan de Coli	1.47	339	*e*P	Pn	23 52 09.3	+1.4
JUBC				*e*		23 52 29.8	
INCO	Volcan de Coli	1.49	338	*e*P	Pn	23 52 08.6	+0.3
INCO				*e*		23 52 27.5	
CIHU	Emiliano Zapat	1.98	305	*e*P	Pn	23 52 10.7	-4.0
MOIG	Morelia	2.31	48	*e*	Pg	23 52 25.5	-0.9
MOIG				*e*		23 52 59.0	
CJM	Chamela	2.35	305	*e*P	Pn	23 52 14.9	-4.9
CJM				*e*S	Sn	23 52 44.4	-3.9
ARIG	Puente Sto Nin	2.54	86	*e*P	Pb	23 52 24.8	-2.4
ARIG				*e*S	Sb	23 52 58.8	+0.7
ESTA	Talpa de Allen	2.83	323	*e*P	Pn	23 52 26.6	0.0
CAIG	El Cayaco	2.84	112	*e*P	Pn	23 52 26.7	+0.2
CAIG				*e*S	Sn	23 53 00.3	0.0
TXAR	Lajitas Array	11.16	357	Pn	Pn	23 54 22.2	+1.3
	0.1nm,0.3s,baz=174,slow=18,SNR=1.8						
TXAR				LR	LR	23 59 11.8	
	comp=Z,92nm,20.5s,baz=158,slow=41						
	0.3nm,0.5s						
NVAR	Mina Array Bea	24.22	330	P	P	23 57 00.5	+2.4
	0.6nm,0.7s,baz=141,slow=8.8,SNR=5.3						
	0.6nm,0.7s						
PDAR	Pinedale Array	25.17	349	P	P	23 57 07.5	+0.8
	0.4nm,0.6s,baz=169,slow=10,SNR=1.3						
	0.4nm,0.6s						
ILAR	Eielson Array	55.01	339	P	P	00 01 13.2	+1.0
	0.3nm,0.7s,baz=148,slow=6.9,SNR=2.9						
	0.3nm,0.7s						

*NEIC **03** 23:59:11.5±2.6, 7.°28S±0.°08×128.°61E±0.°07, h149km±10km, mb4.2/10, Error ellipse: s-maj=12.2km s-min=9.5km az=152.0*
*DJA **03** 23:59:12.3±0.4, 7˚S±4˚×12˚9E±˚, h144km±40km, M4.7/6, mb4.8/5, mB5.3/4, MLv4.6/6, Mw(mB)4.7/4*
*IDC **03** 23:59:12.2±1.4, 7.°27S×128.°49E, h165km±13km, mb3.7/8, mbtmp4.3/11, Error ellipse: s-maj=14.3km s-min=12.6km az=103.0*
ISC 03 23:59:11.1±0.5**, 7.°35S**±0.°05×**128.°59E**±0.°05**, h151**km**, n58,** σ**1.°86**/64**, mb4.2**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.76	103	Pn	Pn	23 59 54.8	-0.7
SAUI				Sn	Sn	00 00 29.7	-0.2
SOEI	Soe	4.89	240	Pn	Pn	00 00 22.9	-0.3
SOEI				Sn	Sn	00 01 20.9	+1.4
SOEI	Soe	4.89	240	P	Pn	00 00 25.2	+2.0
SOEI	Soe	4.89	240	P	Pn	00 00 28.4	+5.2
BATI	Baumata	5.63	239	P	Pn	00 00 34.6	+1.7
	112nm,0.4s,baz=116,slow=2.1,SNR=22						
BATI				S	Sn	00 01 37.1	+0.1
	80nm,0.4s,baz=93,slow=23,SNR=11						
BATI	Baumata	5.63	239	P	Pn	00 00 34.9	+1.9
	0.6nm2µm132nm,0.5s						
FAKI	Fak Fak	5.72	40	Pn	Pn	00 00 34.3	+0.2
FAKI	Fak Fak	5.72	40	P	Pn	00 00 34.7	+0.6
	0.2nm33nm,0.6s						
MTN	Manton Dam	6.01	156	Pn	Pn	00 00 38.5	+0.6
MTN	Manton Dam	6.01	156	P	Pn	00 00 39.3	+1.4
KDU	Kakadu	6.54	144	P	Pn	00 00 46.1	+1.1
SIJI	Sorong	6.97	23	P	Pn	00 00 52.0	+1.2
	7.7nm,0.3s,baz=234,slow=22,SNR=18						
SIJI				S	Sn	00 02 07.4	-1.6
	5.5nm,0.4s,baz=233,slow=23,SNR=1.3						
SIJI	Sorong	6.97	23	P	Pn	00 00 52.2	+1.4
RKPI	Ransiki, Papua	8.04	44	P	Pn	00 01 06.0	+0.9
	10µm91nm,0.6s						
KNRA	Kununurra	8.28	179		Pn	00 01 08.1	-0.1
KNRA	Kununurra	8.28	179	P	Pn	00 01 08.3	+0.1
LUWI	Luwuk	8.54	317	P	Pn	00 01 15.1	+3.4
GENI	Genyem	12.47	68	P	P	00 02 13.2	+4.0
WB0	Warramunga Arr	13.57	156		Pn	00 02 15.7	-1.9
WRAB	Tennant Creek	13.70	156	P	P	00 02 23.9	+1.0
WRAB	Tennant Creek	13.70	156	P	Pn	00 02 18.1	-1.2
WRA	Warramunga Arr	13.71	157	P	Pn	00 02 18.1	-1.2
	3.7nm,0.5s,baz=338,slow=12,SNR=49						
WRA				S	Sn	00 04 40.0	-11

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	5.3nm,0.5s,baz=341,slow=20,SNR=7.7						
WRA				ScP	ScP	00 10 46.7	-5.2
	0.3nm,0.6s,baz=330,slow=1.6,SNR=2.0						
WB2	Warramunga Arr	13.71	156		Pn	00 02 19.1	-0.3
WB1	Warramunga Ar.	13.72	157	P	Pn	00 02 18.7	-0.9
WR0	Warramunga Arr	13.80	156	Pn	Pn	00 02 18.4	-2.2
COEN	Coen	15.77	116	P	P	00 02 47.1	+1.3
COEN				IAmb	IAmb	00 02 48.4	
	comp=Z,22nm,1.2s						
QIS	Mount Isa	16.92	142	P	Pn	00 02 59.8	+0.8
AS31	Alice Springs	17.01	163	P	Pn	00 03 01.1	+0.9
ASAR	Alice Springs	17.01	163	P	Pn	00 03 01.2	+1.1
	comp=Z,5.2nm,0.4s,baz=338,slow=10,SNR=116						
ASAR				S	S	00 06 01.5	-7.7
	comp=Z,2.0nm,0.4s,baz=346,slow=25,SNR=6.1						
ASAR				ScP	ScP	00 10 54.0	-3.8
	comp=Z,0.7nm,0.4s,baz=358,slow=1.9,SNR=5.4						
ASAR	Alice Springs	17.01	163	P	Pn	00 03 00.6	+0.5
AS01	Alice Springs	17.02	163	P	Pn	00 03 00.9	+0.6
WRKA	Warakurna	17.59	181	P	Pn	00 03 07.5	+0.4
PMG	Port Moresby	18.49	98	P	Pn	00 03 18.1	+0.4
	comp=Z,26nm,0.8s,baz=287,slow=5.7,SNR=6.5						
MTSU	Mount Surprise	18.70	126	P	Pn	00 03 20.1	-0.1
CTA	Charters Tower	21.30	128	P	P	00 03 47.4	+1.3
	comp=Z,3.8nm,0.6s,baz=297,slow=11,SNR=6.1						
	comp=Z,3.8nm,0.6s						
CTAO	Charters Tower	21.30	128	P	P	00 03 47.7	+1.7
CTAO				IAmb	IAmb	00 03 57.0	
	comp=Z,13nm,1.4s						
OOD	Oodnadatta	21.42	163	P	P	00 03 47.8	+0.6
FORT	Forrest	23.31	181	P	P	00 04 07.9	+2.2
INKA	Innaminka	23.32	152	P	P	00 04 07.5	+1.7
BBOO	Buckleboo	26.27	166	P	P	00 04 36.0	+3.6
BBOO				IAmb	IAmb	00 04 51.5	
	comp=Z,10.0nm,1.1s						
STKA	Stephens Creek	27.25	155	P	P	00 04 41.6	+0.4
	comp=Z,7.1nm,1.1s,baz=327,slow=7.9,SNR=4.2						
	comp=Z,7.1nm,1.1s						
STKA	Stephens Creek	27.25	155	P	P	00 04 42.1	+0.9
CMAR	Chiang Mai Arr	38.90	312	P	P	00 06 21.1	-1.1
	comp=Z,0.6nm,0.4s,baz=140,slow=7.8,SNR=6.9						
	comp=Z,0.6nm,0.4s						
XAN	Xi'an	45.19	337	P	P	00 07 11.8	-1.2
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM	Songino Array	58.34	343	P	P	00 08 49.7	-0.7
	comp=Z,1.6nm,0.7s,baz=164,slow=8.3,SNR=10						
	comp=Z,1.6nm,0.7s						
SONM	Songino Array	58.34	343	P	P	00 08 52.2	+1.8
SONM				IAmb	IAmb	00 08 52.8	
	comp=Z,2.5nm,1.4s						
PETK	Petropavlovsk-	65.10	19	P	P	00 09 34.6	-0.8
	comp=Z,2.7nm,0.8s,baz=188,slow=8.7,SNR=2.3						
	comp=Z,2.7nm,0.8s						
MK31	Makanchi Array	67.76	328	P	P	00 09 52.2	-0.3
MK31				IAmb	IAmb	00 10 14.2	
	comp=Z,4.5nm,1.2s						
MKAR	Makanchi Array	67.76	328	P	P	00 09 51.9	-0.6
	comp=Z,1.3nm,0.4s,baz=116,slow=8.2,SNR=21						
	comp=Z,1.3nm,0.4s						
MKAR	Makanchi Array	67.76	328	P	P	00 09 52.0	-0.4
ZALV	Zalesovo Beam	71.28	334	P	P	00 10 12.7	-1.2
	comp=Z,2.2nm,0.5s,baz=127,slow=5.1,SNR=8.5						
	comp=Z,2.2nm,0.5s						
KURK	Kurchatov	72.09	329	P	P	00 10 18.5	-0.3
KURK				IAmb	IAmb	00 10 18.6	
	comp=Z,2.8nm,0.6s						
KK31	Karatay Array	72.68	319	P	P	00 10 21.5	-1.0
KKAR	Karatay Array	72.68	319	P	P	00 10 22.6	0.0
NRIK	Noril'sk	81.56	346	P	P	00 11 10.1	-1.4
	comp=Z,1.4nm,0.6s,baz=136,slow=7.6,SNR=4.0						
	comp=Z,1.4nm,0.6s						
ABKAR	Akbulak array	81.91	322	P	P	00 11 12.9	-0.8
BCAR	Beaver Creek A	96.33	27	P	P	00 12 21.8	-0.5
TORD	Torodi Ar. Bea	127.50	281	PKP	PKPdf	00 17 57.9	-1.3
	comp=Z,0.6nm,0.7s,baz=179,slow=3.4,SNR=4.4						

*IDC **04** 00:27:43.9±37.0, 37.°02N×75.°94E, h0km, mb4.0/2, mbtmp3.7/4, ML2.9/2, Error ellipse: s-maj=658.6km s-min=48.3km az=151.0*

*NNC **04** 00:28:27.4±3.4, 40.°00N×74.°10E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=27.8km s-min=15.0km az=159.0*

ISC 04 00:28:05.1±2.9**, 39.°2N**±0.°2×**74.°78E**±0.°10**, h10km, n9,** σ**0.s71**/10**, 3C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRKS	Merke	3.75	342	Pg	Pg	00 29 17.7	+0.7
	2.6nm,0.4s						
MRKS				Lg	Lg	00 30 08.7	
	14nm,0.3s						
TKM2	Tokmak 2	3.79	9	⇓Pn	Pg	00 29 17.7	0.0
	4.2nm,0.7s						
TKM2				⇑Lg	Lg	00 30 08.8	
	16nm,0.8s						
KST	Kastek	3.96	13	Pg	Pg	00 29 20.1	-0.8
	5.1nm,0.5s						
KST				Lg	Lg	00 30 13.7	
	11nm,0.4s						
IUG	Iuzhnay	4.67	311	Pg	Pb	00 29 27.7	+0.5
	64nm,0.2s						
IUG				Lg	Lg	00 30 26.0	
	35nm,0.3s						
KK31	Karatay Array	5.08	322	⇑Pn	Pb	00 29 33.3	-0.7
	1.5nm,0.6s,baz=137,slow=12,SNR=21						
KK31				⇓Pg	Pg	00 29 41.9	-0.3
	0.4nm,0.2s,baz=131,slow=11,SNR=7.0						
KK31				⇑Lg	Lg	00 30 38.1	
	7.1nm,0.4s,baz=139,slow=23						
MKAR	Makanchi Array	9.39	33	Pn	Pn	00 30 21.3	+0.9
	0.1nm,0.3s,baz=202,slow=10,SNR=2.5						
	0.3nm,0.7s						
ZALV	Zalesovo Beam	16.28	22	P	P	00 31 56.8	+0.2
	0.2nm,0.3s,baz=210,slow=11,SNR=5.0						
	0.7nm,0.4s						
FINES	FINESS Array B	37.04	323	P	P	00 35 14.2	-0.5
	2.0nm,0.7s,baz=112,slow=9.5,SNR=6.1						
	2.0nm,0.7s						
ARCES	ARCESS Array B	39.88	335	P	P	00 35 38.1	-0.5
	1.4nm,0.8s,baz=108,slow=8.6,SNR=1.1						
	1.4nm,0.8s						

MAN 04 01:01:41.3, 6.°13N×124.°71E, h3km, mb3.8, ML2.5, MS2.0, Mindanao

*NEIC **04** 01:32:43.7±1.9, 20.°1S±0.°1×174.°5W±0.°1, h57km±5km, mb4.6/39, Error ellipse: s-maj=20.0km s-min=14.5km az=156.0*

*IDC **04** 01:32:48.0±0.6, 20.°57S×175.°10W, h65km±4km, mb4.1/17, mbtmp4.4/18, MS3.6/32, Error ellipse: s-maj=20.7km s-min=12.6km az=131.0*

ISC 04 01:32:47.5±0.6**, 20.°51S**±0.°08×**174.°95W**±0.°08**, h63km**±5km**, h63km:pP-P, n314,** σ**1.s24**/271**, mb4.6**/34**, 7C-20D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	4.94	74	Pn	Pn	01 33 51.6	-7.5
NIUE				Sn	Sn	01 34 40.7	-14
MSVF	Nonsavu	7.17	291	P	Pn	01 34 36.8	+7.0
	200nm,1.1s,baz=119,slow=10,SNR=74						
MSVF				LR	LR	01 37 13.4	
	comp=Z,719nm,20.5s,baz=134,slow=38						
MSVF	Nonsavu	7.17	291		Pn	01 34 38.2	+8.4
AFI	Afiamalu	7.23	25	P	Pn	01 34 28.1	-2.4
	40nm,0.5s,baz=119,slow=10,SNR=8.8						
AFI	Afiamalu	7.23	25		Pn	01 34 16.2	-14
RAO	Raoul Island	9.11	197	LR	LR	01 37 58.3	
	comp=Z,196nm,19.4s,baz=74,slow=34						
RAR	Rarotonga	14.21	96	P	Pn	01 36 03.5	-2.1
	14nm,0.5s,baz=133,slow=11,SNR=3.6						
RAR				S	Sn	01 38 23.9	-18
	21nm,0.5s,baz=96,slow=18,SNR=5.2						
RAR				LR	LR	01 42 05.6	
	comp=Z,70nm,18.2s,baz=234,slow=39						
LIFNC	LIFOU	16.67	266	P	P	01 36 40.2	+1.8
LIFNC				IAmb	IAmb	01 36 44.2	
	comp=Z,48nm,0.8s						
OUENC	Ouen Island, N	17.05	260	P	P	01 36 45.3	+2.6
ONTNC	Ouen Toro	17.41	261	P	P	01 36 49.1	+2.6
ONTNC				IAmb	IAmb	01 37 08.3	
	comp=Z,54nm,1.1s						
DZM	Mont Dzumac	17.41	262	*e*P	P	01 36 49.6	+2.9
	comp=Z,92nm,0.9s						
DZM				*e*LR	LR	01 41 04.7	
	comp=Z,467nm,25.2s						
DZM	Mont Dzumac	17.41	262	P	P	01 36 49.9	+3.2
	comp=Z,38nm,0.9s,baz=73,slow=19,SNR=18						
DZM				S	Sn	01 39 43.8	-16
	comp=Z,14nm,0.5s,baz=289,slow=23,SNR=7.6						
DZM				LR	LR	01 42 36.4	
	comp=Z,247nm,20.1s,baz=113,slow=34						
DZM	Mont Dzumac	17.41	262	P	P	01 36 49.6	+2.9
DZM				IAmb	IAmb	01 36 54.4	
	comp=Z,43nm,0.9s						
URZ	Urewera	18.98	200	P	P	01 37 02.9	-0.8
	comp=Z,6.6nm,0.4s,baz=15,slow=2.0,SNR=13						
TBI	Tubuai	23.81	102	*e*P	P	01 37 48.6	-6.1
	comp=Z,232nm,30.5s						
TBI				*e*LR	LR	01 43 39.0	
	comp=Z,4µm,23.8s						
TBI				*e*LR	LR	01 43 39.0	
	comp=Z,1µm,28.8s						
TBI	Tubuai	23.81	102	*e*T	T	02 01 59.2	
	comp=Z,26nm,0.3s						
PAE	Paea	24.14	88	*e*T	T	02 02 32.7	
	comp=Z,6.1nm,0.3s						
PPT2	Papeete2	24.15	87	*e*P	P	01 37 51.0	-6.9
	comp=Z,69nm,30.0s						
PPT2				*e*LR	LR	01 43 46.3	
	comp=Z,215nm,26.8s						
PPT2				*e*LR	LR	01 43 46.3	
	comp=Z,408nm,27.2s						
PPT	Papeete	24.16	87	LR	LR	01 46 50.7	
	comp=Z,55nm,19.1s,baz=186,slow=35						
LTZ	Lake Taylor	24.67	203	P	P	01 38 03.7	+1.3
LTZ				IAmb	IAmb	01 38 07.0	
	comp=Z,20nm,0.9s						
OXZ	Oxford	25.23	203	P	P	01 38 08.2	+0.8
OXZ				IAmb	IAmb	01 38 12.2	
	comp=Z,28nm,1.1s						
MEH	Mehetia	25.52	89	*e*T	T	02 04 12.7	
	comp=Z,58nm,0.3s						
RPZ	Rata Peaks	25.93	204	P	P	01 38 13.7	0.0
	comp=Z,9.4nm,0.5s,baz=319,slow=3.1,SNR=9.4						
	comp=Z,9.4nm,0.5s						
RPZ	Rata Peaks	25.93	204	P	P	01 38 15.6	+1.9
RPZ				IAmb	IAmb	01 38 24.7	
	comp=Z,17nm,0.7s						
HNR	Honiara	26.59	291	LR	LR	01 48 39.4	
	comp=Z,1µm,19.7s,baz=66,slow=36						
EIDS	Eidsvold	31.60	255	P	P	01 39 04.3	-0.1
EIDS				IAmb	IAmb	01 39 04.8	
	comp=Z,6.9nm,0.8s						
TAOE	Nuku Hiva Isla	35.52	76	*e*LR	LR	01 49 00.3	
	comp=Z,275nm,27.8s						
TAOE	Nuku Hiva Isla	35.52	76	*e*T	T	02 16 40.5	
	comp=Z,70nm,0.3s						
CTA	Charters Tower	36.33	264	LR	LR	01 53 12.0	
	comp=Z,83nm,20.4s,baz=80,slow=34						
RKT	Rikitea	37.13	101	*e*T	T	02 18 43.2	
	comp=Z,10.0nm,0.3s						
PMG	Port Moresby	38.14	281	LR	LR	01 53 11.1	
	comp=Z,44nm,19.6s,baz=314,slow=32						
STKA	Stephens Creek	40.36	245	P	P	01 40 17.4	-1.9
	comp=Z,2.9nm,0.6s,baz=82,slow=9.8,SNR=6.0						
STKA				LR	LR	01 55 42.9	
	comp=Z,83nm,18.3s,baz=29,slow=34						
	comp=Z,2.9nm,0.6s						
COEN	Coen	40.44	272	P	P	01 40 19.2	-0.8
COEN				IAmb	IAmb	01 40 22.1	
	comp=Z,16nm,0.9s						
BBOO	Buckleboo	45.10	244	P	P	01 40 56.7	-1.0
AS31	Alice Springs	47.29	256	P	P	01 41 13.7	-1.3
ASAR	Alice Springs	47.30	256	P	P	01 41 13.9	-1.1
	comp=Z,5.9nm,0.8s,baz=87,slow=8.4,SNR=54						
ASAR				PcP	PcP	01 42 45.7	+0.4
	comp=Z,1.6nm,0.7s,baz=112,slow=4.1,SNR=5.7						
ASAR				LR	LR	02 00 11.0	
	comp=Z,65nm,18.9s,baz=146,slow=35						
	comp=Z,5.9nm,0.8s						
ASAR	Alice Springs	47.30	256	P	P	01 41 13.7	-1.3
WB2	Warramunga Arr	47.41	261	P	P	01 41 15.1	-0.8
WB2				IAmb	IAmb	01 41 21.1	
	comp=Z,8.6nm,1.2s						
WRA	Warramunga Arr	47.43	261	P	P	01 41 14.4	-1.7
	comp=Z,1.7nm,0.8s,baz=96,slow=7.8,SNR=27						
WRA				pP	pP	01 41 31.9	+0.1
	comp=Z,2.2nm,0.6s,baz=97,slow=5.8,SNR=6.5						
WRA				PcP	PcP	01 42 46.5	+0.7
	comp=Z,1.4nm,0.7s,baz=91,slow=3.7,SNR=5.4						
WRA				LR	LR	01 59 58.5	
	comp=Z,51nm,20.0s,baz=84,slow=34						
	comp=Z,1.7nm,0.8s						
WRA	Warramunga Arr	47.43	261	P	P	01 41 14.5	-1.6
FORT	Forrest	51.91	246	P	P	01 41 50.6	+0.7
MTN	Manton Dam	52.02	269	P	P	01 41 50.3	-0.7
MTN				IAmb	IAmb	01 41 55.9	
	comp=Z,7.2nm,0.8s						
SBA	Scott Base	58.07	184	P	P	01 42 34.5	+0.9
SBA				IAmb	IAmb	01 42 39.4	
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	58.17	186	P	P	01 42 33.6	-0.8
	comp=Z,1.3nm,0.7s,baz=351,slow=5.7,SNR=6.0						
	comp=Z,1.3nm,0.7s						
VNDA	Vanda	58.17	186	P	P	01 42 34.3	-0.1
SOEI	Soe	59.36	271	P	P	01 42 42.9	-0.8
BATI	Baumata	59.78	270	LR	LR	02 07 13.1	
	comp=Z,55nm,19.4s,baz=131,slow=35						
RPN	Rapa Nui	59.81	110	LR	LR	02 03 57.6	
	comp=Z,26nm,20.6s,baz=308,slow=31						
NWAO	Narrogin (SRO)	60.91	243	LR	LR	02 08 31.7	
	comp=Z,35nm,18.8s,baz=93,slow=35						
KAPI	Kappang	65.13	274	LR	LR	02 10 57.6	
	comp=Z,12nm,20.0s,baz=110,slow=35						
QSPA	South Pole Qui	69.56	180	P	P	01 43 49.2	-0.3
MJAR	Matsushiro Arr	71.94	322	P	P	01 44 04.2	0.0
	comp=Z,2.0nm,0.4s,baz=152,slow=6.3,SNR=5.3						
	comp=Z,2.0nm,0.4s						
SHEM	Shemya Is, Ala	73.55	353	LR	LR	02 09 33.1	
	comp=Z,41nm,21.3s,baz=301,slow=30						
LEM	Lembang	75.89	268	LR	LR	02 18 20.1	
	comp=Z,27nm,18.7s,baz=160,slow=36						
PKM	Mcpherson Peak	75.98	44	P	P	01 44 28.6	+0.5
	baz=232						
LPIG	La Paz	76.97	58	LR	LR	02 10 16.6	
	comp=Z,42nm,18.7s,baz=230,slow=29						
BFSC	Mount Baldy Ra	77.02	46	P	P	01 44 35.5	+1.5
	baz=234						
VES	Vestal, Richgr	77.04	44	P	P	01 44 35.3	+1.5
	baz=233						
PETK	Petropavlovsk-	77.05	343	P	P	01 44 33.8	+0.4
	comp=Z,5.1nm,0.7s,baz=130,slow=8.1,SNR=11						
PETK				LR	LR	02 15 39.0	
	comp=Z,15nm,20.5s,baz=121,slow=33						
	comp=Z,5.1nm,0.7s						
PETK	Petropavlovsk-	77.05	343	P	P	01 44 30.1	-3.3
MONP2	Monument Peak	77.08	47	P	P	01 44 35.8	+1.4
	baz=235,SNR=5.7						
RMX	La Rumorosa	77.16	48	P	P	01 44 27.3	-7.4
RMX				IAmb	IAmb	01 44 37.5	
	comp=Z,10.0nm,1.1s						
IKP	In-Ko-Pah, Jac	77.16	48	P	P	01 44 36.5	+1.8
	baz=235						
EDW2	Edwards Air Fo	77.18	45	P	P	01 44 36.1	+1.4
	baz=234,SNR=7.6						
ISA	Isabella, Lake	77.33	44	P	P	01 44 29.0	-6.5
ISA				IAmb	IAmb	01 44 38.0	
	comp=Z,6.3nm,1.0s						
ISA	Isabella, Lake	77.33	44	P	P	01 44 37.2	+1.7
	baz=233						
PFO	Pinyon Flats O	77.47	47	P	P	01 44 37.5	+1.0
	comp=Z,3.0nm,0.7s,baz=247,slow=5.5,SNR=5.5						
PFO				LR	LR	02 14 57.0	
	comp=Z,54nm,19.0s,baz=298,slow=33						
	comp=Z,3.0nm,0.7s						
PFO	Pinyon Flats O	77.47	47	P	P	01 44 38.0	+1.6
	baz=235						
TPFO	Pinon Flats	77.47	47	P	P	01 44 37.8	+1.3
	baz=235						
CMB	Columbia Colle	77.56	41	P	P	01 44 28.8	-8.0
LRMC	Laurel Mtn Rad	77.74	45	P	P	01 44 39.5	+1.6
	baz=234,SNR=5.4						
BELC	Belle Mtn. Jos	78.01	47	P	P	01 44 40.7	+1.3
	baz=235,SNR=6.7						
CWC	Cottonwood Cre	78.05	44	P	P	01 44 41.5	+1.8
	baz=233						
MDPB	Devils Postpil	78.12	42	P	P	01 44 33.2	-6.9
MDPB				IAmb	IAmb	01 44 43.0	
	comp=Z,5.7nm,0.8s						
BC3	Big Chuckawall	78.19	47	P	P	01 44 42.3	+1.9
	baz=236						
MPMC	Manual Prospec	78.20	44	P	P	01 44 42.2	+1.7
	baz=234,SNR=8.5						
GSC	Goldstone, Bar	78.21	45	P	P	01 44 41.9	+1.4
	baz=234						
HEC	Hector,Ludlow	78.25	46	P	P	01 44 42.2	+1.5
	baz=235						
GLA	Glamis	78.28	48	P	P	01 44 43.0	+2.1
	baz=236						
YBH	Yreka Blue Hor	78.54	37	P	P	01 44 43.7	+1.5
	comp=Z,2.9nm,1.0s,baz=242,slow=4.6,SNR=4.0						
	comp=Z,2.9nm,1.0s						
MPK	Martis Peak	78.56	40	P	P	01 44 36.2	-6.4
IRM	Iron Mountain	78.68	47	P	P	01 44 44.9	+1.9
	baz=236,SNR=5.8						
GMRC	Granite Mounta	78.68	46	P	P	01 44 44.9	+1.8
	baz=235,SNR=5.3						
GWY	Greenwater Val	78.82	45	P	P	01 44 37.9	-6.0
GRAC	Grapevine Rang	78.84	44	P	P	01 44 45.9	+2.1
	baz=234,SNR=7.9						
FURC	Furnace Creek,	78.85	44	P	P	01 44 45.2	+1.4
	baz=234						
LHV	Little Huntoon	78.86	42	P	P	01 44 36.8	-7.0
LHV				IAmb	IAmb	01 44 47.2	
	comp=Z,8.1nm,1.0s						
SHOC	Shoshone, Teco	78.91	45	P	P	01 44 45.5	+1.3
	baz=235						
RYN	Ryan	79.08	42	P	P	01 44 37.9	-7.3
RYN				IAmb	IAmb	01 44 47.6	
	comp=Z,4.6nm,0.9s						
NVAR	Mina Array Bea	79.09	42	P	P	01 44 46.5	+1.1
	comp=Z,5.3nm,0.7s,baz=224,slow=9.1,SNR=56						
NVAR				LR	LR	02 14 53.1	
	comp=Z,53nm,20.3s,baz=280,slow=32						
	comp=Z,5.3nm,0.7s						
NVAR	Mina Array Bea	79.09	42	P	P	01 44 38.8	-6.6
214A	Organ Pipe Nat	79.11	50	P	P	01 44 46.9	+1.5
	baz=238						
BELA	Belgrano 2	79.17	172	P	P	01 44 43.9	-1.1
BELA				IAmb	IAmb	01 44 46.1	
	comp=Z,6.1nm,0.8s						
PDMCI	Parker Dam,Lak	79.45	47	P	P	01 44 49.1	+1.9
	baz=236						
TPNV	Topopah Spring	79.53	44	P	P	01 44 49.7	+2.0
	baz=234,SNR=8.3						
OHAK	Old Harbor	79.53	12	P	P	01 44 48.2	+1.1
	baz=200						
Q17K	Contact Creek	80.06	10	P	P	01 44 50.8	+0.8
	baz=198						
K05A	Summer Lake	80.21	37	P	P	01 44 44.2	-7.2
P16K	Nushagak River	80.47	9	P	P	01 44 53.1	+1.0
	baz=196						
Q18K	Katmai Hardscr	80.57	10	P	P	01 44 53.3	+0.5
	baz=198						
TUC	Tucson	80.76	51	P	P	01 44 56.4	+2.0
	baz=239						
R11A	Troy Canyon, C	80.77	43	P	P	01 44 56.1	+1.7
	baz=235						
P17K	Kvichak River	80.86	10	P	P	01 44 54.7	+0.6
	baz=197						
O16K	Kokwok River B	81.00	9	P	P	01 44 54.9	0.0
	baz=196						
P18K	Big Mountain,	81.24	10	P	P	01 44 57.1	+0.9
	baz=198						
O18K	Koktuh Hills	81.68	10	P	P	01 44 59.7	+1.1
	baz=198						
N16K	Nishlik Lake	81.76	8	P	P	01 45 00.3	+1.3
	baz=195						
KNB	Kanab	81.84	46	P	P	01 44 53.1	-7.1
KNB				IAmb	IAmb	01 45 03.0	
	comp=Z,5.8nm,0.8s						
WUAZ	Wupatki	82.02	48	P	P	01 45 03.1	+2.0
	baz=238						
ELK	Elko	82.37	41	LR	LR	02 16 29.0	
	comp=Z,58nm,20.1s,baz=296,slow=32						
ELK	Elko	82.37	41	P	P	01 44 56.2	-6.7
BRSE	Bradley Lake S	82.38	12	P	P	01 45 03.5	+1.3
	baz=202						
MAW	Mawson	82.51	199	P	P	01 45 03.2	+0.3
	comp=Z,1.7nm,0.8s,baz=132,slow=8.7,SNR=3.3						
MAW				LR	LR	02 21 28.9	
	comp=Z,67nm,18.1s,baz=89,slow=35						
	comp=Z,1.7nm,0.8s						
MAW	Mawson	82.51	199	P	P	01 45 02.3	-0.6
N19K	Bonanza Creek	82.71	10	P	P	01 45 04.8	+0.8
	baz=199						
W18A	Petrified Fore	82.95	49	P	P	01 45 07.4	+1.4
	baz=239						
121A	Cookes Peak, D	83.06	52	P	P	01 45 07.8	+1.2
	baz=240						
P23K	Montague Islan	83.31	14	P	P	01 45 08.4	+1.5
	baz=206						
N20K	Mount Spurr	83.46	11	P	P	01 45 07.9	0.0
	baz=201						
SPCR	Spurr Chakacha	83.46	11	P	P	01 45 07.9	+0.1
	baz=201						
DUG	Dugway, Tooele	83.59	43	P	P	01 45 10.2	+1.1
	baz=236						
H03S2	Juan Fernandez	83.62	124	T	T	03 17 26.0	
	baz=248,slow=75,SNR=1601						
H03S1	Juan Fernandez	83.63	124	T	T	03 17 29.0	
	baz=248,slow=75,SNR=2236						
H03S3	Juan Fernandez	83.64	124	T	T	03 17 29.3	
	baz=248,slow=75,SNR=2002						
H03N2	Juan Fernandez	83.75	123	T	T	03 17 38.1	
	baz=257,slow=71,SNR=213						
H03N3	Juan Fernandez	83.75	123	T	T	03 17 30.6	
	baz=257,slow=71,SNR=133						
M19K	Big River Lodg	83.76	10	P	P	01 45 10.2	+0.9
	baz=199						
H03N1	Juan Fernandez	83.77	123	T	T	03 17 24.3	
	baz=257,slow=71,SNR=99						
RC01	Rabbit Creek A	83.82	12	P	P	01 45 10.8	+1.3
	baz=203						
PWL	Port Wells	83.89	13	P	P	01 45 10.5	+0.5
	baz=205						
SUA	Susitna One	83.97	11	P	P	01 45 11.4	+0.9
	baz=202						
KLR	Kul'dur	84.02	328	LR	LR	02 16 29.1	
	comp=Z,19nm,21.1s,baz=290,slow=31						
EYAK	Cordova Ski Ar	84.17	14	P	P	01 45 12.8	+1.5
	baz=207						
F10A	Beach Ranch, E	84.29	36	P	P	01 45 07.2	-5.3
KNK	Knik Glacier	84.37	12	P	P	01 45 13.1	+0.8
	baz=204						
L20K	Farewell, AK	84.38	10	P	P	01 45 12.6	+0.1
	baz=199						
HLID	Hailey	84.49	39	P	P	01 45 15.2	+1.5
	baz=235,SNR=22						
TX31	Lajitas Ar. Si	84.67	56	P	P	01 45 08.0	-6.8
TXAR	Lajitas Array	84.67	56	P	P	01 45 15.6	+0.8
	comp=Z,1.9nm,0.8s,baz=212,slow=6.8,SNR=8.8						
TXAR				LR	LR	02 15 12.7	
	comp=Z,29nm,18.6s,baz=296,slow=30						
	comp=Z,1.9nm,0.8s						
MESA	MESA	84.76	16	P	P	01 45 15.7	+1.1
	baz=210						
BMRM	Bremner River	84.80	14	P	P	01 45 15.7	+1.1
	baz=208						
MVCO	Mesa Verde	84.88	47	P	P	01 45 17.3	+1.5
	baz=240						
P18A	Preston Nutter	84.95	45	P	P	01 45 09.1	-7.1
P18A				IAmb	IAmb	01 45 19.0	
	comp=Z,6.8nm,0.8s						
SCM	Sheep Creek Mo	84.98	13	P	P	01 45 16.7	+1.1
	baz=206						
ANM	Nome	85.12	4	P	P	01 45 18.9	+2.9
	baz=189						
K20K	Telida	85.18	9	P	P	01 45 18.3	+1.9
	baz=199						
ANMO	Albuquerque	85.20	50	LR	LR	02 15 32.5	
	comp=Z,28nm,19.6s,baz=246,slow=30						
ANMO	Albuquerque	85.20	50	P	P	01 45 18.6	+1.2
	baz=241						
N25K	Chitina, Valde	85.37	14	P	P	01 45 18.8	+1.3
	baz=208						
M24K	Tolsona, Glenn	85.47	13	P	P	01 45 20.3	+2.4
	baz=207						
MCARA	McCarthy VSAT	85.54	15	P	P	01 45 19.9	+1.6
	baz=210						
CAST	Castle Rocks	85.55	10	P	P	01 45 17.9	-0.4
	baz=201						
WAT6	Susitna Watana	85.57	12	P	P	01 45 20.1	+1.5
	baz=205						
WAT1	Susitna Watana	85.64	12	P	P	01 45 19.7	+1.0
	baz=204						
NEW	Newport	85.73	35	LR	LR	02 20 52.4	

comp=Z,64nm,18.0s,baz=276,slow=34
NEW Newport 85.73 35 P **P** **01 45 19.8 +0.2**
baz=232
TRF Thorofare Moun 85.89 11 P **P** **01 45 20.7 +0.6**
baz=203,SNR=6.9
HARP HAARP 85.95 13 P **P** **01 45 21.9 +1.7**
baz=208
J20K Nowinta River 85.95 9 P **P** **01 45 20.8 +0.6**
baz=199
CHUM Lake Minchumin 85.95 10 P **P** **01 45 21.1 +0.9**
baz=201
P30M Million Dollar 86.08 18 P **P** **01 45 21.7 +0.7**
baz=215
DHY Denali Highway 86.09 12 P **P** **01 45 22.6 +1.5**
baz=205
S34M Telegraph Cree 86.19 22 P **P** **01 45 22.7 +1.2**
baz=220
YUK8 Steele Glacier 86.27 16 P **P** **01 45 24.2 +2.0**
baz=212
PAX Paxson 86.39 13 P **P** **01 45 23.2 +0.7**
baz=207
MCK McKinley 86.39 11 P **P** **01 45 23.0 +0.6**
baz=204,SNR=5.0
YUK3 Moose Creek 86.51 16 P **P** **01 45 24.4 +1.1**
baz=212
O20A White River Ci 86.53 45 P **P** **01 45 24.6 +0.7**
baz=240
MSO Missoula 86.63 37 P **P** **01 45 22.6 -1.5**
baz=235
SNOW Snow King Moun 86.65 41 P P 01 45 17.9 -6.6
M27K Edge Creek, AK 86.66 15 P **P** **01 45 25.9 +1.9**
baz=210
O30N Mendenhall 86.86 18 P **P** **01 45 25.7 +0.9**
baz=216
L26K Log Cabin Wild 86.90 14 P **P** **01 45 25.8 +0.9**
baz=209
BVCY Beaver Creek 86.95 15 P **P** **01 45 27.0 +1.8**
baz=211
CMIG Matias Romero 86.97 71 LR LR 02 17 44.1
comp=Z,22nm,19.3s,baz=212,slow=31
BW06 Boulder Array 87.03 42 P **P** **01 45 26.4 0.0**
baz=238
PDAR Pinedale Array 87.03 42 P **P** **01 45 26.8 +0.5**
comp=Z,2.3nm,0.7s,baz=205,slow=3.3,SNR=20
PDAR LR LR 02 21 47.7
comp=Z,41nm,19.4s,baz=294,slow=34
comp=Z,2.3nm,0.7s
PDAR Pinedale Array 87.03 42 P P 01 45 19.8 -6.6
K24K Donnelly Dome 87.07 13 P **P** **01 45 26.9 +1.2**
baz=207
PLCA Paso Flores 87.18 133 P **P** **01 45 27.1 0.0**
comp=Z,2.1nm,0.8s,baz=212,slow=5.8,SNR=3.4
comp=Z,2.1nm,0.8s
I21K Tanana 87.22 9 P **P** **01 45 24.0 -2.4**
baz=201
H17A Grant Village 87.26 40 P **P** **01 45 29.2 +1.8**
baz=238
MLY Manley 87.28 10 P **P** **01 45 25.3 -1.4**
baz=202
L27K Beaver Creek, 87.28 14 P **P** **01 45 24.6 -2.2**
baz=210
BOZ Bozeman (W) 87.28 39 P **P** **01 45 28.5 +1.2**
baz=237,SNR=7.0
R33M Jennings River 87.37 21 P **P** **01 45 26.0 -1.4**
baz=220
HDA Harding Lake 87.38 12 P **P** **01 45 27.7 +0.5**
baz=206
P33M Teslin, Yukon 87.40 20 P **P** **01 45 26.8 -0.6**
baz=219
MSTX Muleshoe 87.44 52 P **P** **01 45 29.6 +1.3**
baz=243
H21K Melozitna Rive 87.54 9 P **P** **01 45 28.9 +1.0**
baz=200
M29M Somme Creek 87.58 16 P **P** **01 45 29.3 +0.9**
baz=214
SCRK Sand Creek 87.59 13 P **P** **01 45 29.7 +1.3**
baz=208
833A Chaparral WMA, 87.61 59 P **P** **01 45 29.6 +0.5**
baz=245
T25A Trinidad 87.70 49 P **P** **01 45 28.7 -0.9**
baz=242
TROLL Troll, Antarti 87.71 179 PcP **P** **01 45 29.4 +0.3**
ILAR Eielson Array 87.72 12 P **P** **01 45 29.2 +0.4**
comp=Z,1.2nm,0.6s,baz=214,slow=5.6,SNR=12
ILAR pP **pP** **01 45 47.4 +0.9**
comp=Z,1.6nm,1.0s,baz=201,slow=7.1,SNR=3.9
ILAR LR LR 02 20 50.2
comp=Z,46nm,20.2s,baz=198,slow=33
comp=Z,1.2nm,0.6s
SNAA Sanae 87.90 178 PcP **P** **01 45 30.3 +0.3**
SNAA Sanae 87.90 178 P **P** **01 45 28.0 -1.9**
VNA3 Neumayer Olymp 87.92 175 PcP **P** **01 45 30.3 +0.4**
H22K Ishtalitna Cre 87.97 9 P **P** **01 45 31.1 +1.1**
baz=202
K27K Chicken 88.06 14 P **P** **01 45 31.3 +0.9**
baz=210
M30M Minto, Yukon 88.13 17 P **P** **01 45 32.1 +1.2**
baz=215
J26L Joseph Creek 88.14 13 P **P** **01 45 33.0 +2.1**
baz=209
H23K Yukon River 88.20 10 P **P** **01 45 33.6 +2.5**
baz=203
L29M L29M 88.22 16 P **P** **01 45 33.5 +2.2**
baz=214
G21K Allakaket 88.25 8 P **P** **01 45 32.9 +1.6**
baz=200
VNA2 Neumayer--Watz 88.40 176 PcP **P** **01 45 32.8 +0.6**
baz=173,slow=4.0
N23A Red Feather La 88.43 45 P **P** **01 45 33.7 +0.6**
baz=241
RLMT Red Lodge 88.44 40 P **P** **01 45 34.8 +1.9**
baz=239
VNA1 Neumayer--Stat 88.61 176 PcP **P** **01 45 33.5 +0.4**
AMTX Amarillo 88.65 52 P **P** **01 45 35.4 +1.3**
baz=244
DAWY Dawson 88.71 15 P **P** **01 45 34.6 +1.1**
baz=213
K22A Casper 88.90 43 P **P** **01 45 35.7 +0.6**
baz=241
I26K Coal Creek Min 88.93 13 P **P** **01 45 36.0 +1.5**
baz=209
K29M Barlow Dome 88.98 16 P **P** **01 45 36.7 +1.7**
baz=214
ABTX Abilene, Hawle 89.21 55 P **P** **01 45 38.5 +1.8**
baz=245
I27K Kandik River 89.51 13 P **P** **01 45 39.0 +1.7**
baz=211
MMPY Sheldon Lake, 89.74 19 P **P** **01 45 39.8 +1.4**
baz=220
TGTN Hyland Airport 89.86 20 P **P** **01 45 41.0 +2.0**
baz=223
G26K Porcupine Rive 90.25 12 P **P** **01 45 42.7 +2.1**
baz=209
F25K Christian River 90.47 11 P **P** **01 45 43.2 +1.4**
baz=207
TOLK Toolik Lake Re 90.79 9 P **P** **01 45 44.5 +1.3**
baz=203
LAO LASA Array 91.06 40 P **P** **01 45 47.1 +2.1**
baz=241
RSSD Black Hills 91.20 43 P **P** **01 45 46.7 +0.8**
baz=242
EPYK Eagle Plains 91.26 14 P **P** **01 45 45.7 +0.3**
baz=215
HHC Hu-ho-hao-te 91.42 313 *e*P **P** **01 45 44.2 -2.7**
HHC pmax pmax
comp=Z,46nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.7s
WRGLY Wrigley 92.65 21 P **P** **01 45 53.1 +1.3**
baz=227
CMAR Chiang Mai Arr 92.82 289 P **P** **01 45 53.8 +0.1**
comp=Z,1.1nm,0.3s,baz=108,slow=2.9,SNR=1.9
comp=Z,1.1nm,0.3s
F31M Tsiigehtchic 92.82 15 P **P** **01 45 54.1 +1.6**
baz=218
DGMT Dagmar 93.11 39 P **P** **01 45 56.5 +2.1**
baz=242
PZH PanZhiHua 93.25 297 P **P** **01 45 54.2 -1.5**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.4s
INK Inuvik 93.55 14 P **P** **01 45 55.7 -0.2**
comp=Z,1.8nm,0.7s,baz=201,slow=2.8,SNR=3.9
comp=Z,1.8nm,0.7s
INK Inuvik 93.55 14 P **P** **01 45 56.3 +0.4**
baz=218
ATAH Atahualpa 93.63 99 LR LR 02 17 19.5
comp=Z,18nm,20.7s,baz=252,slow=28
SUSD Miller 94.62 44 P **P** **01 46 02.1 +0.7**
baz=246
MDND Maddock 95.61 41 P **P** **01 46 06.6 +0.8**
baz=246
ECSD EROS Data Cent 95.89 46 P **P** **01 46 07.8 +0.6**
baz=247
LVC Limon Verde 96.10 117 LR LR 02 19 31.0
comp=Z,28nm,20.1s,baz=230,slow=29
ULM Lac du Bonnet 98.80 40 LR LR 02 26 15.0
comp=Z,34nm,18.5s,baz=303,slow=32
MKAR Makanchi Array 113.28 313 PKiKP **PKiKP** **01 51 17.4 -0.6**
comp=Z,0.8nm,0.7s,baz=124,slow=0.5,SNR=6.0
ARCES ARCESS Array B 129.41 351 PKP **PKPdf** **01 51 48.8 +0.5**
comp=Z,1.6nm,0.5s,baz=48,slow=1.8,SNR=10
ARCES pPKP **pPKPdf** **01 52 07.7 +1.1**
comp=Z,1.5nm,0.7s,baz=29,slow=2.8,SNR=1.3
FINES FINESS Array B 136.54 345 PKP **PKPdf** **01 52 02.5 +0.7**
comp=Z,2.5nm,1.1s,baz=329,slow=6.7,SNR=6.3
FINES pPKP **pPKPdf** **01 52 20.9 +0.7**
comp=Z,1.1nm,0.6s,baz=197,slow=4.0,SNR=1.4
KMBO Kilima Mbogo 141.83 240 PKP **PKPdf** **01 52 12.7 -0.6**
comp=Z,2.5nm,0.3s,baz=0.8,slow=1.5,SNR=2.3
AKASG Malin Array Be 144.35 333 PKP **PKPab** **01 52 14.6 +0.2**
comp=Z,4.1nm,0.7s,baz=43,slow=4.4,SNR=15
AKBB Malin Array Si 144.35 333 PKPdf **PKPab** **01 52 12.7 -1.8**
AK05 Malin Array Si 144.42 333 PKPdf **PKPab** **01 52 13.6 -1.1**
VASR Vaslui 148.00 330 ⇓P **PKiKP** **01 52 27.3 -0.2**
BUR08 Bucovina Ar. S 148.39 334 **PKPdf** **01 52 25.3 +2.0**
STHS Stebnicka Huta 148.39 340 *e*PKP **PKPbc** **01 52 26.9 +0.2**
BURAR Bucovina Array 148.41 334 ⇓P **PKiKP** **01 52 28.7 +0.2**
VLDR Vladesti 148.44 328 ⇑P **PKiKP** **01 52 28.5 0.0**
KSP Ksiaz 148.46 346 *e*PKPab **PKiKP** **01 52 28.1 -0.3**
KOLS Kolonicke sedl 148.46 338 *e*PKP **PKiKP** **01 52 28.0 -0.4**
VARL Varlezi 148.51 329 ⇓P **PKiKP** **01 52 28.7 +0.1**
SCTR Scanteiesti 148.60 328 ⇓P **PKiKP** **01 52 29.0 +0.2**
GHRR 148.61 329 ⇓P **PKiKP** **01 52 29.5 +0.7**
TESR Tescani 148.63 331 ⇓P **PKiKP** **01 52 28.6 -0.2**
CLL Collm 148.63 350 PKPbc **PKPbc** **01 52 26.3 -0.9**
CLL Collm 148.63 350 *e*PKPdf **PKPbc** **01 52 26.0 -1.2**
CLL *i* PKPbc **PKiKP** **01 52 27.8 -0.9**
comp=Z,7.0nm,0.7s
CLL *i* PKPab **PKPab** **01 52 29.8 -1.1**
CLL *ex* x 01 52 53.0
OSTC Ostas 148.74 346 *e*PKP **PKiKP** **01 52 29.5 +0.5**
CRVS Cervenica-Dubn 148.76 339 *e*PKP **PKPbc** **01 52 26.8 -0.9**
CFR Carcaliu 148.88 328 ⇓P **PKiKP** **01 52 29.2 -0.2**
BRG Berggiesshubel 148.90 349 *e*PKP **PKiKP** **01 52 29.1 -0.1**
BRG Amp 01 52 29.7
comp=Z,4.8nm,0.6s
BRG *ex* x 01 52 31.0
BRG Amp 01 52 31.3
comp=Z,4.5nm,0.6s
BRG *ex* x 01 53 08.5
BRG Amp 01 53 10.2
comp=Z,4.3nm,0.9s
DPC Dobruska-Polom 148.91 346 *e*PKP **PKiKP** **01 52 29.6 +0.2**
BRTR Keskin Array B 148.92 314 PKPbc **PKPbc** **01 52 27.1 -1.5**
comp=Z,1.1nm,0.5s,baz=104,slow=5.5,SNR=2.5
TPGR Topolog 148.96 327 ⇑P **PKiKP** **01 52 30.4 +0.8**
TRPA Tarpa 149.04 337 ⇓P **PKPbc** **01 52 29.2 +0.8**
KRLC Kraliky 149.06 345 *e*PKP **PKiKP** **01 52 29.7 0.0**
VRI Vrincioaia 149.07 330 ⇓P **PKPbc** **01 52 29.3 +0.8**
MORC Moravsky Berou 149.15 344 ⇓P **PKiKP** **01 52 30.3 +0.4**
MORC Moravsky Berou 149.15 344 *e*PKP **PKiKP** **01 52 29.8 -0.1**
ARCR ARCALIA 149.18 334 ⇑P **PKiKP** **01 52 30.2 +0.2**
ASF Jabal al Asfar 149.30 299 PKPbc **PKPbc** **01 52 29.8 +0.2**
comp=Z,2.1nm,0.8s,baz=306,slow=3.2,SNR=4.1
HARR Harsova 149.33 327 ⇑P **PKPbc** **01 52 29.2 0.0**
COVR Voineasa-Covas 149.33 330 ⇓P **PKiKP** **01 52 30.2 -0.2**
MAUC Maruska 149.45 343 *e*PKP **PKiKP** **01 52 31.0 +0.5**
DOPR Dopca 149.61 331 ⇓P **PKPbc** **01 52 30.1 +0.2**
PRU Pruhonice 149.63 348 *e*PKP **PKiKP** **01 52 31.2 +0.4**
GOPC GO Pecny, Ondr 149.65 348 *e*PKP **PKiKP** **01 52 31.2 +0.3**
MLR Muntele Rosu 149.72 330 ⇓P **PKiKP** **01 52 32.5 +1.2**
VRAC Vranov 149.82 345 *e*PKP **PKiKP** **01 52 31.5 +0.3**
JAVC Velka Javorina 149.95 343 *e*PKP **PKiKP** **01 52 32.9 +1.3**
VYHS Vyhne 149.95 342 *e*PKP **PKiKP** **01 52 32.0 +0.5**
SECR 150.00 329 ⇓P **PKiKP** **01 52 32.2 +0.5**
DRGR 150.08 335 ⇑P **PKiKP** **01 52 32.1 +0.2**
TREC Trest 150.09 346 *e*PKP **PKiKP** **01 52 32.1 +0.3**
KRUC Moravsky 150.09 345 *e*PKP **PKiKP** **01 52 32.1 +0.3**
VOIR 150.17 331 ⇓P **PKiKP** **01 52 32.7 +0.5**
MMAI Mount Meron Ar 150.28 301 PKPbc **PKPbc** **01 52 31.8 -0.3**
comp=Z,2.3nm,0.5s,baz=75,slow=9.6,SNR=6.4
MMAI pPKPbc **pPKPbc** **01 52 50.2 0.0**
comp=Z,3.2nm,0.7s,baz=77,slow=3.6,SNR=3.3
ARR Arges 150.41 331 ⇓P **PKiKP** **01 52 34.2 +1.6**
MODS Modra-Piesok 150.50 343 *e*PKP **PKiKP** **01 52 33.6 +0.9**
KHC Kasperske Hory 150.63 349 *e*PKP **PKiKP** **01 52 33.4 +0.4**
KHC *ep*PKP **pPKPbc** **01 52 51.0 +0.4**
CKRC Cesky Krumlov 150.79 347 *e*PKP **PKiKP** **01 52 33.9 +0.6**
GERES GERESS Array B 150.89 348 PKPbc **PKiKP** **01 52 34.0 +0.5**
comp=Z,2.0nm,0.6s,baz=29,slow=3.0,SNR=26
GERES pPKPbc **pPKPbc** **01 52 52.0 +0.8**
comp=Z,1.8nm,0.8s,baz=64,slow=3.1,SNR=5.2
HUMR Humele 150.89 330 ⇓P **PKiKP** **01 52 33.6 0.0**
SIRR Siria 150.93 336 ⇓P **PKiKP** **01 52 34.2 +0.6**
GZR Gura Zlata 151.19 334 ⇑P **PKPbc** **01 52 34.0 +0.2**
CONA Conrad Observa 151.28 345 *e*P **PKiKP** **01 52 35.0 +0.6**
comp=Z,4.4nm,0.6s
RONA Rosalia, Austr 151.38 344 *i* P **PKiKP** **01 52 35.3 +0.7**
comp=Z,6.4nm,0.6s,SNR=7.3
BZS Buzias 151.48 335 ⇓P **PKiKP** **01 52 35.4 +0.6**
MOA Molln 151.72 347 *e*P **PKiKP** **01 52 35.6 +0.3**
comp=Z,2.1nm,0.5s
BLKB Belogradchik 152.65 331 ⇑P **PKiKP** **01 52 37.8 +0.5**
SOKA Soboth 152.65 345 *e*P **PKPbc** **01 52 37.5 +0.4**
comp=Z,3.1nm,0.9s
RETA Reutte 152.69 352 *e*P **PKPbc** **01 52 37.3 +0.3**
comp=Z,6.8nm,1.6s
WATA Walderalm 152.72 350 *i* P **PKiKP** **01 52 37.9 +0.5**
comp=Z,2.8nm,0.5s,SNR=5.8
WTTA Wattenberg 152.78 350 *i* P **PKiKP** **01 52 38.2 +0.6**
comp=Z,7.0nm,0.5s,SNR=13
MOTA Moosalm 152.78 351 *e*P **PKiKP** **01 52 37.9 +0.3**
comp=Z,1.1nm,0.5s
SQTA Sankt Quirin 152.88 351 *e*P **PKiKP** **01 52 38.2 +0.4**
comp=Z,1.7nm,0.6s
ABTA Abfaltersbach 153.12 349 *i* P **PKPbc** **01 52 38.1 +0.1**
comp=Z,3.5nm,0.5s,SNR=6.2
FETA Feichten 153.15 351 *e*P **PKiKP** **01 52 39.1 +0.7**
comp=Z,7.6nm,2.0s
VTS Vitosha 153.17 329 ⇓P **PKiKP** **01 52 39.4 +0.9**
DAVOX Davos/Dischmat 153.50 353 PKPbc **PKPbc** **01 52 39.4 +0.3**
comp=Z,4.1nm,0.5s,baz=248,slow=4.3,SNR=20
ESDC Sonseca Array 159.39 20 PKPab **PKPab** **01 53 17.8 +1.0**
comp=Z,1.4nm,1.1s,baz=345,slow=4.6,SNR=4.8
TORD Torodi Ar. Bea 172.01 156 PKP **PKPdf** **01 52 48.5 -1.4**
comp=Z,1.1nm,1.0s,baz=228,slow=1.7,SNR=3.9
TORD PKPab **PKPab** **01 54 13.0 +0.2**
comp=Z,1.3nm,1.1s,baz=192,slow=6.0,SNR=2.9

*ROM **04** 01:33:00.9±0.0, 42.°907N×0.°002×13.°215E±0.°004, h9km, ML3.0/35, Error ellipse: s-maj=0.2km s-min=0.1km az=79.0*
*IDC **04** 01:33:03.8±2.6, 43.°09N×13.°72E, h0km, mb3.3/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=119.4km s-min=15.4km az=98.0*
*STR **04** 01:33:04.4±4.1, 43.°N×18.°×1.°3E±3.°2, h10km, MLv3.4/16, Error ellipse: s-maj=0.0km s-min=0.0km az=116.8, preliminary*
*PRU **04** 01:33:04.2±0.0, 42.°94N×13.°45E, h10km*
ISC 04 01:33:01.6±0.7, **42.°90N**±0.°01×**13.°26E**±0.°02, **h11**km±3km, **n151**,σ16**36**/191, **38C-36D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMO1	**Montemonaco**	**0.05**	**95**	⇑P	**Pg**	**01 33 03.3**	**-0.7**
MMO1				S	**Sg**	**01 33 04.8**	**-0.8**
T1245	**Castelsantange**	**0.07**	**227**	⇓P	**Pg**	**01 33 03.0**	**-1.2**
T1245				S	**Sg**	**01 33 04.4**	**-1.6**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
AM05	**Amandola Campo**	**0.10**	**44**	P	**Pg**	**01 33 04.2**	**-0.2**
AM05				S	**Sg**	**01 33 06.6**	**+0.1**
AM05				AML	AML		
	comp=N,5630μm,1.1s						
AM05				AML	AML		
	comp=N,1355μm,0.9s						
AM05				AML	AML		
	comp=E,8210μm,1.5s						
AM05				AML	AML		
	comp=N,5635μm,1.1s						
AM05				AML	AML		
	comp=N,1360μm,0.9s						
AM05				AML	AML		
	comp=E,29700μm,1.5s						
T1256	**Bolognola (MC)**	**0.10**	**348**	P	**Pg**	**01 33 03.7**	**-0.9**
T1256				S	**Sg**	**01 33 05.7**	**-1.1**
T1256				AML	AML		
	comp=E,68250μm,1.4s						
T1256				AML	AML		
	comp=E,68950μm,1.4s						
T1256				AML	AML		
	comp=N,53050μm,0.6s						
T1256				AML	AML		
	comp=N,55050μm,1.6s						
T1256				AML	AML		
	comp=N,55100μm,1.6s						
NRCA	**Norcia**	**0.13**	**236**	⇑P	**Pg**	**01 33 04.0**	**-0.8**
NRCA				S	**Sg**	**01 33 06.0**	**-1.1**
NRCA				AML	AML		
	comp=E,92650μm,0.2s						
NRCA				AML	AML		
	comp=N,94550μm,0.2s						
NRCA				AML	AML		
	comp=E,92750μm,0.2s						
NRCA				AML	AML		
	comp=N,94200μm,0.2s						
NRCA				AML	AML		
	comp=E,99150μm,0.2s						
NRCA				AML	AML		
	comp=N,99600μm,0.2s						
NRCA				AML	AML		
	comp=N,94350μm,0.2s						
NRCA				AML	AML		
	comp=E,92300μm,0.2s						
T1241	**Roccafluvione,**	**0.14**	**110**	⇑P	**Pb**	**01 33 05.0**	**-1.2**
T1241				S	**Sb**	**01 33 08.1**	**+0.8**
T1241				AML	AML		
	comp=E,21000μm,0.7s						
T1241				AML	AML		
	comp=N,15950μm,0.7s						
T1241				AML	AML		
	comp=E,21000μm,0.7s						
T1241				AML	AML		
	comp=E,19800μm,0.7s						
T1241				AML	AML		
	comp=N,17500μm,0.7s						
FEMA	**Monte Fema**	**0.16**	**291**	⇑P	**Pg**	**01 33 04.5**	**-0.9**
FEMA				S	**Sg**	**01 33 07.0**	**-1.1**
FEMA				AML	AML		
	comp=E,47400μm,0.4s						
FEMA				AML	AML		
	comp=N,45900μm,0.4s						
FEMA				AML	AML		
	comp=E,47450μm,0.4s						
FEMA				AML	AML		
	comp=N,45900μm,0.4s						
GUMA	**Gualdo di Mace**	**0.17**	**20**	⇑P	**Pg**	**01 33 05.5**	**0.0**
GUMA				S	**Sb**	**01 33 08.8**	**+0.7**
GUMA				AML	AML		
	comp=N,35850μm,0.5s						
GUMA				AML	AML		
	comp=E,49750μm,0.5s						
GUMA				AML	AML		
	comp=N,35900μm,0.5s						
GUMA				AML	AML		
	comp=N,50250μm,0.5s						
GUMA				AML	AML		
	comp=E,45500μm,0.5s						
T1216	**Preci, Frazion**	**0.17**	**266**	P	**Pg**	**01 33 04.7**	**-0.9**
T1216				S	**Sg**	**01 33 07.6**	**-0.7**
T1216				AML	AML		
	comp=E,54400μm,1.4s						
T1216				AML	AML		
	comp=N,34550μm,0.9s						
T1216				AML	AML		
	comp=N,34550μm,1.0s						
FDMO	**Fiordimonte**	**0.18**	**317**	P	**Pg**	**01 33 04.7**	**-0.9**
T1202	**Accumoli, Fraz**	**0.20**	**187**	⇓P	**Pg**	**01 33 05.8**	**-0.2**
T1202				S	**Sb**	**01 33 10.2**	**+1.2**
T1204	**Amatrice, Fraz**	**0.23**	**169**	⇓P	**Pg**	**01 33 06.5**	**-0.1**
T1204				S	**Sb**	**01 33 11.0**	**+1.1**
T1204				AML	AML		
	comp=E,9495μm,1.4s						
T1204				AML	AML		
	comp=E,9510μm,1.4s						
T1204				AML	AML		
	comp=N,6295μm,0.3s						
T1204				AML	AML		
	comp=E,9515μm,1.4s						
T1204				AML	AML		
	comp=N,6290μm,0.3s						
T1201	**Domo (RI)**	**0.25**	**181**	P	**Pg**	**01 33 06.8**	**0.0**
T1243	**Rocca Santa Ma**	**0.25**	**146**	⇓P	**Pg**	**01 33 06.8**	**-0.1**
T1243				S	**Sb**	**01 33 11.5**	**-1.0**
CESI	**CESI - Serrava**	**0.28**	**291**	⇑P	**Pg**	**01 33 06.5**	**-0.8**
CESI				S	**Sg**	**01 33 10.9**	**-0.2**
CESI				AML	AML		
	comp=E,17250μm,0.6s						
CESI				AML	AML		
	comp=N,21550μm,0.5s						
SMA1	**SAN MARTINO**	**0.28**	**168**	⇓P	**Pg**	**01 33 07.2**	**-0.2**
SMA1				S	**Sg**	**01 33 11.9**	**+0.6**
SMA1				AML	AML		
	comp=E,10315μm,0.6s						
SMA1				AML	AML		
	comp=N,7310μm,0.4s						
SMA1				AML	AML		
	comp=E,10275μm,0.6s						
MNTP	**Montappone**	**0.28**	**34**	P	**Pb**	**01 33 08.0**	**-0.6**
MNTP				S	**Sb**	**01 33 13.3**	**-0.1**
MNTP				AML	AML		
	comp=E,9070μm,1.0s						
MNTP				AML	AML		
	comp=N,7725μm,1.3s						
MDAR	**Monte D'Aria**	**0.30**	**344**	P	**Pg**	**01 33 07.3**	**-0.5**
MDAR				S	**Sg**	**01 33 12.2**	**+0.3**
T1215	**Vallo di Nera,**	**0.30**	**251**	⇑P	**Pg**	**01 33 07.1**	**-0.7**
T1215				S	**Sg**	**01 33 11.8**	**-0.1**
T1215				AML	AML		
	comp=N,4015μm,1.0s						
T1215				AML	AML		
	comp=N,3762μm,1.6s						
T1215				AML	AML		
	comp=N,4010μm,1.0s						
T1215				AML	AML		
	comp=E,4290μm,0.8s						
T1215				AML	AML		
	comp=E,4330μm,0.8s						
T1215				AML	AML		
	comp=N,3760μm,1.6s						
T1217	**Poggiodomo (PG**	**0.31**	**231**	⇓P	**Pg**	**01 33 07.3**	**-0.6**
T1217				S	**Sg**	**01 33 12.1**	**+0.1**
T1217				AML	AML		
	comp=E,5065μm,0.7s						
T1217				AML	AML		
	comp=N,7285μm,1.0s						
T1217				AML	AML		
	comp=E,4765μm,0.7s						
T1217				AML	AML		
	comp=N,7315μm,1.0s						
T1217				AML	AML		
	comp=E,5070μm,0.7s						
T1217				AML	AML		
	comp=N,7280μm,1.0s						
T1217				AML	AML		
	comp=N,7310μm,1.0s						
T1217				AML	AML		
	comp=E,4770μm,0.7s						
OFFI	**Offida**	**0.32**	**84**	⇑P	**Pb**	**01 33 09.2**	**-0.1**
OFFI				AML	AML		
	comp=E,7145μm,0.5s						
OFFI				AML	AML		
	comp=N,9550μm,0.7s						
SSM1	**San Severino M**	**0.33**	**350**	P	**Pg**	**01 33 07.9**	**-0.4**
SSM1				S	**Sg**	**01 33 13.5**	**+0.8**
SEF1	**Sefro**	**0.33**	**317**	P	**Pg**	**01 33 07.6**	**-0.7**
SEF1				S	**Sg**	**01 33 12.9**	**+0.1**
SEF1				AML	AML		
	comp=N,14200μm,0.3s						
SEF1				AML	AML		
	comp=N,14150μm,0.3s						

SEF1 AML AML
comp=E,19150μm,1.6s
LNSS Leonessa 0.34 208 P **Pg 01 33 08.1 -0.4**
LNSS S **Sg 01 33 14.1 +1.0**
LNSS AML AML
comp=E,6665μm,0.3s
LNSS AML AML
comp=N,11550μm,0.4s
GAG1 Gagliole 0.36 338 ⇓P **Pg 01 33 08.8 -0.1**
GAG1 AML AML
comp=E,18000μm,0.4s
GAG1 AML AML
comp=N,16800μm,0.4s
FIU1 Fiuminata 0.37 320 P **Pg 01 33 08.5 -0.6**
FIU1 S **Sg 01 33 14.1 +0.1**
TERO Teramo 0.38 138 ⇓P **Pg 01 33 09.1 -0.1**
TERO AML AML
comp=N,9355μm,0.4s
TERO AML AML
comp=E,6315μm,0.3s
TERO AML AML
comp=E,6080μm,0.4s
TERO AML AML
comp=N,9615μm,0.4s
TERO AML AML
comp=N,9310μm,0.4s
CAMP Campotosto 0.39 163 ⇓P **Pg 01 33 09.0 -0.3**
CAMP S **Sb 01 33 15.5 -0.9**
CAMP AML AML
comp=E,2640μm,0.8s
CAMP AML AML
comp=N,2405μm,0.6s
RM33 Pellescritta (0.40 185 P **Pg 01 33 09.2 -0.3**
RM33 S **Sb 01 33 16.2 -0.5**
RM33 AML AML
comp=E,3640μm,1.4s
RM33 AML AML
comp=N,2290μm,1.1s
RM33 AML AML
comp=N,2250μm,1.0s
RM33 AML AML
comp=N,2285μm,1.1s
RM33 AML AML
comp=E,3645μm,1.4s
RM33 AML AML
comp=E,3595μm,1.4s
TRE1 Treia 0.41 6 P **Pb 01 33 10.2 -0.7**
SNTG Esanatoglia 0.42 327 ⇑P **Pg 01 33 09.1 -0.8**
SNTG S **Sb 01 33 17.0 -0.5**
SNTG AML AML
comp=E,2780μm,1.4s
SNTG AML AML
comp=N,3945μm,0.4s
SNTG AML AML
comp=N,3945μm,0.4s
SNTG AML AML
comp=E,2775μm,1.4s
SNTG AML AML
comp=E,2700μm,0.8s
SNTG AML AML
comp=N,4310μm,0.4s
EL6 Elcito 0.44 345 ⇓P **Pg 01 33 09.6 -0.7**
EL6 S **Sb 01 33 18.0 -0.1**
EL6 AML AML
comp=E,3880μm,0.3s
EL6 AML AML
comp=E,3885μm,0.3s
EL6 AML AML
comp=N,6170μm,0.3s
ASSB Assisi San Ben 0.46 288 ⇑P **Pg 01 33 09.7 -1.0**
ASSB S **Sg 01 33 16.3 -0.5**
ASSB AML AML
comp=E,3690μm,1.3s
ASSB AML AML
comp=N,4110μm,0.2s
T1247 Pizzolo (AQ) 0.46 176 ⇓P **Pg 01 33 10.4 -0.3**
T1247 AML AML
comp=E,3260μm,1.4s
T1247 AML AML
comp=N,2925μm,1.6s
CING Cingoli 0.47 355 ⇑P **Pg 01 33 10.4 -0.5**
CING AML AML
comp=E,2185μm,0.8s
CING AML AML
comp=N,2340μm,0.8s
T1211 Morro Reatino 0.47 219 P **Pg 01 33 10.2 -0.7**
T1211 S **Sg 01 33 17.9 +0.7**
T1211 AML AML
comp=E,2605μm,1.4s
T1211 AML AML
comp=N,7500μm,0.3s
T1211 AML AML
comp=E,2570μm,1.4s
T1211 AML AML
comp=E,2600μm,1.4s
T1211 AML AML
comp=E,2560μm,1.4s
T1211 AML AML
comp=N,7570μm,0.3s
T1211 AML AML
comp=N,7505μm,0.3s
ARRO Arrone 0.49 228 ⇓P **Pg 01 33 10.4 -0.7**
ARRO S **Sg 01 33 17.5 -0.1**
ARRO AML AML
comp=N,1930μm,1.0s
ARRO AML AML
comp=E,1785μm,1.2s
TRTR Tortoreto Alta 0.49 101 ⇓P **Pn 01 33 12.9 -1.6**
TRTR AML AML
comp=E,7520μm,1.6s
TRTR AML AML
comp=N,11465μm,0.3s
GIGS Gran Sasso 0.51 153 ⇑P **Pg 01 33 11.3 -0.2**
GIGS S **Sn 01 33 21.0 -2.6**
GIGS AML AML
comp=N,536μm,0.7s
GIGS AML AML
comp=E,970μm,0.2s
GIGS AML AML
comp=N,535μm,0.7s
ATCC AVT- Casa Cast 0.53 302 ⇑P **Pb 01 33 13.2 +0.2**
FOSV Fossato di Vic 0.53 317 ⇑P **Pg 01 33 11.2 -0.9**
FOSV S **Sg 01 33 20.0 +0.9**
FOSV AML AML
comp=E,3260μm,0.7s
FOSV AML AML
comp=N,5030μm,0.3s
FOSV AML AML
comp=E,3255μm,0.7s
PP3 Marolino 0.54 28 ⇑P **Pb 01 33 12.9 -0.1**
PP3 AML AML
comp=E,4455μm,0.6s
PP3 AML AML
comp=N,4380μm,1.3s
PP3 AML AML
comp=N,4375μm,1.3s
PP3 AML AML
comp=E,4365μm,0.6s
PP3 AML AML
comp=N,3985μm,1.3s
AQU L'Aquila 0.56 169 ⇓P **Pg 01 33 12.0 -0.5**
AQU AML AML
comp=E,1288μm,1.4s
AQU AML AML
comp=N,1385μm,0.9s
AQU AML AML
comp=N,1266μm,1.6s
AQU AML AML
comp=N,1390μm,0.9s
AQU AML AML
comp=E,1336μm,0.4s
AQU AML AML
comp=E,1290μm,1.4s
CESX Cesi 0.58 240 P **Pg 01 33 11.8 -1.1**
CESX S **Sg 01 33 21.0 +0.5**
CESX AML AML
comp=E,2020μm,1.2s
CESX AML AML
comp=N,2460μm,1.6s
SSFR Montelago di S 0.64 327 ⇑P **Pg 01 33 13.0 -1.0**
SSFR S **Sb 01 33 24.0 +0.3**
SSFR AML AML
comp=E,4355μm,0.7s
SSFR AML AML
comp=N,5175μm,0.3s
SSFR AML AML
comp=E,4140μm,0.7s
SSFR AML AML
comp=N,5255μm,0.3s
ARVD Arcevia 0.64 339 ⇓P **Pg 01 33 13.2 -0.8**
ARVD S **Sb 01 33 24.0 +0.3**
ARVD AML AML
comp=N,955μm,0.4s
ARVD AML AML
comp=E,1665μm,0.3s
FIAM Fiamignano 0.64 189 ⇓P **Pg 01 33 13.3 -0.8**
FIAM AML AML
comp=E,1150μm,0.8s
FIAM AML AML
comp=N,1033μm,0.8s
MURB Monte Urbino 0.65 304 ⇓P **Pg 01 33 13.3 -0.8**
MURB S **Sb 01 33 24.0 0.0**
MURB AML AML
comp=N,3695μm,0.4s
MURB AML AML
comp=E,5155μm,0.4s
MURB AML AML
comp=N,3680μm,0.3s
MURB AML AML
comp=E,5865μm,0.4s
VCEL Villa Celiera 0.67 140 ⇓P **Pb 01 33 14.5 -0.8**
VCEL AML AML
comp=N,2090μm,0.6s
VCEL AML AML
comp=E,2830μm,0.4s
VCEL AML AML
comp=N,2085μm,0.6s
ATFO Monte Foce - G 0.68 313 ⇑P **Pg 01 33 13.8 -1.0**
ATFO AML AML
comp=N,1535μm,1.0s
ATFO AML AML
comp=N,1530μm,1.0s
ATFO AML AML
comp=E,1420μm,0.4s
FAGN Fagnano 0.68 159 ⇓P **Pg 01 33 13.9 -0.9**
FAGN AML AML
comp=E,2160μm,0.5s
FAGN AML AML
comp=N,2085μm,1.6s
AOI Ancona 0.69 21 ⇓P **Pb 01 33 15.6 -0.1**
AOI AML AML
comp=N,1115μm,0.3s
AOI AML AML
comp=E,922μm,0.4s
ATTE AVT- Monte Tez 0.72 294 ⇑P **Pg 01 33 14.4 -1.2**
ATTE AML AML
comp=N,690μm,0.6s
ATTE AML AML
comp=N,691μm,0.6s
ATTE AML AML
comp=E,1025μm,1.0s
FRON Frontone 0.73 328 ⇑P **Pg 01 33 14.6 -1.1**
FRON AML AML
comp=N,2660μm,0.3s
FRON AML AML
comp=E,1415μm,0.3s
T0110 Collepietro 0.78 150 ⇓P **Pg 01 33 15.7 -1.0**
T0110 AML AML
comp=E,2020μm,0.6s
T0110 AML AML
comp=N,1900μm,0.3s
ATVO AVT- Monte Val 0.79 308 ⇑P **Pg 01 33 15.5 -1.3**
ATVO AML AML
comp=E,1195μm,1.4s
ATVO AML AML
comp=N,1400μm,0.5s
MPAG Monte Paganucc 0.81 334 ⇑P **Pg 01 33 16.5 -0.8**
MPAG S **Sn 01 33 30.0 -1.1**
MPAG AML AML
comp=E,1230μm,0.7s
MPAG AML AML
comp=N,1094μm,0.6s
MPAG AML AML
comp=E,1230μm,0.7s
MPAG AML AML
comp=N,1095μm,0.6s
PIEI Pieia 0.82 320 ⇑P **Pg 01 33 16.1 -1.4**
PIEI S **Sb 01 33 30.0 +0.9**
PIEI AML AML
comp=E,774μm,0.3s
PIEI AML AML
comp=N,766μm,0.9s
ATPI Pietralunga - 0.83 311 ⇑P **Pg 01 33 16.4 -1.2**
ATPI AML AML
comp=E,1092μm,0.4s
ATPI AML AML
comp=N,709μm,0.4s
ATPI AML AML
comp=E,1095μm,0.4s
MGAB Montegabbione 0.84 271 ⇑P **Pg 01 33 16.6 -1.2**
MGAB AML AML
comp=E,1143μm,0.7s
MGAB AML AML
comp=N,2305μm,0.5s
MGAB AML AML
comp=N,2235μm,0.4s
MGAB AML AML
comp=E,1142μm,0.7s
MGAB AML AML
comp=E,1650μm,0.6s
ATMI Monte Miggiano 0.84 301 ⇓P **Pg 01 33 17.2 -0.7**
ATMI AML AML
comp=E,2055μm,0.3s
ATMI AML AML
comp=N,2465μm,0.5s
FSSB Fossombrone 0.86 336 ⇑P **Pg 01 33 17.4 -0.8**
FSSB S **Sn 01 33 32.0 -0.3**
FSSB AML AML
comp=E,4200μm,0.4s
FSSB AML AML
comp=E,4195μm,0.4s
FSSB AML AML
comp=N,4525μm,0.5s
SRES S.Oreste - Sor 0.86 220 ⇑P **Pg 01 33 17.4 -0.9**
SRES AML AML
comp=E,594μm,1.1s
SRES AML AML
comp=N,786μm,0.5s
PTQR Pietraquaria 0.89 173 P **Pg 01 33 17.4 -1.4**
PTQR AML AML
comp=E,360μm,1.4s
PTQR AML AML
comp=N,294μm,1.2s
APEC Apecchio 0.90 317 ⇑P **Pg 01 33 18.2 -0.7**
BADI Badiali 0.96 310 ⇑P **Pb 01 33 19.5 -0.7**
PE3 Peglio 0.97 325 ⇑P **Pb 01 33 19.3 -1.1**
PE3 AML AML
comp=E,8μm,0.5s
PE3 AML AML
comp=N,7μm,0.5s
CERT Cerreto 0.98 192 ⇓P **Pb 01 33 19.1 -1.5**
CERT AML AML
comp=N,911μm,1.1s
CERT AML AML
comp=E,990μm,0.4s
SACS San Casciano d 0.99 267 ⇓P **Pb 01 33 20.0 -0.8**
SACS AML AML
comp=E,664μm,0.6s
SACS AML AML
comp=N,588μm,0.6s
SACS AML AML
comp=E,594μm,1.5s
SACS AML AML
comp=N,638μm,0.6s
CAFI Castiglion Fio 1.04 295 ⇓P **Pb 01 33 20.3 -1.2**
CAFI AML AML
comp=N,484μm,1.0s
CAFI AML AML
comp=E,468μm,0.6s
SSP9 Sansepolcro 1.06 310 ⇓P **Pn 01 33 23.1 +0.7**
VVLD Villa Vallelon 1.07 165 ⇑P **Pb 01 33 21.2 -0.9**
VVLD AML AML
comp=E,552μm,0.6s
VVLD AML AML
comp=N,452μm,0.9s
LPEL Lama dei Pelig 1.10 141 ⇓P **Pb 01 33 21.7 -0.9**
LPEL AML AML
comp=E,730μm,0.4s
LPEL AML AML
comp=N,496μm,0.9s
CPGN Carpegna, Ital 1.13 323 ⇑P **Pb 01 33 23.0 -0.2**
MCIV Monte Civitell 1.17 264 ⇓P **Pb 01 33 24.0 +0.2**
MCIV AML AML
comp=E,290μm,0.4s
MCIV AML AML
comp=N,303μm,0.6s
SF04 Casetta 1.18 267 ⇑P **Pb 01 33 24.0 0.0**
CRE Caprese Michel 1.19 307 ⇓P **Pn 01 33 23.7 -0.6**
CRE AML AML
comp=E,340μm,1.2s
CRE AML AML
comp=N,436μm,1.2s
SF01 Poggio Pratacc 1.25 266 ⇓P **Pn 01 33 24.4 -0.7**
TOLF Tolfa 1.25 228 ⇑P **Pb 01 33 25.3 +0.1**
TOLF AML AML
comp=E,330μm,0.7s
TOLF AML AML
comp=N,418μm,0.5s
GIUL Giuliano Di Ro 1.34 180 ⇓P **Pg 01 33 27.4 0.0**
GIUL AML AML
comp=E,292μm,0.5s
GIUL AML AML
comp=N,366μm,0.9s
FRES Fresagrandinar 1.40 131 ⇑P **Pg 01 33 29.0 +0.6**
CERA Filignano 1.42 156 ⇓P **Pg 01 33 29.1 +0.2**
SFI Santa Sofia 1.43 315 ⇓P **Pg 01 33 29.3 +0.1**
MIDA Miranda 1.46 149 ⇓P **Pg 01 33 29.9 +0.3**
TRIV Trivento 1.49 139 ⇑P **Pg 01 33 30.8 +0.7**
CSNT Castellina Chi 1.55 292 ⇑P **Pn 01 33 29.0 -0.1**
CSNT AML AML
comp=E,144μm,0.6s
CSNT AML AML
comp=N,166μm,1.2s
RUFI Rufina 1.58 307 P **Pb 01 33 30.5 -0.3**
VAGA Valle Agricola 1.66 154 ⇓P **Pg 01 33 32.9 -0.5**
SGRT San Giovanni R 2.17 121 S **Sb 01 34 08.0 +0.1**
CAFE Carife 2.39 141 ⇑P **Pb 01 33 45.0 +0.4**
VULT Monte Vulture 2.62 137 ⇑P **Pn 01 33 45.4 +1.4**
GRAM Graiana 2.81 306 ⇓P **Pn 01 33 48.5 +2.0**
MORSI Morsiglia 2.86 272 P **Pn 01 33 47.6 +0.5**
CEY Cerknica 2.96 16 *e*Pn **Pn 01 33 48.1 -0.4**
SMPL Sampolo 3.05 256 P **Pn 01 33 51.4 +1.7**
PGF Pioggiola 3.16 265 P **Pn 01 33 52.1 +0.8**
MGRS Mrkonjic Grad 3.16 60 *e*Pn **Pn 01 33 51.9 +0.6**
STON Ston 3.27 89 *e*Pn **Pn 01 33 51.9 -0.7**
A051A Mrakovica 3.38 50 *e*Pn **Pn 01 33 54.6 +0.3**
BLY Banja Luka 3.39 56 *e*Pn **Pb 01 33 59.7 -1.9**
OBKA Obir 3.72 14 *e*Pn **Pn 01 33 59.9 +0.9**
OBKA Obir 3.72 14 *e*Pn **Pn 01 33 58.7 -0.3**
OBKA comp=N,0.9nm,0.2s *e*Sn **Sn 01 34 42.1 -0.7**
comp=N,23nm,0.8s
MYKA Terra Mystica 3.74 4 *e*Pn **Pn 01 34 00.7 +1.5**
comp=N,3.1nm,0.3s
TREB Trebinje 3.75 91 *e*Pn **Pn 01 34 01.4 +2.0**
ABTA Abfaltersbach 3.88 352 Pn **Pn 01 34 02.7 +1.5**
comp=N,9.4nm,0.4s,SNR=9.5
ABTA *e*Sn **Sn 01 34 48.8 +2.0**
comp=N,5.5nm,0.6s
BRY Bratogost 3.88 88 *e*Pn **Pn 01 34 01.6 +0.3**
HCY Herceg Novi 3.89 95 *e*Pn **Pn 01 34 03.1 +1.9**
SOKA Soboth 3.98 18 *e*Pn **Pn 01 34 03.7 +1.2**
comp=N,0.5nm,0.2s
UPM Unac-Piva 4.15 84 *e*Pn **Pn 01 34 07.1 +2.1**
KBA Koelnbreinsper 4.17 1 Pn **Pn 01 34 07.3 +2.0**
comp=N,1.8nm,0.2s,SNR=7.3
SAOF Saorge 4.29 287 P **Pn 01 34 08.5 +1.7**
HAPS Han Pijesak,BI 4.31 72 *e*Pn **Pn 01 34 09.6 +2.5**
DRME Dracevica, Mon 4.44 97 *e*Pn **Pn 01 34 11.2 +2.4**
FETA Feichten 4.49 337 Pn **Pn 01 34 12.5 +2.9**
comp=N,5.6nm,0.8s,SNR=8.1
WTTA Wattenberg 4.51 346 Pn **Pn 01 34 12.9 +2.9**
comp=N,3.1nm,0.3s,SNR=8.0
RUDO Rudo 4.52 79 *e*Pn **Pn 01 34 11.4 +1.4**
SQTA Sankt Quirin 4.55 342 Pn **Pn 01 34 13.2 +2.7**
comp=N,15nm,0.6s,SNR=20
SQTA *e*Sn **Sn 01 35 06.3 +2.9**
comp=N,4.1nm,0.5s
WATA Walderalm 4.59 346 Pn **Pn 01 34 14.1 +3.1**
comp=N,8.3nm,0.6s,SNR=7.7
MOTA Moosalm 4.70 342 Pn **Pn 01 34 15.3 +2.8**
comp=N,4.9nm,0.5s,SNR=11
CALF Calern 4.70 283 P **Pn 01 34 13.1 +0.6**
BIOA Bad Ischl, Aus 4.79 3 *e*Pn **Pn 01 34 16.4 +2.7**
comp=N,3.1nm,0.2s
RETA Reutte 4.91 340 Pn **Pn 01 34 18.2 +2.9**
comp=N,4.5nm,0.4s,SNR=12
SURF Saint Ours 4.93 291 P **Pn 01 34 17.4 +1.7**
JAUF Jausiers 4.96 290 P **Pn 01 34 17.8 +1.7**
DAVA Damuels 4.99 333 *i* Pn **Pn 01 34 20.2 +3.6**
comp=N,10.0nm,0.6s,SNR=11
MOA Molln 5.00 8 *e*Pn **Pn 01 34 18.3 +1.8**
comp=N,0.9nm,0.4s
TRIGF Trigance 5.07 282 P **Pn 01 34 18.7 +1.2**
CONA Conrad Observa 5.35 19 *e*Pn **Pn 01 34 22.6 +1.2**
comp=N,0.6nm,0.2s
OGSI Sixt 5.62 306 P **Pn 01 34 27.7 +2.6**
BSTF la Bastide-des 5.63 283 P **Pn 01 34 26.5 +1.3**
AIGLE Aigle 5.66 310 P **Pn 01 34 29.5 +3.9**
OHR Ohrid 5.90 105 *i* Pn **Pn 01 34 32.0 +3.1**
TORNY Torny/Romont 5.92 313 P **Pn 01 34 31.3 +2.2**
BALST Balsthal 5.93 320 P **Pn 01 34 31.8 +2.5**
GUT Gutenstein 5.93 332 P **Pn 01 34 32.5 +3.2**
GERES GERESS Array B 5.95 3 Pn **Pn 01 34 30.7 +1.1**
comp=N,0.4nm,0.3s,baz=176,slow=15,SNR=9.0
GERES Sn **Sn 01 35 37.5 -0.2**
comp=N,0.8nm,0.3s,baz=182,slow=24,SNR=6.2
comp=N,0.4nm,0.3s
CKRC Cesky Krumlov 5.96 7 *e*SN **Sn 01 35 36.4 -1.6**
OGSM Saint Maurice 6.07 299 P **Pn 01 34 34.8 +3.7**
GIMEL St. Georges / 6.16 308 P **Pn 01 34 35.3 +2.7**
BOURR Bourrignon 6.19 319 P **Pn 01 34 35.1 +2.2**
FELD Feldberg im Sc 6.20 325 P **Pn 01 34 35.0 +1.9**
KHC Kasperske Hory 6.23 2 *e*PN **Pn 01 34 33.6 +0.1**
KHC *e*SN **Sn 01 35 43.3 -1.4**
BRANT Les Verrieres 6.28 312 P **Pn 01 34 36.2 +2.0**
KIZ Kirchzarten 6.29 325 P **Pn 01 34 35.0 +0.7**
VOGT Vogtsburg - To 6.50 325 P **Pn 01 34 38.7 +1.6**
BOUC Bouclans 6.59 314 P **Pn 01 34 39.9 +1.6**
STIP Stip 6.73 97 *i* Pn **Pn 01 34 44.5 +4.2**
ECH Echery 6.82 323 P **Pn 01 34 42.3 +0.8**
KEST Kesra 7.78 204 Pn **Pn 01 35 03.0 +8.3**
comp=N,0.2nm,0.3s,baz=2.5,slow=14,SNR=5.2
comp=N,1.2nm,0.6s
CLL Collm 8.41 359 *e*Sg **Sg 01 37 27.0 -4.3**
CLL *ex* x 01 37 43.0
TORD Torodi Ar. Bea 31.29 202 P P 01 39 28.2 +6.6
comp=N,0.4nm,0.8s,baz=11,slow=10,SNR=2.5
comp=N,0.4nm,0.8s

NIC ***04*** *01:37:01.5±0.0, 33.61N×34.67E, h32km±28km, Ml2.6/6*
GRAL ***04*** *01:37:01.5±0.3, 33.65N×34.65E, h30km±2km, MD2.9*
ISC 04 01:37:01.7±2.6, **33.63N**±0.04×**34.71E**±0.04, **h33**km±7km,
n16, σ**0.44**/**24**, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQRL	**Deir Qamar**	**0.72**	**84**	*e*P	**Pn**	**01 37 15.3**	**-0.3**
DQRL				*e*S	**Sb**	**01 37 25.8**	**+0.2**
BHL	**Bhannes**	**0.83**	**71**	*e*P	**Pn**	**01 37 16.9**	**-0.2**
RCY	**Rachaya**	**0.95**	**98**	*e*P	**Pn**	**01 37 18.8**	**0.0**
ZAHL	**Zahle**	**1.00**	**77**	*e*P	**Pn**	**01 37 19.5**	**0.0**
ZAHL				*e*S	**Sn**	**01 37 32.6**	**+0.1**
HWQ	**Hawqa**	**1.21**	**58**	*e*P	**Pn**	**01 37 22.2**	**-0.2**
MMLI	**Mount Malkishu**	**1.33**	**153**	P	**Pn**	**01 37 23.9**	**-0.1**
MMLI				S	**Sn**	**01 37 40.9**	**+0.3**
MMLI				AML	AML	01 37 42.8	
	0.1nm,0.2s						
MMLI				AML	AML	01 37 42.8	
	0.1nm,0.2s						
MVOU	**Mavrovouni**	**1.64**	**327**	P	**Pn**	**01 37 27.2**	**-1.0**
MVOU				AML	AML	01 37 46.9	
	0.1nm,0.3s						
MVOU				AML	AML	01 37 47.3	
	0.1nm,0.3s						
ASGA	**Asgata**	**1.67**	**314**	P	**Pn**	**01 37 27.8**	**-0.8**
ASGA				AML	AML	01 37 48.3	
	0.1nm,0.7s						
ASGA				AML	AML	01 37 49.5	
	0.1nm,1.0s						
CSS	**Mathiatis**	**1.75**	**320**	P	**Pn**	**01 37 29.2**	**-0.4**
SZAC	**Souni**	**1.88**	**307**	P	**Pn**	**01 37 31.0**	**-0.6**
SZAC				S	**Sn**	**01 37 54.4**	**+0.2**
SZAC				AML	AML	01 37 56.5	
	0.1nm,0.3s						

SZAC					AML	AML	01 37 56.5	
	0.1nm,0.3s							
SZAC					AML	AML	01 37 57.2	
	0.1nm,0.2s							
SZAC					AML	AML	01 37 57.2	
	0.1nm,0.2s							
AMAZ	**Amatzia**	**2.10**	**175**	P	**Pn**		**01 37 34.5**	**-0.1**
AMAZ				S	**Sn**		**01 37 59.3**	**-0.3**
AMAZ				AML	AML		01 37 59.9	
	0.1nm,0.3s							
AMAZ				AML	AML		01 37 59.9	
	0.1nm,0.6s							
AMAZ				AML	AML		01 37 59.9	
	0.1nm,0.3s							
AMAZ				AML	AML		01 37 59.9	
	0.1nm,0.6s							
NATA	**Nata**	**2.11**	**303**	P	**Pn**		**01 37 35.1**	**+0.4**
NATA				S	**Sn**		**01 38 00.6**	**+0.9**
NATA				AML	AML		01 38 13.7	
	0.2nm,1.0s							
NATA				AML	AML		01 38 13.7	
	0.2nm,1.0s							
ALFC	**Alefka**	**2.31**	**312**	P	**Pn**		**01 37 37.6**	**+0.1**
ALFC				S	**Sn**		**01 38 05.3**	**+0.5**
AKMS	**Akamas**	**2.40**	**306**	P	**Pn**		**01 37 38.8**	**+0.2**
AKMS				S	**Sn**		**01 38 07.2**	**+0.3**
KZIT	**Kziot**	**2.73**	**186**	P	**Pn**		**01 37 42.9**	**-0.3**
OSC1	**CSNet OBS 1**	**2.87**	**268**	S	**Sn**		**01 38 18.6**	**+0.1**

*IDC **04** 01:45:59.7±1.1, 14°.57N×39°.98E, h0km, mb3.9/8, mbtmp3.9/9, ML3.2/1, MS3.1/14, Error ellipse: s-maj=27.0km s-min=18.4km az=34.0*
*AAE **04** 01:46:00.2±3.7, 14°.20N×42°.52E, h0km±319km, ML4.6*
ISC 04 01:46:00.8±0.7, 14°.49N±0°.05×39°.9E±0°.1, h10km, n25, σ2s79/16, mb3.9/8, MS3.2/10, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DESE	**Dese**	**3.37**	**185**	*e*P	**Pb**	**01 47 02.5**	**+1.7**
DESE				*e*S	**Sg**	**01 47 49.1**	**0.0**
DESE				IAML		01 48 01.1	
	comp=N,392nm,0.8s						
ATD	**Arta Tunnel**	**4.11**	**135**	Pn	**Pn**	**01 47 03.6**	**-0.2**
	comp=N,1.4nm,0.3s,baz=282,slow=9.1,SNR=5.4						
ATD				Lg	Lg	01 48 10.2	
	comp=N,6.8nm,0.3s,baz=112,slow=24,SNR=8.0						
ATD				LR	LR	01 48 34.0	
	comp=N,60nm,19.1s,baz=32,slow=38						
	comp=N,7.3nm,0.4s						
ANKE	**Ethiopia-Afar**	**4.87**	**182**	*e*P	**Pn**	**01 47 17.1**	**+2.5**
ANKE				*e*S	**Sn**	**01 48 17.1**	**+5.8**
AAE	**Adis Abeba**	**5.54**	**192**	*e*P	Pb	01 47 32.8	-5.2
AAE				*e*S	**Sb**	**01 48 39.1**	**-5.6**
FURI	**Furi**	**5.69**	**192**	*e*P	**Pb**	**01 47 36.3**	**-4.2**
FURI				*e*S	**Sb**	**01 48 46.7**	**-2.2**
FURI				IAML		01 49 09.9	
	comp=N,284nm,0.8s						
EIL	**Elat**	**15.78**	**344**	LR	LR	01 54 21.1	
	comp=N,55nm,19.7s,baz=200,slow=32						
MBAR	**Mbarara**	**17.53**	**212**	LR	LR	01 55 36.0	
	comp=N,41nm,21.8s,baz=18,slow=33						
WSAR	**Wadi Sarin**	**19.72**	**61**	LR	LR	01 58 51.6	
	comp=N,152nm,20.8s,baz=196,slow=39						
GNI	**Garni**	**25.91**	**9**	LR	LR	02 02 12.3	
	comp=N,31nm,18.6s,baz=171,slow=38						
GEYT	**Ailbeck**	**28.38**	**31**	P	**P**	**01 51 54.1**	**-1.3**
	comp=N,1.1nm,0.6s,baz=221,slow=15,SNR=2.8						
GEYT				LR	LR	02 03 58.8	
	comp=N,46nm,20.9s,baz=280,slow=38						
	comp=N,1.1nm,0.6s						
LSZ	**Lusaka**	**31.77**	**202**	LR	LR	02 04 22.9	
	comp=N,42nm,18.4s,baz=140,slow=35						
TORD	**Torodi Ar. Bea**	**37.10**	**273**	P	**P**	**01 53 12.8**	**+0.9**
	comp=N,2.2nm,1.0s,baz=93,slow=5.7,SNR=8.3						
	comp=N,2.2nm,1.0s						
GERES	**GERESS Array B**	**40.47**	**333**	P	**P**	**01 53 40.0**	**+0.2**
	comp=N,1.8nm,0.9s,baz=114,slow=6.4,SNR=4.7						
	comp=N,1.8nm,0.9s						
AAK	**Ala-Archa**	**40.87**	**40**	LR	LR	02 12 45.3	
	comp=N,72nm,18.4s,baz=282,slow=39						
BVAR	**Borovoye Array**	**45.38**	**25**	LR	LR	02 15 27.4	
	comp=N,28nm,18.4s,baz=236,slow=39						
ESDC	**Sonseca Array**	**45.81**	**312**	P	**P**	**01 54 23.3**	**+0.2**
	comp=N,0.6nm,0.9s,baz=108,slow=9.5,SNR=4.3						
	comp=N,0.6nm,0.9s						
MKAR	**Makanchi Array**	**47.76**	**39**	P	**P**	**01 54 38.2**	**0.0**
	comp=N,1.0nm,0.7s,baz=223,slow=6.6,SNR=5.5						
	comp=N,1.0nm,0.7s						
SUR	**Sutherland**	**50.06**	**201**	LR	LR	02 17 19.7	
	comp=N,28nm,20.5s,baz=12,slow=38						
NOA	**NORSAR Array B**	**50.89**	**342**	P	**P**	**01 55 01.8**	**-0.1**
	comp=N,1.8nm,0.9s,baz=140,slow=8.2,SNR=4.2						
	comp=N,1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**52.70**	**32**	P	**P**	**01 55 14.4**	**-1.0**
	comp=N,2.5nm,0.8s,baz=248,slow=7.5,SNR=6.8						
	comp=N,2.5nm,0.8s						
BBTS	**Babate**	**54.49**	**278**	LR	LR	02 20 25.1	
	comp=N,67nm,18.2s,baz=74,slow=38						
CMAR	**Chiang Mai Arr**	**56.55**	**77**	LR	LR	02 19 00.2	
	comp=N,7.6nm,20.6s,baz=115,slow=35						
SONM	**Songino Array**	**63.63**	**44**	P	**P**	**01 56 33.1**	**+0.8**
	comp=N,0.8nm,0.7s,baz=256,slow=5.5,SNR=3.1						
	comp=N,0.8nm,0.7s						
KSRS	**Korea Array**	**79.79**	**54**	LR	LR	02 36 59.3	
	comp=N,9.0nm,18.6s,baz=190,slow=38						
MJAR	**Matsushiro Arr**	**88.01**	**53**	LR	LR	02 45 41.7	
	comp=N,8.7nm,20.0s,baz=188,slow=41						

*ROM **04** 02:08:43.9±0.0, 42°.677N±0°.002×13°.207E±0°.004, h13km, ML3.1/80, Error ellipse: s-maj=0.3km s-min=0.1km az=253.0*
*LDG **04** 02:08:43.7±0.1, 42°.69N×13°.18E, h10km, Md3.2/1, Ml2.8/18, Error ellipse: s-maj=3.2km s-min=2.1km az=36.0*
*IDC **04** 02:08:43.4±2.2, 42°.79N×13°.57E, h0km, mb3.4/1, mbtmp3.3/4, ML3.0/3, MS2.5/1, Error ellipse: s-maj=64.9km s-min=15.2km az=97.0*
*STR **04** 02:08:46.5±2.1, 43°.N±15°×1°.3E±1°.5, h10km, MLv3.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=135.4, preliminary*
*PRU **04** 02:08:48.7±0.0, 42°.82N×13°.36E, h10km*
ISC 04 02:08:44.4±0.7, 42°.67N±0°.01×13°.17E±0°.02, h12km±4km, n175, σ1s97/202, 53C-40D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.05**	**52**	P	**Pg**	**02 08 46.5**	**-0.3**
T1202				S	**Sg**	**02 08 48.4**	**-0.2**
T1202				AML	AML		
	comp=E,1720μm,0.3s						
T1202				AML	AML		
	comp=N,882μm,0.1s						
T1202				AML	AML		
	comp=E,1718μm,0.3s						
T1202				AML	AML		
	comp=N,879μm,0.1s						
T1204	**Amatrice, Fraz**	**0.10**	**89**	P	Pb	02 08 47.1	-1.4
T1204				S	**Sb**	**02 08 49.0**	**-0.7**
T1204				AML	AML		
T1204				AML	AML		
	comp=N,53350μm,0.8s						
T1204				AML	AML		
T1204				AML	AML		
	comp=N,53300μm,0.8s						
T1204				AML	AML		
LNSS	**Leonessa**	**0.12**	**234**	⇑P	**Pb**	**02 08 47.9**	**-0.9**
LNSS				S	**Sb**	**02 08 50.9**	**+0.9**
LNSS				AML	AML		
	comp=E,26250μm,0.4s						
LNSS				AML	AML		
	comp=N,63300μm,0.7s						
SMA1	**SAN MARTINO**	**0.13**	**110**	⇑P	**Pb**	**02 08 47.3**	**-1.6**
SMA1				S	**Sb**	**02 08 50.0**	**-0.1**
SMA1				AML	AML		
SMA1				AML	AML		
	comp=N,97850μm,1.0s						
NRCA	**Norcia**	**0.17**	**345**	⇑P	**Pb**	**02 08 48.2**	**-1.3**
NRCA				S	**Sb**	**02 08 51.2**	**+0.2**
NRCA				AML	AML		
	comp=E,83250μm,0.2s						
NRCA				AML	AML		
	comp=N,29900μm,1.0s						
NRCA				AML	AML		
	comp=E,89450μm,0.2s						
NRCA				AML	AML		
	comp=N,27450μm,0.1s						
RM33	**Pellescritta (**	**0.17**	**170**	⇑P	**Pg**	**02 08 48.3**	**0.0**
RM33				S	**Sb**	**02 08 51.5**	**+0.5**
RM33				AML	AML		
	comp=E,59100μm,0.3s						
RM33				AML	AML		
	comp=N,80050μm,0.2s						
RM33				AML	AML		
	comp=E,57850μm,0.3s						
RM33				AML	AML		
	comp=N,79350μm,0.2s						
RM33				AML	AML		
	comp=E,57800μm,0.3s						
RM33				AML	AML		
	comp=N,80100μm,0.2s						
T1217	**Poggiodomo (PG**	**0.18**	**282**	⇑P	**Pg**	**02 08 48.8**	**+0.3**
T1217				AML	AML		
	comp=N,27950μm,0.3s						
T1217				AML	AML		
	comp=E,17800μm,0.5s						
T1217				AML	AML		
	comp=N,27100μm,0.3s						
T1217				AML	AML		
	comp=E,17950μm,0.5s						
T1245	**Castelsantange**	**0.18**	**3**	⇓P	**Pg**	**02 08 48.6**	**0.0**
T1245				S	**Sg**	**02 08 51.7**	**+0.1**
T1245				AML	AML		
	comp=N,89250μm,0.3s						
T1245				AML	AML		
	comp=N,93850μm,0.3s						
T1245				AML	AML		
	comp=E,42900μm,1.0s						
T1245				AML	AML		
	comp=E,43000μm,0.2s						
T1243	**Rocca Santa Ma**	**0.20**	**83**	⇑P	**Pg**	**02 08 48.2**	**-0.7**
T1243				S	**Sg**	**02 08 51.5**	**-0.5**
CAMP	**Campotosto**	**0.22**	**128**	P	**Pg**	**02 08 48.8**	**-0.5**
CAMP				S	**Sg**	**02 08 52.3**	**-0.2**
CAMP				AML	AML		
	comp=N,11900μm,0.4s						
CAMP				AML	AML		
	comp=E,13350μm,0.4s						
T1216	**Preci, Frazion**	**0.24**	**332**	⇓P	**Pg**	**02 08 49.6**	**0.0**
T1216				AML	AML		
	comp=N,11500μm,0.4s						
T1216				AML	AML		
	comp=E,10300μm,0.9s						
T1247	**Pizzolo (AQ)**	**0.25**	**158**	⇓P	**Pg**	**02 08 49.5**	**-0.2**
T1247				AML	AML		
	comp=E,22800μm,0.4s						
T1247				AML	AML		
	comp=N,23950μm,1.3s						
MMO1	**Montemonaco**	**0.25**	**26**	P	**Pg**	**02 08 49.3**	**-0.4**
T1215	**Vallo di Nera,**	**0.26**	**300**	⇑P	**Pg**	**02 08 50.0**	**+0.1**
T1215				AML	AML		
	comp=N,5705μm,0.7s						
T1215				AML	AML		
	comp=N,5370μm,0.7s						
T1215				AML	AML		
	comp=E,4875μm,0.2s						
T1215				AML	AML		
	comp=E,5200μm,0.2s						
T1241	**Roccafluvione,**	**0.26**	**46**	⇓P	**Pg**	**02 08 49.4**	**-0.5**
T1241				AML	AML		
	comp=E,15050μm,0.2s						
T1241				AML	AML		
	comp=E,14750μm,0.2s						
T1241				AML	AML		
	comp=N,6520μm,1.1s						
T1241				AML	AML		
	comp=N,6650μm,1.1s						
T1211	**Morro Reatino**	**0.27**	**239**	⇑P	**Pg**	**02 08 50.3**	**+0.2**
T1211				AML	AML		
	comp=E,8155μm,0.4s						
T1211				AML	AML		
	comp=N,12450μm,0.2s						
T1211				AML	AML		
	comp=E,7990μm,0.5s						
T1211				AML	AML		
	comp=N,12350μm,0.2s						
T1211				AML	AML		
	comp=N,12450μm,0.3s						
T1211				AML	AML		
	comp=E,7990μm,0.4s						
T1211				AML	AML		
	comp=N,12400μm,0.3s						
T1211				AML	AML		
	comp=E,8160μm,0.4s						
ARRO	**Arrone**	**0.32**	**253**	⇑P	**Pg**	**02 08 51.1**	**+0.2**
ARRO				AML	AML		
	comp=E,4265μm,1.1s						
ARRO				AML	AML		
	comp=E,4260μm,1.1s						
ARRO				AML	AML		
	comp=N,4545μm,0.2s						
TERO	**Teramo**	**0.32**	**99**	⇑P	**Pg**	**02 08 50.1**	**-0.8**
TERO				AML	AML		
	comp=E,10450μm,0.3s						
TERO				AML	AML		
	comp=E,11100μm,0.4s						
TERO				AML	AML		
	comp=N,15100μm,0.5s						
TERO				AML	AML		
	comp=N,14350μm,0.5s						
TERO				AML	AML		
	comp=E,10465μm,0.3s						
AM05	**Amandola Campo**	**0.33**	**23**	P	**Pg**	**02 08 50.9**	**-0.3**
AM05				AML	AML		
	comp=E,1760μm,0.8s						
AM05				AML	AML		
	comp=N,516μm,0.1s						
AM05				AML	AML		
	comp=N,1985μm,1.4s						
AM05				AML	AML		
	comp=E,7130μm,1.3s						
T1256	**Bolognola (MC)**	**0.34**	**7**	⇑P	**Pg**	**02 08 50.9**	**-0.3**
T1256				AML	AML		
	comp=E,3515μm,0.3s						
T1256				AML	AML		
	comp=E,3510μm,0.3s						
T1256				AML	AML		
	comp=N,5200μm,0.6s						
T1256				AML	AML		
	comp=N,4890μm,0.6s						
AQU	**L'Aquila**	**0.36**	**152**	⇓P	**Pg**	**02 08 51.5**	**-0.2**
AQU				AML	AML		
	comp=E,4635μm,1.2s						
AQU				AML	AML		
	comp=N,5550μm,0.4s						
AQU				AML	AML		
	comp=N,5615μm,0.4s						
AQU				AML	AML		
	comp=E,4575μm,1.2s						
AQU				AML	AML		
	comp=E,4640μm,1.2s						
AQU				AML	AML		
	comp=N,5545μm,0.4s						
FDMO	**Fiordimonte**	**0.37**	**350**	⇑P	**Pg**	**02 08 51.6**	**-0.2**
FDMO				AML	AML		
	comp=E,3420μm,1.2s						
FDMO				AML	AML		
	comp=N,2885μm,1.4s						
GIGS	**Gran Sasso**	**0.37**	**127**	⇓P	**Pg**	**02 08 51.1**	**-0.7**
CESI	**CESI - Serrava**	**0.39**	**329**	⇓P	**Pg**	**02 08 52.1**	**0.0**
CESI				AML	AML		
	comp=N,7525μm,0.3s						
CESI				AML	AML		
	comp=E,3880μm,0.9s						
GUMA	**Gualdo di Mace**	**0.41**	**17**	⇑P	**Pg**	**02 08 52.5**	**0.0**
GUMA				AML	AML		
	comp=N,25700μm,0.4s						
GUMA				AML	AML		
	comp=E,24950μm,0.4s						
GUMA				AML	AML		
	comp=N,24300μm,0.4s						
GUMA				AML	AML		
	comp=E,34000μm,0.3s						
FIAM	**Fiamignano**	**0.41**	**186**	⇑P	**Pg**	**02 08 52.3**	**-0.2**
FIAM				AML	AML		
	comp=E,12585μm,0.5s						
FIAM				AML	AML		
	comp=N,6050μm,0.3s						
FIAM				AML	AML		
	comp=N,6045μm,0.3s						
CESX	**Cesi**	**0.44**	**262**	⇑P	**Pg**	**02 08 53.1**	**-0.1**
CESX				AML	AML		
	comp=N,2105μm,0.5s						
CESX				AML	AML		
	comp=E,2340μm,0.4s						
OFFI	**Offida**	**0.46**	**55**	⇑P	**Pg**	**02 08 53.6**	**+0.1**
OFFI				AML	AML		
	comp=N,7145μm,0.4s						
OFFI				AML	AML		
	comp=E,8915μm,0.5s						
SEF1	**Sefro**	**0.50**	**341**	⇑P	**Pg**	**02 08 54.2**	**-0.1**
SEF1				AML	AML		
	comp=E,3705μm,0.3s						
SEF1				AML	AML		
	comp=N,4240μm,1.2s						
FAGN	**Fagnano**	**0.51**	**143**	⇓P	**Pg**	**02 08 53.7**	**-0.7**
FAGN				AML	AML		
	comp=E,8810μm,0.3s						
FAGN				AML	AML		
	comp=N,7560μm,1.5s						
MNTP	**Montappone**	**0.51**	**25**	⇓P	**Pg**	**02 08 54.5**	**+0.1**
ASSB	**Assisi San Ben**	**0.53**	**314**	⇑P	**Pg**	**02 08 54.6**	**-0.1**
ASSB				AML	AML		
	comp=N,2790μm,0.4s						
ASSB				AML	AML		
	comp=E,3010μm,0.4s						
TRTR	**Tortoreto Alta**	**0.56**	**76**	⇓P	**Pg**	**02 08 55.2**	**-0.2**
TRTR				AML	AML		
	comp=E,9885μm,0.6s						
TRTR				AML	AML		
	comp=N,6760μm,0.5s						
VCEL	**Villa Celiera**	**0.57**	**119**	⇑P	**Pg**	**02 08 54.6**	**-0.9**
VCEL				AML	AML		
	comp=N,7165μm,1.3s						
VCEL				AML	AML		
	comp=E,10800μm,1.1s						
VCEL				AML	AML		
	comp=N,7160μm,1.3s						
GAG1	**Gagliole**	**0.57**	**352**	⇓P	**Pg**	**02 08 55.5**	**0.0**
SNTG	**Esanatoglia**	**0.61**	**344**	⇑P	**Pg**	**02 08 55.8**	**-0.4**
SNTG				AML	AML		
	comp=E,827μm,0.3s						
SNTG				AML	AML		
	comp=N,883μm,1.0s						
SNTG				AML	AML		
	comp=N,866μm,1.2s						
SNTG				AML	AML		
	comp=E,812μm,0.3s						
T0110	**Collepietro**	**0.63**	**135**	⇓P	**Pg**	**02 08 55.9**	**-0.9**
T0110				AML	AML		
	comp=N,3915μm,0.3s						
T0110				AML	AML		
	comp=E,5285μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.64**	**323**	⇓P	**Pg**	**02 08 56.7**	**-0.3**
ATCC				AML	AML		
	comp=E,2115μm,0.5s						
ATCC				AML	AML		
	comp=N,2150μm,0.3s						
EL6	**Elcito**	**0.66**	**355**	⇑P	**Pg**	**02 08 56.6**	**-0.6**
EL6				S	**Sn**	**02 09 09.0**	**-1.1**
SRES	**S.Oreste - Sor**	**0.66**	**229**	⇑P	**Pg**	**02 08 56.8**	**-0.4**
SRES				AML	AML		
	comp=E,960μm,0.3s						
SRES				AML	AML		
	comp=N,1080μm,0.9s						
PTQR	**Pietraquaria**	**0.67**	**165**	P	**Pg**	**02 08 56.8**	**-0.7**
PTQR				S	**Sg**	**02 09 08.0**	**+1.6**
PTQR				AML	AML		
	comp=E,1132μm,0.9s						
PTQR				AML	AML		
	comp=N,1065μm,0.3s						
FOSV	**Fossato di Vic**	**0.69**	**334**	P	**Pb**	**02 08 57.5**	**-1.0**
FOSV				AML	AML		
	comp=E,985μm,1.4s						
FOSV				AML	AML		
	comp=N,1250μm,0.3s						
CING	**Cingoli**	**0.70**	**1**	⇑P	**Pb**	**02 08 57.4**	**-1.3**
CING				AML	AML		
	comp=E,1485μm,0.4s						
CING				AML	AML		
	comp=N,1385μm,0.3s						
MTCE	**Montecelio**	**0.72**	**206**	⇑P	**Pb**	**02 08 57.7**	**-1.3**
MTCE				AML	AML		
	comp=E,2070μm,0.7s						
MTCE				AML	AML		
	comp=N,1018μm,0.8s						
CERT	**Cerreto**	**0.74**	**191**	⇑P	**Pb**	**02 08 57.8**	**-1.4**
CERT				S	**Sg**	**02 09 10.0**	**+1.6**
CERT				AML	AML		
	comp=N,1880μm,1.4s						
CERT				AML	AML		
	comp=E,3350μm,0.4s						
MURB	**Monte Urbino**	**0.76**	**321**	P	**Pb**	**02 08 59.0**	**-0.6**
MURB				S	**Sn**	**02 09 12.0**	**-0.5**
MURB				AML	AML		
	comp=E,3280μm,1.3s						
MURB				AML	AML		
	comp=N,4670μm,1.0s						
MURB				AML	AML		
	comp=N,4515μm,1.0s						
MURB				AML	AML		
	comp=E,3605μm,0.4s						
PP3	**Marolino**	**0.77**	**24**	⇓P	**Pb**	**02 08 59.6**	**-0.2**
PP3				AML	AML		
	comp=E,8035μm,0.5s						
PP3				AML	AML		
	comp=N,4760μm,0.3s						
PP3				AML	AML		
	comp=N,4605μm,0.3s						
PP3				AML	AML		
	comp=E,8290μm,0.4s						
ATTE	**AVT- Monte Tez**	**0.80**	**311**	⇑P	**Pb**	**02 08 59.6**	**-0.7**
ATTE				AML	AML		
	comp=E,728μm,1.3s						
ATTE				AML	AML		
	comp=N,901μm,1.6s						
SSFR	**Montelago di S**	**0.81**	**339**	⇑P	**Pb**	**02 08 59.8**	**-0.8**
SSFR				AML	AML		
	comp=E,2100μm,0.7s						
SSFR				AML	AML		
	comp=E,2220μm,0.2s						
SSFR				AML	AML		
	comp=N,1810μm,0.3s						
SSFR				AML	AML		
	comp=N,2100μm,0.7s						
MGAB	**Montegabbione**	**0.82**	**287**	⇑P	**Pb**	**02 09 00.1**	**-0.6**
MGAB				AML	AML		
	comp=N,2180μm,0.5s						
MGAB				AML	AML		
	comp=E,2155μm,1.4s						
MGAB				AML	AML		
	comp=N,2280μm,0.5s						
MGAB				AML	AML		
	comp=E,1915μm,1.5s						
ATFO	**Monte Foce - G**	**0.82**	**328**	⇓P	**Pb**	**02 08 59.9**	**-0.8**
ATFO				AML	AML		
	comp=N,1165μm,0.3s						
ATFO				AML	AML		
	comp=E,1160μm,1.4s						
ARVD	**Arcevia**	**0.84**	**348**	⇑P	**Pb**	**02 08 60.0**	**-1.0**
ARVD				S	**Sn**	**02 09 14.0**	**-0.5**
ARVD				AML	AML		
	comp=E,760μm,1.2s						
ARVD				AML	AML		
	comp=N,841μm,0.8s						
RCAV	**Rocca di Cave**	**0.84**	**192**	⇓P	**Pn**	**02 09 02.5**	**+0.2**
RCAV				AML	AML		
	comp=N,3780μm,0.4s						
RCAV				AML	AML		
	comp=E,2345μm,0.5s						
ATVO	**AVT- Monte Val**	**0.90**	**322**	⇓P	**Pb**	**02 09 01.5**	**-0.7**
ATVO				AML	AML		
	comp=N,667μm,0.9s						
ATVO				AML	AML		
	comp=E,750μm,1.0s						
FRON	**Frontone**	**0.91**	**339**	⇓P	**Pb**	**02 09 01.2**	**-0.9**
FRON				AML	AML		
	comp=N,846μm,0.8s						
FRON				AML	AML		
	comp=E,993μm,1.1s						
AOI	**Ancona**	**0.93**	**20**	⇓P	**Pb**	**02 09 01.8**	**-0.8**
AOI				AML	AML		
	comp=E,775μm,1.0s						
AOI				AML	AML		
	comp=N,914μm,1.0s						
RMP	**Rome, Mte Porz**	**0.93**	**202**	⇑P	**Pb**	**02 09 03.5**	**+0.9**
RMP				AML	AML		
	comp=E,1915μm,0.4s						

RMP AML AML
comp=N,2060µm,0.5s
ATMI Monte Miggiano 0.94 315 P **Pb 02 09 02.6 -0.1**
ATMI AML AML
comp=E,2020µm,0.6s
ATMI AML AML
comp=N,2210µm,0.7s
SACS San Casciano d 0.95 281 ⇑P **Pb 02 09 02.5 -0.4**
SACS AML AML
comp=E,732µm,0.6s
SACS AML AML
comp=N,768µm,0.5s
SACS AML AML
comp=E,688µm,0.6s
SACS AML AML
comp=N,796µm,0.5s
ATPI Pietralunga - 0.96 324 ⇑P **Pb 02 09 02.6 -0.5**
ATPI AML AML
comp=N,658µm,1.2s
ATPI AML AML
comp=E,1310µm,0.6s
COR1 Corinaldo 0.97 352 P **Pb 02 09 03.2 +0.1**
VIVA Pratoni del Vi 0.97 198 ⇑P **Pg 02 09 04.7 +1.5**
VIVA AML AML
comp=E,3755µm,0.3s
VIVA AML AML
comp=N,3315µm,0.3s
CAFR Castel Frentan 0.98 117 ⇑P **Pb 02 09 02.2 -1.0**
CAFR AML AML
comp=E,1038µm,0.4s
CAFR AML AML
comp=N,995µm,1.1s
LPEL Lama dei Pelig 0.98 130 ⇑P **Pb 02 09 01.4 -1.9**
LPEL S **Sb 02 09 17.0 +0.8**
LPEL AML AML
comp=N,1355µm,0.2s
LPEL AML AML
comp=E,1470µm,0.4s
MA9 Marino 0.98 203 ⇓P **Pn 02 09 04.4 +0.4**
MA9 AML AML
comp=N,3580µm,0.7s
MA9 AML AML
comp=E,4730µm,0.5s
PIEI Pieia 0.98 332 ⇓P **Pb 02 09 02.8 -0.7**
PIEI S **Sn 02 09 19.0 +1.0**
PIEI AML AML
comp=N,422µm,0.7s
PIEI AML AML
comp=E,620µm,1.0s
MPAG Monte Paganucc 1.00 343 ⇑P **Pb 02 09 03.3 -0.5**
MPAG S **Sn 02 09 20.0 +1.4**
MPAG AML AML
comp=E,822µm,0.4s
MPAG AML AML
comp=N,575µm,1.5s
LATE Laterza 1.01 267 ⇓P **Pb 02 09 04.0 +0.1**
POFI Posta Fibreno 1.04 157 ⇓P **Pb 02 09 05.3 +1.0**
POFI AML AML
comp=N,687µm,0.6s
POFI AML AML
comp=E,885µm,0.6s
POFI AML AML
comp=N,656µm,0.5s
POFI AML AML
comp=E,854µm,0.6s
APEC Apecchio 1.04 328 ⇓P **Pb 02 09 04.7 +0.2**
LAV9 Lanuvio 1.06 200 ⇑P **Pn 02 09 05.6 +0.5**
LAV9 AML AML
comp=N,2800µm,1.6s
LAV9 AML AML
comp=E,3840µm,0.4s
LAV9 AML AML
comp=N,2955µm,1.6s
LAV9 AML AML
comp=E,3630µm,0.4s
FSSB Fossombrone 1.06 344 ⇑P **Pb 02 09 04.1 -0.6**
FSSB AML AML
comp=E,1745µm,0.3s
FSSB AML AML
comp=N,2340µm,1.5s
TOLF Tolfa 1.06 235 ⇑P **Pb 02 09 04.2 -0.6**
TOLF AML AML
comp=E,678µm,0.6s
TOLF AML AML
comp=N,564µm,1.0s
LRP Arpino 1.07 163 ⇓P **Pg 02 09 06.4 +1.3**
LRP AML AML
comp=E,505µm,0.7s
LRP AML AML
comp=N,938µm,1.0s
BADI Badiali 1.08 321 ⇑P **Pb 02 09 05.6 +0.5**
CAFI Castiglion Fio 1.10 307 ⇓P **Pb 02 09 05.2 -0.3**
CAFI S **Sg 02 09 22.0 +2.0**
CAFI AML AML
comp=E,556µm,0.5s
CAFI AML AML
comp=N,442µm,1.2s
MCIV Monte Civitell 1.11 276 ⇑P **Pb 02 09 05.8 +0.2**
MCIV AML AML
comp=E,378µm,0.7s
MCIV AML AML
comp=N,248µm,1.5s
GIUL Giuliano Di Ro 1.12 177 ⇓P **Pn 02 09 06.2 +0.3**
GIUL AML AML
comp=N,870µm,0.9s
GIUL AML AML
comp=E,645µm,0.5s
PE3 Peglio 1.14 334 ⇓P **Pb 02 09 07.1 +1.1**
SSP9 Sansepolcro 1.18 320 ⇑P **Pb 02 09 07.7 +0.9**
SSP9 AML AML
comp=E,436µm,1.1s
SSP9 AML AML
comp=N,471µm,1.3s
LATB Latina 1.19 188 ⇓P **Pn 02 09 07.4 +0.5**
LATB AML AML
comp=N,270µm,1.1s
LATB AML AML
comp=E,254µm,1.6s
SF01 Poggio Pratacc 1.20 277 ⇓P **Pb 02 09 07.8 +0.7**
RNI2 Rionero Sannit 1.21 143 ⇑P **Pg 02 09 09.3 +1.6**
ARCI Arcidosso 1.26 279 P **Pb 02 09 08.7 +0.5**
ARCI AML AML
comp=N,136µm,1.2s
ARCI AML AML
comp=E,137µm,0.9s
CRE Caprese Michel 1.30 317 ⇓P **Pg 02 09 10.7 +1.2**
CRE AML AML
comp=N,470µm,1.3s
CRE AML AML
comp=E,298µm,0.4s
MIDA Miranda 1.31 142 P **Pn 02 09 07.5 -1.1**
MIDA AML AML
comp=N,615µm,1.6s
MIDA AML AML
comp=N,564µm,0.6s
MIDA AML AML
comp=E,632µm,0.8s
MIDA AML AML
comp=E,587µm,0.8s
FRES Fresagrandinar 1.31 122 ⇓P **Pb 02 09 09.8 +0.8**
FRES AML AML
comp=E,425µm,1.1s
FRES AML AML
comp=N,278µm,0.7s
TRIV Trivento 1.37 131 ⇓P **Pb 02 09 11.1 +1.2**
VAGA Valle Agricola 1.48 148 ⇑P **Pb 02 09 12.5 +0.5**
VAGA AML AML
comp=E,211µm,1.0s
VAGA AML AML
comp=N,434µm,1.0s
MAON Monte Argentar 1.53 261 ⇓P **Pn 02 09 12.0 +0.4**
MAON AML AML
comp=N,160µm,1.4s
MAON AML AML
comp=E,180µm,1.3s
FROS Frosini 1.58 291 ⇓P **Pn 02 09 12.8 +0.6**
FROS AML AML
comp=E,282µm,0.9s
FROS AML AML
comp=N,164µm,1.6s
CSNT Castellina Chi 1.59 301 ⇑P **Pn 02 09 13.6 +1.1**
CSNT AML AML
comp=E,134µm,0.7s
CSNT AML AML
comp=N,105µm,0.5s
RUFI Rufina 1.68 314 P **Pb 02 09 15.2 -0.2**

CASP Castiglione de 1.71 275 ⇑P **Pn 02 09 14.1 +0.1**
CASP AML AML
comp=E,68µm,1.6s
CASP AML AML
comp=N,79µm,1.2s
MELA Melanico ??? S 1.74 123 ⇑P **Pn 02 09 15.7 +1.2**
MELA AML AML
comp=N,753µm,0.6s
MELA AML AML
comp=N,692µm,0.6s
MELA AML AML
comp=E,845µm,0.7s
MELA AML AML
comp=E,797µm,0.6s
APRC Apricena 1.98 117 ⇑P **Pn 02 09 19.3 +1.4**
APRC AML AML
comp=N,447µm,0.4s
APRC AML AML
comp=E,395µm,0.7s
MPPT Montemurlo 1.99 311 P **Pn 02 09 19.7 +1.8**
MPPT AML AML
comp=N,97µm,0.7s
MPPT AML AML
comp=E,133µm,1.1s
SGRT San Giovanni R 2.12 115 ⇓P **Pn 02 09 21.1 +1.3**
SGRT AML AML
comp=N,352µm,0.7s
SGRT AML AML
comp=E,361µm,0.8s
HVAR Hvar 2.46 77 ⇓P **Pn 02 09 24.8 +0.4**
MORSI Morsiglia 2.82 277 P **Pn 02 09 30.6 +1.3**
MORSI S **Sn 02 10 05.2 +2.0**
SMPL Sampolo 2.94 260 P **Pn 02 09 31.7 +0.7**
PGF Pioggiola 3.08 269 *e*P **Pn 02 09 34.1 +1.0**
PGF *e*Sn **Sn 02 10 05.8 -4.1**
comp=E,15nm,0.8s
PGF Pioggiola 3.08 269 P **Pn 02 09 34.7 +1.6**
AMUR Altamura 3.11 123 ⇑P **Pn 02 09 34.6 +1.2**
AMUR AML AML
comp=N,99µm,0.5s
AMUR AML AML
comp=E,96µm,1.3s
CEY Cerknica 3.19 16 *e*Pn **Pn 02 09 34.0 -0.5**
MATE Matera 3.33 126 P **Pn 02 09 33.5 -2.8**
MATE AML AML
comp=E,104µm,0.7s
MATE AML AML
comp=N,82µm,1.5s
MGRS Mrkonjic Grad 3.33 57 *e*Pn **Pn 02 09 37.6 +1.2**
STON Ston 3.34 85 *e*Pn **Pn 02 09 34.5 -1.9**
CGRP Cima Grappa 3.35 343 ⇓P **Pn 02 09 38.6 +1.8**
AJAC Base Areonaval 3.36 259 P **Pn 02 09 38.4 +1.7**
CRAC Craco 3.36 132 ⇑P **Pb 02 09 44.1 +0.1**
NOCI Noci 3.47 122 ⇑P **Pn 02 09 39.5 +1.3**
CTI Castel Tesino 3.55 343 P **Pn 02 09 41.2 +1.6**
BLY Banja Luka 3.57 53 *e*Pn **Pn 02 09 40.6 +0.9**
A051A Mrakovica 3.57 48 *e*Pn **Pn 02 09 39.6 -0.1**
LUSI Trento, Gardas 3.65 335 ⇑P **Pn 02 09 42.7 +1.9**
CIMO Cimolais 3.67 352 ⇓P **Pn 02 09 43.1 +2.0**
TREB Trebinje 3.82 88 *e*Pn **Pn 02 09 43.0 0.0**
HCY Herceg Novi 3.94 92 *e*Pn **Pn 02 09 44.9 +0.2**
BRY Bratogost 3.96 85 *e*Pn **Pn 02 09 44.6 -0.5**
OBKA Obir 3.96 14 *e*Pn **Pn 02 09 46.0 +0.9**
MYKA Terra Mystica 3.97 5 *e*Pn **Pn 02 09 48.3 +3.1**
comp=N,2.4nm,0.4s
ABTA Abfaltersbach 4.10 354 *e*Pn **Pn 02 09 48.0 +1.0**
comp=N,5.0nm,0.6s
UPM Unac-Piva 4.24 81 *e*Pn **Pn 02 09 50.7 +1.7**
VSL Villasalto 4.28 223 ⇓P **Pn 02 09 50.6 +1.2**
SAOF Saorge 4.30 290 P **Pn 02 09 51.3 +1.5**
RISI Rein 4.34 350 P **Pn 02 09 52.1 +1.7**
SBF Sospel 4.36 288 *e*P **Pn 02 09 51.2 +0.7**
SBF *e*Sn **Sn 02 10 35.9 -5.3**
comp=N,15nm,0.7s
KBA Koelnbreinsper 4.41 2 *e*Pn **Pn 02 09 51.3 0.0**
comp=N,1.3nm,0.3s
TURF col de Turini 4.41 289 P **Pn 02 09 52.6 +1.2**
HAPS Han Pijesak,Bl 4.44 70 *e*Pn **Pn 02 09 53.0 +1.3**
DRME Dracevica, Mon 4.47 94 *e*Pn **Pn 02 09 52.8 +0.7**
PDG Podgorica 4.50 91 ⇑P **Pn 02 09 54.2 +1.8**
RUDO Rudo 4.63 76 *e*Pn **Pn 02 09 54.8 +0.6**
CALF Calern 4.70 285 P **Pn 02 09 56.5 +1.2**
DAVOX Davos/Dischmat 4.73 331 Pn **Pn 02 09 57.5 +1.8**
comp=N,1.0nm,0.3s,baz=159,slow=18,SNR=8.5
DAVOX Sn **Sn 02 10 52.6 +2.0**
comp=N,0.4nm,0.3s,baz=293,slow=19,SNR=2.1
comp=N,2.0nm,0.3s
SQTA Sankt Quirin 4.76 344 *e*Pn **Pn 02 09 58.7 +2.6**
comp=N,3.0nm,0.2s
MOTA Moosalm 4.90 343 *e*Pn **Pn 02 10 00.8 +2.8**
comp=N,0.7nm,0.2s
LMR La Mourre 4.93 280 *e*P **Pn 02 09 58.5 +0.2**
LMR *e*Sn **Sn 02 10 49.7 -5.6**
comp=N,34nm,1.3s
SURF Saint Ours 4.96 294 P **Pn 02 10 01.8 +2.9**
JAUF Jausiers 4.99 293 P **Pn 02 10 02.4 +3.1**
BIOA Bad Ischl, Aus 5.03 4 *e*Pn **Pn 02 09 59.8 +0.1**
comp=N,1.4nm,0.3s
TRIGF Trigance 5.06 285 P **Pn 02 10 02.0 +1.8**
MBDF Montbardon 5.08 296 *e*P **Pn 02 10 02.0 +1.5**
MBDF *e*Sn **Sn 02 10 53.5 -5.6**
comp=N,3.5nm,0.5s
RETA Reutte 5.11 341 *e*Pn **Pn 02 10 03.9 +3.1**
comp=N,0.7nm,0.3s
CREF Crivoux 5.11 294 P Pn 02 10 05.9 +4.9
OGAG Argentiere 5.14 293 P **Pn 02 10 05.3 +4.0**
DAVA Damuels 5.17 334 *e*Pn **Pn 02 10 04.9 +3.2**
comp=N,1.1nm,0.3s
MOA Molln 5.23 8 *e*Pn **Pn 02 10 04.4 +1.9**
comp=N,0.8nm,0.3s
LPG La Plagne 5.42 304 *e*P **Pn 02 10 07.8 +2.5**
LPG *e*Sn **Sn 02 11 01.5 -6.2**
comp=N,2.3nm,0.5s
LPL La Plagne 5.44 304 *e*P **Pn 02 10 09.8 +4.3**
LPL *e*Sn **Sn 02 11 02.1 -6.1**
comp=N,1.6nm,0.4s
ARTF Artigues 5.47 282 P **Pn 02 10 07.7 +1.9**
BSTF la Bastide-des 5.63 285 P **Pn 02 10 09.8 +1.9**
SMRF Simiane la Rot 5.69 286 *e*P **Pn 02 10 09.9 +1.0**
SMRF *e*Sn **Sn 02 11 07.8 -6.4**
comp=N,4.2nm,0.9s
ORIF Oris-en-Rattie 5.74 296 *e*P **Pn 02 10 12.5 +3.0**
ORIF *e*Sn **Sn 02 11 08.9 -6.4**
comp=N,2.6nm,0.7s
GERES GERESS Array B 6.18 3 Pn **Pn 02 10 14.4 -1.2**
comp=N,0.2nm,0.3s,baz=175,slow=12,SNR=2.8
GERES Sn **Sn 02 11 24.3 -1.9**
comp=N,0.9nm,0.3s,baz=186,slow=28,SNR=7.7
comp=N,0.2nm,0.3s
CKRC Cesky Krumlov 6.20 7 *e*SN **Sn 02 11 24.7 -1.8**
BOURR Bourrignon 6.32 320 P **Pn 02 10 21.4 +3.9**
MODS Modra-Piesok 6.39 25 *e*PN Pn 02 10 14.2 -4.1
CABF La Chapelle 6.41 310 *e*P **Pn 02 10 20.4 +1.7**
CABF *e*Sn **Sn 02 11 24.7 -7.1**
comp=N,0.5nm,0.2s
KIZ Kirchzarten 6.45 327 P **Pn 02 10 21.4 +2.2**
KHC Kasperske Hory 6.46 2 *e*PN **Pn 02 10 20.0 +0.6**
KHC *e*SN **Sn 02 11 29.7 -3.4**
HINF Hinteralfeld 6.81 321 *e*P **Pn 02 10 26.1 +2.0**
HINF *e*Sn Sn 02 11 34.4 -7.1
comp=N,4.6nm,0.4s
LASF Ste Croix 6.93 285 *e*P **Pn 02 10 26.1 +0.2**
LASF *e*Sn **Sn 02 11 37.5 -7.1**
comp=N,0.3nm,0.4s
ECH Echery 6.97 325 P **Pn 02 10 27.3 +0.9**
CDF Champ du Feu 7.08 326 *e*P **Pn 02 10 29.0 +1.2**
CDF *e*Sn Sn 02 11 39.8 -8.4
comp=N,1.7nm,0.3s
HAU Haudompre 7.18 320 *e*P **Pn 02 10 30.2 +1.0**
HAU *e*Sn Sn 02 11 43.1 -7.6
comp=N,15nm,0.8s
KEST Kesra 7.54 204 Pn Pn 02 10 39.8 +5.5
comp=N,0.2nm,0.3s,baz=18,slow=3.2,SNR=5.4
comp=N,1.7nm,0.6s
SMF Signal de Mont 7.75 304 *e*P **Pn 02 10 39.1 +2.1**
SMF *e*Sn Sn 02 11 56.6 -8.0
comp=N,0.6nm,0.3s
MTLF Montolieu 8.06 278 *e*P **Pn 02 10 43.9 +2.6**
MTLF *e*Sn **Sn 02 12 04.6 -7.7**
comp=N,0.4nm,0.3s
CAF Calviac 8.35 289 *e*P **Pn 02 10 47.2 +2.0**
CAF *e*Sn Sn 02 12 10.7 -8.7
comp=N,0.4nm,0.2s
CLL Collm 8.64 359 *e*(Sg) Sg 02 13 29.0 +7.6
HYF Humbligny 8.77 305 *e*P **Pn 02 10 52.4 +1.4**

NOA NORSAR Array B 18.43 357 LR LR 02 21 04.3
comp=N,14nm,18.1s,baz=340,slow=40
TORD Torodi Ar. Bea 31.05 202 P **P 02 15 04.1 +1.8**
comp=N,0.5nm,0.8s,baz=16,slow=8.2,SNR=3.6
comp=N,0.5nm,0.8s

*IDC **04** 02:23:53.0±2.1, 31°.65S×71°.77W, h0km, mb4.1/1, mbtmp3.8/2, ML4.0/1, Error ellipse: s-maj=276.2km s-min=33.6km az=162.0*
*GUC **04** 02:23:57.0±0.8, 31°.54S×71°.84W, h31km±6km, ML3.7*
ISC 04 02:23:55.2±1.3, 31°.57S±0°.03×71°.80W±0°.06, h13km±10km, n25, σ0°.67/32, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CO02	**Combarbal**	**0.77**	**62**	*i* P		**Pn**	**02 24 11.9**	**0.0**
CO02				*i* S		**Sn**	**02 24 22.4**	**-1.0**
CO02				IAML			02 24 26.0	
comp=N,9µm,0.3s								
CO06	**Fray Jorge**	**0.90**	**9**	*e*P		**Pg**	**02 24 13.0**	**+0.4**
CO06				*i* S		**Sb**	**02 24 24.6**	**0.0**
VA06	**Catapilco**	**1.08**	**157**	⇓*i*P		**Pg**	**02 24 17.2**	**+1.2**
VA06				*i* S		**Sn**	**02 24 31.8**	**+0.9**
VA06				IAML			02 24 35.6	
comp=N,5µm,0.5s								
CO03	**El Pedregal**	**1.19**	**53**	⇓*i*P		**Pg**	**02 24 18.5**	**+0.3**
CO03				*i* S		**Sn**	**02 24 34.0**	**+0.1**
CO03				IAML			02 24 38.8	
comp=E,2µm,0.3s								
ROCH	**El Roble**	**1.55**	**155**	*e*P		**Pg**	**02 24 24.6**	**-0.5**
ROCH				*e*P		**Pb**	**02 24 24.4**	**+0.5**
ROCH				*i* S		**Sg**	**02 24 45.1**	**-0.1**
ROCH				*i* S		**Sg**	**02 24 45.2**	**-0.1**
ROCH				IAML			02 24 51.4	
comp=N,2µm,0.4s								
VA03	**San Esteban**	**1.59**	**139**	⇑*i*P		**Pg**	**02 24 25.7**	**-0.1**
VA03				*i* S		**Sg**	**02 24 46.4**	**-0.2**
VA03				IAML			02 24 52.6	
comp=E,3µm,0.2s								
GO04	**Tololo Observa**	**1.63**	**32**	*e*P		**Pn**	**02 24 24.6**	**+0.8**
GO04				*i* S		**Sb**	**02 24 46.6**	**+0.7**
CO05	**La Serena**	**1.71**	**16**	*e*P		**Pn**	**02 24 25.4**	**+0.7**
CO05				*i* S		**Sb**	**02 24 47.6**	**-0.3**
CO05				IAML			02 24 54.2	
comp=N,826nm,0.4s								
MT02	**Curacav**	**1.78**	**162**	*e*P		**Pb**	**02 24 28.1**	**+0.5**
MT02				IAML			02 24 57.6	
PEL	**Peldehue**	**1.83**	**149**	*e*P		**Pb**	**02 24 28.7**	**+0.1**
PEL				*i* S		**Sg**	**02 24 53.7**	**-0.5**
PEL				IAML			02 24 58.1	
comp=N,749nm,0.4s								
CO01	**Juntas del Tor**	**2.16**	**43**	*e*P		**Pb**	**02 24 33.4**	**-0.9**
CO01				*i* S		**Sb**	**02 25 01.9**	**+0.9**
CO01				IAML			02 25 04.3	
comp=N,372nm,0.2s								
FCH	**Farellones**	**2.17**	**144**	*e*P		**Pb**	**02 24 33.9**	**-0.7**
MT03	**Universidad Ad**	**2.21**	**151**	*e*P		**Pb**	**02 24 34.1**	**-1.0**
MT09	**Talagante**	**2.31**	**163**	*e*P		**Pb**	**02 24 35.3**	**-1.5**
MT09				IAML			02 25 18.0	
comp=N,522nm,0.8s								
H03N1	**Juan Fernandez**	**6.29**	**251**	Pn		**Pn**	**02 25 28.3**	**+0.8**
baz=270,slow=74								
H03N1				T		T	02 32 09.9	
baz=79,slow=73,SNR=1865								
H03N3	**Juan Fernandez**	**6.31**	**251**	Pn		**Pn**	**02 25 27.0**	**-0.7**
baz=119,slow=74								
H03N3				T		T	02 32 12.3	
baz=79,slow=73,SNR=1575								
H03N2	**Juan Fernandez**	**6.31**	**251**	Pn		**Pn**	**02 25 27.4**	**-0.3**
H03N2				T		T	02 32 09.3	
baz=79,slow=73,SNR=1868								
H03S1	**Juan Fernandez**	**6.41**	**247**	T		T	02 32 16.3	
baz=84,slow=74,SNR=3.3								
H03S2	**Juan Fernandez**	**6.42**	**247**	T		T	02 32 19.1	
baz=336,slow=74,SNR=4.1								
CPUP	**Villa Florida**	**13.70**	**71**	Pn		**Pn**	**02 27 09.0**	**-0.1**
comp=N,0.2nm,0.3s,baz=246,slow=17,SNR=1.8								
comp=N,0.4nm,0.5s								
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P		**P**	**02 36 21.4**	**-0.1**
comp=N,1.2nm,0.7s,baz=243,slow=4.7,SNR=8.0								
comp=N,1.2nm,0.7s								
H11S2	**WAKE ISLAND Hyl**	**25.98**	**271**	T		T	05 01 49.4	
baz=116,slow=74,SNR=8.0								
H11S1	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	05 01 47.8	
baz=116,slow=74,SNR=4.6								
H11S3	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	05 01 48.8	
baz=116,slow=74,SNR=4.7								
ZALV	**Zalesovo Beam**	**152.04**	**30**	PKPbc		**PKPbc**	**02 43 49.7**	**+0.1**
comp=N,2.2nm,0.5s,baz=300,slow=3.4,SNR=9.9								

*IDC **04** 02:43:41.0±9.0, 2°.81S×121°.28E, h0km, mb3.7/4, mbtmp3.7/5, ML2.9/1, MS2.9/2, Error ellipse: s-maj=145.4km s-min=33.3km az=155.0*
*DJA **04** 02:43:40.9±1.1, 2°.5±2°×12°1E±°, h18km±9km, M3.8/11, MLv3.8/11*
ISC 04 02:43:37.4±1.7, 2°.39S±0°.04×120°.95E±0°.08, h2km±12km, n18, σ1°.46/22, mb3.8/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
APSI	**Ampana**	**1.63**	**25**	P		**Pb**	**02 44 08.2**	**0.0**
APSI				S		**Sg**	**02 44 30.8**	**+1.0**
KKSI	**Kolaka, Sulawe**	**1.90**	**158**	P		**Pg**	**02 44 13.4**	**-0.5**
KKSI				S		**Sg**	**02 44 39.0**	**+0.5**
SPSI	**Sidrap Palu**	**1.96**	**217**	P		**Pn**	**02 44 10.9**	**-0.7**
SPSI				S		**Sn**	**02 44 36.8**	**+0.1**
BNSI	**Bone**	**2.16**	**203**	P		**Pn**	**02 44 15.6**	**+1.2**
LUWI	**Luwuk**	**2.26**	**54**	P		**Pn**	**02 44 16.6**	**+0.8**
LUWI				S		**Sg**	**02 44 49.1**	**-1.1**
PMSI	**Majene**	**2.31**	**242**	P		**Pn**	**02 44 16.4**	**-0.1**
KAPI	**Kappang**	**2.86**	**205**	Pn		**Pn**	**02 44 24.4**	**+0.4**
1.9nm,0.3s,baz=12,slow=10.0,SNR=3.8								
KAPI				Sn		**Sn**	**02 45 00.1**	**+1.0**
6.9nm,0.3s,baz=124,slow=19,SNR=6.7								
7.0nm,0.3s								
KAPI	**Kappang**	**2.86**	**205**	P		**Pn**	**02 44 25.8**	**+1.7**
MPSI	**Mapaga**	**2.91**	**339**	P		**Pn**	**02 44 26.4**	**+1.7**
MRSI	**Marisa**	**3.02**	**19**	P		**Pn**	**02 44 27.8**	**+1.6**
MRSI				S		**Sn**	**02 45 03.1**	**+0.1**
BKSI	**Bulukumba**	**3.02**	**196**	P		**Pn**	**02 44 28.2**	**+1.9**
BSSI	**Bau Bau, Buton**	**3.75**	**187**	P		**Pn**	**02 44 39.9**	**+3.6**
BATI	**Baumata**	**8.22**	**161**	LR		LR	02 49 09.5	
comp=Z,155nm,19.2s,baz=148,slow=43								
WRA	**Warramunga Arr**	**21.80**	**144**	P		**P**	**02 48 28.8**	**-2.1**
1.1nm,0.9s,baz=323,slow=11,SNR=4.1								
1.1nm,0.9s								
ASAR	**Alice Springs**	**24.59**	**150**	P		**P**	**02 48 57.8**	**-1.3**
1.1nm,0.8s,baz=339,slow=9.9,SNR=11								
1.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**29.98**	**315**	LR		LR	03 04 03.2	
comp=Z,12nm,19.5s,baz=115,slow=40								
CTA	**Charters Tower**	**30.33**	**127**	P		**P**	**02 49 49.8**	**-0.9**
1.7nm,0.9s,baz=299,slow=10,SNR=2.0								
1.7nm,0.9s								
STKA	**Stephens Creek**	**35.19**	**149**	P		**P**	**02 50 33.2**	**+0.2**
2.1nm,0.8s,baz=328,slow=12,SNR=3.6								
2.1nm,0.8s								

IDC 04 02:50:16.9±39.0, 22°.53S×179°.19E, h684km±384km, mb2.7/3, mbtmp3.9/3, Error ellipse: s-maj=363.9km s-min=165.9km az=115.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CTA	**Charters Tower**	**30.75**	**268**	P		P	02 55 41.3	+0.1
1.5nm,0.4s,baz=108,slow=10,SNR=1.9								
1.5nm,0.4s								
ASAR	**Alice Springs**	**41.54**	**259**	P		P	02 57 09.2	+0.4
0.3nm,0.3s,baz=96,slow=6.3,SNR=5.8								
0.3nm,0.3s								
WRA	**Warramunga Arr**	**41.77**	**265**	P		P	02 57 10.4	-0.3
0.7nm,0.4s,baz=102,slow=8.1,SNR=35								
0.7nm,0.4s								
HFS	**Hagfors**	**141.06**	**348**	PKP		PKPdf	03 08 28.8	-2.6
1.2nm,0.3s,baz=40,slow=4.5,SNR=17								
AKASG	**Malin Array Be**	**143.42**	**328**	PKP		PKPdf	03 08 35.7	-0.1
0.3nm,0.3s,baz=46,slow=4.2,SNR=4.9								

*PRE **04** 03:21:29.9±3.6, 22°.03S×36°.41E, h10km, ML3.5*
*IDC **04** 03:21:31.2±1.0, 22°.07S×36°.32E, h0km, mb4.0/6,*

mbtmp4.2/12, ML4.4/5, MS3.3/5, Error ellipse: s-maj=28.7km s-min=21.0km az=143.0
*NEIC **04** 03:21:33.2±1.6, 22°10S±0°09×36°25E±0°08, h10km±1km, mb4.3/7, Error ellipse: s-maj=15.9km s-min=11.9km az=199.0*
*BUL **04** 03:22:33.2±3.0, 23°33S×31°37E, h10km, MD3.4*
ISC 04 03:21:32.2±0.5**, 22°21S**±0°07×**36°27E**±0°06**, h10km, n68, σ2°01**/76**, mb4.2**/8**, 3D, Mozambique Channel**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOPA	Mopani	4.68	253	eP	Pn	03 22 45.8	+2.8
MOPA				eS	Sn	03 23 38.7	+1.2
MOPA				IAML		03 24 11.3	
	comp=Z,23nm,0.5s						
MOPA	Mopani	4.68	253	iP	Pn	03 22 44.2	+1.2
MOPA	Mopani	4.68	253	iP	Pn	03 22 44.2	+1.2
MUSN	Musina, Limpop	5.94	268	eP	Pn	03 23 02.9	+2.6
MUSN				eS	Sn	03 24 07.2	-1.3
MUSN				IAML		03 24 56.6	
	comp=Z,74nm,0.6s						
MUSN	Musina, Limpop	5.94	268	iP	Pn	03 23 02.8	+2.5
MUSN	Musina, Limpop	5.94	268	iP	Pn	03 23 02.8	+2.5
POGA	Pongola	6.59	218		Pn	03 23 11.5	+2.4
POGA	Pongola	6.59	218	eP	Pn	03 23 11.7	+2.5
POGA				eS	Sn	03 24 25.4	+1.1
POGA				IAML		03 25 00.9	
	comp=Z,37nm,0.4s						
CRLN	Carolina, Mapu	6.84	235	eP	Pn	03 23 14.9	+2.1
CRLN				eS	Sn	03 24 31.6	+0.7
CRLN				IAML		03 25 27.8	
	comp=Z,21nm,0.5s						
LEPH	Lephalale, Lim	7.98	256	eP	Pn	03 23 29.5	+1.1
LEPH				eS	Sn	03 24 56.8	-2.0
LEPH				IAML		03 26 03.7	
	comp=Z,45nm,0.5s						
NWCL	Newcastle	7.99	225	eP	Pn	03 23 30.7	+2.2
SLR	Silverton	8.11	243	⇓iP	Pn	03 23 33.1	+3.0
SLR				eS	Sn	03 25 01.2	-0.8
SLR				IAML		03 26 11.5	
	comp=Z,35nm,0.5s						
HRAO	HartRAO	8.66	243	⇓iP	Pn	03 23 39.9	+2.2
HRAO				eS	Sn	03 25 18.6	+2.9
PRYS	Parys	9.37	238	eP	Pn	03 23 49.7	+2.1
PRYS				eS	Sn	03 25 30.1	-3.0
VOI	Vohitsoka	9.76	90	Pn	Pn	03 23 52.4	-0.5
VOI	Vohitsoka	9.76	90	eP	Pn	03 23 50.4	-2.5
SNKL	Senekal, Frees	9.78	230	⇓iP	Pn	03 23 55.0	+1.9
LBTB	Lobatse	10.18	252	Pn	Pn	03 23 59.9	+1.3
	comp=Z,4.7nm,0.3s,baz=65,slow=14,SNR=63						
LBTB				Sn	Sn	03 25 47.7	-5.2
	comp=Z,3.7nm,0.3s,baz=19,slow=13,SNR=4.8						
LBTB				Lg	Lg	03 26 51.5	
	comp=Z,2.2nm,0.3s,baz=170,slow=23,SNR=3.6						
LBTB				LR	LR	03 28 09.7	
	comp=Z,169nm,18.2s,baz=68,slow=39						
	comp=Z,12nm,0.3s						
LBTB	Lobatse	10.18	252		Pn	03 23 58.9	+0.4
LBTB	Lobatse	10.18	252	eP	Pn	03 23 59.8	+1.3
LBTB				eS	Sn	03 25 50.3	-2.6
LBTB	Lobatse	10.18	252	iP	Pn	03 23 57.6	-0.9
LBTB	Lobatse	10.18	252	iP	Pn	03 23 57.6	-0.9
LSZ	Lusaka	10.30	311	Pn	Pn	03 23 59.3	-1.0
	comp=Z,1.1nm,0.3s,baz=146,slow=11,SNR=4.8						
LSZ				Sn	Sn	03 25 45.7	-10
	comp=Z,2.5nm,0.3s,baz=251,slow=4.0,SNR=4.0						
LSZ				Lg	Lg	03 26 54.0	
	comp=Z,2.1nm,0.3s,baz=207,slow=23,SNR=5.0						
LSZ				LR	LR	03 28 08.1	
	comp=Z,112nm,20.9s,baz=156,slow=39						
	comp=Z,2.2nm,0.3s						
LSZ	Lusaka	10.30	311		Pn	03 23 59.8	-0.5
ABPO	Ambohimpanom	10.74	75		Pn	03 24 07.3	+1.0
ABPO	Ambohimpanom	10.74	75	eP	Pn	03 24 03.7	-2.6
OPO	Ambohidratompo	10.86	72	Pn	Pn	03 24 06.4	-1.5
	comp=Z,0.1nm,0.3s,baz=265,slow=17,SNR=1.4						
OPO				Sn	Sn	03 25 58.3	-11
	comp=Z,0.4nm,0.3s,baz=320,slow=22,SNR=8.3						
	comp=Z,1.9nm,0.3s						
SWZ	Schweizer	11.11	241	eP	Pn	03 24 13.5	+2.1
BOSA	Boshof	11.82	235	Pn	Pn	03 24 21.6	+0.6
	comp=Z,1.6nm,0.3s,baz=61,slow=12,SNR=35						
BOSA				Sn	Sn	03 26 25.7	-7.5
	comp=Z,2.1nm,0.3s,baz=192,slow=19,SNR=4.6						
BOSA				Lg	Lg	03 27 51.0	
	comp=Z,1.4nm,0.3s,baz=353,slow=22,SNR=3.5						
	comp=Z,5.7nm,0.5s						
BOSA	Boshof	11.82	235	eP	Pn	03 24 21.8	+0.8
BOSA	Boshof	11.82	235	iP	Pn	03 24 20.0	-1.1
BOSA	Boshof	11.82	235	iP	Pn	03 24 20.0	-1.1
SOE	Somerset East	14.13	220	eP	Pn	03 24 56.4	+3.9
PKA	Prieska	14.24	236	eP	Pn	03 24 54.6	+0.5
UPI	Upington	14.90	243	eP	Pn	03 25 03.0	-0.1
ROOI	Rooidraai Farm	15.24	225	eP	P	03 25 10.5	-2.1
SBV	Sambava	15.63	58	eP	Pn	03 25 02.8	-10
ROSN	Rosenhof	15.72	219	eP	Pn	03 25 13.8	+0.1
SUR	Sutherland	17.05	230	P	Pn	03 25 31.8	+0.8
	comp=Z,1.3nm,0.3s,baz=46,slow=6.7,SNR=21						
	comp=Z,6.0nm,0.5s						
SUR	Sutherland	17.05	230	Pn	Pn	03 25 30.2	-0.8
SUR				IAmb	IAmb	03 25 45.5	
	comp=Z,70nm,1.4s						
SUR	Sutherland	17.05	230	eP	P	03 25 34.7	+1.9
SUR				IAML		03 27 10.4	
	comp=Z,34nm,3.6s						
MATJ	Matjiesfontein	17.70	228	eP	P	03 25 41.0	+1.1
TSUM	Tsumeb	17.74	276	P	Pn	03 25 39.1	-0.5
	comp=Z,5.8nm,0.7s,baz=105,slow=8.0,SNR=8.3						
TSUM				S	Sn	03 28 43.9	-14
	comp=Z,4.5nm,0.6s,baz=47,slow=10,SNR=4.5						
TSUM				LR	LR	03 32 10.8	
	comp=Z,60nm,18.2s,baz=104,slow=36						
TSUM	Tsumeb	17.74	276	Pn	Pn	03 25 38.5	-1.1
TSUM				IAmb	IAmb	03 25 57.2	
	comp=Z,10nm,0.8s						
TSUM	Tsumeb	17.74	276	eP	Pn	03 25 39.8	+0.2
CER	Ceres	18.66	230	eP	Pn	03 25 54.9	+4.3
KMBO	Kilima Mbogo	20.98	3	P	P	03 26 16.5	+0.6
MBAR	Mbarara	22.14	345	LR	LR	03 35 34.7	
	comp=Z,56nm,18.6s,baz=108,slow=38						
TOA0	Torodi Ar. Sit	48.83	313	P	P	03 30 17.6	-0.4
TOA0				IAmb	IAmb	03 30 18.2	
	comp=Z,2.6nm,0.7s						
TORD	Torodi Ar. Bea	48.83	313	P	P	03 30 17.9	-0.1
	comp=Z,2.4nm,0.8s,baz=124,slow=7.1,SNR=18						
	comp=Z,2.4nm,0.8s						
UOSS	Minazif	50.71	24	P	P	03 30 32.9	+0.6
UOSS				IAmb	IAmb	03 30 33.0	
	comp=Z,7.7nm,1.0s						
TROLL	Troll, Antarti	53.37	192	P	P	03 30 50.1	-1.5
SNAA	Sanae	54.27	194	P	P	03 30 56.9	-1.2
SNAA	Sanae	54.27	194	P	P	03 31 01.1	+3.0
	comp=Z,0.8nm,0.9s,baz=33,slow=7.3,SNR=2.0						
	comp=Z,0.8nm,0.9s						
VNA2	Neumayer--Watz	54.88	196	P	P	03 31 00.3	-2.2
	baz=286,slow=10.0						
VNA3	Neumayer Olymp	55.66	196	P	P	03 31 05.8	-2.3
MDT	Midelt	67.21	323	LR	LR	04 03 49.8	
	comp=Z,62nm,18.2s,baz=164,slow=38						
ESDC	Sonseca Array	72.12	328	P	P	03 32 58.4	+1.4
	comp=Z,1.8nm,0.9s,baz=144,slow=6.2,SNR=14						
	comp=Z,1.8nm,0.9s						
ESDC	Sonseca Array	72.12	328	P	P	03 32 57.3	+0.3
ESDC				IAmb	IAmb	03 32 59.3	
	comp=Z,1.8nm,1.1s						
KKAR	Karatay Array	72.23	26	P	P	03 32 58.0	+0.5
GERES	GERESS Array B	73.55	345	P	P	03 33 05.7	+0.5
	comp=Z,0.3nm,0.6s,baz=126,slow=5.0,SNR=2.2						
	comp=Z,0.3nm,0.6s						
LSA	Lhasa	73.82	48	P	P	03 33 07.7	-0.1
ABKAR	Akbulak array	74.20	16	P	P	03 33 08.9	0.0
MKAR	Makanchi Array	80.26	30	P	P	03 33 42.2	-0.8
	comp=Z,1.4nm,0.8s,baz=212,slow=5.0,SNR=5.0						
	comp=Z,1.4nm,0.8s						
MKAR	Makanchi Array	80.26	30	P	P	03 33 42.8	-0.3
ZALV	Zalesovo Beam	86.59	26	P	P	03 34 14.9	-0.5
	comp=Z,1.4nm,0.6s,baz=224,slow=4.1,SNR=5.9						
	comp=Z,1.4nm,0.6s						
PDAR	Pinedale Array	144.97	314	PKP	PKPab	03 41 09.2	-0.1
	comp=Z,0.5nm,0.7s,baz=73,slow=5.0,SNR=4.9						
NVAR	Mina Array Bea	152.87	312	PKPbc	PKiKP	03 41 30.4	0.0
	comp=Z,0.8nm,0.8s,baz=71,slow=5.8,SNR=5.5						

---

*TAP **04** 03:39:52.8, 24°80N×122°33E, h16km, ML2.8, C*
*JMA **04** 03:39:53.5±0.3, 25°N±2°×122°3E±0°4, h2km, MV2.3/7, TAIWAN REGION*
ISC 04 03:39:52.7±1.0**, 24°80N**±0°03×**122°33E**±0°02**, h17km**±8km**, n36, σ0°67**/65**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		0.37	278	eP	Pb	03 40 00.7	-0.1
	baz=277						
TWB1	Santiao Chiao	0.38	304	P	Pb	03 40 00.9	-0.1
	baz=304						
TWB1				S	Sg	03 40 06.1	+0.3
	baz=304						
TWC	Suao	0.48	247	P	Pb	03 40 02.6	-0.1
	baz=251						
TWC				S	Sg	03 40 08.9	+0.1
	baz=251						
TIPB	Shuangxi	0.49	291	eP	Pb	03 40 03.5	+0.5
	baz=290						
TIPB				eS	Sb	03 40 11.4	+1.5
	baz=290						
SXI1	Grass Mountain	0.51	306	P	Pb	03 40 04.1	+0.7
	baz=305						
SXI1				eS	Sb	03 40 10.8	+0.2
	baz=305						
NWF	Wu-fen Shan	0.57	299	P	Pb	03 40 05.2	+0.8
	baz=310						
NWF				S	Sb	03 40 13.4	+1.1
	baz=310						
WFSB	Wu-fen Shan	0.57	299	eP	Pb	03 40 05.2	+0.9
	baz=310						
WFSB				eS	Sn	03 40 13.7	-1.5
	baz=310						
TWE	Neicheng	0.61	263	eP	Pb	03 40 05.2	+0.2
	baz=262						
EWUT	Wuta	0.61	236	eP	Pg	03 40 03.9	-1.0
	baz=242						
EWUT				eS	Sb	03 40 13.6	+0.3
	baz=242						
TNOU	National Taiwa	0.62	305	eP	Pg	03 40 04.3	-0.7
	baz=304						
TNOU				eS	Sb	03 40 14.3	+0.7
	baz=304						
ENA	Nanau	0.65	236	P	Pg	03 40 05.6	0.0
	baz=234						
ENA				S	Sg	03 40 13.9	-0.3
	baz=234						
JYNG	Yonagunijimaku	0.65	121	P	Pg	03 40 05.5	-0.1
JYNG				eS	Sg	03 40 13.7	-0.7
FUSB	Fushanzhiwuyua	0.68	267	P	Pn	03 40 07.0	-0.6
	baz=266						
FUSB				eS	Sn	03 40 16.7	-1.2
	baz=266						
YOJ	Yonaguni jima	0.70	118	iP	Pg	03 40 06.5	0.0
	baz=119						
YOJ				eS	Sg	03 40 15.8	0.0
	baz=119						
YOJ	Yonaguni jima	0.70	118	P	Pg	03 40 06.2	-0.3
YOJ				eS	Sg	03 40 15.0	-0.8
ENTT	Nioudou	0.71	258	P	Pg	03 40 06.7	-0.1
	baz=256						
ENTT				S	Sb	03 40 16.4	+0.1
	baz=256						
NDT	Datong Townshi	0.77	256	eP	Pb	03 40 06.8	-0.9
	baz=243						
NDT				eS	Sg	03 40 16.4	-1.6
	baz=243						
YM01	YM01	0.78	297	eP	Pg	03 40 08.4	+0.5
	baz=296						
YM01				eS	Sb	03 40 18.2	+0.1
	baz=296						
LATG	Datong	0.78	251	eP	Pb	03 40 08.4	+0.5
	baz=237						
LATG				eS	Sb	03 40 19.1	+0.9
	baz=237						
YM08	YM08	0.78	300	eS	Sb	03 40 19.0	+0.8
	baz=299						
TWY	Chenhua	0.82	306	eP	Pb	03 40 08.2	-0.4
	baz=305						
TWY				eS	Sn	03 40 20.5	-0.8
	baz=305						
NSK	Sanguang	0.89	263	eP	Pg	03 40 10.1	-0.1
	baz=271						
NSK				eS	Sb	03 40 20.6	-1.0
	baz=271						
NACB	Ninganchiao	0.91	228	eP	Pg	03 40 10.5	0.0
	baz=236						
NACB				eS	Sb	03 40 22.4	+0.4
	baz=236						
NNSB	Datong	0.94	247	eP	Pn	03 40 11.5	+0.2
	baz=235						
NNSB				eS	Sn	03 40 24.0	-0.3
	baz=235						
NNSH	Datong	0.94	247	eP	Pb	03 40 10.5	-0.1
	baz=237						
NNSH				eS	Sb	03 40 22.9	0.0
	baz=237						
ETLH	Xiulin Townshi	0.97	233	eP	Pg	03 40 11.6	0.0
	baz=232						
ETLH				eS	Sb	03 40 23.9	+0.2
	baz=232						
NFF	Wufeng Townshi	1.12	262	P	Pb	03 40 13.4	-0.3
	baz=261						
NFF				eS	Sg	03 40 29.4	+0.4
	baz=261						
FUSS	Fushou	1.13	241	eP	Pg	03 40 15.0	+0.3
	baz=240						
FUSS				eS	Sg	03 40 30.5	+1.0
	baz=240						
WHF	Hehuan Shan	1.17	237	eP	Pg	03 40 15.6	+0.2
	baz=235						
WHF				eS	Sn	03 40 30.5	0.0
	baz=235						
TDCB	Techi	1.20	243	eP	Pg	03 40 17.3	+1.4
	baz=243						
CHGB	Renai	1.28	236	eP	Pg	03 40 17.7	+0.1
	baz=249						
CHGB				eS	Sg	03 40 35.3	+0.9
	baz=249						
IRIF	Iriomote-Funau	1.35	110	P	Pg	03 40 18.5	-0.3
WUSB	Renai	1.37	234	eP	Pg	03 40 19.4	+0.3
	baz=247						
WUSB				eS	Sg	03 40 38.0	+1.1
	baz=247						
VWDT	VWDT	1.50	227	eP	Pg	03 40 22.0	+0.3
	baz=209						
VWDT				eS	Sg	03 40 41.5	+0.3
	baz=209						
JKRS	Kuro-shima	1.62	110	eP	Pb	03 40 23.2	+1.0
JIJ	Ishigaki jima	1.70	104	eP	Pb	03 40 24.6	+1.0

---

*TAP **04** 03:40:41.8, 24°79N×122°36E, h22km, ML3.0, C*
*JMA **04** 03:40:42.2±0.1, 24°8N±0°9×122°3E±0°4, h5km, MV2.5/7, TAIWAN REGION*
ISC 04 03:40:42.0±1.3**, 24°79N**±0°03×**122°35E**±0°02**, h21km**±3km**, n46, σ0°92**/80**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		0.39	278	eP	Pb	03 40 50.1	+0.1
	baz=274						
TWB1	Santiao Chiao	0.40	304	eP	Pb	03 40 49.9	-0.3
	baz=303						
TWB1				eS	Sb	03 40 54.9	-0.9
	baz=303						
TWC	Suao	0.49	249	eP	Pb	03 40 51.3	-0.6
	baz=249						
TWC				eS	Sb	03 40 57.7	-0.9
	baz=249						
TIPB	Shuangxi	0.51	291	eP	Pb	03 40 52.7	+0.4
	baz=296						
TIPB				eS	Sb	03 41 00.3	+1.0
	baz=296						
SXI1	Grass Mountain	0.53	305	P	Pb	03 40 52.9	+0.3
	baz=310						
SXI1				eS	Sb	03 41 00.1	+0.1
	baz=310						
NWF	Wu-fen Shan	0.59	299	P	Pn	03 40 54.3	-0.9
	baz=309						
NWF				S	Sb	03 41 02.3	+0.5
	baz=309						
WFSB	Wu-fen Shan	0.59	299	P	Pb	03 40 54.2	+0.5
	baz=309						
WFSB				S	Sb	03 41 02.3	+0.7
	baz=309						
EWUT	Wuta	0.62	237	eP	Pb	03 40 52.9	-1.4
	baz=244						
EWUT				eS	Sb	03 41 00.7	-1.9
	baz=244						
TWE	Neicheng	0.62	264	P	Pb	03 40 54.4	+0.1
	baz=264						
TWE				S	Sb	03 41 03.4	+0.7
	baz=264						
TNOU	National Taiwa	0.64	305	P	Pb	03 40 54.6	+0.1
	baz=304						
TNOU				S	Sb	03 41 03.5	+0.5
	baz=304						
JYNG	Yonagunijimaku	0.64	122	P	Pb	03 40 54.5	0.0
JYNG				eS	Sn	03 41 03.6	-1.7
ENA	Nanau	0.66	237	P	Pb	03 40 54.7	-0.2
	baz=237						
ENA				S	Sb	03 41 03.1	-0.6
	baz=237						
YOJ	Yonaguni jima	0.68	118	iP	Pb	03 40 55.4	+0.2
	baz=118						
YOJ				iS	Sb	03 41 04.0	-0.2
	baz=118						
YOJ	Yonaguni jima	0.68	118	P	Pb	03 40 55.3	0.0
YOJ				eS	Sb	03 41 03.8	-0.5
FUSB	Fushanzhiwuyua	0.69	268	P	Pn	03 40 56.1	-0.6
	baz=268						
FUSB				S	Sn	03 41 05.7	-1.1
	baz=268						
TWA	Mucha	0.72	285	eP	Pn	03 40 56.4	-0.6
	baz=285						
TWA				eS	Sn	03 41 07.4	0.0
	baz=285						
ENTT	Nioudou	0.73	258	eP	Pb	03 40 55.5	-0.5
	baz=247						
ENTT				eS	Sn	03 41 06.9	-0.7
	baz=247						
NDT	Datong Townshi	0.78	256	eP	Pb	03 40 55.1	-1.9
	baz=257						
LATG	Datong	0.79	252	P	Pn	03 40 57.5	-0.6
	baz=252						
LATG				eS	Sb	03 41 07.2	-0.3
	baz=252						
YM01	YM01	0.79	297	P	Pn	03 40 57.4	-0.6
	baz=296						
YM01				eS	Sn	03 41 08.4	-0.9
	baz=296						
YM08	YM08	0.80	300	P	Pb	03 40 57.2	0.0
	baz=299						
YM08				eS	Sb	03 41 07.9	+0.4
	baz=299						
TWY	Chenhua	0.84	306	eP	Pn	03 40 59.4	+0.8
	baz=305						
TWY				eS	Sn	03 41 09.8	-0.5
	baz=305						
NSK	Sanguang	0.91	263	eP	Pb	03 40 58.6	-0.5
	baz=251						
NSK				eS	Sb	03 41 09.1	-1.7
	baz=251						
ETL	Fush Village	0.91	227	eP	Pn	03 40 59.5	-0.1
	baz=235						
ETL				eS	Sn	03 41 12.5	+0.3
	baz=235						
NACB	Ninganchiao	0.92	229	eP	Pn	03 40 59.5	-0.2
	baz=237						
NACB				eS	Sb	03 41 11.1	0.0
	baz=237						
NNSB	Datong	0.95	248	eP	Pn	03 40 60.0	-0.3
	baz=239						
NNSB				eS	Sn	03 41 12.8	-0.4
	baz=239						
NNSH	Datong	0.95	248	eP	Pb	03 40 59.6	-0.3
	baz=241						
NNSH				eS	Sb	03 41 11.7	-0.3
	baz=241						
NNS	Nan Shan	0.95	249	eP	Pn	03 41 00.0	-0.3
	baz=240						
NNS				eS	Sb	03 41 11.7	-0.5
	baz=240						
ETLH	Xiulin Townshi	0.98	234	eP	Pb	03 41 00.2	-0.1
	baz=242						
ETLH				eS	Sb	03 41 12.9	+0.1
	baz=242						
TWD	Chiawan	0.98	224	eP	Pn	03 41 00.8	+0.2
	baz=231						
TWD				eS	Sn	03 41 14.1	+0.3
	baz=231						
NFF	Wufeng Townshi	1.13	262	eP	Pn	03 41 01.5	-1.1
	baz=262						
NFF				eS	Sn	03 41 18.6	+0.9
	baz=262						
FUSS	Fushou	1.14	242	eP	Pb	03 41 04.2	+1.0
	baz=243						
FUSS				eS	Sn	03 41 18.6	+0.4
	baz=243						
WHF	Hehuan Shan	1.18	237	eP	Pb	03 41 04.4	+0.5
	baz=245						
WHF				eS	Sn	03 41 19.3	0.0
	baz=245						
TDCB	Techi	1.21	244	eP	Pb	03 41 05.5	+1.2
	baz=256						
TDCB				eS	Sb	03 41 20.5	+1.0
	baz=256						
LIOB	Emei	1.22	264	eP	Pb	03 41 06.7	+2.2
	baz=264						
CHGB	Renai	1.29	236	eP	Pb	03 41 06.8	+1.0
	baz=249						
CHGB				eS	Sb	03 41 24.1	+2.1
	baz=249						
IRIF	Iriomote-Funau	1.33	110	eP	Pb	03 41 07.5	+1.1
WUSB	Renai	1.38	235	eP	Pb	03 41 08.4	+1.3
	baz=220						
WHP	Taichung City	1.38	249	eP	Pb	03 41 08.8	+1.7
	baz=249						
VWDT	VWDT	1.51	227	eP	Pb	03 41 09.7	+0.4
	baz=212						
VWDT				eS	Sb	03 41 30.0	+2.0
	baz=212						
SMLT	Sun Moon Lake	1.60	236	eP	Pb	03 41 12.7	+1.7
	baz=219						
SSLB	Suanglung	1.62	232	eP	Pb	03 41 12.4	+1.2
	baz=215						
TYC	Yuchr	1.62	237	eP	Pb	03 41 12.7	+1.5
	baz=222						
JIJ	Ishigaki jima	1.69	104	S	Sb	03 41 34.2	+1.1
YULB	Yu-li	1.69	215	eP	Pb	03 41 11.4	-1.0
	baz=215						
WHYT	Xinyi Township	1.75	232	eP	Pb	03 41 14.7	+1.4
	baz=218						

---

*ECX **04** 04:08:21.9±0.6, 32°39N×115°21W, h9km±1km, MD2.8, ML3.0*
*ANF **04** 04:08:22.6±0.6, 32°41N×115°22W, h28km±4km, ML2.6/11, Error ellipse: s-maj=4.5km s-min=2.5km az=164.0*
ISC 04 04:08:21.9±0.9**, 32°37N**±0°03×**115°24W**±0°03**, h17km**±5km**, n25, σ0°91**/35**, 3C-3D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.05	40	⇓iP	Pg	04 08 24.2	-0.9
MBIG				iS	Sg	04 08 26.5	-0.7
CPBX	Cerro Prieto	0.08	312	⇑eP	Pg	04 08 25.6	+0.3
CPBX				eS	Sg	04 08 28.6	+1.0
CPBX				⇓e		04 08 29.8	
CPBX				IAML		04 08 29.8	
	comp=N,18μm,0.3s						
GUVIX	Guadalupe Vict	0.15	115	eP	Pg	04 08 27.2	+1.2
RHX	Rio Hardy	0.23	190	⇓eP	Pb	04 08 28.7	+1.1
YUCAX	Ej. Yucat¡n	0.27	27	eP	Pg	04 08 28.5	+0.7
EMSC	East Mesa	0.43	30	eP	Pb	04 08 31.6	+0.6
DREC	Desert Rsrch C	0.47	338	eP	Pn	04 08 32.9	-0.9
DREC				eS	Sn	04 08 41.0	-0.7
WESC	Westside Schoo	0.57	313	eP	Pg	04 08 34.0	+0.8
SWSC	Sam W. Stewart	0.75	321	P	Pb	04 08 36.2	-0.2
	baz=138,SNR=22						
SWSC				S	Sg	04 08 46.6	+0.2
	baz=138						
SWSC	Sam W. Stewart	0.75	321	eP	Pg	04 08 36.7	+0.2
RMX	La Rumorosa	0.75	288	⇑eP	Pb	04 08 36.5	-0.1
GLA	Glamis	0.77	27	P	Pb	04 08 36.5	-0.2
	baz=208,SNR=27						
GLA				S	Sg	04 08 47.0	0.0
	baz=208						
IKP	In-Ko-Pah, Jac	0.79	291	P	Pg	04 08 37.9	+0.6
	baz=108,SNR=48						
IKP				S	Sg	04 08 48.6	+0.8
	baz=108						
IKP	In-Ko-Pah, Jac	0.79	291	⇑eP	Pg	04 08 37.9	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SJX	**San Joaquin**	**0.86**	**226**	*e*P	**Pb**	**04 08 37.5**	**-0.8**
SJX				*e*S	**Sb**	**04 08 47.5**	**-2.0**
SJX				IAML		04 08 48.8	
	comp=N,517nm,0.1s						
SJX				*e*		04 08 48.8	
MONP2	**Monument Peak**	**1.13**	**298**	P	**Pn**	**04 08 43.0**	**0.0**
	baz=115,SNR=38						
MONP2				S	**Sb**	**04 08 58.0**	**+0.5**
	baz=115						
CBX	**Cerro Bola**	**1.21**	**268**	*e*P	**Pg**	**04 08 46.3**	**+1.0**
BAR	**Barrett**	**1.25**	**285**	*e*P	**Pg**	**04 08 46.0**	**0.0**
BAR				*e*S	**Sg**	**04 09 02.7**	**+0.3**
BC3	**Big Chuckawall**	**1.30**	**352**	P	**Pn**	**04 08 44.9**	**-0.4**
	baz=171,SNR=47						
BC3				S	**Sb**	**04 09 00.4**	**-1.8**
	baz=171						
TPFO	**Pinon Flats**	**1.60**	**321**	P	**Pn**	**04 08 48.7**	**-0.9**
	baz=139,SNR=24						
PFO	**Pinyon Flats O**	**1.61**	**321**	P	**Pn**	**04 08 49.2**	**-0.5**
	baz=139,SNR=9.4						
109C	**Camp Elliot, M**	**1.66**	**289**	Sb	**Sb**	**04 09 14.3**	**+1.7**
	baz=106						
IRM	**Iron Mountain**	**1.79**	**2**	Sb	**Sb**	**04 09 17.2**	**+0.9**
	baz=182						
214A	**Organ Pipe Nat**	**2.10**	**101**	P	**Pn**	**04 08 55.5**	**-0.7**
	baz=283,SNR=8.4						
PDMCI	**Parker Dam,Lak**	**2.14**	**25**	Sb	**Sb**	**04 09 27.7**	**+1.4**
	baz=206						

*NEIC **04** 05:08:05.9±1.9, 7°.37S±0°.04×111°.35E±0°.04, h18km±5km, mb4.7/31, Error ellipse: s-maj=5.8km s-min=5.0km az=212.0*

*DJA **04** 05:08:07.1±0.4, 7°S±3°×11°1E±°, h21km±4km, M4.9/18, mb4.8/12, mB5.6/6, MLv4.8/18, Mw(mB)5.0/6*

*IDC **04** 05:08:09.0±2.8, 7°.44S×111°.26E, h49km±28km, mb4.2/15, mbtmp4.4/17, ML3.9/2, MS3.5/22, Error ellipse: s-maj=23.8km s-min=12.9km az=54.0*

ISC 04 05:08:06.5±1.2**, 7°.42S**±0°.04×**111°.35E**±0°.04**, h26**km±9km**, n126, σ1s.25**/112**, mb4.7**/40**, MS3.6**/19**, 1D, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res (ISC)
NGJI	**Ngawi**	**0.12**	**67**	P	**Pn**	**05 08 12.8**	**0.0**
PCJI	**Pacitan**	**0.79**	**192**	P	**Pb**	**05 08 21.0**	**-0.7**
PCJI				S	**Sb**	**05 08 31.4**	**-0.7**
UGM	**Wanagama**	**0.96**	**239**		**Pn**	**05 08 24.5**	**+0.1**
UGM					**Sn**	**05 08 37.6**	**+0.5**
UGM	**Wanagama**	**0.96**	**239**	P	**Pn**	**05 08 24.6**	**+0.3**
SMRI	**Semarang**	**0.97**	**292**		**Pn**	**05 08 25.2**	**+0.7**
SMRI					**Sn**	**05 08 36.7**	**-0.9**
SMRI	**Semarang**	**0.97**	**292**	P	**Pn**	**05 08 25.5**	**+1.0**
YOGI	**Yogyakarta**	**1.12**	**249**	P	**Pb**	**05 08 27.1**	**-0.1**
KRKI	**Karangkates**	**1.32**	**124**	P	**Pb**	**05 08 30.1**	**-0.5**
KRKI				S	**Sb**	**05 08 47.3**	**+0.2**
BWJI	**Bawean**	**2.03**	**40**	P	**Pb**	**05 08 41.6**	**-1.1**
SCJI	**Gunung Srandil**	**2.18**	**263**	P	**Pn**	**05 08 42.2**	**+1.1**
CTJI	**Waduk Cacaban**	**2.19**	**281**	P	**Pn**	**05 08 42.2**	**+0.9**
GMJI	**Gumukmas**	**2.24**	**112**	P	**Pn**	**05 08 43.1**	**+1.1**
KMMI	**Kalianget**	**2.62**	**82**	P	**Pn**	**05 08 47.2**	**0.0**
ABJI	**Asem Bagus**	**2.88**	**98**	P	**Pn**	**05 08 52.2**	**+1.4**
JAGI	**Jajag, Banyuwa**	**2.97**	**111**	Pn	**Pn**	**05 08 53.0**	**+1.0**
JAGI	**Jajag, Banyuwa**	**2.97**	**111**	P	**Pn**	**05 08 53.4**	**+1.4**
BYJI	**Banyuwangi**	**3.08**	**105**	P	**Pn**	**05 08 54.1**	**+0.5**
JCJI	**Jatiwangi**	**3.19**	**287**	P	**Pn**	**05 08 55.3**	**+0.2**
RTBI	**Rangdo, Negare**	**3.71**	**106**	P	**Pn**	**05 09 03.0**	**+0.8**
LEM	**Lembang**	**3.75**	**279**	P	**Pn**	**05 09 02.9**	**0.0**
	7.6nm,0.3s,baz=60,slow=11,SNR=11						
LEM				LR	LR	05 11 09.0	
	comp=Z,1μm,18.8s,baz=126,slow=49						
	61nm,0.6s						
LEM	**Lembang**	**3.75**	**279**	P	**Pn**	**05 09 03.5**	**+0.6**
SRBI	**Singaraja**	**3.88**	**100**	P	**Pn**	**05 09 06.4**	**+1.8**
IGBI	**Denpasar**	**4.01**	**111**	P	**Pn**	**05 09 07.4**	**+1.1**
CNJI	**Cibinong**	**4.19**	**271**	P	**Pn**	**05 09 09.8**	**+1.0**
CBJI	**Citeko**	**4.58**	**282**	P	**Pn**	**05 09 12.8**	**-1.3**
KLNI	**Mataram**	**4.80**	**102**	P	**Pn**	**05 09 19.5**	**+2.2**
TWSI	**Taliwang, Sumb**	**5.63**	**104**	P	**Pn**	**05 09 29.7**	**+1.0**
	0.4nm1μm95nm,0.6s						
PLAI	**Plampang**	**6.51**	**103**	P	**Pn**	**05 09 42.6**	**+1.8**
	0.4nm78nm,0.6s						
PPBI	**Pangkal Pinang**	**7.36**	**315**	P	**Pn**	**05 09 54.3**	**+1.8**
PMSI	**Majene**	**8.47**	**63**	P	**Pn**	**05 10 08.4**	**+0.7**
	29nm,1.0s						
KAPI	**Kappang**	**8.69**	**75**	LR	LR	05 14 11.2	
	comp=Z,323nm,19.1s,baz=245,slow=41						
KAPI	**Kappang**	**8.69**	**75**	Pn	**Pn**	**05 10 09.4**	**-1.3**
BKSI	**Bulukumba**	**8.96**	**77**	P	**Pn**	**05 10 17.0**	**+2.6**
	469nm16nm,0.6s						
BSSI	**Bau Bau, Buton**	**9.16**	**83**	P	**Pn**	**05 10 19.0**	**+1.8**
	2μm40nm,0.5s						
SDSI	**Sungai Dareh**	**11.80**	**303**	P	**Pn**	**05 10 55.1**	**+1.8**
	9μm18nm,1.2s						
SOEI	**Soe**	**12.98**	**101**	Pn	**Pn**	**05 11 09.2**	**-0.4**
IPM	**Ipoh**	**15.68**	**319**		**Pn**	**05 11 43.9**	**-2.0**
IPM				IAmb	IAmb	05 11 54.5	
	comp=Z,31nm,1.0s						
IPM	**Ipoh**	**15.68**	**319**	P	**P**	**05 11 47.9**	**-1.8**
	comp=Z,32nm,1.1s						
MBWA	**Marble Bar**	**15.88**	**150**	Pn	**Pn**	**05 11 47.8**	**-0.7**
RPSI	**Rantau Prapat**	**15.96**	**309**	Pn	**Pn**	**05 11 47.9**	**-1.5**
RPSI	**Rantau Prapat**	**15.96**	**309**		**Pn**	**05 11 49.6**	**+0.1**
PSI	**Prapat**	**16.02**	**309**	P	**Pn**	**05 11 49.6**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=143,slow=15,SNR=1.7						
PSI				LR	LR	05 19 27.4	
	comp=Z,169nm,19.1s,baz=124,slow=43						
	comp=Z,3.6nm,0.3s						
PSA00	**Pilbara Seismi**	**16.29**	**151**	Pn	**Pn**	**05 11 53.8**	**+0.1**
SKLT	**Songkhla**	**18.01**	**323**	P	**P**	**05 12 17.4**	**+1.8**
	comp=Z,28nm,0.8s						
KNRA	**Kununurra**	**18.92**	**117**	P	**P**	**05 12 24.7**	**-0.9**
KNRA				IAmb	IAmb	05 12 34.8	
	comp=Z,15nm,0.5s						
MTN	**Manton Dam**	**20.20**	**107**	P	**P**	**05 12 38.7**	**-0.9**
DAV	**Davao City (W)**	**20.21**	**45**	LR	LR	05 21 02.8	
	comp=Z,76nm,21.6s,baz=186,slow=38						
MORW	**Morawa**	**21.99**	**169**	P	**P**	**05 13 00.7**	**+2.0**
WB0	**Warramunga Arr**	**25.50**	**121**	P	**P**	**05 13 32.5**	**-0.6**
WB0				IAmb	IAmb	05 13 43.5	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**25.53**	**122**	P	**P**	**05 13 32.9**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=298,slow=12,SNR=42						
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**25.53**	**122**	P	**P**	**05 13 33.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**25.97**	**169**	LR	LR	05 24 07.7	
	comp=Z,123nm,20.6s,baz=125,slow=37						
AS31	**Alice Springs**	**27.01**	**129**	P	**P**	**05 13 46.4**	**-0.3**
AS31				IAmb	IAmb	05 14 01.1	
	comp=Z,8.0nm,0.7s						
ASAR	**Alice Springs**	**27.01**	**129**	P	**P**	**05 13 47.0**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=303,slow=8.5,SNR=38						
ASAR				LR	LR	05 24 45.7	
	comp=Z,43nm,21.6s,baz=327,slow=37						
	comp=Z,4.7nm,0.6s						
CM31	**Chiang Mai Arr**	**28.48**	**335**	P	**P**	**05 14 01.1**	**+1.3**
CM31				IAmb	IAmb	05 14 03.4	
	comp=Z,7.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.48**	**335**	P	**P**	**05 14 00.5**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=170,slow=8.0,SNR=30						
CMAR				LR	LR	05 26 09.4	
	comp=Z,110nm,19.6s,baz=150,slow=38						
	comp=Z,4.3nm,0.8s						
COEN	**Coen**	**31.92**	**104**	P	**P**	**05 14 29.9**	**-0.5**
PALK	**Pallekele**	**33.87**	**295**	LR	LR	05 27 54.0	
	comp=Z,120nm,21.7s,baz=257,slow=35						
BBOO	**Buckleboo**	**34.12**	**141**	P	**P**	**05 14 49.6**	**+0.2**
BBOO				IAmb	IAmb	05 14 59.4	
	comp=Z,11nm,0.8s						
TNCH	**TengChong**	**34.59**	**339**	*e*P	**P**	**05 14 56.4**	**+2.7**
TNCH				pmax	pmax		
	comp=Z,12nm,0.5s						
PZH	**PanZhiHua**	**34.98**	**345**	P	**P**	**05 14 59.7**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
PMG	**Port Moresby**	**35.47**	**96**	LR	LR	05 31 00.5	
	comp=Z,68nm,20.0s,baz=88,slow=39						
BRDH	**Bariadhala**	**35.59**	**328**	LR	LR	05 32 11.2	
	comp=Z,105nm,18.5s,baz=90,slow=40						
CTA	**Charters Tower**	**36.08**	**114**	LR	LR	05 31 29.1	
	comp=Z,80nm,20.0s,baz=263,slow=39						
CTAO	**Charters Tower**	**36.08**	**114**	P	**P**	**05 15 06.7**	**+0.3**
CTAO				IAmb	IAmb	05 15 18.0	
	comp=Z,20nm,1.5s						
STKA	**Stephens Creek**	**37.22**	**135**	P	**P**	**05 15 16.8**	**+0.7**
	comp=Z,2.7nm,0.5s,baz=317,slow=9.9,SNR=8.2						
STKA				LR	LR	05 31 18.3	
	comp=Z,135nm,21.0s,baz=244,slow=37						
	comp=Z,2.7nm,0.5s						
STKA	**Stephens Creek**	**37.22**	**135**	P	**P**	**05 15 14.8**	**-1.3**
SHL	**Shillong**	**37.86**	**331**	P	**P**	**05 15 21.0**	**-0.7**
H08S2	**Diego Garcia H**	**38.51**	**267**	T	T	05 56 30.8	
	baz=94						
H08S3	**Diego Garcia H**	**38.52**	**267**	T	T	05 56 18.7	
	baz=94,SNR=2.2						
H08S1	**Diego Carcia H**	**38.53**	**267**	T	T	05 56 22.8	
	baz=94						
NJ2	**Nanjing**	**39.89**	**10**	*e*P	P	05 15 43.5	+5.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**41.29**	**357**	*e*P	**P**	**05 15 51.4**	**+1.4**
XAN				pP	pP	05 15 56.6	-1.2
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LSA	**Lhasa**	**41.70**	**333**	P	**P**	**05 15 55.3**	**+1.4**
LSA				IAmb	IAmb	05 15 57.0	
	comp=Z,15nm,0.7s						
EIDS	**Eidsvold**	**41.87**	**120**	P	**P**	**05 15 54.1**	**-0.7**
EIDS				IAmb	IAmb	05 16 06.3	
	comp=Z,16nm,1.2s						
LZH	**Lanzhou**	**43.84**	**351**	*e*P	**P**	**05 16 13.3**	**+2.5**
LZH				pP	pP	05 16 18.6	-0.1
LZH				sP	sP	05 16 24.4	+2.6
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
GOMU	**GeErMu**	**46.08**	**341**	P	**P**	**05 16 30.6**	**+1.7**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,94nm,4.8s						
JHS	**Saijyo**	**46.93**	**25**	P	**P**	**05 16 36.1**	**+0.9**
KSRS	**Korea Array**	**47.25**	**18**	P	**P**	**05 16 38.7**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=202,slow=9.2,SNR=2.7						
KSRS				LR	LR	05 37 56.4	
	comp=Z,19nm,19.3s,baz=140,slow=38						
	comp=Z,0.8nm,0.5s						
BJT	**Baijiatuau**	**47.41**	**5**	P	**P**	**05 16 38.6**	**-0.1**
BJI	**Beijing**	**47.43**	**5**	P	**P**	**05 16 39.5**	**+0.6**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BTO	**Baotou**	**47.80**	**359**	*e*P	**P**	**05 16 44.3**	**+2.4**
GTA	**Gaotai**	**47.80**	**348**	*e*P	**P**	**05 16 44.8**	**+2.8**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**48.03**	**0**	*e*P	**P**	**05 16 45.8**	**+2.1**
HHC				pmax	pmax		
	comp=Z,33nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,4.6s						
XLT	**XiLinHaoTe**	**51.25**	**4**	*e*P	**P**	**05 17 09.4**	**+1.2**
XLT				pP	pP	05 17 14.7	-1.5
XLT				sP	sP	05 17 16.4	-2.9
XLT				pmax	pmax		
	comp=Z,15nm,0.9s						
XLT				pmax	pmax		
	comp=Z,110nm,3.5s						
USA0B	**Ussuriysk Arra**	**54.66**	**18**	P	**P**	**05 17 32.8**	**-0.4**
USA0B				IAmb	IAmb	05 17 34.7	
	comp=Z,13nm,1.1s						
USRK	**Ussuriysk Ar.**	**54.66**	**18**	P	**P**	**05 17 32.2**	**-1.0**
	comp=Z,6.6nm,0.9s,baz=207,slow=5.8,SNR=7.1						
	comp=Z,6.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**54.66**	**18**	P	**P**	**05 17 33.0**	**-0.1**
BNX	**BinXian**	**54.84**	**14**	⇓P	**P**	**05 17 34.9**	**+0.5**
BNX				pmax	pmax		
	comp=Z,14nm,0.7s						
BNX				pmax	pmax		
	comp=Z,190nm,4.3s						
ULN	**Ulaanbaatar**	**55.17**	**356**	P	**P**	**05 17 38.0**	**+0.9**
ULN				IAmb	IAmb	05 17 39.0	
	comp=Z,8.8nm,0.8s						
SONM	**Songino Array**	**55.18**	**356**	P	**P**	**05 17 37.6**	**+0.4**
	comp=Z,8.4nm,0.9s,baz=175,slow=8.5,SNR=32						
	comp=Z,8.4nm,0.9s						
SONM	**Songino Array**	**55.18**	**356**	P	**P**	**05 17 37.8**	**+0.7**
SONM				IAmb	IAmb	05 17 39.2	
	comp=Z,6.7nm,0.9s						
WMQ	**Urumqi**	**55.31**	**339**	*e*P	**P**	**05 17 41.1**	**+3.0**
HEH	**HeiHe**	**59.10**	**12**	*e*P	**P**	**05 18 05.0**	**+0.4**
HEH				pmax	pmax		
	comp=Z,34nm,0.9s						
HEH				pmax	pmax		
	comp=Z,100nm,5.8s						
MK31	**Makanchi Array**	**59.84**	**337**	P	**P**	**05 18 09.4**	**-0.4**
MK31				IAmb	IAmb	05 18 10.8	
	comp=Z,7.3nm,0.8s						
MKAR	**Makanchi Array**	**59.84**	**337**	P	**P**	**05 18 09.9**	**+0.1**
	comp=Z,9.2nm,0.6s,baz=153,slow=7.1,SNR=44						
	comp=Z,9.2nm,0.6s						
MKAR	**Makanchi Array**	**59.84**	**337**	P	**P**	**05 18 08.9**	**-0.9**
WSAR	**Wadi Sarin**	**59.85**	**302**	LR	LR	05 42 06.2	
	comp=Z,61nm,20.8s,baz=131,slow=34						
KKAR	**Karatay Array**	**62.47**	**327**	P	**P**	**05 18 27.4**	**-0.3**
RPZ	**Rata Peaks**	**63.19**	**135**	LR	LR	05 46 16.3	
	comp=Z,104nm,19.3s,baz=266,slow=36						
ZAA0	**Zalesovo Array**	**65.10**	**343**	P	**P**	**05 18 43.4**	**-1.3**
ZALV	**Zalesovo Beam**	**65.10**	**343**	P	**P**	**05 18 44.1**	**-0.6**
	comp=Z,10nm,0.7s,baz=149,slow=4.7,SNR=35						
	comp=Z,10nm,0.7s						
ZALV	**Zalesovo Beam**	**65.10**	**343**	P	**P**	**05 18 43.7**	**-1.1**
MAW	**Mawson**	**68.26**	**198**	LR	LR	05 43 44.5	
	comp=Z,62nm,20.4s,baz=48,slow=31						
ABKAR	**Akbulak array**	**72.03**	**327**	P	**P**	**05 19 26.7**	**-1.5**
ABKAR				IAmb	IAmb	05 19 27.9	
	comp=Z,8.8nm,0.8s						
VNDA	**Vanda**	**74.79**	**170**	P	**P**	**05 19 44.1**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=311,slow=6.3,SNR=3.7						
VNDA				LR	LR	05 49 21.3	
	comp=Z,26nm,21.6s,baz=302,slow=33						
	comp=Z,0.8nm,0.7s						
ARU	**Arti**	**76.90**	**333**	LR	LR	05 57 08.0	
	comp=Z,49nm,20.5s,baz=124,slow=38						
ASF	**Jabal al Asfar**	**80.94**	**304**	P	**P**	**05 20 18.1**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=130,slow=13,SNR=2.0						
	comp=Z,1.4nm,0.5s						
KIRV	**Kirov**	**82.23**	**332**	LR	LR	06 03 31.4	
	comp=Z,26nm,19.5s,baz=154,slow=40						
BOSA	**Boshof**	**83.08**	**242**	P	**P**	**05 20 30.1**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=114,slow=4.7,SNR=6.3						
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**85.34**	**311**	P	**P**	**05 20 40.5**	**-1.4**
	comp=Z,2.4nm,0.7s,baz=140,slow=6.0,SNR=5.7						
	comp=Z,2.4nm,0.7s						
RAR	**Rarotonga**	**86.32**	**111**	LR	LR	06 02 04.3	
	comp=Z,24nm,18.0s,baz=190,slow=38						
KLMR	**Klimovskoe**	**87.73**	**332**	*e*P	**P**	**05 20 50.7**	**-2.1**
KLMR				AMP		05 20 52.4	
	comp=Z,13nm,1.1s						
TROLL	**Troll, Antarti**	**88.71**	**197**	P	**P**	**05 20 57.8**	**+0.2**
KARP	**Karpathos**	**89.56**	**306**	P	**P**	**05 21 01.3**	**-0.9**
SNAA	**Sanae**	**90.40**	**197**	P	**P**	**05 21 04.2**	**-1.2**
SNAA	**Sanae**	**90.40**	**197**	LR	LR	05 56 13.5	
	comp=Z,31nm,21.1s,baz=189,slow=32						
SNAA	**Sanae**	**90.40**	**197**	P	**P**	**05 21 06.8**	**+1.4**
SNAA				IAmb	IAmb	05 21 17.7	
	comp=Z,4.4nm,1.2s						
AKASG	**Malin Array Be**	**90.72**	**321**	P	**P**	**05 21 05.0**	**-2.2**
	comp=Z,1.1nm,0.5s,baz=87,slow=5.0,SNR=8.2						
	comp=Z,1.1nm,0.5s						
VNA2	**Neumayer--Watz**	**92.05**	**197**	P	**P**	**05 21 12.9**	**-0.1**
	baz=79,slow=5.0						
VNA3	**Neumayer Olymp**	**92.52**	**196**	P	**P**	**05 21 16.0**	**+0.8**
BELA	**Belgrano 2**	**92.78**	**187**	P	**P**	**05 21 17.0**	**+0.8**
BELA				IAmb	IAmb	05 21 28.6	
	comp=Z,2.9nm,0.8s						
FINES	**FINESS Array B**	**94.20**	**331**	P	**P**	**05 21 21.2**	**-1.7**
	comp=Z,5.0nm,1.1s,baz=129,slow=5.2,SNR=5.6						
FINES				LR	LR	06 10 12.4	
	comp=Z,19nm,21.5s,baz=147,slow=40						
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**94.20**	**331**	P	**P**	**05 21 21.4**	**-1.6**
CPUP	**Villa Florida**	**144.70**	**198**	PKP	**PKPab**	**05 27 40.5**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=114,slow=0.5,SNR=8.8						
BDFB	**Brasilia**	**149.30**	**222**	PKPbc	**PKPbc**	**05 27 53.8**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=297,slow=2.3,SNR=1.8						

ROM 04 05:08:39.9±0.1**, 42°.725N**±0°.007×**13°.209E**±0°.007**, h12**km±1km**, ML2.2**/20**, 9C-3D, Error ellipse: s-maj=0.8km s-min=0.2km az=359.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res (ISC)
T1204	**Amatrice, Fraz**	**0.09**	**122**	⇓P	Pg	05 08 43.4	+0.7
T1204				S	Sg	05 08 45.5	+0.7
T1204				AML	AML		
	comp=E,3925μm,0.9s						
T1204				AML	AML		
	comp=N,2195μm,1.0s						
NRCA	**Norcia**	**0.13**	**327**	P	Pg	05 08 42.9	-0.2
NRCA				S	Sg	05 08 45.5	0.0
SMA1	**SAN MARTINO**	**0.13**	**135**	⇑P	Pb	05 08 43.9	-0.5
SMA1				S	Sg	05 08 46.6	+1.0
SMA1				AML	AML		
	comp=N,2855μm,0.3s						
SMA1				AML	AML		
	comp=E,3765μm,0.1s						
T1245	**Castelsantange**	**0.13**	**353**	AML	AML		
	comp=E,3385μm,0.7s						
T1245				AML	AML		
	comp=E,3440μm,0.7s						
T1245				AML	AML		
	comp=N,3980μm,0.3s						
T1245				AML	AML		
	comp=E,3385μm,0.7s						
T1245				AML	AML		
	comp=N,3960μm,1.3s						
LNSS	**Leonessa**	**0.17**	**226**	⇑P	Pb	05 08 44.5	-0.6
LNSS				S	Sg	05 08 47.1	+0.5
LNSS				AML	AML		
	comp=E,628μm,1.4s						
LNSS				AML	AML		
	comp=N,1955μm,0.3s						
T1243	**Rocca Santa Ma**	**0.18**	**99**	⇑P	Pb	05 08 44.7	-0.5
T1243				S	Sg	05 08 47.7	+0.9
T1217	**Poggiodomo (PG**	**0.20**	**267**	P	Pb	05 08 45.4	-0.3
T1217				S	Sg	05 08 48.8	+1.4
T1241	**Roccafluvione,**	**0.21**	**51**	P	Pg	05 08 44.7	+0.3
T1241				S	Sg	05 08 48.7	+1.2
T1241				AML	AML		
	comp=E,583μm,0.9s						
T1241				AML	AML		
	comp=N,582μm,0.8s						
T1241				AML	AML		
	comp=N,582μm,0.8s						
T1241				AML	AML		
	comp=E,582μm,0.9s						
RM33	**Pellescritta (**	**0.22**	**179**	P	Pg	05 08 44.8	+0.2
RM33				S	Sg	05 08 47.9	+0.2
RM33				AML	AML		
	comp=N,646μm,0.3s						
RM33				AML	AML		
	comp=E,570μm,0.6s						
RM33				AML	AML		
	comp=N,651μm,0.4s						
RM33				AML	AML		
	comp=E,615μm,0.6s						
T1216	**Preci, Frazion**	**0.22**	**320**	AML	AML		
	comp=N,1210μm,0.4s						
T1216				AML	AML		
	comp=E,888μm,0.4s						
T1216				AML	AML		
	comp=N,1205μm,0.4s						
T1216				AML	AML		
	comp=E,888μm,0.4s						
CAMP	**Campotosto**	**0.24**	**142**	⇑P	Pg	05 08 45.4	+0.5
CAMP				S	Sg	05 08 48.8	+0.4
CAMP				AML	AML		
	comp=E,273μm,1.1s						
CAMP				AML	AML		
	comp=N,210μm,0.4s						
TERO	**Teramo**	**0.31**	**109**	P	Pg	05 08 46.7	+0.6
TERO				S	Sg	05 08 51.1	+0.8
TERO				AML	AML		
	comp=E,444μm,0.4s						
TERO				AML	AML		
	comp=N,480μm,1.1s						
TERO				AML	AML		
	comp=E,475μm,0.7s						
TERO				AML	AML		
	comp=N,536μm,1.1s						
TERO				AML	AML		
	comp=N,481μm,1.1s						
FDMO	**Fiordimonte**	**0.32**	**344**	AML	AML		
	comp=E,1050μm,0.7s						
FDMO				AML	AML		
	comp=N,1515μm,0.2s						
FDMO				AML	AML		
	comp=N,1510μm,0.2s						
T1211	**Morro Reatino**	**0.32**	**234**	⇑P	Pg	05 08 46.9	+0.5
T1211				S	Sb	05 08 51.9	-1.0
T1211				AML	AML		
	comp=E,408μm,1.4s						
T1211				AML	AML		
	comp=N,760μm,0.4s						
GUMA	**Gualdo di Mace**	**0.35**	**15**	AML	AML		
	comp=N,1004μm,0.5s						
GUMA				AML	AML		
	comp=N,1013μm,0.5s						
GUMA				AML	AML		
	comp=E,1745μm,0.2s						
GUMA				AML	AML		
	comp=E,1430μm,0.3s						
GUMA				AML	AML		
	comp=N,1010μm,0.5s						
GUMA				AML	AML		
	comp=N,1010μm,0.5s						
ARRO	**Arrone**	**0.36**	**246**	⇑P	Pb	05 08 47.6	-0.5
ARRO				AML	AML		
	comp=E,309μm,0.2s						
ARRO				AML	AML		
	comp=N,180μm,0.9s						
CESI	**CESI - Serrava**	**0.36**	**321**	AML	AML		
	comp=E,472μm,0.2s						
CESI				AML	AML		
	comp=E,472μm,0.2s						
CESI				AML	AML		
	comp=N,642μm,1.6s						
GIGS	**Gran Sasso**	**0.38**	**136**	⇓P	Pg	05 08 47.7	+0.2
GIGS				AML	AML		
	comp=E,69μm,1.4s						
GIGS				AML	AML		
	comp=N,65μm,0.4s						
OFFI	**Offida**	**0.41**	**59**	S	Sg	05 08 50.0	-3.4
FIAM	**Fiamignano**	**0.46**	**189**	⇓P	Pg	05 08 48.9	0.0
FIAM				AML	AML		
	comp=E,151μm,0.2s						
FIAM				AML	AML		
	comp=N,101μm,0.4s						
FIAM				AML	AML		
	comp=E,152μm,0.2s						
FIAM				AML	AML		
	comp=N,101μm,0.4s						
FAGN	**Fagnano**	**0.54**	**149**	P	Pg	05 08 50.3	0.0
FAGN				AML	AML		
	comp=E,231μm,0.3s						
FAGN				AML	AML		
	comp=N,197μm,0.5s						
FAGN				AML	AML		
	comp=N,480μm,0.4s						
FAGN				AML	AML		
	comp=E,470μm,0.4s						
VCEL	**Villa Celiera**	**0.57**	**125**	⇑P	Pb	05 08 51.5	-0.4
VCEL				S	Sb	05 09 01.0	+1.0
VCEL				AML	AML		
	comp=E,268μm,1.1s						
VCEL				AML	AML		
	comp=N,287μm,1.0s						
VCEL				AML	AML		
	comp=E,309μm,0.6s						
VCEL				AML	AML		
	comp=N,286μm,1.0s						
T0110	**Collepietro**	**0.65**	**140**	⇑P	Pg	05 08 52.5	0.0
T0110				AML	AML		
	comp=E,185μm,0.5s						
T0110				AML	AML		
	comp=N,144μm,1.4s						
T0110				AML	AML		
	comp=N,544μm,0.3s						
T0110				AML	AML		
	comp=E,477μm,0.4s						
SRES	**S.Oreste - Sor**	**0.71**	**227**	⇑P	Pb	05 08 54.3	+0.1
SRES				AML	AML		
	comp=E,45μm,0.3s						
SRES				AML	AML		
	comp=N,49μm,0.4s						

MOS ***04*** *05:08:52.4±1.1, 41.°83N×19.°80E, h26km, mb4.4/9, Error ellipse: s-maj=6.4km s-min=3.6km az=100.8*
TIR ***04*** *05:08:53.0, 41.°87N×19.°97E, h2km±2km, Md4.0, Ml4.1*
NEIC ***04*** *05:08:53.1±1.8, 41.°86N±0.°05×19.°89E±0.°07, h9km±8km, mb4.3/2, ML4.2(TIR), Error ellipse: s-maj=7.6km s-min=6.6km az=122.0*
LDG ***04*** *05:08:53.5±0.3, 41.°87N×19.°85E, h20km, Ml4.6/21, Error ellipse: s-maj=15.5km s-min=6.1km az=23.0*
THE ***04*** *05:08:53.4, 41.°92N×19.°95E, h8km±1km, ML3.8/16, Error ellipse: s-maj=1.6km s-min=0.9km az=154.0*
PDG ***04*** *05:08:53.1±0.5, 41.°85N×19.°91E, h18km, MD4.1/13, ML4.1/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
PRU ***04*** *05:08:54.0±0.0, 41.°80N×19.°92E, h2km, M4.3*
IDC ***04*** *05:08:54.8±2.3, 41.°87N×19.°92E, h34km±19km, mb3.9/10, mbtmp4.0/21, ML3.7/10, MS3.3/30, Error ellipse: s-maj=14.1km s-min=12.1km az=141.0*
BEO ***04*** *05:08:54.0±0.2, 41.°87N×19.°98E, h15km±2km, ML3.9/22*
SKO ***04*** *05:08:54.1, 41.°90N×19.°97E, h18km*
ISC 04 05:08:53.2±0.4**, 41.°87N**±0.°01×**19.°92E**±0.°02**, h21**km±2km**, n380, σ2.s36**/485**, mb4.3**/20**, MS3.4**/18**, 37C-37D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.43	115	P	Pb	05 09 01.5	-0.5
PHP				S	Sb	05 09 09.0	+1.1
PHP	Peshkopia	0.43	115	P	Pb	05 09 01.4	-0.5
	baz=117						
PHP				S	Sb	05 09 08.3	+0.4
	baz=117						
PHP				AMP			
	comp=N,62nm,0.5s,baz=117						
BCI	Bajram Curri	0.51	12	P	Pb	05 09 03.7	+0.2
	baz=8.0						
BCI				S	Sb	05 09 11.4	+0.9
	baz=8.0						
BCI				AMP			
	comp=N,96nm,0.5s,baz=8.0						
ULC	Ulcinj	0.52	281	*i* Pg	Pb	05 09 03.8	+0.2
ULC	Ulcinj	0.52	281	*e*Pg	Pb	05 09 03.0	-0.6
ULC				*i* Sg	Sb	05 09 11.4	+0.8
TIR	Tirane	0.52	185	P	Pb	05 09 03.8	+0.2
TIR	Tirane	0.52	185	⇑S	Sb	05 09 11.8	+1.0
TIR	Tirane	0.52	185	Pg	Pb	05 09 02.8	-0.8
TIR				Sg	Sb	05 09 09.7	-1.1
TIR	Tirane	0.52	185	P	Pb	05 09 03.9	+0.2
TIR				S	Sn	05 09 12.4	-1.2
	comp=N,9µm,0.7s						
TIR	Tirane	0.52	185	*e*Pg	Pb	05 09 03.7	0.0
TIR				*e*Sg	Sn	05 09 12.3	-1.3
TIR	Tirane	0.52	185	*i* Pg	Pb	05 09 03.5	-0.2
TIR				*i* Sg	Sn	05 09 14.4	+0.8
TIR	Tirane	0.52	185	P	Pb	05 09 03.8	+0.2
	baz=189						
TIR				S	Sb	05 09 12.1	+1.3
	baz=189						
TIR				AMP			
	comp=E,38nm,0.8s,baz=189						
TIR	Tirane	0.52	185	P	Pb	05 09 02.8	-0.8
TIR						05 09 09.7	
DRME	Dracevica, Mon	0.64	300	*e*Pg	Pb	05 09 05.6	-0.1
DRME	Dracevica, Mon	0.64	300	*e*Pg	Pb	05 09 05.3	-0.4
DRME				*i* Sg	Sn	05 09 15.6	-0.8
PVY	Plav	0.73	2	⇓*i*Pg	Pb	05 09 07.3	+0.1
PVY				*i* Sg	Sn	05 09 19.3	+0.4
PDG	Podgorica	0.75	319	⇑P	Pb	05 09 07.4	0.0
PDG				⇑S	Sn	05 09 19.8	+0.5
PDG	Podgorica	0.75	319		Pb	05 09 07.3	-0.2
PDG				Sg	Sb	05 09 17.2	-0.1
PDG	Podgorica	0.75	319	*e*Pg	Pb	05 09 07.7	+0.2
PDG				*e*Sg	Sn	05 09 20.0	+0.8
PDG	Podgorica	0.75	319	*i* Pg	Pb	05 09 07.4	0.0
PDG				*i* Sg	Sn	05 09 20.4	+1.2
TTG	Podgorica	0.75	319	⇓*i*Pg	Pb	05 09 07.5	0.0
TTG				*i* Sg	Sn	05 09 19.6	+0.4
BUM	Brajici-Budva	0.88	300	*e*Pg	Pb	05 09 09.6	-0.2
BUM				*i* Sg	Sn	05 09 23.6	+1.0
OHR	Ohrid	1.00	139	*e*Pg	Pn	05 09 12.1	+0.1
OHR				*e*Sg	Sb	05 09 25.1	+0.5
OHR	Ohrid	1.00	139	*i* Pg	Pb	05 09 11.7	-0.1
OHR				*i* Sg	Sn	05 09 27.3	+1.8
OHR				*e*Lg	Lg	05 09 35.3	
	comp=N,4µm,0.6s						
OHR				*e*Lg	Lg	05 09 35.3	
	comp=E,5µm,1.0s						
IVA	Berane	1.00	359	⇑*i*Pg	Pn	05 09 12.2	+0.1
IVA				*i* Sg	Sn	05 09 28.6	+3.0
CEME	Cevo	1.01	313	⇓*i*Pg	Pn	05 09 12.1	0.0
CEME				*i* Sg	Sn	05 09 28.2	+2.5
KOME	Kolasin	1.03	343	⇑*i*Pg	Pn	05 09 12.6	+0.2
KOME				*i* Sg	Sn	05 09 29.2	+3.0
SKO	Skopje	1.14	84	*e*Pg	Pn	05 09 13.9	0.0
SKO				*e*Sg	Sb	05 09 28.5	+0.1
SKO	Skopje	1.14	84	*i* Pg	Pn	05 09 13.8	0.0
SKO				*i* Sg	Sn	05 09 28.8	0.0
SKO				*e*Lg	Lg	05 09 31.8	
	comp=E,330nm,0.7s						
SKO				*e*Lg	Lg	05 09 31.8	
	comp=N,380nm,0.5s						
SKO	Skopje	1.14	84	P	Pb	05 09 14.2	+0.1
SKO				S	Sn	05 09 29.5	+0.7
NKME	Niksic	1.15	322	⇑*i*Pg	Pb	05 09 14.7	+0.3
NKME				*i* Sg	Sn	05 09 33.1	+3.9
HCY	Herceg Novi	1.21	299	*e*Pg	Pb	05 09 15.8	+0.5
HCY	Herceg Novi	1.21	299	⇓*i*Pg	Pb	05 09 15.6	+0.2
HCY				*i* Sg	Sn	05 09 34.4	+3.8
SJES	Sjenica	1.39	2	*e*Pg	Pb	05 09 19.4	+0.9
SJES				*e*Sg	Sb	05 09 38.0	+2.1
VLO	Vlora	1.44	193		Pb	05 09 20.0	+0.8
VLO	Vlora	1.44	193	P	Pb	05 09 19.9	+0.8
VLO				S	Sb	05 09 41.0	+4.0
	comp=N,9µm,0.6s						
VLO	Vlora	1.44	193	P	Pb	05 09 20.1	+1.0
	baz=195						
VLO				S	Sb	05 09 42.0	+5.0
	baz=195						
VLO	Vlora	1.44	193	P	Pb	05 09 20.0	+0.8
TREB	Trebinje	1.44	307	*e*Pg	Pb	05 09 19.8	+0.5
TREB	Trebinje	1.44	307	*e*Pg	Pb	05 09 20.3	+1.0
TREB				*e*Sg	Sb	05 09 40.8	+3.6
BRY	Bratogost	1.46	316	*e*Pn	Pb	05 09 19.7	+0.1
BRY	Bratogost	1.46	316	*e*Pg	Pb	05 09 19.6	0.0
BRY				*i* Sg	Sb	05 09 40.5	+2.8
PLE	Pljevlja	1.51	345	⇓*i*Pg	Pb	05 09 20.6	0.0
PLE				*i* Sg	Sb	05 09 42.2	+2.8
UPM	Unac-Piva	1.53	331	*e*Pn	Pb	05 09 22.1	+1.2
UPM	Unac-Piva	1.53	331	*e*Pg	Pb	05 09 20.8	-0.1
UPM				*i* Sg	Sb	05 09 42.5	+2.5
FNA	Florina	1.54	134		Pb	05 09 20.9	-0.1
FNA	Florina	1.54	134	P	Pb	05 09 21.2	+0.2
FNA				S	Sb	05 09 41.8	+1.7
	comp=N,6µm,0.6s						
FNA	Florina	1.54	134	*i* Pn	Pb	05 09 20.8	-0.1
FNA	Florina	1.54	134	P	Pb	05 09 21.3	+0.3
	baz=135						
FNA				S	Sb	05 09 42.1	+2.1
	baz=135						
FNA	Florina	1.54	134	P	Pb	05 09 20.9	-0.1
SELS	Selova	1.61	33	*e*Pn	Pb	05 09 21.5	-0.8
SELS				*e*Sn	Sb	05 09 41.7	-0.5
NEST	Nestorio	1.68	149	P	Pb	05 09 23.7	+0.2
NEST				S	Sb	05 09 45.4	+1.2
	comp=N,2µm,1.0s						
BARS	Barje	1.69	55	*e*Pn	Pb	05 09 22.8	-0.8
BARS	Barje	1.69	55	*i* Pn	Pn	05 09 22.5	+1.0
STIP	Stip	1.70	95	*i* Pn	Pb	05 09 24.5	+0.8
STIP				*i* Sn	Sb	05 09 49.3	+4.6
STIP				*e*Lg	Lg	05 09 54.9	
	comp=N,228nm,0.5s						
STIP				*e*Lg	Lg	05 09 56.0	
	comp=E,238nm,0.6s						
IVAS	Ivanjica	1.72	6	*e*Pn	Pb	05 09 23.6	-0.4
IVAS				*e*Sn	Sn	05 09 43.9	+0.7
LSK	Leskovik	1.79	163	P	Pb	05 09 25.5	+0.2
LSK				S	Sb	05 09 49.6	+2.3
	comp=E,5µm,0.9s						
LSK	Leskovik	1.79	163	P	Pb	05 09 26.0	+0.7
	baz=164						
LSK				S	Sb	05 09 50.2	+2.9
	baz=164						
LSK				AMP			
	comp=E,19nm,0.9s,baz=164						
RUDO	Rudo	1.80	347	*e*Pn	Pb	05 09 25.1	-0.2
STON	Ston	1.93	302	*e*Pn	Pn	05 09 25.2	+0.5
SRN	Sarande	1.99	178	P	Pn	05 09 27.0	+1.5
SRN				S	Sb	05 09 54.5	+1.7
	comp=E,2µm,0.6s						
SRN	Sarande	1.99	178	P	Pb	05 09 27.5	-1.1
	baz=179						
SRN				S	Sb	05 09 52.6	-0.2
	baz=179						
BBLS	Lazići	2.03	349	*e*Pn	Pb	05 09 28.3	-1.1
BBLS				*e*Sn	Sn	05 09 52.6	+1.6
VAY	Valandovo	2.06	105	*e*Pn	Pn	05 09 27.6	+1.1
VAY	Valandovo	2.06	105	*i* Pn	Pn	05 09 27.1	+0.6
VAY				*i* Sn	Sb	05 09 54.6	-0.3
VAY				*e*Lg	Lg	05 09 58.0	
	comp=N,590nm,0.6s						
VAY				*e*Lg	Lg	05 09 58.4	
	comp=E,780nm,0.7s						
GRG	Griva	2.07	115	P	Pn	05 09 27.7	+0.9
GRG				S	Sb	05 09 54.4	-1.0
	comp=E,875nm,0.7s						
GRG	Griva	2.07	115	*i* Pn	Pn	05 09 27.7	+0.9
GRG	Griva	2.07	115	P	Pn	05 09 27.7	+0.9
GRG				S	Sb	05 09 54.4	-1.0
KZN	Kozani	2.09	138	P	Pb	05 09 28.9	-1.6
KZN				S	Sb	05 09 55.8	-0.2
	comp=E,1µm,0.5s						
GRUS	Gruza	2.10	16	*e*Pn	Pn	05 09 28.8	+1.7
GRUS				*e*Sn	Sn	05 09 53.9	+1.3
SCTE	Santa Cesarea	2.11	212	Pn	Pb	05 09 29.0	-1.6
KEK	Kerkira	2.15	183		Pn	05 09 28.5	+0.7
KEK	Kerkira	2.15	183	P	Pn	05 09 29.0	+1.2
KEK				S	Sb	05 09 57.8	+0.1
	comp=E,1µm,0.4s						
BOVS	Bovan	2.20	36	⇓P	Pn	05 09 30.1	+1.6
BOVS				⇑S	Sn	05 09 56.6	+1.6
BOVS	Bovan	2.20	36	*e*Pn	Pn	05 09 29.1	+0.6
BOVS				*e*Sn	Sn	05 09 56.3	+1.3
KPRO	Kipourio	2.20	150	P	Pb	05 09 30.9	-1.4
KPRO				S	Sb	05 09 58.7	-0.4
	comp=E,2µm,0.7s						
DIVS	Divibare	2.23	1		Pb	05 09 31.1	-1.6
DIVS	Divibare	2.23	1	*e*Pn	Pb	05 09 30.9	-1.9
DIVS	Divibare	2.23	1	*e*Pn	Pb	05 09 31.3	-1.5
DIVS				*e*Sn	Sn	05 09 57.7	+1.8
JAN	Janina	2.32	162	P	Pn	05 09 31.6	+1.5
JAN				S	Sb	05 10 02.0	-0.5
	comp=E,2µm,1.0s						
HAPS	Han Pijesak,Bl	2.33	342	*e*Pn	Pb	05 09 33.1	-1.4
KNT	Kendrikon	2.34	107	P	Pn	05 09 31.0	+0.6
KNT				S	Sn	05 10 00.9	+2.3
	comp=E,645nm,0.7s						
KNT	Kendrikon	2.34	107	*i* Pn	Pn	05 09 32.1	+1.7
TRUS	Trudelj	2.38	8	*e*Pn	Pb	05 09 33.3	-2.0
TRUS				*e*Sn	Sn	05 09 59.7	+0.2
ZAPS	Zavoj	2.44	54	*e*Pn	Pb	05 09 34.9	-1.5
ZAPS				*e*Sn	Sn	05 10 02.3	+1.2
VTS	Vitosha	2.57	72	⇓P	Pn	05 09 34.8	+1.1
VTS	Vitosha	2.57	72		Pn	05 09 35.3	+1.6
VTS	Vitosha	2.57	72	P	Pn	05 09 35.3	+1.6
ZAGS	Zajecar	2.58	40	*e*Pn	Pn	05 09 34.8	+1.1
THE	Thessaloniki	2.60	117	P	Pn	05 09 35.1	+1.1
THE				S	Sn	05 10 07.6	+2.6
	comp=E,340nm,0.7s						
BLKB	Belogradchik	2.68	48	⇓P	Pn	05 09 36.8	+1.7
BLKB				⇓S	Sb	05 10 10.9	-1.9
TEKS	Tekeris	2.69	354	*e*Pn	Pn	05 09 36.7	+1.4
TEKS	Tekeris	2.69	354	*e*Pn	Pn	05 09 36.7	+1.4
TEKS				*e*Sn	Sn	05 10 09.2	+1.9
HORT	Hortiatis	2.71	117	P	Pn	05 09 36.4	+0.8
HORT				S	Sn	05 10 10.4	+2.7
MATE	Matera	2.71	244	⇓P	Pn	05 09 37.1	+1.6
SOH	Sokhos	2.79	111	P	Pn	05 09 37.5	+0.9
SOH				S	Sn	05 10 12.5	+2.9
	comp=E,388nm,0.8s						
SOH	Sokhos	2.79	111	P	Pn	05 09 37.5	+0.9
SOH				S	Sn	05 10 12.5	+2.9
THL	Klokotos Trika	2.80	145	P	Pn	05 09 39.4	+2.8
THL				S	Sn	05 10 12.7	+3.0
	comp=E,608nm,0.9s						
KUBS	Kucevo	2.85	26	*e*Pn	Pn	05 09 38.1	+0.7
KUBS				*e*Sn	Sn	05 10 13.3	+2.3
SRS	Serrai	2.86	104	P	Pn	05 09 38.4	+0.9
SRS				S	Sn	05 10 14.2	+3.0
	comp=E,275nm,1.4s						
SRS	Serrai	2.86	104	P	Pn	05 09 38.4	+0.9
SRS				S	Sn	05 10 14.2	+3.0
BLJ	Bijeljina	2.95	351	*e*Pn	Pn	05 09 40.0	+1.2
BEO	Beograd	2.97	8	*e*Pn	Pn	05 09 40.1	+1.1
BEO				*e*Sn	Sn	05 10 15.1	+1.2
SGRT	San Giovanni R	3.13	269	Pn	Pn	05 09 42.1	+0.8
DOB	Doboj	3.16	336	*e*Pn	Pn	05 09 42.8	+1.2
MDVR	Moldovita	3.19	24	⇑P	Pn	05 09 43.4	+1.3
MDVR				⇑S	Sn	05 10 22.8	+3.2
MGRS	Mrkonjic Grad	3.29	322	*e*Pn	Pn	05 09 46.3	+2.9
FRGS	Fruska Gora	3.29	359	⇓P	Pn	05 09 45.2	+1.7
FRGS				⇓S	Sn	05 10 24.2	+2.3
FRGS	Fruska Gora	3.29	359	*e*Pn	Pn	05 09 45.2	+1.7
FRGS	Fruska Gora	3.29	359	*e*Pn	Pn	05 09 45.5	+2.0
FRGS				*e*Sn	Sn	05 10 23.7	+1.8
DJES	Djerdap	3.38	33	⇓S	Sn	05 10 28.0	+3.9
BLY	Banja Luka	3.50	326	*e*Pn	Pn	05 09 48.7	+2.3
BLY	Banja Luka	3.50	326	*e*Pn	Pn	05 09 49.3	+2.9
TIP	Timpagrande	3.61	223	⇑S	Sn	05 10 31.4	+1.5
TIP	Timpagrande	3.61	223		Pn	05 09 48.3	+0.3
TIP	Timpagrande	3.61	223	⇑P	Pn	05 09 48.5	+0.6
BANR	Banloc	3.62	14	⇑P	Pn	05 09 50.8	+2.8
BANR				⇑S	Sb	05 10 35.5	-4.4
CUC	Castrocucco	3.63	240	Pn	Pn	05 09 49.3	+1.1
A052A	Srbac	3.68	332	*e*Pn	Pn	05 09 50.8	+2.1
SRE	Strehaia	3.68	40	⇑P	Pn	05 09 50.7	+1.9
PLVB	Pleven	3.78	65	⇓P	Pn	05 09 52.4	+2.2
A051A	Mrakovica	3.83	326	*e*Pn	Pn	05 09 53.3	+2.3
PRIJ	Prijedor	3.89	324	*e*Pn	Pn	05 09 54.2	+2.6
VLAD	Vladila	3.92	56	⇓P	Pn	05 09 54.1	+2.1
BZS	Buzias	3.94	18	⇑P	Pn	05 09 53.9	+1.4
BZS				⇓S	Sn	05 10 40.5	+2.5
BZS	Buzias	3.94	18	P	Pn	05 09 53.8	+1.4
BZS				S	Sn	05 10 40.5	+2.5
GZR	Gura Zlata	4.09	29	⇓P	Pn	05 09 57.1	+2.7
GZR				⇑S	Sn	05 10 44.3	+2.6
PAOL	Paolisi	4.11	260		Pn	05 09 56.3	+1.5
RDO	Rodhopi	4.28	98		Pn	05 09 58.3	+1.3
KOVH	Kovagotottos	4.42	343	P	Pn	05 10 00.7	+1.8
KOVH				S	Sn	05 10 50.1	+0.4
MORH	Mrgy, Hungar	4.44	348	⇓P	Pn	05 10 01.3	+2.0
MORH	Mrgy, Hungar	4.44	348	P	Pn	05 10 00.9	+1.7
MORH				S	Sn	05 10 50.0	-0.2
AMBH	Ambrzfalva	4.52	7	⇑P	Pn	05 10 03.3	+3.1
AMBH				⇓S	Sn	05 10 56.5	+4.3
AMBH	Ambrzfalva	4.52	7	S	Sn	05 10 54.2	+2.1
LOT	Lotru	4.54	37	⇓P	Pn	05 10 03.1	+2.5
LOT				⇓S	Sn	05 10 57.6	+4.8
HUMR	Humele	4.55	53	⇓P	Pn	05 10 02.7	+1.9
SIRR	Siria	4.57	15	⇑P	Pn	05 10 03.6	+2.5
CEL	Celeste	4.75	222		Pn	05 10 03.6	+0.1
AQU	L'Aquila	4.88	278		Pn	05 10 06.5	+1.2
AQU	L'Aquila	4.88	278	P	Pn	05 10 06.5	+1.2
CAMP	Campotosto	4.88	280		Pn	05 10 07.3	+1.8
ITM	Ithomi	4.93	161		Pn	05 10 07.9	+1.9
BOJS	Bojanci	4.97	319	*i* Pn	Pn	05 10 08.7	+2.2
MTUR	Matau	5.02	46	⇓P	Pn	05 10 10.0	+2.7
CRES	Cresnjev	5.11	322	*i* Pn	Pn	05 10 10.4	+2.0
BEHE	Becsehely	5.13	335	P	Pn	05 10 10.7	+2.1
NRCA	Norcia	5.14	283		Pn	05 10 10.9	+2.1
VOIR		5.15	44	⇑P	Pn	05 10 11.3	+2.2
TIH	Tihany	5.24	345	P	Pn	05 10 12.4	+2.2
DRGR		5.31	21	⇑P	Pn	05 10 12.8	+1.5
CESX	Cesi	5.50	280		Pn	05 10 15.5	+1.6
CJR	Cluj-Napoca	5.51	27	⇓P	Pn	05 10 16.8	+2.7
CEY	Cerknica	5.55	316	*e*Pn	Pn	05 10 16.4	+1.9
MPLH	Magyarpolny	5.57	343	P	Pn	05 10 17.5	+2.8
MPLH				S	Sn	05 11 20.0	+2.0
CSKK	Cskako	5.62	348	P	Pn	05 10 17.7	+2.2
CSKK				S	Sn	05 11 20.4	+1.0
MURB	Monte Urbino	5.64	287		Pn	05 10 17.2	+1.4
BUD	Budapest	5.65	354	P	Pn	05 10 18.1	+2.2
BUD				S	Sn	05 11 21.8	+1.7
MLR	Muntele Rosu	5.67	48	⇓P	Pn	05 10 18.8	+2.5
MLR	Muntele Rosu	5.67	48	Pn	Pn	05 10 18.7	+2.5
	comp=E,1.8nm,0.3s,baz=124,slow=8.5,SNR=10						
MLR				LR	LR	05 13 12.1	
	comp=E,314nm,19.4s,baz=232,slow=45						
	comp=E,3.4nm,0.3s						
MLR	Muntele Rosu	5.67	48		Pn	05 10 17.6	+1.3
MLR	Muntele Rosu	5.67	48	P	Pn	05 10 17.6	+1.3
DOPR	Dopca	5.69	42	⇑P	Pn	05 10 18.6	+2.2
ISR	Istrita	5.81	54	⇑P	Pn	05 10 21.0	+3.0
NEHR	Nehoiu	5.83	50	⇑P	Pn	05 10 21.2	+2.8
EGYH	Egyhazaskeszo	5.85	342	P	Pn	05 10 21.8	+3.3
PERS	Pernice	5.88	326	*i* Pn	Pn	05 10 21.1	+1.9
SOKA	Soboth	5.95	326	*i* Pn	Pn	05 10 22.2	+2.1
	comp=E,23nm,0.5s,SNR=33						
OZUR		5.98	43	⇓P	Pn	05 10 22.3	+1.9
COVR	Voineasa-Covas	6.03	47	⇑P	Pn	05 10 24.1	+2.9
OBKA	Obir	6.04	322	*e*Pn	Pn	05 10 22.9	+1.6
OBKA	Obir	6.04	322	*i* Pn	Pn	05 10 23.0	+1.8
	comp=E,4.7nm,0.2s,SNR=8.9						
PSZ	Piszkesteto	6.05	360	⇓P	Pn	05 10 23.3	+1.9
PSZ	Piszkesteto	6.05	360		Pn	05 10 23.6	+2.2
PSZ	Piszkesteto	6.05	360	P	Pn	05 10 23.3	+1.9
PSZ				S	Sn	05 11 28.8	-1.2
PSZ	Piszkesteto	6.05	360	P	Pn	05 10 23.6	+2.2
SRO	Srobarova	6.05	350	*e*PN	Pn	05 10 24.9	+3.5
SRO				*e*SN	Sn	05 11 34.5	+4.5
SRO	Srobarova	6.05	350	*e*P	Pn	05 10 24.9	+3.5
SRO				*e*		05 11 34.5	
LATE	Laterza	6.07	280		Pn	05 10 23.2	+1.5
VAE	Valguarnera	6.11	226	Pn	Pn	05 10 23.5	+1.3
	comp=E,8.9nm,0.7s,baz=243,slow=2.3,SNR=2.0						
SABO	M.te Sabotino	6.14	314		Pn	05 10 23.7	+1.1
ICOR	Ion Corvin	6.20	66	⇓P	Pn	05 10 26.2	+2.8
ARSA	Arzberg	6.23	331	*i* Pn	Pn	05 10 26.1	+2.2
	comp=E,21nm,0.3s,SNR=16						
PLOR	Plostina	6.28	48	⇑P	Pn	05 10 27.2	+2.6
SOP	Sopron	6.29	339	P	Pn	05 10 27.2	+2.7
SOP	Sopron	6.29	339	P	Pn	05 10 28.3	+3.7
RAFF	Raffo Rosso	6.32	225		Pn	05 10 24.5	-0.6
VRI	Vrincioaia	6.34	49	⇑P	Pn	05 10 28.4	+3.1
VRI				⇑S	Sn	05 11 39.8	+2.9
RONA	Rosalia, Austr	6.38	337	*i* Pn	Pn	05 10 29.4	+3.6
	comp=E,6.8nm,0.4s,SNR=8.6						
APE	Apeiranthos	6.46	136	⇑P	Pn	05 10 28.8	+1.7
APE	Apeiranthos	6.46	136	⇑*e*P	Pn	05 10 29.2	+2.1
PRED	Cave del Predi	6.47	317		Pn	05 10 28.3	+1.2
HARR	Harsova	6.49	62	⇑P	Pn	05 10 29.5	+2.2
ABAH	Abaujker	6.50	8	P	Pn	05 10 30.3	+2.8
ABAH				S	Sn	05 11 40.8	0.0
TRPA	Tarpa	6.53	16	⇓P	Pn	05 10 30.0	+2.1
TRPA	Tarpa	6.53	16	P	Pn	05 10 29.9	+2.1
TRPA				S	Sn	05 11 40.1	-1.5
MYKA	Terra Mystica	6.56	319	*e*Pn	Pn	05 10 30.3	+1.9
	comp=E,5.1nm,0.3s						
OSSC	Osservatorio P	6.60	287		Pn	05 10 29.6	+0.6
KECS	Kecovo	6.63	3	*e*SN	Sn	05 11 44.9	+0.8
KECS	Kecovo	6.63	3	*e*P	Pn	05 10 32.9	+3.6
KECS				*e*		05 11 44.9	
KECS	Kecovo	6.63	3	*e*PN	Pn	05 10 32.9	+3.6
ZST	Bratislava	6.63	343	*e*PN	Pn	05 10 32.9	+3.5
ZST				*e*SN	Sn	05 11 44.5	+0.2
ZST	Bratislava	6.63	343	*e*P	Pn	05 10 32.9	+3.5
ZST				*e*		05 11 44.5	
VYHS	Vyhne	6.67	354	*e*PN	Pn	05 10 32.2	+2.3
VYHS				*e*SN	Sn	05 11 46.5	+1.3
VYHS	Vyhne	6.67	354	*e*P	Pn	05 10 32.2	+2.3
VYHS				*e*		05 11 46.5	
CONA	Conrad Observa	6.71	336	*e*Pn	Pn	05 10 33.9	+3.4
	comp=E,4.3nm,0.4s						
CLTB	Caltabellotta	6.71	233		Pn	05 10 32.2	+1.6
TIRR	Tirgusor	6.72	65	⇑P	Pn	05 10 31.2	+0.6
TIRR	Tirgusor	6.72	65	⇑P	Pn	05 10 31.2	+0.6
TIRR	Tirgusor	6.72	65	Pn	Pn	05 10 32.2	+1.7
TIRR	Tirgusor	6.72	65	P	Pn	05 10 32.3	+1.7
MODS	Modra-Piesok	6.77	345	*e*PN	Pn	05 10 34.7	+3.5
MODS				*e*SN	Sn	05 11 47.5	-0.1
MODS	Modra-Piesok	6.77	345	*e*P	Pn	05 10 34.7	+3.5
MODS				*e*		05 11 47.5	
CASP	Castiglione de	6.78	281	Pn	Pn	05 10 32.4	+1.0
STAL	STALIGIAL	6.80	313		Pn	05 10 32.8	+1.1
CFR	Carcaliu	6.82	58	⇓P	Pn	05 10 33.7	+1.8
CLUD	Cludinico	6.83	315		Pn	05 10 32.5	+0.4
BURAR	Bucovina Array	6.87	31	⇓P	Pn	05 10 36.3	+3.6
BURAR	Bucovina Array	6.87	31		Pn	05 10 32.7	0.0
TPGR	Topolog	6.87	61	⇑P	Pn	05 10 34.5	+1.8
SMOL	Smolenice	6.88	346	*e*P	Pn	05 10 36.9	+4.2
SMOL				*e*		05 11 51.1	
TEOL	Teolo	6.93	303		Pn	05 10 34.1	+0.6
UZH	Uzhgorod	6.97	13	*e*P	Pn	05 10 35.7	+1.8
UZH				*e*S	Sn	05 11 53.5	+1.1
UZH				MLR	MLR		
	comp=N,42nm,14.0s						
UZH				MLR	MLR		
	comp=E,100nm,14.0s						
UZH				MLR	MLR		
	comp=Z,45nm,14.0s						
CIMO	Cimolais	6.98	312		Pn	05 10 34.0	-0.2
ZCCA	Zocca	7.00	294		Pn	05 10 36.2	+1.7
KBA	Koelnbreinsper	7.02	320	*i* Pn	Pn	05 10 37.0	+2.2
	comp=Z,37nm,0.7s,SNR=22						
CRVS	Cervenica-Dubn	7.12	8	*e*PN	Pn	05 10 39.8	+3.8
CRVS				*e*SN	Sn	05 11 58.8	+2.6
CRVS	Cervenica-Dubn	7.12	8	*e*P	Pn	05 10 39.8	+3.8
CRVS				*e*		05 11 58.9	
JAVC	Velka Javorina	7.17	348	*e*PN	Pn	05 10 39.2	+2.5
MOA	Molln	7.20	328	*i* Pn	Pn	05 10 40.6	+3.4
	comp=Z,8.7nm,0.7s,SNR=8.5						
ABTA	Abfaltersbach	7.21	315	*i* Pn	Pn	05 10 38.3	+0.9
	comp=Z,15nm,0.4s,SNR=18						
KOLS	Kolonicke sedl	7.26	12	*e*PN	Pn	05 10 42.1	+4.2
KOLS	Kolonicke sedl	7.26	12	*e*P	Pn	05 10 42.1	+4.2
CTI	Castel Tesino	7.29	308		Pn	05 10 38.8	+0.4
CTI	Castel Tesino	7.29	308	P	Pn	05 10 38.8	+0.4
BIOA	Bad Ischl, Aus	7.34	325	*i* Pn	Pn	05 10 42.0	+3.0
	comp=Z,26nm,0.7s,SNR=23						
VLC	Villacollemand	7.36	291		Pn	05 10 40.1	+0.8
STHS	Stebnicka Huta	7.61	7	*e*SN	Sn	05 12 09.9	+1.7
STHS	Stebnicka Huta	7.61	7	*e*P	Pn	05 10 46.0	+3.2
STHS				*e*		05 12 09.9	
STHS	Stebnicka Huta	7.61	7	*e*PN	Pn	05 10 45.9	+3.2
KRUC	Moravsky	7.61	342	*e*PN	Pn	05 10 45.1	+2.4
KRUC				*e*SN	Sn	05 12 09.5	+1.3
IDI	Anoyia	7.63	148	Pn	Pn	05 10 43.1	-0.1
	comp=Z,1.0nm,0.3s,baz=263,slow=11,SNR=16						
	comp=Z,2.8nm,0.3s						
IDI	Anoyia	7.63	148		Pn	05 10 43.3	+0.1
MAUC	Maruska	7.64	350	*e*PN	Pn	05 10 45.1	+1.9
MAUC				*e*SN	Sn	05 12 09.7	+0.6
SALO	Salr	7.77	302		Pn	05 10 45.4	+0.4
VRAC	Vranov	7.80	344	Pn	Pn	05 10 46.8	+1.5
	comp=Z,0.3nm,0.3s,baz=162,slow=7.4,SNR=3.8						
	comp=Z,2.5nm,0.5s						
VRAC	Vranov	7.80	344	*e*PN	Pn	05 10 47.5	+2.2
CKRC	Cesky Krumlov	8.00	332	*e*PN	Pn	05 10 51.2	+3.2
MSSA	Maissana	8.00	291		Pn	05 10 48.0	-0.2
WTTA	Wattenberg	8.00	315	*i* Pn	Pn	05 10 50.5	+2.2
	comp=Z,5.0nm,0.2s,SNR=12						
WATA	Walderalm	8.08	315	*i* Pn	Pn	05 10 52.7	+3.3
	comp=Z,7.4nm,0.3s,SNR=11						
MORC	Moravsky Berou	8.08	349	⇑P	Pn	05 10 51.3	+2.0
MORC	Moravsky Berou	8.08	349		Pn	05 10 52.5	+3.3
MORC	Moravsky Berou	8.08	349	*e*PN	Pn	05 10 51.3	+2.0
MORC				*e*SN	Sn	05 12 19.5	-0.5
MORC	Moravsky Berou	8.08	349	P	Pn	05 10 52.5	+3.3
PGF	Pioggiola	8.14	278	*e*Pn	Pn	05 10 49.7	-0.4
SQTA	Sankt Quirin	8.21	314	*i* Pn	Pn	05 10 54.4	+3.3
	comp=Z,8.1nm,0.2s,SNR=17						
SQTA				*e*Sn	Sn	05 12 25.9	+2.8
	comp=Z,25nm,0.3s						
GEC2	GERESS Array S	8.23	330		Pn	05 10 53.7	+2.3
GERES	GERESS Array B	8.23	330	Pn	Pn	05 10 53.1	+1.7
	comp=Z,0.9nm,0.3s,baz=150,slow=14,SNR=57						
GERES				LR	LR	05 13 59.3	
	comp=Z,89nm,19.2s,baz=142,slow=37						
	comp=Z,6.7nm,0.7s						
GERES	GERESS Array B	8.23	330		Pn	05 10 52.7	+1.3
MOTA	Moosalm	8.34	314	*i* Pn	Pn	05 10 55.1	+2.3
	comp=Z,18nm,0.5s,SNR=15						
FETA	Feichten	8.35	311	*i* Pn	Pn	05 10 54.8	+1.8
	comp=Z,16nm,0.7s,SNR=5.3						
FETA				*e*Sn	Sn	05 12 29.3	+2.5
	comp=Z,17nm,0.6s						
OJC	Ojcow	8.35	359		Pn	05 10 54.3	+1.4
OJC	Ojcow	8.35	359	P	Pn	05 10 54.3	+1.4

FUORN	**Ofenpass-Fuorn**	**8.40**	**308**		**Pn**	**05 10 54.8**	**+0.9**
KARP	**Karpathos**	**8.47**	**136**		**Pn**	**05 10 55.9**	**+1.2**
KRLC	**Kraliky**	**8.49**	**346**	*e*PN	**Pn**	**05 10 58.2**	**+3.3**
KRLC	**Kraliky**	**8.49**	**346**	*e*P	**Pn**	**05 10 58.2**	**+3.3**
KHC	**Kasperske Hory**	**8.52**	**331**		**Pn**	**05 10 57.1**	**+1.9**
KHC	**Kasperske Hory**	**8.52**	**331**	*e*PN	**Pn**	**05 10 56.9**	**+1.7**
KHC				*e*SN	**Sn**	**05 12 31.5**	**+0.8**
KHC	**Kasperske Hory**	**8.52**	**331**	*c i*P	**Pn**	**05 10 56.8**	**+1.6**
RETA	**Reutte**	**8.61**	**314**	*e*Pn	**Pn**	**05 10 58.9**	**+2.4**
	comp=Z,0.8nm,0.2s						
RETA				*e*Sn	**Sn**	**05 12 36.6**	**+3.7**
	comp=Z,31nm,0.5s						
DAVOX	**Davos/Dischmat**	**8.71**	**308**	Pn	**Pn**	**05 10 59.1**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=110,slow=17,SNR=18						
DAVOX				LR	LR	05 14 54.3	
	comp=Z,116nm,18.7s,baz=108,slow=41						
	comp=Z,8.0nm,0.5s						
DPC	**Dobruska-Polom**	**8.84**	**345**	*e*PN	**Pn**	**05 11 03.3**	**+3.6**
DPC				*e*SN	**Sn**	**05 12 40.1**	**+1.4**
DPC	**Dobruska-Polom**	**8.84**	**345**	*e*P	**Pn**	**05 11 03.3**	**+3.6**
DPC				*e*		05 12 40.1	
PRU	**Pruhonice**	**8.94**	**337**	*e*PN	**Pn**	**05 11 03.7**	**+2.7**
PRU	**Pruhonice**	**8.94**	**337**	*e*P	**Pn**	**05 11 03.7**	**+2.7**
DAVA	**Damuels**	**8.98**	**310**	*e*Pn	**Pn**	**05 11 03.1**	**+1.4**
	comp=Z,4.0nm,0.3s						
CHVC	**Chvalec**	**9.12**	**344**	*e*PN	**Pn**	**05 11 07.1**	**+3.6**
SBF	**Sospel**	**9.39**	**286**	*e*Pn	**Pn**	**05 11 06.3**	**-0.9**
SBF				*e*Sn	**Sn**	**05 12 46.2**	**-5.9**
	comp=Z,68nm,0.5s						
NKC	**Novy Kostel**	**9.84**	**331**	*e*PN	**Pn**	**05 11 16.4**	**+3.0**
NKC	**Novy Kostel**	**9.84**	**331**	*e*P	**Pn**	**05 11 16.4**	**+3.0**
BRG	**Berggiesshubel**	**9.91**	**337**	*e*P	Pn	05 11 21.6	+7.4
BRG				Amp		05 11 26.9	
	comp=Z,3.5nm,0.9s						
BRG				*e*x	x	05 12 32.8	
BRG				*e*x	x	05 14 10.6	
BRG				Amp		05 15 12.8	
	comp=Z,16nm,1.2s						
BRG				Amp		05 15 34.0	
	comp=Z,0.3nm,13.1s						
BRG				Amp		05 15 36.0	
	comp=E,0.2nm,10.0s						
BRG				Amp		05 15 37.0	
	comp=N,0.2nm,16.8s						
BRG	**Berggiesshubel**	**9.91**	**337**	*e*P	Pn	05 11 21.6	+7.4
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRG				MLR	MLR		
	comp=Z,345nm,13.1s						
BRG				MLR	MLR		
	comp=E,218nm,10.0s						
BRG				MLR	MLR		
	comp=N,229nm,16.8s						
LMR	**La Mourre**	**10.00**	**283**	*e*Pn	**Pn**	**05 11 14.7**	**-0.8**
LMR				*e*Sn	**Sn**	**05 13 02.3**	**-4.7**
	comp=N,14nm,0.6s						
MBDF	**Montbardon**	**10.01**	**291**	*e*Pn	**Pn**	**05 11 14.8**	**-0.9**
MBDF				*e*Sn	**Sn**	**05 13 01.3**	**-6.1**
	comp=N,33nm,0.6s						
SLE	**Schleitheim**	**10.03**	**310**	P	**Pn**	**05 11 16.5**	**+0.5**
SENIN	**Lac Senin/Sane**	**10.13**	**301**		**Pn**	**05 11 17.7**	**+0.2**
LPG	**La Plagne**	**10.21**	**295**	*e*Pn	**Pn**	**05 11 17.5**	**-1.1**
LPG				*e*Sn	**Sn**	**05 13 06.6**	**-5.9**
	comp=N,65nm,0.5s						
LPG	**La Plagne**	**10.21**	**295**	P	**Pn**	**05 11 17.3**	**-1.3**
LPL	**La Plagne**	**10.22**	**295**	*e*Pn	**Pn**	**05 11 17.4**	**-1.4**
LPL				*e*Sn	**Sn**	**05 13 05.5**	**-7.4**
	comp=N,37nm,0.4s						
LPL	**La Plagne**	**10.22**	**295**	P	**Pn**	**05 11 18.7**	**-0.1**
KEST	**Kesra**	**10.28**	**237**	Pn	**Pn**	**05 11 20.2**	**+0.8**
	comp=N,0.2nm,0.3s,baz=15,slow=9.1,SNR=6.5						
KEST				LR	LR	05 16 34.7	
	comp=N,169nm,18.6s,baz=186,slow=45						
	comp=N,4.7nm,0.7s						
BFO	**Black Forest**	**10.43**	**312**		**Pn**	**05 11 21.6**	**+0.2**
BFO	**Black Forest**	**10.43**	**312**	P	**Pn**	**05 11 21.6**	**+0.2**
MOX	**Moxa**	**10.49**	**330**	P	**Pn**	**05 11 24.5**	**+2.3**
CLL	**Collm**	**10.57**	**336**	*e*Pn	**Pn**	**05 11 19.0**	**-4.3**
CLL				*e*x	x	05 11 25.0	
CLL				*e*x	x	05 11 29.0	
CLL				*e*Pg		05 12 14.0	
CLL				*e*Sn	Sn	05 13 04.0	-17
CLL				*e*x	x	05 13 11.0	
CLL				*e*x	x	05 13 26.0	
CLL				*e*Sb		05 13 49.0	
CLL				*e*x	x	05 14 05.0	
CLL				*e*Sg		05 14 30.0	
	comp=Z,31nm,1.3s						
CLL				Lmax		05 16 00.0	
CLL	**Collm**	**10.57**	**336**	*e*P	**Pn**	**05 11 19.0**	**-4.3**
ORIF	**Oris-en-Rattie**	**10.67**	**291**	*e*Pn	**Pn**	**05 11 23.6**	**-1.1**
ORIF				*e*Sn	**Sn**	**05 13 17.1**	**-6.4**
	comp=Z,27nm,0.5s						
SMRF	**Simiane la Rot**	**10.73**	**286**	*e*Pn	**Pn**	**05 11 24.6**	**-1.0**
SMRF				*e*Sn	**Sn**	**05 13 19.4**	**-5.7**
	comp=Z,69nm,1.6s						
AKBB	**Malin Array Si**	**10.92**	**33**	⇑*e*P	**Pn**	**05 11 27.2**	**-0.9**
CABF	**La Chapelle**	**11.00**	**300**	*e*Pn	**Pn**	**05 11 28.3**	**-0.9**
CABF				*e*Sn	**Sn**	**05 13 23.8**	**-7.8**
	comp=Z,45nm,0.8s						
HINF	**Hinteralfeld**	**11.02**	**307**	*e*Pn	**Pn**	**05 11 28.6**	**-0.8**
HINF				*e*Sn	**Sn**	**05 13 25.1**	**-6.9**
	comp=Z,38nm,0.7s						
ECH	**Echery**	**11.03**	**309**		**Pn**	**05 11 29.4**	**-0.2**
ECH	**Echery**	**11.03**	**309**	P	**Pn**	**05 11 29.4**	**-0.2**
CDF	**Champ du Feu**	**11.06**	**311**	*e*Pn	**Pn**	**05 11 29.2**	**-1.0**
HAU	**Haudompre**	**11.40**	**307**	*e*Pn	**Pn**	**05 11 33.8**	**-0.9**
HAU				*e*Sn	**Sn**	**05 13 34.3**	**-7.2**
	comp=Z,39nm,0.6s						
VIVF	**Saint-Julien-l**	**11.50**	**290**	*e*Pn	**Pn**	**05 11 35.1**	**-0.9**
VIVF				*e*Sn	**Sn**	**05 13 36.5**	**-7.3**
	comp=Z,23nm,0.9s						
SSB	**Saint Sauveur**	**11.67**	**292**		**Pn**	**05 11 37.6**	**-0.8**
SSB	**Saint Sauveur**	**11.67**	**292**	P	**Pn**	**05 11 37.6**	**-0.8**
LASF	**Ste Croix**	**11.98**	**286**	*e*Pn	**Pn**	**05 11 42.3**	**-0.3**
LASF				*e*Sn	**Sn**	**05 13 47.9**	**-7.6**
	comp=Z,3.0nm,0.5s						
SFTF	**Sexfontaines**	**12.28**	**306**	*e*Pn	**Pn**	**05 11 45.9**	**-0.8**
MEZF	**Maizieres J'vi**	**12.40**	**307**	*e*Pn	**Pn**	**05 11 48.2**	**-0.1**
	baz=118						
SMF	**Signal de Mont**	**12.47**	**298**	*e*Pn	**Pn**	**05 11 47.9**	**-1.5**
SMF				*e*Sn	**Sn**	**05 13 59.5**	**-8.1**
	comp=Z,63nm,0.7s						
LOR	**Lormes**	**12.66**	**301**	*e*Pn	**Pn**	**05 11 50.9**	**-1.0**
	baz=115						
LOR				*e*Sn	**Sn**	**05 14 04.1**	**-8.0**
	comp=Z,18nm,0.4s						
SSF	**Saint Saulge**	**12.82**	**299**	*e*Pn	**Pn**	**05 11 53.0**	**-1.0**
SSF				*e*Sn	**Sn**	**05 14 07.3**	**-8.7**
	comp=Z,22nm,0.5s						
SSF	**Saint Saulge**	**12.82**	**299**	P	**Pn**	**05 11 53.1**	**-1.0**
AVF	**Avril sur Loir**	**12.84**	**298**	*e*Pn	**Pn**	**05 11 52.5**	**-1.8**
AVF				*e*Sn	**Sn**	**05 14 08.1**	**-8.4**
	comp=Z,13nm,0.6s						
ANN	**Anapa**	**13.08**	**71**	*e*P	**Pn**	**05 11 59.1**	**+1.5**
ANN				*e*S	**Sn**	**05 14 19.2**	**-3.2**
ANN				pmax	pmax		
	comp=Z,122nm,1.3s						
BGF	**Bois d'Agland**	**13.11**	**297**	*e*Pn	**Pn**	**05 11 57.0**	**-1.1**
BGF				*e*Sn	Sn	05 14 12.9	-10
	comp=Z,49nm,0.5s						
MTLF	**Montolieu**	**13.13**	**282**	*e*Pn	**Pn**	**05 11 57.3**	**-1.0**
HYF	**Humbligny**	**13.45**	**300**	*e*Pn	**Pn**	**05 12 01.6**	**-1.0**
HYF				*e*Sn	**Sn**	**05 14 22.5**	**-8.8**
BMRD	**Maredsous**	**13.46**	**314**	*d*P	**Pn**	**05 12 04.6**	**+1.8**
MMAI	**Mount Meron Ar**	**15.12**	**121**	LR	LR	05 19 05.0	
	comp=Z,109nm,20.8s,baz=150,slow=40						
MFF	**Saint Martin d**	**15.13**	**295**	*e*Pn	**Pn**	**05 12 24.5**	**-1.0**
MFF				*e*Sn	**Sn**	**05 15 04.6**	**-7.8**
	comp=Z,171nm,2.3s						
LDF	**La Druitiere**	**15.62**	**302**	*e*Pn	**Pn**	**05 12 31.2**	**-0.7**
FLN	**La Foliniere**	**15.90**	**303**	*e*Pn	**Pn**	**05 12 34.9**	**-0.6**
	baz=122						
FLN				*e*Sn	**Sn**	**05 15 20.9**	**-10**
	comp=Z,166nm,1.8s						
KIV	**Kislovodsk**	**16.80**	**75**	*e*P	**Pn**	**05 12 47.1**	**0.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,18nm,13.0s						
KBZ	**Khabaz**	**16.96**	**76**	LR	LR	05 20 55.0	
	comp=Z,33nm,18.3s,baz=236,slow=42						
OBN	**Obninsk**	**17.18**	**34**	LR	LR	05 19 59.8	
	comp=Z,25nm,21.9s,baz=7.5,slow=39						
OBN	**Obninsk**	**17.18**	**34**	⇓*e*P	**Pn**	**05 12 52.4**	**+0.7**
OBN				*e*S	**Sn**	**05 16 03.4**	**+1.4**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,84nm,17.0s						
ESDC	**Sonseca Array**	**18.21**	**271**	P	**P**	**05 13 04.8**	**+0.1**
	baz=74,slow=11,SNR=7.7						
ESDC				LR	LR	05 21 14.9	
	comp=Z,65nm,18.5s,baz=62,slow=41						
	comp=Z,1.4nm,1.0s						
HFS	**Hagfors**	**18.69**	**350**	P	**Pn**	**05 13 10.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=169,slow=12,SNR=16						
HFS				LR	LR	05 20 09.4	
	comp=Z,98nm,20.1s,baz=160,slow=36						
	comp=Z,3.8nm,0.5s						
GNI	**Garni**	**18.80**	**87**	LR	LR	05 21 13.9	
	comp=Z,47nm,20.5s,baz=268,slow=39						
GNI	**Garni**	**18.80**	**87**	⇓*e*P	**Pn**	**05 13 13.2**	**+1.4**
GNI				pmax	pmax		
	comp=Z,15nm,1.1s						
NB2	**NORSAR Subarra**	**19.92**	**348**	P	**P**	**05 13 22.8**	**-0.4**
NB2	**NORSAR Subarra**	**19.92**	**348**	P	**P**	**05 13 22.9**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=160,slow=11						
NOA	**NORSAR Array B**	**19.92**	**348**	P	**P**	**05 13 23.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=154,slow=10,SNR=8.8						
NOA				LR	LR	05 21 07.5	
	comp=Z,56nm,20.8s,baz=170,slow=37						
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**19.95**	**9**	P	**P**	**05 13 23.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=183,slow=10,SNR=9.5						
FINES				LR	LR	05 21 53.4	
	comp=Z,73nm,18.3s,baz=206,slow=39						
	comp=Z,1.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**20.23**	**320**	P	**P**	**05 13 26.7**	**0.0**
	comp=Z,6.6nm,0.6s,baz=111,slow=10.0,SNR=31						
EKA				LR	LR	05 22 18.5	
	comp=Z,147nm,20.6s,baz=148,slow=40						
	comp=Z,6.6nm,0.6s						
ESK	**Eskdalemuir**	**20.25**	**320**	P	**P**	**05 13 26.8**	**0.0**
ESK				IAmb	IAmb	05 13 38.0	
	comp=Z,23nm,1.1s						
ESK	**Eskdalemuir**	**20.25**	**320**	P	**P**	**05 13 26.8**	**0.0**
ESK				pmax	pmax		
	comp=Z,23nm,1.1s						
MDT	**Midelt**	**21.44**	**253**	P	**P**	**05 13 39.7**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=85,slow=10,SNR=6.9						
MDT				LR	LR	05 21 02.6	
	comp=Z,65nm,21.0s,baz=76,slow=34						
	comp=Z,2.6nm,0.8s						
BELG	**Belogornoye**	**21.46**	**51**	LR	LR	05 23 53.2	
	comp=Z,30nm,21.7s,baz=324,slow=42						
BELG	**Belogornoye**	**21.46**	**51**	⇓*e*P	**P**	**05 13 41.9**	**+2.1**
BELG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KLMR	**Klimovskoe**	**22.44**	**25**	*e*P	**P**	**05 13 49.9**	**-0.5**
KLMR				AMP		05 14 01.2	
	comp=Z,22nm,1.4s						
KLMR	**Klimovskoe**	**22.44**	**25**	*e*P	**P**	**05 13 49.9**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,22nm,1.4s						
TAM	**Tamanrasset**	**22.52**	**217**	P	**P**	**05 13 51.8**	**+0.1**
TAM				IAmb	IAmb	05 13 55.9	
	comp=Z,12nm,1.4s						
TAM	**Tamanrasset**	**22.52**	**217**	P	**P**	**05 13 51.8**	**+0.1**
TAM				pmax	pmax		
	comp=Z,12nm,1.4s						
KIRV	**Kirov**	**24.91**	**38**	LR	LR	05 24 32.0	
	comp=Z,101nm,19.3s,baz=249,slow=38						
PRGR	**Permogore**	**25.10**	**29**	*e*P	**P**	**05 14 17.4**	**+1.4**
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ARCES	**ARCESS Array B**	**27.89**	**4**	P	**P**	**05 14 40.8**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=182,slow=9.1,SNR=4.4						
ARCES				LR	LR	05 26 17.7	
	comp=Z,80nm,18.0s,baz=176,slow=37						
	comp=Z,1.8nm,0.8s						
ARU	**Arti**	**28.72**	**46**	LR	LR	05 27 20.6	
	comp=Z,98nm,18.4s,baz=242,slow=38						
ARU	**Arti**	**28.72**	**46**	*d i*P	**P**	**05 14 51.1**	**+2.5**
ARU				S	**S**	**05 19 37.0**	**+0.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BORG	**Borgarnes**	**32.70**	**328**	LR	LR	05 31 20.8	
	comp=Z,70nm,18.7s,baz=142,slow=41						
TORD	**Torodi Ar. Bea**	**32.72**	**214**	P	**P**	**05 15 24.2**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=20,slow=9.4,SNR=20						
	comp=Z,3.2nm,0.8s						
BRVK	**Borovoye**	**35.14**	**54**	⇑*e*P	**P**	**05 15 45.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**35.20**	**54**	LR	LR	05 31 13.3	
	comp=Z,46nm,18.8s,baz=262,slow=38						
KURK	**Kurchatov**	**40.54**	**57**	⇓*e*P	**P**	**05 16 32.4**	**+1.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BBTS	**Babate**	**41.52**	**240**	LR	LR	05 34 17.9	
	comp=Z,56nm,18.2s,baz=36,slow=37						
ZALV	**Zalesovo Beam**	**43.64**	**51**	P	**P**	**05 16 56.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=278,slow=8.8,SNR=7.2						
ZALV				LR	LR	05 37 40.5	
	comp=Z,67nm,18.0s,baz=238,slow=40						
	comp=Z,1.7nm,0.5s						
MKAR	**Makanchi Array**	**43.85**	**61**	P	**P**	**05 16 58.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=284,slow=7.5,SNR=5.9						
	comp=Z,0.7nm,0.6s						
SFJD	**Kangerlussuaq**	**44.83**	**328**	LR	LR	05 36 43.2	
	comp=Z,54nm,19.7s,baz=62,slow=37						
YAK	**Yakutsk**	**62.14**	**30**	*e*P	P	05 19 19.5	+7.3
YAK				*e**PP	sP	05 19 26.1	+4.2
YAK				pmax	pmax		
	comp=Z,33nm,0.9s						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,173nm,4.3s						
YAK				pmax	pmax		
	comp=E,108nm,3.8s						
HHC	**Hu-ho-hao-te**	**65.35**	**57**	*e*P	**P**	**05 19 36.9**	**+3.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,170nm,5.0s						
ABPO	**Ambohimpanom**	**65.64**	**152**	*i* P	**P**	**05 19 33.5**	**-2.4**
XLT	**XiLinHaoTe**	**66.33**	**52**	*e*P	**P**	**05 19 41.2**	**+1.1**
XLT				pP	pP	05 19 46.4	-0.6
XLT				sP	sP	05 19 48.0	-1.9
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,100nm,3.7s						
PZH	**PanZhiHua**	**67.02**	**74**	P	**P**	**05 19 47.7**	**+2.8**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
SADO	**Sadowa**	**67.49**	**310**	LR	LR	05 48 25.2	
	comp=Z,27nm,19.1s,baz=354,slow=35						
CMAR	**Chiang Mai Arr**	**69.86**	**83**	P	**P**	**05 20 01.3**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=308,slow=7.3,SNR=4.1						
CMAR				LR	LR	05 57 09.1	
	comp=Z,13nm,18.2s,baz=150,slow=41						
	comp=Z,0.9nm,0.3s						
BOSA	**Boshof**	**70.30**	**175**	P	**P**	**05 20 05.5**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=0.1,slow=6.2,SNR=6.8						
	comp=Z,3.0nm,0.7s						
MDP	**Montagnes des**	**73.64**	**262**	LR	LR	05 49 55.4	
	comp=Z,11nm,18.6s,baz=102,slow=33						
SUR	**Sutherland**	**73.89**	**179**	LR	LR	05 54 54.5	
	comp=Z,55nm,18.2s,baz=78,slow=37						
TKL	**Tuckaleechee C**	**76.00**	**305**	LR	LR	05 53 19.4	
	comp=Z,34nm,18.2s,baz=7.5,slow=35						
MJAR	**Matsushiro Arr**	**83.73**	**46**	LR	LR	06 03 54.0	
	comp=Z,20nm,18.4s,baz=216,slow=39						
PDAR	**Pinedale Array**	**84.25**	**325**	P	**P**	**05 21 23.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=52,slow=5.8,SNR=4.2						
PDAR				LR	LR	06 04 09.7	
	comp=Z,53nm,18.9s,baz=342,slow=39						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**92.11**	**313**	P	**P**	**05 22 01.7**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=67,slow=3.3,SNR=5.5						
	comp=Z,0.9nm,0.8s						
WRA	**Warramunga Arr**	**121.06**	**90**	PKP	**PKPdf**	**05 27 43.0**	**-1.4**
	comp=Z,0.8nm,1.2s,baz=314,slow=2.1,SNR=2.1						
WRA	**Warramunga Arr**	**121.06**	**90**	PKIKP	**PKPdf**	**05 27 43.0**	**-1.4**
ASAR	**Alice Springs**	**122.94**	**93**	PKP	**PKPdf**	**05 27 47.0**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=326,slow=1.7,SNR=7.2						
ASAR	**Alice Springs**	**122.94**	**93**	PKIKP	**PKPdf**	**05 27 47.0**	**-1.0**

MAN 04 05:22:10.8, 18°.99N × 121°.43E, h11^{km}, mb4.0, ML2.7, MS2.3, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.28**	**10**	⇑*i*P	Pb	05 22 17.2	-0.5
CICP				*i* S	Sb	05 22 24.4	+2.0
PACPP	**Pamplona Cagay**	**0.54**	**188**	⇑*i*P	Pg	05 22 21.6	+0.4
PACPP				*e*S	Sn	05 22 32.5	-0.8
APYP	**Conner**	**1.14**	**189**	⇑*e*P	Pb	05 22 31.9	-0.5
APYP				*e*S	Sn	05 22 48.3	0.0

*BJI **04** 05:45:01.0±0.0, 18°.58S × 169°.63E, h210^{km}, mb4.8/38, mB4.8/20*

*MOS **04** 05:45:03.2±0.9, 18°.87S × 169°.21E, h225^{km}, mb5.0/27, Error ellipse: s-maj=9.7km s-min=9.0km az=67.8*

*NEIC **04** 05:45:03.5±1.6, 18°.92S±0°.05 × 169°.26E±0°.10, h212^{km}±6^{km}, mb5.0/71, Error ellipse: s-maj=15.0km s-min=4.6km az=115.0*

*GCMT **04** 05:45:04.5±0.4, 18°.69S±0°.03 × 169°.11E±0°.03, h226^{km}±4^{km}, MW5.0/73, Moment Tensor Solution. s22,c24; s73,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.55±.17; $M_{\theta\theta}$-0.51±.25; $M_{\phi\phi}$-2.05±.21; $M_{r\theta}$2.28±.17; $M_{\theta\phi}$-1.35±.23; $M_{\phi r}$-0.62±.15; Best double couple: $M_0$3.46600×10^{16} NP1:ϕ_s61.00000°,δ61.00000°,λ125.00000°. NP2: ϕ_s186.00000°,δ45.00000°,λ44.00000°. Principal axes: T 4.0040, Plg58.0000°, Azm22.0000°; N -1.0810, Plg30.0000°, Azm222.0000°; P -2.9280, Plg9.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **04** 05:45:04.3±1.7, 18°.83S × 169°.21E, h222^{km}±16^{km}, mb4.3/18, mbtmp4.8/20 Error ellipse: s-maj=11.7km s-min=10.9km az=95.0*

*NOU **04** 05:45:04.0, 18°.88S × 169°.19E, h206^{km}, mb4.8/42, Vanuatu Islands*

ISC 04 05:45:02.9±0.5**, 18°.94S**±0°.05×**169°.25E**±0°.06**, h213**^{km}±4^{km}**, h214^{km}:pP-P, n535, σ1.05**/535**, mb4.9**/93**, 25C-25D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.38**	**325**	P	**Pn**	**05 45 37.1**	**+0.2**
DVP	**Devils Point**	**1.57**	**320**	P	**Pn**	**05 45 38.6**	**+0.1**
LIFNC	**LIFOU**	**2.63**	**226**	Pn	**Pn**	**05 45 48.4**	**-0.7**
LIFNC	**LIFOU**	**2.63**	**226**	P	**Pn**	**05 45 48.5**	**-0.6**
MARNC	**Mare, Loyalty**	**2.78**	**204**	Pn	**Pn**	**05 45 50.4**	**-0.3**
MARNC	**Mare, Loyalty**	**2.78**	**204**	P	**Pn**	**05 45 50.4**	**-0.3**
YATNC	**Mamie plateau,**	**3.81**	**215**	P	**Pn**	**05 46 02.4**	**-0.5**
DZM	**Mont Dzumac**	**4.08**	**220**	*e*Pn	**Pn**	**05 46 06.0**	**-0.3**
	590nm,1.0s						
DZM				*e*Sn	**Sn**	**05 46 56.2**	**0.0**
	2μm,1.2s						
DZM	**Mont Dzumac**	**4.08**	**220**	P	**Pn**	**05 46 07.5**	**+1.3**
	92nm,0.4s,baz=168,slow=22,SNR=274						
DZM				S	**Sn**	**05 46 58.1**	**+1.9**
	169nm,0.5s,baz=134,slow=19,SNR=13						
DZM	**Mont Dzumac**	**4.08**	**220**	Pn	**Pn**	**05 46 06.9**	**+0.6**
DZM	**Mont Dzumac**	**4.08**	**220**	P	**Pn**	**05 46 07.4**	**+1.1**
OUENC	**Ouen Island, N**	**4.13**	**213**		**Pn**	**05 46 07.7**	**+0.9**
OUENC	**Ouen Island, N**	**4.13**	**213**	P	**Pn**	**05 46 08.1**	**+1.3**
NOUC	**Port Laguerre**	**4.19**	**221**	P	**Pn**	**05 46 09.1**	**+1.6**
ONTNC	**Ouen Toro**	**4.25**	**218**	Pn	**Pn**	**05 46 09.6**	**+1.3**
ONTNC	**Ouen Toro**	**4.25**	**218**	P	**Pn**	**05 46 09.6**	**+1.3**
KOUNC	**Koumac, New Ca**	**4.94**	**250**	P	**Pn**	**05 46 18.9**	**+2.0**
MSVF	**Nonsavu**	**8.44**	**83**	P	**Pn**	**05 47 04.4**	**+2.3**
	64nm,0.8s,baz=245,slow=8.9,SNR=46						
MSVF	**Nonsavu**	**8.44**	**83**	Pn	**Pn**	**05 47 04.1**	**+2.0**
MSVF	**Nonsavu**	**8.44**	**83**	P	**Pn**	**05 47 04.9**	**+2.9**
	170nm,1.6s						
MSVF	**Nonsavu**	**8.44**	**83**	*d i*P	**Pn**	**05 47 04.7**	**+2.7**
MSVF				pmax	pmax		
	comp=Z,143nm,1.2s						
AUWSH	**Wavell State H**	**17.11**	**238**	P	**Pn**	**05 48 51.6**	**+1.8**
GD1S	**Gladstone Soft**	**17.53**	**251**	P	**Pn**	**05 48 56.3**	**+1.5**
	comp=Z,171nm,0.6s						
EIDS	**Eidsvold**	**18.00**	**246**		**Pn**	**05 48 59.5**	**-0.8**
EIDS	**Eidsvold**	**18.00**	**246**	P	**Pn**	**05 49 00.6**	**+0.3**
ARMA	**Armidale**	**19.64**	**231**	P	**P**	**05 49 17.2**	**+1.4**
ARMA	**Armidale**	**19.64**	**231**	P	**P**	**05 49 17.3**	**+1.6**
RMQ	**Roma**	**20.33**	**245**	P	**P**	**05 49 25.1**	**+2.1**
URZ	**Urewera**	**20.43**	**162**	P	Pn	05 49 27.0	-2.3
	comp=Z,5.9nm,0.4s,baz=90,slow=5.9,SNR=2.3						
	comp=Z,5.9nm,0.4s						
AUPHS	**Peel High Scho**	**20.54**	**230**	P	**P**	**05 49 27.2**	**+2.0**
BKZ	**Black Stump Fm**	**21.11**	**164**	P	**P**	**05 49 32.6**	**+1.5**
TV1H	**Townsville Har**	**21.22**	**265**	P	**P**	**05 49 33.8**	**+1.4**
MGCD	**Mangrove Creek**	**21.57**	**225**	P	**P**	**05 49 38.1**	**+2.2**
CTA	**Charters Tower**	**21.71**	**263**	P	**P**	**05 49 37.8**	**+0.5**
	comp=Z,34nm,0.7s,baz=90,slow=11,SNR=38						
	comp=Z,34nm,0.7s						
CTA	**Charters Tower**	**21.71**	**263**	P	**P**	**05 49 38.5**	**+1.1**
	comp=Z,62nm,1.0s						
CTAO	**Charters Tower**	**21.71**	**263**	P	**P**	**05 49 38.5**	**+1.1**
CTAO	**Charters Tower**	**21.71**	**263**	P	**P**	**05 49 38.4**	**+1.1**
CTAO	**Charters Tower**	**21.71**	**263**	P	**P**	**05 49 38.5**	**+1.1**
SYDH	**Sydney Hard Ro**	**22.15**	**225**	P	**P**	**05 49 44.0**	**+2.6**
	comp=Z,95nm,0.7s						
TUWZ	**Tuamarina**	**22.77**	**171**	P	**P**	**05 49 47.5**	**+0.5**
AUDCS	**Dubbo College**	**22.77**	**230**	P	**P**	**05 49 49.7**	**+2.6**
	comp=Z,48nm,1.1s						
THZ	**Tophouse**	**22.96**	**173**	P	**P**	**05 49 50.6**	**+1.9**
MSWZ	**Moikau Station**	**22.98**	**168**	P	**P**	**05 49 49.7**	**+0.8**
PLWZ	**Palliser**	**23.13**	**168**	P	**P**	**05 49 50.5**	**+0.2**
PMG	**Port Moresby**	**23.39**	**291**	P	**P**	**05 49 53.0**	**+0.2**
	comp=Z,25nm,0.7s,baz=108,slow=5.0,SNR=5.7						
	comp=Z,25nm,0.7s						
PMG	**Port Moresby**	**23.39**	**291**	P	**P**	**05 49 53.7**	**+0.8**
PMG	**Port Moresby**	**23.39**	**291**	*d i*P	**P**	**05 49 53.5**	**+0.6**
PMG				pmax	pmax		
	comp=Z,67nm,2.5s						
MTSU	**Mount Surprise**	**23.65**	**268**	P	**P**	**05 49 56.8**	**+1.6**
LTZ	**Lake Taylor**	**23.91**	**175**	P	**P**	**05 49 58.6**	**+1.3**
WVZ	**Waitaha Valley**	**24.09**	**177**	P	**P**	**05 50 01.6**	**+2.7**
CAN	**Canberra**	**24.24**	**224**	P	**P**	**05 50 01.8**	**+1.4**
CAN	**Canberra**	**24.24**	**224**	P	**P**	**05 50 01.8**	**+1.4**
CAN				pmax	pmax		
	comp=Z,12nm,0.5s						
QLP	**Quilpie**	**24.26**	**247**	P	**P**	**05 50 01.0**	**+0.3**
OXZ	**Oxford**	**24.43**	**175**	P	**P**	**05 50 03.2**	**+1.2**
FOZ	**Fox Glacier**	**24.52**	**179**	P	**P**	**05 50 04.8**	**+2.0**
FOZ	**Fox Glacier**	**24.52**	**179**	P	**P**	**05 50 04.3**	**+1.5**
CMSA	**Cobar Meteorol**	**24.67**	**235**	P	**P**	**05 50 05.5**	**+1.2**
RPZ	**Rata Peaks**	**24.75**	**177**	P	**P**	**05 50 06.3**	**+1.4**
	comp=Z,11nm,0.6s,baz=314,slow=3.6,SNR=12						
	comp=Z,11nm,0.6s						
WACZ	**Wakanui South**	**25.02**	**176**	P	P	05 49 58.1	-9.3
COEN	**Coen**	**25.48**	**277**	P	**P**	**05 50 12.3**	**+0.5**
COEN	**Coen**	**25.48**	**277**	P	**P**	**05 50 13.1**	**+1.3**
INKA	**Innaminka**	**27.55**	**246**	P	**P**	**05 50 31.9**	**+1.8**
	comp=Z,30nm,1.0s						
TOO	**Toolangi**	**27.84**	**223**	P	**P**	**05 50 34.3**	**+1.6**
TOO				IAmb	IAmb	05 51 10.1	
	comp=Z,30nm,1.4s						
TOO	**Toolangi**	**27.84**	**223**	P	**P**	**05 50 34.3**	**+1.6**
TOO				pmax	pmax		
	comp=Z,30nm,1.4s						
QIS	**Mount Isa**	**27.93**	**262**	P	**P**	**05 50 34.1**	**+0.4**
STKA	**Stephens Creek**	**28.02**	**237**	P	**P**	**05 50 35.7**	**+1.4**
	comp=Z,17nm,0.6s,baz=73,slow=9.2,SNR=44						
STKA				PcP	**PcP**	**05 53 43.7**	**+0.2**
	comp=Z,9.2nm,0.7s,baz=52,slow=5.3,SNR=8.2						
	comp=Z,17nm,0.6s						
STKA	**Stephens Creek**	**28.02**	**237**	P	**P**	**05 50 35.2**	**+1.0**
STKA	**Stephens Creek**	**28.02**	**237**	P	**P**	**05 50 35.5**	**+1.2**
STKA	**Stephens Creek**	**28.02**	**237**	*de*P	**P**	**05 50 35.5**	**+1.2**
WHYH	**Whyalla**	**31.60**	**237**	P	**P**	**05 51 06.2**	**+0.4**
OOD	**Oodnadatta**	**31.96**	**248**	P	**P**	**05 51 10.2**	**+1.2**
WR0	**Warramunga Arr**	**32.71**	**262**	P	**P**	**05 51 14.5**	**-1.2**
WRAB	**Tennant Creek**	**32.89**	**262**	P	**P**	**05 51 16.6**	**-0.7**
WRAB	**Tennant Creek**	**32.89**	**262**	*d i*P	**P**	**05 51 16.4**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,13nm,1.0s						
WRAB	**Tennant Creek**	**32.89**	**262**	P	**P**	**05 51 15.3**	**-2.0**
WRAB				pP	**pwP**	**05 52 03.0**	**-3.0**
WRAB				sP	**sP**	**05 52 22.6**	**-0.2**

WRA Warramunga Arr 32.90 262 P **P** 05 51 16.6 -0.8
comp=Z,97nm,1.2s,baz=97,slow=8.3,SNR=96
WRA PcP **PcP** 05 53 56.7 0.0
comp=Z,3.9nm,0.9s,baz=92,slow=3.1,SNR=7.6
WRA S **S** 05 56 15.5 -3.8
comp=Z,5.6nm,1.1s,baz=96,slow=14,SNR=7.5
comp=Z,97nm,1.2s
AS01 Alice Springs 33.17 256 P **P** 05 51 19.9 +0.3
AS31 Alice Springs 33.21 256 P **P** 05 51 19.6 -0.4
ASAR Alice Springs 33.21 256 P **P** 05 51 20.1 +0.1
comp=Z,103nm,0.4s,baz=82,slow=8.8,SNR=1510
ASAR PcP **PcP** 05 53 56.9 -0.6
comp=Z,3.6nm,0.8s,baz=105,slow=2.7,SNR=8.8
ASAR S **S** 05 56 21.6 -2.4
comp=Z,4.7nm,0.8s,baz=82,slow=18,SNR=22
ASAR Alice Springs 33.21 256 P **P** 05 51 19.8 -0.2
ASAR Alice Springs 33.21 256 P **P** 05 51 19.8 -0.2
MULG Mulgathing 33.80 244 P **P** 05 51 25.6 +0.6
MTN Manton Dam 37.10 274 P **P** 05 51 53.3 0.0
MTN IAmb IAmb 05 51 53.9
comp=Z,22nm,0.6s
MTN Manton Dam 37.10 274 P **P** 05 51 53.6 +0.4
WRKA Warakurna 38.35 253 P **P** 05 52 03.9 +0.3
KNRA Kununurra 38.73 268 P **P** 05 52 06.3 -0.5
KNRA IAmb IAmb 05 52 07.3
comp=Z,31nm,0.5s
KNRA Kununurra 38.73 268 P **P** 05 52 06.8 0.0
PSA00 Pilbara Seismi 46.27 258 P **P** 05 53 07.5 0.0
MBWA Marble Bar 46.42 259 P **P** 05 53 08.4 -0.2
MBWA Marble Bar 46.42 259 P **P** 05 53 08.2 -0.4
KHU Kahuku 51.27 44 P **P** 05 53 45.4 -0.2
KHU pmax pmax
comp=Z,428nm,1.6s
DRV Dumont d'Urvil 51.33 194 P **P** 05 53 44.4 -0.6
DRV pP **pwP** 05 54 31.4 -5.4
MLOA Mauna Loa Obse 51.50 44 P **P** 05 53 47.0 -0.6
VNDA Vanda 58.73 182 P **P** 05 54 38.6 +0.7
comp=Z,3.7nm,0.7s,baz=0.1,slow=8.0,SNR=26
comp=Z,3.7nm,0.7s
VNDA Vanda 58.73 182 P **P** 05 54 38.4 +0.5
VNDA Vanda 58.73 182 P **P** 05 54 38.4 +0.5
VNDA pmax pmax
comp=Z,7.0nm,1.1s
VNDA Vanda 58.73 182 P **P** 05 54 36.3 -1.6
VNDA pP **PcP** 05 55 28.2 +2.9
SBA Scott Base 58.96 181 P **P** 05 54 40.8 +1.3
SBA IAmb IAmb 05 54 42.3
comp=Z,32nm,0.8s
SBA Scott Base 58.96 181 P **P** 05 54 40.8 +1.3
SBA pmax pmax
comp=Z,31nm,0.8s
SBA Scott Base 58.96 181 P **P** 05 54 39.6 +0.1
SBA pP **PcP** 05 55 26.6 +0.5
CCD Concordia, Ant 61.19 192 P **P** 05 54 54.0 -1.1
CCD pP **PcP** 05 55 35.5 -0.2
JGF Kuroka 62.10 331 P **P** 05 55 00.7 -0.6
JGF IAmb IAmb 05 55 45.2
comp=Z,79nm,2.0s
MJAR Matsushiro Arr 62.49 332 P **P** 05 55 03.3 -0.6
comp=Z,4.5nm,0.6s,baz=164,slow=6.9,SNR=12
comp=Z,4.5nm,0.6s
MAJO Matsushiro 62.49 332 *de*P **P** 05 55 03.8 0.0
MAJO pmax pmax
comp=Z,16nm,1.1s
SSLB Suanglung 63.42 310 P **P** 05 55 09.5 -0.7
JHS Saijyo 63.68 327 P **P** 05 55 11.5 -0.2
JHS IAmb IAmb 05 57 07.2
comp=Z,85nm,1.9s
JSD Sado 63.72 333 P **P** 05 55 12.0 +0.2
JTM Tenmabayashi 64.94 337 P **P** 05 55 19.6 0.0
JKA Kamikawa-asahi 67.32 340 P **P** 05 55 34.2 -0.5
JKA IAmb IAmb 05 55 37.1
comp=Z,36nm,0.9s
ASAJ Asahikawa 67.32 340 P **P** 05 55 34.3 -0.5
ASAJ pmax pmax
comp=Z,36nm,0.9s
KSRS Korea Array 68.27 326 P **P** 05 55 40.3 -0.5
comp=Z,0.9nm,0.3s,baz=151,slow=6.4,SNR=4.1
comp=Z,0.9nm,0.3s
YSS Yuzh-Sakhalins 69.80 341⇓ *e*P **P** 05 55 51.2 +1.2
YSS pmax pmax
comp=Z,27nm,0.9s
NJ2 Nanjing 70.00 316 *e*P **P** 05 55 53.4 +1.8
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
QSPA South Pole Qui 71.11 180 P **P** 05 55 56.5 -1.5
QSPA pP **pP** 05 56 47.3 -0.4
USA0B Ussuriysk Arra 71.48 333 *de*P **P** 05 56 01.3 +1.1
USRK Ussuriysk Ar. 71.48 333 P **P** 05 56 00.7 +0.5
comp=Z,6.6nm,0.7s,baz=95,slow=7.4,SNR=9.7
comp=Z,6.6nm,0.7s
USRK Ussuriysk Ar. 71.48 333 P **P** 05 56 00.4 +0.2
USRK Ussuriysk Ar. 71.48 333 P **P** 05 56 00.4 +0.2
PET Petropavlovsk 72.25 353 P **P** 05 56 04.7 +0.1
PET Petropavlovsk 72.25 353 *ce*P **P** 05 56 04.5 0.0
PET pmax pmax
comp=Z,56nm,1.7s
PEA0B Petropavlovsk- 72.44 353 P **P** 05 56 05.7 -0.1
PEA0B Petropavlovsk- 72.44 353 *de*P **P** 05 56 06.6 +0.9
PETK Petropavlovsk- 72.44 353 P **P** 05 56 05.4 -0.3
comp=Z,28nm,0.8s,baz=171,slow=10,SNR=42
comp=Z,28nm,0.8s
PETK Petropavlovsk- 72.44 353 P **P** 05 56 05.8 +0.1
PETK Petropavlovsk- 72.44 353 P **P** 05 56 05.8 +0.1
MDJ Mudanjiang 72.86 332 P **P** 05 56 09.2 +0.8
MDJ pmax pmax
comp=Z,19nm,1.0s
MDJ pmax pmax
comp=Z,200nm,3.7s
NIKH Nikolski High 74.08 14 P **P** 05 56 14.5 -0.8
NIKH Nikolski High 74.08 14 P **P** 05 56 14.2 -1.1
baz=202
CN2 Changchun 74.21 329 *e*P **P** 05 56 16.5 +0.2
CN2 pmax pmax
comp=Z,20nm,0.8s
BNX BinXian 74.72 331⇓ P **P** 05 56 19.1 0.0
BNX pmax pmax
comp=Z,15nm,1.0s
BNX pmax pmax
comp=Z,130nm,4.7s
GRNR Gornyy 75.18 339⇑ *i*P **P** 05 56 23.1 +1.4
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=N,170nm,14.0s
GRNR MLR MLR
comp=E,120nm,14.0s
GRNR MLR MLR
comp=Z,160nm,14.0s
UNV Unalaska Valle 75.43 15 P **P** 05 56 21.9 -1.1
UNV IAmb IAmb 05 58 30.2
comp=Z,81nm,1.5s
UNV Unalaska Valle 75.43 15 P **P** 05 56 22.1 -0.8
baz=204
KLR Kul'dur 75.60 336 *ce*P **P** 05 56 24.9 +0.8
KLR pmax pmax
comp=Z,27nm,1.7s
GYA Guiyang 75.66 305⇓ P **P** 05 56 26.8 +1.7
GYA pmax pmax
comp=Z,16nm,0.8s
LYN LuoYang 75.77 315⇑ *i*P **P** 05 56 26.2 +0.8
LYN pmax pmax
comp=Z,10.0nm,0.7s
HNS HongShan 75.98 318⇑ P **P** 05 56 27.2 +0.7
HNS pmax pmax
comp=Z,9.0nm,0.8s
BJI Beijing 76.71 321 P **P** 05 56 31.2 +0.7
BJI pmax pmax
comp=Z,14nm,0.7s
XAN Xi'an 77.92 312 P **P** 05 56 38.4 +0.9
XAN pmax pmax
comp=Z,23nm,0.7s
KMI Kunming 78.12 302⇑ P **P** 05 56 40.5 +1.5
KMI pmax pmax
comp=Z,31nm,0.7s
HEH HeiHe 78.15 334 *e*P **P** 05 56 38.0 -0.3
HEH pmax pmax
comp=Z,14nm,1.1s
HEH pmax pmax
comp=Z,140nm,4.7s
CMAR Chiang Mai Arr 78.39 294 P **P** 05 56 41.8 +1.4
comp=Z,2.3nm,0.3s,baz=129,slow=4.2,SNR=23
CMAR pP **pP** 05 57 32.2 +1.0
comp=Z,1.6nm,0.3s,baz=126,slow=3.6,SNR=7.5
comp=Z,2.3nm,0.3s
CMAR Chiang Mai Arr 78.39 294 P **P** 05 56 40.7 +0.3
CMAR Chiang Mai Arr 78.39 294 P **P** 05 56 40.7 +0.3
MAW Mawson 78.72 202 P **P** 05 56 43.0 +1.8
comp=Z,7.7nm,0.7s,baz=102,slow=5.7,SNR=15
comp=Z,7.7nm,0.7s
MAW Mawson 78.72 202 P **P** 05 56 42.3 +1.1
PZH PanZhiHua 79.56 303 P **P** 05 56 48.3 +1.6
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.5s
CHGN Chignik 79.75 18 P **P** 05 56 45.7 -1.1
CHGN Chignik 79.75 18 P **P** 05 56 45.7 -1.1
baz=211
HHC Hu-ho-hao-te 80.00 319 *e*P **P** 05 56 51.8 +3.1
HHC pmax pmax
comp=Z,34nm,0.9s
HHC pmax pmax
comp=Z,160nm,4.7s
CD2 Chengdu 80.06 307 *e*P **P** 05 56 49.9 +0.7
ZEA Zeya 80.89 336 *e*P **P** 05 56 53.8 +0.8
ZEA pmax pmax
comp=Z,20nm,0.6s
R16K Pilot Point 81.07 17 P **P** 05 56 51.8 -2.0
baz=212
SII Sitkinak Islan 81.24 19 P **P** 05 56 55.4 +0.6
SII Sitkinak Islan 81.24 19 P **P** 05 56 53.4 -1.3
baz=215
OHAK Old Harbor 82.07 20 P **P** 05 56 59.4 +0.3
OHAK Old Harbor 82.07 20 P **P** 05 56 58.2 -0.8
baz=216
Q17K Contact Creek 82.14 18 P **P** 05 56 58.8 -0.8
baz=213,SNR=18
P16K Nushagak River 82.21 16 P **P** 05 56 59.0 -0.8
baz=211
Q16K King Salmon 82.28 17 P **P** 05 56 59.3 -0.8
baz=212,SNR=10
BELA Belgrano 2 82.40 175 P **P** 05 56 59.4 -1.3
BELA IAmb IAmb 05 57 00.8
comp=Z,27nm,0.6s
LZH Lanzhou 82.54 312 *e*P **P** 05 57 03.3 +1.1
LZH pmax pmax
comp=Z,20nm,1.1s
O16K Kokwok River B 82.67 16 P **P** 05 57 01.6 -0.5
baz=211
SEY Seymchan 82.67 352⇓ *e*P **P** 05 57 02.2 +0.1
SEY pmax pmax
comp=Z,24nm,2.5s
Q18K Katmai Hardscr 82.72 18 P **P** 05 57 01.7 -0.9
baz=214,SNR=22
KDAK Kodiak Island 82.75 19 P **P** 05 57 02.0 -0.5
baz=216
P17K Kvichak River 82.77 17 P **P** 05 57 02.5 -0.1
baz=212
O17K Koliganek Bris 83.09 16 P **P** 05 57 04.1 -0.1
baz=212
N16K Nishlik Lake 83.25 15 P **P** 05 57 05.1 -0.1
baz=210,SNR=14
P18K Big Mountain, 83.28 17 P **P** 05 57 04.8 -0.5
P18K Big Mountain, 83.28 17 P **P** 05 57 05.3 0.0
baz=214,SNR=24
Q19K Cape Douglas, 83.36 18 P **P** 05 57 05.3 -0.4
Q19K Cape Douglas, 83.36 18 P **P** 05 57 05.4 -0.3
baz=215,SNR=11
Q20K Shuyak Island 83.47 19 P **P** 05 57 06.4 +0.1
baz=216,SNR=6.0
O18K Koktuh Hills 83.67 17 P **P** 05 57 07.1 -0.2
O18K IAmb IAmb 05 57 08.1
comp=Z,49nm,1.0s
O18K Koktuh Hills 83.67 17 P **P** 05 57 06.7 -0.6
baz=214,SNR=11
GAMB Gambell 83.77 8 P **P** 05 57 07.3 -0.3
baz=198
P19K Oil Pt 84.07 18 P **P** 05 57 09.3 +0.1
P19K Oil Pt 84.07 18 P **P** 05 57 09.4 +0.1
baz=215,SNR=14
N18K Kilae Creek 84.18 16 P **P** 05 57 09.8 0.0
baz=213,SNR=8.3
O19K Port Alsworth 84.20 17 P **P** 05 57 09.8 -0.1
baz=214
HOM Homer 84.55 19 P **P** 05 57 11.5 -0.1
baz=217
O20K Slope Mountain 84.60 18 P **P** 05 57 11.6 -0.4
baz=216,SNR=6.4
SVW2 Sparrevohn 84.61 16 P **P** 05 57 11.5 -0.4
SVW2 IAmb IAmb 05 57 13.5
comp=Z,30nm,1.2s
N19K Bonanza Creek 84.67 17 P **P** 05 57 11.7 -0.6
baz=214,SNR=5.7
RSO Redoubt South 84.87 18 P **P** 05 57 12.8 -0.7
BRSE Bradley Lake S 84.89 19 P **P** 05 57 13.0 -0.4
baz=218,SNR=6.0
ANM Nome 85.51 11 P **P** 05 57 16.6 +0.3
baz=204
SEW Seward 85.58 19 P **P** 05 57 14.6 -2.2
baz=219
M19K Big River Lodg 85.60 16 P **P** 05 57 17.2 +0.3
baz=214
L19K White Mountain 85.71 16 P **P** 05 57 17.0 -0.4
L19K IAmb IAmb 05 57 20.5
comp=Z,18nm,0.9s
L19K White Mountain 85.71 16 P **P** 05 57 17.8 +0.4
baz=214
O22K Cooper Landing 85.79 19 P **P** 05 57 17.9 +0.1
baz=218
SBC Santa Barbara 85.84 52 P **P** 05 57 17.6 -1.0
baz=244
M20K Styx River 85.92 17 P **P** 05 57 18.9 +0.3
baz=215
PKM Mcpherson Peak 85.96 51 P **P** 05 57 19.1 -0.4
baz=244
KHMM Horse Mountain 85.99 44 P **P** 05 57 20.1 +0.7
KHMM IAmb IAmb 05 57 21.6
comp=Z,30nm,0.7s
TNA Tin City 86.01 9 P **P** 05 57 18.7 0.0
baz=202
SMMC Simmler 86.01 51 P **P** 05 57 19.0 -0.6
baz=244
TTA Tatalina 86.04 15 P **P** 05 57 19.1 0.0
baz=213
SCI2 San Clemente I 86.08 53 P **P** 05 57 19.0 -0.9
baz=244
L20K Farewell, AK 86.21 16 P **P** 05 57 20.1 +0.3
baz=215
SUA Susitna One 86.26 18 P **P** 05 57 19.1 -1.1
baz=218
RC01 Rabbit Creek A 86.27 19 P **P** 05 57 19.5 -0.6
baz=218
CIS Catalina Islan 86.36 53 P **P** 05 57 20.3 -1.0
baz=245
PWL Port Wells 86.52 19 P **P** 05 57 20.5 -0.9
baz=220,SNR=6.4
FMP Fort Macarthur 86.58 53 P **P** 05 57 21.6 -0.7
baz=245
YAK Yakutsk 86.59 342 *e*P **P** 05 57 21.2 -0.4
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
ULN Ulaanbaatar 86.63 323 *c i*P **P** 05 57 22.4 0.0
ULN *i* *PP **pP** 05 58 15.6 +1.5
ULN pmax pmax
comp=Z,26nm,1.0s
M22K Willow 86.67 18 P **P** 05 57 21.7 -0.4
baz=218,SNR=8.0
BILL Bilibino 86.75 359 *c i*P **P** 05 57 22.5 +0.2
BILL *i* *SP sP 05 58 43.5 +7.3
BILL *e* 06 00 45.3
BILL pmax pmax
comp=Z,28nm,1.0s
DECC Green Verdugo 86.78 52 P **P** 05 57 22.8 -0.6
baz=245
ARVC Arvin 86.79 51 P **P** 05 57 23.1 -0.1
baz=244
PMR Palmer 86.84 19 P **P** 05 57 20.9 -2.0
baz=219
K20K Telida 86.89 16 P **P** 05 57 22.2 -0.9
baz=214
KNK Knik Glacier 86.91 19 P **P** 05 57 22.2 -1.0
baz=220
VES Vestal, Richgr 86.91 51 P **P** 05 57 24.0 +0.1
baz=244,SNR=5.6
GTA Gaotai 86.93 313 *e*P **P** 05 57 24.9 +0.9
GTA pP pP 05 58 17.1 +1.3
GTA pmax pmax
comp=Z,14nm,0.8s
CMB Columbia Colle 86.95 48 P **P** 05 57 23.9 -0.1
CMB IAmb IAmb 05 57 25.5
comp=Z,15nm,0.8s
CMB Columbia Colle 86.95 48 P **P** 05 57 24.0 -0.1
CMB pmax pmax
comp=Z,15nm,0.9s
AFDM Forest Hills D 86.95 47 P **P** 05 57 24.4 +0.4
AFDM IAmb IAmb 05 57 25.5
comp=Z,14nm,0.8s
SONM Songino Array 86.99 323 P **P** 05 57 24.2 +0.1
comp=Z,12nm,0.8s,baz=151,slow=6.3,SNR=56
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 87.08 44 P **P** 05 57 25.8 +1.2
YBH IAmb IAmb 05 57 26.6
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 87.08 44 P **P** 05 57 25.8 +1.2
YBH pmax pmax
comp=Z,24nm,1.2s
109C Camp Elliot, M 87.14 54 P **P** 05 57 25.2 +0.2
baz=245
SML Sawmill 87.25 19 P **P** 05 57 25.0 0.0
baz=220
ISA Isabella, Lake 87.28 51 P **P** 05 57 26.5 +0.8
baz=244,SNR=16
BFSC Mount Baldy Ra 87.28 53 P **P** 05 57 26.2 +0.3
baz=245,SNR=15
EDW2 Edwards Air Fo 87.30 52 P **P** 05 57 26.6 +0.8
baz=245,SNR=12
HUMO Hull Mountain 87.33 43 P **P** 05 57 26.5 +0.7
HUMO IAmb IAmb 05 57 27.9
comp=Z,16nm,0.9s
MURC Murrieta 87.36 53 P **P** 05 57 26.6 +0.5
baz=245,SNR=5.9
GCSA Galena City Sc 87.38 14 P **P** 05 57 25.6 +0.3
baz=212
M23K Glacier View 87.42 19 P **P** 05 57 24.6 -1.1
baz=220
CAST Castle Rocks 87.46 16 P **P** 05 57 24.5 -1.3
baz=216,SNR=9.5
J20K Nowinta River 87.55 15 P **P** 05 57 25.6 -0.6
J20K IAmb IAmb 05 57 28.7
comp=Z,46nm,1.9s
J20K Nowinta River 87.55 15 P **P** 05 57 25.5 -0.7
baz=214,SNR=6.0
SCM Sheep Creek Mo 87.58 19 P **P** 05 57 25.6 -0.9
baz=221
MONP2 Monument Peak 87.66 54 P **P** 05 57 28.2 +0.4
baz=246,SNR=20
ESJX Sierra Juarez 87.67 55 P **P** 05 57 28.4 +0.6
KLU Klutina 87.76 20 P **P** 05 57 25.6 -1.8
baz=222
CHUM Lake Minchumin 87.77 16 P **P** 05 57 26.0 -1.3
baz=216
LRMC Laurel Mtn Rad 87.79 51 P **P** 05 57 28.9 +0.7
baz=245,SNR=13
IKP In-Ko-Pah, Jac 87.81 54 P **P** 05 57 29.2 +0.9
baz=246,SNR=7.2
BBRC Big Bear Solar 87.85 53 P **P** 05 57 28.9 +0.3
baz=245
CWC Cottonwood Cre 87.90 50 P **P** 05 57 29.4 +0.7
baz=245
PFO Pinyon Flats O 87.93 54 P **P** 05 57 29.4 +0.4
PFO Pinyon Flats O 87.93 54 P **P** 05 57 29.3 +0.4
baz=246,SNR=5.8
PFO Pinyon Flats O 87.93 54⇑ *e*P **P** 05 57 29.0 +0.1
PFO pmax pmax
comp=Z,13nm,0.9s
TPFO Pinon Flats 87.93 54 P **P** 05 57 29.0 0.0
baz=246,SNR=5.7
TRF Thorofare Moun 87.97 17 P **P** 05 57 26.8 -1.7
TRF Thorofare Moun 87.97 17 P **P** 05 57 27.1 -1.3
baz=218
PNTR Pine Nut 87.97 47 P **P** 05 57 29.5 +0.4
PNTR IAmb IAmb 05 57 30.9
comp=Z,59nm,1.8s
WAT1 Susitna Watana 87.98 18 P **P** 05 57 27.0 -1.3
baz=220
WAT6 Susitna Watana 88.02 18 P **P** 05 57 27.7 -1.0
baz=220
TIN Tinemaha, Big 88.06 50 P **P** 05 57 29.7 +0.3
baz=244
SWSC Sam W. Stewart 88.16 54 P **P** 05 57 30.8 +0.9
baz=246,SNR=8.5
MPMC Manual Prospec 88.17 51 P **P** 05 57 31.1 +1.0
baz=245,SNR=14
N25K Chitina, Valde 88.28 20 P **P** 05 57 28.3 -1.5
baz=223
GSC Goldstone, Bar 88.36 52 P **P** 05 57 31.0 +0.1
baz=245,SNR=6.2
BELC Belle Mtn. Jos 88.44 53 P **P** 05 57 32.2 +0.9
baz=246,SNR=28
DHY Denali Highway 88.51 18 P **P** 05 57 29.7 -1.2
baz=220
HEC Hector,Ludlow 88.52 52 P **P** 05 57 31.9 +0.2
baz=246,SNR=6.3
MCK McKinley 88.57 17 P **P** 05 57 29.9 -1.2
baz=219
NVAR Mina Array Bea 88.59 49 P **P** 05 57 32.7 +0.6
comp=Z,5.7nm,0.8s,baz=226,slow=8.4,SNR=43
comp=Z,5.7nm,0.8s
NVAR Mina Array Bea 88.59 49 P **P** 05 57 32.6 +0.5
MCARA McCarthy VSAT 88.64 21 P **P** 05 57 31.1 -0.3
baz=224
GRAC Grapevine Rang 88.66 50 P **P** 05 57 32.8 +0.6
GRAC IAmb IAmb 05 57 34.3
comp=Z,38nm,1.4s
GRAC Grapevine Rang 88.66 50 P **P** 05 57 33.2 +1.0
baz=245,SNR=11
HARP HAARP 88.68 19 P **P** 05 57 30.6 -1.0
baz=222
PINM Pinnacle 88.71 23 P **P** 05 57 32.6 +0.8
baz=227
BC3 Big Chuckawall 88.71 54 P **P** 05 57 33.6 +1.0
baz=246,SNR=8.2
PNL Peninsula 88.74 23 P **P** 05 57 33.1 +1.2
baz=228
FURC Furnace Creek, 88.80 51 P **P** 05 57 33.6 +0.9
baz=245,SNR=7.7
H04A Detroit Lake 88.81 42 P **P** 05 57 33.0 +0.3
TROLL Troll, Antarti 88.83 184 P **P** 05 57 32.3 -0.3
GMN Gold Mountain 88.86 50 P **P** 05 57 33.4 +0.1
I21K Tanana 88.91 15 P **P** 05 57 32.2 -0.3
baz=216,SNR=8.2
GLA Glamis 88.95 55 P **P** 05 57 34.9 +1.3
baz=247,SNR=11
KVN Kaiserville 89.00 48 P **P** 05 57 34.2 +0.3
KVN IAmb IAmb 05 57 35.0
comp=Z,9.2nm,0.7s
KVN Kaiserville 89.00 48 P **P** 05 57 34.2 +0.3
KVN pmax pmax
comp=Z,9.0nm,0.7s
SHOC Shoshone, Teco 89.00 51 P **P** 05 57 34.7 +0.9
baz=246,SNR=6.8
GMRC Granite Mounta 89.01 53 P **P** 05 57 34.7 +0.7
baz=246,SNR=5.5
TUQ Turquoise Moun 89.08 52 P **P** 05 57 35.1 +0.8
baz=246,SNR=5.5
H21K Melozitna Rive 89.09 15 P **P** 05 57 33.1 -0.3
baz=216
MLY Manley 89.10 16 P **P** 05 57 32.7 -0.9
baz=217
WCT Wildcat Mounta 89.11 51 P **P** 05 57 34.9 +0.5
WCT IAmb IAmb 05 57 35.6
comp=Z,12nm,0.7s
IRM Iron Mountain 89.15 53 P **P** 05 57 35.6 +1.1
baz=246,SNR=9.3
NVL N'lazarevskaya 89.16 187 *e*P **P** 05 57 33.4 -0.5
NVL *e*S **SKSac** 06 07 41.3 -1.6
NVL pmax pmax
comp=Z,15nm,0.7s
PINE Pine Mountain 89.19 43 P **P** 05 57 35.5 +0.8
PINE IAmb IAmb 05 57 36.7
comp=Z,25nm,0.8s
O28M Mount Upton 89.19 22 P **P** 05 57 33.3 -1.1
baz=227
V35K Ketchikan 89.27 29 P **P** 05 57 35.2 +0.7
baz=234
P29M Windy Craggy 89.34 24 P **P** 05 57 34.8 0.0
baz=229
M26K Nabesna, AK 89.38 20 P **P** 05 57 34.3 -0.6
baz=224
SLBS Sierra La Lagu 89.44 65 P **P** 05 57 37.6 +1.4
TPNV Topopah Spring 89.45 51 P **P** 05 57 36.8 +0.8
baz=246,SNR=16
SNAA Sanae 89.46 182 P **P** 05 57 34.7 -0.7

SNAA Sanae 89.46 182 P P 05 57 34.4 -1.0
SNAA IAmb IAmb 05 57 35.7
comp=Z,9.6nm,0.7s
SNAA Sanae 89.46 182c iP P 05 57 34.6 -0.8
SNAA pmax pmax
comp=Z,17nm,1.3s
K24K Donnelly Dome 89.53 18 P P 05 57 34.6 -1.0
baz=222,SNR=5.5
I23K Minto, Yukon-K 89.56 16 P P 05 57 34.8 -0.8
baz=219
WRAK Wrangell Islan 89.58 28 P P 05 57 35.8 -0.1
baz=234
G21K Allakaket 89.63 14 P P 05 57 35.8 -0.2
baz=215
H22K Ishtalitna Cre 89.63 15 P P 05 57 35.4 -0.6
baz=217
HDA Harding Lake 89.65 17 P P 05 57 35.0 -1.0
baz=221,SNR=10
YUK8 Steele Glacier 89.70 22 P P 05 57 36.5 -0.2
baz=227,SNR=5.4
L26K Log Cabin Wild 89.71 20 P P 05 57 35.5 -0.9
baz=224
M27K Edge Creek, AK 89.71 21 P P 05 57 35.9 -0.7
baz=225
TCOL CIGO, UAF Yank 89.75 17 P P 05 57 35.1 -1.3
baz=220
COLA College 89.75 17 P P 05 57 35.6 -0.9
baz=220
COLA College 89.75 17de P P 05 57 35.2 -1.3
COLA pmax pmax
comp=Z,16nm,1.0s
PLBC Pleasant Camp 89.76 25 P P 05 57 36.1 -0.6
baz=230
R32K Eaglecrest 89.76 26 P P 05 57 35.7 -1.0
baz=232
RIDG Independent Ri 89.77 19 P P 05 57 35.4 -1.3
baz=223
YUK3 Moose Creek 89.79 21 P P 05 57 36.6 -0.5
baz=227
ILAR Eielson Array 89.94 17 P P 05 57 35.7 -1.7
comp=Z,4.0nm,0.6s,baz=238,slow=4.9,SNR=54
comp=Z,4.0nm,0.6s
P30M Million Dollar 89.96 24 P P 05 57 37.9 +0.2
baz=230
PDMCI Parker Dam,Lak 89.97 54 P P 05 57 39.0 +0.8
baz=247,SNR=14
YUK6 Outpost Mounta 89.97 23 P P 05 57 37.0 -1.0
baz=228
LON Longmire 90.02 40 P P 05 57 38.2 -0.1
LON IAmb IAmb 05 57 43.4
comp=Z,27nm,1.6s
LON Longmire 90.02 40 P P 05 57 38.2 -0.1
LON pmax pmax
comp=Z,27nm,1.6s
H23K Yukon River 90.04 16 P P 05 57 39.9 +2.0
baz=218
POKR Poker Plat Res 90.05 17 P P 05 57 36.1 -1.9
baz=220
VNA3 Neumayer Olymp 90.05 180 P P 05 57 37.4 -0.7
VNA3 Neumayer Olymp 90.05 180 pP pP 05 58 28.2 -2.0
ZAK Zakamensk 90.06 324 eP P 05 57 38.1 -0.4
ZAK pmax pmax
comp=Z,8.0nm,1.4s
SHPR Sheep Range 90.07 51 P P 05 57 39.4 +0.4
BVCY Beaver Creek 90.09 21 P P 05 57 37.7 -0.5
baz=226
214A Organ Pipe Nat 90.10 56 P P 05 57 38.7 -0.3
214A IAmb IAmb 05 57 41.1
comp=Z,18nm,1.1s
214A Organ Pipe Nat 90.10 56 P P 05 57 39.7 +0.7
baz=248
YUK4 Talbot Arm 90.14 22 P P 05 57 37.7 -1.0
baz=228
SKAG Skagway 90.17 25 P P 05 57 38.4 -0.1
baz=231
SCRK Sand Creek 90.20 19 P P 05 57 38.5 -0.3
baz=224,SNR=8.4
BMN Battle Mountai 90.20 47 P P 05 57 40.0 +0.5
BMN IAmb IAmb 05 57 41.1
comp=Z,14nm,0.9s
BMN Battle Mountai 90.20 47 P P 05 57 40.0 +0.5
BMN pmax pmax
comp=Z,15nm,0.9s
HYT Haines Junctio 90.21 23 P P 05 57 38.2 -0.8
baz=229
F21K Alatna River 90.22 14 P P 05 57 38.5 -0.2
baz=215
L27K Beaver Creek, 90.22 20 P P 05 57 38.7 -0.1
baz=226
J25K Salcha River, 90.26 18 P P 05 57 37.1 -1.9
baz=222
VNA2 Neumayer--Watz 90.34 181 P P 05 57 38.9 -0.5
baz=177,slow=5.0
VNA2 Neumayer--Watz 90.34 181 pP pP 05 58 29.6 -1.9
G22K Bettles 90.43 14 P P 05 57 39.9 +0.3
baz=217
W13A Hualapai Mount 90.47 53 P P 05 57 41.1 +0.2
W13A IAmb IAmb 05 57 42.7
comp=Z,12nm,0.8s
H24K Noodor Dome 90.48 16 P P 05 57 38.7 -1.3
baz=220
R11A Troy Canyon, C 90.50 49 P P 05 57 40.8 -0.2
baz=246,SNR=8.4
J08A Circle Bar Ran 90.60 44 P P 05 57 41.2 0.0
J08A IAmb IAmb 05 57 42.8
comp=Z,24nm,0.8s
G23K Bananza Creek 90.62 15 P P 05 57 39.8 -0.7
baz=218
VNA1 Neumayer--Stat 90.63 181 P P 05 57 40.3 -0.5
O30N Mendenhall 90.71 24 P P 05 57 40.3 -0.8
baz=230
J26L Joseph Creek 90.71 19 P P 05 57 41.4 +0.3
J26L Joseph Creek 90.71 19 P P 05 57 40.9 -0.2
baz=224,SNR=9.2
F22K John River 90.75 14 P P 05 57 40.8 -0.4
baz=216
N30M Aishikik Lake 90.78 23 P P 05 57 40.4 -1.0
baz=230
K27K Chicken 90.83 19 P P 05 57 41.4 -0.2
baz=225
PRP Porcupine Dome 90.88 17 P P 05 57 41.1 -0.9
baz=222
P32M Atlin 90.90 25 P P 05 57 41.8 -0.3
baz=232
M29M Somme Creek 90.93 22 P P 05 57 40.9 -1.3
baz=228
COLD Coldfoot 90.98 15 P P 05 57 42.0 -0.2
baz=218
S34M Telegraph Cree 90.99 27 P P 05 57 41.7 -0.7
baz=235
WHY Whitehorse 91.10 24 P P 05 57 42.1 -0.9
baz=232
Q32M Nakina River 91.12 26 P P 05 57 42.3 -1.0
baz=234
G08A Pilot Rock 91.13 42 P P 05 57 44.0 +0.4
G08A IAmb IAmb 05 57 45.1
comp=Z,21nm,0.9s
G24K Hadweenzic Riv 91.25 16 P P 05 57 42.9 -0.6
baz=220
N31M Braeburn, Yuko 91.28 23 P P 05 57 43.3 -0.4
N31M IAmb IAmb 05 57 44.2
comp=Z,25nm,1.0s
N31M Braeburn, Yuko 91.28 23 P P 05 57 43.3 -0.4
baz=231
I26K Coal Creek Min 91.41 18 P P 05 57 43.6 -0.6
baz=224
L29M L29M 91.49 21 P P 05 57 43.9 -0.8
baz=229
M30M Minto, Yukon 91.61 22 P P 05 57 44.3 -1.0
M30M IAmb IAmb 05 57 45.7
comp=Z,17nm,1.1s
M30M Minto, Yukon 91.61 22 P P 05 57 44.8 -0.5
baz=230,SNR=7.1
EGAK Eagle 91.64 19 P P 05 57 44.9 -0.4
baz=226,SNR=11
P33M Teslin, Yukon 91.64 25 P P 05 57 44.7 -0.8
baz=233
G25K Bearman Lake 91.66 16 P P 05 57 44.9 -0.5
baz=222
SPR3 Spring Creek 3 91.66 49 P P 05 57 46.7 +0.3
SPR3 IAmb IAmb 05 57 47.6
comp=Z,16nm,1.4s
DAWY Dawson 91.71 20 P P 05 57 45.1 -0.6
baz=228
DLBC Dease Lake 91.77 27 P P 05 57 46.7 +0.6
baz=236,SNR=7.3
F24K Squaw Lake 91.77 15 P P 05 57 45.8 -0.1
baz=220
E23K Chandalar 91.78 14 P P 05 57 46.2 +0.2
baz=218
TUC Tucson 91.83 57 P P 05 57 48.3 +1.2
baz=249
R33M Jennings River 91.92 26 P P 05 57 46.7 -0.2
baz=235,SNR=6.2
E24K Your Creek 92.06 15 P P 05 57 47.0 -0.2
baz=220
I27K Kandik River 92.08 18 P P 05 57 47.2 -0.2
baz=226
U15A North Rim 92.18 52 P P 05 57 49.4 +0.6
K29M Barlow Dome 92.18 21 P P 05 57 46.6 -1.3
baz=229
M31M Drury Creek, Y 92.24 23 P P 05 57 47.5 -0.7
baz=232,SNR=5.4
TOLK Toolik Lake Re 92.25 14 P P 05 57 48.0 -0.1
baz=219
D23K Nanushuk River 92.25 13 P P 05 57 47.9 -0.1
baz=218
G26K Porcupine Rive 92.42 17 P P 05 57 49.3 +0.5
baz=224
F10A Beach Ranch, E 92.52 42 P P 05 57 49.8 -0.1
WUAZ Wupatki 92.53 53 P P 05 57 50.9 +0.5
WUAZ IAmb IAmb 05 57 52.3
comp=Z,12nm,0.9s
WUAZ Wupatki 92.53 53 P P 05 57 50.9 +0.5
baz=249
H27K Steamboat Moun 92.54 18 P P 05 57 49.6 +0.1
baz=226
MAYO Mayo, Yukon 92.58 21 P P 05 57 49.5 -0.2
baz=231,SNR=5.2
FARO Faro, Yukon 92.65 23 P P 05 57 48.5 -1.5
baz=233
D24K Happy Valley 92.82 14 P P 05 57 50.6 0.0
baz=219
MTPU Mount Pierson 92.85 51 P P 05 57 52.8 +0.8
MTPU IAmb IAmb 05 57 54.3
comp=Z,6.5nm,0.7s
G27K Doyon Strip 92.91 17 P P 05 57 51.2 +0.1
baz=226
I29M Ogilvie Camp, 92.92 19 P P 05 57 50.7 -0.5
baz=229,SNR=6.9
MVU Marysvale 93.00 50 P P 05 57 53.2 +0.6
MVU IAmb IAmb 05 57 54.5
comp=Z,13nm,0.9s
DUG Dugway, Tooele 93.20 49 P P 05 57 53.3 0.0
baz=248
WTLY Watson Lake, Y 93.23 26 P P 05 57 53.1 +0.3
baz=237
C24K Franklin Bluff 93.28 14 P P 05 57 53.2 +0.4
baz=219
HLID Hailey 93.38 45 P P 05 57 54.6 +0.6
baz=247,SNR=11
NEW Newport 93.54 40 P P 05 57 55.0 +0.5
baz=245
MMPY Sheldon Lake, 93.66 24 P P 05 57 54.8 0.0
baz=235,SNR=5.6
E27K Coleen River 93.89 16 P P 05 57 55.8 +0.2
baz=226
LIRD Liard River Hi 94.01 28 P P 05 57 56.5 +0.2
baz=239,SNR=9.1
EPYK Eagle Plains 94.08 19 P P 05 57 56.0 -0.6
EPYK IAmb IAmb 05 57 57.1
comp=Z,17nm,1.0s
EPYK Eagle Plains 94.08 19 P P 05 57 56.4 -0.1
baz=230
TGTN Hyland Airport 94.22 25 P P 05 57 57.0 -0.3
baz=237
121A Cookes Peak, D 94.28 57 P P 05 57 58.8 +0.3
baz=250
121A Cookes Peak, D 94.28 57 P P 05 57 58.4 -0.1
baz=250
C27K Jago River 94.37 15 P P 05 57 59.0 +1.2
baz=224
TIXI Tiksi 94.45 348⇓eP P 05 57 56.9 -1.2
TIXI pmax pmax
comp=Z,1.0nm,0.9s
G30M tAoh Zraii Nji 94.62 19 P P 05 57 59.2 +0.2
baz=231
MSO Missoula 94.95 42 P P 05 58 01.4 +0.3
baz=248
KOTAN Kotaneelee Air 95.27 27 P P 05 58 02.1 0.0
baz=241
MVCO Mesa Verde 95.30 53 P P 05 58 02.8 -0.3
baz=250
Y22A Socorro 95.40 56 P P 05 58 04.4 +0.8
baz=251
FLDN Fort Liard 95.58 28 P P 05 58 03.3 -0.2
baz=241
F31M Tsiigehtchic 95.67 19 P P 05 58 03.6 -0.1
baz=233
BOZ Bozeman (W) 95.98 44 P P 05 58 06.0 +0.1
baz=249
ANMO Albuquerque 96.12 55 P P 05 58 06.8 -0.1
baz=251
ANMO Albuquerque 96.12 55 P P 05 58 06.8 -0.1
baz=251
ANMO Albuquerque 96.12 55⇑eP P 05 58 06.7 -0.1
ANMO pmax pmax
comp=Z,6.0nm,1.5s
INK Inuvik 96.25 18 P P 05 58 05.7 -0.7
baz=233
H17A Grant Village 96.26 45 P P 05 58 07.4 +0.1
baz=250
BW06 Boulder Array 96.40 47 P P 05 58 07.3 -0.7
baz=250
PDAR Pinedale Array 96.40 47 P P 05 58 07.2 -0.8
comp=Z,0.6nm,0.5s,baz=194,slow=3.5,SNR=8.0
comp=Z,0.6nm,0.5s
O20A White River Ci 96.46 50 P P 05 58 06.7 -1.5
baz=251
TX31 Lajitas Ar. Si 96.61 61 P P 05 58 09.8 +0.7
baz=252
TXAR Lajitas Array 96.61 61 P P 05 58 10.0 +1.0
comp=Z,2.3nm,0.7s,baz=221,slow=5.6,SNR=24
comp=Z,2.3nm,0.7s
TXAR Lajitas Array 96.61 61 P P 05 58 09.7 +0.6
TXAR Lajitas Array 96.61 61 P P 05 58 09.7 +0.6
S22A 4UR Ranch, Cre 96.73 53 P P 05 58 09.3 -0.4
baz=251
WMQ Urumqi 97.01 314 eP P 05 58 11.8 +1.3
WMQ LR LR
comp=Z,65nm,19.9s
WRGLY Wrigley 97.02 25 P P 05 58 09.7 -0.2
baz=242
RLMT Red Lodge 97.39 45 P P 05 58 11.5 -0.9
baz=251
EFI East Falkland 98.46 152⇓eP P 05 58 15.9 -0.9
EFI pmax pmax
comp=Z,33nm,1.2s
MSTX Muleshoe 98.72 57 P P 05 58 18.4 0.0
baz=253
MSTX Muleshoe 98.72 57 P P 05 58 18.1 -0.3
baz=253
DGZ Jazzator, Alta 99.08 319⇑eP Pdif 05 58 19.3 -0.4
DGZ pmax pmax
comp=Z,8.0nm,2.4s
C36M Paulatuk 99.71 19 P Pdif 05 58 21.4 -0.4
baz=242
YKA Yellowknife Ar 100.40 27 P Pdif 05 58 24.5 -0.5
comp=Z,3.9nm,0.7s,baz=253,slow=4.7,SNR=8.5
A36M Sachs Harbour 100.63 17 P Pdif 05 58 25.8 0.0
baz=241
MKAR Makanchi Array 101.53 316 P Pdif 05 58 32.0 +1.5
comp=Z,1.4nm,0.5s,baz=90,slow=6.1,SNR=8.2
BVAR Borovoye Array 110.19 321 PKiKP PKiKP 06 03 08.1 -0.9
comp=Z,1.0nm,0.5s,baz=112,slow=1.6,SNR=6.1
BRVK Borovoye 110.26 321⇑iPKIKP PKiKP 06 03 09.0 -0.2
BRVK pmax pmax
comp=Z,4.0nm,1.7s
ARU Arti 117.00 324 PKP PKPdf 06 03 21.3 -0.7
comp=Z,6.2nm,0.4s,baz=346,slow=2.4,SNR=7.2
GEYT Alibeck 117.86 303 PKP PKPdf 06 03 24.1 -0.1
comp=Z,4.8nm,0.7s,baz=228,slow=1.8,SNR=6.7
BOSA Boshof 121.30 217 PKP PKPdf 06 03 31.3 -0.1
comp=Z,4.2nm,0.8s,baz=120,slow=2.3,SNR=4.6
BELG Belogornoye 123.99 321 PKP PKPdf 06 03 35.0 -0.5
comp=Z,28nm,0.9s,baz=325,slow=3.2,SNR=9.1
ARCES ARCESS Array B 124.78 345 PKP PKPdf 06 03 35.8 -0.8
comp=Z,4.4nm,0.5s,baz=76,slow=1.8,SNR=57
KLMR Klimovskoe 125.27 333 ePKPdf PKPdf 06 03 35.3 -2.4
KLMR AMP 06 03 38.7
comp=Z,24nm,1.7s
KLMR Klimovskoe 125.27 333 ePKIKP PKPdf 06 03 35.3 -2.4
KLMR pmax pmax
comp=Z,24nm,1.7s
KIV Kislovodsk 129.08 312 ePKIKP PKPdf 06 03 45.7 0.0
KIV pmax pmax
comp=Z,7.0nm,1.1s
BDFB Brasilia 129.74 131 PKP PKPdf 06 03 47.3 -0.5
comp=Z,3.7nm,0.6s,baz=109,slow=5.4,SNR=5.4
FINES FINESS Array B 130.31 338 PKhKP PKPpre 06 03 39.4
comp=Z,2.6nm,0.9s,baz=178,slow=9.2,SNR=3.8
FINES PKP PKPdf 06 03 46.6 -0.7
comp=Z,1.0nm,0.5s,baz=80,slow=2.2,SNR=7.2
NB2 NORSAR Subarra 135.16 345 PKP PKPdf 06 03 56.8 +0.3
comp=Z,0.6nm,0.5s,baz=43,slow=2.9
NOA NORSAR Array B 135.16 345 PKP PKPdf 06 03 56.9 +0.3
comp=Z,0.8nm,0.5s,baz=28,slow=2.1,SNR=4.6
AKASG Malin Array Be 135.25 325 PKP PKPdf 06 03 57.4 +0.5
comp=Z,1.1nm,0.5s,baz=51,slow=3.5,SNR=5.3
BRTR Keskin Array B 136.64 308 PKP PKPdf 06 04 00.9 +0.8
comp=Z,1.7nm,0.5s,baz=152,slow=4.9,SNR=3.3
CRVS Cervenica-Dubn 140.43 326 ePKP PKPdf 06 04 05.5 -1.1
CRVS Cervenica-Dubn 140.43 326 ePKIKP PKPdf 06 04 05.5 -1.1
MAUC Maruska 141.96 330 ePKP PKPdf 06 04 05.9 -3.4
DPC Dobruska-Polom 141.97 332 ePKP PKPdf 06 04 04.2 -5.1
DPC Dobruska-Polom 141.97 332 ePKHKP PKPpre 06 04 04.2
VYHS Vyhne 142.04 328 ePKP PKPdf 06 04 07.2 -2.3
VYHS Vyhne 142.04 328 ePKIKP PKPdf 06 04 07.2 -2.3
JAVC Velka Javorina 142.37 329 ePKP PKPdf 06 04 08.3 -1.8
CLL Collm 142.65 335 epPKPdf pPKPdf 06 04 58.0 -7.6
CLL Collm 142.65 335 ePKHKP PKPpre 06 03 59.0
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 142.65 335 ePKPpre PKPpre 06 03 59.0
comp=Z,3.0nm,0.7s
CLL Collm 142.65 335 i PKPdf PKPdf 06 04 05.7 -4.7
comp=Z,7.0nm,1.1s
KRUC Moravsky 142.84 330 ePKP PKPdf 06 04 06.3 -4.6
MODS Modra-Piesok 142.89 329 ePKP PKPdf 06 04 08.6 -2.4
MODS Modra-Piesok 142.89 329 ePKIKP PKPdf 06 04 08.6 -2.4
MPLH Magyarpolny 143.56 327 PKP PKPbc 06 04 10.3 +0.1
FRGS Fruska Gora 143.58 323⇑iP PKPab 06 04 09.9 +0.6
MORH Mrgy, Hungar 143.59 325 PKP PKPab 06 04 10.0 +0.8
NKC Novy Kostel 143.71 335 ePKP PKPab 06 04 10.3 +0.6
NKC Novy Kostel 143.71 335 ePKIKP PKPab 06 04 10.3 +0.6
RONA Rosalia, Austr 143.84 329 i P PKPbc 06 04 11.8 +0.8
comp=Z,24nm,0.7s,SNR=11
CONA Conrad Observa 143.89 329 i P PKPbc 06 04 11.9 +0.7
comp=Z,11nm,0.7s,SNR=6.9
VAY Valandovo 143.90 315 i P PKPab 06 04 10.5 -0.1
KOVH Kovagotottos 143.96 325 PKP PKPab 06 04 11.2 +0.5
STIP Stip 143.97 316 i P PKPab 06 04 10.1 -0.9
KHC Kasperske Hory 144.07 333 PKPdf PKPab 06 04 11.5 +0.4
KHC Kasperske Hory 144.07 333 ePKP PKPab 06 04 11.2 +0.1
KHC Kasperske Hory 144.07 333 PKIKP PKPab 06 04 11.5 +0.4
DIVS Divibare 144.08 321 PKPdf PKPab 06 04 11.5 +0.1
DIVS Divibare 144.08 321⇑iP PKPab 06 04 11.8 +0.4
TEKS Tekeris 144.09 322⇑iP PKPab 06 04 11.0 -0.4
GERES GERESS Array B 144.23 332 PKP PKPab 06 04 11.8 -0.1
comp=Z,8.9nm,0.8s,baz=46,slow=3.9,SNR=64
SKO Skopje 144.32 317 i P PKPbc 06 04 12.9 +0.3
ARSA Arzberg 144.53 329 i P PKPab 06 04 13.1 +0.1
comp=Z,28nm,1.6s,SNR=6.9
IDI Anoyia 144.57 305 PKPab 06 04 13.0 -0.6
HAPS Han Pijesak,Bl 144.70 322⇑iP PKPab 06 04 14.1 +0.3
MOA Molln 144.70 330 i P PKPab 06 04 13.8 +0.3
comp=Z,46nm,0.9s,SNR=10
RUDO Rudo 144.72 321 eP PKPab 06 04 13.0 -0.8
BIOA Bad Ischl, Aus 145.11 331 i P PKPbc 06 04 14.4 -0.4
comp=Z,14nm,0.6s,SNR=5.7
SOKA Soboth 145.16 328 i P PKPbc 06 04 14.7 -0.4
comp=Z,24nm,0.7s,SNR=13
OHR Ohrid 145.17 316 i P PKPbc 06 04 15.5 +0.2
UPM Unac-Piva 145.24 321⇑iP PKPdf 06 04 14.9 -0.6
A051A Mrakovica 145.29 325⇑iP PKPdf 06 04 15.5 +0.2
BLY Banja Luka 145.31 324⇑iP PKPbc 06 04 15.8 +0.3
OBKA Obir 145.52 329⇑iP PKPdf 06 04 15.0 -0.7
OBKA Obir 145.52 329 i P PKPbc 06 04 16.8 +0.5
comp=Z,18nm,0.8s,SNR=5.1
MGRS Mrkonjic Grad 145.57 324 eP PKPbc 06 04 16.6 +0.2
BRY Bratogost 145.63 320⇑iP PKPdf 06 04 16.2 +0.1
DRME Dracevica, Mon 145.64 319⇑iP PKPdf 06 04 16.4 +0.5
BTNL Ternell 145.68 341 dPKP PKPdf 06 04 16.1 +0.3
BTNL dpPKP pPKPdf 06 05 09.8 -1.1
KBA Koelnbreinsper 145.69 330 eP PKPdf 06 04 16.1 0.0
comp=Z,11nm,0.7s
MEM Membach 145.70 341 dPKP PKPab 06 04 17.4 +0.2
TREB Trebinje 145.85 320 eP PKPdf 06 04 16.4 +0.1
BSTI Sart Tilman 145.86 341 dPKP PKPdf 06 04 16.7 +0.7
HCY Herceg Novi 145.92 320⇑iP PKPdf 06 04 16.7 +0.3
BCLA Clavier 146.08 342 dPKP PKPdf 06 04 17.2 +0.8
BCLA dpPKP pPKPab 06 05 09.3 -2.5
CEY Cerknica 146.12 328⇑iP PKPdf 06 04 17.6 +0.9
ITM Ithomi 146.15 309 PKPdf PKPdf 06 04 17.7 +0.7
SNF Seneffe 146.30 343 dPKP PKPdf 06 04 17.6 +0.8
WATA Walderalm 146.31 332 eP PKPdf 06 04 18.2 +1.1
comp=Z,7.0nm,0.6s
ABTA Abfaltersbach 146.32 331 i P PKPdf 06 04 17.7 +0.6
comp=Z,9.5nm,0.6s,SNR=7.3
WTTA Wattenberg 146.34 332 i P PKPbc 06 04 18.5 -0.3
comp=Z,28nm,1.2s,SNR=5.7
RCHB Rochefort 146.34 341 dPKP PKPbc 06 04 18.4 0.0
BMRD Maredsous 146.35 342 dPKP PKPdf 06 04 17.9 +1.1
WLF Walferdange 146.48 340 dPKP PKPbc 06 04 19.2 +0.3
MOTA Moosalm 146.51 333 i P PKPbc 06 04 18.9 -0.4
comp=Z,24nm,1.0s,SNR=7.5
RETA Reutte 146.54 333 eP PKPbc 06 04 18.9 -0.3
comp=Z,5.9nm,0.5s
SQTA Sankt Quirin 146.56 332 i P PKPbc 06 04 19.1 -0.2
comp=Z,19nm,0.6s,SNR=9.0
DOU Dourbes 146.58 342 dPKP PKPbc 06 04 18.7 -0.5
FETA Feichten 146.92 333 i P PKPbc 06 04 20.3 -0.1
comp=Z,12nm,0.6s,SNR=6.7
DAVA Damuels 147.07 334 eP PKPbc 06 04 20.7 -0.2
comp=Z,9.7nm,0.6s
KEST Kesra 155.62 317 PKPab PKPab 06 04 58.0 -0.7
comp=Z,6.4nm,0.8s,baz=196,slow=3.3,SNR=6.0
ESDC Sonseca Array 158.52 346 PKPab PKPab 06 05 09.7 -1.3
comp=Z,0.6nm,0.6s,baz=3.8,slow=4.6,SNR=5.2
TORD Torodi Ar. Bea 166.73 246 PKP PKPdf 06 04 42.3 -1.4
comp=Z,4.8nm,0.9s,baz=9.2,slow=0.8,SNR=22
TORD PKPab PKPab 06 05 47.6 -0.2
comp=Z,3.4nm,1.0s,baz=107,slow=2.7,SNR=7.7

WEL 04 05:48:31.6, 39°S±7°×17°6E±°, h50km±13km, M2.1/12, ML2.3/19, MLv2.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=131.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRHZ	Matea Rd	0.25	90	P	Pn	05 48 40.9	+0.5
TMVZ	Te Maari	0.42	228	P	Pn	05 48 42.6	+0.6
NTVZ	North Tongarir	0.42	231	P	Pn	05 48 41.9	-0.2
ETVZ	East Tongariro	0.43	225	P	Pn	05 48 42.8	+0.6
BKZ	Black Stump Fm	0.45	138	P	Pn	05 48 42.3	0.0
GRRZ	Galatos Road	0.48	1	P	Pn	05 48 40.4	-2.3
NGZ	Ngauruhoe	0.52	229	P	Pn	05 48 44.0	+0.8
TWVZ	Taurewa	0.57	245	P	Pn	05 48 43.7	-0.1
MTHZ	Maungataniwha	0.58	92	P	Pn	05 48 43.5	-0.3
NMHZ	Naumai	0.61	116	P	Pn	05 48 44.9	+0.7
MOVZ	Moawhango	0.63	205	P	Pn	05 48 44.1	-0.4
KWHZ	Kaweka Forest	0.64	157	P	Pn	05 48 44.3	-0.3
BHHZ	Black Hill Sta	0.66	183	P	Pn	05 48 44.4	-0.5
RTZ	Ruatahuna	0.72	73	P	Pn	05 48 45.0	-0.6
MCHZ	McNeill Hill	0.76	143	P	Pn	05 48 47.2	+1.1
ARHZ	Aropaoanui	0.82	122	P	Pn	05 48 47.7	+0.9
HIZ	Hauiti	1.03	288	P	Pn	05 48 49.3	-0.4
PNHZ	Pukenui	1.08	176	P	Pn	05 48 49.3	-1.1
KAHZ	Kahuranaki	1.13	148	P	Pn	05 48 49.9	-1.2
TSZ	Takapari Road	1.23	185	P	Pn	05 48 51.4	-1.0
PRHZ	Porangahau	1.49	164	P	Pn	05 48 53.7	-2.2
RUGZ	Raukumara Rang	1.51	55	P	Pn	05 48 55.5	-0.8
PKGZ	Pakihiroa	1.82	59	P	Pn	05 49 05.1	+4.6
TIWZ	Tintock	1.95	185	P	Pn	05 49 04.9	+2.7

ROM 04 06:01:48.4±0.1, 42°833N±0°002×13°163E±0°004, h9km, ML1.5/10, 7C-5D, Error ellipse: s-maj=0.3km s-min=0.1km az=294.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1245	Castelsantange	0.03	39	P	Pg	06 01 50.5	+0.2
T1245				S	Sg	06 01 51.6	-0.2
T1245				AML	AML		
	comp=E,5535μm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
T1245				AML	AML		
	comp=N,5500µm,1.2s						
T1245				AML	AML		
	comp=E,5185µm,0.3s						
T1245				AML	AML		
	comp=N,5485µm,1.2s						
NRCA	**Norcia**	**0.04**	**270**	⇓P	Pg	06 01 50.6	+0.3
NRCA				S	Sg	06 01 51.5	-0.1
NRCA				AML	AML		
	comp=E,4600µm,0.2s						
NRCA				AML	AML		
	comp=N,3960µm,0.4s						
NRCA				AML	AML		
	comp=N,3545µm,0.4s						
NRCA				AML	AML		
	comp=E,4210µm,0.2s						
T1216	**Preci, Frazion**	**0.12**	**299**	⇓P	Pg	06 01 51.9	+0.6
MMO1	**Montemonaco**	**0.14**	**61**	P	Pg	06 01 52.0	+0.4
MMO1				S	Sg	06 01 54.5	+0.8
T1202	**Accumoli, Fraz**	**0.14**	**161**	P	Pg	06 01 52.3	+0.7
T1202				S	Sg	06 01 55.0	+1.3
T1202				AML	AML		
	comp=E,22µm,1.6s						
T1202				AML	AML		
	comp=N,46µm,1.6s						
T1256	**Bolognola (MC)**	**0.18**	**15**	⇑P	Pg	06 01 52.9	+0.6
T1256				S	Sg	06 01 56.1	+1.1
T1256				AML	AML		
	comp=N,264µm,0.2s						
T1256				AML	AML		
	comp=E,302µm,0.3s						
T1204	**Amatrice, Fraz**	**0.19**	**144**	P	Pg	06 01 53.3	+0.8
T1241	**Roccafluvione,**	**0.20**	**83**	P	Pg	06 01 53.2	+0.7
T1241				S	Sg	06 01 56.5	+1.1
AM05	**Amandola Campo**	**0.20**	**44**	P	Pg	06 01 53.3	+0.7
AM05				S	Sg	06 01 56.5	+1.1
T1217	**Poggiodomo (PG**	**0.21**	**235**	P	Pg	06 01 53.5	+0.8
T1217				S	Sg	06 01 56.9	+1.2
FDMO	**Fiordimonte**	**0.21**	**345**	⇓P	Pg	06 01 53.1	+0.4
FDMO				S	Sg	06 01 57.0	+1.3
FDMO				AML	AML		
	comp=N,225µm,0.2s						
FDMO				AML	AML		
	comp=E,126µm,1.5s						
T1215	**Vallo di Nera,**	**0.22**	**262**	⇓P	Pg	06 01 53.7	+0.8
SMA1	**SAN MARTINO**	**0.24**	**148**	⇑P	Pg	06 01 54.0	+0.7
SMA1				AML	AML		
	comp=N,173µm,0.3s						
SMA1				AML	AML		
	comp=E,182µm,0.6s						
LNSS	**Leonessa**	**0.25**	**201**	⇑P	Pg	06 01 54.2	+0.8
T1243	**Rocca Santa Ma**	**0.25**	**123**	⇓P	Pg	06 01 54.0	+0.5
GUMA	**Gualdo di Mace**	**0.26**	**29**	⇑P	Pb	06 01 54.7	-0.6
GUMA				AML	AML		
	comp=N,274µm,0.7s						
GUMA				AML	AML		
	comp=E,246µm,0.3s						
RM33	**Pellescritta (**	**0.33**	**173**	⇑P	Pg	06 01 55.4	+0.5
RM33				S	Sb	06 02 00.5	-1.3
RM33				AML	AML		
	comp=E,132µm,0.9s						
RM33				AML	AML		
	comp=N,149µm,1.5s						
CAMP	**Campotosto**	**0.35**	**149**	⇑P	Pg	06 01 55.8	+0.4
TERO	**Teramo**	**0.39**	**123**	P	Pg	06 01 56.4	+0.4
TERO				AML	AML		
	comp=N,75µm,1.1s						
TERO				AML	AML		
	comp=E,80µm,1.2s						
ARRO	**Arrone**	**0.39**	**229**	P	Pg	06 01 56.5	+0.6
ASSB	**Assisi San Ben**	**0.42**	**300**	P	Pg	06 01 57.2	+0.5
ASSB				AML	AML		
	comp=N,54µm,1.5s						
ASSB				AML	AML		
	comp=E,80µm,1.1s						
SNTG	**Esanatoglia**	**0.45**	**339**	⇑P	Pg	06 01 57.8	+0.6
SNTG				S	Sb	06 02 05.0	-0.4
SNTG				AML	AML		
	comp=E,44µm,0.1s						
SNTG				AML	AML		
	comp=N,48µm,1.0s						
EL6	**Elcito**	**0.50**	**355**	S	Sb	06 02 07.0	+0.2
PE3	**Peglio**	**0.99**	**331**	S	Sg	06 02 20.0	-0.3
LATB	**Latina**	**1.35**	**186**	S	Sg	06 02 33.0	+1.3

*JSN **04** 06:10:13.4±1.6, 17°.23N×79°.08W, h0^{km}±999^{km}, MD3.1*

SSNC 04 06:10:18.5±1.3, 18°.43N×78°.89W, h5^{km}±10^{km}, MD3.1, ML2.1, MW3.1, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.25**	**113**	*i* P	Pg	06 10 40.5	-1.9
MCJ				*i* S	Sn	06 10 60.0	0.0
MTDJ	**Mount Denham**	**1.30**	**99**	*e*P	Pn	06 10 40.6	-2.8
MTDJ				*e*S	Sg	06 10 58.6	-1.8
MTDJ				IAML		06 11 03.8	
	76nm,0.4s						
MTDJ				IAML		06 11 04.6	
	comp=Z,71nm,0.3s						
PCJ	**Portland Cotta**	**1.78**	**112**	*i* P	Pn	06 10 46.3	-3.7
STH	**Stony Hill**	**2.01**	**100**	*i* P	Pn	06 10 50.7	-2.4
LMGC	**Las Mercedes**	**2.41**	**47**	*e*P	Pn	06 10 57.5	-1.1
LMGC				*e*S	Sn	06 11 25.5	-3.0
LMGC				IAML		06 11 29.1	
	comp=E,8.7nm,0.1s						
LMGC				IAML		06 11 30.1	
	comp=N,11nm,0.1s						
RCC	**Rio Carpintero**	**3.40**	**62**	*e*P	Pn	06 11 10.1	-2.1
RCC				*e*S	Sn	06 11 48.3	-4.6
RCC				IAML		06 11 52.2	
	comp=N,1.2nm,0.1s						
RCC				IAML		06 11 52.2	
	comp=E,1.2nm,0.1s						
MGV	**Manicaragua**	**3.80**	**345**	*e*P	Pn	06 11 16.5	-1.2
MGV				*e*S	Sn	06 11 58.8	-4.1
MGV				IAML		06 12 01.9	
	comp=E,1.9nm,0.3s						
MGV				IAML		06 12 01.9	
	comp=N,2.1nm,0.2s						

*IDC **04** 06:11:26.2±3.2, 48°.12N×153°.17E, h122^{km}±29^{km}, mb3.4/10, mbtmp3.8/13, MS2.9/2, Error ellipse: s-maj=24.0km s-min=14.2km az=151.0*

ISC 04 06:11:26.8±0.9, 48°.2N±0°.2×153°.2E±0°.1, h128^{km}, n21, σ0^{s}73/14, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.71**	**28**	P	**Pn**	**06 12 48.4**	**-0.9**
	2.8nm,0.7s,baz=196,slow=14,SNR=4.2						
SHEM	**Shemya Is, Ala**	**14.05**	**63**	LR	LR	06 19 37.0	
	comp=Z,32nm,19.0s,baz=326,slow=35						
KLR	**Kul'dur**	**14.22**	**282**	P	**Pn**	**06 14 43.0**	**+0.8**
	1.1nm,0.7s,baz=111,slow=18,SNR=1.9						
USRK	**Ussuriysk Ar.**	**15.22**	**263**	P	**Pn**	**06 14 55.5**	**+0.7**
	4.5nm,0.6s,baz=72,slow=12,SNR=7.0						
KSRS	**Korea Array**	**21.33**	**249**	P	**P**	**06 16 03.3**	**-0.2**
	2.0nm,0.8s,baz=56,slow=10.0,SNR=5.7						
	2.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**30.45**	**154**	T	T	06 49 20.1	
	baz=342,slow=76,SNR=38						
H11N1	**WAKE ISLAND Hy**	**30.46**	**154**	T	T	06 49 38.6	
	baz=342,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**30.47**	**154**	T	T	06 49 38.7	
	baz=342,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**31.55**	**155**	T	T	06 50 57.4	
	baz=342,slow=76,SNR=136						
H11S3	**WAKE ISLAND Hy**	**31.56**	**155**	T	T	06 50 57.9	
	baz=342,slow=76,SNR=144						
H11S2	**WAKE ISLAND Hy**	**31.57**	**155**	T	T	06 50 55.3	
	baz=342,slow=76,SNR=92						
ILAR	**Eielson Array**	**35.41**	**40**	P	**P**	**06 18 10.7**	**+0.8**
	0.6nm,0.9s,baz=268,slow=5.2,SNR=4.9						
	0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**41.86**	**305**	P	**P**	**06 19 03.7**	**-0.2**
	0.5nm,0.4s,baz=64,slow=6.6,SNR=1.9						
ZALV				PcP	**PcP**	**06 20 57.4**	**+0.3**
	0.2nm,0.3s,baz=61,slow=3.6,SNR=3.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**46.37**	**296**	P	**P**	**06 19 39.5**	**-0.4**
	1.2nm,0.6s,baz=69,slow=8.2,SNR=7.8						
	1.2nm,0.6s						
KIRV	**Kirov**	**56.70**	**323**	LR	LR	06 46 09.0	
	comp=Z,15nm,18.6s,baz=140,slow=37						
NVAR	**Mina Array Bea**	**61.72**	**63**	P	**P**	**06 21 32.0**	**+0.4**
	0.4nm,0.4s,baz=299,slow=7.2,SNR=5.4						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**62.79**	**334**	P	**P**	**06 21 37.5**	**-0.6**
	0.9nm,0.5s,baz=38,slow=7.7,SNR=5.1						
	0.9nm,0.5s						
PDAR	**Pinedale Array**	**63.86**	**54**	P	**P**	**06 21 46.4**	**+0.6**
	0.7nm,0.8s,baz=318,slow=2.0,SNR=6.3						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**69.87**	**199**	P	**P**	**06 22 22.3**	**-1.3**
	0.7nm,0.8s,baz=17,slow=6.3,SNR=4.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**73.57**	**198**	P	**P**	**06 22 45.7**	**0.0**
	0.6nm,0.6s,baz=18,slow=5.7,SNR=7.9						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**76.74**	**61**	P	**P**	**06 23 04.6**	**+0.5**
	0.9nm,0.5s,baz=296,slow=4.5,SNR=14						
	0.9nm,0.5s						

MAN 04 06:54:51.5, 5°.93N×126°.50E, h147^{km}, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**2.25**	**357**	⇑*i*P	Pn	06 55 30.2	+0.8
BIPH				*i* S	Sn	06 55 59.4	+0.8

*NNC **04** 06:59:45.2±2.1, 37°.30N×71°.13E, h163^{km}±23^{km}, mb3.0, mpv3.9, Error ellipse: s-maj=20.9km s-min=14.4km az=44.0*

ISC 04 06:59:38.9±1.5, 37°.1N±0°.2×72°.0E±0°.3, h200^{km}, n9, σ2^{s}10/12, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.10**	**350**	⇑P	**Pn**	**07 01 09.5**	**+2.1**
	3.3nm,0.2s,baz=174,slow=11,SNR=165						
KK31				⇑S	**Sn**	**07 02 16.4**	**-1.1**
	11nm,0.3s,baz=175,slow=21						
DANN	**Dangsing**	**13.20**	**128**	*e*P	**Pn**	**07 02 37.8**	**-1.4**
	5.2nm,0.2s						
GKN	**Gorkha**	**14.00**	**127**	*e*P	**Pn**	**07 02 48.5**	**-0.5**
	14nm,0.4s						
PKIN	**Phulchoki**	**14.78**	**126**	*e*P	**Pn**	**07 02 58.3**	**-0.4**
	11nm,0.4s						
PKI	**Pulchoki**	**14.79**	**126**	*e*P	**P**	**07 02 59.2**	**-0.6**
GUN	**Gumba**	**14.87**	**124**	*e*P	**Pn**	**07 02 59.9**	**0.0**
	5.5nm,0.3s						
AB31	**Akbulak array**	**14.96**	**328**	P	**P**	**07 03 01.8**	**+0.6**
	0.5nm,0.3s,baz=138,slow=11,SNR=38						
AB31				⇑S	**S**	**07 05 41.4**	**-5.0**
	0.5nm,0.3s						
RAMN	**Ramite**	**15.99**	**125**	*e*P	**Pn**	**07 03 14.0**	**+0.6**
	2.7nm,0.2s						
AKTO	**Aktyubinsk**	**16.67**	**327**	⇑P	**Pn**	**07 03 23.3**	**+2.2**
	1.7nm,0.8s						
AKTO				⇓S	**S**	**07 06 23.6**	**-0.2**
	6.1nm,2.0s						

KRSC 04 07:07:06.2±0.9, 54°.38N×161°.42E, h34^{km}±11^{km}, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.25**	**46**	*e*P	Pb	07 07 14.7	+1.4
MKZ				*e*S	Sb	07 07 19.2	+1.0
TUMD	**Tumrok D**	**1.01**	**325**	*e*P	Pn	07 07 23.9	-0.1
TUMD				*e*S	Sn	07 07 35.8	-1.3
TUMR	**Tumrok**	**1.17**	**321**	*e*P	Pn	07 07 26.8	+0.6
TUMR				*e*S	Sn	07 07 40.8	-0.2
KII	**Karymskiy**	**1.21**	**254**	*e*P	Pb	07 07 27.8	-0.8
KII				*e*S	Sb	07 07 43.5	-0.4
SPN	**Mys Shipunski**	**1.53**	**213**	*e*P	Pb	07 07 32.8	-1.1
SPN				*e*S	Sn	07 07 50.7	+0.9
KMNR	**Kamenistaya**	**1.54**	**334**	*e*P	Pb	07 07 33.6	-0.5
KMNR				*e*S	Sb	07 07 51.9	-1.3
SDLR	**Sedlovina**	**1.87**	**235**	*e*P	Pb	07 07 38.4	-1.3
SDLR				*e*S	Sb	07 08 01.2	-1.5
KRSR	**Krestovskiy**	**1.90**	**345**	*e*P	Pb	07 07 38.3	-2.0
SMAR	**Somma**	**1.92**	**235**	*e*P	Pb	07 07 39.4	-1.2
SMAR				*e*S	Sb	07 08 02.5	-1.7
KRER	**Koryakskii**	**1.92**	**237**	*e*P	Pb	07 07 39.6	-1.0
KRER				*e*S	Sb	07 08 02.6	-1.6
KRX	**Arik**	**1.94**	**239**	*e*P	Pb	07 07 39.4	-1.5
UGLR	**Uglovaya**	**1.94**	**234**	*e*P	Pb	07 07 39.7	-1.2
UGLR				*e*S	Sb	07 08 03.2	-1.5
AVH	**Avacha**	**1.95**	**236**	*e*P	Pb	07 07 40.0	-1.0
AVH				*e*S	Sb	07 08 03.8	-1.1
KOK	**Koryaka**	**1.98**	**238**	*e*P	Pb	07 07 40.3	-1.3
KLY	**Klyuchi**	**1.98**	**348**	*e*P	Pb	07 07 40.4	-1.2
KLY				*e*S	Sb	07 08 06.1	+0.2
KBTR	**Krutoberegovo**	**2.00**	**23**	*e*P	Pb	07 07 39.9	-1.9
KBG	**Krutoberegovo**	**2.02**	**21**	*e*P	Pn	07 07 39.6	+1.9
DALK	**Dalny**	**2.09**	**231**	*e*P	Pb	07 07 41.3	-2.0
DALK				*e*S	Sn	07 08 05.7	+2.2
PET	**Petropavlovsk**	**2.14**	**232**	*e*P	Pb	07 07 42.4	-1.8
PET				*e*S	Sn	07 08 07.1	+2.4
GNL	**Ganaly**	**2.17**	**253**	*e*P	Pb	07 07 42.4	-2.3
SRDR	**Sredinnyy**	**2.17**	**334**	*e*P	Pn	07 07 41.3	+1.4
BDR	**Baidarnaya**	**2.19**	**357**	*e*P	Pb	07 07 43.3	-1.9
ESO	**Esso**	**2.20**	**316**	*e*P	Pn	07 07 42.7	+2.4
SMKR	**Semkarok**	**2.20**	**1**	*e*P	Pb	07 07 43.4	-2.0
SMKR				*e*S	Sb	07 08 09.5	-2.8
SRKR	**Sorokina**	**2.28**	**356**	*e*P	Pn	07 07 43.5	+2.0
KRMR	**Karymshinskiy**	**2.50**	**233**	*e*P	Pn	07 07 47.4	+3.0
KRMR				*e*S	Sn	07 08 16.6	+2.8
RUS	**Russkaya**	**2.62**	**223**	*e*P	Pn	07 07 48.0	+2.0
RUS				*e*S	Sn	07 08 17.9	+1.3
GRL	**Gorelyy**	**2.71**	**229**	*e*P	Pb	07 07 51.1	-3.0
GRL				*e*S	Sb	07 08 23.5	-3.5
MTVR	**Mutnovka**	**2.72**	**227**	*e*P	Pn	07 07 50.4	+2.9
MTVR				*e*S	Sn	07 08 21.7	+2.5
BKI	**Bering**	**2.76**	**71**	*e*P	Pn	07 07 51.2	+3.2
BKI				*e*S	Sn	07 08 22.0	+1.9
APC	**Apacha**	**2.93**	**242**	*e*P	Pb	07 07 54.9	-2.7
APC				*e*S	Sb	07 08 31.2	-1.7
KDTR	**Khodutka, Kamc**	**3.27**	**219**	*e*P	Pn	07 07 58.2	+3.2
KDTR				*e*S	Sn	07 08 35.5	+2.8

*NOU **04** 07:32:44.2, 36°.66S×177°.46E, h274^{km}, MLv3.6/8, Off E. Coast of N. Island, N.Z.*
*WEL **04** 07:32:53.9±1.0, 37°S±7°×17°7E±°, h185^{km}±7^{km}, M3.1/24, ML3.1/8, MLv3.1/24, Error ellipse: s-maj=0.0km s-min=0.0km az=40.5*

ISC 04 07:32:48.0±2.7, 36°.9S±0°.1×177°.34E±0°.09, h231^{km}±14^{km}, n90, σ1^{s}88/98, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.90**	**157**	P	**Pn**	**07 33 21.0**	**+0.7**
HAZ				S	**Sn**	**07 33 42.9**	**-2.8**
MXZ	**Matakaoa Point**	**1.00**	**130**	P	**Pn**	**07 33 23.1**	**+2.2**
MXZ	**Matakaoa Point**	**1.00**	**130**	P	**Pn**	**07 33 22.7**	**+1.8**
MXZ				S	**Sn**	**07 33 44.4**	**-2.3**
RUGZ	**Raukumara Rang**	**1.07**	**165**	P	**Pn**	**07 33 22.0**	**+0.5**
RUGZ				S	**Sn**	**07 33 44.4**	**-3.4**
PKGZ	**Pakihiroa**	**1.12**	**149**	P	**Pn**	**07 33 23.4**	**+1.7**
PKGZ				S	**Sn**	**07 33 47.0**	**-1.3**
WMGZ	**Waiomatatini S**	**1.24**	**136**	P	**Pn**	**07 33 24.0**	**+1.6**
WMGZ				S	**Sn**	**07 33 48.4**	**-1.0**
KUZ	**Kuaotunu**	**1.31**	**278**	P	**Pn**	**07 33 23.5**	**+0.5**
KUZ	**Kuaotunu**	**1.31**	**278**	P	**Pn**	**07 33 23.5**	**+0.5**
URZ	**Urewera**	**1.34**	**188**	P	**Pn**	**07 33 24.8**	**+1.6**
URZ	**Urewera**	**1.34**	**188**	P	**Pn**	**07 33 24.4**	**+1.3**
URZ				S	**Sn**	**07 33 48.7**	**-2.1**
TWGZ	**Tauwhareparae**	**1.35**	**158**	P	**Pn**	**07 33 25.7**	**+2.5**
TWGZ				S	**Sn**	**07 33 51.0**	**-0.1**
PUZ	**Puketiti**	**1.35**	**148**	P	**Pn**	**07 33 25.1**	**+1.8**
PUZ				S	**Sn**	**07 33 48.9**	**-2.2**
MWZ	**Matawai**	**1.41**	**174**	P	**Pn**	**07 33 25.4**	**+1.6**
MWZ				S	**Sn**	**07 33 50.5**	**-1.4**
RAGZ	**Rawiri**	**1.56**	**178**	P	**Pn**	**07 33 27.4**	**+2.4**
MUGZ	**Murupara**	**1.61**	**196**	P	**Pn**	**07 33 27.1**	**+1.8**
TOZ	**Tahuroa Road**	**1.67**	**241**	P	**Pn**	**07 33 28.0**	**+2.2**
CNGZ	**Carnagh Statio**	**1.70**	**156**	P	**Pn**	**07 33 28.8**	**+2.8**
RTZ	**Ruatahuna**	**1.71**	**189**	P	**Pn**	**07 33 28.0**	**+1.7**
MKAZ	**Moumakai**	**1.75**	**264**	P	**Pn**	**07 33 28.3**	**+1.8**
WIAZ	**Waiheke Island**	**1.77**	**274**	P	**Pn**	**07 33 27.9**	**+1.2**
RIGZ	**Rimuhau**	**1.81**	**169**	P	**Pn**	**07 33 29.4**	**+2.4**
SNGZ	**Shannon Statio**	**1.85**	**180**	P	**Pn**	**07 33 29.8**	**+2.3**
ETAZ	**East Tamaki Re**	**1.93**	**269**	P	**Pn**	**07 33 30.1**	**+2.0**
MTHZ	**Maungataniwha**	**1.96**	**191**	P	**Pn**	**07 33 30.8**	**+2.4**
MBAZ	**Motutapu North**	**1.96**	**274**	P	**Pn**	**07 33 30.3**	**+1.8**
RAHZ	**Arahi**	**1.99**	**186**	P	**Pn**	**07 33 31.3**	**+2.5**
KNZ	**Kokohu**	**2.11**	**173**	P	**Pn**	**07 33 32.1**	**+2.3**
AWAZ	**Awhitu Peninsu**	**2.16**	**266**	P	**Pn**	**07 33 32.5**	**+2.2**
NMHZ	**Naumai**	**2.20**	**191**	P	**Pn**	**07 33 34.0**	**+3.1**
WTAZ	**Waiatarua**	**2.21**	**269**	P	**Pn**	**07 33 33.1**	**+2.2**
RVAZ	**Riverhead Bore**	**2.22**	**273**	P	**Pn**	**07 33 32.7**	**+1.8**
MHGZ	**Mahia Peninsul**	**2.27**	**169**	P	**Pn**	**07 33 34.1**	**+2.7**
BKZ	**Black Stump Fm**	**2.33**	**196**	P	**Pn**	**07 33 34.0**	**+1.9**
BKZ	**Black Stump Fm**	**2.33**	**196**	P	**Pn**	**07 33 33.9**	**+1.9**
ARHZ	**Aropaoanui**	**2.35**	**186**	P	**Pn**	**07 33 35.1**	**+2.9**
HIZ	**Hauiti**	**2.52**	**230**	P	**Pn**	**07 33 37.4**	**+3.4**
HIZ	**Hauiti**	**2.52**	**230**	P	**Pn**	**07 33 37.4**	**+3.4**
TMVZ	**Te Maari**	**2.54**	**210**	P	**Pn**	**07 33 37.1**	**+2.8**
ETVZ	**East Tongariro**	**2.55**	**210**	P	**Pn**	**07 33 37.1**	**+2.6**
MCHZ	**McNeill Hill**	**2.56**	**191**	P	**Pn**	**07 33 37.2**	**+2.7**
KWHZ	**Kaweka Forest**	**2.59**	**196**	P	**Pn**	**07 33 37.1**	**+2.2**
TWVZ	**Taurewa**	**2.61**	**214**	P	**Pn**	**07 33 37.8**	**+2.7**
SNVZ	**South Ngauruho**	**2.62**	**210**	P	**Pn**	**07 33 37.8**	**+2.6**
NGZ	**Ngauruhoe**	**2.63**	**211**	P	**Pn**	**07 33 37.9**	**+2.6**
TUVZ	**Tukino**	**2.69**	**209**	P	**Pn**	**07 33 38.3**	**+2.4**
FWVZ	**Far West T-bar**	**2.71**	**211**	P	**Pn**	**07 33 38.9**	**+2.6**
BHHZ	**Black Hill Sta**	**2.75**	**201**	P	**Pn**	**07 33 38.2**	**+1.7**
WNVZ	**Wahianoa**	**2.76**	**209**	P	**Pn**	**07 33 39.0**	**+2.2**
MOVZ	**Moawhango**	**2.77**	**206**	P	**Pn**	**07 33 38.5**	**+1.7**
PKVZ	**Pokaka**	**2.83**	**213**	P	**Pn**	**07 33 39.1**	**+1.7**
KAHZ	**Kahuranaki**	**2.88**	**187**	P	**Pn**	**07 33 40.5**	**+2.5**
PNHZ	**Pukenui**	**3.11**	**196**	P	**Pn**	**07 33 42.1**	**+1.6**
PXZ	**Pawanui**	**3.12**	**187**	P	**Pn**	**07 33 42.6**	**+2.0**
WPHZ	**Waipukurau**	**3.21**	**192**	P	**Pn**	**07 33 43.4**	**+1.8**
TSZ	**Takapari Road**	**3.31**	**199**	P	**Pn**	**07 33 44.1**	**+1.4**
WAZ	**Wanganui**	**3.37**	**213**	P	**Pn**	**07 33 45.9**	**+2.5**
PRHZ	**Porangahau**	**3.38**	**189**	P	**Pn**	**07 33 45.5**	**+2.0**
DVHZ	**Dannevirke**	**3.49**	**195**	P	**Pn**	**07 33 46.1**	**+1.3**
ANWZ	**Angora Road**	**3.59**	**191**	P	**Pn**	**07 33 47.8**	**+1.9**
POWZ	**Post Office Ro**	**3.67**	**199**	P	**Pn**	**07 33 48.5**	**+1.6**
PRWZ	**Pori Road**	**3.77**	**196**	P	**Pn**	**07 33 50.0**	**+1.8**
BFZ	**Birch Farm**	**3.84**	**192**	P	**Pn**	**07 33 50.5**	**+1.5**
MRZ	**Mangatainoka R**	**3.97**	**200**	P	**Pn**	**07 33 51.6**	**+1.1**
TIWZ	**Tintock**	**4.00**	**196**	P	**Pn**	**07 33 52.3**	**+1.4**
CPWZ	**Castlepoint**	**4.07**	**192**	P	**Pn**	**07 33 53.6**	**+1.9**
HOWZ	**Holdsworth Sta**	**4.21**	**199**	P	**Pn**	**07 33 54.1**	**+0.7**
OGWZ	**Otaki Gorge**	**4.23**	**203**	P	**Pn**	**07 33 54.6**	**+1.0**
TMWZ	**Te Maipa**	**4.32**	**195**	P	**Pn**	**07 33 55.8**	**+1.1**
KIW	**Kapiti Island**	**4.36**	**205**	P	**Pn**	**07 33 55.9**	**+0.7**
MTW	**Mount Morrison**	**4.46**	**198**	P	**Pn**	**07 33 56.9**	**+0.5**
CAW	**Cannon Point**	**4.53**	**202**	P	**Pn**	**07 33 57.8**	**+0.5**
TRWZ	**Traveller**	**4.64**	**196**	P	**Pn**	**07 33 59.4**	**+0.7**
PAWZ	**Paruwai Farm**	**4.69**	**198**	P	**Pn**	**07 33 59.6**	**+0.4**
DUWZ	**D'Urville Isla**	**4.70**	**214**	P	**Pn**	**07 33 59.9**	**+0.6**
MSWZ	**Moikau Station**	**4.76**	**199**	P	**Pn**	**07 34 00.6**	**+0.4**
WEL	**Wellington**	**4.79**	**204**	P	**Pn**	**07 34 01.0**	**+0.6**
SNZO	**South Karori**	**4.83**	**204**	P	**Pn**	**07 34 01.5**	**+0.6**
TCW	**Tory Channel**	**4.89**	**208**	P	**Pn**	**07 34 02.2**	**+0.5**
PLWZ	**Palliser**	**4.91**	**199**	P	**Pn**	**07 34 02.1**	**+0.1**
TUWZ	**Tuamarina**	**5.21**	**209**	P	**Pn**	**07 34 05.9**	**+0.3**
NNZ	**Nelson**	**5.27**	**214**	P	**Pn**	**07 34 06.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**5.48**	**208**	P	**Pn**	**07 34 09.7**	**+0.6**
THZ	**Tophouse**	**5.92**	**214**	P	**Pn**	**07 34 15.7**	**+1.0**
KHZ	**Kahutara**	**6.21**	**207**	P	**Pn**	**07 34 18.7**	**+0.4**
KHZ	**Kahutara**	**6.21**	**207**	P	**Pn**	**07 34 18.7**	**+0.4**
DSZ	**Denniston Nort**	**6.44**	**220**	P	**Pn**	**07 34 21.9**	**+0.7**
GVZ	**Greta Valley S**	**6.88**	**207**	P	**Pn**	**07 34 27.1**	**+0.3**
LTZ	**Lake Taylor**	**7.02**	**212**	P	**Pn**	**07 34 29.0**	**+0.3**
INZ	**Inchbonnie**	**7.35**	**216**	P	**Pn**	**07 34 33.6**	**+0.8**
MQZ	**McQueen's Vall**	**7.66**	**206**	P	Pn	07 34 36.2	-0.5

*NOU **04** 07:52:22.4, 40°.91S×172°.90E, h233^{km}, MLv3.6/8, Off W. Coast of S. Island, N.Z.*
*WEL **04** 07:52:27.3, 41°S±8°×17°3E±1°7, h188^{km}±20^{km}, M2.8/29, MLv2.8/29, Error ellipse: s-maj=0.0km s-min=0.0km az=86.2*

ISC 04 07:52:22.1±1.8, 40°.89S±0°.07×172°.82E±0°.08, h240^{km}±12^{km}, n71, σ0^{s}52/71, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKNZ	**Takaka Hill**	**0.18**	**144**	P	**Pn**	**07 52 53.2**	**0.0**
QRZ	**Quartz Range**	**0.23**	**285**	P	**Pn**	**07 52 53.2**	**0.0**
QRZ	**Quartz Range**	**0.23**	**285**	P	**Pn**	**07 52 53.3**	**+0.1**
MRNZ	**Matariki Terra**	**0.52**	**185**	P	**Pn**	**07 52 53.8**	**-0.1**
NNZ	**Nelson**	**0.54**	**128**	P	**Pn**	**07 52 54.0**	**+0.1**
DUWZ	**D'Urville Isla**	**0.84**	**85**	P	**Pn**	**07 52 55.3**	**+0.1**
THZ	**Tophouse**	**0.88**	**176**	P	**Pn**	**07 52 55.6**	**+0.2**
TUWZ	**Tuamarina**	**1.01**	**123**	P	**Pn**	**07 52 56.1**	**0.0**
BSWZ	**Blackbirch Sta**	**1.15**	**137**	P	**Pn**	**07 52 57.3**	**+0.4**
TCW	**Tory Channel**	**1.15**	**107**	P	**Pn**	**07 52 57.0**	**+0.1**
DSZ	**Denniston Nort**	**1.15**	**221**	P	**Pn**	**07 52 57.0**	**0.0**
KIW	**Kapiti Island**	**1.58**	**90**	P	**Pn**	**07 53 00.2**	**0.0**
KHZ	**Kahutara**	**1.62**	**161**	P	**Pn**	**07 52 59.6**	**-0.7**
KHZ	**Kahutara**	**1.62**	**161**	P	**Pn**	**07 52 59.9**	**-0.4**
CAW	**Cannon Point**	**1.71**	**98**	P	**Pn**	**07 53 01.4**	**+0.2**
OGWZ	**Otaki Gorge**	**1.78**	**89**	P	**Pn**	**07 52 59.5**	**-2.3**
NBEZ	**Newall Road No**	**1.81**	**27**	P	**Pn**	**07 53 02.4**	**+0.4**
KHEZ	**Kahui Hut**	**1.83**	**30**	P	**Pn**	**07 53 02.5**	**+0.1**
KHEZ	**Kahui Hut**	**1.83**	**30**	P	**Pn**	**07 53 02.7**	**+0.3**
PREZ	**Palmer Road**	**1.85**	**34**	P	**Pn**	**07 53 02.8**	**+0.3**
NEZ	**North Egmont**	**1.89**	**32**	P	**Pn**	**07 53 02.4**	**-0.5**
PKE	**Pukeiti**	**1.91**	**28**	P	**Pn**	**07 53 03.3**	**+0.2**
LTZ	**Lake Taylor**	**1.94**	**192**	P	**Pn**	**07 53 03.1**	**-0.1**
PLWZ	**Palliser**	**1.96**	**111**	P	**Pn**	**07 53 03.3**	**-0.1**
WAZ	**Wanganui**	**2.00**	**56**	P	**Pn**	**07 53 04.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**2.04**	**91**	P	**Pn**	**07 53 04.3**	**+0.1**
MTW	**Mount Morrison**	**2.05**	**98**	P	**Pn**	**07 53 04.2**	**+0.1**
GVZ	**Greta Valley S**	**2.09**	**176**	P	**Pn**	**07 53 04.3**	**-0.2**
INZ	**Inchbonnie**	**2.11**	**209**	P	**Pn**	**07 53 04.7**	**+0.1**
MRZ	**Mangatainoka R**	**2.11**	**85**	P	**Pn**	**07 53 04.8**	**+0.1**
VRZ	**Vera Road**	**2.31**	**41**	P	**Pn**	**07 53 06.4**	**-0.3**
OXZ	**Oxford**	**2.51**	**193**	P	**Pn**	**07 53 08.8**	**+0.1**
PKVZ	**Pokaka**	**2.51**	**51**	P	**Pn**	**07 53 08.9**	**+0.1**
WVZ	**Waitaha Valley**	**2.68**	**215**	P	**Pn**	**07 53 10.3**	**-0.1**
MOVZ	**Moawhango**	**2.69**	**58**	P	**Pn**	**07 53 10.5**	**-0.3**
TWVZ	**Taurewa**	**2.71**	**49**	P	**Pn**	**07 53 10.6**	**-0.4**
TUVZ	**Tukino**	**2.71**	**54**	P	**Pn**	**07 53 11.3**	**+0.3**
NGZ	**Ngauruhoe**	**2.73**	**52**	P	**Pn**	**07 53 11.1**	**-0.2**
SNVZ	**South Ngauruho**	**2.75**	**53**	P	**Pn**	**07 53 11.5**	**0.0**
PNHZ	**Pukenui**	**2.76**	**70**	P	**Pn**	**07 53 11.9**	**+0.5**
WTVZ	**West Tongariro**	**2.77**	**51**	P	**Pn**	**07 53 11.5**	**-0.1**
NNVZ	**North Ngauruho**	**2.77**	**52**	P	**Pn**	**07 53 11.6**	**-0.1**
MQZ	**McQueen's Vall**	**2.82**	**182**	P	**Pn**	**07 53 11.0**	**-0.9**
ETVZ	**East Tongariro**	**2.83**	**53**	P	**Pn**	**07 53 12.4**	**+0.2**
TMVZ	**Te Maari**	**2.83**	**52**	P	**Pn**	**07 53 12.5**	**+0.2**
BHHZ	**Black Hill Sta**	**2.85**	**62**	P	**Pn**	**07 53 12.3**	**-0.1**
RACZ	**Rakaia**	**2.88**	**190**	P	**Pn**	**07 53 13.5**	**+0.9**
AKCZ	**Akaroa Harbour**	**2.98**	**179**	P	**Pn**	**07 53 13.0**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**3.06**	**217**	P	**Pn**	**07 53 14.3**	**-0.2**
RPZ	**Rata Peaks**	**3.12**	**204**	P	**Pn**	**07 53 15.3**	**+0.1**
KWHZ	**Kaweka Forest**	**3.12**	**63**	P	**Pn**	**07 53 16.1**	**+0.7**
WACZ	**Wakanui South**	**3.14**	**193**	P	**Pn**	**07 53 16.8**	**+1.4**
KAHZ	**Kahuranaki**	**3.29**	**72**	P	**Pn**	**07 53 18.2**	**+1.0**
ARCZ	**Arundel**	**3.29**	**201**	P	**Pn**	**07 53 17.0**	**-0.2**
MCHZ	**McNeill Hill**	**3.30**	**65**	P	**Pn**	**07 53 18.3**	**+0.9**
BKZ	**Black Stump Fm**	**3.30**	**60**	P	**Pn**	**07 53 17.3**	**-0.1**
BKZ	**Black Stump Fm**	**3.30**	**60**	P	**Pn**	**07 53 17.3**	**-0.1**
FOZ	**Fox Glacier**	**3.46**	**219**	P	**Pn**	**07 53 18.7**	**-0.4**
MTHZ	**Maungataniwha**	**3.70**	**58**	P	**Pn**	**07 53 21.8**	**-0.2**
TMZ	**Timaru**	**3.74**	**200**	P	**Pn**	**07 53 22.6**	**+0.2**
RTZ	**Ruatahuna**	**3.93**	**56**	P	**Pn**	**07 53 24.3**	**-0.4**
URZ	**Urewera**	**4.23**	**53**	P	**Pn**	**07 53 27.2**	**-1.0**
URZ	**Urewera**	**4.23**	**53**	P	**Pn**	**07 53 27.3**	**-0.9**
JCZ	**Jackson Bay**	**4.36**	**222**	P	**Pn**	**07 53 29.8**	**0.0**
JCZ	**Jackson Bay**	**4.36**	**222**	P	**Pn**	**07 53 29.8**	**0.0**
RIGZ	**Rimuhau**	**4.38**	**62**	P	**Pn**	**07 53 30.5**	**+0.4**
MWZ	**Matawai**	**4.44**	**56**	P	**Pn**	**07 53 31.3**	**+0.5**
ODZ	**Otahua Downs**	**4.45**	**200**	P	**Pn**	**07 53 31.2**	**+0.4**
ODZ	**Otahua Downs**	**4.45**	**200**	P	**Pn**	**07 53 31.4**	**+0.6**
RUGZ	**Raukumara Rang**	**4.76**	**54**	P	**Pn**	**07 53 34.2**	**-0.5**
PUZ	**Puketiti**	**5.06**	**58**	P	**Pn**	**07 53 38.2**	**-0.2**

IDC 04 08:23:19.3±1.7, 13°.82S×165°.98E, h0^{km}, mb3.6/3, mbtmp3.7/4, ML3.3/1, MS3.2/1, Error ellipse: s-maj=51.0km s-min=31.6km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.22	177	Pn	Pn	08 25 20.2	+0.3
	0.4nm,0.3s,baz=355,slow=11,SNR=12						
DZM				Sn	Sn	08 26 49.1	-4.6
	0.2nm,0.3s,baz=255,slow=18,SNR=1.9						
	2.4nm,0.5s						
STKA	Stephens Creek	28.66	227	LR	LR	08 41 04.0	
	comp=Z,38nm,18.1s,baz=200,slow=37						
WRA	Warramunga Arr	30.85	254	P	P	08 29 37.6	+0.2
	0.3nm,0.7s,baz=87,slow=9.3,SNR=2.8						
	0.3nm,0.7s						
ASAR	Alice Springs	31.85	247	P	P	08 29 46.0	-0.2
	0.7nm,1.1s,baz=81,slow=9.2,SNR=4.7						
	0.7nm,1.1s						
ILAR	Eielson Array	86.05	18	P	P	08 36 01.4	0.0
	0.9nm,0.6s,baz=235,slow=6.3,SNR=13						
	0.9nm,0.6s						

MAN 04 09:17:03.5, 19°.22N×121°.48E, h18^{km}, mb3.8, ML2.5, MS2.0, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICP	Calayan Island	0.04	7	⇑ *i*P	Pg	09 17 07.7	+0.9
CICP				*i* S	Sg	09 17 14.1	+5.1
PACPP	Pamplona Cagay	0.77	189	⇑ *i*P	Pb	09 17 17.7	-0.7
PACPP				*i* S	Sn	09 17 30.8	+0.2

IDC 04 09:22:47.4±2.7, 4°.09N×95°.79E, h0^{km}, mb3.6/3, mbtmp3.7/4, ML3.9/1, MS2.5/2, Error ellipse: s-maj=91.8km s-min=26.2km az=58.0
DJA 04 09:22:52.8±0.7, 4°N±3°×9°6E±°, h10^{km}, M4.4/10, mb4.9/1, MLv4.1/10
NEIC 04 09:22:59.5±1.2, 4°.52N±0°.04×96°.9E±0°.1, h37^{km}±14^{km}, mb4.2/5, Error ellipse: s-maj=17.5km s-min=6.2km az=85.0
ISC 04 09:22:53.4±0.9, 4°.39N±0°.04×96°.50E±0°.06, h33^{km}, n30, σ2^{s}06/29, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	0.15	219	P	Pb	09 22 58.2	-1.3
MLSI				S	Sb	09 23 01.8	-1.9
LHMI	Lhok Sumawe	0.95	28	Pn	Pb	09 23 11.5	+0.1
LHMI	Lhok Sumawe	0.95	28	P	Pb	09 23 10.8	-0.6
LHMI				S	Sb	09 23 22.3	-1.3
LASI	Langsa, Aceh	1.47	87	P	Pb	09 23 20.1	0.0
KCSI	Kotacane, Aceh	1.53	124	P	Pb	09 23 20.5	-0.7
TSI	Tuntungan	2.24	113	P	Pb	09 23 31.1	-2.1
PSI	Prapat	2.89	123	Pn	Pb	09 23 41.9	-2.4
	baz=296,slow=12						
PSI				Sn	Sb	09 24 18.8	-0.5
	9.4nm,0.3s,baz=345,slow=17,SNR=1.4						
PSI	Prapat	2.89	123	P	Pb	09 23 41.7	-2.5
PSI				P	Pb	09 23 41.8	-2.5
RPSI	Rantau Prapat	2.95	125		Pn	09 23 40.6	+2.7
GSI	Gunungsitoli	3.25	161	Pn	Pb	09 23 47.7	-2.6
GSI	Gunungsitoli	3.25	161	P	Pn	09 23 45.4	+3.4
KULM	Kulim	4.23	78		Pn	09 23 56.7	+1.1
KULM	Kulim	4.23	78	P	Pn	09 23 56.9	+1.3
IPM	Ipoh	4.51	89		Pn	09 23 58.2	-1.2
IPM	Ipoh	4.51	89	P	Pn	09 24 01.1	+1.6
SKLT	Songkhla	4.94	56	P	Pn	09 24 07.2	+1.8
SISI	Saibi	6.24	155	P	Pn	09 24 26.0	+2.8
CMAR	Chiang Mai Arr	14.19	10	Pn	P	09 26 16.7	-2.5
	0.2nm,0.3s,baz=195,slow=10.0,SNR=1.9						
CMAR				LR	LR	09 31 51.4	
	comp=Z,13nm,21.3s,baz=165,slow=37						
	0.9nm,0.3s						
LEM	Lembang	15.72	135	LR	LR	09 34 06.9	
	comp=Z,27nm,19.7s,baz=345,slow=42						
H08S2	Diego Garcia H	26.77	244	T	T	09 55 56.9	
	baz=62,slow=75						
H08S3	Diego Garcia H	26.77	244	T	T	09 55 46.9	
	baz=62,slow=75						
H08S1	Diego Carcia H	26.79	244	T	T	09 55 57.7	
	baz=62,slow=75						
MKAR	Makanchi Array	44.00	346	P	P	09 30 57.2	-0.5
	0.2nm,0.4s,baz=152,slow=9.8,SNR=1.3						
	0.2nm,0.4s						
WB0	Warramunga Arr	44.31	124	P	P	09 31 02.6	+2.0
WB0				IAmb	IAmb	09 31 27.8	
	comp=Z,7.3nm,1.5s						
WRA	Warramunga Arr	44.35	124	P	P	09 31 03.1	+2.2
	comp=Z,1.1nm,0.4s,baz=302,slow=9.2,SNR=25						
	comp=Z,1.1nm,0.4s						
WRA	Warramunga Arr	44.35	124	P	P	09 31 02.1	+1.2
WB2	Warramunga Arr	44.36	124	P	P	09 31 03.5	+2.5
WB2				IAmb	IAmb	09 31 04.2	
	comp=Z,10.0nm,1.4s						
WR0	Warramunga Arr	44.53	124	P	P	09 31 05.1	+2.8
KKAR	Karatay Array	44.91	333	P	P	09 31 10.9	+5.8
KKAR				IAmb	IAmb	09 31 12.7	
	comp=Z,1.9nm,0.9s						
ASAR	Alice Springs	45.90	129	P	P	09 31 15.1	+1.9
	comp=Z,0.3nm,0.4s,baz=300,slow=7.3,SNR=8.9						
	comp=Z,0.3nm,0.4s						

NOU 04 09:31:03.4, 37°.37S×179°.57E, h0^{km}, MLv4.1/8, Off E. Coast of N. Island, N.Z.
WEL 04 09:31:10.6±1.0, 37°S±5°×17°9E±°, h19^{km}±5^{km}, M3.4/18, ML3.5/25, MLv3.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1
ISC 04 09:31:08.7±2.6, 37°.30S±0°.06×179°.1E±0°.1, h19^{km}±4^{km}, n59, σ1^{s}13/69, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.69	247	P	Pb	09 31 22.3	+0.4
MXZ	Matakaoa Point	0.69	247	P	Pb	09 31 22.3	+0.4
MXZ				S	Sb	09 31 29.9	-1.0
WMGZ	Waiomatatini S	0.75	226	P	Pn	09 31 25.3	+1.0
WMGZ				S	Sn	09 31 35.7	+0.6
PKGZ	Pakihiroa	1.00	234	P	Pg	09 31 28.5	+0.3
PKGZ				S	Sn	09 31 41.3	-0.1
PUZ	Puketiti	1.02	221	P	Pn	09 31 29.0	+1.1
PUZ				S	Sn	09 31 42.3	+0.5
HAZ	Te Kaha	1.14	246	P	Pb	09 31 29.5	-0.2
HAZ				S	Sg	09 31 44.8	-1.0
TWGZ	Tauwhareparae	1.25	225	P	Pb	09 31 32.4	+0.8
TWGZ				S	Sg	09 31 48.6	-0.5
RUGZ	Raukumara Rang	1.31	239	P	Pb	09 31 33.3	+0.5
RUGZ				S	Sg	09 31 50.0	-1.2
CNGZ	Carnagh Statio	1.38	211	P	Pb	09 31 34.9	+1.1
TKGZ	Te Karaka	1.51	221	P	Pn	09 31 35.6	+1.0
MWZ	Matawai	1.62	230	P	Pn	09 31 37.0	+0.8
RIGZ	Rimuhau	1.76	217	P	Pn	09 31 38.9	+0.8
WHRZ	Whale Island	1.78	251	P	Pb	09 31 41.0	+0.4
RAGZ	Rawiri	1.79	228	P	Pn	09 31 39.5	+0.9
URZ	Urewera	1.84	238	P	Pn	09 31 41.1	+1.8
URZ	Urewera	1.84	238	P	Pn	09 31 40.6	+1.4
URZ				S	Sn	09 32 02.7	+0.7
KNZ	Kokohu	2.05	213	P	Pn	09 31 42.3	+0.2
MHGZ	Mahia Peninsul	2.08	207	P	Pn	09 31 43.4	+1.0
OPRZ	Ohinepanea	2.10	254	P	Pn	09 31 43.7	+1.0
RTZ	Ruatahuna	2.13	231	P	Pn	09 31 44.5	+1.2
MUGZ	Murupara	2.19	237	P	Pn	09 31 44.9	+0.9
RAHZ	Arahi	2.27	224	P	Pn	09 31 46.2	+1.1
MTHZ	Maungataniwha	2.36	228	P	Pn	09 31 47.7	+1.2
MTHZ				S	Sn	09 32 15.6	+0.7
NMHZ	Naumai	2.55	225	P	Pn	09 31 50.1	+1.1
ARHZ	Aropaoanui	2.57	220	P	Pn	09 31 50.0	+0.8
MRHZ	Matea Rd	2.61	233	P	Pn	09 31 50.8	+0.9
KUZ	Kuaotunu	2.76	281	P	Pn	09 31 51.2	-0.6
KUZ				S	Sn	09 32 20.5	-4.2
BKZ	Black Stump Fm	2.77	227	P	Pn	09 31 52.9	+0.8
BKZ	Black Stump Fm	2.77	227	P	Pn	09 31 52.6	+0.6
BKZ				S	Sn	09 32 24.4	-0.7
MCHZ	McNeill Hill	2.85	221	P	Pn	09 31 53.5	+0.3
TOZ	Tahuroa Road	2.90	260	P	Pn	09 31 54.8	+1.1
KWHZ	Kaweka Forest	2.99	224	P	Pn	09 31 55.1	+0.1
KAHZ	Kahuranaki	3.04	214	P	Pn	09 31 55.3	-0.5
MKAZ	Moumakai	3.15	272	P	Pn	09 31 57.3	+0.1
TMVZ	Te Maari	3.23	235	P	Pn	09 31 58.9	+0.5
ETVZ	East Tongariro	3.24	235	P	Pn	09 31 59.1	+0.5
NTVZ	North Tongarir	3.24	235	P	Pn	09 31 59.2	+0.6
PXZ	Pawanui	3.24	212	P	Pn	09 31 57.5	-1.0
NNVZ	North Ngauruho	3.30	235	P	Pn	09 32 00.3	+0.9
SNVZ	South Ngauruho	3.31	234	P	Pn	09 32 00.2	+0.6
NGZ	Ngauruhoe	3.33	235	P	Pn	09 32 00.2	+0.4
TUVZ	Tukino	3.35	233	P	Pn	09 32 00.7	+0.6
MOVZ	Moawhango	3.37	230	P	Pn	09 32 00.6	+0.3
TWVZ	Taurewa	3.38	237	P	Pn	09 32 01.7	+1.2
WPHZ	Waipukurau	3.46	216	P	Pn	09 32 00.8	-0.6
PNHZ	Pukenui	3.46	220	P	Pn	09 32 00.4	-1.1
PRHZ	Porangahau	3.53	212	P	Pn	09 32 01.4	-1.1
HIZ	Hauiti	3.57	249	P	Pn	09 32 05.1	+2.1
HIZ	Hauiti	3.57	249	P	Pn	09 32 05.0	+2.0
ANWZ	Angora Road	3.76	212	P	Pn	09 32 04.5	-1.1
VRZ	Vera Road	3.88	241	P	Pn	09 32 08.9	+1.8
BFZ	Birch Farm	4.04	213	P	Pn	09 32 07.9	-1.6
WAZ	Wanganui	4.05	232	P	Pn	09 32 10.4	+0.8
WCZ	Waipu Caves	4.06	288	P	Pn	09 32 10.5	+0.7
LREZ	Lake Rotokare	4.28	238	P	Pn	09 32 14.4	+1.7
OUZ	Omahuta	4.91	293	P	Pn	09 32 23.0	+1.6
OUZ	Omahuta	4.91	293	P	Pn	09 32 23.0	+1.6
KHZ	Kahutara	6.66	218	P	Pn	09 32 44.3	-1.1
CTZ	Chatham Island	7.21	154	P	Pn	09 32 47.0	-5.9

IDC 04 09:32:18.9±2.2, 16°.65S×173°.45W, h62^{km}±28^{km}, mb4.2/5, mbtmp4.3/9, ML4.2/4, MS3.2/6, Error ellipse: s-maj=29.4km s-min=16.6km az=124.0
NEIC 04 09:32:19.4±0.8, 16°.73S±0°.10×173°.5W±0°.1, h53^{km}±14^{km}, mb4.3/10, Error ellipse: s-maj=20.4km s-min=13.8km az=76.0
ISC 04 09:32:19.7±0.7, 16°.67S±0°.08×173°.44W±0°.08, h66^{km}, n46, σ1^{s}62/43, mb4.5/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.18	30	P	Pn	09 33 08.2	+0.8
	76nm,0.3s,baz=200,slow=3.1,SNR=109						
AFI				S	Sn	09 33 43.1	-1.2
	615nm,0.4s,baz=224,slow=23,SNR=15						
	172nm,0.3s						
NIUE	Niue	4.11	126		Pn	09 33 19.4	-0.6
MSVF	Nonsavu	8.20	261	P	Pn	09 34 16.4	+0.2
	0.3nm,0.3s,baz=110,slow=12,SNR=1.5						
MSVF				LR	LR	09 36 09.8	
	comp=Z,28nm,21.2s,baz=173,slow=28						
	0.5nm,0.3s						
RAR	Rarotonga	13.69	111	P	Pn	09 35 30.5	-0.3
	2.4nm,0.3s,baz=266,slow=9.6,SNR=8.5						
	11nm,0.5s						
MARNC	Mare, Loyalty	18.15	252		P	09 36 26.5	-0.4
DZM	Mont Dzumac	19.72	251	P	P	09 36 45.1	+1.0
	0.2nm,0.3s,baz=184,slow=13,SNR=2.5						
DZM				LR	LR	09 42 54.6	
	comp=Z,46nm,20.4s,baz=38,slow=32						
	5.6nm,0.8s						
DZM	Mont Dzumac	19.72	251	P	P	09 36 43.7	-0.4
DZM				IAmb	IAmb	09 37 24.4	
	comp=Z,35nm,1.4s						
MXZ	Matakaoa Point	22.05	198	P	P	09 37 09.1	+0.2
KUZ	Kuaotunu	22.18	204	P	P	09 37 09.6	-0.8
WMGZ	Waiomatatini S	22.25	197	P	P	09 37 12.7	+1.6
HAZ	Te Kaha	22.38	199	P	P	09 37 13.2	+0.7
PKGZ	Pakihiroa	22.41	198	P	P	09 37 15.0	+2.0
PUZ	Puketiti	22.53	197	P	P	09 37 14.1	-0.1
RUGZ	Raukumara Rang	22.61	199	P	P	09 37 15.2	+0.1
TWGZ	Tauwhareparae	22.71	198	P	P	09 37 17.1	+1.0
OPRZ	Ohinepanea	22.86	201	P	P	09 37 18.7	+1.1
MWZ	Matawai	22.99	198	P	P	09 37 18.5	-0.4
TKGZ	Te Karaka	22.99	198	P	P	09 37 24.7	+5.8
URZ	Urewera	23.05	199	P	P	09 37 18.6	-0.9
	comp=Z,9.5nm,0.3s,baz=123,slow=3.0,SNR=14						
	comp=Z,9.5nm,0.3s						
URZ	Urewera	23.05	199	P	P	09 37 15.9	-3.6
RAGZ	Rawiri	23.17	198	P	P	09 37 20.0	-0.8
RIGZ	Rimuhau	23.27	198	P	P	09 37 22.7	+1.1
PRRZ	Plateau Road	23.50	200	P	P	09 37 25.2	+1.5
KNZ	Kokohu	23.58	198	P	P	09 37 26.8	+2.3
QRZ	Quartz Range	26.95	204	P	P	09 37 55.4	+0.4
THZ	Tophouse	27.62	202	P	P	09 38 03.6	+2.5
RPZ	Rata Peaks	30.00	203	P	P	09 38 22.1	+0.1
	comp=Z,7.6nm,0.9s,baz=31,slow=10,SNR=2.4						
	comp=Z,7.6nm,0.9s						
FOZ	Fox Glacier	30.32	205	P	P	09 38 21.5	-3.4
ARMA	Armidale	34.67	240	P	P	09 39 02.9	-0.4
ARMA				IAmb	IAmb	09 39 12.9	
	comp=Z,6.6nm,1.1s						
STKA	Stephens Creek	43.38	241	P	P	09 40 15.0	-0.9
	comp=Z,2.8nm,0.7s,baz=93,slow=10,SNR=6.7						
	comp=Z,2.8nm,0.7s						
STKA	Stephens Creek	43.38	241	P	P	09 40 15.3	-0.5
STKA				IAmb	IAmb	09 40 45.3	
	comp=Z,2.2nm,1.5s						
WR0	Warramunga Arr	49.34	258	P	P	09 41 02.5	-0.2
WB0	Warramunga Arr	49.50	258	P	P	09 41 03.3	-0.6
WB2	Warramunga Arr	49.52	258	P	P	09 41 03.3	-0.8
WB2				IAmb	IAmb	09 41 36.7	
	comp=Z,6.5nm,1.4s						
WRA	Warramunga Arr	49.53	258	P	P	09 41 02.8	-1.4
	comp=Z,0.5nm,0.3s,baz=97,slow=7.0,SNR=26						
WRA				PcP	PcP	09 42 26.0	+0.7
	comp=Z,0.2nm,0.6s,baz=92,slow=2.8,SNR=1.8						
WRA				LR	LR	10 01 12.6	
	comp=Z,25nm,18.4s,baz=44,slow=35						
	comp=Z,0.5nm,0.3s						
WRA	Warramunga Arr	49.53	258	P	P	09 41 03.0	-1.3
AS31	Alice Springs	49.69	253	P	P	09 41 04.3	-1.1
AS31				IAmb	IAmb	09 41 05.3	
	comp=Z,2.5nm,0.5s						
ASAR	Alice Springs	49.69	253	P	P	09 41 04.4	-1.0
	comp=Z,7.5nm,0.6s,baz=88,slow=8.5,SNR=145						
ASAR				PcP	PcP	09 42 26.9	+1.0
	comp=Z,0.5nm,0.9s,baz=100,slow=3.9,SNR=1.6						
	comp=Z,7.5nm,0.6s						
ASAR	Alice Springs	49.69	253	P	P	09 41 03.8	-1.7
QSPA	South Pole Qui	73.38	180	P	P	09 43 46.4	+1.9
QSPA				IAmb	IAmb	09 44 04.7	
	comp=Z,1.9nm,1.2s						
ELK	Elko	78.56	41	LR	LR	10 12 52.0	
	comp=Z,55nm,20.1s,baz=325,slow=31						
H03S2	Juan Fernandez	84.53	124	T	T	11 18 08.2	
	baz=250,slow=75,SNR=8.1						
H03S1	Juan Fernandez	84.55	124	T	T	11 17 50.5	
	baz=250,slow=75,SNR=9.4						
H03S3	Juan Fernandez	84.55	124	T	T	11 18 05.8	
	baz=250,slow=75,SNR=9.9						
YAK	Yakutsk	90.26	337	LR	LR	10 18 03.5	
	comp=Z,20nm,21.4s,baz=269,slow=30						
TKL	Tuckaleechee C	99.26	56	LR	LR	10 27 21.3	
	comp=Z,25nm,18.1s,baz=9.5,slow=33						

IDC 04 09:39:13.0±27.0, 20°.63S×173°.27W, h0^{km}, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=504.5km s-min=165.5km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.89	264	P	P	09 46 32.9	+0.8
	2.7nm,0.3s,baz=94,slow=11,SNR=7.7						
	2.7nm,0.3s						
STKA	Stephens Creek	41.74	245	P	P	09 47 04.3	+0.3
	3.1nm,1.0s,baz=90,slow=9.1,SNR=2.3						
	3.1nm,1.0s						
ASAR	Alice Springs	48.80	256	P	P	09 47 59.2	-1.1
	0.8nm,0.5s,baz=94,slow=9.0,SNR=17						
	0.8nm,0.5s						
WRA	Warramunga Arr	48.97	261	P	P	09 48 01.5	-0.1
	1.4nm,0.6s,baz=98,slow=8.3,SNR=19						
	1.4nm,0.6s						

ASRS 04 09:46:40.3±0.3, 47°N±2°×8°3E±°, h5^{km}, MLh3.1/5, Error ellipse: s-maj=6.1km s-min=2.6km az=133.6, confirmed
NNC 04 09:46:43.6±0.4, 47°.24N×82°.82E, h3^{km}±4^{km}, mb3.6, mpv3.0, Error ellipse: s-maj=5.8km s-min=3.5km az=135.0
ISC 04 09:46:42.3±0.9, 47°.33N±0°.03×82°.89E±0°.04, h10^{km}, n24, σ1^{s}01/40, 25C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK05	Makanchi Array	0.67	217	⇑P	Pg	09 46 55.2	-0.1
MK05				⇑S	Sg	09 47 03.7	-0.4
MK31	Makanchi Array	0.67	217	⇑P	Pg	09 46 55.1	-0.2
	2.8nm,0.2s,baz=329,slow=1.3,SNR=783						
MK31				⇑S	Sg	09 47 03.8	-0.3
	12nm,0.2s						
MKAR	Makanchi Array	0.67	217	⇑Pg	Pg	09 46 55.2	-0.1
MKAR				Sg	Sg	09 47 03.4	-0.7
MK06	Makanchi Array	0.68	215	⇑P	Pg	09 46 55.2	-0.2
MK06				⇑S	Sg	09 47 03.8	-0.4
MK02	Makanchi Array	0.68	215	⇑P	Pg	09 46 55.3	-0.2
MK02				⇓S	Sg	09 47 03.8	-0.6
MK01	Makanchi Array	0.69	216	⇑P	Pg	09 46 55.4	-0.2
MK01				⇑S	Sg	09 47 03.9	-0.6
MK04	Makanchi Array	0.69	216	⇑P	Pg	09 46 55.4	-0.2
MK04				⇑S	Sg	09 47 03.9	-0.7
MK03	Makanchi Array	0.69	216	⇑P	Pg	09 46 55.5	-0.2
MK03				⇑S	Sg	09 47 04.0	-0.6
MK09	Makanchi Array	0.69	217	⇑P	Pg	09 46 55.5	-0.2
MK09				⇑S	Sg	09 47 04.0	-0.8
MK07	Makanchi Array	0.69	214	⇑P	Pg	09 46 55.4	-0.3
MK07				⇑S	Sg	09 47 03.7	-1.1
MK08	Makanchi Array	0.70	216	⇑P	Pg	09 46 55.7	-0.1
MK08				⇑S	Sg	09 47 03.7	-1.4
MAKZ	Makanchi	0.81	230	⇑P	Pb	09 46 58.0	-0.4
	6.5nm,0.2s						
MAKZ				⇑S	Sg	09 47 08.0	-0.5
	16nm,0.4s						
MAKZ	Makanchi	0.81	230	Pg	Pb	09 46 58.1	-0.4
MAKZ				Sg	Sg	09 47 08.3	-0.2
DGZ	Jazzator, Alta	3.84	50	Pg	Pg	09 47 55.1	-0.8
DGZ				Sg	Sg	09 48 44.0	-1.6
CHBI	Chibit, Altay	4.27	44	Sg	Sg	09 48 58.6	-0.7
KURBB	Kurchatov Arra	4.37	321	⇓Pn	Pg	09 48 02.6	-3.4
	0.1nm,0.3s						
KURBB				⇑Lg	Lg	09 49 03.9	
	33nm,0.6s						
KURK	Kurchatov	4.40	322	⇓Pn	Pb	09 48 01.1	+1.5
	4.4nm,1.1s						
KURK				⇓Lg	Lg	09 49 00.1	
	14nm,0.7s						
KURK	Kurchatov	4.40	322	Pg	Pg	09 48 05.0	-1.5
KURK				Sg	Sg	09 49 04.1	+0.6
CUR	Chagan-Uzun	4.56	51	Pg	Pg	09 48 08.5	-1.1
CUR				Sg	Sg	09 49 07.7	-0.9
PDGK	Podgornoye	4.66	212	⇑Pn	Pn	09 47 54.2	+1.4
	56nm,2.0s						
PDGK				⇓Lg	Lg	09 49 04.2	
	21nm,1.1s						
ULGR	Ulagan, Altay	4.70	44	Sg	Sg	09 49 12.5	-0.5
ELT	Eltsovka	6.32	19	Sg	Sg	09 50 06.3	+1.4
TASR	Tashtagol	6.32	29	Sg	Sg	09 50 06.6	+1.7
OTUK	Ortayu	7.17	281	⇑Pn	Pn	09 48 28.3	+1.2
	7.1nm,1.9s						
OTUK				⇓Lg	Lg	09 50 26.7	
	14nm,2.2s						

SOME 04 09:51:09.9, 41°.68N×75°.00E, h10^{km}
KRNET 04 09:51:09.9±0.1, 41°.67N×75°.00E, h16^{km}, mb3.1
KNET 04 09:51:10.0±0.7, 41°.72N×74°.99E, h19^{km}±16^{km}, ml2.3, Error ellipse: s-maj=6.7km s-min=2.9km az=0.0
NNC 04 09:51:10.7±0.8, 41°.70N×74°.99E, h0^{km}, mb3.5, mpv3.3, Error ellipse: s-maj=5.6km s-min=2.9km az=177.0
ISC 04 09:51:08.4±1.5, 41°.63N±0°.06×75°.08E±0°.02, h10^{km}±10^{km}, n45, σ0^{s}85/79, 28C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UCH	Uchtor	0.73	325	⇓P	Pg	09 51 22.7	0.0
	80nm,0.2s,SNR=176						
UCH				⇑S	Sg	09 51 32.0	-0.2
	89nm,0.2s						
UCH	Uchtor	0.73	325	⇑*i*P	Pg	09 51 22.6	0.0
	baz=27						
UCH				⇑*i*S	Sg	09 51 32.0	-0.2
	baz=27						
KBK	Karagaybulak	1.03	355	⇓P	Pb	09 51 28.6	+0.1
	33nm,0.1s,SNR=86						
KBK				⇑S	Sg	09 51 42.0	+0.3
	151nm,0.1s						
KBK	Karagaybulak	1.03	355	⇑*i*P	Pg	09 51 28.3	+0.1
	baz=58						
KBK				⇑*i*S	Sg	09 51 41.8	+0.2
	baz=58						
ULHL	Ulahol	1.06	54	⇑P	Pn	09 51 29.9	+0.3
	6.3nm,0.1s,SNR=25						
ULHL				⇑S	Sn	09 51 43.8	-0.8
	26nm,0.1s						
ULHL	Ulahol	1.06	54	⇑*i*P	Pn	09 51 30.1	+0.5
	baz=58						
ULHL				⇑*i*S	Sn	09 51 44.6	0.0
	baz=58						
AAK	Ala-Archa	1.09	337	⇓P	Pg	09 51 29.3	-0.2
	23nm,0.2s,SNR=69						
AAK				⇑S	Sg	09 51 42.8	-1.0
	33nm,0.1s						
AAK	Ala-Archa	1.09	337	⇑*i*P	Pg	09 51 29.2	-0.3
	baz=39						
AAK				⇑*i*S	Sg	09 51 43.1	-0.7
	baz=39						
AML	Almayashu	1.15	296	⇓P	Pg	09 51 30.0	-0.6
	17nm,0.2s,SNR=86						
AML				⇓S	Sg	09 51 44.3	-1.2
	49nm,0.2s						
TKM2	Tokmak 2	1.34	16	⇑P	Pg	09 51 34.2	0.0
	5.0nm,0.1s,SNR=48						
TKM2				⇑S	Sg	09 51 52.5	+0.8
	50nm,0.1s						
TKM2	Tokmak 2	1.34	16	⇑*i*P	Pg	09 51 34.3	0.0
	baz=19						
TKM2				⇑*i*S	Sg	09 51 52.2	+0.5
	baz=19						
CHMS	Chumysh	1.39	350	⇓P	Pb	09 51 34.6	+0.1
	4.8nm,0.1s,SNR=10.0						
CHMS				⇑S	Sb	09 51 52.5	+0.2
	21nm,0.2s						
CHMS	Chumysh	1.39	350	⇓*i*P	Pb	09 51 34.5	+0.1
	baz=52						
CHMS				⇓*i*S	Sb	09 51 52.5	+0.2
	baz=52						
EKS2	Erkin-Say	1.41	317	⇑P	Pn	09 51 34.8	+0.5
	3.8nm,0.1s,SNR=15						
EKS2				⇓S	Sn	09 51 52.9	-0.1
	14nm,0.1s						
EKS2	Erkin-Say	1.41	317	⇑*i*P	Pn	09 51 34.6	+0.3
	baz=18						
EKS2				⇑*i*S	Sn	09 51 52.7	-0.4
	baz=18						
KST	Kastek	1.56	25	*e*P	Pg	09 51 38.9	+0.6
	baz=27						
KST				*e*S	Sg	09 51 59.3	+0.8
	baz=27						
KST	Kastek	1.56	25	*e*P	Pg	09 51 38.9	+0.6
	6.9nm,0.1s						
KST				*e*S	Sg	09 51 59.2	+0.8
	33nm,0.3s						
KST	Kastek	1.56	25	P	Pg	09 51 38.9	+0.6
	6.9nm,0.1s						
KST				S	Sg	09 51 59.2	+0.8
	33nm,0.3s						
USP	Ospenovka	1.69	345	⇑P	Pb	09 51 39.9	+0.3
	8.6nm,0.1s,SNR=50						
USP				⇑S	Sb	09 52 02.0	+1.0
	21nm,0.1s						
USP	Ospenovka	1.69	345	⇑*i*P	Pb	09 51 39.7	+0.1
	baz=47						
USP				⇑*i*S	Sb	09 52 01.7	+0.7
	baz=47						
MRKS	Merke	1.77	310	*e*P	Pb	09 51 41.1	+0.1
	baz=10.0						
MRKS				*e*S	Sb	09 52 03.2	-0.2
	baz=10.0						
MRKS	Merke	1.77	310	*e*P	Pb	09 51 41.1	+0.1
	20nm,0.2s						
MRKS				*e*S	Sb	09 52 03.1	-0.2
	54nm,0.3s						
MTBS	Maitube	1.80	33	*e*P	Pg	09 51 43.5	+0.5
	baz=36						
MTBS				*e*S	Sg	09 52 06.9	+0.6
	baz=36						
MTBS	Maitube	1.80	33	*e*P	Pg	09 51 43.2	+0.2
	8.9nm,0.1s						
MTBS				*e*S	Sg	09 52 06.9	+0.6
	29nm,0.3s						
SGDS	Sogindy	1.85	350	*e*P	Pg	09 51 43.6	-0.2
	6.6nm,0.1s						
SGDS				*e*S	Sg	09 52 07.3	-0.5
	26nm,0.3s						
TNSS	Tian-Shan	1.97	44	*e*P	Pg	09 51 46.9	+0.6
	4.3nm,0.2s						
TNSS				*e*S	Sg	09 52 13.0	+1.2
	12nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TNSS	Tian-Shan	1.97	44	Pg	Pg	09 51 46.9	+0.6
	4.3nm,0.2s						
TNSS				Lg	Lg	09 52 13.0	
	12nm,0.2s						
KRBS	Karabastau	2.11	12	eP	Pg	09 51 48.4	-0.4
	6.7nm,0.2s						
KRBS				eS	Sg	09 52 15.7	-0.5
	63nm,0.5s						
KRBS	Karabastau	2.11	12	Pg	Pg	09 51 48.4	-0.4
	6.7nm,0.2s						
KRBS				Lg	Lg	09 52 15.7	
	63nm,0.5s						
MDOK	Medeo	2.11	43	eP	Pg	09 51 49.6	+0.7
	4.1nm,0.8s						
MDOK				eS	Sg	09 52 18.3	+1.9
	18nm,0.4s						
MDOK	Medeo	2.11	43	⇑Pg	Pn	09 51 43.0	-1.0
	19nm,1.7s						
MDOK				Pg	Pg	09 51 50.2	+1.2
	6.3nm,0.3s						
MDOK				⇑Lg	Lg	09 52 14.1	
	112nm,2.2s						
MDOK				Lg	Lg	09 52 18.3	
	18nm,0.4s						
KUU	Kurty	2.44	22	eP	Pg	09 51 54.2	-1.0
	5.4nm,0.4s						
KUU				eS	Sg	09 52 25.9	-1.0
	113nm,0.6s						
KUU	Kurty	2.44	22	Pg	Pg	09 51 54.2	-1.0
	5.4nm,0.4s						
KUU				Lg	Lg	09 52 25.9	
	113nm,0.6s						
CHKK	Chushkaly	2.63	32	eP	Pg	09 51 58.0	-0.8
	9.0nm,0.3s						
CHKK				eS	Sg	09 52 32.5	-0.4
	61nm,0.2s						
CHKK	Chushkaly	2.63	32	Pg	Pg	09 51 58.0	-0.8
	9.0nm,0.3s						
CHKK				Lg	Lg	09 52 32.5	
	61nm,0.2s						
SATY	Saty	2.85	59	eP	Pg	09 52 02.2	-0.8
	1.9nm,0.1s						
SATY				eS	Sg	09 52 40.2	+0.3
	18nm,0.2s						
SATY	Saty	2.85	59	Pg	Pg	09 52 03.0	-0.1
	1.9nm,0.1s						
SATY				Lg	Lg	09 52 40.2	
	18nm,0.2s						
KPKS	Kokpek	3.23	54	eP	Pg	09 52 08.6	-1.8
	2.8nm,0.1s						
KPKS				eS	Sg	09 52 50.9	-1.3
	17nm,0.5s						
KPKS	Kokpek	3.23	54	Pg	Pg	09 52 09.1	-1.3
	2.8nm,0.1s						
KPKS				Lg	Lg	09 52 50.9	
	17nm,0.5s						
ARXS	Arharly	3.27	37	eP	Pg	09 52 08.9	-2.3
	6.8nm,0.5s						
ARXS				eS	Sg	09 52 51.5	-2.1
	23nm,0.3s						
ARXS	Arharly	3.27	37	Pg	Pg	09 52 09.6	-1.6
	2.1nm,0.2s						
ARXS				Lg	Lg	09 52 51.5	
	23nm,0.3s						
UZB	Uzynbulak	3.29	61	eP	Pg	09 52 10.0	-1.4
	1.9nm,0.1s						
UZB				eS	Sg	09 52 53.7	-0.4
	11nm,0.2s						
UZB	Uzynbulak	3.29	61	Pg	Pg	09 52 11.0	-0.5
	1.9nm,0.1s						
UZB				Lg	Lg	09 52 53.7	
	11nm,0.2s						
PDGK	Podgornoye	3.68	61	⇓Lg	Lg	09 53 01.3	
	48nm,1.6s						
KK31	Karatay Array	3.69	295	⇓Pg	Pb	09 52 16.3	+2.6
	0.8nm,0.4s,baz=112,slow=15						
KK31				⇑Lg	Lg	09 53 06.2	
	7.2nm,0.7s,baz=111,slow=28						

UCC 04 10:13:32.6±0.7, 50°.79N×6°.60E, h18km±1km, ML1.2, 9D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEM	Membach	0.42	244	κP	Pg	10 13 41.0	-0.1
MEM				dS	Sg	10 13 46.6	-0.4
	comp=N,6.1nm,0.2s						
BHOU	Houvegnez	0.58	221	dP	Pg	10 13 43.9	-0.2
BHOU				dS	Sg	10 13 50.0	-1.9
	comp=E,9.7nm,0.1s						
LKLB	Kalborn	0.76	204	dP	Pb	10 13 46.3	-1.0
LKLB				dS	Sb	10 13 56.7	-0.6
BCLA	Clavier	0.91	246	dP	Pb	10 13 49.6	-0.1
DOU	Dourbes	1.46	242	dS	Sn	10 14 16.2	-0.5

KRSZO 04 10:15:38.4±1.3, 48°.24N×21°.24E, h6km±9km, ML2.0/5, Error ellipse: s-maj=8.7km s-min=5.8km az=173.0, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABAH	Abaujker	0.05	3	Pg	Pg	10 15 39.8	-0.1
	comp=Z,13nm,SNR=568						
ABAH	Abaujker	0.05	3	P	Pg	10 15 39.8	-0.1
KECS	Kecovo	0.56	296	Pg	Pg	10 15 49.7	+0.7
	comp=Z,0.2nm,SNR=1.8						
KECS				Lg	Lg	10 15 58.0	
KECS	Kecovo	0.56	296	eSG	Sb	10 15 57.7	-1.0
CRVS	Cervenica-Dubn	0.68	13	x	x	10 15 53.1	
	SNR=2.5						
CRVS	Cervenica-Dubn	0.68	13	ePG	Pb	10 15 53.1	+0.5
CRVS				eSG	Sb	10 16 02.1	-0.1
TRPA	Tarpa	0.88	97	Pg	Pb	10 15 55.8	-0.2
	comp=Z,0.1nm,SNR=2.3						
TRPA				Sn	Sn	10 16 09.2	-1.1
TRPA	Tarpa	0.88	97	P	Pb	10 15 55.8	-0.2
TRPA				S	Sn	10 16 09.2	-1.1
PSZ	Piszkesteto	0.96	251	Pg	Pn	10 15 58.5	+0.1
	comp=Z,0.1nm,SNR=4.0						
PSZ				Lg	Lg	10 16 12.0	
PSZ	Piszkesteto	0.96	251	P	Pn	10 15 58.5	+0.1
PSZ				S	Sn	10 16 12.0	-0.3
KOLS	Kolonicke sedl	0.98	45	Pn	Pn	10 15 58.5	-0.2
	comp=Z,10.0nm,SNR=4.7						
KOLS				Sn	Sn	10 16 13.2	+0.5
KOLS	Kolonicke sedl	0.98	45	ePG	Pn	10 15 58.4	-0.2
KOLS				eSG	Sn	10 16 13.3	+0.5
KOLS				eLG	Lg	10 16 18.8	
DRGR		1.76	145	Sn	Sb	10 16 33.1	-0.4

NEIC 04 10:20:50.8±1.5, 28°.57S±0°.04×69°.4W±0°.1, h145km±11km, mb4.1/1, Md3.6(SJA), ML3.7(GUC), Error ellipse: s-maj=19.1km s-min=4.8km az=97.0

GUC 04 10:20:52.8±0.6, 28°.59S×69°.39W, h125km, ML3.7

ISC 04 10:20:50.3±0.9, 28°.57S±0°.04×69°.43W±0°.09, h143km±10km, n51, σ0s.83/61, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC05	El Transito	0.79	250		Pn	10 21 13.4	+0.6
AC05	El Transito	0.79	250	⇑iP	Pn	10 21 13.3	+0.6
AC05				iS	Sn	10 21 29.1	-0.8
AC05				IAML		10 21 29.9	
	comp=E,3μm,0.4s						
LCO	Las Campanas	1.20	248	Pn	Pn	10 21 17.4	+0.9
LCO	Las Campanas	1.20	248	eP	Pn	10 21 17.3	+0.8
LCO				iS	Sn	10 21 36.6	+0.2
GO03	Copiap	1.20	324		Pn	10 21 17.0	+0.6
GO03	Copiap	1.20	324	⇑iP	Pn	10 21 17.1	+0.8
GO03				iS	Sn	10 21 35.7	-0.4
AC06	Mina Casimiro	1.45	326		Pn	10 21 19.7	+0.8
AC06	Mina Casimiro	1.45	326	⇑iP	Pn	10 21 19.7	+0.8
AC06				iS	Sn	10 21 40.0	-0.7
AC06				IAML		10 21 41.6	
	comp=E,503nm,0.1s						
AC04	Llanos de Chal	1.49	284	Pn	Pn	10 21 20.4	+1.3
AC04	Llanos de Chal	1.49	284	⇑iP	Pn	10 21 20.5	+1.3
AC04				iS	Sn	10 21 41.3	+0.1
CO01	Juntas del Tor	1.52	202	Pn	Pn	10 21 21.0	+1.2
CO01	Juntas del Tor	1.52	202	eP	Pn	10 21 21.0	+1.2
CO01				iS	Sn	10 21 42.9	+0.5
AC02	Maricunga	1.75	9	Pn	Pn	10 21 23.7	+1.1
AC02	Maricunga	1.75	9	⇑iP	Pn	10 21 23.7	+1.1
AC02				iS	Sn	10 21 47.3	+0.1
AC02				IAML		10 21 49.4	
	comp=N,594nm,0.3s						
GO04	Tololo Observa	2.00	216	Pn	Pn	10 21 26.1	+1.0
GO04	Tololo Observa	2.00	216	eP	Pn	10 21 25.9	+0.8
GO04				iS	Sn	10 21 52.1	+0.1
CO05	La Serena	2.08	229	Pn	Pn	10 21 26.7	+0.8
CO05	La Serena	2.08	229	eP	Pn	10 21 26.6	+0.8
CO05				iS	Sn	10 21 52.6	-0.6
CO05				IAML		10 21 55.7	
	comp=N,477nm,0.4s						
CO03	El Pedregal	2.52	205		Pn	10 21 32.4	+1.1
CO03	El Pedregal	2.52	205	eP	Pn	10 21 32.3	+1.1
CO03				iS	Sn	10 22 03.2	+0.2
CO03				IAML		10 22 05.3	
	comp=E,359nm,0.2s						
AC01	Pan de Azucar	2.62	336	Pn	Pn	10 21 34.1	+1.5
CO06	Fray Jorge	2.84	222	Pn	Pn	10 21 35.8	+0.5
CO06	Fray Jorge	2.84	222	eP	Pn	10 21 35.5	+0.2
CO06				IAML		10 22 11.6	
	comp=N,138nm,0.2s						
CO02	Combarbal	2.96	207	Pn	Pn	10 21 37.7	+0.7
CO02	Combarbal	2.96	207	eP	Pn	10 21 37.5	+0.5
CO02				IAML		10 22 17.6	
	comp=N,394nm,0.3s						
ZON	Zonda	3.04	168	Pn	Pn	10 21 38.4	+0.5
GO02	Mina Guanaco	3.39	358	Pn	Pn	10 21 43.8	+1.1
GO02	Mina Guanaco	3.39	358	eP	Pn	10 21 44.4	+1.6
PB14	IPOC Station P	4.02	347	Pn	Pn	10 21 52.0	+1.0
VA03	San Esteban	4.29	193	Pn	Pn	10 21 55.1	+0.8
VA06	Catapilco	4.29	202	Pn	Pn	10 21 53.8	-0.3
ROC1	El Roble	4.60	197	Pn	Pn	10 21 58.9	+0.4
MT02	Curacav	4.90	197	Pn	Pn	10 22 01.4	-0.8
PB10	IPOC Station P	5.13	348	Pn	Pn	10 22 05.9	+0.5
LMEL	Las Melosas	5.31	187	Pn	Pn	10 22 07.0	-0.7
PB15	IPOC Station P	5.34	360	Pn	Pn	10 22 09.2	+0.9
MT09	Talagante	5.36	194	Pn	Pn	10 22 08.5	0.0
MT01	Popeta	5.51	196	Pn	Pn	10 22 09.2	-1.1
PB06	IPOC Station P	5.84	359	Pn	Pn	10 22 14.3	-0.6
LVC	Limon Verde	5.95	5	Pn	Pn	10 22 16.7	+0.1
PB04	IPOC Station P	6.24	354	Pn	Pn	10 22 19.7	-0.6
BO02	Sierra Bellavi	6.31	190	Pn	Pn	10 22 20.1	-1.1
PB03	IPOC Station P	6.50	357	Pn	Pn	10 22 23.1	-0.6
PB09	IPOC Station P	6.74	2	Pn	Pn	10 22 27.5	+0.4
GO05	Huala	6.77	198	Pn	Pn	10 22 27.1	0.0
PB07	IPOC Station P	6.82	356	Pn	Pn	10 22 28.0	-0.2
PB02	IPOC Station P	7.23	357	Pn	Pn	10 22 33.0	-0.5
PB01	IPOC Station P	7.49	360	Pn	Pn	10 22 36.0	-1.0
TRQA	Tornquist	11.33	149	Pn	Pn	10 23 26.9	-1.0
LR04	Corral	11.76	195	Pn	Pn	10 23 34.4	+0.9
QSPA	South Pole Qui	61.66	180	P	P	10 30 53.2	+0.4
QSPA				IAmb	IAmb	10 30 57.1	
	comp=Z,3.4nm,1.2s						

NOU 04 10:25:42.9, 23°.05S×179°.47E, h270km, mb4.6/13, South of Fiji Islands

IDC 04 10:26:15.2±1.0, 25°.52S×179°.70W, h432km±10km, mb3.6/16, mbtmp4.5/21, Error ellipse: s-maj=13.0km s-min=10.0km az=152.0

NEIC 04 10:26:16.2±1.7, 25°.5S±0°.1×179°.6W±0°.1, h434km±6km, mb4.3/87, Error ellipse: s-maj=16.5km s-min=15.2km az=148.0

ISC 04 10:26:15.1±0.3, 25°.49S±0°.05×179°.62W±0°.07, h432km, n189, σ1s.17/213, mb4.3/59, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.05	158	P	P	10 27 31.0	+1.7
	352nm,0.2s,baz=65,slow=22,SNR=9.4						
RAO				S	S	10 28 30.1	+0.2
	267nm,0.3s,baz=60,slow=21,SNR=2.4						
RAO	Raoul Island	4.05	158	P	P	10 27 31.8	+2.5
GLKZ	Green Lake	4.05	158	P	P	10 27 31.8	+2.4
GLKZ				S	S	10 28 30.5	+0.5
MSVF	Nonsavu	8.01	344	P	P	10 28 10.5	-0.2
	84nm,0.6s,baz=262,slow=23,SNR=100						
NIUE	Niue	11.01	57	P	P	10 28 42.6	-0.7
MARNC	Mare, Loyalty	12.01	287	P	P	10 28 53.5	-0.8
MXZ	Matakaoa Point	12.17	188	P	P	10 28 54.8	-1.0
MXZ	Matakaoa Point	12.17	188	P	P	10 28 56.1	+0.3
MXZ	Matakaoa Point	12.17	188	P	P	10 28 54.2	-1.6
MXZ				S	S	10 31 04.9	-3.6
WMGZ	Waiomatatini S	12.41	187	P	P	10 28 56.0	-2.4
WMGZ				S	S	10 31 10.6	-2.8
HAZ	Te Kaha	12.43	190	P	P	10 28 58.5	-0.1
HAZ				S	S	10 31 11.7	-2.1
PKGZ	Pakihiroa	12.52	188	P	P	10 28 58.1	-1.6
PKGZ				S	S	10 31 12.9	-2.8
RUGZ	Raukumara Rang	12.65	190	P	P	10 29 00.2	-1.0
RUGZ				S	S	10 31 17.2	-1.2
PUZ	Puketiti	12.68	188	P	P	10 28 58.9	-2.5
PUZ				S	S	10 31 16.6	-2.2
TGRZ	Tauranga	12.70	195	P	P	10 29 03.7	+2.1
OPRZ	Ohinepanea	12.74	194	P	P	10 29 02.9	+0.8
TWGZ	Tauwhareparae	12.82	189	P	P	10 29 02.0	-0.9
TWGZ				S	S	10 31 21.3	-0.3
KARZ	Kaharoa	12.98	195	P	P	10 29 05.8	+1.1
URZ	Urewera	13.03	191	P	P	10 29 03.9	-1.3
	78nm,0.3s,baz=164,slow=2.7,SNR=58						
URZ				S	S	10 31 24.9	-0.9
	62nm,0.6s,baz=190,slow=21,SNR=11						
URZ	Urewera	13.03	191	P	P	10 29 04.3	-0.9
URZ	Urewera	13.03	191	P	P	10 29 02.0	-3.2
URZ				S	S	10 31 24.0	-1.8
MWZ	Matawai	13.04	190	P	P	10 29 03.4	-1.9
MWZ				S	S	10 31 24.0	-1.9
TKGZ	Te Karaka	13.09	189	P	P	10 29 05.4	-0.4
TKGZ				S	S	10 31 25.6	-1.4
DZM	Mont Dzumac	13.20	282	P	P	10 29 08.2	+0.8
	5.4nm,1.1s,baz=112,slow=16,SNR=1.1						
DZM	Mont Dzumac	13.20	282	P	P	10 29 09.2	+1.8
RAGZ	Rawiri	13.21	190	P	P	10 29 05.1	-2.2
RAGZ				S	S	10 31 32.2	+2.7
AFI	Afiamalu	13.67	34	P	P	10 29 08.6	-4.0
	37nm,0.5s,baz=310,slow=3.3,SNR=10						
AFI				S	S	10 31 27.5	-12
	9.5nm,0.4s,baz=130,slow=19,SNR=2.0						
HIZ	Hauiti	13.80	198	P	P	10 29 13.4	-0.2
BKZ	Black Stump Fm	14.03	193	P	P	10 29 13.6	-2.5
BFZ	Birch Farm	15.54	192	P	P	10 29 30.7	-1.5
SNZO	South Karori	16.47	195	P	P	10 29 40.6	-1.5
QRZ	Quartz Range	16.64	201	P	P	10 29 42.9	-1.0
KHZ	Kahutara	17.80	197	P	P	10 29 54.1	-2.1
RPZ	Rata Peaks	19.71	200	P	P	10 30 12.9	-1.9
	25nm,0.6s,baz=2.3,slow=1.0,SNR=26						
RPZ	Rata Peaks	19.71	200	P	P	10 30 13.3	-1.4
JCZ	Jackson Bay	20.81	204	P	P	10 30 22.9	-1.9
ODZ	Otahua Downs	21.04	200	P	P	10 30 24.5	-2.3
ARMA	Armidale	25.83	252	P	P	10 31 10.3	+0.2
ARMA				IAmb	IAmb	10 31 23.0	
	comp=Z,22nm,1.5s						
CAN	Canberra	28.68	243	P	P	10 31 36.8	+1.6
CAN				IAmb	IAmb	10 31 44.4	
	comp=Z,22nm,1.3s						
PPT	Papeete	28.99	80	P	P	10 31 38.1	+0.1
	comp=Z,26nm,0.7s,baz=207,slow=14,SNR=2.0						
	comp=Z,26nm,0.7s						
PPTF	Pamatai, Papee	28.99	80	P	P	10 31 38.7	+0.6
CTAO	Charters Tower	31.86	273	P	P	10 32 03.6	+0.7
TOO	Toolangi	31.91	239	P	P	10 32 03.5	+0.4
TOO				IAmb	IAmb	10 32 27.1	
	comp=Z,22nm,1.2s						
STKA	Stephens Creek	34.48	250	P	P	10 32 25.5	+0.3
	comp=Z,2.6nm,0.7s,baz=99,slow=12,SNR=5.7						
	comp=Z,2.6nm,0.7s						
STKA	Stephens Creek	34.48	250	P	P	10 32 25.6	+0.5
COEN	Coen	36.73	281	P	P	10 32 44.7	+0.5
AS31	Alice Springs	42.14	262	P	P	10 33 28.1	0.0
ASAR	Alice Springs	42.14	262	P	P	10 33 27.9	-0.2
	comp=Z,2.1nm,0.8s,baz=90,slow=6.7,SNR=28						
ASAR				ScP	ScP	10 38 22.8	+0.9
	comp=Z,1.0nm,0.6s,baz=109,slow=4.2,SNR=12						
ASAR				S	S	10 39 13.6	-1.9
	comp=Z,0.6nm,0.9s,baz=98,slow=14,SNR=5.2						
	comp=Z,2.1nm,0.8s						
ASAR	Alice Springs	42.14	262	P	P	10 33 28.3	+0.2
WR0	Warramunga Arr	42.48	268	P	P	10 33 30.6	-0.1
WB2	Warramunga Arr	42.66	268	P	P	10 33 32.1	-0.1
WB0	Warramunga Arr	42.67	268	P	P	10 33 31.9	-0.4
WRA	Warramunga Arr	42.67	268	P	P	10 33 31.3	-0.9
	comp=Z,1.6nm,0.7s,baz=100,slow=7.3,SNR=36						
WRA				ScP	ScP	10 38 25.6	+1.5
	comp=Z,0.4nm,0.6s,baz=103,slow=3.6,SNR=7.2						
WRA				S	S	10 39 20.7	-2.5
	comp=Z,0.3nm,1.0s,baz=119,slow=14,SNR=1.5						
	comp=Z,1.6nm,0.7s						
WRA	Warramunga Arr	42.67	268	P	P	10 33 31.2	-1.1
KNRA	Kununurra	49.04	271	P	P	10 34 21.1	-0.1
KNRA				IAmb	IAmb	10 34 31.2	
	comp=Z,15nm,1.3s						
SBA	Scott Base	52.82	184	P	P	10 34 50.1	+2.1
VNDA	Vanda	52.84	185	P	P	10 34 48.9	+0.8
	comp=Z,1.6nm,0.7s,baz=359,slow=9.1,SNR=8.3						
	comp=Z,1.6nm,0.7s						
VNDA	Vanda	52.84	185	P	P	10 34 49.5	+1.3
MBWA	Marble Bar	55.45	261	P	P	10 35 08.2	+0.6
MBWA				IAmb	IAmb	10 35 32.8	
	comp=Z,18nm,1.2s						
MORW	Morawa	56.67	251	P	P	10 35 15.6	-0.4
MORW				IAmb	IAmb	10 35 23.2	
	comp=Z,15nm,1.2s						
QSPA	South Pole Qui	64.61	180	P	P	10 36 09.5	+1.2
QSPA				IAmb	IAmb	10 36 10.2	
	comp=Z,6.6nm,0.8s						
MJAR	Matsushiro Arr	73.39	326	P	P	10 37 00.9	-0.9
	comp=Z,4.5nm,0.8s,baz=162,slow=5.8,SNR=9.0						
	comp=Z,4.5nm,0.8s						
BELA	Belgrano 2	74.83	173	P	P	10 37 09.2	-0.1
KSRS	Korea Array	79.68	320	P	P	10 37 37.0	+0.6
	comp=Z,1.7nm,0.6s,baz=128,slow=5.9,SNR=8.3						
	comp=Z,1.7nm,0.6s						
NJ2	Nanjing	81.96	311	eP	P	10 37 50.2	+1.8
USA0B	Ussuriysk Arra	82.28	327	P	P	10 37 50.0	+0.2
USA0B				IAmb	IAmb	10 37 50.9	
	comp=Z,5.5nm,0.8s						
USRK	Ussuriysk Ar.	82.28	327	P	P	10 37 50.6	+0.8
	comp=Z,5.3nm,0.8s,baz=136,slow=4.2,SNR=9.3						
	comp=Z,5.3nm,0.8s						
TROLL	Troll, Antarti	82.76	181	P	P	10 37 52.3	+0.2
BCW	Bitter Crk WRg	82.82	46	P	P	10 37 54.2	+1.2
SNAA	Sanae	83.08	179	P	P	10 37 53.3	-0.4
SNAA	Sanae	83.08	179	P	P	10 37 53.5	-0.2
HOPS	Hopland Field	83.10	41	P	P	10 37 55.2	+1.1
VNA3	Neumayer Olymp	83.28	177	P	P	10 37 54.5	-0.1
ELS	Elsinore Mount	83.36	48	P	P	10 37 56.8	+1.1
ELS				IAmb	IAmb	10 37 57.6	
	comp=Z,5.7nm,1.0s						
VNA2	Neumayer--Watz	83.70	177	P	P	10 37 56.8	+0.1
	baz=178,slow=3.0						
ISA	Isabella, Lake	83.87	46	P	P	10 37 59.5	+1.3
ISA				IAmb	IAmb	10 38 00.3	
	comp=Z,8.2nm,0.8s						
VNA1	Neumayer--Stat	83.94	177	P	P	10 37 58.6	+0.7
PFO	Pinyon Flats O	83.99	48	P	P	10 37 59.7	+0.9
	comp=Z,2.2nm,0.9s,baz=232,slow=5.8,SNR=5.7						
	comp=Z,2.2nm,0.9s						
PMD	Palm Desert	84.06	48	P	P	10 37 60.0	+0.9
PMD				IAmb	IAmb	10 38 00.6	
	comp=Z,3.3nm,0.9s						
CMB	Columbia Colle	84.12	43	P	P	10 38 00.4	+1.1
CMB				IAmb	IAmb	10 38 01.0	
	comp=Z,7.2nm,1.1s						
AFDM	Forest Hills D	84.33	42	P	P	10 38 00.5	+0.2
AFDM				IAmb	IAmb	10 38 02.3	
	comp=Z,4.9nm,1.1s						
MDPB	Devils Postpil	84.68	44	P	P	10 38 02.9	+0.5
MDPB				IAmb	IAmb	10 38 04.8	
	comp=Z,3.9nm,0.9s						
GSC	Goldstone, Bar	84.75	47	P	P	10 38 02.8	+0.3
GSC				IAmb	IAmb	10 38 04.4	
	comp=Z,9.5nm,1.0s						
GLA	Glamis	84.78	50	P	P	10 38 03.1	+0.4
EMB	Emerald Bay	84.88	42	P	P	10 38 03.3	+0.1
EMB				IAmb	IAmb	10 38 05.0	
	comp=Z,6.2nm,1.2s						
YBH	Yreka Blue Hor	85.09	39	P	P	10 38 04.9	+0.8
	comp=Z,1.5nm,0.7s,baz=200,slow=3.0,SNR=5.2						
	comp=Z,1.5nm,0.7s						
QSM	Queen of Sheba	85.10	46	P	P	10 38 04.7	+0.5
MPK	Martis Peak	85.12	42	P	P	10 38 05.7	+1.2
PNTR	Pine Nut	85.25	43	P	P	10 38 06.0	+0.9
PNTR				IAmb	IAmb	10 38 07.0	
	comp=Z,6.9nm,1.0s						
LCH	Last Change Ra	85.35	45	P	P	10 38 06.0	+0.5
BLYC	Blythe	85.39	49	P	P	10 38 06.6	+1.1
BLYC				IAmb	IAmb	10 38 07.9	
	comp=Z,5.5nm,1.0s						
GMN	Gold Mountain	85.64	45	P	P	10 38 07.5	+0.5
NVAR	Mina Array Bea	85.65	44	P	P	10 38 07.7	+0.7
	comp=Z,1.9nm,0.7s,baz=224,slow=9.2,SNR=19						
	comp=Z,1.9nm,0.7s						
NVAR	Mina Array Bea	85.65	44	P	P	10 38 06.7	-0.3
WCT	Wildcat Mounta	85.74	46	P	P	10 38 08.7	+1.4
NV11	Mina Array Sit	85.75	44	P	P	10 38 08.4	+1.0
NV11				IAmb	IAmb	10 38 09.0	
	comp=Z,4.8nm,1.0s						
PAHR	Pah Rah Range	85.77	42	P	P	10 38 08.1	+0.6
TPNV	Topopah Spring	86.08	46	P	P	10 38 10.1	+1.0
TPNV				IAmb	IAmb	10 38 10.9	
	comp=Z,5.7nm,0.9s						
KVN	Kaiserville	86.16	43	P	P	10 38 10.2	+0.8
KVN				IAmb	IAmb	10 38 10.8	
	comp=Z,3.5nm,0.9s						
MOD	Modoc Plateau	86.59	40	P	P	10 38 12.0	+0.6
MOD				IAmb	IAmb	10 38 12.6	
	comp=Z,3.6nm,0.8s						
K05A	Summer Lake	86.77	39	P	P	10 38 11.3	-0.9
PLCA	Paso Flores	86.92	134	P	P	10 38 13.2	+0.1
	comp=Z,2.1nm,0.9s,baz=146,slow=4.3,SNR=2.9						
	comp=Z,2.1nm,0.9s						
PRN	Pahroc Range	87.12	46	P	P	10 38 13.6	-0.4
PRN				IAmb	IAmb	10 38 16.4	
	comp=Z,5.2nm,0.9s						
TUC	Tucson	87.21	52	P	P	10 38 16.2	+1.7
TUC				IAmb	IAmb	10 38 17.3	
	comp=Z,6.9nm,0.8s						
PINE	Pine Mountain	87.41	38	P	P	10 38 15.7	+0.4
BMN	Battle Mountai	87.53	43	P	P	10 38 16.3	+0.4
BMN				IAmb	IAmb	10 38 17.5	
	comp=Z,5.3nm,1.0s						
319A	Douglas	87.80	54	P	P	10 38 17.4	+0.1
WVOR	Wild Horse Val	87.89	40	P	P	10 38 18.7	+1.3
LCMT	Little Creek M	88.09	47	P	P	10 38 19.4	+0.9
LCMT				IAmb	IAmb	10 38 20.6	
	comp=Z,3.9nm,1.1s						
HPIG		88.27	59	P	P	10 38 20.6	+0.9
HPIG				IAmb	IAmb	10 38 21.2	
	comp=Z,2.8nm,0.6s						
CCUT	Cedar City	88.31	47	P	P	10 38 20.2	+0.5
KNB	Kanab	88.37	47	P	P	10 38 21.2	+1.3
KNB				IAmb	IAmb	10 38 22.3	
	comp=Z,8.5nm,1.3s						
U15A	North Rim	88.40	48	P	P	10 38 20.1	-0.1
I07A	Izee	88.40	39	P	P	10 38 21.1	+1.3
G06A	Carlson Farm,	88.50	37	P	P	10 38 21.2	+1.1
G06A				IAmb	IAmb	10 38 22.0	
	comp=Z,7.7nm,0.9s						
SZCU	Shurtz Canyon	88.52	47	P	P	10 38 20.9	+0.3
WUAZ	Wupatki	88.52	49	P	P	10 38 21.4	+0.7
WUAZ				IAmb	IAmb	10 38 22.9	
	comp=Z,3.3nm,0.8s						
PSUT	Pine Spring	88.54	46	P	P	10 38 19.8	-0.9
J08A	Circle Bar Ran	88.55	40	P	P	10 38 20.6	+0.2
J08A				IAmb	IAmb	10 38 22.9	
	comp=Z,7.6nm,1.0s						
LON	Longmire	88.83	36	P	P	10 38 22.2	+0.6
MTPU	Mount Pierson	89.36	47	P	P	10 38 24.7	0.0
MTPU				IAmb	IAmb	10 38 27.4	
	comp=Z,6.7nm,0.9s						
G08A	Pilot Rock	89.46	38	P	P	10 38 24.9	+0.2
MVU	Marysvale	89.59	46	P	P	10 38 26.6	+0.9
L19K	White Mountain	89.59	11	P	P	10 38 25.1	+0.3
SUA	Susitna One	89.73	13	P	P	10 38 25.7	+0.2
LTY	Liberty	89.76	36	P	P	10 38 25.9	-0.1
LTY				IAmb	IAmb	10 38 26.9	
	comp=Z,8.7nm,1.3s						
MFID	Camas Ranch	90.13	41	P	P	10 38 28.7	+0.8
MFID				IAmb	IAmb	10 38 29.6	
	comp=Z,5.0nm,0.8s						
CMAR	Chiang Mai Arr	90.40	290	P	P	10 38 31.1	+1.6
	comp=Z,1.3nm,0.3s,baz=139,slow=3.5,SNR=14						
	comp=Z,1.3nm,0.3s						
TMUT	Trail Mountain	90.68	46	P	P	10 38 32.0	+1.2
TX31	Lajitas Ar. Si	90.98	58	P	P	10 38 33.4	+1.3
TX32	Lajitas Array	90.98	58	P	P	10 38 33.4	+1.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	90.98	58	P	P	10 38 33.4	+1.3
	comp=Z,1.1nm,0.7s,baz=214,slow=6.2,SNR=15						
	comp=Z,1.1nm,0.7s						
TXAR	Lajitas Array	90.98	58	P	P	10 38 32.9	+0.8
SRU	San Rafael Swe	91.03	47	P	P	10 38 33.1	+0.9
SRU				IAmb	IAmb	10 38 33.9	
	comp=Z,4.1nm,0.7s						
HVU	Hansel Valley	91.05	43	P	P	10 38 33.3	+1.1
HVU				IAmb	IAmb	10 38 33.9	
	comp=Z,3.5nm,0.8s						
HLID	Hailey	91.05	41	P	P	10 38 33.4	+1.2
HLID				IAmb	IAmb	10 38 33.8	
	comp=Z,2.8nm,0.9s						
PZH	PanZhiHua	91.74	298	P	P	10 38 38.5	+2.8
M27K	Edge Creek, AK	92.59	17	P	P	10 38 39.6	+0.8
M27K				IAmb	IAmb	10 38 39.9	
	comp=Z,4.5nm,0.8s						
MENT	Mentasta	92.62	16	P	P	10 38 39.0	+0.2
MENT				IAmb	IAmb	10 38 39.6	
	comp=Z,3.0nm,0.8s						
L26K	Log Cabin Wild	92.78	16	P	P	10 38 39.9	+0.4
HDA	Harding Lake	93.16	14	P	P	10 38 40.9	-0.2
HDA				IAmb	IAmb	10 38 59.0	
	comp=Z,3.5nm,1.2s						
L27K	Beaver Creek,	93.19	16	P	P	10 38 41.6	+0.2
L27K				IAmb	IAmb	10 38 49.3	
	comp=Z,4.8nm,1.4s						
BCAR	Beaver Creek A	93.21	16	P	P	10 38 41.5	0.0
IMAR	Indian Mountai	93.30	10	P	P	10 38 42.4	+0.6
ILAR	Eielson Array	93.49	13	P	P	10 38 41.7	-0.9
	comp=Z,0.5nm,0.6s,baz=227,slow=5.1,SNR=9.8						
	comp=Z,0.5nm,0.6s						
PDAR	Pinedale Array	93.59	44	P	P	10 38 44.1	+0.2
	comp=Z,0.7nm,0.8s,baz=217,slow=2.9,SNR=6.7						
	comp=Z,0.7nm,0.8s						
PDAR	Pinedale Array	93.59	44	P	P	10 38 43.7	-0.2
J25K	Salcha River,	93.67	14	P	P	10 38 43.5	-0.1
J25K				IAmb	IAmb	10 38 54.0	
	comp=Z,3.4nm,1.2s						
K27K	Chicken	93.94	16	P	P	10 38 45.6	+0.9
K27K				IAmb	IAmb	10 38 45.9	
	comp=Z,1.3nm,0.8s						
J26L	Joseph Creek	93.98	15	P	P	10 38 45.6	+0.6
J26L				IAmb	IAmb	10 38 46.2	
	comp=Z,3.2nm,0.8s						
M30M	Minto, Yukon	94.15	18	P	P	10 38 46.3	+0.5
EGAK	Eagle	94.78	16	P	P	10 38 48.8	+0.2
FYU	Fort Yukon	95.39	13	P	P	10 38 52.3	+1.1
SPITS	Spitsbergen Ar	126.72	356	PKP	PKPdf	10 44 26.3	-1.0
	comp=Z,9.3nm,0.9s,baz=15,slow=3.6,SNR=1.5						
ARU	Arti	128.35	323	PKP	PKPdf	10 44 31.0	0.0
	comp=Z,4.6nm,0.3s,baz=251,slow=22,SNR=6.4						
NRS	Narsarsuaq	132.83	28		PKPdf	10 44 39.5	+0.3
ARCES	ARCESS Array B	133.50	348	PKhKP	PKPpre	10 44 33.3	
	comp=Z,6.0nm,1.2s,baz=101,slow=2.5,SNR=4.6						
ARCES				PKP	PKPdf	10 44 39.2	-1.2
	comp=Z,2.1nm,0.6s,baz=90,slow=1.2,SNR=11						
BELG	Belogornoye	135.57	320	PKP	PKPdf	10 44 44.3	-0.4
	comp=Z,15nm,0.7s,baz=171,slow=4.0,SNR=3.6						
FINES	FINESS Array B	140.05	341	PKhKP	PKPpre	10 44 44.3	
	comp=Z,0.9nm,0.4s,baz=70,slow=2.2,SNR=5.6						
FINES				PKP	PKPdf	10 44 52.4	-0.2
	comp=Z,2.1nm,0.6s,baz=48,slow=2.8,SNR=4.1						
NC303	NORSAR Array S	143.49	351		PKPab	10 44 56.5	-0.4
NC405	NORSAR Array S	143.55	351	PKPdf	PKPab	10 44 56.5	-0.6
KOPT	Kop Dagi	143.60	304	PKPdf	PKPab	10 44 57.5	-0.8
NB201	NORSAR Array S	143.67	351		PKPab	10 44 57.0	-0.6
NB2	NORSAR Subarra	143.69	351	PKP	PKPab	10 44 57.0	-0.6
	comp=Z,3.5nm,0.6s,baz=14,slow=3.3						
NOA	NORSAR Array B	143.69	351	PKP	PKPab	10 44 56.7	-1.0
	comp=Z,6.4nm,0.8s,baz=18,slow=2.4,SNR=19						
MARD	Mardin	143.81	299	PKPdf	PKPbc	10 44 59.1	+0.1
NAO01	NORSAR Array S	143.93	351		PKPbc	10 44 58.0	-0.4
NC602	NORSAR Array S	143.94	351		PKPbc	10 44 57.2	-1.3
HFS	Hagfors	144.16	349	PKP	PKPbc	10 44 58.3	-0.9
	comp=Z,16nm,0.6s,baz=66,slow=3.7,SNR=36						
KONO	Kongsberg	145.25	352	PKPdf	PKPdf	10 45 02.0	+0.2
PABE	Paberze	145.40	336	PKPdf	PKPdf	10 45 01.7	-0.5
AKASG	Malin Array Be	146.48	326	PKPbc	PKPbc	10 45 05.4	-1.1
	comp=Z,2.7nm,0.3s,baz=46,slow=4.2,SNR=20						
AKASG	Malin Array Be	146.48	326	PKPdf	PKPbc	10 45 05.3	-1.1
AKASG				PKPbc	PKPab	10 45 07.5	-1.1
AKASG				PKPab	PKiKP	10 45 09.5	+0.8
AKBB	Malin Array Si	146.48	326	PKPdf	PKPdf	10 45 04.3	+0.1
AKBB				PKPbc	PKPbc	10 45 07.2	+0.8
AKBB				PKPab	PKiKP	10 45 09.6	+0.9
BNN	Bunyan	147.36	303		PKPbc	10 45 08.8	-0.7
BNN				PKPab	PKPab	10 45 12.9	+0.2
ASF	Jabal al Asfar	147.43	290	PKPbc	PKPbc	10 45 10.2	+0.5
	comp=Z,4.8nm,0.9s,baz=110,slow=3.2,SNR=9.3						
MMAI	Mount Meron Ar	148.64	292	PKPbc	PKiKP	10 45 13.6	-0.3
	comp=Z,7.0nm,0.4s,baz=71,slow=6.3,SNR=17						
BR131	Keskin Array S	148.79	305	PKPbc	PKPbc	10 45 12.6	-0.4
BR131				PKPab	PKPab	10 45 18.7	+0.2
BRTR	Keskin Array B	148.79	305	PKPbc	PKPbc	10 45 12.3	-0.7
	comp=Z,2.3nm,0.7s,baz=124,slow=2.6,SNR=5.3						
BRTR	Keskin Array B	148.79	305	PKPdf	PKPdf	10 45 08.2	-0.4
BRTR				PKPbc	PKPbc	10 45 12.6	-0.4
BRTR				PKPab	PKPab	10 45 18.0	-0.5
EKA	Eskdalemuir Ar	150.07	4	PKPbc	PKPbc	10 45 14.5	-0.9
	comp=Z,1.3nm,0.5s,baz=332,slow=1.3,SNR=7.3						
CSS	Mathiatis	150.11	296	PKPdf	PKPdf	10 45 09.6	-1.1
CSS				PKPbc	PKPbc	10 45 16.1	-0.1
CSS				PKPab	PKPab	10 45 24.0	0.0
MDUB	Mudurnu	150.32	308	PKPdf	PKPdf	10 45 09.7	-1.2
MDUB				PKPbc	PKPbc	10 45 15.5	-1.1
MDUB				PKPab	PKPab	10 45 24.8	0.0
BUR08	Bucovina Ar. S	150.45	325	PKPdf	PKPdf	10 45 10.5	-0.4
BUR08				PKPbc	PKiKP	10 45 17.3	+0.1
BUR08				PKPab	PKPab	10 45 25.1	0.0
BURAR	Bucovina Array	150.46	325		PKiKP	10 45 17.2	-0.1
BURAR				PKPab	PKPab	10 45 25.5	+0.4
BORA	Eskisehir	151.06	307	PKPbc	PKPbc	10 45 18.2	-0.2
GERES	GERESS Array B	154.46	339	PKPbc	PKiKP	10 45 23.5	-2.0
	comp=Z,0.3nm,0.3s,baz=33,slow=5.1,SNR=3.5						
GERES				PKPab	PKPab	10 45 41.0	-0.9
	comp=Z,0.3nm,0.3s,baz=44,slow=4.1,SNR=4.1						
ESDC	Sonseca Array	165.39	13	PKPab	PKPab	10 46 29.3	-0.4
	comp=Z,0.3nm,0.4s,baz=349,slow=5.2,SNR=5.4						
TORD	Torodi Ar. Bea	167.66	186	PKP	PKPdf	10 45 29.4	-2.0
	comp=Z,0.7nm,0.8s,baz=266,slow=0.8,SNR=4.0						

NIED ***04*** *10:53:42.0, 39°.48N×142°.47E, h32^{km}, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.10; $M_{\theta\theta}$0.98; $M_{\phi\phi}$-1.07; $M_{r\theta}$0.96; $M_{\theta\phi}$-0.97; $M_{\phi r}$0.26; Fault plane solution: $M_0$1.73000×10^{14} NP1: ϕ_s159.00000°, δ55.00000°, λ5.00000°. NP2:ϕ_s66.00000°, δ86.00000°, λ145.00000°.*

JMA 04 10:53:42.0±0.1**, 39°.5N**±0°.2×**142°.5E**±0°.7**, h32^{km}, MV3.5**/40**, 10D, E OFF IWATE PREF, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.51	282	⇓*i*P	Pb	10 53 52.6	-0.2
MIYJ				⇓S	Sb	10 53 59.8	-0.3
JTH	Tanohata	0.66	315	⇓*i*P	Pn	10 53 54.4	-0.7
JTH				⇓*e*S	Sb	10 54 04.0	-0.1
OFUJ	Ofunato	0.74	238	*i* P	Pn	10 53 55.9	-0.3
OFUJ				*e*S	Sb	10 54 05.6	-0.6
JOM	Ohasama	0.91	270	⇓*i*P	Pn	10 53 58.8	+0.2
JOM				⇓S	Sn	10 54 10.8	+0.1
JKZ	Kuzumaki	1.02	300	⇓*i*P	Pn	10 54 00.5	+0.3
JKZ				⇓S	Sn	10 54 13.7	+0.3
JKMT	Kesennumamotoy	1.02	230	*i* P	Pn	10 54 00.0	-0.1
JKMT				S	Sn	10 54 12.7	-0.6
JMK	Ichinoseki	1.10	242	P	Pn	10 54 01.5	+0.3
JMK				S	Sn	10 54 15.6	+0.2
JANG	Nango	1.16	321	⇓*i*P	Pn	10 54 02.1	0.0
JANG				⇓S	Sn	10 54 17.1	+0.3
JIO	Ouri	1.34	221	*i* P	Pn	10 54 04.5	-0.1
JIO				S	Sn	10 54 21.1	-0.2
JRG	Rokugo	1.43	267	P	Pb	10 54 07.4	-0.6
JRG				S	Sb	10 54 26.6	+0.9
JAH	Hinai	1.58	297	*i* P	Pb	10 54 09.4	-1.2
JAH				S	Sb	10 54 29.8	-0.5

IDC 04 12:04:19.9±1.1**, 30°.45S**×**179°.74W, h359^{km}**±19^{km}**, mb2.8**/2**, mbtmp3.7**/3**, Error ellipse: s-maj=47.0km s-min=20.1km az=113.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.99	53	P	Pn	12 05 13.2	+1.2
	133nm,0.3s,baz=263,slow=23,SNR=5.2						
RAO				S	S	12 05 53.6	-0.2
	126nm,0.2s,baz=37,slow=23,SNR=1.3						
URZ	Urewera	8.21	198	P	P	12 06 18.4	-0.4
	4.5nm,0.4s,baz=3.7,slow=5.3,SNR=13						
URZ				S	S	12 07 49.4	-2.3
	5.4nm,0.3s,baz=100,slow=18,SNR=11						
ASAR	Alice Springs	41.60	268	P	P	12 11 34.1	-0.2
	0.3nm,0.4s,baz=106,slow=7.3,SNR=13						
	0.3nm,0.4s						
WRA	Warramunga Arr	42.60	273	P	P	12 11 42.1	-0.2
	0.5nm,0.4s,baz=111,slow=7.9,SNR=18						
	0.5nm,0.4s						
FINES	FINESS Array B	144.66	339	PKP	PKPbc	12 23 12.3	-0.9
	1.3nm,0.4s,baz=58,slow=3.4,SNR=11						

IDC 04 12:04:24.1±41.0**, 4°.92S**×**104°.93E, h0^{km}, mb3.5**/3**, mbtmp3.5**/3**, Error ellipse: s-maj=729.1km s-min=210.5km az=138.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.28	120	P	P	12 10 54.6	-0.2
	0.1nm,0.4s,baz=296,slow=9.8,SNR=8.3						
	0.1nm,0.4s						
ASAR	Alice Springs	33.57	127	P	P	12 11 06.4	+0.2
	0.1nm,0.5s,baz=300,slow=8.2,SNR=6.3						
	0.1nm,0.5s						
STKA	Stephens Creek	43.55	132	P	P	12 12 29.8	-0.2
	2.2nm,0.5s,baz=288,slow=9.1,SNR=5.7						
	2.2nm,0.5s						

NNC ***04*** *12:23:35.1±6.7, 37°.66N×71°.01E, h120^{km}±94^{km}, mb3.6, mpv4.8, Error ellipse: s-maj=58.4km s-min=41.4km az=28.0*

ISC 04 12:23:34.4±3.1**, 37°.8N**±0°.2×**71°.6E**±0°.1**, h150^{km}, n11, σ1^{s}83**/14**, 4C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.63	20	P	Pn	12 24 43.2	0.0
	SNR=168						
UCH	Uchtor	4.97	26	P	Pn	12 24 47.4	-0.4
	SNR=6.9						
EKS2	Erkin-Say	5.14	18	P	Pn	12 24 50.5	+0.7
	SNR=10						
AAK	Ala-Archa	5.33	24	P	Pn	12 24 52.8	+0.5
	SNR=24						
KK31	Karatay Array	5.37	352	⇑P	Pn	12 24 53.7	+1.1
	33nm,0.3s,baz=175,slow=12,SNR=384						
KK31				⇑S	Sn	12 25 56.7	+2.9
	8.8nm,0.3s,baz=175,slow=21						
ULHL	Ulahol	5.71	37	P	Pn	12 24 55.7	-1.6
	SNR=6.8						
CHMS	Chumysh	5.73	24	P	Pn	12 24 57.8	+0.3
	SNR=13						
USP	Ospenovka	5.90	21	P	Pn	12 24 59.6	-0.2
	SNR=17						
TKM2	Tokmak 2	5.97	30	P	Pn	12 25 00.9	+0.1
	SNR=5.8						
AB31	Akbulak array	14.21	327	P	Pn	12 26 48.4	-0.4
	1.1nm,0.4s,baz=137,slow=13,SNR=62						
AB31				⇑S	Sn	12 29 22.2	-4.0
	0.9nm,0.4s,baz=137,slow=24						
AKTO	Aktyubinsk	15.92	327	⇓P	P	12 27 12.8	+2.2
	1.5nm,0.7s						
AKTO				⇑S	S	12 30 06.0	-1.5
	2.3nm,1.3s						

IDC 04 12:27:07.8±2.9**, 29°.86N**×**41°.79W, h0^{km}, mb3.8**/3**, mbtmp3.8**/3**, Error ellipse: s-maj=158.0km s-min=29.8km az=28.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	43.45	103	P	P	12 35 12.7	-0.1
	2.4nm,1.1s,baz=298,slow=7.3,SNR=6.9						
	2.4nm,1.1s						
H10N2	ASCENSION HYDR	45.75	141	T	T	13 25 00.4	
	baz=325,slow=74,SNR=54						
H10N3	ASCENSION HYDR	45.75	141	T	T	13 24 59.1	
	baz=325,slow=74,SNR=44						
H10N1	ASCENSION HYDR	45.77	141	T	T	13 25 00.3	
	baz=325,slow=74,SNR=61						
H10S3	ASCENSION HYDR	46.59	142	T	T	13 26 01.4	
	baz=327,slow=74,SNR=31						
H10S2	ASCENSION HYDR	46.60	142	T	T	13 26 03.6	
	baz=253,slow=74,SNR=17						
PDAR	Pinedale Array	54.75	303	P	P	12 36 39.4	0.0
	0.8nm,0.7s,baz=93,slow=9.1,SNR=4.6						
	0.8nm,0.7s						
ILAR	Eielson Array	69.48	334	P	P	12 38 17.6	0.0
	1.2nm,1.0s,baz=66,slow=5.0,SNR=6.6						
	1.2nm,1.0s						

GUC ***04*** *12:32:22.3±0.8, 22°.64S×67°.69W, h206^{km}±11^{km}, ML2.9*
SCB ***04*** *12:32:24.1±2.3, 22°.28S×67°.57W, h167^{km}±2^{km}, ML3.2/2, Error ellipse: s-maj=35.9km s-min=21.6km az=0.0*

ISC 04 12:32:20.3±1.8**, 22°.66S**±0°.06×**67°.54W**±0°.08**, h197^{km}**±20^{km}**, n18, σ1^{s}63**/32**, 4C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.26	272	*i* P	Pn	12 32 53.0	+0.8
PB09	IPOC Station P	1.79	298	⇑*i*P	Pn	12 32 58.3	+1.6
PB09				*i* S	S	12 33 25.6	+0.6
PB15	IPOC Station P	1.86	253	*i* P	Pn	12 32 58.9	+1.5
PB15				*i* S	S	12 33 26.7	+0.6
PB15	IPOC Station P	1.86	253	P	Pn	12 32 58.6	+1.2
PB15				S	S	12 33 22.9	-3.2
PB15				IAML		12 33 29.9	
	281nm,0.2s						
YJA	Yavi	1.94	76	P	Pn	12 32 59.2	+0.7
PB03	IPOC Station P	2.13	286	⇑*i*P	Pn	12 33 01.4	+1.2
PB03				*i* S	S	12 33 30.6	-0.5
PB03				IAML		12 33 31.4	
	comp=N,34nm,0.3s						
PB07	IPOC Station P	2.36	293	⇑*i*P	Pn	12 33 04.0	+1.3
PB07				*i* S	S	12 33 34.8	-0.8
PB07				IAML		12 33 36.9	
	comp=E,25nm,0.4s						
PB01	IPOC Station P	2.42	311	*i* P	Pn	12 33 04.2	+0.9
PB01				*i* S	S	12 33 36.9	+0.2
PB01				IAML		12 33 37.7	
	comp=E,51nm,0.1s						
PB04	IPOC Station P	2.43	277	*i* P	Pn	12 33 04.7	+1.2
PB04				*e*S	S	12 33 36.7	-0.3
PB04				IAML		12 33 39.8	
	comp=N,34nm,0.3s						
PB04	IPOC Station P	2.43	277	⇑P	Pn	12 33 04.6	+1.2
PB04				S	S	12 33 31.6	-5.4
PB04				IAML		12 33 43.1	
	comp=N,28nm,0.2s						
PB02	IPOC Station P	2.56	301	*i* P	Pn	12 33 05.8	+0.9
PB02				*i* S	S	12 33 38.4	-1.0
PB02				IAML		12 33 43.6	
	comp=E,36nm,0.1s						
PB08	IPOC Station P	2.92	329	*i* P	Pn	12 33 11.2	+1.9
PB08				*i* S	S	12 33 48.0	+0.5
PB08				IAML		12 33 50.1	
	comp=E,24nm,0.5s						
GO02	Mina Guanaco	3.12	217	*i* P	Pn	12 33 13.0	+1.5
GO02				*i* S	S	12 33 51.3	-0.2
HMBC	Humberstone	3.22	317	*i* P	Pn	12 33 12.8	+0.2
HMBC				*i* S	S	12 33 52.0	-1.5
HMBC				IAML		12 33 54.2	
	comp=E,32nm,0.3s						
GO01	Chusmiza	3.35	332	*i* P	Pn	12 33 16.0	+1.5
GO01				*i* S	S	12 33 57.9	+1.0
PB11	IPOC Station P	3.49	325	*i* P	Pn	12 33 16.2	+0.2
PB11				*i* S	S	12 33 57.8	-1.7
BBRB	Robore, Bolivi	8.46	60	P	Pn	12 34 18.8	-0.9
BBSD	Serra de San D	8.49	51	P	Pn	12 34 18.6	-1.5

IDC 04 12:32:52.9±1.7**, 29°.34N**×**42°.08W, h0^{km}, mb3.7**/5**, mbtmp3.7**/5**, MS3.5**/28**, Error ellipse: s-maj=92.9km s-min=26.3km az=21.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJG	San Juan	24.66	248	LR	LR	12 46 50.3	
	comp=Z,30nm,20.9s,baz=75,slow=34						
MDP	Montagnes des	26.10	205	LR	LR	12 47 14.4	
	comp=Z,51nm,20.4s,baz=84,slow=33						
BBTS	Babate	27.74	116	LR	LR	12 47 06.1	
	comp=Z,174nm,20.3s,baz=292,slow=31						
SCHQ	Schefferville	31.09	332	LR	LR	12 50 30.4	
	comp=Z,106nm,19.0s,baz=119,slow=34						
MDT	Midelt	32.17	74	LR	LR	12 49 07.4	
	comp=Z,87nm,19.0s,baz=346,slow=30						
SADO	Sadowa	33.02	308	LR	LR	12 51 07.8	
	comp=Z,82nm,19.6s,baz=120,slow=33						
SDV	Santo Domingo	33.63	239	LR	LR	12 52 05.8	
	comp=Z,26nm,21.3s,baz=74,slow=34						
TKL	Tuckaleechee C	35.53	291	LR	LR	12 51 34.9	
	comp=Z,85nm,18.7s,baz=82,slow=32						
TORD	Torodi Ar. Bea	43.59	102	P	P	12 40 58.9	-0.2
	2.4nm,1.0s,baz=300,slow=6.5,SNR=8.0						
	2.4nm,1.0s						
DAVOX	Davos/Dischmat	43.62	52	LR	LR	12 55 43.0	
	comp=Z,31nm,18.1s,baz=263,slow=31						
H10N2	ASCENSION HYDR	45.51	140	T	T	13 30 42.7	
	baz=325,slow=74,SNR=61						
H10N3	ASCENSION HYDR	45.52	140	T	T	13 30 42.9	
	baz=325,slow=74,SNR=47						
H10N1	ASCENSION HYDR	45.53	140	T	T	13 30 44.1	
	baz=325,slow=74,SNR=68						
H10S3	ASCENSION HYDR	46.34	141	T	T	13 31 46.4	
	baz=327,slow=74,SNR=56						
H10S2	ASCENSION HYDR	46.35	141	T	T	13 31 47.5	
	baz=253,slow=74,SNR=33						
NOA	NORSAR Array B	47.16	32	LR	LR	12 56 54.2	
	comp=Z,14nm,21.1s,baz=210,slow=31						
HFS	Hagfors	48.10	34	LR	LR	12 57 55.8	
	comp=Z,25nm,20.9s,baz=260,slow=31						
CMIG	Matias Romero	49.67	268	LR	LR	13 01 06.7	
	comp=Z,22nm,21.1s,baz=46,slow=34						
ATAH	Atahualpa	50.36	230	LR	LR	13 03 32.7	
	comp=Z,47nm,19.9s,baz=34,slow=36						
TXAR	Lajitas Array	53.11	286	P	P	12 42 13.3	+0.8
	0.4nm,1.0s,baz=82,slow=6.7,SNR=2.1						
TXAR				LR	LR	13 05 09.6	
	comp=Z,37nm,18.1s,baz=19,slow=36						
	0.4nm,1.0s						
ANMO	Albuquerque	53.98	294	LR	LR	13 03 15.6	
	comp=Z,59nm,19.6s,baz=85,slow=34						
PDAR	Pinedale Array	54.83	304	P	P	12 42 23.7	-1.4
	0.5nm,0.6s,baz=81,slow=7.4,SNR=4.9						
PDAR				LR	LR	13 04 49.7	
	comp=Z,101nm,18.5s,baz=96,slow=35						
	0.5nm,0.6s						
LVC	Limon Verde	57.75	210	LR	LR	13 08 06.3	
	comp=Z,30nm,18.1s,baz=345,slow=37						
NEW	Newport	59.12	311	LR	LR	13 07 55.9	
	comp=Z,64nm,18.9s,baz=22,slow=36						
ELK	Elko	59.39	302	LR	LR	13 05 58.8	
	comp=Z,82nm,21.4s,baz=58,slow=33						
LPIG	La Paz	60.41	283	LR	LR	13 08 23.4	
	comp=Z,35nm,18.7s,baz=6.0,slow=35						
NVAR	Mina Array Bea	62.29	300	P	P	12 43 17.4	+0.1
	0.3nm,0.6s,baz=78,slow=8.7,SNR=2.3						
	0.3nm,0.6s						
DLBC	Dease Lake	64.47	324	LR	LR	13 10 23.1	
	comp=Z,77nm,18.9s,baz=92,slow=35						
BELG	Belogornoye	67.17	42	LR	LR	13 10 06.7	
	comp=Z,41nm,20.9s,baz=178,slow=33						
ILAR	Eielson Array	69.83	334	P	P	12 44 05.3	+0.4
	1.4nm,0.9s,baz=63,slow=4.0,SNR=9.5						
ILAR				LR	LR	13 13 48.6	
	comp=Z,63nm,18.6s,baz=66,slow=35						
	1.4nm,0.9s						
ARU	Arti	71.59	35	LR	LR	13 13 18.1	
	comp=Z,23nm,18.2s,baz=260,slow=34						
MBAR	Mbarara	75.35	99	LR	LR	13 16 48.7	
	comp=Z,51nm,19.9s,baz=7.5,slow=35						
KDAK	Kodiak Island	75.65	329	LR	LR	13 18 35.6	
	comp=Z,80nm,18.2s,baz=88,slow=36						
SUR	Sutherland	85.59	131	LR	LR	13 19 44.6	
	comp=Z,32nm,18.7s,baz=216,slow=33						
SEY	Seymchan	87.32	353	LR	LR	13 24 26.2	
	comp=Z,88nm,18.1s,baz=329,slow=35						

IDC ***04*** *12:34:10.3±0.8, 15°.09N×141°.84E, h0^{km}, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=35.0km s-min=18.6km az=89.0*
NEIC ***04*** *12:34:11.4±1.2, 14°.93N±0°.02×141°.6E±0°.2, h10^{km}±1^{km}, mb4.7/32, Error ellipse: s-maj=35.6km s-min=4.5km az=89.0*

ISC 04 12:34:11.4±0.8**, 15°.0N**±0°.1×**141°.6E**±0°.2**, h10^{km}, n50, σ0^{s}91**/50**, mb4.6**/25**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMN	Monobe	19.92	341	P	P	12 38 40.4	-3.0
JNU	Nakatsue	20.51	334	P	P	12 38 48.9	-0.8
JNU				IAmb	IAmb	12 39 32.2	
	comp=Z,16nm,0.7s						
KSRS	Korea Array	25.46	334	P	P	12 39 39.7	+0.2
	comp=Z,0.7nm,0.4s,baz=148,slow=11,SNR=2.2						
	comp=Z,0.7nm,0.4s						
KLR	Kul'dur	35.09	349	P	P	12 41 05.2	+0.5
	comp=Z,0.9nm,0.5s,baz=169,slow=10,SNR=2.7						
	comp=Z,0.9nm,0.5s						
WB0	Warramunga Arr	35.26	192	P	P	12 41 05.0	-1.3
WB2	Warramunga Arr	35.43	192	P	P	12 41 05.8	-2.2
WRA	Warramunga Arr	35.44	192	P	P	12 41 09.2	+1.2
	comp=Z,1.3nm,0.8s,baz=11,slow=9.5,SNR=7.8						
	comp=Z,1.3nm,0.8s						
WRA	Warramunga Arr	35.44	192	P	P	12 41 05.8	-2.1
ASAR	Alice Springs	39.15	191	P	P	12 41 41.0	+1.6
	comp=Z,0.5nm,0.6s,baz=14,slow=11,SNR=10						
	comp=Z,0.5nm,0.6s						
SONM	Songino Array	43.78	326	P	P	12 42 18.6	+1.2
	comp=Z,0.3nm,0.3s,baz=134,slow=6.2,SNR=2.1						
	comp=Z,0.3nm,0.3s						
MK31	Makanchi Array	58.28	316	P	P	12 44 05.3	-1.1
MK31				IAmb	IAmb	12 44 29.2	
	comp=Z,7.2nm,1.4s						
MKAR	Makanchi Array	58.28	316	P	P	12 44 07.6	+1.2
	comp=Z,0.6nm,0.6s,baz=93,slow=9.0,SNR=5.7						
	comp=Z,0.6nm,0.6s						
MKAR	Makanchi Array	58.28	316	P	P	12 44 05.9	-0.5
J20K	Nowinta River	65.49	26	P	P	12 44 55.0	+0.5
J20K				IAmb	IAmb	12 45 10.9	
	comp=Z,10.0nm,1.5s						
PPLA	Purkeypile	65.99	27	P	P	12 44 58.3	+0.3
PPLA				IAmb	IAmb	12 45 13.9	
	comp=Z,12nm,1.4s						
KKAR	Karatay Array	66.14	311	P	P	12 44 59.2	0.0
CAST	Castle Rocks	66.17	27	P	P	12 44 58.9	0.0
CAST				IAmb	IAmb	12 45 12.2	
	comp=Z,6.1nm,1.3s						
IMAR	Indian Mountai	66.19	24	P	P	12 44 59.8	+0.8
RC01	Rabbit Creek A	66.71	30	P	P	12 45 02.1	-0.3
TRF	Thorofare Moun	66.96	27	P	P	12 45 03.5	-0.7
TRF				IAmb	IAmb	12 45 15.5	
	comp=Z,7.3nm,1.3s						
PMR	Palmer	67.09	29	P	P	12 45 03.8	-1.0
KNK	Knik Glacier	67.38	29	P	P	12 45 06.7	0.0
SML	Sawmill	67.51	29	P	P	12 45 07.1	-0.5
H23K	Yukon River	67.81	25	P	P	12 45 09.8	+0.4
H23K				IAmb	IAmb	12 45 31.7	
	comp=Z,9.0nm,1.4s						
MDM	Murphy Dome	68.16	26	P	P	12 45 11.9	+0.3
MDM				IAmb	IAmb	12 45 17.8	
	comp=Z,7.1nm,1.4s						
DHY	Denali Highway	68.17	28	P	P	12 45 12.2	+0.3
DHY				IAmb	IAmb	12 45 14.6	
	comp=Z,5.0nm,1.2s						
TOLK	Toolik Lake Re	68.47	22	P	P	12 45 14.1	+0.6
M24K	Tolsona, Glenn	68.56	29	P	P	12 45 13.9	-0.3
KLU	Klutina	68.59	29	P	P	12 45 14.4	0.0
ILAR	Eielson Array	68.69	26	P	P	12 45 13.2	-1.7
	comp=Z,0.8nm,0.7s,baz=249,slow=6.1,SNR=8.0						
	comp=Z,0.8nm,0.7s						
PAX	Paxson	69.01	28	P	P	12 45 16.8	-0.2
PAX				IAmb	IAmb	12 45 50.3	
	comp=Z,6.1nm,1.5s						
VRDI	Verde Repeater	69.74	30	P	P	12 45 21.5	-0.2
VRDI				IAmb	IAmb	12 45 41.7	
	comp=Z,16nm,1.4s						
L26K	Log Cabin Wild	69.98	28	P	P	12 45 23.1	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BMAR	Burnt Mountain	70.06	23	P	P	12 45 23.9	+0.5
L27K	Beaver Creek,	70.67	28	P	P	12 45 27.1	-0.1
BCAR	Beaver Creek A	70.69	28	P	P	12 45 26.9	-0.4
DAWY	Dawson	71.83	27	P	P	12 45 34.5	+0.3
HYT	Haines Junctio	72.61	30	P	P	12 45 38.8	-0.2
HYT				IAmb	IAmb	12 46 04.9	
	comp=Z,12nm,1.4s						
M30M	Minto, Yukon	72.96	29	P	P	12 45 41.5	+0.5
M30M				IAmb	IAmb	12 46 12.9	
	comp=Z,5.3nm,1.4s						
ABKAR	Akbulak array	73.38	317	P	P	12 45 43.9	+0.4
DLBC	Dease Lake	76.53	33	P	P	12 46 02.3	+0.6
DLBC				IAmb	IAmb	12 46 28.5	
	comp=Z,4.4nm,1.2s						
YKA	Yellowknife Ar	83.08	27	P	P	12 46 36.6	-0.5
	comp=Z,1.1nm,0.8s,baz=290,slow=5.7,SNR=5.5						
	comp=Z,1.1nm,0.8s						
ARCES	ARCESS Array B	84.77	342	P	P	12 46 45.9	+0.3
	comp=Z,6.0nm,1.2s,baz=35,slow=4.4,SNR=6.5						
	comp=Z,6.0nm,1.2s						
ARCES	ARCESS Array B	84.77	342	P	P	12 46 46.0	+0.4
B08A	Colville Reser	84.85	41	P	P	12 46 46.1	-0.3
B08A				IAmb	IAmb	12 47 24.2	
	comp=Z,11nm,1.5s						
K05A	Summer Lake	85.38	47	P	P	12 46 49.9	+0.4
K05A				IAmb	IAmb	12 47 19.5	
	comp=Z,9.9nm,1.4s						
KVN	Kaiserville	88.48	50	P	P	12 47 04.7	+0.1
NVAR	Mina Array Bea	88.52	51	P	P	12 47 04.7	-0.1
	comp=Z,0.8nm,0.6s,baz=270,slow=6.1,SNR=7.4						
	comp=Z,0.8nm,0.6s						
FINES	FINESS Array B	88.55	334	P	P	12 47 03.4	-0.8
LPAZ	La Paz	151.36	97	PKPbc	PKiKP	12 54 08.1	+0.5
	comp=Z,2.3nm,1.0s,baz=239,slow=3.2,SNR=5.1						

IDC 04 12:55:51.4±3.5**, 2°.79S×136°.23E, h0km, mb3.6**/2**, mbtmp3.5**/3**, ML3.0**/1**, MS3.6**/1**, Error ellipse: s-maj=145.6km s-min=32.1km az=80.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.15	186	P	Pn	12 59 52.0	-0.8
	0.1nm,0.3s,baz=7.6,slow=13,SNR=1.7						
	0.2nm,0.5s						
ASAR	Alice Springs	20.88	186	P	P	13 00 35.6	+0.2
	0.7nm,0.5s,baz=12,slow=11,SNR=16						
	0.7nm,0.5s						
RAO	Raoul Island	50.84	126	LR	LR	13 24 09.7	
	comp=Z,55nm,19.6s,baz=247,slow=33						
MKAR	Makanchi Array	68.36	323	P	P	13 06 54.9	0.0
	1.8nm,1.1s,baz=126,slow=7.3,SNR=2.9						
	1.8nm,1.1s						

SNET 04 13:02:28.9±1.6, 13°.37N×90°.32W, h33km±12km, ML2.9
GCG 04 13:02:29.6±0.6, 13°.34N×90°.56W, h38km±11km, MD3.5
ISC 04 13:02:27.9±2.8**, 13°.3N**±0°.1×**90°.34W**±0°.07**, h30**km±16km**, n12,** σ0s.**49**/19**, 1C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUBE	Las Nubes	0.81	42	eP	Pb	13 02 43.5	-0.2
NUBE				eS	Sb	13 02 54.6	+0.2
NUBE				IAML		13 02 56.0	
	comp=Z,521nm,0.2s						
CEVE	Cerro Verde	0.87	53	eP	Pb	13 02 44.8	0.0
RTR	El Retiro	0.90	48	eP	Pb	13 02 45.1	-0.1
RTR				IAML		13 03 00.8	
	comp=Z,444nm,0.3s						
SLOZ	Alcaldia de Sa	0.91	36	eP	Pb	13 02 44.8	-0.3
SLOZ				eS	Sb	13 02 56.3	-0.6
PCG	Pacaya	1.12	347	eP	Pb	13 02 48.7	-0.2
PCG				eS	Sb	13 03 03.7	+0.4
FUG	Fuego 3	1.25	337	eP	Pn	13 02 49.3	-0.2
FUG				eS	Sn	13 03 05.0	-0.3
NBG	Las Nubes	1.28	360	eP	Pb	13 02 51.6	-0.1
NBG				eS	Sb	13 03 09.0	+1.1
SJTE	Alcalda de S	1.33	76	eP	Pn	13 02 51.2	+0.6
SJTE				eS	Sn	13 03 07.0	-0.3
MTO3	Montecristo	1.45	41	⇑eP	Pn	13 02 52.6	+0.3
MTO3				IAML		13 02 53.0	
	comp=Z,173nm,0.2s						
COEG	Centro de Oper	1.45	77	eP	Pn	13 02 53.0	+0.8
COEG				eS	Sb	13 03 12.0	-0.6
P5NO	Presa 5 de nov	1.68	66	eP	Pn	13 02 55.2	-0.1
STG3	Santiaguito 3,	1.85	320	eP	Pn	13 02 57.8	+0.1

ISC 04 13:07:28.8±1.1**, 68°.87N**±0°.03×**145°.34W**±0°.03**, h8**km±10km**, n56,** σ0s.**68**/69**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
D25K	Kavik River	0.59	321	P	Pg	13 07 39.8	-0.4
	baz=139,SNR=1000						
D25K				S	Sg	13 07 47.3	-0.6
	baz=139						
E25K	Arctic Village	0.75	187	P	Pg	13 07 43.5	+0.2
	baz=8.1,SNR=104						
E25K				S	Sg	13 07 54.0	+1.0
	baz=8.1						
C27K	Jago River	0.96	36	P	Pg	13 07 46.9	-0.2
	baz=217,SNR=452						
C27K				S	Sg	13 07 59.2	-0.3
	baz=217						
C26K	Camden Bay	1.07	8	P	Pb	13 07 49.6	+0.2
	baz=187,SNR=122						
F26K	Sheenjek River	1.26	159	P	Pg	13 07 52.5	-0.3
	baz=341,SNR=29						
F26K				S	Sn	13 08 10.4	+0.6
	baz=341						
F25K	Christian Rive	1.28	185	P	Pg	13 07 52.8	-0.6
	baz=6.0,SNR=287						
F25K				S	Sg	13 08 10.2	+0.2
	baz=6.0						
E24K	Your Creek	1.41	237	P	Pn	13 07 54.0	-0.7
	baz=55,SNR=125						
E24K				S	Sb	13 08 12.1	-1.3
	baz=55						
E27K	Coleen River	1.54	115	P	Pn	13 07 56.4	-0.2
	baz=299						
E27K				S	Sb	13 08 17.1	0.0
	baz=299						
TOLK	Toolik Lake Re	1.56	264	Pb	Pn	13 07 57.3	+0.4
	baz=80,SNR=215						
TOLK				Sb	Sn	13 08 17.4	+0.2
	baz=80						
F24K	Squaw Lake	1.66	216	P	Pn	13 07 58.1	0.0
	baz=34,SNR=138						
F24K				S	Sn	13 08 19.6	0.0
	baz=34						
E23K	Chandalar	1.78	245	Pb	Pn	13 08 00.9	+1.1
	baz=61						
E23K				Sb	Sn	13 08 24.4	+1.8
	baz=61						
D23K	Nanushuk River	1.94	275	Pb	Pn	13 08 03.6	+1.6
	baz=90						
G26K	Porcupine Rive	2.01	162	P	Pn	13 08 02.8	-0.2
	baz=344,SNR=36						
G25K	Bearman Lake	2.13	188	P	Pn	13 08 04.6	0.0
	baz=8.1,SNR=7.8						
G24K	Hadweenzic Riv	2.32	201	P	Pn	13 08 06.8	-0.5
	baz=20,SNR=7.6						
COLD	Coldfoot	2.46	230	P	Pn	13 08 09.2	+0.1
	baz=46						
H25K	Birch Creek	2.62	184	P	Pn	13 08 11.1	-0.2
	baz=4.3,SNR=20						
G23K	Bananza Creek	2.80	222	Pb	Pb	13 08 19.7	+0.7
	baz=38						
F22K	John River	2.90	245	P	Pn	13 08 16.1	+0.9
	baz=59						
H24K	Noodor Dome	3.20	199	P	Pn	13 08 18.9	-0.4
	baz=17,SNR=32						
PRP	Porcupine Dome	3.37	181	P	Pn	13 08 21.7	0.0
	baz=1.6,SNR=16						
PRP				S	Sn	13 09 01.2	-0.6
	baz=1.6						
H23K	Yukon River	3.46	210	P	Pn	13 08 23.0	+0.1
	baz=26						
H23K				S	Sn	13 09 03.0	-1.1
	baz=26						
F21K	Alatna River	3.48	245	P	Pn	13 08 24.0	+0.9
	baz=58						
I27K	Kandik River	3.58	154	P	Pn	13 08 25.0	+0.4
	baz=338,SNR=28						
I26K	Coal Creek Min	3.68	166	P	Pn	13 08 26.0	+0.1
	baz=348						
H22K	Ishtalitna Cre	3.79	221	P	Pn	13 08 27.4	0.0
	baz=36						
H22K				S	Sn	13 09 10.3	-1.8
	baz=36						
POKR	Poker Plat Res	3.85	193	P	Pn	13 08 28.8	+0.5
	baz=12						
I23K	Minto, Yukon-K	4.05	205	P	Pn	13 08 31.1	+0.1
	baz=21						
COLA	College	4.13	195	P	Pn	13 08 31.9	-0.2
	baz=13						
TCOL	CIGO, UAF Yank	4.13	195	P	Pn	13 08 31.9	-0.1
	baz=13						
EPYK	Eagle Plains	4.14	123	P	Pn	13 08 32.5	+0.3
	baz=311						
J25K	Salcha River,	4.27	180	P	Pn	13 08 34.5	+0.4
	baz=0.5						
H21K	Melozitna Rive	4.33	225	P	Pn	13 08 34.6	-0.2
	baz=39						
MLY	Manley	4.40	211	P	Pn	13 08 35.8	0.0
	baz=27						
EGAK	Eagle	4.43	156	P	Pn	13 08 36.7	+0.6
	baz=340,SNR=8.6						
J26L	Joseph Creek	4.44	170	P	Pn	13 08 36.7	+0.3
	baz=352,SNR=17						
HDA	Harding Lake	4.52	189	P	Pn	13 08 37.4	-0.1
	baz=7.7						
NEA2	Nenana	4.54	201	P	Pn	13 08 37.8	+0.1
	baz=18						
SCRK	Sand Creek	4.94	173	P	Pn	13 08 44.1	+0.8
	baz=355,SNR=32						
K27K	Chicken	5.03	163	P	Pn	13 08 45.1	+0.6
	baz=347,SNR=16						
K24K	Donnelly Dome	5.09	182	P	Pn	13 08 46.0	+0.7
	baz=2.1,SNR=9.4						
MCK	McKinley	5.36	197	P	Pn	13 08 48.9	0.0
	baz=14						
DAWY	Dawson	5.38	151	P	Pn	13 08 49.7	+0.5
	baz=337,SNR=17						
CHUM	Lake Minchumin	5.73	213	P	Pn	13 08 54.2	+0.2
	baz=26						
TRF	Thorofare Moun	5.80	203	P	Pn	13 08 55.1	0.0
	baz=18						
DHY	Denali Highway	5.88	189	P	Pn	13 08 57.0	+0.8
	baz=7.5						
L26K	Log Cabin Wild	5.92	171	P	Pn	13 08 57.2	+0.5
	baz=353						
K29M	Barlow Dome	5.94	144	P	Pn	13 08 57.9	+0.8
	baz=332						
L27K	Beaver Creek,	6.00	165	P	Pn	13 08 58.3	+0.5
	baz=348,SNR=9.3						
CAST	Castle Rocks	6.11	210	P	Pn	13 08 59.1	-0.2
	baz=24						
M26K	Nabesna, AK	6.56	170	P	Pn	13 09 06.6	+1.0
	baz=353,SNR=7.6						
M27K	Edge Creek, AK	6.69	166	P	Pn	13 09 08.2	+0.9
	baz=349,SNR=13						
BVCY	Beaver Creek	6.74	162	P	Pn	13 09 08.9	+1.0
	baz=346,SNR=6.3						
M29M	Somme Creek	7.04	153	P	Pn	13 09 13.2	+1.1
	baz=340,SNR=6.8						
YUK3	Moose Creek	7.41	162	P	Pn	13 09 18.1	+0.9
	baz=346						
A36M	Sachs Harbour	7.42	56	P	Pn	13 09 16.0	-1.0
	baz=255						

AEIC 04 13:27:39.8±2.4, 52°.39N±0°.07×169°.08W±0°.09, h40km±9km, Error ellipse: s-maj=13.1km s-min=2.4km az=142.0
NEIC 04 13:27:40.5±2.1**, 52°.39N**±0°.09×**169°.2W**±0°.1**, h35**km±54km**, ML3.5**/6**, ML3.0**(AEIC)**, Error ellipse: s-maj=14.8km s-min=6.8km az=147.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.61	18		Pn	13 27 52.2	-0.5
NIKH	Nikolski High	0.61	18		Sn	13 28 00.8	-0.4
CLES	Cleveland East	0.62	314		Pn	13 27 52.0	-0.9
CLES				IAML		13 28 11.6	
	comp=N,3μm,0.3s						
CLES				IAML		13 28 11.8	
	comp=E,2μm,0.4s						
UNV	Unalaska Valle	2.16	47		Pn	13 28 13.4	-0.6
UNV					Sn	13 28 39.1	-0.4
AKUT	Akutan	2.68	48	Pn	Pn	13 28 22.0	+0.9
AKUT				IAML		13 29 07.1	
	comp=N,91nm,2.6s						
FALS	False Pass	4.22	52	Pn	Pn	13 28 43.5	+1.3
ADK	Adak	4.66	267	IAML		13 31 55.8	
	comp=N,78nm,3.1s						
ADK	Adak	4.66	267	Pn	Pn	13 28 48.5	+0.2
SPIA	Saint Paul Isl	4.83	353	Pn	Pn	13 28 52.3	+1.7
AMKA	Amchitka	7.22	266	Pn	Pn	13 29 25.1	+1.7
CHGN	Chignik	7.40	54	Pn	Pn	13 29 27.6	+1.8
OHAK	Old Harbor	10.35	56	Pn	Pn	13 30 05.5	-0.8

ISK 04 13:41:17.2, 41°.40N×41°.83E, h23km, ML1.7/4
DDA 04 13:41:23.8±0.0**, 40°.82N×41°.49E, h7**km±3km**, ML1.4, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDEM	Demirkent	0.21	70	P	Pg	13 41 27.9	-0.2
DDEM				S	Sg	13 41 31.9	+0.9
DDEM				*i* AML	AML	13 41 35.0	
	comp=N,396nm,0.4s						
DDEM				*i* AML	AML	13 41 36.0	
	comp=E,329nm,0.4s						
DBAD	Bademkaya	0.25	38	P	Pg	13 41 29.1	+0.3
DBAD				S	Sg	13 41 33.5	+1.2
DBAD				*i* AML	AML	13 41 34.0	
	comp=N,135nm,0.2s						
DBAD				*i* AML	AML	13 41 35.0	
	comp=E,191nm,0.3s						
DAGI	Agillar	0.41	51	P	Pg	13 41 31.5	-0.3
DAGI				S	Sg	13 41 38.2	+0.9
DAGI				*i* AML	AML	13 41 39.0	
	comp=E,51nm,0.3s						
DAGI				*i* AML	AML	13 41 40.0	
	comp=N,37nm,0.4s						
DBOC	Borcka	0.54	14	P	Pg	13 41 34.3	+0.1
DBOC				S	Sg	13 41 41.9	+0.5
DBOC				*i* AML	AML	13 41 42.0	
	comp=N,1.6nm,0.8s						
DBOC				*i* AML	AML	13 41 42.0	
	comp=E,150nm,0.2s						
CHOM	Cayeli-Rize	0.62	297	PG	Pg	13 41 34.3	-1.4
CHOM				SG	Sb	13 41 46.6	+0.7
KRIK	Erzurum-spir	0.65	222	P	Pb	13 41 36.9	-0.6
KRIK				*i* AML	AML	13 41 54.0	
	comp=N,7.8nm,0.5s						
KRIK				*i* AML	AML	13 41 56.0	
	comp=E,7.6nm,0.4s						
SENK	Senkaya-Erzuru	0.70	111	PG	Pg	13 41 35.2	-2.1
SENK				SG	Sb	13 41 48.3	-0.1
HOMI	Horasan	0.83	158	P	Pg	13 41 38.3	-1.5
HOMI				S	Sn	13 41 56.0	+1.1
HOMI				*i* AML	AML	13 41 58.0	
	comp=E,15nm,0.3s						
HOMI				*i* AML	AML	13 42 00.0	
	comp=N,25nm,0.4s						
KOPR	Koprukoy-ERZUR	0.87	161	PN	Pb	13 41 41.9	+0.6
ERZM	Erzurum	0.92	186	P	Pg	13 41 39.8	-1.6
ERZM				S	Sn	13 41 57.7	+0.8
BAYT	Aydıntepe-Bayb	1.11	248	PN	Pg	13 41 45.2	+0.1
BAYT				SN	Sn	13 42 05.6	+4.0
ONI	Oni	2.30	39	PN	Pn	13 41 46.4	-16
ONI				SN	Sn	13 42 07.2	-24

IDC 04 13:46:52.2±2.1, 6°.44S×129°.40E, h0km, mb4.0/1, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=142.7km s-min=30.4km az=68.0
NEIC 04 13:47:08.2±1.2, 6°.62S±0°.05×129°.8E±0°.1, h156km±11km, mb4.2/4, Error ellipse: s-maj=15.5km s-min=6.6km az=108.0
ISC 04 13:47:06.9±0.8**, 6°.66S**±0°.09×**129°.76E**±0°.09**, h150**km**, n20,** σ2s.**17**/20**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.02	131	Pn	Pn	13 47 44.3	+2.0
FAKI	Fak Fak	4.46	34	Pn	Pn	13 48 13.4	+0.2
SOEI	Soe	6.25	240	Pn	Pn	13 48 38.4	+1.3
MTN	Manton Dam	6.30	168		Pn	13 48 36.8	-0.7
KNRA	Kununurra	9.02	186		Pn	13 49 12.0	-1.9
WB0	Warramunga Arr	13.79	161		Pn	13 50 13.2	-3.1
WRAB	Tennant Creek	13.93	162	Pn	Pn	13 50 14.8	-3.2
WRA	Warramunga Arr	13.94	162	Pn	Pn	13 50 14.7	-3.4
	0.9nm,0.3s,baz=343,slow=14,SNR=25						
WRA				Sn	Sn	13 52 40.1	-13
	1.4nm,0.3s,baz=334,slow=23,SNR=11						
	1.3nm,0.3s						
WRA	Warramunga Arr	13.94	162		Pn	13 50 14.8	-3.2
WB2	Warramunga Arr	13.94	162	Pn	Pn	13 50 14.6	-3.6
WR0	Warramunga Arr	14.02	161		Pn	13 50 15.7	-3.4
COEN	Coen	15.05	120		P	13 50 34.4	+0.6
COEN				IAmb	IAmb	13 50 38.2	
	comp=Z,16nm,1.4s						
AS31	Alice Springs	17.38	167	P	Pn	13 51 01.1	+0.7
ASAR	Alice Springs	17.38	167	P	P	13 51 00.5	+1.1
	comp=Z,0.4nm,0.3s,baz=343,slow=9.7,SNR=23						
ASAR				S	S	13 54 03.1	-10
	comp=Z,1.1nm,0.5s,baz=356,slow=27,SNR=8.1						
	comp=Z,0.8nm,0.6s						
PSA00	Pilbara Seismi	17.66	212	P	P	13 51 03.2	+0.7
PSA00				IAmb	IAmb	13 51 27.9	
	comp=Z,12nm,1.1s						
TUWZ	Tuamarina	52.30	139	P	P	13 56 02.9	-0.1
MK31	Makanchi Array	67.81	327	P	P	13 57 49.2	+0.5
MKAR	Makanchi Array	67.81	327	P	P	13 57 49.8	+1.1
	comp=Z,0.8nm,0.5s,baz=128,slow=6.5,SNR=11						
	comp=Z,0.8nm,0.5s						
MKAR	Makanchi Array	67.81	327	P	P	13 57 49.0	+0.3
ABKAR	Akbulak array	82.09	322	P	P	13 59 10.3	-0.3

PRU 04 14:31:31.3±0.0, 42°.96N×14°.07E, h0km
ROM 04 14:31:31.4±0.0, 42°.980N±0°.002×13°.135E±0°.004, h8km, ML3.2/5, Error ellipse: s-maj=0.2km s-min=0.1km az=62.0
ISC 04 14:31:31.9±0.8**, 42°.98N**±0°.01×**13°.14E**±0°.02**, h6**km±5km**, n58,** σ0s.**80**/99**, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.07	258	P	Pg	14 31 33.6	-0.1
FEMA				S	Sg	14 31 35.2	+0.1
T1256	Bolognola (MC)	0.07	64	P	Pg	14 31 33.7	0.0
T1256				S	Sg	14 31 35.2	+0.1
FDMO	Fiordimonte	0.07	326	P	Pg	14 31 33.3	-0.4
FDMO				S	Sg	14 31 34.6	-0.4
T1216	Preci, Frazion	0.12	227	P	Pg	14 31 34.8	+0.3
T1216				S	Sg	14 31 37.3	+1.0
T1216				AML	AML		
	comp=E,28600μm,0.3s						
T1216				AML	AML		
	comp=E,28650μm,0.3s						
T1216				AML	AML		
	comp=N,37350μm,1.0s						
T1216				AML	AML		
	comp=E,28600μm,0.3s						
T1245	Castelsantange	0.12	164	P	Pg	14 31 34.8	+0.3
T1245				S	Sg	14 31 37.2	+0.9
T1245				AML	AML		
	comp=N,25000μm,0.7s						
T1245				AML	AML		
	comp=E,15400μm,0.3s						
T1245				AML	AML		
	comp=N,25000μm,0.7s						
T1245				AML	AML		
	comp=E,16200μm,0.5s						
T1245				AML	AML		
	comp=N,25650μm,0.7s						
NRCA	Norcia	0.14	188	P	Pg	14 31 35.2	+0.3
NRCA				S	Sg	14 31 37.7	+0.9
NRCA				AML	AML		
	comp=E,25600μm,0.5s						
NRCA				AML	AML		
	comp=N,13300μm,0.2s						
NRCA				AML	AML		
	comp=E,25650μm,0.5s						
NRCA				AML	AML		
	comp=E,25600μm,0.5s						
NRCA				AML	AML		
	comp=N,13350μm,0.2s						
NRCA				AML	AML		
	comp=E,26850μm,0.5s						
NRCA				AML	AML		
	comp=N,15150μm,0.2s						
AM05	Amandola Campo	0.15	89	P	Pg	14 31 34.8	-0.2
AM05				S	Sg	14 31 38.4	+1.2
MMO1	Montemonaco	0.16	119	P	Pg	14 31 35.4	+0.3
MMO1				S	Sg	14 31 38.4	+1.2
GUMA	Gualdo di Mace	0.17	59	P	Pg	14 31 35.8	+0.6
GUMA				S	Sg	14 31 38.6	+1.1
CESI	CESI - Serrava	0.18	279	P	Pg	14 31 35.6	+0.1
CESI				S	Sg	14 31 38.6	+0.8
MDAR	Monte D'Aria	0.22	0	P	Pg	14 31 36.4	+0.2
MDAR				S	Sg	14 31 39.9	+0.8
SEF1	Sefro	0.22	320	P	Pg	14 31 36.4	+0.1
SEF1				S	Sg	14 31 40.6	+1.4
PIO1	Pioraco	0.23	330	P	Pg	14 31 36.6	+0.1
PIO1				S	Sg	14 31 41.2	+1.6
T1241	Roccafluvione,	0.24	119	P	Pg	14 31 37.1	+0.4
T1241				S	Sg	14 31 41.5	+1.6
SSM1	San Severino M	0.25	6	P	Pg	14 31 36.9	0.0
SSM1				S	Sg	14 31 41.4	+1.1
FIU1	Fiuminata	0.26	324	P	Pg	14 31 36.9	-0.1
FIU1				S	Sg	14 31 41.6	+1.1
T1215	Vallo di Nera,	0.27	229	P	Pg	14 31 37.5	+0.4
T1215				S	Sg	14 31 42.0	+1.4
GAG1	Gagliole	0.27	348	P	Pg	14 31 37.9	+0.8
GAG1				S	Sg	14 31 42.0	+1.2
MNTP	Montappone	0.29	56	P	Pb	14 31 38.7	-0.7
T1217	Poggiodomo (PG	0.31	210	P	Pg	14 31 38.1	+0.2
T1217				S	Sb	14 31 43.6	-1.4
SNTG	Esanatoglia	0.32	332	P	Pg	14 31 38.1	0.0
SNTG				S	Sg	14 31 43.3	+1.0
T1204	Amatrice, Fraz	0.33	157	P	Pg	14 31 38.5	+0.2
T1204				S	Sb	14 31 44.4	-1.3
T1201	Domo (RI)	0.33	166	P	Pg	14 31 38.8	+0.6
T1201				S	Sb	14 31 45.1	-0.6
TRE1	Treia	0.36	20	P	Pg	14 31 39.2	+0.4
TRE1				S	Sb	14 31 45.7	-0.8
T1243	Rocca Santa Ma	0.36	141	P	Pg	14 31 39.0	+0.1
T1243				S	Sb	14 31 45.3	-1.3
ASSB	Assisi San Ben	0.36	281	P	Pg	14 31 38.8	-0.1
ASSB				S	Sg	14 31 44.8	+1.1
LNSS	Leonessa	0.38	191	P	Pg	14 31 39.8	+0.5
LNSS				S	Sb	14 31 46.1	-1.1
OFFI	Offida	0.40	96	P	Pb	14 31 41.1	-0.2
ATCC	AVT- Casa Cast	0.42	300	P	Pg	14 31 40.0	-0.1
ATCC				S	Sb	14 31 47.2	-1.2
FOSV	Fossato di Vic	0.42	319	P	Pg	14 31 40.1	+0.1
FOSV				S	Sg	14 31 47.0	+1.4
RM33	Pellescritta (	0.47	173	P	Pg	14 31 40.9	0.0
RM33				S	Sb	14 31 48.6	-1.2
T1246	Crognaleto (TE	0.47	147	P	Pg	14 31 41.0	0.0
T1246				S	Sb	14 31 48.7	-1.1
CAMP	Campotosto	0.48	156	P	Pg	14 31 41.1	-0.1
CAMP				S	Sb	14 31 49.0	-1.2
ARRO	Arrone	0.48	215	P	Pg	14 31 41.4	+0.2
ARRO				S	Sb	14 31 49.4	-0.7
TERO	Teramo	0.49	136	P	Pg	14 31 41.3	0.0
TERO				S	Sb	14 31 49.2	-1.1
T1211	Morro Reatino	0.49	206	P	Pg	14 31 41.9	+0.6
T1211				S	Sb	14 31 49.6	-0.8
SSFR	Montelago di S	0.53	330	P	Pg	14 31 42.2	+0.1
SSFR				S	Sb	14 31 50.6	-0.9
MURB	Monte Urbino	0.54	303	P	Pg	14 31 42.7	+0.5
ARVD	Arcevia	0.54	344	P	Pg	14 31 42.2	-0.1
ARVD				S	Sb	14 31 51.0	-0.9
ATFO	Monte Foce - G	0.57	313	P	Pg	14 31 42.8	-0.1
GIGS	Gran Sasso	0.61	149	P	Pg	14 31 43.5	-0.1
GIGS				S	Sb	14 31 52.8	-1.1
ATTE	AVT- Monte Tez	0.62	291	P	Pg	14 31 44.1	+0.3
FRON	Frontone	0.62	331	P	Pg	14 31 43.5	-0.4
FRON				S	Sb	14 31 53.6	-0.5
FRON				AML	AML		
	comp=E,751μm,0.3s						
FRON				AML	AML		
	comp=N,1410μm,0.3s						
ATVO	AVT- Monte Val	0.67	307	P	Pg	14 31 44.4	-0.5
FIAM	Fiamignano	0.71	181	P	Pg	14 31 45.6	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIAM				S	**Sb**	**14 31 55.8**	**-0.9**
MPAG	**Monte Paganucc**	**0.71**	**337**	P	**Pg**	**14 31 45.3**	**-0.2**
PIEI	**Pieia**	**0.71**	**322**	P	**Pg**	**14 31 45.1**	**-0.5**
ATPI	**Pietralunga -**	**0.72**	**312**	P	**Pg**	**14 31 45.4**	**-0.3**
FSSB	**Fossombrone**	**0.76**	**340**	P	**Pg**	**14 31 46.5**	**0.0**
VCEL	**Villa Celiera**	**0.78**	**138**	P	**Pg**	**14 31 46.6**	**-0.2**
BADI	**Badiali**	**0.84**	**309**	P	**Pg**	**14 31 47.7**	**-0.4**
PE3	**Peglio**	**0.86**	**327**	AML	AML		
	comp=E,32µm,0.1s						
PE3				AML	AML		
	comp=N,53µm,0.1s						
SRES	**S.Oreste - Sor**	**0.87**	**212**	P	**Pg**	**14 31 48.4**	**-0.2**
SRES				AML	AML		
	comp=E,218µm,1.3s						
SRES				AML	AML		
	comp=E,345µm,1.2s						
SRES				AML	AML		
	comp=N,311µm,1.1s						
T0110	**Collepietro**	**0.89**	**148**	P	**Pg**	**14 31 48.0**	**-0.8**
ABTA	**Abfaltersbach**	**3.80**	**353**	*e*Pn	**Pn**	**14 32 32.3**	**+1.3**
	comp=N,9.9nm,0.5s						
ABTA				*i* Sn	**Sn**	**14 33 16.4**	**+0.5**
	comp=N,2.5nm,0.3s						
KBA	**Koelnbreinsper**	**4.11**	**2**	*i* Pn	**Pn**	**14 32 36.9**	**+1.6**
	comp=N,1.3nm,0.2s						
KBA				*i* Sn	**Sn**	**14 33 24.2**	**+0.6**
	comp=N,2.9nm,0.3s						
FETA	**Feichten**	**4.39**	**338**	*e*Pn	**Pn**	**14 32 39.8**	**+0.7**
	comp=N,0.9nm,0.2s						
KHC	**Kasperske Hory**	**6.16**	**3**	*e*PN	**Pn**	**14 33 02.4**	**-1.0**
KHC				*e*SN	**Sn**	**14 34 12.2**	**-1.9**

UPA 04 14:51:04.7±2.2**,7°.64N**×**82°.38W,h0**km±9km**,MW4.1,1D, South of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.79**	**355**	*i* P	Pb	14 51 21.3	-0.1
DVD				*i* S	Sn	14 51 34.2	-1.4
REME3	**Remedios, Chir**	**0.79**	**43**	*i* P	Pg	14 51 20.5	+0.6
REME3				*i* S	Sb	14 51 32.7	+0.1
BCO2	**Palmira**	**1.08**	**352**	*i* P	Pb	14 51 26.2	-0.2
BCO2				*i* S	Sb	14 51 41.5	+0.3
BRU2	**Volcan**	**1.19**	**345**	⇓*i*P	Pb	14 51 28.2	0.0
BRU2				*i* S	Sn	14 51 45.9	+0.3
BC3P	**Paso Ancho**	**1.19**	**349**	*i* P	Pb	14 51 28.1	-0.1
RSUS3	**Rio de Jesus,**	**1.25**	**74**	*i* P	Pg	14 51 27.6	-1.2
RSUS3				*i* S	Sg	14 51 45.1	+0.1
MARI3	**Mariato, Verag**	**1.37**	**90**	*i* P	Pg	14 51 30.0	-1.1
MARI3				*i* S	Sn	14 51 50.6	+0.6
STIA3	**Santiago, Vera**	**1.46**	**72**	*e*P	Pn	14 51 30.5	-1.8
STIA3				*e*S	Sg	14 51 50.7	-1.1
CNI2	**El Empalme, Bo**	**1.77**	**357**	*e*P	Pg	14 51 38.5	-0.2
CNI2				*i* S	Sg	14 52 02.7	+0.9
CHIT3	**Chitre**	**1.96**	**81**	*e*P	Pn	14 51 38.7	-0.6
AZU	**Azuero**	**2.09**	**86**	*i* P	Pn	14 51 41.0	+0.1
AZU				*i* S	Sn	14 52 08.3	+0.7
VTON	**El Valle, Cocl**	**2.44**	**67**	*e*P	Pb	14 51 48.2	-1.3
BATAN	**Batan**	**2.63**	**338**	*e*P	Pn	14 51 47.4	-1.1
CHOR3	**La Chorrera**	**2.87**	**64**	*e*P	Pn	14 51 52.1	+0.4
CHOR3				*e*S	Sn	14 52 26.7	-0.3
BCIP	**Isla Barro Col**	**2.93**	**59**	*e*P	Pn	14 51 54.0	+1.5
BCIP				*e*S	Sn	14 52 28.7	+0.3
UPA	**Univ. de Panam**	**3.11**	**64**	*e*P	Pn	14 51 55.1	+0.1
JTS	**Las Juntas de**	**3.66**	**316**	*e*P	Pn	14 52 00.9	-1.8

---

*NEIC **04** 14:57:38.0±0.5,24°.26S±0°.08×67°.3W±0°.2,h230km±10km, mb4.1/5,Md3.4(SJA),ML3.7(GUC),Error ellipse: s-maj=23.3km s-min=11.6km az=95.0*
*GUC **04** 14:57:40.3±0.7,24°.21S×67°.50W,h220km±10km,ML3.7*
ISC 04 14:57:37.4±1.2**,24°.22S**±0°.05×**67°.4W**±0°.2**,h228**km±14km**, n25,**σ**1s.34**/37**,3C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.15**	**318**		**Pn**	**14 58 21.2**	**+1.2**
LVC	**Limon Verde**	**2.15**	**318**	*i* P	**Pn**	**14 58 20.9**	**+0.9**
LVC				*i* S	**S**	**14 58 51.7**	**-1.4**
PB15	**IPOC Station P**	**2.19**	**297**		**Pn**	**14 58 21.5**	**+1.3**
PB15	**IPOC Station P**	**2.19**	**297**	⇑*i*P	**Pn**	**14 58 21.5**	**+1.3**
PB15				*e*S	**S**	**14 58 52.6**	**-0.9**
GO02	**Mina Guanaco**	**2.24**	**245**		**Pn**	**14 58 21.7**	**+1.0**
GO02	**Mina Guanaco**	**2.24**	**245**	⇑*i*P	**Pn**	**14 58 21.8**	**+1.0**
GO02				*i* S	**S**	**14 58 54.2**	**-0.4**
GO02				IAML		14 58 55.2	
	comp=E,202nm,0.3s						
PB06	**IPOC Station P**	**2.54**	**306**	⇑*i*P	**Pn**	**14 58 25.1**	**+1.4**
PB06				*i* S	**S**	**14 58 58.6**	**-1.3**
PB06				IAML		14 59 01.0	
	comp=N,307nm,0.1s						
PB14	**IPOC Station P**	**2.81**	**261**	*i* P	**Pn**	**14 58 28.2**	**+1.4**
PB14				*i* S	**S**	**14 59 04.0**	**-1.4**
PB09	**IPOC Station P**	**2.98**	**324**	⇓*i*P	**Pn**	**14 58 30.5**	**+2.0**
PB09				*i* S	**S**	**14 59 08.3**	**-0.3**
PB09				IAML		14 59 10.5	
	comp=N,49nm,0.5s						
PB10	**IPOC Station P**	**3.02**	**283**	*i* P	**Pn**	**14 58 30.7**	**+2.0**
PB10				*i* S	**S**	**14 59 07.9**	**-1.0**
PB10				IAML		14 59 14.0	
	comp=E,54nm,0.4s						
AC02	**Maricunga**	**3.06**	**211**	Pn	**Pn**	**14 58 30.7**	**+1.0**
PB03	**IPOC Station P**	**3.09**	**314**	*i* P	**Pn**	**14 58 31.1**	**+1.3**
PB03				*i* S	**S**	**14 59 09.4**	**-1.5**
PB03				IAML		14 59 10.9	
	comp=E,108nm,0.3s						
PB04	**IPOC Station P**	**3.19**	**306**	*e*P	**Pn**	**14 58 32.7**	**+1.8**
PB04				*i* S	**S**	**14 59 11.3**	**-1.5**
PB04				IAML		14 59 14.5	
	comp=N,138nm,0.3s						
PB07	**IPOC Station P**	**3.41**	**316**	*i* P	**Pn**	**14 58 34.9**	**+1.5**
PB07				*e*S	**S**	**14 59 15.7**	**-1.8**
PB02	**IPOC Station P**	**3.72**	**320**	*i* P	**Pn**	**14 58 38.6**	**+1.6**
PB02				*i* S	**S**	**14 59 22.6**	**-1.5**
PB01	**IPOC Station P**	**3.73**	**328**	*i* P	**Pn**	**14 58 38.5**	**+1.3**
PB01				*i* S	**S**	**14 59 22.5**	**-1.6**
GO03	**Copiap**	**4.24**	**217**	Pn	**Pn**	**14 58 44.2**	**+0.9**
PATCX	**Punta Patache**	**4.26**	**322**	Pn	**Pn**	**14 58 44.0**	**+0.4**
GO01	**Chusmiza**	**4.84**	**339**		**Pn**	**14 58 53.4**	**+2.3**
LCO	**Las Campanas**	**5.63**	**211**	Pn	**Pn**	**14 59 01.2**	**+0.6**
PLCA	**Paso Flores**	**16.68**	**188**	P	**P**	**15 01 16.9**	**0.0**
PLCA				IAmb	IAmb	15 01 45.0	
	comp=Z,15nm,1.4s						
HOPE	**Hope Point**	**37.81**	**151**	P	**P**	**15 04 31.5**	**-0.2**
QSPA	**South Pole Qui**	**65.98**	**180**	P	**P**	**15 07 59.4**	**+0.3**
QSPA				IAmb	IAmb	15 08 29.4	
	comp=Z,6.1nm,1.4s						
VNDA	**Vanda**	**74.43**	**190**	P	**P**	**15 08 50.2**	**+0.3**
TOA0	**Torodi Ar. Sit**	**76.95**	**69**	P	**P**	**15 09 04.5**	**-0.7**
TOA0				IAmb	IAmb	15 09 20.9	
	comp=Z,4.2nm,1.4s						

---

*IDC **04** 14:58:13.0±1.8,6°.13S×152°.19E,h0km,mb3.3/3, mbtmp3.5/4,ML2.4/1,Error ellipse: s-maj=56.9km s-min=19.0km az=112.0*
ISC 04 14:58:18.9±1.7**,6°.1S**±0°.2×**151°.9E**±0°.3**,h36**km**,n6,**σ**1s.05**/8**, mb3.2**/3**,New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.76**	**3**	Pn	**Pn**	**14 58 47.0**	**+0.1**
	40nm,0.3s,baz=236,slow=3.6,SNR=61						
KRVT				Sn	**Sn**	**14 59 08.5**	**+0.5**
	56nm,0.3s,baz=231,slow=22,SNR=20						
PMG	**Port Moresby**	**5.77**	**235**	Pn	**Pn**	**14 59 43.2**	**+1.2**
	6.6nm,0.3s,baz=49,slow=10,SNR=28						
PMG				Sn	**Sn**	**15 00 45.4**	**-1.6**
	5.1nm,0.3s,baz=330,slow=18,SNR=3.8						
	24nm,0.4s						
WRA	**Warramunga Arr**	**21.96**	**229**	P	**P**	**15 03 09.8**	**+0.1**
	0.8nm,0.8s,baz=54,slow=10.0,SNR=6.8						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**24.63**	**223**	P	**P**	**15 03 37.1**	**+0.8**
	0.4nm,0.6s,baz=58,slow=9.1,SNR=11						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**83.66**	**22**	P	**P**	**15 10 42.9**	**-0.6**
	0.3nm,0.7s,baz=249,slow=5.1,SNR=5.9						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.85**	**286**	PKPbc	**PKPbc**	**15 18 05.9**	**-0.4**
	0.4nm,0.4s,baz=86,slow=2.2,SNR=3.1						

IDC 04 15:06:11.9±5.8**,19°.72S**×**175°.07W,h0**km**,mb3.7**/2**, mbtmp3.8**/3**,ML3.8**/1**,MS3.4**/1**,Error ellipse: s-maj=199.6km s-min=28.3km az=135.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.58**	**29**	Pn	Pn	15 07 51.2	+1.2
	2.0nm,0.3s,baz=198,slow=20,SNR=1.2						
AFI				Sn	Sn	15 09 06.4	+0.5
	2.9nm,0.3s,baz=252,slow=20,SNR=2.0						
	9.9nm,0.5s						
STKA	**Stephens Creek**	**40.60**	**244**	LR	LR	15 28 51.5	
	comp=Z,43nm,18.4s,baz=203,slow=34						
ASAR	**Alice Springs**	**47.38**	**256**	P	P	15 14 48.2	0.0
	1.6nm,1.0s,baz=84,slow=7.9,SNR=11						
	1.6nm,1.0s						
WRA	**Warramunga Arr**	**47.44**	**261**	P	P	15 14 48.7	0.0
	0.7nm,0.9s,baz=97,slow=8.3,SNR=8.1						
	0.7nm,0.9s						
AKASG	**Malin Array Be**	**143.60**	**334**	PKP	PKPbc	15 25 46.0	+0.1
	0.4nm,0.3s,baz=42,slow=3.2,SNR=6.0						

---

*BUL **04** 15:46:51.1±0.9,17°.94S×26°.25E,h33km±13km,MD3.7*
ISC 04 15:46:47.9±2.2**,17°.95S**±0°.05×**26°.3E**±0°.2**,h10**km**,n9,** σ**2s.11**/13**,Zambia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**3.21**	**34**	*i* P	**Pn**	**15 47 39.7**	**+1.1**
LSZ				*i* S	**Sn**	**15 48 15.2**	**-1.8**
LSZ	**Lusaka**	**3.21**	**34**	*i* P	**Pn**	**15 47 39.7**	**+1.1**
LSZ				*i* S	**Sn**	**15 48 15.2**	**-1.8**
MUSN	**Musina, Limpop**	**5.46**	**143**	*i* P	**Pn**	**15 48 09.8**	**+0.5**
MUSN				*i* S	**Sn**	**15 49 08.8**	**-3.5**
MUSN	**Musina, Limpop**	**5.46**	**143**	*i* P	**Pn**	**15 48 09.8**	**+0.5**
MUSN				*i* S	**Sn**	**15 49 08.8**	**-3.5**
LBTB	**Lobatse**	**7.06**	**185**	*i* P	**Pn**	**15 48 31.6**	**+0.2**
LBTB	**Lobatse**	**7.06**	**185**	*i* P	**Pn**	**15 48 31.6**	**+0.2**
MOPA	**Mopani**	**7.30**	**140**	*i* P	Pn	15 48 40.3	+5.6
MOPA				*i* S	**Sn**	**15 49 59.9**	**+2.2**
MOPA	**Mopani**	**7.30**	**140**	*i* P	Pn	15 48 40.3	+5.6
MOPA				*i* S	**Sn**	**15 49 59.9**	**+2.2**
BOSA	**Boshof**	**10.66**	**185**	*i* P	**Pn**	**15 49 19.4**	**-1.3**
BOSA				*i* S	Sn	15 51 06.6	-14

---

*HVO **04** 15:48:26.3±1.2,19°.461N±0°.010×155°.822W±0°.009, h12km±3km,ML3.6/41,ML3.7/48(NEIC),Error ellipse: s-maj=1.5km s-min=1.2km az=202.0*
NEIC 04 15:48:24.9±1.4**,19°.46N**±0°.06×**155°.82W**±0°.02**, h24**km±10km**,Error ellipse: s-maj=8.2km s-min=3.3km az=183.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.10**	**289**		Pb	15 48 29.0	-0.5
KHLU	**Kahalu`u**	**0.15**	**332**		Pb	15 48 29.8	-0.3
KHLU					Sb	15 48 32.4	-1.2
KHLU	**Kahalu`u**	**0.15**	**332**	IAML		15 48 32.5	
	comp=N,34µm,0.2s						
KHLU				IAML		15 48 35.1	
	comp=E,11µm,0.1s						
ALEP	**Alea Permanent**	**0.18**	**62**		Pb	15 48 30.8	+0.1
ALEP					Sb	15 48 34.5	0.0
MWH	**Moku'aweowe**	**0.21**	**82**		Pb	15 48 31.0	-0.1
MWH					Sb	15 48 34.9	-0.5
MWH	**Moku'aweowe**	**0.21**	**82**	IAML		15 48 35.1	
	comp=N,20µm,0.3s						
MWH				IAML		15 48 36.4	
	comp=E,19µm,0.6s						
HUH	**Hualalai**	**0.23**	**356**		Pb	15 48 31.3	+0.1
HUH	**Hualalai**	**0.23**	**356**	IAML		15 48 37.1	
	comp=N,21µm,0.1s						
HUH				IAML		15 48 37.3	
	comp=E,23µm,0.1s						
MLOA	**Mauna Loa Obse**	**0.24**	**71**		Pb	15 48 31.6	+0.1
MLOA					Sb	15 48 35.5	-0.3
MLOA	**Mauna Loa Obse**	**0.24**	**71**	IAML		15 48 35.8	
	comp=N,34µm,0.4s						
MLOA				IAML		15 48 35.8	
	comp=E,26µm,0.3s						
KHU	**Kahuku**	**0.28**	**137**		Pb	15 48 32.4	+0.6
KHU					Sb	15 48 37.4	+0.8
KHU	**Kahuku**	**0.28**	**137**	IAML		15 48 38.3	
	comp=N,6µm,0.6s						
KHU				IAML		15 48 42.5	
	comp=E,7µm,0.4s						
HMH	**Humu'ula Sheep**	**0.35**	**65**		Pb	15 48 33.2	+0.4
HMH					Sb	15 48 38.7	+0.4
HMH	**Humu'ula Sheep**	**0.35**	**65**	IAML		15 48 39.1	
	comp=E,10µm,0.4s						
HMH				IAML		15 48 40.6	
	comp=N,10µm,0.2s						
AIN	**Ainahou**	**0.35**	**104**		Pb	15 48 33.2	+0.4
AIN					Sb	15 48 38.7	+0.6
AIN	**Ainahou**	**0.35**	**104**	IAML		15 48 39.6	
	comp=N,12µm,0.3s						
AIN				IAML		15 48 43.4	
	comp=E,9µm,0.3s						
POHA	**Pohakuloa**	**0.40**	**42**		Pb	15 48 34.1	+0.4
POHA					Sb	15 48 40.4	+0.7
POHA	**Pohakuloa**	**0.40**	**42**	IAML		15 48 40.5	
	comp=E,12µm,0.2s						
POHA				IAML		15 48 46.5	
	comp=E,13µm,0.5s						
MLH	**Mauna Loa**	**0.41**	**85**		Pb	15 48 34.0	+0.2
MLH					Sb	15 48 39.9	+0.1
MLH	**Mauna Loa**	**0.41**	**85**	IAML		15 48 40.6	
	comp=E,9µm,0.2s						
MLH				IAML		15 48 41.0	
	comp=N,6µm,0.2s						
HTC	**Hot Caves**	**0.45**	**119**		Pb	15 48 34.8	+0.4
WRMHI	**West Rim**	**0.49**	**96**		Pb	15 48 35.1	+0.1
UWE	**Uwekahuna**	**0.50**	**94**		Pb	15 48 35.6	+0.5
UWE					Sb	15 48 43.1	+1.1
UWE	**Uwekahuna**	**0.50**	**94**	IAML		15 48 44.8	
	comp=N,14µm,0.4s						
UWE				IAML		15 48 44.8	
	comp=E,22µm,0.3s						
SDHHI	**Sand Hill**	**0.50**	**97**		Pb	15 48 35.5	+0.4
SDHHI	**Sand Hill**	**0.50**	**97**	IAML		15 48 44.7	
	comp=N,13µm,0.4s						
SDHHI				IAML		15 48 44.7	
	comp=E,10µm,0.5s						
OBL	**Observatory Le**	**0.51**	**94**		Pb	15 48 35.5	+0.2
HLP	**Hilina Pali**	**0.51**	**108**		Pb	15 48 35.6	+0.4
HLP	**Hilina Pali**	**0.51**	**108**	IAML		15 48 49.1	
	comp=N,5µm,0.5s						
HLP				IAML		15 48 53.9	
	comp=E,5µm,0.7s						
NPH	**North Pit**	**0.51**	**95**		Pb	15 48 35.5	+0.2
NPH					Sb	15 48 43.1	+0.7
NPH	**North Pit**	**0.51**	**95**	IAML		15 48 44.6	
	comp=N,3µm,0.5s						
NPH				IAML		15 48 47.3	
	comp=E,1µm,0.6s						
RSD	**Rainshed**	**0.51**	**89**	Pg	Pb	15 48 35.6	+0.2
RSD				IAML		15 48 44.6	
	comp=E,5µm,0.4s						
RSD				IAML		15 48 48.7	
	comp=N,4µm,0.4s						
UWB	**Uwekahuna B**	**0.51**	**93**		Pb	15 48 35.4	+0.1
RIM	**Rim**	**0.52**	**97**		Pb	15 48 35.1	-0.4
RIM				IAML		15 48 55.2	
	comp=E,3µm,0.5s						
RIM				IAML		15 48 55.2	
	comp=N,5µm,0.5s						
SBLHI	**Steaming Bluff**	**0.52**	**93**		Pb	15 48 35.5	-0.1
SBLHI				IAML		15 48 48.1	
	comp=E,5µm,0.5s						
SBLHI				IAML		15 48 48.3	
	comp=N,7µm,0.4s						
KKO	**Keanakako`i**	**0.52**	**96**		Pb	15 48 35.1	-0.5
KKO				IAML		15 48 54.6	
	comp=N,5µm,0.7s						
HATHI	**Halema'uma'u T**	**0.53**	**93**		Pb	15 48 35.7	0.0
HATHI				IAML		15 48 52.1	
	comp=N,4µm,0.5s						
HATHI				IAML		15 48 55.5	
	comp=E,5µm,0.7s						
BYL	**Byron's Ledge**	**0.53**	**95**		Pb	15 48 35.4	-0.3
BYL				IAML		15 48 49.4	
	comp=N,3µm,0.6s						
BYL				IAML		15 48 55.4	
	comp=E,4µm,0.7s						
PUH	**Pauahi**	**0.57**	**98**		Pb	15 48 36.0	-0.4
HPAH	**Hawaii Prepara**	**0.58**	**11**		Pb	15 48 36.0	-0.5
HPAH				IAML		15 48 56.8	
	comp=N,3µm,0.8s						
NPOC	**North of Pu'u**	**0.67**	**95**		Pb	15 48 37.7	-0.4

MAN 04 16:03:59.3,6°.52N×**126°.12E,h120**km**,mb4.3,ML3.1, MS2.8,Mindanao**

---

*SJA **04** 16:20:41.9±0.6,35°.16S×71°.18W,h124km±6km,ML6.0, MW6.0,MW6.4(GUC)*
*VAO **04** 16:20:42.8±0.6,34°.93S×70°.72W,h56km±5km,mb6.0*
*NEIC **04** 16:20:44.1,35°.09S×71°.03W,h90km,Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-1.76; Mθθ-0.16; Mφφ1.92; Mrθ-2.08; Mθφ0.50; Mφr-2.41; Fault plane solution: M0 3.71000×10^18 NP1:φs36.39000°, δ75.79000°,λ-76.26000°. NP2:φs171.50000°,δ19.67000°, λ-133.17000°. Principal axes: T 3.6630, Plg29.0000°, Azm115.0000°; N 0.0969, Plg13.0000°, Azm213.0000°; P -3.7598, Plg57.0000°, Azm324.0000°;*
*MOS **04** 16:20:44.7±1.4,35°.01S×70°.92W,h89km,mb6.1/15, MS5.4/14 Error ellipse: s-maj=12.9km s-min=7.2km az=88.3*
*NEIC **04** 16:20:44.4±2.1,35°.09S±0°.04×71°.05W±0°.08,h90km±1km, mb6.0/453,Mwb6.3/73,Mww6.3,Mwr6.4(GUC),Error ellipse: s-maj=11.5km s-min=7.4km az=283.0*
*IDC **04** 16:20:45.9±0.4,34°.96S×70°.77W,h96km±3km,mb5.5/33, mbtmp5.9/35,MS5.5/41,Error ellipse: s-maj=10.0km s-min=6.1km az=84.0*
*GUC **04** 16:20:45.1±0.7,35°.06S×71°.00W,h95km±3km,ML6.4*
*BJI **04** 16:20:46.0±0.0,35°.00S×71°.00W,h90km,mB5.9/67, Ms5.9/66,Ms7 6.0/68*
*GCMT **04** 16:20:49.4±0.0,35°.06S×70°.98W,h96km,MW6.3/170, Moment Tensor Solution. s170,c433; s165,c618; Duration: 3s.5 Moment tensor: Scale 10^18Nm; Mrr-2.27±.02; Mθθ-0.49±.02; Mφφ2.75±.02; Mrθ-1.74±.01; Mθφ1.01±.02; Mφr-2.12±.01; Best double couple: M0 3.85600×10^18 NP1:φs35.00000°,δ69.00000°, λ-73.00000°. NP2:φs173.00000°,δ27.00000°, λ-128.00000°. Principal axes: T 4.0770, Plg22.0000°, Azm111.0000°; N -0.4500, Plg16.0000°, Azm208.0000°; P -3.6340, Plg62.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 16:20:50,35°.08S×70°.65W,h90km,Moment Tensor Solution. Duration: 12s.0 Moment tensor: Scale 10^18Nm; Mrr-2.30; Mθθ-0.03; Mφφ2.32; Mrθ-2.01; Mθφ0.66; Mφr-2.08; Fault plane solution: M0 3.76000×10^18 NP1: φs176.00000°,δ24.00000°,λ-127.00000°. NP2: φs36.00000°,δ71.00000°,λ-74.00000°. Principal axes: T 3.6661, Plg25.0000°, Azm114.0000°; N 0.1873, Plg15.0000°, Azm211.0000°; P -3.8534, Plg61.0000°, Azm329.0000°;*
ISC 04 16:20:44.9±0.2**,35°.08S**±0°.02×**70°.96W**±0°.03**,h91**km±1km**, h91**km**:pP-P,n1716,**σ**1s.85**/1878**,mb6.0**/299**,63C-44D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.32**	**27**		**Pn**	**16 20 58.7**	**0.0**
BO02	**Sierra Bellavi**	**0.32**	**27**	⇓*i*P	**Pn**	**16 20 58.6**	**-0.1**
BO02				*e*S	**Sn**	**16 21 09.8**	**+0.9**
BO02	**Sierra Bellavi**	**0.32**	**27**	⇓*i*P	**Pn**	**16 20 58.6**	**-0.1**
BO02				*e*S	**Sn**	**16 21 09.8**	**+0.9**
BO01	**Tunca**	**0.69**	**351**		**Pn**	**16 21 01.0**	**-0.5**
BO01				Sn	**Sn**	**16 21 13.7**	**-0.1**
BO01	**Tunca**	**0.69**	**351**	⇑*i*P	**Pn**	**16 21 01.3**	**-0.2**
BO01				*i* S	**Sn**	**16 21 14.0**	**+0.2**
BO01	**Tunca**	**0.69**	**351**	⇑*i*P	**Pn**	**16 21 01.3**	**-0.2**
BO01				*i* S	**Sn**	**16 21 14.0**	**+0.2**
ML02	**Panimavida**	**0.78**	**209**		**Pn**	**16 21 02.6**	**+0.2**
ML02	**Panimavida**	**0.78**	**209**	⇓*i*P	**Pn**	**16 21 02.7**	**+0.4**
ML02				*e*S	**Sn**	**16 21 16.1**	**+0.8**
ML02	**Panimavida**	**0.78**	**209**	⇓*i*P	**Pn**	**16 21 02.7**	**+0.4**
ML02				*e*S	**Sn**	**16 21 16.1**	**+0.8**
GO05	**Huala**	**0.80**	**275**		**Pn**	**16 21 02.0**	**-0.6**
GO05	**Huala**	**0.80**	**275**	⇓*i*P	**Pn**	**16 21 01.9**	**-0.6**
GO05				*i* S	**Sn**	**16 21 15.4**	**-0.3**
GO05	**Huala**	**0.80**	**275**	⇓*i*P	**Pn**	**16 21 01.9**	**-0.6**
GO05				*i* S	**Sn**	**16 21 15.4**	**-0.3**
BO03	**Pichilemu**	**1.01**	**305**	⇑*i*P	**Pn**	**16 21 04.7**	**0.0**
BO03				*i* S	**Sn**	**16 21 20.4**	**+0.7**
BO03	**Pichilemu**	**1.01**	**305**	⇑*i*P	**Pn**	**16 21 04.7**	**0.0**
BO03				*i* S	**Sn**	**16 21 20.4**	**+0.7**
MT01	**Popeta**	**1.23**	**349**		**Pn**	**16 21 07.1**	**-0.4**
MT01				Sn	**Sn**	**16 21 24.1**	**-0.3**
MT01	**Popeta**	**1.23**	**349**	⇑*i*P	**Pn**	**16 21 07.0**	**-0.4**
MT01				⇓*e*		16 21 22.6	
MT01				*i* S	**Sn**	**16 21 24.1**	**-0.3**
MT01	**Popeta**	**1.23**	**349**	⇑*i*P	**Pn**	**16 21 07.0**	**-0.4**
MT01				*i* S	**Sn**	**16 21 24.1**	**-0.3**
MT09	**Talagante**	**1.30**	**359**		**Pn**	**16 21 08.3**	**-0.1**
MT09	**Talagante**	**1.30**	**359**	⇑*i*P	**Pn**	**16 21 08.3**	**-0.1**
MT09				*e*S	**Sn**	**16 21 26.1**	**0.0**
MT09	**Talagante**	**1.30**	**359**	⇑*i*P	**Pn**	**16 21 08.3**	**-0.1**
MT09				*e*S	**Sn**	**16 21 26.1**	**0.0**
LMEL	**Las Melosas**	**1.38**	**27**		**Pn**	**16 21 10.2**	**+0.8**
LMEL	**Las Melosas**	**1.38**	**27**	⇑*i*P	**Pn**	**16 21 10.3**	**+1.0**
LMEL	**Las Melosas**	**1.38**	**27**	⇑*i*P	**Pn**	**16 21 10.3**	**+1.0**
EDS3	**Malargue**	**1.45**	**119**	*e*P	**Pn**	**16 21 11.4**	**+1.2**
EDS3				*e*S	**Sn**	**16 21 33.5**	**+4.1**
VA05	**Santo Domingo**	**1.52**	**339**		**Pn**	**16 21 10.6**	**-0.3**
VA05	**Santo Domingo**	**1.52**	**339**	⇑*i*P	**Pn**	**16 21 10.7**	**-0.3**
VA05				*i* S	**Sn**	**16 21 30.5**	**-0.1**
VA05	**Santo Domingo**	**1.52**	**339**	⇑*i*P	**Pn**	**16 21 10.7**	**-0.3**
VA05				*i* S	**Sn**	**16 21 30.5**	**-0.1**
MT03	**Universidad Ad**	**1.62**	**13**		**Pn**	**16 21 12.7**	**+0.3**
MT03	**Universidad Ad**	**1.62**	**13**	⇑*i*P	**Pn**	**16 21 12.7**	**+0.3**
MT03	**Universidad Ad**	**1.62**	**13**	⇑*i*P	**Pn**	**16 21 12.7**	**+0.3**
MT05	**Renca**	**1.69**	**6**	Pn	**Pn**	**16 21 13.5**	**+0.3**
MT05				Sn	**Sn**	**16 21 35.2**	**+0.5**
MT05	**Renca**	**1.69**	**6**	⇑*i*P	**Pn**	**16 21 13.5**	**+0.3**
MT05				*e*S	**Sn**	**16 21 34.8**	**+0.1**
MT05				IAML		16 21 43.9	
	comp=N,757µm,0.5s						
MT05	**Renca**	**1.69**	**6**	⇑*i*P	**Pn**	**16 21 13.5**	**+0.3**
MT05				*e*S	**Sn**	**16 21 34.8**	**+0.1**
MT05				IAML		16 21 43.9	
	comp=N,757µm,0.5s						
MT02	**Curacav**	**1.82**	**355**	Pn	**Pn**	**16 21 14.6**	**-0.2**
MT02	**Curacav**	**1.82**	**355**	⇑*i*P	**Pn**	**16 21 14.7**	**-0.1**
MT02				IAML		16 21 38.6	
	comp=N,297µm,0.5s						
MT02	**Curacav**	**1.82**	**355**	⇑*i*P	**Pn**	**16 21 14.7**	**-0.1**
MT02				IAML		16 21 38.6	
	comp=N,297µm,0.5s						
FCH	**Farellones**	**1.83**	**18**	⇓*i*P	**Pn**	**16 21 15.7**	**+0.4**
FCH				*i* S	**Sn**	**16 21 40.0**	**+1.6**
FCH	**Farellones**	**1.83**	**18**	⇓*i*P	**Pn**	**16 21 15.7**	**+0.4**
FCH				*i* S	**Sn**	**16 21 40.0**	**+1.6**
PEL	**Peldehue**	**1.94**	**7**	*e*P	**Pn**	**16 21 16.5**	**+0.1**
PEL				*i* S	**Sn**	**16 21 40.8**	**+0.3**
PEL	**Peldehue**	**1.94**	**7**	*e*P	**Pn**	**16 21 16.5**	**+0.1**
PEL				*i* S	**Sn**	**16 21 40.8**	**+0.3**
PEL	**Peldehue**	**1.94**	**7**	*e*P	**Pn**	**16 21 17.3**	**+0.8**
PEL				*e*S	**Sn**	**16 21 43.4**	**+2.9**
RFA	**San Rafael**	**2.07**	**82**	*e*P	**Pn**	**16 21 18.7**	**+0.5**
ROC1	**El Roble**	**2.10**	**359**		**Pn**	**16 21 18.4**	**-0.3**
ROC1	**El Roble**	**2.10**	**359**	*e*P	**Pn**	**16 21 19.2**	**+0.5**
ROC1				*e*S	**Sn**	**16 21 45.3**	**+0.9**
ROCH	**El Roble**	**2.10**	**359**	⇑*i*P	**Pn**	**16 21 18.6**	**-0.1**
ROCH				*e*S	**Sn**	**16 21 44.6**	**+0.2**
ROCH	**El Roble**	**2.10**	**359**	⇑*i*P	**Pn**	**16 21 18.6**	**-0.1**
ROCH				*e*S	**Sn**	**16 21 44.6**	**+0.2**
VA03	**San Esteban**	**2.33**	**8**		**Pn**	**16 21 21.8**	**+0.1**
VA03	**San Esteban**	**2.33**	**8**	⇓*i*P	**Pn**	**16 21 21.8**	**+0.1**
VA03				*i* S	**Sn**	**16 21 50.7**	**+0.9**
VA03	**San Esteban**	**2.33**	**8**	⇓*i*P	**Pn**	**16 21 21.8**	**+0.1**
VA03				*i* S	**Sn**	**16 21 50.7**	**+0.9**
VA03				IAML		16 21 55.4	
	comp=E,415µm,0.5s						

BI05 Punta Hualpn 2.46 227 Pn **Pn** 16 21 21.8 -1.4
BI05 Punta Hualpn 2.46 227 *eP* **Pn** 16 21 21.8 -1.4
BI05 IAML 16 22 05.7
comp=N,271µm,0.5s
BI05 Punta Hualpn 2.46 227 *eP* **Pn** 16 21 21.8 -1.4
BI05 IAML 16 22 05.7
comp=N,271µm,0.5s
CCSP San Pedro de C 2.48 224 *eP* **Pn** 16 21 24.2 +0.8
CCSP *eS* **Sn** 16 21 52.7 -0.3
CCSP San Pedro de C 2.48 224 *eP* **Pn** 16 21 24.2 +0.8
CCSP *eS* **Sn** 16 21 52.7 -0.3
VA06 Catapilco 2.53 353 Pn **Pn** 16 21 23.8 -0.3
VA06 Catapilco 2.53 353 *eP* **Pn** 16 21 23.8 -0.3
VA06 Catapilco 2.53 353 *eP* **Pn** 16 21 23.8 -0.3
AVIZ Vizcacheras 2.58 52 *eP* **Pn** 16 21 26.6 +1.7
AVIZ *eS* Sn 16 22 05.1 +10
AAGR Agrelo 2.66 42 *eP* **Pn** 16 21 27.7 +1.7
ARCO CERRO ARCO 2.79 38 *eP* **Pn** 16 21 29.3 +1.5
ASAL Salagasta 3.04 36 *eP* **Pn** 16 21 32.8 +1.6
RTLS Leoncito 3.55 23 *eP* **Pn** 16 21 39.8 +1.6
RTLS *eS* Sn 16 22 06.8 -13
RTLS IAML 16 22 35.3
comp=Z,24µm,0.7s
CO02 Combarbal 3.86 359 **Pn** 16 21 41.5 -0.7
ZON Zonda 4.01 29 **Pn** 16 21 44.6 +0.5
ZON Zonda 4.01 29 P **Pn** 16 21 44.6 +0.5
LC02 Puerto Saavedr 4.18 207 Pn **Pn** 16 21 44.4 -2.0
CO03 El Pedregal 4.23 3 **Pn** 16 21 46.6 -0.6
CO06 Fray Jorge 4.43 352 Pn **Pn** 16 21 48.6 -1.2
GO06 Curarrehue 4.52 185 **Pn** 16 21 50.6 -0.4
LR03 Panguipulli 4.68 193 **Pn** 16 21 51.6 -1.5
ACCO Cerro Coronel 4.75 20 *eP* **Pn** 16 21 54.3 -0.2
GO04 Tololo Observa 4.89 2 Pn **Pn** 16 21 54.9 -1.4
MRA San Martin 5.11 60 *eP* **Pn** 16 21 59.9 +0.8
MRA IAML 16 24 03.2
comp=Z,10µm,1.6s
ACDV Cuesta del Vie 5.13 18 *eP* **Pn** 16 21 59.9 +0.3
ACDV IAML 16 23 50.2
comp=Z,7µm,1.4s
CO01 Juntas del Tor 5.14 8 **Pn** 16 21 59.4 -0.3
CO05 La Serena 5.15 357 **Pn** 16 21 58.6 -1.0
LR04 Coral 5.18 202 **Pn** 16 21 57.2 -2.7
ACHE Chepes 5.31 44 *eP* **Pn** 16 22 01.5 -0.5
PLCA Paso Flores 5.66 177 P **Pn** 16 22 06.1 -0.4
comp=Z,249nm,0.5s,baz=340,slow=12,SNR=153
PLCA S **Sn** 16 23 05.6 -4.5
comp=Z,741nm,0.6s,baz=48,slow=12,SNR=3.6
PLCA LR LR 16 24 46.5
comp=Z,73µm,21.7s,baz=341,slow=42
PLCA Paso Flores 5.66 177 Pn **Pn** 16 22 05.9 -0.6
PLCA Paso Flores 5.66 177 *eP* **Pn** 16 22 06.0 -0.5
PLCA Paso Flores 5.66 177 P **Pn** 16 22 05.9 -0.6
LL04 Puerto Octay 5.93 191 Pn **Pn** 16 22 08.2 -2.0
LC0 Las Campanas 6.05 2 **Pn** 16 22 10.2 -1.9
LC0 Las Campanas 6.05 2 P **Pn** 16 22 10.2 -1.9
AC05 El Transito 6.25 6 Pn **Pn** 16 22 13.1 -1.6
LL05 Los Muermos 6.62 197 Pn **Pn** 16 22 16.0 -3.6
I14CL ROBINSON CRUSO 6.63 280 I I 17 00 30.0
comp=Z,0.1nm,0.5s,baz=103,slow=320,SNR=0.5
H03S1 Juan Fernandez 6.68 278 P **Pn** 16 22 20.4 +0.2
baz=64,slow=15
H03S3 Juan Fernandez 6.69 278 P **Pn** 16 22 20.8 +0.5
baz=64,slow=15
H03S2 Juan Fernandez 6.70 278 P **Pn** 16 22 20.6 +0.2
baz=64,slow=15
H03N1 Juan Fernandez 6.79 282 P **Pn** 16 22 22.8 +1.3
baz=135,slow=25
H03N3 Juan Fernandez 6.79 282 P **Pn** 16 22 22.3 +0.6
baz=135,slow=25
H03N2 Juan Fernandez 6.80 282 P **Pn** 16 22 22.5 +0.7
baz=135,slow=25
AC04 Llanos de Chal 6.85 359 Pn **Pn** 16 22 20.9 -1.9
LL01 San Ignacio de 7.38 188 Pn **Pn** 16 22 28.8 -1.0
LL06 Loncomilla 7.43 196 Pn **Pn** 16 22 29.3 -1.2
GO03 Copiap 7.49 5 Pn **Pn** 16 22 29.1 -2.4
AC06 Mina Casimiro 7.71 4 Pn **Pn** 16 22 32.0 -2.6
TRQA Tornquist 7.81 115 Pn **Pn** 16 22 35.5 -0.3
TRQA Tornquist 7.81 115 P **Pn** 16 22 35.5 -0.3
LL07 Hotel Espejo d 7.99 193 Pn **Pn** 16 22 36.8 -1.3
LL02 Futaleuf 8.13 185 Pn **Pn** 16 22 38.0 -2.2
GO07 Milladeo Hill, 8.30 194 Pn **Pn** 16 22 37.7 -4.7
AC02 Maricunga 8.36 11 Pn **Pn** 16 22 41.5 -2.3
AC01 Pan de Azucar 8.91 2 Pn **Pn** 16 22 47.6 -3.1
GO02 Mina Guanaco 9.95 7 Pn **Pn** 16 23 01.8 -3.5
PB14 IPOC Station P 10.43 3 Pn **Pn** 16 23 07.4 -4.4
COYC Coyhaique 10.52 184 Pn **Pn** 16 23 10.0 -2.6
LPA La Plata 10.69 93 *i* P Pn 16 23 06.5 -8.5
LPA sP 16 23 37.6
LPA S **Sn** 16 25 20.0 +7.3
LPA PCP **PcP** 16 29 09.2 -0.2
LPA SCS **ScS** 16 36 15.0 +6.3
LPA PKIKP **PKiKP** 16 37 11.1 +2.8
LPA SKIKP 16 40 18.6
LPA PKIKS 16 40 24.9
LPA SKIKS 16 44 13.7
PB10 IPOC Station P 11.53 2 Pn **Pn** 16 23 23.0 -3.5
PB15 IPOC Station P 11.90 7 Pn **Pn** 16 23 26.8 -4.8
PB06 IPOC Station P 12.39 6 Pn **Pn** 16 23 33.5 -4.6
LVC Limon Verde 12.55 9 P Pn 16 23 35.1 -5.4
comp=Z,68nm,0.4s,baz=196,slow=9.5,SNR=20
LVC S **Sn** 16 26 02.9 +4.2
comp=Z,242nm,0.9s,baz=155,slow=7.6,SNR=4.1
LVC LR LR 16 28 40.9
comp=Z,24µm,21.5s,baz=209,slow=38
LVC Limon Verde 12.55 9 Pn Pn 16 23 35.2 -5.3
LVC Limon Verde 12.55 9 *eP* Pn 16 23 34.5 -6.0
LVC Limon Verde 12.55 9 P Pn 16 23 35.2 -5.3
PB03 IPOC Station P 13.02 5 Pn **Pn** 16 23 42.6 -4.0
ITQB Itaqui 13.26 70 Pn **Pn** 16 23 46.3 -3.2
ITQB Itaqui 13.26 70 *eP* **Pn** 16 23 45.5 -4.0
PB07 IPOC Station P 13.34 4 Pn Pn 16 23 43.8 -6.9
PB02 IPOC Station P 13.74 4 Pn Pn 16 23 49.4 -6.6
PB01 IPOC Station P 14.04 6 Pn Pn 16 23 53.5 -6.3
PATCX Punta Patache 14.22 3 Pn Pn 16 23 53.8 -8.3
CPUP Villa Florida 14.60 57 P Pn 16 24 01.4 -5.5
comp=Z,10nm,0.5s,baz=235,slow=12,SNR=18
CPUP S **Sn** 16 26 41.2 -6.5
comp=Z,58nm,0.6s,baz=130,slow=14,SNR=1.2
CPUP LR LR 16 30 33.5
comp=Z,20µm,20.1s,baz=237,slow=41
CPUP Villa Florida 14.60 57 *eP* Pn 16 24 01.3 -5.6
PLTB Pedras Altas 14.87 82 Pn **Pn** 16 24 09.1 -1.3
PLTB Pedras Altas 14.87 82 *eP* **Pn** 16 24 07.6 -2.7
PB08 IPOC Station P 14.96 7 Pn **Pn** 16 24 09.2 -2.8
PB11 IPOC Station P 15.30 5 Pn **Pn** 16 24 12.9 -3.1
GO01 Chusmiza 15.43 6 Pn **Pn** 16 24 14.6 -3.4
CPSB Cacapava Do Su 15.46 77 *eP* **Pn** 16 24 15.1 -2.7
MG05 Puerto Natales 16.63 183 **Pn** 16 24 32.4 +0.1
MG02 Cerro Sombrero 17.74 177 P **Pn** 16 24 46.0 +0.2
MG04 Isla Riesco 17.78 181 P **P** 16 24 44.2 -1.5
ITAB Concordia 17.89 69 P **P** 16 24 44.6 -2.7
ITAB Concordia 17.89 69 *eP* **P** 16 24 45.4 -1.9
CNLB Canela 17.95 77 *eP* **P** 16 24 46.3 -1.6
LPAZ La Paz 18.88 8 P **Pn** 16 24 59.9 -0.5
comp=Z,305nm,0.7s,baz=180,slow=7.9,SNR=228
LPAZ S **S** 16 28 28.1 -0.9
comp=Z,17nm,0.8s,baz=187,slow=22,SNR=1.2
LPAZ La Paz 18.88 8 *eP* **Pn** 16 24 59.7 -0.7
EFI East Falkland 19.01 155 P **P** 16 24 57.7 -1.5
EFI East Falkland 19.01 155 *i* P **P** 16 24 58.0 -1.2
EFI pmax pmax
comp=Z,2µm,0.7s
EFI MLR MLR
comp=Z,35µm,24.0s
PTGB Pitanga 19.33 63 *eP* **P** 16 25 01.8 -1.4
TER01 Tubaro-SC 19.65 77 *eP* **P** 16 25 05.1 -1.4
AQDB Aquidauana 19.81 47 P **P** 16 25 06.5 -1.7
AQDB Aquidauana 19.81 47 *eP* **P** 16 25 07.5 -0.8
USHA Ushuaia 19.83 176 P **Pn** 16 25 09.7 -0.9
comp=Z,542nm,0.8s,baz=3.6,slow=9.6,SNR=66
USHA S **S** 16 28 46.3 -0.1
comp=Z,16nm,0.5s,baz=81,slow=16,SNR=1.3
SIV San Ignacio 20.97 27 P **P** 16 25 19.5 -1.3
comp=Z,180nm,0.7s,baz=204,slow=9.4,SNR=638
SIV S **S** 16 29 05.9 -3.5
comp=Z,19nm,0.8s,baz=147,slow=18,SNR=1.3
comp=Z,180nm,0.7s
TIJ01 Guaruva-PR 21.28 69 *eP* **P** 16 25 18.6 -5.6
PCMB Pacaembu 21.87 57 *eP* **P** 16 25 27.6 -2.8
FRTB Fartura 21.98 64 *eP* **P** 16 25 30.0 -1.6
PTLB Pontes e Lacer 22.24 31 P **P** 16 25 33.0 -1.4
PTLB Pontes e Lacer 22.24 31 *eP* **P** 16 25 32.9 -1.4

PET01 Itanhaem-SP 23.16 69 *eP* **P** 16 25 42.2 -1.4
SALV Santo Antonio 23.49 39 *eP* **P** 16 25 45.8 -0.9
NNA Nana 23.60 345 P **P** 16 25 47.7 0.0
comp=Z,428nm,0.9s,baz=185,slow=10,SNR=86
NNA S **S** 16 29 54.3 -1.0
comp=Z,6.3nm,0.3s,baz=282,slow=18,SNR=1.2
NNA LR LR 16 33 17.0
comp=Z,16µm,20.0s,baz=179,slow=32
comp=Z,428nm,0.9s
NNA Nana 23.60 345 *i* P **P** 16 25 48.9 +1.2
NNA Nana 23.60 345 *i* P **P** 16 25 48.3 +0.6
NNA pmax pmax
comp=Z,1µm,0.9s
ITRB Iturama 23.78 55 *eP* **P** 16 25 47.9 -1.4
RCLB Rio Claro- Sao 24.03 65 *eP* **P** 16 25 50.2 -1.3
VILB Vilhena 24.08 26 P **P** 16 25 51.6 -0.4
VILB Vilhena 24.08 26 *eP* **P** 16 25 51.5 -0.5
VAO Valinhos 24.11 66 *eP* **P** 16 25 51.5 -0.8
BB19B Bebedouro 24.14 61 *eP* **P** 16 25 51.4 -1.2
PARB Paraibuna 24.95 69 *eP* **P** 16 25 58.7 -1.2
ETMB Extrema 25.52 11 P **P** 16 26 04.6 -0.4
ETMB Extrema 25.52 11 *eP* **P** 16 26 04.8 -0.1
ARAG Araguaiana, MT 25.82 46 *eP* **P** 16 26 07.6 -0.2
IPMB Ipameri, GO 26.43 56 *eP* **P** 16 26 12.2 -1.2
MAN01 Ângra dos Reis 26.48 70 *eP* **P** 16 26 12.8 -1.0
PDRB Porto dos Gac 26.70 32 *eP* **P** 16 26 15.0 -0.7
SAML Samuel 26.96 17 P **P** 16 26 15.2 -2.8
SAML IAmb IAmb 16 26 19.8
comp=Z,1µm,1.6s
SAML Samuel 26.96 17 P **P** 16 26 15.2 -2.8
SAML pmax pmax
comp=Z,1µm,1.7s
VAS01 Vassouras-RJ 27.20 69 *eP* **P** 16 26 19.1 -1.0
CZSB Cruzeiro do Su 27.27 356 *eP* **P** 16 26 20.7 -0.1
PMNB Patos De Minas 27.28 59 *eP* **P** 16 26 20.4 -0.6
CLDB Colider 27.77 33 *eP* **P** 16 26 24.1 -1.1
DUB01 Friburgo-RJ 28.13 70 *eP* **P** 16 26 27.1 -1.5
BDFB Brasília 28.24 53 P **P** 16 26 28.6 -1.0
comp=Z,103nm,0.6s,baz=221,slow=9.7,SNR=59
BDFB S S 16 30 58.5 -11
comp=Z,15nm,0.7s,baz=183,slow=21,SNR=1.0
BDFB LR LR 16 38 55.2
comp=Z,15µm,20.6s,baz=226,slow=39
comp=Z,103nm,0.6s
BDFB Brasília 28.24 53 P **P** 16 26 28.4 -1.1
BDFB Brasília 28.24 53 *eP* **P** 16 26 28.4 -1.1
ATAH Atahualpa 28.64 344 P **P** 16 26 35.0 +1.5
comp=Z,56nm,0.8s,baz=173,slow=6.8,SNR=45
ATAH LR LR 16 36 59.2
comp=Z,10µm,21.7s,baz=185,slow=34
comp=Z,56nm,0.8s
CAM01 Campos-RJ 28.83 71 *eP* **P** 16 26 34.3 -0.3
SNDB Serra Nova Dou 29.11 43 *eP* **P** 16 26 35.8 -1.3
PMSA Palmer Station 30.02 174 P **P** 16 26 47.2 +2.5
comp=Z,72nm,0.9s,baz=356,slow=9.3,SNR=7.5
PMSA LR LR 16 38 31.7
comp=Z,9µm,19.9s,baz=344,slow=35
comp=Z,72nm,0.9s
PMSA Palmer Station 30.02 174 P **P** 16 26 42.1 -2.6
PMSA IAmb IAmb 16 27 11.7
comp=Z,378nm,1.3s
PMSA Palmer Station 30.02 174 *eP* **P** 16 26 47.4 +2.6
ALF01 Guarapari-ES 30.23 70 *eP* **P** 16 26 46.7 -0.3
MC01 Montes Claros 30.27 60 *eP* **P** 16 26 46.5 -1.0
HOPE Hope Point 30.69 139 P **P** 16 26 49.7 -1.0
HOPE IAmb IAmb 16 26 54.8
comp=Z,306nm,0.9s
HOPE Hope Point 30.69 139 P **P** 16 26 49.7 -1.0
HOPE pmax pmax
comp=Z,307nm,1.0s
HOPE Hope Point 30.69 139 P **P** 16 26 51.4 +0.7
HOPE pP **pP** 16 27 10.7 -1.6
HOPE sP **sP** 16 27 22.7 -0.6
TBTG Tabatinga, AM 30.75 2 P **P** 16 26 50.6 -1.0
TBTG IAmb IAmb 16 26 55.6
comp=Z,2µm,1.1s
TBTG Tabatinga, AM 30.75 2 *eP* **P** 16 26 51.8 +0.1
SJMB Sao Joao De Ma 31.00 66 *eP* **P** 16 26 53.2 -0.7
JANB Januaria 31.14 57 *eP* **P** 16 26 53.6 -1.6
RIB01 Linhares ES 31.23 68 *eP* **P** 16 26 54.7 -1.2
NPGB Novo Progresso 31.37 31 *eP* **P** 16 26 55.0 -2.2
MCRA Macar, Loja 31.67 343 P **P** 16 26 59.8 0.0
MCRA IAmb IAmb 16 27 02.3
comp=Z,385nm,1.1s
MCRA PcP **PcP** 16 29 51.7 +1.9
NAN01 Guarapari, ES 32.32 66 *eP* **P** 16 27 02.4 -3.1
BOSC San Juan Bosco 32.53 346 P **P** 16 27 07.6 +0.1
BOSC IAmb IAmb 16 27 12.6
comp=Z,200nm,0.8s
SDBA SAO DESIDERIO 32.65 53 *eP* **P** 16 27 06.4 -2.0
MACA Manacapuru-AM 33.16 19 P **P** 16 27 11.3 -1.4
MACA IAmb IAmb 16 27 14.7
comp=Z,300nm,0.6s
MACA Manacapuru-AM 33.16 19 *eP* **P** 16 27 11.9 -0.8
SMAI San Martin Ant 33.17 177 P **P** 16 27 12.6 +0.2
GUA01 Guaratinga, BA 33.35 64 *eP* **P** 16 27 12.8 -1.6
COHC Cochancay 33.35 345 P **P** 16 27 14.3 -0.1
RPN Rapa Nui 33.64 273 P **P** 16 27 19.1 +2.2
comp=Z,40nm,0.7s,baz=90,slow=5.1,SNR=2.0
RPN LR LR 16 37 28.6
comp=Z,23µm,18.1s,baz=100,slow=30
comp=Z,40nm,0.7s
ITTB Itaituba 33.65 28 *eP* **P** 16 27 16.1 -0.9
SMTB Santa Maria do 33.74 45 *eP* **P** 16 27 16.2 -1.6
PORT Chimborazo Vol 34.23 346 P **P** 16 27 22.2 -0.5
PORT IAmb IAmb 16 27 32.2
comp=Z,251nm,1.0s
CMC01 Camacan, BA 34.34 63 *eP* **P** 16 27 21.4 -1.6
PRPB Parauapebas 34.74 39 *eP* **P** 16 27 24.9 -1.7
SGCB S£o Gabriel d 34.97 7 *eP* **P** 16 27 26.1 -2.3
GDU01 Guandu, BA 35.38 61 *eP* **P** 16 27 30.3 -1.7
MALB Monte Alegre 36.53 29 *eP* **P** 16 27 40.4 -1.3
BOAV Boa Vista 38.54 17 *eP* **P** 16 27 57.4 -1.3
PAYG Puerto Ayora 38.69 328 P **P** 16 28 01.4 +1.4
PAYG pP **pP** 16 28 22.5 +1.2
MCPB Macapa, AP 38.78 31 *eP* **P** 16 27 59.7 -1.0
TMAB Tom-Au,PA,Br 38.87 38 *eP* **P** 16 28 01.3 -0.2
ROSC El Rosal 39.83 355 P **P** 16 28 10.6 +0.7
comp=Z,183nm,0.9s,baz=190,slow=5.7,SNR=43
ROSC S S 16 33 57.3 -11
comp=Z,6.2nm,0.4s,baz=225,slow=16,SNR=1.4
ROSC LR LR 16 45 28.7
comp=Z,6µm,19.5s,baz=210,slow=37
comp=Z,183nm,0.9s
ROSB Rosrio 40.56 44 *eP* **P** 16 28 14.7 -0.8
RCBR Riachuelo 43.48 56 P **P** 16 28 38.9 -0.4
comp=Z,45nm,0.8s,baz=7.3,slow=10,SNR=15
RCBR LR LR 16 48 41.4
comp=Z,17µm,19.5s,baz=4.0,slow=39
comp=Z,45nm,0.8s
RCBR Riachuelo 43.48 56 P **P** 16 28 36.8 -2.5
RCBR IAmb IAmb 16 28 42.5
comp=Z,259nm,1.5s
RCBR Riachuelo 43.48 56 *eP* **P** 16 28 38.9 -0.4
RCBR Riachuelo 43.48 56 P **P** 16 28 38.8 -0.4
RCBR pP **pP** 16 29 03.6 +1.9
RCBR sP **sP** 16 29 14.2 +1.9
MDP Montagnes des 43.53 27 P **P** 16 28 37.4 -2.3
comp=Z,228nm,0.7s,baz=200,slow=8.4,SNR=165
MDP S **S** 16 34 56.1 -5.8
comp=Z,6.2nm,0.7s,baz=203,slow=9.8,SNR=1.6
MDP LR LR 16 47 51.2
comp=Z,13µm,21.1s,baz=203,slow=38
comp=Z,228nm,0.7s
MPGF Montagnes des 43.53 27 P **P** 16 28 39.0 -0.7
MPGF sP **sP** 16 29 11.8 -0.8
SDV Santo Domingo 43.73 0 P **P** 16 28 40.0 -1.4
comp=Z,71nm,0.6s,baz=189,slow=6.0,SNR=59
SDV ScP **ScP** 16 34 09.3 -0.8
comp=Z,15nm,0.8s,baz=234,slow=3.7,SNR=4.4
SDV LR LR 16 45 52.8
comp=Z,10µm,21.8s,baz=186,slow=35
comp=Z,71nm,0.6s
SDV Santo Domingo 43.73 0 P **P** 16 28 39.2 -2.2
SDV Santo Domingo 43.73 0 *eP* **P** 16 28 40.4 -1.0
SDV Santo Domingo 43.73 0 P **P** 16 28 39.2 -2.2
BAUV El Baul 43.87 4 P **P** 16 28 41.4 -0.9
BAUV El Baul 43.87 4 *eP* **P** 16 28 38.8 -3.5
POTG Potrero Grande 45.37 343 *eP* **P** 16 28 57.0 +2.7
PCRV Puerto La Cruz 45.40 9 P **P** 16 28 52.6 -1.9
comp=Z,172nm,1.0s,baz=187,slow=3.4,SNR=51
PCRV LR LR 16 51 05.9
comp=Z,7µm,20.0s,slow=40
comp=Z,172nm,1.0s

SRBA San Rafael, Bu 45.60 343 *eP* **P** 16 28 58.1 +1.8
BELA Belgrano 2 45.66 170 P **P** 16 28 55.8 -0.1
BELA IAmb IAmb 16 29 00.2
comp=Z,356nm,1.2s
PEZE Perez Zeledon, 45.83 342 *eP* **P** 16 28 59.8 +1.8
MRVA Moravia de Chi 46.19 343 *eP* **P** 16 29 03.3 +2.4
RIMA Rio Macho 46.24 342 *eP* **P** 16 29 03.8 +2.5
LCR2 La Lucha 2 46.25 342 *eP* **P** 16 29 02.5 +1.1
TRN Trinidad (W) 46.37 13 *eP* **P** 16 29 01.7 -0.4
HDC Heredia 46.53 342 *eP* **P** 16 29 06.3 +2.7
HDC Heredia 46.53 342 *eP* **P** 16 29 06.3 +2.7
URIC Uribia, Colomb 46.53 359 P **P** 16 29 00.5 -2.9
H09W1 TRISTAN DA CUN 46.76 110 P **P** 16 29 06.7 +1.6
SNR=22
INDI Punta indio, G 46.77 340 *eP* **P** 16 29 07.2 +1.9
H09N1 TRISTAN DA CUN 46.78 110 P **P** 16 29 05.3 +0.1
SNR=5.4
POPE POPE, Guanacas 46.89 341 *eP* **P** 16 29 08.4 +2.2
SAJU San Juanillo, 47.02 340 *eP* **P** 16 29 08.2 +1.0
JTS Las Juntas de 47.03 341 *eP* **P** 16 29 09.7 +2.4
JTS Las Juntas de 47.03 341 *i* P **P** 16 29 09.1 +1.8
JTS pmax pmax
comp=Z,215nm,1.3s
JTS MLR MLR
comp=Z,3µm,20.0s
JTS Las Juntas de 47.03 341 P **P** 16 29 08.2 +0.9
JTS pP **pP** 16 29 30.7 +1.5
HATO Hato, Curacao 47.04 3 P **P** 16 29 05.6 -1.6
TOSP Speyside 47.17 14 P **P** 16 29 08.3 0.0
TOSP Speyside 47.17 14 *eP* **P** 16 29 09.2 +0.8
ORTG Ortega, Santa 47.23 340 *eP* **P** 16 29 09.9 +1.0
COVE Coope Vega, Sa 47.29 342 P **P** 16 29 08.5 -0.8
CUI Cuipilapa 47.43 341 *eP* **P** 16 29 12.5 +2.0
COLC Colonia 47.45 341 *eP* **P** 16 29 12.5 +1.9
HORNC Hornillas 47.49 341 *eP* **P** 16 29 13.5 +2.5
VERA Finca Concepci 47.54 341 *eP* **P** 16 29 13.2 +2.0
VMAR Armenia, Volca 47.57 341 *eP* **P** 16 29 13.2 +1.6
GB1A Borinquen Arri 47.65 341 *eP* **P** 16 29 14.7 +2.5
GRGR Grenville 47.77 12 P **P** 16 29 11.4 -1.6
GRGR Grenville 47.77 12 *eP* **P** 16 29 07.7 -5.3
VNA3 Neumayer Olymp 48.03 158 P **P** 16 29 14.2 -0.2
GCMP Grenada, Carri 48.16 13 *eP* **P** 16 29 12.9 -3.1
VNA1 Neumayer--Stat 48.33 157 P **P** 16 29 17.4 +0.7
VNA2 Neumayer--Watz 48.67 157 P **P** 16 29 19.2 -0.2
baz=283,slow=8.0
ESPN Las Esperanzas 48.69 343 *eP* **P** 16 29 21.4 +1.4
ACON Acoyapa 48.69 341 *eP* **P** 16 29 20.9 +0.8
SVB Belmont 48.96 13 P **P** 16 29 21.2 -0.9
SVB IAmb IAmb 16 29 25.5
comp=Z,198nm,0.9s
SVB PcP **PcP** 16 30 43.8 -1.3
SVB Belmont 48.96 13 *eP* **P** 16 29 20.6 -1.6
BBGH Gun Hill 49.16 15 *eP* **P** 16 29 24.4 +0.7
BOAB BOACO BROADBAND 49.28 341 P **P** 16 29 24.1 -0.5
MCLT Moule a Chique 49.44 13 P **P** 16 29 25.8 0.0
MCLT Moule a Chique 49.44 13 *eP* **P** 16 29 25.4 -0.4
SLBI Saint Lucia, B 49.74 13 *eP* **P** 16 29 27.7 -0.3
H05S1 Guadeloupe/Mar 50.16 13 P **P** 16 29 33.2 +2.0
SNR=13
MPOM Morne Pois Mar 50.17 13 P **P** 16 29 29.4 -1.9
MPOM Morne Pois Mar 50.17 13 *eP* **P** 16 29 30.3 -1.0
BIM Bigot 50.21 12 P **P** 16 29 31.1 -0.6
BIM Bigot 50.21 12 *eP* **P** 16 29 30.9 -0.8
SNAA Sanae 50.25 158 P **P** 16 29 31.1 -0.3
comp=Z,220nm,1.0s,baz=259,slow=7.6,SNR=149
SNAA pP **pP** 16 29 55.7 +1.4
comp=Z,145nm,0.8s,baz=276,slow=5.2,SNR=5.1
SNAA S **S** 16 36 39.3 +2.7
comp=Z,14nm,1.0s,baz=176,slow=22,SNR=9.3
SNAA LR LR 16 48 55.5
comp=Z,6µm,21.8s,baz=297,slow=34
comp=Z,220nm,1.0s
FDF Fort de France 50.40 12 P **P** 16 29 31.1 -2.0
FDF Fort de France 50.40 12 *eP* **P** 16 29 27.5 -5.7
FDF Fort de France 50.40 12 P **P** 16 29 31.1 -2.0
FDF pmax pmax
comp=Z,695nm,1.1s
ILAM Ilet Lapin Mar 50.49 13 P **P** 16 29 34.2 +0.5
ILAM PcP **PcP** 16 30 50.8 +0.2
ILAM Ilet Lapin Mar 50.49 13 *eP* **P** 16 29 30.1 -3.6
DLPL La Plaine 50.97 12 *eP* **P** 16 29 34.1 -3.2
DSLB Salisbury 51.05 12 *eP* **P** 16 29 35.0 -2.9
MDVC Dominica, Viel 51.22 12 *eP* **P** 16 29 38.8 -0.4
TDBA Terre de Bas, 51.41 12 *eP* **P** 16 29 37.4 -3.2
MAGL Barre de l'ile 51.57 12 *eP* **P** 16 29 37.6 -4.2
CBE Ff, Capester 51.63 11 P **P** 16 29 41.6 -0.7
CBE Ff, Capester 51.63 11 *eP* **P** 16 29 39.6 -2.7
TROLL Troll, Antarti 51.96 158 P **P** 16 29 44.1 -0.2
H05N1 Guadeloupe/Mar 51.97 12 P **P** 16 29 43.8 -1.0
SNR=42
ABD La Joyeuse, An 52.05 12 P **P** 16 29 43.2 -2.1
ABD La Joyeuse, An 52.05 12 *eP* **P** 16 29 43.5 -1.8
MBFL Flemmings, Mon 52.20 11 *eP* **P** 16 29 40.8 -5.7
ANBD Bethesda, Anti 52.57 11 *eP* **P** 16 29 44.6 -4.6
SEUS St. Eustatius 52.83 10 *eP* **P** 16 29 45.8 -5.2
CDVI St. Croix 52.87 7 *eP* **P** 16 29 45.5 -5.8
CRPR Cabo Rojo, PR 52.92 5 P **P** 16 29 48.7 -3.0
CELP Cerrillos 53.02 5 P **P** 16 29 51.5 -1.0
SJG San Juan 53.09 6 P **P** 16 29 52.2 -0.8
comp=Z,240nm,0.6s,baz=171,slow=2.4,SNR=53
SJG LR LR 16 54 08.6
comp=Z,3µm,21.1s,baz=184,slow=38
comp=Z,240nm,0.6s
SJG San Juan 53.09 6 P **P** 16 29 51.1 -1.9
SJG San Juan 53.09 6 *eP* **P** 16 29 47.3 -5.7
SJG San Juan 53.09 6 P **P** 16 29 51.0 -1.9
SJG pP **pP** 16 30 16.2 +0.7
HUMP Col San Antoni 53.15 6 P **P** 16 29 51.7 -1.7
ANWB Willy Bob 53.17 11 P **P** 16 29 51.5 -2.1
ANWB Willy Bob 53.17 11 *eP* **P** 16 29 49.8 -3.8
CBYP Canovanas 53.27 6 P **P** 16 29 51.6 -2.8
AOPR Arecibo Observ 53.28 5 P **P** 16 29 53.3 -1.2
AOPR Arecibo Observ 53.28 5 *eP* **P** 16 29 51.5 -2.9
GCPR Guaynabo City 53.29 6 P **P** 16 29 53.0 -1.5
GCPR IAmb IAmb 16 29 58.0
comp=Z,150nm,0.6s
SMRT St. Maarten 53.36 9 P **P** 16 29 53.1 -1.9
SMRT IAmb IAmb 16 29 57.5
comp=Z,144nm,0.8s
SMRT St. Maarten 53.36 9 *eP* **P** 16 29 52.3 -2.7
CUPR Culebra, Puert 53.36 7 P **P** 16 29 54.0 -1.0
CUPR IAmb IAmb 16 29 58.6
comp=Z,204nm,1.1s
AGPR Aguadilla, PR 53.37 5 P **P** 16 29 53.1 -2.0
AGPR IAmb IAmb 16 30 58.3
comp=Z,273nm,1.1s
MTDJ Mount Denham 53.38 352 P **P** 16 29 52.9 -2.4
MTDJ IAmb IAmb 16 30 32.2
comp=Z,193nm,1.1s
MTDJ Mount Denham 53.38 352 *eP* **P** 16 29 54.6 -0.6
STVI Saint Thomas 53.44 7 P **P** 16 29 53.7 -1.8
STVI IAmb IAmb 16 29 57.3
comp=Z,212nm,1.1s
SDDR Presa de Saban 53.76 360 *eP* **P** 16 29 57.1 -0.9
GTBY Guantanamo Bay 54.84 355 P **P** 16 30 05.1 -0.6
GTBY Guantanamo Bay 54.84 355 *eP* **P** 16 30 04.8 -0.9
RCC Rio Carpintero 54.95 355 *eP* **P** 16 30 04.5 -2.0
NVL N'lazarevskaya 54.98 156 *eP* **P** 16 30 04.1 -2.1
NVL *eS* **S** 16 37 32.6 -8.2
NVL pmax pmax
comp=Z,328nm,1.0s
NVL MLR MLR
comp=Z,3µm,17.0s
LMGC Las Mercedes 55.14 353 *eP* **P** 16 30 05.2 -2.6
QSPA South Pole Qui 55.16 180 S **S** 16 37 47.2 +3.5
comp=Z,17nm,1.2s,baz=163,slow=19,SNR=21
QSPA LR LR 16 53 42.3
comp=Z,7µm,19.6s,baz=160,slow=36
QSPA South Pole Qui 55.16 180 P **P** 16 30 07.2 -0.6
QSPA South Pole Qui 55.16 180 P **P** 16 30 08.1 +0.3
HLGC Holguin 55.87 354 *eP* **P** 16 30 12.9 -0.2
CCCC Cccc 56.34 352 *eP* **P** 16 30 15.5 -0.9
CCCC IAmb IAmb 16 30 18.5
comp=Z,151nm,1.2s
CCCC IAMs_20 IAMs_20 16 45 38.3
comp=E,9µm,32.7s
CCCC IAMs_20 IAMs_20 16 49 30.7
comp=N,13µm,45.3s
RKT Rikitea 56.34 264 *eT* T 17 29 57.5
comp=N,5.3nm,0.3s
CMIG Matias Romero 56.64 332 P **P** 16 30 18.6 0.0
comp=N,61nm,1.0s,baz=162,slow=5.4,SNR=27
CMIG pP **pP** 16 30 42.7 +1.4

comp=N,67nm,0.8s,baz=170,slow=5.1,SNR=8.1
CMIG LR LR 16 49 50.5
comp=N,3µm,20.5s,baz=158,slow=31
comp=N,61nm,1.0s
TEIG Tepich 57.41 341 P **P** **16 30 22.9 -1.1**
TEIG Tepich 57.41 341 P **P** **16 30 23.4 -0.6**
TEIG pP **pP** **16 30 45.8 -0.9**
MGV Manicaragua 57.51 350 *e*P **P** **16 30 23.2 -1.5**
H10N3 ASCENSION HYDR 58.23 76 P **P** **16 30 31.8 +2.1**
baz=311,slow=73,SNR=5.3
H10N1 ASCENSION HYDR 58.24 76 P **P** **16 30 29.6 -0.2**
baz=311,slow=73,SNR=3.0
H10N2 ASCENSION HYDR 58.24 76 P **P** **16 30 31.9 +2.1**
baz=311,slow=73,SNR=6.1
SOR Soroa 58.68 347 P **P** **16 30 32.2 -0.6**
SOR Soroa 58.68 347 *e*P **P** **16 30 31.1 -1.7**
SOR Soroa 58.68 347 P **P** **16 30 32.2 -0.6**
SOR pmax pmax
comp=Z,452nm,1.2s
SHEL Horse Pasture 60.85 90 P **P** **16 30 48.0 -0.1**
061Z Ochoppi 61.34 350 P **P** **16 30 52.1 +1.1**
baz=171,SNR=10
SBA Scott Base 62.20 192 P **P** **16 30 56.6 +0.4**
SBA Scott Base 62.20 192 P **P** **16 30 56.6 +0.4**
SBA pmax pmax
comp=Z,99nm,1.1s
SBA Scott Base 62.20 192 P **P** **16 30 58.1 +1.9**
060A Indiantown 62.41 351 P **P** **16 30 59.4 +1.2**
baz=171
VNDA Vanda 63.22 191 P **P** **16 31 04.8 +1.8**
comp=Z,26nm,0.7s,baz=138,slow=5.1,SNR=137
VNDA S **S** **16 39 27.7 +0.6**
comp=Z,0.5nm,0.6s,baz=250,slow=0.9,SNR=0.8
VNDA PKPPKP **P'P'df** **16 59 57.4 -5.8**
comp=Z,1.8nm,0.9s,baz=352,slow=3.7,SNR=6.7
comp=Z,26nm,0.7s
VNDA Vanda 63.22 191 P **P** **16 31 02.2 -0.8**
VNDA Vanda 63.22 191 P **P** **16 31 04.5 +1.6**
VNDA x x 16 31 17.0
VNDA pP **pP** **16 31 23.8 -2.5**
VNDA sP **sP** **16 31 30.4 -6.1**
DWPF Disney Wildern 63.62 350 P **P** **16 31 07.0 +0.8**
baz=170,SNR=8.3
DWPF Disney Wildern 63.62 350 P **P** **16 31 05.5 -0.6**
baz=170
DWPF S **S** **16 39 31.8 -1.2**
baz=170
DWPF Disney Wildern 63.62 350 *e*P **P** **16 31 06.1 -0.1**
656A Willston 65.03 349 P **P** **16 31 14.0 -1.2**
656A lAmb lAmb 16 31 17.2
comp=Z,287nm,0.9s
656A Willston 65.03 349 P **P** **16 31 15.2 -0.1**
baz=170,SNR=23
456A Hilliard 66.28 350 P **P** **16 31 23.9 +0.6**
baz=170,SNR=7.6
451A Vernon 66.81 346 P **P** **16 31 26.8 +0.1**
baz=167,SNR=8.4
SACV Santiago Islan 67.03 51 P **P** **16 31 29.5 +1.0**
SACV lAmb lAmb 16 32 05.4
comp=Z,163nm,0.9s
TIGA Tifton 67.22 348 P **P** **16 31 28.1 -1.2**
TIGA lAmb lAmb 16 31 30.4
comp=Z,236nm,1.0s
TIGA Tifton 67.22 348 P **P** **16 31 29.0 -0.3**
baz=169,SNR=19
TIGA Tifton 67.22 348 P **P** **16 31 28.4 -0.9**
baz=169,SNR=19
TIGA S **S** **16 40 15.3 -1.5**
baz=169
KVTX Kingsville 67.29 334 P **P** **16 31 33.4 +3.6**
baz=156,SNR=8.2
545B Wilberts Farm, 67.34 342 P **P** **16 31 31.1 +1.1**
baz=163
BBSR BB Station 67.35 6 P **P** **16 31 31.0 +0.9**
baz=186,SNR=11
BBSR BB Station 67.35 6 P **P** **16 31 27.7 -2.4**
BBSR pP **pP** **16 31 53.6 +0.1**
BBSR sP **sP** **16 32 03.1 -0.4**
257A Skidaway Islan 67.37 351 P **P** **16 31 31.7 +1.5**
baz=171
352A Blakely 67.50 347 P **P** **16 31 29.0 -2.0**
352A Blakely 67.50 347 P **P** **16 31 31.4 +0.3**
baz=168,SNR=32
255A Hazlehurst 67.52 349 P **P** **16 31 31.8 +0.6**
baz=170
BRAL Brewton 67.61 345 P **P** **16 31 33.1 +1.4**
baz=166,SNR=8.4
BRAL Brewton 67.61 345 P **P** **16 31 31.9 +0.2**
baz=166,SNR=8.4
TBI Tubuai 67.93 256 *e*P **P** **16 31 34.4 +0.2**
comp=Z,309nm,0.9s
TBI *ep*P **pP** **16 31 56.7 -0.7**
comp=Z,728nm,1.5s
TBI *e*S **S** **16 40 23.4 -2.6**
comp=Z,18µm,23.2s
TBI Tubuai 67.93 256 *e*LR LR 16 52 10.0
comp=Z,150µm,31.2s
TBI *e*LR LR 16 52 10.2
comp=Z,346µm,28.2s
TBI Tubuai 67.93 256 *e*T T 17 44 41.6
comp=Z,10nm,0.2s
TAOE Nuku Hiva Isla 67.95 275 *e*P **P** **16 31 34.3 -0.2**
comp=Z,240nm,0.8s
TAOE *ep*P **pP** **16 31 55.7 -2.1**
comp=Z,628nm,1.4s
TAOE *e*S **S** **16 40 23.9 -2.7**
comp=Z,5µm,23.5s
TAOE Nuku Hiva Isla 67.95 275 *e*LR LR 16 52 11.1
comp=Z,19µm,31.4s
TAOE Nuku Hiva Isla 67.95 275 P **P** **16 31 32.9 -1.6**
TAOE lAmb lAmb 16 32 01.9
comp=Z,214nm,1.1s
TAOE Nuku Hiva Isla 67.95 275 P **P** **16 31 35.5 +1.0**
TAOE pP **PcP** **16 31 59.4 -0.9**
250A Grady 68.24 346 P **P** **16 31 36.4 +0.7**
baz=167,SNR=19
154A Montrose 68.29 349 P **P** **16 31 37.0 +1.0**
baz=169,SNR=24
346A Big Creek Wild 68.37 343 P **P** **16 31 35.1 -1.4**
346A Big Creek Wild 68.37 343 P **P** **16 31 38.4 +1.9**
baz=164,SNR=21
NHSC New Hope 68.38 352 P **P** **16 31 38.4 +1.9**
baz=172,SNR=8.8
NHSC New Hope 68.38 352 P **P** **16 31 37.3 +0.8**
baz=172,SNR=8.8
735A Kenedy 68.45 335 P **P** **16 31 37.8 +0.7**
735A Kenedy 68.45 335 P **P** **16 31 39.2 +2.1**
baz=157,SNR=42
833A Chaparral WMA, 68.54 333 P **P** **16 31 39.9 +2.3**
baz=155,SNR=96
833A Chaparral WMA, 68.54 333 P **P** **16 31 38.4 +0.7**
baz=155,SNR=96
833A S **S** **16 40 34.8 +2.1**
baz=155
152A Waverly Hall 68.62 348 P **P** **16 31 38.4 +0.3**
baz=168,SNR=29
344A Westbrook Farm 68.74 342 P **P** **16 31 41.4 +2.6**
baz=163,SNR=9.1
441A DeRidder 68.74 340 P **P** **16 31 40.1 +1.2**
baz=161,SNR=7.5
HKT Hockley 68.80 337 P **P** **16 31 41.7 +2.6**
baz=158
HKT Hockley 68.80 337 P **P** **16 31 37.8 -1.4**
HKT pP **PcP** **16 32 03.8 +0.7**
HAW Hawthorne Fire 68.81 350 P **P** **16 31 39.7 +0.5**
baz=171,SNR=21
Y60A Bolivia 69.06 354 P **P** **16 31 42.0 +1.3**
baz=174,SNR=7.3
Y60A P **P** **16 31 42.0 +1.3**
baz=174,SNR=7.3
342B Flagon Creek P 69.09 341 P **P** **16 31 42.9 +1.9**
baz=162,SNR=26
Y58A Scranton 69.11 352 P **P** **16 31 42.1 +1.1**
baz=172,SNR=6.2
Y58A P **P** **16 31 42.1 +1.1**
baz=172,SNR=6.2
Y59A Loris 69.11 353 P **P** **16 31 42.1 +1.1**
baz=173
Y59A P **P** **16 31 42.1 +1.1**
baz=173
GOGA Godfrey 69.13 349 P **P** **16 31 39.4 -1.8**
GOGA lAmb lAmb 16 31 42.3
comp=Z,181nm,1.1s
GOGA Godfrey 69.13 349 P **P** **16 31 42.2 +1.0**
baz=169,SNR=52
GOGA Godfrey 69.13 349 P **P** **16 31 40.2 -1.0**
baz=169,SNR=52
GOGA S **S** **16 40 36.3 -3.2**
baz=169
GOGA Godfrey 69.13 349 P **P** **16 31 39.4 -1.8**
GOGA pmax pmax
comp=Z,181nm,1.1s
SLBS Sierra La Lagu 69.15 322 P **P** **16 31 40.5 -1.2**
SLBS lAmb lAmb 16 31 45.1
comp=Z,236nm,1.1s
SLBS Sierra La Lagu 69.15 322 P **P** **16 31 42.9 +1.3**
Y57A Sumter 69.30 352 P **P** **16 31 42.9 +0.7**
baz=172,SNR=5.2
Y57A P **P** **16 31 42.9 +0.7**
baz=172,SNR=5.2
Z51A Franklin 69.33 347 P **P** **16 31 43.6 +1.2**
baz=168,SNR=13
LRAL Lakeview Retre 69.41 346 lAmb lAmb 16 31 44.4
comp=Z,176nm,1.1s
LRAL Lakeview Retre 69.41 346 P **P** **16 31 43.7 +0.8**
baz=166,SNR=50
LRAL Lakeview Retre 69.41 346 P **P** **16 31 43.5 +0.6**
baz=166,SNR=50
LRAL S **S** **16 40 41.3 -1.4**
baz=166
VBMS Vicksburg 69.42 342 P **P** **16 31 44.7 +1.7**
baz=163,SNR=20
VBMS Vicksburg 69.42 342 P **P** **16 31 43.2 +0.2**
baz=163,SNR=20
VBMS S **S** **16 40 43.6 +0.7**
baz=163
146A Union 69.47 344 P **P** **16 31 45.1 +1.8**
baz=164,SNR=28
MEH Mehetia 69.59 262 *e*P **P** **16 31 44.7 +0.2**
comp=Z,62nm,1.2s
MEH *ep*P **PcP** **16 32 06.4 -0.6**
comp=Z,86nm,1.3s
Y52A Lilburn 69.67 348 lAmb lAmb 16 31 46.5
comp=Z,321nm,1.1s
Y52A Lilburn 69.67 348 P **P** **16 31 45.1 +0.6**
baz=169,SNR=50
Y52A P **P** **16 31 45.1 +0.6**
baz=169,SNR=50
LPIG La Paz 69.68 322 P **P** **16 31 45.1 +0.3**
comp=Z,109nm,0.6s,baz=6.4,slow=1.0,SNR=15
comp=Z,109nm,0.6s
CCD Concordia, Ant 69.69 184 P **P** **16 31 45.6 +0.9**
CCD pP **pP** **16 32 08.2 -0.3**
X58A Rowland 69.71 353 P **P** **16 31 46.1 +1.3**
baz=173,SNR=12
X58A P **P** **16 31 46.1 +1.3**
baz=173,SNR=12
HODGE Hodges 69.76 350 P **P** **16 31 44.0 -1.0**
HODGE Hodges 69.76 350 P **P** **16 31 45.6 +0.6**
baz=170,SNR=27
Z47A Carrollton 69.79 345 P **P** **16 31 46.4 +1.2**
baz=165,SNR=40
HPIG 69.87 327 lAmb lAmb 16 31 51.0
comp=Z,208nm,0.9s
Y49A Blount Mountai 70.09 346 lAmb lAmb 16 31 50.0
comp=Z,240nm,1.3s
Y49A Blount Mountai 70.09 346 P **P** **16 31 47.6 +0.5**
baz=167,SNR=42
143A Socs Landing, 70.10 342 P **P** **16 31 48.7 +1.5**
baz=162,SNR=29
NATX Nacogdoches 70.12 339 P **P** **16 31 49.4 +2.0**
baz=160,SNR=40
NATX Nacogdoches 70.12 339 P **P** **16 31 48.1 +0.8**
baz=160,SNR=40
NATX S **S** **16 40 54.6 +3.4**
baz=160
435B Jarrell 70.14 336 P **P** **16 31 49.0 +1.5**
baz=157,SNR=16
435B Jarrell 70.14 336 P **P** **16 31 48.0 +0.5**
baz=157
435B S **S** **16 40 52.7 +1.2**
baz=157
CNNC Cliffs of the 70.25 354 P **P** **16 31 49.4 +1.3**
baz=174,SNR=6.8
CNNC Cliffs of the 70.25 354 P **P** **16 31 48.2 +0.1**
baz=174,SNR=6.8
PAULI Pauline 70.27 351 P **P** **16 31 48.6 +0.4**
baz=171,SNR=41
W57A Gilead 70.38 352 P **P** **16 31 47.4 -1.4**
W57A Gilead 70.38 352 P **P** **16 31 49.7 +0.9**
baz=172,SNR=29
W57A P **P** **16 31 49.7 +0.9**
baz=172,SNR=29
X51A Calhoun 70.49 348 P **P** **16 31 50.5 +1.0**
baz=168,SNR=90
X51A P **P** **16 31 50.5 +1.0**
baz=168,SNR=90
KMSC Kings Mountain 70.53 351 P **P** **16 31 50.8 +1.1**
baz=171,SNR=31
KMSC Kings Mountain 70.53 351 P **P** **16 31 50.3 +0.6**
baz=171,SNR=31
KMSC S **S** **16 40 53.6 -2.2**
baz=171
BG3 Lake Jocassee 70.60 350 lAmb lAmb 16 31 53.3
comp=Z,262nm,1.2s
CASEE Lake Jocassee 70.60 350 P **P** **16 31 49.9 -0.4**
baz=170,SNR=58
FPAL Fort Paine 70.60 347 lAmb lAmb 16 31 51.5
comp=Z,189nm,1.1s
VAH Vaihoa 70.61 265 *e*P **P** **16 31 50.3 -0.5**
comp=Z,112nm,1.1s
VAH *ep*P **pP** **16 32 13.2 -1.0**
comp=Z,342nm,1.4s
JCT Junction City 70.64 334 P **P** **16 31 52.2 +1.6**
baz=155,SNR=148
JCT Junction City 70.64 334 P **P** **16 31 51.0 +0.4**
baz=155,SNR=148
JCT S **S** **16 40 58.8 +1.4**
baz=155
237A Washetta, Mont 70.69 338 P **P** **16 31 52.4 +1.6**
baz=159,SNR=62
V61A Roper 70.70 355 P **P** **16 31 52.7 +2.0**
baz=175
V61A P **P** **16 31 52.7 +2.0**
baz=175
Y45A Yeager Farm, C 70.76 344 P **P** **16 31 52.7 +1.6**
baz=164,SNR=41
X48A Hartselle 70.79 346 lAmb lAmb 16 31 53.8
comp=Z,400nm,1.1s
X48A Hartselle 70.79 346 P **P** **16 31 52.7 +1.4**
baz=166,SNR=131
TIAR Tiarei 70.79 262 *e*P **P** **16 31 54.5 +2.6**
comp=Z,16nm,0.7s
W52A Murphy 70.85 349 P **P** **16 31 52.5 +0.8**
baz=169,SNR=24
V58A Windy Hill, Pi 70.92 353 lAmb lAmb 16 31 54.9
comp=Z,197nm,1.1s
V58A Windy Hill, Pi 70.92 353 P **P** **16 31 52.3 +0.3**
baz=173,SNR=25
V58A P **P** **16 31 52.3 +0.3**
baz=173,SNR=25
PAE Paea 70.93 261 *e*P **P** **16 31 52.2 -0.5**
comp=Z,98nm,1.3s
PAE *ep*P **PcP** **16 32 14.2 +1.5**
comp=Z,92nm,1.3s
PPTF Pamatai, Papee 70.95 262 P **P** **16 31 52.7 -0.2**
PPTF lAmb lAmb 16 32 34.1
comp=Z,269nm,1.0s
PPTF Pamatai, Papee 70.95 262 P **P** **16 31 53.3 +0.4**
PPTF pP **pP** **16 32 19.2 +2.8**
PPT2 Papeete2 70.96 262 *e*P **P** **16 31 54.0 +1.0**
comp=Z,270nm,1.3s
PPT2 *ep*P **pP** **16 32 15.5 -0.9**
comp=Z,362nm,1.3s
PPT2 *e*S **S** **16 41 00.0 -1.9**
comp=Z,7µm,24.5s
PPT2 Papeete2 70.96 262 *e*LR LR 16 53 34.5
comp=Z,34µm,28.5s
PPT2 *e*LR LR 16 53 34.5
comp=Z,23µm,31.2s
PPT Papeete 70.97 262 P **P** **16 31 54.1 +1.2**
comp=Z,150nm,0.6s,baz=74,slow=9.8,SNR=16
PPT LR LR 16 55 31.1
comp=Z,6µm,19.5s,baz=110,slow=29
comp=Z,150nm,0.6s
TXAR Lajitas Array 71.11 330 P **P** **16 31 54.0 +0.5**
comp=Z,125nm,0.6s,baz=151,slow=8.1,SNR=168
TXAR pP **pP** **16 32 18.4 +1.4**
comp=Z,41nm,0.6s,baz=155,slow=7.6,SNR=3.8
TXAR LR LR 16 58 13.8
comp=Z,5µm,20.2s,baz=140,slow=32
TXAR PKPPKP **P'P'df** **16 59 49.2 +3.0**
comp=Z,0.9nm,0.9s,baz=318,slow=7.4,SNR=4.6
comp=Z,125nm,0.6s
TX31 Lajitas Ar. Si 71.11 330 P **P** **16 31 55.2 +1.6**
baz=152,SNR=238
TX32 Lajitas Array 71.11 330 lAmb lAmb 16 31 58.2
comp=Z,151nm,0.7s
W50A Signal Mountai 71.19 348 lAmb lAmb 16 31 55.3
comp=Z,293nm,1.1s
W50A Signal Mountai 71.19 348 P **P** **16 31 55.2 +1.4**
baz=168,SNR=68
WHTX Lake Whitney, 71.21 336 P **P** **16 31 55.5 +1.6**
baz=157,SNR=68
WHTX Lake Whitney, 71.21 336 P **P** **16 31 54.2 +0.3**
baz=157,SNR=68
WHTX S **S** **16 41 04.2 +0.4**
baz=157
V55A Taylorsville 71.21 351 lAmb lAmb 16 31 55.2
comp=Z,220nm,1.1s
V55A Taylorsville 71.21 351 P **P** **16 31 54.7 +0.9**
baz=171,SNR=47
V55A P **P** **16 31 54.7 +0.9**
baz=171,SNR=47
V53A Saluda 71.25 350 lAmb lAmb 16 31 56.0
comp=Z,257nm,1.2s
V53A Saluda 71.25 350 P **P** **16 31 54.7 +0.6**
baz=170,SNR=68
V53A P **P** **16 31 54.7 +0.6**
baz=170,SNR=68
OXF Oxford 71.35 344 P **P** **16 31 55.4 +0.7**
baz=164
CCAR Cane Creek 71.35 342 P **P** **16 31 56.9 +2.2**
baz=162,SNR=6.8
U59A Littleton 71.35 354 P **P** **16 31 56.0 +1.3**
baz=174,SNR=25
U59A P **P** **16 31 56.0 +1.3**
baz=174,SNR=25
TKL Tuckaleechee C 71.38 349 LR LR 17 02 23.7
comp=Z,2µm,21.5s,baz=162,slow=35
TKL Tuckaleechee C 71.38 349 P **P** **16 31 55.3 +0.4**
baz=169,SNR=32
BBTS Babate 71.46 56 LR LR 17 01 32.0
comp=Z,6µm,21.9s,baz=236,slow=34
PLAL Pickwick Lake 71.51 345 lAmb lAmb 16 31 58.5
comp=Z,521nm,1.4s
V52A Sevierville 71.53 349 lAmb lAmb 16 31 56.7
comp=Z,203nm,1.2s
V52A Sevierville 71.53 349 P **P** **16 31 55.6 -0.2**
baz=169,SNR=31
U56A King 71.60 352 P **P** **16 31 56.6 +0.4**
baz=172,SNR=21
U56A P **P** **16 31 56.6 +0.4**
baz=172,SNR=21
V51A Loudon 71.62 349 lAmb lAmb 16 31 59.0
comp=Z,251nm,1.2s
V51A Loudon 71.62 349 P **P** **16 31 56.7 +0.4**
baz=168,SNR=35
Z38A Mt. Pleasant 71.62 339 P **P** **16 31 58.0 +1.7**
baz=160,SNR=17
MAW Mawson 71.89 163 P **P** **16 31 58.3 +0.6**
comp=Z,92nm,0.8s,baz=229,slow=7.1,SNR=48
MAW pP **pP** **16 32 23.1 +1.2**
comp=Z,51nm,0.7s,baz=218,slow=11,SNR=3.2
MAW S **S** **16 41 12.9 +2.0**
comp=Z,6.5nm,1.1s,baz=324,slow=21,SNR=5.3
MAW LR LR 17 03 24.0
comp=Z,5µm,20.7s,baz=233,slow=36
comp=Z,92nm,0.8s
W45A Hickory Valley 71.92 344 P **P** **16 31 58.4 +0.3**
baz=164,SNR=25
CER Ceres 71.93 118 *e*P **P** **16 31 57.8 -0.8**
CER lAmb lAmb 16 32 02.7
comp=Z,348nm,1.2s
T59A Double "B" Far 71.95 354 lAmb lAmb 16 32 00.7
comp=Z,348nm,1.3s
T59A Double "B" Far 71.95 354 P **P** **16 31 59.6 +1.4**
baz=174,SNR=40
T59A P **P** **16 31 59.6 +1.4**
baz=174,SNR=40
U54A Nelsons Funny 71.95 351 lAmb lAmb 16 31 59.4
comp=Z,201nm,1.0s
U54A Nelsons Funny 71.95 351 P **P** **16 31 59.3 +1.0**
baz=171,SNR=37
U54A P **P** **16 31 59.3 +1.0**
baz=171,SNR=37
V48A Smith Brothers 71.99 346 P **P** **16 31 59.3 +0.8**
baz=166,SNR=172
T60A Surry 72.05 355 P **P** **16 32 00.2 +1.4**
baz=175
T60A P **P** **16 32 00.2 +1.4**
baz=175
T57A Hurt 72.12 353 P **P** **16 32 00.4 +1.1**
baz=173,SNR=18
T57A P **P** **16 32 00.4 +1.1**
baz=173,SNR=18
TZTN Tazewell 72.22 349 lAmb lAmb 16 32 35.3
comp=Z,396nm,1.6s
TZTN Tazewell 72.22 349 P **P** **16 32 00.9 +1.0**
baz=169,SNR=25
TZTN Tazewell 72.22 349 P **P** **16 31 59.3 -0.6**
baz=169,SNR=25
TZTN S **S** **16 41 12.5 -2.7**
baz=169
CLTN Cedars of Leba 72.24 347 lAmb lAmb 16 32 01.4
comp=Z,272nm,1.2s
Z35A Perchaven, San 72.38 337 P **P** **16 32 02.1 +1.2**
baz=158,SNR=92
MIAR Mount Ida 72.42 341 P **P** **16 32 02.4 +1.3**
baz=161,SNR=72
MIAR Mount Ida 72.42 341 P **P** **16 32 01.3 +0.2**
baz=161,SNR=72
MIAR S **S** **16 41 16.9 -0.7**
baz=161
BLA Blacksburg 72.46 352 P **P** **16 32 02.2 +0.8**
baz=172,SNR=9.5
BLA Blacksburg 72.46 352 P **P** **16 32 01.5 +0.1**
baz=172,SNR=9.5
BLA S **S** **16 41 16.5 -1.5**
baz=172
S61A Accomac 72.52 356 P **P** **16 32 00.3 -1.4**
baz=176
S61A P **P** **16 32 00.3 -1.4**
baz=176
ABTX Abilene, Hawle 72.53 335 P **P** **16 32 03.1 +1.3**
baz=156,SNR=133
ABTX Abilene, Hawle 72.53 335 P **P** **16 32 02.1 +0.3**
baz=156,SNR=133
ABTX S **S** **16 41 18.6 -0.4**
baz=156
U49A Red Boiling Sp 72.55 348 P **P** **16 32 02.2 +0.4**
baz=167,SNR=58
WVT Waverly 72.57 346 P **P** **16 32 00.6 -1.4**
WVT Waverly 72.57 346 P **P** **16 32 02.5 +0.6**
baz=166,SNR=233
WVT Waverly 72.57 346 P **P** **16 32 01.5 -0.5**
baz=166
WVT S **S** **16 41 16.8 -2.4**
baz=166
WVT Waverly 72.57 346 P **P** **16 32 00.6 -1.4**
WVT pmax pmax
comp=Z,797nm,1.1s
JSRW J. Sargeant Re 72.69 354 P **P** **16 32 02.9 +0.3**
WHAR Wooly Hollow 72.78 342 lAmb lAmb 16 32 05.7
comp=Z,401nm,1.3s
S57A Dark Hollow, R 72.85 353 P **P** **16 32 03.1 -0.5**
S57A lAmb lAmb 16 32 05.2
comp=Z,170nm,1.1s
S57A Dark Hollow, R 72.85 353 P **P** **16 32 04.5 +0.9**
baz=173,SNR=32
S57A P **P** **16 32 04.5 +0.9**
baz=173,SNR=32
T50A Nancy 72.89 348 P **P** **16 32 04.2 +0.4**
baz=168
T50A P **P** **16 32 04.2 +0.4**
baz=168
LNXT Lenox 72.89 344 P **P** **16 32 03.3 -0.6**
LNXT Lenox 72.89 344 P **P** **16 32 05.7 +1.8**
baz=164,SNR=12
MATJ Matjiesfontein 72.91 119 *e*P **P** **16 32 05.0 +0.5**
MATJ lAmb lAmb 16 32 08.7
comp=Z,487nm,1.2s
R58B Mineral 72.96 354 lAmb lAmb 16 32 06.3
comp=Z,336nm,1.6s
R58B Mineral 72.96 354 P **P** **16 32 06.0 +1.8**
baz=174,SNR=25
R58B P **P** **16 32 06.0 +1.8**
baz=174,SNR=25
X37A Clayton 72.97 339 lAmb lAmb 16 32 06.1
comp=Z,314nm,1.5s
X37A Clayton 72.97 339 P **P** **16 32 05.2 +0.8**
baz=159,SNR=33
S54A Dingess, Beckl 73.14 351 P **P** **16 32 03.8 -1.6**

S54A Dingess, Beckl 73.14 351 P P 16 32 06.4 +1.0
baz=171,SNR=23
S54A P P 16 32 06.4 +1.0
baz=171,SNR=23
R61A Willards 73.15 356 P P 16 32 07.4 +2.0
baz=176
R61A P P 16 32 07.4 +2.0
baz=176
CBN Corbin Frederi 73.16 355 P P 16 32 06.7 +1.4
baz=175
CBN Corbin Frederi 73.16 355 P P 16 32 05.0 -0.4
baz=175
CBN S S 16 41 26.8 +1.1
baz=175
CVNA Calvinia 73.23 117 *e*P P 16 32 06.9 +0.5
CVNA IAmb IAmb 16 32 09.8
comp=Z,1µm,1.8s
LCAR Lake Charles 73.24 343 P P 16 32 05.4 -0.5
baz=163,SNR=269
T47A Sharon Grove 73.26 347 IAmb IAmb 16 32 08.7
comp=Z,283nm,1.1s
T47A Sharon Grove 73.26 347 P P 16 32 06.2 +0.2
baz=166,SNR=68
S51A Beattyville 73.30 350 IAmb IAmb 16 32 07.4
comp=Z,191nm,1.1s
S51A Beattyville 73.30 350 P P 16 32 06.7 +0.4
baz=169,SNR=34
S51A P P 16 32 06.7 +0.4
baz=169,SNR=34
FCAR Ozark Folk Cen 73.31 342 IAmb IAmb 16 32 09.8
comp=Z,202nm,1.0s
R55A Marlinton 73.48 352 IAmb IAmb 16 32 09.3
comp=Z,250nm,1.1s
R55A Marlinton 73.48 352 P P 16 32 08.0 +0.6
baz=172,SNR=34
R55A P P 16 32 08.0 +0.6
baz=172,SNR=34
SUR Sutherland 73.53 118 P P 16 32 09.7 +1.4
comp=Z,88nm,0.7s,baz=230,slow=4.4,SNR=6.3
SUR S S 16 41 30.5 -0.7
comp=Z,15nm,1.2s,baz=97,slow=15,SNR=2.2
comp=Z,88nm,0.7s
SUR Sutherland 73.53 118 P P 16 32 07.0 -1.3
SUR IAmb IAmb 16 32 14.3
comp=Z,237nm,1.2s
SUR Sutherland 73.53 118 P P 16 32 10.1 +1.9
T45B Paducah 73.59 345 P P 16 32 08.5 +0.6
baz=165,SNR=11
R53A Hurricane 73.75 351 P P 16 32 08.5 -0.4
baz=171,SNR=14
R53A P P 16 32 08.5 -0.4
baz=171,SNR=14
PBMO Poplar Bluff 73.75 344 P P 16 32 07.1 -1.8
baz=164,SNR=11
MERW Merweville 73.89 119 *e*P P 16 32 10.4 +0.1
MERW IAmb IAmb 16 32 13.2
comp=Z,1µm,1.9s
R50A Paris 74.04 349 P P 16 32 09.0 -1.6
R50A Paris 74.04 349 P P 16 32 11.4 +0.8
baz=169,SNR=32
R50A P P 16 32 11.4 +0.8
baz=169,SNR=32
CGM3 Cape Girardeau 74.08 345 IAmb IAmb 16 32 11.9
comp=Z,196nm,1.2s
Q56A Snyder Ridge, 74.14 353 P P 16 32 12.0 +0.9
baz=173
Q56A P P 16 32 12.0 +0.9
baz=173
T42A Van Buren 74.15 343 P P 16 32 11.7 +0.5
baz=163
HHAR Hobbs 74.15 341 IAmb IAmb 16 32 12.8
comp=Z,231nm,1.1s
WMOK Wichita Mounta 74.17 336 IAmb IAmb 16 32 13.7
comp=Z,233nm,1.3s
WMOK Wichita Mounta 74.17 336 P P 16 32 12.3 +0.9
baz=157,SNR=121
WMOK Wichita Mounta 74.17 336 P P 16 32 10.9 -0.5
baz=157,SNR=121
WMOK S S 16 41 34.7 -2.7
baz=157
R49A Shelbyville 74.18 348 P P 16 32 10.3 -1.1
baz=168,SNR=31
R49A P P 16 32 10.3 -1.1
baz=168,SNR=31
FRAZ Fraserburg 74.20 118 *e*P P 16 32 12.1 0.0
FRAZ IAmb IAmb 16 32 16.5
comp=Z,801nm,1.5s
Q54A Coxs Mills 74.26 352 P P 16 32 12.5 +0.7
baz=172,SNR=12
Q54A P P 16 32 12.5 +0.7
baz=172,SNR=12
LIC Lamto 74.28 71⇑ *e*P P 16 32 12.5 -0.1
comp=Z,332nm,0.7s
WCI Wyandotte Cave 74.31 348 P P 16 32 11.7 -0.4
baz=167,SNR=13
WCI Wyandotte Cave 74.31 348 P P 16 32 11.8 -0.3
baz=167
WCI S S 16 41 35.8 -3.0
baz=167
SDMD Soldier's Deli 74.32 355 P P 16 32 13.5 +1.3
baz=175,SNR=11
TUL1 Leonard 74.32 339 IAmb IAmb 16 32 15.9
comp=Z,315nm,1.0s
TUL1 Leonard 74.32 339 P P 16 32 13.3 +1.0
baz=159,SNR=54
TUL1 Leonard 74.32 339 P P 16 32 12.0 -0.3
baz=159,SNR=54
TUL1 S S 16 41 37.7 -1.4
baz=159
RLO Rose Lookout 74.34 340 IAmb IAmb 16 32 13.9
comp=Z,165nm,1.1s
S44A Carbondale 74.37 345 P P 16 32 12.9 +0.4
baz=165,SNR=30
SIUC Southern Illin 74.38 345 IAmb IAmb 16 32 15.9
comp=Z,221nm,1.1s
Q52A Bidwell 74.41 351 IAmb IAmb 16 32 47.5
comp=Z,321nm,1.4s
Q52A Bidwell 74.41 351 P P 16 32 12.7 0.0
baz=170,SNR=36
Q52A P P 16 32 12.7 0.0
baz=170,SNR=36
KIDD KIDD Seismic O 74.42 329 P P 16 32 14.3 +1.3
baz=150,SNR=15
U38A Gravette 74.42 341 P P 16 32 13.7 +0.8
baz=160,SNR=18
CPRX Cap Rock 74.45 332 P P 16 32 12.8 -0.5
P61A Hammonton 74.47 357 P P 16 32 15.0 +2.0
baz=177
P61A P P 16 32 15.0 +2.0
baz=177
DEOK Depew 74.47 339 IAmb IAmb 16 32 15.3
comp=Z,572nm,1.2s
P57A Homestead Farm 74.48 354 P P 16 32 14.8 +1.8
baz=174,SNR=30
P57A P P 16 32 14.8 +1.8
baz=174,SNR=30
MGMO Mountain Grove 74.55 342 IAmb IAmb 16 32 15.2
comp=Z,218nm,1.1s
TIC Toumodi 74.55 70⇑ *e*P P 16 32 14.4 +0.3
comp=Z,123nm,0.6s
KIC Kosan Boka 74.59 71 *e*P P 16 32 14.0 -0.4
comp=Z,112nm,0.4s
Q51A Peebles 74.62 350 IAmb IAmb 16 32 15.7
comp=Z,214nm,1.1s
Q51A Peebles 74.62 350 P P 16 32 14.4 +0.4
baz=170,SNR=38
Q51A P P 16 32 14.4 +0.4
baz=170,SNR=38
BCOK Bluff Creek, N 74.64 338 IAmb IAmb 16 32 15.7
comp=Z,365nm,1.1s
GEDE Greenville 74.64 356 P P 16 32 15.6 +1.6
baz=176,SNR=17
OK031 S. Brethren Rd 74.67 338 P 16 32 13.5 -0.8
MCWV Mont Chateau 74.82 353 P P 16 32 16.0 +0.9
baz=172,SNR=5.1
MCWV Mont Chateau 74.82 353 P P 16 32 15.7 +0.7
baz=172,SNR=5.1
MCWV S S 16 41 43.0 -1.4
baz=172
P53A Whipple 74.82 352 P P 16 32 14.5 -0.6
baz=171,SNR=15
P53A P P 16 32 14.5 -0.6
baz=171,SNR=15
QUOK Quay 74.84 339 IAmb IAmb 16 32 17.7
comp=Z,600nm,1.2s
MSTX Muleshoe 74.87 333 IAmb IAmb 16 32 17.6
comp=Z,407nm,1.2s
MSTX Muleshoe 74.87 333 P P 16 32 17.2 +1.5
baz=154,SNR=43
MSTX Muleshoe 74.87 333 P P 16 32 15.8 +0.1
baz=154,SNR=43
MSTX S S 16 41 46.9 +1.4
baz=154
CSTR Hydro, Custer 74.97 337 IAmb IAmb 16 32 20.3
comp=Z,27nm,0.8s
TUPA Temple Univers 74.97 357 P P 16 32 17.6 +1.7
baz=176,SNR=13
P51A Williamsport 75.03 350 IAmb IAmb 16 32 17.9
comp=Z,329nm,1.3s
P51A Williamsport 75.03 350 P P 16 32 16.7 +0.5
baz=170,SNR=24
P51A P P 16 32 16.7 +0.5
baz=170,SNR=24
P52A Corning 75.06 351 P P 16 32 15.0 -1.4
P52A IAmb IAmb 16 32 18.0
comp=Z,310nm,1.3s
P52A Corning 75.06 351 P P 16 32 16.8 +0.4
baz=171,SNR=10.0
P52A S S 16 41 43.2 -3.8
baz=171
OLIL Olney 75.14 346 P P 16 32 16.7 -0.2
baz=166,SNR=21
CCM Cathedral Cave 75.16 344 P P 16 32 16.8 -0.3
CCM Cathedral Cave 75.16 344 P P 16 32 17.8 +0.7
baz=163,SNR=260
CCM Cathedral Cave 75.16 344 P P 16 32 16.9 -0.2
baz=163
CCM S S 16 41 46.5 -1.7
baz=163
CCM Cathedral Cave 75.16 344 P P 16 32 16.8 -0.3
CCM pmax pmax
comp=Z,530nm,1.1s
PANJ Princeton 75.16 357 P P 16 32 18.0 +1.0
baz=177
OK049 E0421 Rd and N 75.23 338 IAmb IAmb 16 32 21.9
comp=Z,270nm,0.8s
319A Douglas 75.29 327 IAmb IAmb 16 32 23.5
comp=Z,260nm,0.9s
AMTX Amarillo 75.29 334 P P 16 32 19.6 +1.6
baz=154,SNR=192
AMTX Amarillo 75.29 334 P P 16 32 18.2 +0.2
baz=154
AMTX S S 16 41 48.8 -1.3
baz=154
P49A Miami Univ. Ec 75.32 349 IAmb IAmb 16 32 19.4
comp=Z,266nm,1.2s
P49A Miami Univ. Ec 75.32 349 P P 16 32 18.4 +0.4
baz=168,SNR=30
P49A Miami Univ. Ec 75.32 349 P P 16 32 17.2 -0.8
baz=168,SNR=30
P49A S S 16 41 47.5 -2.5
baz=168
P48A Milroy 75.36 348 IAmb IAmb 16 32 19.4
comp=Z,386nm,1.2s
P48A Milroy 75.36 348 P P 16 32 18.4 +0.2
baz=168,SNR=57
P48A P P 16 32 18.4 +0.2
baz=168,SNR=57
O54A Avella 75.39 353 P P 16 32 19.2 +0.9
baz=172,SNR=8.8
O54A P P 16 32 19.2 +0.9
baz=172,SNR=8.8
BRNJ Basking Ridge 75.46 357 P P 16 32 18.5 -0.2
BRNJ Basking Ridge 75.46 357 P P 16 32 20.9 +2.2
baz=177,SNR=12
T35B Sooner Cattle 75.47 339 P P 16 32 19.9 +1.0
baz=159,SNR=13
Q44A Meyer Farm, Va 75.49 346 P P 16 32 18.8 0.0
baz=165,SNR=18
SLM Saint Louis 75.49 345 P P 16 32 19.5 +0.6
baz=164,SNR=14
O52A Adamsville 75.49 351 P P 16 32 18.3 -0.6
baz=171,SNR=26
O52A P P 16 32 18.3 -0.6
baz=171,SNR=26
BLOK Blackwell 75.53 338 P P 16 32 18.4 -0.9
BLOK IAmb IAmb 16 32 21.2
comp=Z,342nm,1.1s
O53A New Philadelph 75.55 352 P P 16 32 19.2 0.0
baz=171,SNR=17
O53A S S 16 41 49.4 -3.1
baz=171
ELIS Ellis County 75.59 337 IAmb IAmb 16 32 22.7
comp=Z,413nm,1.2s
SSPA Standing Stone 75.61 355 P P 16 32 18.5 -1.1
SSPA Standing Stone 75.61 355 P P 16 32 20.9 +1.3
baz=174,SNR=17
SSPA Standing Stone 75.61 355 P P 16 32 19.4 -0.2
baz=174
SSPA S S 16 41 52.6 -0.5
baz=174
FOR Fordham 75.62 358 P P 16 32 20.8 +1.2
baz=178
121A Cookes Peak, D 75.62 328 IAmb IAmb 16 32 25.4
comp=Z,336nm,1.1s
121A Cookes Peak, D 75.62 328 P P 16 32 22.8 +2.8
baz=150,SNR=149
121A Cookes Peak, D 75.62 328 P P 16 32 21.1 +1.1
baz=150,SNR=149
121A S S 16 41 56.4 +2.5
baz=150
R40A Maddies Statio 75.63 343 P P 16 32 20.7 +0.9
baz=162,SNR=302
N62A Caumsett State 75.67 358 P P 16 32 21.7 +1.8
baz=178
N62A P P 16 32 21.7 +1.8
baz=178
N58A Sunbury 75.73 355 P P 16 32 21.6 +1.4
baz=175,SNR=16
N58A P P 16 32 21.6 +1.4
baz=175,SNR=16
U32A Winter Ranch, 75.74 337 P P 16 32 22.0 +1.6
baz=157,SNR=23
ACSO Alum Creek Sta 75.75 351 IAmb IAmb 16 32 21.5
comp=Z,210nm,0.9s
ACSO Alum Creek Sta 75.75 351 P P 16 32 20.9 +0.5
baz=170,SNR=37
ACSO Alum Creek Sta 75.75 351 P P 16 32 19.6 -0.8
baz=170,SNR=37
ACSO S S 16 41 52.0 -2.8
baz=170
PAL Palisades 75.76 358 P P 16 32 22.0 +1.6
baz=178
PAL Palisades 75.76 358 P P 16 32 21.0 +0.6
baz=178
PAL S S 16 41 56.0 +1.3
baz=178
P46A Rosedale 75.83 347 IAmb IAmb 16 32 21.9
comp=Z,215nm,1.0s
P46A Rosedale 75.83 347 P P 16 32 19.1 -1.7
baz=166,SNR=34
ODNJ Ogdensburg 75.86 357 P P 16 32 22.6 +1.6
baz=177,SNR=16
OK032 Salt Plains WL 75.88 338 IAmb IAmb 16 32 23.2
comp=Z,398nm,1.1s
O49A Covington 75.90 349 IAmb IAmb 16 32 22.2
comp=Z,282nm,1.1s
O49A Covington 75.90 349 P P 16 32 20.0 -1.3
baz=169,SNR=37
O49A P P 16 32 20.0 -1.3
baz=169,SNR=37
N53A Lisbon 76.06 352 P P 16 32 22.6 +0.5
baz=172,SNR=22
N53A P P 16 32 22.6 +0.5
baz=172,SNR=22
KS20 Mayfield South 76.07 338 IAmb IAmb 16 32 25.0
comp=Z,395nm,1.1s
O48B Farmland 76.10 349 P P 16 32 21.2 -1.1
baz=168,SNR=27
O48B Farmland 76.10 349 P P 16 32 21.2 -1.1
baz=168,SNR=27
O48B S S 16 41 55.0 -3.5
baz=168
BRNY Black Rk. Fore 76.17 358 P P 16 32 24.7 +2.0
baz=178,SNR=7.2
M57A Sunshine Farm, 76.25 355 P P 16 32 24.5 +1.3
baz=175,SNR=14
M57A P P 16 32 24.5 +1.3
baz=175,SNR=14
P43A Skaggs, Pawnee 76.30 345 IAmb IAmb 16 32 27.2
comp=Z,270nm,0.7s
P43A Skaggs, Pawnee 76.30 345 P P 16 32 22.9 -0.6
baz=164,SNR=40
N51A Ashland 76.35 351 IAmb IAmb 16 32 25.4
comp=Z,324nm,1.2s
N51A Ashland 76.35 351 P P 16 32 24.6 +0.8
baz=170,SNR=22
N51A P P 16 32 24.6 +0.8
baz=170,SNR=22
KSPA Keystone Colle 76.39 356 P P 16 32 23.2 -0.8
KSPA Keystone Colle 76.39 356 P P 16 32 25.1 +1.1
baz=176,SNR=12
KSCT Kent School, K 76.47 358 P P 16 32 22.9 -1.5
Y22A Socorro 76.48 330 P P 16 32 27.0 +2.1
baz=150,SNR=48
M55A Ridgway 76.51 354 IAmb IAmb 16 32 26.2
comp=Z,165nm,1.1s
M55A Ridgway 76.51 354 P P 16 32 25.5 +0.8
baz=174,SNR=26
M55A P P 16 32 25.5 +0.8
baz=174,SNR=26
NPNY Mohonk Preserv 76.52 358 P P 16 32 26.3 +1.7
baz=177,SNR=20
SFIN Lafayette 76.55 347 P P 16 32 23.7 -1.2
baz=166,SNR=21
SFIN Lafayette 76.55 347 P P 16 32 23.7 -1.2
baz=166,SNR=21
SFIN S S 16 41 58.9 -4.4
baz=166
O44A Mansfield 76.58 346 IAmb IAmb 16 32 28.2
comp=Z,176nm,0.9s
O44A Mansfield 76.58 346 P P 16 32 24.3 -0.8
baz=165,SNR=18
Y22D IRIS PASSCAL I 76.59 330 P P 16 32 26.2 +0.7
baz=150
Y22F Passcal Instru 76.59 330 P P 16 32 26.5 +1.0
baz=150
N49A Columbus Grove 76.60 350 IAmb IAmb 16 32 26.2
comp=Z,269nm,1.1s
N49A Columbus Grove 76.60 350 P P 16 32 24.5 -0.7
baz=169,SNR=37
N49A P P 16 32 24.5 -0.7
baz=169,SNR=37
L64A Middleborough 76.64 0 P P 16 32 26.9 +1.5
baz=180,SNR=10
L64A P P 16 32 26.9 +1.5
baz=180,SNR=10
M53A WI Miller and 76.67 353 P P 16 32 24.6 -0.9
baz=172,SNR=17
M53A S S 16 42 03.1 -1.6
baz=172
LENM Lemitar 76.69 330 P P 16 32 25.6 -0.5
P40A Paris 76.75 343 P P 16 32 25.9 -0.2
baz=162,SNR=132
TUC Tucson 76.76 326 P P 16 32 25.3 -1.1
TUC IAmb IAmb 16 32 29.5
comp=Z,263nm,1.4s
TUC Tucson 76.76 326 P P 16 32 27.3 +0.9
baz=148
TUC Tucson 76.76 326 P P 16 32 25.3 -1.1
TUC pmax pmax
comp=Z,263nm,1.4s
N47A Urbana 76.79 349 P P 16 32 24.9 -1.3
baz=168,SNR=36
N47A P P 16 32 24.9 -1.3
baz=168,SNR=36
ALLY Alegheny Colle 76.82 353 P P 16 32 27.0 +0.6
baz=172,SNR=7.8
M52A Chesterland 76.84 352 P P 16 32 27.1 +0.6
baz=171,SNR=12
M52A P P 16 32 27.1 +0.6
baz=171,SNR=12
M50A Fremont 76.92 351 IAmb IAmb 16 32 27.9
comp=Z,220nm,1.2s
M50A Fremont 76.92 351 P P 16 32 27.3 +0.4
baz=170,SNR=14
M50A P P 16 32 27.3 +0.4
baz=170,SNR=14
L59A Walton 76.99 357 P P 16 32 26.4 -1.0
L59A IAmb IAmb 16 32 29.5
comp=Z,163nm,1.1s
L59A Walton 76.99 357 P P 16 32 28.8 +1.4
baz=177,SNR=28
L59A P P 16 32 28.8 +1.4
baz=177,SNR=28
QUA2 Belchertown 77.00 359 P P 16 32 29.2 +1.9
baz=179,SNR=14
BINY Binghamton 77.04 356 P P 16 32 28.8 +1.1
baz=176,SNR=12
BINY Binghamton 77.04 356 P P 16 32 28.5 +0.8
baz=176,SNR=12
BINY S S 16 42 10.0 +1.2
baz=176
HOCHN Hochfeld 77.04 107 *i* P P 16 32 30.4 +1.9
HOCHN *i* S P 16 32 32.3 +3.7
L56A Greenwood 77.08 355 IAmb IAmb 16 32 30.3
comp=Z,286nm,1.3s
L56A Greenwood 77.08 355 P P 16 32 28.9 +1.0
baz=174,SNR=34
L56A P P 16 32 28.9 +1.0
baz=174,SNR=34
WES Weston 77.09 360 P P 16 32 28.5 +0.7
baz=180,SNR=12
HDIL Hopedale 77.13 346 P P 16 32 27.9 -0.3
baz=165,SNR=26
HDIL Hopedale 77.13 346 P P 16 32 27.4 -0.8
baz=165,SNR=26
HDIL S S 16 42 07.9 -1.9
baz=165
ANMO Albuquerque 77.16 331 LR LR 17 02 01.1
comp=Z,6µm,20.4s,baz=143,slow=32
ANMO Albuquerque 77.16 331 P P 16 32 29.6 +0.9
baz=151,SNR=135
ANMO Albuquerque 77.16 331 P P 16 32 29.1 +0.4
baz=151
ANMO S S 16 42 13.6 +2.9
baz=151
ANMO Albuquerque 77.16 331 ⇓ *i* P P 16 32 29.4 +0.7
ANMO pmax pmax
comp=Z,242nm,1.3s
L61B Northampton 77.17 359 P P 16 32 29.0 +0.6
baz=179,SNR=17
L61B Northampton 77.17 359 P P 16 32 28.6 +0.3
baz=179,SNR=17
L61B S S 16 42 11.9 +1.8
baz=179
RAR Rarotonga 77.20 253 LR LR 16 58 29.6
comp=Z,3µm,20.3s,baz=136,slow=29
P38A Dawn 77.20 342 P P 16 32 28.1 -0.5
baz=161,SNR=70
HRV Adam Dziewonsk 77.21 360 P P 16 32 30.4 +1.8
baz=180,SNR=13
HRV Adam Dziewonsk 77.21 360 P P 16 32 29.5 +1.0
baz=180
HRV S S 16 42 11.2 +0.7
baz=180
ERPA Erie 77.27 353 P P 16 32 29.6 +0.7
baz=172,SNR=11
ERPA Erie 77.27 353 P P 16 32 29.6 +0.7
baz=172,SNR=11
ERPA S S 16 42 08.7 -2.5
baz=172
K62A Royalston 77.38 359 P P 16 32 31.4 +1.8
baz=179,SNR=23
K62A P P 16 32 31.4 +1.8
baz=179,SNR=23
PIX Pinacate 77.39 324 P P 16 32 30.6 +0.7
214A Organ Pipe Nat 77.41 324 IAmb IAmb 16 32 33.5
comp=Z,229nm,1.1s
214A Organ Pipe Nat 77.41 324 P P 16 32 31.0 +1.0
baz=146,SNR=117
WVNY West Valley, N 77.43 354 IAmb IAmb 16 32 31.6
comp=Z,227nm,1.1s
WVNY West Valley, N 77.43 354 P P 16 32 30.8 +1.0
baz=174,SNR=29
HCNY Howe Caverns 77.47 357 P P 16 32 31.9 +1.9
baz=177,SNR=7.3
TRY Troy 77.48 358 P P 16 32 31.9 +1.9
baz=178,SNR=23
R32A Long Quarter, 77.52 338 P P 16 32 32.0 +1.6
baz=157,SNR=27
KSU1 Kansas State U 77.53 340 P P 16 32 30.5 +0.1
baz=159,SNR=22
KSU1 Kansas State U 77.53 340 P P 16 32 30.5 +0.1
baz=159,SNR=22
KSU1 S S 16 42 12.5 -1.6
baz=159
K57A Scipio Center 77.60 356 P P 16 32 30.1 -0.6
K57A Scipio Center 77.60 356 P P 16 32 30.9 +0.2
baz=175,SNR=8.4
N41A Harden Midland 77.61 345 P P 16 32 31.3 +0.5
baz=164,SNR=20
L48A N Adams 77.64 350 P P 16 32 30.9 -0.1
baz=169,SNR=19

L48A P P 16 32 30.9 -0.1
baz=169,SNR=19
M44A Midewin, Midew 77.70 347 P P 16 32 31.5 +0.2
baz=166,SNR=25
UNH University of 77.80 0 P P 16 32 33.4 +1.6
baz=180,SNR=8.0
AAM Ann Arbor 77.88 350 P P 16 32 32.5 +0.2
baz=169
AAM S S 16 42 15.2 -2.6
baz=169
OKAM Okamatapati 77.92 106 *i* P P 16 32 35.0 +1.6
OKAM *i* S P 16 32 38.4 +5.1
J61A Chester 78.06 359 P P 16 32 35.1 +1.8
baz=179,SNR=16
J61A P P 16 32 35.1 +1.8
baz=179,SNR=16
TSUM Tsumeb 78.07 105 LR LR 17 03 04.7
comp=Z2µm,20.3s,baz=234,slow=33
TSUM Tsumeb 78.07 105 P P 16 32 34.0 -0.2
ACCN Adirondack Com 78.13 358 P P 16 32 34.9 +1.2
baz=178,SNR=19
J58A Remsen 78.17 357 P P 16 32 34.5 +0.7
baz=176,SNR=10.0
J58A P P 16 32 34.5 +0.7
baz=176,SNR=10.0
J56A Wolcott 78.17 356 P P 16 32 34.5 +0.7
baz=175,SNR=11
J56A P P 16 32 34.5 +0.7
baz=175,SNR=11
FFD Franklin Falls 78.18 359 P P 16 32 35.3 +1.4
baz=179,SNR=10
CBKS Cedar Bluff 78.20 337 P P 16 32 36.0 +1.7
baz=156,SNR=19
CBKS Cedar Bluff 78.20 337 P P 16 32 34.9 +0.6
baz=156,SNR=19
CBKS S S 16 42 20.7 -0.8
baz=156
K50A Casco 78.21 351 P P 16 32 32.2 -1.9
K50A IAmb IAmb 16 33 10.7
comp=Z,199nm,0.7s
K50A Casco 78.21 351 P P 16 32 34.5 +0.4
baz=170,SNR=14
K50A P P 16 32 34.5 +0.4
baz=170,SNR=14
J55A Hilton 78.22 355 P P 16 32 34.8 +0.7
baz=174,SNR=5.8
J55A P P 16 32 34.8 +0.7
baz=174,SNR=5.8
N38A Joes South For 78.23 343 P P 16 32 34.0 -0.3
baz=162,SNR=60
J59A Piesco 78.24 357 P P 16 32 34.6 +0.3
baz=177,SNR=23
J59A P P 16 32 34.6 +0.3
baz=177,SNR=23
J57A Williamstown 78.25 356 IAmb IAmb 16 32 35.9
comp=Z,192nm,1.1s
J57A Williamstown 78.25 356 P P 16 32 34.5 +0.2
baz=176,SNR=29
J57A P P 16 32 34.5 +0.2
baz=176,SNR=29
J54A Appleton 78.29 354 pP pP 16 32 57.5 -1.0
J54A Appleton 78.29 354 P P 16 32 35.3 +0.7
baz=174,SNR=7.6
J54A P P 16 32 35.3 +0.7
baz=174,SNR=7.6
T25A Trinidad 78.29 333 P P 16 32 36.1 +1.1
baz=153,SNR=232
T25A S S 16 42 26.5 +3.6
baz=153
HNH Hanover 78.42 359 P P 16 32 37.2 +2.0
baz=179,SNR=15
L44A Lake County Fo 78.44 347 P P 16 32 36.0 +0.6
baz=166,SNR=5.1
L44A Lake County Fo 78.44 347 P P 16 32 34.9 -0.4
baz=166,SNR=5.1
I62A Tamworth 78.58 360 P P 16 32 38.0 +1.9
baz=180,SNR=7.1
I62A P P 16 32 38.0 +1.9
baz=180,SNR=7.1
L42A Oliver, Polo 78.60 346 IAmb IAmb 16 32 38.0
comp=Z,231nm,1.0s
L42A Oliver, Polo 78.60 346 P P 16 32 36.8 +0.5
baz=164,SNR=35
W18A Petrified Fore 78.67 328 P P 16 32 37.2 +0.1
W18A IAmb IAmb 16 32 40.2
comp=Z,333nm,1.2s
W18A Petrified Fore 78.67 328 P P 16 32 37.8 +0.7
baz=149,SNR=112
W18A S S 16 42 29.8 +2.9
baz=149
MCVT Middlebury Col 78.68 359 P P 16 32 38.2 +1.5
baz=178,SNR=14
NCB Newcomb 78.73 358 P P 16 32 38.0 +1.1
baz=177,SNR=15
I63A Otisfield 78.75 0 P P 16 32 39.4 +2.3
baz=180,SNR=21
I63A P P 16 32 39.4 +2.3
baz=180,SNR=21
BOSA Boshof 78.78 117 P P 16 32 37.6 -0.4
comp=Z,162nm,0.9s,baz=252,slow=3.4,SNR=95
BOSA S S 16 42 26.6 -2.1
comp=Z,3.6nm,1.1s,baz=292,slow=19,SNR=2.1
BOSA PKKPbc **PKKPbc** 16 51 32.6 +2.6
comp=Z,3.2nm,1.1s,baz=122,slow=17,SNR=1.7
BOSA LR LR 17 05 53.0
comp=Z,1µm,18.5s,baz=234,slow=34
comp=Z,162nm,0.9s
BOSA Boshof 78.78 117 IAmb IAmb 16 33 16.2
BOSA Boshof 78.78 117 *eP* P 16 32 37.6 -0.4
BOSA IAmb IAmb 16 32 41.3
comp=Z,295nm,1.1s
BOSA Boshof 78.78 117 *i* P P 16 32 37.5 -0.5
BOSA Boshof 78.78 117 *i* P P 16 32 37.5 -0.5
WCNY West Carthage 78.80 357 P P 16 32 38.6 +1.3
baz=176,SNR=28
PECO Prince Edward 78.83 356 IAmb IAmb 16 32 39.1
comp=Z,167nm,1.1s
N35A Tabor 78.91 341 P P 16 32 38.0 -0.1
baz=160,SNR=22
LBNH Lisbon 78.95 359 P P 16 32 40.0 +1.8
baz=179,SNR=21
LBNH Lisbon 78.95 359 P P 16 32 39.0 +0.8
baz=179,SNR=21
LBNH S S 16 42 31.5 +2.4
baz=179
J47A Sunmer 78.96 350 P P 16 32 35.9 -2.4
J47A Sunmer 78.96 350 P P 16 32 38.3 +0.1
baz=168,SNR=7.5
J47A P P 16 32 38.3 +0.1
baz=168,SNR=7.5
L40A Anamosa 78.98 345 P P 16 32 37.7 -0.7
baz=163,SNR=86
K43A Burlington 79.02 347 IAmb IAmb 16 32 41.2
comp=Z,175nm,1.1s
K43A Burlington 79.02 347 P P 16 32 39.0 +0.4
baz=166,SNR=13
SDCO Great Sand Dun 79.23 333 P P 16 32 41.0 +0.8
baz=152,SNR=226
SDCO Great Sand Dun 79.23 333 P P 16 32 41.0 +0.8
baz=152,SNR=226
SDCO S S 16 42 34.4 +1.3
baz=152
GLA Glamis 79.28 324 P P 16 32 41.3 +1.0
baz=145,SNR=24
WVL Waterville 79.28 1 P P 16 32 40.4 +0.5
baz=181,SNR=12
SCIA State Center 79.28 343 P P 16 32 40.7 +0.6
baz=162,SNR=14
SCIA State Center 79.28 343 P P 16 32 39.8 -0.2
baz=162,SNR=14
SCIA S S 16 42 30.4 -2.4
baz=162
N33B J Bar K, Exete 79.29 340 P P 16 32 41.3 +1.2
baz=158,SNR=14
KSCO Kaye Shedlock' 79.33 335 P P 16 32 42.7 +2.2
baz=154,SNR=21
KSCO Kaye Shedlock' 79.33 335 P P 16 32 41.8 +1.2
baz=154,SNR=21
LONY Lake Ozonia 79.39 357 P P 16 32 40.1 -0.4
LONY Lake Ozonia 79.39 357 P P 16 32 41.3 +0.7
baz=177,SNR=23
LONY S S 16 42 35.0 +1.2
baz=177
EMMW East Machias 79.47 3 P P 16 32 40.7 -0.3
EMMW East Machias 79.47 3 P P 16 32 42.8 +1.8
baz=183,SNR=8.5
YUH Yuha Desert 79.49 323 P P 16 32 41.8 +0.4
YUH IAmb IAmb 16 32 44.9
comp=Z,198nm,1.2s
KANON KANO 79.54 106 *i* P P 16 32 44.0 +1.7
KANON *i* S P 16 32 47.1 +4.8
IKP In-Ko-Pah, Jac 79.58 323 P P 16 32 44.3 +2.3
baz=144,SNR=44
JFWS Jewell Farm 79.60 346 IAmb IAmb 16 32 43.0
comp=Z,246nm,1.1s
JFWS Jewell Farm 79.60 346 P P 16 32 42.4 +0.7
baz=164,SNR=28
JFWS Jewell Farm 79.60 346 P P 16 32 41.3 -0.4
baz=164,SNR=28
JFWS S S 16 42 34.1 -2.0
baz=164
BMNY Brushton-Moira 79.61 357 P P 16 32 43.0 +1.3
baz=177,SNR=24
SWSC Sam W. Stewart 79.67 323 P P 16 32 43.6 +1.3
baz=144,SNR=34
BLYC Blythe 79.70 324 IAmb IAmb 16 32 48.1
comp=Z,220nm,0.9s
WUAZ Wupatki 79.72 327 IAmb IAmb 16 32 46.2
comp=Z,260nm,1.2s
WUAZ Wupatki 79.72 327 P P 16 32 44.1 +1.4
baz=147,SNR=102
S22A 4UR Ranch, Cre 79.74 332 P P 16 32 44.0 +1.0
baz=151,SNR=141
SADO Sadowa 79.82 354 LR LR 17 11 30.9
comp=Z,1µm,20.5s,baz=181,slow=38
K38A Parkersburg 79.88 344 P P 16 32 42.8 -0.5
baz=162,SNR=7.3
BAR Barrett 79.89 322 IAmb IAmb 16 32 46.9
comp=Z,175nm,1.1s
G62A West of Eustis 79.92 0 P P 16 32 45.1 +1.6
baz=180,SNR=21
G62A P P 16 32 45.1 +1.6
baz=180,SNR=21
MONP2 Monument Peak 79.94 322 P P 16 32 46.2 +2.1
baz=144,SNR=58
MVCO Mesa Verde 79.94 330 IAmb IAmb 16 32 46.9
comp=Z,223nm,1.1s
MVCO Mesa Verde 79.94 330 P P 16 32 44.9 +0.9
baz=150,SNR=100
MVCO S S 16 42 43.4 +3.0
baz=150
G65A Princeton 79.96 2 P P 16 32 45.9 +2.3
baz=183,SNR=9.1
G65A P P 16 32 45.9 +2.3
baz=183,SNR=9.1
PDMCI Parker Dam,Lak 79.97 325 P P 16 32 45.3 +1.4
baz=145,SNR=22
PDMCI S S 16 42 45.2 +4.9
baz=145
PKME Peaks-Kenny Pk 79.98 1 P P 16 32 45.2 +1.6
baz=181,SNR=9.5
PKME Peaks-Kenny Pk 79.98 1 P P 16 32 45.2 +1.6
baz=181,SNR=9.5
PKME S S 16 42 42.2 +2.2
baz=181
GAMM Gam 80.04 108 *i* P P 16 32 47.2 +2.2
GAMM *i* S P 16 32 50.5 +5.5
BC3 Big Chuckawall 80.07 324 P P 16 32 46.1 +1.4
baz=144,SNR=179
BC3 S S 16 42 46.3 +4.6
baz=144
BGNE Belgrade 80.11 340 P P 16 32 46.4 +1.8
baz=158,SNR=27
BGNE Belgrade 80.11 340 P P 16 32 45.1 +0.6
baz=158,SNR=27
L34A Svendsen Farm, 80.14 341 IAmb IAmb 16 32 52.3
comp=Z,188nm,0.8s
L34A Svendsen Farm, 80.14 341 P P 16 32 45.4 +0.7
baz=159,SNR=13
Q24A Divide 80.18 334 IAmb IAmb 16 32 50.2
comp=Z,202nm,0.9s
Q24A Divide 80.18 334 P P 16 32 46.2 +0.9
baz=152,SNR=129
MNTQ Montreal, Queb 80.24 358 IAmb IAmb 16 32 46.7
comp=Z,320nm,1.9s
109C Camp Elliot, M 80.28 322 P P 16 32 47.0 +1.4
baz=143
I42A Draeger Farm, 80.28 347 P P 16 32 45.9 +0.6
baz=165,SNR=30
IRM Iron Mountain 80.33 324 P P 16 32 47.3 +1.4
baz=145,SNR=202
F63A Nahmakanta, Br 80.42 1 P P 16 32 47.8 +1.7
baz=182,SNR=14
F63A P P 16 32 47.8 +1.7
baz=182,SNR=14
GLMI Grayling 80.49 350 P P 16 32 45.6 -0.9
baz=169
W13A Hualapai Mount 80.50 326 IAmb IAmb 16 32 50.5
comp=Z,173nm,1.1s
PMD Palm Desert 80.52 323 P P 16 32 46.7 -0.3
PMD IAmb IAmb 16 32 50.5
comp=Z,225nm,1.1s
TPFO Pinon Flats 80.52 323 P P 16 32 48.7 +1.6
baz=144,SNR=163
PFO Pinyon Flats O 80.53 323 P P 16 32 48.7 +1.5
comp=Z,210nm,0.9s,baz=135,slow=4.8,SNR=107
comp=Z,210nm,0.9s
PFO Pinyon Flats O 80.53 323 P P 16 32 47.3 +0.2
PFO IAmb IAmb 16 32 52.9
comp=Z,219nm,0.8s
PFO Pinyon Flats O 80.53 323 P P 16 32 48.6 +1.5
baz=144,SNR=168
PFO Pinyon Flats O 80.53 323 ‖ *i* P P 16 32 48.7 +1.5
PFO pmax pmax
comp=Z,504nm,1.1s
NEE2 Needles Airpor 80.58 325 P P 16 32 48.3 +1.1
baz=145,SNR=16
F64A Sherman 80.60 2 P P 16 32 48.7 +1.7
baz=182,SNR=11
F64A P P 16 32 48.7 +1.7
baz=182,SNR=11
F62A Pittston Farm, 80.61 1 P P 16 32 48.5 +1.5
baz=181,SNR=27
F62A P P 16 32 48.5 +1.5
baz=181,SNR=27
I40A Norwalk 80.61 346 P P 16 32 46.7 -0.4
baz=164,SNR=25
BELC Belle Mtn. Jos 80.62 323 P P 16 32 49.1 +1.5
baz=144,SNR=78
H43A Windswept, Lux 80.64 348 IAmb IAmb 16 32 50.2
comp=Z,236nm,1.2s
H43A Windswept, Lux 80.64 348 P P 16 32 47.6 +0.4
baz=166,SNR=19
PV13 Radium Mtn., P 80.88 331 IAmb IAmb 16 32 53.9
comp=Z,244nm,0.9s
U15A North Rim 80.88 327 IAmb IAmb 16 32 52.6
comp=Z,210nm,1.2s
MURC Murrieta 80.89 322 P P 16 32 50.9 +2.0
baz=143,SNR=39
PV15 Paradox Valley 80.90 331 IAmb IAmb 16 32 52.2
comp=Z,194nm,1.1s
PV11 David Mesa, Pa 81.02 331 IAmb IAmb 16 32 52.4
comp=Z,254nm,1.2s
ELS Elsinore Mount 81.04 322 IAmb IAmb 16 32 53.2
comp=Z,186nm,1.1s
SMCO Snowmass 81.04 332 IAmb IAmb 16 32 53.3
comp=Z,320nm,1.2s
LBTB Lobatse 81.05 114 P P 16 32 49.9 -0.3
comp=Z,140nm,0.7s,baz=217,slow=4.8,SNR=7.6
LBTB LR LR 17 02 44.7
comp=Z,2µm,21.8s,baz=231,slow=31
comp=Z,140nm,0.7s
LBTB Lobatse 81.05 114 IAmb IAmb 16 32 56.9
comp=Z,160nm,0.9s
LBTB Lobatse 81.05 114 *i* P P 16 32 50.0 -0.3
LBTB Lobatse 81.05 114 *i* P P 16 32 50.0 -0.3
ISCO Idaho Springs 81.08 334 S S 16 42 56.2 +3.8
baz=152
SCI2 San Clemente I 81.08 321 P P 16 32 52.5 +2.6
baz=142,SNR=6.3
GMRC Granite Mounta 81.09 324 P P 16 32 51.6 +1.5
baz=144,SNR=185
PV10 Paradox Valley 81.16 331 IAmb IAmb 16 32 55.2
comp=Z,200nm,0.8s
E63A Oxbow 81.16 2 P P 16 32 50.9 +0.9
baz=182,SNR=9.0
E63A P P 16 32 50.9 +0.9
baz=182,SNR=9.0
PV23 Carpenter Ridg 81.21 331 IAmb IAmb 16 32 53.5
comp=Z,213nm,1.1s
BBRC Big Bear Solar 81.28 323 P P 16 32 53.1 +1.9
baz=144,SNR=8.5
BRIGG Briggsdale 81.31 335 IAmb IAmb 16 32 54.1
comp=Z,329nm,1.2s
I37B Waseca 81.33 344 P P 16 32 50.6 -0.3
baz=162,SNR=48
E62A Clayton Lake 81.33 1 P P 16 32 52.5 +1.6
baz=181,SNR=17
E62A P P 16 32 52.5 +1.6
baz=181,SNR=17
CIS Catalina Islan 81.35 321 P P 16 32 53.1 +1.7
baz=142,SNR=30
K31A O'Neill 81.40 340 P P 16 32 52.0 +0.5
baz=157,SNR=72
HEC Hector,Ludlow 81.45 324 P P 16 32 53.7 +1.8
baz=144,SNR=103
V12A Nelson 81.47 325 IAmb IAmb 16 32 57.1
comp=Z,173nm,0.8s
FMP Fort Macarthur 81.53 322 P P 16 32 53.5 +1.2
baz=143
KSR Koster 81.54 116 *eP* P 16 32 53.2 +0.2
KSR IAmb IAmb 16 32 59.1
comp=Z,103nm,0.8s
KNB Kanab 81.61 327 IAmb IAmb 16 32 58.4
comp=Z,302nm,0.9s
BFSC Mount Baldy Ra 81.63 322 P P 16 32 54.3 +1.3
baz=143,SNR=165
TUQ Turquoise Moun 81.74 324 P P 16 32 54.7 +1.2
baz=144,SNR=111
SNCC San Nicolas Is 81.80 321 P P 16 32 54.9 +1.2
baz=142
D62A Allapoint, All 81.80 1 P P 16 32 54.7 +1.3
baz=182,SNR=20
D62A P P 16 32 54.7 +1.3
baz=182,SNR=20
RRX Edison Barstow 81.81 323 P P 16 32 56.1 +2.4
baz=144,SNR=6.6
ECSD EROS Data Cent 81.85 342 IAmb IAmb 16 32 57.5
comp=Z,308nm,1.0s
ECSD EROS Data Cent 81.85 342 P P 16 32 53.5 -0.2
baz=159,SNR=160
ECSD EROS Data Cent 81.85 342 P P 16 32 53.5 -0.2
baz=159,SNR=160
G40A Rib Lake 81.85 346 P P 16 32 54.5 +0.8
baz=164,SNR=16
F42A Maple Grove Fa 81.95 348 IAmb IAmb 16 32 57.3
comp=Z,186nm,1.2s
E46A Sault Ste Mari 81.96 351 IAmb IAmb 16 32 56.1
comp=Z,467nm,1.3s
E46A Sault Ste Mari 81.96 351 P P 16 32 54.6 +0.4
baz=169,SNR=41
DECC Green Verdugo 81.98 322 P P 16 32 55.9 +1.2
baz=143,SNR=14
DECC S S 16 43 07.7 +6.3
baz=143
GSC Goldstone, Bar 82.06 324 IAmb IAmb 16 32 58.6
comp=Z,173nm,1.1s
GSC Goldstone, Bar 82.06 324 P P 16 32 56.6 +1.5
baz=144,SNR=81
HRAO HartRAO 82.10 116 *eP* P 16 32 56.5 +0.6
N23A Red Feather La 82.17 334 IAmb IAmb 16 32 58.6
comp=Z,222nm,1.2s
N23A Red Feather La 82.17 334 P P 16 32 57.8 +2.0
baz=152,SNR=84
SZCU Shurtz Canyon 82.21 327 IAmb IAmb 16 32 59.5
comp=Z,268nm,1.3s
SHOC Shoshone, Teco 82.28 324 P P 16 32 57.5 +1.3
baz=144,SNR=11
SHOC S S 16 43 10.7 +6.4
baz=144
CCUT Cedar City 82.29 327 IAmb IAmb 16 33 00.2
comp=Z,316nm,1.2s
EDW2 Edwards Air Fo 82.31 323 P P 16 32 57.9 +1.5
baz=143,SNR=125
SPMN Marine on St. 82.34 345 P P 16 32 55.7 -0.6
baz=162,SNR=23
SPMN Marine on St. 82.34 345 P P 16 32 56.3 0.0
baz=162,SNR=23
PHWY Pilot Hill 82.35 334 IAmb IAmb 16 32 59.2
comp=Z,206nm,1.1s
O20A White River Ci 82.36 332 IAmb IAmb 16 32 59.4
comp=Z,198nm,1.2s
O20A White River Ci 82.36 332 P P 16 32 58.7 +2.0
baz=150,SNR=54
O20A S S 16 43 10.1 +4.9
baz=150
E43A Lone Tree Farm 82.36 349 IAmb IAmb 16 32 58.0
comp=Z,195nm,1.1s
E43A Lone Tree Farm 82.36 349 P P 16 32 56.1 -0.2
baz=167,SNR=26
SRU San Rafael Swe 82.39 330 IAmb IAmb 16 32 59.3
comp=Z,233nm,1.1s
SCZ2 Santa Cruz Isl 82.44 321 P P 16 32 58.7 +1.6
baz=142,SNR=19
OSI Osito Audit: C 82.46 322 P P 16 32 59.9 +2.7
baz=142,SNR=24
OSI S S 16 43 12.7 +6.4
baz=142
Q16A Castle Valley 82.49 329 IAmb IAmb 16 33 02.6
comp=Z,210nm,0.9s
CCAC Calif City Air 82.53 323 IAmb IAmb 16 33 03.2
comp=Z,161nm,0.7s
LRMC Laurel Mtn Rad 82.63 323 P P 16 32 59.5 +1.3
baz=143,SNR=88
SLR Silverton 82.63 116 *eP* P 16 32 57.0 -1.6
SLR IAmb IAmb 16 33 35.5
comp=Z,200nm,1.3s
MSWZ Moikau Station 82.64 224 P P 16 32 57.9 -0.3
NWCL Newcastle 82.65 119 *eP* P 16 32 58.5 -0.2
NWCL IAmb IAmb 16 33 01.0
comp=Z,189nm,1.6s
H07S1 FLORES T-PHASE 82.69 30 *eP* P 16 33 01.9 +3.7
comp=Z,279nm,1.0s
TCRU Three Creeks R 82.77 328 IAmb IAmb 16 33 02.2
comp=Z,168nm,1.2s
P17A Butcher Ranch, 82.78 330 IAmb IAmb 16 33 03.6
comp=Z,175nm,0.9s
TMUT Trail Mountain 82.83 330 IAmb IAmb 16 33 04.9
comp=Z,285nm,1.2s
SBC Santa Barbara 82.83 321 P P 16 33 00.9 +1.9
baz=142
ARVC Arvin 82.92 322 P P 16 33 00.9 +1.5
baz=142
PRN Pahroc Range 82.93 326 IAmb IAmb 16 33 05.5
comp=Z,286nm,0.9s
KHZ Kahutara 82.94 222 IAmb IAmb 16 33 05.4
comp=Z,214nm,1.4s
H07N1 FLORES T-PHASE 82.99 30 *eP* P 16 33 02.0 +2.2
comp=Z,189nm,0.9s
MPMC Manual Prospec 83.00 324 P P 16 33 01.2 +1.1
baz=143,SNR=105
MPMC S S 16 43 17.7 +5.8
baz=143
SNZO South Karori 83.02 224 P P 16 33 00.1 0.0
FURC Furnace Creek, 83.02 324 P P 16 33 02.0 +2.0
baz=144,SNR=6.1
PCAN Candelaria 83.08 32 *eP* P 16 33 02.0 +1.8
comp=Z,135nm,0.8s
CALA Caldeira 83.08 32 *eP* P 16 32 59.3 -1.0
comp=Z,203nm,1.2s
F36A Milaca 83.11 344 IAmb IAmb 16 33 01.3
comp=Z,159nm,1.1s
F36A Milaca 83.11 344 P P 16 32 59.5 -0.7
baz=162,SNR=67
TPNV Topopah Spring 83.12 325 IAmb IAmb 16 33 05.7
comp=Z,208nm,1.1s
TPNV Topopah Spring 83.12 325 P P 16 33 02.9 +2.3
baz=144,SNR=112
TPNV S S 16 43 17.0 +3.9
baz=144
PCED Cedros 83.12 32 *eP* P 16 33 04.8 +4.4
comp=Z,182nm,0.9s
PICO Pico 83.13 32 *eP* P 16 33 02.1 +1.5
comp=Z,417nm,1.3s
SUSD Miller 83.14 340 IAmb IAmb 16 33 02.6
comp=Z,400nm,1.2s
SUSD Miller 83.14 340 P P 16 33 01.3 +0.9
baz=157,SNR=10.0
SUSD Miller 83.14 340 P P 16 33 00.4 0.0
baz=157,SNR=10.0
ISA Isabella, Lake 83.17 323 IAmb IAmb 16 33 06.4
comp=Z,150nm,0.8s
ISA Isabella, Lake 83.17 323 P P 16 33 02.4 +1.6
baz=143,SNR=156
PPNO Prainha do Nor 83.18 32 *eP* P 16 33 03.4 +2.6
comp=Z,294nm,1.2s
PID Ribeirinha 83.22 33 *eP* P 16 33 03.6 +2.6
comp=Z,300nm,1.3s
PKM Mcpherson Peak 83.23 321 P P 16 33 02.8 +1.4
baz=142,SNR=153
RDMU Red Mountain 83.25 331 IAmb IAmb 16 33 05.8
comp=Z,264nm,0.9s
D41A Chassel 83.28 348 IAmb IAmb 16 33 02.9

comp=Z,299nm,1.1s
D41A Chassel 83.28 348 P **P** 16 33 01.4 +0.3
baz=166,SNR=24
RWWY Rawlins 83.32 334 IAmb IAmb 16 33 04.9
comp=Z,338nm,1.1s
PSUT Pine Spring 83.32 327 IAmb IAmb 16 33 07.3
comp=Z,176nm,0.8s
LEPH Lephalale, Lim 83.35 114 *e*P **P** 16 33 02.1 -0.2
LEPH IAmb IAmb 16 33 04.8
comp=Z,219nm,1.2s
BKZ Black Stump Fm 83.38 226 P **P** 16 33 01.5 -0.7
BKZ IAmb IAmb 16 33 08.8
comp=Z,282nm,1.7s
LTZ Lake Taylor 83.39 221 IAmb IAmb 16 33 07.9
comp=Z,197nm,1.0s
PMAN Manadas 83.39 32 *e*P **P** 16 33 03.9 +2.1
comp=Z,356nm,1.0s
ROSA Rosais 83.40 32 *e*P **P** 16 33 04.1 +2.2
comp=Z,279nm,1.1s
E38A The Farm, Brul 83.40 346 IAmb IAmb 16 33 02.8
comp=Z,146nm,1.1s
E38A The Farm, Brul 83.40 346 P **P** 16 33 02.1 +0.4
baz=163,SNR=21
RPZ Rata Peaks 83.40 220 P **P** 16 33 03.1 +1.0
comp=Z,185nm,0.9s,baz=141,slow=2.3,SNR=49
RPZ LR LR 17 01 24.4
comp=Z,797nm,20.1s,baz=125,slow=29
comp=Z,185nm,0.9s
RPZ Rata Peaks 83.40 220 IAmb IAmb 16 33 07.8
comp=Z,283nm,1.0s
PSMN Pico do Norte, 83.45 35 *e*P **P** 16 33 06.0 +3.8
comp=Z,198nm,1.0s
CWC Cottonwood Cre 83.59 324 P **P** 16 33 05.4 +2.3
baz=143
URZ Urewera 83.59 227 P **P** 16 33 05.3 +2.1
comp=Z,48nm,0.9s,baz=185,slow=4.6,SNR=12
URZ LR LR 17 02 28.5
comp=Z,1μm,20.7s,baz=216,slow=30
comp=Z,48nm,0.9s
MPU Maple Canyon 83.61 330 IAmb IAmb 16 33 05.9
comp=Z,199nm,1.1s
VES Vestal, Richgr 83.61 322 P **P** 16 33 04.6 +1.6
baz=142,SNR=19
SMMC Simmler 83.66 322 P **P** 16 33 05.2 +1.8
baz=142,SNR=29
GRAC Grapevine Rang 83.69 324 IAmb IAmb 16 33 07.0
comp=Z,209nm,1.1s
GRAC Grapevine Rang 83.69 324 P **P** 16 33 05.1 +1.6
baz=144,SNR=49
F33A 5 Mile Ranch, 83.73 342 IAmb IAmb 16 33 06.1
comp=Z,170nm,1.2s
F33A 5 Mile Ranch, 83.73 342 P **P** 16 33 03.8 +0.4
baz=159,SNR=43
NLU North Lily Min 83.74 329 IAmb IAmb 16 33 06.8
comp=Z,227nm,1.2s
SRBC Serra Branca 83.75 32 *e*P **P** 16 33 06.5 +2.9
comp=Z,331nm,1.2s
TOA0 Torodi Ar. Sit 83.75 69 IAmb IAmb 16 33 10.0
comp=Z,190nm,0.8s
TOA0 Torodi Ar. Sit 83.75 69 P **P** 16 33 04.0 -0.2
SNR=70
TORD Torodi Ar. Bea 83.75 69 P **P** 16 33 04.2 -0.1
comp=Z,163nm,0.9s,baz=246,slow=2.5,SNR=131
TORD pP **pP** 16 33 29.7 +0.8
comp=Z,80nm,0.7s,baz=254,slow=3.1,SNR=4.7
TORD S **S** 16 43 16.7 -3.2
comp=Z,5.1nm,1.1s,baz=212,slow=5.3,SNR=6.5
TORD PKKPbc **PKKPbc** 16 51 23.4 +4.0
comp=Z,1.1nm,0.6s,baz=36,slow=3.8,SNR=4.9
comp=Z,163nm,0.9s
TORD Torodi Ar. Bea 83.75 69 IAmb IAmb 16 33 11.0
comp=Z,166nm,0.8s
CRLN Carolina, Mapu 83.75 117 *e*P **P** 16 33 05.8 +1.3
CRLN IAmb IAmb 16 33 07.2
comp=Z,122nm,1.6s
CRLN IAML 23 29 03.0
comp=Z,13nm,0.3s
PGRA Graciosa 83.77 32 *e*P **P** 16 33 01.4 -2.3
comp=Z,207nm,1.4s
PSET Sete Cidades 83.80 34 *e*P **P** 16 33 04.4 +0.4
comp=Z,259nm,0.9s
PSBA Serra de Santa 83.84 33 *e*P **P** 16 33 05.7 +1.5
comp=Z,231nm,1.0s
PSCM Serra do Cume 83.88 33 *e*P **P** 16 33 04.6 +0.3
comp=Z,243nm,0.9s
GMN Gold Mountain 83.88 325 IAmb IAmb 16 33 10.0
comp=Z,113nm,0.9s
PCALD Caldeiras da R 83.89 35 *e*P **P** 16 33 00.5 -3.9
comp=Z,251nm,1.2s
K22A Casper 83.91 334 P **P** 16 33 05.2 +0.5
baz=152,SNR=107
K22A Casper 83.91 334 P **P** 16 33 05.2 +0.5
baz=152,SNR=107
SPR3 Spring Creek 3 83.92 327 IAmb IAmb 16 33 08.4
comp=Z,303nm,1.1s
PGRON Lagoa das Cont 83.92 35 *e*P **P** 16 33 06.1 +1.5
comp=Z,346nm,1.2s
R11A Troy Canyon, C 83.95 326 IAmb IAmb 16 33 08.3
comp=Z,228nm,1.1s
R11A Troy Canyon, C 83.95 326 P **P** 16 33 06.3 +1.4
baz=145,SNR=256
LCH Last Change Ra 84.01 324 IAmb IAmb 16 33 08.3
comp=Z,164nm,1.3s
JLU Jordanelle 84.03 330 IAmb IAmb 16 33 07.9
comp=Z,196nm,1.2s
VOG Valley Oaks Go 84.14 323 P **P** 16 33 06.7 +1.0
baz=142
TIN Tinemaha, Big 84.15 324 P **P** 16 33 07.2 +1.3
baz=143,SNR=21
POGA Pongola 84.18 119 IAmb IAmb 16 33 11.6
comp=Z,104nm,0.9s
POGA Pongola 84.18 119 *e*P **P** 16 33 06.8 +0.5
POGA IAmb IAmb 16 33 11.3
comp=Z,103nm,0.9s
CTU Camp Tracy 84.23 330 IAmb IAmb 16 33 10.8
comp=Z,95nm,0.8s
DUG Dugway, Tooele 84.25 329 IAmb IAmb 16 33 10.1
comp=Z,414nm,1.4s
DUG Dugway, Tooele 84.25 329 P **P** 16 33 07.0 +0.6
baz=147,SNR=159
DUG S **S** 16 43 25.4 +1.1
baz=147
PMOZ Porto Moniz, M 84.28 43 *e*P **P** 16 33 09.7 +3.0
comp=Z,166nm,2.3s
PMOZ *ep*P **pP** 16 33 34.5 +3.2
PMOZ *e*SKS **S** 16 43 28.5 +3.7
PMOZ Porto Moniz, M 84.28 43 *e*LR LR 17 00 39.0
comp=Z,2μm,20.0s
PMAR Madeira 84.37 43 *e*P **P** 16 33 10.4 +3.2
comp=Z,201nm,1.6s
RSSD Black Hills 84.37 337 P **P** 16 33 05.8 -1.2
RSSD IAmb IAmb 16 33 11.2
comp=Z,117nm,0.8s
RSSD Black Hills 84.37 337 P **P** 16 33 08.4 +1.4
baz=153,SNR=64
RSSD Black Hills 84.37 337 P **P** 16 33 07.4 +0.4
baz=153
RSSD S **S** 16 43 26.1 +0.7
baz=153
RSSD Black Hills 84.37 337 P **P** 16 33 05.8 -1.2
RSSD pmax pmax
comp=Z,117nm,0.9s
QRZ Quartz Range 84.56 223 P **P** 16 33 08.0 0.0
QRZ IAmb IAmb 16 33 12.7
comp=Z,258nm,1.2s
EYMN Ely 84.67 346 IAmb IAmb 16 33 09.4
comp=Z,155nm,1.2s
EYMN Ely 84.67 346 P **P** 16 33 08.6 +0.4
baz=163,SNR=30
EYMN Ely 84.67 346 P **P** 16 33 08.6 +0.4
baz=163,SNR=30
EYMN S **S** 16 43 25.2 -2.6
baz=163
PMPB Monarch Peak 84.77 322 P **P** 16 33 09.4 +0.4
PMPB IAmb IAmb 16 33 15.1
comp=Z,183nm,1.1s
HIZ Hauiti 84.77 226 P **P** 16 33 09.4 +0.3
HIZ IAmb IAmb 16 33 16.8
comp=Z,449nm,1.6s
DRLN Deer Lake 84.81 9 IAmb IAmb 16 33 10.5
comp=Z,170nm,0.9s
MLAC Mammoth, Mammo 84.90 324 P **P** 16 33 10.8 +0.9
baz=142,SNR=12
MLAC S **S** 16 43 36.1 +5.1
baz=142
BGU Big Grassy Mou 84.95 329 IAmb IAmb 16 33 12.3
comp=Z,297nm,1.6s
OMMB Old Mammoth Mi 84.96 324 IAmb IAmb 16 33 13.4
comp=Z,222nm,1.2s
BW06 Boulder Array 85.13 333 IAmb IAmb 16 33 13.5
comp=Z,168nm,1.2s
BW06 Boulder Array 85.13 333 P **P** 16 33 10.9 +0.1
baz=149,SNR=162
PD31 Pinedale Array 85.13 333 IAmb IAmb 16 33 13.5
comp=Z,151nm,1.2s
PDAR Pinedale Array 85.13 333 P **P** 16 33 10.6 -0.2
comp=Z,47nm,0.6s,baz=106,slow=4.8,SNR=175
PDAR PKKPbc **PKKPbc** 16 51 18.4 +0.1
comp=Z,2.4nm,0.8s,baz=76,slow=0.5,SNR=12
comp=Z,47nm,0.6s
LHV Little Huntoon 85.23 324 IAmb IAmb 16 33 14.8
comp=Z,244nm,1.1s
NVAR Mina Array Bea 85.28 325 P **P** 16 33 12.7 +1.0
comp=Z,89nm,0.8s,baz=151,slow=5.5,SNR=194
NVAR pP **pP** 16 33 37.8 +2.0
comp=Z,4.7nm,0.5s,baz=131,slow=6.1,SNR=2.5
NVAR PKKPbc **PKKPbc** 16 51 18.6 +0.9
comp=Z,3.1nm,0.8s,baz=345,slow=2.5,SNR=13
NVAR PKPPKP 16 59 24.0
comp=Z,0.4nm,0.5s,baz=242,slow=3.2,SNR=3.9
comp=Z,89nm,0.8s
B35A Bob, Littlefor 85.52 345 IAmb IAmb 16 33 15.3
comp=Z,167nm,1.1s
B35A Bob, Littlefor 85.52 345 P **P** 16 33 11.8 -0.5
baz=162,SNR=63
RYN Ryan 85.54 325 IAmb IAmb 16 33 18.1
comp=Z,180nm,1.0s
E28A Huff 85.58 340 P **P** 16 33 13.3 +0.6
baz=156,SNR=24
KVN Kaiserville 85.67 325 IAmb IAmb 16 33 18.4
comp=Z,135nm,0.8s
AHID Auburn Hatcher 85.72 332 IAmb IAmb 16 33 15.8
comp=Z,269nm,1.2s
ELK Elko 85.75 328 IAmb IAmb 16 33 18.5
comp=Z,189nm,0.9s
MUSN Musina, Limpop 85.81 114 *e*P **P** 16 33 14.2 -0.4
MUSN IAmb IAmb 16 33 20.0
comp=Z,197nm,1.0s
MUSN Musina, Limpop 85.81 114 *i* P **P** 16 33 15.8 +1.2
MUSN Musina, Limpop 85.81 114 *i* P **P** 16 33 15.8 +1.2
AGMN Agassiz Nation 85.94 344 IAmb IAmb 16 33 17.4
comp=Z,206nm,1.1s
AGMN Agassiz Nation 85.94 344 P **P** 16 33 14.0 -0.4
baz=160,SNR=67
AGMN Agassiz Nation 85.94 344 P **P** 16 33 14.0 -0.4
baz=160,SNR=67
RAO Raoul Island 86.04 237 LR LR 17 02 25.7
comp=Z,1μm,21.1s,baz=131,slow=29
REDW Red Top Meadow 86.13 332 IAmb IAmb 16 33 20.0
comp=Z,144nm,0.9s
YERR Yerington 86.16 324 IAmb IAmb 16 33 19.4
comp=Z,223nm,1.1s
SNOW Snow King Moun 86.18 332 IAmb IAmb 16 33 19.8
comp=Z,256nm,1.1s
MOPA Mopani 86.22 116 *i* P **P** 16 33 17.7 +1.1
MOPA Mopani 86.22 116 *i* P **P** 16 33 17.7 +1.1
LOHW Long Hollow 86.25 332 IAmb IAmb 16 33 18.4
comp=Z,220nm,1.3s
TPAW Teton Pass 86.27 332 IAmb IAmb 16 33 20.9
comp=Z,182nm,0.8s
FXWY Fox Creek 86.43 332 IAmb IAmb 16 33 19.4
comp=Z,195nm,1.2s
MDND Maddock 86.45 341 P **P** 16 33 18.4 +1.4
baz=157,SNR=11
MDND Maddock 86.45 341 P **P** 16 33 17.6 +0.6
baz=157,SNR=11
MDND S **S** 16 43 44.9 -0.3
baz=157
IMW Indian Meadow 86.61 332 IAmb IAmb 16 33 22.6
comp=Z,179nm,0.8s
PAHR Pah Rah Range 86.80 325 IAmb IAmb 16 33 22.4
comp=Z,224nm,1.2s
H17A Grant Village 86.90 333 IAmb IAmb 16 33 26.0
comp=Z,414nm,1.9s
H17A Grant Village 86.90 333 P **P** 16 33 20.6 +1.1
baz=148,SNR=62
AFDM Forest Hills D 86.97 323 IAmb IAmb 16 33 23.2
comp=Z,207nm,1.2s
YMP Mirror Lake Pl 87.04 333 IAmb IAmb 16 33 38.7
comp=Z,119nm,0.8s
RLMT Red Lodge 87.04 334 P **P** 16 33 20.3 +0.1
baz=150,SNR=201
RLMT S **S** 16 43 51.9 +0.3
baz=150
YFT Old Faithful 87.05 333 IAmb IAmb 16 33 27.1
comp=Z,157nm,0.8s
YHH Holmes Hill 87.34 333 IAmb IAmb 16 33 26.5
comp=Z,161nm,0.8s
LAO LASA Array 87.36 337 P **P** 16 33 21.6 +0.1
baz=152,SNR=216
LAO LASA Array 87.36 337 P **P** 16 33 21.6 +0.1
baz=152,SNR=216
LAO S **S** 16 43 54.3 +0.1
baz=152
BEKR Beckworth 87.39 324 IAmb IAmb 16 33 27.0
comp=Z,142nm,0.9s
YHL Hebgen Lake 87.52 333 IAmb IAmb 16 33 25.4
comp=Z,150nm,1.3s
PLTX Plant, Gerl 87.63 325 IAmb IAmb 16 33 28.1
comp=Z,250nm,0.8s
HLID Hailey 87.71 330 IAmb IAmb 16 33 26.3
comp=Z,204nm,1.2s
HLID Hailey 87.71 330 P **P** 16 33 24.3 +0.9
baz=146,SNR=186
HLID S **S** 16 44 01.5 +3.5
baz=146
ULM Lac du Bonnet 87.77 344 P **P** 16 33 22.6 -0.7
comp=Z,134nm,1.0s,baz=169,slow=3.3,SNR=81
ULM S **SKSac** 16 43 38.1 -4.5
comp=Z,0.7nm,0.4s,baz=274,slow=8.5,SNR=1.1
ULM PKKPbc **PKKPdf** 16 51 05.1 -1.6
comp=Z,4.7nm,1.1s,baz=341,slow=7.1,SNR=3.0
ULM LR LR 17 14 41.5
comp=Z,1μm,18.1s,baz=150,slow=37
comp=Z,134nm,1.0s
ULM Lac du Bonnet 87.77 344 IAmb IAmb 16 33 24.6
comp=Z,242nm,1.1s
HOPS Hopland Field 88.05 322 P **P** 16 33 24.0 -0.9
HOPS IAmb IAmb 16 33 28.5
comp=Z,182nm,1.3s
MFID Camas Ranch 88.18 329 IAmb IAmb 16 33 29.6
comp=Z,122nm,1.1s
DGMT Dagmar 88.31 339 P **P** 16 33 26.5 +0.6
baz=153,SNR=177
DGMT Dagmar 88.31 339 P **P** 16 33 26.0 +0.1
baz=153,SNR=177
DGMT S **S** 16 44 03.6 +0.5
baz=153
BOZ Bozeman (W) 88.32 333 P **P** 16 33 26.4 +0.3
baz=148,SNR=70
DLMT Dillon 88.49 332 IAmb IAmb 16 33 29.7
comp=Z,180nm,1.2s
WVOR Wild Horse Val 88.61 327 IAmb IAmb 16 33 30.5
comp=Z,178nm,1.3s
MOD Modoc Plateau 88.95 325 IAmb IAmb 16 33 33.7
comp=Z,162nm,0.9s
SCHQ Schefferville 89.62 2 P **P** 16 33 31.1 -0.7
comp=Z,48nm,1.1s,baz=187,slow=5.9,SNR=18
SCHQ PP **PP** 16 37 00.9 -4.4
comp=Z,12nm,0.9s,baz=200,slow=6.2,SNR=2.9
SCHQ S **SKSac** 16 43 48.9 -4.5
comp=Z,3.9nm,1.0s,baz=267,slow=17,SNR=2.1
SCHQ LR LR 17 13 05.6
comp=Z,1μm,21.5s,baz=189,slow=35
comp=Z,48nm,1.1s
SCHQ Schefferville 89.62 2 IAmb IAmb 16 33 32.9
comp=Z,146nm,1.4s
EGMT Eagleton 89.71 335 IAmb IAmb 16 33 34.1
comp=Z,124nm,1.2s
EGMT Eagleton 89.71 335 P **P** 16 33 32.5 0.0
baz=149,SNR=34
YBH Yreka Blue Hor 89.96 324 P **P** 16 33 34.2 +0.3
comp=Z,61nm,1.0s,baz=114,slow=4.2,SNR=55
YBH pP **pP** 16 33 60.0 +1.7
comp=Z,43nm,0.8s,baz=203,slow=0.8,SNR=4.6
YBH LR LR 17 07 09.6
comp=Z,2μm,20.3s,baz=142,slow=31
comp=Z,61nm,1.0s
MSO Missoula 90.23 332 IAmb IAmb 16 33 37.6
comp=Z,165nm,1.7s
MSO Missoula 90.23 332 P **P** 16 33 36.0 +1.0
baz=146,SNR=9.9
I07A Izee 90.30 327 IAmb IAmb 16 33 38.5
comp=Z,118nm,1.1s
AVE Averroes 90.38 49 P **P** 16 33 34.4 -1.5
AVE S **SKSac** 16 43 59.4 +0.5
AFI Afiamalu 90.74 253 LR LR 17 06 13.8
comp=Z,3μm,19.4s,baz=134,slow=30
HUMO Hull Mountain 90.75 324 IAmb IAmb 16 33 41.2
comp=Z,147nm,1.7s
F10A Beach Ranch, E 90.84 330 IAmb IAmb 16 33 43.4
comp=Z,78nm,0.9s
G08A Pilot Rock 91.02 328 IAmb IAmb 16 33 41.4
comp=Z,105nm,1.2s
DBO Dodson Butte 91.28 325 IAmb IAmb 16 33 44.6
comp=Z,116nm,1.0s
MDT Midelt 91.81 51 LR LR 17 15 02.3
comp=Z,4μm,19.6s,baz=236,slow=36
F07A Phinny Hill Vi 91.92 328 IAmb IAmb 16 33 47.3
comp=Z,104nm,1.1s
IFR Ifrane 91.94 50 P **P** 16 33 43.1 -0.3
IFR S **SKSac** 16 44 11.0 +2.8
H04A Detroit Lake 91.98 326 IAmb IAmb 16 33 45.9
comp=Z,97nm,1.1s
E08A Dider Farm, El 92.02 329 IAmb IAmb 16 33 46.1
comp=Z,108nm,1.1s
MORF Marmelete 92.37 45 *e*P **P** 16 33 44.5 -0.7
MORF *e*SKSac **SKSac** 16 44 09.3 -0.8
MORF IAMs_20 IAMs_20 17 06 00.4
comp=Z,3μm,19.1s
MORF Marmelete 92.37 45 *e*P **P** 16 33 44.4 -0.7
MORF *e* 16 44 09.2
D08A Wollman Farm, 92.41 329 IAmb IAmb 16 33 47.3
comp=Z,126nm,1.3s
TAM Tamanrasset 92.49 64 IAmb IAmb 16 34 24.9
comp=Z,130nm,1.7s
NEW Newport 92.64 331 LR LR 17 10 58.4
comp=Z,3μm,21.8s,baz=137,slow=32
NEW Newport 92.64 331 IAmb IAmb 16 33 47.3
comp=Z,59nm,1.2s
NEW Newport 92.64 331 P **P** 16 33 46.0 -0.1
baz=144,SNR=20
C09A Chrisman Ranch 92.73 330 IAmb IAmb 16 33 49.2
comp=Z,91nm,1.0s
PVAQ Vaqueiros 92.98 45 *e*SKS **SKSac** 16 44 15.1 +1.8
PVAQ *e*SS **SS** 16 51 06.2 +3.0
PVAQ Vaqueiros 92.98 45 *e*LR LR 17 04 44.0
comp=Z,1μm,20.0s
MESJ Messejana 92.98 45 *e*P **P** 16 33 47.4 -0.5
MESJ *e*SKSac **SKSac** 16 44 12.7 -0.6
MESJ IAMs_20 IAMs_20 17 06 24.2
comp=E,3μm,27.7s
MESJ Messejana 92.98 45 *e*P **P** 16 33 47.4 -0.5
MESJ *e* 16 44 12.7
LIS Lisbon 93.05 44 *e*P **P** 16 33 47.6 -0.5
LIS *e*SKSac **SKSac** 16 44 12.9 -0.7
LIS IAMs_20 IAMs_20 17 07 47.6
comp=Z,6μm,45.5s
LIS Lisbon 93.05 44 *e*P **P** 16 33 47.6 -0.5
LIS *e* 16 44 12.9
LTY Liberty 93.30 329 IAmb IAmb 16 33 51.2
comp=Z,63nm,1.2s
PBEJ Beja 93.31 45 *e*P **P** 16 33 53.5 +4.1
comp=Z,22nm,1.4s
PBEJ *ep*P **pP** 16 34 16.2 +1.9
FFC Flin Flon 93.34 343 P **P** 16 33 48.9 -0.2
FFC Flin Flon 93.34 343 P **P** 16 33 48.9 -0.2
FFC pmax pmax
comp=Z,40nm,1.1s
ARNO Arenosillo 93.35 46 P **P** 16 33 49.6 0.0
CEU Ceuta 93.37 48 P **P** 16 33 45.1 -4.5
CEU S **SKSac** 16 44 16.2 +0.7
LON Longmire 93.40 328 IAmb IAmb 16 33 53.7
comp=Z,52nm,0.8s
PVLZ Peæn de 93.55 49 P **P** 16 33 49.9 -0.6
PVLZ S **SKSac** 16 44 16.4 -0.1
EVO Evora 93.57 44 P **P** 16 33 48.9 -1.7
EVO S **SKSac** 16 44 19.6 +3.1
B08A Colville Reser 93.61 330 IAmb IAmb 16 33 52.1
comp=Z,59nm,1.3s
PMTG Montargil 93.82 44 *e*P **P** 16 33 52.9 +1.2
comp=Z,32nm,2.0s
PMTG *ep*P **pP** 16 34 17.4 +0.9
PBAR Barrancos 93.89 45 *e*P **P** 16 33 52.9 +0.8
comp=Z,30nm,1.5s
PESTR Estremoz 94.04 44 *e*P **P** 16 33 57.2 +4.4
comp=Z,36nm,1.4s
EMAL Malaga-Limoner 94.51 48 P **P** 16 33 51.8 -3.1
EMAL S **SKSac** 16 44 19.9 -1.8
PMRV Marv??o 94.54 44 *e*SKS **SKSac** 16 44 24.9 +3.1
PMRV *e*SS **SS** 16 51 29.1 +3.6
PMRV Marv??o 94.54 44 *e*LR LR 17 05 03.5
comp=Z,1μm,20.0s
CHAS Isla Isabel II 94.72 50 P **P** 16 33 55.5 -0.4
CHAS S **SKSac** 16 44 22.9 +0.1
PCBR Castelo Branco 94.77 44 *e*P **P** 16 33 56.4 +0.4
comp=Z,21nm,1.3s
PCBR *ep*P **pP** 16 34 23.1 +2.2
MTE Manteigas 95.11 43 *e*P **P** 16 33 58.7 +1.0
comp=Z,32nm,1.4s
MTE *ep*P **pP** 16 34 19.4 -3.1
MTE Manteigas 95.11 43 *e*SKS **SKSac** 16 44 34.1 +9.2
MTE *e*SS **SS** 16 51 33.4 -0.2
MTE Manteigas 95.11 43 *e*LR LR 17 05 40.4
comp=Z,2μm,20.0s
PVIS Viseu 95.12 43 *e*P **P** 16 34 00.4 +2.7
comp=Z,25nm,2.0s
FCC Fort Churchill 95.46 348 IAmb IAmb 16 34 01.9
comp=Z,77nm,1.1s
POLO Lamas de Olo 95.63 42 *e*P **P** 16 33 59.5 -0.5
comp=Z,12nm,1.4s
PGAV Gavieira, Arco 95.77 42 *e*SKS **S** 16 45 05.9 -4.6
PGAV *e*SS **SS** 16 51 44.3 +1.3
PGAV Gavieira, Arco 95.77 42 *e*LR LR 17 05 56.2
comp=Z,3μm,20.0s
MVO Moncorvo 95.91 43 *e*P **P** 16 34 01.8 +0.5
comp=Z,38nm,1.7s
MVO *ep*P **pP** 16 34 27.2 +1.0
MVO Moncorvo 95.91 43 *e*SKS **SKSac** 16 44 35.4 +6.3
MVO *e*SS **SS** 16 51 41.5 -3.5
MVO Moncorvo 95.91 43 *e*LR LR 17 05 57.9
comp=Z,2μm,20.0s
MSVF Nonsavu 96.13 244 P **P** 16 34 02.8 -0.2
comp=Z,2.3nm,0.7s,baz=173,slow=10,SNR=4.7
MSVF LR LR 17 09 01.3
comp=Z,2μm,22.0s,baz=121,slow=30
comp=Z,2.3nm,0.7s
PAB San Pablo 96.38 46 P **P** 16 34 03.1 -0.4
PAB San Pablo 96.38 46 P **P** 16 34 03.1 -0.4
PAB pmax pmax
comp=Z,17nm,1.1s
PBRG Braganca 96.50 43 *e*P **P** 16 34 04.3 +0.4
comp=Z,30nm,1.7s
PBRG *ep*P **pP** 16 34 30.4 +1.6
ESDC Sonseca Array 96.68 46 P **P** 16 34 05.3 +0.5
comp=Z,11nm,1.0s,baz=233,slow=2.0,SNR=12
ESDC pP **pP** 16 34 31.1 +1.4
comp=Z,8.0nm,0.9s,baz=240,slow=4.7,SNR=5.9
ESDC PP **PP** 16 37 56.3 -4.8
comp=Z,1.7nm,0.8s,baz=246,slow=9.3,SNR=3.4
ESDC S **SKSac** 16 44 35.2 +2.0
comp=Z,0.3nm,0.3s,baz=26,slow=28,SNR=1.9
ESDC SS **SS** 16 51 46.7 -9.3
comp=Z,0.5nm,0.7s,baz=240,slow=39,SNR=1.4
ESDC LR LR 17 14 06.0
comp=Z,1μm,21.8s,baz=222,slow=33
comp=Z,11nm,1.0s
CART Cartagena 97.13 49 P **P** 16 34 05.7 -1.1
CART S **SKSac** 16 44 36.1 +0.7
UCM Universidad Co 97.52 46 P **P** 16 34 04.5 -4.0
UCM S **SKSac** 16 44 38.5 +1.1
FRB Frobisher Bay 98.51 1 LR LR 17 17 50.6
comp=Z,989nm,21.2s,baz=179,slow=35
MBAR Mbarara 99.22 97 LR LR 17 16 44.2
comp=Z,2μm,19.4s,baz=216,slow=34
OPO Ambohidratompo 100.71 122 PP **PP** 16 38 31.7 +0.1
comp=Z,19nm,1.2s,baz=226,slow=7.9,SNR=8.4
DZM Mont Dzumac 101.31 233 *e*P **Pdif** 16 34 25.0 -1.2
comp=Z,358nm,22.6s
DZM Mont Dzumac 101.31 233 *e*PP **PP** 16 38 33.6 -2.2
comp=Z,801nm,25.0s
DZM Mont Dzumac 101.31 233 *e*LR LR 17 07 38.4
comp=Z,7μm,30.6s
MAHO Mahon 101.80 49 P **Pdif** 16 34 26.7 -0.9
MAHO S **SKSac** 16 44 54.8 -3.7
KEST Kesra 102.72 55 P **Pdif** 16 34 34.4 +2.4
comp=Z,3.7nm,0.8s,baz=132,slow=4.0,SNR=4.6
SFJD Kangerlussuaq 102.93 8 *i* P **Pdif** 16 34 34.5 +2.5
DY2G Dye2 102.99 10 *i* P **Pdif** 16 34 33.0 +0.4
YKA Yellowknife Ar 103.36 341 Pdiff **Pdif** 16 34 33.3 -0.7
comp=Z,8.9nm,0.8s,baz=146,slow=4.6,SNR=27

YKA				PP	PP	16 38 50.8	-0.4
	comp=Z,0.9nm,0.7s,baz=135,slow=7.0,SNR=2.0						
YKA				PKKPbc	PKKPbc	16 50 29.4	-0.2
	comp=Z,1.6nm,0.9s,baz=304,slow=2.2,SNR=4.1						
KIBK	Kibwezi	104.10	103	PP	PP	16 39 00.0	+2.7
	SNR=15						
KMBO	Kilima Mbogo	104.19	102	*e*P	PKiKP	16 38 53.0	-2.8
KMBO	Kilima Mbogo	104.19	102	*e*P	PP	16 38 56.9	-1.3
KMBO				IAMs_20	IAMs_20	17 10 13.9	
	comp=Z,10µm,52.6s						
KOTAN	Kotaneelee Air	104.40	336	Pdiff	Pdif	16 34 39.5	+0.9
	baz=138						
LIRD	Liard River Hi	104.59	334	Pdiff	Pdif	16 34 40.1	+0.5
	baz=136						
LODK	Lodwar	105.31	97	PKiKP	PKiKP	16 38 57.4	-0.2
	SNR=6.7						
LODK	Lodwar	105.31	97	*e*P	PKiKP	16 39 01.0	+3.3
LODK	Lodwar	105.31	97	*e*P	PP	16 39 06.5	+0.1
DLBC	Dease Lake	105.36	332	Pdiff	Pdif	16 34 44.3	+1.2
	baz=133						
WTLY	Watson Lake, Y	106.05	334	Pdiff	Pdif	16 34 48.2	+2.1
	baz=134						
R33M	Jennings River	106.37	332	Pdiff	Pdif	16 34 51.0	+3.4
	baz=132						
ICESG	Greenland Ices	106.40	11	*i* P	Pdif	16 34 47.0	-0.8
STKA	Stephens Creek	106.71	209	PKiKP	PKiKP	16 39 01.7	+1.9
	comp=Z,2.2nm,0.8s,baz=125,slow=17,SNR=2.2						
TGTN	Hyland Airport	106.85	335	Pdiff	Pdif	16 34 52.2	+2.6
	baz=134						
P32M	Atlin	107.55	332	Pdiff	Pdif	16 34 56.1	+3.4
	baz=130						
P33M	Teslin, Yukon	107.61	332	Pdiff	Pdif	16 34 55.5	+2.5
	baz=131						
N32M	Quiet Lake	108.32	333	Pdiff	Pdif	16 34 58.3	+2.2
	baz=130						
PLBC	Pleasant Camp	108.51	331	Pdiff	Pdif	16 34 57.6	+0.6
	baz=128						
MMPY	Sheldon Lake,	108.63	335	Pdiff	Pdif	16 34 58.9	+1.4
	baz=131						
FARO	Faro, Yukon	109.11	334	Pdiff	Pdif	16 35 01.3	+1.7
	baz=130						
DAVA	Damuels	109.28	45	*e*P	PKiKP	16 39 05.3	+1.2
	comp=Z,7.3nm,0.9s						
DAVA	Damuels	109.28	45	*e*P	PKKPbc	16 50 12.6	+1.7
	comp=Z,5.4nm,1.1s						
DILA	Dilla	109.41	96	*e*P	PP	16 39 34.9	-1.6
DILA	Dilla	109.41	96	*e*P	PP	16 39 36.0	-0.5
M31M	Drury Creek, Y	109.47	334	Pdiff	Pdif	16 35 04.2	+3.0
	baz=129						
FETA	Feichten	109.64	46	*e*P	PKKPbc	16 50 11.1	+1.3
	comp=Z,4.4nm,0.8s						
SUMG	Summit	109.70	10	*i* P	Pdif	16 35 05.6	+3.1
RETA	Reutte	109.89	46	*i* P	PKKPbc	16 50 10.8	+2.0
	comp=Z,11nm,1.4s						
SQTA	Sankt Quirin	110.02	46	*e*P	PKiKP	16 39 07.8	+2.3
	comp=Z,8.3nm,1.1s						
SQTA	Sankt Quirin	110.02	46	*e*P	PKKPbc	16 50 12.6	+4.1
	comp=Z,7.7nm,1.1s						
MOTA	Moosalm	110.02	46	*e*P	PKiKP	16 39 08.3	+2.7
	comp=Z,4.9nm,0.7s						
MOTA	Moosalm	110.02	46	*i* P	PKKPbc	16 50 09.6	+1.0
	comp=Z,6.1nm,1.0s						
ABTA	Abfaltersbach	110.56	47	*i* P	PKKPbc	16 50 09.4	+2.7
	comp=Z,2.8nm,0.7s						
M30M	Minto, Yukon	110.59	333	Pdiff	Pdif	16 35 07.4	+1.2
	baz=127						
RES	Resolute Bay	110.63	353	PKKPbc	PKKPbc	16 50 08.8	+1.8
	comp=Z,5.0nm,0.9s,baz=354,slow=9.9,SNR=3.9						
FURI	Furi	111.11	94	*e*P	PP	16 39 44.9	-4.2
M29M	Somme Creek	111.13	333	Pdiff	Pdif	16 35 10.3	+1.6
	baz=126						
AAE	Adis Abeba	111.26	94	*e*P	PP	16 39 44.9	-5.2
AAE	Adis Abeba	111.26	94	IAMs_20	IAMs_20	17 10 41.2	
	comp=N,17µm,25.6s						
AAE				*e*P	PP	16 39 47.3	-2.8
L29M	L29M	111.40	333	Pdiff	Pdif	16 35 11.2	+1.4
	baz=126						
L29M				PKiKP	PKiKP	16 39 08.3	+0.8
	baz=126						
YUK3	Moose Creek	111.52	331	Pdiff	Pdif	16 35 12.2	+1.6
	baz=124						
K29M	Barlow Dome	111.61	334	Pdiff	Pdif	16 35 13.5	+2.6
	baz=126						
OBKA	Obir	111.67	48	P	PKiKP	16 39 09.6	+1.0
	comp=N,8.7nm,0.8s						
OBKA	Obir	111.67	48	*e*P	PKKPbc	16 50 05.6	+2.6
	comp=N,7.0nm,1.6s						
NKC	Novy Kostel	112.21	44	AMS	AMS	17 22 10.0	
	comp=N,2µm,21.3s						
GERES	GERESS Array B	112.28	45	PKiKP	PKiKP	16 39 09.6	-0.1
	comp=N,1.6nm,0.6s,baz=221,slow=0.9,SNR=9.2						
GERES				PKKPbc	PKKPbc	16 50 00.4	-0.7
	comp=N,1.3nm,0.6s,baz=58,slow=5.0,SNR=7.9						
KHC	Kasperske Hory	112.34	45	*e*PDIFF	Pdif	16 35 17.5	+3.2
KHC				*e*x	x	16 38 55.0	
KHC				*e*pPKP	pPKiKP	16 39 34.5	-0.9
KHC				*e*SKS	SKSac	16 45 43.6	-0.6
KHC				*e*SDIF	Sdif	16 47 30.6	+1.6
KHC				*e*PKKP	PKKPbc	16 50 02.5	+1.7
KHC				AMS	AMS	17 17 20.0	
	comp=N,2µm,32.5s						
KHC	Kasperske Hory	112.34	45	*i* P	Pdif	16 35 17.5	+3.2
KHC				*e*		16 45 43.6	
KHC				MLR	MLR		
	comp=Z,2µm,32.5s						
ANKE	Ethiopia-Afar	112.37	94	*e*P	PP	16 39 52.8	-5.2
ANKE	Ethiopia-Afar	112.37	94	*e*P	PP	16 39 54.7	-3.4
M27K	Edge Creek, AK	112.40	332	PKiKP	PKiKP	16 39 10.2	+0.6
	baz=123						
DAWY	Dawson	112.41	334	Pdiff	Pdif	16 35 14.6	+0.3
	baz=124						
F31M	Tsiigehtchic	112.52	338	PKiKP	PKiKP	16 39 10.3	+0.9
	baz=128						
ARSA	Arzberg	112.61	47	*i* P	PKKPab	16 50 04.5	-0.9
	comp=Z,2.8nm,0.7s						
CKRC	Cesky Krumlov	112.62	46	*e*PDIFF	Pdif	16 35 17.4	+1.9
CKRC				*e*SDIF		16 47 36.5	
CKRC				AMS	AMS	17 21 30.0	
	comp=Z,2µm,22.9s						
Q23K	Middleton Isla	112.70	328	Pdiff	Pdif	16 35 16.2	+0.7
	baz=121						
L27K	Beaver Creek,	112.76	332	Pdiff	Pdif	16 35 16.0	+0.2
	baz=123						
L27K				PKiKP	PKiKP	16 39 11.0	+0.9
	baz=123						
I29M	Ogilvie Camp,	112.77	335	Pdiff	Pdif	16 35 16.4	+0.6
	baz=125						
I29M				PKiKP	PKiKP	16 39 09.5	-0.6
	baz=125						
EPYK	Eagle Plains	112.82	336	Pdiff	Pdif	16 35 15.8	-0.3
	baz=126						
EPYK				PKiKP	PKiKP	16 39 10.4	+0.3
	baz=126						
M26K	Nabesna, AK	112.86	331	Pdiff	Pdif	16 35 16.2	-0.1
	baz=122						
M26K				PKiKP	PKiKP	16 39 11.5	+1.1
	baz=122						
INK	Inuvik	112.99	339	PKKPbc	PKKPbc	16 49 57.0	-2.1
	comp=Z,3.2nm,0.8s,baz=348,slow=2.5,SNR=5.4						
INK	Inuvik	112.99	339	Pdiff	Pdif	16 35 17.2	+0.6
	baz=128						
INK				PKiKP	PKiKP	16 39 10.9	+0.6
	baz=128						
G30M	tAoh Zraii Nji	113.02	337	PKiKP	PKiKP	16 39 10.9	+0.5
	baz=126						
CLL	Collm	113.03	43	*e*Pdif	Pdif	16 35 18.0	+0.8
CLL				*e*sPdif	sPdif	16 35 54.0	+1.9
CLL				*e*PKiKP	PKiKP	16 39 11.0	+0.1
CLL				*e*x	x	16 39 28.0	
CLL				*i* pPKiKP	PP	16 39 37.7	-24
	comp=Z,33nm,1.8s						
CLL				*e*PP	PP	16 39 58.0	-3.8
CLL				*e*pPP		16 40 20.0	
	comp=Z,15nm,1.3s						
CLL				*e*sPP		16 40 31.0	
CLL				*e*PPP	PPP	16 42 23.0	
CLL				*e*SKSac	SKSac	16 45 47.0	+0.3
CLL				*e*SKKSac	SKKSac	16 46 54.0	-0.2
CLL				*e*Sdif	Sdif	16 47 35.0	+0.5
CLL				*e*sSdif	sSdif	16 48 23.0	+5.0
CLL				*e*SP	SP	16 49 30.0	+3.4
CLL				*e*PKKPbc	PKKPbc	16 49 58.0	-0.5
	comp=Z,9.0nm,1.2s						
CLL				*e*PKKPab	PKKPab	16 50 07.0	+3.7
	comp=Z,73nm,2.6s						
CLL				*e*x	x	16 50 27.0	

CLL				*e*SS	SS	16 55 34.0	-4.9
CLL				*e*sSS		16 56 18.0	
CLL				*e*SSS	SSS	16 59 40.0	
CLL				*e*SSSS		17 03 06.0	
CLL	Collm	113.03	43	*e*P	Pdif	16 35 18.0	+0.8
CLL				*e*		16 39 11.0	
CLL				*i*		16 39 37.7	
CLL				*e*		16 45 47.0	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CLL				pmax	pmax		
	comp=Z,73nm,2.6s						
N25K	Chitina, Valde	113.08	330	PKiKP	PKiKP	16 39 11.7	+0.9
	baz=121						
DESE	Dese	113.13	93	*e*P	PP	16 40 00.8	-2.6
DESE	Dese	113.13	93	*e*P	PP	16 40 02.4	-1.1
CONA	Conrad Observa	113.13	47	*e*P	PKiKP	16 39 13.6	+2.3
	comp=Z,5.1nm,0.8s						
CONA	Conrad Observa	113.13	47	*e*P	PKKPbc	16 50 00.4	+2.2
	comp=Z,10nm,1.2s						
A36M	Sachs Harbour	113.25	344	PKiKP	PKiKP	16 39 11.8	+1.1
	baz=134						
PRU	Pruhonice	113.29	44	*e*PDIFF	Pdif	16 35 17.7	-0.8
PRU				*e*SKS	SKSac	16 45 48.3	+0.4
PRU				AMS	AMS	17 19 20.0	
	comp=Z,3µm,32.1s						
PRU	Pruhonice	113.29	44	*i* P	Pdif	16 35 17.7	-0.8
PRU				*e*		16 45 48.3	
PRU				MLR	MLR		
	comp=Z,3µm,32.1s						
L26K	Log Cabin Wild	113.33	332	PKiKP	PKiKP	16 39 12.1	+0.9
	baz=122						
BRG	Berggiesshubel	113.36	43	*e*x	Pdif	16 35 22.0	+3.3
BRG	Berggiesshubel	113.36	43	*e*PKP	PKiKP	16 39 12.4	+0.9
BRG				Amp		16 39 17.0	
	comp=Z,5.1nm,0.8s						
BRG				*e*x	x	16 39 49.6	
BRG				Amp		16 39 53.1	
	comp=Z,4.8nm,0.8s						
BRG				*e*x	x	16 40 18.4	
BRG				Amp		16 40 25.9	
	comp=Z,10nm,1.3s						
BRG	Berggiesshubel	113.36	43	*e*PKIKP	PKiKP	16 39 12.4	+0.9
BRG				*e*		16 39 49.6	
BRG				SS	SS	16 55 40.0	-3.2
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,11nm,1.3s						
BRG				pmax	pmax		
	comp=Z,14nm,1.1s						
BRG				MLR	MLR		
	comp=N,484nm,20.1s						
BRG				MLR	MLR		
	comp=Z,2µm,23.3s						
BRG				MLR	MLR		
	comp=E,1µm,26.1s						
GOPC	GO Pecny, Ondr	113.40	45	AMS	AMS	17 24 00.0	
	comp=E,2µm,22.4s						
EGAK	Eagle	113.44	334	Pdiff	Pdif	16 35 21.0	+2.3
	baz=123						
EGAK				PKiKP	PKiKP	16 39 12.3	+1.0
	baz=123						
TREC	Trest	113.53	45	AMS	AMS	17 22 20.0	
	comp=E,2µm,22.3s						
PVCC	Panska Ves	113.55	44	AMS	AMS	17 22 40.0	
	comp=E,2µm,24.4s						
KLU	Klutina	113.57	330	Pdiff	Pdif	16 35 20.1	+0.6
	baz=120						
KLU				PKiKP	PKiKP	16 39 12.5	+0.8
	baz=120						
BER	Bergen	113.58	32	*e*PP	PP	16 40 06.8	+1.3
BER				*e*		16 47 38.4	
BER				*e*SP	SP	16 49 32.2	+1.2
BLS5	Blasjo	113.60	33	*e*Pdif	Pdif	16 35 23.8	+4.2
BLS5				*e*PP	PP	16 40 06.8	+1.1
BLS5				*e*		16 47 43.4	
BLS5				*e*SP	SP	16 49 29.4	-2.0
SUE	Sulen	113.67	31	*e*		16 47 43.0	
SUE				*e*SP	SP	16 49 34.2	+2.3
ODD1	Odda	113.91	33	*e*Pdif	Pdif	16 35 23.4	+2.4
ODD1				*e*PP	PP	16 40 07.2	-0.8
ODD1				*e*		16 47 46.7	
ODD1				*e*SP	SP	16 49 34.6	+0.3
HOMB	Homborsund	113.98	35	*e*PP	PP	16 40 08.7	+0.4
HOMB				*e*		16 47 44.7	
HOMB				*e*SP	SP	16 49 33.6	-1.2
M24K	Tolsona, Glenn	113.98	330	PKiKP	PKiKP	16 39 13.2	+0.7
	baz=120						
I27K	Kandik River	114.05	335	PKiKP	PKiKP	16 39 13.3	+0.8
	baz=122						
FOO	Floro	114.06	31	*e*PP	PP	16 40 08.3	-0.4
FOO				*e*		16 47 47.9	
FOO				*e*SP	SP	16 49 35.4	0.0
FOO				*e*SS	SS	16 55 53.1	+1.2
SCRK	Sand Creek	114.07	332	Pdiff	Pdif	16 35 22.2	+0.5
	baz=121						
SCRK				PKiKP	PKiKP	16 39 13.5	+0.8
	baz=121						
PAX	Paxson	114.13	331	Pdiff	Pdif	16 35 22.0	0.0
	baz=120						
J26L	Joseph Creek	114.18	333	Pdiff	Pdif	16 35 23.6	+1.4
	baz=121						
J26L				PKiKP	PKiKP	16 39 13.3	+0.4
	baz=121						
PWL	Port Wells	114.28	328	PKiKP	PKiKP	16 39 13.4	+0.4
	baz=119						
SCM	Sheep Creek Mo	114.32	330	Pdiff	Pdif	16 35 21.6	-1.3
	baz=119						
SCM				PKiKP	PKiKP	16 39 13.3	+0.1
	baz=119						
H27K	Steamboat Moun	114.36	335	Pdiff	Pdif	16 35 22.8	-0.1
	baz=122						
H27K				PKiKP	PKiKP	16 39 13.3	+0.3
	baz=122						
UPC	Upice	114.37	44	AMS	AMS	17 23 10.0	
	comp=E,2µm,22.5s						
M23K	Glacier View	114.47	329	PKiKP	PKiKP	16 39 14.7	+1.3
	baz=119						
DPC	Dobruska-Polom	114.48	45	*e*PDIFF	Pdif	16 35 27.1	+3.3
DPC				AMS	AMS	17 26 50.0	
	comp=E,2µm,23.3s						
DPC	Dobruska-Polom	114.48	45	*i* P	Pdif	16 35 27.1	+3.3
DPC				MLR	MLR		
	comp=Z,2µm,23.3s						
OSTC	Ostas	114.51	44	*e*PKP	PKiKP	16 39 15.2	+1.4
OSTC				*e*SDIF	Sdif	16 47 53.2	+6.2
OSTC				AMS	AMS	17 24 40.0	
	comp=Z,2µm,21.3s						
JMIC	Jan Mayen	114.59	19	*e*PP	PP	16 40 13.8	+1.4
JMIC				*e*SP	SP	16 49 42.9	+3.0
KNK	Knik Glacier	114.59	329	PKiKP	PKiKP	16 39 14.3	+0.7
	baz=118						
TEND	Ethiopian Broa	114.61	93	*e*P	PP	16 40 06.8	-6.8
KRLC	Kraliky	114.62	45	*e*PKP	PKiKP	16 39 15.4	+1.3
KRLC				*e*SDIF		16 47 56.2	
KRLC				AMS	AMS	17 27 30.0	
	comp=Z,1µm,23.6s						
KRLC	Kraliky	114.62	45	*e*PKIKP	PKiKP	16 39 15.4	+1.3
KRLC				MLR	MLR		
	comp=Z,1µm,23.6s						
O22K	Cooper Landing	114.70	328	PKiKP	PKiKP	16 39 15.2	+1.5
	baz=118						
G27K	Doyon Strip	114.70	336	Pdiff	Pdif	16 35 24.2	-0.2
	baz=122						
G27K				PKiKP	PKiKP	16 39 15.4	+1.7
	baz=122						
SML	Sawmill	114.73	329	Pdiff	Pdif	16 35 23.1	-1.5
	baz=118						
SML				PKiKP	PKiKP	16 39 14.4	+0.5
	baz=118						
KDAK	Kodiak Island	114.78	324	PKiKP	PKiKP	16 39 14.7	+0.7
	baz=117						
BRSE	Bradley Lake S	114.81	327	PKiKP	PKiKP	16 39 14.5	+0.4
	baz=117						
WAT6	Susitna Watana	114.85	330	Pdiff	Pdif	16 35 24.8	-0.5
	baz=118						
WAT6				PKiKP	PKiKP	16 39 14.7	+0.4
	baz=118						
BOVS	Bovan	114.90	53	⇑P	PKiKP	16 39 15.3	+0.5
MAUC	Maruska	114.93	46	*e*PKP	PKiKP	16 39 16.0	+1.3
MAUC				AMS	AMS	17 23 30.0	
	comp=Z,3µm,26.0s						

SKAR	Skarslia	115.01	32	*e*Pdif	Pdif	16 35 28.4	+2.4
SKAR				*e*PP	PP	16 40 16.3	+0.6
SKAR				*e*		16 47 54.3	
SKAR				*e*SP	SP	16 49 45.1	+0.8
KONO	Kongsberg	115.12	34	*e*Pdif	Pdif	16 35 27.4	+1.0
KONO				*e*PP	PP	16 40 16.6	+0.2
KONO				*e*		16 47 52.6	
KONO				*e*SP	SP	16 49 43.8	-1.5
AKN	Aaknes	115.15	30	*e*PP	PP	16 40 17.7	+1.2
AKN				*e*		16 47 58.8	
AKN				*e*SS	SS	16 56 07.3	+1.0
VYHS	Vyhne	115.16	47	*e*PKP	PKiKP	16 39 16.1	+1.0
VYHS				*e*		16 49 59.5	
VYHS	Vyhne	115.16	47	*e*PKIKP	PKiKP	16 39 16.1	+1.0
VYHS				*e*		16 49 59.5	
WAT1	Susitna Watana	115.30	330	PKiKP	PKiKP	16 39 16.0	+1.0
	baz=118						
OKC	Ostrava-Krasne	115.32	46	AMS	AMS	17 29 50.0	
	comp=Z,1µm,18.9s						
MMB	Musomiste	115.38	56	*e*P	PKiKP	16 39 18.5	+2.7
E27K	Coleen River	115.40	337	PKiKP	PKiKP	16 39 15.5	+0.5
	baz=121						
HDA	Harding Lake	115.41	332	PKiKP	PKiKP	16 39 15.2	+0.1
	baz=118						
PRP	Porcupine Dome	115.41	334	Pdiff	Pdif	16 35 28.9	+1.2
	baz=119						
PRP				PKiKP	PKiKP	16 39 15.6	+0.4
	baz=119						
VTS	Vitosha	115.48	55	*e*P	PKiKP	16 39 24.5	+8.4
G26K	Porcupine Rive	115.50	335	PKiKP	PKiKP	16 39 16.4	+1.2
	baz=120						
BLKB	Belogradchik	115.53	53	⇓P	PKiKP	16 39 16.6	+0.5
MOL	Molde	115.55	30	*e*SP	SP	16 49 50.0	+1.0
ILAR	Eielson Array	115.56	333	PKP	PKPdf	16 39 15.2	-0.2
	comp=Z,7.5nm,0.7s,baz=129,slow=1.3,SNR=30						
ILAR				PKKPbc	PKKPbc	16 49 50.4	+0.2
	comp=Z,1.9nm,0.7s,baz=305,slow=3.3,SNR=8.9						
BZS	Buzias	115.68	51	⇓P	PKiKP	16 39 17.0	+0.8
BZS	Buzias	115.68	51	⇓PKIKP	PKiKP	16 39 17.0	+0.8
CCB	Clear Creek Bu	115.85	332		PKPdf	16 39 15.5	-0.4
MCK	McKinley	115.87	331		PKPdf	16 39 14.6	-1.4
MCK	McKinley	115.87	331	PKiKP	PKiKP	16 39 17.2	+1.2
	baz=117						
MCK	McKinley	115.87	331	PKIKP	PKPdf	16 39 14.6	-1.4
H25K	Birch Creek	115.88	334	Pdiff	Pdif	16 35 30.5	+1.0
	baz=118						
H25K				PKiKP	PKiKP	16 39 16.9	+1.0
	baz=118						
HERR	Herculane	115.89	52	⇑P	PKiKP	16 39 17.8	+1.2
P19K	Oil Pt	115.90	326	PKiKP	PKiKP	16 39 17.0	+0.8
	baz=116						
DOMB	Dombas	115.95	31	*e*PP	PP	16 40 22.0	-0.2
DOMB				*e*		16 48 04.2	
DOMB				*e*SP	SP	16 49 55.2	+2.5
COLA	College	115.97	332	*i* PKIKP	PKiKP	16 39 16.7	+0.6
SIRR	Siria	115.98	50	⇑P	PKiKP	16 39 17.8	+1.0
ATD	Arta Tunnel	115.98	94	*e*P	PP	16 40 20.8	-2.5
ATD	Arta Tunnel	115.98	94	*e*P	PP	16 40 19.8	-3.5
F26K	Sheenjek River	115.99	336	Pdiff	Pdif	16 35 31.9	+1.7
	baz=119						
F26K				PKiKP	PKiKP	16 39 16.4	+0.3
	baz=119						
PGB	Panagyurishte	116.08	55	*e*P	PKiKP	16 39 25.8	+8.7
RZN	Rozhen	116.09	56	*e*P	PKiKP	16 39 27.9	+11
N20K	Mount Spurr	116.11	328	PKiKP	PKiKP	16 39 16.9	+0.3
	baz=116						
SPCR	Spurr Chakacha	116.11	328	PKiKP	PKPdf	16 39 16.2	-0.4
	baz=116						
SKT	Skwentna	116.16	329	PKiKP	PKPdf	16 39 16.5	-0.1
	baz=116						
G25K	Bearman Lake	116.21	335	PKiKP	PKiKP	16 39 17.1	+0.6
	baz=118						
TRF	Thorofare Moun	116.28	330	PKiKP	PKiKP	16 39 17.6	+0.5
	baz=116						
NEA2	Nenana	116.31	332	PKiKP	PKiKP	16 39 16.9	+0.1
	baz=116						
Q18K	Katmai Hardscr	116.31	325	PKiKP	PKiKP	16 39 17.2	0.0
	baz=115						
H24K	Noodor Dome	116.42	333	Pdiff	Pdif	16 35 33.8	+1.7
	baz=117						
H24K				PKiKP	PKiKP	16 39 18.1	+1.0
	baz=117						
F25K	Christian Rive	116.44	336	PKiKP	PKiKP	16 39 18.0	+0.9
	baz=118						
NB2	NORSAR Subarra	116.45	33	PKPdf	PKiKP	16 39 19.0	+1.8
	comp=Z,7.9nm,1.4s,baz=248,slow=1.9						
NB2				PKKP	PKKPab	16 49 48.2	+0.3
	comp=Z,16nm,1.1s,baz=64,slow=4.4						
NOA	NORSAR Array B	116.45	33	PKP	PKiKP	16 39 17.8	+0.6
	comp=Z,0.4nm,0.7s,baz=251,slow=2.1,SNR=3.4						
NOA				pPKP	pPKPdf	16 39 41.8	-1.0
	comp=Z,2.1nm,0.8s,baz=243,slow=2.0,SNR=4.4						
NOA				PKKPbc	PKKPab	16 49 50.7	+2.9
	comp=Z,4.5nm,0.8s,baz=66,slow=4.5,SNR=12						
KDZ	Kurdzhali	116.55	56	*e*P	PKiKP	16 39 26.7	+8.7
Q17K	Contact Creek	116.57	324	PKiKP	PKiKP	16 39 17.9	+0.3
	baz=114						
O19K	Port Alsworth	116.63	326	PKiKP	PKiKP	16 39 18.2	+0.7
	baz=114						
E25K	Arctic Village	116.67	336	PKiKP	PKiKP	16 39 18.2	+0.7
	baz=118						
G24K	Hadweenzic Riv	116.67	334	PKiKP	PKiKP	16 39 18.0	+0.6
	baz=117						
M20K	Styx River	116.80	328	PKiKP	PKiKP	16 39 18.1	+0.2
	baz=114						
PPLA	Purkeypile	116.83	330	PKiKP	PKiKP	16 39 18.6	+0.5
	baz=115						
BPAW	Bear Paw Mtn.	116.85	331	PKiKP	PKiKP	16 39 18.6	+0.7
	baz=115						
DRGR		116.86	50	⇑P	PKPdf	16 39 17.4	-1.1
DRGR		116.86	50	⇑PKIKP	PKPdf	16 39 17.4	-1.1
N19K	Bonanza Creek	116.96	327	PKiKP	PKiKP	16 39 18.4	+0.1
	baz=114						
STHS	Stebnicka Huta	116.99	47	*e*PKP	PKiKP	16 39 23.0	+4.4
STHS				*e*		16 49 47.0	
STHS	Stebnicka Huta	116.99	47	*e*PKIKP	PKiKP	16 39 23.0	+4.4
ASAR	Alice Springs	117.00	206	PKP	PKiKP	16 39 19.6	0.0
	comp=Z,7.9nm,0.6s,baz=177,slow=3.3,SNR=28						
ASAR				pPKP	pPKPdf	16 39 44.9	-0.2
	comp=Z,6.4nm,0.8s,baz=137,slow=2.0,SNR=5.1						
ASAR				PKKPbc	PKKPbc	16 49 44.2	-0.1
	comp=Z,2.9nm,0.6s,baz=338,slow=3.3,SNR=34						
ASAR	Alice Springs	117.00	206	PKPdf	PKPdf	16 39 18.0	-1.6
CAST	Castle Rocks	117.00	330	Pdiff	Pdif	16 35 35.6	+0.9
	baz=115						
CAST				PKiKP	PKiKP	16 39 18.6	+0.4
	baz=115						
H23K	Yukon River	117.03	333	PKiKP	PKiKP	16 39 19.4	+1.2
	baz=116						
CHNA	Chernabura Isl	117.08	319	PKiKP	PKiKP	16 39 19.3	+0.8
	baz=113						
Q16K	King Salmon	117.11	324	PKiKP	PKiKP	16 39 19.0	+0.5
	baz=113						
MLY	Manley	117.14	332	Pdiff	Pdif	16 35 35.5	+0.2
	baz=115						
MLY				PKiKP	PKiKP	16 39 18.9	+0.4
	baz=115						
F24K	Squaw Lake	117.18	335	PKiKP	PKiKP	16 39 18.6	+0.1
	baz=116						
P17K	Kvichak River	117.21	325	PKiKP	PKPdf	16 39 18.5	-0.2
	baz=113						
CHUM	Lake Minchumin	117.29	331	PKiKP	PKiKP	16 39 19.2	+0.5
	baz=114						
UZH	Uzhgorod	117.32	48	*i* PKIKP	PKPdf	16 39 19.0	-0.2
UZH				*i*		16 39 39.7	
UZH				*e*		16 40 31.5	
UZH				*e*PPP	PPP	16 42 59.9	
UZH				*e*		16 46 07.6	
UZH				*e*PS	PS	16 50 18.6	+1.7
HUMR	Humele	117.42	53	⇓P	PKiKP	16 39 19.9	+0.3
D25K	Kavik River	117.48	337	PKiKP	PKiKP	16 39 19.4	+0.4
	baz=117						
ARR	Arges	117.52	52	⇑P	PKiKP	16 39 20.9	+1.1
N18K	Kilae Creek	117.54	326	PKiKP	PKPdf	16 39 19.1	-0.2
	baz=113						
SZH	Strazhica	117.56	55	*e*P	PKPdf	16 39 16.2	-3.7
G23K	Bananza Creek	117.58	334	PKiKP	PKiKP	16 39 20.1	+0.8
	baz=115						
E24K	Your Creek	117.63	336	PKiKP	PKiKP	16 39 20.1	+0.8
	baz=115						
L19K	White Mountain	117.67	328	PKiKP	PKiKP	16 39 20.0	+0.5
	baz=113						
JMB	Yambol	117.68	56	*e*P	PKPdf	16 39 18.1	-2.0
I21K	Tanana	117.69	332	PKiKP	PKiKP	16 39 20.2	+0.8
	baz=114						

Sta	Name	Delta	Az	Phase	ID	Time	Res
O17K	Koliganek Bris	117.74	325	PKiKP	PKiKP	16 39 20.3	+0.6
	baz=112						
H22K	Ishtalitna Cre	117.75	333	PKiKP	PKiKP	16 39 20.2	+0.6
	baz=114						
SDPT	Sand Point	117.75	320	PKiKP	PKiKP	16 39 20.0	+0.2
	baz=112						
K20K	Telida	117.80	330	PKiKP	PKiKP	16 39 20.3	+0.5
	baz=113						
VOIR		117.82	52	⇑P	PKiKP	16 39 21.3	+0.9
VOIR		117.82	52	⇑PKIKP	PKiKP	16 39 21.3	+0.9
COLD	Coldfoot	117.86	334	PKiKP	PKiKP	16 39 21.1	+1.4
	baz=114						
VIKU	Vikbolandet	117.99	36	*e*P	PKiKP	16 39 22.5	+2.3
E23K	Chandalar	118.00	335	PKiKP	PKiKP	16 39 21.0	+0.9
	baz=114						
J20K	Nowinta River	118.14	330	PKiKP	PKiKP	16 39 20.7	+0.3
	baz=113						
H21K	Melozitna Rive	118.19	332	PKiKP	PKiKP	16 39 20.8	+0.3
	baz=113						
TOLK	Toolik Lake Re	118.23	336	PKiKP	PKiKP	16 39 20.7	+0.2
	baz=114						
DOPR	Dopca	118.24	52	⇑P	PKPdf	16 39 20.2	-1.0
MLR	Muntele Rosu	118.42	53	⇓P	PKiKP	16 39 22.0	+0.3
MLR	Muntele Rosu	118.42	53	⇓PKIKP	PKiKP	16 39 22.0	+0.3
TTA	Tatalina	118.45	329	PKiKP	PKiKP	16 39 21.8	+0.7
	baz=112						
PRD	Provadia	118.52	55	*e*P	PKiKP	16 39 28.6	+6.9
D23K	Nanushuk River	118.73	336	PKiKP	PKiKP	16 39 23.1	+1.7
	baz=113						
BURAR	Bucovina Array	118.75	50	⇑P	PKiKP	16 39 22.6	+0.4
BURAR	Bucovina Array	118.75	50	PKPdf	PKiKP	16 39 22.9	+0.7
BURAR	Bucovina Array	118.75	50	⇑PKIKP	PKiKP	16 39 22.6	+0.4
N16K	Nishlik Lake	118.78	326	PKiKP	PKiKP	16 39 22.6	+0.8
	baz=111						
G21K	Allakaket	118.78	333	PKiKP	PKiKP	16 39 22.2	+0.6
	baz=112						
UPP	Uppsala	118.93	35	*e*P	PKiKP	16 39 23.2	+1.3
UPP				*e*S	PKKPbc	16 49 39.7	+1.7
PLOR	Plostina	119.02	52	⇓P	PKPdf	16 39 22.5	-0.1
PLOR	Plostina	119.02	52	⇓PKIKP	PKPdf	16 39 22.5	-0.1
F21K	Alatna River	119.04	334	PKiKP	PKiKP	16 39 23.4	+1.3
	baz=112						
C23K	Itkillik River	119.05	337	PKiKP	PKiKP	16 39 23.4	+1.4
	baz=113						
VRI	Vrincioaia	119.07	52	⇑P	PKPdf	16 39 22.3	-0.4
VRI	Vrincioaia	119.07	52	⇑PKIKP	PKPdf	16 39 22.3	-0.4
TESR	Tescani	119.26	52	⇑P	PKiKP	16 39 23.6	+0.5
HARR	Harsova	119.43	54	⇑P	PKiKP	16 39 24.2	+0.8
HARR	Harsova	119.43	54	⇑PKIKP	PKiKP	16 39 24.2	+0.8
GCSA	Galena City Sc	119.46	331	PKiKP	PKiKP	16 39 24.7	+1.9
	baz=110						
NOR	Nord	119.70	8	*i* P	PKPdf	16 39 22.9	0.0
CFR	Carcaliu	119.74	54	⇑P	PKiKP	16 39 24.7	+0.7
CFR	Carcaliu	119.74	54	⇑PKIKP	PKiKP	16 39 24.7	+0.7
PBUR	Paburge	119.78	40	*e*P	PKiKP	16 39 26.5	+2.7
VLDR	Vladesti	119.95	53	⇓P	PKPdf	16 39 19.6	-4.7
VASR	Vaslui	120.04	52	⇑P	PKPdf	16 39 24.1	-0.4
AAL	Aland	120.15	35	*e*P	PKiKP	16 39 25.7	+1.3
WRA	Warramunga Arr	120.24	208	PKP	PKPdf	16 39 25.1	-0.8
	comp=Z,19nm,0.4s,baz=167,slow=1.6,SNR=67						
WRA				pPKP	pPKPdf	16 39 52.8	+1.4
	comp=Z,18nm,0.8s,baz=177,slow=1.5,SNR=5.3						
WRA				PKKPbc	PKKPbc	16 49 32.1	-0.4
	comp=Z,2.3nm,0.8s,baz=345,slow=4.3,SNR=23						
WRAB	Tennant Creek	120.25	208c	*i*PKIKP	PKiKP	16 39 26.5	+0.5
WRAB				pmax	pmax		
	comp=Z,42nm,1.0s						
PABE	Paberze	120.70	41	*e*P	PKiKP	16 39 28.0	+2.5
PABE				*e*S	PKKPbc	16 49 34.0	+2.7
KIS	Kishinev	120.82	52	*e*PP	PP	16 40 52.0	-4.3
KIS				*e*L	L	17 20 18.0	
KIS				LRM	MLR	17 30 23.0	
	comp=Z,500nm,23.0s						
KIS	Kishinev	120.82	52	*e*PKIKP	PKiKP	16 39 27.0	+0.9
KIS				MLR	MLR		
	comp=Z,500nm,23.0s						
RAF	Rauma	121.24	35	*e*P	PKiKP	16 39 26.5	0.0
RAF				*e*S	PKKPbc	16 49 30.9	+1.6
BR131	Keskin Array S	121.57	61	PKiKP	PKiKP	16 39 28.8	+0.7
BR131	Keskin Array S	121.57	61	*i* PKIKP	PKiKP	16 39 28.4	+0.3
BRTR	Keskin Array B	121.57	61	PKP	PKiKP	16 39 28.3	+0.2
	comp=Z,6.2nm,0.8s,baz=249,slow=4.7,SNR=13						
BRTR				pPKP	pPKPdf	16 39 53.4	-0.2
	comp=Z,8.2nm,0.7s,baz=205,slow=3.4,SNR=4.9						
BRTR				PP	PP	16 40 59.3	-2.5
	comp=Z,1.6nm,0.8s,baz=262,slow=25,SNR=1.3						
MTSE	Matsula	121.58	38	*e*P	PKPdf	16 39 24.8	-2.2
MTSE				*e*S	PKKPbc	16 49 27.9	-0.1
IIGN	Ignalina	121.88	42	*e*P	PKiKP	16 39 30.1	+2.1
ISAL	Salakas	121.89	42	*e*P	PKiKP	16 39 30.8	+2.9
NACGM	Naroch	122.06	42	*e*PKP	PKiKP	16 39 28.7	+0.4
	comp=Z,32nm,0.8s,baz=254						
AKASG	Malin Array Be	122.26	48	PKP	PKPdf	16 39 27.3	-1.3
	comp=Z,3.4nm,0.4s,baz=265,slow=2.7,SNR=18						
AKASG				pPKP	pPKPdf	16 39 53.1	-1.2
	comp=Z,9.3nm,0.7s,baz=261,slow=2.8,SNR=4.7						
AKASG				PP	PP	16 41 02.4	-3.5
	comp=Z,0.3nm,0.3s,baz=272,slow=35,SNR=3.1						
AKASG				PKKPbc	PKKPbc	16 49 26.9	+1.6
	comp=Z,2.8nm,0.6s,baz=61,slow=4.8,SNR=9.5						
AKASG	Malin Array Be	122.26	48	PKPdf	PKPdf	16 39 27.6	-1.0
AKASG	Malin Array Be	122.26	48	PKIKP	PKPdf	16 39 27.6	-1.0
AKBB	Malin Array Si	122.26	48	PKPdf	PKPdf	16 39 27.3	-1.3
AKBB	Malin Array Si	122.26	48	PKIKP	PKPdf	16 39 27.3	-1.3
MEF	Metsahovi	122.27	36	*e*P	PKiKP	16 39 28.7	+0.2
MEF				*e*S	PKKPbc	16 49 25.9	+0.4
MNK	Minsk	122.56	43	*i* PKP	PKiKP	16 39 29.8	+0.5
	comp=E,3.0nm,0.8s						
MNK				*i* PKP	PKiKP	16 39 29.8	+0.5
	comp=N,54nm,1.0s						
MNK				*i* PKP	PKiKP	16 39 29.8	+0.5
	comp=Z,45nm,0.8s,baz=254						
MNK				*i* pPKP	pPKPdf	16 39 52.4	-2.4
MNK				*i* sPKP		16 40 01.0	
MNK				*i* PP	PP	16 41 07.3	-0.6
MNK				*i* PPP	PPP	16 43 43.8	
MNK				*i* SKS	SKSdf	16 46 34.4	+1.9
MNK				*i* SS	SS	16 57 43.4	+1.0
MNK				*i* SSS	SSS	17 01 50.4	
MNK				*i* LQ	LQ	17 25 34.7	
MNK				*i* LR	LR	17 29 18.8	
MNK				*i* LRM	MLR	17 34 32.6	
	comp=E,192nm,17.6s						
MNK				*i* LRM	MLR	17 35 18.4	
	comp=Z,1µm,20.3s						
MNK				*i* LRM	MLR	17 35 30.0	
	comp=N,590nm,20.3s						
MNK	Minsk	122.56	43	*i* PKIKP	PKiKP	16 39 29.8	+0.5
MNK				*i*		16 39 52.3	
MNK				*i*		16 40 01.0	
MNK				*i*		16 41 07.2	
MNK				*i* PPP	PPP	16 43 43.8	
MNK				*i*		16 46 34.3	
MNK				*i* SS	SS	16 57 43.3	+1.0
MNK				pmax	pmax		
	comp=N,54nm,1.0s						
MNK				pmax	pmax		
	comp=Z,45nm,0.8s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,192nm,18.0s						
PSA00	Pilbara Seismi	122.74	192		PKPdf	16 39 29.8	-0.9
ANM	Nome	122.91	329	PKiKP	PKiKP	16 39 30.8	+1.1
	baz=103						
PMG	Port Moresby	122.94	227	*i* PKIKP	PKiKP	16 39 32.1	+0.7
VSU	Vasula	122.98	38	*e*P	PKPdf	16 39 28.4	-1.3
MBWA	Marble Bar	123.16	192	PKPdf	PKPdf	16 39 30.2	-1.3
MBWA	Marble Bar	123.16	192	PKiKP	PKPdf	16 39 30.6	-0.9
FINES	FINESS Array B	123.37	35	PKP	PKiKP	16 39 30.8	+0.1
	comp=E,3.4nm,0.6s,baz=270,slow=1.0,SNR=21						
FINES				pPKP	pPKPdf	16 39 57.1	+1.1
	comp=E,6.3nm,0.7s,baz=270,slow=1.3,SNR=4.3						
FINES				PKKPbc	PKKPbc	16 49 20.0	-1.2
	comp=E,2.9nm,0.4s,baz=82,slow=3.8,SNR=25						
SIM	Simferopol'	123.66	55	*i* PKIKP	PKiKP	16 39 32.5	+0.7
SIM				*e*		16 41 19.0	
SIM				pmax	pmax		
	comp=Z,33nm,0.8s						
SIM				MLR	MLR		
	comp=Z,2µm,21.0s						
TNA	Tin City	124.17	330	PKiKP	PKiKP	16 39 32.8	+0.7
	baz=100						
RAYN	Ar Rayn	124.23	84	PKiKP	PKiKP	16 39 33.6	0.0

Sta	Name	Delta	Az	Phase	ID	Time	Res
RAYN	Ar Rayn	124.23	84	*i* PKPdf	PKPdf	16 39 32.3	-1.1
	SNR=23						
RAYN	Ar Rayn	124.23	84	⇑PKIKP	PKiKP	16 39 35.1	+1.4
ARCES	ARCESS Array B	124.61	25	PKP	PKiKP	16 39 34.8	+1.8
	comp=Z,5.1nm,0.6s,baz=260,slow=2.7,SNR=24						
ARCES				pPKP	pPKPdf	16 39 57.6	-0.7
	comp=Z,7.6nm,0.6s,baz=260,slow=3.2,SNR=5.2						
ARCES				PKKPbc	PKKPbc	16 49 18.4	+2.0
	comp=Z,1.0nm,0.5s,baz=87,slow=3.4,SNR=10						
ARCES				SS	SS	16 57 54.1	-13
	comp=Z,1.9nm,1.0s,baz=326,slow=15,SNR=1.1						
ANN	Anapa	125.87	56	*i* PKIKP	PKiKP	16 39 38.1	+1.9
ANN				*e*		16 39 58.4	
ANN				*e*		16 41 30.4	
ANN				*e*SP	SP	16 51 27.8	+5.5
ANN				pmax	pmax		
	comp=Z,70nm,1.3s						
ADK	Adak	125.93	313	PKPdf	PKiKP	16 39 36.8	+0.8
ADK	Adak	125.93	313	PKIKP	PKiKP	16 39 36.8	+0.8
KTUT	Trabzon	126.41	62	⇑P	PKiKP	16 39 38.1	+0.7
SOC	Sochi	127.12	58	*i* PKIKP	PKPdf	16 39 37.7	-0.5
SOC				*e*PS	PS	16 51 34.4	-10
APA	Apatity	127.33	28	⇓*i*PKIKP	PKPdf	16 39 37.3	-0.5
APA				*i*		16 41 36.1	
APA				*i*		16 46 37.0	
APA				*i* PS	PS	16 51 39.0	-6.2
APA				*i* PPS	PPS	16 53 02.0	
OBN	Obninsk	127.60	44	⇓P	PKiKP	16 39 39.2	-0.1
OBN	Obninsk	127.60	44d	*i*PKIKP	PKPdf	16 39 38.9	+0.2
OBN				*i*		16 40 05.9	
OBN				*i*		16 40 11.8	
OBN				*e*		16 41 41.5	
OBN				*e*PPP	PPP	16 44 30.8	
OBN				*i*		16 46 36.2	
OBN				*e*PS	PS	16 51 45.7	-2.2
OBN				*e*SS	SS	16 58 51.3	+5.8
OBN				pmax	pmax		
	comp=Z,86nm,1.2s						
OBN				MLR	MLR		
	comp=Z,878nm,18.0s						
ABTO	Aybut	127.63	95	PKiKP	PKiKP	16 39 41.0	+0.4
	SNR=8.2						
LVZ	Lovozero	127.81	27	⇓PKIKP	PKPdf	16 39 29.5	-9.3
MOS	Moscow	128.29	43	*e*PKIKP	PKPdf	16 39 39.2	-0.8
MOS				*e*		16 40 06.4	
MOS				*e*		16 40 16.8	
MOS				*e*		16 41 42.8	
MOS				*e*SS	SS	16 58 48.1	-5.9
MOS				pmax	pmax		
	comp=Z,32nm,0.8s						
MOS				MLR	MLR		
	comp=Z,2µm,21.0s						
WHFO	Wadi Hawf	128.30	94	PKiKP	PKiKP	16 39 42.0	+0.1
	SNR=7.6						
RBK	Rabkut	128.44	95	PKiKP	PKiKP	16 39 42.4	+0.2
VSR	Storozhevoye	128.48	49	*e*PKIKP	PKPdf	16 39 40.0	-0.5
VSR				*e**PP	pPKPdf	16 40 05.1	-1.1
VSR				pmax	pmax		
	comp=Z,20nm,1.2s						
LPSR	Galich'ya Gora	128.57	47	*e*PKIKP	PKPdf	16 39 40.7	0.0
LPSR				*e**PP	pPKPdf	16 40 06.2	-0.1
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
VORR	Voronezh	128.59	48	*e*PKIKP	PKPdf	16 39 39.3	-1.4
VORR				pmax	pmax		
	comp=Z,80nm,0.5s						
DOK	Doka	128.95	94	PKiKP	PKiKP	16 39 43.0	-0.1
	SNR=13						
SMRA	Abu-Samra	129.12	85	PKiKP	PKiKP	16 39 44.9	+1.6
NEY	Neytrino	129.14	60	*i* PKIKP	PKiKP	16 39 43.9	+0.9
DMTO	DMTO	129.16	95	PKiKP	PKiKP	16 39 44.0	+0.4
	SNR=6.6						
KIV	Kislovodsk	129.29	59	⇑P	PKiKP	16 39 43.8	+0.6
KIV	Kislovodsk	129.29	59	PKPdf	PKiKP	16 39 43.3	+0.1
KIV	Kislovodsk	129.29	59	*i* P	Pdif	16 36 28.3	-1.6
KIV				*i*		16 39 41.7	
KIV				*e*		16 41 51.2	
KIV				*e*		16 46 41.6	
KIV				*e*PS	PS	16 52 01.3	-2.0
KIV				*e*SS	SS	16 59 06.2	-1.1
KIV				*e*SSS	SSS	17 03 52.1	
KIV				pmax	pmax		
	comp=Z,33nm,1.1s						
KIV				MLR	MLR		
	comp=Z,594nm,23.0s						
KBZ	Khabaz	129.39	59	PKP	PKiKP	16 39 43.1	-0.1
	comp=Z,10nm,1.0s,baz=268,slow=7.7,SNR=9.3						
KBZ				SKP		16 42 55.2	
	comp=Z,8.4nm,0.8s,baz=228,slow=13,SNR=5.0						
KBZ				SS	SS	16 58 57.2	-11
	comp=Z,1.0nm,0.6s,baz=121,slow=6.7,SNR=2.0						
KBZ	Khabaz	129.39	59c	*i*PKIKP	PKiKP	16 39 43.5	+0.3
KLMR	Klimovskoe	129.74	37	⇓*i*PKPdf	PKPdf	16 39 43.0	+0.4
KLMR				*e*PKPdf	PKPdf	16 39 43.0	+0.4
KLMR				*e*PKPdf	PKPdf	16 39 43.0	+0.4
KLMR				AMP		16 39 47.0	
	comp=Z,85nm,1.4s						
KLMR				*e*pPKPdf	pPKPdf	16 40 09.3	+1.1
KLMR				PP	PP	16 41 51.6	-3.6
KLMR				*e*		16 42 55.5	
KLMR				*e*		16 43 42.2	
KLMR				SKKSac	SKKSac	16 48 51.3	+8.8
KLMR				SKKSac	SKKSac	16 48 51.3	+8.8
KLMR				SP	SP	16 51 57.7	+2.8
KLMR				SS	SS	16 58 33.0	-39
KLMR				SS	SS	16 58 33.0	-39
KLMR				LR	LR	17 18 30.8	
KLMR				AMP		17 26 30.1	
	comp=Z,2µm,24.6s						
KLMR	Klimovskoe	129.74	37d	*i*PKIKP	PKPdf	16 39 42.9	+0.4
KLMR				*e*		16 40 09.3	
KLMR				SP	SP	16 51 57.6	+2.7
GOF	Gofitskoye	129.79	57⇑	*e*PKIKP	PKiKP	16 39 46.4	+2.4
GNI	Garni	129.80	64	PKiKP	PKiKP	16 39 45.1	+0.7
GNI	Garni	129.80	64	PKiKP	PKiKP	16 39 45.2	+0.7
GNI	Garni	129.80	64c	*i*PKIKP	PKiKP	16 39 45.6	+1.2
GNI				pmax	pmax		
	comp=Z,35nm,1.3s						
ZEI	Tsey	129.87	60	*i* PKIKP	PKPdf	16 39 43.0	-0.8
ZEI				pmax	pmax		
	comp=Z,17nm,0.9s						
VRH	Novokhopyorsk	130.06	49	*e*PKIKP	PKiKP	16 39 44.2	-0.1
VRH				*e**PP	pPKPdf	16 40 09.7	+0.5
VRH				pmax	pmax		
	comp=Z,20nm,0.7s						
GROC	Groznyy	131.32	60	*i* PKIKP	PKPdf	16 39 46.3	+0.1
GROC				*e*		16 40 11.4	
GROC				*e*		16 40 20.7	
GROC				pmax	pmax		
	comp=Z,41nm,0.7s						
UMZA	Um Al Zommool	131.76	90	PKiKP	PKPdf	16 39 47.6	-0.1
AKT	Akhty	132.32	63	*e*PKIKP	PKiKP	16 39 52.6	+3.2
AKT				*e*		16 40 15.6	
AKT				*e*		16 42 18.3	
AKT				pmax	pmax		
	comp=Z,42nm,1.1s						
DQM	DQM	132.39	94	PKiKP	PKiKP	16 39 50.1	0.0
	SNR=14						
MAK	Makhachkala	132.49	61	*i* P	Pdif	16 36 46.2	+2.2
MAK				*i*		16 39 47.3	
MAK				*e*		16 40 11.4	
MAK				*e*		16 42 11.7	
MAK				*e*PPP	PPP	16 45 04.2	
MAK				*e*		16 46 52.1	
MAK				*e*SS	SS	16 59 48.3	+2.1
MAK				*e*SSS	SSS	17 04 43.1	
MAK				pmax	pmax		
	comp=Z,371nm,1.5s						
GENI	Genyem	132.51	224	PKP	PKPdf	16 39 42.6	-6.8
PRGR	Permogore	132.68	36⇑	*i*PKIKP	PKiKP	16 39 50.2	+0.9
PRGR				*i*		16 40 17.6	
PRGR				pmax	pmax		
	comp=Z,63nm,1.6s						
ALNE	Al Ain	132.85	88	PKiKP	PKiKP	16 39 50.6	-0.3
	SNR=7.4						
ALNE	Al Ain	132.85	88	*i* PKiKP	PKiKP	16 39 50.6	-0.3
	SNR=6.2						
FAQ	Al Faqa, Dubai	133.02	88	PKiKP	PKPdf	16 39 50.0	0.0
FAQ	Al Faqa, Dubai	133.02	88	PKPdf	PKPdf	16 39 50.0	0.0
SOEI	Soe	133.14	201	PKP	PKPdf	16 39 46.2	-4.5
ARQ	Araqi	133.16	90	PKPdf	PKPdf	16 39 49.5	-0.8
MHTO	MHTO	133.26	93	PKPdf	PKPdf	16 39 48.8	-1.7
	SNR=9.0						

Sta	Name	Delta	Az	Phase	ID	Time	Res
ASHO	Ashiyiah	133.38	88	PKiKP	PKPdf	16 39 50.8	+0.1
	SNR=5.4						
ASHO	Ashiyiah	133.38	88	PKPdf	PKPdf	16 39 50.8	+0.1
BSY	Bisya	133.45	91	PKiKP	PKPdf	16 39 50.7	-0.2
	SNR=12						
HATD	Hatta, Dubai	133.50	88	PKiKP	PKiKP	16 39 51.6	-0.6
	SNR=5.1						
HATD	Hatta, Dubai	133.50	88	PKPdf	PKPdf	16 39 50.7	-0.2
MSFE	Esma-Masafi	133.75	87	PKPdf	PKPdf	16 39 51.7	+0.3
BELG	Belogornoye	133.83	48	*i* PKIKP	PKPdf	16 39 50.8	+0.2
HOQ	Hoqain	133.92	90	PKiKP	PKPdf	16 39 51.6	-0.2
	SNR=5.9						
JMDO	Jabal Madar	134.02	92	PKiKP	PKPdf	16 39 52.1	+0.2
SHME	Shamm	134.02	86	PKiKP	PKiKP	16 39 52.5	-0.6
	SNR=6.1						
SHME	Shamm	134.02	86	*i* PKPdf	PKPdf	16 39 52.4	+0.6
	SNR=10						
BANOM	Banah	134.10	86	PKiKP	PKPdf	16 39 51.9	-0.2
BANOM	Banah	134.10	86	PKPdf	PKPdf	16 39 52.4	+0.3
BILL	Bilibino	134.19	334	⇓PKIKP	PKiKP	16 39 52.1	-0.1
SMDO	Samad	134.29	91	PKiKP	PKPdf	16 39 52.4	-0.2
	SNR=11						
BIDO	Bidbid	134.56	90	PKiKP	PKPdf	16 39 53.3	+0.4
	SNR=6.6						
MMRI	Maumere	134.77	199	PKP	PKPdf	16 39 49.3	-4.4
MMRI				PKP	PKiKP	16 39 52.1	-3.0
KIRV	Kirov	134.79	40c	*i*PKIKP	PKiKP	16 39 53.6	-0.1
WBK	Wadi Bani Khal	134.84	92	PKiKP	PKPdf	16 39 54.1	+0.5
	SNR=8.8						
WSAR	Wadi Sarin	134.85	91	PKiKP	PKPdf	16 39 53.7	+0.2
	SNR=9.4						
TWSI	Taliwang, Sumb	135.80	191	PKP	PKPdf	16 39 49.2	-6.4
IGBI	Denpasar	135.96	189	PKP	PKiKP	16 39 57.6	+0.1
KLNI	Mataram	136.23	190	PKP	PKPdf	16 39 51.0	-5.4
FAKI	Fak Fak	136.38	215	PKP	PKiKP	16 39 58.0	-0.4
MWPI	Manokwari, Pap	137.23	218	PKP	PKPdf	16 39 54.8	-3.4
AAI	Ambon	137.45	209	PKP	PKPdf	16 39 53.2	-5.4
BSSI	Bau Bau, Buton	137.60	197	PKP	PKPdf	16 39 54.3	-4.6
BBSI	Bau Bau	137.69	200	PKP	PKPdf	16 39 54.5	-4.6
KRAI	Karang Ratu	137.70	209	PKP	PKPdf	16 39 52.0	-7.1
CNJI	Cibinong	137.80	177	PKP	PKPdf	16 39 55.8	-3.5
KMMI	Kalianget	137.84	187	PKP	PKiKP	16 40 01.3	0.0
SMRI	Semarang	138.08	182	PKP	PKPdf	16 39 57.1	-2.7
CTJI	Waduk Cacaban	138.14	180	PKP	PKPdf	16 39 55.8	-4.1
NLAI	Namlea	138.28	208	PKP	PKPdf	16 39 52.2	-8.0
LEM	Lembang	138.30	178	PKhKP	PKPpre	16 39 52.9	
	comp=Z,45nm,0.8s,baz=323,slow=20,SNR=12						
LEM	Lembang	138.30	178	PKP	PKPdf	16 39 54.7	-5.7
BKSI	Bulukumba	138.48	197	PKP	PKPdf	16 39 55.0	-5.5
BKSI				PKP	PKiKP	16 39 55.5	-7.2
SIJI	Sorong	138.64	215	PKP	PKPdf	16 39 52.9	-8.0
KAPI	Kappang	138.87	196	PKhKP	PKPpre	16 39 57.6	
	comp=Z,20nm,0.6s,baz=169,slow=10,SNR=3.8						
KAPI				SKPbc	SKiKP	16 43 31.8	+0.5
	comp=Z,5.0nm,0.5s,baz=222,slow=2.9,SNR=3.9						
KKSI	Kolaka, Sulawe	139.20	199	PKP	PKPdf	16 40 02.5	+0.6
BNSI	Bone	139.38	197	PKP	PKPdf	16 40 01.5	-0.7
GEYT	Alibeck	139.38	71	PKhKP	PKPpre	16 39 53.4	
	comp=Z,8.3nm,0.7s,baz=262,slow=4.4,SNR=10						
GEYT				PP	PP	16 42 56.0	-1.1
	comp=Z,11nm,1.1s,baz=268,slow=4.3,SNR=3.5						
GEYT				SS	SS	17 01 00.0	-8.9
	comp=Z,0.6nm,0.4s,baz=216,slow=35,SNR=1.8						
GYA0	ALIBECK ARRAY	139.38	71	PKIKP	PKPdf	16 39 57.3	-4.2
KASI	Kota Agung	139.39	173	PKP	PKPdf	16 39 55.1	-7.1
KASI				PKP	PKiKP	16 39 56.7	-7.8
SANI	Sanana	139.80	207	PKP	PKPdf	16 39 55.8	-7.1
SPSI	Sidrap Palu	139.88	197	PKP	PKPdf	16 39 56.7	-6.4
SPSI				PKP	PKiKP	16 39 57.3	-8.2
ARU	Arti	139.96	42	*i* PKIKP	PKPdf	16 40 03.0	+1.2
ARU						16 42 58.2	
ARU				PPP	PPP	16 46 09.6	
KLI	Kotabumi	140.08	173	PKP	PKPdf	16 40 03.8	+0.3
AKTO	Aktyubinsk	140.33	51	PKIKP	PKPdf	16 39 58.5	-4.2
LBMI	Labuha	140.50	210	PKP	PKPdf	16 39 57.7	-6.5
PET	Petropavlovsk	140.98	313	*i* PKHKP	PKPpre	16 39 56.4	
PET				pmax	pmax		
	comp=Z,73nm,1.5s						
PET				pmax	pmax		
	comp=Z,3µm,15.2s						
SVE	Sverdlovsk	141.01	41	*e*PKIKP	PKPdf	16 40 02.0	-1.7
SEY	Seymchan	141.41	330c	*i*PKIKP	PKPdf	16 40 01.4	-2.9
SEY				pmax	pmax		
	comp=Z,28nm,0.7s						
MASI	Maura Aman, Be	141.45	169	PKP	PKPdf	16 40 02.2	-3.8
PCHI	Peechi	141.50	121	*e*x	x	16 49 51.2	
PCHI				*e*x	x	16 52 53.8	
PETK	Petropavlovsk-	141.54	313	PKhKP	PKPpre	16 40 00.7	
	comp=Z,22nm,0.7s,baz=79,slow=6.2,SNR=11						
AB31	Akbulak array	141.63	53	*i* PKHKP	PKPpre	16 39 57.8	
TNTI	Ternate	141.83	211	PKP	PKPdf	16 40 00.9	-5.7
LUWI	Luwuk	141.84	203		PKPdf	16 40 04.2	-2.4
LUWI	Luwuk	141.84	203	PKP	PKPdf	16 40 01.3	-5.3
TIXI	Tiksi	141.91	350	SS	SS	17 01 30.4	-5.4
	comp=Z,1.0nm,0.3s,baz=90,slow=23,SNR=2.4						
TIXI	Tiksi	141.91	350		PKPpre	16 39 58.1	
TIXI	Tiksi	141.91	350	*i* PKIKP	PKPdf	16 40 05.7	+0.8
PALK	Pallekele	142.01	130		PKPdf	16 40 04.2	-2.8
PALK	Pallekele	142.01	130	PKIKP	PKPdf	16 40 04.2	-2.8
APSI	Ampana	142.31	201	PKP	PKPdf	16 40 03.2	-4.2
SKR	Severo-Kuril's	142.82	310	*i* PKHKP	PKPpre	16 40 02.8	
SKR				*e*		16 43 18.6	
SKR				pmax	pmax		
	comp=Z,500nm,4.5s						
SKR				MLR	MLR		
	comp=Z,600nm,14.0s						
PPBI	Pangkal Pinang	142.86	175	PKP	PKPdf	16 40 02.9	-5.5
PPBI				PKP	PKiKP	16 40 05.1	-6.5
JMBI	JAMBI	143.13	171	PKP	PKPdf	16 40 09.1	+0.2
SDSI	Sungai Dareh	143.47	167	PKP	PKPab	16 40 06.1	+0.2
SDSI				PKP	PKPbc	16 40 06.7	-0.2
MA2	Magadan	143.51	325	PKP	PKPbc	16 40 05.7	0.0
	comp=Z,28nm,0.9s,baz=98,slow=4.6,SNR=3.1						
MA2				SKPbc	SKPbc	16 43 22.4	-16
	comp=Z,10.0nm,0.9s,baz=349,slow=9.0,SNR=4.0						
MA2	Magadan	143.51	325		PKPbc	16 40 06.6	+0.9
MA2	Magadan	143.51	325c	*i*PKIKP	PKPbc	16 40 06.8	+1.1
MA2				pmax	pmax		
	comp=Z,75nm,0.7s						
MRSI	Marisa	143.53	202	PKP	PKPab	16 40 02.9	-3.2
NRIK	Noril'sk	143.68	13	PKhKP	PKPpre	16 40 04.8	
	comp=Z,10nm,0.8s,baz=333,slow=5.0,SNR=28						
NRIK				SS	SS	17 01 48.5	-7.8
	comp=Z,0.9nm,0.3s,baz=350,slow=6.7,SNR=1.7						
NRIK	Noril'sk	143.68	13c	*i*PKIKP	PKPbc	16 40 05.9	0.0
MTKI	Muara Teweh, K	143.75	190	PKP	PKPab	16 40 05.4	-1.6
MTKI				PKP	PKPdf	16 40 10.0	0.0
SMKI	Samarinda	143.84	194	PKP	PKPbc	16 40 08.5	+0.5
BHUJ	Bhuj	143.86	98	*e*P	PKPdf	16 40 10.6	+0.8
BHUJ				IAmb	IAmb	16 40 17.4	
	comp=Z,125nm,0.9s						
MPSI	Mapaga	143.98	199	PKP	PKPab	16 40 04.2	-3.6
DSRI	Dabo	144.38	172	PKP	PKPbc	16 40 09.5	-0.2
BKNI	Bangkinang	144.63	166	PKP	PKPab	16 40 08.3	-2.0
BKNI				PKP	PKPbc	16 40 10.7	+0.3
GSI	Gunungsitoli	144.74	160	PKP	PKPdf	16 40 12.4	+0.7
POO	Poona	144.75	109	*e*P	PKPdf	16 40 11.3	-0.3
POO				IAmb	IAmb	16 40 15.9	
	comp=Z,335nm,0.9s						
MNSI	Mandailing Nat	144.77	163	PKP	PKPab	16 40 09.0	-1.8
MNSI				PKP	PKPbc	16 40 10.9	0.0
SGSI	Sangihe	145.22	210	PKP	PKPab	16 40 12.4	-0.1
SBSI	Sibolga	145.33	162	PKP	PKPbc	16 40 10.6	-2.1
SBSI				PKP	PKPdf	16 40 12.4	-0.4
TPRI	Tanjung Pinang	145.76	172	PKP	PKPdf	16 40 10.6	-2.9
TPRI				PKP	PKPab	16 40 14.4	0.0
MDRS	Chennai	145.99	123	*e*P	PKPab	16 40 15.8	+0.5
BTDF	Bukit Timah Da	146.10	171	PKP	PKPab	16 40 16.7	+1.0
MYKOM	Kota Tinggi	146.53	171	PKP	PKPbc	16 40 16.8	+0.5
MYKOM	Kota Tinggi	146.53	171	P	PKPab	16 40 18.0	+0.6
PSI	Prapat	146.54	161	PKPbc	PKPdf	16 40 15.2	+0.3
	comp=Z,320nm,0.8s,baz=202,slow=3.8,SNR=51						
PSI				pPKPbc	pPKPbc	16 40 41.9	-0.1
	comp=Z,163nm,1.0s,baz=135,slow=1.7,SNR=3.0						
PSI	Prapat	146.54	161	PKP	PKPdf	16 40 14.6	-0.4
PSI				PKP	PKPdf	16 40 14.5	-0.4
KSM	Kuching	146.55	182	PKP	PKPdf	16 40 15.5	+0.7
KSM	Kuching	146.55	182	P	PKPab	16 40 17.0	-0.4
KCSI	Kotacane, Aceh	146.91	159	PKP	PKPbc	16 40 17.6	+0.2
TSI	Tuntungan	147.11	160	PKP	PKPdf	16 40 12.8	-2.9
TSI				PKP	PKPbc	16 40 16.7	-1.2
MLSI	Meulaboh, Aceh	147.18	156	PKP	PKPdf	16 40 13.5	-2.4
MLSI				PKP	PKPbc	16 40 16.1	-2.1

BRVK	Borovoye	147.37	44		PKPbc	16 40 17.9	+0.4
BRVK	Borovoye	147.37	44	PKP2	PKPbc	16 40 17.9	+0.4
SBUM	Sibu	147.40	186	PKP	PKPab	16 40 19.9	-0.9
BVA0	Borovoye Array	147.44	45	PKIKP	PKPdf	16 40 16.1	+1.0
BVAR	Borovoye Array	147.44	45	SS	SS	17 02 27.6	-13
	comp=Z,0.3nm,0.5s,baz=260,slow=41,SNR=1.7						
GSPH	General Santos	147.63	211⇓	eP	PKPbc	16 40 19.6	0.0
HYB	Hyderabad	147.67	115	eP	PKPbc	16 40 19.5	+0.1
HYB				IAmb	IAmb	16 40 24.9	
	comp=Z,392nm,0.8s						
HYBB	Hyderabad (bro	147.67	115	ePKPbc	PKPbc	16 40 18.4	-1.0
HYBB				ePKiKP	PKiKP	16 40 20.3	-1.1
HYBB				epPKiKP	pPKPbc	16 40 45.6	+0.6
HYBB				eSKKSac	SKKSac	16 50 29.0	-1.2
HYBB				eSS	SS	17 02 45.0	+1.0
CHGR	Chuyangaron	148.07	72		PKPbc	16 40 19.4	-0.6
CHGR	Chuyangaron	148.07	72	PKP2	PKPbc	16 40 19.4	-0.6
DAV	Davao City (W)	148.25	212	PKPbc	PKPdf	16 40 19.1	+1.5
	comp=Z,214nm,0.5s,baz=168,slow=19,SNR=7.2						
LHMI	Lhok Sumawe	148.26	157	PKP	PKPdf	16 40 14.3	-3.3
LHMI				PKP	PKPdf	16 40 14.3	-3.3
KCP	Kidapawan	148.40	212⇓	eP	PKPdf	16 40 18.4	+0.4
IPM	Ipoh	148.66	164	PKP	PKPdf	16 40 18.4	+0.1
KUR	Kuril'sk	148.91	301	PKIKP	PKPdf	16 40 19.1	+1.4
KUR				i		16 40 25.5	
KUR				e		16 43 55.9	
KUR				eSS	SS	17 02 50.5	-7.0
KUR				pmax	pmax		
	comp=Z,851nm,1.1s						
IUG	Iuzhnay	148.92	65	ePKP	PKPdf	16 40 19.2	+1.2
	baz=65						
IUG	Iuzhnay	148.92	65	ePKIKP	PKPdf	16 40 19.2	+1.2
MYLDM	Lahad Datu	148.99	199	PKP	PKPdf	16 40 19.9	+1.1
KK31	Karatay Array	149.25	63	PKPbc	PKPbc	16 40 22.9	+0.1
KK31	Karatay Array	149.25	63	PKP2	PKPbc	16 40 22.9	+0.1
KKAR	Karatay Array	149.25	63	PKPbc	PKPbc	16 40 22.7	-0.1
KKAR	Karatay Array	149.25	63	PKP2	PKPbc	16 40 22.7	-0.1
KULM	Kulim	149.36	163	PKPdf	PKPdf	16 40 18.6	-0.8
KULM	Kulim	149.36	163	PKP	PKPbc	16 40 22.2	-1.7
BRZS	Berezniki	149.69	49	i PKP	PKPdf	16 40 17.9	-1.0
	baz=49						
BRZS	Berezniki	149.69	49	i PKIKP	PKPdf	16 40 17.8	-1.0
DZA	Taraz	149.86	64	ePKP	PKPdf	16 40 20.5	+1.1
	baz=64						
DZA	Taraz	149.86	64	ePKHKP	PKPpre	16 40 20.4	
OTUK	Ortayu	149.89	53	PKHKP	PKPpre	16 40 20.8	
YAK	Yakutsk	150.04	341	PKPbc	PKPbc	16 40 22.0	-2.0
	comp=Z,193nm,0.6s,baz=32,slow=0.2,SNR=27						
YAK	Yakutsk	150.04	341	ePKIKP	PKPdf	16 40 18.9	0.0
YAK				e		16 40 39.5	
YAK				e		16 44 00.2	
YAK				e		16 47 20.6	
YAK				pmax	pmax		
	comp=Z,348nm,1.1s						
YAK				pmax	pmax		
	comp=N,34nm,1.1s						
YAK				pmax	pmax		
	comp=E,46nm,1.3s						
YAK				pmax	pmax		
	comp=Z,2µm,5.3s						
YAK				pmax	pmax		
	comp=N,309nm,4.8s						
YAK				pmax	pmax		
	comp=E,264nm,3.5s						
BHPL	Bhopal	150.10	105	eP	PKPbc	16 40 25.0	-0.5
BHPL				IAmb	IAmb	16 40 29.7	
	comp=Z,62nm,0.7s						
KKM	Kota Kinabalu	150.36	195	PKP	PKPdf	16 40 19.0	-2.1
YUK	Yuzh-Kuril'sk	150.44	299d	iPKIKP	PKPdf	16 40 21.5	+1.4
YUK				i		16 44 01.9	
LSIP	Lazi, Siquijor	150.93	211⇑	iP	PKPbc	16 40 27.6	0.0
SKLT	Songkhla	151.16	162	PKP	PKPdf	16 40 22.7	+0.5
SKLT				PKP	PKPbc	16 40 24.6	-3.5
TBP	Tagbilaran	151.33	212⇓	eP	PKPdf	16 40 21.8	-0.6
VIS	Vishakhapatnam	151.33	120	eP	PKPbc	16 40 26.7	-1.7
TABP	Talibon, Bohol	151.48	213⇑	iP	PKiKP	16 40 30.9	+1.6
BTLS	Baital	151.62	59	i PKP	PKPdf	16 40 22.0	0.0
	baz=59						
BTLS	Baital	151.62	59	i PKIKP	PKPdf	16 40 21.9	0.0
AML	Almayashu	151.64	65	P	PKPbc	16 40 29.0	0.0
	SNR=16						
EKS2	Erkin-Say	151.67	64	P	PKiKP	16 40 29.5	+0.4
	SNR=14						
UGL	Uglegorsk	152.03	310	ePKIKP	PKPdf	16 40 17.6	-4.8
YSS	Yuzh-Sakhalins	152.15	306	PKPbc	PKPbc	16 40 29.5	+0.1
YSS	Yuzh-Sakhalins	152.15	306	i PKIKP	PKPdf	16 40 23.4	+0.8
YSS				e		16 44 10.8	
YSS				e		16 47 20.3	
YSS				eSS	SS	17 03 33.0	-0.2
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
USP	Ospenovka	152.16	62	P	PKiKP	16 40 32.8	+2.9
	SNR=9.6						
AAK	Ala-Archa	152.20	64	P	PKPbc	16 40 27.0	-2.9
	SNR=22						
AAK	Ala-Archa	152.20	64	SS	SS	17 03 17.4	-17
	comp=Z,0.5nm,0.3s,baz=328,slow=18,SNR=1.6						
AAK	Ala-Archa	152.20	64	i PKPdf	PKPdf	16 40 24.5	+1.4
	SNR=23						
AAK	Ala-Archa	152.20	64c	iPKIKP	PKPdf	16 40 25.2	+2.1
AAK				pmax	pmax		
	comp=Z,29nm,1.3s						
SGDS	Sogindy	152.23	62	i PKP	PKPdf	16 40 22.1	-1.0
	baz=62						
SGDS	Sogindy	152.23	62	i PKIKP	PKPdf	16 40 22.0	-1.0
JMP	Maruseppu	152.24	299	P	PKiKP	16 40 30.7	+0.7
UCH	Uchtor	152.24	65	P	PKPdf	16 40 25.6	+2.0
	SNR=12						
CHMS	Chumysh	152.36	63	P	PKiKP	16 40 31.4	+1.1
	SNR=16						
PBA	Port Blair	152.38	144	eP	PKPbc	16 40 27.5	-3.4
PBA				IAmb	IAmb	16 40 59.9	
	comp=Z,336nm,1.1s						
KBK	Karagaybulak	152.53	64	P	PKiKP	16 40 32.2	+1.3
	SNR=9.1						
ERM	Erimo	152.56	295	PKPbc	PKiKP	16 40 34.0	+3.3
ERM	Erimo	152.56	295	PKIKP	PKiKP	16 40 34.0	+3.3
JEM	Erimo	152.56	295	PKPbc	PKiKP	16 40 34.0	+3.3
JEM	Erimo	152.56	295	P	PKiKP	16 40 32.8	+2.1
JKA	Kamikawa-asahi	152.77	300	PKPbc	PKiKP	16 40 32.5	+1.4
ASAJ	Asahikawa	152.77	300	P	PKiKP	16 40 32.1	+1.1
ASAJ	Asahikawa	152.77	300	PKIKP	PKiKP	16 40 32.5	+1.4
TKM2	Tokmak 2	152.99	63	P	PKiKP	16 40 34.8	+3.0
	SNR=7.2						
KURBB	Kurchatov Arra	153.01	45	PP	PP	16 44 18.6	+1.7
	comp=Z,12nm,0.9s,baz=279,slow=6.2,SNR=4.7						
KURBB	Kurchatov Arra	153.01	45	PKIKP	PKPdf	16 40 24.1	+0.3
KURK	Kurchatov	153.03	45	PKPbc	PKPbc	16 40 31.3	+0.1
KURK	Kurchatov	153.03	45c	iPKIKP	PKPdf	16 40 25.4	+1.6
KURK				pmax	pmax		
	comp=Z,26nm,1.3s						
JWK2	Keihoku	153.07	302	P	PKiKP	16 40 32.4	+0.8
SMLA	Simla	153.07	89	eP	PKPdf	16 40 25.5	+0.9
SMLA				IAmb	IAmb	16 40 49.9	
	comp=Z,174nm,0.8s						
PPR	Puerto Princes	153.31	202⇑	iP	PKiKP	16 40 35.7	+2.7
KUU	Kurty	153.41	61	ePKP	PKPdf	16 40 24.8	+0.1
	baz=61						
KUU	Kurty	153.41	61	ePKIKP	PKPdf	16 40 24.8	+0.1
KSH	Kashi	153.41	71	PKPbc	PKPdf	16 40 26.5	+1.5
KSH				pPKP	pPKPdf	16 40 53.4	+2.8
KSH				SKKS		16 50 58.5	
KSH				AMB	AMB		
	comp=Z,2µm,10.3s						
KSH				LR	LR		
	comp=Z,1µm,24.7s						
KSH				LR	LR		
	comp=Z,800nm,26.8s						
KSH				LR	LR		
	comp=Z,4µm,31.6s						
RCP	Roxas	153.48	211⇑	eP	PKPdf	16 40 27.0	+1.4
ULHL	Ulahol	153.52	64	P	PKiKP	16 40 36.3	+3.3
	SNR=7.2						
JEW	Eniwo	153.75	297	P	PKiKP	16 40 34.3	+1.1
TNSS	Tian-Shan	153.96	63	ePKP	PKPdf	16 40 26.6	+0.6
	baz=63						
TNSS	Tian-Shan	153.96	63	ePKIKP	PKPdf	16 40 26.6	+0.6
MDOK	Medeo	154.02	62	PKIKP	PKPdf	16 40 27.3	+1.6
JOM	Ohasama	154.04	289	P	PKiKP	16 40 34.6	+0.8
SEM	Semipalatinsk	154.10	45	ePKP	PKPdf	16 40 26.3	+0.5
	baz=45						
SEM	Semipalatinsk	154.10	45	ePKIKP	PKPdf	16 40 26.2	+0.5
JOT	Ohata	154.18	294	P	PKiKP	16 40 35.6	+1.6
JTM	Tenmabayashi	154.19	292	P	PKiKP	16 40 35.5	+1.4
ZAA0	Zalesovo Array	154.63	34	PKPbc	PKiKP	16 40 35.1	+0.5
ZALV	Zalesovo Beam	154.63	34	PKP	PKPdf	16 40 25.6	-0.4
	comp=Z,12nm,0.9s,baz=298,slow=3.1,SNR=29						
ZALV				PKPbc	PKPbc	16 40 34.3	-0.2
	comp=Z,18nm,0.5s,baz=301,slow=2.7,SNR=22						
ZALV	Zalesovo Beam	154.63	34	PKPbc	PKiKP	16 40 35.1	+0.5
TDK	Taldyqorghan	154.67	58	i PKP	PKPdf	16 40 26.6	+0.2
	baz=58						
TDK	Taldyqorghan	154.67	58	i PKIKP	PKPdf	16 40 26.6	+0.2
GRNR	Gornyy	154.75	317	ePKIKP	PKPdf	16 40 17.1	-9.2
GRNR				MLR	MLR		
	comp=E,860nm,19.0s						
SATY	Saty	155.02	62	ePKP	PKPdf	16 40 27.4	+0.3
	baz=62						
SATY	Saty	155.02	62	ePKIKP	PKPdf	16 40 27.4	+0.3
KPKS	Kokpek	155.16	61	ePKP	PKPdf	16 40 27.1	-0.1
	baz=61						
KPKS	Kokpek	155.16	61	ePKIKP	PKPdf	16 40 27.1	-0.1
UZB	Uzynbulak	155.45	62	ePKP	PKPdf	16 40 28.4	+0.6
	baz=62						
UZB	Uzynbulak	155.45	62	ePKIKP	PKPdf	16 40 28.3	+0.6
JOD2	Odawara 2	155.48	279	P	PKPdf	16 40 40.5	+13
SHLS	Shalkode	155.77	62	ePKP	PKPdf	16 40 28.9	+0.8
	baz=62						
SHLS	Shalkode	155.77	62	ePKIKP	PKPdf	16 40 28.9	+0.8
LQP	Lukban	156.28	211⇑	eP	PKPdf	16 40 39.2	+10
MJAR	Matsushiro Arr	156.34	282	PKP	PKPdf	16 40 29.2	+0.2
	comp=E,2.6nm,0.7s,baz=129,slow=0.2,SNR=5.8						
MJAR				PKPab	PKPab	16 40 59.9	+2.2
	comp=E,17nm,0.7s,baz=86,slow=7.9,SNR=8.0						
MAT	Matsushiro	156.34	282	P	PKPdf	16 40 42.0	+13
MK31	Makanchi Array	156.76	52	i PKIKP	PKPdf	16 40 27.1	-2.1
MKAR	Makanchi Array	156.76	52	PKP	PKPdf	16 40 29.8	+0.6
	comp=E,8.4nm,0.8s,baz=289,slow=1.3,SNR=18						
MKAR				PKPab	PKPab	16 40 57.9	-1.3
	comp=E,25nm,0.8s,baz=271,slow=3.3,SNR=12						
MKAR				SS	SS	17 04 16.5	-6.8
	comp=E,0.7nm,1.0s,baz=216,slow=22,SNR=1.9						
TEY	Ternei	156.78	304	ePKIKP	PKPdf	16 40 22.9	-6.2
TEY				e		16 44 39.2	
BOK	Bokaro	156.97	113	eP	PKPdf	16 40 30.3	+0.2
BOK				IAmb	IAmb	16 40 34.1	
	comp=Z,34nm,1.1s						
BOD	Bodaibo	157.01	353	ePKIKP	PKPdf	16 40 28.1	-0.9
BOD				pmax	pmax		
	comp=Z,25nm,2.7s						
JGN	Niukaw	157.03	281	P	PKPab	16 41 02.2	+1.5
ZEA	Zeya	157.38	331	i PKIKP	PKPdf	16 40 29.0	-0.6
ZEA				e		16 41 01.8	
ZEA				e		16 44 43.0	
ZEA				pmax	pmax		
	comp=Z,10.0nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,1µm,4.9s						
ZEA				pmax	pmax		
	comp=Z,60nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,1µm,12.2s						
PCPH	Palayan	157.76	212⇑	eP	PKPab	16 41 05.8	+1.8
ZSN	Zaisan	158.12	48	i PKP	PKPdf	16 40 31.7	+0.8
	baz=48						
ZSN	Zaisan	158.12	48	i PKIKP	PKPdf	16 40 31.6	+0.8
KLR	Kul'dur	158.13	317	PKP	PKPdf	16 40 29.9	-0.8
	comp=Z,9.2nm,0.7s,baz=69,slow=3.0,SNR=26						
KLR				PKPab	PKPab	16 41 05.1	+0.2
	comp=Z,12nm,0.9s,baz=52,slow=2.8,SNR=5.7						
JWT	Wachi	158.47	278	P	PKPab	16 41 09.3	+2.4
PKIN	Phulchoki	158.49	104	eP	PKPdf	16 40 31.7	-0.5
	comp=Z,45nm,1.0s						
PKI	Pulchoki	158.50	104	eP	PKPdf	16 40 31.6	-0.7
	comp=Z,139nm,1.7s						
GUN	Gumba	159.02	103	eP	PKPdf	16 40 32.6	-0.3
	comp=Z,69nm,1.0s						
RAMN	Ramite	159.16	107	eP	PKPdf	16 40 32.9	-0.1
	comp=Z,108nm,1.1s						
JIRN	Jiri	159.16	104	eP	PKPdf	16 40 32.7	-0.4
	comp=Z,51nm,1.0s						
HEH	HeiHe	159.77	324	PKP	PKPdf	16 40 32.0	-0.6
HEH				pPKP	pPKPdf	16 40 59.9	+1.7
HEH				sPKP		16 41 12.6	
HEH				AMB	AMB		
	comp=Z,4µm,11.5s						
USRK	Ussuriysk Ar.	160.17	304	PKP	PKPdf	16 40 32.9	-0.4
	comp=Z,0.5nm,0.6s,baz=107,slow=1.5,SNR=3.8						
USRK				PKPab	PKPab	16 41 15.7	+1.7
	comp=Z,20nm,0.8s,baz=63,slow=4.0,SNR=14						
USRK				pPKPab	pPKPab	16 41 38.7	+0.2
	comp=Z,12nm,0.9s,baz=82,slow=4.7,SNR=2.2						
USRK				PP	PP	16 44 54.1	-2.5
	comp=Z,3.0nm,0.9s,baz=52,slow=3.1,SNR=5.1						
TAPN	Taplejung	160.22	107	eP	PKPdf	16 40 34.5	+0.2
	comp=Z,71nm,1.2s						
GTK	Tadong	160.90	108	eP	PKPdf	16 40 36.1	+1.2
CMAR	Chiang Mai Arr	161.17	149	PKP	PKPdf	16 40 35.5	+0.4
	comp=Z,8.3nm,1.0s,baz=245,slow=2.6,SNR=26						
CMAR				pPKP	pPKPdf	16 41 01.9	+1.0
	comp=Z,6.8nm,0.8s,baz=239,slow=2.6,SNR=7.2						
CMAR				PKPab	PKPab	16 41 19.7	+0.8
	comp=Z,14nm,1.0s,baz=225,slow=3.6,SNR=4.8						
CMAR				pPKPab	pPKPab	16 41 44.9	+1.0
	comp=Z,13nm,1.0s,baz=225,slow=5.0,SNR=3.1						
CMAR				PP	PP	16 45 01.5	+0.2
	comp=Z,2.1nm,0.9s,baz=198,slow=5.7,SNR=2.9						
CMAR	Chiang Mai Arr	161.17	149	P	pPKPdf	16 41 01.6	+0.8
SAIH	SAIHA	161.18	128	eP	PKPdf	16 40 36.7	+1.5
SAIH				IAmb	IAmb	16 41 21.7	
	comp=Z,587nm,2.1s						
WMQ	Urumqi	161.38	56	PKP	PKPdf	16 40 35.9	+1.2
WMQ				pPKP	pPKPdf	16 41 01.0	+0.5
WMQ				sPKP		16 41 12.7	
WMQ				PKPab	PKPab	16 41 19.2	-0.2
WMQ				PP	PP	16 45 04.2	+0.9
WMQ				SKKS		16 51 43.4	
WMQ				SS	SS	17 05 09.2	-3.3
WMQ				AMB	AMB		
	comp=Z,1µm,11.6s						
WMQ				LR	LR		
	comp=Z,1µm,20.1s						
WMQ				LR	LR		
	comp=Z,1µm,22.3s						
WMQ				LR	LR		
	comp=Z,3µm,23.3s						
CMMT	Chiang Mai	161.49	148	PKP	PKPdf	16 40 32.2	-3.3
MDJ	Mudanjiang	161.61	307	PKP	PKPdf	16 40 34.4	-0.4
MDJ				pPKP	pPKPdf	16 40 59.2	-1.2
MDJ				sPKP		16 41 09.5	
MDJ				PP	PP	16 45 05.5	+1.2
MDJ				AMB	AMB		
	comp=Z,3µm,5.9s						
MDJ				LR	LR		
	comp=Z,900nm,16.7s						
MDJ				LR	LR		
	comp=Z,2µm,24.0s						
MDJ				LR	LR		
	comp=Z,5µm,24.0s						
MOY	Mondy	162.44	17	ePKIKP	PKPdf	16 40 36.9	+1.3
MOY				pmax	pmax		
	comp=Z,187nm,3.2s						
SHL	Shillong	162.44	118	eP	PKPdf	16 40 37.0	+0.5
BNX	BinXian	162.46	313	⇓PKP	PKPdf	16 40 34.0	-1.6
BNX				pPKP	pPKPdf	16 41 00.8	-0.4
BNX				sPKP		16 41 08.6	
BNX				PP	PP	16 45 07.8	-0.9
BNX				SS	SS	17 05 25.8	+2.7
BNX				AMB	AMB		
	comp=Z,2µm,6.0s						
BNX				LR	LR		
	comp=Z,1µm,23.8s						
BNX				LR	LR		
	comp=Z,1µm,20.1s						
BNX				LR	LR		
	comp=Z,2µm,23.9s						
LSA	Lhasa	163.97	105	PKP	PKPdf	16 40 39.7	+1.5
LSA				PP	PP	16 45 20.5	+2.6
LSA				LR	LR		
	comp=Z,4µm,38.4s						
LSA				LR	LR		
	comp=Z,2µm,40.6s						
LSA				LR	LR		
	comp=Z,6µm,37.0s						
LSA	Lhasa	163.97	105	i PKPdf	PKPdf	16 40 39.8	+1.6
	SNR=8.3						
QIZ	Qiongzhong	164.00	183	PKP	PKPdf	16 40 38.7	+0.8
QIZ				PP	PP	16 45 19.0	+3.2
QIZ				SS	SS	17 05 36.5	-0.6
QIZ				AMB	AMB		
	comp=Z,2µm,14.3s						
QIZ				LR	LR		
	comp=Z,1µm,35.8s						
QIZ				LR	LR		
	comp=Z,890nm,33.4s						
QIZ				LR	LR		
	comp=Z,5µm,40.6s						
KOHI	KOHIMA	164.11	122	eP	PKPdf	16 40 38.8	+0.8
KOHI				IAmb	IAmb	16 41 34.7	
	comp=Z,134nm,1.4s						
ZAK	Zakamensk	164.14	14	ePKIKP	PKPdf	16 40 37.2	0.0
ZAK				pmax	pmax		
	comp=Z,13nm,2.5s						
KSRS	Korea Array	164.58	284	PKP	PKPdf	16 40 36.4	-1.4
	comp=Z,5.8nm,0.8s,baz=115,slow=0.5,SNR=17						
KSRS				PKPab	PKPab	16 41 35.0	+1.5
	comp=Z,39nm,0.7s,baz=96,slow=3.8,SNR=31						
KSRS				PP	PP	16 45 22.7	+2.2
	comp=Z,3.7nm,1.1s,baz=64,slow=5.5,SNR=3.1						
CN2	Changchun	164.64	309	ePKP	PKPdf	16 40 37.3	-0.4
CN2				PP	PP	16 45 18.5	-1.8
CN2				SKKS		16 52 03.9	
CN2				AMB	AMB		
	comp=Z,2µm,8.3s						
CN2				LR	LR		
	comp=Z,700nm,21.0s						
CN2				LR	LR		
	comp=Z,1µm,21.0s						
CN2				LR	LR		
	comp=Z,2µm,21.0s						
MOKO	MOKOCHONG	164.77	121	eP	PKPdf	16 40 40.6	+2.0
MOKO				IAmb	IAmb	16 41 10.6	
	comp=Z,137nm,1.5s						
TNCH	TengChong	166.47	135	ePKP	PKPdf	16 40 41.0	+0.9
TNCH				pPKP	pPKPdf	16 41 06.5	+0.6
TNCH				sPKP		16 41 16.6	
TNCH				PKPab	PKPab	16 41 43.1	+0.8
TNCH				PP	PP	16 45 31.7	+1.9
TNCH				SKKS		16 52 10.4	
TNCH				SS	SS	17 06 05.6	+1.2
TNCH				AMB	AMB		
	comp=Z,630nm,5.2s						
TNCH				LR	LR		
	comp=Z,450nm,20.9s						
TNCH				LR	LR		
	comp=Z,570nm,16.2s						
TNCH				LR	LR		
	comp=Z,2µm,30.8s						
QZH	Quanzhou	166.95	222	i PKP	PKPdf	16 40 41.2	+1.0
QZH				PKPab	PKPab	16 41 45.9	+1.7
QZH				PP	PP	16 45 33.9	+2.0
QZH				SS	SS	17 06 13.2	+4.6
QZH				AMB	AMB		
	comp=Z,1µm,9.7s						
QZH				LR	LR		
	comp=Z,790nm,19.4s						
QZH				LR	LR		
	comp=Z,510nm,17.1s						
QZH				LR	LR		
	comp=Z,1µm,24.2s						
SONM	Songino Array	167.10	8	PKP	PKPdf	16 40 39.6	-0.2
	comp=Z,3.6nm,0.8s,baz=354,slow=1.4,SNR=12						
SONM				PKPab	PKPab	16 41 44.6	+0.3
	comp=Z,21nm,1.0s,baz=327,slow=3.9,SNR=14						
SONM				PP	PP	16 45 32.2	+0.1
	comp=Z,2.9nm,0.8s,baz=270,slow=1.4,SNR=2.1						
GZH	Guangzhou	167.48	199	PKP	PKPdf	16 40 40.6	0.0
GZH				PP	PP	16 45 39.4	+5.4
GZH				SKKS		16 52 18.9	
GZH				SS	SS	17 06 19.4	+6.7
GZH				LR	LR		
	comp=Z,870nm,29.0s						
GZH				LR	LR		
	comp=Z,460nm,30.0s						
GOMU	GeErMu	168.37	80	Pn	PKPdf	16 40 47.5	+6.1
KMI	Kunming	168.68	150	⇓PKP	PKPdf	16 40 42.5	+0.8
KMI				pPKP	pPKPdf	16 41 06.9	-0.6
KMI				sPKP		16 41 20.2	
SSE	Sheshan	169.07	252	PKP	PKPdf	16 40 41.1	-0.3
SSE				PP	PP	16 45 41.2	-2.3
SSE				SKKS		16 52 25.9	
SSE				AMB	AMB		
	comp=Z,750nm,8.6s						
SSE				LR	LR		
	comp=Z,330nm,24.0s						
DL2	Dalian	169.23	294	PKP	PKPdf	16 40 39.1	-2.2
DL2				PKPab	PKPab	16 41 55.9	+1.8
DL2				SKKS		16 52 21.0	
DL2				SS	SS	17 06 29.5	-3.3
DL2				AMB	AMB		
	comp=Z,2µm,9.8s						
DL2				LR	LR		
	comp=Z,1µm,20.2s						
DL2				LR	LR		
	comp=Z,1µm,21.0s						
DL2				LR	LR		
	comp=Z,3µm,24.0s						
PZH	PanZhiHua	169.40	142	PKP	PKPdf	16 40 42.0	0.0
PZH				pPKP	pPKPdf	16 41 06.4	-1.4
PZH				AMB	AMB		
	comp=Z,2µm,7.3s						
PZH				LR	LR		
	comp=Z,5µm,19.8s						
PZH				LR	LR		
	comp=Z,5µm,21.8s						
PZH				LR	LR		
	comp=Z,5µm,20.7s						
XLT	XiLinHaoTe	169.65	330	ePKP	PKPdf	16 40 41.6	+0.1
XLT				pPKP	pPKPdf	16 41 06.9	-0.4
XLT				sPKP		16 41 17.8	
XLT				PKPab	PKPab	16 41 56.4	+0.7
XLT				PP	PP	16 45 44.1	-1.3
XLT				SKKS		16 52 23.8	
XLT				AMB	AMB		
	comp=Z,4µm,8.4s						
XLT				LR	LR		
	comp=Z,2µm,23.6s						
XLT				LR	LR		
	comp=Z,3µm,24.9s						
GYA	Guiyang	171.17	166	PKP	PKPdf	16 40 42.1	-0.9
GYA				pPKP	pPKPdf	16 41 11.1	+2.3
GYA				sPKP		16 41 21.1	
GYA				PKPab	PKPab	16 42 04.0	+1.2
GYA				PP	PP	16 45 53.9	+1.2
GYA				SS	SS	17 06 49.3	-0.3
GYA				LR	LR		
	comp=Z,800nm,26.5s						
GYA				LR	LR		
	comp=Z,650nm,17.5s						
GYA				LR	LR		
	comp=Z,2µm,18.7s						
NJ2	Nanjing	171.27	253	i PKP	PKPdf	16 40 43.3	+0.6
NJ2				PKPab	PKPab	16 42 04.1	+0.8
NJ2				PP	PP	16 45 56.1	+1.5
NJ2				SKKS		16 52 33.3	
NJ2				AMB	AMB		
	comp=Z,3µm,8.2s						
NJ2				LR	LR		
	comp=Z,620nm,18.9s						
NJ2				LR	LR		
	comp=Z,2µm,22.6s						
NJ2				LR	LR		
	comp=Z,3µm,23.5s						
GTA	Gaotai	171.47	57	⇓PKP	PKPdf	16 40 43.9	+1.2
GTA				pPKP	pPKPdf	16 41 11.4	+3.0
GTA				sPKP		16 41 20.9	
GTA				PKPab	PKPab	16 42 07.7	+3.6
GTA				PP	PP	16 46 00.2	+4.8
GTA				SKKS		16 52 33.4	
GTA				SS	SS	17 06 53.3	-1.5
GTA				AMB	AMB		
	comp=Z,1µm,9.5s						
GTA				LR	LR		
	comp=Z,2µm,25.4s						
GTA				LR	LR		
	comp=Z,2µm,25.4s						
GTA				LR	LR		
	comp=Z,3µm,25.8s						
CNSH	ChangSha	172.37	207	⇓PKP	PKPdf	16 40 44.6	+1.3
BJI	Beijing	172.48	313	PKP	PKPdf	16 40 43.6	+0.7
BJI				pPKP	pPKPdf	16 41 10.1	+1.4
BJI				sPKP		16 41 18.9	
BJI				SKS	SKSdf	16 47 35.7	-2.2
BJI				SKKS	SKKSac	16 52 39.0	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJI				LR	LR		
	comp=Z,320nm,21.7s						
BJI				LR	LR		
	comp=Z,3µm,19.8s						
BJI				LR	LR		
	comp=Z,3µm,21.9s						
TIA	**Tai'an**	**173.32**	**282**	⇓PKP	**PKPdf**	**16 40 44.0**	**+0.5**
WHN	**Wuhan**	**173.64**	**226**	⇑PKP	**PKPdf**	**16 40 45.3**	**+1.6**
WHN				pPKP	**pPKPdf**	**16 41 11.4**	**+1.8**
WHN				sPKP		16 41 19.5	
WHN				PKPab	**PKPab**	**16 42 16.1**	**+2.4**
WHN				PP	**PP**	**16 46 04.3**	**-1.2**
WHN				SKKS		16 52 46.7	
WHN				SS	**SS**	**17 07 17.7**	**+2.7**
WHN				LR	LR		
	comp=Z,10µm,26.8s						
HHC	**Hu-ho-hao-te**	**173.90**	**342**	⇓*i*PKP	**PKPdf**	**16 40 45.0**	**+1.3**
HHC				PP	**PP**	**16 46 07.0**	**+0.8**
HHC				SKKS		16 52 48.6	
HHC				SS	**SS**	**17 07 13.7**	**-2.7**
HHC				AMB	AMB		
	comp=Z,6µm,7.2s						
HHC				LR	LR		
	comp=Z,1µm,21.5s						
HHC				LR	LR		
	comp=Z,2µm,20.6s						
HHC				LR	LR		
	comp=Z,7µm,23.9s						
CD2	**Chengdu**	**173.92**	**132**	PKP	**PKPdf**	**16 40 42.9**	**-1.0**
CD2				pPKP	pPKPdf	16 41 07.5	-2.3
CD2				sPKP		16 41 16.5	
CD2				SKS	**SKSdf**	**16 47 36.1**	**-2.8**
CD2				SS	**SS**	**17 07 16.4**	**-1.5**
CD2				AMB	AMB		
	comp=Z,1µm,8.4s						
CD2				LR	LR		
	comp=Z,3µm,20.0s						
CD2				LR	LR		
	comp=Z,5µm,23.5s						
CD2				LR	LR		
	comp=Z,4µm,27.3s						
BTO	**Baotou**	**174.43**	**352**	*e*P	**PKPab**	**16 42 15.9**	**-1.0**
BTO				PP	PP	16 45 56.3	-12
BTO				LR	LR		
	comp=N,14µm,20.6s						
BTO				LR	LR		
	comp=E,11µm,19.0s						
BTO	**Baotou**	**174.43**	**352**	*e*PKP	**PKPdf**	**16 40 43.7**	**-0.1**
HNS	**HongShan**	**174.87**	**298**	⇓PKP	**PKPdf**	**16 40 44.9**	**+1.0**
HNS				pPKP	**pPKPdf**	**16 41 12.1**	**+2.5**
HNS				sPKP		16 41 20.6	
HNS				PKPab	**PKPab**	**16 42 20.9**	**+1.8**
HNS				SKKS		16 52 51.1	
HNS				AMB	AMB		
	comp=E,4µm,6.4s						
HNS				LR	LR		
	comp=E,550nm,23.3s						
HNS				LR	LR		
	comp=E,2µm,24.3s						
HNS				LR	LR		
	comp=E,1µm,20.4s						
LZH	**Lanzhou**	**175.65**	**75**	⇓PKP	**PKPdf**	**16 40 45.7**	**+1.3**
LZH				pPKP	pPKPdf	16 41 13.9	+3.8
LZH				PP	**PP**	**16 46 17.9**	**+1.7**
LZH				SKKS		16 52 52.8	
LZH				LR	LR		
	comp=E,2µm,19.5s						
LZH				LR	LR		
	comp=E,2µm,19.4s						
LZH				LR	LR		
	comp=E,8µm,20.9s						
TIY	**Taiyuan**	**176.21**	**315**	PKP	**PKPdf**	**16 40 45.6**	**+1.2**
TIY				pPKP	**pPKPdf**	**16 41 08.7**	**-1.4**
TIY				SKKS		16 53 00.2	
TIY				SS	**SS**	**17 07 44.0**	**+4.3**
TIY				AMB	AMB		
	comp=E,3µm,7.8s						
TIY				LR	LR		
	comp=E,500nm,18.6s						
TIY				LR	LR		
	comp=E,600nm,13.7s						
TIY				LR	LR		
	comp=E,710nm,21.6s						
LYN	**LuoYang**	**177.13**	**260**	⇓PKP	**PKPdf**	**16 40 45.4**	**+0.8**
LYN				pPKP	pPKPdf	16 41 13.7	+3.5
LYN				PKPab	PKPab	16 42 31.9	+2.6
LYN				PP	**PP**	**16 46 23.0**	**-0.1**
LYN				SKKS		16 52 57.1	
LYN				AMB	AMB		
	comp=E,4µm,8.7s						
XAN	**Xi'an**	**178.96**	**174**	⇓PKP	**PKPdf**	**16 40 45.1**	**+0.2**
XAN				pPKP	pPKPdf	16 41 12.3	+1.8
XAN				PKPab	PKPab	16 42 39.8	
XAN				PP	**PP**	**16 46 36.3**	**+6.4**
XAN				SS	SS	17 08 06.2	+2.4
XAN				AMB	AMB		
	comp=E,6µm,6.0s						
XAN				LR	LR		
	comp=E,2µm,23.1s						
XAN				LR	LR		
	comp=E,700nm,24.1s						
XAN				LR	LR		
	comp=E,3µm,24.5s						

---

*VAO **04** 16:33:46.4±0.6, 22°.90S×68°.41W, h157km±5km, mb4.8*
*NEIC **04** 16:33:47.0±1.8, 23°.02S±0°.06×68°.2W±0°.1, h140km±8km, Error ellipse: s-maj=17.5km s-min=8.7km az=96.0*
*GUC **04** 16:33:47.8±0.8, 22°.96S×68°.31W, h154km±6km, ML4.4*
*IDC **04** 16:33:47.2±1.0, 22°.93S×67°.94W, h117km±12km, mb3.9/5, mbtmp4.3/8, Error ellipse: s-maj=27.3km s-min=17.8km az=128.0*
ISC 04 16:33:46.8±0.6, **22°.99S**±0°.04×**68°.15W**±0°.06, **h137**km±6km, **n92**, σ**1s.23**/106, **mb4.0**/5, **9C**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.04**	**325**		**Pn**	**16 34 05.5**	**-0.1**
AF01	**San Pedro de A**	**0.04**	**325**	*i* P	**Pn**	**16 34 05.8**	**+0.2**
LVC	**Limon Verde**	**0.79**	**298**	P	**Pn**	**16 34 09.5**	**+0.5**
	3µm,0.5s,baz=115,slow=4.2,SNR=2220						
LVC				S	**Sn**	**16 34 25.3**	**-0.5**
	2µm,0.4s,baz=180,slow=20,SNR=69						
LVC	**Limon Verde**	**0.79**	**298**	*e*P	**Pn**	**16 34 09.5**	**+0.5**
PB15	**IPOC Station P**	**1.23**	**259**	Pn	**Pn**	**16 34 13.2**	**+0.4**
PB15	**IPOC Station P**	**1.23**	**259**	⇑*i*P	**Pn**	**16 34 13.6**	**+0.8**
PB15				*i* S	**Sn**	**16 34 33.5**	**+1.0**
PB06	**IPOC Station P**	**1.34**	**282**		**Pn**	**16 34 13.6**	**-0.2**
PB06	**IPOC Station P**	**1.34**	**282**	⇑*i*P	**Pn**	**16 34 14.5**	**+0.7**
PB06				*i* S	**Sn**	**16 34 34.6**	**+0.3**
PB06				IAML		16 34 37.9	
	comp=N,4µm,0.1s						
PB09	**IPOC Station P**	**1.55**	**319**		**Pn**	**16 34 17.3**	**+1.1**
PB09	**IPOC Station P**	**1.55**	**319**	⇑*i*P	**Pn**	**16 34 17.3**	**+1.1**
PB09				*i* S	**Sn**	**16 34 39.2**	**+0.7**
PB03	**IPOC Station P**	**1.75**	**302**		**Pn**	**16 34 18.7**	**+0.4**
PB03	**IPOC Station P**	**1.75**	**302**	⇑*i*P	**Pn**	**16 34 19.0**	**+0.6**
PB03				*i* S	**Sn**	**16 34 42.3**	**-0.1**
PB03				IAML		16 34 43.9	
	comp=N,6µm,0.4s						
PB04	**IPOC Station P**	**1.95**	**289**	Pn	**Pn**	**16 34 21.0**	**+0.2**
PB04	**IPOC Station P**	**1.95**	**289**	⇑*i*P	**Pn**	**16 34 21.3**	**+0.5**
PB04				*i* S	**Sn**	**16 34 46.9**	**+0.1**
PB04				IAML		16 34 48.3	
	comp=N,3µm,0.6s						
PB07	**IPOC Station P**	**2.03**	**308**	Pn	**Pn**	**16 34 22.1**	**+0.4**
PB07	**IPOC Station P**	**2.03**	**308**	⇑*i*P	**Pn**	**16 34 22.5**	**+0.7**
PB07				*i* S	**Sn**	**16 34 48.0**	**-0.5**
PB07				IAML		16 34 50.6	
	comp=E,3µm,0.3s						
PB10	**IPOC Station P**	**2.27**	**256**	Pn	**Pn**	**16 34 24.9**	**+0.5**
PB10	**IPOC Station P**	**2.27**	**256**	*i* P	**Pn**	**16 34 24.7**	**+0.2**
PB10				*i* S	**Sn**	**16 34 52.4**	**-0.9**
PB01	**IPOC Station P**	**2.29**	**327**		**Pn**	**16 34 25.6**	**+0.8**
PB01	**IPOC Station P**	**2.29**	**327**	⇑*i*P	**Pn**	**16 34 25.5**	**+0.6**
PB01				*i* S	**Sn**	**16 34 53.9**	**-0.2**
PB01				IAML		16 34 54.9	
	comp=E,2µm,0.2s						
PB02	**IPOC Station P**	**2.31**	**315**		**Pn**	**16 34 25.7**	**+0.6**
PB02	**IPOC Station P**	**2.31**	**315**	*i* P	**Pn**	**16 34 25.6**	**+0.5**
PB02				*i* S	**Sn**	**16 34 53.4**	**-1.1**
PB02				IAML		16 34 59.4	
	comp=E,3µm,0.3s						
GO02	**Mina Guanaco**	**2.53**	**211**		**Pn**	**16 34 28.9**	**+0.8**
GO02	**Mina Guanaco**	**2.53**	**211**	⇑*i*P	**Pn**	**16 34 28.8**	**+0.8**
GO02				*i* S	**Sn**	**16 35 00.1**	**+0.3**
GO02				IAML		16 35 03.1	
	comp=N,2µm,0.3s						
PB14	**IPOC Station P**	**2.63**	**231**	Pn	**Pn**	**16 34 29.4**	**+0.2**
PB14	**IPOC Station P**	**2.63**	**231**	*i* P	**Pn**	**16 34 29.5**	**+0.3**
PB14				*e*S	**Sn**	**16 35 01.4**	**-0.5**
PB14				IAML		16 35 02.2	
	comp=E,601nm,0.5s						
PATCX	**Punta Patache**	**2.84**	**319**		**Pn**	**16 34 31.7**	**0.0**
PATCX	**Punta Patache**	**2.84**	**319**	⇑*i*P	**Pn**	**16 34 31.7**	**0.0**
PATCX				*i* S	**Sn**	**16 35 05.6**	**-0.8**
PATCX				IAML		16 35 12.8	
	comp=E,1µm,0.5s						
PB08	**IPOC Station P**	**2.98**	**342**	Pn	**Pn**	**16 34 35.3**	**+1.6**
PB08	**IPOC Station P**	**2.98**	**342**	*i* P	**Pn**	**16 34 35.4**	**+1.6**
PB08				*e*S	**Sn**	**16 35 09.6**	**-0.4**
TA01	**Diego Aracena**	**3.06**	**322**		**Pn**	**16 34 34.7**	**+0.3**
TA01	**Diego Aracena**	**3.06**	**322**	*i* P	**Pn**	**16 34 34.8**	**+0.3**
TA01				*e*S	**Sn**	**16 35 10.2**	**-1.0**
TA01				IAML		16 35 13.9	
	comp=N,557nm,0.5s						
TA02	**Huaiquique**	**3.27**	**325**	*e*P	**Pn**	**16 34 37.8**	**+0.6**
PB11	**IPOC Station P**	**3.50**	**336**		**Pn**	**16 34 40.5**	**+0.2**
PB11	**IPOC Station P**	**3.50**	**336**	*i* P	**Pn**	**16 34 40.1**	**-0.2**
AC01	**Pan de Azucar**	**3.86**	**215**	Pn	**Pn**	**16 34 44.4**	**-0.5**
AC02	**Maricunga**	**3.94**	**193**	Pn	**Pn**	**16 34 47.6**	**+1.3**
AC06	**Mina Casimiro**	**4.79**	**204**		**Pn**	**16 34 55.9**	**-1.3**
PB16	**IPOC Station P**	**4.80**	**344**	Pn	**Pn**	**16 34 58.3**	**+0.4**
PB12	**IPOC Station P**	**4.80**	**335**	Pn	**Pn**	**16 34 57.5**	**0.0**
GO03	**Copiap**	**4.96**	**202**	Pn	**Pn**	**16 34 58.2**	**-1.3**
AC04	**Llanos de Chal**	**5.83**	**206**	Pn	**Pn**	**16 35 07.8**	**-3.2**
AC05	**El Transito**	**6.13**	**198**		**Pn**	**16 35 13.7**	**-1.6**
LCO	**Las Campanas**	**6.42**	**200**	Pn	**Pn**	**16 35 16.5**	**-2.8**
LPAZ	**La Paz**	**6.66**	**0**	P	**Pn**	**16 35 24.3**	**+1.4**
	comp=N,5.0nm,0.5s,baz=211,slow=5.6,SNR=18						
LPAZ				S	Sn	16 36 29.1	-8.8
	comp=N,4.3nm,0.6s,baz=248,slow=24,SNR=2.0						
LPAZ	**La Paz**	**6.66**	**0**	Pn	**Pn**	**16 35 22.6**	**-0.3**
LPAZ	**La Paz**	**6.66**	**0**	*e*P	**Pn**	**16 35 22.1**	**-0.8**
CO01	**Juntas del Tor**	**7.18**	**194**	Pn	**Pn**	**16 35 29.6**	**+0.2**
GO04	**Tololo Observa**	**7.54**	**198**	Pn	**Pn**	**16 35 31.6**	**-2.6**
SIV	**San Ignacio**	**9.64**	**45**	P	**Pn**	**16 35 59.8**	**-2.6**
	comp=N,36nm,0.5s,baz=226,slow=7.9,SNR=76						
CPUP	**Villa Florida**	**10.39**	**111**	*e*P	**Pn**	**16 36 14.3**	**+2.0**
PTLB	**Pontes e Lacer**	**11.34**	**50**	*e*P	**Pn**	**16 36 22.9**	**-2.0**
VILB	**Vilhena**	**12.52**	**38**	Pn	**Pn**	**16 36 40.3**	**-0.1**
VILB	**Vilhena**	**12.52**	**38**	*e*P	**Pn**	**16 36 40.6**	**+0.3**
SALV	**Santo Antonio**	**13.70**	**61**	*e*P	**Pn**	**16 36 57.0**	**+1.5**
PTGB	**Pitanga**	**14.82**	**100**	*e*P	**P**	**16 37 13.2**	**+1.1**
CPSB	**Cacapava Do Su**	**15.08**	**122**	*e*P	**P**	**16 37 14.3**	**-0.4**
ITAB	**Concordia**	**15.12**	**110**	P	**P**	**16 37 16.3**	**+1.1**
ITAB	**Concordia**	**15.12**	**110**	*e*P	**P**	**16 37 15.2**	**0.0**
GO06	**Curarrehue**	**16.79**	**189**	P	**P**	**16 37 30.1**	**-3.6**
CLDB	**Colider**	**16.86**	**46**	*e*P	**P**	**16 37 33.5**	**-1.2**
PLCA	**Paso Flores**	**17.81**	**186**	P	**Pn**	**16 37 47.9**	**+1.8**
	comp=N,2.0nm,0.6s,baz=1.7,slow=12,SNR=4.9						
TER01	**Tubaro-SC**	**18.00**	**112**	*e*P	**Pn**	**16 37 47.7**	**-0.7**
BB19B	**Bebedouro**	**18.30**	**88**	*e*P	**Pn**	**16 37 51.5**	**-0.5**
TBTG	**Tabatinga, AM**	**18.77**	**355**	*e*P	**P**	**16 37 51.8**	**-3.7**
RCLB	**Rio Claro- Sao**	**19.04**	**92**	*e*P	**P**	**16 37 58.8**	**+0.4**
PET01	**Itanhaem-SP**	**19.17**	**98**	*e*P	**Pn**	**16 38 00.9**	**-1.3**
IPMB	**Ipameri, GO**	**19.33**	**79**	*e*P	**P**	**16 38 02.1**	**+0.5**
SNDB	**Serra Nova Dou**	**19.43**	**59**	*e*P	**P**	**16 38 02.2**	**-0.5**
VAO	**Valinhos**	**19.51**	**94**	*e*P	**P**	**16 38 04.2**	**+0.7**
NPGB	**Novo Progresso**	**20.07**	**40**	*e*P	**P**	**16 38 09.5**	**-0.1**
BDFB	**Brasilia**	**20.35**	**73**	P	**P**	**16 38 13.5**	**+0.8**
	comp=N,8.1nm,0.4s,baz=243,slow=8.2,SNR=7.9						
	comp=N,8.1nm,0.4s						
ITTB	**Itaituba**	**22.06**	**35**	*e*P	**P**	**16 38 30.0**	**-0.8**
VAS01	**Vassouras-RJ**	**22.82**	**93**	*e*P	**P**	**16 38 38.1**	**0.0**
MC01	**Montes Claros**	**23.60**	**79**	*e*P	**P**	**16 38 44.5**	**-0.9**
DUB01	**Friburgo-RJ**	**23.82**	**93**	*e*P	**P**	**16 38 46.8**	**-0.6**
JANB	**Januaria**	**23.86**	**75**	*e*P	**P**	**16 38 46.9**	**-0.9**
SMTB	**Santa Maria do**	**24.21**	**58**	*e*P	**P**	**16 38 50.4**	**-0.5**
PRPB	**Parauapebas**	**24.33**	**49**	*e*P	**P**	**16 38 51.3**	**-0.7**
ALF01	**Guarapari-ES**	**25.56**	**90**	*e*P	**P**	**16 39 02.7**	**-0.5**
BOAV	**Boa Vista**	**26.30**	**17**	P	**P**	**16 39 09.1**	**-0.7**
BOAV				IAmb	IAmb	16 39 11.9	
	comp=Z,3.8nm,0.9s						
NAN01	**Guarapari, ES**	**26.74**	**84**	*e*P	**P**	**16 39 13.4**	**-0.4**
GDU01	**Guandu, BA**	**28.60**	**76**	*e*P	**P**	**16 39 29.3**	**-1.1**
QSPA	**South Pole Qui**	**67.21**	**180**	P	P	16 44 29.2	+3.1
	comp=Z,1.9nm,0.5s,baz=173,slow=19,SNR=17						
	comp=Z,1.9nm,0.5s						
QSPA	**South Pole Qui**	**67.21**	**180**	P	**P**	**16 44 27.8**	**+1.7**
QSPA				IAmb	IAmb	16 44 30.1	
	comp=Z,1.8nm,0.5s						
PDAR	**Pinedale Array**	**75.74**	**330**	P	**P**	**16 45 20.3**	**+2.8**
	comp=Z,0.2nm,0.4s,baz=134,slow=7.8,SNR=2.3						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.20**	**70**	P	**P**	**16 45 26.8**	**+0.7**
	comp=Z,5.0nm,0.5s,baz=258,slow=6.1,SNR=39						
	comp=Z,5.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.20**	**70**	P	**P**	**16 45 24.7**	**-1.4**
BOSA	**Boshof**	**82.14**	**118**	P	**P**	**16 45 54.4**	**+1.6**
	comp=Z,3.0nm,1.0s,baz=288,slow=3.2,SNR=2.0						
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**132.02**	**209**	PKP	**PKiKP**	**16 52 49.2**	**+3.2**
	comp=Z,2.6nm,1.2s,baz=153,slow=1.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**142.98**	**26**	PKP	**PKiKP**	**16 53 04.2**	**-3.0**
	comp=Z,0.8nm,0.7s,baz=318,slow=1.9,SNR=1.9						
MKAR	**Makanchi Array**	**146.40**	**38**	PKPbc	**PKiKP**	**16 53 13.5**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=303,slow=3.6,SNR=7.2						

---

*IDC **04** 16:34:27.5±3.7, 6°.20S×127°.66E, h405km±41km, mb3.7/3, mbtmp4.4/5, Error ellipse: s-maj=61.0km s-min=13.4km az=76.0*
*NEIC **04** 16:34:27.0±2.0, 6°.1S±0°.1×127°.7E±0°.1, h411km±11km, mb4.2/11, Error ellipse: s-maj=18.4km s-min=16.8km az=47.0*
*DJA **04** 16:34:28.6±0.3, 6°S±2°×12°8E±°, h379km±4km, M4.2/14, mb4.1/12, mB5.0/6, MLv4.3/14, Mw(mB)4.3/6*
ISC 04 16:34:26.9±0.6, **6°.13S**±0°.06×**127°.69E**±0°.07, **h404**km, **n61**, σ**1s.28**/65, **mb4.2**/5, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.48**	**12**	P	**P**	**16 35 27.4**	**+1.0**
BNDI	**Bandanaira**	**2.72**	**54**	P	**P**	**16 35 29.0**	**+0.8**
BNDI	**Bandanaira**	**2.72**	**54**	P	**P**	**16 35 29.5**	**+1.3**
KRAI	**Karang Ratu**	**2.88**	**14**	P	**P**	**16 35 30.0**	**+0.6**
KRAI				S	**S**	**16 36 17.1**	**-3.0**
NLAI	**Namlea**	**2.93**	**348**	P	**P**	**16 35 32.1**	**+2.3**
NLAI				S	**S**	**16 36 20.4**	**-0.4**
MSAI	**Masohi**	**3.03**	**24**	P	**P**	**16 35 30.4**	**-0.2**
SAUI	**Saumlaki**	**4.03**	**117**	P	**P**	**16 35 38.9**	**-0.5**
SAUI	**Saumlaki**	**4.03**	**117**	P	**P**	**16 35 40.7**	**+1.3**
SAUI	**Saumlaki**	**4.03**	**117**	P	**P**	**16 35 40.7**	**+1.3**
SANI	**Sanana**	**4.39**	**337**	P	**P**	**16 35 43.1**	**+0.2**
SANI				S	**S**	**16 36 42.8**	**-2.0**
SANI	**Sanana**	**4.39**	**337**	P	**P**	**16 35 43.4**	**+0.5**
SOEI	**Soe**	**4.95**	**223**	P	**P**	**16 35 49.1**	**+0.6**
SOEI	**Soe**	**4.95**	**223**	P	**P**	**16 35 49.4**	**+0.9**
SOEI	**Soe**	**4.95**	**223**	P	**P**	**16 35 49.6**	**+1.1**
BBSI	**Bau Bau**	**5.13**	**277**	P	**P**	**16 35 52.0**	**+1.7**
	0.2nm26nm,1.1s						
FAKI	**Fak Fak**	**5.55**	**55**	P	**P**	**16 35 54.6**	**-0.1**
FAKI	**Fak Fak**	**5.55**	**55**	P	**P**	**16 35 55.0**	**+0.4**
	1.3nm6µm294nm,0.8s						
FAKI	**Fak Fak**	**5.55**	**55**	P	**P**	**16 35 55.1**	**+0.4**
BATI	**Baumata**	**5.68**	**224**	P	**P**	**16 35 57.1**	**+1.0**
	0.5nm97nm,0.7s						
MMRI	**Maumere**	**5.95**	**245**	P	**P**	**16 35 56.4**	**-2.5**
MMRI	**Maumere**	**5.95**	**245**	P	**P**	**16 36 00.0**	**+1.1**
	0.2nm37nm,0.9s						
MMRI	**Maumere**	**5.95**	**245**	P	**P**	**16 36 00.5**	**+1.6**
SIJI	**Sorong**	**6.33**	**34**	P	**P**	**16 36 03.5**	**+0.5**
	0.6nm5µm80nm,0.7s						
BSSI	**Bau Bau, Buton**	**7.16**	**269**	P	**P**	**16 36 14.2**	**+1.2**
	0.1nm28nm,0.9s						
MTN	**Manton Dam**	**7.49**	**153**		**P**	**16 36 16.8**	**+0.1**
MTN	**Manton Dam**	**7.49**	**153**	P	**P**	**16 36 17.4**	**+0.7**
RKPI	**Ransiki, Papua**	**7.93**	**55**	P	**P**	**16 36 23.5**	**+1.9**
	1.2nm4µm202nm,0.6s						
KDU	**Kakadu**	**8.05**	**144**	P	**P**	**16 36 23.5**	**+0.7**
MWPI	**Manokwari, Pap**	**8.17**	**51**	P	**P**	**16 36 27.6**	**+3.3**
	45nm,0.8s						
MRSI	**Marisa**	**8.71**	**319**	P	**P**	**16 36 31.3**	**+1.1**
	17nm,0.6s						
KNRA	**Kununurra**	**9.55**	**174**		**P**	**16 36 40.6**	**+1.1**
KNRA	**Kununurra**	**9.55**	**174**	P	**P**	**16 36 40.7**	**+1.2**
TOLI2	**Tolitoli**	**9.96**	**316**	P	**P**	**16 36 44.1**	**+0.1**
TOLI2	**Tolitoli**	**9.96**	**316**	P	**P**	**16 36 45.3**	**+1.2**
PLAI	**Plampang**	**10.19**	**254**	P	**P**	**16 36 47.1**	**+0.5**
MTKI	**Muara Teweh, K**	**13.76**	**291**	P	**P**	**16 37 28.2**	**+2.2**
	2µm22nm,0.7s						
WB0	**Warramunga Arr**	**15.04**	**155**	P	**P**	**16 37 40.4**	**+0.5**
WRAB	**Tennant Creek**	**15.18**	**155**	P	**P**	**16 37 42.0**	**+0.8**
WRA	**Warramunga Arr**	**15.18**	**155**	P	**P**	**16 37 41.6**	**+0.3**
	3.2nm,0.2s,baz=332,slow=11,SNR=166						
WB2	**Warramunga Arr**	**15.18**	**155**	P	**P**	**16 37 41.8**	**+0.5**
WB2				IAmb	IAmb	16 37 42.8	
	comp=Z,7.1nm,1.0s						
WR0	**Warramunga Arr**	**15.28**	**155**	P	**P**	**16 37 42.8**	**+0.4**
WR0				IAmb	IAmb	16 37 43.5	
	comp=Z,8.7nm,0.8s						
COEN	**Coen**	**17.11**	**118**	P	**P**	**16 38 02.4**	**+0.3**
COEN				IAmb	IAmb	16 38 19.5	
	comp=Z,4.4nm,0.9s						
COEN	**Coen**	**17.11**	**118**	P	**P**	**16 38 02.8**	**+0.8**
PSA00	**Pilbara Seismi**	**17.13**	**206**	P	**P**	**16 38 02.2**	**+0.1**
QIS	**Mount Isa**	**18.43**	**142**	P	**P**	**16 38 16.9**	**+1.0**
AS31	**Alice Springs**	**18.44**	**162**	P	**P**	**16 38 15.3**	**-0.7**
ASAR	**Alice Springs**	**18.44**	**162**	P	**P**	**16 38 16.1**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=344,slow=12,SNR=71						
ASAR				S	**S**	**16 41 25.1**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=340,slow=19,SNR=8.7						
ASAR	**Alice Springs**	**18.44**	**162**	P	**P**	**16 38 15.2**	**-0.8**
AS01	**Alice Springs**	**18.45**	**162**	P	**P**	**16 38 16.4**	**+0.3**
WRKA	**Warakurna**	**18.81**	**178**	P	**P**	**16 38 20.9**	**+1.0**
KSM	**Kuching**	**18.92**	**293**	P	**P**	**16 38 20.2**	**-0.9**
KSM				IAmb	IAmb	16 38 24.4	
	comp=Z,7.7nm,0.7s						
PMG	**Port Moresby**	**19.56**	**101**	P	**P**	**16 38 26.4**	**-0.9**
PMG				IAmb	IAmb	16 38 29.6	
	comp=Z,13nm,0.8s						
BBJI	**Bungbulang**	**19.94**	**265**	P	**P**	**16 38 31.1**	**+0.3**
FORT	**Forrest**	**24.53**	**179**	P	**P**	**16 39 11.2**	**-0.8**
MORW	**Morawa**	**25.34**	**204**	P	**P**	**16 39 17.0**	**-2.3**
MORW				IAmb	IAmb	16 39 17.9	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**27.67**	**165**	P	**P**	**16 39 38.5**	**-1.5**
BBOO				IAmb	IAmb	16 39 50.2	
	comp=Z,11nm,1.1s						
PETK	**Petropavlovsk-**	**64.25**	**20**	P	**P**	**16 44 21.3**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=150,slow=2.3,SNR=5.2						
	comp=Z,3.7nm,0.8s						
PETK	**Petropavlovsk-**	**64.25**	**20**	P	**P**	**16 44 19.6**	**-0.7**
MKAR	**Makanchi Array**	**66.25**	**328**	P	**P**	**16 44 34.4**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=125,slow=6.4,SNR=1.5						
	comp=Z,1.6nm,0.5s						
YAK	**Yakutsk**	**67.97**	**1**	P	**P**	**16 44 44.2**	**+0.7**
	comp=Z,3.8nm,0.4s,baz=180,slow=3.6,SNR=2.1						
	comp=Z,3.8nm,0.4s						
MTO3	**Montecristo**	**142.68**	**74**		**PKPdf**	**16 53 10.6**	**-3.5**

MAN 04 16:50:19.8, 9°.13N×125°.64E, h12km, mb4.0, ML2.7, MS2.3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.66**	**347**	*e*P	Pg	16 50 32.8	+0.1
SCPH				*i* S	Sb	16 50 43.9	+1.4
CGP	**Cagayan de Oro**	**1.15**	**234**	⇑*e*P	Pb	16 50 40.9	-0.8
CGP				*i* S	Sb	16 50 56.0	-0.7
BIPH	**Bislig**	**1.18**	**143**	⇓*e*P	Pn	16 50 40.1	-2.1
BIPH				*i* S	Sb	16 50 54.8	-2.7
TABP	**Talibon, Bohol**	**1.60**	**307**	⇑*i*P	Pn	16 50 46.7	-1.3
TABP				*i* S	Sn	16 51 06.9	-1.7
LSIP	**Lazi, Siquijor**	**1.98**	**270**	⇓*e*P	Pn	16 50 53.2	0.0

ISC 04 16:55:55.6±1.2, **69°.28N**±0°.04×**144°.70W**±0°.03, **h6**km±16km, **n12**, σ**0s.54**/19, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.49**	**45**	P	**Pg**	**16 56 05.1**	**0.0**
	baz=228,SNR=91						
C27K				S	**Sg**	**16 56 11.7**	**+0.2**
	baz=228						
D25K	**Kavik River**	**0.60**	**275**	P	**Pg**	**16 56 06.5**	**-0.5**
	baz=92,SNR=152						
D25K				S	**Sg**	**16 56 14.8**	**0.0**
	baz=92						
E25K	**Arctic Village**	**1.21**	**196**	P	**Pn**	**16 56 18.8**	**-0.2**
	baz=14						
E25K				S	**Sb**	**16 56 34.8**	**+0.2**
	baz=14						
E27K	**Coleen River**	**1.58**	**133**	P	**Pb**	**16 56 24.9**	**-0.2**
	baz=316,SNR=16						
E27K				S	**Sg**	**16 56 46.8**	**+0.5**
	baz=316						
F26K	**Sheenjek River**	**1.61**	**172**	S	**Sg**	**16 56 47.9**	**+0.7**
	baz=352						
F25K	**Christian Rive**	**1.73**	**192**	Pb	**Pb**	**16 56 28.3**	**+0.5**
	baz=10,SNR=5.4						
F25K				S	**Sg**	**16 56 51.1**	**0.0**
	baz=10						
E24K	**Your Creek**	**1.84**	**231**	Pb	**Pb**	**16 56 30.0**	**+0.3**
	baz=46,SNR=11						
E24K				Sb	**Sg**	**16 56 55.5**	**+0.9**
	baz=46						
TOLK	**Toolik Lake Re**	**1.87**	**252**	Pb	**Pb**	**16 56 30.5**	**+0.3**
	baz=67						
TOLK				Sb	**Sg**	**16 56 56.5**	**+0.9**
	baz=67						
F24K	**Squaw Lake**	**2.13**	**215**	Sb	**Sg**	**16 57 03.5**	**-0.3**
	baz=32						
C23K	**Itkillik River**	**2.15**	**288**	Sb	**Sg**	**16 57 04.4**	**-0.1**
	baz=102						
E23K	**Chandalar**	**2.18**	**238**	Pb	**Pb**	**16 56 35.2**	**-0.2**
	baz=53						
G26K	**Porcupine Rive**	**2.37**	**171**	Sb	**Sg**	**16 57 10.6**	**-1.0**
	baz=352						

MAN 04 17:12:40.0, 6°.80N×123°.85E, h32km, mb3.8, ML2.5, MS2.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**1.14**	**336**	⇓*e*P	Pn	17 12 59.4	-0.5
PAGZ				*e*S	Sn	17 13 14.6	+0.2

---

*DJA **04** 17:23:16.9±0.3, 1°N±2°×12°7E±°, h36km±7km, M4.7/18, mb4.9/16, mB5.2/8, MLv4.7/18, Mw(mB)4.6/8*
*NEIC **04** 17:23:17.2±1.7, 1°.00N±0°.06×126°.89E±0°.04, h46km±6km, mb4.7/40, Error ellipse: s-maj=9.2km s-min=5.9km az=197.0*
*IDC **04** 17:23:18.7±2.0, 0°.96N×126°.94E, h69km±19km, mb3.9/15, mbtmp4.2/17, Error ellipse: s-maj=18.2km s-min=9.4km az=77.0*
*BJI **04** 17:23:18.8±0.0, 1°.22N×126°.73E, h39km, mb4.3/18, mB5.0/9, Ms5.0/1, Ms7 4.8/1*
ISC 04 17:23:16.0±0.3, **1°.01N**±0°.04×**126°.90E**±0°.04, **h35**km, **n123**, σ**1s.90**/136, **mb4.6**/36, **1C**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.53**	**117**	Pn	**Pn**	**17 23 28.3**	**+1.3**
TNTI				Sn	**Sn**	**17 23 36.8**	**+2.2**
TNTI	**Ternate**	**0.53**	**117**	P	**Pn**	**17 23 28.8**	**+1.8**
TNTI				S	**Sn**	**17 23 36.9**	**+2.2**
TNTI	**Ternate**	**0.53**	**117**	P	**Pn**	**17 23 29.6**	**+2.6**
GAMI	**Galela, Maluku**	**1.21**	**47**	P	**Pn**	**17 23 35.9**	**-0.6**
LBMI	**Labuha**	**1.74**	**160**	P	**Pn**	**17 23 46.5**	**+2.7**
SGSI	**Sangihe**	**2.99**	**333**	P	**Pn**	**17 24 00.5**	**-0.4**
SANI	**Sanana**	**3.17**	**197**	P	**Pn**	**17 24 05.2**	**+1.8**
SANI				S	**Sn**	**17 24 40.4**	**+0.4**
SANI	**Sanana**	**3.17**	**197**	P	**Pn**	**17 24 05.1**	**+1.7**
GTOI	**Gorontalo**	**3.90**	**265**	P	**Pn**	**17 24 17.5**	**+4.0**
NLAI	**Namlea**	**4.22**	**177**	P	**Pn**	**17 24 20.3**	**+2.4**
NLAI				S	**Sn**	**17 25 07.5**	**+1.5**
KRAI	**Karang Ratu**	**4.55**	**161**	P	**Pn**	**17 24 24.9**	**+2.5**
LUWI	**Luwuk**	**4.60**	**244**		**Pn**	**17 24 24.5**	**+1.5**
LUWI				Sn	**Sn**	**17 25 19.2**	**+3.9**
LUWI	**Luwuk**	**4.60**	**244**	P	**Pn**	**17 24 25.3**	**+2.2**
LUWI	**Luwuk**	**4.60**	**244**	P	**Pn**	**17 24 26.8**	**+3.7**
SIJI	**Sorong**	**4.75**	**113**	P	**Pn**	**17 24 27.0**	**+1.8**
	5.4nm,0.3s,baz=318,slow=12,SNR=11						

SIJI	Sorong	4.75	113	P	Pn	17 24 26.2	+1.1
AAI	Ambon	4.84	164	P	Pn	17 24 28.8	+2.4
MRSI	Marisa	4.99	264	P	Pn	17 24 30.2	+1.8
	0.8nm2μm121nm,0.6s						
MRSI				S	Sn	17 25 25.0	+0.2
	0.8nm2μm121nm,0.6s						
APSI	Ampana	5.58	250	P	Pn	17 24 38.7	+2.1
	2.4nm5μm394nm,0.9s						
TOLI2	Tolitoli	6.12	271	Pn	Pn	17 24 45.2	+1.2
TOLI2				Sn	Sn	17 25 49.3	-3.4
TOLI2	Tolitoli	6.12	271	P	Pn	17 24 45.9	+2.0
DAV	Davao City (W)	6.16	348	Pn	Pn	17 24 45.5	+1.0
KCP	Kidapawan	6.23	343⇑	eP	Pn	17 24 47.7	+2.2
KCP				iS	Sn	17 25 56.7	+1.2
FAKI	Fak Fak	6.62	126	Pn	Pn	17 24 53.8	+3.0
FAKI				Sn	Sn	17 26 06.7	+1.5
FAKI	Fak Fak	6.62	126	P	Pn	17 24 52.6	+1.7
	0.2nm32nm,1.1s						
FAKI	Fak Fak	6.62	126	P	Pn	17 24 55.2	+4.3
MPSI	Mapaga	7.03	265	P	Pn	17 24 58.4	+1.9
	0.2nm53nm,0.8s						
BBSI	Bau Bau	7.77	214	P	Pn	17 25 07.9	+1.3
	0.7nm182nm,0.9s						
BNSI	Bone	8.66	232	P	Pn	17 25 20.9	+2.1
	709nm65nm,1.0s						
SPSI	Sidrap Palu	8.67	235	P	Pn	17 25 21.4	+2.4
	1μm127nm,0.7s						
BKSI	Bulukumba	9.24	227	P	Pn	17 25 29.1	+2.3
	2μm116nm,0.8s						
KAPI	Kappang	9.31	230	P	Pn	17 25 30.7	+2.9
	32nm,0.5s,baz=28,slow=8.4,SNR=11						
KAPI				S	Sn	17 27 10.8	-0.6
	31nm,0.5s,baz=302,slow=23,SNR=7.6						
KAPI	Kappang	9.31	230	Pn	Pn	17 25 30.2	+2.4
KAPI					Sn	17 27 09.8	-1.6
KAPI	Kappang	9.31	230	P	Pn	17 25 30.5	+2.7
	1μm61nm,1.1s						
KAPI	Kappang	9.31	230	P	Pn	17 25 31.0	+3.2
MYLDM	Lahad Datu	9.35	296	Pn	Pn	17 25 29.9	+1.6
BSSI	Bau Bau, Buton	9.56	222	P	Pn	17 25 33.8	+2.6
	999nm90nm,0.9s						
MMRI	Maumere	10.65	206	Pn	Pn	17 25 47.6	+1.4
SOEI	Soe	11.01	194	Pn	Pn	17 25 56.1	+4.9
BATI	Baumata	11.60	196	P	Pn	17 26 04.0	+4.8
	59nm,0.8s,baz=326,slow=4.5,SNR=8.7						
KKM	Kota Kinabalu	11.78	295	Pn	Pn	17 26 02.3	+0.6
KKM	Kota Kinabalu	11.78	295	P	Pn	17 26 05.8	+4.1
PLAI	Plampang	13.35	223	P	Pn	17 26 24.7	+1.7
	1μm83nm,1.5s						
GENI	Genyem	13.74	105	P	Pn	17 26 29.4	+1.0
	43nm,1.5s						
MTNI	Mataram	14.36	228	P	Pn	17 26 39.8	+3.0
	7.8nm,0.5s						
MTN	Manton Dam	14.39	163	Pn	Pn	17 26 37.9	+0.6
MTN	Manton Dam	14.39	163	P	Pn	17 26 39.0	+1.7
SBUM	Sibu	14.74	276	P	P	17 26 47.2	-0.5
ABJI	Asem Bagus	15.36	235	P	Pn	17 26 50.3	0.0
	43nm,1.1s						
JAGI	Jajag, Banyuwa	15.81	233	P	Pn	17 26 59.3	+3.1
JAGI				IAmb	IAmb	17 27 27.0	
	comp=Z,84nm,1.3s						
KSM	Kuching	16.59	272	P	Pn	17 27 07.5	+1.4
KNRA	Kununurra	16.68	174		Pn	17 27 07.6	+0.5
KNRA				IAmb	IAmb	17 27 11.2	
	comp=Z,64nm,1.1s						
KNRA	Kununurra	16.68	174	P	Pn	17 27 09.1	+1.9
PWJI	Pagerwojo	17.52	239	P	P	17 27 19.9	+1.4
	comp=Z,77nm,1.2s						
PCJI	Pacitan	18.14	239	P	Pn	17 27 27.4	+2.1
SMRI	Semarang	18.27	244	P	P	17 27 25.8	-1.1
SMRI				IAmb	IAmb	17 28 03.4	
	comp=Z,93nm,1.3s						
UGM	Wanagama	18.58	241	P	P	17 27 29.1	-1.1
UGM	Wanagama	18.58	241	P	Pn	17 27 33.4	+2.7
LEM	Lembang	20.75	248	P	P	17 27 55.5	+1.4
	comp=Z,16nm,0.6s,baz=311,slow=20,SNR=6.1						
	comp=Z,16nm,0.6s						
COEN	Coen	21.94	133	P	P	17 28 07.2	+0.5
WRAB	Tennant Creek	22.06	161	P	P	17 28 07.5	-0.5
WRAB				IAmb	IAmb	17 28 32.2	
	comp=Z,28nm,0.8s						
WRA	Warramunga Arr	22.06	161	P	P	17 28 07.3	-0.7
	comp=Z,14nm,0.8s,baz=339,slow=11,SNR=86						
WRA				S	S	17 32 06.2	-3.3
	comp=Z,3.3nm,0.8s,baz=333,slow=18,SNR=8.1						
	comp=Z,14nm,0.8s						
YULB	Yu-li	22.90	347	P	P	17 28 16.3	-0.6
YULB				IAmb	IAmb	17 28 17.5	
	comp=Z,42nm,1.4s						
TPUB	Ta-pu	22.98	345	P	P	17 28 15.2	-2.5
TPUB				IAmb	IAmb	17 28 41.7	
	comp=Z,40nm,1.2s						
MBWA	Marble Bar	23.12	197	P	P	17 28 17.6	-1.5
SSLB	Suanglung	23.36	346	P	P	17 28 20.8	-0.7
SSLB				IAmb	IAmb	17 28 48.2	
	comp=Z,24nm,1.2s						
PSA00	Pilbara Seismi	23.48	197	P	P	17 28 20.8	-1.8
PSA00	Pilbara Seismi	23.48	197	P	P	17 28 21.1	-1.6
PSA00				IAmb	IAmb	17 28 42.6	
	comp=Z,13nm,0.9s						
AS31	Alice Springs	25.45	165	P	P	17 28 39.5	-1.3
AS31					S	17 32 59.5	-6.3
ASAR	Alice Springs	25.46	165	P	P	17 28 40.5	-0.3
	comp=Z,19nm,0.8s,baz=341,slow=11,SNR=78						
ASAR				S	S	17 33 02.7	-3.1
	comp=Z,2.3nm,1.0s,baz=342,slow=17,SNR=5.6						
	comp=Z,19nm,0.8s						
ASAR	Alice Springs	25.46	165	P	P	17 28 39.3	-1.5
ASAR					S	17 33 02.8	-3.0
JOW	Kunigami	25.71	3	P	P	17 28 43.4	+0.3
IPM	Ipoh	26.07	278	P	P	17 28 46.1	-0.5
IPM				IAmb	IAmb	17 29 05.8	
	comp=Z,37nm,1.4s						
KULM	Kulim	26.55	280	P	P	17 28 51.2	+0.4
KULM				IAmb	IAmb	17 29 10.2	
	comp=Z,46nm,1.5s						
FORT	Forrest	31.63	178	P	P	17 29 35.0	-0.8
MORW	Morawa	31.66	198	P	P	17 29 35.1	-1.1
MORW				IAmb	IAmb	17 29 37.5	
	comp=Z,16nm,1.2s						
PATS	Pohnpei	31.86	79	P	P	17 29 38.1	+0.1
JNU	Nakatsue	32.16	6	P	P	17 29 41.4	+0.9
CMAR	Chiang Mai Arr	32.45	304	P	P	17 29 43.0	-0.3
	comp=Z,0.2nm,0.4s,baz=136,slow=7.1,SNR=1.9						
	comp=Z,0.2nm,0.4s						
BBOO	Buckleboo	34.73	166	P	P	17 30 02.4	-0.5
BBOO				IAmb	IAmb	17 30 02.6	
	comp=Z,19nm,1.1s						
NWAO	Narrogin (SRO)	34.97	194	P	P	17 30 03.9	-1.0
	comp=Z,4.8nm,0.6s,baz=52,slow=17,SNR=6.1						
	comp=Z,4.8nm,0.6s						
NWAO	Narrogin (SRO)	34.97	194	P	P	17 30 04.4	-0.5
PZH	PanZhiHua	35.04	318	P	P	17 30 08.3	+2.5
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
EIDS	Eidsvold	35.15	140	P	P	17 30 05.5	-1.1
STKA	Stephens Creek	35.55	158	P	P	17 30 09.7	-0.3
	comp=Z,5.6nm,1.1s,baz=334,slow=10,SNR=3.6						
	comp=Z,5.6nm,1.1s						
STKA	Stephens Creek	35.55	158	P	P	17 30 08.1	-1.8
KSRS	Korea Array	36.28	1	P	P	17 30 16.1	0.0
	comp=Z,0.8nm,0.7s,baz=182,slow=9.5,SNR=2.5						
	comp=Z,0.8nm,0.7s						
MAJO	Matsushiro	36.88	15	P	P	17 30 19.6	-1.6
MAJO				IAmb	IAmb	17 30 37.3	
	comp=Z,12nm,1.3s						
MJAR	Matsushiro Arr	36.88	15	P	P	17 30 19.5	-1.7
	comp=Z,1.0nm,0.7s,baz=196,slow=10,SNR=1.9						
	comp=Z,1.0nm,0.7s						
MJB9	Matsu-Tunnel	36.88	15	P	P	17 30 21.4	+0.1
MJB9				IAmb	IAmb	17 30 40.1	
	comp=Z,12nm,1.3s						
JSD	Sado	38.30	15	P	P	17 30 33.1	-0.2
JMM	Marumori	38.84	18	P	P	17 30 38.0	+0.2
JMM				IAmb	IAmb	17 30 56.5	
	comp=Z,29nm,1.3s						
ARMA	Armidale	39.13	145	P	P	17 30 40.1	-0.3
ARMA				IAmb	IAmb	17 30 42.4	
	comp=Z,13nm,1.2s						
HHC	Hu-ho-hao-te	42.02	343	eP	P	17 31 07.2	+3.0
HHC				pmax	pmax		
	comp=Z,26nm,1.0s						
HHC				pmax	pmax		
	comp=Z,450nm,5.4s						
USRK	Ussuriysk Ar.	43.24	5	P	P	17 31 13.8	-0.1
GTA	Gaotai	45.52	330	eP	P	17 31 33.8	+1.5
GTA				sP	sP	17 31 50.4	+4.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KLR	Kul'dur	48.22	4	P	P	17 31 53.0	-0.1
	comp=Z,0.8nm,0.6s,baz=212,slow=9.5,SNR=2.0						
	comp=Z,0.8nm,0.6s						
HEH	HeiHe	49.06	0	eP	P	17 32 03.8	+4.2
HEH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
WMQ	Urumqi	55.05	326	eP	P	17 32 46.6	+2.2
WMQ				pP	sP	17 32 58.7	+0.4
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
PETK	Petropavlovsk-	57.88	21	P	P	17 33 02.6	-1.7
	comp=Z,5.5nm,1.1s,baz=174,slow=4.3,SNR=4.1						
	comp=Z,5.5nm,1.1s						
PETK	Petropavlovsk-	57.88	21	P	P	17 33 05.2	+0.9
MK31	Makanchi Array	59.88	326	P	P	17 33 17.2	-1.1
MK31				IAmb	IAmb	17 33 26.5	
	comp=Z,8.0nm,1.4s						
MKAR	Makanchi Array	59.88	326	P	P	17 33 17.6	-0.7
	comp=Z,1.7nm,0.4s,baz=118,slow=7.6,SNR=38						
	comp=Z,1.7nm,0.4s						
MAKZ	Makanchi	60.06	326	P	P	17 33 18.6	-1.0
CMWZ	Cape Campbell	60.29	141	P	P	17 33 19.3	-1.9
BKZ	Black Stump Fm	60.47	137	P	P	17 33 21.3	-1.2
ZALV	Zalesovo Beam	63.08	334	P	P	17 33 39.4	-0.3
	comp=Z,1.1nm,0.6s,baz=125,slow=5.8,SNR=3.3						
	comp=Z,1.1nm,0.6s						
KURK	Kurchatov	64.12	328	P	P	17 33 45.9	-0.7
KKAR	Karatay Array	65.33	318	P	P	17 33 54.3	-0.5
GEYT	Alibeck	72.73	309	P	P	17 34 39.9	-1.0
	comp=Z,0.8nm,0.5s,baz=225,slow=4.0,SNR=3.7						
	comp=Z,0.8nm,0.5s						
CLES	Cleveland East	73.30	34	P	P	17 34 43.2	-0.6
CLES				IAmb	IAmb	17 35 07.4	
	comp=Z,857nm,1.3s						
ABKAR	Akbulak array	74.36	321	P	P	17 34 48.8	-1.3
ABKAR	Akbulak array	74.36	321	P	P	17 34 48.8	-1.3
ABKAR				IAmb	IAmb	17 35 07.5	
	comp=Z,7.1nm,1.2s						
VNDA	Vanda	80.72	173	P	P	17 35 23.7	-1.4
	comp=Z,1.4nm,0.8s,baz=316,slow=6.7,SNR=9.4						
	comp=Z,1.4nm,0.8s						
VNDA	Vanda	80.72	173	P	P	17 35 23.8	-1.4
SBA	Scott Base	81.64	172	P	P	17 35 30.4	+0.5
RAYN	Ar Rayn	81.70	293	P	P	17 35 30.5	-1.0
RAYN				IAmb	IAmb	17 35 52.2	
	comp=Z,7.1nm,1.2s						
N19K	Bonanza Creek	83.57	29	P	P	17 35 40.0	-0.5
N19K				IAmb	IAmb	17 35 40.5	
	comp=Z,12nm,1.1s						
L19K	White Mountain	83.63	28	P	P	17 35 40.2	-0.5
L19K				IAmb	IAmb	17 36 14.1	
	comp=Z,11nm,1.5s						
K20K	Telida	84.18	26	P	P	17 35 43.8	+0.3
K20K				IAmb	IAmb	17 36 08.8	
	comp=Z,8.1nm,1.3s						
IMAR	Indian Mountai	84.75	24	P	P	17 35 45.6	-0.7
QSPA	South Pole Qui	90.93	180	P	P	17 36 14.9	-1.2
	comp=Z,1.4nm,0.9s,baz=334,slow=7.4,SNR=3.9						
	comp=Z,1.4nm,0.9s						
TORD	Torodi Ar. Bea	123.88	287	PKP	PKPdf	17 42 10.5	-1.0
	comp=Z,0.3nm,0.7s,baz=56,slow=2.0,SNR=2.3						

MOS ***04*** *17:29:08.6±0.9, 6.°65S×155.°32E, h47km, mb5.0/26, Error ellipse: s-maj=8.6km s-min=6.7km az=83.2*

BJI ***04*** *17:29:10.7±0.0, 6.°49S×155.°30E, h64km, mb4.7/32, mB5.3/13, Ms5.2/3, Ms7 5.0/2*

IDC ***04*** *17:29:13.1±1.2, 6.°76S×155.°42E, h79km±11km, mb4.4/32, mbtmp4.7/36, MS4.2/6, Error ellipse: s-maj=9.2km s-min=8.1km az=53.0*

DJA ***04*** *17:29:14.0±0.6, 7°S±4°×15°5E±°, h87km±5km, M4.9/30, mB5.1/7, mb4.8/30, MLv5.4/3, Mw(mB)4.5/7*

NEIC ***04*** *17:29:14.3±1.4, 6.°75S±0.°07×155.°37E±0.°07, h85km±6km, mb5.0/174, Error ellipse: s-maj=11.8km s-min=9.1km az=217.0*

ISC 04 17:29:13.2±0.5**, 6.°78S**±0.°04×**155.°37E**±0.°04**, h79**km±4km**, h79**km**:pP-P, n611, σ0.s86**/608**, mb5.0**/153**, 10C-2D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	4.10	309	Pn	Pn	17 30 15.2	+1.7
RABL	Rabaul	4.10	309	P	Pn	17 30 14.1	+0.6
KRVT	Keravat (AS076	4.14	306	P	Pn	17 30 13.3	-0.6
	57nm,0.3s,baz=248,slow=3.9,SNR=38						
KRVT				S	Sn	17 31 06.5	+5.4
	312nm,0.5s,baz=72,slow=3.5,SNR=4.8						
KRVT				LR	LR	17 32 15.1	
	comp=Z,2μm,18.6s,baz=233,slow=44						
HNR	Honiara	5.24	120	P	Pn	17 30 28.9	-0.2
	2μm,0.3s,baz=293,slow=2.0,SNR=22						
HNR				S	Sn	17 31 29.1	+0.9
	16μm,0.8s,baz=225,slow=5.1,SNR=3.6						
HNR	Honiara	5.24	120	Pn	Pn	17 30 29.1	0.0
HNR	Honiara	5.24	120	P	Pn	17 30 30.6	+1.5
HNR	Honiara	5.24	120	P	Pn	17 30 29.1	0.0
PMG	Port Moresby	8.54	252	P	Pn	17 31 13.0	-1.0
	55nm,0.5s,baz=71,slow=7.1,SNR=26						
PMG				S	Sn	17 32 50.0	+1.2
	97nm,0.9s,baz=71,slow=19,SNR=10						
PMG				LR	LR	17 34 32.5	
	comp=Z,1μm,18.7s,baz=138,slow=37						
PMG	Port Moresby	8.54	252	Pn	Pn	17 31 12.5	-1.6
PMG	Port Moresby	8.54	252	P	Pn	17 31 15.7	+1.6
	0.5nm2μm137nm,0.7s						
PMG	Port Moresby	8.54	252	P	Pn	17 31 14.0	-0.1
PMG	Port Moresby	8.54	252	ceP	Pn	17 31 13.2	-0.9
PMG				pmax	pmax		
	comp=Z,52nm,0.6s						
MANU	Manus Island	9.26	300		Pn	17 31 21.9	-2.1
PATS	Pohnpei	13.84	12	Pn	Pn	17 32 23.1	-2.9
PATS	Pohnpei	13.84	12	P	Pn	17 32 24.1	-1.8
COEN	Coen	13.95	238	Pn	Pn	17 32 26.9	-0.4
COEN	Coen	13.95	238	P	Pn	17 32 26.9	-0.4
CTA	Charters Tower	15.91	213	P	Pn	17 32 52.5	0.0
	comp=Z,11nm,1.0s,baz=36,slow=11,SNR=6.2						
CTA	Charters Tower	15.91	213	P	Pn	17 32 52.7	+0.2
CTAO	Charters Tower	15.91	213	P	Pn	17 32 52.0	-0.5
CTAO	Charters Tower	15.91	213	P	Pn	17 32 52.0	-0.5
KOUNC	Koumac, New Ca	16.19	149	Pn	Pn	17 32 55.9	-0.1
LIFNC	LIFOU	18.05	142	P	P	17 33 17.4	-0.8
LIFNC	LIFOU	18.05	142	P	Pn	17 33 20.0	+1.2
NOUC	Port Laguerre	18.53	146	P	Pn	17 33 24.9	+0.3
DZM	Mont Dzumac	18.59	146	P	Pn	17 33 25.3	0.0
	comp=Z,22nm,0.7s,baz=281,slow=8.7,SNR=31						
DZM				LR	LR	17 39 56.2	
	comp=Z,445nm,19.7s,baz=310,slow=35						
DZM	Mont Dzumac	18.59	146	P	Pn	17 33 25.7	+0.4
DZM	Mont Dzumac	18.59	146	P	Pn	17 33 25.8	+0.4
ONTNC	Ouen Toro	18.78	146	P	P	17 33 26.4	+0.2
YATNC	Mamie plateau,	18.83	145	P	Pn	17 33 27.7	-0.4
EIDS	Eidsvold	18.93	192	P	Pn	17 33 29.0	-0.3
EIDS	Eidsvold	18.93	192	P	Pn	17 33 30.2	+0.8
MARNC	Mare, Loyalty	19.06	141	P	Pn	17 33 30.4	-0.5
OUENC	Ouen Island, N	19.08	146	P	P	17 33 30.3	+0.7
OUENC	Ouen Island, N	19.08	146	P	Pn	17 33 30.7	-0.5
SRPI	Serui, Papua	19.68	283	P	P	17 33 35.4	-0.8
	comp=Z,25nm,0.5s						
KWAJ	Kwajalein Atol	19.71	38	P	P	17 33 37.1	+0.6
QIS	Mount Isa	20.52	227	P	P	17 33 45.8	+0.6
RMQ	Roma	20.58	197	P	Pn	17 33 47.7	-1.1
RKPI	Ransiki, Papua	21.77	283	P	P	17 33 58.2	-0.4
	comp=Z,42nm,1.0s						
MWPI	Manokwari, Pap	22.05	284	P	P	17 34 01.4	-0.3
	comp=Z,29nm,0.5s						
KDU	Kakadu	23.31	254	P	P	17 34 13.8	-0.7
FAKI	Fak Fak	23.35	278	P	P	17 34 13.9	-1.0
FAKI	Fak Fak	23.35	278	P	P	17 34 14.1	-0.9
	comp=Z,1μmcomp=Z,29nm,0.8s						
FAKI	Fak Fak	23.35	278	P	P	17 34 14.1	-0.9
FUNA	Funafuti	23.68	96	P	P	17 34 18.6	+0.7
ARMA	Armidale	23.77	188	P	P	17 34 17.3	-1.4
ARMA	Armidale	23.77	188	P	P	17 34 19.0	+0.3
WRAB	Tennant Creek	24.23	235	P	P	17 34 23.2	+0.4
WRAB	Tennant Creek	24.23	235	P	P	17 34 23.2	+0.4
WRAB	Tennant Creek	24.23	235	ceP	P	17 34 23.3	+0.5
WRAB				pmax	pmax		
	comp=Z,30nm,1.7s						
WB2	Warramunga Arr	24.23	235	P	P	17 34 22.8	-0.1
WRA	Warramunga Arr	24.24	235	P	P	17 34 23.3	+0.4
	comp=Z,11nm,0.6s,baz=60,slow=9.9,SNR=54						
WRA				PcP	PcP	17 38 02.4	+0.8
	comp=Z,1.5nm,0.5s,baz=61,slow=2.2,SNR=5.1						
WRA				S	S	17 38 39.7	+3.5
	comp=Z,4.3nm,1.2s,baz=55,slow=15,SNR=6.6						
	comp=Z,11nm,0.6s						
MTN	Manton Dam	24.62	254	P	P	17 34 26.3	-0.1
MTN	Manton Dam	24.62	254	P	P	17 34 27.1	+0.7
MSVF	Nonsavu	24.66	118	P	P	17 34 25.9	-0.9
	comp=Z,27nm,0.9s,baz=280,slow=11,SNR=15						
	comp=Z,27nm,0.9s						
MSVF	Nonsavu	24.66	118	P	P	17 34 27.5	+0.7
MSVF				IAmb	IAmb	17 34 40.0	
	comp=Z,40nm,1.0s						
MSVF	Nonsavu	24.66	118	P	P	17 34 27.8	+1.0
MSVF	Nonsavu	24.66	118	P	P	17 34 27.5	+0.7
MSVF				pmax	pmax		
	comp=Z,40nm,1.0s						
SIJI	Sorong	24.75	283	P	P	17 34 27.0	-0.6
	comp=Z,20nm,0.5s,baz=82,slow=9.0,SNR=40						
	comp=Z,20nm,0.5s						
SIJI	Sorong	24.75	283	P	P	17 34 26.5	-1.1
	comp=Z,33nm,1.1s						
INKA	Innaminka	25.04	212	P	P	17 34 31.4	+1.3
BNDI	Bandanaira	25.44	274	P	P	17 34 34.8	+0.9
CMSA	Cobar Meteorol	26.24	199	P	P	17 34 41.2	+0.3
AS01	Alice Springs	26.55	228	P	P	17 34 43.7	-0.2
AS31	Alice Springs	26.59	229	P	P	17 34 43.6	-0.6
ASAR	Alice Springs	26.59	229	P	P	17 34 43.8	-0.5
	comp=Z,3.7nm,0.7s,baz=58,slow=9.6,SNR=38						
ASAR				PcP	PcP	17 38 07.5	+0.7
	comp=Z,1.7nm,0.5s,baz=64,slow=2.1,SNR=5.8						
ASAR				ScP	ScP	17 41 42.4	+2.3
	comp=Z,0.9nm,0.8s,baz=48,slow=3.0,SNR=5.0						
	comp=Z,3.7nm,0.7s						
KRAI	Karang Ratu	27.08	276	P	P	17 34 48.4	-0.3
	comp=Z,13nm,1.2s						
AAI	Ambon	27.23	275	P	P	17 34 50.2	+0.2
	comp=Z,21nm,0.9s						
H11S3	WAKE ISLAND Hy	27.49	24	T	T	18 03 09.3	
	baz=203,slow=76,SNR=109						
H11S2	WAKE ISLAND Hy	27.49	24	T	T	18 03 10.7	
	baz=203,slow=76,SNR=123						
H11S1	WAKE ISLAND Hy	27.50	24	T	T	18 03 20.1	
	baz=203,slow=76,SNR=76						
KNRA	Kununurra	27.52	249	P	P	17 34 52.1	-0.5
KNRA				IAmb	IAmb	17 35 07.9	
	comp=Z,25nm,0.7s						
KNRA	Kununurra	27.52	249	P	P	17 34 52.9	+0.3
OOD	Oodnadatta	28.02	219	P	P	17 34 57.4	+0.5
STKA	Stephens Creek	28.09	205	P	P	17 34 56.9	-0.6
	comp=Z,1.7nm,0.4s,baz=34,slow=11,SNR=2.2						
	comp=Z,1.7nm,0.4s						
STKA	Stephens Creek	28.09	205	P	P	17 34 57.5	0.0
STKA	Stephens Creek	28.09	205	iP	P	17 34 57.8	+0.3
NLAI	Namlea	28.37	276	P	P	17 34 59.0	-1.2
	comp=Z,15μmcomp=Z,11nm,0.5s						
LBMI	Labuha	28.46	281	P	P	17 35 01.7	+0.7
	comp=Z,81nm,0.8s						
LCRK	Leigh Creek	28.52	212	P	P	17 35 01.0	-0.4
H11N1	WAKE ISLAND Hy	28.67	23	T	T	18 04 39.6	
	baz=204,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	28.68	23	T	T	18 04 49.1	
	baz=204,slow=76,SNR=31						
H11N2	WAKE ISLAND Hy	28.69	23	T	T	18 04 43.3	
	baz=204,slow=76,SNR=8.0						
CAN	Canberra	29.00	191	P	P	17 35 05.7	+0.1
CAN				IAmb	IAmb	17 35 42.0	
	comp=Z,110nm,1.7s						
CAN	Canberra	29.00	191	P	P	17 35 05.7	+0.1
CAN				pmax	pmax		
	comp=Z,109nm,1.7s						
SANI	Sanana	29.66	278	P	P	17 35 12.2	+0.6
	comp=Z,11nm,1.1s						
HTT	Hallett	30.59	208	P	P	17 35 20.2	+0.5
MULG	Mulgathing	30.78	218	P	P	17 35 20.7	-0.6
SOEI	Soe	30.91	262	P	P	17 35 22.1	-0.8
SOEI				IAmb	IAmb	17 35 45.0	
	comp=Z,28nm,1.1s						
BBOO	Buckleboo	31.51	212	P	P	17 35 27.0	-0.8
BBOO				IAmb	IAmb	17 36 08.8	
	comp=Z,83nm,1.9s						
BBOO	Buckleboo	31.51	212	P	P	17 35 27.2	-0.6
SGSI	Sangihe	31.55	288	P	P	17 35 28.0	-0.3
	comp=Z,2μmcomp=Z,100nm,0.4s						
WRKA	Warakurna	31.62	232	P	P	17 35 28.1	-0.8
ARPS	Mount Arapiles	32.31	201	P	P	17 35 36.2	+1.5
MMRI	Maumere	32.88	265	P	P	17 35 38.6	-1.4
MMRI	Maumere	32.88	265	P	P	17 35 39.2	-0.8
	comp=Z,72nm,0.7s						
MMRI	Maumere	32.88	265	P	P	17 35 39.9	-0.1
OUZ	Omahuta	32.90	152	P	P	17 35 39.3	-0.5
OUZ				IAmb	IAmb	17 36 21.2	
	comp=Z,86nm,1.9s						
LUWI	Luwuk	33.00	279	P	P	17 35 40.7	-0.3
LUWI				IAmb	IAmb	17 36 12.2	
	comp=Z,27nm,0.8s						
AFI	Afiamalu	33.06	105	LR	LR	17 47 37.6	
	comp=Z,376nm,18.2s,baz=40,slow=34						
GTOI	Gorontalo	33.12	282	P	P	17 35 42.9	+0.8
	comp=Z,10nm,0.8s						
RAO	Raoul Island	33.67	135	LR	LR	17 46 53.6	
	comp=Z,315nm,18.1s,baz=316,slow=32						
MRSI	Marisa	34.12	281	P	P	17 35 49.1	-1.7
	comp=Z,9.3nm,0.6s						
APSI	Ampana	34.13	278	P	P	17 35 48.1	-2.8
	comp=Z,20nm,1.0s						
BSSI	Bau Bau, Buton	34.66	269	P	P	17 35 55.6	+0.2
	comp=Z,61nm,0.7s						
FORT	Forrest	35.00	224	P	P	17 35 56.7	-1.5
FORT	Forrest	35.00	224	P	P	17 35 58.0	-0.1
TOLI2	Tolitoli	35.40	282	P	P	17 35 59.9	-1.9
TOLI2	Tolitoli	35.40	282	P	P	17 36 00.6	-1.2
MPSI	Mapaga	36.09	280	P	P	17 36 06.2	-1.5
	comp=Z,11nm,0.6s						
HIZ	Hauiti	36.18	154	P	P	17 36 08.0	-0.1
TAU	Tasmania Unive	36.68	190	P	P	17 36 12.4	+0.1
TAU	Tasmania Unive	36.68	190	P	P	17 36 13.2	+0.9
TAU	Tasmania Unive	36.68	190	P	P	17 36 12.4	+0.1
TAU				pmax	pmax		
	comp=Z,188nm,1.7s						
URZ	Urewera	37.01	151	P	P	17 36 16.4	+1.2
MXZ	Matakaoa Point	37.06	149	P	P	17 36 16.2	+0.6
QRZ	Quartz Range	37.21	158	P	P	17 36 17.8	+1.0
PLAI	Plampang	37.29	264	P	P	17 36 17.1	-0.8
MBWA	Marble Bar	37.30	244	P	P	17 36 16.9	-1.0
MBWA				IAmb	IAmb	17 37 12.4	
	comp=Z,13nm,1.0s						
MBWA	Marble Bar	37.30	244	P	P	17 36 18.5	+0.6
PSA00	Pilbara Seismi	37.33	243	P	P	17 36 17.7	-0.4
PSA00					PcP	17 38 36.1	+0.1
PSA00	Pilbara Seismi	37.33	243	P	P	17 36 17.5	-0.6
PSA00				IAmb	IAmb	17 36 18.8	
	comp=Z,18nm,1.1s						
PSA00	Pilbara Seismi	37.33	243	P	P	17 36 20.0	+1.9
BKZ	Black Stump Fm	37.45	153	P	P	17 36 18.6	-0.4
BKZ				IAmb	IAmb	17 36 48.7	
	comp=Z,26nm,1.2s						
BKZ	Black Stump Fm	37.45	153	P	P	17 36 19.1	+0.1
NNZ	Nelson	37.86	158	P	P	17 36 22.4	0.0
THZ	Tophouse	38.16	159	P	P	17 36 25.1	+0.1
THZ				IAmb	IAmb	17 36 32.1	
	comp=Z,27nm,0.7s						
TUWZ	Tuamarina	38.26	157	P	P	17 36 25.8	+0.1
SNZO	South Karori	38.46	156	P	P	17 36 27.8	+0.5
SNZO	South Karori	38.46	156	P	P	17 36 27.7	+0.4
MYLDM	Lahad Datu	38.67	287		P	17 36 29.4	-0.1
MYLDM				IAmb	IAmb	17 36 32.2	
	comp=Z,28nm,1.2s						
MYLDM	Lahad Datu	38.67	287	P	P	17 36 30.1	+0.6
MSWZ	Moikau Station	38.77	156	P	P	17 36 29.5	-0.5
LTZ	Lake Taylor	38.84	160	P	P	17 36 30.9	+0.3
LTZ				IAmb	IAmb	17 36 31.9	
	comp=Z,15nm,0.7s						
KHZ	Kahutara	38.96	158	P	P	17 36 31.1	-0.5
KHZ				IAmb	IAmb	17 36 38.8	
	comp=Z,18nm,0.7s						
KHZ	Kahutara	38.96	158	P	P	17 36 30.9	-0.7
OXZ	Oxford	39.24	161	P	P	17 36 34.1	+0.1
OXZ				IAmb	IAmb	17 36 41.4	
	comp=Z,17nm,0.6s						
RPZ	Rata Peaks	39.28	162	P	P	17 36 34.1	-0.2

comp=Z,16nm,0.8s,baz=3.3,slow=1.7,SNR=7.2
comp=Z,16nm,0.8s
RPZ Rata Peaks 39.28 162 P P 17 36 34.0 -0.3
RPZ IAmb IAmb 17 36 43.0
comp=Z,18nm,0.7s
RPZ Rata Peaks 39.28 162 P P 17 36 35.0 +0.8
MEEK Meekatharra 40.14 236 P P 17 36 42.7 +1.0
JAGI Jajag, Banyuwa 40.87 265 P P 17 36 47.1 -0.7
JAGI IAmb IAmb 17 37 18.4
comp=Z,31nm,0.9s
JAGI Jajag, Banyuwa 40.87 265 P P 17 36 47.9 0.0
KKM Kota Kinabalu 41.10 287 P P 17 36 49.6 -0.1
KKM IAmb IAmb 17 37 36.8
comp=Z,34nm,1.1s
KKM Kota Kinabalu 41.10 287 P P 17 36 49.9 +0.1
GIRL Giralia 42.62 244 P P 17 37 01.9 -0.1
KLBR Kellerberrin 42.91 230 P P 17 37 03.6 -0.6
MORW Morawa 43.18 234 P P 17 37 05.8 -0.7
MORW IAmb IAmb 17 37 28.7
comp=Z,19nm,0.9s
MORW Morawa 43.18 234 P P 17 37 07.1 +0.6
MIDW Midway 43.62 36 P P 17 37 08.9 -1.0
NWAO Narrogin (SRO) 43.91 228 P P 17 37 12.3 +0.1
comp=Z,2.4nm,0.4s,baz=112,slow=19,SNR=1.5
comp=Z,2.4nm,0.4s
NWAO Narrogin (SRO) 43.91 228 P P 17 37 12.9 +0.6
NWAO IAmb IAmb 17 38 03.9
comp=Z,58nm,1.7s
NWAO Narrogin (SRO) 43.91 228 P P 17 37 12.8 +0.6
NWAO Narrogin (SRO) 43.91 228 P P 17 37 12.9 +0.6
NWAO pmax pmax
comp=Z,58nm,1.7s
SBUM Sibu 44.03 281 P P 17 37 12.9 -0.6
MUN Mundaring 44.26 230 P P 17 37 15.1 +0.1
YOJ Yonaguni jima 44.26 316 P P 17 37 14.4 -0.7
YOJ Yonaguni jima 44.26 316 P P 17 37 14.4 -0.7
YOJ pmax pmax
comp=Z,475nm,2.0s
UGM Wanagama 44.48 266 P P 17 37 17.5 +0.4
UGM Wanagama 44.48 266 P P 17 37 18.0 +0.9
YULB Yu-li 44.81 313 P P 17 37 18.4 -1.1
YULB IAmb IAmb 17 38 05.7
comp=Z,55nm,1.5s
YULB Yu-li 44.81 313 P P 17 37 18.8 -0.7
RKGY Rocky Gully 44.90 227 P P 17 37 21.2 +1.1
NACB Ninganchiao 45.07 314 P P 17 37 19.6 -2.0
NACB Ninganchiao 45.07 314 P P 17 37 21.7 +0.1
JMN Monobe 45.15 334 P P 17 37 20.7 -1.3
JMN IAmb IAmb 17 38 24.6
comp=Z,33nm,1.2s
TPUB Ta-pu 45.24 312 P P 17 37 21.9 -1.0
TPUB PcP **PcP 17 39 00.5 -1.3**
TPUB Ta-pu 45.24 312 P P 17 37 22.4 -0.5
SSLB Suanglung 45.30 313 P P 17 37 23.0 -0.4
SSLB Suanglung 45.30 313 P P 17 37 23.5 +0.1
JGF Kuroka 45.44 339 P P 17 37 24.1 -0.2
JGF IAmb IAmb 17 37 48.6
comp=Z,20nm,1.3s
YHNB Yeheng 45.54 315 P P 17 37 25.5 +0.2
KSM Kuching 45.71 279 P P 17 37 26.6 -0.2
KSM IAmb IAmb 17 37 35.5
comp=Z,27nm,1.5s
MJAR Matsushiro Arr 46.00 341 P P 17 37 27.7 -1.1
comp=Z,1.6nm,0.5s,baz=168,slow=7.7,SNR=7.3
comp=Z,1.6nm,0.5s
JNU Nakatsue 46.00 331 P P 17 37 27.7 -1.2
JNU IAmb IAmb 17 38 06.4
comp=Z,16nm,1.1s
MAJO Matsushiro 46.00 341 P P 17 37 28.1 -0.7
MAJO Matsushiro 46.00 341 P P 17 37 28.3 -0.4
MAJO Matsushiro 46.00 341 P P 17 37 28.1 -0.7
MAJO pmax pmax
comp=Z,15nm,1.2s
MJB9 Matsu-Tunnel 46.01 341 P P 17 37 27.4 -1.4
MJB9 IAmb IAmb 17 39 08.4
comp=Z,17nm,1.2s
JHS Saijyo 46.56 335 P P 17 37 32.6 -0.5
BBJI Bungbulang 47.34 266 P P 17 37 39.7 +0.1
LEM Lembang 47.40 267 P P 17 37 39.4 -0.9
comp=Z,16nm,0.6s,baz=143,slow=18,SNR=3.7
comp=Z,16nm,0.6s
KSRS Korea Array 50.92 332 P P 17 38 05.8 -0.6
comp=Z,2.7nm,0.6s,baz=146,slow=7.3,SNR=14
comp=Z,2.7nm,0.6s
QIZ Qiongzhong 51.67 301 P P 17 38 13.4 +0.9
JKA Kamikawa-asahi 51.96 348 P P 17 38 14.2 +0.1
ASAJ Asahikawa 51.96 348 P P 17 38 14.2 +0.1
ASAJ pmax pmax
comp=Z,70nm,1.5s
NJ2 Nanjing 51.99 320 *e*P **P 17 38 18.6 +4.0**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
KHU Kahuku 54.77 61 P P 17 38 33.9 -1.5
KHU Kahuku 54.77 61 P P 17 38 33.9 -1.5
KHU pmax pmax
comp=Z,265nm,1.3s
AIN Ainahou 54.95 61 P P 17 38 37.4 +0.6
USA0B Ussuriysk Arra 54.96 340 P P 17 38 36.0 0.0
USA0B Ussuriysk Arra 54.96 340 P P 17 38 36.1 0.0
USA0B pmax pmax
comp=Z,69nm,2.0s
USRK Ussuriysk Ar. 54.96 340 P P 17 38 36.5 +0.4
comp=Z,1.9nm,0.5s,baz=136,slow=6.0,SNR=9.0
USRK LR LR 18 00 38.8
comp=Z,639nm,21.8s,baz=252,slow=34
comp=Z,1.9nm,0.5s
USRK Ussuriysk Ar. 54.96 340 P P 17 38 35.8 -0.3
USRK Ussuriysk Ar. 54.96 340 P P 17 38 35.8 -0.3
JCUZ Jacuzzi 55.27 61 P P 17 38 37.6 -1.2
IPM Ipoh 55.38 280 P P 17 38 39.3 -0.5
IPM PcP **PcP 17 39 39.6 +0.2**
IPM IAmb IAmb 17 39 42.8
comp=Z,22nm,1.1s
IPM Ipoh 55.38 280 P P 17 38 39.2 -0.5
KULM Kulim 55.91 281 P P 17 38 43.1 -0.4
KULM PcP **PcP 17 39 40.6 -0.8**
KULM IAmb IAmb 17 40 05.8
comp=Z,31nm,1.2s
COCO West Island 57.90 260 *i* P **P 17 38 54.3 -3.2**
HNS HongShan 58.06 322 ⇓P **P 17 38 58.5 +0.3**
HNS pmax pmax
comp=Z,5.0nm,1.1s
KLR Kul'dur 59.48 342 P P 17 39 07.8 -0.1
comp=Z,3.3nm,0.7s,baz=130,slow=6.4,SNR=9.0
comp=Z,3.3nm,0.7s
KLR Kul'dur 59.48 342 *ce*P **P 17 39 07.5 -0.3**
KLR pmax pmax
comp=Z,45nm,4.0s
PET Petropavlovsk 59.64 2 P P 17 39 09.6 +0.8
PET Petropavlovsk 59.64 2 P P 17 39 10.0 +1.2
PEA0B Petropavlovsk- 59.69 2 P P 17 39 09.7 +0.4
PEA0B PcP **PcP 17 39 57.4 +2.0**
PEA0B Petropavlovsk- 59.69 2 *i* P **P 17 39 10.0 +0.8**
PETK Petropavlovsk- 59.69 2 P P 17 39 10.2 +0.9
comp=Z,22nm,0.7s,baz=150,slow=5.0,SNR=27
comp=Z,22nm,0.7s
PETK Petropavlovsk- 59.69 2 P P 17 39 09.5 +0.2
PETK PcP **PcP 17 39 55.4 0.0**
PETK Petropavlovsk- 59.69 2 P P 17 39 09.5 +0.2
PETK 17 39 55.4
XAN Xi'an 59.81 316 ⇓P **P 17 39 10.2 -0.3**
XAN sP pP 17 39 33.4 +2.7
XAN pmax pmax
comp=Z,13nm,0.7s
PHRA Phrae 59.89 296 P P 17 39 11.6 +0.3
KMI Kunming 60.20 304 ⇑P **P 17 39 16.0 +2.4**
KMI pP pP 17 39 25.5 -8.3
KMI pmax pmax
comp=Z,14nm,1.4s
DRV Dumont d'Urvil 60.72 187 P P 17 39 15.7 -0.4
DRV pP **pwP 17 39 39.1 +0.1**
CM31 Chiang Mai Arr 61.03 295 P P 17 39 19.4 +0.3
CM31 IAmb IAmb 17 39 21.1
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 61.03 295 P P 17 39 20.0 +0.9
comp=Z,11nm,0.7s,baz=120,slow=5.2,SNR=142
CMAR PKP2bc 18 08 45.4
comp=Z,0.6nm,0.8s,baz=289,slow=2.8,SNR=4.7
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 61.03 295 P P 17 39 19.9 +0.9
CMAR Chiang Mai Arr 61.03 295 *i* P **P 17 39 20.0 +0.9**
CMAR pmax pmax
comp=Z,12nm,0.7s
CHTO Chiang Mai 61.14 296 P P 17 39 20.4 +0.6
CHTO pmax pmax
comp=Z,1.0nm,1.2s
PZH PanZhiHua 61.59 305 P P 17 39 25.2 +2.3
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.2s
XLT XiLinHaoTe 61.67 329 *e*P **P 17 39 22.9 -0.1**
XLT pP pP 17 39 37.8 -5.5
XLT sP sP 17 39 45.2 -6.9
XLT PcP **PcP 17 40 04.1 +0.4**
XLT S **S 17 47 39.0 -0.5**
XLT ScS **ScS 17 49 08.3 +0.8**
XLT pmax pmax
comp=Z,18nm,0.6s
XLT pmax pmax
comp=Z,510nm,5.7s
XLT LR LR
comp=Z,1μm,20.2s
HEH HeiHe 61.76 340 *e*P **P 17 39 23.8 +0.5**
HEH pmax pmax
comp=Z,9.0nm,0.7s
CD2 Chengdu 61.96 310 P P 17 39 25.4 +0.2
HHC Hu-ho-hao-te 62.14 324 *e*P **P 17 39 27.0 +0.7**
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,490nm,5.2s
ADK Adak 63.15 19 P P 17 39 32.8 +0.3
ADK Adak 63.15 19 P P 17 39 33.5 +1.0
ADK Adak 63.15 19 P P 17 39 32.8 +0.3
ADK pmax pmax
comp=Z,408nm,2.0s
TNCH TengChong 63.68 302 *e*P **P 17 39 37.0 +0.1**
TNCH pP pP 17 39 52.2 -5.0
TNCH pmax pmax
comp=Z,6.0nm,0.7s
TNCH pmax pmax
comp=Z,240nm,5.0s
ZEA Zeya 64.79 342 *e*P **P 17 39 44.3 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 66.25 357 P **P 17 39 52.6 +0.1**
comp=Z,20nm,0.7s,baz=161,slow=6.7,SNR=9.4
comp=Z,20nm,0.7s
MA2 Magadan 66.25 357 P **P 17 39 52.9 +0.4**
MA2 IAmb IAmb 17 39 55.6
comp=Z,28nm,0.8s
MA2 Magadan 66.25 357 *ce*P **P 17 39 53.0 +0.4**
MA2 pmax pmax
comp=Z,35nm,0.8s
MA2 Magadan 66.25 357 P **P 17 39 52.6 +0.1**
MA2 pP **sP 17 40 21.3 -0.6**
NIKH Nikolski High 66.81 23 P **P 17 39 56.4 +0.2**
baz=219
UNV Unalaska Valle 68.38 23 P **P 17 40 04.9 -1.3**
UNV Unalaska Valle 68.38 23 P **P 17 40 06.3 +0.2**
baz=221
GTA Gaotai 68.84 317 *e*P **P 17 40 10.1 +0.6**
GTA pP pP 17 40 26.6 -3.5
GTA sP PcP 17 40 35.8 +2.2
GTA pmax pmax
comp=Z,4.0nm,1.2s
AKUT Akutan 68.89 23 P **P 17 40 07.8 -1.5**
ULN Ulaanbaatar 69.02 327 P **P 17 40 11.0 +0.4**
ULN Ulaanbaatar 69.02 327 *ce*P **P 17 40 10.9 +0.4**
ULN pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 69.02 327 P **P 17 40 11.0 +0.4**
SONM Songino Array 69.36 327 P **P 17 40 12.3 -0.2**
comp=Z,5.8nm,0.8s,baz=129,slow=6.1,SNR=11
comp=Z,5.8nm,0.8s
SONM Songino Array 69.36 327 P **P 17 40 12.3 -0.2**
SHL Shillong 69.51 300 P 17 40 13.3 -0.6
SHL IAmb IAmb 17 40 27.3
comp=Z,27nm,1.1s
SHL Shillong 69.51 300 P **P 17 40 13.4 -0.6**
SHL pmax pmax
comp=Z,27nm,1.1s
SEY Seymchan 69.55 359 P **P 17 40 13.0 -0.2**
comp=Z,6.3nm,0.8s,baz=162,slow=5.4,SNR=9.8
comp=Z,6.3nm,0.8s
SEY Seymchan 69.55 359 *ce*P **P 17 40 13.3 +0.1**
SEY pmax pmax
comp=Z,8.0nm,0.9s
CCD Concordia, Ant 70.67 188 P **P 17 40 20.1 -0.3**
CCD pP **pP 17 40 39.2 -1.1**
VNDA Vanda 70.78 179 P **P 17 40 21.4 +0.8**
comp=Z,1.8nm,0.7s,baz=334,slow=6.3,SNR=11
comp=Z,1.8nm,0.7s
VNDA Vanda 70.78 179 P **P 17 40 21.4 +0.8**
VNDA Vanda 70.78 179 P **P 17 40 21.4 +0.8**
VNDA pmax pmax
comp=Z,14nm,1.7s
VNDA Vanda 70.78 179 P **P 17 40 20.8 +0.2**
VNDA sP **sP 17 40 52.0 +2.8**
YAK Yakutsk 71.43 348 P **P 17 40 24.6 0.0**
comp=Z,7.7nm,0.3s,baz=139,slow=0.5,SNR=10
comp=Z,7.7nm,0.3s
YAK Yakutsk 71.43 348 *e*P **P 17 40 25.4 +0.7**
YAK *e* 17 40 41.8
YAK *e* 17 43 02.9
YAK *e*S **S 17 49 37.7 +1.1**
YAK *e* 17 50 18.8
YAK *e**SS **ScS 17 50 25.8 +3.6**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,108nm,4.3s
YAK pmax pmax
comp=N,102nm,3.2s
YAK pmax pmax
comp=E,98nm,3.5s
YAK smax smax
comp=E,147nm,4.6s
YAK smax smax
comp=N,135nm,5.0s
SDPT Sand Point 71.90 25 P P 17 40 28.4 +0.8
ZAK Zakamensk 72.51 328 *e*P **P 17 40 31.0 -0.6**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
TAPN Taplejung 73.61 301 *e*P **P 17 40 39.4 +0.6**
comp=Z,21nm,0.6s
ODAN Odare 73.74 300 *e*P **P 17 40 40.0 +0.5**
RAMN Ramite 74.45 300 *e*P **P 17 40 43.1 -0.5**
comp=Z,15nm,0.4s
JIRN Jiri 74.99 301 *e*P **P 17 40 47.3 +0.4**
comp=Z,20nm,0.4s
BILL Bilibino 75.04 4 *c i*P **P 17 40 46.6 +0.7**
BILL *e* 17 40 57.7
BILL pmax pmax
comp=Z,18nm,1.0s
GUN Gumba 75.33 301 *e*P **P 17 40 48.9 +0.1**
comp=Z,53nm,0.7s
SII Sitkinak Islan 75.38 26 P **P 17 40 49.6 +1.6**
SII Sitkinak Islan 75.38 26 P **P 17 40 48.5 +0.5**
baz=232
SII Sitkinak Islan 75.38 26 P **P 17 40 49.9 +1.9**
PKI Pulchoki 75.64 301 *e*P **P 17 40 50.0 -0.6**
comp=Z,14nm,0.5s
PKIN Phulchoki 75.65 301 *e*P **P 17 40 50.0 -0.5**
comp=Z,18nm,0.4s
Q16K King Salmon 75.68 24 P **P 17 40 50.4 +0.7**
baz=230
Q17K Contact Creek 75.73 24 P **P 17 40 50.3 +0.2**
baz=230
O16K Kokwok River B 75.73 22 P **P 17 40 49.7 -0.3**
baz=228
N16K Nishlik Lake 76.08 21 P **P 17 40 52.5 +0.6**
baz=227
P17K Kvichak River 76.11 23 P **P 17 40 53.1 +1.0**
baz=230
OHAK Old Harbor 76.17 26 P **P 17 40 52.2 -0.3**
OHAK IAmb IAmb 17 42 27.1
comp=Z,59nm,1.8s
OHAK Old Harbor 76.17 26 P **P 17 40 52.8 +0.3**
baz=233
O17K Koliganek Bris 76.23 23 P **P 17 40 53.5 +0.7**
baz=229
Q18K Katmai Hardscr 76.33 24 P **P 17 40 53.7 +0.2**
baz=231
P18K Big Mountain, 76.71 24 P **P 17 40 55.1 -0.5**
P18K Big Mountain, 76.71 24 P **P 17 40 56.1 +0.5**
baz=231
KDAK Kodiak Island 76.81 26 P **P 17 40 55.5 -0.6**
comp=Z,12nm,0.9s,baz=260,slow=5.9,SNR=6.0
comp=Z,12nm,0.9s
KDAK Kodiak Island 76.81 26 P **P 17 40 55.7 -0.4**
KDAK IAmb IAmb 17 43 35.2
comp=Z,62nm,1.6s
KDAK Kodiak Island 76.81 26 P **P 17 40 56.3 +0.1**
baz=234
KDAK Kodiak Island 76.81 26 P **P 17 40 55.7 -0.4**
KDAK pmax pmax
comp=Z,62nm,1.6s
ANM Nome 76.92 16 P **P 17 40 56.5 -0.1**
ANM Nome 76.92 16 P **P 17 40 57.0 +0.3**
baz=220
ANM Nome 76.92 16 P **P 17 40 56.5 -0.1**
ANM pmax pmax
comp=Z,73nm,1.5s
O18K Koktuh Hills 77.01 23 P **P 17 40 56.5 -0.7**
O18K IAmb IAmb 17 41 04.2
comp=Z,16nm,1.1s
O18K Koktuh Hills 77.01 23 P **P 17 40 57.0 -0.3**
baz=231
TNA Tin City 77.02 15 P **P 17 40 56.2 -0.9**
TNA IAmb IAmb 17 42 09.4
comp=Z,51nm,1.1s
TNA Tin City 77.02 15 P **P 17 40 56.6 -0.5**
baz=218
Q19K Cape Douglas, 77.06 24 P **P 17 40 57.1 -0.5**
Q19K Cape Douglas, 77.06 24 P **P 17 40 57.5 -0.1**
baz=232
N18K Kilae Creek 77.28 22 P **P 17 40 59.1 +0.4**
N18K IAmb IAmb 17 41 02.5
comp=Z,14nm,0.8s
N18K Kilae Creek 77.28 22 P **P 17 40 59.2 +0.4**
baz=230
Q20K Shuyak Island 77.39 25 P **P 17 41 00.2 +0.9**
baz=234
SVW2 Sparrevohn 77.66 22 P **P 17 41 01.2 +0.4**
SVW2 IAmb IAmb 17 41 19.1
comp=Z,32nm,1.7s
P19K Oil Pt 77.67 24 P **P 17 41 00.8 -0.1**
P19K IAmb IAmb 17 41 03.4
comp=Z,32nm,0.8s
P19K Oil Pt 77.67 24 P **P 17 41 01.4 +0.5**
baz=233
N19K Bonanza Creek 77.90 23 P **P 17 41 02.2 -0.1**
N19K Bonanza Creek 77.90 23 P **P 17 41 02.5 +0.2**
baz=231
O20K Slope Mountain 78.17 24 P **P 17 41 03.5 -0.2**
baz=233
HOM Homer 78.32 24 P **P 17 41 05.0 +0.5**
HOM Homer 78.32 24 P **P 17 41 04.8 +0.3**
baz=234
CNPM China Poot 78.41 25 P **P 17 41 05.6 +0.5**
M19K Big River Lodg 78.62 22 P **P 17 41 07.5 +1.4**
M19K IAmb IAmb 17 41 10.6
comp=Z,18nm,0.8s
M19K Big River Lodg 78.62 22 P **P 17 41 07.0 +0.9**
baz=231
L19K White Mountain 78.62 21 P **P 17 41 07.3 +1.2**
L19K IAmb IAmb 17 41 09.8
comp=Z,24nm,0.8s
L19K White Mountain 78.62 21 P **P 17 41 07.6 +1.4**
baz=231
BRLK Bradley Lake 78.69 25 P **P 17 41 06.5 -0.1**
BRLK IAmb IAmb 17 41 09.4
comp=Z,17nm,0.9s
TTA Tatalina 78.69 20 P **P 17 41 06.8 +0.2**
TTA Tatalina 78.69 20 P **P 17 41 07.4 +0.8**
baz=230,SNR=6.7
TTA Tatalina 78.69 20 P **P 17 41 06.8 +0.2**
TTA pmax pmax
comp=Z,10.0nm,0.8s
BRSE Bradley Lake S 78.74 25 P **P 17 41 07.1 +0.2**
baz=235
WMQ Urumqi 78.92 317 *e*P **P 17 41 09.5 +1.2**
WMQ LR LR
comp=Z,320nm,16.3s
WMQ LR LR
comp=Z,550nm,17.3s
WMQ LR LR
comp=Z,380nm,18.3s
N20K Mount Spurr 79.01 23 P **P 17 41 08.8 +0.4**
baz=233
SPCR Spurr Chakacha 79.01 23 P **P 17 41 08.8 +0.4**
baz=233
M20K Styx River 79.07 22 P **P 17 41 09.0 +0.3**
M20K Styx River 79.07 22 P **P 17 41 08.1 -0.6**
baz=232
L20K Farewell, AK 79.17 21 P **P 17 41 09.0 -0.2**
baz=232
SEW Seward 79.48 25 P **P 17 41 11.2 +0.4**
baz=236
HYBB Hyderabad (bro 79.55 289 *e*P **P 17 41 11.8 -0.4**
O22K Cooper Landing 79.58 24 P **P 17 41 11.6 +0.2**
O22K IAmb IAmb 17 41 20.4
comp=Z,36nm,1.0s
O22K Cooper Landing 79.58 24 P **P 17 41 11.4 +0.1**
baz=236
GCSA Galena City Sc 79.60 19 P **P 17 41 11.9 +0.5**
baz=228
K20K Telida 79.65 21 P **P 17 41 12.2 +0.4**
K20K Telida 79.65 21 P **P 17 41 12.6 +0.9**
baz=231,SNR=7.3
SKT Skwentna 79.74 23 P **P 17 41 11.5 -0.7**
SKT Skwentna 79.74 23 P **P 17 41 11.9 -0.3**
baz=234
SUA Susitna One 79.74 23 P **P 17 41 11.8 -0.5**
SUA IAmb IAmb 17 41 14.8
comp=Z,20nm,0.6s
SUA Susitna One 79.74 23 P **P 17 41 12.5 +0.2**
baz=235
RC01 Rabbit Creek A 79.92 24 P **P 17 41 13.5 +0.3**
RC01 IAmb IAmb 17 41 14.5
comp=Z,41nm,1.3s
RC01 Rabbit Creek A 79.92 24 P **P 17 41 13.3 +0.1**
baz=236
PPLA Purkeypile 80.04 22 P **P 17 41 13.7 -0.3**
PPLA IAmb IAmb 17 41 51.5
comp=Z,53nm,1.8s
PPLA Purkeypile 80.04 22 P **P 17 41 14.1 +0.1**
baz=233
J20K Nowinta River 80.14 20 P **P 17 41 15.5 +1.2**
J20K Nowinta River 80.14 20 P **P 17 41 14.9 +0.6**
baz=231,SNR=7.2
M22K Willow 80.15 23 P **P 17 41 14.7 +0.3**
M22K Willow 80.15 23 P **P 17 41 14.2 -0.1**
baz=235
TIXI Tiksi 80.20 352 P **P 17 41 13.7 -0.8**
comp=Z,1.9nm,0.5s,baz=271,slow=23,SNR=15
comp=Z,1.9nm,0.5s
TIXI Tiksi 80.20 352 P **P 17 41 14.9 +0.4**
TIXI Tiksi 80.20 352 *ce*P **P 17 41 14.0 -0.5**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
PWL Port Wells 80.36 24 P **P 17 41 15.9 +0.3**
PWL Port Wells 80.36 24 P **P 17 41 15.4 -0.2**
baz=237
CAST Castle Rocks 80.39 21 P **P 17 41 15.6 -0.2**
CAST IAmb IAmb 17 41 18.5
comp=Z,24nm,0.8s
CAST Castle Rocks 80.39 21 P **P 17 41 15.5 -0.2**
baz=233,SNR=32
Q23K Middleton Isla 80.44 26 P **P 17 41 15.4 -0.6**
baz=239
PMR Palmer 80.45 24 P **P 17 41 15.8 -0.2**
PMR IAmb IAmb 17 41 18.5
comp=Z,14nm,0.9s
PMR Palmer 80.45 24 P **P 17 41 15.8 -0.2**
baz=236
PMR Palmer 80.45 24 P **P 17 41 15.8 -0.2**
PMR pmax pmax
comp=Z,14nm,0.9s
CUT Chulitna 80.47 23 P **P 17 41 16.1 0.0**
baz=235
CHUM Lake Minchumin 80.59 21 P **P 17 41 17.1 +0.3**
baz=233,SNR=8.3
KNK Knik Glacier 80.61 24 P **P 17 41 17.4 +0.4**
KNK IAmb IAmb 17 41 25.3
comp=Z,33nm,1.4s
KNK Knik Glacier 80.61 24 P **P 17 41 17.1 +0.2**
baz=237
GHO Glory Hole Cre 80.63 23 P **P 17 41 17.1 0.0**

GHO IAmb IAmb 17 41 19.8
comp=Z,15nm,0.8s
HIN Hinchinbrook I 80.88 25 P P 17 41 18.4 0.0
SML Sawmill 80.88 24 P P 17 41 15.6 -2.8
SML IAmb IAmb 17 41 21.4
comp=Z,30nm,1.0s
SML Sawmill 80.88 24 P P 17 41 19.0 +0.5
baz=237,SNR=7.7
GLI Glacier Island 80.88 25 P P 17 41 18.2 -0.2
baz=238
KTH Kantishna Hill 80.89 21 P P 17 41 18.1 -0.4
KTH IAmb IAmb 17 41 20.4
comp=Z,13nm,0.8s
TRF Thorofare Moun 81.06 22 P P 17 41 19.1 -0.4
TRF IAmb IAmb 17 41 23.1
comp=Z,17nm,0.8s
TRF Thorofare Moun 81.06 22 P P 17 41 19.2 -0.2
baz=235,SNR=8.3
M23K Glacier View 81.12 24 P P 17 41 19.0 -0.6
baz=237
BPAW Bear Paw Mtn. 81.19 21 P P 17 41 18.8 -1.2
baz=234
DGZ Jazzator, Alta 81.20 322 *i* P P 17 41 19.9 -0.6
DGZ pmax pmax
comp=Z,4.0nm,0.7s
SCM Sheep Creek Mo 81.30 24 P P 17 41 20.2 -0.5
SCM IAmb IAmb 17 41 22.8
comp=Z,27nm,1.1s
SCM Sheep Creek Mo 81.30 24 P P 17 41 20.4 -0.2
baz=238
SCM Sheep Creek Mo 81.30 24 P P 17 41 20.2 -0.5
SCM pmax pmax
comp=Z,27nm,1.1s
WAT1 Susitna Watana 81.36 23 P P 17 41 20.6 -0.3
baz=236
IMAR Indian Mountai 81.41 19 P P 17 41 21.8 +0.8
I21K Tanana 81.49 20 P P 17 41 21.5 0.0
I21K Tanana 81.49 20 P P 17 41 21.9 +0.4
baz=233
H21K Melozitna Rive 81.51 19 P P 17 41 22.3 +0.7
H21K Melozitna Rive 81.51 19 P P 17 41 22.1 +0.5
baz=232,SNR=7.6
WAT6 Susitna Watana 81.54 23 P P 17 41 22.3 +0.3
baz=237,SNR=6.0
DIV Divide 81.56 25 P P 17 41 21.6 -0.5
DIV IAmb IAmb 17 41 24.8
comp=Z,10nm,0.8s
RND Reindeer 81.57 22 P P 17 41 21.3 -0.8
RND Reindeer 81.57 22 P P 17 41 21.3 -0.8
RND pmax pmax
comp=Z,9.0nm,0.8s
KLU Klutina 81.69 24 P P 17 41 22.2 -0.5
KLU IAmb IAmb 17 41 26.1
comp=Z,16nm,0.9s
KLU Klutina 81.69 24 P P 17 41 23.3 +0.6
baz=239,SNR=6.9
MCK McKinley 81.72 22 P P 17 41 21.6 -1.1
MCK IAmb IAmb 17 41 23.5
comp=Z,29nm,0.9s
MCK McKinley 81.72 22 P P 17 41 22.9 +0.1
baz=236,SNR=13
MCK McKinley 81.72 22 P P 17 41 21.7 -1.1
MCK pmax pmax
comp=Z,29nm,0.9s
G21K Allakaket 81.82 18 P P 17 41 24.1 +0.8
baz=231,SNR=12
MLY Manley 81.83 20 P P 17 41 22.6 -0.7
MLY Manley 81.83 20 P P 17 41 23.8 +0.4
baz=234,SNR=10
M24K Tolsona, Glenn 81.91 24 P P 17 41 24.5 +0.6
M24K IAmb IAmb 17 41 27.6
comp=Z,26nm,0.9s
M24K Tolsona, Glenn 81.91 24 P P 17 41 24.2 +0.4
baz=239,SNR=6.1
DHY Denali Highway 81.95 23 P P 17 41 24.8 +0.6
baz=238,SNR=7.2
BMRM Bremner River 81.97 25 P P 17 41 24.5 +0.2
baz=240
H22K Ishtalitna Cre 82.12 19 P P 17 41 26.1 +1.3
baz=234,SNR=5.2
NEA2 Nenana 82.16 21 P P 17 41 24.9 -0.1
baz=236,SNR=6.9
F21K Alatna River 82.27 18 P P 17 41 26.1 +0.5
baz=231,SNR=6.0
N25K Chitina, Valde 82.30 25 P P 17 41 26.5 +0.6
N25K IAmb IAmb 17 41 28.5
comp=Z,20nm,1.3s
N25K Chitina, Valde 82.30 25 P P 17 41 26.5 +0.6
baz=240
I23K Minto, Yukon-K 82.37 21 IAmb IAmb 17 42 56.3
comp=Z,23nm,1.7s
I23K Minto, Yukon-K 82.37 21 P P 17 41 26.5 +0.4
baz=236
WRH Wood River Hil 82.44 21 IAmb IAmb 17 41 27.0
comp=Z,25nm,1.4s
HARP HAARP 82.47 24 P P 17 41 27.3 +0.6
baz=240
GLB Gilahina Butte 82.54 25 IAmb IAmb 17 41 28.8
comp=Z,21nm,1.1s
VRDI Verde Repeater 82.59 25 P P 17 41 27.6 0.0
VRDI IAmb IAmb 17 41 31.4
comp=Z,27nm,1.4s
PAX Paxson 82.63 23 P P 17 41 27.8 +0.2
baz=239
H23K Yukon River 82.69 20 P P 17 41 28.3 +0.5
baz=235,SNR=6.1
G22K Bettles 82.70 19 P P 17 41 27.9 +0.1
baz=233
TCOL CIGO, UAF Yank 82.75 21 IAmb IAmb 17 41 28.9
comp=Z,19nm,0.9s
TCOL CIGO, UAF Yank 82.75 21 P P 17 41 27.8 -0.3
baz=237
COLA College 82.75 21 P P 17 41 27.1 -0.9
COLA IAmb IAmb 17 41 28.9
comp=Z,20nm,1.0s
COLA College 82.75 21 P P 17 41 27.6 -0.5
baz=237
COLA College 82.75 21 *i* P P 17 41 27.4 -0.7
COLA pmax pmax
comp=Z,19nm,1.0s
MESA MESA 82.75 27 P P 17 41 28.5 0.0
baz=243
HDA Harding Lake 82.82 22 P P 17 41 28.3 -0.2
baz=238,SNR=7.4
F22K John River 82.84 18 P P 17 41 28.4 -0.2
baz=233
MCARA McCarthy VSAT 82.85 25 IAmb IAmb 17 41 31.0
comp=Z,18nm,1.0s
MCARA McCarthy VSAT 82.85 25 P P 17 41 29.1 +0.4
baz=242,SNR=6.0
K24K Donnelly Dome 82.94 23 P P 17 41 29.1 -0.1
baz=239
POKR Poker Plat Res 83.03 21 P P 17 41 29.2 -0.4
baz=237
ILAR Eielson Array 83.04 21 P P 17 41 28.7 -0.9
comp=Z,6.0nm,0.7s,baz=244,slow=5.5,SNR=53
comp=Z,6.0nm,0.7s
G23K Bananza Creek 83.05 19 P P 17 41 29.9 +0.2
baz=235,SNR=8.5
QSPA South Pole Qui 83.19 180 P P 17 41 31.0 +0.4
QSPA IAmb IAmb 17 41 31.7
comp=Z,13nm,0.7s
RIDG Independent Ri 83.27 23 P P 17 41 31.2 +0.4
baz=240
H24K Noodor Dome 83.27 20 P P 17 41 30.3 -0.5
H24K Noodor Dome 83.27 20 P P 17 41 31.6 +0.8
baz=237
BARN Barnard Glacie 83.28 26 IAmb IAmb 17 41 33.0
comp=Z,13nm,0.8s
COLD Coldfoot 83.29 19 P P 17 41 30.9 +0.1
baz=234
E22K Anaktuvuk Pass 83.33 17 P P 17 41 31.4 +0.2
baz=233
M26K Nabesna, AK 83.34 24 IAmb IAmb 17 41 34.1
comp=Z,29nm,1.6s
M26K Nabesna, AK 83.34 24 P P 17 41 31.6 +0.3
baz=242
PINM Pinnacle 83.47 27 P P 17 41 32.0 -0.1
baz=244
MK31 Makanchi Array 83.49 319 P P 17 41 31.9 -0.5
MK31 Makanchi Array 83.49 319 *i* P P 17 41 32.2 -0.2
MKAR Makanchi Array 83.49 319 P P 17 41 31.8 -0.6
comp=Z,4.8nm,0.7s,baz=108,slow=6.7,SNR=16
comp=Z,4.8nm,0.7s
L26K Log Cabin Wild 83.50 24 P P 17 41 32.3 +0.2
baz=241
J25K Salcha River, 83.51 22 IAmb IAmb 17 41 36.5
comp=Z,12nm,0.8s
J25K Salcha River, 83.51 22 P P 17 41 32.4 +0.2
baz=239
DOT Dot Lake 83.52 23 P P 17 41 32.3 +0.1
DOT IAmb IAmb 17 41 33.6
comp=Z,10nm,0.8s
MAKZ Makanchi 83.70 319 P P 17 41 33.8 +0.4
MAKZ IAmb IAmb 17 42 33.8
comp=Z,40nm,1.9s
MAKZ Makanchi 83.70 319 P P 17 41 33.8 +0.4
MAKZ pmax pmax
comp=Z,40nm,1.9s
SCRK Sand Creek 83.72 23 P P 17 41 33.3 +0.1
SCRK Sand Creek 83.72 23 P P 17 41 33.7 +0.5
baz=241,SNR=8.8
M27K Edge Creek, AK 83.78 25 IAmb IAmb 17 41 38.0
comp=Z,28nm,0.9s
M27K Edge Creek, AK 83.78 25 P P 17 41 34.6 +0.9
baz=243,SNR=17
O28M Mount Upton 83.80 26 P P 17 41 34.3 +0.3
baz=244,SNR=5.9
G24K Hadweenzic Riv 83.88 20 P P 17 41 34.7 +0.8
baz=237
PRP Porcupine Dome 83.92 21 P P 17 41 34.2 -0.1
baz=239
E23K Chandalar 83.96 18 P P 17 41 34.9 +0.5
baz=235,SNR=6.9
YUK3 Moose Creek 84.12 25 P P 17 41 35.7 +0.3
baz=244
L27K Beaver Creek, 84.13 24 IAmb IAmb 17 41 36.9
comp=Z,16nm,1.3s
L27K Beaver Creek, 84.13 24 P P 17 41 35.8 +0.6
baz=243,SNR=5.5
J26L Joseph Creek 84.13 22 P P 17 41 35.5 +0.1
J26L Joseph Creek 84.13 22 P P 17 41 35.8 +0.4
baz=241,SNR=11
D23K Nanushuk River 84.17 17 P P 17 41 36.5 +1.2
baz=234,SNR=12
F24K Squaw Lake 84.19 19 P P 17 41 36.5 +1.0
baz=237,SNR=6.2
YUK8 Steele Glacier 84.20 26 P P 17 41 36.8 +0.9
baz=245,SNR=6.7
H25K Birch Creek 84.21 20 P P 17 41 36.3 +0.7
baz=239
ZAA0 Zalesovo Array 84.21 326 P P 17 41 34.6 -1.2
ZALV Zalesovo Beam 84.21 326 P P 17 41 34.5 -1.3
comp=Z,5.5nm,0.4s,baz=113,slow=5.6,SNR=13
comp=Z,2.5nm,0.4s
ZALV Zalesovo Beam 84.21 326 P P 17 41 34.1 -1.7
BVCY Beaver Creek 84.23 25 P P 17 41 36.5 +0.7
baz=244
TOLK Toolik Lake Re 84.31 18 IAmb IAmb 17 41 37.9
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 84.31 18 P P 17 41 36.4 +0.3
baz=235
E24K Your Creek 84.31 18 P P 17 41 36.7 +0.6
baz=236
O29M Mount Kennedy 84.32 27 P P 17 41 37.2 +0.7
baz=246
G25K Bearman Lake 84.38 20 P P 17 41 37.5 +1.2
baz=238
K27K Chicken 84.48 23 IAmb IAmb 17 41 40.5
comp=Z,11nm,0.9s
K27K Chicken 84.48 23 P P 17 41 38.1 +1.1
baz=242
I26K Coal Creek Min 84.68 22 IAmb IAmb 17 41 39.3
comp=Z,15nm,1.3s
I26K Coal Creek Min 84.68 22 P P 17 41 37.9 0.0
baz=241
YUK6 Outpost Mounta 84.68 27 P P 17 41 38.2 -0.2
baz=246
C23K Itkillik River 84.70 16 P P 17 41 38.6 +0.7
baz=234
YUK4 Talbot Arm 84.72 26 P P 17 41 39.4 +0.9
baz=246,SNR=5.4
MAW Mawson 84.73 203 P P 17 41 39.2 +0.9
comp=Z,5.2nm,0.6s,baz=100,slow=6.9,SNR=17
comp=Z,5.2nm,0.6s
MAW Mawson 84.73 203 P P 17 41 39.1 +0.9
MAW Mawson 84.73 203 P P 17 41 39.1 +0.9
MAW pmax pmax
comp=Z,7.0nm,1.6s
F25K Christian Rive 84.96 19 P P 17 41 40.5 +1.1
baz=239
P30M Million Dollar 84.99 28 P P 17 41 40.6 +0.9
baz=247
PLBC Pleasant Camp 85.01 28 P P 17 41 40.5 +0.8
baz=248
HYT Haines Junctio 85.02 27 IAmb IAmb 17 41 44.3
comp=Z,17nm,0.9s
HYT Haines Junctio 85.02 27 P P 17 41 41.1 +1.2
baz=247,SNR=7.5
EGAK Eagle 85.18 23 IAmb IAmb 17 41 45.8
comp=Z,10nm,0.8s
EGAK Eagle 85.18 23 P P 17 41 41.8 +1.3
baz=243,SNR=7.1
C24K Franklin Bluff 85.18 17 P P 17 41 41.4 +1.1
baz=236
M29M Somme Creek 85.25 25 P P 17 41 41.9 +0.9
baz=246
G26K Porcupine Rive 85.26 20 P P 17 41 42.4 +1.6
baz=240,SNR=22
E25K Arctic Village 85.26 19 P P 17 41 41.5 +0.6
baz=239
I27K Kandik River 85.39 22 P P 17 41 42.8 +1.2
baz=243,SNR=8.1
N30M Aishikik Lake 85.45 26 P P 17 41 43.6 +1.6
baz=247
F26K Sheenjek River 85.51 19 P P 17 41 42.8 +0.7
baz=240
DAWY Dawson 85.55 24 P P 17 41 43.4 +0.9
baz=245
O30N Mendenhall 85.64 27 P P 17 41 43.9 +1.1
baz=248
D25K Kavik River 85.64 18 P P 17 41 43.7 +1.0
baz=238
L29M L29M 85.67 25 P P 17 41 44.5 +1.5
baz=246,SNR=8.9
H27K Steamboat Moun 85.71 21 P P 17 41 44.5 +1.4
baz=243,SNR=10
G27K Doyon Strip 85.93 21 P P 17 41 45.4 +1.2
baz=242,SNR=5.9
M30M Minto, Yukon 86.02 25 P P 17 41 45.7 +1.0
baz=247
N31M Braeburn, Yuko 86.04 27 P P 17 41 45.2 +0.3
N31M IAmb IAmb 17 41 52.0
comp=Z,16nm,1.1s
N31M Braeburn, Yuko 86.04 27 P P 17 41 46.0 +1.1
baz=248
WHY Whitehorse 86.15 28 P P 17 41 46.4 +0.9
baz=249
J29M Klondike Camp 86.18 23 P P 17 41 47.9 +2.3
baz=246
K29M Barlow Dome 86.21 24 P P 17 41 47.5 +1.7
baz=246,SNR=16
P32M Atlin 86.32 29 P P 17 41 47.3 +1.0
baz=250
I29M Ogilvie Camp, 86.52 23 IAmb IAmb 17 41 48.9
comp=Z,14nm,1.1s
I29M Ogilvie Camp, 86.52 23 P P 17 41 48.0 +0.9
baz=246,SNR=12
E27K Coleen River 86.59 19 P P 17 41 49.1 +1.7
baz=242
C27K Jago River 86.61 18 P P 17 41 49.0 +1.6
baz=240
Q32M Nakina River 86.81 30 P P 17 41 49.3 +0.4
baz=252
KURK Kurchatov 86.89 322 *i* P P 17 41 48.2 -1.0
KURK pmax pmax
comp=Z,10.0nm,2.0s
M31M Drury Creek, Y 86.92 26 P P 17 41 49.9 +0.7
baz=249
KURBB Kurchatov Arra 86.93 322 P P 17 41 48.4 -1.0
comp=Z,1.2nm,0.6s,baz=103,slow=4.3,SNR=13
comp=Z,1.2nm,0.6s
S34M Telegraph Cree 87.06 31 P P 17 41 51.3 +1.5
baz=252
N32M Quiet Lake 87.14 27 P P 17 41 51.0 +0.8
baz=251
FARO Faro, Yukon 87.39 26 P P 17 41 52.1 +0.7
baz=250
EPYK Eagle Plains 87.53 22 P P 17 41 53.2 +1.2
baz=247
R33M Jennings River 87.58 29 P P 17 41 53.6 +1.0
baz=253
DLBC Dease Lake 87.77 30 P P 17 41 54.4 +1.1
baz=253
G30M tAoh Zraii Nji 87.94 21 P P 17 41 54.9 +0.9
baz=248
YBH Yreka Blue Hor 88.47 48 P P 17 41 58.5 +1.4
comp=Z,1.3nm,0.8s,baz=162,slow=9.6,SNR=2.6
comp=Z,1.3nm,0.8s
NRIK Noril'sk 88.66 341 P P 17 41 57.5 +0.3
comp=Z,5.1nm,0.6s,baz=101,slow=5.3,SNR=7.2
comp=Z,5.1nm,0.6s
NRIK Noril'sk 88.66 341 P P 17 41 56.6 -0.6
NRIK IAmb IAmb 17 41 59.5
comp=Z,5.5nm,0.5s
NRIK Noril'sk 88.66 341 *ce* P P 17 41 56.8 -0.4
NRIK pmax pmax
comp=Z,4.0nm,0.6s
F31M Tsiigehtchic 89.01 21 P P 17 41 59.3 +0.4
baz=250
INK Inuvik 89.39 21 P P 17 42 00.9 +0.3
comp=Z,6.7nm,0.5s,baz=284,slow=6.1,SNR=36
comp=Z,6.7nm,0.5s
INK Inuvik 89.39 21 IAmb IAmb 17 42 02.1
comp=Z,20nm,1.2s
INK Inuvik 89.39 21 P P 17 42 01.0 +0.3
baz=250
CIS Catalina Islan 90.54 57 P P 17 42 07.6 +0.7
baz=262
EDW2 Edwards Air Fo 91.08 55 P P 17 42 10.3 +0.9
baz=263
LHV Little Huntoon 91.12 52 IAmb IAmb 17 42 14.2
comp=Z,13nm,1.4s
RYN Ryan 91.15 51 P P 17 42 09.6 -0.2
KOTAN Kotaneelee Air 91.16 30 P P 17 42 10.3 +1.3
baz=259
CWC Cottonwood Cre 91.22 54 P P 17 42 10.1 0.0
baz=263
BFSC Mount Baldy Ra 91.28 56 P P 17 42 11.0 +0.5
baz=263
NVAR Mina Array Bea 91.30 52 P P 17 42 10.6 +0.1
comp=Z,2.9nm,0.9s,baz=250,slow=6.7,SNR=11
comp=Z,2.9nm,0.9s
LRMC Laurel Mtn Rad 91.41 55 P P 17 42 11.5 +0.4
baz=263
NV11 Mina Array Sit 91.41 52 P P 17 42 10.8 -0.2
NV11 IAmb IAmb 17 42 14.8
comp=Z,7.4nm,1.2s
KVN Kaiserville 91.54 51 P P 17 42 12.0 +0.4
KVN Kaiserville 91.54 51 P P 17 42 12.0 +0.4
KVN pmax pmax
comp=Z,5.0nm,1.2s
WRGLY Wrigley 92.04 27 P P 17 42 13.5 +0.4
baz=259
GSC Goldstone, Bar 92.10 55 P P 17 42 14.5 +0.4
baz=263
MONP2 Monument Peak 92.14 57 P P 17 42 14.9 +0.4
baz=263
PFO Pinyon Flats O 92.19 57 P P 17 42 15.2 +0.5
baz=263
TPFO Pinon Flats 92.19 57 P P 17 42 15.3 +0.6
baz=263
HEC Hector,Ludlow 92.43 55 P P 17 42 16.4 +0.7
baz=264
BELC Belle Mtn. Jos 92.61 56 P P 17 42 17.0 +0.4
baz=264
SWSC Sam W. Stewart 92.66 57 P P 17 42 16.7 0.0
baz=264
TUQ Turquoise Moun 92.83 55 P P 17 42 17.8 +0.2
baz=264
C36M Paulatuk 92.97 21 P P 17 42 17.7 +0.4
baz=259
GMRC Granite Mounta 92.98 55 P P 17 42 19.2 +0.9
baz=264
BC3 Big Chuckawall 93.03 57 P P 17 42 18.8 +0.3
baz=264
A36M Sachs Harbour 93.13 18 P P 17 42 18.2 +0.3
baz=258
IRM Iron Mountain 93.33 56 P P 17 42 20.7 +0.8
baz=264
R11A Troy Canyon, C 93.41 52 P P 17 42 20.8 +0.5
baz=264
SPR3 Spring Creek 3 94.45 51 P P 17 42 25.2 -0.1
SPR3 IAmb IAmb 17 42 40.0
comp=Z,19nm,1.9s
YKA Yellowknife Ar 95.98 28 P P 17 42 31.4 +0.2
comp=Z,4.8nm,0.8s,baz=264,slow=4.7,SNR=24
comp=Z,4.8nm,0.8s
BOZ Bozeman (W) 96.89 45 P P 17 42 36.4 +0.4
baz=268
PDAR Pinedale Array 98.28 48 P P 17 42 41.9 -0.6
comp=Z,0.6nm,0.7s,baz=227,slow=3.0,SNR=7.8
comp=Z,0.6nm,0.7s
ECSD EROS Data Cent 107.67 46 P PKiKP 17 47 31.0 -0.5
baz=278
ARCES ARCESS Array B 109.49 343 PKiKP PKiKP 17 47 34.1 0.0
comp=Z,2.6nm,0.7s,baz=63,slow=2.0,SNR=15
ARCES PKKPbc PKKPbc 17 58 39.4 -2.7
comp=Z,2.7nm,1.0s,baz=238,slow=3.1,SNR=4.6
FINES FINESS Array B 113.89 336 PKiKP PKiKP 17 47 42.6 0.0
comp=Z,0.9nm,0.3s,baz=87,slow=2.4,SNR=22
FINES PKKPbc PKKPbc 17 58 24.8 -2.5
comp=Z,1.2nm,0.5s,baz=253,slow=1.5,SNR=10.0
PLCA Paso Flores 116.66 142 PKP PKPdf 17 47 48.7 -0.1
comp=Z,3.5nm,1.0s,baz=244,slow=1.4,SNR=4.0
LRAL Lakeview Retre 116.78 56 P PKiKP 17 47 49.4 +0.4
baz=280
AKASG Malin Array Be 117.58 325 PKP PKPdf 17 47 49.5 -0.5
comp=Z,0.4nm,0.3s,baz=54,slow=2.6,SNR=5.2
ACSO Alum Creek Sta 118.32 48 P PKPdf 17 47 51.7 -0.1
baz=286
GOGA Godfrey 119.61 55 P PKiKP 17 47 54.7 +0.2
baz=282
NB2 NORSAR Subarra 119.62 341 PKPdf PKPdf 17 47 52.7 -1.0
comp=Z,1.8nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B 119.62 341 PKP PKPdf 17 47 53.1 -0.6
comp=Z,0.9nm,0.6s,baz=45,slow=2.0,SNR=4.4
ERPA Erie 119.89 45 P PKPdf 17 47 54.7 -0.1
baz=290
BOSA Boshof 120.44 231 PKP PKPdf 17 47 56.2 -0.2
comp=Z,1.6nm,0.6s,baz=97,slow=1.2,SNR=7.2
KMSC Kings Mountain 120.93 53 P PKPdf 17 47 56.8 -0.2
baz=285
BLA Blacksburg 121.09 50 P PKiKP 17 47 57.5 +0.1
baz=287
SSPA Standing Stone 121.89 46 P PKPdf 17 47 58.3 -0.4
baz=291
KOLS Kolonicke sedl 122.39 325 *e* PKP PKiKP 17 48 00.4 +0.8
KOLS Kolonicke sedl 122.39 325 *e* PKiKP PKiKP 17 48 00.4 +0.8
LONY Lake Ozonia 122.58 40 P PKPdf 17 47 59.7 -0.2
baz=296
CRVS Cervenica-Dubn 122.86 326 *e* PKP PKiKP 17 48 01.2 +0.7
CRVS Cervenica-Dubn 122.86 326 *e* PKiKP PKiKP 17 48 01.3 +0.7
LBNH Lisbon 124.45 40 P PKPdf 17 48 03.4 -0.1
baz=298
PAL Palisades 124.54 44 P PKPdf 17 48 03.6 -0.1
baz=294
VYHS Vyhne 124.54 326 *e* PKP PKiKP 17 48 04.2 +0.3
VYHS Vyhne 124.54 326 *e* PKiKP PKiKP 17 48 04.2 +0.3
MAUC Maruska 124.59 328 *e* PKPDF PKiKP 17 48 05.1 +1.1
L61B Northampton 124.77 42 P PKPdf 17 48 04.2 +0.1
baz=296
MODS Modra-Piesok 125.47 327 *e* PKP PKiKP 17 48 06.0 +0.3
MODS Modra-Piesok 125.47 327 *e* PKiKP PKiKP 17 48 06.0 +0.3
HRV Adam Dziewonsk 125.48 42 P PKPdf 17 48 05.6 +0.1
baz=297
PKME Peaks-Kenny Pk 125.58 38 P PKPdf 17 48 05.7 +0.1
baz=301
BRG Berggiesshubel 125.64 331 *e* PKP PKiKP 17 48 06.4 +0.4
BRG Amp 17 48 07.1
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 125.64 331 *e* PKiKP PKiKP 17 48 06.3 +0.4
BRG pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 125.80 332 *i* PKiKP PKiKP 17 48 06.4 +0.2
comp=Z,7.0nm,1.1s
CLL *ep* PKPdf **pPKPdf 17 48 27.0 -1.1**
CLL Collm 125.80 332 *i* PKiKP PKiKP 17 48 06.4 +0.2
CLL *e* 17 48 27.0
CLL pmax pmax
comp=Z,7.0nm,1.1s
CKRC Cesky Krumlov 126.77 329 *e* PKPDF PKiKP 17 48 08.5 +0.2
KHC Kasperske Hory 126.94 329 *e* PKPDF PKiKP 17 48 09.1 +0.4
KHC Kasperske Hory 126.94 329 *e* PKiKP PKiKP 17 48 09.1 +0.4
GERES GERESS Array B 127.06 329 PKP PKiKP 17 48 08.8 -0.2
comp=Z,1.9nm,0.8s,baz=77,slow=1.3,SNR=17
LPAZ La Paz 131.23 118 PKP PKPdf 17 48 17.9 0.0
comp=Z,1.4nm,0.5s,baz=249,slow=2.5,SNR=5.8
LPAZ La Paz 131.23 118 PKPdf PKPdf 17 48 17.4 -0.6
LPAZ La Paz 131.23 118 PKiKP PKPdf 17 48 17.4 -0.6
CPUP Villa Florida 134.29 137 PKP PKPdf 17 48 22.5 -0.2
comp=Z,3.2nm,0.7s,baz=260,slow=0.8,SNR=7.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ESDC	Sonseca Array	142.35	334	PKhKP	PKPpre	17 48 33.7	
	comp=Z,0.7nm,0.8s,baz=14,slow=3.1,SNR=6.5						
POLO	Lamas de Olo	142.43	339	ePKPdf	PKPdf	17 48 38.5	+1.2
PVIS	Viseu	143.04	339	ePKPdf	PKPdf	17 48 36.9	-1.5
PCBR	Castelo Branco	143.66	337	ePKPdf	PKPdf	17 48 38.2	-1.2
PMRV	Marv??o	143.98	337	ePKPdf	PKPbc	17 48 38.7	+0.7
PESTR	Estremoz	144.54	337	ePKPdf	PKPdf	17 48 41.1	+0.1
PMTG	Montargil	144.61	338	ePKPdf	PKPdf	17 48 40.8	-0.3
PMTG				i LQ	LQ	17 48 51.4	
PBAR	Barrancos	144.91	336	ePKPdf	PKPdf	17 48 42.6	+1.0
EVO	Evora	145.00	337	ePKPdf	PKPdf	17 48 42.4	+0.6
PMAFR	Mafra	145.10	339	ePKPdf	PKPdf	17 48 42.6	+0.7
PBEJ	Beja	145.38	336	ePKPdf	PKPab	17 48 43.5	+0.9
PNCL	Nicolau / Gran	145.56	337	ePKPdf	PKPab	17 48 44.0	+0.7
PCVE	Castro Verde	145.78	336	ePKPdf	PKPab	17 48 45.2	+1.0
BDFB	Brasilia	147.86	134	PKPbc	PKPbc	17 48 49.7	-0.7
	comp=Z,19nm,0.8s,baz=227,slow=2.2,SNR=20						
TORD	Torodi Ar. Bea	153.33	286	PKP	PKPdf	17 48 53.6	-2.1
	comp=Z,0.7nm,0.7s,baz=35,slow=1.8,SNR=4.4						
TORD				PKPbc	PKPbc	17 49 02.6	-0.6
	comp=Z,2.0nm,0.4s,baz=59,slow=2.5,SNR=27						

*MOS **04** 17:42:11.9±0.0, 42.°92N×46.°52E, h18km, MPVA3.7*
*NORS **04** 17:42:14.1±0.0, 42.°82N×46.°35E, h4km, MPVA3.6*
*DRS **04** 17:42:14.3±0.0, 42.°95N×46.°48E, h14km, ML2.6/6*
ISC 04 17:42:14.4±0.8, **42.°96N**±0.°03×**46.°53E**±0.°02, **h13**km±7km,
n27, σ**1.s29**/54, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLMR	Dylym	0.13	36	ePg	Pg	17 42 18.1	+0.2
DLMR				eSg	Sg	17 42 20.8	+0.6
DLMR				i AML	AML	17 42 20.9	
	2µm,0.4s						
DBC	Dubki	0.23	76	ePg	Pg	17 42 19.7	+0.3
DBC				eSg	Sg	17 42 23.9	+1.1
DBC				i AML	AML	17 42 24.5	
	536nm,0.2s						
DVE	Vedeno	0.29	269	ePg	Pg	17 42 20.0	-0.5
DVE				eSg	Sg	17 42 24.2	-0.4
UNCR	Uncukul	0.32	141	ePg	Pg	17 42 20.4	-0.5
UNCR				eSg	Sg	17 42 24.8	-0.5
UNCR				i AML	AML	17 42 25.8	
	356nm,0.3s						
BTLR	Botlikh	0.37	217	ePg	Pg	17 42 21.2	-0.7
BTLR				eSg	Sb	17 42 26.4	-2.3
BTLR				i AML	AML	17 42 26.5	
	614nm,0.4s						
BUJR	Buynaksk	0.45	108	ePg	Pg	17 42 23.1	-0.2
BUJR				i Sg	Sg	17 42 29.6	+0.2
GROC	Groznyy	0.58	294	ePg	Pb	17 42 26.1	-0.4
GROC				eSg	Sb	17 42 34.6	-0.1
GNBR	Gunib	0.66	150	ePg	Pg	17 42 26.6	-0.7
GNBR				eSg	Sg	17 42 35.6	-0.4
GNBR				i AML	AML	17 42 38.3	
	191nm,0.2s						
KMKR	Kumukh	0.93	153	i Pg	Pn	17 42 33.3	-0.1
	89nm,0.1s,baz=150						
KMKR				i Sg	Sn	17 42 46.4	-0.4
	433nm,0.3s,baz=150						
KMKR				i AML	AML	17 42 46.7	
	383nm,0.2s						
SHTL	Shatili	1.05	254	P	Pb	17 42 34.0	-0.6
SHTL				S	Sg	17 42 47.3	-1.2
URKR	Urkarakh	1.14	134	ePg	Pg	17 42 35.1	-1.4
URKR				eSg	Sg	17 42 50.4	-0.9
LGD	Lagodekhi	1.15	191	P	Pn	17 42 35.9	-0.3
LGD				S	Sb	17 42 50.6	-0.3
KMGR	Komgaron	1.22	275	ePg	Pg	17 42 36.7	-1.2
KMGR				eSg	Sb	17 42 53.4	+0.4
PNSH	Pansheti	1.44	257	P	Pb	17 42 40.8	-0.4
PNSH				S	Sn	17 42 59.7	+0.3
BTKR	Batakoyurt	1.51	286	ePg	Pn	17 42 41.3	+0.2
BTKR				eSg	Sg	17 43 01.8	-1.2
TRKR	Terskaya	1.51	301	ePg	Pn	17 42 41.7	+0.6
TRKR				eSg	Sg	17 43 02.5	-0.6
DDFL	Dedoflistskaro	1.55	191	P	Pg	17 42 46.1	+2.0
DDFL				S	Sg	17 43 11.2	+7.0
LACR	Lac	1.64	266	ePg	Pn	17 42 43.3	+0.2
LACR				eSg	Sb	17 43 05.0	-0.3
AKT	Akhty	1.73	148	ePg	Pn	17 42 43.9	-0.4
AKT				eSg	Sn	17 43 06.7	+0.3
KORR	Kora	1.81	275	ePg	Pn	17 42 45.7	+0.4
KORR				eSg	Sb	17 43 09.7	-0.2
PRTR	Priterechnaya	1.81	296	ePg	Pn	17 42 45.9	+0.6
PRTR				eSg	Sb	17 43 10.4	+0.3
STDR	Stavd-Durt	1.85	284	ePg	Pn	17 42 46.3	+0.5
STDR				eSg	Sb	17 43 10.9	-0.1
ZEI	Tsey	1.94	266	ePg	Pn	17 42 47.5	+0.2
ZEI				eSg	Sb	17 43 13.0	-0.8
LSNR	Lesken	2.00	280	ePg	Pn	17 42 48.6	+0.6
LSNR				eSg	Sb	17 43 14.9	-0.6
DIGR	Digorskoe uzhe	2.16	269	ePg	Pn	17 42 50.5	+0.2
DIGR				eSg	Sb	17 43 18.9	-1.5
NEY	Neytrino	2.80	277	ePn	Pn	17 42 59.5	+0.5
NEY				eSn	Sn	17 43 34.6	+1.8
SHA1	Shidzhatmaz	2.92	287	ePn	Pn	17 43 01.1	+0.3
SHA1				eSn	Sn	17 43 37.9	+2.0

*NNC **04** 17:48:13.0±0.4, 42.°94N×77.°44E, h2km±2km, mb3.3,*
mpv3.5, Error ellipse: s-maj=3.7km s-min=1.5km az=2.0
*KRNET **04** 17:48:13.5±0.1, 42.°95N×77.°44E, h19km, mb3.3*
*SOME **04** 17:48:13.6, 42.°93N×77.°43E, h15km*
ISC 04 17:48:13.1±0.9, **42.°93N**±0.°03×**77.°44E**±0.°01, **h13**km±8km,
n66, σ**0.s68**/126, **19C-9D**, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDOK	Medeo	0.37	310	eP	Pg	17 48 20.8	+0.1
	baz=7.0						
MDOK				eS	Sg	17 48 26.0	+0.3
	baz=7.0						
MDOK	Medeo	0.37	310	eP	Pg	17 48 20.8	+0.1
	172nm,0.1s						
MDOK				eS	Sg	17 48 26.0	+0.3
	208nm,0.2s						
MDOK	Medeo	0.37	310	⇑P	Pg	17 48 20.8	+0.1
	18nm,0.2s						
MDOK				Pg	Pg	17 48 20.8	+0.1
	172nm,0.1s						
MDOK				⇓S	Sg	17 48 25.7	0.0
	57nm,0.2s						
MDOK				Lg	Lg	17 48 26.0	
	208nm,0.2s						
TNSS	Tian-Shan	0.38	287	eP	Pg	17 48 21.0	+0.1
	baz=84						
TNSS				eS	Sg	17 48 26.2	+0.1
	baz=84						
TNSS	Tian-Shan	0.38	287	eP	Pg	17 48 21.0	+0.1
	58nm,0.1s						
TNSS				eS	Sg	17 48 26.2	+0.1
	184nm,0.1s						
TNSS	Tian-Shan	0.38	287	P	Pg	17 48 21.0	+0.1
	58nm,0.1s						
TNSS				S	Sg	17 48 26.2	+0.1
	184nm,0.1s						
KOTS	Kotyrbulak	0.39	322	eP	Pb	17 48 21.3	-0.7
	baz=20						
KOTS				eS	Sb	17 48 26.8	-1.1
	baz=20						
KOTS	Kotyrbulak	0.39	322	eP	Pb	17 48 21.3	-0.7
	243nm,0.1s						
KOTS				eS	Sb	17 48 26.8	-1.1
	344nm,0.3s						
KOTS	Kotyrbulak	0.39	322	P	Pb	17 48 21.3	-0.7
	243nm,0.1s						
KOTS				S	Sb	17 48 26.8	-1.1
	344nm,0.3s						
KNDC	Almaty	0.45	310	⇓P	Pb	17 48 22.4	-0.5
	18nm,0.3s						
KNDC				⇓S	Sb	17 48 28.8	-0.8
	166nm,0.6s						
AAA	Alma-Ata	0.47	306	eP	Pb	17 48 23.3	-0.1
	235nm,0.1s						
AAA				eS	Sb	17 48 30.2	-0.1
	1µm,0.1s						
SATY	Saty	0.72	79	eP	Pb	17 48 27.5	-0.1
	baz=81						
SATY				eS	Sb	17 48 37.4	-0.1
	baz=81						
SATY	Saty	0.72	79	eP	Pb	17 48 27.5	-0.1
	16nm,0.1s						
SATY				eS	Sb	17 48 37.4	-0.1
	151nm,0.1s						
SATY	Saty	0.72	79	P	Pb	17 48 27.5	-0.1
	16nm,0.1s						
SATY				S	Sb	17 48 37.4	-0.1
	151nm,0.1s						
MTBS	Maitube	0.77	286	eP	Pg	17 48 27.9	-0.1
	baz=84						
MTBS				eS	Sg	17 48 38.0	-0.1
	baz=84						
MTBS	Maitube	0.77	286	eP	Pg	17 48 27.9	-0.1
	12nm,0.2s						
MTBS				eS	Sg	17 48 38.0	-0.1
	86nm,0.3s						
MTBS	Maitube	0.77	286	P	Pg	17 48 27.9	-0.1
	12nm,0.2s						
MTBS				S	Sg	17 48 38.1	-0.1
	86nm,0.3s						
ZHN	Zhinishke	0.77	71	eP	Pg	17 48 27.9	-0.2
	baz=73						
ZHN				eS	Sg	17 48 38.1	-0.2
	baz=73						
ZHN	Zhinishke	0.77	71	eP	Pg	17 48 27.9	-0.2
	54nm,0.2s						
ZHN				eS	Sg	17 48 38.1	-0.2
	133nm,0.1s						
ZHN	Zhinishke	0.77	71	P	Pg	17 48 27.9	-0.2
	54nm,0.2s						
ZHN				S	Sg	17 48 38.1	-0.2
	133nm,0.1s						
KURS	Kuram	0.78	44	eP	Pg	17 48 28.1	-0.1
	baz=45						
KURS				eS	Sb	17 48 38.4	-0.5
	baz=45						
KURS	Kuram	0.78	44	eP	Pg	17 48 28.1	-0.1
	4.0nm,0.1s						
KURS				eS	Sb	17 48 38.4	-0.5
	19nm,0.3s						
KURS	Kuram	0.78	44	P	Pg	17 48 28.1	-0.1
	4.0nm,0.1s						
KURS				S	Sb	17 48 38.4	-0.5
	19nm,0.3s						
CHKK	Chushkaly	0.98	341	eP	Pb	17 48 31.7	-0.3
	baz=41						
CHKK				eS	Sg	17 48 44.7	-0.2
	baz=41						
CHKK	Chushkaly	0.98	341	eP	Pb	17 48 31.7	-0.3
	42nm,0.1s						
CHKK				eS	Sg	17 48 44.7	-0.2
	57nm,0.2s						
CHKK	Chushkaly	0.98	341	P	Pb	17 48 31.7	-0.3
	42nm,0.1s						
CHKK				S	Sg	17 48 44.7	-0.2
	57nm,0.2s						
KPKS	Kokpek	1.06	59	eP	Pb	17 48 33.2	-0.2
	baz=60						
KPKS				eS	Sg	17 48 47.3	-0.1
	baz=60						
KPKS	Kokpek	1.06	59	eP	Pb	17 48 33.2	-0.2
	15nm,0.1s						
KPKS				eS	Sg	17 48 47.2	-0.1
	47nm,0.1s						
KPKS	Kokpek	1.06	59	P	Pb	17 48 33.2	-0.2
	15nm,0.1s						
KPKS				S	Sg	17 48 47.2	-0.1
	47nm,0.1s						
KST	Kastek	1.09	277	eP	Pb	17 48 33.7	-0.2
	baz=75						
KST				eS	Sb	17 48 48.1	+0.1
	baz=75						
KST	Kastek	1.09	277	eP	Pb	17 48 33.7	-0.2
	10nm,0.2s						
KST				eS	Sb	17 48 48.1	+0.1
	46nm,0.4s						
KST	Kastek	1.09	277	P	Pb	17 48 33.7	-0.2
	10nm,0.2s						
KST				S	Sb	17 48 48.1	+0.1
	46nm,0.4s						
ULHL	Ulahol	1.11	233	⇑iP	Pb	17 48 34.1	-0.3
	baz=32						
ULHL				⇑iS	Sb	17 48 49.0	+0.1
	baz=32						
UZB	Uzynbulak	1.18	79	eP	Pn	17 48 35.3	-0.2
	baz=80						
UZB				eS	Sb	17 48 50.7	0.0
	baz=80						
UZB	Uzynbulak	1.18	79	eP	Pn	17 48 35.3	-0.2
	15nm,0.1s						
UZB				eS	Sb	17 48 50.7	0.0
	35nm,0.2s						
UZB	Uzynbulak	1.18	79	P	Pn	17 48 35.3	-0.2
	15nm,0.1s						
UZB				S	Sb	17 48 50.7	0.0
	35nm,0.2s						
KUU	Kurty	1.25	321	eP	Pb	17 48 36.4	-0.2
	baz=20						
KUU				eS	Sn	17 48 52.6	-0.5
	baz=20						
KUU	Kurty	1.25	321	eP	Pb	17 48 36.4	-0.2
	8.4nm,0.2s						
KUU				eS	Sn	17 48 52.6	-0.5
	102nm,0.4s						
KUU	Kurty	1.25	321	P	Pb	17 48 36.4	-0.2
	8.4nm,0.2s						
KUU				S	Sn	17 48 52.6	-0.5
	102nm,0.4s						
DGS	Degeres	1.26	285	eP	Pb	17 48 36.8	0.0
	baz=84						
DGS				eS	Sn	17 48 53.3	0.0
	baz=84						
DGS	Degeres	1.26	285	eP	Pb	17 48 36.8	0.0
	9.7nm,0.2s						
DGS				eS	Sn	17 48 53.3	0.0
	44nm,0.2s						
DGS	Degeres	1.26	285	P	Pb	17 48 36.8	0.0
	9.7nm,0.2s						
DGS				S	Sn	17 48 53.3	0.0
	44nm,0.2s						
ARXS	Arharly	1.32	12	eP	Pb	17 48 37.7	0.0
	5.5nm,0.2s						
ARXS				eS	Sg	17 48 54.9	-0.7
	91nm,0.1s						
ARXS	Arharly	1.32	12	P	Pb	17 48 37.7	0.0
	5.5nm,0.2s						
ARXS				S	Sg	17 48 54.9	-0.7
	91nm,0.1s						
TKM2	Tokmak 2	1.35	270	⇑iP	Pb	17 48 38.4	0.0
	baz=69						
TKM2				⇑iS	Sg	17 48 56.7	0.0
	baz=69						
BLB	Baldybastay	1.39	33	eP	Pb	17 48 39.0	-0.1
	10nm,0.1s						
BLB				eS	Sg	17 48 57.2	-0.9
	64nm,0.1s						
BLB	Baldybastay	1.39	33	P	Pb	17 48 39.0	-0.1
	10nm,0.1s						
BLB				S	Sg	17 48 57.2	-0.9
	64nm,0.1s						
KRBS	Karabastau	1.50	301	eP	Pb	17 48 40.7	-0.1
	baz=1.0						
KRBS				eS	Sb	17 49 00.1	+0.3
	baz=1.0						
KRBS	Karabastau	1.50	301	eP	Pb	17 48 40.7	-0.1
	24nm,0.2s						
KRBS				eS	Sb	17 49 00.1	+0.3
	44nm,0.1s						
KRBS	Karabastau	1.50	301	P	Pb	17 48 40.7	-0.1
	24nm,0.2s						
KRBS				S	Sb	17 49 00.1	+0.3
	44nm,0.1s						
SHLS	Shalkode	1.50	81	eP	Pg	17 48 47.0	+5.0
	baz=83						
SHLS				eS	Sg	17 49 11.2	+10
	baz=83						
SHLS	Shalkode	1.50	81	eP	Pg	17 48 47.0	+5.0
	4.6nm,0.1s						
SHLS				eS	Sg	17 49 11.1	+10
	59nm,0.5s						
SHLS	Shalkode	1.50	81	P	Pg	17 48 47.0	+5.0
	4.6nm,0.1s						
SHLS				S	Sg	17 49 11.1	+10
	59nm,0.5s						
PDGK	Podgornoye	1.56	74	P	Pb	17 48 41.5	-0.4
	5.0nm,0.2s						
PDGK				S	Sb	17 49 01.9	+0.4
	10.0nm,0.2s						
PDGK	Podgornoye	1.56	74	⇑P	Pb	17 48 41.4	-0.5
	3.8nm,0.3s						
PDGK				⇓S	Sb	17 49 01.6	+0.2
	10.0nm,0.6s						
KBK	Karagaybulak	1.85	262	⇑iP	Pb	17 48 47.4	+0.5
	baz=62						
KBK				⇑iS	Sg	17 49 11.6	-1.1
	baz=62						
CHMS	Chumysh	1.97	273	⇓iP	Pb	17 48 49.0	+0.1
	baz=72						
CHMS				⇓iS	Sb	17 49 14.6	+1.2
	baz=72						
SGDS	Sogindy	2.12	285	eP	Pb	17 48 51.1	-0.3
	5.4nm,0.2s						
SGDS				eS	Sb	17 49 18.1	+0.4
	34nm,0.3s						
SGDS	Sogindy	2.12	285	Pg	Pb	17 48 51.1	-0.3
	5.4nm,0.2s						
SGDS				Lg	Lg	17 49 18.1	
	34nm,0.3s						
USP	Ospenovka	2.18	280	⇑iP	Pb	17 48 51.9	-0.5
	baz=79						
USP				⇑iS	Sb	17 49 19.7	+0.4
	baz=79						
AAK	Ala-Archa	2.19	263	⇓iP	Pb	17 48 52.1	-0.5
	baz=63						
AAK				⇓iS	Sb	17 49 20.1	+0.5
	baz=63						
UCH	Uchtor	2.27	253	⇑eP	Pb	17 48 53.3	-0.9
	baz=52						
UCH				⇑iS	Sb	17 49 22.4	+0.1
	baz=52						
ARLS	Aral	2.54	246	⇑eP	Pb	17 48 57.0	-1.6
	baz=46						
ARLS				⇑iS	Sb	17 49 28.5	-1.3
	baz=46						
EKS2	Erkin-Say	2.71	266	⇑eP	Pb	17 48 59.4	-2.0
	baz=65						
EKS2				⇑iS	Sb	17 49 32.6	-2.0
	baz=65						
KK31	Karatay Array	5.08	274	Pg	Pb	17 49 45.7	+3.8
	0.4nm,0.6s,baz=95,slow=15,SNR=5.0						
KK31				⇑Lg	Lg	17 50 52.7	
	2.8nm,0.7s,baz=92,slow=29						
MK31	Makanchi Array	5.18	40	⇑Pn	Pn	17 49 32.7	+2.4
	0.8nm,0.6s						
MK31				⇓Pg	Pb	17 49 43.5	0.0
	4.2nm,1.1s,baz=218,slow=14,SNR=4.7						
MK31				⇑Sn	Sn	17 50 32.3	+2.4
	4.0nm,1.1s						

*UCR **04** 17:57:00.5±1.2, 9.°92N×84.°26W, h64km±3km, MW3.6*
*INET **04** 17:57:01.0±1.1, 9.°95N×84.°23W, h54km±11km, ML3.1*
ISC 04 17:57:00.9±1.5, **9.°95N**±0.°06×**84.°25W**±0.°05, **h63**km±9km,
n37, σ**0.s51**/55, **6C**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HDC	Heredia	0.14	67	eP	Pn	17 57 10.5	-0.1
HDC				eS	Sn	17 57 18.2	+0.6
HDC3	Heredia 3	0.15	68	eP	Pn	17 57 10.4	-0.2
SRA1	San Ramn	0.27	301	eP	Pn	17 57 10.4	-0.8
SRA1				eS	Sn	17 57 18.6	-0.1
LCR2	La Lucha 2	0.31	130	eP	Pn	17 57 11.0	-0.7
LCR2				eS	Sn	17 57 19.6	+0.1
HAYA	Volcan Irazu	0.40	85	eP	Pn	17 57 12.6	0.0
RIMA	Rio Macho	0.42	115	eP	Pn	17 57 12.3	-0.2
RIMA	Rio Macho	0.42	115	eP	Pn	17 57 12.4	-0.2
JACO	JACO, Garabito	0.49	235	eP	Pn	17 57 12.6	-0.4
JACO	JACO, Garabito	0.49	235	eP	Pn	17 57 12.7	-0.4
CDM	Cerro de Muert	0.62	129	eP	Pn	17 57 14.4	-0.5
CDM	Cerro de Muert	0.62	129	eP	Pn	17 57 14.3	-0.5
CDM				eS	Sn	17 57 25.4	+0.4
CDM				IAML		17 57 26.5	
	comp=E,808nm,0.4s						
FORC	Fortuna	0.66	321	⇑eP	Pn	17 57 14.8	-0.1
FORC				eS	Sn	17 57 25.9	+0.7
CASO	Castillo	0.68	315	eP	Pn	17 57 15.2	0.0
CASO				eS	Sn	17 57 26.3	+0.7
CEDE	Laguna Cedeo	0.70	320	eP	Pn	17 57 15.2	-0.2
CEDE				eS	Sn	17 57 26.6	+0.6
JTS	Las Juntas de	0.77	296	eP	Pn	17 57 15.7	-0.5
JTS	Las Juntas de	0.77	296	eP	Pn	17 57 15.7	-0.5
EDDO	Dominical	0.79	151	eP	Pn	17 57 16.3	-0.1
PEZE	Perez Zeledon,	0.79	135	eP	Pn	17 57 16.1	-0.4
PEZE	Perez Zeledon,	0.79	135	eP	Pn	17 57 16.5	-0.1
ACAL	Aguas Claras	1.03	312	⇑iP	Pn	17 57 19.2	-0.3
ACAL				eS	Sn	17 57 33.9	+0.5
PTEN	Parque Tenorio	1.05	316	eP	Pn	17 57 19.2	-0.7
PTEN				eS	Sn	17 57 34.3	+0.4
SRBA	San Rafael, Bu	1.13	129	eP	Pn	17 57 20.6	-0.3
CUI	Cuipilapa	1.15	308	⇑iP	Pn	17 57 20.6	-0.4
CUI				eS	Sn	17 57 36.1	+0.1
COLC	Colonia	1.18	307	eP	Pn	17 57 21.0	-0.5
HORNC	Hornillas	1.19	310	⇑iP	Pn	17 57 21.0	-0.6
HORNC				eS	Sn	17 57 36.9	-0.2
VMAR	Armenia, Volca	1.21	315	eP	Pn	17 57 21.5	-0.4
MESS	Mesas	1.22	310	⇑iP	Pn	17 57 21.5	-0.6
MESS				eS	Sn	17 57 37.8	0.0
DUNO	Dulce Nombre,	1.23	276	eP	Pn	17 57 22.2	+0.1
ORTG	Ortega, Santa	1.26	289	eP	Pn	17 57 22.4	-0.2
GPS2	Hotel Rincn d	1.35	307	eP	Pn	17 57 23.4	-0.3
GPS2				eS	Sn	17 57 41.7	+0.9
GPS3	Bodega del ICE	1.36	306	eP	Pn	17 57 23.9	+0.1
GPS3				eS	Sn	17 57 41.9	+0.8
BUAI	Buenos Aires	1.41	311	eP	Pn	17 57 23.8	-0.7
BUAI				eS	Sn	17 57 42.6	+0.4
BUEV	Buena Vista	1.42	307	eP	Pn	17 57 23.8	-0.9
BUEV				eS	Sn	17 57 43.9	+1.3
GB1A	Borinquen Arri	1.43	308	⇑eP	Pn	17 57 24.7	-0.1
GBS3	Finca Las Img	1.45	305	eP	Pn	17 57 24.6	-0.4
GBS3				eS	Sn	17 57 43.7	+0.5
ACON	Acoyapa	2.21	336	eP	Pn	17 57 34.9	-0.4
ACON				eS	Sn	17 58 00.7	-0.8
ESPN	Las Esperanzas	2.23	359	eP	Pn	17 57 35.4	-0.2

*IDC **04** 18:14:27.6±3.0, 22.°28S×68.°66W, h0km, mb4.0/1,*
mbtmp4.1/3, ML4.1/2, Error ellipse: s-maj=76.0km
s-min=53.3km az=91.0
*VAO **04** 18:14:44.6±0.4, 21.°23S×68.°06W, h10km, mb4.1*
*GUC **04** 18:14:45.6±0.7, 21.°10S×68.°72W, h110km±4km, ML3.6*
ISC 04 18:14:43.3±0.8, **21.°05S**±0.°04×**68.°70W**±0.°07, **h119**km±9km,
n32, σ**1.s29**/45, **9C-1D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.74	270	⇑iP	Pn	18 15 03.3	+0.3
PB01				i S	Sn	18 15 17.4	-0.5
PB01				IAML		18 15 19.1	
	comp=E,3µm,0.3s						
PB09	IPOC Station P	0.90	214	⇑iP	Pn	18 15 05.5	+0.9
PB09				i S	Sn	18 15 20.7	+0.2
PB09				IAML		18 15 23.1	
	comp=E,945nm,0.5s						
PB08	IPOC Station P	1.00	335	⇓iP	Pn	18 15 07.6	+1.8
PB08				i S	Sn	18 15 24.1	+1.5
PB02	IPOC Station P	1.15	256	⇑iP	Pn	18 15 07.7	+0.8
PB02				i S	Sn	18 15 24.9	+0.2
PB07	IPOC Station P	1.29	239	⇑iP	Pn	18 15 09.1	+0.5
PB07				i S	Sn	18 15 27.4	-0.3
PB07				IAML		18 15 34.3	
	comp=E,1µm,0.2s						
HMBC	Humberstone	1.35	304	⇑iP	Pn	18 15 10.2	+1.0
HMBC				i S	Sn	18 15 29.4	+0.6
HMBC				IAML		18 15 33.5	
	comp=E,1µm,0.6s						
PATCX	Punta Patache	1.38	279	⇑iP	Pn	18 15 10.4	+1.0
PATCX				eS	Sn	18 15 29.9	+0.7
PATCX				IAML		18 15 35.0	
	comp=N,2µm,0.3s						
PB03	IPOC Station P	1.40	225	⇑iP	Pn	18 15 10.3	+0.6
PB03				i S	Sn	18 15 29.4	-0.3
PB03				IAML		18 15 33.2	
	comp=E,961nm,0.4s						
GO01	Chusmiza	1.45	341	i P	Pn	18 15 12.8	+2.1
GO01				IAML		18 15 38.9	
	comp=N,1µm,0.1s						
TA01	Diego Aracena	1.47	289	⇑iP	Pn	18 15 11.1	+0.8
TA01				i S	Sn	18 15 30.9	+0.1
TA01				IAML		18 15 35.8	
	comp=E,1µm,0.3s						
TA02	Huaiquique	1.55	300	i P	Pn	18 15 12.3	+1.0
TA02				i S	Sn	18 15 33.1	+0.6

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LVC	Limon Verde	1.56	187	*i* P	Pn	18 15 12.8	+1.0
LVC				*e*S	Sn	18 15 34.3	+0.9
LVC	Limon Verde	1.56	187	*e*P	Pn	18 15 12.8	+1.0
PB11	IPOC Station P	1.57	325	*i* P	Pn	18 15 13.0	+1.4
PB11				*i* S	Sn	18 15 34.4	+1.2
PB11				IAML		18 15 36.2	
	comp=N,853nm,0.3s						
PB06	IPOC Station P	1.84	206⇑	*i*P	Pn	18 15 15.7	+0.8
PB06				*e*S	Sn	18 15 39.0	+0.1
PB06				IAML		18 15 42.4	
	comp=E,888nm,0.3s						
PB04	IPOC Station P	1.86	226	*i* P	Pn	18 15 15.8	+0.6
PB04				*i* S	Sn	18 15 38.6	-0.8
PB04				IAML		18 15 47.9	
	comp=E,736nm,0.3s						
AF01	San Pedro de A	1.95	166	*i* P	Pn	18 15 19.0	+2.6
PB15	IPOC Station P	2.26	198	*i* P	Pn	18 15 21.3	+1.0
PB15				*i* S	Sn	18 15 49.5	+0.9
PB16	IPOC Station P	2.81	344	*i* P	Pn	18 15 30.5	+2.9
PB12	IPOC Station P	2.87	327	*i* P	Pn	18 15 28.6	+0.6
PB12				*e*S	Sn	18 16 02.5	+0.1
PB12				IAML		18 16 12.9	
	comp=E,178nm,0.2s						
PB10	IPOC Station P	2.99	215	*i* P	Pn	18 15 29.8	+0.3
PB10				IAML		18 16 18.0	
	comp=E,172nm,0.4s						
LPAZ	La Paz	4.77	7	Pn	Pn	18 15 58.0	+4.1
	comp=E,2.9nm,0.3s,baz=215,slow=6.9,SNR=40						
	comp=E,7.5nm,0.4s						
LPAZ	La Paz	4.77	7	*e*P	Pn	18 15 57.9	+4.1
BBSD	Serra de San D	8.56	65	*e*P	Pn	18 16 42.6	-1.8
SIV	San Ignacio	8.81	56	Pn	Pn	18 16 46.1	-1.7
	comp=E,0.1nm,0.3s,baz=244,slow=14,SNR=24						
	comp=E,6.3nm,0.6s						
BBRB	Robore, Bolivi	8.82	73	*e*P	Pn	18 16 45.1	-2.8
PTLB	Pontes e Lacer	10.65	60	*e*P	Pn	18 17 12.1	-0.6
ETMB	Extrema	11.42	12	*e*P	P	18 17 30.1	-1.8
CZSB	Cruzeiro do Su	13.80	343	*e*P	P	18 18 04.9	+6.4
PDRB	Porto dos Gac	14.82	53	*e*P	P	18 18 08.8	-1.0
TORD	Torodi Ar. Bea	77.02	70	P	P	18 26 25.0	+1.3
	comp=E,1.1nm,0.7s,baz=256,slow=5.6,SNR=5.9						
	comp=E,1.1nm,0.7s						
MKAR	Makanchi Array	145.16	36	PKPbc	PKPdf	18 34 08.9	+2.1
	comp=E,0.8nm,0.4s,baz=333,slow=3.2,SNR=9.4						

*IDC **04** 18:23:58.5±1.4, 10°.18N×126°.53E, h0km, mb3.6/6, mbtmp3.7/7, ML4.3/1, Error ellipse: s-maj=60.6km s-min=19.4km az=69.0*

*MAN **04** 18:24:04.2, 10°.06N×126°.30E, h11km, mb4.7, ML3.6, MS3.5*

*NEIC **04** 18:24:05.9±0.5, 10°.1N±0°.1×126°.3E±0°.3, h50km±11km, mb4.3/7, Error ellipse: s-maj=46.7km s-min=13.8km az=72.0*

ISC 04 18:24:04.6±2.3**, 10°.07N**±0°.08×**126°.5E**±0°.1**, h42**km±22km**, n33,** σ1ˢ.**32**/39**, mb4.2**/11**, 7C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SCPH	Surigao	0.99	253⇑	*i*P	Pn	18 24 19.5	-2.6
SCPH				*i* S	Sn	18 24 32.5	-2.5
BIPH	Bislig	1.88	183⇓	*e*P	Pn	18 24 34.2	-0.1
BIPH				*e*S	Sn	18 24 56.8	0.0
TABP	Talibon, Bohol	2.09	271⇑	*e*P	Pn	18 24 36.7	-0.5
TABP				*i* S	Sn	18 25 02.2	+0.3
GHBP	Garcia Hernand	2.15	258⇑	*e*P	Pn	18 24 39.0	+1.0
GHBP				*i* S	Sn	18 25 03.4	0.0
CGP	Cagayan de Oro	2.37	227⇑	*e*P	Pn	18 24 41.2	+0.2
CGP				*e*S	Sn	18 25 08.0	-0.8
LLP	Lapu-Lapu	2.46	276⇑	*e*P	Pn	18 24 42.8	+0.5
LLP				*e*S	Sn	18 25 13.1	+1.9
TBP	Tagbilaran	2.58	262	*e*P	Pn	18 24 44.5	+0.6
TBP				*i* S	Sn	18 25 15.5	+1.4
LSIP	Lazi, Siquijor	2.94	252	*e*P	Pn	18 24 48.0	-0.8
LSIP				*e*S	Sn	18 25 26.0	+3.1
DAV	Davao City (W)	3.11	196	Pn	Pn	18 24 51.0	-0.2
	30nm,0.3s,baz=76,slow=9.3,SNR=1.8						
	61nm,0.3s						
DAV	Davao City (W)	3.11	196	Pn	Pn	18 24 52.1	+0.9
SNPH	Sibulan	3.25	257⇓	*e*P	Pn	18 24 56.2	+3.0
SNPH				*i* S	Sn	18 25 28.8	-2.0
KCP	Kidapawan	3.33	204⇓	*e*P	Pn	18 24 58.4	+4.1
KCP				*i* S	Sn	18 25 34.9	+2.2
CTBH	Cotabato--PC H	3.58	218	*e*P	Pn	18 24 51.5	-6.1
CNOP	Candoni, Negro	3.77	267⇑	*e*P	Pn	18 25 00.7	+0.5
CNOP				*e*S	Sn	18 25 44.0	+0.7
RCP	Roxas	3.93	292⇑	*e*P	Pn	18 25 04.4	+1.9
TPUB	Ta-pu	14.28	338		P	18 27 30.1	-0.6
MTN	Manton Dam	23.24	168	P	P	18 29 09.0	+0.6
MTN				IAmb	IAmb	18 29 52.6	
	comp=Z,19nm,1.4s						
KNRA	Kununurra	25.68	175	P	P	18 29 30.9	0.0
KNRA				IAmb	IAmb	18 29 58.8	
	comp=Z,13nm,1.2s						
CMAR	Chiang Mai Arr	27.90	290	P	P	18 29 50.6	-0.4
	comp=Z,0.3nm,0.8s,baz=99,slow=7.0,SNR=4.1						
	comp=Z,0.3nm,0.8s						
WRA	Warramunga Arr	30.82	165	P	P	18 30 17.5	+0.7
	comp=Z,0.2nm,0.6s,baz=348,slow=8.5,SNR=4.6						
	comp=Z,0.2nm,0.6s						
WB2	Warramunga Arr	30.82	165	P	P	18 30 16.5	-0.3
WB2				IAmb	IAmb	18 30 47.1	
	comp=Z,9.2nm,1.5s						
WR0	Warramunga Arr	30.89	165	P	P	18 30 16.6	-0.8
WR0				IAmb	IAmb	18 30 58.9	
	comp=Z,6.8nm,1.2s						
ASAR	Alice Springs	34.31	168	P	P	18 30 47.3	-0.1
	comp=Z,0.3nm,0.6s,baz=353,slow=7.2,SNR=23						
	comp=Z,0.3nm,0.6s						
H11N1	WAKE ISLAND Hy	40.15	71	T	T	19 14 59.4	
	baz=264,slow=74,SNR=6.0						
H11N2	WAKE ISLAND Hy	40.15	71	T	T	19 14 58.1	
	baz=264,slow=74,SNR=5.0						
H11N3	WAKE ISLAND Hy	40.16	71	T	T	19 15 00.1	
	baz=264,slow=74,SNR=4.4						
BBOO	Buckleboo	43.62	168	P	P	18 32 05.9	+0.9
STKA	Stephens Creek	44.16	161	P	P	18 32 10.0	+0.6
MK31	Makanchi Array	52.29	323	P	P	18 33 11.0	-1.0
MK31				IAmb	IAmb	18 33 30.8	
	comp=Z,6.2nm,1.2s						
MKAR	Makanchi Array	52.29	323	P	P	18 33 11.4	-0.6
	comp=Z,1.0nm,0.7s,baz=122,slow=8.4,SNR=5.9						
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	52.29	323	P	P	18 33 11.0	-1.0
ZALV	Zalesovo Beam	54.88	331	P	P	18 33 30.9	+0.1
	comp=Z,0.4nm,0.3s,baz=118,slow=9.0,SNR=2.4						
	comp=Z,0.4nm,0.3s						
FINES	FINESS Array B	86.15	332	P	P	18 36 40.6	-0.6
	comp=Z,1.1nm,0.7s,baz=58,slow=3.4,SNR=5.2						
	comp=Z,1.1nm,0.7s						

*IDC **04** 18:24:28.7±2.2, 13°.00N×88°.06W, h0km, mb3.5/5, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=83.6km s-min=41.9km az=43.0*

*SNET **04** 18:24:35.7±1.8, 12°.78N×88°.96W, h26km, ML4.3*

*INET **04** 18:24:36.8±1.1, 12°.83N×88°.92W, h15km±15km, MW3.6*

*GCG **04** 18:24:42.6±0.6, 13°.38N×89°.14W, h139km±17km, MD4.0*

ISC 04 18:24:31.0±1.6**, 12°.63N**±0°.05×**88°.99W**±0°.03**, h9**km±9km**, n38,** σ1ˢ.**38**/52**, mb3.4**/5**, 1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.80	30	*e*P	Pn	18 24 49.4	+0.8
ALJI				*e*S	Sn	18 24 59.0	-1.6
COEB	Comit de Eme	0.97	27	*e*P	Pn	18 24 51.7	+0.7
COEB				*e*S	Sg	18 25 02.4	0.0
COEG	Centro de Oper	0.99	6	*e*P	Pn	18 24 51.5	+0.3
PQSS	Presa 15 de Se	1.07	23	*e*P	Pn	18 24 53.2	+0.9
SNET	Serv Nac Est T	1.08	347	*e*P	Pn	18 24 53.4	+0.9
SNET				*e*S	Sb	18 25 05.4	-0.8
PAVA	Las Pavas	1.08	3	*e*P	Pn	18 24 53.1	+0.6
PAVA				*e*S	Sg	18 25 05.0	-0.8
IGN	Direccin Gen	1.09	351	*e*P	Pn	18 24 53.7	+1.1
IGN				*e*S	Sb	18 25 05.7	-0.8
SEMO	Seminario San	1.09	348	*e*P	Pn	18 24 53.6	+0.9
LBRS	Las Brisas	1.10	357	*e*P	Pn	18 24 53.8	+1.0
LFU	La Fuente	1.12	354	*e*P	Pn	18 24 53.8	+0.8
BOQS	Boqueron	1.13	345	*e*P	Pn	18 24 54.5	+1.2
LCND	La Caada	1.26	58	*e*P	Pg	18 24 56.3	+0.9
LCND				*e*S	Sb	18 25 11.0	-0.5
LCND				*e*S	Sn	18 25 11.2	-0.9
CNCH	Conchagua	1.29	60	*e*P	Pg	18 24 56.7	+0.8
CEVE	Cerro Verde	1.34	333	*e*P	Pg	18 24 58.0	+1.1
P5NO	Presa 5 de nov	1.36	9⇓	*i*P	Pg	18 24 57.4	+0.2
NUBE	Las Nubes	1.48	329	*e*P	Pg	18 24 59.8	+0.3
MTO3	Montecristo	1.79	348	*e*P	Pb	18 25 03.8	-0.5
MTO3	Montecristo	1.79	348	*e*P	Pb	18 25 03.9	-0.4
CRIN	San Cristobal	1.89	88	*e*P	Pb	18 25 06.6	+0.8
CRIN				*e*S	Sn	18 25 28.7	+1.0
ESQI	Esquipulas	1.95	350	*e*P	Pb	18 25 06.3	-0.5
TGUH	Tegucigalpa,Un	2.19	49	*e*P	Pb	18 25 09.5	-1.4
NBG	Las Nubes	2.35	326	*e*P	Pb	18 25 13.5	-0.3
PCG	Pacaya	2.36	318	*e*P	Pg	18 25 15.8	-0.5
PCG				*e*S	Sb	18 25 40.9	-2.3
COPN	Copaltepe	2.38	101	*e*P	Pb	18 25 13.7	-0.4
MRL	Marmol	2.53	345	*e*P	Pb	18 25 15.5	-1.2
FUG	Fuego 3	2.55	315	*e*P	Pb	18 25 17.2	+0.1
FUG				*e*S	Sn	18 25 44.9	+0.7
RCON	San Juan de Ri	2.89	73	*e*P	Pb	18 25 21.1	-1.8
MATN	Matagalpa	3.00	84	*e*P	Pn	18 25 21.3	+2.4
STG3	Santiaguito 3,	3.25	310	*e*P	Pb	18 25 27.1	-2.1
STG3				*e*S	Sn	18 26 01.7	+0.3
ORTG	Ortega, Santa	4.13	123	*e*P	Pb	18 25 41.2	-2.8
CMIG	Matias Romero	7.22	309	Pn	Pn	18 26 21.3	+4.4
	0.8nm,0.3s,baz=143,slow=12,SNR=8.9						
CMIG				Sn	Sn	18 27 37.8	-1.4
	0.9nm,0.3s,baz=142,slow=20,SNR=1.5						
	2.2nm,0.4s						
TXAR	Lajitas Array	21.50	323	P	P	18 29 22.5	+2.0
	0.8nm,0.5s,baz=144,slow=11,SNR=12						
	0.8nm,0.5s						
PDAR	Pinedale Array	34.92	333	P	P	18 31 24.9	+1.4
	0.3nm,0.5s,baz=134,slow=13,SNR=3.6						
PDAR				PcP	PcP	18 33 55.4	-0.7
	0.3nm,0.5s,baz=150,slow=4.2,SNR=4.0						
	0.3nm,0.5s						
NVAR	Mina Array Bea	36.59	320	P	P	18 31 39.9	+2.1
	0.2nm,0.4s,baz=127,slow=6.9,SNR=2.4						
NVAR				PcP	PcP	18 34 01.7	+0.5
	0.4nm,0.7s,baz=109,slow=4.9,SNR=2.4						
	0.2nm,0.4s						
YKA	Yellowknife Ar	53.05	345	P	P	18 33 46.1	-2.2
	1.0nm,0.4s,baz=133,slow=8.9,SNR=12						
	1.0nm,0.4s						
ILAR	Eielson Array	65.25	336	P	P	18 35 11.3	-1.6
	0.2nm,0.6s,baz=169,slow=4.2,SNR=4.8						
	0.2nm,0.6s						
WRA	Warramunga Arr	137.88	254	PKP	PKPdf	18 43 58.0	+1.0
	0.1nm,0.4s,baz=94,slow=2.6,SNR=4.9						
CMAR	Chiang Mai Arr	148.13	346	PKPbc	PKPdf	18 44 15.9	+0.8
	0.5nm,0.6s,baz=335,slow=3.3,SNR=4.5						

MAN 04 18:27:25.1, 10°.01N×126°.23E, h12km, mb4.3, ML3.2, MS2.9, 5C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SCPH	Surigao	0.77	253	*e*P	Pg	18 27 39.5	-0.4
SCPH				*i* S	Sb	18 27 51.4	+0.7
BIPH	Bislig	1.82	176⇓	*i*P	Pn	18 27 54.2	-2.0
BIPH				*i* S	Sn	18 28 15.2	-4.0
TABP	Talibon, Bohol	1.87	273⇑	*i*P	Pn	18 27 56.6	-0.3
TABP				*i* S	Sn	18 28 20.8	+0.3
GHBP	Garcia Hernand	1.92	259⇓	*i*P	Pn	18 27 58.7	+1.1
GHBP				*e*S	Sb	18 28 24.1	+0.2
CGP	Cagayan de Oro	2.17	225⇑	*e*P	Pn	18 28 01.4	+0.4
CGP				*e*S	Sn	18 28 25.4	-2.3
LLP	Lapu-Lapu	2.25	278⇑	*e*P	Pn	18 28 02.8	+0.6
LLP				*e*S	Sb	18 28 31.8	-1.7
TBP	Tagbilaran	2.36	262	*e*P	Pn	18 28 04.2	+0.6
TBP				*i* S	Sb	18 28 35.5	-1.0
LSIP	Lazi, Siquijor	2.71	251⇑	*e*P	Pn	18 28 09.0	+0.5
LSIP				*e*S	Sn	18 28 42.8	+1.6
CNOP	Candoni, Negro	3.54	267⇑	*e*P	Pn	18 28 20.8	+0.8
CNOP				*i* S	Sn	18 28 59.6	-2.2

AZER 04 18:32:39.8±0.5**, 39°.96N×51°.87E, h48**km±21km**, 1C-2D, Error ellipse: s-maj=6.3km s-min=3.4km az=270.0, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
NDR	Nardaran	1.57	294	Pg	Pn	18 33 09.0	+3.8
NDR				Sn	Sn	18 33 25.4	+1.0
ATGJ	Altiaghaj	2.42	293	Pn	Pn	18 33 19.1	+2.2
ATGJ				Sn	Sn	18 33 46.7	+1.4
SIZA	Siyzn	2.53	297	Pn	Pn	18 33 20.6	+2.2
	SNR=7.1						
SIZA				Sn	Sn	18 33 51.9	+3.8
PQL	Pirkuli	2.64	289	Pn	Pn	18 33 20.8	+0.8
PQL				Sn	Sn	18 33 53.7	+2.9
LKRN	Lenkeran, Azer	2.70	244	Pn	Pn	18 33 22.3	+1.6
LKRN				Sn	Sn	18 33 53.8	+1.6
ASTR	Astara	2.77	241	Pn	Pn	18 33 23.1	+1.5
ASTR				Sn	Sn	18 33 55.9	+2.1
GLBA	Clilabad	2.78	256	Pn	Pn	18 33 23.8	+2.0
	SNR=14						
GLBA				Sn	Sn	18 33 56.2	+2.0
QUBA	Quba, Azerbaij	2.92	300	Pn	Pn	18 33 25.8	+1.9
QUBA				Sn	Sn	18 33 59.7	+1.9
YRD	Yardimli	3.00	251	Pn	Pn	18 33 26.7	+1.7
	SNR=12						
YRD				Sn	Sn	18 34 00.5	+0.7
LRK	Lerik	3.04	246	Pn	Pn	18 33 27.6	+2.1
LRK				Sn	Sn	18 34 02.1	+1.4
XNQ	Khinaliq	3.09	294	Pn	Pn	18 33 27.1	+0.8
	SNR=14						
XNQ				Sn	Sn	18 34 03.5	+1.4
QSAR	Qusar	3.15	301	Pn	Pn	18 33 28.0	+1.0
	SNR=7.8						
QSAR				Sn	Sn	18 34 04.4	+1.1
ZRD	Zardab	3.23	277	Pn	Pn	18 33 30.2	+2.3
	SNR=16						
ZRD				Sn	Sn	18 34 08.2	+3.1
QBL	Gabala	3.23	289	Pn	Pn	18 33 28.7	+0.7
QBL				Sn	Sn	18 34 05.8	+0.5
BLQ	Beylaqan	3.33	267	Pn	Pn	18 33 30.6	+1.3
BLQ				Sn	Sn	18 34 08.8	+1.2
QRD	Qoradiz	3.55	263	Pn	Pn	18 33 33.1	+0.8
QRD				Sn	Sn	18 34 13.4	+0.4
BRDA	Brd	3.61	276	Sn	Sn	18 34 16.6	+2.0
AGDM	Agdam	3.66	274	Sn	Sn	18 34 18.3	+2.5
SEKA	Sheki	3.77	291	Pn	Pn	18 33 36.0	+0.5
SEKA				Sn	Sn	18 34 19.8	+1.1
GANJ	Ganja	4.30	281	Pn	Pn	18 33 43.3	+0.6
GANJ				Sn	Sn	18 34 29.7	-1.9
ZKTA	Zakatala	4.32	295	Pn	Pn	18 33 43.9	+0.9
ZKTA				Sn	Sn	18 34 32.7	+0.6
ORD	Ordubad	4.67	259	Pn	Pn	18 33 48.4	+0.7
ORD				Sn	Sn	18 34 41.3	+0.7
GDB	GEDABAY	4.74	281	Pn	Pn	18 33 49.3	+0.5
GDB				Sn	Sn	18 34 40.8	-1.8
SBZ	Shahbuz	4.91	265	Pn	Pn	18 33 52.5	+1.4
SBZ				Sn	Sn	18 34 48.5	+1.8
QZX	Qazax, Azerbai	5.08	285	Pn	Pn	18 33 53.6	+0.3
QZX				Sn	Sn	18 34 49.5	-1.2
AB31	Akbulak array	10.92	29	P	Pn	18 35 11.2	-2.1
	0.3nm,0.4s,baz=206,slow=13,SNR=14						
AB31				⇓S	Sn	18 37 05.2	-8.8
	1.8nm,0.7s,baz=212,slow=22						
AKTO	Aktyubinsk	11.33	20	⇓P	Pn	18 35 18.8	-0.1
	1.2nm,0.4s						
AKTO				⇑S	Sn	18 37 16.0	-8.0
	2.1nm,0.5s						

*IDC **04** 18:57:51.8±1.9, 43°.36N×105°.23W, h0km, mbtmp3.4/3, ML3.6/3, Error ellipse: s-maj=43.4km s-min=9.4km az=152.0*

*NEIC **04** 18:57:54.4±2.1, 43°.66N±0°.05×105°.24W±0°.06, h0km±2km, ML3.6/82, Error ellipse: s-maj=9.5km s-min=6.7km az=324.0*

ISC 04 18:57:53.4±1.0**, 43°.63N**±0°.06×**105°.26W**±0°.06**, h0**km**, n89,** σ1ˢ.**46**/88**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RSSD	Black Hills	1.01	60		Pg	18 58 12.3	-0.4
K22A	Casper	1.35	224		Pg	18 58 17.6	-1.6
PHWY	Pilot Hill	2.33	184		Pn	18 58 33.1	-0.1
RWWY	Rawlins	2.41	217		Pn	18 58 35.8	+1.4
N23A	Red Feather La	2.78	191		Pn	18 58 40.0	+0.6
N23A				IAML		18 59 23.9	
	comp=N,207nm,0.7s						
N23A				IAML		18 59 26.8	
	comp=E,154nm,0.8s						
BRIGG	Briggsdale	3.12	167		Pn	18 58 45.1	+1.1
BRIGG				IAML		18 59 41.2	
	comp=N,186nm,1.0s						
BRIGG				IAML		18 59 46.8	
	comp=E,126nm,0.7s						
LAO	LASA Array	3.14	348	Pn	Pn	18 58 44.6	+0.5
RLMT	Red Lodge	3.24	299		Pn	18 58 46.4	+0.8
RLMT				IAML		18 59 53.8	
	comp=E,98nm,1.0s						
BW06	Boulder Array	3.26	256		Pn	18 58 46.4	+0.4
PD31	Pinedale Array	3.26	256		Pn	18 58 46.5	+0.5
PDAR	Pinedale Array	3.26	256	Pn	Pn	18 58 46.6	+0.7
	comp=E,5.2nm,0.3s,baz=81,slow=16,SNR=62						
PDAR				Lg	Lg	18 59 32.8	
	comp=E,18nm,0.3s,baz=82,slow=35,SNR=3.0						
	comp=E,6.9nm,0.3s						
PDAR	Pinedale Array	3.26	256	Pn	Pn	18 58 46.2	+0.3
YMP	Mirror Lake Pl	3.69	289		Pn	18 58 54.3	+2.3
GCMT	Greycliff	3.82	306		Pn	18 58 54.6	+1.1
LKWY	Lake	3.82	286		Pn	18 58 53.3	-0.4
LKWY				IAML		19 00 04.1	
	comp=E,86nm,1.2s						
LKWY				IAML		19 00 10.0	
	comp=E,99nm,0.9s						
LOHW	Long Hollow	3.88	272		Pn	18 58 55.1	+0.6
LOHW				IAML		19 00 01.5	
	comp=E,67nm,1.0s						
H17A	Grant Village	3.91	283		Pn	18 58 56.1	+1.1
H17A				IAML		19 00 00.8	
	comp=N,85nm,1.2s						
H17A				IAML		19 00 01.0	
	comp=E,56nm,2.0s						
FLWY	Flagg Ranch	3.96	278		Pn	18 58 56.2	+0.6
FLWY				IAML		19 00 09.5	
	comp=E,99nm,2.3s						
MOOW	Moose Ponds	3.98	274	Pn	Pn	18 58 56.8	+0.9
SNOW	Snow King Moun	4.00	270		Pn	18 58 56.1	0.0
SNOW				IAML		19 00 14.1	
	comp=E,101nm,1.0s						
YNR	Norris Junctio	4.05	287		Pn	18 58 55.4	-1.4
YNR				IAML		19 00 25.4	
	comp=N,52nm,2.6s						
YPP	Pitchstone Pla	4.06	281	Pn	Pn	18 58 58.8	+1.8
YPP				IAML		19 00 11.1	
	comp=E,54nm,2.8s						
REDW	Red Top Meadow	4.08	268		Pn	18 58 58.9	+1.7
REDW				IAML		19 00 21.6	
	comp=E,108nm,1.3s						
YFT	Old Faithful	4.11	283		Pn	18 58 56.7	-0.9
IMW	Indian Meadow	4.12	276		Pn	18 58 59.8	+1.9
IMW				IAML		19 00 22.4	
	comp=E,48nm,1.7s						
IMW				IAML		19 00 30.0	
	comp=E,44nm,0.6s						
O20A	White River Ci	4.14	214		Pn	18 58 57.8	-0.3
O20A				IAML		19 00 39.5	
	comp=N,99nm,1.3s						
O20A				IAML		19 01 09.5	
	comp=E,100nm,1.7s						
TPAW	Teton Pass	4.14	270		Pn	18 58 58.8	+0.7
TPAW				IAML		19 00 19.4	
	comp=E,44nm,2.8s						
TPAW				IAML		19 00 20.5	
	comp=E,91nm,1.1s						
YHH	Holmes Hill	4.18	288	Pn	Pn	18 58 59.9	+1.2
FXWY	Fox Creek	4.19	272		Pn	18 58 60.0	+1.3
FXWY				IAML		19 00 19.7	
	comp=E,42nm,1.4s						
YMR	Madison River	4.24	286		Pn	18 59 00.5	+1.1
YMR				IAML		19 00 17.3	
	comp=E,91nm,1.1s						
AHID	Auburn Hatcher	4.36	261		Pn	18 59 02.6	+1.6
AHID				IAML		19 00 25.5	
	comp=E,65nm,1.1s						
E28A	Huff	4.37	46		Pn	18 59 02.2	+1.1
YHB	Horse Butte	4.42	287		Pn	18 59 00.8	-1.0
YHB				IAML		19 00 26.9	
	comp=E,40nm,2.8s						
YHB				IAML		19 00 31.1	
	comp=N,39nm,2.4s						
RDMU	Red Mountain	4.43	228		Pn	18 59 03.8	+1.8
RDMU				IAML		19 00 19.9	
	comp=N,48nm,1.3s						
RDMU				IAML		19 00 22.9	
	comp=E,78nm,1.2s						
YHL	Hebgen Lake	4.43	288		Pn	18 59 02.6	+0.5
YHL				IAML		19 00 29.6	
	comp=N,59nm,0.9s						
YHL				IAML		19 00 30.2	
	comp=E,64nm,1.1s						
ECR	Eagle Creek	4.50	265		Pn	18 59 06.3	+3.4
QLMT	Earthquake Lak	4.60	287		Pn	18 59 04.9	+0.6
SUSD	Miller	4.62	78		Pn	18 59 07.8	+3.4
SMCO	Snowmass	4.63	197		Pn	18 59 07.3	+2.4
SMCO				IAML		19 00 32.4	
	comp=E,47nm,1.3s						
SMCO				IAML		19 00 39.6	
	comp=E,35nm,1.3s						
Q24A	Divide	4.66	179		Pn	18 59 06.2	+1.0
Q24A				IAML		19 00 25.4	
	comp=E,42nm,0.9s						
K31A	O'Neill	4.86	100	Pn	Pn	18 59 10.7	+2.8
DGMT	Dagmar	4.90	8	Pn	Pn	18 59 09.3	+1.1
BOZ	Bozeman (W)	4.96	296		Pn	18 59 09.1	-0.1
BOZ				IAML		19 00 33.9	
	comp=E,28nm,2.4s						
KSCO	Kaye Shedlock'	5.02	156		Pn	18 59 10.1	+0.1
TCUT	Toone Canyon	5.20	243		Pn	18 59 13.5	+0.8
EGMT	Eagleton	5.40	326		Pn	18 59 15.4	+0.1
P18A	Preston Nutter	5.47	225		Pn	18 59 18.3	+1.9
DLMT	Dillon	5.53	291		Pn	18 59 18.6	+1.6
LRM	Limekiln Ridge	5.58	296		Pn	18 59 18.5	+0.8
HRY	Holter Researc	5.58	306		Pn	18 59 18.3	+0.6
MCMT	McKenzie Canyo	5.59	285		Pn	18 59 20.6	+2.7
CTU	Camp Tracy	5.65	241	Pn	Pn	18 59 20.0	+1.3
PV07	Paradox Valley	5.78	207		Pn	18 59 22.6	+2.0
MDND	Maddock	5.79	41		Pn	18 59 22.4	+2.0
SPUT	South Promonto	5.80	249		Pn	18 59 21.7	+0.9
PV15	Paradox Valley	5.82	206	Pn	Pn	18 59 23.3	+2.2
HVU	Hansel Valley	5.84	254		Pn	18 59 23.1	+1.7
P17A	Butcher Ranch,	5.84	227		Pn	18 59 23.1	+1.7
SDCO	Great Sand Dun	5.88	182	Pn	Pn	18 59 23.3	+1.3
PV23	Carpenter Ridg	5.90	210	Pn	Pn	18 59 24.7	+2.5
BCYI	Bear Canyon	5.92	279		Pn	18 59 24.1	+1.7
PV10	Paradox Valley	5.97	210	Pn	Pn	18 59 26.3	+3.0
PV11	David Mesa, Pa	5.99	208		Pn	18 59 25.8	+2.4
S22A	4UR Ranch, Cre	6.00	192	Pn	Pn	18 59 25.9	+2.3
SRU	San Rafael Swe	6.00	223		Pn	18 59 24.1	+0.4
PV13	Radium Mtn., P	6.09	207		Pn	18 59 26.4	+1.6
TMUT	Trail Mountain	6.22	228		Pn	18 59 27.6	+0.9
ECSD	EROS Data Cent	6.27	86	Pn	Pn	18 59 26.1	-0.9
NLU	North Lily Min	6.28	237		Pn	18 59 27.4	0.0
CBKS	Cedar Bluff	6.36	137	Pn	Pn	18 59 29.4	+1.0
BGU	Big Grassy Mou	6.37	248	Pn	Pn	18 59 28.7	+0.1
T25A	Trinidad	6.51	174	Pn	Pn	18 59 31.8	+1.1
DUG	Dugway, Tooele	6.60	241		Pn	18 59 32.3	+0.6
HLID	Hailey	6.65	273		Pn	18 59 32.6	+0.1
MVCO	Mesa Verde	6.87	202	Pn	Pn	18 59 35.5	-0.1
MSO	Missoula	6.92	301	Pn	Pn	18 59 35.7	-0.3
R32A	Long Quarter,	7.18	134	Pn	Pn	18 59 41.1	+1.5
MSU	Marysvale	7.31	228	Pn	Pn	18 59 43.5	+1.9
MVU	Marysvale	7.33	228	Pn	Pn	18 59 43.4	+1.5
TCRU	Three Creeks R	7.39	230	Pn	Pn	18 59 44.2	+1.5
MTPU	Mount Pierson	7.66	226	Pn	Pn	18 59 46.4	-0.2
ELK	Elko	7.95	252	Pn	Pn	18 59 52.5	+2.1
PKCU	Pink Cliffs	8.18	223	Pn	Pn	18 59 54.7	+1.1
PSUT	Pine Spring	8.25	235	Pn	Pn	18 59 56.4	+1.9
CCUT	Cedar City	8.65	228	Pn	Pn	19 00 01.7	+1.8
U15A	North Rim	8.99	219	Pn	Pn	19 00 05.2	+0.6
I10CA	LAC DU BONNET	9.11	41	I		19 48 25.0	
	comp=E,0.1nm,1.1s,baz=218,slow=311,SNR=8.4						
ULM	Lac du Bonnet	9.22	41	Pn	Pn	19 00 06.2	-1.3
	comp=E,2.2nm,0.3s,baz=234,slow=12,SNR=13						
ULM				Lg	Lg	19 02 41.4	
	comp=E,0.6nm,0.3s,baz=320,slow=21,SNR=2.2						
	comp=E,3.8nm,0.3s						
NVAR	Mina Array Bea	11.13	247	Pn	Pn	19 00 34.5	+0.5
	comp=E,0.2nm,0.3s,baz=62,slow=8.3,SNR=2.4						
	comp=E,0.2nm,0.5s						

*SSNC **04** 19:08:29.0±1.5, 18°.15N×77°.36W, h20km±22km, MD2.9, ML1.4, MW2.7*
*JSN **04** 19:08:29.6±0.6, 18°.16N×77°.47W, h26km±9km, MD2.8*
ISC 04 19:08:27.4±1.2**, 18°.29N**±0°.04**×77°.39W**±0°.07**, h21**km±1km**,**
n9, σ1°.88/16**, 4C-2D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**0.16**	**245**	eP	**Pb**	**19 08 33.9**	**+0.4**
MTDJ				eS	**Sb**	**19 08 36.7**	**-1.1**
CVJ	**Coleyville**	**0.16**	**245**	⇓iP	**Pb**	**19 08 34.1**	**+0.6**
MCJ	**Malvern**	**0.47**	**218**	⇓iP	**Pb**	**19 08 36.7**	**-0.3**
MCJ				⇑iS	**Sb**	**19 08 42.0**	**-1.4**
STH	**Stony Hill**	**0.59**	**111**	⇑iP	**Pn**	**19 08 41.2**	**+0.6**
STH				iS	**Sn**	**19 08 50.1**	**+0.5**
PCJ	**Portland Cotta**	**0.59**	**158**	⇑iP	**Pb**	**19 08 39.0**	**-0.2**
GWJ	**Greenwich**	**0.66**	**109**	⇑iP	**Pn**	**19 08 42.6**	**+0.9**
LMGC	**Las Mercedes**	**1.80**	**11**	eP	**Pb**	**19 08 59.4**	**-0.3**
LMGC				eS	**Sn**	**19 09 21.2**	**+1.8**
LMGC				IAML		19 09 21.5	
	comp=N,5.8nm,0.0s						
LMGC				IAML		19 09 21.5	
	comp=E,5.9nm,0.1s						
RCC	**Rio Carpintero**	**2.33**	**43**	eP	**Pn**	**19 09 06.1**	**+1.6**
RCC				eS	**Sn**	**19 09 30.1**	**-2.4**
RCC				eSg	**Sb**	**19 09 33.1**	**-3.9**
RCC				IAML		19 09 36.4	
	comp=E,1.0nm,0.1s						
RCC				IAML		19 09 36.5	
	comp=N,1.1nm,0.1s						
GTBY	**Guantanamo Bay**	**2.69**	**53**	eP	**Pn**	**19 09 09.6**	**0.0**
GTBY				eS	**Sn**	**19 09 44.9**	**+3.3**

HEL 04 19:28:45.6±0.4**, 67°.77N×33°.69E, h0**km**, ML1.6,**
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.39**	**70**	PG	Pg	19 28 52.7	-0.3
LVZ				SG	Sg	19 28 58.9	+0.8
VRF	**Varrio**	**1.55**	**271**	PG	Pn	19 29 14.0	-0.5
VRF				MSG		19 29 32.7	
	comp=Z,3.8nm,0.2s						
VRF				SG	Sn	19 29 33.8	-1.4
VRF	**Varrio**	**1.55**	**271**	eP	Pn	19 29 13.4	-1.1
VRF				eS	Sn	19 29 33.4	-1.9
VRF				MSG		19 29 35.4	
	comp=Z,3.1nm,0.2s						
OLKF	**Oulanka, Finla**	**2.22**	**231**	PN	Pn	19 29 24.3	+0.7
OLKF				SN	Sb	19 29 54.3	-0.3
OLKF	**Oulanka, Finla**	**2.22**	**231**	eP	Pn	19 29 23.9	+0.2
OLKF				eS	Sn	19 29 51.3	-0.5
KU6	**Riekki**	**2.30**	**222**	eP	Pn	19 29 24.6	-0.1
KU6				eS	Sn	19 29 53.6	-0.2
KU6				MSG		19 29 57.7	
	comp=Z,3.9nm,0.2s						
MSF	**Maaselka**	**2.62**	**227**	PN	Pn	19 29 30.9	+1.8
MSF				SN	Sb	19 30 05.3	-0.6
SGF	**Sodankyl**	**2.76**	**267**	PB	Pb	19 29 34.2	-1.6
KEV	**Kevo**	**3.15**	**312**	PG	Pn	19 29 38.4	+2.1
KEV				MSG		19 30 11.6	
	comp=Z,1.8nm,0.2s						
KEV				SG	Sn	19 30 14.8	+0.4
RNF	**Rovaniemi**	**3.21**	**252**	PN	Pn	19 29 36.9	-0.3
	baz=63						
RNF	**Rovaniemi**	**3.21**	**252**	eP	Pn	19 29 36.7	-0.4
RNF				eS	Sn	19 30 14.7	-1.3
KLF	**Kolari**	**3.78**	**266**	PG	Pb	19 29 53.9	+0.9
TOF	**Tornio**	**4.06**	**250**	PG	Pb	19 29 59.0	+1.2
TOF				SG	Sg	19 30 52.7	-3.0
PAJU	**Pajala**	**4.15**	**265**	SN	Sn	19 30 38.9	-0.4
ERTU	**Ertsjaerv**	**4.64**	**260**	SN	Sn	19 30 49.9	-1.5

*MAN **04** 19:44:37.1, 10°.06N×126°.33E, h13km, mb5.1, ML4.1, MS4.2*
*NEIC **04** 19:44:40.4±2.4, 10°.18N±0°.08×126°.2E±0°.1, h50km±7km, mb4.6/65, Error ellipse: s-maj=14.9km s-min=11.2km az=75.0*
*IDC **04** 19:44:42.0±2.5, 10°.00N×126°.12E, h75km±24km, mb3.9/27, mbtmp4.2/29, MS3.3/9, Error ellipse: s-maj=19.8km s-min=10.2km az=81.0*
ISC 04 19:44:36.5±1.6**, 10°.09N**±0°.04**×126°.27E**±0°.05**, h25**km±11km**,**
n139, σ1°.61/144**, mb4.5**/60**, MS3.1**/6**, 8C-10D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.83**	**249**	⇓iP	**Pn**	**19 44 53.1**	**+0.5**
SCPH				iS	**Sb**	**19 45 03.6**	**+0.5**
BIPH	**Bislig**	**1.89**	**177**	⇓eP	**Pn**	**19 45 07.9**	**+0.7**
BIPH				eS	**Sn**	**19 45 29.2**	**-1.1**
TABP	**Talibon, Bohol**	**1.91**	**270**	⇑iP	**Pb**	**19 45 10.3**	**-0.4**
TABP				iS	**Sb**	**19 45 34.6**	**+0.4**
GHBP	**Garcia Hernand**	**1.98**	**257**	⇑iP	**Pb**	**19 45 11.8**	**-0.1**
GHBP				iS	**Sn**	**19 45 34.2**	**+1.8**
CGP	**Cagayan de Oro**	**2.25**	**224**	⇓iP	**Pn**	**19 45 14.4**	**+2.2**
CGP				iS	**Sb**	**19 45 42.7**	**-1.2**
LLP	**Lapu-Lapu**	**2.28**	**276**	⇓eP	**Pb**	**19 45 16.1**	**-0.9**
LLP				eS	**Sb**	**19 45 45.3**	**+0.4**
TBP	**Tagbilaran**	**2.41**	**261**	⇓iP	**Pb**	**19 45 17.8**	**-1.4**
TBP				iS	**Sb**	**19 45 48.0**	**-0.4**
LSIP	**Lazi, Siquijor**	**2.77**	**250**	⇓eP	**Pn**	**19 45 22.7**	**+3.3**
LSIP				iS	**Sb**	**19 45 59.4**	**+0.4**
DAV	**Davao City (W)**	**3.07**	**193**	P	**Pb**	**19 45 27.9**	**-2.6**
	77nm,0.3s,baz=60,slow=14,SNR=1.3						
DAV				LR	LR	19 47 08.8	
	comp=Z,927nm,18.2s,baz=35,slow=50						
SNPH	**Sibulan**	**3.08**	**256**	⇑eP	**Pn**	**19 45 27.4**	**+3.7**
SNPH				eS	**Sb**	**19 46 06.2**	**-1.9**
KCP	**Kidapawan**	**3.27**	**201**	⇓iP	**Pn**	**19 45 29.5**	**+3.2**
KCP				iS	**Sn**	**19 46 09.1**	**+4.5**
CTBH	**Cotabato--PC H**	**3.48**	**215**	⇓iP	**Pn**	**19 45 32.6**	**+3.5**
CTBH				iS	**Sn**	**19 46 07.5**	**-2.1**
CNOP	**Candoni, Negro**	**3.59**	**266**	⇑iP	**Pn**	**19 45 34.6**	**+4.0**
CNOP				iS	**Sn**	**19 46 11.3**	**-0.9**
PAGZ	**Pagadian**	**3.62**	**232**	⇑eP	**Pn**	**19 45 34.7**	**+3.7**
RCP	**Roxas**	**3.76**	**293**	⇑eP	**Pn**	**19 45 37.5**	**+4.5**
GSPH	**General Santos**	**4.18**	**198**	⇓eP	**Pn**	**19 45 40.8**	**+1.9**
JAP	**San Jose, Anti**	**4.31**	**279**	⇑eP	Pn	19 45 46.0	+5.6
LQP	**Lukban**	**6.12**	**311**	⇓eP	**Pn**	**19 46 10.0**	**+4.4**
MYLDM	**Lahad Datu**	**9.12**	**238**	Pn	**Pn**	**19 46 48.2**	**+1.7**
SIJI	**Sorong**	**11.96**	**155**	P	**Pn**	**19 47 29.1**	**+3.5**
	3.9nm,0.7s,baz=347,slow=14,SNR=2.7						
TPUB	**Ta-pu**	**14.21**	**338**	P	**P**	**19 48 02.5**	**-0.9**
FAKI	**Fak Fak**	**14.22**	**155**		**Pn**	**19 47 57.7**	**+1.2**
NACB	**Ninganchiao**	**14.70**	**343**	Pn	**Pn**	**19 47 58.9**	**-4.1**
KAPI	**Kappang**	**16.35**	**204**	LR	LR	19 55 10.5	
	comp=Z,106nm,20.0s,baz=338,slow=39						
JOW	**Kunigami**	**16.76**	**6**	LR	LR	19 53 52.2	
	comp=Z,97nm,20.2s,baz=232,slow=33						
BATI	**Baumata**	**20.33**	**187**	P	Pn	19 49 13.9	+0.8
	14nm,0.4s,baz=286,slow=4.1,SNR=7.2						
BATI				LR	LR	19 58 43.2	
	comp=Z,87nm,18.3s,baz=317,slow=42						
JSU	**Suzuyama**	**21.66**	**10**	P	**P**	**19 49 24.9**	**-0.5**
NJ2	**Nanjing**	**22.91**	**344**	eP	**P**	**19 49 39.7**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
MTN	**Manton Dam**	**23.29**	**168**	P	**P**	**19 49 42.2**	**-0.3**
MTN				IAmb	IAmb	19 50 11.3	
	comp=Z,23nm,1.4s						
KNRA	**Kununurra**	**25.71**	**174**	P	**P**	**19 50 05.0**	**-0.1**
KNRA				IAmb	IAmb	19 50 21.2	
	comp=Z,12nm,0.7s						
KSRS	**Korea Array**	**27.29**	**3**	P	**P**	**19 50 20.2**	**+1.1**
	comp=Z,2.0nm,1.0s,baz=182,slow=9.7,SNR=4.1						
	comp=Z,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.73**	**291**	P	**P**	**19 50 23.5**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=101,slow=7.1,SNR=18						
CMAR				PcP	**PcP**	**19 53 39.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=87,slow=1.3,SNR=5.5						
CMAR				LR	LR	20 01 06.4	
	comp=Z,42nm,20.3s,baz=65,slow=36						
	comp=Z,2.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.73**	**291**	P	**P**	**19 50 22.1**	**-1.2**
MJAR	**Matsushiro Arr**	**28.47**	**20**	P	**P**	**19 50 32.5**	**+2.8**
	comp=Z,0.8nm,0.6s,baz=200,slow=9.1,SNR=2.1						
	comp=Z,0.8nm,0.6s						
XAN	**Xi'an**	**28.66**	**329**	P	**P**	**19 50 30.5**	**-1.0**
XAN				pP	pP	19 50 37.7	-0.2
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
HNS	**HongShan**	**29.13**	**341**	⇑P	**P**	**19 50 35.9**	**+0.4**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
COEN	**Coen**	**29.18**	**145**	P	**P**	**19 50 36.8**	**+0.5**
COEN				IAmb	IAmb	19 51 04.0	
	comp=Z,19nm,1.2s						
WB0	**Warramunga Arr**	**30.72**	**165**	P	**P**	**19 50 48.5**	**-1.3**
WRA	**Warramunga Arr**	**30.88**	**165**	P	**P**	**19 50 49.6**	**-1.5**
	comp=Z,2.0nm,1.1s,baz=346,slow=9.4,SNR=7.8						
WRA				PcP	**PcP**	**19 53 46.8**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=334,slow=2.7,SNR=2.7						
	comp=Z,2.0nm,1.1s						
WB2	**Warramunga Arr**	**30.88**	**165**	P	**P**	**19 50 50.0**	**-1.2**
PSA00	**Pilbara Seismi**	**32.09**	**191**	P	**P**	**19 51 01.9**	**+0.2**
PSA00				IAmb	IAmb	19 51 39.2	
	comp=Z,23nm,1.2s						
PBA	**Port Blair**	**32.95**	**276**	P	**P**	**19 51 11.1**	**+1.6**
USRK	**Ussuriysk Ar.**	**34.35**	**7**	P	**P**	**19 51 22.4**	**+1.1**
	comp=Z,2.4nm,0.7s,baz=192,slow=9.6,SNR=5.8						
	comp=Z,2.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**34.35**	**7**	P	**P**	**19 51 24.0**	**+2.8**
AS31	**Alice Springs**	**34.36**	**168**	P	**P**	**19 51 20.8**	**-0.9**
ASAR	**Alice Springs**	**34.37**	**168**	P	**P**	**19 51 20.9**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=352,slow=7.0,SNR=36						
ASAR				PcP	**PcP**	**19 53 56.1**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=354,slow=2.8,SNR=5.0						
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**34.37**	**168**	P	**P**	**19 51 21.3**	**-0.4**
ERM	**Erimo**	**35.09**	**22**	P	**P**	**19 51 28.2**	**+0.5**
CTAO	**Charters Tower**	**35.86**	**147**	P	**P**	**19 51 36.2**	**+1.6**
CTAO				IAmb	IAmb	19 52 19.7	
	comp=Z,9.2nm,1.1s						
ASAJ	**Asahikawa**	**36.74**	**20**	LR	LR	20 06 39.6	
	comp=Z,34nm,21.1s,baz=180,slow=36						
KLR	**Kul'dur**	**39.29**	**6**	P	**P**	**19 52 04.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=156,slow=12,SNR=2.3						
	comp=Z,1.3nm,0.8s						
MORW	**Morawa**	**40.16**	**194**	P	**P**	**19 52 11.3**	**+0.6**
MORW				IAmb	IAmb	19 52 47.2	
	comp=Z,28nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**40.31**	**71**	T	T	20 35 37.0	
	baz=265,slow=74,SNR=26						
H11N2	**WAKE ISLAND Hy**	**40.32**	**71**	T	T	20 35 36.4	
	baz=265,slow=74,SNR=20						
H11N3	**WAKE ISLAND Hy**	**40.33**	**71**	T	T	20 35 41.1	
	baz=265,slow=74,SNR=23						
FORT	**Forrest**	**40.67**	**178**	P	**P**	**19 52 15.1**	**+0.2**
ULN	**Ulaanbaatar**	**41.00**	**340**	P	**P**	**19 52 16.9**	**-0.7**
SONM	**Songino Array**	**41.19**	**340**	P	**P**	**19 52 19.9**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=157,slow=8.9,SNR=11						
	comp=Z,2.2nm,0.7s						
SONM	**Songino Array**	**41.19**	**340**	P	**P**	**19 52 19.8**	**+0.6**
NWAO	**Narrogin (SRO)**	**43.63**	**191**	P	**P**	**19 52 39.0**	**-0.1**
	comp=Z,8.7nm,0.6s,baz=241,slow=5.8,SNR=6.6						
	comp=Z,8.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.63**	**191**	P	**P**	**19 52 39.8**	**+0.7**
NWAO				IAmb	IAmb	19 52 52.8	
	comp=Z,20nm,1.0s						
BBOO	**Buckleboo**	**43.67**	**168**	P	**P**	**19 52 39.4**	**0.0**
STKA	**Stephens Creek**	**44.23**	**161**	P	**P**	**19 52 43.6**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=333,slow=9.3,SNR=7.5						
	comp=Z,3.0nm,0.7s						
STKA	**Stephens Creek**	**44.23**	**161**	P	**P**	**19 52 43.9**	**0.0**
PETK	**Petropavlovsk-**	**49.80**	**24**	P	**P**	**19 53 27.7**	**+0.5**
	comp=Z,4.8nm,0.9s,baz=198,slow=13,SNR=7.9						
PETK				LR	LR	20 12 56.3	
	comp=Z,34nm,21.2s,baz=167,slow=34						
	comp=Z,4.8nm,0.9s						
CAN	**Canberra**	**50.01**	**156**	P	**P**	**19 53 28.4**	**-0.7**
LIFNC	**LIFOU**	**50.62**	**127**	P	**P**	**19 53 33.3**	**-0.5**
DZM	**Mont Dzumac**	**50.73**	**129**	P	**P**	**19 53 35.7**	**+0.9**
YAK	**Yakutsk**	**51.91**	**2**	P	**P**	**19 53 43.4**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=341,slow=3.0,SNR=7.0						
	comp=Z,1.9nm,0.4s						
YAK	**Yakutsk**	**51.91**	**2**	P	**P**	**19 53 43.1**	**+0.3**
MK31	**Makanchi Array**	**52.17**	**323**	P	**P**	**19 53 44.4**	**-0.7**
MK31				IAmb	IAmb	19 53 46.1	
	comp=Z,3.9nm,0.8s						
MKAR	**Makanchi Array**	**52.17**	**323**	P	**P**	**19 53 45.1**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=119,slow=8.3,SNR=26						
	comp=Z,4.2nm,0.7s						
MKAR	**Makanchi Array**	**52.17**	**323**	P	**P**	**19 53 44.4**	**-0.8**
MAKZ	**Makanchi**	**52.37**	**323**	P	**P**	**19 53 45.8**	**-0.8**
MAKZ				IAmb	IAmb	19 53 47.1	
	comp=Z,5.4nm,0.8s						
MA2	**Magadan**	**52.71**	**15**	LR	LR	20 14 15.3	
	comp=Z,16nm,19.5s,baz=120,slow=34						
ZAA0	**Zalesovo Array**	**54.79**	**331**	P	**P**	**19 54 00.6**	**-3.5**
ZALV	**Zalesovo Beam**	**54.79**	**331**	P	**P**	**19 54 03.0**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=104,slow=6.1,SNR=4.7						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**54.79**	**331**	P	**P**	**19 54 02.0**	**-2.1**
AAK	**Ala-Archa**	**55.46**	**315**	LR	LR	20 20 42.7	
	comp=Z,68nm,19.3s,baz=78,slow=39						
SEY	**Seymchan**	**56.00**	**14**	P	**P**	**19 54 14.2**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=226,slow=4.5,SNR=5.6						
	comp=Z,2.8nm,0.8s						
KURK	**Kurchatov**	**56.22**	**326**	P	**P**	**19 54 14.0**	**-0.5**
KURK				IAmb	IAmb	19 54 14.9	
	comp=Z,5.0nm,0.8s						
KURBB	**Kurchatov Arra**	**56.23**	**325**	P	**P**	**19 54 13.8**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=126,slow=6.8,SNR=26						
	comp=Z,2.9nm,0.7s						
KK31	**Karatay Array**	**58.38**	**315**	P	**P**	**19 54 28.0**	**-2.0**
KK31				IAmb	IAmb	19 54 43.8	
	comp=Z,6.3nm,1.4s						
KKAR	**Karatay Array**	**58.38**	**315**	P	**P**	**19 54 28.6**	**-1.4**
KKAR	**Karatay Array**	**58.38**	**315**	P	**P**	**19 54 28.0**	**-2.0**
KKAR				IAmb	IAmb	19 54 43.8	
	comp=Z,6.3nm,1.4s						
TIXI	**Tiksi**	**61.53**	**1**	P	**P**	**19 54 51.4**	**+0.4**
	comp=Z,5.4nm,1.0s,baz=91,slow=23,SNR=18						
	comp=Z,5.4nm,1.0s						
TIXI	**Tiksi**	**61.53**	**1**	P	**P**	**19 54 51.5**	**+0.4**
TIXI				IAmb	IAmb	19 54 52.5	
	comp=Z,9.9nm,1.1s						
BVAR	**Borovoye Array**	**61.82**	**325**	P	**P**	**19 54 52.8**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=120,slow=8.8,SNR=7.2						
	comp=Z,1.6nm,0.8s						
BRVK	**Borovoye**	**61.89**	**325**	P	**P**	**19 54 52.8**	**-1.0**
BRVK				IAmb	IAmb	19 54 54.1	
	comp=Z,3.2nm,0.9s						
GEYT	**Alibeck**	**66.66**	**307**	P	**P**	**19 55 24.1**	**-1.4**
	comp=Z,3.5nm,1.1s,baz=200,slow=3.9,SNR=4.9						
	comp=Z,3.5nm,1.1s						
ABKAR	**Akbulak array**	**67.02**	**319**	P	**P**	**19 55 25.6**	**-1.9**
ABKAR	**Akbulak array**	**67.02**	**319**	P	**P**	**19 55 25.3**	**-2.1**
ABKAR				IAmb	IAmb	19 55 28.3	
	comp=Z,1.3nm,0.8s						
RPZ	**Rata Peaks**	**67.23**	**146**	P	**P**	**19 55 30.4**	**+1.5**
LTZ	**Lake Taylor**	**67.30**	**145**	P	**P**	**19 55 31.2**	**+1.9**
OXZ	**Oxford**	**67.52**	**146**	P	**P**	**19 55 33.2**	**+2.6**
BKZ	**Black Stump Fm**	**67.64**	**140**	P	**P**	**19 55 32.7**	**+1.2**
KHZ	**Kahutara**	**67.80**	**144**	P	**P**	**19 55 33.8**	**+1.5**
UOSS	**Minazif**	**67.81**	**293**	P	**P**	**19 55 31.9**	**-1.0**
UOSS				IAmb	IAmb	19 55 41.3	
	comp=Z,7.2nm,1.2s						
ARU	**Arti**	**69.38**	**327**	P	**P**	**19 55 40.6**	**-1.5**
ARU				IAmb	IAmb	19 55 56.2	
	comp=Z,6.9nm,1.2s						
O18K	**Koktuh Hills**	**75.57**	**31**	P	**P**	**19 56 19.2**	**+0.2**
O18K				IAmb	IAmb	19 56 21.8	
	comp=Z,13nm,0.9s						
M20K	**Styx River**	**76.73**	**29**	P	**P**	**19 56 27.2**	**+1.6**
IMAR	**Indian Mountai**	**76.77**	**24**	P	**P**	**19 56 27.1**	**+1.4**
KDAK	**Kodiak Island**	**76.81**	**33**	P	**P**	**19 56 26.3**	**+0.3**
CASY	**Casey**	**77.04**	**186**	P	**P**	**19 56 27.8**	**+0.8**
CASY				IAmb	IAmb	19 56 36.7	
	comp=Z,14nm,1.2s						
H21K	**Melozitna Rive**	**77.13**	**25**	P	**P**	**19 56 29.4**	**+1.7**
H21K				IAmb	IAmb	19 56 38.0	
	comp=Z,10nm,1.5s						
CAST	**Castle Rocks**	**77.30**	**27**	P	**P**	**19 56 28.9**	**+0.1**
CAST				IAmb	IAmb	19 56 48.5	
	comp=Z,5.3nm,1.2s						
I21K	**Tanana**	**77.44**	**25**	P	**P**	**19 56 31.0**	**+1.6**
I21K				IAmb	IAmb	19 56 40.7	
	comp=Z,8.9nm,1.3s						
RAYN	**Ar Rayn**	**77.64**	**292**	P	**P**	**19 56 30.8**	**-0.6**
RAYN				IAmb	IAmb	19 56 31.6	
	comp=Z,5.5nm,1.2s						
MLY	**Manley**	**77.96**	**26**	P	**P**	**19 56 34.1**	**+1.7**
MLY				IAmb	IAmb	19 56 46.3	
	comp=Z,7.3nm,1.4s						
MCK	**McKinley**	**78.72**	**27**	P	**P**	**19 56 37.3**	**+0.7**
MCK				IAmb	IAmb	19 56 46.6	
	comp=Z,5.6nm,1.0s						
SML	**Sawmill**	**79.01**	**29**	P	**P**	**19 56 38.7**	**+0.4**
SML				IAmb	IAmb	19 56 52.0	
	comp=Z,11nm,1.2s						
PWL	**Port Wells**	**79.02**	**30**	P	**P**	**19 56 39.7**	**+1.4**
PWL				IAmb	IAmb	19 56 43.9	
	comp=Z,7.4nm,0.9s						
CCB	**Clear Creek Bu**	**79.21**	**26**	P	**P**	**19 56 39.8**	**+0.6**
GURO	**Guroymak-BITLI**	**79.31**	**307**	P	**P**	**19 56 40.2**	**-0.3**
GURO				IAmb	IAmb	19 56 41.7	
	comp=Z,4.8nm,0.7s						
SCM	**Sheep Creek Mo**	**79.48**	**29**	P	**P**	**19 56 41.1**	**+0.2**
SCM				IAmb	IAmb	19 57 07.2	
	comp=Z,12nm,1.1s						
HDA	**Harding Lake**	**79.59**	**26**	P	**P**	**19 56 40.6**	**-0.7**
ILAR	**Eielson Array**	**79.60**	**26**	P	**P**	**19 56 41.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=236,slow=5.5,SNR=5.8						
	comp=Z,0.5nm,0.7s						
M24K	**Tolsona, Glenn**	**80.02**	**28**	P	**P**	**19 56 43.5**	**-0.3**
J25K	**Salcha River,**	**80.26**	**26**	P	**P**	**19 56 45.0**	**0.0**
BMAR	**Burnt Mountain**	**80.44**	**23**	P	**P**	**19 56 48.3**	**+2.4**
N25K	**Chitina, Valde**	**80.79**	**29**	P	**P**	**19 56 48.4**	**+0.4**
N25K				IAmb	IAmb	19 56 56.7	
	comp=Z,8.9nm,1.4s						
SCRK	**Sand Creek**	**80.90**	**27**	P	**P**	**19 56 49.4**	**+0.8**
J26L	**Joseph Creek**	**81.05**	**26**	P	**P**	**19 56 49.8**	**+0.5**
K27K	**Chicken**	**81.74**	**26**	P	**P**	**19 56 54.9**	**+2.0**
K27K				IAmb	IAmb	19 56 57.4	
	comp=Z,8.2nm,1.1s						
L27K	**Beaver Creek,**	**81.95**	**27**	P	**P**	**19 56 56.1**	**+2.1**
BCAR	**Beaver Creek A**	**81.97**	**27**	P	**P**	**19 56 54.8**	**+0.6**
BARN	**Barnard Glacie**	**82.26**	**29**	P	**P**	**19 56 57.3**	**+1.5**
BARN				IAmb	IAmb	19 56 59.6	
	comp=Z,6.3nm,0.9s						
ARCES	**ARCESS Array B**	**84.37**	**340**	P	**P**	**19 57 05.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=85,slow=7.3,SNR=6.9						
	comp=Z,1.1nm,0.5s						
ARCES	**ARCESS Array B**	**84.37**	**340**	P	**P**	**19 57 06.0**	**-0.4**
ARCES				IAmb	IAmb	19 57 16.6	
	comp=Z,9.9nm,1.1s						
INK	**Inuvik**	**84.45**	**22**	P	**P**	**19 57 07.5**	**+0.8**
INK				IAmb	IAmb	19 57 08.6	
	comp=Z,10nm,1.4s						
BRTR	**Keskin Array B**	**85.65**	**309**	P	**P**	**19 57 12.5**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=312,slow=39,SNR=2.2						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**86.05**	**332**	P	**P**	**19 57 14.0**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=45,slow=4.5,SNR=11						
	comp=Z,0.9nm,0.4s						
A36M	**Sachs Harbour**	**86.09**	**17**	P	**P**	**19 57 16.0**	**+1.1**
AKASG	**Malin Array Be**	**86.71**	**321**	P	**P**	**19 57 16.3**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=77,slow=4.4,SNR=4.4						
	comp=Z,0.2nm,0.3s						
VNDA	**Vanda**	**89.75**	**173**	P	**P**	**19 57 31.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=331,slow=1.7,SNR=5.1						
	comp=Z,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**93.92**	**24**	P	**P**	**19 57 52.4**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=297,slow=4.5,SNR=5.5						
	comp=Z,2.1nm,0.7s						
GERES	**GERESS Array B**	**96.84**	**322**	P	**P**	**19 58 03.9**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=37,slow=9.9,SNR=2.8						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**117.94**	**49**	PKP	**PKiKP**	**20 03 22.1**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=256,slow=0.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**120.34**	**292**	PKP	**PKPdf**	**20 03 25.5**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=37,slow=1.9,SNR=4.2						

MAN 04 19:52:52.6, 10°.07N×125°.72E, h4km**, mb3.9, ML2.7, MS2.2,**
2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.37**	**219**	eP	Pg	19 53 00.2	+0.5
SCPH				iS	Sb	19 53 12.3	+4.5
TABP	**Talibon, Bohol**	**1.37**	**271**	⇑iP	Pn	19 53 17.7	-0.8
TABP				iS	Sn	19 53 41.7	+4.6
CGP	**Cagayan de Oro**	**1.90**	**212**	⇑eP	Pn	19 53 25.9	+0.1
CGP				eS	Sn	19 53 48.9	-1.3
BIPH	**Bislig**	**1.98**	**161**	⇓iP	Pn	19 53 24.0	-2.9
BIPH				iS	Sn	19 53 37.8	-14

IDC 04 19:56:13.9±5.8**, 31°.76S×178°.62W, h0**km**, mb3.6**/2**,**
mbtmp3.6/2**, Error ellipse: s-maj=241.7km**
s-min=56.6km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.53**	**269**	P	P	20 04 11.2	-0.2
	0.3nm,0.4s,baz=109,slow=7.4,SNR=6.6						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**43.64**	**274**	P	P	20 04 20.4	-0.1
	0.6nm,0.4s,baz=115,slow=7.8,SNR=17						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**146.23**	**339**	PKPbc	PKPdf	20 15 54.7	+0.2
	2.1nm,0.7s,baz=30,slow=3.9,SNR=7.1						

MAN 04 20:00:34.0, 9°.78N×126°.31E, h38km**, mb3.8, ML2.6, MS2.1,**
3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**270**	⇓eP	Pn	20 00 50.0	+1.0
SCPH				iS	Sn	20 01 01.7	+1.9
BIPH	**Bislig**	**1.59**	**178**	⇓eP	Pn	20 01 06.5	+6.8
BIPH				iS	Sn	20 01 24.9	+6.0
GHBP	**Garcia Hernand**	**1.97**	**266**	⇓iP	Pn	20 01 06.8	+1.9
GHBP				eS	Sn	20 01 31.7	+3.4
TABP	**Talibon, Bohol**	**1.97**	**279**	eP	Pn	20 00 58.9	-6.0
TABP				iS	Sn	20 01 30.6	+2.2

*DNK **04** 20:05:35.6±1.6, 79°.31N×3°.57E, h36km±19km, ML0.8*
BER 04 20:05:34.2±2.0**, 79°.21N×3°.33E, h10**km**, ML2.3,**
Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.67**	**96**	iP	Pn	20 06 00.8	-2.5
KBS				iS	Sn	20 06 19.6	-5.2
KBS	**Kingsbay**	**1.67**	**96**	eP	Pn	20 06 01.4	-2.0
KBS				eS	Sn	20 06 19.7	-5.0
KBS				IAML		20 06 20.6	
	comp=Z,43nm,0.2s						
BRBB	**Barentsburg B**	**2.42**	**112**	eP	Pn	20 06 12.7	-1.1
BRBB				eS	Sn	20 06 39.4	-4.0
BRBA	**Barentsburg A**	**2.44**	**113**	eP	Pn	20 06 13.2	-0.8
BRBA				eS	Sn	20 06 41.2	-2.6
BRBA				IAML		20 06 43.9	
	comp=Z,34nm,0.4s						
SPA0	**Spitsbergen Ar**	**2.77**	**105**	eP	Pn	20 06 17.7	-0.8
SPA0				eS	Sn	20 06 48.5	-3.4
SPA0				IAML		20 06 55.8	
	comp=Z,25nm,0.3s						
HSPB	**Hornsund (broa**	**3.35**	**125**	eP	Pn	20 06 25.4	-1.1
HSPB				eS	Sn	20 07 01.3	-5.0
HSPB				IAML		20 07 05.9	
	comp=Z,11nm,0.3s						
NOR	**Nord**	**4.10**	**315**	iP	Pn	20 06 34.0	-2.7
NOR				IAML		20 07 22.5	
	comp=Z,0.3nm,0.2s						
NOR	**Nord**	**4.10**	**315**	eP	Pn	20 06 34.7	-2.0
DAG	**Danmarks Havn**	**5.17**	**253**	iP	Pn	20 06 50.0	-1.5
DAG				iS	Sn	20 07 43.4	-7.6
DAG				IAML		20 07 47.3	
	comp=Z,0.7nm,0.1s						
DAG	**Danmarks Havn**	**5.17**	**253**	eP	Pn	20 06 50.3	-1.2
DAG				eS	Sn	20 07 43.9	-7.1
HOPEN	**Hopen**	**5.29**	**110**	eP	Pn	20 06 51.4	-1.6
HOPEN				eS	Sn	20 07 48.0	-5.9
HOPEN				IAML		20 07 50.4	
	comp=Z,15nm,0.2s						
DBG	**Daneborg**	**7.24**	**240**	iP	Pn	20 07 18.1	-1.7
DBG				iS	Sn	20 08 33.6	-8.3
DBG				IAML		20 08 38.6	
	comp=Z,0.2nm,0.2s						

*IDC **04** 20:11:36.0±2.0, 7°.52S×128°.76E, h133km±21km, mb3.4/3, mbtmp3.8/7, MS4.1/1, Error ellipse: s-maj=33.7km s-min=17.9km az=104.0*

ISC 04 20:11:34.6±0.8, 7.68°S±0.06°×128.91°E±0.10°, h131km, n8, σ1.91s/11, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.76	244	P	Pn	20 12 58.8	+0.9
	27nm,0.4s,baz=74,slow=3.0,SNR=13						
BATI				S	Sn	20 14 01.3	-1.6
	30nm,0.4s,baz=358,slow=20,SNR=11						
SIJI	Sorong	7.17	19	P	Pn	20 13 17.4	+0.6
	2.1nm,0.2s,baz=232,slow=19,SNR=2.0						
SIJI				S	Sn	20 14 35.9	-1.0
	1.3nm,0.4s,baz=287,slow=19,SNR=1.4						
WRA	Warramunga Arr	13.28	157	P	P	20 14 41.0	-2.0
	0.5nm,0.4s,baz=330,slow=14,SNR=16						
WRA				S	Sn	20 17 03.9	-0.7
	4.0nm,0.5s,baz=336,slow=22,SNR=12						
ASAR	Alice Springs	16.60	164	P	P	20 15 24.2	+4.3
	0.4nm,0.3s,baz=334,slow=9.8,SNR=8.5						
ASAR				S	S	20 18 26.4	+0.5
	0.7nm,0.5s,baz=343,slow=25,SNR=8.0						
AFI	Afiamalu	58.47	102	LR	LR	20 45 17.2	
	comp=Z,154nm,20.2s,baz=52,slow=34						
SONM	Songino Array	58.75	342	P	P	20 21 19.3	+0.5
	0.8nm,0.9s,baz=152,slow=6.5,SNR=2.3						
	0.8nm,0.9s						
MKAR	Makanchi Array	68.21	327	P	P	20 22 21.1	+0.2
	0.6nm,0.5s,baz=116,slow=7.4,SNR=13						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	71.72	334	P	P	20 22 41.2	-1.0
	0.5nm,0.4s,baz=139,slow=4.3,SNR=3.6						
	0.5nm,0.4s						

MAN 04 20:16:35.7, 18.17°N×121.21°E, h15km, mb3.6, ML2.4, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACPP	Pamplona Cagay	0.32	25⇑	iP	Pb	20 16 43.8	+0.8
PACPP				eS	Sn	20 16 52.8	+0.7

IDC 04 20:24:58.3±2.3, 0.40°N×126.65°E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=194.1km s-min=29.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.57	160	P	P	20 29 49.4	-0.4
	0.5nm,0.7s,baz=338,slow=11,SNR=5.5						
	0.5nm,0.7s						
ASAR	Alice Springs	24.94	164	P	P	20 30 23.8	+0.3
	0.1nm,0.5s,baz=344,slow=11,SNR=1.8						
	0.1nm,0.5s						
MKAR	Makanchi Array	60.25	326	P	P	20 35 08.4	-0.1
	0.2nm,0.5s,baz=116,slow=8.7,SNR=1.8						
	0.2nm,0.5s						

IDC 04 21:02:23.9±0.9, 6.84°S×154.70°E, h0km, mb3.9/8, mbtmp3.9/11, ML3.6/2, MS3.3/2, Error ellipse: s-maj=26.8km s-min=20.1km az=103.0
NEIC 04 21:02:27.4±2.3, 6.88°S±0.10°×154.6°E±0.1°, h13km±6km, mb4.4/22, Error ellipse: s-maj=16.1km s-min=12.9km az=59.0
ISC 04 21:02:30.4±0.8, 6.80°S±0.07°×154.4°E±0.1°, h39km, n40, σ1.31s/39, mb4.1/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.44	316	Pn	Pn	21 03 21.6	0.0
	8.3nm,0.3s,baz=14,slow=4.2,SNR=2.4						
KRVT				Sn	Sn	21 04 00.0	-1.1
	9.0nm,0.3s,baz=138,slow=8.6,SNR=4.6						
	33nm,0.5s						
HNR	Honiara	6.06	116	Pn	Pn	21 03 52.0	-5.5
	121nm,0.3s,baz=259,slow=10,SNR=1.7						
HNR				Sn	Sn	21 04 52.2	-13
	95nm,0.3s,baz=211,slow=16,SNR=1.3						
PMG	Port Moresby	7.65	250	Pn	Pn	21 04 21.3	+1.9
	9.6nm,0.8s,baz=74,slow=15,SNR=1.8						
PMG				Sn	Sn	21 05 44.4	-0.5
	0.7nm,0.3s,baz=180,slow=18,SNR=1.4						
PMG	Port Moresby	7.65	250	Pn	Pn	21 04 19.8	+0.3
CTA	Charters Tower	15.41	210	Pn	Pn	21 06 06.2	+0.9
	0.1nm,0.3s,baz=64,slow=20,SNR=3.9						
CTA				LR	LR	21 11 19.8	
	comp=Z,71nm,19.9s,baz=70,slow=34						
	4.9nm,0.9s						
CTAO	Charters Tower	15.41	210	P	Pn	21 06 07.8	+2.6
CTAO				IAmb	IAmb	21 06 37.5	
	comp=Z,21nm,1.4s						
KOUNC	Koumac, New Ca	16.68	146	Pn	Pn	21 06 14.4	-7.0
LIFNC	LIFOU	18.63	140		P	21 06 39.2	-5.7
LIFNC				IAmb	IAmb	21 06 57.9	
	comp=Z,48nm,0.9s						
EIDS	Eidsvold	18.75	189	P	P	21 06 43.1	-3.0
WR0	Warramunga Arr	23.32	234	P	P	21 07 36.2	+0.9
WR0				IAmb	IAmb	21 07 37.9	
	comp=Z,7.7nm,1.1s						
WB0	Warramunga Arr	23.34	235	P	P	21 07 37.0	+1.5
WB2	Warramunga Arr	23.47	234	P	P	21 07 38.2	+1.5
WB2				IAmb	IAmb	21 07 41.7	
	comp=Z,6.3nm,0.9s						
WRA	Warramunga Arr	23.48	234	P	P	21 07 36.8	0.0
	comp=Z,3.7nm,0.9s,baz=60,slow=9.6,SNR=21						
WRA				PcP	PcP	21 11 21.7	-0.5
	comp=Z,0.2nm,0.6s,baz=56,slow=2.7,SNR=2.0						
WRA				LR	LR	21 17 23.1	
	comp=Z,90nm,18.7s,baz=132,slow=38						
	comp=Z,3.7nm,0.9s						
MTN	Manton Dam	23.72	254	P	P	21 07 36.1	-3.1
MTN				IAmb	IAmb	21 07 45.6	
	comp=Z,15nm,1.1s						
AS31	Alice Springs	25.89	227	P	P	21 07 59.7	+0.7
ASAR	Alice Springs	25.89	227	P	P	21 07 59.5	+0.6
	comp=Z,1.5nm,0.7s,baz=59,slow=8.9,SNR=22						
	comp=Z,1.5nm,0.7s						
ASAR	Alice Springs	25.89	227	P	P	21 08 00.2	+1.3
STKA	Stephens Creek	27.68	204	P	P	21 08 14.0	-0.9
	comp=Z,6.9nm,0.9s,baz=23,slow=13,SNR=6.4						
	comp=Z,6.9nm,0.9s						
STKA	Stephens Creek	27.68	204	P	P	21 08 14.1	-0.8
CMAR	Chiang Mai Arr	60.19	296	P	P	21 12 40.3	+5.4
	comp=Z,0.6nm,0.4s,baz=120,slow=4.7,SNR=3.1						
SONM	Songino Array	68.87	328	P	P	21 13 31.7	+0.5
	comp=Z,0.4nm,0.7s,baz=125,slow=4.0,SNR=1.5						
	comp=Z,0.4nm,0.7s						
VNDA	Vanda	70.80	178	P	P	21 13 41.3	-1.2
	comp=Z,0.7nm,0.8s,baz=332,slow=2.7,SNR=3.8						
	comp=Z,0.7nm,0.8s						
CNPM	China Poot	78.81	25	P	P	21 14 29.8	+0.7
M19K	Big River Lodg	78.98	22	P	P	21 14 31.4	+1.5
L19K	White Mountain	78.98	22	P	P	21 14 31.2	+1.3
L19K				IAmb	IAmb	21 14 41.8	
	comp=Z,3.2nm,0.9s						
CAST	Castle Rocks	80.74	21	P	P	21 14 40.0	+0.5
CAST				IAmb	IAmb	21 14 49.4	
	comp=Z,3.4nm,1.1s						
PWL	Port Wells	80.76	25	P	P	21 14 40.1	+0.5
SML	Sawmill	81.27	24	P	P	21 14 43.2	+0.8
TRF	Thorofare Moun	81.42	22	P	P	21 14 43.8	+0.5
TRF				IAmb	IAmb	21 15 12.9	
	comp=Z,3.5nm,1.0s						
IMAR	Indian Mountai	81.72	19	P	P	21 14 46.0	+1.4
KLU	Klutina	82.09	25	P	P	21 14 47.9	+1.2
KLU				IAmb	IAmb	21 15 20.1	
	comp=Z,7.3nm,1.3s						
MLY	Manley	82.16	21	P	P	21 14 47.0	0.0
MLY				IAmb	IAmb	21 15 21.9	
	comp=Z,4.3nm,1.3s						
MKAR	Makanchi Array	82.89	319	P	P	21 14 52.8	+1.7
	comp=Z,0.6nm,0.7s,baz=92,slow=7.2,SNR=4.4						
	comp=Z,0.6nm,0.7s						
MKAR	Makanchi Array	82.89	319	P	P	21 14 52.2	+1.1
ILAR	Eielson Array	83.39	22	P	P	21 14 52.7	-0.7
	comp=Z,0.5nm,0.9s,baz=233,slow=5.2,SNR=4.4						
	comp=Z,0.5nm,0.9s						
ZALV	Zalesovo Beam	83.70	326	P	P	21 14 54.8	-0.3
	comp=Z,0.3nm,0.3s,baz=113,slow=3.6,SNR=2.0						
	comp=Z,0.3nm,0.3s						
J25K	Salcha River,	83.87	22	P	P	21 14 56.5	+0.6
J25K				IAmb	IAmb	21 15 25.9	
	comp=Z,2.0nm,0.9s						
M27K	Edge Creek, AK	84.18	25	P	P	21 14 59.0	+1.4
HYT	Haines Junctio	85.45	27	P	P	21 15 05.8	+1.8
HYT				IAmb	IAmb	21 15 06.6	
	comp=Z,4.8nm,0.9s						
TORD	Torodi Ar. Bea	152.43	285	PKPbc	PKPbc	21 22 23.3	-0.2
	comp=Z,0.6nm,0.7s,baz=66,slow=2.0,SNR=3.8						

NOU 04 21:25:08.4, 37.18°S×179.56°E, h0km, MLv4.0/9, Off E. Coast of N. Island, N.Z.
NEIC 04 21:25:11.0±2.8, 37.4°S±0.1°×179.3°E±0.1°, h10km±2km, mb4.2/6, Error ellipse: s-maj=22.3km s-min=13.6km az=343.0
WEL 04 21:25:17.5±1.2, 37°S±4°×17°9E±°, h16km±6km, M3.5/14, ML3.7/17, MLv3.5/14, Error ellipse: s-maj=0.0km s-min=0.0km az=95.1
IDC 04 21:25:17.4±6.0, 35.38°S×178.43°E, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=280.4km s-min=61.3km az=168.0
ISC 04 21:25:15.6±2.1, 37.30°S±0.06°×179.04°E±0.09°, h31km±11km, n84, σ1.99s/96, mb4.0/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.64	246	Pn	Pb	21 25 28.4	0.0
MXZ	Matakaoa Point	0.64	246	P	Pb	21 25 28.5	0.0
MXZ	Matakaoa Point	0.64	246	P	Pb	21 25 28.4	0.0
MXZ				S	Sb	21 25 35.5	-1.6
WMGZ	Waiomatatini S	0.72	224	P	Pn	21 25 32.4	+2.7
WMGZ				S	Sn	21 25 43.3	+3.6
PKGZ	Pakihiroa	0.96	232	P	Pn	21 25 34.7	+1.6
PKGZ				S	Sn	21 25 48.6	+2.7
PUZ	Puketiti	0.99	219	P	Pn	21 25 36.1	+2.7
PUZ				S	Sn	21 25 49.8	+3.4
HAZ	Te Kaha	1.10	245	P	Pn	21 25 35.3	+0.4
HAZ				S	Sn	21 25 52.0	+3.0
TWGZ	Tauwhareparae	1.21	224	P	Pb	21 25 39.4	+1.4
RUGZ	Raukumara Rang	1.27	238	P	Pb	21 25 39.4	+0.4
CNGZ	Carnagh Statio	1.35	209	P	Pb	21 25 42.0	+1.7
TKGZ	Te Karaka	1.48	219	P	Pb	21 25 43.3	+0.9
MWZ	Matawai	1.58	229	P	Pb	21 25 44.1	-0.2
MWZ				S	Sb	21 26 03.3	-0.5
RIGZ	Rimuhau	1.73	215	P	Pn	21 25 45.9	+2.3
RIGZ				S	Sb	21 26 07.7	-0.3
WHRZ	Whale Island	1.73	251	P	Pn	21 25 45.7	+2.1
RAGZ	Rawiri	1.75	227	P	Pb	21 25 46.5	-0.7
URZ	Urewera	1.81	237		Pn	21 25 47.0	+2.4
URZ				Sn	Sb	21 26 09.4	-0.8
URZ	Urewera	1.81	237	P	Pb	21 25 47.2	-0.8
URZ	Urewera	1.81	237	P	Pn	21 25 46.9	+2.3
URZ				S	Sn	21 26 08.8	+2.3
EDRZ	Edgecumbe	2.00	246	P	Pn	21 25 49.4	+2.1
SNGZ	Shannon Statio	2.00	222	P	Pn	21 25 49.8	+2.5
KNZ	Kokohu	2.03	212	P	Pn	21 25 49.4	+1.7
OPRZ	Ohinepanea	2.05	254	P	Pn	21 25 49.4	+1.4
MHGZ	Mahia Peninsul	2.05	206	P	Pn	21 25 50.7	+2.7
RTZ	Ruatahuna	2.09	231	P	Pn	21 25 50.9	+2.3
MUGZ	Murupara	2.15	236	P	Pn	21 25 51.5	+2.2
TARZ	Mount Tarawera	2.22	244	P	Pn	21 25 53.0	+2.7
RAHZ	Arahi	2.23	223	P	Pn	21 25 53.0	+2.5
RRRZ	Republican Roa	2.25	242	P	Pn	21 25 53.3	+2.5
WHHZ	Waihua	2.27	218	P	Pn	21 25 53.3	+2.2
MTHZ	Maungataniwha	2.33	228	P	Pn	21 25 54.2	+2.3
ALRZ	Allen Road	2.48	239	P	Pn	21 25 56.3	+2.4
NMHZ	Naumai	2.51	224	P	Pn	21 25 57.1	+2.6
KMRZ	Kaimai	2.52	257	P	Pn	21 25 56.3	+1.7
ARHZ	Aropaoanui	2.54	219	P	Pn	21 25 56.8	+2.2
KUZ	Kuaotunu	2.72	281	P	Pn	21 25 56.6	-0.5
KUZ	Kuaotunu	2.72	281	P	Pn	21 25 56.6	-0.5
BKZ	Black Stump Fm	2.74	226	Pn	Pn	21 25 59.3	+1.8
BKZ	Black Stump Fm	2.74	226	P	Pn	21 25 59.5	+2.0
BKZ	Black Stump Fm	2.74	226	P	Pn	21 25 59.5	+2.0
CKHZ	Cape Kidnapper	2.81	213	P	Pn	21 25 59.8	+1.4
MCHZ	McNeill Hill	2.82	220	P	Pn	21 26 00.5	+1.8
TOZ	Tahuroa Road	2.85	260	P	Pn	21 25 59.6	+0.7
KWHZ	Kaweka Forest	2.96	223	P	Pn	21 26 02.0	+1.5
KAHZ	Kahuranaki	3.01	214	P	Pn	21 26 02.5	+1.3
RITZ	Rihia Road	3.02	235	P	Pn	21 26 03.8	+2.5
MKAZ	Moumakai	3.11	272	P	Pn	21 26 02.6	+0.1
TMVZ	Te Maari	3.19	234	P	Pn	21 26 05.6	+1.8
ETVZ	East Tongariro	3.20	234	P	Pn	21 26 05.7	+1.8
PXZ	Pawanui	3.21	211	P	Pn	21 26 04.7	+0.7
KRVZ	Karewarewa	3.22	235	P	Pn	21 26 06.4	+2.2
NNVZ	North Ngauruho	3.26	235	P	Pn	21 26 06.6	+1.8
SNVZ	South Ngauruho	3.27	234	P	Pn	21 26 06.7	+1.8
MBAZ	Motutapu North	3.36	278	P	Pn	21 26 06.6	+0.6
WNVZ	Wahianoa	3.38	232	P	Pn	21 26 08.0	+1.6
PNHZ	Pukenui	3.43	220	P	Pn	21 26 07.5	+0.5
PKVZ	Pokaka	3.52	235	P	Pn	21 26 10.6	+2.3
HIZ	Hauiti	3.53	249	P	Pn	21 26 11.5	+3.2
HIZ	Hauiti	3.53	249	P	Pn	21 26 11.1	+2.9
DVHZ	Dannevirke	3.74	216	P	Pn	21 26 11.8	+0.6
VRZ	Vera Road	3.83	240	P	Pn	21 26 15.3	+2.8
BFZ	Birch Farm	4.02	212	Pn	Pn	21 26 14.5	-0.6
BFZ				Sn	Sn	21 27 00.1	-1.0
BFZ	Birch Farm	4.02	212	P	Pn	21 26 14.7	-0.3
WCZ	Waipu Caves	4.02	288	P	Pn	21 26 16.0	+0.9
NEZ	North Egmont	4.36	242	P	Pn	21 26 23.9	+4.1
KHEZ	Kahui Hut	4.43	242	P	Pn	21 26 24.9	+4.2
OUZ	Omahuta	4.87	294	P	Pn	21 26 28.4	+1.7
OUZ	Omahuta	4.87	294	P	Pn	21 26 28.3	+1.7
MSWZ	Moikau Station	5.05	214	Pn	Pn	21 26 27.6	-1.6
MSWZ				Sn	Sn	21 27 23.1	-3.4
NNZ	Nelson	5.88	227	Pn	Pn	21 26 37.8	-2.9
NNZ				Sn	Sn	21 27 44.7	-2.3
QRZ	Quartz Range	6.17	233	P	Pn	21 26 45.0	+0.4
THZ	Tophouse	6.51	225	Pn	Pn	21 26 48.1	-1.2
THZ				Sn	Sn	21 27 59.1	-3.4
KHZ	Kahutara	6.63	218	P	Pn	21 26 52.3	+1.4
	20nm,1.6s						
CTZ	Chatham Island	7.22	154	P	Pn	21 27 03.3	+4.3
LTZ	Lake Taylor	7.54	221	Pn	Pn	21 27 02.6	-0.9
AS31	Alice Springs	40.84	276	P	P	21 32 52.9	-1.7
ASAR	Alice Springs	40.84	276	P	P	21 32 54.6	0.0
	0.7nm,0.7s,baz=120,slow=7.9,SNR=8.8						
	0.7nm,0.7s						
ASAR	Alice Springs	40.84	276	P	P	21 32 52.0	-2.6
VNDA	Vanda	41.00	186	P	P	21 32 53.1	-2.1
VNDA				IAmb	IAmb	21 32 57.4	
	comp=Z,1.3nm,1.2s						
WB2	Warramunga Arr	42.45	281	P	P	21 33 08.1	+0.3
WB2				IAmb	IAmb	21 33 22.4	
	comp=Z,8.9nm,1.4s						
WRA	Warramunga Arr	42.46	281	P	P	21 33 08.0	+0.1
	comp=Z,1.1nm,0.5s,baz=121,slow=7.7,SNR=18						
	comp=Z,1.1nm,0.5s						
WB0	Warramunga Arr	42.51	282	P	P	21 33 08.8	+0.5
WB0				IAmb	IAmb	21 33 13.7	
	comp=Z,4.6nm,1.2s						
PSA00	Pilbara Seismi	53.08	270	P	P	21 34 29.8	-0.5
PSA00				IAmb	IAmb	21 34 32.3	
	comp=Z,19nm,1.3s						
MBWA	Marble Bar	53.39	270	P	P	21 34 32.4	-0.1
FINES	FINESS Array B	150.52	334	PKPbc	PKPbc	21 45 04.8	+1.5
	comp=Z,1.6nm,0.9s,baz=54,slow=2.4,SNR=4.0						

IDC 04 21:37:23.3±2.6, 5.73°S×147.41°E, h0km, mb3.9/3, mbtmp4.1/4, ML4.3/1, MS2.5/1, Error ellipse: s-maj=66.5km s-min=48.2km az=111.0
NEIC 04 21:37:37.4±1.2, 6.1°S±0.1°×147.3°E±0.1°, h86km±14km, mb4.1/12, Error ellipse: s-maj=21.7km s-min=16.7km az=109.0
ISC 04 21:37:34.9±1.5, 6.0°S±0.1°×147.3°E±0.1°, h77km, n21, σ1.22s/24, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.36	182	LR	LR	21 40 07.6	
	comp=Z,61nm,19.1s,baz=98,slow=45						
PMG	Port Moresby	3.36	182		Pn	21 38 25.8	+0.7
PMG				Sn	Sn	21 39 04.1	+0.2
COEN	Coen	8.85	207	Pn	Pn	21 39 41.9	+1.7
COEN				Sn	Sn	21 41 16.3	-2.0
MTN	Manton Dam	17.29	246		P	21 41 31.9	+0.1
MTN				IAmb	IAmb	21 41 50.3	
	comp=Z,16nm,1.4s						
WB0	Warramunga Arr	18.53	221	P	Pn	21 41 46.4	-0.1
WB0				IAmb	IAmb	21 41 48.8	
	comp=Z,8.4nm,0.8s						
WR0	Warramunga Arr	18.57	221	P	Pn	21 41 46.5	-0.4
WR0				IAmb	IAmb	21 41 49.4	
	comp=Z,10nm,0.9s						
WRAB	Tennant Creek	18.68	221	P	Pn	21 41 47.8	-0.4
WB2	Warramunga Arr	18.68	221	P	Pn	21 41 47.7	-0.6
WB2				IAmb	IAmb	21 41 50.6	
	comp=Z,8.9nm,0.7s						
WRA	Warramunga Arr	18.69	221	P	P	21 41 46.1	-1.1
	comp=Z,0.9nm,0.3s,baz=42,slow=12,SNR=47						
WRA				S	S	21 45 13.2	-2.6
	comp=Z,0.2nm,0.8s,baz=41,slow=22,SNR=1.5						
	comp=Z,6.8nm,0.6s						
EIDS	Eidsvold	19.58	170	P	Pn	21 41 57.8	-1.1
EIDS				IAmb	IAmb	21 42 00.3	
	comp=Z,11nm,1.3s						
KNRA	Kununurra	20.53	241	P	P	21 42 07.8	+0.6
AS31	Alice Springs	21.75	215	P	P	21 42 21.1	+0.8
ASAR	Alice Springs	21.75	215	P	P	21 42 20.4	+0.1
	comp=Z,4.5nm,0.5s,baz=46,slow=9.4,SNR=113						
ASAR				S	S	21 46 19.9	+3.1
	comp=Z,0.5nm,0.8s,baz=36,slow=22,SNR=3.7						
	comp=Z,4.5nm,0.5s						
ASAR	Alice Springs	21.75	215	P	P	21 42 20.7	+0.5
ARMA	Armidale	24.61	171	P	P	21 42 48.2	0.0
ARMA				IAmb	IAmb	21 43 20.1	
	comp=Z,12nm,1.2s						
STKA	Stephens Creek	26.26	191	P	P	21 43 04.0	+0.9
	comp=Z,1.0nm,0.4s,baz=22,slow=14,SNR=4.6						
	comp=Z,1.0nm,0.4s						
STKA	Stephens Creek	26.26	191	P	P	21 43 03.8	+0.7
MBWA	Marble Bar	30.62	238	P	P	21 43 41.7	-0.3
VNDA	Vanda	71.87	177	P	P	21 48 48.7	-0.5
	comp=Z,0.5nm,0.6s,baz=351,slow=7.0,SNR=3.9						
	comp=Z,0.5nm,0.6s						
VNDA	Vanda	71.87	177	P	P	21 48 49.2	+0.1
TORD	Torodi Ar. Bea	145.36	284	PKPbc	PKPdf	21 57 03.9	-1.1
	comp=Z,0.1nm,0.4s,baz=94,slow=1.8,SNR=1.0						

NAO 04 21:39:40.8±1.0, 77.00°N×18.94°E, h9km±10km, ML2.6
IEPN 04 21:39:41.0, 76.94°N×18.77°E, h10km
BER 04 21:39:43.0±3.0, 76.98°N×18.70°E, h19km±11km, ML2.4, ML2.6(NAO), Confirmed Earthquake
ISC 04 21:39:39.6±1.3, 76.99°N±0.03°×19.12°E±0.04°, h13km±10km, n25, σ2.07s/41, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	0.81	273	Pg	Pg	21 39 54.7	-0.5
HSPB				Lg	Lg	21 40 07.3	
HSPB	Hornsund (broa	0.81	273⇑	iP	Pg	21 39 54.7	-0.5
HSPB				eS	Sg	21 40 03.9	-2.0
HSPB	Hornsund (broa	0.81	273	eP	Pg	21 39 54.8	-0.5
HSPB				eS	Sg	21 40 03.9	-2.0
HSPB				IAML		21 40 07.9	
	comp=Z,93nm,0.3s						
SPA0	Spitsbergen Ar	1.34	335	Pn	Pg	21 40 04.4	-0.8
	baz=152,slow=18						
SPA0				Lg	Lg	21 40 22.9	
	baz=145,slow=37						
SPA0	Spitsbergen Ar	1.34	335⇑	iP	Pn	21 40 04.0	+0.1
SPA0				iS	Sn	21 40 22.3	+0.8
SPA0	Spitsbergen Ar	1.34	335	Pn	Pg	21 40 04.4	-0.8
	baz=152,slow=18						
SPA0				Sg	Sn	21 40 22.9	+1.4
	baz=145,slow=37						
HOPEN	Hopen	1.44	107	Pn	Pb	21 40 07.2	+1.0
HOPEN				Sn	Sn	21 40 25.9	+2.0
HOPEN				Lg	Lg	21 40 29.0	
HOPEN	Hopen	1.44	107	eP	Pb	21 40 07.2	+1.0
HOPEN				eS	Sn	21 40 26.0	+2.0
HOPEN				IAML		21 40 31.1	
	comp=Z,130nm,0.2s						
BRBA	Barentsburg A	1.52	318	Pn	Pn	21 40 06.4	+0.1
BRBA				Pg	Pg	21 40 07.8	-0.8
BRBA				Lg	Lg	21 40 26.8	
BRBA	Barentsburg A	1.52	318	eP	Pg	21 40 07.7	-1.0
BRBA				eS	Sn	21 40 25.7	-0.1
BRBA				IAML		21 40 31.2	
	comp=Z,122nm,0.4s						
BRBB	Barentsburg B	1.54	319	Pn	Pn	21 40 06.8	+0.2
BRBB				Pg	Pg	21 40 08.3	-0.8
BRBB				Lg	Lg	21 40 27.1	
BRBB	Barentsburg B	1.54	319	eP	Pn	21 40 06.8	+0.2
BRBB				eS	Sn	21 40 25.4	-1.1
KBS	Kingsbay	2.46	326	Pn	Pn	21 40 18.5	-0.8
KBS				Pg	Pb	21 40 24.6	+1.0
KBS				Lg	Lg	21 40 56.4	
KBS	Kingsbay	2.46	326	eP	Pn	21 40 18.8	-0.5
KBS				eSg	Sb	21 40 55.1	+1.4
KBS				IAML		21 41 02.7	
	comp=Z,58nm,0.4s						
BJO1	Bjornoya	2.50	181	Pg	Pb	21 40 25.8	+1.6
BJO1				Lg	Lg	21 40 58.3	
BJO1	Bjornoya	2.50	181	ePg	Pb	21 40 26.4	+2.2
BJO1				eSg	Sb	21 40 58.3	+3.5
BJO1				IAML		21 41 00.6	
	comp=Z,28nm,0.4s						
HAMF	Hammerfest	6.50	166	eS	Sn	21 42 22.5	-6.1
ZFI	Zemlya Franca-	6.63	42	eP	Pn	21 41 18.1	+1.7
ZFI				eS	Sn	21 42 27.9	-3.8
	comp=Z,20nm,2.1s						
OMEGA	Omega	6.63	42	P	Pn	21 41 18.0	+1.6
OMEGA				eS	Sn	21 42 28.3	-3.4
	comp=Z,17nm,1.5s						
VADS	Vadso	7.47	152	eP	Pn	21 41 27.9	0.0
VADS				eS	Sn	21 42 47.5	-4.9
KEV	Kevo	7.60	159	eP	Pn	21 41 31.6	+1.8
ARA0	ARCESS Array S	7.71	163	Pn	Pn	21 41 33.2	+1.9
	baz=359,slow=11						
ARA0				Sn	Sn	21 42 50.6	-7.7
	baz=357,slow=22						
ARA0	ARCESS Array S	7.71	163	Pn	Pn	21 41 33.2	+1.9
	baz=359,slow=11						
ARA0				Sn	Sn	21 42 50.6	-7.7
	baz=357,slow=22						
KIF	Kilpisjarvi	8.04	176	Pn	Pn	21 41 37.5	+1.7
KIF				Sn	Sn	21 42 59.6	-6.8
KIF	Kilpisjarvi	8.04	176	Pn	Pn	21 41 37.5	+1.7
KIF				Sn	Sn	21 42 59.6	-6.8

JMA 04 21:58:32.2±0.1, 38.2°N±0.2°×141.2°E±0.2°, h65km, MV3.5/40, SENDAI BAY REGION
JMA Felt I J1 at SENDAI BAY REGION .
IDC 04 21:58:34.4±3.6, 38.16°N×141.10°E, h96km±31km, mb3.1/5, mbtmp3.4/7, Error ellipse: s-maj=40.1km s-min=22.1km az=84.0
ISC 04 21:58:31.4±0.9, 38.13°N±0.04°×141.24°E±0.06°, h70km±6km, n29, σ1.44s/37, mb3.5/5, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.25	44	iP	Pn	21 58 42.6	+0.3
JIKH				S	Sn	21 58 50.0	-0.2
JIO	Ouri	0.33	15	iP	Pn	21 58 43.1	+0.2
JIO				iS	Sn	21 58 50.6	-0.5
JMM	Marumori	0.44	233	iP	Pn	21 58 44.0	+0.2
JMM				S	Sn	21 58 52.5	-0.3
JOU	Okura	0.51	297⇓	iP	Pn	21 58 44.4	0.0
JOU			⇓	S	Sn	21 58 53.6	-0.3
JOFO	Osakifurukawao	0.54	331	P	Pn	21 58 44.7	+0.1
JOFO				eS	Sn	21 58 54.0	-0.3
JFK	Kawauchi	0.82	201	iP	Pn	21 58 48.5	+0.8
JFK				S	Sn	21 59 00.4	+0.6
JMK	Ichinoseki	0.82	359	iP	Pn	21 58 47.6	0.0
JMK				eS	Sn	21 58 59.3	-0.5
JOTO	OTAMA OYAMA	0.92	232	iP	Pn	21 58 49.9	+0.9
JOTO				S	Sn	21 59 02.9	+1.0
JYS	Shirataka	0.93	276⇓	iP	Pn	21 58 49.5	+0.4
JYS			⇓	S	Sn	21 59 02.7	+0.5
JYK	Kaneyama	1.05	319⇓	iP	Pn	21 58 50.6	+0.1
JYK			⇓	S	Sn	21 59 04.5	-0.2
JYA	Atsumi	1.29	291⇓	iP	Pn	21 58 53.8	+0.3
JYA			⇓	S	Sn	21 59 10.2	+0.1
JOM	Ohasama	1.34	2	iP	Pn	21 58 54.5	+0.2
JOM				S	Sn	21 59 10.7	-0.8
JRG	Rokugo	1.35	340	iP	Pn	21 58 54.9	+0.5
JRG				S	Sn	21 59 12.6	+1.0
JFY	Yanaizu	1.42	240	P	Pn	21 58 56.5	+1.2
JNS	Sasagawa	1.55	259 ⇓	P	Pn	21 58 57.8	+0.8
JAW	Awa shima	1.60	282	P	Pn	21 58 58.4	+0.7

MJAR	**Matsushiro Arr**	**2.89**	**238**	P	**Pn**	**21 59 17.6**	**+2.4**
	4.0nm,0.4s,baz=36,slow=12,SNR=32						
MJAR				S	**Sn**	**21 59 41.8**	**-7.1**
	4.0nm,0.7s,baz=62,slow=10,SNR=5.9						
USRK	**Ussuriysk Ar.**	**9.24**	**314**	P	**Pn**	**22 00 42.5**	**+0.8**
	1.6nm,0.7s,baz=123,slow=14,SNR=4.2						
SONM	**Songino Array**	**27.07**	**302**	P	**P**	**22 04 08.1**	**+0.7**
	0.3nm,0.6s,baz=88,slow=7.5,SNR=1.7						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.84**	**122**	T	T	22 34 38.9	
	baz=316,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.84**	**122**	T	T	22 34 39.4	
	baz=316,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	22 34 40.1	
	baz=316,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.58**	**124**	T	T	22 35 37.7	
	baz=317,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.58**	**124**	T	T	22 35 37.6	
	baz=317,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**29.59**	**124**	T	T	22 35 36.8	
	baz=317,slow=76,SNR=7.8						
MKAR	**Makanchi Array**	**43.43**	**301**	P	**P**	**22 06 25.6**	**-1.6**
	0.5nm,0.7s,baz=86,slow=10,SNR=3.0						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**48.64**	**33**	P	**P**	**22 07 08.5**	**+0.7**
	0.3nm,0.6s,baz=274,slow=6.4,SNR=2.7						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**58.13**	**188**	P	**P**	**22 08 17.8**	**0.0**
	0.4nm,0.6s,baz=3.7,slow=6.9,SNR=5.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**61.86**	**188**	P	**P**	**22 08 43.7**	**+0.4**
	0.3nm,0.7s,baz=19,slow=5.9,SNR=3.1						
	0.3nm,0.7s						

---

*NOU **04** 22:15:04.8, 37°.16S×179°.63E, h0km, MLv4.0/8, Off E. Coast of N. Island, N.Z.*

*WEL **04** 22:15:14.1±1.1, 37°S±4°×17°9E±°, h20km±5km, M3.5/30, ML3.8/34, MLv3.5/30, Error ellipse: s-maj=0.0km s-min=0.0km az=91.5*

*IDC **04** 22:15:16.5±5.9, 35°.16S×178°.07E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=270.1km s-min=61.5km az=168.0*

ISC 04 22:15:15.5±2.4**, 37°.24S**±0°.07×**178°.83E**±0°.09**, h16**km±9km**, n60,** σ1s54/64**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.53**	**232**	P	**Pg**	**22 15 25.5**	**-0.5**
MXZ	**Matakaoa Point**	**0.53**	**232**	P	**Pg**	**22 15 25.5**	**-0.5**
MXZ				S	**Sg**	**22 15 32.8**	**-0.3**
WMGZ	**Waiomatatini S**	**0.67**	**209**	P	**Pg**	**22 15 29.3**	**+0.7**
WMGZ				S	**Sb**	**22 15 41.1**	**+3.3**
PKGZ	**Pakihiroa**	**0.88**	**222**	P	**Pg**	**22 15 31.9**	**-0.8**
PKGZ				S	**Sg**	**22 15 45.5**	**+1.2**
PUZ	**Puketiti**	**0.95**	**208**	P	**Pg**	**22 15 33.2**	**-0.7**
PUZ				S	**Sg**	**22 15 47.2**	**+0.8**
HAZ	**Te Kaha**	**0.98**	**238**	P	**Pg**	**22 15 32.5**	**-2.0**
TWGZ	**Tauwhareparae**	**1.15**	**215**	P	**Pg**	**22 15 36.4**	**-1.4**
TWGZ				S	**Sg**	**22 15 53.5**	**+0.6**
RUGZ	**Raukumara Rang**	**1.17**	**231**	P	**Pg**	**22 15 36.8**	**-1.3**
CNGZ	**Carnagh Statio**	**1.34**	**201**	P	**Pn**	**22 15 38.9**	**-0.6**
TKGZ	**Te Karaka**	**1.43**	**213**	P	**Pn**	**22 15 39.6**	**-1.1**
MWZ	**Matawai**	**1.50**	**223**	P	**Pn**	**22 15 41.1**	**-0.7**
WHRZ	**Whale Island**	**1.60**	**247**	P	**Pn**	**22 15 43.3**	**+0.2**
RAGZ	**Rawiri**	**1.68**	**221**	P	**Pn**	**22 15 43.8**	**-0.5**
RIGZ	**Rimuhau**	**1.69**	**210**	P	**Pn**	**22 15 43.1**	**-1.3**
URZ	**Urewera**	**1.70**	**233**	P	**Pn**	**22 15 44.2**	**-0.3**
URZ	**Urewera**	**1.70**	**233**	P	**Pn**	**22 15 44.1**	**-0.3**
URZ				S	**Sn**	**22 16 06.0**	**+0.1**
EDRZ	**Edgecumbe**	**1.87**	**242**	P	**Pn**	**22 15 46.8**	**-0.1**
SNGZ	**Shannon Statio**	**1.94**	**217**	P	**Pn**	**22 15 46.8**	**-1.0**
KNZ	**Kokohu**	**2.00**	**207**	P	**Pn**	**22 15 46.3**	**-2.3**
RTZ	**Ruatahuna**	**2.01**	**226**	P	**Pn**	**22 15 48.1**	**-0.6**
MHGZ	**Mahia Peninsul**	**2.04**	**201**	P	**Pn**	**22 15 47.4**	**-1.8**
MUGZ	**Murupara**	**2.04**	**232**	P	**Pn**	**22 15 48.3**	**-0.9**
TARZ	**Mount Tarawera**	**2.09**	**241**	P	**Pn**	**22 15 50.9**	**+0.9**
RAHZ	**Arahi**	**2.17**	**219**	P	**Pn**	**22 15 49.9**	**-1.0**
WHHZ	**Waihua**	**2.23**	**214**	P	**Pn**	**22 15 50.4**	**-1.3**
MTHZ	**Maungataniwha**	**2.25**	**224**	P	**Pn**	**22 15 51.5**	**-0.6**
MTHZ				S	**Sn**	**22 16 19.3**	**-0.3**
KMRZ	**Kaimai**	**2.37**	**254**	P	**Pn**	**22 15 53.4**	**-0.4**
NMHZ	**Naumai**	**2.45**	**220**	P	**Pn**	**22 15 53.8**	**-1.0**
ARHZ	**Aropaoanui**	**2.48**	**215**	P	**Pn**	**22 15 54.0**	**-1.3**
KUZ	**Kuaotunu**	**2.54**	**280**	P	**Pn**	**22 15 53.9**	**-2.1**
KUZ	**Kuaotunu**	**2.54**	**280**	P	**Pn**	**22 15 53.7**	**-2.3**
KUZ				S	**Sn**	**22 16 21.4**	**-5.1**
BKZ	**Black Stump Fm**	**2.66**	**223**	P	**Pn**	**22 15 56.6**	**-1.2**
BKZ	**Black Stump Fm**	**2.66**	**223**	P	**Pn**	**22 15 56.5**	**-1.2**
TOZ	**Tahuroa Road**	**2.69**	**258**	P	**Pn**	**22 15 56.7**	**-1.4**
MCHZ	**McNeill Hill**	**2.77**	**217**	P	**Pn**	**22 15 57.6**	**-1.6**
CKHZ	**Cape Kidnapper**	**2.78**	**209**	P	**Pn**	**22 15 56.9**	**-2.4**
CKHZ				S	**Sn**	**22 16 30.1**	**-2.4**
GRZ	**Great Barrier**	**2.88**	**289**	P	**Pn**	**22 16 00.2**	**-0.5**
MKAZ	**Moumakai**	**2.93**	**271**	P	**Pn**	**22 15 59.8**	**-1.6**
KAHZ	**Kahuranaki**	**2.98**	**210**	P	**Pn**	**22 15 59.4**	**-2.6**
TMVZ	**Te Maari**	**3.09**	**232**	P	**Pn**	**22 16 02.6**	**-1.2**
ETVZ	**East Tongariro**	**3.10**	**231**	P	**Pn**	**22 16 02.7**	**-1.2**
SNVZ	**South Ngauruho**	**3.18**	**231**	P	**Pn**	**22 16 03.8**	**-1.2**
MBAZ	**Motutapu North**	**3.18**	**277**	P	**Pn**	**22 16 03.9**	**-1.0**
MOVZ	**Moawhango**	**3.25**	**227**	P	**Pn**	**22 16 04.4**	**-1.4**
PNHZ	**Pukenui**	**3.37**	**217**	P	Pn	22 16 04.5	-3.0
HIZ	**Hauiti**	**3.39**	**247**	P	**Pn**	**22 16 08.7**	**+1.0**
HIZ	**Hauiti**	**3.39**	**247**	P	**Pn**	**22 16 08.3**	**+0.6**
WTAZ	**Waiatarua**	**3.42**	**274**	P	**Pn**	**22 16 09.3**	**+1.2**
VRZ	**Vera Road**	**3.72**	**238**	P	**Pn**	**22 16 12.7**	**+0.4**
WCZ	**Waipu Caves**	**3.83**	**288**	P	**Pn**	**22 16 13.0**	**-0.8**
BFZ	**Birch Farm**	**3.98**	**210**	P	Pn	22 16 12.0	-3.9
NEZ	**North Egmont**	**4.24**	**240**	P	**Pn**	**22 16 21.9**	**+2.4**
KHEZ	**Kahui Hut**	**4.31**	**240**	P	**Pn**	**22 16 22.8**	**+2.4**
OUZ	**Omahuta**	**4.68**	**294**	P	**Pn**	**22 16 25.2**	**-0.3**
OUZ	**Omahuta**	**4.68**	**294**	P	**Pn**	**22 16 25.3**	**-0.2**
KHZ	**Kahutara**	**6.58**	**217**	P	Pn	22 16 48.5	-3.0
CTZ	**Chatham Island**	**7.36**	**153**	P	**Pn**	**22 17 01.3**	**-0.9**
ASAR	**Alice Springs**	**40.66**	**276**	P	P	22 22 51.0	-4.1
	0.5nm,0.8s,baz=118,slow=7.1,SNR=5.6						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**42.28**	**281**	P	P	22 23 04.3	-4.1
	0.8nm,0.5s,baz=121,slow=7.8,SNR=15						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKPdf**	**22 35 03.0**	**+3.1**
	0.7nm,0.6s,baz=31,slow=3.6,SNR=4.3						

---

*NOU **04** 22:26:44.2, 37°.02S×179°.51E, h0km, MLv3.9/8, Off E. Coast of N. Island, N.Z.*

*WEL **04** 22:26:49.3±1.5, 37°S±5°×17°9E±1°2, h14km±9km, M3.5/12, ML3.7/16, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=93.8*

ISC 04 22:26:47.1±3.3**, 37°.0S**±0°.1×**179°.2E**±0°.2**, h13**km±13km**, n60,** σ1s19/67**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.93**	**232**	P	**Pg**	**22 27 04.7**	**-0.3**
MXZ	**Matakaoa Point**	**0.93**	**232**	P	**Pg**	**22 27 04.8**	**-0.3**
WMGZ	**Waiomatatini S**	**1.05**	**218**	P	**Pn**	**22 27 08.8**	**+1.3**
WMGZ				S	**Sn**	**22 27 23.1**	**+1.2**
PKGZ	**Pakihiroa**	**1.28**	**225**	P	**Pn**	**22 27 11.1**	**+0.4**
PKGZ				S	**Sn**	**22 27 28.4**	**+0.7**
PUZ	**Puketiti**	**1.32**	**215**	P	**Pn**	**22 27 12.2**	**+0.9**
PUZ				S	**Sn**	**22 27 29.5**	**+0.8**
HAZ	**Te Kaha**	**1.38**	**236**	P	**Pn**	**22 27 11.6**	**-0.4**
TWGZ	**Tauwhareparae**	**1.54**	**219**	P	**Pn**	**22 27 15.8**	**+1.5**
RUGZ	**Raukumara Rang**	**1.57**	**231**	P	**Pn**	**22 27 15.9**	**+1.2**
CNGZ	**Carnagh Statio**	**1.69**	**208**	P	**Pn**	**22 27 18.0**	**+1.7**
WIZ	**White Island**	**1.71**	**251**	P	**Pn**	**22 27 15.9**	**-0.6**
TKGZ	**Te Karaka**	**1.81**	**217**	P	**Pn**	**22 27 19.0**	**+1.1**
MWZ	**Matawai**	**1.90**	**225**	P	**Pn**	**22 27 20.3**	**+1.0**
RIGZ	**Rimuhau**	**2.06**	**214**	P	**Pn**	**22 27 22.5**	**+1.0**
RAGZ	**Rawiri**	**2.08**	**223**	P	**Pn**	**22 27 22.8**	**+1.1**
URZ	**Urewera**	**2.10**	**232**	P	**Pn**	**22 27 23.0**	**+1.1**
URZ	**Urewera**	**2.10**	**232**	P	**Pn**	**22 27 23.0**	**+1.1**
URZ				S	**Sn**	**22 27 48.0**	**+0.1**
EDRZ	**Edgecumbe**	**2.27**	**240**	P	**Pn**	**22 27 25.6**	**+1.3**
SNGZ	**Shannon Statio**	**2.33**	**219**	P	**Pn**	**22 27 26.0**	**+1.0**
KNZ	**Kokohu**	**2.37**	**211**	P	**Pn**	**22 27 25.5**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.39**	**205**	P	**Pn**	**22 27 26.5**	**+0.5**
RTZ	**Ruatahuna**	**2.40**	**227**	P	**Pn**	**22 27 27.4**	**+1.2**
MUGZ	**Murupara**	**2.44**	**232**	P	**Pn**	**22 27 27.7**	**+1.0**
TARZ	**Mount Tarawera**	**2.49**	**239**	P	**Pn**	**22 27 29.2**	**+1.8**
RAHZ	**Arahi**	**2.56**	**221**	P	**Pn**	**22 27 29.0**	**+0.8**
WHHZ	**Waihua**	**2.61**	**216**	P	**Pn**	**22 27 29.3**	**+0.4**
MTHZ	**Maungataniwha**	**2.65**	**225**	P	**Pn**	**22 27 30.5**	**+1.0**
KUZ	**Kuaotunu**	**2.82**	**274**	P	**Pn**	**22 27 33.1**	**+1.3**
KUZ	**Kuaotunu**	**2.82**	**274**	P	**Pn**	**22 27 31.9**	**+0.1**
KUZ				S	**Sn**	**22 28 01.5**	**-4.1**
NMHZ	**Naumai**	**2.84**	**221**	P	**Pn**	**22 27 33.0**	**+0.9**
NMHZ				S	**Sn**	**22 28 06.1**	**-0.1**
ARHZ	**Aropaoanui**	**2.87**	**217**	P	**Pn**	**22 27 33.0**	**+0.5**
TOZ	**Tahuroa Road**	**3.05**	**255**	P	**Pn**	**22 27 35.1**	**+0.1**
BKZ	**Black Stump Fm**	**3.06**	**224**	P	**Pn**	**22 27 36.0**	**+0.8**
BKZ	**Black Stump Fm**	**3.06**	**224**	P	**Pn**	**22 27 35.5**	**+0.3**
GRZ	**Great Barrier**	**3.12**	**283**	P	**Pn**	**22 27 37.5**	**+1.6**
CKHZ	**Cape Kidnapper**	**3.15**	**212**	P	**Pn**	**22 27 35.8**	**-0.6**
CKHZ				S	**Sn**	**22 28 11.9**	**-2.0**
MCHZ	**McNeill Hill**	**3.15**	**218**	P	**Pn**	**22 27 36.7**	**+0.2**
MKAZ	**Moumakai**	**3.25**	**267**	P	**Pn**	**22 27 38.1**	**+0.4**
KWHZ	**Kaweka Forest**	**3.28**	**221**	P	**Pn**	**22 27 38.5**	**+0.3**
KAHZ	**Kahuranaki**	**3.35**	**213**	P	**Pn**	**22 27 38.4**	**-0.8**
MBAZ	**Motutapu North**	**3.47**	**272**	P	**Pn**	**22 27 42.8**	**+1.9**
TMVZ	**Te Maari**	**3.49**	**232**	P	**Pn**	**22 27 41.5**	**+0.3**
ETVZ	**East Tongariro**	**3.50**	**231**	P	**Pn**	**22 27 41.8**	**+0.5**
KRVZ	**Karewarewa**	**3.52**	**232**	P	**Pn**	**22 27 42.5**	**+0.9**
OTVZ	**Oturere**	**3.55**	**231**	P	**Pn**	**22 27 42.8**	**+0.8**
SNVZ	**South Ngauruho**	**3.58**	**231**	P	**Pn**	**22 27 43.2**	**+0.8**
NGZ	**Ngauruhoe**	**3.59**	**232**	P	**Pn**	**22 27 43.2**	**+0.6**
MOVZ	**Moawhango**	**3.64**	**228**	P	**Pn**	**22 27 43.4**	**+0.2**
PNHZ	**Pukenui**	**3.76**	**218**	P	**Pn**	**22 27 43.6**	**-1.2**
WPHZ	**Waipukurau**	**3.76**	**215**	P	**Pn**	**22 27 43.7**	**-1.1**
HIZ	**Hauiti**	**3.78**	**245**	P	**Pn**	**22 27 47.0**	**+2.0**
HIZ	**Hauiti**	**3.78**	**245**	P	**Pn**	**22 27 47.0**	**+2.0**
TSZ	**Takapari Road**	**3.99**	**219**	P	**Pn**	**22 27 46.9**	**-1.0**
WCZ	**Waipu Caves**	**4.07**	**284**	P	**Pn**	**22 27 50.6**	**+1.6**
WAZ	**Wanganui**	**4.32**	**229**	P	**Pn**	**22 27 53.5**	**+0.9**
BFZ	**Birch Farm**	**4.36**	**211**	P	**Pn**	**22 27 53.0**	**0.0**
PRWZ	**Pori Road**	**4.37**	**215**	P	**Pn**	**22 27 52.4**	**-0.8**
OUZ	**Omahuta**	**4.89**	**290**	P	**Pn**	**22 28 02.0**	**+1.8**
OUZ	**Omahuta**	**4.89**	**290**	P	**Pn**	**22 28 02.0**	**+1.8**
KHZ	**Kahutara**	**6.97**	**217**	P	**Pn**	**22 28 28.2**	**-0.6**
CTZ	**Chatham Island**	**7.45**	**156**	P	**Pn**	**22 28 36.6**	**+1.3**

---

*NEIC **04** 22:31:49.7±2.6, 43°.76N±0°.04×105°.38W±0°.05, h0km±2km, ML3.0/62, Error ellipse: s-maj=8.2km s-min=6.1km az=328.0*

*IDC **04** 22:31:49.5±1.6, 43°.97N×105°.69W, h0km, mbtmp3.3/3, ML3.4/3, Error ellipse: s-maj=50.1km s-min=7.9km az=146.0*

ISC 04 22:31:48.8±1.0**, 43°.79N**±0°.04×**105°.21W**±0°.05**, h0**km**, n55,** σ1s23/56**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**68**		**Pn**	**22 32 08.2**	**-0.8**
K22A	**Casper**	**1.49**	**221**	Pn	**Pn**	**22 32 14.7**	**-2.3**
K22A				IAML		22 32 36.4	
	comp=E,245nm,0.3s						
K22A				IAML		22 32 38.8	
	comp=N,327nm,0.3s						
PHWY	**Pilot Hill**	**2.50**	**184**	Pn	**Pn**	**22 32 30.8**	**-0.1**
PHWY				IAML		22 33 04.9	
	comp=N,63nm,0.4s						
RWWY	**Rawlins**	**2.57**	**216**	Pn	**Pn**	**22 32 31.7**	**-0.2**
N23A	**Red Feather La**	**2.95**	**191**	Pn	**Pn**	**22 32 37.3**	**+0.2**
N23A				IAML		22 33 25.6	
	comp=E,72nm,0.7s						
LAO	**LASA Array**	**2.98**	**346**	Pn	**Pn**	**22 32 38.3**	**+0.9**
RLMT	**Red Lodge**	**3.20**	**296**	Pn	**Pn**	**22 32 39.5**	**-0.9**
BRIGG	**Briggsdale**	**3.28**	**168**	Pg	**Pb**	**22 32 47.7**	**-0.1**
BW06	**Boulder Array**	**3.34**	**254**	Pn	**Pn**	**22 32 42.4**	**0.0**
BW06				IAML		22 33 30.1	
	comp=E,30nm,0.5s						
PD31	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**22 32 42.4**	**0.0**
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**22 32 42.5**	**0.0**
	comp=E,3.3nm,0.3s,baz=72,slow=16,SNR=44						
PDAR				Lg	Lg	22 33 24.9	
	comp=E,8.5nm,0.3s,baz=71,slow=33,SNR=12						
	comp=E,3.3nm,0.3s						
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**22 32 42.3**	**-0.2**
YMP	**Mirror Lake Pl**	**3.68**	**287**	Pn	**Pn**	**22 32 46.4**	**-0.8**
YMP				IAML		22 33 53.6	
	comp=E,42nm,0.8s						
OGNE	**Ogallala**	**3.69**	**139**	Pn	**Pn**	**22 32 48.9**	**+1.7**
GCMT	**Greycliff**	**3.75**	**304**		**Pn**	**22 32 49.6**	**+1.6**
LKWY	**Lake**	**3.81**	**283**		**Pb**	**22 32 59.0**	**+1.9**
LKWY				IAML		22 33 13.0	
	comp=E,37nm,0.7s						
LKWY				IAML		22 34 09.8	
	comp=E,20nm,1.1s						
LOHW	**Long Hollow**	**3.92**	**269**	Pn	**Pn**	**22 32 47.2**	**-3.2**
LOHW				Pg	**Pb**	**22 33 00.4**	**+1.6**
FLWY	**Flagg Ranch**	**3.98**	**276**		**Pb**	**22 33 01.0**	**+1.2**
FLWY				IAML		22 33 59.9	
	comp=E,22nm,1.1s						
FLWY				IAML		22 34 39.6	
	comp=E,19nm,4.2s						
MOOW	**Moose Ponds**	**4.01**	**271**		**Pn**	**22 32 52.6**	**+0.9**
SNOW	**Snow King Moun**	**4.04**	**267**		**Pn**	**22 32 51.3**	**-0.8**
SNOW				IAML		22 33 57.2	
	comp=E,20nm,0.9s						
SNOW				IAML		22 34 08.7	
	comp=E,21nm,1.5s						
YFT	**Old Faithful**	**4.11**	**281**		**Pn**	**22 32 51.8**	**-1.2**
REDW	**Red Top Meadow**	**4.12**	**266**		**Pb**	**22 33 00.5**	**-1.8**
REDW				IAML		22 34 12.8	
	comp=E,25nm,2.2s						
IMW	**Indian Meadow**	**4.15**	**273**		**Pb**	**22 33 02.2**	**-0.5**
IMW				IAML		22 34 05.0	
	comp=E,21nm,0.7s						
IMW				IAML		22 34 05.8	
	comp=E,24nm,0.7s						
YHH	**Holmes Hill**	**4.17**	**286**	Pg	**Pb**	**22 33 03.8**	**+0.5**
TPAW	**Teton Pass**	**4.18**	**268**		Pn	22 32 48.8	-5.2
TPAW				IAML		22 33 59.5	
	comp=E,23nm,4.1s						
TPAW				IAML		22 34 13.3	
	comp=E,15nm,0.8s						
FXWY	**Fox Creek**	**4.22**	**270**		**Pn**	**22 32 55.6**	**+1.1**
YMR	**Madison River**	**4.23**	**284**		**Pn**	**22 32 52.8**	**-1.9**
E28A	**Huff**	**4.23**	**47**	Pn	**Pn**	**22 32 57.0**	**+2.5**
O20A	**White River Ci**	**4.30**	**213**		**Pn**	**22 32 54.5**	**-1.1**
YHB	**Horse Butte**	**4.41**	**285**	Pn	**Pn**	**22 32 57.3**	**+0.2**
YHB				IAML		22 34 24.5	
	comp=N,12nm,1.1s						
YHL	**Hebgen Lake**	**4.42**	**286**	Pn	**Pn**	**22 32 57.4**	**+0.1**
YHL				Pg	**Pb**	**22 33 08.8**	**+1.4**
YHL				IAML		22 34 09.4	
	comp=N,17nm,4.1s						
YHL				IAML		22 34 14.5	
	comp=E,15nm,2.8s						
AHID	**Auburn Hatcher**	**4.42**	**259**	Pg	**Pb**	**22 33 10.2**	**+2.7**
AHID				IAML		22 34 24.5	
	comp=E,19nm,1.4s						
ECR	**Eagle Creek**	**4.55**	**263**	Pn	**Pn**	**22 32 58.0**	**-1.0**
RDMU	**Red Mountain**	**4.57**	**227**		**Pn**	**22 32 59.6**	**+0.2**
RDMU				IAML		22 34 15.9	
	comp=E,16nm,0.7s						
RDMU				IAML		22 34 25.8	
	comp=N,16nm,2.7s						
QLMT	**Earthquake Lak**	**4.59**	**285**	Pn	**Pn**	**22 32 58.8**	**-0.8**
SMCO	**Snowmass**	**4.80**	**197**	Pg	**Pb**	**22 33 15.2**	**+1.3**
SMCO				IAML		22 34 17.0	
	comp=N,14nm,0.4s						
SMCO				IAML		22 34 23.9	
	comp=N,13nm,1.1s						
Q24A	**Divide**	**4.83**	**179**	Pn	**Pn**	**22 33 02.5**	**-0.4**
Q24A				IAML		22 34 28.8	
	comp=N,10.0nm,2.7s						
BOZ	**Bozeman (W)**	**4.92**	**294**	Pn	**Pn**	**22 33 03.5**	**-0.6**
BOZ				IAML		22 34 29.1	
	comp=N,11nm,4.1s						
BOZ				IAML		22 34 31.6	
	comp=N,9.2nm,2.9s						
MCMT	**McKenzie Canyo**	**5.58**	**283**	Pn	Pn	22 33 07.6	-5.7
P18A	**Preston Nutter**	**5.62**	**224**		**Pn**	**22 33 13.6**	**-0.2**
PV22	**Blue Mesa, Par**	**5.91**	**208**	Pn	**Pn**	**22 33 18.2**	**+0.5**
PV07	**Paradox Valley**	**5.95**	**207**	Pn	**Pn**	**22 33 18.7**	**+0.4**
PV21	**Cone Mtn., Par**	**5.95**	**210**	Pn	**Pn**	**22 33 18.3**	**0.0**
P17A	**Butcher Ranch,**	**5.98**	**226**	Pn	**Pn**	**22 33 17.0**	**-1.7**
PV23	**Carpenter Ridg**	**6.06**	**210**	Pn	**Pn**	**22 33 20.2**	**+0.3**
PV04	**Paradox Valley**	**6.07**	**209**	Pn	**Pn**	**22 33 20.5**	**+0.5**
PV12	**Saucer Basin,**	**6.11**	**208**	Pn	**Pn**	**22 33 19.9**	**-0.6**
PV14	**Lion Creek, Pa**	**6.13**	**209**	Pn	**Pn**	**22 33 20.8**	**0.0**
SRU	**San Rafael Swe**	**6.15**	**222**	Pn	**Pn**	**22 33 19.9**	**-1.1**
PV16	**Nyswonger Mesa**	**6.15**	**208**	Pn	**Pn**	**22 33 20.9**	**-0.2**
PV19	**Morning Glory**	**6.18**	**209**	Pn	**Pn**	**22 33 21.8**	**+0.4**
PV03	**Paradox Valley**	**6.18**	**208**	Pn	**Pn**	**22 33 20.9**	**-0.5**
PV17	**East Wray Mesa**	**6.20**	**209**	Pn	**Pn**	**22 33 21.0**	**-0.7**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**22 34 01.0**	**+0.1**
	comp=N,1.1nm,0.3s,baz=234,slow=12,SNR=7.1						
ULM				Sn	**Sn**	**22 35 40.5**	**-3.1**
	comp=N,0.3nm,0.3s,baz=106,slow=7.4,SNR=1.5						
ULM				Lg	Lg	22 36 32.6	
	comp=N,0.3nm,0.3s,baz=219,slow=6.5,SNR=1.8						
	comp=N,2.4nm,0.3s						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**22 34 31.1**	**+0.3**
	comp=N,0.1nm,0.3s,baz=58,slow=14,SNR=2.0						
	comp=N,0.2nm,0.4s						

MAN 04 22:32:07.7, 9°.75N×126°.11E, h23km**, mb3.8, ML2.5, MS2.0, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.62**	**273**	*e*P	Pb	22 32 19.9	0.0
SCPH				*e*S	Sn	22 32 31.1	+0.8
TABP	**Talibon, Bohol**	**1.79**	**281**	⇓*i*P	Pn	22 32 37.9	+0.7

---

*ISN **04** 22:48:25.1±1.5, 30°.00N×47°.70E, h10km±999km, ML2.7*

*DSN **04** 22:48:28.1±1.9, 29°.44N×47°.95E, h10km, ML3.0/5, Error ellipse: s-maj=22.2km s-min=12.2km az=0.0*

*OMAN **04** 22:48:31.9±1.4, 28°.98N×47°.85E, h10km, Error ellipse: s-maj=16.1km s-min=10.1km az=28.0*

ISC 04 22:48:23.4±0.9**, 29°.63N**±0°.08×**47°.68E**±0°.09**, h10**km**, n21,** σ2s39/37**, Eastern Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAFI	**Al-Rafai**	**2.49**	**327**	*e*Pn	**Pn**	**22 49 04.0**	**0.0**
RAFI				*e*Sn	**Sn**	**22 49 33.0**	**-1.4**
IBDR	**Badra**	**3.78**	**337**	*e*Pn	**Pn**	**22 49 22.0**	**+0.2**
IBDR				*e*Sn	**Sn**	**22 50 04.0**	**-2.3**
IBDR				AML	AML	22 50 05.2	
	comp=N,22nm,0.4s						
IBDR				AML	AML	22 50 31.5	
	comp=E,35nm,0.7s						
BHD	**Baghdad**	**4.60**	**323**	*e*Pn	**Pn**	**22 49 35.0**	**+2.0**
BHD				*e*Sn	**Sn**	**22 50 25.0**	**-1.5**
RAYN	**Ar Rayn**	**6.39**	**198**	P	**Pn**	**22 49 59.6**	**+1.9**
MZR	**Muzera**	**8.40**	**140**	P	**Pn**	**22 50 27.3**	**+2.0**
MZR				S	**Sn**	**22 52 01.0**	**+0.8**
ASUD	**Al Ashush, Dub**	**8.44**	**124**	P	**Pn**	**22 50 29.7**	**+3.9**
	SNR=5.2						
BANOM	**Banah**	**8.48**	**114**	P	**Pn**	**22 50 28.0**	**+1.7**
BANOM				S	**Sn**	**22 52 00.6**	**-1.6**
BANOM	**Banah**	**8.48**	**114**	P	**Pn**	**22 50 27.5**	**+1.1**
BANOM				S	**Sn**	**22 51 59.5**	**-2.7**
MSFE	**Esma-Masafi**	**8.64**	**117**	P	**Pn**	**22 50 30.1**	**+1.5**
HATD	**Hatta, Dubai**	**8.91**	**120**	P	**Pn**	**22 50 33.9**	**+1.6**
HATD				S	**Sn**	**22 52 11.2**	**-1.6**
HATD	**Hatta, Dubai**	**8.91**	**120**	P	**Pn**	**22 50 32.9**	**+0.6**
ASHO	**Ashiyiah**	**8.94**	**121**	P	**Pn**	**22 50 34.4**	**+1.7**
ASHO				S	**Sn**	**22 52 12.1**	**-1.4**
ASHO	**Ashiyiah**	**8.94**	**121**	P	**Pn**	**22 50 34.0**	**+1.3**
ASHO				S	**Sn**	**22 52 09.9**	**-3.5**
ARQ	**Araqi**	**10.09**	**126**	P	**Pn**	**22 50 51.0**	**+2.4**
	SNR=10						
ARQ				S	**Sn**	**22 52 40.9**	**-1.0**
HOQ	**Hoqain**	**10.51**	**123**	P	**Pn**	**22 50 56.2**	**+2.0**
HOQ				S	**Sn**	**22 52 48.9**	**-3.1**
BSY	**Bisya**	**10.95**	**127**	P	**Pn**	**22 51 02.9**	**+2.6**
BSY				S	**Sn**	**22 53 01.3**	**-1.7**
SMDO	**Samad**	**11.36**	**123**	P	**Pn**	**22 51 09.5**	**+3.5**
SMDO				S	**Sn**	**22 53 13.5**	**+0.3**
JMDO	**Jabal Madar**	**11.83**	**125**	P	**Pn**	**22 51 14.2**	**+1.9**
	SNR=6.0						
JMDO				S	**Sn**	**22 53 22.3**	**-2.1**
WBK	**Wadi Bani Khal**	**12.31**	**122**	P	**Pn**	**22 51 21.9**	**+3.0**
	SNR=5.1						
MHTO	**MHTO**	**12.66**	**130**	P	**Pn**	**22 51 26.9**	**+3.2**
MHTO				S	**Sn**	**22 53 42.1**	**-2.7**
DMTO	**DMTO**	**13.59**	**149**	P	**Pn**	**22 51 36.0**	**-0.4**
DMTO				S	**Sn**	**22 54 01.3**	**-6.2**

IDC 04 22:59:17.7±3.8**, 6°.62S×150°.70E, h0**km**, mb3.4**/2**, mbtmp3.5**/2**, Error ellipse: s-maj=133.7km s-min=49.7km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.68**	**229**	P	P	23 03 59.1	-0.4
	0.7nm,0.5s,baz=54,slow=11,SNR=10						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**23.40**	**222**	P	P	23 04 28.2	-0.3
	1.5nm,0.7s,baz=58,slow=9.0,SNR=21						
	1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.80**	**284**	PKPbc	PKPbc	23 19 08.4	0.0
	0.4nm,0.6s,baz=85,slow=3.0,SNR=3.2						

---

*TUL **04** 23:06:44.9±1.0, 36°.15N±0°.01×97°.66W±0°.02, h5km±7km, ML3.3, mb_Lg3.3/84(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=62.0*

*NEIC **04** 23:06:44.9±0.9, 36°.151N±0°.009×97°.66W±0°.01, h3km±7km, Error ellipse: s-maj=1.6km s-min=0.7km az=224.0*

*ANF **04** 23:06:44.9±0.3, 36°.17N×97°.66W, h5km, ML3.9/13, Error ellipse: s-maj=3.1km s-min=2.4km az=170.0*

ISC 04 23:06:45.2±1.1**, 36°.14N**±0°.02×**97°.66W**±0°.02**, h5**km±10km**, n99,** σ0s73/89**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.38**	**153**	Pg	**Pg**	**23 06 52.7**	**+0.2**
OK029				Sg	**Sg**	**23 06 57.6**	**+0.1**
OK049	**E0420 Rd and N**	**0.40**	**47**	Pg	**Pg**	**23 06 52.7**	**-0.1**
OK049				Sg	**Sg**	**23 06 58.3**	**+0.3**
CROK	**Carrier**	**0.45**	**325**	Pg	**Pg**	**23 06 53.8**	**-0.1**
CROK				Sg	**Sg**	**23 06 60.0**	**+0.3**
BCOK	**Bluff Creek, N**	**0.48**	**175**	Pg	**Pg**	**23 06 54.5**	**0.0**
BCOK				Sg	**Sg**	**23 07 01.4**	**+0.7**
OK009	**Oakdale Elemen**	**0.59**	**161**		**Pg**	**23 06 55.5**	**-1.0**
OK033	**Mehan**	**0.59**	**99**	Pg	**Pg**	**23 06 56.3**	**-0.3**
OK033				Sg	**Sg**	**23 07 04.8**	**+0.4**
OK050	**Pawnee Station**	**0.61**	**65**		**Pg**	**23 06 56.0**	**-0.8**
OK050				Sg	**Sg**	**23 07 04.4**	**-0.4**
OK025	**Westminster Rd**	**0.62**	**154**	Pg	**Pg**	**23 06 57.1**	**+0.1**
OK025				Sg	**Sb**	**23 07 07.2**	**-0.3**
OK005	**Luther M Schoo**	**0.62**	**141**	Pg	**Pg**	**23 06 56.1**	**-0.9**
OK048	**Pawnee Station**	**0.65**	**64**	Pg	**Pg**	**23 06 57.2**	**-0.4**
OK048				Sg	**Sg**	**23 07 05.7**	**-0.3**
OK046	**Pawnee Station**	**0.66**	**67**		**Pg**	**23 06 57.6**	**-0.3**
OK046				Sg	**Sg**	**23 07 06.2**	**-0.4**
OK045	**Pawnee Station**	**0.67**	**62**		**Pg**	**23 06 57.4**	**-0.7**
OK045				Sg	**Sg**	**23 07 06.5**	**-0.3**
OK031	**S. Brethren Rd**	**0.69**	**105**	Pg	**Pg**	**23 06 58.0**	**-0.4**
OK031				Sg	**Sg**	**23 07 07.4**	**-0.1**
BLOK	**Blackwell**	**0.72**	**30**	Pg	**Pg**	**23 06 58.7**	**-0.2**
BLOK				Sg	**Sg**	**23 07 08.1**	**-0.2**
GC02	**Grant County #**	**0.73**	**348**	Pg	**Pg**	**23 06 58.6**	**-0.5**
OK044	**Pawnee Station**	**0.74**	**71**	Pg	**Pg**	**23 06 58.9**	**-0.5**
OK051	**E0350 and S346**	**0.76**	**61**	Pg	**Pg**	**23 06 59.1**	**-0.7**
QUOK	**Quay**	**0.77**	**87**	Pg	**Pg**	**23 06 59.6**	**-0.4**
QUOK				IAmb_Lg		23 07 11.3	
	comp=Z,90nm,0.8s						
OK034	**N. Norfolk Rd.**	**0.78**	**99**	Pg	**Pg**	**23 06 59.9**	**-0.3**
KAN13	**South Haven SW**	**0.89**	**10**	Pg	**Pg**	**23 07 01.6**	**-0.6**
FNO	**Franklin**	**0.91**	**166**	Pg	**Pg**	**23 07 02.2**	**-0.3**
FNO				IAmb_Lg		23 07 14.9	
	comp=Z,278nm,1.0s						
KAN17	**Caldwell West**	**0.91**	**355**	Pg	**Pg**	**23 07 02.0**	**-0.5**
OK038	**West end E0370**	**0.94**	**292**	Pg	**Pg**	**23 07 01.6**	**-1.5**
CSTR	**Hydro, Custer**	**0.97**	**240**	Pg	**Pg**	**23 07 03.5**	**-0.2**
DEOK	**Depew**	**0.99**	**107**	Pg	**Pg**	**23 07 03.6**	**-0.6**
KAN09	**Caldwell North**	**1.00**	**2**	Pg	**Pg**	**23 07 03.5**	**-0.8**
OK035	**E0210 Rd and N**	**1.02**	**304**		**Pg**	**23 07 04.4**	**-0.3**
KS20	**Mayfield South**	**1.09**	**5**		**Pg**	**23 07 05.4**	**-0.8**
U32A	**Winter Ranch,**	**1.11**	**283**	P	**Pg**	**23 07 05.6**	**-0.8**
	baz=102,SNR=88						
U32A				S	**Sb**	**23 07 21.3**	**-0.3**
	baz=102						
KAN08	**Anthony NE Sta**	**1.11**	**347**		**Pg**	**23 07 05.4**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAN06	Argonia West S	1.12	352		Pg	23 07 05.8	-0.8
NOKA	Waynoka	1.14	296		Pg	23 07 06.1	-0.9
KS21	Milan North St	1.15	0		Pg	23 07 06.3	-0.8
T35B	Sooner Cattle	1.21	50	P	Pg	23 07 07.5	-0.9
	baz=231,SNR=170						
T35B				S	Sg	23 07 23.6	-0.4
	baz=231						
ELIS	Ellis County	1.42	268		Pn	23 07 11.4	-0.3
TUL1	Leonard	1.54	98	P	Pn	23 07 12.6	-0.7
	baz=280,SNR=70						
TUL1				S	Sb	23 07 33.8	-0.1
	baz=280						
X34A	Smith Ranch, M	1.54	185	Pn	Pb	23 07 13.8	-0.4
WMOK	Wichita Mounta	1.67	213		Pn	23 07 14.8	-0.3
WMOK	Wichita Mounta	1.67	213	P	Pn	23 07 14.8	-0.3
	baz=33,SNR=349						
WMOK				S	Sb	23 07 37.7	0.0
	baz=33						
RLO	Rose Lookout	2.14	89		Pn	23 07 21.8	+0.2
RLO				IAmb_Lg		23 07 51.6	
	comp=Z,62nm,0.8s						
LOOK	Love County	2.18	169	Pn	Pn	23 07 22.9	+0.9
LOOK				IAmb_Lg		23 07 55.0	
	comp=Z,91nm,0.7s						
R32A	Long Quarter,	2.43	340		Pn	23 07 26.6	+1.0
X37A	Clayton	2.43	129		Pn	23 07 26.5	+0.9
X37A				IAmb_Lg		23 08 05.2	
	comp=Z,110nm,0.8s						
X37A	Clayton	2.43	129	P	Pn	23 07 26.1	+0.5
	baz=311,SNR=51						
U38A	Gravette	2.67	83	Pn	Pn	23 07 28.8	-0.1
U38A				Pg	Pg	23 07 34.7	-1.5
Z35A	Perchaven, San	2.82	173		Pn	23 07 32.0	+1.1
Z35A	Perchaven, San	2.82	173	P	Pn	23 07 31.5	+0.6
	baz=353,SNR=9.7						
Z35A				S	Sb	23 08 08.2	-2.7
	baz=353						
HHAR	Hobbs	3.02	86		Pn	23 07 33.6	-0.1
KSU1	Kansas State U	3.07	15	Pn	Pn	23 07 34.4	0.0
KSU1					Pb	23 07 41.7	+1.3
KSU1				IAmb_Lg		23 08 26.2	
	comp=Z,65nm,0.8s						
CBKS	Cedar Bluff	3.14	329	Pn	Pn	23 07 34.8	-0.6
CBKS					Pb	23 07 42.8	+1.3
CBKS	Cedar Bluff	3.14	329	P	Pn	23 07 36.0	+0.6
	baz=148						
AMTX	Amarillo	3.51	250	Pn	Pn	23 07 40.9	+0.4
AMTX					Pb	23 07 48.9	+1.1
AMTX	Amarillo	3.51	250	P	Pn	23 07 40.7	+0.2
	baz=68						
Z38A	Mt. Pleasant	3.62	142	Pn	Pn	23 07 42.2	+0.3
Z38A				Pg	Pb	23 07 51.3	+1.6
Z38A				IAmb_Lg		23 08 45.6	
	comp=Z,110nm,0.8s						
Z38A	Mt. Pleasant	3.62	142	P	Pn	23 07 42.2	+0.3
	baz=324						
MIAR	Mount Ida	3.70	114		Pn	23 07 43.6	+0.6
MIAR				IAmb_Lg		23 08 45.2	
	comp=Z,68nm,0.8s						
MIAR	Mount Ida	3.70	114	P	Pn	23 07 43.6	+0.6
	baz=297,SNR=21						
MIAR				S	Sn	23 08 28.2	+1.2
	baz=297						
ABTX	Abilene, Hawle	3.87	206	Pn	Pn	23 07 45.0	-0.4
ABTX				IAmb_Lg		23 08 47.4	
	comp=Z,56nm,0.9s						
WHTX	Lake Whitney,	4.14	178		Pn	23 07 49.2	+0.1
WHTX	Lake Whitney,	4.14	178	P	Pn	23 07 49.2	+0.1
	baz=358,SNR=14						
237A	Washetta, Mont	4.40	159		Pn	23 07 52.1	-0.6
237A	Washetta, Mont	4.40	159	P	Pn	23 07 52.5	-0.2
	baz=340						
237A				S	Sn	23 08 43.6	-0.8
	baz=340						
MGMO	Mountain Grove	4.46	75		Pn	23 07 54.1	+0.6
MGMO				IAmb_Lg		23 09 04.2	
	comp=Z,42nm,0.8s						
WHAR	Wooly Hollow	4.46	99	Pg	Pg	23 08 09.2	-1.3
WHAR				IAmb_Lg		23 09 14.0	
	comp=Z,79nm,1.2s						
WLAR	White Oak Lake	4.47	122	IAmb_Lg		23 09 17.6	
	comp=Z,65nm,0.8s						
UALR	University of	4.55	106	IAmb_Lg		23 09 18.6	
	comp=Z,51nm,0.8s						
N33A	J Bar K, Exete	4.60	2	IAmb_Lg		23 09 19.8	
	comp=Z,48nm,0.8s						
P38A	Dawn	4.77	42	IAmb_Lg		23 09 18.4	
	comp=Z,45nm,0.7s						
R40A	Maddies Statio	4.81	62	IAmb_Lg		23 09 16.6	
	comp=Z,60nm,0.9s						
R40A	Maddies Statio	4.81	62	P	Pn	23 07 58.2	-0.1
	baz=245,SNR=13						
KSCO	Kaye Shedlock'	4.88	308	IAmb_Lg		23 09 28.4	
	comp=Z,39nm,0.7s						
CCAR	Cane Creek	5.32	113	IAmb_Lg		23 09 47.9	
	comp=Z,82nm,0.9s						
435B	Jarrell	5.34	179	IAmb_Lg		23 09 42.6	
	comp=Z,51nm,0.7s						
T25A	Trinidad	5.52	282	IAmb_Lg		23 09 55.0	
	comp=Z,62nm,0.7s						
OGNE	Ogallala	5.89	326	IAmb_Lg		23 10 05.3	
	comp=Z,58nm,0.8s						
JCT	Junction City	5.92	198	IAmb_Lg		23 10 07.5	
	comp=Z,49nm,0.8s						
GNAR	Gosnell	6.20	89	IAmb_Lg		23 10 18.1	
	comp=Z,69nm,0.8s						
SLM	Saint Louis	6.42	65	IAmb_Lg		23 10 08.2	
	comp=Z,38nm,0.8s						
K31A	O'Neill	6.53	353	IAmb_Lg		23 10 25.1	
	comp=Z,59nm,0.8s						
CGM3	Cape Girardeau	6.53	77	IAmb_Lg		23 10 08.4	
	comp=Z,29nm,0.9s						
Q24A	Divide	6.58	298	IAmb_Lg		23 10 14.9	
	comp=Z,40nm,1.0s						
HICK	Hickman	6.82	84	IAmb_Lg		23 10 28.4	
	comp=Z,49nm,0.8s						
BRIGG	Briggsdale	6.86	312	IAmb_Lg		23 10 29.0	
	comp=Z,37nm,0.8s						
OXF	Oxford	6.94	101	IAmb_Lg		23 10 32.9	
	comp=Z,34nm,0.9s						
W45A	Hickory Valley	6.97	96	IAmb_Lg		23 10 28.3	
	comp=Z,39nm,0.8s						
N41A	Harden Midland	7.03	47	IAmb_Lg		23 10 29.2	
	comp=Z,49nm,0.7s						
Y45A	Yeager Farm, C	7.04	106	IAmb_Lg		23 10 46.8	
	comp=Z,28nm,0.7s						
L40A	Anamosa	7.75	38	IAmb_Lg		23 10 53.8	
	comp=Z,37nm,0.8s						
833A	Chaparral WMA,	7.93	191	IAmb_Lg		23 11 01.9	
	comp=Z,32nm,1.0s						
OLIL	Olney	8.04	68	IAmb_Lg		23 11 13.6	
	comp=Z,42nm,1.0s						
N23A	Red Feather La	8.04	309	IAmb_Lg		23 11 12.1	
	comp=Z,46nm,0.9s						
USIN	University of	8.20	74	IAmb_Lg		23 11 11.3	
	comp=Z,47nm,1.1s						
O44A	Mansfield	8.28	58	IAmb_Lg		23 11 16.1	
	comp=Z,49nm,0.9s						
Z47A	Carrollton	8.43	108	IAmb_Lg		23 11 14.0	
	comp=Z,18nm,1.1s						
JFWS	Jewell Farm	8.86	38	IAmb_Lg		23 11 38.7	
	comp=Z,32nm,0.8s						
M44A	Midewin, Midew	9.16	52	IAmb_Lg		23 11 42.1	
	comp=Z,30nm,0.7s						
RSSD	Black Hills	9.34	331	IAmb_Lg		23 11 49.5	
	comp=Z,18nm,1.1s						
I40A	Norwalk	9.44	33	IAmb_Lg		23 11 53.8	
	comp=Z,16nm,0.9s						
SPMN	Marine on St.	9.80	21	IAmb_Lg		23 11 59.1	
	comp=Z,22nm,1.1s						

IDC 04 23:12:22.5±4.3, 11°.11S×165°.08E, h0km, mb3.7/4, mbtmp3.7/4, MS3.3/6, Error ellipse: s-maj=186.2km s-min=33.4km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	14.59	297	LR	LR	23 21 19.4	
	comp=Z,90nm,21.3s,baz=301,slow=37						
PMG	Port Moresby	17.72	274	LR	LR	23 22 55.2	
	comp=Z,77nm,20.0s,baz=104,slow=36						
CTA	Charters Tower	20.19	241	LR	LR	23 22 27.7	
	comp=Z,38nm,21.4s,baz=78,slow=30						
WRA	Warramunga Arr	30.85	250	P	P	23 18 40.5	-0.1
	1.1nm,1.0s,baz=79,slow=9.3,SNR=4.8						
WRA				LR	LR	23 29 16.5	
	comp=Z,51nm,18.2s,baz=97,slow=33						
	1.1nm,1.0s						
ASAR	Alice Springs	32.18	243	P	P	23 18 52.0	-0.4
	0.2nm,0.7s,baz=66,slow=9.8,SNR=2.1						
	0.2nm,0.7s						
RPN	Rapa Nui	81.13	116	LR	LR	23 50 26.8	
	comp=Z,14nm,22.0s,baz=240,slow=28						
ILAR	Eielson Array	83.78	19	P	P	23 24 52.8	-0.5
	0.5nm,0.7s,baz=241,slow=5.1,SNR=6.2						
	0.5nm,0.7s						
MKAR	Makanchi Array	93.12	317	P	P	23 25 39.7	+1.1
	0.6nm,0.6s,baz=97,slow=6.1,SNR=4.4						
	0.6nm,0.6s						
ZALV	Zalesovo Beam	93.22	324	LR	LR	00 05 43.4	
	comp=Z,94nm,20.6s,baz=167,slow=34						

*WEL **04** 23:23:00, 37°.35S×178°.90E, h46km, ML4.7, Mw4.4, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}-4.79; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$5.22; $M_{r\theta}$1.67; $M_{\theta\phi}$1.83; $M_{\phi r}$-0.06; Fault plane solution: $M_0$5.59000×10^{15} NP1: ϕ_s357.00000°, δ46.00000°, λ-118.00000°. NP2: ϕ_s215.00000°, δ51.00000°, λ-64.00000°. Principal axes: T 577.8500, Plg3.0000°, Azm287.0000°; N -37.8100, Plg20.0000°, Azm17.0000°; P -540.0400, Plg70.0000°, Azm190.0000°;*

*NOU **04** 23:23:21.8, 37°.25S×179°.73E, h0km, MLv5.0/8, Off E. Coast of N. Island, N.Z.*

*NEIC **04** 23:23:27.6±1.8, 37°.55S±0°.08×179°.17E±0°.06, h10km±1km, mb4.6/9, Mwr4.4/18, Error ellipse: s-maj=13.7km s-min=7.7km az=357.0*

*NEIC **04** 23:23:27.7, 37°.55S×179°.17E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.86; $M_{\theta\theta}$3.74; $M_{\phi\phi}$-0.87; $M_{r\theta}$-0.06; $M_{\theta\phi}$2.28; $M_{\phi r}$1.83; Fault plane solution: $M_0$4.47000×10^{15} NP1:ϕ_s217.53000°, δ59.54000°, λ-132.70000°. NP2:ϕ_s98.75000°, δ50.69000°, λ-40.94000°. Principal axes: T 4.7313, Plg5.0000°, Azm336.0000°; N -0.5697, Plg36.0000°, Azm243.0000°; P -4.1616, Plg54.0000°, Azm73.0000°;*

*WEL **04** 23:23:32.4±0.7, 37°S±4°×17°9E±°, h20km, M4.6/24, ML4.9/24, MLv4.6/24 Error ellipse: s-maj=0.0km s-min=0.0km az=102.7*

*IDC **04** 23:23:35.3±2.5, 37°.35S×178°.79E, h66km±18km, mb4.0/4, mbtmp4.3/5, MS3.4/7, Error ellipse: s-maj=34.0km s-min=17.1km az=129.0*

ISC 04 23:23:28.0±1.4, 37°.44S±0°.04×179°.21E±0°.05, h18km±6km, n184, σ1§67/211, mb4.3/8, MS3.5/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.73	260		Pn	23 23 43.5	+0.2
MXZ					Sg	23 23 50.2	-1.8
MXZ	Matakaoa Point	0.73	260	P	Pn	23 23 43.6	+0.2
MXZ	Matakaoa Point	0.73	260	P	Pn	23 23 43.5	+0.2
MXZ				S	Sg	23 23 50.7	-1.4
WMGZ	Waiomatatini S	0.74	239	P	Pn	23 23 46.4	+2.9
WMGZ				S	Sn	23 23 56.6	+2.3
PUZ	Puketiti	0.99	230	P	Pn	23 23 50.0	+3.0
PUZ				S	Sn	23 24 02.8	+2.3
PKGZ	Pakihiroa	1.01	243	P	Pg	23 23 49.4	+1.8
PKGZ				S	Sn	23 24 01.3	+0.2
HAZ	Te Kaha	1.18	254	P	Pb	23 23 50.5	+0.7
HAZ				S	Sb	23 24 05.0	+0.3
TWGZ	Tauwhareparae	1.22	233	P	Pg	23 23 53.2	+1.5
CNGZ	Carnagh Statio	1.31	217	P	Pg	23 23 55.5	+2.2
RUGZ	Raukumara Rang	1.33	246	P	Pg	23 23 54.1	+0.5
RUGZ				S	Sb	23 24 09.5	+0.3
TKGZ	Te Karaka	1.47	227	P	Pg	23 23 56.3	0.0
MWZ	Matawai	1.61	236	P	Pb	23 23 57.9	+0.8
MWZ				S	Sb	23 24 16.7	-0.4
WIZ	White Island	1.61	266	P	Pn	23 23 55.5	0.0
WIZ				S	Sn	23 24 13.8	-2.0
RIGZ	Rimuhau	1.71	222	P	Pg	23 23 59.6	-1.2
RAGZ	Rawiri	1.77	233	P	Pb	23 24 00.3	+0.3
RAGZ				S	Sn	23 24 20.4	+0.5
WHRZ	Whale Island	1.82	256	P	Pn	23 23 59.7	+1.3
URZ	Urewera	1.85	243	P	Pb	23 24 00.8	-0.5
	2μm,0.3s,baz=5.4,slow=1.2,SNR=594						
URZ				S	Sn	23 24 21.6	-0.3
	4μm,0.7s,baz=118,slow=12,SNR=36						
URZ				LR	LR	23 24 52.1	
	comp=Z,1μm,20.3s,baz=116,slow=48						
URZ	Urewera	1.85	243	P	Pb	23 24 01.1	-0.2
URZ	Urewera	1.85	243	P	Pb	23 24 00.8	-0.5
URZ				S	Sn	23 24 22.2	+0.4
KNZ	Kokohu	1.99	217	P	Pb	23 24 02.9	-0.8
SNGZ	Shannon Statio	2.00	227	P	Pb	23 24 03.2	-0.6
SNGZ				S	Sb	23 24 27.6	-0.7
MHGZ	Mahia Peninsul	2.00	211	P	Pb	23 24 04.0	+0.2
EDRZ	Edgecumbe	2.07	250	P	Pn	23 24 03.5	+1.6
MARZ	Manawahe	2.09	254	P	Pn	23 24 03.1	+1.0
RTZ	Ruatahuna	2.12	236	P	Pb	23 24 04.9	-1.0
RTZ				S	Sn	23 24 29.5	+1.0
OPRZ	Ohinepanea	2.15	258	P	Pn	23 24 03.5	+0.6
OPRZ				S	Sn	23 24 25.8	-3.3
MUGZ	Murupara	2.19	241	P	Pn	23 24 04.8	+1.3
RAHZ	Arahi	2.23	228	P	Pb	23 24 06.7	-1.1
RAHZ				S	Sn	23 24 32.6	+1.3
WHHZ	Waihua	2.26	223	P	Pb	23 24 07.1	-1.1
WHHZ				S	Sb	23 24 33.9	-2.0
MKRZ	Makatiti	2.29	251	P	Pn	23 24 06.9	+2.1
TARZ	Mount Tarawera	2.29	249	P	Pn	23 24 06.6	+1.7
LIRZ	Lichensteins R	2.31	255	P	Pn	23 24 06.6	+1.4
RRRZ	Republican Roa	2.32	246	P	Pn	23 24 06.8	+1.5
MTHZ	Maungataniwha	2.34	232	P	Pb	23 24 08.1	-1.6
MTHZ				S	Sn	23 24 34.8	+0.8
OMRZ	Omania	2.35	253	P	Pn	23 24 07.1	+1.4
TGRZ	Tauranga	2.36	262	P	Pn	23 24 06.5	+0.6
MYRZ	Mayor Island	2.37	273	P	Pn	23 24 06.3	+0.2
HLRZ	Highlands Stat	2.41	249	P	Pn	23 24 08.3	+1.8
KARZ	Kaharoa	2.42	255	P	Pn	23 24 07.9	+1.2
PRRZ	Plateau Road	2.47	244	P	Pn	23 24 09.0	+1.7
NGRZ	Ngongotaha	2.49	254	P	Pn	23 24 09.4	+1.8
UTU	Utuhina	2.50	252	P	Pn	23 24 10.0	+2.2
HRRZ	Handcock Road	2.50	247	P	Pn	23 24 09.7	+1.8
HSRZ	Hossack Road	2.51	249	P	Pn	23 24 10.3	+2.5
NMHZ	Naumai	2.52	228	P	Pb	23 24 10.7	-1.9
NMHZ				S	Sn	23 24 39.9	+1.6
ARHZ	Aropaoanui	2.52	223	P	Pb	23 24 10.5	-2.2
ARHZ				S	Sn	23 24 40.2	+1.9
ALRZ	Allen Road	2.53	243	P	Pn	23 24 09.7	+1.5
MRHZ	Matea Rd	2.61	237	P	Pn	23 24 11.2	+1.9
MRHZ				S	Sn	23 24 39.4	-1.2
GRRZ	Galatos Road	2.62	249	P	Pn	23 24 11.4	+2.0
KMRZ	Kaimai	2.63	260	P	Pn	23 24 10.1	+0.6
WPRZ	Whakapapatarin	2.64	245	P	Pn	23 24 11.7	+2.0
BKZ	Black Stump Fm	2.75	230		Pn	23 24 13.1	+1.9
BKZ				Sn	Sn	23 24 43.3	-0.7
BKZ	Black Stump Fm	2.75	230	P	Pn	23 24 13.7	+2.5
BKZ	Black Stump Fm	2.75	230	P	Pn	23 24 13.2	+2.0
BKZ				S	Sn	23 24 43.2	-0.7
CKHZ	Cape Kidnapper	2.78	216	P	Pn	23 24 13.2	+1.7
CKHZ				S	Sn	23 24 45.8	+1.2
MCHZ	McNeill Hill	2.81	224	P	Pn	23 24 14.3	+2.2
WHTZ	Whakaora	2.85	244	P	Pn	23 24 15.5	+2.9
KUZ	Kuaotunu	2.88	283	P	Pn	23 24 12.3	-0.6
KUZ	Kuaotunu	2.88	283	P	Pn	23 24 11.9	-1.0
KUZ				S	Sn	23 24 40.3	-6.8
KWHZ	Kaweka Forest	2.96	227	P	Pn	23 24 15.8	+1.8
KWHZ				S	Sn	23 24 49.1	0.0
TOZ	Tahuroa Road	2.96	263	P	Pn	23 24 14.6	+0.5
KAHZ	Kahuranaki	2.98	217	P	Pn	23 24 16.0	+1.6
KAHZ				S	Sn	23 24 50.6	+0.9
WATZ	Wairara	3.02	244	P	Pn	23 24 17.3	+2.3
TLZ	Tolley Road	3.04	252	P	Pn	23 24 16.5	+1.3
RITZ	Rihia Road	3.06	239	P	Pn	23 24 17.6	+2.2
RITZ				S	Sn	23 24 50.2	-1.3
RATZ	Rangitukua	3.06	241	P	Pn	23 24 17.6	+2.0
KATZ	Kakaramea	3.17	240	P	Pn	23 24 19.1	+2.1
PXZ	Pawanui	3.17	215	P	Pn	23 24 18.3	+1.3
PXZ				S	Sn	23 24 54.2	-0.2
BHHZ	Black Hill Sta	3.21	229	P	Pn	23 24 19.4	+1.8
BHHZ				S	Sn	23 24 54.1	-1.3
TMVZ	Te Maari	3.23	238	P	Pn	23 24 19.3	+1.4
TMVZ				S	Sn	23 24 53.7	-2.2
ETVZ	East Tongariro	3.24	237	P	Pn	23 24 19.3	+1.4
ETVZ				S	Sn	23 24 53.9	-2.2
GRZ	Great Barrier	3.24	290	P	Pn	23 24 17.5	-0.3
NTVZ	North Tongarir	3.24	238	P	Pn	23 24 19.6	+1.5
NTVZ				S	Sn	23 24 54.3	-1.9
MKAZ	Moumakai	3.25	275	P	Pn	23 24 18.1	+0.1
KRVZ	Karewarewa	3.26	238	P	Pn	23 24 20.0	+1.7
OTVZ	Oturere	3.28	237	P	Pn	23 24 20.1	+1.5
OTVZ				S	Sn	23 24 55.0	-2.2
NNVZ	North Ngauruho	3.30	238	P	Pn	23 24 20.6	+1.8
WTVZ	West Tongariro	3.31	238	P	Pn	23 24 20.8	+1.8
SNVZ	South Ngauruho	3.31	237	P	Pn	23 24 20.4	+1.4
SNVZ				S	Sn	23 24 55.9	-2.0
WIAZ	Waiheke Island	3.32	280	P	Pn	23 24 19.0	-0.1
NGZ	Ngauruhoe	3.33	237	P	Pn	23 24 20.8	+1.5
TUVZ	Tukino	3.34	236	P	Pn	23 24 21.0	+1.6
MOVZ	Moawhango	3.35	233	P	Pn	23 24 20.7	+1.1
MOVZ				S	Sn	23 24 56.2	-2.7
TWVZ	Taurewa	3.39	240	P	Pn	23 24 21.6	+1.5
WHVZ	Whangaehu Hut	3.39	236	P	Pn	23 24 21.8	+1.6
FWVZ	Far West T-bar	3.40	237	P	Pn	23 24 21.9	+1.5
WPHZ	Waipukurau	3.40	219	P	Pn	23 24 21.4	+1.3
WPHZ				S	Sn	23 25 00.1	+0.1
WNVZ	Wahianoa	3.41	235	P	Pn	23 24 21.8	+1.4
PNHZ	Pukenui	3.42	223	P	Pn	23 24 21.1	+0.7
PNHZ				S	Sn	23 24 59.4	-1.1
TRVZ	Turoa	3.43	236	P	Pn	23 24 22.2	+1.5
ETAZ	East Tamaki Re	3.46	277	P	Pn	23 24 21.5	+0.6
PRHZ	Porangahau	3.47	215	P	Pn	23 24 21.9	+0.8
MBAZ	Motutapu North	3.51	280	P	Pn	23 24 22.0	+0.3
MTVZ	Mangateitei	3.52	235	P	Pn	23 24 23.3	+1.4
MTVZ				S	Sn	23 25 00.7	-2.4
ABAZ	Army Bay	3.60	282	P	Pn	23 24 24.0	+1.1
HIZ	Hauiti	3.61	251	Pn	Pn	23 24 24.9	+1.9
HIZ				Sn	Sn	23 25 05.0	-0.1
HIZ	Hauiti	3.61	251	P	Pn	23 24 25.1	+2.1
HIZ	Hauiti	3.61	251	P	Pn	23 24 25.1	+2.1
EPAZ	Eden Park BICE	3.62	278	P	Pn	23 24 24.0	+1.0
HBAZ	Herne Bay Bore	3.63	278	P	Pn	23 24 24.5	+1.3
TSZ	Takapari Road	3.65	223	P	Pn	23 24 24.0	+0.4
DVHZ	Dannevirke	3.72	219	P	Pn	23 24 25.1	+0.7
WTAZ	Waiatarua	3.74	276	P	Pn	23 24 25.9	+1.1
RVAZ	Riverhead Bore	3.76	279	P	Pn	23 24 25.9	+0.8
VRZ	Vera Road	3.89	243	P	Pn	23 24 28.9	+2.1
BFZ	Birch Farm	3.98	215		Pn	23 24 27.9	-0.2
BFZ				Sn	Sn	23 25 12.4	-1.8
BFZ	Birch Farm	3.98	215	P	Pn	23 24 28.5	+0.4
POWZ	Post Office Ro	3.99	221	P	Pn	23 24 29.0	+0.8
POWZ				S	Sn	23 25 12.3	-2.2
PRWZ	Pori Road	4.01	218	P	Pn	23 24 29.2	+0.8
WAZ	Wanganui	4.04	234	P	Pn	23 24 30.6	+1.6
OHWZ	Ohakea	4.11	227	P	Pn	23 24 31.6	+1.7
OHWZ				S	Sn	23 25 16.2	-1.3
MHEZ	Mangahewa	4.18	245	P	Pn	23 24 34.4	+3.6
CPWZ	Castlepoint	4.18	213	P	Pn	23 24 31.4	+0.6
WCZ	Waipu Caves	4.19	289	P	Pn	23 24 31.5	+0.6
TIWZ	Tintock	4.22	217	P	Pn	23 24 32.0	+0.6
LREZ	Lake Rotokare	4.28	240	P	Pn	23 24 34.6	+2.4
PREZ	Palmer Road	4.40	243	P	Pn	23 24 37.1	+3.2
NEZ	North Egmont	4.42	244	P	Pn	23 24 37.1	+2.9
PKE	Pukeiti	4.47	245	P	Pn	23 24 38.8	+3.9
KHEZ	Kahui Hut	4.49	244	P	Pn	23 24 38.1	+2.9
KHEZ	Kahui Hut	4.49	244	P	Pn	23 24 38.0	+2.9
NBEZ	Newall Road No	4.58	245	P	Pn	23 24 39.6	+3.3
NMEZ	Namu Road	4.63	243	P	Pn	23 24 40.5	+3.5
MSWZ	Moikau Station	5.02	216		Pn	23 24 41.4	-0.9
OUZ	Omahuta	5.05	294	Pn	Pn	23 24 43.6	+0.8
OUZ	Omahuta	5.05	294	P	Pn	23 24 43.8	+1.0
OUZ	Omahuta	5.05	294	P	Pn	23 24 43.7	+1.0
PLWZ	Palliser	5.14	215	Pn	Pn	23 24 43.1	-0.9
PLWZ				Sn	Sn	23 25 39.2	-3.7
SNZO	South Karori	5.21	221		Pn	23 24 43.2	-1.8
TUWZ	Tuamarina	5.70	224		Pn	23 24 50.4	-1.3
CMWZ	Cape Campbell	5.78	220	Pn	Pn	23 24 52.6	-0.3
CMWZ	Cape Campbell	5.78	220	P	Pn	23 24 55.1	+2.2
NNZ	Nelson	5.89	228	Pn	Pn	23 24 53.5	-0.8
BSWZ	Blackbirch Sta	5.94	222		Pn	23 24 53.4	-1.6
QRZ	Quartz Range	6.20	235	Pn	Pn	23 24 57.0	-1.5
THZ	Tophouse	6.51	226	Pn	Pn	23 25 01.3	-1.6
KHZ	Kahutara	6.61	219	Pn	Pn	23 25 03.0	-1.2
CTZ	Chatham Island	7.04	155	P	Pn	23 25 17.1	+7.0
LTZ	Lake Taylor	7.53	223	Pn	Pn	23 25 15.5	-1.4
MQZ	McQueen's Vall	8.01	217	Pn	Pn	23 25 20.8	-2.5
OXZ	Oxford	8.03	221	Pn	Pn	23 25 21.5	-2.3
RAO	Raoul Island	8.51	17	P	Pn	23 25 36.1	+5.8
	79nm,0.3s,baz=0.0,slow=20,SNR=2.1						
RAO				S	Sn	23 27 05.2	-0.6
	105nm,0.3s,baz=18,slow=20,SNR=1.8						
RPZ	Rata Peaks	8.82	222	P	Pn	23 25 31.9	-2.6
	12nm,0.3s,baz=38,slow=1.7,SNR=30						
RPZ				S	Sn	23 27 01.4	-12
	36nm,0.3s,baz=24,slow=1.2,SNR=5.7						
RPZ	Rata Peaks	8.82	222	Pn	Pn	23 25 33.0	-1.5
FOZ	Fox Glacier	9.39	227	Pn	Pn	23 25 40.5	-1.8
LBZ	Lake Benmore	9.73	222	Pn	Pn	23 25 45.4	-1.7
ODZ	Otahua Downs	9.96	218		Pn	23 25 47.7	-2.4
WKZ	Wanaka	10.65	223	Pn	Pn	23 25 56.5	-3.1
DZM	Mont Dzumac	18.88	321	*e*LR	LR	23 32 13.4	
	comp=Z,264nm,24.8s						
DZM	Mont Dzumac	18.88	321	LR	LR	23 33 24.0	
	comp=Z,176nm,21.2s,baz=200,slow=32						
MSVF	Nonsavu	19.66	357	P	Pn	23 27 58.7	+1.3
	3.1nm,0.5s,baz=233,slow=20,SNR=3.0						
MSVF				LR	LR	23 34 08.5	
	comp=Z,115nm,19.7s,baz=185,slow=32						
RAR	Rarotonga	24.35	54	LR	LR	23 36 27.3	
	comp=Z,33nm,20.4s,baz=300,slow=31						
TBI	Tubuai	30.29	71	*e*LR	LR	23 37 29.8	
	comp=Z,2μm,24.5s						
TBI				*e*LR	LR	23 37 30.0	
	comp=Z,532nm,25.0s						
TBI	Tubuai	30.29	71	*e*T	T	00 01 35.0	
	19nm,0.3s						
STKA	Stephens Creek	31.29	269	P	P	23 29 46.9	-0.1
	2.5nm,0.5s,baz=108,slow=8.6,SNR=6.2						
STKA				LR	LR	23 40 56.1	
	comp=Z,135nm,18.7s,baz=152,slow=34						
	2.5nm,0.5s						
STKA	Stephens Creek	31.29	269	P	P	23 29 47.9	+0.9
CTA	Charters Tower	33.45	292	P	P	23 30 03.9	-2.1
	1.0nm,0.4s,baz=117,slow=6.8,SNR=1.5						
CTA				LR	LR	23 42 37.3	
	comp=Z,106nm,18.1s,baz=248,slow=34						
	1.0nm,0.4s						
CTAO	Charters Tower	33.45	292	P	P	23 30 06.4	+0.4
CTAO				IAmb	IAmb	23 30 18.9	
	comp=Z,5.3nm,0.9s						
PPT2	Papeete2	33.78	63	*e*LR	LR	23 39 07.5	
	comp=Z,116nm,25.8s						
PPT	Papeete	33.80	63	LR	LR	23 42 22.2	
	comp=Z,22nm,19.9s,baz=182,slow=33						
BBOO	Buckleboo	35.37	264	P	P	23 30 22.2	-0.3
BBOO				IAmb	IAmb	23 30 24.2	
	comp=Z,14nm,1.1s						
VAH	Vaihoa	36.74	62	*e*T	T	00 09 32.2	
	comp=Z,6.6nm,0.3s						
COEN	Coen	39.65	296	P	P	23 30 59.5	+0.6
COEN				IAmb	IAmb	23 31 10.4	
	comp=Z,9.0nm,0.9s						
VNDA	Vanda	40.88	186	LR	LR	23 45 07.2	
	comp=Z,46nm,19.2s,baz=348,slow=32						
AS31	Alice Springs	40.98	276	P	P	23 31 10.0	0.0
ASAR	Alice Springs	40.98	276	P	P	23 31 09.4	-0.5
	comp=Z,3.5nm,0.6s,baz=122,slow=8.3,SNR=57						
ASAR				PcP	PcP	23 33 09.0	-1.0
	comp=Z,0.3nm,0.4s,baz=112,slow=3.8,SNR=1.2						
	comp=Z,3.5nm,0.6s						
ASAR	Alice Springs	40.98	276	P	P	23 31 09.8	-0.2
FORT	Forrest	42.45	263	P	P	23 31 21.5	-0.3
WRA	Warramunga Arr	42.62	281	P	P	23 31 22.1	-1.2
	comp=Z,4.0nm,0.6s,baz=122,slow=7.6,SNR=51						
	comp=Z,4.0nm,0.6s						
TAOE	Nuku Hiva Isla	46.41	63	*e*LR	LR	23 44 58.3	
	comp=Z,72nm,25.8s						
CASY	Casey	47.88	211	P	P	23 32 06.0	+1.5
MORW	Morawa	52.62	259	P	P	23 32 40.3	-0.6
MORW				IAmb	IAmb	23 32 41.6	
	comp=Z,15nm,1.1s						
QSPA	South Pole Qui	52.69	180	P	P	23 32 46.7	+5.6
QSPA				IAmb	IAmb	23 32 48.3	
	comp=Z,3.8nm,0.8s						
H03S2	Juan Fernandez	78.50	124	T	T	01 02 03.3	
	baz=231,slow=74						
H03S1	Juan Fernandez	78.51	124	T	T	01 02 05.6	
	baz=231,slow=74						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H03S3	**Juan Fernandez**	**78.52**	**124**	T	T	01 02 04.2	
	baz=231,slow=74						
H03N3	**Juan Fernandez**	**78.73**	**123**	T	T	01 02 13.4	
	baz=234,slow=72						
H03N2	**Juan Fernandez**	**78.74**	**123**	T	T	01 02 10.5	
	baz=234,slow=72						
H03N1	**Juan Fernandez**	**78.75**	**123**	T	T	01 02 10.4	
	baz=234,slow=72						
ARCES	**ARCESS Array B**	**144.85**	**344**	PKP	**PKPdf**	**23 43 03.1**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=24,slow=3.3,SNR=9.8						
KBZ	**Khabaz**	**146.54**	**295**	PKPbc	**PKPdf**	**23 43 06.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=267,slow=7.3,SNR=1.3						
FINES	**FINESS Array B**	**150.70**	**334**	PKPbc	**PKPbc**	**23 43 18.2**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=35,slow=4.3,SNR=14						
BRTR	**Keskin Array B**	**153.09**	**286**	PKPbc	**PKPbc**	**23 43 24.2**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=204,slow=3.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**155.71**	**186**	PKPab	**PKPab**	**23 43 48.7**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=163,slow=3.1,SNR=6.9						

*ASRS **04** 23:25:37.0±0.1, 53°.1N±0°.8×8°8E±°, h0km, MLh3.4/13, Error ellipse: s-maj=2.3km s-min=1.6km az=64.4, confirmed*

*NNC **04** 23:25:40.7±2.2, 53°.09N×87°.49E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=16.9km s-min=8.8km az=87.0, Suspected Mining explosion.*

ISC 04 23:25:38.8±0.7**, 53°.12N**±0°.02×**87°.70E**±0°.02**, h0**km**, n34, σ1s.36**/63**, 6C-7D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TASR	**Tashtagol**	**0.38**	**163**	⇓Pg	**Pg**	**23 25 46.5**	**+0.5**
TASR				Sg	**Sg**	**23 25 51.6**	**+0.6**
MALIN	**Malinovka, Kuz**	**0.39**	**320**	Pg	**Pg**	**23 25 46.9**	**+0.5**
MALIN				Sg	**Sg**	**23 25 52.3**	**+0.8**
TAIL	**Tailep, Kuzbas**	**0.45**	**317**	Pg	**Pg**	**23 25 47.6**	**+0.3**
TAIL				Sg	**Sg**	**23 25 53.7**	**+0.6**
ELT	**Eltsovka**	**0.89**	**280**	Pg	**Pg**	**23 25 55.0**	**-0.9**
ELT				Sg	**Sg**	**23 26 06.3**	**-1.0**
LUZB	**Luzhba, Kemero**	**0.90**	**53**	Pg	**Pg**	**23 25 56.1**	**+0.1**
LUZB				Sg	**Sg**	**23 26 08.4**	**+0.7**
ERU	**Erunakovo, Kuz**	**1.04**	**350**	Pg	**Pg**	**23 25 59.0**	**+0.3**
ERU				Sg	**Sb**	**23 26 13.7**	**-0.1**
VCHU	**Verkh-Chumysh,**	**1.12**	**319**	Pg	**Pg**	**23 26 00.3**	**0.0**
VCHU				Sg	**Sg**	**23 26 15.6**	**+0.7**
KOTO	**Kotino, Kuzbas**	**1.16**	**337**	Pg	**Pb**	**23 26 01.6**	**-0.1**
KOTO				Sg	**Sb**	**23 26 17.4**	**0.0**
ARTR	**Artybash**	**1.35**	**191**	⇓Pg	**Pg**	**23 26 03.6**	**-1.1**
ARTR				Sg	**Sg**	**23 26 21.1**	**-1.0**
POMOR	**Pomortsevo, Ku**	**1.46**	**332**	Pg	**Pb**	**23 26 07.9**	**+1.0**
POMOR				Sg	**Sn**	**23 26 28.0**	**+1.7**
BJR2	**Bachatsky-2, K**	**1.49**	**322**	Pg	**Pg**	**23 26 07.9**	**+0.5**
BJR2				Sg	**Sn**	**23 26 29.2**	**+2.2**
BJR1	**Bachatsky 1, K**	**1.49**	**319**	Pg	**Pn**	**23 26 06.0**	**-0.8**
BJR1				Sg	**Sg**	**23 26 26.7**	**0.0**
GALT	**Gorno-Altaysk,**	**1.58**	**223**	Pg	**Pn**	**23 26 08.3**	**+0.2**
GALT				Sg	**Sn**	**23 26 27.9**	**-1.4**
SALR	**Pechorkino, Sa**	**1.76**	**318**	Pg	Pn	23 26 04.4	-6.1
SALR				Sg	**Sn**	**23 26 28.8**	**-4.8**
ZAA0	**Zalesovo Array**	**1.91**	**297**	⇑Pn	**Pn**	**23 26 13.3**	**+0.7**
	3.1nm,0.3s,baz=116,slow=14						
ZAA0				⇓Sn	**Sn**	**23 26 37.7**	**+0.4**
	20nm,0.7s,baz=115,slow=27						
DJO	**Djoy, Khakassi**	**2.15**	**98**	Pg	**Pb**	**23 26 18.9**	**+0.2**
DJO				Sg	**Sg**	**23 26 48.3**	**+0.3**
CERR	**Cheremushki**	**2.26**	**95**	Pg	**Pg**	**23 26 21.5**	**-0.6**
CERR				Sg	**Sg**	**23 26 51.8**	**+0.3**
KEM	**Kemerovo**	**2.42**	**338**	Sg	**Sb**	**23 26 54.3**	**+0.8**
ULGR	**Ulagan, Altay**	**2.51**	**176**	Pg	**Pb**	**23 26 25.4**	**+0.7**
ULGR				Sg	**Sg**	**23 26 58.4**	**-0.9**
BRCR	**Berchikul'**	**2.55**	**8**	Pg	**Pb**	**23 26 24.4**	**-1.0**
BRCR				Sg	**Sb**	**23 26 58.5**	**+1.2**
CHBI	**Chibit, Altay**	**2.82**	**183**	Pg	**Pb**	**23 26 30.1**	**+0.1**
CHBI				Sg	**Sb**	**23 27 06.4**	**+1.4**
KHAR	**Kharino, NSO,**	**2.86**	**303**	Sg	**Sb**	**23 27 06.1**	**+0.1**
CUR	**Chagan-Uzun**	**3.05**	**172**	Pg	**Pb**	**23 26 33.0**	**-1.1**
CUR				Sg	**Sb**	**23 27 12.5**	**+0.6**
NVSII	**Novosibirsk**	**3.15**	**305**	Pg	**Pb**	**23 26 34.3**	**-1.3**
NVSII				Sg	**Sb**	**23 27 14.3**	**-0.2**
NVS	**Novosibirsk**	**3.15**	**305**	Pg	**Pb**	**23 26 33.9**	**-1.7**
NVS				Sg	**Sb**	**23 27 14.5**	**0.0**
BSTK	**Bystrovka, Nov**	**3.32**	**298**	Pg	**Pb**	**23 26 38.6**	**+0.1**
BSTK				Sg	**Sg**	**23 27 23.1**	**-2.3**
DGZ	**Jazzator, Alta**	**3.43**	**183**	Pg	**Pb**	**23 26 40.1**	**-0.4**
DGZ				Sg	**Sb**	**23 27 23.6**	**+0.8**
MINR	**Mina**	**4.23**	**62**	Pg	**Pg**	**23 26 57.0**	**-2.8**
MINR				Sg	**Sg**	**23 27 55.5**	**+1.0**
KZLR	**Kyzyl**	**4.37**	**106**	Sg	**Sg**	**23 27 56.7**	**-2.5**
GZLN	**Zheleznogorsk**	**4.80**	**45**	Sg	**Sg**	**23 28 11.5**	**-1.3**
KURK	**Kurchatov**	**6.11**	**250**	⇓Pn	**Pn**	**23 27 14.0**	**+3.7**
	8.8nm,2.1s						
KURK				⇑Sn	**Sn**	**23 28 19.0**	**-1.9**
	2.8nm,1.0s						
KURK				⇓Lg	Lg	23 28 49.5	
	11nm,0.9s						
KURBB	**Kurchatov Arra**	**6.21**	**250**	⇑Pn	**Pn**	**23 27 13.0**	**+1.4**
	2.8nm,0.7s,baz=65,slow=15						
KURBB				⇑Sn	**Sn**	**23 28 21.2**	**-1.9**
	5.4nm,0.6s						
KURBB				⇓Lg	Lg	23 28 51.4	
	21nm,1.0s						
MK31	**Makanchi Array**	**7.23**	**211**	⇓Pn	**Pn**	**23 27 28.2**	**+2.5**
	0.2nm,0.2s,baz=31,slow=14,SNR=61						
MK31				⇑Sn	**Sn**	**23 28 48.4**	**-0.1**
	2.5nm,0.6s,baz=31,slow=24						
MK31				⇑Lg	Lg	23 29 21.5	
	2.1nm,0.6s						
MAKZ	**Makanchi**	**7.32**	**213**	Pn	**Pn**	**23 27 28.7**	**+1.9**
MAKZ				Sn	**Sn**	**23 28 51.0**	**+0.4**
MAKZ				Lg	Lg	23 29 31.5	

*KLM **04** 23:26:44, 2°.83N×95°.23E, h10km, mb5.0*

*DJA **04** 23:26:46.7±0.7, 3°N±2°×9°5E±°, h31km±4km, M5.1/36, mB5.6/15, mb5.1/36, MLv5.2/17, Mw(mB)5.1/15*

*MOS **04** 23:26:46.5±0.9, 2°.90N×95°.46E, h36km, mb5.2/54, MS4.4/4, Error ellipse: s-maj=8.6km s-min=4.8km az=109.7*

*NEIC **04** 23:26:48.4±1.2, 2°.88N±0°.06×95°.47E±0°.07, h30km±4km, mb5.0/113, Error ellipse: s-maj=11.1km s-min=8.4km az=64.0*

*BJI **04** 23:26:48.0±0.0, 3°.09N×95°.55E, h35km, mb5.2/73, mB5.1/44, Ms4.7/55, Ms7 4.6/53*

*IDC **04** 23:26:48.1±3.2, 2°.90N×95°.46E, h34km±24km, mb4.4/35, mbtmp4.6/37, ML4.4/3, MS4.1/52, Error ellipse: s-maj=13.7km s-min=10.0km az=43.0*

ISC 04 23:26:46.9±0.4**, 2°.83N**±0°.04×**95°.44E**±0°.04**, h27**km±2km**, h27**km**:pP-P, n513, σ1s.32**/509**, mb5.0**/157**, MS4.3**/76**, 42C-4D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.98**	**115**	P	**Pn**	**23 27 04.7**	**-0.3**
MLSI	**Meulaboh, Aceh**	**1.73**	**34**	P	**Pn**	**23 27 14.5**	**-0.7**
KCSI	**Kotacane, Aceh**	**2.43**	**73**	P	**Pn**	**23 27 25.3**	**+0.3**
GSI	**Gunungsitoli**	**2.62**	**125**	Pn	**Pn**	**23 27 27.7**	**+0.2**
GSI	**Gunungsitoli**	**2.62**	**125**	P	**Pn**	**23 27 27.4**	**-0.1**
GSI				S	**Sn**	**23 27 56.3**	**-2.1**
GSI	**Gunungsitoli**	**2.62**	**125**	P	**Pn**	**23 27 27.6**	**+0.1**
LHMI	**Lhok Sumawe**	**2.82**	**32**		**Pn**	**23 27 30.9**	**+0.6**
LHMI	**Lhok Sumawe**	**2.82**	**32**	P	**Pn**	**23 27 30.0**	**-0.3**
LHMI	**Lhok Sumawe**	**2.82**	**32**	P	**Pn**	**23 27 31.4**	**+1.1**
LASI	**Langsa, Aceh**	**3.00**	**57**	P	**Pn**	**23 27 34.1**	**+1.3**
TSI	**Tuntungan**	**3.19**	**78**	P	**Pn**	**23 27 37.1**	**+1.7**
PSI	**Prapat**	**3.48**	**90**	Pn	**Pn**	**23 27 40.6**	**+1.1**
	27nm,0.3s,baz=283,slow=7.2,SNR=108						
PSI				Sn	**Sn**	**23 28 21.6**	**+1.6**
	19nm,0.3s,baz=82,slow=22,SNR=3.7						
PSI				LR	LR	23 29 19.5	
	comp=Z,2μm,21.1s,baz=266,slow=44						
	168nm,0.6s						
PSI	**Prapat**	**3.48**	**90**	P	**Pn**	**23 27 40.4**	**+0.9**
PSI				P	**Pn**	**23 27 40.1**	**+0.6**
PSI	**Prapat**	**3.48**	**90**	P	**Pn**	**23 27 40.7**	**+1.2**
RPSI	**Rantau Prapat**	**3.48**	**92**		**Pn**	**23 27 40.6**	**+1.1**
RPSI	**Rantau Prapat**	**3.48**	**92**		**Pn**	**23 27 40.6**	**+1.1**
RPSI					**Sn**	**23 28 21.6**	**+1.8**
TRSI	**Tarutung**	**3.61**	**103**	P	**Pn**	**23 27 42.0**	**+0.8**
PBSI	**Pulau Batu**	**4.03**	**135**	P	**Pn**	**23 27 48.4**	**+1.4**
PBSI				S	**Sn**	**23 28 27.2**	**-6.2**
MNSI	**Mandailing Nat**	**4.60**	**116**	P	**Pn**	**23 27 55.6**	**+0.7**
SISI	**Saibi**	**5.51**	**138**	P	**Pn**	**23 28 06.8**	**-0.5**
	1.0nm128nm,0.7s						
SISI				S	**Sn**	**23 29 06.7**	**-3.1**
	1.0nm128nm,0.7s						
KULM	**Kulim**	**5.75**	**65**		**Pn**	**23 28 10.5**	**0.0**
KULM	**Kulim**	**5.75**	**65**	P	**Pn**	**23 28 11.3**	**+0.7**
	1.8nm4μm505nm,0.9s						
KULM	**Kulim**	**5.75**	**65**	P	**Pn**	**23 28 12.0**	**+1.4**
IPM	**Ipoh**	**5.81**	**73**		**Pn**	**23 28 11.9**	**+0.4**
IPM	**Ipoh**	**5.81**	**73**	P	**Pn**	**23 28 12.1**	**+0.6**
	0.7nm2μm183nm,0.7s						
IPM	**Ipoh**	**5.81**	**73**	P	**Pn**	**23 28 12.0**	**+0.4**
IPM	**Ipoh**	**5.81**	**73**	P	**Pn**	**23 28 12.5**	**+1.0**
PPI	**Padang Panjang**	**5.93**	**123**	P	**Pn**	**23 28 12.4**	**-0.7**
	1.1nm10μm254nm,1.2s						
BKNI	**Bangkinang**	**6.12**	**114**		**Pn**	**23 28 15.9**	**+0.1**
BKNI	**Bangkinang**	**6.12**	**114**	P	**Pn**	**23 28 16.1**	**+0.3**
	1.3nm3μm244nm,0.8s						
BKNI	**Bangkinang**	**6.12**	**114**	P	**Pn**	**23 28 16.5**	**+0.7**
	251nm,1.0s						
SKLT	**Songkhla**	**6.73**	**50**	P	**Pn**	**23 28 24.0**	**-0.1**
	0.8nm1μm147nm,0.7s						
SKLT	**Songkhla**	**6.73**	**50**	P	**Pn**	**23 28 24.8**	**+0.7**
SDSI	**Sungai Dareh**	**7.06**	**122**	P	**Pn**	**23 28 29.0**	**+0.4**
	0.3nm44nm,0.7s						
SRIT	**Nakonsritamara**	**7.07**	**36**		**Pn**	**23 28 28.5**	**-0.3**
SRIT	**Nakonsritamara**	**7.07**	**36**	P	**Pn**	**23 28 29.0**	**+0.2**
JRMM	**Jerantut**	**7.10**	**81**	P	**Pn**	**23 28 30.0**	**+0.7**
PPSI	**Pulau Pagai**	**7.19**	**141**	P	**Pn**	**23 28 30.4**	**0.0**
	1.0nm190nm,1.3s						
SURA	**Surathani**	**7.55**	**33**	P	**Pn**	**23 28 35.3**	**-0.1**
MYKOM	**Kota Tinggi**	**8.47**	**97**	Pn	**Pn**	**23 28 48.1**	**+0.1**
MYKOM	**Kota Tinggi**	**8.47**	**97**	P	**Pn**	**23 28 48.6**	**+0.6**
	3μm90nm,1.6s						
MYKOM	**Kota Tinggi**	**8.47**	**97**	P	**Pn**	**23 28 50.0**	**+2.0**
MASI	**Maura Aman, Be**	**9.02**	**131**	P	Pn	23 28 49.6	-6.0
	71nm,0.9s						
LWLI	**Liwa**	**11.61**	**132**	P	**Pn**	**23 29 30.0**	**-1.2**
	155nm,0.7s						
PPBI	**Pangkal Pinang**	**11.79**	**115**	P	**Pn**	**23 29 29.4**	**-4.1**
	17μm17nm,0.6s						
KASI	**Kota Agung**	**12.27**	**133**	P	**Pn**	**23 29 38.5**	**-1.6**
	41nm,1.0s						
NAYO	**Nakonayok**	**12.81**	**27**	P	**Pn**	**23 29 47.3**	**-0.1**
KSM	**Kuching**	**14.92**	**95**	P	**P**	**23 30 22.1**	**+0.5**
KSM	**Kuching**	**14.92**	**95**	P	**Pn**	**23 30 12.1**	**-4.2**
	908nm80nm,1.2s						
KSM				pP	**P**	**23 30 22.9**	**+1.3**
	908nm80nm,1.2s						
KSM	**Kuching**	**14.92**	**95**	P	**Pn**	**23 30 18.2**	**+1.9**
PALK	**Pallekele**	**15.33**	**287**	Pn	**Pn**	**23 30 22.6**	**+0.9**
	0.2nm,0.3s,baz=133,slow=7.1,SNR=1.9						
PALK				Sn	Sn	23 32 56.4	-14
	5.1nm,0.3s,baz=298,slow=17,SNR=13						
PALK				LR	LR	23 35 54.0	
	comp=Z,1μm,18.5s,baz=212,slow=36						
	8.8nm,1.1s						
PALK	**Pallekele**	**15.33**	**287**	*i* P	**Pn**	**23 30 21.8**	**+0.1**
LEM	**Lembang**	**15.48**	**128**	LR	LR	23 37 00.5	
	comp=Z,1μm,21.2s,baz=279,slow=40						
UBPT	**Khong Chiam**	**15.84**	**38**	Pn	**Pn**	**23 30 27.9**	**-0.3**
UBPT	**Khong Chiam**	**15.84**	**38**	P	**Pn**	**23 30 28.3**	**0.0**
	48nm,1.0s						
UBPT	**Khong Chiam**	**15.84**	**38**	P	**Pn**	**23 30 28.6**	**+0.3**
CM31	**Chiang Mai Arr**	**15.91**	**12**	P	**P**	**23 30 31.9**	**-0.7**
CM31				IAmb	IAmb	23 30 32.8	
	comp=Z,118nm,0.9s						
CMAR	**Chiang Mai Arr**	**15.91**	**12**	Pn	**Pn**	**23 30 29.1**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=202,slow=11,SNR=80						
CMAR				LR	LR	23 37 35.7	
	comp=Z,1μm,18.3s,baz=210,slow=41						
CMAR	**Chiang Mai Arr**	**15.91**	**12**		**P**	**23 30 31.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**15.91**	**12**	*ce*P	**Pn**	**23 30 30.6**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,74nm,0.8s						
CHTO	**Chiang Mai**	**16.26**	**12**	Pn	**Pn**	**23 30 32.4**	**-1.2**
CHTO	**Chiang Mai**	**16.26**	**12**	P	**Pn**	**23 30 32.4**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMMT	**Chiang Mai**	**16.26**	**12**	P	**Pn**	**23 30 29.6**	**-4.0**
	comp=Z,678nmcomp=Z,62nm,1.3s						
PHRA	**Phrae**	**16.27**	**16**	Pn	**Pn**	**23 30 33.0**	**-0.8**
SBUM	**Sibu**	**16.77**	**91**		**Pn**	**23 30 40.4**	**+0.3**
SBUM	**Sibu**	**16.77**	**91**	P	**P**	**23 30 42.2**	**0.0**
	comp=Z,39nm,0.9s						
PBKI	**Pangkalan Bun**	**17.13**	**109**	P	**P**	**23 30 51.2**	**+5.0**
SCJI	**Gunung Srandil**	**17.22**	**127**	P	**Pn**	**23 30 45.8**	**0.0**
	comp=Z,24nm,1.0s						
SMRI	**Semarang**	**17.90**	**123**	Pn	**Pn**	**23 30 53.5**	**-0.8**
SMRI	**Semarang**	**17.90**	**123**	P	**Pn**	**23 30 53.8**	**-0.5**
	comp=Z,68nm,1.4s						
VIS	**Vishakhapatnam**	**18.98**	**322**	*e*P	**Pn**	**23 31 08.3**	**+1.0**
VIS				IAmb	IAmb	23 31 24.5	
	comp=Z,42nm,1.0s						
MND	**Mandalay**	**19.09**	**2**	P	**P**	**23 31 04.9**	**-2.8**
SALM	**Salem**	**19.20**	**298**	*e*P	**Pn**	**23 31 13.0**	**+2.9**
SALM				IAmb	IAmb	23 31 29.0	
	comp=Z,14nm,0.8s						
KOD	**Kodaikanal**	**19.30**	**293**	*e*P	**P**	**23 31 08.9**	**-1.5**
KOD				IAmb	IAmb	23 31 18.4	
	comp=Z,12nm,1.1s						
BWNR	**Bhubaneshwar**	**19.74**	**332**	*e*P	**P**	**23 31 14.7**	**-0.1**
BWNR				IAmb	IAmb	23 31 28.8	
	comp=Z,56nm,1.0s						
MTKI	**Muara Teweh, K**	**19.81**	**101**	P	**P**	**23 31 16.2**	**+0.5**
BRDH	**Bariadhala**	**20.07**	**350**	P	**P**	**23 31 19.0**	**+0.6**
	comp=Z,72nm,0.4s,baz=172,slow=20,SNR=4.4						
	comp=Z,72nm,0.4s						
BBKI	**Banjar Baru**	**20.37**	**108**	P	**P**	**23 31 22.0**	**+0.2**
	comp=Z,82nm,1.4s						
KMMI	**Kalianget**	**20.93**	**118**	P	**P**	**23 31 28.0**	**+0.1**
	comp=Z,131nm,1.1s						
KKM	**Kota Kinabalu**	**20.96**	**81**	P	**P**	**23 31 28.5**	**+0.2**
KKM	**Kota Kinabalu**	**20.96**	**81**	P	**P**	**23 31 28.5**	**+0.2**
	comp=Z,2μmcomp=Z,181nm,1.1s						
KKM	**Kota Kinabalu**	**20.96**	**81**	P	**P**	**23 31 29.0**	**+0.8**
MORE	**Moreh**	**21.31**	**357**	*e*P	**P**	**23 31 28.4**	**-3.5**
QIZ	**Qiongzhong**	**21.40**	**40**	P	**P**	**23 31 32.6**	**-0.2**
QIZ				IAmb	IAmb	23 31 34.5	
	comp=Z,37nm,0.9s						
QIZ	**Qiongzhong**	**21.40**	**40**	P	**P**	**23 31 32.6**	**-0.2**
QIZ				pmax	pmax		
	comp=Z,45nm,0.7s						
QIZ				LR	LR		
	comp=Z,2μm,15.9s						
QIZ				LR	LR		
	comp=Z,650nm,14.3s						
QIZ				LR	LR		
	comp=Z,1μm,17.5s						
QIZ	**Qiongzhong**	**21.40**	**40**	P	**P**	**23 31 32.7**	**-0.1**
HYBB	**Hyderabad (bro**	**22.02**	**312**	*e*P	**P**	**23 31 41.0**	**+1.4**
TNCH	**TengChong**	**22.27**	**7**	⇑P	**P**	**23 31 41.2**	**-1.2**
TNCH				pP	pP	23 31 48.7	-0.9
TNCH				PP	**PnPn**	**23 32 09.2**	**+3.7**
TNCH				S	**S**	**23 35 38.9**	**-7.4**
TNCH				sS	pS	23 35 50.7	-5.0
TNCH				pmax	pmax		
	comp=Z,57nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,240nm,4.4s						
TNCH				LR	LR		
	comp=Z,380nm,13.5s						
TNCH				LR	LR		
	comp=Z,570nm,12.4s						
TNCH				LR	LR		
	comp=Z,1μm,14.9s						
KOHI	**KOHIMA**	**22.80**	**357**	*e*P	**P**	**23 31 43.9**	**-4.0**
BOK	**Bokaro**	**22.80**	**337**	*e*P	**P**	**23 31 46.7**	**-1.1**
BOK				IAmb	IAmb	23 31 59.2	
	comp=Z,134nm,0.9s						
SHL	**Shillong**	**22.87**	**352**	P	**P**	**23 31 44.3**	**-4.4**
SHL				IAmb	IAmb	23 31 49.4	
	comp=Z,66nm,0.8s						
SHL	**Shillong**	**22.87**	**352**	P	**P**	**23 31 44.3**	**-4.4**
SHL				pmax	pmax		
	comp=Z,66nm,0.8s						
MYLDM	**Lahad Datu**	**23.12**	**83**	P	**P**	**23 31 51.6**	**+0.3**
MYLDM	**Lahad Datu**	**23.12**	**83**	P	**P**	**23 31 52.1**	**+0.9**
	comp=Z,240nm,1.0s						
BLSP	**Bilaspur**	**23.14**	**327**	*e*P	**P**	**23 31 50.9**	**-0.4**
BLSP				IAmb	IAmb	23 32 02.1	
	comp=Z,76nm,0.9s						
KMI	**Kunming**	**23.26**	**17**	⇑P	**P**	**23 31 52.6**	**-0.1**
KMI				pP	pP	23 32 01.0	+0.9
KMI				sP	sP	23 32 04.9	+1.4
KMI				pmax	pmax		
	comp=Z,64nm,0.8s						
KMI				LR	LR		
	comp=Z,2μm,14.3s						
KMI				LR	LR		
	comp=Z,730nm,14.7s						
KMI				LR	LR		
	comp=Z,2μm,14.3s						
MOKO	**MOKOCHONG**	**23.38**	**358**	*e*P	**P**	**23 31 50.6**	**-3.2**
MOKO				IAmb	IAmb	23 32 08.9	
	comp=Z,46nm,0.7s						
GUWA	**GUWAHATI**	**23.51**	**352**	*e*P	**P**	**23 31 52.1**	**-2.8**
GUWA				IAmb	IAmb	23 31 55.4	
	comp=Z,20nm,0.8s						
ITAN	**ITANAGAR**	**24.24**	**356**	*e*P	**P**	**23 31 59.5**	**-2.3**
ITAN				IAmb	IAmb	23 32 00.7	
	comp=Z,147nm,0.6s						
PZH	**PanZhiHua**	**24.31**	**14**	P	**P**	**23 31 59.3**	**-3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,4.2s						
PZH	**PanZhiHua**	**24.31**	**14**	⇑P	**P**	**23 32 01.8**	**-0.8**
PZH				pP	**pP**	**23 32 10.7**	**+0.3**
PZH				sP	**sP**	**23 32 13.0**	**-0.5**
PZH				S	**S**	**23 36 21.1**	**+0.8**
PZH				sS	**sS**	**23 36 34.6**	**+1.7**
PZH				pmax	pmax		
	comp=Z,60nm,1.5s						
PZH				pmax	pmax		
	comp=Z,120nm,4.2s						
PZH				LR	LR		
	comp=Z,3μm,12.2s						
PZH				LR	LR		
	comp=Z,2μm,13.7s						
PZH				LR	LR		
	comp=Z,3μm,13.4s						
MPSI	**Mapaga**	**24.57**	**95**	P	**P**	**23 32 05.6**	**+0.6**
	comp=Z,1μmcomp=Z,46nm,0.8s						
ODAN	**Odare**	**25.11**	**343**	*e*P	**P**	**23 32 10.8**	**+0.8**
H08S2	**Diego Garcia H**	**25.15**	**245**	T	T	23 58 17.0	
	baz=66,slow=75						
H08S3	**Diego Garcia H**	**25.15**	**245**	T	T	23 58 17.1	
	baz=66,slow=75						
H08S1	**Diego Carcia H**	**25.16**	**245**	T	T	23 58 17.4	
	baz=66,slow=75						
GTK	**Tadong**	**25.22**	**346**	*e*P	**P**	**23 32 10.9**	**0.0**
GTK				IAmb	IAmb	23 32 21.2	
	comp=Z,61nm,0.7s						
SPSI	**Sidrap Palu**	**25.23**	**105**	P	**P**	**23 32 11.5**	**+0.5**
	comp=Z,2μmcomp=Z,28nm,0.8s						
RAMN	**Ramite**	**25.44**	**341**	*e*P	**P**	**23 32 13.4**	**+0.4**
	comp=Z,66nm,0.6s						
TAPN	**Taplejung**	**25.48**	**344**	*e*P	**P**	**23 32 13.7**	**+0.3**
	comp=Z,151nm,0.9s						
KAPI	**Kappang**	**25.51**	**108**	P	**P**	**23 32 13.6**	**+0.1**
	comp=Z,36nm,0.7s,baz=281,slow=8.2,SNR=13						
	comp=Z,36nm,0.7s						
KAPI	**Kappang**	**25.51**	**108**	P	**P**	**23 32 13.3**	**-0.1**
KAPI				IAmb	IAmb	23 32 17.9	
	comp=Z,54nm,0.9s						
KAPI	**Kappang**	**25.51**	**108**	P	**P**	**23 32 13.6**	**+0.1**
	comp=Z,61nm,1.1s						
KAPI	**Kappang**	**25.51**	**108**	P	**P**	**23 32 14.4**	**+0.9**
KAPI	**Kappang**	**25.51**	**108**	*i* P	**P**	**23 32 13.5**	**0.0**
KAPI				pmax	pmax		
	comp=Z,60nm,1.1s						
GYA	**Guiyang**	**25.85**	**24**	⇓*i*P	**P**	**23 32 16.1**	**-0.5**
GYA				pP	pP	23 32 24.5	+0.1
GYA				sP	sP	23 32 28.1	+0.7
GYA				S	**S**	**23 36 39.4**	**-5.5**
GYA				pmax	pmax		
	comp=Z,59nm,1.0s						
GYA				pmax	pmax		
	comp=Z,270nm,4.9s						
GYA				LR	LR		
	comp=Z,1μm,17.6s						
GYA				LR	LR		
	comp=Z,520nm,14.4s						
GYA				LR	LR		
	comp=Z,2μm,17.9s						
BKSI	**Bulukumba**	**25.95**	**108**	P	**P**	**23 32 16.3**	**-1.2**
	comp=Z,610nmcomp=Z,71nm,0.7s						
JIRN	**Jiri**	**26.23**	**341**	*e*P	**P**	**23 32 20.9**	**+0.6**
	comp=Z,126nm,0.7s						
PKIN	**Phulchoki**	**26.42**	**340**	*e*P	**P**	**23 32 23.0**	**+1.1**
APSI	**Ampana**	**26.46**	**98**	P	**P**	**23 32 22.1**	**-0.1**
	comp=Z,58nm,0.8s						
HKPS	**Hong Kong Po S**	**26.52**	**42**	P	**P**	**23 32 22.2**	**-0.4**
HKPS				IAmb	IAmb	23 32 23.4	
	comp=Z,35nm,0.8s						
BSSI	**Bau Bau, Buton**	**26.55**	**110**	P	**P**	**23 32 21.9**	**-1.1**
	comp=Z,50nm,0.8s						
KKN	**Kakani**	**26.66**	**340**	*e*P	**P**	**23 32 24.3**	**+0.3**
	comp=Z,18nm,0.9s						
LSA	**Lhasa**	**27.04**	**352**	P	**P**	**23 32 27.5**	**-0.2**
LSA				IAmb	IAmb	23 32 30.8	
	comp=Z,49nm,0.8s						
LSA	**Lhasa**	**27.04**	**352**	P	**P**	**23 32 28.6**	**+0.9**
LSA				pmax	pmax		
	comp=Z,61nm,0.8s						
LSA	**Lhasa**	**27.04**	**352**	P	**P**	**23 32 27.5**	**-0.2**
LSA				pmax	pmax		
	comp=Z,49nm,0.8s						
LUWI	**Luwuk**	**27.59**	**98**	P	**P**	**23 32 29.2**	**-3.2**
LUWI	**Luwuk**	**27.59**	**98**	P	**P**	**23 32 32.3**	**0.0**
	comp=Z,3μmcomp=Z,79nm,0.8s						
LUWI	**Luwuk**	**27.59**	**98**	P	**P**	**23 32 32.4**	**+0.1**
	comp=Z,78nm,0.8s						
BBSI	**Bau Bau**	**28.33**	**107**	P	P	23 32 43.8	+4.9
CD2	**Chengdu**	**29.02**	**15**	P	**P**	**23 32 43.6**	**-1.3**
CD2				pP	pP	23 32 52.0	-0.7
CD2				sP	sP	23 32 57.2	+1.4
CD2				S	**S**	**23 37 37.3**	**+2.6**
CD2				sS	sS	23 37 50.5	+3.1
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				LR	LR		
	comp=Z,1μm,15.1s						
CD2				LR	LR		
	comp=Z,750nm,15.1s						
CD2				LR	LR		
	comp=Z,2μm,13.3s						
CNSH	**ChangSha**	**30.24**	**32**	⇑P	**P**	**23 32 55.3**	**-0.3**
DAV	**Davao City (W)**	**30.31**	**81**	LR	LR	23 47 13.4	
	comp=Z,319nm,18.2s,baz=239,slow=40						
ENH	**Enshi**	**30.37**	**25**	P	**P**	**23 32 55.8**	**-1.1**
ENH				IAmb	IAmb	23 32 56.6	
	comp=Z,34nm,0.9s						
ENH	**Enshi**	**30.37**	**25**	P	**P**	**23 32 55.9**	**-0.9**
ENH	**Enshi**	**30.37**	**25**	P	**P**	**23 32 54.2**	**-2.7**
ENH				pP	**pP**	**23 33 01.9**	**-2.7**
BATI	**Baumata**	**30.94**	**115**	LR	LR	23 47 40.9	
	comp=Z,647nm,20.0s,baz=256,slow=40						
TWG	**Pinlang**	**31.82**	**49**	P	**P**	**23 33 09.1**	**-0.6**
TWGBT	**Beinan**	**31.82**	**49**	P	**P**	**23 33 10.3**	**+0.6**
NLAI	**Namlea**	**32.21**	**101**	P	**P**	**23 33 16.9**	**+3.6**
LBMI	**Labuha**	**32.23**	**96**	P	**P**	**23 33 14.0**	**+0.5**
	comp=Z,3μmcomp=Z,36nm,1.4s						
SSLB	**Suanglung**	**32.29**	**48**	P	**P**	**23 33 13.3**	**-0.5**
SSLB				IAmb	IAmb	23 33 14.1	
	comp=Z,20nm,0.9s						
SSLB	**Suanglung**	**32.29**	**48**	P	**P**	**23 33 13.8**	**-0.1**
YULB	**Yu-li**	**32.31**	**49**	P	**P**	**23 33 14.0**	**0.0**
YULB	**Yu-li**	**32.31**	**49**	P	**P**	**23 33 14.1**	**0.0**
WHN	**Wuhan**	**32.87**	**31**	⇑P	**P**	**23 33 18.6**	**-0.1**
WHN				sP	**pP**	**23 33 26.9**	**+0.4**
WHN				pmax	pmax		
	comp=Z,130nm,1.1s						
WHN				LR	LR		
	comp=Z,2μm,14.6s						
WHN				LR	LR		
	comp=Z,2μm,13.4s						
WHN				LR	LR		
	comp=Z,3μm,14.4s						
NACB	**Ninganchiao**	**32.99**	**48**	P	**P**	**23 33 19.9**	**0.0**
NACB				IAmb	IAmb	23 33 31.4	
	comp=Z,24nm,0.9s						
YHNB	**Yeheng**	**33.12**	**47**	P	**P**	**23 33 21.1**	**-0.1**
YHNB				IAmb	IAmb	23 33 24.9	
	comp=Z,29nm,1.0s						
XAN	**Xi'an**	**33.51**	**21**	⇑P	**P**	**23 33 23.1**	**-1.3**
XAN				pP	pP	23 33 29.2	-3.0
XAN				S	**S**	**23 38 42.6**	**-2.2**
XAN				pmax	pmax		
	comp=Z,57nm,1.0s						

XAN pmax pmax
comp=Z,250nm,3.7s
XAN LR LR
comp=Z,590nm,11.6s
XAN LR LR
comp=Z,830nm,14.5s
XAN LR LR
comp=Z,1μm,16.7s
XAN Xi'an 33.51 21 P **P** **23 33 21.3 -3.1**
LZH Lanzhou 34.00 12 *eP* **P** **23 33 27.7 -1.1**
LZH pP pP 23 33 35.7 -0.9
LZH sP sP 23 33 38.7 -1.0
LZH pmax pmax
comp=Z,42nm,1.1s
LZH LR LR
comp=Z,550nm,18.2s
LZH LR LR
comp=Z,610nm,16.1s
LZH LR LR
comp=Z,490nm,17.5s
PSA00 Pilbara Seismi 34.04 137 P **P** **23 33 29.5 +0.4**
PSA00 Pilbara Seismi 34.04 137 P **P** **23 33 29.5 +0.4**
PSA00 IAmb IAmb 23 33 30.8
comp=Z,11nm,1.0s
LYN LuoYang 35.32 25⇑ *iP* **P** **23 33 40.2 +0.2**
LYN pmax pmax
comp=Z,70nm,0.7s
LYN LR LR
comp=Z,1μm,15.1s
LYN LR LR
comp=Z,360nm,12.7s
LYN LR LR
comp=Z,1μm,14.2s
SIJI Sorong 36.00 95 P **P** **23 33 45.3 -0.9**
comp=Z,62nm,0.8s
NJ2 Nanjing 36.47 35⇑P **P** **23 33 49.8 -0.1**
NJ2 pmax pmax
comp=Z,63nm,0.8s
NJ2 LR LR
comp=Z,640nm,18.2s
NJ2 LR LR
comp=Z,570nm,14.9s
NJ2 LR LR
comp=Z,440nm,21.2s
GTA Gaotai 36.63 6⇑P **P** **23 33 50.3 -1.1**
GTA pP pP 23 33 55.5 -3.7
GTA PcP **PcP** **23 36 15.9 +1.8**
GTA pmax pmax
comp=Z,26nm,0.8s
GTA pmax pmax
comp=Z,110nm,4.8s
GTA LR LR
comp=Z,380nm,15.6s
GTA LR LR
comp=Z,270nm,16.4s
GTA LR LR
comp=Z,450nm,15.3s
NIL Nilore 37.02 328 P **P** **23 33 54.1 -0.5**
NIL Nilore 37.02 328 P **P** **23 33 54.1 -0.5**
NIL pmax pmax
comp=Z,36nm,0.7s
FAKI Fak Fak 37.23 99 P **P** **23 33 55.8 -0.8**
FAKI Fak Fak 37.23 99 P **P** **23 33 55.9 -0.8**
comp=Z,67nm,0.9s
FAKI Fak Fak 37.23 99 P **P** **23 33 56.2 -0.5**
comp=Z,67nm,0.9s
KNRA Kununurra 37.74 120 P **P** **23 34 02.3 +1.4**
baz=38,SNR=4.6
TIY Taiyuan 38.06 22 *eP* **P** **23 34 03.6 +0.2**
TIY pmax pmax
comp=Z,31nm,0.5s
TIY LR LR
comp=Z,1μm,15.5s
TIY LR LR
comp=Z,800nm,15.1s
TIY LR LR
comp=Z,1μm,14.4s
HNS HongShan 38.69 25⇑P **P** **23 34 09.3 +0.7**
HNS *eS* **S** **23 40 05.5 +1.5**
HNS pmax pmax
comp=Z,250nm,0.8s
HNS LR LR
comp=Z,690nm,14.1s
HNS LR LR
comp=Z,650nm,14.7s
HNS LR LR
comp=Z,940nm,15.1s
TIA Tai'an 38.80 28⇑P **P** **23 34 09.1 -0.4**
TIA pmax pmax
comp=Z,30nm,0.8s
TIA pmax pmax
comp=Z,170nm,3.7s
TIA LR LR
comp=Z,710nm,15.3s
TIA LR LR
comp=Z,830nm,16.7s
TIA LR LR
comp=Z,1μm,14.3s
JOW Kunigami 39.48 50 P **P** **23 34 15.3 0.0**
JOW Kunigami 39.48 50 P **P** **23 34 15.4 0.0**
BTO Baotou 39.85 17 *eP* **P** **23 34 18.6 +0.2**
BTO S **S** **23 40 22.8 +1.2**
BTO LR LR
comp=Z,6μm,13.7s
BTO LR LR
comp=Z,2μm,13.7s
KDU Kakadu 39.88 114 P **P** **23 34 19.6 +0.7**
KBL Kabul 39.99 325 P **P** **23 34 20.0 +0.2**
KBL Kabul 39.99 325 P **P** **23 34 20.0 +0.2**
KBL pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 40.55 19 *eP* **P** **23 34 25.3 +1.0**
HHC S **S** **23 40 33.4 +1.3**
HHC sS sS 23 40 50.0 +5.0
HHC pmax pmax
comp=Z,100nm,0.9s
HHC pmax pmax
comp=Z,420nm,4.9s
HHC LR LR
comp=Z,3μm,15.3s
HHC LR LR
comp=Z,910nm,13.3s
HHC LR LR
comp=Z,2μm,14.6s
KSH Kashi 40.58 337 P **P** **23 34 23.4 -1.1**
KSH pP pP 23 34 31.4 -1.1
KSH pmax pmax
comp=Z,11nm,0.8s
WSAR Wadi Sarin 40.99 303 LR LR 23 51 59.1
comp=Z,106nm,18.9s,baz=117,slow=37
NWAO Narrogin (SRO) 41.11 152 LR LR 23 50 55.2
comp=Z,192nm,19.9s,baz=246,slow=35
WMQ Urumqi 41.40 352⇑P **P** **23 34 31.9 +0.8**
WMQ pP pP 23 34 39.1 0.0
WMQ sP sP 23 34 44.6 +2.4
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,140nm,4.7s
WMQ LR LR
comp=Z,230nm,19.5s
WMQ LR LR
comp=Z,410nm,21.3s
WMQ LR LR
comp=Z,180nm,21.7s
H01W3 Cape Leeuwin H 41.42 157 T T 00 18 26.9
baz=331,slow=76
H01W2 Cape Leeuwin H 41.43 157 T T 00 18 27.1
baz=331,slow=76
H01W1 Cape Leeuwin H 41.43 157 T T 00 18 25.5
baz=331,slow=76
BJT Baijiatuan 41.52 24 P **P** **23 34 32.8 +0.7**
BJT Baijiatuan 41.52 24 P **P** **23 34 33.3 +1.2**
BJT Baijiatuan 41.52 24 P **P** **23 34 32.8 +0.7**
BJT pmax pmax
comp=Z,90nm,0.8s
BJI Beijing 41.54 24 P **P** **23 34 32.9 +0.7**
BJI pP **pP** **23 34 39.6 -0.6**
BJI sP **sP** **23 34 41.8 -1.4**
BJI pmax pmax
comp=Z,120nm,0.8s
BJI pmax pmax
comp=Z,210nm,3.5s
WRKA Warakurna 42.23 133 P **P** **23 34 38.5 +0.3**
baz=42,SNR=3.7
DRK Karamyk 42.34 333 P **P** **23 34 39.2 +0.1**
comp=Z,101nm,1.2s
ULN Ulaanbaatar 45.97 11 P **P** **23 35 07.1 -0.9**
ULN pmax pmax
comp=Z,20nm,0.9s
ULN Ulaanbaatar 45.97 11 P **P** **23 35 06.7 -1.3**
ULN pP **pP** **23 35 14.7 -1.4**
BTLS Baital 46.06 339 *eP* **P** **23 35 06.8 -1.8**
baz=339
BTLS Baital 46.06 339 *eP* **P** **23 35 06.7 -1.8**
DGZ Jazzator, Alta 47.20 353 *iP* **P** **23 35 18.1 +0.5**
DGZ pmax pmax
comp=Z,37nm,1.3s
JMN Monobe 47.23 45 P **P** **23 35 18.1 +0.1**
JMN Monobe 47.23 45 P **P** **23 35 18.5 +0.6**
JHS Saijyo 47.39 43 P **P** **23 35 18.6 -0.6**
JHS Saijyo 47.39 43 P **P** **23 35 20.0 +0.8**
ZAK Zakamensk 47.85 7 *eP* **P** **23 35 21.9 -0.6**
ZAK pmax pmax
comp=Z,18nm,1.0s
CN2 Changchun 48.70 29 *eP* **P** **23 35 28.6 -0.5**
CN2 *eS* **S** **23 42 27.9 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,500nm,17.2s
GEYT Alibeck 48.85 320 P **P** **23 35 30.7 +0.3**
comp=Z,5.1nm,0.7s,baz=147,slow=8.5,SNR=16
comp=Z,5.1nm,0.7s
GEYT Alibeck 48.85 320 IAmb IAmb 23 35 48.1
comp=Z,11nm,0.9s
GYA0B ALIBECK ARRAY 48.85 320 IAmb IAmb 23 35 48.0
comp=Z,14nm,1.0s
MOY Mondy 48.90 5 *eP* **P** **23 35 30.5 -0.1**
QIS Mount Isa 49.13 120 P **P** **23 35 33.2 +0.3**
baz=49,SNR=8.2
QIS Mount Isa 49.13 120 P **P** **23 35 33.4 +0.6**
OOD Oodnadatta 49.26 131 P **P** **23 35 34.4 +0.8**
KURK Kurchatov 49.79 346 P **P** **23 35 37.5 +0.2**
KURK Kurchatov 49.79 346 *ceP* **P** **23 35 37.6 +0.3**
KURK pmax pmax
comp=Z,29nm,0.9s
KURK Kurchatov 49.79 346 P **P** **23 35 36.0 -1.3**
KURK pP **pP** **23 35 45.1 -0.3**
INU Inuyama 50.28 45 P **P** **23 35 41.0 -0.3**
INU IAmb IAmb 23 35 42.6
comp=Z,30nm,1.1s
INU Inuyama 50.28 45 P **P** **23 35 41.8 +0.5**
JGF Kuroka 50.65 45 P **P** **23 35 43.3 -0.9**
JGF Kuroka 50.65 45 P **P** **23 35 43.7 -0.5**
HIA Hailar 50.71 20 P **P** **23 35 44.4 +0.1**
HIA IAmb IAmb 23 35 46.6
comp=Z,12nm,1.0s
HIA Hailar 50.71 20 P **P** **23 35 43.9 -0.4**
HIA Hailar 50.71 20 P **P** **23 35 44.4 +0.1**
HIA pmax pmax
comp=Z,12nm,1.0s
BRZS Berezniki 50.80 341 *eP* **P** **23 35 44.1 -0.9**
comp=Z,13nm,1.8s,baz=341
BRZS Berezniki 50.80 341 *eP* **P** **23 35 44.1 -0.9**
BRZS pmax pmax
comp=Z,13nm,1.8s
BNX BinXian 51.07 28⇑P **P** **23 35 46.4 -0.7**
BNX pmax pmax
comp=Z,48nm,0.7s
BNX pmax pmax
comp=Z,290nm,5.2s
MDJ Mudanjiang 51.35 31 P **P** **23 35 49.8 +0.7**
MDJ IAmb IAmb 23 35 51.7
comp=Z,23nm,0.9s
MDJ Mudanjiang 51.35 31 P **P** **23 35 50.3 +1.1**
MDJ pmax pmax
comp=Z,30nm,1.1s
MDJ pmax pmax
comp=Z,200nm,4.6s
MDJ Mudanjiang 51.35 31 P **P** **23 35 49.1 -0.1**
ZALV Zalesovo Beam 51.70 352 P **P** **23 35 51.9 +0.3**
comp=Z,83nm,0.6s,baz=182,slow=6.8,SNR=420
MAJO Matsushiro 51.72 44 P **P** **23 35 52.5 +0.3**
MAJO IAmb IAmb 23 35 54.4
comp=Z,8.2nm,0.7s
MAJO Matsushiro 51.72 44 P **P** **23 35 52.5 +0.3**
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MJAR Matsushiro Arr 51.72 44 P **P** **23 35 51.9 -0.2**
comp=Z,4.8nm,0.7s,baz=247,slow=8.9,SNR=11
MJAR PcP **PcP** **23 37 05.1 -0.3**
comp=Z,5.7nm,0.8s,baz=249,slow=4.8,SNR=6.6
MJAR LR LR 00 00 50.9
comp=Z,232nm,18.3s,baz=228,slow=40
comp=Z,4.8nm,0.7s
OPO Ambohidratompo 52.02 244 P **P** **23 35 54.6 -0.2**
comp=Z,3.6nm,0.6s,baz=73,slow=8.3,SNR=5.6
comp=Z,3.6nm,0.6s
USA0B Ussuriysk Arra 52.33 33 P **P** **23 35 57.0 +0.5**
USA0B IAmb IAmb 23 35 58.4
comp=Z,31nm,1.1s
USA0B Ussuriysk Arra 52.33 33⇑ *iP* **P** **23 35 57.6 +1.1**
USRK Ussuriysk Ar. 52.33 33 P **P** **23 35 56.3 -0.2**
comp=Z,15nm,0.9s,baz=231,slow=6.8,SNR=22
USRK LR LR 00 02 36.9
comp=Z,224nm,18.1s,baz=218,slow=41
comp=Z,15nm,0.9s
USRK Ussuriysk Ar. 52.33 33 P **P** **23 35 56.9 +0.4**
USRK Ussuriysk Ar. 52.33 33 P **P** **23 35 56.9 +0.4**
RAYN Ar Rayn 52.45 298 P **P** **23 35 58.5 +0.7**
RAYN pmax pmax
comp=Z,7.0nm,1.1s
MTSU Mount Surprise 52.45 115 P **P** **23 35 58.4 +0.5**
baz=52,SNR=4.8
MTSU Mount Surprise 52.45 115 P **P** **23 35 58.6 +0.8**
ATD Arta Tunnel 52.81 282 LR LR 23 55 11.5
comp=Z,77nm,19.7s,baz=43,slow=32
PMG Port Moresby 52.94 104 LR LR 00 01 29.0
comp=Z,108nm,18.5s,baz=285,slow=39
VOI Vohitsoka 53.51 240 P **P** **23 36 06.8 +1.0**
VOI IAmb IAmb 23 36 23.7
comp=Z,12nm,1.0s
BVAR Borovoye Array 54.16 342 P **P** **23 36 09.4 -0.4**
baz=140,slow=7.6
BVAR LR LR 00 02 40.9
comp=Z,126nm,19.7s,baz=150,slow=40
BRVK Borovoye 54.22 342 P **P** **23 36 10.1 -0.2**
BRVK IAmb IAmb 23 36 11.1
comp=Z,17nm,0.8s
BRVK Borovoye 54.22 342 *ceP* **P** **23 36 10.0 -0.2**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 54.22 342 P **P** **23 36 09.2 -1.0**
BRVK pP **pP** **23 36 18.0 -0.4**
HEH HeiHe 54.45 25 *eP* **P** **23 36 11.6 -0.3**
HEH pmax pmax
comp=Z,21nm,1.0s
HEH pmax pmax
comp=Z,570nm,4.9s
CTA Charters Tower 54.80 117 P **P** **23 36 15.1 0.0**
comp=Z,11nm,1.0s,baz=289,slow=7.8,SNR=6.8
CTA LR LR 00 02 16.6
comp=Z,207nm,18.2s,baz=268,slow=39
comp=Z,11nm,1.0s
CTA Charters Tower 54.80 117 P **P** **23 36 15.8 +0.7**
CTAO Charters Tower 54.80 117 P **P** **23 36 15.3 +0.2**
CTAO IAmb IAmb 23 36 24.3
comp=Z,21nm,1.1s
CTAO Charters Tower 54.80 117 P **P** **23 36 15.8 +0.7**
CTAO Charters Tower 54.80 117 P **P** **23 36 15.3 +0.2**
CTAO pmax pmax
comp=Z,21nm,1.2s
QLP Quilpie 55.43 125 P **P** **23 36 20.2 +0.7**
KLR Kul'dur 55.63 28 P **P** **23 36 20.5 +0.1**
comp=Z,20nm,0.9s,baz=258,slow=7.6,SNR=45
KLR LR LR 00 02 28.4
comp=Z,133nm,20.2s,baz=227,slow=38
comp=Z,20nm,0.9s
KLR Kul'dur 55.63 28 *ceP* **P** **23 36 20.6 +0.1**
KLR pmax pmax
comp=Z,23nm,0.9s
STKA Stephens Creek 55.74 132 P **P** **23 36 21.9 +0.2**
comp=Z,2.5nm,0.9s,baz=302,slow=21,SNR=2.9
STKA LR LR 00 02 58.7
comp=Z,137nm,18.6s,baz=291,slow=39

SHLS Shalkode 42.60 343 *eP* **P** **23 34 40.0 -1.0**
comp=Z,15nm,0.9s,baz=343
SHLS Shalkode 42.60 343 *eP* **P** **23 34 40.0 -1.0**
SHLS pmax pmax
comp=Z,15nm,0.9s
GAR Garm 42.66 331 P **P** **23 34 40.7 -0.9**
GAR IAmb IAmb 23 34 57.8
comp=Z,31nm,0.9s
UZB Uzynbulak 42.73 342 *eP* **P** **23 34 41.7 -0.4**
baz=342
UZB Uzynbulak 42.73 342 *eP* **P** **23 34 41.7 -0.4**
PDGK Podgornoye 42.75 343 *iP* **P** **23 34 42.2 -0.1**
PDGK pmax pmax
comp=Z,26nm,1.0s
SATY Saty 42.84 342 *eP* **P** **23 34 43.0 0.0**
comp=Z,12nm,0.7s,baz=342
SATY Saty 42.84 342 *eP* **P** **23 34 42.9 0.0**
SATY pmax pmax
comp=Z,12nm,0.7s
CHGR Chuyangaron 42.98 329 P **P** **23 34 43.1 -1.0**
CHGR Chuyangaron 42.98 329 P **P** **23 34 43.1 -1.0**
CHGR pmax pmax
comp=Z,52nm,0.8s
KPKS Kokpek 43.12 342 *eP* **P** **23 34 43.7 -1.6**
baz=342
KPKS Kokpek 43.12 342 *eP* **P** **23 34 43.6 -1.6**
TNSS Tian-Shan 43.30 340 *eP* **P** **23 34 45.1 -1.9**
baz=340
TNSS Tian-Shan 43.30 340 *eP* **P** **23 34 45.1 -1.9**
UCH Uchtor 43.47 337 P **P** **23 34 49.4 +0.9**
SNR=15
JSU Suzuyama 43.60 45 P **P** **23 34 48.1 -1.1**
TKM2 Tokmak 2 43.67 339 P **P** **23 34 50.7 +0.9**
SNR=6.3
KBK Karagaybulak 43.68 338 P **P** **23 34 51.2 +1.5**
SNR=8.8
AML Almayashu 43.71 336 P **P** **23 34 51.5 +1.2**
SNR=16
AAK Ala-Archa 43.83 338 P **P** **23 34 53.4 +2.4**
SNR=6.6
AAK Ala-Archa 43.83 338 P **P** **23 34 51.6 +0.7**
comp=Z,4.5nm,0.7s,baz=153,slow=7.9,SNR=18
AAK LR LR 23 55 50.9
comp=Z,207nm,19.4s,baz=150,slow=40
comp=Z,4.5nm,0.7s
AAK Ala-Archa 43.83 338 P **P** **23 34 51.7 +0.7**
AAK IAmb IAmb 23 35 07.1
comp=Z,13nm,0.9s
AAK Ala-Archa 43.83 338 P **P** **23 34 51.7 +0.7**
AAK pmax pmax
comp=Z,13nm,0.9s
AAK Ala-Archa 43.83 338 P **P** **23 34 51.8 +0.8**
AAK pP **sP** **23 35 01.1 -0.9**
HRA Herat 44.05 319 P **P** **23 34 52.4 -0.5**
EKS2 Erkin-Say 44.13 337 P **P** **23 34 54.6 +1.2**
SNR=7.8
KUU Kurty 44.26 340 *eP* **P** **23 34 53.1 -1.2**
comp=Z,39nm,1.9s,baz=340
KUU Kurty 44.26 340 *eP* **P** **23 34 53.0 -1.2**
KUU pmax pmax
comp=Z,39nm,1.9s
WB0 Warramunga Arr 44.35 122 P **P** **23 34 55.0 -0.4**
WB0 IAmb IAmb 23 34 55.8
comp=Z,12nm,0.8s
USP Ospenovka 44.37 338 P **P** **23 34 55.7 +0.5**
SNR=22
WRA Warramunga Arr 44.38 122 P **P** **23 34 55.6 -0.1**
comp=Z,15nm,1.1s,baz=302,slow=9.0,SNR=44
WRA LR LR 23 53 57.3
comp=Z,351nm,20.9s,baz=298,slow=37
comp=Z,15nm,1.1s
WRAB Tennant Creek 44.39 122 P **P** **23 34 56.0 +0.3**
comp=Z,24nm,1.5s
WRAB Tennant Creek 44.39 122 *ceP* **P** **23 34 54.5 -1.2**
WRAB pmax pmax
comp=Z,27nm,1.3s
WB2 Warramunga Arr 44.40 122 P **P** **23 34 55.5 -0.2**
WB2 IAmb IAmb 23 34 56.8
comp=Z,26nm,1.1s
SGDS Sogindy 44.48 338 *eP* **P** **23 34 54.7 -1.4**
baz=338
SGDS Sogindy 44.48 338 *eP* **P** **23 34 54.7 -1.4**
WR0 Warramunga Arr 44.56 122 P **P** **23 34 57.1 0.0**
WR0 IAmb IAmb 23 34 58.2
comp=Z,23nm,0.9s
TDK Taldyqorghan 44.60 343 *eP* **P** **23 34 56.1 -0.9**
baz=343
TDK Taldyqorghan 44.60 343 *eP* **P** **23 34 56.0 -0.9**
XLT XiLinHaoTe 44.81 21 *eP* **P** **23 34 59.5 +0.8**
XLT pP pP 23 35 06.6 -0.1
XLT sP sP 23 35 10.1 +0.3
XLT S **S** **23 41 35.0 +0.5**
XLT sS sS 23 41 46.0 -1.7
XLT pmax pmax
comp=Z,28nm,1.2s
XLT pmax pmax
comp=Z,190nm,5.1s
XLT LR LR
comp=Z,75nm,15.6s
XLT LR LR
comp=Z,560nm,17.7s
XLT LR LR
comp=Z,1μm,16.0s
MK31 Makanchi Array 45.26 347 *iP* **P** **23 35 02.2 0.0**
MK31 pmax pmax
comp=Z,32nm,0.6s
MKAR Makanchi Array 45.26 347 P **P** **23 35 02.5 +0.3**
comp=Z,38nm,0.6s,baz=166,slow=7.8,SNR=293
MKAR LR LR 23 57 07.6
comp=Z,199nm,21.2s,baz=150,slow=40
comp=Z,38nm,0.6s
IUG Iuzhnay 45.28 333 *eP* **P** **23 35 01.1 -1.4**
baz=333
IUG Iuzhnay 45.28 333 *eP* **P** **23 35 01.1 -1.4**
MAKZ Makanchi 45.35 347 P **P** **23 35 03.0 +0.1**
MAKZ Makanchi 45.35 347 P **P** **23 35 03.0 +0.1**
MAKZ pmax pmax
comp=Z,38nm,0.7s
MAKZ Makanchi 45.35 347 P **P** **23 35 01.7 -1.1**
MAKZ pP **pP** **23 35 10.3 -0.6**
ZSN Zaisan 45.38 350 *eP* **P** **23 35 02.3 -0.9**
baz=350
ZSN Zaisan 45.38 350 *eP* **P** **23 35 02.3 -0.9**
KSAR Wonju Array Be 45.53 37 P **P** **23 35 03.7 -0.7**
KSAR Wonju Array Be 45.53 37 P **P** **23 35 03.7 -0.7**
KS19 Wonju Array Si 45.56 37 P **P** **23 35 04.3 -0.3**
KS19 IAmb IAmb 23 35 11.6
comp=Z,19nm,0.9s
KSRS Korea Array 45.56 37 P **P** **23 35 04.1 -0.6**
comp=Z,7.3nm,0.7s,baz=221,slow=9.3,SNR=23
KSRS LR LR 23 56 46.3
comp=Z,329nm,19.0s,baz=220,slow=40
comp=Z,7.3nm,0.7s
FORT Forrest 45.65 140 P **P** **23 35 06.4 +1.0**
FORT Forrest 45.65 140 P **P** **23 35 07.4 +1.9**
ASAR Alice Springs 45.77 127 P **P** **23 35 06.7 0.0**
comp=Z,4.3nm,0.9s,baz=302,slow=7.7,SNR=30
ASAR PcP **PcP** **23 36 44.8 +0.7**
comp=Z,1.5nm,0.7s,baz=298,slow=3.7,SNR=5.1
ASAR ScP **ScP** **23 40 34.8 -0.8**
comp=Z,0.5nm,0.8s,baz=301,slow=4.6,SNR=4.3
comp=Z,4.3nm,0.9s
AS31 Alice Springs 45.77 127 P **P** **23 35 06.7 +0.1**
AS01 Alice Springs 45.81 127 P **P** **23 35 07.3 +0.4**
SONM Songino Array 45.82 10 P **P** **23 35 06.5 -0.2**
comp=Z,34nm,0.8s,baz=188,slow=8.7,SNR=205
SONM PcP **PcP** **23 36 44.6 +0.7**
comp=Z,5.9nm,0.7s,baz=194,slow=3.7,SNR=8.6
comp=Z,34nm,0.8s
KK31 Karatay Array 45.84 335 P **P** **23 35 07.2 +0.4**
KK31 IAmb IAmb 23 35 16.0
comp=Z,16nm,0.8s
KK31 Karatay Array 45.84 335 P **P** **23 35 07.2 +0.4**
KK31 pmax pmax
comp=Z,16nm,0.9s
KKAR Karatay Array 45.84 335 P **P** **23 35 07.2 +0.4**
KKAR IAmb IAmb 23 35 16.0
comp=Z,16nm,0.8s
KKAR Karatay Array 45.84 335 P **P** **23 35 07.2 +0.4**
KKAR pmax pmax
comp=Z,16nm,0.9s
ULN Ulaanbaatar 45.97 11 P **P** **23 35 07.1 -0.9**
ULN **P** **23 35 07.6 -0.4**
ULN IAmb IAmb 23 35 08.6
comp=Z,20nm,0.9s
ULN Ulaanbaatar 45.97 11 P **P** **23 35 07.0 -0.9**

comp=Z,2.5nm,0.9s
BOD Bodaibo 56.77 12 *e*P **P 23 36 28.2 -0.3**
BOD pmax pmax
comp=Z,31nm,1.4s
ZEA Zeya 57.07 22 *e*P **P 23 36 30.7 0.0**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=Z,400nm,15.0s
KMBO Kilima Mbogo 58.30 267 P **P 23 36 41.1 +0.7**
comp=Z,1.4nm,0.6s,baz=68,slow=7.6,SNR=5.9
KMBO LR LR 23 59 20.2
comp=Z,369nm,18.6s,baz=90,slow=34
comp=Z,1.4nm,0.6s
KMBO Kilima Mbogo 58.30 267 P **P 23 36 40.8 +0.4**
KMBO Kilima Mbogo 58.30 267 *i* P **P 23 36 42.2 +1.8**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
GNI Garni 58.91 316 LR LR 00 04 17.4
comp=Z,65nm,19.8s,baz=119,slow=38
LODK Lodwar 59.98 272 P **P 23 36 52.7 +0.8**
YSS Yuzh-Sakhalins 60.03 36 P **P 23 36 51.4 -0.1**
YSS Yuzh-Sakhalins 60.03 36*ce*P **P 23 36 52.5 +1.0**
YSS pmax pmax
comp=Z,106nm,2.5s
GURO Guroymak-BITLI 60.18 313 P **P 23 36 53.2 +0.4**
SVE Sverdlovsk 60.54 339*de*P **P 23 36 55.0 +0.2**
SVE pmax pmax
comp=Z,37nm,0.9s
ZEI Tsey 60.63 319 *e*P P 23 37 01.4 +5.5
ZEI pmax pmax
comp=Z,5.0nm,0.8s
MARD Mardin 60.65 312 P **P 23 36 56.2 +0.1**
MARD IAmb IAmb 23 37 10.0
comp=Z,8.7nm,1.1s
EIDS Eidsvold 60.72 121 P **P 23 36 57.6 +1.0**
ONI Oni 60.84 318 P **P 23 36 58.8 +1.6**
ONI Oni 60.84 318 P **P 23 36 58.8 +1.6**
ONI pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 61.02 338 P **P 23 36 57.1 -0.9**
comp=Z,8.7nm,0.7s,baz=153,slow=1.4,SNR=20
ARU LR LR 00 07 35.9
comp=Z,163nm,18.1s,baz=136,slow=40
comp=Z,8.7nm,0.7s
ARU Arti 61.02 338 P **P 23 36 57.4 -0.6**
ARU IAmb IAmb 23 36 58.7
comp=Z,20nm,1.0s
ARU Arti 61.02 338*c i*P **P 23 36 57.4 -0.6**
ARU 23 37 40.1
ARU 23 39 09.9
ARU S **S 23 45 16.4 +1.5**
ARU SS **SS 23 49 10.1 -4.7**
ARU pmax pmax
comp=Z,38nm,1.7s
ARU MLR MLR
comp=Z,161nm,16.0s
ARU Arti 61.02 338 P **P 23 36 55.1 -2.9**
ARU pP **pP 23 37 04.9 -1.1**
KBZ Khabaz 61.70 319 P **P 23 37 02.2 -0.6**
comp=Z,1.9nm,0.8s,baz=136,slow=5.2,SNR=3.5
comp=Z,1.9nm,0.8s
KVAR Kislovodsk Arr 61.93 319 LR LR 00 08 04.1
comp=Z,44nm,18.1s,baz=92,slow=40
KIV Kislovodsk 61.94 319 *e*P **P 23 37 04.4 -0.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,55nm,17.0s
ASF Jabal al Asfar 62.09 305 LR LR 00 06 27.2
comp=Z,230nm,18.1s,baz=109,slow=38
TYV Tymovskoe 62.11 32 *e*P P 23 37 16.8 +11
TYV *e*S S 23 45 51.5 +23
TYV pmax pmax
comp=Z,20nm,1.4s
TYV pmax pmax
comp=Z,1μm,4.8s
TYV smax smax
comp=N,2μm,4.5s
TYV smax smax
comp=E,700nm,4.5s
EIL Elat 63.11 302 LR LR 00 04 31.9
comp=E,264nm,19.0s,baz=62,slow=36
BELG Belogornoye 63.27 329 P **P 23 37 12.6 -0.6**
comp=E,19nm,0.8s,baz=99,slow=0.1,SNR=17
comp=E,19nm,0.8s
BELG Belogornoye 63.27 329 *i* P **P 23 37 12.5 -0.6**
BELG pmax pmax
comp=Z,4.0nm,0.9s
MMAI Mount Meron Ar 63.53 306 LR LR 00 06 52.8
comp=Z,144nm,18.4s,baz=296,slow=38
YAK Yakutsk 64.38 17 P **P 23 37 19.4 -0.9**
comp=Z,14nm,0.5s,baz=246,slow=1.0,SNR=14
YAK LR LR 00 08 15.7
comp=Z,590nm,19.4s,baz=266,slow=39
comp=Z,14nm,0.5s
YAK Yakutsk 64.38 17 P **P 23 37 19.5 -0.8**
YAK Yakutsk 64.38 17 *e*P **P 23 37 19.0 -1.3**
YAK *e* 23 37 51.3
YAK *e* 23 39 50.6
YAK *e*S **S 23 45 59.7 +2.9**
YAK *e**SS **pS 23 46 07.1 +0.2**
YAK *e* 23 47 15.0
YAK pmax pmax
comp=Z,69nm,0.9s
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=Z,203nm,4.0s
YAK pmax pmax
comp=N,93nm,3.3s
YAK pmax pmax
comp=E,163nm,3.8s
YAK smax smax
comp=E,199nm,4.3s
YAK smax smax
comp=N,152nm,4.2s
YAK MLR MLR
comp=Z,744nm,18.0s
YAK MLR MLR
comp=E,357nm,16.0s
YAK MLR MLR
comp=N,638nm,19.0s
MBAR Mbarara 64.77 268 LR LR 00 03 00.7
comp=N,178nm,19.1s,baz=77,slow=34
MBAR Mbarara 64.77 268 P **P 23 37 24.6 +0.6**
MBAR Mbarara 64.77 268*ce*P **P 23 37 26.5 +2.5**
MBAR pmax pmax
comp=Z,5.0nm,1.7s
HNR Honiara 65.41 102 LR LR 00 11 04.0
comp=Z,795nm,18.1s,baz=244,slow=41
VRH Novokhopyorsk 65.80 326 *e*P **P 23 37 26.7 -3.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 66.11 336 P **P 23 37 29.6 -2.0**
comp=Z,12nm,0.8s,baz=127,slow=2.4,SNR=6.2
KIRV LR LR 00 10 40.5
comp=Z,128nm,18.2s,baz=135,slow=40
comp=Z,12nm,0.8s
KIRV Kirov 66.11 336*ce*P **P 23 37 29.9 -1.7**
NRIK Noril'sk 66.61 357 P **P 23 37 33.7 -1.0**
comp=Z,15nm,1.0s,baz=158,slow=5.8,SNR=16
comp=Z,15nm,1.0s
NRIK Noril'sk 66.61 357 P **P 23 37 34.5 -0.1**
NRIK IAmb IAmb 23 37 35.1
comp=Z,14nm,0.9s
NRIK Noril'sk 66.61 357*ce*P **P 23 37 34.4 -0.3**
NRIK pmax pmax
comp=Z,30nm,1.4s
BRTR Keskin Array B 66.72 312 P **P 23 37 35.3 -0.8**
comp=Z,2.0nm,0.9s,baz=164,slow=4.9,SNR=3.6
BRTR LR LR 00 09 25.4
comp=Z,73nm,19.1s,baz=146,slow=38
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 66.72 312 P **P 23 37 35.7 -0.4**
BRTR Keskin Array B 66.72 312 P **P 23 37 35.7 -0.4**
VSR Storozhevoye 67.24 325 *e*P **P 23 37 36.9 -2.1**
VSR pmax pmax
comp=Z,8.0nm,0.7s
VORR Voronezh 67.42 326 *e*P **P 23 37 36.1 -4.0**
VORR pmax pmax
comp=Z,30nm,0.5s

LPSR Galich'ya Gora 67.98 327 *e*P **P 23 37 42.7 -0.9**
LPSR pmax pmax
comp=Z,5.0nm,0.8s
ELL Elmali 68.81 308 P **P 23 37 49.3 0.0**
ELL Elmali 68.81 308 P **P 23 37 49.3 0.0**
ELL pmax pmax
comp=Z,30nm,1.0s
LSZ Lusaka 68.90 253 LR LR 00 04 50.8
comp=Z,156nm,18.4s,baz=110,slow=33
LSZ Lusaka 68.90 253 P **P 23 37 50.9 +0.6**
PRGR Permogore 69.46 337 *e*P **P 23 37 51.8 -0.9**
PRGR pmax pmax
comp=Z,26nm,0.7s
MOS Moscow 70.05 329 *e*P **P 23 37 53.6 -2.8**
MOS *e* 23 38 04.7
MOS pmax pmax
comp=Z,25nm,0.8s
OBN Obninsk 70.32 329*ce*P **P 23 37 57.6 -0.5**
OBN *e**PP **sP 23 38 09.8 +0.5**
OBN *e**SP **pP 23 38 11.9 +5.7**
OBN *i* 23 38 16.3
OBN *e* 23 47 56.9
OBN pmax pmax
comp=Z,18nm,0.9s
OBN MLR MLR
comp=Z,69nm,17.0s
KARP Karpathos 70.74 307 P **P 23 38 01.4 +0.3**
KLMR Klimovskoe 71.54 335 *e*P **P 23 38 03.7 -1.7**
KLMR AMP 23 38 06.2
comp=Z,29nm,1.7s
KLMR Klimovskoe 71.54 335 *e*P **P 23 38 03.7 -1.7**
KLMR pmax pmax
comp=Z,29nm,1.7s
TIRR Tirgusor 71.74 316 P **P 23 38 06.6 -0.3**
TIRR Tirgusor 71.74 316 P **P 23 38 06.6 -0.3**
TIRR pmax pmax
comp=Z,30nm,0.9s
TIXI Tiksi 71.91 11 P **P 23 38 05.9 -1.5**
comp=Z,11nm,0.9s,baz=90,slow=22,SNR=22
comp=Z,11nm,0.9s
TIXI Tiksi 71.91 11 P **P 23 38 06.8 -0.6**
TIXI IAmb IAmb 23 38 08.6
comp=Z,19nm,1.0s
TIXI Tiksi 71.91 11*ce*P **P 23 38 06.1 -1.3**
TIXI pmax pmax
comp=Z,39nm,1.7s
CFR Carcaliu 72.11 317 ⇑P **P 23 38 09.1 -0.1**
HARR Harsova 72.13 316 ⇑P **P 23 38 09.1 -0.1**
SANT Santorini 72.25 307 P **P 23 38 10.0 -0.2**
SANT IAmb IAmb 23 38 22.4
comp=Z,21nm,1.1s
IDI Anoyia 72.53 306 ⇑P **P 23 38 12.3 +0.4**
IDI Anoyia 72.53 306 LR LR 00 13 41.9
comp=Z,56nm,19.8s,baz=84,slow=39
IDI Anoyia 72.53 306 P **P 23 38 11.9 0.0**
SORM Soroca 72.73 320 ⇑P **P 23 38 12.1 -0.7**
AKASG Malin Array Be 72.91 322 P **P 23 38 12.3 -1.4**
comp=Z,0.9nm,0.5s,baz=89,slow=5.6,SNR=9.0
comp=Z,0.9nm,0.5s
AKASG Malin Array Be 72.91 322 *i* P **P 23 38 12.8 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 72.91 322*ce*P **P 23 38 13.2 -0.5**
AKBB pmax pmax
comp=Z,22nm,2.5s
SEY Seymchan 72.97 24 P **P 23 38 13.0 -1.0**
comp=Z,6.0nm,0.7s,baz=246,slow=4.7,SNR=8.2
SEY LR LR 00 14 50.2
comp=Z,257nm,18.0s,baz=330,slow=40
comp=Z,6.0nm,0.7s
SEY Seymchan 72.97 24*ce*P **P 23 38 12.9 -1.0**
SEY pmax pmax
comp=Z,6.0nm,0.6s
LBTB Lobatse 73.04 243 LR LR 00 06 50.4
comp=Z,283nm,19.2s,baz=74,slow=33
VRI Vrincioaia 73.24 317 ⇓P **P 23 38 14.8 -1.1**
PLOR Plostina 73.29 317 ⇑P **P 23 38 16.0 -0.1**
TESR Tescani 73.44 318 ⇑P **P 23 38 16.3 -0.8**
DZM Mont Dzumac 73.55 114 *e*LR LR 00 00 52.2
comp=Z,235nm,25.3s
MLR Muntele Rosu 73.68 317 ⇑P **P 23 38 18.3 -0.3**
MLR Muntele Rosu 73.68 317 LR LR 00 15 40.9
comp=Z,44nm,19.1s,baz=68,slow=40
BOSA Boshof 74.08 239 P **P 23 38 21.1 -0.2**
comp=Z,2.6nm,0.8s,baz=106,slow=3.9,SNR=4.8
BOSA LR LR 00 08 41.1
comp=Z,239nm,18.3s,baz=30,slow=34
comp=Z,2.6nm,0.8s
BOSA Boshof 74.08 239 P **P 23 38 21.7 +0.4**
BOSA Boshof 74.08 239 P **P 23 38 21.7 +0.4**
BOSA pmax pmax
comp=Z,2.0nm,1.0s
VOIR 74.29 316 ⇑P **P 23 38 21.9 -0.2**
BURAR Bucovina Array 74.65 319 ⇑P **P 23 38 23.2 -1.0**
BURAR Bucovina Array 74.65 319 P **P 23 38 24.3 +0.1**
BUR08 Bucovina Ar. S 74.67 319 P **P 23 38 25.0 +0.7**
MNK Minsk 74.80 326 *i* P **P 23 38 23.5 -1.2**
comp=E,4.0nm,1.4s
MNK *i* P **P 23 38 23.5 -1.2**
comp=N,37nm,1.0s
MNK *i* P **P 23 38 23.5 -1.2**
comp=Z,14nm,0.8s,baz=106
MNK *i* PP **PP 23 41 13.2 +1.0**
MNK *i* PPP PPP 23 42 59.2
MNK *i* S **S 23 47 56.5 -3.4**
MNK *i* SS **SS 23 52 50.8 +2.8**
MNK *i* SSS SSS 23 56 13.4
MNK *i* LQ LQ 00 06 28.2
MNK *i* LR LR 00 10 42.4
MNK *i* LRM MLR 00 18 22.3
comp=N,2μm,24.9s
MNK *i* LRM MLR 00 19 01.9
comp=E,9.0nm,16.2s
MNK *i* LRM MLR 00 19 03.2
comp=Z,107nm,17.9s
MNK Minsk 74.80 326 *i* P **P 23 38 23.5 -1.2**
MNK *i* 23 41 13.1
MNK *i* PPP PPP 23 42 59.2
MNK *i* S **S 23 47 56.4 -3.4**
MNK *i* SS **SS 23 52 50.7 +2.8**
MNK pmax pmax
comp=N,37nm,1.0s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=E,4.0nm,1.4s
ITM Ithomi 75.17 308 P **P 23 38 26.8 -0.6**
ITM IAmb IAmb 23 38 46.0
comp=Z,14nm,1.0s
NACGM Naroch 75.53 326 LQ LQ 00 07 04.2
BLKB Belogradchik 75.61 314 ⇑P **P 23 38 29.4 -0.4**
IIGN Ignalina 75.96 327 *e*P **P 23 38 31.8 +0.4**
ISAL Salakas 76.07 327 *e*P **P 23 38 32.3 +0.3**
DRGR 76.15 317 ⇑P **P 23 38 31.5 -1.3**
TRPA Tarpa 76.52 319 ⇓P **P 23 38 34.2 -0.6**
VSU Vasula 76.57 330 *e*P **P 23 38 35.0 +0.2**
LVZ Lovozero 76.71 340 P **P 23 38 35.5 0.0**
LVZ IAmb IAmb 23 38 53.9
comp=Z,14nm,0.9s
LVZ Lovozero 76.71 340 P **P 23 38 35.5 0.0**
LVZ pmax pmax
comp=Z,14nm,0.9s
SIRR Siria 76.77 317 ⇑P **P 23 38 35.7 -0.5**
UZH Uzhgorod 76.78 319 *e*P **P 23 38 39.0 +2.8**
UZH *i* 23 38 41.2
UZH *e* 23 38 55.7
KOLS Kolonicke sedl 76.85 320 *e*P **P 23 38 38.0 +1.4**
KOLS Kolonicke sedl 76.85 320 *e*P **P 23 38 38.0 +1.4**
KOLS pmax pmax
comp=Z,14nm,1.1s
STHS Stebnicka Huta 77.60 320 *e*P **P 23 38 41.3 +0.4**
STHS Stebnicka Huta 77.60 320 *e*P **P 23 38 41.3 +0.4**
STHS pmax pmax
comp=Z,7.0nm,0.9s
FIA1 FINESS Array S 77.75 333 P **P 23 38 41.5 +0.1**
FIA1 IAmb IAmb 23 38 54.9
comp=Z,9.1nm,0.8s
FINES FINESS Array B 77.75 333 P **P 23 38 41.3 -0.1**
comp=Z,6.6nm,0.7s,baz=102,slow=5.3,SNR=39
comp=Z,6.6nm,0.7s
FINES FINESS Array B 77.75 333 P **P 23 38 41.6 +0.2**
FINES FINESS Array B 77.75 333 P **P 23 38 41.6 +0.2**
PDG Podgorica 77.91 313 ⇑P **P 23 38 41.7 -1.0**
MEF Metsahovi 78.20 331 *e*P **P 23 38 43.4 -0.5**

PSZ Piszkesteto 78.23 318 P **P 23 38 44.1 -0.4**
PSZ Piszkesteto 78.23 318 P **P 23 38 44.1 -0.4**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
SUR Sutherland 78.58 236 LR LR 00 09 37.0
comp=Z,190nm,18.2s,baz=79,slow=33
OJC Ojcow 78.66 321 *e*P **P 23 38 45.0 -1.7**
OJC *e*pP **pP 23 38 52.5 -2.5**
OJC Ojcow 78.66 321 P **P 23 38 45.0 -1.7**
OJC IAmb IAmb 23 38 54.3
comp=Z,10nm,0.9s
OJC Ojcow 78.66 321 P **P 23 38 45.0 -1.7**
OJC pmax pmax
comp=Z,10.0nm,0.9s
MORH Mrgy, Hungar 78.83 316 ⇑P **P 23 38 46.7 -1.0**
TSUM Tsumeb 79.48 250 LR LR 00 12 11.3
comp=Z,82nm,18.6s,baz=131,slow=34
RAF Rauma 79.66 332 *e*P **P 23 38 51.5 -0.4**
ARCES ARCESS Array B 80.42 340 P **P 23 38 56.0 +0.1**
comp=Z,2.5nm,0.6s,baz=98,slow=5.1,SNR=13
ARCES LR LR 00 19 37.3
comp=Z,102nm,18.9s,baz=110,slow=39
comp=Z,2.5nm,0.6s
ARCES ARCESS Array B 80.42 340 P **P 23 38 56.3 +0.4**
ARCES IAmb IAmb 23 39 07.9
comp=Z,13nm,1.1s
ARCES ARCESS Array B 80.42 340 P **P 23 38 56.3 +0.4**
ARCES pmax pmax
comp=Z,13nm,1.1s
KRLC Kraliky 80.56 320 *e*P **P 23 38 58.0 +0.9**
KRLC *e*pP **pP 23 39 05.3 -0.1**
KRLC Kraliky 80.56 320 *e*P **P 23 38 58.0 +0.9**
KRLC *e* 23 39 05.3
DPC Dobruska-Polom 80.89 320 *e*P **P 23 38 59.9 +1.1**
DPC *e*pP **pP 23 39 07.0 -0.2**
DPC Dobruska-Polom 80.89 320 *e*P **P 23 38 59.9 +1.1**
DPC *e* 23 39 07.0
KSP Ksiaz 80.96 321 *e*P **P 23 39 00.1 +1.0**
OSTC Ostas 80.98 321 *e*P **P 23 39 00.0 +0.7**
OSTC *e*pP **pP 23 39 08.0 +0.4**
SOKA Soboth 81.36 317 *e*P **P 23 39 01.7 +0.2**
comp=Z,6.3nm,1.1s
RPZ Rata Peaks 81.59 135 P **P 23 39 02.7 0.0**
comp=Z,2.9nm,0.6s,baz=251,slow=10.0,SNR=1.6
RPZ LR LR 00 15 14.9
comp=Z,136nm,21.3s,baz=286,slow=36
comp=Z,2.9nm,0.6s
RPZ Rata Peaks 81.59 135 P **P 23 39 03.1 +0.4**
RPZ IAmb IAmb 23 39 17.3
comp=Z,7.7nm,0.9s
GEC2 GERESS Array S 82.44 319 P **P 23 39 07.6 +0.4**
GEC2 IAmb IAmb 23 39 17.7
comp=Z,9.8nm,1.1s
GERES GERESS Array B 82.44 319 P **P 23 39 07.6 +0.4**
comp=Z,2.0nm,0.8s,baz=100,slow=5.5,SNR=17
GERES LR LR 00 21 45.1
comp=Z,43nm,18.3s,baz=66,slow=40
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 82.54 319 *e*P **P 23 39 09.0 +1.4**
KHC *e*pP **pP 23 39 15.3 -0.6**
KHC Kasperske Hory 82.54 319 *e*P **P 23 39 09.0 +1.4**
KHC *e* 23 39 15.3
KBA Koelnbreinsper 82.55 317 *i* P **P 23 39 06.8 -1.1**
comp=Z,2.1nm,0.7s
CLUD Cludinico 82.83 316 IAmb IAmb 23 39 19.1
comp=Z,15nm,0.9s
STAL STALIGIAL 82.94 316 P **P 23 39 09.7 0.0**
CLL Collm 83.07 321 *e*pP pP 23 39 19.0 +0.4
CIMO Cimolais 83.13 316 IAmb IAmb 23 39 21.0
comp=Z,10.0nm,0.9s
CTI Castel Tesino 83.66 316 P **P 23 39 13.8 +0.2**
CTI IAmb IAmb 23 39 29.2
comp=Z,11nm,1.0s
CTI Castel Tesino 83.66 316 P **P 23 39 13.8 +0.2**
CTI pmax pmax
comp=Z,11nm,1.0s
SQTA Sankt Quirin 84.01 317 *i* P **P 23 39 14.4 -0.9**
comp=Z,4.7nm,1.0s
FETA Feichten 84.33 317 *e*P **P 23 39 15.0 -2.0**
comp=Z,4.7nm,1.1s
FUORN Ofenpass-Fuorn 84.64 316 P **P 23 39 19.3 +0.6**
FUORN IAmb IAmb 23 39 36.4
comp=Z,5.7nm,1.0s
NB2 NORSAR Subarra 84.74 331 P **P 23 39 18.1 -0.5**
comp=Z,6.9nm,0.9s,baz=91,slow=5.6
NOA NORSAR Array B 84.74 331 P **P 23 39 18.1 -0.5**
comp=Z,2.0nm,0.8s,baz=93,slow=5.7,SNR=4.1
NOA LR LR 00 21 05.5
comp=Z,78nm,19.9s,baz=95,slow=38
comp=Z,2.0nm,0.8s
SPITS Spitsbergen Ar 85.01 348 LR LR 00 23 01.2
comp=Z,105nm,20.9s,baz=82,slow=40
KEST Kesra 85.19 305 P **P 23 39 22.0 +0.5**
comp=Z,2.7nm,0.7s,baz=248,slow=11,SNR=3.8
comp=Z,2.7nm,0.7s
URZ Urewera 85.20 129 LR LR 00 18 19.6
comp=Z,94nm,20.4s,baz=20,slow=36
VNDA Vanda 87.76 168 LR LR 00 13 25.3
comp=Z,97nm,20.4s,baz=308,slow=32
VNDA Vanda 87.76 168 P **P 23 39 31.8 -1.3**
VNDA Vanda 87.76 168 P **P 23 39 31.8 -1.3**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
RAO Raoul Island 88.44 119 LR LR 00 21 23.9
comp=Z,87nm,18.9s,baz=279,slow=37
QSPA South Pole Qui 92.76 180 LR LR 00 18 33.5
comp=Z,193nm,18.0s,baz=302,slow=33
TORD Torodi Ar. Bea 93.01 283 P **P 23 39 59.8 +0.9**
comp=Z,0.4nm,1.0s,baz=106,slow=4.9,SNR=1.7
TORD LR LR 00 20 25.5
comp=Z,76nm,18.1s,baz=204,slow=35
comp=Z,0.4nm,1.0s
N16K Nishlik Lake 95.28 29 P **P 23 40 09.3 +0.9**
baz=285
ESDC Sonseca Array 95.44 310 P **P 23 40 10.0 +0.3**
comp=Z,0.2nm,0.6s,baz=60,slow=4.7,SNR=2.5
ESDC LR LR 00 26 15.8
comp=Z,49nm,20.4s,baz=138,slow=37
comp=Z,0.2nm,0.6s
G21K Allakaket 95.68 22 P **P 23 40 10.6 +0.6**
baz=290
IMAR Indian Mountai 95.77 23 P **P 23 40 10.6 +0.1**
J20K Nowinta River 96.23 24 P **P 23 40 13.3 +0.7**
J20K IAmb IAmb 23 40 14.3
comp=Z,4.3nm,0.8s
J20K Nowinta River 96.23 24 P **P 23 40 13.6 +1.0**
baz=290
H21K Melozitna Rive 96.25 23 P **P 23 40 14.1 +1.4**
K20K Telida 96.54 25 P **P 23 40 14.2 +0.2**
K20K IAmb IAmb 23 40 15.8
comp=Z,8.3nm,0.9s
K20K Telida 96.54 25 P **P 23 40 14.7 +0.7**
baz=290
L19K White Mountain 96.59 26 P **P 23 40 15.1 +0.8**
L19K IAmb IAmb 23 40 15.9
comp=Z,5.9nm,0.9s
N18K Kilae Creek 96.59 28 P **P 23 40 14.7 +0.3**
N18K IAmb IAmb 23 40 15.7
comp=Z,3.6nm,0.9s
M19K Big River Lodg 96.89 27 P **P 23 40 16.2 +0.5**
O18K Koktuh Hills 97.17 29 P Pdif 23 40 17.3 +0.2
N19K Bonanza Creek 97.20 28 P Pdif 23 40 17.3 0.0
N19K IAmb IAmb 23 40 18.0
comp=Z,5.4nm,0.8s
N19K Bonanza Creek 97.20 28 P Pdif 23 40 17.8 +0.5
baz=289
CAST Castle Rocks 97.36 25 P Pdif 23 40 18.2 +0.4
baz=292
H23K Yukon River 97.43 22 P Pdif 23 40 18.8 +0.7
M20K Styx River 97.45 26 P Pdif 23 40 18.9 +0.5
M20K IAmb IAmb 23 40 23.1
comp=Z,2.6nm,0.9s
SKT Skwentna 98.13 26 P **P 23 40 20.6 -0.6**
baz=292
BORG Borgarnes 98.55 337 LR LR 00 28 30.7
comp=Z,86nm,19.9s,baz=30,slow=38
RIDG Independent Ri 100.16 23 P **Pdif 23 40 29.3 -1.0**
baz=298
TBI Tubuai 114.12 114 *e*LR LR 00 19 39.7
comp=Z,417nm,15.8s
PPT2 Papeete2 114.65 108 *e*LR LR 00 19 55.0
comp=Z,69nm,13.5s
TAOE Nuku Hiva Isla 124.42 99 *e*LR LR 00 24 26.0
comp=Z,69nm,21.3s
NVAR Mina Array Bea 128.46 34 PKP **PKiKP 23 45 52.8 0.0**
comp=Z,1.1nm,0.9s,baz=274,slow=2.5,SNR=7.1

PDAR	**Pinedale Array**	**129.31**	**24**	PKP	**PKPdf**	**23 45 54.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=80,slow=1.7,SNR=4.5						
R11A	**Troy Canyon, C**	**130.00**	**32**	P	**PKiKP**	**23 45 56.8**	**+0.9**
	baz=318						
MIAR	**Mount Ida**	**141.87**	**12**	P	PKPpre	23 46 12.1	
	baz=345						
ABTX	**Abilene, Hawle**	**141.96**	**21**	PKPdf	PKPpre	23 46 12.4	
TXAR	**Lajitas Array**	**143.15**	**28**	PKhKP	PKPpre	23 46 15.6	
	comp=Z,0.9nm,0.8s,baz=293,slow=1.6,SNR=7.7						
JCT	**Junction City**	**143.82**	**23**	PKPdf	PKPbc	23 46 18.6	+0.4
JCT	**Junction City**	**143.82**	**23**	P	PKPbc	23 46 18.4	+0.3
	baz=334						
JCT	**Junction City**	**143.82**	**23**	PKIKP	PKPbc	23 46 18.6	+0.4
HPIG		**144.08**	**33**	PKPdf	PKPbc	23 46 20.1	+0.8
CPUP	**Villa Florida**	**144.95**	**226**	PKPbc	**PKPdf**	**23 46 22.6**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=112,slow=3.9,SNR=9.4						
833A	**Chaparral WMA,**	**145.90**	**24**	P	**PKPab**	**23 46 25.6**	**+0.5**
	baz=333						
BRAL	**Brewton**	**146.11**	**4**	P	**PKPab**	**23 46 26.5**	**+0.7**
	baz=356						
PTLB	**Pontes e Lacer**	**151.99**	**242**		**PKPab**	**23 46 48.9**	**-1.2**
LPAZ	**La Paz**	**159.02**	**229**	PKPab	**PKPab**	**23 47 21.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=174,slow=2.9,SNR=2.1						

*NEIC **04** 23:43:17.2±2.6, 14°.83S±0°.07×173°.9W±0°.1, h10km±2km, mb4.7/6, Error ellipse: s-maj=20.6km s-min=6.0km az=304.0*

*IDC **04** 23:43:25.5±4.9, 14°.51S×173°.90W, h0km, mb3.7/3, mbtmp3.7/3, MS3.8/4, Error ellipse: s-maj=381.8km s-min=31.9km az=150.0*

ISC 04 23:43:17.4±1.3, 14°.8S±0°.1×173°.9W±0°.1, h10km, n15, σ1§64/9, mb4.1/7, MS3.8/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.19**	**67**		**Pb**	**23 43 59.1**	**+2.0**
AFI				Sn	**Sn**	**23 44 18.3**	**-2.8**
NIUE	**Niue**	**5.70**	**139**	Pn	**Pn**	**23 44 42.4**	**+0.3**
NIUE				Sn	Sn	23 45 37.7	-10
KRVT	**Keravat (AS076**	**35.16**	**284**	LR	LR	00 03 05.5	
	comp=Z,98nm,19.6s,baz=44,slow=34						
WRA	**Warramunga Arr**	**49.56**	**256**	P	P	23 52 19.0	+10
	0.2nm,0.3s,baz=90,slow=7.0,SNR=6.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**49.89**	**251**	P	P	23 52 21.1	+10
	1.1nm,0.5s,baz=86,slow=8.2,SNR=18						
	1.1nm,0.5s						
VNDA	**Vanda**	**63.95**	**186**	P	**P**	**23 53 49.7**	**-0.7**
JOW	**Kunigami**	**69.76**	**306**	LR	LR	00 17 46.2	
	comp=Z,99nm,20.4s,baz=306,slow=30						
NVAR	**Mina Array Bea**	**74.16**	**42**	P	P	23 55 03.5	+8.9
	0.2nm,0.3s,baz=226,slow=7.3,SNR=3.9						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**75.27**	**180**	P	**P**	**23 55 00.4**	**0.0**
QSPA				IAmb	IAmb	23 55 03.7	
	comp=Z,1.4nm,1.1s						
LEM	**Lembang**	**77.24**	**266**	LR	LR	00 26 13.5	
	comp=Z,35nm,21.9s,baz=174,slow=33						
KNK	**Knik Glacier**	**78.57**	**12**	P	**P**	**23 55 18.2**	**-0.7**
KNK				IAmb	IAmb	23 55 27.4	
	comp=Z,9.8nm,0.7s						
KLU	**Klutina**	**79.18**	**13**	P	**P**	**23 55 22.4**	**+0.1**
KLU				IAmb	IAmb	23 55 40.4	
	comp=Z,7.2nm,0.7s						
SCM	**Sheep Creek Mo**	**79.18**	**12**	P	**P**	**23 55 21.1**	**-1.1**
M24K	**Tolsona, Glenn**	**79.67**	**13**	P	**P**	**23 55 26.4**	**+1.5**
M24K				IAmb	IAmb	23 55 36.1	
	comp=Z,11nm,0.8s						
INK	**Inuvik**	**87.77**	**14**	LR	LR	00 28 43.2	
	comp=Z,77nm,19.6s,baz=258,slow=31						

*IDC **04** 23:45:21.5±1.2, 42°.86N×13°.11E, h0km, mb3.7/7, mbtmp3.7/11, ML3.2/4, MS2.3/1, Error ellipse: s-maj=26.9km s-min=16.8km az=90.0*

*ROM **04** 23:45:21.1±0.0, 42°.790N±0°.002×13°.135E±0°.004, h10km, ML3.4/91, Error ellipse: s-maj=0.2km s-min=0.2km az=257.0*

*PRU **04** 23:45:22.6±0.0, 42°.77N×13°.58E, h10km*

*LDG **04** 23:45:22.5±0.1, 42°.67N×13°.15E, h10km, Ml3.1/22, Error ellipse: s-maj=4.3km s-min=2.2km az=40.0*

*BEO **04** 23:45:24.5±0.7, 42°.93N×13°.34E, h8km±4km, ML3.4/14*

*STR **04** 23:45:25.6±2.5, 43°.N±9°×1°.3E±2°.0, h10km, MLv3.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=106.9, preliminary*

ISC 04 23:45:22.1±0.6, 42°.80N±0°.01×13°.11E±0°.01, h13km±3km, n224, σ1§81/346, mb3.7/6, 52C-42D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**8**	P	**Pg**	**23 45 23.5**	**-1.2**
NRCA				S	**Sg**	**23 45 24.7**	**-1.8**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	**Castelsantange**	**0.09**	**44**	P	**Pg**	**23 45 24.0**	**-1.2**
T1245				S	**Sg**	**23 45 25.6**	**-1.7**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1216	**Preci, Frazion**	**0.12**	**326**	P	**Pg**	**23 45 24.7**	**-0.7**
T1216				S	**Sg**	**23 45 27.1**	**-0.6**
T1216				AML	AML		
	comp=N,45950μm,0.4s						
T1216				AML	AML		
	comp=E,29850μm,0.9s						
T1202	**Accumoli, Fraz**	**0.13**	**136**	P	**Pg**	**23 45 24.6**	**-1.0**
T1202				S	**Sg**	**23 45 27.1**	**-0.9**
T1202				AML	AML		
	comp=N,1925μm,1.2s						
T1202				AML	AML		
T1202				AML	AML		
	comp=N,1935μm,1.2s						
T1217	**Poggiodomo (PG**	**0.15**	**237**	P	**Pg**	**23 45 25.5**	**-0.5**
T1217				S	**Sg**	**23 45 28.6**	**0.0**
T1217				AML	AML		
	comp=E,15150μm,0.9s						
T1217				AML	AML		
	comp=N,20400μm,0.5s						
T1217				AML	AML		
	comp=E,15200μm,0.8s						
T1217				AML	AML		
	comp=N,19650μm,0.5s						
T1217				AML	AML		
	comp=E,15250μm,0.8s						
T1217				AML	AML		
	comp=N,20400μm,0.5s						
T1217				AML	AML		
	comp=E,15250μm,0.9s						
T1217				AML	AML		
	comp=N,19650μm,0.5s						
FEMA	**Monte Fema**	**0.17**	**346**	P	**Pg**	**23 45 25.7**	**-0.6**
FEMA				S	**Sg**	**23 45 28.9**	**-0.3**
FEMA				AML	AML		
	comp=E,22900μm,0.5s						
FEMA				AML	AML		
	comp=N,19750μm,0.6s						
FEMA				AML	AML		
	comp=E,22900μm,0.5s						
FEMA				AML	AML		
	comp=N,19750μm,0.6s						
T1215	**Vallo di Nera,**	**0.18**	**272**	P	**Pg**	**23 45 25.8**	**-0.4**
T1215				S	**Sg**	**23 45 29.2**	**+0.1**
T1215				AML	AML		
	comp=E,9680μm,0.5s						
T1215				AML	AML		
	comp=N,10035μm,1.0s						
T1215				AML	AML		
	comp=E,10325μm,0.5s						
T1215				AML	AML		
	comp=N,10350μm,1.0s						
T1215				AML	AML		
	comp=E,10345μm,0.5s						
T1215				AML	AML		
	comp=N,10005μm,1.0s						
T1215				AML	AML		
	comp=N,10390μm,1.0s						
T1215				AML	AML		
	comp=E,9655μm,0.5s						
MMO1	**Montemonaco**	**0.19**	**57**	P	**Pg**	**23 45 25.5**	**-1.1**
MMO1				S	**Sg**	**23 45 28.6**	**-1.0**
T1204	**Amatrice, Fraz**	**0.20**	**128**	P	**Pg**	**23 45 25.7**	**-0.9**
T1204				S	**Sg**	**23 45 28.9**	**-0.9**
T1204				AML	AML		
	comp=E,97800μm,0.2s						
T1204				AML	AML		
	comp=N,55000μm,0.7s						
T1204				AML	AML		
	comp=N,55050μm,0.7s						
T1204				AML	AML		
	comp=E,98100μm,0.2s						
LNSS	**Leonessa**	**0.20**	**194**	P	**Pg**	**23 45 26.0**	**-0.7**
LNSS				S	**Sg**	**23 45 29.6**	**-0.1**
T1256	**Bolognola (MC)**	**0.23**	**22**	P	**Pg**	**23 45 26.3**	**-0.9**
T1256				S	**Sg**	**23 45 30.1**	**-0.5**
T1256				AML	AML		
	comp=E,25750μm,0.4s						
T1256				AML	AML		
	comp=N,26000μm,0.5s						
T1256				AML	AML		
	comp=N,25950μm,0.5s						
T1256				AML	AML		
	comp=E,25800μm,0.4s						
T1256				AML	AML		
	comp=N,25100μm,0.5s						
T1256				AML	AML		
	comp=N,26000μm,0.5s						
T1256				AML	AML		
	comp=E,26100μm,0.4s						
SMA1	**SAN MARTINO**	**0.23**	**134**	P	**Pg**	**23 45 26.4**	**-0.8**
SMA1				S	**Sg**	**23 45 30.1**	**-0.6**
FDMO	**Fiordimonte**	**0.24**	**357**	P	**Pg**	**23 45 26.7**	**-0.6**
FDMO				S	**Sg**	**23 45 30.8**	**-0.1**
FDMO				AML	AML		
	comp=E,13350μm,0.2s						
FDMO				AML	AML		
	comp=N,14600μm,0.8s						
T1241	**Roccafluvione,**	**0.25**	**76**	P	**Pg**	**23 45 26.4**	**-1.0**
T1241				S	**Sg**	**23 45 30.2**	**-0.8**
T1241				AML	AML		
	comp=E,42850μm,0.3s						
T1241				AML	AML		
	comp=N,42100μm,0.3s						
T1241				AML	AML		
	comp=E,42650μm,0.3s						
T1241				AML	AML		
	comp=N,38700μm,0.2s						
T1241				AML	AML		
	comp=N,42050μm,0.3s						
AM05	**Amandola Campo**	**0.26**	**45**	P	**Pg**	**23 45 26.8**	**-0.8**
AM05				S	**Sg**	**23 45 31.4**	**+0.1**
AM05				AML	AML		
	comp=E,7540μm,0.9s						
AM05				AML	AML		
	comp=N,9970μm,1.0s						
AM05				AML	AML		
	comp=N,2415μm,0.7s						
AM05				AML	AML		
	comp=N,9980μm,1.0s						
AM05				AML	AML		
	comp=E,33350μm,0.4s						
CESI	**CESI - Serrava**	**0.26**	**325**	P	**Pg**	**23 45 27.2**	**-0.4**
CESI				S	**Sg**	**23 45 31.7**	**+0.4**
CESI				AML	AML		
	comp=N,20850μm,0.3s						
CESI				AML	AML		
	comp=E,9400μm,0.3s						
T1243	**Rocca Santa Ma**	**0.27**	**111**	P	**Pg**	**23 45 26.6**	**-1.2**
T1243				S	**Sg**	**23 45 30.8**	**-1.0**
RM33	**Pellescritta (**	**0.30**	**164**	P	**Pg**	**23 45 27.4**	**-0.9**
RM33				S	**Sg**	**23 45 32.2**	**-0.2**
RM33				AML	AML		
	comp=N,15250μm,0.3s						
RM33				AML	AML		
	comp=E,14300μm,1.0s						
RM33				AML	AML		
	comp=N,15550μm,0.3s						
RM33				AML	AML		
	comp=E,14650μm,1.0s						
GUMA	**Gualdo di Mace**	**0.32**	**32**	P	**Pg**	**23 45 28.1**	**-0.5**
GUMA				S	**Sg**	**23 45 33.5**	**+0.4**
GUMA				AML	AML		
	comp=E,53000μm,0.4s						
GUMA				AML	AML		
	comp=E,47150μm,0.4s						
GUMA				AML	AML		
	comp=N,54650μm,0.5s						
GUMA				AML	AML		
	comp=N,49300μm,0.3s						
T1211	**Morro Reatino**	**0.32**	**215**	P	**Pg**	**23 45 28.2**	**-0.6**
T1211				S	**Sg**	**23 45 33.8**	**+0.6**
T1211				AML	AML		
	comp=E,10350μm,1.1s						
T1211				AML	AML		
	comp=N,21600μm,0.3s						
T1211				AML	AML		
	comp=E,10715μm,1.1s						
T1211				AML	AML		
	comp=E,10360μm,1.1s						
T1211				AML	AML		
	comp=E,10700μm,1.1s						
T1211				AML	AML		
	comp=N,21550μm,0.3s						
T1211				AML	AML		
	comp=N,21500μm,0.3s						
CAMP	**Campotosto**	**0.34**	**139**	P	**Pg**	**23 45 28.1**	**-1.1**
CAMP				S	**Sg**	**23 45 33.2**	**-0.6**
CAMP				AML	AML		
	comp=N,6740μm,0.6s						
CAMP				AML	AML		
	comp=E,10750μm,0.3s						
SEF1	**Sefro**	**0.37**	**342**	P	**Pg**	**23 45 29.1**	**-0.5**
SEF1				S	**Sb**	**23 45 35.2**	**-1.1**
SEF1				AML	AML		
	comp=E,17900μm,0.2s						
SEF1				AML	AML		
	comp=N,15350μm,0.2s						
SEF1				AML	AML		
	comp=N,15300μm,0.2s						
SEF1				AML	AML		
	comp=E,17900μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.38**	**158**	⇑P	**Pg**	**23 45 28.8**	**-1.0**
T1247				AML	AML		
	comp=E,14950μm,0.5s						
T1247				AML	AML		
	comp=N,18700μm,0.2s						
PIO1	**Pioraco**	**0.39**	**347**	⇓P	**Pg**	**23 45 29.6**	**-0.4**
MDAR	**Monte D'Aria**	**0.40**	**4**	P	**Pg**	**23 45 29.6**	**-0.5**
MDAR				AML	AML		
	comp=E,6345μm,0.5s						
MDAR				AML	AML		
	comp=N,11600μm,0.4s						
TERO	**Teramo**	**0.41**	**115**	P	**Pg**	**23 45 28.9**	**-1.3**
TERO				S	**Sg**	**23 45 34.8**	**-0.9**
TERO				AML	AML		
	comp=E,15700μm,0.3s						
TERO				AML	AML		
	comp=N,17050μm,1.3s						
TERO				AML	AML		
	comp=E,15650μm,0.3s						
TERO				AML	AML		
	comp=E,17600μm,0.3s						
TERO				AML	AML		
	comp=N,19200μm,0.6s						
FIU1	**Fiuminata**	**0.41**	**342**	⇑P	**Pg**	**23 45 30.1**	**-0.3**
CESX	**Cesi**	**0.43**	**245**	⇑P	**Pg**	**23 45 30.1**	**-0.6**
CESX				AML	AML		
	comp=N,5540μm,0.4s						
CESX				AML	AML		
	comp=E,5080μm,0.5s						
MNTP	**Montappone**	**0.43**	**38**	P	**Pg**	**23 45 30.4**	**-0.3**
MNTP				AML	AML		
	comp=E,19250μm,0.3s						
MNTP				AML	AML		
	comp=E,19250μm,0.3s						
MNTP				AML	AML		
	comp=N,14150μm,0.4s						
SSM1	**San Severino M**	**0.44**	**7**	⇓P	**Pg**	**23 45 30.3**	**-0.6**
GAG1	**Gagliole**	**0.44**	**356**	⇓P	**Pg**	**23 45 30.5**	**-0.4**
GAG1				AML	AML		
	comp=E,12210μm,1.3s						
GAG1				AML	AML		
	comp=N,14350μm,0.4s						
OFFI	**Offida**	**0.45**	**72**	⇑P	**Pg**	**23 45 30.5**	**-0.5**
OFFI				AML	AML		
	comp=E,13250μm,1.3s						
OFFI				AML	AML		
	comp=N,16900μm,0.5s						
SNTG	**Esanatoglia**	**0.48**	**345**	⇑P	**Pg**	**23 45 30.8**	**-0.7**
SNTG				S	**Sb**	**23 45 39.0**	**-0.3**
SNTG				AML	AML		
	comp=N,2400μm,1.4s						
SNTG				AML	AML		
	comp=E,2495μm,0.4s						
SNTG				AML	AML		
	comp=N,2430μm,0.4s						
SNTG				AML	AML		
	comp=E,2420μm,0.4s						
GIGS	**Gran Sasso**	**0.48**	**135**	P	**Pg**	**23 45 30.1**	**-1.6**
GIGS				S	**Sg**	**23 45 37.1**	**-1.1**
GIGS				AML	AML		
	comp=E,2615μm,0.2s						
GIGS				AML	AML		
	comp=N,2180μm,0.1s						
AQU	**L'Aquila**	**0.49**	**154**	P	**Pg**	**23 45 30.9**	**-0.9**
AQU				S	**Sg**	**23 45 39.0**	**+0.6**
AQU				AML	AML		
	comp=E,3795μm,0.6s						
AQU				AML	AML		
	comp=N,4565μm,0.3s						
AQU				AML	AML		
	comp=N,4545μm,0.3s						
AQU				AML	AML		
	comp=E,3790μm,0.6s						
AQU				AML	AML		
	comp=E,3805μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.52**	**319**	⇑P	**Pg**	**23 45 31.8**	**-0.5**
ATCC				AML	AML		
	comp=E,4495μm,0.7s						
ATCC				AML	AML		
	comp=N,4185μm,0.7s						
FIAM	**Fiamignano**	**0.53**	**179**	⇑P	**Pg**	**23 45 31.4**	**-1.1**
FIAM				S	**Sg**	**23 45 40.0**	**+0.5**
FIAM				AML	AML		
	comp=N,4910μm,0.6s						
FIAM				AML	AML		
	comp=E,6750μm,0.9s						
FOSV	**Fossato di Vic**	**0.56**	**333**	⇑P	**Pg**	**23 45 32.5**	**-0.6**
FOSV				AML	AML		
	comp=E,2095μm,0.7s						
FOSV				AML	AML		
	comp=N,3020μm,0.4s						
CING	**Cingoli**	**0.58**	**6**	⇑P	**Pg**	**23 45 32.6**	**-1.0**
CING				AML	AML		
	comp=E,3230μm,1.2s						
CING				AML	AML		
	comp=N,2570μm,0.1s						
TRTR	**Tortoreto Alta**	**0.59**	**88**	⇑P	**Pg**	**23 45 33.7**	**-0.1**
TRTR				AML	AML		
	comp=E,18400μm,0.5s						
TRTR				AML	AML		
	comp=N,12150μm,0.5s						
MURB	**Monte Urbino**	**0.63**	**318**	⇓P	**Pg**	**23 45 34.0**	**-0.6**
MURB				S	**Sb**	**23 45 45.0**	**+1.1**
MURB				AML	AML		
	comp=E,6480μm,0.3s						
MURB				AML	AML		
	comp=N,4535μm,1.1s						
MURB				AML	AML		
	comp=N,4685μm,1.1s						
MURB				AML	AML		
	comp=E,6475μm,0.3s						
MURB				AML	AML		
	comp=E,7465μm,0.3s						
FAGN	**Fagnano**	**0.64**	**146**	S	**Sg**	**23 45 41.0**	**-1.9**
VCEL	**Villa Celiera**	**0.67**	**126**	⇑P	**Pg**	**23 45 34.1**	**-1.2**
VCEL				AML	AML		
	comp=E,6195μm,0.3s						
VCEL				AML	AML		
	comp=N,5665μm,1.6s						
ATTE	**AVT- Monte Tez**	**0.68**	**306**	⇓P	**Pg**	**23 45 35.7**	**+0.2**
ATTE				AML	AML		
	comp=E,1310μm,0.5s						
ATTE				AML	AML		
	comp=N,1250μm,0.7s						
SSFR	**Montelago di S**	**0.68**	**340**	⇓P	**Pg**	**23 45 34.6**	**-0.8**
SSFR				AML	AML		
	comp=E,4080μm,0.2s						
SSFR				AML	AML		
	comp=N,4355μm,0.8s						
SSFR				AML	AML		
	comp=N,4135μm,0.8s						
SSFR				AML	AML		
	comp=E,4625μm,0.3s						
PP3	**Marolino**	**0.69**	**32**	⇑P	**Pb**	**23 45 35.3**	**-0.7**
PP3				AML	AML		
	comp=E,22250μm,0.5s						
PP3				AML	AML		
	comp=N,13050μm,0.4s						
PP3				AML	AML		
	comp=E,22200μm,0.4s						
PP3				AML	AML		
	comp=E,21000μm,0.4s						
PP3				AML	AML		
	comp=N,15250μm,0.4s						
ATFO	**Monte Foce - G**	**0.69**	**326**	⇓P	**Pg**	**23 45 35.0**	**-0.6**
ATFO				AML	AML		
	comp=E,2460μm,1.2s						
ATFO				AML	AML		
	comp=N,1670μm,0.7s						
ARVD	**Arcevia**	**0.71**	**350**	⇑P	**Pg**	**23 45 35.0**	**-1.0**
ARVD				S	**Sn**	**23 45 47.0**	**-1.8**
ARVD				AML	AML		
	comp=E,1890μm,0.6s						
ARVD				AML	AML		
	comp=N,1195μm,0.6s						
MGAB	**Montegabbione**	**0.74**	**279**	P	**Pg**	**23 45 36.0**	**-0.5**
MGAB				AML	AML		
	comp=E,2925μm,1.4s						
MGAB				AML	AML		
	comp=N,3235μm,0.5s						
MGAB				AML	AML		
	comp=E,2930μm,1.4s						
MGAB				AML	AML		
	comp=N,3230μm,0.5s						
MGAB				AML	AML		
	comp=E,3505μm,1.4s						
MGAB				AML	AML		
	comp=N,3545μm,0.5s						
T0110	**Collepietro**	**0.76**	**139**	P	**Pg**	**23 45 34.9**	**-1.9**
T0110				S	**Sg**	**23 45 48.0**	**+1.3**
T0110				AML	AML		
	comp=E,5190μm,0.4s						
T0110				AML	AML		
	comp=N,4760μm,1.5s						
FRON	**Frontone**	**0.77**	**339**	⇑P	**Pg**	**23 45 36.1**	**-1.1**
FRON				AML	AML		
	comp=E,1020μm,1.1s						
FRON				AML	AML		
	comp=N,2350μm,0.5s						
ATVO	**AVT- Monte Val**	**0.78**	**319**	⇑P	**Pg**	**23 45 36.4**	**-0.8**
ATVO				AML	AML		
	comp=N,1410μm,1.3s						
ATVO				AML	AML		
	comp=E,1405μm,1.3s						
PTQR	**Pietraquaria**	**0.80**	**164**	⇓P	**Pg**	**23 45 36.3**	**-1.4**
PTQR				AML	AML		
	comp=E,1805μm,0.4s						
PTQR				AML	AML		
	comp=N,1124μm,0.3s						
ATMI	**Monte Miggiano**	**0.82**	**312**	⇓P	**Pg**	**23 45 37.7**	**-0.2**
ATMI				AML	AML		
	comp=E,5410μm,0.6s						
ATMI				AML	AML		
	comp=N,4930μm,0.8s						
ATMI				AML	AML		
	comp=E,5405μm,0.6s						
MTCE	**Montecelio**	**0.82**	**199**	⇑P	**Pg**	**23 45 36.2**	**-1.7**
MTCE				AML	AML		
	comp=E,4295μm,0.4s						
MTCE				AML	AML		
	comp=N,2180μm,0.5s						
ATPI	**Pietralunga -**	**0.83**	**322**	P	**Pg**	**23 45 37.0**	**-1.3**
ATPI				AML	AML		
	comp=N,1280μm,0.4s						
ATPI				AML	AML		
	comp=E,1645μm,0.5s						
ATPI				AML	AML		
	comp=N,1275μm,0.4s						
AOI	**Ancona**	**0.84**	**25**	⇓P	**Pg**	**23 45 37.6**	**-0.8**
AOI				AML	AML		
	comp=N,2180μm,0.3s						
AOI				AML	AML		

comp=E,2450µm,1.0s
CERT Cerreto 0.85 186 ⇑P Pg 23 45 36.7 -1.9
CERT AML AML
comp=E,5575µm,0.5s
CERT AML AML
comp=N,3420µm,1.6s
PIEI Pieia 0.85 331 ⇑P Pg 23 45 37.5 -1.2
PIEI AML AML
comp=E,1182µm,0.3s
PIEI AML AML
comp=N,724µm,0.6s
PIEI AML AML
comp=E,1182µm,0.3s
MPAG Monte Paganucc 0.87 343 P Pg 23 45 38.1 -0.9
MPAG AML AML
comp=E,1645µm,0.4s
MPAG AML AML
comp=N,1855µm,0.6s
MPAG AML AML
comp=E,1640µm,0.4s
SACS San Casciano d 0.88 274 ⇓P Pg 23 45 38.8 -0.4
SACS AML AML
comp=E,1725µm,1.6s
SACS AML AML
comp=N,2200µm,0.8s
SACS AML AML
comp=E,1820µm,1.6s
SACS AML AML
comp=N,2200µm,0.8s
SENI Senigallia 0.91 6 ⇓P Pb 23 45 39.4 -0.4
SENI AML AML
comp=N,7070µm,0.3s
SENI AML AML
comp=E,9630µm,1.6s
FSSB Fossombrone 0.93 345 ⇓P Pg 23 45 38.8 -1.3
FSSB AML AML
comp=N,4055µm,0.4s
FSSB AML AML
comp=E,4870µm,0.4s
BADI Badiali 0.95 319 P Pg 23 45 39.9 -0.7
RCAV Rocca di Cave 0.95 187 ⇓P Pg 23 45 40.6 0.0
RCAV AML AML
comp=E,2935µm,0.4s
RCAV AML AML
comp=N,3025µm,0.4s
VVLD Villa Vallelon 1.00 157 ⇑P Pg 23 45 40.3 -1.1
VVLD AML AML
comp=E,1205µm,1.4s
VVLD AML AML
comp=N,1280µm,0.6s
PE3 Peglio 1.00 334 ⇓P Pg 23 45 41.1 -0.4
PE3 AML AML
comp=E,10µm,0.5s
PE3 AML AML
comp=N,11µm,0.1s
RMP Rome, Mte Porz 1.03 197 ⇑P Pb 23 45 42.0 +0.3
RMP AML AML
comp=E,2955µm,1.0s
RMP AML AML
comp=N,3750µm,0.8s
MCIV Monte Civitell 1.05 270 ⇑P Pg 23 45 42.7 +0.3
MCIV AML AML
comp=E,774µm,1.4s
MCIV AML AML
comp=N,560µm,0.8s
VIVA Pratoni del Vi 1.07 194 ⇑P Pb 23 45 42.5 0.0
VIVA AML AML
comp=E,3740µm,0.4s
VIVA AML AML
comp=N,4335µm,0.4s
LPEL Lama dei Pelig 1.09 133 ⇑P Pb 23 45 40.9 -2.0
LPEL AML AML
comp=E,1750µm,0.4s
LPEL AML AML
comp=N,1835µm,0.6s
TOLF Tolfa 1.10 229 ⇓P Pb 23 45 42.1 -0.9
TOLF AML AML
comp=N,848µm,0.4s
TOLF AML AML
comp=E,1080µm,1.0s
SF01 Poggio Pratacc 1.14 271 P Pb 23 45 42.8 -0.8
LAV9 Lanuvio 1.16 195 ⇑P Pn 23 45 41.4 -2.6
LAV9 AML AML
comp=N,3920µm,0.6s
LAV9 AML AML
comp=N,3870µm,0.6s
LAV9 AML AML
comp=E,4295µm,0.5s
LAV9 AML AML
comp=E,4090µm,0.5s
CPGN Carpegna, Ital 1.16 331 ⇓P Pn 23 45 45.2 +1.1
POFI Posta Fibreno 1.17 157 ⇓P Pb 23 45 43.9 -0.3
POFI AML AML
comp=E,882µm,0.8s
POFI AML AML
comp=N,736µm,0.8s
CRE Caprese Michel 1.18 315 P Pb 23 45 44.3 -0.1
CRE AML AML
comp=E,483µm,0.6s
CRE AML AML
comp=N,578µm,1.3s
GIUL Giuliano Di Ro 1.24 175 ⇓P Pn 23 45 44.8 -0.4
GIUL AML AML
comp=E,854µm,0.9s
GIUL AML AML
comp=N,978µm,0.7s
LATB Latina 1.30 185 ⇓P Pn 23 45 45.0 -1.0
LATB AML AML
comp=N,260µm,0.8s
LATB AML AML
comp=E,364µm,0.6s
CERA Filignano 1.38 150 ⇓P Pn 23 45 47.3 +0.2
CERA AML AML
comp=E,986µm,1.1s
CERA AML AML
comp=N,953µm,0.6s
CERA AML AML
comp=N,943µm,0.6s
CERA AML AML
comp=E,958µm,1.1s
ASQU Asqua 1.39 317 ⇓P Pg 23 45 50.4 +1.5
FRES Fresagrandinar 1.42 125 ⇑P Pn 23 45 48.5 +1.0
FRES AML AML
comp=E,686µm,1.0s
FRES AML AML
comp=N,396µm,1.0s
MIDA Miranda 1.43 143 ⇑P Pn 23 45 46.6 -1.2
MIDA AML AML
comp=N,556µm,0.5s
MIDA AML AML
comp=E,784µm,0.7s
TRIV Trivento 1.48 133 ⇑P Pn 23 45 50.1 +1.6
TRIV AML AML
comp=E,77850µm,1.3s
TRIV AML AML
comp=N,77700µm,1.3s
TRIV AML AML
comp=E,782µm,1.2s
TRIV AML AML
comp=N,844µm,1.1s
RUFI Rufina 1.56 312 ⇓P Pn 23 45 49.9 +0.3
VAGA Valle Agricola 1.61 148 ⇓P Pb 23 45 52.9 +1.1
TRIF Trifonti 1.65 282 ⇑P Pn 23 45 51.1 +0.3
TRIF AML AML
comp=N,167µm,0.6s
TRIF AML AML
comp=E,211µm,0.9s
CASP Castiglione de 1.65 271 ⇑P Pn 23 45 50.5 -0.2
CASP AML AML
comp=N,105µm,0.9s
CASP AML AML
comp=E,139µm,0.9s
MODR Mondragone 1.75 161 ⇑P Pn 23 45 53.7 +1.6
MODR AML AML
comp=E,210µm,1.2s
MODR AML AML
comp=N,204µm,0.9s
CIGN Sant'Elia a Pi 1.76 130 ⇓P Pn 23 45 54.0 +1.8
MELA Melanico ??? S 1.85 125 ⇑P Pn 23 45 54.6 +1.1
MELA AML AML
comp=E,1104µm,0.7s
MELA AML AML
comp=N,1088µm,1.4s
MELA AML AML
comp=E,1072µm,0.7s
MELA AML AML
comp=N,1142µm,1.3s

TREM Isole Tremiti 1.90 110 ⇓P Pn 23 45 55.2 +1.0
TREM AML AML
comp=E,884µm,0.8s
TREM AML AML
comp=N,1160µm,0.6s
VITU Vitulano (BN) 1.97 144 P Pn 23 45 52.9 -2.4
VITU AML AML
comp=E,268µm,1.2s
VITU AML AML
comp=N,353µm,0.5s
VITU AML AML
comp=N,324µm,0.4s
VITU AML AML
comp=E,310µm,0.5s
PAOL Paolisi 2.07 148 P Pn 23 45 58.4 +1.8
APRC Apricena 2.08 119 ⇑P Pn 23 45 57.8 +1.0
APRC S Sb 23 46 26.0 +0.4
APRC AML AML
comp=E,458µm,0.5s
APRC AML AML
comp=N,831µm,0.4s
PII Pisa 2.10 297 ⇓P Pb 23 46 01.2 +1.2
POPM Popiglio 2.12 307 ⇓P Pn 23 45 58.1 +0.9
CELB S.Piero in Cam 2.13 270 ⇓P Pn 23 45 57.4 -0.1
CELB AML AML
comp=E,57µm,0.7s
CELB AML AML
comp=N,52µm,0.8s
MRB1 Monte Rocchett 2.17 140 P Pb 23 46 01.9 +0.6
MAIM Mastiano 2.21 301 ⇑P Pn 23 45 59.4 +0.9
MAIM AML AML
comp=E,116µm,0.6s
MAIM AML AML
comp=N,106µm,0.5s
SGRT San Giovanni R 2.22 117 ⇑P Pn 23 45 59.3 +0.6
SGRT S Sb 23 46 29.0 -0.4
SGRT AML AML
comp=E,462µm,0.8s
SGRT AML AML
comp=N,474µm,0.7s
VLC Villacollemand 2.40 305 P Pn 23 46 01.5 +0.3
VLC AML AML
comp=E,71µm,1.1s
VLC AML AML
comp=N,89µm,0.9s
HVAR Hvar 2.48 80 ⇑P Pn 23 46 02.6 +0.4
VULT Monte Vulture 2.62 134 P Pn 23 46 05.7 +1.4
RIY Rijeka 2.72 21 ePn Pn 23 46 05.3 -0.1
RIY eSn Sn 23 46 37.9 -0.2
MORSI Morsiglia 2.76 275 P Pn 23 46 06.7 +0.8
GRAM Graiana 2.78 309 P Pn 23 46 08.8 +2.4
SMPL Sampolo 2.91 257 P Pn 23 46 08.5 +0.3
CORF Corte 2.96 262 P Pn 23 46 09.6 +0.8
PGF Pioggiola 3.04 267 ePn Pn 23 46 10.5 +0.5
PGF eSn Sn 23 46 44.5 -1.7
comp=N,10nm,0.6s
PGF Pioggiola 3.04 267 ⇑P Pn 23 46 09.8 -0.1
PGF Pioggiola 3.04 267 P Pn 23 46 10.8 +0.8
CEY Cerknica 3.09 17 ePn Pn 23 46 10.3 -0.3
SABO M.te Sabotino 3.20 6 ⇑P Pn 23 46 13.1 +1.0
SABO AML AML
comp=E,297µm,0.7s
SABO AML AML
comp=N,318µm,0.6s
SABO AML AML
comp=N,1395µm,0.7s
SABO AML AML
comp=E,1014µm,0.7s
SRKY Kupres RS 3.22 65 ePn Pn 23 46 13.6 +1.2
AMUR Altamura 3.22 125 P Pn 23 46 13.4 +1.0
AMUR AML AML
comp=E,126µm,0.5s
AMUR AML AML
comp=N,138µm,0.6s
MGRS Mrkonjic Grad 3.31 59 ePn Pn 23 46 15.4 +1.8
MIGL Miglionico 3.32 130 ⇑P Pn 23 46 15.5 +1.8
DOSS Dosso del Somm 3.38 337 ⇑P Pn 23 46 16.5 +1.9
SALO Salr 3.38 328 ⇑P Pn 23 46 16.5 +1.9
STON Ston 3.38 87 ePn Pn 23 46 13.1 -1.4
STON Ston 3.38 87 ePn Pn 23 46 13.7 -0.8
STON eSn Sn 23 46 53.3 -1.1
STON Ston 3.38 87 P Pn 23 46 13.4 -1.1
STON AML AML
comp=E,61µm,1.1s
STON AML AML
comp=N,56µm,0.7s
CTI Castel Tesino 3.42 343 P Pn 23 46 13.6 -1.6
CTI AML AML
comp=E,121µm,0.4s
CTI AML AML
comp=N,132µm,0.5s
MATE Matera 3.44 127 ⇓P Pn 23 46 16.5 +1.2
MATE ⇓S Sn 23 46 57.2 +1.2
STAL STALIGIAL 3.48 355 ⇓P Pn 23 46 17.0 +1.1
STAL AML AML
comp=E,179µm,1.4s
STAL AML AML
comp=N,135µm,0.8s
LUSI Trento, Gardas 3.52 335 ⇓P Pn 23 46 18.2 +1.6
A051A Mrakovica 3.53 50 ePn Pn 23 46 17.1 +0.4
LTRZ Laterza 3.54 127 ⇓P Pn 23 46 18.0 +1.2
BLY Banja Luka 3.54 55 ePn Pb 23 46 22.2 -2.4
BLY Banja Luka 3.54 55 ePn Pn 23 46 16.6 -0.1
BLY eSn Sn 23 46 56.0 -2.4
CIMO Cimolais 3.55 353 ⇓P Pn 23 46 18.1 +1.3
CIMO AML AML
comp=N,52µm,1.1s
CIMO AML AML
comp=E,53µm,0.7s
NOCI Noci 3.57 123 ⇑P Pn 23 46 18.1 +0.9
NOCI AML AML
comp=E,91µm,0.3s
NOCI AML AML
comp=N,116µm,0.7s
PTCC Patocco-Chiusa 3.61 3 P Pn 23 46 18.3 +0.5
PTCC AML AML
comp=E,80µm,0.9s
PTCC AML AML
comp=N,68µm,1.3s
ZONE Zone 3.66 325 ⇓P Pn 23 46 19.9 +1.4
ORI Oriolo Calabro 3.71 136 ⇓P Pn 23 46 20.2 +1.1
ORI AML AML
comp=E,285µm,0.4s
ORI AML AML
comp=N,186µm,0.1s
QLNO Quiliano 3.78 295 P Pg 23 46 35.6 +1.0
MYKA Terra Mystica 3.85 5 ePn Pn 23 46 21.6 +0.5
comp=N,5.8nm,0.4s
MYKA eSn Sn 23 47 06.9 +0.7
comp=N,7.8nm,0.3s
OBKA Obir 3.85 15 ePn Pn 23 46 22.3 +1.2
OBKA Obir 3.85 15 i Pn Pn 23 46 22.4 +1.3
comp=N,2.5nm,0.4s
TREB Trebinje 3.86 89 ePn Pn 23 46 21.6 +0.4
TREB Trebinje 3.86 89 ePn Pn 23 46 21.8 +0.6
TREB eSn Sn 23 47 03.8 -2.6
KOSI Kohlern 3.87 342 ⇓P Pn 23 46 23.6 +2.2
APPI Appiano 3.92 341 ⇑P Pn 23 46 24.1 +2.1
IMI Imperia 3.96 288 P Pn 23 46 23.2 +0.6
IMI S Sn 23 47 10.0 +1.0
IMI AML AML
comp=N,229µm,1.4s
IMI AML AML
comp=E,207µm,0.9s
ABTA Abfaltersbach 3.98 354 ePn Pn 23 46 23.9 +1.1
comp=E,26nm,0.5s,SNR=21
ABTA eSn Sn 23 47 09.9 +0.7
comp=E,25nm,0.7s
HCY Herceg Novi 3.99 93 ePn Pn 23 46 23.7 +0.8
BRY Bratogost 4.00 87 ePn Pn 23 46 23.4 +0.3
RISI Rein 4.22 350 ⇑P Pn 23 46 28.2 +2.0
SAOF Saorge 4.22 288 P Pn 23 46 27.4 +1.3
SBF Sospel 4.27 286 ePn Pn 23 46 28.4 +1.5
SBF eSn Sn 23 47 15.0 -1.6
comp=E,12nm,0.5s
UPM Unac-Piva 4.27 83 ePn Pn 23 46 28.7 +1.7
KBA Koelnbreinsper 4.29 2 ePn Pn 23 46 28.0 +0.9
comp=E,5.6nm,0.4s,SNR=9.0
KBA eSn Sn 23 47 17.7 +0.6
comp=E,11nm,0.4s
ROSI Rosskopf 4.30 344 ⇑P Pn 23 46 30.0 +2.6
TURF col de Turini 4.33 288 P Pn 23 46 28.9 +1.1
VSL Villasalto 4.33 222 ⇓P Pn 23 46 29.0 +1.4
VSL S Sn 23 47 18.0 -0.1

VSL AML AML
comp=N,30µm,0.7s
VSL AML AML
comp=E,32µm,0.8s
HAPS Han Pijesak,Bl 4.45 71 ePn Pn 23 46 30.5 +1.2
SPIF crte de Spivo 4.46 288 P Pn 23 46 32.3 +2.9
DRME Dracevica, Mon 4.54 96 ePn Pn 23 46 31.4 +1.0
FETA Feichten 4.55 339 ePn Pn 23 46 33.2 +2.5
comp=E,1.7nm,0.4s
PDG Podgorica 4.55 93 ⇑P Pn 23 46 30.1 -0.6
PDG Podgorica 4.55 93 ePn Pn 23 46 31.7 +1.1
PDG eSn Sn 23 47 21.4 -2.0
WTTA Wattenberg 4.59 347 ePn Pn 23 46 34.0 +2.7
comp=E,1.5nm,0.4s
WTTA eSn Sn 23 47 26.8 +2.2
comp=E,21nm,0.5s
DAVOX Davos/Dischmat 4.60 331 Pn Pn 23 46 33.6 +2.1
comp=E,1.4nm,0.3s,baz=151,slow=19,SNR=11
DAVOX Sn Sn 23 47 26.8 +2.0
comp=E,0.7nm,0.3s,baz=119,slow=22,SNR=3.4
comp=E,7.4nm,0.5s
CALF Calern 4.62 284 P Pn 23 46 32.9 +1.3
SQTA Sankt Quirin 4.62 344 i Pn Pn 23 46 34.9 +3.1
comp=E,3.9nm,0.2s,SNR=8.9
RUDO Rudo 4.65 78 ePn Pn 23 46 31.6 -0.4
WATA Walderalm 4.67 347 ePn Pn 23 46 35.2 +2.8
comp=E,3.3nm,0.5s,SNR=4.9
BBLS Lazići 4.72 75 ePn Pn 23 46 32.2 -0.8
BBLS eSn Sn 23 47 24.6 -3.0
MOTA Moosalm 4.77 343 i Pn Pn 23 46 37.0 +3.3
comp=E,2.7nm,0.3s
ARSA Arzberg 4.77 20 i Sn Sn 23 47 26.8 -2.1
comp=E,4.1nm,0.4s
KOVH Kovagotottos 4.86 46 P Pn 23 46 34.1 -0.7
LMR La Mourre 4.86 279 ePn Pn 23 46 34.3 -0.6
LMR La Mourre 4.86 279 eP Pn 23 46 38.2 +3.3
LMR eSn Sn 23 47 28.8 -2.2
comp=E,2.6nm,0.5s
SURF Saint Ours 4.87 292 P Pn 23 46 37.9 +2.7
JAUF Jausiers 4.90 292 P Pn 23 46 37.8 +2.2
JAUF S Sn 23 47 37.2 +5.1
BIOA Bad Ischl, Aus 4.91 4 i Pn Pn 23 46 36.8 +1.2
comp=E,5.8nm,0.3s
BIOA i Sn Sn 23 47 32.8 +0.5
comp=E,15nm,0.4s
MBDF Montbardon 4.98 295 ePn Pn 23 46 36.8 +0.2
MBDF Montbardon 4.98 295 eP Pn 23 46 40.3 +3.7
MBDF eSn Sn 23 47 31.5 -2.6
comp=E,6.4nm,0.7s
TRIGF Trigance 4.98 283 P Pn 23 46 38.4 +1.7
CREF Crivoux 5.02 293 P Pn 23 46 41.4 +4.2
DAVA Damuels 5.04 334 i Pn Pn 23 46 40.4 +2.9
comp=E,7.8nm,0.5s
DAVA eSn Sn 23 47 38.1 +2.5
comp=E,11nm,0.5s
SJES Sjenica 5.05 82 ePn Pn 23 46 37.7 0.0
SJES eSn Sn 23 47 32.1 -3.9
MOA Molln 5.12 9 ePn Pn 23 46 39.4 +0.9
comp=E,1.2nm,0.2s
MOA eSn Sn 23 47 38.2 +0.8
comp=E,5.2nm,0.4s
DIVS Divibare 5.18 73 ePn Pn 23 46 38.4 -0.9
DIVS Divibare 5.18 73 ePn Pn 23 46 39.7 +0.4
DIVS eSn Sn 23 47 35.8 -3.2
IVAS Ivanjica 5.21 79 ePn Pn 23 46 40.3 +0.5
IVAS eSn Sn 23 47 37.4 -2.3
MORH Mrgy, Hungar 5.23 47 P Pn 23 46 43.5 +3.5
TIR Tirane 5.23 104 ⇑P Pn 23 46 39.9 -0.1
TIR Tirane 5.23 104 ePn Pn 23 46 40.8 +0.8
TIR eSn Sn 23 47 38.0 -2.2
LPG La Plagne 5.31 303 ePn Pn 23 46 41.7 +0.4
LPG La Plagne 5.31 303 eP Pn 23 46 45.7 +4.4
LPG eSn Sn 23 47 42.7 +0.2
comp=E,5.2nm,0.6s
LPL La Plagne 5.33 303 ePn Pn 23 46 42.1 +0.5
LPL La Plagne 5.33 303 eP Pn 23 46 46.0 +4.4
LPL eSn Sn 23 47 42.4 -0.5
comp=E,7.0nm,0.6s
FRGS Fruska Gora 5.38 62 ePn Pn 23 46 39.1 -3.0
FRGS Fruska Gora 5.38 62 ePn Pn 23 46 40.7 -1.4
FRGS eSn Sn 23 47 39.3 -4.6
RONA Rosalia, Austr 5.40 24 i Pn Pn 23 46 42.5 +0.2
comp=E,1.7nm,0.3s
RSL Roselend 5.48 304 P Pn 23 46 46.4 +2.9
CONA Conrad Observa 5.49 20 i Pn Pn 23 46 43.9 +0.4
comp=E,1.7nm,0.3s,SNR=6.8
BSTF la Bastide-des 5.55 284 P Pn 23 46 46.3 +1.9
SMRF Simiane la Rot 5.61 285 ePn Pn 23 46 45.6 +0.3
SMRF Simiane la Rot 5.61 285 eP Pn 23 46 49.3 +4.0
SMRF eSn Sn 23 47 47.6 -2.0
comp=E,24nm,1.1s
ORIF Oris-en-Rattie 5.64 295 ePn Pn 23 46 45.6 -0.1
ORIF Oris-en-Rattie 5.64 295 eP Pn 23 46 49.7 +4.0
ORIF eSn Sn 23 47 48.0 -2.3
comp=E,5.8nm,0.7s
ORIF Oris-en-Rattie 5.64 295 P Pn 23 46 48.8 +3.2
AIGLE Aigle 5.65 311 P Pn 23 46 48.4 +2.6
GRUS Gruza 5.66 76 ePn Pn 23 46 45.9 +0.1
GRUS eSn Sn 23 47 47.2 -3.4
SELS Selova 5.89 83 ePn Pn 23 46 49.3 +0.2
SLE Schleitheim 5.94 328 P Pn 23 46 50.5 +0.8
BALST Balsthal 5.94 322 P Pn 23 46 51.1 +1.4
OHR Ohrid 5.98 104 i Pn Pn 23 46 52.0 +1.7
GERES GERESS Array B 6.07 4 Pn Pn 23 46 51.5 -0.1
comp=E,0.4nm,0.3s,baz=176,slow=13,SNR=10
GERES Sn Sn 23 47 57.7 -3.0
comp=E,1.2nm,0.3s,baz=196,slow=28,SNR=7.8
GERES LR LR 23 49 47.3
comp=E,25nm,20.3s,baz=262,slow=44
comp=E,0.6nm,0.3s
CKRC Cesky Krumlov 6.08 8 eSN Sn 23 47 59.2 -1.9
BOURR Bourrignon 6.20 320 P Pn 23 46 54.8 +1.5
CABF La Chapelle 6.29 310 ePn Pn 23 46 55.3 +0.7
CABF La Chapelle 6.29 310 eP Pn 23 46 59.0 +4.4
CABF eSn Sn 23 48 01.1 -5.2
comp=E,1.1nm,0.3s
KIZ Kirchzarten 6.32 326 P Pn 23 46 55.7 +0.7
BOVS Bovan 6.34 79 ⇑P Pn 23 46 54.8 -0.4
BOVS ⇑S Sn 23 48 06.8 -0.6
BOVS Bovan 6.34 79 ePn Pn 23 46 54.8 -0.4
KHC Kasperske Hory 6.35 3 ePN Pn 23 46 54.9 -0.4
KHC eSN Sn 23 48 05.3 -2.3
CHMF Charmoille 6.38 316 P Pn 23 46 57.9 +2.0
BARS Barje 6.41 87 ePn Pn 23 46 56.5 +0.4
BARS eSn Sn 23 48 04.7 -4.4
VIVF Saint-Julien-l 6.44 292 ePn Pn 23 46 56.3 -0.3
VIVF Saint-Julien-l 6.44 292 eP Pn 23 47 00.9 +4.3
TAMR Tamra 6.51 209 ⇓P Pb 23 47 13.3 -1.9
VOGT Vogtsburg - To 6.52 326 P Pn 23 46 58.6 +0.9
BOUC Bouclans 6.58 315 P Pn 23 46 59.6 +1.0
HINF Hinteralfeld 6.68 321 ePn Pn 23 46 59.8 -0.1
HINF Hinteralfeld 6.68 321 eP Pn 23 47 05.4 +5.5
HINF eSn Sn 23 48 14.4 -1.5
comp=E,15nm,0.7s
BZS Buzias 6.73 62 ⇓P Pn 23 47 00.2 -0.4
ZAGS Zajecar 6.74 78 ePn Pn 23 47 00.9 +0.3
STIP Stip 6.83 96 i Pn Pn 23 47 04.6 +2.7
ECH Echery 6.84 324 P Pn 23 47 02.9 +0.8
ECH S Sn 23 48 19.3 -0.6
LASF Ste Croix 6.86 284 ePn Pn 23 47 02.0 -0.3
LASF Ste Croix 6.86 284 eP Pn 23 47 06.7 +4.4
LASF eSn Sn 23 48 13.4 -6.7
CDF Champ du Feu 6.95 326 ePn Pn 23 47 03.8 +0.2
CDF Champ du Feu 6.95 326 eP Pn 23 47 08.9 +5.3
CDF eSn Sn 23 48 20.6 -1.9
comp=E,4.2nm,0.4s
ZAPS Zavoj 7.00 83 ePn Pn 23 47 04.6 +0.3
ZAPS eSn Sn 23 48 17.7 -6.0
BLKB Belogradchik 7.04 80 ⇑P Pn 23 47 04.2 -0.6
BLKB ⇑S Sn 23 48 23.8 -1.0
HERR Herculane 7.05 70 ⇑P Pn 23 47 04.5 -0.4
HAU Haudompre 7.05 320 ePn Pn 23 47 05.7 +0.7
HAU Haudompre 7.05 320 eP Pn 23 47 09.8 +4.8
HAU eSn Sn 23 48 24.1 -0.9
comp=E,9.4nm,0.4s
GZR Gura Zlata 7.43 66 ⇓P Pn 23 47 09.7 -0.5
VTS Vitosha 7.46 88 ⇑P Pn 23 47 10.7 -0.1
KEST Kesra 7.63 204 Pn Pn 23 47 16.4 +3.3
comp=E,0.2nm,0.3s,baz=285,slow=6.9,SNR=5.1
comp=E,1.0nm,0.5s
SMF Signal de Mont 7.64 303 ePn Pn 23 47 12.9 -0.1
SMF Signal de Mont 7.64 303 eP Pn 23 47 18.4 +5.4
SMF eSn Sn 23 48 36.9 -2.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,1.5nm,0.4s						
PAGF	**Fort de Pagny**	**7.74**	**321**	*e*Pn	**Pn**	**23 47 14.4**	**0.0**
PAGF	**Fort de Pagny**	**7.74**	**321**	*e*P	Pn	23 47 19.5	+5.1
PAGF				*e*Sn	**Sn**	**23 48 39.2**	**-2.6**
	comp=E,3.8nm,0.5s						
SFTF	**Sexfontaines**	**7.83**	**316**	*e*Pn	**Pn**	**23 47 15.0**	**-0.7**
	baz=140						
SFTF	**Sexfontaines**	**7.83**	**316**	*e*P	Pn	23 47 20.6	+4.9
SFTF				*e*Sn	**Sn**	**23 48 40.5**	**-3.6**
	comp=E,2.0nm,0.3s						
LOR	**Lormes**	**7.93**	**308**	*e*Pn	**Pn**	**23 47 16.9**	**-0.1**
	baz=132						
LOR				*e*Sn	**Sn**	**23 48 43.5**	**-3.1**
	comp=E,5.8nm,0.6s						
AVF	**Avril sur Loir**	**8.00**	**303**	*e*P	Pn	23 47 23.1	+5.1
MEZF	**Maizieres J'vi**	**8.02**	**318**	*e*Pn	**Pn**	**23 47 17.4**	**-0.9**
	baz=139						
MEZF	**Maizieres J'vi**	**8.02**	**318**	*e*P	Pn	23 47 23.7	+5.4
MEZF				*e*Sn	**Sn**	**23 48 45.7**	**-3.1**
	comp=E,3.2nm,0.5s						
SSF	**Saint Saulge**	**8.04**	**305**	*e*Pn	**Pn**	**23 47 18.5**	**0.0**
SSF	**Saint Saulge**	**8.04**	**305**	*e*P	**Pn**	**23 47 22.9**	**+4.4**
SSF				*e*Sn	**Sn**	**23 48 44.3**	**-4.8**
	comp=E,3.3nm,0.5s						
SAVF	**Savonnieres en**	**8.06**	**319**	*e*Pn	**Pn**	**23 47 16.9**	**-1.9**
SAVF	**Savonnieres en**	**8.06**	**319**	*e*P	Pn	23 47 24.1	+5.3
SAVF				*e*Sn	**Sn**	**23 48 46.1**	**-3.7**
	comp=E,1.7nm,0.3s						
BGF	**Bois d'Agland**	**8.22**	**301**	*e*Pn	**Pn**	**23 47 19.8**	**-1.2**
BGF	**Bois d'Agland**	**8.22**	**301**	*e*P	Pn	23 47 25.6	+4.6
BGF				*e*Sn	**Sn**	**23 48 47.5**	**-6.2**
	comp=E,3.4nm,0.5s						
CAF	**Calviac**	**8.26**	**289**	*e*Pn	**Pn**	**23 47 20.6**	**-1.0**
CAF	**Calviac**	**8.26**	**289**	*e*P	Pn	23 47 26.2	+4.6
CAF				*e*Sn	**Sn**	**23 48 49.7**	**-5.0**
	comp=E,1.2nm,0.4s						
CLL	**Collm**	**8.52**	**360**	*e*(Sn)	Sn	23 48 47.0	-14
CLL				*e*Sg	**Sg**	**23 49 52.0**	**-3.2**
	comp=Z,13nm,1.4s						
CLL				*e*x	x	23 50 05.0	
GIVF	**Givet**	**9.27**	**325**	*e*P	Pn	23 47 42.2	+6.8
BAIF	**Baives**	**9.51**	**323**	*e*P	Pn	23 47 45.7	+7.1
IDI	**Anoyia**	**11.83**	**125**	Pn	**Pn**	**23 48 12.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=305,slow=12,SNR=2.0						
IDI				Sn	**Sn**	**23 50 16.4**	**-5.9**
	comp=Z,0.1nm,0.3s,baz=299,slow=19,SNR=1.7						
	comp=Z,2.7nm,0.8s						
FINES	**FINESS Array B**	**20.23**	**18**	P	Pn	23 49 58.4	-0.2
	comp=Z,2.5nm,1.0s,baz=202,slow=10,SNR=3.9						
	comp=Z,2.5nm,1.0s						
BELG	**Belogornoye**	**24.96**	**55**	P	**P**	**23 50 46.6**	**+1.7**
	comp=Z,9.6nm,0.8s,baz=276,slow=4.8,SNR=5.1						
	comp=Z,9.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.15**	**202**	P	**P**	**23 51 41.2**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=16,slow=8.6,SNR=3.3						
	comp=Z,0.6nm,0.9s						
ARU	**Arti**	**31.82**	**49**	P	**P**	**23 51 45.8**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=156,slow=22,SNR=3.8						
	comp=Z,1.2nm,0.4s						
BVAR	**Borovoye Array**	**38.76**	**54**	P	**P**	**23 52 46.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=317,slow=7.9,SNR=2.4						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**47.81**	**60**	P	**P**	**23 54 00.3**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=289,slow=9.0,SNR=2.3						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**61.85**	**50**	P	**P**	**23 55 43.0**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=275,slow=6.5,SNR=2.6						
	comp=Z,0.3nm,0.6s						

---

*IDC **04** 23:53:23.8±0.7, 28°.19S×178°.26W, h209km±6km, mb4.0/18, mbtmp4.5/21, Error ellipse: s-maj=13.2km s-min=12.3km az=73.0*

*NEIC **04** 23:53:24.4±2.2, 28°.14S±0°.09×178°.2W±0°.1, h209km±6km, mb4.6/56, Error ellipse: s-maj=14.9km s-min=13.0km az=77.0*

ISC 04 23:53:22.9±0.3**, 28°.22S**±0°.05×**178°.26W**±0°.07**, h200**km**, n153, σ1s35**/141**, mb4.5**/44**, 9C-8D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.07**	**164**	P	**Pn**	**23 53 55.8**	**+2.6**
	2μm,0.2s,baz=85,slow=6.6,SNR=54						
RAO				S	**Sn**	**23 54 19.5**	**+2.7**
	1μm,0.3s,baz=290,slow=23,SNR=4.4						
GLKZ	**Green Lake**	**1.08**	**164**	P	**Pn**	**23 53 56.2**	**+3.0**
MXZ	**Matakaoa Point**	**9.76**	**196**	P	Pn	23 55 32.4	-6.5
MXZ				S	Sn	23 57 18.4	-10
WMGZ	**Waiomatatini S**	**9.98**	**195**	P	Pn	23 55 35.8	-5.9
WMGZ				S	Sn	23 57 25.1	-8.1
HAZ	**Te Kaha**	**10.08**	**198**	P	Pn	23 55 36.0	-7.0
HAZ				S	**Sn**	**23 57 28.5**	**-7.1**
PKGZ	**Pakihiroa**	**10.12**	**197**	P	Pn	23 55 36.6	-7.1
PKGZ				S	Sn	23 57 25.8	-11
URZ	**Urewera**	**10.74**	**200**	P	**Pn**	**23 55 51.4**	**-0.2**
	6.1nm,0.5s,baz=335,slow=4.1,SNR=7.6						
URZ				S	Sn	23 57 42.0	-9.3
	46nm,0.5s,baz=86,slow=22,SNR=16						
MSVF	**Nonsavu**	**10.97**	**341**	P	**Pn**	**23 55 56.8**	**+2.0**
	110nm,1.0s,baz=140,slow=13,SNR=56						
MSVF	**Nonsavu**	**10.97**	**341**		**Pn**	**23 55 56.5**	**+1.7**
NIUE	**Niue**	**11.87**	**42**		**Pn**	**23 56 04.7**	**-1.5**
PXZ	**Pawanui**	**12.46**	**198**	P	Pn	23 56 07.0	-6.5
PXZ				S	Sn	23 58 19.3	-13
PNHZ	**Pukenui**	**12.54**	**200**	P	Pn	23 56 06.1	-8.4
PNHZ				S	Sn	23 58 19.4	-15
BFZ	**Birch Farm**	**13.23**	**199**	P	Pn	23 56 16.5	-6.7
BFZ				S	S	23 58 32.1	-19
MRZ	**Mangatainoka R**	**13.41**	**201**	P	Pn	23 56 18.0	-7.4
MRZ				S	S	23 58 39.1	-16
TIWZ	**Tintock**	**13.42**	**200**	P	Pn	23 56 12.3	-13
TIWZ				S	S	23 58 40.6	-15
HOWZ	**Holdsworth Sta**	**13.65**	**200**	P	Pn	23 56 21.1	-7.2
HOWZ				S	S	23 58 44.0	-16
TMWZ	**Te Maipa**	**13.73**	**199**	P	Pn	23 56 21.6	-7.8
TMWZ				S	S	23 58 44.0	-18
KIW	**Kapiti Island**	**13.81**	**202**	P	Pn	23 56 22.8	-7.5
KIW				S	S	23 58 47.5	-17
MTW	**Mount Morrison**	**13.89**	**200**	P	Pn	23 56 23.9	-7.5
MTW				S	S	23 58 46.7	-19
MARNC	**Mare, Loyalty**	**14.13**	**295**	Pn	**Pn**	**23 56 34.4**	**-0.1**
LIFNC	**LIFOU**	**15.13**	**296**	P	P	23 56 55.4	+8.1
DZM	**Mont Dzumac**	**15.14**	**290**	P	**P**	**23 56 47.9**	**+0.3**
	6.7nm,0.9s,baz=115,slow=17,SNR=2.5						
DZM	**Mont Dzumac**	**15.14**	**290**	P	**P**	**23 56 52.0**	**+4.5**
DZM				IAmb	IAmb	23 56 53.7	
	comp=Z,12nm,0.7s						
AFI	**Afiamalu**	**15.46**	**24**	P	**Pn**	**23 56 48.0**	**-2.9**
	comp=Z,21nm,0.3s,baz=236,slow=15,SNR=2.7						
AFI				S	S	23 59 24.8	-18
	comp=Z,72nm,0.7s,baz=102,slow=23,SNR=7.9						
KOUNC	**Koumac, New Ca**	**17.63**	**292**	P	**Pn**	**23 57 17.1**	**+0.5**
KOUNC				IAmb	IAmb	23 57 22.6	
	comp=Z,24nm,0.9s						
RPZ	**Rata Peaks**	**17.70**	**206**	S	S	00 00 13.7	-15
	comp=Z,16nm,0.6s,baz=185,slow=8.6,SNR=7.5						
ARMA	**Armidale**	**26.32**	**258**	P	**P**	**23 58 41.9**	**+1.5**
ARMA				IAmb	IAmb	23 59 15.1	
	comp=Z,19nm,1.5s						
EIDS	**Eidsvold**	**27.48**	**269**	P	**P**	**23 58 51.9**	**+1.2**
CAN	**Canberra**	**28.64**	**247**	P	**P**	**23 59 02.5**	**+1.6**
TOO	**Toolangi**	**31.68**	**243**	P	**P**	**23 59 28.4**	**+0.8**
CTA	**Charters Tower**	**33.29**	**276**	P	**P**	**23 59 42.5**	**+0.7**
	comp=Z,5.2nm,0.6s,baz=99,slow=10,SNR=17						
	comp=Z,5.2nm,0.6s						
CTAO	**Charters Tower**	**33.29**	**276**	P	**P**	**23 59 43.1**	**+1.3**
STKA	**Stephens Creek**	**34.81**	**254**	P	**P**	**23 59 55.1**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=124,slow=10,SNR=5.3						
	comp=Z,1.3nm,0.4s						
STKA	**Stephens Creek**	**34.81**	**254**	P	**P**	**23 59 57.0**	**+2.3**
BBOO	**Buckleboo**	**39.39**	**252**	P	**P**	**00 00 32.4**	**-0.9**
BBOO				IAmb	IAmb	00 00 45.3	
	comp=Z,35nm,1.4s						
AS31	**Alice Springs**	**43.04**	**265**	P	**P**	**00 01 03.4**	**+0.2**
ASAR	**Alice Springs**	**43.05**	**265**	P	**P**	**00 01 02.9**	**-0.3**
	comp=Z,5.1nm,0.6s,baz=93,slow=7.2,SNR=110						
ASAR				PcP	**PP**	**00 02 48.0**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=120,slow=3.5,SNR=9.5						
	comp=Z,5.1nm,0.6s						
WR0	**Warramunga Arr**	**43.65**	**270**	P	**P**	**00 01 07.9**	**-0.1**
WB2	**Warramunga Arr**	**43.82**	**270**	P	**P**	**00 01 09.2**	**-0.2**
WB2				IAmb	IAmb	00 01 10.2	
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**43.83**	**270**	P	**P**	**00 01 08.7**	**-0.8**
	comp=Z,3.7nm,0.5s,baz=111,slow=7.3,SNR=59						
WRA				PcP	**PcP**	**00 02 51.4**	**-0.8**
	comp=Z,6.3nm,0.8s,baz=108,slow=3.5,SNR=17						
	comp=Z,3.7nm,0.5s						
WB0	**Warramunga Arr**	**43.85**	**270**	P	**P**	**00 01 09.3**	**-0.3**
WB0				IAmb	IAmb	00 01 10.3	
	comp=Z,22nm,1.4s						
FORT	**Forrest**	**46.43**	**253**	P	**P**	**00 01 28.5**	**-1.3**
FORT				IAmb	IAmb	00 01 29.3	
	comp=Z,22nm,0.7s						
MTN	**Manton Dam**	**49.45**	**277**	P	**P**	**00 01 53.1**	**0.0**
SBA	**Scott Base**	**50.19**	**184**	P	**P**	**00 02 00.8**	**+3.0**
SBA				IAmb	IAmb	00 02 01.9	
	comp=Z,22nm,1.1s						
VNDA	**Vanda**	**50.24**	**186**	P	**P**	**00 02 00.1**	**+2.0**
	comp=Z,2.6nm,0.6s,baz=5.9,slow=7.9,SNR=38						
	comp=Z,2.6nm,0.6s						
VNDA	**Vanda**	**50.24**	**186**	P	**P**	**00 02 00.1**	**+2.0**
KNRA	**Kununurra**	**50.35**	**273**	P	**P**	**00 01 59.8**	**0.0**
KNRA				IAmb	IAmb	00 02 12.8	
	comp=Z,16nm,1.2s						
MBWA	**Marble Bar**	**56.27**	**262**	P	**P**	**00 02 42.1**	**-0.8**
MBWA				IAmb	IAmb	00 02 42.1	
	comp=Z,8.8nm,0.9s						
MORW	**Morawa**	**56.96**	**252**	P	**P**	**00 02 46.3**	**-1.4**
MORW				IAmb	IAmb	00 03 16.5	
	comp=Z,15nm,1.1s						
CASY	**Casey**	**56.97**	**207**	P	**P**	**00 02 46.8**	**-0.2**
CASY				IAmb	IAmb	00 02 56.8	
	comp=Z,20nm,1.3s						
GIRL	**Giralia**	**60.54**	**259**	P	**P**	**00 03 12.5**	**+0.2**
QSPA	**South Pole Qui**	**61.89**	**180**	P	**P**	**00 03 22.4**	**+1.5**
QSPA				IAmb	IAmb	00 03 23.1	
	comp=Z,13nm,0.9s						
SMAI	**San Martin Ant**	**71.53**	**158**	P	**P**	**00 04 22.7**	**+1.1**
SMAI				IAmb	IAmb	00 04 23.8	
	comp=Z,11nm,0.9s						
BELA	**Belgrano 2**	**71.97**	**172**	P	**P**	**00 04 23.9**	**-0.2**
MAW	**Mawson**	**74.27**	**200**	P	**P**	**00 04 37.3**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=140,slow=8.2,SNR=8.6						
	comp=Z,4.3nm,0.6s						
MAW	**Mawson**	**74.27**	**200**	P	**P**	**00 04 38.5**	**+0.8**
JGF	**Kuroka**	**76.03**	**324**	P	**P**	**00 04 48.3**	**+0.1**
JGF				IAmb	IAmb	00 05 12.9	
	comp=Z,25nm,1.3s						
MJAR	**Matsushiro Arr**	**76.33**	**325**	P	**P**	**00 04 49.1**	**-0.7**
	comp=Z,7.3nm,0.8s,baz=156,slow=5.4,SNR=13						
	comp=Z,7.3nm,0.8s						
JSU	**Suzuyama**	**76.89**	**317**	P	**P**	**00 04 53.8**	**+0.7**
JHS	**Saijyo**	**77.86**	**321**	P	**P**	**00 04 59.0**	**+0.7**
SSLB	**Suanglung**	**78.12**	**305**	P	**P**	**00 04 58.4**	**-1.6**
SSLB				IAmb	IAmb	00 05 39.8	
	comp=Z,17nm,1.2s						
ADK	**Adak**	**79.76**	**1**	P	**P**	**00 05 08.0**	**-0.3**
TROLL	**Troll, Antarti**	**80.05**	**180**	P	**P**	**00 05 10.1**	**+0.2**
VNA3	**Neumayer Olymp**	**80.49**	**176**	P	**P**	**00 05 11.8**	**-0.3**
VNA2	**Neumayer--Watz**	**80.92**	**177**	P	**P**	**00 05 14.5**	**0.0**
	baz=177,slow=5.4						
VNA1	**Neumayer--Stat**	**81.16**	**177**	P	**P**	**00 05 15.6**	**0.0**
H03S2	**Juan Fernandez**	**81.86**	**124**	T	T	01 35 49.5	
	baz=241						
H03S1	**Juan Fernandez**	**81.87**	**124**	T	T	01 36 02.6	
	baz=241						
H03S3	**Juan Fernandez**	**81.88**	**124**	T	T	01 36 00.6	
	baz=241						
KSRS	**Korea Array**	**82.55**	**320**	P	**P**	**00 05 23.1**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=139,slow=5.5,SNR=7.5						
	comp=Z,2.6nm,0.7s						
PETK	**Petropavlovsk-**	**83.65**	**346**	P	**P**	**00 05 28.9**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=130,slow=6.3,SNR=3.5						
	comp=Z,3.7nm,0.6s						
PLCA	**Paso Flores**	**84.16**	**133**	P	**P**	**00 05 32.6**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=233,slow=4.6,SNR=4.5						
	comp=Z,1.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**85.22**	**327**	P	**P**	**00 05 37.5**	**+0.8**
	comp=Z,6.2nm,0.8s,baz=152,slow=3.1,SNR=13						
	comp=Z,6.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**85.22**	**327**	P	**P**	**00 05 36.9**	**+0.3**
CMB	**Columbia Colle**	**85.29**	**42**	P	**P**	**00 05 36.5**	**-0.7**
GSC	**Goldstone, Bar**	**85.73**	**46**	P	**P**	**00 05 40.2**	**+0.7**
NVAR	**Mina Array Bea**	**86.79**	**43**	P	**P**	**00 05 45.1**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=222,slow=8.5,SNR=16						
	comp=Z,2.1nm,0.8s						
TPH	**Tonopah**	**87.22**	**44**	P	**P**	**00 05 47.3**	**+0.4**
TPH				IAmb	IAmb	00 05 48.1	
	comp=Z,13nm,0.8s						
KVN	**Kaiserville**	**87.31**	**43**	P	**P**	**00 05 47.1**	**-0.1**
MT01	**Popeta**	**87.36**	**127**	P	**P**	**00 05 47.8**	**+0.2**
OHAK	**Old Harbor**	**87.68**	**13**	P	**P**	**00 05 48.5**	**+0.2**
PINE	**Pine Mountain**	**88.81**	**38**	P	**P**	**00 05 55.0**	**+0.8**
PINE				IAmb	IAmb	00 05 56.8	
	comp=Z,17nm,1.4s						
CO02	**Combarbal**	**88.96**	**125**	P	**P**	**00 05 55.2**	**-0.1**
KLR	**Kul'dur**	**89.04**	**330**	P	**P**	**00 05 55.2**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=126,slow=1.7,SNR=4.8						
	comp=Z,2.5nm,0.8s						
Q19K	**Cape Douglas,**	**89.20**	**12**	P	**P**	**00 05 54.9**	**-0.5**
U15A	**North Rim**	**89.32**	**47**	P	**P**	**00 05 57.9**	**+1.0**
U15A				IAmb	IAmb	00 05 58.6	
	comp=Z,4.0nm,0.7s						
CO03	**El Pedregal**	**89.38**	**125**	P	**P**	**00 05 57.4**	**+0.1**
O18K	**Koktuh Hills**	**89.78**	**11**	P	**P**	**00 05 57.8**	**-0.3**
O18K				IAmb	IAmb	00 05 58.5	
	comp=Z,8.5nm,0.8s						
CNPM	**China Poot**	**90.23**	**13**	P	**P**	**00 06 00.1**	**-0.1**
ILSW	**Iliamna Southw**	**90.28**	**12**	P	**P**	**00 06 00.6**	**0.0**
ILSW				IAmb	IAmb	00 06 01.2	
	comp=Z,11nm,0.8s						
MTPU	**Mount Pierson**	**90.34**	**46**	P	**P**	**00 06 03.0**	**+1.3**
BRLK	**Bradley Lake**	**90.52**	**13**	P	**P**	**00 06 01.7**	**+0.1**
MSU	**Marysvale**	**90.63**	**46**	P	**P**	**00 06 04.3**	**+1.4**
N19K	**Bonanza Creek**	**90.81**	**11**	P	**P**	**00 06 02.1**	**-0.9**
N19K				IAmb	IAmb	00 06 13.4	
	comp=Z,14nm,1.4s						
TXAR	**Lajitas Array**	**91.40**	**57**	P	**P**	**00 06 06.5**	**0.0**
	comp=Z,0.7nm,0.8s,baz=201,slow=6.6,SNR=6.0						
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**91.40**	**57**	P	**P**	**00 06 07.3**	**+0.8**
M19K	**Big River Lodg**	**91.85**	**11**	P	**P**	**00 06 07.7**	**0.0**
M19K				IAmb	IAmb	00 06 27.5	
	comp=Z,11nm,1.3s						
SUA	**Susitna One**	**92.10**	**13**	P	**P**	**00 06 08.5**	**-0.5**
SUA				IAmb	IAmb	00 06 35.5	
	comp=Z,12nm,1.4s						
HVU	**Hansel Valley**	**92.19**	**43**	P	**P**	**00 06 10.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**92.47**	**290**	P	**P**	**00 06 11.1**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=156,slow=3.3,SNR=9.6						
	comp=Z,1.6nm,0.3s						
CHTO	**Chiang Mai**	**92.64**	**290**	P	**P**	**00 06 12.1**	**-0.2**
CHTO				IAmb	IAmb	00 06 14.3	
	comp=Z,4.2nm,0.8s						
N25K	**Chitina, Valde**	**93.55**	**15**	P	**P**	**00 06 14.8**	**-0.8**
N25K				IAmb	IAmb	00 06 45.0	
	comp=Z,11nm,1.4s						
SEY	**Seymchan**	**93.81**	**347**	P	**P**	**00 06 16.4**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=183,slow=4.2,SNR=5.0						
	comp=Z,2.7nm,0.7s						
TRF	**Thorofare Moun**	**94.01**	**12**	P	**P**	**00 06 17.0**	**-0.8**
TRF				IAmb	IAmb	00 06 17.4	
	comp=Z,3.3nm,0.8s						
DHY	**Denali Highway**	**94.24**	**14**	P	**P**	**00 06 17.4**	**-1.4**
DHY				IAmb	IAmb	00 06 41.6	
	comp=Z,8.2nm,1.4s						
PDAR	**Pinedale Array**	**94.71**	**44**	P	**P**	**00 06 20.9**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=176,slow=3.9,SNR=4.3						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**95.86**	**13**	P	**P**	**00 06 24.4**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=231,slow=5.7,SNR=3.4						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**116.19**	**311**	PKP	**PKPdf**	**00 11 40.8**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=83,slow=0.9,SNR=13						
ZALV	**Zalesovo Beam**	**116.25**	**319**	PKP	**PKPdf**	**00 11 40.4**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=222,slow=2.0,SNR=4.8						
NRIK	**Noril'sk**	**117.56**	**336**	PKP	**PKPdf**	**00 11 43.1**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=107,slow=4.2,SNR=3.5						
BOSA	**Boshof**	**119.17**	**204**	PKP	**PKPdf**	**00 11 48.3**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=180,slow=2.7,SNR=6.1						
AAK	**Ala-Archa**	**120.70**	**305**	PKP	**PKPdf**	**00 11 50.1**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=146,slow=5.7,SNR=6.1						
BVAR	**Borovoye Array**	**124.68**	**317**	PKP	**PKPdf**	**00 11 56.8**	**-1.4**
	comp=Z,4.9nm,0.6s,baz=103,slow=2.0,SNR=22						
ARU	**Arti**	**131.25**	**322**	PKP	**PKPdf**	**00 12 10.2**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=156,slow=3.2,SNR=9.0						
GEYT	**Alibeck**	**132.41**	**297**	PKP	**PKPdf**	**00 12 13.5**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=208,slow=2.5,SNR=5.3						
KMBO	**Kilima Mbogo**	**135.16**	**235**	PKP	**PKPdf**	**00 12 20.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=112,slow=1.2,SNR=6.6						
ARCES	**ARCESS Array B**	**136.41**	**348**	PKhKP	PKPpre	00 12 08.3	
	comp=Z,1.2nm,0.6s,baz=46,slow=3.5,SNR=4.1						
ARCES				PKP	**PKPdf**	**00 12 19.1**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=14,slow=1.9,SNR=17						
FINES	**FINESS Array B**	**143.02**	**341**	PKhKP	PKPpre	00 12 27.4	
	comp=Z,1.7nm,0.5s,baz=74,slow=3.0,SNR=13						
KBZ	**Khabaz**	**143.68**	**306**	PKhKP	PKPpre	00 12 31.2	
	comp=Z,5.1nm,1.0s,baz=146,slow=3.0,SNR=6.9						
KIV	**Kislovodsk**	**143.78**	**307**	⇓P	**PKPdf**	**00 12 33.6**	**-0.5**
MEF	**Metsahovi**	**144.50**	**341**	*e*P	**PKPab**	**00 12 32.9**	**-0.7**
RAF	**Rauma**	**144.54**	**343**	*e*P	**PKPab**	**00 12 32.6**	**-1.2**
VSU	**Vasula**	**145.14**	**337**	*e*P	**PKPbc**	**00 12 35.5**	**-0.4**
AAL	**Aland**	**145.72**	**344**	*e*P	**PKPdf**	**00 12 35.9**	**-0.9**
MTSE	**Matsula**	**145.89**	**340**	*e*P	**PKPbc**	**00 12 37.8**	**-0.3**
KTUT	**Trabzon**	**146.47**	**302**	⇓P	**PKPab**	**00 12 41.4**	**-0.4**
UPP	**Uppsala**	**146.55**	**345**	*e*P	**PKPdf**	**00 12 39.0**	**+0.8**
NB2	**NORSAR Subarra**	**146.57**	**352**	PKP	**PKPdf**	**00 12 38.9**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=11,slow=2.9						
NOA	**NORSAR Array B**	**146.57**	**352**	PKPbc	**PKPbc**	**00 12 39.3**	**-0.9**
	comp=Z,4.5nm,0.6s,baz=16,slow=4.6,SNR=7.0						
ISAL	**Salakas**	**147.53**	**334**	*e*P	**PKPbc**	**00 12 42.9**	**0.0**
IIGN	**Ignalina**	**147.65**	**334**	*e*P	**PKPbc**	**00 12 43.5**	**+0.3**
VSVD	**Vaisvydziai**	**148.03**	**336**	*e*P	**PKPbc**	**00 12 43.8**	**-0.4**
PABE	**Paberze**	**148.38**	**336**	*e*P	**PKPbc**	**00 12 45.0**	**-0.1**
AKASG	**Malin Array Be**	**149.41**	**325**	PKPbc	**PKPbc**	**00 12 47.2**	**-0.7**
	comp=Z,15nm,0.7s,baz=47,slow=3.4,SNR=40						
BRTR	**Keskin Array B**	**151.31**	**302**	PKPbc	**PKPbc**	**00 12 52.4**	**-0.6**
	comp=Z,3.8nm,0.5s,baz=132,slow=4.2,SNR=9.6						
SORM	**Soroca**	**151.37**	**321**	⇓P	**PKiKP**	**00 12 53.1**	**+0.1**
MILM	**Milestii Mici**	**151.78**	**319**	⇓P	**PKPdf**	**00 12 45.2**	**-1.7**
ANTO	**Ankara**	**151.91**	**303**	⇑P	**PKPbc**	**00 12 54.3**	**+0.1**
VLDR	**Vladesti**	**152.77**	**317**	⇑P	**PKPbc**	**00 12 55.6**	**-0.2**
TPGR	**Topolog**	**153.06**	**315**	⇑P	**PKPab**	**00 13 09.5**	**+0.7**
CFR	**Carcaliu**	**153.08**	**316**	⇓P	**PKiKP**	**00 12 56.7**	**+0.1**
TESR	**Tescani**	**153.25**	**320**	⇑P	**PKPbc**	**00 12 55.2**	**-1.7**
BURAR	**Bucovina Array**	**153.38**	**323**	⇑P	**PKiKP**	**00 12 58.1**	**+0.7**
TLBR	**Topalu**	**153.44**	**315**	⇓P	**PKPdf**	**00 12 53.2**	**+3.7**
HARR	**Harsova**	**153.44**	**315**	⇓P	**PKiKP**	**00 12 58.6**	**+1.2**
VRI	**Vrincioaia**	**153.56**	**318**	⇓P	**PKPab**	**00 13 09.6**	**-1.3**
PLOR	**Plostina**	**153.61**	**319**	⇑P	**PKPab**	**00 13 10.2**	**-1.0**
DOPR	**Dopca**	**154.28**	**320**	⇑P	**PKiKP**	**00 13 03.2**	**+4.1**
BLKB	**Belogradchik**	**157.21**	**318**	⇑	**PKPdf**	**00 12 55.8**	**+1.1**
BLKB				P	**PKPab**	**00 13 25.2**	**-1.5**
GERES	**GERESS Array B**	**157.43**	**339**	PKP	**PKPdf**	**00 12 52.6**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=346,slow=2.8,SNR=4.4						
GERES				PKPab	**PKPab**	**00 13 27.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=26,slow=3.7,SNR=4.2						
VTS	**Vitosha**	**157.43**	**315**	⇑P	**PKPab**	**00 13 26.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**165.01**	**180**	PKP	**PKPdf**	**00 13 01.6**	**-2.1**
	comp=Z,1.3nm,0.9s,baz=226,slow=0.4,SNR=6.8						
TORD				PKPab	**PKPab**	**00 14 00.0**	**-1.1**
	comp=Z,4.1nm,0.9s,baz=181,slow=3.6,SNR=19						
ESDC	**Sonseca Array**	**167.63**	**21**	PKP	**PKPdf**	**00 13 03.3**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=354,slow=5.2,SNR=4.4						
ESDC				PKPab	**PKPab**	**00 14 12.0**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=325,slow=7.9,SNR=3.1						

---

*MAN **05** 00:08:29.6, 10°.15N×126°.28E, h6km, mb4.9, ML3.8, MS3.9*

*NEIC **05** 00:08:31.8±1.6, 10°.06N±0°.09×126°.0E±0°.2, h36km±7km, mb4.6/47, Error ellipse: s-maj=23.7km s-min=12.1km az=81.0*

*IDC **05** 00:08:34.3±4.8, 10°.04N×126°.16E, h70km±43km, mb3.9/22, mbtmp4.2/22, MS3.4/11, Error ellipse: s-maj=24.9km s-min=11.6km az=75.0*

ISC 05 00:08:27.8±1.7**, 10°.08N**±0°.04×**126°.14E**±0°.05**, h15**km±10km**, n109, σ1s29**/113**, mb4.5**/45**, MS3.3**/9**, 7C-5D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.70**	**245**	*e*P	**Pn**	**00 08 46.0**	**+2.8**
SCPH				*i* S	**Sn**	**00 08 58.0**	**+4.2**
TABP	**Talibon, Bohol**	**1.78**	**271**	⇑*i*P	**Pg**	**00 09 03.0**	**+1.0**
TABP				*i* S	**Sg**	**00 09 27.6**	**+2.5**
GHBP	**Garcia Hernand**	**1.84**	**256**	⇓*e*P	**Pg**	**00 09 04.2**	**+0.9**
GHBP				*i* S	**Sg**	**00 09 30.7**	**+3.5**
BIPH	**Bislig**	**1.90**	**173**	⇓*e*P	**Pb**	**00 09 00.7**	**-1.5**
BIPH				*e*S	**Sb**	**00 09 23.0**	**-2.6**
LLP	**Lapu-Lapu**	**2.15**	**277**	⇑*e*P	**Pg**	**00 09 08.9**	**-0.3**
LLP				*e*S	**Sg**	**00 09 37.4**	**+0.3**
CGP	**Cagayan de Oro**	**2.15**	**222**	⇑*e*P	**Pg**	**00 09 07.8**	**-1.4**
CGP				*i* S	**Sg**	**00 09 35.2**	**-1.9**
TBP	**Tagbilaran**	**2.27**	**260**	⇓*e*P	**Pg**	**00 09 11.0**	**-0.5**
TBP				*i* S	**Sg**	**00 09 41.1**	**+0.1**
LSIP	**Lazi, Siquijor**	**2.65**	**249**	⇑*e*P	**Pb**	**00 09 15.1**	**+0.1**
LSIP				*i* S	**Sg**	**00 09 49.8**	**-3.2**
SNPH	**Sibulan**	**2.95**	**256**	⇑*i*P	**Pb**	**00 09 20.1**	**-0.1**
SNPH				*i* S	**Sg**	**00 10 01.2**	**-1.6**
DAV	**Davao City (W)**	**3.04**	**191**	P	**Pg**	**00 09 28.4**	**+2.3**
	124nm,0.3s,baz=22,slow=6.7,SNR=4.9						
DAV				S	**Sb**	**00 09 58.5**	**-0.1**
	251nm,0.6s,baz=36,slow=18,SNR=4.5						
DAV				LR	LR	00 10 51.7	
	comp=Z,937nm,19.0s,baz=41,slow=46						
KCP	**Kidapawan**	**3.22**	**199**	⇓*i*P	**Pb**	**00 09 23.2**	**-1.6**
KCP				*i* S	**Sb**	**00 10 03.9**	**0.0**
CTBH	**Cotabato--PC H**	**3.40**	**214**	⇓*e*P	**Pb**	**00 09 25.2**	**-2.6**
CNOP	**Candoni, Negro**	**3.46**	**266**	⇑*i*P	**Pb**	**00 09 27.3**	**-1.4**
CNOP				*e*S	**Sb**	**00 10 07.3**	**-3.3**
RCP	**Roxas**	**3.64**	**294**	⇑*e*P	**Pb**	**00 09 29.9**	**-2.0**
RCP				*e*S	**Sb**	**00 10 13.6**	**-2.4**
TPUB	**Ta-pu**	**14.16**	**339**		**P**	**00 11 54.5**	**-1.0**
KAPI	**Kappang**	**16.29**	**203**	LR	LR	00 18 52.5	
	comp=Z,83nm,20.8s,baz=8.0,slow=38						
BATI	**Baumata**	**20.30**	**187**	P	Pn	00 13 06.2	+0.8
	19nm,0.4s,baz=0.0,slow=10,SNR=2.1						
	19nm,0.4s						
MTN	**Manton Dam**	**23.31**	**168**	P	**P**	**00 13 35.7**	**+0.4**
KNRA	**Kununurra**	**25.72**	**174**	P	**P**	**00 13 57.7**	**-0.1**
KNRA				IAmb	IAmb	00 14 01.5	
	comp=Z,13nm,0.7s						
KSRS	**Korea Array**	**27.30**	**3**	LR	LR	00 27 29.6	
	comp=Z,33nm,18.5s,baz=215,slow=42						
CMAR	**Chiang Mai Arr**	**27.61**	**291**	P	**P**	**00 14 16.1**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=103,slow=7.0,SNR=9.2						
	comp=Z,1.1nm,0.4s						
COEN	**Coen**	**29.26**	**144**	P	**P**	**00 14 29.2**	**-0.4**
COEN				IAmb	IAmb	00 14 38.5	
	comp=Z,18nm,1.4s						
WB0	**Warramunga Arr**	**30.75**	**165**	P	**P**	**00 14 41.1**	**-1.6**
WRA	**Warramunga Arr**	**30.91**	**165**	P	**P**	**00 14 42.6**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=343,slow=9.6,SNR=4.8						
WRA				PcP	**PcP**	**00 17 39.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=360,slow=2.9,SNR=2.6						
	comp=Z,0.9nm,0.8s						
WB2	**Warramunga Arr**	**30.91**	**165**	P	**P**	**00 14 43.6**	**-0.5**
MBWA	**Marble Bar**	**31.67**	**191**	P	**P**	**00 14 51.4**	**+0.6**
MBWA				IAmb	IAmb	00 14 57.3	
	comp=Z,20nm,1.3s						
PSA00	**Pilbara Seismi**	**32.05**	**191**	P	**P**	**00 14 55.0**	**+0.8**
PSA00				IAmb	IAmb	00 15 06.8	
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Ar.**	**34.37**	**7**	P	**P**	**00 15 14.8**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=193,slow=6.6,SNR=5.8						
USRK				LR	LR	00 27 56.0	
	comp=Z,38nm,20.8s,baz=134,slow=34						
	comp=Z,2.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**34.37**	**7**	P	**P**	**00 15 16.7**	**+2.5**
ASAR	**Alice Springs**	**34.39**	**167**	P	**P**	**00 15 13.8**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=330,slow=6.5,SNR=12						
ASAR				PcP	**PcP**	**00 17 49.4**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=354,slow=1.8,SNR=6.1						
	comp=Z,1.0nm,0.8s						
CTAO	**Charters Tower**	**35.93**	**147**	P	**P**	**00 15 29.1**	**+1.3**
CTAO				IAmb	IAmb	00 16 06.0	
	comp=Z,11nm,1.3s						
ASAJ	**Asahikawa**	**36.79**	**20**	LR	LR	00 32 19.0	
	comp=Z,22nm,18.2s,baz=174,slow=39						
KLR	**Kul'dur**	**39.31**	**6**	LR	LR	00 30 30.1	
	comp=Z,31nm,21.3s,baz=198,slow=33						
H11S3	**WAKE ISLAND Hy**	**40.10**	**73**	T	T	00 58 57.8	
	baz=262,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**40.11**	**73**	T	T	00 59 01.3	
	baz=262,slow=75,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**40.12**	**73**	T	T	00 59 00.8	
	baz=262,slow=75,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**40.44**	**71**	T	T	00 59 26.4	
	baz=266,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.45**	**71**	T	T	00 59 29.2	
	baz=266,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.46**	**71**	T	T	00 59 22.9	
	baz=266						
FORT	**Forrest**	**40.66**	**177**	P	**P**	**00 16 07.6**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FORT				IAmb	IAmb	00 16 21.8	
	comp=Z,17nm,0.9s						
ULN	Ulaanbaatar	40.96	340	P	P	00 16 11.5	+1.4
ULN				IAmb	IAmb	00 16 12.2	
	comp=Z,7.0nm,0.7s						
SONM	Songino Array	41.15	340	P	P	00 16 12.7	+1.0
	comp=Z,2.7nm,0.7s,baz=159,slow=9.4,SNR=18						
SONM				PcP	PcP	00 18 10.3	-0.5
	comp=Z,0.4nm,0.6s,baz=145,slow=5.3,SNR=4.1						
SONM				LR	LR	00 36 05.2	
	comp=Z,39nm,18.8s,baz=174,slow=40						
	comp=Z,2.7nm,0.7s						
SONM	Songino Array	41.15	340	P	P	00 16 12.7	+1.0
NWAO	Narrogin (SRO)	43.60	191	P	P	00 16 32.0	+0.5
NWAO				IAmb	IAmb	00 16 33.2	
	comp=Z,16nm,0.8s						
BBOO	Buckleboo	43.69	168	P	P	00 16 32.3	0.0
STKA	Stephens Creek	44.26	161	P	P	00 16 36.6	-0.3
	comp=Z,2.4nm,0.7s,baz=319,slow=8.9,SNR=4.8						
	comp=Z,2.4nm,0.7s						
STKA	Stephens Creek	44.26	161	P	P	00 16 36.8	-0.1
PETK	Petropavlovsk-	49.87	24	P	P	00 17 20.7	+0.3
	comp=Z,4.0nm,0.7s,baz=203,slow=4.8,SNR=5.7						
	comp=Z,4.0nm,0.7s						
MK31	Makanchi Array	52.10	323	P	P	00 17 37.9	+0.5
MK31				IAmb	IAmb	00 17 38.3	
	comp=Z,3.7nm,0.8s						
MKAR	Makanchi Array	52.10	323	P	P	00 17 37.6	+0.3
	comp=Z,5.1nm,0.7s,baz=121,slow=8.3,SNR=45						
MKAR				PcP	PcP	00 18 48.4	-0.9
	comp=Z,1.6nm,0.8s,baz=100,slow=5.1,SNR=4.1						
MKAR				LR	LR	00 41 39.4	
	comp=Z,56nm,18.4s,baz=116,slow=38						
	comp=Z,5.1nm,0.7s						
MKAR	Makanchi Array	52.10	323	P	P	00 17 37.8	+0.4
MAKZ	Makanchi	52.29	323	P	P	00 17 38.8	0.0
ZALV	Zalesovo Beam	54.73	331	P	P	00 17 56.0	-0.5
	comp=Z,1.9nm,0.7s,baz=131,slow=6.7,SNR=6.6						
ZALV				PcP	PcP	00 18 57.9	-1.1
	comp=Z,1.3nm,0.8s,baz=112,slow=4.1,SNR=2.4						
	comp=Z,1.9nm,0.7s						
ZALV	Zalesovo Beam	54.73	331	P	P	00 17 55.8	-0.7
AAK	Ala-Archa	55.37	315	LR	LR	00 43 38.1	
	comp=Z,76nm,20.6s,baz=112,slow=38						
KURK	Kurchatov	56.15	326	P	P	00 18 06.9	+0.2
KURK				IAmb	IAmb	00 18 07.5	
	comp=Z,6.7nm,0.8s						
KKAR	Karatay Array	58.29	315	P	P	00 18 22.1	-0.1
TIXI	Tiksi	61.55	1	P	P	00 18 43.8	-0.1
	comp=Z,4.7nm,0.8s,baz=270,slow=10,SNR=9.1						
	comp=Z,4.7nm,0.8s						
BRVK	Borovoye	61.82	325	P	P	00 18 45.6	-0.5
BRVK				IAmb	IAmb	00 18 46.7	
	comp=Z,3.1nm,0.8s						
NRIK	Noril'sk	64.17	346	P	P	00 19 01.8	+0.4
	comp=Z,1.8nm,0.4s,baz=136,slow=5.7,SNR=5.0						
	comp=Z,1.8nm,0.4s						
GEYT	Alibeck	66.55	307	P	P	00 19 17.0	-0.5
	comp=Z,1.0nm,0.6s,baz=87,slow=6.1,SNR=3.6						
	comp=Z,1.0nm,0.6s						
ABKAR	Akbulak array	66.94	319	P	P	00 19 18.2	-1.5
UOSS	Minazif	67.69	293	P	P	00 19 24.6	-0.4
UOSS				IAmb	IAmb	00 19 27.4	
	comp=Z,10.0nm,1.5s						
BKZ	Black Stump Fm	67.72	140	P	P	00 19 25.7	+0.8
ARU	Arti	69.31	327	P	P	00 19 33.6	-0.8
ARU				IAmb	IAmb	00 19 34.1	
	comp=Z,4.0nm,0.6s						
O18K	Koktuh Hills	75.65	31	P	P	00 20 13.5	+1.3
IMAR	Indian Mountai	76.83	24	P	P	00 20 20.2	+1.4
KDAK	Kodiak Island	76.89	33	P	P	00 20 19.8	+0.6
H21K	Melozitna Rive	77.19	25	P	P	00 20 22.2	+1.3
H21K				IAmb	IAmb	00 20 34.9	
	comp=Z,9.9nm,1.4s						
CAST	Castle Rocks	77.37	27	P	P	00 20 23.1	+1.2
I21K	Tanana	77.51	25	P	P	00 20 24.3	+1.7
I21K				IAmb	IAmb	00 20 27.3	
	comp=Z,9.2nm,1.4s						
MLY	Manley	78.03	26	P	P	00 20 26.9	+1.3
KIV	Kislovodsk	78.38	313	P	P	00 20 28.6	+0.5
KIV				IAmb	IAmb	00 20 29.5	
	comp=Z,3.5nm,0.7s						
TOLK	Toolik Lake Re	78.60	22	P	P	00 20 28.8	+0.1
I23K	Minto, Yukon-K	78.61	25	P	P	00 20 30.2	+1.4
MCK	McKinley	78.79	27	P	P	00 20 29.9	+0.1
MCK				IAmb	IAmb	00 20 33.7	
	comp=Z,6.7nm,1.1s						
MDM	Murphy Dome	79.09	26	P	P	00 20 32.2	+0.8
MDM				IAmb	IAmb	00 20 39.0	
	comp=Z,6.9nm,1.4s						
GURO	Guroymak-BITLI	79.21	307	P	P	00 20 33.8	+1.0
GURO				IAmb	IAmb	00 20 34.3	
	comp=Z,6.0nm,0.7s						
CCB	Clear Creek Bu	79.28	26	P	P	00 20 32.1	-0.3
CCB				IAmb	IAmb	00 20 36.1	
	comp=Z,6.8nm,1.5s						
ILAR	Eielson Array	79.67	26	P	P	00 20 33.6	-0.9
	comp=Z,0.6nm,0.7s,baz=269,slow=5.3,SNR=5.6						
	comp=Z,0.6nm,0.7s						
BMAR	Burnt Mountain	80.50	23	P	P	00 20 40.5	+1.5
I26K	Coal Creek Min	81.22	25	P	P	00 20 43.1	+0.2
I26K				IAmb	IAmb	00 21 21.6	
	comp=Z,6.5nm,1.4s						
K27K	Chicken	81.80	26	P	P	00 20 47.7	+1.7
K27K				IAmb	IAmb	00 20 54.4	
	comp=Z,7.8nm,1.2s						
BCAR	Beaver Creek A	82.04	27	P	P	00 20 49.4	+2.1
SPITS	Spitsbergen Ar	84.18	349	LR	LR	01 06 03.3	
	comp=Z,37nm,18.1s,baz=356,slow=41						
ARCES	ARCESS Array B	84.33	340	P	P	00 20 58.3	-0.7
	comp=Z,2.0nm,0.8s,baz=66,slow=4.2,SNR=6.6						
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	84.33	340	P	P	00 20 59.1	+0.2
ARCES				IAmb	IAmb	00 21 05.4	
	comp=Z,10nm,1.3s						
BRTR	Keskin Array B	85.55	309	P	P	00 21 05.0	-0.9
	comp=Z,0.9nm,0.6s,baz=155,slow=9.7,SNR=2.3						
	comp=Z,0.9nm,0.6s						
FINES	FINESS Array B	86.00	332	P	P	00 21 06.5	-0.9
	comp=Z,1.0nm,0.5s,baz=70,slow=4.7,SNR=15						
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	86.00	332	P	P	00 21 06.8	-0.6
A36M	Sachs Harbour	86.13	17	P	P	00 21 09.1	+1.2
CSS	Mathiatis	86.58	305	P	P	00 21 10.9	0.0
AKASG	Malin Array Be	86.63	321	P	P	00 21 09.7	-1.1
	comp=Z,0.4nm,0.4s,baz=64,slow=5.2,SNR=2.5						
	comp=Z,0.4nm,0.4s						
C36M	Paulatuk	87.46	20	P	P	00 21 14.7	+0.3
C36M				IAmb	IAmb	00 21 16.1	
	comp=Z,4.4nm,0.8s						
EUNU	Eureka	88.46	5	P	P	00 21 19.3	+0.2
ELL	Elmali	88.98	307	P	P	00 21 21.8	-0.8
MAW	Mawson	89.47	200	P	P	00 21 23.7	-0.1
	comp=Z,3.1nm,0.8s,baz=39,slow=6.5,SNR=3.4						
	comp=Z,3.1nm,0.8s						
VNDA	Vanda	89.76	173	P	P	00 21 24.5	-0.5
	comp=Z,0.6nm,0.8s,baz=345,slow=5.5,SNR=4.0						
	comp=Z,0.6nm,0.8s						
BURAR	Bucovina Array	89.90	318	P	P	00 21 26.5	-0.1
BUR08	Bucovina Ar. S	89.90	318	P	P	00 21 26.6	0.0
BUR08				IAmb	IAmb	00 21 28.6	
	comp=Z,2.1nm,0.8s						
DAG	Danmarks Havn	90.92	352	iP	P	00 21 29.0	-1.6
RES	Resolute Bay	91.71	10	P	P	00 21 34.2	-0.1
NEEM	North Greenlan	92.61	359	iP	P	00 21 39.7	+0.9
NOA	NORSAR Array B	92.87	334	LR	LR	01 06 45.6	
	comp=Z,17nm,19.0s,baz=55,slow=38						
YKA	Yellowknife Ar	93.98	24	P	P	00 21 45.4	+0.4
	comp=Z,1.6nm,0.7s,baz=296,slow=4.5,SNR=5.6						
	comp=Z,1.6nm,0.7s						
GERES	GERESS Array B	96.76	322	P	P	00 21 57.5	-0.7
	comp=Z,0.3nm,0.6s,baz=35,slow=3.6,SNR=4.3						
	comp=Z,0.3nm,0.6s						
TXAR	Lajitas Array	118.05	49	PKP	PKPdf	00 27 14.2	-0.7
	comp=Z,0.3nm,0.6s,baz=292,slow=2.8,SNR=2.5						
TORD	Torodi Ar. Bea	120.22	292	PKP	PKPdf	00 27 17.7	-1.6
	comp=Z,1.0nm,0.8s,baz=85,slow=1.3,SNR=6.6						
PLCA	Paso Flores	146.08	157	PKPbc	PKPdf	00 28 06.3	-0.5
	comp=Z,1.6nm,0.7s,baz=207,slow=2.3,SNR=5.6						

MAN 05 00:16:12.0, 9°.78N×126°.14E, h24km, mb4.0, ML2.7, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.64	271	eP	Pb	00 16 24.8	+0.2
SCPH				iS	Sn	00 16 36.0	+1.0
TABP	Talibon, Bohol	1.81	280	⇑iP	Pn	00 16 41.7	0.0
TABP				eS	Sn	00 17 05.3	+1.4

MAN 05 00:19:00.7, 18°.92N×121°.31E, h127km, mb4.6, ML3.4, MS3.3, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICP	Calayan Island	0.38	25	⇑eP	Pn	00 19 20.0	+1.2
CICP				iS	Sn	00 19 41.2	+8.7
APYP	Conner	1.06	184	⇑eP	Pn	00 19 28.3	+4.3
APYP				eS	Sn	00 19 42.8	+1.3

NEIC 05 00:20:08.1±0.6, 0°.8N±0°.1×132°.3E±0°.2, h10km±2km, mb4.2/9, Error ellipse: s-maj=33.2km s-min=17.4km az=283.0

IDC 05 00:20:09.4±1.3, 0°.63N×132°.38E, h0km, mb3.8/5, mbtmp3.8/5, MS2.7/1, Error ellipse: s-maj=72.2km s-min=23.3km az=78.0

ISC 05 00:20:09.5±0.9, 0°.66N±0°.09×132°.2E±0°.2, h10km, n17, σ1s.55/16, mb3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	3.56	179	Pn	Pn	00 21 04.6	-0.2
MTN	Manton Dam	13.46	184	Pn	Pn	00 23 20.8	+0.2
KAPI	Kappang	13.65	245	LR	LR	00 28 46.5	
	comp=Z,31nm,19.9s,baz=280,slow=38						
KNRA	Kununurra	16.58	192	Pn	Pn	00 24 01.7	-0.6
KNRA				IAmb	IAmb	00 24 09.8	
	comp=Z,9.6nm,0.7s						
SBUM	Sibu	20.05	275	P	P	00 24 41.5	-1.6
WB0	Warramunga Arr	20.41	174	P	P	00 24 46.8	-0.2
WB0				IAmb	IAmb	00 24 48.6	
	comp=Z,19nm,1.4s						
WRAB	Tennant Creek	20.57	174	P	P	00 24 48.7	0.0
WRAB				IAmb	IAmb	00 24 55.0	
	comp=Z,19nm,1.0s						
WRA	Warramunga Arr	20.58	174	P	P	00 24 49.5	+0.7
	comp=Z,4.4nm,0.5s,baz=355,slow=10,SNR=55						
	comp=Z,4.4nm,0.5s						
WB2	Warramunga Arr	20.58	174	P	P	00 24 48.5	-0.3
WB2				IAmb	IAmb	00 24 50.4	
	comp=Z,6.3nm,0.8s						
WR0	Warramunga Arr	20.62	174	P	P	00 24 48.6	-0.6
WR0				IAmb	IAmb	00 24 51.7	
	comp=Z,10nm,1.1s						
AS31	Alice Springs	24.24	176	P	P	00 25 25.9	-0.8
ASAR	Alice Springs	24.24	176	P	P	00 25 27.9	+1.2
	comp=Z,11nm,1.0s,baz=356,slow=10,SNR=61						
	comp=Z,11nm,1.0s						
ASAR	Alice Springs	24.24	176	P	P	00 25 26.8	0.0
ERM	Erimo	42.34	12	P	P	00 28 00.2	-3.5
MKAR	Makanchi Array	63.21	324	P	P	00 30 40.1	+2.1
	comp=Z,0.3nm,0.5s,baz=115,slow=8.9,SNR=2.6						
	comp=Z,0.3nm,0.5s						
KURBB	Kurchatov Arra	67.28	326	P	P	00 31 06.6	+2.2
	comp=Z,0.3nm,0.6s,baz=122,slow=6.1,SNR=2.3						
	comp=Z,0.3nm,0.6s						
ILAR	Eielson Array	85.53	25	P	P	00 32 49.6	+2.0
	comp=Z,0.4nm,0.7s,baz=252,slow=5.3,SNR=3.1						
	comp=Z,0.4nm,0.7s						

IDC 05 00:22:30.3±1.2, 23°.59S×174°.81W, h0km, mb4.2/10, mbtmp4.2/11, ML5.3/1, MS3.2/3, Error ellipse: s-maj=48.4km s-min=20.8km az=155.0

NEIC 05 00:22:33.2±1.6, 23°.00S±0°.06×174°.39W±0°.09, h35km±2km, mb4.7/16, Error ellipse: s-maj=16.8km s-min=3.5km az=125.0

ISC 05 00:22:33.9±0.6, 23°.06S±0°.08×174°.43W±0°.08, h35km, n36, σ1s.92/33, mb4.5/18, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	5.78	48	Pn	Pn	00 23 55.7	-1.5
NIUE				Sn	Sn	00 24 58.4	-4.0
RAO	Raoul Island	6.91	206	Pn	Pn	00 24 13.2	+0.6
RAO				Sn	Sn	00 25 30.0	0.0
MSVF	Nonsavu	8.82	306	Pn	Pn	00 24 40.2	+1.2
	1.2nm,0.3s,baz=147,slow=15,SNR=12						
	12nm,0.7s						
MSVF	Nonsavu	8.82	306	Pn	Pn	00 24 39.6	+0.6
RAR	Rarotonga	13.71	85	LR	LR	00 30 59.0	
	comp=Z,79nm,19.0s,baz=296,slow=36						
RAR	Rarotonga	13.71	85	Pn	Pn	00 25 46.7	+0.9
OUENC	Ouen Island, N	17.29	268		P	00 26 33.1	-0.7
DZM	Mont Dzumac	17.69	269	P	Pn	00 26 37.6	-0.1
	8.8nm,0.8s,baz=90,slow=18,SNR=6.0						
DZM				LR	LR	00 31 53.7	
	comp=Z,96nm,19.3s,baz=240,slow=32						
DZM	Mont Dzumac	17.69	269		P	00 26 38.1	-0.2
KHZ	Kahutara	21.75	205	P	P	00 27 21.5	-0.7
KHZ				IAmb	IAmb	00 27 52.7	
	comp=Z,28nm,1.3s						
PPT	Papeete	23.93	81	LR	LR	00 36 19.0	
	comp=Z,40nm,18.6s,baz=319,slow=34						
FOZ	Fox Glacier	24.21	209	P	P	00 27 49.4	+2.2
FOZ				IAmb	IAmb	00 28 14.2	
	comp=Z,35nm,1.2s						
EIDS	Eidsvold	31.48	259	P	P	00 28 50.9	-1.6
EIDS				IAmb	IAmb	00 29 21.7	
	comp=Z,14nm,1.5s						
CAN	Canberra	33.99	241	P	P	00 29 15.1	+0.7
CTAO	Charters Tower	36.61	267	P	P	00 29 35.8	-1.2
CTAO				IAmb	IAmb	00 29 36.0	
	comp=Z,5.5nm,0.8s						
STKA	Stephens Creek	39.77	247	P	P	00 30 00.5	-3.0
	comp=Z,0.9nm,0.5s,baz=130,slow=12,SNR=3.7						
	comp=Z,0.9nm,0.5s						
STKA	Stephens Creek	39.77	247	P	P	00 30 02.1	-1.4
BBOO	Buckleboo	44.46	246	P	P	00 30 40.0	-1.8
AS31	Alice Springs	47.21	259	P	P	00 31 02.1	-1.6
ASAR	Alice Springs	47.21	259	P	P	00 31 01.9	-1.7
	comp=Z,2.7nm,0.7s,baz=93,slow=7.9,SNR=30						
ASAR				PcP	PcP	00 32 35.0	+0.2
	comp=Z,0.3nm,0.7s,baz=101,slow=4.8,SNR=1.2						
	comp=Z,2.7nm,0.7s						
WB2	Warramunga Arr	47.56	264	P	P	00 31 03.8	-2.6
WB2				IAmb	IAmb	00 31 15.7	
	comp=Z,4.9nm,0.8s						
WB0	Warramunga Arr	47.56	264	P	P	00 31 04.2	-2.1
WB0				IAmb	IAmb	00 31 17.9	
	comp=Z,5.7nm,0.9s						
WRA	Warramunga Arr	47.57	264	P	P	00 31 04.1	-2.4
	comp=Z,3.1nm,0.8s,baz=106,slow=8.4,SNR=17						
	comp=Z,3.1nm,0.8s						
FORT	Forrest	51.38	248	P	P	00 31 34.4	-0.9
KNRA	Kununurra	53.82	267	P	P	00 31 52.6	-1.0
KNRA				IAmb	IAmb	00 31 54.7	
	comp=Z,16nm,1.3s						
MBWA	Marble Bar	60.55	258	P	P	00 32 38.7	-2.4
MBWA				IAmb	IAmb	00 33 12.1	
	comp=Z,13nm,1.2s						
MORW	Morawa	61.95	248	P	P	00 32 49.4	-1.1
PETK	Petropavlovsk-	79.63	343	P	P	00 34 41.3	+4.1
	comp=Z,0.9nm,0.5s,baz=111,slow=7.9,SNR=1.4						
	comp=Z,0.9nm,0.5s						
NVAR	Mina Array Bea	80.67	41	P	P	00 34 49.0	+5.4
	comp=Z,1.0nm,0.8s,baz=219,slow=9.5,SNR=7.8						
	comp=Z,1.0nm,0.8s						
USRK	Ussuriysk Ar.	82.95	324	P	P	00 34 58.4	+3.2
	comp=Z,5.2nm,0.9s,baz=110,slow=4.9,SNR=6.4						
	comp=Z,5.2nm,0.9s						
TXAR	Lajitas Array	85.69	56	P	P	00 35 14.8	+5.3
	comp=Z,0.7nm,0.9s,baz=212,slow=4.4,SNR=4.7						
	comp=Z,0.7nm,0.9s						
PDAR	Pinedale Array	88.60	42	P	P	00 35 28.3	+4.8
	comp=Z,0.2nm,0.6s,baz=212,slow=3.2,SNR=2.0						
	comp=Z,0.2nm,0.6s						
ILAR	Eielson Array	90.11	11	P	P	00 35 33.3	+3.6
	comp=Z,2.8nm,1.2s,baz=205,slow=4.0,SNR=6.5						
	comp=Z,2.8nm,1.2s						
CMAR	Chiang Mai Arr	94.08	288	P	P	00 35 51.5	+2.3
	comp=Z,0.9nm,0.4s,baz=124,slow=4.5,SNR=8.4						
	comp=Z,0.9nm,0.4s						
AKASG	Malin Array Be	146.84	332	PKPbc	PKiKP	00 42 14.0	-0.8
	comp=Z,1.3nm,0.6s,baz=48,slow=4.4,SNR=6.2						
CLL	Collm	151.22	350	ePKPbc	PKiKP	00 42 26.0	+2.2

MOS 05 00:32:02.8±0.0, 41°.61N×48°.55E, h18km, MPVA3.6

DRS 05 00:32:04.1±0.0, 41°.58N×48°.73E, h18km

ISC 05 00:32:02.5±2.9, 41°.58N±0°.08×48°.7E±0°.1, h12km±10km, n14, σ1s.04/26, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSMR	Kasumkent	0.44	274	ePg	Pg	00 32 11.0	-0.1
KSMR				eSg	Sg	00 32 16.5	-0.5
DRN	Derbent	0.53	328	ePg	Pg	00 32 13.3	+0.3
DRN				eSg	Sg	00 32 20.5	+0.4
AKT	Akhty	0.74	263	ePg	Pg	00 32 16.8	-0.1
AKT				eSg	Sg	00 32 26.4	-0.2
URKR	Urkarakh	1.00	307	ePg	Pb	00 32 21.4	-0.5
URKR				eSg	Sb	00 32 34.6	-0.4
KMKR	Kumukh	1.32	295	ePg	Pn	00 32 26.6	-0.4
KMKR				eSg	Sb	00 32 44.1	-0.4
GNBR	Gunib	1.53	303	ePg	Pn	00 32 29.8	0.0
GNBR				eSg	Sb	00 32 49.9	-0.5
UNCR	Uncukul	1.82	309	ePg	Pn	00 32 34.2	+0.5
UNCR				eSg	Sb	00 32 58.1	-0.6
LGD	Lagodekhi	1.86	279	P	Pb	00 32 36.2	-0.3
LGD				S	Sg	00 33 05.1	+2.7
DDFL	Dedoflistskaro	1.95	267	P	Pg	00 32 41.1	+1.2
DBC	Dubki	2.01	317	ePg	Pn	00 32 37.0	+0.6
DBC				eSg	Sb	00 33 02.7	-1.3
BTLR	Botlikh	2.15	301	ePg	Pn	00 32 38.8	+0.6
BTLR				eSg	Sb	00 33 06.2	-1.8
DLMR	Dylym	2.15	315	ePg	Pn	00 32 39.1	+1.0
DLMR				eSg	Sb	00 33 06.5	-1.5
DVE	Vedeno	2.36	307	ePg	Pn	00 32 41.5	+0.3
DVE				eSg	Sn	00 33 11.4	+1.2
SHTL	Shatili	2.86	293	P	Pb	00 32 51.9	-1.7

PGC 05 00:36:38.4±0.1, 48°.95N×128°.78W, h10km, MLSn3.0/20, Mw3.6/20, Mw3.6/20, 210km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NCHR	NEPTUNE Canada	1.00	192	P	Pg	00 36 55.5	-2.0
KEMF	NEPTUNE Canada	1.02	192	P	Pb	00 36 55.8	-2.2
EDB	Eliza Dome	1.43	49	Pn	Pn	00 37 01.8	-2.5
EDB				Sn	Sn	00 37 18.1	-5.0
PACB	Port Alice, BC	1.71	29	Pn	Pn	00 37 06.2	-2.1
PACB				Sn	Sn	00 37 24.8	-5.3
MAYB	Maynard	1.79	35	Pn	Pn	00 37 07.3	-2.2
MAYB				Sn	Sn	00 37 28.3	-4.1
NCBC	Barkley Canyon	1.81	106	Sn	Sn	00 37 29.9	-2.5
WOSB	Woss	1.88	49	Pn	Pn	00 37 09.5	-1.3
WOSB				Sn	Sn	00 37 30.4	-4.2
GDR	Gold River	1.98	64	Pn	Pn	00 37 10.3	-1.6
OZB	Mount Ozzard	2.17	88	Sn	Sn	00 37 36.9	-4.7
NCRB	Newcastle Ridg	2.29	50	Pn	Pn	00 37 15.3	-1.1
BFSB	Bamfield	2.41	91	Sn	Sn	00 37 42.4	-5.0
B928	Bamfield	2.41	91	Sn	Sn	00 37 42.4	-5.0
B927	Port Alberni	2.62	83	Sn	Sn	00 37 48.4	-4.3
TXB	Texada	2.94	74	Pn	Pn	00 37 24.2	-1.0
TXB				Sn	Sn	00 37 59.1	-1.5
GHNB	Nanoose	3.01	81	Pn	Pn	00 37 25.9	-0.1
GHNB				Sn	Sn	00 37 59.9	-2.2
B926	Mesachie Lake	3.07	91	Sn	Sn	00 37 60.0	-3.8
CLRS	Cowichan Lake	3.07	91	Pn	Pn	00 37 26.1	-0.9
CLRS				Sn	Sn	00 37 59.6	-4.2
NLLB	Nanaimo Lost L	3.16	83	Pn	Pn	00 37 27.9	-0.3
NLLB				Sn	Sn	00 38 04.0	-2.0
BBB	Bella Bella	3.27	7	Pn	Pn	00 37 29.1	-0.5
BBB				Sn	Sn	00 38 03.9	-4.6
SHB	Sechelt	3.28	77	Pn	Pn	00 37 29.5	-0.5
SHB				Sn	Sn	00 38 08.2	-0.8
SYMB	Survey Mountai	3.32	95	Sn	Sn	00 38 06.3	-3.7
VGZ	Gonzales	3.66	96	Sn	Sn	00 38 14.8	-3.3
WPB	Watts Point	3.71	77	Pn	Pn	00 37 34.9	-0.9
HDW	Hoodsport	4.04	107	Sn	Sn	00 38 25.4	-2.4
HNBB	Haney	4.09	83	Sn	Sn	00 38 25.8	-3.1
VDB	Vedder Mountai	4.40	86	Pn	Pn	00 37 45.4	+0.2
LLLB	Lillooet	4.77	67	Pn	Pn	00 37 50.5	+0.2

IDC 05 00:36:37.5±1.8, 9°.93N×126°.46E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=187.3km s-min=22.7km az=70.0

MAN 05 00:36:44.6, 10°.00N×126°.30E, h14km, mb4.5, ML3.4, MS3.2

ISC 05 00:36:42.5±2.2, 9°.94N±0°.09×126°.41E±0°.08, h27km±16km, n18, σ1s.88/23, mb3.2/5, 6C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.92	260	eP	Pn	00 36 59.7	+0.1
SCPH				eS	Sb	00 37 10.7	-1.0
BIPH	Bislig	1.75	181	⇑eP	Pb	00 37 14.3	+0.4
BIPH				eS	Sb	00 37 37.7	+2.3
TABP	Talibon, Bohol	2.05	274	⇑iP	Pn	00 37 16.9	+1.7
TABP				eS	Sn	00 37 40.2	+0.4
GHBP	Garcia Hernand	2.08	262	⇑eP	Pb	00 37 18.3	-1.3
GHBP				eS	Sn	00 37 39.2	-1.4
CGP	Cagayan de Oro	2.25	229	⇓eP	Pb	00 37 21.6	-0.9
CGP				eS	Sb	00 37 49.3	-0.5
LLP	Lapu-Lapu	2.43	279	⇓eP	Pn	00 37 22.4	+1.9
LLP				eS	Sn	00 37 51.5	+2.1
TBP	Tagbilaran	2.52	265	eP	Pn	00 37 24.1	+2.4
TBP				iS	Sn	00 37 54.8	+3.3
KCP	Kidapawan	3.19	204	⇑eP	Pb	00 37 37.0	-1.7
KCP				iS	Sb	00 38 17.3	+0.2
CNOP	Candoni, Negro	3.71	269	⇑iP	Pn	00 37 41.1	+2.9
RCP	Roxas	3.94	294	⇑eP	Pn	00 37 44.8	+3.5
WRA	Warramunga Arr	30.71	165	P	P	00 42 53.6	-1.7
	0.2nm,0.7s,baz=345,slow=8.7,SNR=1.4						
	0.2nm,0.7s						
ASAR	Alice Springs	34.20	168	P	P	00 43 25.1	-0.8
	0.1nm,0.3s,baz=353,slow=7.6,SNR=4.9						
	0.1nm,0.3s						
H11N1	WAKE ISLAND Hy	40.23	71	T	T	01 27 38.5	
	baz=268						
H11N2	WAKE ISLAND Hy	40.24	71	T	T	01 27 38.9	
	baz=268						
H11N3	WAKE ISLAND Hy	40.25	71	T	T	01 27 40.1	
	baz=268						
SONM	Songino Array	41.37	340	P	P	00 44 25.7	-0.7
	0.2nm,0.5s,baz=148,slow=9.6,SNR=2.1						
	0.2nm,0.5s						
MKAR	Makanchi Array	52.37	323	P	P	00 45 51.7	-0.6
	0.8nm,0.7s,baz=120,slow=7.7,SNR=7.5						
	0.8nm,0.7s						
FINES	FINESS Array B	86.24	332	P	P	00 49 20.9	-0.6
	3.0nm,1.0s,baz=69,slow=7.6,SNR=3.5						
	3.0nm,1.0s						

MAN 05 00:41:57.6, 12°.08N×121°.43E, h1km, mb4.0, ML2.8, MS2.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCP	Roxas	1.39	112	⇑eP	Pn	00 42 23.4	-0.8
RCP				iS	Sn	00 42 43.2	0.0

BJI 05 00:53:28.1±0.0, 11°.75N×144°.07E, h39km, mb4.7/23, mB5.2/10, Ms4.7/1, Ms7 4.6/1

IDC 05 00:53:33.9±2.0, 12°.18N×143°.80E, h49km±18km, mb4.0/16, mbtmp4.3/16, MS3.5/26, Error ellipse: s-maj=21.8km s-min=14.2km az=116.0

NEIC 05 00:53:33.0±1.6, 12°.11N±0°.01×143°.8E±0°.1, h35km±2km, mb4.6/114, Error ellipse: s-maj=16.8km s-min=3.0km az=266.0

ISC 05 00:53:31.3±0.5, 12°.10N±0°.07×143°.81E±0°.08, h26km, n173, σ0s.86/155, mb4.6/77, MS3.6/24, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.81	35	P	Pn	00 54 00.7	0.0
	294nm,0.3s,baz=210,slow=10,SNR=32						
GUMO				S	Sn	00 54 23.3	+0.4
	760nm,0.4s,baz=180,slow=20,SNR=19						
GUMO				LR	LR	00 54 54.3	
	comp=Z,2μm,18.2s,baz=174,slow=46						
GUMO	Guam	1.81	35		Pn	00 54 00.8	+0.1
GUMO				Sn	Sn	00 54 23.6	+0.7
PATS	Pohnpei	15.23	109	Pn	Pn	00 57 03.5	-1.2

SIJI Sorong 17.92 225 LR LR 01 03 46.6
comp=Z,181nm,18.8s,baz=88,slow=34
KRVT Keravat (AS076 18.23 153 LR LR 01 04 11.0
comp=Z,92nm,19.8s,baz=117,slow=35
JOW Kunigami 20.69 317 P **P 00 58 09.0 -0.5**
11nm,0.6s,baz=138,slow=14,SNR=2.2
JOW LR LR 01 04 39.5
comp=Z,73nm,21.2s,baz=108,slow=32
11nm,0.6s
JOW Kunigami 20.69 317 P **P 00 58 08.0 -1.5**
JOW IAmb IAmb 00 58 13.7
comp=Z,24nm,1.0s
JHJ Hachijo jima 2 21.25 351 LR LR 01 05 13.4
comp=Z,100nm,18.4s,baz=107,slow=33
PMG Port Moresby 21.62 171 LR LR 01 06 53.3
comp=Z,124nm,18.3s,baz=134,slow=37
H11N1 WAKE ISLAND Hy 23.44 68 T T 01 23 14.6
baz=247,slow=74
H11N2 WAKE ISLAND Hy 23.45 68 T T 01 23 17.4
baz=247,slow=74
H11N3 WAKE ISLAND Hy 23.45 68 T T 01 23 17.7
baz=247
YULB Yu-li 24.17 301 P **P 00 58 44.3 -1.3**
LUWI Luwuk 24.63 239 P **P 00 58 50.4 +0.4**
MJAR Matsushiro Arr 24.86 349 LR LR 01 08 09.5
comp=Z,236nm,18.2s,baz=172,slow=35
KSAR Wonju Array Be 29.00 333 P **P 00 59 29.4 +0.4**
KAPI Kappang 29.34 236 LR LR 01 11 22.7
comp=Z,25nm,21.3s,baz=124,slow=36
NJ2 Nanjing 30.35 315 *eP* **P 00 59 43.6 +2.6**
NJ2 pmax pmax
comp=Z,15nm,0.5s
ASAJ Asahikawa 31.93 358 LR LR 01 12 59.4
comp=Z,36nm,20.4s,baz=174,slow=37
WB0 Warramunga Arr 32.99 196 P **P 01 00 03.9 -0.5**
WR0 Warramunga Arr 33.13 196 P **P 01 00 05.3 -0.2**
WB2 Warramunga Arr 33.17 196 P **P 01 00 06.0 +0.1**
WRA Warramunga Arr 33.17 196 P **P 01 00 06.1 +0.2**
comp=Z,1.7nm,0.7s,baz=21,slow=10,SNR=15
WRA LR LR 01 14 49.3
comp=Z,141nm,18.3s,baz=126,slow=38
comp=Z,1.7nm,0.7s
ASAR Alice Springs 36.84 195 P **P 01 00 38.6 +1.1**
comp=Z,0.6nm,0.7s,baz=18,slow=10,SNR=8.2
ASAR LR LR 01 16 30.1
comp=Z,82nm,18.0s,baz=351,slow=37
comp=Z,0.6nm,0.7s
BJT Baijiatuan 36.99 324 P **P 01 00 37.7 -1.0**
BJT IAmb IAmb 01 00 41.1
comp=Z,5.5nm,0.6s
EIDS Eidsvold 37.91 169 P **P 01 00 46.1 -0.4**
KLR Kul'dur 38.35 347 P **P 01 00 49.7 -0.3**
comp=Z,0.7nm,0.5s,baz=151,slow=13,SNR=1.5
KLR LR LR 01 15 30.6
comp=Z,114nm,20.4s,baz=166,slow=34
comp=Z,0.7nm,0.5s
HEH HeiHe 40.36 344 *eP* **P 01 01 06.4 -0.4**
HEH pmax pmax
comp=Z,4.0nm,0.9s
DZM Mont Dzumac 40.57 147 P **P 01 01 10.0 +1.1**
DZM IAmb IAmb 01 01 30.4
comp=Z,13nm,1.1s
CD2 Chengdu 41.42 303 P **P 01 01 15.2 -0.6**
PZH PanZhiHua 42.01 296 P **P 01 01 21.7 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.7s
PETK Petropavlovsk- 42.39 12 P **P 01 01 23.5 +0.1**
comp=Z,3.0nm,0.8s,baz=144,slow=5.2,SNR=1.8
PETK LR LR 01 21 11.0
comp=Z,52nm,18.2s,baz=205,slow=39
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 42.39 12 P **P 01 01 23.2 -0.2**
CMAR Chiang Mai Arr 43.65 284 P **P 01 01 35.0 +0.9**
comp=Z,1.7nm,0.3s,baz=98,slow=5.5,SNR=1.9
comp=Z,1.7nm,0.3s
STKA Stephens Creek 43.77 183 LR LR 01 21 44.2
comp=Z,83nm,18.5s,baz=206,slow=38
STKA Stephens Creek 43.77 183 P **P 01 01 34.7 -0.1**
TNCH TengChong 44.62 293 *eP* **P 01 01 42.7 +0.7**
TNCH pP sP 01 01 53.0 +2.0
TNCH pmax pmax
comp=Z,43nm,0.6s
BBOO Buckleboo 45.26 189 P **P 01 01 46.5 -0.2**
SONM Songino Array 47.37 326 P **P 01 02 02.5 -0.8**
comp=Z,1.5nm,0.7s,baz=141,slow=9.3,SNR=6.2
SONM LR LR 01 21 55.8
comp=Z,80nm,20.6s,baz=198,slow=36
comp=Z,1.5nm,0.7s
SONM Songino Array 47.37 326 P **P 01 02 03.6 +0.3**
GTA Gaotai 47.41 313 *eP* **P 01 02 04.0 +0.3**
GTA pmax pmax
comp=Z,5.0nm,0.6s
MA2 Magadan 47.67 5 LR LR 01 23 29.3
comp=Z,22nm,18.6s,baz=150,slow=38
YAK Yakutsk 50.89 351 LR LR 01 23 35.8
comp=Z,80nm,18.3s,baz=272,slow=36
UNV Unalaska Valle 57.13 33 P **P 01 03 15.1 -0.5**
WMQ Urumqi 57.43 315 *eP* **P 01 03 20.4 +2.5**
MK31 Makanchi Array 61.85 317 P **P 01 03 48.5 +0.2**
MKAR Makanchi Array 61.85 317 P **P 01 03 48.1 -0.2**
comp=Z,1.5nm,0.6s,baz=90,slow=7.1,SNR=15
comp=Z,1.5nm,0.6s
MKAR Makanchi Array 61.85 317 P **P 01 03 48.4 +0.1**
MAKZ Makanchi 62.07 317 P **P 01 03 50.3 +0.5**
MAKZ IAmb IAmb 01 03 50.7
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 62.24 325 P **P 01 03 50.1 -0.6**
comp=Z,1.0nm,0.5s,baz=104,slow=7.7,SNR=5.8
comp=Z,1.0nm,0.5s
SII Sitkinak Islan 64.69 33 P **P 01 04 07.3 +0.4**
KURK Kurchatov 65.06 320 P **P 01 04 09.2 -0.2**
N18K Kilae Creek 65.18 28 P **P 01 04 10.2 +0.2**
N18K IAmb IAmb 01 04 13.2
comp=Z,6.4nm,1.1s
O18K Koktuh Hills 65.22 29 P **P 01 04 10.0 -0.3**
O18K IAmb IAmb 01 04 11.6
comp=Z,5.9nm,0.9s
OHAK Old Harbor 65.35 32 P **P 01 04 11.2 +0.1**
SVW2 Sparrevohn 65.47 28 P **P 01 04 12.4 +0.5**
SVW2 IAmb IAmb 01 04 34.1
comp=Z,5.5nm,1.2s
Q19K Cape Douglas, 65.68 30 P **P 01 04 13.0 -0.3**
KDAK Kodiak Island 65.88 32 P **P 01 04 15.7 +1.2**
N19K Bonanza Creek 65.88 28 P **P 01 04 15.0 +0.3**
N19K IAmb IAmb 01 04 26.3
comp=Z,9.9nm,1.1s
L19K White Mountain 66.17 27 P **P 01 04 16.5 +0.1**
L19K IAmb IAmb 01 04 17.1
comp=Z,4.3nm,0.9s
M19K Big River Lodg 66.28 27 P **P 01 04 17.2 +0.1**
M19K IAmb IAmb 01 04 34.0
comp=Z,7.1nm,1.2s
AAK Ala-Archa 66.70 311 LR LR 01 35 16.7
comp=Z,28nm,20.6s,baz=74,slow=38
M20K Styx River 66.84 27 P **P 01 04 20.9 +0.1**
M20K IAmb IAmb 01 04 22.3
comp=Z,5.7nm,1.1s
K20K Telida 66.92 26 P **P 01 04 21.7 +0.5**
K20K IAmb IAmb 01 04 22.2
comp=Z,3.2nm,0.8s
CNPM China Poot 67.04 30 P **P 01 04 21.3 -0.7**
J20K Nowinta River 67.17 25 P **P 01 04 23.3 +0.5**
J20K IAmb IAmb 01 04 26.7
comp=Z,4.2nm,1.1s
NIL Nilore 67.27 301 P **P 01 04 24.4 +0.4**
BRLK Bradley Lake 67.27 30 P **P 01 04 22.5 -1.0**
PPLA Purkeypile 67.58 26 P **P 01 04 25.4 -0.1**
PPLA IAmb IAmb 01 04 40.0
comp=Z,7.4nm,1.1s
SKT Skwentna 67.59 27 P **P 01 04 24.9 -0.5**
CAST Castle Rocks 67.78 26 P **P 01 04 26.3 -0.4**
CAST IAmb IAmb 01 04 27.0
comp=Z,4.8nm,0.8s
SUA Susitna One 67.80 28 P **P 01 04 26.9 0.0**
SUA IAmb IAmb 01 04 27.6
comp=Z,6.5nm,1.0s
IMAR Indian Mountai 67.97 23 P **P 01 04 27.6 -0.1**
SEW Seward 68.06 30 P **P 01 04 27.4 -0.9**
RC01 Rabbit Creek A 68.17 29 P **P 01 04 28.9 -0.2**
RC01 IAmb IAmb 01 04 33.2
comp=Z,7.3nm,0.9s
H21K Melozitna Rive 68.22 24 P **P 01 04 29.5 +0.1**
KTH Kantishna Hill 68.32 26 P **P 01 04 29.7 -0.4**
KTH IAmb IAmb 01 04 31.8
comp=Z,4.1nm,0.8s
BPAW Bear Paw Mtn. 68.46 25 P **P 01 04 30.6 -0.3**
BPAW IAmb IAmb 01 04 35.6
comp=Z,5.9nm,1.1s
TRF Thorofare Moun 68.56 26 P **P 01 04 30.9 -0.8**
GHO Glory Hole Cre 68.72 28 P **P 01 04 32.3 -0.3**
PWL Port Wells 68.78 29 P **P 01 04 32.7 -0.2**
MLY Manley 68.84 24 P **P 01 04 33.3 +0.1**
KNK Knik Glacier 68.85 29 P **P 01 04 33.3 -0.1**
SML Sawmill 69.01 28 P **P 01 04 34.1 -0.3**
GLI Glacier Island 69.37 29 P **P 01 04 36.9 +0.3**
I23K Minto, Yukon-K 69.43 25 P **P 01 04 36.9 0.0**
I23K IAmb IAmb 01 04 37.1
comp=Z,4.5nm,0.9s
SCM Sheep Creek Mo 69.47 28 P **P 01 04 37.3 0.0**
SCM IAmb IAmb 01 04 39.4
comp=Z,9.2nm,1.0s
FID Port Fidalgo 69.64 29 P **P 01 04 38.2 0.0**
KK31 Karatay Array 69.66 312 P **P 01 04 39.4 +0.7**
KKAR Karatay Array 69.66 312 P **P 01 04 39.5 +0.7**
KKAR Karatay Array 69.66 312 P **P 01 04 38.5 -0.3**
GAR Garm 69.69 307 P **P 01 04 39.4 +0.2**
GAR IAmb IAmb 01 04 40.4
comp=Z,3.8nm,0.6s
COLD Coldfoot 69.72 22 P **P 01 04 39.1 +0.5**
COLD IAmb IAmb 01 04 39.7
comp=Z,6.1nm,0.9s
DHY Denali Highway 69.74 27 P **P 01 04 38.6 -0.4**
WRH Wood River Hil 69.78 25 P **P 01 04 38.4 -0.6**
WRH IAmb IAmb 01 04 38.4
comp=Z,3.2nm,0.7s
MDM Murphy Dome 69.84 25 P **P 01 04 40.1 +0.7**
MDM IAmb IAmb 01 04 49.0
comp=Z,6.9nm,1.2s
KLU Klutina 70.06 29 P **P 01 04 41.1 +0.2**
KLU IAmb IAmb 01 04 51.1
comp=Z,9.8nm,1.2s
M24K Tolsona, Glenn 70.07 28 P **P 01 04 41.2 +0.3**
H24K Noodor Dome 70.21 24 P **P 01 04 42.0 +0.3**
IL31 70.35 25 P **P 01 04 40.8 -1.6**
IL31 IAmb IAmb 01 04 41.2
comp=Z,2.9nm,0.6s
ILAR Eielson Array 70.35 25 P **P 01 04 40.5 -2.0**
comp=Z,2.6nm,0.6s,baz=249,slow=6.0,SNR=41
ILAR LR LR 01 33 00.0
comp=Z,17nm,21.1s,baz=188,slow=34
comp=Z,2.6nm,0.6s
ILAR Eielson Array 70.35 25 P **P 01 04 40.6 -1.9**
TOLK Toolik Lake Re 70.37 21 P **P 01 04 43.3 +0.6**
TOLK IAmb IAmb 01 04 55.9
comp=Z,6.6nm,1.1s
BVAR Borovoye Array 70.46 322 LR LR 01 36 48.9
comp=Z,65nm,19.5s,baz=104,slow=37
BRVK Borovoye 70.52 322 P **P 01 04 43.5 -0.3**
BRVK IAmb IAmb 01 04 44.3
comp=Z,4.1nm,0.6s
PAX Paxson 70.56 27 P **P 01 04 43.7 -0.3**
PAX IAmb IAmb 01 04 45.4
comp=Z,4.1nm,1.0s
CHGR Chuyangaron 70.60 307 P **P 01 04 44.9 +0.2**
CHGR IAmb IAmb 01 04 51.7
comp=Z,5.6nm,0.7s
N25K Chitina, Valde 70.70 29 P **P 01 04 45.2 +0.4**
N25K IAmb IAmb 01 04 46.6
comp=Z,3.7nm,0.9s
BERG Berg Lake 70.92 30 P **P 01 04 46.0 -0.1**
BERG IAmb IAmb 01 04 48.0
comp=Z,7.4nm,0.8s
J25K Salcha River, 70.95 26 P **P 01 04 45.2 -1.1**
VRDI Verde Repeater 71.18 29 P **P 01 04 47.3 -0.6**
VRDI IAmb IAmb 01 04 47.8
comp=Z,8.6nm,1.0s
DOT Dot Lake 71.32 27 P **P 01 04 48.1 -0.4**
DOT IAmb IAmb 01 04 48.6
comp=Z,7.0nm,0.8s
MCARA McCarthy VSAT 71.41 29 P **P 01 04 49.2 +0.2**
MCARA IAmb IAmb 01 04 49.7
comp=Z,8.0nm,0.9s
SCRK Sand Creek 71.42 26 P **P 01 04 48.7 -0.4**
J26L Joseph Creek 71.69 26 P **P 01 04 50.2 -0.6**
J26L IAmb IAmb 01 04 51.8
comp=Z,4.8nm,0.7s
BMAR Burnt Mountain 71.87 23 P **P 01 04 52.7 +1.0**
I26K Coal Creek Min 72.01 25 P **P 01 04 51.4 -1.1**
I26K **PcP 01 05 09.6 -1.5**
M27K Edge Creek, AK 72.09 28 P **P 01 04 53.1 -0.2**
M27K IAmb IAmb 01 05 16.0
comp=Z,7.8nm,1.2s
L27K Beaver Creek, 72.22 27 P **P 01 04 54.0 +0.1**
BCAR Beaver Creek A 72.24 27 P **P 01 04 53.8 -0.2**
K27K Chicken 72.25 26 P **P 01 04 54.5 +0.5**
K27K IAmb IAmb 01 04 55.3
comp=Z,8.2nm,1.1s
EGAK Eagle 72.76 26 P **P 01 04 57.2 +0.2**
DAWY Dawson 73.43 27 P **P 01 05 01.5 +0.4**
M30M Minto, Yukon 74.46 28 P **P 01 05 07.7 +0.5**
EPYK Eagle Plains 74.78 24 P **P 01 05 09.3 +0.4**
EPYK IAmb IAmb 01 05 09.8
comp=Z,6.4nm,0.8s
WHY Whitehorse 75.29 30 P **P 01 05 12.8 +0.8**
M31M Drury Creek, Y 75.56 29 P **P 01 05 13.9 +0.4**
M31M IAmb IAmb 01 05 14.0
comp=Z,3.5nm,0.8s
INK Inuvik 76.13 22 P **P 01 05 16.3 -0.2**
INK IAmb IAmb 01 05 16.9
comp=Z,8.9nm,0.8s
ABKAR Akbulak array 76.95 318 P **P 01 05 20.8 -0.8**
ABKAR Akbulak array 76.95 318 P **P 01 05 20.9 -0.6**
ABKAR IAmb IAmb 01 05 21.6
comp=Z,2.9nm,0.7s
ARU Arti 77.40 325 LR LR 01 42 14.4
comp=Z,26nm,18.8s,baz=148,slow=38
ARU Arti 77.40 325 P **P 01 05 23.4 -0.6**
ARU IAmb IAmb 01 05 35.8
comp=Z,7.1nm,1.3s
C36M Paulatuk 79.53 21 P **P 01 05 35.1 -0.3**
C36M IAmb IAmb 01 05 35.7
comp=Z,6.9nm,0.7s
BELG Belogornoye 84.26 322 LR LR 01 44 53.7
comp=Z,47nm,20.6s,baz=141,slow=37
HUMO Hull Mountain 84.28 48 P **P 01 06 02.5 +1.4**
HUMO IAmb IAmb 01 06 04.4
comp=Z,4.6nm,0.8s
KCPM Cahto Peak 84.37 51 P **P 01 06 03.2 +1.5**
EUNU Eureka 84.48 8 P **P 01 06 02.1 +0.7**
EUNU IAmb IAmb 01 06 13.5
comp=Z,6.8nm,1.2s
YBH Yreka Blue Hor 84.63 49 LR LR 01 34 21.1
comp=Z,50nm,21.3s,baz=304,slow=29
YBH Yreka Blue Hor 84.63 49 P **P 01 06 04.4 +1.5**
YBH IAmb IAmb 01 06 12.6
comp=Z,7.4nm,1.2s
YKA Yellowknife Ar 84.65 27 P **P 01 06 02.5 0.0**
comp=Z,2.8nm,0.6s,baz=284,slow=5.0,SNR=22
comp=Z,2.8nm,0.6s
YKA Yellowknife Ar 84.65 27 P **P 01 06 02.6 +0.2**
LTY Liberty 84.93 43 P **P 01 06 04.9 +0.6**
LTY IAmb IAmb 01 06 16.6
comp=Z,3.5nm,0.9s
SPITS Spitsbergen Ar 85.35 351 LR LR 01 45 01.4
comp=Z,60nm,18.4s,baz=336,slow=36
PINE Pine Mountain 85.48 46 P **P 01 06 08.6 +1.3**
PINE IAmb IAmb 01 06 10.2
comp=Z,4.8nm,0.8s
B08A Colville Reser 85.57 42 P **P 01 06 08.9 +1.5**
B08A IAmb IAmb 01 06 09.3
comp=Z,4.8nm,0.8s
K05A Summer Lake 85.75 47 P **P 01 06 09.2 +0.6**
RES Resolute Bay 86.23 13 P **P 01 06 10.8 +0.7**
RES IAmb IAmb 01 06 23.5
comp=Z,3.8nm,0.9s
BEKR Beckworth 86.77 50 P **P 01 06 14.2 +0.4**
BEKR IAmb IAmb 01 06 16.0
comp=Z,2.9nm,0.9s
NEW Newport 87.03 41 P **P 01 06 15.5 +0.9**
BMO Blue Mountains 87.77 45 P **P 01 06 19.3 +1.0**
BMO IAmb IAmb 01 06 33.2
comp=Z,3.2nm,1.0s
ARCES ARCESS Array B 88.18 342 P **P 01 06 18.8 -0.8**
comp=Z,2.3nm,0.6s,baz=65,slow=7.0,SNR=21
comp=Z,2.3nm,0.6s
ARCES ARCESS Array B 88.18 342 P **P 01 06 19.0 -0.7**
PLID Pearl Lake 88.61 44 P **P 01 06 22.7 +0.2**
PLID IAmb IAmb 01 06 24.4
comp=Z,2.2nm,0.9s
KVN Kaiserville 88.66 50 P **P 01 06 23.7 +0.9**
NVAR Mina Array Bea 88.66 51 P **P 01 06 23.8 +0.9**
comp=Z,3.3nm,0.6s,baz=268,slow=5.1,SNR=37
comp=Z,3.3nm,0.6s
NVAR Mina Array Bea 88.66 51 P **P 01 06 24.2 +1.3**
NV11 Mina Array Sit 88.77 51 P **P 01 06 24.5 +1.2**
NV11 IAmb IAmb 01 06 25.7
comp=Z,2.1nm,0.7s
MZP Montezuma Peak 89.54 52 P **P 01 06 28.4 +1.3**
TPH Tonopah 89.57 51 P **P 01 06 28.6 +1.5**
GMN Gold Mountain 89.74 52 P **P 01 06 29.1 +1.1**
ELK Elko 90.33 48 LR LR 01 39 42.0
comp=Z,50nm,20.7s,baz=305,slow=31
WCT Wildcat Mounta 90.36 52 P **P 01 06 32.0 +1.3**
WCT IAmb IAmb 01 06 35.8
comp=Z,2.1nm,0.7s
TPNV Topopah Spring 90.61 52 P **P 01 06 33.3 +1.3**
TPNV IAmb IAmb 01 06 34.6
comp=Z,2.7nm,0.7s
LRM Limekiln Ridge 90.78 43 P **P 01 06 33.4 +0.8**
SHPR Sheep Range 91.57 52 P **P 01 06 38.2 +1.8**
PSUT Pine Spring 91.99 50 P **P 01 06 40.1 +1.7**
PSUT IAmb IAmb 01 06 59.8
comp=Z,1.8nm,0.9s
FIA1 FINESS Array S 92.07 335 P **P 01 06 36.3 -1.7**
FINES FINESS Array B 92.07 335 P **P 01 06 36.1 -1.8**
comp=Z,4.0nm,0.6s,baz=63,slow=4.6,SNR=26
comp=Z,4.0nm,0.6s
FINES FINESS Array B 92.07 335 P **P 01 06 36.3 -1.6**
PDAR Pinedale Array 93.75 45 P **P 01 06 45.5 -0.9**
comp=Z,0.3nm,0.6s,baz=292,slow=4.7,SNR=2.6
comp=Z,0.3nm,0.6s
AKASG Malin Array Be 95.63 324 LR LR 01 51 48.7
comp=Z,24nm,19.3s,baz=17,slow=37
NOA NORSAR Array B 98.06 339 P **P 01 07 03.8 -1.6**
comp=Z,0.4nm,0.4s,baz=50,slow=5.1,SNR=2.7
NOA LR LR 01 54 45.9
comp=Z,17nm,18.3s,baz=290,slow=38
comp=Z,0.4nm,0.4s
TORD Torodi Ar. Bea 134.82 303 PKP **PKPdf 01 12 46.4 -2.4**
comp=Z,0.3nm,0.8s,baz=62,slow=2.5,SNR=1.9

IDC 05 00:54:48.0±2.1, 6°12S×150°87E, h0km, mb3.2/2, mbtmp3.4/3, ML3.8/1, MS3.5/2, Error ellipse: s-maj=139.9km s-min=20.6km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.14**	**33**	Pn	Pn	00 55 24.1	-0.8
	29nm,0.3s,baz=207,slow=4.5,SNR=12						
KRVT				Sn	Sn	00 55 52.3	+0.1
	6.6nm,0.3s,baz=198,slow=20,SNR=2.1						
	92nm,0.5s						
WRA	**Warramunga Arr**	**21.14**	**228**	P	P	00 59 33.6	-1.1
	0.5nm,0.6s,baz=52,slow=11,SNR=4.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**23.89**	**221**	P	P	01 00 03.0	-0.5
	0.6nm,0.6s,baz=56,slow=8.9,SNR=13						
	0.6nm,0.6s						
NWAO	**Narrogin (SRO)**	**41.10**	**225**	LR	LR	01 19 05.7	
	comp=Z,77nm,18.7s,baz=57,slow=36						
RAR	**Rarotonga**	**50.03**	**113**	LR	LR	01 20 59.4	
	comp=Z,42nm,21.2s,baz=268,slow=31						
TORD	**Torodi Ar. Bea**	**148.84**	**285**	PKPbc	PKiKP	01 14 40.1	-0.1
	0.5nm,1.0s,baz=83,slow=3.5,SNR=2.1						

*NEIC **05** 00:57:25.5±2.2, 49°18S±0°07×110°0E±0°2, h10km±1km, mb4.8/22, Error ellipse: s-maj=21.3km s-min=11.7km az=259.0*

*IDC **05** 00:57:25.8±4.9, 49°29S×109°90E, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=201.6km s-min=54.9km az=113.0*

ISC 05 00:57:24.8±0.8, 49°2S±0°1×110°0E±0°1, h10km, n30, σ1°36/27, mb4.8/14, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.66**	**14**	T	T	01 15 50.7	
	baz=194,slow=74,SNR=55						
H01W1	**Cape Leeuwin H**	**14.67**	**14**	T	T	01 15 45.9	
	baz=194,slow=74,SNR=42						
H01W3	**Cape Leeuwin H**	**14.68**	**14**	T	T	01 15 46.4	
	baz=194,slow=74,SNR=38						
NWAO	**Narrogin (SRO)**	**17.18**	**21**	Pn	**Pn**	**01 01 23.9**	**-1.0**
FORT	**Forrest**	**22.96**	**43**	P	**P**	**01 02 26.4**	**-2.9**
FORT				IAmb	IAmb	01 02 35.5	
	comp=Z,14nm,1.0s						
BBOO	**Buckleboo**	**25.45**	**60**	P	**P**	**01 02 52.7**	**-0.1**
BBOO				IAmb	IAmb	01 03 19.3	
	comp=Z,40nm,1.4s						
PSA00	**Pilbara Seismi**	**28.71**	**19**	P	**P**	**01 03 23.1**	**+1.0**
PSA00				IAmb	IAmb	01 03 39.0	
	comp=Z,23nm,1.4s						
ASAR	**Alice Springs**	**31.71**	**45**	P	**P**	**01 03 51.7**	**+3.0**
	comp=Z,1.2nm,0.8s,baz=208,slow=8.5,SNR=9.9						
	comp=Z,1.2nm,0.8s						
VNDA	**Vanda**	**34.39**	**162**	P	**P**	**01 04 11.3**	**-0.2**
WRA	**Warramunga Arr**	**35.15**	**42**	P	**P**	**01 04 21.6**	**+2.9**
	comp=Z,1.8nm,0.7s,baz=209,slow=8.5,SNR=9.8						
	comp=Z,1.8nm,0.7s						
WB2	**Warramunga Arr**	**35.15**	**42**	P	**P**	**01 04 18.6**	**-0.1**
WRAB	**Tennant Creek**	**35.16**	**42**	P	**P**	**01 04 18.7**	**0.0**
WR0	**Warramunga Arr**	**35.22**	**43**	P	**P**	**01 04 18.9**	**-0.4**
WB0	**Warramunga Arr**	**35.32**	**42**	P	**P**	**01 04 18.5**	**-1.7**
PLAI	**Plampang**	**40.81**	**12**	P	**P**	**01 05 05.6**	**-0.8**
CTAO	**Charters Tower**	**41.03**	**58**	P	**P**	**01 05 08.7**	**+0.5**
CTAO				IAmb	IAmb	01 05 12.8	
	comp=Z,15nm,1.5s						
SOEI	**Soe**	**41.14**	**22**	P	**P**	**01 05 09.7**	**+0.5**
MQZ	**McQueen's Vall**	**42.43**	**107**	P	**P**	**01 05 20.5**	**+1.1**
MQZ				IAmb	IAmb	01 05 31.1	
	comp=Z,33nm,1.5s						
SNZO	**South Karori**	**44.98**	**105**	P	**P**	**01 05 41.2**	**+1.2**
MSWZ	**Moikau Station**	**45.27**	**106**	P	**P**	**01 05 42.4**	**+0.1**
OUZ	**Omahuta**	**47.78**	**98**	P	**P**	**01 06 01.5**	**-0.6**
OUZ				IAmb	IAmb	01 06 25.3	
	comp=Z,23nm,1.3s						
MXZ	**Matakaoa Point**	**49.41**	**103**	P	**P**	**01 06 12.7**	**-1.9**
TOLI2	**Tolitoli**	**51.02**	**14**	P	**P**	**01 06 25.8**	**-1.1**
TOLI2				IAmb	IAmb	01 06 54.1	
	comp=Z,7.8nm,1.3s						
ONTNC	**Ouen Toro**	**51.68**	**80**	P	**P**	**01 06 31.2**	**-0.6**
ONTNC				IAmb	IAmb	01 06 38.2	
	comp=Z,29nm,1.0s						
BOSA	**Boshof**	**65.61**	**254**	P	**P**	**01 08 08.7**	**-0.4**
BOSA				IAmb	IAmb	01 08 16.0	
	comp=Z,13nm,1.3s						
NACB	**Ninganchiao**	**73.82**	**11**	P	**P**	**01 08 59.7**	**+0.5**
NACB				IAmb	IAmb	01 09 08.3	
	comp=Z,21nm,1.1s						
MBAR	**Mbarara**	**82.51**	**278**	P	**P**	**01 09 47.9**	**-0.1**
MBAR				IAmb	IAmb	01 10 07.1	
	comp=Z,8.6nm,1.5s						
INU	**Inuyama**	**87.59**	**22**	P	**P**	**01 10 14.3**	**+1.7**
MAJO	**Matsushiro**	**89.02**	**22**	P	**P**	**01 10 20.5**	**+1.1**
MAJO				IAmb	IAmb	01 10 21.2	
	comp=Z,5.9nm,0.8s						
TXAR	**Lajitas Array**	**147.63**	**115**	PKPbc	**PKiKP**	**01 17 11.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=194,slow=6.5,SNR=3.9						

*IDC **05** 01:02:09.0±2.5, 6°72S×130°41E, h88km±27km, mb3.5/2, mbtmp4.3/6, Error ellipse: s-maj=30.7km s-min=21.6km az=113.0*

*NEIC **05** 01:02:10.2±1.7, 6°56S±0°07×130°32E±0°05, h110km±12km, mb4.1/5, Error ellipse: s-maj=12.2km s-min=3.2km az=146.0*

*DJA **05** 01:02:10.8±0.4, 7°S±2°×13°1E±°, h128km±10km, M4.7/8, mb4.6/4, mB5.3/4, MLv4.8/8, Mw(mB)4.7/4*

ISC 05 01:02:09.7±0.6, 6°54S±0°05×130°40E±0°06, h100km, n43, σ2°15/46, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.69**	**148**		**Pn**	**01 02 40.0**	**+1.7**
SAUI	**Saumlaki**	**1.69**	**148**	P	**Pn**	**01 02 41.2**	**+2.9**
SAUI				S	**Sn**	**01 03 00.9**	**+0.9**
SAUI	**Saumlaki**	**1.69**	**148**	P	**Pn**	**01 02 40.2**	**+1.9**
BNDI	**Bandanaira**	**2.07**	**346**	P	**Pn**	**01 02 46.2**	**+3.0**
BNDI	**Bandanaira**	**2.07**	**346**	P	**Pn**	**01 02 46.2**	**+3.0**
MSAI	**Masohi**	**3.50**	**335**	P	**Pn**	**01 03 06.3**	**+4.1**

KRAI	Karang Ratu	3.77	328	P	Pn	01 03 10.2	+4.3
FAKI	Fak Fak	4.04	27		Pn	01 03 10.2	+0.7
FAKI	Fak Fak	4.04	27	P	Pn	01 03 11.0	+1.4
FAKI				S	Sn	01 03 54.9	-1.0
FAKI	Fak Fak	4.04	27	P	Pn	01 03 10.9	+1.4
SIJI	Sorong	5.70	9	P	Pn	01 03 33.2	+1.2
	20nm,0.3s,baz=156,slow=20,SNR=12						
SIJI				S	Sn	01 04 32.9	-3.3
	41nm,0.2s,baz=180,slow=23,SNR=22						
SIJI	Sorong	5.70	9	P	Pn	01 03 33.8	+1.8
RKPI	Ransiki, Papua	6.26	37	P	Pn	01 03 41.8	+2.2
	3.2nm5µm53nm,0.5s						
MTN	Manton Dam	6.30	173		Pn	01 03 39.8	-0.4
MTN	Manton Dam	6.30	173	P	Pn	01 03 40.3	+0.1
KDU	Kakadu	6.44	162	P	Pn	01 03 41.6	-0.4
SOEI	Soe	6.86	242	P	Pn	01 03 51.4	+3.6
	0.2nm47nm,0.8s						
BATI	Baumata	7.59	241	P	Pn	01 03 57.6	-0.2
	39nm,0.4s,baz=11,slow=16,SNR=6.0						
BATI				S	Sn	01 05 19.6	-2.6
	21nm,0.3s,baz=28,slow=23,SNR=2.1						
BATI	Baumata	7.59	241	P	Pn	01 04 00.5	+2.7
	0.2nm48nm,0.7s						
BBSI	Bau Bau	7.86	277	P	Pn	01 04 07.3	+6.0
KNRA	Kununurra	9.22	190		Pn	01 04 17.6	-2.2
WB0	Warramunga Arr	13.71	164	Pn	Pn	01 05 16.3	-3.6
WRA	Warramunga Arr	13.86	164	P	Pn	01 05 18.2	-3.7
	5.1nm,0.5s,baz=343,slow=13,SNR=56						
WRA				S	Sn	01 07 42.0	-13
	12nm,0.6s,baz=337,slow=24,SNR=13						
WB2	Warramunga Arr	13.86	164	Pn	Pn	01 05 18.6	-3.3
COEN	Coen	14.56	121	Pn	Pn	01 05 31.3	+0.3
COEN	Coen	14.56	121	P	Pn	01 05 32.6	+1.6
QIS	Mount Isa	16.55	148	P	Pn	01 05 56.1	+0.2
ASAR	Alice Springs	17.36	169	P	P	01 06 04.0	-1.6
	3.7nm,0.4s,baz=4.7,slow=12,SNR=67						
ASAR				S	Sn	01 09 05.8	-13
	2.5nm,0.6s,baz=347,slow=23,SNR=8.0						
ASAR	Alice Springs	17.36	169	P	P	01 06 04.4	-1.2
AS01	Alice Springs	17.36	169	P	P	01 06 05.4	-0.3
MBWA	Marble Bar	17.83	214	P	P	01 06 10.7	-0.1
MBWA				IAmb	IAmb	01 06 12.2	
	comp=Z,17nm,1.1s						
MBWA	Marble Bar	17.83	214	P	Pn	01 06 12.2	+0.8
PSA00	Pilbara Seismi	18.09	213	P	P	01 06 13.7	-0.1
PSA00	Pilbara Seismi	18.09	213	P	Pn	01 06 15.0	+0.3
WRKA	Warakurna	18.50	186	P	P	01 06 18.8	+0.6
OOD	Oodnadatta	21.72	167	P	P	01 06 55.2	+2.3
MULG	Mulgathing	23.86	172	P	P	01 07 15.6	+1.6
FORT	Forrest	24.21	185	P	P	01 07 19.4	+2.3
SONM	Songino Array	58.14	341	P	P	01 11 54.2	+1.1
	comp=Z,0.6nm,0.5s,baz=157,slow=5.3,SNR=2.8						
	comp=Z,0.6nm,0.5s						
MKAR	Makanchi Array	68.06	327	P	P	01 13 00.5	+1.9
	comp=Z,0.8nm,0.6s,baz=118,slow=7.9,SNR=9.5						
	comp=Z,0.8nm,0.6s						
KK31	Karatay Array	73.26	319	P	P	01 13 28.9	-1.3
KKAR	Karatay Array	73.26	319	P	P	01 13 29.2	-1.1
KKAR				IAmb	IAmb	01 13 33.4	
	comp=Z,2.6nm,1.1s						
BRVK	Borovoye	77.96	328	P	P	01 13 54.8	-2.1
BRVK				IAmb	IAmb	01 14 01.0	
	comp=Z,5.5nm,1.5s						

MAN 05 01:04:08.5, 5°.84N×125°.50E, h10km, mb4.4, ML3.2, MS3.0, Mindanao

IDC 05 01:10:19.9±1.0, 0°.26S×124°.56E, h0km, mb3.9/6, mbtmp3.9/6, MS3.0/5, Error ellipse: s-maj=175.6km s-min=17.8km az=65.0
DJA 05 01:10:25.0±0.3, 0°S±4°×12°5E±°, h10km, M4.2/12, mb4.5/2, mB5.1/1, MLv4.1/12, Mw(mB)4.5/1
NEIC 05 01:10:31.6±1.1, 0°.4S±0°.1×124°.32E±0°.08, h91km±13km, mb4.1/5, Error ellipse: s-maj=18.7km s-min=11.9km az=172.0
ISC 05 01:10:26.9±0.7, 0°.21S±0°.09×124°.88E±0°.06, h50km, n35, σ1s37/29, mb4.2/9, MS2.7/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	2.05	294	P	Pn	01 11 01.0	+2.0
SANI	Sanana	2.14	149	P	Pn	01 10 59.2	-1.0
LUWI	Luwuk	2.26	249		Pn	01 11 01.9	0.0
LUWI	Luwuk	2.26	249	P	Pn	01 11 02.2	+0.3
LBMI	Labuha	2.66	99	S	Sn	01 11 41.9	+3.5
TNTI	Ternate	2.67	69	Pn	Pn	01 11 20.4	+13
MRSI	Marisa	3.02	283	P	Pn	01 11 12.6	+0.4
APSI	Ampana	3.30	258	P	Pn	01 11 17.2	+1.0
NLAI	Namlea	3.74	144	P	Pn	01 11 22.3	+0.1
TOLI2	Tolitoli	4.30	288		Pn	01 11 27.8	-2.1
KRAI	Karang Ratu	4.68	131	P	Pn	01 11 36.2	+1.1
MPSI	Mapaga	5.01	276	P	Pn	01 11 43.5	+3.9
SPSI	Sidrap Palu	6.32	234	P	Pn	01 11 58.1	+0.5
	0.1nm2µm44nm,0.7s						
BNSI	Bone	6.33	229	P	Pn	01 11 57.6	-0.1
DAV	Davao City (W)	7.27	6	LR	LR	01 15 17.0	
	comp=Z,228nm,19.1s,baz=171,slow=40						
BATI	Baumata	10.00	187	LR	LR	01 16 59.5	
	comp=Z,69nm,19.3s,baz=278,slow=40						
WRA	Warramunga Arr	21.69	155	P	P	01 15 12.8	-0.9
	1.4nm,0.7s,baz=340,slow=10,SNR=6.6						
	1.4nm,0.7s						
WB2	Warramunga Arr	21.70	155	P	P	01 15 14.7	+0.9
WB2				IAmb	IAmb	01 15 34.9	
	comp=Z,14nm,1.2s						
AS31	Alice Springs	24.91	160	P	P	01 15 45.6	+0.1
ASAR	Alice Springs	24.91	160	P	P	01 15 45.7	+0.2
	comp=Z,2.1nm,0.7s,baz=332,slow=7.8,SNR=15						
	comp=Z,2.1nm,0.7s						
ASAR	Alice Springs	24.91	160	P	P	01 15 45.6	+0.1
JOW	Kunigami	27.09	7	LR	LR	01 25 42.8	
	comp=Z,22nm,21.8s,baz=128,slow=34						
CTA	Charters Tower	28.78	135	LR	LR	01 30 27.5	
	comp=Z,73nm,18.1s,baz=261,slow=42						
CMAR	Chiang Mai Arr	31.52	307	LR	LR	01 30 41.0	
	comp=Z,13nm,21.2s,baz=175,slow=39						
STKA	Stephens Creek	35.24	155	P	P	01 17 17.0	+0.2
	comp=Z,1.8nm,0.6s,baz=315,slow=8.6,SNR=4.2						
	comp=Z,1.8nm,0.6s						
SONM	Songino Array	50.48	344	P	P	01 19 19.5	-0.6
	comp=Z,0.8nm,0.6s,baz=161,slow=9.2,SNR=4.1						
	comp=Z,0.8nm,0.6s						
MK31	Makanchi Array	59.79	327	P	P	01 20 25.9	-1.2
MK31				IAmb	IAmb	01 20 27.6	
	comp=Z,2.5nm,1.4s						
MKAR	Makanchi Array	59.79	327	P	P	01 20 25.7	-1.4
	comp=Z,1.3nm,0.6s,baz=119,slow=8.8,SNR=14						
	comp=Z,1.3nm,0.6s						
MKAR	Makanchi Array	59.79	327	P	P	01 20 26.2	-0.9
ZAA0	Zalesovo Array	63.29	335	P	P	01 20 50.0	-0.5
ZAA0				IAmb	IAmb	01 20 51.6	
	comp=Z,2.5nm,1.1s						
ZALV	Zalesovo Beam	63.29	335	P	P	01 20 50.0	-0.5
	comp=Z,0.4nm,0.4s,baz=138,slow=8.8,SNR=4.4						
	comp=Z,0.4nm,0.4s						
ZALV	Zalesovo Beam	63.29	335	P	P	01 20 49.5	-1.0
KURK	Kurchatov	64.11	329	P	P	01 20 55.2	-0.6
KKAR	Karatay Array	64.90	319	P	P	01 21 00.5	-0.8
TORD	Torodi Ar. Bea	122.27	285	PKP	PKiKP	01 29 17.4	-0.3
	comp=Z,0.1nm,0.6s,baz=105,slow=3.2,SNR=1.0						

IDC 05 01:15:37.9±1.7, 24°.17S×66°.73W, h187km±12km, mb3.1/4, mbtmp3.8/9, Error ellipse: s-maj=30.9km s-min=14.8km az=12.0
GUC 05 01:15:39.9±0.4, 24°.01S×67°.12W, h237km±5km, ML4.3
VAO 05 01:15:39.3±0.6, 24°.10S×66°.93W, h218km±6km, mb3.9
ISC 05 01:15:39.4±0.7, 24°.03S±0°.06×66°.88W±0°.06, h207km±8km, n54, σ1s35/69, mb3.3/4, 10C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.61	312	⇑iP	Pn	01 16 16.1	+1.1
AF01				iS	S	01 16 44.4	+2.0
AF01				IAML		01 16 48.7	
	comp=E,586nm,0.3s						
LVC	Limon Verde	2.34	307	P	Pn	01 16 23.1	+0.7
	comp=E,106nm,0.3s,baz=98,slow=9.0,SNR=531						
LVC				S	S	01 16 55.7	+0.3
	comp=E,156nm,0.4s,baz=98,slow=19,SNR=37						
LVC	Limon Verde	2.34	307	⇑iP	Pn	01 16 23.0	+0.7
LVC				iS	S	01 16 55.9	+0.5
LVC	Limon Verde	2.34	307	eP	Pn	01 16 23.1	+0.7
PB15	IPOC Station P	2.52	288	⇑iP	Pn	01 16 24.5	+0.4
PB15				iS	S	01 16 58.4	-0.1
GO02	Mina Guanaco	2.71	245	eP	Pn	01 16 25.8	-0.7
GO02				iS	S	01 17 01.4	-1.2
GO02				IAML		01 17 02.3	
	comp=N,1µm,0.3s						
PB06	IPOC Station P	2.81	297	⇑iP	Pn	01 16 27.8	+0.4
PB06				iS	S	01 17 03.6	-0.6
PB06				IAML		01 17 06.2	
	comp=E,804nm,0.2s						
PB03	IPOC Station P	3.30	306	⇑iP	Pn	01 16 33.3	+0.2
PB03				iS	S	01 17 13.8	-0.9
PB10	IPOC Station P	3.41	278	⇑iP	Pn	01 16 34.1	-0.1
PB10				iS	S	01 17 13.6	-3.1
PB04	IPOC Station P	3.45	299	⇑iP	Pn	01 16 34.9	0.0
PB04				iS	S	01 17 15.2	-2.7
PB01	IPOC Station P	3.83	320	⇑iP	Pn	01 16 39.6	+0.1
PB01				iS	S	01 17 24.8	-1.4
PATCX	Punta Patache	4.40	316	eP	Pn	01 16 45.7	-0.9
PATCX				iS	S	01 17 35.6	-3.4
PB08	IPOC Station P	4.41	331	⇑iP	Pn	01 16 47.8	+0.8
PB08				iS	S	01 17 39.8	+0.2
TA01	Diego Aracena	4.61	318	eP	Pn	01 16 48.7	-0.4
TA01				iS	S	01 17 41.6	-2.0
HMBC	Humberstone	4.66	323	⇓eP	Pn	01 16 48.6	-1.3
HMBC				iS	S	01 17 41.7	-3.2
PB11	IPOC Station P	4.97	328	⇑iP	Pn	01 16 52.9	-0.9
PB11				iS	S	01 17 49.6	-2.5
LPAZ	La Paz	7.79	351	P	Pn	01 17 31.4	+0.8
	comp=E,6.0nm,0.4s,baz=135,slow=19,SNR=35						
LPAZ				S	S	01 18 56.8	-2.2
	comp=E,4.6nm,0.6s,baz=242,slow=23,SNR=6.0						
LPAZ	La Paz	7.79	351	eP	Pn	01 17 31.1	+0.5
MURT	Porto Murtinho	8.87	76	eP	Pn	01 17 42.9	-1.1
CPUP	Villa Florida	8.95	107	P	Pn	01 17 41.4	-3.5
	comp=E,1.2nm,0.5s,baz=275,slow=9.7,SNR=4.4						
BBSD	Serra de San D	8.99	42	eP	Pn	01 17 44.7	-0.8
SIV	San Ignacio	9.68	35	P	Pn	01 17 53.7	-0.8
	comp=E,1.3nm,0.5s,baz=212,slow=15,SNR=6.9						
PANT	Pantanal (Braz	10.79	64	eP	Pn	01 18 09.2	+0.5
AQDB	Aquidauana	10.94	73	eP	Pn	01 18 12.0	+1.4
UNIS	Unistalda (Bra	11.70	118	eP	Pn	01 18 19.0	-1.2
SALV	Santo Antonio	13.26	54	eP	Pn	01 18 41.3	+1.3
PTGB	Pitanga	13.52	96	eP	P	01 18 45.6	+0.1
CPSB	Cacapava Do Su	13.53	121	eP	Pn	01 18 42.4	-0.8
ETMB	Extrema	14.15	3	eP	Pn	01 18 51.6	+0.6
PCMB	Pacaembu	14.60	84	eP	P	01 18 58.5	+1.0
PDRB	Porto dos Gac	15.67	40	eP	P	01 19 09.6	+0.3
ITRB	Iturama	15.92	78	eP	Pn	01 19 12.8	+0.3
ARAG	Araguaiana, MT	16.40	62	eP	Pn	01 19 19.2	+0.9
TER01	Tubaro-SC	16.54	110	eP	P	01 19 18.2	-0.6
CLDB	Colider	16.81	41	eP	P	01 19 22.0	+0.2
BB19B	Bebedouro	17.20	84	eP	P	01 19 26.0	-0.2
VAO	Valinhos	18.29	91	eP	P	01 19 36.9	-1.2
IPMB	Ipameri, GO	18.43	74	eP	P	01 19 39.2	-0.4
SNDB	Serra Nova Dou	19.04	54	eP	P	01 19 45.8	-0.3
BDFB	Brasilia	19.59	68	P	P	01 19 51.9	-0.3
	comp=E,4.8nm,0.6s,baz=235,slow=12,SNR=9.6						
BDFB	Brasilia	19.59	68	eP	P	01 19 52.4	+0.2
NPGB	Novo Progresso	20.18	35	eP	P	01 19 57.3	-1.1
ITTB	Itaituba	22.31	31	eP	P	01 20 19.2	-0.8
JANB	Januaria	23.04	71	eP	P	01 20 25.6	-1.1
SGCB	S£o Gabriel d	23.77	360	eP	P	01 20 32.6	-0.5
SDBA	SAO DESIDERIO	23.82	65	eP	P	01 20 32.9	-0.8
TXAR	Lajitas Array	63.77	324	P	P	01 25 51.3	+1.8
	comp=E,0.5nm,0.7s,baz=148,slow=7.4,SNR=4.1						
	comp=E,0.5nm,0.7s						
TORD	Torodi Ar. Bea	76.47	69	P	P	01 27 06.5	-0.3
	comp=E,0.5nm,0.5s,baz=258,slow=5.3,SNR=6.7						
	comp=E,0.5nm,0.5s						
PDAR	Pinedale Array	77.23	329	P	P	01 27 13.0	+2.3
	comp=E,0.2nm,0.4s,baz=128,slow=7.8,SNR=4.4						
	comp=E,0.2nm,0.4s						
NVAR	Mina Array Bea	78.63	321	P	P	01 27 21.3	+2.8
	comp=E,0.2nm,0.5s,baz=131,slow=3.7,SNR=2.0						
	comp=E,0.2nm,0.5s						
ASAR	Alice Springs	128.47	205	PKP	PKPdf	01 34 22.6	+0.3
	comp=E,0.4nm,0.5s,baz=133,slow=1.8,SNR=6.2						
WRA	Warramunga Arr	131.65	207	PKP	PKiKP	01 34 29.1	-0.2
	comp=E,0.4nm,0.5s,baz=160,slow=1.8,SNR=8.3						
ZALV	Zalesovo Beam	143.37	28	PKP	PKPbc	01 34 47.7	+1.3
	comp=E,1.6nm,0.5s,baz=317,slow=6.0,SNR=7.9						
MKAR	Makanchi Array	146.48	40	PKPbc	PKPbc	01 34 55.7	-0.3
	comp=E,2.1nm,0.6s,baz=300,slow=3.2,SNR=17						

IDC 05 01:45:11.5±21.0, 31°.09N×138°.92E, h338km±232km, mb2.8/6, mbtmp3.5/6, Error ellipse: s-maj=41.8km s-min=17.2km az=79.0
JMA 05 01:45:19.4±0.3, 31°N±2°×13°9E±°, h383km, MV3.2/10, NEAR TORISHIMA IS
ISC 05 01:45:16.1±1.0, 31°.2N±0°.1×138°.9E±0°.2, h384km, n12, σ1s50/15, mb2.9/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.10	23	eP	Pn	01 46 13.3	+2.2
JHJ2				eS	S	01 46 55.1	-0.5
BSO1	Boso 1	3.91	27	eS	S	01 47 22.1	+0.1
BSO4	Boso 4	4.01	18	eS	S	01 47 23.4	-1.2
JRY	Ryogami san	4.84	0	eP	Pn	01 46 37.6	+2.1
JAG	Ashikaga	5.27	5	eP	Pn	01 46 41.1	+1.0
JAG				eS	S	01 47 46.2	-2.2
JHO	Hitachi	5.62	14	eP	Pn	01 46 45.3	+1.5
JHO				eS	S	01 47 52.9	-2.2
MKAR	Makanchi Array	45.68	307	P	P	01 53 00.3	+0.1
	0.3nm,0.7s,baz=99,slow=8.9,SNR=2.6						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	48.14	312	P	P	01 53 19.0	+0.2
	0.6nm,0.3s,baz=89,slow=10,SNR=1.7						
	0.6nm,0.3s						
WRA	Warramunga Arr	51.00	185	P	P	01 53 38.8	-1.7
	0.4nm,0.4s,baz=1.4,slow=7.7,SNR=11						
	0.4nm,0.4s						
ASAR	Alice Springs	54.73	186	P	P	01 54 07.0	-0.3
	0.2nm,0.5s,baz=11,slow=14,SNR=7.8						
	0.2nm,0.5s						
ILAR	Eielson Array	55.60	30	P	P	01 54 12.7	-0.3
	0.1nm,0.5s,baz=287,slow=6.2,SNR=1.4						
	0.1nm,0.5s						
FINES	FINESS Array B	73.01	332	P	P	01 56 05.0	+0.3
	1.3nm,1.0s,baz=64,slow=4.4,SNR=3.5						
	1.3nm,1.0s						

WEL 05 02:13:11.6±1.4, 32°S±28°×17°8E±7°5, h419km±58km, M3.8/7, mB4.3/7, ML4.3/11, MLv4.2/6, Mw(mB)3.5/7, Error ellipse: s-maj=0.1km s-min=0.0km az=105.3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.20	180	P	P	02 14 36.3	+0.1
HAZ	Te Kaha	5.41	184	P	P	02 14 39.0	+0.7
WMGZ	Waiomatatini S	5.46	179	P	P	02 14 40.0	+1.1
PKGZ	Pakihiroa	5.53	181	P	P	02 14 40.6	+0.9
PKGZ				S	S	02 15 52.0	+0.2
RUGZ	Raukumara Rang	5.62	185	P	P	02 14 39.3	-1.4
RUGZ				S	S	02 15 53.7	-0.1
PUZ	Puketiti	5.71	180	P	P	02 14 40.0	-1.5
TWGZ	Tauwhareparae	5.82	182	P	P	02 14 43.9	+1.2
URZ	Urewera	5.97	189	P	P	02 14 43.7	-0.5
CNGZ	Carnagh Statio	6.12	180	P	P	02 14 46.4	+0.6
RAGZ	Rawiri	6.17	186	P	P	02 14 45.1	-1.3
RTZ	Ruatahuna	6.34	189	P	P	02 14 49.1	+0.9
RIGZ	Rimuhau	6.36	183	P	P	02 14 48.4	0.0
RAHZ	Arahi	6.62	188	P	P	02 14 52.6	+0.8
RAHZ				S	S	02 16 13.9	+0.9
KNZ	Kokohu	6.68	184	P	P	02 14 52.0	-0.3
KNZ				S	S	02 16 13.9	-0.2

SOME 05 02:14:15.1, 43°.40N×70°.27E, h15km
KRNET 05 02:14:16.5±0.1, 43°.40N×70°.02E, mb2.7
ISC 05 02:14:17.3±2.4, 43°.32N±0°.09×70°.0E±0°.1, h16km, n14, σ1s73/28, 4C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IUG	Iuzhnay	1.17	178	eP	Pg	02 14 39.2	-0.8
	3.2nm,0.1s						
IUG				eS	Sg	02 14 56.4	+1.1
	18nm,0.2s						
TRKS	Terek-Say	1.98	154	⇑eP	Pb	02 14 53.0	-0.2
	baz=56						
TRKS				⇑eS	Sg	02 15 19.7	-1.5
	baz=56						
MRKS	Merke	2.45	102	eP	Pn	02 14 57.4	+0.6
	3.1nm,0.1s						
MRKS				eS	Sb	02 15 28.1	-3.0
	9.1nm,0.1s						
EKS2	Erkin-Say	2.87	102	⇓eP	Pn	02 15 03.3	+0.8
	baz=4.0						
EKS2				⇓eS	Sn	02 15 37.2	+0.5
	baz=4.0						
USP	Ospenovka	3.31	89	⇑eP	Pn	02 15 09.2	+0.8
	baz=91						
USP				⇑eS	Sn	02 15 47.5	+0.1
	baz=91						
AAK	Ala-Archa	3.39	100	⇓eP	Pn	02 15 10.6	+0.9
	baz=2.0						
AAK				⇓eS	Sn	02 15 49.9	+0.3
	baz=2.0						
SGDS	Sogindy	3.40	86	eP	Pb	02 15 15.7	-1.5
	2.3nm,0.3s						
SGDS				eS	Sb	02 15 58.4	+0.1
	56nm,0.2s						
ARLS	Aral	3.53	113	⇓eP	Pn	02 15 12.6	+1.0
	baz=14						
ARLS				⇓eS	Sn	02 15 53.4	+0.3
	baz=14						
KRBS	Karabastau	4.17	83	eP	Pb	02 15 27.3	-3.0
	0.7nm,0.3s						
KRBS				eS	Sb	02 16 18.5	-1.8
	3.4nm,0.5s						
DGS	Degeres	4.24	89	eP	Pb	02 15 29.7	-1.8
	2.0nm,0.3s						
DGS				eS	Sb	02 16 23.2	+0.8
	4.8nm,0.3s						
KST	Kastek	4.39	92	eP	Pb	02 15 32.5	-1.6
	4.1nm,0.6s						
KST				eS	Sb	02 16 27.5	+0.6
	8.9nm,0.4s						
KUU	Kurty	4.66	81	eP	Pb	02 15 37.5	-1.1
	0.9nm,0.1s						
KUU				eS	Sb	02 16 36.1	+1.6
	2.5nm,0.2s						
TNSS	Tian-Shan	5.11	91	eP	Pb	02 15 47.3	+0.7
	4.1nm,0.3s						
TNSS				eS	Sb	02 16 52.5	+4.7
	2.3nm,0.5s						
BLB	Baldybastay	6.21	80	eP	Pb	02 16 04.6	-0.6
	1.8nm,1.0s						
BLB				eS	Sb	02 17 22.3	+3.0
	3.0nm,0.5s						

GRAL 05 02:35:10.7±0.3, 33°.16N×35°.57E, h0km±140km, MD2.7
GII 05 02:35:11.1±0.0, 33°.26N×35°.61E, h10km, MD1.4/1, Mm1.7/2
ISC 05 02:35:10.7±0.9, 33°.24N±0°.03×35°.61E±0°.05, h16km±6km, n14, σ0s45/23, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GEM	Giv'at Ha'Em	0.06	122	Pg	Pg	02 35 13.9	+0.2
GEM				Sg	Sg	02 35 15.2	-0.5
NATI	Neve Ativ	0.11	79	Pg	Pb	02 35 14.3	-0.2
NATI				Sg	Sg	02 35 16.9	+0.3
MMA0B	Mount Meron ar	0.28	217	Pg	Pb	02 35 17.2	-0.3
MMA0B				Sg	Sb	02 35 22.5	+0.5
KSHT	Keshet	0.31	146	Pg	Pb	02 35 18.1	+0.2
RCY	Rachaya	0.32	37	eP	Pb	02 35 17.9	-0.3
RCY				eS	Sb	02 35 23.3	+0.1
HNTI	Hanita	0.40	247	Pg	Pb	02 35 19.4	0.0
HNTI				Sg	Sb	02 35 25.8	+0.6
DQRL	Deir Qamar	0.47	356	eP	Pb	02 35 20.4	-0.3
DQRL				eS	Sb	02 35 27.7	+0.3
BLGI	Bet Lehem HaGe	0.61	215	Pg	Pb	02 35 23.2	+0.1
BHL	Bhannes	0.66	3	eP	Pb	02 35 24.1	+0.1
OFRI	`Ofer	0.81	220	Pg	Pn	02 35 26.7	-0.8
OFRI				Sg	Sn	02 35 38.6	-0.6
MMLI	Mount Malkishu	0.81	191	Pg	Pn	02 35 26.8	-0.8
MMLI				Sg	Sn	02 35 39.0	-0.3
HMDT	Nahal Hemdat	0.99	184	Pg	Pn	02 35 29.8	-0.1
HMDT				Sg	Sn	02 35 44.1	+0.6
HWQ	Hawqa	1.07	15	eP	Pn	02 35 31.5	+0.3
SLTI	Sal'it	1.10	206	Pg	Pn	02 35 31.9	+0.4

HVO 05 02:48:37.4±0.8, 19°.41N±0°.01×155°.295W±0°.008, h1km±6km, ML2.8/23, ML2.1/32(NEIC), Error ellipse: s-maj=2.2km s-min=1.1km az=178.0
NEIC 05 02:48:38.3±0.9, 19°.43N±0°.02×155°.293W±0°.007, h2km±3km, Error ellipse: s-maj=2.2km s-min=0.9km az=180.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UWE	Uwekahuna	0.00	188		Pg	02 48 38.9	+0.1
OBL	Observatory Le	0.01	132		Pg	02 48 39.0	+0.1
UWB	Uwekahuna B	0.01	90	IAML		02 48 38.0	
	comp=N,559nm,1.4s						
UWB	Uwekahuna B	0.01	90		Pg	02 48 39.3	+0.4
NPH	North Pit	0.02	139	IAML		02 48 38.2	
	comp=E,3µm,1.4s						
NPH	North Pit	0.02	139		Pg	02 48 38.6	-0.3
WRMHI	West Rim	0.02	201		Pg	02 48 38.1	-0.9
SBLHI	Steaming Bluff	0.02	84		Pg	02 48 39.9	+0.9
HATHI	Halema'uma'u T	0.03	93		Pg	02 48 40.1	+1.0
BYL	Byron's Ledge	0.03	112		Pg	02 48 40.0	+1.0
RIM	Rim	0.03	149		Pg	02 48 39.4	+0.2
SDHHI	Sand Hill	0.04	182		Pg	02 48 39.0	-0.1
KKO	Keanakako`i	0.04	137		Pg	02 48 39.5	+0.3
RSD	Rainshed	0.04	20	Pg	Pg	02 48 39.4	+0.2
RSD				IAML		02 48 40.3	
	comp=E,2µm,0.3s						
RSD				IAML		02 48 40.3	
	comp=N,2µm,0.3s						
PUH	Pauahi	0.09	125		Pg	02 48 40.0	0.0
PUH	Pauahi	0.09	125		Sg	02 48 42.3	+1.0
PUH	Pauahi	0.09	125	IAML		02 48 41.0	
	comp=E,926nm,0.8s						
PUH				IAML		02 48 41.2	
	comp=N,637nm,0.4s						
MLH	Mauna Loa	0.11	308		Pg	02 48 40.9	+0.4
MLH	Mauna Loa	0.11	308	IAML		02 48 42.8	
	comp=E,795nm,0.5s						
MLH				IAML		02 48 43.5	
	comp=N,776nm,0.6s						
KNHH	Kane Nui o Ham	0.12	111		Pg	02 48 40.7	0.0
HLP	Hilina Pali	0.13	187		Pg	02 48 40.7	-0.1
HLP					Sg	02 48 43.1	+0.6
HLP	Hilina Pali	0.13	187	IAML		02 48 43.3	
	comp=E,2µm,0.5s						
HLP				IAML		02 48 43.3	
	comp=N,2µm,0.5s						
AIN	Ainahou	0.17	251		Pg	02 48 41.8	+0.2
AIN	Ainahou	0.17	251		Sg	02 48 45.4	+1.7
AIN	Ainahou	0.17	251	IAML		02 48 43.6	
	comp=E,1µm,0.6s						
NPOC	North of Pu'u	0.17	100	Pg	Pg	02 48 41.3	-0.4
NPOC				IAML		02 48 43.3	
	comp=N,760nm,0.7s						
NPOC				IAML		02 48 44.9	
	comp=E,640nm,0.7s						
HTC	Hot Caves	0.21	208		Pg	02 48 42.1	-0.2
HMH	Humu'ula Sheep	0.25	315		Pg	02 48 43.5	+0.4
HMH	Humu'ula Sheep	0.25	315	IAML		02 48 50.1	
	comp=E,300nm,1.1s						
HMH				IAML		02 48 51.6	
	comp=N,352nm,0.6s						
JOKA	Jonika Flow	0.27	88		Pg	02 48 43.1	-0.4
MLOA	Mauna Loa Obse	0.29	293		Pg	02 48 44.3	+0.3
MLOA				IAML		02 48 52.2	
	comp=N,395nm,0.8s						
MLOA				IAML		02 48 53.0	
	comp=E,379nm,0.8s						
MWH	Moku'aweowe	0.29	282		Pg	02 48 44.1	+0.1
MWH	Moku'aweowe	0.29	282	IAML		02 48 47.6	
	comp=N,660nm,0.7s						
MWH				IAML		02 48 51.6	
	comp=E,1µm,0.8s						
ALEP	Alea Permanent	0.35	289		Pg	02 48 44.9	-0.2
KHU	Kahuku	0.35	240		Pg	02 48 44.4	-0.7
KHU	Kahuku	0.35	240	IAML		02 48 46.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,344nm,3.7s						
KHU				IAML		02 48 49.1	
	comp=E,495nm,4.3s						
POHA	Pohakuloa	0.40	326		Pg	02 48 45.7	-0.4
POHA				IAML		02 48 53.8	
	comp=E,341nm,1.0s						
KHLU	Kahalu`u	0.59	286		Pg	02 48 48.3	-1.3

IDC 05 03:22:47.2±7.9**, 19.56°S×175.29°W, h0km, mb4.0**/3**, mbtmp4.0**/3**, Error ellipse: s-maj=342.2km s-min=40.7km az=143.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	47.22	256	P	P	03 31 21.2	-1.1
	1.3nm,0.5s,baz=94,slow=7.3,SNR=23						
	1.3nm,0.5s						
WRA	Warramunga Arr	47.26	261	P	P	03 31 23.4	+0.8
	1.7nm,0.3s,baz=95,slow=8.3,SNR=55						
	1.7nm,0.3s						
ILAR	Eielson Array	86.86	12	P	P	03 35 33.2	0.0
	0.6nm,1.0s,baz=219,slow=5.4,SNR=3.6						
	0.6nm,1.0s						

*BJI **05** 03:54:07.8±0.0, 14.04°N×145.38°E, h87km, mb4.8/40, mB5.3/20, Ms4.6/1, Ms7 4.2/2*

*IDC **05** 03:54:07.8±0.7, 14.09°N×145.34°E, h78km±5km, mb4.3/31, mbtmp4.6/31, MS3.6/59, Error ellipse: s-maj=15.4km s-min=8.8km az=100.0*

*NEIC **05** 03:54:09.7±1.8, 14.03°N±0.05°×145.34°E±0.05°, h85km±5km, mb4.9/206, Error ellipse: s-maj=8.1km s-min=6.7km az=160.0*

*DJA **05** 03:54:09.6±0.8, 14°N±8°×14°5E±°, h80km±3km, M5.2/24, mB5.7/13, mb5.3/24, MLv5.2/1, Mw(mB)5.2/13, MwMwp5.1/1, Mwp5.4/1*

*GCMT **05** 03:54:12.7±0.2, 13.89°N±0.02°×145.41°E±0.02°, h90km±5km, MW4.9/110, Moment Tensor Solution. s27,c29; s110,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.41±.12; $M_{\theta\theta}$-0.04±.14; $M_{\phi\phi}$-0.37±.12; $M_{r\theta}$-2.36±.05; $M_{\theta\phi}$-0.51±.15; $M_{\phi r}$0.20±.06; Best double couple: $M_0$2.42800×10^{16} NP1:ϕ_s271.00000°, δ87.00000°, λ102.00000°. NP2:ϕ_s14.00000°, δ13.00000°, λ13.00000°. Principal axes: T 2.6380, Plg46.0000°, Azm194.0000°; N -0.4190, Plg12.0000°, Azm91.0000°; P -2.2190, Plg41.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 03:54:09.7±0.5**, 14.05°N**±0.05°×**145.37°E**±0.06°**, h91**km±4km**, h91km:pP-P, n537, σ0.97**/424**, mb4.8**/151**, 2D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.66	227	P	Pn	03 54 25.1	-0.9
	9μm,0.3s,baz=304,slow=16,SNR=718						
GUMO				S	Sn	03 54 34.8	-3.3
	baz=8.1,slow=14						
GUMO				LR	LR	03 54 43.8	
	comp=Z,15μm,18.2s,baz=172,slow=54						
GUMO	Guam	0.66	227	P	Pn	03 54 25.3	-0.7
PATS	Pohnpei	14.61	118	Pn	Pn	03 57 30.2	-1.7
MANU	Manus Island	16.11	173	Pn	Pn	03 57 50.4	-0.5
MANU				IAmb	IAmb	03 57 56.0	
	comp=Z,130nm,1.2s						
MANU	Manus Island	16.11	173	P	Pn	03 57 50.9	0.0
GENI	Genyem	17.32	198	P	P	03 58 05.2	-0.7
	comp=Z,130nm,1.5s						
GENI	Genyem	17.32	198	P	Pn	03 58 08.1	+2.3
RKPI	Ransiki, Papua	19.02	217	P	Pn	03 58 26.0	-0.3
	comp=Z,14μmcomp=Z,61nm,0.8s						
RABL	Rabaul	19.34	159	P	Pn	03 58 31.0	+1.0
KRVT	Keravat (AS076	19.40	160	P	Pn	03 58 31.1	+0.4
	comp=Z,137nm,1.0s,baz=264,slow=12,SNR=4.9						
KRVT				LR	LR	04 06 51.2	
	comp=Z,120nm,18.6s,baz=113,slow=39						
SIJI	Sorong	20.36	224	P	P	03 58 40.0	+0.8
	comp=Z,146nm,0.8s,baz=35,slow=9.2,SNR=24						
SIJI				LR	LR	04 06 46.0	
	comp=Z,71nm,18.2s,baz=306,slow=37						
	comp=Z,146nm,0.8s						
SIJI	Sorong	20.36	224	P	P	03 58 40.3	+1.1
	comp=Z,3μmcomp=Z,180nm,1.0s						
JOW	Kunigami	20.42	311	P	Pn	03 58 42.1	-0.4
	comp=Z,41nm,0.6s,baz=146,slow=9.7,SNR=13						
JOW				LR	LR	04 06 03.2	
	comp=Z,141nm,20.3s,baz=110,slow=35						
JOW	Kunigami	20.42	311	P	P	03 58 39.6	-0.1
JOW				IAmb	IAmb	03 58 43.2	
	comp=Z,44nm,0.6s						
DAV	Davao City (W)	20.64	252	LR	LR	04 05 27.3	
	comp=Z,52nm,21.9s,baz=54,slow=33						
H11S3	WAKE ISLAND Hy	20.94	75	T	T	04 20 19.6	
	baz=261,slow=75,SNR=93						
H11S1	WAKE ISLAND Hy	20.95	75	T	T	04 20 42.4	
	baz=261,slow=75,SNR=39						
H11S2	WAKE ISLAND Hy	20.95	75	T	T	04 20 50.3	
	baz=261,slow=75,SNR=54						
FAKI	Fak Fak	21.29	219	P	P	03 58 49.3	+0.2
FAKI	Fak Fak	21.29	219	P	P	03 58 50.0	+0.9
	comp=Z,3μmcomp=Z,313nm,0.8s						
FAKI	Fak Fak	21.29	219	P	P	03 58 50.2	+1.1
H11N1	WAKE ISLAND Hy	21.35	72	T	T	04 21 57.2	
	baz=257,slow=75,SNR=125						
H11N2	WAKE ISLAND Hy	21.36	72	T	T	04 21 59.9	
	baz=257,slow=75,SNR=102						
H11N3	WAKE ISLAND Hy	21.36	72	T	T	04 22 08.4	
	baz=257,slow=75,SNR=122						
JSU	Suzuyama	22.11	324	P	P	03 58 58.2	+0.4
JSU	Suzuyama	22.11	324	P	P	03 58 58.9	+1.1
JMN	Monobe	22.20	334	P	P	03 58 59.6	+0.9
JGF	Kuroka	22.64	343	P	P	03 59 05.4	+2.1
MJAR	Matsushiro Arr	23.30	345	P	P	03 59 07.9	-1.8
	comp=Z,2.3nm,0.4s,baz=170,slow=10,SNR=11						
MJAR				ScP	ScP	04 06 21.8	-2.5
	comp=Z,1.1nm,0.3s,baz=162,slow=3.1,SNR=1.8						
MJAR				LR	LR	04 07 34.0	
	comp=Z,215nm,21.8s,baz=170,slow=35						
	comp=Z,2.3nm,0.4s						
MAJO	Matsushiro	23.30	345	P	P	03 59 10.3	+0.6
MAJO	Matsushiro	23.30	345	P	P	03 59 10.9	+1.2
MJB9	Matsu-Tunnel	23.30	345	P	P	03 59 11.6	+1.9
PMG	Port Moresby	23.37	176	P	P	03 59 10.1	-0.4
	comp=Z,54nm,0.7s,baz=3.7,slow=6.9,SNR=12						
	comp=Z,54nm,0.7s						
PMG	Port Moresby	23.37	176	P	P	03 59 09.3	-1.2
PMG	Port Moresby	23.37	176	P	P	03 59 10.9	+0.4
	comp=Z,87nm,1.0s						
PMG				pP	pP	03 59 29.9	+1.5
	comp=Z,87nm,1.0s						
PMG	Port Moresby	23.37	176	P	P	03 59 11.1	+0.6
JHS	Saijyo	23.61	334	P	P	03 59 12.6	+0.1
JHS				IAmb	IAmb	03 59 14.4	
	comp=Z,24nm,0.6s						
KRAI	Karang Ratu	24.10	226	P	P	03 59 18.6	+1.5
	comp=Z,7μmcomp=Z,112nm,0.7s						
AAI	Ambon	24.50	225	P	P	03 59 20.1	-0.7
	comp=Z,2μmcomp=Z,263nm,0.9s						
SANI	Sanana	24.99	232	P	P	03 59 23.8	-1.4
	comp=Z,982nmcomp=Z,16nm,0.5s						
SSLB	Suanglung	25.01	296	P	P	03 59 26.6	+1.3
SSLB				IAmb	IAmb	03 59 28.9	
	comp=Z,34nm,1.0s						
SSLB	Suanglung	25.01	296	P	P	03 59 27.5	+2.2
GTOI	Gorontalo	25.82	241	P	P	03 59 34.7	+2.0
	comp=Z,2μmcomp=Z,302nmcomp=Z,7.6nm,0.7s						
LUWI	Luwuk	26.94	238	P	P	03 59 40.6	-2.2
LUWI	Luwuk	26.94	238	P	P	03 59 40.6	-2.2
	comp=Z,45nm,0.7s						
LUWI	Luwuk	26.94	238	P	P	03 59 41.3	-1.5
HNR	Honiara	27.45	147	LR	LR	04 11 10.0	
	comp=Z,2μm,18.1s,baz=298,slow=37						
TOLI2	Tolitoli	27.50	244	P	P	03 59 47.5	-0.3
COEN	Coen	27.91	185	P	P	03 59 51.7	+0.3
COEN				IAmb	IAmb	03 59 53.2	
	comp=Z,57nm,1.3s						
COEN	Coen	27.91	185	P	P	03 59 52.1	+0.7
KSRS	Korea Array	28.01	329	P	P	03 59 52.2	+0.1
	comp=Z,4.0nm,0.6s,baz=147,slow=8.8,SNR=13						
	comp=Z,4.0nm,0.6s						
KSAR	Wonju Array Be	28.02	329	P	P	03 59 53.0	+0.7
MPSI	Mapaga	28.65	244	P	P	03 59 56.9	-1.2
KDU	Kakadu	29.47	206	P	P	04 00 04.8	-0.5
NJ2	Nanjing	30.14	311	*e*P	P	04 00 13.7	+2.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MTN	Manton Dam	30.21	208	P	P	04 00 11.5	-0.3
MTN	Manton Dam	30.21	208	P	P	04 00 11.6	-0.2
SOEI	Soe	31.58	223	P	P	04 00 22.6	-1.5
SOEI	Soe	31.58	223	P	P	04 00 21.0	-3.1
SOEI	Soe	31.58	223	P	P	04 00 22.9	-1.2
MTSU	Mount Surprise	32.00	182	P	P	04 00 28.9	+1.4
USRK	Ussuriysk Ar.	32.15	342	P	P	04 00 28.4	-0.2
	comp=Z,1.7nm,0.7s,baz=133,slow=10.0,SNR=4.9						
USRK				LR	LR	04 12 44.6	
	comp=Z,139nm,21.0s,baz=166,slow=35						
	comp=Z,1.7nm,0.7s						
BATI	Baumata	32.31	223	LR	LR	04 14 12.9	
	comp=Z,55nm,20.5s,baz=42,slow=37						
TV1H	Townsville Har	33.13	178	P	P	04 00 38.5	+1.1
KNRA	Kununurra	33.79	210	P	P	04 00 42.3	-0.9
KNRA	Kununurra	33.79	210	P	P	04 00 43.2	0.0
CTA	Charters Tower	33.93	179	LR	LR	04 15 14.7	
	comp=Z,50nm,19.2s,baz=9.5,slow=37						
CTA	Charters Tower	33.93	179	P	P	04 00 45.3	+0.9
CTAO	Charters Tower	33.93	179	P	P	04 00 44.9	+0.5
CTAO	Charters Tower	33.93	179	P	P	04 00 45.3	+0.9
CTAO	Charters Tower	33.93	179	P	P	04 00 44.3	0.0
CTAO				pP	pwP	04 01 08.7	+0.7
CN2	Changchun	34.21	334	*e*P	P	04 00 49.5	+3.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
QIZ	Qiongzhong	34.37	283	P	P	04 00 45.9	-2.4
QIZ				S	S	04 06 12.7	+3.1
QIZ				LR	LR		
	comp=Z,240nm,20.7s						
QIS	Mount Isa	34.85	189	P	P	04 00 52.8	+0.5
BNX	BinXian	35.05	338	⇓P	P	04 00 54.8	+1.1
BNX				pmax	pmax		
	comp=Z,17nm,0.8s						
BNX				pmax	pmax		
	comp=Z,290nm,4.8s						
WRAB	Tennant Creek	35.46	198	P	P	04 00 56.7	-0.9
WRAB	Tennant Creek	35.46	198	P	P	04 00 57.7	+0.1
WRAB	Tennant Creek	35.46	198	P	P	04 00 55.7	-1.9
WRAB				pP	pP	04 01 15.9	-2.1
WRA	Warramunga Arr	35.48	198	P	P	04 00 57.6	-0.1
	comp=Z,30nm,0.7s,baz=19,slow=9.4,SNR=155						
WRA				PcP	PcP	04 03 24.6	-0.8
	comp=Z,2.3nm,0.6s,baz=16,slow=3.4,SNR=1.9						
WRA				ScP	ScP	04 07 02.8	-0.5
	comp=Z,4.6nm,1.0s,baz=20,slow=4.2,SNR=12						
WRA				LR	LR	04 15 07.1	
	comp=Z,179nm,20.8s,baz=24,slow=36						
	comp=Z,30nm,0.7s						
HNS	HongShan	35.83	316	⇓P	P	04 00 58.1	-2.5
HNS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LYN	LuoYang	36.03	310	*e*P	P	04 01 05.7	+3.4
KLNI	Mataram	36.63	234	P	P	04 01 06.7	-1.0
	comp=Z,88nm,1.0s						
KLR	Kul'dur	36.83	345	P	P	04 01 08.0	-0.9
	comp=Z,1.4nm,0.3s,baz=155,slow=8.5,SNR=7.7						
KLR				LR	LR	04 15 06.9	
	comp=Z,75nm,21.7s,baz=126,slow=34						
	comp=Z,1.4nm,0.3s						
KSM	Kuching	36.84	253	P	P	04 01 08.4	-1.0
KSM				IAmb	IAmb	04 01 08.9	
	comp=Z,12nm,0.7s						
KHKI	Kahang-Kahang	36.98	235	P	P	04 01 09.6	-1.0
	comp=Z,64nm,1.5s						
XAN	Xi'an	38.49	308	P	P	04 01 26.2	+3.0
XAN				pP	pP	04 01 47.7	+3.6
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HEH	HeiHe	38.96	342	*e*P	P	04 01 26.4	-0.4
HEH				pmax	pmax		
	comp=Z,15nm,1.2s						
HEH				pmax	pmax		
	comp=Z,430nm,5.7s						
AS01	Alice Springs	39.11	197	P	P	04 01 28.5	+0.1
AS31	Alice Springs	39.12	197	P	P	04 01 27.8	-0.7
ASAR	Alice Springs	39.12	197	P	P	04 01 28.6	0.0
	comp=Z,5.9nm,0.6s,baz=20,slow=11,SNR=111						
ASAR				PP	PP	04 03 00.8	+0.7
	comp=Z,6.8nm,1.0s,baz=17,slow=11,SNR=5.8						
ASAR				PcP	PcP	04 03 36.9	+0.3
	comp=Z,2.8nm,0.8s,baz=33,slow=3.9,SNR=1.5						
ASAR				ScP	ScP	04 07 16.8	-0.1
	comp=Z,1.8nm,1.0s,baz=9.2,slow=6.3,SNR=6.2						
ASAR				LR	LR	04 18 08.7	
	comp=Z,68nm,20.9s,baz=340,slow=37						
	comp=Z,5.9nm,0.6s						
EIDS	Eidsvold	39.57	172	P	P	04 01 31.7	-0.5
EIDS	Eidsvold	39.57	172	P	P	04 01 32.6	+0.4
PETK	Petropavlovsk-	40.18	12	P	P	04 01 36.4	-0.5
	comp=Z,3.8nm,0.9s,baz=138,slow=9.8,SNR=1.9						
PETK				LR	LR	04 18 10.1	
	comp=Z,36nm,19.8s,baz=201,slow=36						
	comp=Z,3.8nm,0.9s						
QLP	Quilpie	40.40	182	P	P	04 01 38.9	-0.1
RMQ	Roma	40.42	175	P	P	04 01 40.1	+0.9
NOUC	Port Laguerre	41.38	150	P	P	04 01 48.4	+1.3
NOUC				pP	pwP	04 02 12.1	+0.1
DZM	Mont Dzumac	41.42	150	*e*P	P	04 01 48.3	+0.7
	comp=Z,65nm,1.1s						
DZM	Mont Dzumac	41.42	150	*e*LR	LR	04 13 20.4	
	comp=Z,326nm,32.2s						
DZM	Mont Dzumac	41.42	150	LR	LR	04 15 44.1	
	comp=Z,85nm,19.9s,baz=10.0,slow=31						
DZM	Mont Dzumac	41.42	150	P	P	04 01 48.1	+0.5
DZM				IAmb	IAmb	04 01 50.5	
	comp=Z,26nm,0.9s						
DZM	Mont Dzumac	41.42	150	P	P	04 01 49.7	+2.1
DZM	Mont Dzumac	41.42	150	P	P	04 01 48.8	+1.2
DZM				pP	pwP	04 02 13.8	+1.3
CD2	Chengdu	41.67	301	P	P	04 01 48.9	-0.7
INKA	Innaminka	41.78	186	P	P	04 01 50.3	0.0
WRKA	Warakurna	42.27	203	P	P	04 01 54.3	-0.1
PZH	PanZhiHua	42.56	294	P	P	04 01 57.8	+0.9
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
OOD	Oodnadatta	42.64	193	P	P	04 01 57.5	+0.2
LEM	Lembang	42.82	243	LR	LR	04 22 10.7	
	comp=Z,26nm,18.2s,baz=168,slow=39						
LZH	Lanzhou	43.11	308	*e*P	P	04 02 02.5	+1.2
LZH				pP	pP	04 02 23.4	+1.0
LZH				sP	sP	04 02 34.6	+2.0
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
AULRC	Lightning Ridg	43.30	177	P	P	04 02 02.2	-0.4
	comp=Z,236nm,1.0s						
PSA00	Pilbara Seismi	43.36	216	P	P	04 02 02.5	-0.8
PSA00				IAmb	IAmb	04 02 04.0	
	comp=Z,17nm,0.8s						
PSA00	Pilbara Seismi	43.36	216	P	P	04 02 02.8	-0.4
ARMA	Armidale	44.62	172	P	P	04 02 12.7	-0.5
CHTO	Chiang Mai	44.68	283	P	P	04 02 13.5	-0.5
CMAR	Chiang Mai Arr	44.69	282	P	P	04 02 14.4	+0.4
	comp=Z,1.5nm,0.3s,baz=83,slow=5.7,SNR=9.0						
CMAR				ScP	ScP	04 07 38.4	-1.0
	comp=Z,1.8nm,0.5s,baz=90,slow=2.5,SNR=12						
CMAR				LR	LR	04 18 20.2	
	comp=Z,38nm,21.3s,baz=85,slow=32						
	comp=Z,1.5nm,0.3s						
LCRK	Leigh Creek	44.77	189	P	P	04 02 14.8	+0.5
SHEM	Shemya Is, Ala	44.85	24	P	P	04 02 14.1	-0.6
	comp=Z,48nm,0.6s,baz=321,slow=4.4,SNR=6.0						
SHEM				LR	LR	04 17 26.8	
	comp=Z,74nm,20.8s,baz=318,slow=31						
	comp=Z,48nm,0.6s						
MSVF	Nonsavu	45.13	133	LR	LR	04 19 01.4	
	comp=Z,40nm,21.9s,baz=21,slow=33						
MSVF	Nonsavu	45.13	133	P	P	04 02 18.3	+0.8
MSVF				IAmb	IAmb	04 02 20.5	
	comp=Z,21nm,1.2s						
MSVF	Nonsavu	45.13	133	P	P	04 02 19.6	+2.1
AUPHS	Peel High Scho	45.20	173	P	P	04 02 19.7	+1.9
	comp=Z,32nm,1.2s						
TNCH	TengChong	45.28	291	*e*P	P	04 02 19.6	+0.8
TNCH				pP	pP	04 02 39.9	-0.2
TNCH				pmax	pmax		
	comp=Z,19nm,0.5s						
CMSA	Cobar Meteorol	45.33	180	P	P	04 02 18.5	-0.2
MULG	Mulgathing	45.40	194	P	P	04 02 19.5	+0.2
MA2	Magadan	45.63	4	P	P	04 02 19.0	-1.7
	comp=Z,12nm,0.9s,baz=200,slow=9.1,SNR=3.8						
MA2				LR	LR	04 17 40.7	
	comp=Z,84nm,20.6s,baz=192,slow=31						
	comp=Z,12nm,0.9s						
STKA	Stephens Creek	45.80	184	P	P	04 02 22.6	+0.2
	comp=Z,41nm,0.8s,baz=0.5,slow=7.7,SNR=42						
STKA				LR	LR	04 22 13.0	
	comp=Z,64nm,19.6s,baz=21,slow=37						
	comp=Z,41nm,0.8s						
STKA	Stephens Creek	45.80	184	P	P	04 02 22.4	-0.1
STKA	Stephens Creek	45.80	184	P	P	04 02 22.7	+0.2
ULN	Ulaanbaatar	46.28	325	P	P	04 02 27.4	+1.1
SONM	Songino Array	46.64	324	P	P	04 02 29.4	+0.3
	comp=Z,1.8nm,0.5s,baz=140,slow=9.0,SNR=6.6						
SONM				ScP	ScP	04 07 45.6	-1.4
	comp=Z,3.0nm,0.9s,baz=156,slow=5.0,SNR=9.1						
SONM				LR	LR	04 22 20.0	
	comp=Z,89nm,18.9s,baz=131,slow=36						
	comp=Z,1.8nm,0.5s						
SONM	Songino Array	46.64	324	P	P	04 02 29.3	+0.2
GTA	Gaotai	47.23	311	*e*P	P	04 02 37.6	+3.7
GTA				pP	pP	04 02 55.9	+0.6
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WHYH	Whyalla	47.40	189	P	P	04 02 35.6	+0.7
BBOO	Buckleboo	47.44	191	P	P	04 02 33.8	-1.5
BBOO	Buckleboo	47.44	191	P	P	04 02 35.3	+0.1
FORT	Forrest	47.58	200	P	P	04 02 36.2	-0.2
FORT	Forrest	47.58	200	P	P	04 02 36.6	+0.3
HTT	Hallett	47.61	187	P	P	04 02 37.3	+0.7
SEY	Seymchan	49.07	4	P	P	04 02 46.4	-1.0
	comp=Z,4.6nm,0.7s,baz=196,slow=7.5,SNR=9.5						
	comp=Z,4.6nm,0.7s						
ARPS	Mount Arapiles	50.65	184	P	P	04 03 01.2	+1.5
AFI	Afiamalu	50.71	121	LR	LR	04 24 29.9	
	comp=Z,20nm,18.0s,baz=62,slow=36						
TOO	Toolangi	51.34	180	P	P	04 03 05.7	+0.7
TOO	Toolangi	51.34	180	P	P	04 03 07.0	+2.1
MORW	Morawa	51.38	213	P	P	04 03 04.7	-0.7
KLBR	Kellerberrin	52.55	210	P	P	04 03 13.2	-0.7
NIKH	Nikolski High	53.03	33	P	P	04 03 17.6	+0.4
	baz=240						
NWAO	Narrogin (SRO)	53.89	209	LR	LR	04 28 30.8	
	comp=Z,103nm,19.7s,baz=272,slow=38						
SPIA	Saint Paul Isl	54.55	28	P	P	04 03 28.0	-0.2
	baz=236						
UNV	Unalaska Valle	54.68	33	P	P	04 03 29.3	+0.1
UNV	Unalaska Valle	54.68	33	P	P	04 03 28.6	-0.7
	baz=242,SNR=6.0						
UNV	Unalaska Valle	54.68	33	P	P	04 03 32.7	+3.5
AKUT	Akutan	55.20	33	P	P	04 03 32.6	-0.4
RAO	Raoul Island	55.77	141	LR	LR	04 26 16.6	
	comp=Z,40nm,19.2s,baz=210,slow=35						
FALS	False Pass	56.75	33	P	P	04 03 44.1	+0.1
	baz=245						
FALS	False Pass	56.75	33	P	P	04 03 44.9	+0.9
WMQ	Urumqi	57.17	313	*e*P	P	04 03 50.7	+3.3
TIXI	Tiksi	58.43	354	LR	LR	04 29 33.0	
	comp=Z,33nm,21.7s,baz=273,slow=36						
SDPT	Sand Point	58.50	33	P	P	04 03 56.5	+0.3
	baz=247,SNR=8.2						
CNBA	Chernabura Isl	58.77	34	P	P	04 03 57.5	-0.7
CHNA	Chernabura Isl	58.77	34	P	P	04 03 58.2	+0.1
	baz=248						
CHGN	Chignik	59.93	32	P	P	04 04 06.1	0.0
	baz=249						
URZ	Urewera	59.94	151	LR	LR	04 27 19.7	
	comp=Z,46nm,19.3s,baz=74,slow=33						
P16K	Nushagak River	61.16	30	P	P	04 04 14.7	+0.2
	baz=248						
CHIR	Chirikof Islan	61.24	33	P	P	04 04 15.0	-0.1
	baz=252						
O16K	Kokwok River B	61.33	29	P	P	04 04 16.0	+0.5
	baz=247						
N16K	Nishlik Lake	61.36	28	P	P	04 04 16.2	+0.3
	baz=246						
MK31	Makanchi Array	61.50	316	P	P	04 04 16.5	-0.5
MKAR	Makanchi Array	61.50	316	P	P	04 04 16.9	-0.1
	comp=Z,2.1nm,0.5s,baz=93,slow=8.2,SNR=17						
MKAR				LR	LR	04 32 38.5	
	comp=Z,40nm,18.3s,baz=124,slow=38						
	comp=Z,2.1nm,0.5s						
ZAA0	Zalesovo Array	61.53	324	P	P	04 04 16.2	-0.8
ZALV	Zalesovo Beam	61.53	324	P	P	04 04 16.1	-1.0
	comp=Z,1.0nm,0.4s,baz=109,slow=8.2,SNR=4.9						
ZALV				LR	LR	04 29 13.1	
	comp=Z,28nm,21.9s,baz=87,slow=34						
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	61.53	324	P	P	04 04 17.0	0.0
MAKZ	Makanchi	61.71	316	P	P	04 04 17.7	-0.8
MAKZ				IAmb	IAmb	04 04 32.5	
	comp=Z,4.6nm,0.8s						
MAKZ	Makanchi	61.71	316	P	P	04 04 18.0	-0.5
MAKZ				pP	pP	04 04 41.1	+0.3
MSWZ	Moikau Station	61.71	155	P	P	04 04 18.2	-0.2
O17K	Koliganek Bris	61.86	29	P	P	04 04 19.5	+0.3
	baz=248,SNR=11						
Q17K	Contact Creek	61.91	31	P	P	04 04 18.5	-1.1
	baz=250						
P17K	Kvichak River	61.96	30	P	P	04 04 19.5	-0.4
	baz=249						
RPZ	Rata Peaks	62.09	159	LR	LR	04 27 31.1	
	comp=Z,44nm,21.3s,baz=314,slow=32						
RPZ	Rata Peaks	62.09	159	P	P	04 04 21.4	+0.5
SII	Sitkinak Islan	62.23	33	P	P	04 04 22.2	+0.4
	baz=253,SNR=9.7						
SII	Sitkinak Islan	62.23	33	P	P	04 04 22.7	+0.9
	comp=Z,158nm,1.3s						
Q18K	Katmai Hardscr	62.47	31	P	P	04 04 22.1	-1.4
	baz=251,SNR=6.9						
P18K	Big Mountain,	62.62	30	P	P	04 04 23.5	-0.8
	baz=250						
N18K	Kilae Creek	62.76	28	IAmb	IAmb	04 04 26.8	
	comp=Z,18nm,1.1s						
N18K	Kilae Creek	62.76	28	P	P	04 04 25.3	+0.2
	baz=249						
O18K	Koktuh Hills	62.78	29	P	P	04 04 25.7	+0.4
	baz=250						
OHAK	Old Harbor	62.90	32	P	P	04 04 26.4	+0.3
	baz=253,SNR=6.6						
SVW2	Sparrevohn	63.05	28	IAmb	IAmb	04 04 28.5	
	comp=Z,7.9nm,0.8s						
Q19K	Cape Douglas,	63.24	31	P	P	04 04 27.2	-1.2
	baz=252						
KDAK	Kodiak Island	63.43	32	P	P	04 04 29.7	+0.1
	comp=Z,14nm,0.7s,baz=259,slow=3.2,SNR=30						
KDAK				LR	LR	04 29 53.9	
	comp=Z,26nm,20.8s,baz=254,slow=34						
	comp=Z,14nm,0.7s						
KDAK	Kodiak Island	63.43	32	P	P	04 04 29.5	-0.1
KDAK	Kodiak Island	63.43	32	P	P	04 04 29.6	+0.1
	baz=253						
N19K	Bonanza Creek	63.45	28	IAmb	IAmb	04 04 31.4	
	comp=Z,11nm,0.7s						
N19K	Bonanza Creek	63.45	28	P	P	04 04 30.1	+0.3
	baz=250						
TTA	Tatalina	63.53	26	P	P	04 04 29.8	-0.6
	baz=248						
P19K	Oil Pt	63.66	30	P	P	04 04 30.9	-0.2
	baz=252						
L19K	White Mountain	63.76	27	IAmb	IAmb	04 04 33.1	
	comp=Z,11nm,1.1s						
L19K	White Mountain	63.76	27	P	P	04 04 31.7	-0.1
	baz=249						
Q20K	Shuyak Island	63.76	31	P	P	04 04 31.9	+0.1
	baz=253						
M19K	Big River Lodg	63.87	27	IAmb	IAmb	04 04 33.4	
	comp=Z,18nm,1.2s						
M19K	Big River Lodg	63.87	27	P	P	04 04 32.6	+0.2
	baz=250						
GCSA	Galena City Sc	63.90	24	P	P	04 04 32.6	+0.1
	baz=246						
O20K	Slope Mountain	64.09	29	P	P	04 04 34.5	+0.5
	baz=252						
RAR	Rarotonga	64.25	122	LR	LR	04 27 36.1	
	comp=Z,24nm,21.5s,baz=235,slow=31						
L20K	Farewell, AK	64.29	27	P	P	04 04 35.9	+0.6
	baz=250						
M20K	Styx River	64.42	27	P	P	04 04 37.6	+1.4
	baz=251,SNR=9.6						
K20K	Telida	64.51	26	P	P	04 04 37.1	+0.4
	baz=249						
KURK	Kurchatov	64.55	320	P	P	04 04 37.2	+0.2
KURK	Kurchatov	64.55	320	P	P	04 04 35.9	-1.1
KURK				pP	pP	04 05 01.4	+1.7
KURBB	Kurchatov Arra	64.59	320	P	P	04 04 36.7	-0.6

comp=Z,3.2nm,0.5s,baz=101,slow=7.3,SNR=13
comp=Z,3.2nm,0.5s

N20K	**Mount Spurr** baz=252	64.62	28	P	P	04 04 37.6	+0.1	
J20K	**Nowinta River** baz=249	64.77	25	P	P	04 04 38.3	0.0	
BRSE	**Bradley Lake S** baz=254	64.90	30	P	P	04 04 38.6	-0.6	
CAPN	**Captain Cook N** baz=253	64.99	29	P	P	04 04 40.0	+0.3	
PPLA	**Purkeypile** baz=251	65.16	27	P	P	04 04 40.8	-0.2	
SKT	**Skwentna** comp=Z,15nm,1.1s	65.17	28	IAmb	IAmb	04 04 41.0		
SKT	**Skwentna** baz=252,SNR=6.2	65.17	28	P	P	04 04 39.7	-1.2	
SUA	**Susitna One** comp=Z,13nm,1.0s	65.38	28	IAmb	IAmb	04 04 42.5		
SUA	**Susitna One** baz=253,SNR=5.7	65.38	28	P	P	04 04 41.8	-0.6	
CAST	**Castle Rocks** comp=Z,12nm,0.6s	65.38	26	IAmb	IAmb	04 04 43.6		
CAST	**Castle Rocks** baz=251,SNR=12	65.38	26	P	P	04 04 42.1	-0.2	
CHUM	**Lake Minchumin** baz=251	65.43	26	P	P	04 04 42.5	0.0	
O22K	**Cooper Landing** baz=255	65.59	30	P	P	04 04 43.8	+0.2	
SEW	**Seward** baz=255	65.62	30	P	P	04 04 43.4	-0.4	
RC01	**Rabbit Creek A** baz=255,SNR=11	65.74	29	P	P	04 04 43.6	-1.0	
M22K	**Willow** baz=254	65.74	28	P	P	04 04 43.9	-0.7	
H21K	**Melozitna Rive** baz=250	65.83	24	P	P	04 04 44.5	-0.7	
NRIK	**Noril'sk** comp=Z,2.6nm,0.4s,baz=166,slow=2.9,SNR=5.0	65.86	341	P	P	04 04 44.5	-0.7	
NRIK				LR	LR	04 34 32.7		
	comp=Z,65nm,18.3s,baz=122,slow=37 comp=Z,2.6nm,0.4s							
NRIK	**Noril'sk**	65.86	341	P	P	04 04 43.9	-1.3	
NRIK	comp=Z,24nm,1.6s			IAmb	IAmb	04 04 45.3		
CUT	**Chulitna** baz=254	65.86	27	P	P	04 04 45.0	-0.4	
G21K	**Allakaket** baz=249	65.87	23	P	P	04 04 44.5	-0.9	
KTH	**Kantishna Hill** comp=Z,16nm,1.1s	65.91	26	IAmb	IAmb	04 04 46.2		
I21K	**Tanana** baz=251	65.99	24	P	P	04 04 46.1	-0.1	
BPAW	**Bear Paw Mtn.** baz=252	66.05	26	P	P	04 04 46.3	-0.3	
F21K	**Alatna River** baz=248	66.14	22	P	P	04 04 47.7	+0.5	
TRF	**Thorofare Moun** comp=Z,40nm,1.8s	66.15	26	IAmb	IAmb	04 04 56.1		
TRF	**Thorofare Moun** baz=253	66.15	26	P	P	04 04 46.6	-0.8	
PMR	**Palmer** comp=Z,15nm,0.9s	66.16	28	IAmb	IAmb	04 04 47.4		
PMR	**Palmer** baz=255,SNR=8.1	66.16	28	P	P	04 04 46.2	-1.1	
GHO	**Glory Hole Cre** comp=Z,16nm,0.8s	66.30	28	IAmb	IAmb	04 04 48.6		
PWL	**Port Wells** baz=256,SNR=8.2	66.34	29	P	P	04 04 48.2	-0.4	
KNK	**Knik Glacier** baz=256,SNR=7.8	66.42	29	P	P	04 04 49.3	+0.3	
MLY	**Manley** comp=Z,17nm,1.5s	66.44	25	IAmb	IAmb	04 04 49.5		
MLY	**Manley** baz=252,SNR=8.2	66.44	25	P	P	04 04 48.8	-0.3	
H22K	**Ishtalitna Cre** baz=251	66.47	24	P	P	04 04 49.5	+0.3	
SML	**Sawmill** baz=256,SNR=13	66.58	28	P	P	04 04 50.0	0.0	
AAK	**Ala-Archa** comp=Z,46nm,19.3s,baz=72,slow=38	66.58	311	LR	LR	04 36 44.4		
AAK	**Ala-Archa**	66.58	311	P	P	04 04 51.6	+1.1	
P23K	**Montague Islan** baz=257	66.59	30	P	P	04 04 50.3	+0.2	
F22K	**John River** baz=250	66.72	22	P	P	04 04 51.1	+0.3	
WAT1	**Susitna Watana** baz=255	66.74	27	P	P	04 04 50.8	-0.3	
G22K	**Bettles** baz=250	66.76	23	P	P	04 04 50.5	-0.6	
MCK	**McKinley**	66.81	26	P	P	04 04 51.1	-0.4	
MCK	**McKinley** baz=254	66.81	26	P	P	04 04 50.9	-0.6	
M23K	**Glacier View** baz=256,SNR=6.3	66.85	28	P	P	04 04 51.9	+0.1	
GLI	**Glacier Island** baz=257	66.94	29	P	P	04 04 52.8	+0.5	
NEA2	**Nenana** baz=254	67.00	25	P	P	04 04 52.5	-0.1	
I23K	**Minto, Yukon-K**	67.04	25	P	P	04 04 52.8	0.0	
I23K	comp=Z,24nm,1.5s			IAmb	IAmb	04 04 53.8		
I23K	**Minto, Yukon-K** baz=253,SNR=5.4	67.04	25	P	P	04 04 52.9	+0.1	
WAT6	**Susitna Watana** baz=256,SNR=8.8	67.04	28	P	P	04 04 52.7	-0.4	
SCM	**Sheep Creek Mo** baz=256,SNR=6.9	67.05	28	P	P	04 04 52.5	-0.6	
E22K	**Anaktuvuk Pass** baz=250	67.06	21	P	P	04 04 52.3	-0.7	
H23K	**Yukon River** baz=253	67.16	24	P	P	04 04 53.2	-0.4	
G23K	**Bananza Creek** baz=252	67.25	23	P	P	04 04 53.3	-0.9	
DHY	**Denali Highway** comp=Z,6.4nm,0.7s	67.32	27	IAmb	IAmb	04 04 57.8		
DHY	**Denali Highway** baz=256	67.32	27	P	P	04 04 53.8	-1.1	
COLD	**Coldfoot** baz=252	67.34	22	P	P	04 04 54.4	-0.4	
WRH	**Wood River Hil** comp=Z,25nm,1.5s	67.37	26	IAmb	IAmb	04 04 54.8		
MDM	**Murphy Dome** comp=Z,21nm,1.8s	67.44	25	IAmb	IAmb	04 05 01.3		
EYAK	**Cordova Ski Ar** baz=258	67.51	30	P	P	04 04 55.0	-0.9	
COLA	**College** baz=255	67.58	25	P	P	04 04 55.9	-0.3	
KLU	**Klutina** comp=Z,16nm,0.8s	67.62	29	IAmb	IAmb	04 04 57.8		
KLU	**Klutina** baz=258,SNR=7.9	67.62	29	P	P	04 04 56.5	-0.3	
M24K	**Tolsona, Glenn** baz=257	67.64	28	P	P	04 04 56.6	-0.2	
D23K	**Nanushuk River** baz=250	67.74	21	P	P	04 04 57.9	+0.7	
POKR	**Poker Plat Res** baz=255	67.81	25	P	P	04 04 57.5	-0.2	
E23K	**Chandalar** baz=252	67.82	22	P	P	04 04 57.4	-0.5	
H24K	**Noodor Dome** comp=Z,29nm,1.6s	67.82	24	IAmb	IAmb	04 04 58.9		
H24K	**Noodor Dome** baz=254	67.82	24	P	P	04 04 57.6	-0.2	
HDA	**Harding Lake** comp=Z,17nm,1.6s	67.83	26	IAmb	IAmb	04 04 57.4		
HDA	**Harding Lake** baz=256	67.83	26	P	P	04 04 57.8	-0.1	
IL31	comp=Z,25nm,1.7s	67.95	25	IAmb	IAmb	04 04 57.1		
ILAR	**Eielson Array** comp=Z,3.8nm,0.5s,baz=250,slow=5.9,SNR=68	67.95	25	P	P	04 04 56.6	-2.0	
ILAR				LR	LR	04 33 26.8		
	comp=Z,26nm,19.7s,baz=288,slow=35 comp=Z,3.8nm,0.5s							
ILAR	**Eielson Array**	67.95	25	P	P	04 04 57.8	-0.8	
TOLK	**Toolik Lake Re** baz=252	68.02	21	P	P	04 04 59.1	0.0	
KAIM	**Kayak Island** baz=260	68.05	31	P	P	04 05 00.0	+0.7	
PAX	**Paxson** comp=Z,12nm,0.6s	68.14	27	IAmb	IAmb	04 05 00.7		
PAX	**Paxson** baz=258,SNR=15	68.14	27	P	P	04 04 59.9	-0.1	
BMRM	**Bremner River** comp=Z,24nm,1.0s	68.15	30	IAmb	IAmb	04 05 01.8		
BMRM	**Bremner River** baz=259,SNR=5.8	68.15	30	P	P	04 04 60.0	0.0	
HARP	**HAARP**	68.17	28	P	P	04 05 01.1	+1.0	
	baz=258,SNR=9.1							
K24K	**Donnelly Dome** baz=257,SNR=6.3	68.19	26	P	P	04 04 59.8	-0.4	
G24K	**Hadweenzic Riv** baz=254	68.21	23	P	P	04 05 00.4	+0.2	
E24K	**Your Creek** baz=253	68.23	22	P	P	04 05 00.0	-0.3	
N25K	**Chitina, Valde** comp=Z,11nm,0.8s	68.27	29	IAmb	IAmb	04 05 02.1		
N25K	**Chitina, Valde** baz=259	68.27	29	P	P	04 05 00.6	-0.2	
F24K	**Squaw Lake** baz=254	68.28	22	P	P	04 05 00.5	-0.2	
J25K	**Salcha River,** baz=257	68.55	26	P	P	04 05 01.2	-1.2	
RIDG	**Independent Ri** comp=Z,13nm,1.0s	68.58	27	IAmb	IAmb	04 05 03.2		
RIDG	**Independent Ri** baz=258	68.58	27	P	P	04 05 02.2	-0.4	
GLB	**Gilahina Butte** comp=Z,20nm,1.0s	68.61	29	IAmb	IAmb	04 05 04.6		
C24K	**Franklin Bluff** baz=252	68.65	20	P	P	04 05 03.1	+0.3	
VRDI	**Verde Repeater**	68.74	29	P	P	04 05 03.4	-0.4	
VRDI	comp=Z,16nm,0.9s			IAmb	IAmb	04 05 04.8		
H25K	**Birch Creek** baz=256	68.75	24	P	P	04 05 02.8	-0.7	
DOT	**Dot Lake** comp=Z,10nm,0.7s	68.91	27	IAmb	IAmb	04 05 05.5		
MCARA	**McCarthy VSAT** comp=Z,22nm,0.8s	68.97	29	IAmb	IAmb	04 05 06.6		
MCARA	**McCarthy VSAT** baz=261,SNR=7.1	68.97	29	P	P	04 05 05.5	+0.5	
SCRK	**Sand Creek** baz=258,SNR=6.1	69.00	26	P	P	04 05 05.7	+0.4	
L26K	**Log Cabin Wild** comp=Z,8.5nm,0.7s	69.11	28	IAmb	IAmb	04 05 07.3		
L26K	**Log Cabin Wild** baz=260,SNR=7.4	69.11	28	P	P	04 05 06.6	+0.7	
F25K	**Christian Rive** baz=256	69.14	23	P	P	04 05 06.3	+0.3	
M26K	**Nabesna, AK** baz=260	69.16	28	P	P	04 05 06.8	+0.6	
J26L	**Joseph Creek** comp=Z,8.3nm,0.7s	69.29	26	IAmb	IAmb	04 05 07.5		
J26L	**Joseph Creek** baz=259,SNR=9.7	69.29	26	P	P	04 05 06.5	-0.5	
E25K	**Arctic Village** baz=256	69.29	22	P	P	04 05 07.0	0.0	
MESA	**MESA** baz=262	69.31	31	P	P	04 05 07.4	0.0	
D25K	**Kavik River** baz=254	69.32	21	P	P	04 05 07.0	-0.1	
KKAR	**Karatay Array**	69.52	311	P	P	04 05 08.4	-0.3	
BARN	**Barnard Glacie** comp=Z,10nm,0.7s	69.58	30	IAmb	IAmb	04 05 10.4		
I26K	**Coal Creek Min** baz=259	69.61	25	P	P	04 05 07.8	-1.1	
M27K	**Edge Creek, AK** comp=Z,38nm,1.7s	69.66	28	IAmb	IAmb	04 05 10.0		
M27K	**Edge Creek, AK** baz=261	69.66	28	P	P	04 05 08.6	-0.8	
G26K	**Porcupine Rive** baz=258	69.69	23	P	P	04 05 09.1	-0.3	
F26K	**Sheenjek River** baz=257	69.72	23	P	P	04 05 09.4	-0.1	
GAR	**Garm**	69.74	307	P	P	04 05 09.3	-1.1	
GAR	comp=Z,16nm,1.5s			IAmb	IAmb	04 05 27.0		
L27K	**Beaver Creek,** comp=Z,30nm,1.6s	69.80	28	IAmb	IAmb	04 05 11.7		
L27K	**Beaver Creek,** baz=261,SNR=9.8	69.80	28	P	P	04 05 10.4	+0.2	
K27K	**Chicken** baz=260	69.84	27	P	P	04 05 10.1	-0.3	
BVAR	**Borovoye Array** comp=Z,3.2nm,0.4s,baz=104,slow=6.9,SNR=7.8	69.87	322	P	P	04 05 10.0	-0.7	
BVAR				LR	LR	04 37 29.5		
	comp=Z,49nm,19.2s,baz=88,slow=37 comp=Z,3.2nm,0.4s							
BRVK	**Borovoye**	69.93	322	P	P	04 05 11.0	-0.1	
BRVK	**Borovoye**	69.93	322	P	P	04 05 10.0	-1.1	
BVCY	**Beaver Creek** baz=262,SNR=5.6	70.14	28	P	P	04 05 12.7	+0.4	
PINM	**Pinnacle** baz=264	70.14	31	P	P	04 05 12.8	+0.5	
YUK3	**Moose Creek** baz=263,SNR=8.5	70.24	29	P	P	04 05 13.1	0.0	
O28M	**Mount Upton** baz=263,SNR=9.6	70.25	30	P	P	04 05 13.3	0.0	
I27K	**Kandik River** baz=260	70.30	25	P	P	04 05 13.7	+0.5	
C27K	**Jago River** baz=257	70.31	21	P	P	04 05 13.3	+0.2	
EGAK	**Eagle** baz=261	70.36	26	P	P	04 05 14.2	+0.8	
H27K	**Steamboat Moun** baz=260	70.44	24	P	P	04 05 13.9	-0.1	
G27K	**Doyon Strip** baz=260	70.49	24	P	P	04 05 14.7	+0.4	
YUK8	**Steele Glacier** baz=264,SNR=7.9	70.52	30	P	P	04 05 15.4	+0.6	
PNL	**Peninsula** baz=264	70.53	31	P	P	04 05 14.7	0.0	
O29M	**Mount Kennedy** baz=265	71.00	31	P	P	04 05 18.0	+0.4	
DAWY	**Dawson**	71.02	27	P	P	04 05 17.8	+0.3	
DAWY	**Dawson** baz=263,SNR=6.3	71.02	27	P	P	04 05 17.2	-0.4	
YUK4	**Talbot Arm** baz=265,SNR=7.8	71.06	30	P	P	04 05 19.0	+1.0	
YUK6	**Outpost Mounta** baz=265	71.16	30	P	P	04 05 19.2	+0.5	
M29M	**Somme Creek** baz=264,SNR=10.0	71.25	28	P	P	04 05 20.0	+0.9	
P29M	**Windy Craggy** baz=266	71.36	31	P	P	04 05 20.2	+0.5	
PPT2	**Papeete2** comp=Z,115nm,26.8s	71.46	114	eLR	LR	04 27 16.3		
L29M	**L29M** baz=264	71.47	28	P	P	04 05 20.6	+0.3	
HYT	**Haines Junctio** baz=266,SNR=8.4	71.57	30	P	P	04 05 22.0	+1.0	
I29M	**Ogilvie Camp,** comp=Z,20nm,1.7s	71.63	25	IAmb	IAmb	04 05 22.1		
I29M	**Ogilvie Camp,** baz=264	71.63	25	P	P	04 05 21.7	+0.5	
P30M	**Million Dollar** baz=266	71.79	31	P	P	04 05 22.4	+0.1	
K29M	**Barlow Dome** baz=265	71.81	27	P	P	04 05 22.3	-0.1	
N30M	**Aishikik Lake** baz=266	71.82	30	P	P	04 05 22.6	+0.1	
M30M	**Minto, Yukon** baz=266	72.04	28	P	P	04 05 23.5	-0.2	
PLBC	**Pleasant Camp** baz=267	72.05	32	P	P	04 05 24.7	+0.9	
EPYK	**Eagle Plains**	72.38	24	P	P	04 05 25.6	-0.1	
EPYK	**Eagle Plains** baz=265	72.38	24	P	P	04 05 25.9	+0.2	
N31M	**Braeburn, Yuko** comp=Z,24nm,1.1s	72.44	30	IAmb	IAmb	04 05 28.4		
N31M	**Braeburn, Yuko** baz=267	72.44	30	P	P	04 05 26.2	0.0	
SIT	**Sitka** baz=269	72.52	34	P	P	04 05 27.3	+0.7	
SKAG	**Skagway** baz=268	72.58	32	P	P	04 05 27.2	+0.3	
WHY	**Whitehorse** baz=268	72.85	30	P	P	04 05 28.8	+0.1	
S32K	**Killisnoo** baz=269	72.93	34	P	P	04 05 30.0	+1.0	
M31M	**Drury Creek, Y** baz=268	73.13	29	P	P	04 05 30.6	+0.4	
P32M	**Atlin** baz=270	73.41	32	P	P	04 05 32.8	+0.9	
FARO	**Faro, Yukon** baz=269	73.62	29	P	P	04 05 32.6	-0.4	
N32M	**Quiet Lake** baz=270	73.74	30	P	P	04 05 34.4	+0.7	
INK	**Inuvik** comp=Z,4.8nm,0.8s,baz=262,slow=7.3,SNR=11	73.76	22	P	P	04 05 32.5	-1.1	
INK				LR	LR	04 38 40.0		
	comp=Z,19nm,18.8s,baz=287,slow=36 comp=Z,4.8nm,0.8s							
INK	**Inuvik** baz=267,SNR=5.7	73.76	22	P	P	04 05 32.8	-0.9	
TBI	**Tubuai** comp=Z,4.1nm,0.3s	73.77	120	eT	T	05 26 33.8		
P33M	**Teslin, Yukon** baz=270	73.86	31	P	P	04 05 34.4	-0.2	
Q32M	**Nakina River** baz=271	74.15	32	P	P	04 05 36.5	+0.1	
WRAK	**Wrangell Islan** baz=272	74.16	35	P	P	04 05 36.9	+0.7	
MMPY	**Sheldon Lake,** baz=271	74.59	28	P	P	04 05 39.1	+0.3	
V35K	**Ketchikan** baz=272	74.61	36	P	P	04 05 40.1	+1.2	
S34M	**Telegraph Cree** baz=272	74.78	33	P	P	04 05 41.0	+1.2	
R33M	**Jennings River** baz=272	74.81	32	P	P	04 05 41.2	+1.1	
T35M	**Bob Quinn** baz=273	75.30	34	P	P	04 05 44.3	+1.4	
DLBC	**Dease Lake** comp=Z,13nm,0.9s,baz=273,slow=8.3,SNR=11 comp=Z,13nm,0.9s	75.34	33	P	P	04 05 42.9	-0.2	
DLBC	**Dease Lake** comp=Z,15nm,0.9s	75.34	33	IAmb	IAmb	04 05 45.2		
DLBC	**Dease Lake** baz=273	75.34	33	P	P	04 05 43.9	+0.8	
WTLY	**Watson Lake, Y** baz=274,SNR=5.6	75.88	31	P	P	04 05 47.2	+1.1	
TGTN	**Hyland Airport** baz=274,SNR=7.2	76.04	30	P	P	04 05 48.0	+0.9	
ABKAR	**Akbulak array**	76.53	318	P	P	04 05 48.8	-1.2	
A36M	**Sachs Harbour** baz=274,SNR=6.2	76.56	19	P	P	04 05 48.5	-1.2	
ARU	**Arti** comp=Z,52nm,18.2s,baz=93,slow=37	76.67	325	LR	LR	04 41 36.5		
C36M	**Paulatuk** baz=276,SNR=5.7	77.17	21	P	P	04 05 52.3	-0.9	
LIRD	**Liard River Hi** baz=276	77.29	32	P	P	04 05 54.3	+0.2	
TAOE	**Nuku Hiva Isla** comp=Z,40nm,25.2s	77.31	103	eLR	LR	04 29 58.5		
WRGLY	**Wrigley** baz=278	78.11	28	P	P	04 05 59.2	+0.7	
KOTAN	**Kotaneelee Air** baz=278	78.24	31	P	P	04 05 59.9	+0.6	
KIRV	**Kirov** comp=Z,33nm,19.0s,baz=72,slow=37	81.21	328	LR	LR	04 44 30.1		
YBH	**Yreka Blue Hor** comp=Z,60nm,21.8s,baz=287,slow=29	82.21	49	LR	LR	04 34 17.9		
YBH	**Yreka Blue Hor** comp=Z,21nm,1.2s	82.21	49	IAmb	IAmb	04 06 24.9		
YKA	**Yellowknife Ar** comp=Z,2.7nm,0.7s,baz=283,slow=5.4,SNR=7.4	82.23	27	P	P	04 06 19.7	-1.0	
YKA				LR	LR	04 42 15.5		
	comp=Z,43nm,19.5s,baz=252,slow=35 comp=Z,2.7nm,0.7s							
LTY	**Liberty** comp=Z,14nm,1.2s	82.48	43	IAmb	IAmb	04 06 24.6		
PINE	**Pine Mountain**	83.05	47	P	P	04 06 26.2	+0.6	
B08A	**Colville Reser**	83.11	42	P	P	04 06 25.8	+0.1	
B08A	comp=Z,20nm,1.0s			IAmb	IAmb	04 06 27.2		
K05A	**Summer Lake**	83.32	48	P	P	04 06 27.9	+0.9	
K05A	comp=Z,22nm,1.1s			IAmb	IAmb	04 06 28.9		
ORV	**Oroville** comp=Z,12nm,1.4s	83.57	51	IAmb	IAmb	04 06 30.1		
BELG	**Belogornoye** comp=Z,28nm,18.3s,baz=193,slow=37	83.66	322	LR	LR	04 46 00.6		
MOD	**Modoc Plateau** comp=Z,12nm,1.3s	83.93	48	IAmb	IAmb	04 06 32.6		
C09A	**Chrisman Ranch** comp=Z,7.6nm,0.8s	83.94	42	IAmb	IAmb	04 06 31.3		
RES	**Resolute Bay** comp=Z,2.4nm,0.6s,baz=280,slow=4.5,SNR=9.6 comp=Z,2.4nm,0.6s	84.00	13	P	P	04 06 28.9	-0.6	
G08A	**Pilot Rock** comp=Z,14nm,1.5s	84.08	45	IAmb	IAmb	04 06 32.9		
E09A	**Wood Farm, Sta** comp=Z,6.7nm,0.8s	84.34	44	IAmb	IAmb	04 06 33.8		
BEKR	**Beckworth** comp=Z,6.1nm,0.8s	84.36	50	IAmb	IAmb	04 06 34.1		
NEW	**Newport** comp=Z,51nm,20.7s,baz=276,slow=33	84.57	42	LR	LR	04 40 04.5		
NEW	**Newport** baz=285,SNR=9.8	84.57	42	P	P	04 06 32.5	-0.6	
NEW	**Newport**	84.57	42	P	P	04 06 33.5	+0.4	
MPK	**Martis Peak** comp=Z,8.2nm,0.9s	84.74	51	IAmb	IAmb	04 06 37.9		
J08A	**Circle Bar Ran** comp=Z,21nm,1.4s	84.89	47	IAmb	IAmb	04 06 39.6		
WVOR	**Wild Horse Val** comp=Z,13nm,1.3s	85.00	48	IAmb	IAmb	04 06 37.4		
F10A	**Beach Ranch, E** comp=Z,13nm,1.3s	85.09	44	IAmb	IAmb	04 06 37.4		
PNTR	**Pine Nut** comp=Z,6.6nm,0.8s	85.11	51	IAmb	IAmb	04 06 39.8		
BMO	**Blue Mountains** comp=Z,15nm,1.1s	85.33	45	IAmb	IAmb	04 06 39.4		
RYN	**Ryan**	86.04	51	P	P	04 06 40.5	-0.3	
LHV	**Little Huntoon** comp=Z,14nm,1.5s	86.15	52	IAmb	IAmb	04 06 58.4		
PLID	**Pearl Lake** comp=Z,7.9nm,0.8s	86.16	45	IAmb	IAmb	04 06 42.3		
KVN	**Kaiserville** comp=Z,20nm,1.7s	86.25	51	IAmb	IAmb	04 06 43.9		
NVAR	**Mina Array Bea** comp=Z,1.9nm,0.6s,baz=266,slow=5.4,SNR=8.1 comp=Z,1.9nm,0.6s	86.26	51	P	P	04 06 43.0	+1.1	
WALA	**Waterton Lakes** comp=Z,12nm,0.8s	86.39	40	IAmb	IAmb	04 06 44.2		
BMN	**Battle Mountai** comp=Z,9.6nm,1.4s	86.55	49	IAmb	IAmb	04 06 45.9		
ARCES	**ARCESS Array B** comp=Z,3.7nm,0.9s,baz=56,slow=5.6,SNR=7.9	86.80	342	P	P	04 06 41.9	-1.7	
ARCES				LR	LR	04 48 19.7		
	comp=Z,46nm,21.7s,baz=61,slow=38 comp=Z,3.7nm,0.9s							
CWC	**Cottonwood Cre** baz=285	86.94	53	P	P	04 06 44.1	-1.2	
MSO	**Missoula** baz=287	87.04	42	P	P	04 06 45.2	-0.2	
GRAC	**Grapevine Rang** baz=286	87.35	53	P	P	04 06 47.5	+0.5	
EDW2	**Edwards Air Fo** baz=285	87.42	55	P	P	04 06 48.0	+0.6	
MPMC	**Manual Prospec** baz=286	87.51	54	P	P	04 06 48.4	+0.4	
LRMC	**Laurel Mtn Rad** baz=285	87.51	54	P	P	04 06 48.7	+0.8	
HLID	**Hailey** comp=Z,13nm,1.1s	87.68	46	IAmb	IAmb	04 06 52.3		
HLID	**Hailey** baz=287,SNR=18	87.68	46	P	P	04 06 49.3	+0.7	
BFSC	**Mount Baldy Ra** baz=286	87.86	55	P	P	04 06 49.7	+0.1	
FURC	**Furnace Creek,** baz=286	87.88	53	P	P	04 06 50.1	+0.7	
ELK	**Elko** comp=Z,84nm,21.4s,baz=298,slow=29	87.91	49	LR	LR	04 37 01.4		
ELK	**Elko**	87.91	49	P	P	04 06 50.0	+0.2	
ELK	comp=Z,10nm,0.8s			IAmb	IAmb	04 06 52.0		
WCT	**Wildcat Mounta** comp=Z,14nm,1.3s	87.98	53	IAmb	IAmb	04 06 53.0		
GWY	**Greenwater Val** comp=Z,11nm,1.7s	88.11	53	IAmb	IAmb	04 06 53.5		
TPNV	**Topopah Spring** comp=Z,9.6nm,1.1s	88.22	52	IAmb	IAmb	04 06 57.5		
TPNV	**Topopah Spring** baz=286	88.22	52	P	P	04 06 52.3	+1.0	
GSC	**Goldstone, Bar** baz=286	88.25	54	P	P	04 06 52.4	+1.1	
R11A	**Troy Canyon, C** comp=Z,8.0nm,1.3s	88.34	51	IAmb	IAmb	04 06 54.2		
R11A	**Troy Canyon, C** baz=287,SNR=6.1	88.34	51	P	P	04 06 53.5	+1.6	
DLMT	**Dillon** comp=Z,23nm,1.6s	88.38	44	IAmb	IAmb	04 06 53.4		
S11A	**Rachel** comp=Z,16nm,1.1s	88.41	52	IAmb	IAmb	04 06 57.2		
SHOC	**Shoshone, Teco** baz=286	88.50	53	P	P	04 06 53.6	+1.2	
HEC	**Hector,Ludlow** baz=286	88.75	55	P	P	04 06 54.7	+1.0	
TUQ	**Turquoise Moun** baz=286	88.90	54	P	P	04 06 55.4	+0.9	
BOZ	**Bozeman (W)** comp=Z,16nm,1.7s	88.94	43	IAmb	IAmb	04 06 57.0		

BOZ	Bozeman (W)	88.94	43	P	P	04 06 54.9	+0.4
	baz=289						
GNI	Garni	88.98	311	LR	LR	04 48 39.6	
	comp=Z,23nm,20.9s,baz=112,slow=37						
PFO	Pinyon Flats O	88.98	56	LR	LR	04 44 45.0	
	comp=Z,62nm,18.2s,baz=294,slow=34						
PFO	Pinyon Flats O	88.98	56	P	P	04 06 54.6	-0.3
PFO	Pinyon Flats O	88.98	56	P	P	04 06 55.4	+0.4
	baz=286						
TPFO	Pinon Flats	88.99	56	P	P	04 06 55.8	+0.9
	baz=286						
PMD	Palm Desert	89.04	56	IAmb	IAmb	04 06 57.8	
	comp=Z,6.0nm,1.1s						
SPR3	Spring Creek 3	89.09	50	IAmb	IAmb	04 06 57.9	
	comp=Z,9.6nm,1.1s						
KBZ	Khabaz	89.18	315	LR	LR	04 50 21.1	
	comp=Z,22nm,18.4s,baz=62,slow=38						
MONP2	Monument Peak	89.21	56	P	P	04 06 57.2	+1.1
	baz=286						
BELC	Belle Mtn. Jos	89.25	55	P	P	04 06 57.2	+1.1
	baz=286						
KVAR	Kislovodsk Arr	89.25	315	LR	LR	04 49 28.7	
	comp=Z,29nm,20.4s,baz=283,slow=37						
GMRC	Granite Mounta	89.29	54	P	P	04 06 57.5	+1.1
	baz=287						
HVU	Hansel Valley	89.37	47	IAmb	IAmb	04 06 59.0	
	comp=Z,11nm,1.2s						
YHB	Horse Butte	89.51	44	IAmb	IAmb	04 06 59.8	
	comp=Z,12nm,1.0s						
V12A	Nelson	89.66	53	IAmb	IAmb	04 07 02.3	
	comp=Z,6.7nm,0.9s						
YMR	Madison River	89.69	44	IAmb	IAmb	04 07 00.8	
	comp=Z,9.4nm,1.0s						
YHH	Holmes Hill	89.73	44	P	P	04 06 59.0	+0.6
YHH				IAmb	IAmb	04 07 13.1	
	comp=Z,23nm,1.9s						
SPUT	South Promonto	89.75	47	IAmb	IAmb	04 07 01.1	
	comp=Z,11nm,1.3s						
BC3	Big Chuckawall	89.78	55	P	P	04 06 59.6	+1.0
	baz=287						
DUG	Dugway, Tooele	89.84	49	IAmb	IAmb	04 07 00.8	
	comp=Z,6.9nm,0.8s						
DUG	Dugway, Tooele	89.84	49	P	P	04 07 00.1	+1.3
	baz=288,SNR=10.0						
IRM	Iron Mountain	89.88	55	P	P	04 06 59.9	+0.9
	baz=287						
IMW	Indian Meadow	89.97	45	IAmb	IAmb	04 07 01.8	
	comp=Z,5.4nm,0.8s						
H17A	Grant Village	90.05	44	IAmb	IAmb	04 07 04.2	
	comp=Z,12nm,1.1s						
H17A	Grant Village	90.05	44	P	P	04 07 02.0	+2.2
	baz=290,SNR=9.3						
LKWY	Lake	90.11	44	IAmb	IAmb	04 07 04.0	
	comp=Z,8.3nm,1.1s						
MOOW	Moose Ponds	90.15	45	IAmb	IAmb	04 07 04.9	
	comp=Z,8.7nm,1.2s						
YMP	Mirror Lake Pl	90.21	44	IAmb	IAmb	04 07 03.6	
	comp=Z,9.8nm,0.9s						
AHID	Auburn Hatcher	90.23	46	P	P	04 07 01.9	+1.3
HWUT	Hardware Ranch	90.29	47	IAmb	IAmb	04 07 02.8	
	comp=Z,15nm,1.3s						
NLU	North Lily Min	90.45	49	IAmb	IAmb	04 07 05.3	
	comp=Z,5.5nm,1.0s						
BLYC	Blythe	90.49	55	IAmb	IAmb	04 07 04.2	
	comp=Z,5.1nm,0.9s						
PDMCI	Parker Dam,Lak	90.63	54	P	P	04 07 03.6	+1.2
	baz=288						
RLMT	Red Lodge	90.67	43	P	P	04 07 03.8	+1.1
	baz=291						
MPU	Maple Canyon	90.76	48	IAmb	IAmb	04 07 05.0	
	comp=Z,14nm,1.6s						
FINES	FINESS Array B	90.95	335	P	P	04 07 01.0	-2.3
	comp=Z,1.6nm,0.3s,baz=71,slow=4.7,SNR=31						
FINES				LR	LR	04 47 41.5	
	comp=Z,16nm,20.9s,baz=41,slow=35						
	comp=Z,1.6nm,0.3s						
BW06	Boulder Array	91.30	45	P	P	04 07 05.2	-0.5
	baz=290						
PDAR	Pinedale Array	91.30	45	P	P	04 07 05.5	-0.1
	comp=Z,1.0nm,0.6s,baz=242,slow=1.9,SNR=10						
PDAR				LR	LR	04 40 19.3	
	comp=Z,36nm,20.1s,baz=300,slow=30						
	comp=Z,1.0nm,0.6s						
PDAR	Pinedale Array	91.30	45	P	P	04 07 05.3	-0.4
U15A	North Rim	91.42	52	IAmb	IAmb	04 07 11.0	
	comp=Z,4.2nm,1.0s						
SRU	San Rafael Swe	91.86	49	IAmb	IAmb	04 07 10.3	
	comp=Z,3.8nm,0.8s						
VNDA	Vanda	91.89	176	P	P	04 07 08.0	+0.8
	comp=Z,3.3nm,0.9s,baz=322,slow=5.7,SNR=20						
VNDA				LR	LR	04 45 27.1	
	comp=Z,14nm,21.8s,baz=332,slow=34						
	comp=Z,3.3nm,0.9s						
RDMU	Red Mountain	92.06	47	IAmb	IAmb	04 07 12.1	
	comp=Z,5.7nm,0.8s						
LAO	LASA Array	92.07	41	P	P	04 07 09.6	+0.7
	baz=293						
214A	Organ Pipe Nat	92.41	56	P	P	04 07 11.0	+0.2
	baz=288						
WUAZ	Wupatki	92.41	53	IAmb	IAmb	04 07 13.5	
	comp=Z,5.9nm,0.9s						
WUAZ	Wupatki	92.41	53	P	P	04 07 11.8	+0.9
	baz=289						
O20A	White River Ci	93.16	47	IAmb	IAmb	04 07 16.2	
	comp=Z,6.9nm,1.2s						
O20A	White River Ci	93.16	47	P	P	04 07 14.8	+0.5
	baz=291						
PV23	Carpenter Ridg	93.20	49	P	P	04 07 15.0	+0.4
K22A	Casper	93.42	45	P	P	04 07 15.5	+0.1
	baz=293						
TUC	Tucson	93.92	55	P	P	04 07 17.8	0.0
	baz=289						
MVCO	Mesa Verde	94.02	50	P	P	04 07 18.1	-0.2
	baz=291						
NACGM	Naroch	94.08	329	eP	P	04 07 18.3	+0.4
	comp=Z,7.0nm,0.9s,baz=58						
SMCO	Snowmass	94.42	48	P	P	04 07 20.2	-0.2
SMCO				IAmb	IAmb	04 07 26.3	
	comp=Z,3.9nm,1.1s						
RSSD	Black Hills	94.51	43	P	P	04 07 20.0	-0.4
RSSD	Black Hills	94.51	43	P	P	04 07 20.4	0.0
	baz=294						
AKASG	Malin Array Be	94.92	325	LR	LR	04 52 24.5	
	comp=Z,40nm,20.4s,baz=16,slow=37						
S22A	4UR Ranch, Cre	95.06	49	P	P	04 07 22.5	-0.7
	baz=292						
ANMO	Albuquerque	96.38	52	LR	LR	04 44 18.4	
	comp=Z,30nm,19.9s,baz=14,slow=31						
ANMO	Albuquerque	96.38	52	P	P	04 07 29.2	0.0
	baz=292						
HFS	Hagfors	96.55	338	LR	LR	04 53 21.4	
	comp=Z,44nm,19.7s,baz=66,slow=37						
ULM	Lac du Bonnet	96.59	35	LR	LR	04 47 50.5	
	comp=Z,45nm,19.8s,baz=5.0,slow=33						
NOA	NORSAR Array B	96.79	339	LR	LR	04 54 38.9	
	comp=Z,21nm,19.0s,baz=45,slow=38						
LPIG	La Paz	96.98	63	LR	LR	04 42 34.8	
	comp=Z,24nm,21.8s,baz=327,slow=30						
FRB	Frobisher Bay	98.17	15	LR	LR	04 56 10.2	
	comp=Z,24nm,18.7s,baz=326,slow=38						
SFJD	Kangerlussuaq	98.33	6	LR	LR	04 50 48.6	
	comp=Z,32nm,21.8s,baz=332,slow=35						
MLR	Muntele Rosu	99.43	322	LR	LR	04 54 52.3	
	comp=Z,41nm,21.9s,baz=88,slow=37						
MSTX	Muleshoe	99.57	51	P	Pdif	04 07 42.5	-0.8
	baz=294						
TROLL	Troll, Antarti	118.01	192	PKPdf	PKPdf	04 12 45.2	-0.2
VNA2	Neumayer--Watz	120.76	190	PKPdf	PKiKP	04 12 50.5	-0.2
	baz=146,slow=1.7						
VNA3	Neumayer Olymp	120.85	189	PKPdf	PKPdf	04 12 50.5	-0.2
VNA1	Neumayer--Stat	121.15	190	PKPdf	PKiKP	04 12 51.3	-0.1
TORD	Torodi Ar. Bea	135.00	305	PKP	PKPdf	04 13 19.3	0.0
	comp=Z,0.4nm,0.5s,baz=37,slow=2.3,SNR=5.0						
TORD				SKPbc	SKPbc	04 16 39.2	-2.7
	comp=Z,2.9nm,0.9s,baz=45,slow=4.2,SNR=12						
PLCA	Paso Flores	138.94	137	PKP	PKiKP	04 13 27.3	-0.9
	comp=Z,1.6nm,0.7s,baz=290,slow=1.3,SNR=3.6						
AC05	El Transito	143.87	120	PKPdf	PKPbc	04 13 33.9	+0.7
ZON	Zonda	144.31	125	PKPdf	PKPbc	04 13 34.9	+0.6
GO02	Mina Guanaco	145.37	114	PKPbc	PKPab	04 13 40.0	+1.5
PB15	IPOC Station P	145.83	111	PKPbc	PKPab	04 13 41.0	+0.9
LVC	Limon Verde	146.43	110	PKPbc	PKPab	04 13 43.1	+0.5
LPAZ	La Paz	147.62	98	PKPbc	PKPbc	04 13 43.9	-1.5
	comp=Z,3.4nm,0.8s,baz=263,slow=3.2,SNR=10						
LPAZ	La Paz	147.62	98	PKPbc	PKiKP	04 13 46.7	-0.7
ETMB	Extrema	148.84	86	PKPbc	PKPbc	04 13 47.9	+0.1

*NNC **05** 04:00:53.0±0.9, 50°.31N×73°.33E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=8.3km s-min=6.8km az=132.0, Suspected Mining explosion.*

*IDC **05** 04:00:54.1±0.9, 50°.24N×73°.26E, h0km, mbtmp3.0/5, ML2.1/4, Error ellipse: s-maj=14.3km s-min=8.5km az=49.0*

ISC 05 04:00:53.8±1.0, 50°.31N±0°.07×73°.33E±0°.05, h0km, n11, σ1s.61/12, 4C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	Ortayu	2.17	198	⇑Pg	Pb	04 01 32.5	-1.4
	6.4nm,0.3s						
OTUK				⇑Lg	Lg	04 02 02.2	
	4.0nm,0.2s						
BVA0	Borovoye Array	3.28	327	Pg	Pb	04 01 52.5	-0.3
	2.4nm,0.5s						
BVA0				⇓Lg	Lg	04 02 36.6	
	15nm,0.6s						
BVAR	Borovoye Array	3.28	327	Pn	Pn	04 01 48.1	+1.8
	baz=145,slow=18,SNR=1.4						
BVAR				Pg	Pb	04 01 52.5	-0.3
	0.4nm,0.3s,baz=149,slow=20,SNR=24						
BVAR				Lg	Lg	04 02 36.6	
	0.3nm,0.3s,baz=137,slow=30,SNR=6.0						
	1.1nm,0.4s						
KURBB	Kurchatov Arra	3.34	83	Pn	Pn	04 01 47.0	-0.2
	0.1nm,0.3s,baz=266,slow=12,SNR=4.9						
KURBB				Pg	Pb	04 01 53.9	+0.1
	0.4nm,0.3s,baz=270,slow=16,SNR=7.4						
KURBB				Lg	Lg	04 02 38.1	
	0.5nm,0.3s,baz=291,slow=32,SNR=6.3						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	3.34	83	⇑Pg	Pg	04 01 55.4	-2.3
	2.0nm,0.4s						
KURBB				Lg	Lg	04 02 39.7	
	14nm,0.6s						
KURK	Kurchatov	3.40	81	Pg	Pb	04 01 54.7	-0.2
	1.3nm,0.3s						
KURK				⇑Lg	Lg	04 02 39.1	
	3.7nm,0.6s						
MK31	Makanchi Array	6.91	117	Pg	Pb	04 02 58.0	+3.3
	0.5nm,0.3s,baz=298,slow=13,SNR=11						
MK31				⇓Lg	Lg	04 04 27.5	
	3.9nm,0.6s,baz=315,slow=33,SNR=6.9						
MKAR	Makanchi Array	6.91	117	Pn	Pn	04 02 36.9	+0.6
	0.1nm,0.3s,baz=298,slow=11,SNR=1.8						
MKAR				Lg	Lg	04 04 32.7	
	0.6nm,0.3s,baz=299,slow=25,SNR=6.4						
	0.3nm,0.5s						
AAK	Ala-Archa	7.72	174	Pn	Pn	04 02 47.0	-0.5
	2.2nm,0.3s,baz=34,slow=1.4,SNR=11						
AAK				Lg	Lg	04 04 56.5	
	0.2nm,0.3s,baz=328,slow=23,SNR=4.9						
I46RU	ZALESOVO INFRA	7.95	58	I		04 48 20.0	
	baz=246,slow=328,SNR=1.8						
ZALV	Zalesovo Beam	7.95	58	Pn	Pn	04 02 51.7	+1.2
	0.4nm,0.3s,baz=251,slow=14,SNR=4.1						
	0.7nm,0.3s						

MAN 05 04:36:15.8, 10°.10N×126°.34E, h19km, mb4.1, ML2.9, MS2.6, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.90	250	eP	Pb	04 36 32.0	-0.7
BIPH	Bislig	1.90	179	⇑iP	Pn	04 36 44.9	-2.3
BIPH				i S	Sn	04 37 03.7	-6.9
TABP	Talibon, Bohol	1.98	270	⇑iP	Pn	04 36 48.8	+0.5
TABP				i S	Sn	04 37 13.2	+0.6
GHBP	Garcia Hernand	2.05	257	⇓eP	Pn	04 36 50.6	+1.4
GHBP				eS	Sn	04 37 15.2	+0.9
CGP	Cagayan de Oro	2.31	225	⇓eP	Pb	04 36 54.9	-1.9
CGP				eS	Sn	04 37 20.5	-0.1

IDC 05 05:15:50.5±2.9, 25°.46S×179°.55W, h495km±25km, mb3.3/4, mbtmp4.2/5, Error ellipse: s-maj=41.8km s-min=28.4km az=6.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.26	282	P	P	05 18 41.5	-1.1
	2.9nm,0.5s,baz=100,slow=10,SNR=8.5						
ASAR	Alice Springs	42.21	262	P	P	05 23 00.6	+1.0
	2.0nm,0.8s,baz=96,slow=7.3,SNR=22						
ASAR				ScP	ScP	05 27 45.5	-0.1
	0.4nm,0.7s,baz=101,slow=4.8,SNR=4.6						
	2.0nm,0.8s						
WRA	Warramunga Arr	42.73	268	P	P	05 23 02.7	-1.0
	3.0nm,0.5s,baz=107,slow=8.0,SNR=64						
WRA				ScP	ScP	05 27 46.4	-1.4
	0.2nm,0.6s,baz=107,slow=3.5,SNR=1.4						
	3.0nm,0.5s						
MAW	Mawson	76.43	200	P	P	05 26 48.0	-0.2
	2.0nm,0.4s,baz=222,slow=13,SNR=9.2						
	2.0nm,0.4s						
TXAR	Lajitas Array	90.91	58	P	P	05 28 01.4	+0.1
	0.2nm,0.6s,baz=224,slow=5.0,SNR=3.7						
	0.2nm,0.6s						

MAN 05 05:24:51.0, 8°.12N×124°.71E, h23km, mb4.0, ML2.7, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.33	358	⇑eP	Pn	05 24 59.9	-0.5
CGP				eS	Sn	05 25 08.0	+1.6

*IDC **05** 05:28:43.4±1.1, 30°.87N×41°.00W, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=35.0km s-min=25.4km az=16.0*

ISC 05 05:28:44.9±1.0, 30°.9N±0°.2×41°.0W±0°.2, h10km, n12, σ0s.73/6, mb3.8/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	43.02	105	P	P	05 36 45.5	+0.6
	2.1nm,1.0s,baz=303,slow=6.9,SNR=7.1						
	2.1nm,1.0s						
H10N2	ASCENSION HYDR	46.10	142	T	T	06 26 41.9	
	baz=328,slow=75,SNR=88						
H10N3	ASCENSION HYDR	46.10	142	T	T	06 26 42.2	
	baz=328,slow=75,SNR=70						
H10N1	ASCENSION HYDR	46.12	142	T	T	06 26 42.5	
	baz=328,slow=75,SNR=101						
H10S3	ASCENSION HYDR	46.96	143	T	T	06 27 39.7	
	baz=252,slow=74,SNR=27						
H10S2	ASCENSION HYDR	46.97	143	T	T	06 27 39.1	
	baz=328,slow=74,SNR=11						
LPAZ	La Paz	53.65	213	P	P	05 38 07.1	-0.4
	0.8nm,0.8s,baz=36,slow=14,SNR=3.7						
	0.8nm,0.8s						
AKASG	Malin Array Be	54.63	47	P	P	05 38 13.0	-0.6
	0.4nm,0.6s,baz=278,slow=6.8,SNR=4.5						
	0.4nm,0.6s						
PDAR	Pinedale Array	54.78	303	P	P	05 38 16.0	+0.9
	0.8nm,0.7s,baz=82,slow=11,SNR=7.9						
	0.8nm,0.7s						
NVAR	Mina Array Bea	62.33	300	P	P	05 39 07.6	-0.2
	0.3nm,0.6s,baz=67,slow=6.9,SNR=3.0						
	0.3nm,0.6s						
ILAR	Eielson Array	68.89	334	P	P	05 39 49.4	-0.1
	0.8nm,0.9s,baz=57,slow=3.3,SNR=6.7						
	0.8nm,0.9s						
H09W1	TRISTAN DA CUN	72.73	156	T	T	06 59 50.9	

*IDC **05** 05:32:06.7±2.1, 9°.56N×125°.65E, h0km, mb3.6/4, mbtmp3.6/4, MS3.2/2, Error ellipse: s-maj=265.7km s-min=24.9km az=68.0*

*MAN **05** 05:32:10.6, 9°.77N×126°.68E, h16km, mb4.0, ML2.8, MS2.4*

ISC 05 05:32:07.1±3.0, 9°.96N±0°.07×126°.78E±0°.09, h11km±17km, n17, σ1s.26/19, mb3.4/4, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.28	262	eP	Pn	05 32 31.0	0.0
SCPH				eS	Sg	05 32 49.0	+0.6
BIPH	Bislig	1.81	193	⇑iP	Pn	05 32 38.4	+0.1
BIPH				i S	Sn	05 32 59.9	-1.3
TABP	Talibon, Bohol	2.41	273	⇑eP	Pn	05 32 47.8	+1.2
TABP				eS	Sn	05 33 16.2	+0.1
GHBP	Garcia Hernand	2.44	263	⇑eP	Pn	05 32 48.5	+1.5
CGP	Cagayan de Oro	2.54	234	⇓eP	Pn	05 32 50.1	+1.7
CGP				eS	Sn	05 33 18.1	-1.2
LLP	Lapu-Lapu	2.79	278	eP	Pb	05 32 54.6	-2.4
LLP				eS	Sn	05 33 25.8	+0.3
DAV	Davao City (W)	3.10	203	Sn	Sn	05 33 19.3	-14
	53nm,0.3s,baz=42,slow=12,SNR=1.5						
DAV				LR	LR	05 33 30.4	
	comp=Z,110nm,19.7s,baz=87,slow=34						
KCP	Kidapawan	3.37	210	⇓iP	Pb	05 33 07.0	+0.1
KCP				eS	Sn	05 33 40.1	+0.2
RCP	Roxas	4.27	292	⇑eP	Pn	05 33 14.2	+2.1
WRA	Warramunga Arr	30.63	166	P	P	05 38 21.4	-0.3
	0.2nm,0.6s,baz=347,slow=7.9,SNR=1.9						
	0.2nm,0.6s						
ASAR	Alice Springs	34.13	168	P	P	05 38 52.6	+0.2
	0.2nm,0.4s,baz=344,slow=6.8,SNR=6.5						
ASAR				PcP	PcP	05 41 30.9	+1.3
	0.2nm,0.4s,baz=335,slow=2.4,SNR=2.7						
	0.2nm,0.4s						
H11N1	WAKE ISLAND Hy	39.88	71	T	T	06 23 20.5	
	baz=264						
H11N2	WAKE ISLAND Hy	39.89	71	T	T	06 23 17.6	
	baz=264						
H11N3	WAKE ISLAND Hy	39.90	71	T	T	06 23 18.9	
	baz=264						
MKAR	Makanchi Array	52.58	323	P	P	05 41 19.7	-1.3
	0.2nm,0.4s,baz=138,slow=7.4,SNR=2.6						
	0.2nm,0.4s						
FINES	FINESS Array B	86.40	332	P	P	05 44 49.9	+0.4
	1.4nm,0.4s,baz=90,slow=5.6,SNR=15						
	1.4nm,0.4s						
EIL	Elat	86.72	299	LR	LR	06 28 00.6	
	comp=Z,40nm,18.1s,baz=240,slow=39						

IDC 05 05:32:09.0±1.1, 30°.97N×41°.35W, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=39.7km s-min=26.8km az=7.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	43.34	104	P	P	05 40 13.3	+0.1
	2.3nm,1.1s,baz=306,slow=7.2,SNR=6.1						
	2.3nm,1.1s						
H10N2	ASCENSION HYDR	46.38	142	T	T	06 30 00.1	
	baz=328,slow=75,SNR=61						
H10N3	ASCENSION HYDR	46.38	142	T	T	06 30 00.5	
	baz=328,slow=75,SNR=37						
H10N1	ASCENSION HYDR	46.39	142	T	T	06 30 07.7	
	baz=328,slow=75,SNR=64						
H10S3	ASCENSION HYDR	47.23	143	T	T	06 31 16.1	
	baz=252,slow=74,SNR=13						
H10S2	ASCENSION HYDR	47.24	143	T	T	06 31 07.5	
	baz=328,slow=74,SNR=9.9						
LPAZ	La Paz	53.58	213	P	P	05 41 32.4	-0.3
	0.6nm,0.8s,baz=5.8,slow=12,SNR=1.9						
	0.6nm,0.8s						
PDAR	Pinedale Array	54.46	303	P	P	05 41 38.4	-0.2
	0.6nm,0.8s,baz=79,slow=9.2,SNR=5.8						
	0.6nm,0.8s						
AKASG	Malin Array Be	54.77	47	P	P	05 41 40.0	-0.3
	0.3nm,0.4s,baz=278,slow=6.6,SNR=4.4						
	0.3nm,0.4s						
NVAR	Mina Array Bea	62.02	300	P	P	05 42 31.8	+0.3
	0.3nm,0.8s,baz=79,slow=5.8,SNR=1.6						
	0.3nm,0.8s						

*IDC **05** 05:35:04.3±0.8, 30°.90N×41°.34W, h0km, mb3.9/16, mbtmp3.9/16, Error ellipse: s-maj=26.1km s-min=16.9km az=173.0*

*NEIC **05** 05:35:07.2±1.4, 30°.8N±0°.1×41°.1W±0°.1, h10km±1km, mb4.7/30, Error ellipse: s-maj=25.4km s-min=16.6km az=152.0*

ISC 05 05:35:06.4±0.6, 30°.9N±0°.1×41°.17W±0°.09, h10km, n57, σ1s.36/51, mb4.5/32, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	Savane Anatole	24.30	233	P	P	05 40 26.6	+2.3
FDF	Fort de France	24.36	233	P	P	05 40 24.5	-0.3
ESDC	Sonseca Array	31.45	63	P	P	05 41 28.6	+0.5
	0.9nm,1.0s,baz=276,slow=12,SNR=2.5						
	0.9nm,1.0s						
BAUV	El Baul	33.20	235	P	P	05 41 44.3	+0.7
URIC	Uribia, Colomb	34.29	243	P	P	05 41 54.0	+1.0
URIC				IAmb	IAmb	05 41 55.1	
	comp=Z,13nm,1.2s						
SDV	Santo Domingo	35.10	238	P	P	05 41 57.4	-2.8
SDV				IAmb	IAmb	05 42 07.7	
	comp=Z,24nm,1.4s						
N49A	Columbus Grove	35.95	298	P	P	05 42 08.7	+1.6
N49A				IAmb	IAmb	05 42 11.5	
	comp=Z,16nm,1.4s						
SSB	Saint Sauveur	38.24	55	P	P	05 42 26.7	0.0
P46A	Rosedale	38.25	296	P	P	05 42 28.7	+2.0
P46A				IAmb	IAmb	05 42 34.6	
	comp=Z,21nm,1.2s						
W45A	Hickory Valley	40.19	289	P	P	05 42 43.7	+0.7
BFO	Black Forest	41.16	50	P	P	05 42 51.1	+0.2
LCAR	Lake Charles	41.65	291	P	P	05 42 56.5	+1.5
UALR	University of	42.81	289	P	P	05 43 07.0	+2.6
UALR				IAmb	IAmb	05 43 09.8	
	comp=Z,39nm,1.4s						
TOA0	Torodi Ar. Sit	43.17	104	P	P	05 43 08.4	+0.8
TORD	Torodi Ar. Bea	43.17	104	P	P	05 43 08.3	+0.7
	comp=Z,5.7nm,1.1s,baz=304,slow=7.6,SNR=15						
	comp=Z,5.7nm,1.1s						
TORD	Torodi Ar. Bea	43.17	104	P	P	05 43 08.6	+1.0
GRA1	Grafenberg Arr	43.20	49	P	P	05 43 08.0	+0.5
GRA1				IAmb	IAmb	05 43 20.0	
	comp=Z,8.6nm,0.9s						
WLAR	White Oak Lake	43.63	288	P	P	05 43 13.9	+2.8
WLAR				IAmb	IAmb	05 43 17.0	
	comp=Z,15nm,1.0s						
CLL	Collm	44.50	47	i P	P	05 43 18.8	+1.0
	comp=Z,6.0nm,0.9s						
CLL				eSx	Sx	05 50 00.0	
CLL				Lm	MLR	05 58 00.0	
	comp=Z,100nm,18.2s						
GEC2	GERESS Array S	44.76	50	P	P	05 43 20.2	+0.1
GERES	GERESS Array B	44.76	50	P	P	05 43 20.2	+0.1
	comp=Z,0.9nm,0.7s,baz=264,slow=7.4,SNR=6.5						
	comp=Z,0.9nm,0.7s						
H10N2	ASCENSION HYDR	46.20	142	T	T	06 32 56.1	
	baz=328,slow=75,SNR=189						
H10N3	ASCENSION HYDR	46.20	142	T	T	06 32 56.4	
	baz=328,slow=75,SNR=189						
H10N1	ASCENSION HYDR	46.21	142	T	T	06 32 57.5	
	baz=328,slow=75,SNR=248						
H10S3	ASCENSION HYDR	47.05	143	T	T	06 34 00.0	
	baz=328,slow=74,SNR=63						
H10S2	ASCENSION HYDR	47.07	143	T	T	06 34 01.1	
	baz=252,slow=74,SNR=36						
ABTX	Abilene, Hawle	49.21	288	P	P	05 43 55.0	0.0
ABTX				IAmb	IAmb	05 44 00.6	
	comp=Z,11nm,1.2s						
OGNE	Ogallala	49.43	299	P	P	05 43 58.2	+1.6
OGNE				IAmb	IAmb	05 44 00.2	
	comp=Z,15nm,1.1s						
JCT	Junction City	49.91	286	P	P	05 44 02.8	+2.4
JCT				IAmb	IAmb	05 44 05.6	
	comp=Z,9.0nm,1.1s						
MSTX	Muleshoe	51.41	291	P	P	05 44 12.6	+0.8
MSTX				IAmb	IAmb	05 44 17.0	
	comp=Z,22nm,1.4s						
FINES	FINESS Array B	52.60	34	P	P	05 44 20.3	+0.3
	comp=Z,3.6nm,0.8s,baz=264,slow=7.3,SNR=7.2						
	comp=Z,3.6nm,0.8s						
ARCES	ARCESS Array B	53.31	24	P	P	05 44 24.8	-0.4
	comp=Z,3.1nm,0.9s,baz=264,slow=8.1,SNR=4.3						
	comp=Z,3.1nm,0.9s						
TXAR	Lajitas Array	53.45	285	P	P	05 44 25.2	-1.7
	comp=Z,0.3nm,0.7s,baz=76,slow=7.5,SNR=2.6						
	comp=Z,0.3nm,0.7s						
LPAZ	La Paz	53.57	213	P	P	05 44 27.6	-0.8
	comp=Z,1.5nm,0.8s,baz=24,slow=10,SNR=6.9						
	comp=Z,1.5nm,0.8s						
PDAR	Pinedale Array	54.65	303	P	P	05 44 34.2	-1.5
	comp=Z,1.1nm,0.7s,baz=77,slow=6.7,SNR=10						
	comp=Z,1.1nm,0.7s						
AKASG	Malin Array Be	54.73	47	P	P	05 44 35.4	-0.5
	comp=Z,3.0nm,0.9s,baz=273,slow=7.1,SNR=13						
	comp=Z,3.0nm,0.9s						
HPIG		55.91	283	P	P	05 44 43.9	-1.0
HPIG				IAmb	IAmb	05 44 53.0	

comp=Z,7.1nm,0.9s
PB16 IPOC Station P 55.99 213 P P 05 44 45.8 -0.1
Q16A Castle Valley 56.72 299 P P 05 44 53.7 +3.2
Q16A IAmb IAmb 05 45 11.3
comp=Z,14nm,1.5s
GO01 Chusmiza 57.00 212 P P 05 44 52.5 -0.5
PB11 IPOC Station P 57.30 212 P P 05 44 53.2 -1.5
MSU Marysvale 57.58 299 P P 05 44 57.5 +0.8
MVU Marysvale 57.61 299 P P 05 44 57.9 +1.0
WUAZ Wupatki 57.80 295 P P 05 44 59.8 +1.5
WUAZ IAmb IAmb 05 45 23.9
comp=Z,8.7nm,1.5s
BRTR Keskin Array B 60.09 59 P P 05 45 14.6 +0.6
comp=Z,3.5nm,0.9s,baz=266,slow=6.1,SNR=5.0
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 60.09 59 P P 05 45 13.4 -0.6
NVAR Mina Array Bea 62.20 300 P P 05 45 25.7 -2.8
comp=Z,0.3nm,0.6s,baz=80,slow=7.4,SNR=2.5
comp=Z,0.3nm,0.6s
INK Inuvik 62.57 335 P P 05 45 28.9 -1.1
comp=Z,1.4nm,0.8s,baz=78,slow=5.3,SNR=8.2
comp=Z,1.4nm,0.8s
KBZ Khabaz 65.42 52 P P 05 45 48.0 -1.3
comp=Z,1.8nm,0.7s,baz=90,slow=15,SNR=1.7
comp=Z,1.8nm,0.7s
IL31 68.82 334 P P 05 46 09.9 -0.6
IL31 IAmb IAmb 05 46 16.6
comp=Z,7.1nm,1.1s
ILAR Eielson Array 68.82 334 P P 05 46 10.3 -0.2
comp=Z,0.7nm,0.9s,baz=71,slow=3.1,SNR=5.1
comp=Z,0.7nm,0.9s
ILAR Eielson Array 68.82 334 P P 05 46 09.8 -0.8
H09W1 TRISTAN DA CUN 72.80 156 T T 07 06 17.9
SNR=3.5
ZALV Zalesovo Beam 83.51 29 P P 05 47 33.6 -0.7
comp=Z,0.4nm,0.5s,baz=322,slow=4.4,SNR=1.7
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 87.42 35 P P 05 47 54.6 +0.6
comp=Z,0.5nm,0.9s,baz=326,slow=8.9,SNR=2.8
comp=Z,0.5nm,0.9s
MKAR Makanchi Array 87.42 35 P P 05 47 54.2 +0.2
ASAR Alice Springs 171.60 33 PKPab PKPab 05 56 37.2 +0.3
comp=Z,0.3nm,0.8s,baz=335,slow=6.3,SNR=4.6

---

*IDC **05** 05:40:12.0±0.9, 31°.00N×41°.46W, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=29.5km s-min=21.9km az=178.0*

ISC 05 05:40:13.9±0.9**, 31°.0N**±0°.2×**41°.5W**±0°.1**, h13km, n13, σ0s.72**/8**, mb3.8**/8**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**43.45**	**104**	P	**P**	**05 48 16.8**	**-0.1**
	3.2nm,1.1s,baz=315,slow=5.8,SNR=9.0						
	3.2nm,1.1s						
H10N2	**ASCENSION HYDR**	**46.45**	**142**	T	T	06 38 03.7	
	baz=328,slow=75,SNR=99						
H10N3	**ASCENSION HYDR**	**46.46**	**142**	T	T	06 38 04.0	
	baz=328,slow=75,SNR=84						
H10N1	**ASCENSION HYDR**	**46.47**	**142**	T	T	06 38 05.1	
	baz=328,slow=75,SNR=105						
H10S3	**ASCENSION HYDR**	**47.31**	**143**	T	T	06 39 07.8	
	baz=328,slow=74,SNR=26						
H10S2	**ASCENSION HYDR**	**47.32**	**143**	T	T	06 39 08.0	
	baz=252,slow=74,SNR=16						
FINES	**FINESS Array B**	**52.63**	**34**	P	**P**	**05 49 28.3**	**+1.0**
	1.2nm,0.6s,baz=205,slow=8.4,SNR=4.7						
	1.2nm,0.6s						
TXAR	**Lajitas Array**	**53.17**	**285**	P	**P**	**05 49 31.3**	**-0.7**
	0.2nm,0.6s,baz=91,slow=4.5,SNR=2.4						
	0.2nm,0.6s						
LPAZ	**La Paz**	**53.55**	**212**	P	**P**	**05 49 35.6**	**+0.3**
	1.7nm,0.9s,baz=34,slow=4.0,SNR=7.2						
	1.7nm,0.9s						
PDAR	**Pinedale Array**	**54.37**	**303**	P	**P**	**05 49 41.0**	**+0.3**
	0.6nm,0.6s,baz=83,slow=7.2,SNR=7.0						
	0.6nm,0.6s						
AKASG	**Malin Array Be**	**54.83**	**47**	P	**P**	**05 49 42.7**	**-0.9**
	0.1nm,0.4s,baz=267,slow=7.7,SNR=7.1						
	0.1nm,0.4s						
NVAR	**Mina Array Bea**	**61.92**	**300**	P	**P**	**05 50 33.9**	**+0.3**
	0.4nm,0.6s,baz=53,slow=7.6,SNR=4.1						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**68.59**	**334**	P	**P**	**05 51 16.1**	**0.0**
	0.2nm,0.6s,baz=61,slow=6.9,SNR=4.6						
	0.2nm,0.6s						

---

*MAN **05** 05:40:48.7, 9°.93N×126°.96E, h1km, mb5.2, ML4.2, MS4.4*
*IDC **05** 05:40:50.4±0.4, 9°.92N×126°.56E, h0km, mb4.4/23, mbtmp4.4/24, ML4.4/1, MS3.9/15, Error ellipse: s-maj=22.5km s-min=10.1km az=79.0*
*DJA **05** 05:40:56.3±0.6, 10°N±4°×12°7E±°, h45km±6km, M5.0/18, mB5.6/7, mb4.8/18, MLv5.1/2, Mw(mB)5.0/7*
*NEIC **05** 05:40:58.1±1.3, 9°.91N±0°.07×126°.6E±0°.1, h55km±7km, mb4.7/49, Error ellipse: s-maj=14.8km s-min=10.3km az=84.0*
*BJI **05** 05:40:59.2±0.0, 10°.16N×126°.25E, h50km, mb4.6/31, mB5.0/19, Ms4.5/21, Ms7 4.2/23*

ISC 05 05:40:57.6±1.0**, 9°.89N**±0°.04×**126°.63E**±0°.06**, h54km**±9km**, n169, σ1s.57**/163**, mb4.6**/53**, MS4.0**/24**, 7C-10D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.12**	**265**	eP	**Pn**	**05 41 15.1**	**-2.0**
SCPH				eS	**Sn**	**05 41 29.5**	**-2.1**
BIPH	**Bislig**	**1.72**	**189**⇓	eP	**Pn**	**05 41 21.4**	**-3.7**
BIPH				eS	**Sn**	**05 41 42.8**	**-3.2**
TABP	**Talibon, Bohol**	**2.27**	**275**⇓	eP	**Pn**	**05 41 31.8**	**-0.9**
TABP				i S	Sn	05 42 06.7	+7.3
GHBP	**Garcia Hernand**	**2.29**	**264**⇓	eP	**Pn**	**05 41 32.8**	**-0.2**
GHBP				i S	Sn	05 42 07.2	+7.2
CGP	**Cagayan de Oro**	**2.38**	**233**⇓	iP	**Pn**	**05 41 33.7**	**-0.5**
CGP				eS	**Sn**	**05 42 06.4**	**+4.1**
LLP	**Lapu-Lapu**	**2.65**	**279**⇓	eP	**Pn**	**05 41 37.9**	**0.0**
LLP				eS	**Sn**	**05 42 14.9**	**+6.0**
TBP	**Tagbilaran**	**2.73**	**266**⇑	eP	**Pn**	**05 41 36.5**	**-2.5**
TBP				i S	**Sn**	**05 42 14.6**	**+3.7**
DAV	**Davao City (W)**	**2.99**	**200**	Pn	**Pn**	**05 41 41.0**	**-1.6**
	50nm,0.3s,baz=47,slow=11,SNR=1.2						
DAV				LR	LR	05 42 15.9	
	comp=Z,808nm,21.7s,baz=36,slow=29						
DAV				Sn	**Sn**	**05 42 18.4**	**+1.2**
	baz=208,slow=13						
	162nm,0.4s						
DAV	**Davao City (W)**	**2.99**	**200**	Pn	**Pn**	**05 41 44.1**	**+1.5**
LSIP	**Lazi, Siquijor**	**3.05**	**256**⇑	eP	**Pn**	**05 41 42.2**	**-1.2**
LSIP				i S	**Sn**	**05 42 20.0**	**+1.3**
KCP	**Kidapawan**	**3.24**	**208**⇑	iP	Pn	05 41 50.2	+4.1
KCP				i S	Sn	05 42 32.7	+9.2
SNPH	**Sibulan**	**3.39**	**261**⇓	eP	**Pn**	**05 41 48.9**	**+0.8**
SNPH				eS	Sn	05 42 41.1	+14
CTBH	**Cotabato--PC H**	**3.55**	**222**⇓	iP	**Pn**	**05 41 48.4**	**-1.8**
CNOP	**Candoni, Negro**	**3.93**	**269**⇑	iP	**Pn**	**05 41 57.0**	**+1.6**
CNOP				eS	**Sn**	**05 42 33.6**	**-6.7**
RCP	**Roxas**	**4.16**	**294**⇓	eP	**Pn**	**05 41 58.6**	**0.0**
SGSI	**Sangihe**	**6.26**	**190**	P	**Pn**	**05 42 29.8**	**+2.3**
	0.6nm138nm,0.5s						
LQP	**Lukban**	**6.51**	**311**⇑	eP	**Pn**	**05 42 31.2**	**+0.2**
GAMI	**Galela, Maluku**	**8.08**	**172**	P	**Pn**	**05 42 52.4**	**-0.1**
	7μm86nm,0.4s						
TNTI	**Ternate**	**9.09**	**175**	P	**Pn**	**05 43 04.5**	**-1.7**
	31nm,0.7s						
MYLDM	**Lahad Datu**	**9.32**	**240**	Pn	**Pn**	**05 43 08.5**	**-0.8**
MYLDM	**Lahad Datu**	**9.32**	**240**	P	Pn	05 43 17.5	+8.2
	2μm53nm,2.7s						
GTOI	**Gorontalo**	**9.87**	**202**	P	**Pn**	**05 43 18.7**	**+1.8**
	10nm,1.1s						
MRSI	**Marisa**	**10.45**	**207**	P	Pn	05 43 28.7	+3.9
	28nm,0.8s						
LBMI	**Labuha**	**10.50**	**175**	P	**Pn**	**05 43 27.1**	**+1.6**
	4μm115nm,0.7s						
KKM	**Kota Kinabalu**	**11.00**	**250**	Pn	**Pn**	**05 43 32.1**	**-0.3**
KKM	**Kota Kinabalu**	**11.00**	**250**	P	Pn	05 43 37.1	+4.7
	20nm,2.1s						
LUWI	**Luwuk**	**11.52**	**200**	Pn	**Pn**	**05 43 38.8**	**-0.7**
LUWI	**Luwuk**	**11.52**	**200**	P	Pn	05 43 43.4	+3.9
	3μm60nm,0.9s						
APSI	**Ampana**	**11.82**	**205**	P	Pn	05 43 52.3	+8.7
SANI	**Sanana**	**11.88**	**183**	P	**Pn**	**05 43 46.0**	**+1.6**
	11nm,0.9s						
FAKI	**Fak Fak**	**13.90**	**156**	Pn	**Pn**	**05 44 12.1**	**+0.1**
FAKI	**Fak Fak**	**13.90**	**156**	P	**Pn**	**05 44 10.2**	**-1.8**
	3μm25nm,1.3s						
YULB	**Yu-li**	**14.36**	**340**	Pn	**Pn**	**05 44 18.4**	**+0.4**
TPUB	**Ta-pu**	**14.51**	**337**		**Pn**	**05 44 18.8**	**-1.3**
BNSI	**Bone**	**15.61**	**205**	P	**P**	**05 44 40.0**	**+2.4**
	752nm20nm,1.5s						
SBUM	**Sibu**	**16.11**	**244**	P	**P**	**05 44 41.6**	**-1.5**
SBUM	**Sibu**	**16.11**	**244**	P	P	05 45 02.7	+20
KAPI	**Kappang**	**16.32**	**205**	LR	LR	05 52 05.0	
	comp=Z,235nm,19.7s,baz=20,slow=41						
JOW	**Kunigami**	**16.92**	**5**	Pn	**P**	**05 44 51.6**	**-0.5**
	0.7nm,0.3s,baz=105,slow=17,SNR=1.5						
JOW				LR	LR	05 50 53.5	
	comp=Z,438nm,18.8s,baz=128,slow=36						
QIZ	**Qiongzhong**	**18.60**	**301**	P	**P**	**05 45 07.4**	**-3.2**
QIZ				LR	LR		
	comp=N,410nm,13.5s						
QIZ				LR	LR		
	comp=E,500nm,14.3s						
QIZ				LR	LR		
	comp=Z,570nm,17.5s						
SOEI	**Soe**	**19.66**	**187**	P	**P**	**05 45 22.7**	**+0.4**
SOEI				IAmb	IAmb	05 46 05.1	
	comp=Z,44nm,0.9s						
SOEI	**Soe**	**19.66**	**187**	P	**Pn**	**05 45 27.7**	**+3.6**
BATI	**Baumata**	**20.18**	**188**	P	**P**	**05 45 28.5**	**+0.6**
	comp=Z,170nm,0.6s,baz=18,slow=1.5,SNR=7.5						
BATI				LR	LR	05 53 35.8	
	comp=Z,274nm,20.8s,baz=33,slow=38						
BATI	**Baumata**	**20.18**	**188**	P	**P**	**05 45 27.7**	**-0.2**
	comp=Z,2μmcomp=Z,241nm,0.8s						
JSU	**Suzuyama**	**21.80**	**9**	P	**P**	**05 45 43.8**	**-1.3**
MTN	**Manton Dam**	**23.03**	**169**	P	**P**	**05 45 55.9**	**-2.4**
MTN				IAmb	IAmb	05 46 22.0	
	comp=Z,28nm,1.3s						
NJ2	**Nanjing**	**23.20**	**343**	eP	**P**	**05 46 02.4**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
WHN	**Wuhan**	**23.52**	**333** ⇑	P	P	05 46 16.0	+13
GYA	**Guiyang**	**25.06**	**314** ⇓	P	**P**	**05 46 14.3**	**-2.9**
GYA				sP	pwP	05 46 37.1	+1.4
GYA				S	**S**	**05 50 31.4**	**-6.6**
GYA				pmax	pmax		
	comp=Z,24nm,0.6s						
GYA				pmax	pmax		
	comp=Z,230nm,5.1s						
GYA				LR	LR		
	comp=Z,360nm,16.0s						
GYA				LR	LR		
	comp=Z,320nm,17.5s						
GYA				LR	LR		
	comp=Z,640nm,18.5s						
KNRA	**Kununurra**	**25.49**	**175**	P	**P**	**05 46 20.0**	**-0.9**
KNRA				IAmb	IAmb	05 46 27.3	
	comp=Z,18nm,0.8s						
JHJ	**Hachijo jima 2**	**26.10**	**26**	LR	LR	05 55 45.9	
	comp=Z,285nm,20.4s,baz=254,slow=34						
KSRS	**Korea Array**	**27.47**	**2**	P	**P**	**05 46 38.1**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=186,slow=11,SNR=6.6						
KSRS				LR	LR	05 59 06.1	
	comp=Z,225nm,19.2s,baz=190,slow=40						
	comp=Z,1.9nm,0.6s						
PMG	**Port Moresby**	**28.02**	**133**	P	**P**	**05 46 43.6**	**-0.2**
PMG				IAmb	IAmb	05 47 23.1	
	comp=Z,18nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.12**	**291**	P	**P**	**05 46 43.6**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=105,slow=6.8,SNR=14						
CMAR				LR	LR	05 58 31.4	
	comp=Z,73nm,18.8s,baz=115,slow=38						
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.12**	**291**	P	**P**	**05 46 44.2**	**-0.6**
CHTO	**Chiang Mai**	**28.21**	**291**	P	**P**	**05 46 44.4**	**-1.1**
MNSI	**Mandailing Nat**	**28.38**	**253**	P	**P**	**05 46 50.2**	**+3.2**
	comp=Z,21nm,0.5s						
MJAR	**Matsushiro Arr**	**28.53**	**20**	LR	LR	05 58 22.1	
	comp=Z,353nm,18.8s,baz=215,slow=37						
PZH	**PanZhiHua**	**28.75**	**308**	P	**P**	**05 46 52.1**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
XAN	**Xi'an**	**29.01**	**329** ⇓	P	**P**	**05 46 51.6**	**-0.9**
XAN				pP	pP	05 47 02.8	-1.4
XAN				pmax	pmax		
	comp=Z,20nm,0.7s						
XAN				LR	LR		
	comp=Z,370nm,16.5s						
XAN				LR	LR		
	comp=Z,250nm,17.2s						
XAN				LR	LR		
	comp=Z,410nm,19.2s						
HNS	**HongShan**	**29.42**	**340** ⇑	P	**P**	**05 46 58.3**	**+2.3**
HNS				eS	**S**	**05 51 47.0**	**+0.7**
HNS				pmax	pmax		
	comp=Z,12nm,1.3s						
HNS				LR	LR		
	comp=Z,340nm,14.3s						
HNS				LR	LR		
	comp=Z,330nm,12.4s						
HNS				LR	LR		
	comp=Z,260nm,16.9s						
CD2	**Chengdu**	**29.82**	**318**	P	**P**	**05 46 59.5**	**-0.3**
CD2				S	**S**	**05 51 53.6**	**+0.7**
CD2				LR	LR		
	comp=Z,540nm,15.7s						
CD2				LR	LR		
	comp=Z,550nm,15.7s						
CD2				LR	LR		
	comp=Z,600nm,13.3s						
WRA	**Warramunga Arr**	**30.60**	**166**	P	**P**	**05 47 04.8**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=350,slow=9.4,SNR=17						
WRA				PcP	**PcP**	**05 50 05.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=334,slow=2.7,SNR=2.6						
	comp=Z,1.1nm,0.6s						
TNCH	**TengChong**	**30.65**	**303**	P	**P**	**05 47 06.5**	**-0.8**
TNCH				S	**S**	**05 52 02.6**	**-3.7**
TNCH				sS	sS	05 52 25.8	-0.4
TNCH				pmax	pmax		
	comp=Z,21nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,120nm,5.1s						
LZH	**Lanzhou**	**33.29**	**325**	eP	P	05 47 42.1	+12
LZH				pP	pwP	05 47 53.2	+3.1
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				LR	LR		
	comp=N,470nm,14.4s						
LZH				LR	LR		
	comp=E,400nm,15.5s						
LZH				LR	LR		
	comp=Z,410nm,17.9s						
HHC	**Hu-ho-hao-te**	**33.59**	**339**	eP	**P**	**05 47 34.7**	**+1.9**
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,4.8s						
HHC				LR	LR		
	comp=Z,400nm,14.0s						
HHC				LR	LR		
	comp=Z,530nm,13.1s						
HHC				LR	LR		
	comp=Z,430nm,13.3s						
AS31	**Alice Springs**	**34.10**	**168**	P	**P**	**05 47 35.8**	**-1.6**
ASAR	**Alice Springs**	**34.10**	**168**	P	**P**	**05 47 35.9**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=353,slow=6.9,SNR=37						
ASAR				PcP	**PcP**	**05 50 14.9**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=346,slow=2.7,SNR=6.1						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**34.10**	**168**	P	**P**	**05 47 36.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**34.49**	**7**	P	**P**	**05 47 40.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=183,slow=7.2,SNR=2.7						
USRK				PcP	**PcP**	**05 50 15.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=186,slow=1.4,SNR=4.6						
USRK				LR	LR	06 00 51.1	
	comp=Z,127nm,20.9s,baz=165,slow=35						
	comp=Z,1.7nm,0.7s						
CTA	**Charters Tower**	**35.51**	**147**	P	**P**	**05 47 49.6**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=327,slow=8.9,SNR=6.8						
CTA				PcP	**PcP**	**05 50 18.9**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=12,slow=6.2,SNR=2.2						
	comp=Z,2.6nm,0.7s						
CTAO	**Charters Tower**	**35.51**	**147**	P	**P**	**05 47 49.6**	**+0.2**
CTAO				IAmb	IAmb	05 48 24.4	
	comp=Z,15nm,1.4s						
ASAJ	**Asahikawa**	**36.80**	**19**	LR	LR	06 02 14.7	
	comp=Z,198nm,20.1s,baz=186,slow=35						
GTA	**Gaotai**	**37.89**	**325**	eP	P	05 48 17.9	+8.2
GTA				pP	pwP	05 48 27.6	-2.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,160nm,5.5s						
GTA				LR	LR		
	comp=N,220nm,17.8s						
GTA				LR	LR		
	comp=E,330nm,20.0s						
GTA				LR	LR		
	comp=Z,350nm,18.2s						
HNR	**Honiara**	**38.32**	**119**	LR	LR	06 04 03.6	
	comp=Z,872nm,19.1s,baz=279,slow=36						
KLR	**Kul'dur**	**39.45**	**5**	P	**P**	**05 48 22.1**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=163,slow=5.8,SNR=8.3						
KLR				LR	LR	06 05 32.1	
	comp=Z,133nm,19.2s,baz=237,slow=38						
	comp=Z,2.6nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**40.04**	**71**	T	T	06 31 55.4	
	baz=264,slow=74,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.05**	**71**	T	T	06 32 03.1	
	baz=264,slow=74,SNR=10						
MORW	**Morawa**	**40.06**	**194**	P	**P**	**05 48 27.6**	**-0.1**
MORW				IAmb	IAmb	05 48 30.4	
	comp=Z,13nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**40.06**	**71**	T	T	06 31 52.7	
	baz=264,slow=74,SNR=17						
FORT	**Forrest**	**40.46**	**178**	P	**P**	**05 48 30.7**	**-0.3**
ULN	**Ulaanbaatar**	**41.30**	**340**	P	**P**	**05 48 37.0**	**-0.9**
ULN				IAmb	IAmb	05 48 39.8	
	comp=Z,10nm,0.6s						
ULN	**Ulaanbaatar**	**41.30**	**340**	P	**P**	**05 48 38.8**	**+0.9**
SONM	**Songino Array**	**41.49**	**339**	P	**P**	**05 48 40.0**	**+0.4**
	comp=Z,5.2nm,0.6s,baz=160,slow=8.9,SNR=14						
	comp=Z,5.2nm,0.6s						
SONM	**Songino Array**	**41.49**	**339**	P	**P**	**05 48 39.4**	**-0.2**
EIDS	**Eidsvold**	**42.38**	**146**	P	**P**	**05 48 46.1**	**-0.7**
BBOO	**Buckleboo**	**43.41**	**168**	P	**P**	**05 48 54.8**	**-0.3**
BBOO				IAmb	IAmb	05 48 55.7	
	comp=Z,20nm,0.7s						
NWAO	**Narrogin (SRO)**	**43.51**	**191**	P	**P**	**05 48 56.3**	**+0.4**
	comp=Z,10nm,0.6s,baz=247,slow=7.4,SNR=6.5						
	comp=Z,10nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.51**	**191**	P	**P**	**05 48 56.5**	**+0.6**
NWAO				IAmb	IAmb	05 48 58.1	
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**43.93**	**162**	P	**P**	**05 48 59.3**	**0.0**
	comp=Z,2.8nm,0.4s,baz=330,slow=9.0,SNR=9.7						
	comp=Z,2.8nm,0.4s						
STKA	**Stephens Creek**	**43.93**	**162**	P	**P**	**05 48 59.9**	**+0.6**
WMQ	**Urumqi**	**47.73**	**322**	eP	**P**	**05 49 31.6**	**+2.3**
WMQ				LR	LR		
	comp=Z,670nm,28.9s						
WMQ				LR	LR		
	comp=Z,550nm,28.9s						
WMQ				LR	LR		
	comp=Z,91nm,20.3s						
CAN	**Canberra**	**49.69**	**156**	P	**P**	**05 49 42.9**	**-1.5**
PETK	**Petropavlovsk-**	**49.84**	**24**	P	**P**	**05 49 45.9**	**+0.8**
	comp=Z,4.1nm,0.8s,baz=238,slow=13,SNR=4.2						
PETK				LR	LR	06 11 04.3	
	comp=Z,166nm,19.2s,baz=221,slow=36						
	comp=Z,4.1nm,0.8s						
PETK	**Petropavlovsk-**	**49.84**	**24**	P	**P**	**05 49 44.0**	**-1.2**
DZM	**Mont Dzumac**	**50.34**	**130**	eLR	LR	06 04 17.6	
	comp=Z,72nm,22.6s						
TOO	**Toolangi**	**50.41**	**161**	P	**P**	**05 49 49.7**	**0.0**
MK31	**Makanchi Array**	**52.54**	**323**	P	**P**	**05 50 05.7**	**+0.1**
MKAR	**Makanchi Array**	**52.54**	**323**	P	**P**	**05 50 05.3**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=121,slow=7.9,SNR=26						
MKAR				PcP	**PcP**	**05 51 16.0**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=104,slow=5.5,SNR=4.2						
	comp=Z,3.1nm,0.6s						
MAKZ	**Makanchi**	**52.73**	**323**	P	**P**	**05 50 06.7**	**-0.3**
MAKZ				IAmb	IAmb	05 50 22.3	
	comp=Z,7.3nm,1.2s						
ZAA0	**Zalesovo Array**	**55.12**	**331**	P	**P**	**05 50 24.0**	**-0.2**
ZALV	**Zalesovo Beam**	**55.12**	**331**	P	**P**	**05 50 22.7**	**-1.5**
	comp=Z,2.6nm,0.6s,baz=127,slow=6.9,SNR=10						
ZALV				PcP	**PcP**	**05 51 24.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=116,slow=4.0,SNR=2.0						
	comp=Z,2.6nm,0.6s						
ZALV	**Zalesovo Beam**	**55.12**	**331**	P	**P**	**05 50 24.0**	**-0.2**
KURK	**Kurchatov**	**56.58**	**326**	P	**P**	**05 50 34.5**	**-0.2**
KURK				IAmb	IAmb	05 50 52.0	
	comp=Z,5.6nm,0.8s						
MSVF	**Nonsavu**	**57.73**	**118**	LR	LR	06 15 53.2	
	comp=Z,80nm,18.4s,baz=317,slow=36						
GAR	**Garm**	**57.80**	**310**	P	**P**	**05 50 43.0**	**-0.7**
KK31	**Karatay Array**	**58.76**	**315**	P	**P**	**05 50 48.8**	**-1.5**
KK31				IAmb	IAmb	05 50 50.5	
	comp=Z,6.6nm,1.4s						
KKAR	**Karatay Array**	**58.76**	**315**	P	**P**	**05 50 48.8**	**-1.5**
KKAR				IAmb	IAmb	05 50 50.5	
	comp=Z,6.6nm,1.4s						
KKAR	**Karatay Array**	**58.76**	**315**	P	**P**	**05 50 49.3**	**-0.9**
TIXI	**Tiksi**	**61.72**	**1**	P	**P**	**05 51 10.7**	**+0.8**
TIXI				IAmb	IAmb	05 51 36.9	
	comp=Z,17nm,1.4s						
BRVK	**Borovoye**	**62.24**	**325**	P	**P**	**05 51 13.4**	**-0.4**
BRVK				IAmb	IAmb	05 51 39.5	
	comp=Z,10nm,1.3s						
NRIK	**Noril'sk**	**64.47**	**346**	P	**P**	**05 51 28.3**	**+0.2**
	comp=Z,5.0nm,0.5s,baz=123,slow=6.6,SNR=11						
	comp=Z,5.0nm,0.5s						
NRIK	**Noril'sk**	**64.47**	**346**	P	**P**	**05 51 28.4**	**+0.2**
RPZ	**Rata Peaks**	**66.88**	**147**	LR	LR	06 20 56.2	
	comp=Z,108nm,20.4s,baz=280,slow=36						
RPZ	**Rata Peaks**	**66.88**	**147**	P	**P**	**05 51 45.6**	**+1.5**
GEYT	**Alibeck**	**67.05**	**307**	P	**P**	**05 51 45.1**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=130,slow=4.6,SNR=4.9						
	comp=Z,3.0nm,0.7s						
GEYT	**Alibeck**	**67.05**	**307**	P	**P**	**05 51 45.0**	**-0.4**
GEYT				IAmb	IAmb	05 51 46.0	
	comp=Z,6.6nm,1.1s						
BKZ	**Black Stump Fm**	**67.27**	**140**	P	**P**	**05 51 47.7**	**+0.9**
BKZ				IAmb	IAmb	05 52 01.2	
	comp=Z,14nm,0.8s						
ABKAR	**Akbulak array**	**67.39**	**319**	P	**P**	**05 51 46.9**	**-0.4**
ARU	**Arti**	**69.73**	**327**	P	**P**	**05 52 01.4**	**-0.4**
ARU				IAmb	IAmb	05 52 02.0	
	comp=Z,6.2nm,0.6s						
L19K	**White Mountain**	**75.95**	**28**	P	**P**	**05 52 39.6**	**+1.0**
IMAR	**Indian Mountai**	**76.80**	**24**	P	**P**	**05 52 44.4**	**+1.1**
CASY	**Casey**	**76.89**	**187**	P	**P**	**05 52 43.7**	**+0.2**
CASY				IAmb	IAmb	05 53 09.7	
	comp=Z,12nm,1.4s						
CAST	**Castle Rocks**	**77.32**	**27**	P	**P**	**05 52 47.1**	**+0.9**
CAST				IAmb	IAmb	05 52 47.8	
	comp=Z,5.9nm,1.0s						
RAYN	**Ar Rayn**	**78.03**	**292**	P	**P**	**05 52 50.1**	**-1.0**
HDA	**Harding Lake**	**79.61**	**26**	P	**P**	**05 52 58.7**	**-0.1**
ILAR	**Eielson Array**	**79.63**	**26**	P	**P**	**05 52 58.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=236,slow=5.0,SNR=12						
	comp=Z,0.7nm,0.7s						
GURO	**Guroymak-BITLI**	**79.70**	**307**	P	**P**	**05 52 60.0**	**-0.1**
GURO				IAmb	IAmb	05 53 01.7	
	comp=Z,6.6nm,0.7s						
KLMR	**Klimovskoe**	**80.03**	**330**	e	**P**	**05 53 00.3**	**-0.8**
KLMR				AMP		05 53 03.9	
	comp=Z,10.0nm,0.6s						
KEV	**Kevo**	**84.11**	**340**	P	**P**	**05 53 22.8**	**+0.5**
VOI	**Vohitsoka**	**84.36**	**247**	P	**P**	**05 53 23.9**	**-0.9**
SPB2	**Spitsbergen Ar**	**84.45**	**349**	P	**P**	**05 53 24.7**	**+0.7**
SPA0	**Spitsbergen Ar**	**84.45**	**349**	eP	**P**	**05 53 24.5**	**+0.4**
INK	**Inuvik**	**84.50**	**22**	P	**P**	**05 53 25.1**	**+0.8**
INK				IAmb	IAmb	05 53 46.7	
	comp=Z,7.5nm,1.4s						
ARA0	**ARCESS Array S**	**84.67**	**340**	eP	**P**	**05 53 25.1**	**-0.1**
ARCES	**ARCESS Array B**	**84.67**	**340**	P	**P**	**05 53 25.4**	**+0.2**
	comp=Z,4.2nm,0.5s,baz=78,slow=5.5,SNR=30						
	comp=Z,4.2nm,0.5s						
ARCES	**ARCESS Array B**	**84.67**	**340**	P	**P**	**05 53 25.5**	**+0.3**
KTK1	**Kautokeino**	**85.58**	**339**	eP	**P**	**05 53 30.1**	**+0.2**
BRTR	**Keskin Array B**	**86.04**	**309**	P	**P**	**05 53 32.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=68,slow=5.4,SNR=2.7						
	comp=Z,1.2nm,0.6s						
BRTR	**Keskin Array B**	**86.04**	**309**	P	**P**	**05 53 32.0**	**-0.8**
A36M	**Sachs Harbour**	**86.17**	**17**	P	**P**	**05 53 32.1**	**-0.6**
A36M				IAmb	IAmb	05 53 48.4	
	comp=Z,7.3nm,0.9s						
JETT	**Jettan, Norway**	**86.38**	**340**	eP	**P**	**05 53 34.7**	**+0.9**
FIA1	**FINESS Array S**	**86.39**	**332**	P	**P**	**05 53 34.3**	**+0.4**
FINES	**FINESS Array B**	**86.39**	**332**	P	**P**	**05 53 34.1**	**+0.2**
	comp=Z,7.4nm,0.6s,baz=76,slow=4.9,SNR=72						
	comp=Z,7.4nm,0.6s						
VSU	**Vasula**	**86.78**	**329**	eP	**P**	**05 53 36.5**	**+0.6**
AKASG	**Malin Array Be**	**87.08**	**321**	P	**P**	**05 53 37.0**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,0.9nm,0.5s,baz=62,slow=5.3,SNR=7.7						
	comp=Z,0.9nm,0.5s						
PPT2	Papeete2	87.12	108	*e*LR	LR	06 21 19.8	
	comp=Z,88nm,23.2s						
MEF	Metsahovi	87.50	331	*e*P	P	05 53 39.6	+0.3
MTSE	Matsula	88.19	329	*e*P	P	05 53 42.8	+0.1
TBI	Tubuai	88.35	114	*e*LR	LR	06 21 53.9	
	comp=Z,2μm,22.5s						
TBI				*e*LR	LR	06 21 54.3	
	comp=Z,245nm,23.2s						
EUNU	Eureka	88.60	5	P	P	05 53 44.5	+0.2
EUNU				IAmb	IAmb	05 54 25.1	
	comp=Z,13nm,1.4s						
FAUS	Fauske	88.93	339	*e*P	P	05 53 45.3	-0.6
VNDA	Vanda	89.51	173	P	P	05 53 49.0	+0.6
	comp=Z,0.6nm,0.5s,baz=314,slow=5.3,SNR=12						
	comp=Z,0.6nm,0.5s						
VNDA	Vanda	89.51	173	P	P	05 53 49.0	+0.6
VNDA				IAmb	IAmb	05 54 08.3	
	comp=Z,3.5nm,1.2s						
MOR8	Moi Rana	89.72	338	*e*P	P	05 53 47.6	-2.1
UPP	Uppsala	90.83	331	*e*P	P	05 53 55.1	+0.1
DAG	Danmarks Havn	91.17	352	*i* P	P	05 53 55.0	-1.3
RES	Resolute Bay	91.81	10	P	P	05 54 00.4	+1.1
	comp=Z,3.8nm,1.0s,baz=299,slow=5.5,SNR=6.0						
	comp=Z,3.8nm,1.0s						
CRVS	Cervenica-Dubn	92.40	320	*e*P	P	05 54 03.7	+1.2
NB2	NORSAR Subarra	93.25	334	P	P	05 54 05.5	-0.7
	baz=68,slow=4.6						
NB2	NORSAR Subarra	93.25	334	P	P	05 54 05.5	-0.7
	comp=Z,8.1nm,1.1s,baz=68,slow=4.6						
NOA	NORSAR Array B	93.25	334	P	P	05 54 05.8	-0.4
	comp=Z,1.6nm,0.7s,baz=65,slow=4.5,SNR=4.2						
	comp=Z,1.6nm,0.7s						
TAOE	Nuku Hiva Isla	94.64	98	*e*LR	LR	06 24 48.4	
	comp=Z,86nm,23.2s						
TXAR	Lajitas Array	117.81	49	PKP	PKiKP	05 59 39.5	+0.7
	comp=Z,0.4nm,0.5s,baz=14,slow=0.5,SNR=6.4						
TORD	Torodi Ar. Bea	120.73	292	PKP	PKiKP	05 59 44.4	-0.3
	comp=Z,0.3nm,0.5s,baz=105,slow=2.8,SNR=2.2						
TKL	Tuckaleechee C	126.37	31	PKP	PKiKP	05 59 55.2	-0.2
	comp=Z,2.1nm,0.5s,baz=138,slow=5.1,SNR=7.7						
PLCA	Paso Flores	145.72	157	PKPbc	PKPab	06 00 32.6	+1.3
	comp=Z,7.7nm,0.9s,baz=233,slow=3.0,SNR=22						
SJG	San Juan	149.45	24	PKPbc	PKiKP	06 00 42.2	-0.6
	comp=Z,8.2nm,0.5s,baz=199,slow=4.7,SNR=7.0						
LPAZ	La Paz	164.29	115	PKP	PKPdf	06 00 57.5	+0.7
	comp=Z,1.6nm,1.1s,baz=93,slow=0.8,SNR=4.7						

IDC 05 05:43:37.4±1.9**, 9°.63N×125°.58E, h0km, mb3.9**/4**, mbtmp3.9**/4**, Error ellipse: s-maj=223.3km s-min=32.2km az=69.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	34.08	166	P	P	05 50 23.8	0.0
	0.2nm,0.4s,baz=345,slow=7.6,SNR=1.3						
	0.2nm,0.4s						
MKAR	Makanchi Array	52.13	323	P	P	05 52 49.6	0.0
	0.5nm,0.7s,baz=111,slow=7.9,SNR=1.3						
	0.5nm,0.7s						
ARCES	ARCESS Array B	84.55	340	P	P	05 56 12.2	-0.1
	1.9nm,0.8s,baz=82,slow=6.3,SNR=7.2						
	1.9nm,0.8s						
FINES	FINESS Array B	86.13	332	P	P	05 56 20.2	0.0
	1.1nm,0.5s,baz=71,slow=3.9,SNR=6.0						
	1.1nm,0.5s						

*MOS **05** 05:46:04.6±1.2, 30°.93N×41°.25W, h10km, mb5.2/40, MS4.1/7, Error ellipse: s-maj=11.2km s-min=5.5km az=47.2*

*IDC **05** 05:46:04.3±0.5, 30°.97N×41°.36W, h0km, mb4.3/33, mbtmp4.3/33, MS4.1/73, Error ellipse: s-maj=14.3km s-min=10.9km az=160.0*

*BJI **05** 05:46:05.0±0.0, 30°.80N×41°.10W, h10km, mb4.9/6, Ms4.8/1, Ms7 4.5/3*

*NEIC **05** 05:46:07.1±2.4, 30°.7N±0°.1×41°.1W±0°.1, h10km±1km, mb5.0/106, Error ellipse: s-maj=18.3km s-min=16.2km az=162.0*

*GCMT **05** 05:46:12.1±0.2, 31°.19N±0°.02×41°.45W±0°.01, h12km, MW5.1/139, Moment Tensor Solution. s43,c52; s139,c224; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.68±.10; $M_{\theta\theta}$1.08±.11; $M_{\phi\phi}$4.59±.08; $M_{r\theta}$1.53±.39; $M_{\theta\phi}$1.86±.08; $M_{\phi r}$-1.35±.27; Best double couple: $M_0$5.85900×10^{16} NP1:ϕ_s7.00000°,δ51.00000°, λ-111.00000°. NP2:ϕ_s219.00000°,δ44.00000°, λ-66.00000°. Principal axes: T 5.4310, Plg3.0000°, Azm112.0000°; N 0.8460, Plg16.0000°, Azm21.0000°; P -6.2870, Plg73.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 05:46:06.5±0.3**, 30°.83N**±0°.06×**41°.27W**±0°.05**, h10km, n634,** σ1§**48**/610**, mb4.9**/129**, MS4.1**/89**, 31C-12D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRLN	Deer Lake	22.12	331	P	P	05 51 03.0	+1.0
DRLN				IAmb	IAmb	05 51 09.9	
	comp=Z,90nm,1.4s						
SACV	Santiago Islan	22.62	130	P	P	05 51 04.6	-3.0
SACV				IAmb	IAmb	05 51 12.9	
	comp=Z,126nm,1.8s						
H05N1	Guadeloupe/Mar	23.13	236	T	T	06 14 54.4	
CUPR	Culebra, Puert	25.08	246	P	P	05 51 32.8	+1.4
SJG	San Juan	25.87	246	LR	LR	05 59 27.1	
	comp=Z,226nm,20.9s,baz=64,slow=31						
PKME	Peaks-Kenny Pk	26.19	311	P	P	05 51 42.7	+1.5
	baz=114						
MLPR	Magueyes Islan	26.66	247	P	P	05 51 47.5	+1.9
E62A	Clayton Lake	26.90	314	P	P	05 51 50.7	+3.1
E62A				IAmb	IAmb	05 51 51.7	
	comp=Z,32nm,1.2s						
MBO	M'Bour	27.68	121	P	P	05 51 53.1	-1.8
MBO				IAmb	IAmb	05 51 58.2	
	comp=Z,63nm,1.2s						
MDP	Montagnes des	27.74	205	LR	LR	06 00 25.1	
	comp=Z,237nm,20.6s,baz=52,slow=31						
BBTS	Babate	27.82	120	P	P	05 51 56.4	+0.2
	comp=Z,11nm,0.5s,baz=144,slow=23,SNR=2.0						
BBTS				LR	LR	06 00 07.7	
	comp=Z,2μm,21.7s,baz=247,slow=30						
	comp=Z,11nm,0.5s						
KSCT	Kent School, K	28.00	302	P	P	05 51 59.3	+1.8
KSCT				IAmb	IAmb	05 52 08.5	
	comp=Z,38nm,1.4s						
PAL	Palisades	28.17	300	P	P	05 51 59.6	+0.6
	baz=101						
MNTQ	Montreal, Queb	29.12	309	P	P	05 52 09.8	+2.4
MNTQ				IAmb	IAmb	05 52 34.3	
	comp=Z,42nm,1.8s						
LONY	Lake Ozonia	29.50	307	P	P	05 52 11.0	+0.2
	baz=106						
BINY	Binghamton	29.92	302	P	P	05 52 15.4	+0.8
	baz=101						
SCHQ	Schefferville	30.12	330	LR	LR	06 03 10.4	
	comp=Z,866nm,20.2s,baz=174,slow=34						
SSPA	Standing Stone	31.10	299	P	P	05 52 26.5	+1.4
	baz=97						
MDT	Midelt	31.12	77	LR	LR	06 01 58.9	
	comp=Z,594nm,20.9s,baz=300,slow=31						
ESDC	Sonseca Array	31.53	63	P	P	05 52 28.0	-0.9
	comp=Z,1.6nm,1.0s,baz=263,slow=10,SNR=7.3						
	comp=Z,1.6nm,1.0s						
ESDC	Sonseca Array	31.53	63	P	P	05 52 28.2	-0.7
MCWV	Mont Chateau	32.51	296	P	P	05 52 37.8	+0.3
	baz=94						
SADO	Sadowa	32.69	306	LR	LR	06 04 08.0	
	comp=Z,480nm,19.8s,baz=70,slow=33						
BLA	Blacksburg	32.89	292	P	P	05 52 41.5	+0.6
	baz=90						
BAUV	El Baul	33.12	235	P	P	05 52 42.9	-0.1
O53A	New Philadelph	33.59	297	P	P	05 52 47.5	+0.6
	baz=94						
BOAV	Boa Vista	33.64	216	P	P	05 52 47.2	-0.3
BOAV				IAmb	IAmb	05 52 54.5	
	comp=Z,24nm,1.4s						
BOAV	Boa Vista	33.64	216	*e*P	P	05 52 49.5	+2.0
U54A	Nelsons Funny	34.03	291	P	P	05 52 53.2	+2.3
O52A	Adamsville	34.06	297	P	P	05 52 53.7	+2.8
O52A				IAmb	IAmb	05 52 55.9	
	comp=Z,30nm,1.2s						
P52A	Corning	34.27	296	P	P	05 52 53.0	+0.2
	baz=92						
MALB	Monte Alegre	34.78	203	*e*P	P	05 52 58.0	+0.7
ACSO	Alum Creek Sta	34.94	297	P	P	05 53 00.3	+1.7
ACSO				IAmb	IAmb	05 53 03.8	
	comp=Z,22nm,1.0s						
ACSO	Alum Creek Sta	34.94	297	P	P	05 53 00.6	+1.9
	baz=92						
SDV	Santo Domingo	35.01	238	P	P	05 52 59.5	-0.1
	comp=Z,3.7nm,0.4s,baz=43,slow=7.9,SNR=9.5						
SDV				LR	LR	06 05 15.7	
	comp=Z,147nm,20.9s,baz=64,slow=33						
	comp=Z,3.7nm,0.4s						
SDV	Santo Domingo	35.01	238	P	P	05 53 00.5	+0.8
SDV				IAmb	IAmb	05 53 06.9	
	comp=Z,23nm,0.9s						
SDV	Santo Domingo	35.01	238	*e*P	P	05 53 01.1	+1.5
TZTN	Tazewell	35.42	291	P	P	05 53 04.3	+1.5
	baz=87						
AAM	Ann Arbor	35.58	301	P	P	05 53 05.6	+1.6
	baz=95						
TKL	Tuckaleechee C	35.66	289	P	P	05 53 04.4	-0.5
	comp=Z,6.9nm,1.0s,baz=50,slow=8.5,SNR=1.6						
TKL				LR	LR	06 04 34.5	
	comp=Z,720nm,21.9s,baz=94,slow=31						
	comp=Z,6.9nm,1.0s						
O49A	Covington	35.98	297	P	P	05 53 09.6	+2.1
O49A				IAmb	IAmb	05 53 11.7	
	comp=Z,17nm,1.1s						
O49A	Covington	35.98	297	P	P	05 53 11.5	+3.9
	baz=91						
O49A				P	P	05 53 11.5	+3.9
	baz=91						
BORG	Borgarnes	36.14	14	P	P	05 53 08.0	-0.6
	comp=Z,7.8nm,0.8s,baz=38,slow=6.5,SNR=2.5						
BORG				LR	LR	06 03 18.4	
	comp=Z,157nm,18.2s,baz=217,slow=29						
	comp=Z,7.8nm,0.8s						
BORG	Borgarnes	36.14	14	P	P	05 53 08.0	-0.6
P49A	Miami Univ. Ec	36.26	296	P	P	05 53 12.4	+2.4
P49A				IAmb	IAmb	05 53 14.3	
	comp=Z,24nm,1.1s						
P49A	Miami Univ. Ec	36.26	296	P	P	05 53 11.2	+1.2
	baz=90						
EKA	Eskdalemuir Ar	36.37	36	LR	LR	06 04 38.6	
	comp=Z,242nm,20.1s,baz=184,slow=31						
T50A	Nancy	36.43	292	P	P	05 53 14.3	+2.9
T50A	Nancy	36.43	292	P	P	05 53 15.2	+3.8
	baz=87						
T50A				P	P	05 53 15.2	+3.8
	baz=87						
GLMI	Grayling	36.54	305	P	P	05 53 13.1	+0.9
	baz=97						
O48B	Farmland	36.61	297	P	P	05 53 15.8	+2.9
	baz=91						
O48B	Farmland	36.61	297	P	P	05 53 13.7	+0.8
	baz=91						
SFJD	Kangerlussuaq	36.63	354	LR	LR	06 04 22.0	
	comp=Z,263nm,19.5s,baz=176,slow=30						
RCBR	Riachuelo	36.81	171	LR	LR	06 04 45.4	
	comp=Z,303nm,19.0s,baz=140,slow=30						
FRB	Frobisher Bay	37.17	340	LR	LR	06 06 07.5	
	comp=Z,206nm,21.7s,baz=183,slow=32						
SWET	Sewanee	37.46	289	P	P	05 53 23.1	+2.8
SWET				IAmb	IAmb	05 53 24.9	
	comp=Z,31nm,1.5s						
WCI	Wyandotte Cave	37.52	294	P	P	05 53 22.2	+1.5
	baz=88						
ITTB	Itaituba	37.63	204	*e*P	P	05 53 22.7	+0.9
PRPB	Parauapebas	37.69	194	*e*P	P	05 53 23.2	+0.9
CLTN	Cedars of Leba	37.70	290	P	P	05 53 23.5	+1.3
CLTN				IAmb	IAmb	05 53 27.9	
	comp=Z,27nm,1.1s						
SFIN	Lafayette	38.09	297	P	P	05 53 28.1	+2.6
SFIN				IAmb	IAmb	05 53 30.5	
	comp=Z,20nm,0.9s						
SFIN	Lafayette	38.09	297	P	P	05 53 27.0	+1.5
	baz=90						
V48A	Smith Brothers	38.13	290	P	P	05 53 28.3	+2.5
V48A				IAmb	IAmb	05 53 30.9	
	comp=Z,24nm,1.1s						
V48A	Smith Brothers	38.13	290	P	P	05 53 29.9	+4.0
	baz=84,SNR=5.8						
P46A	Rosedale	38.19	296	P	P	05 53 29.7	+3.4
P46A	Rosedale	38.19	296	P	P	05 53 30.6	+4.4
	baz=89						
MACA	Manacapuru-AM	38.55	212	P	P	05 53 29.3	-0.1
MACA				IAmb	IAmb	05 53 36.7	
	comp=Z,31nm,0.8s						
MACA	Manacapuru-AM	38.55	212	*e*P	P	05 53 30.7	+1.2
LRAL	Lakeview Retre	38.63	286	P	P	05 53 31.9	+1.8
	baz=81						
L44A	Lake County Fo	38.73	300	P	P	05 53 32.9	+2.2
	baz=92						
WVT	Waverly	38.90	291	P	P	05 53 35.4	+3.0
WVT	Waverly	38.90	291	P	P	05 53 34.7	+2.4
	baz=84,SNR=5.6						
WVT	Waverly	38.90	291	P	P	05 53 34.1	+1.8
	baz=84						
WVT	Waverly	38.90	291	P	P	05 53 35.4	+3.0
WVT				pmax	pmax		
	comp=Z,17nm,1.1s						
OLIL	Olney	38.91	295	P	P	05 53 35.5	+3.1
SNF	Seneffe	39.01	46	*d*P	P	05 53 32.5	-0.5
BRAL	Brewton	39.02	283	P	P	05 53 34.5	+1.1
	baz=78						
DOU	Dourbes	39.11	47	*d*P	P	05 53 33.4	-0.5
PLAL	Pickwick Lake	39.23	289	P	P	05 53 35.7	+0.6
PLAL				IAmb	IAmb	05 53 40.8	
	comp=Z,33nm,1.1s						
BMRD	Maredsous	39.26	47	*d*P	P	05 53 34.7	-0.5
SGCB	S£o Gabriel d	39.32	223	*e*P	P	05 53 36.6	+0.6
BGES	Gesves	39.48	47	*d*P	P	05 53 36.5	-0.6
Z47A	Carrollton	39.49	286	P	P	05 53 39.7	+2.4
Z47A				IAmb	IAmb	05 53 42.5	
	comp=Z,26nm,1.1s						
BCLA	Clavier	39.62	47	*d*P	P	05 53 37.5	-0.6
HDIL	Hopedale	39.77	298	P	P	05 53 40.6	+1.1
	baz=89						
BSTI	Sart Tilman	39.82	47	*d*P	P	05 53 39.7	-0.1
S44A	Carbondale	39.89	293	P	P	05 53 44.6	+4.0
	baz=85,SNR=5.2						
SMTB	Santa Maria do	39.93	190	*e*P	P	05 53 41.9	+0.8
NPGB	Novo Progresso	40.01	202	*e*P	P	05 53 42.2	+0.5
L42A	Oliver, Polo	40.03	300	P	P	05 53 44.2	+2.5
L42A				IAmb	IAmb	05 53 46.0	
	comp=Z,47nm,1.4s						
L42A	Oliver, Polo	40.03	300	P	P	05 53 43.7	+2.0
	baz=90						
W45A	Hickory Valley	40.11	289	P	P	05 53 43.9	+1.4
BTNL	Ternell	40.17	47	*d*P	P	05 53 42.8	-0.1
	comp=Z,5.8nm,1.0s						
CGM3	Cape Girardeau	40.25	293	P	P	05 53 46.1	+2.6
CGM3				IAmb	IAmb	05 53 48.0	
	comp=Z,13nm,0.9s						
OXF	Oxford	40.39	288	P	P	05 53 46.4	+1.7
OXF				IAmb	IAmb	05 53 49.2	
	comp=Z,40nm,0.9s						
OXF	Oxford	40.39	288	P	P	05 53 45.4	+0.7
	baz=81						
OXF	Oxford	40.39	288	P	P	05 53 46.4	+1.7
OXF				pmax	pmax		
	comp=Z,40nm,0.9s						
ROSC	El Rosal	40.43	237	LR	LR	06 10 16.5	
	comp=Z,177nm,20.7s,baz=50,slow=36						
JFWS	Jewell Farm	40.47	301	P	P	05 53 46.7	+1.4
JFWS	Jewell Farm	40.47	301	P	P	05 53 48.7	+3.4
	baz=91						
JFWS	Jewell Farm	40.47	301	P	P	05 53 45.7	+0.4
	baz=91						
JFWS	Jewell Farm	40.47	301	P	P	05 53 46.7	+1.4
JFWS				pmax	pmax		
	comp=Z,19nm,1.0s						
G40A	Rib Lake	40.52	305	P	P	05 53 48.5	+2.8
G40A	Rib Lake	40.52	305	P	P	05 53 49.2	+3.5
	baz=94						
I40A	Norwalk	40.75	303	P	P	05 53 49.6	+1.9
N41A	Harden Midland	40.95	298	P	P	05 53 52.2	+2.9
N41A				IAmb	IAmb	05 53 53.7	
	comp=Z,21nm,0.9s						
L40A	Anamosa	41.19	300	P	P	05 53 53.9	+2.6
L40A				IAmb	IAmb	05 53 55.8	
	comp=Z,24nm,1.1s						
BFO	Black Forest	41.25	50	P	P	05 53 50.8	-0.9
BFO				IAmb	IAmb	05 53 52.8	
	comp=Z,50nm,1.8s						
BFO	Black Forest	41.25	50	P	P	05 53 50.8	-0.9
BFO				pmax	pmax		
	comp=Z,50nm,1.8s						
CCM	Cathedral Cave	41.43	294	P	P	05 53 55.3	+2.0
	baz=84						
E38A	The Farm, Brul	41.55	307	P	P	05 53 55.9	+1.7
E38A	The Farm, Brul	41.55	307	P	P	05 53 57.6	+3.4
	baz=94						
EYMN	Ely	41.62	309	P	P	05 53 55.8	+1.1
	baz=96						
VBMS	Vicksburg	41.70	285	P	P	05 53 55.8	+0.2
	baz=78						
SUMG	Summit	41.83	1	*i* P	P	05 53 58.0	+1.4
P40A	Paris	41.93	296	P	P	05 53 60.0	+2.6
P40A				IAmb	IAmb	05 54 01.7	
	comp=Z,24nm,1.1s						
P40A	Paris	41.93	296	P	P	05 54 00.7	+3.3
	baz=86,SNR=6.6						
DAVOX	Davos/Dischmat	42.16	53	P	P	05 53 58.4	-1.0
	comp=Z,3.5nm,1.0s,baz=290,slow=12,SNR=3.4						
DAVOX				LR	LR	06 09 05.0	
	comp=Z,120nm,19.5s,baz=261,slow=33						
	comp=Z,3.5nm,1.0s						
DAVA	Damuels	42.19	52	*e*P	P	05 54 00.2	+0.5
	comp=Z,11nm,1.1s						
R40A	Maddies Statio	42.21	294	P	P	05 54 02.1	+2.4
R40A	Maddies Statio	42.21	294	P	P	05 54 02.8	+3.1
	baz=84						
KEST	Kesra	42.22	69	LR	LR	06 08 27.7	
	comp=Z,158nm,21.4s,baz=262,slow=32						
SPMN	Marine on St.	42.35	305	P	P	05 54 03.7	+2.9
SPMN	Marine on St.	42.35	305	P	P	05 54 01.2	+0.5
	baz=92						
SCIA	State Center	42.68	300	P	P	05 54 03.4	-0.1
	baz=88						
N38A	Joes South For	42.75	298	P	P	05 54 07.8	+3.8
	baz=86						
FETA	Feichten	42.76	53	*e*P	P	05 54 04.8	+0.6
	comp=Z,13nm,1.3s						
RETA	Reutte	42.80	52	*e*P	P	05 54 04.8	+0.3
	comp=Z,18nm,1.8s,SNR=5.5						
MOTA	Moosalm	43.03	52	*e*P	P	05 54 06.8	+0.4
	comp=Z,15nm,1.4s,SNR=5.6						
P38A	Dawn	43.06	297	P	P	05 54 10.1	+3.5
	baz=85,SNR=5.2						
SQTA	Sankt Quirin	43.09	52	*e*P	P	05 54 07.5	+0.6
	comp=Z,16nm,1.2s,SNR=6.1						
SDBA	SAO DESIDERIO	43.13	185	*e*P	P	05 54 08.5	+1.2
B35A	Bob, Littlefor	43.15	309	P	P	05 54 09.5	+2.4
B35A				IAmb	IAmb	05 54 11.1	
	comp=Z,31nm,1.4s						
TOA0	Torodi Ar. Sit	43.25	104	P	P	05 54 06.7	-1.6
TOA0	Torodi Ar. Sit	43.25	104	P	P	05 54 07.8	-0.5
TORD	Torodi Ar. Bea	43.25	104	P	P	05 54 08.5	+0.2
	comp=Z,8.6nm,1.1s,baz=320,slow=4.1,SNR=22						
TORD				LR	LR	06 11 12.3	
	comp=Z,203nm,18.1s,baz=214,slow=35						
	comp=Z,8.6nm,1.1s						
TORD	Torodi Ar. Bea	43.25	104	P	P	05 54 06.8	-1.6
GRFO	Grafenberg	43.29	49	P	P	05 54 08.3	+0.1
GRFO				IAmb	IAmb	05 54 20.4	
	comp=Z,22nm,1.2s						
GRFO	Grafenberg	43.29	49	P	P	05 54 08.3	+0.1
GRFO				pmax	pmax		
	comp=Z,22nm,1.2s						
GRA1	Grafenberg Arr	43.29	49	P	P	05 54 08.2	-0.1
GRA1				IAmb	IAmb	05 54 20.5	
	comp=Z,22nm,1.2s						
GRF	Grafenberg Arr	43.29	49	P	P	05 54 08.2	-0.1
GRF				pmax	pmax		
	comp=Z,22nm,1.2s						
WATA	Walderalm	43.35	52	*e*P	P	05 54 09.2	+0.2
	comp=Z,17nm,1.5s						
CTI	Castel Tesino	43.35	54	P	P	05 54 08.2	-0.8
CTI	Castel Tesino	43.35	54	P	P	05 54 08.2	-0.8
CTI				pmax	pmax		
	comp=Z,27nm,1.5s						
WTTA	Wattenberg	43.39	52	*e*P	P	05 54 09.6	+0.3
	comp=Z,16nm,0.9s,SNR=6.4						
SNDB	Serra Nova Dou	43.64	194	*e*P	P	05 54 12.6	+1.2
CLDB	Colider	43.75	201	*e*P	P	05 54 12.9	+0.5
MIAR	Mount Ida	43.78	289	P	P	05 54 13.8	+1.4
MIAR				IAmb	IAmb	05 54 20.1	
	comp=Z,37nm,1.8s						
MIAR	Mount Ida	43.78	289	P	P	05 54 16.5	+4.1
	baz=80,SNR=5.2						
MIAR	Mount Ida	43.78	289	P	P	05 54 12.3	-0.1
	baz=80,SNR=5.2						
MIAR	Mount Ida	43.78	289	P	P	05 54 13.8	+1.4
MIAR				pmax	pmax		
	comp=Z,37nm,1.8s						
HHAR	Hobbs	43.78	292	P	P	05 54 12.5	+0.1
ABTA	Abfaltersbach	43.97	53	*e*P	P	05 54 13.8	-0.1
	comp=Z,29nm,1.7s,SNR=9.9						
JMIC	Jan Mayen	44.04	15	LR	LR	06 09 07.2	
	comp=Z,68nm,18.4s,baz=204,slow=32						
NKC	Novy Kostel	44.13	48	*e*P	P	05 54 14.7	-0.4
NKC	Novy Kostel	44.13	48	*e*P	P	05 54 14.7	-0.4
CLUD	Cludinico	44.21	53	P	P	05 54 15.4	-0.4
AGMN	Agassiz Nation	44.56	309	P	P	05 54 17.6	-1.0
	baz=92						
N35A	Tabor	44.57	299	P	P	05 54 21.2	+2.5
N35A				IAmb	IAmb	05 54 23.2	
	comp=Z,29nm,1.0s						
CLL	Collm	44.58	47	P	P	05 54 18.0	-0.6
CLL				IAmb	IAmb	05 54 19.4	
	comp=Z,44nm,1.8s						
CLL	Collm	44.58	47	*i* P	P	05 54 17.7	-0.9
	comp=Z,35nm,1.7s						
CLL				*i* x	x	05 54 24.0	
CLL				*i* x	x	05 54 28.4	
CLL				*e*PP	PP	05 56 08.0	+5.5
CLL				*e*SSS	SSS	06 04 58.0	
CLL				LmV		06 09 00.0	
	comp=Z,300nm,20.8s						
CLL	Collm	44.58	47	*i* P	P	05 54 17.7	-0.9
CLL				*i*		05 54 24.0	
CLL				pmax	pmax		
	comp=Z,35nm,1.7s						
CLL				MLR	MLR		
	comp=Z,300nm,20.8s						
ULM	Lac du Bonnet	44.69	312	P	P	05 54 17.2	-2.3
	comp=Z,2.4nm,0.6s,baz=125,slow=13,SNR=3.7						
ULM				LR	LR	06 12 22.8	
	comp=Z,232nm,18.3s,baz=82,slow=35						
	comp=Z,2.4nm,0.6s						
MYKA	Terra Mystica	44.74	53	*e*P	P	05 54 19.8	-0.3
	comp=Z,5.4nm,1.0s						
BIOA	Bad Ischl, Aus	44.76	52	*i* P	P	05 54 19.8	-0.4
	comp=Z,14nm,1.2s						
MATN	Matagalpa	44.77	257	P	P	05 54 21.4	+0.8
KHC	Kasperske Hory	44.78	50	*e*P	P	05 54 19.5	-0.8
KHC				*e*S	S	06 01 03.0	+5.7
KHC				AMS	AMS	06 15 10.0	
	comp=Z,200nm,13.5s						
KHC	Kasperske Hory	44.78	50	*e*P	P	05 54 19.5	-0.8
KHC				*e*S	S	06 01 03.0	+5.7
KHC				MLR	MLR		
	comp=Z,200nm,13.5s						
F33A	5 Mile Ranch,	44.81	306	P	P	05 54 23.7	+3.1
	baz=90						
GERES	GERESS Array B	44.84	50	P	P	05 54 20.2	-0.7
	comp=Z,1.4nm,0.7s,baz=255,slow=7.7,SNR=12						
GERES				LR	LR	06 11 30.7	
	comp=Z,88nm,18.2s,baz=254,slow=34						
	comp=Z,1.4nm,0.7s						
GERES	GERESS Array B	44.84	50	P	P	05 54 20.4	-0.5
GERES	GERESS Array B	44.84	50	P	P	05 54 20.4	-0.5
ECSD	EROS Data Cent	45.10	303	P	P	05 54 22.0	-0.9
	baz=87						
BRG	Berggiesshubel	45.13	47	*e*P	P	05 54 23.0	-0.1
BRG				Amp		05 54 24.9	
	comp=Z,15nm,1.4s						
BRG				*e*x	x	05 54 32.8	
BRG				Amp		05 54 35.6	
	comp=Z,14nm,1.4s						
BRG				Amp		06 11 00.0	
	comp=N,0.1nm,15.3s						
BRG				Amp		06 11 01.0	
	comp=Z,0.4nm,20.3s						
BRG				Amp		06 11 14.0	
	comp=E,0.3nm,17.3s						
BRG	Berggiesshubel	45.13	47	*e*P	P	05 54 22.9	-0.1
BRG				pmax	pmax		
	comp=Z,15nm,1.5s						
BRG				pmax	pmax		

comp=Z,14nm,1.4s
MOA Molln 45.19 52 *e*P P 05 54 23.1 -0.4
comp=Z,14nm,1.6s
X37A Clayton 45.22 290 P P 05 54 26.7 +2.7
baz=79,SNR=5.8
NATX Nacogdoches 45.24 286 P P 05 54 25.1 +1.0
CKRC Cesky Krumlov 45.24 50 *e*P P 05 54 23.6 -0.4
CKRC *e*S S 06 01 06.8 +2.7
CKRC AMS AMS 06 12 40.0
comp=Z,200nm,17.7s
TUL1 Leonard 45.32 292 P P 05 54 23.9 -0.8
baz=80,SNR=5.7
OBKA Obir 45.37 53 *e*P P 05 54 23.7 -1.3
comp=Z,17nm,0.8s,SNR=6.0
PRU Pruhonice 45.45 49 *e*P P 05 54 25.8 +0.2
PRU *e*S S 06 01 15.2 +8.2
PRU AMS AMS 06 11 30.0
comp=Z,300nm,14.3s
PRU Pruhonice 45.45 49 *e*P P 05 54 25.8 +0.2
PRU *e*S S 06 01 15.2 +8.2
PRU MLR MLR
comp=Z,300nm,14.3s
KSU1 Kansas State U 45.49 296 P P 05 54 25.7 -0.4
baz=83
PVCC Panska Ves 45.50 48 AMS AMS 06 10 20.0
comp=Z,400nm,17.4s
NOA NORSAR Array B 45.54 33 P P 05 54 25.4 -0.7
comp=Z,7.3nm,1.3s,baz=254,slow=8.1,SNR=1.9
NOA LR LR 06 10 08.2
comp=Z,54nm,21.0s,baz=250,slow=32
comp=Z,7.3nm,1.3s
SOKA Soboth 45.70 53 *e*P P 05 54 26.7 -1.0
comp=Z,12nm,1.4s
T35B Sooner Cattle 45.73 293 P P 05 54 28.2 +0.2
baz=81,SNR=5.0
VAE Valguarnera 45.99 66 LR LR 06 11 45.6
comp=Z,341nm,19.1s,baz=268,slow=34
ARSA Arzberg 46.03 52 *e*P P 05 54 29.5 -0.8
comp=Z,22nm,1.8s,SNR=5.8
PETF Flores 46.20 264 P P 05 54 32.6 +0.7
PETF IAmb IAmb 05 54 37.0
comp=Z,22nm,0.9s
H10N2 ASCENSION HYDR 46.23 142 T T 06 44 01.6
baz=328,slow=75,SNR=260
H10N3 ASCENSION HYDR 46.23 142 T T 06 44 00.0
baz=328,slow=75,SNR=239
H10N1 ASCENSION HYDR 46.25 142 T T 06 44 04.1
baz=328,slow=75,SNR=276
CONA Conrad Observa 46.26 51 *e*P P 05 54 31.5 -0.6
comp=Z,9.4nm,1.4s
UPC Upice 46.42 48 AMS AMS 06 12 00.0
comp=Z,400nm,14.6s
CHVC Chvalec 46.45 48 *e*P P 05 54 33.2 -0.3
HFS Hagfors 46.48 34 LR LR 06 10 14.3
comp=Z,134nm,22.0s,baz=248,slow=31
OSTC Ostas 46.55 48 *e*P P 05 54 34.2 -0.1
OSTC AMS AMS 06 11 50.0
comp=Z,400nm,18.2s
RONA Rosalia, Austr 46.55 52 *e*P P 05 54 34.0 -0.4
comp=Z,14nm,1.1s,SNR=6.6
DPC Dobruska-Polom 46.61 48 *e*P P 05 54 34.7 -0.1
DPC AMS AMS 06 11 00.0
comp=Z,300nm,17.8s
DPC Dobruska-Polom 46.61 48 *e*P P 05 54 34.7 -0.1
DPC MLR MLR
comp=Z,300nm,17.8s
KRUC Moravsky 46.63 50 *e*P P 05 54 34.3 -0.6
BDFB Brasilia 46.66 189 P P 05 54 36.5 +1.0
comp=Z,4.0nm,0.8s,baz=29,slow=6.5,SNR=6.4
BDFB LR LR 06 11 44.6
comp=Z,194nm,20.6s,baz=2.8,slow=33
comp=Z,4.0nm,0.8s
SOP Sopron 46.73 52 P P 05 54 34.5 -1.2
VRAC Vranov 46.76 50 *e*P P 05 54 35.3 -0.6
KRLC Kraliky 46.90 48 AMS AMS 06 11 20.0
comp=Z,200nm,14.2s
ETMB Extrema 46.98 215 P P 05 54 37.7 -0.2
ETMB IAmb IAmb 05 54 43.7
comp=Z,24nm,1.6s
ETMB Extrema 46.98 215 *e*P P 05 54 37.4 -0.6
H10S3 ASCENSION HYDR 47.08 143 T T 06 45 06.1
baz=253,slow=74,SNR=113
H10S2 ASCENSION HYDR 47.10 143 T T 06 45 04.2
baz=327,slow=74,SNR=120
VILB Vilhena 47.19 206 P P 05 54 39.5 0.0
VILB IAmb IAmb 05 54 46.9
comp=Z,23nm,1.1s
VILB Vilhena 47.19 206 *e*P P 05 54 40.7 +1.1
MODS Modra-Piesok 47.21 51 *e*P P 05 54 39.1 -0.4
MODS Modra-Piesok 47.21 51 *e*P P 05 54 39.1 -0.4
MODS pmax pmax
comp=Z,91nm,1.8s
R32A Long Quarter, 47.21 296 P P 05 54 41.4 +1.7
R32A IAmb IAmb 05 54 43.5
comp=Z,22nm,1.1s
ARAG Araguaiana, MT 47.37 194 *e*P P 05 54 42.2 +1.3
MPLH Magyarpolny 47.41 52 P P 05 54 40.5 -0.5
WHTX Lake Whitney, 47.49 287 P P 05 54 42.1 +0.3
baz=76
CSTR Hydro, Custer 47.69 292 P 05 54 44.5 +1.1
CSTR IAmb IAmb 05 54 48.8
comp=Z,9.3nm,2.0s
KOVH Kovagotttos 47.84 54 P P 05 54 43.7 -0.7
435B Jarrell 47.91 285 P P 05 54 44.9 -0.2
baz=75
CBKS Cedar Bluff 47.95 296 P P 05 54 45.8 +0.4
baz=81
WMOK Wichita Mounta 47.95 291 P P 05 54 45.8 +0.4
baz=78,SNR=6.0
MORH Mrgy, Hungar 48.21 54 ⇑P P 05 54 46.7 -0.5
MORH Mrgy, Hungar 48.21 54 P P 05 54 46.6 -0.6
VYHS Vyhne 48.24 51 *e*P P 05 54 47.0 -0.5
VYHS Vyhne 48.24 51 *e*P P 05 54 47.0 -0.5
VYHS pmax pmax
comp=Z,14nm,1.4s
SALV Santo Antonio 48.49 199 *e*P P 05 54 50.3 +0.7
CZSB Cruzeiro do Su 48.76 223 *e*P P 05 54 50.6 -1.2
OJC Ojcow 48.84 48 *e*P P 05 54 49.8 -2.3
IPMB Ipameri, GO 48.99 189 *e*P P 05 54 54.0 +0.5
BOSC San Juan Bosco 49.00 233 P P 05 54 53.1 -0.8
BOSC IAmb IAmb 05 54 58.6
comp=Z,19nm,1.0s
PTLB Pontes e Lacer 49.12 203 P P 05 54 54.1 -0.3
PTLB IAmb IAmb 05 55 01.9
comp=Z,25nm,1.7s
PTLB Pontes e Lacer 49.12 203 *e*P P 05 54 55.0 +0.6
ABTX Abilene, Hawle 49.13 288 P P 05 54 53.4 -1.2
baz=76,SNR=6.6
ABTX Abilene, Hawle 49.13 288 P P 05 54 54.4 -0.2
baz=76,SNR=6.6
SJMB Sao Joao De Ma 49.25 180 *e*P P 05 54 56.5 +1.1
JCT Junction City 49.83 286 P P 05 54 58.5 -1.4
baz=74,SNR=7.3
JCT Junction City 49.83 286 P P 05 54 59.2 -0.8
baz=74,SNR=7.3
ABAH Abaujker 49.85 51 P P 05 54 59.9 +0.1
CRVS Cervenica-Dubn 49.97 50 *e*P P 05 55 01.1 +0.4
CRVS Cervenica-Dubn 49.97 50 *e*P P 05 55 01.1 +0.4
CRVS pmax pmax
comp=Z,59nm,1.7s
AMTX Amarillo 50.24 292 P P 05 55 03.4 +0.3
baz=77
SIV San Ignacio 50.30 205 LR LR 06 14 31.4
comp=Z,158nm,19.2s,baz=94,slow=34
BZS Buzias 50.33 54 ⇓P P 05 55 03.7 +0.3
BZS Buzias 50.33 54 ⇓P P 05 55 03.7 +0.3
RSSD Black Hills 50.41 304 P P 05 55 05.2 +0.8
baz=83
CMIG Matias Romero 50.43 267 LR LR 06 14 47.7
comp=Z,156nm,20.5s,baz=56,slow=34
UZH Uzhgorod 50.53 50 *e*P P 05 55 04.6 -0.3
UZH *i* 05 55 08.8
BOVS Bovan 50.62 57 ⇑P P 05 55 05.6 -0.1
TRPA Tarpa 50.73 51 ⇑P P 05 55 06.3 -0.2
TRPA Tarpa 50.73 51 P P 05 55 06.2 -0.2
FNA Florina 50.81 60 P P 05 55 07.3 +0.1
FNA Florina 50.81 60 P P 05 55 07.3 +0.1
FNA pmax pmax
comp=Z,4.0nm,0.8s
DRGR 50.97 53 ⇑P P 05 55 07.4 -0.9
DRGR 50.97 53 ⇑P P 05 55 07.4 -0.9
RES Resolute Bay 51.15 344 LR LR 06 15 01.2
comp=Z,154nm,21.5s,baz=136,slow=34
GZR Gura Zlata 51.16 54 ⇑P P 05 55 09.3 -0.5
GZR Gura Zlata 51.16 54 ⇑P P 05 55 09.3 -0.5
BBSD Serra de San D 51.24 204 *e*P P 05 55 11.2 +0.7
BLKB Belogradchik 51.32 57 ⇑P P 05 55 10.6 -0.4
MSTX Muleshoe 51.34 291 P P 05 55 09.5 -1.8
baz=76,SNR=5.4
MSTX Muleshoe 51.34 291 P P 05 55 10.5 -0.9
baz=76,SNR=5.4
LVV L'vov 51.59 49 *e*P P 05 55 12.6 -0.2
LAO LASA Array 51.64 307 P P 05 55 14.5 +1.1
baz=84
ATAH Atahualpa 51.85 230 LR LR 06 16 43.8
comp=Z,156nm,21.3s,baz=28,slow=36
VTS Vitosha 51.88 58 ⇑P P 05 55 15.0 -0.3
VTS Vitosha 51.88 58 ⇑P P 05 55 15.0 -0.3
T25A Trinidad 51.89 295 P P 05 55 16.1 +0.6
baz=77
BBRB Robore, Bolivi 51.98 203 *e*P P 05 55 17.0 +1.0
Q24A Divide 52.07 297 P P 05 55 18.5 +1.5
Q24A IAmb IAmb 05 55 21.9
comp=Z,16nm,1.2s
Q24A Divide 52.07 297 P P 05 55 17.6 +0.6
baz=78
ARR Arges 52.46 54 ⇑P P 05 55 19.5 -0.1
BURAR Bucovina Array 52.58 51 ⇓P P 05 55 20.5 +0.1
BURAR Bucovina Array 52.58 51 P P 05 55 20.5 +0.1
BURAR Bucovina Array 52.58 51 ⇓P P 05 55 20.5 +0.1
SDCO Great Sand Dun 52.60 296 P P 05 55 19.7 -1.2
baz=77
FINES FINESS Array B 52.67 34 P P 05 55 19.8 -0.9
comp=Z,5.0nm,0.8s,baz=253,slow=5.8,SNR=6.7
FINES LR LR 06 14 08.6
comp=Z,81nm,21.7s,baz=254,slow=32
comp=Z,5.0nm,0.8s
VOIR 52.74 54 ⇑P P 05 55 20.8 -0.8
VOIR 52.74 54 ⇑P P 05 55 20.8 -0.8
AQDB Aquidauana 52.87 197 *e*P P 05 55 24.7 +2.1
DOPR Dopca 52.90 53 ⇑P P 05 55 22.1 -0.6
NACGM Naroch 52.99 42 *e*P P 05 55 28.4 +5.2
comp=Z,21nm,1.4s,baz=273
MLR Muntele Rosu 53.36 54 ⇑P P 05 55 26.1 -0.1
MLR Muntele Rosu 53.36 54 LR LR 06 18 21.4
comp=Z,82nm,18.5s,baz=266,slow=36
MLR Muntele Rosu 53.36 54 P P 05 55 26.4 +0.1
MLR Muntele Rosu 53.36 54 ⇑P P 05 55 26.1 -0.1
ARCES ARCESS Array B 53.37 24 P P 05 55 23.8 -2.0
comp=Z,5.4nm,0.9s,baz=265,slow=8.0,SNR=6.1
ARCES LR LR 06 14 03.4
comp=Z,58nm,21.5s,baz=268,slow=32
comp=Z,5.4nm,0.9s
TXAR Lajitas Array 53.37 285 P P 05 55 24.4 -2.1
comp=Z,0.3nm,0.6s,baz=98,slow=9.0,SNR=4.7
TXAR LR LR 06 16 39.6
comp=Z,151nm,20.6s,baz=80,slow=34
comp=Z,0.3nm,0.6s
LPAZ La Paz 53.50 213 P P 05 55 27.6 -0.4
comp=Z,4.5nm,0.8s,baz=356,slow=5.7,SNR=19
LPAZ LR LR 06 17 50.5
comp=Z,167nm,18.3s,baz=11,slow=36
comp=Z,4.5nm,0.8s
LPAZ La Paz 53.50 213 P P 05 55 27.8 -0.2
LPAZ IAmb IAmb 05 55 43.7
comp=Z,14nm,1.2s
LPAZ La Paz 53.50 213 *e*P P 05 55 29.6 +1.5
LPAZ La Paz 53.50 213 P P 05 55 27.8 -0.2
LPAZ pmax pmax
comp=Z,14nm,1.3s
SPITS Spitsbergen Ar 53.56 13 LR LR 06 13 06.7
comp=Z,92nm,18.8s,baz=250,slow=30
S22A 4UR Ranch, Cre 53.63 296 P P 05 55 26.8 -1.7
baz=76,SNR=5.3
MNK Minsk 53.64 43 *i* P P 05 55 25.9 -2.1
comp=E,4.0nm,1.2s
MNK *i* P P 05 55 25.9 -2.1
comp=N,38nm,0.8s
MNK *i* P P 05 55 25.9 -2.1
comp=Z,37nm,1.2s,baz=273
MNK *i* PP PP 05 57 25.9 -2.6
MNK *i* PPP PPP 05 58 31.7
MNK *i* S S 06 03 00.7 -0.9
MNK *i* SS SKiKP 06 06 42.9 -0.2
MNK *i* SSS SSS 06 08 35.6
MNK *i* LQ LQ 06 14 29.7
MNK *i* LR LR 06 18 30.9
MNK *i* LRM MLR 06 22 04.9
comp=N,185nm,12.8s
MNK *i* LRM MLR 06 22 13.2
comp=E,12nm,17.9s
MNK *i* LRM MLR 06 22 18.9
comp=Z,76nm,14.1s
MNK Minsk 53.64 43 *i* P P 05 55 25.8 -2.1
MNK *i* 05 57 25.9
MNK *i* PPP PPP 05 58 31.7
MNK *i* S S 06 03 00.6 -0.9
MNK *i* 06 05 14.5
MNK *i* SS SKiKP 06 06 42.8 -0.2
MNK *i* SSS SSS 06 08 35.6
MNK pmax pmax
comp=Z,37nm,1.2s
MNK pmax pmax
comp=N,38nm,0.8s
MNK pmax pmax
comp=E,4.0nm,1.2s
MNK MLR MLR
comp=N,185nm,13.0s
MNK MLR MLR
comp=E,12nm,18.0s
MNK MLR MLR
comp=Z,76nm,14.0s
PLOR Plostina 53.79 53 ⇑P P 05 55 29.2 -0.1
PLOR Plostina 53.79 53 ⇑P P 05 55 29.2 -0.1
VRI Vrincioaia 53.84 53 ⇑P P 05 55 29.3 -0.3
VRI Vrincioaia 53.84 53 ⇑P P 05 55 29.3 -0.3
EGMT Eagleton 53.86 309 P P 05 55 29.3 -0.4
baz=82
RLMT Red Lodge 53.96 306 P P 05 55 29.7 -1.1
baz=80
ANMO Albuquerque 54.03 293 P P 05 55 29.5 -1.8
comp=Z,1.4nm,0.8s,baz=104,slow=11,SNR=4.9
ANMO LR LR 06 15 45.4
comp=Z,510nm,21.9s,baz=88,slow=33
comp=Z,1.4nm,0.8s
ANMO Albuquerque 54.03 293 P P 05 55 31.7 +0.3
baz=75
ANMO Albuquerque 54.03 293 P P 05 55 32.7 +1.3
baz=75
ANMO Albuquerque 54.03 293 *ce*P P 05 55 31.4 0.0
ANMO pmax pmax
comp=Z,2.0nm,0.8s
O20A White River Ci 54.16 300 P P 05 55 32.6 +0.3
baz=78
BW06 Boulder Array 54.59 303 P P 05 55 33.6 -1.8
baz=79,SNR=26
PDAR Pinedale Array 54.59 303 P P 05 55 33.4 -2.0
comp=Z,3.8nm,0.7s,baz=84,slow=7.4,SNR=29
PDAR LR LR 06 17 49.6
comp=Z,814nm,18.6s,baz=110,slow=35
comp=Z,3.8nm,0.7s
SORM Soroca 54.60 50 ⇑P P 05 55 32.8 -2.2
SORM Soroca 54.60 50 ⇑P P 05 55 32.8 -2.2
Y22F Passcal Instru 54.63 292 P P 05 55 34.4 -1.3
baz=74
Y22A Socorro 54.70 292 P P 05 55 35.8 -0.5
baz=74,SNR=8.0
IDI Anoyia 54.71 66 LR LR 06 18 20.6
comp=Z,44nm,19.5s,baz=282,slow=35
AKASG Malin Array Be 54.81 47 P P 05 55 35.2 -1.4
comp=Z,4.3nm,0.9s,baz=273,slow=6.9,SNR=22
AKASG LR LR 06 17 15.5
comp=Z,247nm,18.5s,baz=277,slow=34
comp=Z,4.3nm,0.9s
AKBB Malin Array Si 54.81 47 *ce*P P 05 55 35.0 -1.6
AKBB pmax pmax
comp=Z,30nm,1.7s
SBM South Baldy 54.87 292 P P 05 55 36.9 -0.9
H17A Grant Village 55.00 305 P P 05 55 37.5 -0.9
baz=79
MVCO Mesa Verde 55.04 296 P P 05 55 39.0 +0.2
MVCO Mesa Verde 55.04 296 P P 05 55 37.0 -1.8
baz=75
RDMU Red Mountain 55.06 300 P P 05 55 37.7 -1.1
YMR Madison River 55.23 305 P P 05 55 40.1 +0.2
FXWY Fox Creek 55.47 304 P P 05 55 43.0 +1.3
FXWY IAmb IAmb 05 55 46.0
comp=Z,11nm,1.2s
EDM Edmonton 55.48 316 P P 05 55 43.4 +1.9
EDM Edmonton 55.48 316 P P 05 55 43.4 +1.9
EDM pmax pmax
comp=Z,44nm,1.4s
YKA Yellowknife Ar 55.51 327 P P 05 55 39.0 -2.4
comp=Z,1.7nm,0.8s,baz=95,slow=6.9,SNR=2.9
YKA LR LR 06 18 23.5
comp=Z,517nm,20.5s,baz=64,slow=35
comp=Z,1.7nm,0.8s
YKA Yellowknife Ar 55.51 327 P P 05 55 39.0 -2.4
BOZ Bozeman (W) 55.52 307 P P 05 55 40.3 -1.7
baz=79
121A Cookes Peak, D 55.77 290 P P 05 55 43.5 -0.4
baz=73
W18A Petrified Fore 56.57 294 P P 05 55 49.3 -0.4
baz=73
MSO Missoula 56.86 308 P P 05 55 51.1 -0.3
baz=79,SNR=5.2
PB08 IPOC Station P 57.33 211 P P 05 55 54.1 -1.2
PB08 IAmb IAmb 05 56 06.0
comp=Z,21nm,1.3s
DUG Dugway, Tooele 57.55 301 P P 05 55 55.8 -0.7
baz=75,SNR=7.4
WUAZ Wupatki 57.74 295 P P 05 55 56.8 -1.1
baz=73,SNR=6.0
HLID Hailey 57.89 305 P P 05 55 57.8 -1.1
baz=76
ELL Elmali 58.22 63 P P 05 56 01.1 -0.1
ELL Elmali 58.22 63 P P 05 56 01.1 -0.1
ELL pmax pmax
comp=Z,49nm,1.1s
TUC Tucson 58.25 291 P P 05 55 59.9 -1.6
baz=71
OBN Obninsk 58.57 41 LR LR 06 19 51.6
comp=Z,40nm,18.0s,baz=268,slow=35
OBN Obninsk 58.57 41 *ce*P P 05 56 02.9 -0.2
OBN *e**PP **pwP** 05 56 08.5 -0.3
OBN *e* 05 56 53.8
OBN *e* 05 58 14.1
OBN *e*PPP PPP 05 59 34.8
OBN *e*S S 06 04 12.0 +5.2
OBN *e*SS SS 06 08 03.2 +4.2
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,151nm,17.0s
NEW Newport 58.67 311 LR LR 06 21 25.8
comp=Z,261nm,18.5s,baz=76,slow=36
NEW Newport 58.67 311 P P 05 56 02.9 -1.2
baz=78
PB02 IPOC Station P 58.69 212 P P 05 56 03.2 -1.3
CPUP Villa Florida 58.88 197 P P 05 56 04.8 -0.8
comp=Z,1.3nm,0.8s,baz=39,slow=6.5,SNR=3.3
CPUP LR LR 06 20 10.0
comp=Z,45nm,19.1s,baz=11,slow=35
comp=Z,1.3nm,0.8s
CPUP Villa Florida 58.88 197 P P 05 56 05.3 -0.2
CPUP IAmb IAmb 05 56 12.2
comp=Z,39nm,1.9s
CPUP Villa Florida 58.88 197 P P 05 56 05.4 -0.2
CPUP pmax pmax
comp=Z,39nm,2.0s
C36M Paulatuk 59.00 336 P P 05 56 05.7 -0.2
baz=84
SPR3 Spring Creek 3 59.01 300 P P 05 56 06.6 -0.4
SPR3 IAmb IAmb 05 56 13.2
comp=Z,40nm,1.5s
MOS Moscow 59.05 40 *e*P P 05 56 05.0 -1.5
A36M Sachs Harbour 59.15 339 P P 05 56 06.7 -0.3
baz=85
ELK Elko 59.20 302 P P 05 56 07.9 -0.3
comp=Z,2.7nm,1.0s,baz=37,slow=8.1,SNR=6.0
ELK LR LR 06 20 59.2
comp=Z,541nm,18.6s,baz=84,slow=36
comp=Z,2.7nm,1.0s
KLMR Klimovskoe 59.20 34 *e*P P 05 56 04.7 -2.7
KLMR AMP 05 56 08.1
comp=Z,34nm,1.9s
KLMR Klimovskoe 59.20 34 *e*P P 05 56 04.7 -2.7
KLMR pmax pmax
comp=Z,34nm,1.9s
PB03 IPOC Station P 59.26 211 P P 05 56 07.4 -1.1
LVC Limon Verde 59.39 210 LR LR 06 21 25.0
comp=Z,164nm,18.1s,baz=3.0,slow=36
WRGLY Wrigley 59.49 329 P P 05 56 09.4 -0.1
baz=81
W13A Hualapai Mount 59.82 295 P P 05 56 12.9 +0.4
214A Organ Pipe Nat 59.99 291 P P 05 56 11.9 -1.6
baz=70
R11A Troy Canyon, C 60.13 299 P P 05 56 13.4 -1.2
baz=73
BR131 Keskin Array S 60.18 59 P P 05 56 13.7 -1.0
BR131 Keskin Array S 60.18 59 *i* P P 05 56 14.7 -0.1
BRTR Keskin Array B 60.18 59 P P 05 56 13.9 -0.9
comp=Z,3.3nm,0.8s,baz=263,slow=6.0,SNR=8.6
BRTR LR LR 06 21 39.7
comp=Z,96nm,18.5s,baz=296,slow=36
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 60.18 59 P P 05 56 14.1 -0.7
BRTR Keskin Array B 60.18 59 P P 05 56 14.1 -0.7
PDMCI Parker Dam,Lak 60.27 294 P P 05 56 14.8 -0.5
baz=71
KOTAN Kotaneelee Air 60.29 325 P P 05 56 14.1 -0.9
baz=79
V12A Nelson 60.37 296 P P 05 56 15.4 -0.7
V12A IAmb IAmb 05 56 21.5
comp=Z,11nm,1.0s
LPSR Galich'ya Gora 60.43 44 *e*P P 05 56 14.6 -1.5
LPSR pmax pmax
comp=Z,30nm,1.0s
G08A Pilot Rock 60.61 308 P P 05 56 19.6 +1.9
G08A IAmb IAmb 05 56 22.4
comp=Z,13nm,1.2s
LPIG La Paz 60.77 282 P P 05 56 17.0 -1.8
comp=Z,7.6nm,0.3s,baz=9.0,slow=9.3,SNR=1.4
LPIG LR LR 06 22 36.2
comp=Z,106nm,18.1s,baz=64,slow=36
comp=Z,7.6nm,0.3s
VORR Voronezh 60.81 45 *e*P P 05 56 16.7 -2.0
VORR pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 60.90 45 *e*P P 05 56 16.4 -2.9
VSR pmax pmax
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 61.06 298 P P 05 56 20.2 -0.7
baz=72,SNR=6.2
IRM Iron Mountain 61.11 295 P P 05 56 20.7 -0.4
baz=71
WVOR Wild Horse Val 61.17 304 P P 05 56 23.7 +2.2
WVOR IAmb IAmb 05 56 26.2
comp=Z,12nm,1.1s
WVOR Wild Horse Val 61.17 304 P P 05 56 23.7 +2.2
WVOR pmax pmax
comp=Z,12nm,1.2s
GLA Glamis 61.23 293 P P 05 56 21.7 -0.2
baz=70
TUQ Turquoise Moun 61.29 296 P P 05 56 21.6 -0.9
baz=71
GMRC Granite Mounta 61.30 295 P P 05 56 20.8 -1.7
baz=71
SHOC Shoshone, Teco 61.41 297 P P 05 56 22.8 -0.4
baz=71
ANN Anapa 61.44 53 *e*P P 05 56 19.8 -3.3
ANN *e**PP **pP** 05 56 22.9 -2.6
ANN *e*S S 06 04 41.4 -2.7
ANN pmax pmax
comp=Z,34nm,0.8s
LIRD Liard River Hi 61.45 325 P P 05 56 22.3 -0.6
baz=77
BC3 Big Chuckawall 61.52 294 P P 05 56 23.5 -0.5
baz=70
GWY Greenwater Val 61.62 297 P P 05 56 24.2 -0.5
GWY IAmb IAmb 05 56 30.4
comp=Z,13nm,1.3s
FURC Furnace Creek, 61.68 298 P P 05 56 24.8 -0.1
baz=71
HEC Hector,Ludlow 61.81 296 P P 05 56 26.2 +0.3
baz=70
BELC Belle Mtn. Jos 61.83 295 P P 05 56 26.0 -0.1
baz=70
GRAC Grapevine Rang 61.89 298 P P 05 56 26.6 +0.2
baz=71,SNR=5.5
GO02 Mina Guanaco 61.93 209 P P 05 56 26.4 -0.4
GO02 IAmb IAmb 05 56 32.6
comp=Z,18nm,1.3s
PRGR Permogore 61.95 33 *e*P P 05 56 25.4 -0.8
TGTN Hyland Airport 62.02 327 P P 05 56 25.8 -1.0
baz=76
GSC Goldstone, Bar 62.02 296 P P 05 56 26.5 -0.8
baz=70

SWSC **Sam W. Stewart** 62.03 293 P P 05 56 24.7 -2.6
baz=70
NVAR **Mina Array Bea** 62.14 300 P P 05 56 26.3 -1.9
comp=Z,1.4nm,0.7s,baz=68,slow=6.7,SNR=20
NVAR LR LR 06 22 37.7
comp=Z,891nm,18.9s,baz=80,slow=35
comp=Z,1.4nm,0.7s
MPMC **Manual Prospec** 62.29 297 P P 05 56 28.8 -0.5
baz=71,SNR=5.8
TPFO **Pinon Flats** 62.32 294 P P 05 56 29.6 +0.3
baz=70
PFO **Pinyon Flats O** 62.32 294 P P 05 56 27.7 -1.6
comp=Z,1.0nm,0.5s,baz=243,slow=8.5,SNR=4.2
PFO LR LR 06 21 24.3
comp=Z,490nm,21.2s,baz=75,slow=34
comp=Z,1.0nm,0.5s
PFO **Pinyon Flats O** 62.32 294 P P 05 56 28.5 -0.9
baz=70
IKP **In-Ko-Pah, Jac** 62.38 293 P P 05 56 28.7 -1.0
baz=70
VRH **Novokhopyorsk** 62.45 45 *e*P P 05 56 28.2 -1.6
VRH pmax pmax
comp=Z,20nm,1.1s
TIN **Tinemaha, Big** 62.53 299 P P 05 56 30.2 -0.5
baz=71,SNR=5.7
MONP2 **Monument Peak** 62.54 294 P P 05 56 31.5 +0.5
baz=70
INK **Inuvik** 62.56 335 LR LR 06 22 48.3
comp=Z,306nm,18.7s,baz=90,slow=35
INK **Inuvik** 62.56 335 P P 05 56 29.0 -1.2
baz=75,SNR=5.8
CWC **Cottonwood Cre** 62.62 298 P P 05 56 30.8 -0.6
baz=70
LRMC **Laurel Mtn Rad** 62.63 297 P P 05 56 30.8 -0.7
baz=70
F31M **Tsiigehtchic** 62.86 334 P P 05 56 31.7 -0.5
baz=75
MURC **Murrieta** 62.90 295 P P 05 56 33.1 -0.1
baz=70
EDW2 **Edwards Air Fo** 63.08 296 P P 05 56 34.8 +0.5
baz=70
MMPY **Sheldon Lake,** 63.11 329 P P 05 56 33.6 -0.5
baz=74
ISA **Isabella, Lake** 63.18 297 P P 05 56 35.0 0.0
ISA **Isabella, Lake** 63.18 297 P P 05 56 35.1 +0.1
baz=70,SNR=5.5
ISA **Isabella, Lake** 63.18 297 P P 05 56 35.0 0.0
ISA pmax pmax
comp=Z,28nm,1.5s
PLTB **Pedras Altas** 63.34 192 *e*P P 05 56 39.5 +3.7
SOC **Sochi** 63.37 53 *e*P P 05 56 33.5 -2.5
SOC *e* 05 58 52.7
SOC *e*PPP PPP 06 00 21.9
SOC *e*S S 06 05 06.4 -2.1
SOC *e* 06 09 15.1
SOC *e*SSS SSS 06 12 08.1
SOC MLR MLR
comp=Z,51nm,16.0s
ARVC **Arvin** 63.64 297 P P 05 56 38.4 +0.4
baz=70
DLBC **Dease Lake** 63.67 324 LR LR 06 23 53.6
comp=Z,485nm,19.4s,baz=88,slow=36
DLBC **Dease Lake** 63.67 324 P P 05 56 38.1 +0.3
baz=74
MMAI **Mount Meron Ar** 63.70 66 LR LR 06 23 26.0
comp=Z,40nm,20.6s,baz=102,slow=35
R33M **Jennings River** 63.86 325 P P 05 56 38.9 -0.3
baz=73
FARO **Faro, Yukon** 64.15 329 P P 05 56 41.8 +0.9
baz=73
T35M **Bob Quinn** 64.20 323 P P 05 56 42.0 +0.7
baz=73
YBH **Yreka Blue Hor** 64.27 305 LR LR 06 23 55.7
comp=Z,225nm,18.9s,baz=70,slow=35
EPYK **Eagle Plains** 64.29 334 P P 05 56 42.5 +0.7
baz=72
N32M **Quiet Lake** 64.35 327 P P 05 56 42.7 +0.4
baz=72
S34M **Telegraph Cree** 64.38 324 P P 05 56 43.0 +0.6
baz=72
BBB **Bella Bella** 64.46 317 LR LR 06 24 29.8
comp=Z,495nm,19.1s,baz=96,slow=36
PKM **Mcpherson Peak** 64.48 297 P P 05 56 43.7 0.0
baz=69
P33M **Teslin, Yukon** 64.51 326 P P 05 56 43.5 +0.1
baz=72
KIRV **Kirov** 64.59 35 LR LR 06 22 58.1
comp=Z,74nm,18.4s,baz=301,slow=34
M31M **Drury Creek, Y** 64.62 329 P P 05 56 43.6 -0.4
baz=72
Q32M **Nakina River** 64.63 325 P P 05 56 44.6 +0.3
baz=72
I29M **Ogilvie Camp,** 65.24 333 P P 05 56 48.3 +0.4
baz=70
KIV **Kislovodsk** 65.28 52 *e*P P 05 56 49.5 +0.8
KIV pmax pmax
comp=Z,11nm,1.1s
SHA1 **Shidzhatmaz** 65.34 52 *i*P P 05 56 50.6 +1.4
WHY **Whitehorse** 65.34 327 P P 05 56 49.0 +0.2
baz=71
K29M **Barlow Dome** 65.44 331 P P 05 56 48.9 -0.5
baz=70
E27K **Coleen River** 65.45 336 P P 05 56 49.7 +0.4
baz=68
N31M **Braeburn, Yuko** 65.48 328 P P 05 56 50.2 +0.6
baz=70
KBZ **Khabaz** 65.50 52 P P 05 56 48.8 -1.1
comp=Z,4.0nm,0.9s,baz=288,slow=8.1,SNR=5.6
KBZ LR LR 06 25 58.2
comp=Z,44nm,18.1s,baz=346,slow=37
comp=Z,4.0nm,0.9s
KBZ **Khabaz** 65.50 52 *ce*P P 05 56 50.7 +0.7
KBZ pmax pmax
comp=Z,11nm,1.3s
M30M **Minto, Yukon** 65.56 330 P P 05 56 49.2 -0.9
baz=70
BELG **Belogornoye** 65.60 42 LR LR 06 23 08.8
comp=Z,277nm,21.2s,baz=312,slow=34
BELG **Belogornoye** 65.60 42 *i*P P 05 56 49.4 -1.0
BELG pmax pmax
comp=Z,10.0nm,1.4s
C27K **Jago River** 65.62 338 P P 05 56 50.5 +0.2
baz=67
O30N **Mendenhall** 65.86 328 P P 05 56 51.9 -0.2
baz=70
L29M **L29M** 65.95 330 P P 05 56 52.2 -0.4
baz=69
SKAG **Skagway** 65.96 326 P P 05 56 52.4 -0.2
baz=70
G27K **Doyon Strip** 65.99 335 P P 05 56 52.2 -0.6
baz=68
N30M **Aishikik Lake** 66.08 328 P P 05 56 53.6 +0.1
baz=69
DAWY **Dawson** 66.13 332 P P 05 56 53.6 -0.2
DAWY **Dawson** 66.13 332 P P 05 56 53.2 -0.6
baz=68
H27K **Steamboat Moun** 66.16 334 P P 05 56 53.2 -0.7
baz=68
M29M **Somme Creek** 66.33 330 P P 05 56 54.6 -0.5
baz=69
I27K **Kandik River** 66.43 334 P P 05 56 56.3 +0.6
baz=67
HYT **Haines Junctio** 66.49 328 P P 05 56 56.6 +0.4
baz=69
ZEI **Tsey** 66.52 53 *e*P P 05 56 56.6 -0.2
ZEI pmax pmax
comp=Z,13nm,1.6s
F26K **Sheenjek River** 66.53 336 P P 05 56 56.5 +0.2
baz=66
EGAK **Eagle** 66.58 333 P P 05 56 55.9 -0.6
baz=67
D25K **Kavik River** 66.60 338 P P 05 56 56.9 +0.2
baz=65
G26K **Porcupine Rive** 66.71 335 P P 05 56 58.0 +0.6
baz=66
SIT **Sitka** 66.80 324 P P 05 56 57.5 -0.6
baz=69
YUK4 **Talbot Arm** 66.82 329 P P 05 56 57.6 -0.8
baz=68
YUK6 **Outpost Mounta** 66.84 328 P P 05 56 58.7 +0.1
baz=68
E25K **Arctic Village** 66.84 337 P P 05 56 57.5 -0.7
baz=65
P29M **Windy Craggy** 67.04 327 P P 05 56 59.9 +0.2
baz=68
F25K **Christian Rive** 67.09 336 P P 05 57 00.7 +0.8
baz=65
I26K **Coal Creek Min** 67.14 334 P P 05 57 00.5 +0.4
I26K IAmb IAmb 05 57 05.4
comp=Z,20nm,1.2s
I26K **Coal Creek Min** 67.14 334 P P 05 57 00.5 +0.4
baz=66
C24K **Franklin Bluff** 67.16 339 P P 05 57 00.6 +0.5
baz=63
K27K **Chicken** 67.24 332 P P 05 57 01.0 +0.3
baz=66
YUK8 **Steele Glacier** 67.34 329 P P 05 57 01.1 -0.7
baz=67
YUK3 **Moose Creek** 67.45 329 P P 05 57 02.6 +0.1
baz=67
L27K **Beaver Creek,** 67.53 331 P P 05 57 03.8 +1.1
baz=66
G25K **Bearman Lake** 67.61 335 P P 05 57 04.3 +1.2
baz=64
J26L **Joseph Creek** 67.64 333 P P 05 57 03.1 -0.3
baz=65
C23K **Itkillik River** 67.69 339 P P 05 57 03.3 -0.2
baz=61
H25K **Birch Creek** 67.73 335 P P 05 57 04.0 +0.1
baz=64
O28M **Mount Upton** 67.73 328 P P 05 57 03.5 -0.8
baz=66
PNL **Peninsula** 67.81 327 P P 05 57 04.1 -0.3
baz=67
M27K **Edge Creek, AK** 67.83 330 P P 05 57 05.0 +0.3
baz=66
E24K **Your Creek** 67.85 337 P P 05 57 04.7 0.0
baz=62
F24K **Squaw Lake** 67.90 337 P P 05 57 05.0 +0.1
baz=63
PRP **Porcupine Dome** 67.95 334 P P 05 57 04.7 -0.7
PRP **Porcupine Dome** 67.95 334 P P 05 57 05.4 -0.1
baz=64,SNR=11
SCRK **Sand Creek** 68.02 332 P P 05 57 06.0 +0.1
baz=65
GNI **Garni** 68.08 56 P P 05 57 07.1 +0.4
GNI P P 05 57 07.1 +0.4
GNI **Garni** 68.08 56 *ce*P P 05 57 07.4 +0.7
GNI pmax pmax
comp=Z,27nm,1.7s
G24K **Hadweenzic Riv** 68.13 336 P P 05 57 06.5 +0.1
baz=63
J25K **Salcha River,** 68.29 333 P P 05 57 07.6 +0.1
J25K **Salcha River,** 68.29 333 P P 05 57 08.0 +0.5
baz=64
RIDG **Independent Ri** 68.47 332 P P 05 57 09.6 +1.0
baz=64
A21K **Barrow** 68.64 342 P P 05 57 10.4 +0.9
baz=56
H24K **Noodor Dome** 68.68 335 P P 05 57 10.3 +0.5
baz=62
MCARA **McCarthy VSAT** 68.73 330 P P 05 57 10.8 +0.6
baz=64
IL31 68.80 334 P P 05 57 09.3 -1.2
ILAR **Eielson Array** 68.80 334 P P 05 57 08.9 -1.7
comp=Z,1.6nm,0.8s,baz=57,slow=5.2,SNR=14
comp=Z,1.6nm,0.8s
K24K **Donnelly Dome** 68.81 333 P P 05 57 10.9 +0.2
baz=63
COLD **Coldfoot** 68.83 337 P P 05 57 11.2 +0.4
baz=61
POKR **Poker Plat Res** 68.85 334 P P 05 57 11.1 +0.2
baz=62
E22K **Anaktuvuk Pass** 68.91 338 P P 05 57 11.5 +0.3
baz=60
HDA **Harding Lake** 68.99 333 P P 05 57 11.1 -0.7
HDA **Harding Lake** 68.99 333 P P 05 57 11.2 -0.5
baz=62,SNR=14
G23K **Bananza Creek** 69.02 336 P P 05 57 11.7 -0.3
baz=61
PAX **Paxson** 69.07 332 P P 05 57 12.1 -0.2
baz=63
COLA **College** 69.12 334 P P 05 57 12.2 -0.3
baz=62
COLA **College** 69.12 334 *i*P P 05 57 16.5 +4.0
COLA pmax pmax
comp=Z,20nm,1.1s
TCOL **CIGO, UAF Yank** 69.12 334 P P 05 57 12.2 -0.3
baz=62
HARP **HAARP** 69.19 331 P P 05 57 13.6 +0.5
baz=63
CCB **Clear Creek Bu** 69.21 334 P P 05 57 12.0 -1.1
H23K **Yukon River** 69.29 335 P P 05 57 14.0 +0.4
baz=62
N25K **Chitina, Valde** 69.32 330 P P 05 57 14.0 +0.1
baz=63
WRH **Wood River Hil** 69.40 334 P P 05 57 14.0 -0.3
G22K **Bettles** 69.42 337 P P 05 57 14.6 +0.2
baz=59
BMRM **Bremner River** 69.61 330 P P 05 57 16.3 +0.6
baz=63
NEA2 **Nenana** 69.71 334 P P 05 57 16.2 0.0
baz=61,SNR=9.6
H22K **Ishtalitna Cre** 69.91 336 P P 05 57 17.8 +0.4
baz=59
F21K **Alatna River** 69.93 337 P P 05 57 17.8 +0.3
baz=58
KLU **Klutina** 69.93 330 P P 05 57 17.8 +0.1
baz=62
ARU **Arti** 69.97 36 P P 05 57 17.4 -0.6
ARU IAmb IAmb 05 57 18.7
comp=Z,31nm,1.7s
ARU **Arti** 69.97 36 *di*P P 05 57 17.3 -0.6
ARU 05 57 38.5
ARU 05 59 47.5
ARU S S 06 06 29.5 +1.4
ARU SS SS 06 10 54.4 -2.1
ARU pmax pmax
comp=Z,20nm,1.7s
BWN **Browne** 70.07 334 P P 05 57 18.2 -0.3
MCK **McKinley** 70.08 333 P P 05 57 18.9 +0.3
baz=60
MLY **Manley** 70.12 335 P P 05 57 18.9 +0.1
baz=59
WAT6 **Susitna Watana** 70.17 332 P P 05 57 19.6 +0.3
baz=61
G21K **Allakaket** 70.32 337 P P 05 57 20.2 +0.3
baz=58
WAT1 **Susitna Watana** 70.38 332 P P 05 57 21.2 +0.8
baz=60
I21K **Tanana** 70.49 335 P P 05 57 20.6 -0.4
I21K IAmb IAmb 05 57 26.4
comp=Z,24nm,1.1s
I21K **Tanana** 70.49 335 P P 05 57 20.9 0.0
baz=58
H21K **Melozitna Rive** 70.53 336 P P 05 57 21.2 -0.1
baz=58
M23K **Glacier View** 70.55 331 P P 05 57 21.6 +0.2
baz=61
BPAW **Bear Paw Mtn.** 70.69 334 P P 05 57 21.8 -0.4
baz=59
GLI **Glacier Island** 70.72 330 P P 05 57 22.4 0.0
baz=61
TRF **Thorofare Moun** 70.75 333 P P 05 57 22.3 -0.5
TRF **Thorofare Moun** 70.75 333 P P 05 57 22.3 -0.5
baz=59
SML **Sawmill** 70.79 331 P P 05 57 22.9 0.0
baz=60
PMR **Palmer** 71.23 331 P P 05 57 24.5 -1.0
baz=60
CHUM **Lake Minchumin** 71.30 334 P P 05 57 25.7 -0.2
baz=58
CAST **Castle Rocks** 71.46 334 P P 05 57 26.1 -0.8
baz=58
RC01 **Rabbit Creek A** 71.74 331 P P 05 57 28.6 0.0
baz=59
PPLA **Purkeypile** 71.78 333 P P 05 57 29.1 +0.1
baz=58
J20K **Nowinta River** 71.82 335 P P 05 57 28.5 -0.5
baz=56
SUA **Susitna One** 71.96 332 P P 05 57 29.5 -0.6
baz=58
SKT **Skwentna** 72.01 332 P P 05 57 29.9 -0.3
baz=58
K20K **Telida** 72.24 334 P P 05 57 31.6 0.0
baz=56
RDOG **Red Dog Mine** 72.36 340 P P 05 57 32.2 -0.1
baz=50
SPU **Mount Spurr** 72.64 332 P P 05 57 33.6 -0.5
L20K **Farewell, AK** 72.66 333 P P 05 57 33.6 -0.6
baz=56
M20K **Styx River** 72.70 333 P P 05 57 34.3 -0.1
baz=57
N20K **Mount Spurr** 72.70 332 P P 05 57 33.7 -0.8
baz=57
H09N1 **TRISTAN DA CUN** 72.79 156 T T 07 17 21.2
SNR=45
H09W1 **TRISTAN DA CUN** 72.81 156 T T 07 17 15.1
SNR=7.1
M19K **Big River Lodg** 73.18 333 P P 05 57 37.7 +0.5
baz=56
L19K **White Mountain** 73.20 333 P P 05 57 37.6 +0.2
baz=55
NRIK **Noril'sk** 73.42 17 P P 05 57 37.9 -0.6
comp=Z,1.2nm,0.4s,baz=340,slow=3.9,SNR=6.3
comp=Z,1.2nm,0.4s
NRIK **Noril'sk** 73.42 17 *ce*P P 05 57 38.8 +0.3
NRIK pmax pmax
comp=Z,16nm,1.6s
O20K **Slope Mountain** 73.48 331 P P 05 57 38.8 -0.3
baz=56
ABKAR **Akbulak array** 74.00 42 P P 05 57 42.2 0.0
O18K **Koktuh Hills** 74.68 331 P P 05 57 47.1 +1.0
baz=54
KDAK **Kodiak Island** 74.74 329 LR LR 06 31 36.7
comp=Z,687nm,18.3s,baz=79,slow=37
KDAK **Kodiak Island** 74.74 329 P P 05 57 48.0 +1.6
baz=56
MBAR **Mbarara** 74.91 100 LR LR 06 29 50.8
comp=Z,425nm,19.5s,baz=284,slow=35
MBAR **Mbarara** 74.91 100 P P 05 57 50.9 +2.6
MBAR P P 05 57 50.9 +2.6
P18K **Big Mountain,** 74.96 331 P P 05 57 48.9 +1.2
baz=54
Q18K **Katmai Hardscr** 75.30 330 P P 05 57 48.9 -0.8
baz=54
TSUM **Tsumeb** 75.31 123 LR LR 06 24 22.5
comp=Z,141nm,21.2s,baz=330,slow=30
O17K **Koliganek Bris** 75.50 332 P P 05 57 51.0 +0.3
baz=53
RAYN **Ar Rayn** 75.71 71 P P 05 57 52.7 0.0
N16K **Nishlik Lake** 75.74 333 P P 05 57 52.6 +0.4
baz=52
Q17K **Contact Creek** 75.90 330 P P 05 57 52.7 -0.5
baz=54
PLCA **Paso Flores** 76.19 203 P P 05 57 55.1 +0.2
comp=Z,1.8nm,1.0s,baz=29,slow=10,SNR=2.3
PLCA LR LR 06 31 29.7
comp=Z,63nm,19.9s,baz=12,slow=36
comp=Z,1.8nm,1.0s
LODK **Lodwar** 76.78 94 P P 05 58 01.5 +2.6
BRVK **Borovoye** 77.53 35 P P 05 58 02.1 -0.3
BRVK P P 05 58 02.1 -0.3
BRVK **Borovoye** 77.53 35 *ce*P P 05 58 02.3 -0.1
BRVK pmax pmax
comp=Z,13nm,2.0s
BVAR **Borovoye Array** 77.60 35 LR LR 06 30 39.8
comp=Z,83nm,18.7s,baz=311,slow=34
GEYT **Alibeck** 78.39 53 P P 05 58 07.1 -0.5
comp=Z,1.0nm,0.4s,baz=318,slow=1.9,SNR=1.6
comp=Z,1.0nm,0.4s
LSZ **Lusaka** 80.93 114 LR LR 06 33 09.8
comp=Z,79nm,21.0s,baz=318,slow=35
MZR **Muzera** 82.39 68 P P 05 58 29.5 +0.3
KURK **Kurchatov** 83.04 34 P P 05 58 31.2 -0.8
KURK IAmb IAmb 05 58 39.6
comp=Z,13nm,1.2s
KURK **Kurchatov** 83.04 34 P P 05 58 32.2 +0.2
KURK P P 05 58 32.2 +0.2
KURK **Kurchatov** 83.04 34 *ce*P P 05 58 31.8 -0.3
KURK pmax pmax
comp=Z,19nm,1.7s
BANOM **Banah** 83.13 64 P P 05 58 33.3 +0.3
MASF **Masafi** 83.30 65 P P 05 58 34.3 +0.3
MASF P P 05 58 34.3 +0.3
KKAR **Karatay Array** 83.49 43 P P 05 58 34.5 -0.1
KKAR IAmb IAmb 05 58 35.6
comp=Z,18nm,1.9s
KKAR **Karatay Array** 83.49 43 P P 05 58 34.5 -0.1
KKAR pmax pmax
comp=Z,18nm,1.9s
UOSS **Minazif** 83.55 65 P P 05 58 34.4 -0.8
HATD **Hatta, Dubai** 83.56 65 P P 05 58 35.4 +0.1
SNR=7.0
HATD P P 05 58 35.4 +0.1
SNR=7.0
ASHO **Ashiyiah** 83.57 65 P P 05 58 35.5 +0.2
ZAA0 **Zalesovo Array** 83.58 29 P P 05 58 34.0 -0.8
ZAA0 IAmb IAmb 05 58 41.2
comp=Z,36nm,1.9s
ZALV **Zalesovo Beam** 83.58 29 P P 05 58 33.0 -1.8
comp=Z,1.6nm,0.9s,baz=316,slow=8.3,SNR=7.2
comp=Z,1.6nm,0.9s
ZALV **Zalesovo Beam** 83.58 29 P P 05 58 33.3 -1.5
ZALV **Zalesovo Beam** 83.58 29 P P 05 58 33.3 -1.5
UMZA **Um Al Zommool** 83.87 67 P P 05 58 37.5 +0.6
SOHO **SOHO** 84.22 65 P P 05 58 38.8 +0.2
SOHO P P 05 58 38.8 +0.2
ARQ **Araqi** 84.63 66 P P 05 58 39.7 -1.1
LBTB **Lobatse** 84.72 123 LR LR 06 30 06.6
comp=Z,168nm,21.4s,baz=356,slow=31
ABTO **Aybut** 85.08 73 P P 05 58 44.0 +0.9
SNR=8.3
HOQ **Hoqain** 85.12 66 P P 05 58 43.0 -0.2
SNR=5.2
HOQ P P 05 58 43.0 -0.2
SNR=5.2
DOK **Doka** 85.12 71 P P 05 58 43.8 +0.5
DOK P P 05 58 43.8 +0.5
WHFO **Wadi Hawf** 85.18 72 P P 05 58 43.9 +0.3
SNR=6.7
CHGR **Chuyangaron** 85.29 47 P P 05 58 43.5 -0.4
CHGR **Chuyangaron** 85.29 47 P P 05 58 43.5 -0.4
CHGR pmax pmax
comp=Z,108nm,1.9s
BSY **Bisya** 85.47 66 P P 05 58 44.4 -0.6
BSY P P 05 58 44.4 -0.6
BIDO **Bidbid** 85.79 65 P P 05 58 47.7 +1.2
SNR=5.5
GAR **Garm** 85.81 47 P P 05 58 46.5 0.0
SUR **Sutherland** 86.05 131 LR LR 06 29 22.1
comp=Z,101nm,21.7s,baz=316,slow=30
DMTO **DMTO** 86.25 72 P P 05 58 48.2 -0.7
DMTO P P 05 58 48.2 -0.7
WSAR **Wadi Sarin** 86.33 65 LR LR 06 38 59.9
comp=Z,99nm,20.2s,baz=300,slow=37
WSAR **Wadi Sarin** 86.33 65 P P 05 58 48.8 -0.4
SNR=5.7
JMDO **Jabal Madar** 86.37 66 P P 05 58 48.8 -0.6
BOSA **Boshof** 86.66 126 P P 05 58 51.8 +1.1
comp=Z,2.1nm,0.9s,baz=9.7,slow=17,SNR=2.0
BOSA LR LR 06 30 40.6
comp=Z,140nm,19.2s,baz=350,slow=31
comp=Z,2.1nm,0.9s
RPN **Rapa Nui** 86.84 236 LR LR 06 31 19.2
comp=Z,86nm,19.6s,baz=130,slow=31
MHTO **MHTO** 86.99 67 P P 05 58 53.5 +1.1
SNR=7.2
MHTO P P 05 58 53.5 +1.1
SNR=7.2
MKAR **Makanchi Array** 87.49 35 P P 05 58 53.7 -0.8
comp=Z,0.2nm,0.6s,baz=321,slow=2.0,SNR=1.5
MKAR PP PP 06 02 15.4 -3.1
comp=Z,0.9nm,1.0s,baz=172,slow=3.7,SNR=3.8
MKAR LR LR 06 36 43.1
comp=Z,148nm,20.1s,baz=300,slow=35
comp=Z,0.2nm,0.6s
MA2 **Magadan** 89.38 354 LR LR 06 36 38.0
comp=Z,50nm,18.7s,baz=25,slow=34
SHEM **Shemya Is, Ala** 91.24 339 LR LR 06 39 17.5
comp=Z,63nm,21.4s,baz=30,slow=35
WMQ **Urumqi** 92.27 34 *e*P P 05 59 18.2 +1.2
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ LR LR
comp=Z,130nm,29.3s
PETK **Petropavlovsk-** 94.79 349 LR LR 06 41 48.7
comp=Z,52nm,19.8s,baz=29,slow=35
ZEA **Zeya** 95.19 7 *e*P P 05 59 21.6 -8.5
ZEA pmax pmax
comp=Z,10.0nm,2.0s
PMSA **Palmer Station** 96.95 190 LR LR 06 44 43.9
comp=Z,20nm,18.0s,baz=317,slow=36
KLR **Kul'dur** 100.05 5 LR LR 06 40 28.0
comp=Z,34nm,21.7s,baz=16,slow=33
TAOE **Nuku Hiva Isla** 102.07 267 *e*LR LR 06 33 28.4
comp=Z,214nm,35.1s
XLT **XiLinHaoTe** 102.79 17 *i*P Pdif 05 59 57.6 -6.9
XLT pmax pmax
comp=Z,17nm,0.9s
XLT pmax pmax

comp=Z,70nm,5.0s
CD2 Chengdu 110.19 32 *e*Pdif **Pdif 06 00 35.9 -1.7**
TNCH TengChong 112.42 39 *e*PKP **PKiKP 06 04 41.6 -2.0**
PZH PanZhiHua 112.91 36 PKP **PKiKP 06 04 43.8 -0.6**
PPT2 Papeete2 114.26 263 *e*LR LR 06 39 06.9
comp=Z,200nm,30.5s
TBI Tubuai 116.60 258 *e*LR LR 06 40 10.9
comp=Z,457nm,35.0s
VNDA Vanda 132.06 187 PKP **PKPdf 06 05 17.4 -1.9**
comp=Z,1.1nm,1.0s,baz=291,slow=1.8,SNR=4.0
DZM Mont Dzumac 153.75 283 *e*LR LR 06 57 25.4
comp=Z,217nm,28.6s
WRA Warramunga Arr 168.46 21 PKP **PKPdf 06 06 12.2 -1.9**
comp=Z,0.8nm,1.1s,baz=318,slow=1.1,SNR=3.7
WRA PKPab **PKPab 06 07 22.4 -0.6**
comp=Z,0.4nm,0.9s,baz=343,slow=4.7,SNR=1.8
ASAR Alice Springs 171.67 32 PKP **PKPdf 06 06 14.7 -1.3**
comp=Z,0.5nm,0.8s,baz=97,slow=1.7,SNR=4.7
ASAR PKPab **PKPab 06 07 36.1 -1.3**
comp=Z,0.6nm,0.8s,baz=336,slow=4.3,SNR=5.4

ROM 05 05:52:17.3±0.1, 42.791N±0.004×13.083E±0.006, h11km, ML1.6/16, 12C-6D, Error ellipse: s-maj=0.4km s-min=0.3km az=81.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.05**	**28**	⇓P	Pg	05 52 19.8	+0.3
NRCA				S	Sg	05 52 21.2	0.0
NRCA				AML	AML		
	comp=E,6100μm,0.1s						
NRCA				AML	AML		
	comp=N,2490μm,0.1s						
NRCA				AML	AML		
	comp=N,2665μm,0.1s						
NRCA				AML	AML		
	comp=E,6105μm,0.1s						
NRCA				AML	AML		
	comp=E,6625μm,0.1s						
T1245	**Castelsantange**	**0.10**	**50**	⇑P	Pg	05 52 20.6	+0.5
T1245				S	Sg	05 52 22.6	+0.4
T1245				AML	AML		
	comp=E,2750μm,0.2s						
T1245				AML	AML		
	comp=E,2750μm,0.2s						
T1245				AML	AML		
	comp=N,2020μm,1.3s						
T1245				AML	AML		
	comp=E,2470μm,0.2s						
T1245				AML	AML		
	comp=N,2015μm,1.3s						
T1245				AML	AML		
	comp=N,2115μm,0.8s						
T1216	**Preci, Frazion**	**0.11**	**335**	P	Pg	05 52 20.6	+0.4
T1216				S	Sg	05 52 22.8	+0.5
T1202	**Accumoli, Fraz**	**0.14**	**130**	⇑P	Pg	05 52 21.3	+0.7
T1202				S	Sg	05 52 23.4	+0.4
T1217	**Poggiodomo (PG**	**0.14**	**235**	⇑P	Pg	05 52 21.2	+0.6
T1217				S	Sg	05 52 23.7	+0.8
T1215	**Vallo di Nera,**	**0.16**	**274**	⇑P	Pg	05 52 21.5	+0.6
LNSS	**Leonessa**	**0.19**	**190**	P	Pg	05 52 22.1	+0.6
LNSS				S	Sg	05 52 25.3	+1.0
LNSS				AML	AML		
	comp=E,265μm,0.2s						
LNSS				AML	AML		
	comp=N,786μm,0.4s						
MMO1	**Montemonaco**	**0.21**	**59**	⇑P	Pg	05 52 22.3	+0.6
SMA1	**SAN MARTINO**	**0.25**	**131**	⇓P	Pb	05 52 23.2	-0.6
SMA1				AML	AML		
	comp=E,586μm,0.3s						
SMA1				AML	AML		
	comp=N,296μm,0.4s						
SMA1				AML	AML		
	comp=E,587μm,0.3s						
CESI	**CESI - Serrava**	**0.25**	**328**	P	Pg	05 52 23.0	+0.5
CESI				S	Sg	05 52 27.1	+1.1
CESI				AML	AML		
	comp=N,304μm,0.5s						
CESI				AML	AML		
	comp=E,110μm,1.1s						
T1241	**Roccafluvione,**	**0.26**	**76**	⇓P	Pg	05 52 23.1	+0.4
T1241				AML	AML		
	comp=E,118μm,0.9s						
T1241				AML	AML		
	comp=N,92μm,0.3s						
T1241				AML	AML		
	comp=E,118μm,0.9s						
T1241				AML	AML		
	comp=N,92μm,0.3s						
T1243	**Rocca Santa Ma**	**0.28**	**109**	P	Pg	05 52 23.8	+0.6
RM33	**Pellescritta (**	**0.30**	**161**	⇓P	Pg	05 52 23.9	+0.5
RM33				AML	AML		
	comp=E,101μm,0.9s						
RM33				AML	AML		
	comp=N,111μm,0.6s						
T1211	**Morro Reatino**	**0.31**	**213**	⇓P	Pg	05 52 24.1	+0.6
T1211				AML	AML		
	comp=E,161μm,1.6s						
T1211				AML	AML		
	comp=N,224μm,1.1s						
CSP1	**Cessapalombo**	**0.31**	**17**	P	Pg	05 52 23.9	+0.2
CSP1				AML	AML		
	comp=E,240μm,0.3s						
CSP1				AML	AML		
	comp=N,267μm,1.2s						
ARRO	**Arrone**	**0.32**	**228**	⇑P	Pg	05 52 24.2	+0.6
GUMA	**Gualdo di Mace**	**0.33**	**34**	⇑P	Pb	05 52 24.8	-0.5
GUMA				AML	AML		
	comp=N,333μm,0.5s						
GUMA				AML	AML		
	comp=E,278μm,0.5s						
CESX	**Cesi**	**0.41**	**244**	⇑P	Pg	05 52 25.9	+0.5
CESX				AML	AML		
	comp=E,60μm,0.3s						
CESX				AML	AML		
	comp=N,54μm,1.3s						
TERO	**Teramo**	**0.42**	**114**	⇑P	Pg	05 52 25.9	+0.4
TERO				AML	AML		
	comp=N,93μm,0.8s						
TERO				AML	AML		
	comp=E,79μm,0.3s						
SNTG	**Esanatoglia**	**0.47**	**347**	⇑P	Pg	05 52 27.1	+0.5
SNTG				AML	AML		
	comp=E,42μm,0.6s						
SNTG				AML	AML		
	comp=N,31μm,0.6s						
SNTG				AML	AML		
	comp=E,41μm,0.6s						
GIGS	**Gran Sasso**	**0.49**	**133**	P	Pg	05 52 27.4	+0.4
ATCC	**AVT- Casa Cast**	**0.51**	**321**	⇑P	Pb	05 52 28.0	-0.3
ATCC				AML	AML		
	comp=E,51μm,1.5s						
ATCC				AML	AML		
	comp=N,49μm,1.5s						
EL6	**Elcito**	**0.54**	**1**	S	Sb	05 52 37.0	+0.3
CING	**Cingoli**	**0.59**	**8**	P	Pb	05 52 29.3	-0.4
CING				AML	AML		
	comp=E,33μm,1.1s						
CING				AML	AML		
	comp=N,34μm,0.9s						
FAGN	**Fagnano**	**0.64**	**145**	⇓P	Pb	05 52 30.3	-0.3
FAGN				AML	AML		
	comp=N,53μm,1.6s						
FAGN				AML	AML		
	comp=E,49μm,0.3s						
ARVD	**Arcevia**	**0.71**	**352**	⇑P	Pb	05 52 31.5	-0.3
ARVD				S	Sb	05 52 43.0	+1.3
ARCI	**Arcidosso**	**1.19**	**273**	S	Sb	05 52 55.0	-0.3

*DNK **05** 05:55:09.2±8.2, 78.14N×7.36E, h37km±184km, ML1.0*
BER 05 05:55:11.7±1.7, 78.34N×7.49E, h10km, ML1.8, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.06**	**54**	*i* P	Pg	05 55 30.2	-1.9
KBS				*i* S	Sg	05 55 42.6	-3.2
KBS	**Kingsbay**	**1.06**	**54**	*e*P	Pg	05 55 30.2	-1.9
KBS				*e*S	Sg	05 55 43.0	-2.8
KBS				IAML		05 55 45.4	
	comp=Z,33nm,0.2s						
BRBB	**Barentsburg B**	**1.40**	**97**	*e*P	Pn	05 55 35.5	-1.8
BRBB				*e*S	Sn	05 55 52.6	-3.1
BRBA	**Barentsburg A**	**1.41**	**98**	*e*P	Pn	05 55 35.5	-1.8
BRBA				*e*S	Sn	05 55 53.4	-2.6
BRBA				IAML		05 55 56.6	
	comp=Z,28nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.82**	**91**	*e*P	Pn	05 55 42.3	-0.8
SPA0				*e*S	Sn	05 56 04.9	-1.3
SPA0				IAML		05 56 06.2	
	comp=Z,22nm,0.3s						
HSPB	**Hornsund (broa**	**2.19**	**124**	*e*P	Pn	05 55 45.9	-2.1
HSPB				*e*S	Sn	05 56 11.1	-4.1
HSPB				IAML		05 56 13.5	
	comp=Z,6.8nm,0.3s						
NOR	**Nord**	**5.29**	**319**	*i* P	Pn	05 56 26.6	-4.0
NOR				IAML		05 57 25.4	
	comp=Z,0.2nm,0.2s						
DAG	**Danmarks Havn**	**5.83**	**267**	*e*	Pn	05 56 27.4	-11
	baz=109,slow=2.6						
DAG				*i* P	Pb	05 56 32.0	-21
DAG				*i* S	Sn	05 57 30.8	-14
DAG				IAML		05 57 33.8	
	comp=Z,1.4nm,0.2s						
DBG	**Daneborg**	**7.63**	**252**	*i* P	Pn	05 56 56.2	-6.5
DBG				*i* S	Sn	05 58 11.9	-17
NEEM	**North Greenlan**	**11.88**	**295**	*i* P	Pn	05 57 52.5	-8.5

ROM 05 05:55:28.6±0.1, 42.611N±0.004×13.281E±0.005, h11km, ML2.5/31, 9C-4D, Error ellipse: s-maj=0.4km s-min=0.4km az=5.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**64**	P	Pg	05 55 31.1	+0.3
SMA1				S	Sg	05 55 32.6	+0.1
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
	comp=N,33650μm,0.3s						
T1204	**Amatrice, Fraz**	**0.07**	**22**	⇑P	Pg	05 55 31.4	+0.3
T1204				S	Sg	05 55 33.0	+0.1
T1204				AML	AML		
	comp=N,14700μm,0.2s						
T1204				AML	AML		
	comp=E,18600μm,0.3s						
T1202	**Accumoli, Fraz**	**0.10**	**336**	P	Pg	05 55 32.0	+0.6
T1202				S	Sg	05 55 34.8	+1.3
RM33	**Pellescritta (**	**0.11**	**206**	⇑P	Pg	05 55 32.0	+0.5
RM33				S	Sg	05 55 34.1	+0.5
RM33				AML	AML		
	comp=E,7265μm,0.9s						
RM33				AML	AML		
	comp=N,6055μm,1.0s						
RM33				AML	AML		
	comp=N,6045μm,0.4s						
RM33				AML	AML		
	comp=E,7270μm,0.9s						
RM33				AML	AML		
	comp=E,7295μm,0.9s						
CAMP	**Campotosto**	**0.12**	**129**	⇑P	Pg	05 55 32.1	+0.4
CAMP				S	Sg	05 55 34.3	+0.4
CAMP				AML	AML		
	comp=E,1905μm,0.6s						
CAMP				AML	AML		
	comp=N,2130μm,0.4s						
T1243	**Rocca Santa Ma**	**0.15**	**55**	P	Pg	05 55 32.4	+0.3
T1243				S	Sg	05 55 35.1	+0.6
T1247	**Pizzolo (AQ)**	**0.17**	**176**	⇑P	Pg	05 55 32.9	+0.6
T1247				S	Sg	05 55 36.0	+1.1
T1247				AML	AML		
	comp=E,4740μm,1.1s						
T1247				AML	AML		
	comp=N,6390μm,0.9s						
LNSS	**Leonessa**	**0.18**	**267**	⇑P	Pg	05 55 33.1	+0.6
LNSS				S	Sg	05 55 36.2	+0.9
LNSS				AML	AML		
	comp=E,1780μm,0.2s						
LNSS				AML	AML		
	comp=N,5315μm,1.3s						
TERO	**Teramo**	**0.24**	**87**	P	Pg	05 55 33.9	+0.3
TERO				S	Sg	05 55 37.7	+0.8
TERO				AML	AML		
	comp=E,2990μm,1.6s						
TERO				AML	AML		
	comp=E,3250μm,1.6s						
TERO				AML	AML		
	comp=N,3375μm,1.0s						
TERO				AML	AML		
	comp=N,3010μm,1.0s						
T1245	**Castelsantange**	**0.26**	**344**	AML	AML		
	comp=N,2635μm,1.3s						
T1245				AML	AML		
	comp=E,1910μm,0.2s						
T1245				AML	AML		
	comp=E,2005μm,0.2s						
T1245				AML	AML		
	comp=E,1910μm,0.2s						
T1245				AML	AML		
	comp=N,2445μm,1.3s						
T1245				AML	AML		
	comp=E,1915μm,0.2s						
T1245				AML	AML		
	comp=N,2640μm,1.3s						
GIGS	**Gran Sasso**	**0.27**	**127**	P	Pg	05 55 34.3	+0.3
GIGS				S	Sg	05 55 38.5	+0.8
GIGS				AML	AML		
	comp=E,534μm,0.2s						
GIGS				AML	AML		
	comp=N,330μm,1.5s						
T1241	**Roccafluvione,**	**0.27**	**24**	P	Pg	05 55 34.5	+0.4
T1241				S	Sg	05 55 38.9	+1.1
AQU	**L'Aquila**	**0.27**	**161**	⇓P	Pg	05 55 34.7	+0.5
AQU				S	Sb	05 55 39.1	-1.1
AQU				AML	AML		
	comp=E,977μm,0.3s						
AQU				AML	AML		
	comp=N,872μm,0.7s						
AQU				AML	AML		
	comp=E,976μm,0.3s						
AQU				AML	AML		
	comp=N,894μm,0.7s						
AQU				AML	AML		
	comp=N,872μm,0.7s						
AQU				AML	AML		
	comp=E,974μm,0.3s						
T1217	**Poggiodomo (PG**	**0.28**	**291**	P	Pg	05 55 34.6	+0.4
T1217				S	Sg	05 55 39.2	+1.1
T1211	**Morro Reatino**	**0.32**	**256**	⇑P	Pg	05 55 35.5	+0.4
T1211				S	Sb	05 55 40.6	-1.1
T1211				AML	AML		
	comp=E,1880μm,1.1s						
T1211				AML	AML		
	comp=N,2385μm,0.5s						
T1211				AML	AML		
	comp=E,1900μm,1.2s						
T1211				AML	AML		
	comp=N,2295μm,0.5s						
T1211				AML	AML		
	comp=E,1880μm,1.1s						
T1216	**Preci, Frazion**	**0.34**	**325**	AML	AML		
	comp=E,920μm,0.6s						
T1216				AML	AML		
	comp=N,1400μm,1.5s						
T1216				AML	AML		
	comp=E,922μm,0.6s						
T1216				AML	AML		
	comp=N,1400μm,1.6s						
T1215	**Vallo di Nera,**	**0.36**	**302**	AML	AML		
	comp=E,683μm,0.5s						
T1215				AML	AML		
	comp=N,860μm,0.2s						
T1215				AML	AML		
	comp=N,860μm,0.2s						
T1215				AML	AML		
	comp=E,682μm,0.5s						
FIAM	**Fiamignano**	**0.36**	**200**	⇑P	Pg	05 55 36.1	+0.3
FIAM				S	Sg	05 55 41.6	+0.9
FIAM				AML	AML		
	comp=E,590μm,1.0s						
FIAM				AML	AML		
	comp=N,372μm,0.3s						
FIAM				AML	AML		
	comp=E,590μm,1.0s						
AM05	**Amandola Campo**	**0.37**	**8**	AML	AML		
	comp=E,3110μm,0.6s						
AM05				AML	AML		
	comp=N,724μm,0.1s						
AM05				AML	AML		
	comp=N,238μm,0.1s						
AM05				AML	AML		
	comp=E,772μm,1.3s						
FAGN	**Fagnano**	**0.41**	**147**	⇓P	Pg	05 55 37.0	+0.3
FAGN				S	Sb	05 55 43.5	-0.7
FAGN				AML	AML		
	comp=N,1625μm,0.3s						
FAGN				AML	AML		
	comp=E,1830μm,0.8s						
OFFI	**Offida**	**0.44**	**42**	AML	AML		
	comp=E,1590μm,0.9s						
OFFI				AML	AML		
	comp=N,1490μm,0.8s						
VCEL	**Villa Celiera**	**0.47**	**117**	P	Pb	05 55 38.6	-0.3
VCEL				S	Sb	05 55 46.2	+0.3
VCEL				AML	AML		
	comp=N,1645μm,1.1s						
VCEL				AML	AML		
	comp=E,1625μm,0.8s						
T0110	**Collepietro**	**0.53**	**136**	⇓P	Pg	05 55 39.2	+0.2
T0110				S	Sb	05 55 47.4	-0.3
T0110				AML	AML		
	comp=E,868μm,0.3s						
T0110				AML	AML		
	comp=N,1034μm,0.3s						
SRES	**S.Oreste - Sor**	**0.68**	**237**	⇓P	Pg	05 55 40.6	-1.1
SRES				AML	AML		
	comp=E,156μm,0.3s						
SRES				AML	AML		
	comp=N,134μm,0.3s						
MTCE	**Montecelio**	**0.71**	**214**	⇑P	Pg	05 55 41.7	-0.6
MTCE				AML	AML		
	comp=N,192μm,0.4s						
MTCE				AML	AML		
	comp=E,308μm,0.7s						
MA9	**Marino**	**0.96**	**209**	P	Pg	05 55 46.0	-1.0
MA9				AML	AML		
	comp=N,430μm,0.7s						
MA9				AML	AML		
	comp=E,342μm,0.6s						
TOLF	**Tolfa**	**1.10**	**241**	⇑P	Pb	05 55 49.2	-0.3

IDC 05 05:57:11.3±5.7, 16.48S×178.19W, h466km±24km, mb3.0/3, mbtmp3.8/4, Error ellipse: s-maj=243.1km s-min=31.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.81**	**250**	P	P	05 58 26.0	0.0
	6.6nm,0.3s,baz=64,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**45.11**	**258**	P	P	06 04 44.1	-1.1
	0.2nm,0.3s,baz=98,slow=6.7,SNR=7.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**45.39**	**253**	P	P	06 04 47.9	+0.6
	2.2nm,0.4s,baz=84,slow=8.6,SNR=52						
	2.2nm,0.4s						
ILAR	**Eielson Array**	**84.46**	**13**	P	P	06 08 53.5	0.0
	0.2nm,0.5s,baz=217,slow=4.5,SNR=5.8						
	0.2nm,0.5s						

NOU 05 06:24:07.7, 17.85S×168.13E, h40km, MLv4.0/15, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.14**	**24**	P	Pn	06 24 16.6	+2.1
DVP	**Devils Point**	**0.14**	**24**	P	Pn	06 24 16.6	+2.1
RTV	**Rentapao**	**0.29**	**79**	P	Pn	06 24 17.1	+1.3
RTV	**Rentapao**	**0.29**	**79**	P	Pn	06 24 17.0	+1.2
LIFNC	**LIFOU**	**3.03**	**196**	P	Pn	06 24 51.8	-1.4
MARNC	**Mare, Loyalty**	**3.61**	**181**	P	Pn	06 24 59.5	-1.7
YATNC	**Mamie plateau,**	**4.35**	**195**	P	Pn	06 25 11.0	-0.3
DZM	**Mont Dzumac**	**4.49**	**200**	P	Pn	06 25 13.4	+0.1
KOUNC	**Koumac, New Ca**	**4.52**	**233**	P	Pn	06 25 13.8	+0.2
NOUC	**Port Laguerre**	**4.56**	**202**	P	Pn	06 25 14.8	+0.5
OUENC	**Ouen Island, N**	**4.70**	**195**	P	Pn	06 25 16.7	+0.5
ONTNC	**Ouen Toro**	**4.71**	**199**	P	Pn	06 25 17.2	+1.0

IDC 05 06:30:27.9±4.0, 53.63N×90.82E, h0km, mbtmp2.7/3, ML2.4/2, Error ellipse: s-maj=38.3km s-min=26.5km az=32.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.58**	**278**	I		06 54 10.0	
	baz=91,slow=342,SNR=2.6						
ZALV	**Zalesovo Beam**	**3.58**	**278**	Pn	Pn	06 31 24.9	+0.3
	0.3nm,0.4s,baz=94,slow=15,SNR=1.8						
ZALV				Pg	Pb	06 31 33.0	+1.1
	0.2nm,0.3s,baz=95,slow=15,SNR=5.7						
ZALV				Lg	Lg	06 32 20.2	
	0.2nm,0.3s,baz=93,slow=23,SNR=3.5						
KURBB	**Kurchatov Arra**	**8.14**	**253**	Pn	Pn	06 32 27.8	+0.6
	baz=65,slow=15,SNR=1.5						
KURBB				Sn	Sn	06 33 58.0	-1.9
	baz=63,slow=27,SNR=1.5						
KURBB				Lg	Lg	06 34 48.2	
	baz=63,slow=32,SNR=2.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.76**	**222**	Pn	Pn	06 32 35.8	+0.1
	0.1nm,0.3s,baz=34,slow=16,SNR=2.8						
	0.2nm,0.6s						

*IDC **05** 06:49:47.1±2.4, 10.50N×127.02E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=221.0km s-min=28.3km az=66.0*
*MAN **05** 06:49:52.9, 10.64N×126.69E, h43km, mb4.6, ML3.5, MS3.4*
ISC 05 06:49:52.5±1.3, 10.4N±0.2×126.9E±0.1, h35km, n5, σ0s54/9, mb3.5/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.56**	**245**	*e*P	**Pn**	**06 50 18.4**	**+0.7**
SCPH				*e*S	**Sn**	**06 50 36.1**	**-0.6**
GHBP	**Garcia Hernand**	**2.69**	**253**	⇓*i* P	**Pn**	**06 50 33.9**	**+0.6**
GHBP				*e*S	**Sn**	**06 51 04.3**	**-0.3**
WRA	**Warramunga Arr**	**31.06**	**166**	P	**P**	**06 56 07.4**	**-0.1**
	0.2nm,0.6s,baz=350,slow=9.2,SNR=2.7						
WRA				PcP	**PcP**	**06 59 03.0**	**+0.3**
	0.2nm,0.6s,baz=350,slow=2.5,SNR=1.6						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**34.58**	**169**	P	**P**	**06 56 37.8**	**-0.4**
	0.2nm,0.3s,baz=352,slow=7.1,SNR=7.3						
ASAR				PcP	**PcP**	**06 59 12.8**	**+0.3**
	0.2nm,0.5s,baz=354,slow=2.9,SNR=5.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**52.28**	**322**	P	**P**	**06 59 00.2**	**-0.3**
	0.4nm,0.6s,baz=116,slow=7.2,SNR=5.0						
	0.4nm,0.6s						

ROM 05 07:05:15.7±0.1, 42.930N±0.003×13.176E±0.003, h10km, ML1.7/2, 3C-4D, Error ellipse: s-maj=0.3km s-min=0.1km az=206.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.07**	**173**	P	Pg	07 05 18.2	+0.1
T1245				S	Sg	07 05 20.1	+0.3
T1256	**Bolognola (MC)**	**0.09**	**25**	⇓P	Pg	07 05 18.4	+0.1
T1256				S	Sg	07 05 19.9	-0.1
FEMA	**Monte Fema**	**0.10**	**289**	P	Pg	07 05 18.8	+0.4
FEMA				S	Sg	07 05 20.8	+0.5
FEMA	**Monte Fema**	**0.10**	**289**	⇓P	Pg	07 05 18.8	+0.4
FEMA				S	Sg	07 05 20.9	+0.6
MMO1	**Montemonaco**	**0.12**	**105**	P	Pg	07 05 18.9	+0.4
MMO1				S	Sg	07 05 21.1	+0.5
T1216	**Preci, Frazion**	**0.12**	**251**	P	Pg	07 05 19.2	+0.5
T1216				S	Sg	07 05 21.6	+0.9
T1216				AML	AML		
	comp=E,1483μm,0.4s						
T1216				AML	AML		
	comp=N,1108μm,1.0s						
T1216				AML	AML		
	comp=N,1078μm,0.3s						
FDMO	**Fiordimonte**	**0.12**	**329**	P	Pg	07 05 19.1	+0.3
FDMO				S	Sg	07 05 21.3	+0.5
FDMO	**Fiordimonte**	**0.12**	**329**	⇓P	Pg	07 05 16.3	-2.4
FDMO				AML	AML		
	comp=E,1360μm,0.2s						
FDMO				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,1023µm,0.1s						
FDMO				AML	AML		
	comp=N,1023µm,0.1s						
FDMO				AML	AML		
	comp=E,1360µm,0.2s						
AM05	Amandola Campo	0.14	70	P	Pg	07 05 19.2	+0.3
AM05				S	Sg	07 05 21.7	+0.6
AM05	Amandola Campo	0.14	70	⇓P	Pg	07 05 19.3	+0.5
AM05				S	Sg	07 05 21.9	+0.8
CSP1	Cessapalombo	0.16	7	P	Pg	07 05 19.8	+0.4
CSP1				S	Sg	07 05 22.7	+0.8
CSP1	Cessapalombo	0.16	7	P	Pg	07 05 19.1	-0.3
CSP1				S	Sg	07 05 22.6	+0.7
GUMA	Gualdo di Mace	0.18	41	⇑P	Pg	07 05 20.3	+0.8
GUMA				S	Sg	07 05 23.7	+1.6
GUMA	Gualdo di Mace	0.18	41	P	Pg	07 05 20.2	+0.7
GUMA				S	Sg	07 05 23.6	+1.5
GUMA				AML	AML		
	comp=E,1150µm,0.7s						
GUMA				AML	AML		
	comp=N,2365µm,0.6s						
GUMA				AML	AML		
	comp=E,1775µm,0.2s						
GUMA				AML	AML		
	comp=N,2090µm,0.2s						
GUMA				AML	AML		
	comp=E,1775µm,0.2s						
GUMA				AML	AML		
	comp=N,2090µm,0.2s						
GUMA				AML	AML		
	comp=N,2365µm,0.6s						
GUMA				AML	AML		
	comp=E,1150µm,0.7s						
T1241	Roccafluvione,	0.20	111	P	Pg	07 05 20.5	+0.6
T1241				S	Sg	07 05 24.2	+1.4
T1241	Roccafluvione,	0.20	111	⇑P	Pg	07 05 20.5	+0.6
T1241				S	Sg	07 05 24.2	+1.4
T1241				AML	AML		
	comp=E,230µm,0.4s						
T1241				AML	AML		
	comp=N,244µm,0.7s						
T1241				AML	AML		
	comp=N,245µm,0.7s						
T1241				AML	AML		
	comp=E,230µm,0.4s						
CESI	CESI - Serrava	0.21	291	⇑P	Pg	07 05 20.8	+0.6
CESI				S	Sg	07 05 24.5	+1.3
T1202	Accumoli, Fraz	0.23	171	S	Sg	07 05 20.0	-3.7
T1243	Rocca Santa Ma	0.31	139	P	Pg	07 05 22.5	+0.6
T1243				S	Sb	07 05 27.6	-0.9
T1243	Rocca Santa Ma	0.31	139	P	Pb	07 05 23.1	-0.4
T1243				S	Sb	07 05 27.6	-1.0
RM33	Pellescritta (	0.42	176	AML	AML		
	comp=E,856µm,0.3s						
RM33				AML	AML		
	comp=E,826µm,0.3s						
RM33				AML	AML		
	comp=N,580µm,0.3s						
RM33				AML	AML		
	comp=E,827µm,0.3s						
RM33				AML	AML		
	comp=N,553µm,0.3s						
TERO	Teramo	0.44	134	AML	AML		
	comp=E,89µm,1.2s						
TERO				AML	AML		
	comp=N,112µm,0.4s						
T1247	Pizzolo (AQ)	0.50	170	AML	AML		
	comp=N,378µm,0.4s						
T1247				AML	AML		
	comp=E,252µm,0.4s						

MEX 05 07:28:13.7±0.4, 16°.83N×97°.70W, h5km, MD3.3, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOIG	Yosondua	0.15	81	*i* P	Pg	07 28 16.4	-0.4
YOIG				*i* S	Sg	07 28 18.6	-0.2
TXIG	Tlaxiaco	0.42	351	*i* P	Pg	07 28 21.6	-0.4
TXIG				*e*S	Sg	07 28 27.5	0.0
PNIG	Pinotepa	0.60	223	*e*P	Pg	07 28 25.0	-0.3
PNIG				*e*S	Sg	07 28 33.0	-0.2
VHO	Vista Hermosa	0.95	75	*e*P	Pg	07 28 30.1	-2.0
VHO				*e*S	Sg	07 28 43.8	-0.6
MGIG	Malinaltepec	0.98	294	*e*P	Pg	07 28 32.0	-0.5
MGIG				*e*S	Sg	07 28 45.6	+0.3
PEIG	Puerto Escondi	0.98	147	*e*P	Pg	07 28 30.9	-1.7
PEIG				*e*S	Sg	07 28 43.7	-1.7
HLIG	Huajuapan de L	1.00	354	*e*P	Pg	07 28 31.8	-1.0
HLIG				*e*S	Sg	07 28 45.0	-0.8
TLIG	Tlapa	1.10	311	*e*P	Pg	07 28 34.2	-0.6
TLIG				*e*S	Sg	07 28 49.0	-0.2
FTIG	Fresnillo de T	1.15	339	*e*P	Pg	07 28 34.9	-0.8
FTIG				*e*S	Sg	07 28 49.9	-0.7
CRIG	Cruz Grande	1.38	266	*e*P	Pn	07 28 37.8	-1.8
CRIG				*i* S	Sb	07 28 55.8	-2.1
TOIG	Toxpalan	1.39	26	*e*	Pn	07 28 38.4	-1.6
TOIG				*e*		07 28 55.0	
DAIG	Los Arroyos	1.88	276	*e*P	Pn	07 28 43.3	-3.2
DAIG				*e*S	Sn	07 29 06.3	-4.4

MEX 05 07:29:11.4±0.9, 16°.83N×97°.68W, h5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOIG	Yosondua	0.13	77	*i* P	Pg	07 29 13.7	-0.6
YOIG				*i* S	Sg	07 29 15.9	-0.2
TXIG	Tlaxiaco	0.43	349	*e*P	Pg	07 29 18.8	-1.0
TXIG				*e*S	Sg	07 29 24.8	-0.8
PNIG	Pinotepa	0.61	225	*e*P	Pg	07 29 22.1	-0.9
PNIG				*e*S	Sg	07 29 30.1	-0.9
VHO	Vista Hermosa	0.94	75	*e*P	Pg	07 29 27.8	-1.7
VHO				*e*S	Sg	07 29 39.8	-1.9
OXBJ	Oaxaca	0.95	75	*e*P	Pg	07 29 27.5	-2.1
OXBJ				*e*S	Sg	07 29 39.8	-2.2
OXBJ	Oaxaca	0.95	75	*e*P	Pg	07 29 27.5	-2.1
OXBJ				*e*S	Sg	07 29 39.8	-2.2
OXLC	Oaxaca	0.97	76	*e*P	Pg	07 29 28.1	-1.9
OXLC				*e*S	Sg	07 29 40.9	-1.6
OXLC	Oaxaca	0.97	76	*e*P	Pg	07 29 28.1	-1.9
OXLC				*e*S	Sg	07 29 40.9	-1.6
PEIG	Puerto Escondi	0.97	148	*e*P	Pg	07 29 28.1	-2.0
PEIG				*e*S	Sg	07 29 41.0	-1.6
MGIG	Malinaltepec	1.00	294	*e*P	Pg	07 29 29.3	-1.2
MGIG				*e*S	Sg	07 29 43.3	-0.2
TLIG	Tlapa	1.12	311	*i* P	Pg	07 29 31.0	-1.9
TLIG				*e*S	Sg	07 29 45.4	-2.0
FTIG	Fresnillo de T	1.16	338	*e*P	Pg	07 29 32.0	-1.7
FTIG				*e*S	Sg	07 29 47.1	-1.6
HMTT	Tlapaneco	1.28	319	*e*P	Pg	07 29 34.3	-1.7
HMTT				*e*S	Sg	07 29 51.5	-1.1
HMTT	Tlapaneco	1.28	319	*e*P	Pg	07 29 34.3	-1.7
HMTT				*e*S	Sg	07 29 51.5	-1.1
CRIG	Cruz Grande	1.39	267	*e*P	Pn	07 29 34.9	-2.6
CRIG				*e*S	Sb	07 29 51.7	-4.3
TOIG	Toxpalan	1.39	25	*e*P	Pn	07 29 36.1	-1.6
TOIG				*e*S	Sb	07 29 53.7	-2.5
PANG	Puerto Angel	1.64	135	*e*P	Pn	07 29 39.2	-1.6
PANG				*e*S	Sn	07 29 58.7	-3.6
PANG	Puerto Angel	1.64	135	*e*P	Pn	07 29 39.2	-1.6
PANG				*e*S	Sn	07 29 58.7	-3.6
HUIG	Huatulco	1.84	125	*e*P	Pn	07 29 42.7	-1.0
HUIG				*e*S	Sn	07 30 05.1	-2.3
DAIG	Los Arroyos	1.89	276	*e*P	Pn	07 29 41.0	-3.5
DAIG				*e*S	Sn	07 30 06.3	-2.5
NEUV	Arroyo Zacate	2.00	64	*e*P	Pn	07 29 46.2	+0.3
NEUV				*e*S	Sn	07 30 12.2	+0.9
YAIG	Yautepec	2.42	327	*e*P	Pn	07 29 53.3	+1.5
YAIG				*e*S	Sn	07 30 23.7	+1.9
AMVM	AMECAMECA	2.52	336	*e*P	Pn	07 29 52.3	-1.0
AMVM				*e*S	Sn	07 30 23.2	-1.4
JAUV	Jalcomulco	2.66	18	*e*P	Pb	07 29 58.6	-1.0
JAUV				*e*S	Sn	07 30 29.1	+1.4
MPVM	San Francisco	2.68	332	*e*P	Pn	07 29 57.6	+2.2
MPVM				*e*S	Sn	07 30 30.1	+1.7
CMIG	Matias Romero	2.69	84	*e*P	Pb	07 29 58.2	-1.9
CMIG				*e*S	Sn	07 30 26.8	-1.6
MAVM	Malinalco, Edo	2.73	321	*e*P	Pb	07 30 01.0	+0.1
MAVM				*e*S	Sn	07 30 31.4	+1.6
TLVM	San Miguel Top	2.75	330	*e*P	Pb	07 29 59.4	-1.9
TLVM				*e*S	Sb	07 30 34.2	-1.4
THVM	De Xico	2.76	334	*e*P	Pb	07 30 00.5	-1.0
THVM				*e*S	Sb	07 30 34.2	-1.5
XCVM	Xochimilco	2.77	331	*e*P	Pn	07 29 57.0	+0.2
XCVM				*e*S	Sb	07 30 35.8	-0.2
AOVM	Tlapan	2.89	328	*e*P	Pb	07 30 02.6	-1.1
AOVM				*e*S	Sb	07 30 39.2	-0.3
ARIG	Puente Sto Nin	2.92	300	*e*P	Pn	07 30 00.1	+1.4
ARIG				*i* S	Sb	07 30 38.0	-2.2
INVM	La Marquesa	2.94	327	*e*P	Pn	07 30 01.6	+2.5
INVM				*e*S	Sb	07 30 38.5	-2.4
NILT	Santiago Nilte	2.95	95	*e*P	Pb	07 30 04.2	-0.2
NILT				*e*S	Sb	07 30 40.8	-0.1
GMVM	Gustavo A Made	2.98	333	*e*P	Pb	07 30 02.7	-2.5
GMVM				*e*S	Sb	07 30 40.1	-2.0
PTVM	Pico Tres Padr	3.07	334	*e*P	Pb	07 30 06.8	0.0
PTVM				*e*S	Sn	07 30 38.6	+0.5
TOVM	TOLUCA	3.09	322	*e*P	Pb	07 30 05.6	-1.6
TOVM				*e*S	Sb	07 30 44.3	-1.1
LVIG	Laguna Verde	3.12	22	*e*P	Pb	07 30 07.7	+0.2
LVIG				*e*S	Sb	07 30 43.3	-2.5
AZVM	Cuida Lopez Ma	3.14	331	*e*P	Pb	07 30 08.1	+0.3
AZVM				*e*S	Sb	07 30 44.2	-2.4
ZUVM	ZUMPANGO	3.27	336	*e*P	Pb	07 30 07.8	-2.3
ZUVM				*e*S	Sn	07 30 45.7	+2.8
UXUV	UXUV	3.42	81	*e*P	Pb	07 30 12.1	-0.4
UXUV				*e*S	Sn	07 30 48.6	+2.2

MAN 05 07:44:08.0, 13°.64N×120°.51E, h24km, mb3.5, ML2.2, MS1.6, Mindoro

NEIC 05 07:50:27.1±2.1, 30°.74S±0°.03×178°.6W±0°.1, h10km±1km, mb4.5/15, Error ellipse: s-maj=15.7km s-min=5.8km az=87.0

IDC 05 07:50:28.3±6.1, 30°.54S×178°.90W, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=242.5km s-min=55.6km az=155.0

ISC 05 07:50:26.9±0.7, 30°.71S±0°.07×178°.7W±0°.1, h10km, n31, σ0s.87/28, mb4.5/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.59	24	Pn	Pn	07 50 55.9	+0.8
OUZ	Omahuta	7.91	233	Pn	Pn	07 52 21.9	+0.1
PLWZ	Palliser	11.90	203	Pn	Pn	07 53 17.4	+0.8
BSWZ	Blackbirch Sta	12.52	207	Pn	Pn	07 53 23.9	-1.1
MSVF	Nonsavu	13.26	346	Pn	Pn	07 53 34.4	-0.9
OUENC	Ouen Island, N	15.36	299	Pn	Pn	07 54 04.9	+1.1
OUENC				IAmb	IAmb	07 54 28.8	
	comp=Z,31nm,1.4s						
LIFNC	LIFOU	16.08	305	Pn	Pn	07 54 12.9	-0.2
AFI	Afiamalu	17.88	22		Pn	07 54 35.4	-0.5
AFI				IAmb	IAmb	07 54 58.7	
	comp=Z,68nm,1.1s						
EIDS	Eidsvold	27.18	274	P	P	07 56 11.9	+1.2
EIDS				IAmb	IAmb	07 56 29.5	
	comp=Z,15nm,1.5s						
HNR	Honiara	29.08	312	P	P	07 56 27.2	-0.5
CTAO	Charters Tower	33.29	280	P	P	07 57 05.0	+0.2
CTAO				IAmb	IAmb	07 57 28.1	
	comp=Z,9.7nm,1.3s						
BBOO	Buckleboo	38.34	255	P	P	07 57 47.2	-0.8
BBOO				IAmb	IAmb	07 58 06.6	
	comp=Z,23nm,1.4s						
AS31	Alice Springs	42.52	268	P	P	07 58 22.0	-0.8
ASAR	Alice Springs	42.52	268	P	P	07 58 23.6	+0.8
	comp=Z,1.2nm,0.5s,baz=104,slow=7.5,SNR=30						
	comp=Z,1.2nm,0.5s						
ASAR	Alice Springs	42.52	268	P	P	07 58 22.8	0.0
WB2	Warramunga Arr	43.53	273	P	P	07 58 31.6	+0.6
WB2				IAmb	IAmb	07 58 33.3	
	comp=Z,4.6nm,0.7s						
WRA	Warramunga Arr	43.54	273	P	P	07 58 32.7	+1.6
	comp=Z,2.0nm,0.4s,baz=113,slow=7.6,SNR=58						
	comp=Z,2.0nm,0.4s						
WB0	Warramunga Arr	43.56	273	P	P	07 58 31.4	+0.2
WB0				IAmb	IAmb	07 58 33.9	
	comp=Z,4.1nm,0.8s						
VNDA	Vanda	47.73	186	P	P	07 59 05.0	+1.5
MTN	Manton Dam	49.47	280	P	P	07 59 17.7	+0.1
CASY	Casey	54.60	208	P	P	07 59 55.2	0.0
CASY				IAmb	IAmb	08 00 35.2	
	comp=Z,8.9nm,1.4s						
QSPA	South Pole Qui	59.40	180	P	P	08 00 28.3	-1.1
SBUM	Sibu	73.43	283	P	P	08 01 59.4	-0.4
SBUM				IAmb	IAmb	08 02 34.6	
	comp=Z,5.9nm,1.4s						
SNAA	Sanae	77.86	179	P	P	08 02 23.3	-1.1
VNA3	Neumayer Olymp	78.03	176	P	P	08 02 24.7	-0.6
VNA2	Neumayer--Watz	78.46	177	P	P	08 02 27.2	-0.4
	baz=165,slow=5.3						
VNA1	Neumayer--Stat	78.70	177	P	P	08 02 28.6	-0.2
H03S2	Juan Fernandez	80.77	124	T	T	09 31 23.2	
	baz=236,slow=74,SNR=16						
H03S1	Juan Fernandez	80.78	124	T	T	09 31 23.1	
	baz=236,slow=74,SNR=17						
H03S3	Juan Fernandez	80.79	124	T	T	09 31 21.6	
	baz=236,slow=74,SNR=16						
FINES	FINESS Array B	145.24	339	PKPbc	PKPdf	08 10 05.5	+1.4
	comp=Z,3.3nm,0.9s,baz=38,slow=4.4,SNR=7.2						

NEIC 05 07:57:30.4±2.6, 31°.77N±0°.06×131°.85E±0°.02, h10km±1km, mb4.6/26, Error ellipse: s-maj=10.2km s-min=2.9km az=165.0

JMA 05 07:57:32.1±0.1, 31°.8N±0°.2×131°.9E±0°.6, h27km±1km, MD4.3/32, MV4.3/32, HYUGANADA REGION

JMA Felt II J1 at HYUGANADA REGION .

NIED 05 07:57:32.1, 31°.80N×131°.94E, h27km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.20; $M_{\theta\theta}$1.43; $M_{\phi\phi}$-2.63; $M_{r\theta}$1.89; $M_{\theta\phi}$0.10; $M_{\phi r}$2.20; Fault plane solution: $M_0$3.69000×10^{15} NP1: ϕ_s142.00000°, δ34.00000°, λ21.00000°. NP2:ϕ_s34.00000°, δ79.00000°, λ122.00000°.

IDC 05 07:57:34.2±1.8, 31°.80N×131°.49E, h44km±17km, mb3.9/22, mbtmp4.1/27, ML3.2/3, MS3.7/28 Error ellipse: s-maj=16.3km s-min=11.2km az=97.0

ISC 05 07:57:33.4±0.5, 31°.78N±0°.04×131°.79E±0°.05, h40km±4km, n131, σ1s.18/93, mb4.5/33, MS3.9/24, 10D, Kyushu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNKG	Nichinankitago	0.37	252	⇓P	Pn	07 57 41.8	-0.7
JNKG				⇓*e*S	Sn	07 57 49.3	+0.4
JNKG	Nichinankitago	0.37	252	A	A	07 57 41.8	
	comp=E,32nm,1.7s,comp=E,47nm,1.2s						
JNAR	Kushima--Naru	0.51	240	⇓P	Pn	07 57 44.5	+0.2
JNAR				⇓*e*S	Sn	07 57 53.4	+1.5
JNAR	Kushima--Naru	0.51	240	A	A	07 57 44.5	
	comp=E,26nm,1.2s,comp=E,24nm,1.6s						
JTSN	Tsuno	0.52	333	⇓P	Pn	07 57 43.3	-1.2
JTSN				⇓*e*S	Sn	07 57 51.2	-1.1
JTSN	Tsuno	0.52	333	A	A	07 57 43.3	
	comp=E,12nm,2.4s,comp=E,16nm,0.7s						
JTZ	Takazaki	0.61	282	⇓P	Pn	07 57 46.0	+0.3
JTZ				⇓*e*S	Sn	07 57 55.6	+1.2
JTZ	Takazaki	0.61	282	A	A	07 57 46.0	
	comp=E,21nm,0.7s,comp=E,28nm,0.7s						
JHHC	Hyugahichiya	0.67	349	⇓P	Pn	07 57 45.3	-1.3
JHHC				⇓*e*S	Sn	07 57 54.5	-1.4
JHHC	Hyugahichiya	0.67	349	A	A	07 57 45.3	
	comp=E,21nm,2.8s,comp=E,16nm,0.5s						
JKIT	Kitakata	0.89	341	A	A	07 57 48.9	
	comp=E,34nm,0.5s,comp=E,17nm,0.4s						
JTSR	Tashiro 2	0.96	231	A	A	07 57 51.4	
	comp=E,15nm,0.6s,comp=E,15nm,1.0s						
JZO	Okuchi	1.07	290	*e*P	Pn	07 57 52.9	+0.9
JZO	Okuchi	1.07	290	A	A	07 57 52.9	
	comp=E,13nm,0.6s,comp=E,15nm,0.7s						
JIU3	Izumi3	1.13	313	P	Pn	07 57 53.8	+1.0
JIU3	Izumi3	1.13	313	A	A	07 57 53.8	
	comp=E,12nm,3.4s,comp=E,15nm,1.9s						
JSU	Suzuyama	1.17	257		Pn	07 57 54.4	+1.1
JSU	Suzuyama	1.17	257	P	Pn	07 57 54.5	+1.1
JSU	Suzuyama	1.17	257	A	A	07 57 54.9	
	comp=N,5.0nm,2.7s						
JUS	Usuki	1.28	359	A	A	07 57 54.5	
	comp=E,14nm,0.9s,comp=E,9.0nm,0.8s						
JTN	Tanegashima 3	1.32	212	A	A	07 57 56.4	
	comp=E,4.0nm,1.9s,comp=E,4.0nm,4.7s						
JNU	Nakatsue	1.54	330		Pn	07 57 59.3	+0.8
JNU	Nakatsue	1.54	330	P	Pn	07 58 00.8	+2.3
JNU	Nakatsue	1.54	330	A	A	07 57 59.4	
	comp=E,14nm,1.2s,comp=E,9.0nm,1.0s						
JHD	Hondo	1.56	296	A	A	07 58 00.3	
	comp=E,7.0nm,1.1s,comp=E,6.0nm,1.9s						
JBEP	Beppuamama	1.58	348	A	A	07 57 59.4	
	comp=E,18nm,1.2s,comp=E,23nm,3.3s						
JTA	Tamana	1.59	318	A	A	07 58 00.3	
	comp=E,9.0nm,1.1s,comp=E,11nm,1.5s						
JKI	Kunimi	1.86	354	A	A	07 58 03.1	
	comp=E,7.0nm,1.0s,comp=E,9.0nm,2.3s						
NGSJ	Nagasakinomoza	1.89	297	A	A	07 58 05.2	
	comp=E,6.0nm,3.0s,comp=E,4.0nm,5.2s						
JFI	Itaya	2.02	325	A	A	07 58 06.4	
	comp=E,4.0nm,0.7s,comp=E,4.0nm,0.8s						
JKD	Kudamatsu	2.27	2	A	A	07 58 08.8	
	comp=E,5.0nm,4.6s,comp=E,4.0nm,1.8s						
JHM	Kurahashi	2.43	15	A	A	07 58 10.8	
	comp=E,3.0nm,1.5s,comp=E,2.0nm,1.1s						
JMN	Monobe	2.62	42		Pn	07 58 12.9	-0.4
JMN	Monobe	2.62	42	P	Pn	07 58 14.5	+1.2
JHIK	Hikimi	2.75	2	A	A	07 58 15.7	
	comp=E,2.0nm,1.0s,comp=E,2.0nm,1.1s						
JHGM	Hagimishima	3.04	350	A	A	07 58 20.2	
	comp=E,4.0nm,1.2s,comp=E,3.0nm,2.4s						
JTU	Tsushima	3.39	324		Pn	07 58 24.1	+0.3
JTU	Tsushima	3.39	324	P	Pn	07 58 24.5	+0.7
JHS	Saijyo	3.40	19	Pn	Pn	07 58 24.3	+0.4
JHS	Saijyo	3.40	19	P	Pn	07 58 24.4	+0.4
INU	Inuyama	5.63	49	Pn	Pn	07 58 54.3	-0.3
INU	Inuyama	5.63	49	P	Pn	07 58 55.9	+1.3
JOW	Kunigami	5.81	213	P	Pn	07 58 57.1	+0.1
	1.9nm,0.3s,baz=125,slow=24,SNR=14						
JOW				S	Sn	07 59 59.2	-3.2
	12nm,0.6s,baz=1.8,slow=29,SNR=1.5						
	14nm,0.5s						
JOW	Kunigami	5.81	213	P	Pn	07 58 57.3	+0.2
JGF	Kuroka	6.00	49	Pn	Pn	07 58 58.3	-1.5
JGF	Kuroka	6.00	49	P	Pn	07 59 00.6	+0.8
KSRS	Korea Array	6.50	332	P	Pn	07 59 06.3	-0.2
	0.6nm,0.3s,baz=147,slow=15,SNR=4.2						
KSRS				S	Sn	08 00 23.8	+4.6
	4.5nm,0.7s,baz=151,slow=16,SNR=1.5						
KSRS				Lg	Lg	08 00 57.1	
	0.4nm,0.3s,baz=143,slow=25,SNR=4.9						
KSRS				LR	LR	08 01 57.5	
	comp=Z,820nm,19.8s,baz=150,slow=41						
	1.2nm,0.4s						
KS19	Wonju Array Si	6.56	332		Pn	07 59 07.3	-0.1
MAJO	Matsushiro	7.13	46	Pn	Pn	07 59 15.2	0.0
MJAR	Matsushiro Arr	7.13	46	P	Pn	07 59 16.6	+1.4
	0.2nm,0.3s,baz=243,slow=14,SNR=9.1						
	1.6nm,0.5s						
JCJ	Chichijima	10.19	115	LR	LR	08 03 29.1	
	comp=Z,182nm,18.6s,baz=96,slow=34						
USRK	Ussuriysk Ar.	12.40	1	P	Pn	08 00 27.8	+0.5
	1.0nm,0.7s,baz=173,slow=13,SNR=1.3						
USRK				LR	LR	08 05 07.2	
	comp=Z,343nm,18.2s,baz=165,slow=37						
BJT	Baijiatuau	15.08	307		Pn	08 01 04.0	+0.3
BJT				IAmb	IAmb	08 01 11.4	
	comp=Z,12nm,0.7s						
KLR	Kul'dur	17.43	360	P	P	08 01 35.7	+1.4
	comp=Z,4.5nm,0.6s,baz=190,slow=7.6,SNR=17						
KLR				LR	LR	08 08 05.7	
	comp=Z,147nm,19.2s,baz=190,slow=36						
ENH	Enshi	19.17	271	P	Pn	08 01 55.0	+0.2
ENH				IAmb	IAmb	08 01 57.1	
	comp=Z,23nm,0.7s						
HIA	Hailar	19.68	336	P	P	08 01 59.6	+0.5
GUMO	Guam	21.72	144	LR	LR	08 10 06.0	
	comp=Z,78nm,18.6s,baz=164,slow=34						
ULN	Ulaanbaatar	24.73	318	P	P	08 02 50.5	-0.6
SONM	Songino Array	25.09	317	P	P	08 02 53.4	-1.0
	comp=Z,6.8nm,0.7s,baz=131,slow=9.8,SNR=14						
	comp=Z,6.8nm,0.7s						
SONM	Songino Array	25.09	317	P	P	08 02 53.9	-0.4
DAV	Davao City (W)	25.26	195	LR	LR	08 14 21.0	
	comp=Z,64nm,18.7s,baz=352,slow=40						
PET	Petropavlovsk	28.76	35	P	P	08 03 27.0	-0.2
KKM	Kota Kinabalu	29.46	213	P	P	08 03 34.1	+0.3
CMAR	Chiang Mai Arr	32.43	254	LR	LR	08 18 39.5	
	comp=Z,104nm,18.6s,baz=65,slow=39						
H11N2	WAKE ISLAND Hy	33.67	102	T	T	08 39 46.1	
	baz=298,slow=74,SNR=13						
H11N1	WAKE ISLAND Hy	33.68	102	T	T	08 39 44.7	
	baz=298,slow=74,SNR=8.5						
H11N3	WAKE ISLAND Hy	33.69	102	T	T	08 39 44.8	
	baz=298,slow=74,SNR=13						
H11S3	WAKE ISLAND Hy	34.09	104	T	T	08 40 35.8	
	baz=302,slow=74						
H11S1	WAKE ISLAND Hy	34.10	104	T	T	08 40 26.8	
	baz=302,slow=74						
H11S2	WAKE ISLAND Hy	34.11	104	T	T	08 40 35.0	
	baz=302						
BRDH	Bariadhala	36.66	266	LR	LR	08 22 36.0	
	comp=Z,182nm,18.5s,baz=189,slow=41						
KAPI	Kappang	38.35	200	LR	LR	08 21 23.7	
	comp=Z,40nm,21.4s,baz=313,slow=37						
ZALV	Zalesovo Beam	39.98	318	LR	LR	08 22 22.9	
	comp=Z,88nm,19.8s,baz=95,slow=37						
MK31	Makanchi Array	40.46	306	P	P	08 05 07.3	-0.8
MKAR	Makanchi Array	40.46	306	P	P	08 05 07.1	-1.1
	comp=Z,1.9nm,0.6s,baz=92,slow=10,SNR=23						
MKAR				PcP	PcP	08 07 10.1	-0.2
	comp=Z,0.3nm,0.6s,baz=93,slow=3.0,SNR=2.0						
MKAR				LR	LR	08 23 26.9	
	comp=Z,144nm,19.2s,baz=134,slow=39						
	comp=Z,1.9nm,0.6s						
MKAR	Makanchi Array	40.46	306	P	P	08 05 07.6	-0.6
KURBB	Kurchatov Arra	43.24	312	P	P	08 05 30.1	-0.6
	comp=Z,1.0nm,0.7s,baz=99,slow=9.3,SNR=7.9						
KURBB				PcP	PcP	08 07 18.1	-1.2
	comp=Z,0.4nm,0.7s,baz=91,slow=3.8,SNR=4.5						
	comp=Z,1.0nm,0.7s						
PMG	Port Moresby	43.51	158	LR	LR	08 23 19.7	
	comp=Z,61nm,18.5s,baz=90,slow=35						
NRIK	Noril'sk	45.05	340	P	P	08 05 43.5	-1.5
	comp=Z,3.6nm,0.4s,baz=122,slow=9.0,SNR=5.6						
	comp=Z,3.6nm,0.4s						
AAK	Ala-Archa	46.11	301	LR	LR	08 27 46.3	
	comp=Z,159nm,18.7s,baz=72,slow=40						
KNRA	Kununurra	47.27	184	P	P	08 06 03.4	+0.4
BVAR	Borovoye Array	48.40	315	LR	LR	08 25 56.2	
	comp=Z,36nm,18.6s,baz=108,slow=35						
BRVK	Borovoye	48.46	315	P	P	08 06 11.5	-0.4
BRVK				IAmb	IAmb	08 06 24.4	
	comp=Z,7.6nm,1.4s						
KK31	Karatay Array	48.96	302	P	P	08 06 15.5	-0.4
KK31				IAmb	IAmb	08 06 27.7	
	comp=Z,3.5nm,0.8s						
KKAR	Karatay Array	48.96	302	P	P	08 06 15.1	-0.8
GAR	Garm	49.80	296	P	P	08 06 22.4	-0.1
GAR				IAmb	IAmb	08 06 22.5	
	comp=Z,18nm,1.5s						
CHGR	Chuyangaron	50.76	296	P	P	08 06 29.2	-0.6
WRA	Warramunga Arr	51.48	177	P	P	08 06 35.5	+0.4
	comp=Z,1.1nm,0.9s,baz=352,slow=8.3,SNR=12						
	comp=Z,1.1nm,0.9s						
ARU	Arti	55.09	320	LR	LR	08 31 29.4	
	comp=Z,55nm,18.2s,baz=100,slow=37						
ARU	Arti	55.09	320	P	P	08 07 00.5	-0.7
ARU				IAmb	IAmb	08 07 00.8	
	comp=Z,6.7nm,1.1s						
ASAR	Alice Springs	55.17	178	P	P	08 07 03.1	+1.0
	comp=Z,0.9nm,0.9s,baz=11,slow=13,SNR=14						
	comp=Z,0.9nm,0.9s						
ASAR	Alice Springs	55.17	178	P	P	08 07 01.4	-0.7
ABKAR	Akbulak array	55.27	311	P	P	08 07 02.0	-0.6
ABKAR	Akbulak array	55.27	311	P	P	08 07 02.0	-0.6
ABKAR				IAmb	IAmb	08 07 03.4	
	comp=Z,4.8nm,1.1s						
KDAK	Kodiak Island	56.23	39	P	P	08 07 10.6	+1.2
	comp=Z,5.8nm,0.6s,baz=308,slow=4.9,SNR=5.9						
	comp=Z,5.8nm,0.6s						
MDM	Murphy Dome	57.50	30	P	P	08 07 20.7	+2.4
MDM				IAmb	IAmb	08 07 30.9	
	comp=Z,9.0nm,1.0s						
ILAR	Eielson Array	58.09	30	P	P	08 07 23.2	+0.8
	comp=Z,1.1nm,0.7s,baz=270,slow=6.7,SNR=14						
	comp=Z,1.1nm,0.7s						
BMAR	Burnt Mountain	58.67	27	P	P	08 07 28.6	+2.1
GEYT	Alibeck	59.33	298	LR	LR	08 36 41.7	
	comp=Z,101nm,18.6s,baz=153,slow=40						
SCRK	Sand Creek	59.46	31	P	P	08 07 32.9	+0.8
SCRK				IAmb	IAmb	08 07 34.0	
	comp=Z,3.7nm,0.8s						

DOT	**Dot Lake**	**59.48**	**31**	P	**P**	**08 07 32.6**	**+0.4**
DOT				IAmb	IAmb	08 07 43.8	
	comp=Z,3.4nm,0.8s						
J26L	**Joseph Creek**	**59.55**	**30**	P	**P**	**08 07 33.1**	**+0.5**
J26L				IAmb	IAmb	08 07 52.0	
	comp=Z,12nm,1.4s						
I26K	**Coal Creek Min**	**59.57**	**29**	P	**P**	**08 07 33.6**	**+0.9**
I26K				IAmb	IAmb	08 07 59.2	
	comp=Z,4.6nm,1.1s						
M26K	**Nabesna, AK**	**60.21**	**32**	P	**P**	**08 07 38.9**	**+1.8**
K27K	**Chicken**	**60.27**	**30**	P	**P**	**08 07 38.8**	**+1.3**
K27K				IAmb	IAmb	08 07 40.0	
	comp=Z,5.4nm,1.0s						
EGAK	**Eagle**	**60.51**	**29**	P	**P**	**08 07 39.9**	**+0.8**
EGAK				IAmb	IAmb	08 08 17.8	
	comp=Z,9.1nm,1.4s						
L27K	**Beaver Creek,**	**60.59**	**31**	P	**P**	**08 07 41.3**	**+1.5**
L27K				IAmb	IAmb	08 07 42.7	
	comp=Z,7.1nm,1.1s						
BCAR	**Beaver Creek A**	**60.61**	**31**	P	**P**	**08 07 41.2**	**+1.3**
BELG	**Belogornoye**	**62.15**	**316**	LR	LR	08 36 53.7	
	comp=Z,92nm,19.8s,baz=67,slow=38						
INK	**Inuvik**	**62.57**	**25**	P	**P**	**08 07 54.1**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=289,slow=8.4,SNR=11						
	comp=Z,0.8nm,0.4s						
A36M	**Sachs Harbour**	**63.98**	**20**	P	**P**	**08 08 04.0**	**+1.8**
STKA	**Stephens Creek**	**63.99**	**171**	P	**P**	**08 08 03.4**	**+0.7**
	comp=Z,4.1nm,1.1s,baz=288,slow=4.3,SNR=3.9						
	comp=Z,4.1nm,1.1s						
STKA	**Stephens Creek**	**63.99**	**171**	P	**P**	**08 08 03.2**	**+0.5**
ARCES	**ARCESS Array B**	**66.01**	**338**	P	**P**	**08 08 14.9**	**-0.6**
	comp=Z,4.3nm,1.1s,baz=61,slow=8.4,SNR=4.1						
ARCES				LR	LR	08 41 59.9	
	comp=Z,52nm,19.2s,baz=54,slow=40						
	comp=Z,4.3nm,1.1s						
KBZ	**Khabaz**	**68.10**	**309**	P	**P**	**08 08 28.2**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=232,slow=4.2,SNR=7.0						
KBZ				LR	LR	08 42 46.0	
	comp=Z,98nm,18.5s,baz=62,slow=40						
	comp=Z,3.6nm,0.8s						
GNI	**Garni**	**68.27**	**305**	LR	LR	08 42 29.6	
	comp=Z,61nm,18.0s,baz=88,slow=40						
RES	**Resolute Bay**	**69.51**	**12**	P	**P**	**08 08 38.1**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=304,slow=8.8,SNR=4.1						
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**69.58**	**330**	P	**P**	**08 08 36.7**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=73,slow=5.8,SNR=16						
FINES				LR	LR	08 41 15.3	
	comp=Z,79nm,21.2s,baz=54,slow=38						
	comp=Z,1.2nm,0.5s						
AKASG	**Malin Array Be**	**73.34**	**320**	P	**P**	**08 08 60.0**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=57,slow=6.6,SNR=6.2						
AKASG				LR	LR	08 43 42.9	
	comp=Z,104nm,18.5s,baz=44,slow=38						
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**75.70**	**334**	P	**P**	**08 09 13.3**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=51,slow=5.6,SNR=1.8						
NOA				LR	LR	08 45 51.9	
	comp=Z,94nm,18.1s,baz=35,slow=38						
	comp=Z,0.7nm,0.7s						
SUMG	**Summit**	**75.71**	**357**	*i*P	**P**	**08 09 14.0**	**-0.8**
BRTR	**Keskin Array B**	**76.08**	**308**	P	**P**	**08 09 15.0**	**-2.2**
	comp=Z,2.2nm,1.0s,baz=53,slow=19,SNR=4.0						
	comp=Z,2.2nm,1.0s						
MLR	**Muntele Rosu**	**77.94**	**316**	LR	LR	08 47 02.0	
	comp=Z,120nm,18.0s,baz=80,slow=38						
MMAI	**Mount Meron Ar**	**78.19**	**301**	LR	LR	08 48 42.2	
	comp=Z,30nm,18.7s,baz=107,slow=39						
NEW	**Newport**	**79.33**	**39**	P	**P**	**08 09 35.5**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=354,slow=11,SNR=2.1						
	comp=Z,1.2nm,0.7s						
VRAC	**Vranov**	**80.85**	**323**	LR	LR	08 49 45.9	
	comp=Z,110nm,18.3s,baz=50,slow=39						
NVAR	**Mina Array Bea**	**84.45**	**48**	P	**P**	**08 10 03.4**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=301,slow=5.0,SNR=7.8						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**86.91**	**40**	P	**P**	**08 10 15.3**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=287,slow=2.5,SNR=6.7						
	comp=Z,0.9nm,0.8s						
ULM	**Lac du Bonnet**	**88.07**	**28**	P	**P**	**08 10 20.9**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=324,slow=4.1,SNR=3.9						
	comp=Z,3.1nm,0.6s						
ESDC	**Sonseca Array**	**97.91**	**327**	LR	LR	09 01 30.9	
	comp=Z,108nm,18.0s,baz=326,slow=39						
TXAR	**Lajitas Array**	**99.57**	**47**	P	**Pdif**	**08 11 15.0**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=309,slow=2.9,SNR=2.1						
TXAR				LR	LR	08 58 41.0	
	comp=Z,14nm,19.8s,baz=326,slow=37						
	comp=Z,0.2nm,0.6s						

*IDC **05** 08:01:30.4±3.5, 13°.91N×92°.43W, h0km, mb3.8/5, mbtmp3.8/7, ML3.4/2, MS3.0/4, Error ellipse: s-maj=66.1km s-min=48.6km az=13.0*
*NEIC **05** 08:01:32.0±2.0, 13°.85N±0°.06×92°.75W±0°.06, h10km±2km, mb4.4/16, Md3.9/26(MEX), Error ellipse: s-maj=9.8km s-min=9.6km az=190.0*
*GCG **05** 08:01:35.7±0.5, 13°.84N×92°.69W, h68km±15km, MD4.1*
*MEX **05** 08:01:35.3±0.6, 13°.89N×92°.85W, h15km, MD3.9*
ISC 05 08:01:33.1±1.7**, 13°.95N**±0°.05×**92°.79W**±0°.04**, h15**km±11km**, n66,** σ**1s45**/80**, mb4.3**/9**, MS3.1**/3**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**28**		**Pb**	**08 01 52.7**	**-0.7**
THIG					**Sb**	**08 02 08.1**	**+0.7**
THIG		**1.08**	**28**	*e*P	**Pb**	**08 01 52.7**	**-0.7**
THIG				*e*S	**Sb**	**08 02 07.1**	**-0.3**
RTAL	**Retalhuleu**	**1.21**	**62**		**Pn**	**08 01 54.8**	**-0.6**
SULM	**Suchitepequez,**	**1.24**	**73**	*e*P	**Pg**	**08 01 56.6**	**-0.4**
SULM				*e*S	**Sn**	**08 02 12.6**	**+0.2**
PATR	**El Naranjo**	**1.28**	**25**	*e*P	**Pn**	**08 01 55.9**	**-0.8**
PATR				*i*S	**Sb**	**08 02 13.2**	**-0.2**
CHUJ	**Union Juarez**	**1.31**	**30**	*e*P	**Pn**	**08 01 56.8**	**-0.4**
CHUJ				*i*S	**Sb**	**08 02 13.6**	**-0.9**
PAVE	**Pavencul**	**1.37**	**26**	*e*P	**Pn**	**08 01 57.5**	**-0.4**
PAVE				*e*S	**Sn**	**08 02 15.3**	**-0.7**
STG3	**Santiaguito 3,**	**1.41**	**57**	*e*P	**Pb**	**08 01 58.8**	**-0.4**
STG3				*e*S	**Sg**	**08 02 18.8**	**+0.2**
PCIG		**1.79**	**347**		**Pn**	**08 02 03.6**	**+0.2**
PCIG		**1.79**	**347**	*e*P	**Pn**	**08 02 03.6**	**+0.2**
PCIG				*i*S	**Sn**	**08 02 23.6**	**-2.4**
HUEH	**Huehuetenango**	**1.85**	**42**		**Pn**	**08 02 05.5**	**+1.0**
FUG	**Fuego 3**	**1.96**	**75**	*e*P	**Pn**	**08 02 06.3**	**+0.4**
FUG				*e*S	**Sn**	**08 02 30.8**	**+0.5**
PCG	**Pacaya**	**2.17**	**78**	*e*P	**Pb**	**08 02 11.1**	**-1.1**
PCG				*e*S	**Sn**	**08 02 36.1**	**+0.6**
CCIG	**Comitan**	**2.40**	**15**		**Pn**	**08 02 14.8**	**+2.7**
CCIG	**Comitan**	**2.40**	**15**	*e*P	**Pb**	**08 02 15.0**	**-1.1**
CCIG				*i*S	**Sn**	**08 02 43.6**	**+2.2**
NBG	**Las Nubes**	**2.46**	**75**	*e*P	**Pn**	**08 02 14.0**	**+1.1**
TGIG		**2.83**	**354**		**Pn**	**08 02 19.4**	**+1.6**
TGIG		**2.83**	**354**	*e*P	**Pn**	**08 02 19.4**	**+1.6**
TGIG				*i*S	**Sn**	**08 02 46.5**	**-5.2**
MTO3	**Montecristo**	**3.36**	**82**		**Pn**	**08 02 24.1**	**-1.2**
ESQI	**Esquipulas**	**3.40**	**79**		**Pn**	**08 02 23.6**	**-2.1**
SNET	**Serv Nac Est T**	**3.47**	**94**	Pn	**Pn**	**08 02 26.0**	**-0.6**
UXUV	**UXUV**	**3.59**	**339**	*e*	**Pn**	**08 02 29.6**	**+1.4**
UXUV				*e*		08 03 08.2	
HUIG	**Huatulco**	**3.68**	**300**		**Pn**	**08 02 27.8**	**-1.7**
HUIG	**Huatulco**	**3.68**	**300**	*e*	**Pn**	**08 02 28.0**	**-1.4**
HUIG				*e*		08 03 04.7	
CMIG	**Matias Romero**	**3.72**	**327**	Pn	**Pn**	**08 02 30.3**	**+0.3**
	1.9nm,0.3s,baz=147,slow=13,SNR=6.0						
CMIG				Sn	**Sn**	**08 03 12.4**	**-1.1**
	2.9nm,0.3s,baz=104,slow=20,SNR=5.9						
CMIG				LR	LR	08 03 28.5	
	comp=Z,59nm,19.3s,baz=160,slow=30						
	21nm,1.0s						
CMIG	**Matias Romero**	**3.72**	**327**		**Pn**	**08 02 30.1**	**+0.1**
CMIG	**Matias Romero**	**3.72**	**327**	*e*P	**Pn**	**08 02 30.1**	**+0.1**
CMIG				*e*S	**Sn**	**08 03 12.3**	**-1.3**
PETF	**Flores**	**4.08**	**43**		**Pn**	**08 02 34.3**	**-0.7**
PEIG	**Puerto Escondi**	**4.67**	**296**		**Pn**	**08 02 41.2**	**-2.0**
PEIG	**Puerto Escondi**	**4.67**	**296**	*e*P	**Pn**	**08 02 42.2**	**-1.0**
PEIG				*e*S	**Sn**	**08 03 35.0**	**-2.2**
NEUV	**Arroyo Zacate**	**4.73**	**323**	*e*P	**Pn**	**08 02 42.0**	**-1.9**
NEUV				*e*S	**Sn**	**08 03 37.0**	**-1.5**
OXIG	**Oaxaca**	**4.90**	**310**		**Pn**	**08 02 47.2**	**+0.7**
VHO	**Vista Hermosa**	**4.90**	**310**	*e*P	**Pn**	**08 02 47.2**	**+0.8**
VHO				*e*S	**Sn**	**08 03 42.0**	**-1.1**
TGUH	**Tegucigalpa,Un**	**5.36**	**88**	Pn	**Pn**	**08 02 51.3**	**-1.4**
CRIN	**San Cristobal**	**5.73**	**102**	Pn	**Pn**	**08 02 57.0**	**-0.7**
TLIG	**Tlapa**	**6.62**	**304**	Pn	**Pn**	**08 03 10.9**	**+1.0**
MATN	**Matagalpa**	**6.76**	**98**	Pn	**Pn**	**08 03 10.4**	**-1.5**
BOAB	**BOACO BROADBAN**	**7.10**	**101**	Pn	**Pn**	**08 03 14.4**	**-2.1**
TEIG	**Tepich**	**7.59**	**34**	Pn	**Pn**	**08 03 23.5**	**+0.3**
ORTG	**Ortega, Santa**	**8.01**	**116**	Pn	**Pn**	**08 03 28.4**	**-0.7**
MOIG	**Morelia**	**9.85**	**306**	Pn	**Pn**	**08 03 58.1**	**+3.6**
NATX	**Nacogdoches**	**17.81**	**355**	P	**Pn**	**08 05 41.2**	**+0.7**
TXAR	**Lajitas Array**	**18.32**	**328**	P	**Pn**	**08 05 50.2**	**+3.3**
	baz=148,slow=14,SNR=8.5						
	1.8nm,1.0s						
ABTX	**Abilene, Hawle**	**19.61**	**343**	P	**Pn**	**08 06 03.1**	**+0.8**
ROSC	**El Rosal**	**20.33**	**115**	LR	LR	08 13 23.4	
	comp=Z,41nm,18.0s,baz=54,slow=36						
MIAR	**Mount Ida**	**20.52**	**358**	P	**P**	**08 06 11.3**	**+0.5**
MIAR				IAmb	IAmb	08 06 40.6	
	comp=Z,9.1nm,1.1s						
154A	**Montrose**	**20.57**	**24**	P	**P**	**08 06 11.2**	**-0.2**
X37A	**Clayton**	**20.68**	**354**	P	**P**	**08 06 12.8**	**+0.3**
X37A				IAmb	IAmb	08 06 19.0	
	comp=Z,6.6nm,0.8s						
X48A	**Hartselle**	**21.06**	**13**	P	**P**	**08 06 16.8**	**+0.1**
WMOK	**Wichita Mounta**	**21.39**	**346**		**P**	**08 06 20.3**	**0.0**
FNO	**Franklin**	**21.62**	**350**		**P**	**08 06 23.4**	**+0.7**
OK025	**Westminster Rd**	**21.92**	**350**	P	**P**	**08 06 26.8**	**+0.9**
OK025				IAmb	IAmb	08 06 28.9	
	comp=Z,31nm,0.8s						
TKL	**Tuckaleechee C**	**23.09**	**19**	P	**P**	**08 06 37.3**	**-1.0**
	comp=Z,6.1nm,1.0s,baz=184,slow=9.7,SNR=4.9						
	comp=Z,6.1nm,1.0s						
TKL	**Tuckaleechee C**	**23.09**	**19**	P	**P**	**08 06 37.3**	**-1.0**
TKL				IAmb	IAmb	08 06 41.5	
	comp=Z,25nm,1.5s						
U49A	**Red Boiling Sp**	**23.33**	**14**	P	**P**	**08 06 39.6**	**-1.1**
U49A				IAmb	IAmb	08 06 47.8	
	comp=Z,11nm,1.2s						
ANMO	**Albuquerque**	**24.27**	**332**	P	**P**	**08 06 51.0**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=153,slow=6.8,SNR=2.3						
	comp=Z,0.8nm,0.8s						
WCI	**Wyandotte Cave**	**24.86**	**12**	P	**P**	**08 06 54.2**	**-0.8**
WCI				IAmb	IAmb	08 06 55.2	
	comp=Z,10.0nm,0.8s						
PDAR	**Pinedale Array**	**32.15**	**336**	P	**P**	**08 08 02.0**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=152,slow=7.9,SNR=1.4						
	comp=Z,0.6nm,0.8s						
SNOW	**Snow King Moun**	**33.21**	**336**	P	**P**	**08 08 11.8**	**+2.1**
NVAR	**Mina Array Bea**	**33.23**	**322**	P	**P**	**08 08 12.4**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=138,slow=8.6,SNR=8.3						
	comp=Z,0.9nm,0.7s						
F10A	**Beach Ranch, E**	**37.99**	**332**	P	**P**	**08 08 51.5**	**+1.0**
F10A				IAmb	IAmb	08 08 54.4	
	comp=Z,7.3nm,1.2s						
LPAZ	**La Paz**	**38.69**	**140**	P	**P**	**08 08 54.6**	**-2.6**
YKA	**Yellowknife Ar**	**50.90**	**347**	P	**P**	**08 10 33.3**	**0.0**
	comp=Z,5.0nm,0.9s,baz=152,slow=7.7,SNR=8.8						
	comp=Z,5.0nm,0.9s						
CPUP	**Villa Florida**	**52.85**	**139**	LR	LR	08 34 30.0	
	comp=Z,17nm,19.4s,baz=196,slow=38						
BBTS	**Babate**	**73.53**	**79**	LR	LR	08 43 13.6	
	comp=Z,23nm,20.0s,baz=128,slow=34						
CMAR	**Chiang Mai Arr**	**145.78**	**340**	PKPbc	**PKPdf**	**08 21 11.8**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=347,slow=4.0,SNR=5.3						

*IDC **05** 08:13:26.3±3.2, 46°.75N×155°.62E, h0km, mb4.0/2, mbtmp3.8/3, ML2.1/1, Error ellipse: s-maj=82.2km s-min=49.4km az=35.0*
*NEIC **05** 08:13:27.5±1.0, 46°.6N±0°.1×155°.7E±0°.2, h29km±8km, mb4.3/15, Error ellipse: s-maj=23.5km s-min=11.4km az=139.0*
ISC 05 08:13:28.7±0.8**, 46°.8N**±0°.1×**155°.6E**±0°.1**, h35**km**, n30,** σ**1s44**/27**, mb4.3**/10**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	**Petropavlovsk-**	**6.50**	**12**	Pn	**Pn**	**08 15 03.0**	**+1.2**
PETK	**Petropavlovsk-**	**6.50**	**12**	Pn	**Pn**	**08 15 03.2**	**+1.4**
	0.2nm,0.3s,baz=190,slow=12,SNR=1.4						
PETK				Sn	**Sn**	**08 16 10.8**	**-3.7**
	0.1nm,0.3s,baz=200,slow=17,SNR=3.0						
	1.1nm,0.6s						
PETK	**Petropavlovsk-**	**6.50**	**12**	Pn	**Pn**	**08 15 01.4**	**-0.3**
PET	**Petropavlovsk**	**6.57**	**17**	Pn	**Pn**	**08 15 03.4**	**+0.6**
JTM	**Tenmabayashi**	**12.05**	**245**	Pn	**Pn**	**08 16 16.9**	**-0.9**
MA2	**Magadan**	**13.14**	**349**	Pn	**Pn**	**08 16 34.0**	**+1.3**
JMM	**Marumori**	**14.06**	**236**	Pn	**Pn**	**08 16 44.9**	**-0.5**
JSD	**Sado**	**15.44**	**242**	P	**P**	**08 17 05.6**	**-2.4**
AMKA	**Amchitka**	**16.20**	**65**		**Pn**	**08 17 11.4**	**-2.1**
MAJO	**Matsushiro**	**16.47**	**238**		**Pn**	**08 17 15.9**	**-1.2**
USA0B	**Ussuriysk Arra**	**16.71**	**270**	Pn	**Pn**	**08 17 19.7**	**-0.3**
JGF	**Kuroka**	**17.62**	**237**	P	**P**	**08 17 30.9**	**-1.2**
JGF				IAmb	IAmb	08 17 41.5	
	comp=Z,25nm,1.5s						
INU	**Inuyama**	**17.99**	**237**	P	**P**	**08 17 35.1**	**-1.0**
UNV	**Unalaska Valle**	**25.01**	**60**	P	**P**	**08 18 48.3**	**-0.7**
ANM	**Nome**	**27.68**	**36**	P	**P**	**08 19 13.4**	**+0.3**
H11S1	**WAKE ISLAND Hy**	**29.64**	**158**	T	T	08 50 16.1	
	baz=344						
H11S3	**WAKE ISLAND Hy**	**29.65**	**158**	T	T	08 50 25.1	
	baz=344						
H11S2	**WAKE ISLAND Hy**	**29.66**	**158**	T	T	08 50 22.5	
	baz=344						
O18K	**Koktuh Hills**	**31.41**	**47**	P	**P**	**08 19 47.2**	**+1.1**
O18K				IAmb	IAmb	08 19 47.9	
	comp=Z,12nm,1.1s						
I23K	**Minto, Yukon-K**	**34.46**	**38**	P	**P**	**08 20 13.0**	**+0.4**
I23K				IAmb	IAmb	08 20 15.9	
	comp=Z,7.1nm,0.8s						
RND	**Reindeer**	**34.58**	**41**	P	**P**	**08 20 13.5**	**-0.3**
RND				IAmb	IAmb	08 20 54.6	
	comp=Z,3.5nm,0.7s						
KNK	**Knik Glacier**	**34.74**	**44**	P	**P**	**08 20 14.9**	**-0.4**
KNK				IAmb	IAmb	08 20 34.4	
	comp=Z,12nm,1.4s						
MK31	**Makanchi Array**	**48.41**	**298**	P	**P**	**08 22 07.3**	**+0.1**
MK31				IAmb	IAmb	08 22 42.8	
	comp=Z,2.2nm,1.4s						
MKAR	**Makanchi Array**	**48.41**	**298**	P	**P**	**08 22 08.5**	**+1.2**
MAKZ	**Makanchi**	**48.60**	**299**	P	**P**	**08 22 09.4**	**+0.8**
MAKZ				IAmb	IAmb	08 22 23.7	
	comp=Z,5.5nm,1.5s						
EUNU	**Eureka**	**48.77**	**12**	P	**P**	**08 22 10.4**	**+0.8**
EUNU				IAmb	IAmb	08 22 30.4	
	comp=Z,3.1nm,1.1s						
ABKAR	**Akbulak array**	**59.69**	**311**	P	**P**	**08 23 30.4**	**+1.1**
ABKAR				IAmb	IAmb	08 23 55.3	
	comp=Z,1.9nm,1.4s						
ABKAR	**Akbulak array**	**59.69**	**311**	P	**P**	**08 23 30.1**	**+0.8**
FINES	**FINESS Array B**	**64.72**	**336**	P	P	08 24 06.1	+3.3
	comp=Z,2.2nm,0.9s,baz=35,slow=7.6,SNR=4.2						
	comp=Z,2.2nm,0.9s						
TXAR	**Lajitas Array**	**76.01**	**62**	P	**P**	**08 25 15.2**	**+2.8**
	comp=Z,0.6nm,0.5s,baz=304,slow=4.4,SNR=11						
	comp=Z,0.6nm,0.5s						

DJA 05 08:19:09.4±1.9**, 2°S**±4°×**12°4E**±°**, h11**km±15km**, M3.9**/12**, mb4.2**/3**, mB4.4**/1**, MLv3.8**/12**, Mw(mB)3.6**/1**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.71**	**305**	P	Pn	08 19 39.1	0.0
SANI	**Sanana**	**1.82**	**91**	P	Pn	08 19 40.5	-0.1
SANI				S	Sn	08 20 02.7	-1.0
APSI	**Ampana**	**2.75**	**294**	P	Pn	08 19 53.3	-0.2
NLAI	**Namlea**	**3.16**	**112**	P	Pn	08 19 59.4	+0.2
NLAI				S	Sn	08 20 38.0	+1.1
MRSI	**Marisa**	**3.34**	**318**	P	Pn	08 20 01.3	-0.3
LBMI	**Labuha**	**3.61**	**67**	P	Pn	08 20 04.9	-0.4
SPSI	**Sidrap Palu**	**4.80**	**246**	P	Pn	08 20 21.3	-0.3
BKSI	**Bulukumba**	**5.20**	**231**	P	Pn	08 20 27.6	+0.5
	0.1nm382nm25nm,0.5s						
KAPI	**Kappang**	**5.31**	**236**	P	Pn	08 20 28.8	0.0
	0.1nm12nm,1.0s						
BSSI	**Bau Bau, Buton**	**5.49**	**222**	P	Pn	08 20 30.8	-0.4

*IDC **05** 08:21:12.5±6.4, 39°.83S×74°.19W, h0km, mb3.4/2, mbtmp3.5/3, ML4.3/1, MS2.5/1, Error ellipse: s-maj=268.9km s-min=29.5km az=30.0*
*NEIC **05** 08:21:13.9±1.5, 39°.66S±0°.04×73°.80W±0°.08, h24km±8km, mb4.3/2, ML4.0(GUC), Error ellipse: s-maj=9.1km s-min=6.2km az=83.0*
*GUC **05** 08:21:14.6±0.8, 39°.73S×73°.82W, h11km±3km, ML4.0*
ISC 05 08:21:12.8±1.5**, 39°.67S**±0°.04×**73°.85W**±0°.06**, h8**km±9km**, n38,** σ**1s28**/41**, mb4.0**/3**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR04	**Corral**	**0.39**	**123**		**Pg**	**08 21 21.4**	**+0.9**
LR04				Sg	**Sg**	**08 21 25.8**	**+0.2**
LR04	**Corral**	**0.39**	**123**	⇑*i*P	**Pg**	**08 21 21.4**	**+0.9**
LR04				*i*S	**Sg**	**08 21 25.8**	**+0.2**
LR02	**Universidad Au**	**0.48**	**107**	*e*P	**Pg**	**08 21 22.9**	**+0.7**
LR02				*i*S	**Sg**	**08 21 28.8**	**+0.2**
LR02				IAML		08 21 30.5	
	comp=E,76µm,0.4s						
LC02	**Puerto Saavedr**	**0.95**	**23**		**Pg**	**08 21 31.5**	**+0.5**
LC02	**Puerto Saavedr**	**0.95**	**23**	*e*P	**Pg**	**08 21 31.9**	**+0.9**
LC02				IAML		08 21 48.0	
	comp=N,8µm,0.5s						
LR03	**Panguipulli**	**1.16**	**89**		**Pb**	**08 21 34.1**	**-1.1**
LR03	**Panguipulli**	**1.16**	**89**	*e*P	**Pb**	**08 21 34.0**	**-1.1**
LR03				*i*S	**Sb**	**08 21 49.0**	**-1.4**
LL04	**Puerto Octay**	**1.66**	**139**		**Pn**	**08 21 40.8**	**-1.4**
LL04	**Puerto Octay**	**1.66**	**139**	*e*P	**Pn**	**08 21 41.0**	**-1.2**
LL05	**Los Muermos**	**1.76**	**171**		**Pn**	**08 21 43.0**	**-0.5**
LL05	**Los Muermos**	**1.76**	**171**	*e*P	**Pn**	**08 21 43.0**	**-0.5**
LL05				*i*S	**Sn**	**08 22 05.7**	**-0.5**
LL05				IAML		08 22 13.6	
	comp=N,2µm,0.4s						
LL03	**Petrohue**	**1.84**	**143**	Pn	**Pn**	**08 21 43.8**	**-0.9**
LL03	**Petrohue**	**1.84**	**143**	*e*P	**Pn**	**08 21 44.1**	**-0.6**
LL03				*i*S	**Sn**	**08 22 07.2**	**-0.9**
LL03				IAML		08 22 17.9	
	comp=N,2µm,0.6s						
GO06	**Curarrehue**	**1.84**	**88**	Pn	**Pn**	**08 21 44.4**	**-0.4**
GO06	**Curarrehue**	**1.84**	**88**	*e*P	**Pn**	**08 21 44.8**	**-0.1**
GO06				*i*S	**Sn**	**08 22 08.7**	**+0.3**
LL06	**Loncomilla**	**2.55**	**176**	Pn	**Pn**	**08 21 54.3**	**-0.1**
PLCA	**Paso Flores**	**2.74**	**114**	Pn	**Pn**	**08 21 59.4**	**+2.2**
	comp=N,9.7nm,0.3s,baz=293,slow=16,SNR=103						
PLCA				Sn	**Sb**	**08 22 36.7**	**+0.8**
	comp=N,21nm,0.3s,baz=240,slow=15,SNR=10						
PLCA				LR	LR	08 23 29.0	
	comp=N,77nm,20.6s,baz=270,slow=47						
	comp=N,44nm,0.4s						
PLCA	**Paso Flores**	**2.74**	**114**	Pn	**Pn**	**08 21 56.6**	**-0.5**
LL01	**San Ignacio de**	**2.92**	**159**	Pn	**Pn**	**08 21 58.5**	**-1.0**
GO07	**Milladeo Hill,**	**3.44**	**178**	Pn	**Pn**	**08 22 05.5**	**-1.3**
LL02	**Futaleuf**	**3.83**	**157**	Pn	**Pn**	**08 22 10.0**	**-2.0**
ML02	**Panimavida**	**4.35**	**27**	Pn	**Pn**	**08 22 18.7**	**-0.5**
BO02	**Sierra Bellavi**	**5.45**	**28**	Pn	**Pn**	**08 22 33.3**	**-1.1**
LMEL	**Las Melosas**	**6.51**	**28**	Pn	**Pn**	**08 22 48.1**	**-0.9**
MT02	**Curacav**	**6.76**	**20**	Pn	**Pn**	**08 22 50.6**	**-1.8**
H03S1	**Juan Fernandez**	**7.09**	**324**	T	T	08 30 19.3	
	baz=145,slow=75,SNR=462						
H03S2	**Juan Fernandez**	**7.10**	**323**	T	T	08 30 17.0	
	baz=145,slow=75,SNR=449						
H03S3	**Juan Fernandez**	**7.11**	**324**	T	T	08 30 18.1	
	baz=145,slow=75,SNR=517						
VA04	**Juan Fernndez**	**7.22**	**325**	Pn	**Pn**	**08 22 58.8**	**+0.1**
CO02	**Combarbal**	**8.76**	**16**	Pn	**Pn**	**08 23 18.5**	**-1.4**
CO03	**El Pedregal**	**9.18**	**17**	Pn	**Pn**	**08 23 23.9**	**-1.8**
GO04	**Tololo Observa**	**9.80**	**16**	Pn	**Pn**	**08 23 32.3**	**-1.9**
LCO	**Las Campanas**	**10.95**	**15**	Pn	**Pn**	**08 23 47.7**	**-2.3**
AC05	**El Transito**	**11.20**	**16**	Pn	Pn	08 23 50.5	-2.9
SNAA	**Sanae**	**46.95**	**156**	P	**P**	**08 29 43.1**	**-0.5**
SNAA				IAmb	IAmb	08 30 08.1	
	comp=Z,6.0nm,1.5s						
TXAR	**Lajitas Array**	**74.05**	**333**	P	**P**	**08 32 49.7**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=155,slow=8.8,SNR=1.5						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**87.48**	**71**	P	**P**	**08 34 04.9**	**+3.7**
	comp=Z,0.3nm,0.6s,baz=221,slow=5.8,SNR=1.7						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**87.48**	**71**	P	P	08 33 57.6	-3.7
TORD				IAmb	IAmb	08 34 03.4	
	comp=Z,1.8nm,1.3s						

*KRNET **05** 08:28:16.8±0.1, 40°.26N×71°.48E, h14km, mb2.9*
*ISU **05** 08:28:16, 40°.27N×71°.51E, h23km*
*SOME **05** 08:28:20.9, 40°.53N×71°.52E, h0km*
*NNC **05** 08:28:24.1±4.0, 40°.39N×71°.88E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=30.8km s-min=12.6km az=2.0*
ISC 05 08:28:16.9±1.0**, 40°.28N**±0°.02×**71°.48E**±0°.02**, h8**km±9km**, n35,** σ**2s19**/61**, 23C-8D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.25**	**67**	P	**Pg**	**08 28 22.5**	**+0.6**
FRG				S	**Sb**	**08 28 27.1**	**-1.2**
MINT	**Mingtut**	**0.43**	**296**	P	**Pb**	**08 28 26.2**	**-0.6**
MINT				S	**Sb**	**08 28 33.2**	**-0.2**
BTK	**Batken**	**0.55**	**247**	⇓*e*P	**Pg**	**08 28 27.2**	**-0.3**
	baz=49						
BTK				⇓*i*S	**Sg**	**08 28 35.0**	**+0.2**
	baz=49						
BTK	**Batken**	**0.55**	**247**	P	**Pg**	**08 28 27.1**	**-0.4**
TSTA	**Tashata**	**0.82**	**68**	S	**Sn**	**08 28 46.0**	**-1.2**
DRK	**Karamyk**	**0.83**	**163**	⇑*i*P	**Pg**	**08 28 32.1**	**-0.8**
	baz=62						
DRK				⇑*i*S	**Sg**	**08 28 43.5**	**-0.3**
	baz=62						
OHH	**Osh**	**1.03**	**76**	⇑*i*P	**Pb**	**08 28 36.4**	**-0.6**
	baz=74						
OHH				⇑*i*S	**Sg**	**08 28 50.4**	**+0.5**
	baz=74						
TRKS	**Terek-Say**	**1.28**	**348**	⇑*e*P	**Pn**	**08 28 40.0**	**-1.2**
	baz=49						
TRKS				⇑*i*S	**Sb**	**08 28 56.6**	**-1.4**
	baz=49						
GAR	**Garm**	**1.56**	**216**	⇑*i*P	**Pb**	**08 28 45.6**	**-0.5**
	baz=16						
GAR				⇑*i*S	**Sg**	**08 29 06.1**	**-0.9**
	baz=16						
ARK	**Arkit**	**1.56**	**13**	⇑*i*P	**Pb**	**08 28 46.3**	**+0.1**
	baz=13						
ARK				⇑*i*S	**Sg**	**08 29 07.5**	**+0.4**
	baz=13						
CHMG	**Chimgan**	**1.69**	**319**	P	**Pg**	**08 28 49.0**	**-0.3**
CHMG				S	**Sg**	**08 29 12.4**	**+1.2**
CHRV	**Charvak**	**1.79**	**320**	P	**Pb**	**08 28 50.1**	**+0.2**
CHRV				S	**Sg**	**08 29 14.9**	**+0.6**
IUG	**Iuzhnay**	**2.17**	**330**	*e*P	**Pb**	**08 28 57.3**	**+0.9**
	176nm,0.3s						
IUG				*e*S	**Sb**	**08 29 23.6**	**+0.2**
	64nm,0.3s						
CHGR	**Chuyangaron**	**2.42**	**229**	⇑*i*P	**Pb**	**08 28 58.9**	**-1.8**
	baz=29						
CHGR				⇑*i*S	**Sb**	**08 29 29.3**	**-1.4**
	baz=29						
DZA	**Taraz**	**2.62**	**358**	*e*P	**Pg**	**08 29 06.4**	**-0.6**
	63nm,0.1s						
DZA				*e*S	**Sg**	**08 29 39.1**	**-1.8**
	111nm,0.2s						
DZA	**Taraz**	**2.62**	**358**	Pg	**Pg**	**08 29 06.4**	**-0.6**
	63nm,0.1s						
DZA				Lg	Lg	08 29 39.1	
	111nm,0.2s						
ARLS	**Aral**	**2.67**	**53**	⇓*e*P	**Pb**	**08 29 02.3**	**-2.7**
	baz=52						
ARLS				⇓*e*S	**Sb**	**08 29 35.8**	**-2.2**
	baz=52						
MRKS	**Merke**	**2.79**	**27**	*e*P	**Pg**	**08 29 09.2**	**-1.2**
	4.5nm,0.2s						
MRKS				*e*S	**Sg**	**08 29 44.3**	**-2.3**
	28nm,0.3s						
KK31	**Karatay Array**	**2.92**	**346**	⇑Pg	**Pg**	**08 29 15.3**	**+2.6**
	2.4nm,0.3s,baz=162,slow=17,SNR=15						
KK31				Lg	Lg	08 29 49.1	
	3.8nm,0.3s,baz=158,slow=29,SNR=7.2						
KKAR	**Karatay Array**	**2.92**	**346**	⇑*e*P	**Pb**	**08 29 06.0**	**-3.1**
	baz=46						
KKAR				⇑*i*S	**Sb**	**08 29 41.8**	**-3.2**
	baz=46						
EKS2	**Erkin-Say**	**2.94**	**35**	⇑*e*P	**Pb**	**08 29 06.5**	**-3.2**
	baz=35						
EKS2				⇑*i*S	**Sb**	**08 29 42.4**	**-3.4**
	baz=35						
UCH	**Uchtor**	**3.00**	**49**	⇑*i*P	**Pn**	**08 29 07.5**	**+2.3**
	baz=48						
UCH				⇑*i*S	**Sb**	**08 29 44.3**	**-3.7**
	baz=48						
AAK	**Ala-Archa**	**3.27**	**43**	⇓*i*P	**Pn**	**08 29 11.2**	**+2.6**
	baz=43						
AAK				⇓*i*S	**Sn**	**08 29 50.6**	**+2.8**
	baz=43						
BOOM	**Boomskoye usch**	**4.02**	**55**	⇑*i*P	**Pn**	**08 29 21.6**	**+2.7**
	baz=55						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOOM				⇑iS	Sn	08 30 08.6	+2.3
	baz=55						
TKM2	Tokmak 2	4.06	48	⇓iP	Pn	08 29 22.2	+2.6
	baz=48						
TKM2				⇓iS	Sn	08 30 09.6	+2.2
	baz=48						
TKM2	Tokmak 2	4.06	48	⇑Pg	Pg	08 29 31.8	-2.9
	2.4nm,0.6s						
TKM2				⇑Lg	Lg	08 30 25.0	
	3.7nm,0.6s						
KST	Kastek	4.35	49	eP	Pg	08 29 39.0	-1.1
	1.8nm,0.3s						
KST				eS	Sg	08 30 34.8	-1.7
	5.6nm,0.6s						
KST	Kastek	4.35	49	Pg	Pg	08 29 39.0	-1.1
	1.8nm,0.3s						
KST				Lg	Lg	08 30 34.8	
	5.6nm,0.6s						
DGS	Degeres	4.37	46	eP	Pg	08 29 39.7	-0.9
	1.7nm,0.3s						
DGS				eS	Sg	08 30 36.1	-1.0
	6.1nm,0.5s						
DGS	Degeres	4.37	46	Pg	Pg	08 29 39.7	-0.9
	1.7nm,0.3s						
DGS				Lg	Lg	08 30 36.1	
	6.1nm,0.5s						
KRBS	Karabastau	4.63	41	eP	Pg	08 29 42.5	-3.0
	1.1nm,0.3s						
KRBS				eS	Sg	08 30 40.9	-4.6
	1.8nm,0.4s						
KRBS	Karabastau	4.63	41	Pg	Pg	08 29 42.6	-3.0
	1.1nm,0.3s						
KRBS				Lg	Lg	08 30 40.9	
	1.8nm,0.4s						
MDOK	Medeo	5.07	54	eP	Pg	08 29 52.6	-1.3
	2.5nm,0.4s						
MDOK				eS	Sg	08 30 58.0	-1.6
	3.9nm,0.7s						
KUU	Kurty	5.11	43	eP	Pb	08 29 50.4	+3.9
	0.6nm,0.1s						
KUU				eS	Sb	08 30 54.3	+6.2
	2.1nm,0.4s						
KUU	Kurty	5.11	43	Pg	Pb	08 29 50.4	+3.9
	0.6nm,0.1s						
KUU				Lg	Lg	08 30 54.3	
	2.1nm,0.4s						

*INET **05** 08:28:53.6±0.3, 12°.35N×87°.86W, h24km±3km, MW3.4*
*SNET **05** 08:28:54.3±1.1, 12°.45N×87°.96W, h28km±7km, ML3.1*
ISC 05 08:28:52.3±2.5, **12°.3N**±0°.1×**87°.90W**±0°.08, **h29**km±16km, **n17**, σ**0s.44**/25, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.91	66	eP	Pb	08 29 09.6	0.0
CRIN				eS	Sb	08 29 21.9	+0.6
CNCH	Conchagua	0.94	4	eP	Pb	08 29 09.9	-0.2
CNCH				eS	Sb	08 29 22.1	-0.2
LCND	La Caada	0.97	0	eS	Sb	08 29 22.6	-0.4
CNRM	Centro Naciona	1.17	347	eS	Sn	08 29 26.9	-0.8
CNGN	Cerro Negro	1.18	82	eP	Pn	08 29 13.2	+0.1
ALJI	Alcalda de J	1.19	327	eP	Pn	08 29 13.6	+0.6
ALJI				eS	Sn	08 29 27.9	-0.2
COEB	Comit de Eme	1.31	332	eP	Pn	08 29 15.0	+0.2
COEB				eS	Sn	08 29 31.2	-0.3
COEB				IAML		08 29 38.9	
	comp=Z,287nm,0.2s						
MOMN	Momotombo	1.33	87	eP	Pn	08 29 15.0	-0.1
PQSS	Presa 15 de Se	1.44	333	eP	Pn	08 29 17.3	+0.8
PQSS				eS	Sn	08 29 34.6	+0.3
UESV	Universidad de	1.56	326	eS	Sn	08 29 37.1	-0.3
UESV				IAML		08 29 40.4	
	comp=Z,258nm,0.5s						
SCLA	Alcaldia de Sa	1.58	329	eP	Pn	08 29 19.1	+0.6
SCLA				eS	Sn	08 29 38.6	+0.6
COEG	Centro de Oper	1.60	323	eP	Pn	08 29 18.7	0.0
COEG				eS	Sn	08 29 37.9	-0.6
COEG				IAML		08 29 45.2	
	comp=Z,320nm,0.2s						
SJTE	Alcalda de S	1.67	320	eP	Pn	08 29 19.8	+0.1
SJTE				eS	Sn	08 29 39.7	-0.5
SJTE				IAML		08 29 44.2	
	comp=Z,182nm,0.3s						
HUEN		1.69	90	eP	Pn	08 29 19.8	-0.1
TGUH	Tegucigalpa,Un	1.82	20	eP	Pn	08 29 22.2	+0.3
TGUH	Tegucigalpa,Un	1.82	20	eP	Pn	08 29 22.2	+0.3
P5NO	Presa 5 de nov	1.84	333	eS	Sn	08 29 44.5	+0.1

IDC 05 08:39:21.4±2.0, **3°.67N×124°.57E, h0km, mb3.5**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=194.9km s-min=26.8km az=64.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.35	158	P	P	08 44 50.7	+0.3
	0.5nm,0.3s,baz=338,slow=9.6,SNR=22						
	0.5nm,0.3s						
ASAR	Alice Springs	28.65	162	P	P	08 45 19.8	-0.4
	0.1nm,0.3s,baz=338,slow=6.8,SNR=6.6						
	0.1nm,0.3s						
MKAR	Makanchi Array	56.39	326	P	P	08 49 04.6	-0.1
	0.3nm,0.4s,baz=130,slow=8.2,SNR=4.6						
	0.3nm,0.4s						

ROM 05 08:41:27.1±0.1, **42°.820N**±0°.004×**13°.187E**±0°.005, **h11**km, **ML2.4**/1, **6C-5D, Error ellipse: s-maj=0.5km s-min=0.2km az=31.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1245	Castelsantange	0.04	1	P	Pg	08 41 29.7	+0.2
T1245				S	Sg	08 41 31.2	+0.1
T1245	Castelsantange	0.04	1	P	Pg	08 41 29.7	+0.3
T1245				S	Sg	08 41 31.3	+0.2
T1245				AML	AML		
	comp=E,1270µm,0.6s						
T1245				AML	AML		
	comp=E,1291µm,0.6s						
T1245				AML	AML		
	comp=N,2140µm,0.2s						
T1245				AML	AML		
	comp=E,1480µm,0.2s						
T1245				AML	AML		
	comp=N,2265µm,0.3s						
T1245				AML	AML		
	comp=E,1305µm,0.3s						
NRCA	Norcia	0.06	284	⇑P	Pg	08 41 29.7	+0.2
NRCA	Norcia	0.06	284	⇑P	Pg	08 41 29.7	+0.2
NRCA	Norcia	0.06	284	⇑P	Pg	08 41 29.7	+0.2
NRCA				S	Sg	08 41 31.1	-0.1
NRCA				AML	AML		
	comp=E,4530µm,0.1s						
NRCA				AML	AML		
	comp=N,2390µm,0.1s						
NRCA				AML	AML		
	comp=E,4535µm,0.1s						
NRCA				AML	AML		
	comp=N,2390µm,0.1s						
NRCA				AML	AML		
	comp=E,4535µm,0.1s						
NRCA				AML	AML		
	comp=N,2390µm,0.1s						
NRCA	Norcia	0.06	284	S	Sg	08 41 31.0	-0.1
NRCA				AML	AML		
	comp=E,1735µm,0.2s						
NRCA				AML	AML		
	comp=N,1395µm,1.0s						
NRCA				AML	AML		
	comp=N,1390µm,1.0s						
NRCA				AML	AML		
	comp=E,1915µm,0.2s						
NRCA				AML	AML		
	comp=N,1505µm,0.2s						
NRCA				AML	AML		
	comp=E,4535µm,0.1s						
NRCA				AML	AML		
	comp=N,2390µm,0.1s						
T1202	Accumoli, Fraz	0.12	167	⇑P	Pg	08 41 30.8	+0.6
T1202	Accumoli, Fraz	0.12	167	⇑P	Pg	08 41 30.8	+0.6
T1202	Accumoli, Fraz	0.12	167	⇑P	Pg	08 41 30.8	+0.6
T1202				S	Sg	08 41 33.1	+0.7
T1202	Accumoli, Fraz	0.12	167	S	Sg	08 41 33.1	+0.7
T1216	Preci, Frazion	0.14	300	AML	AML		
	comp=E,534µm,1.2s						
T1216				AML	AML		
	comp=N,560µm,0.2s						
T1201	Domo (RI)	0.17	164	P	Pb	08 41 31.7	-0.7
T1204	Amatrice, Fraz	0.17	146	⇓P	Pg	08 41 31.6	+0.5
T1204	Amatrice, Fraz	0.17	146	⇓P	Pg	08 41 31.6	+0.5
T1204	Amatrice, Fraz	0.17	146	⇓P	Pg	08 41 31.6	+0.5
T1204				S	Sg	08 41 34.7	+0.9
T1241	Roccafluvione,	0.18	78	P	Pb	08 41 31.9	-0.7
T1241	Roccafluvione,	0.18	78	P	Pb	08 41 31.9	-0.7
T1241	Roccafluvione,	0.18	78	P	Pb	08 41 31.9	-0.7
T1241				S	Sg	08 41 35.2	+1.2
T1217	Poggiodomo (PG	0.22	240	P	Pg	08 41 32.4	+0.6
T1217				S	Sg	08 41 36.1	+1.2
T1217	Poggiodomo (PG	0.22	240	P	Pg	08 41 32.5	+0.7
T1217				S	Sg	08 41 36.0	+1.1
SMA1	SAN MARTINO	0.22	150	P	Pg	08 41 32.3	+0.5
SMA1	SAN MARTINO	0.22	150	P	Pg	08 41 32.3	+0.5
SMA1	SAN MARTINO	0.22	150	P	Pg	08 41 32.3	+0.5
SMA1	SAN MARTINO	0.22	150	AML	AML		
	comp=N,336µm,1.6s						
SMA1				AML	AML		
	comp=E,339µm,0.4s						
T1243	Rocca Santa Ma	0.23	123	⇓P	Pg	08 41 32.5	+0.5
T1243	Rocca Santa Ma	0.23	123	⇓P	Pg	08 41 32.5	+0.5
T1243				S	Sg	08 41 36.2	+1.0
T1243	Rocca Santa Ma	0.23	123	P	Pg	08 41 32.4	+0.5
T1243				S	Sg	08 41 36.1	+0.9
FDMO	Fiordimonte	0.23	341	S	Sg	08 41 36.0	+0.8
FDMO	Fiordimonte	0.23	341	S	Sg	08 41 36.0	+0.8
FDMO	Fiordimonte	0.23	341	S	Sg	08 41 36.0	+0.8
T1215	Vallo di Nera,	0.23	266	P	Pg	08 41 32.4	+0.3
T1215				S	Sg	08 41 36.3	+0.9
T1215	Vallo di Nera,	0.23	266	P	Pg	08 41 32.5	+0.4
LNSS	Leonessa	0.24	207	AML	AML		
	comp=E,180µm,1.5s						
LNSS				AML	AML		
	comp=N,417µm,0.4s						
CESI	CESI - Serrava	0.28	312	P	Pg	08 41 33.5	+0.6
CESI				S	Sb	08 41 38.0	-1.0
RM33	Pellescritta (	0.31	176	P	Pg	08 41 34.0	+0.5
RM33				AML	AML		
	comp=E,228µm,0.6s						
RM33				AML	AML		
	comp=N,194µm,0.5s						
T1246	Crognaleto (TE	0.33	136	P	Pg	08 41 34.0	+0.2
T1246				S	Sg	08 41 39.1	+1.0
TERO	Teramo	0.36	123	P	Pg	08 41 34.7	+0.2
TERO				AML	AML		
	comp=N,58µm,0.5s						
TERO				AML	AML		
	comp=E,74µm,0.3s						
TERO	Teramo	0.36	123	P	Pg	08 41 34.6	+0.2
TERO				S	Sb	08 41 40.5	-0.9
TERO				AML	AML		
	comp=E,220µm,0.3s						
TERO				AML	AML		
	comp=N,268µm,0.3s						
TERO				AML	AML		
	comp=E,219µm,0.3s						
GIGS	Gran Sasso	0.47	143	AML	AML		
	comp=E,27µm,1.1s						
GIGS				AML	AML		
	comp=N,23µm,0.9s						

*IDC **05** 09:01:20.9±1.9, 26°.87S×63°.42W, h564km±16km, mb3.0/3, mbtmp3.9/7, Error ellipse: s-maj=47.1km s-min=19.7km az=27.0*
*VAO **05** 09:01:20.8±0.5, 26°.94S×63°.46W, h596km, mb3.5*
*NEIC **05** 09:01:21.8±0.9, 26°.9S±0°.1×63°.4W±0°.2, h572km±13km, mb4.0/4, Md3.5(SJA), Error ellipse: s-maj=20.9km s-min=19.1km az=67.0*
ISC 05 09:01:20.9±0.6, **26°.85S**±0°.08×**63°.36W**±0°.08, **h561**km, **n64**, σ**1s.29**/66, **mb3.6**/4, **Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AC02	Maricunga	5.15	269	P	P	09 02 55.1	+1.9
CPUP	Villa Florida	5.43	86	P	P	09 02 56.8	+1.8
	5.4nm,0.6s,baz=255,slow=8.6,SNR=19						
CPUP	Villa Florida	5.43	86	P	P	09 02 57.0	+1.9
AF01	San Pedro de A	5.85	311	P	P	09 03 00.7	+1.5
GO02	Mina Guanaco	5.85	285	P	P	09 03 00.7	+1.6
GO02					S	09 04 20.4	+1.1
GO03	Copiap	6.16	262	P	P	09 03 02.6	+0.9
AC06	Mina Casimiro	6.25	264	P	P	09 03 02.8	+0.4
AC05	El Transito	6.43	251	P	P	09 03 05.6	+1.5
ITQB	Itaqui	6.57	117	P	P	09 03 07.2	+1.9
ITQB	Itaqui	6.57	117	eP	P	09 03 06.7	+1.5
LVC	Limon Verde	6.58	309	P	P	09 03 06.6	+0.7
	15nm,0.4s,baz=205,slow=8.1,SNR=52						
LVC				S	S	09 04 29.4	-2.2
	14nm,0.3s,baz=239,slow=22,SNR=21						
LVC	Limon Verde	6.58	309	P	P	09 03 06.8	+1.0
LVC	Limon Verde	6.58	309	eP	P	09 03 06.9	+1.0
PB15	IPOC Station P	6.62	302	P	P	09 03 07.0	+0.9
AZCA	Azaras, Argent	6.67	102	eP	P	09 03 08.1	+1.9
CO01	Juntas del Tor	6.69	241	P	P	09 03 08.4	+1.7
PB14	IPOC Station P	6.72	288	P	P	09 03 07.7	+0.5
AC04	Llanos de Chal	6.98	257	P	P	09 03 09.8	+0.7
PB06	IPOC Station P	6.99	305	P	P	09 03 10.6	+1.1
PB09	IPOC Station P	7.35	312	P	P	09 03 14.1	+1.1
MURT	Porto Murtinho	7.37	47	eP	P	09 03 14.8	+1.8
PB03	IPOC Station P	7.53	308	P	P	09 03 15.4	+0.6
PB04	IPOC Station P	7.64	305	P	P	09 03 15.4	-0.3
UNIS	Unistalda (Bra	7.66	109	eP	P	09 03 17.3	+1.7
RODS	Rosario do Sul	7.98	118	eP	P	09 03 20.8	+2.1
PB01	IPOC Station P	8.05	315	P	P	09 03 19.7	0.0
ANTJ	Antonio Joao (	8.27	56	eP	P	09 03 25.5	+3.8
CRSM	Crissiumal (Br	8.33	96	eP	P	09 03 23.7	+1.5
PB08	IPOC Station P	8.54	320	P	P	09 03 25.3	+0.5
MCR1	Marechal Candi	8.75	76	eP	P	09 03 28.4	+2.0
GO01	Chusmiza	8.94	322	P	P	09 03 29.5	+0.6
PB11	IPOC Station P	9.12	319	P	P	09 03 31.0	+0.5
BBRB	Robore, Bolivi	9.14	22	eP	P	09 03 32.2	+1.7
FRBT	Francisco Belt	9.28	87	eP	P	09 03 33.2	+1.4
ALGR	Alto Alegre (B	9.35	104	eP	P	09 03 33.8	+1.2
CPSB	Cacapava Do Su	9.41	114	eP	P	09 03 33.6	+0.7
AQDB	Aquidauana	9.47	49	eP	P	09 03 34.5	+0.8
PLTB	Pedras Altas	9.82	122	P	P	09 03 37.5	+0.3
PLTB	Pedras Altas	9.82	122	eP	P	09 03 37.4	+0.2
BBSD	Serra de San D	9.95	15	eP	P	09 03 40.2	+1.5
ITAB	Concordia	10.02	95	P	P	09 03 40.1	+0.8
ITAB	Concordia	10.02	95	eP	P	09 03 40.4	+1.1
PB16	IPOC Station P	10.20	325	P	P	09 03 44.4	+2.5
PTGB	Pitanga	10.40	81	eP	P	09 03 44.6	+1.4
PB12	IPOC Station P	10.42	321	P	P	09 03 43.9	+0.3
SIV	San Ignacio	11.02	12	P	P	09 03 49.7	+0.1
	0.6nm,0.4s,baz=204,slow=7.2,SNR=5.7						
CNLB	Canela	11.32	105	eP	P	09 03 53.2	+0.6
LPAZ	La Paz	11.41	336	P	P	09 03 54.3	0.0
	1.7nm,0.4s,baz=133,slow=4.3,SNR=8.1						
LPAZ	La Paz	11.41	336	P	P	09 03 54.4	+0.1
LPAZ	La Paz	11.41	336	eP	P	09 03 53.9	-0.3
PTLB	Pontes e Lacer	12.01	20	eP	P	09 04 01.1	+1.3
GO06	Curarrehue	14.38	206	P	P	09 04 23.8	-0.2
PET01	Itanhaem-SP	14.74	84	eP	P	09 04 27.8	+0.1
PLCA	Paso Flores	15.07	201	P	P	09 04 30.2	-0.5
PLCA				IAmb	IAmb	09 04 45.4	
	comp=Z,5.7nm,1.2s						
VAO	Valinhos	15.36	79	eP	P	09 04 34.0	0.0
ARAG	Araguaiana, MT	15.45	46	eP	P	09 04 34.7	-0.1
ETMB	Extrema	17.16	350	P	P	09 04 50.6	-0.2
ETMB				IAmb	IAmb	09 04 52.0	
	comp=Z,1.0nm,0.6s						
MCRA	Macar, Loja	27.41	322	P	P	09 06 22.8	+0.3
MCRA				IAmb	IAmb	09 06 43.4	
	comp=Z,6.9nm,1.5s						
BOAV	Boa Vista	29.21	6	P	P	09 06 37.9	-0.2
BOAV				IAmb	IAmb	09 06 40.1	
	comp=Z,8.0nm,1.5s						
TXAR	Lajitas Array	67.92	322	P	P	09 11 24.2	-0.1
	comp=Z,0.1nm,0.5s,baz=145,slow=8.2,SNR=4.2						
	comp=Z,0.1nm,0.5s						
TORD	Torodi Ar. Bea	74.61	66	P	P	09 12 02.5	-1.2
	comp=Z,1.1nm,0.6s,baz=275,slow=6.5,SNR=5.3						
	comp=Z,1.1nm,0.6s						
BOSA	Boshof	76.53	115	P	P	09 12 13.5	-0.8
	comp=Z,2.6nm,0.7s,baz=287,slow=5.2,SNR=4.3						
	comp=Z,2.6nm,0.7s						
WRA	Warramunga Arr	130.41	202	PKP	PKPdf	09 19 27.4	-1.4
	comp=Z,0.5nm,1.1s,baz=154,slow=1.9,SNR=4.9						
MKAR	Makanchi Array	146.44	45	PKPbc	PKiKP	09 19 59.7	-1.9
	comp=Z,0.4nm,0.4s,baz=310,slow=2.6,SNR=8.3						

MAN 05 09:02:21.8, 9°.78N×126°.18E, h24km, mb4.1, ML2.9, MS2.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.68	270	eP	Pb	09 02 35.0	0.0
SCPH				eS	Sn	09 02 46.6	+0.8
GHBP	Garcia Hernand	1.84	265	⇑eP	Pb	09 02 54.0	-0.8
GHBP				eS	Sb	09 03 16.9	-0.4
TABP	Talibon, Bohol	1.84	280	⇑iP	Pn	09 02 51.7	-0.2
TABP				iS	Sn	09 03 16.0	+1.5

*NEIC **05** 09:20:19.9±0.9, 37°.43N±0°.02×97°.723W±0°.009, h5km±2km, mb_Lg2.9/31, Error ellipse: s-maj=4.2km s-min=3.0km az=179.0*
*ANF **05** 09:20:20.8±0.3, 37°.38N×97°.74W, h5km, ML3.7/13, Error ellipse: s-maj=3.5km s-min=2.5km az=47.0*
ISC 05 09:20:20.4±1.0, **37°.42N**±0°.03×**97°.73W**±0°.02, **h5**km±9km, **n79**, σ**0s.67**/82, **Kansas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KS21	Milan North St	0.14	159		Pg	09 20 23.2	0.0
KS21				Sg	Sg	09 20 25.1	-0.1
KAN06	Argonia West S	0.20	211		Pg	09 20 24.3	0.0
KAN06				Sg	Sg	09 20 26.8	-0.2
KS20	Mayfield South	0.23	144		Pg	09 20 25.1	+0.1
KS20				Sg	Sg	09 20 28.2	+0.1
KAN12	Harper NE Stat	0.25	241	Pg	Pg	09 20 25.5	+0.3
KAN12				Sg	Sg	09 20 28.8	+0.4
KAN01	Argonia South	0.27	185		Pg	09 20 25.5	-0.1
KAN08	Anthony NE Sta	0.27	225		Pg	09 20 25.8	+0.1
KAN08				Sg	Sg	09 20 29.4	+0.2
KAN09	Caldwell North	0.30	163		Pg	09 20 26.1	0.0
KAN17	Caldwell West	0.38	184		Pg	09 20 27.5	-0.1
KAN13	South Haven SW	0.45	154		Pg	09 20 29.0	-0.1
KAN14	Manchester OK	0.50	202		Pg	09 20 29.8	-0.1
GC02	Grant County #	0.58	191	Pg	Pg	09 20 31.2	-0.2
OK032	Salt Plains WL	0.72	212	Pg	Pg	09 20 34.1	-0.2
BLOK	Blackwell	0.78	148	Pg	Pg	09 20 34.9	-0.4
CROK	Carrier	0.94	193		Pg	09 20 37.7	-0.6
OK035	E0210 Rd and N	1.06	228	Pg	Pg	09 20 40.2	-0.4
OK049	E0420 Rd and N	1.07	161		Pg	09 20 40.1	-0.7
T35A	Sooner Cattle	1.09	117		Pg	09 20 41.1	-0.3
T35B	Sooner Cattle	1.09	117	P	Pg	09 20 41.1	-0.3
	baz=299,SNR=99						
T35B				S	Sg	09 20 55.5	0.0
	baz=299						
OK051	E0350 and S346	1.16	142		Pg	09 20 41.9	-0.6
OK045	Pawnee Station	1.16	146	Pg	Pg	09 20 42.1	-0.6
OK048	Pawnee Station	1.18	148		Pg	09 20 42.3	-0.7
OK050	Pawnee Station	1.19	149		Pg	09 20 42.4	-0.6
OK046	Pawnee Station	1.21	147		Pg	09 20 42.9	-0.7
NOKA	Waynoka	1.24	231	Pn	Pg	09 20 43.6	-0.6
OK038	West end E0370	1.24	221		Pg	09 20 42.5	-1.7
R32A	Long Quarter,	1.27	322		Pb	09 20 45.0	+0.3
R32A	Long Quarter,	1.27	322	P	Pb	09 20 45.1	+0.3
	baz=141,SNR=22						
R32A				S	Sb	09 21 01.7	+0.4
	baz=141						
OK044	Pawnee Station	1.28	144	Pn	Pg	09 20 44.2	-0.8
U32A	Winter Ranch,	1.46	225	Pn	Pn	09 20 47.0	-0.2
U32A	Winter Ranch,	1.46	225	P	Pn	09 20 47.1	-0.2
	baz=44,SNR=25						
U32A				S	Sg	09 21 07.2	+0.1
	baz=44						
QUOK	Quay	1.49	146	Pn	Pn	09 20 47.6	-0.2
OK033	Mehan	1.51	155	Pn	Pn	09 20 48.0	0.0
OK034	N. Norfolk Rd.	1.63	150		Pn	09 20 49.8	+0.1
OK031	S. Brethren Rd	1.63	154		Pn	09 20 49.8	+0.1
OK029	Liberty Lake	1.63	172		Pn	09 20 49.9	+0.1
BCOK	Bluff Creek, N	1.76	177		Pn	09 20 52.0	+0.5
DEOK	Depew	1.86	147		Pn	09 20 53.3	+0.4
OK025	Westminster Rd	1.86	170		Pn	09 20 53.3	+0.4
KSU1	Kansas State U	1.90	27		Pb	09 20 55.0	-0.4
KSU1	Kansas State U	1.90	27	P	Pb	09 20 55.1	-0.4
	baz=208,SNR=59						
KSU1				S	Sg	09 21 21.4	+0.1
	baz=208						
ELIS	Ellis County	1.92	226		Pn	09 20 54.1	+0.5
CSTR	Hydro, Custer	1.93	204	Pg	Pg	09 20 56.7	-0.7
CSTR				IAmb_Lg		09 21 24.9	
	comp=Z,5.8nm,0.7s						
CBKS	Cedar Bluff	2.11	312		Pn	09 20 55.6	-0.7
CBKS	Cedar Bluff	2.11	312	P	Pn	09 20 57.3	+1.0
	baz=130,SNR=20						
CBKS				S	Sb	09 21 25.8	+0.2
	baz=130						
TUL1	Leonard	2.17	133	Pn	Pn	09 20 56.3	-0.8
TUL1	Leonard	2.17	133	P	Pn	09 20 57.6	+0.5
	baz=315,SNR=46						
TUL1				Sb	Sb	09 21 27.9	+0.7
	baz=315						
FNO	Franklin	2.17	173	Pn	Pn	09 20 56.7	-0.5
RLO	Rose Lookout	2.51	119		Pn	09 21 01.0	-0.7
WMOK	Wichita Mounta	2.81	198	Pn	Pn	09 21 05.6	-0.3
WMOK	Wichita Mounta	2.81	198	P	Pn	09 21 06.0	+0.1
	baz=18,SNR=14						
WMOK				S	Sn	09 21 40.9	+0.7
	baz=18						
X34A	Smith Ranch, M	2.81	182		Pn	09 21 05.6	-0.4
U38A	Gravette	2.85	109	Pn	Pn	09 21 06.0	-0.5
U38A				IAmb_Lg		09 21 57.3	
	comp=Z,27nm,0.7s						
HHAR	Hobbs	3.24	109		Pn	09 21 10.9	-0.9
N33A	J Bar K, Exete	3.32	4	Pn	Pn	09 21 11.9	-1.0
N33A				IAmb_Lg		09 22 13.2	
	comp=Z,47nm,0.7s						
X37A	Clayton	3.41	145	Pn	Pn	09 21 15.2	+1.1
X37A				IAmb_Lg		09 22 17.9	
	comp=Z,43nm,0.8s						
X37A	Clayton	3.41	145	P	Pn	09 21 14.9	+0.8
	baz=327,SNR=42						
LOOK	Love County	3.45	172	Pg	Pg	09 21 25.2	-1.2
LOOK				IAmb_Lg		09 22 18.1	
	comp=Z,32nm,0.9s						
N35A	Tabor	3.80	25	Pn	Pn	09 21 18.2	-1.3
N35A				IAmb_Lg		09 22 26.2	
	comp=Z,48nm,0.7s						
BGNE	Belgrade	4.00	355	IAmb_Lg		09 22 33.4	
	comp=Z,24nm,0.8s						
BGNE	Belgrade	4.00	355	P	Pn	09 21 23.3	+1.1
	baz=175						
AMTX	Amarillo	4.08	233	P	Pn	09 21 24.6	+1.2
	baz=50						
Z35A	Perchaven, San	4.10	174	Pn	Pn	09 21 23.7	+0.1
Z35A				IAmb_Lg		09 22 35.8	
	comp=Z,21nm,0.9s						
KSCO	Kaye Shedlock'	4.17	294	IAmb_Lg		09 22 36.7	
	comp=Z,30nm,0.7s						
MGMO	Mountain Grove	4.36	92	IAmb_Lg		09 22 38.5	
	comp=Z,39nm,0.7s						
R40A	Maddies Statio	4.41	77	Pn	Pn	09 21 29.7	+1.8
R40A				IAmb_Lg		09 22 38.8	
	comp=Z,28nm,0.8s						
R40A	Maddies Statio	4.41	77	P	Pn	09 21 29.1	+1.3
	baz=260,SNR=15						
MIAR	Mount Ida	4.42	129	P	Pn	09 21 29.1	+1.0
	baz=312,SNR=9.3						
Z38A	Mt. Pleasant	4.72	151	IAmb_Lg		09 22 51.5	
	comp=Z,17nm,0.7s						
FCAR	Ozark Folk Cen	4.76	107	IAmb_Lg		09 22 49.7	
	comp=Z,24nm,0.7s						
OGNE	Ogallala	4.86	318	Pn	Pn	09 21 32.6	-1.5
WHAR	Wooly Hollow	4.88	114	Pn	Pn	09 21 35.6	+1.3
WHAR				IAmb_Lg		09 23 01.2	
	comp=Z,29nm,0.9s						
P40A	Paris	4.93	63	IAmb_Lg		09 22 59.8	
	comp=Z,23nm,0.8s						
ABTX	Abilene, Hawle	5.04	199	Pn	Pn	09 21 35.7	-0.8
UALR	University of	5.10	120	IAmb_Lg		09 23 07.8	
	comp=Z,18nm,0.9s						
K31A	O'Neill	5.26	352	IAmb_Lg		09 23 09.8	
	comp=Z,25nm,0.9s						
WLAR	White Oak Lake	5.29	133	IAmb_Lg		09 23 14.4	
	comp=Z,17nm,0.7s						
WHTX	Lake Whitney,	5.42	178	P	Pn	09 21 41.9	+0.1
	baz=358,SNR=6.6						

237A	**Washetta, Mont**	**5.63**	**163**	Pn	**Pn**	**09 21 44.6**	**-0.1**
ECSD	**EROS Data Cent**	**6.36**	**7**		**Pn**	**09 21 55.4**	**+0.7**

*IDC **05** 09:39:43.5±1.1, 36°.52N×96°.50W, h0km, mbtmp3.3/6, ML3.3/6, Error ellipse: s-maj=15.1km s-min=11.4km az=164.0*

*NEIC **05** 09:39:44.0±0.7, 36°.31N±0°.01×96°.648W±0°.007, h5km±1km, Error ellipse: s-maj=3.0km s-min=1.8km az=279.0*

*NEIC **05** 09:39:44.1, 36°.31N×96°.65W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.02; $M_{\theta\theta}$1.10; $M_{\phi\phi}$-1.12; $M_{r\theta}$0.15; $M_{\theta\phi}$-0.63; $M_{\phi r}$-0.04; Fault plane solution: $M_0$1.29000×10^{14} NP1:ϕ_s150.00000°, δ85.00000°, λ5.00000°. NP2:ϕ_s60.00000°, δ85.00000°, λ175.00000°. Principal axes: T 1.2863, Plg7.0000°, Azm15.0000°; N 0.0005, Plg83.0000°, Azm195.0000°; P -1.2868, Plg0.0000°, Azm105.0000°;*

*ANF **05** 09:39:44.6±0.6, 36°.33N×96°.65W, h10km±3km, ML4.5/23 Error ellipse: s-maj=2.8km s-min=2.5km az=59.0*

*TUL **05** 09:39:44.1±0.8, 36°.304N±0°.008×96°.67W±0°.02, h4km±5km, ML3.8, mb_Lg3.7/100(NEIC), Mwr3.3/8(SLM), Error ellipse: s-maj=2.2km s-min=1.1km az=76.0*

ISC 05 09:39:43.9±0.8, **36°.32N**±0°.02×**96°.65W**±0°.02, **h10**km±6km, **n252**, σ1s.**04**/277, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK044	**Pawnee Station**	**0.13**	**295**	Pg	**Pg**	**09 39 47.0**	**+0.1**
OK044				Sg	**Sg**	**09 39 49.0**	**-0.1**
QUOK	**Quay**	**0.15**	**197**	Pg	**Pg**	**09 39 47.3**	**0.0**
QUOK				Sg	**Sg**	**09 39 49.5**	**-0.2**
OK046	**Pawnee Station**	**0.22**	**291**		**Pg**	**09 39 48.7**	**+0.2**
OK046				Sg	**Sg**	**09 39 51.8**	**+0.2**
OK051	**E0350 and S346**	**0.24**	**322**	Pg	**Pg**	**09 39 49.2**	**+0.4**
OK051				Sg	**Sg**	**09 39 52.7**	**+0.5**
OK048	**Pawnee Station**	**0.26**	**293**	Pg	**Pg**	**09 39 49.3**	**+0.2**
OK048				Sg	**Sg**	**09 39 52.9**	**+0.2**
OK045	**Pawnee Station**	**0.26**	**301**		**Pg**	**09 39 49.4**	**+0.3**
OK045				Sg	**Sg**	**09 39 53.0**	**+0.3**
OK050	**Pawnee Station**	**0.28**	**286**		**Pg**	**09 39 49.7**	**+0.1**
OK050				Sg	**Sg**	**09 39 53.5**	**+0.2**
OK034	**N. Norfolk Rd.**	**0.31**	**189**	Pg	**Pg**	**09 39 50.3**	**+0.1**
OK034				Sg	**Sg**	**09 39 54.5**	**+0.2**
OK033	**Mehan**	**0.36**	**220**	Pg	**Pg**	**09 39 51.1**	**+0.1**
OK033				Sg	**Sg**	**09 39 55.8**	**0.0**
OK031	**S. Brethren Rd**	**0.39**	**203**	Pg	**Pg**	**09 39 51.8**	**+0.1**
DEOK	**Depew**	**0.49**	**165**	Pg	**Pg**	**09 39 53.7**	**+0.2**
OK049	**E0420 Rd and N**	**0.53**	**280**	Pg	**Pg**	**09 39 54.5**	**+0.2**
T35A	**Sooner Cattle**	**0.61**	**11**	Pg	**Pg**	**09 39 56.3**	**+0.5**
T35B	**Sooner Cattle**	**0.61**	**11**	P	**Pg**	**09 39 56.2**	**+0.5**
	baz=191,SNR=515						
T35B				S	**Sg**	**09 40 04.5**	**+0.7**
	baz=191						
BLOK	**Blackwell**	**0.63**	**314**	Pg	**Pg**	**09 39 56.5**	**+0.3**
OK005	**Luther M Schoo**	**0.79**	**214**	Pg	**Pg**	**09 39 59.1**	**-0.1**
TUL1	**Leonard**	**0.81**	**120**	P	**Pg**	**09 39 59.7**	**+0.2**
	baz=300,SNR=1000						
TUL1				S	**Sg**	**09 40 10.2**	**+0.2**
	baz=300						
TUL1	**Leonard**	**0.81**	**120**	P	**Pg**	**09 39 59.7**	**+0.2**
	baz=300,SNR=617						
TUL1				S	**Sg**	**09 40 10.1**	**+0.2**
	baz=300						
OK011	**Prague**	**0.83**	**182**	Pg	**Pg**	**09 39 59.9**	**-0.1**
OK029	**Liberty Lake**	**0.83**	**232**	Pg	**Pg**	**09 39 59.8**	**-0.2**
OK025	**Westminster Rd**	**0.92**	**217**	Pg	**Pg**	**09 40 01.1**	**-0.6**
KAN13	**South Haven SW**	**0.96**	**316**	Pg	**Pg**	**09 40 02.5**	**+0.1**
BCOK	**Bluff Creek, N**	**1.02**	**230**	Pg	**Pg**	**09 40 03.0**	**-0.6**
CROK	**Carrier**	**1.09**	**280**	Pg	**Pg**	**09 40 04.7**	**-0.2**
GC02	**Grant County #**	**1.11**	**299**	Pg	**Pg**	**09 40 05.0**	**-0.2**
KAN09	**Caldwell North**	**1.13**	**317**	Pg	**Pg**	**09 40 05.5**	**-0.1**
KAN17	**Caldwell West**	**1.15**	**309**	Pg	**Pg**	**09 40 05.9**	**-0.2**
KS20	**Mayfield South**	**1.16**	**322**	Pg	**Pg**	**09 40 06.4**	**+0.1**
KAN01	**Argonia South**	**1.22**	**313**	Pg	**Pg**	**09 40 07.1**	**-0.3**
FNO	**Franklin**	**1.22**	**210**	Pg	**Pg**	**09 40 06.2**	**-1.2**
KAN14	**Manchester OK**	**1.23**	**302**		**Pg**	**09 40 07.3**	**-0.3**
KS21	**Milan North St**	**1.26**	**320**		**Pg**	**09 40 08.1**	**-0.1**
RLO	**Rose Lookout**	**1.33**	**96**	Pn	**Pn**	**09 40 08.7**	**+0.2**
KAN06	**Argonia West S**	**1.34**	**314**		**Pn**	**09 40 09.2**	**+0.4**
OK032	**Salt Plains WL**	**1.34**	**292**	Pn	**Pn**	**09 40 09.1**	**+0.3**
KAN08	**Anthony NE Sta**	**1.39**	**311**	Pn	**Pn**	**09 40 10.2**	**+0.6**
KAN12	**Harper NE Stat**	**1.46**	**313**	Pn	**Pn**	**09 40 11.2**	**+0.8**
OK038	**West end E0370**	**1.69**	**276**	Pn	**Pn**	**09 40 13.8**	**+0.2**
OK035	**E0210 Rd and N**	**1.70**	**284**		**Pn**	**09 40 14.6**	**+0.8**
CSTR	**Hydro, Custer**	**1.78**	**248**		**Pn**	**09 40 16.3**	**+1.4**
U38A	**Gravette**	**1.83**	**86**	Pn	**Pn**	**09 40 17.0**	**+1.5**
U38A	**Gravette**	**1.83**	**86**	P	**Pn**	**09 40 17.1**	**+1.5**
	baz=267,SNR=494						
U38A				Sb	**Sg**	**09 40 42.8**	**-0.1**
	baz=267						
NOKA	**Waynoka**	**1.86**	**280**		**Pn**	**09 40 17.6**	**+1.6**
U32A	**Winter Ranch,**	**1.90**	**273**	Pn	**Pn**	**09 40 17.2**	**+0.8**
U32A	**Winter Ranch,**	**1.90**	**273**	P	**Pn**	**09 40 17.5**	**+1.1**
	baz=92						
U32A				S	**Sb**	**09 40 44.0**	**+1.6**
	baz=92						
X34A	**Smith Ranch, M**	**1.97**	**210**		**Pn**	**09 40 18.9**	**+1.5**
X37A	**Clayton**	**2.02**	**148**	Pn	**Pn**	**09 40 19.5**	**+1.5**
X37A	**Clayton**	**2.02**	**148**	S	**Sb**	**09 40 46.7**	**+0.8**
	baz=329						
HHAR	**Hobbs**	**2.19**	**90**	Pn	**Pn**	**09 40 21.9**	**+1.5**
ELIS	**Ellis County**	**2.25**	**264**		**Pn**	**09 40 22.3**	**+1.0**
WMOK	**Wichita Mounta**	**2.34**	**228**	Pn	**Pn**	**09 40 23.4**	**+0.9**
WMOK	**Wichita Mounta**	**2.34**	**228**	P	**Pn**	**09 40 23.8**	**+1.2**
	baz=47,SNR=139						
WMOK				S	**Sn**	**09 40 54.2**	**+2.7**
	baz=47						
WMOK	**Wichita Mounta**	**2.34**	**228**	P	**Pn**	**09 40 23.5**	**+0.9**
	baz=47,SNR=95						
WMOK				Sb	**Sn**	**09 40 54.1**	**+2.7**
	baz=47						
LOOK	**Love County**	**2.36**	**191**		**Pn**	**09 40 24.0**	**+1.3**
LOOK				IAmb_Lg		09 41 04.1	
	comp=Z,238nm,0.9s						
R32A	**Long Quarter,**	**2.67**	**323**	Pn	**Pn**	**09 40 28.6**	**+1.6**
R32A	**Long Quarter,**	**2.67**	**323**	S	**Sn**	**09 41 01.2**	**+1.8**
	baz=142						
KSU1	**Kansas State U**	**2.78**	**1**	Pn	**Pn**	**09 40 29.8**	**+1.2**
KSU1				IAmb_Lg		09 41 19.5	
	comp=Z,160nm,0.9s						
KSU1	**Kansas State U**	**2.78**	**1**	P	**Pn**	**09 40 29.8**	**+1.2**
	baz=181,SNR=15						
KSU1				Sb	**Sg**	**09 41 10.9**	**-2.3**
	baz=181						
KSU1	**Kansas State U**	**2.78**	**1**	P	**Pn**	**09 40 29.7**	**+1.2**
	baz=181,SNR=60						
KSU1				Sb	**Sg**	**09 41 11.2**	**-2.0**
	baz=181						
Z35A	**Perchaven, San**	**3.02**	**190**		**Pn**	**09 40 32.9**	**+1.1**
MIAR	**Mount Ida**	**3.07**	**124**	Pn	**Pn**	**09 40 33.9**	**+1.3**
MIAR	**Mount Ida**	**3.07**	**124**	P	**Pn**	**09 40 34.2**	**+1.6**
	baz=306,SNR=85						
MIAR				S	**Sn**	**09 41 12.0**	**+2.6**
	baz=306						
MIAR	**Mount Ida**	**3.07**	**124**	P	**Pn**	**09 40 33.8**	**+1.3**
	baz=306,SNR=20						
MIAR				S	**Sn**	**09 41 11.3**	**+1.9**
	baz=306						
Z38A	**Mt. Pleasant**	**3.34**	**155**	Pn	**Pn**	**09 40 36.8**	**+0.5**
Z38A	**Mt. Pleasant**	**3.34**	**155**	S	**Sn**	**09 41 18.0**	**+1.9**
	baz=336						
CBKS	**Cedar Bluff**	**3.50**	**316**		**Pn**	**09 40 40.2**	**+1.7**
CBKS				IAmb_Lg		09 41 36.8	
	comp=Z,240nm,0.7s						
CBKS	**Cedar Bluff**	**3.50**	**316**	P	**Pn**	**09 40 39.6**	**+1.2**
	baz=135,SNR=15						
CBKS				S	**Sn**	**09 41 21.0**	**+1.1**
	baz=135						
MGMO	**Mountain Grove**	**3.62**	**75**	Pn	**Pn**	**09 40 41.7**	**+1.6**
MGMO				IAmb_Lg		09 41 42.4	
	comp=Z,376nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.69**	**95**		**Pn**	**09 40 42.4**	**+1.4**
WHAR	**Wooly Hollow**	**3.69**	**105**		**Pn**	**09 40 42.4**	**+1.4**
WHAR				IAmb_Lg		09 41 45.4	
	comp=Z,163nm,0.7s						
UALR	**University of**	**3.84**	**112**	Pn	**Pn**	**09 40 44.3**	**+1.2**
UALR				IAmb_Lg		09 41 56.4	
	comp=Z,153nm,0.8s						
WLAR	**White Oak Lake**	**3.92**	**131**	Pn	**Pn**	**09 40 45.3**	**+1.2**
WLAR				IAmb_Lg		09 41 54.5	
	comp=Z,136nm,0.7s						
R40A	**Maddies Statio**	**4.01**	**59**		**Pn**	**09 40 46.5**	**+1.0**
R40A				IAmb_Lg		09 41 52.6	
	comp=Z,314nm,0.9s						
R40A	**Maddies Statio**	**4.01**	**59**	P	**Pn**	**09 40 47.3**	**+1.9**
	baz=242,SNR=21						
R40A				S	**Sn**	**09 41 34.8**	**+2.2**
	baz=242						
P38A	**Dawn**	**4.12**	**36**	Pn	**Pn**	**09 40 48.1**	**+1.1**
P38A				IAmb_Lg		09 41 55.4	
	comp=Z,189nm,0.8s						
P38A	**Dawn**	**4.12**	**36**	S	**Sn**	**09 41 37.2**	**+2.0**
	baz=218						
AMTX	**Amarillo**	**4.34**	**252**		**Pn**	**09 40 50.8**	**+0.7**
AMTX				IAmb_Lg		09 42 04.0	
	comp=Z,189nm,0.7s						
AMTX	**Amarillo**	**4.34**	**252**	P	**Pn**	**09 40 52.0**	**+1.9**
	baz=69						
AMTX	**Amarillo**	**4.34**	**252**	P	**Pn**	**09 40 51.4**	**+1.3**
	baz=69						
AMTX				S	**Sn**	**09 41 41.7**	**+0.9**
	baz=69						
237A	**Washetta, Mont**	**4.36**	**171**	P	**Pn**	**09 40 50.8**	**+0.5**
	baz=351,SNR=11						
237A				S	**Sn**	**09 41 42.5**	**+1.3**
	baz=351						
WHTX	**Lake Whitney,**	**4.37**	**189**		**Pn**	**09 40 50.7**	**+0.3**
WHTX	**Lake Whitney,**	**4.37**	**189**	P	**Pn**	**09 40 51.0**	**+0.6**
	baz=8.5,SNR=9.8						
WHTX	**Lake Whitney,**	**4.37**	**189**	P	**Pn**	**09 40 50.8**	**+0.5**
	baz=8.5						
WHTX				S	**Sn**	**09 41 41.6**	**+0.3**
	baz=8.5						
ABTX	**Abilene, Hawle**	**4.44**	**215**		**Pn**	**09 40 51.8**	**+0.4**
ABTX				IAmb_Lg		09 42 14.2	
	comp=Z,145nm,1.2s						
ABTX	**Abilene, Hawle**	**4.44**	**215**	P	**Pn**	**09 40 51.5**	**+0.2**
	baz=33,SNR=20						
ABTX				S	**Sn**	**09 41 42.4**	**-0.7**
	baz=33						
LCAR	**Lake Charles**	**4.45**	**92**		**Pn**	**09 40 52.8**	**+1.2**
LCAR				IAmb_Lg		09 42 07.1	
	comp=Z,155nm,0.9s						
LCAR	**Lake Charles**	**4.45**	**92**	P	**Pn**	**09 40 52.7**	**+1.2**
	baz=275,SNR=12						
N33B	**J Bar K, Exete**	**4.46**	**352**	P	**Pn**	**09 40 52.5**	**+0.8**
	baz=172						
N33B				S	**Sn**	**09 41 44.4**	**+0.8**
	baz=172						
N33A	**J Bar K, Exete**	**4.46**	**352**	Pn	**Pn**	**09 40 52.7**	**+1.1**
N33A				IAmb_Lg		09 42 13.9	
	comp=Z,210nm,0.8s						
N35A	**Tabor**	**4.61**	**10**	IAmb_Lg		09 42 23.8	
	comp=Z,226nm,0.7s						
N35A	**Tabor**	**4.61**	**10**	P	**Pn**	**09 40 54.7**	**+1.0**
	baz=190,SNR=20						
CCM	**Cathedral Cave**	**4.65**	**67**	Pn	**Pn**	**09 40 55.8**	**+1.5**
CCM				IAmb_Lg		09 42 10.5	
	comp=Z,263nm,0.7s						
CCM	**Cathedral Cave**	**4.65**	**67**	S	**Sn**	**09 41 50.2**	**+1.8**
	baz=250						
CCM	**Cathedral Cave**	**4.65**	**67**	P	**Pn**	**09 40 55.4**	**+1.1**
	baz=250						
CCM				S	**Sn**	**09 41 49.8**	**+1.5**
	baz=250						
CCAR	**Cane Creek**	**4.66**	**119**		**Pn**	**09 40 55.2**	**+0.8**
CCAR				IAmb_Lg		09 42 20.4	
	comp=Z,129nm,0.7s						
NATX	**Nacogdoches**	**4.84**	**159**	Pb	**Pb**	**09 41 06.8**	**-2.0**
	baz=341						
NATX				S	**Sn**	**09 41 52.4**	**-0.6**
	baz=341						
P40A	**Paris**	**4.85**	**47**		**Pn**	**09 40 58.1**	**+1.1**
P40A				IAmb_Lg		09 42 17.1	
	comp=Z,270nm,0.8s						
PBMO	**Poplar Bluff**	**5.03**	**83**	IAmb_Lg		09 42 31.6	
	comp=Z,129nm,0.8s						
N38A	**Joes South For**	**5.21**	**30**		**Pn**	**09 41 02.9**	**+1.0**
N38A				IAmb_Lg		09 42 35.3	
	comp=Z,178nm,0.8s						
N38A	**Joes South For**	**5.21**	**30**	P	**Pn**	**09 41 02.6**	**+0.7**
	baz=212,SNR=8.7						
BGNE	**Belgrade**	**5.22**	**348**	Pn	**Pn**	**09 41 03.0**	**+1.0**
BGNE				IAmb_Lg		09 42 37.5	
	comp=Z,224nm,0.9s						
BGNE	**Belgrade**	**5.22**	**348**	P	**Pn**	**09 41 03.0**	**+1.0**
	baz=167,SNR=9.4						
BGNE				S	**Sn**	**09 42 01.8**	**-0.5**
	baz=167						
BGNE	**Belgrade**	**5.22**	**348**	P	**Pn**	**09 41 03.1**	**+1.0**
	baz=167,SNR=6.0						
BGNE				S	**Sn**	**09 42 01.2**	**-1.1**
	baz=167						
FVM	**French Village**	**5.24**	**70**	IAmb_Lg		09 42 29.9	
	comp=Z,206nm,0.8s						
FVM	**French Village**	**5.24**	**70**	P	**Pn**	**09 41 03.1**	**+0.7**
	baz=253,SNR=10						
FVM				S	**Sn**	**09 42 03.2**	**+0.3**
	baz=253						
KSCO	**Kaye Shedlock'**	**5.45**	**301**	Pn	**Pn**	**09 41 06.0**	**+0.6**
KSCO	**Kaye Shedlock'**	**5.45**	**301**	P	**Pn**	**09 41 06.3**	**+0.9**
	baz=118						
KSCO				S	**Sn**	**09 42 08.7**	**+0.4**
	baz=118						
KSCO	**Kaye Shedlock'**	**5.45**	**301**	P	**Pn**	**09 41 05.8**	**+0.4**
	baz=118						
KSCO				S	**Sn**	**09 42 08.3**	**+0.1**
	baz=118						
HDBT	**Hernando Brdge**	**5.49**	**100**	IAmb_Lg		09 42 45.7	
	comp=Z,158nm,0.7s						
MSTX	**Muleshoe**	**5.54**	**247**	Pn	**Pn**	**09 41 07.1**	**+0.6**
MSTX	**Muleshoe**	**5.54**	**247**	P	**Pn**	**09 41 07.1**	**+0.6**
	baz=63						
MSTX				S	**Sn**	**09 42 10.1**	**-0.2**
	baz=63						
435B	**Jarrell**	**5.58**	**188**	Pn	**Pn**	**09 41 07.2**	**+0.2**
435B				IAmb_Lg		09 42 54.2	
	comp=Z,94nm,0.8s						
435B	**Jarrell**	**5.58**	**188**	P	**Pn**	**09 41 07.1**	**+0.1**
	baz=7.8						
435B				S	**Sn**	**09 42 10.7**	**-0.5**
	baz=7.8						
435B	**Jarrell**	**5.58**	**188**	P	**Pn**	**09 41 06.9**	**-0.1**
	baz=7.8						
435B				S	**Sn**	**09 42 10.5**	**-0.6**
	baz=7.8						
MET	**Memphis--Engin**	**5.59**	**100**	IAmb_Lg		09 42 53.0	
	comp=Z,146nm,0.7s						
SLM	**Saint Louis**	**5.60**	**64**	S	**Sn**	**09 42 11.9**	**+0.1**
	baz=247						
L34A	**Svendsen Farm,**	**5.64**	**2**	IAmb_Lg		09 42 47.5	
	comp=Z,182nm,0.7s						
CGM3	**Cape Girardeau**	**5.70**	**78**	Pn	**Pn**	**09 41 10.4**	**+1.8**
CGM3				IAmb_Lg		09 42 51.4	
	comp=Z,186nm,1.0s						
HALT	**Halls**	**5.93**	**92**	IAmb_Lg		09 43 00.8	
	comp=Z,177nm,0.8s						
S44A	**Carbondale**	**6.08**	**75**	P	**Pn**	**09 41 15.1**	**+1.3**
	baz=259,SNR=12						
S44A				S	**Sn**	**09 42 24.3**	**+0.8**
	baz=259						
OXF	**Oxford**	**6.18**	**105**		**Pn**	**09 41 15.6**	**+0.3**
OXF				IAmb_Lg		09 43 03.1	
	comp=Z,100nm,0.7s						
OXF	**Oxford**	**6.18**	**105**	P	**Pn**	**09 41 16.1**	**+0.8**
	baz=289,SNR=8.5						
OXF	**Oxford**	**6.18**	**105**	P	**Pn**	**09 41 15.8**	**+0.5**
	baz=289						
W45A	**Hickory Valley**	**6.18**	**99**	Pn	**Pn**	**09 41 16.4**	**+1.2**
W45A				IAmb_Lg		09 43 06.0	
	comp=Z,132nm,0.8s						
SCIA	**State Center**	**6.19**	**25**		**Pn**	**09 41 15.8**	**+0.4**
SCIA				IAmb_Lg		09 43 01.1	
	comp=Z,138nm,0.8s						
SCIA	**State Center**	**6.19**	**25**	P	**Pn**	**09 41 16.3**	**+0.9**
	baz=207						
OGNE	**Ogallala**	**6.25**	**319**	Pn	**Pn**	**09 41 16.8**	**+0.5**
OGNE				IAmb_Lg		09 43 06.3	
	comp=Z,183nm,0.8s						
OGNE	**Ogallala**	**6.25**	**319**	S	**Sn**	**09 42 25.3**	**-2.5**
	baz=136						
OGNE	**Ogallala**	**6.25**	**319**	P	**Pn**	**09 41 16.5**	**+0.1**
	baz=136						
T25A	**Trinidad**	**6.29**	**280**	Pn	**Pn**	**09 41 17.8**	**+0.9**
T25A				IAmb_Lg		09 43 11.2	
	comp=Z,100nm,0.8s						
T25A	**Trinidad**	**6.29**	**280**	P	**Pn**	**09 41 17.4**	**+0.4**
	baz=95,SNR=5.7						
Y45A	**Yeager Farm, C**	**6.32**	**111**	IAmb_Lg		09 43 20.1	
	comp=Z,83nm,0.9s						
HKT	**Hockley**	**6.39**	**174**	Pn	**Pn**	**09 41 18.6**	**+0.6**
JCT	**Junction City**	**6.39**	**205**	Pn	**Pn**	**09 41 18.1**	**-0.2**
JCT				IAmb_Lg		09 43 15.6	
	comp=Z,88nm,0.7s						
JCT	**Junction City**	**6.39**	**205**	P	**Pn**	**09 41 17.7**	**-0.6**
	baz=23						
T45B	**Paducah**	**6.47**	**81**	S	**Sn**	**09 42 33.0**	**-0.2**
	baz=266						
K31A	**O'Neill**	**6.50**	**346**	IAmb_Lg		09 43 27.9	
	comp=Z,165nm,0.7s						
P43A	**Skaggs, Pawnee**	**6.54**	**57**		**Pn**	**09 41 21.6**	**+1.4**
P43A	**Skaggs, Pawnee**	**6.54**	**57**	P	**Pn**	**09 41 21.9**	**+1.7**
	baz=242,SNR=5.2						
Q44A	**Meyer Farm, Va**	**6.59**	**65**	S	**Sn**	**09 42 36.3**	**+0.3**
	baz=249						
K38A	**Parkersburg**	**7.00**	**24**		**Pn**	**09 41 26.9**	**+0.4**
K38A				IAmb_Lg		09 43 33.4	
	comp=Z,82nm,0.8s						
K38A	**Parkersburg**	**7.00**	**24**	P	**Pn**	**09 41 26.8**	**+0.3**
	baz=207,SNR=6.0						
PLAL	**Pickwick Lake**	**7.11**	**98**	Pn	**Pn**	**09 41 28.4**	**+0.3**
PLAL				IAmb_Lg		09 43 36.7	
	comp=Z,54nm,0.9s						
L40A	**Anamosa**	**7.12**	**35**		**Pn**	**09 41 28.6**	**+0.5**
L40A				IAmb_Lg		09 43 45.9	
	comp=Z,87nm,0.7s						
WVT	**Waverly**	**7.13**	**89**	Pn	**Pn**	**09 41 29.1**	**+0.8**
WVT	**Waverly**	**7.13**	**89**	P	**Pn**	**09 41 28.4**	**+0.1**
	baz=274						
HDIL	**Hopedale**	**7.16**	**52**	Pn	**Pn**	**09 41 29.3**	**+0.6**
HDIL	**Hopedale**	**7.16**	**52**	P	**Pn**	**09 41 29.2**	**+0.6**
	baz=236						
HDIL	**Hopedale**	**7.16**	**52**	P	**Pn**	**09 41 29.4**	**+0.8**
	baz=236,SNR=8.2						
OLIL	**Olney**	**7.21**	**68**	S	**Sn**	**09 42 51.9**	**+0.5**
	baz=253						
SDCO	**Great Sand Dun**	**7.22**	**284**		**Pn**	**09 41 30.2**	**+0.4**
SDCO				IAmb_Lg		09 43 33.4	
	comp=Z,54nm,1.2s						
SDCO	**Great Sand Dun**	**7.22**	**284**	P	**Pn**	**09 41 30.8**	**+0.9**
	baz=99,SNR=9.1						
Q24A	**Divide**	**7.24**	**294**		**Pn**	**09 41 30.4**	**+0.3**
Q24A				IAmb_Lg		09 43 34.4	
	comp=Z,55nm,0.7s						
Q24A	**Divide**	**7.24**	**294**	P	**Pn**	**09 41 30.4**	**+0.3**
	baz=109,SNR=5.4						
BRIGG	**Briggsdale**	**7.37**	**308**	Pn	**Pn**	**09 41 32.2**	**+0.5**
BRIGG				IAmb_Lg		09 43 51.6	
	comp=Z,66nm,0.7s						
ECSD	**EROS Data Cent**	**7.41**	**0**		**Pn**	**09 41 32.5**	**+0.4**
ECSD	**EROS Data Cent**	**7.41**	**0**	P	**Pn**	**09 41 32.5**	**+0.4**
	baz=180,SNR=28						
ECSD	**EROS Data Cent**	**7.41**	**0**	P	**Pn**	**09 41 33.0**	**+0.9**
	baz=180,SNR=7.6						
O44A	**Mansfield**	**7.49**	**57**	Pn	**Pn**	**09 41 34.8**	**+1.5**
735A	**Kenedy**	**7.50**	**188**	Pn	**Pn**	**09 41 33.7**	**+0.2**
T47A	**Sharon Grove**	**7.70**	**82**		**Pn**	**09 41 37.2**	**+1.1**
T47A				IAmb_Lg		09 43 56.3	
	comp=Z,134nm,1.1s						
Z47A	**Carrollton**	**7.72**	**111**	Pn	**Pn**	**09 41 37.6**	**+1.2**
L42A	**Oliver, Polo**	**7.85**	**42**		**Pn**	**09 41 38.1**	**-0.1**
V48A	**Smith Brothers**	**7.99**	**91**	IAmb_Lg		09 44 02.1	
	comp=Z,94nm,1.2s						
X48A	**Hartselle**	**8.06**	**101**	IAmb_Lg		09 44 03.7	
	comp=Z,48nm,1.1s						
I37A	**Lemond, Waseca**	**8.08**	**17**		**Pn**	**09 41 41.4**	**0.0**
I37A				IAmb_Lg		09 44 07.1	
	comp=Z,48nm,0.8s						
ANMO	**Albuquerque**	**8.10**	**263**	Pn	**Pn**	**09 41 44.6**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=77,slow=16,SNR=2.0						
ANMO				Pg	Pg	09 42 12.8	-6.2
	comp=Z,1.1nm,0.3s,baz=84,slow=17,SNR=13						
ANMO				Lg	Lg	09 44 01.9	
	comp=Z,1.1nm,0.3s,baz=322,slow=21,SNR=5.7						
	comp=Z,0.2nm,0.4s						
JFWS	**Jewell Farm**	**8.23**	**35**	Pn	**Pn**	**09 41 43.4**	**-0.1**
JFWS				IAmb_Lg		09 44 07.4	
	comp=Z,81nm,0.7s						
JFWS	**Jewell Farm**	**8.23**	**35**	P	**Pn**	**09 41 44.3**	**+0.9**
	baz=219						
833A	**Chaparral WMA,**	**8.30**	**197**	Pn	**Pn**	**09 41 44.3**	**-0.1**
833A	**Chaparral WMA,**	**8.30**	**197**	P	**Pn**	**09 41 44.7**	**+0.3**
	baz=16						
833A	**Chaparral WMA,**	**8.30**	**197**	P	**Pn**	**09 41 44.6**	**+0.2**
	baz=16,SNR=9.9						
SUSD	**Miller**	**8.30**	**348**	IAmb_Lg		09 44 17.8	
	comp=Z,98nm,1.0s						
SUSD	**Miller**	**8.30**	**348**	P	**Pn**	**09 41 44.7**	**+0.3**
	baz=167						
WCI	**Wyandotte Cave**	**8.47**	**74**	S	**Sn**	**09 43 22.3**	**-0.2**
	baz=260						
WCI	**Wyandotte Cave**	**8.47**	**74**	P	**Pn**	**09 41 48.9**	**+2.1**
	baz=260						
PHWY	**Pilot Hill**	**8.48**	**309**	Pn	**Pn**	**09 41 47.5**	**+0.4**
BLO	**Bloomington**	**8.52**	**67**		**Pn**	**09 41 48.6**	**+1.2**
LRAL	**Lakeview Retre**	**8.60**	**110**	Pn	**Pn**	**09 41 49.3**	**+0.8**
LRAL	**Lakeview Retre**	**8.60**	**110**	P	**Pn**	**09 41 49.4**	**+0.9**
	baz=295,SNR=5.5						
LRAL	**Lakeview Retre**	**8.60**	**110**	P	**Pn**	**09 41 49.5**	**+1.0**
	baz=295						
SMCO	**Snowmass**	**8.66**	**292**	Pn	**Pn**	**09 41 49.6**	**-0.1**
HQIL	**Hanson Quary C**	**8.76**	**49**	IAmb_Lg		09 44 27.1	
	comp=Z,212nm,1.0s						
U49A	**Red Boiling Sp**	**8.77**	**86**	Pn	**Pn**	**09 41 51.6**	**+0.8**
I40A	**Norwalk**	**8.86**	**30**		**Pn**	**09 41 51.7**	**-0.4**
I40A				IAmb_Lg		09 44 28.0	
	comp=Z,49nm,0.8s						
K43A	**Burlington**	**9.05**	**43**	Pn	**Pn**	**09 41 54.3**	**-0.3**
TX31	**Lajitas Ar. Si**	**9.13**	**222**	Pn	**Pn**	**09 41 56.1**	**+0.3**
TXAR	**Lajitas Array**	**9.13**	**222**	Pn	**Pn**	**09 41 58.3**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=43,slow=12,SNR=8.8						
TXAR				Pg		09 42 30.2	
	comp=Z,1.1nm,0.3s,baz=37,slow=15,SNR=8.9						
TXAR				Lg	Lg	09 44 32.0	
	comp=Z,1.9nm,0.3s,baz=52,slow=24,SNR=7.9						
	comp=Z,0.4nm,0.5s						
SPMN	**Marine on St.**	**9.36**	**17**		**Pn**	**09 41 58.1**	**-0.8**
SPMN	**Marine on St.**	**9.36**	**17**	P	**Pn**	**09 41 58.0**	**-1.0**
	baz=199,SNR=7.2						
F33A	**5 Mile Ranch,**	**9.52**	**2**		**Pn**	**09 42 00.9**	**-0.2**
F33A				IAmb_Lg		09 44 46.4	
	comp=Z,46nm,1.2s						
I42A	**Draeger Farm,**	**9.61**	**36**	Pn	**Pn**	**09 42 02.2**	**-0.1**
I42A				IAmb_Lg		09 44 53.8	
	comp=Z,42nm,0.8s						
RSSD	**Black Hills**	**9.62**	**326**		**Pn**	**09 42 02.9**	**+0.3**
RSSD				IAmb_Lg		09 44 59.2	
	comp=Z,52nm,1.1s						
RSSD	**Black Hills**	**9.62**	**326**	P	**Pn**	**09 42 04.1**	**+1.4**
	baz=142						
RSSD	**Black Hills**	**9.62**	**326**	P	**Pn**	**09 42 03.5**	**+0.8**
	baz=142						
250A	**Grady**	**9.63**	**114**	Pn	**Pn**	**09 42 02.1**	**-0.5**
F36A	**Milaca**	**9.82**	**13**		**Pn**	**09 42 04.7**	**-0.5**
L46A	**Eue Claire**	**9.85**	**52**	Pn	**Pn**	**09 42 06.4**	**+0.9**
CPCT	**Cooper Cave**	**9.88**	**91**	Pn	**Pn**	**09 42 07.2**	**+1.2**
K22A	**Casper**	**9.91**	**313**	Pn	**Pn**	**09 42 06.7**	**+0.1**
K22A				IAmb_Lg		09 45 07.6	
	comp=Z,67nm,1.1s						
K22A	**Casper**	**9.91**	**313**	P	**Pn**	**09 42 06.7**	**+0.1**
	baz=126						
R50A	**Paris**	**10.01**	**75**	Pn	**Pn**	**09 42 08.8**	**+1.0**
G40A	**Rib Lake**	**10.19**	**27**		**Pn**	**09 42 10.4**	**+0.2**
G40A	**Rib Lake**	**10.19**	**27**	P	**Pn**	**09 42 11.3**	**+1.1**
	baz=211						
TKL	**Tuckaleechee C**	**10.46**	**90**	Pn	**Pn**	**09 42 13.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=266,slow=13,SNR=4.3						
TKL				Lg	Lg	09 45 00.1	
	comp=Z,1.6nm,0.3s,baz=218,slow=24,SNR=4.1						
	comp=Z,3.9nm,0.9s						
TKL	**Tuckaleechee C**	**10.46**	**90**	Pn	**Pn**	**09 42 14.7**	**+0.7**
S51A	**Beattyville**	**10.53**	**79**		**Pn**	**09 42 15.3**	**+0.4**
TZTN	**Tazewell**	**10.56**	**85**	Pn	**Pn**	**09 42 15.7**	**+0.3**
V52A	**Sevierville**	**10.58**	**89**	Pn	**Pn**	**09 42 16.6**	**+1.0**
H43A	**Windswept, Lux**	**10.59**	**37**	Pn	**Pn**	**09 42 15.4**	**-0.2**
E28A	**Huff**	**10.69**	**345**	Pn	**Pn**	**09 42 16.5**	**-0.5**
352A	**Blakely**	**10.87**	**113**	Pn	**Pn**	**09 42 19.6**	**0.0**
Q51A	**Peebles**	**10.89**	**72**	Pn	**Pn**	**09 42 19.8**	**0.0**
E38A	**The Farm, Brul**	**10.96**	**19**		**Pn**	**09 42 20.2**	**-0.6**
I45A	**Fountain**	**11.08**	**43**	Pn	**Pn**	**09 42 23.2**	**+0.7**
I45A	**Fountain**	**11.08**	**43**	P	**Pn**	**09 42 23.1**	**+0.7**
	baz=229						
I45A				P	**Pn**	**09 42 23.1**	**+0.7**
	baz=229						

V53A	**Saluda**	**11.23**	**89**	Pn	**Pn**	**09 42 25.6**	**+1.0**
COWI	**Conover**	**11.29**	**28**		**Pn**	**09 42 24.8**	**-0.5**
ACSO	**Alum Creek Sta**	**11.43**	**66**	Pn	**Pn**	**09 42 27.2**	**-0.1**
Q52A	**Bidwell**	**11.71**	**73**	Pn	**Pn**	**09 42 32.0**	**+1.0**
PD31	**Pinedale Array**	**11.86**	**307**	Pn	**Pn**	**09 42 33.3**	**0.0**
PDAR	**Pinedale Array**	**11.86**	**307**	Pn	**Pn**	**09 42 33.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=113,slow=16,SNR=5.0						
PDAR				Lg	Lg	09 45 53.9	
	comp=Z,0.4nm,0.3s,baz=104,slow=26,SNR=2.4						
	comp=Z,0.3nm,0.4s						
R53A	**Hurricane**	**11.88**	**76**	Pn	**Pn**	**09 42 34.4**	**+1.1**
P52A	**Corning**	**11.93**	**70**	Pn	**Pn**	**09 42 34.6**	**+0.5**
P52A	**Corning**	**11.93**	**70**	P	**Pn**	**09 42 30.3**	**-3.8**
	baz=258						
U54A	**Nelsons Funny**	**11.95**	**85**	Pn	**Pn**	**09 42 34.6**	**+0.2**
AGMN	**Agassiz Nation**	**11.99**	**3**		**Pn**	**09 42 32.6**	**-2.2**
AGMN	**Agassiz Nation**	**11.99**	**3**	P	**Pn**	**09 42 32.4**	**-2.4**
	baz=183						
AGMN	**Agassiz Nation**	**11.99**	**3**	P	**Pn**	**09 42 32.4**	**-2.4**
	baz=183,SNR=7.3						
B35A	**Bob, Littlefor**	**12.23**	**9**		**Pn**	**09 42 36.5**	**-1.6**
B35A	**Bob, Littlefor**	**12.23**	**9**	P	**Pn**	**09 42 36.3**	**-1.8**
	baz=191						
EYMN	**Ely**	**12.23**	**17**	Pn	**Pn**	**09 42 36.0**	**-2.1**
EYMN	**Ely**	**12.23**	**17**	P	**Pn**	**09 42 36.5**	**-1.6**
	baz=200						
D41A	**Chassel**	**12.31**	**27**	Pn	**Pn**	**09 42 37.8**	**-1.4**
D41A	**Chassel**	**12.31**	**27**	P	**Pn**	**09 42 37.9**	**-1.3**
	baz=212						
S54A	**Dingess, Beckl**	**12.35**	**79**	Pn	**Pn**	**09 42 39.1**	**-0.7**
E43A	**Lone Tree Farm**	**12.38**	**33**	Pn	**Pn**	**09 42 39.2**	**-1.0**
P53A	**Whipple**	**12.46**	**71**	Pn	**Pn**	**09 42 42.1**	**+0.7**
GLMI	**Grayling**	**12.47**	**43**	P	**Pn**	**09 42 40.2**	**-1.3**
	baz=231						
V55A	**Taylorsville**	**12.50**	**88**	Pn	**Pn**	**09 42 41.7**	**-0.2**
O53A	**New Philadelph**	**12.75**	**67**	Pn	**Pn**	**09 42 44.6**	**-0.7**
Q54A	**Coxs Mills**	**12.82**	**73**	Pn	**Pn**	**09 42 46.5**	**+0.3**
SNOW	**Snow King Moun**	**12.96**	**308**	Pn	**Pn**	**09 42 47.7**	**-0.7**
RLMT	**Red Lodge**	**12.98**	**317**	Pn	**Pn**	**09 42 47.5**	**-1.1**
BLA	**Blacksburg**	**13.05**	**81**	Pn	**Pn**	**09 42 49.4**	**-0.1**
TPAW	**Teton Pass**	**13.10**	**308**	Pn	**Pn**	**09 42 50.2**	**-0.1**
R55A	**Marlinton**	**13.31**	**77**	Pn	**Pn**	**09 42 52.5**	**-0.5**
E46A	**Sault Ste Mari**	**13.65**	**39**	Pn	**Pn**	**09 42 54.9**	**-2.6**
ULM	**Lac du Bonnet**	**13.94**	**2**	Pn	Pn	09 42 56.2	-5.2
	comp=Z,0.5nm,0.3s,baz=178,slow=16,SNR=3.2						
ULM				Lg	Lg	09 46 48.0	
	comp=Z,0.3nm,0.3s,baz=260,slow=11,SNR=1.2						
	comp=Z,2.0nm,0.4s						
T57A	**Hurt**	**13.99**	**82**	Pn	**Pn**	**09 43 01.8**	**-0.4**
S57A	**Dark Hollow, R**	**14.21**	**79**	Pn	**Pn**	**09 43 04.8**	**-0.5**
NVAR	**Mina Array Bea**	**17.34**	**283**	P	**P**	**09 43 49.5**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=2.3						
	comp=Z,0.1nm,0.3s						

---

*TAP **05** 09:44:33.3, 23°.95N×122°.98E, h31km±1km, ML2.8, D*
*JMA **05** 09:44:34.2±0.2, 24°N±1°×122°.9E±0°.7, h33km±4km, MV2.8/10, NEAR ISHIGAKIJIMA ISLAND*
ISC 05 09:44:30.9±1.1**, 23°.86N**±0°.03×**122°.94E**±0°.02**, h11**km±9km**,**
n63, σ0s.69/112**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.59**	**0**	P	**Pb**	**09 44 43.9**	**+0.6**
JYNG				S	**Sg**	**09 44 50.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.60**	**6**	P	**Pn**	**09 44 44.3**	**-1.1**
YOJ	**Yonaguni jima**	**0.60**	**6**	eP	**Pn**	**09 44 44.3**	**-1.1**
	baz=2.0						
YOJ				eS	**Sb**	**09 44 51.8**	**-0.1**
	baz=2.0						
YOJ	**Yonaguni jima**	**0.60**	**6**	i P	**Pn**	**09 44 44.3**	**-1.1**
YOJ				S	**Sg**	**09 44 51.2**	**+0.6**
HATJ	**Hateruma jima**	**0.81**	**76**	P	**Pn**	**09 44 49.3**	**+1.0**
HATJ				eS	**Sn**	**09 45 00.6**	**+0.2**
IRIF	**Iriomote-Funau**	**0.86**	**57**	i P	**Pn**	**09 44 49.3**	**+0.4**
IRIF				eS	**Sn**	**09 45 01.4**	**-0.1**
JKRS	**Kuro-shima**	**1.04**	**69**	P	**Pn**	**09 44 52.4**	**+0.9**
JKRS				eS	**Sn**	**09 45 06.2**	**+0.1**
JIJ	**Ishigaki jima**	**1.21**	**65**	P	**Pg**	**09 44 55.1**	**+1.1**
JIJ				eS	**Sn**	**09 45 11.2**	**+1.1**
ENA	**Nanau**	**1.23**	**297**	eP	**Pg**	**09 44 55.6**	**+0.9**
	baz=291						
ENA				eS	**Sb**	**09 45 10.5**	**+0.3**
	baz=291						
TWC	**Suao**	**1.25**	**307**	P	**Pg**	**09 44 55.3**	**+0.5**
	baz=301						
TWC				eS	**Sb**	**09 45 10.4**	**-0.1**
	baz=301						
NACB	**Ninganchiao**	**1.27**	**284**	P	**Pg**	**09 44 56.0**	**+0.7**
NACB	**Ninganchiao**	**1.27**	**284**	eP	**Pb**	**09 44 54.8**	**-0.1**
	baz=266						
NACB				eS	**Sb**	**09 45 11.6**	**+0.3**
	baz=266						
ETLH	**Xiulin Townshi**	**1.38**	**285**	eP	**Pb**	**09 44 57.0**	**+0.2**
	baz=281						
HGSD	**Ruisui**	**1.44**	**256**	P	**Pn**	**09 44 57.1**	**+0.1**
	baz=253						
HGSD				S	**Sn**	**09 45 15.9**	**0.0**
	baz=253						
JISG	**Ishigakijimahi**	**1.44**	**60**	P	**Pg**	**09 44 58.2**	**-0.4**
JISG				S	**Sg**	**09 45 16.6**	**-0.8**
TWE	**Neicheng**	**1.45**	**307**	eP	**Pg**	**09 44 58.3**	**-0.4**
	baz=301						
TWE				eS	**Sn**	**09 45 16.0**	**0.0**
	baz=301						
LATG	**Datong**	**1.46**	**298**	eP	**Pg**	**09 44 58.8**	**-0.2**
	baz=292						
LATG				eS	**Sb**	**09 45 17.3**	**+0.5**
	baz=292						
ENTT	**Nioudou**	**1.48**	**302**	eP	**Pb**	**09 44 58.7**	**+0.3**
	baz=298						
TIPB	**Shuangxi**	**1.50**	**318**	P	**Pb**	**09 44 58.9**	**+0.1**
	baz=312						
TIPB				S	**Sn**	**09 45 17.4**	**-0.1**
	baz=312						
EHY	**Hungye**	**1.53**	**257**	eP	**Pb**	**09 44 58.8**	**-0.5**
	baz=255						
EHY				eS	**Sn**	**09 45 17.7**	**-0.4**
	baz=255						
FUSB	**Fushanzhiwuyua**	**1.53**	**306**	eP	**Pg**	**09 45 00.0**	**-0.2**
	baz=285						
FUSB				eS	**Sn**	**09 45 18.4**	**+0.3**
	baz=285						
NNSB	**Datong**	**1.53**	**292**	eP	**Pg**	**09 45 00.3**	**-0.1**
	baz=287						
NNSB				eS	**Sg**	**09 45 20.2**	**0.0**
	baz=287						
WHF	**Hehuan Shan**	**1.56**	**281**	eP	**Pb**	**09 44 59.7**	**-0.3**
	baz=277						
WHF				eS	**Sn**	**09 45 19.4**	**0.0**
	baz=277						
SXI1	**Grass Mountain**	**1.57**	**322**	P	**Pb**	**09 44 59.4**	**-0.6**
	baz=330						
SXI1				S	**Sn**	**09 45 17.9**	**-1.2**
	baz=330						
EYUL	**Yuli**	**1.57**	**251**	eP	**Pn**	**09 44 59.2**	**+0.4**
	baz=238						
EYUL				eS	**Sn**	**09 45 19.1**	**-0.1**
	baz=238						
YULB	**Yu-li**	**1.58**	**253**	P	**Pb**	**09 44 59.8**	**-0.4**
YULB	**Yu-li**	**1.58**	**253**	P	**Pb**	**09 44 59.6**	**-0.6**
	baz=241						
YULB				eS	**Sb**	**09 45 20.7**	**+0.5**
	baz=241						
NWLT	**Wulai**	**1.60**	**305**	eP	**Pg**	**09 45 01.6**	**0.0**
	baz=284						
NWLT				eS	**Sb**	**09 45 20.9**	**+0.2**
	baz=284						
FUSS	**Fushou**	**1.60**	**284**	eP	**Pb**	**09 45 00.2**	**-0.5**
	baz=281						
NWF	**Wu-fen Shan**	**1.60**	**319**	eP	**Pb**	**09 45 00.4**	**-0.2**
	baz=314						
NWF				eS	**Sn**	**09 45 20.3**	**+0.3**
	baz=314						
CHGB	**Renai**	**1.63**	**277**	eP	**Pn**	**09 45 00.3**	**+0.6**
	baz=265						
CHGB				eS	**Sn**	**09 45 20.7**	**-0.2**
	baz=265						
YHNB	**Yeheng**	**1.64**	**300**	P	**Pb**	**09 45 01.6**	**+0.3**
YHNB	**Yeheng**	**1.64**	**300**	eP	**Pb**	**09 45 00.5**	**-0.7**
	baz=294						
YHNB				eS	**Sb**	**09 45 21.9**	**-0.1**
	baz=294						
FULB	**Fuli**	**1.65**	**247**	eP	**Pb**	**09 45 00.5**	**-0.9**
	baz=235						
FULB				eS	**Sn**	**09 45 20.6**	**-0.6**
	baz=235						
VWDT	**VWDT**	**1.65**	**267**	P	**Pb**	**09 45 00.7**	**-0.7**
	baz=255						
VWDT				eS	**Sn**	**09 45 21.6**	**+0.5**
	baz=255						
NSK	**Sanguang**	**1.66**	**300**	eP	**Pg**	**09 45 02.8**	**+0.1**
	baz=294						
NSK				eS	**Sn**	**09 45 22.0**	**+0.6**
	baz=294						
TWA	**Mucha**	**1.67**	**312**	eS	**Sn**	**09 45 21.6**	**0.0**
	baz=307						
WUSB	**Renai**	**1.68**	**275**	P	**Pb**	**09 45 01.4**	**-0.4**
	baz=272						
WUSB				eS	**Sn**	**09 45 22.1**	**+0.2**
	baz=272						
EDH	**Donghe**	**1.75**	**240**	eS	**Sn**	**09 45 23.4**	**-0.1**
	baz=238						
JTJ	**Tarama**	**1.78**	**64**	P	**Pg**	**09 45 04.7**	**-0.4**
JTJ				eS	**Sg**	**09 45 27.5**	**-0.8**
YM01	**YM01**	**1.79**	**316**	eP	**Pb**	**09 45 03.1**	**-0.7**
	baz=311						
YM01				eS	**Sn**	**09 45 23.8**	**-0.8**
	baz=311						
LDUT	**Ludao**	**1.80**	**229**	eS	**Sn**	**09 45 24.4**	**-0.3**
	baz=228						
SSLB	**Suanglung**	**1.82**	**268**	P	**Pb**	**09 45 04.1**	**-0.2**
SSLB	**Suanglung**	**1.82**	**268**	eP	**Pb**	**09 45 03.5**	**-0.8**
	baz=256						
SSLB				eS	**Sn**	**09 45 25.6**	**+0.2**
	baz=256						
NFF	**Wufeng Townshi**	**1.83**	**295**	eP	**Pb**	**09 45 04.2**	**-0.3**
	baz=289						
NFF				eS	**Sn**	**09 45 26.3**	**+0.6**
	baz=289						
WCS	**Beigang Elemen**	**1.87**	**276**	eP	**Pb**	**09 45 04.4**	**-0.7**
	baz=273						
WCS				eS	**Sn**	**09 45 27.3**	**+0.9**
	baz=273						
SMLT	**Sun Moon Lake**	**1.87**	**271**	eP	**Pb**	**09 45 04.2**	**-1.0**
	baz=268						
SMLT				eS	**Sn**	**09 45 27.2**	**+0.5**
	baz=268						
WHP	**Taichung City**	**1.87**	**283**	eP	**Pb**	**09 45 04.9**	**-0.2**
	baz=279						
WHP				eS	**Sn**	**09 45 27.5**	**+0.8**
	baz=279						
TYC	**Yuchr**	**1.91**	**272**	eP	**Pb**	**09 45 05.1**	**-0.7**
	baz=269						
TYC				eS	**Sn**	**09 45 28.3**	**+0.8**
	baz=269						
WHYT	**Xinyi Township**	**1.92**	**266**	eP	**Pb**	**09 45 04.9**	**-1.1**
	baz=253						
WHYT				eS	**Sn**	**09 45 28.7**	**+0.9**
	baz=253						
LIOB	**Emei**	**1.93**	**294**	eP	**Pb**	**09 45 06.2**	**+0.1**
	baz=291						
NSTT	**Nanjuang**	**1.93**	**294**	eP	**Pb**	**09 45 05.9**	**-0.3**
	baz=288						
NSTT				eS	**Sn**	**09 45 29.4**	**+1.3**
	baz=288						
ALS	**Alishan**	**1.99**	**260**	eP	**Pb**	**09 45 06.8**	**-0.5**
	baz=250						
ALS				eS	**Sn**	**09 45 30.6**	**+0.7**
	baz=250						
STYH	**Taoyuan**	**2.10**	**251**	eP	**Pn**	**09 45 07.0**	**+0.9**
	baz=240						
TPUB	**Ta-pu**	**2.19**	**256**	P	**Pb**	**09 45 10.2**	**-0.4**
TPUB	**Ta-pu**	**2.19**	**256**	eP	**Pb**	**09 45 09.5**	**-1.2**
	baz=247						
TPUB				eS	**Sn**	**09 45 35.8**	**+1.3**
	baz=247						
CHN4	**Tsaushan**	**2.21**	**257**	eP	**Pb**	**09 45 10.5**	**-0.5**
	baz=248						
CHN4				eS	**Sb**	**09 45 37.3**	**-1.1**
	baz=248						
WTP	**Ta-pu**	**2.22**	**254**	eP	**Pb**	**09 45 10.3**	**-0.8**
	baz=245						
WTP				eS	**Sb**	**09 45 37.3**	**-1.4**
	baz=245						
CHN1	**Nanshi**	**2.32**	**254**	eP	**Pb**	**09 45 11.7**	**-1.0**
	baz=253						
CHN1				eS	**Sb**	**09 45 40.1**	**-1.3**
	baz=253						
TWK	**Hsinying**	**2.33**	**256**	eP	**Pb**	**09 45 11.8**	**-1.1**
	baz=245						
TWK				eS	**Sb**	**09 45 40.3**	**-1.5**
	baz=245						
TSMG	**Majia**	**2.41**	**242**	eP	**Pn**	**09 45 11.7**	**+1.5**
	baz=241						
TSMG				eS	**Sn**	**09 45 40.0**	**+0.2**
	baz=241						
EAST	**Anshuo**	**2.42**	**233**	eP	**Pn**	**09 45 11.5**	**+1.0**
	baz=242						
EAST				eS	**Sn**	**09 45 39.9**	**-0.4**
	baz=242						
MASBT	**Mashibuluo**	**2.46**	**240**	eP	**Pn**	**09 45 12.4**	**+1.4**
	baz=239						
MASBT				eS	**Sn**	**09 45 41.5**	**+0.4**
	baz=239						

JMA 05 09:52:28.4±0.2**, 24°.0N**±0°.5×**122°.9E**±0°.5**, h19**km**, MV1.6**/8**,**
NEAR ISHIGAKIJIMA ISLAND, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.47**	**4**	eP	Pg	09 52 37.7	-0.3
JYNG				S	Sg	09 52 44.0	-0.4
YOJ	**Yonaguni jima**	**0.49**	**11**	P	Pg	09 52 38.2	-0.1
YOJ				eS	Sg	09 52 45.0	+0.1
HATJ	**Hateruma jima**	**0.82**	**85**	eS	Sb	09 52 54.4	-0.3
IRIF	**Iriomote-Funau**	**0.82**	**65**	P	Pb	09 52 43.8	-0.4
IRIF				S	Sg	09 52 55.3	-0.3
JKRS	**Kuro-shima**	**1.03**	**76**	P	Pb	09 52 47.2	-0.5
JKRS				eS	Sb	09 53 01.1	+0.2
JIJ	**Ishigaki jima**	**1.19**	**71**	eP	Pn	09 52 49.8	-0.2
JIJ				eS	Sn	09 53 05.9	+0.3
JISG	**Ishigakijimahi**	**1.41**	**64**	S	Sb	09 53 11.7	-0.1

TAP 05 09:52:55.2, 24°.84N×**122°.10E, h96**km**, ML2.7, D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.20**	**330**	eP	Pn	09 53 09.0	+0.2
	baz=331						
TWB1				eS	Sn	09 53 19.1	+0.1
	baz=331						
TIPB	**Shuangxi**	**0.28**	**299**	eP	Pn	09 53 09.2	0.0
	baz=298						
TIPB				eS	Sn	09 53 19.2	-0.4
	baz=298						
TWC	**Suao**	**0.32**	**225**	eP	Pn	09 53 09.5	+0.1
	baz=223						
TWC				eS	Sn	09 53 19.9	0.0
	baz=223						
SXI1	**Grass Mountain**	**0.33**	**322**	P	Pn	09 53 09.5	0.0
	baz=321						
SXI1				eS	Sn	09 53 20.2	+0.1
	baz=321						
NWF	**Wu-fen Shan**	**0.37**	**309**	eP	Pn	09 53 10.1	+0.3
	baz=309						
NWF				eS	Sn	09 53 20.8	+0.2
	baz=309						
TWE	**Neicheng**	**0.41**	**254**	P	Pn	09 53 10.2	+0.4
	baz=252						
TWE				eS	Sn	09 53 21.1	+0.3
	baz=252						
FUSB	**Fushanzhiwuyua**	**0.47**	**261**	P	Pn	09 53 10.6	+0.2
	baz=260						
FUSB				S	Sn	09 53 22.2	+0.5
	baz=260						
TWA	**Mucha**	**0.49**	**287**	eP	Pn	09 53 10.3	-0.1
	baz=287						
TWA				eS	Sn	09 53 21.9	+0.1
	baz=287						
ENA	**Nanau**	**0.52**	**219**	eP	Pn	09 53 11.4	+0.7
	baz=217						
ENA				eS	Sn	09 53 23.0	+0.8
	baz=217						
ENTT	**Nioudou**	**0.52**	**248**	P	Pn	09 53 10.2	-0.4
	baz=247						
ENTT				S	Sn	09 53 21.7	-0.5
	baz=247						
NWLT	**Wulai**	**0.54**	**264**	eP	Pn	09 53 10.7	-0.2
	baz=263						
NWLT				eS	Sn	09 53 22.9	+0.3
	baz=263						
YM01	**YM01**	**0.57**	**303**	P	Pn	09 53 11.2	+0.1
	baz=302						
YM01				eS	Sn	09 53 23.3	+0.3
	baz=302						
LATG	**Datong**	**0.60**	**240**	P	Pn	09 53 12.6	+1.2
	baz=240						
LATG				S	Sn	09 53 25.1	+1.5
	baz=240						
TWY	**Chenhua**	**0.63**	**314**	eP	Pn	09 53 11.9	+0.4
	baz=314						
YHNB	**Yeheng**	**0.68**	**256**	P	Pn	09 53 12.6	+0.5
	baz=255						
YHNB				S	Sn	09 53 25.0	+0.3
	baz=255						
NSK	**Sanguang**	**0.69**	**257**	eP	Pn	09 53 11.9	-0.2
	baz=256						
NSK				S	Sn	09 53 24.0	-0.9
	baz=256						
NNSB	**Datong**	**0.77**	**238**	eP	Pn	09 53 13.7	+0.7
	baz=238						
NNSB				S	Sn	09 53 26.8	+0.5
	baz=238						
NNS	**Nan Shan**	**0.77**	**239**	eP	Pn	09 53 13.1	+0.1
	baz=238						
NNS				eS	Sn	09 53 26.1	-0.2
	baz=238						
PCYT	**Pengchaiyu**	**0.79**	**358**	eP	Pn	09 53 13.6	+0.5
	baz=358						
NACB	**Ninganchiao**	**0.80**	**215**	eP	Pn	09 53 13.2	0.0
	baz=214						
NACB				eS	Sn	09 53 26.7	0.0
	baz=214						
NCU	**National Centr**	**0.84**	**279**	eS	Sn	09 53 27.8	+0.5
	baz=279						
NCUH	**Zhongli**	**0.84**	**279**	eP	Pn	09 53 14.2	+0.7
	baz=279						
NCUH				eS	Sn	09 53 27.9	+0.5
	baz=279						
ETLH	**Xiulin Townshi**	**0.84**	**222**	eP	Pn	09 53 13.9	+0.2
	baz=221						
ETLH				eS	Sn	09 53 27.4	-0.1
	baz=221						
TWD	**Chiawan**	**0.88**	**211**	eP	Pn	09 53 14.0	0.0
	baz=210						
TWD				eS	Sn	09 53 28.2	+0.2
	baz=210						
NFF	**Wufeng Townshi**	**0.91**	**257**	eP	Pn	09 53 14.9	+0.6
	baz=257						
NFF				eS	Sn	09 53 28.4	-0.4
	baz=257						
FUSS	**Fushou**	**0.97**	**233**	eP	Pn	09 53 15.9	+0.7
	baz=233						
FUSS				eS	Sn	09 53 30.6	+0.3
	baz=233						
LIOB	**Emei**	**1.00**	**259**	eP	Pn	09 53 15.7	+0.4
	baz=259						
LIOB				eS	Sn	09 53 31.0	+0.5
	baz=259						
NSTT	**Nanjuang**	**1.02**	**259**	P	Pn	09 53 16.0	+0.5
	baz=258						
NSTT				S	Sn	09 53 30.8	0.0
	baz=258						
TWT	**Tachien**	**1.02**	**236**	eS	Sn	09 53 31.6	+0.5
	baz=235						
WHF	**Hehuan Shan**	**1.02**	**228**	eP	Pn	09 53 16.0	0.0
	baz=227						
WHF				eS	Sn	09 53 31.8	+0.2
	baz=227						
CHGB	**Renai**	**1.14**	**228**	eP	Pn	09 53 17.8	+0.6
	baz=227						
CHGB				eS	Sn	09 53 34.5	+0.9
	baz=227						
WHP	**Taichung City**	**1.19**	**242**	eP	Pn	09 53 18.1	+0.6
	baz=242						
WHP				eS	Sn	09 53 34.7	+0.4
	baz=242						
OWD	**Renai**	**1.22**	**224**	eS	Sn	09 53 35.0	0.0
	baz=223						
WUSB	**Renai**	**1.23**	**227**	eP	Pn	09 53 19.0	+1.0
	baz=226						
WUSB				eS	Sn	09 53 35.4	+0.2
	baz=226						
WCS	**Beigang Elemen**	**1.33**	**235**	eP	Pn	09 53 19.5	+0.4
	baz=234						
WCS				eS	Sn	09 53 37.4	+0.2
	baz=234						
VWDT	**VWDT**	**1.39**	**219**	eP	Pn	09 53 20.1	+0.3
	baz=219						
VWDT				eS	Sn	09 53 38.2	-0.2
	baz=219						
SMLT	**Sun Moon Lake**	**1.45**	**229**	eP	Pn	09 53 21.1	+0.4
	baz=228						
SMLT				eS	Sn	09 53 39.9	0.0
	baz=228						
TYC	**Yuchr**	**1.46**	**231**	eP	Pn	09 53 21.2	+0.5
	baz=230						
TYC				eS	Sn	09 53 40.2	+0.1
	baz=230						
HGSD	**Ruisui**	**1.47**	**205**	eP	Pn	09 53 21.1	+0.3
	baz=204						
HGSD				eS	Sn	09 53 40.0	-0.3
	baz=204						
SSLB	**Suanglung**	**1.48**	**225**	eP	Pn	09 53 21.5	+0.6
	baz=224						
SSLB				eS	Sn	09 53 40.7	+0.3
	baz=224						
EHY	**Hungye**	**1.50**	**208**	eP	Pn	09 53 21.7	+0.5
	baz=207						
EHY				eS	Sn	09 53 41.0	0.0
	baz=207						
WHYT	**Xinyi Township**	**1.61**	**225**	eP	Pn	09 53 23.9	+1.3
	baz=225						
WHYT				eS	Sn	09 53 44.2	+0.9
	baz=225						
YULB	**Yu-li**	**1.61**	**207**	eP	Pn	09 53 23.3	+0.7
	baz=206						
YULB				eS	Sn	09 53 43.9	+0.5
	baz=206						
CHN4	**Tsaushan**	**2.02**	**223**	eP	Pn	09 53 28.4	+0.5
	baz=222						
CHN4				eS	Sn	09 53 52.8	0.0
	baz=222						
TPUB	**Ta-pu**	**2.03**	**222**	eP	Pn	09 53 28.9	+0.8
	baz=221						
TPUB				eS	Sn	09 53 53.6	+0.5
	baz=221						

---

*IDC **05** 09:58:30.6±4.8, 22°.23S×68°.57W, h0km, mb4.0/1, mbtmp4.0/2, ML4.0/1, Error ellipse: s-maj=146.6km s-min=55.3km az=72.0*
*GUC **05** 09:58:47.6±0.5, 21°.16S×68°.73W, h112km±3km, ML3.5*
ISC 05 09:58:47.3±1.1**, 21°.15S**±0°.04×**68°.8W**±0°.1**, h118**km±9km**,**
n14, σ0s.42/25**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.62**	**280**	eP	**Pn**	**09 59 05.7**	**-0.3**
PB01				i S	**Sn**	**09 59 19.9**	**-0.2**
PB01				IAML		09 59 21.7	
	comp=N,1µm,0.5s						
PB09	**IPOC Station P**	**0.74**	**211**	eP	**Pn**	**09 59 07.1**	**+0.1**
PB09				i S	**Sn**	**09 59 22.2**	**+0.2**
PB09				IAML		09 59 24.4	
	comp=E,1µm,0.6s						
PB08	**IPOC Station P**	**1.05**	**343**	eP	**Pn**	**09 59 10.1**	**0.0**
PB08				i S	**Sn**	**09 59 27.4**	**+0.1**
PB08				IAML		09 59 28.2	
	comp=E,1µm,0.2s						
PB03	**IPOC Station P**	**1.23**	**224**	eP	**Pn**	**09 59 11.9**	**+0.1**
PB03				i S	**Sn**	**09 59 30.8**	**+0.4**
PB03				IAML		09 59 31.7	
	comp=N,1µm,0.3s						
HMBC	**Humberstone**	**1.32**	**311**	eP	**Pn**	**09 59 12.6**	**-0.1**
HMBC				i S	**Sn**	**09 59 32.1**	**+0.2**
HMBC				IAML		09 59 33.5	
	comp=N,1µm,0.7s						
TA01	**Diego Aracena**	**1.39**	**295**	eP	**Pn**	**09 59 13.6**	**+0.3**
TA01				i S	**Sn**	**09 59 33.6**	**+0.5**
TA01				IAML		09 59 35.2	
	comp=E,2µm,0.2s						
TA02	**Huaiquique**	**1.50**	**306**	eP	**Pn**	**09 59 14.7**	**+0.1**
TA02				i S	**Sn**	**09 59 35.6**	**+0.2**
GO01	**Chusmiza**	**1.52**	**347**	eP	**Pn**	**09 59 15.1**	**-0.3**
GO01				i S	**Sn**	**09 59 37.2**	**+0.7**
GO01				IAML		09 59 39.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,923nm,0.2s						
PB11	**IPOC Station P**	**1.59**	**331**	*e*P	**Pn**	**09 59 15.5**	**-0.3**
PB11				*i* S	**Sn**	**09 59 37.5**	**0.0**
PB11				IAML		09 59 39.0	
	comp=E,760nm,0.3s						
PB06	**IPOC Station P**	**1.69**	**204**	*e*P	**Pn**	**09 59 17.3**	**+0.2**
PB06				*i* S	**Sn**	**09 59 40.2**	**+0.5**
PB04	**IPOC Station P**	**1.70**	**226**	*e*P	**Pn**	**09 59 17.1**	**0.0**
PB04				*i* S	**Sn**	**09 59 40.0**	**+0.2**
PB04				IAML		09 59 47.5	
	comp=N,499nm,0.1s						
LPAZ	**La Paz**	**4.88**	**8**	Pn	**Pn**	**10 00 00.2**	**+1.0**
	comp=N,2.3nm,0.3s,baz=194,slow=2.7,SNR=43						
	comp=N,8.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**10 10 27.6**	**-1.0**
	comp=N,0.8nm,0.5s,baz=250,slow=5.0,SNR=8.4						
	comp=N,0.8nm,0.5s						
MKAR	**Makanchi Array**	**145.31**	**36**	PKPbc	**PKPdf**	**10 18 11.6**	**+0.5**
	comp=N,0.8nm,0.7s,baz=330,slow=4.0,SNR=7.2						

NNC 05 10:08:18.1±9.9**, 36.82N×69.22E, h0**km**, mb3.9, mpv3.8, 4D, Error ellipse: s-maj=99.2km s-min=47.5km az=168.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.35**	**9**	P	Pn	10 09 55.1	+2.1
	3.7nm,0.6s,baz=196,slow=14,SNR=31						
KK31				⇓S	Sn	10 11 10.4	+4.1
	3.8nm,0.6s,baz=191,slow=22,SNR=4.0						
TKM2	**Tokmak 2**	**7.82**	**37**	⇓P	Pn	10 10 12.3	-1.0
	2.6nm,0.5s						
TKM2				⇓S	Sn	10 11 41.9	-0.7
	2.4nm,0.6s						
AB31	**Akbulak array**	**14.14**	**334**	P	Pn	10 11 39.0	-0.6
	0.7nm,0.4s,baz=158,slow=12,SNR=41						
AKTO	**Aktyubinsk**	**15.82**	**333**	⇓P	Pn	10 12 01.3	-0.7
	1.9nm,1.1s						

IDC 05 10:13:24.3±5.8**, 1.82N×97.51E, h0**km**, mb3.5**/3**, mbtmp3.5**/3**, Error ellipse: s-maj=293.1km s-min=30.8km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.67**	**249**	T	T	10 46 16.7	
	baz=70,slow=76,SNR=3.7						
H08S3	**Diego Garcia H**	**26.67**	**249**	T	T	10 46 35.7	
	baz=70,slow=76,SNR=4.6						
H08S1	**Diego Carcia H**	**26.69**	**249**	T	T	10 46 28.4	
	baz=70,slow=76,SNR=4.4						
WRA	**Warramunga Arr**	**42.10**	**123**	P	P	10 21 18.5	0.0
	0.4nm,0.5s,baz=302,slow=9.1,SNR=14						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**43.52**	**128**	P	P	10 21 29.8	-0.2
	0.3nm,0.4s,baz=297,slow=7.5,SNR=10						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**46.72**	**346**	P	P	10 21 55.0	-0.1
	0.2nm,0.5s,baz=170,slow=8.8,SNR=2.5						
	0.2nm,0.5s						

NOU 05 10:17:29.1, 22.27S×170.73E, h0km**, MLv4.6**/9**, Southeast of Loyalty Islands, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.63**	**287**	P	Pn	10 18 11.8	-1.0
YATNC	**Mamie plateau,**	**3.56**	**273**	P	Pn	10 18 24.6	-1.1
LIFNC	**LIFOU**	**3.57**	**294**	P	Pn	10 18 25.4	-0.4
OUENC	**Ouen Island, N**	**3.60**	**267**	P	Pn	10 18 26.0	-0.2
ONTNC	**Ouen Toro**	**3.96**	**269**	P	Pn	10 18 31.5	+0.4
DZM	**Mont Dzumac**	**3.98**	**272**	P	Pn	10 18 31.3	-0.2
RTV	**Rentapao**	**4.95**	**334**	P	Pn	10 18 44.8	0.0
KOUNC	**Koumac, New Ca**	**6.24**	**285**	P	Pn	10 19 04.1	+1.6

IDC 05 10:22:01.7±2.3**, 2.48N×127.27E, h0**km**, mb3.4**/3**, mbtmp3.4**/3**, Error ellipse: s-maj=183.7km s-min=25.3km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**163**	P	P	10 27 11.9	0.0
	0.4nm,0.4s,baz=342,slow=11,SNR=10						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**26.78**	**166**	P	P	10 27 43.6	0.0
	0.2nm,0.5s,baz=347,slow=10,SNR=6.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.88**	**325**	P	P	10 32 02.4	-0.1
	0.4nm,0.5s,baz=122,slow=8.1,SNR=6.6						
	0.4nm,0.5s						

MAN 05 10:52:38.6, 9.76N×126.76E, h18km**, mb3.9, ML2.7, MS2.3, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.25**	**271**	*e*P	Pn	10 53 00.3	-0.9
SCPH				*e*S	Sn	10 53 18.1	+0.6
TABP	**Talibon, Bohol**	**2.41**	**278**	⇓*e*P	Pn	10 53 17.0	-0.2
TABP				*i* S	Sn	10 53 43.8	-2.5
CGP	**Cagayan de Oro**	**2.42**	**238**	⇓*e*P	Pn	10 53 16.6	-0.6
CGP				*e*S	Sb	10 53 49.3	-1.8

KRSC 05 10:53:34.0±1.1**, 55.47N×163.63E, h18**km±28km**, ML3.7, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.87**	**329**	*e*P	Pb	10 53 50.1	-0.5
KBTR				*e*S	Sb	10 54 01.5	-0.4
KBG	**Krutoberegovo**	**0.95**	**327**	*e*P	Pb	10 53 51.1	-0.8
KBG				*e*S	Sb	10 54 03.2	-0.9
BKI	**Bering**	**1.36**	**100**	*e*P	Pb	10 53 59.3	+0.3
BKI				*e*S	Sb	10 54 16.3	+0.3
MKZ	**Mys Kozlova**	**1.43**	**231**	*e*P	Pb	10 54 00.6	+0.6
MKZ				*e*S	Sb	10 54 18.5	+0.7
SMKR	**Semkarok**	**1.65**	**314**	*e*P	Pn	10 54 02.8	+0.6
SMKR				*e*S	Sb	10 54 24.7	+0.3
ZLN	**Zelenaya**	**1.69**	**290**	*e*P	Pb	10 54 04.1	-0.5
BDR	**Baidarnaya**	**1.75**	**310**	*e*P	Pb	10 54 05.2	-0.5
SRKR	**Sorokina**	**1.82**	**312**	*e*P	Pb	10 54 06.1	-0.8
BZMR	**Bezymyannaya**	**1.84**	**286**	*e*P	Pb	10 54 06.7	-0.5
BZWR	**Bezymyannyi-We**	**1.84**	**287**	*e*P	Pb	10 54 06.4	-0.9
TUMD	**Tumrok D**	**1.87**	**263**	*e*P	Pb	10 54 07.7	+0.1
TUMD				*e*S	Sb	10 54 31.7	+1.2
KLY	**Klyuchi**	**1.88**	**298**	*e*P	Pn	10 54 05.6	+0.4
KLY				*e*S	Sn	10 54 28.8	+0.4
KRSR	**Krestovskiy**	**1.89**	**295**	*e*P	Pn	10 54 06.3	+0.9
KIRR	**Kirishev**	**1.92**	**286**	*e*P	Pb	10 54 08.0	-0.6
KMNR	**Kamenistaya**	**1.95**	**280**	*e*P	Pb	10 54 09.0	0.0
KPT	**Kopyto**	**1.99**	**286**	*e*P	Pb	10 54 08.8	-1.0
TUMR	**Tumrok**	**2.00**	**266**	*e*P	Pb	10 54 09.8	-0.1
SRDR	**Sredinnyy**	**2.36**	**293**	*e*P	Pn	10 54 13.8	+1.9
SRDR				*e*S	Sb	10 54 42.7	-2.2
ESO	**Esso**	**2.83**	**281**	*e*P	Pb	10 54 21.5	-2.5
SPN	**Mys Shipunski**	**3.18**	**223**	*e*S	Sn	10 55 00.0	-0.5
SDLR	**Sedlovina**	**3.54**	**234**	*e*P	Pn	10 54 31.4	+3.3
KRER	**Koryakskii**	**3.58**	**235**	*e*P	Pn	10 54 32.2	+3.4
SMAR	**Somma**	**3.59**	**234**	*e*P	Pn	10 54 31.9	+3.0
KRX	**Arik**	**3.60**	**236**	*e*P	Pb	10 54 34.2	-2.9
UGLR	**Uglovaya**	**3.61**	**233**	*e*P	Pn	10 54 32.3	+3.2
AVH	**Avacha**	**3.61**	**234**	*e*P	Pb	10 54 34.1	-3.3
KOK	**Koryaka**	**3.64**	**235**	*e*P	Pn	10 54 32.7	+3.1
GNL	**Ganaly**	**3.76**	**244**	*e*P	Pn	10 54 34.7	+3.6
DALK	**Dalny**	**3.76**	**232**	*e*P	Pn	10 54 31.6	+0.6
DALK				*e*S	Sn	10 55 15.9	+1.1
KRMR	**Karymshinskiy**	**4.18**	**233**	*e*P	Pb	10 54 42.9	-4.0
GRL	**Gorelyy**	**4.39**	**231**	*e*P	Pn	10 54 44.0	+4.2
MTVR	**Mutnovka**	**4.39**	**229**	*e*P	Pn	10 54 43.7	+3.8
ASAK	**Asacha**	**4.58**	**230**	*e*P	Pn	10 54 47.1	+4.6

*IDC **05** 10:55:59.7±4.2, 12.08N×86.32W, h90km±41km, mb3.6/10, mbtmp3.9/11, MS2.9/3, Error ellipse: s-maj=41.4km s-min=15.5km az=58.0*

*NEIC **05** 10:56:01.4±1.3, 11.94N±0.06×86.60W±0.07, h90km±6km, mb4.2/44, Error ellipse: s-maj=11.1km s-min=7.4km az=48.0*

*INET **05** 10:56:01.4±0.6, 11.89N×86.60W, h82km±3km, MW3.9*

*UCR **05** 10:56:02.0±2.0, 11.90N×86.62W, h35km±8km, ML3.6, MW3.9, mb4.2(NEIC)*

*SNET **05** 10:56:02.7±1.0, 11.87N×86.72W, h35km±697km, ML3.8*

ISC 05 10:56:00.6±0.6**, 11.95N**±0.04**×86.58W**±0.05**, h93**km±5km**, n143, σ0.97**/167**, mb4.1**/30**, 1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGAN	**Managua**	**0.38**	**59**	Pn	**Pn**	**10 56 14.2**	**-0.6**
MGAN	**Managua**	**0.38**	**59**	*e*P	**Pn**	**10 56 14.6**	**-0.2**
WILN	**Americas 2**	**0.44**	**62**	*e*P	**Pn**	**10 56 15.0**	**-0.3**
MOMN	**Momotombo**	**0.46**	**5**	*e*P	**Pn**	**10 56 15.2**	**-0.3**
HUEN		**0.55**	**46**	*e*P	**Pn**	**10 56 16.2**	**+0.1**
CNGN	**Cerro Negro**	**0.56**	**348**		**Pn**	**10 56 15.1**	**-1.1**
CNGN	**Cerro Negro**	**0.56**	**348**	*e*P	**Pn**	**10 56 15.1**	**-1.1**
CNGN				*e*S	**Sn**	**10 56 26.8**	**-1.0**
BRAN	**Las Pilas**	**0.80**	**16**	*e*P	**Pn**	**10 56 14.4**	**-3.9**
CRIN	**San Cristobal**	**0.87**	**328**		**Pn**	**10 56 19.2**	**-0.1**
CRIN	**San Cristobal**	**0.87**	**328**	*e*P	**Pn**	**10 56 19.4**	**+0.1**
CONN	**Concepcion**	**1.01**	**112**	*e*P	**Pn**	**10 56 19.9**	**-0.8**
BOAB	**BOACO BROADBAN**	**1.02**	**61**		**Pn**	**10 56 20.9**	**+0.1**
BOAB	**BOACO BROADBAN**	**1.02**	**61**	*e*P	**Pn**	**10 56 21.2**	**+0.4**
MATN	**Matagalpa**	**1.16**	**33**		**Pn**	**10 56 23.2**	**+0.6**
MATN	**Matagalpa**	**1.16**	**33**	*e*P	**Pn**	**10 56 23.1**	**+0.6**
ACON	**Acoyapa**	**1.38**	**89**		**Pn**	**10 56 25.2**	**+0.2**
ACON	**Acoyapa**	**1.38**	**89**	*e*P	**Pn**	**10 56 25.2**	**+0.2**
GBS3	**Finca Las Img**	**1.60**	**136**	*e*P	**Pn**	**10 56 27.9**	**+0.1**
GBS3				*e*S	**Sn**	**10 56 47.2**	**-1.3**
GB1A	**Borinquen Arri**	**1.62**	**134**	*e*P	**Pn**	**10 56 28.1**	**0.0**
BUAI	**Buenos Aires**	**1.62**	**131**	*e*P	**Pn**	**10 56 29.5**	**+1.4**
BUAI				*e*S	**Sn**	**10 56 48.7**	**-0.3**
BUEV	**Buena Vista**	**1.62**	**135**	*e*P	**Pn**	**10 56 28.2**	**0.0**
LAPC	**Finca la Perla**	**1.63**	**136**	*e*P	**Pn**	**10 56 28.3**	**+0.1**
LAPC				*e*S	**Sn**	**10 56 48.4**	**-0.7**
GPS1	**Guardaparques**	**1.68**	**134**	*e*P	**Pn**	**10 56 29.7**	**+0.8**
GPS1				*e*S	**Sn**	**10 56 50.4**	**0.0**
GPS3	**Bodega del ICE**	**1.68**	**135**	*e*P	**Pn**	**10 56 29.4**	**+0.5**
GPS3				*e*S	**Sn**	**10 56 49.6**	**-0.8**
GPS2	**Hotel Rincn d**	**1.69**	**135**	*e*P	**Pn**	**10 56 29.6**	**+0.6**
CNCH	**Conchagua**	**1.80**	**317**	*e*P	**Pn**	**10 56 31.5**	**+1.0**
CNCH				*e*S	**Sn**	**10 56 53.3**	**+0.2**
CNCH	**Conchagua**	**1.80**	**317**	*e*P	**Pn**	**10 56 31.5**	**+1.0**
CNCH				*e*S	**Sn**	**10 56 53.3**	**+0.2**
GUAB	**Guayabo de Bag**	**1.81**	**133**	*e*P	**Pn**	**10 56 30.9**	**+0.4**
GUAB				*e*S	**Sn**	**10 56 51.3**	**-2.1**
MESS	**Mesas**	**1.81**	**131**	⇓*i*P	**Pn**	**10 56 30.6**	**0.0**
MESS				*e*S	**Sn**	**10 56 52.7**	**-0.8**
VMAR	**Armenia, Volca**	**1.83**	**128**	*e*P	**Pn**	**10 56 31.4**	**+0.7**
VMAR				*e*S	**Sn**	**10 56 53.9**	**+0.3**
HORNC	**Hornillas**	**1.84**	**132**	*e*P	**Pn**	**10 56 31.2**	**+0.2**
HORNC				*e*S	**Sn**	**10 56 51.3**	**-2.9**
COLC	**Colonia**	**1.86**	**133**	*e*P	**Pn**	**10 56 31.5**	**+0.3**
COLC				*e*S	**Sn**	**10 56 54.0**	**-0.4**
LCND	**La Caada**	**1.86**	**317**	*e*P	**Pn**	**10 56 31.9**	**+0.8**
LCND				IAML		10 56 58.5	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**1.86**	**317**	*e*P	**Pn**	**10 56 31.9**	**+0.8**
LCND				*e*S	**Sn**	**10 56 54.1**	**-0.3**
LCND				IAML		10 56 58.5	
	comp=Z,1μm,0.3s						
CUI	**Cuipilapa**	**1.89**	**133**	*e*P	**Pn**	**10 56 31.9**	**+0.3**
CUI				*e*S	**Sn**	**10 56 55.0**	**-0.2**
ORTG	**Ortega, Santa**	**1.93**	**145**		**Pn**	**10 56 32.6**	**+0.5**
ORTG	**Ortega, Santa**	**1.93**	**145**	*e*P	**Pn**	**10 56 32.6**	**+0.5**
ORTG				*e*S	**Sn**	**10 56 54.6**	**-1.4**
PTEN	**Parque Tenorio**	**1.99**	**128**	*e*P	**Pn**	**10 56 33.1**	**+0.2**
VERA	**Finca Concepci**	**2.00**	**123**	*e*P	**Pn**	**10 56 33.1**	**+0.1**
VERA				*e*S	**Sn**	**10 56 58.8**	**+1.2**
ACAL	**Aguas Claras**	**2.00**	**131**	*e*P	**Pn**	**10 56 33.7**	**+0.7**
SAJU	**San Juanillo,**	**2.06**	**155**	*e*P	**Pn**	**10 56 33.6**	**-0.1**
SAJU				*e*S	**Sn**	**10 56 56.7**	**-2.3**
DUNO	**Dulce Nombre,**	**2.15**	**150**		**Pn**	**10 56 35.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.20**	**342**		**Pn**	**10 56 37.0**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.20**	**342**	*e*P	**Pn**	**10 56 37.1**	**+1.3**
ESPN	**Las Esperanzas**	**2.24**	**84**		**Pn**	**10 56 37.2**	**+1.1**
ESPN	**Las Esperanzas**	**2.24**	**84**	*e*P	**Pn**	**10 56 37.0**	**+0.9**
JTS	**Las Juntas de**	**2.30**	**136**		**Pn**	**10 56 37.2**	**+0.3**
JTS	**Las Juntas de**	**2.30**	**136**	*e*P	**Pn**	**10 56 37.9**	**+1.0**
INDI	**Punta indio, G**	**2.33**	**153**	*e*P	**Pn**	**10 56 37.2**	**-0.1**
CASO	**Castillo**	**2.36**	**130**	*e*P	**Pn**	**10 56 38.8**	**+1.1**
ALJI	**Alcalda de J**	**2.38**	**305**	*e*P	**Pn**	**10 56 37.8**	**-0.1**
ALJI				*e*S	**Sn**	**10 57 05.9**	**-0.6**
ALJI	**Alcalda de J**	**2.38**	**305**	*e*P	**Pn**	**10 56 37.8**	**-0.1**
ALJI				*e*S	**Sn**	**10 57 05.9**	**-0.6**
COEB	**Comit de Eme**	**2.45**	**309**	*e*P	**Pn**	**10 56 40.3**	**+1.4**
COEB				*e*S	**Sn**	**10 57 09.3**	**+1.0**
COEB				IAML		10 57 17.5	
	comp=Z,313nm,0.3s						
COEB	**Comit de Eme**	**2.45**	**309**	*e*P	**Pn**	**10 56 40.3**	**+1.4**
COEB				*e*S	**Sn**	**10 57 09.3**	**+1.0**
COEB				IAML		10 57 17.5	
	comp=Z,313nm,0.3s						
COVE	**Coope Vega, Sa**	**2.46**	**120**	Pn	**Pn**	**10 56 39.3**	**+0.3**
COVE	**Coope Vega, Sa**	**2.46**	**120**	*e*P	**Pn**	**10 56 39.1**	**+0.1**
PQSS	**Presa 15 de Se**	**2.55**	**311**	*e*P	**Pn**	**10 56 40.9**	**+0.7**
PQSS				*e*S	**Sn**	**10 57 11.5**	**+1.0**
PQSS	**Presa 15 de Se**	**2.55**	**311**	*e*P	**Pn**	**10 56 40.9**	**+0.7**
PQSS				*e*S	**Sn**	**10 57 11.5**	**+1.0**
SCLA	**Alcaldia de Sa**	**2.72**	**310**	*e*P	**Pn**	**10 56 44.1**	**+1.6**
SCLA	**Alcaldia de Sa**	**2.72**	**310**	*e*P	**Pn**	**10 56 44.1**	**+1.6**
COEG	**Centro de Oper**	**2.79**	**307**	*e*P	**Pn**	**10 56 44.3**	**+0.8**
COEG				IAML		10 57 25.9	
	comp=Z,381nm,0.3s						
COEG	**Centro de Oper**	**2.79**	**307**	*e*P	**Pn**	**10 56 44.3**	**+0.8**
COEG				IAML		10 57 25.9	
	comp=Z,381nm,0.3s						
SJTE	**Alcalda de S**	**2.89**	**305**	*e*P	**Pn**	**10 56 45.2**	**+0.4**
SJTE	**Alcalda de S**	**2.89**	**305**	*e*P	**Pn**	**10 56 45.2**	**+0.4**
JACO	**JACO, Garabito**	**2.96**	**140**		**Pn**	**10 56 47.1**	**+1.5**
JACO	**JACO, Garabito**	**2.96**	**140**	*e*P	**Pn**	**10 56 47.1**	**+1.5**
HDC	**Heredia**	**3.10**	**128**	Pn	**Pn**	**10 56 47.6**	**-0.1**
HAYA	**Volcan Irazu**	**3.33**	**126**	*e*P	**Pn**	**10 56 51.4**	**+0.4**
RIMA	**Rio Macho**	**3.44**	**129**		**Pn**	**10 56 53.5**	**+1.2**
RIMA	**Rio Macho**	**3.44**	**129**	*e*P	**Pn**	**10 56 53.5**	**+1.2**
MTO3	**Montecristo**	**3.64**	**312**	Pn	**Pn**	**10 56 55.4**	**+0.4**
CDM	**Cerro de Muert**	**3.65**	**130**	*e*P	**Pn**	**10 56 57.0**	**+1.6**
NUBE	**Las Nubes**	**3.67**	**302**	*e*P	**Pn**	**10 56 56.9**	**+1.4**
NUBE	**Las Nubes**	**3.67**	**302**	*e*P	**Pn**	**10 56 56.9**	**+1.4**
ESQI	**Esquipulas**	**3.73**	**314**	Pn	**Pn**	**10 56 55.3**	**-0.9**
PEZE	**Perez Zeledon,**	**3.83**	**132**	Pn	**Pn**	**10 56 57.7**	**+0.2**
SRBA	**San Rafael, Bu**	**4.16**	**130**		**Pn**	**10 57 02.2**	**+0.2**
SRBA	**San Rafael, Bu**	**4.16**	**130**	*e*P	**Pn**	**10 57 03.8**	**+1.8**
PRVC	**Isla de Provid**	**5.28**	**74**	Pn	**Pn**	**10 57 17.3**	**+0.2**
RTAL	**Retalhuleu**	**5.60**	**298**	Pn	**Pn**	**10 57 21.8**	**+0.3**
BCIP	**Isla Barro Col**	**7.18**	**112**	Pn	**Pn**	**10 57 42.9**	**-0.1**
CMIG	**Matias Romero**	**9.53**	**303**	P	**Pn**	**10 58 15.8**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=153,slow=9.7,SNR=27						
CMIG				S	**Sn**	**10 59 58.3**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=101,slow=16,SNR=1.4						
BAUV	**El Baul**	**18.47**	**98**	P	**P**	**11 00 10.2**	**+0.8**
BAUV				IAmb	IAmb	11 00 28.4	
	comp=Z,12nm,1.1s						
SJG	**San Juan**	**20.65**	**70**	LR	LR	11 07 22.0	
	comp=Z,26nm,20.5s,baz=268,slow=34						
Y52A	**Lilburn**	**21.93**	**6**	P	**P**	**11 00 47.4**	**+0.9**
Y52A				IAmb	IAmb	11 00 49.8	
	comp=Z,11nm,1.0s						
WHTX	**Lake Whitney,**	**22.32**	**335**	P	**P**	**11 00 51.7**	**+1.1**
WHTX				IAmb	IAmb	11 01 10.3	
	comp=Z,5.0nm,0.7s						
JSC	**Jenkinsville**	**22.75**	**11**	P	**P**	**11 00 55.0**	**0.0**
JSC				IAmb	IAmb	11 00 58.1	
	comp=Z,8.4nm,1.0s						
SWET	**Sewanee**	**23.17**	**1**	P	**P**	**11 01 00.4**	**+1.2**
SWET				IAmb	IAmb	11 01 13.5	
	comp=Z,19nm,1.5s						
W50A	**Signal Mountai**	**23.17**	**3**	P	**P**	**11 01 00.0**	**+0.8**
W50A				IAmb	IAmb	11 01 02.0	
	comp=Z,15nm,1.3s						
BG3	**Lake Jocassee**	**23.18**	**8**	P	**P**	**11 01 00.2**	**+1.0**
BG3				IAmb	IAmb	11 01 20.9	
	comp=Z,14nm,1.5s						
HPIG		**23.32**	**312**	P	**P**	**11 01 00.9**	**0.0**
MIAR	**Mount Ida**	**23.38**	**345**	P	**P**	**11 01 01.5**	**+0.5**
CPCT	**Cooper Cave**	**23.47**	**4**	P	**P**	**11 01 02.5**	**+0.6**
CPCT				IAmb	IAmb	11 01 27.6	
	comp=Z,13nm,1.4s						
TX31	**Lajitas Ar. Si**	**23.50**	**320**	P	**P**	**11 01 02.9**	**+0.5**
TX32	**Lajitas Array**	**23.50**	**320**	P	**P**	**11 01 02.7**	**+0.4**
TX32				IAmb	IAmb	11 01 04.2	
	comp=Z,6.3nm,0.7s						
TXAR	**Lajitas Array**	**23.50**	**320**	P	**P**	**11 01 02.5**	**+0.1**
	comp=Z,5.9nm,0.7s,baz=138,slow=9.9,SNR=80						
TXAR				pP	**pP**	**11 01 24.0**	**+2.1**
	comp=Z,1.4nm,0.6s,baz=140,slow=10,SNR=6.7						
TXAR				LR	LR	11 11 12.8	
	comp=Z,31nm,19.0s,baz=323,slow=39						
	comp=Z,5.9nm,0.7s						
TXAR	**Lajitas Array**	**23.50**	**320**	P	**P**	**11 01 02.7**	**+0.4**
ABTX	**Abilene, Hawle**	**23.82**	**332**	P	**P**	**11 01 05.2**	**+0.1**
W57A	**Gilead**	**23.86**	**13**	P	**P**	**11 01 06.3**	**+1.0**
W57A				IAmb	IAmb	11 01 33.1	
	comp=Z,20nm,1.4s						
X37A	**Clayton**	**23.91**	**342**	P	**P**	**11 01 06.0**	**+0.1**
X37A				IAmb	IAmb	11 01 34.1	
	comp=Z,11nm,1.2s						
FCAR	**Ozark Folk Cen**	**24.36**	**349**	P	**P**	**11 01 09.9**	**+0.1**
U49A	**Red Boiling Sp**	**24.47**	**2**	P	**P**	**11 01 12.4**	**+1.5**
U49A				IAmb	IAmb	11 01 41.3	
	comp=Z,12nm,1.4s						
V58A	**Windy Hill, Pi**	**24.68**	**15**	P	**P**	**11 01 13.6**	**+0.8**
X34A	**Smith Ranch, M**	**24.76**	**337**	P	**P**	**11 01 14.2**	**+0.6**
WMOK	**Wichita Mounta**	**25.25**	**336**	P	**P**	**11 01 18.9**	**+0.9**
WMOK				IAmb	IAmb	11 01 20.9	
	comp=Z,5.9nm,0.9s						
QUOK	**Quay**	**25.79**	**341**	P	**P**	**11 01 22.8**	**-0.1**
QUOK				IAmb	IAmb	11 01 23.0	
	comp=Z,7.7nm,0.6s						
MSTX	**Muleshoe**	**26.43**	**329**	P	**P**	**11 01 29.5**	**+0.7**
MSTX				IAmb	IAmb	11 01 31.7	
	comp=Z,7.6nm,1.1s						
Q51A	**Peebles**	**27.12**	**6**	P	**P**	**11 01 35.4**	**+0.6**
Q51A				IAmb	IAmb	11 02 03.6	
	comp=Z,12nm,1.2s						
P53A	**Whipple**	**27.81**	**9**	P	**P**	**11 01 41.7**	**+0.7**
O53A	**New Philadelph**	**28.58**	**9**	P	**P**	**11 01 49.1**	**+1.3**
N49A	**Columbus Grove**	**28.93**	**4**	P	**P**	**11 01 50.9**	**-0.1**
ANMO	**Albuquerque**	**29.15**	**325**	P	**P**	**11 01 53.8**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=145,slow=8.6,SNR=5.2						
	comp=Z,1.1nm,0.8s						
N53A	**Lisbon**	**29.18**	**9**	P	**P**	**11 01 53.4**	**+0.2**
SSPA	**Standing Stone**	**29.58**	**13**	P	**P**	**11 01 58.1**	**+1.4**
ETMB	**Extrema**	**29.62**	**136**	P	**P**	**11 01 56.8**	**-0.5**
ETMB				IAmb	IAmb	11 01 58.0	
	comp=Z,3.3nm,0.6s						
PAL	**Palisades**	**31.01**	**19**	P	**P**	**11 02 10.3**	**+1.0**
BINY	**Binghamton**	**31.52**	**15**	P	**P**	**11 02 14.5**	**+0.7**
Q24A	**Divide**	**31.56**	**332**	IAmb	IAmb	11 02 14.3	
	comp=Z,4.1nm,1.0s						
SMCO	**Snowmass**	**32.60**	**330**	P	**P**	**11 02 24.8**	**+1.0**
PV13	**Radium Mtn., P**	**32.79**	**327**	P	**P**	**11 02 26.6**	**+1.3**
PV13				IAmb	IAmb	11 02 32.5	
	comp=Z,3.5nm,1.4s						
ECSD	**EROS Data Cent**	**32.83**	**347**	P	**P**	**11 02 24.1**	**-1.2**
ECSD				IAmb	IAmb	11 02 25.2	
	comp=Z,2.0nm,0.8s						
PV12	**Saucer Basin,**	**32.90**	**327**	P	**P**	**11 02 27.2**	**+1.1**
PV12				IAmb	IAmb	11 02 27.8	
	comp=Z,8.7nm,1.4s						
LPAZ	**La Paz**	**33.47**	**147**	P	P	11 02 24.9	-6.9
LONY	**Lake Ozonia**	**34.14**	**15**	P	**P**	**11 02 37.1**	**+0.5**
MDP	**Montagnes des**	**34.22**	**99**	LR	LR	11 20 29.8	
	comp=Z,16nm,18.0s,baz=128,slow=43						
PDAR	**Pinedale Array**	**36.62**	**331**	P	**P**	**11 02 57.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=132,slow=11,SNR=5.8						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**36.62**	**331**	P	**P**	**11 02 58.5**	**+0.3**
SIV	**San Ignacio**	**37.52**	**137**	P	**P**	**11 03 04.8**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=304,slow=8.3,SNR=12						
	comp=Z,2.0nm,0.5s						
TPAW	**Teton Pass**	**37.83**	**331**	P	**P**	**11 03 09.4**	**+1.0**
ELK	**Elko**	**38.17**	**324**	P	**P**	**11 03 11.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=157,slow=7.4,SNR=3.7						
	comp=Z,1.1nm,0.8s						
NV11	**Mina Array Sit**	**38.54**	**319**	P	**P**	**11 03 15.4**	**+1.1**
NVAR	**Mina Array Bea**	**38.64**	**319**	P	**P**	**11 03 15.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=131,slow=8.1,SNR=8.1						
NVAR				pP	**pP**	**11 03 39.0**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=112,slow=7.8,SNR=4.2						
NVAR				PcP	**PcP**	**11 05 25.4**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=140,slow=4.8,SNR=4.0						
	comp=Z,0.5nm,0.6s						
KVN	**Kaiserville**	**38.86**	**320**	P	**P**	**11 03 17.8**	**+0.8**
ULM	**Lac du Bonnet**	**38.95**	**351**	P	**P**	**11 03 15.7**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=207,slow=8.9,SNR=3.9						
	comp=Z,2.2nm,0.6s						
MCMT	**McKenzie Canyo**	**39.73**	**330**	P	**P**	**11 03 25.7**	**+1.4**
BOZ	**Bozeman (W)**	**39.74**	**332**	P	**P**	**11 03 24.7**	**+0.5**
SCHQ	**Schefferville**	**45.52**	**16**	P	**P**	**11 04 08.4**	**-2.3**
	comp=Z,2.3nm,0.7s,baz=214,slow=6.3,SNR=5.4						
	comp=Z,2.3nm,0.7s						
SCHQ	**Schefferville**	**45.52**	**16**	P	**P**	**11 04 09.6**	**-1.0**
SCHQ				IAmb	IAmb	11 04 33.4	
	comp=Z,6.2nm,1.1s						
EDM	**Edmonton**	**46.39**	**338**	P	**P**	**11 04 17.0**	**-0.6**
PLCA	**Paso Flores**	**54.48**	**165**	P	**P**	**11 05 17.9**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=344,slow=11,SNR=3.7						
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**66.82**	**336**	P	**P**	**11 06 41.1**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=144,slow=6.2,SNR=5.3						
	comp=Z,0.2nm,0.7s						
ASAR	**Alice Springs**	**139.87**	**247**	PKhKP	PKPpre	11 15 10.8	
	comp=Z,1.0nm,0.8s,baz=110,slow=3.8,SNR=4.5						
ASAR				PKP	**PKPdf**	**11 15 18.1**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=109,slow=2.3,SNR=6.4						
WRA	**Warramunga Arr**	**139.95**	**253**	PKhKP	PKPpre	11 15 12.3	
	comp=Z,0.4nm,0.7s,baz=91,slow=3.1,SNR=9.6						
WRA				PKP	**PKPdf**	**11 15 18.8**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=90,slow=2.6,SNR=28						

*ROM **05** 11:05:24.7±0.1, 42.937N±0.003×13.212E±0.004, h8km, ML3.4/26, Error ellipse: s-maj=0.2km s-min=0.2km az=76.0*

*IDC **05** 11:05:26.4±1.4, 43.09N×13.43E, h0km, mb3.5/2, mbtmp3.5/5, ML3.3/3, MS2.8/2, Error ellipse: s-maj=39.9km s-min=18.5km az=98.0*

*PRU **05** 11:05:26.2±0.0, 42.89N×13.62E, h10km*

ISC 05 11:05:25.8±0.8**, 42.94N**±0.02**×13.20E**±0.02**, h7**km±5km**, n86, σ1.26**/100**, 10C-13D, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1256	**Bolognola (MC)**	**0.07**	**13**	P	**Pg**	**11 05 26.5**	**-1.3**
T1256				S	**Sg**	**11 05 28.0**	**-1.2**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1245	**Castelsantange**	**0.08**	**188**	P	**Pg**	**11 05 27.2**	**-0.6**
T1245				S	**Sg**	**11 05 29.4**	**+0.1**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
MMO1	**Montemonaco**	**0.10**	**111**	⇓P	**Pg**	**11 05 27.1**	**-1.0**
MMO1				S	**Sg**	**11 05 29.1**	**-0.5**
FEMA	**Monte Fema**	**0.12**	**284**	P	**Pg**	**11 05 27.8**	**-0.6**
FEMA				AML	AML		
	comp=E,86700μm,1.1s						
FEMA				AML	AML		
	comp=E,86650μm,1.1s						
FEMA				AML	AML		
	comp=N,84500μm,0.9s						
AM05	**Amandola Campo**	**0.12**	**69**	P	**Pg**	**11 05 27.5**	**-0.9**
AM05				S	**Sg**	**11 05 29.9**	**-0.1**
AM05				AML	AML		
	comp=N,23450μm,0.5s						
AM05				AML	AML		
	comp=E,37550μm,1.3s						
AM05				AML	AML		
	comp=N,23500μm,0.5s						
AM05				AML	AML		
AM05				AML	AML		
	comp=N,4695μm,0.4s						
AM05				AML	AML		
	comp=N,1385μm,0.2s						
NRCA	**Norcia**	**0.12**	**213**	P	**Pg**	**11 05 27.9**	**-0.5**
NRCA				S	**Sg**	**11 05 30.4**	**+0.2**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		

NRCA AML AML
NRCA AML AML
NRCA AML AML
FDMO Fiordimonte 0.13 320 P **Pg** 11 05 27.8 -0.8
FDMO S **Sg** 11 05 30.6 0.0
FDMO AML AML
comp=E,50950μm,0.7s
FDMO AML AML
comp=N,41550μm,0.6s
FDMO AML AML
comp=N,24975μm,0.3s
T1216 Preci, Frazion 0.14 252 ⇓P **Pg** 11 05 28.3 -0.4
T1216 S **Sg** 11 05 31.7 +0.9
T1216 AML AML
comp=E,65500μm,1.2s
T1216 AML AML
comp=N,85650μm,1.6s
T1216 AML AML
comp=E,65500μm,1.1s
T1216 AML AML
comp=N,85900μm,1.6s
T1216 AML AML
comp=E,24825μm,2.7s
CSP1 Cessapalombo 0.16 0 P **Pg** 11 05 28.5 -0.6
CSP1 S **Sg** 11 05 31.3 0.0
CSP1 AML AML
comp=E,57550μm,1.4s
CSP1 AML AML
comp=N,52150μm,1.1s
CSP1 AML AML
comp=N,26791μm,0.3s
GUMA Gualdo di Mace 0.16 37 P **Pg** 11 05 28.7 -0.4
GUMA S **Sg** 11 05 31.2 -0.1
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
comp=N,87350μm,1.2s
GUMA AML AML
comp=N,83954μm,0.4s
GUMA AML AML
comp=E,74750μm,0.8s
T1241 Roccafluvione, 0.18 115 ⇓P **Pg** 11 05 29.0 -0.5
T1241 S **Sg** 11 05 32.3 +0.3
T1241 AML AML
T1241 AML AML
comp=N,64150μm,1.6s
T1241 AML AML
T1241 AML AML
comp=N,64150μm,1.6s
T1241 AML AML
comp=E,27237μm,4.0s
CESI CESI - Serrava 0.23 288 P **Pg** 11 05 29.8 -0.5
CESI S **Sg** 11 05 34.4 +0.9
CESI AML AML
comp=E,28800μm,1.0s
CESI AML AML
comp=N,38150μm,1.2s
CESI AML AML
comp=E,17859μm,0.6s
T1202 Accumoli, Fraz 0.23 176 P **Pg** 11 05 30.1 -0.3
T1204 Amatrice, Fraz 0.27 162 P **Pg** 11 05 30.6 -0.6
T1204 S **Sb** 11 05 35.9 -2.1
T1204 AML AML
comp=N,43650μm,0.7s
T1204 AML AML
comp=E,81800μm,0.4s
T1204 AML AML
comp=N,43600μm,0.7s
T1204 AML AML
comp=E,14659μm,0.3s
T1204 AML AML
comp=N,10600μm,0.6s
T1215 Vallo di Nera, 0.28 242 P **Pg** 11 05 30.8 -0.5
T1215 S **Sb** 11 05 36.4 -1.8
T1215 AML AML
comp=E,12350μm,1.4s
T1215 AML AML
comp=N,20050μm,1.6s
T1215 AML AML
comp=E,12600μm,1.4s
T1215 AML AML
comp=N,21100μm,1.6s
T1215 AML AML
comp=E,12300μm,1.4s
T1215 AML AML
comp=E,12550μm,1.4s
T1215 AML AML
comp=N,21150μm,1.6s
T1215 AML AML
comp=E,3478μm,2.2s
MNTP Montappone 0.28 44 AML AML
comp=E,70400μm,1.4s
MNTP AML AML
comp=E,70350μm,1.4s
MNTP AML AML
comp=N,53300μm,0.9s
MNTP AML AML
comp=E,20320μm,1.2s
SEF1 Sefro 0.28 319 P **Pg** 11 05 30.9 -0.4
SEF1 S **Sg** 11 05 35.9 +0.8
SEF1 AML AML
comp=E,36950μm,1.2s
SEF1 AML AML
comp=N,26100μm,0.2s
SEF1 AML AML
comp=E,36900μm,1.2s
SEF1 AML AML
comp=N,21300μm,0.3s
T1217 Poggiodomo (PG 0.30 222 P **Pg** 11 05 31.0 -0.6
T1217 S **Sb** 11 05 36.7 -2.0
T1217 AML AML
comp=N,25600μm,1.1s
T1217 AML AML
comp=E,25150μm,0.9s
T1217 AML AML
comp=N,26450μm,1.1s
T1217 AML AML
comp=E,23800μm,1.0s
T1217 AML AML
comp=N,25500μm,1.1s
SMA1 SAN MARTINO 0.32 162 P **Pg** 11 05 31.4 -0.6
SMA1 S **Sb** 11 05 37.6 -1.7
SMA1 AML AML
comp=E,49550μm,1.3s
SMA1 AML AML
comp=N,48600μm,0.5s
SMA1 AML AML
comp=E,9589μm,3.4s
LNSS Leonessa 0.35 200 P **Pg** 11 05 32.5 -0.1
LNSS S **Sb** 11 05 38.5 -1.8
LNSS AML AML
comp=E,18950μm,1.2s
LNSS AML AML
comp=N,35150μm,1.4s
LNSS AML AML
comp=E,5533μm,0.3s
OFFI Offida 0.35 90 P **Pg** 11 05 32.8 +0.1
OFFI AML AML
comp=N,62450μm,0.6s
OFFI AML AML
comp=E,42300μm,0.9s
SNTG Esanatoglia 0.37 329 P **Pg** 11 05 32.2 -0.8
SNTG S **Sg** 11 05 39.0 +1.0
SNTG AML AML
comp=E,7755μm,1.0s
SNTG AML AML
comp=N,8935μm,1.6s
SNTG AML AML
comp=E,7760μm,1.0s
SNTG AML AML
comp=N,8940μm,1.6s
SNTG AML AML
comp=E,7915μm,1.1s
SNTG AML AML
comp=N,9395μm,1.6s
SNTG AML AML
comp=E,5208μm,1.2s
EL6 Elcito 0.40 349 P **Pg** 11 05 33.3 -0.3
EL6 S **Sg** 11 05 40.3 +1.4
EL6 AML AML
comp=E,17550μm,0.5s
EL6 AML AML
comp=N,22850μm,1.4s
EL6 AML AML
comp=E,17560μm,0.5s
EL6 AML AML
comp=N,13570μm,0.5s
ASSB Assisi San Ben 0.41 285 P **Pg** 11 05 33.4 -0.4
ASSB S **Sb** 11 05 40.8 -1.2
ASSB AML AML
comp=N,13950μm,1.2s
ASSB AML AML
comp=E,12550μm,1.0s
ASSB AML AML
comp=E,5081μm,0.7s
RM33 Pellescritta (0.43 179 ⇑P **Pg** 11 05 33.6 -0.5
RM33 AML AML
comp=E,25550μm,1.1s
RM33 AML AML
comp=N,18350μm,1.1s
RM33 AML AML
comp=E,24900μm,1.1s
RM33 AML AML
comp=N,17950μm,1.1s
RM33 AML AML
comp=E,25500μm,1.1s
CAMP Campotosto 0.43 159 P **Pg** 11 05 33.2 -0.9
CAMP S **Sb** 11 05 40.4 -2.0
CAMP AML AML
comp=E,23600μm,0.4s
CAMP AML AML
comp=N,22100μm,0.5s
CAMP AML AML
comp=N,4568μm,4.4s
CAMP AML AML
comp=E,6572μm,2.2s
TERO Teramo 0.43 136 P **Pg** 11 05 33.2 -0.9
TERO S **Sg** 11 05 40.5 +0.7
TERO AML AML
comp=N,21350μm,0.5s
TERO AML AML
comp=N,22100μm,0.5s
TERO AML AML
comp=E,23650μm,1.1s
TERO AML AML
comp=N,21300μm,0.5s
TERO AML AML
comp=E,24400μm,1.0s
TERO AML AML
comp=N,6026μm,0.7s
CING Cingoli 0.44 359 P **Pg** 11 05 33.9 -0.4
CING S **Sg** 11 05 41.4 +1.2
CING AML AML
comp=E,8870μm,1.0s
CING AML AML
comp=N,3590μm,1.2s
CING AML AML
comp=E,4912μm,0.9s
T1211 Morro Reatino 0.48 213 S **Sn** 11 05 44.0 +2.8
ARRO Arrone 0.48 222 ⇑P **Pg** 11 05 34.7 -0.4
ATCC AVT- Casa Cast 0.48 301 ⇑P **Pg** 11 05 34.5 -0.6
ATCC S **Sg** 11 05 42.6 +1.1
ATCC AML AML
comp=E,16800μm,0.9s
ATCC AML AML
comp=N,9670μm,1.1s
ATCC AML AML
comp=N,6149μm,0.8s
FOSV Fossato di Vic 0.48 318 ⇓P **Pg** 11 05 34.5 -0.6
FOSV S **Sg** 11 05 43.0 +1.5
T1247 Pizzolo (AQ) 0.50 172 S **Sb** 11 05 44.0 -0.4
PP3 Marolino 0.53 34 ⇓P **Pg** 11 05 36.5 +0.5
PP3 AML AML
comp=N,11150μm,1.3s
PP3 AML AML
comp=N,11500μm,1.3s
PP3 AML AML
comp=E,18750μm,1.0s
PP3 AML AML
comp=N,15800μm,1.6s
PP3 AML AML
comp=E,19400μm,1.0s
PP3 AML AML
comp=N,14700μm,1.6s
TRTR Tortoreto Alta 0.54 103 ⇓P **Pg** 11 05 36.5 +0.4
TRTR AML AML
comp=E,42100μm,0.6s
TRTR AML AML
comp=N,50700μm,0.8s
GIGS Gran Sasso 0.56 151 ⇑P **Pg** 11 05 35.5 -1.0
GIGS S **Sb** 11 05 45.0 -1.1
GIGS AML AML
comp=N,4095μm,0.5s
GIGS AML AML
comp=E,5640μm,0.5s
GIGS AML AML
comp=N,957μm,0.2s
CESX Cesi 0.56 235 ⇑P **Pg** 11 05 36.0 -0.6
CESX AML AML
comp=N,7690μm,0.6s
CESX AML AML
comp=E,10295μm,1.0s
CESX AML AML
comp=E,3752μm,1.3s
ARVD Arcevia 0.59 341 S **Sg** 11 05 47.0 +2.0
AQU L'Aquila 0.60 166 ⇓P **Pg** 11 05 37.1 -0.2
AQU AML AML
comp=E,15000μm,0.4s
AQU AML AML
comp=N,12845μm,0.4s
AQU AML AML
comp=N,12850μm,0.4s
AQU AML AML
comp=E,14700μm,0.4s
AQU AML AML
comp=N,12850μm,0.9s
ATFO Monte Foce - G 0.63 313 ⇑P **Pg** 11 05 37.6 -0.3
ATFO AML AML
comp=E,7255μm,1.0s
ATFO AML AML
comp=E,7260μm,1.0s
ATFO AML AML
comp=N,4665μm,0.9s
ATTE AVT- Monte Tez 0.68 293 ⇓P **Pg** 11 05 37.3 -1.5
ATTE AML AML
comp=E,4225μm,1.2s
ATTE AML AML
comp=E,4230μm,1.2s
ATTE AML AML
comp=N,3865μm,0.7s
FRON Frontone 0.68 329 ⇓P **Pg** 11 05 38.0 -0.8
FRON AML AML
comp=E,4200μm,0.8s
FRON AML AML
comp=N,4760μm,1.1s
FAGN Fagnano 0.72 157 ⇑P **Pg** 11 05 37.4 -2.3
ATVO AVT- Monte Val 0.73 308 ⇓P **Pg** 11 05 38.9 -1.0
ATVO AML AML
comp=N,3740μm,1.1s
ATVO AML AML
comp=E,4865μm,1.4s
ATVO AML AML
comp=N,3945μm,1.0s
ATVO AML AML
comp=E,989μm,1.6s
ATVO AML AML
comp=N,1386μm,0.7s
PIEI Pieia 0.77 321 AML AML
comp=E,2730μm,1.6s
PIEI AML AML
comp=N,3035μm,0.9s
ATPI Pietralunga - 0.78 312 ⇓P **Pg** 11 05 39.8 -1.0
ATPI AML AML
comp=N,3820μm,0.7s
ATPI AML AML
comp=E,4340μm,1.2s
FSSB Fossombrone 0.82 338 ⇓P **Pg** 11 05 40.8 -0.7
FSSB AML AML
comp=E,7490μm,0.3s
FSSB AML AML
comp=N,10030μm,0.3s
T0110 Collepietro 0.83 149 ⇓P **Pg** 11 05 40.2 -1.4
T0110 AML AML
comp=N,10740μm,0.5s
T0110 AML AML
comp=E,10420μm,1.4s
BADI Badiali 0.91 310 ⇑P **Pb** 11 05 42.4 -1.5
BADI S **Sn** 11 05 58.0 -0.4
SACS San Casciano d 0.95 265 ⇑P **Pn** 11 05 44.4 -1.3
SACS AML AML
comp=E,3285μm,1.0s
SACS AML AML
comp=N,5005μm,0.9s
SACS AML AML
comp=E,3015μm,1.0s
SACS AML AML
comp=N,5210μm,1.0s
CAFI Castiglion Fio 0.99 294 ⇑P **Pb** 11 05 43.8 -1.4
CAFI AML AML
comp=E,2485μm,1.1s
CAFI AML AML
comp=N,1925μm,1.0s
CAFI AML AML
comp=E,2565μm,1.1s
CAFI AML AML
comp=N,2005μm,1.0s
CERT Cerreto 1.00 190 AML AML
comp=E,7695μm,0.6s
CERT AML AML
comp=N,4065μm,1.0s
CRE Caprese Michel 1.14 307 AML AML
comp=N,1805μm,1.0s
CRE AML AML
comp=E,1740μm,0.8s
LPEL Lama dei Pelig 1.15 140 AML AML
comp=E,5025μm,0.9s
LPEL AML AML
comp=N,3540μm,0.9s
POFI Posta Fibreno 1.27 163 AML AML
comp=N,2205μm,1.1s
POFI AML AML
comp=E,2535μm,1.1s
GIUL Giuliano Di Ro 1.38 178 AML AML
comp=E,2210μm,1.0s
GIUL AML AML
comp=N,2475μm,1.2s
CERA Filignano 1.47 155 AML AML
comp=E,1159μm,0.6s
CERA AML AML
comp=E,3505μm,1.2s
CERA AML AML
comp=N,4990μm,0.9s
CERA AML AML
comp=E,3555μm,1.2s
CERA AML AML
comp=N,5105μm,0.9s
MIDA Miranda 1.51 149 AML AML
comp=N,2390μm,1.1s
MIDA AML AML
comp=E,3505μm,1.0s
MIDA AML AML
comp=N,2290μm,1.1s
MIDA AML AML
comp=E,3525μm,1.0s
TRIV Trivento 1.54 139 AML AML
comp=E,3385μm,1.0s
TRIV AML AML
comp=N,2865μm,1.3s
CGRP Cima Grappa 3.11 342 AML AML
comp=E,652μm,1.2s
CGRP AML AML
comp=N,584μm,0.7s
MYKA Terra Mystica 3.71 5 *i* Pn **Pn** 11 06 23.9 +0.3
comp=N,1.8nm,0.2s
ABTA Abfaltersbach 3.84 353 *i* Pn **Pn** 11 06 26.0 +0.6
comp=N,38nm,0.5s,SNR=20
SOKA Soboth 3.96 19 *i* Pn **Pn** 11 06 27.6 +0.6
comp=N,1.3nm,0.3s
KBA Koelnbreinsper 4.14 1 *i* Pn **Pn** 11 06 30.3 +0.7
comp=N,2.8nm,0.2s,SNR=7.3
BEHE Becsehely 4.36 35 P **Pg** 11 06 48.1 -1.1
FETA Feichten 4.45 338 *e*Pn **Pn** 11 06 35.6 +1.8
comp=N,5.9nm,0.3s,SNR=10.0
WTTA Wattenberg 4.47 346 *e*Pn **Pn** 11 06 35.9 +1.8
comp=N,6.1nm,0.3s,SNR=6.1
SQTA Sankt Quirin 4.51 342 *e*Pn **Pn** 11 06 36.3 +1.6
comp=N,13nm,0.4s,SNR=9.8
DAVOX Davos/Dischmat 4.51 330 Pn **Pn** 11 06 37.1 +2.4
comp=N,3.1nm,0.3s,baz=144,slow=14,SNR=17
comp=N,13nm,0.5s
WATA Walderalm 4.55 346 *i* Pn **Pn** 11 06 37.3 +2.1
comp=N,3.5nm,0.2s,SNR=4.8
MOTA Moosalm 4.65 342 *i* Pn **Pn** 11 06 37.8 +1.2
comp=N,5.7nm,0.4s
KOVH Kovagotottos 4.71 46 P **Pb** 11 06 49.3 +0.6
MOA Molln 4.97 8 *i* Pn **Pn** 11 06 41.3 +0.4
comp=N,1.1nm,0.2s
MORH Mrgy, Hungar 5.08 48 P **Pb** 11 06 59.2 +4.1
CONA Conrad Observa 5.33 20 *e*Pn **Pn** 11 06 45.6 -0.3
comp=N,1.4nm,0.2s,SNR=5.2
GERES GERESS Array B 5.92 3 Pn **Pn** 11 06 53.3 -0.6
comp=N,0.5nm,0.3s,baz=172,slow=13,SNR=11
comp=N,0.7nm,0.3s
CKRC Cesky Krumlov 5.94 7 *e*SN **Sn** 11 08 00.2 -2.2
OHR Ohrid 5.94 105 *e*Pn **Pn** 11 06 55.3 +1.1
KHC Kasperske Hory 6.20 2 *e*PN **Pn** 11 06 56.8 -1.0
KHC *e*SN **Sn** 11 08 06.1 -2.8
STIP Stip 6.77 98 *e*Pn **Pn** 11 07 08.0 +2.4
VAY Valandovo 7.15 100 *e*Pn **Pn** 11 07 10.6 -0.1
KEST Kesra 7.79 204 Pn **Pn** 11 07 22.6 +3.0
comp=N,0.2nm,0.3s,baz=328,slow=13,SNR=2.6
KEST LR LR 11 10 52.1
comp=N,122nm,18.4s,baz=92,slow=41
comp=N,1.5nm,0.4s
BRG Berggiesshubel 7.96 3 *e*P Pb 11 07 50.2 +6.3
BRG Amp 11 07 52.1
comp=Z,3.5nm,0.8s
BRG *ex* x 11 09 12.0
BRG *ex* x 11 10 18.0
BRG Amp 11 10 42.2
comp=Z,21nm,1.2s
IDI Anoyia 11.85 126 LR LR 11 13 35.7
comp=Z,22nm,21.0s,baz=286,slow=41
TORD Torodi Ar. Bea 31.30 202 P P 11 11 50.4 +3.8
comp=Z,0.2nm,0.5s,baz=19,slow=9.1,SNR=2.2
comp=Z,0.2nm,0.5s
MKAR Makanchi Array 47.68 60 P **P** **11 14 03.0 +0.2**
comp=Z,0.8nm,0.8s,baz=287,slow=5.9,SNR=5.5
comp=Z,0.8nm,0.8s

---

*LDG **05** 11:05:45.2±0.2, 43.02N×13.33E, h8km, Ml3.6/8, Error ellipse: s-maj=5.3km s-min=2.6km az=56.0*
*ROM **05** 11:05:45.8±0.0, 42.936N±0.003×13.211E±0.004, h8km, ML3.8/26, Mw3.6, Error ellipse: s-maj=0.3km s-min=0.2km az=64.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-2.47; Mθθ0.11; Mφφ2.36; Mrθ-0.75; Mθφ-0.68; Mφr0.49; Fault plane solution: Ms2.66608×10¹⁴ NP1:φs357.00000°, δ39.00000°, λ-70.00000°. NP2:φs152.00000°, δ54.00000°, λ-105.00000°.*
*IDC **05** 11:05:46.6±1.2, 43.00N×13.57E, h0km, mb3.9/4, mbtmp3.8/9, ML3.3/5, MS2.8/2 Error ellipse: s-maj=21.8km s-min=14.6km az=89.0*

ISC 05 11:05:45.9±0.7, 42.94N±0.01×13.20E±0.02, h10km±4km, n146, s21/200, mb3.9/4, 11C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1256	**Bolognola (MC)**	**0.07**	**16**	⇓P	**Pg**	**11 05 47.7**	**-0.7**
T1256				S	**Sg**	**11 05 49.5**	**-0.6**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1245	**Castelsantange**	**0.08**	**186**	⇑P	**Pg**	**11 05 48.2**	**-0.2**
T1245				S	**Sg**	**11 05 50.1**	**-0.1**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
MMO1	**Montemonaco**	**0.10**	**111**	⇑P	**Pg**	**11 05 48.1**	**-0.5**
MMO1				S	**Sg**	**11 05 49.9**	**-0.7**
FEMA	**Monte Fema**	**0.11**	**283**	P	**Pg**	**11 05 49.0**	**+0.2**
FEMA				S	**Sg**	**11 05 51.8**	**+0.9**
FEMA				AML	AML		
	comp=E,86650μm,1.1s						
FEMA				AML	AML		
	comp=E,86700μm,1.1s						
FEMA				AML	AML		
	comp=E,86650μm,1.1s						
FEMA				AML	AML		
	comp=N,84500μm,0.9s						
AM05	**Amandola Campo**	**0.12**	**70**	P	**Pg**	**11 05 48.7**	**-0.1**
AM05				S	**Sg**	**11 05 51.0**	**+0.1**

AM05 AML AML
comp=N,4700µm,0.4s
AM05 AML AML
comp=N,23500µm,0.5s
AM05 AML AML
comp=N,4695µm,0.4s
AM05 AML AML
AM05 AML AML
comp=E,37550µm,1.3s
AM05 AML AML
comp=N,23450µm,0.5s
NRCA Norcia 0.12 211 ⇑P **Pg 11 05 49.0 +0.2**
NRCA S **Sg 11 05 52.0 +1.0**
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
NRCA AML AML
FDMO Fiordimonte 0.13 321 ⇓P **Pg 11 05 48.9 0.0**
FDMO S **Sg 11 05 51.7 +0.6**
T1216 Preci, Frazion 0.14 251 ⇑P **Pg 11 05 49.5 +0.4**
T1216 S **Sg 11 05 52.5 +1.1**
T1216 AML AML
comp=E,65500µm,1.1s
T1216 AML AML
comp=N,85650µm,1.6s
T1216 AML AML
comp=E,65500µm,1.2s
T1216 AML AML
comp=N,85700µm,1.6s
T1216 AML AML
comp=N,85550µm,1.6s
CSP1 Cessapalombo 0.15 2 P **Pg 11 05 49.5 +0.1**
CSP1 AML AML
comp=E,57550µm,1.4s
CSP1 AML AML
comp=N,52150µm,1.1s
CSP1 AML AML
comp=N,52200µm,1.1s
GUMA Gualdo di Mace 0.16 38 P **Pb 11 05 49.9 -1.1**
GUMA S **Sg 11 05 52.9 +0.9**
T1241 Roccafluvione, 0.19 115 ⇑P **Pg 11 05 50.1 +0.2**
T1241 S **Sg 11 05 53.1 +0.4**
T1241 AML AML
comp=N,64150µm,1.6s
T1241 AML AML
T1241 AML AML
comp=N,66450µm,1.6s
T1241 AML AML
T1241 AML AML
comp=N,64150µm,1.6s
T1241 AML AML
T1220 Camerino, Fraz 0.19 335 P **Pg 11 05 50.0 +0.1**
T1220 S **Sg 11 05 54.4 +1.6**
T1244 Arquata del Tr 0.19 158 P **Pg 11 05 50.4 +0.4**
T1244 S **Sg 11 05 53.9 +1.1**
CESI CESI - Serrava 0.23 288 ⇑P **Pg 11 05 50.9 +0.3**
CESI S **Sg 11 05 55.7 +1.9**
T1202 Accumoli, Fraz 0.23 175 ⇑P **Pg 11 05 51.2 +0.5**
T1202 S **Sg 11 05 55.9 +1.9**
T1202 AML AML
T1202 AML AML
comp=N,284µm,0.3s
T1221 Campello sul C 0.27 254 P **Pg 11 05 52.1 +0.8**
T1221 S **Sb 11 05 57.1 -0.4**
T1204 Amatrice, Fraz 0.27 161 ⇑P **Pg 11 05 51.5 0.0**
T1204 S **Sb 11 05 56.5 -1.2**
T1204 AML AML
comp=N,43650µm,0.7s
T1204 AML AML
comp=E,81800µm,0.4s
T1204 AML AML
comp=N,43600µm,0.7s
T1215 Vallo di Nera, 0.28 241 P **Pg 11 05 52.2 +0.7**
T1215 S **Sb 11 05 57.3 -0.4**
T1215 AML AML
comp=N,20050µm,1.6s
T1215 AML AML
comp=E,12600µm,1.4s
T1215 AML AML
comp=E,12300µm,1.4s
T1215 AML AML
comp=E,12550µm,1.4s
T1215 AML AML
comp=N,21150µm,1.6s
T1215 AML AML
comp=E,12350µm,1.4s
T1215 AML AML
comp=N,20000µm,1.6s
T1215 AML AML
comp=N,21100µm,1.6s
SEF1 Sefro 0.28 319 P **Pg 11 05 52.1 +0.5**
SEF1 S **Sb 11 05 57.2 -0.6**
MNTP Montappone 0.28 45 P **Pb 11 05 52.6 -0.4**
MNTP AML AML
comp=E,70400µm,1.4s
MNTP AML AML
comp=E,70350µm,1.4s
MNTP AML AML
comp=N,53300µm,0.9s
T1201 Domo (RI) 0.28 172 P **Pb 11 05 52.3 -0.7**
T1201 S **Sb 11 05 57.3 -0.6**
PIO1 Pioraco 0.29 327 P **Pg 11 05 52.0 +0.3**
SSM1 San Severino M 0.29 357 P **Pg 11 05 52.1 +0.3**
SSM1 S **Sb 11 05 57.9 -0.2**
T1217 Poggiodomo (PG 0.30 221 P **Pb 11 05 53.0 -0.4**
T1217 S **Sb 11 05 57.9 -0.5**
T1217 AML AML
comp=E,25150µm,0.9s
T1217 AML AML
comp=N,26450µm,1.1s
T1217 AML AML
comp=E,23800µm,1.0s
T1217 AML AML
comp=N,25600µm,1.1s
T1217 AML AML
comp=E,23850µm,1.0s
T1217 AML AML
comp=N,25450µm,1.1s
T1217 AML AML
comp=N,26500µm,1.1s
FIU1 Fiuminata 0.32 322 P **Pg 11 05 52.8 +0.6**
FIU1 S **Sb 11 05 58.7 -0.2**
SMA1 SAN MARTINO 0.32 162 AML AML
comp=E,49550µm,1.3s
SMA1 AML AML
comp=N,48600µm,0.5s
LNSS Leonessa 0.35 199 ⇑P **Pg 11 05 53.5 +0.6**
LNSS S **Sb 11 05 59.7 -0.2**
LNSS AML AML
comp=N,35150µm,1.4s
LNSS AML AML
comp=E,18950µm,1.2s
OFFI Offida 0.36 90 P **Pb 11 05 53.6 -0.7**
SNTG Esanatoglia 0.37 329 P **Pg 11 05 53.7 +0.5**
SNTG AML AML
comp=E,7755µm,1.0s
SNTG AML AML
comp=N,8940µm,1.6s
SNTG AML AML
comp=E,7760µm,1.0s
SNTG AML AML
comp=E,7915µm,1.1s
SNTG AML AML
comp=N,8935µm,1.6s
SNTG AML AML
comp=N,9395µm,1.6s
TRE1 Treia 0.38 13 P **Pb 11 05 54.6 -0.2**
EL6 Elcito 0.40 350 P **Pg 11 05 54.4 +0.6**
EL6 S **Sb 11 06 01.2 -0.1**
ASSB Assisi San Ben 0.41 285 P **Pg 11 05 54.9 +0.9**
ASSB AML AML
comp=E,12550µm,1.0s
ASSB AML AML
comp=N,13950µm,1.2s
T1246 Crognaleto (TE 0.41 148 P **Pg 11 05 54.1 0.0**
T1246 S **Sb 11 06 00.6 -1.1**
RM33 Pellescritta (0.43 178 P **Pg 11 05 54.5 +0.2**
RM33 S **Sb 11 06 01.9 -0.2**
RM33 AML AML
comp=E,25550µm,1.1s
RM33 AML AML
comp=N,18350µm,1.1s
RM33 AML AML
comp=N,17950µm,1.1s
RM33 AML AML
comp=E,24900µm,1.1s
RM33 AML AML
comp=E,25500µm,1.1s
CAMP Campotosto 0.43 159 ⇑P **Pg 11 05 54.4 +0.1**
CAMP S **Sb 11 06 01.2 -1.0**
CAMP AML AML
comp=N,22100µm,0.5s
CAMP AML AML
comp=E,23600µm,0.4s
TERO Teramo 0.43 136 P **Pg 11 05 54.5 +0.1**
TERO S **Sb 11 06 01.4 -0.8**
TERO AML AML
comp=E,23650µm,1.1s
TERO AML AML
comp=N,21350µm,0.5s
TERO AML AML
comp=E,24400µm,1.0s
TERO AML AML
comp=N,21300µm,0.5s
TERO AML AML
comp=N,22100µm,0.5s
CING Cingoli 0.44 360 P **Pg 11 05 54.9 +0.3**
CING S **Sb 11 06 02.3 -0.1**
T1211 Morro Reatino 0.48 212 P **Pg 11 05 55.1 0.0**
T1211 S **Sb 11 06 03.5 0.0**
ARRO Arrone 0.48 222 P **Pg 11 05 55.4 +0.2**
ARRO S **Sb 11 06 03.1 -0.4**
FOSV Fossato di Vic 0.48 318 P **Pg 11 05 56.0 +0.7**
T1247 Pizzolo (AQ) 0.50 172 P **Pb 11 05 56.3 -0.5**
T1247 S **Sb 11 06 04.0 -0.1**
T1247 AML AML
comp=N,24350µm,0.9s
T1247 AML AML
comp=E,29950µm,1.2s
PP3 Marolino 0.53 34 P **Pb 11 05 57.8 +0.5**
TRTR Tortoreto Alta 0.54 103 P **Pg 11 05 56.0 -0.3**
GIGS Gran Sasso 0.56 151 ⇓P **Pg 11 05 56.7 0.0**
GIGS S **Sb 11 06 05.4 -0.4**
GIGS AML AML
comp=N,4095µm,0.5s
GIGS AML AML
comp=E,5640µm,0.5s
CESX Cesi 0.56 235 P **Pg 11 05 56.6 -0.1**
ARVD Arcevia 0.59 342 P **Pg 11 05 57.1 -0.3**
MURB Monte Urbino 0.59 304 P **Pg 11 05 57.8 +0.5**
AQU L'Aquila 0.60 165 P **Pg 11 05 57.8 +0.2**
AQU AML AML
comp=E,15000µm,0.4s
AQU AML AML
comp=N,12805µm,0.4s
AQU AML AML
comp=N,12850µm,0.4s
AQU AML AML
comp=N,12850µm,0.9s
AQU AML AML
comp=E,14700µm,0.4s
AQU AML AML
comp=E,14950µm,0.4s
FIAM Fiamignano 0.67 185 P **Pg 11 05 58.2 -0.7**
FIAM S **Sb 11 06 08.4 -0.7**
AOI Ancona 0.68 26 P **Pb 11 06 00.3 +0.5**
FAGN Fagnano 0.73 157 ⇑P **Pg 11 05 59.5 -0.4**
FAGN S **Sb 11 06 10.5 -0.2**
ATVA AVT- Monte Val 0.75 297 P **Pg 11 05 59.9 -0.5**
ATVA S **Sg 11 06 10.7 +0.5**
ATMI Monte Miggiano 0.79 301 P **Pg 11 06 01.3 +0.2**
MGAB Montegabbione 0.80 269 P **Pn 11 06 02.9 -0.4**
T0110 Collepietro 0.83 149 P **Pg 11 06 00.7 -1.1**
SRES S.Oreste - Sor 0.86 216 P **Pb 11 06 03.4 +0.4**
PTQR Pietraquaria 0.93 171 P **Pn 11 06 05.9 +0.9**
SACS San Casciano d 0.95 265 P **Pg 11 06 04.1 -0.1**
MTCE Montecelio 0.97 200 P **Pg 11 06 03.6 -1.0**
MTCE AML AML
comp=N,5210µm,1.3s
MTCE AML AML
comp=E,3370µm,1.2s
CAFI Castiglion Fio 0.98 294 P **Pg 11 06 04.5 -0.3**
CERT Cerreto 1.00 189 P **Pg 11 06 04.2 -0.9**
MCIV Monte Civitell 1.13 262 P **Pn 11 06 08.6 +0.8**
MCIV AML AML
comp=N,1575µm,1.4s
MCIV AML AML
comp=E,1120µm,0.9s
GUAR Guarcino 1.14 176 P **Pb 11 06 07.2 -0.5**
LPEL Lama dei Pelig 1.15 140 P **Pn 11 06 07.8 -0.3**
LRP Arpino 1.32 167 P **Pg 11 06 11.5 +0.3**
LRP AML AML
comp=E,2015µm,0.9s
LRP AML AML
comp=N,2420µm,1.2s
ASQU Asqua 1.34 310 P **Pn 11 06 09.2 -1.5**
GIUL Giuliano Di Ro 1.38 178 P **Pg 11 06 12.3 0.0**
GIUL AML AML
comp=E,2210µm,1.0s
GIUL AML AML
comp=N,2475µm,1.2s
FRES Fresagrandinar 1.45 131 P **Pb 11 06 12.8 -0.2**
MIDA Miranda 1.51 148 P **Pn 11 06 12.9 -0.2**
RUFI Rufina 1.53 307 P **Pg 11 06 15.9 +0.7**
LMD Lutirano 1.57 317 P **Pn 11 06 14.3 +0.5**
TREM Isole Tremiti 1.89 115 P **Pb 11 06 20.5 +0.1**
APRC Apricena 2.10 123 P **Pb 11 06 22.9 -1.2**
SGRT San Giovanni R 2.23 121 P **Pb 11 06 24.5 -1.7**
SGRT AML AML
comp=N,981µm,1.2s
SGRT AML AML
comp=E,1285µm,0.9s
PALZ Palazzo San Ge 2.87 133 P **Pn 11 06 33.7 +2.1**
PALZ AML AML
comp=N,1380µm,1.0s
PALZ AML AML
comp=E,1415µm,1.4s
PGF Pioggiola 3.12 264 *e*Pn **Pn 11 06 35.0 -0.2**
PGF Pioggiola 3.12 264 *e*P **Pn 11 06 37.5 +2.3**
PGF *e*Sn **Sn 11 07 10.7 -1.8**
comp=E,23nm,0.6s
ABTA Abfaltersbach 3.84 353 *i* Pn **Pn 11 06 46.8 +1.7**
comp=E,52nm,0.5s
KBA Koelnbreinsper 4.14 1 *e*Pn **Pn 11 06 46.5 -2.8**
SBF Sospel 4.30 284 *e*Pn **Pn 11 06 49.9 -1.5**
SBF Sospel 4.30 284 *e*P **Pn 11 06 53.6 +2.2**
FETA Feichten 4.44 338 *e*Pn **Pn 11 06 56.3 +2.8**
comp=E,14nm,0.5s
WTTA Wattenberg 4.47 346 *i* Pn **Pn 11 06 56.0 +2.3**
comp=E,6.6nm,0.2s
WTTA Wattenberg 4.47 346 *e*Pn **Pn 11 06 56.1 +2.3**
WTTA *e*Sn **Sn 11 07 51.5 +5.7**
DAVOX Davos/Dischmat 4.51 330 Pn **Pn 11 06 58.3 +3.9**
comp=E,3.0nm,0.3s,baz=164,slow=20,SNR=9.4
DAVOX Sn **Sb 11 07 53.9 -5.8**
comp=E,1.8nm,0.3s,baz=133,slow=21,SNR=3.0
DAVOX LR LR 11 09 14.9
comp=E,94nm,21.8s,baz=252,slow=45
comp=E,22nm,0.5s
SQTA Sankt Quirin 4.51 342 *i* Pn **Pn 11 06 56.7 +2.4**
comp=E,28nm,0.5s
WATA Walderalm 4.55 346 *e*Pn **Pn 11 06 57.8 +3.0**
comp=E,11nm,0.3s
ARSA Arzberg 4.62 20 *i* Pn **Pn 11 06 58.0 +2.4**
comp=E,7.8nm,0.5s
ARSA Arzberg 4.62 20 *e*Pn **Pb 11 07 03.2 -3.7**
MOTA Moosalm 4.65 342 *i* Pn **Pn 11 06 59.1 +2.8**
comp=E,27nm,0.8s
RJOB Jochberg 4.81 357 *e*Pn **Pn 11 07 01.0 +2.6**
RJOB *e*Sn **Sn 11 07 58.5 +4.4**
LMR La Mourre 4.91 277 *e*P **Pn 11 07 02.3 +2.6**
LMR *e*Sn **Sn 11 07 53.3 -3.3**
comp=E,102nm,1.5s
PLONS Plons/SG 4.92 328 *e*Pn **Pn 11 07 04.6 +4.6**
PLONS *e*Sn **Sn 11 08 01.6 +4.6**
DAVA Damuels 4.94 333 *i* Pn **Pn 11 07 03.2 +2.9**
comp=E,28nm,0.6s
DAVA Damuels 4.94 333 *e*Pn **Pn 11 07 04.1 +3.8**
MOA Molln 4.97 8 *e*Pn **Pn 11 07 04.2 +3.7**
MBDF Montbardon 4.98 293 *e*Pn **Pn 11 06 59.8 -1.0**
MBDF Montbardon 4.98 293 *e*P **Pn 11 07 03.4 +2.6**
MBDF *e*Sn **Sn 11 07 53.6 -4.9**
comp=E,19nm,0.7s
UBR Ueberruh 5.22 336 *e*Pn Pn 11 07 09.7 +5.7
UBR *e*Sn **Sn 11 08 10.9 +6.7**
LPG La Plagne 5.29 301 *e*Pn **Pn 11 07 02.7 -2.5**
LPG La Plagne 5.29 301 *e*P **Pn 11 07 07.5 +2.3**
LPG *e*Sn **Sn 11 08 01.5 -4.9**
comp=E,14nm,0.7s
LPL La Plagne 5.31 301 *e*Pn **Pn 11 07 03.1 -2.3**
LPL La Plagne 5.31 301 *e*P **Pn 11 07 08.1 +2.7**
ORIF Oris-en-Rattie 5.64 293 *e*Pn **Pn 11 07 08.5 -1.4**
ORIF Oris-en-Rattie 5.64 293 *e*P **Pn 11 07 13.9 +4.0**
SMRF Simiane la Rot 5.65 283 *e*Pn **Pn 11 07 08.4 -1.4**
SMRF Simiane la Rot 5.65 283 *e*P **Pn 11 07 13.2 +3.4**
SLE Schleitheim 5.86 327 *e*Pn **Pn 11 07 14.6 +1.9**
BALST Balsthal 5.87 320 *e*Pn **Pn 11 07 15.5 +2.5**
BALST *e*Sn **Sn 11 08 21.5 +1.1**
GEC2 GERESS Array S 5.92 3 *e*Pn Pb 11 07 22.3 -6.9
GEC2 *e*Sn **Sn 11 08 21.8 +0.3**
GERES GERESS Array B 5.92 3 Pn **Pn 11 07 13.7 +0.1**
comp=E,0.5nm,0.3s,baz=184,slow=16,SNR=4.0
GERES Sn **Sn 11 08 23.1 +1.6**
comp=E,1.8nm,0.3s,baz=170,slow=24,SNR=4.5
comp=E,1.9nm,0.5s
MODS Modra-Piesok 6.14 26 *e*PN Pb 11 07 24.8 -8.1
WET Wettzell 6.21 358 *e*Pn **Pn 11 07 18.5 +0.9**
WET *e*Sn **Sn 11 08 26.3 -2.4**
CABF La Chapelle 6.25 308 *e*P **Pn 11 07 20.6 +2.4**
BFO Black Forest 6.38 329 *e*Pn **Pn 11 07 22.3 +2.4**
BFO *e*Sn **Sn 11 08 33.1 +0.2**
VIVF Saint-Julien-l 6.45 290 *e*Pn **Pn 11 07 18.9 -2.0**
VIVF Saint-Julien-l 6.45 290 *e*P **Pn 11 07 23.9 +3.0**
KRUC Moravsky 6.52 19 *e*PN **Pn 11 07 20.6 -1.1**
HINF Hinteralfeld 6.62 320 *e*P **Pn 11 07 24.5 +1.4**
HINF *e*Sn **Sn 11 08 31.7 -6.9**
comp=E,30nm,0.6s
VRAC Vranov 6.79 19 *e*PN **Pn 11 07 26.8 +1.2**
VYHS Vyhne 6.81 33 *e*Pn **Pn 11 07 29.5 +3.7**
VYHS *e* 11 09 01.9
ROTZ Rotzenmuhle 6.87 355 *e*Sn **Sn 11 08 45.1 +0.4**
CDF Champ du Feu 6.87 325 *e*P **Pn 11 07 28.2 +1.6**
CDF *e*Sn **Sn 11 08 37.3 -7.6**
comp=E,34nm,0.7s
LASF Ste Croix 6.89 283 *e*Pn **Pn 11 07 25.6 -1.3**
LASF Ste Croix 6.89 283 *e*P **Pn 11 07 30.6 +3.7**
HAU Haudompre 6.99 319 *e*P **Pn 11 07 29.4 +1.1**
HAU *e*Sn **Sn 11 08 40.3 -7.5**
comp=E,51nm,0.5s
SMF Signal de Mont 7.62 302 *e*Pn **Pn 11 07 34.2 -2.7**
SMF Signal de Mont 7.62 302 *e*P **Pn 11 07 39.9 +3.0**
SFTF Sexfontaines 7.78 315 *e*Pn **Pn 11 07 36.4 -2.6**
SFTF Sexfontaines 7.78 315 *e*P **Pn 11 07 41.5 +2.5**
KEST Kesra 7.79 204 Pn Pn 11 07 45.0 +5.7
comp=E,0.7nm,0.3s,baz=334,slow=3.2,SNR=5.9
comp=E,2.6nm,0.5s
LOR Lormes 7.90 306 *e*P **Pn 11 07 43.7 +3.0**
LOR *e*Sn **Sn 11 09 03.0 -7.1**
comp=E,7.2nm,0.5s
MEZF Maizieres J'vi 7.96 317 *e*Pn **Pn 11 07 39.0 -2.6**
MEZF Maizieres J'vi 7.96 317 *e*P **Pn 11 07 44.3 +2.7**
AVF Avril sur Loir 7.98 302 *e*P **Pn 11 07 45.2 +3.3**
SSF Saint Saulge 8.01 304 *e*P **Pn 11 07 45.2 +3.0**
CLL Collm 8.38 359 *e*Pn **Pn 11 07 47.0 -0.2**
CLL *ex* x 11 07 53.0
CLL *ex* x 11 08 06.0
CLL *e*Sn **Sn 11 09 13.0 -8.8**
CLL *ex* x 11 09 22.0
CLL *ex* x 11 09 37.0
CLL *ex* x 11 09 53.0
CLL *e*Sg **Sg 11 10 13.0 -1.5**
comp=Z,24nm,1.1s
MLR Muntele Rosu 9.50 70 Pn **Pn 11 08 01.8 -1.0**
comp=Z,0.2nm,0.3s,baz=260,slow=16,SNR=3.6
comp=Z,1.6nm,0.6s
NACGM Naroch 14.90 32 *e*P **Pn 11 09 17.2 +0.8**
comp=Z,11nm,0.8s,baz=222
MNK Minsk 15.06 35 *i* P **Pn 11 09 17.6 -0.9**
comp=E,1.0nm,0.8s
MNK *i* P **Pn 11 09 17.6 -0.9**
MNK *i* P **Pn 11 09 17.6 -0.9**
comp=Z,5.0nm,0.7s,baz=226
MNK *i* PP **PnPn 11 09 25.3 -1.1**
MNK *i* PPP PPP 11 09 33.4
MNK *i* S **Sn 11 12 04.3 -0.9**
MNK *i* SS **SnSn 11 12 17.8 +0.1**
MNK *i* SSS SSS 11 12 29.9
MNK *i* LQ LQ 11 13 28.1
MNK *i* LR LR 11 14 48.1
MNK *i* LRM MLR 11 15 55.2
comp=E,8.0nm,13.6s
MNK *i* LRM MLR 11 16 08.0
comp=Z,80nm,15.1s
MNK *i* LRM MLR 11 16 10.3
comp=N,227nm,13.4s
MDT MideIt 17.28 240 LR LR 11 16 25.8
comp=N,38nm,20.4s,baz=13,slow=36
FINES FINESS Array B 20.08 18 P Pn 11 10 20.3 -0.6
comp=N,0.1nm,0.3s,baz=186,slow=12,SNR=2.0
comp=N,1.8nm,0.8s
TORD Torodi Ar. Bea 31.30 202 P **P 11 12 09.1 +2.9**
comp=N,0.5nm,0.4s,baz=12,slow=8.6,SNR=4.9
comp=N,0.5nm,0.4s
ZALV Zalesovo Beam 46.82 50 P **P 11 14 14.7 -0.7**
comp=N,0.3nm,0.3s,baz=287,slow=12,SNR=2.3
comp=N,0.3nm,0.3s
MKAR Makanchi Array 47.68 60 P **P 11 14 23.8 +1.4**
comp=N,2.2nm,0.9s,baz=291,slow=6.6,SNR=8.3
comp=N,2.2nm,0.9s
CMAR Chiang Mai Arr 74.61 79 P **P 11 17 26.8 +1.4**
comp=N,0.4nm,0.3s,baz=310,slow=7.0,SNR=2.0
comp=N,0.4nm,0.3s

*IDC **05** 11:09:21.6±51.0,23.°03S×176.°53W,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=944.2km s-min=157.0km az=87.0*
*NEIC **05** 11:10:36.3±1.2,24.°6S±0.°3×179.°5W±0.°5,h570km±54km, mb4.4/16,Error ellipse: s-maj=77.4km s-min=29.8km az=63.0*

ISC 05 11:10:35.1±2.5,24.°4S±0.°2×179.°2W±0.°3,h600km,n21, σ1s40/21,mb4.1/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.15**	**338**	P	**P**	**11 12 26.6**	**-0.1**
QRZ	**Quartz Range**	**17.77**	**201**	P	**P**	**11 14 08.0**	**-0.5**
THZ	**Tophouse**	**18.51**	**199**	P	**P**	**11 14 14.9**	**-0.3**
KHZ	**Kahutara**	**18.94**	**197**	P	**P**	**11 14 18.0**	**-1.0**
LTZ	**Lake Taylor**	**19.63**	**199**	P	**P**	**11 14 25.3**	**-0.1**
LTZ				IAmb	IAmb	11 14 46.6	
comp=Z,16nm,1.2s							
WHZ	**Wether Hill Ro**	**23.81**	**203**	P	**P**	**11 15 07.4**	**+4.8**
CTAO	**Charters Tower**	**32.25**	**271**	P	**P**	**11 16 16.5**	**+0.3**
CTAO				IAmb	IAmb	11 16 17.4	
comp=Z,3.8nm,0.7s							
STKA	**Stephens Creek**	**35.24**	**249**	P	**P**	**11 16 40.5**	**-0.6**
comp=Z,0.7nm,0.3s,baz=96,slow=11,SNR=6.1							
comp=Z,0.7nm,0.3s							
STKA	**Stephens Creek**	**35.24**	**249**	P	**P**	**11 16 40.8**	**-0.3**
BBOO	**Buckleboo**	**39.95**	**247**	P	**P**	**11 17 18.1**	**-1.1**
BBOO				IAmb	IAmb	11 17 30.1	
comp=Z,26nm,1.5s							
AS31	**Alice Springs**	**42.71**	**261**	P	**P**	**11 17 40.6**	**-0.5**
ASAR	**Alice Springs**	**42.71**	**261**	P	**P**	**11 17 41.7**	**+0.6**
comp=Z,0.5nm,0.3s,baz=94,slow=7.6,SNR=14							
comp=Z,0.5nm,0.3s							
ASAR	**Alice Springs**	**42.71**	**261**	P	**P**	**11 17 41.2**	**+0.1**
WR0	**Warramunga Arr**	**42.95**	**266**	P	**P**	**11 17 43.0**	**0.0**
WB2	**Warramunga Arr**	**43.13**	**266**	P	**P**	**11 17 44.4**	**0.0**
WB2				IAmb	IAmb	11 17 45.5	
comp=Z,6.9nm,1.2s							
WB0	**Warramunga Arr**	**43.13**	**267**	P	**P**	**11 17 44.9**	**+0.4**
WRA	**Warramunga Arr**	**43.14**	**266**	P	**P**	**11 17 45.0**	**+0.5**
comp=Z,2.0nm,0.3s,baz=100,slow=8.1,SNR=111							
comp=Z,2.0nm,0.3s							
FORT	**Forrest**	**46.85**	**250**	P	**P**	**11 18 12.1**	**-0.5**
FORT				IAmb	IAmb	11 18 49.6	
comp=Z,26nm,1.4s							
KNRA	**Kununurra**	**49.45**	**270**	P	**P**	**11 18 33.5**	**+1.5**
KNRA				IAmb	IAmb	11 18 34.6	
comp=Z,23nm,1.1s							
NWAO	**Narrogin (SRO)**	**55.72**	**246**	P	**P**	**11 19 14.0**	**-2.4**
NWAO				IAmb	IAmb	11 19 17.9	
comp=Z,8.8nm,0.8s							
MORW	**Morawa**	**57.42**	**250**	P	**P**	**11 19 28.2**	**+0.1**
MORW				IAmb	IAmb	11 20 00.9	
comp=Z,23nm,1.4s							

*IDC **05** 11:15:27.0±1.3,42°.97N×13°.11E,h0km,mb3.5/4, mbtmp3.6/7,ML3.4/3,MS2.9/3,Error ellipse: s-maj=30.0km s-min=14.7km az=92.0*
*ROM **05** 11:15:26.4±0.0,42°.948N±0°.003×13°.218E±0°.004, h9km,ML3.2/51,Error ellipse: s-maj=0.3km s-min=0.2km az=59.0*
*PRU **05** 11:15:28.5±0.0,42°.98N×13°.53E,h0km*
ISC 05 11:15:27.5±0.8,42°.96N±0°.01×13°.21E±0°.02,h6km±5km, n96,σ1§18/126,mb3.6/3,21C-17D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1256	**Bolognola (MC)**	**0.05**	**11**	P	**Pg**		**11 15 28.4**	**-0.8**
MMO1	**Montemonaco**	**0.10**	**126**	⇑P	**Pg**		**11 15 29.1**	**-0.7**
MMO1				S	**Sg**		**11 15 30.9**	**-0.5**
AM05	**Amandola Campo**	**0.10**	**80**	P	**Pg**		**11 15 29.5**	**-0.3**
AM05				S	**Sg**		**11 15 31.4**	**0.0**
AM05	comp=E,13600μm,0.6s			AML	AML			
AM05	comp=N,10900μm,1.2s			AML	AML			
AM05	comp=E,13550μm,0.6s			AML	AML			
AM05	comp=N,10870μm,1.2s			AML	AML			
AM05	comp=E,53550μm,0.6s			AML	AML			
AM05	comp=N,2010μm,0.4s			AML	AML			
AM05	comp=E,53500μm,0.6s			AML	AML			
AM05	comp=N,2005μm,0.4s			AML	AML			
AM05	comp=N,10885μm,1.2s			AML	AML			
T1245	**Castelsantange**	**0.10**	**190**	P	**Pg**		**11 15 29.2**	**-0.7**
T1245				S	**Sg**		**11 15 31.4**	**-0.1**
FEMA	**Monte Fema**	**0.12**	**272**	P	**Pg**		**11 15 29.8**	**-0.4**
FEMA				S	**Sg**		**11 15 32.4**	**+0.4**
FEMA	comp=N,33150μm,1.5s			AML	AML			
FEMA	comp=E,48950μm,1.3s			AML	AML			
FEMA	comp=N,33150μm,1.5s			AML	AML			
FEMA	comp=E,48950μm,1.3s			AML	AML			
FEMA	comp=N,33100μm,1.5s			AML	AML			
FDMO	**Fiordimonte**	**0.12**	**310**	⇑P	**Pg**		**11 15 29.7**	**-0.4**
FDMO				S	**Sg**		**11 15 32.1**	**+0.2**
FDMO	comp=E,23800μm,1.0s			AML	AML			
FDMO	comp=N,27400μm,0.5s			AML	AML			
CSP1	**Cessapalombo**	**0.13**	**357**	⇑P	**Pg**		**11 15 30.1**	**-0.3**
CSP1				S	**Sg**		**11 15 32.9**	**+0.6**
CSP1	comp=E,19200μm,0.9s			AML	AML			
CSP1	comp=N,29800μm,1.3s			AML	AML			
GUMA	**Gualdo di Mace**	**0.14**	**41**	⇑P	**Pg**		**11 15 30.5**	**+0.1**
GUMA	comp=E,90600μm,0.4s			AML	AML			
GUMA	comp=E,80600μm,0.7s			AML	AML			
GUMA				AML	AML			
GUMA	comp=E,90600μm,0.4s			AML	AML			
GUMA	comp=N,87700μm,0.4s			AML	AML			
NRCA	**Norcia**	**0.14**	**210**	P	**Pg**		**11 15 30.0**	**-0.5**
NRCA				S	**Sg**		**11 15 32.9**	**+0.4**
NRCA	comp=E,25450μm,0.6s			AML	AML			
NRCA	comp=N,26800μm,1.2s			AML	AML			
NRCA	comp=E,25500μm,0.6s			AML	AML			
NRCA	comp=E,26800μm,0.9s			AML	AML			
NRCA	comp=N,25250μm,1.0s			AML	AML			
T1216	**Preci, Frazion**	**0.16**	**245**	P	**Pg**		**11 15 30.3**	**-0.5**
T1216				S	**Sg**		**11 15 33.4**	**+0.4**
T1216	comp=N,19850μm,1.1s			AML	AML			
T1216	comp=E,20000μm,0.4s			AML	AML			
T1241	**Roccafluvione,**	**0.19**	**123**	P	**Pg**		**11 15 30.9**	**-0.5**
T1241				S	**Sg**		**11 15 34.4**	**+0.5**
T1241	comp=E,20950μm,0.4s			AML	AML			
T1241	comp=N,13350μm,0.5s			AML	AML			
T1241	comp=E,21000μm,0.4s			AML	AML			
T1241	comp=E,20950μm,0.4s			AML	AML			
T1241	comp=E,21000μm,0.4s			AML	AML			
T1241	comp=N,13300μm,0.5s			AML	AML			
T1241	comp=N,12850μm,0.6s			AML	AML			
T1241	comp=E,21050μm,0.4s			AML	AML			
T1241	comp=E,21000μm,0.4s			AML	AML			
CESI	**CESI - Serrava**	**0.23**	**282**	⇑P	**Pg**		**11 15 31.9**	**-0.2**
CESI				S	**Sg**		**11 15 36.7**	**+1.5**
CESI	comp=E,15010μm,0.5s			AML	AML			
CESI	comp=N,17600μm,1.1s			AML	AML			
MDAR	**Monte D'Aria**	**0.24**	**348**	P	**Pg**		**11 15 32.2**	**-0.1**
MDAR				S	**Sg**		**11 15 36.8**	**+1.3**
T1202	**Accumoli, Fraz**	**0.26**	**178**	P	**Pg**		**11 15 32.1**	**-0.5**
T1202				S	**Sg**		**11 15 36.9**	**+1.0**
MNTP	**Montappone**	**0.26**	**46**	P	**Pg**		**11 15 33.2**	**+0.5**
MNTP				S	**Sg**		**11 15 38.9**	**+2.8**
MNTP	comp=E,21150μm,1.3s			AML	AML			
MNTP	comp=N,25500μm,1.0s			AML	AML			
MNTP	comp=E,21100μm,1.3s			AML	AML			
MNTP	comp=N,25550μm,1.0s			AML	AML			
SEF1	**Sefro**	**0.27**	**314**	P	**Pg**		**11 15 32.8**	**-0.1**
SEF1				S	**Sb**		**11 15 37.8**	**-1.8**
SSM1	**San Severino M**	**0.27**	**354**	P	**Pg**		**11 15 32.7**	**-0.2**
PIO1	**Pioraco**	**0.28**	**323**	P	**Pg**		**11 15 32.8**	**-0.1**
T1204	**Amatrice, Fraz**	**0.29**	**165**	P	**Pg**		**11 15 32.7**	**-0.6**
T1204				S	**Sg**		**11 15 37.7**	**+0.5**
T1204	comp=N,9650μm,0.4s			AML	AML			
T1204	comp=E,13100μm,0.8s			AML	AML			
T1204	comp=N,9675μm,0.4s			AML	AML			
T1215	**Vallo di Nera,**	**0.30**	**238**	P	**Pg**		**11 15 32.9**	**-0.5**
T1215				S	**Sg**		**11 15 37.8**	**+0.5**
T1215	comp=E,3515μm,0.8s			AML	AML			
T1215	comp=E,3470μm,0.8s			AML	AML			
T1215	comp=N,4435μm,1.3s			AML	AML			
T1215	comp=N,4405μm,1.3s			AML	AML			
GAG1	**Gagliole**	**0.30**	**339**	P	**Pg**		**11 15 33.4**	**0.0**
T1201	**Domo (RI)**	**0.30**	**175**	P	**Pg**		**11 15 33.1**	**-0.4**
FIU1	**Fiuminata**	**0.31**	**318**	P	**Pg**		**11 15 33.5**	**-0.1**
T1217	**Poggiodomo (PG**	**0.32**	**220**	P	**Pg**		**11 15 33.2**	**-0.6**
T1217				S	**Sg**		**11 15 38.7**	**+0.6**
T1217	comp=E,5940μm,1.0s			AML	AML			
T1217	comp=N,6325μm,0.8s			AML	AML			
T1217	comp=N,6485μm,0.9s			AML	AML			
T1217	comp=N,6330μm,0.8s			AML	AML			
T1217	comp=E,6120μm,1.0s			AML	AML			
T1217	comp=E,5935μm,1.0s			AML	AML			
T1217	comp=N,6480μm,0.9s			AML	AML			
SMA1	**SAN MARTINO**	**0.34**	**165**	P	**Pg**		**11 15 33.4**	**-0.8**
SMA1				S	**Sg**		**11 15 39.4**	**+0.7**
SMA1	comp=N,9655μm,0.5s			AML	AML			
SMA1	comp=E,10040μm,1.3s			AML	AML			
SMA1	comp=N,9660μm,0.5s			AML	AML			
OFFI	**Offida**	**0.35**	**94**	⇓P	**Pb**		**11 15 34.9**	**-1.2**
OFFI	comp=E,9590μm,0.9s			AML	AML			
OFFI	comp=N,14350μm,1.2s			AML	AML			
SNTG	**Esanatoglia**	**0.36**	**326**	P	**Pg**		**11 15 34.1**	**-0.4**
SNTG				S	**Sb**		**11 15 40.5**	**-1.6**
SNTG	comp=E,4460μm,0.3s			AML	AML			
SNTG	comp=N,4025μm,0.4s			AML	AML			
SNTG	comp=E,4355μm,0.3s			AML	AML			
SNTG	comp=N,4300μm,0.4s			AML	AML			
SNTG	comp=E,4350μm,0.3s			AML	AML			
SNTG	comp=N,4025μm,0.4s			AML	AML			
LNSS	**Leonessa**	**0.38**	**200**	P	**Pg**		**11 15 34.3**	**-0.6**
LNSS				S	**Sg**		**11 15 40.9**	**+1.0**
LNSS	comp=E,4580μm,0.2s			AML	AML			
LNSS	comp=N,6945μm,0.7s			AML	AML			
ASSB	**Assisi San Ben**	**0.41**	**282**	P	**Pg**		**11 15 34.6**	**-0.9**
ASSB	comp=E,6120μm,0.8s			AML	AML			
ASSB	comp=N,5120μm,1.2s			AML	AML			
CING	**Cingoli**	**0.42**	**358**	⇑P	**Pg**		**11 15 35.5**	**-0.2**
CING	comp=E,4515μm,1.1s			AML	AML			
CING	comp=N,2825μm,0.2s			AML	AML			
T1246	**Crognaleto (TE**	**0.43**	**151**	P	**Pg**		**11 15 34.8**	**-1.0**
TERO	**Teramo**	**0.44**	**139**	P	**Pg**		**11 15 35.1**	**-1.0**
TERO	comp=E,5170μm,0.7s			AML	AML			
TERO	comp=N,5195μm,1.1s			AML	AML			
TERO	comp=N,5335μm,1.1s			AML	AML			
TERO	comp=E,5335μm,0.7s			AML	AML			
CAMP	**Campotosto**	**0.45**	**161**	P	**Pg**		**11 15 35.1**	**-1.1**
CAMP				S	**Sg**		**11 15 42.4**	**+0.4**
CAMP	comp=N,4045μm,0.4s			AML	AML			
CAMP	comp=E,4435μm,0.8s			AML	AML			
RM33	**Pellescritta (**	**0.45**	**180**	P	**Pg**		**11 15 35.4**	**-0.9**
RM33				S	**Sg**		**11 15 42.9**	**+0.8**
RM33	comp=E,5135μm,1.2s			AML	AML			
RM33	comp=N,5680μm,0.9s			AML	AML			
RM33	comp=E,5155μm,1.2s			AML	AML			
RM33	comp=N,5670μm,0.9s			AML	AML			
FOSV	**Fossato di Vic**	**0.47**	**316**	⇑P	**Pg**		**11 15 36.3**	**-0.3**
FOSV				S	**Sb**		**11 15 45.0**	**-0.4**
FOSV	comp=E,4760μm,0.5s			AML	AML			
FOSV	comp=N,6030μm,0.4s			AML	AML			
FOSV	comp=E,4755μm,0.5s			AML	AML			
ATCC	**AVT- Casa Cast**	**0.48**	**298**	⇓P	**Pg**		**11 15 36.7**	**0.0**
ATCC				S	**Sb**		**11 15 45.0**	**-0.6**
ATCC	comp=N,5335μm,1.5s			AML	AML			
ATCC	comp=E,6215μm,1.2s			AML	AML			
T1211	**Morro Reatino**	**0.50**	**212**	P	**Pg**		**11 15 34.4**	**-2.8**
T1211	comp=E,2120μm,1.1s			AML	AML			
T1211	comp=N,4570μm,1.3s			AML	AML			
ARRO	**Arrone**	**0.50**	**221**	⇑P	**Pg**		**11 15 36.5**	**-0.7**
ARRO	comp=E,2325μm,1.0s			AML	AML			
ARRO	comp=N,2105μm,1.1s			AML	AML			
ARRO	comp=E,2330μm,1.0s			AML	AML			
PP3	**Marolino**	**0.51**	**35**	⇑P	**Pb**		**11 15 38.4**	**-0.4**
PP3	comp=N,6780μm,0.5s			AML	AML			
PP3	comp=N,7010μm,0.5s			AML	AML			
PP3	comp=E,6150μm,1.6s			AML	AML			
PP3	comp=N,6785μm,0.5s			AML	AML			
PP3	comp=E,5920μm,1.5s			AML	AML			
T1247	**Pizzolo (AQ)**	**0.52**	**173**	⇑P	**Pg**		**11 15 36.7**	**-0.9**
T1247				S	**Sb**		**11 15 47.0**	**+0.1**
T1247	comp=E,4500μm,0.7s			AML	AML			
T1247	comp=N,3420μm,1.5s			AML	AML			
TRTR	**Tortoreto Alta**	**0.54**	**106**	⇓P	**Pb**		**11 15 38.6**	**-0.6**
TRTR	comp=E,11090μm,0.6s			AML	AML			
TRTR	comp=N,8045μm,0.7s			AML	AML			
GIGS	**Gran Sasso**	**0.57**	**153**	⇓P	**Pg**		**11 15 37.5**	**-1.0**
GIGS				S	**Sg**		**11 15 47.0**	**+1.0**
GIGS	comp=N,630μm,0.6s			AML	AML			
GIGS	comp=E,1128μm,0.3s			AML	AML			
GIGS	comp=N,630μm,0.6s			AML	AML			
SSFR	**Montelago di S**	**0.57**	**327**	⇑P	**Pg**		**11 15 38.4**	**-0.2**
SSFR	comp=E,4785μm,0.8s			AML	AML			
SSFR	comp=E,5170μm,1.5s			AML	AML			
SSFR	comp=N,3675μm,1.2s			AML	AML			
SSFR	comp=N,3755μm,1.2s			AML	AML			
ARVD	**Arcevia**	**0.57**	**340**	⇓P	**Pg**		**11 15 38.1**	**-0.5**
ARVD				S	**Sb**		**11 15 49.0**	**+0.6**
ARVD	comp=E,1735μm,0.8s			AML	AML			
ARVD	comp=N,1435μm,0.4s			AML	AML			
CESX	**Cesi**	**0.58**	**233**	⇓P	**Pg**		**11 15 36.4**	**-2.3**
CESX	comp=N,2275μm,0.5s			AML	AML			
CESX	comp=E,2950μm,0.8s			AML	AML			
MURB	**Monte Urbino**	**0.59**	**301**	⇑P	**Pg**		**11 15 38.5**	**-0.4**
MURB				S	**Sb**		**11 15 50.0**	**+1.1**
MURB	comp=E,8975μm,0.3s			AML	AML			
MURB	comp=N,7080μm,0.3s			AML	AML			
MURB	comp=E,9510μm,0.3s			AML	AML			
MURB	comp=E,8965μm,0.3s			AML	AML			
MURB	comp=N,7780μm,0.3s			AML	AML			
AQU	**L'Aquila**	**0.62**	**167**	⇑P	**Pg**		**11 15 38.3**	**-1.1**
AQU	comp=E,2250μm,0.9s			AML	AML			
AQU	comp=N,2530μm,1.1s			AML	AML			
AQU	comp=E,2160μm,0.9s			AML	AML			
AQU	comp=E,2245μm,0.9s			AML	AML			
AQU	comp=N,2530μm,1.3s			AML	AML			
AOI	**Ancona**	**0.66**	**26**	⇓P	**Pb**		**11 15 40.8**	**-0.6**
AOI				S	**Sn**		**11 15 53.0**	**-1.0**
AOI	comp=N,1735μm,0.7s			AML	AML			
AOI	comp=E,1485μm,0.3s			AML	AML			
FRON	**Frontone**	**0.66**	**328**	S	**Sb**		**11 15 52.0**	**+1.1**
ATTE	**AVT- Monte Tez**	**0.67**	**291**	⇓P	**Pn**		**11 15 43.0**	**-0.7**
ATTE	comp=E,1780μm,1.1s			AML	AML			
ATTE	comp=N,1515μm,1.5s			AML	AML			
FIAM	**Fiamignano**	**0.69**	**186**	⇓P	**Pg**		**11 15 39.5**	**-1.3**
FIAM	comp=N,1485μm,0.8s			AML	AML			
FIAM	comp=E,2055μm,0.8s			AML	AML			
ATVO	**AVT- Monte Val**	**0.73**	**306**	P	**Pg**		**11 15 40.8**	**-0.7**
ATVO	comp=E,1770μm,1.5s			AML	AML			
ATVO	comp=N,1585μm,0.5s			AML	AML			
FAGN	**Fagnano**	**0.74**	**158**	⇑P	**Pg**		**11 15 41.0**	**-0.8**
FAGN	comp=E,2540μm,0.9s			AML	AML			
FAGN	comp=N,3720μm,0.6s			AML	AML			
SENI	**Senigallia**	**0.75**	**1**	⇑P	**Pb**		**11 15 43.1**	**+0.2**
SENI	comp=E,5715μm,0.9s			AML	AML			
SENI	comp=N,5095μm,1.2s			AML	AML			
SENI	comp=E,5715μm,0.9s			AML	AML			
MPAG	**Monte Paganucc**	**0.75**	**334**	⇑P	**Pb**		**11 15 42.1**	**-0.9**
MPAG	comp=N,1755μm,0.7s			AML	AML			
MPAG	comp=E,2285μm,0.8s			AML	AML			
PIEI	**Pieia**	**0.76**	**320**	⇑P	**Pg**		**11 15 41.3**	**-0.8**
PIEI	comp=E,1130μm,0.5s			AML	AML			
PIEI	comp=N,1164μm,0.8s			AML	AML			
ATPI	**Pietralunga -**	**0.77**	**310**	P	**Pg**		**11 15 41.8**	**-0.6**
ATPI	comp=N,1630μm,0.8s			AML	AML			
ATPI	comp=E,1455μm,0.7s			AML	AML			
ATPI	comp=N,1635μm,0.8s			AML	AML			
FSSB	**Fossombrone**	**0.80**	**337**	⇓P	**Pb**		**11 15 43.2**	**-0.6**
FSSB	comp=E,3170μm,0.9s			AML	AML			
FSSB	comp=N,6370μm,0.3s			AML	AML			
MGAB	**Montegabbione**	**0.81**	**267**	⇓P	**Pg**		**11 15 42.6**	**-0.5**
MGAB	comp=E,1885μm,1.4s			AML	AML			
MGAB	comp=N,2435μm,1.2s			AML	AML			
MGAB	comp=E,2380μm,1.3s			AML	AML			
MGAB	comp=N,2305μm,1.2s			AML	AML			
T0110	**Collepietro**	**0.84**	**150**	⇑P	**Pg**		**11 15 42.3**	**-1.4**
T0110	comp=N,2255μm,0.4s			AML	AML			
T0110	comp=E,1990μm,0.5s			AML	AML			
T0110	comp=N,2250μm,0.4s			AML	AML			
BADI	**Badiali**	**0.90**	**308**	⇓P	**Pg**		**11 15 44.2**	**-0.5**
CAFI	**Castiglion Fio**	**0.98**	**292**	⇓P	**Pb**		**11 15 46.6**	**-0.4**
CAFI	comp=E,822μm,1.6s			AML	AML			
CAFI	comp=N,621μm,0.9s			AML	AML			
CAFI	comp=E,870μm,1.6s			AML	AML			
CAFI	comp=N,641μm,0.5s			AML	AML			
CERT	**Cerreto**	**1.02**	**190**	⇓P	**Pb**		**11 15 47.7**	**0.0**
CERT	comp=E,1375μm,1.3s			AML	AML			
CERT	comp=N,818μm,1.3s			AML	AML			
CRE	**Caprese Michel**	**1.13**	**306**	⇓P	**Pn**		**11 15 50.3**	**+0.3**
CRE	comp=E,559μm,0.6s			AML	AML			
CRE	comp=N,836μm,1.1s			AML	AML			
TOLF	**Tolfa**	**1.27**	**225**	⇑P	**Pg**		**11 15 51.0**	**-0.8**
TOLF	comp=E,489μm,0.8s			AML	AML			
TOLF	comp=N,490μm,0.6s			AML	AML			
GIUL	**Giuliano Di Ro**	**1.40**	**179**	⇓P	**Pb**		**11 15 54.8**	**+0.8**
GIUL	comp=N,448μm,0.6s			AML	AML			
GIUL	comp=E,380μm,1.5s			AML	AML			
CERA	**Filignano**	**1.49**	**156**	⇑P	**Pb**		**11 15 55.9**	**+0.4**
CERA	comp=E,698μm,0.8s			AML	AML			
CERA	comp=N,624μm,1.5s			AML	AML			
CERA	comp=E,701μm,0.8s			AML	AML			
CERA	comp=N,643μm,1.5s			AML	AML			
TRIV	**Trivento**	**1.55**	**140**	⇑P	**Pg**		**11 15 56.9**	**-0.3**
TRIV	comp=E,541μm,1.1s			AML	AML			
TRIV	comp=N,628μm,1.4s			AML	AML			
APRC	**Apricena**	**2.10**	**124**	⇓P	**Pn**		**11 16 03.8**	**+0.6**
APRC	comp=E,174μm,0.9s			AML	AML			
APRC	comp=N,306μm,1.5s			AML	AML			
MYKA	**Terra Mystica**	**3.68**	**5**	*i* Pn	**Pn**		**11 16 25.9**	**+0.9**
	comp=N,6.7nm,0.5s,SNR=5.5							
ABTA	**Abfaltersbach**	**3.82**	**353**	*i* Pn	**Pn**		**11 16 27.6**	**+0.7**
	comp=N,38nm,0.4s,SNR=37							
KBA	**Koelnbreinsper**	**4.12**	**1**	*i* Pn	**Pn**		**11 16 31.7**	**+0.6**
	comp=N,8.3nm,0.5s,SNR=12							
KBA				*i* Sn	**Sn**		**11 17 19.8**	**+0.2**
	comp=N,3.7nm,0.3s							
FETA	**Feichten**	**4.43**	**337**	*i* Pn	**Pn**		**11 16 37.1**	**+1.8**
	comp=N,8.5nm,0.4s,SNR=17							
WTTA	**Wattenberg**	**4.45**	**346**	*e*Pn	**Pn**		**11 16 37.5**	**+1.9**
	comp=N,5.3nm,0.3s,SNR=6.3							
SQTA	**Sankt Quirin**	**4.49**	**342**	*i* Pn	**Pn**		**11 16 38.0**	**+1.9**
	comp=N,21nm,0.4s,SNR=18							
DAVOX	**Davos/Dischmat**	**4.50**	**329**	Pn	**Pn**		**11 16 37.9**	**+1.6**
	comp=N,4.2nm,0.3s,baz=148,slow=15,SNR=23							
DAVOX				Sn	**Sn**		**11 17 30.0**	**+1.0**
	comp=N,0.4nm,0.3s,baz=300,slow=22,SNR=1.9 comp=N,12nm,0.4s							
WATA	**Walderalm**	**4.53**	**346**	*e*Pn	**Pn**		**11 16 38.4**	**+1.8**
	comp=N,4.9nm,0.4s							
ARSA	**Arzberg**	**4.59**	**20**	*i* Sn	**Sn**		**11 17 29.5**	**-1.6**
	comp=N,6.2nm,0.4s							
MOTA	**Moosalm**	**4.63**	**342**	*i* Pn	**Pn**		**11 16 40.2**	**+2.1**
	comp=N,5.0nm,0.4s,SNR=7.3							
BIOA	**Bad Ischl, Aus**	**4.74**	**3**	*e*Pn	**Pn**		**11 16 40.8**	**+1.3**
	comp=N,8.5nm,0.3s,SNR=5.4							
RETA	**Reutte**	**4.85**	**340**	*i* Pn	**Pn**		**11 16 43.0**	**+2.0**
	comp=N,16nm,0.5s,SNR=4.9							
MOA	**Molln**	**4.95**	**8**	*i* Pn	**Pn**		**11 16 43.0**	**+0.7**
	comp=N,1.2nm,0.2s							
RONA	**Rosalia, Austr**	**5.21**	**24**	*i* Pn	**Pn**		**11 16 46.0**	**0.0**
	comp=N,1.0nm,0.2s							
CONA	**Conrad Observa**	**5.31**	**20**	*e*Pn	**Pn**		**11 16 47.5**	**+0.2**
	comp=N,1.6nm,0.3s,SNR=6.3							
GERES	**GERESS Array B**	**5.90**	**3**	Pn	**Pn**		**11 16 55.3**	**-0.1**
	comp=N,0.5nm,0.3s,baz=186,slow=12,SNR=15							
GERES				Sn	**Sn**		**11 18 03.4**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,1.2nm,0.3s,baz=182,slow=27,SNR=5.8						
	comp=N,1.6nm,0.6s						
CKRC	Cesky Krumlov	5.91	7	ePN	Pn	11 16 55.6	+0.1
CKRC				eSN	Sn	11 18 02.1	-1.4
KHC	Kasperske Hory	6.18	2	ePN	Pn	11 16 58.7	-0.5
KHC				eSN	Sn	11 18 07.9	-2.2
KEST	Kesra	7.81	204	Pn	Pn	11 17 20.7	-1.0
	comp=N,0.2nm,0.3s,baz=281,slow=17,SNR=2.3						
	comp=N,2.5nm,0.6s						
CLL	Collm	8.35	359	e(Sn)	Sn	11 18 51.0	-13
CLL				ex	x	11 19 35.0	
CLL				eSg	Sg	11 19 48.0	-7.5
	comp=Z,14nm,1.3s						
MLR	Muntele Rosu	9.48	70	LR	LR	11 22 05.5	
	comp=Z,61nm,20.1s,baz=276,slow=42						
ESDC	Sonseca Array	13.32	262	LR	LR	11 23 35.1	
	comp=Z,20nm,18.4s,baz=310,slow=37						
FINES	FINESS Array B	20.05	18	P	Pn	11 20 02.2	-0.5
	comp=Z,1.4nm,0.9s,baz=188,slow=12,SNR=3.7						
	comp=Z,1.4nm,0.9s						
KBZ	Khabaz	21.55	78	P	P	11 20 19.0	+1.6
	comp=Z,1.8nm,0.6s,baz=312,slow=11,SNR=3.6						
	comp=Z,1.8nm,0.6s						
TORD	Torodi Ar. Bea	31.33	202	P	P	11 21 48.9	+0.3
	comp=Z,0.3nm,0.7s,baz=1.9,slow=8.7,SNR=2.5						
	comp=Z,0.3nm,0.7s						
MKAR	Makanchi Array	47.66	60	P	P	11 24 05.5	+1.1
	comp=Z,0.6nm,0.6s,baz=279,slow=6.4,SNR=6.6						
	comp=Z,0.6nm,0.6s						
TIXI	Tiksi	57.09	20	LR	LR	11 53 36.0	
	comp=Z,27nm,18.7s,baz=358,slow=40						

*SNET **05** 11:28:47.4±1.2, 12°.15N×88°.06W, h11^{km}±53^{km}, ML2.8*
*INET **05** 11:28:47.4±0.4, 12°.11N×87°.93W, h15^{km}±7^{km}, MW2.8*
ISC 05 11:28:41.8±2.4**, 12°.0N**±0°.1×**88°.15W**±0°.07**, h7**^{km}±14^{km}**, n11, σ0^{s}66**/18**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.29	56	eP	Pb	11 29 06.3	-0.1
CNCH	Conchagua	1.32	13	eP	Pn	11 29 07.6	+0.7
CNCH				eS	Sn	11 29 24.9	+0.1
CNCH				IAML		11 29 29.7	
	comp=Z,982nm,0.4s						
LCND	La Caada	1.34	11	eP	Pn	11 29 07.9	+0.9
LCND				eS	Sb	11 29 24.2	-0.6
LCND				IAML		11 29 27.2	
	comp=Z,247nm,0.3s						
MOMN	Momotombo	1.63	75	eP	Pn	11 29 10.7	-0.2
PQSS	Presa 15 de Se	1.68	346	eP	Pg	11 29 14.6	+0.5
PQSS				eS	Sg	11 29 36.1	+0.1
PQSS				IAML		11 29 38.5	
	comp=Z,29nm,0.2s						
UESV	Universidad de	1.76	339	eP	Pg	11 29 16.2	+0.5
UESV				eS	Sg	11 29 37.3	-1.2
SCLA	Alcaldia de Sa	1.80	342	eP	Pg	11 29 16.5	+0.1
SCLA				eS	Sg	11 29 39.5	-0.4
SJTE	Alcalda de S	1.83	333	eP	Pg	11 29 17.0	+0.1
P5NO	Presa 5 de nov	2.08	343	eP	Pb	11 29 20.1	+0.1
P5NO				eS	Sb	11 29 45.8	-0.3
MATN	Matagalpa	2.36	66	eP	Pn	11 29 21.6	+0.4
NUBE	Las Nubes	2.49	320	eP	Pb	11 29 27.2	+0.2
NUBE				eS	Sb	11 29 56.6	-1.3
NUBE				IAML		11 30 03.0	
	comp=Z,24nm,0.3s						

*DJA **05** 11:41:29.8±0.3, 3°S±3°×12°6E±°, h10^{km}, M3.7/13, mb4.0/5, MLv3.6/13*
*IDC **05** 11:41:34.6±8.6, 3°.03S×126°.57E, h68^{km}±93^{km}, mb3.4/2, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=64.8km s-min=24.0km az=88.0*
ISC 05 11:41:30.9±1.1**, 2°.86S**±0°.07×**126°.31E**±0°.06**, h32**^{km}**, n16, σ1^{s}36**/18**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANI	Sanana	0.86	338	P	Pn	11 41 45.7	-1.2
NLAI	Namlea	0.88	116	P	Pn	11 41 46.7	-0.4
NLAI				S	Sb	11 41 58.5	-0.7
AAI	Ambon	2.06	114	P	Pn	11 42 04.1	+0.8
KRAI	Karang Ratu	2.14	102	P	Pn	11 42 05.2	+0.8
LBMI	Labuha	2.51	28	P	Pn	11 42 09.9	+0.4
MSAI	Masohi	2.66	101	P	Pn	11 42 12.4	+0.8
BNDI	Bandanaira	3.95	115	P	Pn	11 42 30.4	+1.0
LUWI	Luwuk	3.96	297	P	Pn	11 42 30.6	+1.1
APSI	Ampana	5.04	292	P	Pn	11 42 45.9	+1.6
	0.2nm19nm,0.5s						
SIJI	Sorong	5.34	68	P	Pn	11 42 49.5	+1.1
	4.7nm,0.3s,baz=249,slow=21,SNR=16						
SIJI				S	Sn	11 43 48.2	-0.7
	7.0nm,0.4s,baz=91,slow=23,SNR=2.7						
	14nm,0.2s						
MRSI	Marisa	5.48	307	P	Pn	11 42 51.5	+1.1
	0.2nm18nm,0.5s						
FAKI	Fak Fak	5.94	91	P	Pn	11 42 57.9	+1.2
	0.1nm8.2nm,1.1s						
BNSI	Bone	6.37	256	P	Pn	11 43 04.5	+1.8
WRA	Warramunga Arr	18.70	156	P	P	11 45 44.5	-2.3
	0.2nm,0.3s,baz=334,slow=11,SNR=26						
	0.8nm,0.5s						
ASAR	Alice Springs	21.95	161	P	P	11 46 20.2	-1.9
	1.7nm,0.5s,baz=341,slow=11,SNR=58						
	1.7nm,0.5s						
MKAR	Makanchi Array	62.77	328	P	P	11 51 54.8	+1.5
	0.4nm,0.6s,baz=120,slow=8.5,SNR=1.9						
	0.4nm,0.6s						

ROM 05 11:47:42.4±0.1**, 42°.713N**±0°.005×**13°.219E**±0°.010**, h13**^{km}±1^{km}**, ML2.0**/9**, 4C-5D, Error ellipse: s-maj=0.6km s-min=0.6km az=254.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1202	Accumoli, Fraz	0.01	155	⇓P	Pg	11 47 45.2	+0.3
T1202				S	Sg	11 47 46.5	-0.1
T1204	Amatrice, Fraz	0.08	117	⇓P	Pg	11 47 45.6	+0.2
T1204				S	Sg	11 47 47.3	-0.2
T1204				AML	AML		
	comp=E,2330µm,0.6s						
T1204				AML	AML		
	comp=N,1073µm,0.2s						
SMA1	SAN MARTINO	0.12	134	⇓P	Pg	11 47 46.1	+0.3
SMA1				AML	AML		
	comp=N,588µm,1.6s						
SMA1				AML	AML		
	comp=E,552µm,0.2s						
T1245	Castelsantange	0.14	351	P	Pg	11 47 46.5	+0.3
T1245				S	Sg	11 47 48.8	0.0
LNSS	Leonessa	0.17	230	⇑P	Pg	11 47 47.0	+0.5
LNSS				S	Sg	11 47 49.9	+0.5
LNSS				AML	AML		
	comp=E,564µm,0.3s						
LNSS				AML	AML		
	comp=N,1120µm,0.3s						
MMO1	Montemonaco	0.20	23	P	Pg	11 47 47.1	+0.1
MMO1				S	Sg	11 47 50.5	+0.4
RM33	Pellescritta (	0.20	181	P	Pg	11 47 47.5	+0.4
RM33				S	Sg	11 47 50.8	+0.6
RM33				AML	AML		
	comp=E,1204µm,0.3s						
RM33				AML	AML		
	comp=N,994µm,0.2s						
RM33				AML	AML		
	comp=N,961µm,0.2s						
RM33				AML	AML		
	comp=N,993µm,0.2s						
RM33				AML	AML		
	comp=E,1205µm,0.3s						
RM33				AML	AML		
	comp=E,1235µm,0.3s						
RM33				AML	AML		
	comp=N,996µm,0.2s						
RM33				AML	AML		
	comp=N,964µm,0.2s						
T1217	Poggiodomo (PG	0.21	270	P	Pg	11 47 47.3	+0.2
T1241	Roccafluvione,	0.21	48	⇑P	Pg	11 47 47.4	+0.2
T1241				AML	AML		
	comp=E,264µm,0.4s						
T1241				AML	AML		
	comp=N,277µm,0.3s						
T1241				AML	AML		
	comp=E,263µm,0.4s						
T1241				AML	AML		
	comp=N,278µm,0.3s						
T1216	Preci, Frazion	0.23	320	⇑P	Pg	11 47 47.6	+0.1
T1215	Vallo di Nera,	0.27	289	P	Pg	11 47 48.4	+0.2
T1247	Pizzolo (AQ)	0.28	168	P	Pb	11 47 48.9	-0.4
T1247				AML	AML		
	comp=N,660µm,0.3s						
T1247				AML	AML		
	comp=E,578µm,0.5s						
T1256	Bolognola (MC)	0.29	1	S	Sb	11 47 55.0	+0.6
TERO	Teramo	0.30	108	P	Pg	11 47 48.6	0.0
TERO				AML	AML		
	comp=E,558µm,0.1s						
TERO				AML	AML		
	comp=N,606µm,0.1s						
T1211	Morro Reatino	0.32	236	P	Pg	11 47 49.2	+0.2
ARRO	Arrone	0.36	248	P	Pg	11 47 50.0	+0.4
ARRO				S	Sb	11 47 55.4	-0.7
GIGS	Gran Sasso	0.37	135	P	Pg	11 47 49.8	0.0
GIGS				S	Sg	11 47 55.4	+0.5
GIGS				AML	AML		
	comp=E,41µm,0.7s						
GIGS				AML	AML		
	comp=N,39µm,0.5s						
GIGS				AML	AML		
	comp=E,41µm,0.7s						
CESI	CESI - Serrava	0.37	322	⇓P	Pg	11 47 50.1	+0.2
OFFI	Offida	0.41	57	⇑P	Pb	11 47 51.6	+0.2
OFFI				S	Sb	11 47 58.9	+1.3
FIAM	Fiamignano	0.45	190	⇓P	Pg	11 47 51.5	+0.2
FIAM				S	Sg	11 47 57.8	+0.4
FIAM				AML	AML		
	comp=E,140µm,0.8s						
FIAM				AML	AML		
	comp=N,92µm,0.7s						
EL6	Elcito	0.62	352	P	Pn	11 47 59.4	+2.5
EL6				S	Sg	11 48 03.3	+0.5
ARVD	Arcevia	0.81	346	S	Sb	11 48 10.0	+0.8
ZAG	Zagreb	3.69	32	ePg	Pb	11 48 49.9	+2.4
ZAG				Sg	Sn	11 48 51.7	-31

ROM 05 11:47:51.9±0.3**, 43°.027N**±0°.009×**13°.081E**±0°.009**, h7**^{km}±1^{km}**, Md1.4**/5**, Error ellipse: s-maj=1.0km s-min=0.3km az=345.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.01	25	P	Pg	11 47 53.4	+0.2
FDMO				S	Sg	11 47 54.3	+0.2
FDMO				AML	AML		
	comp=E,1895µm,0.3s						
FDMO				AML	AML		
	comp=N,1650µm,0.2s						
FDMO				AML	AML		
	comp=E,1895µm,0.3s						
FDMO				AML	AML		
	comp=N,1650µm,0.2s						
FDMO	Fiordimonte	0.01	25	P	Pg	11 47 53.4	+0.2
FDMO				S	Sg	11 47 54.3	+0.1
FDMO				END			
FEMA	Monte Fema	0.07	200	P	Pg	11 47 52.8	-1.0
FEMA				S	Sg	11 47 55.8	+0.6
CSP1	Cessapalombo	0.11	54	P	Pg	11 47 54.8	+0.4
CSP1				S	Sg	11 47 56.3	+0.1
CSP1	Cessapalombo	0.11	54	P	Pg	11 47 54.8	+0.3
CSP1				S	Sg	11 47 56.6	+0.4
CSP1				END			
CESI	CESI - Serrava	0.13	260	P	Pg	11 47 55.2	+0.5
CESI				S	Sg	11 47 57.8	+1.2
CESI				END			
SEF1	Sefro	0.15	321	P	Pg	11 47 55.5	+0.4
SEF1				S	Sg	11 47 58.2	+0.9
SEF1				END			
GUMA	Gualdo di Mace	0.19	79	P	Pg	11 47 56.4	+0.7
GUMA				S	Sg	11 48 00.0	+1.7
GUMA				END			

*HVO **05** 11:59:08.6±1.6, 19°.35N±0°.02×155°.30W±0°.01, h3^{km}±3^{km}, ML2.5/20, ML1.9/38(NEIC), Error ellipse: s-maj=2.9km s-min=1.1km az=145.0*
NEIC 05 11:59:09.5±1.7**, 19°.37N**±0°.01×**155°.33W**±0°.01**, h7**^{km}±2^{km}**, Error ellipse: s-maj=2.4km s-min=0.5km az=138.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDHHI	Sand Hill	0.04	57	IAML		11 59 10.5	
	comp=E,1µm,0.1s						
SDHHI				IAML		11 59 10.8	
	comp=N,2µm,0.1s						
SDHHI	Sand Hill	0.04	57		Pg	11 59 11.2	0.0
WRMHI	West Rim	0.05	37		Pg	11 59 10.5	-0.8
RIM	Rim	0.06	62		Pg	11 59 11.8	+0.4
UWE	Uwekahuna	0.07	34		Pg	11 59 10.8	-0.7
UWE	Uwekahuna	0.07	34	IAML		11 59 11.3	
	comp=N,530nm,0.8s						
UWE				IAML		11 59 12.1	
	comp=E,1µm,0.3s						
NPH	North Pit	0.07	47	IAML		11 59 11.1	
	comp=N,2µm,0.3s						
NPH	North Pit	0.07	47		Pg	11 59 12.5	+1.0
OBL	Observatory Le	0.07	42		Pg	11 59 10.8	-0.8
OBL	Observatory Le	0.07	42	IAML		11 59 11.9	
	comp=N,2µm,0.4s						
OBL				IAML		11 59 12.2	
	comp=E,2µm,0.3s						
KKO	Keanakako`i	0.07	63	IAML		11 59 11.7	
	comp=E,702nm,0.3s						
KKO	Keanakako`i	0.07	63		Pg	11 59 11.9	+0.4
HLP	Hilina Pali	0.07	162	IAML		11 59 11.1	
	comp=E,1µm,0.4s						
HLP				IAML		11 59 11.4	
	comp=N,1µm,0.1s						
HLP	Hilina Pali	0.07	162		Pg	11 59 12.0	+0.5
UWB	Uwekahuna B	0.08	41		Pg	11 59 10.9	-0.8
UWB	Uwekahuna B	0.08	41	IAML		11 59 11.4	
	comp=E,252nm,1.0s						
UWB				IAML		11 59 12.3	
	comp=N,454nm,0.3s						
BYL	Byron's Ledge	0.08	56	IAML		11 59 12.0	
	comp=E,684nm,0.3s						
BYL				IAML		11 59 12.0	
	comp=N,646nm,0.7s						
BYL	Byron's Ledge	0.08	56		Pg	11 59 12.6	+0.9
SBLHI	Steaming Bluff	0.09	45		Pg	11 59 11.0	-0.7
SBLHI	Steaming Bluff	0.09	45		Sg	11 59 13.0	-0.3
SBLHI	Steaming Bluff	0.09	45	IAML		11 59 12.3	
	comp=E,500nm,0.5s						
SBLHI				IAML		11 59 12.8	
	comp=N,896nm,0.4s						
HATHI	Halema‘uma‘u T	0.09	50		Pg	11 59 12.7	+0.9
RSD	Rainshed	0.11	28		Pg	11 59 11.6	-0.5
PUH	Pauahi	0.11	86		Pg	11 59 11.0	-1.1
PUH	Pauahi	0.11	86	IAML		11 59 12.7	
	comp=N,482nm,0.2s						
PUH				IAML		11 59 13.1	
	comp=E,693nm,0.7s						
AIN	Ainahou	0.12	273		Pg	11 59 12.4	+0.2
AIN					Sg	11 59 15.4	+1.2
AIN	Ainahou	0.12	273	IAML		11 59 15.6	
	comp=N,357nm,0.4s						
MLH	Mauna Loa	0.14	338		Pg	11 59 12.8	+0.2
MLH					Sg	11 59 15.9	+1.1
MLH	Mauna Loa	0.14	338	IAML		11 59 16.4	
	comp=E,663nm,0.6s						
HTC	Hot Caves	0.14	206		Pg	11 59 12.2	-0.4
KNHH	Kane Nui o Ham	0.15	85		Pg	11 59 11.7	-1.1
HMH	Humu‘ula Sheep	0.28	329	IAML		11 59 15.6	
	comp=N,255nm,4.1s						
HMH				IAML		11 59 18.6	
	comp=E,216nm,3.9s						
HMH	Humu‘ula Sheep	0.28	329		Pg	11 59 15.2	+0.1
HMH	Humu‘ula Sheep	0.28	329		Sg	11 59 20.0	+1.1
MWH	Moku‘aweowe	0.28	295		Pg	11 59 15.2	0.0
MWH	Moku‘aweowe	0.28	295	IAML		11 59 23.9	
	comp=E,343nm,2.4s						
MWH				IAML		11 59 24.7	
	comp=N,380nm,2.6s						
MLOA	Mauna Loa Obse	0.29	306	Pg	Pg	11 59 14.0	-1.4
MLOA				IAML		11 59 21.9	
	comp=N,140nm,2.6s						
MLOA				IAML		11 59 23.1	
	comp=E,186nm,1.7s						
KHU	Kahuku	0.29	246		Pg	11 59 14.9	-0.5
KHU					Sg	11 59 20.1	+0.7
KHU	Kahuku	0.29	246	IAML		11 59 23.2	
	comp=N,288nm,4.6s						
ALEP	Alea Permanent	0.34	301		Pg	11 59 16.0	-0.4
ALEP					Sg	11 59 21.6	+0.7
POHA	Pohakuloa	0.43	334		Pg	11 59 17.8	-0.2
POHA					Sg	11 59 25.1	+1.3
HUH	Hualalai	0.57	304	Pg	Pg	11 59 19.9	-0.8
KHLU	Kahalu`u	0.57	293		Pg	11 59 20.2	-0.5
KHLU					Sg	11 59 29.3	+1.1
HPAH	Hawaii Prepara	0.74	332	Pg	Pg	11 59 23.1	-0.8

*IDC **05** 12:05:43.0±1.1, 20°.03N×121°.41E, h0^{km}, mb3.6/5, mbtmp3.7/6, ML3.5/1, MS3.4/4, Error ellipse: s-maj=48.5km s-min=19.5km az=67.0*
*JMA **05** 12:05:47.2±0.5, 20°N±3°×12°2E±°, h17^{km}, MV4.0/7, PHILIPPINE ISL REGION*
ISC 05 12:05:48.3±1.0**, 20°.10N**±0°.07×**121°.5E**±0°.2**, h40**^{km}**, n17, σ0^{s}83**/19**, mb3.6**/5**, MS3.4**/4**, 1C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CICP	Calayan Island	0.84	184	⇑eP	Pn	12 06 03.1	-0.5
CICP				iS	Sn	12 06 16.3	+1.5
PACPP	Pamplona Cagay	1.65	186	⇓eP	Pn	12 06 15.0	+0.2
PACPP				eS	Sn	12 06 32.7	-2.0
IRIF	Iriomote-Funau	4.68	25	P	Pn	12 06 56.8	+0.4
IRIF				S	Sn	12 07 48.8	-0.7
JKRS	Kuro-shima	4.71	29	P	Pn	12 06 57.4	+0.6
JKRS				S	Sn	12 07 49.8	-0.5
JIJ	Ishigaki jima	4.88	29	eP	Pn	12 06 59.5	+0.3
JIJ				eS	Sn	12 07 53.4	-1.0
JISG	Ishigakijimahi	5.15	29	eP	Pn	12 07 03.9	+1.0
JISG				eS	Sn	12 08 00.8	-0.3
JTJ	Tarama	5.38	32	eS	Sn	12 08 06.3	-0.5
JOW	Kunigami	9.11	41	Pn	Pn	12 07 58.0	+0.6
	1.0nm,0.3s,baz=274,slow=19,SNR=3.2						
	5.8nm,0.6s						
SONM	Songino Array	30.27	340	LR	LR	12 26 05.7	
	comp=Z,29nm,18.4s,baz=185,slow=40						
KRVT	Keravat (AS076	38.55	126	LR	LR	12 27 50.8	
	comp=Z,47nm,18.6s,baz=278,slow=34						
MKAR	Makanchi Array	41.55	319	P	P	12 13 32.3	+0.2
	0.4nm,0.6s,baz=113,slow=9.6,SNR=4.6						
	0.4nm,0.6s						
WRA	Warramunga Arr	41.73	162	P	P	12 13 33.1	-0.5
	0.7nm,0.6s,baz=343,slow=9.0,SNR=18						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	43.87	329	P	P	12 13 50.3	-0.3
	0.4nm,0.5s,baz=139,slow=7.0,SNR=4.1						
	0.4nm,0.5s						
ASAR	Alice Springs	45.15	164	P	P	12 14 01.6	+0.4
	0.5nm,0.4s,baz=345,slow=7.0,SNR=9.6						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	45.48	322	P	P	12 14 03.8	+0.2
	0.5nm,0.5s,baz=121,slow=7.6,SNR=3.7						
	0.5nm,0.5s						
AFI	Afiamalu	73.77	112	LR	LR	12 44 35.1	
	comp=Z,26nm,19.2s,baz=140,slow=32						
MMAI	Mount Meron Ar	76.20	300	LR	LR	12 55 24.2	
	comp=Z,27nm,18.2s,baz=108,slow=39						

IDC 05 12:15:14.4±7.4**, 7°.93S**×**129°.30E, h82**^{km}±80^{km}**, mb2.9**/1**, mbtmp3.5**/4**, ML3.7**/3**, Error ellipse: s-maj=64.0km s-min=21.4km az=31.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.01	247	P	Pn	12 16 40.9	+0.1
	7.1nm,0.3s,baz=89,slow=4.7,SNR=4.4						
BATI				S	Sn	12 17 49.4	+1.1
	24nm,0.3s,baz=80,slow=5.1,SNR=9.5						
	16nm,0.4s						
WRA	Warramunga Arr	12.90	158	P	Pn	12 18 12.8	-1.8
	0.4nm,0.3s,baz=329,slow=14,SNR=15						
WRA				S	Sn	12 20 37.4	+1.0
	1.4nm,0.4s,baz=332,slow=24,SNR=11						
	0.3nm,0.4s						
ASAR	Alice Springs	16.25	165	P	P	12 18 59.6	+0.2
	0.1nm,0.3s,baz=342,slow=9.0,SNR=7.8						
ASAR				S	Sn	12 21 58.1	+0.4
	0.5nm,0.6s,baz=343,slow=25,SNR=5.5						
	0.3nm,0.4s						
MKAR	Makanchi Array	68.63	327	P	P	12 26 08.6	-0.2
	0.1nm,0.5s,baz=121,slow=5.6,SNR=1.6						
	0.1nm,0.5s						

*MAN **05** 12:54:30.7, 8°.24N×126°.47E, h2^{km}, mb4.3, ML3.2, MS2.9*
*IDC **05** 12:54:32.4±6.7, 8°.27N×126°.54E, h98^{km}±58^{km}, mb3.0/3, mbtmp3.3/3, Error ellipse: s-maj=87.9km s-min=25.8km az=64.0*
ISC 05 12:54:30.1±1.3**, 8°.34N**±0°.06×**126°.52E**±0°.09**, h70**^{km}±8^{km}**, n17, σ1^{s}68**/19**, mb3.2**/3**, 3C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.21	225	⇓eP	Pn	12 54 40.8	0.0
BIPH				iS	Sn	12 54 47.7	-0.8
DAV	Davao City (W)	1.56	216	P	Pn	12 54 58.5	+2.6
	120nm,0.4s,baz=66,slow=11,SNR=2.2						
DAV				S	Sn	12 55 19.1	+3.8
	284nm,0.4s,baz=310,slow=16,SNR=4.3						
CGP	Cagayan de Oro	1.81	274	⇑eP	Pn	12 54 59.5	+0.4
CGP				eS	Sn	12 55 19.9	-1.2
KCP	Kidapawan	1.93	227	⇓eP	Pn	12 55 01.4	+0.5
KCP				iS	Sn	12 55 22.8	-1.5
CTBH	Cotabato--PC H	2.51	244	⇓iP	Pn	12 55 08.7	+0.1
CTBH				iS	Sn	12 55 36.4	-1.7
GHBP	Garcia Hernand	2.52	301	⇑iP	Pn	12 55 09.8	+1.0
GHBP				iS	Sn	12 55 41.0	+2.6
TABP	Talibon, Bohol	2.77	309	⇑iP	Pn	12 55 13.3	+1.1
TABP				iS	Sn	12 55 45.5	+0.9
LSIP	Lazi, Siquijor	2.96	286	⇓iP	Pn	12 55 15.4	+0.6
LSIP				iS	Sn	12 55 47.8	-1.4
WRA	Warramunga Arr	29.14	165	P	P	13 00 23.4	-1.2
	0.2nm,0.5s,baz=345,slow=7.8,SNR=7.4						
	0.2nm,0.5s						
ASAR	Alice Springs	32.62	167	P	P	13 00 55.0	-0.4
	0.2nm,0.3s,baz=342,slow=7.3,SNR=12						
	0.2nm,0.3s						
H11S3	WAKE ISLAND Hy	40.27	71	T	T	13 45 18.9	
	baz=262,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	40.29	71	T	T	13 45 18.9	
	baz=262,slow=75,SNR=6.4						
H11S2	WAKE ISLAND Hy	40.29	71	T	T	13 45 11.8	
	baz=262,slow=75,SNR=7.4						
H11N1	WAKE ISLAND Hy	40.67	69	T	T	13 45 45.4	
	baz=260,SNR=10						
H11N2	WAKE ISLAND Hy	40.67	69	T	T	13 45 48.5	
	baz=260						
H11N3	WAKE ISLAND Hy	40.68	69	T	T	13 45 47.1	
	baz=260,SNR=4.1						
MKAR	Makanchi Array	53.71	324	P	P	13 03 44.6	-0.4
	0.1nm,0.4s,baz=120,slow=8.7,SNR=1.8						
	0.1nm,0.4s						

*IDC **05** 13:18:14.8±0.4, 55°.13S×129°.48W, h0^{km}, mb4.4/13, mbtmp4.4/13, MS4.7/47, Error ellipse: s-maj=20.3km s-min=14.3km az=163.0*
*NEIC **05** 13:18:15.4±1.9, 55°.0S±0°.1×129°.54W±0°.07, h10^{km}±1^{km}, mb5.3/66, Mwb5.4/20, Error ellipse: s-maj=23.8km s-min=7.3km az=359.0*
*MOS **05** 13:18:15.9±1.5, 55°.39S×128°.98W, h10^{km}, mb5.3/11, Error ellipse: s-maj=25.3km s-min=15.6km az=76.9*
*NEIC **05** 13:18:15.8, 54°.98S×129°.53W, h13^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.01; $M_{\theta\theta}$1.04; $M_{\phi\phi}$-1.04; $M_{r\theta}$-0.17; $M_{\theta\phi}$1.32; $M_{\phi r}$0.09; Fault plane solution: $M_0$1.69000×10^{17} NP1:ϕ_s199.22000°, δ83.61000°, λ-178.92000°. NP2:ϕ_s109.10000°, δ88.92000°, λ-6.39000°. Principal axes: T 1.6812, Plg4.0000°, Azm154.0000°; N 0.0157, Plg84.0000°, Azm280.0000°; P -1.6970, Plg5.0000°, Azm64.0000°;*
*GCMT **05** 13:18:20.4±0.1, 55°.26S±0°.01×129°.40W±0°.01, h16^{km}, MW5.5/147, Moment Tensor Solution. s125,c221; s147,c269; Duration: 1^{s}3 Moment tensor: Scale 10^{17}*

Nm; M_{rr}-0.22±.02; $M_{\theta\theta}$1.25±.03; $M_{\phi\phi}$-1.03±.02; $M_{r\theta}$-0.08±.06; $M_{\theta\phi}$1.49±.02; $M_{\phi r}$0.24±.05; Best double couple: $M_0$1.89600×10^{17} NP1:ϕ_s199.00000°,δ84.00000°, λ-173.00000°. NP2:ϕ_s108.00000°,δ83.00000°, λ-6.00000°. Principal axes: T 1.9870, Plg1.0000°, Azm334.0000°; N -0.1830, Plg81.0000°, Azm238.0000°; P -1.8050, Plg9.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 05 13:18:16.0±0.3**, 55.06S**±0.06×**129.40W**±0.06**, h10**km**, n285, σ1§49**/246**, mb5.2**/48**, MS4.8**/53**, 4C-6D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	31.45	201	P	P	13 24 37.8	+0.8
SBA	Scott Base	31.45	201	P	P	13 24 37.8	+0.8
SBA				pmax	pmax		
	comp=Z,16nm,1.3s						
RPN	Rapa Nui	31.51	36	LR	LR	13 34 12.2	
	comp=Z,1μm,20.9s,baz=198,slow=30						
RKT	Rikitea	32.17	350	eT	T	13 58 19.5	
	comp=Z,69nm,0.3s						
VNDA	Vanda	32.46	202	P	P	13 24 47.3	+1.4
	comp=Z,1.2nm,0.8s,baz=105,slow=8.5,SNR=11						
VNDA				LR	LR	13 35 10.5	
	comp=Z,765nm,18.5s,baz=83,slow=31						
	comp=Z,1.2nm,0.8s						
VNDA	Vanda	32.46	202	P	P	13 24 43.4	-2.5
VNDA	Vanda	32.46	202	P	P	13 24 43.4	-2.5
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PMSA	Palmer Station	32.66	134	LR	LR	13 34 11.4	
	comp=Z,3μm,21.7s,baz=258,slow=29						
TBI	Tubuai	35.02	327	eS	S	13 30 39.0	-1.5
	comp=Z,2μm,31.8s						
TBI				eLR	LR	13 34 24.5	
	comp=Z,54μm,24.0s						
TBI				eLR	LR	13 34 24.7	
	comp=Z,17μm,27.0s						
TBI	Tubuai	35.02	327	eT	T	14 01 52.9	
	comp=Z,188nm,0.3s						
QSPA	South Pole Qui	35.11	180	P	P	13 25 10.3	+1.0
	comp=Z,19nm,1.0s,baz=94,slow=6.0,SNR=25						
QSPA				LR	LR	13 38 02.7	
	comp=Z,3μm,18.4s,baz=84,slow=34						
	comp=Z,19nm,1.0s						
QSPA	South Pole Qui	35.11	180	P	P	13 25 09.6	+0.3
AY01	Puyuhuapi	37.20	98	P	P	13 25 27.8	+0.8
BELA	Belgrano 2	37.88	160	P	P	13 25 31.6	-0.9
LL02	Futaleuf	38.41	97	P	P	13 25 36.3	-1.1
LL02				IAmb	IAmb	13 25 39.9	
	comp=Z,76nm,1.6s						
RPZ	Rata Peaks	39.22	261	LR	LR	13 37 53.9	
	comp=Z,2μm,21.3s,baz=118,slow=30						
URZ	Urewera	39.30	273	LR	LR	13 38 11.8	
	comp=Z,2μm,20.6s,baz=217,slow=30						
LL04	Puerto Octay	39.55	93	P	P	13 25 45.2	-1.7
MEH	Mehetia	39.77	332	eT	T	14 07 50.8	
	comp=Z,13nm,0.2s						
PPT2	Papeete2	40.47	330	eP	P	13 25 54.5	-0.3
	comp=Z,117nm,26.0s						
PPT2				eS	S	13 32 02.2	-1.3
	comp=Z,700nm,26.2s						
PPT2				eSS	SS	13 35 01.5	-1.2
	comp=Z,821nm,24.5s						
PPT2				eLR	LR	13 36 56.5	
	comp=Z,3μm,25.8s						
PPT2				eLR	LR	13 36 56.5	
	comp=Z,5μm,26.8s						
PPT	Papeete	40.49	330	LR	LR	13 38 38.3	
	comp=Z,1μm,18.1s,baz=150,slow=30						
H03S2	Juan Fernandez	40.70	80	T	T	14 09 17.2	
	baz=221,slow=74,SNR=588						
H03S1	Juan Fernandez	40.71	80	T	T	14 09 18.6	
	baz=221,slow=74,SNR=1044						
H03S3	Juan Fernandez	40.72	80	T	T	14 09 16.8	
	baz=221,slow=74,SNR=716						
PLCA	Paso Flores	40.73	95	P	P	13 25 58.1	+1.3
	comp=Z,13nm,1.0s,baz=241,slow=8.3,SNR=14						
PLCA				LR	LR	13 38 57.3	
	comp=Z,2μm,19.0s,baz=228,slow=30						
	comp=Z,13nm,1.0s						
PLCA	Paso Flores	40.73	95	P	P	13 25 56.5	-0.3
PLCA				IAmb	IAmb	13 25 59.6	
	comp=Z,78nm,1.4s						
PLCA	Paso Flores	40.73	95	eP	P	13 25 58.1	+1.3
PLCA	Paso Flores	40.73	95	P	P	13 25 56.5	-0.3
PLCA				pmax	pmax		
	comp=Z,78nm,1.5s						
RAR	Rarotonga	40.77	314	LR	LR	13 38 08.1	
	comp=Z,588nm,19.2s,baz=144,slow=29						
GO06	Curarrehue	40.96	93	P	P	13 25 57.7	-1.1
H03N3	Juan Fernandez	40.98	79	T	T	14 09 34.8	
	baz=224,slow=72,SNR=1000						
H03N2	Juan Fernandez	40.99	79	T	T	14 09 33.3	
	baz=224,slow=72,SNR=789						
H03N1	Juan Fernandez	41.00	79	T	T	14 09 35.2	
	baz=224,slow=72,SNR=593						
VAH	Vaihoa	42.18	333	eT	T	14 10 51.3	
	comp=Z,207nm,0.2s						
ML02	Panimavida	43.62	89	P	P	13 26 20.4	+0.1
ML02				IAmb	IAmb	13 26 22.3	
	comp=Z,66nm,0.9s						
BO02	Sierra Bellavi	44.67	88	P	P	13 26 28.7	-0.1
BO01	Tunca	44.78	87	P	P	13 26 30.0	+0.3
BO01				IAmb	IAmb	13 26 31.6	
	comp=Z,41nm,1.1s						
MT01	Popeta	45.07	87	P	P	13 26 32.4	+0.5
MT01				IAmb	IAmb	13 26 33.9	
	comp=Z,60nm,1.4s						
MT09	Talagante	45.28	87	P	P	13 26 34.0	+0.2
LMEL	Las Melosas	45.68	88	P	P	13 26 37.1	+0.2
LMEL				IAmb	IAmb	13 26 39.4	
	comp=Z,62nm,1.1s						
MT05	Renca	45.70	87	P	P	13 26 36.9	-0.2
MT03	Universidad Ad	45.76	87	P	P	13 26 37.9	+0.3
ROC1	El Roble	45.84	86	P	P	13 26 38.5	+0.1
VA06	Catapilco	45.99	85	P	P	13 26 39.4	+0.2
VA03	San Esteban	46.27	86	P	P	13 26 41.8	+0.2
TAOE	Nuku Hiva Isla	46.87	345	eP	P	13 26 46.5	+0.1
	comp=Z,93nm,26.8s						
TAOE				eS	S	13 33 35.6	-1.4
	comp=Z,647nm,24.9s						
TAOE				eSS	SS	13 37 03.5	-0.2
	comp=Z,1μm,26.1s						
TAOE				eLR	LR	13 39 55.2	
	comp=Z,3μm,26.0s						
TAOE	Nuku Hiva Isla	46.87	345	eT	T	14 16 40.5	
	comp=Z,21nm,0.2s						
VNA3	Neumayer Olymp	47.02	157	P	P	13 26 45.1	-1.9
CO02	Combarbal	47.16	84	P	P	13 26 49.3	+0.8
CO03	El Pedregal	47.61	84	P	P	13 26 51.9	-0.1
CO03				IAmb	IAmb	13 26 53.9	
	comp=Z,39nm,0.9s						
VNA2	Neumayer--Watz	47.76	158	P	P	13 26 51.6	-1.1
	baz=215,slow=10						
VNA1	Neumayer--Stat	47.78	157	P	P	13 26 52.9	+0.2
GO04	Tololo Observa	48.04	84	P	P	13 26 55.8	+0.2
SNAA	Sanae	48.12	160	P	P	13 26 54.8	-0.7
SNAA	Sanae	48.12	160	LR	LR	13 45 57.1	
	comp=Z,2μm,20.4s,baz=200,slow=35						
TROLL	Troll, Antarti	48.85	162	P	P	13 26 59.8	-1.4
AC05	El Transito	49.35	83	P	P	13 27 03.3	-2.2
AC05				IAmb	IAmb	13 27 07.4	
	comp=Z,45nm,1.0s						
HOPE	Hope Point	49.80	130	P	P	13 27 07.2	-1.2
HOPE	Hope Point	49.80	130	P	P	13 27 07.2	-1.2
HOPE				pmax	pmax		
	comp=Z,280nm,1.8s						
GO03	Copiap	50.31	82	P	P	13 27 12.9	+0.1
GO03				IAmb	IAmb	13 27 14.5	
	comp=Z,31nm,1.0s						
AC06	Mina Casimiro	50.43	82	P	P	13 27 12.3	-1.3
AC01	Pan de Azucar	51.22	80	P	P	13 27 18.3	-1.2
AC01				IAmb	IAmb	13 27 21.1	
	comp=Z,34nm,1.0s						
NVL	N'lazarevskaya	51.46	165	eP	P	13 27 20.5	-0.2
NVL				e		13 29 20.8	
NVL				eS	S	13 34 39.5	-0.6
NVL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NVL				MLR	MLR		
	comp=Z,852nm,17.0s						
AC02	Maricunga	51.52	82	P	P	13 27 22.9	+0.4
PB14	IPOC Station P	52.51	79	P	P	13 27 28.7	-0.8
PB14				IAmb	IAmb	13 27 31.0	
	comp=Z,32nm,1.0s						
AFI	Afiamalu	52.55	304	LR	LR	13 43 21.1	
	comp=Z,366nm,19.9s,baz=156,slow=29						
GO02	Mina Guanaco	52.55	81	P	P	13 27 29.1	-0.7
PB15	IPOC Station P	54.15	79	P	P	13 27 40.4	-1.1
PB15				IAmb	IAmb	13 27 43.5	
	comp=Z,32nm,0.8s						
PB04	IPOC Station P	54.45	78	P	P	13 27 43.8	+0.1
PB04				IAmb	IAmb	13 27 45.5	
	comp=Z,35nm,1.1s						
MSVF	Nonsavu	54.48	292	LR	LR	13 46 15.0	
	comp=Z,156nm,21.8s,baz=150,slow=31						
PB06	IPOC Station P	54.48	79	P	P	13 27 42.6	-1.2
PB06				IAmb	IAmb	13 27 45.5	
	comp=Z,39nm,0.9s						
PB03	IPOC Station P	54.90	78	P	P	13 27 46.8	-0.1
PB03				IAmb	IAmb	13 27 48.8	
	comp=Z,28nm,1.0s						
LVC	Limon Verde	54.93	79	LR	LR	13 45 25.1	
	comp=Z,286nm,20.0s,baz=217,slow=30						
LVC	Limon Verde	54.93	79	P	P	13 27 47.2	-0.2
LVC				IAmb	IAmb	13 27 49.9	
	comp=Z,36nm,1.1s						
LVC	Limon Verde	54.93	79	eP	P	13 27 46.0	-1.4
LVC	Limon Verde	54.93	79	P	P	13 27 47.2	-0.2
LVC				pmax	pmax		
	comp=Z,36nm,1.1s						
PB07	IPOC Station P	55.08	78	P	P	13 27 48.5	+0.3
PB07				IAmb	IAmb	13 27 50.3	
	comp=Z,27nm,1.0s						
TA01	Diego Aracena	55.84	77	P	P	13 27 50.2	-3.3
TA01				IAmb	IAmb	13 27 56.3	
	comp=Z,65nm,1.6s						
PB01	IPOC Station P	55.85	78	P	P	13 27 53.8	+0.1
PB01				IAmb	IAmb	13 27 56.0	
	comp=Z,29nm,1.1s						
ITQB	Itaqui	56.56	95	P	P	13 27 58.7	+0.1
ITQB	Itaqui	56.56	95	eP	P	13 27 58.8	+0.3
PLTB	Pedras Altas	56.72	99	P	P	13 27 59.0	-0.7
PLTB				IAmb	IAmb	13 28 00.9	
	comp=Z,46nm,0.9s						
PLTB	Pedras Altas	56.72	99	eP	P	13 27 59.8	+0.1
PB11	IPOC Station P	56.78	77	P	P	13 27 59.7	-0.7
PB11				IAmb	IAmb	13 28 02.4	
	comp=Z,52nm,1.1s						
RODS	Rosario do Sul	56.87	97	eP	P	13 28 02.6	+1.9
GO01	Chusmiza	57.11	77	P	P	13 28 02.6	-0.6
GO01				IAmb	IAmb	13 28 44.3	
	comp=Z,51nm,1.9s						
MAW	Mawson	57.31	186	P	P	13 28 01.6	-1.7
	comp=Z,2.3nm,0.6s,baz=212,slow=11,SNR=6.4						
MAW				LR	LR	13 50 06.4	
	comp=Z,721nm,20.4s,baz=165,slow=33						
	comp=Z,2.3nm,0.6s						
MAW	Mawson	57.31	186	P	P	13 28 02.9	-0.4
MAW	Mawson	57.31	186	P	P	13 28 02.9	-0.4
MAW				pmax	pmax		
	comp=Z,7.0nm,1.5s						
DZM	Mont Dzumac	57.44	278	eP	P	13 28 05.8	+0.8
	comp=Z,64nm,24.5s						
DZM				eS	S	13 36 00.2	-1.8
	comp=Z,163nm,22.9s						
DZM				eSS	SS	13 39 51.2	-0.2
	comp=Z,231nm,25.1s						
DZM				eLR	LR	13 44 48.7	
	comp=Z,2μm,28.8s						
DZM	Mont Dzumac	57.44	278	LR	LR	13 47 39.7	
	comp=Z,399nm,21.3s,baz=144,slow=31						
CPSB	Cacapava Do Su	57.83	98	eP	P	13 28 07.9	+0.4
UNIS	Unistalda (Bra	57.90	96	eP	P	13 28 09.4	+1.4
PB16	IPOC Station P	58.00	76	P	P	13 28 07.3	-2.2
PB16				IAmb	IAmb	13 28 12.2	
	comp=Z,49nm,1.4s						
CPUP	Villa Florida	58.68	92	P	P	13 28 12.7	-0.8
	comp=Z,12nm,1.0s,baz=236,slow=6.7,SNR=23						
CPUP				LR	LR	13 50 13.4	
	comp=Z,2μm,18.3s,baz=226,slow=33						
	comp=Z,12nm,1.0s						
CPUP	Villa Florida	58.68	92	P	P	13 28 12.9	-0.6
CPUP				IAmb	IAmb	13 28 15.0	
	comp=Z,26nm,1.1s						
CPUP	Villa Florida	58.68	92	P	P	13 28 12.9	-0.6
CPUP				pmax	pmax		
	comp=Z,26nm,1.1s						
NNA	Nana	59.27	65⇑	eP	P	13 28 18.7	+0.9
NNA				pmax	pmax		
	comp=Z,58nm,1.5s						
ALGR	Alto Alegre (B	59.27	97	eP	P	13 28 18.5	+0.8
CNLB	Canela	60.12	99	eP	P	13 28 25.0	+1.5
LPAZ	La Paz	60.42	76	P	P	13 28 26.8	+0.5
	comp=Z,59nm,1.3s,baz=193,slow=4.1,SNR=48						
LPAZ				LR	LR	13 49 21.0	
	comp=Z,205nm,20.7s,baz=224,slow=31						
	comp=Z,59nm,1.3s						
LPAZ	La Paz	60.42	76	P	P	13 28 26.4	+0.1
LPAZ	La Paz	60.42	76	eP	P	13 28 26.0	-0.4
ITAB	Concordia	60.97	97	P	P	13 28 28.2	-1.1
ITAB	Concordia	60.97	97	eP	P	13 28 29.6	+0.4
MCR1	Marechal Candi	62.01	93	eP	P	13 28 37.2	+0.9
ATAH	Atahualpa	62.60	60	LR	LR	13 49 23.0	
	comp=Z,844nm,18.6s,baz=217,slow=30						
ANTJ	Antonio Joao (	62.79	90	eP	P	13 28 42.2	+0.5
PTGB	Pitanga	62.95	95	eP	P	13 28 44.0	+1.3
STKA	Stephens Creek	64.00	251	P	P	13 28 50.0	+0.5
	comp=Z,3.0nm,0.8s,baz=136,slow=5.0,SNR=3.4						
STKA				LR	LR	13 50 54.4	
	comp=Z,925nm,21.6s,baz=156,slow=31						
	comp=Z,3.0nm,0.8s						
STKA	Stephens Creek	64.00	251	P	P	13 28 50.0	+0.5
AQDB	Aquidauana	64.16	89	P	P	13 28 49.7	-0.9
AQDB				IAmb	IAmb	13 28 51.8	
	comp=Z,27nm,1.4s						
AQDB	Aquidauana	64.16	89	eP	P	13 28 50.8	+0.1
MCRA	Macar, Loja	64.22	57	P	P	13 28 49.1	-2.0
MCRA				IAmb	IAmb	13 28 52.6	
	comp=Z,18nm,1.2s						
SIV	San Ignacio	64.64	82	LR	LR	13 52 09.9	
	comp=Z,236nm,21.5s,baz=238,slow=32						
PANT	Pantanal (Braz	64.81	87	eP	P	13 28 55.4	+0.5
CZSB	Cruzeiro do Su	65.02	66	P	P	13 28 56.0	-0.3
CZSB				IAmb	IAmb	13 28 58.4	
	comp=Z,37nm,1.0s						
FRTB	Fartura	65.44	96	eP	P	13 29 00.5	+1.4
PCMB	Pacaembu	65.83	93	eP	P	13 29 02.0	+0.5
BOSC	San Juan Bosco	65.99	58	P	P	13 29 01.2	-1.5
BOSC				IAmb	IAmb	13 29 04.7	
	comp=Z,23nm,1.0s						
PTLB	Pontes e Lacer	66.18	83	P	P	13 29 02.7	-1.0
PTLB				IAmb	IAmb	13 29 05.1	
	comp=Z,22nm,1.1s						
ETMB	Extrema	66.78	73	P	P	13 29 06.6	-1.0
ETMB				IAmb	IAmb	13 29 08.9	
	comp=Z,15nm,1.0s						
VAO	Valinhos	67.19	98	eP	P	13 29 11.6	+1.2
VILB	Vilhena	67.58	80	P	P	13 29 10.9	-1.9
VILB				IAmb	IAmb	13 29 14.3	
	comp=Z,73nm,1.3s						
VILB	Vilhena	67.58	80	eP	P	13 29 12.6	-0.2
SALV	Santo Antonio	67.79	86	eP	P	13 29 14.1	0.0
BB19B	Bebedouro	67.82	95	eP	P	13 29 15.1	+0.8
ITRB	Iturama	67.84	93	eP	P	13 29 15.1	+0.7
SAML	Samuel	69.17	75	P	P	13 29 21.7	-0.9
SAML				IAmb	IAmb	13 29 23.9	
	comp=Z,42nm,1.6s						
SAML	Samuel	69.17	75	P	P	13 29 21.7	-0.9
SAML				pmax	pmax		
	comp=Z,42nm,1.6s						
ARAG	Araguaiana, MT	70.17	89	eP	P	13 29 29.4	+0.5
IPMB	Ipameri, GO	70.43	93	eP	P	13 29 30.1	-0.4
CTA	Charters Tower	70.58	263	LR	LR	13 57 47.5	
	comp=Z,345nm,18.0s,baz=120,slow=34						
PDRB	Porto dos Gac	70.64	82	eP	P	13 29 31.4	-0.3
PMNB	Patos De Minas	71.01	95	eP	P	13 29 34.8	+0.7
HNR	Honiara	71.27	281	LR	LR	13 57 20.9	
	comp=Z,1μm,18.4s,baz=144,slow=33						
CLDB	Colider	71.77	83	eP	P	13 29 37.9	-0.7
BDFB	Brasilia	72.41	92	P	P	13 29 42.5	-0.1
	comp=Z,13nm,1.1s,baz=187,slow=6.1,SNR=7.4						
BDFB				LR	LR	13 58 31.1	
	comp=Z,995nm,19.2s,baz=207,slow=33						
	comp=Z,13nm,1.1s						
BDFB	Brasilia	72.41	92	eP	P	13 29 42.7	+0.1
SNDB	Serra Nova Dou	73.46	87	eP	P	13 29 47.8	-0.9
RIB01	Linhares ES	73.84	101	eP	P	13 29 51.9	+1.1
SJMB	Sao Joao De Ma	73.88	100	eP	P	13 29 50.5	-0.5
MC01	Montes Claros	73.90	96	eP	P	13 29 51.7	+0.4
SGCB	S£o Gabriel d	74.42	67	eP	P	13 29 53.6	-0.6
AS31	Alice Springs	74.64	251	P	P	13 29 54.7	-0.8
ASAR	Alice Springs	74.64	251	P	P	13 29 53.9	-1.6
	comp=Z,1.0nm,0.7s,baz=141,slow=6.4,SNR=9.5						
ASAR				LR	LR	13 58 50.7	
	comp=Z,906nm,19.1s,baz=152,slow=33						
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	74.64	251	P	P	13 29 53.0	-2.5
ASAR	Alice Springs	74.64	251	P	P	13 29 53.0	-2.5
ROSC	El Rosal	74.95	58	LR	LR	13 57 08.9	
	comp=Z,453nm,19.0s,baz=230,slow=31						
JANB	Januaria	75.00	95	eP	P	13 29 56.9	-0.8
HDC	Heredia	75.08	46	eP	P	13 29 56.6	-1.5
NPGB	Novo Progresso	75.13	81	eP	P	13 29 58.5	+0.1
H06S1	SOCORRO T	75.17	18	T	T	14 52 16.0	
	SNR=11						
H01W1	Cape Leeuwin H	75.22	230	T	T	14 53 26.3	
	baz=146,slow=76,SNR=814						
H01W2	Cape Leeuwin H	75.22	230	T	T	14 53 33.8	
	baz=146,slow=76,SNR=793						
H01W3	Cape Leeuwin H	75.23	230	T	T	14 53 32.0	
	baz=146,slow=76,SNR=684						
MACA	Manacapuru-AM	75.33	74	P	P	13 29 58.1	-1.4
MACA				IAmb	IAmb	13 30 00.1	
	comp=Z,31nm,1.0s						
MACA	Manacapuru-AM	75.33	74	eP	P	13 29 59.3	-0.1
NWAO	Narrogin (SRO)	75.49	233	LR	LR	13 55 11.7	
	comp=Z,858nm,20.6s,baz=43,slow=29						
GUA01	Guaratinga, BA	76.35	99	eP	P	13 30 06.5	+1.1
SDBA	SAO DESIDERIO	76.79	93	eP	P	13 30 08.7	+0.8
ITTB	Itaituba	77.10	79	eP	P	13 30 08.5	-1.1
WRA	Warramunga Arr	77.39	253	P	P	13 30 09.3	-1.9
	comp=Z,0.6nm,0.5s,baz=142,slow=5.3,SNR=19						
WRA				LR	LR	14 00 39.5	
	comp=Z,583nm,19.9s,baz=139,slow=33						
	comp=Z,0.6nm,0.5s						
WRAB	Tennant Creek	77.39	253	ceP	P	13 30 13.2	+2.0
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s						
CMC01	Camacan, BA	77.50	99	eP	P	13 30 13.2	+1.4
SMTB	Santa Maria do	78.10	88	eP	P	13 30 15.7	+0.4
PMG	Port Moresby	78.60	270	LR	LR	14 01 09.6	
	comp=Z,550nm,18.7s,baz=142,slow=33						
PMG	Port Moresby	78.60	270	P	P	13 30 15.5	-2.4
PMG	Port Moresby	78.60	270	P	P	13 30 15.5	-2.4
PMG				pmax	pmax		
	comp=Z,16nm,1.0s						
GDU01	Guandu, BA	78.78	98	eP	P	13 30 19.9	+1.0
PRPB	Parauapebas	79.00	85	eP	P	13 30 20.7	+0.5
KRVT	Keravat (AS076	79.94	277	LR	LR	14 00 34.9	
	comp=Z,187nm,21.0s,baz=284,slow=32						
BOAV	Boa Vista	80.03	71	P	P	13 30 24.9	-0.8
BOAV				IAmb	IAmb	13 30 27.2	
	comp=Z,27nm,1.2s						
BOAV	Boa Vista	80.03	71	eP	P	13 30 25.2	-0.5
SDV	Santo Domingo	80.26	59	LR	LR	14 01 15.6	
	comp=Z,300nm,19.0s,baz=190,slow=32						
SDV	Santo Domingo	80.26	59	eP	P	13 30 26.0	-1.1
LPIG	La Paz	80.52	18	LR	LR	13 57 45.8	
	comp=Z,213nm,20.1s,baz=200,slow=29						
BAUV	El Baul	81.60	61	P	P	13 30 32.7	-1.3
BAUV				IAmb	IAmb	13 30 34.8	
	comp=Z,49nm,1.2s						
MCPB	Macapa, AP	82.46	80	eP	P	13 30 38.8	+0.2
TMAB	Tom-Au,PA,Br	83.08	84	eP	P	13 30 42.2	+0.4
HPIG		84.17	21	P	P	13 30 46.7	-0.6
HPIG				IAmb	IAmb	13 31 00.0	
	comp=Z,13nm,0.9s						
PCRV	Puerto La Cruz	84.38	63	LR	LR	14 04 24.3	
	comp=Z,991nm,18.7s,slow=33						
MDP	Montagnes des	86.62	76	LR	LR	14 06 13.1	
	comp=Z,248nm,18.7s,baz=212,slow=33						
TX31	Lajitas Ar. Si	86.91	22	P	P	13 31 00.5	-0.3
TX31				IAmb	IAmb	13 31 13.8	
	comp=Z,19nm,0.9s						
TXAR	Lajitas Array	86.91	22	P	P	13 31 01.9	+1.2
	comp=Z,1.5nm,0.9s,baz=201,slow=6.7,SNR=10						
	comp=Z,1.5nm,0.9s						
RCBR	Riachuelo	87.27	96	LR	LR	14 06 41.6	
	comp=Z,421nm,19.6s,baz=349,slow=33						
214A	Organ Pipe Nat	87.83	14	P	P	13 31 08.0	+2.9
	baz=190						
TUC	Tucson	88.48	16	P	P	13 31 11.0	+2.9
	baz=191						
TPFO	Pinon Flats	89.01	11	P	P	13 31 13.6	+2.9
	baz=188						
PFO	Pinyon Flats O	89.01	11	LR	LR	14 01 55.8	
	comp=Z,344nm,19.9s,baz=195,slow=29						
PFO	Pinyon Flats O	89.01	11⇑	eP	P	13 31 13.1	+2.4
PFO				pmax	pmax		
	comp=Z,99nm,7.0s						
SUR	Sutherland	89.23	155	LR	LR	14 04 12.8	
	comp=Z,372nm,20.0s,baz=186,slow=31						
IRM	Iron Mountain	89.70	12	P	P	13 31 16.8	+3.0
	baz=188						
HEC	Hector,Ludlow	90.23	11	P	P	13 31 19.3	+3.0
	baz=188						
GMRC	Granite Mounta	90.26	11	P	P	13 31 19.4	+2.9
	baz=188						
SJG	San Juan	90.37	58	LR	LR	14 06 38.1	
	comp=Z,188nm,22.0s,baz=233,slow=32						
ISA	Isabella, Lake	90.85	9	P	P	13 31 23.0	+3.8
	baz=186						
TUQ	Turquoise Moun	90.88	11	P	P	13 31 22.7	+3.3
	baz=188						
BATI	Baumata	91.20	250	LR	LR	14 08 46.0	
	comp=Z,867nm,20.5s,baz=158,slow=33						
ANMO	Albuquerque	91.79	19	LR	LR	14 04 35.2	
	comp=Z,121nm,19.8s,baz=200,slow=30						
ANMO	Albuquerque	91.79	19	P	P	13 31 22.3	-1.4
ANMO	Albuquerque	91.79	19	P	P	13 31 26.3	+2.6
	baz=193						
ANMO	Albuquerque	91.79	19⇑	eP	P	13 31 25.7	+2.0
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NVAR	Mina Array Bea	93.61	9	P	P	13 31 33.9	+1.8
	comp=Z,0.8nm,1.0s,baz=175,slow=6.0,SNR=4.0						
NVAR				LR	LR	14 05 53.1	
	comp=Z,391nm,18.2s,baz=190,slow=30						
	comp=Z,0.8nm,1.0s						
NVAR	Mina Array Bea	93.61	9	P	P	13 31 30.2	-1.8
BOSA	Boshof	93.86	158	LR	LR	14 11 09.9	
	comp=Z,660nm,18.8s,baz=188,slow=34						
SIJI	Sorong	94.64	262	LR	LR	14 09 53.0	
	comp=Z,315nm,21.7s,baz=151,slow=33						
ELK	Elko	96.20	11	LR	LR	14 06 03.2	
	comp=Z,240nm,21.5s,baz=202,slow=30						
YBH	Yreka Blue Hor	96.59	5	LR	LR	14 05 16.6	
	comp=Z,570nm,21.8s,baz=182,slow=29						
LBTB	Lobatse	97.42	157	LR	LR	14 12 18.5	
	comp=Z,651nm,19.2s,baz=188,slow=33						
KAPI	Kappang	97.64	250	LR	LR	14 11 49.8	
	comp=Z,491nm,22.0s,baz=136,slow=33						
PDAR	Pinedale Array	98.91	15	P	Pdif	13 31 58.1	+2.0
	comp=Z,0.2nm,0.6s,baz=200,slow=10,SNR=1.2						
PDAR				LR	LR	14 07 51.7	
	comp=Z,365nm,21.1s,baz=203,slow=30						
	comp=Z,0.2nm,0.6s						
WAT6	Susitna Watana	118.18	350	P	PKiKP	13 37 06.2	+4.2
	baz=168						
ILAR	Eielson Array	120.26	351	PKP	PKPdf	13 37 04.9	-0.8
	comp=Z,2.4nm,0.7s,baz=213,slow=1.6,SNR=13						
COLA	College	120.44	351	⇓iPKIKP	PKiKP	13 37 08.0	+1.9
INK	Inuvik	123.09	358	PKP	PKiKP	13 37 13.4	+2.1
	comp=Z,1.2nm,0.9s,baz=269,slow=7.7,SNR=3.7						
F21K	Alatna River	123.29	349	P	PKiKP	13 37 16.5	+4.7
	baz=164						
PETK	Petropavlovsk-	123.41	316	PKP	PKPdf	13 37 12.0	-0.1
	comp=Z,2.9nm,0.8s,baz=183,slow=5.8,SNR=3.6						
TORD	Torodi Ar. Bea	123.59	118	PKP	PKPdf	13 37 13.0	-0.7
	comp=Z,0.9nm,0.8s,baz=216,slow=0.9,SNR=5.0						
D23K	Nanushuk River	124.70	351	P	PKiKP	13 37 18.2	+3.7
	baz=165						
A36M	Sachs Harbour	126.79	2	P	PKiKP	13 37 19.3	+0.8
	baz=183						
CMAR	Chiang Mai Arr	128.34	245	PKP	PKiKP	13 37 23.4	+0.1
	comp=Z,0.8nm,0.8s,baz=186,slow=2.7,SNR=4.5						
BILL	Bilibino	131.62	333	ePKIKP	PKiKP	13 37 28.2	-0.1
BILL				ePPP	PPP	13 42 39.6	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KMI	Kunming	131.72	253	⇓PKP	PKPdf	13 37 29.0	-0.2
CN2	Changchun	132.30	289	ePKP	PKPdf	13 37 26.8	-2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PZH	PanZhiHua	133.35	254	PKP	PKPdf	13 37 32.0	-0.1
TNCH	TengChong	133.94	249	ePKP	PKPdf	13 37 30.9	-2.4
CD2	Chengdu	135.61	259	ePKP	PKPdf	13 37 35.1	-1.0
XLT	XiLinHaoTe	137.54	283	ePKP	PKiKP	13 37 48.8	+7.6
XLT				PP	PP	13 40 47.1	+21
HHC	Hu-ho-hao-te	138.14	276	eP	PKPpre	13 37 26.9	
ESDC	Sonseca Array	141.04	90	PKP	PKPdf	13 37 46.3	+0.5
	comp=Z,0.5nm,0.8s,baz=273,slow=1.4,SNR=2.7						
GTA	Gaotai	143.94	265	⇓PKP	PKPdf	13 37 50.5	-0.6
GTA				LR	LR		
	comp=Z,110nm,18.9s						
GTA				LR	LR		
	comp=Z,94nm,18.5s						
GTA				LR	LR		
	comp=Z,140nm,18.2s						
TIXI	Tiksi	144.38	328	PKPdf	PKPdf	13 37 50.0	-0.6
TIXI	Tiksi	144.38	328d	iPKIKP	PKPdf	13 37 50.4	-0.2
GOMU	GeErMu	144.54	256	PKP	PKPdf	13 37 52.4	-0.1
ULN	Ulaanbaatar	144.97	282	PKPdf	PKPab	13 37 51.4	-0.5
ULN	Ulaanbaatar	144.97	282d	iPKIKP	PKPdf	13 37 53.3	+0.7
SONM	Songino Array	145.32	282	PKPbc	PKPab	13 37 53.4	+0.2
	comp=Z,3.5nm,0.9s,baz=121,slow=3.4,SNR=8.5						
SONM	Songino Array	145.32	282		PKPbc	13 37 51.9	-1.1
SONM	Songino Array	145.32	282	PKP2	PKPbc	13 37 51.9	-1.1
KEST	Kesra	145.84	107	PKPbc	PKPab	13 37 55.9	+0.5
	comp=Z,12nm,0.9s,baz=250,slow=4.3,SNR=8.3						
KEST	Kesra	145.84	107	PKPdf	PKPdf	13 37 54.2	-0.2
ZAK	Zakamensk	148.39	284	ePKIKP	PKPdf	13 37 59.8	+1.6
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.5s						
DAVOX	Davos/Dischmat	153.36	91	PKPbc	PKiKP	13 38 13.9	+0.1
	comp=Z,7.2nm,0.8s,baz=314,slow=10,SNR=6.3						
IDI	Anoyia	153.44	127	PKPbc	PKiKP	13 38 15.8	+1.7
	comp=Z,5.3nm,1.0s,baz=213,slow=4.4,SNR=5.2						
DAVA	Damuels	153.63	90	eP	PKiKP	13 38 15.5	+1.2
	comp=Z,9.3nm,1.2s						
DAVA				eP	pPKPab	13 38 27.9	-0.6
	comp=Z,14nm,1.1s						
WMQ	Urumqi	153.70	260	ePKPbc	PKPdf	13 38 06.0	-0.5
WMQ				LR	LR		
	comp=Z,300nm,29.3s						
WMQ				LR	LR		
	comp=Z,230nm,25.1s						
FETA	Feichten	153.98	91	eP	PKiKP	13 38 16.7	+1.6
	comp=Z,13nm,1.1s						
RETA	Reutte	154.25	90	eP	PKiKP	13 38 15.7	+0.2
	comp=Z,3.8nm,0.7s						
RETA				eP	pPKPab	13 38 30.5	-0.6
	comp=Z,11nm,1.2s						
SQTA	Sankt Quirin	154.36	91	eP	PKPab	13 38 30.9	+0.8
	comp=Z,16nm,1.3s						
WTTA	Wattenberg	154.63	92	eP	PKPab	13 38 31.8	+0.5
	comp=Z,17nm,1.2s						
WATA	Walderalm	154.63	91	iP	PKiKP	13 38 17.5	+1.1
	comp=Z,4.2nm,0.7s						
ABTA	Abfaltersbach	154.85	93	eP	PKPbc	13 38 16.3	-0.5
	comp=Z,14nm,1.3s						
ABTA				eP	PKPab	13 38 32.4	+0.3
	comp=Z,16nm,1.0s						
MYKA	Terra Mystica	155.44	95	iP	PKPab	13 38 36.7	+2.1
	comp=Z,13nm,1.2s						
BIOA	Bad Ischl, Aus	156.01	92	eP	PKPab	13 38 38.7	+1.7
	comp=Z,9.1nm,1.1s						
SOKA	Soboth	156.26	96	eP	PKPab	13 38 37.1	-1.0
	comp=Z,11nm,1.6s						
MOA	Molln	156.45	93	eP	PKPab	13 38 39.7	+0.9
	comp=Z,9.6nm,1.6s						
GERES	GERESS Array B	156.63	90	PKP	PKPdf	13 38 12.4	+2.0
	comp=Z,1.9nm,0.9s,baz=209,slow=2.4,SNR=6.2						
KHC	Kasperske Hory	156.70	89	ePKP	PKPdf	13 38 21.5	+11
ARSA	Arzberg	156.85	95	eP	PKPab	13 38 41.7	+1.1
	comp=Z,9.1nm,1.2s						
CLL	Collm	157.35	84	ePKPdf	PKPdf	13 38 12.0	+0.9
CLL				ePKPab	PKPab	13 38 43.0	+0.4
CLL				ePSKS		13 52 46.0	
CLL				ePPS	PPS	13 55 42.0	
CLL				eSS	SS	14 02 14.0	-3.7
CLL				ePSPS		14 03 30.0	
CLL				eSSS	SSS	14 08 18.0	
CLL				ex	x	14 12 00.0	
CLL				eSSSS		14 12 30.0	
CLL				LmV		15 02 00.0	
	comp=Z,200nm,21.8s						
CLL	Collm	157.35	84	ePKIKP	PKPdf	13 38 12.0	+0.9
CONA	Conrad Observa	157.41	94	eP	PKPab	13 38 42.2	-0.9
	comp=Z,7.2nm,1.1s						
NRIK	Noril'sk	158.10	325	PKPab	PKPab	13 38 46.1	+0.8
	comp=Z,3.4nm,0.4s,baz=28,slow=3.0,SNR=6.7						
MKAR	Makanchi Array	158.54	261	PKP	PKPdf	13 38 14.2	+1.4
	comp=Z,0.2nm,0.7s,baz=123,slow=5.3,SNR=1.7						
MKAR				PKPab	PKPab	13 38 47.3	-0.6
	comp=Z,2.5nm,0.7s,baz=104,slow=5.1,SNR=10						
MORC	Moravsky Berou	159.29	91	ePKP	PKPab	13 38 50.6	-0.5
VYHS	Vyhne	159.41	95	ePKP	PKPdf	13 38 17.7	+4.0
VYHS	Vyhne	159.41	95	ePKIKP	PKPdf	13 38 17.7	+4.0
AAK	Ala-Archa	160.08	241	PKPab	PKPab	13 38 54.5	-0.4
	comp=Z,0.8nm,0.4s,baz=191,slow=3.2,SNR=4.3						
AAK	Ala-Archa	160.08	241	⇓ePKIKP	PKPdf	13 38 14.4	-0.5
ZALV	Zalesovo Beam	160.21	281	PKPab	PKPab	13 38 55.0	0.0
	comp=Z,3.2nm,0.8s,baz=111,slow=4.9,SNR=7.6						
ZALV	Zalesovo Beam	160.21	281	PKP2	PKPab	13 38 55.0	0.0
BRTR	Keskin Array B	160.92	137	PKP	PKPdf	13 38 17.9	+2.0
	comp=Z,0.4nm,0.3s,baz=98,slow=25,SNR=1.5						
BRTR				PKPab	PKPab	13 38 58.4	-0.2
	comp=Z,3.8nm,0.7s,baz=181,slow=6.4,SNR=9.3						
UZH	Uzhgorod	161.45	99	ePKP2	PKPab	13 39 00.2	-0.3
ARCES	ARCESS Array B	161.61	28	PKPab	PKPab	13 38 59.8	-0.9
	comp=Z,5.8nm,1.0s,baz=28,slow=2.1,SNR=3.6						
MLR	Muntele Rosu	161.65	111	PKP	PKPdf	13 38 17.8	+1.4
	comp=Z,2.9nm,0.9s,baz=310,slow=10,SNR=3.9						
MLR				PKPab	PKPab	13 39 00.8	-0.8
	comp=Z,8.5nm,1.0s,baz=237,slow=4.5,SNR=6.3						
KURBB	Kurchatov Arra	162.61	267	PP	PP	13 42 54.3	+3.5
	comp=Z,0.4nm,0.2s,baz=134,slow=5.5,SNR=4.1						
AKT	Akhty	166.28	171	ePKIKP	PKPdf	13 38 22.5	+1.8
AKT				e		13 43 12.3	
AKT				pmax	pmax		
	comp=Z,25nm,1.4s						
NACGM	Naroch	166.34	81	ePKP	PKPdf	13 38 23.9	+3.7
	comp=Z,10.0nm,0.8s,baz=264						
AKASG	Malin Array Be	166.39	100	PKPab	PKPab	13 39 20.9	-1.3
	comp=Z,2.8nm,0.8s,baz=252,slow=4.0,SNR=7.9						
MAK	Makhachkala	167.72	169	ePKIKP	PKPdf	13 38 17.9	-3.7
MAK				e		13 43 16.0	
MAK				e		13 45 19.4	
MAK				eSSS	SSS	14 10 41.3	
MAK				pmax	pmax		
	comp=Z,219nm,1.4s						
KIV	Kislovodsk	167.76	152	ePKIKP	PKPdf	13 38 22.2	+0.5
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BVAR	Borovoye Array	168.19	268	PKPab	PKPab	13 39 30.2	+0.1
	comp=Z,0.8nm,0.6s,baz=130,slow=2.3,SNR=3.7						
OBN	Obninsk	171.95	84	ePKIKP	PKPdf	13 38 24.2	+0.6
OBN				e		13 43 38.7	
OBN				ePPP	PPP	13 47 45.7	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	Arti	175.30	290	PKP2	PKPab	13 40 01.6	+0.1

MAN 05 13:19:40.1, 18°40N×120°93E, h10km, mb3.6, ML2.3, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACPP	Pamplona Cagay	0.41	82	⇑eP	Pb	13 19 48.7	-0.6
PACPP				iS	Sg	13 19 54.3	+0.9

JMA 05 13:21:36.3±0.2, 46°N±2°×14°3E±°, h340km, MV3.5/26, NE OFF HOKKAIDO, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSE	Soyaes	0.97	205	eP	Pn	13 22 20.8	-0.1
JWK2	Keihoku	1.03	240	P	Pn	13 22 21.2	+0.1
JWK2				eS	S	13 22 56.0	-1.0
JSS	Shosan	1.71	213	eP	Pn	13 22 25.1	+0.3
ASAJ	Asahikawa	1.77	193	eP	Pn	13 22 25.8	+0.6
JMP	Maruseppu	1.83	176	eP	Pn	13 22 26.2	+0.6
JTKR	Abashiri--Toko	1.94	164	eP	Pn	13 22 27.0	+0.7
JAK	Akkeshi	3.04	158	eP	Pn	13 22 35.3	0.0
NEM2	Nemuro 2	3.08	142	eP	Pn	13 22 35.7	0.0
NEM2				eS	S	13 23 20.8	-2.6
JCH	Churui	3.22	177	eP	Pn	13 22 36.5	-0.6
JCH				eS	S	13 23 21.8	-4.1
JNBK	Urakawa-nobuka	3.57	185	eP	Pn	13 22 40.6	+0.2
JNBK				eS	S	13 23 30.1	-1.8
JOT	Ohata	4.71	200	eP	Pn	13 22 51.9	-0.4
JOT				eS	S	13 23 48.8	-4.8

IDC 05 13:35:18.6±0.8, 17°67N×94°15W, h155km±13km, mb3.4/11, mbtmp3.9/12, Error ellipse: s-maj=34.6km s-min=18.2km az=53.0

NEIC 05 13:35:18.9±2.2, 17°62N±0°08×94°43W±0°06, h174km±8km, mb4.4/8, Md4.7/103(MEX), Error ellipse: s-maj=12.6km s-min=7.4km az=203.0

MEX 05 13:35:20.6±0.8, 17°56N×94°50W, h175km±5km, MD4.7

ISC 05 13:35:19.2±0.6, 17°57N±0°03×94°49W±0°03, h174km±5km, n105, σ1§54/187, mb3.6/9, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UXUV	UXUV	0.41	127	iP	Pn	13 35 43.4	+0.4
UXUV				iS	Sn	13 36 00.5	-0.7
TUIG	Tuzandepetl	0.47	8	eP	Pn	13 35 43.2	+0.1
TUIG				eS	Sn	13 36 01.9	+0.1
CMIG	Matias Romero	0.61	218	LR	LR	13 35 42.7	
	comp=Z,35nm,21.2s,baz=290,slow=27						
CMIG				P	Pn	13 35 43.9	+0.1
	2µm,0.3s,baz=89,slow=2.7,SNR=8196						
CMIG				S	Sn	13 36 02.2	-0.6
	1µm,0.4s,baz=208,slow=21,SNR=92						
CMIG	Matias Romero	0.61	218	iP	Pn	13 35 44.1	+0.3
CMIG				iS	Sn	13 36 02.1	-0.6
NILT	Santiago Nilte	1.01	187	iP	Pn	13 35 46.7	+0.4
NILT				iS	Sn	13 36 07.0	-0.3
PMUV	Sontecomapan	1.14	328	eP	Pn	13 35 47.4	-0.2
PMUV				eS	Sn	13 36 09.0	-0.5
NEUV	Arroyo Zacate	1.26	277	iP	Pn	13 35 48.2	-0.1
NEUV				iS	Sn	13 36 09.8	-1.1
TGIG		1.53	121		Pn	13 35 50.9	-0.1
TGIG					Sn	13 36 14.1	-1.4
TGIG		1.53	121	eP	Pn	13 35 51.3	+0.3
TGIG				eS	Sn	13 36 14.1	-1.4
TGBT	Tuxtla Gutierr	1.56	120		Pn	13 35 51.1	-0.1
TGBT					Sn	13 36 14.9	-0.9
TGBT	Tuxtla Gutierr	1.56	120	eP	Pn	13 35 51.1	-0.1
TGBT				eS	Sn	13 36 14.9	-0.9
OXLC	Oaxaca	2.17	257	eP	Pn	13 35 58.2	+0.3
OXLC				eS	Sn	13 36 28.8	+0.8
OXBJ	Oaxaca	2.19	257		Pn	13 35 58.2	+0.1
OXBJ					Sn	13 36 28.7	+0.3
OXBJ	Oaxaca	2.19	257	eP	Pn	13 35 58.2	+0.1
OXBJ				eS	Sn	13 36 28.7	+0.3
OXIG	Oaxaca	2.20	257		Pn	13 35 58.6	+0.4
OXIG					Sn	13 36 29.6	+1.1
VHO	Vista Hermosa	2.20	257	iP	Pn	13 35 58.6	+0.4
VHO				eS	Sn	13 36 29.6	+1.1
PCIG		2.22	146		Pn	13 35 59.0	+0.7
PCIG					Sn	13 36 27.6	-1.1
PCIG		2.22	146	iP	Pn	13 35 59.0	+0.7
PCIG				iS	Sn	13 36 27.6	-1.1
HUIG	Huatulco	2.37	221		Pn	13 35 58.4	-1.7
HUIG					Sn	13 36 31.3	-0.5
HUIG	Huatulco	2.37	221	iP	Pn	13 35 58.4	-1.7
HUIG				eS	Sn	13 36 31.3	-0.5
TOIG	Toxpalan	2.51	282		Pn	13 36 02.5	+0.8
TOIG					Sn	13 36 33.4	-1.4
TOIG	Toxpalan	2.51	282	eP	Pn	13 36 02.5	+0.8
TOIG				eS	Sn	13 36 33.4	-1.4
CCIG	Comitan	2.59	119	eP	Pn	13 36 03.2	+0.4
CCIG				eS	Sn	13 36 35.4	-1.3
PANG	Puerto Angel	2.68	225		Pn	13 36 02.5	-1.2
PANG					Sn	13 36 37.8	-0.5
PANG	Puerto Angel	2.68	225	eP	Pn	13 36 02.5	-1.2
PANG				eS	Sn	13 36 37.8	-0.5
OZST	Orizaba	2.79	298	eP	Pn	13 36 05.1	0.0
OZST				eS	Sn	13 36 38.7	-2.1
LVIG	Laguna Verde	2.81	320	eP	Pn	13 36 04.3	-1.0
LVIG				eS	Sn	13 36 38.0	-3.2
JAUV	Jalcomulco	2.83	310	eP	Pn	13 36 04.9	-0.6
JAUV				eS	Sn	13 36 39.1	-2.5
TPIG	Tehuac#an	2.86	288		Pn	13 36 06.9	+0.9
TPIG					Sn	13 36 41.0	-1.4
TPIG	Tehuac#an	2.86	288	eP	Pn	13 36 06.9	+0.9
TPIG				eS	Sn	13 36 41.0	-1.4
PEIG	Puerto Escondi	2.99	239		Pn	13 36 05.1	-2.3
PEIG					Sn	13 36 44.1	-0.9
PEIG	Puerto Escondi	2.99	239	eP	Pn	13 36 05.5	-1.9
PEIG				eS	Sn	13 36 44.1	-0.9
YOIG	Yosondua	3.00	257		Pn	13 36 07.6	-0.3
YOIG					Sn	13 36 45.1	-0.6
YOIG	Yosondua	3.00	257	eP	Pn	13 36 07.6	-0.3
YOIG				eS	Sn	13 36 45.1	-0.6
TXIG	Tlaxiaco	3.14	265		Pn	13 36 09.8	+0.2
TXIG					Sn	13 36 47.1	-1.7
TXIG	Tlaxiaco	3.14	265	eP	Pn	13 36 09.8	+0.2
TXIG				eS	Sn	13 36 47.1	-1.7
HLIG	Huajuapan de L	3.17	275		Pn	13 36 10.7	+0.8
HLIG					Sn	13 36 47.0	-2.2
HLIG	Huajuapan de L	3.17	275	eP	Pn	13 36 10.4	+0.6
HLIG				eS	Sn	13 36 47.0	-2.2
PAVE	Pavencul	3.24	136	eP	Pn	13 36 11.2	+0.4
PAVE				eS	Sn	13 36 48.0	-3.0
PATR	El Naranjo	3.26	138	eP	Pn	13 36 11.2	+0.1
PATR				eS	Sn	13 36 51.0	-0.5
CHUJ	Union Juarez	3.36	137	eP	Pn	13 36 12.5	+0.2
CHUJ				eS	Sn	13 36 51.5	-2.2
THIG		3.40	141		Pn	13 36 14.3	+1.7
THIG					Sn	13 36 53.1	-1.1
THIG		3.40	141	eP	Pn	13 36 14.3	+1.7
THIG				eS	Sn	13 36 53.1	-1.1
SCIG	Sabancuy	3.44	66	eP	Pn	13 36 11.4	-1.6
SCIG				eS	Sn	13 36 53.7	-1.2
FTIG	Fresnillo de T	3.49	276		Pn	13 36 14.1	+0.4
FTIG					Sn	13 36 54.4	-1.8
FTIG	Fresnillo de T	3.49	276	iP	Pn	13 36 14.1	+0.4
FTIG				eP	Pn	13 36 14.4	+0.7
FTIG				eS	Sn	13 36 54.4	-1.8
PNIG	Pinotepa	3.67	252		Pn	13 36 14.4	-1.6
PNIG					Sn	13 36 57.1	-3.1
PNIG	Pinotepa	3.67	252	iP	Pn	13 36 14.4	-1.6
PNIG				eS	Sn	13 36 57.1	-3.1
HMTT	Tlapaneco	3.88	274		Pn	13 36 20.1	+1.4
HMTT					Sn	13 37 03.1	-2.1
HMTT	Tlapaneco	3.88	274	eP	Pn	13 36 20.1	+1.4
HMTT				eS	Sn	13 37 03.1	-2.1
TLIG	Tlapa	3.89	271	Pn	Pn	13 36 19.7	+0.9
TLIG	Tlapa	3.89	271	eP	Pn	13 36 19.6	+0.9
TLIG				eS	Sn	13 37 04.2	-1.1
CXUV	Coxquihui	3.91	312	eP	Pn	13 36 19.5	+0.5
CXUV				eS	Sn	13 37 02.2	-3.6
MGIG	Malinaltepec	3.97	266		Pn	13 36 19.4	-0.4
MGIG					Sn	13 37 06.0	-1.2
MGIG	Malinaltepec	3.97	266	eP	Pn	13 36 19.4	-0.4
MGIG				eS	Sn	13 37 06.0	-1.2
PPM	Popocatepetl	4.20	291	eP	Pn	13 36 25.2	+2.1
PPM				eS	Sn	13 37 12.8	-0.4
PPIG	Popocatepetl	4.20	291		Pn	13 36 25.2	+2.1
PPIG					Sn	13 37 08.3	-4.8
CRIG	Cruz Grande	4.51	260		Pn	13 36 25.0	-1.7
CRIG					Sn	13 37 16.3	-3.3
CRIG	Cruz Grande	4.51	260	iP	Pn	13 36 25.0	-1.7
CRIG				eS	Sn	13 37 16.3	-3.3
YAIG	Yautepec	4.53	287		Pn	13 36 28.7	+1.6
YAIG					Sn	13 37 18.1	-2.2
YAIG	Yautepec	4.53	287	iP	Pn	13 36 28.7	+1.6
YAIG				eS	Sn	13 37 18.1	-2.2
MPVM	San Francisco	4.59	291	eP	Pn	13 36 26.1	-1.8
MPVM				eS	Sn	13 37 24.2	+2.6
TLVM	San Miguel Top	4.72	291	eP	Pn	13 36 31.2	+1.5
TLVM				eS	Sn	13 37 23.2	-1.7
PTVM	Pico Tres Padr	4.82	295		Pn	13 36 30.6	-0.3
PTVM	Pico Tres Padr	4.82	295	eP	Pn	13 36 30.6	-0.3
PLIG	Platanillo	4.84	280		Pn	13 36 32.2	+1.2
PLIG					Sn	13 37 24.8	-2.5
PLIG	Platanillo	4.84	280	eP	Pn	13 36 32.2	+1.2
PLIG				eS	Sn	13 37 24.8	-2.5
AOVM	Tlapan	4.89	291	eP	Pn	13 36 33.8	+1.8
AOVM				eS	Sn	13 37 26.2	-2.8
ZUVM	ZUMPANGO	4.89	298		Pn	13 36 33.5	+1.6
ZUVM					Sn	13 37 29.7	+0.9
ZUVM	ZUMPANGO	4.89	298	eP	Pn	13 36 33.5	+1.6
ZUVM				eS	Sn	13 37 29.7	+0.9
MEIG	Mezcala	4.90	275		Pn	13 36 32.5	+0.7
MEIG					Sn	13 37 26.7	-2.0
MEIG	Mezcala	4.90	275	eP	Pn	13 36 32.5	+0.7
MEIG				eS	Sn	13 37 26.7	-2.0
INVM	La Marquesa	4.95	291	eP	Pn	13 36 33.9	+1.2
INVM				eS	Sn	13 37 31.4	+1.1
MAVM	Malinalco, Edo	4.95	287		Pn	13 36 35.2	+2.6
MAVM					Sn	13 37 31.0	+0.9
MAVM	Malinalco, Edo	4.95	287	eP	Pn	13 36 35.2	+2.6
MAVM				eS	Sn	13 37 31.0	+0.9
DAIG	Los Arroyos	4.96	264		Pn	13 36 32.5	0.0
DAIG					Sn	13 37 28.9	-1.1
DAIG	Los Arroyos	4.96	264	eP	Pn	13 36 32.5	0.0
DAIG				eS	Sn	13 37 28.9	-1.1
TOVM	TOLUCA	5.21	290		Pn	13 36 37.2	+1.2
TOVM					Sn	13 37 33.1	-3.2
TOVM	TOLUCA	5.21	290	eP	Pn	13 36 37.2	+1.2
TOVM				eS	Sn	13 37 33.1	-3.2
CAIG	El Cayaco	5.54	265		Pn	13 36 39.7	-0.4
CAIG					Sn	13 37 42.0	-1.6
CAIG	El Cayaco	5.54	265	eP	Pn	13 36 39.7	-0.4
CAIG				eS	Sn	13 37 42.0	-1.6
ARIG	Puente Sto Nin	5.62	278		Pn	13 36 42.9	+1.7
ARIG					Sn	13 37 44.2	-1.3
ARIG	Puente Sto Nin	5.62	278	eP	Pn	13 36 42.9	+1.7
ARIG				eS	Sn	13 37 44.2	-1.3
ACIG	Acambay	5.64	296		Pn	13 36 43.3	+1.8
ACIG					Sn	13 37 42.7	-3.6
ACIG	Acambay	5.64	296	eP	Pn	13 36 43.3	+1.8
ACIG				eS	Sn	13 37 45.7	-0.6
TEIG	Tepich	6.45	65	Pn	Pn	13 36 49.6	-2.4
TXAR	Lajitas Array	14.41	326	P	P	13 38 37.8	+0.5
	2.9nm,0.9s,baz=149,slow=14,SNR=19						
ABTX	Abilene, Hawle	15.69	344		Pn	13 38 50.2	-0.8
ABTX				IAmb	IAmb	13 38 54.8	
	comp=Z,9.8nm,0.8s						
MIAR	Mount Ida	16.93	3		P	13 39 02.7	-2.2
MIAR				IAmb	IAmb	13 39 06.7	
	comp=Z,14nm,0.8s						
WMOK	Wichita Mounta	17.52	348	P	P	13 39 11.4	-0.1
T35A	Sooner Cattle	19.35	355		P	13 39 30.4	-1.0
W50A	Signal Mountai	19.37	23	P	P	13 39 30.6	-1.0
W50A				IAmb	IAmb	13 39 31.3	
	comp=Z,11nm,0.6s						
ANMO	Albuquerque	20.33	331	P	Pn	13 39 45.3	-1.1
	comp=Z,1.2nm,0.8s,baz=158,slow=12,SNR=5.5						
	comp=Z,1.2nm,0.8s						
TKL	Tuckaleechee C	20.38	26	P	P	13 39 41.6	-0.8
	comp=Z,4.6nm,0.5s,baz=186,slow=14,SNR=8.3						
	comp=Z,4.6nm,0.5s						
WCI	Wyandotte Cave	21.80	18	P	P	13 39 53.7	-3.7
MVCO	Mesa Verde	23.13	331	P	P	13 40 08.1	-2.1
PDAR	Pinedale Array	28.20	336	P	P	13 40 57.7	+1.9
	comp=Z,0.2nm,0.5s,baz=152,slow=10.0,SNR=2.3						
	comp=Z,0.2nm,0.5s						
NVAR	Mina Array Bea	29.41	320	P	P	13 41 09.4	+2.9
	comp=Z,0.9nm,0.7s,baz=132,slow=9.5,SNR=8.1						
	comp=Z,0.9nm,0.7s						
ULM	Lac du Bonnet	32.62	358	P	P	13 41 32.8	-1.4
	comp=Z,1.8nm,0.4s,baz=166,slow=12,SNR=4.1						
	comp=Z,1.8nm,0.4s						
LPAZ	La Paz	42.50	141	P	P	13 42 58.9	+0.6
	comp=Z,0.8nm,0.7s,baz=300,slow=13,SNR=3.6						
	comp=Z,0.8nm,0.7s						
YKA	Yellowknife Ar	47.03	347	P	P	13 43 32.7	0.0
	comp=Z,1.6nm,0.7s,baz=136,slow=7.7,SNR=2.9						
	comp=Z,1.6nm,0.7s						
ILAR	Eielson Array	58.63	337	P	P	13 44 58.7	+1.0
	comp=Z,0.3nm,0.5s,baz=143,slow=4.5,SNR=11						
	comp=Z,0.3nm,0.5s						
ESDC	Sonseca Array	79.40	52	P	P	13 47 05.8	-0.4
	comp=Z,1.0nm,0.9s,baz=302,slow=3.3,SNR=4.3						
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	82.16	28	P	P	13 47 21.1	+0.7
	comp=Z,1.0nm,0.7s,baz=292,slow=5.1,SNR=3.5						
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	83.50	18	P	P	13 47 27.5	+0.4
	comp=Z,2.6nm,0.8s,baz=308,slow=6.0,SNR=6.4						
	comp=Z,2.6nm,0.8s						

ROM 05 13:36:27.2±0.0, 42°863N±0°003×13°093E±0°003, h11km, ML1.7/4, Error ellipse: s-maj=0.3km s-min=0.2km az=189.0, Central Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.03	152	P	Pg	13 36 29.6	+0.3
NRCA				S	Sg	13 36 31.0	+0.2
NRCA				AML	AML		
	comp=E,978µm,0.1s						
NRCA				AML	AML		
	comp=E,1155µm,0.1s						
NRCA				AML	AML		
	comp=E,1355µm,0.2s						
NRCA				AML	AML		
	comp=N,2530µm,0.2s						
NRCA				AML	AML		
	comp=E,1510µm,0.2s						
NRCA				AML	AML		
	comp=N,2695µm,0.1s						
T1216	Preci, Frazion	0.06	297	P	Pg	13 36 29.9	+0.4
T1216				S	Sg	13 36 31.4	+0.3
T1245	Castelsantange	0.07	95	P	Pg	13 36 30.0	+0.3
T1245				S	Sg	13 36 31.7	+0.2
T1245				AML	AML		
	comp=E,1146µm,0.4s						
T1245				AML	AML		
	comp=N,1345µm,0.2s						
T1245				AML	AML		
	comp=E,1164µm,0.4s						
T1245				AML	AML		
	comp=N,1415µm,0.2s						
T1245				AML	AML		
	comp=E,1715µm,0.3s						
T1245				AML	AML		
	comp=N,2135µm,0.2s						
T1245				AML	AML		
	comp=E,1570µm,0.6s						
T1245				AML	AML		
	comp=N,2255µm,0.2s						
FDMO	Fiordimonte	0.17	359	P	Pg	13 36 30.8	-0.3
FDMO				AML	AML		
	comp=E,151µm,0.1s						
FDMO				AML	AML		
	comp=N,260µm,0.5s						
FDMO				AML	AML		
	comp=E,614µm,0.1s						
FDMO				AML	AML		
	comp=N,670µm,0.3s						
T1215	Vallo di Nera,	0.18	250	P	Pg	13 36 31.8	+0.7
T1215				S	Sg	13 36 34.9	+1.1
T1217	Poggiodomo (PG	0.19	218	P	Pb	13 36 32.1	-0.7
T1217				S	Sg	13 36 35.4	+1.2
CESI	CESI - Serrava	0.20	316	P	Pg	13 36 32.0	+0.5
CESI				S	Sg	13 36 35.4	+1.0
CESI				AML	AML		
	comp=E,193µm,0.3s						
CESI				AML	AML		
	comp=N,445µm,0.1s						
CESI				AML	AML		
	comp=N,444µm,0.1s						
CSP1	Cessapalombo	0.24	20	S	Sg	13 36 37.0	+1.3
T1241	Roccafluvione,	0.25	91	P	Pg	13 36 32.8	+0.4
T1241				S	Sg	13 36 36.9	+1.1
T1241				AML	AML		
	comp=N,140µm,0.2s						
T1241				AML	AML		
	comp=E,319µm,0.2s						
GUMA	Gualdo di Mace	0.27	42	P	Pg	13 36 33.3	+0.6
GUMA				S	Sb	13 36 38.0	-0.7
SMA1	SAN MARTINO	0.29	142	P	Pg	13 36 33.8	+0.6
RM33	Pellescritta (	0.36	166	P	Pb	13 36 35.6	-0.2
RM33				AML	AML		
	comp=E,161µm,1.2s						
RM33				AML	AML		
	comp=E,84µm,1.5s						
RM33				AML	AML		
	comp=N,58µm,1.6s						
RM33				AML	AML		
	comp=N,220µm,1.6s						
ASSB	Assisi San Ben	0.37	299	P	Pg	13 36 34.9	+0.4

ASSB				S	Sb	13 36 40.5	-1.1
TERO	**Teramo**	**0.45**	**122**	P	Pg	13 36 36.0	+0.1
TERO				S	Sb	13 36 42.9	-0.9
TERO				AML	AML		
	comp=E,71µm,0.3s						
TERO				AML	AML		
	comp=N,75µm,1.3s						

IDC 05 13:42:48.2±2.7**, 6°.34S**×**149°.22E, h88**km±32km**, mb3.2**/2**, mbtmp3.7**/5**, MS4.1**/1**, Error ellipse: s-maj=113.3km s-min=15.9km az=131.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.45**	**54**	P	Pn	13 43 39.8	0.0
	20nm,0.5s,baz=166,slow=4.2,SNR=2.5						
PMG	**Port Moresby**	**3.67**	**214**	P	Pn	13 43 42.2	-0.6
	32nm,0.5s,baz=31,slow=4.3,SNR=15						
PMG				S	Sn	13 44 26.0	+1.0
	48nm,0.4s,baz=173,slow=19,SNR=9.1						
WRA	**Warramunga Arr**	**19.79**	**226**	P	P	13 47 11.0	-0.7
	1.2nm,0.6s,baz=52,slow=11,SNR=25						
ASAR	**Alice Springs**	**22.67**	**219**	P	P	13 47 42.3	-0.1
	0.9nm,0.6s,baz=53,slow=9.6,SNR=31						
	0.9nm,0.6s						
LEM	**Lembang**	**41.32**	**267**	LR	LR	14 11 43.3	
	comp=Z,280nm,20.2s,baz=160,slow=42						
ILAR	**Eielson Array**	**84.93**	**23**	P	P	13 55 13.7	+0.5
	0.5nm,0.9s,baz=256,slow=3.6,SNR=2.8						
	0.5nm,0.9s						

*IDC **05** 13:47:07.4±2.0, 6°.53S×151°.70E, h0km, mb3.7/3, mbtmp3.8/5, ML1.3/1, MS4.0/4, Error ellipse: s-maj=77.1km s-min=19.1km az=118.0*

ISC 05 13:47:11.5±1.7**, 6°.7S**±0°.2×**151°.9E**±0°.3**, h35**km**, n10, σ0.80**/7**, mb3.7**/3**, MS4.1**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.34**	**4**	Pn	**Pn**	**13 47 47.2**	**-0.3**
	374nm,0.4s,baz=279,slow=1.9,SNR=38						
KRVT				Sn	**Sn**	**13 48 15.6**	**+0.5**
	59nm,0.3s,baz=121,slow=23,SNR=6.8						
PMG	**Port Moresby**	**5.41**	**239**	Pn	**Pn**	**13 48 29.5**	**-0.2**
	0.6nm,0.3s,baz=54,slow=19,SNR=2.7						
	7.5nm,0.7s						
WRA	**Warramunga Arr**	**21.54**	**231**	P	**P**	**13 51 57.5**	**-0.4**
	1.9nm,0.6s,baz=54,slow=11,SNR=27						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**24.17**	**224**	P	**P**	**13 52 26.0**	**+1.3**
	2.7nm,0.5s,baz=57,slow=8.9,SNR=90						
	2.7nm,0.5s						
PETK	**Petropavlovsk-**	**59.75**	**4**	LR	LR	14 20 34.8	
	comp=Z,142nm,19.4s,baz=145,slow=34						
MA2	**Magadan**	**66.03**	**359**	LR	LR	14 25 04.5	
	comp=Z,100nm,20.6s,baz=148,slow=35						
YAK	**Yakutsk**	**70.61**	**349**	LR	LR	14 29 37.1	
	comp=Z,70nm,21.8s,baz=100,slow=36						
TIXI	**Tiksi**	**79.61**	**353**	LR	LR	14 34 27.6	
	comp=Z,95nm,20.4s,baz=179,slow=36						
ILAR	**Eielson Array**	**84.22**	**22**	P	**P**	**13 59 39.0**	**0.0**
	0.2nm,0.5s,baz=230,slow=5.3,SNR=1.6						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.95**	**285**	PKPbc	**PKiKP**	**14 06 59.6**	**-0.6**
	0.2nm,0.5s,baz=69,slow=3.8,SNR=2.0						

MAN 05 13:54:05.8, 7°.50N×**125°.59E, h45**km**, mb3.9, ML2.7, MS2.3, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.69**	**226**	⇓*e*P	Pn	13 54 16.6	-2.7
KCP				*i* S	Sn	13 54 30.9	+1.9
CGP	**Cagayan de Oro**	**1.30**	**317**	⇑*e*P	Pn	13 54 28.3	+0.8
CGP				*e*S	Sn	13 54 44.9	+1.1

NNC 05 13:58:17.1±3.9**, 36°.96N**×**69°.50E, h0**km**, mb3.8, mpv3.3, 1C-3D, Error ellipse: s-maj=54.2km s-min=23.5km az=122.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.18**	**7**	⇓P	Pn	13 59 49.7	0.0
	1.0nm,0.3s,baz=189,slow=14,SNR=32						
KK31				⇓S	Sn	14 01 02.3	+1.2
	1.3nm,0.4s,baz=189,slow=22,SNR=11						
AB31	**Akbulak array**	**14.12**	**334**	⇑P	Pn	14 01 39.0	+0.8
	0.3nm,0.3s,baz=142,slow=12,SNR=48						
AKTO	**Aktyubinsk**	**15.79**	**332**	⇓P	Pn	14 01 59.8	-1.0
	4.4nm,1.1s						

*IDC **05** 14:05:43.2±1.8, 17°.43S×179°.29W, h585km±18km, mb3.0/7, mbtmp3.9/9, Error ellipse: s-maj=84.8km s-min=16.6km az=151.0*

ISC 05 14:05:44.2±1.4**, 17°.4S**±0°.6×**179°.4W**±0°.4**, h600**km**, n9, σ0.83**/9**, mb3.5**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.46**	**262**	P	**P**	**14 06 58.9**	**-1.7**
	42nm,0.5s,baz=122,slow=1.4,SNR=65						
DZM	**Mont Dzumac**	**14.12**	**248**	P	**P**	**14 08 44.6**	**+0.2**
	2.1nm,0.5s,baz=270,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**38.06**	**240**	P	**P**	**14 12 13.2**	**+0.1**
	0.6nm,0.3s,baz=91,slow=7.7,SNR=7.7						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**43.80**	**259**	P	**P**	**14 12 59.2**	**+0.5**
	0.9nm,0.5s,baz=91,slow=7.5,SNR=48						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**44.03**	**254**	P	**P**	**14 13 01.1**	**+0.8**
	7.3nm,0.6s,baz=88,slow=8.1,SNR=206						
	7.3nm,0.6s						
NVAR	**Mina Array Bea**	**79.71**	**44**	P	**P**	**14 16 51.2**	**0.0**
	0.5nm,0.7s,baz=218,slow=8.4,SNR=3.8						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**85.61**	**13**	P	**P**	**14 17 20.1**	**+0.3**
	0.3nm,0.5s,baz=217,slow=5.3,SNR=4.9						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**86.52**	**58**	P	**P**	**14 17 25.4**	**+0.3**
	0.9nm,0.8s,baz=212,slow=6.7,SNR=8.5						
	0.9nm,0.8s						
PDAR	**Pinedale Array**	**87.63**	**44**	P	**P**	**14 17 30.0**	**-0.1**
	0.3nm,0.5s,baz=230,slow=2.8,SNR=3.6						
	0.3nm,0.5s						

IDC 05 14:07:05.2±2.6**, 8°.04S**×**119°.46E, h0**km**, mb3.0**/2**, mbtmp3.1**/3**, ML3.2**/1**, Error ellipse: s-maj=228.2km s-min=29.2km az=52.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.65**	**131**	P	P	14 11 24.5	-0.3
	0.1nm,0.3s,baz=303,slow=13,SNR=6.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**20.82**	**140**	P	P	14 11 48.6	+0.2
	0.3nm,0.5s,baz=318,slow=9.6,SNR=13						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**63.82**	**332**	P	P	14 17 39.2	-0.1
	0.1nm,0.6s,baz=142,slow=7.3,SNR=1.9						
	0.1nm,0.6s						

*IDC **05** 14:10:25.2±0.7, 32°.14S×110°.98W, h0km, mb4.0/8, mbtmp4.0/8, MS4.2/40, Error ellipse: s-maj=25.0km s-min=22.9km az=72.0*

*GCMT **05** 14:10:26.0±0.3, 32°.62S±0°.02×111°.00W±0°.02, h12km, MW4.9/86, Moment Tensor Solution. s16,c18; s86,c113; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.86±.11; Mθθ-2.16±.10; Mφφ3.03±.09; Mrθ-0.17±.32; Mθφ-0.91±.10; Mφr-0.88±.32; Best double couple: M0 2.86900×10^16 NP1:φs35.00000°, δ89.00000°, λ-17.00000°. NP2: φs125.00000°, δ73.00000°, λ-179.00000°. Principal axes: T 3.3500, Plg11.0000°, Azm81.0000°; N -0.9580, Plg73.0000°, Azm211.0000°; P -2.3870, Plg13.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 05 14:10:27.3±0.8**, 32°.1S**±0°.2×**110°.8W**±0°.2**, h10**km**, n62, σ1.21**/16**, mb4.1**/8**, MS4.3**/42**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.13**	**15**	LR	LR	14 13 19.2	
	comp=Z,722nm,20.3s,baz=191,slow=34						
H03S2	**Juan Fernandez**	**26.75**	**102**	T	T	14 44 15.4	
	baz=262,slow=75,SNR=195						
H03S3	**Juan Fernandez**	**26.77**	**102**	T	T	14 44 15.0	
	baz=262,slow=75,SNR=128						
H03S1	**Juan Fernandez**	**26.77**	**102**	T	T	14 44 19.2	
	baz=262,slow=75,SNR=84						
H03N2	**Juan Fernandez**	**26.79**	**101**	T	T	14 44 13.8	
	baz=268,slow=74,SNR=183						
H03N3	**Juan Fernandez**	**26.79**	**102**	T	T	14 44 14.4	
	baz=268,slow=74,SNR=320						
H03N1	**Juan Fernandez**	**26.80**	**102**	T	T	14 44 12.2	
	baz=268,slow=74,SNR=462						
PLCA	**Paso Flores**	**33.28**	**116**	P	**P**	**14 17 05.3**	**+0.2**
	2.3nm,0.9s,baz=329,slow=13,SNR=3.3						
PLCA				LR	LR	14 27 10.0	
	comp=Z,462nm,20.5s,baz=274,slow=30						
	2.3nm,0.9s						
TBI	**Tubuai**	**35.16**	**275**	*e*LR	LR	14 26 22.7	
	comp=Z,8µm,22.2s						
TBI				*e*LR	LR	14 26 22.8	
	comp=Z,3µm,27.0s						
TAOE	**Nuku Hiva Isla**	**35.71**	**304**	*e*LR	LR	14 26 34.2	
	comp=Z,347nm,24.5s						
NNA	**Nana**	**37.08**	**65**	LR	LR	14 28 59.2	
	comp=Z,529nm,18.0s,baz=229,slow=30						
PPT2	**Papeete2**	**37.81**	**283**	*e*LR	LR	14 27 34.3	
	comp=Z,1µm,24.8s						
PPT2				*e*LR	LR	14 27 34.3	
	comp=Z,714nm,24.8s						
PPT	**Papeete**	**37.82**	**283**	LR	LR	14 28 32.3	
	comp=Z,540nm,21.0s,baz=107,slow=29						
LVC	**Limon Verde**	**38.20**	**86**	P	**P**	**14 17 48.6**	**+0.8**
	3.4nm,0.8s,baz=256,slow=11,SNR=4.1						
LVC				LR	LR	14 29 31.3	
	comp=Z,492nm,18.4s,baz=238,slow=30						
	3.4nm,0.8s						
ATAH	**Atahualpa**	**39.09**	**58**	LR	LR	14 30 03.6	
	comp=Z,342nm,18.4s,baz=237,slow=30						
LPAZ	**La Paz**	**41.71**	**78**	P	**P**	**14 18 18.6**	**+1.4**
	1.4nm,0.7s,baz=281,slow=4.9,SNR=5.9						
LPAZ				LR	LR	14 32 06.2	
	comp=Z,308nm,18.2s,baz=228,slow=31						
	1.4nm,0.7s						
PMSA	**Palmer Station**	**43.35**	**153**	LR	LR	14 31 46.4	
	comp=Z,129nm,20.4s,baz=280,slow=30						
RAR	**Rarotonga**	**44.75**	**272**	LR	LR	14 32 16.7	
	comp=Z,468nm,19.8s,baz=120,slow=29						
CPUP	**Villa Florida**	**46.64**	**97**	LR	LR	14 35 36.8	
	comp=Z,369nm,18.1s,baz=256,slow=32						
SIV	**San Ignacio**	**47.76**	**83**	LR	LR	14 35 23.9	
	comp=Z,306nm,19.7s,baz=281,slow=31						
ROSC	**El Rosal**	**50.55**	**50**	LR	LR	14 37 38.6	
	comp=Z,460nm,18.0s,baz=244,slow=32						
CMIG	**Matias Romero**	**51.25**	**20**	LR	LR	14 36 31.9	
	comp=Z,64nm,18.6s,baz=182,slow=30						
LPIG	**La Paz**	**55.90**	**1**	LR	LR	14 37 15.2	
	comp=Z,51nm,21.3s,baz=202,slow=29						
SDV	**Santo Domingo**	**55.98**	**50**	LR	LR	14 40 26.2	
	comp=Z,232nm,21.6s,baz=230,slow=32						
RAO	**Raoul Island**	**56.93**	**254**	LR	LR	14 38 17.3	
	comp=Z,232nm,21.8s,baz=128,slow=29						
URZ	**Urewera**	**57.87**	**242**	LR	LR	14 39 29.9	
	comp=Z,517nm,19.9s,baz=207,slow=30						
QSPA	**South Pole Qui**	**58.08**	**180**	P	**P**	**14 20 19.9**	**-0.7**
	3.1nm,1.0s,baz=109,slow=2.6,SNR=6.9						
QSPA				LR	LR	14 41 55.7	
	comp=Z,101nm,18.3s,baz=108,slow=33						
	3.1nm,1.0s						
AFI	**Afiamalu**	**58.24**	**273**	LR	LR	14 38 44.0	
	comp=Z,238nm,18.7s,baz=126,slow=29						
VNDA	**Vanda**	**58.34**	**195**	P	**P**	**14 20 22.0**	**0.0**
	0.5nm,0.7s,baz=102,slow=9.2,SNR=3.8						
VNDA				LR	LR	14 40 52.1	
	comp=Z,268nm,18.4s,baz=92,slow=31						
	0.5nm,0.7s						
BDFB	**Brasilia**	**58.97**	**90**	P	**P**	**14 20 26.9**	**-0.6**
	2.0nm,0.6s,baz=224,slow=5.8,SNR=3.5						
BDFB				LR	LR	14 43 32.0	
	comp=Z,311nm,18.6s,baz=221,slow=34						
	2.0nm,0.6s						
RPZ	**Rata Peaks**	**60.60**	**235**	LR	LR	14 41 40.2	
	comp=Z,210nm,19.0s,baz=104,slow=31						
PCRV	**Puerto La Cruz**	**60.95**	**54**	LR	LR	14 45 04.5	
	comp=Z,226nm,18.2s,slow=34						
TXAR	**Lajitas Array**	**61.49**	**7**	LR	LR	14 42 20.8	
	comp=Z,88nm,19.5s,baz=216,slow=31						
MSVF	**Nonsavu**	**65.06**	**264**	LR	LR	14 42 14.9	
	comp=Z,388nm,21.9s,baz=125,slow=29						
PFO	**Pinyon Flats O**	**65.59**	**355**	LR	LR	14 42 54.6	
	comp=Z,205nm,21.7s,baz=173,slow=30						
SJG	**San Juan**	**65.76**	**47**	LR	LR	14 47 09.9	
	comp=Z,106nm,19.0s,baz=166,slow=34						
MDP	**Montagnes des**	**66.48**	**67**	LR	LR	14 47 32.6	
	comp=Z,330nm,19.5s,baz=268,slow=33						
ANMO	**Albuquerque**	**66.83**	**4**	LR	LR	14 45 43.6	
	comp=Z,92nm,18.0s,baz=208,slow=32						
NVAR	**Mina Array Bea**	**70.53**	**354**	P	**P**	**14 21 42.8**	**+0.3**
	1.2nm,0.8s,baz=196,slow=8.3,SNR=8.6						
NVAR				LR	LR	14 45 49.8	
	comp=Z,250nm,21.1s,baz=185,slow=30						
	1.2nm,0.8s						
TKL	**Tuckaleechee C**	**72.03**	**23**	LR	LR	14 49 29.8	
	comp=Z,48nm,21.2s,baz=202,slow=32						
ELK	**Elko**	**72.61**	**356**	LR	LR	14 48 03.1	
	comp=Z,144nm,21.7s,baz=197,slow=31						
DZM	**Mont Dzumac**	**72.72**	**255**	*e*LR	LR	14 43 53.8	
	comp=Z,434nm,27.4s						
DZM	**Mont Dzumac**	**72.72**	**255**	LR	LR	14 46 03.0	
	comp=Z,179nm,21.6s,baz=198,slow=30						
RCBR	**Riachuelo**	**74.15**	**87**	LR	LR	14 53 32.3	
	comp=Z,271nm,18.5s,baz=12,slow=35						
YBH	**Yreka Blue Hor**	**74.30**	**351**	LR	LR	14 47 46.9	
	comp=Z,269nm,20.1s,baz=181,slow=30						
PDAR	**Pinedale Array**	**74.52**	**1**	P	**P**	**14 22 04.6**	**-1.6**
	0.6nm,0.8s,baz=159,slow=4.5,SNR=4.5						
PDAR				LR	LR	14 48 31.5	
	comp=Z,143nm,21.8s,baz=158,slow=31						
	0.6nm,0.8s						
NEW	**Newport**	**80.21**	**356**	LR	LR	14 52 52.6	
	comp=Z,197nm,19.3s,baz=182,slow=32						
MAW	**Mawson**	**80.48**	**178**	LR	LR	14 56 18.9	
	comp=Z,152nm,18.1s,baz=148,slow=34						
PMG	**Port Moresby**	**95.08**	**256**	LR	LR	15 01 43.9	
	comp=Z,102nm,18.8s,baz=76,slow=32						
WRA	**Warramunga Arr**	**98.98**	**240**	LR	LR	15 04 46.4	
	comp=Z,134nm,18.2s,baz=224,slow=33						
H01W1	**Cape Leeuwin H**	**101.09**	**216**	T	T	16 16 54.0	
	baz=139,slow=75,SNR=38						
H01W2	**Cape Leeuwin H**	**101.09**	**216**	T	T	16 17 01.5	
	baz=139,slow=75,SNR=43						
H01W3	**Cape Leeuwin H**	**101.10**	**216**	T	T	16 16 57.0	
	baz=139,slow=75,SNR=35						
IDI	**Anoyia**	**143.24**	**73**	PKP	PKPbc	14 30 00.9	+2.0
	2.9nm,0.8s,baz=306,slow=2.7,SNR=5.5						
MLR	**Muntele Rosu**	**144.18**	**55**	PKP	**PKPab**	**14 30 00.8**	**-0.3**
	1.9nm,0.7s,baz=299,slow=5.1,SNR=4.3						
AKASG	**Malin Array Be**	**145.28**	**46**	PKPbc	**PKPbc**	**14 30 02.5**	**-2.1**
	1.1nm,0.5s,baz=286,slow=3.3,SNR=8.7						
SONM	**Songino Array**	**147.81**	**310**	PKPbc	**PKPdf**	**14 30 10.2**	**+0.8**
	1.9nm,1.0s,baz=35,slow=5.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**149.97**	**250**	PKPbc	**PKPdf**	**14 30 16.1**	**+2.5**
	1.1nm,0.8s,baz=175,slow=1.9,SNR=9.1						
KIRV	**Kirov**	**150.34**	**21**	PKPbc	**PKiKP**	**14 30 19.5**	**+0.5**
	4.0nm,0.5s,baz=217,slow=7.4,SNR=3.9						
BRTR	**Keskin Array B**	**150.37**	**65**	PKPbc	**PKPbc**	**14 30 18.6**	**-0.5**
	2.6nm,1.0s,baz=202,slow=1.3,SNR=7.8						
ASF	**Jabal al Asfar**	**152.71**	**81**	PKP	**PKPdf**	**14 30 16.9**	**-0.7**
	1.8nm,0.7s,baz=72,slow=6.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**155.47**	**337**	PKPab	**PKPab**	**14 30 47.0**	**+0.7**
	0.4nm,0.5s,baz=29,slow=3.4,SNR=4.4						

*TEH **05** 14:14:16.1, 36°.29N×45°.43E, h8km, ML3.0*

*ISN **05** 14:14:18.0±1.8, 36°.31N×45°.55E, h10km, ML2.8*

ISC 05 14:14:16.7±1.1**, 36°.28N**±0°.03×**45°.54E**±0°.06**, h10**km**, n12, σ1.20**/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.50**	**15**	*e*Pg	**Pb**	**14 14 27.8**	**+0.1**
MAHB				*e*Sg	**Sb**	**14 14 35.4**	**+0.3**
MAHB				*e*		14 14 36.8	
	comp=Z,17µm,0.3s						
IKRK	**Kirkuk**	**1.31**	**228**	*e*Pg	**Pg**	**14 14 41.0**	**-0.9**
	baz=47						
IKRK				*e*Sg	**Sn**	**14 15 01.0**	**+2.3**
IKRK				AML	AML	14 15 06.3	
	comp=N,181nm,0.7s						
IKRK				AML	AML	14 15 13.1	
	comp=E,156nm,0.4s						
IAZR	**Azarshahr**	**1.44**	**14**	*e*Pg	**Pg**	**14 14 44.2**	**-0.1**
IAZR				*e*		14 15 10.1	
	comp=Z,3µm,0.5s						
IHSH	**Hashtrud**	**1.72**	**53**	*e*Pn	**Pg**	**14 14 49.7**	**0.0**
IDHR	**Dehrash**	**1.72**	**156**	*e*Pn	**Pb**	**14 14 49.2**	**+0.6**
IDHR				*e*		14 14 55.4	
	comp=Z,1µm,0.3s						
IBST	**Bostanabad**	**1.78**	**37**	*e*Pn	**Pg**	**14 14 50.9**	**0.0**
IBST				*e*		14 15 20.0	
	comp=Z,816nm,0.6s						
ILIN	**Lien**	**1.79**	**139**	*e*Pn	**Pg**	**14 14 51.3**	**+0.3**
ILIN				*e*		14 15 22.3	
	comp=Z,819nm,0.5s						
ISHB	**Shabestar**	**2.00**	**2**	*e*Pn	**Pg**	**14 14 53.6**	**-1.4**
ISHB				*e*		14 15 29.2	
	comp=Z,945nm,0.4s						
IGHG	**Ghaleghazi**	**2.12**	**156**	*e*Pn	**Pb**	**14 14 55.1**	**-0.3**
IGHG				*e*		14 15 01.5	
	comp=Z,1µm,0.6s						
ISRB	**Sarab**	**2.29**	**47**	*e*Pn	**Pb**	**14 14 58.4**	**+0.1**
IKOM	**Komasi**	**2.65**	**142**	*e*Pn	**Pb**	**14 15 03.8**	**-0.5**
IKOM				*e*		14 15 54.7	
	comp=Z,425nm,0.7s						
HSAM	**Samen**	**3.25**	**129**	*e*Pn	**Pb**	**14 15 12.0**	**-2.6**

ROM 05 14:19:55.9±1.2**, 42°.81N**±0°.05×**13°.10E**±0°.02**, h5**km±16km**, ML1.0**/2**, 2C, Error ellipse: s-maj=5.0km s-min=3.6km az=346.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.08**	**55**	⇑P	Pg	14 19 58.4	+0.7
T1245				AML	AML		
	comp=E,488µm,0.6s						
T1245				AML	AML		
	comp=N,612µm,0.7s						
T1216	**Preci, Frazion**	**0.10**	**323**	P	Pg	14 19 58.7	+0.7
T1216				S	Sg	14 19 59.9	+0.5
T1216				AML	AML		
	comp=E,212µm,0.1s						
T1215	**Vallo di Nera,**	**0.17**	**267**	P	Pg	14 19 59.9	+0.6
T1215				S	Sg	14 20 02.2	+0.6
T1215				AML	AML		
	comp=N,81µm,4.9s						
T1215				AML	AML		
	comp=N,59µm,0.8s						
MMO1	**Montemonaco**	**0.19**	**62**	⇑P	Pg	14 20 00.3	+0.7
MMO1				S	Sg	14 20 01.9	-0.1
CESI	**CESI - Serrava**	**0.24**	**323**	P	Pg	14 20 00.5	-0.1

*IDC **05** 14:22:59.2±1.2, 36°.96N×31°.02E, h121km±18km, mb3.2/2, mbtmp3.3/5, Error ellipse: s-maj=15.1km s-min=12.2km az=141.0*

*ISK **05** 14:23:00.1, 37°.15N×31°.08E, h128km±1km, ML2.7/18*

*DDA **05** 14:23:02.1±0.0, 37°.08N×31°.13E, h110km±1km, ML2.6*

*NIC **05** 14:23:03.5±0.0, 36°.69N×31°.09E, h115km±3km, Ml3.0/4*

ISC 05 14:22:59.9±1.0**, 37°.05N**±0°.03×**31°.10E**±0°.03**, h125**km±6km**, n50, σ1.31**/77**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.38**	**248**	PG	**Pn**	**14 23 18.0**	**+0.3**
KEPZ	**Antalya-Kepez**	**0.43**	**110**	P	**Pn**	**14 23 18.0**	**0.0**
KEPZ				*i* AML	AML	14 23 31.0	
	comp=E,119nm,0.4s						
KEPZ				*i* AML	AML	14 23 32.0	
	comp=N,157nm,0.2s						
SUTC	**Sutluce-Ispart**	**0.44**	**350**	PG	**Pn**	**14 23 17.9**	**-0.3**
SUTC				SG	**Sn**	**14 23 32.0**	**-0.1**
BUCA	**Burdur, Bucak-**	**0.51**	**303**	P	**Pn**	**14 23 19.0**	**+0.5**
BUCA				S	**Sn**	**14 23 31.4**	**-1.3**
BUCA				*i* AML	AML	14 23 33.0	
	comp=E,102nm,0.5s						
BCK	**Bucak**	**0.58**	**316**	PG	**Pn**	**14 23 19.4**	**+0.4**
BCK				SG	**Sn**	**14 23 33.4**	**0.0**
KORT	**Korkueli**	**0.60**	**266**	PG	**Pn**	**14 23 20.1**	**+0.9**
KORT				SG	**Sn**	**14 23 34.8**	**+1.0**
KORT	**Korkueli**	**0.60**	**266**	P	**Pn**	**14 23 19.6**	**+0.4**
KORT				S	**Sn**	**14 23 33.2**	**-0.6**
KORT				*i* AML	AML	14 23 36.0	
	comp=N,169nm,0.5s						
KORT				*i* AML	AML	14 23 37.0	
	comp=E,133nm,0.8s						
SEDI	**Konya, Seydise**	**0.66**	**52**	P	**Pn**	**14 23 19.9**	**+0.3**
SEDI				S	**Sn**	**14 23 32.7**	**-1.9**
SEDI				*i* AML	AML	14 23 35.0	
	comp=E,157nm,0.5s						
SEDI				*i* AML	AML	14 23 35.0	
	comp=N,109nm,0.3s						
SEYD	**Seydisehir-KON**	**0.69**	**59**	PG	**Pn**	**14 23 20.4**	**+0.6**
ISP	**Isparta**	**0.90**	**330**	PG	**Pn**	**14 23 21.6**	**+0.1**
ISP				SG	**Sn**	**14 23 37.5**	**-0.5**
AKUM	**Antalya-Kumluc**	**0.94**	**220**	P	**Pn**	**14 23 23.0**	**+1.2**
AKUM				S	**Sn**	**14 23 39.0**	**+0.6**
BAGO	**Egridir - ISPA**	**0.97**	**346**	P	**Pn**	**14 23 22.3**	**+0.1**
BAGO				S	**Sn**	**14 23 36.9**	**-2.2**
ELL	**Elmali**	**1.00**	**253**	P	**Pn**	**14 23 25.1**	**+2.6**
BRDR	**BURDUR-Merkez**	**1.05**	**308**	P	**Pn**	**14 23 22.7**	**-0.2**
BRDR				S	**Sn**	**14 23 38.5**	**-1.9**
HDMB	**Hadim**	**1.11**	**94**	PN	**Pn**	**14 23 24.9**	**+1.2**
HDMB				SN	**Sn**	**14 23 42.4**	**+0.6**
DOGA	**KONYA_Doganhis**	**1.15**	**23**	P	**Pn**	**14 23 24.5**	**+0.5**
DOGA				S	**Sn**	**14 23 40.8**	**-1.5**
YVAC	**Isparta, Yalva**	**1.23**	**5**	P	**Pn**	**14 23 25.0**	**+0.3**
YVAC				S	**Sn**	**14 23 42.2**	**-1.4**
GOLH	**Golhisar**	**1.24**	**279**	P	**Pn**	**14 23 25.9**	**+1.0**
GOLH				S	**Sn**	**14 23 44.2**	**+0.3**
KMER	**Konya-Meram**	**1.24**	**54**	P	**Pn**	**14 23 25.7**	**+0.8**
KMER				S	**Sn**	**14 23 43.4**	**-0.5**
GAZI	**Gazipasa**	**1.27**	**129**	PN	**Pn**	**14 23 27.1**	**+2.0**
GAZI	**Gazipasa**	**1.27**	**129**	P	**Pn**	**14 23 26.0**	**+0.9**
GAZI				S	**Sn**	**14 23 43.9**	**-0.4**
GAZI				*i* AML	AML	14 23 45.0	
	comp=E,146nm,0.3s						
GAZI				*i* AML	AML	14 23 45.0	
	comp=N,102nm,0.4s						
CAEL	**Denizli, Camel**	**1.42**	**274**	P	**Pn**	**14 23 27.9**	**+1.0**
CAEL				S	**Sn**	**14 23 48.2**	**+0.7**
KZIL	**AFYON_Kizioren**	**1.43**	**328**	P	**Pn**	**14 23 26.9**	**0.0**
KZIL				S	**Sn**	**14 23 43.4**	**-4.1**
CAME	**Cameli-Denizli**	**1.44**	**266**	PN	**Pn**	**14 23 28.3**	**+1.2**
CAME				SN	**Sn**	**14 23 48.6**	**+0.8**
AKAS	**Kas**	**1.45**	**236**	PN	**Pn**	**14 23 28.5**	**+1.3**
AKAS	**Kas**	**1.45**	**236**	P	**Pn**	**14 23 26.9**	**-0.3**
AKAS				S	**Sn**	**14 23 45.7**	**-2.2**
AKAS				*i* AML	AML	14 23 50.0	
	comp=E,152nm,0.3s						
KSL	**Kastellorizon**	**1.51**	**234**	S	**Sn**	**14 23 48.8**	**-0.1**
LADK	**Ladik-KONYA**	**1.53**	**41**	PN	**Pn**	**14 23 28.2**	**+0.1**
FETY	**Fethiye**	**1.67**	**256**	PN	**Pn**	**14 23 31.1**	**+1.5**
KDHN	**Kadinhani**	**1.68**	**28**	P	**Pn**	**14 23 30.0**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.79**	**284**	P	**Pn**	**14 23 31.8**	**+0.7**
TAVA				S	**Sn**	**14 23 53.9**	**-1.1**
PASA	**Karahalli, USA**	**1.82**	**316**	P	**Pn**	**14 23 31.4**	**-0.1**
BERE	**Bereket-Mersin**	**1.85**	**112**	PN	**Pn**	**14 23 33.8**	**+2.0**
TEKE	**Tekeli-Mersin**	**1.86**	**118**	PN	**Pn**	**14 23 33.9**	**+2.1**
DALY	**Dalyan (Mula)**	**1.97**	**264**	PN	**Pn**	**14 23 34.0**	**+0.8**
ALFC	**Alefka**	**2.25**	**147**	P	**Pn**	**14 23 36.0**	**-0.7**
ALFC				S	**Sn**	**14 24 02.4**	**-2.5**
ALFC				AML	AML	14 24 04.8	
	0.2nm,0.2s						
ALFC				AML	AML	14 24 04.8	
	0.2nm,0.2s						
ALFC				AML	AML	14 24 08.9	
	0.3nm,0.3s						
ALFC				AML	AML	14 24 08.9	
	0.3nm,0.3s						
YER	**Yerkesik**	**2.25**	**273**	PN	**Pn**	**14 23 37.7**	**+1.0**
AKMS	**Akamas**	**2.26**	**153**	P	**Pn**	**14 23 36.4**	**-0.5**
AKMS				S	**Sn**	**14 24 03.1**	**-2.1**
AKMS				AML	AML	14 24 06.5	
	0.2nm,0.2s						
AKMS				AML	AML	14 24 06.5	
	0.2nm,0.2s						
AKMS				AML	AML	14 24 07.5	
	0.4nm,0.4s						

AKMS				AML	AML	14 24 07.5	
	0.4nm,0.4s						
TURN	Turunc	2.30	264	PN	Pn	14 23 38.1	+0.8
ARG	Arkhangelos	2.53	252	PN	Pn	14 23 41.8	+1.6
SZAC	Souni	2.71	147	P	Pn	14 23 43.0	+0.4
SZAC				AML	AML	14 24 18.7	
	0.2nm,0.4s						
SZAC				AML	AML	14 24 20.0	
	0.2nm,0.2s						
DAT	Datca	2.84	265	PN	Pn	14 23 45.4	+1.1
ASGA	Asgata	2.85	142	P	Pn	14 23 45.3	+0.9
ASGA				AML	AML	14 24 22.2	
	0.1nm,0.4s						
ASGA				AML	AML	14 24 23.1	
	0.1nm,0.4s						
MVOU	Mavrovouni	2.89	134	P	Pn	14 23 44.9	0.0
BRTR	Keskin Array B	3.34	36	P	Pn	14 23 51.8	+1.0
	2.1nm,0.4s,baz=222,slow=16,SNR=14						
BRTR				S	Sn	14 24 32.0	+1.8
	0.5nm,0.4s,baz=304,slow=21,SNR=1.2						
OSC1	CSNet OBS 1	3.54	178	P	Pn	14 23 53.0	-0.4
OSC1				S	Sn	14 24 31.6	-3.3
IDI	Anoyia	5.32	253	P	Pn	14 24 16.4	-0.8
	1.5nm,0.2s,baz=74,slow=15,SNR=7.0						
IDI				S	Sn	14 25 14.7	-2.8
	1.5nm,0.3s,baz=313,slow=18,SNR=2.7						
MMAI	Mount Meron Ar	5.35	137	P	Pn	14 24 18.3	+0.6
	0.3nm,0.3s,baz=310,slow=13,SNR=5.3						
MMAI				S	Sn	14 25 16.4	-1.9
	0.9nm,0.3s,baz=208,slow=32,SNR=7.0						
FINES	FINESS Array B	24.62	354	P	P	14 28 07.9	-0.3
	1.8nm,1.0s,baz=159,slow=12,SNR=3.5						
	1.8nm,1.0s						
MKAR	Makanchi Array	38.70	59	P	P	14 30 12.3	+0.9
	0.4nm,0.7s,baz=270,slow=7.3,SNR=3.8						
	0.4nm,0.7s						

BJI ***05*** *14:31:37.3±0.0, 6°.13N×126°.73E, h100km, mb4.6/31, mB5.0/17*
IDC ***05*** *14:31:38.9±1.1, 6°.34N×127°.03E, h94km±9km, mb4.0/21, mbtmp4.5/24, MS3.3/15, Error ellipse: s-maj=14.8km s-min=9.1km az=67.0*
NEIC ***05*** *14:31:38.8±1.8, 6°.38N±0°.08×126°.90E±0°.10, h92km±7km, mb4.6/45, Error ellipse: s-maj=15.2km s-min=10.3km az=58.0*
MAN ***05*** *14:31:39.0, 6°.38N×126°.91E, h60km, mb5.1, ML4.0, MS4.1*
DJA ***05*** *14:31:41.4±0.4, 6°N±4°×12°7E±°, h80km±5km, M4.8/27, mB5.3/14, mb5.0/27, MLv5.1/9, Mw(mB)4.7/14*
ISC 05 14:31:38.9±0.7**, 6°.34N**±0°.04**×126°.98E**±0°.05**, h94**km±5km**,**
n185, σ1s.38/192**, mb4.6**/49**, 11C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.57	298	P	Pn	14 32 06.3	+0.6
	8μm,0.5s,baz=109,slow=2.0,SNR=181						
DAV				S	Sn	14 32 27.2	+1.2
	4μm,0.4s,baz=288,slow=21,SNR=26						
DAV				LR	LR	14 32 29.2	
	comp=Z,858nm,18.5s,baz=158,slow=31						
DAV	Davao City (W)	1.57	298		Pn	14 32 04.1	-1.6
DAV	Davao City (W)	1.57	298	P	Pn	14 32 06.3	+0.6
DAV				S	Sn	14 32 27.6	+1.6
DAV	Davao City (W)	1.57	298	P	Pn	14 32 06.8	+1.1
BIPH	Bislig	1.93	342	⇓eP	Pn	14 32 09.3	-1.0
BIPH				iS	Sn	14 32 31.3	-3.1
KCP	Kidapawan	1.99	290	⇓iP	Pn	14 32 10.6	-0.6
KCP				iS	Sn	14 32 35.5	-0.3
GSPH	General Santos	2.03	263	iP	Pn	14 32 08.9	-2.8
GSPH				iS	Sn	14 32 32.9	-4.0
CTBH	Cotabato--PC H	2.85	288	⇑iP	Pn	14 32 22.3	-0.2
SGSI	Sangihe	3.00	209	P	Pn	14 32 24.6	0.0
CGP	Cagayan de Oro	3.09	313	⇑iP	Pn	14 32 26.8	+1.1
CGP				iS	Sn	14 33 01.7	-0.1
SCPH	Surigao	3.73	337	eP	Pn	14 32 35.5	+1.2
SCPH				eS	Sn	14 33 19.3	+2.1
GHBP	Garcia Hernand	4.20	321	⇓iP	Pn	14 32 41.7	+1.0
GHBP				eS	Sn	14 33 28.0	-0.6
LSIP	Lazi, Siquijor	4.33	310	⇑iP	Pn	14 32 43.3	+0.9
GAMI	Galela, Maluku	4.54	170	P	Pn	14 32 44.6	-0.8
TABP	Talibon, Bohol	4.56	325	⇑iP	Pn	14 32 46.1	+0.5
TABP				iS	Sn	14 33 34.5	-2.9
SNPH	Sibulan	4.76	309	⇓eP	Pn	14 32 48.5	+0.1
SNPH				eS	Sn	14 33 43.5	+1.1
ZCP	Zamboanga City	4.91	277	⇓iP	Pn	14 32 51.1	+0.9
ZCP				iS	Sn	14 33 46.8	+0.9
LLP	Lapu-Lapu	4.95	323	⇑iP	Pn	14 32 52.3	+1.4
LLP				eS	Sn	14 33 47.4	+0.4
CNOP	Candoni, Negro	5.52	309	⇑eP	Pn	14 32 59.2	+0.6
TNTI	Ternate	5.54	176	Pn	Pn	14 32 58.9	0.0
TNTI	Ternate	5.54	176	P	Pn	14 32 59.4	+0.4
	1.4nm3μm262nm,1.1s						
TNTI	Ternate	5.54	176	P	Pn	14 32 59.4	+0.4
JAP	San Jose, Anti	6.63	312	⇑eP	Pn	14 33 15.9	+2.1
RCP	Roxas	6.66	321	⇑eP	Pn	14 33 16.0	+1.7
GTOI	Gorontalo	6.91	215	P	Pn	14 33 17.2	-0.4
	0.5nm1μm125nm,0.6s						
LBMI	Labuha	6.95	176	P	Pn	14 33 17.8	-0.3
	1.2nm2μm240nm,0.9s						
MRSI	Marisa	7.69	221	P	Pn	14 33 28.6	+0.4
	1.5nm4μm491nm,0.6s						
TOLI2	Tolitoli	8.07	230	Pn	Pn	14 33 30.9	-2.5
SIJI	Sorong	8.34	149	P	Pn	14 33 37.1	0.0
	102nm,0.4s,baz=72,slow=6.2,SNR=79						
SIJI				LR	LR	14 37 05.1	
	comp=Z,237nm,20.9s,baz=306,slow=39						
SIJI	Sorong	8.34	149	P	Pn	14 33 36.6	-0.5
	5μm150nm,0.9s						
SANI	Sanana	8.39	187	P	Pn	14 33 34.0	-3.7
	1μm55nm,0.6s						
LUWI	Luwuk	8.45	210	P	Pn	14 33 40.5	+2.0
	3μm296nm,1.0s						
MYLDM	Lahad Datu	8.51	263	Pn	Pn	14 33 38.7	-0.7
MYLDM	Lahad Datu	8.51	263	P	Pn	14 33 42.3	+2.9
	58nm,0.9s						
APSI	Ampana	8.95	217	P	Pn	14 33 48.7	+3.3
	2μm254nm,1.2s						
MPSI	Mapaga	9.24	230	P	Pn	14 33 48.4	-1.0
	672nm20nm,0.8s						
NLAI	Namlea	9.51	179	P	Pn	14 33 51.4	-1.6
	45nm,0.4s						
KRAI	Karang Ratu	9.70	172	P	Pn	14 33 56.5	+1.0
	38nm,0.7s						
LUBP	Lubang	9.89	318	⇑iP	Pn	14 34 01.4	+3.2
AAI	Ambon	10.03	173	P	Pn	14 34 03.3	+3.2
	40nm,0.6s						
MWPI	Manokwari, Pap	10.09	135	P	Pn	14 34 06.4	+5.5
	139nm,1.0s						
FAKI	Fak Fak	10.60	150	Pn	Pn	14 34 08.3	+0.5
FAKI	Fak Fak	10.60	150	P	Pn	14 34 08.3	+0.5
	1μm94nm,0.8s						
FAKI	Fak Fak	10.60	150	P	Pn	14 34 08.4	+0.6
RKPI	Ransiki, Papua	10.60	137	P	Pn	14 34 09.8	+1.9
	4μm312nm,1.4s						
KKM	Kota Kinabalu	10.71	269	Pn	Pn	14 34 08.8	-0.6
KKM	Kota Kinabalu	10.71	269	P	Pn	14 34 12.7	+3.3
	44nm,1.2s						
KKM	Kota Kinabalu	10.71	269	P	Pn	14 34 11.5	+2.1
BNDI	Bandanaira	11.18	165	P	Pn	14 34 20.0	+4.3
	45nm,1.0s						
SRPI	Serui, Papua	12.33	131	P	Pn	14 34 33.7	+2.5
	221nm,0.9s						
BBSI	Bau Bau	12.54	201	P	Pn	14 34 34.1	+0.1
BNSI	Bone	12.68	213	P	Pn	14 34 36.9	+1.0
	19nm,0.7s						
KAPI	Kappang	13.39	213	P	Pn	14 34 43.6	-1.6
	18nm,0.8s,baz=11,slow=9.3,SNR=7.4						
KAPI				LR	LR	14 40 18.8	
	comp=Z,113nm,20.5s,baz=52,slow=39						
KAPI	Kappang	13.39	213	Pn	Pn	14 34 44.6	-0.5
KAPI	Kappang	13.39	213	P	Pn	14 34 45.0	-0.1
	37nm,0.9s						
SMPI	Sarmi	14.34	125	P	P	14 35 01.3	-0.5
	51nm,1.4s						
SBUM	Sibu	15.21	256	P	P	14 35 12.5	+1.0
SBUM				IAmb	IAmb	14 35 14.9	
	comp=Z,22nm,0.7s						
SBUM	Sibu	15.21	256	P	P	14 35 10.3	-1.2
	comp=Z,32nm,0.7s						
BBKI	Banjar Baru	15.54	232	P	P	14 35 32.1	+17
GENI	Genyem	15.88	124	P	P	14 35 26.4	+7.5
SOEI	Soe	16.21	190	P	P	14 35 25.6	+2.9
	comp=Z,1μmcomp=Z,53nm,1.2s						
BATI	Baumata	16.76	191	P	P	14 35 29.0	+0.3
	comp=Z,22nm,0.4s,baz=332,slow=1.7,SNR=7.4						
BATI				LR	LR	14 42 42.0	
	comp=Z,215nm,21.9s,baz=322,slow=40						
BATI	Baumata	16.76	191	P	P	14 35 31.2	+2.5
	comp=Z,41nm,0.6s						
PLAI	Plampang	17.64	211	P	Pn	14 35 39.5	+0.8
YULB	Yu-li	17.82	343	P	P	14 35 37.3	-3.0
YULB	Yu-li	17.82	343	P	P	14 35 40.4	+0.1
TPUB	Ta-pu	17.94	341	P	P	14 35 36.9	-4.8
TWSI	Taliwang, Sumb	18.04	214	P	Pn	14 36 02.4	+19
GUMO	Guam	19.03	66	LR	LR	14 43 21.5	
	comp=Z,27nm,19.0s,baz=171,slow=37						
JAGI	Jajag, Banyuwa	19.49	221	P	Pn	14 36 01.1	+0.3
MTN	Manton Dam	19.50	168	P	P	14 35 58.8	+0.1
MTN				IAmb	IAmb	14 36 00.2	
	comp=Z,40nm,1.2s						
MTN	Manton Dam	19.50	168	P	P	14 35 59.4	+0.7
KDU	Kakadu	19.67	164	P	P	14 36 00.8	+0.2
JOW	Kunigami	20.42	3	P	P	14 36 09.7	+1.1
	comp=Z,10nm,0.3s,baz=160,slow=11,SNR=12						
JOW				LR	LR	14 43 19.6	
	comp=Z,73nm,21.9s,baz=184,slow=34						
	comp=Z,10nm,0.3s						
JOW	Kunigami	20.42	3	P	P	14 36 04.6	-4.0
JOW				IAmb	IAmb	14 36 45.3	
	comp=Z,34nm,1.1s						
QIZ	Qiongzhong	20.91	309	P	P	14 36 11.6	-2.4
QIZ				sP	sP	14 36 44.9	+0.7
QIZ				S	S	14 40 04.0	+2.0
QIZ				LR	LR		
	comp=Z,200nm,22.3s						
KNRA	Kununurra	21.94	175	P	P	14 36 25.4	+0.5
KNRA	Kununurra	21.94	175	P	P	14 36 25.3	+0.4
LEM	Lembang	23.33	236	LR	LR	14 45 53.8	
	comp=Z,90nm,21.7s,baz=152,slow=37						
DSRI	Dabo	23.36	254	P	P	14 36 39.9	+0.5
	comp=Z,976nmcomp=Z,32nm,0.6s						
MYKOM	Kota Tinggi	23.50	260	P	P	14 36 39.9	-0.8
MYKOM				IAmb	IAmb	14 36 42.5	
	comp=Z,20nm,0.8s						
MYKOM	Kota Tinggi	23.50	260	P	P	14 36 40.7	+0.1
	comp=Z,32nm,0.8s						
JCJ	Chichijima	25.21	33	P	P	14 36 55.3	-0.7
	comp=Z,166nm,0.4s,baz=270,slow=19,SNR=18						
JCJ	Chichijima	25.21	33	P	P	14 36 54.8	-1.1
JCJ	Chichijima	25.21	33	P	P	14 36 55.6	-0.3
JSU	Suzuyama	25.25	7	P	P	14 36 55.5	-0.8
COEN	Coen	25.79	142	P	P	14 37 01.0	-0.3
IPM	Ipoh	25.90	267	P	P	14 37 00.3	-2.1
IPM				IAmb	IAmb	14 37 26.2	
	comp=Z,26nm,1.2s						
IPM	Ipoh	25.90	267	P	P	14 37 02.6	+0.2
NJ2	Nanjing	26.68	345	eP	P	14 37 11.0	+1.8
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
WB0	Warramunga Arr	26.95	164	P	P	14 37 11.5	-0.2
WRAB	Tennant Creek	27.09	165	P	P	14 37 13.3	+0.3
WRA	Warramunga Arr	27.10	165	P	P	14 37 12.3	-0.8
	comp=Z,2.1nm,0.5s,baz=344,slow=10,SNR=52						
WRA				PcP	PcP	14 40 32.7	+0.8
	comp=Z,1.1nm,0.4s,baz=344,slow=2.4,SNR=4.6						
WRA				ScP	ScP	14 44 04.8	+0.9
	comp=Z,0.4nm,0.4s,baz=346,slow=2.9,SNR=5.8						
	comp=Z,2.1nm,0.5s						
WRA	Warramunga Arr	27.10	165	P	P	14 37 12.2	-0.8
WB2	Warramunga Arr	27.10	165	P	P	14 37 12.7	-0.4
WB2				IAmb	IAmb	14 37 46.1	
	comp=Z,16nm,0.8s						
WR0	Warramunga Arr	27.17	164	P	P	14 37 13.3	-0.4
WR0				IAmb	IAmb	14 37 45.9	
	comp=Z,22nm,1.2s						
MBWA	Marble Bar	28.24	194	P	P	14 37 21.4	-1.8
PSA00	Pilbara Seismi	28.61	194	P	P	14 37 25.4	-1.1
JHJ	Hachijo jima 2	29.19	22	LR	LR	14 47 00.9	
	comp=Z,72nm,21.9s,baz=268,slow=32						
QIS	Mount Isa	29.47	155	P	P	14 37 34.4	+0.3
MTSU	Mount Surprise	29.73	145	P	P	14 37 37.3	+0.8
CMAR	Chiang Mai Arr	29.86	296	P	P	14 37 38.8	+1.2
	comp=Z,2.1nm,0.6s,baz=104,slow=7.1,SNR=21						
CMAR				PcP	PcP	14 40 40.4	+1.5
	comp=Z,0.5nm,0.5s,baz=104,slow=1.1,SNR=4.3						
CMAR				ScP	ScP	14 44 14.1	+1.5
	comp=Z,1.3nm,0.9s,baz=141,slow=2.5,SNR=9.5						
CMAR				LR	LR	14 50 30.3	
	comp=Z,58nm,20.1s,baz=115,slow=38						
	comp=Z,2.1nm,0.6s						
CHTO	Chiang Mai	29.98	297	P	P	14 37 37.5	-1.3
INU	Inuyama	30.32	16	P	P	14 37 40.9	-0.5
INU				IAmb	IAmb	14 37 46.7	
	comp=Z,19nm,1.0s						
INU	Inuyama	30.32	16	P	P	14 37 42.3	+0.9
AS31	Alice Springs	30.58	167	P	P	14 37 43.9	0.0
ASAR	Alice Springs	30.58	167	P	P	14 37 44.2	+0.2
	comp=Z,11nm,0.4s,baz=348,slow=7.8,SNR=16						
ASAR				PcP	PcP	14 40 41.5	+0.8
	comp=Z,2.8nm,0.5s,baz=352,slow=2.6,SNR=8.7						
ASAR				LR	LR	14 51 10.2	
	comp=Z,77nm,19.1s,baz=312,slow=38						
	comp=Z,11nm,0.4s						
AS01	Alice Springs	30.59	167	P	P	14 37 44.3	+0.3
KSRS	Korea Array	30.98	1	P	P	14 37 47.0	-0.3
	comp=Z,0.9nm,0.7s,baz=183,slow=10,SNR=2.4						
KSRS				LR	LR	14 50 16.2	
	comp=Z,29nm,21.9s,baz=180,slow=36						
	comp=Z,0.9nm,0.7s						
WRKA	Warakurna	31.21	178	P	P	14 37 50.0	+0.5
PZH	PanZhiHua	31.31	313	P	P	14 37 52.1	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
MJAR	Matsushiro Arr	31.77	17	P	P	14 37 53.9	-0.4
	comp=Z,1.7nm,0.7s,baz=191,slow=8.1,SNR=5.3						
MJAR				LR	LR	14 50 05.2	
	comp=Z,37nm,21.8s,baz=208,slow=35						
	comp=Z,1.7nm,0.7s						
XAN	Xi'an	32.24	331	P	P	14 37 58.0	-0.5
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
TNCH	TengChong	32.98	307	⇑P	P	14 38 05.0	-0.2
TNCH				pP	pP	14 38 26.1	+0.2
TNCH				sP	sP	14 38 39.8	+3.3
TNCH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,130nm,4.5s						
JMM	Marumori	33.80	20	P	P	14 38 11.5	-0.4
JMM	Marumori	33.80	20	P	P	14 38 12.6	+0.6
OOD	Oodnadatta	34.96	166	P	P	14 38 22.4	+0.4
LZH	Lanzhou	36.42	328	eP	P	14 38 35.5	+0.8
LZH				pP	pwP	14 38 57.9	-1.2
LZH				sP	sP	14 39 07.7	+1.7
LZH				pmax	pmax		
	comp=Z,22nm,0.9s						
MORW	Morawa	36.74	196	P	P	14 38 36.6	-0.7
MORW				IAmb	IAmb	14 39 11.5	
	comp=Z,17nm,1.2s						
MORW	Morawa	36.74	196	P	P	14 38 37.8	+0.5
FORT	Forrest	36.92	178	P	P	14 38 38.6	-0.1
FORT	Forrest	36.92	178	P	P	14 38 39.4	+0.7
HHC	Hu-ho-hao-te	37.03	340	eP	P	14 38 41.7	+2.0
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,5.9s						
MULG	Mulgathing	37.04	170	P	P	14 38 40.5	+0.7
USRK	Ussuriysk Ar.	37.97	6	P	P	14 38 47.1	-0.3
	comp=Z,0.9nm,0.4s,baz=178,slow=7.9,SNR=5.8						
	comp=Z,0.9nm,0.4s						
USRK	Ussuriysk Ar.	37.97	6	P	P	14 38 47.9	+0.4
BBOO	Buckleboo	39.88	168	P	P	14 39 03.6	+0.1
ASAJ	Asahikawa	40.05	18	LR	LR	14 54 28.1	
	comp=Z,62nm,21.3s,baz=180,slow=34						
JKA	Kamikawa-asahi	40.05	18	P	P	14 39 02.9	-1.9
NWAO	Narrogin (SRO)	40.13	193	P	P	14 39 03.4	-2.3
STKA	Stephens Creek	40.48	161	P	P	14 39 08.2	-0.3
	comp=Z,2.4nm,0.5s,baz=333,slow=7.8,SNR=8.7						
	comp=Z,2.4nm,0.5s						
STKA	Stephens Creek	40.48	161	P	P	14 39 07.0	-1.5
H11N1	WAKE ISLAND Hy	40.97	67	T	T	15 24 03.4	
	baz=265,slow=74,SNR=16						
H11N2	WAKE ISLAND Hy	40.98	67	T	T	15 24 06.9	
	baz=265,slow=74,SNR=9.9						
H11N3	WAKE ISLAND Hy	40.99	67	T	T	15 23 55.5	
	baz=265,slow=74,SNR=14						
GTA	Gaotai	41.02	327	⇑P	P	14 39 13.7	+0.6
GTA				pP	pP	14 39 35.8	+1.8
GTA				sP	sP	14 39 46.6	+2.2
GTA				ScP	ScP	14 44 54.8	+1.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,160nm,4.7s						
GTA				LR	LR		
	comp=Z,120nm,20.4s						
GTA				LR	LR		
	comp=Z,170nm,20.0s						
GTA				LR	LR		
	comp=Z,260nm,20.7s						
RAMN	Ramite	43.50	303	eP	P	14 39 33.6	0.0
	comp=Z,26nm,0.7s						
JIRN	Jiri	44.10	304	eP	P	14 39 38.2	-0.3
	comp=Z,34nm,0.8s						
GUN	Gumba	44.44	304	eP	P	14 39 41.1	-0.1
	comp=Z,29nm,0.6s						
PKI	Pulchoki	44.71	303	eP	P	14 39 42.7	-0.6
PKIN	Phulchoki	44.73	303	eP	P	14 39 42.4	-1.0
	comp=Z,9.9nm,0.6s						
SONM	Songino Array	44.93	340	P	P	14 39 44.8	+0.3
	comp=Z,0.8nm,0.4s,baz=139,slow=7.7						
	comp=Z,0.8nm,0.4s						
GKN	Gorkha	45.51	303	eP	P	14 39 48.7	-0.7
	comp=Z,13nm,0.7s						
DANN	Dangsing	46.35	303	eP	P	14 39 55.7	-0.5
	comp=Z,48nm,0.6s						
WMQ	Urumqi	50.76	324	eP	P	14 40 31.1	+1.6
WMQ				LR	LR		
	comp=Z,170nm,24.5s						
PETK	Petropavlovsk-	52.94	23	P	P	14 40 46.7	+1.3
	comp=Z,4.4nm,0.9s,baz=191,slow=6.0,SNR=9.4						
	comp=Z,4.4nm,0.9s						
MK31	Makanchi Array	55.58	324	P	P	14 41 04.7	0.0
MK31				IAmb	IAmb	14 41 06.9	
	comp=Z,4.6nm,0.9s						
MKAR	Makanchi Array	55.58	324	P	P	14 41 05.0	+0.3
	comp=Z,4.4nm,0.5s,baz=121,slow=8.2,SNR=75						
	comp=Z,4.4nm,0.5s						
MKAR	Makanchi Array	55.58	324	P	P	14 41 04.8	0.0
MAKZ	Makanchi	55.77	324	P	P	14 41 03.9	-2.2
MAKZ				IAmb	IAmb	14 41 08.2	
	comp=Z,3.9nm,0.8s						
ZAA0	Zalesovo Array	58.40	332	P	P	14 41 22.6	-1.9
ZALV	Zalesovo Beam	58.40	332	P	P	14 41 23.9	-0.6
	comp=Z,3.3nm,0.3s,baz=122,slow=6.1,SNR=30						
	comp=Z,3.3nm,0.3s						
ZALV	Zalesovo Beam	58.40	332	P	P	14 41 23.1	-1.4
KURK	Kurchatov	59.70	327	P	P	14 41 33.4	-0.1
KK31	Karatay Array	61.52	316	P	P	14 41 45.4	-0.7
KK31				IAmb	IAmb	14 41 46.9	
	comp=Z,6.6nm,1.1s						
KKAR	Karatay Array	61.52	316	P	P	14 41 45.7	-0.4
KKAR	Karatay Array	61.52	316	P	P	14 41 45.4	-0.8
KKAR				IAmb	IAmb	14 41 47.0	
	comp=Z,6.6nm,1.1s						
URZ	Urewera	64.28	138	LR	LR	15 10 52.6	
	comp=Z,36nm,19.9s,baz=50,slow=37						
BKZ	Black Stump Fm	64.36	139	P	P	14 42 04.0	-1.0
BKZ				IAmb	IAmb	14 42 20.6	
	comp=Z,14nm,1.2s						
TIXI	Tiksi	65.25	1	P	P	14 42 09.1	-1.0
TIXI				IAmb	IAmb	14 42 38.3	
	comp=Z,14nm,1.5s						
BRVK	Borovoye	65.36	326	P	P	14 42 10.3	-0.9
BRVK				IAmb	IAmb	14 42 12.3	
	comp=Z,8.5nm,1.0s						
NRIK	Noril'sk	67.97	346	P	P	14 42 27.5	+0.1
	comp=Z,3.3nm,0.5s,baz=117,slow=7.5,SNR=6.1						
	comp=Z,3.3nm,0.5s						
GEYT	Alibeck	69.48	308	P	P	14 42 37.6	+0.1
	comp=Z,5.5nm,0.7s,baz=123,slow=5.5,SNR=9.4						
	comp=Z,5.5nm,0.7s						
GEYT	Alibeck	69.48	308	P	P	14 42 37.8	+0.3
GEYT				IAmb	IAmb	14 42 39.1	
	comp=Z,6.5nm,0.8s						
ABKAR	Akbulak array	70.31	320	P	P	14 42 42.0	-0.3
ARU	Arti	72.88	327	P	P	14 42 56.7	-0.9
ARU				IAmb	IAmb	14 42 58.7	
	comp=Z,7.4nm,0.7s						
CHGN	Chignik	76.23	34	P	P	14 43 17.2	+0.3
OHAK	Old Harbor	79.14	33	P	P	14 43 33.9	+0.8
OHAK				IAmb	IAmb	14 44 01.8	
	comp=Z,13nm,1.1s						
KDAK	Kodiak Island	79.57	32	P	P	14 43 36.3	+0.9
PPLA	Purkeypile	80.21	27	P	P	14 43 39.6	+0.6
PPLA				IAmb	IAmb	14 43 48.3	
	comp=Z,9.5nm,1.2s						
BRLK	Bradley Lake	80.60	31	P	P	14 43 41.0	+0.1
MLY	Manley	81.03	25	P	P	14 43 43.6	+0.4
MLY				IAmb	IAmb	14 43 47.8	
	comp=Z,8.8nm,1.3s						
KBZ	Khabaz	81.38	313	P	P	14 43 45.2	-0.2
	comp=Z,4.6nm,1.0s,baz=310,slow=1.0,SNR=5.9						
	comp=Z,4.6nm,1.0s						
PMR	Palmer	81.55	29	P	P	14 43 45.8	-0.2
PMR				IAmb	IAmb	14 44 08.7	
	comp=Z,11nm,1.2s						
TOLK	Toolik Lake Re	81.75	22	P	P	14 43 47.7	+0.8
TOLK				IAmb	IAmb	14 44 28.8	
	comp=Z,11nm,1.2s						
ILAR	Eielson Array	82.66	26	P	P	14 43 51.8	0.0
	comp=Z,0.7nm,0.8s,baz=238,slow=5.1,SNR=11						
	comp=Z,0.7nm,0.8s						
KLMR	Klimovskoe	83.27	330	eP	P	14 43 53.0	-1.9
KLMR				AMP		14 43 55.8	
	comp=Z,21nm,1.2s						
VNDA	Vanda	85.97	173	P	P	14 44 08.0	-0.1
	comp=Z,2.0nm,1.0s,baz=300,slow=5.3,SNR=9.4						
VNDA				LR	LR	15 22 06.3	
	comp=Z,23nm,20.3s,baz=330,slow=35						
	comp=Z,2.0nm,1.0s						
ARCES	ARCESS Array B	88.10	340	P	P	14 44 18.0	-0.7
	comp=Z,3.5nm,0.9s,baz=85,slow=5.8,SNR=15						
	comp=Z,3.5nm,0.9s						
BRTR	Keskin Array B	88.56	310	P	P	14 44 20.7	-1.0
	comp=Z,2.5nm,1.0s,baz=101,slow=3.1,SNR=5.1						
	comp=Z,2.5nm,1.0s						
FINES	FINESS Array B	89.67	332	P	P	14 44 26.2	+0.1
	comp=Z,1.6nm,0.6s,baz=90,slow=4.2,SNR=17						
	comp=Z,1.6nm,0.6s						
AKASG	Malin Array Be	90.04	321	P	P	14 44 26.8	-1.3
	comp=Z,0.3nm,0.2s,baz=67,slow=4.8,SNR=7.2						
	comp=Z,0.3nm,0.2s						
NB2	NORSAR Subarra	96.57	334	P	P	14 44 59.4	+1.4
	comp=Z,1.4nm,0.7s,baz=66,slow=4.4						
YKA	Yellowknife Ar	97.04	24	LR	LR	15 32 12.9	
	comp=Z,30nm,20.6s,baz=308,slow=37						
TORD	Torodi Ar. Bea	122.31	290	PKP	PKPdf	14 50 23.8	-0.3
	comp=Z,0.7nm,0.4s,baz=36,slow=1.9,SNR=8.0						

UCR ***05*** *14:41:48.6±2.9, 8°.28N×82°.90W, h5km±10km, MW3.8*
UPA ***05*** *14:41:49.0±1.0, 8°.33N×82°.92W, h6km±3km, MW3.8*
ISC 05 14:41:49.1±1.5**, 8°.31N**±0°.08**×82°.94W**±0°.04**, h15**km±6km**,**
n26, σ1s.36/35**, 5D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCOL	Caracol de Cor	0.10	338	eP	Pg	14 41 51.9	-0.5
CCOL				eS	Sg	14 41 55.5	+0.9
CDITO	Canoas	0.27	14	⇓iP	Pb	14 41 54.6	-1.0
CDITO				eS	Sb	14 41 59.1	-0.9
DVD	David	0.49	76	eP	Pb	14 41 59.0	-0.5
DVD				eS	Sb	14 42 06.5	-0.2
EDSV	San Vito	0.50	356	eP	Pb	14 41 58.9	-0.9
EDSV				eS	Sb	14 42 08.0	+1.0
BRU2	Volcan	0.54	27	⇓iP	Pb	14 41 59.8	-0.6
BRU2				eS	Sb	14 42 08.2	+0.3
BCO2	Palmira	0.57	45	⇓iP	Pb	14 42 00.4	-0.5
BCO2				eS	Sb	14 42 10.0	+1.0
BC3P	Paso Ancho	0.59	33	⇓iP	Pg	14 42 00.7	-0.2
BC3P				eS	Sb	14 42 10.4	+0.8
PSOM3	Paja de Sombre	0.71	59	⇓eP	Pg	14 42 02.3	-0.8
PSOM3				eS	Sb	14 42 13.2	+0.3
SRBA	San Rafael, Bu	1.00	335	eP	Pg	14 42 06.3	-2.3
PEZE	Perez Zeledon,	1.29	325	eP	Pn	14 42 11.2	-1.5
CDM	Cerro de Muert	1.48	326	eP	Pn	14 42 14.5	-1.2
RIMA	Rio Macho	1.71	328	eP	Pg	14 42 22.1	+0.1
LCR2	La Lucha 2	1.77	323	eP	Pn	14 42 19.4	0.0
BATAN	Batan	1.82	346	eP	Pn	14 42 20.5	+0.5
BATAN				eS	Sn	14 42 43.2	+0.3
HAYA	Volcan Irazu	1.88	332	eP	Pb	14 42 23.4	0.0

JACO	JACO, Garabito	2.17 308	eP	Pn	14 42 23.7 -1.0
JTS	Las Juntas de	2.80 315	eP	Pn	14 42 35.2 +1.8
INDI	Punta indio, G	2.97 302	eP	Pn	14 42 35.7 0.0
ACAL	Aguas Claras	3.10 318	eP	Pn	14 42 40.5 +2.9
PTEN	Parque Tenorio	3.13 320	eP	Pn	14 42 38.6 +0.6
CUI	Cuipilapa	3.20 317	eP	Pn	14 42 40.8 +1.8
SAJU	San Juanillo,	3.25 303	eP	Pn	14 42 39.1 -0.5
HORNC	Hornillas	3.25 317	eP	Pn	14 42 41.6 +1.8
MESS	Mesas	3.28 317	eP	Pn	14 42 43.3 +3.1
LAPC	Finca la Perla	3.46 315	eP	Pn	14 42 45.1 +2.5
GBS3	Finca Las Img	3.49 315	eP	Pn	14 42 45.0 +2.0

LDG ***05*** *14:45:19.8±0.2, 42.˚96N × 13.˚23E, h9km, Ml3.6/23, Error ellipse: s-maj=6.3km s-min=4.2km az=56.0*
ROM ***05*** *14:45:20.1±0.1, 42.˚979N±0.˚003 × 13.˚127E±0.˚004, h9km, ML3.4/54, Error ellipse: s-maj=0.3km s-min=0.2km az=261.0*
IDC ***05*** *14:45:22.1±1.3, 43.˚15N × 13.˚12E, h0km, mb3.4/3, mbtmp3.5/7, ML3.6/3, MS2.9/1, Error ellipse: s-maj=30.1km s-min=14.4km az=92.0*
PRU ***05*** *14:45:22.8±0.0, 43.˚01N × 13.˚62E, h10km*
ISC 05 14:45:21.3±0.8, 42.˚99N±0.˚01 × 13.˚14E±0.˚02, h6km±5km, n163, σ1§86/234, mb3.5/3, 30C-17D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.07**	**249**	P	**Pg**	**14 45 22.5**	**-0.7**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
T1256	**Bolognola (MC)**	**0.07**	**74**	P	**Pg**	**14 45 22.6**	**-0.6**
T1256				S	**Sg**	**14 45 24.1**	**-0.4**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1216	**Preci, Frazion**	**0.13**	**222**	⇑P	**Pg**	**14 45 23.5**	**-0.5**
T1216				S	**Sg**	**14 45 25.9**	**+0.1**
T1216				AML	AML		
	comp=E,49450μm,0.5s						
T1216				AML	AML		
	comp=N,60200μm,1.3s						
T1216				AML	AML		
	comp=E,49450μm,0.4s						
T1216				AML	AML		
	comp=N,60200μm,1.3s						
T1245	**Castelsantange**	**0.14**	**164**	P	**Pg**	**14 45 23.6**	**-0.7**
T1245				AML	AML		
	comp=E,34350μm,0.6s						
T1245				AML	AML		
	comp=N,42300μm,0.3s						
T1245				AML	AML		
	comp=N,43200μm,0.3s						
T1245				AML	AML		
	comp=E,34400μm,0.7s						
T1245				AML	AML		
	comp=N,42300μm,0.3s						
T1245				AML	AML		
	comp=E,31900μm,0.4s						
NRCA	**Norcia**	**0.15**	**186**	P	**Pg**	**14 45 23.8**	**-0.7**
NRCA				AML	AML		
	comp=N,26900μm,1.0s						
NRCA				AML	AML		
	comp=E,26150μm,0.8s						
NRCA				AML	AML		
	comp=N,26950μm,1.0s						
NRCA				AML	AML		
	comp=E,27900μm,0.8s						
NRCA				AML	AML		
	comp=N,28100μm,1.0s						
AM05	**Amandola Campo**	**0.16**	**93**	⇑P	**Pg**	**14 45 24.3**	**-0.3**
AM05				S	**Sg**	**14 45 27.1**	**+0.3**
AM05				AML	AML		
	comp=E,12295μm,0.9s						
AM05				AML	AML		
	comp=E,50100μm,0.5s						
AM05				AML	AML		
	comp=N,2340μm,0.1s						
AM05				AML	AML		
	comp=E,12300μm,0.9s						
AM05				AML	AML		
	comp=N,2335μm,0.1s						
AM05				AML	AML		
	comp=N,15450μm,1.1s						
GUMA	**Gualdo di Mace**	**0.17**	**63**	⇑P	**Pg**	**14 45 24.6**	**-0.1**
GUMA				S	**Sg**	**14 45 28.2**	**+1.2**
GUMA				AML	AML		
GUMA				AML	AML		
	comp=N,85900μm,0.4s						
GUMA				AML	AML		
GUMA				AML	AML		
	comp=N,87950μm,1.6s						
GUMA				AML	AML		
GUMA				AML	AML		
	comp=N,85850μm,0.4s						
MMO1	**Montemonaco**	**0.17**	**122**	P	**Pg**	**14 45 24.1**	**-0.6**
MMO1				S	**Sg**	**14 45 27.0**	**+0.1**
CESI	**CESI - Serrava**	**0.17**	**276**	⇑P	**Pg**	**14 45 24.4**	**-0.4**
CESI				S	**Sg**	**14 45 27.5**	**+0.4**
CESI				AML	AML		
	comp=E,47450μm,0.8s						
CESI				AML	AML		
	comp=N,40250μm,0.8s						
MDAR	**Monte D'Aria**	**0.21**	**1**	P	**Pg**	**14 45 24.9**	**-0.5**
MDAR				S	**Sg**	**14 45 28.7**	**+0.4**
MDAR				AML	AML		
	comp=E,16700μm,0.7s						
MDAR				AML	AML		
	comp=N,25650μm,0.5s						
SEF1	**Sefro**	**0.21**	**319**	P	**Pg**	**14 45 25.1**	**-0.4**
SEF1				AML	AML		
	comp=E,41450μm,0.3s						
SEF1				AML	AML		
	comp=N,38850μm,0.3s						
SEF1				AML	AML		
	comp=N,38800μm,0.3s						
PIO1	**Pioraco**	**0.22**	**330**	P	**Pg**	**14 45 25.4**	**-0.3**
PIO1				S	**Sg**	**14 45 29.4**	**+0.7**
PIO1				AML	AML		
	comp=N,21800μm,0.6s						
PIO1				AML	AML		
	comp=E,11450μm,1.5s						
SSM1	**San Severino M**	**0.24**	**7**	P	**Pg**	**14 45 25.7**	**-0.4**
SSM1				S	**Sg**	**14 45 30.3**	**+0.9**
FIU1	**Fiuminata**	**0.25**	**323**	P	**Pg**	**14 45 26.1**	**-0.2**
FIU1				S	**Sg**	**14 45 30.4**	**+0.8**
FIU1				AML	AML		
	comp=E,8970μm,0.9s						
FIU1				AML	AML		
	comp=N,9355μm,1.2s						
GAG1	**Gagliole**	**0.26**	**349**	P	**Pg**	**14 45 26.0**	**-0.4**
GAG1				S	**Sg**	**14 45 30.7**	**+0.9**
GAG1				AML	AML		
	comp=N,54050μm,0.4s						
GAG1				AML	AML		
	comp=E,46950μm,0.3s						
T1215	**Vallo di Nera,**	**0.27**	**227**	P	**Pg**	**14 45 26.1**	**-0.6**
T1215				S	**Sg**	**14 45 30.7**	**+0.5**
T1215				AML	AML		
	comp=E,8810μm,0.6s						
T1215				AML	AML		
	comp=N,7140μm,0.5s						
T1215				AML	AML		
	comp=E,8550μm,1.6s						
T1215				AML	AML		
	comp=E,8815μm,0.6s						
T1215				AML	AML		
	comp=N,7130μm,0.5s						
T1215				AML	AML		
	comp=N,7505μm,0.5s						
MNTP	**Montappone**	**0.29**	**58**	⇑P	**Pg**	**14 45 27.2**	**+0.2**
MNTP				S	**Sg**	**14 45 33.2**	**+2.5**
MNTP				AML	AML		
	comp=E,26850μm,0.8s						
MNTP				AML	AML		
	comp=N,19550μm,0.7s						
MNTP				AML	AML		
	comp=E,26900μm,0.8s						
T1202	**Accumoli, Fraz**	**0.29**	**167**	P	**Pg**	**14 45 26.3**	**-0.7**
SNTG	**Esanatoglia**	**0.30**	**332**	P	**Pg**	**14 45 26.7**	**-0.6**
SNTG				S	**Sg**	**14 45 32.2**	**+0.9**
SNTG				AML	AML		
	comp=E,5620μm,0.4s						
SNTG				AML	AML		
	comp=N,8250μm,0.3s						
SNTG				AML	AML		
	comp=N,7675μm,0.3s						
SNTG				AML	AML		
	comp=E,5315μm,0.4s						
T1217	**Poggiodomo (PG**	**0.31**	**209**	⇑P	**Pg**	**14 45 26.9**	**-0.6**
T1217				S	**Sg**	**14 45 32.1**	**+0.5**
T1217				AML	AML		
	comp=E,10335μm,1.6s						
T1217				AML	AML		
	comp=E,10295μm,1.6s						
T1217				AML	AML		
	comp=N,12850μm,0.6s						
T1217				AML	AML		
	comp=E,10330μm,1.6s						
T1217				AML	AML		
	comp=N,12700μm,0.6s						
T1217				AML	AML		
	comp=E,10305μm,1.6s						
TRE1	**Treia**	**0.35**	**22**	⇓P	**Pg**	**14 45 28.4**	**+0.2**
TRE1				AML	AML		
	comp=E,27050μm,0.4s						
TRE1				AML	AML		
	comp=N,24450μm,1.5s						
TRE1				AML	AML		
	comp=E,27100μm,0.4s						
TRE1				AML	AML		
	comp=N,24450μm,1.5s						
ASSB	**Assisi San Ben**	**0.35**	**279**	⇑P	**Pg**	**14 45 27.6**	**-0.6**
SMA1	**SAN MARTINO**	**0.39**	**158**	⇓P	**Pg**	**14 45 28.1**	**-0.8**
SMA1				AML	AML		
	comp=E,12950μm,0.6s						
SMA1				AML	AML		
	comp=N,10840μm,0.7s						
SMA1				AML	AML		
	comp=N,10850μm,0.7s						
LNSS	**Leonessa**	**0.39**	**190**	P	**Pg**	**14 45 28.2**	**-0.8**
LNSS				AML	AML		
	comp=N,7250μm,0.3s						
LNSS				AML	AML		
	comp=E,3350μm,0.7s						
LNSS				AML	AML		
	comp=N,7245μm,0.3s						
CING	**Cingoli**	**0.39**	**6**	⇑P	**Pg**	**14 45 28.4**	**-0.6**
CING				AML	AML		
	comp=N,7870μm,0.2s						
CING				AML	AML		
	comp=E,8775μm,0.3s						
OFFI	**Offida**	**0.41**	**97**	⇑P	**Pg**	**14 45 29.6**	**+0.4**
OFFI				AML	AML		
	comp=E,14550μm,0.5s						
OFFI				AML	AML		
	comp=N,18950μm,0.6s						
FOSV	**Fossato di Vic**	**0.41**	**318**	⇑P	**Pg**	**14 45 28.8**	**-0.6**
FOSV				AML	AML		
	comp=N,12350μm,1.3s						
FOSV				AML	AML		
	comp=E,7375μm,0.4s						
FOSV				AML	AML		
	comp=N,12400μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.41**	**299**	⇑P	**Pg**	**14 45 28.9**	**-0.5**
ATCC				AML	AML		
	comp=E,15750μm,0.3s						
ATCC				AML	AML		
	comp=N,11450μm,0.6s						
MMUR	**Monte Murano**	**0.47**	**347**	P	**Pg**	**14 45 28.9**	**-1.4**
MMUR				AML	AML		
	comp=E,22700μm,0.3s						
MMUR				AML	AML		
	comp=N,9455μm,1.5s						
RM33	**Pellescritta (**	**0.48**	**173**	⇓P	**Pg**	**14 45 29.7**	**-0.9**
RM33				S	**Sg**	**14 45 38.0**	**+1.1**
RM33				AML	AML		
	comp=E,3180μm,1.4s						
RM33				AML	AML		
	comp=N,3060μm,0.4s						
RM33				AML	AML		
	comp=E,3175μm,1.4s						
RM33				AML	AML		
	comp=N,3085μm,0.4s						
RM33				AML	AML		
	comp=E,3180μm,1.4s						
RM33				AML	AML		
	comp=N,3065μm,0.4s						
RM33				AML	AML		
	comp=N,3090μm,0.4s						
ARRO	**Arrone**	**0.49**	**214**	⇑P	**Pg**	**14 45 30.0**	**-0.8**
ARRO				S	**Sg**	**14 45 39.0**	**+1.8**
ARRO				AML	AML		
	comp=E,2260μm,1.2s						
ARRO				AML	AML		
	comp=N,2270μm,1.2s						
ARRO				AML	AML		
	comp=N,2275μm,1.2s						
CAMP	**Campotosto**	**0.49**	**156**	P	**Pg**	**14 45 29.8**	**-1.0**
CAMP				S	**Sg**	**14 45 37.6**	**+0.3**
CAMP				AML	AML		
	comp=E,2605μm,0.9s						
CAMP				AML	AML		
	comp=N,3010μm,0.6s						
T1211	**Morro Reatino**	**0.50**	**205**	⇓P	**Pg**	**14 45 30.3**	**-0.7**
T1211				AML	AML		
	comp=E,3180μm,1.4s						
T1211				AML	AML		
	comp=E,3025μm,1.4s						
T1211				AML	AML		
	comp=N,6030μm,1.6s						
T1211				AML	AML		
	comp=N,5815μm,0.6s						
T1211				AML	AML		
	comp=E,3180μm,1.4s						
T1211				AML	AML		
	comp=E,3030μm,1.4s						
T1211				AML	AML		
	comp=N,6030μm,1.5s						
TERO	**Teramo**	**0.50**	**136**	⇓P	**Pg**	**14 45 30.1**	**-0.9**
TERO				S	**Sg**	**14 45 38.0**	**+0.5**
TERO				AML	AML		
	comp=E,6685μm,0.5s						
TERO				AML	AML		
	comp=N,6055μm,0.3s						
TERO				AML	AML		
	comp=N,6315μm,0.3s						
TERO				AML	AML		
	comp=E,7020μm,0.5s						
SSFR	**Montelago di S**	**0.52**	**330**	⇑P	**Pg**	**14 45 31.5**	**+0.1**
SSFR				S	**Sb**	**14 45 40.0**	**-0.7**
SSFR				AML	AML		
	comp=E,15050μm,0.9s						
SSFR				AML	AML		
	comp=E,13850μm,0.4s						
SSFR				AML	AML		
	comp=E,15000μm,0.9s						
SSFR				AML	AML		
	comp=N,16250μm,0.2s						
SSFR				AML	AML		
	comp=N,15250μm,0.2s						
PP3	**Marolino**	**0.52**	**41**	⇓P	**Pb**	**14 45 32.0**	**-0.9**
PP3				AML	AML		
	comp=E,11610μm,0.5s						
PP3				AML	AML		
	comp=E,11250μm,1.0s						
PP3				AML	AML		
	comp=N,13450μm,0.7s						
PP3				AML	AML		
	comp=E,11615μm,0.5s						
PP3				AML	AML		
	comp=E,11200μm,1.0s						
PP3				AML	AML		
	comp=N,13250μm,0.7s						
MURB	**Monte Urbino**	**0.53**	**302**	P	**Pg**	**14 45 30.8**	**-0.6**
MURB				S	**Sb**	**14 45 41.0**	**+0.1**
MURB				AML	AML		
	comp=E,15400μm,0.4s						
MURB				AML	AML		
	comp=N,10505μm,0.5s						
MURB				AML	AML		
	comp=N,10845μm,0.5s						
MURB				AML	AML		
	comp=N,10460μm,0.5s						
MURB				AML	AML		
	comp=E,16600μm,0.4s						
ARVD	**Arcevia**	**0.53**	**345**	⇑P	**Pg**	**14 45 30.8**	**-0.7**
ARVD				S	**Sb**	**14 45 40.0**	**-1.0**
ARVD				AML	AML		
	comp=N,2665μm,0.4s						
ARVD				AML	AML		
	comp=E,5185μm,0.9s						
CESX	**Cesi**	**0.56**	**228**	⇑P	**Pg**	**14 45 31.0**	**-1.0**
CESX				AML	AML		
	comp=E,5640μm,0.6s						
CESX				AML	AML		
	comp=N,5920μm,0.5s						
ATFO	**Monte Foce - G**	**0.56**	**313**	P	**Pg**	**14 45 30.6**	**-1.5**
ATFO				AML	AML		
	comp=N,2925μm,0.5s						
ATFO				AML	AML		
	comp=E,3935μm,1.3s						
TRTR	**Tortoreto Alta**	**0.60**	**107**	⇓P	**Pb**	**14 45 33.5**	**-0.7**
TRTR				AML	AML		
	comp=N,14450μm,1.2s						
TRTR				AML	AML		
	comp=E,17850μm,0.5s						
FRON	**Frontone**	**0.61**	**331**	⇑P	**Pg**	**14 45 33.2**	**+0.2**
ATTE	**AVT- Monte Tez**	**0.61**	**290**	⇓P	**Pg**	**14 45 32.4**	**-0.7**
ATTE				AML	AML		
	comp=E,2525μm,0.4s						
ATTE				AML	AML		
	comp=N,3160μm,0.6s						
GIGS	**Gran Sasso**	**0.62**	**149**	P	**Pg**	**14 45 32.0**	**-1.4**
GIGS				S	**Sg**	**14 45 41.9**	**+0.4**
AOI	**Ancona**	**0.66**	**31**	⇑P	**Pg**	**14 45 33.5**	**-0.5**
AOI				AML	AML		
	comp=N,3375μm,0.6s						
AOI				AML	AML		
	comp=E,3575μm,0.4s						
AQU	**L'Aquila**	**0.66**	**163**	P	**Pg**	**14 45 30.9**	**-3.2**
ATVO	**AVT- Monte Val**	**0.66**	**307**	⇑P	**Pg**	**14 45 33.2**	**-0.9**
ATVO				AML	AML		
	comp=E,2585μm,0.5s						
ATVO				AML	AML		
	comp=N,2605μm,1.6s						
PIEI	**Pieia**	**0.70**	**322**	⇑P	**Pg**	**14 45 33.8**	**-1.0**
PIEI				S	**Sb**	**14 45 47.0**	**+1.0**
PIEI				AML	AML		
	comp=E,2145μm,0.3s						
PIEI				AML	AML		
	comp=N,2120μm,0.4s						
ATPI	**Pietralunga -**	**0.71**	**311**	⇓P	**Pg**	**14 45 34.3**	**-0.7**
ATPI				AML	AML		
	comp=N,2735μm,0.6s						
ATPI				AML	AML		
	comp=E,2475μm,1.6s						
ATPI				AML	AML		
	comp=N,2730μm,0.6s						
FIAM	**Fiamignano**	**0.72**	**181**	⇓P	**Pg**	**14 45 33.7**	**-1.4**
FIAM				AML	AML		
	comp=N,1395μm,0.7s						
FIAM				AML	AML		
	comp=E,1910μm,0.8s						
SENI	**Senigallia**	**0.72**	**6**	⇑P	**Pg**	**14 45 35.2**	**+0.1**
SENI				AML	AML		
	comp=E,2910μm,0.8s						
SENI				AML	AML		
	comp=N,90000μm,1.6s						
SENI				AML	AML		
	comp=E,2915μm,0.8s						
FSSB	**Fossombrone**	**0.75**	**340**	⇑P	**Pg**	**14 45 35.1**	**-0.7**
FSSB				S	**Sn**	**14 45 49.0**	**-1.2**
FSSB				AML	AML		
	comp=N,12600μm,0.4s						
FSSB				AML	AML		
	comp=E,8855μm,0.4s						
APEC	**Apecchio**	**0.78**	**318**	⇑P	**Pg**	**14 45 35.7**	**-0.5**
FAGN	**Fagnano**	**0.79**	**155**	⇑P	**Pg**	**14 45 35.6**	**-1.0**
FAGN				AML	AML		
	comp=E,4635μm,0.5s						
FAGN				AML	AML		
	comp=N,3760μm,0.5s						
BADI	**Badiali**	**0.83**	**309**	⇓P	**Pg**	**14 45 36.6**	**-0.8**
PE3	**Peglio**	**0.85**	**327**	P	**Pg**	**14 45 37.0**	**-0.7**
PE3				AML	AML		
	comp=E,23μm,0.3s						
PE3				AML	AML		
	comp=N,30μm,0.2s						
PE3				AML	AML		
	comp=N,30μm,0.2s						
T0110	**Collepietro**	**0.90**	**148**	P	**Pg**	**14 45 36.7**	**-1.8**
T0110				AML	AML		
	comp=N,3440μm,0.6s						
T0110				AML	AML		
	comp=E,3855μm,0.4s						
SACS	**San Casciano d**	**0.91**	**262**	⇑P	**Pg**	**14 45 39.0**	**+0.1**
SACS				AML	AML		
	comp=E,1640μm,0.7s						
SACS				AML	AML		
	comp=E,1460μm,0.6s						
SACS				AML	AML		
	comp=N,1830μm,0.9s						
SACS				AML	AML		
	comp=N,1790μm,0.9s						
CAFI	**Castiglion Fio**	**0.92**	**292**	⇑P	**Pg**	**14 45 39.7**	**+0.7**
CAFI				AML	AML		
	comp=E,1450μm,0.8s						
CAFI				AML	AML		
	comp=N,1290μm,0.9s						
CAFI				AML	AML		
	comp=E,1415μm,0.8s						
CAFI				AML	AML		
	comp=N,1260μm,0.9s						
CERT	**Cerreto**	**1.04**	**186**	⇑P	**Pg**	**14 45 40.1**	**-1.2**
CERT				AML	AML		
	comp=E,1750μm,0.6s						
CERT				AML	AML		
	comp=N,1040μm,0.6s						
CRE	**Caprese Michel**	**1.07**	**307**	⇓P	**Pg**	**14 45 41.6**	**-0.3**
CRE				AML	AML		
	comp=E,1085μm,0.5s						
CRE				AML	AML		
	comp=N,1004μm,0.8s						
TOLF	**Tolfa**	**1.25**	**223**	⇑P	**Pn**	**14 45 44.3**	**-1.0**
TOLF				AML	AML		
	comp=E,1028μm,0.8s						
TOLF				AML	AML		
	comp=N,696μm,0.8s						
GIUL	**Giuliano Di Ro**	**1.43**	**176**	P	**Pn**	**14 45 47.4**	**-0.4**
LATB	**Latina**	**1.50**	**185**	⇓P	**Pb**	**14 45 49.6**	**+0.1**
TRIF	**Trifonti**	**1.64**	**275**	⇓P	**Pn**	**14 45 51.1**	**+0.4**
IMOL	**Imola, Italy**	**1.70**	**324**	S	**Sg**	**14 46 17.0**	**+0.9**
BRJN	**Brijuni**	**1.97**	**13**	⇑P	**Pb**	**14 45 56.5**	**-1.0**
MAIM	**Mastiano**	**2.14**	**297**	P	**Pn**	**14 45 56.9**	**-0.6**
MAIM				AML	AML		
	comp=E,236μm,1.0s						
MAIM				AML	AML		
	comp=N,295μm,0.7s						
SGTA	**Sant Agata di**	**2.49**	**137**	S	**Sn**	**14 46 34.0**	**+0.9**
CEY	**Cerknica**	**2.90**	**18**	*e*Pn	**Pn**	**14 46 07.5**	**-0.6**
CGRP	**Cima Grappa**	**3.05**	**342**	S	**Sn**	**14 46 47.0**	**-0.1**
PGF	**Pioggiola**	**3.08**	**263**	*e*P	**Pn**	**14 46 11.0**	**+0.5**
PGF				*e*Sn	**Sn**	**14 46 48.4**	**+0.7**
	comp=N,23nm,0.7s						
SRKY	**Kupres RS**	**3.12**	**68**	*e*Pn	**Pb**	**14 46 15.3**	**-2.0**
MGRS	**Mrkonjic Grad**	**3.20**	**62**	*e*Pn	**Pn**	**14 46 11.6**	**-0.6**
STON	**Ston**	**3.35**	**90**	*e*Pn	**Pn**	**14 46 12.0**	**-2.2**
A051A	**Mrakovica**	**3.39**	**52**	*e*Pn	**Pn**	**14 46 15.6**	**+0.8**
BLY	**Banja Luka**	**3.42**	**58**	*e*Pn	**Pn**	**14 46 16.6**	**+1.5**
MATE	**Matera**	**3.54**	**130**	⇑P	**Pn**	**14 46 17.5**	**+0.6**
MYKA	**Terra Mystica**	**3.66**	**5**	*i* Pn	**Pn**	**14 46 18.3**	**-0.2**
	comp=N,8.8nm,0.4s,SNR=5.7						
OBKA	**Obir**	**3.66**	**15**	*e*Pn	**Pn**	**14 46 18.8**	**+0.2**
OBKA	**Obir**	**3.66**	**15**	*i* Pn	**Pn**	**14 46 18.4**	**-0.2**
	comp=N,4.1nm,0.2s						
OBKA	**Obir**	**3.66**	**15**	*e*Pn	**Pn**	**14 46 20.6**	**+2.0**
ABTA	**Abfaltersbach**	**3.79**	**353**	*i* Pn	**Pn**	**14 46 20.7**	**+0.4**
	comp=N,39nm,0.4s,SNR=17						
ABTA				*e*Sn	**Sn**	**14 47 04.2**	**-0.9**
	comp=N,27nm,0.5s						
TREB	**Trebinje**	**3.84**	**92**	*e*Pn	**Pn**	**14 46 21.4**	**+0.4**
SOKA	**Soboth**	**3.93**	**19**	*i* Pn	**Pn**	**14 46 22.7**	**+0.4**
	comp=N,2.3nm,0.3s						
BRY	**Bratogost**	**3.97**	**89**	*e*Pn	**Pn**	**14 46 23.9**	**+1.1**
HCY	**Herceg Novi**	**3.98**	**96**	*e*Pn	**Pn**	**14 46 19.8**	**-3.1**
KBA	**Koelnbreinsper**	**4.09**	**2**	*i* Pn	**Pn**	**14 46 24.9**	**+0.3**
	comp=N,6.9nm,0.2s,SNR=9.5						
KBA				*e*Sn	**Sn**	**14 47 11.5**	**-1.4**
	comp=N,28nm,0.4s						
KBA	**Koelnbreinsper**	**4.09**	**2**	*e*Pn	**Pn**	**14 46 24.8**	**+0.3**
SBF	**Sospel**	**4.24**	**284**	*e*P	**Pn**	**14 46 27.0**	**+0.5**

SBF eSn Sn 14 47 15.9 -0.5
comp=N,34nm,0.7s
HAPS Han Pijesak,BI 4.37 73 ePn Pn 14 46 28.9 +0.6
FETA Feichten 4.38 338 ePn Pn 14 46 30.6 +2.1
comp=N,12nm,0.4s,SNR=10
FETA eSn Sn 14 47 17.8 -2.1
comp=N,11nm,0.5s
WTTA Wattenberg 4.41 347 ePn Pn 14 46 30.8 +1.9
comp=N,4.1nm,0.2s
WTTA eSn Sn 14 47 21.9 +1.3
comp=N,22nm,0.4s
WTTA Wattenberg 4.41 347 ePn Pn 14 46 31.9 +3.0
DAVOX Davos/Dischmat 4.44 330 Pn Pn 14 46 30.6 +1.2
comp=N,4.3nm,0.3s,baz=151,slow=11,SNR=38
DAVOX Sn Sn 14 47 22.6 +1.1
comp=N,1.7nm,0.3s,baz=344,slow=20,SNR=1.6
comp=N,13nm,0.4s
SQTA Sankt Quirin 4.45 343 *i* Pn Pn 14 46 30.9 +1.5
comp=N,17nm,0.4s,SNR=8.1
SQTA eSn Sn 14 47 22.6 +1.1
comp=N,14nm,0.4s
WATA Walderalm 4.49 346 *i* Pn Pn 14 46 31.8 +1.9
comp=N,12nm,0.4s,SNR=7.7
WATA eSn Sn 14 47 23.7 +1.2
comp=N,25nm,0.3s
DRME Dracevica, Mon 4.54 98 ePn Pn 14 46 30.8 +0.3
ARSA Arzberg 4.59 21 *i* Pn Pn 14 46 30.7 -0.5
comp=N,2.9nm,0.3s
ARSA *i* Sn Sn 14 47 21.6 -3.1
comp=N,6.6nm,0.4s
ARSA Arzberg 4.59 21 ePn Pn 14 46 31.2 0.0
ARSA eSn Sn 14 47 21.3 -3.4
MOTA Moosalm 4.59 342 *i* Pn Pn 14 46 33.2 +1.9
comp=N,4.7nm,0.3s,SNR=6.9
MOTA eSn Sn 14 47 27.2 +2.2
comp=N,25nm,0.6s
RUDO Rudo 4.59 80 ePn Pn 14 46 31.2 -0.1
BBLS Lazići 4.65 77 ePn Pn 14 46 32.7 +0.6
BIOA Bad Ischl, Aus 4.72 4 ePn Pn 14 46 33.5 +0.5
comp=N,12nm,0.3s,SNR=9.1
BIOA *i* Sn Sn 14 47 28.6 +0.6
comp=N,28nm,0.5s
RJOB Jochberg 4.76 357 ePn Pn 14 46 34.7 +1.1
RJOB eSn Sn 14 47 30.3 +1.3
RETA Reutte 4.80 340 *i* Pn Pn 14 46 36.0 +1.8
comp=N,5.0nm,0.2s
PLONS Plons/SG 4.86 328 ePn Pn 14 46 38.9 +3.9
PLONS eSn Sn 14 47 33.3 +1.8
LMR La Mourre 4.86 276 ePn Pn 14 46 32.9 -2.0
LMR eSn Sn 14 47 32.1 +0.6
comp=N,378nm,2.0s
DAVA Damuels 4.88 333 *i* Pn Pn 14 46 36.9 +1.5
comp=N,20nm,0.7s
DAVA eSn Sn 14 47 32.0 -0.2
comp=N,15nm,0.5s
DAVA Damuels 4.88 333 ePn Pn 14 46 38.0 +2.7
DAVA eSn Sn 14 47 35.6 +3.5
MBDF Montbardon 4.92 293 eP Pn 14 46 37.3 +1.4
MBDF eSn Sn 14 47 32.1 -1.1
comp=N,11nm,0.5s
MOA Molln 4.93 9 *i* Pn Pn 14 46 35.9 0.0
comp=N,3.2nm,0.2s
MOA *i* Sn Sn 14 47 32.3 -0.9
comp=N,7.8nm,0.3s
MOA Molln 4.93 9 ePn Pn 14 46 36.0 +0.1
MOA eSn Sn 14 47 32.8 -0.4
MORH Mrgy, Hungar 5.09 49 ⇑P Pg 14 46 58.0 -0.7
DIVS Divibare 5.11 75 ePn Pn 14 46 33.8 -4.6
UBR Ueberruh 5.16 337 eSn Sn 14 47 41.8 +2.9
LPG La Plagne 5.23 301 eP Pn 14 46 40.9 +0.6
LPG eSn Sn 14 47 39.7 -1.3
comp=N,24nm,0.8s
LPL La Plagne 5.25 301 eP Pn 14 46 41.6 +1.1
LPL eSn Sn 14 47 39.5 -1.9
comp=N,51nm,0.9s
TIR Tirane 5.26 106 ⇓P Pn 14 46 40.8 +0.3
FRGS Fruska Gora 5.28 63 ⇓P Pg 14 47 02.0 -0.3
CONA Conrad Observa 5.30 20 ePn Pn 14 46 40.7 -0.4
comp=N,3.9nm,0.3s
CONA eSn Sn 14 47 40.5 -1.9
comp=N,6.7nm,0.5s
ORIF Oris-en-Rattie 5.58 293 eP Pn 14 46 46.9 +2.0
ORIF eSn Sn 14 47 48.5 -0.9
comp=N,137nm,1.8s
SMRF Simiane la Rot 5.59 283 eP Pn 14 46 45.7 +0.7
SMRF eSn Sn 14 47 47.6 -1.9
comp=N,531nm,2.3s
SULZ Cheisacher 5.76 324 eSn Sn 14 47 55.2 +1.4
BALST Balsthal 5.80 320 ePn Pn 14 46 49.9 +1.9
BALST eSn Sn 14 47 54.3 -0.6
GEC2 GERESS Array S 5.87 4 ePn Pn 14 46 47.8 -1.1
GEC2 eSn Sn 14 47 54.7 -1.9
GERES GERESS Array B 5.87 4 Pn Pn 14 46 47.9 -1.0
comp=N,1.2nm,0.3s,baz=172,slow=13,SNR=16
GERES Sn Sn 14 47 54.1 -2.5
comp=N,4.1nm,0.3s,baz=181,slow=25,SNR=13
comp=N,1.8nm,0.4s
CKRC Cesky Krumlov 5.89 8 ePN Pn 14 46 47.9 -1.2
CKRC eSN Sn 14 47 53.8 -3.1
MODS Modra-Piesok 6.12 27 ePN Pn 14 46 51.5 -0.7
MODS eSN Sn 14 48 00.8 -1.7
KHC Kasperske Hory 6.15 3 ePN Pn 14 46 51.6 -1.1
KHC eSN Sn 14 48 00.1 -3.3
WET Wettzell 6.16 358 ePn Pn 14 46 51.6 -1.3
WET eSn Sn 14 47 58.8 -4.8
CABF La Chapelle 6.19 308 eP Pn 14 46 54.1 +0.9
CABF eSn Sn 14 48 02.5 -1.8
comp=N,1.2nm,0.2s
BFO Black Forest 6.32 329 ePn Pn 14 46 57.3 +2.4
BFO eSn Sn 14 48 05.0 -2.3
VIVF Saint-Julien-l 6.39 290 eP Pn 14 46 58.0 +2.0
VIVF eSn Sn 14 48 08.0 -1.3
comp=N,348nm,2.6s
HINF Hinteralfeld 6.55 320 eP Pn 14 46 58.0 -0.1
HINF eSn Sn 14 48 06.8 -6.3
comp=N,31nm,0.6s
VYHS Vyhne 6.80 34 ePN Pn 14 47 04.7 +3.1
VYHS eSN Sn 14 48 16.1 -3.1
CDF Champ du Feu 6.80 325 eP Pn 14 47 01.1 -0.6
CDF eSn Sn 14 48 13.1 -6.3
comp=N,9.7nm,0.5s
ROTZ Rotzenmuhle 6.81 355 eSn Sn 14 48 15.0 -4.6
LASF Ste Croix 6.83 282 eP Pn 14 47 02.7 +0.7
HAU Haudompre 6.92 319 eP Pn 14 47 02.8 -0.5
HAU eSn Sn 14 48 16.1 -6.2
comp=N,50nm,0.6s
GZR Gura Zlata 7.33 68 ⇓P Pn 14 47 10.8 +1.9
SMF Signal de Mont 7.55 302 eP Pn 14 47 13.3 +1.4
SMF eSn Sn 14 48 34.4 -3.4
comp=N,129nm,1.9s
PAGF Fort de Pagny 7.60 320 eP Pn 14 47 13.0 +0.4
PAGF eSn Sn 14 48 31.8 -7.2
comp=N,8.0nm,0.5s
SFTF Sexfontaines 7.71 315 eP Pn 14 47 16.0 +2.0
baz=133
KEST Kesra 7.82 203 Pn Pn 14 47 21.1 +5.4
comp=N,0.5nm,0.3s,baz=68,slow=5.6,SNR=4.6
comp=N,4.2nm,0.7s
LOR Lormes 7.83 306 eP Pn 14 47 16.6 +0.9
baz=124
LOR eSn Sn 14 48 40.0 -4.7
comp=N,9.1nm,0.5s
MEZF Maizieres J'vi 7.90 317 eP Pn 14 47 17.8 +1.2
baz=137
MEZF eSn Sn 14 48 40.8 -5.4
comp=N,160nm,1.9s
BRG Berggiesshubel 7.91 4 eP Pn 14 47 19.3 +2.5
BRG Amp 14 47 22.7
comp=Z,1.4nm,0.5s
BRG *ex* x 14 48 40.9
BRG *ex* x 14 49 56.5
BRG Amp 14 50 28.0
comp=Z,7.5nm,1.2s
AVF Avril sur Loir 7.92 302 eP Pn 14 47 17.0 +0.1
AVF eSn Sn 14 48 41.3 -5.4
comp=Z,1.3nm,0.4s
SAVF Savonnieres en 7.94 318 eP Pn 14 47 17.6 +0.5
SSF Saint Saulge 7.94 304 eP Pn 14 47 18.2 +0.9
SSF eSn Sn 14 48 43.1 -4.3
comp=Z,51nm,1.5s
MTLF Montolieu 7.99 276 eP Pn 14 47 20.1 +2.2
BGF Bois d'Agland 8.14 300 eP Pn 14 47 21.8 +1.8
BGF eSn Sn 14 48 48.4 -3.9
comp=Z,4.8nm,0.4s
CAF Calviac 8.22 287 eP Pn 14 47 23.0 +1.9

CLL Collm 8.32 359 ePn Pn 14 47 20.0 -2.5
CLL *ex* x 14 47 27.0
CLL eSn Sn 14 48 40.0 -17
CLL *ex* x 14 48 53.0
CLL *ex* x 14 49 07.0
CLL *ex* x 14 49 18.0
CLL *ex* x 14 49 29.0
CLL eSg Sg 14 49 46.0 -2.4
comp=Z,16nm,1.4s
TCF Toulx Ste Croi 8.46 297 eP Pn 14 47 26.8 +2.4
TCF eSn Sn 14 48 54.1 -6.0
comp=Z,165nm,2.3s
GIVF Givet 9.13 324 eP Pn 14 47 34.2 +0.7
BAIF Baives 9.37 322 eP Pn 14 47 37.2 +0.4
NOA NORSAR Array B 18.12 357 LR LR 14 57 29.6
comp=Z,40nm,19.1s,baz=125,slow=40
FINES FINESS Array B 20.04 18 P Pn 14 49 56.4 -0.1
comp=Z,0.7nm,0.6s,baz=216,slow=14,SNR=1.4
KBZ Khabaz 21.60 78 P P 14 50 13.9 +2.1
comp=Z,1.6nm,0.7s,baz=351,slow=6.4,SNR=4.0
comp=Z,1.6nm,0.7s
TORD Torodi Ar. Bea 31.33 202 P P 14 51 44.3 +1.8
comp=Z,0.2nm,0.4s,baz=22,slow=8.0,SNR=1.4
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 47.70 60 P P 14 53 59.9 +1.3
comp=Z,0.2nm,0.5s,baz=272,slow=6.9,SNR=4.0
comp=Z,0.2nm,0.5s

MAN 05 15:05:59.6, 10.10N×125.15E, h28km, mb3.8, ML2.5, MS2.0, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.46**	**133**	⇑*eP*	Pn	15 06 13.1	+2.7
SCPH				*i* S	Sn	15 06 21.1	+3.4
TABP	**Talibon, Bohol**	**0.80**	**270**	⇑*iP*	Pn	15 06 15.3	+0.3
TABP				*i* S	Sn	15 06 27.6	+1.5

IDC 05 15:14:19.6±52.0, 23.47S×176.40W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=962.8km s-min=167.3km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.94**	**248**	P	P	15 21 38.1	-1.0
	2.4nm,1.0s,baz=104,slow=13,SNR=3.6						
	2.4nm,1.0s						
ASAR	**Alice Springs**	**45.36**	**259**	P	P	15 22 39.9	-0.1
	0.8nm,0.3s,baz=90,slow=7.5,SNR=16						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**45.73**	**265**	P	P	15 22 43.4	+0.4
	1.2nm,0.5s,baz=102,slow=8.3,SNR=35						
	1.2nm,0.5s						

MAN 05 15:41:19.9, 9.68N×126.50E, h23km, mb4.2, ML3.0, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.00**	**276**	*eP*	Pn	15 41 38.5	0.0
SCPH				*eS*	Sn	15 41 52.1	+0.1
TABP	**Talibon, Bohol**	**2.17**	**281**	⇓*eP*	Pn	15 41 55.3	+0.6
TABP				*i* S	Sb	15 42 25.7	+0.6

*IDC **05** 15:51:29.5±1.0, 28.03S×177.77W, h117km±9km, mb4.4/17, mbtmp4.8/18, MS3.4/10, Error ellipse: s-maj=17.1km s-min=13.3km az=166.0*
*NEIC **05** 15:51:31.9±2.1, 28.4S±0.1×177.6W±0.1, h149km±7km, mb4.6/30, Error ellipse: s-maj=18.4km s-min=14.8km az=129.0*
ISC 05 15:51:32.0±0.4, 28.51S±0.05×177.82W±0.08, h150km, n228, σ1.968/206, mb4.6/36, 7C-7D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.75**	**187**	P	Pn	15 51 53.7	-1.1
	12μm,0.2s,baz=2.4,slow=1.8,SNR=486						
RAO				S	Sn	15 52 11.8	-0.5
	8μm,0.4s,baz=264,slow=23,SNR=54						
RAO	**Raoul Island**	**0.75**	**187**	Pn	Pn	15 51 53.4	-1.5
GLKZ	**Green Lake**	**0.76**	**187**	P	Pn	15 51 54.0	-0.9
GLKZ				S	Sn	15 52 13.7	+1.2
WMGZ	**Waiomatatini S**	**9.81**	**198**	P	Pn	15 53 44.3	-5.1
HAZ	**Te Kaha**	**9.93**	**201**	P	Pn	15 53 45.7	-5.3
PKGZ	**Pakihiroa**	**9.96**	**199**	P	Pn	15 53 46.4	-5.1
PUZ	**Puketiti**	**10.09**	**198**	P	Pn	15 53 47.7	-5.4
PUZ				S	Sn	15 55 43.0	-1.7
RUGZ	**Raukumara Rang**	**10.15**	**201**	P	Pn	15 53 49.4	-4.7
TWGZ	**Tauwhareparae**	**10.26**	**199**	P	Pn	15 53 51.5	-3.9
TWGZ				S	Sn	15 55 49.3	+0.3
MWZ	**Matawai**	**10.54**	**200**	P	Pn	15 53 52.1	-7.0
MWZ				S	Sn	15 55 54.6	-1.1
TKGZ	**Te Karaka**	**10.54**	**199**	P	Pn	15 53 54.5	-4.6
TKGZ				S	Sn	15 55 55.1	-0.6
URZ	**Urewera**	**10.61**	**202**	P	Pn	15 53 53.4	-6.5
	2.5nm,0.3s,baz=354,slow=5.0,SNR=14						
URZ				S	Sn	15 55 56.3	-0.9
	12nm,0.3s,baz=35,slow=23,SNR=9.1						
URZ	**Urewera**	**10.61**	**202**	P	Pn	15 53 54.5	-5.4
URZ				S	Sn	15 55 55.7	-1.5
KMRZ	**Kaimai**	**10.68**	**208**	P	Pn	15 54 05.4	+4.5
RAGZ	**Rawiri**	**10.72**	**201**	P	Pn	15 53 58.1	-3.4
RAGZ				S	Sn	15 55 59.7	-0.5
MUGZ	**Murupara**	**10.92**	**203**	P	Pn	15 53 58.7	-5.4
RTZ	**Ruatahuna**	**10.97**	**202**	P	Pn	15 53 58.8	-6.0
SNGZ	**Shannon Statio**	**11.01**	**200**	P	Pn	15 54 01.5	-3.8
SNGZ				S	Sn	15 56 04.9	-2.0
KNZ	**Kokohu**	**11.13**	**198**	P	Pn	15 54 01.8	-5.1
MHGZ	**Mahia Peninsul**	**11.19**	**197**	P	Pn	15 54 03.9	-3.8
RAHZ	**Arahi**	**11.21**	**201**	P	Pn	15 54 02.6	-5.4
MRHZ	**Matea Rd**	**11.36**	**203**	P	Pn	15 54 06.8	-3.1
ARHZ	**Aropaoanui**	**11.56**	**200**	P	Pn	15 54 05.8	-6.6
BKZ	**Black Stump Fm**	**11.63**	**202**	P	Pn	15 54 07.6	-5.9
HIZ	**Hauiti**	**11.70**	**210**	P	Pn	15 54 16.7	+2.4
MCHZ	**McNeill Hill**	**11.82**	**201**	P	Pn	15 54 12.4	-3.4
NIUE	**Niue**	**11.84**	**39**	Pn	Pn	15 54 03.7	-13
KWHZ	**Kaweka Forest**	**11.89**	**202**	P	Pn	15 54 14.0	-2.8
BHHZ	**Black Hill Sta**	**12.07**	**203**	P	Pn	15 54 14.9	-4.2
KAHZ	**Kahuranaki**	**12.08**	**200**	P	Pn	15 54 13.7	-5.6
PNHZ	**Pukenui**	**12.40**	**202**	P	Pn	15 54 22.7	-0.8
BFZ	**Birch Farm**	**13.09**	**200**	P	Pn	15 54 27.1	-5.1
HOWZ	**Holdsworth Sta**	**13.51**	**202**	P	Pn	15 54 36.3	-1.4
TMWZ	**Te Maipa**	**13.58**	**201**	P	Pn	15 54 36.2	-2.4
TRWZ	**Traveller**	**13.91**	**201**	P	Pn	15 54 45.4	+2.6
DUWZ	**D'Urville Isla**	**14.01**	**207**	P	Pn	15 54 43.0	-1.0
MSWZ	**Moikau Station**	**14.07**	**202**	P	Pn	15 54 47.0	+2.3
NNZ	**Nelson**	**14.58**	**207**	P	Pn	15 54 49.6	-1.5
MRNZ	**Matariki Terra**	**14.99**	**208**	P	Pn	15 54 55.6	-0.6
OUENC	**Ouen Island, N**	**15.12**	**290**		Pn	15 54 57.4	-0.5
OUENC				IAmb	IAmb	15 55 11.5	
	comp=Z,19nm,0.7s						
AFI	**Afiamalu**	**15.57**	**22**	P	Pn	15 54 48.8	-15
	comp=Z,9.6nm,0.5s,baz=29,slow=6.0,SNR=5.6						
AFI				S	Sn	15 57 24.9	-32
	comp=Z,17nm,0.6s,baz=258,slow=23,SNR=1.3						
DZM	**Mont Dzumac**	**15.60**	**291**	*ePn*	P	15 55 07.3	+2.3
	comp=Z,97nm,0.9s						
DZM				eLR	LR	15 58 50.6	
	comp=Z,268nm,32.1s						
DZM	**Mont Dzumac**	**15.60**	**291**	P	P	15 55 07.4	+2.4
	comp=Z,5.8nm,0.8s,baz=111,slow=15,SNR=5.5						
DZM				LR	LR	15 59 24.6	
	comp=Z,127nm,20.6s,baz=131,slow=31						
DZM	**Mont Dzumac**	**15.60**	**291**	P	P	15 55 06.7	+1.6
DZM				IAmb	IAmb	15 55 15.7	
	comp=Z,46nm,0.7s						
OXZ	**Oxford**	**16.89**	**206**	P	P	15 55 18.0	-1.0
RPZ	**Rata Peaks**	**17.61**	**208**	S	S	15 58 34.2	-8.0
	comp=Z,11nm,0.8s,baz=321,slow=23,SNR=6.1						
RPZ				LR	LR	16 03 01.8	
	comp=Z,92nm,21.0s,baz=18,slow=38						
RAR	**Rarotonga**	**17.90**	**70**	P	P	15 55 29.9	-0.4
	comp=Z,8.5nm,0.5s,baz=231,slow=7.3,SNR=5.9						
TBI	**Tubuai**	**25.98**	**85**	*eLR*	LR	16 03 14.0	
	comp=Z,812nm,34.2s						
TBI	**Tubuai**	**25.98**	**85**	*eT*	T	16 23 05.6	
	comp=Z,6.5nm,0.3s						
PAE	**Paea**	**28.06**	**74**	*eT*	T	16 25 37.9	
	comp=Z,3.9nm,0.3s						

PPT2 Papeete2 28.10 73 *eLR* LR 16 04 11.4
comp=Z,96nm,26.8s
PPT2 Papeete2 28.10 73 *eT* T 16 25 46.8
comp=Z,1.9nm,0.2s
PPT Papeete 28.11 73 LR LR 16 07 04.0
comp=Z,48nm,19.7s,baz=249,slow=34
VAH Vaihoa 30.87 71 *eT* T 16 29 04.2
comp=Z,6.4nm,0.2s
STKA Stephens Creek 35.10 254 P P 15 58 14.7 +3.7
comp=Z,1.4nm,0.3s,baz=103,slow=8.7,SNR=12
STKA LR LR 16 11 33.0
comp=Z,63nm,19.1s,baz=212,slow=34
comp=Z,1.4nm,0.3s
STKA Stephens Creek 35.10 254 P P 15 58 12.4 +1.4
KRVT Keravat (AS076 37.41 304 P P 15 58 29.9 -0.9
comp=Z,34nm,0.6s,baz=302,slow=4.0,SNR=8.9
comp=Z,34nm,0.6s
PMG Port Moresby 37.98 293 P P 15 58 36.2 +0.7
comp=Z,15nm,0.8s,baz=130,slow=8.3,SNR=3.6
comp=Z,15nm,0.8s
COEN Coen 38.94 284 P P 15 58 41.5 -2.1
TAOE Nuku Hiva Isla 40.45 69 *eLR* LR 16 09 53.9
comp=Z,69nm,24.4s
AS31 Alice Springs 43.40 265 P P 15 59 21.2 +1.2
ASAR Alice Springs 43.40 265 P P 15 59 21.2 +1.2
comp=Z,6.0nm,0.8s,baz=97,slow=6.9,SNR=57
ASAR pP pP 15 59 48.5 -4.0
comp=Z,1.8nm,0.8s,baz=98,slow=7.4,SNR=4.4
ASAR PcP PcP 16 01 07.0 +1.3
comp=Z,1.7nm,0.5s,baz=113,slow=4.1,SNR=7.1
ASAR ScP ScP 16 04 47.4 +4.2
comp=Z,0.8nm,0.8s,baz=104,slow=4.5,SNR=5.3
comp=Z,6.0nm,0.8s
WR0 Warramunga Arr 44.03 270 P P 15 59 25.9 +0.8
WB2 Warramunga Arr 44.21 270 P P 15 59 27.7 +1.2
WB2 IAmb IAmb 15 59 29.5
comp=Z,19nm,1.1s
WRAB Tennant Creek 44.21 270 P P 15 59 27.6 +1.1
WRAB IAmb IAmb 15 59 29.4
comp=Z,14nm,1.1s
WRA Warramunga Arr 44.22 270 P P 15 59 26.9 +0.4
comp=Z,4.9nm,0.3s,baz=109,slow=6.2,SNR=252
WRA pP pP 15 59 56.0 -3.1
comp=Z,7.1nm,0.9s,baz=106,slow=8.2,SNR=11
WRA PcP PcP 16 01 09.4 +0.8
comp=Z,6.3nm,0.9s,baz=108,slow=3.6,SNR=12
WRA ScP ScP 16 04 50.6 +4.2
comp=Z,1.4nm,0.8s,baz=109,slow=4.1,SNR=6.5
WRA LR LR 16 15 48.8
comp=Z,80nm,19.9s,baz=248,slow=33
comp=Z,4.9nm,0.3s
WRA Warramunga Arr 44.22 270 P P 15 59 27.1 +0.5
WB0 Warramunga Arr 44.23 270 P P 15 59 27.2 +0.6
WB0 IAmb IAmb 15 59 58.6
comp=Z,11nm,0.9s
FORT Forrest 46.71 253 P P 15 59 46.4 +0.5
FORT IAmb IAmb 15 59 48.0
comp=Z,13nm,0.9s
VNDA Vanda 49.99 186 P P 16 00 15.5 +5.2
comp=Z,0.7nm,0.7s,baz=355,slow=7.6,SNR=6.0
VNDA Vanda 49.99 186 P P 16 00 10.2 -0.1
KNRA Kununurra 50.75 273 P P 16 00 16.3 -0.6
GUMO Guam 55.26 314 LR LR 16 23 40.8
comp=Z,12nm,18.2s,baz=126,slow=35
SIJI Sorong 55.81 290 P P 16 00 53.4 -0.6
comp=Z,35nm,0.8s,baz=82,slow=4.6,SNR=37
comp=Z,35nm,0.8s
BATI Baumata 57.59 276 LR LR 16 24 20.8
comp=Z,102nm,21.2s,baz=303,slow=34
QSPA South Pole Qui 61.60 180 P P 16 01 34.3 +0.9
QSPA IAmb IAmb 16 01 42.2
comp=Z,5.1nm,0.7s
KAPI Kappang 63.45 279 LR LR 16 28 52.7
comp=Z,45nm,21.2s,baz=284,slow=35
LEM Lembang 73.22 271 P P 16 02 49.5 +2.2
comp=Z,37nm,0.7s,baz=126,slow=6.2,SNR=10
comp=Z,37nm,0.7s
KSM Kuching 74.83 280 P P 16 02 55.7 -0.7
KSM IAmb IAmb 16 02 58.4
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 76.78 325 P P 16 03 05.9 -1.0
comp=Z,14nm,0.8s,baz=155,slow=5.5,SNR=33
comp=Z,14nm,0.8s
JSU Suzuyama 77.36 317 P P 16 03 07.2 -3.1
JSU IAmb IAmb 16 03 10.7
comp=Z,18nm,0.7s
TROLL Troll, Antarti 79.76 180 P P 16 03 27.2 +4.2
SNAA Sanae 80.04 178 P P 16 03 28.2 +3.7
VNA3 Neumayer Olymp 80.18 176 P P 16 03 28.6 +3.4
VNA2 Neumayer--Watz 80.61 177 P P 16 03 31.2 +3.7
baz=176,slow=4.3
ASAJ Asahikawa 80.84 332 LR LR 16 35 10.7
comp=Z,21nm,18.8s,baz=160,slow=33
VNA1 Neumayer--Stat 80.84 176 P P 16 03 32.6 +4.0
H03S2 Juan Fernandez 81.38 124 T T 17 33 49.8
baz=240,slow=75,SNR=7.0
H03S1 Juan Fernandez 81.39 124 T T 17 33 50.2
baz=240,slow=75,SNR=6.4
H03S3 Juan Fernandez 81.40 124 T T 17 33 40.5
baz=240,slow=75,SNR=5.5
UNV Unalaska Valle 82.59 7 P P 16 03 38.0 +0.2
baz=190
KSRS Korea Array 83.02 319 P P 16 03 40.1 -0.3
comp=Z,5.4nm,1.1s,baz=132,slow=6.4,SNR=7.2
comp=Z,5.4nm,1.1s
YSS Yuzh-Sakhalins 83.12 334 P P 16 03 36.4 -4.3
LPIG La Paz 83.41 58 LR LR 16 32 03.8
comp=Z,25nm,21.8s,baz=34,slow=29
PKM Mcpherson Peak 83.51 45 P P 16 03 43.4 +0.1
baz=228
PETK Petropavlovsk- 84.03 345 P P 16 03 44.1 -1.1
comp=Z,6.8nm,0.8s,baz=157,slow=8.0,SNR=7.0
comp=Z,6.8nm,0.8s
MURC Murrieta 84.33 47 P P 16 03 47.4 +0.1
baz=230
HOPS Hopland Field 84.36 40 P P 16 03 47.6 +0.3
MONP2 Monument Peak 84.38 48 P P 16 03 47.9 +0.1
baz=231
IKP In-Ko-Pah, Jac 84.44 48 P P 16 03 49.0 +1.0
baz=231
BFSC Mount Baldy Ra 84.44 46 P P 16 03 47.8 -0.1
baz=230
VES Vestal, Richgr 84.59 44 P P 16 03 48.6 +0.2
baz=229
EDW2 Edwards Air Fo 84.64 46 P P 16 03 49.2 +0.3
baz=230,SNR=5.8
TPFO Pinon Flats 84.81 47 P P 16 03 49.5 -0.3
baz=231
PFO Pinyon Flats O 84.81 47 P P 16 03 49.7 -0.1
comp=Z,5.3nm,0.8s,baz=216,slow=3.7,SNR=9.3
comp=Z,5.3nm,0.8s
PFO Pinyon Flats O 84.81 47 P P 16 03 50.0 +0.1
baz=231
SWSC Sam W. Stewart 84.83 48 P P 16 03 49.7 0.0
baz=231
ISA Isabella, Lake 84.85 45 P P 16 03 50.8 +0.9
baz=229
NJ2 Nanjing 85.14 310 *eP* P 16 03 55.2 +3.9
NJ2 pmax pmax
comp=Z,11nm,0.5s
LRMC Laurel Mtn Rad 85.22 45 P P 16 03 52.3 +0.5
baz=230,SNR=6.3
BELC Belle Mtn. Jos 85.36 47 P P 16 03 53.6 +1.1
baz=231,SNR=9.2
BC3 Big Chuckawall 85.49 48 P P 16 03 53.8 +0.6
baz=231
GLA Glamis 85.53 49 P P 16 03 53.5 +0.2
baz=232
CWC Cottonwood Cre 85.59 44 P P 16 03 54.0 +0.3
baz=230
GSC Goldstone, Bar 85.66 46 P P 16 03 53.9 0.0
baz=230,SNR=8.0
HEC Hector,Ludlow 85.66 46 P P 16 03 54.1 +0.1
baz=231
USRK Ussuriysk Ar. 85.68 326 P P 16 03 52.4 -1.3
comp=Z,5.8nm,0.8s,baz=96,slow=5.7,SNR=6.3
comp=Z,5.8nm,0.8s
MPMC Manual Prospec 85.71 45 P P 16 03 55.0 +0.6
baz=230
IRM Iron Mountain 86.01 48 P P 16 03 56.5 +0.9
baz=231,SNR=8.2
GMRC Granite Mounta 86.06 47 P P 16 03 56.2 +0.2
baz=231
214A Organ Pipe Nat 86.22 51 P P 16 03 56.6 -0.1
baz=233
TUQ Turquoise Moun 86.30 46 P P 16 03 58.0 +0.8
baz=231,SNR=6.2
SHOC Shoshone, Teco 86.37 46 P P 16 03 58.1 +0.7

baz=231
LHV Little Huntoon 86.51 43 P P 16 03 56.9 -1.0
LHV IAmb IAmb 16 03 59.6
comp=Z,6.1nm,0.8s
NVAR Mina Array Bea 86.75 43 P P 16 03 58.6 -0.8
comp=Z,4.6nm,0.7s,baz=222,slow=8.0,SNR=39
comp=Z,4.6nm,0.7s
NVAR Mina Array Bea 86.75 43 P P 16 03 59.5 +0.1
PDMCI Parker Dam,Lak 86.75 48 P P 16 03 59.9 +0.7
baz=232
TPNV Topopah Spring 87.05 45 P P 16 04 01.1 +0.3
baz=231
TPH Tonopah 87.17 44 P P 16 04 01.9 +0.6
KVN Kaiserville 87.27 42 P P 16 04 01.1 -0.7
KVN IAmb IAmb 16 04 02.8
comp=Z,5.9nm,0.7s
TUC Tucson 87.81 51 P P 16 04 05.9 +1.4
baz=234
Q17K Contact Creek 88.37 11 P P 16 04 04.9 -1.5
baz=199
KDAK Kodiak Island 88.54 13 P P 16 04 05.6 -1.5
baz=202
Q16K King Salmon 88.63 11 P P 16 04 06.2 -1.3
baz=198
Q18K Katmai Hardscr 88.89 12 P P 16 04 07.8 -1.1
baz=200
P17K Kvichak River 89.16 11 P P 16 04 09.1 -0.8
baz=198
WUAZ Wupatki 89.30 48 P P 16 04 12.7 +1.2
baz=234,SNR=5.9
O18K Koktuh Hills 89.99 11 P P 16 04 12.5 -1.4
baz=199
121A Cookes Peak, D 90.02 53 P P 16 04 15.4 +0.5
baz=236
N16K Nishlik Lake 90.02 9 P P 16 04 13.3 -0.7
baz=196
MTPU Mount Pierson 90.27 46 P P 16 04 17.3 +1.1
MTPU IAmb IAmb 16 04 18.8
comp=Z,8.4nm,0.9s
O19K Port Alsworth 90.47 11 P P 16 04 14.7 -1.4
baz=200
BRSE Bradley Lake S 90.72 13 P P 16 04 16.5 -0.8
baz=203
GYA Guiyang 90.75 300 ⇓P P 16 04 19.1 +0.7
GYA pmax pmax
comp=Z,15nm,0.9s
G08A Pilot Rock 90.86 37 P P 16 04 17.0 -1.5
DUG Dugway, Tooele 91.17 44 P P 16 04 19.3 -0.8
baz=233
TXAR Lajitas Array 91.24 57 P P 16 04 21.8 +1.2
comp=Z,1.0nm,0.8s,baz=216,slow=6.2,SNR=8.7
comp=Z,1.0nm,0.8s
BMO Blue Mountains 91.47 38 P P 16 04 20.8 -0.4
BMO IAmb IAmb 16 04 23.1
comp=Z,5.6nm,1.2s
O22K Cooper Landing 91.61 13 P P 16 04 20.0 -1.3
baz=204
TMUT Trail Mountain 91.63 45 P P 16 04 22.9 +0.5
P23K Montague Islan 91.67 15 P P 16 04 20.2 -1.4
baz=206
N20K Mount Spurr 91.78 12 P P 16 04 21.0 -1.3
baz=202
M19K Big River Lodg 92.06 11 P P 16 04 22.3 -1.1
baz=200
GAMB Gambell 92.10 3 P P 16 04 22.9 -0.6
baz=185
HVU Hansel Valley 92.15 43 P P 16 04 24.1 -0.4
HVU IAmb IAmb 16 04 25.9
comp=Z,6.3nm,0.9s
MVCO Mesa Verde 92.17 48 P P 16 04 24.7 -0.2
baz=235
L19K White Mountain 92.24 11 P P 16 04 23.6 -0.7
baz=200
HLID Hailey 92.27 41 P P 16 04 25.3 +0.2
baz=232
ANMO Albuquerque 92.28 51 P P 16 04 25.6 +0.2
baz=236
SUA Susitna One 92.30 13 P P 16 04 23.2 -1.5
baz=203
PLID Pearl Lake 92.33 39 P P 16 04 23.6 -1.8
PLID IAmb IAmb 16 04 26.2
comp=Z,7.5nm,1.0s
SKT Skwentna 92.63 12 P P 16 04 24.4 -1.7
baz=202
L20K Farewell, AK 92.68 11 P P 16 04 24.6 -1.7
baz=200
CMAR Chiang Mai Arr 92.93 289 P P 16 04 29.8 +1.3
comp=Z,1.6nm,0.8s,baz=147,slow=3.5,SNR=12
comp=Z,1.6nm,0.8s
SML Sawmill 93.10 14 P P 16 04 27.7 -0.6
baz=205
XAN Xi'an 93.10 307 P P 16 04 30.3 +1.3
XAN pmax pmax
comp=Z,9.0nm,1.2s
BMRM Bremner River 93.17 16 P P 16 04 27.9 -0.8
baz=208
CUT Chulitna 93.26 12 P P 16 04 27.3 -1.6
baz=204
SCM Sheep Creek Mo 93.33 14 P P 16 04 28.2 -1.2
baz=206
K20K Telida 93.48 10 P P 16 04 27.6 -2.3
baz=200
S22A 4UR Ranch, Cre 93.57 49 P P 16 04 29.3 -2.1
baz=236
N25K Chitina, Valde 93.73 15 P P 16 04 29.7 -1.6
baz=208
NEW Newport 93.75 36 P P 16 04 28.9 -2.7
baz=230
CAST Castle Rocks 93.86 11 P P 16 04 28.6 -3.1
baz=202
WAT1 Susitna Watana 93.98 13 P P 16 04 30.4 -1.9
baz=205
TRF Thorofare Moun 94.21 12 P P 16 04 32.3 -1.2
baz=204
J20K Nowinta River 94.23 10 P P 16 04 32.4 -0.9
baz=200
TPAW Teton Pass 94.24 42 P P 16 04 32.5 -1.8
TPAW IAmb IAmb 16 04 35.5
comp=Z,3.0nm,0.8s
MSTX Muleshoe 94.32 54 P P 16 04 33.9 -0.8
baz=238
SDCO Great Sand Dun 94.45 49 P P 16 04 34.7 -0.7
baz=237
PZH PanZhiHua 94.57 298 P P 16 04 35.3 -0.7
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.1s
BW06 Boulder Array 94.66 43 P P 16 04 35.4 -0.7
baz=235
PDAR Pinedale Array 94.66 43 P P 16 04 34.8 -1.4
comp=Z,1.8nm,0.8s,baz=214,slow=3.3,SNR=14
comp=Z,1.8nm,0.8s
PDAR Pinedale Array 94.66 43 P P 16 04 34.3 -1.8
MCK McKinley 94.72 12 P P 16 04 34.9 -0.8
baz=205
P32M Atlin 95.01 21 P P 16 04 37.0 -0.1
baz=218
M27K Edge Creek, AK 95.03 16 P P 16 04 36.1 -1.2
baz=211
BOZ Bozeman (W) 95.09 40 P P 16 04 36.9 -1.1
baz=234
Q24A Divide 95.34 48 P P 16 04 38.4 -1.1
baz=237
WHY Whitehorse 95.50 20 P P 16 04 38.2 -1.3
baz=217
HDA Harding Lake 95.72 13 P P 16 04 38.5 -1.7
baz=206
ILAR Eielson Array 96.05 13 P P 16 04 40.2 -1.4
comp=Z,1.2nm,0.8s,baz=220,slow=5.3,SNR=7.0
comp=Z,1.2nm,0.8s
J26L Joseph Creek 96.50 14 P P 16 04 43.1 -0.7
J26L Joseph Creek 96.50 14 P P 16 04 43.3 -0.5
baz=210
M53A WI Miller and 113.29 54 P PKiKP 16 09 49.7 -2.1
baz=252
MKAR Makanchi Array 116.67 311 PKP PKPdf 16 09 57.7 -0.5
comp=Z,1.9nm,0.8s,baz=111,slow=1.1,SNR=13
NRIK Noril'sk 117.97 336 PKP PKPdf 16 09 59.6 -0.3
comp=Z,1.0nm,0.3s,baz=60,slow=3.6,SNR=4.0
GEYT Alibeck 132.88 297 PKP PKPdf 16 10 29.1 -0.3
ARCES ARCESS Array B 136.78 348 PKhKP PKPpre 16 10 32.9
comp=Z,2.1nm,0.8s,baz=39,slow=4.7,SNR=4.2
H10N3 ASCENSION HYDR 140.44 153 T T 18 48 30.7
baz=204,slow=75,SNR=6.7
H10N1 ASCENSION HYDR 140.44 154 T T 18 48 22.6
baz=204,slow=75,SNR=6.5
H10N2 ASCENSION HYDR 140.46 153 T T 18 48 25.4
baz=204,slow=75,SNR=6.2
FINES FINESS Array B 143.42 341 PKhKP PKPpre 16 10 44.5
comp=Z,1.9nm,0.5s,baz=48,slow=3.8,SNR=22
KBZ Khabaz 144.16 306 PKP PKPdf 16 10 50.1 +0.3
comp=Z,3.7nm,0.9s,baz=102,slow=2.3,SNR=6.8
NB2 NORSAR Subarra1 146.91 352 PKP PKPbc 16 10 55.7 -0.5
comp=Z,4.0nm,0.6s,baz=10,slow=2.9
NOA NORSAR Array B 146.91 352 PKPbc PKPbc 16 10 55.4 -0.8
comp=Z,12nm,0.9s,baz=15,slow=4.5,SNR=11
MNK Minsk 148.02 331 *i* PKP **PKPdf 16 10 56.4 +0.4**
comp=E,4.0nm,1.4s
MNK *i* PKP **PKPdf 16 10 56.4 +0.4**
comp=N,20nm,1.0s
MNK *i* PKP **PKPdf 16 10 56.4 +0.4**
comp=Z,35nm,1.0s,baz=45
MNK *i* pPKP **pPKPdf 16 11 33.7 -1.6**
MNK *i* PP **PP 16 14 25.8 -2.4**
MNK *i* PPP PPP 16 17 45.2
MNK *i* SKS **SKSdf 16 17 54.8 +4.6**
MNK *i* SKKS **SKKSdf 16 26 52.1 +0.8**
MNK *i* SS **SS 16 33 20.4 -1.2**
MNK *i* SSS SSS 16 38 57.6
MNK *i* LRM MLR 17 17 53.5
comp=Z,50nm,12.7s
MNK *i* LRM MLR 17 18 10.0
MNK *i* LRM MLR 17 18 22.8
comp=N,785nm,12.7s
NACGM Naroch 148.19 333 *e*PKP **PKPbc 16 10 59.8 +0.1**
comp=Z,38nm,0.9s,baz=43
AKASG Malin Array Be 149.87 325 PKPbc PKPbc 16 11 04.2 +0.1
comp=Z,16nm,0.7s,baz=47,slow=3.6,SNR=38
BRTR Keskin Array B 151.79 302 PKPbc PKiKP 16 11 09.7 +0.2
comp=Z,5.5nm,0.7s,baz=137,slow=3.9,SNR=18
SORM Soroca 151.84 321 ⇑P PKiKP 16 11 09.1 0.0
ANTO Ankara 152.39 302 ⇑P PKiKP 16 11 11.6 +1.0
TESR Tescani 153.72 320 ⇓P PKPab 16 11 26.7 +0.3
BURAR Bucovina Array 153.84 323 ⇑P PKiKP 16 11 15.2 +1.7
VRI Vrincioaia 154.03 318 ⇑P PKPab 16 11 28.5 +0.7
PLOR Plostina 154.09 319 ⇓P PKPab 16 11 31.1 +3.0
DOPR Dopca 154.75 320 ⇑P PKPab 16 11 31.5 +0.7
VOIR 155.25 319 ⇓P PKPab 16 11 32.5 -0.6
DRGR 155.68 324 ⇓P PKPab 16 11 35.8 +0.9
CLL Collm 155.81 343 *e*PKPdf **PKPdf 16 11 08.0 +0.3**
comp=Z,6.0nm,1.3s
CLL *e*PKPdif PKPdf 16 11 17.0 +9.3
CLL *e*PKPab **PKPab 16 11 34.0 -1.1**
comp=Z,5.0nm,1.0s
CLL *e*(pPKPab) 16 12 08.0
VRAC Vranov 156.47 336 ⇑P PKPab 16 11 37.7 -0.3
KHC Kasperske Hory 157.62 340 *e*PKPAB **PKPab 16 11 42.0 -1.1**
GERES GERESS Array B 157.84 340 PKPab PKPab 16 11 43.9 -0.2
comp=Z,0.8nm,0.8s,baz=28,slow=4.4,SNR=5.1
VTS Vitosha 157.91 315 ⇓P PKPab 16 11 46.8 +2.1
FRGS Fruska Gora 158.28 325 ⇑P PKPab 16 11 45.6 -0.5
SANT Santorini 158.88 298 ⇓P PKPab 16 11 48.7 -0.4
TORD Torodi Ar. Bea 164.71 178 PKP PKPdf 16 11 19.1 +0.5
comp=Z,1.8nm,0.9s,baz=308,slow=1.9,SNR=7.4
TORD PKPab **PKPab 16 12 18.3 +3.6**
comp=Z,1.5nm,0.7s,baz=171,slow=3.6,SNR=7.6
ESDC Sonseca Array 167.76 23 PKPab PKPab 16 12 27.3 -0.5
comp=Z,1.2nm,1.1s,baz=336,slow=2.8,SNR=4.7

TAP 05 15:59:26.5, 24.33N×121.06E, h13km±1km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHP	**Taichung City**	**0.12**	**245**	*i* P	Pb	15 59 30.7	+0.1
	baz=244						
WHP				*i* S	Sb	15 59 32.9	-0.4
	baz=244						
TDCB	**Techi**	**0.12**	**129**	P	Pb	15 59 30.8	+0.2
	baz=129						
TDCB				S	Sg	15 59 32.6	+0.4
	baz=129						
TWT	**Tachien**	**0.13**	**125**	*i* P	Pb	15 59 30.9	0.0
	baz=129						
WHF	**Hehuan Shan**	**0.26**	**134**	*e*S	Sb	15 59 37.7	-0.1
	baz=133						
CHGB	**Renai**	**0.28**	**159**	*e*S	Sg	15 59 36.5	-0.1
	baz=158						
WCS	**Beigang Elemen**	**0.30**	**207**	*e*S	Sb	15 59 38.7	+0.1
	baz=206						
NSTT	**Nanjuang**	**0.31**	**350**	*e*P	Pb	15 59 33.4	-0.4
	baz=351						
NSTT				S	Sg	15 59 37.6	+0.5
	baz=351						
DPDB	**Guoxing**	**0.32**	**203**	*e*P	Pb	15 59 34.1	+0.1
	baz=202						
DPDB				S	Sb	15 59 39.0	-0.1
	baz=202						
WPL	**Puli Township**	**0.33**	**197**	*e*P	Pb	15 59 34.6	+0.4
	baz=197						
WPL				*e*S	Sb	15 59 38.9	-0.5
	baz=197						
WUSB	**Renai**	**0.34**	**171**	*e*S	Sb	15 59 39.5	-0.2
	baz=171						

MAN 05 16:07:20.8, 12.37N×123.69E, h10km, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**1.23**	**229**	⇓*e*P	Pn	16 07 43.5	-0.6
RCP				*e*S	Sn	16 08 00.8	+0.1

*IDC **05** 16:19:43.7±0.8, 52.°11S×15.°69E, h0km, mb4.1/9, mbtmp4.2/9, MS3.8/38, Error ellipse: s-maj=32.3km s-min=18.4km az=92.0*
*NEIC **05** 16:19:44.1±1.7, 52.°0S±0.°1×15.°1E±0.°2, h10km±1km, mb4.8/14, Error ellipse: s-maj=23.6km s-min=18.3km az=311.0*
*GCMT **05** 16:19:52.1±0.3, 52.°15S±0.°02×15.°63E±0.°05, h19km±1km, MW5.0/92, Moment Tensor Solution. s17,c19; s92,c116; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.42±.24; Mθθ=3.09±.16; Mθφ=0.33±.14; Mrθ=2.27±.30; Mφφ=-0.62±.10; Mφr=1.24±.40; Best double couple: Mφ=4.16900×10^16 NP1:φs=261.00000°, δ=64.00000°, λ=-108.00000°. NP2: φs=117.00000°, δ=32.00000°, λ=-58.00000°. Principal axes: T 3.8180, Plg=17.0000°, Azm=4.0000°; N 0.7030, Plg=16.0000°, Azm=269.0000°; P -4.5200, Plg=66.0000°, Azm=137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 16:19:44.2±0.6, 52.°01S±0.°09×15.°5E±0.°2, h10km, n64, σ1°63/28, mb4.4/12, MS3.8/38, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.00**	**13**	P	**Pn**	**16 24 19.5**	**+0.7**
	24nm,1.1s,baz=251,slow=7.5,SNR=4.2						
SUR				LR	LR	16 30 19.2	
	comp=Z,551nm,21.1s,baz=182,slow=32						
	24nm,1.1s						
SUR	**Sutherland**	**20.00**	**13**	P	**P**	**16 24 11.6**	**-5.5**
SUR				IAmb	IAmb	16 24 27.6	
	comp=Z,45nm,0.9s						
SOE	**Somerset East**	**20.64**	**25**	P	**P**	**16 24 20.8**	**-3.1**
SOE				IAmb	IAmb	16 24 25.5	
	comp=Z,85nm,1.4s						
TROLL	**Troll, Antarti**	**20.87**	**191**	P	**P**	**16 24 25.8**	**-0.4**
SNAA	**Sanae**	**21.35**	**196**	P	**P**	**16 24 31.1**	**0.0**
SNAA	**Sanae**	**21.35**	**196**	P	**P**	**16 24 31.2**	**0.0**
	comp=Z,12nm,1.1s,baz=16,slow=8.4,SNR=22						
SNAA				LR	LR	16 30 35.2	
	comp=Z,136nm,21.5s,baz=12,slow=31						
	comp=Z,12nm,1.1s						
SNAA	**Sanae**	**21.35**	**196**	P	**P**	**16 24 30.8**	**-0.4**
SNAA				IAmb	IAmb	16 24 37.4	
	comp=Z,48nm,1.3s						
VNA1	**Neumayer--Stat**	**21.60**	**201**	P	**P**	**16 24 34.8**	**+1.0**
VNA2	**Neumayer--Watz**	**21.62**	**200**	P	**P**	**16 24 33.4**	**-0.7**
	baz=33,slow=11						
VNA3	**Neumayer Olymp**	**22.35**	**201**	P	**P**	**16 24 40.9**	**-1.1**
BOSA	**Boshof**	**24.49**	**21**	P	**P**	**16 25 04.4**	**+0.8**
BOSA				LR	LR	16 33 00.5	
	comp=Z,7.9nm,1.0s,baz=163,slow=11,SNR=5.8						
	comp=Z,419nm,21.5s,baz=193,slow=32						
	comp=Z,7.9nm,1.0s						
BOSA	**Boshof**	**24.49**	**21**	P	P	16 24 53.8	-10
MAW	**Mawson**	**27.58**	**142**	LR	LR	16 33 57.6	
	comp=Z,126nm,21.7s,baz=290,slow=31						
LBTB	**Lobatse**	**28.04**	**20**	LR	LR	16 35 07.7	
	comp=Z,300nm,21.8s,baz=180,slow=33						
TSUM	**Tsumeb**	**32.78**	**4**	LR	LR	16 37 28.7	
	comp=Z,193nm,22.0s,baz=150,slow=32						
TSUM	**Tsumeb**	**32.78**	**4**	P	**P**	**16 26 17.8**	**+0.2**
TSUM				IAmb	IAmb	16 26 21.3	
	comp=Z,11nm,1.1s						
LSZ	**Lusaka**	**38.03**	**20**	LR	LR	16 41 05.2	
	comp=Z,351nm,21.3s,baz=166,slow=34						
QSPA	**South Pole Qui**	**38.23**	**180**	P	**P**	**16 27 03.5**	**-0.5**
	comp=Z,4.5nm,1.1s,baz=224,slow=0.9,SNR=5.5						
QSPA				LR	LR	16 43 34.9	
	comp=Z,45nm,18.1s,baz=236,slow=38						
	comp=Z,4.5nm,1.1s						
QSPA	**South Pole Qui**	**38.23**	**180**	P	**P**	**16 27 03.4**	**-0.6**
QSPA				IAmb	IAmb	16 27 28.8	
	comp=Z,20nm,1.5s						
PMSA	**Palmer Station**	**40.67**	**220**	LR	LR	16 39 54.8	
	comp=Z,214nm,19.4s,baz=86,slow=30						
PMSA	**Palmer Station**	**40.67**	**220**	P	**P**	**16 27 22.8**	**-1.3**
OPO	**Ambohidratompo**	**41.63**	**49**	LR	LR	16 42 57.5	
	comp=Z,76nm,18.1s,baz=44,slow=34						
VNDA	**Vanda**	**49.06**	**171**	P	**P**	**16 28 31.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=288,slow=3.4,SNR=7.1						
VNDA				LR	LR	16 47 39.8	
	comp=Z,151nm,21.6s,baz=196,slow=34						
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**49.06**	**171**	P	**P**	**16 28 30.9**	**+0.1**
MBAR	**Mbarara**	**52.81**	**19**	LR	LR	16 50 17.7	
	comp=Z,279nm,20.8s,baz=168,slow=35						
KIBK	**Kibwezi**	**52.98**	**29**	P	**P**	**16 29 02.1**	**+1.0**
KIBK				IAmb	IAmb	16 29 06.3	
	comp=Z,9.3nm,1.2s						
TRQA	**Tornquist**	**53.93**	**252**	P	P	16 29 04.4	-3.4
TRQA				IAmb	IAmb	16 29 13.8	
	comp=Z,22nm,1.4s						
PLCA	**Paso Flores**	**57.06**	**245**	LR	LR	16 52 27.0	
	comp=Z,39nm,18.0s,baz=154,slow=34						
CPUP	**Villa Florida**	**59.27**	**266**	P	**P**	**16 29 47.2**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=95,slow=3.3,SNR=4.5						
CPUP				LR	LR	16 50 37.5	
	comp=Z,25nm,21.5s,baz=192,slow=31						
	comp=Z,1.5nm,0.8s						
DBIC	**Dimbokro**	**60.98**	**337**	LR	LR	16 50 30.2	
	comp=Z,79nm,21.5s,baz=152,slow=30						
RCBR	**Riachuelo**	**62.40**	**299**	LR	LR	16 53 55.2	
	comp=Z,46nm,18.4s,baz=310,slow=33						
CO01	**Juntas del Tor**	**64.38**	**254**	P	**P**	**16 30 20.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**65.97**	**345**	P	**P**	**16 30 31.8**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=168,slow=6.1,SNR=5.7						
TORD				LR	LR	16 52 24.1	
	comp=Z,45nm,21.4s,baz=214,slow=30						
	comp=Z,1.5nm,1.0s						
GO02	**Mina Guanaco**	**67.62**	**258**	P	**P**	**16 30 39.9**	**-1.6**
GO02				IAmb	IAmb	16 30 41.7	
	comp=Z,7.1nm,0.9s						
H01W2	**Cape Leeuwin H**	**68.22**	**119**	T	T	17 46 20.6	
	baz=221,slow=75,SNR=9.8						
H01W3	**Cape Leeuwin H**	**68.23**	**119**	T	T	17 46 18.2	
	baz=221,slow=75,SNR=8.3						
H01W1	**Cape Leeuwin H**	**68.24**	**119**	T	T	17 45 57.3	
	baz=221,slow=75,SNR=8.0						
PB14	**IPOC Station P**	**68.51**	**257**	P	**P**	**16 30 45.2**	**-1.9**
LVC	**Limon Verde**	**69.11**	**260**	LR	LR	16 58 11.7	
	comp=Z,16nm,19.3s,baz=194,slow=33						
SIV	**San Ignacio**	**69.28**	**270**	LR	LR	16 57 51.1	
	comp=Z,48nm,19.0s,baz=148,slow=33						
BBTS	**Babate**	**71.96**	**327**	LR	LR	16 54 50.1	
	comp=Z,96nm,21.1s,baz=148,slow=29						
MDP	**Montagnes des**	**80.78**	**291**	LR	LR	17 03 18.7	
	comp=Z,42nm,18.4s,baz=216,slow=32						
NNA	**Nana**	**82.07**	**261**	LR	LR	17 04 03.0	
	comp=Z,13nm,20.9s,baz=198,slow=32						
RPZ	**Rata Peaks**	**82.35**	**162**	LR	LR	17 06 15.0	
	comp=Z,48nm,19.8s,baz=217,slow=34						
EIL	**Elat**	**83.11**	**17**	LR	LR	17 07 39.2	
	comp=Z,140nm,21.1s,baz=236,slow=35						
WSAR	**Wadi Sarin**	**83.90**	**39**	LR	LR	17 03 51.6	
	comp=Z,65nm,20.3s,baz=177,slow=32						
ASF	**Jabal al Asfar**	**85.91**	**18**	LR	LR	17 10 18.9	
	comp=Z,93nm,20.1s,baz=153,slow=35						
MDT	**Midelt**	**86.28**	**343**	LR	LR	17 05 41.2	
	comp=Z,42nm,21.5s,baz=162,slow=32						
ATAH	**Atahualpa**	**86.80**	**263**	LR	LR	17 08 46.6	
	comp=Z,24nm,21.8s,baz=151,slow=34						
IDI	**Anoyia**	**87.32**	**8**	LR	LR	17 12 20.9	
	comp=Z,57nm,20.7s,baz=182,slow=36						
ASAR	**Alice Springs**	**87.49**	**126**	P	**P**	**16 32 32.8**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=206,slow=4.7,SNR=71						
	comp=Z,2.2nm,0.6s						
AS31	**Alice Springs**	**87.50**	**126**	P	**P**	**16 32 32.7**	**+0.5**
KEST	**Kesra**	**87.53**	**355**	LR	LR	17 11 18.6	
	comp=Z,27nm,18.9s,baz=238,slow=35						
URZ	**Urewera**	**88.69**	**166**	LR	LR	17 08 49.6	
	comp=Z,64nm,21.8s,baz=278,slow=33						
WRA	**Warramunga Arr**	**90.83**	**125**	P	**P**	**16 32 47.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=216,slow=4.4,SNR=4.8						
	comp=Z,0.5nm,0.7s						
BRTR	**Keskin Array B**	**92.72**	**14**	LR	LR	17 15 10.2	
	comp=Z,47nm,20.8s,baz=162,slow=36						
ESDC	**Sonseca Array**	**92.86**	**345**	LR	LR	17 10 13.4	
	comp=Z,22nm,21.1s,baz=160,slow=33						
GNI	**Garni**	**95.26**	**22**	LR	LR	17 16 57.0	
	comp=Z,38nm,19.2s,baz=195,slow=36						
MLR	**Muntele Rosu**	**97.54**	**7**	LR	LR	17 17 27.7	
	comp=Z,43nm,21.7s,baz=189,slow=36						
KBZ	**Khabaz**	**98.27**	**20**	LR	LR	17 18 45.0	
	comp=Z,80nm,18.9s,baz=200,slow=36						
DAVOX	**Davos/Dischmat**	**98.53**	**356**	LR	LR	17 16 55.9	
	comp=Z,32nm,20.8s,baz=94,slow=35						
SJG	**San Juan**	**99.03**	**288**	LR	LR	17 16 58.7	
	comp=Z,24nm,19.3s,baz=250,slow=35						
TXAR	**Lajitas Array**	**130.22**	**268**	PKP	**PKPdf**	**16 38 56.9**	**+2.5**
	comp=Z,0.8nm,1.1s,baz=114,slow=4.0,SNR=4.3						
NVAR	**Mina Array Bea**	**145.32**	**266**	PKPbc	**PKPdf**	**16 39 23.5**	**+1.6**
	comp=Z,4.1nm,0.7s,baz=132,slow=3.9,SNR=37						

*IDC **05** 16:39:18.8±0.9, 52.°32S×15.°47E, h0km, mb4.0/8, mbtmp4.1/8, MS3.6/12, Error ellipse: s-maj=34.4km s-min=20.8km az=87.0*
ISC 05 16:39:20.4±0.9, 52.°3S±0.°1×15.°4E±0.°2, h10km, n25, σ1°38/13, mb4.0/7, MS3.4/12, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.28**	**13**	P	**P**	**16 43 58.1**	**+1.9**
	10.0nm,0.6s,baz=180,slow=11,SNR=21						
SUR				LR	LR	16 49 50.6	
	comp=Z,172nm,21.5s,baz=176,slow=31						
	10.0nm,0.6s						
TROLL	**Troll, Antarti**	**20.59**	**191**	P	Pn	16 44 02.7	+1.1
SNAA	**Sanae**	**21.08**	**196**	P	**P**	**16 44 05.9**	**+1.4**
SNAA	**Sanae**	**21.08**	**196**	P	**P**	**16 44 04.8**	**+0.3**
	5.4nm,0.9s,baz=19,slow=9.5,SNR=14						
SNAA				LR	LR	16 50 17.1	
	comp=Z,96nm,20.8s,baz=12,slow=31						
	5.4nm,0.9s						
VNA1	**Neumayer--Stat**	**21.34**	**202**	P	**P**	**16 44 09.9**	**+2.8**
VNA2	**Neumayer--Watz**	**21.35**	**201**	P	**P**	**16 44 08.2**	**+0.8**
	baz=35,slow=23						
VNA3	**Neumayer Olymp**	**22.09**	**201**	P	**P**	**16 44 16.1**	**+0.8**
BOSA	**Boshof**	**24.75**	**21**	LR	LR	16 52 41.3	
	comp=Z,113nm,20.0s,baz=188,slow=32						
MAW	**Mawson**	**27.37**	**142**	LR	LR	16 53 39.5	
	comp=Z,83nm,21.0s,baz=271,slow=32						
LBTB	**Lobatse**	**28.31**	**20**	LR	LR	16 54 27.3	
	comp=Z,95nm,21.6s,baz=177,slow=32						
TSUM	**Tsumeb**	**33.06**	**4**	LR	LR	16 56 58.5	
	comp=Z,54nm,20.8s,baz=152,slow=32						
QSPA	**South Pole Qui**	**37.95**	**180**	P	**P**	**16 46 37.3**	**-0.6**
	2.3nm,0.9s,baz=246,slow=2.8,SNR=8.2						
QSPA				LR	LR	17 01 02.5	
	comp=Z,69nm,21.2s,baz=260,slow=34						
	2.3nm,0.9s						
LSZ	**Lusaka**	**38.30**	**20**	LR	LR	17 00 35.9	
	comp=Z,93nm,20.9s,baz=170,slow=33						
PMSA	**Palmer Station**	**40.45**	**221**	LR	LR	17 02 27.0	
	comp=Z,160nm,18.1s,baz=80,slow=34						
VNDA	**Vanda**	**48.79**	**171**	P	**P**	**16 48 05.2**	**+0.4**
	1.1nm,0.7s,baz=216,slow=9.8,SNR=9.9						
VNDA				LR	LR	17 07 32.1	
	comp=Z,110nm,20.0s,baz=219,slow=35						
	1.1nm,0.7s						
MBAR	**Mbarara**	**53.08**	**19**	LR	LR	17 10 07.1	
	comp=Z,89nm,18.6s,baz=151,slow=35						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CPUP	Villa Florida	59.24	266	P	P	16 49 20.7	-1.2
	0.7nm,0.5s,baz=144,slow=6.3,SNR=3.4						
	0.7nm,0.5s						
TORD	Torodi Ar. Bea	66.24	345	P	P	16 50 07.9	-0.5
	0.3nm,0.4s,baz=198,slow=8.7,SNR=2.8						
	0.3nm,0.4s						
H01W2	Cape Leeuwin H	68.10	119	T	T	18 04 55.2	
	baz=223,slow=74,SNR=5.0						
H01W3	Cape Leeuwin H	68.11	119	T	T	18 04 56.1	
	baz=223,slow=74,SNR=5.0						
H01W1	Cape Leeuwin H	68.11	119	T	T	18 04 58.0	
	baz=223						
EIL	Elat	83.38	17	LR	LR	17 28 12.8	
	comp=Z,42nm,19.1s,baz=195,slow=35						
ASAR	Alice Springs	87.34	126	P	P	16 52 07.0	-0.6
	3.5nm,0.6s,baz=206,slow=4.7,SNR=98						
	3.5nm,0.6s						
WRA	Warramunga Arr	90.68	125	P	P	16 52 22.0	-1.4
	0.9nm,0.8s,baz=216,slow=4.6,SNR=7.5						
	0.9nm,0.8s						
NVAR	Mina Array Bea	145.28	265	PKPbc	PKPbc	16 58 58.2	+0.3
	4.5nm,0.8s,baz=137,slow=4.2,SNR=27						

*IDC **05** 16:54:12.1±1.0, 8°.07S×128°.34E, h0km, mb3.8/4, mbtmp3.9/9, ML4.0/5, MS3.6/2, Error ellipse: s-maj=34.0km s-min=19.3km az=63.0*

*DJA **05** 16:54:18.2±1.5, 8°S±3°×12°8E±°, h17km±13km, M4.4/18, mB5.4/3, mb4.4/18, MLv4.3/12, Mw(mB)4.9/3*

ISC 05 16:54:17.1±0.7, **8°.53S**±0°.06×**128°.13E**±0°.04, **h10**km, **n48**, σ**1s.70**/43, **mb3.9**/4, **Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.19	80	P	Pn	16 55 07.5	+0.2
SAUI				S	Sn	16 55 47.2	+1.8
SOEI	Soe	4.00	252	P	Pn	16 55 19.1	+0.5
SOEI				S	Sn	16 56 08.7	+3.1
SOEI	Soe	4.00	252	P	Pn	16 55 21.8	+3.2
BNDI	Bandanaira	4.36	24	P	Pn	16 55 22.5	-0.9
BNDI	Bandanaira	4.36	24	P	Pn	16 55 23.2	-0.2
BATI	Baumata	4.71	249	Pn	Pn	16 55 30.2	+2.0
	5.2nm,0.3s,baz=247,slow=6.4,SNR=12						
BATI				Sn	Sn	16 56 23.9	+0.9
	34nm,0.3s,baz=190,slow=20,SNR=10						
	13nm,0.4s						
BATI	Baumata	4.71	249	P	Pn	16 55 30.1	+1.8
AAI	Ambon	4.81	1	P	Pn	16 55 27.6	-2.1
KRAI	Karang Ratu	5.18	3	P	Pn	16 55 34.8	0.0
	0.1nm14nm,0.6s						
NLAI	Namlea	5.36	349	P	Pn	16 55 36.7	-0.4
	0.2nm14nm,0.5s						
MMRI	Maumere	5.82	269	P	Pg	16 56 07.0	-1.7
MMRI	Maumere	5.82	269	P	Pn	16 55 49.3	+5.7
KDU	Kakadu	5.94	134	P	Pn	16 55 47.1	+1.9
BBSI	Bau Bau	6.29	298	P	Pn	16 55 51.8	+1.8
	0.3nm19µm42nm,1.0s						
SANI	Sanana	6.78	342	P	Pn	16 55 55.4	-1.3
	0.0nm6.2nm,1.0s						
FAKI	Fak Fak	6.92	37	P	Pn	16 55 58.3	-0.3
	0.2nm44nm,0.7s						
FAKI	Fak Fak	6.92	37	P	Pn	16 55 58.7	+0.1
KNRA	Kununurra	7.13	175	P	Pn	16 56 03.2	+1.7
LBMI	Labuha	7.87	355	P	Pb	16 56 23.3	-10
BSSI	Bau Bau, Buton	7.94	287	P	Pn	16 56 12.2	-0.4
	0.1nm18nm,0.8s						
SIJI	Sorong	8.23	22	Pn	Pn	16 56 06.6	-10
	0.3nm,0.3s,baz=231,slow=21,SNR=1.5						
SIJI				LR	LR	16 59 56.7	
	comp=Z,112nm,18.5s,baz=105,slow=45						
	1.8nm,0.6s						
SIJI	Sorong	8.23	22	P	Pn	16 56 17.2	+0.6
	10nm,1.0s						
BKSI	Bulukumba	8.56	291	P	Pn	16 56 22.2	+1.0
	14nm,0.8s						
BNSI	Bone	8.96	297	P	Pn	16 56 28.2	+1.5
	15nm,0.6s						
KAPI	Kappang	9.02	292	Pn	Pn	16 56 24.5	-3.0
	0.6nm,0.3s,baz=74,slow=18,SNR=2.0						
	3.2nm,0.5s						
KAPI	Kappang	9.02	292	P	Pn	16 56 34.1	+6.6
	13nm,0.7s						
LUWI	Luwuk	9.15	324	P	Pn	16 56 29.8	+0.5
	17nm,0.8s						
RKPI	Ransiki, Papua	9.21	41	P	Pn	16 56 29.9	-0.3
	41nm,0.6s						
SPSI	Sidrap Palu	9.46	298	P	Pn	16 56 34.2	+0.6
	479nm14nm,0.6s						
MWPI	Manokwari, Pap	9.58	38	P	Pn	16 56 34.4	-0.7
	23nm,0.5s						
APSI	Ampana	9.95	319	P	Pn	16 56 40.1	-0.1
	18nm,1.5s						
PLAI	Plampang	10.24	268	P	Pn	16 56 44.5	+0.3
	21nm,1.1s						
TWSI	Taliwang, Sumb	11.12	268	P	Pn	16 56 46.2	-10
MPSI	Mapaga	12.04	317	P	Pn	16 57 14.5	+5.7
TOLI2	Tolitoli	12.05	322	P	Pn	16 57 13.7	+4.6
WRA	Warramunga Arr	12.84	153	Pn	Pn	16 57 18.4	-1.4
	3.0nm,0.3s,baz=322,slow=13,SNR=119						
WRA				Sn	Sn	16 59 39.4	-3.5
	2.1nm,0.3s,baz=329,slow=22,SNR=5.5						
	3.2nm,0.4s						
GENI	Genyem	13.35	64	P	Pn	16 57 24.9	-1.9
	20nm,0.7s						
JAGI	Jajag, Banyuwa	13.82	269	P	P	16 57 40.3	-1.4
	33nm,2.3s						
PSA00	Pilbara Seismi	15.22	211	P	Pn	16 57 54.2	+1.9
	20nm,0.8s						
ASAR	Alice Springs	16.04	160	Pn	Pn	16 58 01.8	-1.1
	1.3nm,0.3s,baz=328,slow=8.6,SNR=206						
ASAR				Sn	Sn	17 01 01.5	+0.6
	0.8nm,0.3s,baz=317,slow=19,SNR=4.7						
	4.0nm,0.5s						
QIS	Mount Isa	16.31	138	P	Pn	16 58 06.8	+0.4
CTA	Charters Tower	20.96	125	P	P	16 59 01.1	+0.5
	3.7nm,0.9s,baz=351,slow=20,SNR=2.6						
STKA	Stephens Creek	26.39	154	P	P	16 59 53.9	+0.1
	1.6nm,0.5s,baz=331,slow=11,SNR=7.5						
	1.6nm,0.5s						
CMAR	Chiang Mai Arr	39.35	313	P	P	17 01 41.7	-5.3
	0.3nm,0.5s,baz=147,slow=7.3,SNR=3.4						
	0.3nm,0.5s						
MKAR	Makanchi Array	68.51	328	P	P	17 05 14.2	-5.5
	0.3nm,0.4s,baz=122,slow=7.8,SNR=11						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	72.15	335	P	P	17 05 36.9	-4.9
	0.7nm,0.5s,baz=130,slow=5.3,SNR=3.2						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	72.86	329	LR	LR	17 39 52.4	
	comp=Z,148nm,21.5s,baz=154,slow=38						
CPUP	Villa Florida	144.94	171	PKPbc	PKPab	17 13 52.5	-2.0
	1.1nm,0.5s,baz=216,slow=2.3,SNR=3.9						

*IDC **05** 17:24:11.9±1.2, 52°.40S×15°.96E, h0km, mb3.9/6, mbtmp4.0/6, MS3.5/13, Error ellipse: s-maj=51.2km s-min=24.8km az=98.0*

*NEIC **05** 17:24:12.7±0.5, 52°.4S±0°.3×1°6E±°, h10km±2km, mb4.3/6, Error ellipse: s-maj=166.4km s-min=24.4km az=285.0*

ISC 05 17:24:12.6±1.1, **52°.4S**±0°.2×**15°.8E**±0°.4, **h10**km, **n28**, σ**0s.65**/16, **mb4.0**/6, **MS3.4**/13, **Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	20.28	12	P	Pn	17 28 50.8	+0.3
	3.7nm,0.5s,baz=193,slow=13,SNR=16						
SUR				LR	LR	17 34 42.0	
	comp=Z,144nm,21.2s,baz=174,slow=31						
	3.7nm,0.5s						
SUR	Sutherland	20.28	12	P	P	17 28 48.7	+0.2
SUR				IAmb	IAmb	17 29 13.3	
	comp=Z,29nm,1.3s						
TROLL	Troll, Antarti	20.58	192	P	Pn	17 28 52.7	-1.0
SOE	Somerset East	20.86	24	P	P	17 28 54.9	+0.2
SNAA	Sanae	21.08	196	P	P	17 28 57.9	+1.1
SNAA	Sanae	21.08	196	P	P	17 28 57.6	+0.8
	comp=Z,6.3nm,1.0s,baz=32,slow=9.0,SNR=18						
SNAA				LR	LR	17 35 09.6	
	comp=Z,87nm,21.2s,baz=11,slow=31						
	comp=Z,6.3nm,1.0s						
SNAA	Sanae	21.08	196	P	P	17 28 56.6	-0.1
SNAA				IAmb	IAmb	17 29 04.4	
	comp=Z,11nm,1.1s						
VNA1	Neumayer--Stat	21.37	202	P	P	17 29 00.5	+0.8
VNA2	Neumayer--Watz	21.38	201	P	P	17 29 00.1	+0.2
	baz=33,slow=11						
VNA3	Neumayer Olymp	22.12	202	P	P	17 29 07.8	0.0
BOSA	Boshof	24.73	20	LR	LR	17 37 22.3	
	comp=Z,86nm,21.2s,baz=188,slow=32						
MAW	Mawson	27.18	142	LR	LR	17 38 21.8	
	comp=Z,44nm,21.2s,baz=248,slow=31						
LBTB	Lobatse	28.29	19	LR	LR	17 39 29.9	
	comp=Z,90nm,20.9s,baz=145,slow=32						
BELA	Belgrano 2	31.30	198	P	P	17 30 31.7	-0.6
BELA				IAmb	IAmb	17 30 31.9	
	comp=Z,7.3nm,1.5s						
TSUM	Tsumeb	33.11	3	LR	LR	17 42 01.3	
	comp=Z,71nm,19.5s,baz=148,slow=32						
QSPA	South Pole Qui	37.89	180	P	P	17 31 30.2	+0.6
	comp=Z,1.6nm,0.8s,baz=242,slow=2.4,SNR=7.5						
	comp=Z,1.6nm,0.8s						
QSPA	South Pole Qui	37.89	180	P	P	17 31 28.7	-0.9
LSZ	Lusaka	38.27	20	LR	LR	17 45 27.0	
	comp=Z,76nm,20.9s,baz=163,slow=33						
PMSA	Palmer Station	40.55	220	LR	LR	17 44 51.7	
	comp=Z,111nm,21.5s,baz=86,slow=31						
VNDA	Vanda	48.69	171	P	P	17 32 57.2	+0.8
	comp=Z,0.8nm,0.8s,baz=210,slow=8.0,SNR=5.0						
VNDA				LR	LR	17 52 54.9	
	comp=Z,72nm,20.0s,baz=203,slow=35						
	comp=Z,0.8nm,0.8s						
VNDA	Vanda	48.69	171	P	P	17 32 56.0	-0.4
VNDA				IAmb	IAmb	17 33 09.9	
	comp=Z,2.6nm,1.4s						
MBAR	Mbarara	53.06	19	LR	LR	17 54 29.3	
	comp=Z,82nm,20.3s,baz=130,slow=34						
LVC	Limon Verde	69.26	260	LR	LR	18 03 37.4	
	comp=Z,16nm,19.7s,baz=248,slow=34						
EIL	Elat	83.37	17	LR	LR	18 11 53.1	
	comp=Z,44nm,21.1s,baz=118,slow=34						
MDT	Midelt	86.66	343	LR	LR	18 09 37.2	
	comp=Z,15nm,19.5s,baz=135,slow=31						
ASAR	Alice Springs	87.12	126	P	P	17 36 59.0	+0.2
	comp=Z,1.6nm,0.6s,baz=206,slow=4.7,SNR=38						
	comp=Z,1.6nm,0.6s						
WRA	Warramunga Arr	90.45	124	P	P	17 37 14.0	-0.6
	comp=Z,0.2nm,0.6s,baz=218,slow=5.0,SNR=1.7						
	comp=Z,0.2nm,0.6s						
NVAR	Mina Array Bea	145.51	265	PKPbc	PKPdf	17 43 50.4	-0.3
	comp=Z,3.3nm,0.7s,baz=142,slow=4.1,SNR=26						

*NEIC **05** 17:34:24.7±2.0, 18°.15S±0°.08×178°.3W±0°.1, h570km±6km, mb4.2/21, Error ellipse: s-maj=18.8km s-min=10.6km az=75.0*

*IDC **05** 17:34:28.1±1.6, 17°.89S×178°.60W, h611km±15km, mb3.2/9, mbtmp4.1/11, Error ellipse: s-maj=38.7km s-min=13.0km az=151.0*

ISC 05 17:34:26.4±0.7, **18°.0S**±0°.2×**178°.4W**±0°.1, **h600**km, **n52**, σ**1s.00**/58, **mb3.9**/19, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.36	274	P	P	17 35 49.6	+1.9
	26nm,0.7s,baz=142,slow=1.0,SNR=20						
MSVF	Nonsavu	3.36	274	P	P	17 35 49.5	+1.7
AFI	Afiamalu	7.60	58	S	S	17 37 53.9	-2.8
	10.0nm,0.7s,baz=185,slow=22,SNR=0.9						
MARNC	Mare, Loyalty	13.20	253	P	P	17 37 16.4	-0.8
LIFNC	LIFOU	13.79	256	P	P	17 37 21.3	-1.9
OUENC	Ouen Island, N	14.49	250	P	P	17 37 29.1	-0.9
DZM	Mont Dzumac	14.77	252	P	P	17 37 31.4	-1.1
	1.2nm,0.4s,baz=101,slow=22,SNR=7.4						
DZM	Mont Dzumac	14.77	252	P	P	17 37 31.8	-0.8
ONTNC	Ouen Toro	14.81	251	P	P	17 37 31.8	-1.1
KOUNC	Koumac, New Ca	16.50	258	P	P	17 37 49.4	+1.0
KOUNC				IAmb	IAmb	17 38 04.1	
	comp=Z,11nm,1.0s						
CTAO	Charters Tower	33.40	261	P	P	17 40 17.2	0.0
CTAO				IAmb	IAmb	17 40 40.0	
	comp=Z,5.7nm,1.1s						
PMG	Port Moresby	34.45	280	P	P	17 40 26.7	+0.8
PMG				IAmb	IAmb	17 40 48.0	
	comp=Z,11nm,0.8s						
COEN	Coen	37.08	271	P	P	17 40 48.2	+0.7
COEN				IAmb	IAmb	17 41 23.3	
	comp=Z,8.0nm,1.1s						
BBOO	Buckleboo	43.33	241	P	P	17 41 37.2	+0.2
WB0	Warramunga Arr	44.55	260	P	P	17 41 46.0	-0.7
WB0					PcP	17 43 16.1	-0.3
WB2	Warramunga Arr	44.57	260	P	P	17 41 46.2	-0.6
WB2				PcP	PcP	17 43 16.5	0.0
WRA	Warramunga Arr	44.59	260	P	P	17 41 46.6	-0.3
	comp=Z,0.8nm,0.5s,baz=96,slow=7.0,SNR=46						
WRA				PcP	PcP	17 43 16.3	-0.3
	comp=Z,0.3nm,0.4s,baz=89,slow=3.6,SNR=7.1						
	comp=Z,0.8nm,0.5s						
AS31	Alice Springs	44.73	254	P	P	17 41 48.0	0.0
AS31				IAmb	IAmb	17 41 49.2	
	comp=Z,1.4nm,0.3s						
AS31				PcP	PcP	17 43 16.7	-0.3
ASAR	Alice Springs	44.73	254	P	P	17 41 48.1	+0.1
	comp=Z,2.6nm,0.5s,baz=87,slow=9.2,SNR=118						
ASAR				PcP	PcP	17 43 17.1	0.0
	comp=Z,0.8nm,0.5s,baz=100,slow=3.7,SNR=9.6						
ASAR				ScP	ScP	17 46 11.7	-1.2
	comp=Z,0.2nm,0.9s,baz=96,slow=5.0,SNR=1.6						
ASAR				S	S	17 47 41.5	-1.0
	comp=Z,0.5nm,0.8s,baz=87,slow=15,SNR=5.6						
	comp=Z,2.6nm,0.5s						
ASAR	Alice Springs	44.73	254	P	P	17 41 47.6	-0.5
ASAR				PcP	PcP	17 43 16.4	-0.7
FORT	Forrest	49.94	245	P	P	17 42 26.1	-0.6
KNRA	Kununurra	50.45	264	P	P	17 42 31.2	+0.6
MJAR	Matsushiro Arr	67.97	323	P	P	17 44 26.1	-0.7
	comp=Z,1.7nm,0.6s,baz=150,slow=6.1,SNR=6.7						
	comp=Z,1.7nm,0.6s						
QSPA	South Pole Qui	72.04	180	P	P	17 44 51.1	+0.5
PEA0B	Petropavlovsk-	73.78	345	P	P	17 45 01.2	+0.8
PETK	Petropavlovsk-	73.78	345	P	P	17 45 00.4	0.0
	comp=Z,2.4nm,0.7s,baz=141,slow=5.2,SNR=5.4						
	comp=Z,2.4nm,0.7s						
PETK	Petropavlovsk-	73.78	345	P	P	17 45 00.2	-0.3
OHAK	Old Harbor	77.84	14	P	P	17 45 23.0	+0.3
OHAK				IAmb	IAmb	17 45 48.3	
	comp=Z,10nm,1.2s						
YBH	Yreka Blue Hor	78.62	39	P	P	17 45 29.1	+1.7
YBH				IAmb	IAmb	17 45 44.8	
	comp=Z,6.9nm,1.3s						
BEKR	Beckworth	78.99	42	P	P	17 45 30.3	+0.8
NVAR	Mina Array Bea	79.52	44	P	P	17 45 33.3	+0.9
	comp=Z,0.6nm,0.6s,baz=223,slow=9.8,SNR=6.6						
	comp=Z,0.6nm,0.6s						
O18K	Koktuh Hills	79.86	12	P	P	17 45 33.4	0.0
O18K				IAmb	IAmb	17 45 43.3	
	comp=Z,22nm,1.1s						
P19K	Oil Pt	80.07	13	P	P	17 45 34.3	-0.2
H04A	Detroit Lake	80.69	37	P	P	17 45 38.4	+0.3
H04A				IAmb	IAmb	17 46 12.7	
	comp=Z,12nm,1.2s						
U15A	North Rim	82.61	48	P	P	17 45 49.8	+1.4
ILAR	Eielson Array	86.00	13	P	P	17 46 03.1	-0.7
	comp=Z,0.7nm,0.4s,baz=223,slow=4.7,SNR=15						
	comp=Z,0.7nm,0.4s						
TX31	Lajitas Ar. Si	86.08	58	P	P	17 46 06.6	+1.5
TX31				IAmb	IAmb	17 46 07.9	
	comp=Z,6.6nm,0.9s						
TX32	Lajitas Array	86.08	58	P	P	17 46 06.5	+1.4
TX32				IAmb	IAmb	17 46 07.9	
	comp=Z,2.2nm,0.9s						
TXAR	Lajitas Array	86.08	58	P	P	17 46 06.8	+1.6
	comp=Z,1.3nm,0.8s,baz=211,slow=5.3,SNR=11						
	comp=Z,1.3nm,0.8s						
PDAR	Pinedale Array	87.45	43	P	P	17 46 11.8	+0.3
	comp=Z,0.7nm,0.6s,baz=224,slow=3.8,SNR=8.1						
	comp=Z,0.7nm,0.6s						
CMAR	Chiang Mai Arr	88.89	290	P	P	17 46 19.4	+1.0
	comp=Z,0.6nm,0.7s,baz=120,slow=3.0,SNR=5.1						
	comp=Z,0.6nm,0.7s						
MKAR	Makanchi Array	109.19	314	PKiKP	PKiKP	17 51 47.5	-1.6
	comp=Z,0.3nm,0.6s,baz=67,slow=1.9,SNR=4.6						
ARCES	ARCESS Array B	126.41	350	PKP	PKPdf	17 52 19.6	-1.8
	comp=Z,1.7nm,0.7s,baz=11,slow=0.9,SNR=5.2						
FINES	FINESS Array B	133.28	344	PKP	PKPdf	17 52 33.1	-1.5
	comp=Z,2.1nm,0.8s,baz=112,slow=2.2,SNR=4.8						
BNN	Bunyan	143.70	312		PKPbc	17 52 52.9	-0.8
BRTR	Keskin Array B	144.84	315	PKP	PKPbc	17 52 56.9	-0.2
	comp=Z,1.3nm,0.8s,baz=76,slow=0.8,SNR=4.7						
CLL	Collm	145.56	347		PKPbc	17 52 58.3	-0.3
MLR	Muntele Rosu	145.91	329	PKPbc	PKPbc	17 53 00.1	+0.1
	comp=Z,2.5nm,0.8s,baz=5.5,slow=4.6,SNR=3.9						
MMAI	Mount Meron Ar	146.18	303	PKPbc	PKPbc	17 53 01.3	+0.2
	comp=Z,2.5nm,0.5s,baz=74,slow=6.2,SNR=7.4						
KHC	Kasperske Hory	147.47	345	*e*PKP	PKPbc	17 53 03.5	-0.4
GERES	GERESS Array B	147.71	345	PKPbc	PKPbc	17 53 04.8	+0.2
	comp=Z,1.7nm,0.6s,baz=28,slow=3.2,SNR=13						
DAVOX	Davos/Dischmat	150.50	348	PKPbc	PKiKP	17 53 12.0	0.0
	comp=Z,3.5nm,0.6s,baz=0.0,slow=20,SNR=6.7						

IDC 05 17:41:27.8±2.7, **3°.31N**×**126°.45E**, **h0**km, **mb3.1**/3, **mbtmp3.1**/3, **Error ellipse: s-maj=237.4km s-min=30.4km az=66.0**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.37	162	P	P	17 46 47.7	-0.1
	0.3nm,0.8s,baz=341,slow=10,SNR=2.3						
	0.3nm,0.8s						
ASAR	Alice Springs	27.78	165	P	P	17 47 19.0	+0.4
	0.2nm,0.9s,baz=343,slow=10,SNR=2.0						
	0.2nm,0.9s						
MKAR	Makanchi Array	57.74	326	P	P	17 51 20.3	-0.3
	0.1nm,0.5s,baz=125,slow=7.6,SNR=1.4						
	0.1nm,0.5s						

*JMA **05** 17:45:57.3±0.2, 33°.7N±0°.6×14°1E±°, h55km, MV3.2/29, E OFF HACHIJOJIMA ISLAND*

*IDC **05** 17:45:58.7±1.4, 32°.95N×138°.64E, h0km, mb3.5/2, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=27.8km s-min=18.8km az=138.0*

ISC 05 17:45:58.2±1.5, **33°.67N**±0°.05×**141°.2E**±0°.1, **h48**km, **n20**, σ**0s.89**/22, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.01	347	P	Pn	17 46 14.9	-0.6
BSO3	Boso 3	1.29	332	P	Pn	17 46 18.7	-0.8
JHJ2	Mitsune	1.32	246	P	Pn	17 46 19.9	-0.2
JHJ	Hachijo jima 2	1.34	246	Pn	Pn	17 46 20.0	-0.4
	67nm,0.3s,baz=234,slow=19,SNR=52						
JHJ				Sn	Sn	17 46 36.0	-1.1
	130nm,0.3s,baz=9.7,slow=19,SNR=15						
JHCJ	Hachijojimakas	1.35	244	P	Pn	17 46 20.7	+0.1
JHCJ				S	Sn	17 46 37.6	+0.2
JMKN	Mikurajimanish	1.40	280	P	Pn	17 46 21.0	-0.2
JMKN				S	Sn	17 46 38.6	+0.1
JMYK	Miyake Tsubota	1.47	286	P	Pn	17 46 21.9	-0.3
BSO4	Boso 4	1.52	331	P	Pn	17 46 22.5	-0.3
KTR	Katsuura	1.67	333	S	Sn	17 46 44.3	-0.8
JAOM	Aogashimamukai	1.73	226	P	Pn	17 46 25.7	-0.1
JIM2	Oshima 3	1.83	305	P	Pn	17 46 26.1	-1.1
JIZS	Izushimoda	2.23	299	P	Pn	17 46 32.7	+0.2
JOD2	Odawara 2	2.39	312	P	Pn	17 46 34.0	-0.9
JOD2				S	Sn	17 47 01.6	-1.3
JYN	Shimob	2.88	310	P	Pn	17 46 42.1	+0.4
MJAR	Matsushiro Arr	3.80	320	Pn	Pn	17 46 55.5	+1.3
	0.5nm,0.3s,baz=174,slow=13,SNR=30						
MJAR				Sn	Sn	17 47 40.0	+2.4
	0.2nm,0.3s,baz=128,slow=29,SNR=4.9						
	3.1nm,0.3s						
H11N2	WAKE ISLAND Hy	26.70	115	T	T	18 20 44.6	
	baz=302						
H11N1	WAKE ISLAND Hy	26.71	115	T	T	18 20 45.4	
	baz=302						
H11N3	WAKE ISLAND Hy	26.72	115	T	T	18 20 44.8	
	baz=302						
WRA	Warramunga Arr	53.71	188	P	P	17 55 15.3	-0.1
	0.4nm,0.3s,baz=3.5,slow=7.5,SNR=24						
	0.4nm,0.3s						
ASAR	Alice Springs	57.44	188	P	P	17 55 42.6	+0.5
	0.4nm,0.8s,baz=4.9,slow=7.0,SNR=9.7						
	0.4nm,0.8s						

*INET **05** 17:50:09.1±0.5, 12°.79N×88°.26W, h71km±7km, MW3.5*

*SNET **05** 17:50:09.6±0.9, 12°.84N×88°.41W, h35km±11km, ML2.5*

ISC 05 17:50:08.0±2.8, **12°.7N**±0°.1×**88°.42W**±0°.07, **h33**km±4km, **n10**, σ**0s.74**/17, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.71	11	*e*P	Pb	17 50 22.8	+0.5
VSM				*e*S	Sb	17 50 32.2	+0.3
CNCH	Conchagua	0.79	46	*e*P	Pn	17 50 22.6	-0.2
CNCH				*e*S	Sb	17 50 34.6	+0.7
PQSS	Presa 15 de Se	0.90	351	*e*P	Pn	17 50 24.3	-0.1
PQSS				*e*S	Sb	17 50 35.5	-1.5
PQSS				IAML		17 50 38.5	
	comp=Z,303nm,0.2s						
COEG	Centro de Oper	1.00	333	*e*P	Pn	17 50 25.7	-0.1
COEG				*e*S	Sb	17 50 38.6	-1.1
SCLA	Alcaldia de Sa	1.02	343	*e*P	Pn	17 50 26.4	+0.5
SCLA				*e*S	Sb	17 50 39.8	-0.5
SCLA				IAML		17 50 41.6	
	comp=Z,58nm,0.3s						
SJTE	Alcalda de S	1.05	327	*e*P	Pn	17 50 27.0	+0.5
SJTE				*e*S	Sb	17 50 40.5	-0.9
SJTE				IAML		17 50 42.9	
	comp=Z,210nm,0.3s						
LFRS	El Faro	1.09	325	*e*P	Pn	17 50 27.6	+0.6
LFRS				*e*S	Sn	17 50 40.9	-0.2
PAVA	Las Pavas	1.10	333	*e*P	Pn	17 50 27.8	+0.5
NUBE	Las Nubes	1.77	311	*e*P	Pn	17 50 37.0	+0.6
NUBE				IAML		17 51 05.0	
	comp=Z,60nm,0.3s						
MOMN	Momotombo	1.86	100	*e*P	Pn	17 50 37.2	-0.4

*NAO **05** 17:51:36.5±1.1, 77°.05N×18°.64E, h13km±11km, ML2.6*

*IEPN **05** 17:51:37.0, 76°.97N×18°.49E, h10km*

*BER **05** 17:51:39.2±1.9, 77°.05N×18°.48E, h21km±6km, ML2.3, Confirmed Earthquake*

ISC 05 17:51:37.1±1.1, **77°.07N**±0°.03×**18°.75E**±0°.03, **h30**km±12km, **n21**, σ**2s.25**/41, **1D**, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	0.73	267	Pg	Pb	17 51 50.5	-0.7
HSPB				Lg	Lg	17 51 59.7	
HSPB	Hornsund (broa	0.73	267	⇓*i*P	Pb	17 51 50.3	-0.9
HSPB				*i* S	Sb	17 51 59.5	-1.4
HSPB	Hornsund (broa	0.73	267	*e*P	Pb	17 51 50.5	-0.7
HSPB				*e*S	Sb	17 51 59.5	-1.4
HSPB				IAML		17 52 02.5	
	comp=Z,71nm,0.2s						
SPA0	Spitsbergen Ar	1.23	337	Pn	Pb	17 51 59.2	-0.5
	baz=152,slow=18						
SPA0				Lg	Lg	17 52 15.6	
	baz=154,slow=28						
SPA0	Spitsbergen Ar	1.23	337	*e*P	Pb	17 51 58.8	-0.9
SPA0				*i* S	Sb	17 52 15.7	+0.5
SPA0	Spitsbergen Ar	1.23	337	*e*Pg	Pb	17 51 59.9	+0.2
SPA0				*e*Sg	Sb	17 52 16.9	+1.8
SPA0				IAML		17 52 18.5	
	comp=Z,68nm,0.3s						
BRBA	Barentsburg A	1.40	318	Pn	Pb	17 52 01.3	-1.2
BRBA				Pg	Pn	17 52 02.7	+2.2
BRBA				Lg	Lg	17 52 20.5	
BRBA	Barentsburg A	1.40	318	*e*P	Pb	17 52 01.3	-1.2
BRBA				*e*Pg	Pn	17 52 02.8	+2.3
BRBA				*e*Sg	Sb	17 52 20.8	+0.8
BRBA				IAML		17 52 22.6	
	comp=Z,108nm,0.2s						
BRBB	Barentsburg B	1.43	319	Pn	Pb	17 52 01.7	-1.3
BRBB				Pg	Pn	17 52 03.3	+2.5
BRBB				Lg	Lg	17 52 21.3	
BRBB	Barentsburg B	1.43	319	*e*P	Pb	17 52 01.6	-1.3
BRBB				*e*Pg	Pn	17 52 03.1	+2.3
BRBB				*e*S	Sb	17 52 19.1	-1.6
BRBB				*e*Sg	Sn	17 52 21.1	+2.6
HOPEN	Hopen	1.54	108	Pn	Pb	17 52 03.6	-1.4
HOPEN				Lg	Lg	17 52 25.9	
HOPEN	Hopen	1.54	108	*e*P	Pb	17 52 03.6	-1.4
HOPEN				*e*Pg	Pn	17 52 07.0	+4.6
HOPEN				*e*S	Sb	17 52 23.6	-0.5
HOPEN				*e*Sg	Sn	17 52 26.6	+5.2
HOPEN				IAML		17 52 29.4	
	comp=Z,124nm,0.3s						
KBS	Kingsbay	2.35	326	Pn	Pn	17 52 13.4	-0.2
KBS				Pg	Pb	17 52 19.6	+1.0
KBS				Lg	Lg	17 52 49.8	
KBS	Kingsbay	2.35	326	*e*P	Pn	17 52 13.6	+0.1
KBS				*e*Pg	Pb	17 52 19.7	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KBS				eSg	Sb	17 52 50.1	+3.0
KBS				IAML		17 52 57.4	
	comp=Z,68nm,0.4s						
BJO1	Bjornoya	2.58	179	Pg	Pb	17 52 24.1	+1.6
BJO1				Lg	Lg	17 52 56.7	
BJO1	Bjornoya	2.58	179	ePg	Pb	17 52 23.8	+1.2
BJO1				eSg	Sb	17 52 56.3	+2.5
BJO1				IAML		17 53 03.0	
	comp=Z,17nm,0.4s						
HAMF	Hammerfest	6.60	166	eS	Sn	17 54 21.0	-4.9
HAMF				IAML		17 54 43.4	
	comp=Z,3.8nm,0.7s						
ZFI	Zemlya Franca-	6.62	42	P	Pn	17 53 13.0	+0.8
ZFI				eS	Sn	17 54 23.6	-2.9
	comp=Z,18nm,100.0s						
OMEGA	Omega	6.63	43	eP	Pn	17 53 12.9	+0.7
OMEGA				eS	Sn	17 54 23.6	-2.9
VADS	Vadso	7.58	151	eP	Pn	17 53 26.1	+0.8
VADS				eS	Sn	17 54 45.3	-4.7
VADS				IAML		17 54 48.4	
	comp=Z,3.9nm,0.6s						
ARA0	ARCESS Array S	7.81	162	Sn	Sn	17 54 48.0	-7.7
	slow=14						

*IDC **05** 17:52:51.6±1.5, 42.83N×13.22E, h0km, mb3.4/3, mbtmp3.5/7, ML3.4/4, MS2.4/2, Error ellipse: s-maj=24.7km s-min=15.6km az=76.0*
*LDG **05** 17:52:51.4±0.1, 42.71N×13.15E, h9km, Ml3.0/19, Error ellipse: s-maj=5.4km s-min=2.8km az=26.0*
*ROM **05** 17:52:51.1±0.1, 42.750N±0.004×13.193E±0.006, h9km, ML3.4/5, Error ellipse: s-maj=0.5km s-min=0.1km az=66.0*
*PRU **05** 17:52:54.3±0.0, 42.81N×13.49E, h10km*
ISC 05 17:52:51.7±0.8**, 42.76N**±0.02×**13.15E**±0.02**, h13**km±4km**, n114, σ2.46**/155**, 4C, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.08	342	P	Pg	17 52 54.0	-0.6
NRCA				S	Sg	17 52 55.8	-0.9
T1245	Castelsantange	0.10	16	P	Pg	17 52 54.2	-0.8
T1245				S	Sg	17 52 56.3	-1.0
T1204	Amatrice, Fraz	0.15	123	P	Pg	17 52 54.7	-0.8
T1216	Preci, Frazion	0.17	325	P	Pg	17 52 55.6	-0.1
T1216				S	Sb	17 52 59.8	-0.2
SMA1	SAN MARTINO	0.19	132	P	Pg	17 52 55.3	-0.8
MMO1	Montemonaco	0.19	42	P	Pg	17 52 55.3	-0.9
T1215	Vallo di Nera,	0.21	283	P	Pg	17 52 56.8	+0.4
T1215				S	Sb	17 53 00.9	-0.3
T1215				AML	AML		
	comp=E,9605µm,0.5s						
T1215				AML	AML		
	comp=N,9195µm,0.8s						
T1215				AML	AML		
	comp=E,10270µm,0.5s						
T1215				AML	AML		
	comp=N,9200µm,0.8s						
T1215				AML	AML		
	comp=E,9600µm,0.5s						
T1215				AML	AML		
	comp=E,10240µm,0.5s						
T1215				AML	AML		
	comp=N,9895µm,0.8s						
T1215				AML	AML		
	comp=N,9210µm,0.8s						
T1241	Roccafluvione,	0.23	64	P	Pg	17 52 56.0	-0.7
T1241				S	Sg	17 52 59.2	-1.0
RM33	Pellescritta (	0.25	169	P	Pg	17 52 56.9	-0.3
RM33				S	Sg	17 53 00.9	+0.1
RM33				AML	AML		
	comp=N,17200µm,0.9s						
RM33				AML	AML		
	comp=E,19750µm,0.2s						
RM33				AML	AML		
	comp=N,17150µm,0.9s						
RM33				AML	AML		
	comp=E,19050µm,0.2s						
RM33				AML	AML		
	comp=N,17450µm,0.9s						
T1256	Bolognola (MC)	0.26	13	P	Pg	17 52 56.7	-0.6
T1256				S	Sg	17 53 01.3	+0.2
AM05	Amandola Campo	0.27	34	P	Pg	17 52 57.1	-0.2
FDMO	Fiordimonte	0.28	351	P	Pg	17 52 57.4	-0.3
FDMO				S	Sg	17 53 02.2	+0.5
FDMO				AML	AML		
	comp=E,9435µm,0.3s						
FDMO				AML	AML		
	comp=N,8090µm,0.8s						
CAMP	Campotosto	0.29	139	P	Pg	17 52 57.1	-0.7
CAMP				S	Sg	17 53 01.4	-0.5
CESI	CESI - Serrava	0.31	324	P	Pg	17 52 58.3	+0.2
CESI				S	Sb	17 53 03.7	-0.4
T1247	Pizzolo (AQ)	0.33	161	P	Pg	17 52 58.1	-0.4
T1247				S	Sg	17 53 04.0	+0.9
T1247				AML	AML		
	comp=E,17350µm,0.9s						
T1247				AML	AML		
	comp=N,18450µm,0.6s						
GUMA	Gualdo di Mace	0.34	24	P	Pg	17 52 58.5	-0.1
GUMA				S	Sb	17 53 04.1	-0.8
CSP1	Cessapalombo	0.34	7	P	Pg	17 52 58.4	-0.3
CSP1				S	Sb	17 53 04.2	-0.9
CSP1				AML	AML		
	comp=N,29350µm,0.4s						
CSP1				AML	AML		
	comp=N,29400µm,0.4s						
CSP1				AML	AML		
	comp=E,14850µm,0.3s						
TERO	Teramo	0.36	111	P	Pg	17 52 58.1	-0.9
TERO				S	Sg	17 53 03.4	-0.6
OFFI	Offida	0.43	65	P	Pg	17 53 00.6	+0.3
OFFI				S	Sb	17 53 08.1	+0.4
GIGS	Gran Sasso	0.44	134	P	Pg	17 52 59.3	-1.1
AQU	L'Aquila	0.44	155	P	Pg	17 53 00.0	-0.5
FIAM	Fiamignano	0.49	183	P	Pg	17 53 00.9	-0.4
FIAM				S	Sg	17 53 08.8	+0.9
SNTG	Esanatoglia	0.52	343	P	Pg	17 53 01.8	-0.2
ATCC	AVT- Casa Cast	0.57	319	P	Pg	17 53 03.0	+0.1
ATCC				S	Sb	17 53 12.2	+0.7
FAGN	Fagnano	0.59	147	P	Pg	17 53 02.1	-1.1
FOSV	Fossato di Vic	0.61	332	P	Pg	17 53 03.4	-0.3
SRES	S.Oreste - Sor	0.70	223	P	Pg	17 53 05.0	-0.4
T0110	Collepietro	0.70	138	P	Pg	17 53 04.1	-1.3
PP3	Marolino	0.71	28	⇑P	Pg	17 53 03.9	-1.5
ROM9	Roma	1.04	207	AML	AML		
	comp=N,2195µm,0.6s						
ROM9				AML	AML		
	comp=E,1690µm,0.5s						
ROM9				AML	AML		
	comp=N,2520µm,0.7s						
MCRV	Calabrutti - M	2.48	142	S	Sn	17 54 01.0	-1.1
PALZ	Palazzo San Ge	2.77	130	⇑P	Pn	17 53 37.8	+2.0
MRVN	Minervino Murg	2.83	126	⇑P	Pn	17 53 38.1	+1.4
PGF	Pioggiola	3.07	268	eP	Pn	17 53 42.0	+2.1
PGF				eSn	Sn	17 54 13.5	-3.0
	comp=N,4.5nm,0.3s						
CEY	Cerknica	3.12	17	ePn	Pn	17 53 40.7	+0.1
AMUR	Altamura	3.17	124	P	Pn	17 53 42.6	+1.3
CGRP	Cima Grappa	3.27	343	⇑P	Pn	17 53 45.0	+2.2
MGRS	Mrkonjic Grad	3.31	59	ePn	Pg	17 53 53.8	-1.3
STON	Ston	3.35	86	ePn	Pn	17 53 43.5	-0.2
CTI	Castel Tesino	3.46	342	P	Pn	17 53 47.6	+2.2
A051A	Mrakovica	3.53	49	ePn	Pb	17 53 53.4	-0.7
BLY	Banja Luka	3.54	54	ePn	Pb	17 53 52.7	-1.4
TREB	Trebinje	3.83	89	ePn	Pn	17 53 50.4	+0.1
OBKA	Obir	3.88	14	ePn	Pn	17 53 52.6	+1.5
OBKA	Obir	3.88	14	ePn	Pn	17 53 52.7	+1.6
	comp=N,3.9nm,0.3s						
MYKA	Terra Mystica	3.89	5	ePn	Pn	17 53 52.8	+1.6
	comp=N,7.0nm,0.4s,SNR=4.4						
MYKA				eSn	Sn	17 54 39.1	+2.3
	comp=N,9.7nm,0.5s						
HCY	Herceg Novi	3.96	93	ePn	Pn	17 53 53.2	+1.1
BRY	Bratogost	3.97	86	ePn	Pn	17 53 54.3	+2.0
ABTA	Abfaltersbach	4.02	354	ePn	Pn	17 53 55.0	+2.0
	comp=N,17nm,0.5s,SNR=8.5						
ABTA				eSn	Sn	17 54 40.8	+0.9
	comp=N,30nm,0.6s						
SBF	Sospel	4.31	287	ePn	Pn	17 53 56.0	-1.0
SBF	Sospel	4.31	287	eP	Pn	17 54 00.2	+3.2
SBF				eSn	Sn	17 54 43.5	-3.7
	comp=N,8.9nm,0.5s						
KBA	Koelnbreinsper	4.33	2	ePn	Pn	17 53 58.8	+1.5
	comp=N,9.8nm,0.5s,SNR=11						
KBA				eSn	Sn	17 54 50.1	+2.5
	comp=N,8.5nm,0.4s						
HAPS	Han Pijesak,Bl	4.43	71	ePn	Pn	17 54 00.4	+1.7
DRME	Dracevica, Mon	4.50	95	ePn	Pn	17 54 01.4	+1.9
FETA	Feichten	4.60	339	ePn	Pn	17 54 04.3	+3.3
	comp=N,7.6nm,0.6s,SNR=13						
FETA				i Sn	Sn	17 54 55.5	+1.2
	comp=N,6.4nm,0.5s						
RUDO	Rudo	4.63	77	ePn	Pn	17 53 58.1	-3.2
WTTA	Wattenberg	4.63	347	i Pn	Pn	17 54 04.8	+3.3
	comp=N,7.7nm,0.5s,SNR=11						
DAVOX	Davos/Dischmat	4.65	331	Pn	Pn	17 54 04.6	+2.9
	comp=N,3.3nm,0.3s,baz=143,slow=12,SNR=35						
DAVOX				Sn	Sn	17 54 59.7	+4.1
	baz=127,slow=20						
DAVOX				LR	LR	17 56 11.3	
	comp=N,34nm,19.5s,baz=264,slow=43						
	comp=N,28nm,0.7s						
SQTA	Sankt Quirin	4.67	344	ePn	Pn	17 54 05.1	+3.1
	comp=N,9.8nm,0.4s,SNR=10						
BBLS	Lazići	4.70	74	ePn	Pn	17 54 04.2	+1.9
WATA	Walderalm	4.71	347	i Pn	Pn	17 54 06.2	+3.6
	comp=N,14nm,0.6s,SNR=13						
ARSA	Arzberg	4.80	20	i Pn	Pn	17 54 04.4	+0.7
	comp=N,5.1nm,0.5s						
ARSA				eSn	Sn	17 54 57.7	-1.4
	comp=N,5.1nm,0.3s						
MOTA	Moosalm	4.81	343	ePn	Pn	17 54 07.7	+3.7
	comp=N,15nm,0.6s,SNR=15						
LMR	La Mourre	4.90	279	eP	Pn	17 54 06.2	+1.2
BIOA	Bad Ischl, Aus	4.95	4	ePn	Pn	17 54 07.2	+1.5
	comp=N,8.0nm,0.3s,SNR=6.9						
MBDF	Montbardon	5.02	295	eP	Pn	17 54 10.1	+3.3
MBDF				eSn	Sn	17 55 00.9	-3.9
	comp=N,1.8nm,0.4s						
RETA	Reutte	5.02	341	i Pn	Pn	17 54 10.2	+3.4
	comp=N,4.9nm,0.4s,SNR=11						
DAVA	Damuels	5.09	334	i Pn	Pn	17 54 11.4	+3.7
	comp=N,11nm,0.5s,SNR=13						
DAVA				eSn	Sn	17 55 10.1	+3.7
	comp=N,9.1nm,0.5s						
MOA	Molln	5.16	8	i Pn	Pn	17 54 09.6	+1.0
	comp=N,6.6nm,0.5s,SNR=7.9						
MOA				eSn	Sn	17 55 07.9	+0.1
	comp=N,9.8nm,0.6s						
DIVS	Divibare	5.16	73	ePn	Pn	17 54 11.7	+3.0
LPG	La Plagne	5.36	303	eP	Pn	17 54 14.7	+3.1
LPG				eSn	Sn	17 55 09.2	-4.0
	comp=N,1.5nm,0.3s						
LPL	La Plagne	5.38	303	eP	Pn	17 54 15.5	+3.7
LPL				eSn	Sn	17 55 09.2	-4.5
	comp=N,3.3nm,0.5s						
CONA	Conrad Observa	5.51	19	i Pn	Pn	17 54 14.9	+1.4
	comp=N,6.3nm,0.3s						
CONA				i Sn	Sn	17 55 16.7	-0.1
	comp=N,4.9nm,0.4s						
SMRF	Simiane la Rot	5.65	285	eP	Pn	17 54 18.7	+3.3
SMRF				eSn	Sn	17 55 15.5	-4.7
	comp=N,1.6nm,0.5s						
ORIF	Oris-en-Rattie	5.68	295	eP	Pn	17 54 20.1	+4.2
ORIF				eSn	Sn	17 55 16.1	-4.9
	comp=N,10nm,0.6s						
OHR	Ohrid	5.94	103	i Pn	Pb	17 54 27.6	-7.4
GERES	GERESS Array B	6.10	3	Pn	Pn	17 54 22.3	+0.7
	comp=N,0.6nm,0.3s,baz=184,slow=12,SNR=14						
GERES				Sn	Sn	17 55 30.4	-0.8
	comp=N,1.0nm,0.3s,baz=186,slow=27,SNR=2.4						
	comp=N,0.7nm,0.3s						
CKRC	Cesky Krumlov	6.12	7	ePN	Pn	17 54 21.8	0.0
CKRC				eSN	Sn	17 55 30.0	-1.6
MODS	Modra-Piesok	6.32	26	ePN	Pn	17 54 28.7	+4.2
CABF	La Chapelle	6.34	310	eP	Pn	17 54 27.9	+3.0
CABF				eSn	Sn	17 55 32.3	-4.8
	comp=N,1.3nm,0.5s						
KHC	Kasperske Hory	6.38	3	ePN	Pn	17 54 26.6	+1.2
KHC				eSN	Sn	17 55 35.4	-2.7
VIVF	Saint-Julien-l	6.48	292	eP	Pn	17 54 30.7	+3.9
VIVF				eSn	Sn	17 55 35.5	-5.1
	comp=N,0.9nm,0.4s						
KRUC	Moravsky	6.70	19	ePN	Pn	17 54 30.7	+1.0
HINF	Hinteralfeld	6.73	321	eP	Pn	17 54 32.1	+1.9
HINF				eSn	Sn	17 55 42.0	-4.7
	comp=N,7.9nm,0.5s						
STIP	Stip	6.79	96	i Pn	Pn	17 54 34.4	+3.4
LASF	Ste Croix	6.89	284	eP	Pn	17 54 34.4	+2.0
VRAC	Vranov	6.98	19	LR	LR	17 57 30.3	
	comp=N,42nm,18.2s,baz=180,slow=40						
VYHS	Vyhne	6.99	33	ePN	Pn	17 54 36.9	+3.2
CDF	Champ du Feu	7.00	326	eP	Pn	17 54 35.6	+1.7
CDF				eSn	Sn	17 55 48.7	-4.6
	comp=N,3.5nm,0.4s						
HAU	Haudompre	7.10	320	eP	Pn	17 54 37.1	+1.8
HAU				eSn	Sn	17 55 51.0	-4.8
	comp=N,9.4nm,0.4s						
VAY	Valandovo	7.16	98	i Pn	Pn	17 54 37.4	+1.4
SMF	Signal de Mont	7.69	304	ePn	Pn	17 54 42.9	-0.4
SMF	Signal de Mont	7.69	304	eP	Pn	17 54 46.5	+3.2
SMF				eSn	Sn	17 56 04.2	-5.9
	comp=N,3.5nm,0.5s						
PAGF	Fort de Pagny	7.79	321	ePn	Pn	17 54 44.6	0.0
PAGF	Fort de Pagny	7.79	321	eP	Pn	17 54 47.8	+3.2
SFTF	Sexfontaines	7.88	317	eP	Pn	17 54 47.1	+1.2
	baz=136						
LOR	Lormes	7.98	308	ePn	Pn	17 54 48.9	+1.6
LOR	Lormes	7.98	308	eP	Pn	17 54 51.5	+4.2
	baz=126						
LOR				eSn	Sn	17 56 11.7	-5.6
	comp=N,2.0nm,0.3s						
MTLF	Montolieu	8.03	278	eP	Pn	17 54 51.9	+3.9
AVF	Avril sur Loir	8.05	303	eP	Pn	17 54 50.9	+2.6
MEZF	Maizieres J'vi	8.07	318	eP	Pn	17 54 51.8	+3.3
SSF	Saint Saulge	8.08	305	ePn	Pn	17 54 47.8	-0.9
SAVF	Savonnieres en	8.11	319	eP	Pn	17 54 52.3	+3.2
	baz=139						
BGF	Bois d'Agland	8.27	301	ePn	Pn	17 54 48.4	-2.8
BGF				eSn	Sn	17 56 18.2	-6.2
	comp=N,0.7nm,0.2s						
CAF	Calviac	8.30	289	eP	Pn	17 54 55.3	+3.6
RJF	Les Rejaudoux	8.76	291	ePn	Pn	17 54 56.5	-1.5
MLR	Muntele Rosu	9.60	69	Pn	Pn	17 55 11.1	+1.5
	comp=N,0.1nm,0.3s,baz=205,slow=19,SNR=2.6						
	comp=N,1.6nm,0.8s						
ETSF	Etsaut	10.07	275	ePn	Pn	17 55 12.8	-3.3
ETSF				eSn	Sn	17 57 10.4	+1.5
	comp=N,3.9nm,0.4s						
SJPF	Ste Jean	10.55	277	ePn	Pn	17 55 18.7	-3.8
FLN	La Foliniere	11.25	307	ePn	Pn	17 55 28.5	-3.6
IDI	Anoyia	11.78	125	Pn	Pn	17 55 42.2	+2.7
	comp=N,0.2nm,0.3s,baz=315,slow=1.4,SNR=2.0						
	comp=N,0.8nm,0.4s						
FINES	FINESS Array B	20.26	18	P	Pn	17 57 27.9	-0.5
	comp=N,1.7nm,0.8s,baz=190,slow=7.1,SNR=1.8						
	comp=N,1.7nm,0.8s						
TORD	Torodi Ar. Bea	31.12	202	P	P	17 59 12.0	+2.0
	comp=N,0.2nm,0.4s,baz=9.7,slow=9.1,SNR=2.5						
	comp=N,0.2nm,0.4s						
MKAR	Makanchi Array	47.80	60	P	P	18 01 30.0	+1.3
	comp=N,0.3nm,0.6s,baz=289,slow=9.0,SNR=3.5						
	comp=N,0.3nm,0.6s						

ROM 05 17:55:34.9±0.1**, 42.904N**±0.003×**13.185E**±0.004**, h7**km**, ML1.6**/1**, Error ellipse: s-maj=0.3km s-min=0.2km az=125.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	Castelsantange	0.05	177	P	Pg	17 55 36.9	+0.3
T1245				S	Sg	17 55 38.2	+0.4
T1245				AML	AML		
	comp=E,5375µm,1.2s						
T1245				AML	AML		
	comp=N,5075µm,0.6s						
T1245				AML	AML		
	comp=N,5890µm,0.6s						
T1245				AML	AML		
	comp=N,5070µm,0.6s						
T1245				AML	AML		
	comp=E,5475µm,1.2s						
MMO1	Montemonaco	0.10	93	P	Pg	17 55 37.7	+0.3
MMO1				S	Sg	17 55 39.5	+0.5
T1256	Bolognola (MC)	0.11	17	S	Sg	17 55 37.0	-2.2
T1216	Preci, Frazion	0.12	264	P	Pg	17 55 37.8	+0.3
T1216				S	Sg	17 55 40.4	+1.0
T1216				AML	AML		
	comp=E,1456µm,0.4s						
T1216				AML	AML		
	comp=N,1176µm,0.3s						
AM05	Amandola Campo	0.14	59	P	Pg	17 55 38.5	+0.5
FDMO	Fiordimonte	0.15	332	P	Pg	17 55 38.4	+0.3
FDMO				S	Sg	17 55 40.9	+0.7
FDMO				AML	AML		
	comp=E,394µm,0.2s						
FDMO				AML	AML		
	comp=N,346µm,0.6s						
T1241	Roccafluvione,	0.19	105	P	Pg	17 55 39.3	+0.6
T1241				S	Sg	17 55 42.6	+1.3
CSP1	Cessapalombo	0.19	4	P	Pg	17 55 39.3	+0.5
CSP1				S	Sg	17 55 42.3	+0.9
GUMA	Gualdo di Mace	0.19	35	P	Pg	17 55 39.5	+0.7
GUMA				S	Sg	17 55 43.0	+1.5
CESI	CESI - Serrava	0.23	296	P	Pg	17 55 40.6	+1.1
CESI				S	Sg	17 55 43.9	+1.3
T1215	Vallo di Nera,	0.25	246	P	Pg	17 55 40.6	+0.7
T1215				S	Sb	17 55 45.0	-1.6
SMA1	SAN MARTINO	0.29	158	P	Pg	17 55 41.4	+0.6
SMA1				S	Sg	17 55 46.0	+1.3
RM33	Pellescritta (	0.40	177	P	Pb	17 55 44.1	-0.2
RM33				S	Sb	17 55 49.8	-0.9
T1211	Morro Reatino	0.44	213	P	Pb	17 55 45.1	0.0
T1211				S	Sb	17 55 51.3	-0.7

ROM 05 17:56:08.5±0.0**, 42.811N**±0.003×**13.096E**±0.004**, h11**km**, ML2.1**/3**, 1D, Error ellipse: s-maj=0.3km s-min=0.3km az=44.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.03	31	⇓P	Pg	17 56 10.9	+0.2
NRCA				S	Sg	17 56 12.2	0.0
NRCA				AML	AML		
	comp=E,1700µm,0.1s						
NRCA				AML	AML		
	comp=E,1695µm,0.1s						
NRCA				AML	AML		
	comp=N,2330µm,0.1s						
NRCA				AML	AML		
	comp=E,1760µm,0.1s						
NRCA				AML	AML		
	comp=N,2565µm,0.1s						
NRCA				AML	AML		
	comp=N,2325µm,0.1s						
T1245	Castelsantange	0.08	56	P	Pg	17 56 11.5	+0.3
T1245				S	Sg	17 56 13.5	+0.3
T1216	Preci, Frazion	0.10	325	P	Pg	17 56 11.7	+0.4
T1216				S	Sg	17 56 13.8	+0.5
T1216				AML	AML		
	comp=E,566µm,0.5s						
T1216				AML	AML		
	comp=N,675µm,0.7s						
T1216				AML	AML		
	comp=E,569µm,0.5s						
T1216				AML	AML		
	comp=N,672µm,0.7s						
T1202	Accumoli, Fraz	0.14	138	P	Pg	17 56 12.4	+0.4
T1202				S	Sg	17 56 15.6	+1.2
T1217	Poggiodomo (PG	0.16	231	P	Pg	17 56 12.6	+0.4
T1217				S	Sg	17 56 15.4	+0.7
T1217				AML	AML		
	comp=E,276µm,1.5s						
T1217				AML	AML		
	comp=N,277µm,1.5s						
T1215	Vallo di Nera,	0.17	267	P	Pg	17 56 12.8	+0.4
T1215				AML	AML		
	comp=E,110µm,0.1s						
T1215				AML	AML		
	comp=N,100µm,0.1s						
MMO1	Montemonaco	0.19	62	P	Pg	17 56 13.2	+0.4
LNSS	Leonessa	0.21	191	P	Pg	17 56 13.6	+0.5
LNSS				S	Sg	17 56 16.9	+0.7
CESI	CESI - Serrava	0.24	324	P	Pg	17 56 14.2	+0.6
CESI				S	Sg	17 56 18.1	+1.1
T1241	Roccafluvione,	0.25	79	P	Pg	17 56 14.3	+0.5
SMA1	SAN MARTINO	0.25	135	P	Pg	17 56 14.2	+0.4
SMA1				S	Sb	17 56 18.6	-1.0
RM33	Pellescritta (	0.31	164	P	Pg	17 56 15.2	+0.3
RM33				S	Sg	17 56 20.0	+0.9
T1211	Morro Reatino	0.33	213	P	Pb	17 56 15.8	-0.6
T1211				S	Sb	17 56 20.8	-1.0
ARRO	Arrone	0.34	227	P	Pb	17 56 16.0	-0.5
ARRO				S	Sb	17 56 21.1	-0.8
TERO	Teramo	0.42	116	P	Pg	17 56 16.9	+0.1

ROM 05 18:04:24.8±0.1**, 42.950N**±0.003×**13.023E**±0.005**, h17**km**, ML2.1**/18**, 6C-3D, Error ellipse: s-maj=0.4km s-min=0.1km az=276.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.02	58	P	Pg	18 04 26.6	-1.5
FEMA				S	Sg	18 04 28.2	-2.1
FEMA				AML	AML		
	comp=N,4125µm,1.2s						
FEMA				AML	AML		
	comp=E,4215µm,0.5s						
FEMA				AML	AML		
	comp=E,4215µm,0.5s						
FEMA				AML	AML		
	comp=N,4120µm,1.2s						
T1216	Preci, Frazion	0.06	183	P	Pg	18 04 26.8	-1.3
T1216				S	Sg	18 04 28.4	-1.9
T1216				AML	AML		
	comp=E,2620µm,0.1s						
T1216				AML	AML		
	comp=E,2615µm,0.1s						
T1216				AML	AML		
	comp=N,3470µm,1.1s						
FDMO	Fiordimonte	0.10	29	P	Pg	18 04 27.3	-1.1
FDMO				S	Sg	18 04 29.3	-1.5
FDMO				AML	AML		
	comp=E,1815µm,1.2s						
FDMO				AML	AML		
	comp=N,2330µm,0.2s						
FDMO				AML	AML		
	comp=E,5865µm,0.2s						
FDMO				AML	AML		
	comp=N,6955µm,0.1s						
CESI	CESI - Serrava	0.10	302	P	Pb	18 04 27.4	-0.9
CESI				S	Sb	18 04 29.7	-1.0
CESI				AML	AML		
	comp=E,3870µm,0.2s						
CESI				AML	AML		
	comp=N,5020µm,0.1s						
NRCA	Norcia	0.13	150	P	Pg	18 04 27.7	-1.2
NRCA				S	Sg	18 04 30.3	-1.3
NRCA				AML	AML		
	comp=E,10715µm,1.1s						
NRCA				AML	AML		
	comp=N,14950µm,0.2s						
NRCA				AML	AML		
	comp=E,11190µm,1.1s						
NRCA				AML	AML		
	comp=E,10720µm,1.1s						
NRCA				AML	AML		
	comp=N,16350µm,0.2s						
NRCA				AML	AML		
	comp=N,14900µm,0.2s						
T1245	Castelsantange	0.15	127	P	Pg	18 04 26.8	-2.3
T1245				S	Sg	18 04 30.9	-1.2
T1256	Bolognola (MC)	0.16	69	P	Pg	18 04 28.2	-1.0
T1215	Vallo di Nera,	0.19	218	P	Pg	18 04 28.6	-0.9
T1215				S	Sg	18 04 31.8	-0.9
T1215				AML	AML		
	comp=N,398µm,0.2s						
T1215				AML	AML		
	comp=E,312µm,0.2s						
T1215				AML	AML		
	comp=N,398µm,0.3s						
T1215				AML	AML		
	comp=N,426µm,0.2s						
T1215				AML	AML		
	comp=E,332µm,0.4s						
CSP1	Cessapalombo	0.20	43	P	Pg	18 04 28.7	-0.9
CSP1				S	Sg	18 04 32.2	-0.8
CSP1				AML	AML		
	comp=E,960µm,1.4s						
CSP1				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,618µm,0.9s						
CSP1				AML	AML		
	comp=E,962µm,1.4s						
CSP1				AML	AML		
	comp=N,617µm,0.9s						
SEF1	**Sefro**	**0.20**	**344**	P	Pg	18 04 28.9	-0.8
SEF1				S	Sg	18 04 32.5	-0.6
MMO1	**Montemonaco**	**0.23**	**103**	P	Pg	18 04 28.4	-1.7
MMO1				S	Sg	18 04 33.0	-0.8
GUMA	**Gualdo di Mace**	**0.26**	**64**	P	Pg	18 04 30.0	-0.6
GUMA				S	Sg	18 04 34.6	+0.1
GUMA				AML	AML		
	comp=E,1040µm,0.3s						
GUMA				AML	AML		
	comp=N,841µm,1.3s						
GUMA				AML	AML		
	comp=N,840µm,1.3s						
ASSB	**Assisi San Ben**	**0.28**	**289**	⇑P	Pg	18 04 30.2	-0.8
ASSB				AML	AML		
	comp=E,834µm,0.3s						
ASSB				AML	AML		
	comp=N,662µm,0.4s						
T1202	**Accumoli, Fraz**	**0.29**	**149**	P	Pg	18 04 30.6	-0.5
T1202				S	Sb	18 04 36.1	+0.1
SNTG	**Esanatoglia**	**0.31**	**349**	⇑P	Pg	18 04 30.7	-0.8
SNTG				S	Sg	18 04 35.8	-0.3
SNTG				AML	AML		
	comp=N,185µm,1.1s						
SNTG				AML	AML		
	comp=E,141µm,1.3s						
SNTG				AML	AML		
	comp=N,186µm,1.1s						
T1241	**Roccafluvione,**	**0.31**	**107**	P	Pg	18 04 30.6	-1.0
T1241				S	Sg	18 04 35.7	-0.4
T1241				AML	AML		
	comp=E,1320µm,0.2s						
T1241				AML	AML		
	comp=N,568µm,0.2s						
LNSS	**Leonessa**	**0.35**	**178**	S	Sg	18 04 37.0	-0.1
T1204	**Amatrice, Fraz**	**0.35**	**142**	P	Pg	18 04 31.6	-0.6
ATCC	**AVT- Casa Cast**	**0.37**	**310**	⇑P	Pg	18 04 31.6	-0.8
ATCC				AML	AML		
	comp=N,295µm,1.5s						
ATCC				AML	AML		
	comp=E,446µm,0.2s						
ATCC				AML	AML		
	comp=N,294µm,1.5s						
EL6	**Elcito**	**0.38**	**9**	⇓P	Pg	18 04 32.1	-0.7
SMA1	**SAN MARTINO**	**0.39**	**144**	P	Pg	18 04 32.0	-0.9
SMA1				AML	AML		
	comp=N,346µm,0.5s						
SMA1				AML	AML		
	comp=E,322µm,0.5s						
SMA1				AML	AML		
	comp=N,345µm,0.5s						
SMA1				AML	AML		
	comp=E,322µm,0.5s						
ARRO	**Arrone**	**0.42**	**207**	P	Pg	18 04 32.6	-0.7
ARRO				AML	AML		
	comp=E,186µm,0.3s						
ARRO				AML	AML		
	comp=N,97µm,0.2s						
T1211	**Morro Reatino**	**0.43**	**197**	P	Pg	18 04 33.0	-0.7
T1211				S	Sb	18 04 40.4	+0.1
CING	**Cingoli**	**0.44**	**16**	⇓P	Pg	18 04 33.1	-0.7
CING				AML	AML		
	comp=E,170µm,0.2s						
CING				AML	AML		
	comp=E,170µm,0.2s						
CING				AML	AML		
	comp=N,124µm,0.1s						
RM33	**Pellescritta (**	**0.46**	**162**	P	Pg	18 04 33.7	-0.5
RM33				AML	AML		
	comp=E,108µm,0.4s						
RM33				AML	AML		
	comp=N,112µm,1.1s						
RM33				AML	AML		
	comp=N,112µm,1.1s						
RM33				AML	AML		
	comp=E,108µm,0.4s						
CESX	**Cesi**	**0.47**	**224**	⇑P	Pg	18 04 33.3	-1.0
CESX				AML	AML		
	comp=E,108µm,0.8s						
CESX				AML	AML		
	comp=E,108µm,0.8s						
CESX				AML	AML		
	comp=N,105µm,0.3s						
TERO	**Teramo**	**0.54**	**127**	⇓P	Pg	18 04 35.0	-0.5
TERO				AML	AML		
	comp=N,194µm,0.9s						
TERO				AML	AML		
	comp=N,194µm,0.9s						
TERO				AML	AML		
	comp=E,290µm,0.2s						
MGAB	**Montegabbione**	**0.67**	**267**	⇑P	Pg	18 04 37.6	-0.4
MGAB				AML	AML		
	comp=E,109µm,1.4s						
MGAB				AML	AML		
	comp=N,72µm,1.6s						
MGAB				AML	AML		
	comp=N,73µm,1.6s						
FIAM	**Fiamignano**	**0.69**	**174**	⇑P	Pg	18 04 37.4	-0.9
INTR	**Introdacqua**	**1.14**	**145**	P	Pg	18 04 48.0	+1.2

ROM 05 18:04:47.8±0.0**, 42.°856N**±0.°003×**13.°155E**±0.°004**, h9**km**, ML2.1**/9**, 9C-5D, Error ellipse: s-maj=0.3km s-min=0.2km az=203.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.02**	**89**	P	Pg	18 04 49.7	+0.1
NRCA	**Norcia**	**0.04**	**233**	P	Pg	18 04 49.4	-0.1
NRCA				S	Sg	18 04 51.1	+0.3
T1216	**Preci, Frazion**	**0.11**	**289**	⇑P	Pg	18 04 50.9	+0.6
T1216				S	Sg	18 04 52.9	+0.8
T1216				AML	AML		
	comp=E,2390µm,0.4s						
T1216				AML	AML		
	comp=N,2035µm,1.6s						
T1216				AML	AML		
	comp=N,2030µm,1.6s						
T1216				AML	AML		
	comp=E,2385µm,0.4s						
MMO1	**Montemonaco**	**0.13**	**71**	P	Pg	18 04 51.2	+0.5
MMO1				S	Sg	18 04 53.6	+0.7
FDMO	**Fiordimonte**	**0.19**	**345**	AML	AML		
	comp=N,6955µm,0.1s						
FDMO				AML	AML		
	comp=E,5865µm,0.2s						
AM05	**Amandola Campo**	**0.19**	**50**	⇑P	Pg	18 04 52.7	+1.0
AM05				AML	AML		
	comp=E,1390µm,1.6s						
AM05				AML	AML		
	comp=N,119µm,0.1s						
T1241	**Roccafluvione,**	**0.20**	**90**	⇑P	Pg	18 04 52.6	+0.7
T1241				S	Sg	18 04 56.1	+1.3
T1204	**Amatrice, Fraz**	**0.22**	**146**	P	Pg	18 04 52.9	+0.7
T1204				S	Sg	18 04 57.1	+1.9
T1215	**Vallo di Nera,**	**0.22**	**256**	⇑P	Pg	18 04 53.2	+1.0
T1215				S	Sg	18 04 56.6	+1.4
CESI	**CESI - Serrava**	**0.24**	**309**	⇑P	Pg	18 04 53.2	+0.6
CESI				S	Sg	18 04 57.2	+1.4
CESI				AML	AML		
	comp=E,925µm,0.3s						
CESI				AML	AML		
	comp=N,1390µm,0.3s						
CSP1	**Cessapalombo**	**0.24**	**9**	⇑P	Pg	18 04 53.2	+0.6
CSP1				S	Sg	18 04 57.0	+1.1
CSP1				AML	AML		
	comp=E,660µm,0.7s						
CSP1				AML	AML		
	comp=N,505µm,0.4s						
GUMA	**Gualdo di Mace**	**0.24**	**33**	⇓P	Pg	18 04 53.6	+0.9
GUMA				S	Sg	18 04 57.8	+1.8
GUMA				AML	AML		
	comp=E,931µm,1.6s						
GUMA				AML	AML		
	comp=E,1040µm,0.3s						
GUMA				AML	AML		
	comp=N,841µm,1.3s						
GUMA				AML	AML		
	comp=N,840µm,1.3s						
GUMA				AML	AML		
	comp=N,1020µm,1.3s						
SMA1	**SAN MARTINO**	**0.26**	**149**	⇑P	Pg	18 04 53.7	+0.7
SMA1				S	Sb	18 04 58.2	-1.2
SMA1				AML	AML		
	comp=E,322µm,0.5s						
SMA1				AML	AML		
	comp=N,345µm,0.5s						
SMA1				AML	AML		
	comp=N,346µm,0.5s						
SMA1				AML	AML		
	comp=E,322µm,0.5s						
T1211	**Morro Reatino**	**0.39**	**214**	S	Sb	18 05 02.0	-1.1
TERO	**Teramo**	**0.41**	**125**	⇓P	Pg	18 04 56.1	+0.4
TERO				S	Sb	18 05 02.8	-0.7
TERO				AML	AML		
	comp=E,290µm,0.2s						
TERO				AML	AML		
	comp=N,194µm,0.9s						
TERO				AML	AML		
	comp=N,194µm,0.9s						
ASSB	**Assisi San Ben**	**0.41**	**297**	⇑P	Pg	18 04 56.1	+0.4
ASSB				S	Sb	18 05 02.6	-1.0
EL6	**Elcito**	**0.47**	**355**	⇓P	Pg	18 04 57.5	+0.5
EL6				S	Sb	18 05 06.0	+0.4
ATCC	**AVT- Casa Cast**	**0.50**	**311**	P	Pg	18 04 58.0	+0.5
ATCC				S	Sb	18 05 06.0	-0.3
GIGS	**Gran Sasso**	**0.51**	**143**	⇑P	Pg	18 04 58.0	+0.4
CING	**Cingoli**	**0.52**	**3**	⇓P	Pg	18 04 58.3	+0.5
CING				S	Sb	18 05 06.5	-0.3
CING				AML	AML		
	comp=E,170µm,0.2s						
CING				AML	AML		
	comp=N,124µm,0.1s						
FOSV	**Fossato di Vic**	**0.53**	**327**	S	Sb	18 05 07.0	0.0
PP3	**Marolino**	**0.62**	**32**	S	Sb	18 05 10.0	+0.4
ARVD	**Arcevia**	**0.66**	**346**	⇓P	Pb	18 05 01.0	-0.5
ARVD				AML	AML		
	comp=E,111µm,0.5s						
ARVD				AML	AML		
	comp=N,106µm,0.5s						
PIEI	**Pieia**	**0.82**	**326**	S	Sn	18 05 17.0	-0.8

*IDC **05** 18:05:08.6±1.6, 39.°15N×22.°18E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=60.6km s-min=28.1km az=129.0*

*TIR **05** 18:05:09.0, 38.°75N×22.°45E, h25km±3km, Md3.7, Ml3.7*

*ATH **05** 18:05:10.9, 38.°96N×22.°08E, h12km±1km, ML3.4/16, Error ellipse: s-maj=1.5km s-min=0.9km az=16.0*

*THE **05** 18:05:11.0, 38.°98N×22.°10E, h2km±1km, ML3.2/9, Error ellipse: s-maj=1.0km s-min=0.3km az=284.0*

*DDA **05** 18:05:14.3±0.0, 39.°44N×22.°66E, h6km±2km, ML2.6*

ISC 05 18:05:10.5±0.8**, 38.°98N**±0.°02×**22.°12E**±0.°02**, h15**km±5km**, n102, σ0.°93**/138**, mb3.6**/4**, 19C-8D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKR	**Makrakomi, Fth**	**0.03**	**20**	P	**Pg**	**18 05 13.6**	**+0.3**
MAKR				S	**Sg**	**18 05 15.8**	**+0.6**
MAKR				AML	AML	18 05 16.3	
MAKR				AML	AML	18 05 16.3	
AGG	**Agios Georgios**	**0.17**	**77**	P	**Pb**	**18 05 15.5**	**+0.1**
AGG				S	**Sb**	**18 05 19.2**	**+0.6**
EVR	**Evrytania**	**0.25**	**255**	P	**Pg**	**18 05 15.6**	**-0.5**
EVR				S	**Sg**	**18 05 19.3**	**-0.5**
	6µm,0.4s						
EVR	**Evrytania**	**0.25**	**255**	P	**Pg**	**18 05 15.5**	**-0.6**
EVR				S	**Sg**	**18 05 19.0**	**-0.9**
EVR				AML	AML	18 05 21.8	
	comp=E,10045µm,0.4s						
EVR				AML	AML	18 05 23.9	
	comp=N,12102µm,0.4s						
ANX	**Ano Chora**	**0.42**	**202**	P	**Pg**	**18 05 18.7**	**-0.3**
ANX				S	**Sg**	**18 05 23.0**	**-1.8**
ANX				AML	AML	18 05 25.9	
	comp=E,37912µm,0.3s						
ANX				AML	AML	18 05 27.5	
	comp=N,41437µm,0.4s						
AXAR	**Agios Charalam**	**0.47**	**117**	P	**Pb**	**18 05 20.4**	**-0.2**
AXAR				S	**Sb**	**18 05 28.0**	**+0.6**
AXAR				AML	AML	18 05 29.6	
	comp=E,16729µm,0.2s						
AXAR				AML	AML	18 05 33.1	
	comp=N,18544µm,0.3s						
SERG	**Sergoula**	**0.57**	**185**	P	**Pg**	**18 05 21.1**	**-0.7**
SERG				S	**Sg**	**18 05 29.2**	**-0.2**
SERG				AML	AML	18 05 33.3	
	comp=N,18164µm,0.3s						
SERG				AML	AML	18 05 33.5	
	comp=E,23347µm,0.4s						
EFP	**Efpalio**	**0.58**	**197**	P	**Pg**	**18 05 21.6**	**-0.3**
EFP				S	**Sb**	**18 05 30.3**	**0.0**
	comp=E,10µm,0.3s						
EFP	**Efpalio**	**0.58**	**197**	P	**Pg**	**18 05 21.4**	**-0.5**
EFP				S	**Sg**	**18 05 29.0**	**-0.7**
EFP				AML	AML	18 05 31.2	
	comp=E,18238µm,0.4s						
EFP				AML	AML	18 05 32.7	
	comp=N,19432µm,0.3s						
DLFA	**Delphi**	**0.58**	**150**	P	**Pg**	**18 05 21.4**	**-0.6**
DLFA				S	**Sg**	**18 05 29.5**	**-0.4**
DLFA				AML	AML	18 05 31.3	
	comp=N,9842µm,0.4s						
DLFA				AML	AML	18 05 34.0	
	comp=E,8288µm,0.4s						
THL	**Klokotos Trika**	**0.59**	**352**	P	**Pg**	**18 05 21.7**	**-0.4**
THL				S	**Sb**	**18 05 31.0**	**+0.5**
	comp=E,2µm,0.3s						
THL	**Klokotos Trika**	**0.59**	**352**	P	**Pg**	**18 05 21.6**	**-0.4**
THL				S	**Sb**	**18 05 31.4**	**+0.8**
THL				AML	AML	18 05 35.0	
	comp=N,3586µm,0.3s						
THL				AML	AML	18 05 35.4	
	comp=E,6355µm,0.3s						
PVO	**Paravola**	**0.59**	**232**	P	**Pg**	**18 05 21.7**	**-0.4**
PVO				S	**Sb**	**18 05 30.8**	**+0.2**
	comp=E,4µm,0.3s						
PVO	**Paravola**	**0.59**	**232**	P	**Pg**	**18 05 21.2**	**-0.9**
TRIZ	**Trizonia**	**0.62**	**183**	P	**Pb**	**18 05 22.9**	**-0.1**
TRIZ				S	**Sb**	**18 05 31.9**	**+0.5**
	comp=E,2µm,0.3s						
LRSO	**Larissa Observ**	**0.72**	**17**	P	**Pg**	**18 05 24.3**	**-0.3**
ALIK	**Aliki, Aigiali**	**0.72**	**180**	P	**Pg**	**18 05 24.3**	**-0.3**
ALIK				S	**Sb**	**18 05 35.0**	**+0.6**
UPR	**University Cam**	**0.75**	**200**	P	**Pb**	**18 05 25.3**	**+0.2**
UPR				S	**Sb**	**18 05 35.7**	**+0.6**
LAKA	**Lakka**	**0.75**	**188**	P	**Pg**	**18 05 24.2**	**-0.9**
NEO	**Neokhori**	**0.92**	**69**	P	**Pn**	**18 05 28.6**	**-0.3**
NEO				S	**Sn**	**18 05 42.1**	**+0.3**
	comp=E,2µm,0.4s						
NEO	**Neokhori**	**0.92**	**69**	P	**Pn**	**18 05 28.5**	**-0.3**
NEO				AML	AML	18 05 46.2	
	comp=E,3799µm,0.5s						
NEO				AML	AML	18 05 46.4	
	comp=N,4520µm,0.3s						
XOR	**Xorichti**	**0.92**	**65**	P	**Pb**	**18 05 28.0**	**-0.1**
XOR				S	**Sn**	**18 05 41.9**	**+0.1**
	comp=N,2µm,0.6s						
XOR	**Xorichti**	**0.92**	**65**	P	**Pg**	**18 05 28.5**	**+0.2**
XOR				AML	AML	18 05 43.9	
	comp=E,2083µm,0.4s						
XOR				AML	AML	18 05 47.8	
	comp=N,4961µm,0.7s						
THAL	**Thalero**	**1.04**	**155**	P	**Pb**	**18 05 30.2**	**+0.1**
THAL				AML	AML	18 05 50.5	
	comp=N,5710µm,0.3s						
THAL				AML	AML	18 05 54.0	
	comp=E,5905µm,0.4s						
RLS	**Riolos of Patr**	**1.06**	**209**	P	**Pb**	**18 05 30.4**	**-0.1**
RLS	**Riolos of Patr**	**1.06**	**209**	P	**Pb**	**18 05 30.3**	**-0.1**
RLS				AML	AML	18 05 48.3	
	comp=E,855µm,0.4s						
RLS				AML	AML	18 05 49.8	
	comp=N,1798µm,0.6s						
DRO	**Drossia**	**1.08**	**197**	P	**Pn**	**18 05 31.0**	**0.0**
DRO	**Drossia**	**1.08**	**197**	P	**Pb**	**18 05 30.4**	**-0.5**
DRO				AML	AML	18 05 52.0	
	comp=E,4208µm,0.4s						
DRO				AML	AML	18 05 57.0	
	comp=N,4232µm,0.5s						
TSLK	**Tsoukalades, L**	**1.15**	**263**	P	**Pb**	**18 05 32.3**	**+0.2**
TSLK	**Tsoukalades, L**	**1.15**	**263**	P	**Pn**	**18 05 31.9**	**-0.2**
TSLK				AML	AML	18 05 56.0	
	comp=E,1911µm,0.7s						
TSLK				AML	AML	18 06 01.9	
	comp=N,2903µm,0.4s						
LKD2	**Lefkada island**	**1.16**	**261**	P	**Pn**	**18 05 32.0**	**-0.1**
	baz=273						
LKD2				S	**Sg**	**18 05 50.0**	**+2.1**
	baz=273						
LKD2	**Lefkada island**	**1.16**	**261**	P	**Pn**	**18 05 31.9**	**-0.2**
LKD2				AML	AML	18 05 56.4	
	comp=E,3319µm,0.7s						
LKD2				AML	AML	18 05 57.6	
	comp=N,3296µm,0.5s						
VIL2	**Platees**	**1.19**	**130**	P	**Pg**	**18 05 33.5**	**+0.1**
VIL2				AML	AML	18 05 56.0	
	comp=N,1532µm,0.5s						
VIL2				AML	AML	18 05 57.8	
	comp=E,3147µm,0.8s						
EVGI	**Lefkada island**	**1.20**	**253**	P	**Pb**	**18 05 33.1**	**+0.2**
LOUT	**Loutraki**	**1.20**	**146**	P	**Pb**	**18 05 33.1**	**+0.2**
IGT	**Igoumenitsa**	**1.49**	**292**	P	**Pb**	**18 05 37.9**	**0.0**
IGT	**Igoumenitsa**	**1.49**	**292**	P	**Pb**	**18 05 37.6**	**-0.3**
	baz=297						
IGT				S	**Sg**	**18 05 59.6**	**+1.0**
	baz=297						
KEF4	**Livadi, Kephal**	**1.51**	**242**	P	**Pb**	**18 05 38.0**	**-0.2**
ATH	**Athens Observa**	**1.61**	**128**	P	**Pb**	**18 05 39.5**	**-0.4**
ATH				S	**Sg**	**18 06 02.7**	**+0.3**
	comp=E,615nm,0.4s						
LSK	**Leskovik**	**1.65**	**315**	P	**Pb**	**18 05 40.7**	**0.0**
	baz=315						
LSK				S	**Sg**	**18 06 04.1**	**+0.3**
	baz=315						
LSK				AMP			
	comp=E,3.2nm,0.5s,baz=315						
ATHU	**Athens Univers**	**1.66**	**127**	P	**Pb**	**18 05 40.2**	**-0.5**
ATHU				S	**Sg**	**18 06 03.6**	**-0.2**
	comp=E,168nm,0.4s						
DION	**Dionisos Attik**	**1.69**	**122**	P	**Pb**	**18 05 40.5**	**-0.7**
VLY	**Voula,Athens**	**1.73**	**130**	P	**Pb**	**18 05 41.3**	**-0.7**
SRN	**Sarande**	**1.87**	**299**	P	**Pb**	**18 05 44.3**	**0.0**
	baz=302						
SRN				S	**Sg**	**18 06 09.7**	**-1.0**
	baz=302						
SRN				AMP			
	comp=E,1.3nm,0.5s,baz=302						
FNA	**Florina**	**1.89**	**343**	P	**Pn**	**18 05 43.3**	**+1.1**
FNA	**Florina**	**1.89**	**343**	P	**Pn**	**18 05 43.1**	**+0.9**
	baz=339						
FNA				S	**Sb**	**18 06 08.7**	**+0.6**
	baz=339						
KBN	**Korca**	**1.93**	**328**	P	**Pb**	**18 05 44.6**	**-0.9**
	baz=327						
KBN				S	**Sb**	**18 06 10.9**	**+1.6**
	baz=327						
KBN				AMP			
	comp=E,0.8nm,0.7s,baz=327						
VLI	**Veliai**	**2.35**	**164**	P	**Pn**	**18 05 49.2**	**+0.6**
OHR	**Ohrid**	**2.35**	**335**	*i* Pn	**Pb**	**18 05 51.0**	**-1.6**
OHR				*e*Sn	**Sb**	**18 06 20.1**	**-1.4**
VAY	**Valandovo**	**2.36**	**8**	*i* Pn	**Pn**	**18 05 49.7**	**+1.1**
VAY				*e*Sn	**Sn**	**18 06 17.9**	**+0.5**
STIP	**Stip**	**2.71**	**1**	⇓*i*Pn	**Pn**	**18 05 55.0**	**+1.6**
TIR	**Tirane**	**2.92**	**325**	⇑P	**Pn**	**18 05 56.3**	**-0.2**
PHP	**Peshkopia**	**2.99**	**335**	P	**Pn**	**18 05 58.6**	**+1.2**
	baz=333						
SCTE	**Santa Cesarea**	**3.02**	**292**	P	**Pn**	**18 05 59.9**	**+2.1**
	baz=295						
SKO	**Skopje**	**3.03**	**350**	*i* Pn	**Pn**	**18 06 00.7**	**+2.9**
KOCA	**Canakkale, Ayv**	**3.16**	**79**	P	**Pn**	**18 06 00.6**	**+0.9**
KOCA				S	**Sn**	**18 06 36.0**	**-1.1**
BOZC	**Bozcaada**	**3.17**	**73**	P	**Pn**	**18 06 00.2**	**+0.5**
BOZC				S	**Sn**	**18 06 34.9**	**-2.3**
APE	**Apeiranthos**	**3.30**	**124**	⇑P	**Pn**	**18 06 02.8**	**+1.1**
ECEA	**Canakkale, Ece**	**3.31**	**70**	P	**Pn**	**18 06 02.6**	**+0.9**
ECEA				S	**Sn**	**18 06 39.9**	**-0.9**
ECEA				*i* AML	AML	18 07 15.0	
	comp=E,24nm,0.9s						
ECEA				*i* AML	AML	18 07 16.0	
	comp=E,19nm,1.3s						
BAYC	**CANAKKALE_Bayr**	**3.52**	**76**	P	**Pn**	**18 06 05.5**	**+1.0**
BAYC				S	**Sn**	**18 06 44.0**	**-1.8**
CAVK	**Edirne/Enez-Ca**	**3.55**	**60**	P	**Pn**	**18 06 05.3**	**+0.3**
CAVK				*i* AML	AML	18 07 02.0	
	comp=E,18nm,0.6s						
CAVK				*i* AML	AML	18 07 20.0	
	comp=E,16nm,1.0s						
URLA	**Izmir**	**3.56**	**99**	P	**Pn**	**18 06 05.5**	**+0.3**
URLA				*i* AML	AML	18 07 36.0	
	comp=E,13nm,0.9s						
AYVA	**Ayvalik**	**3.57**	**83**	P	**Pn**	**18 06 06.1**	**+0.9**
AYVA				*i* AML	AML	18 07 19.0	
	comp=E,17nm,0.7s						
AYVA				*i* AML	AML	18 07 27.0	
	comp=E,18nm,0.5s						
SANT	**Santorini**	**3.72**	**134**	⇑P	**Pn**	**18 06 09.2**	**+1.8**
SANT				⇑S	**Sn**	**18 06 54.2**	**+3.3**
VTS	**Vitosha**	**3.73**	**13**	⇓P	**Pn**	**18 06 07.5**	**-0.1**
VTS				⇑S	**Sn**	**18 06 50.5**	**-0.8**
DGB	**zmir**	**3.85**	**102**	P	**Pn**	**18 06 10.5**	**+1.4**
BUHA	**Balikesir, Bur**	**3.88**	**81**	P	**Pn**	**18 06 10.6**	**+1.0**
BUHA				*i* AML	AML	18 08 00.0	
	comp=E,16nm,0.0s						
DRME	**Dracevica, Mon**	**3.90**	**326**	*e*Pn	**Pn**	**18 06 11.7**	**+1.8**
KESN	**Edirne-Kesan**	**3.96**	**61**	P	**Pn**	**18 06 10.6**	**-0.4**
PDG	**Podgorica**	**4.07**	**329**	⇓P	**Pn**	**18 06 12.1**	**-0.1**
PDG				⇓S	**Sn**	**18 06 59.4**	**-0.2**
TIP	**Timpagrande**	**4.18**	**274**	⇑S	**Sn**	**18 07 02.5**	**+0.3**
TIP	**Timpagrande**	**4.18**	**274**	⇓P	**Pn**	**18 06 13.8**	**+0.1**
IDI	**Anoyia**	**4.30**	**148**	⇓P	**Pn**	**18 06 16.4**	**+1.0**
MATE	**Matera**	**4.49**	**293**	⇑P	**Pn**	**18 06 18.3**	**+0.4**
MATE				⇑S	**Sn**	**18 07 09.9**	**+0.1**
BLKB	**Belogradchik**	**4.65**	**5**	⇑P	**Pn**	**18 06 20.2**	**0.0**
BLKB				⇓S	**Sn**	**18 07 13.2**	**-0.7**
BOVS	**Bovan**	**4.66**	**356**	⇑P	**Pn**	**18 06 20.0**	**-0.2**
TREB	**Trebinje**	**4.70**	**324**	*e*Pn	**Pn**	**18 06 20.1**	**-0.7**
KIRK	**Kırklareli**	**4.72**	**52**	P	**Pn**	**18 06 21.1**	**0.0**
RUDO	**Rudo**	**5.07**	**337**	*e*Pn	Pn	18 06 31.5	+5.6
STON	**Ston**	**5.13**	**321**	*e*Pn	**Pn**	**18 06 25.5**	**-1.1**
BBLS	**Lazići**	**5.29**	**338**	*e*Pn	**Pn**	**18 06 31.4**	**+2.5**
DIVS	**Divibare**	**5.35**	**343**	*e*Pn	**Pn**	**18 06 30.6**	**+0.7**
HAPS	**Han Pijesak,Bl**	**5.62**	**336**	*e*Pn	**Pn**	**18 06 32.8**	**-0.8**
FRGS	**Fruska Gora**	**6.40**	**345**	⇑P	**Pn**	**18 06 44.2**	**0.0**
FRGS	**Fruska Gora**	**6.40**	**345**	*e*Pn	**Pn**	**18 06 44.4**	**+0.2**
GZR	**Gura Zlata**	**6.42**	**4**	⇑P	**Pn**	**18 06 42.9**	**-1.7**
BZS	**Buzias**	**6.64**	**357**	⇑S	**Sn**	**18 08 02.2**	**-0.6**
BZS	**Buzias**	**6.64**	**357**	⇑P	**Pn**	**18 06 45.9**	**-1.5**
VOIR		**6.81**	**18**	⇑P	**Pn**	**18 06 49.6**	**-0.2**
BLY	**Banja Luka**	**6.84**	**329**	*e*Pn	**Pn**	**18 06 50.7**	**+0.6**
MLR	**Muntele Rosu**	**7.09**	**22**	⇑P	**Pn**	**18 06 54.0**	**+0.1**
A051A	**Mrakovica**	**7.17**	**329**	*e*Pn	**Pn**	**18 06 54.2**	**-0.5**
DOPR	**Dopca**	**7.38**	**18**	⇑P	**Pn**	**18 06 58.0**	**+0.3**
PLOR	**Plostina**	**7.64**	**25**	⇑P	**Pn**	**18 07 00.2**	**-0.9**
MORH	**Mrgy, Hungar**	**7.67**	**342**	⇑P	**Pn**	**18 07 01.1**	**-0.4**
VRI	**Vrincioaia**	**7.67**	**25**	⇓P	**Pn**	**18 07 02.1**	**+0.4**
CEY	**Cerknica**	**8.83**	**322**	*e*Pn	**Pn**	**18 07 17.0**	**-0.5**
VYHS	**Vyhne**	**9.80**	**347**	*e*PG	**Pn**	**18 07 32.4**	**+1.6**
FINES	**FINESS Array B**	**22.62**	**5**	P	**P**	**18 10 08.8**	**-1.6**
	comp=E,2.9nm,0.9s,baz=187,slow=9.4,SNR=5.9						
	comp=E,2.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.45**	**221**	P	**P**	**18 11 33.2**	**+1.9**
	comp=E,0.2nm,0.4s,baz=33,slow=7.6,SNR=2.9						
	comp=E,0.2nm,0.4s						
MKAR	**Makanchi Array**	**43.81**	**59**	P	**P**	**18 13 14.8**	**-0.8**
	comp=E,0.4nm,0.5s,baz=272,slow=7.0,SNR=7.9						
	comp=E,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**44.22**	**49**	P	**P**	**18 13 18.2**	**-0.5**
	comp=E,0.6nm,0.4s,baz=284,slow=8.9,SNR=4.7						
	comp=E,0.6nm,0.4s						

ROM 05 18:08:22.2±0.1**, 42.°837N**±0.°009×**13.°10E**±0.°01**, h10**km**, ML1.8**/6**, 4C-2D, Error ellipse: s-maj=1.2km s-min=0.6km az=37.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.01**	**109**	P	Pg	18 08 24.4	+0.2
NRCA				S	Sg	18 08 25.6	+0.1
T1245	**Castelsantange**	**0.07**	**74**	⇑P	Pg	18 08 24.9	+0.3
T1245				S	Sg	18 08 26.5	+0.1
T1245				AML	AML		
	comp=E,875µm,0.2s						
T1245				AML	AML		
	comp=N,1054µm,0.6s						
T1245				AML	AML		
	comp=N,950µm,0.6s						
T1245				AML	AML		

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=E,874µm,0.2s						
T1245				AML	AML		
	comp=N,1055µm,0.6s						
T1245				AML	AML		
	comp=E,872µm,0.2s						
T1245				AML	AML		
	comp=N,1055µm,0.5s						
T1245				AML	AML		
	comp=N,951µm,0.6s						
T1245				AML	AML		
	comp=E,776µm,0.2s						
T1245				AML	AML		
	comp=N,952µm,0.6s						
T1245				AML	AML		
	comp=E,874µm,0.2s						
T1216	**Preci, Frazion**	**0.08**	**312**	P	Pg	18 08 25.1	+0.5
T1216				AML	AML		
	comp=E,1412µm,1.0s						
T1216				AML	AML		
	comp=N,1625µm,0.2s						
T1202	**Accumoli, Fraz**	**0.16**	**145**	⇑P	Pg	18 08 26.4	+0.6
T1215	**Vallo di Nera,**	**0.17**	**258**	⇑P	Pg	18 08 26.6	+0.6
FDMO	**Fiordimonte**	**0.20**	**357**	⇑P	Pg	18 08 26.9	+0.4
FDMO				AML	AML		
	comp=E,1800µm,0.2s						
FDMO				AML	AML		
	comp=N,2120µm,1.3s						
CESI	**CESI - Serrava**	**0.22**	**320**	P	Pg	18 08 27.4	+0.6
CESI				AML	AML		
	comp=N,1215µm,0.2s						
CESI				AML	AML		
	comp=E,758µm,0.2s						
T1241	**Roccafluvione,**	**0.24**	**85**	⇓P	Pg	18 08 27.0	-0.2
SMA1	**SAN MARTINO**	**0.27**	**140**	⇓P	Pg	18 08 28.1	+0.4
SMA1				AML	AML		
	comp=N,302µm,1.3s						
SMA1				AML	AML		
	comp=E,842µm,0.6s						
RM33	**Pellescritta (**	**0.34**	**165**	P	Pb	18 08 29.7	-0.7
RM33				AML	AML		
	comp=N,114µm,1.3s						
RM33				AML	AML		
	comp=E,268µm,0.3s						
RM33				AML	AML		
	comp=N,126µm,1.4s						
MURB	**Monte Urbino**	**0.60**	**315**	S	Sb	18 08 44.0	+0.6

*IDC **05** 18:10:50.5±1.3, 6°.12N×60°.62E, h0km, mb3.7/6, mbtmp3.7/6, MS3.6/39, Error ellipse: s-maj=42.0km s-min=25.7km az=12.0*

ISC 05 18:10:53.0±1.3**, 6°.2N**±0°.3×**60°.6E**±0°.2**, h15**km**, n44,** σ**0s.75**/6**, mb3.8**/6**, MS3.6**/36**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**17.11**	**354**	LR	LR	18 20 02.2	
	comp=Z,141nm,21.8s,baz=186,slow=32						
ATD	**Arta Tunnel**	**18.38**	**288**	LR	LR	18 21 10.5	
	comp=Z,64nm,20.0s,baz=72,slow=34						
PALK	**Pallekele**	**19.95**	**86**	LR	LR	18 21 23.8	
	comp=Z,205nm,19.5s,baz=16,slow=32						
MBAR	**Mbarara**	**30.59**	**258**	LR	LR	18 30 00.4	
	comp=Z,104nm,18.4s,baz=67,slow=38						
GEYT	**Alibeck**	**31.72**	**356**	P	**P**	**18 17 16.6**	**+0.2**
	0.4nm,0.3s,baz=133,slow=6.1,SNR=1.6						
	0.4nm,0.3s						
EIL	**Elat**	**33.67**	**317**	LR	LR	18 30 36.5	
	comp=Z,92nm,19.2s,baz=92,slow=35						
BRDH	**Bariadhala**	**34.11**	**58**	LR	LR	18 31 18.9	
	comp=Z,210nm,18.6s,baz=224,slow=36						
MMAI	**Mount Meron Ar**	**35.58**	**322**	LR	LR	18 32 20.8	
	comp=Z,96nm,18.3s,baz=131,slow=36						
GNI	**Garni**	**36.75**	**339**	LR	LR	18 34 02.9	
	comp=Z,32nm,18.4s,baz=138,slow=38						
AAK	**Ala-Archa**	**38.36**	**17**	LR	LR	18 35 31.2	
	comp=Z,94nm,19.1s,baz=186,slow=39						
LSZ	**Lusaka**	**38.56**	**236**	LR	LR	18 32 03.4	
	comp=Z,140nm,19.6s,baz=72,slow=33						
CMAR	**Chiang Mai Arr**	**39.27**	**68**	P	**P**	**18 18 22.2**	**+0.7**
	1.8nm,1.1s,baz=262,slow=9.2,SNR=10						
CMAR				LR	LR	18 33 31.5	
	comp=Z,57nm,21.0s,baz=250,slow=35						
	1.8nm,1.1s						
KBZ	**Khabaz**	**40.55**	**340**	LR	LR	18 37 38.8	
	comp=Z,54nm,18.7s,baz=165,slow=40						
BRTR	**Keskin Array B**	**41.33**	**328**	LR	LR	18 36 15.9	
	comp=Z,70nm,20.5s,baz=126,slow=37						
MKAR	**Makanchi Array**	**44.58**	**21**	LR	LR	18 40 12.2	
	comp=Z,31nm,18.6s,baz=250,slow=40						
LBTB	**Lobatse**	**46.06**	**226**	LR	LR	18 35 50.6	
	comp=Z,140nm,21.2s,baz=1.0,slow=33						
KURBB	**Kurchatov Arra**	**46.79**	**16**	LR	LR	18 41 30.0	
	comp=Z,58nm,19.3s,baz=132,slow=39						
BELG	**Belogornoye**	**47.34**	**349**	LR	LR	18 40 38.0	
	comp=Z,53nm,21.0s,baz=172,slow=38						
BVAR	**Borovoye Array**	**47.41**	**8**	LR	LR	18 40 13.3	
	comp=Z,127nm,21.6s,baz=176,slow=37						
BOSA	**Boshof**	**48.54**	**223**	LR	LR	18 38 28.5	
	comp=Z,82nm,18.2s,baz=15,slow=34						
TSUM	**Tsumeb**	**49.32**	**238**	LR	LR	18 38 21.3	
	comp=Z,80nm,22.0s,baz=56,slow=34						
MLR	**Muntele Rosu**	**49.41**	**328**	LR	LR	18 40 48.7	
	comp=Z,66nm,21.6s,baz=119,slow=36						
ARU	**Arti**	**50.17**	**358**	LR	LR	18 42 27.7	
	comp=Z,48nm,18.2s,baz=150,slow=38						
ZALV	**Zalesovo Beam**	**51.54**	**18**	LR	LR	18 43 24.6	
	comp=Z,41nm,19.9s,baz=216,slow=38						
AKASG	**Malin Array Be**	**51.56**	**335**	LR	LR	18 43 30.9	
	comp=Z,26nm,21.3s,baz=183,slow=38						
KIRV	**Kirov**	**53.03**	**353**	LR	LR	18 44 50.2	
	comp=Z,45nm,18.5s,baz=141,slow=38						
SUR	**Sutherland**	**53.88**	**222**	LR	LR	18 42 05.0	
	comp=Z,131nm,18.2s,baz=58,slow=35						
KEST	**Kesra**	**55.41**	**310**	LR	LR	18 44 10.7	
	comp=Z,25nm,20.7s,baz=282,slow=36						
SONM	**Songino Array**	**56.90**	**35**	P	**P**	**18 20 37.0**	**-0.6**
	0.8nm,0.9s,baz=250,slow=4.2,SNR=5.2						
	0.8nm,0.9s						
GERES	**GERESS Array B**	**58.11**	**325**	LR	LR	18 45 39.3	
	comp=Z,24nm,21.6s,baz=50,slow=36						
TORD	**Torodi Ar. Bea**	**58.42**	**282**	P	**P**	**18 20 49.2**	**+0.6**
	0.5nm,0.9s,baz=94,slow=7.5,SNR=2.5						
TORD				LR	LR	18 46 48.7	
	comp=Z,60nm,18.9s,baz=212,slow=37						
	0.5nm,0.9s						
NRIK	**Noril'sk**	**65.54**	**10**	LR	LR	18 52 01.1	
	comp=Z,101nm,21.5s,baz=206,slow=38						
ESDC	**Sonseca Array**	**66.63**	**311**	P	**P**	**18 21 42.6**	**-0.6**
	0.7nm,0.9s,baz=97,slow=4.8,SNR=5.6						
	0.7nm,0.9s						
JOW	**Kunigami**	**67.30**	**64**	LR	LR	18 53 07.7	
	comp=Z,42nm,19.2s,baz=281,slow=38						
ARCES	**ARCESS Array B**	**67.32**	**347**	LR	LR	18 53 33.6	
	comp=Z,28nm,18.6s,baz=84,slow=38						
KLR	**Kul'dur**	**73.06**	**40**	LR	LR	18 55 20.0	
	comp=Z,95nm,20.6s,baz=234,slow=36						
YAK	**Yakutsk**	**74.84**	**27**	LR	LR	18 58 13.6	
	comp=Z,63nm,19.3s,baz=262,slow=38						
MJAR	**Matsushiro Arr**	**76.38**	**54**	LR	LR	18 59 14.6	
	comp=Z,30nm,18.3s,baz=230,slow=38						
ASAR	**Alice Springs**	**77.28**	**116**	P	**P**	**18 22 47.1**	**-0.3**
	1.3nm,1.1s,baz=282,slow=6.5,SNR=6.6						
	1.3nm,1.1s						
PETK	**Petropavlovsk-**	**89.36**	**37**	LR	LR	19 07 24.3	
	comp=Z,59nm,18.0s,baz=216,slow=38						
QSPA	**South Pole Qui**	**96.10**	**180**	LR	LR	19 01 46.6	
	comp=Z,47nm,18.1s,baz=332,slow=32						
RCBR	**Riachuelo**	**97.09**	**265**	LR	LR	19 04 28.1	
	comp=Z,37nm,18.4s,baz=282,slow=33						
VNDA	**Vanda**	**98.39**	**168**	LR	LR	19 02 03.4	
	comp=Z,39nm,21.1s,baz=304,slow=31						
TXAR	**Lajitas Array**	**141.63**	**338**	PKhKP	PKPpre	18 30 20.8	
	0.2nm,0.7s,baz=352,slow=3.6,SNR=1.7						

IDC 05 18:11:49.6±10.0**, 33°.95N**×**137°.28E, h0**km**, mb3.2**/3**, mbtmp3.2**/3**, Error ellipse: s-maj=407.6km s-min=35.3km az=62.0, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.98**	**304**	P	P	18 19 50.4	-0.1
	0.1nm,0.4s,baz=91,slow=8.3,SNR=1.4						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**53.67**	**183**	P	P	18 21 12.3	-0.8
	0.3nm,1.0s,baz=1.4,slow=7.5,SNR=5.3						
	0.3nm,1.0s						
ASAR	**Alice Springs**	**57.39**	**184**	P	P	18 21 40.6	+0.7
	0.5nm,1.2s,baz=10,slow=6.3,SNR=4.4						
	0.5nm,1.2s						

*IDC **05** 18:15:38.4±2.9, 30°.55S×177°.90W, h57km±21km, mb3.6/2, mbtmp3.9/3, ML3.8/1, MS3.8/1, Error ellipse: s-maj=50.2km s-min=18.2km az=106.0*

ISC 05 18:15:36.9±2.1**, 30°.7S**±0°.1×**177°.8W**±0°.4**, h46**km**, n13,** σ**1s.11**/8**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.41**	**357**	P	**Pn**	**18 16 01.6**	**+1.5**
	1µm,0.2s,baz=14,slow=20,SNR=57						
RAO				S	**Sn**	**18 16 16.5**	**-1.0**
	4µm,0.2s,baz=38,slow=23,SNR=25						
URZ	**Urewera**	**8.65**	**207**	P	**Pn**	**18 17 40.1**	**+0.6**
	1.1nm,0.3s,baz=344,slow=5.7,SNR=9.9						
URZ				S	**Sn**	**18 19 15.3**	**-0.3**
	12nm,0.3s,baz=304,slow=21,SNR=26						
	1.5nm,0.3s						
ASAR	**Alice Springs**	**43.24**	**267**	P	**P**	**18 23 34.5**	**+0.4**
	0.4nm,0.4s,baz=103,slow=7.5,SNR=43						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**44.26**	**272**	P	**P**	**18 23 41.6**	**-0.6**
	1.3nm,0.4s,baz=111,slow=7.9,SNR=63						
	1.3nm,0.4s						
NWAO	**Narrogin (SRO)**	**54.45**	**249**	LR	LR	18 46 20.4	
	comp=Z,102nm,20.7s,baz=247,slow=34						
H03S2	**Juan Fernandez**	**80.20**	**123**	T	T	19 57 03.6	
	baz=238,slow=74,SNR=35						
H03S1	**Juan Fernandez**	**80.21**	**123**	T	T	19 57 06.3	
	baz=238,slow=74,SNR=19						
H03S3	**Juan Fernandez**	**80.21**	**123**	T	T	19 57 03.2	
	baz=238,slow=74,SNR=28						
H03N3	**Juan Fernandez**	**80.39**	**123**	T	T	19 57 09.2	
	baz=232						
H03N2	**Juan Fernandez**	**80.39**	**123**	T	T	19 57 12.0	
	baz=232						
H03N1	**Juan Fernandez**	**80.41**	**123**	T	T	19 57 10.2	
	baz=232						
FINES	**FINESS Array B**	**145.44**	**340**	PKPbc	**PKPbc**	**18 35 08.0**	**-1.2**
	1.9nm,0.8s,baz=62,slow=4.5,SNR=5.7						
AKASG	**Malin Array Be**	**151.60**	**323**	PKPbc	**PKPbc**	**18 35 24.9**	**-0.8**
	0.7nm,0.6s,baz=52,slow=1.5,SNR=1.9						

*TEH **05** 18:32:32.9, 37°.70N×55°.84E, h6km, ML3.2*
*AZER **05** 18:32:42.5±5.6, 37°.94N×55°.43E, h57km±500km, Error ellipse: s-maj=74.5km s-min=59.0km az=163.0*

ISC 05 18:32:33.0±0.8**, 37°.76N**±0°.06×**55°.80E**±0°.03**, h10**km**, n44,** σ**2s.60**/53**, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.25**	**114**	*e*Pg	**Pg**	**18 32 38.5**	**+0.3**
MRVT				*e*Sg	**Sg**	**18 32 41.6**	**0.0**
IMND	**Minoodasht**	**0.59**	**212**	*e*Pg	**Pb**	**18 32 45.7**	**+0.3**
IMND				*e*Sg	**Sb**	**18 32 53.7**	**-0.1**
BJRD	**Bojnurd**	**1.28**	**92**	*e*Pg	**Pg**	**18 32 57.5**	**0.0**
SHRO	**Shahrood**	**1.78**	**174**	*e*Pg	**Pg**	**18 33 06.1**	**-1.0**
IGLO	**Ghaloghah**	**2.01**	**232**	*e*Pn	**Pb**	**18 33 10.2**	**+0.4**
IEMG	**Emamgholi**	**2.29**	**98**	*e*Pn	**Pb**	**18 33 14.4**	**-0.2**
IEMG				*e*		18 33 53.9	
	comp=Z,2µm,0.4s						
IAKL	**Akhelmad**	**2.63**	**115**	*e*Pn	**Pb**	**18 33 19.0**	**-1.4**
IAKL				*e*		18 34 02.9	
	comp=Z,963nm,0.3s						
IANJ	**Anjilo**	**2.75**	**214**	*e*Pn	**Pb**	**18 33 20.8**	**-1.5**
ISHM	**Shahmirzad**	**2.80**	**227**	*e*Pn	**Pb**	**18 33 21.8**	**-1.5**
ISHM				*e*		18 34 07.9	
	comp=Z,1µm,0.3s						
IPAY	**Payeh**	**2.87**	**116**	*e*Pn	**Pb**	**18 33 22.1**	**-2.4**
IPAY				*e*		18 34 16.1	
	comp=Z,523nm,0.6s						
IKRD	**Kardeh**	**3.12**	**107**	*e*Pn	**Pb**	**18 33 26.0**	**-2.8**
IKRD				*e*		18 34 29.2	
	comp=Z,524nm,0.6s						
IFIR	**Firoozkooh**	**3.23**	**230**	*e*Pn	**Pb**	**18 33 27.8**	**-2.9**
IFIR				*e*		18 34 13.4	
	comp=Z,476nm,1.0s						
IMOG	**Moghan**	**3.28**	**119**	*e*Pn	**Pb**	**18 33 27.6**	**-3.9**
IMOG				*e*		18 34 28.3	
	comp=Z,471nm,0.6s						
ILAS	**Lasjerd**	**3.30**	**225**	*e*Pn	**Pb**	**18 33 28.0**	**-3.7**
ILAS				*e*		18 34 26.9	
	comp=Z,370nm,0.5s						
TBHD	**Torbat heydari**	**3.63**	**129**	*e*Pn	**Pn**	**18 33 32.2**	**+2.8**
IMYA	**Miami**	**3.72**	**111**	*e*Pn	**Pn**	**18 33 33.8**	**+3.1**
DAMV	**Damavand**	**3.74**	**236**	*e*Pn	**Pn**	**18 33 34.3**	**+3.3**
TNSJ	**Nastanj**	**3.85**	**170**	*e*Pn	**Pn**	**18 33 34.5**	**+2.2**
TNSJ				*e*		18 34 43.4	
	comp=Z,627nm,0.8s						
KLST	**Kelardasht - M**	**3.98**	**253**	*e*Pn	**Pn**	**18 33 38.3**	**+3.9**
CHTH	**Charan**	**4.18**	**245**	*e*Pn	**Pn**	**18 33 40.9**	**+3.9**
TABS	**Tabas**	**4.24**	**165**	*e*Pn	**Pn**	**18 33 40.8**	**+3.0**
TKDS	**Koohdasht(Taba**	**4.28**	**165**	*e*Pn	**Pn**	**18 33 41.4**	**+3.1**
TKDS				*e*		18 33 42.1	
	comp=Z,174nm,0.5s						
QALM	**Alamut, Qazvin**	**4.33**	**254**	*e*Pn	**Pn**	**18 33 42.0**	**+3.0**
TBJM	**Torbat-e-JAM**	**4.42**	**123**	*e*Pn	**Pn**	**18 33 43.4**	**+3.2**
TPRV	**Parvadeh(Tabas**	**4.78**	**171**	*e*Pn	**Pn**	**18 33 47.6**	**+2.5**
TPRV				*e*		18 35 16.8	
	comp=Z,174nm,0.6s						
KRSH	**Karshahi**	**4.81**	**219**	*e*Pn	**Pn**	**18 33 48.4**	**+2.7**
ANAR	**Anarak**	**4.87**	**201**	*e*Pn	**Pn**	**18 33 49.1**	**+2.8**
ITEG	**Tejag**	**5.42**	**153**	*e*Pn	**Pn**	**18 33 56.7**	**+2.7**
QSDN	**Sirdan**	**5.44**	**259**	*e*Pn	**Pn**	**18 33 58.3**	**+4.0**
YZKH	**Yazd**	**5.45**	**191**	*e*Pn	**Pn**	**18 33 57.3**	**+3.0**
SHRT	**Shahrakht**	**5.50**	**137**	*e*Pn	**Pn**	**18 33 56.8**	**+1.8**
ASTR	**Astara**	**5.58**	**280**	P	**Pn**	**18 33 58.3**	**+2.3**
ASTR				S	**Sn**	**18 34 57.4**	**-2.8**
IKOO	**Kooshah**	**5.94**	**153**	*e*Pn	**Pn**	**18 34 03.8**	**+2.6**
LRK	**Lerik**	**5.94**	**281**	P	**Pn**	**18 34 02.7**	**+1.6**
LRK				S	**Sn**	**18 35 08.1**	**-1.2**
YRD	**Yardimli**	**6.05**	**283**	P	**Pn**	**18 34 03.9**	**+1.3**
YRD				S	**Sn**	**18 35 08.6**	**-3.5**
PQL	**Pirkuli**	**6.35**	**301**	S	**Sn**	**18 35 18.9**	**-0.6**
BSRN	**Basiran**	**6.40**	**154**	*e*Pn	**Pn**	**18 34 09.9**	**+2.5**
ISRB	**Sarab**	**6.44**	**273**	*e*Pn	**Pn**	**18 34 11.3**	**+3.3**
BLQ	**Beylaqan**	**6.73**	**289**	P	**Pn**	**18 34 13.4**	**+1.6**
BLQ				S	**Sn**	**18 35 28.0**	**-0.5**
XNQ	**Khinaliq**	**6.83**	**302**	P	**Pn**	**18 34 16.3**	**+2.9**
XNQ				S	**Sn**	**18 35 29.1**	**-2.2**
QRD	**Qoradiz**	**6.85**	**287**	S	**Sn**	**18 35 31.3**	**-0.2**
ORD	**Ordubad**	**7.79**	**282**	S	**Sn**	**18 35 53.4**	**-1.4**
GANJ	**Ganja**	**7.90**	**294**	P	**Pn**	**18 34 30.3**	**+2.4**
GANJ				S	**Sn**	**18 35 53.2**	**-4.2**
GDB	**GEDABAY**	**8.33**	**294**	P	**Pn**	**18 34 36.6**	**+2.6**
GDB				S	**Sn**	**18 36 03.7**	**-4.5**

*NEIC **05** 18:32:57.9±0.8, 1°.9N±0°.1×128°.83E±0°.08, h48km±11km, mb4.0/5, Error ellipse: s-maj=17.2km s-min=9.9km az=209.0*
*IDC **05** 18:32:58.1±5.8, 1°.98N×129°.01E, h57km±64km, mb3.3/4, mbtmp3.5/4, ML4.2/1, Error ellipse: s-maj=94.1km s-min=25.7km az=69.0*

ISC 05 18:32:57.3±1.1**, 1°.9N**±0°.1×**128°.83E**±0°.07**, h40**km**, n16,** σ**1s.21**/19**, mb3.8**/6**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.83**	**233**		**Pn**	**18 33 26.2**	**-0.1**
TNTI				Sn	**Sn**	**18 33 48.2**	**0.0**
SIJI	**Sorong**	**3.66**	**138**	P	**Pn**	**18 33 53.0**	**+1.6**
	20nm,0.3s,baz=274,slow=24,SNR=249						
SIJI				S	**Sn**	**18 34 33.4**	**+0.1**
	24nm,0.2s,baz=228,slow=23,SNR=12						
FAKI	**Fak Fak**	**5.86**	**144**	Pn	**Pn**	**18 34 22.9**	**+1.2**
FAKI				Sn	**Sn**	**18 35 24.1**	**-3.6**
LUWI	**Luwuk**	**6.72**	**244**	Pn	**Pn**	**18 34 33.9**	**+0.4**
TOLI2	**Tolitoli**	**8.08**	**265**		**Pn**	**18 34 52.5**	**+0.3**
MTN	**Manton Dam**	**14.80**	**171**	Pn	**Pn**	**18 36 23.8**	**-0.2**
WB0	**Warramunga Arr**	**22.19**	**166**	P	**P**	**18 37 49.7**	**-0.6**
WRA	**Warramunga Arr**	**22.35**	**166**	P	**P**	**18 37 51.8**	**-0.2**
	0.5nm,0.4s,baz=346,slow=12,SNR=15						
	0.5nm,0.4s						
WB2	**Warramunga Arr**	**22.35**	**166**	P	**P**	**18 37 51.6**	**-0.4**
WB2				IAmb	IAmb	18 38 32.5	
	comp=Z,5.4nm,1.4s						
ASAR	**Alice Springs**	**25.86**	**169**	P	**P**	**18 38 25.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=356,slow=8.1,SNR=14						
	comp=Z,0.2nm,0.4s						
FORT	**Forrest**	**32.48**	**181**	P	**P**	**18 39 25.7**	**+1.6**
STKA	**Stephens Creek**	**35.69**	**161**	P	**P**	**18 39 51.5**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=327,slow=18,SNR=3.5						
	comp=Z,1.4nm,0.7s						
STKA	**Stephens Creek**	**35.69**	**161**	P	**P**	**18 39 51.0**	**-1.0**
STKA				IAmb	IAmb	18 40 20.2	
	comp=Z,2.6nm,1.5s						
MKAR	**Makanchi Array**	**60.27**	**325**	P	**P**	**18 43 00.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=114,slow=7.3,SNR=5.4						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**60.27**	**325**	P	**P**	**18 43 01.0**	**-0.8**
KURK	**Kurchatov**	**64.42**	**327**	P	**P**	**18 43 28.6**	**-0.8**
KURK				IAmb	IAmb	18 43 29.2	
	comp=Z,2.3nm,0.9s						

*IDC **05** 18:34:13.8±3.8, 14°.28N×93°.52W, h0km, mb3.8/2, mbtmp3.7/3, ML3.6/1, MS2.8/3, Error ellipse: s-maj=105.1km s-min=70.4km az=53.0*
*MEX **05** 18:34:24.4±0.3, 14°.65N×93°.63W, h12km±82km, MD4.0*

ISC 05 18:34:17.0±2.4**, 14°.52N**±0°.09×**93°.76W**±0°.07**, h11**km±13km**, n17,** σ**1s.43**/19**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**1.29**	**24**	*i* P	**Pg**	**18 34 42.1**	**+0.3**
PCIG				*e*S	**Sb**	**18 34 55.9**	**-2.0**
THIG		**1.50**	**75**	*e*S	**Sn**	**18 35 00.8**	**-2.6**
PATR	**El Naranjo**	**1.59**	**68**	*e*P	**Pb**	**18 34 46.7**	**+0.1**
PAVE	**Pavencul**	**1.67**	**66**	*e*P	**Pb**	**18 34 47.9**	**-0.1**
CHUJ	**Union Juarez**	**1.69**	**70**	*e*P	**Pb**	**18 34 48.1**	**-0.3**
TGIG		**2.33**	**15**	*e*P	**Pb**	**18 34 57.5**	**-1.6**
TGIG				*e*S	**Sn**	**18 35 24.1**	**0.0**
CCIG	**Comitan**	**2.35**	**42**	*e*P	**Pb**	**18 34 59.7**	**+0.2**
CCIG				*e*S	**Sn**	**18 35 26.4**	**+1.6**
CMIG	**Matias Romero**	**2.78**	**337**	LR	LR	18 35 58.6	
	comp=Z,46nm,20.4s,baz=198,slow=34						
CMIG	**Matias Romero**	**2.78**	**337**	*e*P	**Pn**	**18 35 01.0**	**-0.5**
CMIG				*e*S	**Sn**	**18 35 34.4**	**-0.8**
UXUV	**UXUV**	**2.81**	**352**	*e*P	**Pn**	**18 35 04.4**	**+2.4**
UXUV				*e*S	**Sn**	**18 35 36.9**	**+1.1**
NEUV	**Arroyo Zacate**	**3.73**	**329**	*e*	**Pn**	**18 35 12.9**	**-1.7**
NEUV				*e*		18 35 56.9	
TXAR	**Lajitas Array**	**17.36**	**330**	P	**P**	**18 38 21.6**	**+0.8**
	baz=147,slow=13,SNR=5.5						
	0.7nm,0.8s						
TKL	**Tuckaleechee C**	**22.88**	**21**	LR	LR	18 48 35.3	
	comp=Z,25nm,19.0s,baz=86,slow=37						
NVAR	**Mina Array Bea**	**32.21**	**322**	P	**P**	**18 40 46.8**	**+1.2**
	0.5nm,0.6s,baz=126,slow=9.1,SNR=5.9						
	0.5nm,0.6s						
ULM	**Lac du Bonnet**	**35.67**	**358**	P	**P**	**18 41 15.9**	**+0.6**
	1.8nm,0.6s,baz=149,slow=5.9,SNR=2.2						
	1.8nm,0.6s						
ESDC	**Sonseca Array**	**80.73**	**51**	LR	LR	19 21 13.6	
	comp=Z,17nm,18.4s,baz=45,slow=35						
CMAR	**Chiang Mai Arr**	**144.92**	**339**	PKPbc	**PKPab**	**18 53 53.2**	**-1.2**
	0.7nm,0.8s,baz=343,slow=4.1,SNR=7.0						

*JMA **05** 18:39:18.7±0.1, 24°.7N±0°.6×122°.5E±0°.3, h6km±2km, MV1.7/7, NW OFF ISHIGAKIJIMA IS*
*TAP **05** 18:39:18.9, 24°.77N×122°.49E, h12km, ML2.5, D*

ISC 05 18:39:18.8±1.0**, 24°.75N**±0°.03×**122°.47E**±0°.02**, h11**km±9km**, n41,** σ**0s.58**/75**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.51**	**301**	*i* P	**Pg**	**18 39 28.6**	**-0.2**
	baz=297						
TWB1				S	**Sg**	**18 39 35.8**	**+0.3**
	baz=297						
JYNG	**Yonagunijimaku**	**0.52**	**124**	P	**Pg**	**18 39 29.0**	**-0.1**
JYNG				S	**Sg**	**18 39 36.0**	**0.0**
YOJ	**Yonaguni jima**	**0.57**	**120**	P	**Pg**	**18 39 29.8**	**-0.1**
	baz=123						
YOJ				S	**Sg**	**18 39 37.2**	**-0.2**
	baz=123						
YOJ	**Yonaguni jima**	**0.57**	**120**	P	**Pg**	**18 39 29.7**	**-0.2**
YOJ				S	**Sg**	**18 39 37.2**	**-0.2**
TWC	**Suao**	**0.58**	**257**	*e*P	**Pg**	**18 39 30.1**	**0.0**
	baz=253						
TIPB	**Shuangxi**	**0.63**	**291**	P	**Pg**	**18 39 31.3**	**+0.3**
	baz=288						
TIPB				*e*S	**Sg**	**18 39 40.0**	**+0.7**
	baz=288						
SXI1	**Grass Mountain**	**0.64**	**303**	⇓P	**Pg**	**18 39 31.4**	**+0.1**
	baz=299						
SXI1				S	**Sg**	**18 39 39.9**	**+0.1**
	baz=299						
EWUT	**Wuta**	**0.70**	**245**	*e*P	**Pg**	**18 39 31.5**	**-0.8**
	baz=243						
EWUT				*e*S	**Sg**	**18 39 41.3**	**-0.2**
	baz=243						
NWF	**Wu-fen Shan**	**0.70**	**298**	*e*P	**Pg**	**18 39 32.5**	**0.0**
	baz=294						
NWF				S	**Sg**	**18 39 42.3**	**+0.5**
	baz=294						
WFSB	**Wu-fen Shan**	**0.70**	**298**	P	**Pg**	**18 39 32.5**	**0.0**
	baz=294						
WFSB				S	**Sg**	**18 39 42.2**	**+0.5**
	baz=294						
TWE	**Neicheng**	**0.73**	**268**	*e*P	**Pg**	**18 39 33.1**	**+0.1**
	baz=265						
ENA	**Nanau**	**0.73**	**245**	*e*P	**Pg**	**18 39 33.1**	**+0.1**
	baz=242						
ENA				*e*S	**Sg**	**18 39 43.3**	**+0.7**
	baz=242						
TNOU	**National Taiwa**	**0.75**	**303**	*e*P	**Pg**	**18 39 32.8**	**-0.5**
	baz=299						
TNOU				*e*S	**Sg**	**18 39 42.9**	**-0.3**
	baz=299						
FUSB	**Fushanzhiwuyua**	**0.80**	**271**	P	**Pg**	**18 39 34.3**	**-0.1**
	baz=268						
FUSB				*e*S	**Sg**	**18 39 45.1**	**+0.3**
	baz=268						
ENTT	**Nioudou**	**0.83**	**263**	*e*P	**Pg**	**18 39 34.8**	**-0.1**
	baz=260						
ENTT				*e*S	**Sg**	**18 39 46.3**	**+0.6**
	baz=260						
NDT	**Datong Townshi**	**0.88**	**261**	*e*P	**Pg**	**18 39 34.4**	**-1.4**
	baz=259						
NDT				*e*S	**Sg**	**18 39 47.3**	**-0.1**
	baz=259						
LATG	**Datong**	**0.88**	**257**	P	**Pg**	**18 39 35.8**	**-0.1**
	baz=254						
LATG				*e*S	**Sb**	**18 39 48.5**	**+0.5**
	baz=254						
YM01	**YM01**	**0.91**	**296**	P	**Pg**	**18 39 35.6**	**-0.8**
	baz=293						
YM01				*e*S	**Sg**	**18 39 47.8**	**-0.4**
	baz=293						
NACB	**Ninganchiao**	**0.98**	**235**	P	**Pg**	**18 39 37.4**	**-0.3**
	baz=233						
NACB				*e*S	**Sg**	**18 39 50.5**	**+0.1**
	baz=233						
YHNB	**Yeheng**	**1.00**	**266**	P	**Pg**	**18 39 37.6**	**-0.4**
	baz=264						
YHNB				*e*S	**Sg**	**18 39 51.4**	**+0.3**
	baz=264						
NSK	**Sanguang**	**1.01**	**266**	*e*P	**Pg**	**18 39 36.9**	**-1.4**
	baz=264						
NSK				*e*S	**Sg**	**18 39 50.7**	**-0.9**
	baz=264						
NNSB	**Datong**	**1.04**	**253**	*e*P	**Pg**	**18 39 38.6**	**-0.2**
	baz=251						
NNSB				*e*S	**Sg**	**18 39 52.3**	**0.0**
	baz=251						
NNSH	**Datong**	**1.04**	**253**	*e*P	**Pg**	**18 39 37.6**	**-1.2**
	baz=251						
NNSH				*e*S	**Sg**	**18 39 51.9**	**-0.5**
	baz=251						
NNS	**Nan Shan**	**1.04**	**253**	*e*P	**Pg**	**18 39 37.9**	**-1.0**
	baz=251						
NNS				*e*S	**Sg**	**18 39 51.7**	**-0.8**
	baz=251						
ETLH	**Xiulin Townshi**	**1.05**	**239**	*e*P	**Pg**	**18 39 38.9**	**-0.1**
	baz=238						
ETLH				*e*S	**Sg**	**18 39 52.9**	**+0.2**
	baz=238						
IRIF	**Iriomote-Funau**	**1.22**	**109**	P	**Pb**	**18 39 41.8**	**0.0**
IRIF				*e*S	**Sb**	**18 39 57.7**	**+0.1**
FUSS	**Fushou**	**1.22**	**246**	*e*P	**Pb**	**18 39 42.1**	**0.0**
	baz=245						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FUSS				eS	Sb	18 39 58.0	+0.1
	baz=245						
NFF	Wufeng Townshi	1.23	265	eP	Pn	18 39 40.5	-1.6
	baz=263						
NFF				eS	Sb	18 39 58.5	+0.4
	baz=263						
WHF	Hehuan Shan	1.25	242	eP	Pn	18 39 42.6	+0.1
	baz=240						
WHF				eS	Sb	18 39 59.6	+0.8
	baz=240						
TWT	Tachien	1.27	248	eP	Pg	18 39 43.9	+0.5
	baz=246						
TWT				eS	Sn	18 40 00.7	+0.8
	baz=246						
ESL	Shilin	1.32	226	eP	Pb	18 39 44.0	+0.3
	baz=224						
LIOB	Emei	1.32	266	eP	Pn	18 39 43.0	-0.2
	baz=264						
CHGB	Renai	1.36	240	eP	Pn	18 39 44.7	+0.7
	baz=239						
CHGB				eS	Sb	18 40 02.3	+0.3
	baz=239						
HATJ	Hateruma jima	1.40	119	eS	Sb	18 40 03.0	+0.3
WUSB	Renai	1.44	239	eP	Pb	18 39 45.9	+0.1
	baz=238						
WUSB				eS	Sb	18 40 05.2	+1.0
	baz=238						
JKRS	Kuro-shima	1.49	109	eP	Pn	18 39 46.0	+0.5
VWDT	VWDT	1.56	231	eP	Pb	18 39 47.8	+0.1
	baz=230						
VWDT				eS	Sg	18 40 09.6	+0.5
	baz=230						
WCS	Beigang Elemen	1.58	245	eP	Pb	18 39 48.0	0.0
	baz=243						
SSLB	Suanglung	1.68	236	eP	Pb	18 39 50.5	+0.7
	baz=234						
SSLB				eS	Sb	18 40 11.6	+0.7
	baz=234						
YULB	Yu-li	1.72	219	eP	Pn	18 39 47.8	-0.9
	baz=218						
YULB				eS	Sn	18 40 09.3	-1.4
	baz=218						
WHYT	Xinyi Township	1.81	235	eP	Pb	18 39 51.6	-0.3
	baz=234						
WHYT				eS	Sb	18 40 15.5	+0.9
	baz=234						

---

*IDC **05** 18:46:15.8±2.9, 34°.80S×179°.11W, h0^{km}, mb4.0/3, mbtmp4.0/4, ML3.9/1, MS3.1/2, Error ellipse: s-maj=64.6km s-min=35.6km az=123.0*
*NOU **05** 18:46:19.2, 35°.04S×178°.62W, h101^{km}, MLv4.0/4, East of North Island, N.Z.*
*NEIC **05** 18:46:19.7±1.5, 35°.00S±0°.09×179°.3W±0°.2, h10^{km}±2^{km}, mb4.2/11, Error ellipse: s-maj=23.9km s-min=14.1km az=108.0*
*WEL **05** 18:46:20.5±1.2, 35°S±9°×17°9W±1°3, h149^{km}±38^{km}, M4.2/17, mB4.6/4, MLv4.3/17, Mw(mB)3.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=58.8*
ISC 05 18:46:22.0±1.1, **34°.95S**±0°.08×**179°.1W**±0°.1, **h42**^{km}, **n69**, σ**1^{s}97**/81, **mb4.1**/8, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.37	218	Pn	Pn	18 47 09.4	-2.6
MXZ				Sn	Sn	18 47 48.0	-2.7
MXZ	Matakaoa Point	3.37	218	P	Pn	18 47 12.1	+0.1
MXZ	Matakaoa Point	3.37	218	P	Pn	18 47 12.7	+0.6
MXZ				S	Sn	18 47 50.7	0.0
WMGZ	Waiomatatini S	3.52	215	P	Pn	18 47 14.5	+0.4
WMGZ				S	Sn	18 47 57.5	+3.1
PKGZ	Pakihiroa	3.73	217	P	Pn	18 47 16.9	-0.3
PKGZ				S	Sn	18 48 01.7	+1.9
HAZ	Te Kaha	3.79	221	P	Pn	18 47 18.6	+0.9
HAZ				S	Sn	18 48 04.1	+3.0
PUZ	Puketiti	3.79	214	P	Pn	18 47 17.5	-0.4
PUZ				S	Sn	18 48 01.8	+0.5
RUGZ	Raukumara Rang	4.00	220	P	Pn	18 47 21.4	+0.6
RUGZ				S	Sn	18 48 09.7	+3.2
TWGZ	Tauwhareparae	4.01	216	P	Pn	18 47 22.3	+1.4
TWGZ				S	Sn	18 48 09.6	+3.1
CNGZ	Carnagh Statio	4.16	211	P	Pn	18 47 22.8	-0.1
CNGZ				S	Sn	18 48 14.4	+4.3
MWZ	Matawai	4.35	218	P	Pn	18 47 25.2	-0.4
MWZ				S	Sn	18 48 16.7	+1.6
URZ	Urewera	4.52	222	Pn	Pn	18 47 27.6	-0.2
	5.1nm,0.3s,baz=357,slow=3.7,SNR=58						
URZ				Sn	Sn	18 48 19.1	0.0
	9.6nm,0.3s,baz=94,slow=16,SNR=11						
	12nm,0.3s						
URZ	Urewera	4.52	222		Pn	18 47 27.2	-0.6
URZ				Sn	Sn	18 48 16.4	-2.6
URZ	Urewera	4.52	222	P	Pn	18 47 27.8	0.0
URZ	Urewera	4.52	222	P	Pn	18 47 27.6	-0.2
URZ				S	Sn	18 48 18.8	-0.3
RIGZ	Rimuhau	4.53	213	P	Pn	18 47 28.5	+0.4
OPRZ	Ohinepanea	4.56	229	P	Pn	18 47 28.3	-0.2
KUZ	Kuaotunu	4.60	246	P	Pn	18 47 30.5	+1.5
KUZ	Kuaotunu	4.60	246	P	Pn	18 47 30.1	+1.2
TGRZ	Tauranga	4.68	232	P	Pn	18 47 30.6	+0.5
SNGZ	Shannon Statio	4.79	216	P	Pn	18 47 32.4	+0.8
KNZ	Kokohu	4.83	212	P	Pn	18 47 30.9	-1.2
KNZ				S	Sn	18 48 27.0	+0.1
RTZ	Ruatahuna	4.84	220	P	Pn	18 47 31.7	-0.8
MHGZ	Mahia Peninsul	4.85	209	P	Pn	18 47 32.2	-0.1
MUGZ	Murupara	4.86	222	P	Pn	18 47 32.3	-0.2
RAHZ	Arahi	5.02	217	P	Pn	18 47 35.9	+1.2
WHHZ	Waihua	5.08	215	P	Pn	18 47 35.7	+0.2
TOZ	Tahuroa Road	5.19	236	P	Pn	18 47 38.3	+1.2
MRHZ	Matea Rd	5.31	222	P	Pn	18 47 38.6	-0.1
ARHZ	Aropaoanui	5.34	215	P	Pn	18 47 37.9	-1.2
WCZ	Waipu Caves	5.47	258	P	Pn	18 47 42.0	+1.1
BKZ	Black Stump Fm	5.51	219		Pn	18 47 40.4	-1.1
BKZ				Sn	Sn	18 48 39.6	-4.0
BKZ	Black Stump Fm	5.51	219	P	Pn	18 47 41.1	-0.4
KWHZ	Kaweka Forest	5.74	218	P	Pn	18 47 43.5	-1.2
OUZ	Omahuta	6.02	265	P	Pn	18 47 49.7	+1.2
HIZ	Hauiti	6.04	232	Pn	Pn	18 47 47.2	-1.5
BFZ	Birch Farm	6.82	212	Pn	Pn	18 47 57.3	-2.1
MSWZ	Moikau Station	7.86	213	Pn	Pn	18 48 12.1	-1.6
PLWZ	Palliser	7.98	212	Pn	Pn	18 48 10.6	-4.8
SNZO	South Karori	8.03	216	Pn	Pn	18 48 11.4	-4.6
TUWZ	Tuamarina	8.49	218	Pn	Pn	18 48 19.2	-3.2
CMWZ	Cape Campbell	8.60	216	Pn	Pn	18 48 21.8	-2.0
NNZ	Nelson	8.64	221	Pn	Pn	18 48 22.0	-2.3
BSWZ	Blackbirch Sta	8.74	217	Pn	Pn	18 48 23.9	-1.9
QRZ	Quartz Range	8.86	226	Pn	Pn	18 48 25.9	-1.5
CTZ	Chatham Island	8.98	169	P	Pn	18 48 26.5	-2.6
CTZ				S	Sn	18 49 56.7	-12
THZ	Tophouse	9.27	220	Pn	Pn	18 48 28.8	-4.3
KHZ	Kahutara	9.43	216	Pn	Pn	18 48 30.4	-4.8
LTZ	Lake Taylor	10.33	218	Pn	Pn	18 48 44.2	-3.3
MQZ	McQueen's Vall	10.84	214	Pn	Pn	18 48 50.0	-4.5
OXZ	Oxford	10.84	217	Pn	Pn	18 48 50.6	-4.0
PYZ	Puysegur Point	15.56	220	Pn	Pn	18 49 56.8	-1.5
DZM	Mont Dzumac	18.05	311	LR	LR	18 56 18.3	
	comp=Z,184nm,18.6s,baz=182,slow=34						
RAR	Rarotonga	21.79	56	LR	LR	18 57 33.0	
	comp=Z,21nm,21.9s,baz=164,slow=31						
CTA	Charters Tower	33.94	287	P	P	18 53 00.3	-1.0
	1.9nm,0.8s,baz=135,slow=11,SNR=3.6						
	1.9nm,0.8s						
CTAO	Charters Tower	33.94	287	P	P	18 53 00.3	-1.0
COEN	Coen	39.90	292	P	P	18 53 52.8	+0.8
COEN				IAmb	IAmb	18 54 02.8	
	comp=Z,11nm,1.2s						
AS31	Alice Springs	42.18	272	P	P	18 54 09.9	-0.9
ASAR	Alice Springs	42.18	272	P	P	18 54 10.2	-0.7
	comp=Z,1.6nm,0.7s,baz=113,slow=7.9,SNR=36						
	comp=Z,1.6nm,0.7s						
ASAR	Alice Springs	42.18	272	P	P	18 54 09.1	-1.7
WR0	Warramunga Arr	43.41	278	P	P	18 54 20.0	-0.8
WR0				IAmb	IAmb	18 54 23.3	
	comp=Z,9.6nm,1.4s						
WB2	Warramunga Arr	43.57	278	P	P	18 54 21.0	-1.0
WB2				IAmb	IAmb	18 54 23.8	
	comp=Z,4.7nm,1.1s						
WRA	Warramunga Arr	43.58	278	P	P	18 54 21.0	-1.1
	comp=Z,1.4nm,0.6s,baz=119,slow=7.4,SNR=26						
	comp=Z,1.4nm,0.6s						
WB0	Warramunga Arr	43.62	278	P	P	18 54 21.2	-1.3
WB0				IAmb	IAmb	18 54 42.6	
	comp=Z,6.1nm,1.2s						
FORT	Forrest	44.19	260	P	P	18 54 26.4	-0.5
KNRA	Kununurra	50.32	279	P	P	18 55 13.5	-1.2
QSPA	South Pole Qui	55.18	180	P	P	18 55 53.3	+3.1
SNAA	Sanae	73.65	179	P	P	18 57 52.8	+2.1
SNAA				IAmb	IAmb	18 58 00.6	
	comp=Z,1.8nm,1.1s						
FINES	FINESS Array B	149.03	337	PKPbc	PKPbc	19 06 03.8	-0.8
	comp=Z,2.3nm,0.8s,baz=45,slow=3.0,SNR=7.3						

---

*IDC **05** 18:52:46.3±1.6, 3°.27S×130°.81E, h0^{km}, mb3.8/2, mbtmp3.6/4, ML3.7/2, MS3.2/1, Error ellipse: s-maj=81.7km s-min=24.0km az=84.0*
*DJA **05** 18:52:50.1±0.7, 3°S±5°×13°1E±°, h101^{km}±14^{km}, M3.4/10, MLv3.4/10*
ISC 05 18:52:50.6±0.9, **3°.22S**±0°.06×**130°.74E**±0°.04, **h35**^{km}, **n23**, σ**2^{s}21**/25, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.54	213	P	Pn	18 53 19.0	+3.4
BNDI	Bandanaira	1.54	213	P	Pn	18 53 17.5	+1.9
FAKI	Fak Fak	1.54	79	P	Pn	18 53 16.2	+0.6
FAKI				S	Sn	18 53 36.7	+2.3
FAKI	Fak Fak	1.54	79	P	Pn	18 53 16.4	+0.8
MSAI	Masohi	1.81	266	P	Pn	18 53 23.9	+4.6
MSAI				S	Sn	18 53 36.8	-4.2
KRAI	Karang Ratu	2.34	267	P	Pn	18 53 27.3	+0.7
KRAI				S	Sn	18 53 38.0	-16
SIJI	Sorong	2.39	13	Pn	Pn	18 53 27.6	+0.2
	2.5nm,0.3s,baz=220,slow=19,SNR=46						
SIJI				Sn	Sn	18 53 53.5	-1.9
	3.8nm,0.3s,baz=146,slow=8.5,SNR=7.1						
	6.0nm,0.3s						
SIJI	Sorong	2.39	13	P	Pn	18 53 27.5	+0.2
AAI	Ambon	2.58	259	P	Pn	18 53 28.9	-1.0
AAI				S	Sn	18 53 43.4	-17
NLAI	Namlea	3.63	270	P	Pn	18 53 45.0	+0.7
RKPI	Ransiki, Papua	3.83	64	P	Pn	18 53 48.4	+1.2
LBMI	Labuha	4.12	308	P	Pn	18 53 52.2	+1.0
SAUI	Saumlaki	4.77	173	P	Pn	18 53 59.0	-1.0
SANI	Sanana	4.88	284	P	Pn	18 54 05.8	+4.2
	10nm,0.6s						
KDU	Kakadu	9.56	170	P	Pn	18 55 04.3	-1.6
MTN	Manton Dam	9.57	178	P	Pn	18 55 05.6	-0.4
KAPI	Kappang	11.10	260	LR	LR	19 00 41.9	
	comp=Z,107nm,19.7s,baz=296,slow=43						
KNRA	Kununurra	12.53	189	P	Pn	18 55 44.4	-2.1
WRAB	Tennant Creek	16.99	168	P	Pn	18 56 44.9	-0.7
WRA	Warramunga Arr	16.99	168	Pn	Pn	18 56 42.8	-2.9
	0.7nm,0.3s,baz=353,slow=13,SNR=28						
WRA				Sn	Sn	18 59 41.5	-12
	0.1nm,0.3s,baz=334,slow=23,SNR=2.2						
	0.8nm,1.0s						
ASAR	Alice Springs	20.56	172	P	P	18 57 27.1	+0.7
	5.1nm,0.6s,baz=351,slow=11,SNR=140						
	5.1nm,0.6s						
WRKA	Warakurna	21.82	186	P	P	18 57 39.8	-0.2
MKAR	Makanchi Array	65.51	326	P	P	19 03 31.9	+1.4
	0.3nm,0.5s,baz=125,slow=7.7,SNR=4.7						
	0.3nm,0.5s						

---

*IDC **05** 18:58:11.8±1.7, 30°.92N×131°.53E, h0^{km}, mb3.5/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=43.6km s-min=28.6km az=85.0*
*JMA **05** 18:58:16.0±0.2, 31°.0N±0°.4×131°.6E±0°.9, h31^{km}±1^{km}, MV3.2/32, SE OFF OSUMI PEN*
ISC 05 18:58:16.0±1.1, **30°.97N**±0°.04×**131°.56E**±0°.09, **h32**^{km}, **n18**, σ**0^{s}49**/19, **mb3.4**/4, **2D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTSR	Tashiro 2	0.58	290	P	Pb	18 58 27.4	-0.4
JTSR				eS	Sn	18 58 36.5	0.0
JTN	Tanegashima 3	0.59	237	P	Pb	18 58 28.1	+0.1
JNAR	Kushima--Naru	0.60	336	⇓P	Pb	18 58 27.9	-0.3
JNAR				⇓eS	Sb	18 58 36.6	0.0
JNKG	Nichinankitago	0.70	347	P	Pn	18 58 29.6	-0.1
JNKG				eS	Sn	18 58 39.6	+0.1
JMTN	Minamitane	0.81	225	P	Pn	18 58 31.2	0.0
JTZ	Takazaki	1.01	337	eP	Pn	18 58 33.7	-0.2
JSU	Suzuyama	1.08	300	P	Pn	18 58 35.0	0.0
JYAK	Yakushimahirau	1.16	231	eP	Pn	18 58 36.1	+0.1
JTSN	Tsuno	1.27	358	P	Pn	18 58 37.1	-0.4
JKC	Kuchinoerabu	1.28	247	P	Pn	18 58 37.7	+0.1
JOW	Kunigami	5.03	216	Pn	Pn	18 59 29.1	-0.1
	4.3nm,0.3s,baz=90,slow=21,SNR=20						
JOW				Sn	Sn	19 00 24.9	-1.4
	0.7nm,0.3s,baz=100,slow=27,SNR=1.3						
	12nm,0.3s						
CMAR	Chiang Mai Arr	32.02	255	P	P	19 04 39.4	-0.3
	0.3nm,0.6s,baz=58,slow=8.6,SNR=2.3						
	0.3nm,0.6s						
H11N2	WAKE ISLAND Hy	33.71	101	T	T	19 40 48.2	
	baz=294						
H11N1	WAKE ISLAND Hy	33.71	101	T	T	19 40 48.3	
	baz=294						
H11N3	WAKE ISLAND Hy	33.72	101	T	T	19 40 49.2	
	baz=294						
WRA	Warramunga Arr	50.70	177	P	P	19 07 12.3	-0.3
	0.3nm,0.6s,baz=354,slow=7.9,SNR=5.2						
	0.3nm,0.6s						
ASAR	Alice Springs	54.38	177	P	P	19 07 40.2	+0.4
	0.2nm,0.6s,baz=10,slow=13,SNR=14						
	0.2nm,0.6s						
FINES	FINESS Array B	70.19	331	P	P	19 09 26.3	+1.0
	1.6nm,0.8s,baz=54,slow=7.1,SNR=3.5						
	1.6nm,0.8s						

MAN 05 19:02:35.4, 9°.01N×125°.71E, h32^{km}**, mb3.7, ML2.5, MS2.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.80	344	eP	Pb	19 02 50.7	-0.1
SCPH				iS	Sb	19 03 01.7	+0.3

---

*IDC **05** 19:07:13.6±0.8, 3°.17S×130°.83E, h0^{km}, mb4.1/11, mbtmp4.1/14, ML3.5/3, MS3.6/6, Error ellipse: s-maj=27.0km s-min=15.6km az=75.0*
*NEIC **05** 19:07:17.0±1.4, 3°.20S±0°.05×130°.72E±0°.03, h22^{km}±6^{km}, mb4.3/22, Error ellipse: s-maj=8.8km s-min=2.4km az=211.0*
*DJA **05** 19:07:19.7±1.0, 3°S±4°×13°1E±°, h31^{km}±13^{km}, M4.3/12, mb4.5/9, mB5.6/1, MLv4.1/12, Mw(mB)5.2/1*
ISC 05 19:07:15.6±1.2, **3°.24S**±0°.05×**130°.75E**±0°.03, **h17**^{km}±8^{km}, **n76**, σ**1^{s}34**/77, **mb4.3**/20, **MS3.5**/4, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.53	78		Pb	19 07 43.4	-0.1
FAKI				Sn	Sn	19 08 01.9	+0.2
FAKI	Fak Fak	1.53	78	P	Pb	19 07 43.2	-0.3
FAKI				S	Sg	19 08 03.8	-1.1
BNDI	Bandanaira	1.53	214	P	Pg	19 07 45.9	+0.7
MSAI	Masohi	1.83	267	P	Pg	19 07 49.8	-1.0
MSAI				S	Sg	19 08 16.3	+1.8
KRAI	Karang Ratu	2.36	268	P	Pb	19 07 56.5	-1.2
SIJI	Sorong	2.41	12	Pn	Pn	19 07 54.5	+0.2
	11nm,0.3s,baz=213,slow=19,SNR=79						
SIJI				Sn	Sn	19 08 22.6	-0.8
	41nm,0.3s,baz=228,slow=23,SNR=6.0						
	29nm,0.4s						
SIJI	Sorong	2.41	12	P	Pn	19 07 54.4	+0.1
SIJI				S	Sn	19 08 21.1	-2.3
AAI	Ambon	2.59	260	P	Pn	19 07 59.3	+2.4
NLAI	Namlea	3.65	270	P	Pn	19 08 13.4	+2.0
RKPI	Ransiki, Papua	3.83	63	P	Pn	19 08 15.2	+1.4
LBMI	Labuha	4.15	308	P	Pn	19 08 18.8	+0.5
SANI	Sanana	4.91	284	P	Pn	19 08 28.3	-0.4
TNTI	Ternate	5.23	320	Pn	Pn	19 08 32.8	-0.3
SRPI	Serui, Papua	5.65	76	P	Pn	19 08 40.8	+1.9
	0.5nm39nm,0.5s						
BBSI	Bau Bau	8.46	254	P	Pb	19 09 33.8	-8.0
SOEI	Soe	9.13	225	Pn	Pn	19 09 27.3	+0.4
SOEI	Soe	9.13	225	P	Pn	19 09 35.8	+8.9
	25nm,1.4s						
APSI	Ampana	9.39	284	P	Pn	19 09 31.6	+1.3
	72nm,0.8s						
MRSI	Marisa	9.55	293	P	Pn	19 09 30.8	-1.7
	19nm,0.6s						
MTN	Manton Dam	9.55	178		Pn	19 09 32.6	+0.1
BATI	Baumata	9.87	225	Pn	Pn	19 09 38.2	+1.2
	0.9nm,0.3s,baz=68,slow=22,SNR=1.7						
BATI				LR	LR	19 13 18.2	
	comp=Z,276nm,19.9s,baz=140,slow=36						
	6.0nm,0.7s						
BKSI	Bulukumba	10.80	259	P	Pn	19 10 05.1	+15
TOLI2	Tolitoli	10.86	293		Pn	19 09 50.0	-0.5
KAPI	Kappang	11.12	260	Pn	Pn	19 09 56.9	+2.9
	0.2nm,0.3s,baz=116,slow=7.3,SNR=2.0						
KAPI				LR	LR	19 15 26.6	
	comp=Z,287nm,19.7s,baz=74,slow=44						
	5.2nm,0.8s						
KNRA	Kununurra	12.52	189	Pn	Pn	19 10 11.3	-1.8
PLAI	Plampang	14.05	246	P	P	19 10 39.9	-1.9
	31nm,0.9s						
COEN	Coen	16.24	132	Pn	Pn	19 11 01.3	-1.9
WB0	Warramunga Arr	16.81	168		Pn	19 11 07.1	-3.3
WRA	Warramunga Arr	16.97	168	P	Pn	19 11 09.3	-3.1
	0.5nm,0.4s,baz=353,slow=13,SNR=19						
WRA				S	Sn	19 14 09.7	-11
	0.8nm,0.6s,baz=352,slow=26,SNR=2.2						
WRA	Warramunga Arr	16.97	168	Pn	Pn	19 11 08.6	-3.8
KKM	Kota Kinabalu	17.20	302		P	19 11 17.2	+0.3
KKM				IAmb	IAmb	19 11 27.1	
	comp=Z,30nm,1.2s						
AS31	Alice Springs	20.54	172		P	19 11 54.4	+0.9
AS31				IAmb	IAmb	19 12 03.0	
	comp=Z,7.7nm,0.6s						
ASAR	Alice Springs	20.54	172	P	P	19 11 54.1	+0.7
	comp=Z,6.2nm,0.5s,baz=351,slow=10,SNR=144						
ASAR				S	S	19 15 40.9	-1.8
	comp=Z,1.9nm,0.9s,baz=352,slow=17,SNR=4.9						
	comp=Z,6.2nm,0.5s						
ASAR	Alice Springs	20.54	172		P	19 11 54.3	+0.8
MBWA	Marble Bar	20.80	210	P	P	19 11 56.2	0.0
MBWA				IAmb	IAmb	19 12 04.4	
	comp=Z,15nm,1.1s						
PSA00	Pilbara Seismi	21.09	209	P	P	19 11 56.1	-3.3
PSA00				IAmb	IAmb	19 12 22.6	
	comp=Z,24nm,1.5s						
CTA	Charters Tower	22.57	139	P	P	19 12 17.0	+1.7
	comp=Z,3.0nm,0.8s,baz=313,slow=9.3,SNR=4.9						
CTA				LR	LR	19 21 41.5	
	comp=Z,150nm,21.6s,baz=304,slow=38						
	comp=Z,3.0nm,0.8s						
CTAO	Charters Tower	22.57	139	P	P	19 12 16.4	+1.1
LEM	Lembang	23.32	260	LR	LR	19 22 21.2	
	comp=Z,115nm,18.1s,baz=162,slow=39						
FORT	Forrest	27.51	185	P	P	19 13 01.7	+0.3
STKA	Stephens Creek	30.26	161	P	P	19 13 26.1	+0.3
	comp=Z,2.2nm,0.9s,baz=329,slow=12,SNR=2.9						
	comp=Z,2.2nm,0.9s						
STKA	Stephens Creek	30.26	161	P	P	19 13 26.7	+0.8
NJ2	Nanjing	36.87	343	eP	P	19 14 26.2	+2.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CM31	Chiang Mai Arr	38.03	306	P	P	19 14 33.9	+0.5
CM31				IAmb	IAmb	19 14 35.9	
	comp=Z,6.7nm,1.1s						
CMAR	Chiang Mai Arr	38.03	306	P	P	19 14 33.7	+0.3
	comp=Z,1.3nm,0.9s,baz=137,slow=6.6,SNR=11						
	comp=Z,1.3nm,0.9s						
CMAR	Chiang Mai Arr	38.03	306	P	P	19 14 34.2	+0.8
LSA	Lhasa	50.09	314	P	P	19 16 10.9	+0.3
LSA				IAmb	IAmb	19 16 12.5	
	comp=Z,2.9nm,0.7s						
GTA	Gaotai	51.10	329	eP	P	19 16 18.9	+1.3
GTA				pP	sP	19 16 25.6	+0.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RAMN	Ramite	52.11	308	eP	P	19 16 26.0	+0.4
JIRN	Jiri	52.77	309	eP	P	19 16 30.6	0.0
GUN	Gumba	53.13	309	eP	P	19 16 33.2	0.0
	comp=Z,22nm,0.9s						
PKI	Pulchoki	53.34	308	eP	P	19 16 34.0	-0.7
PKIN	Phulchoki	53.35	308	eP	P	19 16 34.4	-0.4
RPZ	Rata Peaks	53.79	144	LR	LR	19 38 14.0	
	comp=Z,94nm,21.2s,baz=272,slow=35						
SONM	Songino Array	55.16	340	P	P	19 16 48.1	+0.7
	comp=Z,1.4nm,0.8s,baz=162,slow=7.7,SNR=7.2						
	comp=Z,1.4nm,0.8s						
SONM	Songino Array	55.16	340	P	P	19 16 47.7	+0.4
SONM				IAmb	IAmb	19 16 49.9	
	comp=Z,2.3nm,1.0s						
MK31	Makanchi Array	65.54	326	P	P	19 17 58.6	+0.3
MK31				IAmb	IAmb	19 17 59.9	
	comp=Z,2.3nm,0.8s						
MKAR	Makanchi Array	65.54	326	P	P	19 17 59.0	+0.7
	comp=Z,3.7nm,0.7s,baz=119,slow=8.0,SNR=27						
MKAR				LR	LR	19 46 32.7	
	comp=Z,38nm,21.8s,baz=110,slow=36						
	comp=Z,3.7nm,0.7s						
MKAR	Makanchi Array	65.54	326	P	P	19 17 58.3	0.0
ZALV	Zalesovo Beam	68.58	333	P	P	19 18 17.4	-0.1
	comp=Z,1.2nm,0.6s,baz=103,slow=6.7,SNR=6.8						
	comp=Z,1.2nm,0.6s						
ZALV	Zalesovo Beam	68.58	333	P	P	19 18 17.1	-0.3
KURBB	Kurchatov Arra	69.74	328	P	P	19 18 25.4	+0.7
	comp=Z,2.6nm,0.7s,baz=127,slow=5.6,SNR=24						
	comp=Z,2.6nm,0.7s						
KK31	Karatay Array	71.05	318	P	P	19 18 32.7	-0.2
KK31				IAmb	IAmb	19 18 34.0	
	comp=Z,1.4nm,0.9s						
KKAR	Karatay Array	71.05	318	P	P	19 18 32.5	-0.4
BVAR	Borovoye Array	75.31	327	P	P	19 18 58.6	+0.7
	comp=Z,2.7nm,0.8s,baz=134,slow=8.5,SNR=13						
	comp=Z,2.7nm,0.8s						
BRVK	Borovoye	75.39	327	P	P	19 18 57.2	-1.2
BRVK				IAmb	IAmb	19 18 59.9	
	comp=Z,2.9nm,0.8s						
GEYT	Alibeck	78.39	310	P	P	19 19 16.8	+1.1
	comp=Z,2.8nm,0.6s,baz=159,slow=4.5,SNR=7.0						
	comp=Z,2.8nm,0.6s						
GEYT	Alibeck	78.39	310	P	P	19 19 15.3	-0.4
GYA0B	ALIBECK ARRAY	78.39	310	P	P	19 19 15.2	-0.5
MAW	Mawson	78.71	201	P	P	19 19 16.2	-0.5
MAW				IAmb	IAmb	19 19 17.3	
	comp=Z,2.5nm,0.8s						
ABKAR	Akbulak array	80.06	321	P	P	19 19 23.8	-0.7
ABKAR	Akbulak array	80.06	321	P	P	19 19 23.8	-0.7
ABKAR				IAmb	IAmb	19 19 36.4	
	comp=Z,3.2nm,1.2s						
TTA	Tatalina	85.30	26	P	P	19 19 51.5	0.0
QSPA	South Pole Qui	86.71	180	P	P	19 19 59.2	+0.6
ILAR	Eielson Array	89.64	25	P	P	19 20 11.6	-0.8
	comp=Z,0.2nm,0.6s,baz=243,slow=6.0,SNR=4.2						
	comp=Z,0.2nm,0.6s						
TORD	Torodi Ar. Bea	128.72	284	PKP	PKPdf	19 26 23.8	+0.6
	comp=Z,0.4nm,0.6s,baz=86,slow=1.6,SNR=3.9						

---

*ROM **05** 19:11:59.0±0.0, 42°.956N±0°.002×13°.204E±0°.004, h8^{km}, ML3.5/49, Error ellipse: s-maj=0.3km s-min=0.0km az=67.0*
*LDG **05** 19:11:58.3±0.2, 42°.92N×13°.17E, h10^{km}, Ml2.9/26, Error ellipse: s-maj=9.4km s-min=4.8km az=45.0*
*IDC **05** 19:11:59.2±1.2, 43°.08N×13°.51E, h0^{km}, mb3.4/3, mbtmp3.5/8, ML3.1/5, MS2.5/2, Error ellipse: s-maj=30.3km s-min=13.6km az=86.0*
*PRU **05** 19:12:00.3±0.0, 42°.89N×13°.52E, h10^{km}*
*STR **05** 19:12:03.8±1.1, 43°N±9°×1°3E±1°0, h13^{km}, MLv3.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=53.9, preliminary*
ISC 05 19:11:59.4±0.6, **42°.93N**±0°.01×**13°.13E**±0°.02, **h12**^{km}±3^{km}, **n219**, σ**1^{s}84**/286, **mb3.4**/3, **42C-21D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FEMA	Monte Fema	0.07	298	⇑P	Pg	19 12 02.1	0.0
FEMA				S	Sg	19 12 04.7	+0.6
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,63250μm,0.3s						
FEMA				AML	AML		
	comp=N,63250μm,0.3s						
FEMA				AML	AML		
T1245	Castelsantange	0.08	151	⇑P	Pg	19 12 01.8	-0.5
T1245				S	Sg	19 12 03.7	-0.7
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		

T1245 AML AML
comp=E,95900µm,0.3s
T1245 AML AML
T1216 Preci, Frazion 0.09 245 ⇑P Pg 19 12 02.8 +0.5
T1216 S Sg 19 12 05.6 +1.3
T1216 AML AML
comp=E,24900µm,1.2s
T1216 AML AML
comp=N,21200µm,0.7s
T1216 AML AML
comp=N,21150µm,0.7s
T1216 AML AML
comp=E,24850µm,1.2s
NRCA Norcia 0.10 188 ⇑P Pg 19 12 02.5 +0.1
NRCA S Sg 19 12 05.3 +0.8
NRCA AML AML
comp=E,52600µm,0.9s
NRCA AML AML
comp=E,55150µm,0.9s
NRCA AML AML
comp=N,53600µm,1.3s
NRCA AML AML
comp=N,58250µm,1.3s
T1256 Bolognola (MC) 0.10 42 ⇑P Pg 19 12 00.6 -1.9
T1256 S Sg 19 12 01.5 -3.3
FDMO Fiordimonte 0.11 343 ⇑P Pg 19 12 01.9 -0.6
FDMO S Sg 19 12 04.2 -0.6
FDMO AML AML
comp=E,32950µm,0.3s
FDMO AML AML
comp=N,56900µm,0.3s
AM05 Amandola Campo 0.17 73 ⇓P Pg 19 12 02.0 -1.3
AM05 S Sg 19 12 03.7 -2.3
AM05 AML AML
comp=E,81900µm,1.6s
AM05 AML AML
comp=N,2230µm,0.4s
AM05 AML AML
comp=N,15000µm,1.2s
AM05 AML AML
comp=E,17800µm,1.6s
CSP1 Cessapalombo 0.17 18 ⇓P Pg 19 12 02.2 -1.2
CSP1 S Sg 19 12 04.4 -1.9
CESI CESI - Serrava 0.18 294 ⇑P Pg 19 12 04.2 +0.6
CESI S Sg 19 12 08.5 +2.0
CESI AML AML
comp=N,31750µm,0.9s
CESI AML AML
comp=E,29750µm,1.0s
T1220 Camerino, Fraz 0.18 350 ⇓P Pg 19 12 03.0 -0.6
T1220 S Sg 19 12 06.5 0.0
GUMA Gualdo di Mace 0.20 48 ⇓P Pg 19 12 02.7 -1.1
GUMA S Sg 19 12 05.5 -1.4
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
T1244 Arquata del Tr 0.21 145 ⇓P Pg 19 12 04.0 0.0
T1244 S Sg 19 12 08.2 +1.0
T1221 Campello sul C 0.22 252 ⇑P Pg 19 12 05.2 +1.0
T1241 Roccafluvione, 0.23 108 ⇓P Pg 19 12 03.5 -0.9
T1241 S Sg 19 12 07.1 -0.6
T1241 AML AML
comp=N,22650µm,1.5s
T1241 AML AML
comp=E,39300µm,1.6s
T1241 AML AML
comp=E,39600µm,1.6s
T1241 AML AML
comp=N,22700µm,1.4s
T1241 AML AML
comp=N,23050µm,1.5s
T1241 AML AML
comp=N,23100µm,1.5s
T1241 AML AML
comp=E,39350µm,1.6s
T1241 AML AML
comp=E,39600µm,1.6s
T1215 Vallo di Nera, 0.23 237 ⇑P Pg 19 12 05.3 +0.9
T1215 S Sg 19 12 10.7 +2.9
T1215 AML AML
comp=E,4190µm,0.6s
T1215 AML AML
comp=N,5350µm,1.0s
T1215 AML AML
comp=N,5235µm,1.2s
T1215 AML AML
comp=N,5355µm,1.0s
T1215 AML AML
comp=E,4030µm,0.9s
T1215 AML AML
comp=N,5230µm,1.2s
T1202 Accumoli, Fraz 0.24 163 ⇑P Pg 19 12 04.7 +0.2
T1202 S Sg 19 12 09.8 +1.9
SEF1 Sefro 0.26 328 P Pg 19 12 05.1 +0.3
SEF1 S Sb 19 12 09.7 -0.7
SEF1 AML AML
comp=E,23300µm,1.3s
SEF1 AML AML
comp=N,17050µm,0.3s
SEF1 AML AML
comp=E,23300µm,1.3s
MDAR Monte D'Aria 0.26 2 P Pg 19 12 04.3 -0.7
T1217 Poggiodomo (PG 0.26 214 ⇑P Pg 19 12 05.8 +0.8
T1217 S Sg 19 12 10.6 +1.9
T1217 AML AML
comp=E,11470µm,0.8s
T1217 AML AML
comp=N,8920µm,0.7s
T1217 AML AML
comp=N,9105µm,0.7s
T1217 AML AML
comp=E,11500µm,0.8s
T1217 AML AML
comp=E,12050µm,0.9s
T1217 AML AML
comp=N,9115µm,0.7s
T1217 AML AML
comp=N,8915µm,0.7s
PIO1 Pioraco 0.27 336 P Pg 19 12 04.9 -0.2
T1201 Domo (RI) 0.29 162 ⇑P Pb 19 12 05.8 -0.7
T1201 S Sb 19 12 11.4 +0.2
T1204 Amatrice, Fraz 0.29 152 ⇓P Pb 19 12 05.4 -1.2
T1204 S Sb 19 12 10.7 -0.6
T1204 AML AML
comp=E,26750µm,0.5s
T1204 AML AML
comp=N,13750µm,0.4s
FIU1 Fiuminata 0.30 330 P Pg 19 12 05.5 0.0
SSM1 San Severino M 0.30 6 P Pg 19 12 05.2 -0.4
GAG1 Gagliole 0.31 351 P Pg 19 12 05.4 -0.4
GAG1 AML AML
comp=N,29900µm,1.0s
GAG1 AML AML
comp=N,29850µm,1.0s
GAG1 AML AML
comp=E,26250µm,0.6s
MNTP Montappone 0.32 50 P Pg 19 12 05.5 -0.5
MNTP AML AML
comp=E,34050µm,1.6s
MNTP AML AML
comp=N,49350µm,1.0s
LNSS Leonessa 0.33 192 ⇑P Pb 19 12 06.8 -0.6
LNSS AML AML
comp=E,5460µm,1.3s
LNSS AML AML
comp=N,10855µm,0.4s
SMA1 SAN MARTINO 0.33 153 AML AML
comp=N,16050µm,0.9s
SMA1 AML AML
comp=E,21800µm,0.5s
SNTG Esanatoglia 0.35 337 ⇓P Pg 19 12 06.3 -0.3
SNTG AML AML
comp=N,4740µm,0.5s
SNTG AML AML
comp=N,4745µm,0.5s
SNTG AML AML
comp=E,4845µm,1.0s
SNTG AML AML
comp=N,5045µm,0.5s
SNTG AML AML
comp=E,4710µm,1.0s
ASSB Assisi San Ben 0.37 288 ⇑P Pb 19 12 07.4 -0.5
EL6 Elcito 0.40 357 ⇓P Pg 19 12 06.7 -0.7
EL6 AML AML
comp=E,11815µm,0.9s
EL6 AML AML
comp=E,11810µm,0.9s
EL6 AML AML
comp=N,15500µm,0.8s
TRE1 Treia 0.40 19 P Pg 19 12 07.5 0.0
OFFI Offida 0.41 89 ⇓P Pg 19 12 07.3 -0.2
OFFI AML AML
comp=E,11050µm,0.7s
OFFI AML AML
comp=N,18950µm,0.7s
RM33 Pellescritta (0.42 172 ⇑P Pb 19 12 08.1 -0.8
RM33 S Sb 19 12 15.3 +0.1
RM33 AML AML
comp=N,6480µm,0.9s
RM33 AML AML
comp=E,10395µm,0.9s
RM33 AML AML
comp=E,10530µm,0.8s
RM33 AML AML
comp=N,6545µm,0.9s
RM33 AML AML
comp=E,10390µm,0.9s
RM33 AML AML
comp=N,6485µm,0.9s
T1246 Crognaleto (TE 0.44 142 P Pg 19 12 07.6 -0.4
T1246 S Sb 19 12 14.7 -0.9
ARRO Arrone 0.44 218 ⇑P Pn 19 12 08.9 -2.6
ARRO S Sb 19 12 17.4 +1.8
ARRO AML AML
comp=E,3640µm,0.8s
ARRO AML AML
comp=N,3245µm,0.7s
ATCC AVT- Casa Cast 0.44 305 ⇑P Pb 19 12 08.6 -0.6
ATCC S Sb 19 12 16.6 +0.8
ATCC AML AML
comp=E,11910µm,1.1s
ATCC AML AML
comp=N,10115µm,0.8s
ATCC AML AML
comp=N,10125µm,0.8s
ATCC AML AML
comp=E,11935µm,1.1s
CAMP Campotosto 0.44 153 ⇓P Pb 19 12 07.9 -1.3
CAMP S Sb 19 12 15.1 -0.7
CAMP AML AML
comp=N,8190µm,0.4s
CAMP AML AML
comp=E,9310µm,0.9s
T1211 Morro Reatino 0.45 207 ⇑P Pn 19 12 08.8 -2.9
T1211 S Sb 19 12 17.5 +1.7
T1211 AML AML
comp=E,3500µm,0.7s
T1211 AML AML
comp=N,6430µm,0.9s
T1211 AML AML
comp=E,3515µm,0.7s
T1211 AML AML
comp=N,6060µm,1.0s
T1211 AML AML
comp=E,3525µm,1.4s
T1211 AML AML
comp=E,3500µm,0.7s
T1211 AML AML
comp=N,6060µm,0.9s
T1211 AML AML
comp=N,6430µm,1.0s
CING Cingoli 0.45 6 ⇓P Pg 19 12 07.4 -0.9
CING AML AML
comp=E,7790µm,0.4s
CING AML AML
comp=N,4870µm,1.2s
FOSV Fossato di Vic 0.46 323 ⇓P Pb 19 12 08.4 -1.0
FOSV S Sb 19 12 16.2 +0.1
FOSV AML AML
comp=E,4570µm,1.2s
FOSV AML AML
comp=N,9795µm,0.8s
FOSV AML AML
comp=E,4575µm,1.2s
TERO Teramo 0.46 131 ⇓P Pg 19 12 07.8 -0.8
TERO S Sg 19 12 15.0 +0.3
TERO AML AML
comp=E,8710µm,0.5s
TERO AML AML
comp=N,7595µm,0.3s
TERO AML AML
comp=E,9030µm,0.5s
TERO AML AML
comp=N,7875µm,0.3s
T1247 Pizzolo (AQ) 0.50 166 ⇑P Pb 19 12 09.3 -0.9
T1247 S Sb 19 12 18.2 +0.8
T1247 AML AML
comp=N,7985µm,0.5s
T1247 AML AML
comp=E,9595µm,0.8s
CESX Cesi 0.52 232 ⇑P Pn 19 12 10.2 -2.4
CESX S Sb 19 12 19.5 +1.7
CESX AML AML
comp=E,3440µm,1.6s
CESX AML AML
comp=N,3985µm,0.6s
CIMA Civitanova Mar 0.54 46 P Pg 19 12 10.6 +0.5
MURB Monte Urbino 0.56 307 P Pb 19 12 10.7 -0.4
MURB AML AML
comp=E,10310µm,0.9s
MURB AML AML
comp=N,7630µm,1.0s
MURB AML AML
comp=E,10325µm,0.9s
MURB AML AML
comp=E,10075µm,0.9s
MURB AML AML
comp=N,8260µm,1.0s
MURB AML AML
comp=N,7625µm,0.9s
PP3 Marolino 0.57 38 ⇑P Pg 19 12 10.4 -0.1
PP3 AML AML
comp=E,8965µm,1.1s
PP3 AML AML
comp=N,8140µm,1.1s
PP3 AML AML
comp=E,9240µm,1.6s
PP3 AML AML
comp=N,8185µm,1.1s
PP3 AML AML
comp=N,8140µm,1.1s
PP3 AML AML
comp=E,9245µm,1.6s
PP3 AML AML
comp=E,8965µm,1.1s
SSFR Montelago di S 0.57 333 ⇑P Pg 19 12 10.2 -0.3
SSFR S Sb 19 12 19.8 +0.4
SSFR AML AML
comp=E,9120µm,0.3s
SSFR AML AML
comp=N,7235µm,0.8s
SSFR AML AML
comp=E,9225µm,0.3s
SSFR AML AML
comp=N,6885µm,1.3s
GIGS Gran Sasso 0.58 146 ⇓P Pg 19 12 10.1 -0.6
GIGS S Sb 19 12 19.3 -0.3
GIGS AML AML
comp=E,2245µm,0.4s
GIGS AML AML
comp=N,1645µm,0.3s
ARVD Arcevia 0.58 346 ⇓P Pg 19 12 10.3 -0.6
ARVD AML AML
comp=E,3225µm,0.2s
ARVD AML AML
comp=N,1805µm,1.5s
TRTR Tortoreto Alta 0.59 102 P Pg 19 12 10.8 0.0
TRTR AML AML
comp=E,12175µm,0.7s
TRTR AML AML
comp=N,10300µm,0.6s
TRTR AML AML
comp=E,12170µm,0.7s
ATFO Monte Foce - G 0.60 317 P Pb 19 12 11.3 -0.5
ATFO AML AML
comp=E,3410µm,1.4s
ATFO AML AML
comp=N,3395µm,0.9s
AQU L'Aquila 0.61 161 P Pb 19 12 11.0 -0.9
ATTE AVT- Monte Tez 0.63 295 AML AML
comp=E,2515µm,1.2s
ATTE AML AML
comp=N,2600µm,1.0s
ATLO AVT- Montelove 0.66 306 ⇑P Pb 19 12 12.2 -0.6
FRON Frontone 0.66 333 ⇑P Pg 19 12 11.8 -0.5
FRON S Sb 19 12 22.3 +0.3
FIAM Fiamignano 0.66 181 ⇑P Pb 19 12 12.1 -0.8
TB01 Gubbio 0.68 312 ⇑P Pb 19 12 12.6 -0.7
TB01 S Sn 19 12 23.6 -1.8
TB02 Pietralunga 0.69 310 P Pb 19 12 12.8 -0.6
ATBU Serra di Buran 0.69 322 P Pb 19 12 13.3 -0.1
ATBU S Sb 19 12 22.7 -0.3
ATVO AVT- Monte Val 0.70 311 ⇑P Pb 19 12 12.9 -0.6
AOI Ancona 0.71 29 ⇑P Pg 19 12 12.6 -0.6
TB03 Pietralunga 0.71 312 ⇑P Pb 19 12 13.0 -0.7
TB03 S Sn 19 12 24.5 -1.6
ATVA AVT- Monte Val 0.71 300 P Pb 19 12 13.3 -0.4
ATVA S Sn 19 12 23.5 -2.7
ATPC Poggio Castell 0.74 318 P Pb 19 12 14.0 -0.2
FAGN Fagnano 0.74 153 ⇑P Pb 19 12 13.7 -0.6
FAGN AML AML
comp=N,6400µm,0.5s
FAGN AML AML
comp=E,7170µm,0.5s
ATPI Pietralunga - 0.75 315 ⇓P Pb 19 12 14.2 -0.1
ATPI AML AML
comp=N,2150µm,0.7s
ATPI AML AML
comp=E,1940µm,1.1s
ATPI AML AML
comp=N,2145µm,0.7s
PIEI Pieia 0.75 324 ⇑P Pb 19 12 13.5 -0.9
PIEI AML AML
comp=N,2010µm,1.4s
PIEI AML AML
comp=E,1475µm,1.5s
MGAB Montegabbione 0.75 269 ⇑P Pn 19 12 14.6 -1.2
MGAB S Sn 19 12 25.3 -1.8
MGAB AML AML
comp=N,4460µm,0.9s
MGAB AML AML
comp=N,4895µm,1.0s
MGAB AML AML
comp=E,3650µm,0.9s
MGAB AML AML
comp=E,2905µm,0.8s
ATMI Monte Miggiano 0.75 303 P Pn 19 12 15.1 -0.8
MPAG Monte Paganucc 0.75 339 ⇑P Pg 19 12 13.5 -0.5
MPAG S Sg 19 12 24.7 +0.9
MPAG AML AML
comp=E,3895µm,0.8s
MPAG AML AML
comp=E,3355µm,0.8s
MPAG AML AML
comp=N,2260µm,1.3s
MPAG AML AML
comp=E,3900µm,0.8s
MPAG AML AML
comp=N,2670µm,1.4s
FSSB Fossombrone 0.81 341 P Pg 19 12 14.7 -0.3
FSSB AML AML
comp=E,6550µm,1.4s
FSSB AML AML
comp=N,12250µm,1.4s
APEC Apecchio 0.82 321 P Pn 19 12 15.7 -1.0
SRES S.Oreste - Sor 0.83 214 ⇑P Pn 19 12 15.7 -1.2
SRES AML AML
comp=N,1535µm,0.6s
SRES AML AML
comp=E,2175µm,1.0s
T0110 Collepietro 0.85 146 ⇓P Pg 19 12 14.7 -1.1
T0110 AML AML
comp=N,4315µm,1.3s
T0110 AML AML
comp=E,4870µm,1.2s
ATMC Monte Cedrone 0.86 307 P Pn 19 12 16.8 -0.5
BADI Badiali 0.87 312 AML AML
comp=E,69µm,0.7s
BADI AML AML
comp=E,70µm,0.7s
BADI AML AML
comp=N,1134µm,1.4s
BADI AML AML
comp=N,1134µm,1.4s
PE3 Peglio 0.90 329 P Pb 19 12 16.8 -0.1
PE3 AML AML
comp=E,20µm,0.1s
PE3 AML AML
comp=N,31µm,0.1s
SACS San Casciano d 0.90 265 P Pn 19 12 17.7 -0.2
PTQR Pietraquaria 0.93 168 ⇑P Pb 19 12 16.2 -1.2
CAFI Castiglion Fio 0.94 295 P Pn 19 12 18.0 -0.4
MTCE Montecelio 0.95 198 ⇑P Pn 19 12 18.2 -0.3
SSP9 Sansepolcro 0.97 312 P Pn 19 12 17.9 -1.0
CERT Cerreto 0.99 187 P Pn 19 12 17.8 -1.2
CERT AML AML
comp=N,1578µm,1.5s
CERT AML AML
comp=E,2380µm,0.5s
CPGN Carpegna, Ital 1.05 326 AML AML
comp=E,2470µm,0.8s
CPGN AML AML
comp=N,2960µm,1.6s
CPGN AML AML
comp=N,2350µm,0.8s
CPGN AML AML
comp=E,2775µm,1.3s
CRE Caprese Michel 1.10 309 P Pn 19 12 21.0 +0.2
VVLD Villa Vallelon 1.12 161 P Pn 19 12 20.9 0.0
GUAR Guarcino 1.14 173 P Pn 19 12 21.6 +0.4
LPEL Lama dei Pelig 1.18 138 P Pg 19 12 21.1 -0.9
LPEL AML AML
comp=E,2580µm,0.8s
LPEL AML AML
comp=N,1615µm,0.7s
TOLF Tolfa 1.20 224 ⇑P Pn 19 12 23.2 +1.2
ARCI Arcidosso 1.22 267 P Pn 19 12 23.0 +0.7
POFI Posta Fibreno 1.28 160 P Pg 19 12 23.3 -0.8
ASQU Asqua 1.31 312 P Pg 19 12 24.4 -0.1
SFI Santa Sofia 1.35 317 P Pg 19 12 25.4 0.0
GIUL Giuliano Di Ro 1.37 176 ⇑P Pg 19 12 25.7 -0.1
LATB Latina 1.44 185 P Pg 19 12 25.5 -1.5
FROS Frosini 1.48 282 P Pg 19 12 26.6 -1.1
CERA Filignano 1.48 153 P Pb 19 12 26.2 -0.7
FRES Fresagrandinar 1.48 130 P Pg 19 12 27.2 -0.7
RUFI Rufina 1.49 308 P Pg 19 12 27.2 -0.9
OSSC Osservatorio P 1.50 294 P Pg 19 12 27.2 -1.0
MIDA Miranda 1.53 147 P Pb 19 12 27.2 -0.6
LMD Lutirano 1.55 318 P Pg 19 12 29.2 +0.1
CIGN Sant'Elia a Pi 1.83 134 P Pn 19 12 30.9 +0.3
PTRJ Pietraroja 1.88 146 AML AML
comp=N,2205µm,0.8s
PTRJ AML AML
comp=E,1610µm,0.1s
PTRJ AML AML
comp=E,1505µm,0.6s
PTRJ AML AML
comp=N,1710µm,1.0s
A318A Donoratico (LI 1.89 277 P Pg 19 12 33.6 -2.0
BRJN Brijuni 2.02 13 P Pn 19 12 33.3 0.0
PII Pisa 2.06 293 P Pb 19 12 34.2 -2.5
PSB1 Pescosannita 2.11 143 AML AML
comp=N,390µm,1.3s
PSB1 AML AML
comp=E,468µm,1.2s
PSB1 AML AML
comp=N,351µm,1.2s
PSB1 AML AML
comp=E,480µm,1.3s
APRC Apricena 2.14 122 P Pn 19 12 36.0 +1.1
SGRT San Giovanni R 2.26 120 P Pn 19 12 37.7 +1.0
CAFE Carife 2.46 140 P Pn 19 12 39.9 +0.5
CEY Cerknica 2.96 18 *e*Pn Pn 19 12 46.1 -0.1
SMPL Sampolo 2.96 255 P Pb 19 12 50.1 -2.0
PGF Pioggiola 3.07 264 *e*Pn Pn 19 12 44.0 -3.7
PGF *e*Sn Sn 19 13 19.2 -5.2
comp=E,2.5nm,0.3s
MGRS Mrkonjic Grad 3.23 61 *e*Pn Pn 19 12 52.0 +2.1
STON Ston 3.36 89 *e*Pn Pn 19 12 50.8 -0.8
A051A Mrakovica 3.43 51 *e*Pn Pb 19 12 59.7 -0.4
BLY Banja Luka 3.45 57 *e*Pn Pb 19 13 02.4 +2.0
MATE Matera 3.51 129 ⇓P Pn 19 12 55.3 +1.6
OBKA Obir 3.72 15 *e*Pn Pn 19 12 56.6 -0.1
OBKA Obir 3.72 15 *e*Pn Pn 19 12 57.4 +0.8
comp=E,1.7nm,0.2s

ABTA	Abfaltersbach	3.84	354	*i* Pn	Pn	19 12 59.8	+1.4
	comp=E,25nm,0.4s,SNR=41						
ABTA				*i* Sn	Sn	19 13 43.7	+0.3
	comp=E,19nm,0.5s						
TREB	Trebinje	3.84	91	*e*Pn	Pn	19 12 59.0	+0.7
KBA	Koelnbreinsper	4.15	2	*i* Pn	Pn	19 13 04.2	+1.6
	comp=E,4.3nm,0.2s,SNR=8.9						
KBA				*i* Sn	Sn	19 13 51.3	+0.1
	comp=E,12nm,0.5s						
SBF	Sospel	4.26	285	*e*P	Pn	19 13 03.4	-0.6
SBF				*e*Sn	Sn	19 13 51.4	-2.2
	comp=E,6.8nm,0.3s						
HAPS	Han Pijesak,Bl	4.39	73	*e*Pn	Pn	19 13 09.4	+3.5
FETA	Feichten	4.43	338	*i* Pn	Pn	19 13 09.1	+2.6
	comp=E,10nm,0.5s,SNR=6.0						
FETA				*e*Sn	Sn	19 13 59.7	+1.6
	comp=E,13nm,0.6s						
WTTA	Wattenberg	4.46	347	*i* Pn	Pn	19 13 09.7	+2.8
	comp=E,3.9nm,0.2s,SNR=10						
WTTA				*i* Sn	Sn	19 14 01.5	+2.6
	comp=E,18nm,0.5s						
DAVOX	Davos/Dischmat	4.49	330	Pn	Pn	19 13 10.6	+3.3
	comp=E,3.8nm,0.3s,baz=150,slow=16,SNR=23						
DAVOX				Sn	Sn	19 14 02.8	+3.2
	comp=E,0.7nm,0.3s,baz=124,slow=21,SNR=8.3						
	comp=E,19nm,0.6s						
SQTA	Sankt Quirin	4.50	343	*i* Pn	Pn	19 13 09.8	+2.3
	comp=E,15nm,0.4s,SNR=23						
SQTA				*i* Sn	Sn	19 14 00.6	+0.8
	comp=E,8.4nm,0.4s						
DRME	Dracevica, Mon	4.53	97	*e*Pn	Pn	19 13 08.8	+1.1
WATA	Walderalm	4.54	347	*e*Pn	Pn	19 13 10.2	+2.2
	comp=E,20nm,0.6s,SNR=24						
RUDO	Rudo	4.61	79	*e*Pn	Pn	19 13 10.7	+1.9
MOTA	Moosalm	4.64	343	*e*Pn	Pn	19 13 11.9	+2.5
	comp=E,11nm,0.5s,SNR=11						
MOTA				*e*Sn	Sn	19 14 05.7	+2.4
	comp=E,30nm,0.9s						
BBLS	Lazići	4.67	76	*e*Pn	Pn	19 13 11.6	+2.0
KOVH	Kovagotottos	4.75	47	P	Pn	19 13 09.5	-1.3
BIOA	Bad Ischl, Aus	4.78	4	*e*Pn	Pn	19 13 12.6	+1.4
	comp=E,7.7nm,0.3s,SNR=13						
RETA	Reutte	4.86	341	*i* Pn	Pn	19 13 14.9	+2.6
	comp=E,8.7nm,0.3s,SNR=22						
RETA				*e*Sn	Sn	19 14 12.7	+4.3
	comp=E,2.7nm,0.3s						
LMR	La Mourre	4.87	277	*e*P	Pn	19 13 12.3	0.0
LMR				*e*Sn	Sn	19 14 05.4	-3.1
	comp=E,1.1nm,0.3s						
JAUF	Jausiers	4.87	290	P	Pb	19 13 17.9	-6.7
DAVA	Damuels	4.93	333	*i* Pn	Pn	19 13 16.2	+2.9
	comp=E,7.6nm,0.3s,SNR=7.6						
DAVA				*e*Sn	Sn	19 14 13.3	+3.0
	comp=E,25nm,0.8s						
MBDF	Montbardon	4.94	293	*e*P	Pn	19 13 14.8	+1.3
MBDF				*e*Sn	Sn	19 14 10.2	-0.4
	comp=E,1.8nm,0.3s						
MOA	Molln	4.99	9	*i* Pn	Pn	19 13 15.3	+1.3
	comp=E,1.5nm,0.2s						
MOA				*i* Sn	Sn	19 14 12.1	+0.6
	comp=E,4.5nm,0.3s						
CREF	Crivoux	4.99	291	P	Pb	19 13 19.9	-6.8
EMBD	Embd, Matterta	5.01	313	P	Pn	19 13 18.3	+3.8
DIVS	Divibare	5.12	74	*e*Pn	Pn	19 13 19.1	+3.1
MORH	Mrgy, Hungar	5.13	48	⇑P	Pg	19 13 37.1	-0.4
MORH	Mrgy, Hungar	5.13	48	P	Pb	19 13 33.8	+4.9
TIR	Tirane	5.25	105	⇑P	Pn	19 13 18.7	+1.1
LPG	La Plagne	5.26	301	*e*P	Pn	19 13 19.9	+1.9
LPG				*e*Sn	Sn	19 14 17.3	-1.3
	comp=E,2.0nm,0.3s						
LPL	La Plagne	5.28	302	*e*P	Pn	19 13 19.5	+1.3
LPL				*e*Sn	Sn	19 14 17.7	-1.3
	comp=E,2.4nm,0.3s						
CONA	Conrad Observa	5.36	20	*i* Pn	Pn	19 13 19.2	+0.1
	comp=E,1.1nm,0.2s						
CONA				*e*Sn	Sn	19 14 18.5	-2.2
	comp=E,3.9nm,0.4s						
ARTF	Artigues	5.39	279	P	Pb	19 13 29.8	-3.7
RSL	Roselend	5.42	303	P	Pn	19 13 23.7	+3.5
RSL				S	Sn	19 14 27.8	+5.3
OGSI	Sixt	5.54	307	P	Pn	19 13 26.8	+5.2
AIGLE	Aigle	5.57	310	P	Pn	19 13 26.9	+4.8
AIGLE	Aigle	5.57	310	S	Sn	19 14 30.3	+4.3
SMRF	Simiane la Rot	5.60	283	*e*P	Pn	19 13 21.7	-0.8
SMRF				*e*Sn	Sn	19 14 23.2	-3.5
	comp=E,1.0nm,0.3s						
ORIF	Oris-en-Rattie	5.60	293	*e*P	Pn	19 13 22.0	-0.5
ORIF				*e*Sn	Sn	19 14 24.9	-1.9
	comp=E,1.5nm,0.4s						
ORIF	Oris-en-Rattie	5.60	293	P	Pn	19 13 28.0	+5.5
TORNY	Torny/Romont	5.83	313	P	Pn	19 13 28.8	+3.1
BALST	Balsthal	5.85	321	S	Sn	19 14 34.8	+1.9
BALST	Balsthal	5.85	321	P	Pn	19 13 28.1	+2.2
GERES	GERESS Array B	5.93	4	Pn	Pn	19 13 26.5	-0.6
	comp=E,0.6nm,0.3s,baz=174,slow=13,SNR=16						
GERES				Sn	Sn	19 14 32.1	-2.8
	comp=E,1.5nm,0.3s,baz=179,slow=25,SNR=8.6						
GERES				LR	LR	19 15 41.1	
	comp=E,25nm,21.6s,baz=156,slow=38						
	comp=E,0.8nm,0.3s						
CKRC	Cesky Krumlov	5.95	8	*e*PN	Pn	19 13 27.1	-0.1
CKRC				*e*SN	Sn	19 14 32.9	-2.3
BOURR	Bourrignon	6.11	319	P	Pn	19 13 31.5	+2.0
FELD	Feldberg im Sc	6.12	326	P	Pn	19 13 31.2	+1.4
MODS	Modra-Piesok	6.17	27	*e*PN	Pn	19 13 29.2	-1.1
BRANT	Les Verrieres	6.20	313	P	Pn	19 13 34.0	+3.3
BRANT	Les Verrieres	6.20	313	S	Sn	19 14 43.7	+2.2
KHC	Kasperske Hory	6.21	3	*e*PN	Pn	19 13 30.4	-0.4
KHC				*e*SN	Sn	19 14 39.9	-1.8
CABF	La Chapelle	6.22	309	*e*P	Pn	19 13 33.2	+2.2
CABF				*e*Sn	Sn	19 14 39.3	-2.7
	comp=E,0.7nm,0.2s						
KIZ	Kirchzarten	6.22	326	P	Pn	19 13 32.9	+1.9
CHMF	Charmoille	6.30	316	P	Pn	19 13 34.5	+2.5
VIVF	Saint-Julien-l	6.41	290	*e*P	Pn	19 13 34.6	+1.0
VIVF				*e*Sn	Sn	19 14 44.5	-2.1
	comp=E,0.6nm,0.2s						
VOGT	Vogtsburg - To	6.42	325	P	Pn	19 13 35.7	+2.0
VOGT	Vogtsburg - To	6.42	325	S	Sn	19 14 47.5	+0.6
MOF	Molkenrain	6.49	321	P	Pn	19 13 36.7	+2.1
MOF				S	Sn	19 14 50.3	+1.7
BOUC	Bouclans	6.50	314	P	Pn	19 13 38.0	+3.2
BOUC				S	Sn	19 14 50.5	+1.6
KRUC	Moravsky	6.54	19	*e*PN	Pn	19 13 35.4	+0.1
HINF	Hinteralfeld	6.59	320	*e*P	Pn	19 13 37.5	+1.5
HINF				*e*Sn	Sn	19 14 50.3	-0.8
	comp=E,2.9nm,0.2s						
RONF	Ronchamp	6.61	319	P	Pn	19 13 38.6	+2.3
RONF				S	Sn	19 14 52.7	+1.1
BZS	Buzias	6.66	63	⇓P	Pb	19 13 49.0	-6.0
ECH	Echery	6.75	324	P	Pn	19 13 39.7	+1.5
ECH				S	Sn	19 14 55.6	+0.7
WLS	Welschbruch	6.81	326	P	Pn	19 13 40.8	+1.6
WLS				S	Sn	19 14 57.1	+0.5
LASF	Ste Croix	6.84	283	*e*P	Pn	19 13 38.8	-0.7
LASF				*e*Sn	Sn	19 14 53.8	-3.5
	comp=E,2.6nm,0.2s						
CDF	Champ du Feu	6.85	325	*e*P	Pn	19 13 41.1	+1.5
CDF				*e*Sn	Sn	19 14 56.7	-0.7
	comp=E,2.1nm,0.2s						
VYHS	Vyhne	6.85	34	*e*PN	Pn	19 13 43.1	+3.6
HAU	Haudompre	6.96	319	*e*P	Pn	19 13 42.7	+1.5
HAU				*e*Sn	Sn	19 14 58.0	-2.2
	comp=E,7.7nm,0.2s						
BLKB	Belogradchik	7.00	81	⇑P	Pn	19 13 42.3	+0.6
PRU	Pruhonice	7.13	7	*e*SN	Sn	19 15 01.5	-2.7
NKC	Novy Kostel	7.32	357	*e*SN	Sn	19 15 08.6	-0.4
GZR	Gura Zlata	7.36	67	⇑P	Pn	19 13 49.2	+2.6
VTS	Vitosha	7.44	89	⇓P	Pn	19 13 50.0	+2.1
SMF	Signal de Mont	7.58	303	*e*P	Pn	19 13 51.0	+1.4
SMF				*e*Sn	Sn	19 15 10.5	-4.9
	comp=E,1.6nm,0.4s						
PAGF	Fort de Pagny	7.65	320	*e*P	Pn	19 13 53.0	+2.5
	baz=140						
PAGF				*e*Sn	Sn	19 15 11.7	-5.3
	comp=E,0.8nm,0.2s						
SFTF	Sexfontaines	7.75	316	*e*P	Pn	19 13 53.4	+1.5
	baz=134						
SFTF				*e*Sn	Sn	19 15 18.3	-1.2
	comp=E,1.2nm,0.3s						
KEST	Kesra	7.76	203	Pn	Pn	19 13 56.6	+4.4
	comp=E,0.1nm,0.3s,baz=43,slow=19,SNR=2.2						
	comp=E,2.2nm,0.8s						
LOR	Lormes	7.86	307	*e*P	Pn	19 13 55.0	+1.5
	baz=125						
LOR				*e*Sn	Sn	19 15 22.2	-0.2
	comp=E,2.2nm,0.3s						
MEZF	Maizieres J'vi	7.94	317	*e*P	Pn	19 13 56.8	+2.3
	baz=138						
MEZF				*e*Sn	Sn	19 15 23.8	-0.3
	comp=E,0.8nm,0.2s						
AVF	Avril sur Loir	7.95	302	*e*P	Pn	19 13 56.6	+2.0
AVF				*e*Sn	Sn	19 15 21.3	-3.1
	comp=E,0.8nm,0.3s						
BRG	Berggiesshubel	7.97	4	*e*P	Pn	19 14 02.6	+7.7
BRG				Amp		19 14 04.0	
	comp=Z,1.8nm,0.7s						
BRG				*e*x	x	19 15 18.2	
BRG				*e*x	x	19 16 24.6	
BRG				Amp		19 17 02.1	
	comp=Z,12nm,1.4s						
SSF	Saint Saulge	7.97	305	*e*P	Pn	19 13 56.2	+1.2
SSF				*e*Sn	Sn	19 15 19.4	-5.7
	comp=Z,1.4nm,0.4s						
SAVF	Savonnieres en	7.98	318	*e*Pn	Pn	19 13 51.7	-3.3
SAVF	Savonnieres en	7.98	318	*e*P	Pn	19 13 58.3	+3.3
	baz=138						
SAVF				*e*Sn	Sn	19 15 22.7	-2.4
	comp=Z,0.5nm,0.2s						
MTLF	Montolieu	8.00	277	*e*P	Pn	19 13 54.9	-0.4
BGF	Bois d'Agland	8.17	300	*e*P	Pn	19 13 59.3	+1.6
BGF				*e*Sn	Sn	19 15 25.2	-4.7
	comp=Z,1.6nm,0.3s						
CAF	Calviac	8.24	288	*e*Pn	Pn	19 13 54.8	-3.8
CLL	Collm	8.38	359	*e*Pn	Pn	19 14 00.0	-0.6
CLL				*e*Sn	Sn	19 15 13.0	-22
CLL				*e*x	x	19 15 31.0	
CLL				*e*x	x	19 15 54.0	
CLL				*e*x	x	19 16 09.0	
CLL				*e*Sg	Sg	19 16 22.0	-6.2
CLL				*e*x	x	19 16 33.0	
	comp=Z,14nm,1.2s						
TCF	Toulx Ste Croi	8.48	297	*e*P	Pn	19 14 02.9	+0.9
TCF				*e*Sn	Sn	19 15 34.7	-3.0
	comp=Z,0.5nm,0.3s						
HYF	Humbligny	8.60	304	*e*Pn	Pn	19 13 59.3	-4.2
EPF	Esparros	9.38	275	*e*Pn	Pn	19 14 11.4	-2.9
EPF				*e*Sn	Sn	19 15 48.9	-11
	comp=Z,0.4nm,0.2s						
IDI	Anoyia	11.89	126	Pn	Pn	19 14 48.1	-0.6
	comp=Z,0.1nm,0.3s,baz=233,slow=21,SNR=1.4						
	comp=Z,1.3nm,0.7s						
BRTR	Keskin Array B	15.73	95	LR	LR	19 22 55.0	
	comp=Z,28nm,18.0s,baz=124,slow=42						
FINES	FINESS Array B	20.10	18	P	P	19 16 31.2	-1.4
	baz=206,slow=5.7,SNR=2.0						
	comp=Z,3.5nm,1.1s						
TORD	Torodi Ar. Bea	31.28	202	P	P	19 18 22.5	+3.3
	comp=Z,0.2nm,0.4s,baz=15,slow=9.8,SNR=2.5						
	comp=Z,0.2nm,0.4s						
MKAR	Makanchi Array	47.73	60	P	P	19 20 35.0	-0.9
	comp=Z,0.6nm,0.7s,baz=281,slow=5.9,SNR=2.9						
	comp=Z,0.6nm,0.7s						
CMAR	Chiang Mai Arr	74.66	79	P	P	19 23 39.7	+0.8
	comp=Z,0.3nm,0.7s,baz=294,slow=6.8,SNR=2.5						
	comp=Z,0.3nm,0.7s						

*NEIC **05** 19:14:36.5±2.2, 53°.06N±0°.08×164°.57W±0°.06, h10km±2km, mb3.5/3, ML3.2/8, ML3.0(AEIC), Error ellipse: s-maj=13.4km s-min=5.6km az=174.0*

*AEIC **05** 19:14:40.0±2.5, 53°.14N±0°.09×164°.58W±0°.08, h34km±8km, Error ellipse: s-maj=13.0km s-min=6.7km az=169.0*

ISC 05 19:14:38.2±1.7, **53°.1N**±0°.1×**164°.54W**±0°.06, **h24**km, **n19**, σ**1s.00**/20, **Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKUT	Akutan	1.25	325		Pb	19 15 01.1	0.0
AKUT					Sn	19 15 14.6	-1.7
AKUT				IAML		19 15 22.5	
	comp=E,383nm,0.5s						
UNV	Unalaska Valle	1.38	302		Pn	19 15 02.4	+0.5
FALS	False Pass	1.86	20		Pn	19 15 10.2	+1.7
FALS	False Pass	1.86	20		Sb	19 15 33.8	-0.5
NIKH	Nikolski High	2.61	268		Pn	19 15 18.6	-0.3
SDPT	Sand Point	3.27	45	Pn	Pn	19 15 27.6	-0.3
SDPT				IAML		19 17 04.7	
	comp=N,52nm,4.9s						
CNBA	Chernabura Isl	3.38	58	Pn	Pn	19 15 29.7	+0.2
CNBA				IAML		19 17 27.3	
	comp=E,47nm,4.9s						
CHGN	Chignik	4.77	46	Pn	Pn	19 15 50.0	+1.5
CHGN				IAML		19 17 14.4	
	comp=N,17nm,4.7s						
CHIR	Chirikof Islan	5.86	59	Pn	Pn	19 16 03.7	+0.2
OHAK	Old Harbor	7.64	53	Pn	Pn	19 16 27.0	-0.9
KDAK	Kodiak Island	8.24	51	Pn	Pn	19 16 35.5	-0.6
Q19K	Cape Douglas,	8.42	42	Pn	Pn	19 16 38.1	-0.5
SCM	Sheep Creek Mo	12.68	40	Pn	Pn	19 17 36.2	-0.8
KLU	Klutina	13.05	43	Pn	Pn	19 17 41.1	-0.9
M26K	Nabesna, AK	14.71	42	Pn	Pn	19 18 03.9	-0.6
BCAR	Beaver Creek A	15.52	41	Pn	Pn	19 18 16.5	+1.2
J26L	Joseph Creek	15.65	35	Pn	Pn	19 18 18.2	+1.2
J26L				IAmb	IAmb	19 18 35.4	
	comp=Z,4.1nm,1.4s						
I26K	Coal Creek Min	16.28	33	Pn	Pn	19 18 26.0	+1.0
I26K				IAmb	IAmb	19 18 52.9	
	comp=Z,2.8nm,1.1s						
INK	Inuvik	21.12	32	P	P	19 19 21.8	+1.0
INK				IAmb	IAmb	19 19 37.7	
	comp=Z,4.2nm,1.3s						

NOU 05 19:18:07.9, 21°.22S×169°.96E, h108km, MLv3.9/11, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.82	261	P	Pn	19 18 38.6	+0.1
LIFNC	LIFOU	2.58	279	P	Pn	19 18 48.4	+0.1
YATNC	Mamie plateau,	2.98	253	P	Pn	19 18 52.9	-0.6
OUENC	Ouen Island, N	3.13	247	P	Pn	19 18 56.2	+0.6
DZM	Mont Dzumac	3.38	255	P	Pn	19 18 58.9	-0.1
ONTNC	Ouen Toro	3.43	251	P	Pn	19 18 59.6	0.0
RTV	Rentapao	3.70	337	P	Pn	19 19 03.3	0.0
DVP	Devils Point	3.86	334	P	Pn	19 19 05.8	+0.5
KOUNC	Koumac, New Ca	5.35	276	P	Pn	19 19 25.4	0.0

*IDC **05** 19:24:04.8±1.4, 3°.22S×130°.86E, h0km, mb3.9/2, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=69.2km s-min=21.2km az=87.0*

*DJA **05** 19:24:08.6±1.1, 3°S±4°×13°1E±°, h11km±8km, M3.5/10, mb3.7/1, mB4.6/1, MLv3.4/10, Mw(mB)3.7/1*

*NEIC **05** 19:24:09.0±1.5, 3°.27S±0°.08×130°.69E±0°.05, h33km±7km, mb4.0/8, Error ellipse: s-maj=12.2km s-min=6.8km az=161.0*

ISC 05 19:24:08.8±0.7, **3°.26S**±0°.05×**130°.76E**±0°.04, **h35**km, **n30**, σ**2s.53**/35, **mb4.1**/3, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.52	214	P	Pn	19 24 38.9	+5.4
FAKI	Fak Fak	1.52	77		Pn	19 24 34.8	+1.2
FAKI				Sn	Sn	19 24 54.4	+2.1
FAKI	Fak Fak	1.52	77	P	Pn	19 24 34.8	+1.2
FAKI				S	Sn	19 24 55.0	+2.8
MSAI	Masohi	1.83	267	P	Pn	19 24 40.9	+3.1
KRAI	Karang Ratu	2.36	268	P	Pn	19 24 47.5	+2.4
SIJI	Sorong	2.43	12	Pn	Pn	19 24 46.0	0.0
	4.0nm,0.3s,baz=162,slow=23,SNR=38						
SIJI				Sn	Sn	19 25 13.9	-0.6
	6.4nm,0.3s,baz=150,slow=6.9,SNR=7.0						
	7.8nm,0.3s						
SIJI	Sorong	2.43	12	P	Pn	19 24 46.0	0.0
SIJI				S	Sn	19 25 14.3	-0.2
AAI	Ambon	2.60	260	P	Pn	19 24 52.3	+3.9
NLAI	Namlea	3.65	270	P	Pn	19 25 09.8	+6.9
RKPI	Ransiki, Papua	3.83	63	P	Pn	19 25 06.5	+1.1
RKPI				S	Sn	19 25 49.8	+0.6
LBMI	Labuha	4.17	309	P	Pn	19 25 10.1	+0.1
SANI	Sanana	4.92	284	P	Pn	19 25 21.1	+0.8
SANI				S	Sn	19 26 13.7	-2.3
TNTI	Ternate	5.25	320	P	Pn	19 25 23.2	-1.6
LUWI	Luwuk	8.28	285	Pn	Pn	19 26 05.2	-1.3
MTN	Manton Dam	9.53	178	Pn	Pn	19 26 22.9	-0.8
KNRA	Kununurra	12.50	189	Pn	Pn	19 27 02.1	-2.2
COEN	Coen	16.23	132	Pn	Pn	19 27 54.0	-0.3
COEN				IAmb	IAmb	19 28 10.4	
	comp=Z,16nm,1.3s						
WB0	Warramunga Arr	16.79	168	P	Pn	19 27 59.9	-1.4
WRA	Warramunga Arr	16.95	168	Pn	Pn	19 28 02.3	-1.1
	comp=Z,0.1nm,0.3s,baz=351,slow=12,SNR=9.4						
WRA				Sn	Sn	19 31 01.2	-10
	comp=Z,0.1nm,0.3s,baz=334,slow=23,SNR=1.9						
	comp=Z,0.4nm,0.8s						
WRA	Warramunga Arr	16.95	168	P	Pn	19 28 01.7	-1.7
AS31	Alice Springs	20.52	172	P	P	19 28 45.4	+1.2
AS31				IAmb	IAmb	19 28 48.0	
	comp=Z,2.4nm,0.6s						
ASAR	Alice Springs	20.52	172	P	P	19 28 45.8	+1.6
	comp=Z,4.6nm,0.5s,baz=351,slow=11,SNR=114						
	comp=Z,4.6nm,0.5s						
PSA00	Pilbara Seismi	21.07	209	P	P	19 28 49.4	-0.8
PSA00				IAmb	IAmb	19 28 57.3	
	comp=Z,11nm,1.2s						
LWLI	Liwa	26.69	265	P	P	19 29 50.9	+5.8
EIDS	Eidsvold	29.42	140	P	P	19 30 09.0	-0.2
MK31	Makanchi Array	65.56	326	P	P	19 34 49.4	+0.4
MK31				IAmb	IAmb	19 34 52.4	
	comp=Z,2.5nm,1.2s						
MKAR	Makanchi Array	65.56	326	P	P	19 34 50.5	+1.5
	comp=Z,0.6nm,0.6s,baz=112,slow=8.2,SNR=7.5						
	comp=Z,0.6nm,0.6s						
MKAR	Makanchi Array	65.56	326	P	P	19 34 49.4	+0.4
QSPA	South Pole Qui	86.69	180		P	19 36 47.6	-1.3
TORD	Torodi Ar. Bea	128.73	284	PKP	PKiKP	19 43 14.8	+0.6
	comp=Z,0.4nm,0.9s,baz=75,slow=4.0,SNR=2.1						

*IDC **05** 19:28:46.4±1.8, 20°.35S×177°.40W, h532km±18km, mb3.1/6, mbtmp4.0/9, Error ellipse: s-maj=31.1km s-min=18.9km az=126.0*

*NEIC **05** 19:28:46.2±0.8, 20°.4S±0°.1×177°.5W±0°.2, h524km±10km, mb4.0/13, Error ellipse: s-maj=22.5km s-min=16.2km az=114.0*

ISC 05 19:28:46.6±0.7, **20°.3S**±0°.1×**177°.4W**±0°.1, **h550**km, **n32**, σ**1s.88**/36, **mb3.8**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.99	300	P	P	19 30 16.0	-0.5
	5.4nm,0.7s,baz=140,slow=22,SNR=8.5						
MSVF	Nonsavu	4.99	300	P	P	19 30 15.8	-0.8
AFI	Afiamalu	8.31	41	P	P	19 30 46.8	-0.7
	16nm,0.5s,baz=227,slow=19,SNR=4.4						
AFI				S	S	19 32 21.3	-5.4
	19nm,0.9s,baz=321,slow=17,SNR=1.3						
AFI	Afiamalu	8.31	41	P	P	19 30 46.7	-0.9
MARNC	Mare, Loyalty	13.67	262	P	P	19 31 40.1	-2.3
DZM	Mont Dzumac	15.18	260	P	P	19 31 53.4	-4.6
DZM				IAmb	IAmb	19 32 06.4	
	comp=Z,4.7nm,1.0s						
URZ	Urewera	18.54	194	P	P	19 32 29.5	+0.4
	comp=Z,3.1nm,0.3s,baz=9.2,slow=2.6,SNR=12						
BKZ	Black Stump Fm	19.55	194	P	P	19 32 37.5	-0.9
BKZ				IAmb	IAmb	19 32 48.5	
	comp=Z,6.6nm,1.1s						
STKA	Stephens Creek	38.39	244	P	P	19 35 21.9	+0.6
	comp=Z,2.6nm,1.1s,baz=117,slow=13,SNR=3.6						
	comp=Z,2.6nm,1.1s						
STKA	Stephens Creek	38.39	244	P	P	19 35 20.8	-0.5
STKA				IAmb	IAmb	19 35 36.1	
	comp=Z,2.3nm,1.5s						
BBOO	Buckleboo	43.15	243	P	P	19 35 59.1	0.0
AS31	Alice Springs	45.12	256	P	P	19 36 14.6	+0.1
ASAR	Alice Springs	45.12	256	P	P	19 36 15.4	+1.0
	comp=Z,0.5nm,0.6s,baz=87,slow=9.0,SNR=11						
ASAR				PcP	PcP	19 37 45.4	+2.1
	comp=Z,0.5nm,0.9s,baz=116,slow=3.6,SNR=3.0						
ASAR				S	S	19 42 11.9	-2.2
	comp=Z,0.6nm,0.9s,baz=102,slow=15,SNR=4.6						
	comp=Z,0.5nm,0.6s						
ASAR	Alice Springs	45.12	256	P	P	19 36 14.2	-0.2
WB0	Warramunga Arr	45.17	262	P	P	19 36 14.8	0.0
WB0				IAmb	IAmb	19 36 32.6	
	comp=Z,3.2nm,1.1s						
WRA	Warramunga Arr	45.19	262	P	P	19 36 15.2	+0.2
	comp=Z,0.3nm,0.3s,baz=97,slow=7.5,SNR=29						
WRA				S	S	19 42 13.7	-1.5
	comp=Z,0.3nm,0.8s,baz=98,slow=12,SNR=1.5						
	comp=Z,0.3nm,0.3s						
WRA	Warramunga Arr	45.19	262	P	P	19 36 15.1	0.0
SOEI	Soe	57.06	271	P	P	19 37 41.4	+0.1
SOEI				IAmb	IAmb	19 37 59.0	
	comp=Z,8.4nm,0.9s						
QSPA	South Pole Qui	69.79	180	P	P	19 39 01.0	-0.8
MJAR	Matsushiro Arr	70.37	323	P	P	19 39 07.2	+1.8
	comp=Z,1.0nm,0.5s,baz=159,slow=6.1,SNR=8.8						
	comp=Z,1.0nm,0.5s						
MAJO	Matsushiro	70.37	323	P	P	19 39 07.1	+1.6
MAJO				IAmb	IAmb	19 39 15.7	
	comp=Z,14nm,1.3s						
SSLB	Suanglung	74.32	303	P	P	19 39 29.0	+0.4
TPUB	Ta-pu	74.33	303	P	P	19 39 28.9	+0.3
HDA	Harding Lake	87.64	13	P	P	19 40 39.3	+3.1
HDA				IAmb	IAmb	19 40 44.9	
	comp=Z,7.1nm,1.4s						
CCB	Clear Creek Bu	87.68	12		P	19 40 39.3	+3.0
IMAR	Indian Mountai	87.85	9	P	P	19 40 40.4	+3.3
ILAR	Eielson Array	87.98	13	P	P	19 40 39.6	+1.8
	comp=Z,3.3nm,1.3s,baz=221,slow=5.4,SNR=5.0						
	comp=Z,3.3nm,1.3s						
CMAR	Chiang Mai Arr	90.57	289	P	P	19 40 52.9	+2.1
	comp=Z,0.4nm,0.4s,baz=111,slow=3.9,SNR=5.3						
	comp=Z,0.4nm,0.4s						
AKASG	Malin Array Be	143.09	332	PKP	PKPdf	19 47 18.0	0.0
	comp=Z,1.5nm,0.5s,baz=47,slow=4.2,SNR=8.0						
BUR08	Bucovina Ar. S	147.13	331		PKPab	19 47 32.5	+0.8
BURAR	Bucovina Array	147.14	331		PKPab	19 47 32.5	+0.8
CLL	Collm	147.97	348	*e*PKPbc	PKPab	19 47 34.0	-0.8

*SOME **05** 19:35:42.0, 39°.47N×73°.33E, h10km*

*KRNET **05** 19:35:45.0±0.1, 39°.36N×73°.61E, mb3.0*

*NNC **05** 19:35:46.5±3.7, 39°.51N×73°.74E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=26.5km s-min=14.4km az=170.0*

ISC 05 19:35:38.4±1.8, **39°.25N**±0°.08×**73°.73E**±0°.05, **h10**km, **n28**, σ**1s.65**/47, **11C-7D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHH	Osh	1.47	331	⇓*e*P	Pg	19 36 09.5	+2.9
	baz=32						
OHH				⇓*e*S	Sg	19 36 27.7	+2.0
	baz=32						
DRK	Karamyk	1.52	279	⇑*e*P	Pg	19 36 11.1	+3.6
	baz=75						
DRK				⇑*e*S	Sg	19 36 30.4	+3.2
	baz=75						
BTK	Batken	2.39	291	⇑*e*P	Pg	19 36 24.7	+0.4
	baz=89						
BTK				⇑*e*S	Sg	19 36 53.8	-1.5
	baz=89						
GAR	Garm	2.67	266	⇓*e*P	Pg	19 36 29.4	-0.2
	baz=63						
GAR				⇓*e*S	Sg	19 37 01.6	-2.6
	baz=63						
ARK	Arkit	2.88	333	⇑*e*P	Pb	19 36 31.3	+1.3
	baz=33						
ARK				⇑*e*S	Sb	19 37 05.1	-0.3
	baz=33						
TRKS	Terek-Say	3.02	320	⇑*e*P	Pb	19 36 32.2	-0.2
	baz=19						
TRKS				⇑*e*S	Sb	19 37 07.0	-2.4
	baz=19						
UCH	Uchtor	3.04	11	⇓*i*P	Pb	19 36 34.3	+1.5
	baz=13						
UCH				⇓*e*S	Sb	19 37 10.4	+0.3
	baz=13						
MRKS	Merke	3.52	354	*e*P	Pb	19 36 42.0	+1.2
	2.2nm,0.3s						
MRKS				*e*S	Sb	19 37 25.5	+1.9
	22nm,0.5s						
MRKS	Merke	3.52	354	Pg	Pb	19 36 42.0	+1.2
	2.2nm,0.3s						
MRKS				Lg	Lg	19 37 26.1	
	22nm,0.5s						
IUG	Iuzhnay	4.04	317	*e*P	Pb	19 36 49.5	-0.2
	29nm,0.3s						
IUG				*e*S	Sb	19 37 37.9	-0.8
	9.3nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	4.04	317	Pg	Pb	19 36 49.5	-0.2
	29nm,0.3s						
IUG				Lg	Lg	19 37 38.6	
	9.3nm,0.8s						
KST	Kastek	4.15	23	eP	Pg	19 36 56.2	-1.7
	1.6nm,0.2s						
KST				eS	Sg	19 37 49.5	-2.1
	3.3nm,0.5s						
KST	Kastek	4.15	23	Pg	Pg	19 36 56.2	-1.7
	1.6nm,0.2s						
KST				Lg	Lg	19 37 49.9	
	3.3nm,0.5s						
DGS	Degeres	4.28	20	eP	Pg	19 37 00.4	0.0
	1.6nm,0.4s						
DGS				eS	Sg	19 37 57.1	+1.3
	6.0nm,0.6s						
DGS	Degeres	4.28	20	Pg	Pg	19 37 00.4	0.0
	1.6nm,0.4s						
DGS				Lg	Lg	19 37 57.1	
	6.0nm,0.6s						
MTBS	Maitube	4.38	27	eP	Pg	19 37 02.2	-0.1
	0.7nm,0.1s						
MTBS				eS	Sg	19 37 59.9	+0.9
	3.7nm,0.3s						
MTBS	Maitube	4.38	27	Pg	Pg	19 37 02.2	-0.1
MTBS				Lg	Lg	19 38 00.4	
KK31	Karatay Array	4.55	329	⇓Pn	Pb	19 36 56.3	-2.2
	0.1nm,0.2s,baz=129,slow=11,SNR=11						
KK31				⇑Pg	Pg	19 37 05.3	-0.4
	0.5nm,0.4s,baz=136,slow=17,SNR=6.6						
KK31				⇑Sn	Sb	19 37 48.1	-5.3
	0.8nm,0.4s,baz=140,slow=23						
KK31				⇑Lg	Lg	19 38 03.1	
	1.2nm,0.4s,baz=148,slow=28						
MDOK	Medeo	4.64	32	eP	Pg	19 37 07.4	0.0
	1.3nm,0.6s						
MDOK				eS	Sg	19 38 08.7	+1.1
	4.5nm,0.7s						
MDOK	Medeo	4.64	32	Pg	Pg	19 37 07.4	0.0
	1.3nm,0.6s						
MDOK				Lg	Lg	19 38 08.7	
	4.5nm,0.7s						
KRBS	Karabastau	4.68	18	eP	Pg	19 37 07.4	-0.6
	0.6nm,0.4s						
KRBS				eS	Sg	19 38 09.1	+0.4
	4.2nm,0.6s						
KRBS	Karabastau	4.68	18	Pg	Pg	19 37 07.4	-0.6
	0.6nm,0.4s						
KRBS				Lg	Lg	19 38 09.1	
	4.2nm,0.6s						
KOTS	Kotyrbulak	4.73	32	eP	Pg	19 37 09.6	+0.6
	0.8nm,0.3s						
KOTS				eS	Sg	19 38 12.6	+2.3
	12nm,0.6s						
KOTS	Kotyrbulak	4.73	32	Pg	Pg	19 37 09.6	+0.6
	0.8nm,0.3s						
KOTS				Lg	Lg	19 38 12.6	
	12nm,0.6s						
KTBS	Karatobe	4.98	25	eP	Pg	19 37 13.0	-0.8
	0.6nm,0.2s						
KTBS				eS	Sg	19 38 18.4	+0.1
	7.0nm,0.6s						
KTBS	Karatobe	4.98	25	Pg	Pg	19 37 13.0	-0.8
KTBS				Lg	Lg	19 38 18.4	
KUU	Kurty	5.04	22	eP	Pg	19 37 13.6	-1.3
	1.3nm,0.6s						
KUU				eS	Sg	19 38 19.3	-0.8
	6.7nm,0.7s						
KUU	Kurty	5.04	22	Pg	Pg	19 37 13.6	-1.3
	1.3nm,0.6s						
KUU				Lg	Lg	19 38 19.3	
	6.7nm,0.7s						

IDC 05 19:51:59.1±2.3**,2°.05N**×**127°.90E,h0km,mb3.2**/3**, mbtmp3.2**/3**,Error ellipse: s-maj=146.3km s-min=28.5km az=67.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.75	164	P	P	19 57 03.6	+0.4
	0.4nm,0.5s,baz=344,slow=11,SNR=6.9						
	0.4nm,0.5s						
ASAR	Alice Springs	26.23	167	P	P	19 57 35.5	-0.6
	0.2nm,0.6s,baz=353,slow=7.2,SNR=5.2						
	0.2nm,0.6s						
MKAR	Makanchi Array	59.59	325	P	P	20 02 05.0	+0.2
	0.2nm,0.6s,baz=126,slow=7.3,SNR=1.8						
	0.2nm,0.6s						

IDC 05 19:52:48.0±2.2**,2°.48N**×**126°.20E,h0km,mb3.3**/3**, mbtmp3.3**/3**,Error ellipse: s-maj=181.1km s-min=27.8km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.67	161	P	P	19 58 01.5	0.0
	0.5nm,0.5s,baz=339,slow=10,SNR=9.0						
	0.5nm,0.5s						
ASAR	Alice Springs	27.05	164	P	P	19 58 32.4	+0.1
	0.2nm,0.5s,baz=344,slow=7.8,SNR=8.4						
	0.2nm,0.5s						
MKAR	Makanchi Array	58.28	326	P	P	20 02 44.5	-0.1
	0.1nm,0.5s,baz=114,slow=6.3,SNR=1.8						
	0.1nm,0.5s						

OSPL ***05*** *20:00:59.4±1.3, 18°.02N×74°.49W, h24km±40km, ML2.9*
SSNC ***05*** *20:01:01.9±1.4, 18°.30N×74°.24W, h7km±14km, MD3.3, ML2.7, MW3.3*
ISC 05 20:00:56.6±3.3**,18°.17N**±0°.08×**74°.38W**±0°.04**,h6**km±24km**, n11,**σ**1°.31**/22**,Haiti region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTBY	Guantanamo Bay	1.88	339	eP	Pn	20 01 30.1	+0.9
GTBY				eS	Sn	20 01 52.1	-1.1
GTBY	Guantanamo Bay	1.88	339	i P	Pb	20 01 30.4	-0.9
GTBY				eS	Sn	20 01 52.5	-0.7
GTBY				IAML		20 01 55.6	
	comp=Z,47nm,0.8s						
PAPH	Port-au-Prince	2.01	80	i P	Pn	20 01 31.5	+0.5
PAPH				eS	Sn	20 01 55.6	-0.9
PAPH				IAML		20 01 57.9	
	comp=Z,135nm,0.4s						
RCC	Rio Carpintero	2.20	326	eP	Pb	20 01 35.5	-1.2
RCC				eS	Sn	20 02 01.8	+0.7
RCC				eSg	Sb	20 02 04.4	+0.2
RCC				IAML		20 02 04.7	
	comp=E,35nm,0.3s						
RCC				IAML		20 02 04.9	
	comp=N,38nm,0.2s						
LOPE2	Hotel El Peder	2.51	93	i P	Pn	20 01 38.8	+0.9
LOPE2				eS	Sn	20 02 08.0	-0.9
LOPE2				IAML		20 02 12.9	
	comp=Z,61nm,0.6s						
MTDJ	Mount Denham	3.00	272	eP	Pb	20 01 49.3	-1.2
MTDJ				eS	Sb	20 02 28.4	+1.1
SDDR	Presa de Saban	3.04	74	eP	Pn	20 01 46.0	+0.7
SDDR				eS	Sn	20 02 21.8	-0.3
SDDR	Presa de Saban	3.04	74	i P	Pn	20 01 47.0	+1.7
SDDR				eS	Sn	20 02 22.5	+0.4
SDDR				IAML		20 02 29.5	
	comp=Z,25nm,0.8s						
LMGC	Las Mercedes	3.11	308	eP	Pn	20 01 47.9	+1.7
LMGC				eS	Sn	20 02 22.5	-1.2
LMGC				IAML		20 02 25.5	
	comp=N,46nm,0.3s						
LMGC				IAML		20 02 25.8	
	comp=E,22nm,0.2s						
HLGC	Holguin	3.13	330	eP	Pn	20 01 49.0	+2.6
CCCC	Cccc	4.38	314	eP	Pn	20 02 04.5	+0.8
CCCC				eS	Sn	20 02 52.8	-2.3
CCCC				IAML		20 02 55.5	
	comp=E,4.0nm,0.5s						
CCCC				IAML		20 02 57.4	
	comp=N,2.2nm,0.3s						

TAP ***05*** *20:04:27.8, 24°.90N×122°.23E, h107km±1km, ML2.6, D*
JMA ***05*** *20:04:28.2±0.3, 25°N±4°×122°.2E±1°.0, h109km±3km, MV1.8/8, TAIWAN REGION*
ISC 05 20:04:28.9±1.9**,24°.90N**±0°.07×**122°.23E**±0°.04**, h101**km±11km**,n46,**σ**0°.73**/77**,Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.24	296	eP	Pn	20 04 43.4	+0.1
	baz=285						
TWB1				eS	Sn	20 04 53.5	-0.5
	baz=285						
EGS		0.27	258	eP	Pn	20 04 43.8	+0.4
	baz=249						
TIPB	Shuangxi	0.37	281	eP	Pn	20 04 43.9	-0.1
	baz=271						
SXI1	Grass Mountain	0.37	301	eP	Pn	20 04 43.5	-0.5
	baz=301						
TWE	Neicheng	0.54	251	P	Pn	20 04 45.4	+0.4
	baz=255						
TWE				eS	Sn	20 04 59.4	+2.2
	baz=255						
FUSB	Fushanzhiwuyua	0.60	256	P	Pn	20 04 45.2	-0.4
	baz=260						
FUSB				eS	Sn	20 04 58.8	+0.7
	baz=260						
EWUT	Wuta	0.61	222	S	Sn	20 04 57.5	-0.6
	baz=216						
NHDH	Xindian Distri	0.64	276	eP	Pn	20 04 45.6	-0.2
	baz=275						
NHDH				eS	Sn	20 04 59.6	+1.1
	baz=275						
YM01	YM01	0.64	292	eP	Pn	20 04 45.8	-0.1
	baz=286						
YM01				eS	Sn	20 04 58.5	-0.2
	baz=286						
ENA	Nanau	0.65	223	eP	Pn	20 04 46.2	+0.3
	baz=215						
ENA				eS	Sn	20 05 00.0	+1.3
	baz=215						
ENTT	Nioudou	0.66	247	P	Pn	20 04 45.5	-0.5
	baz=249						
NDT	Datong Townshi	0.71	246	eP	Pn	20 04 44.9	-1.6
	baz=244						
NDT				eS	Sn	20 04 59.0	-0.8
	baz=244						
LATG	Datong	0.73	240	eP	Pn	20 04 47.5	+0.7
	baz=239						
LATG				S	Sn	20 05 01.6	+1.3
	baz=239						
JYNG	Yonagunijimaku	0.79	124	P	Pn	20 04 47.2	0.0
JYNG				eS	Sn	20 05 01.3	+0.3
YHNB	Yeheng	0.81	254	P	Pn	20 04 47.6	+0.2
	baz=253						
YHNB				S	Sn	20 05 01.3	-0.2
	baz=253						
NSK	Sanguang	0.82	254	P	Pn	20 04 46.8	-0.8
	baz=253						
NSK				S	Sn	20 05 00.6	-1.1
	baz=253						
NNSB	Datong	0.90	239	eP	Pn	20 04 48.7	+0.2
	baz=245						
NNSB				eS	Sn	20 05 03.3	+0.1
	baz=245						
NNS	Nan Shan	0.90	240	eP	Pn	20 04 48.0	-0.5
	baz=245						
NNS				eS	Sn	20 05 02.4	-0.8
	baz=245						
NACB	Ninganchiao	0.93	219	eS	Sn	20 05 03.1	-0.3
	baz=212						
ETLH	Xiulin Townshi	0.97	225	eP	Pn	20 04 49.0	-0.2
	baz=232						
ETLH				S	Sn	20 05 04.1	-0.3
	baz=232						
TWD	Chiawan	1.00	215	eP	Pn	20 04 49.3	0.0
	baz=210						
TWD				eS	Sn	20 05 04.5	-0.2
	baz=210						
NFF	Wufeng Townshi	1.04	255	eP	Pn	20 04 48.8	-1.1
	baz=255						
NFF				S	Sn	20 05 04.4	-1.4
	baz=255						
FUSS	Fushou	1.11	234	P	Pn	20 04 51.0	+0.2
	baz=225						
FUSS				eS	Sn	20 05 07.2	-0.1
	baz=225						
LIOB	Emei	1.13	257	eP	Pn	20 04 50.8	0.0
	baz=248						
LIOB				eS	Sn	20 05 07.2	-0.2
	baz=248						
NSTT	Nanjuang	1.15	257	eP	Pn	20 04 51.0	+0.1
	baz=248						
NSTT				S	Sn	20 05 07.3	-0.4
	baz=248						
TWT	Tachien	1.16	236	eS	Sn	20 05 09.2	+1.0
	baz=228						
WHF	Hehuan Shan	1.16	230	P	Pn	20 04 51.9	+0.3
	baz=223						
WHF				S	Sn	20 05 08.6	0.0
	baz=223						
CHGB	Renai	1.27	229	eP	Pn	20 04 53.1	+0.4
	baz=227						
CHGB				eS	Sn	20 05 10.6	0.0
	baz=227						
ESL	Shilin	1.30	214	eP	Pn	20 04 51.7	-1.1
	baz=218						
ESL				eS	Sn	20 05 09.1	-1.9
	baz=218						
OWD	Renai	1.34	226	eP	Pn	20 04 53.3	-0.1
	baz=219						
WUSB	Renai	1.36	228	eP	Pn	20 04 53.9	+0.3
	baz=226						
WUSB				eS	Sn	20 05 12.2	-0.1
	baz=226						
EGFH	Guangfu	1.43	211	eP	Pn	20 04 53.4	-0.9
	baz=209						
IRIF	Iriomote-Funau	1.48	112	P	Pn	20 04 54.4	-0.5
VWDT	VWDT	1.51	221	eP	Pn	20 04 55.5	+0.2
	baz=214						
VWDT				eS	Sn	20 05 16.0	+0.6
	baz=214						
SMLT	Sun Moon Lake	1.58	230	eP	Pn	20 04 56.7	+0.5
	baz=238						
HGSD	Ruisui	1.58	208	eP	Pn	20 04 56.1	-0.2
	baz=213						
HGSD				eS	Sn	20 05 16.6	-0.3
	baz=213						
TYC	Yuchr	1.60	232	eP	Pn	20 04 57.0	+0.7
	baz=237						
TYC				eS	Sn	20 05 17.7	+0.5
	baz=237						
SSLB	Suanglung	1.61	227	eP	Pn	20 04 56.9	+0.4
	baz=228						
SSLB				eS	Sn	20 05 18.3	+0.8
	baz=228						
YULB	Yu-li	1.73	210	eP	Pn	20 04 56.3	-1.7
	baz=208						
WHYT	Xinyi Township	1.74	227	eP	Pn	20 04 58.7	+0.5
	baz=232						
WHYT				eS	Sn	20 05 21.6	+1.2
	baz=232						
JKRS	Kuro-shima	1.75	112	P	Pn	20 04 58.5	+0.2
JIJ	Ishigaki jima	1.82	107	P	Pn	20 04 58.9	-0.3
JIJ				S	Sn	20 05 22.2	-0.1
FULB	Fuli	1.90	207	eP	Pn	20 05 00.5	+0.3
	baz=211						
ALS	Alishan	1.90	223	eP	Pn	20 05 00.9	+0.5
	baz=230						
ALS				eS	Sn	20 05 25.9	+1.4
	baz=230						
JISG	Ishigakijimahi	1.92	99	P	Pn	20 05 00.5	+0.1
JISG				eS	Sn	20 05 24.9	+0.4
ELDTW	Lidau	2.03	213	eP	Pn	20 05 01.3	-0.7
	baz=207						

IDC ***05*** *20:11:46.1±4.5, 34°.02N×94°.41E, h48km±46km, mb3.3/7, mbtmp3.6/10, ML3.4/3, MS3.2/2, Error ellipse: s-maj=48.9km s-min=17.9km az=61.0*
ISC 05 20:11:44.6±0.8**,33°.99N**±0°.09×**94°.4E**±0°.1**,h35**km**,n16,** σ**0°.98**/15**,mb3.7**/6**,Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIRN	Jiri	9.43	230	eP	Pn	20 13 58.4	+0.1
GUN	Gumba	9.46	232	eP	Pn	20 13 59.0	+0.3
	14nm,0.5s						
RAMN	Ramite	9.69	226	eP	Pn	20 13 59.5	-2.2
PKI	Pulchoki	10.00	233	eP	Pn	20 14 05.3	-0.8
	12nm,0.5s						
PKIN	Phulchoki	10.00	233	eP	Pn	20 14 05.5	-0.6
	12nm,0.4s						
MKAR	Makanchi Array	15.72	328	P	Pn	20 15 23.7	+0.5
	0.1nm,0.3s,baz=124,slow=15,SNR=2.2						
	0.2nm,0.6s						
CMAR	Chiang Mai Arr	16.01	164	P	Pn	20 15 28.6	+1.5
	0.1nm,0.3s,baz=336,slow=11,SNR=8.4						
	0.8nm,0.9s						
SONM	Songino Array	16.53	30	P	P	20 15 34.8	-1.2
	0.3nm,0.3s,baz=214,slow=12,SNR=13						
SONM				LR	LR	20 22 32.0	
	comp=Z,60nm,21.6s,baz=176,slow=39						
	1.7nm,0.6s						
KURBB	Kurchatov Arra	20.25	330	P	P	20 16 16.4	-0.3
	0.9nm,0.7s,baz=138,slow=11,SNR=9.5						
	0.9nm,0.7s						
ZALV	Zalesovo Beam	21.06	344	P	P	20 16 25.6	+0.2
	0.4nm,0.6s,baz=149,slow=6.7,SNR=2.1						
	0.4nm,0.6s						
BVAR	Borovoye Array	25.56	325	P	P	20 17 10.8	+0.9
	1.2nm,0.7s,baz=126,slow=7.5,SNR=6.6						
	1.2nm,0.7s						
FINES	FINESS Array B	50.52	325	P	P	20 20 39.6	+0.7
	2.3nm,0.9s,baz=104,slow=3.4,SNR=4.1						
	2.3nm,0.9s						
NOA	NORSAR Array B	57.69	325	LR	LR	20 46 54.9	
	comp=Z,27nm,21.1s,baz=175,slow=36						
WRA	Warramunga Arr	65.79	138	P	P	20 22 26.4	+0.1
	1.0nm,1.1s,baz=321,slow=8.6,SNR=8.5						
	1.0nm,1.1s						
ASAR	Alice Springs	68.58	141	P	P	20 22 43.7	-0.3
	0.7nm,0.7s,baz=327,slow=6.4,SNR=13						
	0.7nm,0.7s						
ILAR	Eielson Array	70.64	23	P	P	20 22 55.8	-0.3
	0.3nm,0.6s,baz=302,slow=5.2,SNR=2.6						
	0.3nm,0.6s						

CRAAG ***05*** *20:43:22.5, 36°.02N×4°.08E, Ml4.7*
IDC ***05*** *20:43:23.1±0.7, 35°.99N×4°.02E, h0km, mb4.0/16, mbtmp4.0/24, ML4.0/8, MS3.5/38, Error ellipse: s-maj=19.4km s-min=13.6km az=155.0*
LDG ***05*** *20:43:24.4±0.2, 35°.82N×4°.26E, h10km, Ml3.5/39, Error ellipse: s-maj=3.7km s-min=2.9km az=168.0*
MDD ***05*** *20:43:24.8±0.6, 35°.88N×4°.10E, h8km±6km, Mb4.9/38, M_mb4.4/38, Error ellipse: s-maj=6.8km s-min=3.1km az=145.0*
CNRM ***05*** *20:43:24.2, 36°.01N×4°.05E, h3km, ml4.6*
NEIC ***05*** *20:43:24.4±1.7, 35°.93N±0°.06×4°.01E±0°.06, h10km±1km, mb4.2/24, Error ellipse: s-maj=11.6km s-min=7.0km az=150.0*
MED_RC ***05*** *20:43:25.0±1.1, 36°.15N×4°.05E, h10km, MW4.3/16, Moment Tensor Solution.Mantle waves: s16,c20; Duration: 1s.0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.02±.16; $M_{\theta\theta}$-1.83±.16; $M_{\phi\phi}$1.81±.16; $M_{r\theta}$-1.77±.49; $M_{\theta\phi}$-2.13±.14; $M_{\phi r}$0.66±.47; Best double couple: $M_0$3.38000×10^{15} NP1:ϕ_s290.00000°,δ90.00000°, λ146.00000°. NP2:ϕ_s20.00000°,δ56.00000°,λ0.00000°. Principal axes: T 3.3800, Plg24.0000°, Azm240.0000°; N 0.0000, Plg56.0000°, Azm110.0000°; P -3.3800, Plg23.0000°, Azm341.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ISC 05 20:43:25.1±0.9**,36°.08N**±0°.04×**4°.00E**±0°.04**,h12**km±5km**, n293,**σ**2°.19**/314**,mb4.1**/22**,MS3.6**/30**,45C-21D,Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKET	Djebel Ketaf	0.10	254	P	Pg	20 43 27.0	-1.2
ADJB	Djebel Djouab	0.46	280	P	Pg	20 43 34.1	-0.2
ABMS	Boumerdes	0.80	328	P	Pb	20 43 40.9	0.0
ECHA	Ech Chlef	2.13	273	P	Pn	20 44 00.0	-0.5
EANR	'Ain N'Sour	2.36	268	P	Pn	20 44 04.1	+0.5
ODJA	Bouhanifia	3.46	259	P	Pn	20 44 20.0	+1.2
USTO	Oran	3.71	266	P	Pb	20 44 31.0	+0.4
ETOS	Mallorca	3.81	346	P	Pn	20 44 24.1	+0.6
ETOS				⇑iVmb_V		20 44 24.5	
	2μm,SNR=3.0						
ETOS				S	Sn	20 45 05.2	-3.0
MAHO	Mahon	3.82	3	P	Pn	20 44 23.9	+0.2
MAHO				S	Sn	20 45 02.2	-6.3
MAHO	Mahon	3.82	3		Pn	20 44 23.8	+0.1
OTSS	Djebel Tessala	3.98	260	P	Pn	20 44 28.0	+1.9
CART	Cartagena	4.29	292	P	Pn	20 44 30.1	0.0
CART				S	Sn	20 45 20.0	0.0
CART	Cartagena	4.29	292	Pn	Pn	20 44 30.0	-0.2
CART	Cartagena	4.29	292	P	Pn	20 44 30.8	+0.6
CART	Cartagena	4.29	292	P	Pn	20 44 30.9	+0.8
I48TN	KESRA INFRASON	4.33	92	I	I	21 07 50.0	
	baz=276,slow=302,SNR=1.4						
KEST	Kesra	4.35	93	Pn	Pn	20 44 30.5	-0.6
	5.3nm,0.3s,baz=248,slow=3.8,SNR=50						
KEST				Sn	Sn	20 45 20.4	-1.4
	5.0nm,0.3s,baz=32,slow=21,SNR=1.9						
KEST				LR	LR	20 46 13.2	
	comp=Z,217nm,18.7s,baz=352,slow=39						
	64nm,0.7s						
KEST	Kesra	4.35	93	Pn	Pn	20 44 30.9	-0.2
AFON	Font Roja	4.45	307	P	Pn	20 44 34.4	+2.0
AFON				⇑iVmb_V		20 44 36.8	
	539nm,SNR=2.0						
AFON				S	Sn	20 45 25.0	+0.9
EMUR	La Murta	4.55	294	P	Pn	20 44 34.3	+0.5
EMUR				⇑iVmb_V		20 44 37.2	
	2μm,SNR=12						
EMUR				S	Sn	20 45 26.8	+0.1
ECOL	Islas Columbre	4.63	327	P	Pn	20 44 36.1	+1.3
ELOR	Lorca, Murcia	4.87	290	P	Pn	20 44 37.9	-0.2
ELOR				⇑iVmb_V		20 44 42.4	
	3μm,SNR=4.4						
ELOR				S	Sn	20 45 32.6	-1.8
EZAR	Zarzadilla de	4.90	293	P	Pn	20 44 38.7	0.0
EZAR				⇑iVmb_V		20 44 39.2	
	2μm,SNR=3.9						
ENIJ	Nijar	5.08	282	P	Pn	20 44 40.3	-0.7
ENIJ				⇑iVmb_V		20 44 42.0	
	2μm,SNR=7.9						
ENIJ				S	Sn	20 45 38.7	-0.9
ETOB	Tobarra	5.11	302	P	Pn	20 44 43.2	+1.6
ETOB				⇑iVmb_V		20 44 47.4	
	1μm,SNR=7.0						
ETOB				S	Sn	20 45 39.1	-1.3
ECHE	Chera	5.27	313	P	Pn	20 44 45.3	+1.6
ECHE				⇑iVmb_V		20 44 52.5	
	1μm,SNR=5.3						
ECHE				S	Sn	20 45 48.7	+4.3
CHAS	Isla Isabel II	5.31	262	P	Pn	20 44 44.5	+0.2
TAF	Taforalt	5.39	258	P	Pn	20 44 45.6	+0.2
TAF	Taforalt	5.39	258	P	Pn	20 44 45.8	+0.5
EMOS	Mosqueruela	5.54	322	P	Pn	20 44 48.7	+1.1
EMOS				⇑iVmb_V		20 44 51.2	
	532nm,SNR=1.4						
EMOS				S	Sn	20 45 49.2	-2.1
EBER	Berja	5.61	280	P	Pn	20 44 48.2	-0.4
EBER				⇑iVmb_V		20 44 50.6	
	779nm,SNR=3.5						
EBER				S	Sn	20 45 53.0	-0.1
JBK	JBK	5.65	254	P	Pn	20 44 49.0	-0.1
JBK	JBK	5.65	254	P	Pn	20 44 49.3	+0.2
ERTA	Horta de San J	5.66	331	P	Pn	20 44 49.7	+0.7
ERTA				⇑iVmb_V		20 44 56.7	
	497nm,SNR=1.6						
ERTA				S	Sn	20 45 52.1	-1.9
EALB	Alboran	5.71	271	P	Pn	20 44 49.8	+0.2
EALB				⇑iVmb_V		20 44 50.6	
	373nm,SNR=1.3						
WMELI	Melilla	5.71	264	P	Pn	20 44 50.0	+0.3
WMELI				S	Sn	20 45 52.6	-2.5
EPOB	Poblet	5.74	337	P	Pn	20 44 50.5	+0.2
EPOB				⇑iVmb_V		20 44 52.2	
	681nm,SNR=1.7						
EPOB				S	Sn	20 45 54.4	-1.7
GOG	Mont Gurugu	5.76	264	P	Pn	20 44 51.0	+0.5
GOG	Mont Gurugu	5.76	264	P	Pn	20 44 51.2	+0.7
FIGM	Figuig	5.88	230	P	Pn	20 44 52.3	+0.2
FIGM	Figuig	5.88	230	P	Pn	20 44 52.5	+0.4
EQES	Quesada	5.92	289	P	Pn	20 44 54.5	+1.8
EQES				⇑iVmb_V		20 44 56.3	
	1μm,SNR=13						
EQES				S	Sn	20 46 03.2	+2.7
EQUE	Quentar	6.09	283	P	Pn	20 44 56.2	+1.2
EQUE				⇑iVmb_V		20 44 56.6	
	850nm,SNR=8.1						
ELGU	Los Guajares,	6.20	280	P	Pn	20 44 56.7	+0.2
ELGU				⇑iVmb_V		20 44 59.9	

823nm,SNR=4.8
ELGU S Sn 20 46 06.0 -1.2
EJON La Jonquera 6.42 353 P Pn 20 45 00.2 +0.7
EJON ⇑iVmb_V 20 45 08.0
1µm,SNR=2.0
EJON S Sn 20 46 12.4 -0.3
PALE Palemas 6.52 265 P Pn 20 45 02.8 +1.9
AKLM AKL 6.62 259 P Pn 20 45 03.0 +0.8
AKLM AKL 6.62 259 P Pn 20 45 03.8 +1.5
ETOR Torete 6.71 317 P Pn 20 45 06.1 +2.6
ETOR ⇑iVmb_V 20 45 15.6
416nm,SNR=2.1
PVLZ Peæn de 6.82 265 P Pn 20 45 06.5 +1.5
EMAL Malaga-Limoner 6.83 278 P Pn 20 45 04.3 -0.8
EMAL S Sn 20 46 17.1 -5.6
UCM Universidad Co 7.10 309 P Pn 20 45 10.5 +1.7
UCM S Sn 20 46 30.2 +0.8
EMIJ Mijas 7.10 277 P Pn 20 45 08.0 -0.8
EMIJ ⇑iVmb_V 20 45 09.1
471nm,SNR=6.0
EADA Adamuz 7.17 289 P Pn 20 45 09.9 +0.2
EADA ⇑iVmb_V 20 45 12.0
197nm,SNR=2.0
EADA S Sn 20 46 30.7 -0.3
ECHI Chisagues Biel 7.21 337 P Pn 20 45 12.6 +2.2
ECHI ⇑iVmb_V 20 45 14.4
247nm,SNR=1.8
ESBB Sonseca Array 7.25 302 Pn 20 45 11.1 +0.2
ESDC Sonseca Array 7.25 302 Pn Pn 20 45 11.2 +0.2
2.0nm,0.3s,baz=119,slow=13,SNR=40
ESDC Sn Sb 20 46 45.8 -12
1.4nm,0.3s,baz=130,slow=30,SNR=5.1
ESDC LR LR 20 47 24.5
comp=Z,55nm,20.9s,baz=137,slow=33
3.5nm,0.3s
ESDC Sonseca Array 7.25 302 Pn 20 45 10.8 -0.1
ESDC Sonseca Array 7.25 302 P Pn 20 45 12.5 +1.6
ESDC ⇑iVmb_V 20 45 16.0
184nm,SNR=1.8
MTLF Montolieu 7.39 350 *e*Pn Pn 20 45 14.2 +1.5
MTLF *e*Sn Sn 20 46 33.6 -2.8
3.0nm,0.2s
PAB San Pablo 7.46 300 Pn Pn 20 45 14.5 +0.7
PAB San Pablo 7.46 300 P Pn 20 45 14.9 +1.1
PAB ⇑iVmb_V 20 45 17.7
230nm,SNR=2.3
PAB San Pablo 7.46 300 P Pn 20 45 15.0 +1.2
EPF Esparros 7.50 339 *e*Pn Pn 20 45 16.2 +1.9
EPF *e*Sn Sn 20 46 38.3 -1.0
7.5nm,0.2s
LMR La Mourre 7.50 14 *e*Pn Pn 20 45 15.2 +0.9
LMR *e*Sn Sn 20 46 35.2 -4.0
8.7nm,0.3s
PGF Pioggiola 7.54 29 *e*Pn Pn 20 45 14.9 +0.1
PGF *e*Sn Sn 20 46 36.1 -4.1
34nm,0.6s
CEU Ceuta 7.60 271 P Pn 20 45 14.5 -1.2
ETSF Etsaut 7.67 334 *e*Pn Pn 20 45 18.2 +1.5
ETSF *e*Sn Sn 20 46 42.8 -0.7
16nm,0.5s
ECAB El Cabril 7.79 288 P Pn 20 45 18.6 +0.3
ECAB ⇑iVmb_V 20 45 22.6
250nm,SNR=1.9
ECAB S Sn 20 46 47.3 +0.9
MDT Midelt 7.82 248 Pn Pn 20 45 18.3 -0.5
4.2nm,0.3s,baz=82,slow=19,SNR=167
MDT Lg Lg 20 47 29.9
2.3nm,0.3s,baz=4.0,slow=19,SNR=1.8
22nm,0.5s
MDT Midelt 7.82 248 P Pn 20 45 18.3 -0.5
GUD Guadarrama 7.86 308 P Pn 20 45 20.9 +1.6
GUD ⇑iVmb_V 20 45 26.7
90nm,SNR=1.0
IFR Ifrane 7.93 254 P Pn 20 45 20.3 -0.1
EORO Oroz-Betelu 7.95 331 P Pn 20 45 22.2 +1.7
EORO ⇑iVmb_V 20 45 23.5
319nm,SNR=1.7
SMRF Simiane la Rot 7.98 8 *e*Pn Pn 20 45 21.2 +0.3
SMRF *e*Sn Sn 20 46 48.2 -2.9
4.5nm,0.3s
LASF Ste Croix 7.99 359 *e*Pn Pn 20 45 22.4 +1.4
LASF *e*Sn Sn 20 46 48.2 -3.1
12nm,0.4s
SJPF Ste Jean 8.10 332 *e*Pn Pn 20 45 24.0 +1.4
SBF Sospel 8.21 18 *e*Pn Pn 20 45 22.8 -1.3
SBF *e*Sn Sn 20 46 51.3 -5.5
15nm,0.3s
EALK Alkurruntz 8.30 331 P Pn 20 45 28.0 +2.6
EALK ⇑iVmb_V 20 45 30.1
457nm,SNR=1.7
EALK S Sn 20 46 56.6 -2.4
RAFF Raffo Rosso 8.41 79 Pn Pn 20 45 27.8 +1.1
VAE Valguarnera 8.47 77 LR LR 20 49 21.6
comp=Z,170nm,19.1s,baz=247,slow=42
EMIN Mina Concepcio 8.71 284 P Pn 20 45 30.7 -0.3
EMIN ⇑iVmb_V 20 45 35.5
165nm,SNR=1.0
VIVF Saint-Julien-l 8.79 3 *e*Pn Pn 20 45 32.1 +0.2
VIVF *e*Sn Sn 20 47 07.0 -3.9
14nm,0.5s
MBDF Montbardon 8.90 13 *e*Pn Pn 20 45 33.8 +0.2
MBDF *e*Sn Sn 20 47 08.7 -5.0
11nm,0.5s
ORIF Oris-en-Rattie 8.95 9 *e*Pn Pn 20 45 35.3 +1.1
ORIF *e*Sn Sn 20 47 10.9 -4.0
2.2nm,0.4s
CAF Calviac 8.96 351 *e*Pn Pn 20 45 35.7 +1.3
CAF *e*Sn Sn 20 47 12.6 -2.6
0.3nm,0.1s
PBAR Barrancos 9.06 287 *e*P Pn 20 45 37.0 +1.3
21nm,1.6s
ELAN Lanestosa 9.16 324 P Pn 20 45 39.4 +2.3
ELAN ⇑iVmb_V 20 45 41.5
140nm,SNR=0.7
EBAD Badajoz 9.16 290 P Pn 20 45 37.6 +0.5
EBAD ⇑iVmb_V 20 45 38.4
166nm,SNR=1.2
LFF La Frestale 9.20 345 *e*Pn Pn 20 45 38.9 +1.4
LFF *e*Sn Sn 20 47 18.4 -2.4
7.9nm,0.4s
SSB Saint Sauveur 9.20 2 Pn Pn 20 45 39.1 +1.4
OSSC Osservatorio P 9.29 35 Pn Pn 20 45 39.9 +1.0
EGRO El Granado 9.33 282 P Pn 20 45 39.3 -0.1
EGRO ⇑iVmb_V 20 45 40.6
105nm,SNR=0.5
RJF Les Rejaudoux 9.41 349 *e*Pn Pn 20 45 42.0 +1.5
RJF *e*Sn Sn 20 47 22.8 -3.3
1.7nm,0.3s
PVAQ Vaqueiros 9.50 281 *e*P Pn 20 45 41.8 +0.1
104nm,1.9s
PVAQ *e*LR LR 20 48 32.2
222nm,18.0s
PVAQ Vaqueiros 9.50 281 Pn Pn 20 45 41.6 -0.1
PVAQ Vaqueiros 9.50 281 P Pn 20 45 41.8 +0.1
PVAQ Vaqueiros 9.50 281 P Pn 20 45 41.8 +0.1
PMRV Marv??o 9.62 294 *e*P Pn 20 45 44.3 +0.9
42nm,1.8s
PMRV *e*LR LR 20 48 50.4
134nm,16.0s
PESTR Estremoz 9.63 290 *e*P Pn 20 45 44.2 +0.7
33nm,2.0s
PESTR Estremoz 9.63 290 Pn Pn 20 45 43.8 +0.3
PESTR Estremoz 9.63 290 P Pn 20 45 44.3 +0.9
LPG La Plagne 9.64 12 *e*Pn Pn 20 45 45.6 +1.7
LPG *e*Sn Sn 20 47 27.4 -4.8
7.3nm,0.6s
LPL La Plagne 9.66 12 *e*Pn Pn 20 45 45.6 +1.6
LPL *e*Sn Sn 20 47 27.8 -4.7
10nm,0.6s
PBEJ Beja 9.69 285 *e*P Pn 20 45 44.5 +0.3
38nm,1.8s
PCVE Castro Verde 9.78 283 *e*P Pn 20 45 46.2 +0.7
45nm,1.9s
AVE Averroes 9.80 257 P Pn 20 45 44.6 -1.2
AVE Averroes 9.80 257 Pn Pn 20 45 46.3 +0.5
PCBR Castelo Branco 9.81 296 *e*P Pn 20 45 47.4 +1.4
EVO Evora 9.88 288 P Pn 20 45 48.0 +1.1
EVO Evora 9.88 288 *e*P Pn 20 45 47.3 +0.4
58nm,1.8s
MESJ Messejana 9.94 284 *e*P Pn 20 45 47.3 -0.4
MVO Moncorvo 10.01 304 *e*P Pn 20 45 50.2 +1.4
38nm,1.7s
MVO *e*S Sn 20 48 18.5 +37
MVO *e*LR LR 20 49 27.6
113nm,16.0s
MTE Manteigas 10.05 299 *e*P Pn 20 45 50.0 +0.6
24nm,1.1s
MTE *e*S Sn 20 48 26.3 +44
MTE *e*LR LR 20 49 22.0
141nm,14.0s
MTE Manteigas 10.05 299 Pn Pn 20 45 49.5 +0.2
EARI Arriondas 10.12 318 P Pn 20 45 52.7 +2.5
EARI ⇑iVmb_V 20 45 56.3
302nm,SNR=0.7
PBRG Braganca 10.13 308 *e*P Pn 20 45 51.8 +1.4
37nm,2.0s
PMTG Montargil 10.15 291 *e*P Pn 20 45 46.9 -3.8
24nm,1.6s
ECAL Calabor 10.20 308 P Pn 20 45 54.0 +2.6
ECAL ⇑iVmb_V 20 45 56.5
535nm,SNR=2.9
PNCL Nicolau / Gran 10.21 285 *e*P Pn 20 45 52.0 +0.5
45nm,1.9s
TCF Toulx Ste Croi 10.29 353 *e*Pn Pn 20 45 54.6 +2.0
TCF *e*Sn Sn 20 47 44.4 -3.4
1.5nm,0.3s
PTEO Sao Teotonio 10.31 282 *e*P Pn 20 45 54.9 +2.1
56nm,2.1s
PFVI Vila Bisbo 10.37 280 Pn Pn 20 45 53.1 -0.5
PVIS Viseu 10.42 300 *e*P Pn 20 45 55.9 +1.5
34nm,1.7s
BGF Bois d'Agland 10.51 356 *e*Pn Pn 20 45 56.5 +1.0
BGF *e*Sn Sn 20 47 48.5 -4.6
16nm,0.8s
PVRL Vila Real 10.53 303 *e*P Pn 20 45 57.2 +1.4
39nm,1.6s
SMF Signal de Mont 10.56 359 *e*Pn Pn 20 45 57.6 +1.4
SMF *e*Sn Sn 20 47 50.0 -4.4
0.2nm,0.2s
POLO Lamas de Olo 10.62 303 *e*P Pn 20 45 58.5 +1.3
17nm,1.5s
PCAS Casmilo, Conde 10.62 296 *e*P Pn 20 45 58.5 +1.4
59nm,1.7s
CABF La Chapelle 10.64 8 *e*Pn Pn 20 45 58.4 +1.0
AVF Avril sur Loir 10.72 358 *e*Pn Pn 20 45 59.7 +1.4
AVF *e*Sn Sn 20 47 53.7 -4.5
0.1nm,0.2s
SALO Salr 10.73 25 Pn Pn 20 46 01.6 +3.0
MFF Saint Martin d 10.97 345 *e*Pn Pn 20 46 02.0 +0.2
MFF *e*Sn Sn 20 48 00.7 -3.6
3.7nm,0.4s
SSF Saint Saulge 10.98 358 *e*Pn Pn 20 46 03.7 +1.7
SSF *e*Sn Sn 20 47 59.6 -5.1
3.9nm,0.7s
OUK Oukaimeden 11.02 247 P Pn 20 46 03.3 +0.5
LOR Lormes 11.19 359 *e*Pn Pn 20 46 06.3 +1.5
baz=179
LOR *e*Sn Sn 20 48 03.0 -6.7
1.7nm,0.5s
PGAV Gavieira, Arco 11.21 305 *e*P Pn 20 46 07.7 +2.5
37nm,1.4s
PGAV *e*S 20 49 17.6
PGAV *e*LR LR 20 50 14.4
63nm,22.0s
CTI Castel Tesino 11.51 28 Pn Pn 20 46 11.8 +2.5
FUORN Ofenpass-Fuorn 11.53 22 Pn Pn 20 46 13.1 +3.3
DAVOX Davos/Dischmat 11.57 21 Pn Pn 20 46 11.2 +1.0
0.2nm,0.3s,baz=207,slow=12,SNR=5.8
DAVOX LR LR 20 50 20.2
comp=Z,116nm,18.8s,baz=213,slow=36
2.0nm,0.7s
HINF Hinteralfeld 11.92 9 *e*Pn Pn 20 46 15.4 +0.5
CLF Chambon-Foret 12.01 354 Pn Pn 20 46 19.7 +3.6
FETA Feichten 12.04 23 *e*P Pn 20 46 20.8 +4.3
9.7nm,1.4s
HAU Haudompre 12.05 8 *e*Pn Pn 20 46 16.4 -0.2
HAU *e*Sn Sn 20 48 24.5 -6.3
0.9nm,0.2s
SFTF Sexfontaines 12.15 3 *e*Pn Pn 20 46 19.1 +1.2
baz=176
ECH Echery 12.36 10 Pn Pn 20 46 20.2 -0.6
SQTA Sankt Quirin 12.37 24 *e*P Pn 20 46 25.7 +4.7
5.9nm,0.8s
ABTA Abfaltersbach 12.42 28 *e*P Pn 20 46 26.5 +4.8
4.1nm,0.8s
MOTA Moosalm 12.44 23 *e*P Pn 20 46 26.0 +3.9
6.2nm,0.7s
MEZF Maizieres J'vi 12.44 3 *e*Pn Pn 20 46 22.9 +1.0
MEZF *e*Sn Sn 20 48 34.9 -5.5
1.6nm,0.3s
RETA Reutte 12.46 22 *e*P Pn 20 46 26.7 +4.4
6.0nm,1.5s
PAGF Fort de Pagny 12.54 5 *e*Pn Pn 20 46 23.4 +0.2
baz=183
PAGF *e*Sn Sn 20 48 35.1 -7.6
2.6nm,0.5s
WTTA Wattenberg 12.54 25 *e*P Pn 20 46 26.0 +2.5
5.9nm,1.3s
SAVF Savonnieres en 12.56 3 *e*Pn Pn 20 46 24.4 +0.9
baz=183
SAVF *e*Sn Sn 20 48 39.7 -3.5
2.7nm,0.5s
CDF Champ du Feu 12.56 10 *e*Pn Pn 20 46 22.9 -0.8
CDF Champ du Feu 12.56 10 *e*P Pn 20 46 28.6 +4.9
CDF *e*Sn Sn 20 48 36.8 -6.7
0.1nm,0.2s
WATA Walderalm 12.59 24 *e*P Pn 20 46 29.2 +5.2
9.5nm,1.0s
BFO Black Forest 12.66 13 Pn Pn 20 46 25.7 +0.9
GRR Gorron 12.82 345 *e*Pn Pn 20 46 28.1 +1.1
GRR *e*Sn Sn 20 48 44.7 -4.8
1.3nm,0.4s
LDF La Druitiere 12.87 348 *e*Pn Pn 20 46 28.5 +0.7
LDF *e*Sn Sn 20 48 46.0 -4.9
0.3nm,0.2s
QUIF Quistinic 12.97 338 *e*Pn Pn 20 46 29.4 +0.3
QUIF *e*Sn Sn 20 48 48.8 -4.4
5.4nm,0.6s
SGMF Saint Gilles 13.10 340 *e*Pn Pn 20 46 32.1 +1.2
SGMF *e*Sn Sn 20 48 51.4 -5.0
0.1nm,0.2s
FLN La Foliniere 13.10 347 *e*Pn Pn 20 46 32.3 +1.4
baz=164
FLN *e*Sn Sn 20 48 51.9 -4.6
0.1nm,0.1s
TAM Tamanrasset 13.30 174 Pn Pn 20 46 30.6 -3.3
ROSF Rostrenen 13.38 339 *e*Pn Pn 20 46 35.5 +0.8
ROSF *e*Sn Sn 20 48 59.1 -4.1
0.7nm,0.3s
BAIF Baives 13.98 1 *e*Pn Pn 20 46 43.0 +0.1
BAIF *e*Sn Sn 20 49 04.2 -14
0.9nm,0.3s
DOU Dourbes 14.02 2 *dx* x 20 46 48.0
DOU *dx* x 20 46 56.7
GIVF Givet 14.03 2 *e*Pn Pn 20 46 43.8 +0.2
RCHB Rochefort 14.10 3 *dx* x 20 46 47.8
BMRD Maredsous 14.23 2 *dP* P 20 46 54.0 +0.2
BHOU Houvegnez 14.35 5 *dP* P 20 46 55.7 +0.7
BCLA Clavier 14.37 3 *dP* P 20 46 58.0 +2.8
FNA Florina 14.40 66 P 20 46 54.5 -1.3
SNF Seneffe 14.43 1 *dP* Pn 20 46 50.6 +1.6
SNF *dx* x 20 46 53.4
ITM Ithomi 14.44 80 Pn Pn 20 46 51.4 +2.1
MEM Membach 14.60 5 *dP* Pn 20 46 52.5 +1.1
MEM *dx* x 20 46 53.6
GEC2 GERESS Array S 14.62 26 P 20 46 51.8 +0.1
GERES GERESS Array B 14.62 26 Pn Pn 20 46 52.5 +0.8
0.2nm,0.3s,baz=212,slow=9.2,SNR=22
GERES LR LR 20 52 10.8
comp=Z,107nm,19.9s,baz=238,slow=36
4.8nm,0.9s
GERES GERESS Array B 14.62 26 P 20 46 52.4 +0.7
KHC Kasperske Hory 14.81 25 Pn Pn 20 46 54.4 0.0
KHC Kasperske Hory 14.81 25 *e*P P 20 46 57.9 -2.3
KHC AMS AMS 20 52 50.0
comp=Z,300nm,16.7s
CKRC Cesky Krumlov 14.82 28 *e*P P 20 46 57.5 -2.8
CKRC AMS AMS 20 52 30.0
MORH Mrgy, Hungar 14.95 43 ⇑P P 20 46 59.1 -2.6
MORH Mrgy, Hungar 14.95 43 P P 20 46 59.2 -2.5
MODS Modra-Piesok 15.71 34 *e*P P 20 47 12.0 +1.8
PRU Pruhonice 15.87 26 AMS AMS 20 53 30.0
comp=Z,200nm,13.9s
GOPC GO Pecny, Ondr 15.90 26 AMS AMS 20 53 30.0
comp=Z,300nm,13.3s
VRAC Vranov 16.11 31 LR LR 20 53 28.3
comp=Z,104nm,18.3s,baz=234,slow=37
BLKB Belogradchik 16.18 57 ⇑P P 20 47 15.8 +0.4
VTS Vitosha 16.23 60 ⇑P P 20 47 17.3 +1.2
VTS Vitosha 16.23 60 Pn 20 47 12.4 -0.7
BZS Buzias 16.36 49 ⇓P P 20 47 18.1 +0.8
VYHS Vyhne 16.53 37 *e*P P 20 47 21.4 +2.1
CLL Collm 16.54 20 *e*P P 20 47 20.0 +0.7
CLL *es*P pP 20 47 23.0 -0.1
CLL *es*PP 20 47 32.0
CLL Lm MLR 20 53 00.0
comp=N,200nm,18.0s
CLL Lm MLR 20 53 00.0
comp=E,400nm,18.6s
DPC Dobruska-Polom 16.82 28 AMS AMS 20 54 50.0
comp=E,200nm,12.2s
UPC Upice 16.84 27 AMS AMS 20 54 50.0
comp=E,300nm,12.8s
OSTC Ostas 16.95 28 AMS AMS 20 54 50.0
comp=E,300nm,12.3s
GZR Gura Zlata 16.97 51 ⇓P P 20 47 25.8 +1.6
IDI Anoyia 16.99 87 ⇓P P 20 47 25.9 +1.4
IDI Anoyia 16.99 87 Pn Pn 20 47 22.5 -0.1
comp=E,0.5nm,0.3s,baz=287,slow=12,SNR=14
comp=E,9.0nm,0.8s
IDI Anoyia 16.99 87 Pn 20 47 22.1 -0.6
IDI IAmb IAmb 20 47 27.6
comp=Z,13nm,1.0s
APE Apeiranthos 17.32 80 ⇓P P 20 47 32.4 +4.2
RDO Rodhopi 17.56 67 P Pn 20 47 29.4 -0.2
RDO IAmb IAmb 20 47 36.3
comp=Z,12nm,0.9s
DRGR 17.60 47 ⇓P P 20 47 33.5 +2.3
ABAH Abaujker 17.62 41 P P 20 47 38.3 +7.0
LOT Lotru 17.62 52 ⇑P P 20 47 34.0 +2.5
ARR Arges 18.14 53 ⇓P P 20 47 40.3 +3.1
TRPA Tarpa 18.23 43 ⇓P P 20 47 41.4 +3.4
VOIR 18.44 53 ⇑P Pn 20 47 43.7 +3.2
KARP Karpathos 18.79 85 P P 20 47 43.1 -1.2
KARP IAmb IAmb 20 47 49.6
comp=Z,14nm,0.7s
DOPR Dopca 18.87 52 ⇑P Pn 20 47 49.3 +3.6
MLR Muntele Rosu 19.04 54 ⇓P Pn 20 47 51.0 +3.1
MLR Muntele Rosu 19.04 54 Pn Pn 20 47 48.7 +0.8
comp=Z,0.1nm,0.3s,baz=297,slow=14,SNR=6.1
MLR LR LR 20 55 17.6
comp=Z,131nm,19.5s,baz=244,slow=37
comp=Z,5.5nm,0.9s
MLR Muntele Rosu 19.04 54 P Pn 20 47 48.0 +0.1
MLR IAmb IAmb 20 48 08.8
comp=Z,13nm,1.0s
NEHR Nehoiu 19.25 54 ⇑P Pn 20 47 53.9 +3.6
COVR Voineasa-Covas 19.35 53 ⇑P Pn 20 47 54.5 +3.0
ARG Arkhangelos 19.48 82 P P 20 47 51.9 +0.1
ARG IAmb IAmb 20 48 05.3
comp=Z,9.9nm,0.8s
BURAR Bucovina Array 19.50 47 ⇑P Pn 20 47 56.0 +2.8
BURAR Bucovina Array 19.50 47 P Pn 20 47 53.8 +0.5
BUR08 Bucovina Ar. S 19.50 47 P Pn 20 47 54.0 +0.7
PLOR Plostina 19.64 53 ⇓P Pn 20 47 57.6 +2.7
VRI Vrincioaia 19.69 53 ⇑P Pn 20 47 58.8 +3.3
EKA Eskdalemuir Ar 19.88 348 Pn Pn 20 47 59.2 +1.6
baz=162,slow=11
EKA LR LR 20 55 14.0
comp=Z,76nm,19.2s,baz=178,slow=36
comp=Z,4.8nm,1.0s
TESR Tescani 19.89 51 ⇑P Pn 20 48 00.4 +2.5
HARR Harsova 20.10 57 ⇑P Pn 20 48 02.1 +1.7
GHRR 20.21 53 ⇓P Pn 20 48 04.2 +2.6
CFR Carcaliu 20.39 56 ⇓P Pn 20 48 04.4 +0.6
AKAS Kas 20.66 82 P P 20 48 04.1 -0.8
AKAS IAmb IAmb 20 48 10.4
comp=Z,13nm,0.8s
ELL Elmali 20.85 80 P P 20 48 06.0 -0.8
BORA Eskisehir 21.17 72 P P 20 48 10.4 +0.2
MDUB Mudurnu 21.76 70 P P 20 48 15.2 -1.4
TOA0 Torodi Ar. Sit 22.92 186 P P 20 48 25.0 -4.0
TOA0 IAmb IAmb 20 48 33.8
comp=Z,12nm,1.4s
TORD Torodi Ar. Bea 22.92 186 P P 20 48 27.3 -1.7
comp=Z,2.9nm,0.7s,baz=358,slow=10,SNR=4.9
comp=Z,2.9nm,0.7s
AKASG Malin Array Be 23.29 43 P P 20 48 31.6 -0.9
comp=Z,2.6nm,0.6s,baz=240,slow=10,SNR=11
AKASG LR LR 20 58 12.6
comp=Z,71nm,18.5s,baz=239,slow=38
comp=Z,2.6nm,0.6s
AKASG Malin Array Be 23.29 43 P P 20 48 31.3 -1.2
AKBB Malin Array Si 23.29 43 P P 20 48 32.1 -0.4
AKBB IAmb IAmb 20 48 33.9
comp=Z,9.0nm,0.9s
BR131 Keskin Array S 23.62 72 P P 20 48 35.7 -0.4
BR131 IAmb IAmb 20 48 41.0
comp=Z,5.1nm,0.9s
BRTR Keskin Array B 23.62 72 P P 20 48 36.5 +0.4
comp=Z,2.4nm,0.9s,baz=258,slow=7.2,SNR=6.4
comp=Z,2.4nm,0.9s
BRTR Keskin Array B 23.62 72 P P 20 48 35.3 -0.8
HFS Hagfors 24.88 12 P P 20 48 49.1 +1.8
comp=Z,3.6nm,0.8s,baz=188,slow=9.9,SNR=1.7
HFS LR LR 20 58 34.9
comp=Z,75nm,18.6s,baz=32,slow=36
comp=Z,3.6nm,0.8s
NOA NORSAR Array B 25.41 8 LR LR 20 58 48.9
comp=Z,44nm,18.9s,baz=180,slow=36
EIL Elat 26.70 95 LR LR 21 01 24.6
comp=Z,56nm,19.8s,baz=22,slow=40
BBTS Babate 28.15 226 LR LR 21 01 19.3
comp=Z,216nm,20.6s,baz=44,slow=38
FINES FINESS Array B 28.97 22 P P 20 49 23.8 -0.3
comp=Z,1.7nm,0.8s,baz=225,slow=5.1,SNR=5.0
FINES LR LR 21 01 19.5
comp=Z,84nm,18.3s,baz=182,slow=37
comp=Z,1.7nm,0.8s
FINES FINESS Array B 28.97 22 P P 20 49 23.4 -0.7
BORG Borgarnes 32.47 340 LR LR 21 03 04.2
comp=Z,48nm,18.6s,baz=149,slow=36
KLMR Klimovskoe 33.49 31 *e*P P 20 50 06.3 +2.4
KLMR AMP 20 50 11.2
comp=Z,16nm,1.6s
ARCES ARCESS Array B 35.52 13 P P 20 50 23.2 +1.8
comp=Z,2.9nm,1.0s,baz=192,slow=8.1,SNR=2.2
comp=Z,2.9nm,1.0s
ARU Arti 41.55 43 LR LR 21 09 16.6
comp=Z,51nm,18.3s,baz=119,slow=37
ARU Arti 41.55 43 P P 20 51 12.4 +0.3
ARU IAmb IAmb 20 51 37.9
comp=Z,5.6nm,1.1s
ABKAR Akbulak array 42.26 54 P P 20 51 17.9 -0.1
ATD Arta Tunnel 42.71 115 LR LR 21 12 22.5
comp=Z,58nm,18.1s,baz=350,slow=41
SFJD Kangerlussuaq 43.66 332 LR LR 21 07 21.5
comp=Z,36nm,19.5s,baz=100,slow=33
MBAR Mbarara 44.16 140 LR LR 21 12 05.8
comp=Z,87nm,19.2s,baz=352,slow=39
BRVK Borovoye 48.39 48 P P 20 52 06.9 +0.3
BRVK IAmb IAmb 20 52 23.1
comp=Z,3.1nm,0.9s
BVAR Borovoye Array 48.45 48 LR LR 21 15 16.7
comp=Z,62nm,18.3s,baz=220,slow=40
WSAR Wadi Sarin 48.60 90 LR LR 21 17 37.0
comp=Z,43nm,18.4s,baz=110,slow=42
KKAR Karatay Array 50.53 60 P P 20 52 22.9 -0.4
SCHQ Schefferville 50.80 315 LR LR 21 10 31.2
comp=Z,70nm,20.3s,baz=30,slow=32
AAK Ala-Archa 53.47 60 LR LR 21 20 38.2
comp=Z,42nm,19.5s,baz=138,slow=42
KURK Kurchatov 53.90 49 P P 20 52 47.5 -0.7
KURK IAmb IAmb 20 53 11.5
comp=Z,3.0nm,0.9s
NRIK Noril'sk 54.52 26 LR LR 21 17 30.1
comp=Z,50nm,20.1s,baz=140,slow=38
EUNU Eureka 54.81 348 P P 20 52 55.0 +0.6
LSZ Lusaka 55.96 152 LR LR 21 17 43.9
comp=Z,98nm,19.5s,baz=24,slow=37
RCBR Riachuelo 56.00 230 LR LR 21 14 20.5
comp=Z,79nm,21.2s,baz=144,slow=33
TSUM Tsumeb 56.46 165 LR LR 21 17 53.9
comp=Z,108nm,18.5s,baz=340,slow=37
ZALV Zalesovo Beam 56.68 44 P P 20 53 09.4 +1.3
comp=Z,0.7nm,0.6s,baz=256,slow=12,SNR=3.5
comp=Z,0.7nm,0.6s
ZALV Zalesovo Beam 56.68 44 P P 20 53 08.4 +0.3
MK31 Makanchi Array 57.39 53 P P 20 53 12.7 -0.6
MKAR Makanchi Array 57.39 53 P P 20 53 12.1 -1.2
comp=Z,1.8nm,0.5s,baz=280,slow=5.9,SNR=28
MKAR PcP PcP 20 54 07.0 -0.1
comp=Z,0.4nm,0.6s,baz=282,slow=7.3,SNR=1.1
MKAR LR LR 21 19 36.7
comp=Z,39nm,18.9s,baz=217,slow=38
comp=Z,1.8nm,0.5s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	57.39	53	P	P	20 53 12.9	-0.4
MDP	Montagnes des	60.30	253	LR	LR	21 15 57.3	
	comp=Z,25nm,20.4s,baz=29,slow=32						
SADO	Sadowa	61.29	306	LR	LR	21 16 59.3	
	comp=Z,51nm,20.1s,baz=324,slow=33						
WMQ	Urumqi	62.04	55	eP	P	20 53 47.4	+2.0
LBTB	Lobatse	64.09	158	LR	LR	21 23 36.4	
	comp=Z,74nm,18.4s,baz=48,slow=38						
BOSA	Boshof	67.39	160	LR	LR	21 23 20.2	
	comp=Z,46nm,18.5s,baz=12,slow=36						
BOSA	Boshof	67.39	160	P	P	20 54 19.9	-0.5
POGA	Pongola	68.28	154	P	P	20 54 24.5	-1.3
ULM	Lac du Bonnet	68.88	317	P	P	20 54 28.7	-0.8
	comp=Z,3.7nm,0.9s,baz=80,slow=6.5,SNR=4.3						
	comp=Z,3.7nm,0.9s						
SUR	Sutherland	69.90	165	LR	LR	21 23 47.3	
	comp=Z,69nm,19.4s,baz=32,slow=35						
YKA	Yellowknife Ar	70.18	334	P	P	20 54 38.0	+0.8
	comp=Z,1.4nm,0.8s,baz=51,slow=6.2,SNR=3.0						
	comp=Z,1.4nm,0.8s						
SONM	Songino Array	71.57	44	P	P	20 54 46.4	+0.2
	comp=Z,0.2nm,0.5s,baz=300,slow=5.8,SNR=2.1						
	comp=Z,0.2nm,0.5s						
ILAR	Eielson Array	76.92	348	P	P	20 55 18.3	+1.4
	comp=Z,0.3nm,0.7s,baz=12,slow=4.6,SNR=2.3						
ILAR				LR	LR	21 31 20.2	
	comp=Z,75nm,19.1s,baz=286,slow=37						
	comp=Z,0.3nm,0.7s						
PZH	PanZhiHua	80.65	64	P	P	20 55 38.1	-0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
PDAR	Pinedale Array	80.90	317	P	P	20 55 39.0	-0.4
	comp=Z,1.0nm,0.7s,baz=62,slow=5.3,SNR=11						
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	83.21	72	P	P	20 55 52.2	+0.5
	comp=Z,0.9nm,0.4s,baz=309,slow=7.5,SNR=5.1						
	comp=Z,0.9nm,0.4s						
CPUP	Villa Florida	84.83	232	P	P	20 55 59.8	+0.3
	comp=Z,1.4nm,0.8s,baz=66,slow=10.0,SNR=3.7						
CPUP				LR	LR	21 32 36.5	
	comp=Z,56nm,19.4s,baz=76,slow=35						
	comp=Z,1.4nm,0.8s						
LPAZ	La Paz	85.68	246	LR	LR	21 34 48.8	
	comp=Z,21nm,18.1s,baz=115,slow=36						
TXAR	Lajitas Array	85.93	303	P	P	20 56 06.1	+0.7
	comp=Z,0.9nm,0.8s,baz=72,slow=6.0,SNR=9.7						
TXAR				LR	LR	21 33 21.6	
	comp=Z,38nm,18.4s,baz=322,slow=35						
	comp=Z,0.9nm,0.8s						
KSRS	Korea Array	90.27	41	LR	LR	21 40 28.4	
	comp=Z,25nm,18.2s,baz=120,slow=38						
WRA	Warramunga Arr	133.80	83	PKP	PKiKP	21 02 42.9	-0.6
	comp=Z,0.5nm,1.1s,baz=329,slow=1.8,SNR=5.5						
ASAR	Alice Springs	135.28	88	PKP	PKiKP	21 02 46.1	-0.4
	comp=Z,0.5nm,0.9s,baz=316,slow=1.4,SNR=4.8						
STKA	Stephens Creek	144.79	96	PKP	PKPdf	21 03 02.9	+0.9
	comp=Z,3.4nm,0.7s,baz=303,slow=6.0,SNR=8.1						

ROM 05 20:45:15.8±0.1**, 42°.908N**±0°.003×**13°.218E**±0°.005**, h9km, ML1.9**/13**, 3C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=278.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1245	Castelsantange	0.06	203	P	Pg	20 45 17.8	-0.1
T1245				S	Sg	20 45 19.0	-0.4
T1245				AML	AML		
	comp=E,4570µm,0.2s						
T1245				AML	AML		
	comp=E,3825µm,0.2s						
T1245				AML	AML		
	comp=E,4565µm,0.2s						
T1245				AML	AML		
	comp=E,3830µm,0.2s						
T1245				AML	AML		
	comp=N,5565µm,0.1s						
T1245				AML	AML		
	comp=N,5535µm,0.8s						
MMO1	Montemonaco	0.08	96	P	Pg	20 45 18.1	0.0
MMO1				S	Sg	20 45 20.4	+0.6
NRCA	Norcia	0.11	226	⇑P	Pg	20 45 18.8	+0.3
NRCA				S	Sg	20 45 21.2	+0.9
NRCA				AML	AML		
	comp=N,2525µm,0.5s						
NRCA				AML	AML		
	comp=N,2635µm,0.5s						
NRCA				AML	AML		
	comp=E,2845µm,0.1s						
NRCA				AML	AML		
	comp=E,2660µm,0.1s						
NRCA				AML	AML		
	comp=N,2520µm,0.5s						
AM05	Amandola Campo	0.12	55	P	Pg	20 45 19.0	+0.4
AM05				S	Sg	20 45 21.3	+0.7
AM05				AML	AML		
	comp=N,443µm,0.1s						
AM05				AML	AML		
	comp=E,412µm,0.1s						
T1216	Preci, Frazion	0.15	263	P	Pg	20 45 19.6	+0.6
T1216				S	Sg	20 45 22.4	+1.1
T1216				AML	AML		
	comp=E,1940µm,0.4s						
T1216				AML	AML		
	comp=N,932µm,0.3s						
T1216				AML	AML		
	comp=N,934µm,0.3s						
T1216				AML	AML		
	comp=E,1940µm,0.4s						
FDMO	Fiordimonte	0.16	323	P	Pg	20 45 19.8	+0.6
FDMO				S	Sg	20 45 22.4	+0.8
FDMO				AML	AML		
	comp=E,443µm,0.2s						
FDMO				AML	AML		
	comp=N,634µm,0.7s						
T1241	Roccafluvione,	0.17	108	P	Pg	20 45 19.9	+0.5
T1241				S	Sg	20 45 22.9	+1.1
T1241				AML	AML		
	comp=E,632µm,0.3s						
T1241				AML	AML		
	comp=N,386µm,1.1s						
T1241				AML	AML		
	comp=N,387µm,1.1s						
T1241				AML	AML		
	comp=E,632µm,0.3s						
GUMA	Gualdo di Mace	0.18	29	P	Pg	20 45 20.5	+0.9
GUMA				S	Sg	20 45 24.0	+1.9
CSP1	Cessapalombo	0.18	357	P	Pg	20 45 19.6	-0.1
CSP1				S	Sg	20 45 23.5	+1.1
CSP1				AML	AML		
	comp=E,314µm,0.5s						
CSP1				AML	AML		
	comp=N,588µm,1.2s						
CSP1				AML	AML		
	comp=N,598µm,1.2s						
T1202	Accumoli, Fraz	0.20	179	P	Pg	20 45 20.8	+0.7
T1202				S	Sg	20 45 24.7	+1.8
T1204	Amatrice, Fraz	0.24	163	P	Pg	20 45 21.4	+0.6
T1204				S	Sg	20 45 25.7	+1.6
CESI	CESI - Serrava	0.25	293	P	Pg	20 45 21.9	+1.1
CESI				S	Sg	20 45 25.9	+1.6
CESI				AML	AML		
	comp=N,519µm,0.5s						
CESI				AML	AML		
	comp=N,520µm,0.5s						
CESI				AML	AML		
	comp=E,484µm,0.6s						
T1217	Poggiodomo (PG	0.29	227	P	Pg	20 45 22.2	+0.6
T1217				S	Sb	20 45 27.3	-0.8
SMA1	SAN MARTINO	0.29	163	P	Pg	20 45 22.0	+0.4
SMA1				S	Sb	20 45 27.0	-1.2
SMA1				AML	AML		
	comp=N,214µm,0.3s						
SMA1				AML	AML		
	comp=E,228µm,1.5s						
RM33	Pellescritta (	0.40	180	P	Pg	20 45 24.1	+0.5
RM33				S	Sb	20 45 31.0	-0.3
RM33				AML	AML		
	comp=E,135µm,0.3s						
RM33				AML	AML		
	comp=N,121µm,1.2s						
TERO	Teramo	0.40	135	⇑P	Pg	20 45 24.0	+0.3
TERO				AML	AML		
	comp=E,180µm,0.3s						
TERO				AML	AML		
	comp=N,255µm,0.5s						
ASSB	Assisi San Ben	0.43	288	⇓P	Pg	20 45 24.8	+0.6
ATCC	AVT- Casa Cast	0.51	303	S	Sb	20 45 35.0	+0.6
GIGS	Gran Sasso	0.53	150	⇑P	Pg	20 45 26.4	+0.4
GIGS				AML	AML		
	comp=E,72µm,0.2s						
GIGS				AML	AML		
	comp=N,38µm,1.6s						
ARVD	Arcevia	0.62	341	S	Sb	20 45 39.0	+1.3
FAGN	Fagnano	0.70	157	S	Sn	20 45 42.0	-0.8
ATTE	AVT- Monte Tez	0.70	295	S	Sn	20 45 43.0	+0.2
CPGN	Carpegna, Ital	1.11	324	S	Sn	20 45 54.0	+0.9
TRIV	Trivento	1.51	139	P	Pn	20 45 41.0	-2.0
TRIV				AML	AML		
TRIV				AML	AML		
MODR	Mondragone	1.83	164	P	Pg	20 45 50.6	-0.2

*IDC **05** 20:47:50.1±0.7, 8°.29S×159°.92E, h50km±5km, mb4.0/13, mbtmp4.3/15, MS3.5/26, Error ellipse: s-maj=18.7km s-min=8.0km az=82.0*

*NEIC **05** 20:47:50.8±1.4, 8°.32S±0°.07×160°.0E±0°.1, h58km±7km, mb4.6/38, Error ellipse: s-maj=16.3km s-min=9.2km az=79.0*

ISC 05 20:47:48.1±0.5**, 8°.26S**±0°.05×**160°.02E**±0°.07**, h35km, n116, σ1s.51**/103**, mb4.5**/30**, MS3.6**/22**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.17	183	P	Pn	20 48 09.9	+1.8
	224µm,0.7s,baz=353,slow=2.2,SNR=1027						
HNR				S	Sn	20 48 25.3	+2.6
	114µm,0.8s,baz=0.0,slow=20,SNR=4.9						
HNR	Honiara	1.17	183		Pn	20 48 09.8	+1.8
HNR				Sn	Sn	20 48 25.8	+3.0
RABL	Rabaul	8.79	297	Pn	Pn	20 49 55.7	+2.9
RABL	Rabaul	8.79	297	P	Pn	20 49 57.0	+4.2
KRVT	Keravat (AS076	8.86	296	S	Sn	20 51 34.8	+2.3
	75nm,0.9s,baz=50,slow=22,SNR=2.2						
KRVT				LR	LR	20 53 49.8	
	comp=Z,390nm,19.3s,baz=255,slow=41						
PMG	Port Moresby	12.76	264	LR	LR	20 55 41.1	
	comp=Z,207nm,19.4s,baz=116,slow=37						
KOUNC	Koumac, New Ca	12.90	162	Pn	Pn	20 50 50.6	+1.5
LIFNC	LIFOU	14.27	151	Pn	P	20 51 11.8	-2.7
DZM	Mont Dzumac	15.06	156	P	P	20 51 21.4	-2.1
	18nm,0.8s,baz=17,slow=12,SNR=40						
DZM				LR	LR	20 56 05.0	
	comp=Z,238nm,21.9s,baz=266,slow=33						
DZM	Mont Dzumac	15.06	156	P	P	20 51 22.3	-1.2
DZM				IAmb	IAmb	20 51 25.7	
	comp=Z,18nm,0.7s						
DZM	Mont Dzumac	15.06	156	P	P	20 51 24.9	+1.4
DZM	Mont Dzumac	15.06	156	P	P	20 51 25.1	+1.6
PATS	Pohnpei	15.09	353	Pn	Pn	20 51 18.1	-0.7
PATS	Pohnpei	15.09	353	P	Pn	20 51 18.1	-0.7
YATNC	Mamie plateau,	15.24	155	P	P	20 51 27.7	+2.4
YATNC	Mamie plateau,	15.24	155	P	P	20 51 26.8	+1.5
ONTNC	Ouen Toro	15.28	157		Pn	20 51 22.4	+1.0
ONTNC				IAmb	IAmb	20 51 27.7	
	comp=Z,30nm,0.7s						
ONTNC	Ouen Toro	15.28	157	P	P	20 51 27.6	+1.8
OUENC	Ouen Island, N	15.54	156		Pn	20 51 24.5	-0.2
OUENC				IAmb	IAmb	20 51 36.3	
	comp=Z,24nm,1.1s						
OUENC	Ouen Island, N	15.54	156	P	P	20 51 30.2	+1.6
OUENC	Ouen Island, N	15.54	156	P	P	20 51 30.1	+1.5
COEN	Coen	17.46	250		Pn	20 51 48.6	-0.5
CTA	Charters Tower	17.77	227	P	P	20 51 54.4	+1.0
	comp=Z,3.4nm,0.6s,baz=47,slow=12,SNR=7.7						
CTA				LR	LR	20 58 27.1	
	comp=Z,115nm,18.2s,baz=77,slow=36						
CTA	Charters Tower	17.77	227	P	P	20 51 55.6	+2.2
CTAO	Charters Tower	17.77	227		Pn	20 51 53.0	+0.1
CTAO	Charters Tower	17.77	227	P	P	20 51 55.8	+2.4
EIDS	Eidsvold	19.03	206	P	P	20 52 07.2	-0.1
ARMA	Armidale	23.41	198	P	P	20 52 53.9	-0.2
ARMA				IAmb	IAmb	20 52 56.9	
	comp=Z,35nm,1.5s						
ARMA	Armidale	23.41	198	P	P	20 52 54.5	+0.3
GUMO	Guam	26.41	325	LR	LR	21 03 06.4	
	comp=Z,81nm,21.4s,baz=138,slow=35						
WR0	Warramunga Arr	27.26	242	P	P	20 53 28.2	-1.2
WR0				IAmb	IAmb	20 53 50.8	
	comp=Z,12nm,1.1s						
H11S2	WAKE ISLAND Hy	27.38	14	T	T	21 22 08.3	
	baz=194,slow=76,SNR=8143						
H11S3	WAKE ISLAND Hy	27.38	14	T	T	21 22 08.0	
	baz=194,slow=76,SNR=898						
H11S1	WAKE ISLAND Hy	27.40	14	T	T	21 22 09.4	
	baz=194,slow=76,SNR=1526						
WRAB	Tennant Creek	27.42	242	P	P	20 53 30.0	-0.8
WB2	Warramunga Arr	27.42	242	P	P	20 53 29.5	-1.3
WB2				IAmb	IAmb	20 53 52.8	
	comp=Z,9.1nm,1.1s						
WRA	Warramunga Arr	27.43	242	P	P	20 53 29.9	-1.0
	comp=Z,2.0nm,0.4s,baz=67,slow=9.1,SNR=97						
WRA				pP	sP	20 53 43.9	-1.3
	comp=Z,4.3nm,0.8s,baz=65,slow=9.1,SNR=8.9						
WRA				PcP	PcP	20 56 47.1	-2.2
	comp=Z,0.7nm,0.9s,baz=65,slow=2.5,SNR=3.9						
WRA				S	S	20 58 03.5	-5.8
	comp=Z,1.4nm,1.1s,baz=71,slow=15,SNR=4.9						
WRA				LR	LR	21 03 36.3	
	comp=Z,88nm,22.0s,baz=353,slow=35						
	comp=Z,2.0nm,0.4s						
WRA	Warramunga Arr	27.43	242	P	P	20 53 28.7	-2.2
AFI	Afiamalu	28.23	104	LR	LR	21 03 53.6	
	comp=Z,59nm,18.8s,baz=36,slow=34						
H11N1	WAKE ISLAND Hy	28.61	14	T	T	21 23 39.5	
	baz=194,slow=76,SNR=913						
H11N3	WAKE ISLAND Hy	28.61	14	T	T	21 23 40.8	
	baz=194,slow=76,SNR=735						
H11N2	WAKE ISLAND Hy	28.62	14	T	T	21 23 40.9	
	baz=194,slow=76,SNR=639						
MTN	Manton Dam	28.75	258	P	P	20 53 41.6	-1.1
MTN				IAmb	IAmb	20 54 07.1	
	comp=Z,28nm,1.5s						
CAN	Canberra	28.77	199	P	P	20 53 42.1	-0.6
CAN				IAmb	IAmb	20 53 48.5	
	comp=Z,43nm,1.3s						
STKA	Stephens Creek	29.09	214	P	P	20 53 45.0	-0.6
	comp=Z,1.6nm,0.4s,baz=46,slow=14,SNR=9.8						
STKA				LR	LR	21 05 40.7	
	comp=Z,158nm,18.3s,baz=359,slow=37						
	comp=Z,1.6nm,0.4s						
STKA	Stephens Creek	29.09	214	P	P	20 53 44.0	-1.5
STKA	Stephens Creek	29.09	214	P	P	20 53 44.8	-0.7
AS01	Alice Springs	29.29	235	P	P	20 53 46.5	-1.0
AS31	Alice Springs	29.33	235	P	P	20 53 45.6	-2.3
ASAR	Alice Springs	29.33	235	P	P	20 53 46.5	-1.3
	comp=Z,0.9nm,0.4s,baz=64,slow=9.6,SNR=16						
ASAR				pP	pP	20 53 59.6	+1.8
	comp=Z,1.2nm,0.6s,baz=65,slow=8.1,SNR=6.9						
ASAR				LR	LR	21 05 00.8	
	comp=Z,70nm,19.8s,baz=296,slow=35						
	comp=Z,0.9nm,0.4s						
SIJI	Sorong	29.56	283	LR	LR	21 06 13.5	
	comp=Z,43nm,20.4s,baz=245,slow=37						
LCRK	Leigh Creek	30.05	220	P	P	20 53 53.2	-0.9
OOD	Oodnadatta	30.10	227	P	P	20 53 53.7	-0.8
KNRA	Kununurra	31.42	253	P	P	20 54 05.0	-1.3
KNRA				IAmb	IAmb	20 54 05.4	
	comp=Z,15nm,1.1s						
KNRA	Kununurra	31.42	253	P	P	20 54 05.2	-1.1
MULG	Mulgathing	32.71	224	P	P	20 54 16.0	-1.6
BBOO	Buckleboo	33.00	219	P	P	20 54 19.1	-0.9
BBOO				IAmb	IAmb	20 54 36.6	
	comp=Z,20nm,1.2s						
BBOO	Buckleboo	33.00	219	P	P	20 54 19.4	-0.7
URZ	Urewera	33.62	155	P	P	20 54 25.2	-0.1
	comp=Z,3.5nm,0.4s,baz=288,slow=20,SNR=7.3						
URZ				LR	LR	21 07 07.2	
	comp=Z,75nm,19.1s,baz=47,slow=34						
	comp=Z,3.5nm,0.4s						
URZ	Urewera	33.62	155	P	P	20 54 25.2	-0.1
BKZ	Black Stump Fm	34.15	157	P	P	20 54 29.0	-0.9
BKZ	Black Stump Fm	34.15	157	P	P	20 54 29.1	-0.9
THZ	Tophouse	35.27	163	P	P	20 54 38.8	-0.8
BFZ	Birch Farm	35.38	158	P	P	20 54 39.3	-1.2
RPZ	Rata Peaks	36.62	167	P	P	20 54 50.0	-1.1
	comp=Z,16nm,0.7s,baz=330,slow=8.3,SNR=8.4						
RPZ				LR	LR	21 10 02.7	
	comp=Z,102nm,18.1s,baz=284,slow=36						
	comp=Z,16nm,0.7s						
PSA00	Pilbara Seismi	40.88	247	P	P	20 55 25.3	-1.8
PSA00				IAmb	IAmb	20 55 26.8	
	comp=Z,6.8nm,1.0s						
JAGI	Jajag, Banyuwa	45.36	266	P	P	20 56 00.4	-3.1
JHJ	Hachijo jima 2	45.43	336	LR	LR	21 13 24.5	
	comp=Z,47nm,18.9s,baz=106,slow=34						
MORW	Morawa	46.17	237	P	P	20 56 07.4	-2.4
MORW				IAmb	IAmb	20 56 19.3	
	comp=Z,16nm,1.4s						
MJAR	Matsushiro Arr	49.04	337	LR	LR	21 16 11.5	
	comp=Z,26nm,21.2s,baz=72,slow=35						
TPUB	Ta-pu	49.67	310	P	P	20 56 37.2	+0.3
SSLB	Suanglung	49.70	311	P	P	20 56 37.5	+0.4
LEM	Lembang	51.94	268	LR	LR	21 21 37.5	
	comp=Z,182nm,20.2s,baz=184,slow=39						
TNG	Tangerang	52.96	268	P	P	20 57 04.3	+2.6
ASAJ	Asahikawa	54.46	345	LR	LR	21 18 47.0	
	comp=Z,58nm,21.0s,baz=160,slow=34						
KSRS	Korea Array	54.49	329	LR	LR	21 18 58.3	
	comp=Z,27nm,20.2s,baz=145,slow=34						
USRK	Ussuriysk Ar.	58.04	337	P	P	20 57 39.4	+1.8
	comp=Z,3.1nm,0.7s,baz=150,slow=9.9,SNR=4.0						
	comp=Z,3.1nm,0.7s						
PETK	Petropavlovsk-	61.16	358	LR	LR	21 21 09.7	
	comp=Z,42nm,21.1s,baz=160,slow=33						
TRSI	Tarutung	61.73	277	P	P	20 58 12.7	+8.9
SHEM	Shemya Is, Ala	61.93	10	LR	LR	21 22 29.0	
	comp=Z,17nm,18.6s,baz=312,slow=34						
CM31	Chiang Mai Arr	65.83	294	P	P	20 58 30.9	+0.4
CM31				IAmb	IAmb	20 58 48.6	
	comp=Z,11nm,1.1s						
CMAR	Chiang Mai Arr	65.83	294	P	P	20 58 31.1	+0.5
	comp=Z,3.0nm,0.9s,baz=108,slow=4.3,SNR=18						
CMAR				pP	sP	20 58 43.6	-1.8
	comp=Z,3.8nm,1.0s,baz=115,slow=5.0,SNR=6.2						
	comp=Z,3.0nm,0.9s						
CMAR	Chiang Mai Arr	65.83	294	P	P	20 58 30.4	-0.1
CMMT	Chiang Mai	65.93	295	P	P	20 58 29.7	-1.5
	comp=Z,21µmcomp=Z,8.7nm,1.4s						
CHTO	Chiang Mai	65.94	295	P	P	20 58 31.2	0.0
CHTO				IAmb	IAmb	20 58 33.0	
	comp=Z,15nm,1.4s						
MA2	Magadan	68.01	355	LR	LR	21 24 20.0	
	comp=Z,36nm,21.9s,baz=210,slow=32						
VNDA	Vanda	69.24	180	P	P	20 58 50.5	-0.6
	comp=Z,1.3nm,0.8s,baz=347,slow=6.7,SNR=7.1						
VNDA				LR	LR	21 24 01.3	
	comp=Z,70nm,20.7s,baz=346,slow=31						
	comp=Z,1.3nm,0.8s						
VNDA	Vanda	69.24	180	P	P	20 58 50.9	-0.1
ULN	Ulaanbaatar	72.78	326	P	P	20 59 14.0	+0.8
ULN				IAmb	IAmb	20 59 15.8	
	comp=Z,10nm,1.1s						
ULN	Ulaanbaatar	72.78	326	P	P	20 59 14.5	+1.3
	comp=Z,41nm,1.1s						
SONM	Songino Array	73.14	325	P	P	20 59 16.2	+0.9
	comp=Z,6.7nm,0.8s,baz=140,slow=6.1,SNR=39						
SONM				pP	sP	20 59 29.2	-1.0
	comp=Z,3.6nm,1.1s,baz=128,slow=5.2,SNR=5.4						
SONM				LR	LR	21 28 46.2	
	comp=Z,38nm,21.6s,baz=176,slow=34						
	comp=Z,6.7nm,0.8s						
SONM	Songino Array	73.14	325	P	P	20 59 15.4	+0.1
SONM				IAmb	IAmb	20 59 17.6	
	comp=Z,8.0nm,0.9s						
YAK	Yakutsk	73.92	346	P	P	20 59 19.7	+0.3
Q19K	Cape Douglas,	76.56	23	P	P	20 59 35.0	+0.3
IMAR	Indian Mountai	81.37	17	P	P	21 00 01.9	+1.1
MLY	Manley	81.66	19	P	P	21 00 02.3	-0.2
MLY				IAmb	IAmb	21 00 04.1	
	comp=Z,3.4nm,1.0s						
QSPA	South Pole Qui	81.73	180	P	P	21 00 02.5	-0.6
IL31		82.77	20	P	P	21 00 08.2	0.0
IL31				IAmb	IAmb	21 00 10.2	
	comp=Z,7.6nm,1.4s						
ILAR	Eielson Array	82.77	20	P	P	21 00 08.5	+0.2
	comp=Z,1.2nm,0.7s,baz=245,slow=5.3,SNR=11						
ILAR				pP	sP	21 00 22.7	-0.5
	comp=Z,0.8nm,0.6s,baz=253,slow=4.6,SNR=4.5						
	comp=Z,1.2nm,0.7s						
ILAR	Eielson Array	82.77	20	P	P	21 00 08.2	-0.1
DOT	Dot Lake	83.12	22	P	P	21 00 10.2	+0.1
DOT				IAmb	IAmb	21 00 27.5	
	comp=Z,12nm,1.3s						
SCRK	Sand Creek	83.33	22	P	P	21 00 11.2	-0.1
BCAR	Beaver Creek A	83.66	23	P	P	21 00 13.8	+0.9
DLBC	Dease Lake	86.73	30	LR	LR	21 40 27.8	
	comp=Z,77nm,18.1s,baz=278,slow=36						
MK31	Makanchi Array	87.66	318	P	P	21 00 32.5	-0.6
MK31				IAmb	IAmb	21 00 34.4	
	comp=Z,2.6nm,0.9s						
MKAR	Makanchi Array	87.66	318	P	P	21 00 33.5	+0.4
	comp=Z,1.9nm,0.6s,baz=104,slow=5.9,SNR=16						
MKAR				pP	sP	21 00 48.6	+0.4
	comp=Z,1.2nm,0.7s,baz=97,slow=6.1,SNR=5.7						
	comp=Z,1.9nm,0.6s						
MKAR	Makanchi Array	87.66	318	P	P	21 00 33.1	-0.1
ZALV	Zalesovo Beam	88.03	325	P	P	21 00 34.1	-0.6
	comp=Z,1.1nm,0.8s,baz=100,slow=5.0,SNR=5.2						
	comp=Z,1.1nm,0.8s						
ZALV	Zalesovo Beam	88.03	325	P	P	21 00 33.2	-1.5
NVAR	Mina Array Bea	88.61	51	P	P	21 00 39.2	+1.0
	comp=Z,0.3nm,0.6s,baz=243,slow=6.0,SNR=2.4						
	comp=Z,0.3nm,0.6s						
BVAR	Borovoye Array	96.31	323	LR	LR	21 45 34.2	
	comp=Z,31nm,20.1s,baz=157,slow=36						
ANMO	Albuquerque	97.55	56	LR	LR	21 44 12.9	
	comp=Z,23nm,18.1s,baz=325,slow=35						
SNAA	Sanae	99.43	185	LR	LR	21 42 53.8	
	comp=Z,68nm,18.9s,baz=164,slow=33						
GERES	GERESS Array B	130.63	331	PKP	PKiKP	21 06 56.1	-0.4
	comp=Z,0.4nm,0.7s,baz=88,slow=2.4,SNR=2.8						
ESDC	Sonseca Array	145.58	338	PKPbc	PKPab	21 07 23.9	+0.3
	comp=Z,3.6nm,1.0s,baz=20,slow=3.4,SNR=11						
TORD	Torodi Ar. Bea	158.16	285	PKPab	PKPab	21 08 15.5	-0.9
	comp=Z,1.0nm,1.1s,baz=114,slow=1.0,SNR=2.3						

*KRNET **05** 20:51:60.0±0.1, 39°.16N×72°.58E, mb2.6*

ISC 05 20:51:58.7±1.6**, 39°.0N**±0°.1×**72°.64E**±0°.07**, h10km, n5, σ1s.67**/8**, 7C-1D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.80	305	⇑eP	Pg	20 52 13.1	-1.1
	baz=99						
DRK				⇑eS	Sg	20 52 22.7	-2.0
	baz=99						
GAR	Garm	1.81	270	⇑eP	Pb	20 52 32.8	+0.7
	baz=66						
GAR				⇑eS	Sg	20 52 56.5	-0.5
	baz=66						
KSH	Kashi	2.63	78	P	Pn	20 52 41.4	0.0
KSH				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TRKS	Terek-Say	2.76	336	⇑eP	Pn	20 52 43.8	+0.6
	baz=35						
TRKS				⇑eS	Sn	20 53 16.2	-0.4
	baz=35						
KK31	Karatay Array	4.38	339	⇓Pg	Pn	20 53 08.1	+2.7
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=6.3						
KK31				⇑Lg	Lg	20 53 59.8	
	comp=Z,0.9nm,0.7s,baz=154,slow=25,SNR=4.2						

DJA 05 21:17:08.2±0.8**, 1°N**±5°×**11°9E**±°**, h13km**±**5km, M3.7**/10**, mb3.6**/1**, MLv3.7**/10**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.72	135	P	Pg	21 17 21.9	-0.3
MPSI				S	Sn	21 17 34.4	-0.6
SMKI	Samarinda	2.53	239	P	Pb	21 17 53.7	+0.1
MRSI	Marisa	2.58	98	P	Pn	21 17 49.6	-0.1
MRSI				S	Sn	21 18 23.3	+2.4
APSI	Ampana	2.86	128	P	Pn	21 17 54.3	+0.8
BKB	Balikpapan	3.26	230	P	Pn	21 18 00.9	+1.9
BKB				S	Sn	21 18 26.7	-11
GTOI	Gorontalo	3.63	93	P	Pn	21 18 02.9	-1.2
LUWI	Luwuk	3.87	119	P	Pn	21 18 07.9	+0.5
PMSI	Majene	4.35	186	P	Pn	21 18 12.5	-1.6
SPSI	Sidrap Palu	4.80	175	P	Pn	21 18 16.1	-4.1
MTKI	Muara Teweh, K	4.83	248	P	Pn	21 18 21.7	+1.0
BNSI	Bone	5.26	172	P	Pn	21 18 27.9	+1.3

*IDC **05** 21:26:20.1±4.2,33.˙59N×125.˙17E,h0km,mb3.1/2, mbtmp3.2/3,ML3.3/1,Error ellipse: s-maj=59.4km s-min=23.6km az=145.0*
*KMA **05** 21:26:22.7±0.1,33.˙75N×125.˙08E,h9km,Error ellipse: s-maj=2.9km s-min=0.7km az=245.0*
*KEA **05** 21:26:22.2,33.˙96N×124.˙65E,h16km,ML3.8/1*
ISC 05 21:26:22.6±1.2,33.˙75N±0.˙05×125.˙15E±0.˙07,h10km,n22, σ1§93/25,South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GGDB	**Gageodo**	**0.30**	**356**	P		**Pg**	**21 26 28.9**	**+0.3**
	SNR=932							
HUK2	**Heuksan-myeon**	**0.96**	**15**	P		**Pg**	**21 26 41.2**	**+0.1**
	SNR=1344							
CJD	**Chujado**	**0.97**	**78**	P		**Pb**	**21 26 42.5**	**+0.9**
	SNR=1802							
GOS2	**Gosang-Q330s**	**0.99**	**117**	P		**Pn**	**21 26 43.0**	**+0.4**
	SNR=95							
KSJDO	**Jindo**	**1.20**	**53**	P		**Pg**	**21 26 46.6**	**+0.9**
	SNR=22							
KSJJU	**Jeju**	**1.21**	**105**	P		**Pb**	**21 26 46.3**	**+0.7**
	SNR=124							
BGDB	**Bigeumdo**	**1.21**	**33**	P		**Pb**	**21 26 46.0**	**+0.4**
	SNR=1346							
KSSGP	**Seogwipo**	**1.23**	**113**	P		**Pb**	**21 26 46.7**	**+0.7**
	SNR=13							
HANB	**Haenam**	**1.42**	**55**	P		**Pb**	**21 26 50.0**	**+0.7**
	SNR=82							
WAN2	**Wando-Q330s**	**1.44**	**63**	P		**Pn**	**21 26 49.1**	**+0.3**
	SNR=116							
KSMOP	**Mokpo**	**1.46**	**44**	P		**Pb**	**21 26 50.7**	**+0.7**
	SNR=35							
ANMD	**Anmado**	**1.74**	**24**	P		**Pn**	**21 26 53.1**	**+0.1**
	SNR=272							
GMDB	**Geomundo**	**1.80**	**80**	P		**Pn**	**21 26 53.7**	**-0.1**
	SNR=77							
BOSB	**Boseong-gun**	**1.98**	**59**	P		**Pn**	**21 26 56.5**	**+0.3**
	SNR=85							
KSKWJ	**Gwangju**	**2.07**	**47**	P		**Pn**	**21 26 58.3**	**+0.8**
	SNR=111							
SMKB	**Mukjeong-gil**	**2.25**	**31**	P		**Pn**	**21 27 01.0**	**+1.1**
	SNR=18							
MNYD	**Munyeodo**	**2.30**	**27**	P		**Pn**	**21 27 02.0**	**+1.4**
	SNR=23							
HJU	**Haeju**	**4.30**	**6**	Pg		**Pb**	**21 27 40.3**	**+1.9**
HJU				Sg		**Sb**	**21 28 35.4**	**+5.0**
HJU				AML		AML		
	comp=N,181nm,0.3s							
HJU				AML		AML		
	comp=E,262nm,0.3s							
HJU				AML		AML		
	comp=Z,298nm,0.8s							
KSRS	**Korea Array**	**4.33**	**31**	Pn		**Pn**	**21 27 29.2**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=207,slow=14,SNR=13							
KSRS				Pg		**Pg**	**21 27 42.8**	**-2.7**
	comp=Z,3.7nm,0.3s,baz=206,slow=18,SNR=18							
KSRS				Sn		**Sn**	**21 28 19.1**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=212,slow=24,SNR=5.4							
KSRS				Lg		Lg	21 28 40.0	
	comp=Z,22nm,0.3s,baz=211,slow=30,SNR=31							
	comp=Z,3.2nm,0.3s							
PYAG	**Pyongyang**	**5.31**	**5**	Sg		**Sg**	**21 29 07.2**	**-5.9**
SONM	**Songino Array**	**19.91**	**321**	P		**Pn**	**21 30 55.3**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=123,slow=11,SNR=2.4							
	comp=Z,0.4nm,0.7s							
MKAR	**Makanchi Array**	**34.77**	**305**	P		**P**	**21 33 12.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=93,slow=10,SNR=2.2							
	comp=Z,0.2nm,0.4s							

*LDG **05** 21:29:11.1±0.2,42.˙67N×13.˙20E,h8km,Ml3.3/22,Error ellipse: s-maj=5.3km s-min=3.4km az=47.0*
*PRU **05** 21:29:11.1±0.0,42.˙59N×13.˙62E,h10km,M4.0*
*NEIC **05** 21:29:11.9±1.9,42.˙73N±0.˙04×13.˙16E±0.˙04,h10km±1km, Error ellipse: s-maj=8.6km s-min=2.9km az=32.0*
*ROM **05** 21:29:11.1±0.1,42.˙726N±0.˙003×13.˙191E±0.˙005, h8km±1km,ML3.4/56,Error ellipse: s-maj=0.4km s-min=0.1km az=255.0*
*IDC **05** 21:29:11.1±1.3,42.˙75N×13.˙31E,h0km,mb3.5/5, mbtmp3.5/9,ML3.4/4,MS2.8/2,Error ellipse: s-maj=24.4km s-min=14.0km az=77.0*
ISC 05 21:29:11.1±0.7,42.˙71N±0.˙01×13.˙15E±0.˙01,h11km±4km, n204,σ2§06/278,mb3.8/7,44C-18D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.05**	**102**	P		**Pg**	**21 29 12.6**	**-0.8**
T1202				S		**Sg**	**21 29 13.7**	**-1.3**
NRCA	**Norcia**	**0.12**	**347**	Pg		**Pg**	**21 29 13.7**	**-0.5**
NRCA				Sg		**Sg**	**21 29 16.3**	**-0.1**
NRCA	**Norcia**	**0.12**	**347**	⇑P		**Pg**	**21 29 13.9**	**-0.2**
NRCA				S		**Sg**	**21 29 16.3**	**-0.1**
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
	comp=N,93150μm,0.4s							
NRCA				AML		AML		
	comp=N,93200μm,0.4s							
NRCA				AML		AML		
T1204	**Amatrice, Fraz**	**0.13**	**108**	P		**Pg**	**21 29 13.9**	**-0.3**
T1204				S		**Sg**	**21 29 16.1**	**-0.4**
T1204				AML		AML		
	comp=N,52650μm,0.9s							
T1204				AML		AML		
	comp=E,89700μm,0.5s							
T1204				AML		AML		
	comp=N,52700μm,0.9s							
LNSS	**Leonessa**	**0.14**	**217**	P		**Pg**	**21 29 14.9**	**+0.5**
LNSS				S		**Sg**	**21 29 18.1**	**+1.4**
LNSS				AML		AML		
	comp=E,24750μm,0.3s							
LNSS				AML		AML		
	comp=N,45600μm,0.3s							
LNSS				END				
LNSS	**Leonessa**	**0.14**	**217**	P		**Pg**	**21 29 15.0**	**+0.5**
LNSS				S		**Sg**	**21 29 18.1**	**+1.4**
LNSS				AML		AML		
	comp=N,45600μm,0.3s							
LNSS				AML		AML		
	comp=E,24750μm,0.3s							
T1245	**Castelsantange**	**0.14**	**10**	P		**Pg**	**21 29 14.2**	**-0.4**
T1245				S		**Sg**	**21 29 16.6**	**-0.4**
T1245				AML		AML		
T1245				AML		AML		
T1245				AML		AML		
T1245				AML		AML		
T1245				AML		AML		
T1245				END				
T1245	**Castelsantange**	**0.14**	**10**	⇑P		**Pg**	**21 29 14.2**	**-0.4**
T1245				AML		AML		
T1245				AML		AML		
T1245				AML		AML		
T1245				AML		AML		
T1245				AML		AML		
SMA1	**SAN MARTINO**	**0.16**	**122**	⇑P		**Pg**	**21 29 14.6**	**-0.1**
SMA1				S		**Sg**	**21 29 17.5**	**+0.3**
SMA1				AML		AML		
	comp=E,82150μm,0.5s							
SMA1				AML		AML		
	comp=N,87500μm,0.5s							
T1217	**Poggiodomo (PG**	**0.16**	**269**	⇑P		**Pg**	**21 29 15.3**	**+0.6**
T1217				S		**Sg**	**21 29 18.9**	**+1.5**
T1217				AML		AML		
	comp=E,13800μm,0.5s							
T1217				AML		AML		
	comp=N,25550μm,0.4s							
T1217				AML		AML		
	comp=E,13150μm,0.4s							
T1217				AML		AML		
	comp=N,25650μm,0.4s							
T1217				AML		AML		
	comp=N,25700μm,0.4s							
T1217				AML		AML		
	comp=N,25550μm,0.4s							
T1217				AML		AML		
	comp=E,13150μm,0.4s							
T1216	**Preci, Frazion**	**0.20**	**331**	P		**Pg**	**21 29 15.5**	**+0.1**
T1216				S		**Sg**	**21 29 19.2**	**+0.9**
T1216				AML		AML		
	comp=E,33850μm,1.6s							
T1216				AML		AML		
	comp=N,46750μm,0.4s							
T1216				AML		AML		
	comp=E,33750μm,1.6s							
T1216				AML		AML		
	comp=N,46800μm,0.4s							
T1216				END				
T1216	**Preci, Frazion**	**0.20**	**331**	⇑P		**Pg**	**21 29 15.5**	**+0.1**
T1216				S		**Sg**	**21 29 19.4**	**+1.0**
T1216				AML		AML		
	comp=E,33800μm,1.6s							
T1216				AML		AML		
	comp=N,46750μm,0.4s							
T1216				AML		AML		
	comp=E,33750μm,1.6s							
T1216				AML		AML		
	comp=N,46800μm,0.4s							
RM33	**Pellescritta (**	**0.21**	**168**	P		**Pg**	**21 29 15.8**	**+0.2**
RM33				S		**Sg**	**21 29 19.7**	**+1.1**
RM33				AML		AML		
	comp=E,20850μm,0.9s							
RM33				AML		AML		
	comp=N,16800μm,0.5s							
RM33				AML		AML		
	comp=E,20700μm,0.9s							
RM33				AML		AML		
	comp=N,16800μm,0.6s							
RM33				AML		AML		
	comp=E,20800μm,0.9s							
RM33				AML		AML		
	comp=E,20750μm,0.9s							
MMO1	**Montemonaco**	**0.23**	**35**	⇑P		**Pg**	**21 29 15.3**	**-0.5**
MMO1				S		**Sg**	**21 29 18.9**	**-0.1**
T1215	**Vallo di Nera,**	**0.23**	**293**	P		**Pg**	**21 29 16.3**	**+0.5**
T1215				S		**Sg**	**21 29 20.5**	**+1.4**
T1215				AML		AML		
	comp=N,9635μm,0.8s							
T1215				AML		AML		
	comp=E,9625μm,0.5s							
T1215				AML		AML		
	comp=N,9470μm,0.8s							
T1215				AML		AML		
	comp=E,9545μm,1.1s							
T1215				AML		AML		
	comp=N,9620μm,0.8s							
T1215				AML		AML		
	comp=E,9645μm,0.5s							
T1215				AML		AML		
	comp=N,9435μm,0.8s							
T1215	**Vallo di Nera,**	**0.23**	**293**	⇑P		**Pg**	**21 29 16.3**	**+0.5**
T1215				S		**Sg**	**21 29 20.5**	**+1.4**
T1215				AML		AML		
	comp=N,9615μm,0.8s							
T1215				AML		AML		
	comp=E,9635μm,0.5s							
T1215				AML		AML		
	comp=N,9470μm,0.8s							
T1215				AML		AML		
	comp=E,9545μm,1.1s							
T1215				AML		AML		
	comp=E,9645μm,0.5s							
T1215				AML		AML		
	comp=N,9465μm,0.8s							
T1215				AML		AML		
	comp=N,9650μm,0.8s							
T1215				AML		AML		
	comp=E,9540μm,1.1s							
T1215				AML		AML		
	comp=E,9610μm,0.5s							
T1241	**Roccafluvione,**	**0.25**	**55**	P		**Pg**	**21 29 15.8**	**-0.5**
T1241				S		**Sg**	**21 29 19.6**	**-0.1**
T1241				AML		AML		
	comp=E,49700μm,0.3s							
T1241				AML		AML		
	comp=N,44750μm,0.6s							
T1211	**Morro Reatino**	**0.28**	**231**	⇑P		**Pg**	**21 29 17.5**	**+0.6**
T1211				S		**Sb**	**21 29 22.8**	**-0.3**
T1211				AML		AML		
	comp=E,10480μm,0.4s							
T1211				AML		AML		
	comp=N,18950μm,0.6s							
T1211				AML		AML		
	comp=E,10530μm,0.4s							
T1211				AML		AML		
	comp=N,19350μm,0.6s							
T1211				AML		AML		
	comp=N,19400μm,0.6s							
T1211				AML		AML		
	comp=E,10540μm,0.4s							
T1211				AML		AML		
	comp=N,19000μm,0.6s							
T1247	**Pizzolo (AQ)**	**0.29**	**158**	⇓P		**Pg**	**21 29 17.2**	**+0.1**
T1247				AML		AML		
	comp=N,16200μm,1.0s							
T1247				AML		AML		
	comp=E,14700μm,0.6s							
T1256	**Bolognola (MC)**	**0.30**	**10**	P		**Pg**	**21 29 16.5**	**-0.6**
T1256				S		**Sg**	**21 29 21.4**	**+0.2**
T1256				AML		AML		
	comp=N,19250μm,0.4s							
T1256				AML		AML		
	comp=E,15350μm,0.4s							
T1256				AML		AML		
	comp=E,15450μm,0.5s							
T1256				AML		AML		
	comp=N,19250μm,0.4s							
T1256				AML		AML		
	comp=E,15400μm,0.4s							
T1256				AML		AML		
	comp=N,17800μm,0.4s							
T1256				AML		AML		
	comp=E,15450μm,0.4s							
T1256				AML		AML		
	comp=N,17750μm,0.4s							
AM05	**Amandola Campo**	**0.30**	**29**	⇑P		**Pg**	**21 29 16.9**	**-0.3**
AM05				S		**Sg**	**21 29 21.9**	**+0.6**
AM05				AML		AML		
	comp=N,2280μm,0.1s							
AM05				AML		AML		
	comp=E,29500μm,1.1s							
AM05				AML		AML		
	comp=N,2285μm,0.1s							
AM05				AML		AML		
	comp=E,8130μm,1.1s							
AM05				AML		AML		
	comp=N,8475μm,0.1s							
ARRO	**Arrone**	**0.32**	**245**	⇑P		**Pg**	**21 29 18.1**	**+0.6**
ARRO				AML		AML		
	comp=E,6320μm,0.8s							
ARRO				AML		AML		
	comp=N,4800μm,1.4s							
FDMO	**Fiordimonte**	**0.33**	**351**	Pg		**Pg**	**21 29 17.4**	**-0.3**
FDMO				Sg		**Sg**	**21 29 22.8**	**+0.8**
FDMO	**Fiordimonte**	**0.33**	**351**	P		**Pg**	**21 29 17.5**	**-0.2**
FDMO				S		**Sg**	**21 29 23.0**	**+1.0**
FDMO				AML		AML		
	comp=E,9875μm,0.7s							
FDMO				AML		AML		
	comp=N,9230μm,0.6s							
FDMO				END				
FDMO	**Fiordimonte**	**0.33**	**351**	P		**Pg**	**21 29 17.5**	**-0.2**
FDMO				S		**Sg**	**21 29 23.0**	**+1.0**
FDMO				AML		AML		
	comp=N,9230μm,0.6s							
FDMO				AML		AML		
	comp=E,9875μm,0.7s							
CESI	**CESI - Serrava**	**0.34**	**328**	P		**Pg**	**21 29 18.1**	**+0.1**
CESI				S		**Sb**	**21 29 23.8**	**-1.0**
CESI				AML		AML		
	comp=E,11550μm,0.4s							
CESI				AML		AML		
	comp=N,19350μm,0.3s							
CESI				END				
CESI	**CESI - Serrava**	**0.34**	**328**	⇑P		**Pg**	**21 29 18.1**	**+0.1**
CESI				S		**Sb**	**21 29 24.0**	**-0.8**
CESI				AML		AML		
	comp=E,11550μm,0.4s							
CESI				AML		AML		
	comp=N,19350μm,0.3s							
TERO	**Teramo**	**0.34**	**105**	P		**Pg**	**21 29 17.4**	**-0.6**
TERO				S		**Sg**	**21 29 22.5**	**-0.1**
TERO				AML		AML		
	comp=E,12400μm,0.6s							
TERO				AML		AML		
	comp=N,21850μm,0.5s							
TERO				AML		AML		
	comp=N,22700μm,0.5s							
TERO				AML		AML		
	comp=E,12900μm,0.6s							
GUMA	**Gualdo di Mace**	**0.37**	**21**	P		**Pg**	**21 29 18.5**	**0.0**
GUMA				S		**Sb**	**21 29 25.0**	**-0.6**
GUMA				END				
GUMA	**Gualdo di Mace**	**0.37**	**21**	⇑P		**Pg**	**21 29 18.5**	**0.0**
GUMA				S		**Sb**	**21 29 25.0**	**-0.6**
GUMA				AML		AML		
GUMA				AML		AML		
	comp=N,84000μm,0.5s							
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
CSP1	**Cessapalombo**	**0.38**	**6**	P		**Pg**	**21 29 18.4**	**-0.3**
CSP1				S		**Sg**	**21 29 24.2**	**+0.5**
CSP1				AML		AML		
	comp=E,15800μm,0.4s							
CSP1				AML		AML		
	comp=N,23750μm,0.4s							
CSP1				END				
CSP1	**Cessapalombo**	**0.38**	**6**	P		**Pg**	**21 29 18.4**	**-0.3**
CSP1				S		**Sg**	**21 29 24.4**	**+0.6**
AQU	**L'Aquila**	**0.40**	**153**	Pg		**Pg**	**21 29 18.9**	**-0.2**
AQU	**L'Aquila**	**0.40**	**153**	⇓P		**Pg**	**21 29 19.1**	**0.0**
AQU				AML		AML		
	comp=E,6840μm,1.1s							
AQU				AML		AML		
	comp=N,7345μm,0.9s							
AQU				AML		AML		
	comp=N,7185μm,0.9s							
AQU				AML		AML		
	comp=E,6610μm,1.1s							
AQU				AML		AML		
	comp=N,7340μm,0.9s							
AQU				AML		AML		
	comp=E,6845μm,1.1s							
GIGS	**Gran Sasso**	**0.41**	**131**	P		**Pg**	**21 29 18.4**	**-0.6**
GIGS				S		**Sg**	**21 29 24.7**	**+0.2**
GIGS				AML		AML		
	comp=N,2265μm,0.6s							
GIGS				AML		AML		
	comp=E,3535μm,0.4s							
CESX	**Cesi**	**0.43**	**256**	Pg		**Pg**	**21 29 19.9**	**+0.3**
CESX	**Cesi**	**0.43**	**256**	⇑P		**Pg**	**21 29 20.0**	**+0.3**
CESX				AML		AML		
	comp=E,6485μm,0.5s							
CESX				AML		AML		
	comp=N,5260μm,1.4s							
FIAM	**Fiamignano**	**0.45**	**183**	⇑P		**Pg**	**21 29 20.0**	**+0.1**
FIAM				AML		AML		
	comp=E,5420μm,0.9s							
FIAM				AML		AML		
	comp=N,3865μm,0.5s							
OFFI	**Offida**	**0.45**	**60**	P		**Pg**	**21 29 20.2**	**+0.3**
OFFI				S		**Sb**	**21 29 28.1**	**+0.3**
OFFI				AML		AML		
	comp=N,21400μm,0.6s							
OFFI				AML		AML		
	comp=E,24650μm,0.6s							
SEF1	**Sefro**	**0.46**	**341**	⇑P		**Pg**	**21 29 20.2**	**+0.1**
SEF1				AML		AML		
	comp=E,10075μm,0.3s							
SEF1				AML		AML		
	comp=N,10460μm,0.3s							
SEF1				AML		AML		
	comp=E,10095μm,0.3s							
SEF1				AML		AML		
	comp=N,10480μm,0.3s							
MNTP	**Montappone**	**0.48**	**29**	⇓P		**Pg**	**21 29 21.1**	**+0.5**
FAGN	**Fagnano**	**0.55**	**144**	⇓P		**Pg**	**21 29 21.3**	**-0.5**
FAGN				AML		AML		
	comp=E,11500μm,0.6s							
FAGN				AML		AML		
	comp=N,11950μm,0.4s							
TRTR	**Tortoreto Alta**	**0.57**	**80**	⇑P		**Pb**	**21 29 22.7**	**-0.4**
TRTR				AML		AML		
	comp=E,20150μm,0.4s							
TRTR				AML		AML		
	comp=N,17200μm,0.4s							
ATCC	**AVT- Casa Cast**	**0.60**	**321**	⇑P		**Pg**	**21 29 22.8**	**0.0**
ATCC				S		**Sb**	**21 29 33.0**	**+0.7**
ATCC				AML		AML		
	comp=E,6015μm,0.3s							
ATCC				AML		AML		
	comp=N,4145μm,0.8s							
EL6	**Elcito**	**0.62**	**357**	P		**Pg**	**21 29 22.7**	**-0.3**
EL6				AML		AML		
	comp=E,6465μm,1.3s							
EL6				AML		AML		
	comp=N,7195μm,0.5s							
EL6				AML		AML		
	comp=E,6470μm,1.3s							
EL6				AML		AML		
	comp=N,7200μm,0.5s							
FOSV	**Fossato di Vic**	**0.65**	**334**	⇑P		**Pg**	**21 29 23.4**	**-0.3**
FOSV				S		**Sb**	**21 29 34.0**	**+0.4**
FOSV				AML		AML		
	comp=E,2465μm,0.3s							
FOSV				AML		AML		
	comp=N,3730μm,0.4s							
FOSV				AML		AML		
	comp=E,2460μm,0.3s							
CING	**Cingoli**	**0.66**	**3**	⇑P		**Pg**	**21 29 23.4**	**-0.6**
CING				AML		AML		
	comp=N,2355μm,0.7s							
CING				AML		AML		
	comp=E,4085μm,0.9s							
T0110	**Collepietro**	**0.67**	**136**	⇓P		**Pg**	**21 29 23.4**	**-0.7**
T0110				AML		AML		
	comp=E,6900μm,0.5s							
T0110				AML		AML		
	comp=N,6760μm,0.9s							
SRES	**S.Oreste - Sor**	**0.67**	**225**	⇑P		**Pg**	**21 29 24.1**	**0.0**
SRES				AML		AML		
	comp=N,1955μm,0.4s							
SRES				AML		AML		
	comp=E,1630μm,0.9s							
PTQR	**Pietraquaria**	**0.72**	**165**	⇑P		**Pg**	**21 29 24.7**	**-0.2**
PTQR				AML		AML		
	comp=E,1185μm,0.8s							
PTQR				AML		AML		
	comp=N,756μm,1.3s							
MURB	**Monte Urbino**	**0.72**	**320**	Pg		**Pg**	**21 29 24.6**	**-0.4**
MURB				Sg		**Sb**	**21 29 36.0**	**+0.4**
MURB	**Monte Urbino**	**0.72**	**320**	⇓P		**Pg**	**21 29 24.9**	**-0.1**
MURB				S		**Sb**	**21 29 37.0**	**+1.4**
MURB				AML		AML		
	comp=N,8710μm,0.4s							
MURB				AML		AML		
	comp=N,8770μm,0.4s							
MURB				AML		AML		
	comp=E,7030μm,0.2s							
MURB				AML		AML		
	comp=N,8710μm,0.4s							
MURB				AML		AML		
	comp=E,8415μm,0.2s							
PP3	**Marolino**	**0.74**	**27**	⇑P		**Pg**	**21 29 25.6**	**+0.1**
PP3				S		**Sn**	**21 29 38.0**	**-0.9**
PP3				AML		AML		
	comp=N,19050μm,0.5s							
PP3				AML		AML		
	comp=E,24700μm,0.4s							
PP3				AML		AML		
	comp=E,24200μm,0.4s							
PP3				AML		AML		
	comp=N,19700μm,0.5s							
PP3				AML		AML		
	comp=N,19100μm,0.5s							
MTCE	**Montecelio**	**0.76**	**204**	⇓P		**Pn**	**21 29 27.1**	**-0.6**
MTCE				AML		AML		
	comp=E,2290μm,0.7s							
MTCE				AML		AML		
	comp=N,1605μm,0.6s							
CERT	**Cerreto**	**0.78**	**189**	⇓P		**Pg**	**21 29 25.5**	**-0.6**
CERT				AML		AML		
	comp=E,2680μm,0.6s							
CERT				AML		AML		
	comp=N,2000μm,0.7s							
MGAB	**Montegabbione**	**0.79**	**285**	P		**Pb**	**21 29 27.0**	**+0.1**
MGAB				AML		AML		
	comp=E,6245μm,0.6s							
MGAB				AML		AML		
	comp=N,4520μm,0.5s							
MGAB				AML		AML		
	comp=E,6615μm,0.6s							
MGAB				AML		AML		

comp=N,3930µm,0.5s
ARVD Arcevia 0.80 349 P Pg 21 29 26.0 -0.5
ARVD Arcevia 0.80 349 P Pg 21 29 25.8 -0.7
ARVD S Sb 21 29 39.0 +1.1
ARVD AML AML
comp=E,2110µm,0.7s
ARVD AML AML
comp=N,1760µm,0.8s
ATVO AVT- Monte Val 0.86 321 ⇑P Pg 21 29 27.2 -0.5
ATVO S Sn 21 29 41.0 -0.9
ATVO AML AML
comp=E,2350µm,0.5s
ATVO AML AML
comp=N,1735µm,1.2s
AOI Ancona 0.90 21 ⇑P Pg 21 29 28.1 -0.3
AOI AML AML
comp=E,2860µm,0.5s
AOI AML AML
comp=N,3145µm,0.4s
VVLD Villa Vallelon 0.91 157 ⇓P Pg 21 29 28.7 +0.1
VVLD AML AML
comp=N,2160µm,0.6s
VVLD AML AML
comp=E,1370µm,0.5s
VVLD AML AML
comp=N,2165µm,0.6s
ATPI Pietralunga - 0.92 323 ⇓P Pg 21 29 28.4 -0.4
ATPI AML AML
comp=E,1865µm,0.6s
ATPI AML AML
comp=E,1860µm,0.6s
ATPI AML AML
comp=N,1595µm,0.5s
SACS San Casciano d 0.93 279 ⇓P Pn 21 29 30.5 +0.3
SACS AML AML
comp=E,2050µm,1.0s
SACS AML AML
comp=E,2045µm,1.0s
SACS AML AML
comp=N,1720µm,0.8s
SACS AML AML
comp=N,1785µm,0.5s
PIEI Pieia 0.94 331 ⇑P Pg 21 29 28.7 -0.5
PIEI S Sn 21 29 44.0 +0.2
PIEI AML AML
comp=N,1180µm,0.5s
PIEI AML AML
comp=E,1790µm,0.4s
MPAG Monte Paganucc 0.96 343 ⇑P Pg 21 29 29.2 -0.3
MPAG AML AML
comp=N,1555µm,1.2s
MPAG AML AML
comp=E,2125µm,0.6s
MPAG AML AML
comp=N,1560µm,1.2s
NARO Abbazia di Nar 0.99 335 ⇑P Pg 21 29 29.8 -0.3
NARO AML AML
comp=N,1004µm,0.5s
NARO AML AML
comp=E,1003µm,0.4s
SENI Senigallia 0.99 3 ⇑P Pn 21 29 31.4 +0.4
SENI AML AML
comp=E,9135µm,0.4s
SENI AML AML
comp=E,2440µm,0.9s
SENI AML AML
comp=N,9175µm,0.3s
SENI AML AML
comp=N,1950µm,0.8s
APEC Apecchio 1.00 328 ⇑P Pn 21 29 31.1 -0.1
LATE Laterza 1.00 265 Pb 21 29 30.8 +0.3
FSSB Fossombrone 1.01 344 ⇑P Pg 21 29 30.1 -0.5
FSSB AML AML
comp=N,5570µm,1.5s
FSSB AML AML
comp=E,6005µm,0.4s
FSSB AML AML
comp=N,5575µm,1.5s
BADI Badiali 1.04 320 P Pg 21 29 30.8 -0.2
CAFI Castiglion Fio 1.06 306 P Pb 21 29 31.6 0.0
CAFI S Sn 21 29 49.0 +2.1
CAFI AML AML
comp=E,1295µm,0.5s
CAFI AML AML
comp=E,1330µm,0.5s
CAFI AML AML
comp=N,1091µm,1.0s
CAFI AML AML
comp=N,1138µm,1.0s
TOLF Tolfa 1.07 233 ⇑P Pb 21 29 31.7 0.0
TOLF AML AML
comp=E,1035µm,0.5s
TOLF AML AML
comp=N,772µm,1.1s
POFI Posta Fibreno 1.08 157 ⇑P Pb 21 29 30.8 -1.1
POFI AML AML
comp=E,1780µm,0.7s
POFI AML AML
comp=N,907µm,0.6s
POFI AML AML
comp=E,1920µm,0.7s
POFI AML AML
comp=N,862µm,0.8s
MCIV Monte Civitell 1.09 274 ⇑P Pn 21 29 33.0 +0.6
MCIV AML AML
comp=N,816µm,1.6s
MCIV AML AML
comp=E,756µm,0.7s
SSP9 Sansepolcro 1.14 319 ⇓P Pn 21 29 34.2 +1.2
SSP9 AML AML
comp=N,1070µm,1.4s
SSP9 AML AML
comp=E,1168µm,1.4s
GIUL Giuliano Di Ro 1.16 176 ⇑P Pg 21 29 34.9 +1.5
GIUL AML AML
comp=N,862µm,0.8s
GIUL AML AML
comp=E,696µm,0.7s
ARCI Arcidosso 1.24 277 P Pn 21 29 33.0 -1.5
ARCI AML AML
comp=E,378µm,0.6s
ARCI AML AML
comp=N,340µm,0.8s
MIDA Miranda 1.35 142 AML AML
comp=N,682µm,0.7s
MIDA AML AML
comp=E,683µm,0.7s
MIDA AML AML
comp=N,738µm,0.5s
MIDA AML AML
comp=E,735µm,0.7s
TRIV Trivento 1.41 132 ⇑P Pg 21 29 38.9 +0.8
OSSC Osservatorio P 1.61 301 Pn Pb 21 29 40.5 -0.4
RUFI Rufina 1.65 314 ⇓P Pb 21 29 41.5 0.0
MODR Mondragone 1.66 161 S Sg 21 30 06.0 +1.6
CASP Castiglione de 1.69 273 Pn Pn 21 29 40.9 +0.3
TRIF Trifonti 1.70 284 ⇓P Pb 21 29 42.0 -0.4
TRIF AML AML
comp=E,268µm,1.1s
TRIF AML AML
comp=N,230µm,0.6s
MELA Melanico ??? S 1.78 124 ⇑P Pb 21 29 43.5 -0.2
MELA S Sg 21 30 09.0 +0.7
MELA AML AML
comp=E,1710µm,1.2s
MELA AML AML
comp=N,1805µm,0.7s
MELA AML AML
comp=E,1340µm,0.5s
MELA AML AML
comp=N,1800µm,0.7s
PAOL Paolisi 1.99 147 Pn 21 29 45.4 +0.7
APRC Apricena 2.02 118 ⇑P Pn 21 29 45.7 +0.5
SGRT San Giovanni R 2.15 116 Pn 21 29 48.4 +1.4
ZCCA Zocca 2.28 317 Pn 21 29 50.4 +1.7
CARD Cardoso 2.35 305 P Pb 21 29 52.7 -0.7
MCRV Calabrutti - M 2.45 141 S Sb 21 30 24.0 -1.5
TEOL Teolo 2.85 338 Pn 21 29 57.1 +0.5
GRAM Graiana 2.86 309 S Sb 21 30 40.0 +2.7
PGF Pioggiola 3.07 268 eP Pn 21 30 01.4 +1.7
PGF eSn Sn 21 30 33.6 -2.8
comp=N,7.6nm,0.4s
MSSA Maissana 3.09 302 Pn Pn 21 30 00.8 +0.8
AMUR Altamura 3.15 124 ⇑P Pn 21 30 02.4 +1.7
AMUR S Sb 21 30 42.0 -3.5
SABO M.te Sabotino 3.28 5 Pn Pn 21 30 02.3 -0.2

ROVR Rover Verones 3.29 334 P Pn 21 30 05.5 +2.8
CGRP Cima Grappa 3.31 343 ⇑P Pn 21 30 04.7 +1.7
CUC Castrocucco 3.38 143 Pn Pn 21 30 06.2 +2.3
LTRZ Laterza 3.46 126 ⇑P Pn 21 30 06.8 +1.8
SALO Salr 3.46 328 Pn Pn 21 30 07.0 +1.9
DOSS Dosso del Somm 3.47 337 ⇑P Pn 21 30 07.8 +2.7
CTI Castel Tesino 3.50 343 Pn 21 30 07.2 +1.6
CTI Castel Tesino 3.50 343 P Pn 21 30 07.2 +1.6
CTI S Sn 21 30 48.0 +0.9
STAL STALIGIAL 3.56 355 Pn Pn 21 30 07.1 +0.8
LUSI Trento, Gardas 3.61 335 P Pn 21 30 09.1 +2.1
CIMO Cimolais 3.63 352 Pn 21 30 08.0 +0.6
CLUD Cludinico 3.75 357 Pn 21 30 09.4 +0.5
ACOM Acomizza, Ital 3.84 4 ⇓P Pn 21 30 11.4 +1.1
OBKA Obir 3.92 14 ePn Pn 21 30 13.2 +1.8
comp=N,2.2nm,0.2s
MYKA Terra Mystica 3.93 5 ePn Pn 21 30 13.2 +1.8
comp=N,5.5nm,0.3s,SNR=4.7
MYKA i Sn Sn 21 30 58.6 +1.0
comp=N,13nm,0.4s
KOSI Kohlern 3.96 342 ⇑P Pn 21 30 14.3 +2.5
ABTA Abfaltersbach 4.06 354 ePn Pn 21 30 15.2 +2.0
comp=N,12nm,0.4s,SNR=26
ABTA i Sn Sn 21 31 01.8 +1.0
comp=N,20nm,0.5s
VSL Villasalto 4.30 223 ⇓P Pn 21 30 19.9 +3.4
SBF Sospel 4.33 287 ePn Pn 21 30 16.2 -0.7
SBF eSn Sn 21 31 04.6 -2.8
comp=N,22nm,0.5s
KOGS Kog 4.34 30 ⇑P Pg 21 30 32.2 -1.9
KBA Koelnbreinsper 4.37 2 i Pn Pn 21 30 19.1 +1.6
comp=N,4.6nm,0.3s
KBA eSn Sn 21 31 08.6 +0.1
comp=N,29nm,0.7s
ROSI Rosskopf 4.39 344 ⇑P Pn 21 30 20.3 +2.4
FUORN Ofenpass-Fuorn 4.42 333 Pn 21 30 20.9 +2.6
PDG Podgorica 4.52 92 Pn Pn 21 30 21.2 +1.8
FETA Feichten 4.64 339 ePn Pn 21 30 24.0 +2.7
comp=N,5.9nm,0.5s,SNR=8.6
WTTA Wattenberg 4.67 347 i Pn Pn 21 30 24.8 +3.0
comp=N,1.7nm,0.2s,SNR=11
WTTA eSn Sn 21 31 18.3 +2.1
comp=N,35nm,0.7s
DAVOX Davos/Dischmat 4.69 331 Pn Pn 21 30 24.7 +2.8
comp=N,3.7nm,0.3s,baz=161,slow=18,SNR=22
DAVOX Sn Sn 21 31 19.6 +3.2
comp=N,1.3nm,0.3s,baz=148,slow=16,SNR=1.9
comp=N,14nm,0.5s
SQTA Sankt Quirin 4.71 344 i Pn Pn 21 30 24.8 +2.6
comp=N,5.7nm,0.2s,SNR=17
WATA Walderalm 4.75 347 i Pn Pn 21 30 25.5 +2.7
comp=N,4.6nm,0.2s,SNR=11
WATA eSn Sn 21 31 22.2 +4.2
comp=N,15nm,0.4s
ARSA Arzberg 4.84 20 ePn Pn 21 30 25.8 +1.9
comp=N,4.0nm,0.4s
MOTA Moosalm 4.85 343 i Pn Pn 21 30 27.4 +3.2
comp=N,5.7nm,0.4s,SNR=9.5
MOTA i Sn Sn 21 31 25.0 +4.6
comp=N,15nm,0.6s
CRJA Costa Raja 4.91 181 ⇓P Pn 21 30 29.0 +4.1
LMR La Mourre 4.91 279 ePn Pn 21 30 25.1 +0.3
MFNL Monte Finestre 4.92 182 ⇓P Pn 21 30 29.0 +3.9
SATI Passo dei Sala 4.94 312 P Pn 21 30 21.7 -3.8
BIOA Bad Ischl, Aus 4.99 4 i Pn Pn 21 30 27.0 +1.0
comp=N,4.1nm,0.2s,SNR=12
BIOA eSn Sn 21 31 26.4 +2.7
comp=N,18nm,0.4s
MBDF Montbardon 5.04 296 ePn Pn 21 30 26.8 0.0
MBDF eSn Sn 21 31 20.4 -4.8
comp=N,8.0nm,0.7s
RETA Reutte 5.06 341 i Pn Pn 21 30 30.3 +3.2
comp=N,2.8nm,0.2s
DAVA Damuels 5.13 334 i Pn Pn 21 30 31.2 +3.2
comp=N,3.8nm,0.4s
DAVA i Sn Sn 21 31 30.7 +3.5
comp=N,7.4nm,0.4s
DIVS Divibare 5.17 72 Pn Pn 21 30 28.1 -0.4
TIR Tirane 5.18 103 Pn 21 30 29.5 +0.9
MOA Molln 5.20 8 i Pn Pn 21 30 30.5 +1.7
comp=N,1.7nm,0.2s,SNR=6.0
MOA eSn Sn 21 31 29.4 +0.7
comp=N,5.8nm,0.3s
LPG La Plagne 5.38 303 ePn Pn 21 30 31.3 -0.3
LPG La Plagne 5.38 303 eP Pn 21 30 34.9 +3.3
LPG eSn Sn 21 31 28.7 -5.0
comp=N,5.6nm,0.5s
LPL La Plagne 5.40 303 ePn Pn 21 30 32.0 +0.2
LPL La Plagne 5.40 303 eP Pn 21 30 35.1 +3.3
LPL eSn Sn 21 31 29.4 -4.8
comp=N,7.7nm,0.5s
CONA Conrad Observa 5.55 19 i Pn Pn 21 30 34.6 +0.9
comp=N,5.7nm,0.4s
CONA i Sn Sn 21 31 37.0 -0.6
comp=N,7.5nm,0.4s
SMRF Simiane la Rot 5.67 285 eP Pn 21 30 37.7 +2.4
ORIF Oris-en-Rattie 5.71 295 eP Pn 21 30 40.1 +4.2
ORIF eSn Sn 21 31 36.1 -5.3
comp=N,12nm,0.7s
KEK Kerkira 5.84 119 Pn Pn 21 30 38.7 +1.1
KBN Korca 6.09 108 Pn Pn 21 30 40.9 -0.2
GEC2 GERESS Array S 6.14 3 Pn Pn 21 30 41.5 -0.4
GERES GERESS Array B 6.14 3 Pn Pn 21 30 42.3 +0.5
comp=N,0.5nm,0.3s,baz=187,slow=14,SNR=16
GERES Sn Sn 21 31 53.5 +1.3
comp=N,2.2nm,0.3s,baz=168,slow=23,SNR=9.5
comp=N,1.0nm,0.4s
GERES GERESS Array B 6.14 3 Pn Pn 21 30 40.8 -1.1
CKRC Cesky Krumlov 6.16 7 ePN Pn 21 30 41.9 -0.1
CKRC eSN Sn 21 31 51.2 -1.3
MODS Modra-Piesok 6.36 26 ePN Pn 21 30 50.1 +5.4
CABF La Chapelle 6.37 310 ePn Pn 21 30 44.8 -0.1
CABF La Chapelle 6.37 310 eP Pn 21 30 49.0 +4.1
CABF eSn Sn 21 31 52.4 -5.3
comp=N,5.2nm,0.6s
KHC Kasperske Hory 6.42 2 Pn 21 30 46.2 +0.6
KHC Kasperske Hory 6.42 2 ePN Pn 21 30 46.3 +0.6
KHC eSN Sn 21 31 57.9 -1.1
FNA Florina 6.45 105 Pn Pn 21 30 47.3 +1.3
VIVF Saint-Julien-l 6.50 292 eP Pn 21 30 50.1 +3.4
BFO Black Forest 6.56 331 Pn Pn 21 30 49.1 +1.6
SSB Saint Sauveur 6.72 295 Pn Pn 21 30 50.4 +0.6
KRUC Moravsky 6.74 18 ePN Pn 21 30 49.9 0.0
HINF Hinteralfeld 6.76 321 ePn Pn 21 30 50.9 +0.5
HINF eSn Sn 21 32 02.7 -4.7
comp=N,11nm,0.5s
LASF Ste Croix 6.91 285 ePn Pn 21 30 51.7 -0.6
ECH Echery 6.93 325 Pn 21 30 53.5 +0.9
CDF Champ du Feu 7.03 326 ePn Pn 21 30 54.4 +0.3
CDF eSn Sn 21 32 09.5 -4.5
comp=N,7.9nm,0.5s
HAU Haudompre 7.14 320 ePn Pn 21 30 55.5 +0.1
HAU eSn Sn 21 32 11.1 -5.4
comp=N,15nm,0.5s
VTS Vitosha 7.43 87 Pn Pn 21 30 59.9 +0.3
SMF Signal de Mont 7.71 304 ePn Pn 21 31 01.7 -1.6
SMF Signal de Mont 7.71 304 eP Pn 21 31 06.7 +3.4
SMF eSn Sn 21 32 25.3 -5.3
comp=N,3.0nm,0.5s
PAGF Fort de Pagny 7.82 321 eP Pn 21 31 08.0 +3.2
baz=140
PAGF eSn Sn 21 32 28.8 -4.5
comp=N,5.6nm,0.6s
SFTF Sexfontaines 7.92 317 eP Pn 21 31 08.9 +2.8
baz=136
SFTF eSn Sn 21 32 30.5 -5.1
comp=N,4.4nm,0.5s
LOR Lormes 8.01 308 ePn Pn 21 31 06.3 -1.1
baz=125
LOR eSn Sn 21 32 32.2 -5.7
comp=N,2.3nm,0.4s
MTLF Montolieu 8.04 278 eP Pn 21 31 12.9 +5.1
AVF Avril sur Loir 8.08 304 ePn Pn 21 31 08.4 +0.1
AVF eSn Sn 21 32 33.7 -5.9
comp=N,1.8nm,0.6s
MEZF Maizieres J'vi 8.11 318 eP Pn 21 31 12.6 +3.9
baz=139
MEZF eSn Sn 21 32 34.3 -6.0
comp=N,6.0nm,0.6s
SSF Saint Saulge 8.11 306 ePn Pn 21 31 08.7 -0.1
SSF eSn Sn 21 32 36.6 -3.8
comp=N,0.3nm,0.2s
SAVF Savonnieres en 8.15 319 eP Pn 21 31 12.6 +3.3
baz=138
SAVF eSn Sn 21 32 35.0 -6.3

comp=N,6.4nm,0.6s
BGF Bois d'Agland 8.29 301 ePn Pn 21 31 10.1 -1.2
BGF Bois d'Agland 8.29 301 eP Pn 21 31 14.5 +3.2
BGF eSn Sn 21 32 37.1 -7.8
comp=N,3.1nm,0.4s
CAF Calviac 8.32 289 ePn Pn 21 31 10.5 -1.2
CLL Collm 8.60 359 Pn Pn 21 31 15.4 0.0
CLL Collm 8.60 359 ePn Pn 21 31 16.0 +0.6
CLL eSn Sn 21 32 34.0 -18
CLL ex x 21 32 53.0
CLL ex x 21 33 19.0
CLL ex x 21 33 35.0
CLL eSg Sg 21 33 44.0 -2.8
ITM Ithomi 8.71 126 Pn Pn 21 31 19.5 +2.4
GIVF Givet 9.36 325 ePn Pn 21 31 24.1 -1.8
RDO Rodhopi 9.36 95 Pn Pn 21 31 26.9 +0.9
BAIF Baives 9.59 323 ePn Pn 21 31 27.3 -1.8
BAIF eSn Sn 21 33 08.8 -8.0
comp=N,346nm,2.7s
MLR Muntele Rosu 9.61 69 Pn Pn 21 31 29.4 -0.1
comp=N,0.1nm,0.3s,baz=288,slow=9.6,SNR=1.6
MLR LR LR 21 36 06.5
comp=N,42nm,21.4s,baz=256,slow=44
comp=N,0.9nm,0.6s
IDI Anoyia 11.76 125 Pn Pn 21 32 00.1 +1.3
comp=N,0.2nm,0.3s,baz=318,slow=16,SNR=2.1
IDI Sn Sn 21 33 59.2 -11
comp=N,0.1nm,0.3s,baz=299,slow=19,SNR=2.3
comp=N,1.5nm,0.7s
IDI Anoyia 11.76 125 Pn Pn 21 32 00.3 +1.6
KARP Karpathos 13.01 119 Pn Pn 21 32 15.6 -0.3
NC405 NORSAR Array S 18.45 358 P P 21 33 23.7 -2.8
FINES FINESS Array B 20.30 18 P Pn 21 33 49.3 +0.6
comp=N,1.7nm,0.8s,baz=217,slow=10,SNR=5.6
FINES LR LR 21 43 01.6
comp=N,36nm,21.1s,baz=110,slow=41
comp=N,1.7nm,0.8s
MARD Mardin 21.79 95 P P 21 34 02.7 -0.4
TOA0 Torodi Ar. Sit 31.09 202 P P 21 35 30.0 +0.6
TOA0 IAmb IAmb 21 35 31.0
comp=Z,2.2nm,1.3s
TORD Torodi Ar. Bea 31.09 202 P P 21 35 31.2 +1.8
comp=Z,0.6nm,0.9s,baz=22,slow=8.7,SNR=4.2
comp=Z,0.6nm,0.9s
ARU Arti 31.85 49 P P 21 35 35.2 -0.6
ARU IAmb IAmb 21 35 50.0
comp=Z,4.1nm,1.3s
BRVK Borovoye 38.71 54 P P 21 36 34.8 -0.1
BRVK IAmb IAmb 21 36 47.0
comp=Z,3.1nm,0.9s
KKAR Karatay Array 41.29 69 P P 21 36 56.9 +0.4
MKAR Makanchi Array 47.82 60 P P 21 37 49.7 +1.1
comp=Z,0.6nm,0.8s,baz=292,slow=7.6,SNR=4.3
comp=Z,0.6nm,0.8s
MKAR Makanchi Array 47.82 60 P 21 37 46.8 -1.8
SONM Songino Array 61.88 50 P P 21 39 32.1 +1.6
comp=Z,0.6nm,0.9s,baz=298,slow=7.4,SNR=4.2
comp=Z,0.6nm,0.9s
CMAR Chiang Mai Arr 74.69 79 P P 21 40 52.4 +1.4
comp=Z,0.2nm,0.5s,baz=301,slow=9.4,SNR=4.4
comp=Z,0.2nm,0.5s

IDC 05 22:18:24.2±2.4, 6°13S×129°91E, h0km, mb3.7/1, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=165.6km s-min=31.2km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.39**	**163**	P	Pn	22 21 48.0	-1.3
	0.2nm,0.3s,baz=345,slow=13,SNR=2.6						
WRA				Sn	Sn	22 24 13.6	-16
	0.7nm,0.3s,baz=332,slow=23,SNR=12						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**17.85**	**168**	P	P	22 22 34.9	-0.1
	0.2nm,0.3s,baz=352,slow=12,SNR=18						
ASAR				S	Sn	22 25 39.5	-14
	0.6nm,0.7s,baz=357,slow=28,SNR=5.9						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	22 29 21.9	0.0
	0.3nm,0.4s,baz=111,slow=8.2,SNR=7.0						
	0.3nm,0.4s						

IDC 05 22:43:00.8±1.7, 49°28S×125°05E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=95.7km s-min=29.5km az=107.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.46**	**327**	T	T	23 03 39.8	
	baz=153,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**16.47**	**327**	T	T	23 03 36.2	
	baz=153,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**16.48**	**327**	T	T	23 03 39.0	
	baz=153,slow=75,SNR=16						
ASAR	**Alice Springs**	**26.50**	**18**	P	P	22 48 39.0	-0.8
	0.8nm,0.9s,baz=189,slow=10,SNR=5.3						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**30.20**	**18**	P	P	22 49 14.0	+1.2
	0.3nm,0.9s,baz=187,slow=10,SNR=1.5						
	0.3nm,0.9s						
SNAA	**Sanae**	**53.87**	**198**	P	P	22 52 25.0	-0.1
	0.8nm,1.0s,baz=198,slow=13,SNR=2.0						
	0.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**71.31**	**334**	P	P	22 54 21.9	-0.1
	0.3nm,0.3s,baz=189,slow=5.4,SNR=4.3						
	0.3nm,0.3s						

*IDC **05** 22:47:57.8±1.1, 9°61S×118°32E, h0km, mb4.1/6, mbtmp4.0/8, ML4.2/3, MS3.5/2, Error ellipse: s-maj=42.6km s-min=17.2km az=56.0*
*DJA **05** 22:48:07.3±0.2, 9°3S×11°9E±°, h10km, M4.6/16, mb4.6/10, mB5.0/2, MLv4.6/16, Mw(mB)4.3/2, MwMwp4.5/1, Mwp4.9/1*
*NEIC **05** 22:48:09.8±1.2, 9°19S±0°07×119°09E±0°04, h90km±7km, mb4.0/13, Error ellipse: s-maj=11.1km s-min=5.1km az=194.0*

ISC 05 22:48:07.2±0.6, 9°37S±0°05×119°18E±0°04, h46km, n87, s267/78, mb4.2/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.49**	**291**	P	Pn	22 48 33.5	+2.0
PLAI	**Plampang**	**1.49**	**291**	P	Pn	22 48 33.3	+1.8
TWSI	**Taliwang, Sumb**	**2.35**	**285**	P	Pn	22 48 45.9	+2.5
MMRI	**Maumere**	**3.11**	**77**		Pn	22 48 57.8	+4.1
MMRI				Sn	Sn	22 49 33.6	+3.9
MMRI	**Maumere**	**3.11**	**77**	P	Pn	22 48 58.5	+4.7
MMRI	**Maumere**	**3.11**	**77**	P	Pn	22 48 58.1	+4.3
KLNI	**Mataram**	**3.19**	**287**	P	Pn	22 48 57.0	+2.1
BSSI	**Bau Bau, Buton**	**3.46**	**22**	P	Pn	22 49 00.7	+2.1
KHKI	**Kahang-Kahang**	**3.67**	**286**	P	Pn	22 49 05.8	+4.3
DNP	**Denpasar**	**3.98**	**280**	P	Pn	22 49 08.8	+3.0
IGBI	**Denpasar**	**4.02**	**278**	P	Pn	22 49 09.4	+3.1
SRBI	**Singaraja**	**4.12**	**288**	P	Pn	22 49 09.9	+2.2
BKSI	**Bulukumba**	**4.13**	**13**	P	Pn	22 49 10.2	+2.4
RTBI	**Rangdo, Negare**	**4.28**	**282**	P	Pn	22 49 12.8	+2.8
KAPI	**Kappang**	**4.37**	**8**	Pn	Pn	22 49 13.3	+2.2
	12nm,0.3s,baz=198,slow=8.3,SNR=26						
KAPI				Sn	Sn	22 49 58.8	-1.8
	19nm,0.3s,baz=157,slow=20,SNR=25						
	36nm,0.4s						
KAPI	**Kappang**	**4.37**	**8**	Pn	Pn	22 49 12.8	+1.7
KAPI				Sn	Sn	22 49 59.2	-1.4
KAPI	**Kappang**	**4.37**	**8**	P	Pn	22 49 13.9	+2.9
KAPI	**Kappang**	**4.37**	**8**	P	Pn	22 49 13.4	+2.4
BATI	**Baumata**	**4.50**	**101**	Pn	Pn	22 49 16.9	+4.1
	59nm,0.3s,baz=303,slow=3.6,SNR=46						
BATI				Sn	Sn	22 50 05.1	+1.1
	23nm,0.3s,baz=324,slow=5.5,SNR=2.7						
BATI	**Baumata**	**4.50**	**101**	P	Pn	22 49 16.4	+3.5
BNSI	**Bone**	**5.02**	**11**	P	Pn	22 49 24.7	+4.6
	0.3nm38nm,0.6s						
SOEI	**Soe**	**5.03**	**95**		Pn	22 49 24.0	+3.7
SOEI	**Soe**	**5.03**	**95**	P	Pn	22 49 25.9	+5.6
	0.4nm95nm,0.9s						
SOEI	**Soe**	**5.03**	**95**	P	Pn	22 49 24.4	+4.1
JAGI	**Jajag, Banyuwa**	**5.05**	**280**	Pn	Pn	22 49 20.3	-0.2
JAGI				Sn	Sn	22 50 16.5	-1.0
JAGI	**Jajag, Banyuwa**	**5.05**	**280**	P	Pn	22 49 21.5	+1.1
	1.0nm2µm81nm,0.4s						
JAGI	**Jajag, Banyuwa**	**5.05**	**280**	P	Pn	22 49 20.9	+0.5
BBSI	**Bau Bau**	**5.12**	**41**	P	Pn	22 49 24.8	+3.4

	0.2nm26nm,0.8s						
SPSI	**Sidrap Palu**	**5.40**	**6**	P	**Pn**	**22 49 29.1**	**+3.8**
	0.3nm33nm,0.9s						
KKSI	**Kolaka, Sulawe**	**5.72**	**26**	P	**Pn**	**22 49 33.8**	**+4.2**
	0.2nm38nm,0.5s						
PMSI	**Majene**	**5.84**	**357**	P	**Pn**	**22 49 32.6**	**+1.3**
	0.3nm850nm50nm,0.9s						
UGM	**Wanagama**	**8.68**	**279**	Pn	**Pn**	**22 50 13.3**	**+3.0**
KNRA	**Kununurra**	**11.26**	**125**	P	**Pn**	**22 50 46.8**	**+1.3**
	baz=11,SNR=5.5						
KNRA				S	**Sn**	**22 52 46.3**	**-3.7**
	baz=11						
KNRA	**Kununurra**	**11.26**	**125**		**Pn**	**22 50 46.0**	**+0.4**
MBWA	**Marble Bar**	**11.73**	**177**	P	**Pn**	**22 50 53.1**	**+1.1**
PSA00	**Pilbara Seismi**	**12.15**	**177**	Pn	**Pn**	**22 50 56.5**	**-1.3**
PSA00	**Pilbara Seismi**	**12.15**	**177**	Pn	**Pn**	**22 50 57.7**	**-0.1**
PSA00	**Pilbara Seismi**	**12.15**	**177**	P	**Pn**	**22 50 58.9**	**+1.2**
MTN	**Manton Dam**	**12.23**	**107**	P	**Pn**	**22 50 59.0**	**+0.2**
	baz=12,SNR=24						
MTN				S	**Sn**	**22 53 06.8**	**-6.9**
	baz=12						
MTN	**Manton Dam**	**12.23**	**107**		**Pn**	**22 50 58.7**	**-0.1**
KDU	**Kakadu**	**13.46**	**105**	P	**Pn**	**22 51 15.8**	**+0.2**
	baz=14,SNR=14						
GIRL	**Giralia**	**14.02**	**199**	Pn	**Pn**	**22 51 23.5**	**+0.2**
GIRL	**Giralia**	**14.02**	**199**	P	**Pn**	**22 51 23.5**	**+0.2**
FAKI	**Fak Fak**	**14.48**	**65**	Pn	**Pn**	**22 51 29.1**	**-0.4**
MEEK	**Meekatharra**	**17.18**	**182**	P	**P**	**22 52 06.4**	**+1.3**
	baz=17,SNR=6.7						
MEEK	**Meekatharra**	**17.18**	**182**	P	**P**	**22 52 06.6**	**+1.4**
WRKA	**Warakurna**	**17.83**	**152**	P	**P**	**22 52 14.3**	**+1.9**
	baz=18,SNR=14						
WRKA	**Warakurna**	**17.83**	**152**	P	**P**	**22 52 14.3**	**+1.9**
WB0	**Warramunga Arr**	**17.97**	**127**	P	**Pn**	**22 52 14.3**	**+0.5**
WB0				IAmb	IAmb	22 52 23.5	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**18.03**	**127**	P	**Pn**	**22 52 14.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=299,slow=12,SNR=13						
WRA				S	**Sn**	**22 55 26.3**	**-8.5**
	comp=Z,0.5nm,0.4s,baz=312,slow=24,SNR=3.6						
	comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**18.03**	**127**		**Pn**	**22 52 14.8**	**+0.3**
WRAB	**Tennant Creek**	**18.03**	**127**	P	**Pn**	**22 52 15.1**	**+0.6**
WB2	**Warramunga Arr**	**18.04**	**127**	P	**P**	**22 52 15.6**	**+1.0**
	baz=18						
MORW	**Morawa**	**19.82**	**188**	P	**Pn**	**22 52 38.0**	**+2.1**
	baz=20,SNR=4.0						
MORW				S	S	22 56 02.2	-13
	baz=20						
MORW	**Morawa**	**19.82**	**188**	P	**Pn**	**22 52 35.8**	**-0.1**
AS31	**Alice Springs**	**20.00**	**137**	P	**P**	**22 52 36.8**	**+0.6**
ASAR	**Alice Springs**	**20.00**	**137**	P	**P**	**22 52 37.2**	**+1.0**
	comp=Z,2.9nm,0.5s,baz=313,slow=9.1,SNR=27						
ASAR				S	**S**	**22 56 12.2**	**-6.7**
	comp=Z,0.8nm,0.7s,baz=311,slow=23,SNR=5.0						
	comp=Z,2.9nm,0.5s						
ASAR	**Alice Springs**	**20.00**	**137**	P	**P**	**22 52 36.7**	**+0.5**
AS01	**Alice Springs**	**20.04**	**137**	P	**P**	**22 52 38.0**	**+1.5**
QIS	**Mount Isa**	**22.62**	**122**	P	**P**	**22 53 05.4**	**+1.0**
	baz=23						
FORT	**Forrest**	**22.85**	**160**	P	**P**	**22 53 07.2**	**+0.6**
OOD	**Oodnadatta**	**24.04**	**142**	P	**P**	**22 53 18.7**	**+0.6**
MULG	**Mulgathing**	**25.02**	**148**	P	**P**	**22 53 27.9**	**+0.9**
MTSU	**Mount Surprise**	**25.89**	**112**	P	**P**	**22 53 35.6**	**+0.4**
	baz=26,SNR=5.7						
STKA	**Stephens Creek**	**30.55**	**140**	P	**P**	**22 54 17.1**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=309,slow=8.9,SNR=11						
	comp=Z,3.8nm,0.6s						
STKA	**Stephens Creek**	**30.55**	**140**	P	**P**	**22 54 17.0**	**+0.4**
	baz=31,SNR=4.9						
STKA	**Stephens Creek**	**30.55**	**140**	P	**P**	**22 54 17.1**	**+0.6**
H08S2	**Diego Garcia H**	**46.18**	**268**	T	T	23 45 51.4	
	baz=96,slow=76,SNR=8.6						
H08S3	**Diego Garcia H**	**46.19**	**268**	T	T	23 45 55.4	
	baz=96,slow=76,SNR=13						
H08S1	**Diego Carcia H**	**46.20**	**268**	T	T	23 45 52.1	
	baz=96,slow=76,SNR=5.1						
KSRS	**Korea Array**	**47.29**	**9**	P	**P**	**22 56 37.1**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=186,slow=10,SNR=4.1						
KSRS				LR	LR	23 18 13.6	
	comp=Z,33nm,21.1s,baz=45,slow=38						
	comp=Z,0.8nm,0.5s						
ULN	**Ulaanbaatar**	**57.99**	**350**	P	P	22 57 49.2	-6.1
ULN				IAmb	IAmb	22 57 53.7	
	comp=Z,3.1nm,1.1s						
SONM	**Songino Array**	**58.07**	**350**	P	P	22 57 53.0	-2.8
	comp=Z,1.6nm,0.8s,baz=168,slow=8.1,SNR=12						
	comp=Z,1.6nm,0.8s						
SONM	**Songino Array**	**58.07**	**350**	P	P	22 57 52.7	-3.1
SONM				IAmb	IAmb	22 57 56.9	
	comp=Z,1.6nm,1.0s						
MK31	**Makanchi Array**	**64.87**	**333**	P	P	22 58 38.0	-3.6
MKAR	**Makanchi Array**	**64.87**	**333**	P	P	22 58 37.6	-4.0
	comp=Z,1.6nm,0.8s,baz=154,slow=7.0,SNR=12						
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**64.87**	**333**	P	P	22 58 37.3	-4.3
KKAR	**Karatay Array**	**68.46**	**324**	P	P	22 59 01.4	-3.2
KURK	**Kurchatov**	**69.41**	**334**	P	P	22 59 06.1	-4.1
KURK				IAmb	IAmb	22 59 09.8	
	comp=Z,2.7nm,1.1s						
ZAA0	**Zalesovo Array**	**69.45**	**339**	P	P	22 59 06.9	-3.5
ZAA0				IAmb	IAmb	22 59 11.4	
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**69.45**	**339**	P	P	22 59 05.7	-4.8
	comp=Z,0.9nm,0.5s,baz=140,slow=4.9,SNR=4.1						
	comp=Z,0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**69.45**	**339**	P	P	22 59 06.4	-4.1
ABKAR	**Akbulak array**	**77.97**	**325**	P	P	22 59 56.9	-3.6
ABKAR	**Akbulak array**	**77.97**	**325**	P	P	22 59 57.1	-3.4
ABKAR				IAmb	IAmb	23 00 01.2	
	comp=Z,4.0nm,1.4s						
QSPA	**South Pole Qui**	**80.63**	**180**	P	**P**	**23 00 14.7**	**-0.3**
QSPA				IAmb	IAmb	23 00 17.9	
	comp=Z,4.3nm,1.4s						
KIRV	**Kirov**	**87.65**	**331**	LR	LR	23 43 38.8	
	comp=Z,35nm,18.4s,baz=117,slow=38						
TORD	**Torodi Ar. Bea**	**118.70**	**280**	PKP	**PKPdf**	**23 06 49.0**	**-2.3**
	comp=Z,0.2nm,0.4s,baz=50,slow=1.4,SNR=1.6						

---

*NOU **05** 23:16:05.9, 37°.17S×177°.72E, h247km, MLv3.3/6, Off E. Coast of N. Island, N.Z.*

*IDC **05** 23:16:09.0±1.2, 37°.53S×177°.42E, h226km±10km, mb2.8/2, mbtmp3.7/3, Error ellipse: s-maj=45.7km s-min=26.2km az=137.0*

*WEL **05** 23:16:11.0±0.9, 37°S±5°×17°7E±°, h189km±7km, M3.4/54, ML3.3/8, MLv3.4/54, Error ellipse: s-maj=0.0km s-min=0.0km az=48.9*

ISC 05 23:16:08.1±1.0**, 37°.16S**±0°.06×**177°.25E**±0°.06**, h224**km±6km**, n145,** σ1ˢ**52**/156**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.73**	**197**	P	**Pn**	**23 16 39.5**	**+0.7**
HAZ	**Te Kaha**	**0.73**	**145**	P	**Pn**	**23 16 38.5**	**-0.3**
HAZ				S	**S**	**23 17 00.0**	**-2.9**
RUGZ	**Raukumara Rang**	**0.88**	**157**	P	**Pn**	**23 16 39.4**	**-0.3**
RUGZ				S	**S**	**23 17 01.1**	**-3.4**
OPRZ	**Ohinepanea**	**0.88**	**219**	P	**Pn**	**23 16 40.0**	**+0.5**
MXZ	**Matakaoa Point**	**0.94**	**116**	P	**Pn**	**23 16 39.5**	**-0.4**
MXZ	**Matakaoa Point**	**0.94**	**116**	P	**Pn**	**23 16 39.4**	**-0.4**
MXZ				S	**S**	**23 17 01.9**	**-2.8**
MARZ	**Manawahe**	**0.94**	**209**	P	**Pn**	**23 16 40.9**	**+1.0**
TGRZ	**Tauranga**	**0.97**	**234**	P	**Pn**	**23 16 40.9**	**+0.8**
PKGZ	**Pakihiroa**	**0.98**	**138**	P	**Pn**	**23 16 40.8**	**+0.5**
PKGZ				S	**S**	**23 17 03.2**	**-2.2**
EDRZ	**Edgecumbe**	**1.03**	**203**	P	**Pn**	**23 16 41.7**	**+1.2**
URZ	**Urewera**	**1.11**	**186**	P	**Pn**	**23 16 41.4**	**+0.5**
	106nm,0.3s,baz=344,slow=3.8,SNR=493						
URZ				S	**S**	**23 17 05.0**	**-1.6**
	94nm,0.2s,baz=189,slow=10,SNR=8.6						
URZ	**Urewera**	**1.11**	**186**	P	**Pn**	**23 16 41.4**	**+0.5**
URZ	**Urewera**	**1.11**	**186**	P	**Pn**	**23 16 41.6**	**+0.7**
URZ				S	**S**	**23 17 05.3**	**-1.4**
WMGZ	**Waiomatatini S**	**1.14**	**126**	P	**Pn**	**23 16 41.6**	**+0.5**
WMGZ				S	**S**	**23 17 05.7**	**-1.3**
TWGZ	**Tauwhareparae**	**1.17**	**151**	P	**Pn**	**23 16 42.8**	**+1.4**
TWGZ				S	**S**	**23 17 07.4**	**-0.1**
KARZ	**Kaharoa**	**1.17**	**222**	P	**Pn**	**23 16 42.7**	**+1.2**
OMRZ	**Omania**	**1.18**	**216**	P	**Pn**	**23 16 43.0**	**+1.5**
MWZ	**Matawai**	**1.20**	**169**	P	**Pn**	**23 16 42.2**	**+0.6**
MWZ				S	**S**	**23 17 07.5**	**-0.4**
PUZ	**Puketiti**	**1.22**	**139**	P	**Pn**	**23 16 42.4**	**+0.7**
PUZ				S	**S**	**23 17 06.2**	**-1.9**
TARZ	**Mount Tarawera**	**1.23**	**208**	P	**Pn**	**23 16 43.6**	**+1.7**
KMRZ	**Kaimai**	**1.25**	**236**	P	**Pn**	**23 16 43.3**	**+1.3**
NGRZ	**Ngongotaha**	**1.27**	**221**	P	**Pn**	**23 16 43.9**	**+1.8**
KUZ	**Kuaotunu**	**1.29**	**288**	P	**Pn**	**23 16 41.5**	**-0.8**
HLRZ	**Highlands Stat**	**1.30**	**213**	P	**Pn**	**23 16 44.2**	**+1.8**
RRRZ	**Republican Roa**	**1.32**	**206**	P	**Pn**	**23 16 44.0**	**+1.5**
RAGZ	**Rawiri**	**1.34**	**174**	P	**Pn**	**23 16 44.0**	**+1.3**
TKGZ	**Te Karaka**	**1.37**	**160**	P	**Pn**	**23 16 44.1**	**+1.3**
MUGZ	**Murupara**	**1.37**	**196**	P	**Pn**	**23 16 44.0**	**+1.2**
HSRZ	**Hossack Road**	**1.40**	**214**	P	**Pn**	**23 16 45.4**	**+2.4**
HRRZ	**Handcock Road**	**1.45**	**212**	P	**Pn**	**23 16 45.6**	**+2.1**
RTZ	**Ruatahuna**	**1.47**	**188**	P	**Pn**	**23 16 44.8**	**+1.1**
GRRZ	**Galatos Road**	**1.49**	**217**	P	**Pn**	**23 16 46.0**	**+2.1**
PRRZ	**Plateau Road**	**1.50**	**207**	P	**Pn**	**23 16 45.4**	**+1.6**
TOZ	**Tahuroa Road**	**1.50**	**247**	P	**Pn**	**23 16 45.3**	**+1.5**
CNGZ	**Carnagh Statio**	**1.53**	**150**	P	**Pn**	**23 16 45.8**	**+1.7**
ALRZ	**Allen Road**	**1.57**	**207**	P	**Pn**	**23 16 46.2**	**+1.7**
RIGZ	**Rimuhau**	**1.60**	**165**	P	**Pn**	**23 16 46.4**	**+1.7**
WPRZ	**Whakapapatarin**	**1.61**	**212**	P	**Pn**	**23 16 46.8**	**+2.0**
SNGZ	**Shannon Statio**	**1.62**	**177**	P	**Pn**	**23 16 46.5**	**+1.6**
MKAZ	**Moumakai**	**1.67**	**271**	P	**Pn**	**23 16 46.0**	**+0.7**
GRZ	**Great Barrier**	**1.70**	**302**	P	**Pn**	**23 16 44.3**	**-1.3**
MTHZ	**Maungataniwha**	**1.72**	**191**	P	**Pn**	**23 16 47.2**	**+1.4**
WIAZ	**Waiheke Island**	**1.73**	**281**	P	**Pn**	**23 16 46.1**	**+0.2**
RAHZ	**Arahi**	**1.76**	**184**	P	**Pn**	**23 16 48.0**	**+1.9**
TLZ	**Tolley Road**	**1.79**	**229**	P	**Pn**	**23 16 48.7**	**+2.3**
MRHZ	**Matea Rd**	**1.80**	**201**	P	**Pn**	**23 16 47.9**	**+1.3**
ETAZ	**East Tamaki Re**	**1.87**	**276**	P	**Pn**	**23 16 47.9**	**+0.8**
KNZ	**Kokohu**	**1.89**	**170**	P	**Pn**	**23 16 48.8**	**+1.5**
WHHZ	**Waihua**	**1.92**	**180**	P	**Pn**	**23 16 49.5**	**+2.0**
MBAZ	**Motutapu North**	**1.92**	**281**	P	**Pn**	**23 16 48.1**	**+0.5**
WATZ	**Wairara**	**1.96**	**217**	P	**Pn**	**23 16 50.1**	**+2.1**
NMHZ	**Naumai**	**1.97**	**190**	P	**Pn**	**23 16 50.3**	**+2.1**
ABAZ	**Army Bay**	**2.02**	**285**	P	**Pn**	**23 16 48.9**	**+0.4**
EPAZ	**Eden Park BICE**	**2.02**	**277**	P	**Pn**	**23 16 49.5**	**+0.9**
HBAZ	**Herne Bay Bore**	**2.04**	**278**	P	**Pn**	**23 16 49.6**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.06**	**166**	P	**Pn**	**23 16 50.7**	**+1.8**
RATZ	**Rangitukua**	**2.07**	**214**	P	**Pn**	**23 16 51.0**	**+2.0**
AWAZ	**Awhitu Peninsu**	**2.08**	**272**	P	**Pn**	**23 16 50.2**	**+1.0**
BKZ	**Black Stump Fm**	**2.09**	**196**	P	**Pn**	**23 16 50.5**	**+1.2**
BKZ	**Black Stump Fm**	**2.09**	**196**	P	**Pn**	**23 16 50.6**	**+1.3**
ARHZ	**Aropaoanui**	**2.11**	**185**	P	**Pn**	**23 16 51.5**	**+2.1**
RITZ	**Rihia Road**	**2.12**	**211**	P	**Pn**	**23 16 51.6**	**+2.1**
WTAZ	**Waiatarua**	**2.15**	**275**	P	**Pn**	**23 16 50.7**	**+0.8**
RVAZ	**Riverhead Bore**	**2.17**	**279**	P	**Pn**	**23 16 50.6**	**+0.5**
KATZ	**Kakaramea**	**2.19**	**214**	P	**Pn**	**23 16 52.6**	**+2.2**
NTVZ	**North Tongarir**	**2.30**	**212**	P	**Pn**	**23 16 53.6**	**+2.1**
TMVZ	**Te Maari**	**2.30**	**211**	P	**Pn**	**23 16 53.4**	**+1.8**
KRVZ	**Karewarewa**	**2.31**	**213**	P	**Pn**	**23 16 53.4**	**+1.8**
ETVZ	**East Tongariro**	**2.32**	**211**	P	**Pn**	**23 16 53.4**	**+1.7**
MCHZ	**McNeill Hill**	**2.33**	**191**	P	**Pn**	**23 16 53.7**	**+2.1**
HIZ	**Hauiti**	**2.33**	**234**	P	**Pn**	**23 16 54.5**	**+2.9**
HIZ	**Hauiti**	**2.33**	**234**	P	**Pn**	**23 16 54.5**	**+2.8**
WTVZ	**West Tongariro**	**2.35**	**213**	P	**Pn**	**23 16 53.8**	**+1.8**
KWHZ	**Kaweka Forest**	**2.35**	**196**	P	**Pn**	**23 16 53.6**	**+1.7**
NNVZ	**North Ngauruho**	**2.35**	**213**	P	**Pn**	**23 16 54.0**	**+1.9**
OTVZ	**Oturere**	**2.36**	**211**	P	**Pn**	**23 16 54.2**	**+2.1**
TWVZ	**Taurewa**	**2.38**	**216**	P	**Pn**	**23 16 54.3**	**+2.0**
SNVZ	**South Ngauruho**	**2.39**	**212**	P	**Pn**	**23 16 54.5**	**+2.1**
NGZ	**Ngauruhoe**	**2.40**	**212**	P	**Pn**	**23 16 54.6**	**+2.1**
TUVZ	**Tukino**	**2.45**	**210**	P	**Pn**	**23 16 55.0**	**+1.9**
FWVZ	**Far West T-bar**	**2.48**	**212**	P	**Pn**	**23 16 55.5**	**+2.0**
WHVZ	**Whangaehu Hut**	**2.49**	**211**	P	**Pn**	**23 16 55.0**	**+1.4**
CKHZ	**Cape Kidnapper**	**2.50**	**183**	P	**Pn**	**23 16 55.2**	**+1.8**
BHHZ	**Black Hill Sta**	**2.51**	**201**	P	**Pn**	**23 16 54.9**	**+1.3**
TRVZ	**Turoa**	**2.52**	**212**	P	**Pn**	**23 16 55.8**	**+1.8**
WNVZ	**Wahianoa**	**2.53**	**210**	P	**Pn**	**23 16 55.5**	**+1.6**
MOVZ	**Moawhango**	**2.54**	**207**	P	**Pn**	**23 16 55.0**	**+1.2**
KAHZ	**Kahuranaki**	**2.65**	**186**	P	**Pn**	**23 16 57.0**	**+1.9**
VRZ	**Vera Road**	**2.78**	**224**	P	**Pn**	**23 16 59.1**	**+2.7**
PNHZ	**Pukenui**	**2.87**	**196**	P	**Pn**	**23 16 58.7**	**+1.1**
PXZ	**Pawanui**	**2.88**	**186**	P	**Pn**	**23 16 59.0**	**+1.4**
WPHZ	**Waipukurau**	**2.97**	**192**	P	**Pn**	**23 16 60.0**	**+1.4**
TSZ	**Takapari Road**	**3.07**	**199**	P	**Pn**	**23 17 00.8**	**+1.1**
PRHZ	**Porangahau**	**3.14**	**189**	P	**Pn**	**23 17 01.9**	**+1.3**
WAZ	**Wanganui**	**3.14**	**214**	P	**Pn**	**23 17 02.3**	**+1.7**
DVHZ	**Dannevirke**	**3.25**	**195**	P	**Pn**	**23 17 02.7**	**+0.9**
NEZ	**North Egmont**	**3.26**	**229**	P	**Pn**	**23 17 05.5**	**+3.5**
PKE	**Pukeiti**	**3.28**	**231**	P	**Pn**	**23 17 05.6**	**+3.5**
ANWZ	**Angora Road**	**3.35**	**190**	P	**Pn**	**23 17 04.5**	**+1.6**
POWZ	**Post Office Ro**	**3.43**	**199**	P	**Pn**	**23 17 05.0**	**+1.1**
OUZ	**Omahuta**	**3.53**	**302**	P	**Pn**	**23 17 04.6**	**-0.6**
PRWZ	**Pori Road**	**3.54**	**196**	P	**Pn**	**23 17 06.4**	**+1.2**
BFZ	**Birch Farm**	**3.61**	**192**	P	**Pn**	**23 17 06.7**	**+0.8**
MRZ	**Mangatainoka R**	**3.73**	**200**	P	**Pn**	**23 17 08.1**	**+0.6**
TIWZ	**Tintock**	**3.77**	**196**	P	**Pn**	**23 17 09.0**	**+1.1**
CPWZ	**Castlepoint**	**3.83**	**192**	P	**Pn**	**23 17 10.1**	**+1.5**
HOWZ	**Holdsworth Sta**	**3.97**	**199**	P	**Pn**	**23 17 10.7**	**+0.3**
OGWZ	**Otaki Gorge**	**4.00**	**203**	P	**Pn**	**23 17 11.2**	**+0.6**
TMWZ	**Te Maipa**	**4.08**	**195**	P	**Pn**	**23 17 12.3**	**+0.6**
KIW	**Kapiti Island**	**4.12**	**205**	P	**Pn**	**23 17 12.4**	**+0.3**
MTW	**Mount Morrison**	**4.22**	**198**	P	**Pn**	**23 17 13.4**	**+0.1**
CAW	**Cannon Point**	**4.29**	**203**	P	**Pn**	**23 17 14.4**	**+0.1**
TRWZ	**Traveller**	**4.41**	**195**	P	**Pn**	**23 17 16.0**	**+0.4**
PAWZ	**Paruwai Farm**	**4.45**	**198**	P	**Pn**	**23 17 16.2**	**0.0**
DUWZ	**D'Urville Isla**	**4.47**	**214**	P	**Pn**	**23 17 16.4**	**0.0**
MSWZ	**Moikau Station**	**4.53**	**199**	P	**Pn**	**23 17 16.9**	**-0.2**
WEL	**Wellington**	**4.55**	**204**	P	**Pn**	**23 17 17.6**	**+0.2**
TCW	**Tory Channel**	**4.66**	**209**	P	**Pn**	**23 17 18.7**	**-0.1**
PLWZ	**Palliser**	**4.67**	**199**	P	**Pn**	**23 17 18.7**	**-0.2**
TUWZ	**Tuamarina**	**4.98**	**210**	P	**Pn**	**23 17 22.6**	**-0.1**
NNZ	**Nelson**	**5.05**	**215**	P	**Pn**	**23 17 23.2**	**-0.4**
TKNZ	**Takaka Hill**	**5.11**	**219**	P	**Pn**	**23 17 24.4**	**0.0**
QRZ	**Quartz Range**	**5.19**	**224**	P	**Pn**	**23 17 24.6**	**-0.8**
BSWZ	**Blackbirch Sta**	**5.25**	**209**	P	**Pn**	**23 17 26.0**	**-0.1**
MRNZ	**Matariki Terra**	**5.48**	**218**	P	**Pn**	**23 17 28.3**	**-0.8**
THZ	**Tophouse**	**5.70**	**215**	P	**Pn**	**23 17 31.7**	**-0.2**
KHZ	**Kahutara**	**5.98**	**207**	P	**Pn**	**23 17 35.2**	**-0.1**
GVZ	**Greta Valley S**	**6.64**	**208**	P	**Pn**	**23 17 43.5**	**-0.3**
LTZ	**Lake Taylor**	**6.79**	**213**	P	**Pn**	**23 17 45.1**	**-0.6**
INZ	**Inchbonnie**	**7.13**	**217**	P	**Pn**	**23 17 50.1**	**+0.1**
OKCZ	**Okains Bay**	**7.29**	**205**	P	**Pn**	**23 17 52.2**	**0.0**
MQZ	**McQueen's Vall**	**7.42**	**207**	P	**Pn**	**23 17 52.5**	**-1.2**
RACZ	**Rakaia**	**7.63**	**209**	P	**Pn**	**23 17 55.4**	**-1.0**
WACZ	**Wakanui South**	**7.93**	**210**	P	**Pn**	**23 17 59.7**	**-0.6**
RPZ	**Rata Peaks**	**8.07**	**214**	P	**Pn**	**23 18 01.7**	**-0.4**
	7.1nm,0.4s,baz=112,slow=19,SNR=2.5						
RPZ				S	**S**	**23 19 28.2**	**-5.4**
	6.5nm,0.3s,baz=119,slow=18,SNR=2.0						
RPZ	**Rata Peaks**	**8.07**	**214**	P	**Pn**	**23 18 02.4**	**+0.2**
RPZ	**Rata Peaks**	**8.07**	**214**	P	**Pn**	**23 18 01.6**	**-0.6**
ARCZ	**Arundel**	**8.21**	**212**	P	**Pn**	**23 18 03.4**	**-0.4**
TMZ	**Timaru**	**8.63**	**211**	P	**Pn**	**23 18 08.7**	**-0.6**
ODZ	**Otahua Downs**	**9.32**	**210**	P	**Pn**	**23 18 18.3**	**+0.2**
ODZ	**Otahua Downs**	**9.32**	**210**	P	**Pn**	**23 18 18.2**	**+0.1**
ASAR	**Alice Springs**	**39.40**	**277**	P	**P**	**23 23 18.7**	**+2.3**
	0.4nm,0.5s,baz=119,slow=8.4,SNR=8.6						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**41.02**	**283**	P	**P**	**23 23 31.6**	**+1.9**
	0.4nm,0.7s,baz=122,slow=7.3,SNR=6.0						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**144.15**	**343**	PKP	**PKPdf**	**23 35 15.8**	**-0.2**
	4.9nm,1.0s,baz=2.8,slow=3.7,SNR=4.7						
FINES	**FINESS Array B**	**149.74**	**333**	PKPbc	**PKiKP**	**23 35 31.4**	**+0.1**
	1.7nm,0.9s,baz=20,slow=4.4,SNR=5.5						

DJA 05 23:19:06.8±0.9**, 4°S**±7°×**10°2E**±°**, h34**km±10km**, M3.4**/7**, MLv3.4**/7**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.60**	**89**	P	Pb	23 19 19.5	+0.4
MNAI				S	Sb	23 19 29.4	+1.8
UBSI	**University, Be**	**0.61**	**353**	P	Pb	23 19 20.5	+1.3
UBSI				S	Sb	23 19 29.0	+1.3
KSI	**Kapahiang**	**0.75**	**19**	P	Pb	23 19 21.9	+0.3
KSI				S	Sb	23 19 33.9	+2.2
MASI	**Maura Aman, Be**	**1.23**	**355**	P	Pn	23 19 25.8	-1.8
LWLI	**Liwa**	**1.82**	**111**	P	Pn	23 19 35.7	-0.1
KASI	**Kota Agung**	**2.43**	**118**	P	Pn	23 19 44.4	+0.3

---

*DJA **05** 23:38:15.9±1.5, 4°S±7°×15°4E±1°2, h109km±7km, M5.2/18, mB5.6/7, mb4.9/18, MLv5.4/2, Mw(mB)5.1/7*

*BJI **05** 23:38:16.3±0.0, 4°.15S×153°.71E, h104km, mb4.8/45, mB5.1/17*

*IDC **05** 23:38:17.6±0.9, 4°.43S×153°.57E, h108km±7km, mb4.2/22, mbtmp4.7/25, MS3.3/11, Error ellipse: s-maj=9.7km s-min=8.5km az=82.0*

*NEIC **05** 23:38:17.8±1.1, 4°.41S±0°.08×153°.61E±0°.08, h106km±6km, mb5.0/70, Error ellipse: s-maj=12.4km s-min=11.7km az=199.0*

ISC 05 23:38:17.0±0.3**, 4°.42S**±0°.05×**153°.55E**±0°.05**, h100**km**, n211,** σ1ˢ**21**/219**, mb4.8**/72**, 3C-2D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.40**	**279**		**Pn**	**23 38 43.5**	**+1.4**
RABL				Sn	**Sn**	**23 39 04.2**	**+3.1**
RABL	**Rabaul**	**1.40**	**279**	P	**Pn**	**23 38 44.0**	**+1.9**
KRVT	**Keravat (AS076**	**1.52**	**274**	P	**Pn**	**23 38 44.3**	**+0.7**
	4μm,0.5s,baz=242,slow=1.4,SNR=295						
KRVT				S	**Sn**	**23 39 05.7**	**+1.9**
	4μm,0.6s,baz=148,slow=9.6,SNR=3.6						
MANU	**Manus Island**	**6.61**	**291**		**Pn**	**23 39 53.0**	**+1.3**
PMG	**Port Moresby**	**8.04**	**232**	P	**Pn**	**23 40 13.1**	**+1.9**
	383nm,0.6s,baz=59,slow=5.9,SNR=106						
PMG				S	**Sn**	**23 41 38.0**	**-2.5**
	153nm,0.5s,baz=45,slow=15,SNR=3.3						
PMG				LR	LR	23 43 30.9	
	comp=Z,109nm,19.4s,baz=336,slow=39						
PMG	**Port Moresby**	**8.04**	**232**	Pn	**Pn**	**23 40 12.6**	**+1.4**
PMG	**Port Moresby**	**8.04**	**232**	P	**Pn**	**23 40 12.8**	**+1.6**
	6μm619nm,0.9s						
PMG	**Port Moresby**	**8.04**	**232**	P	**Pn**	**23 40 13.5**	**+2.4**
PMG	**Port Moresby**	**8.04**	**232**	P	**Pn**	**23 40 13.6**	**+2.4**
HNR	**Honiara**	**8.07**	**128**	P	**Pn**	**23 40 12.2**	**+0.7**
	1μm,0.9s,baz=240,slow=8.1,SNR=1.7						
HNR				S	**Sn**	**23 41 41.7**	**+0.6**
	8μm,0.6s,baz=166,slow=20,SNR=10						
HNR				LR	LR	23 43 31.5	
	comp=Z,4μm,21.9s,baz=292,slow=39						
HNR	**Honiara**	**8.07**	**128**	P	**Pn**	**23 40 15.7**	**+4.2**
PATS	**Pohnpei**	**12.15**	**23**	Pn	**Pn**	**23 41 06.7**	**-0.2**
GENI	**Genyem**	**13.48**	**277**	P	**P**	**23 41 31.4**	**+1.4**
COEN	**Coen**	**13.94**	**227**	Pn	**Pn**	**23 41 33.1**	**+2.7**
COEN	**Coen**	**13.94**	**227**	P	**Pn**	**23 41 32.7**	**+2.4**
SMPI	**Sarmi**	**15.01**	**279**	P	**Pn**	**23 41 46.0**	**+2.0**
	98nm,0.8s						
CTA	**Charters Tower**	**17.11**	**204**	P	**P**	**23 42 11.7**	**+1.4**
	4.1nm,0.8s,baz=22,slow=13,SNR=8.4						
CTA				LR	LR	23 48 36.5	
	comp=Z,103nm,19.1s,baz=262,slow=36						
CTAO	**Charters Tower**	**17.11**	**204**		**P**	**23 42 11.5**	**+1.2**
KOUNC	**Koumac, New Ca**	**19.13**	**148**	P	**P**	**23 42 33.6**	**+1.2**
RKPI	**Ransiki, Papua**	**19.56**	**278**	P	**P**	**23 42 38.7**	**+1.6**
	20μm130nm,0.7s						
GUMO	**Guam**	**19.86**	**334**	LR	LR	23 48 56.4	
	comp=Z,38nm,21.8s,baz=141,slow=32						
EIDS	**Eidsvold**	**20.96**	**186**	P	**P**	**23 42 53.0**	**+0.9**
QIS	**Mount Isa**	**21.00**	**219**	P	**P**	**23 42 51.0**	**-1.7**
FAKI	**Fak Fak**	**21.31**	**273**	P	**P**	**23 42 55.5**	**-0.5**
FAKI	**Fak Fak**	**21.31**	**273**	P	**P**	**23 42 55.8**	**-0.2**
	34nm,0.9s						
DZM	**Mont Dzumac**	**21.54**	**146**	*e*P	**P**	**23 42 59.2**	**+0.8**
	72nm,1.4s						
DZM				*e*LR	LR	23 48 15.4	
	comp=Z,455nm,32.5s						
DZM	**Mont Dzumac**	**21.54**	**146**	P	**P**	**23 42 58.6**	**+0.1**
	6.2nm,0.5s,baz=313,slow=11,SNR=19						
	6.2nm,0.5s						
DZM	**Mont Dzumac**	**21.54**	**146**	P	**P**	**23 42 57.9**	**-0.5**
DZM	**Mont Dzumac**	**21.54**	**146**	P	**P**	**23 42 58.5**	**+0.1**
ONTNC	**Ouen Toro**	**21.73**	**146**	P	**P**	**23 43 00.4**	**0.0**
OUENC	**Ouen Island, N**	**22.04**	**145**	P	**P**	**23 43 02.0**	**-1.6**
KDU	**Kakadu**	**22.38**	**247**	P	**P**	**23 43 06.8**	**-0.5**
SIJI	**Sorong**	**22.53**	**278**	P	**P**	**23 43 08.6**	**-0.3**
	14nm,0.5s,baz=86,slow=7.6,SNR=15						
	14nm,0.5s						
SIJI	**Sorong**	**22.53**	**278**	P	**P**	**23 43 09.0**	**+0.1**
	42nm,1.2s						
SWI	**Sorong**	**22.54**	**278**	P	**P**	**23 43 09.2**	**+0.2**
	55nm,1.3s						
MTN	**Manton Dam**	**23.67**	**248**	P	**P**	**23 43 20.0**	**+0.3**
QLP	**Quilpie**	**23.77**	**201**	P	**P**	**23 43 20.6**	**+0.1**
WR0	**Warramunga Arr**	**24.11**	**229**	P	**P**	**23 43 23.3**	**-0.4**
WRAB	**Tennant Creek**	**24.24**	**229**	P	**P**	**23 43 24.9**	**+0.1**
WRA	**Warramunga Arr**	**24.25**	**229**	P	**P**	**23 43 24.7**	**-0.2**
	12nm,0.8s,baz=52,slow=9.7,SNR=72						
WRA				PcP	**PcP**	**23 47 02.3**	**-0.6**
	1.9nm,0.8s,baz=57,slow=2.4,SNR=3.8						
WRA				S	**S**	**23 47 40.8**	**+4.1**
	6.3nm,1.0s,baz=46,slow=15,SNR=12						
WRA				ScP	**ScP**	**23 50 29.7**	**-2.9**
	1.6nm,0.8s,baz=53,slow=3.3,SNR=5.1						
	12nm,0.8s						
WRA	**Warramunga Arr**	**24.25**	**229**	P	**P**	**23 43 23.9**	**-1.0**
ARMA	**Armidale**	**25.92**	**184**	P	**P**	**23 43 40.5**	**+0.4**
ARMA				IAmb	IAmb	23 43 41.7	
	comp=Z,22nm,0.8s						
ARMA	**Armidale**	**25.92**	**184**	P	**P**	**23 43 41.2**	**+1.1**
KNRA	**Kununurra**	**26.81**	**244**	P	**P**	**23 43 47.8**	**-0.3**
KNRA				IAmb	IAmb	23 44 26.7	
	comp=Z,28nm,0.6s						
AS01	**Alice Springs**	**26.90**	**223**	P	**P**	**23 43 48.6**	**-0.3**
AS31	**Alice Springs**	**26.93**	**223**	P	**P**	**23 43 48.9**	**-0.3**
ASAR	**Alice Springs**	**26.93**	**223**	P	**P**	**23 43 48.7**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=56,slow=9.0,SNR=27						
ASAR				S	**S**	**23 48 14.4**	**-4.7**
	comp=Z,0.5nm,0.8s,baz=45,slow=14,SNR=1.6						
ASAR				ScP	**ScP**	**23 50 37.8**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=54,slow=4.7,SNR=3.5						
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**26.93**	**223**	P	**P**	**23 43 49.0**	**-0.2**
MSVF	**Nonsavu**	**27.39**	**121**	P	**P**	**23 43 54.1**	**+0.8**
	comp=Z,6.4nm,0.9s,baz=331,slow=15,SNR=5.0						
MSVF				LR	LR	23 53 41.1	
	comp=Z,115nm,20.4s,baz=305,slow=34						
	comp=Z,6.4nm,0.9s						
CMSA	**Cobar Meteorol**	**27.96**	**194**	P	**P**	**23 43 58.5**	**+0.2**
OOD	**Oodnadatta**	**28.80**	**214**	P	**P**	**23 44 05.4**	**-0.4**
SOEI	**Soe**	**29.52**	**258**	P	**P**	**23 44 11.8**	**-0.7**
SOEI				IAmb	IAmb	23 45 18.4	
	comp=Z,18nm,0.6s						
SOEI	**Soe**	**29.52**	**258**	P	**P**	**23 44 12.1**	**-0.4**
STKA	**Stephens Creek**	**29.52**	**201**	P	**P**	**23 44 11.3**	**-0.8**
	comp=Z,11nm,0.8s,baz=12,slow=8.7,SNR=18						
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**29.52**	**201**	P	**P**	**23 44 12.1**	**0.0**
DAV	**Davao City (W)**	**30.16**	**292**	LR	LR	23 54 19.8	
	comp=Z,87nm,21.3s,baz=131,slow=32						
BATI	**Baumata**	**30.18**	**257**	P	**P**	**23 44 18.4**	**+0.2**
	comp=Z,10.0nm,0.4s,baz=103,slow=19,SNR=3.8						
	comp=Z,10.0nm,0.4s						
LUWI	**Luwuk**	**30.92**	**275**	P	**P**	**23 44 24.2**	**-0.5**
LUWI				IAmb	IAmb	23 44 35.8	
	comp=Z,63nm,1.2s						
CAN	**Canberra**	**31.03**	**187**	P	**P**	**23 44 24.4**	**-1.0**
CAN				IAmb	IAmb	23 44 51.9	
	comp=Z,105nm,2.0s						
CAN	**Canberra**	**31.03**	**187**	P	**P**	**23 44 26.2**	**+0.8**
MULG	**Mulgathing**	**31.62**	**213**	P	**P**	**23 44 29.8**	**-0.8**
WRKA	**Warakurna**	**31.76**	**227**	P	**P**	**23 44 31.1**	**-0.9**
HTT	**Hallett**	**31.92**	**204**	P	**P**	**23 44 33.4**	**+0.1**
BBOO	**Buckleboo**	**32.63**	**208**	P	**P**	**23 44 39.0**	**-0.4**
BBOO	**Buckleboo**	**32.63**	**208**	P	**P**	**23 44 39.2**	**-0.3**
TOLI2	**Tolitoli**	**33.20**	**279**	P	**P**	**23 44 43.7**	**-0.9**
TOO	**Toolangi**	**33.80**	**192**	P	**P**	**23 44 49.5**	**-0.1**
TOO				IAmb	IAmb	23 45 55.4	
	comp=Z,31nm,1.3s						
ARPS	**Mount Arapiles**	**33.94**	**197**	P	**P**	**23 44 51.2**	**+0.4**
MPSI	**Mapaga**	**33.95**	**277**	P	**P**	**23 44 49.9**	**-1.3**
	comp=Z,26nm,0.8s						
FORT	**Forrest**	**35.55**	**220**	P	**P**	**23 45 04.1**	**-0.6**
FORT				IAmb	IAmb	23 45 45.1	
	comp=Z,25nm,0.7s						
FORT	**Forrest**	**35.55**	**220**	P	**P**	**23 45 04.4**	**-0.3**
MYLDM	**Lahad Datu**	**36.28**	**285**	P	**P**	**23 45 11.0**	**-0.2**
MYLDM				IAmb	IAmb	23 45 39.5	
	comp=Z,40nm,1.6s						
MBWA	**Marble Bar**	**36.80**	**240**	P	**P**	**23 45 15.2**	**-0.3**
MBWA				IAmb	IAmb	23 45 59.7	
	comp=Z,41nm,1.6s						
PSA00	**Pilbara Seismi**	**36.86**	**239**	P	**P**	**23 45 16.4**	**+0.4**
KKM	**Kota Kinabalu**	**38.70**	**285**	P	**P**	**23 45 31.5**	**-0.2**
KKM				IAmb	IAmb	23 45 38.4	
	comp=Z,17nm,1.0s						
TAU	**Tasmania Unive**	**38.72**	**187**	P	**P**	**23 45 31.6**	**+0.2**
TAU	**Tasmania Unive**	**38.72**	**187**	P	**P**	**23 45 32.2**	**+0.9**
JOW	**Kunigami**	**39.53**	**323**	P	**P**	**23 45 38.8**	**+0.4**
	comp=Z,28nm,0.6s,baz=137,slow=8.3,SNR=5.5						
	comp=Z,28nm,0.6s						
JOW	**Kunigami**	**39.53**	**323**	P	**P**	**23 45 39.2**	**+0.9**
JOW				IAmb	IAmb	23 45 40.4	
	comp=Z,36nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JOW	**Kunigami**	**39.53**	**323**	P	**P**	**23 45 39.6**	**+1.2**
URZ	**Urewera**	**39.94**	**151**	LR	LR	00 01 27.0	
	comp=Z,48nm,19.3s,baz=42,slow=35						
MEEK	**Meekatharra**	**40.02**	**233**	P	**P**	**23 45 41.8**	**-0.7**
YOJ	**Yonaguni jima**	**41.32**	**315**	P	**P**	**23 45 53.5**	**+0.4**
BFZ	**Birch Farm**	**41.47**	**154**	P	**P**	**23 45 53.7**	**-0.4**
KHZ	**Kahutara**	**41.81**	**158**	P	**P**	**23 45 56.2**	**-0.6**
YULB	**Yu-li**	**41.88**	**313**	P	**P**	**23 45 57.7**	**0.0**
YULB				IAmb	IAmb	23 46 02.4	
	comp=Z,18nm,0.8s						
JSU	**Suzuyama**	**41.97**	**330**	P	**P**	**23 45 58.1**	**-0.2**
JSU				IAmb	IAmb	23 45 58.3	
	comp=Z,19nm,1.1s						
RPZ	**Rata Peaks**	**42.08**	**161**	P	**P**	**23 45 58.4**	**-0.6**
	comp=Z,21nm,0.7s,baz=26,slow=2.2,SNR=6.5						
RPZ				LR	LR	00 00 43.1	
	comp=Z,80nm,21.4s,baz=263,slow=32						
	comp=Z,21nm,0.7s						
NACB	**Ninganchiao**	**42.15**	**314**	P	**P**	**23 45 60.0**	**+0.2**
NACB				IAmb	IAmb	23 46 01.1	
	comp=Z,27nm,0.9s						
TPUB	**Ta-pu**	**42.32**	**312**	P	**P**	**23 46 00.7**	**-0.7**
TPUB				IAmb	IAmb	23 46 52.9	
	comp=Z,75nm,1.7s						
SSLB	**Suanglung**	**42.37**	**313**	P	**P**	**23 46 01.6**	**-0.1**
SSLB				IAmb	IAmb	23 46 05.5	
	comp=Z,15nm,0.9s						
LBZ	**Lake Benmore**	**42.41**	**162**	P	**P**	**23 46 00.3**	**-1.4**
INU	**Inuyama**	**42.50**	**340**	P	**P**	**23 46 01.6**	**-1.0**
JGF	**Kuroka**	**42.62**	**340**	P	**P**	**23 46 02.9**	**-0.7**
JGF				IAmb	IAmb	23 46 43.0	
	comp=Z,88nm,1.8s						
MLZ	**Mavora Lakes**	**42.72**	**165**	P	**P**	**23 46 03.1**	**-1.2**
JNU	**Nakatsue**	**43.08**	**332**	P	**P**	**23 46 07.1**	**-0.2**
JNU				IAmb	IAmb	23 46 08.0	
	comp=Z,32nm,0.8s						
JNU	**Nakatsue**	**43.08**	**332**	P	**P**	**23 46 07.4**	**+0.1**
MORW	**Morawa**	**43.16**	**231**	P	**P**	**23 46 07.0**	**-1.0**
MORW				IAmb	IAmb	23 46 39.9	
	comp=Z,15nm,1.1s						
WHZ	**Wether Hill Ro**	**43.17**	**165**	P	**P**	**23 46 06.7**	**-1.2**
WHZ				IAmb	IAmb	23 47 35.3	
	comp=Z,47nm,1.2s						
MJAR	**Matsushiro Arr**	**43.20**	**342**	P	**P**	**23 46 06.7**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=137,slow=1.6,SNR=6.7						
MJAR				LR	LR	00 02 47.4	
	comp=Z,47nm,18.6s,baz=104,slow=34						
	comp=Z,1.0nm,0.4s						
MAJO	**Matsushiro**	**43.20**	**342**	P	**P**	**23 46 07.4**	**-0.8**
MAJO				IAmb	IAmb	23 46 49.7	
	comp=Z,53nm,1.8s						
KSM	**Kuching**	**43.60**	**277**	P	**P**	**23 46 11.2**	**-0.6**
KSM				IAmb	IAmb	23 46 12.9	
	comp=Z,14nm,0.9s						
JHS	**Saijyo**	**43.67**	**335**	P	**P**	**23 46 11.7**	**-0.3**
JHS	**Saijyo**	**43.67**	**335**	P	**P**	**23 46 12.2**	**+0.2**
JTM	**Tenmabayashi**	**46.42**	**347**	P	**P**	**23 46 33.5**	**-0.2**
KSRS	**Korea Array**	**48.01**	**332**	P	**P**	**23 46 45.8**	**-0.3**
	comp=Z,6.9nm,0.8s,baz=145,slow=8.5,SNR=17						
KSRS				LR	LR	00 05 23.8	
	comp=Z,7.0nm,19.3s,baz=145,slow=34						
	comp=Z,6.9nm,0.8s						
RAR	**Rarotonga**	**48.25**	**115**	LR	LR	00 03 25.2	
	comp=Z,17nm,20.5s,baz=228,slow=31						
INCN	**Inchon**	**48.64**	**331**	P	**P**	**23 46 50.6**	**-0.3**
INCN				pP	**pwP**	**23 47 17.3**	**-0.3**
NJ2	**Nanjing**	**49.03**	**320**	*e*P	**P**	**23 46 57.3**	**+3.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
USA0B	**Ussuriysk Arra**	**52.14**	**340**	P	**P**	**23 47 16.9**	**-0.3**
USA0B				IAmb	IAmb	23 48 17.0	
	comp=Z,57nm,1.9s						
USRK	**Ussuriysk Ar.**	**52.14**	**340**	P	**P**	**23 47 17.3**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=167,slow=7.0,SNR=5.5						
	comp=Z,2.1nm,0.4s						
USRK	**Ussuriysk Ar.**	**52.14**	**340**	P	**P**	**23 47 17.6**	**+0.4**
SDSI	**Sungai Dareh**	**52.17**	**272**	P	**P**	**23 47 16.5**	**-1.4**
	comp=Z,962nmcomp=Z,30nm,0.8s						
IPM	**Ipoh**	**53.21**	**279**	P	**P**	**23 47 24.9**	**-0.8**
IPM				IAmb	IAmb	23 49 20.0	
	comp=Z,15nm,1.1s						
KULM	**Kulim**	**53.71**	**280**	P	**P**	**23 47 28.6**	**-0.6**
KULM	**Kulim**	**53.71**	**280**	P	**P**	**23 47 29.0**	**-0.3**
	comp=Z,39nm,0.7s						
ENH	**Enshi**	**54.45**	**312**	P	**P**	**23 47 34.0**	**-0.4**
ENH				IAmb	IAmb	23 47 35.6	
	comp=Z,25nm,1.3s						
GYA	**Guiyang**	**54.77**	**307**	⇑P	**P**	**23 47 38.0**	**+1.1**
GYA				pmax	pmax		
	comp=Z,12nm,1.3s						
BNX	**BinXian**	**55.10**	**338**	⇑P	**P**	**23 47 38.5**	**-0.2**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,220nm,4.1s						
HNS	**HongShan**	**55.10**	**322**	⇑P	**P**	**23 47 39.5**	**+0.6**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLR	**Kul'dur**	**56.70**	**343**	P	**P**	**23 47 49.8**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=179,slow=6.6,SNR=6.6						
	comp=Z,2.4nm,0.6s						
XAN	**Xi'an**	**56.87**	**316**	P	**P**	**23 47 51.1**	**-0.6**
XAN				pP	pP	23 48 17.0	+1.7
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
XAN	**Xi'an**	**56.87**	**316**	P	**P**	**23 47 50.5**	**-1.2**
PPT2	**Papeete2**	**57.13**	**108**	*e*LR	LR	00 04 43.8	
	comp=Z,54nm,26.2s						
KMI	**Kunming**	**57.40**	**303**	⇓P	**P**	**23 47 57.0**	**+1.2**
KMI				pmax	pmax		
	comp=Z,16nm,1.2s						
PEA0B	**Petropavlovsk-**	**57.42**	**3**	P	**P**	**23 47 55.5**	**+0.3**
PETK	**Petropavlovsk-**	**57.42**	**3**	P	**P**	**23 47 55.9**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=169,slow=7.4,SNR=5.7						
	comp=Z,3.9nm,0.7s						
PETK	**Petropavlovsk-**	**57.42**	**3**	P	**P**	**23 47 55.4**	**+0.2**
TBI	**Tubuai**	**58.03**	**115**	*e*LR	LR	00 05 08.5	
	comp=Z,406nm,28.5s						
CMAR	**Chiang Mai Arr**	**58.40**	**295**	P	**P**	**23 48 03.4**	**+0.8**
	comp=Z,6.6nm,0.7s,baz=109,slow=5.2,SNR=35						
	comp=Z,6.6nm,0.7s						
CHTO	**Chiang Mai**	**58.50**	**295**	P	**P**	**23 48 03.6**	**+0.3**
CD2	**Chengdu**	**59.06**	**310**	P	**P**	**23 48 06.7**	**-0.4**
CD2				pP	pP	23 48 32.8	+1.9
CD2				sP	sP	23 48 43.3	+1.6
CD2				S	**S**	**23 56 06.6**	**0.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
SHEM	**Shemya Is, Ala**	**59.54**	**14**	LR	LR	00 10 45.3	
	comp=Z,51nm,19.1s,baz=120,slow=33						
TNCH	**TengChong**	**60.91**	**302**	P	**P**	**23 48 20.6**	**+0.6**
TNCH				pP	pP	23 48 44.9	+0.2
TNCH				S	**S**	**23 56 23.5**	**-7.2**
TNCH				pmax	pmax		
	comp=Z,33nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,110nm,3.8s						
LZH	**Lanzhou**	**61.49**	**315**	*e*P	**P**	**23 48 25.0**	**+1.4**
LZH				pP	pwP	23 48 51.9	+1.6
LZH				sP	PcP	23 49 02.6	-2.1
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
DRV	**Dumont d'Urvil**	**62.84**	**186**	P	**P**	**23 48 30.5**	**-1.3**
DRV				pP	**pwP**	**23 49 01.9**	**+0.7**
GTA	**Gaotai**	**65.89**	**317**	⇓P	**P**	**23 48 53.3**	**+0.8**
GTA				pP	pwP	23 49 20.7	+1.5
GTA				sP	sP	23 49 30.5	+2.7
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar**	**66.08**	**328**	P	**P**	**23 48 53.5**	**-0.1**
ULN	**Ulaanbaatar**	**66.08**	**328**	P	**P**	**23 48 55.8**	**+2.3**
SONM	**Songino Array**	**66.41**	**327**	P	**P**	**23 48 55.8**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=141,slow=5.5,SNR=17						
	comp=Z,2.4nm,0.6s						
SONM	**Songino Array**	**66.41**	**327**	P	**P**	**23 48 55.6**	**0.0**
SHL	**Shillong**	**66.76**	**300**	P	**P**	**23 48 57.9**	**-0.5**
LSA	**Lhasa**	**68.64**	**304**	P	**P**	**23 49 10.6**	**+0.1**
LSA				IAmb	IAmb	23 49 12.4	
	comp=Z,18nm,0.7s						
LSA	**Lhasa**	**68.64**	**304**	P	**P**	**23 49 11.4**	**+0.9**
LSA				pmax	pmax		
	comp=Z,31nm,0.9s						
LSA	**Lhasa**	**68.64**	**304**	P	**P**	**23 49 10.8**	**+0.3**
LSA				x	x	23 49 23.3	
LSA				pP	**pP**	**23 49 35.5**	**+0.3**
TAPN	**Taplejung**	**70.85**	**301**	*e*P	**P**	**23 49 24.2**	**+0.3**
RAMN	**Ramite**	**71.70**	**300**	*e*P	**P**	**23 49 28.9**	**-0.1**
	comp=Z,6.6nm,0.4s						
JIRN	**Jiri**	**72.24**	**301**	*e*P	**P**	**23 49 31.9**	**-0.4**
PKIN	**Phulchoki**	**72.90**	**300**	*e*P	**P**	**23 49 35.7**	**-0.4**
KKN	**Kakani**	**73.05**	**301**	*e*P	**P**	**23 49 37.1**	**+0.2**
VNDA	**Vanda**	**73.18**	**178**	P	**P**	**23 49 36.6**	**+0.2**
	comp=Z,8.7nm,0.8s,baz=332,slow=6.5,SNR=68						
	comp=Z,8.7nm,0.8s						
VNDA	**Vanda**	**73.18**	**178**	P	**P**	**23 49 36.2**	**-0.3**
VNDA				IAmb	IAmb	23 49 37.3	
	comp=Z,11nm,0.8s						
GKN	**Gorkha**	**73.66**	**301**	*e*P	**P**	**23 49 40.4**	**0.0**
SBA	**Scott Base**	**73.71**	**177**	P	**P**	**23 49 40.3**	**+0.8**
DANN	**Dangsing**	**74.49**	**301**	*e*P	**P**	**23 49 44.8**	**-0.6**
	comp=Z,41nm,0.9s						
Q18K	**Katmai Hardscr**	**74.95**	**25**	P	**P**	**23 49 47.1**	**-0.1**
	baz=234						
Q19K	**Cape Douglas,**	**75.69**	**25**	P	**P**	**23 49 51.6**	**+0.3**
	baz=235						
WMQ	**Urumqi**	**75.97**	**317**	*e*P	**P**	**23 49 54.2**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,11nm,1.3s						
P19K	**Oil Pt**	**76.28**	**25**	P	**P**	**23 49 55.2**	**+0.5**
	baz=235						
ILSW	**Iliamna Southw**	**76.51**	**24**	P	**P**	**23 49 55.4**	**-0.6**
ILSW				IAmb	IAmb	23 51 51.4	
	comp=Z,19nm,1.4s						
HOM	**Homer**	**76.95**	**25**	P	**P**	**23 49 58.3**	**-0.1**
	baz=237						
L19K	**White Mountain**	**77.12**	**22**	P	**P**	**23 50 00.4**	**+1.1**
	baz=233						
M19K	**Big River Lodg**	**77.13**	**23**	P	**P**	**23 50 00.9**	**+1.5**
	baz=234						
SUA	**Susitna One**	**78.31**	**24**	P	**P**	**23 50 05.5**	**-0.6**
SUA				IAmb	IAmb	23 51 32.0	
	comp=Z,40nm,1.8s						
J20K	**Nowinta River**	**78.57**	**21**	P	**P**	**23 50 08.4**	**+1.2**
	baz=234						
CAST	**Castle Rocks**	**78.88**	**22**	P	**P**	**23 50 09.1**	**0.0**
PWL	**Port Wells**	**78.99**	**25**	P	**P**	**23 50 10.0**	**+0.3**
PWL				IAmb	IAmb	23 51 22.8	
	comp=Z,20nm,1.2s						
PWL	**Port Wells**	**78.99**	**25**	P	**P**	**23 50 09.8**	**+0.1**
	baz=240						
IMAR	**Indian Mountai**	**79.78**	**19**	P	**P**	**23 50 14.1**	**+0.2**
MCK	**McKinley**	**80.23**	**22**	P	**P**	**23 50 16.2**	**-0.2**
	baz=238						
MLY	**Manley**	**80.27**	**21**	P	**P**	**23 50 16.2**	**-0.4**
MLY	**Manley**	**80.27**	**21**	P	**P**	**23 50 16.7**	**+0.2**
	baz=237						
MK31	**Makanchi Array**	**80.54**	**319**	P	**P**	**23 50 18.2**	**-0.2**
MKAR	**Makanchi Array**	**80.54**	**319**	P	**P**	**23 50 18.3**	**0.0**
	comp=Z,3.8nm,0.8s,baz=95,slow=7.1,SNR=20						
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**80.54**	**319**	P	**P**	**23 50 18.1**	**-0.3**
MAKZ	**Makanchi**	**80.75**	**319**	P	**P**	**23 50 19.4**	**-0.1**
ZAA0	**Zalesovo Array**	**81.26**	**326**	P	**P**	**23 50 20.6**	**-1.4**
ZALV	**Zalesovo Beam**	**81.26**	**326**	P	**P**	**23 50 20.8**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=116,slow=5.8,SNR=13						
	comp=Z,3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**81.26**	**326**	P	**P**	**23 50 20.5**	**-1.4**
IL31		**81.53**	**22**	P	**P**	**23 50 21.6**	**-1.6**
IL31				IAmb	IAmb	23 52 34.0	
	comp=Z,18nm,0.5s						
ILAR	**Eielson Array**	**81.53**	**22**	P	**P**	**23 50 21.9**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=241,slow=4.5,SNR=14						
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**81.53**	**22**	P	**P**	**23 50 21.7**	**-1.5**
J25K	**Salcha River,**	**82.03**	**22**	P	**P**	**23 50 25.7**	**-0.2**
	baz=242						
BCAR	**Beaver Creek A**	**82.76**	**25**	P	**P**	**23 50 29.2**	**-0.5**
KSH	**Kashi**	**83.26**	**310**	P	**P**	**23 50 35.5**	**+2.6**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BMAR	**Burnt Mountain**	**83.64**	**20**	P	**P**	**23 50 33.9**	**-0.3**
KURK	**Kurchatov**	**83.94**	**322**	P	**P**	**23 50 35.2**	**-0.7**
KURK				IAmb	IAmb	23 50 36.4	
	comp=Z,10nm,1.1s						
NIL	**Nilore**	**84.38**	**304**	P	**P**	**23 50 38.2**	**-0.5**
NIL				IAmb	IAmb	23 50 39.5	
	comp=Z,16nm,0.7s						
KBK	**Karagaybulak**	**84.63**	**313**	P	**P**	**23 50 39.9**	**0.0**
	SNR=7.6						
CHMS	**Chumysh**	**84.83**	**314**	P	**P**	**23 50 41.0**	**+0.3**
	SNR=6.9						
UCH	**Uchtor**	**84.86**	**313**	P	**P**	**23 50 42.5**	**+1.1**
	SNR=7.9						
AAK	**Ala-Archa**	**84.95**	**313**	P	**P**	**23 50 41.9**	**+0.3**
	SNR=8.4						
AAK	**Ala-Archa**	**84.95**	**313**		**P**	**23 50 41.4**	**-0.1**
AAK				IAmb	IAmb	23 50 42.9	
	comp=Z,7.7nm,0.8s						
USP	**Ospenovka**	**85.06**	**314**	P	**P**	**23 50 42.4**	**+0.4**
	SNR=7.5						
AML	**Almayashu**	**85.44**	**313**	P	**P**	**23 50 44.6**	**+0.3**
	SNR=12						
EKS2	**Erkin-Say**	**85.48**	**313**	P	**P**	**23 50 45.0**	**+0.9**
	SNR=5.3						
QSPA	**South Pole Qui**	**85.53**	**180**	P	**P**	**23 50 42.7**	**-1.1**
QSPA				IAmb	IAmb	23 51 16.6	
	comp=Z,24nm,1.1s						
NRIK	**Noril'sk**	**85.85**	**341**	P	**P**	**23 50 44.2**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=118,slow=5.4,SNR=8.3						
	comp=Z,2.7nm,0.5s						
NRIK	**Noril'sk**	**85.85**	**341**	P	**P**	**23 50 45.0**	**-0.2**
EPYK	**Eagle Plains**	**86.04**	**22**	P	**P**	**23 50 46.3**	**+0.1**
	baz=250						
MAW	**Mawson**	**86.20**	**203**	P	**P**	**23 50 46.4**	**-0.5**
	comp=Z,5.9nm,0.9s,baz=89,slow=8.3,SNR=5.9						
	comp=Z,5.9nm,0.9s						
MAW	**Mawson**	**86.20**	**203**	P	**P**	**23 50 46.6**	**-0.3**
DRK	**Karamyk**	**86.43**	**310**	P	**P**	**23 50 48.3**	**-0.7**
GAR	**Garm**	**87.50**	**309**	P	**P**	**23 50 53.7**	**-0.4**
KK31	**Karatay Array**	**87.92**	**313**		**P**	**23 50 55.1**	**-0.7**
KKAR	**Karatay Array**	**87.92**	**313**	P	**P**	**23 50 55.0**	**-0.8**
CHGR	**Chuyangaron**	**88.36**	**309**		**P**	**23 50 57.9**	**-0.2**
CLL	**Collm**	**122.88**	**332**	*e*PKPdf	**PKiKP**	**23 57 03.0**	**+1.3**
CLL				*e*pPKPdf	**pPKPdf**	**23 57 31.0**	**+3.2**
GERES	**GERESS Array B**	**124.12**	**329**	PKP	**PKPdf**	**23 57 03.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=64,slow=2.3,SNR=5.2						
BDFB	**Brasilia**	**150.79**	**133**	PKPbc	**PKPbc**	**23 57 57.2**	**-1.7**
	comp=Z,3.4nm,0.7s,baz=206,slow=17,SNR=6.0						
TORD	**Torodi Ar. Bea**	**150.90**	**289**	PKPbc	**PKPbc**	**23 57 58.3**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=74,slow=2.2,SNR=17						

ROM 05 23:42:38.6±0.1**, 43°061N**±0°004×**13°077E**±0°005**, h7km, ML2.3**/14**, 3C-2D, Error ellipse: s-maj=0.4km s-min=0.3km az=237.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**162**	P	Pg	23 42 39.9	-0.1
FDMO				S	Sg	23 42 40.5	-0.4
FDMO				AML	AML		
	comp=E,9055µm,0.2s						
FDMO				AML	AML		
	comp=N,9285µm,0.2s						
CSP1	**Cessapalombo**	**0.10**	**72**	⇑P	Pg	23 42 41.2	+0.3
CSP1				S	Sg	23 42 43.0	+0.5
CSP1				AML	AML		
	comp=E,2105µm,0.2s						
CSP1				AML	AML		
	comp=E,2105µm,0.2s						
CSP1				AML	AML		
	comp=N,1805µm,1.6s						
CESI	**CESI - Serrava**	**0.14**	**246**	P	Pg	23 42 42.2	+0.7
CESI				S	Sg	23 42 45.0	+1.5
CESI				AML	AML		
	comp=E,631µm,0.7s						
CESI				AML	AML		
	comp=N,700µm,0.6s						
CESI				AML	AML		
	comp=N,1335µm,1.0s						
CESI				AML	AML		
	comp=E,1166µm,0.4s						
T1216	**Preci, Frazion**	**0.17**	**194**	P	Pg	23 42 42.6	+0.5
T1216				S	Sg	23 42 45.9	+1.4
T1216				AML	AML		
	comp=E,2621µm,0.2s						
T1216				AML	AML		
	comp=N,4825µm,0.5s						
GUMA	**Gualdo di Mace**	**0.19**	**89**	P	Pg	23 42 43.1	+0.7
GUMA				S	Sg	23 42 46.8	+1.7
GUMA				AML	AML		
	comp=E,2445µm,0.4s						
GUMA				AML	AML		
	comp=N,2660µm,0.3s						
GUMA				AML	AML		
	comp=E,3285µm,0.3s						
GUMA				AML	AML		
	comp=N,2755µm,0.2s						
SNTG	**Esanatoglia**	**0.22**	**333**	P	Pg	23 42 43.7	+0.8
SNTG				S	Sg	23 42 47.6	+1.6
SNTG				AML	AML		
	comp=N,407µm,1.3s						
SNTG				AML	AML		
	comp=E,284µm,1.5s						
SNTG				AML	AML		
	comp=N,439µm,1.3s						
SNTG				AML	AML		
	comp=E,274µm,0.1s						
T1245	**Castelsantange**	**0.22**	**158**	P	Pg	23 42 43.7	+0.7
T1245				S	Sg	23 42 47.5	+1.6
T1245				AML	AML		
	comp=E,556µm,0.6s						
T1245				AML	AML		
	comp=N,920µm,0.3s						
T1245				AML	AML		
	comp=E,555µm,0.2s						
T1245				AML	AML		
	comp=N,934µm,0.3s						
T1245				AML	AML		
	comp=N,1800µm,1.4s						
T1245				AML	AML		
	comp=E,1307µm,0.6s						
T1245				AML	AML		
	comp=E,1187µm,0.6s						
T1245				AML	AML		
	comp=N,1895µm,1.2s						
NRCA	**Norcia**	**0.23**	**173**	AML	AML		
	comp=E,2920µm,0.1s						
NRCA				AML	AML		
	comp=E,2485µm,0.1s						
NRCA				AML	AML		
	comp=N,4350µm,0.1s						
NRCA				AML	AML		
	comp=N,4545µm,0.1s						
EL6	**Elcito**	**0.27**	**4**	P	Pg	23 42 44.2	+0.3
EL6				S	Sb	23 42 49.2	-1.5
EL6				AML	AML		
	comp=E,978µm,0.4s						
EL6				AML	AML		
	comp=N,1150µm,0.3s						
T1215	**Vallo di Nera,**	**0.30**	**211**	P	Pg	23 42 44.8	+0.3
ASSB	**Assisi San Ben**	**0.31**	**267**	⇑P	Pg	23 42 45.3	+0.6
ASSB				AML	AML		
	comp=N,756µm,0.4s						
ASSB				AML	AML		
	comp=E,586µm,0.3s						
FOSV	**Fossato di Vic**	**0.33**	**316**	P	Pg	23 42 45.8	+0.7
FOSV				S	Sb	23 42 51.5	-0.9
FOSV				AML	AML		
	comp=E,460µm,0.5s						
FOSV				AML	AML		
	comp=N,753µm,0.3s						
ATCC	**AVT- Casa Cast**	**0.34**	**291**	⇓P	Pg	23 42 46.1	+0.8
ATCC				S	Sb	23 42 52.1	-0.7
ATCC				AML	AML		
	comp=E,974µm,0.2s						
ATCC				AML	AML		
	comp=N,702µm,0.3s						
SSFR	**Montelago di S**	**0.43**	**330**	P	Pg	23 42 47.4	+0.4
SSFR				S	Sb	23 42 54.8	-0.6
SSFR				AML	AML		
	comp=N,806µm,0.2s						
SSFR				AML	AML		
	comp=E,692µm,1.0s						
SSFR				AML	AML		
	comp=N,970µm,0.2s						
SSFR				AML	AML		
	comp=E,801µm,1.6s						
ARVD	**Arcevia**	**0.45**	**347**	⇑P	Pg	23 42 47.9	+0.7
ARVD				S	Sb	23 42 55.3	-0.5
ARVD				AML	AML		
	comp=E,251µm,1.5s						
ARVD				AML	AML		
	comp=N,152µm,1.4s						
FRON	**Frontone**	**0.52**	**331**	P	Pg	23 42 49.1	+0.4
FRON				AML	AML		
	comp=E,262µm,0.2s						
FRON				AML	AML		
	comp=N,314µm,0.2s						
CESX	**Cesi**	**0.58**	**219**	AML	AML		
	comp=N,170µm,0.7s						
CESX				AML	AML		
	comp=E,150µm,1.5s						
ATVO	**AVT- Monte Val**	**0.59**	**303**	P	Pg	23 42 50.4	+0.5
ATVO				S	Sb	23 42 59.6	-0.1
MPAG	**Monte Paganucc**	**0.61**	**338**	S	Sb	23 43 02.0	+1.4
APEC	**Apecchio**	**0.69**	**316**	S	Sn	23 43 05.0	-0.8
INTR	**Introdacqua**	**1.21**	**149**	⇓P	Pg	23 43 01.0	-0.9

*IDC **05** 23:44:10.6±1.2, 7°31S×107°30E, h0km, mb3.9/6, mbtmp4.0/7, ML4.4/1, MS3.5/5, Error ellipse: s-maj=26.1km s-min=9.3km az=113.0*

*DJA **05** 23:44:13.6±0.3, 7°S±4°×10°8E±°, h10km, M4.3/12, mb4.5/2, mB5.7/1, MLv4.1/12, Mw(mB)5.3/1*

*NEIC **05** 23:44:14.2±1.1, 7°19S±0°05×107°59E±0°08, h10km±1km, mb4.2/8, Error ellipse: s-maj=13.6km s-min=8.3km az=260.0*

ISC 05 23:44:13.2±0.6**, 7°29S**±0°06×**107°59E**±0°04**, h10km, n44, σ1§39**/37**, mb3.8**/7**, MS3.5**/5**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.45**	**267**	P	**Pg**	**23 44 21.7**	**-0.4**
LEM	**Lembang**	**0.46**	**4**	Pg	**Pg**	**23 44 21.4**	**-0.7**
	581nm,0.3s,baz=244,slow=4.3,SNR=231						
LEM				Lg	Lg	23 44 29.8	
	868nm,0.3s,baz=87,slow=12,SNR=18						
LEM				LR	LR	23 44 48.5	
	comp=Z,2µm,20.4s,baz=84,slow=66						
LEM	**Lembang**	**0.46**	**4**	P	**Pg**	**23 44 21.3**	**-0.9**
SKJI	**Sukabumi**	**1.06**	**285**	P	**Pg**	**23 44 32.4**	**-1.2**
TNG	**Tangerang**	**1.45**	**320**	P	**Pg**	**23 44 44.6**	**+3.6**
CTJI	**Waduk Cacaban**	**1.61**	**80**	P	**Pn**	**23 44 42.6**	**+0.9**
SCJI	**Gunung Srandil**	**1.62**	**104**	P	**Pn**	**23 44 42.5**	**+0.7**
SBJI	**Serang**	**1.85**	**309**	P	**Pb**	**23 44 46.5**	**-0.7**
YOGI	**Yogyakarta**	**2.74**	**101**	P	**Pb**	**23 45 01.3**	**-1.0**
SMRI	**Semarang**	**2.84**	**85**		**Pn**	**23 44 59.1**	**+0.4**
SMRI	**Semarang**	**2.84**	**85**	P	**Pn**	**23 45 01.1**	**+2.4**
UGM	**Wanagama**	**2.98**	**102**		**Pn**	**23 45 01.1**	**+0.6**
UGM	**Wanagama**	**2.98**	**102**	P	**Pn**	**23 45 01.2**	**+0.7**
BLSI	**Bandar Lampung**	**3.01**	**309**	P	**Pn**	**23 45 02.0**	**+1.1**
KASI	**Kota Agung**	**3.54**	**299**	P	**Pn**	**23 45 08.9**	**+0.7**
PCJI	**Pacitan**	**3.67**	**104**	P	**Pn**	**23 45 10.8**	**+0.8**
PPBI	**Pangkal Pinang**	**5.29**	**344**	P	**Pn**	**23 45 33.0**	**+0.6**
	0.6nm8µm33nm,0.9s						
KSI	**Kapahiang**	**6.14**	**306**	P	**Pn**	**23 45 47.6**	**+3.5**
JAGI	**Jajag, Banyuwa**	**6.61**	**101**	Pn	**Pn**	**23 45 51.9**	**+1.4**
JAGI	**Jajag, Banyuwa**	**6.61**	**101**	P	**Pn**	**23 45 51.2**	**+0.7**
KSM	**Kuching**	**9.11**	**17**	Pn	**Pn**	**23 46 24.1**	**-0.8**
BATI	**Baumata**	**16.15**	**102**	Pn	**P**	**23 48 03.6**	**-0.2**
	1.3nm,0.3s,baz=76,slow=8.3,SNR=2.1						
	6.2nm,0.4s						
SOEI	**Soe**	**16.68**	**100**	Pn	**Pn**	**23 48 08.1**	**+0.8**
SOEI				IAmb	IAmb	23 48 27.6	
	comp=Z,17nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.96**	**342**	LR	LR	00 02 29.7	
	comp=Z,82nm,18.5s,baz=150,slow=41						
NWAO	**Narrogin (SRO)**	**27.04**	**162**	LR	LR	00 01 33.4	
	comp=Z,88nm,19.7s,baz=222,slow=38						
WRA	**Warramunga Arr**	**28.83**	**119**	P	**P**	**23 50 12.7**	**+0.8**
	comp=Z,1.8nm,1.1s,baz=285,slow=10.0,SNR=4.9						
WRA				LR	LR	00 03 22.4	
	comp=Z,102nm,19.0s,baz=112,slow=40						
	comp=Z,1.8nm,1.1s						
WRA	**Warramunga Arr**	**28.83**	**119**	P	**P**	**23 50 12.6**	**+0.6**
WB2	**Warramunga Arr**	**28.84**	**119**	P	**P**	**23 50 12.2**	**+0.2**
WB2				IAmb	IAmb	23 50 28.4	
	comp=Z,8.6nm,1.4s						
AS31	**Alice Springs**	**30.05**	**126**	P	**P**	**23 50 23.7**	**+0.9**
ASAR	**Alice Springs**	**30.05**	**126**	P	**P**	**23 50 24.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=302,slow=9.1,SNR=4.5						
	comp=Z,0.6nm,0.6s						
FORT	**Forrest**	**30.23**	**143**	P	**P**	**23 50 26.6**	**+2.4**
H08S2	**Diego Garcia H**	**34.79**	**267**	T	T	00 27 54.8	
	baz=93,slow=74						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	34.80	267	T	T	00 27 55.7	
	baz=93,slow=74						
H08S1	Diego Carcia H	34.81	267	T	T	00 27 56.2	
	baz=93						
BBOO	Buckleboo	36.65	138	P	P	23 51 20.8	+0.7
CTA	Charters Tower	39.55	113	LR	LR	00 10 10.4	
	comp=Z,74nm,19.4s,baz=262,slow=39						
STKA	Stephens Creek	40.02	132	P	P	23 51 48.6	+0.1
	comp=Z,13nm,0.7s,baz=310,slow=9.9,SNR=5.6						
	comp=Z,13nm,0.7s						
STKA	Stephens Creek	40.02	132	P	P	23 51 49.5	+1.0
STKA				IAmb	IAmb	23 51 51.5	
	comp=Z,3.2nm,0.8s						
SONM	Songino Array	54.89	359	P	P	23 53 44.2	+0.1
	comp=Z,0.6nm,0.8s,baz=166,slow=6.8,SNR=3.1						
	comp=Z,0.6nm,0.8s						
SONM	Songino Array	54.89	359	P	P	23 53 44.4	+0.3
SONM				IAmb	IAmb	23 54 12.4	
	comp=Z,2.5nm,1.4s						
MKAR	Makanchi Array	58.35	340	LR	LR	00 23 13.3	
	comp=Z,43nm,20.1s,baz=130,slow=40						
ABKAR	Akbulak array	69.96	329	P	P	23 55 23.1	-1.6
VNDA	Vanda	75.58	169	P	P	23 55 57.6	-0.1
	comp=Z,0.7nm,1.0s,baz=308,slow=8.6,SNR=2.5						
	comp=Z,0.7nm,1.0s						
BRTR	Keskin Array B	82.45	312	P	P	23 56 33.4	-2.9
	comp=Z,0.6nm,0.8s,baz=120,slow=5.8,SNR=3.0						
	comp=Z,0.6nm,0.8s						

KRSZO 05 23:44:22.9±1.1**, 46.53N×20.52E, h3**^{km}±7^{km}**, ML2.5**/13, **18C-12D, Error ellipse: s-maj=3.6km s-min=2.4km az=19.0, Hungary**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMBH	Ambrzfalva	0.23	142	Pg	Pg	23 44 28.9	+1.5
	comp=Z,3.8nm,SNR=30						
AMBH	Ambrzfalva	0.23	142	P	Pg	23 44 28.9	+1.5
BSZH	Besenyszg	0.79	347	⇑P	Pg	23 44 37.9	-0.1
BSZH				⇓S	Sg	23 44 47.3	-0.9
SIRR	Siria	0.83	108	Pn	Pg	23 44 39.3	+0.4
	comp=Z,0.4nm,SNR=9.9						
SIRR				Lg	Lg	23 44 50.6	
BZS	Buzias	1.19	140	⇑S	Sn	23 45 05.5	+2.3
BZS	Buzias	1.19	140	Pb	Pg	23 44 45.6	-0.1
	comp=Z,0.2nm,SNR=7.7						
BZS				Sg	Sg	23 45 01.6	+0.4
BANR	Banloc	1.23	159	⇑S	Sn	23 45 06.2	+2.1
LTVH	Ltavrtes, Hu	1.27	47	⇓P	Pn	23 44 48.2	+0.6
LTVH	Ltavrtes, Hu	1.27	47	Pg	Pn	23 44 48.7	+1.1
	comp=Z,0.2nm,SNR=3.1						
LTVH	Ltavrtes, Hu	1.27	47	P	Pn	23 44 48.7	+1.1
MORH	Mrgy, Hungar	1.34	257	⇑P	Pb	23 44 48.7	+0.1
MORH				⇑S	Sn	23 45 06.9	+0.1
MORH	Mrgy, Hungar	1.34	257	Pn	Pn	23 44 46.5	-2.0
	comp=Z,0.1nm,SNR=4.1						
MORH				Sn	Sg	23 45 05.5	-0.3
MORH	Mrgy, Hungar	1.34	257	P	Pn	23 44 46.5	-2.0
MORH				S	Sg	23 45 05.5	-0.3
PSZ	Piszkesteto	1.45	343	⇓P	Pn	23 44 50.2	+0.1
PSZ				⇓S	Sn	23 45 10.0	+0.3
PSZ	Piszkesteto	1.45	343	Pg	Pg	23 44 51.5	+0.8
	comp=Z,0.1nm,SNR=2.9						
PSZ				Lg	Lg	23 45 09.6	
PSZ	Piszkesteto	1.45	343	P	Pg	23 44 51.5	+0.8
PSZ				S	Sb	23 45 09.6	+0.1
A267A	Kaloz	1.46	287	Pg	Pg	23 44 52.0	+1.1
	comp=Z,0.2nm,SNR=2.2						
A267A				Sn	Sb	23 45 07.4	-2.3
FRGS	Fruska Gora	1.46	200	⇓P	Pg	23 44 51.7	+0.8
FRGS				⇓S	Sn	23 45 10.7	+0.8
DRGR		1.53	79	Pn	Pn	23 44 50.0	-1.2
	comp=Z,0.1nm,SNR=6.0						
DRGR				Sn	Sn	23 45 09.5	-2.3
A266A	Gyulaj	1.56	271	Pn	Pg	23 44 53.2	+0.4
	comp=Z,0.7nm,SNR=6.8						
A266A				Lg	Lg	23 45 15.4	
KOVH	Kovagotottos	1.73	256	Pn	Pn	23 44 52.0	-1.9
	comp=Z,0.1nm,SNR=2.2						
KOVH				Sn	Sb	23 45 17.7	+0.1
KOVH	Kovagotottos	1.73	256	P	Pn	23 44 52.0	-1.9
KOVH				S	Sb	23 45 17.7	+0.1
CSKK	Cskako	1.76	299	Pn	Pn	23 44 55.0	+0.7
	comp=Z,1.0nm,SNR=3.4						
CSKK	Cskako	1.76	299	P	Pn	23 44 55.0	+0.7
DEV	Deva	1.78	111	⇑P	Pb	23 44 56.4	+0.2
DEV				⇓S	Sb	23 45 19.1	+0.3
DEV	Deva	1.78	111	Sn	Sn	23 45 16.3	-1.4
MESR	Meseseni	1.78	69	⇑P	Pb	23 44 55.9	-0.2
MESR				⇑S	Sg	23 45 19.6	-0.4
MDVR	Moldovita	1.94	154	⇑P	Pb	23 44 58.6	-0.4
GZR	Gura Zlata	1.94	125	⇓S	Sg	23 45 25.6	+0.4
GZR	Gura Zlata	1.94	125	Pn	Pn	23 44 56.4	-0.4
	comp=Z,0.1nm,SNR=6.4						
HERR	Herculane	2.12	140	⇑P	Pb	23 45 00.9	-1.1
HERR				⇑S	Sg	23 45 29.8	-1.1
CJR	Cluj-Napoca	2.13	84	⇑P	Pn	23 45 00.4	+0.9
CJR				⇑S	Sb	23 45 28.1	-0.9
VYHS	Vyhne	2.27	330	ePN	Pn	23 45 00.8	-0.5
VYHS				eSN	Sn	23 45 27.0	-2.9
VYHS				eLG	Lg	23 45 27.7	
BMR	Baia Mare	2.33	60	⇓P	Pn	23 45 03.3	+1.2
LOT	Lotru	2.51	114	⇑P	Pn	23 45 06.4	+1.7
LOT				⇓S	Sb	23 45 39.8	-0.2
ARCR	ARCALIA	2.69	77	⇑P	Pn	23 45 08.7	+1.6
ARCR				⇑S	Sb	23 45 42.7	-2.4
ZST	Bratislava	2.86	307	ePN	Pn	23 45 09.0	-0.4
ZST				eSN	Sn	23 45 40.9	-3.4
MODS	Modra-Piesok	2.87	311	ePN	Pn	23 45 09.1	-0.5
MODS				eSN	Sn	23 45 41.6	-3.0
MODS				eLG	Lg	23 45 42.1	
ARR	Arges	3.10	111	⇑P	Pn	23 45 14.4	+1.6
ARR				⇑S	Sb	23 45 53.7	-3.1
VOIR		3.34	107	⇓P	Pn	23 45 17.4	+1.3
BURAR	Bucovina Array	3.39	70	⇓P	Pn	23 45 17.5	+0.8
KRUC	Moravsky	3.76	314	ePN	Pn	23 45 21.3	-0.5
KRUC				eSN	Sn	23 46 02.6	-3.9
MORC	Moravsky Berou	3.81	330	ePN	Pn	23 45 22.2	-0.3
MORC				eSN	Sn	23 46 04.4	-3.4
VRAC	Vranov	3.83	318	ePN	Pn	23 45 22.4	-0.4
VRAC				eSN	Sn	23 46 04.7	-3.6

*IDC **05** 23:45:09.1±2.4, 15.19N×94.35W, h0^{km}, mb3.7/7, mbtmp3.7/8, ML3.7/1, MS3.3/4, Error ellipse: s-maj=52.9km s-min=30.5km az=41.0*
*MEX **05** 23:45:11.9±1.0, 14.91N×94.79W, h16^{km}±18^{km}, MD4.3*
*NEIC **05** 23:45:11.4±2.2, 15.16N±0.08×94.63W±0.03, h10^{km}±2^{km}, mb4.2/22, Md4.3/11(MEX), Error ellipse: s-maj=13.5km s-min=4.8km az=192.0*
ISC 05 23:45:12.0±3.5**, 14.97N**±0.07×**94.77W**±0.04**, h30**^{km}±28^{km}**, n72, σ1.66**/82**, mb4.0**/14**, MS3.2**/4**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.52	302		Pn	23 45 35.4	-1.8
HUIG					Sn	23 45 52.4	-3.5
HUIG	Huatulco	1.52	302	eP	Pn	23 45 35.4	-1.8
HUIG				i S	Sn	23 45 52.4	-3.5
NILT	Santiago Nilte	1.59	5	eP	Pn	23 45 35.5	-2.7
NILT				eS	Sn	23 45 55.9	-1.8
PCIG		1.66	64		Pn	23 45 37.0	-2.1
PCIG		1.66	64	eP	Pn	23 45 37.0	-2.1
PCIG				eS	Sn	23 45 57.7	-1.8
CMIG	Matias Romero	2.11	357	Pn	Pn	23 45 44.3	-1.0
	47nm,0.3s,baz=168,slow=12,SNR=329						
CMIG				LR	LR	23 46 07.1	
	comp=Z,114nm,19.1s,baz=137,slow=30						
CMIG				Sn	Sn	23 46 09.2	-1.4
	110nm,0.3s,baz=338,slow=22,SNR=10						
CMIG	Matias Romero	2.11	357		Pn	23 45 44.1	-1.2
CMIG	Matias Romero	2.11	357	i P	Pn	23 45 44.1	-1.2
CMIG				eS	Sn	23 46 09.4	-1.1
TGIG		2.39	41		Pn	23 45 48.2	-1.1
TGIG					Sn	23 46 13.5	-4.2
TGIG		2.39	41	eP	Pn	23 45 48.2	-1.1
TGIG				eS	Sn	23 46 16.7	-0.9
UXUV	UXUV	2.41	14	eP	Pn	23 45 48.9	-0.6
UXUV				eS	Sn	23 46 17.3	-0.6
PEIG	Puerto Escondi	2.51	294	eP	Pn	23 45 49.9	-0.9
PEIG				eS	Sn	23 46 16.3	-4.1
VHO	Vista Hermosa	2.81	318	e	Pn	23 45 56.0	+0.8
VHO				eS	Sn	23 46 28.3	0.0
CCIG	Comitan	2.85	62		Pn	23 45 54.1	-1.5
CCIG	Comitan	2.85	62	eP	Pn	23 45 55.7	0.0
CCIG				eS	Sn	23 46 31.3	+2.2
RTAL	Retalhuleu	3.01	98		Pn	23 45 56.0	-1.7
HUEH	Huehuetenango	3.17	83		Pn	23 45 58.3	-1.8
YOIG	Yosondua	3.26	305	eP	Pn	23 46 02.9	+1.5
YOIG				eS	Sn	23 46 37.3	-2.2
PNIG	Pinotepa	3.53	294	e	Pn	23 46 04.6	-0.3
PNIG				e		23 46 40.8	
PMUV	Sontecomapan	3.57	355	e	Pn	23 46 01.8	-3.7
PMUV				e		23 46 46.8	
TOIG	Toxpalan	3.81	325	e	Pn	23 46 11.4	+2.6
TOIG				e		23 46 53.1	
FTIG	Fresnillo de T	4.35	313	e	Pn	23 46 17.7	+1.5
FTIG				e		23 47 02.2	
TLIG	Tlapa	4.46	306		Pn	23 46 18.4	+0.6
PETF	Flores	5.09	67		Pn	23 46 24.9	-1.5
SCIG	Sabancuy	5.25	40	e	Pn	23 46 26.9	-1.5
SCIG				e		23 47 30.9	
MTO3	Montecristo	5.26	96		Pn	23 46 27.6	-1.3
ESQI	Esquipulas	5.27	94	Pn	Pn	23 46 27.8	-1.1
MOIG	Morelia	7.71	308	Pn	Pn	23 47 03.3	+0.7
CRIN	San Cristobal	7.83	106	Pn	Pn	23 47 04.9	+0.9
TEIG	Tepich	8.10	49	Pn	Pn	23 47 04.9	-2.8
ORTG	Ortega, Santa	10.17	116	Pn	Pn	23 47 35.0	-1.2
RIMA	Rio Macho	11.84	115	Pn	Pn	23 47 59.3	+0.1
SRBA	San Rafael, Bu	12.53	116	Pn	Pn	23 48 08.9	+0.5
833A	Chaparral WMA,	13.96	343	Pn	Pn	23 48 29.7	+1.8
435B	Jarrell	15.95	351	Pn	Pn	23 48 55.1	+0.8
435B				IAmb	IAmb	23 49 18.8	
	comp=Z,9.7nm,0.7s						
TXAR	Lajitas Array	16.48	332	Pn	P	23 49 03.5	-0.2
	comp=Z,0.1nm,0.3s,baz=155,slow=15,SNR=9.2						
	comp=Z,1.5nm,0.9s						
TXAR	Lajitas Array	16.48	332		Pn	23 49 02.5	+1.2
TX32	Lajitas Array	16.49	332	Pn	Pn	23 49 02.2	+0.9
WHTX	Lake Whitney,	17.12	352		P	23 49 10.2	-0.4
WHTX				IAmb	IAmb	23 49 24.8	
	comp=Z,8.4nm,0.7s						
ABTX	Abilene, Hawle	18.12	347		Pn	23 49 21.5	-0.1
ABTX				IAmb	IAmb	23 49 37.1	
	comp=Z,26nm,1.4s						
CLNB	Carlsbad	19.11	336	P	P	23 49 33.0	+0.4
HTMS	Hat Mesa	19.20	337	P	P	23 49 33.6	-0.1
GDL2	Guadalupe Moun	19.25	335	P	Pn	23 49 35.3	-0.1
WMOK	Wichita Mounta	20.01	350		Pn	23 49 45.0	+0.8
OK025	Westminster Rd	20.65	354	P	P	23 49 50.1	+0.8
OK025				IAmb	IAmb	23 49 54.6	
	comp=Z,16nm,0.8s						
BCOK	Bluff Creek, N	20.75	353	P	P	23 49 51.0	+0.5
BCOK				IAmb	IAmb	23 50 04.1	
	comp=Z,25nm,1.2s						
AMTX	Amarillo	20.78	344	P	P	23 49 51.1	+0.3
FCAR	Ozark Folk Cen	20.96	6	P	P	23 49 52.5	-0.1
121A	Cookes Peak, D	21.12	328	P	P	23 49 55.5	+0.9
121A				IAmb	IAmb	23 50 09.6	
	comp=Z,8.5nm,1.1s						
FPAL	Fort Paine	21.16	21	P	P	23 49 53.6	-1.3
HHAR	Hobbs	21.23	2	P	P	23 49 57.5	+1.9
HHAR				IAmb	IAmb	23 49 58.4	
	comp=Z,8.1nm,0.4s						
BNM	Barren Site	21.89	333	P	P	23 50 04.3	+1.3
ANMO	Albuquerque	22.50	334	P	P	23 50 10.5	+1.1
	comp=Z,1.3nm,0.9s,baz=135,slow=10,SNR=5.0						
	comp=Z,1.3nm,0.9s						
TKL	Tuckaleechee C	22.84	24	P	P	23 50 10.0	-2.8
	comp=Z,1.6nm,0.5s,baz=190,slow=9.5,SNR=4.7						
TKL				LR	LR	00 00 47.0	
	comp=Z,54nm,18.2s,baz=192,slow=42						
	comp=Z,1.6nm,0.5s						
TKL	Tuckaleechee C	22.84	24	P	P	23 50 10.4	-2.4
TKL				IAmb	IAmb	23 50 22.5	
	comp=Z,14nm,1.2s						
U49A	Red Boiling Sp	22.90	19	P	P	23 50 11.7	-1.7
U49A				IAmb	IAmb	23 50 12.5	
	comp=Z,18nm,1.4s						
CCM	Cathedral Cave	23.20	7	P	P	23 50 15.9	-0.5
CCM				IAmb	IAmb	23 50 33.6	
	comp=Z,7.4nm,1.2s						
T25A	Trinidad	23.68	341	P	P	23 50 23.2	+1.7
WCI	Wyandotte Cave	24.35	16	P	P	23 50 26.1	-1.2
WCI				IAmb	IAmb	23 50 26.4	
	comp=Z,7.7nm,0.9s						
P40A	Paris	24.58	5	P	P	23 50 27.7	-1.8
SPMN	Marine on St.	30.20	3	P	P	23 51 19.3	-0.4
PDAR	Pinedale Array	30.48	338	P	P	23 51 23.1	+0.6
	comp=Z,0.6nm,0.9s,baz=150,slow=9.3,SNR=4.8						
	comp=Z,0.6nm,0.9s						
NVAR	Mina Array Bea	31.26	323	P	P	23 51 32.6	+3.1
	comp=Z,0.4nm,0.5s,baz=138,slow=9.6,SNR=4.2						
	comp=Z,0.4nm,0.5s						
B35A	Bob, Littlefor	33.30	1	P	P	23 51 46.2	-0.8
PLID	Pearl Lake	34.98	333	P	P	23 52 03.0	+1.1
PLID				IAmb	IAmb	23 52 13.3	
	comp=Z,3.6nm,0.9s						
MDP	Montagnes des	42.55	99	LR	LR	00 11 41.9	
	comp=Z,34nm,19.5s,baz=336,slow=38						
SCHQ	Schefferville	45.30	22	LR	LR	00 12 19.5	
	comp=Z,21nm,18.6s,baz=344,slow=36						
SIV	San Ignacio	45.33	131	LR	LR	00 10 55.7	
	comp=Z,59nm,18.2s,baz=82,slow=34						
YKA	Yellowknife Ar	49.49	348	P	P	23 53 59.5	+0.1
	comp=Z,1.2nm,0.7s,baz=157,slow=7.1,SNR=4.1						
	comp=Z,1.2nm,0.7s						
ILAR	Eielson Array	60.90	337	P	P	23 55 22.1	+0.4
	comp=Z,0.8nm,1.1s,baz=130,slow=4.0,SNR=4.7						
	comp=Z,0.8nm,1.1s						
EUNU	Eureka	65.22	2	P	P	23 55 51.4	+1.1
EUNU				IAmb	IAmb	23 55 58.9	
	comp=Z,3.1nm,1.1s						
ESDC	Sonseca Array	81.21	51	P	P	23 57 25.1	-0.3
	comp=Z,1.6nm,0.8s,baz=296,slow=5.7,SNR=7.0						
	comp=Z,1.6nm,0.8s						

*IDC **06** 00:27:12.0±1.3, 40.01N×19.70E, h0^{km}, mb3.6/5, mbtmp3.5/8, ML3.3/2, MS3.3/2, Error ellipse: s-maj=25.7km s-min=20.2km az=65.0*
*TIR **06** 00:27:13.9, 39.97N×19.73E, h1^{km}, Md3.1, Ml3.2*
*ATH **06** 00:27:14.0, 40.00N×19.61E, h5^{km}±1^{km}, ML3.0/9, Error ellipse: s-maj=3.6km s-min=1.6km az=114.0*
*THE **06** 00:27:15.4, 40.00N×19.79E, h0^{km}±3^{km}, ML3.0/5, Error ellipse: s-maj=3.3km s-min=0.7km az=300.0*
ISC 06 00:27:14.5±1.0**, 39.97N**±0.02×**19.72E**±0.03**, h11**^{km}±7^{km}**, n51, σ1.22**/71**, mb3.7**/4**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.24	112	P	Pg	00 27 19.0	-0.4
SRN				S	Sg	00 27 22.4	-0.2
	14µm,0.4s						
SRN	Sarande	0.24	112	P	Pg	00 27 18.9	-0.4
	baz=113						
SRN				S	Sg	00 27 22.6	0.0
	baz=113						
SRN				AMP			
	comp=N,14nm,0.5s,baz=113						
KEK	Kerkira	0.26	166	P	Pg	00 27 20.7	+0.8
KEK				S	Sb	00 27 25.7	-0.1
	comp=N,3µm,0.3s						
KEK	Kerkira	0.26	166	P	Pg	00 27 20.3	+0.4
KEK				S	Sb	00 27 25.3	-0.5
KEK				AML	AML	00 27 28.0	
	comp=E,6213µm,0.3s						
KEK				AML	AML	00 27 28.7	
	comp=N,5813µm,0.3s						
KASA	Kassiopi	0.28	143	P	Pg	00 27 20.3	+0.1
KASA				S	Sb	00 27 26.0	-0.2
KASA				AML	AML	00 27 26.5	
	comp=E,8809µm,0.4s						
KASA				AML	AML	00 27 29.2	
	comp=N,4306µm,0.3s						
VLO	Vlora	0.53	341	P	Pb	00 27 25.3	-0.4
VLO	Vlora	0.53	341	P	Pb	00 27 24.9	-0.8
	baz=341						
VLO				S	Sb	00 27 33.7	+0.3
	baz=341						
VLO				AMP			
	comp=E,12nm,0.4s,baz=341						
IGT	Igoumenitsa	0.65	132	P	Pg	00 27 26.9	0.0
IGT				S	Sg	00 27 36.2	+0.7
	comp=E,722nm,0.4s						
IGT	Igoumenitsa	0.65	132	P	Pg	00 27 26.9	0.0
	baz=133						
IGT				S	Sb	00 27 37.7	+0.9
	baz=133						
IGT	Igoumenitsa	0.65	132	P	Pg	00 27 27.0	0.0
IGT				S	Sb	00 27 37.5	+0.7
IGT				AML	AML	00 27 40.1	
	comp=N,1436µm,0.3s						
IGT				AML	AML	00 27 46.5	
	comp=E,1446µm,0.5s						
LSK	Leskovik	0.70	75	P	Pg	00 27 27.4	-0.7
LSK				S	Sg	00 27 37.3	0.0
	comp=E,1µm,0.8s						
LSK	Leskovik	0.70	75	P	Pg	00 27 27.0	-1.1
	baz=74						
LSK				S	Sb	00 27 39.6	+1.1
	baz=74						
LSK				AMP			
	comp=E,5.3nm,1.1s,baz=74						
SCTE	Santa Cesarea	0.96	276	P	Pb	00 27 33.7	+0.5
	baz=277						
SCTE				S	Sn	00 27 48.9	+1.2
	baz=277						
SCTE				AMP			
	comp=N,1.9nm,0.9s,baz=277						
KBN	Korca	1.05	51	P	Pg	00 27 34.0	-0.6
	baz=50						
KBN				S	Sn	00 27 51.0	+1.1
	baz=50						
KBN				AMP			
	comp=E,2.8nm,0.7s,baz=50						
NEST	Nestorio	1.11	66	P	Pb	00 27 35.6	-0.2
NEST				S	Sn	00 27 52.6	+1.1
NEST				AML	AML	00 27 57.4	
	comp=N,1373µm,1.2s						
NEST				AML	AML	00 28 00.5	
	comp=E,1008µm,0.8s						
KPRO	Kipourio	1.27	90	P	Pn	00 27 38.8	+0.6
KPRO				S	Sn	00 27 56.0	+0.8
KPRO				AML	AML	00 28 03.4	
	comp=E,1487µm,0.8s						
KPRO				AML	AML	00 28 08.7	
	comp=N,1050µm,0.6s						
TSLK	Tsoukalades, L	1.35	147	P	Pb	00 27 40.9	+1.0
TSLK	Tsoukalades, L	1.35	147	P	Pn	00 27 39.8	+0.4
TSLK				AML	AML	00 28 03.3	
	comp=E,1895µm,0.7s						
TSLK				AML	AML	00 28 08.8	
	comp=N,1791µm,0.5s						
TIR	Tirane	1.38	5	P	Pb	00 27 41.2	+0.9
	baz=4.0						
TIR				S	Sn	00 28 00.4	+2.4
	baz=4.0						
TIR				AMP			
	comp=E,1.3nm,0.7s,baz=4.0						
LKD2	Lefkada island	1.39	148	P	Pg	00 27 40.9	-0.2
LKD2	Lefkada island	1.39	148	P	Pb	00 27 41.3	+0.8
	baz=148						
LKD2				S	Sn	00 28 00.7	+2.6
	baz=148						
LKD2	Lefkada island	1.39	148	P	Pn	00 27 40.0	+0.2
LKD2				AML	AML	00 28 07.8	
	comp=E,834µm,0.3s						
LKD2				AML	AML	00 28 09.6	
	comp=N,1339µm,0.8s						
OHR	Ohrid	1.41	36	ePn	Pb	00 27 41.4	+0.6
OHR				eSg	Sn	00 28 02.8	+4.1
NYDR	Nydri-Lefkada	1.47	148	P	Pn	00 27 41.9	+1.0
FNA	Florina	1.51	57	P	Pb	00 27 42.5	0.0
FNA	Florina	1.51	57	P	Pb	00 27 42.4	0.0
	baz=56						
FNA				S	Sn	00 28 04.1	+3.0
	baz=56						
FNA	Florina	1.51	57	P	Pn	00 27 42.0	+0.5
FNA				AML	AML	00 28 08.4	
	comp=E,829µm,0.8s						
FNA				AML	AML	00 28 10.2	
	comp=N,1622µm,0.7s						
EVGI	Lefkada island	1.53	151	P	Pn	00 27 42.9	+1.1
KZN	Kozani	1.61	77	P	Pn	00 27 43.7	+0.8
KZN				AML	AML	00 28 11.4	
	comp=E,873µm,0.8s						
KZN				AML	AML	00 28 12.4	
	comp=N,580µm,0.5s						
PHP	Peshkopia	1.80	18	P	Pb	00 27 47.0	-0.5
	baz=17						
PHP				S	Sg	00 28 11.5	-0.8
	baz=17						
PHP				AMP			
	comp=N,1.5nm,1.2s,baz=17						
SKO	Skopje	2.39	33	ePn	Pn	00 27 54.7	+1.1
SKO				eSg	Sg	00 28 31.9	+0.7
BCI	Bajram Curri	2.41	6	P	Pn	00 27 54.9	+1.1
	baz=5.0						
STIP	Stip	2.54	47	ePn	Pb	00 27 59.9	-0.2
VAY	Valandovo	2.56	57	ePn	Pn	00 27 57.4	+1.6
IDI	Anoyia	6.22	137	Pn	Pn	00 28 44.0	-2.2
	comp=N,0.3nm,0.3s,baz=320,slow=7.6,SNR=10.0						
IDI				Sn	Sn	00 29 53.8	-3.6
	comp=N,1.2nm,0.3s,baz=270,slow=23,SNR=7.7						
	comp=N,2.5nm,1.0s						
OBKA	Obir	7.54	332	ePn	Pn	00 29 06.7	+2.2
	comp=N,3.2nm,0.5s						
MOA	Molln	8.80	335	ePn	Pn	00 29 23.6	+2.0
	comp=N,0.4nm,0.2s						
BIOA	Bad Ischl, Aus	8.88	332	ePn	Pn	00 29 23.5	+0.8
	comp=N,1.8nm,0.6s						
WTTA	Wattenberg	9.35	324	i Pn	Pn	00 29 28.9	-0.4
	comp=N,1.9nm,0.5s						
WATA	Walderalm	9.43	324	ePn	Pn	00 29 29.6	-0.7
	comp=N,1.8nm,0.5s						
SQTA	Sankt Quirin	9.51	322	ePn	Pn	00 29 31.6	+0.1
	comp=N,0.9nm,0.4s						
MOTA	Moosalm	9.65	323	ePn	Pn	00 29 33.2	-0.3
	comp=N,3.6nm,0.7s						
GERES	GERESS Array B	9.86	336	Pn	Pn	00 29 35.2	-1.0
	comp=N,0.1nm,0.3s,baz=160,slow=13,SNR=5.0						
	comp=N,0.4nm,0.5s						
ESDC	Sonseca Array	18.19	277	P	Pn	00 31 26.9	-0.1
	comp=N,0.7nm,0.9s,baz=79,slow=11,SNR=2.0						
HFS	Hagfors	20.54	351	P	P	00 31 52.0	-0.6
	comp=N,3.9nm,1.0s,baz=162,slow=10,SNR=1.3						
	comp=N,3.9nm,1.0s						
FINES	FINESS Array B	21.85	8	P	P	00 32 04.5	-2.3
	comp=N,4.2nm,1.0s,baz=188,slow=9.2,SNR=5.6						
	comp=N,4.2nm,1.0s						
TORD	Torodi Ar. Bea	31.07	216	P	P	00 33 32.0	-0.7
	comp=N,0.4nm,0.9s,baz=25,slow=7.2,SNR=1.7						
	comp=N,0.4nm,0.9s						
AAK	Ala-Archa	40.63	68	LR	LR	00 55 26.0	
	comp=N,48nm,18.7s,baz=155,slow=42						
MKAR	Makanchi Array	44.92	60	P	P	00 35 28.4	-0.8
	comp=N,0.6nm,0.6s,baz=285,slow=6.3,SNR=7.7						
	comp=N,0.6nm,0.6s						
ZALV	Zalesovo Beam	44.98	49	P	P	00 35 29.7	+0.2
	comp=N,0.4nm,0.3s,baz=284,slow=7.3,SNR=1.6						
	comp=N,0.4nm,0.3s						
CMAR	Chiang Mai Arr	70.26	82	LR	LR	01 12 41.2	
	comp=N,13nm,19.2s,baz=190,slow=39						

HEL 06 00:37:39.9±0.1**, 67.82N×20.21E, h0**^{km}**, ML1.6, ML1.0**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RATU	Laukkuluspa	0.24	270	i P	Pg	00 37 44.0	-0.4
RATU				i S	Sg	00 37 47.3	-0.1
KOVU	Salmi	0.40	357	i P	Pg	00 37 46.9	-0.7
KOVU				i S	Sg	00 37 52.3	-0.5
NIKU	Nikkaluokta	0.45	276	i P	Pg	00 37 47.9	-0.6
LANU	Lannavaara	0.71	71	eP	Pg	00 37 52.7	-0.8
LANU				eS	Sg	00 38 02.3	-0.3
DUNU	Dundret	0.72	169	i P	Pg	00 37 52.9	-0.7
MASU	Masugnsbyn	0.78	118	i P	Pg	00 37 54.2	-0.5
SALU	Saltoluokta	0.79	236	i P	Pg	00 37 54.2	-0.8
KIF	Kilpisjarvi	1.21	10	ePB	Pg	00 38 02.6	-0.3
KIF				MSG		00 38 17.7	
	comp=Z,7.2nm,0.2s						
KIF				eSB	Sg	00 38 18.8	+0.3
KIF	Kilpisjarvi	1.21	10	eP	Pg	00 38 02.3	-0.7
PAJU	Pajala	1.38	124	eP	Pg	00 38 04.5	-1.8
	baz=302						
PAJU				eSB	Sg	00 38 23.0	-1.1
HEF	Hetta	1.42	64	ePG	Pn	00 38 05.4	-1.5
HEF				MSG		00 38 22.9	
	comp=Z,4.0nm,0.2s						
HEF				eSN	Sg	00 38 25.6	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 38 05.7	-1.3
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*PG	Pn	00 38 06.7	-1.2
ERTU				*e*SN	Sg	00 38 27.1	-0.5
KLF	**Kolari**	**1.56**	**111**	*e*PG	Pn	00 38 08.0	-0.9
KLF				*e*SN	Sn	00 38 29.0	-0.7
KTK1	**Kautokeino**	**1.64**	**42**	*e*SN	Sn	00 38 31.3	-0.3
TRO	**Tromso**	**1.88**	**346**	*e*SG	Sb	00 38 38.5	-0.5
KALU	**Kalix**	**2.33**	**146**	*e*S	Sn	00 38 47.3	-1.4
TOF	**Tornio**	**2.38**	**135**	*e*PB	Pn	00 38 21.3	+1.1
TOF				MSG		00 38 49.6	
	comp=Z,3.0nm,0.2s						
TOF				*e*SG	Sb	00 38 53.0	-0.6
SGF	**Sodankyl**	**2.44**	**96**	*e*PB	Pn	00 38 22.4	+1.4
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	00 38 24.5	+1.9
RNF				*e*SB	Sb	00 38 57.2	-1.6

UPP 06 00:38:21.5±0.4**, 67°.85N**×**20°.19E, h0**km±3km**, ML2.2, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**263**	P	Pg	00 38 25.9	0.0
RATU				S	Sg	00 38 29.2	+0.4
KOVU	**Salmi**	**0.37**	**358**	P	Pg	00 38 28.6	0.0
KOVU				S	Sg	00 38 33.7	+0.3
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	00 38 29.9	+0.1
LANU	**Lannavaara**	**0.71**	**73**	P	Pg	00 38 34.7	-0.3
MASU	**Masugnsbyn**	**0.80**	**119**	P	Pg	00 38 36.4	-0.3
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	00 38 36.4	-0.4
PAJU	**Pajala**	**1.40**	**125**	P	Pn	00 38 47.0	-1.2
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	00 38 49.8	0.0
HARU	**Harads**	**1.72**	**169**	P	Pb	00 38 53.3	-0.6

MAN 06 00:45:13.4, 10°.15N×**124°.93E, h19**km**, mb3.8, ML2.5, MS2.0, 1C-1D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABP	**Talibon, Bohol**	**0.59**	**264**	⇓*e*P	Pg	00 45 25.2	-0.1
TABP				*i* S	Sn	00 45 37.1	+1.1
GHBP	**Garcia Hernand**	**0.80**	**229**	⇑*e*P	Pn	00 45 29.9	+0.3
GHBP				*i* S	Sn	00 45 43.6	+2.6

*IDC **06** 01:36:33.8±1.0, 23°.10N×101°.09E, h0km, mb3.8/8, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=31.7km s-min=15.0km az=85.0*
ISC 06 01:36:35.5±1.0**, 23°.15N**±0°.09×**101°.2E**±0°.2**, h10**km**, n9, σ1s.27**/10**, mb3.7**/8**, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.13**	**205**	Pn	**Pn**	**01 37 50.4**	**-2.0**
	0.6nm,0.3s,baz=15,slow=14,SNR=1.7						
CMAR				Pg	**Pb**	**01 38 07.1**	**+1.7**
	1.6nm,0.3s,baz=19,slow=17,SNR=35						
CMAR				Lg	Lg	01 39 13.1	
	1.5nm,0.3s,baz=40,slow=32,SNR=5.3						
	1.4nm,0.3s						
SONM	**Songino Array**	**24.98**	**8**	P	**P**	**01 42 00.2**	**+0.8**
	1.0nm,0.7s,baz=185,slow=9.5,SNR=5.2						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**28.09**	**332**	P	**P**	**01 42 27.0**	**-0.3**
	0.8nm,0.6s,baz=139,slow=11,SNR=11						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**32.62**	**333**	P	**P**	**01 43 06.3**	**-0.9**
	0.8nm,0.9s,baz=146,slow=8.6,SNR=4.5						
	0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**33.15**	**342**	P	**P**	**01 43 10.9**	**-0.9**
	1.7nm,0.8s,baz=171,slow=9.8,SNR=5.9						
	1.7nm,0.8s						
BVAR	**Borovoye Array**	**37.91**	**330**	P	**P**	**01 43 52.0**	**-0.8**
	1.9nm,0.7s,baz=120,slow=8.8,SNR=7.7						
	1.9nm,0.7s						
ARU	**Arti**	**45.48**	**328**	P	**P**	**01 44 55.8**	**+1.0**
	1.7nm,0.7s,baz=107,slow=11,SNR=3.7						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**53.65**	**140**	P	**P**	**01 45 57.5**	**0.0**
	0.6nm,0.9s,baz=327,slow=7.9,SNR=3.3						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**56.34**	**143**	P	**P**	**01 46 16.9**	**0.0**
	0.4nm,0.6s,baz=331,slow=7.4,SNR=4.1						
	0.4nm,0.6s						

*OTT **06** 01:43:52.7±0.1, 75°.82N×64°.56W, h18km, ML3.1/2, Nw coast of Greenland. 439km southeast from Alexandra Fiord, Nu Eastern Arctic Background Seismic Zone.*
*DNK **06** 01:43:52.9±1.6, 75°.76N×64°.89W, h25km±14km, ML2.2*
ISC 06 01:43:49.1±0.8**, 75°.82N**±0°.06×**64°.40W**±0°.05**, h10**km**, n10, σ2s.12**/20**, Baffin Bay**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**1.28**	**306**	*e*	**Pn**	**01 44 13.0**	**0.0**
	baz=121,slow=16						
TULEG				*i* P	**Pg**	**01 44 14.4**	**+0.7**
TULEG				*i* S	**Sn**	**01 44 30.4**	**+0.2**
TULEG				IAML		01 44 32.4	
	comp=Z,176nm,0.3s						
KULLO	**Kullorsuaq**	**2.23**	**121**	*i* P	**Pb**	**01 44 29.1**	**-0.3**
KULLO				*i* S	**Sb**	**01 44 55.2**	**-1.6**
KULLO				IAML		01 45 06.2	
	comp=Z,34nm,0.4s						
KULLO	**Kullorsuaq**	**2.23**	**121**	PN	**Pb**	**01 44 29.0**	**-0.3**
KULLO				SN	**Sb**	**01 44 55.9**	**-0.9**
KULLO				Trac		01 45 06.0	
	comp=Z,17nm,0.1s						
NEEM	**North Greenlan**	**3.50**	**56**	*e*P	**Pn**	**01 44 44.9**	**+1.3**
NEEM				*e*S	**Sb**	**01 45 32.4**	**-1.2**
NEEM				IAML		01 45 39.2	
	comp=Z,23nm,0.4s						
UPNV	**Upernavik**	**3.79**	**140**	*e*P	**Pn**	**01 44 49.4**	**+2.1**
UPNV				*i* S	**Sn**	**01 45 31.6**	**-0.3**
UPNV				IAML		01 45 33.1	
	comp=Z,9.0nm,0.3s						
NUUG	**Nuugaatsiaq**	**5.33**	**138**	*i* S	**Sn**	**01 46 07.1**	**-2.7**
NUUG				IAML		01 46 27.9	
	comp=Z,7.8nm,0.4s						
EUNU	**Eureka**	**6.22**	**323**	PN	**Pn**	**01 45 22.6**	**+1.9**
EUNU				SN	**Sn**	**01 46 28.8**	**-3.0**
EUNU				Trac		01 47 00.1	
	comp=Z,214nm,3.6s						
SUMG	**Summit**	**7.74**	**102**	*e*P	**Pn**	**01 45 44.0**	**+2.1**
SUMG				*i* P	**Pn**	**01 45 45.0**	**+3.1**
SUMG				*i* S	**Sn**	**01 47 06.7**	**-3.0**
SUMG				IAML		01 47 09.4	
	comp=Z,1.6nm,0.4s						
RES	**Resolute Bay**	**7.80**	**277**	PN	**Pn**	**01 45 43.6**	**+1.2**
RES				SN	**Sn**	**01 47 06.3**	**-4.3**
RES				Trac		01 47 14.5	
	comp=Z,41nm,1.8s						
ILON	**Igloolik, Nuna**	**8.27**	**228**	PN	**Pn**	**01 45 50.4**	**+1.5**
ILON				Trac		01 47 35.7	
	comp=Z,178nm,2.4s						

*NNC **06** 01:44:28.8±3.1, 36°.49N×69°.16E, h0km, mb4.8, mpv5.0, Error ellipse: s-maj=34.5km s-min=17.9km az=162.0*
*MOS **06** 01:44:29.5±1.1, 35°.99N×69°.55E, h107km, mb4.3/15, Error ellipse: s-maj=6.8km s-min=3.8km az=81.3*
*IDC **06** 01:44:29.2±2.9, 35°.79N×69°.55E, h100km±25km, mb3.8/23, mbtmp4.2/27, MS2.8/1, Error ellipse: s-maj=18.8km s-min=13.0km az=171.0*
*BJI **06** 01:44:30.4±0.0, 36°.15N×69°.46E, h109km, mb4.6/16, mB4.9/4*
*NEIC **06** 01:44:31.2±2.3, 35°.96N±0°.06×69°.42E±0°.09, h124km±6km, mb4.2/11, Error ellipse: s-maj=10.6km s-min=9.2km az=106.0*
*SOME **06** 01:44:37.4, 37°.90N×71°.55E, h0km, MS3.7*
ISC 06 01:44:30.6±0.4**, 35°.93N**±0°.04×**69°.49E**±0°.04**, h112**km**, n198, σ2s.33**/242**, mb4.2**/41**, 18C-23D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.44**	**195**		**Pn**	**01 44 58.5**	**+1.5**
KBL	**Kabul**	**1.44**	**195**	PN	**Pn**	**01 44 58.5**	**+1.5**
CHGR	**Chuyangaron**	**2.73**	**355**		**Pn**	**01 45 13.8**	**+0.6**
CHGR	**Chuyangaron**	**2.73**	**355**	PN	**Pn**	**01 45 13.8**	**+0.6**
CEP	**Cherat**	**2.89**	**136**	⇑P	**Pn**	**01 45 17.8**	**+2.4**
CEP				S	**Sn**	**01 45 52.0**	**+2.2**
GAR	**Garm**	**3.13**	**12**		**Pn**	**01 45 19.4**	**+0.9**
THW	**Thamme Wali**	**3.64**	**149**	P	**Pn**	**01 45 25.3**	**+0.1**
NIL	**Nilore**	**3.84**	**125**		**Pn**	**01 45 28.7**	**+0.8**
NIL	**Nilore**	**3.84**	**125**	PN	**Pn**	**01 45 28.7**	**+0.8**
DRK	**Karamyk**	**3.99**	**27**		**Pn**	**01 45 30.4**	**+0.4**
SARP	**Sargodha**	**4.79**	**146**	P	**Pn**	**01 45 40.4**	**-0.2**
HRA	**Herat**	**6.13**	**258**		**Pn**	**01 45 58.8**	**-0.1**
IUG	**Iuzhnay**	**6.22**	**4**	*e*P	**Pn**	**01 46 00.5**	**+0.5**
	827nm,0.3s						
IUG				*e*S	**Sn**	**01 47 06.8**	**-2.9**
	1μm,0.5s						
IUG	**Iuzhnay**	**6.22**	**4**	*e*P	**Pn**	**01 45 60.0**	**0.0**
	baz=1.2						
IUG				*e*S	**Sn**	**01 47 05.8**	**-3.9**
	baz=1.2						
IUG	**Iuzhnay**	**6.22**	**4**	*e*PN	**Pn**	**01 45 59.9**	**0.0**
THN	**Thein Dam**	**6.23**	**122**	*e*P	**Pn**	**01 46 00.9**	**+0.9**
THN				*e*S	**Sn**	**01 47 08.1**	**-1.7**
THN				IAML		01 47 10.1	
	comp=N,259nm,0.3s						
THN				IAML		01 47 11.3	
	comp=E,405nm,0.3s						
KSH	**Kashi**	**6.26**	**53**	P	**Pn**	**01 45 57.2**	**-3.3**
KSH				S	**Sn**	**01 47 02.4**	**-8.3**
KSH				smax	smax		
	comp=E,280nm,0.5s						
KSH				smax	smax		
	comp=E,180nm,0.5s						
CHM	**Chimkent**	**6.38**	**1**	*e*P	**Pn**	**01 46 02.2**	**+0.2**
	comp=E,3.3nm,0.3s						
CHM				*e*S	**Sn**	**01 47 09.9**	**-3.5**
	comp=E,1μm,0.2s						
CHM	**Chimkent**	**6.38**	**1**	*e*P	**Pn**	**01 46 02.7**	**+0.7**
	baz=358						
CHM				*e*S	**Sn**	**01 47 09.8**	**-3.6**
	baz=358						
CHM	**Chimkent**	**6.38**	**1**	*e*PN	**Pn**	**01 46 02.7**	**+0.7**
AML	**Almayashu**	**7.00**	**27**	P	**Pn**	**01 46 10.4**	**-0.4**
	SNR=123						
DZA	**Taraz**	**7.09**	**11**	*e*P	**Pn**	**01 46 12.1**	**+0.4**
	comp=E,194nm,0.5s						
DZA				*e*S	**Sn**	**01 47 27.6**	**-3.2**
	comp=E,455nm,0.4s						
DZA	**Taraz**	**7.09**	**11**	*e*P	**Pn**	**01 46 11.2**	**-0.6**
	baz=9.2						
DZA				*e*S	**Sn**	**01 47 28.1**	**-2.7**
	baz=9.2						
DZA	**Taraz**	**7.09**	**11**	*e*PN	**Pn**	**01 46 11.1**	**-0.6**
KK31	**Karatay Array**	**7.21**	**6**	Pn	**Pn**	**01 46 12.9**	**-0.2**
KK31	**Karatay Array**	**7.21**	**6**	⇑P	**Pn**	**01 46 12.8**	**-0.4**
	comp=E,28nm,0.5s,baz=203,slow=14,SNR=484						
KK31				⇓S	**Sn**	**01 47 27.7**	**-5.8**
	comp=E,86nm,0.6s						
KK31	**Karatay Array**	**7.21**	**6**	*i* PN	**Pn**	**01 46 12.8**	**-0.4**
KKAR	**Karatay Array**	**7.21**	**6**		**Pn**	**01 46 12.9**	**-0.2**
KKAR	**Karatay Array**	**7.21**	**6**	PN	**Pn**	**01 46 13.0**	**-0.2**
BHK	**Bhakra**	**7.32**	**126**	*e*P	**Pn**	**01 46 15.2**	**+0.4**
BHK				*e*S	**Sn**	**01 47 32.2**	**-4.2**
BHK				IAML		01 47 36.6	
	comp=E,224nm,0.3s						
BHK				IAML		01 47 37.0	
	comp=N,242nm,0.3s						
MRKS	**Merke**	**7.39**	**22**	*e*P	**Pn**	**01 46 13.9**	**-1.9**
	comp=N,50nm,0.5s						
MRKS				*e*S	**Sn**	**01 47 31.0**	**-7.1**
	comp=N,76nm,1.1s						
UCH	**Uchtor**	**7.40**	**30**	P	**Pn**	**01 46 15.7**	**-0.6**
	SNR=102						
NRN	**Naryn**	**7.49**	**41**	Pn	**Pn**	**01 46 15.6**	**-1.7**
NRN	**Naryn**	**7.49**	**41**	PN	**Pn**	**01 46 15.6**	**-1.7**
EKS2	**Erkin-Say**	**7.50**	**25**	P	**Pn**	**01 46 17.1**	**-0.1**
	SNR=37						
AAK	**Ala-Archa**	**7.74**	**29**	P	**Pn**	**01 46 20.6**	**0.0**
	SNR=85						
AAK	**Ala-Archa**	**7.74**	**29**	P	**Pn**	**01 46 20.5**	**0.0**
	comp=N,46nm,0.3s,baz=212,slow=10,SNR=137						
AAK				S	**Sn**	**01 47 44.2**	**-2.3**
	comp=N,27nm,0.6s,baz=337,slow=21,SNR=2.5						
AAK				LR	LR	01 49 46.5	
	comp=N,67nm,20.4s,baz=152,slow=40						
AAK	**Ala-Archa**	**7.74**	**29**	Pn	**Pn**	**01 46 19.9**	**-0.6**
AAK	**Ala-Archa**	**7.74**	**29**	*d i*PN	**Pn**	**01 46 20.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,40nm,0.6s						
KBK	**Karagaybulak**	**7.94**	**31**	P	**Pn**	**01 46 23.4**	**+0.2**
	SNR=43						
CHMS	**Chumysh**	**8.14**	**28**	P	**Pn**	**01 46 25.6**	**-0.4**
	SNR=17						
CHMS	**Chumysh**	**8.14**	**28**	⇑P	**Pn**	**01 46 25.5**	**-0.4**
	comp=Z,71nm,0.7s						
CHMS				⇓S	**Sn**	**01 47 52.6**	**-3.6**
	comp=Z,49nm,0.6s						
CHMS	**Chumysh**	**8.14**	**28**	*i* PN	**Pn**	**01 46 25.5**	**-0.4**
CHMS				pmax	pmax		
	comp=Z,71nm,0.6s						
ULHL	**Ulahol**	**8.20**	**38**	P	**Pn**	**01 46 26.8**	**-0.1**
	SNR=8.7						
USP	**Ospenovka**	**8.28**	**26**	P	**Pn**	**01 46 26.9**	**-0.9**
	SNR=25						
TKM2	**Tokmak 2**	**8.43**	**32**	P	**Pn**	**01 46 29.4**	**-0.5**
	SNR=48						
TKM2	**Tokmak 2**	**8.43**	**32**	⇓P	**Pn**	**01 46 29.4**	**-0.5**
	comp=Z,47nm,0.8s						
TKM2				⇓S	**Sn**	**01 48 00.2**	**-3.2**
	comp=Z,43nm,0.9s						
TKM2	**Tokmak 2**	**8.43**	**32**	PN	**Pn**	**01 46 29.3**	**-0.6**
SGDS	**Sogindy**	**8.49**	**26**	*e*P	**Pn**	**01 46 29.5**	**-1.1**
	comp=Z,30nm,0.6s						
SGDS				*e*S	**Sn**	**01 47 59.2**	**-5.4**
	comp=Z,40nm,0.8s						
SGDS	**Sogindy**	**8.49**	**26**	⇓*i*P	**Pn**	**01 46 29.5**	**-1.1**
	comp=Z,5.3nm,0.4s,baz=26						
SGDS	**Sogindy**	**8.49**	**26**	*d i*PN	**Pn**	**01 46 29.5**	**-1.1**
SGDS				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KST	**Kastek**	**8.68**	**33**	*e*P	**Pn**	**01 46 32.6**	**-0.8**
	comp=Z,74nm,0.3s						
KST				*e*S	**Sn**	**01 48 04.4**	**-5.1**
	comp=Z,18nm,0.6s						
DGS	**Degeres**	**8.76**	**32**	*e*P	**Pn**	**01 46 33.0**	**-1.4**
	comp=Z,12nm,0.3s						
DGS				*e*S	**Sn**	**01 48 05.3**	**-6.1**
	comp=Z,12nm,0.3s						
MTBS	**Maitube**	**8.96**	**35**	*e*P	**Pn**	**01 46 36.6**	**-0.5**
	comp=Z,64nm,0.3s						
MTBS				*e*S	**Sn**	**01 48 11.9**	**-4.4**
	comp=Z,13nm,0.4s						
TNSS	**Tian-Shan**	**9.14**	**37**	*e*P	**Pn**	**01 46 38.7**	**-1.1**
	comp=Z,11nm,0.3s						
TNSS				*e*S	**Sn**	**01 48 15.8**	**-5.1**
	comp=Z,4.4nm,0.4s						
TNSS	**Tian-Shan**	**9.14**	**37**	*e*P	**Pn**	**01 46 38.1**	**-1.7**
	baz=37						
TNSS	**Tian-Shan**	**9.14**	**37**	*e*P	**Pn**	**01 46 38.0**	**-1.7**
AAA	**Alma-Ata**	**9.25**	**36**	*e*P	**Pn**	**01 46 40.1**	**-0.8**
	baz=36						
AAA	**Alma-Ata**	**9.25**	**36**	*e*P	**Pn**	**01 46 40.1**	**-0.8**
MDOK	**Medeo**	**9.28**	**37**	*e*P	**Pn**	**01 46 41.4**	**-0.1**
	comp=Z,66nm,0.4s						
MDOK				*e*S	**Sn**	**01 48 20.5**	**-3.5**
	comp=Z,10nm,0.6s						
MDOK	**Medeo**	**9.28**	**37**	⇓P	**Pn**	**01 46 41.3**	**-0.1**
	comp=Z,78nm,0.8s						
MDOK	**Medeo**	**9.28**	**37**	P	**Pn**	**01 46 41.3**	**-0.1**
KNDC	**Almaty**	**9.28**	**36**	⇑P	**Pn**	**01 46 42.4**	**+1.0**
	comp=Z,83nm,0.6s						
KNDC	**Almaty**	**9.28**	**36**	P	**Pn**	**01 46 42.4**	**+1.0**
GEYT	**Alibeck**	**9.32**	**286**	P	**Pn**	**01 46 41.0**	**-1.0**
	comp=Z,9.5nm,0.4s,baz=104,slow=12,SNR=31						
GEYT				S	**Sn**	**01 48 20.8**	**-4.2**
	comp=Z,18nm,0.8s,baz=109,slow=18,SNR=5.2						
GEYT	**Alibeck**	**9.32**	**286**		**Pn**	**01 46 40.7**	**-1.2**
GYA0	**ALIBECK ARRAY**	**9.32**	**286**	P	**Pn**	**01 46 41.1**	**-0.8**
GYA0				S	**Sn**	**01 48 19.0**	**-6.0**
GYA0B	**ALIBECK ARRAY**	**9.32**	**286**	Pn	**Pn**	**01 46 40.1**	**-1.9**
GYA0B	**ALIBECK ARRAY**	**9.32**	**286**	⇑P	**Pn**	**01 46 41.1**	**-0.8**
GYA0B				⇑S	**Sn**	**01 48 19.1**	**-5.9**
KOTS	**Kotyrbulak**	**9.37**	**37**	*e*P	**Pn**	**01 46 43.5**	**+0.9**
	comp=Z,74nm,0.4s						
KOTS				*e*S	**Sn**	**01 48 24.5**	**-1.6**
	comp=Z,22nm,0.6s						
KUU	**Kurty**	**9.53**	**31**	*e*P	**Pn**	**01 46 42.2**	**-2.5**
	baz=31						
KUU	**Kurty**	**9.53**	**31**	*e*P	**Pn**	**01 46 42.2**	**-2.5**
SATY	**Saty**	**9.90**	**41**	*e*P	**Pn**	**01 46 48.3**	**-1.5**
	baz=41						
SATY	**Saty**	**9.90**	**41**	*e*P	**Pn**	**01 46 48.3**	**-1.5**
UZB	**Uzynbulak**	**10.29**	**43**	*e*P	**Pn**	**01 46 52.8**	**-2.4**
	baz=43						
UZB	**Uzynbulak**	**10.29**	**43**	*e*P	**Pn**	**01 46 52.7**	**-2.4**
KPKS	**Kokpek**	**10.33**	**40**	*e*P	**Pn**	**01 46 53.3**	**-2.3**
	comp=Z,8.4nm,0.8s,baz=40						
KPKS	**Kokpek**	**10.33**	**40**	*e*P	**Pn**	**01 46 53.3**	**-2.3**
KPKS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SHLS	**Shalkode**	**10.54**	**44**	*e*P	**Pn**	**01 46 59.5**	**+1.0**
	baz=45						
SHLS	**Shalkode**	**10.54**	**44**	*e*P	**Pn**	**01 46 59.5**	**+1.0**
PDGK	**Podgornoye**	**10.67**	**43**	⇑P	**Pn**	**01 46 58.6**	**-1.7**
	comp=Z,12nm,0.6s						
PDGK	**Podgornoye**	**10.67**	**43**	*i* P	**Pn**	**01 46 58.5**	**-1.7**
PDGK				pmax	pmax		
	comp=Z,13nm,0.5s						
PTH	**Pithoragarh**	**11.04**	**122**	*e*P	**Pn**	**01 47 02.5**	**-2.9**
PTH				*e*S	Sn	01 48 58.2	-8.8
OTUK	**Ortayu**	**12.48**	**9**	⇓P	**Pn**	**01 47 22.6**	**-1.6**
	comp=Z,7.1nm,0.6s						
OTUK	**Ortayu**	**12.48**	**9**	P	**Pn**	**01 47 22.6**	**-1.6**
JUMK	**Jumkunaria**	**12.55**	**176**	*e*P	Pn	01 47 16.2	-9.0
JUMK				*e*S	Sn	01 49 22.2	-21
JHNI	**Jhansi**	**13.01**	**141**	*e*P	**Pn**	**01 47 28.1**	**-3.0**
BRZS	**Berezniki**	**14.23**	**8**	*e*P	**Pn**	**01 47 45.2**	**-1.6**
	baz=7.6						
BRZS	**Berezniki**	**14.23**	**8**	*e*P	**Pn**	**01 47 45.2**	**-1.6**
MAKZ	**Makanchi**	**14.33**	**37**		**Pn**	**01 47 47.1**	**-1.0**
MAKZ	**Makanchi**	**14.33**	**37**	⇓P	**Pn**	**01 47 48.1**	**-0.1**
	comp=Z,17nm,0.5s						
MAKZ	**Makanchi**	**14.33**	**37**	P	**Pn**	**01 47 48.0**	**-0.1**
BHPL	**Bhopal**	**14.40**	**149**	*e*P	**Pn**	**01 47 45.7**	**-3.5**
BHPL				*e*S	Sn	01 50 14.8	-13
MK31	**Makanchi Array**	**14.47**	**38**	Pn	**Pn**	**01 47 49.5**	**-0.5**
MK31	**Makanchi Array**	**14.47**	**38**	⇓P	**Pn**	**01 47 48.1**	**-1.9**
MK31	**Makanchi Array**	**14.47**	**38**	*de*P	**Pn**	**01 47 51.1**	**+1.1**
MKAR	**Makanchi Array**	**14.47**	**38**	P	**Pn**	**01 47 48.9**	**-1.1**
	comp=Z,3.7nm,0.7s,baz=228,slow=16,SNR=18						
MKAR	**Makanchi Array**	**14.47**	**38**	Pn	**Pn**	**01 47 49.6**	**-0.3**
MKAR	**Makanchi Array**	**14.47**	**38**	P	**Pn**	**01 47 49.6**	**-0.3**
AB31	**Akbulak array**	**15.04**	**335**	P	**Pn**	**01 47 55.4**	**-1.6**
	comp=Z,1.6nm,0.2s,baz=156,slow=13,SNR=278						
AB31				S	**Sn**	**01 50 33.6**	**-9.4**
	comp=Z,6.8nm,0.6s,baz=148,slow=24,SNR=7.6						
AB31	**Akbulak array**	**15.04**	**335**	*e*P	**Pn**	**01 47 55.4**	**-1.6**
ABKAR	**Akbulak array**	**15.04**	**335**	Pn	**Pn**	**01 47 55.6**	**-1.4**
KKN	**Kakani**	**15.67**	**117**	*e*P	**Pn**	**01 48 03.6**	**-1.7**
PKIN	**Phulchoki**	**15.87**	**117**	*e*P	**Pn**	**01 48 06.1**	**-1.8**
WMQ	**Urumqi**	**16.02**	**55**	*e*P	**P**	**01 48 12.5**	**+1.8**
KURBB	**Kurchatov Arra**	**16.07**	**21**	P	**Pn**	**01 48 07.1**	**-2.8**
	comp=Z,1.9nm,0.4s,baz=213,slow=13,SNR=21						
KURK	**Kurchatov**	**16.18**	**21**	Pn	**Pn**	**01 48 08.8**	**-2.4**
KURK				IAmb	IAmb	01 48 15.6	
	comp=Z,9.0nm,0.9s						
KURK	**Kurchatov**	**16.18**	**21**	⇑P	**Pn**	**01 48 07.8**	**-3.4**
	comp=Z,10nm,1.0s						
KURK	**Kurchatov**	**16.18**	**21**	*de*P	**Pn**	**01 48 08.5**	**-2.7**
JIRN	**Jiri**	**16.40**	**116**	*e*P	**Pn**	**01 48 13.3**	**-1.3**
AKL	**Akola**	**16.55**	**155**	*e*P	**Pn**	**01 48 13.1**	**-2.9**
AKTO	**Aktyubinsk**	**16.71**	**334**	⇑P	**Pn**	**01 48 17.2**	**-0.6**
	comp=Z,24nm,1.4s						
AKTO				⇓S	Sn	01 51 10.5	-13
	comp=Z,18nm,1.4s						
AKTO	**Aktyubinsk**	**16.71**	**334**	P	**Pn**	**01 48 17.1**	**-0.6**
AKTO				S	Sn	01 51 10.5	-13
BVA0	**Borovoye Array**	**17.10**	**2**	⇑P	**Pn**	**01 48 24.2**	**+1.7**
BVA0	**Borovoye Array**	**17.10**	**2**	P	**Pn**	**01 48 24.2**	**+1.7**
BVAR	**Borovoye Array**	**17.10**	**2**	P	**Pn**	**01 48 22.6**	**+0.1**
	comp=Z,4.2nm,0.4s,baz=169,slow=10.0,SNR=31						
RAMN	**Ramite**	**17.11**	**117**	*e*P	**P**	**01 48 22.4**	**-0.6**
BRVK	**Borovoye**	**17.13**	**2**		**P**	**01 48 20.6**	**-2.2**
BRVK				IAmb	IAmb	01 48 28.4	
	comp=Z,6.4nm,0.6s						
BRVK	**Borovoye**	**17.13**	**2**	⇑P	**Pn**	**01 48 24.2**	**+1.4**
	comp=Z,4.4nm,0.6s						
BRVK	**Borovoye**	**17.13**	**2**	*de*P	**Pn**	**01 48 23.9**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKT	**Akhty**	**17.85**	**295**	*e*P	**Pn**	**01 48 33.7**	**+1.9**
AKT				*e*S	**Sn**	**01 51 54.0**	**+3.0**
AKT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKT				smax	smax		
	comp=N,7.0nm,0.5s						
AKT				smax	smax		
	comp=E,6.0nm,0.5s						
DGZ	**Jazzator, Alta**	**18.97**	**38**	*de*P	**Pn**	**01 48 45.0**	**-0.1**
GROC	**Groznyy**	**19.62**	**299**	*e*P	**P**	**01 48 49.8**	**-0.2**
GROC				pmax	pmax		
	comp=Z,23nm,0.8s						
GNI	**Garni**	**19.92**	**290**	P	**Pn**	**01 48 56.1**	**-0.2**
	comp=Z,28nm,0.8s,baz=67,slow=3.0,SNR=20						
	comp=Z,28nm,0.8s						
GNI	**Garni**	**19.92**	**290**	⇓*e*P	**Pn**	**01 48 57.2**	**+1.0**
ZEI	**Tsey**	**20.89**	**297**	*e*P	**P**	**01 48 57.3**	**-6.7**
ZEI				pmax	pmax		
	comp=Z,11nm,1.4s						
ZAA0	**Zalesovo Array**	**20.95**	**26**	P	**P**	**01 49 04.6**	**+0.3**
ZAA0				IAmb	IAmb	01 49 11.7	
	comp=Z,28nm,1.4s						
ZAA0	**Zalesovo Array**	**20.95**	**26**	⇓P	**P**	**01 49 05.1**	**+0.9**
	comp=Z,1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**20.95**	**26**	P	**P**	**01 49 05.2**	**+1.0**
	comp=Z,12nm,0.5s,baz=222,slow=11,SNR=32						
	comp=Z,12nm,0.5s						
ZALV	**Zalesovo Beam**	**20.95**	**26**	P	**P**	**01 49 05.1**	**+0.9**
ONI	**Oni**	**21.18**	**296**	P	**P**	**01 49 05.8**	**-1.2**
ONI				IAmb	IAmb	01 49 14.3	
	comp=Z,7.2nm,0.8s						
ONI	**Oni**	**21.18**	**296**	P	**P**	**01 49 05.8**	**-1.2**
ONI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KARS	**Kars**	**21.22**	**291**	P	**P**	**01 49 05.5**	**-2.0**
KARS	**Kars**	**21.22**	**291**	P	**P**	**01 49 05.5**	**-2.0**
KARS				pmax	pmax		
	comp=Z,28nm,1.2s						
SVE	**Sverdlovsk**	**21.74**	**347**	*e*P	**P**	**01 49 13.7**	**+1.0**
SVE				*e*S	**S**	**01 53 09.4**	**+3.2**
SVE				pmax	pmax		
	comp=Z,23nm,1.6s						
KBZ	**Khabaz**	**21.79**	**299**	P	**P**	**01 49 14.4**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=115,slow=8.3,SNR=10						
KBZ				S	**S**	**01 53 14.6**	**+7.2**
	comp=Z,0.4nm,0.6s,baz=263,slow=20,SNR=1.0						
	comp=Z,3.6nm,0.8s						
KBZ	**Khabaz**	**21.79**	**299**	⇓*e*P	**P**	**01 49 14.6**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARU	**Arti**	**21.80**	**344**	P	**P**	**01 49 14.4**	**+1.0**
	comp=Z,5.1nm,0.5s,baz=148,slow=7.8,SNR=14						
ARU				S	**S**	**01 53 11.6**	**+4.2**
	comp=Z,2.5nm,0.5s,baz=128,slow=19,SNR=5.5						
	comp=Z,5.1nm,0.5s						
ARU	**Arti**	**21.80**	**344**	P	**P**	**01 49 13.4**	**+0.1**
ARU				IAmb	IAmb	01 49 17.1	
	comp=Z,18nm,1.2s						
ARU	**Arti**	**21.80**	**344**	*d i*P	**P**	**01 49 14.3**	**+1.0**
ARU						01 49 41.3	
ARU				S	**S**	**01 53 11.1**	**+3.8**
ARU				SS	**SnSn**	**01 53 51.9**	**+8.5**
ARU				pmax	pmax		
	comp=Z,23nm,1.5s						
KVAR	**Kislovodsk Arr**	**21.98**	**300**	P	**P**	**01 49 16.2**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=94,slow=13,SNR=2.2						
KVAR				S	**S**	**01 53 17.4**	**+6.3**
	comp=Z,2.1nm,0.8s,baz=270,slow=24,SNR=1.8						
	comp=Z,2.9nm,0.9s						
KIV	**Kislovodsk**	**21.99**	**300**	P	**P**	**01 49 15.9**	**+0.4**
KIV	**Kislovodsk**	**21.99**	**300**	*e*P	**P**	**01 49 16.5**	**+0.9**
KIV				*e*S	**S**	**01 53 14.2**	**+3.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,24nm,14.0s						
GOF	**Gofitskoye**	**22.00**	**303**	⇑*e*P	**P**	**01 49 17.4**	**+1.8**
BELG	**Belogornoye**	**22.59**	**324**	P	**P**	**01 49 22.4**	**+0.9**
	comp=Z,13nm,0.7s,baz=117,slow=4.5,SNR=9.7						
	comp=Z,13nm,0.7s						
BELG	**Belogornoye**	**22.59**	**324**	*c i*P	**P**	**01 49 22.0**	**+0.5**
BELG				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GTA	**Gaotai**	**24.20**	**73**	*e*P	**P**	**01 49 38.8**	**+2.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						

VRH	Novokhopyorsk	25.05	316	eP	P	01 49 46.3	+2.1
VRH				e*PP	pP	01 50 08.5	-0.2
VRH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIRV	Kirov	26.24	336	P	P	01 49 55.8	+1.0
	comp=Z,12nm,0.4s,baz=142,slow=12,SNR=8.3						
	comp=Z,12nm,0.4s						
KIRV	Kirov	26.24	336	c iP	P	01 49 56.2	+1.4
VSR	Storozhevoye	26.52	315	eP	P	01 49 56.8	-0.6
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
VORR	Voronezh	26.68	316	eP	P	01 49 59.2	+0.4
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
LPSR	Galich'ya Gora	27.22	317	eP	P	01 50 05.6	+1.9
LPSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SIM	Simferopol'	28.20	300	eP	P	01 50 09.0	-3.6
SIM				pmax	pmax		
	comp=Z,19nm,0.5s						
BR131	Keskin Array S	28.45	289	P	P	01 50 14.3	-0.6
BR131				IAmb	IAmb	01 50 18.2	
	comp=Z,3.2nm,0.7s						
BR131	Keskin Array S	28.45	289	deP	P	01 50 17.4	+2.4
BRTR	Keskin Array B	28.45	289	P	P	01 50 16.9	+1.9
	comp=Z,1.8nm,0.7s,baz=91,slow=9.8,SNR=14						
	comp=Z,1.8nm,0.7s						
BRTR	Keskin Array B	28.45	289	P	P	01 50 14.1	-0.9
BRTR	Keskin Array B	28.45	289	ceP	P	01 50 17.2	+2.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PZH	PanZhiHua	29.03	100	P	P	01 50 22.6	+2.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
OBN	Obninsk	29.59	321	P	P	01 50 26.1	+1.5
	comp=Z,2.4nm,0.3s,baz=132,slow=1.0,SNR=3.0						
	comp=Z,2.4nm,0.3s						
OBN	Obninsk	29.59	321	ceP	P	01 50 26.0	+1.4
OBN				e		01 51 21.3	
OBN				pmax	pmax		
	comp=Z,23nm,1.8s						
SONM	Songino Array	29.66	55	P	P	01 50 26.7	+1.1
	comp=Z,0.5nm,0.6s,baz=274,slow=8.5,SNR=2.6						
	comp=Z,0.5nm,0.6s						
BTO	Baotou	31.96	69	eP	P	01 50 52.3	+6.4
AKASG	Malin Array Be	32.36	310	P	P	01 50 50.3	+1.2
	comp=Z,0.6nm,0.4s,baz=85,slow=7.4,SNR=10						
	comp=Z,0.6nm,0.4s						
AKASG	Malin Array Be	32.36	310	ceP	P	01 50 50.5	+1.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HHC	Hu-ho-hao-te	33.10	69	eP	P	01 50 56.0	+0.1
HHC				pmax	pmax		
	comp=Z,39nm,0.8s						
HHC				pmax	pmax		
	comp=Z,310nm,5.4s						
MLR	Muntele Rosu	34.00	300	P	P	01 51 04.4	+0.8
MLR				IAmb	IAmb	01 51 08.0	
	comp=Z,7.7nm,0.9s						
MLR	Muntele Rosu	34.00	300	P	P	01 51 04.4	+0.8
MLR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MNK	Minsk	34.05	316	iP	P	01 51 04.0	+0.2
	comp=E,2.0nm,1.0s						
MNK				iP	P	01 51 04.0	+0.2
	comp=N,18nm,0.8s						
MNK				iP	P	01 51 04.0	+0.2
	comp=Z,6.0nm,0.9s,baz=286						
MNK				ipP	pP	01 51 26.6	-2.3
MNK				iPP	PP	01 52 21.1	-1.7
MNK				iS	S	01 56 23.3	+2.3
MNK				isS	sS	01 57 03.2	-2.4
MNK				iSS	SnSn	01 58 38.1	-2.2
MNK				iLR	LR	02 04 20.2	
MNK				iLRM	MLR	02 06 26.0	
	comp=E,7.0nm,9.6s						
MNK				iLRM	MLR	02 06 26.0	
	comp=N,110nm,12.2s						
MNK				iLRM	MLR	02 06 26.0	
	comp=Z,51nm,10.2s						
MNK	Minsk	34.05	316	iP	P	01 51 03.9	+0.2
MNK				i*PP	pP	01 51 26.5	-2.3
MNK				i		01 52 21.1	
MNK				i		01 53 38.8	
MNK				iS	S	01 56 23.2	+2.3
MNK				i*SS	sS	01 57 03.1	-2.4
MNK				iSS	SnSn	01 58 38.0	-2.2
MNK				pmax	pmax		
	comp=N,18nm,0.8s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,110nm,12.0s						
MNK				MLR	MLR		
	comp=E,7.0nm,10.0s						
MNK				MLR	MLR		
	comp=Z,51nm,10.0s						
KARP	Karpathos	34.16	282	P	P	01 51 03.8	-1.3
BURAR	Bucovina Array	34.58	304	P	P	01 51 08.1	-0.4
NRIK	Noril'sk	34.91	11	P	P	01 51 12.8	+1.9
	comp=Z,2.3nm,0.4s,baz=243,slow=4.5,SNR=3.9						
	comp=Z,2.3nm,0.4s						
NRIK	Noril'sk	34.91	11	⇓eP	P	01 51 12.9	+1.9
NRIK				pmax	pmax		
	comp=Z,15nm,3.2s						
FINES	FINESS Array B	37.28	327	P	P	01 51 32.5	+1.2
	comp=Z,2.7nm,0.6s,baz=110,slow=9.1,SNR=15						
	comp=Z,2.7nm,0.6s						
NJ2	Nanjing	40.77	81	eP	P	01 52 05.3	+4.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ARA0	ARCESS Array S	41.21	338	eP	P	01 52 05.3	+1.5
ARA0				IAmb	IAmb	01 52 05.3	
	comp=Z,9.3nm,1.0s						
ARCES	ARCESS Array B	41.21	338	P	P	01 52 05.2	+1.3
	comp=Z,3.1nm,0.7s,baz=108,slow=8.5,SNR=21						
	comp=Z,3.1nm,0.7s						
KTK1	Kautokeino	41.65	337	eP	P	01 52 08.4	+1.0
KTK1				IAmb	IAmb	01 52 09.1	
	comp=Z,4.4nm,0.6s						
GERES	GERESS Array B	42.27	306	P	P	01 52 14.1	+1.3
	comp=Z,0.3nm,0.5s,baz=94,slow=8.4,SNR=5.3						
	comp=Z,0.3nm,0.5s						
HAMF	Hammerfest	42.32	339	eP	P	01 52 14.2	+1.4
DGAR	Diego Garcia	43.20	176	ceP	P	01 52 18.5	-2.0
DGAR				pmax	pmax		
	comp=Z,229nm,1.7s						
MOR8	Moi Rana	43.72	331	eP	P	01 52 24.3	+0.2
MOR8				IAmb	IAmb	01 52 26.3	
	comp=Z,25nm,1.3s						
NC602	NORSAR Array S	43.91	323	eP	P	01 52 25.4	-0.3
NC602				IAmb	IAmb	01 52 30.6	
	comp=Z,294nm,2.7s						
NB2	NORSAR Subarra	44.10	324	P	P	01 52 27.8	+0.4
	baz=100,slow=7.9						
NB2	NORSAR Subarra	44.10	324	P	P	01 52 27.8	+0.4
	comp=Z,1.5nm,0.5s,baz=100,slow=7.9						
NOA	NORSAR Array B	44.10	324	P	P	01 52 27.7	+0.4
	comp=Z,1.2nm,0.4s,baz=99,slow=7.9,SNR=5.1						
	comp=Z,1.2nm,0.4s						
KONO	Kongsberg	44.76	321	eP	P	01 52 33.1	+0.6
TIXI	Tiksi	46.76	22	⇓eP	P	01 52 48.9	+0.9
TIXI				pmax	pmax		
	comp=Z,15nm,4.1s						
ESDC	Sonseca Array	56.64	298	P	P	01 54 02.6	+0.6
	comp=Z,1.2nm,0.7s,baz=57,slow=7.9,SNR=14						
	comp=Z,1.2nm,0.7s						
TORD	Torodi Ar. Bea	64.48	268	P	P	01 54 54.3	-1.2
	comp=Z,0.7nm,0.5s,baz=54,slow=6.2,SNR=16						
	comp=Z,0.7nm,0.5s						
INK	Inuvik	74.65	9	P	P	01 55 58.0	+0.9
	comp=Z,0.9nm,0.5s,baz=340,slow=6.9,SNR=8.3						
	comp=Z,0.9nm,0.5s						
ILAR	Eielson Array	75.65	15	P	P	01 56 02.9	-0.1
	comp=Z,0.5nm,0.8s,baz=304,slow=5.6,SNR=5.0						
	comp=Z,0.5nm,0.8s						
BOSA	Boshof	76.53	219	P	P	01 56 08.8	+0.3
	comp=Z,4.5nm,1.1s,baz=7.0,slow=7.3,SNR=3.4						
	comp=Z,4.5nm,1.1s						
WRA	Warramunga Arr	82.74	121	P	P	01 56 41.9	-0.3
	comp=Z,0.2nm,0.8s,baz=326,slow=4.7,SNR=5.8						
	comp=Z,0.2nm,0.8s						
WRA	Warramunga Arr	82.74	121	iP	P	01 56 43.0	+0.8
ASAR	Alice Springs	84.94	124	P	P	01 56 53.0	-0.3
	comp=Z,0.2nm,0.5s,baz=313,slow=5.1,SNR=5.4						
	comp=Z,0.2nm,0.5s						

---

*IDC **06** 02:05:38.3±3.0, 20°.20S×178°.37W, h563km±24km, mb3.1/8, mbtmp4.0/9, Error ellipse: s-maj=75.4km s-min=17.6km az=149.0*

ISC 06 02:05:36.7±1.1**, 20°.4S**±0°.3×**178°.2W**±0°.2**, h550**km**, n12,** σ**1s33**/13**, mb3.7**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.40	306	P	P	02 07 02.7	+0.8
	13nm,0.4s,baz=133,slow=19,SNR=32						
STKA	Stephens Creek	37.63	244	P	P	02 12 05.3	+0.1
	1.1nm,0.5s,baz=102,slow=14,SNR=3.2						
	1.1nm,0.5s						
ASAR	Alice Springs	44.33	257	P	P	02 12 58.5	0.0
	5.7nm,0.9s,baz=88,slow=7.9,SNR=51						
ASAR				PcP	PcP	02 14 31.1	+0.4
	0.9nm,0.9s,baz=98,slow=3.9,SNR=5.2						
	5.7nm,0.9s						
WRA	Warramunga Arr	44.40	262	P	P	02 12 58.8	-0.3
	1.2nm,0.3s,baz=97,slow=7.6,SNR=66						
	1.2nm,0.3s						
NVAR	Mina Array Bea	81.10	43	P	P	02 16 55.6	+0.4
	0.6nm,0.8s,baz=225,slow=8.6,SNR=4.2						
	0.6nm,0.8s						
TXAR	Lajitas Array	87.19	57	P	P	02 17 26.1	+1.0
	0.2nm,0.6s,baz=249,slow=4.6,SNR=2.5						
	0.2nm,0.6s						
ILAR	Eielson Array	88.27	13	P	P	02 17 28.4	-0.8
	0.8nm,1.0s,baz=218,slow=5.6,SNR=4.4						
	0.8nm,1.0s						
PDAR	Pinedale Array	89.04	43	P	P	02 17 33.1	-0.5
	0.3nm,0.6s,baz=209,slow=3.0,SNR=3.6						
	0.3nm,0.6s						
CMAR	Chiang Mai Arr	89.88	290	P	P	02 17 37.3	-0.5
	1.5nm,0.3s,baz=104,slow=7.5,SNR=4.5						
	1.5nm,0.3s						
AKASG	Malin Array Be	142.82	331	PKP	PKPdf	02 24 04.5	-3.0
	2.8nm,0.6s,baz=44,slow=4.4,SNR=13						
BRTR	Keskin Array B	146.61	312	PKPbc	PKPdf	02 24 16.9	+2.3
	0.8nm,0.7s,baz=48,slow=2.1,SNR=7.3						
GERES	GERESS Array B	150.05	344	PKPbc	PKPbc	02 24 25.1	-0.4
	0.6nm,0.8s,baz=90,slow=2.9,SNR=5.7						

---

*IDC **06** 02:19:32.3±6.5, 20°.11S×178°.21W, h572km±41km, mb3.2/3, mbtmp4.1/5, Error ellipse: s-maj=161.8km s-min=34.5km az=146.0*

ISC 06 02:19:30.7±2.3**, 20°.1S**±0°.4×**178°.0W**±0°.3**, h569**km**, n7,** σ**1s03**/8**, mb3.9**/3**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.45	301	P	P	02 20 57.4	0.0
	11nm,0.4s,baz=157,slow=7.7,SNR=29						
DZM	Mont Dzumac	14.70	260	P	P	02 22 37.9	+1.0
	2.0nm,0.6s,baz=89,slow=18,SNR=1.5						
CTA	Charters Tower	33.58	264	P	P	02 25 24.2	-0.5
	2.7nm,0.6s,baz=94,slow=9.5,SNR=6.9						
	2.7nm,0.6s						
ASAR	Alice Springs	44.66	256	P	P	02 26 53.2	-0.5
	2.7nm,0.6s,baz=96,slow=7.6,SNR=54						
ASAR				PcP	PcP	02 28 24.5	+0.5
	0.2nm,0.6s,baz=96,slow=3.2,SNR=2.0						
	2.7nm,0.6s						
WRA	Warramunga Arr	44.70	262	P	P	02 26 53.0	-1.1
	1.4nm,0.6s,baz=98,slow=8.0,SNR=36						
	1.4nm,0.6s						
AKASG	Malin Array Be	142.68	331	PKP	PKPdf	02 37 58.5	-0.9
	1.7nm,0.6s,baz=42,slow=3.8,SNR=10						
BRTR	Keskin Array B	146.60	313	PKPbc	PKPbc	02 38 10.5	+1.2
	0.6nm,0.7s,baz=83,slow=3.6,SNR=4.4						

---

*NEIC **06** 02:37:36.2±2.3, 56°.2N±0°.1×156°.9E±0°.2, h17km±4km, mb4.7/38, Error ellipse: s-maj=16.7km s-min=13.9km az=51.0*
*KRSC **06** 02:37:48.9±1.4, 54°.13N×158°.67E, h260km±12km, ML4.6*
*MOS **06** 02:37:49.6±0.8, 54°.30N×158°.06E, h249km, mb4.3/27, Error ellipse: s-maj=9.0km s-min=4.4km az=88.5*
*BJI **06** 02:37:49.1±0.0, 54°.55N×158°.05E, h245km, mb4.4/34, mB4.7/18*
*IDC **06** 02:37:50.8±0.6, 54°.41N×157°.94E, h240km±6km, mb3.8/32, mbtmp4.4/37, Error ellipse: s-maj=9.6km s-min=7.3km az=154.0*

ISC 06 02:37:50.5±0.5**, 54°.25N**±0°.04×**158°.24E**±0°.04**, h248**km±4km**, n302,** σ**1s15**/334**, mb4.2**/90**, 49C-21D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNL	Ganaly	0.58	198	iP	Pn	02 38 23.9	+0.2
GNL	Ganaly	0.58	198	PN	Pn	02 38 23.9	+0.2
KII	Karymskiy	0.74	106	iP	Pn	02 38 24.1	-0.1
KII	Karymskiy	0.74	106	PN	Pn	02 38 24.1	-0.1
KRX	Arik	0.92	164	eP	Pn	02 38 25.3	+0.1
KRX	Arik	0.92	164	PN	Pn	02 38 25.3	+0.1
KOK	Koryaka	0.98	166	eP	Pn	02 38 25.8	+0.3
KOK	Koryaka	0.98	166	PN	Pn	02 38 25.8	+0.3
KRER	Koryakskii	0.99	162	eP	Pn	02 38 25.7	+0.1
KRER	Koryakskii	0.99	162	PN	Pn	02 38 25.7	+0.1
AVH	Avacha	1.03	163	eP	Pn	02 38 25.9	+0.2
AVH	Avacha	1.03	163	PN	Pn	02 38 25.9	+0.2
SMAR	Somma	1.04	161	eP	Pn	02 38 26.0	+0.1
SMAR	Somma	1.04	161	PN	Pn	02 38 26.0	+0.1
SDLR	Sedlovina	1.04	158	eP	Pn	02 38 25.8	0.0
SDLR	Sedlovina	1.04	158	PN	Pn	02 38 25.8	0.0
UGLR	Uglovaya	1.10	161	eP	Pn	02 38 26.4	+0.3
UGLR	Uglovaya	1.10	161	PN	Pn	02 38 26.4	+0.3
PEA0B	Petropavlovsk-	1.18	196		Pn	02 38 26.8	+0.3
PEA0B	Petropavlovsk-	1.18	196	d iPN	Pn	02 38 26.7	+0.2
PETK	Petropavlovsk-	1.18	196	P	Pn	02 38 25.8	-0.7
	542nm,0.3s,baz=33,slow=3.4,SNR=2272						
PETK				S	S	02 38 54.8	0.0
	31nm,0.6s,baz=342,slow=14,SNR=1.2						
PET	Petropavlovsk	1.25	168		Pn	02 38 26.9	0.0
PET	Petropavlovsk	1.25	168	eP	Pn	02 38 26.8	-0.1
PET				eS	S	02 38 55.0	-0.5
PET	Petropavlovsk	1.25	168	PN	Pn	02 38 26.8	-0.1
PET				S	S	02 38 55.0	-0.5
DALK	Dalny	1.26	166	iP	Pn	02 38 26.7	-0.2
DALK				eS	S	02 38 54.8	-0.7
DALK	Dalny	1.26	166	PN	Pn	02 38 26.7	-0.2
DALK				S	S	02 38 54.8	-0.7
KRMR	Karymshinskiy	1.42	183	eP	Pn	02 38 28.1	0.0
KRMR	Karymshinskiy	1.42	183	PN	Pn	02 38 28.1	0.0
APC	Apacha	1.47	206	eP	Pn	02 38 28.9	+0.4
APC				eS	S	02 38 58.2	-0.1
APC	Apacha	1.47	206	PN	Pn	02 38 28.9	+0.4
APC				S	S	02 38 58.2	-0.1
TUMR	Tumrok	1.52	46	eP	Pn	02 38 29.4	+0.5
TUMR				eS	S	02 38 59.3	+0.2
TUMR	Tumrok	1.52	46	PN	Pn	02 38 29.3	+0.4
TUMR				S	S	02 38 59.4	+0.3
SPN	Mys Shipunski	1.57	137	eP	Pn	02 38 27.9	-1.3
SPN				eS	S	02 38 55.7	-3.9
SPN	Mys Shipunski	1.57	137	PN	Pn	02 38 27.9	-1.3
TUMD	Tumrok D	1.58	52	eP	Pn	02 38 29.3	+0.1
TUMD				eS	S	02 38 59.4	-0.4
GRL	Gorelyy	1.70	183	eP	Pn	02 38 30.7	+0.3
GRL	Gorelyy	1.70	183	PN	Pn	02 38 30.7	+0.3
ESO	Esso	1.70	9	eP	Pn	02 38 30.1	-0.1
ESO	Esso	1.70	9	PN	Pn	02 38 30.1	-0.1
MTVR	Mutnovka	1.77	181	eP	Pn	02 38 31.2	+0.2
MTVR				eS	S	02 39 02.5	-0.3
MTVR	Mutnovka	1.77	181	PN	Pn	02 38 31.2	+0.2
MTVR				S	S	02 39 02.5	-0.3
RUS	Russkaya	1.82	175	eP	Pn	02 38 30.4	-0.9
RUS				eS	S	02 39 01.0	-2.4
RUS	Russkaya	1.82	175	PN	Pn	02 38 30.4	-0.9
RUS				S	S	02 39 01.0	-2.4
ASAK	Asacha	1.88	186	eP	Pn	02 38 32.1	+0.2
ASAK				eS	S	02 39 04.1	-0.3
ASAK	Asacha	1.88	186	PN	Pn	02 38 32.1	+0.2
ASAK				S	S	02 39 04.1	-0.3
KMNR	Kamenistaya	1.90	36	eP	Pn	02 38 32.0	0.0
KMNR	Kamenistaya	1.90	36	PN	Pn	02 38 32.0	0.0
MKZ	Mys Kozlova	2.07	80	eP	Pn	02 38 31.9	-1.4
MKZ				eS	S	02 39 02.3	-4.8
MKZ	Mys Kozlova	2.07	80	PN	Pn	02 38 31.9	-1.4
KPT	Kopyto	2.07	33	eP	Pn	02 38 33.3	-0.2
KPT	Kopyto	2.07	33	PN	Pn	02 38 33.3	-0.2
KIRR	Kirishev	2.10	34	eP	Pn	02 38 33.5	-0.3
KIRR	Kirishev	2.10	34	PN	Pn	02 38 33.5	-0.3
BZMR	Bezymyannaya	2.13	37	eP	Pn	02 38 34.0	-0.1
BZMR	Bezymyannaya	2.13	37	PN	Pn	02 38 34.0	-0.1
BZWR	Bezymyannyi-We	2.16	36	eP	Pn	02 38 34.4	0.0
BZWR	Bezymyannyi-We	2.16	36	PN	Pn	02 38 34.4	0.0
BZGR	Bezymyannyi-Gr	2.21	39	eP	Pn	02 38 35.2	+0.4
BZGR	Bezymyannyi-Gr	2.21	39	PN	Pn	02 38 35.2	+0.4
SRDR	Sredinnyy	2.24	22	eP	Pn	02 38 35.0	-0.1
SRDR	Sredinnyy	2.24	22	PN	Pn	02 38 35.0	-0.1
ZLN	Zelenaya	2.31	39	eP	Pn	02 38 36.4	+0.6
ZLN	Zelenaya	2.31	39	PN	Pn	02 38 36.4	+0.6
KRSR	Krestovskiy	2.38	33	eP	Pn	02 38 36.0	-0.5
KRSR				eS	S	02 39 11.2	-1.6
KRSR	Krestovskiy	2.38	33	PN	Pn	02 38 36.0	-0.5
KRSR				S	S	02 39 11.2	-1.6
KDTR	Khodutka, Kamc	2.44	182	eP	Pn	02 38 35.8	-1.3
KDTR				eS	S	02 39 10.8	-3.0
KDTR	Khodutka, Kamc	2.44	182	PN	Pn	02 38 35.8	-1.3
KDTR				S	S	02 39 10.8	-3.0
KLY	Klyuchi	2.49	33	eP	Pn	02 38 37.9	+0.5
KLY				eS	S	02 39 14.6	+0.1
KLY	Klyuchi	2.49	33	PN	Pn	02 38 37.9	+0.5
KLY				S	S	02 39 14.6	+0.1
BDR	Baidarnaya	2.88	35	eP	Pn	02 38 42.2	+0.6
BDR	Baidarnaya	2.88	35	PN	Pn	02 38 42.2	+0.6
PAU	Pauzhetka	2.92	198	eP	Pn	02 38 42.2	+0.2
PAU	Pauzhetka	2.92	198	PN	Pn	02 38 42.2	+0.2
SRKR	Sorokina	2.94	33	eP	Pn	02 38 42.7	+0.6
SRKR				eS	S	02 39 24.6	+1.6
SRKR	Sorokina	2.94	33	PN	Pn	02 38 42.7	+0.6
SRKR				S	S	02 39 24.6	+1.6
SMKR	Semkarok	2.98	37	eP	Pn	02 38 43.3	+0.7
SMKR				eS	S	02 39 24.6	+0.7
SMKR	Semkarok	2.98	37	PN	Pn	02 38 43.3	+0.7
SMKR				S	S	02 39 24.6	+0.7
KBG	Krutoberegovo	3.25	50	eP	Pn	02 38 45.5	0.0
KBG				eS	S	02 39 26.8	-2.4
KBG	Krutoberegovo	3.25	50	PN	Pn	02 38 45.5	0.0
KBG				S	S	02 39 26.8	-2.4
KBTR	Krutoberegovo	3.28	51	eP	Pn	02 38 44.7	-1.1
KBTR				eS	S	02 39 25.9	-3.8
KBTR	Krutoberegovo	3.28	51	PN	Pn	02 38 44.7	-1.1
KBTR				S	S	02 39 25.9	-3.8
SKR	Severo-Kuril's	3.80	201	eP	Pn	02 38 51.7	-0.1
SKR				eS	S	02 39 38.2	-2.3
SKR	Severo-Kuril's	3.80	201	ePN	Pn	02 38 51.5	-0.3
SKR				eS	S	02 39 40.8	+0.3
SKR				pmax	pmax		
	comp=Z,44nm,0.8s						
SKR				smax	smax		
	comp=N,220nm,0.3s						
SKR				smax	smax		
	comp=E,131nm,0.3s						
SKR				MLR	MLR		
	comp=Z,400nm,7.0s						
BKI	Bering	4.59	75	eS	S	02 39 52.0	-5.2
MA2	Magadan	6.72	326	P	Pn	02 39 26.3	-1.2
	comp=Z,20nm,0.8s,baz=134,slow=11,SNR=11						
MA2	Magadan	6.72	326	⇑ePN	Pn	02 39 27.3	-0.2
SEY	Seymchan	9.23	343	P	Pn	02 39 58.7	-0.4
	comp=Z,4.1nm,0.3s,baz=149,slow=13,SNR=8.3						
SEY	Seymchan	9.23	343	⇑ePN	Pn	02 39 59.3	+0.2
SEY				pmax	pmax		
	comp=Z,20nm,2.5s						
BILL	Bilibino	14.35	12	⇑eP	P	02 41 04.5	+1.6
BILL				pmax	pmax		
	comp=Z,19nm,1.3s						
YAK	Yakutsk	16.85	309	P	P	02 41 29.3	-1.0
	comp=Z,15nm,0.3s,baz=113,slow=1.1,SNR=7.1						
YAK				S	S	02 44 29.4	-3.6
	comp=Z,4.6nm,0.4s,baz=260,slow=1.7,SNR=1.8						
YAK	Yakutsk	16.85	309	deP	P	02 41 29.2	-1.1
YAK				pmax	pmax		
	comp=Z,36nm,1.0s						
KLR	Kul'dur	17.10	264	P	Pn	02 41 34.2	-1.3
	comp=Z,3.2nm,0.5s,baz=73,slow=9.9,SNR=9.4						
KLR	Kul'dur	17.10	264	⇓eP	P	02 41 33.9	+0.6
KLR				pmax	pmax		
	comp=Z,32nm,3.7s						
ZEA	Zeya	18.16	281	eP	P	02 41 45.6	+1.0
USRK	Ussuriysk Ar.	19.76	250	P	P	02 42 03.0	+1.2
	comp=Z,1.2nm,0.4s,baz=51,slow=12,SNR=4.2						
BNX	BinXian	21.43	259	⇑P	P	02 42 18.4	-0.7
BNX				pmax	pmax		
	comp=Z,25nm,1.2s						
BNX				pmax	pmax		
	comp=Z,300nm,4.2s						
TIXI	Tiksi	21.57	335	P	P	02 42 19.2	-0.9
	comp=Z,6.0nm,0.6s,baz=90,slow=20,SNR=29						
	comp=Z,6.0nm,0.6s						
TIXI	Tiksi	21.57	335	⇑eP	P	02 42 19.5	-0.6
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAJO	Matsushiro	22.47	226	⇓eP	P	02 42 30.1	+1.2
MAJO				pmax	pmax		
	comp=Z,30nm,1.8s						
MJAR	Matsushiro Arr	22.47	226	P	P	02 42 29.6	+0.7
	comp=Z,2.8nm,0.8s,baz=20,slow=9.2,SNR=5.5						
	comp=Z,2.8nm,0.8s						
HIA	Hailar	24.12	274	P	P	02 42 42.3	-1.4
HIA	Hailar	24.12	274	P	P	02 42 42.3	-1.4
HIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSRS	Korea Array	26.68	243	P	P	02 43 06.9	+0.2
	comp=Z,1.2nm,0.7s,baz=40,slow=9.6,SNR=2.2						
	comp=Z,1.2nm,0.7s						
KDAK	Kodiak Island	27.23	62	P	P	02 43 12.1	+0.8
	comp=Z,2.1nm,0.3s,baz=307,slow=5.1,SNR=13						
	comp=Z,2.1nm,0.3s						
COLA	College	28.39	47	⇓eP	P	02 43 23.6	+2.1
COLA				pmax	pmax		
	comp=Z,13nm,2.3s						
IL31		28.81	47	P	P	02 43 26.2	+1.0
ILAR	Eielson Array	28.81	47	P	P	02 43 26.2	+0.9
	comp=Z,1.1nm,0.7s,baz=259,slow=6.8,SNR=20						
ILAR				PcP	PcP	02 46 27.8	-0.1
	comp=Z,0.2nm,0.5s,baz=279,slow=2.9,SNR=1.7						
	comp=Z,1.1nm,0.7s						
PRP	Porcupine Dome	29.32	45	P	P	02 43 30.7	+0.8
SCRK	Sand Creek	30.16	48	P	P	02 43 37.7	+0.4
L27K	Beaver Creek,	31.27	49	P	P	02 43 48.5	+1.6
BCAR	Beaver Creek A	31.29	49	P	P	02 43 49.5	+2.3
ULN	Ulaanbaatar	32.19	280	⇑eP	P	02 43 54.4	-0.9
ULN				pmax	pmax		
	comp=Z,11nm,3.0s						
SONM	Songino Array	32.58	280	P	P	02 43 58.2	-0.5
	comp=Z,1.5nm,0.4s,baz=52,slow=8.8,SNR=11						
SONM				PcP	PcP	02 46 39.3	+0.8
	comp=Z,3.2nm,0.5s,baz=55,slow=1.7,SNR=18						
	comp=Z,1.5nm,0.4s						
HHC	Hu-ho-hao-te	33.59	266	eP	P	02 44 14.2	+6.8
HHC				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,4.3s						
INK	Inuvik	33.64	39	P	P	02 44 08.4	+1.1
	comp=Z,1.7nm,0.3s,baz=274,slow=7.5,SNR=21						
INK				PcP	PcP	02 46 42.0	+1.1
	comp=Z,0.9nm,0.4s,baz=293,slow=7.4,SNR=5.7						
	comp=Z,1.7nm,0.3s						
NRIK	Noril'sk	34.32	324	PcP	PcP	02 46 43.5	+0.7
	comp=Z,3.9nm,0.6s,baz=86,slow=7.0,SNR=4.4						
BTO	Baotou	34.65	267	eP	P	02 44 10.7	-5.8
NJ2	Nanjing	35.63	248	eP	P	02 44 25.8	+1.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
A36M	Sachs Harbour	35.70	31	P	P	02 44 23.4	-1.4
A36M				IAmb	IAmb	02 44 28.9	
	comp=Z,5.8nm,0.8s						
C36M	Paulatuk	36.74	35	P	P	02 44 33.5	-0.2
C36M				IAmb	IAmb	02 44 36.1	
	comp=Z,7.4nm,0.7s						
ZAA0	Zalesovo Array	41.23	301	P	P	02 45 07.5	-3.4
ZALV	Zalesovo Beam	41.23	301	P	P	02 45 09.7	-1.3
	comp=Z,0.8nm,0.3s,baz=46,slow=6.4,SNR=5.7						
ZALV				PcP	PcP	02 47 04.6	+0.1
	comp=Z,1.8nm,0.5s,baz=88,slow=3.4,SNR=7.0						
	comp=Z,0.8nm,0.3s						
ZALV	Zalesovo Beam	41.23	301	P	P	02 45 08.3	-2.6
LZH	Lanzhou	41.27	267	eP	P	02 45 08.3	-3.4

LZH pmax pmax
comp=Z,16nm,1.1s
GTA Gaotai 41.40 274 *eP* **P 02 45 13.2 +0.5**
GTA pmax pmax
comp=Z,10.0nm,0.6s
GTA pmax pmax
comp=Z,110nm,4.0s
GTA LR LR
comp=Z,110nm,18.5s
GTA LR LR
comp=Z,260nm,18.2s
GTA LR LR
comp=Z,110nm,17.8s
DGZ Jazzator, Alta 42.18 294⇑ *eP* **P 02 45 19.0 +0.1**
DGZ pmax pmax
comp=Z,8.0nm,0.5s
RES Resolute Bay 42.67 22 P **P 02 45 23.0 +0.7**
comp=Z,2.3nm,0.5s,baz=336,slow=6.6,SNR=18
RES PcP **PcP 02 47 09.9 +0.9**
comp=Z,1.6nm,0.8s,baz=90,slow=1.0,SNR=2.1
comp=Z,2.3nm,0.5s
YKA Yellowknife Ar 43.06 43 P **P 02 45 26.9 +1.4**
comp=Z,2.0nm,0.7s,baz=328,slow=12,SNR=11
comp=Z,2.0nm,0.7s
WMQ Urumqi 45.56 287 *eP* **P 02 45 46.4 +0.8**
WMQ pmax pmax
comp=Z,30nm,0.7s
KURK Kurchatov 46.19 300 P **P 02 45 47.6 -2.8**
KURK Kurchatov 46.19 300 *d iP* **P 02 45 49.4 -0.9**
KURK pmax pmax
comp=Z,13nm,0.6s
MK31 Makanchi Array 46.67 294 P **P 02 45 52.4 -1.8**
MK31 IAmb IAmb 02 45 53.8
comp=Z,6.4nm,0.7s
MK31 Makanchi Array 46.67 294 *c iP* **P 02 45 53.3 -0.8**
MKAR Makanchi Array 46.67 294 P **P 02 45 53.1 -1.0**
comp=Z,5.8nm,0.5s,baz=56,slow=7.3,SNR=62
MKAR PcP **PcP 02 47 23.9 +0.6**
comp=Z,0.6nm,0.7s,baz=60,slow=5.7,SNR=1.5
comp=Z,5.8nm,0.5s
MKAR Makanchi Array 46.67 294 P **P 02 45 52.6 -1.5**
MKAR Makanchi Array 46.67 294 *ce*P **P 02 45 53.4 -0.7**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
NEEM North Greenlan 47.31 8 *i* P **P 02 45 58.6 -0.4**
NEEM IAmb IAmb 02 45 59.4
comp=Z,11nm,0.9s
BRVK Borovoye 48.84 307 P **P 02 46 08.5 -2.1**
BRVK IAmb IAmb 02 46 10.4
comp=Z,5.3nm,0.7s
BRVK Borovoye 48.84 307 *de*P **P 02 46 09.6 -1.0**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 49.24 359 *i* P **P 02 46 12.8 -0.5**
DAG IAmb IAmb 02 46 13.3
comp=Z,4.0nm,0.6s
KULLO Kullorsuaq 49.29 12 *i* P **P 02 46 12.8 -0.9**
KULLO IAmb IAmb 02 46 14.1
comp=Z,19nm,0.8s
PZH PanZhiHua 49.48 259 P P 02 46 24.7 +8.7
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.3s
KMI Kunming 49.97 257 ⇓P P 02 46 30.0 +10
KMI pmax pmax
comp=Z,15nm,0.5s
QIZ Qiongzhong 50.87 246 P P 02 46 37.8 +12
QIZ S S 02 54 01.5 +39
QIZ LR LR
comp=N,270nm,21.9s
QIZ LR LR
comp=E,260nm,23.9s
QIZ LR LR
comp=Z,210nm,19.9s
ARU Arti 51.80 316 P **P 02 46 29.5 -3.1**
ARU IAmb IAmb 02 46 32.7
comp=Z,8.2nm,0.8s
ARU Arti 51.80 316 *c iP* **P 02 46 31.8 -0.8**
ARU 02 47 38.3
ARU 02 48 27.8
ARU S **S 02 53 34.2 -0.5**
ARU SS **SS 02 57 12.3 -1.7**
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARA0 ARCESS Array S 51.84 341 *eP* **P 02 46 31.9 -0.8**
ARCES ARCESS Array B 51.84 341 P **P 02 46 31.6 -1.1**
comp=Z,0.7nm,0.4s,baz=38,slow=7.7,SNR=15
ARCES PcP **PcP 02 47 42.2 +0.3**
comp=Z,1.1nm,0.6s,baz=15,slow=3.7,SNR=4.9
comp=Z,0.7nm,0.4s
TNCH TengChong 52.47 261 *eP* P 02 46 44.1 +5.9
TNCH pmax pmax
comp=Z,200nm,3.9s
KTK1 Kautokeino 52.72 341 *eP* **P 02 46 38.6 -0.6**
JETT Jettan, Norway 52.76 343 *eP* **P 02 46 39.0 -0.5**
SUMG Summit 52.94 6 *i* P **P 02 46 41.5 +0.3**
SUMG IAmb IAmb 02 46 42.3
comp=Z,17nm,1.1s
TRO Tromso 52.94 343 *eP* **P 02 46 40.2 -0.5**
AAK Ala-Archa 53.58 294 P **P 02 46 45.6 -0.5**
AAK IAmb IAmb 02 46 46.3
comp=Z,8.3nm,1.0s
AAK Ala-Archa 53.58 294 *d iP* **P 02 46 45.5 -0.6**
AAK pmax pmax
comp=Z,8.0nm,1.0s
KIRV Kirov 53.80 322 *de*P **P 02 46 46.9 -0.3**
KSH Kashi 54.95 291 P **P 02 46 59.8 +3.9**
KSH pmax pmax
comp=Z,9.0nm,0.9s
KK31 Karatay Array 55.37 297 P **P 02 46 57.6 -1.1**
KK31 IAmb IAmb 02 46 58.2
comp=Z,4.0nm,0.7s
KK31 Karatay Array 55.37 297 P **P 02 46 57.6 -1.1**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 55.37 297 P **P 02 46 57.6 -1.1**
KKAR IAmb IAmb 02 46 58.2
comp=Z,4.0nm,0.7s
KKAR Karatay Array 55.37 297 P **P 02 46 57.6 -1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
FAUS Fauske 55.56 344 *eP* **P 02 46 59.2 -0.5**
ABKAR Akbulak array 56.21 309 P **P 02 47 02.6 -1.8**
ICESG Greenland Ices 56.28 8 *eP* **P 02 47 04.3 -0.8**
RLMT Red Lodge 56.38 58 P P 02 47 12.8 +6.7
RLMT IAmb IAmb 02 47 20.5
comp=Z,8.0nm,1.4s
NVAR Mina Array Bea 56.38 70 P **P 02 47 09.2 +3.0**
comp=Z,0.9nm,0.7s,baz=305,slow=7.6,SNR=8.1
NVAR PcP **pP 02 48 02.3 +1.2**
comp=Z,1.3nm,0.8s,baz=299,slow=7.9,SNR=6.2
comp=Z,0.9nm,0.7s
MOR8 Moi Rana 56.81 343 *eP* **P 02 47 06.7 -1.7**
FRB Frobisher Bay 56.88 23 P **P 02 47 08.2 -0.7**
comp=Z,3.3nm,0.3s,baz=324,slow=8.4,SNR=13
comp=Z,3.3nm,0.3s
SFJD Kangerlussuaq 57.15 13 P **P 02 47 09.9 -0.8**
comp=Z,4.3nm,0.3s,baz=358,slow=5.4,SNR=10
comp=Z,4.3nm,0.3s
SFJD Kangerlussuaq 57.15 13 *i* P **P 02 47 10.2 -0.5**
BTK Batken 57.36 294 P **P 02 47 12.3 -0.5**
BTK Batken 57.36 294 P **P 02 47 12.3 -0.5**
BTK pmax pmax
comp=Z,10.0nm,0.6s
CMAR Chiang Mai Arr 57.37 256 P **P 02 47 12.9 -0.1**
comp=Z,2.2nm,0.4s,baz=19,slow=6.6,SNR=5.5
comp=Z,2.2nm,0.4s
CMAR Chiang Mai Arr 57.37 256 *ce*P **P 02 47 13.8 +0.8**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
PD31 Pinedale Array 57.92 60 P P 02 47 23.2 +6.3
PDAR Pinedale Array 57.92 60 P **P 02 47 19.0 +2.2**
comp=Z,0.8nm,0.5s,baz=7.5,slow=3.0,SNR=11
comp=Z,0.8nm,0.5s
FINES FINESS Array B 58.61 335 P **P 02 47 20.6 -0.4**
comp=Z,4.5nm,0.5s,baz=33,slow=8.6,SNR=61
comp=Z,4.5nm,0.5s
FINES FINESS Array B 58.61 335 *i* P **P 02 47 20.7 -0.3**
FINES pmax pmax
comp=Z,5.0nm,0.4s
NSS Namsos 58.73 344 *eP* **P 02 47 21.3 -0.5**
ULM Lac du Bonnet 58.83 46 P **P 02 47 23.7 +1.0**
comp=Z,3.0nm,0.4s,baz=322,slow=6.4,SNR=6.7
comp=Z,3.0nm,0.4s
BELG Belogornoye 59.12 318 *d iP* **P 02 47 23.9 -0.7**
BELG pmax pmax
comp=Z,3.0nm,0.8s
NIL Nilore 60.70 288 P **P 02 47 35.0 -0.7**
NIL Nilore 60.70 288 P **P 02 47 35.0 -0.7**
NIL pmax pmax
comp=Z,15nm,1.0s
DOMB Dombas 61.54 344 *eP* **P 02 47 40.5 -0.4**
AKN Aaknes 61.73 345 *eP* **P 02 47 42.3 +0.2**
NB2 NORSAR Subarra 62.12 343 P **P 02 47 44.4 -0.3**
baz=23,slow=6.9
NB2 NORSAR Subarra 62.12 343 P **P 02 47 44.4 -0.3**
comp=Z,2.2nm,0.5s,baz=23,slow=6.9
NOA NORSAR Array B 62.12 343 P **P 02 47 43.8 -0.9**
comp=Z,2.9nm,0.5s,baz=14,slow=5.1,SNR=5.7
comp=Z,2.9nm,0.5s
NC602 NORSAR Array S 62.34 342 *eP* **P 02 47 46.0 -0.2**
KBL Kabul 62.37 291 P **P 02 47 45.1 -1.9**
KBL IAmb IAmb 02 47 45.7
comp=Z,6.3nm,0.7s
KBL Kabul 62.37 291 P **P 02 47 45.1 -1.9**
KBL pmax pmax
comp=Z,6.0nm,0.7s
HYA Hoyanger 62.82 345 *eP* **P 02 47 49.5 +0.2**
OSL Oslo 63.24 342 *eP* **P 02 47 52.3 +0.3**
ASK Askoy 63.62 345 *eP* **P 02 47 54.7 +0.2**
BER Bergen 63.69 345 *eP* **P 02 47 55.2 +0.2**
KONO Kongsberg 63.70 343 *eP* **P 02 47 55.3 +0.2**
SCHQ Schefferville 65.13 27 P **P 02 48 04.3 -0.1**
comp=Z,3.0nm,0.5s,baz=331,slow=4.2,SNR=7.0
comp=Z,3.0nm,0.5s
GEYT Alibeck 65.54 301 P **P 02 48 06.7 -0.7**
comp=Z,4.1nm,0.7s,baz=23,slow=4.8,SNR=8.1
comp=Z,4.1nm,0.7s
GEYT Alibeck 65.54 301 P **P 02 48 07.0 -0.3**
GEYT IAmb IAmb 02 48 07.9
comp=Z,3.5nm,0.9s
HRA Herat 66.14 296 P **P 02 48 10.2 -1.3**
HRA IAmb IAmb 02 48 11.2
comp=Z,6.8nm,1.4s
AKASG Malin Array Be 67.05 328 P **P 02 48 15.6 -1.0**
comp=Z,5.4nm,0.6s,baz=30,slow=6.6,SNR=15
comp=Z,5.4nm,0.6s
AKBB Malin Array Si 67.05 328⇓ *eP* **P 02 48 15.5 -1.1**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKT Akhty 67.68 310 *eP* **P 02 48 20.1 -0.8**
AKT *e* 02 48 47.4
AKT *e**PP **pP 02 49 17.0 -0.7**
AKT *e* 02 50 53.1
AKT pmax pmax
comp=Z,6.0nm,0.6s
KIV Kislovodsk 67.84 315 *eP* **P 02 48 22.6 +0.8**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 67.94 315 P **P 02 48 22.4 +0.1**
comp=Z,5.1nm,0.6s,baz=41,slow=20,SNR=20
comp=Z,5.1nm,0.6s
KBZ Khabaz 67.94 315 *d iP* **P 02 48 22.1 -0.2**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
SORM Soroca 69.57 327 ⇑P **P 02 48 31.1 -1.1**
SORM Soroca 69.57 327 ⇑P **P 02 48 31.1 -1.1**
STHS Stebnicka Huta 70.56 332 *eP* **P 02 48 38.0 -0.3**
STHS Stebnicka Huta 70.56 332 *eP* **P 02 48 38.0 -0.3**
OSTC Ostas 70.82 335 *eP* **P 02 48 39.8 0.0**
CHVC Chvalec 70.83 336 *eP* **P 02 48 39.7 -0.2**
CLL Collm 70.87 338 IAmb IAmb 02 48 40.5
comp=Z,6.8nm,0.7s
CLL Collm 70.87 338 ⇓ *iP* **P 02 48 39.7 -0.4**
comp=Z,8.0nm,0.8s
CLL Collm 70.87 338 ⇓ *iP* **P 02 48 39.7 -0.4**
CLL pmax pmax
comp=Z,8.0nm,0.8s
DPC Dobruska-Polom 70.99 335 *eP* **P 02 48 41.2 +0.3**
DPC Dobruska-Polom 70.99 335 *eP* **P 02 48 41.2 +0.3**
BUR08 Bucovina Ar. S 71.00 328 IAmb IAmb 02 48 41.2
comp=Z,4.1nm,0.6s
BURAR Bucovina Array 71.02 328 ⇑P **P 02 48 40.8 -0.3**
BURAR Bucovina Array 71.02 328 P **P 02 48 40.1 -1.1**
BURAR Bucovina Array 71.02 328 ⇑P **P 02 48 40.8 -0.3**
KRLC Kraliky 71.13 335 *eP* **P 02 48 41.5 -0.2**
KRLC Kraliky 71.13 335 *eP* **P 02 48 41.5 -0.2**
TXAR Lajitas Array 71.19 66 P **P 02 48 44.8 +2.3**
comp=Z,0.4nm,0.4s,baz=295,slow=5.1,SNR=10.0
comp=Z,0.4nm,0.4s
MORC Moravsky Berou 71.21 334 ⇑P **P 02 48 41.4 -0.8**
MORC Moravsky Berou 71.21 334 IAmb IAmb 02 48 43.8
comp=Z,5.6nm,1.0s
MORC Moravsky Berou 71.21 334 ⇑P **P 02 48 41.4 -0.8**
BIZ Bicaz 71.34 328 ⇑P P 02 48 30.9 -12
TRPA Tarpa 71.35 330 ⇑P **P 02 48 43.2 +0.2**
BIR Birlad 71.45 326 ⇑P **P 02 48 44.0 +0.4**
BIR Birlad 71.45 326 ⇑P **P 02 48 44.0 +0.4**
TESR Tescani 71.55 327 ⇑P **P 02 48 43.3 -0.9**
PRU Pruhonice 71.75 336 *eP* **P 02 48 45.2 -0.2**
PRU Pruhonice 71.75 336 *eP* **P 02 48 45.2 -0.2**
VRAC Vranov 71.88 335 ⇑P **P 02 48 46.3 +0.1**
VRAC Vranov 71.88 335 ⇑P **P 02 48 46.3 +0.1**
KOPT Kop Dagi 72.01 314 P **P 02 48 48.3 +0.9**
KOPT IAmb IAmb 02 48 51.6
comp=Z,8.8nm,0.8s
VYHS Vyhne 72.05 333 *eP* **P 02 48 47.6 +0.4**
VYHS *e* 03 14 49.6
VYHS Vyhne 72.05 333 *eP* **P 02 48 47.6 +0.4**
PLOR Plostina 72.13 327 ⇑P **P 02 48 48.7 +0.9**
PLOR Plostina 72.13 327 ⇑P **P 02 48 48.7 +0.9**
CFR Carcaliu 72.24 325 ⇑P **P 02 48 45.9 -2.4**
CFR Carcaliu 72.24 325 ⇑P **P 02 48 45.9 -2.4**
CBBR Cluj-Babes-Bol 72.28 329 ⇑P **P 02 48 48.0 -0.5**
COVR Voineasa-Covas 72.28 327 ⇑P **P 02 48 49.2 +0.6**
DOPR Dopca 72.43 328 ⇓P **P 02 48 49.1 -0.3**
DRGR 72.51 330 ⇑P **P 02 48 49.5 -0.5**
DRGR 72.51 330 ⇑P **P 02 48 49.5 -0.5**
MLR Muntele Rosu 72.68 327 ⇑P **P 02 48 52.0 +0.9**
MLR Muntele Rosu 72.68 327 P **P 02 48 49.9 -1.2**
MLR Muntele Rosu 72.68 327 ⇑P **P 02 48 52.0 +0.9**
KHC Kasperske Hory 72.78 337 *eP* **P 02 48 51.4 -0.1**
KHC Kasperske Hory 72.78 337 ⇓ *eP* **P 02 48 51.8 +0.3**
KHC pmax pmax
comp=Z,33nm,3.0s
BTNL Ternell 72.95 342 *dP* **P 02 48 53.0 +0.5**
MEM Membach 72.95 342 *dP* **P 02 48 52.2 -0.2**
comp=Z,13nm,0.7s
VOIR 73.01 328 ⇑P **P 02 48 53.3 +0.3**
VOIR 73.01 328 ⇑P **P 02 48 53.3 +0.3**
GERES GERESS Array B 73.02 336 P **P 02 48 53.2 +0.2**
comp=Z,1.2nm,0.5s,baz=36,slow=5.8,SNR=17
comp=Z,1.2nm,0.5s
BSTI Sart Tilman 73.06 342 *dP* **P 02 48 53.9 +0.8**
ARR Arges 73.20 328 ⇑P **P 02 48 55.1 +1.1**
ICOR Ion Corvin 73.29 325 ⇑P **P 02 48 54.2 -0.3**
CONA Conrad Observa 73.35 335 *i* P **P 02 48 55.6 +0.7**
comp=Z,2.5nm,0.6s
RONA Rosalia, Austr 73.45 334 *eP* **P 02 48 56.3 +0.8**
comp=Z,0.5nm,0.2s
GZR Gura Zlata 73.75 329 ⇑P **P 02 48 56.3 -1.0**
GZR Gura Zlata 73.75 329 ⇑P **P 02 48 56.3 -1.0**
MOA Molln 73.81 336 *i* P **P 02 48 57.8 +0.3**
comp=Z,1.3nm,0.6s
BZS Buzias 73.90 330 ⇑P **P 02 48 57.2 -0.8**
BZS Buzias 73.90 330 ⇑P **P 02 48 57.2 -0.8**
ARSA Arzberg 74.06 335 *eP* **P 02 48 59.6 +0.6**
comp=Z,1.7nm,0.5s
BIOA Bad Ischl, Aus 74.11 336 *eP* **P 02 49 00.3 +1.0**
comp=Z,0.9nm,0.5s
MARD Mardin 74.16 313 P **P 02 49 00.4 +0.6**
HERR Herculane 74.33 329 ⇑P **P 02 48 59.8 -0.7**
KBA Koelnbreinsper 74.76 336 *i* P **P 02 49 04.2 +1.1**
comp=Z,5.5nm,0.5s,SNR=12
WATA Walderalm 74.93 337 *i* P **P 02 49 04.6 +0.5**
comp=Z,2.4nm,0.5s,SNR=5.2
RETA Reute 74.97 338 *i* P **P 02 49 04.6 +0.3**
comp=Z,4.6nm,1.0s
WTTA Wattenberg 74.98 337 *i* P **P 02 49 05.2 +0.7**
comp=Z,2.4nm,0.5s
PLVB Pleven 74.99 327 ⇑P **P 02 49 03.0 -1.3**
OBKA Obir 75.00 335 *i* P **P 02 49 05.3 +0.9**
comp=Z,2.5nm,0.4s
BR131 Keskin Array S 75.02 319 IAmb IAmb 02 49 05.2
comp=Z,3.6nm,0.7s
BR131 Keskin Array S 75.02 319 *c iP* **P 02 49 04.6 -0.2**
BRTR Keskin Array B 75.03 319 P **P 02 49 04.5 -0.3**
comp=Z,1.7nm,0.6s,baz=13,slow=3.1,SNR=17
comp=Z,1.7nm,0.6s
BRTR Keskin Array B 75.03 319 P **P 02 49 04.2 -0.6**
ECH Echery 75.03 340 IAmb IAmb 02 49 03.5
comp=Z,12nm,1.4s
ECH P **P 02 49 04.0 -0.5**
SQTA Sankt Quirin 75.12 337 *i* P **P 02 49 05.7 +0.6**
comp=Z,3.4nm,0.6s,SNR=4.1
ABTA Abfaltersbach 75.26 336 *i* P **P 02 49 06.8 +0.8**
comp=Z,5.0nm,0.7s,SNR=5.2
BLKB Belogradchik 75.39 328 ⇑P **P 02 49 05.3 -1.4**
FETA Feichten 75.42 338 *i* P **P 02 49 07.6 +0.7**
comp=Z,2.7nm,0.6s,SNR=4.8
TKL Tuckaleechee C 75.78 48 P **P 02 49 09.7 +0.7**
comp=Z,2.5nm,0.7s,baz=257,slow=11,SNR=2.3
comp=Z,2.5nm,0.7s
VTS Vitosha 76.12 327 ⇑P **P 02 49 10.2 -0.7**
VTS Vitosha 76.12 327 P **P 02 49 10.6 -0.4**
VTS IAmb IAmb 02 49 12.8
comp=Z,3.2nm,0.6s
VTS Vitosha 76.12 327 ⇑P **P 02 49 10.2 -0.7**
WRAB Tennant Creek 76.67 203 ⇓ *iP* **P 02 49 15.2 +1.2**
WRAB pmax pmax
comp=Z,12nm,2.3s
WRA Warramunga Arr 76.69 203 P **P 02 49 15.2 +1.2**
comp=Z,2.6nm,0.7s,baz=19,slow=6.0,SNR=35
comp=Z,2.6nm,0.7s
WRA Warramunga Arr 76.69 203 *i* P **P 02 49 15.1 +1.1**
WRA pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 80.38 203 P **P 02 49 35.8 +1.7**
comp=Z,4.4nm,0.7s,baz=14,slow=5.6,SNR=70
comp=Z,4.4nm,0.7s
RAYN Ar Rayn 83.50 302 P **P 02 49 50.0 -0.6**
RAYN IAmb IAmb 02 49 50.7
comp=Z,7.0nm,1.1s
RAYN Ar Rayn 83.50 302 ⇑P **P 02 49 49.3 -1.3**
ESDC Sonseca Array 85.21 346 P **P 02 49 59.8 +0.9**
comp=Z,3.9nm,0.7s,baz=360,slow=4.8,SNR=30
comp=Z,3.9nm,0.7s
ESDC Sonseca Array 85.21 346 P **P 02 49 59.4 +0.5**
KEST Kesra 86.45 335 P **P 02 50 05.2 +0.1**
comp=Z,4.2nm,0.9s,baz=15,slow=16,SNR=8.1
comp=Z,4.2nm,0.9s
CPUP Villa Florida 141.78 58 PKhKP PKPpre 02 56 49.1
comp=Z,0.5nm,0.5s,baz=339,slow=5.6,SNR=3.0
PLCA Paso Flores 145.10 88 PKPbc **PKPab 02 56 58.6 +0.6**
comp=Z,0.9nm,0.7s,baz=304,slow=3.6,SNR=5.2

ROM 06 02:47:25.9±0.6, **42.78N**±0.02×**12.81E**±0.05, **h7**km±2km,
ML1.8/4, **2C-3D**, **Error ellipse: s-maj=4.0km**
s-min=1.0km az=91.0, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
T1215	**Vallo di Nera,**	**0.05**	**67**	P		Pg		02 47 28.3	+0.7
T1215				S		Sg		02 47 29.6	+0.9
T1217	**Poggiodomo (PG**	**0.12**	**128**	P		Pg		02 47 28.7	+0.2
T1217				S		Sg		02 47 30.4	0.0
T1216	**Preci, Frazion**	**0.19**	**55**	P	⇑	Pg		02 47 29.4	-0.4
NRCA	**Norcia**	**0.23**	**77**	P		Pg		02 47 32.0	+1.4
CESI	**CESI - Serrava**	**0.23**	**18**	P	⇓	Pg		02 47 31.1	+0.5
CESI				AML		AML			
	comp=E,90μm,1.6s								
CESI				AML		AML			
	comp=N,188μm,0.5s								
CESI				AML		AML			
	comp=N,310μm,0.2s								
CESI				AML		AML			
	comp=E,222μm,1.2s								
T1211	**Morro Reatino**	**0.25**	**172**	P		Pg		02 47 31.9	+0.9
T1211				AML		AML			
	comp=N,181μm,1.6s								
T1211				AML		AML			
	comp=E,168μm,1.1s								
T1245	**Castelsantange**	**0.29**	**75**	P		Pg		02 47 32.6	+0.9
RM33	**Pellescritta (**	**0.41**	**132**	P		Pb		02 47 35.1	-0.4
RM33				AML		AML			
	comp=E,534μm,0.7s								
RM33				AML		AML			
	comp=E,612μm,0.7s								
RM33				AML		AML			
	comp=N,329μm,0.3s								
RM33				AML		AML			
	comp=N,356μm,0.7s								
RM33				AML		AML			
	comp=E,612μm,0.7s								
SMA1	**SAN MARTINO**	**0.42**	**111**	AML		AML			
	comp=N,219μm,0.3s								
SMA1				AML		AML			
	comp=E,156μm,1.3s								
SMA1				AML		AML			
	comp=N,218μm,0.3s								
MMUR	**Monte Murano**	**0.67**	**12**	P		Pg		02 47 35.2	-3.7
ROM9	**Roma**	**0.98**	**193**	P		Pb		02 47 45.0	-0.1
ARCI	**Arcidosso**	**0.98**	**274**	S		Sg		02 47 57.0	-0.6
MA9	**Marino**	**1.02**	**186**	S		Sg		02 47 58.0	-0.7
CPGN	**Carpegna, Ital**	**1.08**	**341**	P		Pg		02 47 43.1	-3.5
TRIF	**Trifonti**	**1.44**	**284**	P		Pn		02 47 49.1	-3.3
TRIF				S		Sg		02 48 16.0	+3.8
MODR	**Mondragone**	**1.82**	**154**	S		Sb		02 48 22.0	-0.6
PTRJ	**Pietraroja**	**1.91**	**137**	S		Sn		02 48 12.0	-11
VITU	**Vitulano (BN)**	**2.10**	**139**	S		Sn		02 48 18.0	-10
MCRV	**Calabrutti - M**	**2.67**	**138**	P		Pb		02 48 13.6	-0.5
VARN	**Col Varnada, M**	**3.25**	**351**	P		Pn		02 48 15.3	-2.0
CTI	**Castel Tesino**	**3.37**	**346**	P		Pb		02 48 24.7	-1.3
CUC	**Castrocucco**	**3.59**	**140**	⇓P		Pb		02 48 31.7	+1.9
CET2	**Cetraro**	**4.03**	**143**	P		Pb		02 48 38.2	+1.0
SPS2	**Spezzano della**	**4.39**	**141**	⇓P		Pn		02 48 36.4	+3.3
FRGS	**Fruska Gora**	**5.58**	**62**	⇑P		Pb		02 49 01.4	-2.3

IDC ***06*** *02:59:43.7±52.0, 16°.99S×176°.71E, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=913.0km s-min=133.5km az=75.0*
NOU ***06*** *03:01:03.5, 19°.39S×169°.24E, h149km, MLv4.0/25, Vanuatu Islands*
ISC 06 03:01:03.3±1.3, **19°.43S**±0°.07×**169°.3E**±0°.2, **h150**km, **n24,**
σ0s 97/24, mb4.3/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
RTV	**Rentapao**	**1.81**	**334**	P			**Pn**	**03 01 36.7**	**+0.4**
DVP	**Devils Point**	**1.98**	**329**	P			**Pn**	**03 01 38.3**	**+0.1**
LIFNC	**LIFOU**	**2.33**	**235**	P			**Pn**	**03 01 41.4**	**-0.9**
MARNC	**Mare, Loyalty**	**2.35**	**209**	P			**Pn**	**03 01 41.9**	**-0.7**
YATNC	**Mamie plateau,**	**3.44**	**220**	P			**Pn**	**03 01 55.5**	**-0.7**
DZM	**Mont Dzumac**	**3.73**	**225**	P			**Pn**	**03 02 00.4**	**+0.3**
OUENC	**Ouen Island, N**	**3.74**	**217**	P			**Pn**	**03 02 00.6**	**+0.4**
NOUC	**Port Laguerre**	**3.84**	**226**	P			**Pn**	**03 02 02.9**	**+1.4**
ONTNC	**Ouen Toro**	**3.89**	**222**	P			**Pn**	**03 02 02.4**	**+0.3**
KOUNC	**Koumac, New Ca**	**4.82**	**256**	P			**Pn**	**03 02 16.1**	**+1.8**
URZ	**Urewera**	**19.96**	**162**	P			**P**	**03 05 25.8**	**+2.0**
BKZ	**Black Stump Fm**	**20.64**	**164**	P			**P**	**03 05 32.6**	**+1.6**
BFZ	**Birch Farm**	**22.01**	**166**	P			**P**	**03 05 45.2**	**-0.3**
	19nm,1.2s								
STKA	**Stephens Creek**	**27.77**	**238**	P			**P**	**03 06 38.8**	**+0.7**
	2.1nm,0.8s,baz=54,slow=9.0,SNR=8.5								
	2.1nm,0.6s								
LCRK	**Leigh Creek**	**30.13**	**243**	P			**P**	**03 06 59.6**	**+0.6**
BBOO	**Buckleboo**	**32.52**	**239**	P			**P**	**03 07 19.9**	**0.0**
WRAB	**Tennant Creek**	**32.85**	**263**	P			**P**	**03 07 22.2**	**-0.8**
WRA	**Warramunga Arr**	**32.86**	**263**	P			**P**	**03 07 22.0**	**-1.1**
	0.9nm,0.5s,baz=93,slow=8.3,SNR=17								
	0.9nm,0.5s								
AS01	**Alice Springs**	**33.07**	**256**	P			**P**	**03 07 24.9**	**0.0**
ASAR	**Alice Springs**	**33.11**	**256**	P			**P**	**03 07 25.2**	**-0.1**
	5.8nm,0.6s,baz=85,slow=8.9,SNR=139								
	5.8nm,0.6s								
MULG	**Mulgathing**	**33.60**	**244**	P			**P**	**03 07 29.9**	**+0.5**
WRKA	**Warakurna**	**38.23**	**254**	P			**P**	**03 08 08.8**	**-0.2**
MBWA	**Marble Bar**	**46.35**	**259**	P			**P**	**03 09 14.8**	**+0.2**
KAPI	**Kappang**	**50.28**	**280**	P			**P**	**03 09 43.2**	**-1.6**
	8.2nm,1.2s								

HVO ***06*** *03:07:14.8±1.2, 19°.403N±0°.007×155°.27W±0°.01, h1km±4km, ML2.9/16, ML1.9/28(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=115.0*
NEIC 06 03:07:15.7±1.3, **19°.41N**±0°.01×**155°.27W**±0°.01, **h4**km±3km,
Error ellipse: s-maj=2.0km s-min=1.1km az=134.0,
Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC

BYL	**Byron's Ledge**	**0.01**	**82**		Pg		03 07 16.0	-0.6
HATHI	**Halema'uma'u T**	**0.01**	**28**		Pg		03 07 16.6	0.0
KKO	**Keanakako`i**	**0.01**	**173**		Pg		03 07 15.7	-0.9
NPH	**North Pit**	**0.01**	**274**		Pg		03 07 16.3	-0.4
SBLHI	**Steaming Bluff**	**0.02**	**359**		Pg		03 07 16.7	0.0
OBL	**Observatory Le**	**0.02**	**293**		Pg		03 07 16.7	0.0
RIM	**Rim**	**0.02**	**201**		Pg		03 07 15.9	-0.7
UWB	**Uwekahuna B**	**0.02**	**324**	IAML			03 07 16.1	
	comp=E,1μm,1.7s							
UWB	**Uwekahuna B**	**0.02**	**324**		Pg		03 07 16.8	+0.2
UWE	**Uwekahuna**	**0.03**	**293**		Pg		03 07 17.1	+0.4
WRMHI	**West Rim**	**0.03**	**262**		Pg		03 07 17.1	+0.3
SDHHI	**Sand Hill**	**0.03**	**229**		Pg		03 07 16.9	+0.1
RSD	**Rainshed**	**0.05**	**349**		Pg		03 07 18.3	+1.2
PUH	**Pauahi**	**0.06**	**127**	Pg	Pg		03 07 16.9	-0.2
PUH				IAML			03 07 17.2	
	comp=E,472nm,2.0s							
PUH				IAML			03 07 17.3	
	comp=N,940nm,0.2s							
KNHH	**Kane Nui o Ham**	**0.10**	**109**		Pg		03 07 17.7	0.0
HLP	**Hilina Pali**	**0.12**	**198**		Pg		03 07 18.1	0.0
HLP	**Hilina Pali**	**0.12**	**198**		Sg		03 07 20.7	+0.9
HLP	**Hilina Pali**	**0.12**	**198**	IAML			03 07 18.7	
	comp=E,854nm,3.2s							
HLP				IAML			03 07 20.6	
	comp=N,593nm,0.4s							
MLH	**Mauna Loa**	**0.14**	**306**		Pg		03 07 19.0	+0.4
MLH					Sg		03 07 22.4	+2.0
MLH	**Mauna Loa**	**0.14**	**306**	IAML			03 07 22.7	
	comp=E,587nm,0.3s							
MLH				IAML			03 07 23.0	
	comp=N,456nm,0.8s							
NPOC	**North of Pu'u**	**0.15**	**97**	Pg	Pg		03 07 18.6	-0.1
NPOC				IAML			03 07 19.9	
	comp=E,583nm,0.8s							
JCUZ	**Jacuzzi**	**0.16**	**100**		Pg		03 07 18.7	-0.1
JCUZ	**Jacuzzi**	**0.16**	**100**	IAML			03 07 19.8	
	comp=N,745nm,1.0s							
JCUZ				IAML			03 07 22.7	
	comp=E,553nm,0.6s							
AIN	**Ainahou**	**0.18**	**258**		Pg		03 07 19.7	+0.3
AIN	**Ainahou**	**0.18**	**258**	IAML			03 07 23.1	
	comp=E,321nm,0.5s							
AIN				IAML			03 07 23.2	
	comp=N,299nm,2.2s							
HTC	**Hot Caves**	**0.21**	**215**		Pg		03 07 20.4	+0.6
JOKA	**Jonika Flow**	**0.25**	**85**		Pg		03 07 20.2	-0.3
HMH	**Humu'ula Sheep**	**0.28**	**313**		Pg		03 07 21.4	+0.3
HMH	**Humu'ula Sheep**	**0.28**	**313**	IAML			03 07 25.4	
	comp=E,133nm,2.6s							
HMH				IAML			03 07 25.9	
	comp=N,168nm,3.2s							
MLOA	**Mauna Loa Obse**	**0.32**	**293**		Pg		03 07 21.3	-0.7
MLOA				IAML			03 07 25.9	
	comp=N,160nm,3.5s							
MLOA				IAML			03 07 27.4	
	comp=E,186nm,1.7s							
MWH	**Moku'aweowe**	**0.32**	**283**		Pg		03 07 20.3	-1.8
KHU	**Kahuku**	**0.37**	**243**	Pg	Pg		03 07 21.9	-1.0
ALEP	**Alea Permanent**	**0.38**	**290**		Pg		03 07 23.1	0.0
POHA	**Pohakuloa**	**0.43**	**324**	Pg	Pg		03 07 23.2	-0.8
POHA				IAML			03 07 27.0	
	comp=E,123nm,2.4s							
HUH	**Hualalai**	**0.60**	**297**	Pg	Pg		03 07 26.5	-0.8

*KRNET **06** 03:10:08.7±0.1, 42°.75N×74°.40E, h17km, mb2.8*
*KNET **06** 03:10:08.1±0.2, 42°.75N×74°.43E, h19km±2km, ml1.8, Error ellipse: s-maj=2.0km s-min=1.3km az=101.0*
*SOME **06** 03:10:08.9, 42°.80N×74°.40E, h5km*
*NNC **06** 03:10:09.3±0.9, 42°.73N×74°.48E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=6.3km s-min=4.8km az=160.0*

ISC 06 03:10:08.6±0.8, 42°.75N±0°.02×74°.42E±0°.02, h17km±5km, n53, σ0§65/102, 23C-17D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**0.12**	**153**	⇑P	**Pg**	**03 10 12.3**	**-0.2**
	173nm,0.1s,SNR=471						
AAK				⇓S	**Sg**	**03 10 15.1**	**-0.1**
	137nm,0.1s						
AAK	**Ala-Archa**	**0.12**	**153**	⇓*i*P	**Pg**	**03 10 12.2**	**-0.3**
	baz=50						
AAK				⇓*i*S	**Sg**	**03 10 14.6**	**-0.5**
	baz=50						
CHMS	**Chumysh**	**0.35**	**44**	P	**Pg**	**03 10 16.0**	**0.0**
	10nm,0.1s,SNR=22						
CHMS				⇑S	**Sg**	**03 10 21.1**	**+0.1**
	74nm,0.1s						
CHMS	**Chumysh**	**0.35**	**44**	⇑*i*P	**Pg**	**03 10 15.6**	**-0.4**
	baz=46						
CHMS				⇑*i*S	**Sg**	**03 10 20.9**	**0.0**
	baz=46						
CHMS	**Chumysh**	**0.35**	**44**	⇓P	**Pg**	**03 10 15.9**	**0.0**
	4.2nm,0.3s						
CHMS				⇑S	**Sg**	**03 10 20.9**	**0.0**
	13nm,0.2s						
KBK	**Karagaybulak**	**0.40**	**103**	⇓P	**Pg**	**03 10 17.1**	**+0.2**
	25nm,0.1s,SNR=82						
KBK				⇑S	**Sb**	**03 10 23.2**	**-0.1**
	117nm,0.1s						
KBK	**Karagaybulak**	**0.40**	**103**	⇓*i*P	**Pg**	**03 10 16.8**	**-0.1**
	baz=3.0						
KBK				⇓*i*S	**Sg**	**03 10 22.6**	**+0.1**
	baz=3.0						
EKS2	**Erkin-Say**	**0.48**	**260**	⇑P	**Pg**	**03 10 18.4**	**+0.1**
	14nm,0.1s,SNR=78						
EKS2	**Erkin-Say**	**0.48**	**260**	⇓*i*P	**Pg**	**03 10 17.9**	**-0.4**
	baz=59						
EKS2				⇓*i*S	**Sg**	**03 10 24.5**	**-0.3**
	baz=59						
USP	**Ospenovka**	**0.52**	**7**	⇓P	**Pg**	**03 10 18.9**	**-0.2**
	6.3nm,0.1s,SNR=7.0						
USP				⇑S	**Sg**	**03 10 26.1**	**0.0**
	81nm,0.2s						
USP	**Ospenovka**	**0.52**	**7**	⇓*i*P	**Pg**	**03 10 18.9**	**-0.2**
	baz=8.0						
USP				⇓*i*S	**Sb**	**03 10 26.5**	**-0.2**
	baz=8.0						
UCH	**Uchtor**	**0.52**	**172**	⇓P	**Pg**	**03 10 19.1**	**-0.1**
	37nm,0.2s,SNR=29						
UCH				⇑S	**Sg**	**03 10 26.4**	**+0.1**
	60nm,0.2s						
UCH	**Uchtor**	**0.52**	**172**	⇑*i*P	**Pg**	**03 10 19.3**	**+0.1**
	baz=71						
UCH				⇑*i*S	**Sg**	**03 10 27.1**	**+0.8**
	baz=71						
SGDS	**Sogindy**	**0.72**	**12**	*e*P	**Pg**	**03 10 22.4**	**-0.3**
	15nm,0.1s						
SGDS				*e*S	**Sg**	**03 10 32.2**	**-0.2**
	62nm,0.1s						
SGDS	**Sogindy**	**0.72**	**12**	P	**Pg**	**03 10 22.4**	**-0.3**
	15nm,0.1s						
SGDS				S	**Sg**	**03 10 32.2**	**-0.2**
	62nm,0.1s						
AML	**Almayashu**	**0.82**	**221**	⇓P	**Pb**	**03 10 24.2**	**-0.3**
	4.7nm,0.2s,SNR=19						
AML				⇑S	**Sb**	**03 10 35.2**	**-0.2**
	50nm,0.4s						
MRKS	**Merke**	**0.88**	**270**	*e*P	**Pb**	**03 10 25.2**	**-0.2**
	4.3nm,0.1s						
MRKS				*e*S	**Sb**	**03 10 36.6**	**-0.3**
	42nm,0.2s						
MRKS	**Merke**	**0.88**	**270**	P	**Pb**	**03 10 25.2**	**-0.2**
	4.3nm,0.1s						
MRKS				S	**Sb**	**03 10 36.6**	**-0.3**
	42nm,0.2s						
TKM2	**Tokmak 2**	**0.89**	**78**	⇑P	**Pb**	**03 10 25.1**	**-0.5**
	4.7nm,0.1s,SNR=50						
TKM2				⇑S	**Sb**	**03 10 37.2**	**-0.1**
	35nm,0.1s						
TKM2	**Tokmak 2**	**0.89**	**78**	⇑*i*P	**Pb**	**03 10 25.5**	**-0.1**
	baz=79						
TKM2				⇑*i*S	**Sn**	**03 10 38.3**	**-0.8**
	baz=79						
TKM2	**Tokmak 2**	**0.89**	**78**	⇑P	**Pb**	**03 10 25.0**	**-0.7**
	1.2nm,0.4s						
TKM2				⇑S	**Sb**	**03 10 36.9**	**-0.4**
	3.9nm,0.1s						
ARLS	**Aral**	**0.89**	**185**	⇑*i*P	**Pb**	**03 10 25.6**	**-0.1**
	baz=84						
ARLS				⇑*i*S	**Sg**	**03 10 38.3**	**+0.7**
	baz=84						
DGS	**Degeres**	**1.11**	**63**	*e*P	**Pn**	**03 10 29.6**	**+0.1**
	baz=64						
DGS				*e*S	**Sn**	**03 10 44.3**	**-0.2**
	8.2nm,0.2s						
DGS	**Degeres**	**1.11**	**63**	P	**Pn**	**03 10 29.6**	**+0.1**
	2.5nm,0.2s						
DGS				S	**Sn**	**03 10 44.3**	**-0.2**
	8.2nm,0.2s						
BOOM	**Boomskoye usch**	**1.15**	**102**	⇓*i*P	**Pn**	**03 10 30.1**	**-0.1**
	baz=2.0						
BOOM				⇓*i*S	**Sn**	**03 10 45.5**	**-0.1**
	baz=2.0						
KST	**Kastek**	**1.17**	**75**	*e*P	**Pg**	**03 10 31.2**	**-0.1**
	baz=75						
KST				*e*S	**Sg**	**03 10 46.9**	**+0.2**
	baz=75						
KST	**Kastek**	**1.17**	**75**	*e*P	**Pg**	**03 10 31.1**	**-0.1**
	5.4nm,0.2s						
KST				*e*S	**Sg**	**03 10 46.8**	**+0.2**
	13nm,0.4s						
KST	**Kastek**	**1.17**	**75**	P	**Pg**	**03 10 31.1**	**-0.1**
	5.4nm,0.2s						
KST				S	**Sg**	**03 10 46.8**	**+0.2**
	13nm,0.4s						
KRBS	**Karabastau**	**1.32**	**44**	*e*P	**Pb**	**03 10 33.3**	**+0.3**
	baz=44						
KRBS				*e*S	**Sg**	**03 10 50.6**	**-0.8**
	baz=44						
KRBS	**Karabastau**	**1.32**	**44**	*e*P	**Pb**	**03 10 33.2**	**+0.3**
	1.5nm,0.1s						
KRBS				*e*S	**Sg**	**03 10 50.5**	**-0.8**
	10nm,0.3s						
KRBS	**Karabastau**	**1.32**	**44**	P	**Pb**	**03 10 33.3**	**+0.3**
	1.5nm,0.1s						
KRBS				S	**Sg**	**03 10 50.5**	**-0.8**
	10nm,0.3s						
ULHL	**Ulahol**	**1.44**	**110**	⇑P	**Pb**	**03 10 35.5**	**+0.3**
	2.3nm,0.1s,SNR=17						
ULHL				⇓S	**Sg**	**03 10 54.8**	**-0.2**
	7.9nm,0.1s						
ULHL	**Ulahol**	**1.44**	**110**	⇑*i*P	**Pb**	**03 10 35.1**	**0.0**
	baz=10.0						
ULHL				⇑*i*S	**Sg**	**03 10 54.9**	**-0.2**
	baz=10.0						
MTBS	**Maitube**	**1.53**	**75**	*e*P	**Pg**	**03 10 38.5**	**+0.6**
	2.5nm,0.2s						
MTBS				*e*S	**Sg**	**03 10 59.5**	**+1.6**
	7.9nm,0.2s						
MTBS	**Maitube**	**1.53**	**75**	P	**Pg**	**03 10 38.5**	**+0.6**
	2.5nm,0.2s						
MTBS				S	**Sg**	**03 10 59.5**	**+1.6**
	7.9nm,0.2s						
IZV	**Izvestkoviy**	**1.64**	**79**	*e*P	**Pg**	**03 10 39.5**	**-0.6**
	baz=79						
IZV				*e*S	**Sg**	**03 11 01.2**	**-0.2**
	baz=79						
IZV	**Izvestkoviy**	**1.64**	**79**	*e*P	**Pg**	**03 10 39.5**	**-0.6**
	0.1nm,0.1s						
IZV				*e*S	**Sg**	**03 11 01.3**	**-0.2**
	10nm,0.4s						
IZV	**Izvestkoviy**	**1.64**	**79**	P	**Pg**	**03 10 39.5**	**-0.6**
	0.1nm,0.1s						
IZV				S	**Sg**	**03 11 01.3**	**-0.2**
	10nm,0.4s						
KUU	**Kurty**	**1.81**	**50**	*e*P	**Pb**	**03 10 42.1**	**+0.8**
	baz=50						
KUU				*e*S	**Sg**	**03 11 05.8**	**-1.2**
	baz=50						
KUU	**Kurty**	**1.81**	**50**	*e*P	**Pb**	**03 10 42.1**	**+0.8**
	1.3nm,0.2s						
KUU				*e*S	**Sg**	**03 11 05.7**	**-1.2**
	17nm,0.4s						
KUU	**Kurty**	**1.81**	**50**	P	**Pb**	**03 10 42.1**	**+0.8**
	1.3nm,0.2s						
KUU				S	**Sg**	**03 11 05.7**	**-1.2**
	17nm,0.4s						
TNSS	**Tian-Shan**	**1.88**	**80**	*e*P	**Pb**	**03 10 43.5**	**+0.7**
	baz=80						
TNSS				*e*S	**Sg**	**03 11 08.2**	**-1.1**
	baz=80						
TNSS	**Tian-Shan**	**1.88**	**80**	*e*P	**Pb**	**03 10 43.5**	**+0.7**
	5.0nm,0.1s						
TNSS				*e*S	**Sg**	**03 11 08.2**	**-1.1**
	5.5nm,0.3s						
KTBS	**Karatobe**	**1.92**	**59**	*e*P	**Pg**	**03 10 44.6**	**-0.8**
	1.5nm,0.1s						
KTBS				*e*S	**Sg**	**03 11 09.9**	**-0.4**
	14nm,0.3s						
KTBS	**Karatobe**	**1.92**	**59**	P	**Pg**	**03 10 44.6**	**-0.8**
	1.5nm,0.1s						
KTBS				S	**Sg**	**03 11 09.9**	**-0.4**
	14nm,0.3s						
MDOK	**Medeo**	**1.98**	**77**	*e*P	**Pb**	**03 10 45.4**	**+1.1**
	3.1nm,0.2s						
MDOK				*e*S	**Sg**	**03 11 11.3**	**-0.9**
	7.9nm,0.4s						
MDOK	**Medeo**	**1.98**	**77**	Pg	**Pb**	**03 10 45.4**	**+1.1**
	3.1nm,0.2s						
MDOK				Lg	Lg	03 11 11.3	
	7.9nm,0.4s						
KOTS	**Kotyrbulak**	**2.04**	**75**	*e*P	**Pg**	**03 10 47.4**	**-0.3**
	2.3nm,0.2s						
KOTS				*e*S	**Sg**	**03 11 14.8**	**+0.6**
	14nm,0.5s						
KOTS	**Kotyrbulak**	**2.04**	**75**	Pg	**Pg**	**03 10 47.4**	**-0.3**
	2.3nm,0.2s						
KOTS				Lg	Lg	03 11 14.7	
	14nm,0.5s						
BTLS	**Baital**	**2.31**	**353**	*e*P	**Pb**	**03 10 50.5**	**+0.7**
	1.7nm,0.2s						
BTLS				*e*S	**Sb**	**03 11 20.2**	**+2.1**
	6.8nm,0.2s						
BTLS	**Baital**	**2.31**	**353**	Pg	**Pb**	**03 10 50.5**	**+0.7**
	1.7nm,0.2s						
BTLS				Lg	Lg	03 11 20.2	
	6.8nm,0.2s						
KK31	**Karatay Array**	**2.89**	**278**	Pn	**Pg**	**03 11 03.1**	**-0.8**
	0.2nm,0.3s,baz=95,slow=16,SNR=11						
KK31				Sn	**Sb**	**03 11 37.5**	**+2.6**
	4.6nm,0.6s,baz=94,slow=30,SNR=19						

IDC 06 03:12:55.4±44.0, 24°.02S×178°.15W, h0km, mb4.0/3, mbtmp4.0/3, MS3.4/1, Error ellipse: s-maj=810.7km s-min=154.7km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**36.14**	**288**	LR	LR	03 32 57.5	
	comp=Z,63nm,19.7s,baz=196,slow=33						
STKA	**Stephens Creek**	**36.25**	**248**	P	P	03 19 59.9	-0.6
	0.9nm,0.4s,baz=117,slow=11,SNR=5.5						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**43.69**	**260**	P	P	03 21 02.3	-0.1
	1.0nm,0.4s,baz=90,slow=7.5,SNR=41						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**44.09**	**266**	P	P	03 21 05.7	+0.1
	1.6nm,0.5s,baz=104,slow=7.9,SNR=58						
	1.6nm,0.5s						

*ROM **06** 03:19:31.5±0.0, 43°.062N±0°.002×13°.060E±0°.003, h9km, ML3.8/55, Error ellipse: s-maj=0.2km s-min=0.1km az=61.0*
*PRU **06** 03:19:31.5±0.0, 43°.16N×13°.06E, h0km*
*LDG **06** 03:19:32.8±0.2, 42°.94N×13°.18E, h9km, Ml3.4/24, Error ellipse: s-maj=5.3km s-min=2.7km az=52.0*
*IDC **06** 03:19:32.4±1.1, 43°.19N×12°.97E, h0km, mb3.7/4, mbtmp3.7/10, ML3.4/6, MS3.0/10, Error ellipse: s-maj=21.0km s-min=13.4km az=94.0*
*STR **06** 03:19:37.3±1.4, 43°.N±10°×1°.3E±1°.3, h10km, MLv3.9/17, Error ellipse: s-maj=0.0km s-min=0.0km az=61.4, preliminary*

ISC 06 03:19:32.2±0.7, 43°.06N±0°.01×13°.05E±0°.01, h8km±4km, n284, σ1§69/381, mb3.8/4, MS3.1/4, 55C-16D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.04**	**135**	⇑P	**Pg**	**03 19 33.4**	**-0.3**
FDMO				S	**Sg**	**03 19 34.4**	**-0.5**
FDMO				AML	AML		
FDMO				AML	AML		
T1220	**Camerino, Fraz**	**0.06**	**29**	⇓P	**Pg**	**03 19 33.7**	**-0.3**
T1220				S	**Sg**	**03 19 35.0**	**-0.2**
FEMA	**Monte Fema**	**0.10**	**181**	⇑P	**Pg**	**03 19 34.7**	**+0.1**
FEMA				S	**Sg**	**03 19 36.9**	**+0.5**
SEF1	**Sefro**	**0.12**	**318**	P	**Pg**	**03 19 34.8**	**0.0**
SEF1				S	**Sg**	**03 19 37.0**	**+0.4**
SEF1				AML	AML		
SEF1				AML	AML		
SEF1				AML	AML		
SEF1				AML	AML		
CSP1	**Cessapalombo**	**0.12**	**75**	⇑P	**Pg**	**03 19 34.7**	**-0.2**
CSP1				S	**Sg**	**03 19 36.8**	**+0.1**
CSP1				AML	AML		
CSP1				AML	AML		
	comp=N,85550μm,0.6s						
CESI	**CESI - Serrava**	**0.12**	**242**	⇑P	**Pg**	**03 19 35.2**	**+0.3**
CESI				S	**Sg**	**03 19 37.7**	**+0.9**
CESI				AML	AML		
	comp=E,89750μm,1.3s						
CESI				AML	AML		
PIO1	**Pioraco**	**0.13**	**337**	⇓P	**Pg**	**03 19 34.9**	**-0.1**
PIO1				S	**Sg**	**03 19 37.4**	**+0.4**
PIO1				AML	AML		
	comp=N,61200μm,1.0s						
PIO1				AML	AML		
	comp=E,71500μm,0.7s						
T1256	**Bolognola (MC)**	**0.14**	**113**	⇑P	**Pg**	**03 19 35.1**	**-0.1**
T1256				S	**Sg**	**03 19 37.7**	**+0.4**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
MDAR	**Monte D'Aria**	**0.15**	**27**	⇑P	**Pg**	**03 19 35.2**	**-0.2**
MDAR				S	**Sg**	**03 19 37.8**	**+0.2**
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
FIU1	**Fiuminata**	**0.15**	**325**	P	**Pg**	**03 19 35.5**	**0.0**
FIU1				S	**Sg**	**03 19 38.4**	**+0.7**
FIU1				AML	AML		
	comp=E,36400μm,0.6s						
FIU1				AML	AML		
	comp=E,36450μm,0.6s						
FIU1				AML	AML		
	comp=N,45300μm,0.6s						
T1216	**Preci, Frazion**	**0.17**	**188**	⇑P	**Pg**	**03 19 35.9**	**+0.2**
T1216				S	**Sg**	**03 19 39.0**	**+0.9**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
GAG1	**Gagliole**	**0.18**	**4**	P	**Pg**	**03 19 36.0**	**+0.2**
GAG1				S	**Sg**	**03 19 39.3**	**+1.0**
GAG1				AML	AML		
GAG1				AML	AML		
GAG1				AML	AML		
SSM1	**San Severino M**	**0.19**	**29**	⇑P	**Pg**	**03 19 36.0**	**-0.1**
SSM1				S	**Sg**	**03 19 39.5**	**+0.8**
SNTG	**Esanatoglia**	**0.21**	**337**	P	**Pg**	**03 19 36.6**	**+0.1**
SNTG				S	**Sg**	**03 19 40.0**	**+0.7**
SNTG				AML	AML		
	comp=E,31000μm,0.4s						
SNTG				AML	AML		
	comp=N,28350μm,0.4s						
SNTG				AML	AML		
	comp=E,31650μm,0.4s						
SNTG				AML	AML		
	comp=N,27000μm,0.4s						
T1245	**Castelsantange**	**0.23**	**154**	⇓P	**Pg**	**03 19 36.8**	**+0.1**
T1245				S	**Sg**	**03 19 40.9**	**+1.0**
T1245				AML	AML		
	comp=E,82400μm,0.2s						
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
	comp=E,86200μm,0.2s						
NRCA	**Norcia**	**0.23**	**169**	⇑P	**Pg**	**03 19 36.9**	**+0.1**
NRCA				S	**Sg**	**03 19 40.8**	**+0.8**
NRCA				AML	AML		
	comp=E,81000μm,0.5s						
NRCA				AML	AML		
	comp=E,81000μm,0.5s						
NRCA				AML	AML		
	comp=N,83450μm,0.2s						
NRCA				AML	AML		
	comp=E,84850μm,0.1s						
NRCA				AML	AML		
	comp=N,92500μm,0.2s						
AM05	**Amandola Campo**	**0.24**	**111**	⇑P	**Pg**	**03 19 37.0**	**+0.1**
AM05				S	**Sg**	**03 19 40.8**	**+0.7**
AM05				AML	AML		
	comp=E,11250μm,0.2s						
AM05				AML	AML		
	comp=E,60150μm,0.6s						
AM05				AML	AML		
	comp=N,2700μm,0.1s						
AM05				AML	AML		
	comp=N,16050μm,0.5s						
T1221	**Campello sul C**	**0.25**	**217**	⇑P	**Pg**	**03 19 37.5**	**+0.3**
T1221				S	**Sg**	**03 19 41.8**	**+1.3**
MMO1	**Montemonaco**	**0.26**	**129**	⇑P	**Pg**	**03 19 37.3**	**0.0**
MMO1				S	**Sg**	**03 19 41.4**	**+0.6**
EL6	**Elcito**	**0.27**	**8**	⇑P	**Pg**	**03 19 37.5**	**-0.1**
EL6				S	**Sg**	**03 19 42.0**	**+0.8**
EL6				AML	AML		
	comp=E,75000μm,1.4s						
EL6				AML	AML		
	comp=E,74950μm,1.4s						
EL6				AML	AML		
	comp=N,87150μm,0.2s						
ASSB	**Assisi San Ben**	**0.29**	**266**	⇑P	**Pg**	**03 19 38.0**	**+0.1**
ASSB				S	**Sg**	**03 19 42.8**	**+1.1**
ASSB				AML	AML		
	comp=N,57500μm,0.6s						
ASSB				AML	AML		
	comp=E,46550μm,0.5s						
T1215	**Vallo di Nera,**	**0.29**	**208**	⇑P	**Pg**	**03 19 38.1**	**+0.2**
T1215				S	**Sg**	**03 19 42.9**	**+1.1**
T1215				AML	AML		
	comp=E,15900μm,0.3s						
T1215				AML	AML		
	comp=N,20400μm,0.3s						
T1215				AML	AML		
	comp=E,15350μm,0.3s						
T1215				AML	AML		
	comp=N,20250μm,0.3s						
T1215				AML	AML		
	comp=N,20450μm,0.3s						
TRE1	**Treia**	**0.31**	**37**	⇑P	**Pg**	**03 19 38.6**	**+0.2**
TRE1				S	**Sb**	**03 19 43.9**	**-1.5**
TRE1				AML	AML		
	comp=E,41700μm,1.1s						
TRE1				AML	AML		
	comp=N,55950μm,0.5s						
MNTP	**Montappone**	**0.32**	**76**	⇑P	**Pb**	**03 19 38.8**	**-1.2**
FOSV	**Fossato di Vic**	**0.32**	**318**	⇑P	**Pg**	**03 19 38.4**	**0.0**
FOSV				S	**Sg**	**03 19 43.8**	**+1.1**
FOSV				AML	AML		
	comp=N,27250μm,0.3s						
FOSV				AML	AML		
	comp=E,14600μm,0.6s						
FOSV				AML	AML		
	comp=N,27300μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.33**	**292**	⇑P	**Pg**	**03 19 38.8**	**+0.2**
ATCC				S	**Sb**	**03 19 44.5**	**-1.3**
ATCC				AML	AML		
	comp=E,54500μm,0.5s						
ATCC				AML	AML		
	comp=N,67400μm,0.2s						
ATCC				AML	AML		
	comp=E,54450μm,0.5s						
CING	**Cingoli**	**0.33**	**18**	⇑P	**Pg**	**03 19 38.5**	**-0.1**
T1241	**Roccafluvione,**	**0.35**	**126**	P	**Pg**	**03 19 38.9**	**-0.1**
T1241				S	**Sb**	**03 19 44.6**	**-1.7**
T1241				AML	AML		
	comp=E,22850μm,0.4s						
T1241				AML	AML		
	comp=N,31850μm,1.1s						
T1241				AML	AML		
	comp=N,31500μm,1.1s						
T1241				AML	AML		
	comp=E,23250μm,0.4s						
T1241				AML	AML		
	comp=N,31450μm,1.1s						
T1241				AML	AML		
	comp=E,22800μm,0.4s						
T1244	**Arquata del Tr**	**0.35**	**149**	⇓P	**Pg**	**03 19 39.1**	**0.0**
T1244				S	**Sg**	**03 19 44.8**	**+1.0**

T1217 Poggiodomo (PG 0.36 194 ⇑P Pg 03 19 39.3 +0.1
T1217 S Sg 03 19 44.9 +0.9
T1217 AML AML
comp=E,27450µm,0.2s
T1217 AML AML
comp=N,41500µm,0.3s
T1217 AML AML
comp=N,41400µm,0.3s
T1217 AML AML
comp=N,41550µm,0.3s
T1217 AML AML
comp=E,27500µm,0.3s
T1217 AML AML
comp=E,27450µm,0.3s
T1217 AML AML
comp=N,41350µm,0.3s
T1202 Accumoli, Fraz 0.38 160 ⇓P Pg 03 19 39.5 -0.1
T1202 S Sb 03 19 46.0 -1.3
MMUR Monte Murano 0.38 354 AML AML
comp=N,28500µm,0.2s
MMUR AML AML
comp=E,34900µm,0.3s
MMUR AML AML
comp=N,28500µm,0.2s
MMUR AML AML
comp=E,34850µm,0.3s
SSFR Montelago di S 0.42 332 P Pg 03 19 40.2 -0.2
SSFR AML AML
comp=N,23600µm,0.1s
SSFR AML AML
comp=N,23650µm,0.1s
SSFR AML AML
comp=E,17100µm,0.4s
SSFR AML AML
comp=N,21050µm,0.2s
SSFR AML AML
comp=E,19900µm,0.8s
T1201 Domo (RI) 0.43 160 ⇓P Pg 03 19 40.6 +0.1
T1201 S Sb 03 19 47.5 -1.2
T1204 Amatrice, Fraz 0.43 153 P Pg 03 19 40.4 -0.2
T1204 S Sg 03 19 47.2 +0.9
T1204 AML AML
comp=E,24400µm,0.3s
T1204 AML AML
comp=N,17600µm,1.1s
MURB Monte Urbino 0.43 298 ⇑P Pg 03 19 40.8 +0.1
MURB AML AML
comp=N,31350µm,0.2s
MURB AML AML
comp=E,33600µm,0.2s
MURB AML AML
comp=N,30500µm,1.4s
MURB AML AML
comp=E,31850µm,0.5s
ARVD Arcevia 0.44 350 ⇑P Pg 03 19 40.5 -0.3
ARVD AML AML
comp=N,10650µm,1.0s
ARVD AML AML
comp=E,12400µm,0.5s
LNSS Leonessa 0.46 181 P Pg 03 19 41.0 -0.1
LNSS S Sg 03 19 48.1 +1.0
LNSS AML AML
comp=N,20650µm,1.0s
LNSS AML AML
comp=E,10800µm,0.4s
ATFO Monte Foce - G 0.47 311 ⇑P Pg 03 19 41.2 0.0
ATFO AML AML
comp=N,10250µm,0.8s
ATFO AML AML
comp=E,8655µm,0.7s
SMA1 SAN MARTINO 0.48 154 ⇓P Pg 03 19 41.1 -0.4
SMA1 S Sg 03 19 48.7 +1.0
OFFI Offida 0.48 105 P Pb 03 19 42.2 -0.7
OFFI AML AML
comp=E,28000µm,0.5s
OFFI AML AML
comp=N,39400µm,0.7s
CIMA Civitanova Mar 0.51 61 P Pb 03 19 42.7 -0.7
PP3 Marolino 0.52 52 P Pb 03 19 42.8 -0.7
PP3 AML AML
comp=E,25500µm,0.4s
PP3 AML AML
comp=N,19400µm,1.2s
PP3 AML AML
comp=E,24350µm,0.4s
PP3 AML AML
comp=N,21500µm,1.2s
PP3 AML AML
comp=N,19450µm,1.2s
PP3 AML AML
comp=N,21450µm,1.2s
PP3 AML AML
comp=E,24300µm,0.4s
PP3 AML AML
comp=E,25450µm,0.4s
ARRO Arrone 0.53 204 P Pg 03 19 42.2 -0.2
ARRO S Sg 03 19 49.8 +0.6
ARRO AML AML
comp=N,10025µm,1.3s
ARRO AML AML
comp=N,10030µm,1.3s
ARRO AML AML
comp=E,12100µm,0.8s
ATLO AVT- Montelove 0.54 298 P Pg 03 19 42.3 -0.2
T1211 Morro Reatino 0.55 195 ⇑P Pg 03 19 42.5 -0.2
T1211 S Sb 03 19 51.1 -1.0
T1211 AML AML
comp=E,11650µm,1.2s
T1211 AML AML
comp=E,12300µm,1.2s
T1211 AML AML
comp=N,23300µm,1.1s
T1211 AML AML
comp=E,12300µm,1.2s
T1211 AML AML
comp=E,11650µm,1.2s
T1211 AML AML
comp=N,23600µm,1.1s
TB01 Gubbio 0.55 306 ⇑P Pg 03 19 42.6 -0.2
ATBU Serra di Buran 0.55 319 P Pg 03 19 43.0 +0.1
RM33 Pellescritta (0.56 168 P Pg 03 19 42.7 -0.4
ATVO AVT- Monte Val 0.57 304 ⇑P Pg 03 19 42.9 -0.3
ATVO S Sb 03 19 51.8 -1.0
ATVO AML AML
comp=N,4735µm,0.6s
ATVO AML AML
comp=E,6365µm,0.7s
CESX Cesi 0.57 218 ⇑P Pg 03 19 42.8 -0.3
CESX S Sg 03 19 51.2 +0.6
CESX AML AML
comp=E,18200µm,0.3s
CESX AML AML
comp=N,17550µm,0.5s
T1246 Crognaleto (TE 0.58 146 ⇓P Pg 03 19 42.8 -0.6
T1246 S Sg 03 19 51.3 +0.4
TB03 Pietralunga 0.58 306 ⇑P Pg 03 19 43.1 -0.3
CAMP Campotosto 0.59 153 ⇓P Pg 03 19 42.9 -0.6
CAMP S Sg 03 19 51.9 +0.7
CAMP AML AML
comp=N,5440µm,0.5s
CAMP AML AML
comp=E,8000µm,0.2s
TERO Teramo 0.60 137 P Pg 03 19 43.2 -0.5
ATVA AVT- Monte Val 0.60 291 ⇑P Pg 03 19 43.4 -0.4
ATPC Poggio Castell 0.60 314 P Pg 03 19 43.6 -0.2
ATPI Pietralunga - 0.61 310 ⇑P Pg 03 19 43.8 -0.2
ATPI AML AML
comp=N,4170µm,0.9s
ATPI AML AML
comp=E,6060µm,0.9s
ATPI AML AML
comp=N,4175µm,0.9s
AOI Ancona 0.63 39 P Pg 03 19 43.6 -0.7
AOI AML AML
comp=E,3705µm,0.6s
AOI AML AML
comp=N,4205µm,0.4s
ATMI Monte Miggiano 0.64 296 P Pg 03 19 44.5 +0.1
ATMI AML AML
comp=N,9010µm,0.5s
ATMI AML AML
comp=E,9780µm,0.6s
T1247 Pizzolo (AQ) 0.65 164 ⇓P Pg 03 19 44.0 -0.6
T1247 S Sb 03 19 53.9 -1.0
T1247 AML AML
comp=N,13450µm,0.8s
T1247 AML AML
comp=E,9930µm,1.1s
NARO Abbazia di Nar 0.65 328 P Pg 03 19 44.3 -0.4
NARO AML AML
comp=N,3000µm,0.7s
NARO AML AML
comp=E,4130µm,0.8s
PCRO Pietralacroce 0.65 33 P Pg 03 19 44.0 -0.7
SENI Senigallia 0.66 12 P Pg 03 19 44.7 -0.1
FSSB Fossombrone 0.66 342 P Pg 03 19 44.8 -0.1
FSSB AML AML
comp=E,15600µm,0.3s
FSSB AML AML
comp=N,31800µm,0.3s
TRTR Tortoreto Alta 0.68 112 P Pg 03 19 45.4 +0.1
MGAB Montegabbione 0.71 258 ⇑P Pg 03 19 45.5 -0.3
MGAB AML AML
comp=N,9310µm,0.4s
MGAB AML AML
comp=E,8180µm,0.4s
MGAB AML AML
comp=E,6130µm,1.5s
MGAB AML AML
comp=N,7875µm,0.4s
GIGS Gran Sasso 0.72 148 P Pg 03 19 45.1 -0.9
GIGS S Sb 03 19 56.3 -0.8
GIGS AML AML
comp=N,2415µm,0.4s
GIGS AML AML
comp=E,2185µm,0.7s
ATMC Monte Cedrone 0.74 302 P Pg 03 19 45.7 -0.7
AQU L'Aquila 0.75 160 ⇓P Pg 03 19 45.8 -0.9
AQU AML AML
comp=E,5350µm,1.3s
AQU AML AML
comp=E,5355µm,1.3s
AQU AML AML
comp=E,5560µm,1.3s
AQU AML AML
comp=N,7925µm,1.1s
AQU AML AML
comp=N,8395µm,1.1s
PE3 Peglio 0.75 328 P Pg 03 19 46.5 -0.2
PE3 AML AML
comp=N,64µm,0.1s
PE3 AML AML
comp=E,50µm,0.3s
PE3 AML AML
comp=N,64µm,0.1s
FIAM Fiamignano 0.80 177 ⇑P Pg 03 19 46.7 -0.8
FIAM AML AML
comp=N,3980µm,0.9s
FIAM AML AML
comp=E,5630µm,0.7s
CAFI Castiglion Fio 0.84 289 ⇑P Pg 03 19 47.8 -0.4
CAFI AML AML
comp=E,4260µm,0.6s
CAFI AML AML
comp=N,3800µm,0.7s
CAFI AML AML
comp=E,4185µm,0.6s
CAFI AML AML
comp=N,3625µm,0.7s
SSP9 Sansepolcro 0.84 308 P Pg 03 19 48.1 -0.3
SSP9 AML AML
comp=E,3070µm,1.0s
SSP9 AML AML
comp=E,3065µm,1.0s
SSP9 AML AML
comp=N,3150µm,0.7s
SACS San Casciano d 0.86 256 P Pg 03 19 48.5 -0.3
SACS AML AML
comp=N,3735µm,0.9s
SACS AML AML
comp=E,3850µm,0.6s
FAGN Fagnano 0.89 154 P Pg 03 19 48.0 -1.2
FAGN AML AML
comp=N,11400µm,0.5s
FAGN AML AML
comp=E,13150µm,0.6s
SRES S.Oreste - Sor 0.92 206 ⇑P Pg 03 19 48.9 -0.9
SRES AML AML
comp=E,5455µm,1.0s
SRES AML AML
comp=N,3345µm,0.4s
CRE Caprese Michel 0.98 305 P Pg 03 19 50.4 -0.6
T0110 Collepietro 0.99 147 ⇓P Pg 03 19 49.8 -1.4
T0110 AML AML
comp=E,8170µm,0.6s
T0110 AML AML
comp=N,8860µm,0.4s
LATE Laterza 1.02 244 P Pg 03 19 50.8 -1.0
SF11 Podere del Sol 1.03 260 P Pg 03 19 51.2 -0.7
MCIV Monte Civitell 1.05 255 P Pg 03 19 51.5 -0.8
MTCE Montecelio 1.06 193 P Pg 03 19 51.3 -1.2
MTCE AML AML
comp=N,2520µm,1.5s
MTCE AML AML
comp=E,3755µm,0.4s
PTQR Pietraquaria 1.07 166 P Pg 03 19 51.3 -1.4
SF13 Bagnolo 1.08 257 P Pg 03 19 52.0 -0.9
SF14 Selvena 1.10 254 P Pb 03 19 52.3 -1.1
CERT Cerreto 1.11 183 P Pb 03 19 52.3 -1.4
CERT AML AML
comp=N,3860µm,0.9s
CERT AML AML
comp=E,3885µm,0.9s
BLLA Bellaria 1.16 339 P Pb 03 19 52.4 -2.1
ASQU Asqua 1.18 309 P Pb 03 19 53.8 -1.0
RCAV Rocca di Cave 1.22 184 P Pn 03 19 54.2 -1.4
SFI Santa Sofia 1.22 314 P Pn 03 19 53.5 -2.1
VVLD Villa Vallelon 1.26 160 P Pn 03 19 54.7 -1.5
TOLF Tolfa 1.26 218 P Pn 03 19 55.2 -1.0
TOLF AML AML
comp=E,1470µm,1.4s
TOLF AML AML
comp=N,1615µm,0.5s
RMP Rome, Mte Porz 1.28 192 P Pn 03 19 55.1 -1.2
GUAR Guarcino 1.28 171 P Pn 03 19 54.8 -1.6
MA9 Marino 1.32 193 P Pn 03 19 55.8 -1.2
SAMA S.Maria delle 1.32 195 P Pn 03 19 55.8 -1.2
RUFI Rufina 1.37 305 P Pn 03 19 56.5 -1.1
OSSC Osservatorio P 1.40 290 P Pn 03 19 56.6 -1.4
LAV9 Lanuvio 1.41 191 P Pn 03 19 57.5 -0.7
LAV9 AML AML
comp=E,6190µm,0.5s
LAV9 AML AML
comp=E,5950µm,0.5s
LAV9 AML AML
comp=N,5535µm,0.5s
LAV9 AML AML
comp=N,5285µm,0.5s
LMD Lutirano 1.41 317 P Pn 03 19 57.4 -0.7
POFI Posta Fibreno 1.43 160 P Pn 03 19 58.0 -0.4
LRP Arpino 1.47 164 P Pb 03 19 59.8 +0.1
GIUL Giuliano Di Ro 1.51 174 P Pn 03 19 58.8 -0.8
MAON Monte Argentar 1.55 247 P Pn 03 19 59.9 -0.2
BRIS BRISIGHELLA 1.56 315 P Pn 03 19 58.6 -1.6
LATB Latina 1.57 182 P Pn 03 19 59.5 -0.8
TRIF Trifonti 1.58 273 AML AML
comp=N,797µm,0.7s
TRIF AML AML
comp=E,841µm,1.0s
SEI Scarperia 1.58 309 P Pb 03 20 01.1 -0.6
RNI2 Rionero Sannit 1.58 149 P Pn 03 20 00.2 -0.5
LIK San Giovanni I 1.60 166 P Pb 03 20 01.1 -0.8
MIDA Miranda 1.68 147 P Pn 03 20 01.1 -0.8
MPPT Montemurlo 1.69 303 P Pn 03 20 01.4 -0.6
MTCR Monte La Croce 1.78 304 P Pn 03 20 02.7 -0.7
VAGA Valle Agricola 1.86 152 P Pn 03 20 04.3 -0.2
BSSO Busso 1.90 142 P Pn 03 20 04.9 0.0
PII Pisa 1.96 291 P Pn 03 20 05.8 +0.1
PIGN Pignataro Magg 2.04 155 P Pn 03 20 07.0 +0.1
CEY Cerknica 2.85 20 ePn Pn 03 20 17.5 -0.5
JAVS Javornik 2.92 14 i Pn Pn 03 20 18.4 -0.6
SMPL Sampolo 2.95 252 P Pn 03 20 20.8 +1.5
PGF Pioggiola 3.03 262 ePn Pn 03 20 20.3 -0.2
PGF eSn Sn 03 20 55.2 -1.8
comp=E,45nm,0.8s
GBAS Gorenja Brezov 3.04 19 i Pn Pn 03 20 20.7 +0.1
MGRS Mrkonjic Grad 3.22 64 ePn Pn 03 20 24.4 +1.3
PRIJ Prijedor 3.26 53 ePn Pb 03 20 31.8 +1.5
A051A Mrakovica 3.40 54 ePn Pn 03 20 26.4 +0.9
STON Ston 3.42 92 ePn Pn 03 20 23.5 -2.2
BLY Banja Luka 3.43 59 ePn Pn 03 20 28.9 +3.0
MYKA Terra Mystica 3.59 6 ePn Pn 03 20 27.9 -0.4
comp=E,7.1nm,0.5s
MYKA eSn Sn 03 21 11.6 +0.7
comp=E,31nm,0.5s
OBKA Obir 3.61 17 ePn Pn 03 20 28.1 -0.4
OBKA Obir 3.61 17 ePn Pn 03 20 28.3 -0.2
comp=E,2.6nm,0.3s
OBKA Obir 3.61 17 ePn Pn 03 20 28.4 -0.1
OBKA eSn Sn 03 21 12.0 +0.7
OBKA eSg Sg 03 21 34.4 +6.4
MATE Matera 3.64 130 ⇑S Sb 03 21 21.1 +0.1
ABTA Abfaltersbach 3.71 354 ePn Pn 03 20 30.5 +0.7
comp=E,48nm,0.5s,SNR=14
SOKA Soboth 3.88 21 ePn Pn 03 20 31.1 -1.1
comp=E,1.5nm,0.3s
SOKA eSn Sn 03 21 18.0 0.0
comp=E,30nm,0.5s
TREB Trebinje 3.91 93 ePn Pn 03 20 31.5 -1.0
KBA Koelnbreinsper 4.02 3 ePn Pn 03 20 35.2 +1.0
comp=E,23nm,0.6s,SNR=12
KBA Koelnbreinsper 4.02 3 ePn Pn 03 20 35.3 +1.1
KBA eSn Sn 03 21 20.8 -0.8
SBF Sospel 4.17 283 ePn Pn 03 20 36.9 +0.8
SBF eSn Sn 03 21 22.5 -2.5
comp=E,43nm,0.6s
FETA Feichten 4.29 338 ePn Pn 03 20 40.0 +2.1
comp=E,59nm,1.0s,SNR=14
BEHE Becsehely 4.32 37 S Sn 03 21 27.7 -0.9
WTTA Wattenberg 4.32 347 ePn Pn 03 20 40.1 +1.8
comp=E,3.3nm,0.2s
WTTA Wattenberg 4.32 347 ePn Pn 03 20 40.0 +1.7
DAVOX Davos/Dischmat 4.35 330 Pn Pn 03 20 40.1 +1.4
comp=E,4.3nm,0.3s,baz=165,slow=21,SNR=47
DAVOX Sn Sn 03 21 32.4 +2.7
comp=E,2.1nm,0.3s,baz=162,slow=19,SNR=1.4
comp=E,36nm,0.6s
SQTA Sankt Quirin 4.36 343 ePn Pn 03 20 40.7 +1.9
comp=E,22nm,0.4s,SNR=14
WATA Walderalm 4.40 347 ePn Pn 03 20 41.4 +2.0
comp=E,30nm,0.5s,SNR=16
WATA eSn Sn 03 21 32.5 +1.7
comp=E,13nm,0.3s
HAPS Han Pijesak,BI 4.41 75 ePn Pn 03 20 40.9 +1.4
MOTA Moosalm 4.50 343 ePn Pn 03 20 42.9 +2.1
comp=E,13nm,0.5s,SNR=8.2
ARSA Arzberg 4.54 22 ePn Pn 03 20 40.8 -0.3
comp=E,8.3nm,0.5s
ARSA eSn Sn 03 21 32.0 -2.2
comp=E,20nm,0.5s
ARSA Arzberg 4.54 22 ePn Pn 03 20 40.8 -0.3
ARSA eSn Sn 03 21 31.9 -2.2
DRME Dracevica, Mon 4.61 99 ePn Pn 03 20 42.7 +0.6
PDG Podgorica 4.61 96 ⇓P Pn 03 20 43.8 +1.7
PDG ⇑S Sn 03 21 34.8 -1.1
RUDO Rudo 4.64 81 ePn Pn 03 20 43.3 +0.7
BIOA Bad Ischl, Aus 4.65 5 ePn Pn 03 20 43.8 +1.1
comp=E,6.9nm,0.3s,SNR=13
BIOA eSn Sn 03 21 37.4 +0.6
comp=E,45nm,0.6s
RJOB Jochberg 4.68 358 ePn Pn 03 20 44.5 +1.3
RJOB eSn Sn 03 21 40.4 +2.8
KOVH Kovagotottos 4.71 48 P Pn 03 20 44.4 +0.9
RETA Reutte 4.71 341 i Pn Pn 03 20 45.4 +1.8
comp=E,5.7nm,0.4s
RETA eSn Sn 03 21 40.8 +2.4
comp=E,20nm,0.6s
SURF Saint Ours 4.74 290 P Pn 03 20 46.2 +2.2
PLONS Plons/SG 4.76 328 ePn Pn 03 20 47.1 +2.8
JAUF Jausiers 4.77 289 P Pn 03 20 48.2 +3.8
DAVA Damuels 4.78 333 ePn Pn 03 20 46.8 +2.1
comp=E,6.7nm,0.3s,SNR=8.8
DAVA Damuels 4.78 333 ePn Pn 03 20 47.7 +3.1
LMR La Mourre 4.79 275 ePn Pn 03 20 44.1 -0.5
LMR eSn Sn 03 21 37.5 -2.8
comp=E,0.6nm,0.2s
MBDF Montbardon 4.83 292 ePn Pn 03 20 47.5 +2.1
MBDF eSn Sn 03 21 39.2 -2.4
comp=E,19nm,0.7s
MOA Molln 4.86 10 i Pn Pn 03 20 46.2 +0.5
comp=E,7.2nm,0.5s
MOA eSn Sn 03 21 41.8 -0.4
comp=E,29nm,0.5s
MOA Molln 4.86 10 ePn Pn 03 20 46.3 +0.7
MOA eSn Sn 03 21 41.7 -0.4
TRIGF Trigance 4.89 280 P Pn 03 20 47.1 +1.1
FLAF Flassans-sur-l 4.98 276 P Pn 03 20 47.5 +0.3
UBR Ueberruh 5.06 337 ePn Pn 03 20 52.5 +4.1
MORH Mrgy, Hungar 5.08 50 ⇑P Pn 03 20 48.8 +0.1
MORH Mrgy, Hungar 5.08 50 P Pn 03 20 54.0 +5.4
LPG La Plagne 5.14 300 ePn Pn 03 20 50.6 +0.9
LPG eSn Sn 03 21 48.3 -1.0
comp=E,24nm,0.7s
DIVS Divibare 5.15 76 ePn Pn 03 20 49.3 -0.3
LPL La Plagne 5.16 301 ePn Pn 03 20 51.3 +1.4
LPL eSn Sn 03 21 48.9 -0.8
comp=E,18nm,0.6s
RONA Rosalia, Austr 5.17 25 i Pn Pn 03 20 49.6 -0.2
comp=E,7.3nm,0.5s
RONA eSn Sn 03 21 47.8 -1.9
comp=E,6.9nm,0.5s
MPLH Magyarpolny 5.19 36 P Pn 03 20 50.6 +0.5
SOP Sopron 5.24 27 P Pn 03 20 50.2 -0.6
SOP S Sn 03 21 50.9 -0.4
CONA Conrad Observa 5.25 21 i Pn Pn 03 20 50.8 -0.2
comp=E,4.4nm,0.3s
CONA eSn Sn 03 21 50.1 -1.7
comp=E,25nm,0.6s
FRGS Fruska Gora 5.30 64 ⇑P Pn 03 20 51.8 +0.2
FRGS Fruska Gora 5.30 64 ePn Pn 03 20 44.4 -7.2
RSL Roselend 5.30 302 P Pn 03 20 54.8 +3.0
TIR Tirane 5.34 106 ⇑S Sn 03 21 53.6 -0.3
AIGLE Aigle 5.45 309 P Pn 03 20 55.4 +1.8
ORIF Oris-en-Rattie 5.50 292 eP Pn 03 20 58.0 +3.6
ORIF eSn Sn 03 21 54.7 -3.2
comp=E,20nm,0.6s
ORIF Oris-en-Rattie 5.50 292 P Pn 03 20 58.2 +3.8
SMRF Simiane la Rot 5.51 282 ePn Pn 03 20 56.1 +1.5
SMRF eSn Sn 03 21 55.0 -3.2
comp=E,1.3nm,0.2s
SULZ Cheisacher 5.66 324 ePn Pn 03 20 59.1 +2.5
SLE Schleitheim 5.69 327 ePn Pn 03 20 57.5 +0.5
SLE eSn Sn 03 22 02.8 +0.2
TORNY Torny/Romont 5.70 313 P Pn 03 20 58.7 +1.6
BALST Balsthal 5.71 320 ePn Pn 03 20 58.3 +1.0
BALST Balsthal 5.71 320 P Pn 03 20 58.2 +1.0
GEC2 GERESS Array S 5.80 4 ePn Pn 03 20 58.5 -0.1
GEC2 eSn Sn 03 22 04.3 -1.1
GERES GERESS Array B 5.80 4 Pn Pn 03 20 58.3 -0.3
comp=E,0.8nm,0.3s,baz=172,slow=13,SNR=26
GERES Sn Sn 03 22 02.2 -3.1
comp=E,4.1nm,0.3s,baz=182,slow=24,SNR=14
comp=E,1.5nm,0.3s
CKRC Cesky Krumlov 5.83 8 ePN Pn 03 20 57.9 -0.9
CKRC eSN Sn 03 22 02.6 -3.2
OGSM Saint Maurice 5.86 298 P Pn 03 21 01.3 +2.0
BOURR Bourrignon 5.97 319 P Pn 03 21 01.7 +0.8
BRANT Les Verrieres 6.06 312 P Pn 03 21 03.6 +1.4
KIZ Kirchzarten 6.08 325 P Pn 03 21 03.0 +0.7
MODS Modra-Piesok 6.08 28 ePN Pn 03 21 01.5 -0.8
MODS ePG Pg 03 21 29.3 +0.8
MODS eSN Sn 03 22 07.3 -4.8
KHC Kasperske Hory 6.08 3 ePN Pn 03 21 01.9 -0.5
KHC eSN Sn 03 22 09.1 -3.1
WET Wettzell 6.08 359 ePn Pn 03 21 01.7 -0.7
WET eSn Sn 03 22 08.7 -3.5
CABF La Chapelle 6.09 308 ePn Pn 03 21 03.1 +0.5
CABF eSn Sn 03 22 10.3 -2.2
comp=E,20nm,0.8s
OG35 Corcelles 6.12 302 P Pn 03 21 04.1 +1.2
BFO Black Forest 6.22 330 ePn Pn 03 21 06.1 +1.8
BFO eSn Sn 03 22 14.7 -0.8
VOGT Vogtsburg - To 6.28 325 P Pn 03 21 05.6 +0.5
VIVF Saint-Julien-l 6.31 289 ePn Pn 03 21 06.7 +1.2
BOVS Bovan 6.34 82 ⇑P Pn 03 21 06.5 +0.6
BOUC Bouclans 6.37 313 P Pn 03 21 07.3 +0.9
BOUC S Sn 03 22 18.4 -0.8
KRUC Moravsky 6.43 20 ePN Pn 03 21 06.0 -1.2
KRUC eSN Sn 03 22 17.5 -3.3
HINF Hinteralfeld 6.45 320 ePn Pn 03 21 07.0 -0.5
HINF eSn Sn 03 22 18.7 -2.6
comp=E,43nm,0.7s
RONF Ronchamp 6.48 318 P Pn 03 21 08.2 +0.4
ECH Echery 6.60 323 P Pn 03 21 09.9 +0.3
ECH S Sn 03 22 23.7 -1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BZS	**Buzias**	**6.65**	**64**	⇑P	**Pn**	**03 21 10.1**	**-0.1**
BZS				⇑S	**Sn**	**03 22 19.2**	**-6.9**
WLS	**Welschbruch**	**6.67**	**325**	P	**Pn**	**03 21 10.7**	**+0.2**
WLS				S	**Sn**	**03 22 24.7**	**-2.0**
CDF	**Champ du Feu**	**6.70**	**325**	*e*Pn	**Pn**	**03 21 10.7**	**-0.3**
CDF				*e*Sn	**Sn**	**03 22 24.7**	**-2.9**
	comp=E,16nm,0.6s						
VRAC	**Vranov**	**6.71**	**20**	⇓P	**Pn**	**03 21 12.4**	**+1.4**
VRAC				⇑S	**Sn**	**03 22 23.7**	**-3.9**
VRAC	**Vranov**	**6.71**	**20**	Pn	**Pn**	**03 21 12.4**	**+1.4**
	comp=E,0.4nm,0.3s,baz=189,slow=20,SNR=4.1						
	comp=E,1.2nm,0.5s						
VRAC	**Vranov**	**6.71**	**20**	*e*PN	**Pn**	**03 21 11.8**	**+0.8**
VRAC				*e*SN	**Sn**	**03 22 24.0**	**-3.7**
LASF	**Ste Croix**	**6.76**	**282**	*e*Pn	**Pn**	**03 21 11.6**	**0.0**
LASF	**Ste Croix**	**6.76**	**282**	*e*P	**Pn**	**03 21 15.1**	**+3.5**
VYHS	**Vyhne**	**6.77**	**35**	*e*PN	Pn	03 21 17.1	+5.3
VYHS				*e*SN	**Sn**	**03 22 26.8**	**-2.3**
HAU	**Haudompre**	**6.83**	**319**	*e*Pn	**Pn**	**03 21 12.8**	**+0.2**
HAU				*e*Sn	**Sn**	**03 22 26.5**	**-4.0**
	comp=E,29nm,0.5s						
STIP	**Stip**	**6.90**	**98**	*e*Pn	**Pn**	**03 21 15.9**	**+2.3**
MANZ	**Manzenberg**	**6.96**	**355**	*e*Pn	**Pn**	**03 21 15.8**	**+1.4**
GOPC	**GO Pecny, Ondr**	**6.96**	**9**	*e*SN	**Sn**	**03 22 29.0**	**-4.7**
HERR	**Herculane**	**7.00**	**72**	⇑P	**Pn**	**03 21 15.1**	**+0.2**
CIEL	**Dossenheim-sur**	**7.00**	**327**	P	**Pn**	**03 21 15.4**	**+0.5**
CIEL				S	**Sn**	**03 22 32.6**	**-2.1**
PRU	**Pruhonice**	**7.00**	**8**	*e*PN	**Pn**	**03 21 13.9**	**-1.1**
PRU				*e*SN	**Sn**	**03 22 29.5**	**-5.3**
BLKB	**Belogradchik**	**7.04**	**82**	⇑P	**Pn**	**03 21 16.0**	**+0.5**
BLKB				⇑S	**Sn**	**03 22 32.5**	**-3.2**
PLYF	**Puligny Montra**	**7.06**	**306**	P	**Pn**	**03 21 17.4**	**+1.7**
PLYF				S	**Sn**	**03 22 35.3**	**-0.8**
MAUC	**Maruska**	**7.12**	**26**	*e*SN	**Sn**	**03 22 33.6**	**-4.1**
NKC	**Novy Kostel**	**7.19**	**357**	*e*PN	**Pn**	**03 21 16.2**	**-1.3**
NKC				*e*SN	**Sn**	**03 22 34.9**	**-4.4**
VAY	**Valandovo**	**7.28**	**101**	*e*Pn	**Pn**	**03 21 19.1**	**+0.3**
GZR	**Gura Zlata**	**7.36**	**68**	⇓P	**Pn**	**03 21 20.0**	**0.0**
TANN	**Tannenbergstha**	**7.37**	**357**	*e*Pn	**Pn**	**03 21 20.0**	**0.0**
MORC	**Moravsky Berou**	**7.40**	**23**	⇑P	**Pn**	**03 21 20.5**	**0.0**
MORC				⇑S	**Sn**	**03 22 39.6**	**-4.9**
MORC	**Moravsky Berou**	**7.40**	**23**	*e*PN	**Pn**	**03 21 20.8**	**+0.4**
MORC				*e*SN	**Sn**	**03 22 41.5**	**-3.0**
SMF	**Signal de Mont**	**7.46**	**302**	*e*Pn	**Pn**	**03 21 21.3**	**0.0**
SMF				*e*Sn	**Sn**	**03 22 43.1**	**-3.0**
	comp=E,12nm,0.8s						
KRLC	**Kraliky**	**7.47**	**19**	*e*PN	**Pn**	**03 21 21.1**	**-0.3**
KRLC				*e*SN	**Sn**	**03 22 41.3**	**-5.0**
VTS	**Vitosha**	**7.50**	**90**	⇑P	**Pn**	**03 21 23.0**	**+1.1**
VTS				⇑S	**Sn**	**03 22 44.9**	**-2.3**
PAGF	**Fort de Pagny**	**7.51**	**320**	*e*Pn	**Pn**	**03 21 22.4**	**+0.5**
	baz=136						
PAGF				*e*Sn	**Sn**	**03 22 44.2**	**-3.0**
	comp=E,23nm,0.7s						
SFTF	**Sexfontaines**	**7.61**	**315**	*e*Pn	**Pn**	**03 21 24.1**	**+0.7**
	baz=136						
SFTF				*e*Sn	**Sn**	**03 22 45.9**	**-3.9**
	comp=E,15nm,0.6s						
DPC	**Dobruska-Polom**	**7.63**	**16**	*e*PN	**Pn**	**03 21 22.2**	**-1.4**
LOR	**Lormes**	**7.74**	**306**	*e*Pn	**Pn**	**03 21 26.4**	**+1.3**
	baz=126						
LOR				*e*Sn	**Sn**	**03 22 50.0**	**-2.9**
	comp=E,4.3nm,0.4s						
MEZF	**Maizieres J'vi**	**7.80**	**317**	*e*Pn	**Pn**	**03 21 27.1**	**+1.2**
	baz=135						
MEZF				*e*Sn	**Sn**	**03 22 50.8**	**-3.5**
	comp=E,11nm,0.6s						
DRGR		**7.80**	**58**	⇑P	**Pn**	**03 21 26.1**	**0.0**
OSTC	**Ostas**	**7.80**	**15**	*e*PN	**Pn**	**03 21 25.9**	**-0.1**
CHVC	**Chvalec**	**7.80**	**14**	*e*PN	**Pn**	**03 21 24.7**	**-1.3**
AVF	**Avril sur Loir**	**7.83**	**302**	*e*Pn	**Pn**	**03 21 27.2**	**+0.9**
AVF				*e*Sn	**Sn**	**03 22 50.9**	**-4.1**
	comp=E,2.2nm,0.6s						
BRG	**Berggiesshubel**	**7.84**	**4**	*e*P	**Pn**	**03 21 26.3**	**-0.1**
BRG				Amp		03 21 27.9	
	comp=Z,1.8nm,0.5s						
BRG				*e*x	**Sn**	**03 22 50.6**	**-4.7**
BRG				*e*x	**Sg**	**03 23 47.4**	**+3.8**
BRG				Amp		03 24 25.0	
	comp=Z,19nm,1.3s						
SAVF	**Savonnieres en**	**7.84**	**318**	*e*Pn	**Pn**	**03 21 27.4**	**+1.0**
	baz=137						
SAVF				*e*Sn	**Sn**	**03 22 51.6**	**-3.7**
	comp=Z,13nm,0.7s						
SSF	**Saint Saulge**	**7.85**	**304**	*e*Pn	**Pn**	**03 21 28.3**	**+1.7**
SSF				*e*Sn	**Sn**	**03 22 52.2**	**-3.5**
	comp=Z,4.3nm,0.6s						
KEST	**Kesra**	**7.86**	**203**	Pn	**Pn**	**03 21 30.7**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=146,slow=14,SNR=4.5						
KEST				LR	LR	03 24 40.4	
	comp=Z,105nm,18.7s,baz=334,slow=39						
	comp=Z,5.8nm,0.8s						
MTLF	**Montolieu**	**7.92**	**276**	*e*Pn	**Pn**	**03 21 27.0**	**-0.6**
MTLF	**Montolieu**	**7.92**	**276**	*e*P	Pn	03 21 32.9	+5.3
BGF	**Bois d'Agland**	**8.05**	**299**	*e*Pn	**Pn**	**03 21 29.7**	**+0.3**
BGF				*e*Sn	**Sn**	**03 22 57.1**	**-3.6**
	comp=Z,23nm,0.9s						
CAF	**Calviac**	**8.14**	**287**	*e*Pn	**Pn**	**03 21 31.9**	**+1.3**
CLL	**Collm**	**8.25**	**360**	*e*Pn	**Pn**	**03 21 33.0**	**+0.9**
CLL				*e*(Sn)	Sn	03 22 53.0	-12
CLL				*e*x	x	03 23 01.0	
CLL				*e*x	x	03 23 07.0	
CLL				*e*x	x	03 23 36.0	
CLL				*e*Sg	**Sg**	**03 23 52.0**	**-4.8**
	comp=Z,22nm,1.0s						
TCF	**Toulx Ste Croi**	**8.37**	**296**	*e*Pn	**Pn**	**03 21 34.9**	**+1.1**
TCF				*e*Sn	**Sn**	**03 23 05.5**	**-3.0**
	comp=Z,0.6nm,0.2s						
PLVB	**Pleven**	**8.46**	**84**	⇓P	**Pn**	**03 21 35.9**	**+1.0**
HYF	**Humbligny**	**8.47**	**303**	*e*Pn	**Pn**	**03 21 38.2**	**+3.0**
HYF				*e*Sn	**Sn**	**03 23 07.4**	**-3.6**
RJF	**Les Rejaudoux**	**8.59**	**289**	*e*P	Pn	03 21 41.4	+4.6
ARR	**Arges**	**8.63**	**71**	⇑P	**Pn**	**03 21 37.9**	**+0.5**
VOIR		**8.93**	**70**	⇑P	**Pn**	**03 21 41.8**	**+0.2**
GIVF	**Givet**	**9.03**	**324**	*e*P	Pn	03 21 49.0	+6.2
LFF	**La Frestale**	**9.07**	**286**	*e*P	Pn	03 21 48.9	+5.5
BAIF	**Baives**	**9.27**	**322**	*e*P	Pn	03 21 52.0	+5.9
EPF	**Esparros**	**9.31**	**274**	*e*P	Pn	03 21 52.7	+6.0
MLR	**Muntele Rosu**	**9.56**	**71**	⇑P	**Pn**	**03 21 50.6**	**+0.4**
MLR	**Muntele Rosu**	**9.56**	**71**	Pn	**Pn**	**03 21 52.8**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=126,slow=18,SNR=4.5						
MLR				LR	LR	03 27 03.7	
	comp=Z,114nm,18.4s,baz=254,slow=47						
	comp=Z,3.5nm,1.0s						
ETSF	**Etsaut**	**9.98**	**274**	*e*P	Pn	03 22 00.9	+5.0
LDF	**La Druitiere**	**10.72**	**306**	*e*P	Pn	03 22 10.8	+4.8
GRR	**Gorron**	**11.08**	**304**	*e*P	Pn	03 22 16.1	+5.2
MNK	**Minsk**	**15.02**	**35**	*i* P	**Pn**	**03 23 03.6**	**-0.9**
	comp=E,3.0nm,1.1s						
MNK				*i* P	**Pn**	**03 23 03.6**	**-0.9**
	comp=N,24nm,0.9s						
MNK				*i* P	**Pn**	**03 23 03.6**	**-0.9**
	comp=Z,6.0nm,1.2s,baz=226						
MNK				*i* PP	**PnPn**	**03 23 11.7**	**-0.8**
MNK				*i* PPP	PPP	03 23 19.4	
MNK				*i* S	**Sn**	**03 25 50.5**	**-0.4**
MNK				*i* SS	**SnSn**	**03 26 04.4**	**+1.0**
MNK				*i* SSS	SSS	03 26 17.0	
MNK				*i* LQ	LQ	03 27 27.4	
MNK				*i* LR	LR	03 28 05.0	
MNK				*i* LRM	MLR	03 29 40.4	
	comp=Z,72nm,11.4s						
MNK				*i* LRM	MLR	03 29 48.4	
	comp=E,32nm,14.4s						
MNK				*i* LRM	MLR	03 29 58.2	
	comp=N,235nm,15.3s						
BRTR	**Keskin Array B**	**15.80**	**95**	LR	LR	03 30 05.8	
	comp=N,28nm,20.2s,baz=267,slow=40						
HFS	**Hagfors**	**17.10**	**1**	LR	LR	03 30 25.1	
	comp=N,38nm,21.9s,baz=98,slow=38						
MDT	**Midelt**	**17.25**	**239**	LR	LR	03 29 19.9	
	comp=N,34nm,19.5s,baz=59,slow=34						
FINES	**FINESS Array B**	**19.99**	**18**	P	**Pn**	**03 24 05.8**	**-0.7**
	comp=N,0.2nm,0.3s,baz=205,slow=8.4,SNR=8.5						
FINES				LR	LR	03 32 47.0	
	comp=N,60nm,20.5s,baz=110,slow=40						
	comp=N,3.0nm,0.9s						
KBZ	**Khabaz**	**21.65**	**78**	P	**P**	**03 24 26.0**	**+3.1**
	comp=N,4.0nm,1.0s,baz=285,slow=3.5,SNR=6.1						
KBZ				LR	LR	03 33 53.7	
	comp=N,36nm,20.6s,baz=128,slow=40						
	comp=N,4.0nm,1.0s						
KIRV	**Kirov**	**27.29**	**43**	LR	LR	03 36 40.3	
	comp=N,37nm,20.3s,baz=151,slow=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TORD	**Torodi Ar. Bea**	**31.38**	**202**	P	**P**	**03 25 54.1**	**+0.6**
	comp=N,1.0nm,0.9s,baz=16,slow=9.2,SNR=5.8						
	comp=N,1.0nm,0.9s						
ARU	**Arti**	**31.68**	**49**	LR	LR	03 40 23.6	
	comp=N,44nm,18.7s,baz=122,slow=40						
MKAR	**Makanchi Array**	**47.71**	**60**	P	**P**	**03 28 10.2**	**+0.9**
	comp=N,0.7nm,0.6s,baz=285,slow=5.8,SNR=4.4						
MKAR				LR	LR	03 52 44.9	
	comp=N,41nm,18.2s,baz=126,slow=42						
	comp=N,0.7nm,0.6s						
ILAR	**Eielson Array**	**71.36**	**351**	P	**P**	**03 30 53.5**	**+1.5**
	comp=N,0.3nm,0.7s,baz=5.2,slow=8.3,SNR=4.3						
	comp=N,0.3nm,0.7s						

IDC ***06*** *03:20:43.3±1.8, 36°.33N×97°.33W, h0km, mb3.6/1, mbtmp3.4/5, ML3.3/4, MS3.6/1, Error ellipse: s-maj=25.9km s-min=13.4km az=106.0*

TUL ***06*** *03:20:43.7±0.9, 36°.25N±0°.01×97°.22W±0°.02, h8km±5km, ML3.5, mb_Lg3.6/109(NEIC), Mwr3.4/10(SLM), Error ellipse: s-maj=2.0km s-min=1.4km az=56.0*

NEIC ***06*** *03:20:43.7, 36°.25N×97°.24W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.38; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-0.58; $M_{r\theta}$-1.07; $M_{\theta\phi}$1.05; $M_{\phi r}$0.09; Fault plane solution: $M_0$1.58000×10^{14} NP1:ϕ_s185.00000°, δ46.00000°, λ166.00000°. NP2:ϕ_s285.00000°, δ80.00000°, λ45.00000°. Principal axes: T 1.5862, Plg38.0000°, Azm156.0000°; N -0.0013, Plg44.0000°, Azm295.0000°; P -1.5849, Plg22.0000°, Azm48.0000°;*

NEIC ***06*** *03:20:44.0±0.9, 36°.248N±0°.009×97°.23W±0°.02, h6km±7km Error ellipse: s-maj=2.1km s-min=0.7km az=55.0*

ANF ***06*** *03:20:44.3±0.8, 36°.27N×97°.20W, h10km±6km, ML4.2/16, Error ellipse: s-maj=3.4km s-min=3.2km az=46.0*

ISC 06 03:20:44.0±0.8**, 36°.25N**±0°.02**×97°.23W**±0°.02**, h10**km±6km**, n156, σ0.80/157, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK049	**E0420 Rd and N**	**0.17**	**338**		**Pg**	**03 20 47.5**	**-0.1**
OK049				Sg	**Sg**	**03 20 50.1**	**-0.1**
OK050	**Pawnee Station**	**0.24**	**55**		**Pg**	**03 20 49.0**	**-0.1**
OK050				Sg	**Sg**	**03 20 52.4**	**0.0**
OK048	**Pawnee Station**	**0.28**	**55**	Pg	**Pg**	**03 20 49.6**	**-0.1**
OK048				Sg	**Sg**	**03 20 53.6**	**+0.1**
OK046	**Pawnee Station**	**0.29**	**61**		**Pg**	**03 20 49.9**	**-0.1**
OK046				Sg	**Sg**	**03 20 53.7**	**-0.2**
OK045	**Pawnee Station**	**0.31**	**52**		**Pg**	**03 20 50.2**	**-0.1**
OK045				Sg	**Sg**	**03 20 54.5**	**+0.1**
OK033	**Mehan**	**0.31**	**132**	Pg	**Pg**	**03 20 50.1**	**-0.2**
OK033				Sg	**Sg**	**03 20 54.4**	**-0.1**
OK044	**Pawnee Station**	**0.37**	**71**	Pg	**Pg**	**03 20 51.2**	**-0.1**
OK044				Sg	**Sg**	**03 20 56.0**	**-0.2**
OK051	**E0350 and S346**	**0.40**	**51**	Sg	**Sg**	**03 20 57.3**	**0.0**
QUOK	**Quay**	**0.43**	**101**	Sg	**Sg**	**03 20 58.1**	**0.0**
OK031	**S. Brethren Rd**	**0.43**	**134**	Pg	**Pg**	**03 20 52.3**	**-0.2**
OK031				Sg	**Sg**	**03 20 58.3**	**0.0**
OK034	**N. Norfolk Rd.**	**0.48**	**120**	Pg	**Pg**	**03 20 53.2**	**-0.2**
OK034				Sg	**Sg**	**03 20 59.7**	**-0.1**
OK029	**Liberty Lake**	**0.49**	**202**	Pg	**Pg**	**03 20 53.3**	**-0.3**
OK029				Sg	**Sg**	**03 20 59.9**	**-0.2**
BLOK	**Blackwell**	**0.51**	**1**	Pg	**Pg**	**03 20 53.8**	**-0.1**
BLOK				Sg	**Sg**	**03 21 00.7**	**+0.1**
CROK	**Carrier**	**0.66**	**292**	Pg	**Pg**	**03 20 56.5**	**-0.3**
CROK				Sg	**Sg**	**03 21 05.6**	**+0.2**
BCOK	**Bluff Creek, N**	**0.67**	**208**	Pg	**Pg**	**03 20 56.5**	**-0.5**
BCOK				Sg	**Sg**	**03 21 05.6**	**-0.2**
OK025	**Westminster Rd**	**0.68**	**188**	Pg	**Pg**	**03 20 56.8**	**-0.4**
OK025				Sg	**Sg**	**03 21 06.0**	**-0.1**
DEOK	**Depew**	**0.72**	**125**	Pg	**Pg**	**03 20 57.6**	**-0.4**
DEOK				IAmb_Lg		03 21 06.6	
	comp=Z,148nm,0.8s						
DEOK				Sg	**Sg**	**03 21 07.2**	**-0.1**
KAN13	**South Haven SW**	**0.78**	**345**	Pg	**Pg**	**03 20 58.9**	**-0.3**
KAN13				Sg	**Sg**	**03 21 09.3**	**-0.1**
GC02	**Grant County #**	**0.78**	**320**	Pg	**Pg**	**03 20 58.8**	**-0.4**
T35B	**Sooner Cattle**	**0.88**	**41**	P	**Pg**	**03 21 00.5**	**-0.4**
	baz=221,SNR=458						
T35B				S	**Sg**	**03 21 12.0**	**-0.3**
	baz=221						
KAN17	**Caldwell West**	**0.90**	**331**	Pg	**Pg**	**03 21 00.9**	**-0.5**
OK032	**Salt Plains WL**	**0.96**	**305**	Pg	**Pg**	**03 21 01.9**	**-0.7**
FNO	**Franklin**	**1.00**	**188**		**Pg**	**03 21 02.4**	**-0.9**
TUL1	**Leonard**	**1.21**	**106**	Pg	**Pb**	**03 21 05.9**	**-1.1**
TUL1	**Leonard**	**1.21**	**106**	P	**Pb**	**03 21 05.8**	**-1.2**
	baz=286						
TUL1				S	**Sg**	**03 21 22.3**	**-0.8**
	baz=286						
TUL1	**Leonard**	**1.21**	**106**	P	**Pb**	**03 21 05.9**	**-1.1**
	baz=286						
TUL1				S	**Sg**	**03 21 22.3**	**-0.8**
	baz=286						
OK035	**E0210 Rd and N**	**1.28**	**291**		**Pn**	**03 21 07.6**	**-0.3**
CSTR	**Hydro, Custer**	**1.33**	**243**		**Pn**	**03 21 08.4**	**-0.3**
U32A	**Winter Ranch,**	**1.44**	**276**	P	**Pn**	**03 21 10.0**	**-0.2**
	baz=95,SNR=152						
U32A				S	**Sb**	**03 21 30.0**	**+0.8**
	baz=95						
RLO	**Rose Lookout**	**1.78**	**92**	Pn	**Pn**	**03 21 15.8**	**+0.9**
WMOK	**Wichita Mounta**	**1.97**	**220**	Pn	**Pn**	**03 21 18.2**	**+0.7**
WMOK				IAmb_Lg		03 21 46.3	
	comp=Z,414nm,0.7s						
WMOK	**Wichita Mounta**	**1.97**	**220**	P	**Pn**	**03 21 18.3**	**+0.8**
	baz=39,SNR=526						
WMOK				S	**Sb**	**03 21 45.0**	**+0.4**
	baz=39						
WMOK	**Wichita Mounta**	**1.97**	**220**	P	**Pn**	**03 21 18.3**	**+0.8**
	baz=39						
WMOK				S	**Sb**	**03 21 44.9**	**+0.2**
	baz=39						
X37A	**Clayton**	**2.25**	**137**	Pn	**Pn**	**03 21 22.2**	**+0.9**
X37A				IAmb_Lg		03 21 58.5	
	comp=Z,192nm,0.7s						
X37A	**Clayton**	**2.25**	**137**	P	**Pn**	**03 21 22.1**	**+0.8**
	baz=318,SNR=148						
LOOK	**Love County**	**2.26**	**179**	Pn	**Pn**	**03 21 22.7**	**+1.3**
LOOK				IAmb_Lg		03 22 00.7	
	comp=Z,129nm,0.9s						
U38A	**Gravette**	**2.30**	**85**	P	**Pn**	**03 21 23.2**	**+1.2**
	baz=266,SNR=206						
R32A	**Long Quarter,**	**2.47**	**332**	P	**Pn**	**03 21 25.1**	**+0.8**
	baz=151,SNR=46						
R32A				S	**Sn**	**03 21 56.1**	**+1.7**
	baz=151						
HHAR	**Hobbs**	**2.66**	**88**	P	**Pn**	**03 21 28.0**	**+1.2**
	baz=270						
KSU1	**Kansas State U**	**2.88**	**10**	IAmb_Lg		03 22 22.1	
	comp=Z,265nm,1.0s						
KSU1	**Kansas State U**	**2.88**	**10**	P	**Pg**	**03 21 37.7**	**-1.6**
	baz=190						
KSU1				Sb	**Sg**	**03 22 14.0**	**-2.6**
	baz=190						
Z35A	**Perchaven, San**	**2.92**	**180**	P	**Pn**	**03 21 31.0**	**+0.6**
	baz=0.2,SNR=19						
Z35A				S	**Sn**	**03 22 08.3**	**+2.8**
	baz=0.2						
CBKS	**Cedar Bluff**	**3.24**	**323**		**Pn**	**03 21 35.0**	**0.0**
CBKS				IAmb_Lg		03 22 32.7	
	comp=Z,112nm,0.7s						
CBKS	**Cedar Bluff**	**3.24**	**323**	P	**Pb**	**03 21 43.7**	**+2.0**
	baz=142						
CBKS				Sb	**Sg**	**03 22 24.8**	**-3.3**
	baz=142						
MIAR	**Mount Ida**	**3.44**	**119**	Pn	**Pn**	**03 21 37.5**	**0.0**
MIAR				IAmb_Lg		03 22 36.6	
	comp=Z,116nm,0.8s						
MIAR	**Mount Ida**	**3.44**	**119**	P	**Pn**	**03 21 38.5**	**+0.9**
	baz=301,SNR=60						
MIAR				S	**Sn**	**03 22 20.3**	**+2.0**
	baz=301						
MIAR	**Mount Ida**	**3.44**	**119**	P	**Pn**	**03 21 38.4**	**+0.8**
	baz=301						
MIAR				S	**Sn**	**03 22 20.2**	**+1.9**
	baz=301						
Z38A	**Mt. Pleasant**	**3.51**	**148**	IAmb_Lg		03 22 42.8	
	comp=Z,99nm,0.8s						
Z38A	**Mt. Pleasant**	**3.51**	**148**	P	**Pn**	**03 21 39.1**	**+0.6**
	baz=329						
AMTX	**Amarillo**	**3.88**	**251**		**Pn**	**03 21 44.4**	**+0.6**
AMTX				IAmb_Lg		03 22 54.9	
	comp=Z,167nm,0.9s						
AMTX	**Amarillo**	**3.88**	**251**	P	**Pn**	**03 21 44.9**	**+1.2**
	baz=68						
AMTX	**Amarillo**	**3.88**	**251**	Pb	**Pb**	**03 21 51.8**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=68						
MGMO	**Mountain Grove**	**4.08**	**76**	Pn	**Pn**	**03 21 47.6**	**+1.1**
MGMO				IAmb_Lg		03 22 52.6	
	comp=Z,137nm,0.9s						
WHAR	**Wooly Hollow**	**4.13**	**102**	Pn	**Pn**	**03 21 47.1**	**0.0**
WHAR				IAmb_Lg		03 23 02.8	
	comp=Z,150nm,0.7s						
ABTX	**Abilene, Hawle**	**4.14**	**210**	IAmb_Lg		03 22 53.4	
	comp=Z,109nm,0.7s						
ABTX	**Abilene, Hawle**	**4.14**	**210**	Pb	**Pb**	**03 21 56.9**	**0.0**
	baz=28						
FCAR	**Ozark Folk Cen**	**4.15**	**94**		**Pn**	**03 21 47.6**	**+0.3**
FCAR				IAmb_Lg		03 23 01.6	
	comp=Z,135nm,0.7s						
WLAR	**White Oak Lake**	**4.24**	**126**	IAmb_Lg		03 23 03.2	
	comp=Z,105nm,0.8s						
UALR	**University of**	**4.25**	**109**	Pn	**Pn**	**03 21 49.2**	**+0.5**
WHTX	**Lake Whitney,**	**4.26**	**183**	P	**Pn**	**03 21 49.2**	**+0.3**
	baz=2.4,SNR=6.5						
WHTX				S	**Sn**	**03 22 39.1**	**+0.5**
	baz=2.4						
WHTX	**Lake Whitney,**	**4.26**	**183**	S	**Sn**	**03 22 39.0**	**+0.5**
	baz=2.4						
237A	**Washetta, Mont**	**4.40**	**164**	P	**Pn**	**03 21 51.0**	**+0.2**
	baz=345,SNR=22						
237A				S	**Sn**	**03 22 42.4**	**+0.2**
	baz=345						
R40A	**Maddies Statio**	**4.45**	**61**	IAmb_Lg		03 23 03.1	
	comp=Z,120nm,0.8s						
P38A	**Dawn**	**4.46**	**40**	Pn	**Pn**	**03 21 52.2**	**+0.6**
P38A				IAmb_Lg		03 23 07.6	
	comp=Z,129nm,0.7s						
N33B	**J Bar K, Exete**	**4.48**	**358**	S	**Sn**	**03 22 44.2**	**+0.1**
	baz=178						
N33A	**J Bar K, Exete**	**4.48**	**358**	Pn	**Pn**	**03 21 52.0**	**0.0**
N33A				IAmb_Lg		03 23 12.4	
	comp=Z,113nm,0.8s						
N35A	**Tabor**	**4.76**	**15**	Pn	**Pn**	**03 21 56.7**	**+0.9**
LCAR	**Lake Charles**	**4.92**	**90**	Pn	**Pn**	**03 21 57.9**	**0.0**
CCAR	**Cane Creek**	**5.04**	**116**	Pn	**Pn**	**03 22 00.7**	**+1.0**
MSTX	**Muleshoe**	**5.08**	**245**	Pn	**Pn**	**03 22 01.0**	**+0.6**
KSCO	**Kaye Shedlock'**	**5.09**	**304**	Pn	**Pn**	**03 22 01.2**	**+0.7**
KSCO				IAmb_Lg		03 23 36.3	
	comp=Z,131nm,0.7s						
CCM	**Cathedral Cave**	**5.11**	**68**	Pn	**Pn**	**03 22 00.8**	**+0.3**
CCM				IAmb_Lg		03 23 22.9	
	comp=Z,86nm,0.7s						
CCM	**Cathedral Cave**	**5.11**	**68**	P	**Pn**	**03 22 01.0**	**+0.5**
	baz=251,SNR=14						
BGNE	**Belgrade**	**5.20**	**352**		**Pn**	**03 22 01.3**	**-0.5**
BGNE	**Belgrade**	**5.20**	**352**	P	**Pn**	**03 22 01.9**	**+0.1**
	baz=172,SNR=16						
BGNE	**Belgrade**	**5.20**	**352**	P	**Pn**	**03 22 01.9**	**+0.1**
	baz=172						
P40A	**Paris**	**5.24**	**50**	IAmb_Lg		03 23 28.5	
	comp=Z,134nm,0.7s						
435B	**Jarrell**	**5.47**	**183**	Pn	**Pn**	**03 22 05.3**	**-0.1**
435B				IAmb_Lg		03 23 48.1	
	comp=Z,122nm,0.9s						
435B	**Jarrell**	**5.47**	**183**	S	**Sn**	**03 23 06.8**	**-1.6**
	baz=2.9						
435B	**Jarrell**	**5.47**	**183**	P	**Pn**	**03 22 05.7**	**+0.2**
	baz=2.9						
N38A	**Joes South For**	**5.51**	**33**	Pn	**Pn**	**03 22 06.1**	**+0.1**
FVM	**French Village**	**5.70**	**70**	Pn	**Pn**	**03 22 09.2**	**+0.5**
FVM	**French Village**	**5.70**	**70**	P	**Pn**	**03 22 09.2**	**+0.5**
	baz=254,SNR=8.3						
FVM				S	**Sn**	**03 23 13.2**	**-1.0**
	baz=254						
T25A	**Trinidad**	**5.84**	**281**	Pn	**Pn**	**03 22 10.9**	**0.0**
T25A				IAmb_Lg		03 23 58.9	
	comp=Z,126nm,0.9s						
143A	**Socs Landing,**	**5.97**	**125**	Pn	**Pn**	**03 22 12.6**	**+0.2**
143A				IAmb_Lg		03 24 04.4	
	comp=Z,60nm,0.8s						
143A	**Socs Landing,**	**5.97**	**125**	P	**Pn**	**03 22 13.0**	**+0.6**
	baz=308						
OGNE	**Ogallala**	**6.01**	**323**	Pn	**Pn**	**03 22 13.5**	**+0.5**
OGNE				IAmb_Lg		03 23 57.3	
	comp=Z,81nm,0.8s						
PARMO	**Parma**	**6.04**	**84**	IAmb_Lg		03 24 02.3	
	comp=Z,110nm,0.7s						
MET	**Memphis--Engin**	**6.04**	**99**	IAmb_Lg		03 24 09.2	
	comp=Z,104nm,0.8s						
SLM	**Saint Louis**	**6.05**	**65**	IAmb_Lg		03 23 57.1	
	comp=Z,76nm,0.8s						
JCT	**Junction City**	**6.15**	**201**	Pn	**Pn**	**03 22 14.7**	**-0.2**
JCT				IAmb_Lg		03 24 07.1	
	comp=Z,100nm,0.8s						
CGM3	**Cape Girardeau**	**6.16**	**78**	IAmb_Lg		03 24 01.2	
	comp=Z,74nm,0.9s						
SCIA	**State Center**	**6.45**	**28**	Pn	**Pn**	**03 22 19.3**	**+0.4**
HICK	**Hickman**	**6.46**	**85**	Pn	**Pn**	**03 22 19.6**	**+0.5**
K31A	**O'Neill**	**6.47**	**350**	Pn	**Pn**	**03 22 19.6**	**+0.3**
K31A				IAmb_Lg		03 24 08.2	
	comp=Z,100nm,0.8s						
HTMS	**Hat Mesa**	**6.50**	**236**	Pn	**Pn**	**03 22 20.4**	**+0.6**
S44A	**Carbondale**	**6.54**	**75**	IAmb_Lg		03 24 22.0	
	comp=Z,71nm,0.8s						
W45A	**Hickory Valley**	**6.63**	**97**	IAmb_Lg		03 24 20.9	
	comp=Z,85nm,0.8s						
CLN7	**Carlsbad 7**	**6.66**	**237**	Pn	**Pn**	**03 22 22.5**	**+0.6**
N41A	**Harden Midland**	**6.69**	**46**	Pn	**Pn**	**03 22 23.1**	**+0.9**
Y45A	**Yeager Farm, C**	**6.74**	**108**	IAmb_Lg		03 24 28.7	
	comp=Z,57nm,0.7s						
SDCO	**Great Sand Dun**	**6.79**	**285**		**Pn**	**03 22 24.7**	**+0.8**
SDCO				IAmb_Lg		03 24 20.0	
	comp=Z,78nm,1.0s						
Q24A	**Divide**	**6.85**	**296**	Pn	**Pn**	**03 22 25.2**	**+0.5**
Q24A				IAmb_Lg		03 24 34.1	
	comp=Z,62nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.96**	**59**		**Pn**	**03 22 25.6**	**-0.5**
P43A				IAmb_Lg		03 24 29.8	
	comp=Z,89nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.04**	**65**	Pn	**Pn**	**03 22 28.4**	**+1.4**
Q44A				IAmb_Lg		03 24 29.2	
	comp=Z,68nm,0.9s						
BRIGG	**Briggsdale**	**7.05**	**310**	IAmb_Lg		03 24 39.4	
	comp=Z,80nm,0.8s						
GDL2	**Guadalupe Moun**	**7.16**	**238**	Pn	**Pn**	**03 22 29.5**	**+0.6**
K38A	**Parkersburg**	**7.25**	**27**	Pn	**Pn**	**03 22 30.4**	**+0.4**
L40A	**Anamosa**	**7.44**	**37**	IAmb_Lg		03 24 51.4	
	comp=Z,71nm,0.8s						
ECSD	**EROS Data Cent**	**7.49**	**3**	Pn	**Pn**	**03 22 32.5**	**-0.7**
ECSD	**EROS Data Cent**	**7.49**	**3**	P	**Pn**	**03 22 32.6**	**-0.6**
	baz=184						
PLAL	**Pickwick Lake**	**7.56**	**97**	IAmb_Lg		03 24 48.0	
	comp=Z,62nm,0.9s						
HDIL	**Hopedale**	**7.56**	**53**	Pn	**Pn**	**03 22 34.6**	**+0.3**
HDIL				IAmb_Lg		03 24 59.0	
	comp=Z,90nm,0.7s						
WVT	**Waverly**	**7.60**	**88**	Pn	**Pn**	**03 22 36.1**	**+1.3**
ANMO	**Albuquerque**	**7.63**	**263**	Pn	**Pn**	**03 22 35.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=68,slow=16,SNR=2.4						
ANMO				Pg	Pb	03 23 02.6	+6.0
	comp=Z,0.9nm,0.3s,baz=89,slow=15,SNR=17						
ANMO				Lg	Lg	03 24 40.1	
	comp=Z,1.5nm,0.3s,baz=98,slow=9.3,SNR=3.0						
	comp=Z,0.4nm,0.3s						
ANMO	**Albuquerque**	**7.63**	**263**	Pn	**Pn**	**03 22 36.2**	**+0.8**
OLIL	**Olney**	**7.67**	**68**	Pn	**Pn**	**03 22 35.7**	**+0.1**
OLIL				IAmb_Lg		03 25 07.6	
	comp=Z,86nm,0.9s						
S22A	**4UR Ranch, Cre**	**7.83**	**284**	Pn	**Pn**	**03 22 38.4**	**+0.2**
USIN	**University of**	**7.83**	**75**	IAmb_Lg		03 24 58.5	
	comp=Z,47nm,0.8s						
O44A	**Mansfield**	**7.92**	**58**	IAmb_Lg		03 25 02.8	
	comp=Z,57nm,0.8s						
833A	**Chaparral WMA,**	**8.12**	**194**	Pn	**Pn**	**03 22 42.3**	**+0.4**
833A				IAmb_Lg		03 25 16.6	
	comp=Z,34nm,0.9s						
Z47A	**Carrollton**	**8.13**	**109**	Pn	**Pn**	**03 22 43.3**	**+1.3**
PHWY	**Pilot Hill**	**8.17**	**311**	IAmb_Lg		03 25 09.8	
	comp=Z,38nm,0.9s						
T47A	**Sharon Grove**	**8.17**	**82**	Pn	**Pn**	**03 22 42.6**	**0.0**
L42A	**Oliver, Polo**	**8.21**	**43**	IAmb_Lg		03 25 04.6	
	comp=Z,80nm,0.9s						
N23A	**Red Feather La**	**8.25**	**307**		**Pn**	**03 22 44.5**	**+0.6**
N23A				IAmb_Lg		03 25 23.8	
	comp=Z,51nm,0.8s						
SMCO	**Snowmass**	**8.26**	**294**	Pn	**Pn**	**03 22 45.4**	**+1.2**
SUSD	**Miller**	**8.29**	**351**	IAmb_Lg		03 25 22.7	
	comp=Z,49nm,0.7s						
SBM	**South Baldy**	**8.47**	**257**	Pn	**Pn**	**03 22 46.9**	**-0.2**
JFWS	**Jewell Farm**	**8.56**	**37**	Pn	**Pn**	**03 22 49.3**	**+1.4**
P46A	**Rosedale**	**8.60**	**64**	Pn	**Pn**	**03 22 49.3**	**+0.8**

TX32	Lajitas Array	8.77	220	Pn	Pn	03 22 51.3	+0.3
TXAR	Lajitas Array	8.77	220	Pn	Pn	03 22 49.8	-1.2
	comp=Z,0.2nm,0.3s,baz=43,slow=12,SNR=9.6						
TXAR				Pg	Pg	03 23 22.8	-9.2
	comp=Z,0.6nm,0.3s,baz=38,slow=15,SNR=5.8						
TXAR				Lg	Lg	03 25 16.8	
	comp=Z,2.5nm,0.3s,baz=42,slow=27,SNR=12						
	comp=Z,0.3nm,0.3s						
TXAR	Lajitas Array	8.77	220	Pn	Pn	03 22 52.1	+1.1
M44A	Midewin, Midew	8.81	52	IAmb_Lg		03 25 19.3	
	comp=Z,67nm,0.9s						
WCI	Wyandotte Cave	8.94	74	Pn	Pn	03 22 52.9	-0.2
SFIN	Lafayette	8.96	60	Pn	Pn	03 22 53.8	+0.3
I40A	Norwalk	9.15	32	IAmb_Lg		03 25 37.8	
	comp=Z,46nm,1.0s						
HQIL	Hanson Quary C	9.15	50	IAmb_Lg		03 25 43.3	
	comp=Z,47nm,0.8s						
Y49A	Blount Mountai	9.18	102	Pn	Pn	03 22 56.2	-0.3
U49A	Red Boiling Sp	9.23	85	Pn	Pn	03 22 56.7	-0.5
K43A	Burlington	9.42	44	IAmb_Lg		03 25 52.4	
	comp=Z,56nm,0.9s						
RSSD	Black Hills	9.42	329	Pn	Pn	03 23 00.1	+0.1
RSSD				IAmb_Lg		03 25 51.5	
	comp=Z,35nm,1.1s						
RWWY	Rawlins	9.48	308	Pn	Pn	03 23 00.3	-0.5
RWWY				IAmb_Lg		03 25 50.6	
	comp=Z,27nm,0.9s						
K22A	Casper	9.61	314		Pn	03 23 02.6	0.0
K22A				IAmb_Lg		03 26 04.2	
	comp=Z,45nm,1.0s						
P48A	Milroy	9.87	68	Pn	Pn	03 23 06.1	+0.3
I42A	Draeger Farm,	9.93	37	IAmb_Lg		03 26 01.6	
	comp=Z,50nm,1.1s						
F36A	Milaca	9.99	15	Pn	Pn	03 23 07.7	+0.1
G40A	Rib Lake	10.46	28	Pn	Pn	03 23 14.6	+0.6
TKL	Tuckaleechee C	10.92	89	Lg	Lg	03 26 24.2	
	comp=Z,1.1nm,0.3s,baz=166,slow=16,SNR=8.8						
N49A	Columbus Grove	11.22	62	Pn	Pn	03 23 23.3	-1.0
PDAR	Pinedale Array	11.53	308	Pn	Pn	03 23 27.6	-1.1
	comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=3.0						
PDAR				Lg	Lg	03 26 41.2	
	comp=Z,0.3nm,0.3s,baz=114,slow=22,SNR=2.5						
	comp=Z,0.3nm,0.5s						
ULM	Lac du Bonnet	14.02	4	Pn	Pn	03 23 57.1	-5.5
	comp=Z,0.4nm,0.3s,baz=184,slow=9.8,SNR=2.3						
ULM				Lg	Lg	03 27 56.8	
	comp=Z,0.4nm,0.3s,baz=275,slow=17,SNR=4.2						
	comp=Z,1.5nm,0.5s						
SADO	Sadowa	16.15	53	Lg	Lg	03 29 08.3	
	comp=Z,0.3nm,0.3s,baz=87,slow=2.6,SNR=4.4						
INK	Inuvik	37.93	339	LR	LR	03 43 28.6	
	comp=Z,96nm,21.8s,baz=271,slow=36						
ILAR	Eielson Array	40.87	330	P	P	03 28 25.8	0.0
	comp=Z,0.8nm,0.9s,baz=109,slow=7.1,SNR=7.6						
	comp=Z,0.8nm,0.9s						

*MEX **06** 03:24:50.2±0.4, 16.°57N×90.°70W, h69km±21km, MD4.0*
*GCG **06** 03:24:57.3±1.7, 16.°73N×90.°88W, h34km±198km, MD3.8*
ISC 06 03:24:47.4±1.5**, 16.°91N**±0.°05×**90.°96W**±0.°08**, h1**km±17km**, n10,** σ**1.s13**/17**, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	1.29	241	eP	Pn	03 25 12.6	-0.1
CCIG				eS	Sn	03 25 30.1	-0.7
SCIG	Sabancuy	2.06	354	eP	Pg	03 25 26.5	-0.4
SCIG				i S	Sg	03 25 54.4	+0.8
TGIG		2.08	267	eP	Pn	03 25 24.6	+1.2
TGIG				i S	Sn	03 25 52.3	+2.3
MRL	Marmol	2.19	146	eP	Pg	03 25 29.1	-0.3
MRL				eS	Sb	03 25 54.4	-1.3
STG3	Santiaguito 3,	2.27	195	eP	Pb	03 25 29.5	+0.3
STG3				eS	Sb	03 25 57.3	-0.5
NBG	Las Nubes	2.38	166	eP	Pg	03 25 32.9	-0.2
NBG				eS	Sn	03 25 56.8	-1.0
FUG	Fuego 3	2.45	177	eP	Pb	03 25 33.9	+1.5
PCIG		2.48	241	eP	Pn	03 25 29.9	+0.9
PCIG				eS	Sn	03 25 59.6	-0.3
UXUV	UXUV	3.08	278	e	Pn	03 25 37.1	-0.1
UXUV				e		03 26 15.3	
CMIG	Matias Romero	3.76	273	e	Pb	03 25 53.2	-1.5
CMIG				e		03 26 29.2	

*IDC **06** 03:27:33.3±1.4, 4.°28S×152.°75E, h61km±10km, mb3.7/6, mbtmp4.0/8, MS3.8/3, Error ellipse: s-maj=24.1km s-min=16.7km az=142.0*
ISC 06 03:27:32.3±1.1**, 4.°3S**±0.°1×**152.°9E**±0.°1**, h55**km**, n15,** σ**0.s79**/13**, mb3.7**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.84	267	P	Pn	03 27 48.3	+0.3
	629nm,0.3s,baz=227,slow=1.8,SNR=142						
KRVT				S	Sn	03 27 60.0	+0.4
	1µm,0.4s,baz=354,slow=5.8,SNR=10						
PMG	Port Moresby	7.63	228	P	Pn	03 29 21.3	+0.5
	6.7nm,0.3s,baz=59,slow=5.9,SNR=2.6						
PMG				S	Sn	03 30 46.9	+0.9
	9.2nm,0.3s,baz=151,slow=21,SNR=6.0						
HNR	Honiara	8.71	127	LR	LR	03 32 59.4	
	comp=Z,854nm,21.6s,baz=322,slow=37						
CTA	Charters Tower	17.00	202	P	P	03 31 27.2	-0.3
	1.8nm,0.6s,baz=24,slow=10.0,SNR=2.6						
DZM	Mont Dzumac	22.06	145	P	P	03 32 23.5	+0.7
	2.4nm,0.8s,baz=202,slow=12,SNR=6.3						
	2.4nm,0.8s						
WRA	Warramunga Arr	23.85	228	P	P	03 32 40.6	-0.1
	7.5nm,0.5s,baz=53,slow=9.6,SNR=86						
WRA				S	S	03 36 51.5	-1.5
	0.7nm,0.8s,baz=47,slow=16,SNR=6.2						
	7.5nm,0.5s						
H11S3	WAKE ISLAND Hy	26.40	31	T	T	04 00 41.7	
	baz=209,slow=74,SNR=9.5						
H11S2	WAKE ISLAND Hy	26.40	31	T	T	04 00 41.1	
	baz=209,slow=74,SNR=9.4						
H11S1	WAKE ISLAND Hy	26.42	31	T	T	04 00 42.4	
	baz=209,slow=74,SNR=7.0						
ASAR	Alice Springs	26.59	222	P	P	03 33 05.5	-0.1
	1.6nm,0.6s,baz=54,slow=9.0,SNR=28						
	1.6nm,0.6s						
STKA	Stephens Creek	29.44	200	P	P	03 33 29.7	-1.2
	2.3nm,0.6s,baz=20,slow=12,SNR=4.0						
STKA				LR	LR	03 46 32.0	
	comp=Z,114nm,19.4s,baz=245,slow=39						
	2.3nm,0.6s						
YAK	Yakutsk	68.46	348	LR	LR	04 07 49.4	
	comp=Z,62nm,20.5s,baz=268,slow=35						
VNDA	Vanda	73.36	178	P	P	03 38 58.6	+0.7
	0.4nm,0.6s,baz=329,slow=5.8,SNR=2.5						
	0.4nm,0.6s						
ILAR	Eielson Array	81.64	22	P	P	03 39 44.3	+0.1
	0.3nm,0.7s,baz=260,slow=5.3,SNR=2.2						
	0.3nm,0.7s						
TORD	Torodi Ar. Bea	150.20	289	PKPbc	PKiKP	03 47 18.7	-0.3
	1.3nm,0.4s,baz=75,slow=2.6,SNR=25						

*IDC **06** 03:32:44.4±2.3, 12.°94N×142.°80E, h156km±20km, mb3.7/8, mbtmp4.2/9, MS3.8/4, Error ellipse: s-maj=33.7km s-min=13.7km az=103.0*
*NEIC **06** 03:32:45.4±0.4, 12.°75N±0.°09×142.°8E±0.°1, h146km±10km, mb4.4/12, Error ellipse: s-maj=18.7km s-min=8.4km az=126.0*
ISC 06 03:32:44.5±0.7**, 12.°81N**±0.°09×**142.°8E**±0.°1**, h150**km**, n27,** σ**0.s82**/24**, mb4.3**/12**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.15	69	P	Pn	03 33 22.8	+1.4
	256nm,0.3s,baz=332,slow=1.4,SNR=30						
GUMO				S	Sn	03 33 49.5	-0.3
	312nm,0.4s,baz=212,slow=22,SNR=7.5						
MANU	Manus Island	15.43	163	Pn	Pn	03 36 13.2	-1.3
MANU				IAmb	IAmb	03 36 19.3	
	comp=Z,22nm,1.2s						
MJAR	Matsushiro Arr	23.99	351	P	P	03 37 44.1	-1.2
	comp=Z,0.7nm,0.6s,baz=123,slow=12,SNR=2.1						
	comp=Z,0.7nm,0.6s						
HNR	Honiara	27.89	142	LR	LR	03 47 50.5	
	comp=Z,668nm,19.7s,baz=48,slow=32						
CTA	Charters Tower	32.87	174	P	P	03 39 04.9	+0.6
	comp=Z,5.1nm,0.7s,baz=358,slow=9.2,SNR=14						
	comp=Z,5.1nm,0.7s						
CTAO	Charters Tower	32.87	174	P	P	03 39 04.1	-0.2
CTAO				IAmb	IAmb	03 39 05.3	
	comp=Z,5.1nm,0.6s						
WR0	Warramunga Arr	33.56	194	P	P	03 39 10.6	+0.2
WR0				IAmb	IAmb	03 39 11.2	
	comp=Z,4.7nm,0.7s						
WB2	Warramunga Arr	33.59	194	P	P	03 39 10.4	-0.3
WB2				IAmb	IAmb	03 39 11.6	
	comp=Z,7.3nm,0.6s						
WRA	Warramunga Arr	33.60	195	P	P	03 39 10.8	+0.1
	comp=Z,6.0nm,0.6s,baz=15,slow=9.3,SNR=65						
	comp=Z,6.0nm,0.6s						
WRA	Warramunga Arr	33.60	195	P	P	03 39 10.3	-0.3
MDJ	Mudanjiang	33.66	343	P	P	03 39 12.2	+1.3
AS31	Alice Springs	37.28	194	P	P	03 39 41.9	-0.2
ASAR	Alice Springs	37.28	194	P	P	03 39 42.4	+0.2
	comp=Z,1.2nm,0.4s,baz=20,slow=12,SNR=58						
	comp=Z,1.2nm,0.4s						
ASAR	Alice Springs	37.28	194	P	P	03 39 41.9	-0.2
DZM	Mont Dzumac	41.70	146	P	P	03 40 19.7	+0.9
	comp=Z,3.9nm,0.5s,baz=270,slow=6.7,SNR=22						
	comp=Z,3.9nm,0.5s						
DZM	Mont Dzumac	41.70	146	P	P	03 40 19.4	+0.5
DZM				IAmb	IAmb	03 40 22.1	
	comp=Z,7.2nm,1.0s						
STKA	Stephens Creek	44.45	181	P	P	03 40 40.0	-0.7
	comp=Z,3.0nm,0.4s,baz=336,slow=4.9,SNR=5.5						
	comp=Z,3.0nm,0.4s						
FORT	Forrest	45.60	198	P	P	03 40 50.1	+0.3
BBOO	Buckleboo	45.82	188	P	P	03 40 51.6	+0.1
BBOO				IAmb	IAmb	03 40 52.4	
	comp=Z,9.3nm,0.8s						
TOO	Toolangi	50.17	177	P	P	03 41 25.1	+0.2
TOO				IAmb	IAmb	03 41 26.8	
	comp=Z,10nm,1.0s						
AFI	Afiamalu	52.24	119	LR	LR	04 00 32.7	
	comp=Z,119nm,22.0s,baz=76,slow=32						
MKAR	Makanchi Array	60.67	317	LR	LR	04 10 23.9	
	comp=Z,36nm,20.7s,baz=144,slow=37						
KURBB	Kurchatov Arra	63.93	320	LR	LR	04 10 05.2	
	comp=Z,46nm,21.4s,baz=163,slow=35						
ILAR	Eielson Array	70.13	25	P	P	03 43 38.5	-1.9
	comp=Z,0.6nm,0.6s,baz=245,slow=6.1,SNR=10						
	comp=Z,0.6nm,0.6s						
BMAR	Burnt Mountain	71.59	23	P	P	03 43 48.9	-0.4
GNI	Garni	87.91	311	P	P	03 45 18.3	+0.5
NVAR	Mina Array Bea	88.97	51	P	P	03 45 21.9	-1.0
	comp=Z,0.4nm,0.6s,baz=262,slow=5.8,SNR=4.6						
	comp=Z,0.4nm,0.6s						

*JMA **06** 03:45:14.0±0.1, 24.°7N±0.°6×123.°8E±0.°3, h72km±1km, MV3.1/13, NW OFF ISHIGAKIJIMA IS*
ISC 06 03:45:14.5±1.5**, 24.°6N**±0.°1×**123.°87E**±0.°04**, h76**km±11km**, n19,** σ**0.s76**/29**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.31	204	i P	Pn	03 45 26.3	-0.1
IRIF				S	Sn	03 45 35.3	+0.2
JIJ	Ishigaki jima	0.36	136	i P	Pn	03 45 26.6	-0.2
JIJ				S	Sn	03 45 35.9	+0.2
JISG	Ishigakijimahi	0.41	95	i P	Pn	03 45 26.6	-0.4
JISG				S	Sn	03 45 36.1	-0.1
JKRS	Kuro-shima	0.41	161	i P	Pn	03 45 27.4	+0.4
JKRS				S	Sn	03 45 37.2	+1.0
HATJ	Hateruma jima	0.57	186	P	Pn	03 45 28.8	+0.3
HATJ				eS	Sn	03 45 39.9	+1.1
JTJ	Tarama	0.76	89	P	Pn	03 45 30.2	-0.2
JTJ				S	Sn	03 45 42.2	-0.1
YOJ	Yonaguni jima	0.80	259	P	Pn	03 45 30.4	-0.5
YOJ	Yonaguni jima	0.80	259	i P	Pn	03 45 30.4	-0.5
YOJ				S	Sn	03 45 42.2	-0.9
JYNG	Yonagunijimaku	0.86	259	P	Pn	03 45 31.1	-0.5
JYNG				S	Sn	03 45 43.6	-0.7
JIRB	Irabujima	1.20	80	P	Pn	03 45 35.4	-0.4
JIRB				eS	Sn	03 45 51.5	-0.3
JIKM	Ikemajima	1.29	76	S	Sn	03 45 53.3	-0.4
JMJ	Miyako jima 2	1.31	81	P	Pn	03 45 37.6	+0.4
JMJ2	Miyako jima3	1.33	85	P	Pn	03 45 37.5	0.0
JMJ2				S	Sn	03 45 54.7	0.0
JOGS	Gusukube	1.41	84	S	Sn	03 45 56.8	+0.3
NACB	Ninganchiao	2.12	258	P	Pn	03 45 48.7	+0.8
YHNB	Yeheng	2.27	272	P	Pn	03 45 52.1	+2.2
YULB	Yu-li	2.65	243	P	Pn	03 45 53.7	-1.4
TWGBT	Beinan	3.12	235	P	Pn	03 46 00.2	-1.3
TPUB	Ta-pu	3.24	247	P	Pn	03 46 03.7	+0.6

*IDC **06** 03:48:43.4±7.2, 38.°12N×73.°29E, h109km±40km, mb3.3/2, mbtmp3.5/7, MS3.5/1, Error ellipse: s-maj=103.3km s-min=29.8km az=139.0*
*SOME **06** 03:48:46.9, 39.°30N×72.°90E, h0km*
*NNC **06** 03:48:48.2±10.0, 38.°61N×72.°16E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=228.0km s-min=71.5km az=83.0*
ISC 06 03:48:40.5±2.1**, 38.°3N**±0.°1×**73.°2E**±0.°1**, h10**km**, n15,** σ**2.s34**/18**, 2C, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRKS	Merke	4.41	1	eP	Pn	03 49 50.4	+2.8
	5.3nm,0.4s						
MRKS				eS	Sn	03 50 37.9	-1.1
	23nm,0.2s						
AAK	Ala-Archa	4.42	13	P	Pn	03 49 51.3	+3.5
	0.8nm,0.4s,baz=183,slow=9.8,SNR=2.5						
AAK				S	Sn	03 50 39.6	+0.2
	2.6nm,0.3s,baz=330,slow=17,SNR=11						
IUG	Iuzhnay	4.50	329	eP	Pn	03 49 52.2	+3.4
	117nm,0.3s						
IUG				eS	Sn	03 50 41.3	+0.1
	54nm,0.3s						
KK31	Karatay Array	5.17	338	P	Pn	03 50 00.7	+2.7
	1.0nm,0.3s,baz=145,slow=11,SNR=55						
KK31				⇑S	Sn	03 50 55.9	-1.9
	16nm,0.6s,baz=157,slow=25,SNR=17						
DGS	Degeres	5.29	21	eP	Pb	03 50 12.6	-0.5
	1.6nm,0.3s						
DGS				eS	Sb	03 51 15.9	-0.9
	1.6nm,0.3s						
TNSS	Tian-Shan	5.51	30	eP	Pb	03 50 17.1	0.0
	1.6nm,0.4s						
TNSS				eS	Sb	03 51 23.6	+0.2
	1.4nm,0.5s						
GEYT	Alibeck	11.85	273	P	Pn	03 51 29.3	-0.3
	0.9nm,0.3s,baz=101,slow=7.7,SNR=4.3						
KURBB	Kurchatov Arra	12.87	16	P	Pn	03 51 45.8	+2.4
	0.1nm,0.4s,baz=203,slow=10,SNR=4.2						
AB31	Akbulak array	14.48	323	P	Pn	03 52 03.2	-2.1
	0.2nm,0.3s,baz=127,slow=13,SNR=15						
BVAR	Borovoye Array	14.82	353	P	Pn	03 52 11.1	+1.1
	1.1nm,0.4s,baz=162,slow=11,SNR=5.8						
AKTO	Aktyubinsk	16.20	323	⇑P	Pn	03 52 26.8	-1.2
	0.3nm,0.5s						
ZALV	Zalesovo Beam	17.55	23	P	Pn	03 52 40.0	-5.0
	1.0nm,0.5s,baz=208,slow=11,SNR=5.0						
ARCES	ARCESS Array B	40.14	336	P	P	03 56 09.5	-6.7
	0.9nm,0.8s,baz=118,slow=7.6,SNR=4.1						
	0.9nm,0.8s						
MA2	Magadan	51.87	39	LR	LR	04 22 14.5	
	comp=Z,43nm,20.4s,baz=255,slow=39						
TORD	Torodi Ar. Bea	67.47	269	P	P	03 59 29.1	-7.8
	0.2nm,0.4s,baz=38,slow=4.7,SNR=2.6						
	0.2nm,0.4s						

IDC 06 04:04:10.9±3.2**, 34.°70S**×**179.°01W, h0**km**, mb3.9**/2**, mbtmp3.9**/3**, ML3.7**/1**, Error ellipse: s-maj=74.3km s-min=36.5km az=123.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	4.73	220	Pn	Pn	04 05 23.8	+0.4
	3.0nm,0.3s,baz=345,slow=3.1,SNR=23						
URZ				Sn	Sn	04 06 18.4	-0.6
	5.6nm,0.3s,baz=94,slow=22,SNR=6.2						
	14nm,0.5s						
ASAR	Alice Springs	42.22	272	P	P	04 12 05.8	-0.1
	1.1nm,0.6s,baz=115,slow=7.6,SNR=26						
	1.1nm,0.6s						
WRA	Warramunga Arr	43.60	277	P	P	04 12 16.9	-0.1
	1.1nm,0.5s,baz=118,slow=7.7,SNR=28						
	1.1nm,0.5s						
FINES	FINESS Array B	148.82	337	PKPbc	PKPbc	04 23 58.8	-0.7
	2.4nm,0.8s,baz=18,slow=4.8,SNR=4.8						

IDC 06 04:05:00.6±3.4**, 34.°67S**×**179.°06W, h0**km**, mb4.0**/2**, mbtmp4.1**/3**, ML3.8**/1**, MS3.6**/1**, Error ellipse: s-maj=76.6km s-min=37.2km az=121.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	4.72	220	Pn	Pn	04 06 13.6	+0.5
	4.2nm,0.3s,baz=355,slow=3.6,SNR=8.9						
URZ				Sn	Sn	04 07 07.5	-1.1
	8.1nm,0.3s,baz=98,slow=22,SNR=8.2						
	25nm,0.6s						
DZM	Mont Dzumac	17.87	311	LR	LR	04 15 03.7	
	comp=Z,180nm,18.8s,baz=26,slow=34						
ASAR	Alice Springs	42.18	272	P	P	04 12 55.2	0.0
	1.1nm,0.5s,baz=114,slow=7.3,SNR=12						
	1.1nm,0.5s						
WRA	Warramunga Arr	43.55	277	P	P	04 13 06.2	-0.1
	1.3nm,0.5s,baz=118,slow=7.7,SNR=13						
	1.3nm,0.5s						
FINES	FINESS Array B	148.78	337	PKPbc	PKPbc	04 24 48.4	-0.7
	3.7nm,1.1s,baz=42,slow=6.4,SNR=3.5						

*DJA **06** 04:17:40.1±0.5, 3°S±3°×14°0E±°, h68km±4km, M4.7/12, mB5.4/3, mb4.6/12, MLv4.8/5, Mw(mB)4.8/3*
*IDC **06** 04:17:42.3±5.5, 3.°29S×139.°78E, h53km±42km, mb3.5/2, mbtmp4.2/4, ML4.4/2, MS3.4/3, Error ellipse: s-maj=69.6km s-min=20.2km az=90.0*
*NEIC **06** 04:17:49.4±1.9, 3.°75S±0.°06×139.°24E±0.°10, h66km±21km, mb4.2/9, Error ellipse: s-maj=14.0km s-min=8.2km az=101.0*
ISC 06 04:17:41.3±0.9**, 3.°29S**±0.°05×**139.°99E**±0.°08**, h50**km**, n49,** σ**1.s85**/45**, mb4.4**/5**, MS3.8**/4**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	0.71	15	P	Pn	04 17 55.3	+0.1
GENI				S	Sn	04 18 05.6	+0.3
GENI	Genyem	0.71	15	P	Pn	04 17 55.1	-0.1
WAMI	Wamena	1.41	245	P	Pn	04 18 05.9	+1.4
WAMI				S	Sn	04 18 24.6	+2.7
SMPI	Sarmi	1.81	315	P	Pn	04 18 09.3	-0.8
SMPI				S	Sn	04 18 33.8	+1.9
SRPI	Serui, Papua	4.00	290	P	Pn	04 18 39.4	-0.7
MANU	Manus Island	7.47	81	Pn	Pn	04 19 48.7	+21
FAKI	Fak Fak	7.74	272	Pn	Pn	04 19 29.9	-1.5
FAKI	Fak Fak	7.74	272	P	Pn	04 19 30.2	-1.2
	0.1nm17nm,0.5s						
FAKI	Fak Fak	7.74	272	P	Pn	04 19 30.7	-0.7
SIJI	Sorong	9.04	285	P	Pn	04 19 48.9	-0.4
	7.5nm,0.3s,baz=148,slow=22,SNR=7.9						
SIJI				LR	LR	04 24 09.2	
	comp=Z,125nm,21.8s,baz=297,slow=44						
	17nm,0.3s						
SIJI	Sorong	9.04	285	P	Pn	04 19 49.1	-0.2
	30nm,0.7s						
SWI	Sorong	9.05	285	P	Pn	04 19 50.3	+0.9
	55nm,0.6s						
PMG	Port Moresby	9.37	131	Pn	Pn	04 20 03.9	+10
COEN	Coen	11.06	164	Pn	Pn	04 20 22.6	+5.6
KDU	Kakadu	11.94	218	P	Pn	04 20 27.9	-1.0
LBMI	Labuha	12.75	282	P	Pn	04 20 40.7	+0.6
	60nm,1.0s						
MTN	Manton Dam	12.92	222	Pn	Pn	04 20 39.2	-3.1
MTN	Manton Dam	12.92	222	P	Pn	04 20 40.5	-1.8
GAMI	Galela, Maluku	13.21	292	P	Pn	04 20 45.9	-0.5
SANI	Sanana	14.04	275	P	Pn	04 20 55.4	-2.2
	17nm,0.8s						
KNRA	Kununurra	16.54	221		Pn	04 21 28.6	-1.5
KNRA	Kununurra	16.54	221	P	Pn	04 21 29.2	-0.8
SOEI	Soe	16.88	247	Pn	Pn	04 21 30.9	-3.5
SOEI	Soe	16.88	247	P	Pn	04 21 34.6	+0.2
	49nm,1.0s						
QIS	Mount Isa	17.17	181	P	Pn	04 21 38.1	+0.2
WB0	Warramunga Arr	17.27	198	Pn	Pn	04 21 37.5	-1.6
LUWI	Luwuk	17.35	277	Pn	Pn	04 21 37.2	-2.8
LUWI	Luwuk	17.35	277	P	Pn	04 21 40.2	+0.2
	11µm22nm,0.7s						
WR0	Warramunga Arr	17.41	197	Pn	Pn	04 21 38.8	-1.9
WR0				IAmb	IAmb	04 21 43.5	
	comp=Z,6.6nm,0.6s						
WRAB	Tennant Creek	17.44	198		Pn	04 21 40.6	-0.5
WRAB				IAmb	IAmb	04 21 56.5	
	comp=Z,11nm,0.6s						
WRAB	Tennant Creek	17.44	198	P	Pn	04 21 39.6	-1.5
WRA	Warramunga Arr	17.45	198	P	Pn	04 21 39.5	-1.8
	comp=Z,1.1nm,0.3s,baz=15,slow=12,SNR=36						
WRA				S	Sn	04 24 48.8	-6.0
	comp=Z,3.2nm,0.8s,baz=5.7,slow=22,SNR=5.3						
	comp=Z,3.5nm,0.5s						
APSI	Ampana	18.48	277	P	Pn	04 21 53.9	0.0
	comp=Z,42nm,1.1s						
TOLI2	Tolitoli	19.69	283	P	P	04 22 05.4	-1.2
TOLI2				IAmb	IAmb	04 22 07.3	
	comp=Z,8.1nm,0.7s						
TOLI2	Tolitoli	19.69	283	P	P	04 22 05.7	-0.9
BKSI	Bulukumba	19.91	263	P	P	04 22 08.9	-0.1
AS01	Alice Springs	21.08	196	P	P	04 22 21.9	+0.2
AS31	Alice Springs	21.10	196	P	P	04 22 21.9	+0.1
ASAR	Alice Springs	21.10	196	P	P	04 22 21.6	-0.3
	comp=Z,2.4nm,0.5s,baz=23,slow=9.3,SNR=38						
ASAR				S	S	04 26 14.7	+0.7
	comp=Z,2.1nm,0.8s,baz=13,slow=28,SNR=5.5						
	comp=Z,2.4nm,0.5s						
ASAR	Alice Springs	21.10	196	P	P	04 22 22.9	+1.1
EIDS	Eidsvold	24.41	155	P	P	04 23 00.3	+5.1
EIDS				IAmb	IAmb	04 23 14.2	
	comp=Z,14nm,1.1s						
DZM	Mont Dzumac	31.75	128	LR	LR	04 35 47.3	
	comp=Z,58nm,21.0s,baz=210,slow=34						
QIZ	Qiongzhong	37.03	308	P	P	04 24 53.6	+7.0
QIZ				S	S	04 30 31.2	+2.1
QIZ				LR	LR		
	comp=N,220nm,19.1s						
QIZ				LR	LR		
	comp=E,240nm,20.7s						
QIZ				LR	LR		
	comp=Z,220nm,19.1s						
PZH	PanZhiHua	47.36	311	P	P	04 26 17.3	+6.5
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
HHC	Hu-ho-hao-te	51.02	332	eP	P	04 26 48.1	+10
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,5.3s						
YAK	Yakutsk	65.61	355	LR	LR	04 56 09.6	
	comp=Z,63nm,20.1s,baz=286,slow=35						
WMQ	Urumqi	66.25	321	eP	P	04 28 31.9	+7.5
WMQ				LR	LR		
	comp=Z,37nm,16.1s						
MKAR	Makanchi Array	71.02	322	P	P	04 28 53.8	-0.2
	comp=Z,0.6nm,0.7s,baz=102,slow=8.5,SNR=1.2						
	comp=Z,0.6nm,0.7s						
KSH	Kashi	72.40	313	P	P	04 29 08.5	+5.9

*NEIC **06** 04:20:17.0±1.4, 17.°5S±0.°3×178.°9W±0.°2, h538km±8km, mb4.3/16, Error ellipse: s-maj=39.1km s-min=16.1km az=155.0*
*IDC **06** 04:20:19.2±1.5, 17.°50S×179.°05W, h548km±16km, mb3.5/9, mbtmp4.4/10, Error ellipse: s-maj=39.1km s-min=12.6km az=150.0*
ISC 06 04:20:17.2±0.6**, 17.°7S**±0.°2×**178.°9W**±0.°1**, h550**km**, n63,** σ**1.s25**/64**, mb4.3**/16**, 9C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.95	268	P	P	04 21 32.7	+0.7
	9.2nm,0.7s,baz=133,slow=14,SNR=8.2						
MSVF	Nonsavu	2.95	268	P	P	04 21 32.9	+0.9
AFI	Afiamalu	7.76	62	P	P	04 22 10.0	-2.8
	56nm,0.7s,baz=268,slow=5.2,SNR=7.3						
AFI	Afiamalu	7.76	62	P	P	04 22 10.2	-2.6
NIUE	Niue	8.59	101	P	P	04 22 19.9	-1.0
LIFNC	LIFOU	13.50	254	P	P	04 23 08.5	-2.8
DZM	Mont Dzumac	14.51	250	P	P	04 23 20.7	-1.1
	4.3nm,0.5s,baz=87,slow=20,SNR=7.5						
DZM	Mont Dzumac	14.51	250	P	P	04 23 21.0	-0.8
KOUNC	Koumac, New Ca	16.19	257	P	P	04 23 38.8	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EIDS	Eidsvold	28.96	249	P	P	04 25 32.9	+0.2
EIDS				IAmb	IAmb	04 25 33.8	
	comp=Z,20nm,1.5s						
ARMA	Armidale	29.70	239	P	P	04 25 39.8	+0.5
CTA	Charters Tower	33.07	260	P	P	04 26 09.0	+0.9
	comp=Z,5.5nm,0.7s,baz=84,slow=8.3,SNR=9.9						
	comp=Z,5.5nm,0.7s						
CTAO	Charters Tower	33.07	260	P	P	04 26 07.2	-0.9
CTAO				IAmb	IAmb	04 26 09.6	
	comp=Z,8.7nm,0.8s						
TOO	Toolangi	37.01	230	P	P	04 26 41.5	+0.9
STKA	Stephens Creek	38.38	241	P	P	04 26 53.4	+1.6
	comp=Z,5.6nm,0.5s,baz=94,slow=8.6,SNR=11						
	comp=Z,5.6nm,0.5s						
STKA	Stephens Creek	38.38	241	P	P	04 26 52.2	+0.3
BBOO	Buckleboo	43.16	241	P	P	04 27 30.0	+0.1
BBOO				IAmb	IAmb	04 27 31.7	
	comp=Z,7.3nm,0.8s						
WB2	Warramunga Arr	44.25	259	P	P	04 27 37.0	-1.5
WB2				IAmb	IAmb	04 27 49.9	
	comp=Z,15nm,1.1s						
WRA	Warramunga Arr	44.26	259	P	P	04 27 38.4	-0.1
AS31	Alice Springs	44.45	254	P	P	04 27 40.4	+0.4
AS31				IAmb	IAmb	04 27 41.3	
	comp=Z,6.2nm,0.6s						
ASAR	Alice Springs	44.45	254	P	P	04 27 40.8	+0.8
	comp=Z,22nm,0.7s,baz=88,slow=8.3,SNR=48						
ASAR				S	S	04 33 35.0	-0.5
	comp=Z,0.8nm,1.0s,baz=84,slow=16,SNR=4.2						
	comp=Z,22nm,0.7s						
ASAR	Alice Springs	44.45	254	P	P	04 27 40.1	+0.1
FORT	Forrest	49.73	244	P	P	04 28 19.6	0.0
MJAR	Matsushiro Arr	67.45	324	P	P	04 30 19.9	+1.4
	comp=Z,1.6nm,0.4s,baz=104,slow=8.2,SNR=5.9						
	comp=Z,1.6nm,0.4s						
PETK	Petropavlovsk-	73.33	345	P	P	04 30 53.7	+0.8
	comp=Z,4.0nm,0.9s,baz=138,slow=7.4,SNR=2.4						
	comp=Z,4.0nm,0.9s						
PMD	Palm Desert	78.38	49	P	P	04 31 20.4	-0.9
PMD				IAmb	IAmb	04 31 33.8	
	comp=Z,2.9nm,1.0s						
NVAR	Mina Array Bea	79.53	44	P	P	04 31 29.8	+2.2
	comp=Z,1.2nm,0.7s,baz=224,slow=8.4,SNR=14						
	comp=Z,1.2nm,0.7s						
NVAR	Mina Array Bea	79.53	44	P	P	04 31 28.0	+0.4
O18K	Koktuh Hills	79.59	12	P	P	04 31 27.1	0.0
O18K				IAmb	IAmb	04 31 28.9	
	comp=Z,12nm,0.8s						
O19K	Port Alsworth	80.08	12	P	P	04 31 30.3	+0.7
O19K				IAmb	IAmb	04 31 31.2	
	comp=Z,9.4nm,0.8s						
IL31		85.73	13	P	P	04 31 55.8	-2.0
IL31				IAmb	IAmb	04 32 04.2	
	comp=Z,2.9nm,1.1s						
ILAR	Eielson Array	85.73	13	P	P	04 31 58.2	+0.4
	comp=Z,0.7nm,0.4s,baz=224,slow=5.1,SNR=17						
	comp=Z,0.7nm,0.4s						
TXAR	Lajitas Array	86.22	58	P	P	04 32 04.1	+2.9
	comp=Z,1.0nm,0.7s,baz=217,slow=6.4,SNR=15						
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	86.22	58	P	P	04 32 02.8	+1.7
PD31	Pinedale Array	87.46	44	P	P	04 32 07.2	+0.3
PDAR	Pinedale Array	87.46	44	P	P	04 32 08.4	+1.6
	comp=Z,0.8nm,0.5s,baz=213,slow=3.4,SNR=12						
	comp=Z,0.8nm,0.5s						
PDAR	Pinedale Array	87.46	44	P	P	04 32 06.6	-0.2
VLDR	Vladesti	144.07	327	⇓P	PKiKP	04 38 52.4	-1.8
BURAR	Bucovina Array	144.19	332	⇑P	PKiKP	04 38 52.3	-2.3
GHRR		144.26	328	⇑P	PKiKP	04 38 52.7	-2.0
BRTR	Keskin Array B	144.30	315	PKP	PKPdf	04 38 52.6	+1.3
	comp=Z,1.1nm,0.6s,baz=132,slow=3.8,SNR=6.8						
TESR	Tescani	144.32	329	⇑P	PKiKP	04 38 52.5	-2.3
VRI	Vrincioaia	144.74	328	⇑P	PKPab	04 38 53.4	+0.6
OSTC	Ostas	145.02	343	*e*PKP	PKPab	04 38 53.6	-0.1
CHVC	Chvalec	145.04	343	*e*PKP	PKPab	04 38 54.1	+0.3
CLL	Collm	145.12	347	*i* PKPbc	PKiKP	04 38 54.4	-1.8
	comp=Z,6.0nm,0.6s						
DPC	Dobruska-Polom	145.18	343	*e*PKP	PKPab	04 38 54.1	-0.3
KRLC	Kraliky	145.29	342	*e*PKP	PKPab	04 38 53.5	-1.3
DOPR	Dopca	145.32	330	⇑P	PKiKP	04 38 55.5	-1.3
DRGR		145.92	333	⇑P	PKPab	04 38 57.0	-0.5
ARR	Arges	146.12	330	⇑P	PKiKP	04 38 58.6	0.0
KHC	Kasperske Hory	147.02	345	*e*PKP	PKiKP	04 38 59.9	-0.4
CKRC	Cesky Krumlov	147.12	344	*e*PKP	PKiKP	04 38 59.7	-0.8
GERES	GERESS Array B	147.25	345	PKPbc	PKiKP	04 39 00.6	-0.3
	comp=Z,1.4nm,0.5s,baz=28,slow=3.4,SNR=15						
CONA	Conrad Observa	147.49	341	*e*P	PKPab	04 39 01.7	-2.0
	comp=Z,1.2nm,0.5s						
HERR	Herculane	147.53	331	⇑P	PKiKP	04 39 00.9	-0.5
BLKB	Belogradchik	148.35	329	⇑P	PKiKP	04 39 03.4	+0.1
KBA	Koelnbreinsper	148.98	344	*e*P	PKiKP	04 39 04.2	-0.3
	comp=Z,1.0nm,0.3s						
WATA	Walderalm	149.18	346	*i* P	PKiKP	04 39 05.1	+0.2
	comp=Z,1.2nm,0.4s						
RETA	Reutte	149.21	347	*i* P	PKiKP	04 39 05.2	+0.3
	comp=Z,0.3nm,0.1s						
WTTA	Wattenberg	149.23	346	*i* P	PKiKP	04 39 05.6	+0.5
	comp=Z,2.5nm,0.3s						
MOTA	Moosalm	149.27	347	*i* P	PKiKP	04 39 05.7	+0.5
	comp=Z,0.6nm,0.2s						
SQTA	Sankt Quirin	149.37	346	*e*P	PKiKP	04 39 05.7	+0.4
	comp=Z,2.0nm,0.3s						

---

*ISK **06** 04:32:04.8, 34°.60N×33°.00E, h17km, ML2.9/31*
*NIC **06** 04:32:04.8±0.0, 34°.62N×32°.95E, h15km±6km, Ml3.1/9*
*GII **06** 04:32:04.3±0.0, 34°.65N×32°.92E, h5km, MD2.9/1, Mm3.0/5*
*DDA **06** 04:32:04.6±0.0, 34°.57N×32°.76E, h4km±4km, ML2.7*
ISC 06 04:32:04.8±0.9**, 34°.62N**±0°.02×**32°.88E**±0°.03**, h12**km±6km**,**
n95, σ1s.**53**/132**, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SZAC	Souni	0.14	359	P	Pg	04 32 08.7	+0.4
SZAC				S	Sg	04 32 11.7	+0.9
SZAC				AML	AML	04 32 12.5	
	42nm,0.3s						
SZAC				AML	AML	04 32 12.5	
	42nm,0.3s						
SZAC				AML	AML	04 32 14.2	
	70nm,0.3s						
SZAC				AML	AML	04 32 14.2	
	70nm,0.3s						
NATA	Nata	0.30	302	P	Pb	04 32 11.7	-0.5
NATA				AML	AML	04 32 20.6	
	16nm,0.3s						
NATA				AML	AML	04 32 22.5	
	12nm,0.2s						
ASGA	Asgata	0.34	61	P	Pg	04 32 11.5	-0.3
ASGA				S	Sg	04 32 16.4	0.0
ASGA				AML	AML	04 32 18.5	
	11nm,0.3s						
ASGA				AML	AML	04 32 18.5	
	11nm,0.3s						
ASGA				AML	AML	04 32 19.7	
	16nm,0.4s						
ASGA				AML	AML	04 32 19.7	
	16nm,0.4s						
LEF	Lefka	0.50	1	PG	Pb	04 32 14.9	-0.7
LEF				SG	Sb	04 32 23.6	+0.8
CSS	Mathiatis	0.50	47	PG	Pg	04 32 14.2	-0.5
CSS				SG	Sg	04 32 21.1	-0.3
CSS	Mathiatis	0.50	47	P	Pg	04 32 13.8	-0.9
CSS	Mathiatis	0.50	47	P	Pg	04 32 13.6	-1.2
CSS				S	Sg	04 32 21.1	-0.3
CSS				AML	AML	04 32 22.8	
	1.6nm,0.4s						
CSS				AML	AML	04 32 22.8	
	1.6nm,0.4s						
CSS				AML	AML	04 32 26.8	
	1.0nm,0.4s						
CSS				AML	AML	04 32 26.8	
	1.0nm,0.4s						
ALFC	Alefka	0.58	336	P	Pg	04 32 14.6	-1.7
ALFC				AML	AML	04 32 29.2	
	9.9nm,0.5s						
ALFC				AML	AML	04 32 29.3	
	6.7nm,0.4s						
AKMS	Akamas	0.60	312	P	Pb	04 32 17.1	-0.2
AKMS				S	Sn	04 32 28.9	0.0
AKMS				AML	AML	04 32 34.6	
	3.2nm,0.4s						
AKMS				AML	AML	04 32 34.6	
	3.2nm,0.4s						
AKMS				AML	AML	04 32 36.5	
	2.5nm,0.3s						
AKMS				AML	AML	04 32 36.5	
	2.5nm,0.3s						
ATHAL	Athalassa	0.67	39	P	Pg	04 32 17.3	-0.6
ATHAL				AML	AML	04 32 36.2	
	5.2nm,0.4s						
ATHAL				AML	AML	04 32 43.9	
	3.8nm,0.8s						
MVOU	Mavrovouni	0.73	57	P	Pg	04 32 17.7	-1.4
MVOU				AML	AML	04 32 39.8	
	0.9nm,0.4s						
MVOU				AML	AML	04 32 41.0	
	1.1nm,0.3s						
LFK	Lefkose	0.85	39	PG	Pg	04 32 20.7	-0.6
PARAL	Paralimni	1.02	68	P	Pn	04 32 25.7	+0.7
PARAL				S	Sn	04 32 41.7	+2.5
PARAL				AML	AML	04 32 44.0	
	1.6nm,0.6s						
PARAL				AML	AML	04 32 44.0	
	1.6nm,0.6s						
PARAL				AML	AML	04 32 44.0	
	1.7nm,0.5s						
PARAL				AML	AML	04 32 44.0	
	1.7nm,0.5s						
EREN	Erenkoy	1.39	49	PN	Pn	04 32 29.4	-0.7
TEKE	Tekeli-Mersin	1.53	7	PN	Pn	04 32 32.2	+0.2
TEKE				SN	Sb	04 32 52.6	+0.1
OSC2	CSNet OBS 4	1.62	199	P	Pn	04 32 29.7	-3.5
AKKU	Akkuyu-Mersin	1.63	19	PN	Pn	04 32 33.4	+0.1
GULN	MERSIN_Gulnar	1.65	19	P	Pn	04 32 33.2	-0.5
GULN				S	Sn	04 32 54.3	-0.5
GAZI	Gazipasa	1.68	344	PN	Pn	04 32 34.3	+0.3
GAZI				SN	Sb	04 32 57.1	+0.4
GAZI	Gazipasa	1.68	344	P	Pn	04 32 33.7	-0.3
GAZI				S	Sb	04 32 56.6	-0.1
KARG	Kargicak-Mersi	1.72	23	PN	Pn	04 32 34.7	+0.1
OSC1	CSNet OBS 1	1.74	231	P	Pn	04 32 35.1	+0.3
IKL	Isikli	1.74	22	PN	Pn	04 32 34.9	0.0
BERE	Bereket-Mersin	1.75	9	PN	Pn	04 32 35.4	+0.3
TEVE	Tevekalti-Mers	1.87	14	PN	Pn	04 32 37.1	+0.4
SILI	Silifke-Mersin	1.94	26	PN	Pn	04 32 37.6	0.0
KEBE	Keben-Mersin	1.95	20	PN	Pn	04 32 37.9	+0.2
ERMK	Ermenek	2.02	1	P	Pn	04 32 40.1	+1.2
ERMK				S	Sb	04 33 07.3	+0.6
ERMK				*i* AML	AML	04 33 12.0	
	comp=E,55nm,0.6s						
ERMK				*i* AML	AML	04 33 22.0	
	comp=N,55nm,1.0s						
KIZK	Mersin	2.12	29	PN	Pn	04 32 40.2	+0.1
KIZK	Mersin	2.12	29	P	Pn	04 32 41.6	+1.5
KIZK				S	Sb	04 33 09.2	-0.3
HDMB	Hadim	2.36	352	PN	Pn	04 32 44.5	+0.9
HNTI	Hanita	2.44	128	P	Pn	04 32 45.9	+1.3
HNTI	Hanita	2.44	128	Pn	Pn	04 32 43.7	-0.9
KEPZ	Antalya-Kepez	2.50	336	P	Pn	04 32 45.8	+0.4
KEPZ				S	Sn	04 33 17.1	+1.2
KRMN	Karaman	2.57	7	PN	Pn	04 32 46.9	+0.6
MERS	Mersin	2.61	30	PN	Pn	04 32 46.9	0.0
MMA0B	Mount Meron ar	2.64	127	Pn	Pn	04 32 47.2	-0.1
MMA0B				Sn	Sn	04 33 19.9	+0.7
OFRI	\`Ofer	2.65	138	P	Pn	04 32 47.3	-0.2
OFRI	\`Ofer	2.65	138	Pn	Pn	04 32 47.5	0.0
OFRI				Sn	Sn	04 33 20.1	+0.5
AKUM	Antalya-Kumluc	2.68	310	P	Pb	04 32 52.6	-0.1
AKUM				S	Sg	04 33 34.6	+3.6
GEM	Giv'at Ha'Em	2.71	121	P	Pn	04 32 48.7	+0.6
GEM	Giv'at Ha'Em	2.71	121	Pn	Pn	04 32 48.7	+0.6
GEM				Sn	Sn	04 33 21.3	+0.6
NATI	Neve Ativ	2.73	119	Pn	Pn	04 32 48.8	+0.4
NATI				Sn	Sn	04 33 22.6	+1.3
DED	Mersin	2.81	33	P	Pn	04 32 51.0	+1.5
DED				S	Sn	04 33 25.6	+2.3
SEYD	Seydisehir-KON	2.91	343	PN	Pn	04 32 52.7	+1.7
KSHT	Keshet	2.93	123	Pn	Pn	04 32 52.2	+0.9
KERG	Konya-Eregli	2.97	19	P	Pn	04 32 54.5	+2.7
KERG				S	Sb	04 33 31.2	-2.7
SEDI	Konya, Seydise	2.97	342	P	Pb	04 32 55.0	-2.8
SEDI				S	Sb	04 33 34.7	+0.6
SEDI				*i* AML	AML	04 33 42.0	
	comp=E,34nm,1.4s						
MMLI	Mount Malkishu	3.04	135	PN	Pn	04 32 52.8	0.0
MMLI	Mount Malkishu	3.04	135	Pn	Pn	04 32 52.7	0.0
MMLI				Sn	Sn	04 33 30.7	+1.7
GULE	Gulek	3.07	29	P	Pn	04 32 55.4	+2.0
GULE				S	Sb	04 33 34.6	-2.3
GULE				*i* AML	AML	04 33 48.0	
	comp=E,26nm,0.8s						
AKAS	Kas	3.12	302	PN	Pn	04 32 56.5	+2.5
KORT	Korkueli	3.15	320	PN	Pn	04 32 56.8	+2.5
KORT	Korkueli	3.15	320	P	Pb	04 32 58.4	-2.4
KARA	Karaisali	3.17	33	PN	Pn	04 32 54.9	+0.4
KMER	Konya-Meram	3.17	353	P	Pn	04 32 57.5	+2.9
KMER				S	Sb	04 33 38.9	-0.9
SALP	Salfit	3.19	142	Pn	Pn	04 32 55.5	+0.6
SALP				Sn	Sn	04 33 34.1	+1.2
TAHT	Tahtakopru-Hat	3.21	56	PN	Pn	04 32 54.7	-0.4
ELL	Elmali	3.22	312	PN	Pn	04 32 57.9	+2.6
HMDT	Nahal Hemdat	3.23	136	P	Pn	04 32 57.2	+1.8
HMDT	Nahal Hemdat	3.23	136	Pn	Pn	04 32 56.3	+0.9
HMDT				Sn	Sn	04 33 35.5	+1.7
YESY	Yesilyurt	3.23	12	PN	Pn	04 32 55.9	+0.4
SUTC	Sutluce-Ispart	3.23	332	PN	Pn	04 32 57.6	+2.1
KONT	Konya--Tatoy	3.35	353	PN	Pn	04 32 58.7	+1.7
UJAP	Al Uja	3.43	140	PN	Pn	04 32 58.3	+0.3
CMRD	Camardi-Nigde	3.48	29	PN	Pn	04 32 59.5	+0.6
AMAZ	Amatzia	3.52	150	Pn	Pn	04 33 00.7	+1.4
AMAZ				Sn	Sn	04 33 42.6	+1.7
LADK	Ladik-KONYA	3.60	353	PN	Pn	04 33 01.9	+1.4
SULT	Sultanhani-AKS	3.61	8	PN	Pn	04 33 01.7	+1.1
ALIN	Konya, Altinte	3.67	360	P	Pn	04 33 03.6	+2.1
NIDE	Nigde/Merkez-G	3.70	24	P	Pn	04 33 04.6	+2.6
NIDE				*i* AML	AML	04 33 58.0	
	comp=E,14nm,0.4s						
KOZT	Kozan	3.72	39	PN	Pn	04 33 02.3	+0.2
CAME	Cameli-Denizli	3.72	310	PN	Pn	04 33 03.7	+1.5
YTIR	Yattir	3.75	149	P	Pn	04 33 03.7	+1.1
YTIR	Yattir	3.75	149	Pn	Pn	04 33 03.7	+1.1
GOLH	Golhisar	3.75	315	P	Pn	04 33 04.6	+1.9
GOLH				*i* AML	AML	04 34 21.0	
	comp=E,16nm,0.8s						
YVAC	Isparta, Yalva	3.88	340	P	Pn	04 33 08.0	+3.6
YVAC				S	Sb	04 33 56.6	-3.5
MDBI	Mazsada	3.90	147	P	Pn	04 33 05.8	+1.3
KZIT	Kziot	3.92	161	Pn	Pn	04 33 05.8	+1.0
KZIT				Sn	Sn	04 33 53.1	+2.5
WALJ	Wala	3.92	140	P	Pn	04 33 05.4	+0.7
KDHN	Kadinhani	3.94	351	P	Pn	04 33 07.0	+1.8
YAHY	KAYSERI_Yahyal	4.00	29	P	Pn	04 33 08.5	+2.4
YAHY				S	Sn	04 33 55.9	+2.9
TAVA	DENIZLI_Tavas	4.29	313	P	Pn	04 33 10.4	+0.4
TAVA				S	Sn	04 33 58.4	-1.7
TURN	Turunc	4.35	301	P	Pn	04 33 09.9	-0.7
TURN				S	Sn	04 33 54.5	-6.7
PRNI	Paran	4.62	157	Pn	Pn	04 33 14.6	+0.2
PRNI				Sn	Sn	04 34 09.5	+1.5
SARI	SarD1z-Kayseri	4.73	36	PN	Pn	04 33 16.9	+0.7
KRMI	Paran Flat	4.75	160	Pn	Pn	04 33 16.9	+0.6
KARP	Karpathos	4.78	283	P	Pn	04 33 16.8	+0.1
HRFI	Mount Harif	4.92	158	Pn	Pn	04 33 19.4	+0.8
HRFI				Sn	Sn	04 34 16.4	+1.0
MBRI	Mt Berech	5.11	160	P	Pn	04 33 22.4	+1.1
	1.3nm4μm328nm,0.6s						
MBRI	Mt Berech	5.11	160	Pn	Pn	04 33 22.3	+1.0
MBRI				Sn	Sn	04 34 21.3	+1.1
AQBJ	Aqaba	5.21	159	P	Pn	04 33 24.5	+1.9
	0.2nm576nm33nm,0.5s						
EIL	Elat	5.24	160	PN	Pn	04 33 24.1	+1.2
EIL	Elat	5.24	160	P	Pn	04 33 24.3	+1.4
EIL	Elat	5.24	160	Pn	Pn	04 33 23.4	+0.5
EIL				Sn	Sn	04 34 24.7	+1.5

---

*ROM **06** 04:44:25.8±0.0, 42°.778N±0°.002×13°.200E±0°.003, h10km, ML3.4/47, Error ellipse: s-maj=0.2km s-min=0.1km az=74.0*
*LDG **06** 04:44:25.3±0.1, 42°.76N×13°.19E, h10km, Ml3.0/25, Error ellipse: s-maj=3.2km s-min=2.0km az=48.0*
*IDC **06** 04:44:26.2±1.8, 42°.83N×13°.42E, h0km, mb3.4/2, mbtmp3.4/5, ML3.2/3, MS3.7/1, Error ellipse: s-maj=52.7km s-min=15.1km az=98.0*
*PRU **06** 04:44:26.6±0.0, 42°.68N×13°.61E, h10km*
*STR **06** 04:44:30.3±1.6, 43°N±7°×1°3E±1°4, h10km, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=93.8, preliminary*
ISC 06 04:44:26.2±0.8**, 42°.76N**±0°.02×**13°.16E**±0°.02**, h13**km±4km**,**
n152, σ2s.**75**/206**, 8C-9D, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.08	336	⇓P	Pg	04 44 28.6	-0.4
NRCA				S	Sg	04 44 30.2	-0.9
NRCA				AML	AML		
	comp=E,85550μm,0.7s						
NRCA				AML	AML		
NRCA				AML	AML		
	comp=E,85600μm,0.7s						
NRCA				AML	AML		
	comp=E,92250μm,0.6s						
NRCA				AML	AML		
NRCA				AML	AML		
T1202	Accumoli, Fraz	0.08	140	P	Pg	04 44 28.6	-0.6
T1202				S	Sg	04 44 30.4	-0.8
T1245	Castelsantange	0.10	14	P	Pg	04 44 28.4	-0.9
T1245				S	Sg	04 44 30.2	-1.4
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1204	Amatrice, Fraz	0.15	126	⇑P	Pg	04 44 29.6	-0.3
T1204				S	Sg	04 44 32.2	-0.4
T1204				AML	AML		
	comp=E,29000μm,0.6s						
T1204				AML	AML		
	comp=N,16200μm,0.6s						
T1204				AML	AML		
	comp=N,16250μm,0.6s						
T1216	Preci, Frazion	0.16	322	⇑P	Pg	04 44 30.2	+0.1
T1216				S	Sg	04 44 33.5	+0.6
T1216				AML	AML		
	comp=E,20400μm,0.4s						
T1216				AML	AML		
	comp=N,24250μm,0.3s						
T1216				AML	AML		
	comp=E,20400μm,0.4s						
T1216				AML	AML		
	comp=N,24250μm,0.3s						
T1217	Poggiodomo (PG	0.17	253	P	Pg	04 44 30.9	+0.6
T1217				S	Sg	04 44 34.7	+1.6
T1217				AML	AML		
	comp=N,16150μm,0.3s						
T1217				AML	AML		
	comp=E,15000μm,0.5s						
T1217				AML	AML		
	comp=N,16100μm,0.3s						
T1217				AML	AML		
	comp=N,15550μm,0.3s						
T1217				AML	AML		
	comp=E,15000μm,0.5s						
T1217				AML	AML		
	comp=E,14900μm,0.5s						
LNSS	Leonessa	0.18	208	P	Pg	04 44 31.1	+0.6
LNSS				S	Sg	04 44 34.9	+1.5
LNSS				AML	AML		
	comp=N,52150μm,0.7s						
LNSS				AML	AML		
	comp=E,22050μm,0.7s						
MMO1	Montemonaco	0.18	43	P	Pg	04 44 29.6	-0.9
MMO1				S	Sg	04 44 32.3	-1.1
SMA1	SAN MARTINO	0.19	135	P	Pg	04 44 30.3	-0.3
SMA1				S	Sg	04 44 33.6	+0.1
SMA1				AML	AML		
	comp=E,20300μm,0.6s						
SMA1				AML	AML		
	comp=N,17200μm,0.5s						
FEMA	Monte Fema	0.21	339	P	Pg	04 44 31.0	0.0
FEMA				S	Sg	04 44 34.4	+0.1
FEMA				AML	AML		
	comp=E,27700μm,0.3s						
FEMA				AML	AML		
	comp=N,18250μm,0.5s						
FEMA				AML	AML		
	comp=E,27750μm,0.3s						
FEMA				AML	AML		
	comp=N,18300μm,0.5s						
T1215	Vallo di Nera,	0.21	280	P	Pg	04 44 31.6	+0.6
T1215				S	Sg	04 44 35.7	+1.5
T1215				AML	AML		
	comp=E,8775μm,0.5s						
T1215				AML	AML		
	comp=N,6250μm,0.7s						
T1215				AML	AML		
	comp=E,8695μm,0.5s						
T1215				AML	AML		
	comp=N,6315μm,1.1s						
T1241	Roccafluvione,	0.22	65	P	Pg	04 44 30.3	-0.8
T1241				S	Sg	04 44 33.5	-0.9
T1241				AML	AML		
	comp=N,26400μm,0.5s						
T1241				AML	AML		
	comp=E,28550μm,0.8s						
T1256	Bolognola (MC)	0.25	12	P	Pg	04 44 31.1	-0.5
T1256				S	Sg	04 44 35.1	-0.1
T1256				AML	AML		
	comp=E,12000μm,0.5s						
T1256				AML	AML		
	comp=E,12150μm,0.6s						
T1256				AML	AML		
	comp=N,14000μm,0.3s						
T1256				AML	AML		
	comp=N,14300μm,0.3s						
T1256				AML	AML		
	comp=N,13950μm,0.3s						
T1256				AML	AML		
	comp=E,12000μm,0.5s						
AM05	Amandola Campo	0.26	34	P	Pg	04 44 31.2	-0.5
AM05				S	Sg	04 44 35.2	-0.2
AM05				AML	AML		
	comp=N,1540μm,0.1s						
AM05				AML	AML		
	comp=E,5230μm,0.2s						
AM05				AML	AML		
	comp=N,6120μm,0.4s						
AM05				AML	AML		
	comp=N,1545μm,0.1s						
AM05				AML	AML		
	comp=E,19600μm,0.4s						
RM33	Pellescritta (	0.26	170	P	Pg	04 44 31.9	+0.2
RM33				S	Sg	04 44 36.5	+1.1
RM33				AML	AML		
	comp=N,11310μm,0.9s						
RM33				AML	AML		
	comp=N,11125μm,0.9s						
RM33				AML	AML		
	comp=E,11300μm,0.4s						
RM33				AML	AML		
	comp=N,11295μm,0.9s						
RM33				AML	AML		
	comp=E,11300μm,0.5s						
RM33				AML	AML		
	comp=N,11160μm,0.9s						
RM33				AML	AML		
	comp=N,11265μm,0.9s						
RM33				AML	AML		
	comp=N,11115μm,0.9s						
FDMO	Fiordimonte	0.28	350	P	Pg	04 44 31.7	-0.3
FDMO				S	Sg	04 44 36.4	+0.4
FDMO				AML	AML		
	comp=E,13650μm,0.2s						
FDMO				AML	AML		
	comp=N,21250μm,0.3s						
CAMP	Campotosto	0.29	141	P	Pg	04 44 32.1	-0.3
CAMP				S	Sg	04 44 36.8	+0.3
CAMP				AML	AML		
	comp=E,3820μm,0.2s						
CAMP				AML	AML		
	comp=N,4110μm,0.6s						
CESI	CESI - Serrava	0.30	323	P	Pg	04 44 32.6	+0.1
CESI				AML	AML		
	comp=N,26650μm,0.2s						
CESI				AML	AML		
	comp=E,9220μm,1.1s						
T1211	Morro Reatino	0.32	224	P	Pg	04 44 33.4	+0.6
T1211				AML	AML		
	comp=E,12400μm,0.2s						
T1211				AML	AML		
	comp=E,12600μm,0.4s						

T1211 AML AML
comp=N,14300µm,0.4s
T1211 AML AML
comp=E,12600µm,0.4s
T1211 AML AML
comp=N,14150µm,0.4s
T1211 AML AML
comp=N,14300µm,0.4s
CSP1 Cessapalombo 0.33 6 P **Pg** 04 44 32.6 -0.4
CSP1 AML AML
comp=E,12800µm,0.3s
CSP1 AML AML
comp=N,17650µm,0.4s
T1247 Pizzolo (AQ) 0.34 162 P **Pg** 04 44 33.1 0.0
T1247 AML AML
comp=E,9795µm,1.3s
T1247 AML AML
comp=N,13150µm,0.4s
ARRO Arrone 0.34 238 P **Pg** 04 44 33.8 +0.6
ARRO AML AML
comp=N,6095µm,0.6s
ARRO AML AML
comp=E,6455µm,1.2s
ARRO AML AML
comp=E,6450µm,1.2s
TERO Teramo 0.36 113 ⇑P **Pg** 04 44 32.9 -0.6
SEF1 Sefro 0.41 338 P **Pg** 04 44 34.4 -0.1
SEF1 AML AML
comp=E,14850µm,0.3s
SEF1 AML AML
comp=N,11800µm,1.2s
OFFI Offida 0.42 66 P **Pb** 04 44 34.6 -0.9
OFFI AML AML
comp=E,11350µm,0.8s
OFFI AML AML
comp=N,20600µm,0.6s
GIGS Gran Sasso 0.44 136 P **Pg** 04 44 34.5 -0.4
GIGS AML AML
comp=E,686µm,0.7s
GIGS AML AML
comp=N,654µm,0.7s
MNTP Montappone 0.44 32 P **Pb** 04 44 34.9 -0.8
MNTP AML AML
comp=N,10565µm,0.3s
MNTP AML AML
comp=E,10140µm,0.3s
AQU L'Aquila 0.45 156 P **Pg** 04 44 35.0 -0.1
AQU AML AML
comp=E,3465µm,1.3s
AQU AML AML
comp=N,4900µm,0.6s
AQU AML AML
comp=E,3475µm,1.2s
AQU AML AML
comp=N,4960µm,0.6s
CESX Cesi 0.45 250 P **Pg** 04 44 35.7 +0.6
CESX AML AML
comp=E,3470µm,0.8s
CESX AML AML
comp=N,4820µm,0.2s
ASSB Assisi San Ben 0.46 308 P **Pg** 04 44 35.5 +0.2
ASSB S **Sb** 04 44 43.1 +0.1
ASSB AML AML
comp=E,6515µm,0.2s
ASSB AML AML
comp=N,4150µm,1.4s
SSM1 San Severino M 0.47 2 P **Pg** 04 44 35.1 -0.3
GAG1 Gagliole 0.48 352 P **Pg** 04 44 35.6 0.0
GAG1 AML AML
comp=N,15700µm,0.4s
GAG1 AML AML
comp=N,15750µm,0.4s
GAG1 AML AML
comp=E,14450µm,0.3s
FIAM Fiamignano 0.50 183 P **Pg** 04 44 36.0 +0.1
TRE1 Treia 0.56 12 P **Pg** 04 44 37.0 -0.2
TRE1 AML AML
comp=E,10605µm,0.7s
TRE1 AML AML
comp=N,8270µm,1.3s
TRTR Tortoreto Alta 0.56 85 P **Pg** 04 44 36.9 -0.3
TRTR AML AML
comp=E,8360µm,1.1s
TRTR AML AML
comp=N,8795µm,1.6s
ATCC AVT- Casa Cast 0.57 318 P **Pg** 04 44 37.4 +0.1
ATCC AML AML
comp=N,4530µm,1.3s
ATCC AML AML
comp=E,3820µm,1.4s
EL6 Elcito 0.57 356 P **Pg** 04 44 36.9 -0.4
EL6 AML AML
comp=N,7880µm,0.3s
EL6 AML AML
comp=E,5715µm,1.0s
FAGN Fagnano 0.59 147 P **Pg** 04 44 37.6 -0.1
FAGN AML AML
comp=N,4420µm,0.5s
FAGN AML AML
comp=E,4215µm,0.4s
CING Cingoli 0.61 3 P **Pg** 04 44 37.6 -0.6
CING AML AML
comp=E,3145µm,0.7s
CING AML AML
comp=N,3000µm,0.3s
MURB Monte Urbino 0.68 317 P **Pg** 04 44 39.5 +0.1
MURB AML AML
comp=E,6920µm,1.5s
MURB AML AML
comp=N,4850µm,0.3s
MURB AML AML
comp=N,4770µm,1.6s
MURB AML AML
comp=E,6545µm,1.5s
PP3 Marolino 0.70 28 P **Pg** 04 44 39.1 -0.6
PP3 AML AML
comp=E,7830µm,0.4s
PP3 AML AML
comp=E,7450µm,0.5s
PP3 AML AML
comp=N,6940µm,0.3s
PP3 AML AML
comp=N,6470µm,0.3s
T0110 Collepietro 0.71 139 P **Pg** 04 44 39.2 -0.7
T0110 AML AML
comp=N,2835µm,0.5s
T0110 AML AML
comp=E,2455µm,1.2s
SSFR Montelago di S 0.73 338 P **Pg** 04 44 39.9 -0.4
SSFR AML AML
comp=N,7660µm,0.2s
SSFR AML AML
comp=E,5075µm,1.2s
SSFR AML AML
comp=N,8395µm,0.2s
SSFR AML AML
comp=E,5775µm,0.2s
ATFO Monte Foce - G 0.74 325 P **Pg** 04 44 40.3 -0.2
ATFO AML AML
comp=E,1800µm,0.5s
ATFO AML AML
comp=N,1610µm,0.5s
ARVD Arcevia 0.75 348 ⇑P **Pg** 04 44 40.3 -0.5
ARVD S **Sn** 04 44 53.0 -0.7
ARVD AML AML
comp=E,1650µm,0.5s
ARVD AML AML
comp=N,1520µm,1.2s
PTQR Pietraquaria 0.76 166 P **Pg** 04 44 40.5 -0.5
PTQR AML AML
comp=N,658µm,0.4s
PTQR AML AML
comp=E,664µm,0.4s
MGAB Montegabbione 0.78 281 ⇑P **Pg** 04 44 41.9 +0.6
MGAB AML AML
comp=E,1740µm,1.1s
MGAB AML AML
comp=N,2820µm,0.4s
MGAB AML AML
comp=E,1580µm,0.6s
MGAB AML AML
comp=N,2765µm,0.4s
MTCE Montecelio 0.80 203 P **Pg** 04 44 41.4 -0.3
MTCE AML AML
comp=E,2255µm,0.5s
MTCE AML AML
comp=N,1018µm,0.6s

CERT Cerreto 0.82 189 P **Pg** 04 44 41.7 -0.5
CERT AML AML
comp=E,2005µm,0.4s
CERT AML AML
comp=N,2215µm,0.4s
ATVO AVT- Monte Val 0.83 319 ⇓P **Pg** 04 44 41.9 -0.3
ATVO AML AML
comp=N,1215µm,0.4s
ATVO AML AML
comp=E,1140µm,0.3s
AOI Ancona 0.85 22 ⇓P **Pg** 04 44 42.2 -0.4
AOI AML AML
comp=E,1650µm,0.4s
AOI AML AML
comp=N,1610µm,0.4s
ATMI Monte Miggiano 0.86 312 P **Pg** 04 44 42.9 0.0
ATMI AML AML
comp=E,2695µm,0.5s
ATMI AML AML
comp=N,3365µm,1.1s
ATPI Pietralunga - 0.88 321 P **Pg** 04 44 43.0 -0.3
ATPI AML AML
comp=E,1315µm,0.6s
ATPI AML AML
comp=N,934µm,0.4s
MPAG Monte Paganucc 0.91 342 ⇓P **Pg** 04 44 43.5 -0.3
MPAG S **Sn** 04 44 58.0 +0.2
MPAG AML AML
comp=E,2665µm,0.3s
MPAG AML AML
comp=N,1450µm,0.5s
SENI Senigallia 0.94 3 ⇑P **Pn** 04 44 45.7 +0.6
NARO Abbazia di Nar 0.95 334 ⇓P **Pg** 04 44 44.0 -0.5
NARO AML AML
comp=E,874µm,0.9s
NARO AML AML
comp=N,763µm,0.4s
APEC Apecchio 0.96 326 P **Pb** 04 44 45.0 +0.3
APEC S **Sn** 04 45 01.0 +2.1
FSSB Fossombrone 0.97 344 ⇓P **Pg** 04 44 44.5 -0.4
FSSB S **Sn** 04 44 60.0 +0.9
FSSB AML AML
comp=E,4170µm,0.4s
FSSB AML AML
comp=N,5880µm,0.3s
BADI Badiali 1.00 318 ⇑P **Pg** 04 44 45.3 -0.2
CAFI Castiglion Fio 1.04 303 ⇑P **Pg** 04 44 46.6 +0.3
CAFI AML AML
comp=N,536µm,0.7s
CAFI AML AML
comp=E,742µm,1.4s
PE3 Peglio 1.05 333 ⇓P **Pg** 04 44 43.5 -3.0
SSP9 Sansepolcro 1.10 318 ⇓P **Pn** 04 44 47.8 +0.5
GIUL Giuliano Di Ro 1.21 176 P **Pn** 04 44 49.1 +0.4
GIUL AML AML
comp=E,468µm,0.7s
GIUL AML AML
comp=N,720µm,0.7s
RUFI Rufina 1.61 312 ⇓P **Pb** 04 44 56.2 +0.4
VITU Vitulano (BN) 1.92 145 P **Pn** 04 44 59.5 +0.9
SMPL Sampolo 2.94 258 P **Pn** 04 45 15.3 +2.7
PGF Pioggiola 3.07 267 *e*P **Pn** 04 45 16.9 +2.4
PGF *e*Sn **Sn** 04 45 47.2 -3.9
comp=N,4.6nm,0.5s
PGF Pioggiola 3.07 267 P **Pn** 04 45 17.2 +2.7
OBKA Obir 3.88 14 *e*Pn **Pn** 04 45 26.5 +1.0
comp=N,1.0nm,0.2s
OBKA Obir 3.88 14 *e*Pn **Pn** 04 45 26.5 +1.0
OBKA *e*Pg **Pg** 04 45 40.5 +0.1
MYKA Terra Mystica 3.88 5 *e*Pn **Pn** 04 45 26.6 +1.0
comp=N,2.9nm,0.3s
ABTA Abfaltersbach 4.01 354 *i* Pn **Pn** 04 45 29.0 +1.7
comp=N,14nm,0.6s,SNR=15
KBA Koelnbreinsper 4.32 2 *i* Pn **Pn** 04 45 33.1 +1.4
comp=N,1.9nm,0.2s,SNR=7.0
KBA Koelnbreinsper 4.32 2 *e*Pn **Pn** 04 45 33.4 +1.8
KBA *e*Sn **Sn** 04 46 23.1 +1.3
SBF Sospel 4.32 287 *e*P **Pn** 04 45 33.0 +1.5
SBF *e*Sn **Sn** 04 46 16.9 -4.8
comp=N,1.8nm,0.2s
FETA Feichten 4.59 339 *e*Pn **Pn** 04 45 38.9 +3.5
comp=N,2.4nm,0.4s
WTTA Wattenberg 4.63 347 *e*Pn **Pn** 04 45 38.8 +2.9
comp=N,2.4nm,0.2s,SNR=6.4
WTTA Wattenberg 4.63 347 *e*Pn **Pn** 04 45 39.4 +3.5
DAVOX Davos/Dischmat 4.64 331 Pn **Pn** 04 45 39.5 +3.4
comp=N,1.5nm,0.3s,baz=139,slow=20,SNR=10
DAVOX Sn **Sn** 04 46 34.7 +4.8
comp=N,1.1nm,0.3s,baz=288,slow=17,SNR=2.1
comp=N,4.4nm,0.4s
CALF Calern 4.66 284 P **Pn** 04 45 38.1 +1.8
SQTA Sankt Quirin 4.67 343 *e*Pn **Pn** 04 45 39.4 +3.0
comp=N,4.0nm,0.2s,SNR=9.5
WATA Walderalm 4.71 347 *e*Pn **Pn** 04 45 40.6 +3.7
comp=N,2.3nm,0.2s
ARSA Arzberg 4.79 20 *e*Pn **Pn** 04 45 38.7 +0.7
comp=N,0.7nm,0.2s
ARSA Arzberg 4.79 20 *e*Sn **Sn** 04 46 33.5 +0.2
MOTA Moosalm 4.81 343 *e*Pn **Pn** 04 45 41.8 +3.4
comp=N,0.8nm,0.2s
LMR La Mourre 4.90 279 *e*P **Pn** 04 45 40.6 +1.1
LMR *e*Sn **Sn** 04 46 30.8 -5.3
comp=N,5.4nm,0.6s
SURF Saint Ours 4.91 293 P **Pn** 04 45 43.3 +3.4
BIOA Bad Ischl, Aus 4.94 4 *e*Pn **Pn** 04 45 41.4 +1.3
comp=N,5.5nm,0.3s,SNR=17
JAUF Jausiers 4.94 292 P **Pn** 04 45 43.0 +2.8
RJOB Jochberg 4.98 357 *e*Pn **Pn** 04 45 42.5 +1.9
RJOB *e*Sn **Sn** 04 46 41.3 +3.3
RETA Reutte 5.02 341 *i* Pn **Pn** 04 45 44.5 +3.3
comp=N,1.2nm,0.2s
MBDF Montbardon 5.02 295 *e*P **Pn** 04 45 45.1 +3.8
MBDF *e*Sn **Sn** 04 46 33.9 -5.4
comp=N,0.8nm,0.2s
TRIGF Trigance 5.03 284 P **Pn** 04 45 44.2 +2.9
PLONS Plons/SG 5.05 329 *e*Pn **Pn** 04 45 45.9 +4.2
DAVA Damuels 5.08 334 *e*Pn **Pn** 04 45 45.9 +3.7
comp=N,3.8nm,0.4s
FLAF Flassans-sur-l 5.09 279 P **Pn** 04 45 44.2 +2.1
MOA Molln 5.15 8 *i* Pn **Pn** 04 45 44.0 +1.2
comp=N,1.3nm,0.2s
MOA Molln 5.15 8 *e*Pn **Pn** 04 45 44.1 +1.2
MOA *e*Sn **Sn** 04 46 43.5 +1.4
LPG La Plagne 5.36 303 *e*P **Pn** 04 45 49.5 +3.4
LPG *e*Sn **Sn** 04 46 42.0 -5.7
comp=N,30nm,1.1s
UBR Ueberruh 5.37 337 *e*Pn **Pn** 04 45 50.6 +4.6
LPL La Plagne 5.38 303 *e*P **Pn** 04 45 50.0 +3.7
LPL *e*Sn **Sn** 04 46 42.3 -5.8
comp=N,125nm,2.1s
RONA Rosalia, Austr 5.41 23 *e*Pn **Pn** 04 45 47.4 +0.9
comp=N,1.3nm,0.4s
CONA Conrad Observa 5.50 19 *e*Pn **Pn** 04 45 48.8 +0.9
comp=N,1.3nm,0.3s,SNR=5.6
SMRF Simiane la Rot 5.66 285 *e*P **Pn** 04 45 51.8 +1.9
SMRF *e*Sn **Sn** 04 46 48.6 -6.1
comp=N,1.4nm,0.4s
ORIF Oris-en-Rattie 5.69 295 *e*P **Pn** 04 45 53.9 +3.5
ORIF *e*Sn **Sn** 04 46 50.3 -5.2
comp=N,0.8nm,0.4s
TORNY Torny/Romont 5.96 314 P **Pn** 04 45 57.6 +3.5
SLE Schleitheim 5.99 328 *e*Pn **Pn** 04 45 56.8 +2.3
SLE *e*Sn **Sn** 04 47 03.6 +0.8
SLE Schleitheim 5.99 328 P **Pn** 04 45 56.7 +2.3
BALST Balsthal 5.99 322 P **Pn** 04 45 57.2 +2.7
GEC2 GERESS Array S 6.09 3 *e*Pn **Pn** 04 45 56.2 +0.3
GEC2 *e*Sn **Sn** 04 47 05.5 -0.1
GERES GERESS Array B 6.09 3 Pn **Pn** 04 45 56.4 +0.4
comp=N,0.5nm,0.3s,baz=170,slow=13,SNR=17
GERES Sn **Sn** 04 47 05.9 +0.4
comp=N,1.1nm,0.3s,baz=188,slow=26,SNR=6.9
comp=N,0.7nm,0.3s
CKRC Cesky Krumlov 6.11 7 *e*PN **Pn** 04 45 56.3 +0.2
CKRC *e*SN **Sn** 04 47 04.9 -0.9
MODS Modra-Piesok 6.31 26 *e*PN **Pn** 04 45 59.5 +0.6
BRANT Les Verrieres 6.32 314 P **Pn** 04 46 02.2 +3.1
BRANT Les Verrieres 6.32 314 S **Sn** 04 47 13.4 +2.2
CABF La Chapelle 6.34 310 *e*P **Pn** 04 46 01.8 +2.5
CABF *e*Sn **Sn** 04 47 06.2 -5.4
comp=N,0.3nm,0.2s
KIZ Kirchzarten 6.37 326 P **Pn** 04 46 01.4 +1.7
KIZ Kirchzarten 6.37 326 S **Sn** 04 47 13.5 +1.3
KHC Kasperske Hory 6.38 2 *e*PN **Pn** 04 46 00.0 +0.2
KHC *e*SN **Sn** 04 47 11.3 -1.1
WET Wettzell 6.38 358 *e*Pn **Pn** 04 46 00.4 +0.5

WET *e*Sn **Sn** 04 47 11.5 -1.2
VIVF Saint-Julien-l 6.48 292 *e*P **Pn** 04 46 04.4 +3.1
BFO Black Forest 6.52 330 *e*Pn **Pn** 04 46 03.5 +1.8
BFO *e*Sn **Sn** 04 47 16.3 +0.5
VOGT Vogtsburg - To 6.57 326 P **Pn** 04 46 04.6 +2.2
MOF Molkenrain 6.63 322 P **Pn** 04 46 06.5 +3.2
HINF Hinteralfeld 6.73 321 *e*P **Pn** 04 46 06.0 +1.4
HINF *e*Sn **Sn** 04 47 15.3 -5.8
comp=N,16nm,0.6s
RONF Ronchamp 6.75 319 P **Pn** 04 46 07.5 +2.6
ECH Echery 6.89 324 P **Pn** 04 46 08.7 +1.8
ECH S **Sn** 04 47 25.7 +0.7
LASF Ste Croix 6.90 284 *e*P **Pn** 04 46 09.3 +2.4
WLS Welschbruch 6.96 326 P **Pn** 04 46 09.6 +1.8
VYHS Vyhne 6.98 33 *e*PN **Pn** 04 46 10.1 +2.1
CDF Champ du Feu 6.99 326 *e*P **Pn** 04 46 09.2 +0.9
CDF *e*Sn **Sn** 04 47 20.8 -6.9
comp=N,5.4nm,0.4s
HAU Haudompre 7.10 320 *e*P **Pn** 04 46 10.7 +1.0
HAU *e*Sn **Sn** 04 47 23.3 -6.9
comp=N,11nm,0.4s
PRU Pruhonice 7.29 7 *e*SN **Sn** 04 47 33.1 -1.7
NKC Novy Kostel 7.49 357 *e*SN **Sn** 04 47 39.5 -0.2
KEST Kesra 7.62 204 Pn Pn 04 46 22.3 +5.4
comp=N,0.1nm,0.3s,baz=11,slow=16,SNR=1.8
comp=N,2.3nm,0.8s
SMF Signal de Mont 7.69 304 *e*P **Pn** 04 46 19.8 +2.1
SMF *e*Sn **Sn** 04 47 37.8 -6.8
comp=N,0.2nm,0.2s
PAGF Fort de Pagny 7.78 321 *e*P **Pn** 04 46 20.6 +1.5
baz=135
PAGF *e*Sn **Sn** 04 47 39.8 -7.2
comp=N,0.8nm,0.2s
SFTF Sexfontaines 7.88 316 *e*P **Pn** 04 46 22.8 +2.4
baz=134
SFTF *e*Sn **Sn** 04 47 42.1 -7.3
comp=N,2.1nm,0.3s
LOR Lormes 7.98 308 *e*P **Pn** 04 46 23.8 +2.1
baz=128
LOR *e*Sn **Sn** 04 47 44.5 -7.3
comp=N,95nm,2.0s
MTLF Montolieu 8.03 278 *e*P **Pn** 04 46 24.5 +2.0
AVF Avril sur Loir 8.05 303 *e*P **Pn** 04 46 25.5 +2.8
AVF *e*Sn **Sn** 04 47 46.2 -7.4
comp=N,0.2nm,0.2s
MEZF Maizieres J'vi 8.07 318 *e*P **Pn** 04 46 25.0 +2.0
baz=140
MEZF *e*Sn **Sn** 04 47 46.7 -7.3
comp=N,2.5nm,0.5s
SSF Saint Saulge 8.08 305 *e*P **Pn** 04 46 25.8 +2.6
SSF *e*Sn **Sn** 04 47 48.0 -6.4
comp=N,0.5nm,0.3s
SAVF Savonnieres en 8.11 319 *e*P **Pn** 04 46 26.8 +3.2
baz=126
SAVF *e*Sn **Sn** 04 47 47.5 -7.5
comp=N,1.5nm,0.3s
BGF Bois d'Agland 8.27 301 *e*P **Pn** 04 46 27.9 +2.2
BGF *e*Sn **Sn** 04 47 52.3 -6.6
comp=N,0.9nm,0.2s
CAF Calviac 8.30 289 *e*P **Pn** 04 46 28.4 +2.2
CAF *e*Sn **Sn** 04 47 52.3 -7.5
comp=N,0.1nm,0.1s
TCF Toulx Ste Croi 8.58 298 *e*P **Pn** 04 46 32.7 +2.7
RJF Les Rejaudoux 8.76 291 *e*P **Pn** 04 46 36.0 +3.5
GIVF Givet 9.32 325 *e*Sn **Sn** 04 48 16.6 -8.1
comp=N,23nm,1.0s
FINES FINESS Array B 20.25 18 P Pn 04 49 03.0 +0.2
comp=N,2.5nm,0.9s,baz=194,slow=11,SNR=1.4
comp=N,2.5nm,0.9s
TORD Torodi Ar. Bea 31.13 202 P **P** 04 50 46.8 +2.3
comp=N,0.4nm,0.8s,baz=25,slow=7.8,SNR=2.5
comp=N,0.4nm,0.8s
BBTS Babate 37.88 231 LR LR 05 07 58.3
comp=N,113nm,18.8s,baz=204,slow=37

*IDC **06** 04:45:21.6±1.1, 10°.27N×127°.90E, h0km, mb3.7/7, mbtmp3.8/8, ML4.7/1, Error ellipse: s-maj=62.2km s-min=19.7km az=73.0*
*MAN **06** 04:45:24.9, 9°.90N×126°.78E, h8km, mb5.0, ML4.0, MS4.0*
ISC 06 04:45:28.2±1.4, 9°.83N±0°.06×126°.72E±0°.06, h34km±3km, n21, σ2°.914/32, mb3.7/7, 6C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.21**	**268**	⇓*e*P		**Pn**	**04 45 47.4**	**-1.3**
SCPH				*e*S		**Sn**	**04 46 04.2**	**+0.2**
BIPH	**Bislig**	**1.67**	**192**	⇑*e*P		**Pn**	**04 45 54.7**	**-0.4**
BIPH				*e*S		**Sn**	**04 46 12.7**	**-2.7**
MSLP	**Maasin**	**1.86**	**280**	⇓*e*P		**Pn**	**04 45 57.2**	**-0.4**
MSLP				*e*S		**Sb**	**04 46 23.5**	**-0.9**
TABP	**Talibon, Bohol**	**2.37**	**277**	⇑*e*P		**Pn**	**04 46 04.6**	**0.0**
TABP				*e*S		**Sn**	**04 46 33.6**	**+1.2**
GHBP	**Garcia Hernand**	**2.37**	**265**	⇑*e*P		**Pn**	**04 46 05.2**	**+0.5**
GHBP				*e*S		**Sn**	**04 46 29.4**	**-3.2**
CGP	**Cagayan de Oro**	**2.42**	**236**	⇓*e*P		**Pn**	**04 46 06.8**	**+1.4**
CGP				*e*S		**Sb**	**04 46 39.5**	**-1.1**
LLP	**Lapu-Lapu**	**2.75**	**280**	*e*P		**Pn**	**04 46 12.0**	**+2.0**
LLP				*e*S		**Sn**	**04 46 46.2**	**+4.2**
TBP	**Tagbilaran**	**2.82**	**267**	*e*P		**Pn**	**04 46 12.5**	**+1.6**
TBP				*i* S		**Sn**	**04 46 46.5**	**+2.8**
DAV	**Davao City (W)**	**2.96**	**202**	Pn		**Pb**	**04 46 24.6**	**+4.2**
	46nm,0.3s,baz=105,slow=15,SNR=3.7							
DAV				Sn		Sb	04 47 05.4	+9.2
	72nm,0.3s,baz=348,slow=18,SNR=4.5							
	133nm,0.4s							
LSIP	**Lazi, Siquijor**	**3.12**	**257**	⇑*e*P		**Pn**	**04 46 15.9**	**+0.9**
LSIP				*e*S		**Sn**	**04 46 50.3**	**-0.9**
KCP	**Kidapawan**	**3.23**	**210**	⇑*e*P		**Pn**	**04 46 18.5**	**+1.9**
KCP				*i* S		**Sn**	**04 46 58.8**	**+4.8**
SNPH	**Sibulan**	**3.47**	**262**	*e*P		**Pn**	**04 46 22.5**	**+2.6**
CTBH	**Cotabato--PC H**	**3.56**	**224**	⇓*e*P		**Pb**	**04 46 27.3**	**-3.3**
RCP	**Roxas**	**4.27**	**294**	⇑*e*P		**Pn**	**04 46 32.6**	**+1.8**
WRA	**Warramunga Arr**	**30.52**	**166**	P		**P**	**04 51 37.1**	**-1.4**
	0.3nm,0.7s,baz=350,slow=9.4,SNR=2.2							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**34.02**	**168**	P		**P**	**04 52 08.7**	**-0.5**
	0.2nm,0.7s,baz=352,slow=6.9,SNR=5.3							
ASAR				PcP		**PcP**	**04 54 47.1**	**+0.4**
	0.2nm,0.7s,baz=11,slow=1.9,SNR=2.1							
	0.2nm,0.7s							
STKA	**Stephens Creek**	**43.84**	**162**	P		**P**	**04 53 30.7**	**-0.6**
	0.7nm,0.5s,baz=343,slow=14,SNR=1.4							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**52.64**	**323**	P		**P**	**04 54 38.7**	**-0.4**
	0.6nm,0.8s,baz=137,slow=6.2,SNR=2.0							
	0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**56.69**	**325**	P		**P**	**04 55 08.7**	**+0.5**
	0.3nm,0.3s,baz=124,slow=6.8,SNR=2.4							
	0.3nm,0.3s							
ARCES	**ARCESS Array B**	**84.76**	**340**	P		**P**	**04 57 59.0**	**+0.3**
	3.4nm,1.0s,baz=80,slow=8.7,SNR=4.3							
	3.4nm,1.0s							
FINES	**FINESS Array B**	**86.49**	**332**	P		**P**	**04 58 06.6**	**-0.7**
	1.2nm,0.8s,baz=71,slow=11,SNR=5.7							
	1.2nm,0.8s							

*ANF **06** 04:48:33.0±0.6, 36°.83N×105°.00W, h3km±5km, ML3.5/15, Error ellipse: s-maj=3.1km s-min=2.7km az=118.0*
*NEIC **06** 04:48:35.8±1.8, 36°.92N±0°.04×104°.89W±0°.07, h1km±2km, mb_Lg3.0/68, ML3.2/54, Error ellipse: s-maj=8.3km s-min=5.9km az=96.0*
*NEIC **06** 04:49:14.9±9.6, 36°.25N±0°.01×97°.23W±0°.02, h5km±7km, Error ellipse: s-maj=0.0km s-min=0.0km az=217.0*
ISC 06 04:48:35.3±0.8, 36°.89N±0°.03×104°.93W±0°.03, h10km, n79, σ1§92/62, New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.48**	**59**			**Pg**	**04 48 43.9**	**-0.8**
T25A				Sg		**Sg**	**04 48 50.0**	**-1.1**
T25A	**Trinidad**	**0.48**	**59**	P		**Pg**	**04 48 43.8**	**-0.8**
	baz=232							
T25A				S		**Sb**	**04 48 51.8**	**-1.4**
	baz=232							
SDCO	**Great Sand Dun**	**0.97**	**332**			**Pg**	**04 48 52.2**	**-1.8**
SDCO				Sg		**Sg**	**04 49 06.1**	**-0.5**
SDCO	**Great Sand Dun**	**0.97**	**332**	S		**Sg**	**04 49 06.7**	**+0.1**
	baz=146							
S22A	**4UR Ranch, Cre**	**1.74**	**300**	Pn		**Pn**	**04 49 05.0**	**-0.9**
S22A	**4UR Ranch, Cre**	**1.74**	**300**	Pb		**Pn**	**04 49 05.5**	**-0.4**
	baz=117							
Q24A	**Divide**	**2.08**	**355**			**Pb**	**04 49 13.0**	**-0.3**

Q24A IAML 04 49 45.6
comp=E,138nm,0.3s
Q24A Divide 2.08 355 Pb **Pb 04 49 13.0 -0.3**
baz=172
Q24A Sb **Sg 04 49 41.3 -0.7**
baz=172
ANMO Albuquerque 2.31 213 P **Pn 04 49 10.6 -2.9**
baz=34
ANMO S **Sn 04 49 39.5 -2.6**
baz=34
KSCO Kaye Shedlock' 2.79 40 Pn 04 49 21.6 +1.4
KSCO Kaye Shedlock' 2.79 40 Sb **Sg 04 50 02.3 -2.6**
baz=220
SMCO Snowmass 2.80 325 Pn 04 49 22.3 +1.8
SMCO IAML 04 50 08.5
comp=E,72nm,0.6s
MVCO Mesa Verde 2.88 277 Pn 04 49 23.5 +2.1
MVCO Mesa Verde 2.88 277 Pb **Pn 04 49 24.8 +3.4**
baz=95
MVCO Sb **Sb 04 50 01.3 -0.9**
baz=95
ISCO Idaho Springs 2.95 350 Sb **Sg 04 50 08.0 -2.2**
baz=167
BNM Barren Site 3.07 207 Pn **Pn 04 49 24.1 0.0**
PV15 Paradox Valley 3.17 298 Pn 04 49 27.0 +1.5
PV15 IAML 04 50 17.1
comp=E,45nm,0.7s
PV15 IAML 04 50 17.2
comp=N,38nm,0.7s
LENM Lemitar 3.19 212 Pn **Pn 04 49 28.1 +2.3**
Y22D IRIS PASSCAL I 3.25 211 Pn **Pn 04 49 27.6 +1.1**
Y22D IRIS PASSCAL I 3.25 211 Pb **Pn 04 49 29.6 +3.1**
baz=31
Y22D Sb **Sn 04 50 09.7 +4.4**
baz=31
CRNM Carthage 3.29 207 Pn **Pn 04 49 28.9 +1.9**
PV02 Paradox Valley 3.30 295 IAmb_Lg 04 50 26.7
comp=Z,25nm,1.1s
AMTX Amarillo 3.31 126 Pn 04 49 29.1 +1.8
AMTX IAmb_Lg 04 50 29.1
comp=Z,58nm,0.7s
AMTX Amarillo 3.31 126 S **Sb 04 50 13.0 -1.5**
baz=310
PV07 Paradox Valley 3.33 299 Pn 04 49 30.2 +2.6
PV13 Radium Mtn., P 3.34 293 Pn 04 49 30.9 +3.1
PV13 IAML 04 50 37.6
comp=E,35nm,1.0s
MSTX Muleshoe 3.41 148 Pn 04 49 30.6 +2.0
MSTX IAmb_Lg 04 50 25.1
comp=Z,33nm,0.9s
MSTX Muleshoe 3.41 148 Pb **Pb 04 49 34.5 -1.3**
baz=331
MSTX S **Sn 04 50 13.6 +4.5**
baz=331
SBM South Baldy 3.44 213 Pn 04 49 32.3 +2.9
BRIGG Briggsdale 3.71 7 Pn 04 49 34.4 +1.5
N23A Red Feather La 4.07 349 Pn **Pn 04 49 38.8 +0.9**
N23A IAML 04 50 54.9
comp=N,30nm,0.8s
N23A IAML 04 50 55.1
comp=E,24nm,0.8s
N23A Red Feather La 4.07 349 P **Pb 04 49 49.6 +2.3**
baz=167
O20A White River Ci 4.15 322 Pn 04 49 40.9 +2.0
O20A IAML 04 51 02.5
comp=E,19nm,5.0s
O20A IAML 04 51 12.8
comp=N,18nm,3.9s
W18A Petrified Fore 4.28 247 Pn **Pn 04 49 43.0 +2.3**
W18A Petrified Fore 4.28 247 Pb **Pb 04 49 48.7 -2.2**
baz=64
PHWY Pilot Hill 4.42 355 Pn **Pn 04 49 44.5 +1.8**
ELIS Ellis County 4.51 99 IAmb_Lg 04 51 01.2
comp=Z,55nm,0.7s
CBKS Cedar Bluff 4.53 63 Pn 04 49 44.6 +0.6
CBKS Cedar Bluff 4.53 63 P **Pn 04 49 45.9 +1.9**
baz=246
HTMS Hat Mesa 4.54 166 Pn 04 49 44.8 +0.6
CLN7 Carlsbad 7 4.56 168 Pn **Pn 04 49 45.7 +1.2**
OGNE Ogallala 4.63 28 Pn **Pn 04 49 47.4 +1.9**
CLNB Carlsbad 4.70 169 Pn **Pn 04 49 48.9 +2.5**
X18A Snowflake 4.72 242 Pn **Pn 04 49 48.4 +1.7**
X18A IAML 04 50 55.2
comp=E,25nm,1.0s
X18A IAML 04 51 04.1
comp=N,21nm,0.7s
NOKA Waynoka 4.82 91 IAmb_Lg 04 51 18.0
comp=Z,36nm,0.8s
SRU San Rafael Swe 4.95 298 Pn 04 49 52.0 +2.2
SRU IAML 04 51 17.1
comp=E,17nm,0.7s
SRU IAML 04 51 25.0
comp=N,16nm,0.8s
121A Cookes Peak, D 4.95 209 Pn **Pn 04 49 51.3 +1.4**
121A IAML 04 51 03.9
comp=N,21nm,1.4s
121A IAML 04 51 06.0
comp=E,18nm,0.6s
121A Cookes Peak, D 4.95 209 Sb **Sb 04 51 02.2 +0.5**
baz=29
OK038 West end E0370 4.99 93 IAmb_Lg 04 51 22.0
comp=Z,39nm,0.9s
OK035 E0210 Rd and N 4.99 90 IAmb_Lg 04 51 25.4
comp=Z,36nm,1.0s
P18A Preston Nutter 5.00 305 Pn 04 49 51.3 +0.6
P18A IAML 04 51 19.6
comp=N,12nm,0.9s
P18A IAML 04 51 25.4
comp=E,16nm,3.4s
R32A Long Quarter, 5.16 71 IAmb_Lg 04 51 18.3
comp=Z,24nm,0.9s
P17A Butcher Ranch, 5.25 301 Pn **Pn 04 49 54.9 +0.8**
P17A IAML 04 51 22.3
comp=E,15nm,0.8s
P17A IAML 04 51 25.1
comp=N,13nm,0.8s
Q16A Castle Valley 5.34 294 Pn **Pn 04 49 56.3 +1.1**
Q16A IAML 04 51 28.2
comp=N,18nm,0.7s
Q16A IAML 04 51 30.7
comp=E,14nm,0.9s
WUAZ Wupatki 5.39 257 Pn **Pn 04 49 57.7 +1.8**
WMOK Wichita Mounta 5.44 111 IAmb_Lg 04 51 29.4
comp=Z,20nm,0.9s
TMUT Trail Mountain 5.51 298 Pn **Pn 04 49 57.2 -0.4**
KAN12 Harper NE Stat 5.55 84 IAmb_Lg 04 51 40.6
comp=Z,22nm,0.7s
KAN14 Manchester OK 5.58 87 IAmb_Lg 04 51 30.3
comp=Z,26nm,1.2s
KAN17 Caldwell West 5.74 86 IAmb_Lg 04 51 41.4
comp=Z,15nm,0.9s
KAN01 Argonia South 5.74 85 IAmb_Lg 04 51 44.0
comp=Z,34nm,1.3s
KS21 Milan North St 5.82 84 IAmb_Lg 04 51 49.6
comp=Z,17nm,0.7s
K22A Casper 5.88 348 Pn **Pn 04 50 01.8 -0.9**
KS20 Mayfield South 5.90 85 IAmb_Lg 04 51 52.3
comp=Z,16nm,0.8s
PKCU Pink Cliffs 5.92 278 Pn **Pn 04 50 04.6 +1.2**
U15A North Rim 5.94 268 Pn 04 50 04.5 +0.9
KAN13 South Haven SW 5.96 87 IAmb_Lg 04 51 51.1
comp=Z,29nm,1.0s
MSU Marysvale 5.97 288 Pn **Pn 04 50 05.5 +1.5**
BCOK Bluff Creek, N 6.04 100 IAmb_Lg 04 51 59.6
comp=Z,16nm,1.0s
ABTX Abilene, Hawle 6.08 133 IAmb_Lg 04 51 48.1
comp=Z,17nm,0.7s
OK029 Liberty Lake 6.13 98 IAmb_Lg 04 51 50.7
comp=Z,16nm,0.7s
BLOK Blackwell 6.19 89 IAmb_Lg 04 51 49.2
comp=Z,47nm,1.1s
X34A Smith Ranch, M 6.20 110 IAmb_Lg 04 51 50.4
comp=Z,22nm,1.0s
FNO Franklin 6.31 103 IAmb_Lg 04 52 03.0
comp=Z,22nm,0.8s
QUOK Quay 6.66 94 IAmb_Lg 04 52 11.6
comp=Z,12nm,0.9s
LOOK Love County 6.95 112 IAmb_Lg 04 52 25.6
comp=Z,21nm,0.8s
N33A J Bar K, Exete 6.99 54 IAmb_Lg 04 52 32.7
comp=Z,26nm,0.8s
TUL1 Leonard 7.43 95 IAmb_Lg 04 52 41.7
comp=Z,22nm,1.0s
JCT Junction City 7.69 145 IAmb_Lg 04 52 47.0
comp=Z,14nm,0.9s

MAN 06 05:06:23.7, 10°.18N × 127°.26E, h33km, mb4.2, ML3.0, MS2.6, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**2.18**	**204**	↑ *e*P	Pn	05 06 58.2	+0.6
BIPH				*i* S	Sn	05 07 24.1	+0.7
TABP	**Talibon, Bohol**	**2.89**	**268**	↑ *e*P	Pn	05 07 07.5	+0.1
TABP				*i* S	Sn	05 07 42.4	+1.4
CGP	**Cagayan de Oro**	**3.06**	**236**	↓ *e*P	Pn	05 07 11.0	+1.2
CGP				*e*S	Sn	05 07 39.9	-5.4

*PRU **06** 05:18:03.7±0.0, 43°.21N × 14°.54E, h10km*
ROM 06 05:17:56.7±0.0, 43°.008N±0°.002 × 13°.101E±0°.004, h8km, ML2.4/15, 17C-7D, Error ellipse: s-maj=0.2km s-min=0.2km az=269.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**341**	P	Pg	05 17 58.0	-0.4
FDMO				AML	AML		
	comp=N,78300μm,0.2s						
FDMO				AML	AML		
	comp=E,43950μm,1.1s						
FEMA	**Monte Fema**	**0.06**	**219**	↑ P	Pg	05 17 58.8	+0.1
FEMA				S	Sg	05 18 00.4	+0.2
FEMA				AML	AML		
	comp=N,29850μm,0.4s						
FEMA				AML	AML		
	comp=N,29900μm,0.4s						
FEMA				AML	AML		
	comp=E,34400μm,1.1s						
T1256	**Bolognola (MC)**	**0.09**	**91**	P	Pg	05 17 59.2	+0.1
T1256				S	Sg	05 18 01.2	+0.3
T1256				AML	AML		
	comp=E,16350μm,1.6s						
T1256				AML	AML		
	comp=N,18550μm,1.0s						
T1256				AML	AML		
	comp=E,16500μm,1.6s						
T1256				AML	AML		
	comp=N,17400μm,1.0s						
CSP1	**Cessapalombo**	**0.11**	**42**	P	Pg	05 17 59.7	+0.2
CSP1				S	Sg	05 18 01.9	+0.5
CSP1				AML	AML		
	comp=E,12450μm,1.4s						
CSP1				AML	AML		
	comp=E,12500μm,1.4s						
CSP1				AML	AML		
	comp=N,18350μm,0.4s						
T1216	**Preci, Frazion**	**0.13**	**207**	↑ P	Pg	05 18 00.1	+0.5
T1216				S	Sg	05 18 02.7	+1.0
T1216				AML	AML		
	comp=N,9960μm,0.5s						
T1216				AML	AML		
	comp=E,12500μm,0.9s						
T1216				AML	AML		
	comp=N,9915μm,0.5s						
T1216				AML	AML		
	comp=N,9935μm,0.5s						
T1216				AML	AML		
	comp=N,9955μm,0.5s						
CESI	**CESI - Serrava**	**0.14**	**269**	↑ P	Pg	05 18 00.5	+0.6
CESI				S	Sg	05 18 03.4	+1.3
CESI				AML	AML		
	comp=E,8755μm,0.5s						
CESI				AML	AML		
	comp=N,10425μm,0.6s						
T1245	**Castelsantange**	**0.16**	**157**	P	Pg	05 18 00.6	+0.3
T1245				S	Sg	05 18 03.8	+1.1
T1245				AML	AML		
	comp=E,12150μm,0.7s						
T1245				AML	AML		
	comp=E,10915μm,0.3s						
T1245				AML	AML		
	comp=N,18150μm,0.7s						
T1245				AML	AML		
	comp=E,12150μm,0.7s						
T1245				AML	AML		
	comp=N,18150μm,0.7s						
NRCA	**Norcia**	**0.17**	**177**	P	Pg	05 18 01.0	+0.6
NRCA				S	Sg	05 18 04.2	+1.3
NRCA				AML	AML		
	comp=E,11400μm,0.5s						
NRCA				AML	AML		
	comp=E,11900μm,0.5s						
NRCA				AML	AML		
	comp=N,9860μm,0.9s						
NRCA				AML	AML		
	comp=E,11450μm,0.5s						
NRCA				AML	AML		
	comp=N,8885μm,0.9s						
SEF1	**Sefro**	**0.18**	**321**	P	Pg	05 18 01.0	+0.5
SEF1				S	Sg	05 18 04.4	+1.4
SEF1				AML	AML		
	comp=E,7085μm,1.3s						
SEF1				AML	AML		
	comp=N,6385μm,0.3s						
SEF1				AML	AML		
	comp=N,6390μm,0.3s						
AM05	**Amandola Campo**	**0.19**	**99**	P	Pg	05 18 01.1	+0.5
AM05				S	Sg	05 18 04.6	+1.4
PIO1	**Pioraco**	**0.19**	**333**	P	Pg	05 18 01.2	+0.6
PIO1				S	Sg	05 18 05.0	+1.6
MMO1	**Montemonaco**	**0.20**	**123**	P	Pg	05 18 01.1	+0.3
MMO1				S	Sg	05 18 05.1	+1.5
FIU1	**Fiuminata**	**0.22**	**326**	P	Pg	05 18 01.7	+0.5
FIU1				S	Sg	05 18 05.6	+1.4
SSM1	**San Severino M**	**0.23**	**14**	P	Pg	05 18 01.9	+0.6
SSM1				S	Sg	05 18 06.1	+1.6
GAG1	**Gagliole**	**0.23**	**354**	P	Pg	05 18 02.5	+1.1
GAG1				S	Sg	05 18 06.4	+1.8
T1215	**Vallo di Nera,**	**0.27**	**220**	P	Pg	05 18 02.7	+0.6
T1215				S	Sb	05 18 07.1	-1.4
T1215				AML	AML		
	comp=E,1084μm,1.0s						
T1215				AML	AML		
	comp=N,1058μm,1.5s						
T1215				AML	AML		
	comp=E,1059μm,1.5s						
T1215				AML	AML		
	comp=N,1046μm,1.5s						
T1241	**Roccafluvione,**	**0.29**	**122**	P	Pg	05 18 02.9	+0.5
T1241				S	Sb	05 18 08.7	-0.4
T1241				AML	AML		
	comp=E,2700μm,1.6s						
T1241				AML	AML		
	comp=N,1595μm,0.5s						
T1241				AML	AML		
	comp=N,1625μm,0.5s						
T1241				AML	AML		
	comp=E,2630μm,1.6s						
T1202	**Accumoli, Fraz**	**0.32**	**163**	P	Pg	05 18 03.5	+0.5
EL6	**Elcito**	**0.32**	**0**	↑ P	Pg	05 18 03.5	+0.4
EL6				AML	AML		
	comp=N,3670μm,0.2s						
EL6				AML	AML		
	comp=E,3420μm,0.3s						
T1217	**Poggiodomo (PG**	**0.32**	**203**	P	Pg	05 18 03.6	+0.5
T1217				S	Sb	05 18 09.2	-0.8
T1217				AML	AML		
	comp=E,1790μm,0.8s						
T1217				AML	AML		
	comp=N,2055μm,0.5s						
T1217				AML	AML		
	comp=E,1730μm,0.8s						
T1217				AML	AML		
	comp=N,2076μm,0.4s						
ASSB	**Assisi San Ben**	**0.33**	**276**	↑ P	Pg	05 18 03.7	+0.5
ASSB				S	Sb	05 18 09.3	-0.9
ASSB				AML	AML		
	comp=E,1780μm,0.3s						
ASSB				AML	AML		
	comp=N,2390μm,0.4s						
T1201	**Domo (RI)**	**0.37**	**162**	P	Pg	05 18 04.5	+0.6
T1201				S	Sb	05 18 11.3	-0.1
T1204	**Amatrice, Fraz**	**0.37**	**154**	P	Pg	05 18 04.4	+0.4
T1204				S	Sb	05 18 10.9	-0.5
CING	**Cingoli**	**0.37**	**11**	↓ P	Pg	05 18 04.6	+0.5
CING				AML	AML		
	comp=N,1048μm,0.4s						
CING				AML	AML		
	comp=E,2070μm,0.4s						
FOSV	**Fossato di Vic**	**0.38**	**319**	↓ P	Pg	05 18 04.7	+0.5
FOSV				AML	AML		
	comp=E,1231μm,0.4s						
FOSV				AML	AML		
	comp=N,1645μm,1.2s						
FOSV				AML	AML		
	comp=E,1232μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.38**	**298**	↓ P	Pg	05 18 02.9	-1.3
ATCC				S	Sb	05 18 12.0	+0.2
ATCC				AML	AML		
	comp=E,1485μm,0.7s						
ATCC				AML	AML		
	comp=N,2135μm,0.4s						
LNSS	**Leonessa**	**0.41**	**186**	P	Pb	05 18 05.7	-0.5
LNSS				S	Sb	05 18 11.8	-0.7
LNSS				AML	AML		
	comp=E,1016μm,0.4s						
LNSS				AML	AML		
	comp=N,1785μm,0.9s						
SMA1	**SAN MARTINO**	**0.41**	**155**	P	Pg	05 18 05.0	+0.2
SMA1				S	Sb	05 18 12.1	-0.6
OFFI	**Offida**	**0.43**	**99**	↑ P	Pb	05 18 06.8	+0.1
MURB	**Monte Urbino**	**0.49**	**301**	P	Pg	05 18 06.9	+0.6
MURB				S	Sb	05 18 16.0	+1.0
MURB				AML	AML		
	comp=E,1330μm,0.3s						
MURB				AML	AML		
	comp=E,1335μm,0.3s						
MURB				AML	AML		
	comp=N,1660μm,1.5s						
MURB				AML	AML		
	comp=E,1545μm,0.9s						
MURB				AML	AML		
	comp=N,1390μm,1.2s						
ARRO	**Arrone**	**0.49**	**210**	↑ P	Pg	05 18 05.7	-0.6
ARRO				AML	AML		
	comp=N,628μm,0.3s						
ARRO				AML	AML		
	comp=E,604μm,0.2s						
ARVD	**Arcevia**	**0.50**	**347**	↑ P	Pg	05 18 07.0	+0.5
ARVD				S	Sb	05 18 16.0	+0.7
ARVD				AML	AML		
	comp=N,494μm,0.5s						
ARVD				AML	AML		
	comp=E,1032μm,0.4s						
RM33	**Pellescritta (**	**0.51**	**170**	↓ P	Pb	05 18 07.4	-0.4
RM33				S	Sb	05 18 17.0	+1.6
RM33				AML	AML		
	comp=E,706μm,1.2s						
RM33				AML	AML		
	comp=N,802μm,1.0s						
RM33				AML	AML		
	comp=N,838μm,1.0s						
RM33				AML	AML		
	comp=N,803μm,1.0s						
RM33				AML	AML		
	comp=E,620μm,0.5s						
T1211	**Morro Reatino**	**0.51**	**201**	↑ P	Pg	05 18 06.5	0.0
T1211				AML	AML		
	comp=N,1355μm,0.8s						
T1211				AML	AML		
	comp=E,552μm,1.5s						
T1211				AML	AML		
	comp=E,625μm,1.3s						
T1211				AML	AML		
	comp=N,1348μm,0.3s						
CAMP	**Campotosto**	**0.52**	**154**	↑ P	Pg	05 18 07.0	+0.1
CAMP				AML	AML		
	comp=N,625μm,0.3s						
CAMP				AML	AML		
	comp=E,521μm,0.6s						
CESX	**Cesi**	**0.55**	**224**	↑ P	Pg	05 18 07.6	+0.2
CESX				S	Sb	05 18 17.0	+0.4
CESX				AML	AML		
	comp=E,934μm,1.4s						
CESX				AML	AML		
	comp=N,1205μm,0.4s						
T1247	**Pizzolo (AQ)**	**0.58**	**166**	↑ P	Pb	05 18 08.9	-0.3
T1247				AML	AML		
	comp=E,870μm,0.5s						
T1247				AML	AML		
	comp=N,915μm,0.4s						
ATVO	**AVT- Monte Val**	**0.63**	**307**	↑ P	Pg	05 18 09.2	+0.3
ATVO				AML	AML		
	comp=E,351μm,1.6s						
ATVO				AML	AML		
	comp=N,310μm,1.3s						
GIGS	**Gran Sasso**	**0.66**	**148**	↓ P	Pg	05 18 09.3	-0.1
GIGS				AML	AML		
	comp=E,192μm,0.8s						
GIGS				AML	AML		
	comp=N,154μm,0.5s						
GIGS				AML	AML		
	comp=E,192μm,0.8s						
GIGS				AML	AML		
	comp=N,153μm,0.5s						
ATPI	**Pietralunga -**	**0.68**	**311**	↑ P	Pg	05 18 10.1	+0.3
ATPI				AML	AML		
	comp=N,324μm,1.3s						
ATPI				AML	AML		
	comp=E,335μm,0.4s						
ATMI	**Monte Miggiano**	**0.69**	**298**	↑ P	Pb	05 18 11.1	+0.1
ATMI				AML	AML		
	comp=E,635μm,0.7s						
ATMI				AML	AML		
	comp=N,664μm,0.5s						
ATMI				AML	AML		
	comp=E,634μm,0.7s						
NARO	**Abbazia di Nar**	**0.71**	**328**	↓ P	Pg	05 18 10.5	+0.1
NARO				S	Sn	05 18 23.0	-1.2
NARO				AML	AML		
	comp=E,258μm,0.8s						
NARO				AML	AML		
	comp=N,186μm,1.3s						
MGAB	**Montegabbione**	**0.73**	**263**	P	Pn	05 18 12.6	-0.7
MGAB				AML	AML		
	comp=E,388μm,0.5s						
MGAB				AML	AML		
	comp=E,384μm,1.1s						
MGAB				AML	AML		
	comp=N,503μm,0.8s						
MGAB				AML	AML		
	comp=N,483μm,0.8s						
FIAM	**Fiamignano**	**0.74**	**179**	↑ P	Pg	05 18 10.7	-0.3
FIAM				AML	AML		
	comp=N,314μm,0.4s						
FIAM				AML	AML		
	comp=E,366μm,0.6s						
BADI	**Badiali**	**0.80**	**309**	P	Pb	05 18 12.6	-0.3
FAGN	**Fagnano**	**0.82**	**154**	P	Pg	05 18 12.8	+0.3
FAGN				AML	AML		
	comp=E,754μm,0.4s						
FAGN				AML	AML		
	comp=N,756μm,0.4s						
SRES	**S.Oreste - Sor**	**0.89**	**210**	↓ P	Pg	05 18 13.7	0.0
SRES				AML	AML		
	comp=N,229μm,0.5s						
SRES				AML	AML		
	comp=E,198μm,1.0s						
CAFI	**Castiglion Fio**	**0.89**	**292**	↑ P	Pn	05 18 15.4	-0.1
CAFI				AML	AML		
	comp=E,160μm,1.0s						
CAFI				AML	AML		
	comp=N,216μm,0.5s						
CAFI				AML	AML		
	comp=E,168μm,1.0s						
CAFI				AML	AML		
	comp=N,222μm,0.5s						
ARCI	**Arcidosso**	**1.20**	**263**	S	Sn	05 18 38.0	+1.6
ABTA	**Abfaltersbach**	**3.76**	**354**	*e*Pn	Pn	05 18 57.3	+2.2
	comp=N,3.6nm,0.4s						
FETA	**Feichten**	**4.35**	**338**	*e*Pn	Pn	05 19 05.7	+2.5
	comp=N,1.5nm,0.5s						
SQTA	**Sankt Quirin**	**4.42**	**343**	*e*Pn	Pn	05 19 07.1	+3.0
	comp=N,1.8nm,0.3s						
MOTA	**Moosalm**	**4.56**	**343**	*e*Pn	Pn	05 19 08.7	+2.6
	comp=N,0.5nm,0.3s						
ARSA	**Arzberg**	**4.58**	**21**	*e*Pn	Pn	05 19 06.8	+0.6
	comp=N,0.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.70**	**4**	*i* Pn	Pn	05 19 10.1	+2.2
	comp=N,1.5nm,0.3s						
MOA	**Molln**	**4.91**	**9**	*e*Pn	Pn	05 19 13.5	+2.7
	comp=N,0.4nm,0.2s						
CONA	**Conrad Observa**	**5.29**	**21**	*i* Pn	Pn	05 19 17.3	+1.3
	comp=N,0.3nm,0.2s						
KHC	**Kasperske Hory**	**6.13**	**3**	*e*SN	Sn	05 20 37.4	-0.5

*IDC **06** 05:24:08.0±1.8, 6°.46S×129°.85E, h137km±16km, mb4.3/23, mbtmp4.8/27, MS3.6/6, Error ellipse: s-maj=12.3km s-min=8.4km az=68.0*
*NEIC **06** 05:24:07.7±1.8, 6°.37S±0°.06×129°.86E±0°.07, h133km±7km, mb4.7/45, Error ellipse: s-maj=10.8km s-min=8.5km az=83.0*
*DJA **06** 05:24:08.9±0.2, 7°S±2°×13°0E±°, h141km±5km, M5.1/22, mB5.5/13, mb5.1/22, MLv5.3/16, Mw(mB)5.0/13*
ISC 06 05:24:08.3±0.3, **6°.47S**±0°.04×**129°.89E**±0°.04, **h146**km, **n237**, σ**2s.17**/251, **mb4.7**/65, **6C-3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.93**	**1**	P	**Pn**	**05 24 44.3**	**+1.8**
BNDI	**Bandanaira**	**1.93**	**1**	P	**Pn**	**05 24 44.2**	**+1.8**
SAUI	**Saumlaki**	**2.06**	**137**	Pn	**Pn**	**05 24 44.4**	**+0.5**
SAUI				Sn	**Sn**	**05 25 12.0**	**+0.8**
SAUI	**Saumlaki**	**2.06**	**137**	P	**Pn**	**05 24 44.4**	**+0.5**
SAUI	**Saumlaki**	**2.06**	**137**	P	**Pn**	**05 24 44.4**	**+0.5**
AAI	**Ambon**	**3.23**	**329**	P	**Pn**	**05 25 00.8**	**+2.2**
MSAI	**Masohi**	**3.24**	**343**	P	**Pn**	**05 25 02.0**	**+3.3**
KRAI	**Karang Ratu**	**3.46**	**335**	P	**Pn**	**05 25 05.0**	**+3.5**
FAKI	**Fak Fak**	**4.24**	**34**	Pn	**Pn**	**05 25 09.9**	**-1.7**
FAKI				Sn	**Sn**	**05 25 57.1**	**-3.8**
FAKI	**Fak Fak**	**4.24**	**34**	P	**Pn**	**05 25 10.1**	**-1.6**
NLAI	**Namlea**	**4.24**	**319**	P	**Pn**	**05 25 14.7**	**+3.0**
SIJI	**Sorong**	**5.73**	**14**	P	**Pn**	**05 25 30.6**	**-0.8**
	326nm,0.2s,baz=212,slow=22,SNR=74						
SIJI				S	**Sn**	**05 26 31.4**	**-5.0**
	174nm,0.2s,baz=20,slow=23,SNR=11						
SIJI	**Sorong**	**5.73**	**14**	P	**Pn**	**05 25 30.6**	**-0.8**
SWI	**Sorong**	**5.73**	**14**	P	**Pn**	**05 25 30.2**	**-1.3**
	2.7nm12µm266nm,0.5s						
SANI	**Sanana**	**5.86**	**318**	P	**Pn**	**05 25 35.1**	**+1.9**
	0.7nm2µm174nm,0.7s						
SANI	**Sanana**	**5.86**	**318**	P	**Pn**	**05 25 35.9**	**+2.7**
	176nm,0.7s						
LBMI	**Labuha**	**6.26**	**338**	P	**Pn**	**05 25 40.7**	**+2.2**
	5.7nm19µm2µm,0.9s						
SOEI	**Soe**	**6.45**	**239**	Pn	**Pn**	**05 25 41.5**	**+0.3**
SOEI	**Soe**	**6.45**	**239**	P	**Pn**	**05 25 42.3**	**+1.1**
	2.6nm3µm296nm,0.8s						
SOEI	**Soe**	**6.45**	**239**	P	**Pn**	**05 25 42.2**	**+1.1**
	299nm,0.8s						
MTN	**Manton Dam**	**6.46**	**169**	P	**Pn**	**05 25 39.3**	**-1.8**
	baz=6.4,SNR=1000						
MTN	**Manton Dam**	**6.46**	**169**	Pn	**Pn**	**05 25 39.6**	**-1.6**
MTN	**Manton Dam**	**6.46**	**169**	P	**Pn**	**05 25 39.5**	**-1.6**
	1µm,0.5s						
RKPI	**Ransiki, Papua**	**6.52**	**41**	P	**Pn**	**05 25 41.4**	**-0.6**
	5.9nm20µm718nm,0.9s						
KDU	**Kakadu**	**6.69**	**158**	P	**Pn**	**05 25 42.2**	**-1.9**
	baz=6.6,SNR=1000						
KDU	**Kakadu**	**6.69**	**158**	P	**Pn**	**05 25 42.6**	**-1.6**
MWPI	**Manokwari, Pap**	**6.89**	**37**	P	**Pn**	**05 25 47.3**	**+0.4**
	3.0nm4µm448nm,0.7s						
BATI	**Baumata**	**7.19**	**238**	P	**Pn**	**05 25 49.5**	**-1.5**
	173nm,0.3s,baz=73,slow=2.2,SNR=27						
BATI				S	**Sn**	**05 27 07.0**	**-4.4**
	331nm,0.4s,baz=196,slow=1.0,SNR=12						
BATI	**Baumata**	**7.19**	**238**	P	**Pn**	**05 25 51.9**	**+0.9**
	1.8nm5µm275nm,0.9s						
TNTI	**Ternate**	**7.62**	**341**	Pn	**Pn**	**05 25 54.1**	**-2.6**
TNTI	**Ternate**	**7.62**	**341**	P	**Pn**	**05 25 58.1**	**+1.4**
	0.3nm1µm127nm,1.1s						
MMRI	**Maumere**	**7.88**	**254**		**Pn**	**05 26 00.5**	**+0.2**
KNRA	**Kununurra**	**9.22**	**187**	P	**Pn**	**05 26 14.9**	**-3.2**
	baz=9.2,SNR=477						
KNRA	**Kununurra**	**9.22**	**187**		**Pn**	**05 26 15.7**	**-2.4**
KNRA	**Kununurra**	**9.22**	**187**	P	**Pn**	**05 26 15.7**	**-2.4**
	718nm,0.6s						
GTOI	**Gorontalo**	**9.84**	**316**	P	**Pn**	**05 26 29.8**	**+3.4**
	498nm47nm,0.9s						
APSI	**Ampana**	**9.90**	**304**	P	**Pn**	**05 26 31.2**	**+4.1**
	988nm114nm,1.1s						
MRSI	**Marisa**	**10.51**	**311**	P	**Pn**	**05 26 38.8**	**+3.6**
	2µm218nm,1.1s						
TOLI2	**Tolitoli**	**11.80**	**309**	Pn	**Pn**	**05 26 50.1**	**-2.2**
TOLI2	**Tolitoli**	**11.80**	**309**	P	**Pn**	**05 26 55.8**	**+3.6**
	38nm,1.2s						
MPSI	**Mapaga**	**12.04**	**304**	P	**Pn**	**05 26 58.4**	**+3.0**
	25nm,1.2s						
PLAI	**Plampang**	**12.23**	**258**	P	**Pn**	**05 26 57.9**	**+0.1**
	32nm,0.6s						
PLAI	**Plampang**	**12.23**	**258**	P	**Pn**	**05 26 57.2**	**-0.6**
	31nm,0.6s						
WB0	**Warramunga Arr**	**13.93**	**162**		**Pn**	**05 27 16.2**	**-3.4**
WRA	**Warramunga Arr**	**14.08**	**163**	P	**Pn**	**05 27 17.4**	**-4.1**
	37nm,0.3s,baz=335,slow=13,SNR=167						
WRA				S	Sn	05 29 44.6	-13
	45nm,0.9s,baz=348,slow=23,SNR=10.0						
WRA				LR	LR	05 33 37.9	
	comp=Z,141nm,21.8s,baz=294,slow=40						
WB2	**Warramunga Arr**	**14.08**	**162**		**Pn**	**05 27 17.6**	**-3.9**
WR0	**Warramunga Arr**	**14.15**	**162**		**Pn**	**05 27 18.6**	**-3.9**
KCP	**Kidapawan**	**14.22**	**340**	⇓eP	**Pn**	**05 27 21.7**	**-1.6**
COEN	**Coen**	**15.04**	**121**	P	**Pn**	**05 27 31.6**	**-2.0**
	baz=15,SNR=54						
COEN	**Coen**	**15.04**	**121**		**Pn**	**05 27 33.3**	**-0.3**
COEN	**Coen**	**15.04**	**121**	P	**Pn**	**05 27 33.0**	**-0.6**
	112nm,0.9s						
MYLDM	**Lahad Datu**	**16.22**	**315**	P	**P**	**05 27 51.2**	**+2.8**
MYLDM				IAmb	IAmb	05 28 07.4	
	comp=Z,48nm,1.0s						
MYLDM	**Lahad Datu**	**16.22**	**315**	P	**P**	**05 27 51.0**	**+2.6**
	comp=Z,50nm,1.0s						
LSIP	**Lazi, Siquijor**	**16.70**	**338**	⇑eP	**Pn**	**05 27 56.3**	**+2.3**
QIS	**Mount Isa**	**16.88**	**147**	P	**P**	**05 27 54.1**	**-1.6**
	baz=17,SNR=65						
QIS	**Mount Isa**	**16.88**	**147**	P	**P**	**05 27 55.3**	**-0.4**
	comp=Z,65nm,0.7s						
GHBP	**Garcia Hernand**	**16.92**	**341**	⇑iP	**Pn**	**05 27 57.6**	**+1.0**
PMG	**Port Moresby**	**17.35**	**101**	P	**Pn**	**05 28 01.9**	**+0.1**
	comp=Z,41nm,0.9s,baz=313,slow=7.4,SNR=13						
PMG				LR	LR	05 34 46.7	
	comp=Z,70nm,20.2s,baz=228,slow=37						
PMG	**Port Moresby**	**17.35**	**101**		**P**	**05 27 60.0**	**-1.0**
PMG				IAmb	IAmb	05 28 05.0	
	comp=Z,54nm,0.9s						
PMG	**Port Moresby**	**17.35**	**101**	P	**Pn**	**05 28 03.2**	**+1.4**
	comp=Z,67nm,1.6s						
TABP	**Talibon, Bohol**	**17.35**	**341**	⇑iP	**Pn**	**05 28 03.3**	**+1.5**
AS31	**Alice Springs**	**17.53**	**168**	P	**P**	**05 28 03.3**	**+0.5**
AS31				IAmb	IAmb	05 28 22.5	
	comp=Z,29nm,0.5s						
ASAR	**Alice Springs**	**17.53**	**168**	P	**P**	**05 28 02.9**	**0.0**
	comp=Z,24nm,0.5s,baz=341,slow=10,SNR=207						
ASAR				S	**S**	**05 31 10.2**	**-7.8**
	comp=Z,22nm,0.8s,baz=354,slow=24,SNR=8.4						
ASAR				PKiKP	**PKiKP**	**05 40 26.9**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=320,slow=0.6,SNR=5.4						
ASAR	**Alice Springs**	**17.53**	**168**	P	**P**	**05 28 02.3**	**-0.6**
AS01	**Alice Springs**	**17.54**	**168**	P	**P**	**05 28 02.4**	**-0.6**
	comp=Z,76nm,0.6s						
MBWA	**Marble Bar**	**17.61**	**213**	P	**P**	**05 28 03.8**	**+0.2**
MBWA				IAmb	IAmb	05 28 13.7	
	comp=Z,18nm,0.8s						
MBWA	**Marble Bar**	**17.61**	**213**	P	**P**	**05 28 03.9**	**+0.2**
	comp=Z,12nm,0.7s						
PSA00	**Pilbara Seismi**	**17.88**	**212**	P	**P**	**05 28 06.7**	**0.0**
PSA00	**Pilbara Seismi**	**17.88**	**212**	P	**P**	**05 28 07.3**	**+0.5**
PSA00				IAmb	IAmb	05 28 15.9	
	comp=Z,46nm,0.7s						
PSA00	**Pilbara Seismi**	**17.88**	**212**	P	**P**	**05 28 07.2**	**+0.5**
	comp=Z,74nm,0.8s						
MTSU	**Mount Surprise**	**18.24**	**131**	P	**P**	**05 28 10.4**	**-0.2**
	baz=18,SNR=15						
KKM	**Kota Kinabalu**	**18.46**	**312**	P	**Pn**	**05 28 15.6**	**+0.6**
	comp=Z,33nm,1.5s						
WRKA	**Warakurna**	**18.53**	**185**	P	**P**	**05 28 14.2**	**+0.4**
	baz=19,SNR=246						
WRKA	**Warakurna**	**18.53**	**185**	P	**P**	**05 28 14.7**	**+0.9**
	comp=Z,67nm,0.9s						
RCP	**Roxas**	**19.27**	**338**	⇑eP	**Pn**	**05 28 23.6**	**-0.7**
SBUM	**Sibu**	**19.74**	**296**		**Pn**	**05 28 29.1**	**-0.8**
TV1H	**Townsville Har**	**20.79**	**129**	P	**P**	**05 28 38.7**	**+0.5**
	comp=Z,35nm,0.9s						
CTA	**Charters Tower**	**20.88**	**132**	P	**P**	**05 28 40.5**	**+1.5**
	comp=Z,22nm,0.8s,baz=314,slow=11,SNR=26						
	comp=Z,22nm,0.8s						
CTA	**Charters Tower**	**20.88**	**132**	P	**P**	**05 28 39.9**	**+0.8**
	comp=Z,51nm,1.2s						
CTAO	**Charters Tower**	**20.88**	**132**	P	**P**	**05 28 40.3**	**+1.2**
CTAO				IAmb	IAmb	05 28 43.2	
	comp=Z,36nm,0.9s						
CTAO	**Charters Tower**	**20.88**	**132**	P	**P**	**05 28 39.9**	**+0.8**
	comp=Z,44nm,1.1s						
OOD	**Oodnadatta**	**21.91**	**166**	P	**P**	**05 28 49.6**	**-0.4**
	comp=Z,86nm,0.7s						
GIRL	**Giralia**	**22.06**	**222**	P	**P**	**05 28 52.5**	**+1.0**
	baz=22,SNR=3.4						
GIRL	**Giralia**	**22.06**	**222**	P	**P**	**05 28 52.5**	**+1.0**
GIRL	**Giralia**	**22.06**	**222**	P	**P**	**05 28 52.2**	**+0.7**
	comp=Z,85nm,1.4s						
LQP	**Lukban**	**22.06**	**338**	⇓eP	**P**	**05 28 53.1**	**+1.3**
BBJI	**Bungbulang**	**22.09**	**266**	P	**P**	**05 28 52.2**	**+0.1**
	comp=Z,95nm,0.7s						
LEM	**Lembang**	**22.12**	**268**	P	**P**	**05 28 53.2**	**+0.8**
	comp=Z,26nm,0.6s,baz=185,slow=20,SNR=4.8						
	comp=Z,26nm,0.6s						
KRVT	**Keravat (AS076**	**22.14**	**86**	P	**P**	**05 28 53.5**	**+1.0**
	comp=Z,57nm,0.7s,baz=246,slow=8.1,SNR=5.7						
	comp=Z,57nm,0.7s						
LUBP	**Lubang**	**22.23**	**335**	⇓iP	**P**	**05 28 54.6**	**+1.2**
RABL	**Rabaul**	**22.30**	**85**	P	**P**	**05 28 54.1**	**+0.1**
MEEK	**Meekatharra**	**22.75**	**207**	P	**P**	**05 28 57.7**	**-0.6**
	baz=23,SNR=5.1						
MEEK	**Meekatharra**	**22.75**	**207**	P	**P**	**05 28 58.8**	**+0.5**
	comp=Z,18nm,0.8s						
MULG	**Mulgathing**	**24.01**	**171**	P	**P**	**05 29 09.9**	**+0.2**
	comp=Z,41nm,0.6s						
FORT	**Forrest**	**24.25**	**184**	P	**P**	**05 29 12.2**	**+0.4**
	baz=24,SNR=20						
FORT	**Forrest**	**24.25**	**184**	P	**P**	**05 29 12.0**	**+0.2**
FORT	**Forrest**	**24.25**	**184**	P	**P**	**05 29 12.2**	**+0.4**
	comp=Z,72nm,0.7s						
LCRK	**Leigh Creek**	**25.11**	**163**	P	**P**	**05 29 20.0**	**+0.4**
	comp=Z,85nm,0.9s						
MORW	**Morawa**	**26.01**	**209**	P	**P**	**05 29 28.0**	**+0.2**
MORW				IAmb	IAmb	05 29 28.2	
	comp=Z,19nm,1.4s						
RMQ	**Roma**	**26.83**	**140**	P	**P**	**05 29 35.8**	**+0.6**
	baz=27,SNR=4.3						
BBOO	**Buckleboo**	**26.83**	**168**	P	**P**	**05 29 34.9**	**-0.3**
	baz=27,SNR=11						
BBOO	**Buckleboo**	**26.83**	**168**	P	**P**	**05 29 35.3**	**+0.1**
BBOO				IAmb	IAmb	05 30 03.7	
	comp=Z,19nm,0.8s						
BBOO	**Buckleboo**	**26.83**	**168**	P	**P**	**05 29 34.9**	**-0.3**
	comp=Z,33nm,1.3s						
KLBR	**Kellerberrin**	**27.45**	**203**	P	**P**	**05 29 41.1**	**+0.4**
	baz=28,SNR=8.9						
KLBR	**Kellerberrin**	**27.45**	**203**	P	**P**	**05 29 40.9**	**+0.2**
	comp=Z,72nm,0.7s						
STKA	**Stephens Creek**	**27.55**	**158**	P	**P**	**05 29 41.8**	**+0.2**
	comp=Z,5.9nm,0.4s,baz=333,slow=9.4,SNR=18						
	comp=Z,5.9nm,0.4s						
STKA	**Stephens Creek**	**27.55**	**158**	P	**P**	**05 29 41.8**	**+0.2**
	baz=28,SNR=12						
STKA	**Stephens Creek**	**27.55**	**158**	P	**P**	**05 29 41.8**	**+0.2**
STKA	**Stephens Creek**	**27.55**	**158**	P	**P**	**05 29 41.7**	**+0.2**
	comp=Z,3.1nm,1.2s						
EIDS	**Eidsvold**	**27.64**	**135**	P	**P**	**05 29 42.3**	**-0.2**
HTT	**Hallett**	**28.11**	**164**	P	**P**	**05 29 47.6**	**+1.0**
	baz=28,SNR=6.4						
HTT	**Hallett**	**28.11**	**164**	P	**P**	**05 29 47.0**	**+0.4**
	comp=Z,14nm,1.9s						
MUN	**Mundaring**	**28.42**	**205**	P	**P**	**05 29 49.3**	**0.0**
	comp=Z,28nm,1.9s						
NWAO	**Narrogin (SRO)**	**28.84**	**202**	P	**P**	**05 29 52.7**	**-0.3**
	comp=Z,6.1nm,0.4s,baz=261,slow=7.6,SNR=13						
NWAO				LR	LR	05 41 58.9	
	comp=Z,92nm,18.4s,baz=105,slow=37						
	comp=Z,6.1nm,0.4s						
NWAO	**Narrogin (SRO)**	**28.84**	**202**	P	**P**	**05 29 53.2**	**+0.3**
	baz=29,SNR=8.7						
NWAO				P	**P**	**05 29 53.2**	**+0.3**
	baz=29,SNR=8.7						
NWAO	**Narrogin (SRO)**	**28.84**	**202**	P	**P**	**05 29 53.3**	**+0.3**
NWAO				IAmb	IAmb	05 30 16.6	
	comp=Z,31nm,1.2s						
NWAO	**Narrogin (SRO)**	**28.84**	**202**	P	**P**	**05 29 53.3**	**+0.3**
	comp=Z,20nm,1.1s						
CMSA	**Cobar Meteorol**	**29.00**	**151**	P	**P**	**05 29 55.0**	**+0.5**
	baz=29,SNR=53						
CMSA	**Cobar Meteorol**	**29.00**	**151**	P	**P**	**05 29 54.9**	**+0.5**
	comp=Z,53nm,0.9s						
HNR	**Honiara**	**29.91**	**98**	LR	LR	05 42 36.9	
	comp=Z,762nm,19.8s,baz=142,slow=37						
ARMA	**Armidale**	**31.38**	**142**	P	**P**	**05 30 17.0**	**+1.3**
	baz=31,SNR=6.4						
ARMA	**Armidale**	**31.38**	**142**	P	**P**	**05 30 17.4**	**+1.8**
ARMA				IAmb	IAmb	05 30 20.7	
	comp=Z,28nm,1.4s						
ARMA	**Armidale**	**31.38**	**142**	P	**P**	**05 30 16.9**	**+1.3**
	comp=Z,22nm,2.1s						
ARPS	**Mount Arapiles**	**32.08**	**162**	P	**P**	**05 30 22.5**	**+1.1**
	baz=32,SNR=20						
ARPS	**Mount Arapiles**	**32.08**	**162**	P	**P**	**05 30 22.4**	**+0.9**
	comp=Z,77nm,0.5s						
QIZ	**Qiongzhong**	**32.12**	**322**	P	**P**	**05 30 23.8**	**+1.7**
QIZ				pP	**pP**	**05 30 51.0**	**-0.9**
QIZ				S	**S**	**05 35 28.0**	**+4.0**
QIZ				pmax	pmax		
	comp=Z,160nm,12.7s						
QIZ				LR	LR		
	comp=N,210nm,19.1s						
QIZ				LR	LR		
	comp=E,200nm,20.7s						
QIZ				LR	LR		
	comp=Z,200nm,20.7s						
RPSI	**Rantau Prapat**	**32.22**	**285**	P	**P**	**05 30 21.6**	**-1.4**
RPSI				IAmb	IAmb	05 30 26.1	
	comp=Z,14nm,0.8s						
MGCD	**Mangrove Creek**	**33.12**	**146**	P	**P**	**05 30 32.5**	**+1.9**
	baz=33,SNR=7.1						
MGCD	**Mangrove Creek**	**33.12**	**146**	P	**P**	**05 30 32.3**	**+1.7**
	comp=Z,36nm,0.8s						
CAN	**Canberra**	**33.67**	**151**	P	**P**	**05 30 37.0**	**+1.6**
CAN	**Canberra**	**33.67**	**151**	P	**P**	**05 30 36.9**	**+1.5**
	comp=Z,74nm,1.0s						
TOO	**Toolangi**	**34.06**	**158**	P	**P**	**05 30 41.6**	**+2.8**
	baz=34,SNR=4.8						
TOO	**Toolangi**	**34.06**	**158**	P	**P**	**05 30 40.2**	**+1.5**
TOO				IAmb	IAmb	05 30 41.4	
	comp=Z,12nm,0.9s						
TOO	**Toolangi**	**34.06**	**158**	P	**P**	**05 30 40.8**	**+2.0**
	comp=Z,23nm,1.4s						
DZM	**Mont Dzumac**	**38.54**	**118**	LR	LR	05 48 19.7	
	comp=Z,78nm,18.9s,baz=207,slow=38						
DZM	**Mont Dzumac**	**38.54**	**118**	P	**P**	**05 31 17.4**	**+0.3**
DZM				IAmb	IAmb	05 31 18.2	
	comp=Z,10nm,1.1s						
DZM	**Mont Dzumac**	**38.54**	**118**	P	**P**	**05 31 17.4**	**+0.3**
	comp=Z,9.2nm,1.0s						
YATNC	**Mamie plateau,**	**38.93**	**117**	P	**P**	**05 31 21.3**	**+1.1**
	comp=Z,23nm,1.1s						
MOO	**Moorlands**	**38.97**	**160**	P	**P**	**05 31 22.4**	**+2.1**
	baz=39,SNR=4.1						
MOO	**Moorlands**	**38.97**	**160**	P	**P**	**05 31 22.1**	**+1.9**
	comp=Z,66nm,2.0s						
CMAR	**Chiang Mai Arr**	**39.30**	**310**	P	**P**	**05 31 24.2**	**+0.8**
	comp=Z,4.1nm,0.6s,baz=136,slow=7.1,SNR=17						
CMAR				PcP	**PcP**	**05 33 30.6**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=155,slow=3.0,SNR=7.9						
	comp=Z,4.1nm,0.6s						
CHTO	**Chiang Mai**	**39.52**	**310**	P	**P**	**05 31 26.0**	**+0.9**
CHTO				IAmb	IAmb	05 31 26.6	
	comp=Z,6.3nm,0.6s						
WHN	**Wuhan**	**39.70**	**339**	⇑P	P	05 31 39.9	+14
NJ2	**Nanjing**	**39.72**	**345**	eP	**P**	**05 31 28.6**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
JMN	**Monobe**	**40.15**	**5**	P	**P**	**05 31 31.2**	**+1.1**
JMN	**Monobe**	**40.15**	**5**	P	**P**	**05 31 31.6**	**+1.4**
	comp=Z,56nm,1.8s						
KMI	**Kunming**	**41.03**	**321**	⇑P	**P**	**05 31 40.7**	**+2.9**
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
PZH	**PanZhiHua**	**42.65**	**321**	P	**P**	**05 31 53.0**	**+2.3**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
MJAR	**Matsushiro Arr**	**43.49**	**10**	P	**P**	**05 31 56.7**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=184,slow=9.1,SNR=18						
	comp=Z,5.7nm,0.7s						
TNCH	**TengChong**	**43.73**	**317**	P	**P**	**05 32 00.4**	**+0.9**
TNCH				pmax	pmax		
	comp=Z,120nm,4.1s						
KSRS	**Korea Array**	**43.73**	**358**	P	**P**	**05 31 59.4**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=174,slow=8.8,SNR=5.7						
	comp=Z,1.3nm,0.6s						
JMM	**Marumori**	**45.26**	**12**	P	**P**	**05 32 12.1**	**+0.9**
	comp=Z,61nm,2.0s						
MSVF	**Nonsavu**	**48.27**	**108**	P	**P**	**05 32 36.4**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=307,slow=23,SNR=9.2						
	comp=Z,1.6nm,0.3s						
LZH	**Lanzhou**	**48.88**	**332**	eP	**P**	**05 32 43.2**	**+3.6**
HHC	**Hu-ho-hao-te**	**50.01**	**342**	eP	**P**	**05 32 50.6**	**+2.7**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,6.0s						
USRK	**Ussuriysk Ar.**	**50.47**	**2**	P	**P**	**05 32 52.0**	**+0.9**
	comp=Z,4.2nm,0.6s,baz=178,slow=7.6,SNR=10.0						
	comp=Z,4.2nm,0.6s						
QRZ	**Quartz Range**	**51.13**	**139**	P	**P**	**05 32 58.3**	**+2.0**
	comp=Z,63nm,1.4s						
RPZ	**Rata Peaks**	**51.72**	**143**	P	**P**	**05 33 01.8**	**+1.1**
	comp=Z,28nm,0.8s,baz=328,slow=2.4,SNR=8.1						
	comp=Z,28nm,0.8s						
TUWZ	**Tuamarina**	**52.35**	**139**	P	**P**	**05 33 05.6**	**+0.3**
KHZ	**Kahutara**	**52.58**	**140**	P	**P**	**05 33 07.5**	**+0.5**
	comp=Z,34nm,2.0s						
GTA	**Gaotai**	**53.45**	**331**	eP	**P**	**05 33 14.8**	**+1.2**
GTA				pP	pwP	05 33 52.5	+0.5
GTA				sP	sP	05 34 09.2	+7.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,130nm,4.7s						
GTA				LR	LR		
	comp=N,95nm,20.4s						
GTA				LR	LR		
	comp=E,310nm,20.4s						
GTA				LR	LR		
	comp=Z,96nm,20.0s						
ULN	**Ulaanbaatar**	**57.73**	**342**	P	**P**	**05 33 43.5**	**-0.5**
ULN				IAmb	IAmb	05 33 46.1	
	comp=Z,4.5nm,0.8s						
SONM	**Songino Array**	**57.90**	**342**	P	**P**	**05 33 46.8**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=160,slow=7.3,SNR=4.7						
	comp=Z,0.8nm,0.4s						
CTZ	**Chatham Island**	**59.63**	**138**	P	**P**	**05 33 58.0**	**+0.9**
WMQ	**Urumqi**	**62.89**	**327**	eP	**P**	**05 34 20.3**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,31nm,1.1s						
PETK	**Petropavlovsk-**	**63.86**	**18**	P	**P**	**05 34 26.1**	**+0.9**
	comp=Z,3.4nm,0.5s,baz=164,slow=4.0,SNR=8.2						
	comp=Z,3.4nm,0.5s						
KSH	**Kashi**	**67.55**	**317**	P	**P**	**05 34 51.3**	**+2.0**
KSH				PcP	**PcP**	**05 35 17.5**	**+2.1**
KSH				pP	pwP	05 35 30.8	+1.8
KSH				sP	sP	05 35 48.3	+10
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**67.72**	**327**	P	**P**	**05 34 50.8**	**+0.8**
MKAR	**Makanchi Array**	**67.72**	**327**	P	**P**	**05 34 51.2**	**+1.1**
	comp=Z,20nm,0.6s,baz=122,slow=7.8,SNR=116						
	comp=Z,20nm,0.6s						
MKAR	**Makanchi Array**	**67.72**	**327**	P	**P**	**05 34 50.7**	**+0.7**
YAK	**Yakutsk**	**68.30**	**360**	P	**P**	**05 34 53.1**	**-0.1**
TKM2	**Tokmak 2**	**69.50**	**320**	P	**P**	**05 35 02.9**	**+1.4**
	SNR=7.5						
UCH	**Uchtor**	**69.85**	**319**	P	**P**	**05 35 04.5**	**+0.7**
	SNR=5.1						
AAK	**Ala-Archa**	**70.06**	**320**	P	**P**	**05 35 06.0**	**+1.2**
	SNR=7.0						
AAK	**Ala-Archa**	**70.06**	**320**	P	**P**	**05 35 05.6**	**+0.8**
	comp=Z,3.1nm,0.3s,baz=214,slow=1.6,SNR=12						
	comp=Z,3.1nm,0.3s						
AAK	**Ala-Archa**	**70.06**	**320**	P	**P**	**05 35 05.8**	**+1.0**
AAK				IAmb	IAmb	05 35 07.2	
	comp=Z,8.0nm,0.9s						
AML	**Almayashu**	**70.33**	**319**	P	**P**	**05 35 03.4**	**-3.4**
	SNR=8.3						
USP	**Ospenovka**	**70.37**	**320**	P	**P**	**05 35 08.1**	**+1.6**
	SNR=11						
EKS2	**Erkin-Say**	**70.54**	**320**	P	**P**	**05 35 09.7**	**+2.1**
	SNR=5.5						
ZAA0	**Zalesovo Array**	**71.06**	**334**	P	**P**	**05 35 09.8**	**-0.5**
ZAA0				IAmb	IAmb	05 35 11.1	
	comp=Z,4.5nm,0.7s						
ZALV	**Zalesovo Beam**	**71.06**	**334**	P	**P**	**05 35 10.4**	**0.0**
	comp=Z,4.7nm,0.5s,baz=138,slow=5.7,SNR=20						
	comp=Z,4.7nm,0.5s						
ZALV	**Zalesovo Beam**	**71.06**	**334**	P	**P**	**05 35 09.8**	**-0.5**
GAR	**Garm**	**71.21**	**315**	P	**P**	**05 35 11.4**	**-0.3**
GAR				IAmb	IAmb	05 35 13.8	
	comp=Z,11nm,0.9s						
KURK	**Kurchatov**	**72.01**	**329**	P	**P**	**05 35 16.0**	**-0.1**
KURK				IAmb	IAmb	05 35 18.3	
	comp=Z,9.9nm,0.8s						
KK31	**Karatay Array**	**72.87**	**319**	P	**P**	**05 35 21.2**	**-0.3**
KKAR	**Karatay Array**	**72.87**	**319**	P	**P**	**05 35 21.7**	**+0.3**
KKAR	**Karatay Array**	**72.87**	**319**	P	**P**	**05 35 22.2**	**+0.8**
KKAR				IAmb	IAmb	05 35 23.6	
	comp=Z,7.0nm,1.1s						
VNDA	**Vanda**	**72.99**	**173**	P	**P**	**05 35 21.8**	**+0.3**
	comp=Z,4.7nm,0.5s,baz=320,slow=6.8,SNR=53						
VNDA				LR	LR	06 05 31.7	
	comp=Z,24nm,20.5s,baz=332,slow=34						
	comp=Z,4.7nm,0.5s						
VNDA	**Vanda**	**72.99**	**173**	P	**P**	**05 35 21.4**	**-0.1**
SBA	**Scott Base**	**73.88**	**172**	P	**P**	**05 35 27.7**	**+1.0**
MAW	**Mawson**	**75.40**	**201**	P	**P**	**05 35 36.2**	**+0.6**
	comp=Z,11nm,0.7s,baz=75,slow=3.9,SNR=21						
	comp=Z,11nm,0.7s						
MAW	**Mawson**	**75.40**	**201**	P	**P**	**05 35 37.1**	**+1.5**
	baz=75,SNR=16						
MAW	**Mawson**	**75.40**	**201**	P	**P**	**05 35 36.8**	**+1.2**
WSAR	**Wadi Sarin**	**75.53**	**296**	P	**P**	**05 35 38.4**	**+1.1**
	comp=Z,4.3nm,0.6s,baz=119,slow=8.3,SNR=4.5						
	comp=Z,4.3nm,0.6s						
BRVK	**Borovoye**	**77.63**	**328**	P	**P**	**05 35 49.1**	**+0.8**
BRVK				IAmb	IAmb	05 35 49.8	
	comp=Z,5.7nm,0.7s						
TIXI	**Tiksi**	**77.96**	**360**	P	**P**	**05 35 49.8**	**0.0**
TIXI				IAmb	IAmb	05 35 51.3	
	comp=Z,14nm,1.3s						
GEYT	**Alibeck**	**79.78**	**310**	P	**P**	**05 36 01.4**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=140,slow=4.8,SNR=4.7						
	comp=Z,2.8nm,0.6s						
NRIK	**Noril'sk**	**81.02**	**346**	P	**P**	**05 36 06.8**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=65,slow=4.4,SNR=4.3						
	comp=Z,2.4nm,0.5s						
OPO	**Ambohidratompo**	**81.07**	**252**	P	**P**	**05 36 08.6**	**+0.6**
	comp=Z,3.7nm,0.6s						
	comp=Z,3.7nm,0.6s						
VOI	**Vohitsoka**	**81.23**	**249**	P	**P**	**05 36 09.3**	**+0.5**
VOI				IAmb	IAmb	05 36 10.0	
	comp=Z,15nm,0.8s						
ABKAR	**Akbulak array**	**82.02**	**322**	P	**P**	**05 36 12.3**	**+0.2**
QSPA	**South Pole Qui**	**83.51**	**180**	P	**P**	**05 36 19.5**	**-0.2**
QSPA				IAmb	IAmb	05 36 20.3	
	comp=Z,10.0nm,0.7s						
ARU	**Arti**	**85.20**	**328**	P	**P**	**05 36 28.6**	**+0.5**
ARU				IAmb	IAmb	05 36 29.0	
	comp=Z,6.7nm,0.8s						
RAYN	**Ar Rayn**	**87.43**	**294**	P	**P**	**05 36 40.8**	**+0.9**
MLY	**Manley**	**91.35**	**25**	P	**P**	**05 36 57.3**	**0.0**
ILAR	**Eielson Array**	**92.92**	**25**	P	**P**	**05 37 03.2**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=277,slow=4.8,SNR=11						
	comp=Z,1.1nm,0.8s						
TROLL	**Troll, Antarti**	**94.65**	**194**	P	**P**	**05 37 13.2**	**+0.7**
SNAA	**Sanae**	**96.15**	**194**	P	**P**	**05 37 19.8**	**+0.4**
SNAA	**Sanae**	**96.15**	**194**	P	**P**	**05 37 19.7**	**+0.3**
VNA2	**Neumayer--Watz**	**97.72**	**193**	P	Pdif	05 37 26.6	+0.3
	baz=129,slow=4.5						
VNA2	**Neumayer--Watz**	**97.72**	**193**	PKKP	**PKKPbc**	**05 54 00.2**	**-4.1**
	baz=323,slow=6.3						
VNA3	**Neumayer Olymp**	**97.98**	**192**	P	**P**	**05 37 27.3**	**-0.2**
VNA3	**Neumayer Olymp**	**97.98**	**192**	PKKP	**PKKPbc**	**05 53 59.5**	**-4.1**
ARCES	**ARCESS Array B**	**101.04**	**340**	PKiKP	**PKiKP**	**05 42 05.0**	**-0.4**
	comp=Z,3.5nm,1.1s,baz=315,slow=0.2,SNR=3.5						
MNK	**Minsk**	**102.20**	**324**	*i* P	**Pdif**	**05 37 38.8**	**-7.7**
	comp=E,2.0nm,0.8s						
MNK				*i* P	**Pdif**	**05 37 38.8**	**-7.7**
	comp=N,27nm,0.9s						
MNK				*i* P	**Pdif**	**05 37 38.8**	**-7.7**
	comp=Z,15nm,0.6s,baz=264						
MNK				*i* pP	**pPdif**	**05 38 14.7**	**-7.9**
MNK				*i* PP	**PP**	**05 41 53.4**	**-6.9**
MNK				*i* PPP	PPP	05 44 04.1	
MNK				*i* S	**SKSac**	**05 48 04.9**	**-7.3**
MNK				*i* sS	**Sdif**	**05 49 10.5**	**-6.5**
MNK				*i* PS	**PS**	**05 51 03.9**	**-5.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNK				i SS	SS	05 56 15.0	-11
MNK				i SSS	SSS	06 00 12.2	
MNK				i LRM	MLR	06 23 18.9	
	comp=N,523nm,15.5s						
MNK				i LRM	MLR	06 23 36.3	
	comp=E,23nm,12.9s						
MNK				i LRM	MLR	06 23 38.2	
	comp=Z,64nm,12.2s						
FINES	FINESS Array B	102.25	331	PKiKP	PKiKP	05 42 06.5	-1.2
	comp=Z,3.5nm,1.0s,baz=112,slow=2.1,SNR=4.4						
YKA	Yellowknife Ar	107.32	26	PKKPbc	PKKPbc	05 53 32.2	-3.7
	comp=Z,0.7nm,0.7s,baz=127,slow=4.2,SNR=5.1						
NVAR	Mina Array Bea	111.05	51	PKiKP	PKiKP	05 42 26.0	+0.8
	comp=Z,0.3nm,0.6s,baz=242,slow=3.2,SNR=4.1						
CLL	Collm	111.66	323	ePKiKP	PKiKP	05 42 26.0	+0.4
GERES	GERESS Array B	111.94	320	PKiKP	PKiKP	05 42 26.4	0.0
	comp=Z,0.8nm,0.5s,baz=75,slow=1.8,SNR=11						
WTTA	Wattenberg	113.72	319	i P	PKiKP	05 42 29.7	-0.2
	comp=Z,2.7nm,0.3s						
MOTA	Moosalm	114.04	319	i P	PKPdf	05 42 30.0	-0.5
	comp=Z,1.6nm,0.3s						
RETA	Reutte	114.22	319	i P	PKPdf	05 42 30.6	-0.1
	comp=Z,1.5nm,0.4s						
FETA	Feichten	114.38	319	i P	PKPdf	05 42 31.1	0.0
	comp=Z,0.7nm,0.4s						
DAVA	Damuels	114.85	319	i P	PKiKP	05 42 32.0	-0.1
	comp=Z,3.2nm,0.4s						
PDAR	Pinedale Array	116.60	45	PKP	PKiKP	05 42 36.0	+0.4
	comp=Z,0.9nm,0.7s,baz=154,slow=0.8,SNR=10						
ULM	Lac du Bonnet	122.06	33	PKP	PKPdf	05 42 45.2	-0.4
	comp=Z,3.7nm,0.6s,baz=335,slow=4.0,SNR=5.2						
TXAR	Lajitas Array	124.75	59	PKP	PKPdf	05 42 51.2	-0.3
	comp=Z,0.9nm,0.9s,baz=266,slow=1.7,SNR=9.4						
ESDC	Sonseca Array	127.05	316	PKP	PKiKP	05 42 56.3	+0.2
	comp=Z,0.6nm,0.8s,baz=32,slow=3.1,SNR=2.4						
TORD	Torodi Ar. Bea	128.59	282	PKP	PKPdf	05 42 58.6	-0.5
	comp=Z,1.7nm,0.6s,baz=60,slow=2.7,SNR=13						
PLCA	Paso Flores	129.41	160	PKP	PKiKP	05 43 01.0	+0.1
	comp=Z,1.7nm,0.7s,baz=78,slow=0.6,SNR=6.0						
LVC	Limon Verde	145.74	148	PKPbc	PKPab	05 43 32.3	+0.3
	comp=Z,13nm,0.7s,baz=260,slow=4.3,SNR=17						
CPUP	Villa Florida	146.66	168	PKPbc	PKPbc	05 43 34.1	+0.5
	comp=Z,13nm,0.8s,baz=193,slow=2.1,SNR=33						
NNA	Nana	147.71	125	PKPbc	PKPbc	05 43 37.6	+0.7
	comp=Z,6.8nm,0.5s,baz=242,slow=6.6,SNR=5.8						
ATAH	Atahualpa	148.72	115	PKPbc	PKPbc	05 43 40.6	+0.6
	comp=Z,6.4nm,0.6s,baz=303,slow=5.7,SNR=7.2						
LPAZ	La Paz	151.21	142	PKP	PKPdf	05 43 40.5	+0.2
	comp=Z,5.0nm,0.7s,baz=183,slow=1.8,SNR=5.6						
LPAZ				PKPbc	PKiKP	05 43 47.2	+0.5
	comp=Z,3.9nm,0.4s,baz=14,slow=3.1,SNR=46						
LPAZ				PKPab	PKPab	05 43 55.2	+0.8
	comp=Z,6.9nm,0.6s,baz=196,slow=6.2,SNR=15						
SIV	San Ignacio	155.19	154	PKP	PKPdf	05 43 45.6	+0.3
	comp=Z,1.1nm,0.7s,baz=40,slow=1.6,SNR=7.3						
SIV				PKPab	PKPab	05 44 11.3	+0.8
	comp=Z,2.2nm,0.6s,baz=202,slow=4.9,SNR=14						

MAN 06 05:34:24.7, 18°.85N×120°.87E, h21km, mb4.6, ML3.4, MS3.3, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACPP	Pamplona Cagay	0.60	130⇓	i P	Pb	05 34 36.7	+0.1
PACPP				i S	Sb	05 34 45.3	+0.7
CICP	Calayan Island	0.71	54⇑	eP	Pb	05 34 38.7	+0.3
CICP				i S	Sn	05 34 50.4	+0.5
APYP	Conner	1.04	160⇑	eP	Pn	05 34 53.5	+9.5
APYP				eS	Sn	05 35 06.8	+8.8

PGC 06 05:40:50.1±0.0, 63°.47N×126°.30W, h10km, ML3.1/8, 207km Sse of Norman Wells, Nt Nw Territories - Nunavut, Canada
ISC 06 05:40:48.1±0.9, 63°.50N±0°.05×126°.37W±0°.03, h10km, n44, σ1s69/56, Northwest Territories

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRGLY	Wrigley	1.34	101	P	Pg	05 41 13.3	-0.5
	baz=282						
WRGLY				S	Sg	05 41 30.6	-0.5
	baz=282						
TGTN	Hyland Airport	2.17	205	Pn	Pn	05 41 25.4	+1.1
TGTN	Hyland Airport	2.17	205	P	Pn	05 41 25.6	+1.3
	baz=24,SNR=19						
TGTN				S	Sb	05 41 54.8	+0.4
	baz=24						
MMPY	Sheldon Lake,	2.40	250	Pn	Pn	05 41 29.4	+1.9
MMPY				Sg	Sb	05 42 04.2	+3.3
MMPY	Sheldon Lake,	2.40	250	P	Pn	05 41 29.2	+1.8
	baz=67,SNR=30						
FARO	Faro, Yukon	3.44	251	Pn	Pn	05 41 43.2	+1.4
KOTAN	Kotaneelee Air	3.56	161	S	Sn	05 42 26.1	+0.7
	baz=343						
M31M	Drury Creek, Y	3.90	254	Pn	Pn	05 41 49.2	+1.2
M31M				Sg	Sg	05 42 52.1	-1.1
M31M	Drury Creek, Y	3.90	254	P	Pn	05 41 49.3	+1.2
	baz=68						
N32M	Quiet Lake	3.92	236	Pn	Pn	05 41 49.5	+1.2
N32M	Quiet Lake	3.92	236	P	Pn	05 41 49.8	+1.5
	baz=51						
N32M				Sb	Sb	05 42 50.0	+5.3
	baz=51						
NBC2	NorthernBC 2	4.17	152	Pn	Pn	05 41 53.2	+1.5
P33M	Teslin, Yukon	4.50	226	Pn	Pn	05 41 57.1	+0.9
P33M	Teslin, Yukon	4.50	226	P	Pn	05 41 57.3	+1.1
	baz=40,SNR=14						
R33M	Jennings River	4.68	210	Pn	Pn	05 41 59.4	+0.6
R33M	Jennings River	4.68	210	P	Pn	05 42 00.1	+1.3
	baz=27						
N31M	Braeburn, Yuko	4.81	249	Sg	Sg	05 43 18.9	-3.4
M30M	Minto, Yukon	4.84	264	Pn	Pn	05 42 01.5	+0.6
M30M				Sg	Sg	05 43 21.3	-1.9
M30M	Minto, Yukon	4.84	264	P	Pn	05 42 01.8	+0.9
	baz=75						
FNBB	Fort Nelson	4.91	159	Pn	Pn	05 42 01.5	-0.4
FNBB				Sn	Sn	05 42 56.6	-2.0
WHY	Whitehorse	4.91	238	Pn	Pn	05 42 03.0	+1.0
WHY	Whitehorse	4.91	238	P	Pn	05 42 03.2	+1.2
	baz=51,SNR=10						
F31M	Tsiigehtchic	5.00	325	P	Pn	05 42 03.6	+0.6
	baz=139						
F31M				S	Sn	05 43 00.7	-0.2
	baz=139						
EPYK	Eagle Plains	5.26	308	Pn	Pn	05 42 08.0	+1.4
P32M	Atlin	5.27	225	Pn	Pn	05 42 08.0	+1.2
O30N	Mendenhall	5.32	243	P	Pn	05 42 08.6	+1.1
	baz=55,SNR=5.9						
N30M	Aishikik Lake	5.38	252	Pn	Pn	05 42 09.0	+0.7
N30M	Aishikik Lake	5.38	252	P	Pn	05 42 09.6	+1.2
	baz=63						
G30M	tAoh Zraii Nji	5.41	314	P	Pn	05 42 08.8	0.0
	baz=126						
NBC6	NorthernBC 6	5.51	151	Pn	Pn	05 42 09.2	-0.8
M29M	Somme Creek	5.62	265	Pn	Pn	05 42 12.4	+0.7
M29M	Somme Creek	5.62	265	P	Pn	05 42 12.4	+0.7
	baz=74						
INK	Inuvik	5.64	332	Pn	Pn	05 42 13.3	+1.5
DAWY	Dawson	5.80	281	Pn	Pn	05 42 14.8	+0.6
HYT	Haines Junctio	5.87	248	Pn	Pn	05 42 16.6	+1.5
HYT	Haines Junctio	5.87	248	P	Pn	05 42 16.5	+1.4
	baz=58,SNR=15						
C36M	Paulatuk	5.94	8	Pn	Pn	05 42 17.0	+1.1
C36M				Sn	Sn	05 43 22.2	-1.8
P30M	Million Dollar	6.06	241	Pn	Pn	05 42 18.8	+1.2
P30M				Sn	Sn	05 43 26.6	-0.3
P30M				Sg	Sg	05 43 57.4	-4.9
P30M	Million Dollar	6.06	241	P	Pn	05 42 19.3	+1.7
	baz=52						
YUK6	Outpost Mounta	6.17	251	Pn	Pn	05 42 20.5	+1.2
PLBC	Pleasant Camp	6.27	234	Pn	Pn	05 42 22.1	+1.6
PLBC	Pleasant Camp	6.27	234	P	Pn	05 42 22.1	+1.6
	baz=46,SNR=10						
YUK7	Dusty Glacier	6.29	247	Pn	Pn	05 42 22.3	+1.3
G27K	Doyon Strip	7.24	304	Pn	Pn	05 42 35.7	+2.0
G27K				Sn	Sn	05 43 54.2	-1.7

IDC 06 06:20:32.5±9.4, 11°.22S×166°.00E, h108km±92km, mb3.4/3, mbtmp3.8/4, ML3.8/1, MS3.5/5, Error ellipse: s-maj=69.7km s-min=28.6km az=158.0
ISC 06 06:20:31.7±1.2, 11°.2S±0°.1×166°.0E±0°.3, h100km, n16, σ0s72/7, mb3.6/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.19	286	LR	LR	06 24 28.6	
	comp=Z,3μm,19.2s,baz=134,slow=38						
DZM	Mont Dzumac	10.84	178	P	Pn	06 23 04.4	+0.4
	0.7nm,0.3s,baz=313,slow=17,SNR=18						
DZM				S	Sn	06 25 03.0	-0.4
	1.0nm,0.3s,baz=172,slow=20,SNR=1.2						
	2.2nm,0.4s						
MSVF	Nonsavu	13.38	121	LR	LR	06 27 45.5	
	comp=Z,88nm,19.3s,baz=301,slow=32						
KRVT	Keravat (AS076	15.41	295	LR	LR	06 30 30.8	
	comp=Z,80nm,18.9s,baz=279,slow=39						
CTA	Charters Tower	20.94	243	LR	LR	06 33 19.8	
	comp=Z,71nm,19.4s,baz=264,slow=37						
H11S2	WAKE ISLAND Hy	29.49	1	T	T	06 56 53.0	
	baz=182,slow=74,SNR=4.9						
H11S3	WAKE ISLAND Hy	29.49	1	T	T	06 56 54.5	
	baz=182,slow=74,SNR=5.0						
H11S1	WAKE ISLAND Hy	29.50	1	T	T	06 56 55.6	
	baz=182						
H11N1	WAKE ISLAND Hy	30.71	2	T	T	06 58 23.9	
	baz=182,slow=76,SNR=52						
H11N3	WAKE ISLAND Hy	30.71	2	T	T	06 58 22.9	
	baz=182,slow=76,SNR=14						
H11N2	WAKE ISLAND Hy	30.73	2	T	T	06 58 21.7	
	baz=182,slow=76,SNR=37						
WRA	Warramunga Arr	31.66	250	P	P	06 26 45.7	0.0
	0.9nm,0.6s,baz=82,slow=9.1,SNR=14						
WRA				LR	LR	06 38 06.3	
	comp=Z,113nm,18.3s,baz=298,slow=33						
	0.9nm,0.6s						
ASAR	Alice Springs	32.94	244	P	P	06 26 57.1	+0.1
	0.4nm,0.6s,baz=64,slow=10,SNR=13						
	0.4nm,0.6s						
ILAR	Eielson Array	83.56	18	P	P	06 32 48.5	+0.1
	0.4nm,0.5s,baz=239,slow=5.2,SNR=15						
	0.4nm,0.5s						
ARCES	ARCESS Array B	116.52	346	PKP	PKPdf	06 39 02.3	-1.1
	2.6nm,0.9s,baz=46,slow=2.6,SNR=3.9						
ESDC	Sonseca Array	150.25	344	PKPbc	PKPbc	06 40 12.2	+0.6
	0.3nm,0.6s,baz=7.4,slow=4.2,SNR=1.8						

IDC 06 06:42:01.9±1.8, 0°.38S×124°.99E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=176.7km s-min=27.3km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.49	155	P	P	06 46 51.9	-0.5
	0.9nm,0.4s,baz=334,slow=11,SNR=25						
	0.9nm,0.4s						
ASAR	Alice Springs	24.71	160	P	P	06 47 24.6	-0.4
	0.1nm,0.3s,baz=346,slow=11,SNR=5.0						
	0.1nm,0.3s						
STKA	Stephens Creek	35.04	155	P	P	06 48 57.5	+1.0
	0.5nm,0.3s,baz=333,slow=14,SNR=2.9						
	0.5nm,0.3s						
KURBB	Kurchatov Arra	64.30	329	P	P	06 52 39.1	-0.1
	0.2nm,0.4s,baz=120,slow=5.5,SNR=2.5						
	0.2nm,0.4s						

MAN 06 06:47:17.5, 10°.33N×125°.18E, h15km, mb3.6, ML2.3, MS1.8, 2C, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TABP	Talibon, Bohol	0.87	254⇑	i P	Pb	06 47 33.8	-0.6
TABP				eS	Sb	06 47 42.8	-3.0
GHBP	Garcia Hernand	1.10	231⇑	eP	Pb	06 47 38.0	-0.2
GHBP				eS	Sn	06 47 55.4	+2.2

MAN 06 06:48:25.1, 10°.13N×124°.98E, h20km, mb4.0, ML2.8, MS2.4, 2C, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TABP	Talibon, Bohol	0.64	267⇑	i P	Pb	06 48 37.8	+0.2
TABP				i S	Sn	06 48 49.8	+1.3
GHBP	Garcia Hernand	0.81	233⇑	eP	Pn	06 48 41.6	+0.1
GHBP				i S	Sn	06 48 59.5	+6.5

IDC 06 07:18:38.5±1.4, 30°.46N×67°.86E, h0km, mb3.4/3, mbtmp3.3/4, ML3.4/1, MS3.1/1, Error ellipse: s-maj=48.6km s-min=37.2km az=175.0, Pakistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	19.77	30	P	P	07 23 10.2	+0.1
	0.1nm,0.3s,baz=213,slow=12,SNR=4.7						
MKAR				LR	LR	07 31 45.8	
	comp=Z,55nm,19.7s,baz=186,slow=40						
	0.2nm,0.4s						
TORD	Torodi Ar. Bea	63.01	270	P	P	07 29 07.7	0.0
	0.5nm,0.9s,baz=70,slow=8.1,SNR=3.8						
	0.5nm,0.9s						
WRA	Warramunga Arr	81.19	119	P	P	07 30 56.8	+0.3
	0.3nm,1.0s,baz=326,slow=4.1,SNR=1.5						
	0.3nm,1.0s						
ASAR	Alice Springs	83.10	122	P	P	07 31 06.2	-0.3
	0.2nm,0.8s,baz=310,slow=4.4,SNR=2.5						
	0.2nm,0.8s						

IDC 06 07:27:41.8±1.1, 29°.16S×177°.98W, h93km±12km, mb3.5/3, mbtmp3.8/3, MS3.0/1, Error ellipse: s-maj=54.9km s-min=28.5km az=175.0
ISC 06 07:27:42.1±1.3, 29°.1S±0°.3×177°.9W±0°.2, h100km, n15, σ1s26/14, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	11.86	341	LR	LR	07 34 50.1	
	comp=Z,70nm,18.1s,baz=99,slow=36						
STKA	Stephens Creek	34.88	255	P	P	07 34 25.0	+1.0
	1.3nm,0.5s,baz=86,slow=11,SNR=3.6						
	1.3nm,0.5s						
ASAR	Alice Springs	43.28	265	P	P	07 35 33.4	-0.6
	0.4nm,0.6s,baz=105,slow=7.0,SNR=12						
	0.4nm,0.6s						
WRA	Warramunga Arr	44.15	271	P	P	07 35 40.0	-1.0
	0.5nm,0.3s,baz=110,slow=7.9,SNR=23						
	0.5nm,0.3s						
TROLL	Troll, Antarti	79.21	180	P	P	07 39 33.6	-2.3
SNAA	Sanae	79.49	178	P	P	07 39 37.0	-0.3
VNA3	Neumayer Olymp	79.64	176	P	P	07 39 40.3	+2.4
VNA2	Neumayer--Watz	80.07	177	P	P	07 39 40.4	+0.1
	baz=177,slow=4.5						
VNA1	Neumayer--Stat	80.30	177	P	P	07 39 41.7	+0.2
BVAR	Borovoye Array	125.50	316	PKP	PKPdf	07 46 31.1	0.0
	0.8nm,0.5s,baz=114,slow=1.7,SNR=6.6						
FINES	FINESS Array B	143.91	341	PKP	PKPbc	07 47 03.5	+0.5
	5.4nm,1.1s,baz=57,slow=5.1,SNR=9.5						
AKASG	Malin Array Be	150.27	324	PKPbc	PKPbc	07 47 21.1	0.0
	1.7nm,0.5s,baz=50,slow=3.0,SNR=9.7						
MMAI	Mount Meron Ar	151.26	286	PKPbc	PKiKP	07 47 26.4	+1.8
	2.3nm,0.5s,baz=37,slow=3.6,SNR=3.7						
BRTR	Keskin Array B	152.01	301	PKPbc	PKiKP	07 47 26.3	+0.2
	0.5nm,0.4s,baz=146,slow=2.8,SNR=2.5						
TORD	Torodi Ar. Bea	164.17	179	PKP	PKPdf	07 47 33.4	-1.0
	1.1nm,1.1s,baz=203,slow=3.4,SNR=3.5						
TORD				PKPab	PKPab	07 48 28.0	-0.2
	0.4nm,0.6s,baz=176,slow=2.3,SNR=2.4						

SOME 06 07:36:05.4, 45°.68N×82°.30E, h15km
NNC 06 07:36:05.7±0.8, 45°.71N×82°.22E, h0km, mb2.7, mpv2.5, 1C-1D, Error ellipse: s-maj=8.2km s-min=4.7km az=128.0, Suspected Mining explosion., Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	1.08	2	⇑P	Pg	07 36 26.3	-0.2
	0.4nm,0.2s,baz=182,slow=17,SNR=44						
MK31				⇓S	Sb	07 36 41.8	-0.3
	1.2nm,0.3s,baz=183,slow=28,SNR=8.4						
DJR	Jarkent	2.21	232	eP	Pb	07 36 47.1	+0.5
	2.1nm,0.3s						
DJR				eS	Sg	07 37 17.0	+0.4
	3.6nm,0.2s						
DJR	Jarkent	2.21	232	Pg	Pg	07 36 47.6	-0.4
	2.1nm,0.3s						
DJR				Lg	Lg	07 37 18.2	
	2.0nm,0.3s						
ZSN	Zaisan	2.52	45	eP	Pn	07 36 47.3	-0.6
	3.3nm,0.2s						
ZSN				eS	Sn	07 37 17.3	-2.1
	3.9nm,0.4s						
PDGK	Podgornoye	3.08	220	Pg	Pb	07 37 01.6	+0.1
	0.3nm,0.3s						
PDGK				Lg	Lg	07 37 42.0	
	2.8nm,0.7s						
BLB	Baldybastay	3.11	240	eP	Pb	07 37 02.8	+0.8
	5.3nm,0.2s						
BLB				eS	Sg	07 37 44.1	-1.6
	5.3nm,0.2s						
SHLS	Shalkode	3.23	219	eP	Pb	07 37 01.3	-2.7
	1.1nm,0.2s						
SHLS				eS	Sb	07 37 41.5	-2.4
	5.8nm,0.6s						
SHLS	Shalkode	3.23	219	Pg	Pb	07 37 01.3	-2.7
	1.1nm,0.2s						
SHLS				Lg	Lg	07 37 41.5	
	5.8nm,0.6s						
KPKS	Kokpek	3.38	230	eP	Pb	07 37 07.0	+0.4
	1.1nm,0.1s						
KPKS				eS	Sg	07 37 51.4	-2.9
	4.5nm,0.1s						
KPKS	Kokpek	3.38	230	Pg	Pb	07 37 07.0	+0.4
	1.1nm,0.3s						
KPKS				Lg	Lg	07 37 51.4	
	2.7nm,0.7s						

NIED 06 08:08:51.0, 34°.87N×135°.57E, h11km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.26; $M_{\theta\theta}$3.11; $M_{\phi\phi}$-3.37; $M_{r\theta}$0.54; $M_{\theta\phi}$-0.89; $M_{\phi r}$0.44; Fault plane solution: $M_0$3.44000×10^{14} NP1: ϕ_s143.00000°, δ78.00000°, λ1.00000°. NP2: ϕ_s52.00000°, δ89.00000°, λ168.00000°.
JMA 06 08:08:51.0±0.0, 34°.87N±0°.08×135°.57E±0°.08, h11km, MV3.5/20, KYOTO OSAKA BORDER REG, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHE	Heguri	0.23	156	P	Pg	08 08 55.9	0.0
JHE				S	Sg	08 08 59.3	+0.1

MAN 06 08:26:12.4, 19°.31N×121°.77E, h1km, mb3.7, ML2.5, MS2.0, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CICP	Calayan Island	0.27	260⇓	eP	Pg	08 26 17.6	-0.1
CICP				i S	Sb	08 26 23.8	-1.5
PACPP	Pamplona Cagay	0.94	205⇑	eP	Pg	08 26 30.5	+0.1
PACPP				eS	Sn	08 26 46.6	-0.2

TRN 06 08:28:19.8, 17°.76N×65°.71W, h20km, MD4.8
NEIC 06 08:28:22.5±1.5, 17°.88N±0°.03×65°.61W±0°.03, h17km±6km, Error ellipse: s-maj=4.9km s-min=3.6km az=205.0
RSPR 06 08:28:23.9, 17°.94N×65°.61W, h4km±1km, MD3.5/13
ISC 06 08:28:22.2±1.1, 17°.85N±0°.04×65°.62W±0°.02, h18km±3km, n85, σ0s84/98, 13C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	0.36	324⇑	eP	Pg	08 28 29.9	+0.1
HUMP	Col San Antoni	0.36	324	eS	Sb	08 28 35.1	-0.4
HUMP	Col San Antoni	0.36	324		Pg	08 28 29.9	+0.1
HUMP					Sb	08 28 35.3	-0.3
HUMP				IAML		08 28 35.8	
	comp=N,10μm,0.2s						
HUMP				IAML		08 28 36.4	
	comp=E,8μm,0.2s						
CBYP	Canovanas	0.47	332⇑	eP	Pg	08 28 31.8	-0.1
CBYP	Canovanas	0.47	332		Pg	08 28 31.8	-0.1
CBYP				IAML		08 28 40.6	
	comp=N,8μm,0.2s						
CBYP				IAML		08 28 40.8	
	comp=E,8μm,0.2s						
IGPR	InterUniversit	0.47	284⇑	eP	Pg	08 28 31.7	-0.1
IGPR	InterUniversit	0.47	284	eS	Sg	08 28 38.8	+0.5
CUPR	Culebra, Puert	0.56	35⇓	eP	Pb	08 28 33.4	-0.1
CUPR	Culebra, Puert	0.56	35	eS	Sb	08 28 40.8	-0.3
CUPR	Culebra, Puert	0.56	35		Pb	08 28 33.3	-0.1
CUPR					Sb	08 28 40.6	-0.4
CUPR				IAML		08 28 41.6	
	comp=E,7μm,0.5s						
CUPR				IAML		08 28 41.9	
	comp=N,6μm,0.6s						
SJG	San Juan	0.56	298		Pg	08 28 33.1	-0.4
SJG				IAML		08 28 43.7	
	comp=N,3μm,0.3s						
SJG	San Juan	0.56	298	eP	Pg	08 28 32.9	-0.6
SJG				eS	Sg	08 28 40.8	-0.3
GCPR	Guaynabo City	0.63	316⇑	eP	Pg	08 28 34.4	-0.4
GCPR	Guaynabo City	0.63	316	eS	Sb	08 28 43.2	+0.1
GCPR	Guaynabo City	0.63	316		Pg	08 28 34.4	-0.4
GCPR					Sg	08 28 42.3	-0.9
STVI	Saint Thomas	0.81	52⇓	eP	Pb	08 28 37.3	-0.4
STVI	Saint Thomas	0.81	52	eS	Sg	08 28 48.2	-0.6
STVI	Saint Thomas	0.81	52		Pb	08 28 37.4	-0.4
STVI					Sb	08 28 47.8	-0.5
STVI				IAML		08 28 50.2	
	comp=N,2μm,0.3s						
STVI				IAML		08 28 51.2	
	comp=E,2μm,0.2s						
CDVI	St. Croix	0.82	97⇓	eP	Pb	08 28 38.3	+0.4
CDVI	St. Croix	0.82	97	eS	Sn	08 28 51.4	+0.8
CDVI	St. Croix	0.82	97		Pb	08 28 38.3	+0.4
CDVI					Sn	08 28 51.0	+0.4
CDVI				IAML		08 28 58.0	
	comp=N,6μm,0.5s						
CDVI				IAML		08 28 58.4	
	comp=E,5μm,0.6s						
CDVI	St. Croix	0.82	97	eP	Pg	08 28 38.4	+0.2
CDVI				eS	Sn	08 28 51.1	+0.5
CELP	Cerrillos	0.94	284⇓	eP	Pb	08 28 39.8	-0.1
CELP	Cerrillos	0.94	284		Pb	08 28 39.6	-0.3
SJVI	Gifft Hill Sch	0.94	59⇓	eP	Pb	08 28 39.5	-0.5
SJVI	Gifft Hill Sch	0.94	59	eS	Sb	08 28 52.1	0.0
SJVI	Gifft Hill Sch	0.94	59		Pb	08 28 39.5	-0.5
SJVI					Sb	08 28 52.1	0.0
SJVI	Gifft Hill Sch	0.94	59	Pg	Pb	08 28 39.5	-0.5
SJVI				IAML		08 28 56.7	
	comp=E,727nm,0.3s						
SJVI				IAML		08 28 56.8	
	comp=N,836nm,0.3s						
EMPR	Esperanza - Ma	1.06	306		Pb	08 28 42.0	0.0
EMPR				IAML		08 28 59.2	
	comp=N,4μm,0.5s						
TBVI	Tortola	1.11	59⇑	eP	Pb	08 28 42.3	-0.5
TBVI	Tortola	1.11	59	eS	Sb	08 28 56.9	-0.1
TBVI	Tortola	1.11	59		Pb	08 28 42.3	-0.5
TBVI					Sb	08 28 56.9	-0.1
UUPR	Utuado, UPR, P	1.12	291⇑	eP	Pn	08 28 42.6	-0.3
UUPR	Utuado, UPR, P	1.12	291		Pn	08 28 42.6	-0.3
UUPR	Utuado, UPR, P	1.12	291	Pg	Pn	08 28 42.6	-0.3
UUPR				IAML		08 29 03.8	
	comp=N,14μm,0.4s						
UUPR				IAML		08 29 04.3	
	comp=E,12μm,0.3s						
AOPR	Arecibo Observ	1.18	295⇓	eP	Pn	08 28 43.6	-0.2
AOPR	Arecibo Observ	1.18	295	eS	Sb	08 28 59.3	+0.2
AOPR	Arecibo Observ	1.18	295		Pn	08 28 43.5	-0.4
AOPR				IAML		08 29 07.4	
	comp=N,3μm,0.5s						
AOPR	Arecibo Observ	1.18	295	eP	Pn	08 28 43.7	-0.2
AOPR				eS	Sb	08 28 59.4	+0.2
MLPR	Magueyes Islan	1.36	275⇑	eP	Pn	08 28 46.7	+0.5
MLPR	Magueyes Islan	1.36	275		Pn	08 28 46.6	+0.4
CRPR	Cabo Rojo, PR	1.42	277⇑	eP	Pn	08 28 47.5	+0.4
CRPR	Cabo Rojo, PR	1.42	277	eS	Sb	08 29 07.0	+1.0
CRPR	Cabo Rojo, PR	1.42	277		Pn	08 28 47.4	+0.3
LSP	Las Mesas	1.43	283⇑	eP	Pb	08 28 48.5	+0.2
LSP	Las Mesas	1.43	283	eS	Sg	08 29 09.4	+1.0
PRSN	Puerto Rico Se	1.49	284⇑	eP	Pb	08 28 49.2	-0.2
PRSN	Puerto Rico Se	1.49	284		Pb	08 28 49.2	-0.2
AGPR	Aguadilla, PR	1.54	294⇑	eP	Pn	08 28 49.7	+0.9
AGPR	Aguadilla, PR	1.54	294	eS	Sb	08 29 10.3	+0.9
AGPR	Aguadilla, PR	1.54	294		Pn	08 28 49.5	+0.8
AGPR				IAML		08 29 12.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,1µm,0.4s						
AGPR				IAML		08 29 22.4	
	comp=N,2µm,0.7s						
IDE	Isla Desecheo	1.84	287	⇑eP	Pb	08 28 54.6	-0.7
IDE	Isla Desecheo	1.84	287	eS	Sb	08 29 19.9	+1.9
SMRT	St. Maarten	2.44	85	Pn	Pn	08 29 01.8	+0.7
SMRT				IAML		08 29 44.0	
	comp=E,530nm,0.3s						
SMRT				IAML		08 29 47.6	
	comp=N,462nm,0.4s						
SMRT	St. Maarten	2.44	85	eP	Pn	08 29 01.6	+0.5
SMRT				eS	Sn	08 29 32.1	+1.7
PCDR	Punta Cana, DR	2.70	285	⇑eP	Pb	08 29 10.3	+0.3
PCDR	Punta Cana, DR	2.70	285		Pb	08 29 08.1	-2.0
PCDR				IAML		08 29 59.9	
	comp=E,179nm,0.8s						
PCDR				IAML		08 30 04.4	
	comp=N,315nm,1.6s						
ANWB	Willy Bob	3.66	92	Pn	Pn	08 29 18.8	+0.8
ANWB				IAML		08 30 13.8	
	comp=N,76nm,3.0s						
ANWB	Willy Bob	3.66	92	eP	Pn	08 29 18.2	+0.3
ANWB				eS	Sn	08 30 01.6	+0.9
ANBD	Bethesda, Anti	3.77	102	eP	Pn	08 29 20.5	+1.1
ANBD				eS	Sn	08 30 03.7	+0.4
GDHS	Morne Mazeau,	4.01	112		Pn	08 29 24.3	+1.5
GDHS				IAML		08 30 15.4	
	comp=E,201nm,0.3s						
ABD	La Joyeuse, An	4.18	108	eP	Pn	08 29 25.9	+0.8
ABD	La Joyeuse, An	4.18	108	eS	Sn	08 30 13.7	+0.1
CBE	Ff, Capester	4.23	114	eP	Pn	08 29 25.6	-0.2
CBE	Ff, Capester	4.23	114	eS	Sn	08 30 15.4	+0.6
TDBA	Terre de Bas,	4.30	117	Pn	Pn	08 29 29.2	+2.4
TDBA				IAML		08 31 23.9	
	comp=E,114nm,2.0s						
TDBA	Terre de Bas,	4.30	117	eP	Pn	08 29 27.4	+0.6
TDBA	Terre de Bas,	4.30	117	eS	Sn	08 30 16.3	-0.3
MDCT	Cottage Hill,	4.56	119	eP	Pn	08 29 29.6	-0.8
MDCT	Cottage Hill,	4.56	119	eS	Sn	08 30 23.2	+0.3
MAGL	Barre de l'ile	4.56	114	Pn	Pn	08 29 32.2	+1.8
MAGL				IAML		08 30 28.7	
	comp=N,145nm,1.7s						
MAGL	Barre de l'ile	4.56	114	eP	Pn	08 29 31.1	+0.7
MAGL	Barre de l'ile	4.56	114	eS	Sn	08 30 22.3	-0.7
DSLB	Salisbury	4.69	120	eP	Pn	08 29 32.5	+0.4
DSLB	Salisbury	4.69	120	eS	Sn	08 30 24.5	-1.5
SVN	Savane Anatole	5.22	124	Pn	Pn	08 29 39.8	+0.4
FDF	Fort de France	5.30	125	Pn	Pn	08 29 40.3	-0.2
FDF				IAML		08 32 04.7	
	comp=E,65nm,2.0s						
BIM	Bigot	5.49	126	Pn	Pn	08 29 43.1	0.0
BIM	Bigot	5.49	126	eP	Pn	08 29 42.4	-0.6
BIM	Bigot	5.49	126	eS	Sn	08 30 43.7	-2.1
MPOM	Morne Pois Mar	5.69	126	eP	Pn	08 29 46.4	+0.5
MPOM	Morne Pois Mar	5.69	126	eS	Sn	08 30 48.6	-2.3
SLBI	Saint Lucia, B	5.87	130	eP	Pn	08 29 47.7	-0.6
SLBI	Saint Lucia, B	5.87	130	eS	Sn	08 30 52.0	-3.2
GRTK	Grand Turk	6.34	306	Pn	Pn	08 29 56.0	+1.3

*NORS **06** 08:32:44.7±0.0, 43°.24N×46°.33E, h9km, MPVA4.3*
*MOS **06** 08:32:45.0±0.0, 43°.20N×46°.32E, h13km, MPVA4.3*
*AZER **06** 08:32:45.6±0.4, 43°.12N×45°.99E, h10km, Error ellipse: s-maj=6.8km s-min=4.5km az=0.0*
*DRS **06** 08:32:45.3±0.0, 43°.41N×46°.27E, h18km, ML3.5*
*TIF **06** 08:32:46.1, 43°.27N×46°.23E, h23km±1km*
ISC 06 08:32:44.1±0.8, **43°.37N**±0°.03×**46°.37E**±0°.02, **h7**km±5km, **n91**, σ**1.56s**/169, **4C-6D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	Dylym	0.35	147	i Pg	Pb	08 32 52.9	+0.1
DLMR				i Sg	Sb	08 32 57.3	-1.1
	4µm,0.3s						
DLMR	Dylym	0.35	147	⇓iPG	Pb	08 32 52.8	+0.1
DLMR				i S	Sb	08 32 58.5	+0.1
DLMR				pmax	pmax		
	comp=Z,469nm,0.2s						
DVE	Vedeno	0.44	203	i Pg	Pg	08 32 53.0	+0.3
DVE				eSg	Sg	08 32 57.6	-1.0
DVE	Vedeno	0.44	203	i PG	Pg	08 32 53.0	+0.3
GROC	Groznyy	0.45	249	ePg	Pb	08 32 54.4	+0.1
GROC				eSg	Sb	08 33 00.0	-1.1
GROC	Groznyy	0.45	249	ePG	Pb	08 32 54.3	+0.1
GROC				eS	Sb	08 33 01.1	0.0
GROC				pmax	pmax		
	comp=Z,187nm,0.2s						
DBC	Dubki	0.48	135	i Pg	Pb	08 32 55.5	+0.5
DBC				i Sg	Sb	08 33 02.2	0.0
	comp=Z,1µm,0.4s						
DBC	Dubki	0.48	135	⇓iPG	Pb	08 32 55.3	+0.3
DBC				i S	Sb	08 33 02.3	0.0
DBC				pmax	pmax		
	comp=Z,157nm,0.2s						
DBC				smax	smax		
	comp=N,1µm,0.4s						
BTLR	Botlikh	0.71	189	ePg	Pg	08 32 57.8	0.0
BTLR				eSg	Sg	08 33 06.1	-0.9
BTLR	Botlikh	0.71	189	i PG	Pg	08 32 57.4	-0.4
BTLR				i S	Sg	08 33 06.7	-0.3
UNCR	Uncukul	0.72	154	ePg	Pb	08 32 58.9	-0.2
UNCR				i Sg	Sg	08 33 08.1	+0.6
	comp=N,851nm,0.4s						
UNCR	Uncukul	0.72	154	i PG	Pb	08 32 58.8	-0.2
UNCR				i S	Sb	08 33 09.3	+0.2
UNCR				pmax	pmax		
	comp=Z,97nm,0.1s						
UNCR				smax	smax		
	comp=E,788nm,0.4s						
BUJR	Buynaksk	0.77	134	ePg	Pb	08 33 00.4	+0.7
BUJR				i Sg	Sb	08 33 10.6	+0.3
	comp=E,2µm,0.4s						
BUJR	Buynaksk	0.77	134	ePG	Pn	08 33 01.6	+0.3
BUJR				i S	Sn	08 33 13.3	+0.2
BUJR				pmax	pmax		
	comp=Z,187nm,0.3s						
BUJR				smax	smax		
	comp=E,2µm,0.4s						
MAK	Makhachkala	0.93	115	⇓iPG	Pn	08 33 04.9	+1.4
MAK				e		08 33 18.1	
MAK				pmax	pmax		
	comp=Z,112nm,0.2s						
MAK				smax	smax		
	comp=E,648nm,0.6s						
MAK				smax	smax		
	comp=E,571nm,0.5s						
GNBR	Gunib	1.07	156	ePg	Pb	08 33 05.0	+0.1
GNBR				i Sg	Sg	08 33 18.5	-0.1
	comp=E,961nm,0.2s						
GNBR	Gunib	1.07	156	⇑iPG	Pn	08 33 05.7	+0.2
GNBR				i S	Sb	08 33 20.3	+1.2
GNBR				pmax	pmax		
	comp=Z,93nm,0.4s						
SHTL	Shatili	1.14	232	P	Pg	08 33 05.2	-0.7
SHTL				S	Sg	08 33 19.7	-1.0
SHTL	Shatili	1.14	232	ePG	Pg	08 33 05.2	-0.7
SHTL				eS	Sg	08 33 19.7	-1.0
TRKR	Terskaya	1.24	287	ePg	Pn	08 33 09.1	+1.3
TRKR				eSg	Sn	08 33 26.1	+1.4
TRKR	Terskaya	1.24	287	ePG	Pn	08 33 10.3	+2.5
TRKR				eS	Sn	08 33 27.7	+3.0
VLKR	Vladikavkaz	1.27	256	ePg	Pn	08 33 09.8	+1.5
VLKR				eSg	Sn	08 33 28.0	+2.3
VLKR	Vladikavkaz	1.27	256	ePG	Pn	08 33 09.8	+1.5
VLKR				eS	Sn	08 33 28.0	+2.3
KMKR	Kumukh	1.35	156	ePg	Pg	08 33 09.6	-0.4
KMKR				i Sg	Sg	08 33 26.8	-0.6
	comp=Z,1µm,0.2s						
KMKR	Kumukh	1.35	156	ePG	Pb	08 33 10.9	+1.1
KMKR				i S	Sn	08 33 29.0	+1.3
KMKR				pmax	pmax		
	comp=Z,27nm,0.2s						
KMKR				smax	smax		
	comp=N,1µm,0.2s						
PNSH	Pansheti	1.48	241	P	Pn	08 33 11.0	-0.2
PNSH				S	Sg	08 33 29.1	-2.5
URKR	Urkarakh	1.52	142	ePg	Pn	08 33 12.4	+0.6
URKR				eSg	Sb	08 33 32.1	-0.1
URKR	Urkarakh	1.52	142	ePG	Pg	08 33 13.9	+0.6
URKR				i S	Sg	08 33 34.6	+1.6
URKR				pmax	pmax		
	comp=Z,89nm,0.2s						
URKR				smax	smax		
	comp=N,366nm,0.4s						
ARNR	Ardon	1.53	264	ePg	Pb	08 33 12.8	+0.1
ARNR				eSg	Sb	08 33 32.9	+0.5
ARNR	Ardon	1.53	264	ePG	Pb	08 33 13.0	+0.2
ARNR				eS	Sg	08 33 35.0	+1.7
LGD	Lagodekhi	1.53	183	P	Pb	08 33 12.7	-0.2
LGD				S	Sn	08 33 31.9	-0.1
LGD	Lagodekhi	1.53	183	ePG	Pb	08 33 12.6	-0.2
LGD				eS	Sn	08 33 31.8	-0.1
PRTR	Priterechnaya	1.56	285	ePg	Pg	08 33 14.1	0.0
PRTR				eSg	Sg	08 33 34.9	+0.6
PRTR	Priterechnaya	1.56	285	ePG	Pg	08 33 14.8	+0.7
PRTR				eS	Sg	08 33 37.0	+2.7
LACR	Lac	1.61	251	ePg	Pn	08 33 12.9	-0.1
LACR				eSg	Sn	08 33 33.7	-0.3
LACR	Lac	1.61	251	ePG	Pn	08 33 12.9	-0.1
LACR				eS	Sn	08 33 33.7	-0.3
STDR	Stavd-Durt	1.68	271	ePg	Pb	08 33 15.3	0.0
STDR				eSg	Sb	08 33 37.1	+0.5
STDR	Stavd-Durt	1.68	271	ePN	Pg	08 33 16.6	+0.3
STDR				eS	Sg	08 33 40.1	+2.1
KORR	Kora	1.70	261	ePg	Pn	08 33 15.4	+1.2
KORR				eSg	Sn	08 33 37.4	+1.1
KORR	Kora	1.70	261	ePN	Pg	08 33 16.8	+0.1
KORR				eS	Sg	08 33 39.4	+0.6
ZKTA	Zakatala	1.74	174	P	Pg	08 33 17.2	-0.2
	SNR=9.5						
ZKTA				S	Sb	08 33 38.8	+0.5
ZEI	Tsey	1.90	253	ePg	Pn	08 33 18.0	+1.0
ZEI				eSg	Sn	08 33 42.1	+0.9
ZEI	Tsey	1.90	253	ePN	Pn	08 33 18.0	+1.0
DDFL	Dedoflistskaro	1.93	186	P	Pg	08 33 21.2	+0.1
DDFL				S	Sg	08 33 51.3	+5.3
DDFL	Dedoflistskaro	1.93	186	ePN	Pg	08 33 21.1	+0.1
DDFL				eS	Sg	08 33 51.3	+5.3
DRN	Derbent	1.97	132	ePg	Pb	08 33 19.7	-0.5
DRN				eSg	Sb	08 33 44.9	-0.1
DRN	Derbent	1.97	132	ePN	Pb	08 33 19.7	-0.5
DGRG	David-gareji	2.05	201	P	Pb	08 33 21.1	-0.5
DGRG	David-gareji	2.05	201	ePN	Pb	08 33 21.1	-0.5
DIGR	Digorskoe uzhe	2.09	258	ePg	Pn	08 33 20.8	+1.1
DIGR				eSg	Sn	08 33 47.2	+1.1
DIGR	Digorskoe uzhe	2.09	258	ePN	Pn	08 33 20.8	+1.1
DIGR				eS	Sn	08 33 47.2	+1.1
AKT	Akhty	2.14	151	ePg	Pb	08 33 22.4	-0.8
AKT				i Sg	Sb	08 33 49.6	-0.3
	comp=N,236nm,0.4s						
AKT	Akhty	2.14	151	ePN	Pb	08 33 23.1	-0.1
AKT				i S	Sb	08 33 51.1	+1.2
AKT				pmax	pmax		
	comp=Z,54nm,0.2s						
AKT				smax	smax		
	comp=E,417nm,0.3s						
KSMR	Kasumkent	2.19	143	ePg	Pn	08 33 22.2	+1.3
KSMR				eSg	Sn	08 33 50.3	+2.0
KSMR	Kasumkent	2.19	143	ePN	Pn	08 33 22.2	+1.3
KSMR				eS	Sn	08 33 50.3	+2.0
SEKA	Sheki	2.24	164	P	Pb	08 33 23.8	-1.1
	SNR=15						
SEKA				S	Sb	08 33 52.7	-0.2
ONI	Oni	2.27	251	P	Pn	08 33 23.6	+1.5
ONI				S	Sb	08 33 54.6	+0.8
ONI	Oni	2.27	251	ePN	Pn	08 33 23.6	+1.5
ONI				eS	Sb	08 33 54.6	+0.8
QSAR	Qusar	2.32	142	P	Pb	08 33 27.5	+1.2
QSAR				S	Sg	08 33 58.5	-0.2
ALIG	Mtskhetisjvari	2.36	239	P	Pn	08 33 24.6	+1.3
ALIG	Mtskhetisjvari	2.36	239	ePN	Pn	08 33 24.6	+1.3
QZX	Qazax, Azerbai	2.42	198	P	Pn	08 33 25.1	+1.0
QZX				S	Sb	08 33 57.3	-0.7
KBZ	Khabaz	2.55	279	ePN	Pn	08 33 25.3	-0.4
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
QUBA	Quba, Azerbaij	2.55	141	P	Pb	08 33 29.6	-0.6
QUBA				S	Sb	08 34 04.0	+2.1
XNQ	Khinaliq	2.56	148	P	Pb	08 33 30.1	-0.3
XNQ				S	Sg	08 34 04.6	-1.6
BRNG	Burnasheti	2.56	228	P	Pn	08 33 28.1	+1.9
BRNG				S	Sb	08 34 01.1	-1.0
BRNG	Burnasheti	2.56	228	ePN	Pn	08 33 28.0	+1.9
BRNG				eS	Sb	08 34 01.1	-1.0
DMNI	Dmanisi	2.60	219	P	Pn	08 33 27.6	+1.0
DMNI				S	Sn	08 34 00.1	+1.7
DMNI	Dmanisi	2.60	219	ePN	Pn	08 33 27.5	+1.0
DMNI				eS	Sn	08 34 00.1	+1.7
QBL	Gabala	2.65	155	P	Pn	08 33 29.9	+2.6
QBL				S	Sb	08 34 05.5	+0.8
NEY	Neytrino	2.66	269	ePn	Pn	08 33 28.9	+1.4
NEY				eSn	Sn	08 34 02.1	+2.1
NEY	Neytrino	2.66	269	d iPN	Pn	08 33 26.1	-1.4
NEY				i S	Sn	08 33 59.2	-0.9
NEY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GDB	GEDABAY	2.68	190	P	Pn	08 33 28.4	+0.6
	SNR=16						
GDB				S	Sn	08 34 01.5	+0.9
GANJ	Ganja	2.72	181	P	Pn	08 33 28.8	+0.6
GANJ				S	Sn	08 34 02.0	+0.7
SHA1	Shidzhatmaz	2.72	279	ePn	Pn	08 33 30.2	+1.8
SHA1				eSn	Sn	08 34 04.1	+2.4
SHA1	Shidzhatmaz	2.72	279	ePN	Pn	08 33 27.8	-0.6
SHA1				eS	Sn	08 34 03.0	+1.4
KIV	Kislovodsk	2.73	284	i PN	Pn	08 33 28.4	0.0
KIV				pmax	pmax		
	comp=Z,8.0nm,3.9s						
GOF	Gofitskoye	2.93	306	⇑ePN	Pn	08 33 33.0	+2.0
GOF				eS	Sg	08 34 18.6	+0.5
GOF				pmax	pmax		
	comp=Z,45nm,0.6s						
GOF				smax	smax		
	comp=N,167nm,0.5s						
GOF				smax	smax		
	comp=E,179nm,0.7s						
SIZA	Siyzn	2.96	140	P	Pb	08 33 36.9	-0.3
SIZA				S	Sb	08 34 15.1	+1.5
PQL	Pirkuli	3.06	146	P	Pb	08 33 36.6	-2.4
PQL				S	Sb	08 34 17.4	+0.8
GNI	Garni	3.44	201	i PN	Pn	08 33 38.8	+0.7
YRD	Yardimli	4.67	162	P	Pn	08 33 56.2	+1.1
	SNR=5.3						
YRD				S	Sn	08 34 48.2	-1.4
BELG	Belogornoye	9.07	5	i P	Pn	08 34 56.5	+1.2
AKTO	Aktyubinsk	10.65	44	⇓Pn	Pn	08 35 15.0	-1.9
	comp=E,2.4nm,1.4s						
AKTO				⇓Sn	Sn	08 37 07.7	-8.7
	comp=E,1.3nm,0.7s						
AB31	Akbulak array	11.08	53	Pn	Pn	08 35 24.9	+2.1
	comp=E,0.2nm,0.3s,baz=246,slow=13,SNR=13						
AB31				⇑Sn	Sn	08 37 21.9	-5.0
	comp=E,0.2nm,0.2s,baz=241,slow=24,SNR=4.3						
OBN	Obninsk	13.37	335	⇑eP	Pn	08 35 55.5	+1.5
OBN				pmax	pmax		
	comp=Z,6.0nm,0.3s						
OBN				MLR	MLR		
	comp=Z,27nm,14.0s						
ARU	Arti	15.22	27	i P	Pn	08 36 20.5	+1.3
ARU				pmax	pmax		
	comp=Z,1.0nm,0.1s						
MNK	Minsk	16.42	319	i P	Pn	08 36 30.6	-4.2
	comp=E,2.0nm,0.8s						
MNK				i P	Pn	08 36 30.6	-4.2
	comp=N,35nm,0.8s						
MNK				i P	Pn	08 36 30.6	-4.2
	comp=Z,8.0nm,0.9s,baz=126						
MNK				i PP	sP	08 36 39.6	-1.1
MNK				i PPP	PPP	08 36 47.3	
MNK				i S	Sn	08 39 33.9	-3.3
MNK				i SS	S	08 39 48.3	-1.2
MNK				i SSS	SSS	08 40 01.0	
MNK				i LQ	LQ	08 41 21.8	
MNK				i LR	LR	08 41 22.6	
MNK				i LRM	MLR	08 42 31.3	
	comp=N,960nm,18.6s						
MNK				i LRM	MLR	08 42 34.7	
	comp=E,156nm,17.8s						
MNK				i LRM	MLR	08 42 40.7	
	comp=Z,45nm,14.4s						
MNK	Minsk	16.42	319	i P	Pn	08 36 30.5	-4.2
MNK				i S	Sn	08 39 33.8	-3.3
MNK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,35nm,0.8s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,960nm,19.0s						
MNK				MLR	MLR		
	comp=E,156nm,18.0s						
MNK				MLR	MLR		
	comp=Z,45nm,14.0s						
BRVK	Borovoye	18.58	50	i P	Pn	08 37 04.1	+2.5
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	21.76	333	eP	P	08 37 40.3	+4.4
FINES				pmax	pmax		
	comp=Z,6.0nm,1.1s						

*UCR **06** 08:47:07.4±1.0, 10°.53N×86°.10W, h5km, MW3.6*
*INET **06** 08:47:08.0±0.3, 10°.49N×86°.09W, h14km±3km, MW3.4*
ISC 06 08:47:06.6±1.7, **10°.53N**±0°.04×**86°.13W**±0°.06, **h10**km±12km, **n33**, σ**0.44s**/51, **4C-9D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	San Juanillo,	0.62	138	eP	Pg	08 47 19.4	+0.8
SAJU				eS	Sb	08 47 28.2	0.0
ORTG	Ortega, Santa	0.68	104	eP	Pg	08 47 20.2	+0.3
ORTG				eS	Sb	08 47 30.9	+0.8
ORTG	Ortega, Santa	0.68	104	eP	Pg	08 47 20.5	+0.7
GBS3	Finca Las Img	0.71	69	⇓iP	Pg	08 47 20.8	+0.3
GBS3				eS	Sb	08 47 31.0	0.0
LAPC	Finca la Perla	0.73	71	⇓iP	Pg	08 47 20.9	+0.2
LAPC				eS	Sb	08 47 31.3	-0.2
BUEV	Buena Vista	0.76	69	⇓iP	Pg	08 47 21.6	+0.2
BUEV				eS	Sb	08 47 32.6	+0.1
DUNO	Dulce Nombre,	0.77	125	eP	Pg	08 47 21.7	+0.2
GB1A	Borinquen Arri	0.78	68	eP	Pg	08 47 21.9	+0.2
GB1A				eS	Sb	08 47 33.0	0.0
GPS3	Bodega del ICE	0.79	73	⇓iP	Pg	08 47 22.0	+0.1
GPS3				eS	Sb	08 47 33.9	+0.7
GPS2	Hotel Rincn d	0.80	74	⇓iP	Pg	08 47 22.3	+0.2
GPS2				eS	Sb	08 47 34.4	+0.9
GPS1	Guardaparques	0.81	72	⇓iP	Pg	08 47 22.4	+0.1
GPS1				eS	Sb	08 47 33.8	0.0
BUAI	Buenos Aires	0.86	66	⇓eP	Pg	08 47 23.3	0.0
INDI	Punta indio, G	0.90	137	eP	Pg	08 47 23.5	-0.6
INDI				eS	Sn	08 47 38.0	-0.4
GUAB	Guayabo de Bag	0.91	78	⇑iP	Pg	08 47 24.0	-0.2
GUAB				eS	Sb	08 47 37.0	+0.4
COLC	Colonia	0.92	81	⇑iP	Pg	08 47 24.4	-0.1
COLC				eS	Sb	08 47 37.9	+0.8
MESS	Mesas	0.95	77	⇓iP	Pg	08 47 24.6	-0.3
MESS				eS	Sb	08 47 38.0	+0.2
HORNC	Hornillas	0.96	79	⇑iP	Pg	08 47 24.8	-0.3
HORNC				eS	Sb	08 47 38.1	0.0
CUI	Cuipilapa	0.96	82	⇑eP	Pg	08 47 25.1	-0.1
CUI				eS	Sb	08 47 38.7	+0.5
VMAR	Armenia, Volca	1.04	74	eP	Pg	08 47 26.5	0.0
ACAL	Aguas Claras	1.08	84	⇓eP	Pg	08 47 27.1	-0.4
ACAL				eS	Sb	08 47 42.4	+0.6
PTEN	Parque Tenorio	1.14	80	i P	Pg	08 47 28.2	-0.4
PTEN				eS	Sn	08 47 44.4	0.0
CONN	Concepcion	1.15	26	eP	Pb	08 47 28.4	-0.1
JTS	Las Juntas de	1.19	101	eP	Pb	08 47 28.0	-1.2
VERA	Finca Concepci	1.28	75	eP	Pn	08 47 30.3	-0.3
VERA				eS	Sn	08 47 49.0	+1.1
CEDE	Laguna Cedeo	1.41	91	eP	Pn	08 47 32.2	-0.1
FORC	Fortuna	1.44	92	eP	Pn	08 47 32.8	+0.1
MGAN	Managua	1.61	356	eP	Pn	08 47 35.0	-0.1
JACO	JACO, Garabito	1.69	120	eP	Pb	08 47 37.6	-0.1
COPN	Copaltepe	1.70	345	eP	Pn	08 47 36.5	+0.1
ACON	Acoyapa	1.71	33	eP	Pn	08 47 36.1	-0.4
BOAB	BOACO BROADBAN	1.96	13	eP	Pn	08 47 39.7	-0.2
MATN	Matagalpa	2.40	5	eP	Pn	08 47 46.1	0.0
CDM	Cerro de Muert	2.53	112	eP	Pn	08 47 48.2	+0.1

*IDC **06** 09:16:15.1±5.2, 22°.12S×173°.17E, h76km±35km, mb3.4/3, mbtmp3.7/5, MS2.6/3, Error ellipse: s-maj=111.5km s-min=19.1km az=159.0*
*NOU **06** 09:16:23.5, 22°.78S×172°.21E, h0km, MLv4.2/10, Southeast of Loyalty Islands*
ISC 06 09:16:15.3±1.3, **22°.4S**±0°.2×**173°.3E**±0°.1, **h100**km, **n17**, σ**1.66s**/15, **mb3.7**/3, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	4.95	280	P	Pn	09 17 27.1	-0.2
LIFNC	LIFOU	5.84	285	P	Pn	09 17 40.0	+0.6
YATNC	Mamie plateau,	5.92	272	P	Pn	09 17 39.2	-1.3
OUENC	Ouen Island, N	5.95	269	P	Pn	09 17 38.6	-2.3
ONTNC	Ouen Toro	6.31	270	P	Pn	09 17 45.6	-0.2
DZM	Mont Dzumac	6.33	272	P	Pn	09 17 44.1	-2.1
	12nm,0.4s,baz=135,slow=15,SNR=166						
DZM				S	Sn	09 18 55.8	-1.3
	6.2nm,0.5s,baz=227,slow=22,SNR=1.7						
DZM				LR	LR	09 19 14.2	
	comp=Z,48nm,21.6s,baz=58,slow=29						
DZM	Mont Dzumac	6.33	272	P	Pn	09 17 44.4	-1.8
MSVF	Nonsavu	6.46	45	P	Pn	09 17 46.1	-1.9
	1.0nm,0.3s,baz=293,slow=23,SNR=6.3						
MSVF				LR	LR	09 20 02.6	
	comp=Z,77nm,19.8s,baz=211,slow=36						
NOUC	Port Laguerre	6.46	271	P	Pn	09 17 46.1	-1.8
DVP	Devils Point	6.66	313	P	Pn	09 17 57.3	+6.7
NFK	Norfolk Island	8.18	215	P	Pn	09 18 11.7	+0.5
	240nm,1.0s						
KOUNC	Koumac, New Ca	8.56	281	P	Pn	09 18 17.5	+1.0
AFI	Afiamalu	16.52	62	LR	LR	09 25 16.2	
	comp=Z,16nm,21.1s,baz=102,slow=33						
ASAR	Alice Springs	36.17	260	P	P	09 23 10.8	+2.4
	0.9nm,0.9s,baz=102,slow=9.3,SNR=16						
	0.9nm,0.9s						
WRA	Warramunga Arr	36.32	266	P	P	09 23 10.4	+0.7
	0.4nm,0.4s,baz=97,slow=8.6,SNR=22						
	0.4nm,0.4s						
RPN	Rapa Nui	69.41	112	LR	LR	09 48 57.1	
	comp=Z,93nm,21.8s,baz=332,slow=28						
ILAR	Eielson Array	92.16	16	P	P	09 29 14.7	+1.6
	0.4nm,0.8s,baz=220,slow=3.5,SNR=6.0						
	0.4nm,0.8s						

*IDC **06** 09:29:10.0±0.8, 64°.53N×150°.26W, h0km, mb3.9/10, mbtmp3.9/13, ML3.5/3, MS3.5/5, Error ellipse: s-maj=14.7km s-min=10.5km az=178.0*
*NEIC **06** 09:29:10.1±1.5, 64°.19N±0°.02×150°.05W±0°.05, h19km±5km, Error ellipse: s-maj=3.5km s-min=2.7km az=117.0*
*AEIC **06** 09:29:10±1.6, 64°.18N±0°.02×150°.08W±0°.05, h20km±7km, ML4.1, ML4.3/120(NEIC), Mwr4.0/118(NEIC), Error ellipse: s-maj=3.8km s-min=2.4km az=135.0*
*NEIC **06** 09:29:10, 64°.18N×150°.08W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.05; $M_{\theta\theta}$-0.84; $M_{\phi\phi}$0.89; $M_{r\theta}$-0.51; $M_{\theta\phi}$-0.73; $M_{\phi r}$0.15; Fault plane solution: $M_0$1.25000×10^{15} NP1:ϕ_s115.64000°, δ86.18000°, λ-155.04000°. NP2:ϕ_s23.86000°, δ65.10000°, λ-4.21000°. Principal axes: T 1.2413, Plg15.0000°, Azm247.0000°; N 0.0267, Plg65.0000°, Azm124.0000°; P -1.2680, Plg20.0000°, Azm343.0000°;*
ISC 06 09:29:10.7±0.6, **64°.19N**±0°.02×**150°.05W**±0°.02, **h22**km±4km, **n181**, σ**0.86s**/177, **mb4.0**/11, **MS3.6**/4, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWN	Browne	0.26	93	Pg	Pb	09 29 17.8	+1.0
BWN				IAML		09 29 23.0	
	comp=N,29µm,0.6s						
BPAW	Bear Paw Mtn.	0.42	258		Pb	09 29 18.7	-0.6
BPAW				IAML		09 29 25.0	
	comp=N,34µm,0.4s						
BPAW	Bear Paw Mtn.	0.42	258		Sb	09 29 24.7	-0.6
BPAW	Bear Paw Mtn.	0.42	258	P	Pb	09 29 18.9	-0.5
	baz=78						
BPAW				S	Sb	09 29 24.7	-0.6
	baz=78						
NEA2	Nenana	0.59	46		Pb	09 29 21.9	-0.4
NEA2					Sb	09 29 30.1	-0.1
NEA2	Nenana	0.59	46	IAML		09 29 31.5	
	comp=E,12µm,0.3s						
NEA2				IAML		09 29 32.3	
	comp=N,12µm,0.3s						

NEA2	Nenana	0.59	46	P	Pb	09 29 21.9	-0.4
	baz=227						
NEA2				S	Sb	09 29 30.1	-0.1
	baz=227						
MCK	McKinley	0.67	132		Pb	09 29 23.2	-0.6
MCK				IAML		09 29 34.2	
	comp=E,18µm,0.7s						
MCK	McKinley	0.67	132		Sb	09 29 31.2	-1.4
MCK	McKinley	0.67	132	P	Pb	09 29 23.2	-0.6
	baz=312						
KTH	Kantishna Hill	0.74	212		Pb	09 29 24.1	-0.8
KTH					Sb	09 29 33.6	-1.1
TRF	Thorofare Moun	0.75	188		Pb	09 29 24.5	-0.6
TRF				IAML		09 29 36.3	
	comp=N,9µm,0.5s						
TRF				IAML		09 29 36.7	
	comp=E,10µm,1.3s						
TRF	Thorofare Moun	0.75	188	P	Pb	09 29 24.4	-0.6
	baz=7.1						
MLY	Manley	0.90	341		Pb	09 29 27.5	-0.1
MLY	Manley	0.90	341		Sn	09 29 39.8	-0.5
MLY	Manley	0.90	341	P	Pb	09 29 27.5	-0.1
	baz=161						
MLY				S	Sn	09 29 39.8	-0.5
	baz=161						
WRH	Wood River Hil	0.90	71		Pb	09 29 27.2	-0.4
RND	Reindeer	0.95	145		Pb	09 29 28.2	-0.3
RND	Reindeer	0.95	145		Sb	09 29 39.9	-0.6
I23K	Minto, Yukon-K	1.01	17		Pb	09 29 28.8	-0.6
I23K				IAML		09 29 43.6	
	comp=E,10µm,0.3s						
I23K				IAML		09 29 44.2	
	comp=N,10µm,0.4s						
I23K	Minto, Yukon-K	1.01	17	P	Pb	09 29 28.9	-0.4
	baz=198						
I23K				S	Sn	09 29 42.9	-0.1
	baz=198						
CHUM	Lake Minchumin	1.04	254		Pb	09 29 29.2	-0.7
CHUM					Sb	09 29 43.3	+0.1
CHUM	Lake Minchumin	1.04	254	P	Pb	09 29 29.2	-0.7
	baz=72						
CHUM				S	Sb	09 29 43.3	+0.1
	baz=72						
CCB	Clear Creek Bu	1.08	64		Pb	09 29 29.8	-0.8
CCB				IAML		09 29 46.8	
	comp=E,7µm,0.2s						
CCB				IAML		09 29 46.9	
	comp=N,9µm,0.2s						
MDM	Murphy Dome	1.10	45		Pn	09 29 30.3	-0.5
MDM	Murphy Dome	1.10	45		Sb	09 29 44.1	-0.9
MDM	Murphy Dome	1.10	45	IAML		09 29 45.8	
	comp=E,6µm,0.4s						
MDM				IAML		09 29 45.8	
	comp=N,8µm,0.6s						
TCOL	CIGO, UAF Yank	1.17	53		Pn	09 29 31.0	-0.6
TCOL	CIGO, UAF Yank	1.17	53	P	Pn	09 29 31.0	-0.6
	baz=235						
I53US	FAIRBANKS INFR	1.17	53	Pg	Pb	09 29 31.9	-0.2
I53US				Lg	Lg	09 29 47.0	
I53US				I		09 35 00.0	
	baz=234,slow=339,SNR=1.4						
COLA	College	1.17	53		Pn	09 29 31.0	-0.7
CAST	Castle Rocks	1.19	230	Pn	Pn	09 29 30.7	-1.3
CAST				IAML		09 29 48.7	
	comp=N,7µm,0.5s						
CAST	Castle Rocks	1.19	230	P	Pn	09 29 30.6	-1.3
	baz=48						
I21K	Tanana	1.30	321		Pn	09 29 32.5	-0.9
I21K				IAML		09 29 52.5	
	comp=E,7µm,1.0s						
I21K				IAML		09 29 52.6	
	comp=N,6µm,0.8s						
I21K	Tanana	1.30	321	P	Pn	09 29 33.2	-0.2
	baz=140						
I21K				S	Sb	09 29 51.7	+1.3
	baz=140						
HDA	Harding Lake	1.37	79		Pn	09 29 33.7	-0.8
HDA				IAML		09 29 54.0	
	comp=N,4µm,0.5s						
HDA				IAML		09 29 58.5	
	comp=E,5µm,0.2s						
HDA	Harding Lake	1.37	79	P	Pn	09 29 33.6	-0.8
	baz=262						
POKR	Poker Plat Res	1.46	49		Pn	09 29 35.1	-0.6
POKR				IAML		09 29 57.1	
	comp=N,4µm,0.5s						
POKR				IAML		09 29 57.4	
	comp=E,5µm,0.3s						
POKR	Poker Plat Res	1.46	49	P	Pn	09 29 35.1	-0.6
	baz=232						
WAT7	Susitna Watana	1.46	158		Pn	09 29 36.0	+0.2
IL31		1.49	65		Pn	09 29 35.2	-0.8
ILAR	Eielson Array	1.49	65	Pn	Pn	09 29 34.8	-1.3
	comp=E,69nm,0.3s,baz=248,slow=14,SNR=235						
ILAR				Pg	Pb	09 29 37.4	-0.2
	comp=E,78nm,0.3s,baz=257,slow=18,SNR=608						
ILAR				Lg	Lg	09 29 56.7	
	comp=E,675nm,0.3s,baz=252,slow=29,SNR=40						
ILAR	Eielson Array	1.49	65		Pn	09 29 35.1	-1.0
WAT1	Susitna Watana	1.52	153		Pn	09 29 36.6	+0.1
WAT1	Susitna Watana	1.52	153	P	Pn	09 29 36.6	+0.1
	baz=334						
PPLA	Purkeypile	1.61	217		Pn	09 29 37.0	-0.9
PPLA	Purkeypile	1.61	217	P	Pn	09 29 36.9	-1.0
	baz=35						
DHY	Denali Highway	1.64	132		Pn	09 29 38.7	+0.5
DHY				IAML		09 30 10.0	
	comp=E,3µm,1.0s						
DHY	Denali Highway	1.64	132	P	Pn	09 29 38.5	+0.3
	baz=314						
H23K	Yukon River	1.66	7		Pn	09 29 38.4	0.0
H23K				IAML		09 30 03.4	
	comp=E,4µm,0.4s						
H23K	Yukon River	1.66	7	P	Pn	09 29 38.4	0.0
	baz=188						
CUT	Chulitna	1.79	183		Pn	09 29 40.8	+0.6
J20K	Nowinta River	1.79	271	Pn	Pn	09 29 39.3	-0.9
J20K				IAML		09 30 06.9	
	comp=N,4µm,0.6s						
J20K	Nowinta River	1.79	271	P	Pn	09 29 39.6	-0.6
	baz=88						
H22K	Ishtalitna Cre	1.80	342	P	Pn	09 29 40.4	0.0
	baz=162						
H21K	Melozitna Rive	1.89	323	Pn	Pn	09 29 41.1	-0.4
H21K	Melozitna Rive	1.89	323	P	Pn	09 29 41.2	-0.3
	baz=141						
H24K	Noodor Dome	1.90	28	Pn	Pn	09 29 41.1	-0.6
H24K				IAML		09 30 12.1	
	comp=E,2µm,0.3s						
H24K	Noodor Dome	1.90	28	P	Pn	09 29 41.1	-0.6
	baz=210						
WAT6	Susitna Watana	1.92	146		Pn	09 29 42.0	-0.1
WAT6	Susitna Watana	1.92	146	P	Pn	09 29 42.0	-0.1
	baz=328						
K24K	Donnelly Dome	1.92	100	P	Pn	09 29 41.5	-0.6
	baz=283						
K20K	Telida	1.97	247		Pn	09 29 41.4	-1.3
K20K				IAML		09 30 20.9	
	comp=N,2µm,0.8s						
J25K	Salcha River,	2.08	76		Pn	09 29 43.5	-0.7
J25K	Salcha River,	2.08	76	P	Pn	09 29 43.4	-0.7
	baz=260						
SKT	Skwentna	2.32	198		Pn	09 29 47.6	+0.1
SKT				IAML		09 30 22.4	
	comp=E,2µm,0.9s						
SKT				IAML		09 30 22.4	
	comp=N,2µm,0.7s						
SKT	Skwentna	2.32	198	P	Pn	09 29 47.5	+0.1
	baz=16						
RIDG	Independent Ri	2.34	99		Pn	09 29 47.0	-0.9
RIDG				IAML		09 30 25.2	
	comp=N,2µm,0.6s						
RIDG	Independent Ri	2.34	99	P	Pn	09 29 46.9	-0.9
	baz=283						
PRP	Porcupine Dome	2.35	53		Pn	09 29 47.8	-0.2
PRP				IAML		09 30 27.3	
	comp=E,1µm,0.4s						
PRP				IAML		09 30 28.0	
	comp=N,2µm,0.4s						
PRP	Porcupine Dome	2.35	53	P	Pn	09 29 47.7	-0.2
	baz=238						
PAX	Paxson	2.39	119		Pn	09 29 49.6	+1.1
PAX	Paxson	2.39	119	P	Pn	09 29 49.3	+0.8
	baz=303						
IMAR	Indian Mountai	2.39	321	Pn	Pn	09 29 48.2	-0.2
M22K	Willow	2.44	181		Pn	09 29 49.0	-0.2
M22K	Willow	2.44	181	P	Pn	09 29 49.0	-0.2
	baz=0.4						
GHO	Glory Hole Cre	2.48	168		Pn	09 29 49.7	-0.1
GHO				IAML		09 30 35.1	
	comp=N,1µm,0.6s						
SML	Sawmill	2.52	161		Pn	09 29 50.4	+0.2
SML				IAML		09 30 38.0	
	comp=N,1µm,1.0s						
SML	Sawmill	2.52	161	P	Pn	09 29 50.3	+0.2
	baz=342						
G23K	Bananza Creek	2.53	0	P	Pn	09 29 50.6	+0.2
	baz=181						
M23K	Glacier View	2.63	155	P	Pn	09 29 52.1	+0.4
	baz=337						
PMR	Palmer	2.64	170		Pn	09 29 52.3	+0.5
PMR				IAML		09 30 36.7	
	comp=E,1µm,0.8s						
PMR	Palmer	2.64	170	P	Pn	09 29 52.0	+0.1
	baz=351						
SCM	Sheep Creek Mo	2.67	151		Pn	09 29 52.6	+0.3
SCM	Sheep Creek Mo	2.67	151	IAML		09 30 37.8	
	comp=N,1µm,1.1s						
SCM				IAML		09 30 50.1	
	comp=E,1µm,1.0s						
SCM	Sheep Creek Mo	2.67	151	P	Pn	09 29 52.6	+0.3
	baz=333						
SCRK	Sand Creek	2.67	92		Pn	09 29 51.2	-1.2
SCRK	Sand Creek	2.67	92	P	Pn	09 29 51.2	-1.2
	baz=277						
DOT	Dot Lake	2.70	99		Pn	09 29 51.7	-1.1
M20K	Styx River	2.71	213		Pn	09 29 52.3	-0.6
M20K				IAML		09 30 37.0	
	comp=N,1µm,0.5s						
M24K	Tolsona, Glenn	2.73	138	P	Pn	09 29 54.3	+1.1
	baz=321						
G24K	Hadweenzic Riv	2.74	22	P	Pn	09 29 53.0	-0.3
	baz=204						
H25K	Birch Creek	2.74	39	P	Pn	09 29 53.3	0.0
	baz=222						
G21K	Allakaket	2.75	330	P	Pn	09 29 53.5	+0.1
	baz=147						
SUA	Susitna One	2.75	187		Pn	09 29 54.2	+0.6
SUA	Susitna One	2.75	187	IAML		09 30 39.7	
	comp=N,1µm,1.0s						
SUA				IAML		09 30 43.4	
	comp=E,1µm,0.8s						
SUA	Susitna One	2.75	187	P	Pn	09 29 54.2	+0.6
	baz=6.1						
J26L	Joseph Creek	2.84	81	P	Pn	09 29 54.3	-0.4
	baz=266						
HARP	HAARP	2.85	127	P	Pn	09 29 56.2	+1.5
	baz=311						
KNK	Knik Glacier	2.88	165		Pn	09 29 55.8	+0.6
KNK	Knik Glacier	2.88	165	IAML		09 30 42.9	
	comp=E,821nm,0.9s						
KNK	Knik Glacier	2.88	165	P	Pn	09 29 55.8	+0.6
	baz=346						
TTA	Tatalina	2.95	247	Pn	Pn	09 29 54.5	-1.7
TTA	Tatalina	2.95	247	P	Pn	09 29 54.5	-1.7
	baz=62						
L19K	White Mountain	2.97	229		Pn	09 29 54.8	-1.5
L19K				IAML		09 30 42.9	
	comp=E,1µm,1.1s						
M19K	Big River Lodg	3.03	223		Pn	09 29 56.0	-1.2
M19K				IAML		09 30 47.6	
	comp=E,1µm,0.3s						
M19K	Big River Lodg	3.03	223	P	Pn	09 29 56.0	-1.2
	baz=39						
COLD	Coldfoot	3.05	359		Pn	09 29 57.9	+0.4
G25K	Bearman Lake	3.07	31	P	Pn	09 29 57.3	-0.4
	baz=214						
MENT	Mentasta	3.10	111		Pn	09 29 58.4	+0.2
MENT				IAML		09 30 56.9	
	comp=E,1µm,0.7s						
MENT				IAML		09 31 06.0	
	comp=N,1µm,0.9s						
RC01	Rabbit Creek A	3.11	177	P	Pn	09 29 59.9	+1.5
	baz=357						
FYU	Fort Yukon	3.13	38		Pn	09 29 58.3	-0.2
FYU	Fort Yukon	3.13	38	IAML		09 30 52.9	
	comp=N,1µm,1.1s						
FYU				IAML		09 31 00.3	
	comp=E,714nm,1.0s						
N20K	Mount Spurr	3.16	199	P	Pn	09 29 59.2	+0.1
	baz=17						
I26K	Coal Creek Min	3.16	66		Pn	09 29 58.5	-0.6
I26K				IAML		09 30 51.0	
	comp=N,917nm,0.6s						
L26K	Log Cabin Wild	3.21	108		Pn	09 29 59.3	-0.5
KLU	Klutina	3.30	143		Pn	09 30 02.4	+1.3
KLU				IAML		09 30 53.7	
	comp=N,683nm,0.8s						
KLU	Klutina	3.30	143	P	Pn	09 30 02.9	+1.9
	baz=327						
PWL	Port Wells	3.44	166		Pn	09 30 04.8	+2.0
PWL	Port Wells	3.44	166	IAML		09 31 04.2	
	comp=N,478nm,0.8s						
PWL				IAML		09 31 08.4	
	comp=E,578nm,0.8s						
PWL	Port Wells	3.44	166	P	Pn	09 30 04.8	+2.0
	baz=347						
F24K	Squaw Lake	3.46	14	P	Pn	09 30 03.3	+0.1
	baz=196						
K27K	Chicken	3.50	89		Pn	09 30 03.0	-0.8
K27K				IAML		09 31 11.5	
	comp=N,441nm,0.8s						
N25K	Chitina, Valde	3.60	134		Pn	09 30 06.9	+1.8
DIV	Divide	3.65	145		Pn	09 30 06.9	+1.1
SLKM	Skilak Lake	3.69	181		Pn	09 30 08.2	+1.8
O22K	Cooper Landing	3.72	178		Pn	09 30 06.6	-0.2
L27K	Beaver Creek,	3.84	103		Pn	09 30 07.6	-0.8
BCAR	Beaver Creek A	3.86	103		Pn	09 30 07.7	-0.9
E23K	Chandalar	3.89	2	P	Pn	09 30 09.9	+0.8
	baz=183						
EGAK	Eagle	3.89	77		Pn	09 30 08.3	-0.7
EGAK	Eagle	3.89	77	P	Pn	09 30 08.9	-0.2
	baz=265						
RSO	Redoubt South	3.95	200		Pn	09 30 11.0	+1.0
E24K	Your Creek	3.96	9	P	Pn	09 30 10.4	+0.5
	baz=190						
BMAR	Burnt Mountain	3.96	32	Pn	Pn	09 30 09.4	-0.6
N19K	Bonanza Creek	3.96	213		Pn	09 30 10.2	+0.1
N19K				IAML		09 31 18.6	
	comp=N,397nm,0.7s						
N19K				IAML		09 31 19.6	
	comp=E,429nm,0.6s						
SVW2	Sparrevohn	4.02	222		Pn	09 30 11.6	+0.8
SVW2				IAML		09 31 24.7	
	comp=E,494nm,0.9s						
BMRM	Bremner River	4.10	140		Pn	09 30 13.2	+1.3
BMRM	Bremner River	4.10	140	P	Pn	09 30 13.0	+1.1
	baz=324						
EYAK	Cordova Ski Ar	4.17	149		Pn	09 30 14.1	+1.3
E25K	Arctic Village	4.35	23	P	Pn	09 30 15.1	-0.2
	baz=207						
N18K	Kilae Creek	4.44	220		Pn	09 30 15.7	-1.0
TOLK	Toolik Lake Re	4.48	2	Pn	Pn	09 30 19.0	+1.9
TOLK				IAML		09 31 38.0	
	comp=N,210nm,1.3s						
TOLK				IAML		09 31 43.0	
	comp=E,244nm,2.1s						
TOLK	Toolik Lake Re	4.48	2	P	Pn	09 30 18.9	+1.8
	baz=183						
DAWY	Dawson	4.67	87	Pn	Pn	09 30 19.4	-0.4
O18K	Koktuh Hills	4.98	212		Pn	09 30 23.7	-0.3
O18K				IAML		09 31 47.1	
	comp=E,251nm,1.3s						
O18K				IAML		09 31 56.8	
	comp=N,248nm,0.7s						
WAX	Waxell Ridge	5.03	135		Pn	09 30 25.8	+1.0
J29M	Klondike Camp	5.16	82	P	Pn	09 30 27.1	+0.7
	baz=272						
I29M	Ogilvie Camp,	5.16	72		Pn	09 30 26.3	-0.2
I29M				IAML		09 32 08.9	
	comp=E,206nm,1.0s						
P18K	Big Mountain,	5.40	209		Pn	09 30 30.1	+0.3
P18K				IAML		09 32 05.0	
	comp=E,125nm,1.5s						
P18K				IAML		09 32 09.3	
	comp=N,112nm,1.1s						
M29M	Somme Creek	5.51	103	P	Pn	09 30 30.7	-0.7
	baz=294						
EPYK	Eagle Plains	6.00	63		Pn	09 30 37.7	-0.4
EPYK	Eagle Plains	6.00	63	P	Pn	09 30 38.0	-0.1
	baz=255						
M30M	Minto, Yukon	6.17	99		Pn	09 30 39.2	-1.2
KDAK	Kodiak Island	6.54	192	Pn	Pn	09 30 45.2	-0.3
	comp=N,0.5nm,0.3s,baz=57,slow=5.7,SNR=28						
KDAK				LR	LR	09 33 41.2	
	comp=N,244nm,19.1s,baz=41,slow=40						
	comp=N,4.7nm,0.8s						
ANM	Nome	6.66	280		Pn	09 30 47.5	+0.6
M31M	Drury Creek, Y	7.35	99		Pn	09 30 56.5	-0.1
FARO	Faro, Yukon	7.79	97		Pn	09 31 01.7	-1.0
INK	Inuvik	7.83	51	Pn	Pn	09 31 03.0	0.0
	comp=N,0.6nm,0.3s,baz=227,slow=18,SNR=50						
INK				Sn	Sn	09 32 28.8	-2.0
	comp=N,1.4nm,0.3s,baz=72,slow=23,SNR=4.1						
	comp=N,1.8nm,0.3s						
INK	Inuvik	7.83	51		Pn	09 31 04.0	+0.9
INK	Inuvik	7.83	51	P	Pn	09 31 04.0	+0.9
	baz=246						
DLBC	Dease Lake	11.18	112	Lg	Lg	09 35 06.0	
	comp=N,0.4nm,0.3s,baz=59,slow=22,SNR=10						
C36M	Paulatuk	11.42	52		Pn	09 31 50.7	-1.4
A36M	Sachs Harbour	12.01	39	Pn	Pn	09 32 00.7	+0.4
YKA	Yellowknife Ar	15.87	80	Pn	P	09 32 54.4	-1.5
	comp=N,0.2nm,0.3s,baz=306,slow=19,SNR=5.3						
	comp=N,2.6nm,0.9s						
RES	Resolute Bay	21.06	37	P	P	09 33 52.3	-0.3
	comp=N,2.5nm,0.9s,baz=239,slow=12,SNR=4.3						
	comp=N,2.5nm,0.9s						
PDAR	Pinedale Array	31.41	113	P	P	09 35 36.1	+6.1
	comp=N,1.8nm,0.8s,baz=334,slow=5.2,SNR=18						
	comp=N,1.8nm,0.8s						
NVAR	Mina Array Bea	31.91	129	P	P	09 35 40.6	+6.2
	comp=N,0.8nm,0.7s,baz=308,slow=7.7,SNR=6.6						
	comp=N,0.8nm,0.7s						
TXAR	Lajitas Array	45.42	117	P	P	09 37 33.4	+5.9
	comp=N,1.5nm,0.9s,baz=328,slow=6.5,SNR=10						
	comp=N,1.5nm,0.9s						
BORG	Borgarnes	46.00	28	LR	LR	09 59 14.7	
	comp=N,34nm,18.5s,baz=199,slow=40						
ARCES	ARCESS Array B	46.52	2	P	P	09 37 36.7	+1.1
	comp=N,3.3nm,0.8s,baz=346,slow=6.9,SNR=3.9						
	comp=N,3.3nm,0.8s						
TKL	Tuckaleechee C	48.30	93	LR	LR	09 59 01.0	
	comp=N,72nm,21.1s,baz=344,slow=37						
SONM	Songino Array	53.47	305	P	P	09 38 30.2	+1.4
	comp=N,0.8nm,0.7s,baz=41,slow=7.7,SNR=3.9						
	comp=N,0.8nm,0.7s						
FINES	FINESS Array B	54.65	2	P	P	09 38 37.6	+0.6
	comp=N,3.3nm,0.8s,baz=348,slow=6.2,SNR=8.4						
	comp=N,3.3nm,0.8s						
ZALV	Zalesovo Beam	54.81	324	P	P	09 38 38.4	+0.1
	comp=N,0.9nm,0.6s,baz=23,slow=6.2,SNR=4.4						
	comp=N,0.9nm,0.6s						
HHC	Hu-ho-hao-te	57.49	297	eP	P	09 38 57.1	-0.7
HHC				pmax	pmax		
	comp=Z,33nm,0.9s						
HHC				pmax	pmax		
	comp=Z,230nm,5.0s						
MKAR	Makanchi Array	62.00	322	P	P	09 39 28.5	-0.1
	comp=Z,0.5nm,0.7s,baz=59,slow=5.3,SNR=2.9						
	comp=Z,0.5nm,0.7s						
WMQ	Urumqi	63.18	317	eP	P	09 39 39.2	+2.7
AKASG	Malin Array Be	65.45	1	P	P	09 39 51.2	0.0
	comp=Z,1.4nm,0.5s,baz=360,slow=6.3,SNR=10						
	comp=Z,1.4nm,0.5s						
MDT	Midelt	79.56	29	LR	LR	10 19 03.1	
	comp=Z,21nm,18.4s,baz=132,slow=38						
DAV	Davao City (W)	81.22	268	LR	LR	10 20 01.2	
	comp=Z,47nm,19.7s,baz=140,slow=38						

---

*NEIC **06** 09:31:16.6±1.7, 59°.54N±0°.06×153°.3W±0°.2, h134km±6km, Error ellipse: s-maj=13.9km s-min=4.3km az=125.0*

*AEIC **06** 09:31:18.8±1.8, 59°.62N±0°.07×153°.3W±0°.2, h120km±6km, ML3.3, ML3.7/52(NEIC), Error ellipse: s-maj=14.4km s-min=8.6km az=121.0*

ISC 06 09:31:16.5±1.6**, 59°.59N**±0°.04×**153°.36W**±0°.05**, h132**km±9km**, n64,** σ**0s.69**/58**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.09	45	P	Pn	09 31 34.7	+0.3
	baz=234						
P19K	Oil Pt	0.09	45	Pn	Pn	09 31 34.4	0.0
P19K	Oil Pt	0.09	45	P	Pn	09 31 34.7	+0.3
	baz=234						
P19K				S	Sn	09 31 47.6	-0.5
	baz=234						
ILSW	Iliamna Southw	0.41	15	Pn	Pn	09 31 35.3	-0.1
ILSW				IAML		09 31 36.7	
	comp=N,286nm,0.5s						
ILSW				IAML		09 31 36.7	
	comp=E,369nm,0.5s						
O20K	Slope Mountain	0.62	37	P	Pn	09 31 36.8	+0.3
	baz=217						
O20K				S	Sn	09 31 51.0	-0.8
	baz=217						
Q19K	Cape Douglas,	0.68	193	Pn	Pn	09 31 37.9	+0.9
Q19K	Cape Douglas,	0.68	193	P	Pn	09 31 37.8	+0.9
	baz=13						
Q19K				S	Sn	09 31 52.5	0.0
	baz=13						
O19K	Port Alsworth	0.78	322	P	Pn	09 31 37.8	+0.2
	baz=138						
O19K				S	Sn	09 31 52.7	-0.9
	baz=138						
HOM	Homer	0.87	85		Pn	09 31 39.0	+0.6
HOM	Homer	0.87	85	IAML		09 31 58.6	
	comp=N,2µm,0.3s						
HOM	Homer	0.87	85	P	Pn	09 31 39.0	+0.6
	baz=268						
O18K	Koktuh Hills	0.97	287	P	Pn	09 31 39.6	+0.3
	baz=103						
CNPM	China Poot	1.08	92		Pn	09 31 40.8	+0.5
CNPM					Sn	09 31 57.6	-0.8
CNPM	China Poot	1.08	92	IAML		09 31 59.9	
	comp=E,1µm,0.5s						
CNPM				IAML		09 32 00.2	
	comp=N,1µm,0.6s						
Q20K	Shuyak Island	1.10	153	P	Pn	09 31 41.2	+0.7
	baz=335						
Q20K				S	Sn	09 31 58.6	-0.1
	baz=335						
BRLK	Bradley Lake	1.27	81		Pn	09 31 42.2	0.0
BRLK	Bradley Lake	1.27	81	IAML		09 32 02.8	
	comp=N,1µm,0.1s						
KAHC	Katmai Hardscr	1.27	223	P	Pn	09 31 43.3	+1.0
	baz=41						
Q18K	Katmai Hardscr	1.27	223	P	Pn	09 31 43.3	+1.0
	baz=41						
BRSE	Bradley Lake S	1.34	82		Pn	09 31 42.9	0.0
N19K	Bonanza Creek	1.35	336	P	Pn	09 31 43.4	+0.3
	baz=154						
CAPN	Captain Cook N	1.61	42		Pn	09 31 48.1	+2.2
SLKM	Skilak Lake	1.82	58		Pn	09 31 48.5	+0.1
KDAK	Kodiak Island	1.86	167	Pn	Pn	09 31 48.3	-0.5
O22K	Cooper Landing	2.03	62	Pn	Pn	09 31 51.4	+0.6
SEW	Seward	2.04	74		Pn	09 31 51.1	+0.2
SEW	Seward	2.04	74	P	Pn	09 31 51.1	+0.2
	baz=258						
SUA	Susitna One	2.28	33		Pn	09 31 54.8	+0.8
SUA	Susitna One	2.28	33	IAML		09 32 23.4	
	comp=E,389nm,1.0s						
SUA				IAML		09 32 24.0	
	comp=N,402nm,0.4s						
SUA	Susitna One	2.28	33	P	Pn	09 31 54.8	+0.8
	baz=216						
RC01	Rabbit Creek A	2.35	49		Pn	09 31 54.9	+0.1
RC01	Rabbit Creek A	2.35	49	IAML		09 32 23.6	
	comp=E,338nm,0.3s						
RC01				IAML		09 32 24.5	
	comp=N,290nm,0.5s						
OHAK	Old Harbor	2.38	179		Pn	09 31 55.0	-0.1
OHAK	Old Harbor	2.38	179	P	Pn	09 31 55.0	-0.1
	baz=360						
PWL	Port Wells	2.81	61		Pn	09 32 00.2	-0.5
PWL	Port Wells	2.81	61	IAML		09 32 32.9	
	comp=E,368nm,0.5s						
KNK	Knik Glacier	3.04	51		Pn	09 32 03.1	-0.5
KNK	Knik Glacier	3.04	51	IAML		09 32 39.8	
	comp=N,225nm,0.5s						
SII	Sitkinak Islan	3.07	189		Pn	09 32 03.9	-0.1
SII	Sitkinak Islan	3.07	189	IAML		09 32 41.6	
	comp=N,153nm,0.6s						
SII				IAML		09 32 42.6	
	comp=E,147nm,0.6s						
SII	Sitkinak Islan	3.07	189	P	Pn	09 32 04.1	+0.1
	baz=8.1						
GHO	Glory Hole Cre	3.09	43		Pn	09 32 03.9	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GHO	Glory Hole Cre	3.09	43	IAML		09 32 39.9	
	comp=N,168nm,0.4s						
GHO				IAML		09 32 42.4	
	comp=E,217nm,0.4s						
CUT	Chulitna	3.20	27	Pn	Pn	09 32 07.1	+1.5
CUT				IAML		09 32 43.0	
	comp=N,241nm,1.0s						
SML	Sawmill	3.32	46		Pn	09 32 06.9	-0.4
SML	Sawmill	3.32	46	IAML		09 32 45.8	
	comp=N,148nm,1.0s						
SCM	Sheep Creek Mo	3.72	50		Pn	09 32 12.6	+0.1
SCM	Sheep Creek Mo	3.72	50	IAML		09 32 55.3	
	comp=E,144nm,0.9s						
SCM				IAML		09 32 56.9	
	comp=N,126nm,0.6s						
WAT7	Susitna Watana	3.92	32		Pn	09 32 15.1	-0.1
EYAK	Cordova Ski Ar	3.93	73		Pn	09 32 14.9	-0.3
CHIR	Chirikof Islan	3.97	199	Pn	Pn	09 32 15.8	0.0
CHIR				IAML		09 33 00.9	
	comp=E,130nm,2.5s						
CHIR				IAML		09 33 45.6	
	comp=N,129nm,1.7s						
WAT1	Susitna Watana	4.00	33		Pn	09 32 15.8	-0.3
WAT6	Susitna Watana	4.05	40		Pn	09 32 16.6	-0.4
DIV	Divide	4.07	64	Pn	Pn	09 32 18.0	+0.9
KLU	Klutina	4.14	59		Pn	09 32 17.9	-0.1
DHY	Denali Highway	4.53	37		Pn	09 32 23.0	-0.3
DHY	Denali Highway	4.53	37	IAML		09 33 14.8	
	comp=E,96nm,0.4s						
DHY				IAML		09 33 17.1	
	comp=N,74nm,0.4s						
KAIM	Kayak Island	4.53	82		Pn	09 32 24.0	+0.8
BMRM	Bremner River	4.57	69	Pn	Pn	09 32 23.9	+0.1
N25K	Chitina, Valde	4.77	61	Pn	Pn	09 32 27.4	+1.0
N25K				IAML		09 33 19.6	
	comp=N,73nm,0.6s						
N25K				IAML		09 33 21.7	
	comp=E,76nm,0.6s						
VRDI	Verde Repeater	5.18	67	Pn	Pn	09 32 33.1	+1.1
VRDI				IAML		09 33 29.8	
	comp=N,54nm,0.6s						
VRDI				IAML		09 33 29.8	
	comp=E,43nm,0.8s						
SNH	Sunshine Point	5.33	79	Pn	Pn	09 32 34.6	+0.7
YAH	Yahtse	5.88	77	Pn	Pn	09 32 42.0	+0.5
BARN	Barnard Glacie	6.00	71	Pn	Pn	09 32 44.8	+1.9

MAN 06 09:48:17.9, 9°.95N×123°.20E, h19km, mb3.9, ML2.7, MS2.2, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.60	176	⇓iP	Pg	09 48 30.6	+0.6
SNPH				iS	Sn	09 48 41.4	+0.6
LSIP	Lazi, Siquijor	0.92	152	⇑eP	Pb	09 48 34.5	-0.8
LSIP				iS	Sn	09 48 49.2	+0.6

*AUST **06** 09:54:31.3±0.7, 19°.12S×128°.02E, h10km, Error ellipse: s-maj=11.1km s-min=8.7km az=101.0*
*IDC **06** 09:54:31.3±0.6, 19°.09S×128°.09E, h0km, mb4.3/15, mbtmp4.5/22, ML4.6/7, MS3.8/19, Error ellipse: s-maj=17.6km s-min=11.8km az=43.0*
*NEIC **06** 09:54:33.4±3.0, 19°.13S±0°.04×128°.01E±0°.08, h13km±4km, Error ellipse: s-maj=11.4km s-min=5.9km az=72.0*
ISC 06 09:54:32.0±0.4, **19°.14S**±0°.04×**128°.07E**±0°.05, **h10km, n143, σ2.18**/134, **mb4.7**/28, **MS4.0**/18, **1D, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	Kununurra	3.51	11	P	Pn	09 55 27.5	+0.9
	baz=3.5,SNR=103						
KNRA				S	Sn	09 56 07.6	-0.6
	baz=3.5						
KNRA	Kununurra	3.51	11	Pn	Pn	09 55 27.7	+1.1
WRKA	Warakurna	5.87	178	P	Pn	09 56 03.0	+3.8
	baz=5.9,SNR=187						
I07AU	WARRAMUNGA INF	5.95	99	Pg	Pb	09 56 18.0	+2.0
	baz=270,slow=24						
I07AU				Sn	Sn	09 57 06.0	-2.6
I07AU				Lg	Lg	09 57 40.9	
WRA	Warramunga Arr	5.96	99	Pn	Pn	09 56 00.5	+0.1
	7.6nm,0.3s,baz=273,slow=15,SNR=318						
WRA				Sn	Sn	09 57 07.9	-1.0
	82nm,0.3s,baz=281,slow=24,SNR=6.5						
WRA				Lg	Lg	09 57 43.8	
	323nm,0.3s,baz=275,slow=30,SNR=9.1						
WRA				LR	LR	09 58 33.0	
	comp=Z,301nm,20.9s,baz=276,slow=40						
	27nm,0.5s						
WRA	Warramunga Arr	5.96	99		Pn	09 56 00.8	+0.3
WB2	Warramunga Arr	5.97	99	P	Pn	09 56 00.8	+0.2
	baz=6.0						
WB2	Warramunga Arr	5.97	99		Pn	09 56 00.8	+0.2
WB0	Warramunga Arr	6.00	97	Pn	Pn	09 56 01.1	+0.2
WR0	Warramunga Arr	6.15	99		Pn	09 56 03.5	+0.4
MTN	Manton Dam	6.92	26	P	Pn	09 56 12.7	-0.9
	baz=7.0,SNR=293						
MTN				S	Sn	09 57 28.3	-4.2
	baz=7.0						
MTN	Manton Dam	6.92	26	Pn	Pn	09 56 12.7	-0.9
ASPA	Alice Springs	7.05	131	P	Pn	09 56 18.8	+3.3
	baz=7.1						
AS31	Alice Springs	7.05	131	Pn	Pn	09 56 18.3	+2.8
ASAR	Alice Springs	7.05	131	Pn	Pn	09 56 16.6	+1.2
	17nm,0.3s,baz=305,slow=12,SNR=518						
ASAR				Sn	Sn	09 57 36.6	+0.8
	144nm,0.3s,baz=306,slow=22,SNR=24						
ASAR				Lg	Lg	09 58 13.5	
	80nm,0.3s,baz=305,slow=23,SNR=5.0						
ASAR				LR	LR	09 58 34.7	
	comp=Z,360nm,18.4s,baz=122,slow=34						
	52nm,0.7s						
ASAR	Alice Springs	7.05	131	Pn	Pn	09 56 17.5	+2.0
KDU	Kakadu	7.69	34	P	Pn	09 56 23.4	-0.7
	baz=7.7,SNR=104						
PSA00	Pilbara Seismi	8.09	251	Pn	Pn	09 56 28.8	-0.9
PSA00	Pilbara Seismi	8.09	251		Pn	09 56 28.2	-1.4
MBWA	Marble Bar	8.09	254		Pn	09 56 28.6	-1.0
BATI	Baumata	9.85	334	Pn	Pn	09 56 54.8	+0.9
	22nm,0.3s,baz=113,slow=0.7,SNR=15						
BATI				Sn	Sn	09 58 40.2	-4.5
	35nm,0.3s,baz=180,slow=20,SNR=1.7						
	51nm,0.5s						
BATI	Baumata	9.85	334	P	Pn	09 56 55.3	+1.4
	3μm254nm,0.5s						
SOEI	Soe	10.03	338	P	Pn	09 56 56.6	+0.2
	baz=10.0,SNR=8.4						
SOEI				S	Sn	09 58 45.1	-4.1
	baz=10.0						
SOEI	Soe	10.03	338	Pn	Pn	09 56 55.4	-1.1
SOEI	Soe	10.03	338	P	Pn	09 57 00.3	+3.9
	2μm199nm,0.7s						
QIS	Mount Isa	10.95	99	P	Pn	09 57 09.5	+0.7
	baz=11,SNR=31						
OOD	Oodnadatta	11.09	142	P	Pn	09 57 11.9	+1.1
	baz=11,SNR=166						
OOD				S	Sn	09 59 11.7	-3.1
	baz=11						
MEEK	Meekatharra	11.47	228	P	Pn	09 57 14.6	-1.4
	baz=12,SNR=81						
MEEK				S	Sn	09 59 15.3	-9.0
	baz=12						
FORT	Forrest	11.59	180	P	Pn	09 57 17.5	0.0
	baz=12,SNR=60						
FORT				S	Sn	09 59 19.3	-7.8
	baz=12						
FORT	Forrest	11.59	180	Pn	Pn	09 57 17.8	+0.3
MMRI	Maumere	11.88	331		Pn	09 57 20.5	-1.1
MMRI	Maumere	11.88	331	P	Pn	09 57 20.8	-0.8
	3μm169nm,0.9s						
MULG	Mulgathing	12.35	155	P	Pn	09 57 29.0	+1.0
	baz=12,SNR=156						
MULG				S	Sn	09 59 39.8	-5.9
	baz=12						
GIRL	Giralia	13.39	253	P	Pn	09 57 40.4	-1.8
	baz=13,SNR=17						
GIRL	Giralia	13.39	253		Pn	09 57 41.2	-1.1
PLAI	Plampang	14.31	314	P	Pn	09 57 56.0	+1.2
	49nm,0.7s						
INKA	Innaminka	14.43	129	P	Pn	09 57 55.2	-1.3
	baz=14,SNR=39						
LCRK	Leigh Creek	14.53	143	P	Pn	09 57 56.7	-1.2
	baz=15,SNR=96						
MORW	Morawa	14.76	226	P	Pn	09 57 56.9	-4.1
	baz=15,SNR=18						
MORW	Morawa	14.76	226	Pn	Pn	09 57 56.8	-4.1
BSSI	Bau Bau, Buton	14.88	329	P	P	09 58 06.4	-2.0
	49nm,0.7s						
COEN	Coen	15.37	73	P	Pn	09 58 05.1	-3.9
	baz=15,SNR=31						
COEN	Coen	15.37	73	Pn	Pn	09 58 05.2	-3.9
COEN				IAmb	IAmb	09 58 17.8	
	comp=Z,26nm,0.5s						
BBOO	Buckleboo	15.38	154	P	Pn	09 58 06.8	-2.4
	baz=16,SNR=48						
BBOO	Buckleboo	15.38	154	Pn	Pn	09 58 07.3	-2.0
BBOO				IAmb	IAmb	09 58 09.4	
	comp=Z,34nm,0.8s						
MTSU	Mount Surprise	15.43	89	P	Pn	09 58 07.9	-2.1
	baz=16,SNR=23						
KLBR	Kellerberrin	15.50	215	P	Pn	09 58 06.4	-4.4
	baz=16,SNR=30						
KRAI	Karang Ratu	15.73	1	P	P	09 58 16.1	-1.8
	comp=Z,40nm,0.8s						
BKSI	Bulukumba	15.77	330	P	P	09 58 16.8	-1.5
	comp=Z,35nm,0.7s						
KAPI	Kappang	16.22	329	Pn	Pn	09 58 20.2	0.0
	comp=Z,0.8nm,0.3s,baz=229,slow=17,SNR=1.4						
	comp=Z,24nm,0.8s						
BNSI	Bone	16.59	331	P	P	09 58 28.9	+1.5
	comp=Z,480nmcomp=Z,36nm,0.9s						
QLP	Quilpie	16.62	119	P	Pn	09 58 24.1	-1.2
	baz=17,SNR=17						
FAKI	Fak Fak	16.63	15	P	Pn	09 58 22.6	-2.8
	baz=17,SNR=9.4						
FAKI	Fak Fak	16.63	15	Pn	Pn	09 58 22.4	-3.1
FAKI				IAmb	IAmb	09 58 34.1	
	comp=Z,60nm,0.7s						
MUN	Mundaring	16.65	218	P	Pn	09 58 21.2	-4.4
	baz=17,SNR=12						
NWAO	Narrogin (SRO)	16.81	213	Pn	Pn	09 58 24.0	-3.7
	comp=Z,8.3nm,0.3s,baz=255,slow=11,SNR=41						
NWAO				Sn	Sn	10 01 19.6	-15
	comp=Z,18nm,0.3s,baz=94,slow=3.7,SNR=7.9						
NWAO				Lg	Lg	10 03 27.3	
	baz=165,slow=23						
NWAO				LR	LR	10 05 33.0	
	comp=Z,476nm,21.8s,baz=244,slow=39						
NWAO	Narrogin (SRO)	16.81	213	P	Pn	09 58 22.7	-5.0
	baz=17,SNR=39						
NWAO				P	Pn	09 58 22.7	-5.0
	baz=17,SNR=39						
NWAO	Narrogin (SRO)	16.81	213	Pn	Pn	09 58 23.8	-3.9
SANI	Sanana	17.11	353	P	P	09 58 33.9	+0.7
	baz=17						
SANI	Sanana	17.11	353	P	P	09 58 33.5	+0.3
	comp=Z,62nm,0.8s						
SPSI	Sidrap Palu	17.13	331	P	P	09 58 35.2	+1.9
	comp=Z,28nm,1.1s						
CTA	Charters Tower	17.16	96	P	Pn	09 58 30.9	-1.2
	comp=Z,0.5nm,0.3s,baz=252,slow=12,SNR=7.8						
CTA				LR	LR	10 04 10.7	
	comp=Z,417nm,19.8s,baz=273,slow=34						
	comp=Z,3.6nm,0.4s						
CTAO	Charters Tower	17.16	96	P	Pn	09 58 31.1	-0.9
JAGI	Jajag, Banyuwa	17.17	306	P	Pn	09 58 30.6	-1.6
JAGI				IAmb	IAmb	09 58 38.2	
	comp=Z,86nm,1.5s						
HTT	Hallett	17.22	148	P	Pn	09 58 30.8	-2.0
	baz=17,SNR=19						
STKA	Stephens Creek	17.58	139	P	Pn	09 58 36.3	-0.9
	comp=Z,3.3nm,0.3s,baz=312,slow=12,SNR=51						
STKA				S	Sn	10 01 42.5	-11
	comp=Z,66nm,0.5s,baz=59,slow=16,SNR=7.4						
STKA				LR	LR	10 06 32.8	
	comp=Z,71nm,21.6s,baz=288,slow=41						
	comp=Z,26nm,0.6s						
STKA	Stephens Creek	17.58	139	P	Pn	09 58 36.0	-1.3
	baz=18,SNR=56						
STKA	Stephens Creek	17.58	139		Pn	09 58 35.3	-1.9
RKGY	Rocky Gully	18.29	210	P	Pn	09 58 42.3	-3.6
	baz=18,SNR=14						
LBMI	Labuha	18.40	358	P	P	09 58 47.9	+0.5
	comp=Z,1μmcomp=Z,57nm,0.8s						
SIJI	Sorong	18.43	10	P	P	09 58 45.9	-1.9
	comp=Z,2.7nm,0.3s,baz=201,slow=6.5,SNR=5.8						
	comp=Z,7.9nm,0.3s						
GENI	Genyem	20.26	37	P	Pn	09 59 10.2	+0.4
	comp=Z,129nm,0.9s						
GTOI	Gorontalo	20.27	345	P	Pn	09 59 10.5	+0.6
	comp=Z,254nmcomp=Z,28nm,0.9s						
MRSI	Marisa	20.41	342	P	P	09 59 10.0	+0.6
	comp=Z,1μmcomp=Z,140nm,0.9s						
RMQ	Roma	20.41	115	P	Pn	09 59 12.2	+0.8
	baz=20,SNR=6.1						
PMG	Port Moresby	20.86	65	P	P	09 59 15.2	+0.9
	comp=Z,36nm,0.8s,baz=251,slow=6.2,SNR=12						
	comp=Z,36nm,0.8s						
PMG	Port Moresby	20.86	65	P	Pn	09 59 16.2	-0.6
	baz=21,SNR=6.1						
PMG				P	Pn	09 59 16.2	-0.6
	baz=21,SNR=6.1						
PMG				P	Pn	09 59 16.2	-0.6
	baz=21,SNR=6.1						
PMG	Port Moresby	20.86	65	P	Pn	09 59 15.7	-1.0
MPSI	Mapaga	20.95	337	P	P	09 59 16.2	+0.9
	comp=Z,27nm,0.9s						
ARPS	Mount Arapiles	21.32	148	P	P	09 59 21.4	+2.3
	baz=21,SNR=19						
TOLI2	Tolitoli	21.36	340	P	P	09 59 19.5	-0.2
TOLI2				IAmb	IAmb	09 59 38.8	
	comp=Z,45nm,1.3s						
EIDS	Eidsvold	22.16	110	P	P	09 59 30.3	+2.0
LEM	Lembang	23.35	299	P	P	09 59 41.6	+0.6
	comp=Z,16nm,0.6s,baz=162,slow=23,SNR=1.6						
	comp=Z,16nm,0.6s						
TOO	Toolangi	23.85	144		P	09 59 46.8	+1.2
ARMA	Armidale	24.10	122	P	P	09 59 50.4	+2.3
	baz=24,SNR=5.5						
ARMA	Armidale	24.10	122	P	P	09 59 50.4	+2.3
ARMA				IAmb	IAmb	10 00 08.1	
	comp=Z,31nm,1.1s						
CAN	Canberra	24.54	135	P	P	09 59 53.3	+1.3
CAN				IAmb	IAmb	10 00 14.7	
	comp=Z,22nm,0.9s						
KSM	Kuching	26.91	318	P	P	10 00 15.4	+1.8
KSM				IAmb	IAmb	10 00 16.7	
	comp=Z,20nm,1.0s						
KRVT	Keravat (AS076	27.64	61	P	P	10 00 21.6	+1.4
	comp=Z,16nm,0.6s,baz=278,slow=9.1,SNR=2.4						
	comp=Z,16nm,0.6s						
HNR	Honiara	32.31	77	LR	LR	10 13 26.7	
	comp=Z,2μm,18.9s,baz=224,slow=35						
DZM	Mont Dzumac	35.97	101	eLR	LR	10 11 14.2	
	comp=Z,236nm,22.2s						
DZM	Mont Dzumac	35.97	101	LR	LR	10 15 05.3	
	comp=Z,304nm,18.1s,baz=216,slow=34						
QIZ	Qiongzhong	41.94	334	P	P	10 02 20.5	-2.7
QIZ				S	S	10 08 42.4	+0.6
QIZ				LR	LR		
	comp=N,260nm,13.5s						
QIZ				LR	LR		
	comp=E,260nm,18.3s						
QIZ				LR	LR		
	comp=Z,180nm,19.1s						
RPZ	Rata Peaks	43.45	134	LR	LR	10 19 39.0	
	comp=Z,152nm,19.4s,baz=284,slow=35						
URZ	Urewera	46.46	125	LR	LR	10 21 12.0	
	comp=Z,102nm,19.3s,baz=28,slow=34						
CMAR	Chiang Mai Arr	47.06	321	P	P	10 03 04.8	+0.7
	comp=Z,1.0nm,0.3s,baz=154,slow=7.0,SNR=1.9						
	comp=Z,1.0nm,0.3s						
MSVF	Nonsavu	47.30	97	LR	LR	10 20 50.8	
	comp=Z,123nm,19.1s,baz=22,slow=33						
RAO	Raoul Island	49.91	112	LR	LR	10 22 45.0	
	comp=Z,161nm,18.3s,baz=3.5,slow=34						
KMI	Kunming	50.44	330	⇓P	P	10 03 32.0	+1.7
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
PZH	PanZhiHua	52.08	330	P	P	10 03 45.6	+3.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
TNCH	TengChong	52.49	326	eP	P	10 03 47.3	+1.7
TNCH				pmax	pmax		
	comp=Z,170nm,3.7s						
KSRS	Korea Array	56.29	360	P	P	10 04 13.2	+0.3
	comp=Z,1.3nm,0.7s,baz=181,slow=9.0,SNR=5.1						
	comp=Z,1.3nm,0.7s						
AFI	Afiamalu	57.67	95	LR	LR	10 27 58.5	
	comp=Z,35nm,18.1s,baz=137,slow=35						
LZH	Lanzhou	59.52	337	eP	P	10 04 37.9	+2.1
LZH				sP	sP	10 04 44.4	+4.0
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
VNDA	Vanda	60.72	172	P	P	10 04 44.6	+1.3
	comp=Z,0.4nm,0.3s,baz=309,slow=9.4,SNR=7.6						
VNDA				LR	LR	10 27 58.1	
	comp=Z,52nm,20.5s,baz=326,slow=33						
	comp=Z,0.4nm,0.3s						
VNDA	Vanda	60.72	172	P	P	10 04 44.3	+1.0
HHC	Hu-ho-hao-te	61.62	346	eP	P	10 04 51.5	+1.5
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,240nm,4.5s						
MAW	Mawson	63.06	203	P	P	10 05 00.6	+1.5
	comp=Z,3.4nm,0.6s,baz=107,slow=9.3,SNR=11						
MAW				LR	LR	10 28 23.3	
	comp=Z,62nm,20.6s,baz=36,slow=32						
	comp=Z,3.4nm,0.6s						
MAW	Mawson	63.06	203	P	P	10 05 00.8	+1.6
USRK	Ussuriysk Ar.	63.13	3	P	P	10 05 00.3	+0.5
	comp=Z,1.8nm,0.6s,baz=116,slow=5.0,SNR=2.0						
	comp=Z,1.8nm,0.6s						
GTA	Gaotai	63.96	336	eP	P	10 05 08.0	+2.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,100nm,4.4s						
GTA				LR	LR		
	comp=N,90nm,20.7s						
GTA				LR	LR		
	comp=E,170nm,20.7s						
GTA				LR	LR		
	comp=Z,110nm,19.6s						
HEH	HeiHe	69.09	360	eP	P	10 05 44.0	+6.0
HEH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
HEH				pmax	pmax		
	comp=Z,180nm,5.2s						
SONM	Songino Array	69.45	345	P	P	10 05 42.0	+1.5
	comp=Z,4.0nm,0.7s,baz=162,slow=6.5,SNR=20						
	comp=Z,4.0nm,0.7s						
SONM	Songino Array	69.45	345	P	P	10 05 42.0	+1.5
QSPA	South Pole Qui	70.91	180	P	P	10 05 49.7	+0.4
QSPA				IAmb	IAmb	10 06 09.8	
	comp=Z,8.6nm,1.2s						
WMQ	Urumqi	72.76	331	eP	P	10 06 01.9	+1.3
TBI	Tubuai	75.97	110	eLR	LR	10 29 46.0	
	comp=Z,251nm,27.2s						
PPT2	Papeete2	77.41	104	eLR	LR	10 30 26.0	
	comp=Z,91nm,24.5s						
MK31	Makanchi Array	77.52	330	P	P	10 06 28.6	+0.7
MK31				IAmb	IAmb	10 06 50.2	
	comp=Z,12nm,1.4s						
MKAR	Makanchi Array	77.52	330	P	P	10 06 28.8	+0.8
	comp=Z,1.1nm,0.5s,baz=146,slow=6.5,SNR=10.0						
	comp=Z,1.1nm,0.5s						
BOOM	Boomskoye usch	77.89	323	P	P	10 06 31.8	+1.5
AAK	Ala-Archa	78.80	323	P	P	10 06 35.7	+0.4
	comp=Z,0.9nm,0.4s,baz=174,slow=10,SNR=3.6						
	comp=Z,0.9nm,0.4s						
ZALV	Zalesovo Beam	81.72	336	P	P	10 06 49.9	-0.6
	comp=Z,1.4nm,0.6s,baz=157,slow=4.1,SNR=6.7						
	comp=Z,1.4nm,0.6s						
SHEM	Shemya Is, Ala	81.93	26	LR	LR	10 36 18.9	
	comp=Z,50nm,21.8s,baz=288,slow=31						
KURBB	Kurchatov Arra	81.98	331	P	P	10 06 52.6	+0.6
	comp=Z,1.4nm,0.6s,baz=139,slow=4.3,SNR=14						
	comp=Z,1.4nm,0.6s						
KURK	Kurchatov	82.00	331	P	P	10 06 51.7	-0.4
KURK				IAmb	IAmb	10 07 15.0	
	comp=Z,5.0nm,0.8s						
TROLL	Troll, Antarti	82.01	195	P	P	10 06 54.1	+2.0
BELA	Belgrano 2	82.66	184	P	P	10 06 54.8	-0.5
BELA				IAmb	IAmb	10 07 24.5	
	comp=Z,10nm,1.3s						
SNAA	Sanae	83.49	194	P	P	10 07 01.6	+1.8
SNAA	Sanae	83.49	194	P	P	10 07 01.2	+1.4
VNA2	Neumayer--Watz	85.05	193	P	P	10 07 09.1	+1.4
	baz=128,slow=4.5						
VNA3	Neumayer Olymp	85.29	193	P	P	10 07 10.4	+1.6
VNA1	Neumayer--Stat	85.45	193	P	P	10 07 11.6	+2.0
VNA1	Neumayer--Stat	85.45	193	PP	PP	10 10 23.6	-3.6
BVAR	Borovoye Array	87.39	329	P	P	10 07 19.3	0.0
	comp=Z,0.4nm,0.5s						
	comp=Z,0.4nm,0.5s						
ABKAR	Akbulak array	90.89	323	P	P	10 07 34.9	-0.9
BOSA	Boshof	91.67	239	P	P	10 07 41.6	+1.4
	comp=Z,1.9nm,0.7s,baz=148,slow=2.2,SNR=5.9						
BOSA				LR	LR	10 43 52.6	
	comp=Z,63nm,19.6s,baz=28,slow=32						
	comp=Z,1.9nm,0.7s						
BOSA	Boshof	91.67	239	P	P	10 07 42.0	+1.7
SUR	Sutherland	93.65	234	LR	LR	10 45 22.1	
	comp=Z,42nm,18.8s,baz=134,slow=33						
LSZ	Lusaka	94.09	252	LR	LR	10 46 32.5	
	comp=Z,53nm,18.2s,baz=148,slow=33						
MBAR	Mbarara	96.73	267	LR	LR	10 44 43.5	
	comp=Z,53nm,21.9s,baz=90,slow=31						
SIV	San Ignacio	143.95	165	PKP	PKPdf	10 14 09.9	+1.1
	comp=Z,0.7nm,0.7s,baz=174,slow=4.5,SNR=3.9						
BDFB	Brasilia	145.22	187	PKPbc	PKPdf	10 14 11.7	+0.6
	comp=Z,1.5nm,0.5s,baz=110,slow=5.2,SNR=3.1						

*IDC **06** 10:17:12.8±0.9, 37°.42N×78°.79E, h0km, mb3.7/11, mbtmp3.7/17, ML3.3/6, MS3.5/3, Error ellipse: s-maj=24.7km s-min=14.4km az=55.0*
*SOME **06** 10:17:14.0, 38°.43N×81°.25E, h15km*
*NNC **06** 10:17:18.6±10.0, 37°.58N×78°.68E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=153.5km s-min=52.4km az=94.0*
ISC 06 10:17:14.9±0.7, **37°.61N**±0°.05×**79°.06E**±0°.07, **h10km, n35, σ2.59**/39, **mb3.7**/11, **MS3.8**/3, **2C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	Uzynbulak	5.54	360	eP	Pb	10 18 45.4	-6.3
	5.0nm,0.2s						
UZB				eS	Sb	10 19 51.3	-6.9
	15nm,0.2s						
TNSS	Tian-Shan	5.66	344	eP	Pg	10 18 59.1	-4.2
	22nm,0.2s						
TNSS				eS	Sg	10 20 14.9	-1.7
	11nm,0.3s						
IZV	Izvestkoviy	5.74	342	eP	Pg	10 19 00.6	-4.2
	14nm,0.3s						
IZV				eS	Sg	10 20 17.2	-1.9
	21nm,0.4s						
MDOK	Medeo	5.76	345	Pg	Pg	10 19 04.3	-0.8
	18nm,0.6s						
MDOK				Lg	Lg	10 20 20.6	
	38nm,0.7s						
TKM2	Tokmak 2	5.93	335	⇑Pg	Pb	10 19 02.1	+3.6
	7.1nm,0.5s						
TKM2				⇓Lg	Lg	10 20 27.8	
	18nm,0.7s						
AAK	Ala-Archa	6.12	327	Pn	Pn	10 18 48.1	+2.6
	0.3nm,0.3s,baz=166,slow=8.3,SNR=2.7						
AAK				Pg	Pb	10 19 04.6	+2.9
	4.2nm,0.3s,baz=141,slow=4.3,SNR=13						
AAK				Lg	Lg	10 20 29.5	
	3.1nm,0.3s,baz=203,slow=22,SNR=5.2						
	1.1nm,0.3s						
CHCP	Chirah Chowk	6.14	232	P	Pn	10 18 45.1	-0.7
DGS	Degeres	6.16	337	eP	Pg	10 19 13.5	+0.6
	19nm,0.3s						
DGS				eS	Sg	10 20 39.6	+6.9
	28nm,0.3s						
BLB	Baldybastay	6.50	356	eP	Pb	10 19 05.7	-2.4
	11nm,0.2s						
BLB				eS	Sb	10 20 26.1	+0.1
	10nm,0.2s						
KRBS	Karabastau	6.61	338	eP	Pg	10 19 18.4	-2.9
	13nm,0.3s						
KRBS				eS	Sg	10 20 48.1	+1.2
	16nm,0.3s						
CEP	Cherat	6.93	239	P	Pn	10 18 55.8	-0.8
THW	Thamme Wali	7.67	233	P	Pn	10 19 03.9	-2.8
KK31	Karatay Array	8.53	313	Pn	Pn	10 19 17.9	-0.5
	0.3nm,0.3s,baz=124,slow=14,SNR=13						
WMQ	Urumqi	9.03	44	eP	Pn	10 19 27.8	+2.5
WMQ				smax	smax		
	comp=N,31nm,1.1s						
WMQ				smax	smax		
	comp=E,25nm,1.7s						

MKAR	**Makanchi Array**	**9.49**	**14**	Pn	**Pn**	**10 19 34.7**	**+3.1**
	comp=E,2.3nm,0.3s,baz=198,slow=13,SNR=75						
MKAR				Sn	**Sn**	**10 21 18.5**	**+0.2**
	comp=E,0.7nm,0.3s,baz=184,slow=19,SNR=2.4						
	comp=E,3.0nm,0.3s						
KURBB	**Kurchatov Arra**	**13.02**	**359**	Pn	**Pn**	**10 20 20.8**	**+1.0**
	baz=187,slow=11,SNR=1.5						
	comp=E,0.3nm,0.4s						
BVAR	**Borovoye Array**	**16.56**	**341**	Pn	**Pn**	**10 21 07.3**	**+0.3**
	baz=152,slow=11,SNR=13						
	comp=E,1.8nm,0.6s						
GEYT	**Alibeck**	**16.56**	**278**	Pn	**Pn**	**10 21 04.6**	**-2.6**
	comp=E,0.3nm,0.3s,baz=135,slow=55,SNR=1.5						
	comp=E,1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**16.82**	**12**	P	**P**	**10 21 12.8**	**+0.3**
	comp=E,0.5nm,0.3s,baz=199,slow=12,SNR=8.5						
	comp=E,1.1nm,0.3s						
AB31	**Akbulak array**	**18.06**	**316**	P	**P**	**10 21 26.8**	**+0.6**
	comp=E,0.4nm,0.6s,baz=119,slow=13,SNR=4.7						
AKTO	**Aktyubinsk**	**19.75**	**317**	⇑P	**Pn**	**10 21 49.7**	**+3.4**
	comp=E,0.5nm,0.7s						
SONM	**Songino Array**	**22.43**	**54**	P	**P**	**10 22 16.3**	**+2.5**
	comp=E,1.0nm,0.6s,baz=273,slow=13,SNR=2.6						
	comp=E,1.0nm,0.6s						
ARU	**Arti**	**23.29**	**331**	P	**P**	**10 22 23.5**	**+0.9**
	comp=E,2.2nm,0.5s,baz=134,slow=9.4,SNR=3.4						
	comp=E,2.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**25.82**	**132**	P	**P**	**10 22 47.8**	**+1.4**
	comp=E,0.6nm,0.4s,baz=303,slow=11,SNR=4.2						
	comp=E,0.6nm,0.4s						
AKASG	**Malin Array Be**	**37.37**	**307**	LR	LR	10 39 43.5	
	comp=E,20nm,21.6s,baz=75,slow=36						
FINES	**FINESS Array B**	**40.30**	**324**	P	**P**	**10 24 51.3**	**-0.7**
	comp=E,5.5nm,1.0s,baz=67,slow=8.2,SNR=5.0						
	comp=E,5.5nm,1.0s						
ARCES	**ARCESS Array B**	**42.71**	**335**	P	**P**	**10 25 12.3**	**+0.7**
	comp=E,1.4nm,0.8s,baz=106,slow=8.9,SNR=3.7						
	comp=E,1.4nm,0.8s						
NOA	**NORSAR Array B**	**47.42**	**322**	P	**P**	**10 25 48.3**	**-0.9**
	comp=E,1.1nm,0.6s,baz=86,slow=7.7,SNR=2.2						
	comp=E,1.1nm,0.6s						
INK	**Inuvik**	**71.62**	**12**	P	**P**	**10 28 36.5**	**+0.5**
	comp=E,0.5nm,0.3s,baz=320,slow=3.6,SNR=6.4						
	comp=E,0.5nm,0.3s						
ILAR	**Eielson Array**	**71.80**	**19**	P	**P**	**10 28 37.5**	**+0.2**
	comp=E,0.6nm,0.8s,baz=317,slow=5.4,SNR=6.4						
	comp=E,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.15**	**273**	P	**P**	**10 28 38.0**	**-2.1**
	comp=E,0.2nm,0.3s,baz=53,slow=5.4,SNR=5.2						
	comp=E,0.2nm,0.3s						
WRA	**Warramunga Arr**	**77.32**	**128**	P	**P**	**10 29 09.3**	**-0.6**
	comp=E,0.2nm,0.8s,baz=328,slow=5.9,SNR=1.8						
	comp=E,0.2nm,0.8s						
ASAR	**Alice Springs**	**79.82**	**130**	P	**P**	**10 29 23.2**	**-0.4**
	comp=E,0.2nm,0.9s,baz=320,slow=5.2,SNR=1.8						
	comp=E,0.2nm,0.9s						
BBTS	**Babate**	**85.53**	**285**	LR	LR	11 14 34.8	
	comp=E,47nm,20.9s,baz=91,slow=40						
SADO	**Sadowa**	**95.67**	**345**	LR	LR	11 20 19.8	
	comp=E,30nm,18.7s,baz=336,slow=40						

*BJI **06** 10:35:04.7±0.0, 48.°13N×145.°63E, h488km, mb4.7/51, mB4.9/31*

*JMA **06** 10:35:04.6±0.4, 48°N±3°×14°6E±°, h524km, MV4.3/29, SOUTHERN SEA OF OKHOTSK*

*MOS **06** 10:35:04.5±0.9, 48.°27N×145.°55E, h468km, mb4.7/48, Error ellipse: s-maj=8.0km s-min=4.5km az=115.5*

*NIED **06** 10:35:04.6, 47.°83N×145.°98E, h524km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-4.80; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$4.87; $M_{r\theta}$-3.73; $M_{\theta\phi}$1.48; $M_{\phi r}$-1.81; Fault plane solution: $M_0$6.50000×10^{15} NP1: ϕ_s174.00000°, δ35.00000°, λ-132.00000°. NP2: ϕ_s41.00000°, δ65.00000°, λ-65.00000°.*

*SKHL **06** 10:35:06.4±0.5, 48.°10N×145.°80E, h517km±5km, mb5.3/22, mbv5.4/5, ms3.6/1, msh5.7/5, msha5.7/20*

*NEIC **06** 10:35:07.2±1.2, 48.°24N±0.°08×145.°5E±0.°1, h488km±7km, mb4.6/87, Error ellipse: s-maj=15.9km s-min=4.6km az=135.0*

*IDC **06** 10:35:07.5±0.6, 48.°23N×145.°47E, h492km±6km, mb4.1/48, mbtmp4.9/52, Error ellipse: s-maj=6.7km s-min=6.0km az=116.0*

ISC 06 10:35:06.9±0.4**, 48.°15N**±0.°03×**145.°48E**±0.°04**, h490**km±3km**, h489**km**:pP-P, n874, σ1.§11**/954**, mb4.6**/180**, 65C-27D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.20**	**238**	P	**P**	**10 36 13.4**	**+1.4**
YSS	**Yuzh-Sakhalins**	**2.20**	**238**	*i* P	**P**	**10 36 13.6**	**+1.5**
YSS				*i* P	**P**	**10 36 13.6**	**+1.5**
YSS				AMB	AMB	10 36 13.9	
	370nm,1.0s						
YSS				AMB	AMB	10 36 14.0	
	330nm,0.9s						
YSS				*e*S	**S**	**10 37 05.6**	**+0.5**
YSS				A	A	10 37 06.7	
	2μm,2.0s						
YSS				A	A	10 37 06.7	
	2μm,2.0s						
YSS				A	A	10 37 07.7	
	1μm,1.0s						
YSS				A	A	10 37 07.7	
	700nm,1.0s						
YSS				AMS	AMS	10 38 30.6	
	730nm,5.0s						
YSS	**Yuzh-Sakhalins**	**2.20**	**238**	κ *i*PN	**P**	**10 36 13.6**	**+1.5**
YSS				*e*S	**S**	**10 37 05.6**	**+0.5**
YSS				pmax	pmax		
	comp=Z,330nm,0.9s						
YSS				pmax	pmax		
	comp=Z,500nm,3.3s						
YSS				smax	smax		
	comp=N,2μm,0.7s						
YSS				smax	smax		
	comp=E,2μm,3.7s						
UGL	**Uglegorsk**	**2.45**	**294**	*i* P	**P**	**10 36 14.8**	**+1.4**
UGL				AMB	AMB	10 36 15.3	
	comp=E,3μm,1.0s						
UGL				AMB	AMB	10 36 15.7	
	comp=E,2μm,0.5s						
UGL				*e*S	**S**	**10 37 08.9**	**+1.3**
UGL				A	A	10 37 09.9	
	comp=E,2μm,2.0s						
UGL				A	A	10 37 10.1	
	comp=E,1μm,0.7s						
UGL				A	A	10 37 10.1	
	comp=E,750nm,0.7s						
UGL	**Uglegorsk**	**2.45**	**294**	⇑*i*PN	**P**	**10 36 14.8**	**+1.4**
UGL				pmax	pmax		
	comp=Z,2μm,1.0s						
KHLM	**Kholmsk**	**2.57**	**246**	*e*P	**P**	**10 36 16.0**	**+1.8**
KHLM				AMB	AMB	10 36 16.2	
	comp=Z,370nm,0.4s						
KHLM				*e*S	**S**	**10 37 10.2**	**+1.3**
KHLM				A	A	10 37 10.7	
	comp=Z,2μm,0.7s						
KHLM				A	A	10 37 10.7	
	comp=Z,1μm,0.7s						
TYV	**Tymovskoe**	**3.28**	**327**	*e*P	**P**	**10 36 19.9**	**+1.1**
TYV				AMB	AMB	10 36 20.6	
	comp=Z,540nm,1.0s						
TYV				AMB	AMB	10 36 20.8	
	comp=Z,670nm,0.7s						
TYV				*e*S	**S**	**10 37 18.8**	**+1.1**
TYV				A	A	10 37 19.4	
	comp=Z,40nm,1.4s						
TYV				A	A	10 37 19.4	
	comp=Z,60nm,1.4s						
TYV	**Tymovskoe**	**3.28**	**327**	*e*PN	**P**	**10 36 20.3**	**+1.5**
TYV				*e*S	**S**	**10 37 14.7**	**-3.0**
TYV				pmax	pmax		
	comp=Z,1μm,0.7s						
TYV				pmax	pmax		
	comp=Z,1μm,2.1s						
TYV				smax	smax		
	comp=N,58nm,1.4s						
TYV				smax	smax		
	comp=E,105nm,1.4s						
KUR	**Kuril'sk**	**3.34**	**150**	*e*P	**P**	**10 36 18.8**	**-0.7**
KUR				AMB	AMB	10 36 19.2	
	comp=E,350nm,0.6s						
KUR	**Kuril'sk**	**3.34**	**150**	*i* PN	**P**	**10 36 18.6**	**-0.9**
JWK2	**Keihoku**	**3.75**	**222**	*e*P	**P**	**10 36 23.7**	**+1.1**
JWK2				*e*S	**S**	**10 37 25.1**	**+0.7**
JSE	**Soyaes**	**3.76**	**213**	*e*P	**P**	**10 36 23.1**	**+0.4**
JSE				*e*S	**S**	**10 37 24.5**	**+0.1**
JRBN	**Rebuntou**	**4.08**	**230**	*e*P	**P**	**10 36 25.7**	**+0.5**
JRBN				*e*S	**S**	**10 37 28.2**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**4.12**	**176**	*e*P	**P**	**10 36 24.2**	**-1.5**
YUK				AMB	AMB	10 36 25.6	
	comp=E,1μm,0.9s						
YUK				*e*S	**S**	**10 37 27.0**	**-2.8**
YUK				A	A	10 37 33.2	
	comp=E,1μm,0.7s						
YUK				A	A	10 37 33.2	
	comp=E,1μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.12**	**176**	*d i*PN	**P**	**10 36 24.0**	**-1.7**
YUK				*e*S	**S**	**10 37 28.7**	**-1.1**
YUK				pmax	pmax		
	comp=Z,534nm,0.7s						
YUK				pmax	pmax		
	comp=N,146nm,0.6s						
YUK				pmax	pmax		
	comp=E,118nm,0.3s						
YUK				smax	smax		
	comp=E,514nm,0.5s						
YUK				smax	smax		
	comp=N,472nm,0.7s						
JRA	**Rausu**	**4.22**	**184**	*e*P	**P**	**10 36 25.6**	**-0.9**
JTKR	**Abashiri--Toko**	**4.32**	**195**	*e*P	**P**	**10 36 26.7**	**-0.6**
JTKR				*e*S	**S**	**10 37 31.7**	**-1.2**
JMP	**Maruseppu**	**4.40**	**200**	*e*P	**P**	**10 36 27.5**	**-0.5**
JMP				*e*S	**S**	**10 37 33.7**	**-0.5**
JKA	**Kamikawa-asahi**	**4.50**	**207**	P	**P**	**10 36 29.0**	**+0.1**
JKA	**Kamikawa-asahi**	**4.50**	**207**	*e*P	**P**	**10 36 29.0**	**+0.1**
ASAJ	**Asahikawa**	**4.50**	**208**	PN	**P**	**10 36 29.0**	**+0.1**
JNK	**Nakash**	**4.59**	**187**	*e*P	**P**	**10 36 28.2**	**-1.6**
JNK				*e*S	**S**	**10 37 34.9**	**-2.3**
JKK2	**Kamakawa 2**	**4.68**	**205**	*e*P	**P**	**10 36 30.3**	**-0.2**
JKK2				*e*S	**S**	**10 37 38.7**	**0.0**
NMR	**Nemuro--Hokkai**	**4.78**	**178**	*e*P	**P**	**10 36 28.1**	**-3.3**
NMR				AMB	AMB	10 36 28.3	
	comp=N,290nm,0.4s						
NMR				*e*S	**S**	**10 37 34.3**	**-5.9**
NMR				A	A	10 37 36.8	
	comp=N,500nm,0.4s						
NMR				A	A	10 37 36.8	
	comp=N,380nm,0.4s						
NMR	**Nemuro--Hokkai**	**4.78**	**178**	⇓*i*PN	**P**	**10 36 27.8**	**-3.6**
NMR				*e*S	**S**	**10 37 33.4**	**-6.8**
NEM2	**Nemuro 2**	**4.79**	**178**	*e*P	**P**	**10 36 27.9**	**-3.5**
NEM2				*e*S	**S**	**10 37 33.7**	**-6.6**
JAR	**Ashorobuto**	**5.00**	**195**	*e*P	**P**	**10 36 32.2**	**-1.2**
JAR				*e*S	**S**	**10 37 40.9**	**-2.9**
JHR	**Hokuryu**	**5.12**	**212**	*e*P	**P**	**10 36 34.7**	**+0.2**
AKK	**Akkeshi**	**5.15**	**185**	*e*P	**P**	**10 36 32.0**	**-2.7**
AKK				AMB	AMB	10 36 32.7	
	comp=N,460nm,0.6s						
AKK				*e*S	**S**	**10 37 40.1**	**-6.3**
AKK				A	A	10 37 42.8	
	comp=N,700nm,0.5s						
AKK				A	A	10 37 42.8	
	comp=N,730nm,0.5s						
JAK	**Akkeshi**	**5.18**	**186**	*e*P	**P**	**10 36 32.3**	**-2.8**
JAK				*e*S	**S**	**10 37 40.9**	**-6.0**
JFR	**Furan**	**5.38**	**203**	*e*P	**P**	**10 36 36.3**	**-0.6**
JFR				*e*S	**S**	**10 37 48.1**	**-2.3**
OKH	**Okha**	**5.64**	**344**	*e*P	**P**	**10 36 41.2**	**+2.1**
OKH				AMB	AMB	10 36 41.7	
	comp=N,1μm,0.7s						
OKH				*e*S	**S**	**10 37 56.2**	**+1.6**
OKH				A	A	10 38 55.5	
	comp=N,880nm,1.3s						
JCH	**Churui**	**5.73**	**196**	*e*P	**P**	**10 36 37.7**	**-2.5**
JCH				*e*S	**S**	**10 37 49.8**	**-6.6**
JBT2	**Biratori 2**	**5.80**	**203**	*e*P	**P**	**10 36 39.3**	**-1.6**
JBT2				*e*S	**S**	**10 37 54.4**	**-3.2**
NKL	**Nikolayevsk**	**5.87**	**330**	*e*P	**P**	**10 36 40.8**	**-0.4**
NKL	**Nikolayevsk**	**5.87**	**330**	*e*PN	**P**	**10 36 40.8**	**-0.4**
NKL				pmax	pmax		
	comp=E,137nm,1.7s						
NKL				pmax	pmax		
	comp=N,208nm,1.2s						
NKL				pmax	pmax		
	comp=Z,542nm,1.0s						
JEW	**Eniwo**	**6.02**	**210**	*e*P	**P**	**10 36 42.2**	**-0.8**
JEW				*e*S	**S**	**10 37 58.6**	**-2.9**
JNBK	**Urakawa-nobuka**	**6.18**	**199**	*e*P	**P**	**10 36 42.3**	**-2.2**
ERM	**Erimo**	**6.35**	**196**	P	**P**	**10 36 45.4**	**-0.9**
ERM	**Erimo**	**6.35**	**196**	*c i*PN	**P**	**10 36 45.2**	**-1.1**
GRNR	**Gornyy**	**6.46**	**297**	*e*P	**P**	**10 36 48.9**	**+1.7**
GRNR				AMB	AMB	10 36 49.1	
	comp=Z,130nm,0.5s						
GRNR				*e*S	**S**	**10 38 11.5**	**+2.1**
GRNR				A	A	10 38 12.2	
	comp=Z,50nm,0.8s						
GRNR	**Gornyy**	**6.46**	**297**	⇑*i*PN	**P**	**10 36 49.1**	**+1.9**
GRNR				pmax	pmax		
	comp=E,100nm,0.5s						
GRNR				pmax	pmax		
	comp=N,20nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,150nm,0.5s						
TEY	**Ternei**	**6.86**	**246**	*e*P	**P**	**10 36 53.2**	**+1.9**
TEY				AMB	AMB	10 36 53.7	
	comp=Z,10.0nm,0.9s						
JOT	**Ohata**	**7.46**	**207**	*e*P	**P**	**10 36 55.8**	**-1.7**
JOT				*e*S	**S**	**10 38 21.3**	**-6.9**
JTM	**Tenmabayashi**	**8.01**	**205**	P	**P**	**10 37 01.7**	**-1.4**
JANG	**Nango**	**8.28**	**202**	*e*P	**P**	**10 37 04.0**	**-2.0**
JANG				*e*S	**S**	**10 38 38.5**	**-5.2**
JIW	**Iwasaki**	**8.51**	**209**	*e*P	**P**	**10 37 07.8**	**-0.7**
KLR	**Kul'dur**	**9.15**	**282**	*e*P	**P**	**10 37 16.5**	**+1.5**
KLR	**Kul'dur**	**9.15**	**282**	*i* PN	**P**	**10 37 16.5**	**+1.5**
KLR				pmax	pmax		
	comp=Z,15nm,0.8s						
PEA0B	**Petropavlovsk-**	**9.21**	**53**	P	**P**	**10 37 17.9**	**+2.3**
PEA0B	**Petropavlovsk-**	**9.21**	**53**	PN	**P**	**10 37 17.9**	**+2.3**
PETK	**Petropavlovsk-**	**9.21**	**53**	P	**P**	**10 37 15.8**	**+0.3**
	comp=Z,9.8nm,1.0s,baz=224,slow=8.1,SNR=7.3						
PETK	**Petropavlovsk-**	**9.21**	**53**	P	**P**	**10 37 16.6**	**+1.0**
PETK	**Petropavlovsk-**	**9.21**	**53**	PN	**P**	**10 37 16.6**	**+1.0**
PET	**Petropavlovsk**	**9.69**	**55**	*e*P	**P**	**10 37 20.3**	**-0.3**
PET	**Petropavlovsk**	**9.69**	**55**	*i* PN	**P**	**10 37 20.3**	**-0.3**
PET				pmax	pmax		
	comp=Z,44nm,1.1s						
USA0B	**Ussuriysk Arra**	**10.16**	**252**	P	**P**	**10 37 27.1**	**+1.3**
USA0B	**Ussuriysk Arra**	**10.16**	**252**	PN	**P**	**10 37 27.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.16**	**252**	P	**P**	**10 37 26.2**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=61,slow=12,SNR=13						
JMM	**Marumori**	**10.83**	**200**	P	**P**	**10 37 34.6**	**+1.6**
MSHR	**Mys Shultsa**	**11.51**	**246**	*i* PN	**P**	**10 37 40.3**	**+0.2**
MSHR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MDJ	**Mudanjiang**	**11.53**	**258**	P	**P**	**10 37 40.5**	**+0.1**
MDJ	**Mudanjiang**	**11.53**	**258**	P	**P**	**10 37 39.8**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,25nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,350nm,3.9s						
MA2	**Magadan**	**11.86**	**13**	P	**P**	**10 37 43.7**	**+0.1**
	comp=Z,78nm,0.7s,baz=196,slow=10,SNR=51						
MA2	**Magadan**	**11.86**	**13**	P	**P**	**10 37 44.6**	**+0.9**
MA2	**Magadan**	**11.86**	**13**	*e*P	**P**	**10 37 44.2**	**+0.6**
MA2	**Magadan**	**11.86**	**13**	*ce*PN	**P**	**10 37 44.2**	**+0.6**
MA2				pmax	pmax		
	comp=Z,74nm,0.6s						
HEH	**HeiHe**	**12.01**	**287**	*e*P	**P**	**10 37 44.8**	**-0.5**
HEH				sP		10 39 24.8	
HEH				S	**S**	**10 39 56.5**	**+0.5**
HEH				pmax	pmax		
	comp=Z,42nm,0.9s						
HEH				pmax	pmax		
	comp=Z,460nm,4.4s						
BNX	**BinXian**	**12.59**	**266**	⇑P	**P**	**10 37 51.1**	**-0.5**
BNX				pmax	pmax		
	comp=Z,20nm,0.8s						
BNX				pmax	pmax		
	comp=Z,320nm,5.4s						
ZEA	**Zeya**	**12.77**	**303**	*e*P	**P**	**10 37 53.3**	**-0.1**
ZEA				AMB	AMB	10 37 53.9	
	comp=Z,10.0nm,0.9s						
ZEA				*e*S	**S**	**10 40 08.0**	**-2.8**
ZEA	**Zeya**	**12.77**	**303**	*e*PN	**P**	**10 37 53.3**	**-0.1**
ZEA				*e*		10 40 08.0	
ZEA				pmax	pmax		
	comp=N,10.0nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MJB9	**Matsu-Tunnel**	**12.77**	**207**	P	**P**	**10 37 54.6**	**+0.8**
MAJO	**Matsushiro**	**12.78**	**207**	P	**P**	**10 37 54.5**	**+0.7**
MAJO	**Matsushiro**	**12.78**	**207**	PN	**P**	**10 37 54.5**	**+0.7**
MJAR	**Matsushiro Arr**	**12.78**	**207**	P	**P**	**10 37 54.6**	**+0.8**
	comp=Z,19nm,0.4s,baz=13,slow=13,SNR=82						
JGF	**Kuroka**	**13.91**	**209**	P	**P**	**10 38 06.2**	**+0.4**
INU	**Inuyama**	**14.25**	**209**	P	**P**	**10 38 10.0**	**+0.6**
SEY	**Seymchan**	**15.31**	**12**	P	**P**	**10 38 20.6**	**+0.6**
	comp=Z,149nm,0.5s,baz=188,slow=9.3,SNR=510						
SEY	**Seymchan**	**15.31**	**12**	*e*P	**P**	**10 38 20.4**	**+0.3**
SEY	**Seymchan**	**15.31**	**12**	*de*P	**P**	**10 38 20.4**	**+0.3**
SEY				pmax	pmax		
	comp=Z,215nm,1.3s						
JHS	**Saijyo**	**16.04**	**220**	P	**P**	**10 38 30.5**	**+2.3**
YAK	**Yakutsk**	**16.52**	**333**	P	**P**	**10 38 31.3**	**-1.5**
YAK	**Yakutsk**	**16.52**	**333**	*e*P	**P**	**10 38 31.1**	**-1.7**
YAK	**Yakutsk**	**16.52**	**333**	*d i*P	**P**	**10 38 31.1**	**-1.7**
YAK				*e*S	**S**	**10 41 20.3**	**-2.0**
YAK				pmax	pmax		
	comp=Z,183nm,0.7s						
YAK				pmax	pmax		
	comp=N,26nm,0.9s						
YAK				pmax	pmax		
	comp=E,25nm,0.9s						
YAK				smax	smax		
	comp=N,286nm,1.9s						
YAK				smax	smax		
	comp=E,288nm,2.2s						
KSRS	**Korea Array**	**16.70**	**237**	P	**P**	**10 38 36.1**	**+1.0**
	comp=E,3.9nm,0.6s,baz=41,slow=9.9,SNR=16						
KSRS				ScP	**ScP**	**10 45 42.1**	**+1.1**
	comp=E,6.8nm,0.8s,baz=7.6,slow=1.7,SNR=19						
HIA	**Hailar**	**17.00**	**283**	*i* P	**P**	**10 38 36.8**	**-1.3**
HIA				pmax	pmax		
	comp=Z,21nm,1.6s						
JNU	**Nakatsue**	**18.61**	**222**	P	**P**	**10 38 54.6**	**+1.2**
XLT	**XiLinHaoTe**	**20.79**	**269**	⇓*i*P	**P**	**10 39 13.5**	**+0.3**
XLT				pmax	pmax		
	comp=Z,28nm,0.7s						
XLT				pmax	pmax		
	comp=Z,130nm,3.5s						
BOD	**Bodaibo**	**21.09**	**309**	*e*P	**P**	**10 39 14.6**	**-1.0**
BOD	**Bodaibo**	**21.09**	**309**	*e*P	**P**	**10 39 14.6**	**-1.0**
BOD				pmax	pmax		
	comp=Z,33nm,1.4s						
BJI	**Beijing**	**22.45**	**260**	P	**P**	**10 39 29.5**	**+1.4**
BJI				pmax	pmax		
	comp=Z,15nm,0.9s						
BJT	**Baijiatuau**	**22.47**	**260**	P	**P**	**10 39 29.3**	**+1.1**
BJT				IAmb	IAmb	10 39 32.0	
	comp=Z,17nm,1.1s						
BJT	**Baijiatuau**	**22.47**	**260**	P	**P**	**10 39 29.3**	**+1.1**
BJT				pmax	pmax		
	comp=Z,17nm,1.1s						
BILL	**Bilibino**	**22.54**	**20**	*e*P	**P**	**10 39 27.8**	**-0.7**
BILL	**Bilibino**	**22.54**	**20**	⇑*e*P	**P**	**10 39 27.8**	**-0.7**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TIXI	**Tiksi**	**24.82**	**348**	P	**P**	**10 39 47.7**	**-1.1**
	comp=Z,17nm,0.5s,baz=90,slow=23,SNR=87						
	comp=Z,17nm,0.5s						
TIXI	**Tiksi**	**24.82**	**348**	P	**P**	**10 39 47.5**	**-1.2**
TIXI	**Tiksi**	**24.82**	**348**	P	**P**	**10 39 47.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC	**Hu-ho-hao-te**	**25.12**	**266**	*e*P	**P**	**10 39 52.9**	**+0.9**
HHC				pmax	pmax		
	comp=Z,40nm,0.8s						
HHC				pmax	pmax		
	comp=Z,240nm,5.4s						
JOW	**Kunigami**	**25.17**	**218**	P	**P**	**10 39 53.0**	**+0.6**
	comp=Z,8.7nm,0.3s,baz=95,slow=10,SNR=8.0						
	comp=Z,8.7nm,0.3s						
ULN	**Ulaanbaatar**	**25.54**	**284**	P	**P**	**10 39 56.2**	**+0.6**
ULN	**Ulaanbaatar**	**25.54**	**284**	P	**P**	**10 39 56.1**	**+0.4**
	comp=Z,93nm,0.8s						
ULN	**Ulaanbaatar**	**25.54**	**284**	*ce*P	**P**	**10 39 56.3**	**+0.6**
ULN				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2	**Nanjing**	**25.77**	**241**	*e*P	**P**	**10 39 57.2**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
SONM	**Songino Array**	**25.97**	**284**	P	**P**	**10 39 59.6**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=74,slow=7.5,SNR=19						
SONM				ScP	**ScP**	**10 46 04.6**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=128,slow=2.6,SNR=7.0						
	comp=Z,3.5nm,0.8s						
SONM	**Songino Array**	**25.97**	**284**	P	**P**	**10 40 00.9**	**+1.4**
SONM	**Songino Array**	**25.97**	**284**	P	**P**	**10 40 00.9**	**+1.4**
SONM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZAK	**Zakamensk**	**27.36**	**291**	*e*P	**P**	**10 40 11.9**	**+0.2**
ZAK	**Zakamensk**	**27.36**	**291**	*e*P	**P**	**10 40 11.9**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,19nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,13nm,1.3s						
XAN	**Xi'an**	**30.63**	**256**	P	**P**	**10 40 40.5**	**+0.2**
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
RDOG	**Red Dog Mine**	**32.38**	**33**	P	**P**	**10 40 55.1**	**+0.4**
	baz=259						
LZH	**Lanzhou**	**32.76**	**264**	*e*P	**P**	**10 40 59.9**	**+1.3**
LZH				pmax	pmax		
	comp=Z,34nm,1.1s						
GTA	**Gaotai**	**33.68**	**272**	*e*P	**P**	**10 41 07.6**	**+1.3**
GTA				pmax	pmax		
	comp=Z,13nm,0.9s						
GTA				pmax	pmax		
	comp=Z,76nm,8.0s						
N16K	**Nishlik Lake**	**33.71**	**48**	P	**P**	**10 41 05.7**	**-0.5**
	baz=274						
CHNA	**Chernabura Isl**	**34.07**	**58**	P	**P**	**10 41 08.7**	**-0.5**
	baz=282						
O16K	**Kokwok River B**	**34.13**	**49**	P	**P**	**10 41 09.4**	**-0.2**
	baz=276						
P16K	**Nushagak River**	**34.24**	**50**	P	**P**	**10 41 10.2**	**-0.4**
	baz=277						
O17K	**Koliganek Bris**	**34.61**	**49**	P	**P**	**10 41 14.0**	**+0.3**
	baz=277						
R16K	**Pilot Point**	**34.67**	**53**	P	**P**	**10 41 13.1**	**-1.1**
	baz=280						
NRIK	**Noril'sk**	**34.87**	**328**	P	**P**	**10 41 15.9**	**+0.2**
	comp=Z,11nm,0.9s,baz=104,slow=8.4,SNR=14						
NRIK				ScP	**ScP**	**10 46 33.5**	**+0.2**
	comp=Z,3.8nm,0.5s,baz=70,slow=5.7,SNR=6.2						
	comp=Z,11nm,0.9s						
TTA	**Tatalina**	**34.87**	**43**	P	**P**	**10 41 14.6**	**-1.4**
	baz=273						
Q16K	**King Salmon**	**34.98**	**50**	P	**P**	**10 41 16.2**	**-0.6**
	baz=279						
P17K	**Kvichak River**	**35.02**	**50**	P	**P**	**10 41 17.1**	**0.0**
	baz=278						
N18K	**Kilae Creek**	**35.11**	**47**	P	**P**	**10 41 18.4**	**+0.5**
	baz=276						
A21K	**Barrow**	**35.15**	**28**	P	**P**	**10 41 17.3**	**-0.7**
Q17K	**Contact Creek**	**35.45**	**51**	P	**P**	**10 41 20.0**	**-0.9**
	baz=280						
L19K	**White Mountain**	**35.46**	**44**	P	**P**	**10 41 19.9**	**-0.9**
	baz=275						
O18K	**Koktuh Hills**	**35.55**	**48**	P	**P**	**10 41 20.8**	**-0.8**
	baz=278						
P18K	**Big Mountain,**	**35.60**	**49**	P	**P**	**10 41 21.4**	**-0.7**
	baz=279						
J20K	**Nowinta River**	**35.65**	**41**	P	**P**	**10 41 21.8**	**-0.5**
J20K				IAmb	IAmb	10 41 23.1	
	comp=Z,7.9nm,0.7s						
J20K	**Nowinta River**	**35.65**	**41**	P	**P**	**10 41 22.0**	**-0.3**
	baz=273,SNR=7.1						
M19K	**Big River Lodg**	**35.70**	**45**	P	**P**	**10 41 22.1**	**-0.7**
	baz=276						
K20K	**Telida**	**35.73**	**42**	P	**P**	**10 41 22.9**	**-0.2**
K20K	**Telida**	**35.73**	**42**	P	**P**	**10 41 22.6**	**-0.5**
	baz=274						
IMAR	**Indian Mountai**	**35.76**	**38**	P	**P**	**10 41 22.6**	**-0.6**
N19K	**Bonanza Creek**	**35.78**	**47**	P	**P**	**10 41 23.6**	**0.0**
	baz=277						
Q18K	**Katmai Hardscr**	**35.84**	**50**	P	**P**	**10 41 23.8**	**-0.3**
	baz=280						
G21K	**Allakaket**	**35.86**	**37**	P	**P**	**10 41 23.6**	**-0.4**
	baz=270						
F21K	**Alatna River**	**35.87**	**36**	P	**P**	**10 41 23.8**	**-0.4**
	baz=269,SNR=5.4						
L20K	**Farewell, AK**	**35.89**	**44**	P	**P**	**10 41 24.0**	**-0.4**
	baz=275						

O19K **Port Alsworth** 35.94 48 P P 10 41 24.8 +0.1
baz=278
CHIR **Chirikof Islan** 36.07 55 P P 10 41 25.8 -0.1
baz=283
H21K **Melozitna Rive** 36.16 38 P P 10 41 26.3 -0.3
baz=272,SNR=10
M20K **Styx River** 36.30 45 P P 10 41 28.0 +0.1
M20K **Styx River** 36.30 45 P P 10 41 28.5 +0.7
baz=277
F22K **John River** 36.38 35 P P 10 41 28.0 -0.4
baz=270
CHUM **Lake Minchumin** 36.47 41 P P 10 41 29.8 +0.7
baz=275
Q19K **Cape Douglas,** 36.49 50 P P 10 41 29.1 -0.2
baz=280
E22K **Anaktuvuk Pass** 36.52 34 P P 10 41 28.8 -0.7
baz=269
I21K **Tanana** 36.52 39 P P 10 41 29.2 -0.3
I21K **Tanana** 36.52 39 P P 10 41 29.2 -0.3
baz=273
P19K **Oil Pt** 36.57 48 P P 10 41 29.6 -0.5
baz=280
CAST **Castle Rocks** 36.61 42 P P 10 41 30.6 +0.3
CAST IAmb IAmb 10 41 31.3
comp=Z,8.7nm,0.7s
CAST **Castle Rocks** 36.61 42 P P 10 41 30.7 +0.4
baz=276,SNR=11
PPLA **Purkeypile** 36.62 43 P P 10 41 30.6 +0.1
baz=276
G22K **Bettles** 36.65 36 P P 10 41 29.9 -0.7
baz=271
H22K **Ishtalitna Cre** 36.74 38 P P 10 41 31.5 +0.2
baz=273,SNR=16
N20K **Mount Spurr** 36.83 46 P P 10 41 31.7 -0.5
baz=278
SPCR **Spurr Chakacha** 36.83 46 P P 10 41 31.0 -1.2
baz=278
D23K **Nanushuk River** 36.95 33 P P 10 41 32.9 -0.1
baz=269
C23K **Itkillik River** 36.99 31 P P 10 41 32.6 -0.8
baz=268
OHAK **Old Harbor** 37.02 52 P P 10 41 32.6 -1.1
OHAK IAmb IAmb 10 41 49.6
comp=Z,44nm,1.4s
OHAK **Old Harbor** 37.02 52 P P 10 41 33.0 -0.7
baz=283
BPAW **Bear Paw Mtn.** 37.03 41 P P 10 41 34.0 +0.1
BPAW **Bear Paw Mtn.** 37.03 41 P P 10 41 33.0 -0.8
baz=276
SKT **Skwentna** 37.04 44 P P 10 41 32.9 -0.9
baz=278
MLY **Manley** 37.06 39 P P 10 41 33.8 -0.2
baz=275
Q20K **Shuyak Island** 37.19 50 P P 10 41 34.4 -0.6
baz=282
G23K **Bananza Creek** 37.24 36 P P 10 41 35.1 -0.4
baz=273
KDAK **Kodiak Island** 37.26 51 P P 10 41 35.0 -0.6
comp=Z,6.9nm,0.5s,baz=88,slow=0.7,SNR=36
comp=Z,6.9nm,0.5s
KDAK **Kodiak Island** 37.26 51 P P 10 41 35.1 -0.6
KDAK IAmb IAmb 10 42 09.4
comp=Z,24nm,1.4s
KDAK **Kodiak Island** 37.26 51 P P 10 41 35.1 -0.6
baz=283
KDAK **Kodiak Island** 37.26 51 P P 10 41 35.1 -0.6
KDAK pmax pmax
comp=Z,25nm,1.4s
E23K **Chandalar** 37.35 34 P P 10 41 35.8 -0.6
baz=272
DGZ **Jazzator, Alta** 37.35 295 *d i* P P 10 41 38.1 +1.3
DGZ pmax pmax
comp=Z,18nm,0.7s
TOLK **Toolik Lake Re** 37.35 33 P P 10 41 35.9 -0.5
TOLK IAmb IAmb 10 41 36.5
comp=Z,31nm,1.5s
TOLK **Toolik Lake Re** 37.35 33 P P 10 41 36.0 -0.4
baz=271,SNR=5.7
HOM **Homer** 37.36 48 P P 10 41 36.5 0.0
baz=281
TRF **Thorofare Moun** 37.41 42 P P 10 41 36.5 -0.6
baz=277
SUA **Susitna One** 37.48 45 P P 10 41 36.4 -1.3
baz=279
H23K **Yukon River** 37.49 38 P P 10 41 38.0 +0.4
H23K IAmb IAmb 10 41 38.2
comp=Z,12nm,0.5s
H23K **Yukon River** 37.49 38 P P 10 41 37.4 -0.2
baz=275
ZAA0 **Zalesovo Array** 37.54 302 P P 10 41 37.7 -0.4
ZAA0 IAmb IAmb 10 41 42.4
comp=Z,10.0nm,0.5s
ZALV **Zalesovo Beam** 37.54 302 P P 10 41 37.6 -0.4
comp=Z,8.5nm,0.4s,baz=64,slow=7.2,SNR=57
ZALV PcP PcP 10 43 43.6 +0.3
comp=Z,10nm,0.7s,baz=71,slow=2.5,SNR=21
ZALV ScP ScP 10 46 43.4 -0.1
comp=Z,2.8nm,0.6s,baz=65,slow=4.3,SNR=12
comp=Z,8.5nm,0.4s
ZALV **Zalesovo Beam** 37.54 302 P P 10 41 37.5 -0.6
CUT **Chulitna** 37.56 43 P P 10 41 37.7 -0.4
baz=278
I23K **Minto, Yukon-K** 37.63 39 P P 10 41 38.6 -0.1
I23K IAmb IAmb 10 41 39.0
comp=Z,8.5nm,0.7s
I23K **Minto, Yukon-K** 37.63 39 P P 10 41 38.5 -0.1
baz=276,SNR=7.6
C24K **Franklin Bluff** 37.66 31 P P 10 41 38.1 -0.7
baz=270
BWN **Browne** 37.69 41 P P 10 41 40.1 +1.0
BWN IAmb IAmb 10 41 40.7
comp=Z,19nm,0.9s
M22K **Willow** 37.73 45 P P 10 41 39.2 -0.3
baz=279
E24K **Your Creek** 37.77 34 P P 10 41 39.6 -0.2
baz=273,SNR=9.5
BRSE **Bradley Lake S** 37.79 48 P P 10 41 39.5 -0.6
baz=282
NEA2 **Nenana** 37.81 40 P P 10 41 39.9 -0.2
baz=277,SNR=18
MCK **McKinley** 37.98 41 P P 10 41 41.1 -0.4
baz=278,SNR=5.8
RC01 **Rabbit Creek A** 38.03 46 P P 10 41 41.5 -0.5
baz=280
F24K **Squaw Lake** 38.03 35 P P 10 41 41.6 -0.4
baz=274,SNR=21
O22K **Cooper Landing** 38.15 46 P P 10 41 41.7 -1.2
baz=281
H24K **Noodor Dome** 38.18 38 P P 10 41 43.2 0.0
baz=276,SNR=7.6
PMR **Palmer** 38.22 45 P P 10 41 42.7 -0.8
baz=280
G24K **Hadweenzic Riv** 38.26 36 P P 10 41 43.7 -0.1
baz=275
WAT1 **Susitna Watana** 38.28 43 P P 10 41 43.1 -1.0
baz=279
TCOL **CIGO, UAF Yank** 38.29 39 P P 10 41 44.0 -0.1
TCOL **CIGO, UAF Yank** 38.29 39 P P 10 41 44.1 0.0
baz=277,SNR=8.6
COLA **College** 38.30 39 P P 10 41 44.0 0.0
baz=277
SEW **Seward** 38.36 47 P P 10 41 44.0 -0.7
baz=282
POKR **Poker Plat Res** 38.44 39 P P 10 41 45.3 -0.1
baz=277
D25K **Kavik River** 38.48 32 P P 10 41 45.0 -0.7
baz=273,SNR=8.3
SML **Sawmill** 38.56 44 P P 10 41 45.7 -0.7
baz=281
KNK **Knik Glacier** 38.57 45 P P 10 41 45.9 -0.5
baz=281
WAT6 **Susitna Watana** 38.69 43 P P 10 41 46.2 -1.4
baz=280
IL31 38.72 39 P P 10 41 46.6 -0.9
IL31 IAmb IAmb 10 41 48.1
comp=Z,10nm,0.7s
ILAR **Eielson Array** 38.72 39 P P 10 41 46.5 -1.0
comp=Z,6.4nm,0.6s,baz=260,slow=6.3,SNR=114
ILAR ScP ScP 10 46 47.0 -0.9
comp=Z,1.1nm,0.8s,baz=284,slow=4.0,SNR=7.5
comp=Z,6.4nm,0.6s
ILAR **Eielson Array** 38.72 39 P P 10 41 46.9 -0.7
GOMU **GeErMu** 38.74 271 P P 10 41 48.7 +0.1
GOMU pmax pmax
comp=Z,19nm,0.7s
GOMU pmax pmax
comp=Z,88nm,6.7s
PWL **Port Wells** 38.74 46 P P 10 41 46.7 -1.1
baz=282
HDA **Harding Lake** 38.75 40 P P 10 41 47.0 -0.8
baz=279,SNR=7.2
DHY **Denali Highway** 38.77 42 P P 10 41 47.3 -0.9
baz=280,SNR=12
G25K **Bearman Lake** 38.79 36 P P 10 41 48.3 +0.2
baz=276,SNR=7.2
M23K **Glacier View** 38.84 44 P P 10 41 48.4 -0.2
baz=281
E25K **Arctic Village** 38.86 34 P P 10 41 48.3 -0.4
baz=275,SNR=6.0
F25K **Christian Rive** 38.88 35 P P 10 41 49.1 +0.2
baz=276,SNR=8.2
H25K **Birch Creek** 38.96 37 P P 10 41 50.0 +0.5
baz=277,SNR=16
SCM **Sheep Creek Mo** 39.02 44 P P 10 41 50.1 0.0
baz=281
PRP **Porcupine Dome** 39.18 38 P P 10 41 51.3 -0.2
baz=278,SNR=8.8
BMAR **Burnt Mountain** 39.31 35 P P 10 41 52.5 +0.1
K24K **Donnelly Dome** 39.35 41 P P 10 41 51.7 -1.0
baz=280
J25K **Salcha River,** 39.39 39 P P 10 41 51.5 -1.5
baz=280
C27K **Jago River** 39.40 31 P P 10 41 52.5 -0.5
baz=275
F26K **Sheenjek River** 39.44 34 P P 10 41 53.3 -0.1
baz=277
M24K **Tolsona, Glenn** 39.50 43 P P 10 41 54.5 +0.5
M24K IAmb IAmb 10 41 55.5
comp=Z,11nm,0.7s
M24K **Tolsona, Glenn** 39.50 43 P P 10 41 54.0 0.0
baz=282
WMQ **Urumqi** 39.57 286 *e* P P 10 41 56.2 +1.3
WMQ pmax pmax
comp=Z,20nm,0.9s
PAX **Paxson** 39.65 42 P P 10 41 55.0 -0.2
baz=282
G26K **Porcupine Rive** 39.68 36 P P 10 41 55.3 +0.1
baz=278,SNR=21
KLU **Klutina** 39.75 44 P P 10 41 55.6 -0.4
baz=283
RIDG **Independent Ri** 39.77 41 P P 10 41 55.2 -1.0
baz=281,SNR=6.3
ZSN **Zaisan** 39.79 292 *e* P P 10 41 55.6 -0.9
baz=292
ZSN **Zaisan** 39.79 292 *e* P P 10 41 55.6 -0.9
HARP **HAARP** 39.91 43 P P 10 41 56.9 -0.3
baz=282
EYAK **Cordova Ski Ar** 40.05 46 P P 10 41 58.3 0.0
baz=284
SCRK **Sand Creek** 40.10 40 P P 10 41 57.8 -1.1
baz=282,SNR=16
J26L **Joseph Creek** 40.18 39 P P 10 41 57.8 -1.6
J26L **Joseph Creek** 40.18 39 P P 10 41 57.9 -1.6
baz=281
I26K **Coal Creek Min** 40.20 38 P P 10 41 57.7 -1.8
I26K **Coal Creek Min** 40.20 38 P P 10 41 58.2 -1.2
baz=281
PZH **PanZhiHua** 40.25 253 P P 10 42 01.3 +0.7
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s
E27K **Coleen River** 40.33 34 P P 10 42 00.1 -0.5
baz=278
N25K **Chitina, Valde** 40.34 44 P P 10 42 00.2 -0.5
baz=284
BMRM **Bremner River** 40.49 45 P P 10 42 01.6 -0.4
baz=284
G27K **Doyon Strip** 40.53 36 P P 10 42 02.1 0.0
baz=280
L26K **Log Cabin Wild** 40.58 42 P P 10 42 02.3 -0.4
baz=283
H27K **Steamboat Moun** 40.69 36 P P 10 42 03.3 -0.2
baz=281,SNR=7.1
I27K **Kandik River** 40.77 37 P P 10 42 04.5 +0.3
baz=282,SNR=5.6
M26K **Nabesna, AK** 40.88 42 P P 10 42 05.6 +0.5
M26K **Nabesna, AK** 40.88 42 P P 10 42 04.9 -0.2
baz=284
K27K **Chicken** 40.91 40 P P 10 42 04.7 -0.5
K27K IAmb IAmb 10 42 05.8
comp=Z,14nm,0.5s
K27K **Chicken** 40.91 40 P P 10 42 05.0 -0.2
baz=283
MCARA **McCarthy VSAT** 41.13 44 P P 10 42 07.0 0.0
baz=285
EGAK **Eagle** 41.13 39 P P 10 42 06.5 -0.4
EGAK IAmb IAmb 10 42 06.9
comp=Z,15nm,0.6s
EGAK **Eagle** 41.13 39 P P 10 42 06.3 -0.7
baz=283,SNR=13
L27K **Beaver Creek,** 41.25 41 P P 10 42 07.8 -0.2
L27K **Beaver Creek,** 41.25 41 P P 10 42 07.8 -0.2
baz=284
BCAR **Beaver Creek A** 41.26 41 P P 10 42 08.7 +0.6
M27K **Edge Creek, AK** 41.40 42 P P 10 42 09.2 0.0
M27K **Edge Creek, AK** 41.40 42 P P 10 42 09.3 0.0
baz=285
MK31 **Makanchi Array** 41.66 293 P P 10 42 11.8 +0.3
MK31 IAmb IAmb 10 42 12.6
comp=Z,20nm,0.8s
MK31 **Makanchi Array** 41.66 293 P P 10 42 11.8 +0.3
MK31 pmax pmax
comp=Z,20nm,0.8s
MKAR **Makanchi Array** 41.66 293 P P 10 42 11.7 +0.3
comp=Z,20nm,0.7s,baz=71,slow=7.0,SNR=97
MKAR PcP PcP 10 43 57.0 +0.2
comp=Z,1.4nm,0.5s,baz=61,slow=6.0,SNR=3.7
MKAR ScP ScP 10 46 59.9 0.0
comp=Z,1.9nm,0.6s,baz=61,slow=4.2,SNR=8.3
comp=Z,20nm,0.7s
MAKZ **Makanchi** 41.85 293 P P 10 42 13.2 +0.3
MAKZ IAmb IAmb 10 42 14.0
comp=Z,17nm,0.7s
MAKZ **Makanchi** 41.85 293 P P 10 42 13.2 +0.3
MAKZ pmax pmax
comp=Z,17nm,0.7s
DAWY **Dawson** 42.05 39 P P 10 42 13.7 -0.6
DAWY **Dawson** 42.05 39 P P 10 42 13.4 -0.9
baz=285
I29M **Ogilvie Camp,** 42.17 37 P P 10 42 14.6 -0.6
baz=284,SNR=7.0
YUK3 **Moose Creek** 42.20 43 P P 10 42 14.9 -0.8
baz=287
KURK **Kurchatov** 42.22 300 P P 10 42 15.7 -0.1
KURK **Kurchatov** 42.22 300 P P 10 42 15.8 +0.1
KURK **Kurchatov** 42.22 300 *e* P P 10 42 15.6 -0.1
KURK **Kurchatov** 42.22 300 *ce* P P 10 42 15.6 -0.1
KURK pmax pmax
comp=Z,73nm,0.8s
KURBB **Kurchatov Arra** 42.31 299 P P 10 42 16.4 0.0
comp=Z,49nm,0.7s,baz=70,slow=8.7,SNR=206
KURBB PcP PcP 10 43 59.1 +0.3
comp=Z,12nm,0.6s,baz=70,slow=3.2,SNR=16
KURBB ScP ScP 10 47 01.7 -0.7
comp=Z,7.1nm,0.8s,baz=70,slow=3.5,SNR=23
comp=Z,49nm,0.7s
EPYK **Eagle Plains** 42.55 36 P P 10 42 18.2 0.0
baz=285,SNR=13
G30M **tAoh Zraii Nji** 42.59 35 P P 10 42 18.2 -0.3
baz=284
O28M **Mount Upton** 42.62 44 P P 10 42 19.1 0.0
baz=288
L29M **L29M** 42.85 41 P P 10 42 20.9 +0.2
baz=287
K29M **Barlow Dome** 42.90 39 P P 10 42 21.3 +0.2
baz=287
M29M **Somme Creek** 42.90 42 P P 10 42 20.8 -0.3
baz=287
INK **Inuvik** 43.25 32 P P 10 42 23.1 -0.4
comp=Z,12nm,0.4s,baz=277,slow=5.6,SNR=166
INK ScP ScP 10 47 05.7 -0.1
comp=Z,3.9nm,1.1s,baz=246,slow=6.4,SNR=4.5
comp=Z,12nm,0.4s
INK **Inuvik** 43.25 32 P P 10 42 23.0 -0.6
INK IAmb IAmb 10 42 23.5
comp=Z,13nm,0.5s
INK **Inuvik** 43.25 32 P P 10 42 22.9 -0.6
baz=285,SNR=18
F31M **Tsiigehtchic** 43.40 34 P P 10 42 24.3 -0.5
baz=286
YUK6 **Outpost Mounta** 43.42 44 P P 10 42 25.1 -0.2
baz=289
O29M **Mount Kennedy** 43.53 45 P P 10 42 26.2 +0.1
baz=290
M30M **Minto, Yukon** 43.60 41 P P 10 42 26.8 +0.3
baz=288
MAYO **Mayo, Yukon** 43.67 39 P P 10 42 27.4 +0.4
baz=288
N30M **Aishikik Lake** 43.83 43 P P 10 42 28.1 -0.2
baz=289
HYT **Haines Junctio** 43.85 44 P P 10 42 29.9 +1.4
HYT IAmb IAmb 10 42 30.4
comp=Z,14nm,0.8s
HYT **Haines Junctio** 43.85 44 P P 10 42 30.0 +1.4
baz=290,SNR=9.3
P30M **Million Dollar** 44.35 44 P P 10 42 33.0 +0.7
baz=291
N31M **Braeburn, Yuko** 44.41 42 P P 10 42 33.3 +0.5
baz=290
O30N **Mendenhall** 44.52 43 P P 10 42 33.4 -0.2
baz=291
M31M **Drury Creek, Y** 44.78 41 P P 10 42 35.9 +0.2
baz=291
PLBC **Pleasant Camp** 44.87 45 P P 10 42 36.5 +0.2
baz=292
A36M **Sachs Harbour** 44.89 26 P P 10 42 36.1 -0.1
baz=288,SNR=7.3
TDK **Taldyqorghan** 44.89 292 *e* P P 10 42 37.3 +0.6
baz=292
TDK **Taldyqorghan** 44.89 292 *e* P P 10 42 37.3 +0.6
LSA **Lhasa** 45.10 266 P P 10 42 40.8 +1.7
LSA IAmb IAmb 10 42 41.9
comp=Z,21nm,0.7s
LSA **Lhasa** 45.10 266 P P 10 42 40.7 +1.6
LSA **Lhasa** 45.10 266 P P 10 42 40.8 +1.7
LSA pmax pmax
comp=Z,21nm,0.7s
WHY **Whitehorse** 45.12 43 P P 10 42 38.7 +0.4
WHY **Whitehorse** 45.12 43 P P 10 42 38.7 +0.4
baz=292
SHLS **Shalkode** 45.15 289 *e* P P 10 42 36.3 -2.5
baz=289
SHLS **Shalkode** 45.15 289 *e* P P 10 42 36.3 -2.5
FARO **Faro, Yukon** 45.23 41 P P 10 42 39.1 0.0
baz=291
SKAG **Skagway** 45.36 45 P P 10 42 40.7 +0.7
baz=292
UZB **Uzynbulak** 45.43 290 *e* P P 10 42 40.5 -0.5
baz=290
UZB **Uzynbulak** 45.43 290 *e* P P 10 42 40.5 -0.5
KPKS **Kokpek** 45.48 290 *e* P P 10 42 41.0 -0.4
baz=290
KPKS **Kokpek** 45.48 290 *e* P P 10 42 40.9 -0.4
ZHN **Zhinishke** 45.79 290 *e* P P 10 42 42.5 -1.3
baz=290
ZHN **Zhinishke** 45.79 290 *e* P P 10 42 42.5 -1.3
SATY **Saty** 45.86 290 *e* P P 10 42 44.1 -0.2
baz=290
SATY **Saty** 45.86 290 *e* P P 10 42 44.1 -0.2
BVA0 **Borovoye Array** 45.90 306 P P 10 42 43.8 -0.5
BVAR **Borovoye Array** 45.90 306 P P 10 42 43.8 -0.5
comp=Z,12nm,0.6s,baz=53,slow=8.2,SNR=51
BVAR PcP PcP 10 44 11.7 +0.4
comp=Z,5.0nm,0.3s,baz=80,slow=4.2,SNR=15
BVAR ScP ScP 10 47 16.8 -0.4
comp=Z,2.8nm,0.6s,baz=58,slow=3.9,SNR=8.0
comp=Z,12nm,0.6s
BRVK **Borovoye** 45.94 306 P P 10 42 45.0 +0.4
BRVK IAmb IAmb 10 42 45.6
comp=Z,16nm,0.8s
BRVK **Borovoye** 45.94 306 P P 10 42 45.0 +0.4
BRVK **Borovoye** 45.94 306 *ce* P P 10 42 44.8 +0.2
BRVK pmax pmax
comp=Z,19nm,0.8s
BRZS **Berezniki** 45.98 301 *e* P P 10 42 44.0 -1.0
baz=301
BRZS **Berezniki** 45.98 301 *e* P P 10 42 43.9 -1.0
MMPY **Sheldon Lake,** 45.98 40 P P 10 42 45.3 +0.4
baz=292
C36M **Paulatuk** 46.17 29 P P 10 42 45.6 -0.5
baz=292,SNR=13
P33M **Teslin, Yukon** 46.23 43 P P 10 42 47.1 +0.3
baz=294,SNR=5.4
KUU **Kurty** 46.73 292 *e* P P 10 42 50.2 -0.6
comp=Z,12nm,0.5s,baz=292
KUU **Kurty** 46.73 292 *e* P P 10 42 50.2 -0.6
KUU pmax pmax
comp=Z,12nm,0.5s
TNSS **Tian-Shan** 46.79 291 *e* P P 10 42 51.7 -0.1
baz=290
TNSS **Tian-Shan** 46.79 291 *e* P P 10 42 51.6 -0.1
Q32M **Nakina River** 47.00 45 P P 10 42 53.0 +0.1
baz=295
MND **Mandalay** 47.04 254 P P 10 42 54.6 +1.2
SHL **Shillong** 47.34 261 P P 10 42 56.5 +0.7
R33M **Jennings River** 47.42 44 P P 10 42 56.0 +0.1
baz=296
BTLS **Baital** 47.55 294 *e* P P 10 42 56.5 -0.5
baz=294
BTLS **Baital** 47.55 294 *e* P P 10 42 56.4 -0.5
CMMT **Chiang Mai** 47.59 249 P P 10 42 55.9 -1.7
comp=Z,568nmcomp=Z,8.5nm,0.9s
ULHL **Ulahol** 47.65 290 P P 10 42 58.8 +0.8
SNR=25
TKM2 **Tokmak 2** 47.70 291 P P 10 42 59.0 +0.6
SNR=9.6
TKM2 **Tokmak 2** 47.70 291 P P 10 42 58.5 +0.2
BOOM **Boomskoye usch** 47.71 290 P P 10 42 59.2 +0.8
BOOM IAmb IAmb 10 42 59.9
comp=Z,20nm,0.6s
BOOM **Boomskoye usch** 47.71 290 P P 10 42 59.2 +0.8
BOOM pmax pmax
comp=Z,20nm,0.6s
TGTN **Hyland Airport** 47.72 40 P P 10 42 58.0 0.0
baz=296
CMAR **Chiang Mai Arr** 47.86 248 P P 10 43 00.3 +0.7
comp=Z,1.3nm,0.3s,baz=27,slow=7.4,SNR=8.5
CMAR PcP PcP 10 44 19.6 +0.6
comp=Z,0.6nm,0.3s,baz=20,slow=2.3,SNR=4.5
CMAR ScP ScP 10 47 26.5 +0.6
comp=Z,1.3nm,0.6s,baz=24,slow=3.5,SNR=5.9
CMAR PKPPKP P'P'df 11 13 54.8 -5.6
comp=Z,1.2nm,0.9s,baz=337,slow=2.8,SNR=7.0
comp=Z,1.3nm,0.3s
CMAR **Chiang Mai Arr** 47.86 248 *i* P P 10 43 01.2 +1.6
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SGDS **Sogindy** 48.02 292 *e* P P 10 43 00.2 -0.4
comp=Z,7.4nm,0.8s,baz=292
SGDS **Sogindy** 48.02 292 *e* P P 10 43 00.2 -0.4
SGDS pmax pmax
comp=Z,7.0nm,0.8s
WTLY **Watson Lake, Y** 48.10 42 P P 10 43 01.1 +0.2
baz=296,SNR=5.7
USP **Ospenovka** 48.20 292 P P 10 43 02.7 +0.8
SNR=22
KBK **Karagaybulak** 48.24 291 P P 10 43 03.3 +0.9
SNR=6.6
DLBC **Dease Lake** 48.28 45 P P 10 43 02.9 +0.5
comp=Z,2.1nm,0.6s,baz=306,slow=1.6,SNR=7.5
comp=Z,2.1nm,0.6s
DLBC **Dease Lake** 48.28 45 P P 10 43 02.8 +0.5
baz=297
AAK **Ala-Archa** 48.53 291 P P 10 43 05.2 +0.6
SNR=11
AAK **Ala-Archa** 48.53 291 P P 10 43 05.1 +0.6
comp=Z,8.2nm,0.6s,baz=113,slow=4.8,SNR=31
comp=Z,8.2nm,0.6s
AAK **Ala-Archa** 48.53 291 P P 10 43 05.5 +0.9
AAK **Ala-Archa** 48.53 291 *i* P P 10 43 05.2 +0.6
SNR=13
AAK **Ala-Archa** 48.53 291 *ce* P P 10 43 05.2 +0.6
AAK pmax pmax
comp=Z,11nm,0.7s
EUNU **Eureka** 48.74 10 P P 10 43 05.2 -0.2
EUNU IAmb IAmb 10 43 05.9
comp=Z,13nm,0.7s
T35M **Bob Quinn** 48.85 46 P P 10 43 08.1 +1.6
baz=298
TAPN **Taplejung** 48.92 266 *e* P P 10 43 08.9 +1.1
EKS2 **Erkin-Say** 48.97 292 P P 10 43 08.6 +0.9
SNR=14
SVE **Sverdlovsk** 49.20 314 *e* P P 10 43 09.3 +0.3
SVE pmax pmax
comp=Z,55nm,0.8s
AML **Almayashu** 49.30 291 P P 10 43 11.4 +0.8
SNR=11
KSH **Kashi** 49.31 287 P P 10 43 15.5 +5.2
KSH pmax pmax
comp=Z,13nm,0.7s
LIRD **Liard River Hi** 49.64 42 P P 10 43 13.2 +0.9

baz=299
JIRN Jiri 49.74 268 *e*P **P 10 43 14.7 +0.8**
comp=Z,92nm,0.5s
GUN Gumba 49.78 268 *e*P **P 10 43 15.1 +0.9**
comp=Z,62nm,0.3s
RAMN Ramite 49.93 267 *e*P **P 10 43 15.8 +0.6**
comp=Z,59nm,0.4s
NOR Nord 50.15 357 *i*P **P 10 43 14.7 -1.0**
NOR IAmb IAmb 10 43 15.5
comp=Z,9,3nm,1.2s
KOTAN Kotaneelee Air 50.20 41 P **P 10 43 16.9 +0.5**
baz=299
SPA0 Spitsbergen Ar 50.24 348 *e*P **P 10 43 15.9 -0.5**
SPA0 IAmb IAmb 10 43 22.9
comp=Z,43nm,1.1s
SPITS Spitsbergen Ar 50.24 348 P **P 10 43 15.5 -0.9**
comp=Z,1.7nm,0.3s,baz=57,slow=9.1,SNR=23
comp=Z,1.7nm,0.3s
SPITS Spitsbergen Ar 50.24 348 P **P 10 43 15.9 -0.5**
SPITS pmax pmax
comp=Z,50nm,1.3s
KBS Kingsbay 50.25 349 *i*P **P 10 43 16.0 -0.5**
KBS Kingsbay 50.25 349 *e*P **P 10 43 15.4 -1.1**
KKN Kakani 50.26 269 *e*P **P 10 43 18.6 +1.0**
comp=Z,5.3nm,0.5s
PKI Pulchoki 50.32 268 *e*P **P 10 43 18.7 +0.5**
comp=Z,33nm,0.5s
PKIN Phulchoki 50.32 268 *e*P **P 10 43 18.8 +0.7**
comp=Z,26nm,0.4s
SIJI Sorong 50.36 199 P **P 10 43 17.6 -0.6**
comp=Z,7.5nm,0.4s,baz=1.9,slow=12,SNR=4.1
comp=Z,7.5nm,0.4s
ARU Arti 50.40 314 P **P 10 43 17.6 -0.2**
comp=Z,43nm,0.5s,baz=72,slow=3.9,SNR=98
ARU PcP **PcP 10 44 27.7 +0.1**
comp=Z,5.7nm,0.3s,baz=80,slow=6.1,SNR=4.5
comp=Z,43nm,0.5s
ARU Arti 50.40 314 P **P 10 43 17.9 +0.1**
ARU Arti 50.40 314*c i*P **P 10 43 17.3 -0.6**
ARU 10 44 26.3
ARU *P **pP 10 44 52.5 +0.4**
ARU 10 45 16.2
ARU S **S 10 49 53.0 -0.7**
ARU SS **SS 10 53 30.2 -4.6**
ARU pmax pmax
comp=Z,58nm,0.8s
KK31 Karatay Array 50.74 294 P **P 10 43 20.8 +0.2**
KK31 IAmb IAmb 10 43 21.7
comp=Z,15nm,1.0s
KK31 Karatay Array 50.74 294 P **P 10 43 20.8 +0.2**
KK31 pmax pmax
comp=Z,15nm,1.0s
KKAR Karatay Array 50.74 294 P **P 10 43 20.7 +0.1**
KKAR Karatay Array 50.74 294 P **P 10 43 20.9 +0.2**
KKAR IAmb IAmb 10 43 21.7
comp=Z,15nm,1.0s
KKAR Karatay Array 50.74 294 P **P 10 43 20.7 +0.1**
KKAR pmax pmax
comp=Z,15nm,1.0s
RES Resolute Bay 51.10 17 P **P 10 43 22.4 -0.3**
comp=Z,50nm,0.5s,baz=317,slow=4.5,SNR=243
comp=Z,50nm,0.5s
IUG luzhnay 51.57 293 *e*P **P 10 43 26.9 0.0**
baz=293
IUG luzhnay 51.57 293 *e*P **P 10 43 26.8 0.0**
FAKI Fak Fak 52.16 197 P **P 10 43 31.9 +0.8**
comp=Z,28nm,0.9s
FAKI Fak Fak 52.16 197 P **P 10 43 32.0 +0.8**
BJO1 Bjornoya 52.54 344 *e*P **P 10 43 32.7 -0.4**
KRVT Keravat (AS076 52.55 172 P **P 10 43 35.2 +1.2**
comp=Z,14nm,0.5s,baz=190,slow=4.1,SNR=5.5
comp=Z,14nm,0.5s
SANI Sanana 52.80 205 P **P 10 43 35.4 -0.4**
comp=Z,9.8nm,0.5s
SANI Sanana 52.80 205 P **P 10 43 35.7 -0.1**
YKA Yellowknife Ar 52.83 35 P **P 10 43 35.0 -0.4**
comp=Z,9.2nm,0.6s,baz=303,slow=7.0,SNR=36
YKA PcP **PcP 10 44 36.4 -0.3**
comp=Z,0.5nm,0.4s,baz=307,slow=3.7,SNR=4.9
comp=Z,9.2nm,0.6s
YKA Yellowknife Ar 52.83 35 P **P 10 43 34.5 -0.9**
GAR Garm 53.20 290 P **P 10 43 39.0 +0.4**
PRGR Permogore 53.29 324 *e*P **P 10 43 36.3 -2.4**
PRGR *e* 10 44 37.8
PRGR pmax pmax
comp=Z,54nm,0.8s
LVZ Lovozero 53.32 334 ⇑P **P 10 43 38.9 0.0**
KIRV Kirov 53.45 320 P **P 10 43 39.6 -0.2**
comp=Z,24nm,0.5s,baz=312,slow=1.3,SNR=9.5
KIRV PcP **PcP 10 44 38.8 -0.4**
comp=Z,5.4nm,0.6s,baz=214,slow=2.7,SNR=5.1
comp=Z,24nm,0.5s
KIRV Kirov 53.45 320*ce*P **P 10 43 39.7 -0.1**
AB31 Akbulak array 53.48 306 *i*P **P 10 43 40.3 +0.1**
ABKAR Akbulak array 53.48 306 P **P 10 43 40.0 -0.2**
AKTO Aktyubinsk 53.85 308 P **P 10 43 42.3 -0.6**
CHGR Chuyangaron 54.13 290 P **P 10 43 45.6 +0.4**
CHGR Chuyangaron 54.13 290 P **P 10 43 45.6 +0.4**
CHGR pmax pmax
comp=Z,113nm,0.4s
NEEM North Greenlan 54.25 4 *i*P **P 10 43 45.0 -0.7**
NEEM IAmb IAmb 10 43 45.5
comp=Z,18nm,0.8s
HAMF Hammerfest 54.38 340 *e*P **P 10 43 45.6 -0.6**
HAMF IAmb IAmb 10 43 46.6
comp=Z,13nm,0.5s
NIL Nilore 54.54 283 P **P 10 43 49.0 +0.9**
NIL Nilore 54.54 283 P **P 10 43 49.0 +0.9**
NIL pmax pmax
comp=Z,56nm,0.9s
ARA0 ARCESS Array S 54.73 338 *e*P **P 10 43 48.7 0.0**
ARA0 IAmb IAmb 10 43 49.4
comp=Z,11nm,0.6s
ARCES ARCESS Array B 54.73 338 P **P 10 43 48.5 -0.2**
comp=Z,8.7nm,0.5s,baz=46,slow=8.1,SNR=108
comp=Z,8.7nm,0.5s
ARCES ARCESS Array B 54.73 338 P **P 10 43 48.8 0.0**
ARCES ARCESS Array B 54.73 338 P **P 10 43 48.8 0.0**
ARCES pmax pmax
comp=Z,10.0nm,0.7s
DAG Danmarks Havn 54.95 356 *i*P **P 10 43 49.4 -0.8**
DAG IAmb IAmb 10 43 50.2
comp=Z,21nm,1.0s
KTK1 Kautokeino 55.66 338 *e*P **P 10 43 55.0 -0.3**
KTK1 IAmb IAmb 10 43 55.8
comp=Z,24nm,0.6s
JETT Jettan, Norway 55.94 340 *e*P **P 10 43 57.2 -0.1**
JETT IAmb IAmb 10 43 57.7
comp=Z,44nm,0.5s
KLMR Klimovskoe 56.12 325 *e*P **P 10 43 58.2 -0.4**
KLMR AMP 10 43 59.1
comp=Z,25nm,0.8s
KLMR Klimovskoe 56.12 325 *e*P **P 10 43 58.1 -0.5**
KLMR pmax pmax
comp=Z,25nm,0.8s
TRO Tromso 56.22 340 *e*P **P 10 43 58.9 -0.2**
TRO IAmb IAmb 10 43 59.4
comp=Z,49nm,0.6s
KBL Kabul 56.72 286 P **P 10 44 03.4 -0.1**
PMG Port Moresby 57.32 178 P **P 10 44 07.7 +0.3**
comp=Z,5.6nm,0.5s,baz=20,slow=9.8,SNR=3.2
comp=Z,5.6nm,0.5s
KAPI Kappang 57.55 211 P **P 10 44 09.6 +0.6**
comp=Z,9.5nm,0.5s,baz=159,slow=1.0,SNR=6.8
comp=Z,9.5nm,0.5s
BELG Belogornoye 57.94 314 P **P 10 44 11.1 -0.1**
comp=Z,63nm,0.7s,baz=343,slow=2.0,SNR=16
comp=Z,63nm,0.7s
BELG Belogornoye 57.94 314*d i*P **P 10 44 10.9 -0.3**
BELG pmax pmax
comp=Z,9.0nm,0.8s
STEI Steigen 58.39 340 *e*P **P 10 44 13.3 -0.7**
STEI IAmb IAmb 10 44 14.2
comp=Z,11nm,0.5s
LOF Lofoten 58.61 341 *e*P **P 10 44 14.8 -0.7**
LOF IAmb IAmb 10 44 15.8
comp=Z,18nm,0.6s
FAUS Fauske 58.83 340 *e*P **P 10 44 16.7 -0.2**
FAUS IAmb IAmb 10 44 17.2
comp=Z,42nm,0.7s
SUMG Summit 59.55 1 *i*P **P 10 44 22.4 +0.2**
SUMG IAmb IAmb 10 44 23.2
comp=Z,46nm,0.8s
MOR8 Moi Rana 60.00 339 *e*P **P 10 44 23.3 -1.6**
MOR8 IAmb IAmb 10 44 23.9
comp=Z,66nm,0.6s

KONS Konsvik 60.04 340 *e*P **P 10 44 24.7 -0.4**
KONS IAmb IAmb 10 44 26.6
comp=Z,12nm,0.9s
STOK Stokkvaagen 60.20 340 *e*P **P 10 44 25.7 -0.5**
MOS Moscow 60.24 322 *e*P **P 10 44 25.6 -1.0**
NEW Newport 60.34 50 P **P 10 44 27.3 -0.2**
comp=Z,1.8nm,0.4s,baz=309,slow=6.4,SNR=7.1
comp=Z,1.8nm,0.4s
NEW Newport 60.34 50 P **P 10 44 27.7 +0.2**
baz=310
FIA1 FINESS Array S 60.44 331 P **P 10 44 27.4 -0.4**
FINES FINESS Array B 60.44 331 P **P 10 44 27.4 -0.5**
comp=Z,47nm,0.5s,baz=43,slow=7.4,SNR=386
comp=Z,47nm,0.5s
OBN Obninsk 61.11 322 P **P 10 44 31.1 -1.2**
comp=Z,6.0nm,0.5s,baz=314,slow=2.3,SNR=5.4
comp=Z,6.0nm,0.5s
OBN Obninsk 61.11 322*de*P **P 10 44 31.7 -0.6**
OBN *e**PP **pP 10 46 09.4 -2.3**
OBN *e* 10 46 54.7
OBN *e*S **SKSac 10 53 33.5 -0.2**
OBN pmax pmax
comp=Z,41nm,1.7s
GEYT Alibeck 61.38 296 P **P 10 44 35.1 +0.5**
comp=Z,26nm,0.6s,baz=29,slow=3.4,SNR=40
comp=Z,26nm,0.6s
GEYT Alibeck 61.38 296 P **P 10 44 35.2 +0.7**
GYA0B ALIBECK ARRAY 61.38 296 P **P 10 44 35.5 +1.0**
GYA0B IAmb IAmb 10 44 36.0
comp=Z,25nm,0.7s
VRH Novokhopyorsk 61.51 316 *e*P **P 10 44 33.9 -1.1**
VRH pmax pmax
comp=Z,30nm,0.6s
LPSR Galich'ya Gora 61.83 318 *e*P **P 10 44 35.8 -1.3**
LPSR pmax pmax
comp=Z,30nm,0.7s
COEN Coen 61.86 183 P **P 10 44 38.6 +0.8**
COEN Coen 61.86 183 P **P 10 44 38.6 +0.8**
MEF Metsahovi 61.91 331 *e*P **P 10 44 37.0 -0.5**
NSS Namsos 61.95 339 *e*P **P 10 44 37.3 -0.4**
NSS IAmb IAmb 10 44 37.3
comp=Z,17nm,0.8s
MTN Manton Dam 62.05 196 P **P 10 44 40.1 +1.1**
MTN Manton Dam 62.05 196 P **P 10 44 40.2 +1.2**
RAF Rauma 62.12 333 *e*P **P 10 44 38.3 -0.5**
MTNI Mataram 62.18 213 P **P 10 44 39.8 -0.1**
comp=Z,42nm,0.9s
VORR Voronezh 62.34 318 *e*P **P 10 44 40.9 +0.4**
VORR pmax pmax
comp=Z,50nm,0.4s
VSU Vasula 62.45 329 *e*P **P 10 44 40.7 -0.3**
VSR Storozhevoye 62.67 317 *e*P **P 10 44 41.6 -1.1**
VSR pmax pmax
comp=Z,20nm,0.5s
FFC Flin Flon 62.87 37 P **P 10 44 43.9 0.0**
FFC IAmb IAmb 10 44 44.7
comp=Z,13nm,0.8s
FFC Flin Flon 62.87 37 P **P 10 44 43.9 0.0**
FFC pmax pmax
comp=Z,13nm,0.8s
MSO Missoula 62.90 49 P **P 10 44 44.8 +0.5**
baz=312
ICESG Greenland Ices 63.02 2 *i*P **P 10 44 45.1 +0.1**
ICESG IAmb IAmb 10 44 45.9
comp=Z,49nm,0.9s
MTSE Matsula 63.26 330 *e*P **P 10 44 46.0 -0.2**
AAL Aland 63.33 333 *e*P **P 10 44 45.2 -1.4**
EGMT Eagleton 64.16 46 P **P 10 44 52.6 +0.2**
baz=314
UPP Uppsala 64.30 334 *e*P **P 10 44 51.8 -1.1**
SFJD Kangerlussuaq 64.53 7 *i*P **P 10 44 53.7 -0.6**
SFJD IAmb IAmb 10 44 54.4
comp=Z,582nm,3.2s
DOMB Dombas 64.76 339 *e*P **P 10 44 55.6 -0.3**
DOMB IAmb IAmb 10 44 55.9
comp=Z,20nm,0.6s
ISAL Salakas 64.86 327 *e*P **P 10 44 56.8 +0.2**
HLID Hailey 64.88 52 P **P 10 44 58.0 +0.9**
baz=313
NC303 NORSAR Array S 64.89 337 P **P 10 44 56.4 -0.2**
BOZ Bozeman (W) 64.92 49 P **P 10 44 57.8 +0.5**
baz=314,SNR=8.5
IIGN Ignalina 65.00 327 *e*P **P 10 44 57.7 +0.2**
MNK Minsk 65.02 325 *i*P **P 10 44 55.5 -2.1**
comp=E,5.0nm,0.8s
MNK *i*P **P 10 44 55.5 -2.1**
comp=N,16nm,0.7s
MNK *i*P **P 10 44 55.5 -2.1**
comp=Z,32nm,0.8s,baz=41
MNK *i*pP **pP 10 46 36.4 -2.1**
MNK *i*PP **PP 10 47 26.2 -1.8**
MNK *i*PPP PPP 10 49 08.6
MNK *i*S **S 10 52 56.9 -3.6**
MNK *i*sS **sS 10 55 60.0 -0.4**
MNK *i*SS **SS 10 57 23.3 +0.3**
MNK *i*SSS SSS 11 00 42.8
MNK *i*LRM MLR 11 15 51.0
comp=E,15nm,16.1s
MNK *i*LRM MLR 11 16 33.3
comp=N,251nm,18.1s
MNK *i*LRM MLR 11 16 46.4
comp=Z,42nm,14.2s
MNK Minsk 65.02 325 *i*P **P 10 44 55.4 -2.1**
MNK *i* 10 45 23.4
MNK *i**PP **pP 10 46 36.4 -2.1**
MNK *i* 10 47 26.1
MNK *i*PPP PPP 10 49 08.6
MNK *i*S **S 10 52 56.9 -3.6**
MNK *i* 10 54 01.5
MNK *i*SS **SS 10 57 23.3 +0.3**
MNK pmax pmax
comp=Z,32nm,0.8s
MNK pmax pmax
comp=N,16nm,0.7s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK MLR MLR
comp=E,15nm,16.0s
MNK MLR MLR
comp=N,251nm,18.0s
MNK MLR MLR
comp=Z,42nm,14.0s
AKT Akhty 65.03 305 *e*P **P 10 44 58.0 0.0**
AKT *e* 10 45 25.8
AKT *e**PP **pP 10 46 40.8 +1.9**
AKT *e* 10 47 29.5
AKT pmax pmax
comp=Z,42nm,0.8s
GOF Gofitskoye 65.06 310⇑*e*P **P 10 44 58.6 +0.6**
NB2 NORSAR Subarra 65.09 337 P **P 10 44 57.3 -0.7**
baz=30,slow=6.5
NB2 NORSAR Subarra 65.09 337 P **P 10 44 57.3 -0.7**
comp=Z,16nm,0.4s,baz=30,slow=6.5
NOA NORSAR Array B 65.09 337 P **P 10 44 57.7 -0.3**
comp=Z,28nm,0.7s,baz=31,slow=6.5,SNR=24
comp=Z,28nm,0.7s
AKN Aaknes 65.13 340 *e*P **P 10 44 58.4 +0.2**
AKN IAmb IAmb 10 44 58.8
comp=Z,12nm,0.6s
NACGM Naroch 65.13 326 *e*P **P 10 44 58.1 -0.2**
NC602 NORSAR Array S 65.26 337 *e*P **P 10 44 58.4 -0.6**
NC602 IAmb IAmb 10 44 59.0
comp=Z,19nm,0.7s
KNRA Kunumurra 65.27 198 P **P 10 45 00.2 +0.7**
KNRA IAmb IAmb 10 45 01.3
comp=Z,14nm,1.1s
VSVD Vaisvydziai 65.34 328 *e*P **P 10 44 59.6 +0.1**
DY2G Dye2 65.36 5 *i*P **P 10 44 59.6 -0.2**
DY2G IAmb IAmb 10 45 00.2
comp=Z,27nm,0.8s
SEKA Sheki 65.51 305 P **P 10 45 01.5 +0.5**
VIKU Vikbolandet 65.68 333 *e*P **P 10 45 00.3 -1.4**
PABE Paberze 65.69 328 P **P 10 45 01.9 +0.1**
PABE Paberze 65.69 328 *e*P **P 10 45 01.6 -0.2**
MTSU Mount Surprise 65.98 181 P **P 10 45 05.0 +0.9**
KVAR Kislovodsk Arr 66.01 310 P **P 10 45 05.2 +1.1**
comp=Z,14nm,0.7s,baz=259,slow=19,SNR=7.1
comp=Z,14nm,0.7s
KIV Kislovodsk 66.01 310 ⇑P **P 10 45 04.9 +0.8**
KIV Kislovodsk 66.01 310 P **P 10 45 05.3 +1.2**
KIV Kislovodsk 66.01 310 *i*P **P 10 45 05.3 +1.2**
SNR=8.6
KIV Kislovodsk 66.01 310 *e*P **P 10 45 04.9 +0.8**
KIV *e* 10 46 46.4
KIV pmax pmax

comp=Z,67nm,1.1s
KBZ Khabaz 66.06 309 P **P 10 45 05.2 +0.9**
comp=Z,31nm,0.8s,baz=67,slow=4.0,SNR=58
comp=Z,31nm,0.8s
KBZ Khabaz 66.06 309*d i*P **P 10 45 04.9 +0.6**
KBZ pmax pmax
comp=Z,29nm,0.8s
FOO Floro 66.08 341 *e*P **P 10 45 04.3 +0.2**
SKAR Skarslia 66.13 339 *e*P **P 10 45 04.6 +0.1**
SKAR IAmb IAmb 10 45 05.2
comp=Z,12nm,0.6s
SHA1 Shidzhatmaz 66.18 309*d i*P **P 10 45 06.1 +0.7**
ZEI Tsey 66.19 308 *e*P **P 10 45 04.4 -1.0**
ZEI pmax pmax
comp=Z,21nm,0.9s
HYA Hoyanger 66.21 340 *e*P **P 10 45 05.2 +0.3**
HYA IAmb IAmb 10 45 07.1
comp=Z,157nm,1.7s
NVAR Mina Array Bea 66.25 59 P **P 10 45 07.2 +1.3**
comp=Z,1.2nm,0.6s,baz=304,slow=6.6,SNR=14
comp=Z,1.2nm,0.6s
H17A Grant Village 66.29 49 P **P 10 45 07.9 +1.8**
baz=315
LKRN Lenkeran, Azer 66.34 302 P **P 10 45 07.3 +1.2**
GANJ Ganja 66.38 305 P **P 10 45 08.0 +1.6**
DGMT Dagmar 66.45 43 P **P 10 45 07.4 +0.6**
baz=317,SNR=5.9
NEY Neytrino 66.49 309 *i*P **P 10 45 07.8 +0.6**
NEY pmax pmax
comp=Z,3.0nm,0.6s
SUE Sulen 66.63 340 *e*P **P 10 45 07.8 +0.3**
LAO LASA Array 66.80 45 P **P 10 45 09.6 +0.6**
baz=316
NUUK Nuuk 67.20 8 *i*P **P 10 45 10.5 -0.5**
NUUK IAmb IAmb 10 45 11.5
comp=Z,37nm,0.9s
AKASG Malin Array Be 67.37 322 P **P 10 45 11.8 -0.6**
comp=Z,23nm,0.5s,baz=38,slow=6.4,SNR=113
AKASG pP **pP 10 46 55.0 +0.9**
comp=Z,0.5nm,0.4s,baz=40,slow=6.3,SNR=1.4
comp=Z,23nm,0.5s
AKBB Malin Array Si 67.37 322 P **P 10 45 11.9 -0.4**
AKBB Malin Array Si 67.37 322*d i*P **P 10 45 11.7 -0.6**
AKBB pmax pmax
comp=Z,33nm,0.8s
GNI Garni 67.59 305 P **P 10 45 13.9 -0.1**
comp=Z,8.7nm,0.5s,baz=42,slow=3.4,SNR=7.1
comp=Z,8.7nm,0.5s
GNI Garni 67.59 305 P **P 10 45 14.5 +0.5**
GNI Garni 67.59 305 P **P 10 45 15.7 +1.7**
GNI Garni 67.59 305*d i*P **P 10 45 15.7 +1.7**
GNI pmax pmax
comp=Z,21nm,1.0s
SOC Sochi 67.79 311 *e*P **P 10 45 14.3 -0.7**
SOC *e**PP **pP 10 46 56.1 -0.9**
SOC *e* 10 47 52.4
SOC *e*PPP PPP 10 49 33.8
SOC *e*S **S 10 53 32.7 -0.9**
SOC *e*SS **SS 10 58 07.6 +1.5**
SOC pmax pmax
comp=Z,22nm,0.6s
R11A Troy Canyon, C 67.85 57 P **P 10 45 16.4 +0.7**
baz=315
NAX Nakhchivan 67.86 304 P **P 10 45 17.4 +1.8**
CTA Charters Tower 67.92 179 P **P 10 45 16.2 +0.2**
comp=Z,6.4nm,0.6s,baz=359,slow=5.8,SNR=20
comp=Z,6.4nm,0.6s
CTA Charters Tower 67.92 179 P **P 10 45 16.8 +0.7**
CTAO Charters Tower 67.92 179 P **P 10 45 16.6 +0.6**
CTAO IAmb IAmb 10 45 17.4
comp=Z,9.8nm,0.8s
CTAO Charters Tower 67.92 179 P **P 10 45 16.7 +0.7**
CTAO Charters Tower 67.92 179 P **P 10 45 16.6 +0.6**
CTAO pmax pmax
comp=Z,10.0nm,0.8s
BW06 Boulder Array 67.97 50 P **P 10 45 16.9 +0.4**
BW06 Boulder Array 67.97 50 P **P 10 45 16.9 +0.4**
baz=316,SNR=6.5
PD31 Pinedale Array 67.97 50 P **P 10 45 16.9 +0.4**
PDAR Pinedale Array 67.97 50 P **P 10 45 16.8 +0.4**
comp=Z,3.6nm,0.6s,baz=314,slow=0.5,SNR=43
comp=Z,3.6nm,0.6s
PDAR Pinedale Array 67.97 50 P **P 10 45 17.2 +0.8**
DUG Dugway, Tooele 68.08 54 P **P 10 45 17.6 +0.5**
baz=315
WB0 Warramunga Arr 68.33 191 P **P 10 45 18.7 +0.2**
WB0 IAmb IAmb 10 45 19.5
comp=Z,12nm,0.7s
MPMC Manual Prospec 68.36 60 P **P 10 45 18.9 0.0**
baz=315
FURC Furnace Creek, 68.43 59 P **P 10 45 19.6 +0.6**
baz=315
TPNV Topopah Spring 68.45 58 P **P 10 45 20.1 +0.7**
baz=315
WRAB Tennant Creek 68.50 191 P **P 10 45 19.8 +0.3**
WRAB IAmb IAmb 10 45 20.6
comp=Z,10nm,1.1s
WRAB Tennant Creek 68.50 191 P **P 10 45 19.9 +0.4**
WRAB Tennant Creek 68.50 191 P **P 10 45 19.8 +0.3**
WRAB pmax pmax
comp=Z,10.0nm,1.1s
WR0 Warramunga Arr 68.50 191 P **P 10 45 19.8 +0.3**
WR0 IAmb IAmb 10 45 21.4
comp=Z,9.5nm,0.7s
WB2 Warramunga Arr 68.51 191 P **P 10 45 19.9 +0.3**
WB2 IAmb IAmb 10 45 20.3
comp=Z,9.5nm,0.7s
WRA Warramunga Arr 68.51 191 P **P 10 45 19.8 +0.2**
comp=Z,6.9nm,0.6s,baz=6.0,slow=6.5,SNR=148
WRA PcP **PcP 10 45 41.2 +0.5**
comp=Z,2.2nm,0.9s,baz=8.5,slow=4.6,SNR=6.0
WRA pP **pwP 10 47 04.7 +0.7**
comp=Z,0.9nm,0.8s,baz=9.1,slow=6.7,SNR=4.3
WRA PKPPKP **P'P'df 11 13 31.6 +5.2**
comp=Z,0.8nm,0.9s,baz=188,slow=2.9,SNR=7.0
comp=Z,6.9nm,0.6s
WRA Warramunga Arr 68.51 191 P **P 10 45 18.4 -1.2**
SCZ2 Santa Cruz Isl 68.53 63 P **P 10 45 20.8 +1.0**
baz=314
QIS Mount Isa 68.59 186 P **P 10 45 20.4 +0.3**
ULM Lac du Bonnet 68.70 37 P **P 10 45 19.9 -0.5**
comp=Z,7.3nm,0.7s,baz=311,slow=6.8,SNR=9.9
comp=Z,7.3nm,0.7s
MDND Maddock 68.97 41 P **P 10 45 22.8 +0.6**
baz=320
BSD Bornholm Skovb 69.05 332 *e*P **P 10 45 21.7 -0.6**
BSD Bornholm Skovb 69.05 332 *i*P **P 10 45 21.8 -0.6**
BSD IAmb IAmb 10 45 22.5
comp=Z,36nm,0.5s
SHOC Shoshone, Teco 69.17 59 P **P 10 45 24.6 +1.1**
baz=315
K22A Casper 69.59 48 P **P 10 45 26.0 -0.1**
baz=317
SORM Soroca 69.71 321 ⇑P **P 10 45 26.0 -0.5**
SORM Soroca 69.71 321 ⇑P **P 10 45 26.0 -0.5**
RSSD Black Hills 69.73 46 P **P 10 45 27.1 +0.1**
baz=318
BEL Belsk 69.77 327 *e*P **P 10 45 27.4 +0.6**
GKP Gorka Klasztor 69.83 330 *e*P **P 10 45 27.1 0.0**
GKP Gorka Klasztor 69.83 330 *e*P **P 10 45 27.4 +0.3**
LVV L'vov 70.16 324 *e*P **P 10 45 29.5 +0.3**
AGMN Agassiz Nation 70.22 39 P **P 10 45 28.8 -0.8**
baz=322
GMRC Granite Mounta 70.31 60 P **P 10 45 31.3 +0.7**
baz=316
IVI Ivigtut 70.44 7 *i*P **P 10 45 30.3 -0.3**
MILM Milestii Mici 70.45 319 ⇑P **P 10 45 30.8 -0.1**
MILM Milestii Mici 70.45 319 ⇑P **P 10 45 30.8 -0.1**
O20A White River Ci 70.55 51 P **P 10 45 32.4 +0.4**
baz=317
BANOM Banah 70.64 287 P **P 10 45 33.0 +0.5**
SNR=9.4
BANOM Banah 70.64 287 *i*P **P 10 45 32.9 +0.4**
SNR=9.4
SHME Shamm 70.65 288 P **P 10 45 32.7 +0.1**
SHME Shamm 70.65 288 P **P 10 45 32.5 -0.1**
BELC Belle Mtn. Jos 70.67 61 P **P 10 45 33.2 +0.5**
baz=316
IRM Iron Mountain 71.06 60 P **P 10 45 35.8 +1.0**
baz=316
MASF Masafi 71.12 287 P **P 10 45 35.9 +0.5**
BIDO Bidbid 71.15 284 P **P 10 45 36.9 +1.4**
N23A Red Feather La 71.18 49 P **P 10 45 35.9 +0.1**
baz=318
WBK Wadi Bani Khal 71.25 283 P **P 10 45 37.6 +1.5**
UOSS Minazif 71.39 287 P **P 10 45 36.7 -0.2**

UOSS IAmb IAmb 10 45 37.6
comp=Z,12nm,0.6s
BUR08 Bucovina Ar. S 71.41 322 P **P** **10 45 37.0 +0.2**
BUR08 IAmb IAmb 10 45 37.8
comp=Z,17nm,0.8s
GIRR Girov 71.41 321 P **P** **10 45 36.9 +0.2**
BURAR Bucovina Array 71.43 322 P **P** **10 45 37.4 +0.5**
BURAR Bucovina Array 71.43 322 P **P** **10 45 37.0 +0.1**
BURAR Bucovina Array 71.43 322 P **P** **10 45 37.4 +0.5**
OJC Ojcow 71.45 327 *eP* **P** **10 45 34.8 -2.0**
DIKM Dikmen 71.45 312 ⇑P **P** **10 45 38.4 +1.5**
HATD Hatta, Dubai 71.52 287 P **P** **10 45 38.3 +0.6**
SNR=8.9
HATD Hatta, Dubai 71.52 287 *i* P **P** **10 45 38.0 +0.3**
SNR=8.9
SMDO Samad 71.53 284 P **P** **10 45 38.7 +0.8**
KOLS Kolonicke sedl 71.55 324 *eP* **P** **10 45 38.0 +0.5**
KOLS Kolonicke sedl 71.55 324 *eP* **P** **10 45 38.0 +0.5**
KOLS pmax pmax
comp=Z,14nm,0.6s
STHS Stebnicka Huta 71.56 325 *eP* **P** **10 45 37.3 -0.2**
STHS Stebnicka Huta 71.56 325 *eP* **P** **10 45 37.3 -0.2**
STHS pmax pmax
comp=Z,15nm,0.7s
IKP In-Ko-Pah, Jac 71.57 62 P **P** **10 45 38.7 +0.7**
baz=316
BIZ Bicaz 71.59 321 P **P** **10 45 34.7 -3.0**
RUE Ruedersdorf 71.64 331 *eP* **P** **10 45 38.3 +0.5**
HOQ Hoqain 71.64 285 P **P** **10 45 39.0 +0.6**
ASHO Ashiyiah 71.67 287 P **P** **10 45 39.0 +0.4**
ASHO Ashiyiah 71.67 287 *i* P **P** **10 45 38.7 +0.2**
SNR=5.2
TESR Tescani 71.70 320 ⇑P **P** **10 45 38.8 +0.4**
NAZ Nazwa, Dubai 71.71 287 P **P** **10 45 39.2 +0.5**
SOHO SOHO 71.75 286 P **P** **10 45 39.2 +0.2**
MSVF Nonsavu 71.75 147 P **P** **10 45 39.9 +0.9**
comp=Z,4.9nm,0.8s,baz=316,slow=7.0,SNR=3.6
comp=Z,4.9nm,0.8s
UZH Uzhgorod 71.79 324 *eP* **P** **10 45 39.3 +0.5**
UZH *e* 10 45 55.8
BZK Bozkurt 71.83 313 ⇑P **P** **10 45 38.0 -1.2**
SUSD Miller 71.87 43 P **P** **10 45 39.6 +0.2**
baz=321
CRVS Cervenica-Dubn 71.89 325 *eP* **P** **10 45 40.0 +0.5**
CRVS Cervenica-Dubn 71.89 325 *eP* **P** **10 45 40.0 +0.5**
CRVS pmax pmax
comp=Z,15nm,0.7s
FAQ Al Faqa, Dubai 71.92 287 P **P** **10 45 40.2 +0.2**
FAQ Al Faqa, Dubai 71.92 287 *i* P **P** **10 45 40.0 0.0**
SNR=6.1
JMDO Jabal Madar 71.98 283 P **P** **10 45 41.3 +0.9**
CFR Carcaliu 72.10 319 ⇑P **P** **10 45 41.1 +0.4**
CFR Carcaliu 72.10 319 ⇑P **P** **10 45 41.1 +0.4**
TRPA Tarpa 72.10 324 ⇑P **P** **10 45 41.7 +1.1**
TRPA Tarpa 72.10 324 P **P** **10 45 41.0 +0.3**
ISCO Idaho Springs 72.16 50 P **P** **10 45 41.0 -0.6**
baz=318,SNR=5.0
VRI Vrincioaia 72.17 320 ⇑P **P** **10 45 41.7 +0.6**
VRI ⇑P **P** **10 45 42.4 +1.2**
VRI Vrincioaia 72.17 320 ⇑P **P** **10 45 42.4 +1.2**
ASUD Al Ashush, Dub 72.17 287 P **P** **10 45 42.1 +0.6**
ASUD Al Ashush, Dub 72.17 287 P **P** **10 45 41.6 +0.1**
KSP Ksiaz 72.18 329 *eP* **P** **10 45 41.3 +0.2**
ARCR ARCALIA 72.20 322 P **P** **10 45 42.1 +0.8**
PLOR Plostina 72.22 320 ⇑P **P** **10 45 42.0 +0.6**
PLOR Plostina 72.22 320 ⇑P **P** **10 45 42.0 +0.6**
TPGR Topolog 72.22 318 ⇑P **P** **10 45 42.1 +0.6**
AS01 Alice Springs 72.23 191 P **P** **10 45 42.9 +1.3**
AS31 Alice Springs 72.23 191 P **P** **10 45 42.8 +1.2**
AS31 IAmb IAmb 10 45 43.5
comp=Z,8.6nm,0.5s
ASAR Alice Springs 72.23 191 P **P** **10 45 42.9 +1.2**
comp=Z,15nm,0.5s,baz=2.1,slow=5.2,SNR=406
ASAR PKPPKP P'P'df 11 13 31.6 +12
comp=Z,0.3nm,0.6s,baz=111,slow=1.7,SNR=5.3
comp=Z,15nm,0.5s
EYMN Ely 72.28 36 P **P** **10 45 41.3 -0.4**
baz=324,SNR=7.9
BSY Bisya 72.30 284 P **P** **10 45 43.2 +0.9**
ALNE Al Ain 72.31 286 P **P** **10 45 43.0 +0.7**
ALNE Al Ain 72.31 286 P **P** **10 45 42.7 +0.4**
ARQ Araqi 72.32 285 P **P** **10 45 43.1 +0.7**
OKC Ostrava-Krasne 72.36 327 *eP* **P** **10 45 42.4 +0.3**
OKC Ostrava-Krasne 72.36 327 *eP* **P** **10 45 42.4 +0.3**
OZUR 72.39 321 ⇑P **P** **10 45 43.2 +0.7**
COVR Voineasa-Covas 72.41 320 ⇑P **P** **10 45 43.3 +0.7**
OSTC Ostas 72.45 329 *eP* **P** **10 45 42.2 -0.5**
ABAH Abaujker 72.47 325 P **P** **10 45 43.3 +0.5**
UPC Upice 72.56 329 *eP* **P** **10 45 43.5 +0.2**
UPC Upice 72.56 329 *eP* **P** **10 45 43.5 +0.2**
MVCO Mesa Verde 72.56 54 P **P** **10 45 44.3 +0.4**
baz=318
HARR Harsova 72.57 318 ⇑P **P** **10 45 43.5 +0.1**
HARR Harsova 72.57 318 ⇑P **P** **10 45 43.5 +0.1**
DPC Dobruska-Polom 72.58 329 *eP* **P** **10 45 43.5 0.0**
DPC Dobruska-Polom 72.58 329 *eP* **P** **10 45 43.5 0.0**
MORC Moravsky Berou 72.63 328 ⇑P **P** **10 45 44.6 +0.8**
MORC Moravsky Berou 72.63 328 P **P** **10 45 44.2 +0.5**
MORC Moravsky Berou 72.63 328 *eP* **P** **10 45 44.1 +0.3**
MORC Moravsky Berou 72.63 328 ⇑P **P** **10 45 44.6 +0.8**
KRLC Kraliky 72.65 328 *eP* **P** **10 45 44.0 +0.1**
KRLC Kraliky 72.65 328 *eP* **P** **10 45 44.0 +0.1**
DOPR Dopca 72.66 321 ⇑P **P** **10 45 45.3 +1.3**
NEHR Nehoiu 72.70 320 P **P** **10 45 46.2 +2.0**
CBBR Cluj-Babes-Bol 72.79 322 P **P** **10 45 45.7 +1.0**
MLR Muntele Rosu 72.81 320 ⇑P **P** **10 45 45.5 +0.5**
MLR Muntele Rosu 72.81 320 ⇑P **P** **10 45 45.5 +0.5**
MAUC Maruska 72.87 327 *eP* **P** **10 45 45.2 +0.1**
CLL Collm 72.89 331 ⇓*i*P **P** **10 45 44.9 -0.2**
comp=Z,50nm,1.1s
CLL *e*PP **PP** **10 48 34.0 -1.0**
CLL Collm 72.89 331 ⇓*i*P **P** **10 45 44.9 -0.2**
CLL pmax pmax
comp=Z,50nm,1.1s
BRG Berggiesshubel 72.95 330 *i* P **P** **10 45 45.6 +0.1**
BRG Amp 10 45 46.5
comp=Z,15nm,1.2s
BRG Berggiesshubel 72.95 330 *i* P **P** **10 45 45.6 +0.1**
BRG pmax pmax
comp=Z,15nm,1.2s
PVCC Panska Ves 73.03 330 *eP* **P** **10 45 46.4 +0.4**
PVCC Panska Ves 73.03 330 *eP* **P** **10 45 46.4 +0.4**
MARR Marisel-Cluj 73.04 323 P **P** **10 45 46.9 +0.6**
MHTO MHTO 73.05 283 P **P** **10 45 47.8 +1.2**
S22A 4UR Ranch, Cre 73.06 52 P **P** **10 45 47.1 +0.4**
baz=318
ICOR Ion Corvin 73.08 318 ⇑P **P** **10 45 47.6 +1.3**
DRGR 73.11 323 ⇑P **P** **10 45 47.2 +0.6**
DRGR 73.11 323 ⇑P **P** **10 45 47.2 +0.6**
VYHS Vyhne 73.22 326 *eP* **P** **10 45 47.8 +0.6**
VYHS Vyhne 73.22 326 *eP* **P** **10 45 47.8 +0.6**
VYHS pmax pmax
comp=Z,16nm,1.1s
VOIR 73.23 321 ⇑P **P** **10 45 48.1 +0.8**
VOIR 73.23 321 ⇑P **P** **10 45 48.1 +0.8**
PSZ Piszkesteto 73.30 325 P **P** **10 45 48.3 +0.7**
EIDS Eidsvold 73.35 175 P **P** **10 45 49.4 +1.4**
EIDS IAmb IAmb 10 46 24.3
comp=Z,18nm,1.4s
VRAC Vranov 73.36 328 ⇑P **P** **10 45 49.0 +1.1**
VRAC Vranov 73.36 328 ⇑P **P** **10 45 48.5 +0.6**
VRAC Vranov 73.36 328 ⇑P **P** **10 45 49.0 +1.1**
ARR Arges 73.46 321 ⇑P **P** **10 45 50.2 +1.5**
ECSD EROS Data Cent 73.48 42 P **P** **10 45 48.5 -0.2**
baz=322,SNR=9.1
GOPC GO Pecny, Ondr 73.48 329 *eP* **P** **10 45 48.8 +0.2**
GOPC GO Pecny, Ondr 73.48 329 *eP* **P** **10 45 48.8 +0.2**
PRU Pruhonice 73.50 329 *eP* **P** **10 45 49.0 +0.3**
PRU Pruhonice 73.50 329 *eP* **P** **10 45 49.0 +0.3**
KRUC Moravsky 73.64 328 *eP* **P** **10 45 50.0 +0.5**
UMZA Um Al Zommool 73.64 286 P **P** **10 45 50.0 0.0**
BR131 Keskin Array S 73.71 312 P **P** **10 45 50.8 +0.6**
BR131 IAmb IAmb 10 45 51.7
comp=Z,18nm,0.9s
BR131 Keskin Array S 73.71 312 P **P** **10 45 50.8 +0.6**
SNR=10
BR131 Keskin Array S 73.71 312 P **P** **10 45 50.8 +0.6**
BR131 pmax pmax
comp=Z,18nm,1.0s
BRTR Keskin Array B 73.71 312 P **P** **10 45 50.8 +0.6**
comp=Z,7.2nm,0.7s,baz=87,slow=4.0,SNR=37
BRTR PP **PP** **10 48 43.6 +1.2**
comp=Z,2.2nm,0.9s,baz=56,slow=6.6,SNR=6.0
comp=Z,7.2nm,0.7s
BRTR Keskin Array B 73.71 312 P **P** **10 45 50.3 +0.1**
MZWR Madinat Zayed 73.72 287 P **P** **10 45 50.0 -0.3**
SMOL Smolenice 73.73 327 *eP* **P** **10 45 50.8 +0.8**
SDCO Great Sand Dun 73.76 51 P **P** **10 45 51.4 +0.6**
baz=319
LOT Lotru 73.76 321 ⇑P **P** **10 45 50.5 +0.1**
SCHQ Schefferville 73.84 19 P **P** **10 45 50.1 -0.4**
comp=Z,5.8nm,0.5s,baz=327,slow=5.6,SNR=20
comp=Z,5.8nm,0.5s
SCHQ Schefferville 73.84 19 P **P** **10 45 49.9 -0.7**
MODS Modra-Piesok 73.90 327 *eP* **P** **10 45 52.2 +1.2**
MODS Modra-Piesok 73.90 327 *eP* **P** **10 45 52.2 +1.2**
MODS pmax pmax
comp=Z,35nm,1.1s
SPMN Marine on St. 73.94 39 P **P** **10 45 50.7 -0.6**
baz=324
SRO Srobarova 73.99 326 *eP* **P** **10 45 52.6 +1.1**
SRO Srobarova 73.99 326 *eP* **P** **10 45 52.6 +1.1**
SRO pmax pmax
comp=Z,18nm,0.7s
BUD Budapest 73.99 325 P **P** **10 45 52.9 +1.4**
NKC Novy Kostel 73.99 331 *eP* **P** **10 45 51.3 -0.2**
NKC Novy Kostel 73.99 331 *eP* **P** **10 45 51.3 -0.2**
ANTO Ankara 74.02 312 P **P** **10 45 52.9 +0.9**
SHMA Al-Shehemyia 74.06 291 P **P** **10 45 52.3 +0.1**
DQM DQM 74.08 282 P **P** **10 45 52.9 +0.4**
RAZG Razgrad 74.09 319 ⇑P **P** **10 45 49.4 -2.7**
ZST Bratislava 74.11 327 *eP* **P** **10 45 53.1 +0.9**
ZST Bratislava 74.11 327 *eP* **P** **10 45 53.1 +0.9**
GHWR Ruwais 74.21 288 P **P** **10 45 53.0 -0.1**
GZR Gura Zlata 74.22 322 ⇑P **P** **10 45 53.1 +0.2**
GZR Gura Zlata 74.22 322 ⇑P **P** **10 45 53.1 +0.2**
SAKB Bahrain 74.24 291 P **P** **10 45 53.4 +0.1**
KSCO Kaye Shedlock' 74.27 49 P **P** **10 45 53.7 +0.2**
baz=320
RMQ Roma 74.35 177 P **P** **10 45 55.6 +1.9**
CSKK Cskako 74.38 326 P **P** **10 45 54.1 +0.3**
QLP Quilpie 74.39 181 P **P** **10 45 55.6 +1.7**
WRKA Warakurna 74.47 196 P **P** **10 45 55.4 +1.0**
BZS Buzias 74.51 323 ⇑P **P** **10 45 54.1 -0.4**
BZS Buzias 74.51 323 ⇑P **P** **10 45 54.1 -0.4**
KHC Kasperske Hory 74.56 330 *eP* **P** **10 45 53.9 -0.9**
KHC Kasperske Hory 74.56 330 *eP* **P** **10 45 53.9 -0.9**
CKRC Cesky Krumlov 74.58 329 *eP* **P** **10 45 54.6 -0.3**
BGNE Belgrade 74.60 44 P **P** **10 45 55.2 0.0**
baz=322
EGYH Egyhazaskeszo 74.68 326 P **P** **10 45 56.6 +1.1**
SOP Sopron 74.74 327 P **P** **10 45 56.6 +0.9**
GEC2 GERESS Array S 74.77 329 P **P** **10 45 56.1 0.0**
GEC2 IAmb IAmb 10 45 56.5
comp=Z,6.5nm,0.6s
GERES GERESS Array B 74.77 329 P **P** **10 45 55.8 -0.3**
comp=Z,6.3nm,0.7s,baz=166,slow=33,SNR=49
comp=Z,6.3nm,0.7s
GERES GERESS Array B 74.77 329 P **P** **10 45 56.0 0.0**
GERES GERESS Array B 74.77 329 P **P** **10 45 56.0 0.0**
HERR Herculane 74.78 322 ⇑P **P** **10 45 55.4 -0.7**
T25A Trinidad 74.78 51 P **P** **10 45 56.9 +0.4**
baz=320
CONA Conrad Observa 74.79 328 *eP* **P** **10 45 57.0 +0.9**
comp=Z,9.2nm,0.6s,SNR=6.2
MPLH Magyarpolny 74.81 326 P **P** **10 45 56.6 +0.5**
RONA Rosalia, Austr 74.83 327 *eP* **P** **10 45 57.2 +0.9**
comp=Z,9.8nm,0.8s,SNR=5.8
GRA1 Grafenberg Arr 74.86 331 P **P** **10 45 57.0 +0.6**
GRF Grafenberg Arr 74.86 331 P **P** **10 45 57.0 +0.6**
GRF pmax pmax
comp=Z,37nm,0.7s
SLWR Sila 74.89 289 P **P** **10 45 57.0 0.0**
TUC Tucson 74.91 58 P **P** **10 45 58.2 +1.1**
baz=318
SMRA Abu-Samra 74.95 290 P **P** **10 45 57.1 -0.2**
PLVB Pleven 75.06 320 ⇑P **P** **10 45 57.5 -0.1**
MDVR Moldovita 75.15 322 ⇑P **P** **10 45 58.3 +0.1**
MORH Mrgy, Hungar 75.19 325 P **P** **10 45 57.6 -0.7**
ANMO Albuquerque 75.35 54 P **P** **10 46 00.5 +0.8**
baz=319
MOA Molln 75.42 328 *eP* **P** **10 46 00.3 +0.7**
comp=Z,7.7nm,0.8s
ARSA Arzberg 75.48 327 *i* P **P** **10 46 00.5 +0.5**
comp=Z,3.0nm,0.4s
KOVH Kovagotottos 75.50 325 P **P** **10 45 59.7 -0.3**
BEBN Eben Emael 75.56 335 *dP* **P** **10 46 00.2 -0.1**
BTNL Ternell 75.62 335 *dP* **P** **10 46 00.8 +0.2**
MEM Membach 75.64 335 *dP* **P** **10 46 00.6 -0.1**
comp=Z,19nm,0.9s
INKA Innaminka 75.66 184 P **P** **10 46 02.5 +1.5**
BLKB Belogradchik 75.70 321 ⇑P **P** **10 46 01.1 -0.2**
BIOA Bad Ischl, Aus 75.78 329 *i* P **P** **10 46 02.0 +0.4**
comp=Z,9.2nm,0.8s
BSTI Sart Tilman 75.79 335 *dP* **P** **10 46 01.8 +0.3**
comp=Z,7.5nm,0.8s
BHOU Houvegnez 75.87 335 *dP* **P** **10 46 02.2 +0.1**
BCLA Clavier 76.01 335 *dP* **P** **10 46 02.2 -0.6**
comp=Z,13nm,0.7s
BOVS Bovan 76.09 322 ⇑P **P** **10 46 01.8 -1.6**
BGES Gesves 76.10 335 *dP* **P** **10 46 03.2 0.0**
OOD Oodnadatta 76.10 189 P **P** **10 46 04.8 +1.4**
SOKA Soboth 76.15 327 *i* P **P** **10 46 04.3 +0.6**
comp=Z,18nm,0.9s
GROS Grobnik 76.16 327 *i* P **P** **10 46 03.8 0.0**
BMRD Maredsous 76.27 335 *dP* **P** **10 46 04.0 -0.2**
comp=Z,21nm,0.9s
RCHB Rochefort 76.27 335 *dP* **P** **10 46 04.0 -0.2**
comp=Z,9.1nm,0.9s
VTS Vitosha 76.28 320 ⇑P **P** **10 46 05.5 +0.9**
VTS Vitosha 76.28 320 ⇑P **P** **10 46 05.5 +0.9**
KBA Koelnbreinsper 76.41 329 *i* P **P** **10 46 06.2 +0.9**
comp=Z,26nm,0.6s,SNR=5.9
OBKA Obir 76.47 328 *i* P **P** **10 46 05.5 0.0**
comp=Z,5.2nm,0.6s
DOU Dourbes 76.50 335 *dP* **P** **10 46 05.3 -0.2**
DOU *d*PcP **PcP** **10 46 13.8 -0.9**
GCIS Gornji Cirnik 76.62 327 *i* P **P** **10 46 06.3 +0.1**
LEGS Legarje 76.67 327 *i* P **P** **10 46 06.5 0.0**
MYKA Terra Mystica 76.69 328 *i* P **P** **10 46 06.8 +0.1**
comp=Z,14nm,0.8s
WATA Watenberg 76.79 330 *eP* **P** **10 46 07.8 +0.4**
comp=Z,22nm,0.6s,SNR=9.0
WTTA Wattenberg 76.83 330 *eP* **P** **10 46 08.2 +0.6**
comp=Z,19nm,0.5s,SNR=7.7
JFWS Jewell Farm 76.89 39 P **P** **10 46 07.2 -0.6**
baz=326
RETA Reutte 76.93 330 *i* P **P** **10 46 08.7 +0.6**
comp=Z,13nm,0.8s
MOTA Moosalm 76.94 330 *i* P **P** **10 46 08.5 +0.3**
comp=Z,33nm,0.8s,SNR=8.1
ABTA Abfaltersbach 76.98 329 *i* P **P** **10 46 09.0 +0.7**
comp=Z,7.1nm,1.1s
SQTA Sankt Quirin 77.01 330 *i* P **P** **10 46 09.0 +0.4**
comp=Z,25nm,0.8s,SNR=9.0
KSU1 Kansas State U 77.14 45 P **P** **10 46 08.9 -0.4**
baz=323
DOK Doka 77.25 284 P **P** **10 46 10.2 +0.1**
SNR=9.9
FETA Feichten 77.35 330 *i* P **P** **10 46 11.2 +0.8**
comp=Z,18nm,1.0s
DMTO DMTO 77.37 282 P **P** **10 46 11.0 +0.2**
DAVA Damuels 77.40 331 *eP* **P** **10 46 10.9 +0.2**
comp=Z,16nm,0.7s,SNR=5.6
GLMI Grayling 77.52 34 P **P** **10 46 10.6 -0.6**
baz=328
AMTX Amarillo 77.93 51 P **P** **10 46 13.1 -0.6**
baz=321
WHFO Wild Hawf 77.99 283 P **P** **10 46 14.0 -0.2**
SNR=7.5
PDG Podgorica 78.10 322 ⇑P **P** **10 46 14.4 +0.1**
LCRK Leigh Creek 78.51 186 P **P** **10 46 18.2 +1.7**
ABTO Aybut 78.71 283 P **P** **10 46 17.9 -0.2**
TIR Tirane 78.75 321 ⇑P **P** **10 46 17.9 0.0**
TIR Tirane 78.75 321 ⇑P **P** **10 46 17.9 0.0**
RAYN Ar Rayn 79.15 293 P **P** **10 46 21.0 +0.6**
RAYN Ar Rayn 79.15 293 *i* P **P** **10 46 21.0 +0.6**
SNR=7.6
RAYN Ar Rayn 79.15 293 ⇑P **P** **10 46 20.9 +0.6**
HDIL Hopedale 79.24 39 P **P** **10 46 19.8 -0.7**
baz=326
CMSA Cobar Meteorol 79.32 180 P **P** **10 46 22.7 +1.9**
WMOK Wichita Mounta 79.53 49 P **P** **10 46 21.8 -0.4**
baz=322
TRQ Mont Tremblant 79.72 27 P **P** **10 46 22.8 -0.2**
TRQ IAmb IAmb 10 46 23.2
comp=Z,23nm,0.9s
STKA Stephens Creek 79.74 183 P **P** **10 46 24.2 +1.2**
comp=Z,6.9nm,0.8s,baz=342,slow=8.5,SNR=13
comp=Z,6.9nm,0.8s
STKA Stephens Creek 79.74 183 P **P** **10 46 24.1 +1.2**
STKA Stephens Creek 79.74 183 P **P** **10 46 24.6 +1.6**
AAM Ann Arbor 80.04 35 P **P** **10 46 24.7 0.0**
baz=329
TUL1 Leonard 80.08 46 P **P** **10 46 25.1 +0.2**
baz=324
KARP Karpathos 80.17 313 P **P** **10 46 25.0 -0.5**
KARP IAmb IAmb 10 46 26.6
comp=Z,23nm,0.8s
SFIN Lafayette 80.31 38 P **P** **10 46 25.9 -0.2**
baz=328
CCM Cathedral Cave 80.45 42 P **P** **10 46 26.7 -0.2**
baz=326
ABTX Abilene, Hawle 80.75 51 P **P** **10 46 29.0 +0.4**
baz=322
BBOO Buckleboo 81.03 188 P **P** **10 46 30.7 +0.9**
BBOO IAmb IAmb 10 46 39.7
comp=Z,12nm,1.2s
BATG Bathurst New B 81.07 21 P **P** **10 46 30.1 +0.1**
TX32 Lajitas Array 81.15 56 P **P** **10 46 31.9 +1.1**
TXAR Lajitas Array 81.15 56 P **P** **10 46 31.8 +1.0**
comp=Z,0.8nm,0.6s,baz=289,slow=3.6,SNR=22
TXAR pP **pP** **10 48 19.6 +2.4**
comp=Z,0.2nm,0.6s,baz=292,slow=4.8,SNR=2.3
comp=Z,0.8nm,0.6s
TXAR Lajitas Array 81.15 56 P **P** **10 46 31.7 +0.9**
O48B Farmland 81.20 37 P **P** **10 46 30.1 -0.7**
baz=329
IDI Anoyia 81.47 315 P **P** **10 46 31.2 -1.1**
ERPA Erie 81.56 32 P **P** **10 46 32.0 -0.6**
baz=331
FCAR Ozark Folk Cen 81.83 44 P **P** **10 46 34.0 0.0**
FCAR IAmb IAmb 10 46 34.5
comp=Z,7.8nm,0.7s
M53A WI Miller and 81.90 33 P **P** **10 46 34.1 -0.3**
baz=331
P49A Miami Univ. Ec 81.99 37 P **P** **10 46 34.8 -0.1**
baz=329
ACSO Alum Creek Sta 82.08 35 P **P** **10 46 35.2 -0.1**
baz=330
LCAR Lake Charles 82.13 43 P **P** **10 46 36.0 +0.5**
MIAR Mount Ida 82.24 46 P **P** **10 46 37.1 +0.8**
baz=325
WHAR Wooly Hollow 82.25 44 P **P** **10 46 36.5 +0.3**
WHAR IAmb IAmb 10 46 37.0
comp=Z,12nm,0.9s
LBNH Lisbon 82.30 26 P **P** **10 46 36.6 +0.2**
baz=336
JCT Junction City 82.35 52 P **P** **10 46 37.7 +0.8**
baz=322
WHTX Lake Whitney, 82.38 50 P **P** **10 46 37.2 +0.2**
baz=323
WCI Wyandotte Cave 82.45 39 P **P** **10 46 37.5 +0.3**
baz=328
O53A New Philadelph 82.74 34 P **P** **10 46 38.6 0.0**
baz=331,SNR=5.4
BINY Binghamton 82.87 30 P **P** **10 46 39.0 -0.3**
baz=334
P52A Corning 82.92 35 P **P** **10 46 39.1 -0.4**
baz=330
WVT Waverly 83.57 41 P **P** **10 46 42.9 +0.1**
baz=327
SSPA Standing Stone 83.61 32 P **P** **10 46 43.1 +0.1**
SSPA IAmb IAmb 10 46 43.6
comp=Z,12nm,1.0s
SSPA Standing Stone 83.61 32 P **P** **10 46 42.8 -0.1**
baz=333
L61B Northampton 83.70 27 P **P** **10 46 43.2 -0.2**
baz=336
MCWV Mont Chateau 83.77 34 P **P** **10 46 43.4 -0.3**
baz=332
NATX Nacogdoches 83.97 48 P **P** **10 46 45.3 +0.3**
baz=324
HRV Adam Dziewonsk 83.99 27 P **P** **10 46 44.8 -0.1**
baz=336
OXF Oxford 84.22 43 P **P** **10 46 46.2 +0.1**
baz=327
PAL Palisades 84.62 29 P **P** **10 46 47.6 -0.4**
baz=335
TZTN Tazewell 85.03 38 P **P** **10 46 50.4 +0.4**
baz=330
BLA Blacksburg 85.69 35 P **P** **10 46 53.5 +0.2**
baz=331
CBN Corbin Frederi 85.95 32 P **P** **10 46 54.2 -0.2**
baz=333
GOGA Godfrey 87.76 39 P **P** **10 47 03.5 +0.5**
baz=330
KEST Kesra 87.77 326 P **P** **10 47 02.8 -0.4**
comp=Z,3.2nm,0.5s,baz=281,slow=0.8,SNR=3.8
comp=Z,3.2nm,0.5s
ESDC Sonseca Array 88.44 337 P **P** **10 47 05.3 -0.9**
comp=Z,1.6nm,0.6s,baz=15,slow=4.5,SNR=18
comp=Z,1.6nm,0.6s
TORD Torodi Ar. Bea 111.01 322 PP **PP** **10 53 26.9 -4.1**
comp=Z,0.6nm,0.6s,baz=18,slow=10.0,SNR=3.6
BOAV Boa Vista 124.79 32 *eP* **PKiKP** **10 53 13.1 +1.9**
CZSB Cruzeiro do Su 128.38 51 *eP* **PKiKP** **10 53 19.9 +1.6**
BOSA Boshof 130.56 271 SKPbc **SKPbc** **10 55 58.9 -0.1**
comp=Z,2.2nm,0.7s,baz=73,slow=3.2,SNR=7.3
MAW Mawson 130.76 210 SKPbc **SKPab** **10 55 59.1 +0.2**
comp=Z,12nm,0.9s,baz=13,slow=3.8,SNR=11
MALB Monte Alegre 130.83 27 *eP* **PKiKP** **10 53 24.3 +1.0**
ITTB Itaituba 132.74 29 *eP* **PKiKP** **10 53 26.8 -0.3**
RCBR Riachuelo 137.82 2 *eP* **PKiKP** **10 53 37.7 +0.3**
LPAZ La Paz 137.96 53 *eP* **PKiKP** **10 53 38.4 +0.1**
SNDB Serra Nova Dou 141.31 27 *eP* **PKiKP** **10 53 43.9 -0.6**
SDBA SAO DESIDERIO 143.33 17 *eP* **PKiKP** **10 53 47.1 -1.6**
ARAG Araguaiana, MT 144.65 30 *eP* **PKPab** **10 53 48.9 +0.9**
GDU01 Guandu, BA 145.42 9 *eP* **PKPab** **10 53 50.7 -0.2**
BDFB Brasilia 145.73 24 PKPbc **PKPbc** **10 53 51.3 +0.5**
comp=Z,7.8nm,0.6s,baz=344,slow=5.0,SNR=12
BDFB Brasilia 145.73 24 *eP* **PKPbc** **10 53 51.3 +0.5**
AQDB Aquidauana 147.54 39 *eP* **PKPbc** **10 53 54.4 -1.1**
MC01 Montes Claros 147.70 17 *eP* **PKPbc** **10 53 54.4 -1.7**
TROLL Troll, Antarti 150.69 202 PKPab **PKPab** **10 54 11.7 +0.5**
TROLL Troll, Antarti 150.69 202 PKPbc **PKPbc** **10 54 02.0 +0.2**
SNAA Sanae 152.23 201 PKPab **PKPab** **10 54 17.8 +0.2**
PLCA Paso Flores 153.41 87 PKPbc **PKPbc** **10 54 08.7 -0.1**
comp=Z,1.1nm,0.7s,baz=291,slow=5.5,SNR=3.5
PLCA PKPab **PKPab** **10 54 24.3 +0.8**
comp=Z,1.7nm,0.8s,baz=288,slow=5.7,SNR=5.5
VNA2 Neumayer--Watz 153.81 200 PKPab **PKPab** **10 54 24.2 0.0**
baz=141,slow=5.3
VNA3 Neumayer Olymp 154.06 198 PKPab **PKPab** **10 54 26.4 +1.0**
VNA1 Neumayer--Stat 154.21 200 PKPab **PKPab** **10 54 26.6 +0.7**
PLTB Pedras Altas 158.15 48 *eP* **PKPdf** **10 54 08.8 +1.7**

UCR **06** *10:39:52.0±2.3, 8.29N×82.91W, h0km±28km, MW3.6*
UPA **06** *10:39:53.1±0.3, 8.34N×82.98W, h16km±18km, MW3.1*
ISC 06 10:39:51.9±3.5, **8.33N**±0.09×**82.92W**±0.05, **h16**km±26km,
n13, σ0**62**/19, **1C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIRO	**Carate, Puerto**	**0.41**	**280**	*eP*	**Pb**	**10 40 01.1**	**+0.3**
PIRO				*eS*	**Sn**	**10 40 09.6**	**-0.9**
DVD	**David**	**0.48**	**78**⇑	*eP*	**Pn**	**10 40 03.8**	**-0.3**
DVD				*eS*	**Sn**	**10 40 11.9**	**-0.2**
EDSV	**San Vito**	**0.48**	**354**	*eP*	**Pn**	**10 40 03.6**	**-0.6**
EDSV				*eS*	**Sn**	**10 40 12.6**	**+0.2**
BRU2	**Volcan**	**0.51**	**27**⇓	*eP*	**Pn**	**10 40 04.5**	**-0.1**
BRU2				*eS*	**Sn**	**10 40 13.0**	**-0.1**
BCO2	**Palmira**	**0.55**	**46**⇓	*eP*	**Pn**	**10 40 05.2**	**0.0**
BCO2				*eS*	**Sn**	**10 40 14.3**	**+0.3**
CTCR	**Cotoan**	**0.58**	**16**	*eP*	**Pn**	**10 40 05.4**	**-0.3**
PSOM3	**Paja de Sombre**	**0.69**	**60**⇓	*eP*	**Pn**	**10 40 07.0**	**+0.1**
PSOM3				*eS*	**Sn**	**10 40 17.9**	**+0.5**
SRBA	**San Rafael, Bu**	**0.99**	**334**	*eP*	**Pn**	**10 40 11.2**	**0.0**
PEZE	**Perez Zeledon,**	**1.28**	**325**	*eP*	**Pb**	**10 40 15.9**	**+0.3**
CDM	**Cerro de Muert**	**1.47**	**326**	*eP*	**Pb**	**10 40 19.2**	**+0.1**
LCR2	**La Lucha 2**	**1.76**	**323**	*eP*	**Pb**	**10 40 24.5**	**+0.7**
JACO	**JACO, Garabito**	**2.16**	**308**	*eP*	**Pn**	**10 40 28.3**	**+1.1**
JTS	**Las Juntas de**	**2.79**	**314**	*eP*	**Pb**	**10 40 39.9**	**-1.4**

LDG **06** *10:40:15.7±0.2, 44.21N×7.86W, h10km, Ml3.1/26, Error ellipse: s-maj=4.6km s-min=2.0km az=119.0*
INMG **06** *10:40:16.4±1.9, 44.22N×7.89W, h15km±6km, ML2.7, Error ellipse: s-maj=6.2km s-min=6.0km az=84.0*
MDD **06** *10:40:17.3±0.6, 44.11N×7.85W, h11km, mb_Lg3.3/7,*

Error ellipse: s-maj=6.5km s-min=2.8km az=150.0

ISC 06 10:40:13.2±1.7, 44.°29N±0.°05×7.°82W±0.°05, h8km±11km, n59, σ2.s74/100, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPON	Pontenova	1.08	153	Pg	Pg	10 40 34.4	+0.6
EPON				Sg	Sg	10 40 46.3	-1.5
EPON				i Vmb_Lg		10 40 50.1	
EAGO	Agolada(Pontev	1.50	188	Pg	Pn	10 40 41.3	+0.8
EAGO				Sg	Sn	10 40 59.1	-1.1
EAGO				i Vmb_Lg		10 41 03.0	
EMAZ	Mazaricos	1.58	212	Pn	Pn	10 40 41.4	-0.2
EMAZ				Pg	Pb	10 40 43.5	+0.8
EMAZ				Sn	Sn	10 40 59.0	-3.2
EMAZ				Sg	Sb	10 41 01.6	-1.3
EMAZ				i Vmb_Lg		10 41 03.5	
EARI	Arriondas	2.13	117	Pn	Pn	10 40 50.4	+1.3
EARI				Sn	Sn	10 41 16.2	+0.4
EARI				Sg	Sb	10 41 21.7	+2.9
EZAM	Zamans	2.23	197	Pn	Pn	10 40 50.6	+0.1
EZAM				Pg	Pb	10 40 55.2	+1.4
EZAM				Sg	Sb	10 41 21.5	-0.2
EZAM				i Vmb_Lg		10 41 23.2	
PGAV	Gavieira, Arco	2.35	188	ePn	Pn	10 40 52.5	+0.3
PGAV	Gavieira, Arco	2.35	188	ePg	Pb	10 40 57.6	+1.8
PGAV				eSg	Sb	10 41 26.6	+1.6
PGAV				A	A	10 41 27.8	
	58nm,0.5s						
ELOB	Lobios	2.43	184	Pn	Pn	10 40 52.9	-0.4
ELOB				Sg	Sb	10 41 27.5	+0.2
ELOB				i Vmb_Lg		10 41 31.7	
ECAL	Calabor	2.48	161	Pn	Pn	10 40 54.8	+0.8
ECAL				Sn	Sn	10 41 23.7	-0.7
ECAL				Sg	Sb	10 41 29.9	+1.2
ECAL				i Vmb_Lg		10 41 35.7	
PCAB	Cabril	2.58	183	ePn	Pn	10 40 55.7	+0.4
PCAB	Cabril	2.58	183	ePg	Pb	10 41 01.9	+2.1
PCAB				eSg	Sb	10 41 33.8	+2.1
PCAB				A	A	10 41 34.7	
	44nm,0.5s						
PBRG	Braganca	2.61	162	ePn	Pn	10 40 55.2	-0.5
PBRG	Braganca	2.61	162	ePg	Pb	10 41 02.8	+2.6
PBRG				eSg	Sb	10 41 34.4	+2.0
PBRG				A	A	10 41 36.4	
	26nm,0.5s						
POLO	Lamas de Olo	2.92	180	ePn	Pn	10 41 00.0	0.0
POLO	Lamas de Olo	2.92	180	ePg	Pb	10 41 08.1	+2.6
POLO				eSg	Sb	10 41 42.7	+1.4
POLO				A	A	10 41 45.4	
	10nm,0.6s						
MVO	Moncorvo	3.18	169	ePn	Pn	10 41 06.2	+2.6
MVO	Moncorvo	3.18	169	ePg	Pb	10 41 13.3	+3.4
MVO				eSg	Sb	10 41 52.3	+3.5
MVO				A	A	10 41 57.9	
	24nm,0.3s						
ELAN	Lanestosa	3.35	107	Pn	Pn	10 41 08.0	+2.2
ELAN				Sn	Sn	10 41 44.3	-1.5
ELAN				i Vmb_Lg		10 41 51.2	
PVIS	Viseu	3.57	181	ePn	Pn	10 41 09.1	+0.1
PVIS	Viseu	3.57	181	ePg	Pb	10 41 20.3	+3.6
PVIS				eSg	Sb	10 42 03.6	+3.4
PVIS				A	A	10 42 08.4	
	16nm,0.4s						
MTE	Manteigas	3.89	177	eSg	Sb	10 42 13.7	+4.3
MTE				A	A	10 42 20.2	
	14nm,0.5s						
COI	Coimbra	4.10	186	eSg	Sg	10 42 21.4	-3.5
COI				A	A	10 42 28.8	
	19nm,0.5s						
PCAS	Casmilo, Conde	4.26	187	ePn	Pn	10 41 19.4	+1.0
PCAS				eSg	Sb	10 42 25.3	+5.2
PCAS				A	A	10 42 31.0	
	8.2nm,0.5s						
EPLA	Plasencia	4.42	162	Sg	Sb	10 42 29.5	+5.1
PCBR	Castelo Branco	4.45	177	ePn	Pn	10 41 25.4	+4.4
PCBR				eSg	Sb	10 42 30.3	+4.8
PCBR				A	A	10 42 37.0	
	8.2nm,0.5s						
EALK	Alkurruntz	4.70	101	Pn	Pn	10 41 25.9	+1.5
EALK				Sn	Sn	10 42 14.8	-4.3
PSBE	So Bento	4.83	189	ePn	Pn	10 41 28.9	+2.7
QUIF	Quistinic	4.86	40	ePn	Pn	10 41 28.2	+1.6
QUIF				eSn	Sn	10 42 21.2	-1.8
	1.7nm,0.2s						
PMRV	Marv??o	4.87	176	ePn	Pn	10 41 28.7	+2.0
PMRV				eSg	Sg	10 42 45.9	-3.6
PMRV				A	A	10 42 47.3	
	7.0nm,0.4s						
SJPF	Ste Jean	4.92	102	ePn	Pn	10 41 28.6	+1.1
SJPF				eSn	Sn	10 42 21.7	-2.9
	4.7nm,0.3s						
SJPF				eT	T	10 46 38.3	
EORO	Oroz-Betelu	4.93	104	Pn	Pn	10 41 30.1	+2.5
EORO				Sn	Sn	10 42 23.2	-1.7
ROSF	Rostrenen	5.13	36	ePn	Pn	10 41 31.5	+1.3
ROSF				eSn	Sn	10 42 26.8	-2.8
	2.0nm,0.2s						
PMTG	Montargil	5.23	183	ePn	Pn	10 41 31.9	+0.3
PMTG				eSn	Sn	10 42 29.4	-2.7
PMTG				eSg	Sg	10 42 56.8	-4.1
PMTG				A	A	10 43 05.3	
	4.9nm,0.7s						
SGMF	Saint Gilles	5.39	41	ePn	Pn	10 41 35.3	+1.5
SGMF				eSn	Sn	10 42 33.2	-2.8
	1.2nm,0.3s						
PESTR	Estremoz	5.42	178	eSg	Sg	10 43 03.9	-3.3
PMAFR	Mafra	5.44	192	ePn	Pn	10 41 35.3	+0.7
PMAFR				eSn	Sn	10 42 33.9	-3.5
ETSF	Etsaut	5.45	102	ePn	Pn	10 41 35.9	+1.1
ETSF				eSn	Sn	10 42 35.0	-2.8
	3.9nm,0.4s						
MFF	Saint Martin d	5.87	64	ePn	Pn	10 41 41.4	+0.9
MFF				eSn	Sn	10 42 43.9	-4.1
	3.5nm,0.2s						
EPF	Esparros	6.05	99	ePn	Pn	10 41 43.7	+0.7
EPF				eSn	Sn	10 42 48.7	-3.8
	2.6nm,0.3s						
PBAR	Barrancos	6.14	174	ePn	Pn	10 41 47.5	+3.3
PBAR				eSg	Sg	10 43 23.9	-6.3
PBAR				A	A	10 43 34.6	
	4.5nm,0.5s						
LFF	La Frestale	6.14	81	ePn	Pn	10 41 45.9	+1.7
LFF				eSn	Sn	10 42 50.3	-4.4
	1.6nm,0.2s						
GRR	Gorron	6.32	47	ePn	Pn	10 41 48.2	+1.5
GRR				eSn	Sn	10 42 54.3	-4.8
	1.9nm,0.2s						
ECAB	El Cabril	6.47	163	Pn	Pn	10 41 49.8	+1.1
ECAB				Sn	Sn	10 42 56.9	-5.8
ECAB				Sg	Sg	10 43 35.1	-5.7
RJF	Les Rejaudoux	6.72	78	ePn	Pn	10 41 53.4	+1.3
RJF				eSn	Sn	10 43 03.7	-5.1
	3.2nm,0.3s						
FLN	La Foliniere	6.75	46	ePn	Pn	10 41 53.6	+1.0
	baz=228						
FLN				eSn	Sn	10 43 05.9	-3.7
	1.6nm,0.3s						
LDF	La Druitiere	6.84	48	ePn	Pn	10 41 55.0	+1.2
LDF				eSn	Sn	10 43 06.6	-5.2
	1.2nm,0.2s						
CAF	Calviac	7.08	81	ePn	Pn	10 41 58.0	+0.8
CAF				eSn	Sn	10 43 13.1	-4.8
	1.7nm,0.2s						
MTLF	Montolieu	7.32	94	ePn	Pn	10 42 01.7	+1.3
MTLF				eSn	Sn	10 43 18.8	-4.9
	4.7nm,0.5s						
TCF	Toulx Ste Croi	7.35	71	ePn	Pn	10 42 00.9	+0.1
TCF				eSn	Sn	10 43 16.9	-7.5
	3.8nm,0.3s						
BGF	Bois d'Agland	7.84	69	ePn	Pn	10 42 08.3	+0.8
BGF				eSn	Sn	10 43 28.8	-7.6
	7.3nm,0.4s						
AVF	Avril sur Loir	8.23	68	ePn	Pn	10 42 13.5	+0.7
AVF				eSn	Sn	10 43 40.4	-5.6
	0.8nm,0.2s						
LASF	Ste Croix	8.40	87	ePn	Pn	10 42 16.4	+1.3
LASF				eSn	Sn	10 43 44.7	-5.4
	1.0nm,0.2s						
SSF	Saint Saulge	8.40	67	ePn	Pn	10 42 16.3	+1.1
SSF				eSn	Sn	10 43 41.5	-8.7
	1.1nm,0.2s						
SMF	Signal de Mont	8.53	70	eSn	Sn	10 43 48.2	-5.1
	0.8nm,0.2s						
LOR	Lormes	8.69	66	ePn	Pn	10 42 20.2	+1.1
	baz=248						
LOR				eSn	Sn	10 43 53.6	-3.7
	0.4nm,0.1s						
VIVF	Saint-Julien-l	8.94	82	ePn	Pn	10 42 21.6	-1.0
VIVF				eSn	Sn	10 43 57.5	-5.9
	0.3nm,0.1s						
SFTF	Sexfontaines	9.73	62	eSn	Sn	10 44 15.2	-7.6
	1.3nm,0.3s						
BAIF	Baives	10.01	51	ePn	Pn	10 42 37.8	+0.6
PAGF	Fort de Pagny	10.28	61	eSn	Sn	10 44 29.9	-6.3
	1.6nm,0.3s						

IDC 06 10:54:02.2±1.4, 11.°35N×85.°81W, h0km, mb3.9/7, mbtmp3.9/8, ML3.6/1, MS3.4/7, Error ellipse: s-maj=61.8km s-min=23.2km az=42.0
UCR 06 10:54:03.0±3.1, 10.°54N×86.°47W, h18km±9km, MW4.5
INET 06 10:54:03.4±0.6, 10.°53N×86.°53W, h6km, MW3.8

ISC 06 10:54:01.5±1.5, 10.°62N±0.°05×86.°45W±0.°05, h7km±10km, n54, σ0.s99/59, mb3.7/7, MS3.6/6, 16C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAJU	San Juanillo,	0.91	127	eP	Pg	10 54 19.4	+0.4
SAJU				eP	Sg	10 54 29.2	-1.7
SAJU				eS	Sb	10 54 31.5	-0.5
GBS3	Finca Las Img	0.99	81	⇑eP	Pn	10 54 21.7	-0.1
GBS3				eS	Sn	10 54 36.2	+0.1
ORTG	Ortega, Santa	1.01	105	eP	Pb	10 54 21.6	+0.2
ORTG	Ortega, Santa	1.01	105	eP	Pb	10 54 21.5	+0.2
LAPC	Finca la Perla	1.01	82	⇑iP	Pb	10 54 21.8	+0.4
LAPC				eS	Sn	10 54 36.3	-0.3
BUEV	Buena Vista	1.04	80	⇑eP	Pn	10 54 22.5	0.0
BUEV				eS	Sn	10 54 38.3	+0.9
GB1A	Borinquen Arri	1.05	79	⇑eP	Pn	10 54 22.7	0.0
GPS3	Bodega del ICE	1.08	83	⇑iP	Pb	10 54 22.9	+0.5
GPS2	Hotel Rincn d	1.09	83	⇑iP	Pb	10 54 23.1	+0.5
GPS1	Guardaparques	1.09	82	⇑iP	Pb	10 54 23.2	+0.5
GPS1				eS	Sn	10 54 38.6	-0.1
BUAI	Buenos Aires	1.13	77	⇑iP	Pn	10 54 24.2	+0.5
LIM1	Limonal	1.18	86	eP	Pg	10 54 24.4	+0.2
INDI	Punta indio, G	1.20	129	eP	Pg	10 54 23.4	-1.1
GUAB	Guayabo de Bag	1.21	86	⇑eP	Pg	10 54 24.9	+0.2
GUAB				eS	Sb	10 54 41.1	+0.7
COLC	Colonia	1.23	88	⇑eP	Pg	10 54 25.1	+0.1
COLC				eS	Sn	10 54 42.1	+0.1
MESS	Mesas	1.24	84	⇑iP	Pg	10 54 25.4	+0.1
HORNC	Hornillas	1.26	86	⇑eP	Pg	10 54 25.6	0.0
HORNC				eS	Sn	10 54 42.6	-0.1
CUI	Cuipilapa	1.27	88	⇑iP	Pn	10 54 25.8	+0.2
CUI				eS	Sn	10 54 42.9	0.0
VMAR	Armenia, Volca	1.32	82	eP	Pg	10 54 27.1	+0.2
ACAL	Aguas Claras	1.39	89	⇑iP	Pn	10 54 27.8	+0.5
ACAL				eS	Sg	10 54 46.8	+0.4
PTEN	Parque Tenorio	1.44	86	⇑iP	Pb	10 54 28.7	0.0
JTS	Las Juntas de	1.51	102	eP	Pn	10 54 28.8	-0.1
JTS	Las Juntas de	1.51	102	eP	Pn	10 54 28.9	-0.1
MGAN	Managua	1.53	8	eP	Pn	10 54 29.4	+0.2
COPN	Copaltepe	1.56	355	eP	Pn	10 54 29.6	+0.1
VERA	Finca Concepci	1.57	81	eP	Pb	10 54 30.6	-0.2
PACM	Arenal	1.66	95	eP	Pn	10 54 23.2	-7.9
CASO	Castillo	1.70	96	⇑eP	Pn	10 54 32.2	+0.6
CEDE	Laguna Cedeo	1.73	94	eP	Pn	10 54 32.7	+0.7
FORC	Fortuna	1.76	95	eP	Pn	10 54 33.2	+0.8
MOMN	Momotombo	1.78	357	eP	Pn	10 54 32.6	-0.1
ACON	Acoyapa	1.83	43	eP	Pn	10 54 33.5	+0.1
BOAB	BOACO BROADBAN	1.97	23	eP	Pn	10 54 35.4	+0.1
JACO	JACO, Garabito	2.01	118	eP	Pn	10 54 36.5	+0.8
MATN	Matagalpa	2.35	13	eP	Pn	10 54 40.7	+0.1
LCR2	La Lucha 2	2.56	110	eP	Pn	10 54 44.3	+0.7
ESPN	Las Esperanzas	2.63	53	eP	Pn	10 54 45.1	+0.8
CDM	Cerro de Muert	2.85	112	eP	Pn	10 54 48.6	+0.8
SRBA	San Rafael, Bu	3.34	114	eP	Pn	10 54 55.1	+0.8
CMIG	Matias Romero	10.41	309	Pn	Pn	10 56 33.5	+2.3
	0.5nm,0.3s,baz=152,slow=10,SNR=11						
	2.4nm,0.6s						
ATAH	Atahualpa	19.38	155	LR	LR	11 04 58.3	
	comp=Z,65nm,18.0s,baz=324,slow=33						
PCRV	Puerto La Cruz	21.46	89	LR	LR	11 09 25.2	
	comp=Z,31nm,19.7s,slow=44						
TXAR	Lajitas Array	24.60	322	P	P	10 59 21.9	-0.6
	1.9nm,0.7s,baz=137,slow=9.4,SNR=20						
TXAR				PcP	PcP	11 03 02.7	+2.3
	0.7nm,0.9s,baz=152,slow=5.7,SNR=5.8						
	1.9nm,0.7s						
ANMO	Albuquerque	30.31	326	P	P	11 00 14.3	+0.5
	1.1nm,0.9s,baz=145,slow=5.8,SNR=5.6						
	1.1nm,0.9s						
PDAR	Pinedale Array	37.84	332	P	P	11 01 17.1	-1.9
	0.4nm,0.6s,baz=122,slow=11,SNR=5.1						
	0.4nm,0.6s						
NVAR	Mina Array Bea	39.72	320	P	P	11 01 36.6	+1.7
	1.2nm,0.8s,baz=136,slow=7.4,SNR=8.8						
NVAR				PcP	PcP	11 03 43.7	+2.2
	1.3nm,0.7s,baz=136,slow=4.3,SNR=13						
	1.2nm,0.8s						
YBH	Yreka Blue Hor	44.38	321	LR	LR	11 23 07.3	
	comp=Z,104nm,18.1s,baz=288,slow=40						
BDFB	Brasilia	46.15	124	P	P	11 02 27.3	+0.2
	2.0nm,0.5s,baz=291,slow=9.4,SNR=4.6						
	2.0nm,0.5s						
SCHQ	Schefferville	46.76	15	P	P	11 02 27.3	-4.0
	3.7nm,0.7s,baz=205,slow=11,SNR=2.4						
	3.7nm,0.7s						
FRB	Frobisher Bay	54.55	10	LR	LR	11 26 15.3	
	comp=Z,46nm,20.0s,baz=38,slow=36						
RES	Resolute Bay	64.22	358	LR	LR	11 35 52.9	
	comp=Z,43nm,19.0s,baz=14,slow=40						
ILAR	Eielson Array	68.08	336	P	P	11 04 59.7	-1.9
	0.4nm,0.7s,baz=121,slow=3.2,SNR=5.4						
	0.4nm,0.7s						
ESDC	Sonseca Array	77.55	52	LR	LR	11 35 24.4	
	comp=Z,15nm,20.7s,baz=62,slow=32						
DAVOX	Davos/Dischmat	86.65	43	LR	LR	11 39 11.8	
	comp=Z,25nm,19.1s,baz=84,slow=32						

IDC 06 11:02:44.5±2.0, 18.°74N×145.°51E, h208km±21km, mb3.4/13, mbtmp4.0/15, Error ellipse: s-maj=22.3km s-min=11.7km az=88.0
NEIC 06 11:02:47.5±1.1, 18.°62N±0.°10×145.°1E±0.°2, h208km±10km, mb4.2/18, Error ellipse: s-maj=27.2km s-min=14.3km az=84.0

ISC 06 11:02:44.0±0.7, 18.°74N±0.°06×145.°5E±0.°2, h200km, n43, σ0.s96/37, mb4.0/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	5.16	187	P	Pn	11 04 02.2	+1.7
	24nm,0.3s,baz=315,slow=20,SNR=1.2						
GUMO				S	Sn	11 05 00.6	-0.3
	33nm,0.3s,baz=12,slow=23,SNR=1.8						
PATS	Pohnpei	17.19	132	P	Pn	11 06 42.5	+10
JGF	Kuroka	18.28	338	P	Pn	11 06 46.3	+1.0
MJAR	Matsushiro Arr	18.86	342	P	P	11 06 49.0	-0.2
	1.3nm,0.3s,baz=164,slow=9.9,SNR=8.2						
JMM	Marumori	19.50	349	P	Pn	11 06 59.2	-0.4
H11S3	WAKE ISLAND Hy	20.08	87	T	T	11 28 32.5	
	baz=275						
H11S1	WAKE ISLAND Hy	20.09	87	T	T	11 28 35.4	
	baz=275						
H11S2	WAKE ISLAND Hy	20.09	87	T	T	11 28 34.3	
	baz=275						
H11N1	WAKE ISLAND Hy	20.22	84	T	T	11 28 50.5	
	baz=265						
H11N2	WAKE ISLAND Hy	20.22	84	T	T	11 28 53.1	
	baz=265						
H11N3	WAKE ISLAND Hy	20.23	84	T	T	11 28 56.2	
	baz=265						
KSRS	Korea Array	24.18	324	P	P	11 07 40.4	-1.6
	1.1nm,0.8s,baz=142,slow=9.4,SNR=4.9						
	1.1nm,0.8s						
COEN	Coen	32.57	184	P	P	11 08 56.2	-0.4
COEN				IAmb	IAmb	11 09 09.4	
	comp=Z,4.5nm,1.0s						
MTN	Manton Dam	34.43	205	P	P	11 09 12.7	0.0
MTN				IAmb	IAmb	11 09 45.1	
	comp=Z,19nm,1.2s						
PETK	Petropavlovsk-	35.59	13	P	P	11 09 23.8	+1.5
	comp=Z,4.5nm,1.1s,baz=220,slow=3.8,SNR=1.6						
	comp=Z,4.5nm,1.1s						
KNRA	Kununurra	37.96	207	P	P	11 09 42.4	-0.3
KNRA				IAmb	IAmb	11 09 45.4	
	comp=Z,20nm,1.4s						
WB0	Warramunga Arr	39.79	196	P	P	11 09 58.1	+0.4
WB0				IAmb	IAmb	11 10 32.9	
	comp=Z,6.1nm,1.2s						
WR0	Warramunga Arr	39.93	196	P	P	11 09 59.1	+0.2
WR0				IAmb	IAmb	11 09 59.9	
	comp=Z,9.2nm,1.4s						
WRAB	Tennant Creek	39.96	196	P	P	11 09 59.7	+0.6
WRAB				IAmb	IAmb	11 10 03.9	
	comp=Z,5.0nm,1.1s						
WB2	Warramunga Arr	39.97	196	P	P	11 09 59.6	+0.4
WB2				IAmb	IAmb	11 10 00.8	
	comp=Z,7.4nm,1.1s						
WRA	Warramunga Arr	39.97	196	P	P	11 09 59.2	0.0
	comp=Z,1.3nm,0.3s,baz=21,slow=8.3,SNR=50						
	comp=Z,1.3nm,0.3s						
WRA	Warramunga Arr	39.97	196	P	P	11 09 59.4	+0.2
SONM	Songino Array	43.00	321	P	P	11 10 24.3	+0.5
	comp=Z,1.0nm,0.6s,baz=134,slow=8.4,SNR=6.9						
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	43.00	321	P	P	11 10 24.0	+0.2
AS31	Alice Springs	43.64	195	P	P	11 10 29.3	+0.4
ASAR	Alice Springs	43.64	195	P	P	11 10 28.8	-0.2
	comp=Z,0.4nm,0.5s,baz=12,slow=6.5,SNR=26						
	comp=Z,0.4nm,0.5s						
ASAR	Alice Springs	43.64	195	P	P	11 10 29.3	+0.4
GIRL	Giralia	51.24	218	P	P	11 11 26.1	-1.4
FORT	Forrest	52.01	199	P	P	11 11 33.3	+0.3
FORT				IAmb	IAmb	11 12 14.9	
	comp=Z,37nm,1.3s						
ZALV	Zalesovo Beam	57.87	323	P	P	11 12 14.1	-0.7
	comp=Z,0.7nm,0.4s,baz=113,slow=7.5,SNR=4.7						
	comp=Z,0.7nm,0.4s						
MK31	Makanchi Array	58.30	314	P	P	11 12 19.3	+1.3
MK31				IAmb	IAmb	11 13 00.2	
	comp=Z,9.1nm,1.5s						
MKAR	Makanchi Array	58.30	314	P	P	11 12 18.1	+0.2
	comp=Z,0.8nm,0.5s,baz=92,slow=7.6,SNR=9.4						
	comp=Z,0.8nm,0.5s						
MKAR	Makanchi Array	58.30	314	P	P	11 12 19.1	+1.1
KURBB	Kurchatov Arra	61.17	318	P	P	11 12 37.0	-0.3
	comp=Z,1.1nm,0.4s,baz=93,slow=7.5,SNR=11						
	comp=Z,1.1nm,0.4s						
ILAR	Eielson Array	63.69	26	P	P	11 12 53.1	-0.7
	comp=Z,0.5nm,0.7s,baz=253,slow=5.1,SNR=8.2						
	comp=Z,0.5nm,0.7s						
BMAR	Burnt Mountain	65.15	24	P	P	11 13 05.4	+2.1
BVAR	Borovoye Array	66.33	320	P	P	11 13 10.5	-0.5
	comp=Z,2.8nm,0.6s,baz=88,slow=8.0,SNR=9.9						
	comp=Z,2.8nm,0.6s						
KKAR	Karatay Array	66.60	310	P	P	11 13 13.8	+0.8
INK	Inuvik	69.41	23	P	P	11 13 30.0	+0.1
	comp=Z,0.3nm,0.3s,baz=324,slow=4.8,SNR=6.2						
	comp=Z,0.3nm,0.3s						
INK	Inuvik	69.41	23	P	P	11 13 31.1	+1.2
ABKAR	Akbulak array	73.19	317	P	P	11 13 53.1	+0.2
ABKAR				IAmb	IAmb	11 13 53.7	
	comp=Z,1.4nm,0.6s						
NVAR	Mina Array Bea	83.26	52	P	P	11 14 47.1	-1.5
	comp=Z,0.4nm,0.7s,baz=235,slow=5.2,SNR=3.6						
	comp=Z,0.4nm,0.7s						
FINES	FINESS Array B	86.77	335	P	P	11 15 03.1	-2.3
	comp=Z,2.4nm,0.9s,baz=57,slow=4.3,SNR=9.5						
	comp=Z,2.4nm,0.9s						

WEL 06 11:14:36.4±1.3, 35°S±11°×18°0E±2°2, h33km, M3.4/7, ML3.7/8, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.62	208	S	Sn	11 15 45.9	-1.2
WMGZ	Waiomatatini S	2.81	204	P	Pn	11 15 21.0	+1.9
WMGZ				S	Sb	11 15 57.2	-2.9
PKGZ	Pakihiroa	3.00	208	P	Pn	11 15 21.0	-0.7
PKGZ				S	Sn	11 15 57.0	+0.5
HAZ	Te Kaha	3.01	213	P	Pn	11 15 22.8	+1.2
PUZ	Puketiti	3.10	204	P	Pn	11 15 23.3	+0.4
PUZ				S	Sn	11 15 59.5	+0.6
RUGZ	Raukumara Rang	3.23	212	P	Pn	11 15 25.2	+0.3
MWZ	Matawai	3.60	210	P	Pn	11 15 29.8	0.0
MWZ				S	Sn	11 16 13.6	+2.3
OPRZ	Ohinepanea	3.71	225	P	Pn	11 15 30.9	-0.4
URZ	Urewera	3.72	215	P	Pn	11 15 31.0	-0.5
URZ				S	Sn	11 16 15.9	+1.7
RIGZ	Rimuhau	3.83	205	P	Pn	11 15 33.3	+0.2
RIGZ				S	Sn	11 16 16.8	-0.3
SNGZ	Shannon Statio	4.06	209	P	Pn	11 15 36.2	+0.1
RAHZ	Arahi	4.28	210	P	Pn	11 15 39.4	+0.2
TOZ	Tahuroa Road	4.29	233	P	Pn	11 15 39.2	-0.1
MTHZ	Maungataniwha	4.33	213	P	Pn	11 15 41.1	+1.2
BKZ	Black Stump Fm	4.74	213	P	Pn	11 15 43.3	-2.3
KAHZ	Kahuranaki	5.12	207	P	Pn	11 15 49.6	-1.2

KRNET 06 11:27:58.5±0.1, 41.°79N×79.°18E, mb2.8
SOME 06 11:27:59.4, 41.°70N×79.°08E, h15km
NNC 06 11:28:00.6±1.6, 41.°76N×79.°15E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=10.5km s-min=6.5km az=154.0

ISC 06 11:28:02.5±1.8, 41.°81N±0.°08×79.°11E±0.°05, h10km, n44, σ1.s32/77, 17C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UZB	Uzynbulak	1.33	357	eP	Pn	11 28 26.0	-1.3
	1.7nm,0.1s						
UZB				eS	Sg	11 28 45.3	-0.1
	22nm,0.1s						
UZB	Uzynbulak	1.33	357	P	Pn	11 28 26.0	-1.3
	1.7nm,0.1s						
UZB				S	Sg	11 28 45.3	-0.1
	22nm,0.1s						
SATY	Saty	1.35	338	eP	Pn	11 28 26.8	-0.7
	10nm,0.1s						
SATY				eS	Sg	11 28 46.5	+0.6
	88nm,0.1s						
SATY	Saty	1.35	338	P	Pn	11 28 26.8	-0.7
	10nm,0.1s						
SATY				S	Sg	11 28 46.5	+0.6
	88nm,0.1s						
ZHN	Zhinishke	1.44	340	eP	Pb	11 28 28.4	-1.1
	18nm,0.2s						
ZHN				eS	Sg	11 28 49.2	+0.3
	173nm,0.3s						
ZHN	Zhinishke	1.44	340	P	Pb	11 28 28.4	-1.1
	18nm,0.2s						
ZHN				S	Sg	11 28 49.2	+0.3
	173nm,0.3s						
PDGK	Podgornoye	1.54	10	P	Pb	11 28 29.7	-1.5
	7.1nm,0.2s						
PDGK				S	Sg	11 28 51.7	-0.4
	18nm,0.6s						
PDGK	Podgornoye	1.54	10	⇑P	Pb	11 28 29.7	-1.5
	5.2nm,0.4s						
PDGK				⇓S	Sg	11 28 52.2	+0.2
	19nm,0.5s						
KPKS	Kokpek	1.68	349	eP	Pb	11 28 32.5	-1.1
	21nm,0.2s						
KPKS				eS	Sg	11 28 56.5	0.0
	65nm,0.4s						
KPKS	Kokpek	1.68	349	P	Pb	11 28 32.5	-1.1
	21nm,0.2s						
KPKS				S	Sg	11 28 56.5	0.0
	65nm,0.4s						
KURS	Kuram	1.81	338	eP	Pb	11 28 34.7	-1.1
	7.6nm,0.5s						
KURS				eS	Sg	11 29 00.3	-0.4
	38nm,0.3s						
KURS	Kuram	1.81	338	Pg	Pb	11 28 34.7	-1.1
	7.6nm,0.5s						
KURS				Lg	Lg	11 29 00.3	
	38nm,0.3s						
TNSS	Tian-Shan	2.01	308	eP	Pb	11 28 37.2	-2.2
	16nm,0.4s						
TNSS				eS	Sb	11 29 04.7	+0.1
	39nm,0.2s						
TNSS	Tian-Shan	2.01	308	Pg	Pb	11 28 37.2	-2.2
	16nm,0.4s						
TNSS				Lg	Lg	11 29 04.7	
	39nm,0.2s						
MDOK	Medeo	2.03	312	eP	Pb	11 28 38.4	-1.2
	5.0nm,0.2s						
MDOK				eS	Sg	11 29 06.5	-1.3
	42nm,0.5s						

MDOK	**Medeo**	**2.03**	**312**	⇓P		**Pb**	**11 28 37.4**	**-2.2**
	5.0nm,0.6s							
MDOK				Pg		**Pb**	**11 28 38.4**	**-1.2**
	5.0nm,0.2s							
MDOK				⇑S		**Sb**	**11 29 05.3**	**+0.2**
	23nm,0.4s							
MDOK				Lg		Lg	11 29 06.5	
	42nm,0.5s							
KOTS	**Kotyrbulak**	**2.05**	**315**	*e*P		**Pb**	**11 28 38.1**	**-1.8**
	9.8nm,0.2s							
KOTS				*e*S		**Sb**	**11 29 06.1**	**+0.7**
	106nm,0.3s							
KOTS	**Kotyrbulak**	**2.05**	**315**	Pg		**Pb**	**11 28 38.1**	**-1.8**
	9.8nm,0.2s							
KOTS				Lg		Lg	11 29 06.1	
	106nm,0.3s							
ULHL	**Ulahol**	**2.18**	**282**	⇑*e*P		**Pn**	**11 28 39.0**	**0.0**
	baz=83							
ULHL				⇑*e*S		**Sb**	**11 29 08.7**	**-0.5**
	baz=83							
IZV	**Izvestkoviy**	**2.21**	**304**	*e*P		**Pb**	**11 28 41.6**	**-1.1**
	9.4nm,0.2s							
IZV				*e*S		**Sg**	**11 29 11.9**	**-1.7**
	99nm,0.5s							
IZV	**Izvestkoviy**	**2.21**	**304**	Pg		**Pb**	**11 28 41.6**	**-1.1**
	9.4nm,0.2s							
IZV				Lg		Lg	11 29 11.9	
	99nm,0.5s							
BLB	**Baldybastay**	**2.33**	**349**	*e*P		**Pb**	**11 28 43.9**	**-0.8**
	17nm,0.2s							
BLB				*e*S		**Sg**	**11 29 15.8**	**-1.5**
	70nm,0.4s							
BLB	**Baldybastay**	**2.33**	**349**	Pg		**Pb**	**11 28 43.9**	**-0.8**
	17nm,0.2s							
BLB				Lg		Lg	11 29 15.8	
	70nm,0.4s							
MTBS	**Maitube**	**2.38**	**304**	*e*P		**Pb**	**11 28 44.0**	**-1.4**
	5.1nm,0.2s							
MTBS				*e*S		**Sb**	**11 29 16.4**	**+1.6**
	8.3nm,0.4s							
MTBS	**Maitube**	**2.38**	**304**	Pg		**Pb**	**11 28 44.0**	**-1.4**
	5.1nm,0.2s							
MTBS				Lg		Lg	11 29 16.4	
	8.3nm,0.4s							
BOOM	**Boomskoye usch**	**2.45**	**287**	⇑*e*P		**Pn**	**11 28 42.9**	**+0.2**
	baz=87							
BOOM				⇑*e*S		**Sb**	**11 29 15.1**	**-1.9**
	baz=87							
DJR	**Jarkent**	**2.57**	**11**	*e*P		**Pb**	**11 28 47.9**	**-0.8**
	2.9nm,0.5s							
DJR				*e*S		**Sg**	**11 29 22.5**	**-2.4**
	31nm,0.5s							
DJR	**Jarkent**	**2.57**	**11**	Pg		**Pb**	**11 28 47.9**	**-0.8**
	2.9nm,0.5s							
DJR				Lg		Lg	11 29 22.5	
	31nm,0.5s							
KST	**Kastek**	**2.63**	**299**	*e*P		**Pb**	**11 28 48.1**	**-1.7**
	3.4nm,0.4s							
KST				*e*S		**Sb**	**11 29 23.1**	**+0.9**
	56nm,0.6s							
KST	**Kastek**	**2.63**	**299**	Pg		**Pb**	**11 28 48.1**	**-1.7**
	3.4nm,0.4s							
KST				Lg		Lg	11 29 23.1	
	56nm,0.6s							
TKM2	**Tokmak 2**	**2.83**	**294**	⇑*e*P		**Pn**	**11 28 48.0**	**+0.1**
	baz=94							
TKM2				⇑*e*S		**Sn**	**11 29 24.4**	**+2.3**
	baz=94							
TKM2	**Tokmak 2**	**2.83**	**294**	⇑Pn		**Pn**	**11 28 47.2**	**-0.7**
	2.1nm,0.5s							
TKM2				⇑Sn		**Sb**	**11 29 29.3**	**+1.4**
	14nm,0.4s							
DGS	**Degeres**	**2.85**	**301**	*e*P		**Pb**	**11 28 52.2**	**-1.2**
	4.0nm,0.6s							
DGS				*e*S		**Sb**	**11 29 30.1**	**+1.7**
	32nm,0.7s							
DGS	**Degeres**	**2.85**	**301**	Pg		**Pb**	**11 28 52.3**	**-1.2**
	4.0nm,0.6s							
DGS				Lg		Lg	11 29 30.1	
	32nm,0.7s							
KUU	**Kurty**	**2.91**	**317**	*e*P		**Pb**	**11 28 53.9**	**-0.5**
	1.7nm,0.3s							
KUU				*e*S		**Sg**	**11 29 33.1**	**-2.8**
	31nm,0.3s							
KUU	**Kurty**	**2.91**	**317**	Pg		**Pb**	**11 28 53.9**	**-0.5**
	1.7nm,0.3s							
KUU				Lg		Lg	11 29 33.1	
	31nm,0.3s							
KRBS	**Karabastau**	**3.15**	**308**	*e*P		**Pb**	**11 28 57.7**	**-0.9**
	3.1nm,0.4s							
KRBS				*e*S		**Sb**	**11 29 39.5**	**+2.5**
	14nm,0.5s							
KRBS	**Karabastau**	**3.15**	**308**	Pg		**Pb**	**11 28 57.7**	**-0.9**
	3.1nm,0.4s							
KRBS				Lg		Lg	11 29 39.5	
	14nm,0.5s							
KBK	**Karagaybulak**	**3.20**	**287**	⇑*e*P		**Pn**	**11 28 53.4**	**+0.4**
	baz=87							
KBK				⇑*e*S		**Sn**	**11 29 33.2**	**+1.9**
	baz=87							
UCH	**Uchtor**	**3.45**	**278**	⇓*e*P		**Pn**	**11 28 56.8**	**+0.2**
	baz=79							
UCH				⇓*e*S		**Sn**	**11 29 39.5**	**+1.7**
	baz=79							
AAK	**Ala-Archa**	**3.52**	**285**	⇑*i*P		**Pn**	**11 28 57.9**	**+0.5**
	baz=85							
AAK				⇑*e*S		**Sn**	**11 29 40.9**	**+1.7**
	baz=85							
SGDS	**Sogindy**	**3.69**	**298**	*e*P		**Pb**	**11 29 06.6**	**-1.1**
	1.8nm,0.5s							
SGDS				*e*S		**Sb**	**11 29 54.6**	**+2.1**
	20nm,0.2s							
SGDS	**Sogindy**	**3.69**	**298**	Pg		**Pb**	**11 29 06.6**	**-1.1**
	1.8nm,0.5s							
SGDS				Lg		Lg	11 29 54.6	
	20nm,0.2s							
MK31	**Makanchi Array**	**5.48**	**24**	⇑Pn		**Pn**	**11 29 26.7**	**+2.6**
	0.1nm,0.1s,baz=206,slow=15,SNR=4.5							
MK31				⇑Sn		**Sn**	**11 30 26.4**	**-0.8**
	0.3nm,0.2s,baz=214,slow=23,SNR=3.4							
MK31				⇑Lg		Lg	11 30 49.9	
	0.2nm,0.2s,baz=82,slow=12,SNR=3.5							

*IDC **06** 11:47:26.8±1.6, 19°.87S×177°.55W, h566km±15km, mb3.1/9, mbtmp4.0/12, Error ellipse: s-maj=23.0km s-min=16.2km az=118.0*
*NEIC **06** 11:47:28.5±1.0, 19°.8S±0°.2×177°.7W±0°.2, h571km±17km, mb4.4/22, Error ellipse: s-maj=38.6km s-min=17.7km az=204.0*

ISC 06 11:47:26.3±0.5, 19°.77S±0°.09×177°.62W±0°.08, h550km, n48, σ1°.85/52, mb4.2/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.58**	**296**	P	**P**	**11 48 55.2**	**+2.3**
	29nm,0.5s,baz=140,slow=4.1,SNR=60						
MSVF				S	**S**	**11 50 08.4**	**+5.1**
	8.9nm,1.1s,baz=86,slow=17,SNR=1.0						
MSVF	**Nonsavu**	**4.58**	**296**	P	**P**	**11 48 56.0**	**+3.1**
NIUE	**Niue**	**7.29**	**86**	P	**P**	**11 49 20.2**	**+3.1**
AFI	**Afiamalu**	**8.07**	**45**	P	P	11 49 19.7	-5.2
	8.7nm,0.6s,baz=293,slow=18,SNR=0.9						
AFI				S	**S**	**11 50 58.6**	**-3.5**
	13nm,0.5s,baz=239,slow=22,SNR=1.4						
DZM	**Mont Dzumac**	**15.07**	**258**	P	**P**	**11 50 36.4**	**-0.3**
	1.5nm,0.6s,baz=94,slow=19,SNR=2.5						
KOUNC	**Koumac, New Ca**	**17.01**	**264**	P	**P**	**11 50 57.0**	**+1.8**
KOUNC				IAmb	IAmb	11 50 58.9	
	comp=Z,11nm,0.9s						
URZ	**Urewera**	**18.99**	**193**	P	**P**	**11 51 10.5**	**-2.6**
	comp=Z,22nm,1.0s,baz=21,slow=2.3,SNR=14						
BKZ	**Black Stump Fm**	**19.99**	**193**	P	**P**	**11 51 21.6**	**-0.7**
BKZ				IAmb	IAmb	11 51 48.9	
	comp=Z,24nm,1.3s						
QRZ	**Quartz Range**	**22.62**	**200**	P	**P**	**11 51 45.5**	**-0.3**
TUWZ	**Tuamarina**	**22.76**	**197**	P	**P**	**11 51 49.0**	**+2.0**
THZ	**Tophouse**	**23.36**	**198**	P	**P**	**11 51 52.0**	**-0.5**
LTZ	**Lake Taylor**	**24.48**	**198**	P	**P**	**11 52 01.7**	**-0.7**
WHZ	**Wether Hill Ro**	**28.65**	**201**	P	**P**	**11 52 40.4**	**+1.5**
CTAO	**Charters Tower**	**33.93**	**263**	P	**P**	**11 53 24.2**	**-0.2**
CTAO				IAmb	IAmb	11 53 24.9	
	comp=Z,8.3nm,0.5s						
COEN	**Coen**	**37.90**	**273**	P	**P**	**11 53 56.9**	**-0.4**
COEN				IAmb	IAmb	11 53 58.0	
	comp=Z,4.5nm,0.6s						
STKA	**Stephens Creek**	**38.44**	**243**	P	**P**	**11 54 00.4**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=91,slow=7.0,SNR=4.9						
	comp=Z,3.2nm,0.9s						
BBOO	**Buckleboo**	**43.20**	**243**	P	**P**	**11 54 38.5**	**-0.7**
BBOO				IAmb	IAmb	11 54 39.1	
	comp=Z,28nm,1.5s						
WR0	**Warramunga Arr**	**44.87**	**261**	P	**P**	**11 54 51.6**	**-0.8**
WR0				IAmb	IAmb	11 55 29.9	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**45.04**	**261**	P	**P**	**11 54 53.0**	**-0.6**
WB0				IAmb	IAmb	11 54 53.8	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**45.04**	**256**	P	**P**	**11 54 53.4**	**-0.3**
ASAR	**Alice Springs**	**45.04**	**256**	P	**P**	**11 54 53.3**	**-0.4**
	comp=Z,7.2nm,0.8s,baz=90,slow=7.7,SNR=106						
ASAR				PcP	**PcP**	**11 56 22.0**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=111,slow=4.0,SNR=6.1						
ASAR				S	**S**	**12 00 48.6**	**-4.2**
	comp=Z,0.4nm,0.8s,baz=93,slow=16,SNR=4.1						
	comp=Z,7.2nm,0.8s						
ASAR	**Alice Springs**	**45.04**	**256**	P	**P**	**11 54 52.5**	**-1.1**
WB2	**Warramunga Arr**	**45.05**	**261**	P	**P**	**11 54 52.7**	**-1.0**
WB2				IAmb	IAmb	11 54 53.8	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**45.05**	**261**	P	**P**	**11 54 52.3**	**-1.5**
WRAB				IAmb	IAmb	11 54 53.8	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**45.06**	**261**	P	**P**	**11 54 52.5**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=98,slow=7.9,SNR=75						
WRA				PcP	**PcP**	**11 56 20.1**	**-2.8**
	comp=Z,0.5nm,1.0s,baz=92,slow=3.5,SNR=1.6						
	comp=Z,2.3nm,0.6s						
WRA	**Warramunga Arr**	**45.06**	**261**	P	**P**	**11 54 53.1**	**-0.7**
MTN	**Manton Dam**	**49.52**	**270**	P	**P**	**11 55 26.8**	**-0.5**
MTN				IAmb	IAmb	11 55 37.4	
	comp=Z,19nm,1.4s						
FORT	**Forrest**	**49.92**	**246**	P	**P**	**11 55 28.6**	**-1.4**
KNRA	**Kununurra**	**51.07**	**266**	P	**P**	**11 55 37.9**	**-0.7**
KNRA				IAmb	IAmb	11 55 55.6	
	comp=Z,46nm,1.4s						
PSA00	**Pilbara Seismi**	**58.19**	**256**	P	**P**	**11 56 27.3**	**-1.1**
VNDA	**Vanda**	**58.67**	**185**	P	**P**	**11 56 31.1**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=348,slow=5.1,SNR=4.0						
	comp=Z,0.7nm,0.7s						
VNDA	**Vanda**	**58.67**	**185**	P	**P**	**11 56 31.5**	**+0.8**
MJAR	**Matsushiro Arr**	**69.84**	**323**	P	**P**	**11 57 41.8**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=162,slow=5.9,SNR=7.5						
	comp=Z,1.6nm,0.6s						
QSPA	**South Pole Qui**	**70.30**	**180**	P	**P**	**11 57 45.8**	**+1.3**
QSPA				IAmb	IAmb	11 57 47.1	
	comp=Z,2.6nm,0.9s						
BELA	**Belgrano 2**	**80.24**	**173**	P	**P**	**11 58 39.8**	**+0.3**
NVAR	**Mina Array Bea**	**80.25**	**43**	P	**P**	**11 58 38.4**	**-2.1**
	comp=Z,0.2nm,0.6s,baz=186,slow=2.7,SNR=4.0						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**87.52**	**13**	P	**P**	**11 59 13.4**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=214,slow=6.0,SNR=7.5						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**88.18**	**43**	P	**P**	**11 59 19.5**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=174,slow=2.4,SNR=3.4						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**90.21**	**289**	P	**P**	**11 59 30.1**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=147,slow=1.9,SNR=6.2						
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**128.27**	**350**	PKP	**PKPdf**	**12 05 29.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=354,slow=1.2,SNR=4.6						
AKASG	**Malin Array Be**	**142.54**	**332**	PKP	**PKPdf**	**12 05 53.0**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=46,slow=4.2,SNR=5.2						
BRTR	**Keskin Array B**	**146.61**	**313**	PKPbc	**PKPdf**	**12 06 06.2**	**+1.9**
	comp=Z,1.1nm,0.6s,baz=130,slow=3.8,SNR=4.8						
CLL	**Collm**	**147.43**	**348**	*e*PKPbc	**PKPdf**	**12 06 09.0**	**+3.9**
DPC	**Dobruska-Polom**	**147.53**	**343**	*e*PKP	**PKPbc**	**12 06 09.6**	**+0.7**
PRU	**Pruhonice**	**148.32**	**345**	*e*PKP	**PKPbc**	**12 06 11.2**	**+0.4**
KHC	**Kasperske Hory**	**149.35**	**346**	*e*PKP	**PKPbc**	**12 06 13.5**	**+0.1**
CKRC	**Cesky Krumlov**	**149.46**	**344**	*e*PKP	**PKPbc**	**12 06 14.3**	**+0.7**
GERES	**GERESS Array B**	**149.59**	**345**	PKPbc	**PKPbc**	**12 06 13.4**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=41,slow=2.6,SNR=11						

*DNK **06** 12:12:14.5±2.6, 78°.91N×1°.66E, h0km±58km, ML1.8*

IEPN 06 12:12:15.0, 78°.37N×5°.04E, h10km, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**2.32**	**89**	⇑*i*P	Pn	12 12 52.3	-0.9
SPA0				*i* S	Sn	12 13 20.0	-1.7
HSPB	**Hornsund (broa**	**2.63**	**116**	*e*P	Pn	12 12 59.0	+1.6
HSPB				*i* S	Sn	12 13 30.5	+1.1
NOR	**Nord**	**4.95**	**321**	*i* P	Pn	12 13 17.0	-12
NOR				*i* S	Sn	12 14 05.8	-21
NOR				IAML		12 14 07.7	
	comp=Z,2.6nm,0.5s						
DAG	**Danmarks Havn**	**5.34**	**264**	*i* P	Pn	12 13 27.4	-7.1
DAG				*i* S	Sn	12 14 21.3	-15
DAG				IAML		12 14 26.2	
	comp=Z,4.9nm,0.5s						
DBG	**Daneborg**	**7.17**	**248**	*i* P	Pn	12 13 53.9	-5.8
DBG				*i* S	Sn	12 15 07.8	-13
DBG				IAML		12 15 29.0	
	comp=Z,4.3nm,0.9s						
ZFI2	**Zemlya Franca-**	**7.92**	**52**	P	Pn	12 14 02.3	-7.5
ZFI2				*e*S	Sn	12 15 23.5	-16
ZFI	**Zemlya Franca-**	**7.92**	**52**	*e*P	Pn	12 14 02.3	-7.6
ZFI				*e*S	Sn	12 15 24.1	-15
OMEGA	**Omega**	**7.93**	**52**	*e*P	Pn	12 14 02.3	-7.8
OMEGA				*e*S	Sn	12 15 24.2	-15
	comp=Z,22nm,1.4s						
NEEM	**North Greenlan**	**11.41**	**293**	*i* P	Pn	12 14 43.8	-14
NEEM				*e*S	Sn	12 16 32.4	-33

*ROM **06** 12:13:24.6±0.0, 42°.813N±0°.002×13°.129E±0°.003, h11km, ML2.8/35, Error ellipse: s-maj=0.2km s-min=0.1km az=70.0*
*PRU **06** 12:13:27.8±0.0, 42°.82N×14°.04E, h10km*

ISC 06 12:13:25.0±0.8, 42°.80N±0°.02×13°.12E±0°.02, h12km±4km, n51, σ0s97/72, 19C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.03**	**350**	⇓P	**Pg**	**12 13 26.9**	**-0.6**
NRCA				S	**Sg**	**12 13 28.1**	**-1.0**
NRCA				AML	AML		
	comp=E,80400μm,0.2s						
NRCA				AML	AML		
	comp=N,83900μm,0.1s						
NRCA				AML	AML		
	comp=N,83850μm,0.2s						
NRCA				AML	AML		
	comp=E,87450μm,0.2s						
NRCA				AML	AML		
	comp=N,83800μm,0.1s						
NRCA				AML	AML		
	comp=N,88900μm,0.1s						
T1245	**Castelsantange**	**0.07**	**41**	P	**Pg**	**12 13 27.2**	**-0.6**
T1245				S	**Sg**	**12 13 28.8**	**-1.0**
T1245				AML	AML		
	comp=N,58150μm,0.3s						
T1245				AML	AML		
	comp=E,53850μm,0.6s						
T1245				AML	AML		
	comp=E,55150μm,0.6s						
T1245				AML	AML		
	comp=N,58100μm,0.3s						
T1245				AML	AML		
	comp=N,54650μm,0.3s						
T1245				AML	AML		
	comp=E,55150μm,0.6s						
T1245				AML	AML		
	comp=N,58100μm,0.3s						
T1216	**Preci, Frazion**	**0.12**	**320**	⇓P	**Pg**	**12 13 28.0**	**-0.2**
T1216				S	**Sg**	**12 13 30.3**	**-0.2**
T1216				AML	AML		
	comp=N,18350μm,1.5s						
T1216				AML	AML		
	comp=E,10525μm,0.7s						
T1216				AML	AML		
	comp=N,18350μm,1.4s						
T1216				AML	AML		
	comp=E,10505μm,0.7s						
T1202	**Accumoli, Fraz**	**0.12**	**142**	⇑P	**Pg**	**12 13 28.3**	**-0.1**
T1202				S	**Sg**	**12 13 30.9**	**+0.2**
T1217	**Poggiodomo (PG**	**0.17**	**238**	⇑P	**Pg**	**12 13 29.0**	**+0.1**
T1217				S	**Sg**	**12 13 32.1**	**+0.4**
T1217				AML	AML		
	comp=E,5065μm,0.3s						
T1217				AML	AML		
	comp=N,6730μm,0.4s						
T1217				AML	AML		
	comp=E,5020μm,0.3s						
T1217				AML	AML		
	comp=N,6600μm,0.4s						
T1217				AML	AML		
	comp=E,5065μm,0.3s						
T1217				AML	AML		
	comp=N,6725μm,0.4s						
T1217				AML	AML		
	comp=E,5025μm,0.3s						
FEMA	**Monte Fema**	**0.17**	**342**	⇑P	**Pg**	**12 13 28.9**	**-0.2**
FEMA				S	**Sg**	**12 13 31.8**	**-0.1**
FEMA				AML	AML		
	comp=E,11080μm,0.5s						
FEMA				AML	AML		
	comp=N,9155μm,0.3s						
FEMA				AML	AML		
	comp=E,11105μm,0.5s						
FEMA				AML	AML		
	comp=N,9175μm,0.3s						
FEMA				AML	AML		
	comp=N,9170μm,0.3s						
FEMA				AML	AML		
	comp=E,11095μm,0.5s						
MMO1	**Montemonaco**	**0.18**	**57**	⇑P	**Pg**	**12 13 28.9**	**-0.3**
MMO1				S	**Sg**	**12 13 32.0**	**-0.1**
T1215	**Vallo di Nera,**	**0.19**	**270**	⇑P	**Pg**	**12 13 29.2**	**0.0**
T1215				S	**Sg**	**12 13 32.4**	**+0.3**
T1215				AML	AML		
	comp=N,4420μm,0.2s						
T1215				AML	AML		
	comp=E,3780μm,1.1s						
T1215				AML	AML		
	comp=N,4315μm,0.2s						
T1215				AML	AML		
	comp=E,3515μm,1.1s						
T1215				AML	AML		
	comp=N,4415μm,0.2s						
T1215				AML	AML		
	comp=E,3785μm,1.1s						
T1215				AML	AML		
	comp=N,4310μm,0.2s						
T1215				AML	AML		
	comp=E,3510μm,1.2s						
T1215				AML	AML		
	comp=E,3790μm,1.1s						
T1204	**Amatrice, Fraz**	**0.19**	**131**	⇓P	**Pg**	**12 13 29.4**	**+0.1**
T1204				S	**Sg**	**12 13 32.6**	**+0.3**
T1204				AML	AML		
	comp=E,3945μm,0.2s						
T1204				AML	AML		
	comp=N,2965μm,0.2s						
T1204				AML	AML		
	comp=E,3940μm,0.2s						
T1204				AML	AML		
	comp=N,2960μm,0.2s						
LNSS	**Leonessa**	**0.21**	**197**	⇑P	**Pg**	**12 13 29.7**	**+0.1**
LNSS				S	**Sg**	**12 13 33.7**	**+0.9**
LNSS				AML	AML		
	comp=E,3485μm,1.4s						
LNSS				AML	AML		
	comp=N,12100μm,0.2s						
T1256	**Bolognola (MC)**	**0.22**	**20**	P	**Pg**	**12 13 29.6**	**-0.3**
T1256				AML	AML		
	comp=N,7490μm,0.2s						
T1256				AML	AML		
	comp=E,6130μm,0.8s						
T1256				AML	AML		
	comp=E,6120μm,0.8s						
T1256				AML	AML		
	comp=N,7485μm,0.2s						
T1256				AML	AML		
	comp=N,7050μm,0.2s						
T1256				AML	AML		
	comp=E,6125μm,0.8s						
SMA1	**SAN MARTINO**	**0.23**	**137**	⇓P	**Pg**	**12 13 30.1**	**0.0**
SMA1				S	**Sg**	**12 13 34.0**	**+0.6**
SMA1				AML	AML		
	comp=E,3045μm,0.3s						
SMA1				AML	AML		
	comp=E,3040μm,0.3s						
SMA1				AML	AML		
	comp=N,3035μm,0.4s						
T1241	**Roccafluvione,**	**0.23**	**76**	⇓P	**Pg**	**12 13 29.3**	**-0.8**
T1241				AML	AML		
	comp=E,5340μm,0.9s						
T1241				AML	AML		
	comp=N,3970μm,0.4s						
T1241				AML	AML		
	comp=E,5340μm,0.9s						
FDMO	**Fiordimonte**	**0.24**	**354**	⇑P	**Pg**	**12 13 29.9**	**-0.2**
FDMO				S	**Sg**	**12 13 33.6**	**+0.1**
FDMO				AML	AML		
	comp=E,2870μm,0.9s						
FDMO				AML	AML		
	comp=N,4335μm,0.3s						
AM05	**Amandola Campo**	**0.24**	**44**	P	**Pg**	**12 13 30.1**	**-0.2**
AM05				S	**Sg**	**12 13 33.5**	**-0.2**
AM05				AML	AML		
	comp=E,1510μm,1.4s						
AM05				AML	AML		
	comp=N,1935μm,0.1s						
AM05				AML	AML		
	comp=E,6600μm,0.7s						
AM05				AML	AML		
	comp=N,677μm,0.1s						
AM05				AML	AML		
	comp=E,6605μm,0.7s						
CESI	**CESI - Serrava**	**0.26**	**322**	⇑P	**Pg**	**12 13 30.4**	**-0.1**
CESI				S	**Sb**	**12 13 34.6**	**-1.6**
CESI				AML	AML		
	comp=N,2975μm,0.3s						
CESI				AML	AML		
	comp=E,2655μm,0.4s						
CSP1	**Cessapalombo**	**0.30**	**12**	⇑P	**Pg**	**12 13 30.9**	**-0.3**
CSP1				AML	AML		
	comp=E,4100μm,0.9s						
CSP1				AML	AML		
	comp=E,4105μm,0.9s						
CSP1				AML	AML		
	comp=N,3555μm,0.2s						
CSP1				AML	AML		
	comp=N,3550μm,0.2s						
CSP1				AML	AML		
	comp=E,4095μm,0.9s						
RM33	**Pellescritta (**	**0.30**	**167**	P	**Pg**	**12 13 31.3**	**0.0**
RM33				S	**Sb**	**12 13 36.3**	**-1.0**
RM33				AML	AML		
	comp=E,1850μm,1.4s						
RM33				AML	AML		
	comp=N,2050μm,0.2s						
RM33				AML	AML		
	comp=E,1790μm,1.4s						
RM33				AML	AML		
	comp=N,2015μm,0.2s						
RM33				AML	AML		
	comp=N,2045μm,0.2s						
RM33				AML	AML		
	comp=N,2020μm,0.2s						
RM33				AML	AML		
	comp=E,1795μm,1.4s						
RM33				AML	AML		
	comp=E,1850μm,1.4s						
RM33				AML	AML		
	comp=N,2045μm,0.2s						
CAMP	**Campotosto**	**0.34**	**141**	⇓P	**Pg**	**12 13 31.8**	**-0.2**
CAMP				AML	AML		
	comp=E,890μm,0.2s						
CAMP				AML	AML		
	comp=N,620μm,0.6s						
CAMP				AML	AML		
	comp=N,620μm,0.6s						
ARRO	**Arrone**	**0.34**	**230**	P	**Pg**	**12 13 31.2**	**-0.7**
ARRO				AML	AML		
	comp=E,1265μm,0.2s						
ARRO				AML	AML		
	comp=E,1260μm,0.2s						
ARRO				AML	AML		
	comp=N,1415μm,1.5s						
SEF1	**Sefro**	**0.37**	**340**	⇑P	**Pg**	**12 13 32.3**	**-0.2**
SEF1				AML	AML		
	comp=E,4180μm,0.2s						
SEF1				AML	AML		
	comp=N,3895μm,1.0s						
SEF1				AML	AML		
	comp=N,3895μm,1.0s						

SEF1 AML AML
comp=E,4180μm,0.2s
T1247 **Pizzolo (AQ)** **0.38 160** ⇑P **Pg** **12 13 32.6 -0.1**
T1247 AML AML
comp=E,1595μm,0.2s
T1247 AML AML
comp=N,1405μm,0.2s
TERO **Teramo** **0.40 116** P **Pg** **12 13 31.4 -1.6**
ASSB **Assisi San Ben** **0.42 306** ⇑P **Pg** **12 13 33.2 -0.2**
ASSB AML AML
comp=N,780μm,0.1s
ASSB AML AML
comp=E,616μm,0.3s
MNTP **Montappone** **0.42 37** ⇓P **Pb** **12 13 34.1 -0.4**
MNTP AML AML
comp=E,3660μm,0.6s
MNTP AML AML
comp=N,3050μm,1.3s
MNTP AML AML
comp=N,3045μm,1.3s
MNTP AML AML
comp=E,3665μm,0.6s
OFFI **Offida** **0.44 72** ⇓P **Pb** **12 13 34.3 -0.3**
CESX **Cesi** **0.44 245** ⇑P **Pg** **12 13 33.6 -0.2**
CESX AML AML
comp=E,1345μm,1.3s
CESX AML AML
comp=N,1013μm,0.3s
SNTG **Esanatoglia** **0.47 344** ⇑P **Pg** **12 13 34.0 -0.4**
SNTG S **Sb** **12 13 42.0 -0.3**
SNTG AML AML
comp=E,941μm,0.1s
SNTG AML AML
comp=E,965μm,0.1s
SNTG AML AML
comp=N,797μm,0.3s
SNTG AML AML
comp=N,786μm,1.5s
SNTG AML AML
comp=E,969μm,0.1s
SNTG AML AML
comp=N,796μm,0.3s
SNTG AML AML
comp=E,940μm,0.1s
GIGS **Gran Sasso** **0.48 137** P **Pg** **12 13 33.4 -1.2**
GIGS AML AML
comp=E,196μm,0.3s
GIGS AML AML
comp=N,190μm,0.4s
GIGS AML AML
comp=E,196μm,0.3s
GIGS AML AML
comp=N,190μm,0.4s
ATCC **AVT- Casa Cast** **0.52 318** ⇓P **Pb** **12 13 35.2 -0.9**
ATCC AML AML
comp=E,722μm,1.4s
ATCC AML AML
comp=N,529μm,0.5s
EL6 **Elcito** **0.53 358** P **Pg** **12 13 35.0 -0.4**
EL6 S **Sb** **12 13 44.0 +0.1**
FIAM **Fiamignano** **0.53 180** ⇑P **Pg** **12 13 35.0 -0.5**
FIAM S **Sb** **12 13 44.0 0.0**
FIAM AML AML
comp=N,580μm,1.1s
FIAM AML AML
comp=E,558μm,0.3s
FOSV **Fossato di Vic** **0.56 332** ⇑P **Pg** **12 13 35.7 -0.3**
FOSV AML AML
comp=N,468μm,1.0s
FOSV AML AML
comp=E,351μm,0.5s
TRTR **Tortoreto Alta** **0.58 89** P **Pb** **12 13 37.2 +0.1**
TRTR AML AML
comp=E,2175μm,0.9s
TRTR AML AML
comp=N,2130μm,1.6s
TRTR AML AML
comp=E,2170μm,0.9s
FAGN **Fagnano** **0.64 147** ⇓P **Pg** **12 13 36.7 -0.7**
FAGN AML AML
comp=N,698μm,0.5s
FAGN AML AML
comp=E,853μm,0.5s
MMUR **Monte Murano** **0.65 352** S **Sb** **12 13 47.0 -0.3**
PP3 **Marolino** **0.68 32** ⇑P **Pb** **12 13 39.0 +0.2**
PP3 S **Sn** **12 13 50.0 -0.9**
PP3 AML AML
comp=E,2420μm,0.3s
PP3 AML AML
comp=N,2855μm,0.4s
PP3 AML AML
comp=E,2205μm,0.4s
PP3 AML AML
comp=N,3020μm,0.3s
PP3 AML AML
comp=E,2420μm,0.4s
PP3 AML AML
comp=N,2855μm,0.4s
SSFR **Montelago di S** **0.68 339** S **Sb** **12 13 49.0 +0.7**
ARVD **Arcevia** **0.71 349** ⇑P **Pg** **12 13 38.1 -0.7**
ARVD S **Sn** **12 13 50.0 -1.7**
ARVD AML AML
comp=N,306μm,1.2s
ARVD AML AML
comp=E,372μm,0.8s
SRES **S.Oreste - Sor** **0.72 219** ⇓P **Pg** **12 13 37.4 -1.7**
SRES AML AML
comp=N,214μm,0.3s
SRES AML AML
comp=E,213μm,0.3s
T0110 **Collepietro** **0.75 140** P **Pg** **12 13 38.8 -0.8**
T0110 AML AML
comp=N,404μm,1.4s
T0110 AML AML
comp=E,484μm,0.4s
ATPI **Pietralunga -** **0.84 321** ⇑P **Pb** **12 13 41.0 -0.5**
ATPI AML AML
comp=E,133μm,1.6s
ATPI AML AML
comp=N,160μm,0.5s
ATPI AML AML
comp=E,133μm,1.6s
ATPI AML AML
comp=N,160μm,0.5s
SF04 **Casetta** **1.08 272** P **Pn** **12 13 46.4 +0.4**
LAV9 **Lanuvio** **1.17 196** S **Sb** **12 14 02.0 -0.1**
ABTA **Abfaltersbach** **3.97 354** *e*Pn **Pn** **12 14 24.7 -1.0**
comp=N,0.8nm,0.2s
SQTA **Sankt Quirin** **4.62 344** *e*Pn **Pn** **12 14 38.1 +3.4**
comp=N,0.5nm,0.2s
WATA **Walderalm** **4.66 347** *e*Pn **Pn** **12 14 37.3 +1.9**
comp=N,0.5nm,0.2s
BIOA **Bad Ischl, Aus** **4.90 4** *e*Pn **Pn** **12 14 41.4 +2.9**
comp=N,0.7nm,0.2s
MOA **Molln** **5.11 9** *e*Pn **Pn** **12 14 43.3 +1.9**
comp=N,0.1nm,0.2s
CONA **Conrad Observa** **5.48 20** *e*Pn **Pn** **12 14 48.0 +1.5**
comp=N,0.2nm,0.2s
KHC **Kasperske Hory** **6.34 3** *e*PN **Pn** **12 15 01.1 +2.9**
KHC *e*SN **Sn** **12 16 10.0 -0.5**

IDC 06 12:24:12.8±2.1, 9°23S×127°84E, h0km, mb3.5/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=147.3km s-min=29.1km az=61.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.36**	**150**	Pn	Pn	12 27 09.9	-0.3
	0.2nm,0.3s,baz=325,slow=13,SNR=18						
WRA				Sn	Sn	12 29 32.1	+3.3
	0.3nm,0.3s,baz=329,slow=23,SNR=8.6						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**15.48**	**159**	Pn	Pn	12 27 52.1	-0.6
	0.1nm,0.3s,baz=342,slow=12,SNR=10						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**68.95**	**328**	P	P	12 35 20.0	+0.1
	0.4nm,0.8s,baz=112,slow=7.2,SNR=1.5						
	0.4nm,0.8s						

ROM 06 12:30:57.1±0.0, 42°73N×0°001×13°303E±0°003, h15km, ML2.7/12, 9C-8D, Error ellipse: s-maj=0.2km s-min=0.0km az=254.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

T1202 **Accumoli, Fraz** **0.09 220** P Pg 12 31 00.7 +0.2
T1202 S Sg 12 31 03.3 +0.6
T1204 **Amatrice, Fraz** **0.10 174** P Pg 12 31 00.8 +0.2
T1204 S Sg 12 31 03.1 +0.2
T1204 **Amatrice, Fraz** **0.10 174** P Pg 12 31 00.8 +0.2
T1204 S Sg 12 31 03.0 +0.2
T1245 **Castelsantange** **0.12 315** P Pg 12 31 01.0 +0.1
T1245 S Sg 12 31 03.5 +0.1
T1245 **Castelsantange** **0.12 315** P Pg 12 31 00.9 +0.1
T1245 S Sg 12 31 03.5 +0.2
T1201 **Domo (RI)** **0.12 198** P Pb 12 31 01.2 0.0
T1201 S Sb 12 31 03.9 +0.1
T1241 **Roccafluvione,** **0.13 48** P Pg 12 31 01.0 +0.1
T1241 S Sb 12 31 03.8 -0.2
T1241 AML AML
comp=E,8230μm,0.2s
T1241 AML AML
comp=N,14300μm,0.5s
T1241 AML AML
comp=E,7910μm,0.2s
T1241 AML AML
comp=E,7915μm,0.2s
T1241 AML AML
comp=N,14450μm,0.5s
T1241 **Roccafluvione,** **0.13 48** P Pb 12 31 01.1 -0.2
T1241 S Sb 12 31 03.7 -0.3
MMO1 **Montemonaco** **0.13 8** P Pg 12 31 01.1 +0.2
MMO1 S Sg 12 31 03.7 +0.3
MMO1 **Montemonaco** **0.13 8** P Pg 12 31 01.1 +0.2
MMO1 S Sg 12 31 03.7 +0.3
NRCA **Norcia** **0.15 294** P Pg 12 31 01.4 +0.2
NRCA S Sg 12 31 04.1 +0.2
NRCA **Norcia** **0.15 294** P Pg 12 31 01.4 +0.1
NRCA S Sg 12 31 04.1 +0.2
AM05 **Amandola Campo** **0.21 10** P Pb 12 31 02.4 -0.2
AM05 S Sb 12 31 06.1 -0.3
T1246 **Crognaleto (TE** **0.24 143** P Pg 12 31 02.7 +0.3
T1246 S Sb 12 31 06.7 -0.5
T1216 **Preci, Frazion** **0.24 300** S Sg 12 31 02.0 -4.1
T1216 P Pg 12 31 02.6 +0.1
T1216 **Preci, Frazion** **0.24 300** S Sg 12 31 06.6 +0.5
T1256 **Bolognola (MC)** **0.24 346** P Pg 12 31 02.8 +0.2
T1256 S Sg 12 31 06.8 +0.5
T1256 **Bolognola (MC)** **0.24 346** P Pg 12 31 02.8 +0.2
T1256 S Sb 12 31 06.9 -0.5
CAMP **Campotosto** **0.25 162** P Pg 12 31 02.9 +0.2
CAMP S Sb 12 31 07.0 -0.5
CAMP **Campotosto** **0.25 162** P Pg 12 31 02.9 +0.2
CAMP S Sg 12 31 07.0 +0.5
LNSS **Leonessa** **0.26 229** P Pg 12 31 03.0 +0.1
LNSS S Sb 12 31 07.3 -0.5
LNSS AML AML
comp=E,3860μm,1.4s
LNSS AML AML
comp=E,3865μm,1.4s
LNSS AML AML
comp=N,7435μm,0.1s
LNSS **Leonessa** **0.26 229** P Pg 12 31 03.0 +0.2
LNSS S Sb 12 31 07.4 -0.4
FEMA **Monte Fema** **0.27 316** ⇑P Pb 12 31 03.4 -0.3
FEMA **Monte Fema** **0.27 316** ⇑P Pb 12 31 03.4 -0.3
FEMA AML AML
comp=E,9830μm,1.4s
FEMA AML AML
comp=N,4555μm,0.6s
FEMA AML AML
comp=E,8552μm,0.3s
TERO **Teramo** **0.27 124** P Pg 12 31 03.1 +0.2
TERO S Sb 12 31 07.5 -0.5
TERO **Teramo** **0.27 124** P Pg 12 31 03.2 +0.2
TERO S Sb 12 31 07.5 -0.5
RM33 **Pellescritta (** **0.27 194** P Pg 12 31 03.2 +0.2
RM33 S Sb 12 31 07.9 -0.3
RM33 **Pellescritta (** **0.27 194** P Pg 12 31 03.3 +0.2
RM33 S Sb 12 31 07.8 -0.4
T1217 **Poggiodomo (PG** **0.28 258** P Pg 12 31 03.4 +0.2
T1217 S Sb 12 31 08.0 -0.5
T1217 **Poggiodomo (PG** **0.28 258** P Pg 12 31 03.3 +0.2
T1217 S Sb 12 31 08.0 -0.5
FDMO **Fiordimonte** **0.31 329** P Pg 12 31 03.7 +0.1
FDMO S Sb 12 31 08.9 -0.3
FDMO **Fiordimonte** **0.31 329** P Pg 12 31 03.8 +0.1
FDMO S Sb 12 31 08.8 -0.4
T1215 **Vallo di Nera,** **0.32 275** ⇓P Pg 12 31 04.0 +0.1
T1215 AML AML
comp=E,1725μm,0.5s
T1215 AML AML
comp=N,1840μm,0.1s
T1215 AML AML
comp=E,1730μm,0.5s
T1215 AML AML
comp=N,1840μm,0.1s
T1215 AML AML
comp=E,1730μm,0.5s
T1215 AML AML
comp=N,1840μm,0.1s
T1215 **Vallo di Nera,** **0.32 275** ⇓P Pg 12 31 04.0 +0.1
OFFI **Offida** **0.33 60** P Pb 12 31 05.2 +0.6
OFFI S Sn 12 31 11.9 -1.9
CSP1 **Cessapalombo** **0.33 347** P Pg 12 31 04.2 +0.2
CSP1 S Sb 12 31 09.7 -0.2
CSP1 **Cessapalombo** **0.33 347** ⇑P Pg 12 31 04.2 +0.2
CSP1 S Sb 12 31 09.6 -0.2
T1247 **Pizzolo (AQ)** **0.33 181** P Pg 12 31 04.2 +0.2
T1247 S Sb 12 31 09.9 0.0
T1247 **Pizzolo (AQ)** **0.33 181** P Pg 12 31 04.2 +0.2
T1247 S Sb 12 31 09.8 -0.1
CESI **CESI - Serrava** **0.37 309** ⇑P Pg 12 31 05.0 +0.2
CESI AML AML
comp=E,3585μm,0.2s
CESI AML AML
comp=N,5665μm,0.3s
CESI AML AML
comp=E,3590μm,0.2s
CESI AML AML
comp=N,5665μm,0.3s
CESI AML AML
comp=N,5665μm,0.3s
CESI AML AML
comp=E,3590μm,0.2s
CESI **CESI - Serrava** **0.37 309** ⇑P Pg 12 31 05.0 +0.2
GIGS **Gran Sasso** **0.38 149** P Pg 12 31 05.0 +0.1
GIGS S Sg 12 31 10.6 +0.5
GIGS **Gran Sasso** **0.38 149** P Pg 12 31 04.9 +0.1
GIGS S Sg 12 31 10.6 +0.5
AQU **L'Aquila** **0.42 170** P Pg 12 31 05.7 0.0
ARRO **Arrone** **0.44 244** ⇑P Pg 12 31 06.0 0.0
ARRO **Arrone** **0.44 244** ⇑P Pg 12 31 06.0 0.0
ARRO AML AML
comp=E,1530μm,0.2s
ARRO AML AML
comp=N,1575μm,0.2s
ARRO AML AML
comp=E,1530μm,0.2s
ARRO AML AML
comp=N,1570μm,0.2s
ARRO AML AML
comp=E,1530μm,0.2s
ARRO AML AML
comp=N,1570μm,0.2s
TRTR **Tortoreto Alta** **0.45 85** P Pb 12 31 07.4 +0.6
SEF1 **Sefro** **0.46 325** ⇓P Pg 12 31 06.4 +0.1
SEF1 **Sefro** **0.46 325** ⇓P Pg 12 31 06.4 +0.1
SSM1 **San Severino M** **0.47 349** ⇓P Pg 12 31 06.7 +0.3
SSM1 **San Severino M** **0.47 349** ⇓P Pg 12 31 06.7 +0.3
FIAM **Fiamignano** **0.52 195** P Pg 12 31 07.3 -0.3
ASSB **Assisi San Ben** **0.55 300** ⇓P Pg 12 31 07.9 0.0
ASSB AML AML
comp=E,1004μm,0.3s
ASSB AML AML
comp=N,978μm,0.2s
ASSB AML AML
comp=E,1004μm,0.3s
ASSB AML AML
comp=N,978μm,0.2s
ASSB **Assisi San Ben** **0.55 300** ⇓P Pg 12 31 07.9 0.0
FAGN **Fagnano** **0.55 158** P Pg 12 31 07.7 -0.3
SNTG **Esanatoglia** **0.55 331** P Pg 12 31 07.8 -0.2
SNTG **Esanatoglia** **0.55 331** P Pg 12 31 07.8 -0.2
SNTG AML AML
comp=E,734μm,1.3s
SNTG AML AML
comp=N,643μm,0.5s
SNTG AML AML
comp=E,710μm,1.3s
SNTG AML AML
comp=N,719μm,0.5s
SNTG AML AML
comp=E,735μm,1.3s
SNTG AML AML
comp=N,642μm,0.5s
SNTG AML AML
comp=E,710μm,1.3s
SNTG AML AML
comp=N,719μm,0.5s
SNTG AML AML
comp=E,735μm,1.3s
SNTG AML AML
comp=N,719μm,0.5s
SNTG AML AML
comp=N,642μm,0.5s
SNTG AML AML
comp=E,710μm,1.3s
CESX **Cesi** **0.56 253** ⇑P Pg 12 31 08.2 +0.1
CESX AML AML
comp=E,911μm,0.4s
CESX AML AML
comp=N,714μm,0.4s
CESX AML AML
comp=E,911μm,0.4s
CESX AML AML
comp=N,714μm,0.4s
CESX AML AML
comp=E,911μm,0.4s
CESX AML AML
comp=N,714μm,0.4s
CESX **Cesi** **0.56 253** ⇑P Pg 12 31 08.2 +0.1
EL6 **Elcito** **0.58 345** P Pg 12 31 08.4 -0.2
EL6 AML AML
comp=E,1352μm,0.3s
EL6 AML AML
comp=N,1765μm,0.3s
EL6 AML AML
comp=N,1770μm,0.3s
EL6 AML AML
comp=E,1356μm,0.3s
EL6 AML AML
comp=N,1770μm,0.3s
EL6 **Elcito** **0.58 345** P Pg 12 31 08.5 0.0
ATCC **AVT- Casa Cast** **0.64 311** AML AML
comp=N,764μm,0.2s
ATCC AML AML
comp=E,1018μm,0.3s
ATCC AML AML
comp=N,764μm,0.2s
ATCC AML AML
comp=E,1018μm,0.3s
T0110 **Collepietro** **0.65 147** P Pg 12 31 09.5 -0.4
SSFR **Montelago di S** **0.77 330** AML AML
comp=N,1680μm,0.2s
SSFR AML AML
comp=E,1855μm,0.2s
SSFR AML AML
comp=N,1680μm,0.2s
SSFR AML AML
comp=E,1865μm,1.3s
SSFR AML AML
comp=N,1660μm,0.3s
SSFR AML AML
comp=E,1855μm,0.2s
SSFR AML AML
comp=E,1865μm,1.3s
SSFR AML AML
comp=N,1660μm,0.3s
ARVD **Arcevia** **0.77 340** AML AML
comp=N,244μm,0.8s
ARVD AML AML
comp=E,246μm,0.2s
ARVD AML AML
comp=N,244μm,0.8s
ARVD AML AML
comp=E,246μm,0.2s
SRES **S.Oreste - Sor** **0.79 228** AML AML
comp=E,294μm,0.6s
SRES AML AML
comp=N,283μm,1.2s
MGAB **Montegabbione** **0.89 279** AML AML
comp=E,246μm,0.3s
MGAB AML AML
comp=E,222μm,0.9s
MGAB AML AML
comp=N,331μm,0.6s
MGAB AML AML
comp=N,328μm,0.6s
MGAB AML AML
comp=E,222μm,0.9s
MGAB AML AML
comp=N,331μm,0.6s
MGAB AML AML
comp=N,328μm,0.6s
MGAB AML AML
comp=E,246μm,0.3s
ATVO **AVT- Monte Val** **0.90 313** AML AML
comp=N,263μm,0.4s
ATVO AML AML
comp=E,254μm,0.4s
ATVO AML AML
comp=N,263μm,0.4s
ATVO AML AML
comp=E,254μm,0.4s
CAFI **Castiglion Fio** **1.13 300** AML AML
comp=E,164μm,1.2s
CAFI AML AML
comp=N,162μm,0.4s
CAFI AML AML
comp=E,164μm,1.2s
CAFI AML AML
comp=N,162μm,0.4s
PESA **Pesaro** **1.22 344** AML AML
comp=N,300μm,0.9s
PESA AML AML
comp=E,549μm,0.9s
ORI **Oriolo Calabro** **3.59 138** AML AML
comp=N,168μm,0.1s
ORI AML AML
comp=E,290μm,0.1s
ZONE **Zone** **3.77 324** AML AML
comp=N,2855μm,0.9s
ZONE AML AML
comp=E,162μm,1.1s
ABTA **Abfaltersbach** **4.01 352** *e*Pn Pn 12 31 59.4 +1.3
comp=E,0.8nm,0.2s
ISTR **Stromboli Gino** **4.23 160** AML AML
comp=N,1445μm,1.4s
ISTR AML AML
comp=E,1830μm,0.5s
WTTA **Wattenberg** **4.64 346** *e*Pn Pn 12 32 08.7 +1.8
comp=E,0.4nm,0.2s
SQTA **Sankt Quirin** **4.69 342** *i* Pn Pn 12 32 10.9 +3.5
comp=E,0.3nm,0.2s
WATA **Walderalm** **4.72 346** *e*Pn Pn 12 32 11.3 +3.4
comp=E,0.8nm,0.3s
CONA **Conrad Observa** **5.46 18** *e*Pn Pn 12 32 19.5 +1.5
comp=E,0.4nm,0.2s

*INMG **06** 12:42:01.9±1.9, 38°70N×7°53W, h2km±4km, ML2.0, Error ellipse: s-maj=2.7km s-min=1.5km az=87.0*
*MDD **06** 12:42:02.3±0.3, 38°69N×7°55W, h12km, mb_Lg2.5/7, Error ellipse: s-maj=2.5km s-min=2.0km az=115.0*
*SFS **06** 12:42:02.0, 38°68N×7°54W, h12km, ML2.5, REDONDO (PORTUGAL)*

ISC 06 12:42:01.1±1.0, 38°68N±0°01×7°49W±0°02, h9km±8km, n41, σ0s92/88, 2C-1D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PESTR	**Estremoz**	**0.20**	**336**	⇓*i* Pg	**Pg**	**12 42 05.1**	**-0.1**
PESTR				*e* Sg	**Sg**	**12 42 07.6**	**-0.4**
PESTR				A	A	12 42 08.5	
	118nm,0.1s						
EBAD	**Badajoz**	**0.38**	**79**	⇑Pg	**Pb**	**12 42 09.8**	**-0.2**
EBAD				Sg	**Sb**	**12 42 15.5**	**-0.5**
EBAD				*i* Vmb_Lg		12 42 22.5	
EVO	**Evora**	**0.44**	**250**	P	**Pg**	**12 42 09.5**	**-0.2**
EVO				S	**Sg**	**12 42 14.9**	**-0.5**
EVO	**Evora**	**0.44**	**250**	⇑*i* Pg	**Pg**	**12 42 09.5**	**-0.2**
EVO				*e* Sg	**Sg**	**12 42 15.1**	**-0.3**
EVO				A	A	12 42 16.3	
	69nm,0.1s						

PBAR	**Barrancos**	**0.62**	**145**	*e*Pg	**Pg**	**12 42 13.4**	**+0.4**
PBAR				*e*Sg	**Sb**	**12 42 22.8**	**-0.1**
PBAR				A	A	12 42 25.7	
	29nm,0.2s						
PMTG	**Montargil**	**0.69**	**304**	*e*Pg	**Pg**	**12 42 13.9**	**-0.6**
PMTG				*e*Sg	**Sg**	**12 42 22.9**	**-0.6**
PMTG				A	A	12 42 27.6	
	22nm,0.1s						
PBEJ	**Beja**	**0.72**	**205**	*e*Pg	**Pg**	**12 42 15.2**	**+0.2**
PBEJ				*e*Sg	**Sg**	**12 42 24.6**	**+0.2**
PBEJ				A	A	12 42 29.1	
	23nm,0.3s						
PMRV	**Marv??o**	**0.75**	**6**	*e*Pg	**Pb**	**12 42 16.1**	**-0.2**
PMRV				*e*Sg	**Sg**	**12 42 25.5**	**+0.2**
PMRV				A	A	12 42 27.8	
	22nm,0.4s						
PNCL	**Nicolau / Gran**	**1.00**	**235**	*e*P	**Pg**	**12 42 20.0**	**-0.3**
PNCL				*e*S	**Sg**	**12 42 33.2**	**0.0**
PNCL				A	A	12 42 37.3	
	11nm,0.1s						
MESJ	**Messejana**	**1.02**	**215**	*e*P	**Pg**	**12 42 20.8**	**+0.1**
MESJ				*e*S	**Sg**	**12 42 34.0**	**0.0**
MESJ				IAML		12 42 36.0	
	comp=N,14nm,0.1s						
PACT	**Alcochete**	**1.06**	**275**	*e*P	**Pb**	**12 42 21.6**	**0.0**
PACT				*e*S	**Sn**	**12 42 36.1**	**-0.8**
EMIN	**Mina Concepcio**	**1.12**	**145**	Pg	**Pb**	**12 42 22.1**	**-0.5**
EMIN				Sg	**Sn**	**12 42 38.9**	**+0.4**
EMIN				*i* Vmb_Lg		12 42 41.2	
PCVE	**Castro Verde**	**1.14**	**203**	*e*P	**Pn**	**12 42 23.7**	**+0.5**
PCVE				*e*S	**Sg**	**12 42 37.8**	**+0.1**
PCVE				A	A	12 42 41.3	
	comp=N,17nm,0.2s						
EGRO	**El Granado**	**1.15**	**180**	Pg	**Pn**	**12 42 23.6**	**+0.3**
EGRO				Sg	**Sn**	**12 42 38.8**	**-0.4**
EGRO				*i* Vmb_Lg		12 42 42.6	
PCBR	**Castelo Branco**	**1.16**	**0**	*e*P	**Pn**	**12 42 24.0**	**+0.5**
PCBR				*e*S	**Sg**	**12 42 38.5**	**+0.2**
PCBR				A	A	12 42 41.3	
	comp=N,15nm,0.4s						
PVAQ	**Vaqueiros**	**1.29**	**188**	*e*P	**Pg**	**12 42 25.7**	**-0.2**
PVAQ				*e*S	**Sg**	**12 42 43.0**	**+0.4**
PVAQ				A	A	12 42 45.7	
	comp=N,22nm,0.3s						
PSBE	**So Bento**	**1.31**	**310**	*e*P	**Pb**	**12 42 26.0**	**0.0**
PSBE				*e*S	**Sn**	**12 42 43.0**	**-0.4**
PSBE				A	A	12 42 45.3	
	comp=N,13nm,0.4s						
PMST	**Lisbon--Monsan**	**1.33**	**273**	*e*P	**Pn**	**12 42 25.9**	**0.0**
PMST				*e*S	**Sg**	**12 42 44.3**	**+0.5**
PMST				A	A	12 42 46.9	
	comp=N,16nm,0.9s						
PMAFR	**Mafra**	**1.43**	**281**	*e*P	**Pb**	**12 42 27.9**	**0.0**
PMAFR				*e*S	**Sg**	**12 42 47.2**	**+0.2**
PMAFR				A	A	12 42 49.9	
	comp=N,19nm,0.3s						
PTEO	**Sao Teotonio**	**1.50**	**221**	*e*P	**Pg**	**12 42 30.0**	**+0.2**
PTEO				*e*S	**Sg**	**12 42 49.0**	**-0.3**
PTEO				A	A	12 42 51.6	
	comp=N,14nm,0.4s						
PCAS	**Casmilo, Conde**	**1.58**	**330**	*e*Pg	**Pb**	**12 42 30.6**	**+0.2**
PCAS				*e*Sg	**Sb**	**12 42 50.8**	**+0.3**
PCAS				A	A	12 42 53.5	
	comp=N,11nm,0.5s						
MORF	**Marmelete**	**1.66**	**214**	*e*P	**Pn**	**12 42 30.5**	**+0.1**
MORF				*e*S	**Sn**	**12 42 51.0**	**-0.9**
MORF				IAML		12 42 56.9	
	comp=E,23nm,0.3s						
MORF	**Marmelete**	**1.66**	**214**	*e*Pn	**Pn**	**12 42 30.5**	**+0.1**
MORF				*e*Sg	**Sg**	**12 42 53.7**	**-0.7**
MORF				A	A	12 42 57.0	
	comp=E,7.7nm,0.2s						
MTE	**Manteigas**	**1.71**	**359**	*e*Pg	**Pg**	**12 42 33.7**	**-0.3**
MTE				*e*Sg	**Sg**	**12 42 55.5**	**-0.7**
ECAB	**El Cabril**	**1.73**	**110**	Pg	**Pg**	**12 42 33.8**	**-0.6**
ECAB				Sg	**Sg**	**12 42 57.1**	**+0.3**
ECAB				*i* Vmb_Lg		12 43 02.9	
EPLA	**Plasencia**	**1.76**	**38**	Pn	**Pn**	**12 42 32.5**	**+0.7**
EPLA				Pg	**Pb**	**12 42 33.9**	**+0.3**
EPLA				Sn	**Sn**	**12 42 52.7**	**-1.7**
EPLA				Sg	**Sb**	**12 42 56.0**	**+0.3**
EPLA				*i* Vmb_Lg		12 42 59.0	
PFVI	**Vila Bisbo**	**1.88**	**215**	*e*Sn	**Sb**	**12 42 58.4**	**-0.7**
PFVI				*e*Sg	**Sg**	**12 43 00.8**	**-0.6**
PVIS	**Viseu**	**2.05**	**351**	*e*Pg	**Pb**	**12 42 39.3**	**+0.7**
PVIS				*e*Sg	**Sb**	**12 43 05.4**	**+1.1**
PVIS				A	A	12 43 07.1	
	comp=E,7.9nm,0.1s						
ESPR	**Espera**	**2.23**	**144**	Sg	**Sg**	**12 43 13.5**	**+0.9**
EADA	**Adamuz**	**2.34**	**102**	Pn	**Pn**	**12 42 40.0**	**+0.1**
EADA				Pg	**Pb**	**12 42 43.8**	**+0.3**
EADA				Sn	**Sn**	**12 43 08.6**	**-0.1**
EADA				Sg	**Sg**	**12 43 15.6**	**-0.7**
EADA				*i* Vmb_Lg		12 43 19.8	
MVO	**Moncorvo**	**2.50**	**8**	*e*Pn	**Pn**	**12 42 43.6**	**+1.5**
MVO	**Moncorvo**	**2.50**	**8**	*e*Pg	**Pg**	**12 42 50.0**	**+0.9**
MVO				*e*Sn	**Sn**	**12 43 13.2**	**+0.4**
MVO				*e*Sg	**Sg**	**12 43 21.6**	**+0.1**
MVO				A	A	12 43 25.4	
	comp=E,6.5nm,0.6s						
PAB	**San Pablo**	**2.59**	**70**	Pn	**Pn**	**12 42 44.5**	**+1.2**
PAB				Pg	**Pg**	**12 42 49.7**	**-1.0**
PAB				Sg	**Sg**	**12 43 22.4**	**-1.8**
PAB				*i* Vmb_Lg		12 43 34.9	
PVRL	**Vila Real**	**2.59**	**356**	*e*Sg	**Sg**	**12 43 23.4**	**-1.0**
POLO	**Lamas de Olo**	**2.70**	**355**	*e*Sn	**Sn**	**12 43 16.6**	**-1.0**
POLO				*e*Sg	**Sg**	**12 43 26.6**	**-1.1**
POLO				A	A	12 43 27.6	
	comp=E,2.1nm,0.4s						
PCAB	**Cabril**	**3.05**	**352**	*e*Pn	**Pn**	**12 42 50.2**	**+0.6**
PCAB				*e*Sn	**Sn**	**12 43 25.4**	**-0.9**
PCAB				*e*Sg	**Sg**	**12 43 38.7**	**-0.4**
PCAB				A	A	12 43 41.4	
	comp=E,5.0nm,0.4s						
ELOB	**Lobios**	**3.21**	**352**	Pn	**Pn**	**12 42 52.4**	**+0.6**
ELOB				Sn	**Sn**	**12 43 26.9**	**-3.4**
ELOB				Sg	**Sb**	**12 43 40.5**	**+2.9**
ECAL	**Calabor**	**3.30**	**10**	Pn	**Pn**	**12 42 53.4**	**+0.3**
ECAL				Sn	**Sn**	**12 43 31.6**	**-1.0**
ECAL				Sg	**Sb**	**12 43 43.6**	**+3.4**
PGAV	**Gavieira, Arco**	**3.33**	**350**	*e*Pn	**Pn**	**12 42 54.1**	**+0.6**
PGAV				*e*Sn	**Sn**	**12 43 31.5**	**-1.8**
PGAV				*e*Sg	**Sg**	**12 43 45.5**	**-2.6**
PGAV				A	A	12 43 48.2	
	comp=E,4.1nm,0.9s						
EQES	**Quesada**	**3.59**	**103**	Sn	**Sn**	**12 43 39.3**	**-0.3**
EQES				Sg	**Sg**	**12 43 55.8**	**-0.5**
ETOR	**Torete**	**4.70**	**61**	Pn	**Pn**	**12 43 12.8**	**+0.5**

IDC 06 12:44:49.8±13.0**, 10°50S×165°62E, h0km, mb3.7**/4**, mbtmp3.8**/5**, ML3.8**/1**, MS3.8**/1**, Error ellipse: s-maj=229.0km s-min=50.7km az=48.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.69**	**280**	LR	LR	12 48 27.0	
	comp=Z,922nm,21.1s,baz=205,slow=38						
DZM	**Mont Dzumac**	**11.54**	**176**	Pn	Pn	12 47 35.7	-0.3
	0.7nm,0.3s,baz=351,slow=8.0,SNR=23						
DZM				Sn	Sn	12 49 33.5	-12
	0.1nm,0.3s,baz=37,slow=23,SNR=1.7						
	2.1nm,0.4s						
CTA	**Charters Tower**	**20.95**	**241**	P	P	12 49 34.7	+0.1
	1.2nm,0.4s,baz=49,slow=20,SNR=2.2						
	1.2nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**28.82**	**2**	T	T	13 21 55.3	
	baz=184						
H11S3	**WAKE ISLAND Hy**	**28.83**	**2**	T	T	13 22 09.1	
	baz=184						
H11S1	**WAKE ISLAND Hy**	**28.84**	**2**	T	T	13 22 12.3	
	baz=184						
H11N1	**WAKE ISLAND Hy**	**30.05**	**2**	T	T	13 23 41.7	
	baz=183						
H11N3	**WAKE ISLAND Hy**	**30.05**	**2**	T	T	13 23 41.0	
	baz=183						
H11N2	**WAKE ISLAND Hy**	**30.06**	**2**	T	T	13 23 43.0	
	baz=183						
STKA	**Stephens Creek**	**30.76**	**223**	P	P	12 51 07.0	-0.1
	1.4nm,0.7s,baz=41,slow=20,SNR=3.2						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**31.56**	**249**	P	P	12 51 14.6	+0.2
	0.6nm,0.6s,baz=80,slow=9.1,SNR=9.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**32.93**	**242**	P	P	12 51 26.1	-0.2
	0.5nm,0.5s,baz=64,slow=10,SNR=12						
	0.5nm,0.5s						

IDC 06 12:44:49.5±1.5**, 2°90S×126°63E, h0km, mb3.5**/2**, mbtmp3.6**/5**, ML3.7**/3**, MS3.8**/1**, Error ellipse: s-maj=27.6km s-min=27.1km az=26.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.05**	**67**	Pn	Pn	12 46 07.5	+0.9
	3.1nm,0.3s,baz=242,slow=18,SNR=16						
SIJI				Sn	Sn	12 47 04.4	-1.3
	1.2nm,0.3s,baz=164,slow=24,SNR=8.0						
	5.7nm,0.3s						
KAPI	**Kappang**	**7.18**	**253**	Pn	Pn	12 46 37.5	+1.7
	1.1nm,0.3s,baz=68,slow=5.4,SNR=5.6						
	3.0nm,0.4s						
WRA	**Warramunga Arr**	**18.54**	**157**	P	P	12 49 07.6	-0.2
	0.2nm,0.3s,baz=330,slow=12,SNR=16						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**21.81**	**162**	P	P	12 49 43.2	-0.2
	0.8nm,0.4s,baz=343,slow=11,SNR=23						
	0.8nm,0.4s						
JCJ	**Chichijima**	**33.38**	**26**	LR	LR	13 05 40.7	
	comp=Z,144nm,18.6s,baz=92,slow=38						
MKAR	**Makanchi Array**	**62.98**	**327**	P	P	12 55 17.6	-0.5
	0.4nm,0.6s,baz=115,slow=7.1,SNR=1.9						
	0.4nm,0.6s						

*IDC **06** 12:54:51.3±2.5, 35°79N×77°85E, h0km, mb3.3/2, mbtmp3.6/7, ML3.4/5, Error ellipse: s-maj=61.0km s-min=24.9km az=68.0*

ISC 06 12:55:03.0±1.9**, 36°2N**±0°2×**78°1E**±0°2**, h88km, n7, σ1§19**/8**, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.01**	**338**	Pn	**Pn**	**12 56 44.1**	**+1.0**
	1.4nm,0.3s,baz=162,slow=3.2,SNR=12						
AAK				Sn	**Sn**	**12 58 00.5**	**-0.8**
	1.3nm,0.3s,baz=180,slow=20,SNR=5.2						
	2.9nm,0.3s						
MKAR	**Makanchi Array**	**11.06**	**15**	Pn	**Pn**	**12 57 38.2**	**+0.1**
	2.3nm,0.3s,baz=201,slow=13,SNR=82						
MKAR				Sn	Sn	12 59 33.6	-6.2
	1.7nm,0.3s,baz=201,slow=20,SNR=14						
	3.2nm,0.3s						
KURBB	**Kurchatov Arra**	**14.43**	**1**	Pn	**Pn**	**12 58 22.5**	**-0.3**
	0.1nm,0.3s,baz=184,slow=12,SNR=4.4						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**17.68**	**345**	P	**P**	**12 59 01.7**	**-1.4**
	baz=149,slow=14,SNR=3.2						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**18.38**	**13**	P	**Pn**	**12 59 12.9**	**+1.2**
	0.3nm,0.3s,baz=205,slow=13,SNR=2.0						
	0.4nm,0.3s						
SONM	**Songino Array**	**23.92**	**52**	P	**P**	**13 00 10.0**	**+1.2**
	0.6nm,0.6s,baz=233,slow=10,SNR=4.5						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**77.10**	**127**	P	**P**	**13 06 46.3**	**-0.7**
	0.2nm,0.8s,baz=317,slow=6.5,SNR=4.7						
	0.2nm,0.8s						

*NCEDC **06** 13:00:46.4±2.3, 39°66N±0°02×123°64W±0°02, h-1km±5km, Mwr4.1/8, mb4.2/6(NEIC), ML3.8/82(NEIC), Error ellipse: s-maj=2.7km s-min=2.1km az=46.0*

*NEIC **06** 13:00:46.6±1.9, 39°65N±0°02×123°62W±0°02, h6km±4km, Error ellipse: s-maj=2.8km s-min=2.3km az=57.0*

*NEIC **06** 13:00:46.3, 39°66N×123°64W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; M_{rr}-0.02; $M_{\theta\theta}$-1.40; $M_{\phi\phi}$1.43; $M_{r\theta}$-0.19; $M_{\theta\phi}$0.61; $M_{\phi r}$0.01; Fault plane solution: $M_0$1.55000×10^15 NP1:ϕ_s56.39000°, δ85.71000°, λ-5.69000°. NP2:ϕ_s146.82000°, δ84.33000°, λ-175.69000°. Principal axes: T 1.5499, Plg1.0000°, Azm102.0000°; N 0.0021, Plg83.0000°, Azm199.0000°; P -1.5520, Plg7.0000°, Azm12.0000°;*

*IDC **06** 13:00:47.7±1.9, 39°77N×123°49W, h0km, mb3.4/1, mbtmp3.1/6, ML3.4/4, MS3.4/17 Error ellipse: s-maj=23.0km s-min=11.6km az=51.0*

ISC 06 13:00:46.5±0.9**, 39°64N**±0°02×**123°63W**±0°03**, h10km**±6km**, n161, σ1§08**/143**, mb4.3**/7**, MS3.4**/10**, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCPM	**Cahto Peak**	**0.06**	**37**		**Pg**	**13 00 48.4**	**-0.3**
KCPM	**Cahto Peak**	**0.06**	**37**	IAML		13 00 48.9	
	comp=N,903μm,0.5s						
KCPM				IAML		13 00 49.0	
	comp=E,923μm,0.4s						
KFPM	**Farley Peak**	**0.16**	**90**		**Pg**	**13 00 49.9**	**-0.1**
KIPM	**Iron Peak**	**0.20**	**34**		**Pg**	**13 00 50.5**	**-0.3**
GTC	**Three Chop Rid**	**0.25**	**166**		**Pb**	**13 00 52.1**	**+0.6**
KRKM	**Rackout Spring**	**0.35**	**102**		**Pg**	**13 00 54.2**	**+0.7**
KRKM					**Sb**	**13 01 00.9**	**+0.2**
KBNM	**Bluenose Ridge**	**0.42**	**53**		**Pg**	**13 00 55.4**	**+0.6**
GNAM	**Navarro Ridge**	**0.44**	**180**		**Pb**	**13 00 56.4**	**0.0**
GWRM	**Wonder Ranch**	**0.50**	**149**		**Pb**	**13 00 57.2**	**-0.2**
GHMM	**Hull Mountain**	**0.56**	**105**		**Pb**	**13 00 58.1**	**-0.4**
KMRM	**Mail Ridge**	**0.59**	**354**	Pg	**Pg**	**13 00 58.0**	**+0.1**
GHOM	**Hamilton Openi**	**0.60**	**173**		**Pb**	**13 00 59.4**	**+0.4**
KSMM	**Slide Mountain**	**0.69**	**323**		**Pb**	**13 01 00.4**	**-0.3**
GVV	**Valley View**	**0.75**	**79**		**Pb**	**13 01 01.9**	**+0.1**
GHLM	**Highland Sprin**	**0.76**	**141**		**Pb**	**13 01 01.8**	**-0.1**
HOPS	**Hopland Field**	**0.78**	**146**		**Sn**	**13 01 14.6**	**-0.6**
HOPS	**Hopland Field**	**0.78**	**146**	Pg	**Pg**	**13 01 01.4**	**0.0**
HOPS	**Hopland Field**	**0.78**	**146**	IAML		13 01 15.1	
	comp=N,6μm,1.1s						
HOPS				IAML		13 01 15.3	
	comp=E,10μm,1.0s						
GGUM	**Gualala**	**0.79**	**172**		**Pb**	**13 01 02.0**	**-0.3**
GROM	**Round Mountain**	**0.79**	**69**		**Pb**	**13 01 02.5**	**+0.1**
KCRM	**Chalk Rock**	**0.80**	**350**		**Pb**	**13 01 02.6**	**0.0**
GHGM	**Hogback Ridge**	**0.81**	**129**		**Pb**	**13 01 02.7**	**0.0**
GTSM	**Trough Springs**	**0.86**	**112**		**Pb**	**13 01 03.7**	**+0.1**
KMPM	**Mount Pierce**	**0.86**	**334**		**Sn**	**13 01 18.2**	**+0.7**
KMPM	**Mount Pierce**	**0.86**	**334**		**Pg**	**13 01 02.7**	**-0.4**
KMPM	**Mount Pierce**	**0.86**	**334**	IAML		13 01 24.8	
	comp=E,22μm,0.9s						
KMPM				IAML		13 01 26.0	
	comp=N,9μm,1.1s						
LBPM	**Beegum Peak**	**0.89**	**40**		**Pb**	**13 01 04.2**	**+0.2**
GPMM	**Pine Mountain**	**0.95**	**146**		**Pn**	**13 01 07.8**	**+1.8**
GACM	**Adobe Creek**	**0.97**	**142**		**Pg**	**13 01 04.9**	**-0.3**
GCVM	**Cloverdale**	**0.99**	**151**		**Pb**	**13 01 05.1**	**-0.6**
KCTM	**Capetown**	**1.00**	**327**		**Pg**	**13 01 05.5**	**-0.1**
KCTM					**Sn**	**13 01 22.6**	**+1.9**
GBMM	**Baldy Mountain**	**1.01**	**119**		**Pn**	**13 01 06.6**	**-0.2**
GSGM	**Seigler Mounta**	**1.05**	**137**		**Pn**	**13 01 07.5**	**+0.3**
GSSM	**Skaggs Springs**	**1.05**	**153**		**Pb**	**13 01 06.0**	**-0.8**
GDXM	**Geysers**	**1.05**	**142**		**Pb**	**13 01 06.5**	**-0.4**
GWKM	**Walker Ridge**	**1.06**	**123**		**Pn**	**13 01 07.8**	**+0.3**
KHBM	**Hayfork Bally**	**1.07**	**17**		**Pb**	**13 01 07.0**	**-0.2**
GCRM	**Castle Rock Sp**	**1.12**	**140**		**Pb**	**13 01 07.5**	**-0.4**
GAXM	**Alexander Vall**	**1.15**	**143**		**Pb**	**13 01 07.3**	**-1.2**
MNRC	**McLaughlin Min**	**1.19**	**129**		**Pn**	**13 01 08.6**	**-0.8**
JCC	**Jacoby Creek,**	**1.22**	**346**		**Pn**	**13 01 08.2**	**-1.3**
KHMM	**Horse Mountain**	**1.24**	**356**		**Pn**	**13 01 09.5**	**-0.5**
NMTM	**Middletown**	**1.24**	**132**		**Pn**	**13 01 08.7**	**-1.2**
NHSM	**Mount Saint He**	**1.26**	**141**		**Pn**	**13 01 09.1**	**-1.1**
LTCM	**Tuscan Springs**	**1.29**	**63**		**Pn**	**13 01 09.8**	**-0.8**
MAC	**Mark West Spri**	**1.30**	**147**		**Pn**	**13 01 10.4**	**-0.3**
LGPM	**Granite Peak**	**1.41**	**25**		**Pn**	**13 01 11.8**	**-0.6**
OSUM	**Sutter Buttes**	**1.42**	**104**		**Pn**	**13 01 11.4**	**-1.0**
NTYM	**Taylor**	**1.46**	**149**		**Pb**	**13 01 13.1**	**-0.6**
NBPM	**Berryessa Peak**	**1.48**	**130**		**Pg**	**13 01 14.4**	**-0.4**
SUTB	**Sutter Butte**	**1.48**	**105**		**Pn**	**13 01 11.6**	**-1.6**
KRPM	**Rodgers**	**1.55**	**349**		**Pn**	**13 01 14.2**	**0.0**
KRPM	**Rodgers**	**1.55**	**349**	IAML		13 01 59.2	
	comp=E,2μm,1.8s						
OGOM	**Van Goodin Ran**	**1.56**	**89**		**Pn**	**13 01 12.5**	**-1.8**
CVS	**Carmenet Viney**	**1.58**	**144**		**Pn**	**13 01 13.2**	**-1.4**
MCCM	**Marconi Confer**	**1.60**	**158**		**Pn**	**13 01 13.6**	**-1.2**
MCCM				IAML		13 01 52.5	
	comp=E,834nm,1.6s						
MCCM				IAML		13 01 58.4	
	comp=N,1μm,1.8s						
NAPC	**Atlas Peak**	**1.61**	**138**		**Pn**	**13 01 11.7**	**-3.3**
NBRB	**Beebe Ranch Br**	**1.61**	**148**		**Pb**	**13 01 15.4**	**-1.0**
LBKM	**Bonanza King**	**1.62**	**27**		**Pn**	**13 01 15.0**	**-0.2**
KOMM	**Orleans Mounta**	**1.64**	**5**		**Pn**	**13 01 14.7**	**-0.8**
ORV	**Oroville**	**1.65**	**92**		**Pn**	**13 01 13.7**	**-1.8**
OWYM	**Wyandotte**	**1.67**	**96**		**Pn**	**13 01 15.1**	**-0.7**
LSHM	**Sage Hen Hill**	**1.68**	**46**		**Pn**	**13 01 15.3**	**-0.6**
OHCM	**Honcut**	**1.69**	**100**		**Pn**	**13 01 15.4**	**-0.6**
LCMM	**Colby Mountain**	**1.70**	**72**		**Pb**	**13 01 17.6**	**-0.4**
SNT	**Sears Point**	**1.72**	**147**		**Pn**	**13 01 14.7**	**-1.8**
NOLM	**Olema**	**1.73**	**157**		**Pn**	**13 01 15.1**	**-1.5**
NOLM					**Pg**	**13 01 20.9**	**+1.3**
LRDM	**Redding Peak**	**1.86**	**63**		**Pn**	**13 01 17.4**	**-1.0**
CPMM	**Point Molate**	**1.94**	**150**		**Pn**	**13 01 18.9**	**-0.6**
M03C	**McCloud**	**2.00**	**35**		**Pn**	**13 01 20.6**	**+0.2**
CTAM	**Taylor**	**2.04**	**141**		**Pg**	**13 01 27.6**	**+1.9**
BRK	**Berkeley--Havi**	**2.06**	**148**		**Pg**	**13 01 27.2**	**+1.2**
VAK	**Adit at Lawren**	**2.06**	**148**		**Pn**	**13 01 21.3**	**+0.1**
BKS	**Berkeley--Byer**	**2.07**	**148**		**Pn**	**13 01 20.7**	**-0.6**
LAMM	**Antelope Mount**	**2.11**	**21**		**Pn**	**13 01 22.3**	**+0.2**
LBCM	**Butte Creek Ri**	**2.12**	**55**		**Pn**	**13 01 22.2**	**+0.1**
LBFM	**Black Fox Moun**	**2.16**	**37**		**Pn**	**13 01 23.0**	**+0.3**
AFDM	**Forest Hills D**	**2.17**	**108**	Pn	**Pn**	**13 01 22.2**	**-0.5**
BDM	**Black Diamond**	**2.17**	**140**		**Pb**	**13 01 24.0**	**-1.9**
JSBM	**San Bruno Moun**	**2.18**	**153**		**Pn**	**13 01 22.5**	**-0.3**
BGC	**Bolinger Road**	**2.19**	**146**		**Pn**	**13 01 23.1**	**+0.1**
YBH	**Yreka Blue Hor**	**2.21**	**18**	Pn	**Pn**	**13 01 23.6**	**+0.3**
	comp=N,5.9nm,0.3s,baz=205,slow=12,SNR=163						
YBH				Sn	**Sb**	**13 01 52.4**	**-1.5**
	comp=N,32nm,0.3s,baz=129,slow=18,SNR=6.2						
	comp=N,39nm,0.4s						
YBH	**Yreka Blue Hor**	**2.21**	**18**	Pn	**Pn**	**13 01 23.6**	**+0.3**
YBH				IAML		13 02 06.0	
	comp=N,388nm,0.9s						
LTIM	**Timbered Crate**	**2.24**	**46**		**Pn**	**13 01 24.3**	**+0.5**
LHEM	**Herd Peak**	**2.26**	**28**		**Pn**	**13 01 25.2**	**+1.1**
BEKR	**Beckworth**	**2.53**	**84**		**Pn**	**13 01 27.9**	**+0.1**
BEKR				IAML		13 02 14.8	
	comp=N,376nm,0.9s						
BEKR				IAML		13 02 15.8	
	comp=E,352nm,0.9s						
KBO	**Bosley Butte**	**2.61**	**350**		**Pn**	**13 01 28.5**	**-0.4**
KBO				IAML		13 02 11.5	
	comp=N,375nm,1.1s						
KBO				IAML		13 02 45.8	
	comp=E,531nm,1.8s						
MPK	**Martis Peak**	**2.81**	**96**		**Pn**	**13 01 31.6**	**-0.2**
MPK				IAML		13 02 21.5	
	comp=N,466nm,0.9s						
EMB	**Emerald Bay**	**2.81**	**103**		**Pn**	**13 01 32.5**	**+0.7**
EMB				IAML		13 02 23.9	
	comp=N,331nm,1.9s						
EMB				IAML		13 02 27.1	
	comp=E,311nm,1.1s						
CMB	**Columbia Colle**	**3.00**	**121**	Pn	**Pn**	**13 01 34.3**	**+0.2**
HUMO	**Hull Mountain**	**3.01**	**10**	Pn	**Pn**	**13 01 34.6**	**+0.3**
KEBM	**Edson Butte**	**3.27**	**351**	Pn	**Pn**	**13 01 38.3**	**+0.3**
KEBM				IAML		13 03 02.9	
	comp=N,313nm,1.2s						
PAHR	**Pah Rah Range**	**3.28**	**87**	Pn	**Pn**	**13 01 39.0**	**+0.9**
PAHR				IAML		13 02 39.0	
	comp=N,145nm,1.9s						
SAO	**San Andreas Ge**	**3.34**	**148**		**Pn**	**13 01 39.1**	**+0.3**
PLTX	**Planet X, Gerl**	**3.36**	**70**		**Pn**	**13 01 40.1**	**+0.9**
PLTX				IAML		13 02 49.6	
	comp=E,682nm,1.2s						
PLTX				IAML		13 03 06.1	
	comp=N,869nm,1.4s						
MOD	**Modoc Plateau**	**3.39**	**47**	Pn	**Pn**	**13 01 39.1**	**-0.5**
MOD				IAML		13 02 51.2	
	comp=N,150nm,1.3s						
MOD				IAML		13 02 51.6	
	comp=E,224nm,1.2s						
WAKR	**Walker**	**3.45**	**108**		**Pn**	**13 01 40.9**	**+0.3**
WAKR				IAML		13 03 03.1	
	comp=E,126nm,1.1s						
WAKR				IAML		13 03 04.3	
	comp=N,139nm,2.2s						
YERR	**Yerington**	**3.47**	**99**		**Pn**	**13 01 40.9**	**+0.2**
YERR				IAML		13 02 33.9	
	comp=N,146nm,0.7s						
YERR				IAML		13 02 43.2	
	comp=E,218nm,1.0s						
DBO	**Dodson Butte**	**3.49**	**5**		**Pn**	**13 01 40.3**	**-0.6**
DBO				IAML		13 02 52.6	
	comp=N,160nm,1.6s						
DBO				IAML		13 02 56.3	
	comp=E,167nm,2.4s						
BBGB	**Big Mountain B**	**3.67**	**145**		**Pn**	**13 01 43.7**	**+0.3**
BBGB				IAML		13 03 20.7	
	comp=E,190nm,1.2s						
K05A	**Summer Lake**	**3.71**	**33**		**Pn**	**13 01 44.5**	**+0.5**
K05A				IAML		13 03 08.0	
	comp=E,136nm,2.9s						
MDPB	**Devils Postpil**	**4.09**	**118**		**Pn**	**13 01 50.3**	**+1.0**
MDPB				IAML		13 03 06.8	
	comp=N,77nm,1.1s						
MDPB				IAML		13 03 20.4	
	comp=E,80nm,1.2s						
RYN	**Ryan**	**4.10**	**103**		**Pn**	**13 01 49.7**	**+0.4**
PAPM	**Alder Peak**	**4.13**	**154**		**Pn**	**13 01 48.4**	**-1.3**
OMMB	**Old Mammoth Mi**	**4.15**	**118**		**Pn**	**13 01 50.9**	**+0.7**
LHV	**Little Huntoon**	**4.23**	**108**		**Pn**	**13 01 50.7**	**-0.2**
LHV				IAML		13 03 14.5	
	comp=E,152nm,1.4s						
LHV				IAML		13 03 18.2	
	comp=N,140nm,1.7s						
NVAR	**Mina Array Bea**	**4.32**	**105**	Pn	**Pn**	**13 01 53.9**	**+1.4**
	comp=N,1.1nm,0.3s,baz=279,slow=15,SNR=20						
NVAR				Lg	Lg	13 03 01.6	
	baz=287,slow=35						
	comp=N,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**4.32**	**105**		**Pn**	**13 01 52.8**	**+0.3**
KVN	**Kaiserville**	**4.33**	**96**	Pn	**Pn**	**13 01 52.7**	**+0.2**
KVN				IAML		13 03 17.9	
	comp=N,64nm,1.5s						
NV11	**Mina Array Sit**	**4.43**	**104**		**Pn**	**13 01 54.5**	**+0.7**
NV11				IAML		13 03 19.0	
	comp=E,70nm,2.2s						
NV11				IAML		13 03 26.2	
	comp=N,80nm,1.6s						
PINE	**Pine Mountain**	**4.61**	**25**		**Pn**	**13 01 56.4**	**0.0**
PINE				IAML		13 03 35.7	
	comp=N,65nm,4.6s						
PINE				IAML		13 03 38.2	
	comp=E,84nm,2.2s						
COR	**Corvallis**	**4.95**	**3**	Pn	**Pn**	**13 02 01.4**	**+0.5**
BMN	**Battle Mountai**	**4.98**	**79**		**Pn**	**13 02 02.1**	**+0.6**
BMN				IAML		13 03 50.9	
	comp=N,44nm,2.5s						
H04A	**Detroit Lake**	**5.15**	**12**	Pn	**Pn**	**13 02 04.2**	**+0.5**
H04A				IAML		13 02 44.6	
	comp=N,39nm,4.2s						
H04A				IAML		13 03 59.8	
	comp=E,44nm,2.9s						
ISA	**Isabella, Lake**	**5.70**	**133**	Pn	**Pn**	**13 02 12.5**	**+1.3**
CCAC	**Calif City Air**	**6.33**	**133**		**Pn**	**13 02 20.9**	**+1.1**
ELK	**Elko**	**6.52**	**78**	Pn	**Pn**	**13 02 24.8**	**+2.1**
	comp=E,0.2nm,0.3s,baz=308,slow=20,SNR=3.4						
ELK				Lg	Lg	13 04 09.5	
	comp=E,0.1nm,0.3s,baz=346,slow=17,SNR=1.4						
ELK				LR	LR	13 05 15.0	
	comp=E,199nm,21.6s,baz=260,slow=42						
E03A	**Lebam**	**6.90**	**0**	Pn	**Pn**	**13 02 29.1**	**+1.4**
GSC	**Goldstone, Bar**	**6.94**	**126**		**Pn**	**13 02 28.5**	**+0.2**
WISH	**Wishkah**	**7.48**	**359**	Pn	**Pn**	**13 02 36.8**	**+1.3**
E08A	**Dider Farm, El**	**7.62**	**25**	Pn	**Pn**	**13 02 38.9**	**+1.3**
LTY	**Liberty**	**7.91**	**15**	Pn	**Pn**	**13 02 42.6**	**+1.0**
PFO	**Pinyon Flats O**	**8.33**	**134**	Pn	**Pn**	**13 02 48.2**	**+0.8**
	comp=E,0.3nm,0.3s,baz=310,slow=11,SNR=5.8						
B04A	**Port Angeles**	**8.42**	**1**	Pn	**Pn**	**13 02 49.9**	**+1.5**
MSU	**Marysvale**	**8.98**	**94**	Pn	**Pn**	**13 02 56.9**	**+0.5**
PGC	**Sidney**	**9.01**	**1**	Pn	**Pn**	**13 02 57.4**	**+0.8**
NEW	**Newport**	**9.81**	**26**	LR	LR	13 07 34.6	
	comp=E,217nm,20.6s,baz=206,slow=42						
WUAZ	**Wupatki**	**10.56**	**109**	Pn	**Pn**	**13 03 18.7**	**+0.7**
PDAR	**Pinedale Array**	**11.05**	**69**	Pn	Pn	13 03 30.2	+5.3
	baz=248,slow=12,SNR=1.6						
PDAR				LR	LR	13 08 24.5	
	comp=E,111nm,18.1s,baz=260,slow=42						
	comp=E,0.1nm,0.4s						
PV17	**East Wray Mesa**	**11.51**	**92**	Pn	**Pn**	**13 03 32.1**	**+1.1**
PV03	**Paradox Valley**	**11.60**	**92**	Pn	**Pn**	**13 03 31.1**	**-1.2**
PV13	**Radium Mtn., P**	**11.64**	**93**	Pn	**Pn**	**13 03 32.9**	**+0.1**

BBB	**Bella Bella**	**12.93**	**348**	LR	LR	13 08 09.9	
	comp=E,98nm,18.1s,baz=180,slow=34						
ANMO	**Albuquerque**	**14.45**	**104**	LR	LR	13 10 21.1	
	comp=E,114nm,21.9s,baz=292,slow=40						
BNM	**Barren Site**	**14.66**	**107**	Pn	**Pn**	**13 04 12.9**	**-1.2**
LPIG	**La Paz**	**19.15**	**140**	LR	LR	13 12 52.0	
	comp=E,124nm,18.3s,baz=334,slow=38						
TXAR	**Lajitas Array**	**19.36**	**116**	P	**Pn**	**13 05 16.5**	**+3.0**
	comp=E,0.1nm,0.3s,baz=302,slow=14,SNR=4.0						
TXAR				LR	LR	13 11 55.0	
	comp=E,55nm,20.7s,baz=300,slow=34						
	comp=E,1.2nm,0.9s						
FFC	**Flin Flon**	**20.95**	**37**	P	**P**	**13 05 28.1**	**-1.3**
ULM	**Lac du Bonnet**	**22.20**	**52**	LR	LR	13 13 58.6	
	comp=E,68nm,21.9s,baz=344,slow=36						
FARO	**Faro, Yukon**	**23.38**	**349**	P	**P**	**13 05 56.0**	**+0.9**
FARO				IAmb	IAmb	13 06 31.8	
	comp=Z,5.6nm,1.3s						
ILAR	**Eielson Array**	**28.58**	**339**	P	**P**	**13 06 45.7**	**+3.3**
	comp=Z,0.3nm,0.6s,baz=153,slow=8.0,SNR=4.6						
	comp=Z,0.3nm,0.6s						
PPLA	**Purkeypile**	**28.90**	**333**	P	**P**	**13 06 47.2**	**+1.8**
M19K	**Big River Lodg**	**29.09**	**330**	P	**P**	**13 06 49.1**	**+2.1**
M19K				IAmb	IAmb	13 07 07.6	
	comp=Z,6.7nm,1.4s						
BPAW	**Bear Paw Mtn.**	**29.30**	**336**	P	**P**	**13 06 50.6**	**+1.8**
BPAW				IAmb	IAmb	13 06 54.3	
	comp=Z,6.4nm,1.1s						
J20K	**Nowinta River**	**30.39**	**334**	P	**P**	**13 07 00.7**	**+2.3**
J20K				IAmb	IAmb	13 07 12.4	
	comp=Z,5.6nm,1.2s						
TKL	**Tuckaleechee C**	**31.63**	**84**	LR	LR	13 19 46.3	
	comp=Z,67nm,18.1s,baz=320,slow=36						
SADO	**Sadowa**	**33.03**	**66**	LR	LR	13 21 24.1	
	comp=Z,85nm,21.9s,baz=175,slow=38						
CMIG	**Matias Romero**	**33.58**	**124**	LR	LR	13 21 45.7	
	comp=Z,59nm,18.1s,baz=244,slow=38						
RES	**Resolute Bay**	**37.58**	**12**	LR	LR	13 24 00.7	
	comp=Z,112nm,18.4s,baz=329,slow=37						
FRB	**Frobisher Bay**	**40.03**	**35**	LR	LR	13 25 37.2	
	comp=Z,183nm,20.0s,baz=282,slow=37						
SHEM	**Shemya Is, Ala**	**43.71**	**309**	LR	LR	13 23 12.6	
	comp=Z,38nm,18.8s,baz=248,slow=31						
SFJD	**Kangerlussuaq**	**47.70**	**31**	LR	LR	13 30 06.4	
	comp=Z,87nm,19.4s,baz=298,slow=37						
SUMG	**Summit**	**51.28**	**23**	*i* P	**P**	**13 09 47.0**	**-3.6**
BORG	**Borgarnes**	**59.77**	**29**	LR	LR	13 37 01.6	
	comp=Z,59nm,18.1s,baz=189,slow=36						
H11S1	**WAKE ISLAND Hy**	**62.93**	**272**	T	T	14 19 36.4	
	baz=54,slow=75,SNR=491						
H11S2	**WAKE ISLAND Hy**	**62.94**	**272**	T	T	14 19 27.4	
	baz=54,slow=75,SNR=481						
H11S3	**WAKE ISLAND Hy**	**62.95**	**272**	T	T	14 19 32.5	
	baz=54,slow=75,SNR=234						
NOA	**NORSAR Array B**	**73.14**	**21**	LR	LR	13 42 31.1	
	comp=Z,18nm,18.8s,baz=350,slow=34						
HHC	**Hu-ho-hao-te**	**85.43**	**321**	*e*P	**P**	**13 13 22.3**	**-2.1**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,230nm,4.5s						
WMQ	**Urumqi**	**92.24**	**338**	*e*P	**P**	**13 13 58.8**	**+2.1**
KSH	**Kashi**	**99.21**	**345**	P	**Pdif**	**13 14 29.5**	**+1.0**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.3s						

*UPA **06** 13:11:28.8±0.9, 7°.65N×82°.42W, h0km±3km, MW4.2*
*UCR **06** 13:11:28.6±2.0, 7°.51N×82°.50W, h5km, MW4.2*
ISC 06 13:11:28.1±2.3**, 7°.57N**±0°.09×**82°.43W**±0°.05**, h1**km±12km**,**
n27, σ**0s.73**/40**, 2C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.86**	**359**⇑	*e*P	**Pg**	**13 11 44.1**	**-0.5**
DVD				*e*S	**Sg**	**13 11 56.3**	**+0.5**
CCOL	**Caracol de Cor**	**0.99**	**327**	*e*P	**Pg**	**13 11 47.6**	**+0.5**
CDITO	**Canoas**	**1.09**	**336**	*e*P	**Pg**	**13 11 49.0**	**-0.1**
CDITO				*e*S	**Sg**	**13 12 03.9**	**+0.7**
BCO2	**Palmira**	**1.15**	**355**	*e*P	**Pg**	**13 11 49.0**	**-1.1**
BCO2				*e*S	**Sg**	**13 12 06.3**	**+1.3**
BRU2	**Volcan**	**1.24**	**348**	*e*P	**Pg**	**13 11 50.9**	**-1.1**
BRU2	**Volcan**	**1.24**	**348**	*e*P	**Pg**	**13 11 50.9**	**-1.1**
BRU2				*e*S	**Sg**	**13 12 08.9**	**+0.8**
PTJ1	**Puerto Jimnez**	**1.29**	**318**	*e*P	**Pn**	**13 11 52.3**	**-1.0**
POTG	**Potrero Grande**	**1.62**	**335**	*e*P	**Pn**	**13 11 57.2**	**-0.7**
EDPN	**Palmar Norte**	**1.72**	**324**	*e*P	**Pn**	**13 11 58.5**	**-0.7**
EDBA	**Buenos Aires**	**1.79**	**332**	*e*P	**Pn**	**13 12 00.8**	**+0.6**
SRBA	**San Rafael, Bu**	**1.89**	**331**	*e*P	**Pn**	**13 12 01.0**	**-0.7**
TOSI3	**Tonosi**	**1.98**	**95**	*e*P	**Pn**	**13 12 02.8**	**0.0**
TOSI3				*e*S	**Sn**	**13 12 29.4**	**+1.2**
CHIT3	**Chitre**	**2.03**	**79**	*e*P	**Pn**	**13 12 02.2**	**-1.2**
CHIT3				*e*S	**Sn**	**13 12 29.6**	**+0.1**
AZU	**Azuero**	**2.15**	**84**	*e*P	**Pn**	**13 12 04.3**	**-0.8**
AZU				*e*S	**Sn**	**13 12 32.8**	**+0.4**
PEZE	**Perez Zeledon,**	**2.18**	**326**	*e*P	**Pn**	**13 12 05.7**	**0.0**
CDM	**Cerro de Muert**	**2.37**	**326**	*e*P	**Pn**	**13 12 08.0**	**-0.6**
MRVA	**Moravia de Chi**	**2.45**	**336**	*e*P	**Pn**	**13 12 09.9**	**+0.4**
VTON	**El Valle, Cocl**	**2.52**	**66**	*e*P	**Pn**	**13 12 10.7**	**+0.4**
VTON				*e*S	**Sn**	**13 12 42.1**	**+0.5**
LCR2	**La Lucha 2**	**2.66**	**324**	*e*P	**Pn**	**13 12 12.3**	**0.0**
BATAN	**Batan**	**2.68**	**340**⇑	*e*P	**Pn**	**13 12 11.9**	**-0.5**
BATAN				*e*S	**Sn**	**13 12 45.0**	**-0.5**
OCM	**Ochomogo**	**2.76**	**327**	*e*P	**Pn**	**13 12 14.1**	**+0.3**
HDC	**Heredia**	**2.93**	**326**	*e*P	**Pn**	**13 12 16.2**	**+0.1**
HDC				*e*S	**Sn**	**13 12 52.6**	**+0.5**
BCIP	**Isla Barro Col**	**3.02**	**58**	*e*P	**Pn**	**13 12 17.0**	**-0.1**
BCIP				*e*S	**Sn**	**13 12 53.5**	**-0.3**
JACO	**JACO, Garabito**	**3.03**	**313**	*e*P	**Pn**	**13 12 15.8**	**-1.5**
UPA	**Univ. de Panam**	**3.19**	**64**	*e*P	**Pn**	**13 12 19.4**	**0.0**
UPA				*e*S	**Sn**	**13 12 58.4**	**+0.2**
JTS	**Las Juntas de**	**3.68**	**318**	*e*P	**Pn**	**13 12 26.7**	**+0.5**
JTS	**Las Juntas de**	**3.68**	**318**	*e*P	**Pn**	**13 12 27.0**	**+0.8**
JTS				*e*S	**Sn**	**13 13 10.2**	**-0.1**

TAP 06 13:18:59.9, 24°.14N×121°.70E, h6km, ML1.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.07**	**288**	P	Pg	13 19 02.6	+0.9
	baz=287						
ETL				S	Sg	13 19 04.3	+1.3
	baz=287						
NACB	**Ninganchiao**	**0.10**	**291**	P	Pg	13 19 03.0	+0.8
	baz=291						
NACB				S	Sg	13 19 05.0	+1.3
	baz=291						
TWD	**Chiawan**	**0.11**	**240**	*i* P	Pg	13 19 02.8	+0.6
	baz=238						
TWD				*i* S	Sg	13 19 04.8	+1.0
	baz=238						
ETLH	**Xiulin Townshi**	**0.21**	**290**	P	Pg	13 19 04.9	+0.8
	baz=289						
ETLH				S	Sg	13 19 08.4	+1.4
	baz=289						
WHF	**Hehuan Shan**	**0.40**	**271**	P	Pg	13 19 08.6	+0.8
	baz=271						
WHF				S	Sb	13 19 15.2	-0.8
	baz=271						
NNSB	**Datong**	**0.41**	**315**	P	Pb	13 19 09.2	-0.4
	baz=315						
NNSB				S	Sb	13 19 15.8	-0.4
	baz=315						
LATG	**Datong**	**0.43**	**338**	P	Pb	13 19 09.9	+0.1
	baz=338						
LATG				S	Sb	13 19 16.9	+0.3
	baz=338						
FUSS	**Fushou**	**0.43**	**285**	P	Pg	13 19 09.0	+0.7
	baz=284						
FUSS				S	Sb	13 19 18.4	+1.6
	baz=284						
CHGB	**Renai**	**0.49**	**261**	P	Pb	13 19 10.8	-0.1
	baz=261						
OWD	**Renai**	**0.51**	**249**	S	Sb	13 19 18.8	-0.2
	baz=249						
ENTT	**Nioudou**	**0.52**	**346**	*i* P	Pg	13 19 10.1	+0.2
	baz=346						
ENTT				S	Sb	13 19 18.1	-0.9
	baz=346						
WUSB	**Renai**	**0.55**	**255**	P	Pb	13 19 11.9	-0.1
	baz=254						
WUSB				S	Sb	13 19 20.4	+0.3
	baz=254						
FUSB	**Fushanzhiwuyua**	**0.63**	**351**	P	Pb	13 19 13.1	-0.2
	baz=350						

TAP 06 13:19:10.5, 23°.76N×121°.30E, h9km±1km, ML0.5, B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.13**	**67**	*i* P	Pg	13 19 13.9	+0.5
	baz=68						
ESL				*i* S	Sg	13 19 15.9	+0.5
	baz=68						
EGFH	**Guangfu**	**0.15**	**130**	*i* P	Pg	13 19 13.9	+0.2
	baz=130						
EGFH				*i* S	Sg	13 19 16.0	0.0
	baz=130						
VWDT	**VWDT**	**0.15**	**266**	P	Pg	13 19 14.2	+0.4
	baz=266						
WUSB	**Renai**	**0.28**	**323**	P	Pg	13 19 16.8	+0.5
	baz=324						
HGSD	**Ruisui**	**0.29**	**158**	S	Sg	13 19 21.5	+1.3
	baz=164						
SSLB	**Suanglung**	**0.32**	**274**	P	Pg	13 19 17.3	+0.4
	baz=274						
SSLB				S	Sg	13 19 21.4	+0.2
	baz=274						
YULB	**Yu-li**	**0.37**	**181**	P	Pg	13 19 17.7	-0.1
	baz=182						
YULB				S	Sg	13 19 22.2	-0.4
	baz=182						

*IDC **06** 13:40:56.3±0.6, 1°.28N×126°.29E, h0km, mb4.1/17, mbtmp4.1/18, ML3.4/1, MS3.1/2, Error ellipse: s-maj=27.6km s-min=13.1km az=74.0*
*NEIC **06** 13:41:02.7±2.2, 1°.26N±0°.08×126°.41E±0°.06, h40km±8km, mb4.5/31, Error ellipse: s-maj=11.8km s-min=7.9km az=192.0*
*DJA **06** 13:41:02.8±0.2, 1°N±2°×12°6E±°, h41km±4km, M4.0/19, mB4.9/4, mb4.2/19, MLv3.9/15, Mw(mB)4.2/4*
ISC 06 13:41:03.1±0.4**, 1°.30N**±0°.05×**126°.43E**±0°.06**, h47**km**, n91,**
σ**0s.98**/93**, mb4.3**/36**, 1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**119**		**Pn**	**13 41 20.8**	**-1.0**
TNTI	**Ternate**	**1.07**	**119**	P	**Pn**	**13 41 21.0**	**-0.7**
GAMI	**Galela, Maluku**	**1.46**	**69**	P	**Pn**	**13 41 26.9**	**-0.1**
LBMI	**Labuha**	**2.20**	**151**	P	**Pn**	**13 41 36.7**	**-0.5**
LBMI				S	**Sn**	**13 42 02.3**	**-1.0**
SGSI	**Sangihe**	**2.53**	**339**	P	**Pn**	**13 41 41.1**	**-0.7**
SGSI				S	**Sn**	**13 42 10.8**	**-0.6**
SANI	**Sanana**	**3.36**	**188**	P	**Pn**	**13 41 52.0**	**-1.1**
GTOI	**Gorontalo**	**3.49**	**259**	P	**Pn**	**13 41 54.9**	**+0.1**
LUWI	**Luwuk**	**4.34**	**238**		**Pn**	**13 42 06.2**	**-0.4**
LUWI	**Luwuk**	**4.34**	**238**	P	**Pn**	**13 42 07.2**	**+0.6**
NLAI	**Namlea**	**4.56**	**172**	P	**Pn**	**13 42 09.8**	**+0.2**
MRSI	**Marisa**	**4.57**	**260**	P	**Pn**	**13 42 09.4**	**-0.3**
KRAI	**Karang Ratu**	**4.99**	**157**	P	**Pn**	**13 42 17.6**	**+2.1**
MSAI	**Masohi**	**5.25**	**152**	P	**Pn**	**13 42 19.1**	**0.0**
	0.0nm408nm4.5nm,0.7s						
APSI	**Ampana**	**5.26**	**245**	P	**Pn**	**13 42 19.7**	**+0.4**
	0.6nm2μm184nm,0.9s						
SIJI	**Sorong**	**5.29**	**114**	Pn	**Pn**	**13 42 20.1**	**+0.4**
	1.1nm,0.3s,baz=334,slow=10,SNR=6.5						
SIJI				LR	LR	13 44 38.7	
	comp=Z,71nm,20.6s,baz=298,slow=41						
	4.5nm,0.5s						
SIJI	**Sorong**	**5.29**	**114**	P	**Pn**	**13 42 20.4**	**+0.7**
	0.1nm1μm7.8nm,0.6s						
TOLI2	**Tolitoli**	**5.65**	**268**		**Pn**	**13 42 22.4**	**-2.2**
KCP	**Kidapawan**	**5.82**	**347**⇑	*e*P	Pn	13 42 20.6	-6.4
MPSI	**Mapaga**	**6.60**	**262**	P	**Pn**	**13 42 38.0**	**+0.3**
	0.1nm14nm,0.7s						
FAKI	**Fak Fak**	**7.17**	**126**		**Pn**	**13 42 46.6**	**+1.1**
FAKI	**Fak Fak**	**7.17**	**126**	P	**Pn**	**13 42 46.4**	**+1.0**
	0.1nm20nm,0.8s						
SPSI	**Sidrap Palu**	**8.47**	**232**	P	**Pn**	**13 43 03.0**	**-0.3**
	18nm,0.9s						
BNSI	**Bone**	**8.49**	**228**	P	**Pn**	**13 43 03.4**	**-0.1**
	9.3nm,1.0s						
MYLDM	**Lahad Datu**	**8.81**	**296**	Pn	**Pn**	**13 43 08.4**	**+0.5**
MYLDM	**Lahad Datu**	**8.81**	**296**	P	**Pn**	**13 43 09.1**	**+1.2**
	34nm,1.4s						
BKSI	**Bulukumba**	**9.11**	**224**	P	**Pn**	**13 43 12.9**	**+0.8**
	14nm,0.6s						
BSSI	**Bau Bau, Buton**	**9.48**	**219**	P	**Pn**	**13 43 17.5**	**+0.4**
	18nm,1.0s						
KKM	**Kota Kinabalu**	**11.23**	**295**	Pn	**Pn**	**13 43 41.4**	**+0.3**
SBUM	**Sibu**	**14.25**	**275**	P	**P**	**13 44 29.3**	**+0.8**
MTN	**Manton Dam**	**14.81**	**162**	Pn	**Pn**	**13 44 28.5**	**-1.2**
KNRA	**Kununurra**	**17.03**	**172**		**Pn**	**13 44 57.7**	**-0.3**
KNRA				IAmb	IAmb	13 45 13.2	
	comp=Z,22nm,1.2s						
PCJI	**Pacitan**	**17.90**	**238**	P	**P**	**13 45 09.7**	**+0.8**
	comp=Z,39nm,2.1s						
SCJI	**Gunung Srandil**	**19.39**	**242**	P	**P**	**13 45 25.8**	**+0.4**
TWG	**Pinlang**	**22.01**	**347**	P	**P**	**13 45 53.6**	**0.0**
TWG				IAmb	IAmb	13 45 54.0	
	comp=Z,10.0nm,0.6s						
WB0	**Warramunga Arr**	**22.35**	**160**	P	**P**	**13 45 56.1**	**-1.1**
WB0				IAmb	IAmb	13 45 58.9	
	comp=Z,11nm,0.6s						
COEN	**Coen**	**22.48**	**133**	P	**P**	**13 45 58.2**	**-0.4**
WRAB	**Tennant Creek**	**22.49**	**160**	P	**P**	**13 45 57.4**	**-1.4**
WRAB				IAmb	IAmb	13 46 02.4	
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**22.49**	**160**	P	**P**	**13 45 57.6**	**-1.2**
	comp=Z,5.1nm,0.5s,baz=336,slow=10,SNR=74						
	comp=Z,5.1nm,0.5s						
WRA	**Warramunga Arr**	**22.49**	**160**	P	**P**	**13 45 57.0**	**-1.8**
WB2	**Warramunga Arr**	**22.50**	**160**	P	**P**	**13 45 57.2**	**-1.6**
WB2				IAmb	IAmb	13 46 02.5	
	comp=Z,8.8nm,0.7s						
WR0	**Warramunga Arr**	**22.58**	**160**	P	**P**	**13 45 58.2**	**-1.5**
WR0				IAmb	IAmb	13 46 07.1	
	comp=Z,11nm,1.1s						
MYKOM	**Kota Tinggi**	**22.58**	**272**	P	**P**	**13 46 00.9**	**+1.1**
	comp=Z,7.6nm,1.3s						
TPUB	**Ta-pu**	**22.58**	**346**	P	**P**	**13 45 59.4**	**-0.3**
TPUB				IAmb	IAmb	13 46 03.4	
	comp=Z,22nm,1.0s						
BTDF	**Bukit Timah Da**	**22.65**	**270**	P	**P**	**13 45 59.1**	**-1.5**
	comp=Z,8.4nm,1.0s						
SDSI	**Sungai Dareh**	**25.10**	**265**	P	**P**	**13 46 23.8**	**+0.1**
	comp=Z,8.7nm,0.9s						
AS31	**Alice Springs**	**25.86**	**164**	P	**P**	**13 46 29.7**	**-0.8**
ASAR	**Alice Springs**	**25.86**	**164**	P	**P**	**13 46 29.5**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=344,slow=7.7,SNR=57						
ASAR				PcP	**PcP**	**13 49 59.0**	**0.0**
	comp=Z,0.2nm,0.4s,baz=346,slow=2.1,SNR=4.9						
ASAR				LR	LR	13 58 19.6	
	comp=Z,122nm,18.4s,baz=304,slow=40						
	comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**25.86**	**164**	P	**P**	**13 46 29.4**	**-1.2**
RABL	**Rabaul**	**26.29**	**102**	P	**P**	**13 46 34.2**	**-0.3**
JCJ	**Chichijima**	**29.77**	**29**	P	**P**	**13 47 06.0**	**+0.6**
	comp=Z,127nm,1.1s,baz=272,slow=18,SNR=4.1						
CMAR	**Chiang Mai Arr**	**31.91**	**304**	P	**P**	**13 47 24.3**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=8.3,SNR=1.8						
	comp=Z,0.3nm,0.3s						
FORT	**Forrest**	**31.94**	**177**	P	**P**	**13 47 24.0**	**-0.5**
BBOO	**Buckleboo**	**35.13**	**166**	P	**P**	**13 47 51.4**	**-0.8**
JGF	**Kuroka**	**35.60**	**15**	P	**P**	**13 47 56.9**	**+0.6**
STKA	**Stephens Creek**	**35.99**	**158**	P	**P**	**13 47 59.0**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=337,slow=11,SNR=6.8						
	comp=Z,2.3nm,0.6s						
STKA	**Stephens Creek**	**35.99**	**158**	P	**P**	**13 47 59.4**	**-0.3**
KSRS	**Korea Array**	**36.00**	**2**	P	**P**	**13 48 01.0**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=179,slow=9.5,SNR=4.4						
	comp=Z,1.2nm,0.8s						
MAJO	**Matsushiro**	**36.72**	**16**	P	**P**	**13 48 06.3**	**+0.5**
MAJO				IAmb	IAmb	13 48 35.8	
	comp=Z,17nm,1.3s						
MJAR	**Matsushiro Arr**	**36.72**	**16**	P	**P**	**13 48 04.8**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=178,slow=9.5,SNR=8.0						
	comp=Z,1.3nm,0.6s						
MJB9	**Matsu-Tunnel**	**36.72**	**16**	P	**P**	**13 48 06.3**	**+0.5**
MJB9				IAmb	IAmb	13 48 35.8	
	comp=Z,16nm,1.2s						
JMM	**Marumori**	**38.71**	**18**	P	**P**	**13 48 24.1**	**+1.5**
USRK	**Ussuriysk Ar.**	**43.00**	**6**	P	**P**	**13 48 58.0**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=169,slow=6.7,SNR=1.6						
	comp=Z,1.4nm,0.7s						
KLR	**Kul'dur**	**47.96**	**5**	P	**P**	**13 49 36.3**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=228,slow=5.0,SNR=3.5						
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**49.50**	**342**	P	**P**	**13 49 49.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=147,slow=13,SNR=2.0						
	comp=Z,0.3nm,0.3s						
PETK	**Petropavlovsk-**	**57.78**	**22**	P	**P**	**13 50 49.6**	**+0.2**
	comp=Z,7.9nm,1.1s,baz=202,slow=7.4,SNR=2.1						
	comp=Z,7.9nm,1.1s						
PETK	**Petropavlovsk-**	**57.78**	**22**	P	**P**	**13 50 51.0**	**+1.6**
MK31	**Makanchi Array**	**59.38**	**326**	P	**P**	**13 50 59.8**	**-1.0**
MK31				IAmb	IAmb	13 51 17.0	
	comp=Z,5.4nm,1.1s						
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**13 50 59.9**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=117,slow=7.7,SNR=22						
	comp=Z,1.3nm,0.5s						
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**13 50 59.6**	**-1.1**
MAKZ	**Makanchi**	**59.56**	**326**	P	**P**	**13 51 01.3**	**-0.7**
ZAA0	**Zalesovo Array**	**62.61**	**334**	P	**P**	**13 51 21.5**	**-0.9**
ZAA0				IAmb	IAmb	13 51 26.0	
	comp=Z,5.5nm,1.4s						
ZALV	**Zalesovo Beam**	**62.61**	**334**	P	**P**	**13 51 21.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=116,slow=8.5,SNR=3.5						
	comp=Z,0.5nm,0.4s						
GAR	**Garm**	**63.35**	**314**	P	**P**	**13 51 26.5**	**-1.3**
GAR				IAmb	IAmb	13 51 27.6	
	comp=Z,4.7nm,0.7s						
BTK	**Batken**	**63.40**	**315**	P	**P**	**13 51 27.3**	**-0.8**
BTK				IAmb	IAmb	13 51 29.0	
	comp=Z,2.4nm,0.9s						
KURK	**Kurchatov**	**63.62**	**328**	P	**P**	**13 51 28.6**	**-0.6**
KURK				IAmb	IAmb	13 51 30.8	
	comp=Z,5.3nm,0.8s						
KK31	**Karatay Array**	**64.81**	**318**	P	**P**	**13 51 36.3**	**-0.9**
KKAR	**Karatay Array**	**64.81**	**318**	P	**P**	**13 51 36.3**	**-0.9**
KIWB	**Kanaga Island**	**68.86**	**34**	P	**P**	**13 52 03.3**	**+0.6**
BRVK	**Borovoye**	**69.26**	**328**	P	**P**	**13 52 04.2**	**-1.0**
GEYT	**Alibeck**	**72.19**	**309**	P	**P**	**13 52 22.0**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=113,slow=3.3,SNR=1.9						
	comp=Z,1.4nm,0.6s						
NRIK	**Noril'sk**	**72.70**	**347**	P	**P**	**13 52 25.4**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=157,slow=3.1,SNR=4.1						
	comp=Z,2.8nm,0.5s						
ABKAR	**Akbulak array**	**73.84**	**321**	P	**P**	**13 52 32.0**	**-0.9**
ARU	**Arti**	**76.82**	**328**	P	**P**	**13 52 49.2**	**-0.6**
ARU				IAmb	IAmb	13 52 50.3	
	comp=Z,17nm,1.5s						
VNDA	**Vanda**	**81.07**	**173**	P	**P**	**13 53 14.6**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=318,slow=3.6,SNR=3.8						
	comp=Z,0.7nm,0.8s						
VNDA	**Vanda**	**81.07**	**173**	P	**P**	**13 53 15.5**	**+2.7**
GEVA	**Gevas**	**83.99**	**308**	P	**P**	**13 53 29.6**	**+0.6**
I23K	**Minto, Yukon-K**	**86.38**	**25**	P	**P**	**13 53 41.6**	**+1.5**
I23K				IAmb	IAmb	13 54 12.5	
	comp=Z,8.2nm,1.4s						
ILAR	**Eielson Array**	**87.41**	**25**	P	**P**	**13 53 44.9**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=262,slow=4.4,SNR=5.5						
	comp=Z,0.2nm,0.4s						
BMAR	**Burnt Mountain**	**88.42**	**23**	P	**P**	**13 53 51.4**	**+1.5**
BCAR	**Beaver Creek A**	**89.66**	**27**	P	**P**	**13 53 57.5**	**+1.7**
FINES	**FINESS Array B**	**93.82**	**332**	P	**P**	**13 54 14.8**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=18,slow=4.8,SNR=3.9						
	comp=Z,3.9nm,0.9s						

*IDC **06** 13:47:26.8±5.2, 1°.72S×139°.11E, h0km, mb3.8/2, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=212.5km s-min=30.6km az=86.0*
*NEIC **06** 13:47:31.3±0.9, 1°.8S±0°.1×139°.0E±0°.1, h18km±4km, mb4.2/13, Error ellipse: s-maj=21.3km s-min=11.8km az=130.0*
ISC 06 13:47:29.1±0.9**, 1°.7S**±0°.1×**139°.1E**±0°.1**, h10**km**, n26,**
σ**0s.96**/20**, mb4.2**/5**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.91**	**260**	Pn	**Pn**	**13 49 09.4**	**-1.1**
SAUI	**Saumlaki**	**9.92**	**231**	Pn	**Pn**	**13 49 51.8**	**0.0**
MTN	**Manton Dam**	**13.55**	**215**	Pn	**Pn**	**13 50 41.8**	**+0.3**
SOEI	**Soe**	**16.73**	**241**		**Pn**	**13 51 25.6**	**+1.7**
SOEI				IAmb	IAmb	13 51 36.4	
	comp=Z,16nm,1.0s						
KNRA	**Kununurra**	**17.18**	**216**		**Pn**	**13 51 30.2**	**+0.9**
KNRA				IAmb	IAmb	13 51 52.7	
	comp=Z,22nm,1.2s						
WB0	**Warramunga Arr**	**18.50**	**194**	P	**P**	**13 51 46.3**	**+0.7**
WR0	**Warramunga Arr**	**18.65**	**193**	P	**P**	**13 51 46.8**	**-0.4**
WR0				IAmb	IAmb	13 51 50.3	
	comp=Z,5.6nm,0.8s						
WB2	**Warramunga Arr**	**18.68**	**194**	P	**P**	**13 51 47.2**	**-0.3**
WRA	**Warramunga Arr**	**18.68**	**194**	P	**P**	**13 51 46.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=16,slow=11,SNR=26						
	comp=Z,3.8nm,0.8s						
CTAO	**Charters Tower**	**19.55**	**159**	P	**P**	**13 51 56.6**	**-0.4**
CTAO				IAmb	IAmb	13 52 03.0	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**22.37**	**193**	P	**P**	**13 52 27.5**	**0.0**
ASAR	**Alice Springs**	**22.37**	**193**	P	**P**	**13 52 27.2**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=22,slow=11,SNR=57						
	comp=Z,2.8nm,0.7s						
MBWA	**Marble Bar**	**26.98**	**223**	P	**P**	**13 53 10.4**	**-0.8**
MBWA				IAmb	IAmb	13 53 16.2	
	comp=Z,21nm,1.4s						
FORT	**Forrest**	**30.71**	**199**	P	**P**	**13 53 45.1**	**+0.8**
H11S3	**WAKE ISLAND Hy**	**33.80**	**52**	T	T	14 30 03.9	
	baz=236,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**33.81**	**52**	T	T	14 30 04.7	
	baz=236,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**33.82**	**52**	T	T	14 30 05.2	
	baz=236,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**34.64**	**51**	T	T	14 31 24.0	
	baz=229						
H11N2	**WAKE ISLAND Hy**	**34.66**	**51**	T	T	14 31 25.9	
	baz=229						
H11N3	**WAKE ISLAND Hy**	**34.66**	**51**	T	T	14 31 20.2	
	baz=229						
RAR	**Rarotonga**	**62.57**	**113**	P	**P**	**13 57 52.1**	**-1.7**
MKAR	**Makanchi Array**	**69.24**	**322**	P	**P**	**13 58 35.7**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=99,slow=7.1,SNR=2.1						
	comp=Z,0.9nm,0.9s						
VNDA	**Vanda**	**76.71**	**175**	P	**P**	**13 59 21.4**	**+1.4**
VNDA				IAmb	IAmb	13 59 38.3	
	comp=Z,2.9nm,1.4s						
L27K	**Beaver Creek,**	**86.60**	**27**	P	**P**	**14 00 13.6**	**+1.0**
BCAR	**Beaver Creek A**	**86.62**	**27**	P	**P**	**14 00 13.7**	**+1.0**
QSPA	**South Pole Qui**	**88.20**	**180**	P	**P**	**14 00 20.9**	**+0.6**
QSPA				IAmb	IAmb	14 00 26.1	
	comp=Z,3.3nm,1.4s						

IDC 06 13:51:23.7±2.6**, 2°.98N×128°.09E, h0**km**, mb3.4**/3**,**
mbtmp3.4/3**, Error ellipse: s-maj=192.6km**
s-min=28.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**165**	P	P	13 56 36.8	+0.5
	0.2nm,0.3s,baz=345,slow=10,SNR=5.1						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**27.08**	**168**	P	P	13 57 07.5	-0.7
	0.2nm,0.4s,baz=351,slow=7.3,SNR=7.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.95**	**325**	P	P	14 01 25.3	+0.3
	1.0nm,1.0s,baz=118,slow=7.4,SNR=2.1						
	1.0nm,1.0s						

RSNC 06 13:54:11.2±1.0**, 6°.81N×73°.17W, h147**km±4km**, ML3.2,**
Mw3.6, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**184**⇑	*i*P	Pn	13 54 31.1	-0.4
BARC				*e*S	Sn	13 54 46.2	-0.7
BARC				IAML		13 54 48.8	
	comp=Z,264nm,0.1s						
BRRC	**Barranca, Sant**	**0.62**	**299**⇑	*e*P	Pn	13 54 32.8	-0.1
BRRC				*e*S	Sn	13 54 49.0	-0.3
BRRC				IAML		13 54 53.4	
	comp=Z,316nm,0.1s						
PAMC	**Pamplona, Colo**	**0.70**	**41**	*e*P	Pn	13 54 33.9	-0.1
PAMC				*e*S	Sn	13 54 51.0	-0.3
PAMC				IAML		13 54 52.6	
	comp=Z,203nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	*e*P	Pn	13 54 37.8	-0.8
	comp=Z,173nm,0.2s						
PTBC				*e*S	Sn	13 54 58.8	-0.6
PTBC				IAML		13 55 06.5	
	comp=Z,173nm,0.2s						
TAMC	**Tame, Arauca**	**1.42**	**105**	*e*P	Pn	13 54 39.2	-0.5

TAMC				IAML		13 54 60.0	
	comp=Z,98nm,0.4s						
TAMC				eS	Sn	13 55 00.8	-0.6
SPBC	San Pablo de B	1.46	218	eP	Pn	13 54 40.0	-0.2
SPBC				eS	Sn	13 55 02.3	-0.1
SPBC				IAML		13 55 10.3	
	comp=Z,259nm,0.2s						
ZARC	Zaragoza, Cauc	1.81	292	eP	Pn	13 54 43.7	-0.3
ZARC				eS	Sn	13 55 09.4	+0.3
ZARC				IAML		13 55 14.9	
	comp=Z,346nm,0.3s						
NORC	Norcasia	2.09	234	eP	Pn	13 54 47.0	-0.3
NORC				eS	Sn	13 55 14.6	-0.4
NORC				IAML		13 55 18.5	
	comp=Z,127nm,0.1s						
CHIC	Chingaza	2.23	195	eP	Pn	13 54 49.2	-0.1
CHIC				eS	Sn	13 55 18.8	+0.1
CHIC				IAML		13 55 28.4	
	comp=Z,37nm,0.4s						
ROSC	El Rosal	2.27	210	eP	Pn	13 54 50.9	+1.2
ROSC				eS	Sn	13 55 18.3	-1.0
ROSC				IAML		13 55 26.0	
	comp=Z,119nm,0.3s						
HELC	Santa Helena	2.42	256	eP	Pn	13 54 52.9	+1.3
HELC				eS	Sn	13 55 21.4	-1.2
HELC				IAML		13 55 30.6	
	comp=Z,70nm,0.4s						
UREC	San Jos de Ur	2.53	292	eP	Pn	13 54 51.1	-1.4
UREC				eS	Sn	13 55 23.7	-0.7
VILC	Villavicencio,	2.73	191	eP	Pn	13 54 55.0	-0.1
VILC				eS	Sn	13 55 27.1	-2.0
LL1C	La Loma 1 Cana	2.75	352	eP	Pn	13 54 56.0	+0.8
LL1C				eS	Sn	13 55 29.7	+0.4
PTGC	Puerto Gaitan,	2.79	158	eP	Pn	13 54 54.5	-1.3
PTGC				eS	Sn	13 55 27.5	-2.8
CBOC	Ciudad Bolivar	2.98	252	eP	Pn	13 54 58.7	+0.3
CBOC				eS	Sn	13 55 33.6	-1.1
DBBC	Dabeiba	3.03	274	eP	Pn	13 54 58.8	-0.1
DBBC				eS	Sn	13 55 34.6	-1.1
ANIL	Santa Ana	3.20	224	eP	Pn	13 55 02.1	+0.8
ANIL				eS	Sn	13 55 39.3	-0.7
ANIL				IAML		13 55 48.4	
	comp=Z,194nm,0.3s						
ARGC	Ariguani, Magd	3.21	341	eP	Pn	13 55 01.1	-0.1
ARGC				eS	Sn	13 55 39.3	-0.7
ORTC	Ortega, Tolima	3.54	216	eP	Pn	13 55 05.8	+0.2
ORTC				eS	Sn	13 55 49.0	+1.4
ORTC				IAML		13 55 54.1	
	comp=Z,30nm,0.5s						
PLMC	San Jos del P	3.63	239	eP	Pn	13 55 06.9	+0.3
PLMC				eS	Sn	13 55 48.2	-1.4
PLMC				IAML		13 55 54.0	
	comp=Z,28nm,0.2s						
SJCC	San Jacinto, C	3.66	327	eP	Pn	13 55 04.7	-2.4
SJCC				eS	Sn	13 55 45.4	-4.9
SJCC				IAML		13 55 50.6	
	comp=Z,36nm,0.4s						
LCBC	Los crdobas,	3.77	303	eS	Sn	13 55 48.3	-4.4
CRJC	Cerrejon, Guaj	4.20	4	eP	Pn	13 55 11.7	-2.3
CRJC				eS	Sn	13 55 59.3	-3.6
YOTC	Yotoco, Valle	4.23	229	eP	Pn	13 55 14.5	0.0
YOTC				eS	Sn	13 56 02.7	-1.0
URIC	Uribia, Colomb	5.00	13	eP	Pn	13 55 21.5	-3.1
URIC				eS	Sn	13 56 15.6	-6.3

*IDC **06** 14:03:31.0±0.7, 0°.44N×98°.38E, h0km, mb4.3/16, mbtmp4.3/17, ML4.8/1, MS3.7/5, Error ellipse: s-maj=28.7km s-min=13.8km az=56.0*

*BJI **06** 14:03:36.5±0.0, 0°.31N×98°.44E, h61km, mb4.7/43, mB5.0/21, Ms4.5/5, Ms7 4.2/2*

*DJA **06** 14:03:38.6±0.2, 1˚N±2˚×9˚9E±˚, h52km±4km, M4.6/17, mb4.6/8, mB5.2/3, MLv4.6/17, Mw(mB)4.5/3*

*NEIC **06** 14:03:39.3±1.4, 0°.58N±0°.07×98°.49E±0°.04, h50km±7km, mb4.8/48, Error ellipse: s-maj=10.1km s-min=5.0km az=193.0*

ISC 06 14:03:38.4±0.6**, 0°.56N**±0°.04×**98°.49E**±0°.04**, h50**km±5km**, n149, σ1°.30**/152**, mb4.7**/49**, MS3.6**/5**, 1C-1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.64	199	P	Pn	14 03 51.5	0.0
PBSI				S	Sn	14 04 02.1	+1.2
SBSI	Sibolga	1.06	22	P	Pn	14 03 59.8	+2.8
SBSI				S	Sn	14 04 12.3	+1.6
MNSI	Mandailing Nat	1.12	78	P	Pn	14 03 58.0	+0.3
MNSI				S	Sn	14 04 12.3	+0.3
GSI	Gunungsitoli	1.18	309		Pn	14 03 58.5	0.0
GSI	Gunungsitoli	1.18	309	P	Pn	14 03 58.9	+0.4
GSI	Gunungsitoli	1.18	309	P	Pn	14 03 59.8	+1.3
TRSI	Tarutung	1.53	18	P	Pn	14 04 03.9	+0.4
TRSI				S	Sn	14 04 16.4	-5.9
SISI	Saibi	1.97	162	P	Pn	14 04 09.9	+0.6
SISI				S	Sn	14 04 32.5	-0.3
RPSI	Rantau Prapat	2.17	12	Pn	Pn	14 04 11.8	-0.2
PSI	Prapat	2.27	11	P	Pn	14 04 12.8	-0.8
PSI	Prapat	2.27	11	P	Pn	14 04 13.1	-0.5
PDSI	Padang	2.46	127	P	Pn	14 04 16.8	+0.8
BKNI	Bangkinang	2.56	95		Pn	14 04 17.6	+0.1
BKNI	Bangkinang	2.56	95	P	Pn	14 04 17.7	+0.2
BKNI	Bangkinang	2.56	95	P	Pn	14 04 19.2	+1.7
TSI	Tuntungan	2.92	1	P	Pn	14 04 24.2	+1.8
KCSI	Kotacane, Aceh	3.03	346	P	Pn	14 04 24.5	+0.6
SDSI	Sungai Dareh	3.29	117	P	Pn	14 04 40.5	+13
PPSI	Pulau Pagai	3.63	155	P	Pn	14 04 32.0	-0.2
PPSI				S	Sn	14 05 13.4	-0.4
MLSI	Meulaboh, Aceh	4.23	331	P	Pn	14 04 41.7	+1.3
IPM	Ipoh	4.65	33	Pn	Pn	14 04 46.7	+0.6
IPM	Ipoh	4.65	33	P	Pn	14 04 47.7	+1.6
IPM	Ipoh	4.65	33	P	Pn	14 04 48.1	+2.0
LHMI	Lhok Sumawe	4.89	342	Pn	Pn	14 04 50.2	+0.9
LHMI	Lhok Sumawe	4.89	342	P	Pn	14 04 50.3	+0.9
KULM	Kulim	5.17	25	Pn	Pn	14 04 54.1	+0.8
MASI	Maura Aman, Be	5.25	134	P	Pn	14 04 55.6	+1.2
	0.4nm34nm,0.7s						
BTDF	Bukit Timah Da	5.34	81	P	Pn	14 04 55.8	+0.1
	0.2nm11nm,0.9s						
MYKOM	Kota Tinggi	5.50	77	Pn	Pn	14 04 58.1	+0.3
MYKOM	Kota Tinggi	5.50	77	P	Pn	14 04 58.0	+0.3
DSRI	Dabo	6.18	100	P	Pn	14 05 07.0	-0.1
	0.2nm747nm18nm,0.7s						
MNAI	Manna	6.62	138	Pn	Pn	14 05 14.2	+1.1
MNAI	Manna	6.62	138	P	Pn	14 05 12.6	-0.6
	1.2nm220nm,1.0s						
SKLT	Songkhla	6.90	18	P	Pn	14 05 18.3	+1.2
	0.2nm50nm,0.7s						
SKLT	Songkhla	6.90	18	P	Pn	14 05 18.4	+1.3
PMBI	Palembang	7.17	119	Pn	Pn	14 05 20.9	+0.2
SRIT	Nakonsritamara	8.06	8		Pn	14 05 33.2	+0.2
SURA	Surathani	8.63	8	P	Pn	14 05 42.5	+1.8
SBUM	Sibu	13.85	82		P	14 07 01.0	+1.8
CM31	Chiang Mai Arr	17.79	1		Pn	14 07 42.3	-0.3
CMAR	Chiang Mai Arr	17.79	1	P	P	14 07 43.0	+0.1
	1.2nm,0.3s,baz=192,slow=11,SNR=22						
CMAR				LR	LR	14 14 05.1	
	comp=Z,138nm,18.1s,baz=195,slow=35						
	2.7nm,0.5s						
PHRA	Phrae	17.91	5	P	Pn	14 07 44.1	+0.1
PHRA				IAmb	IAmb	14 07 47.9	
	comp=Z,45nm,0.8s						
CHTO	Chiang Mai	18.15	1	P	Pn	14 07 47.6	+0.7
BKB	Balikpapan	18.50	96	P	Pn	14 07 51.4	+0.2
MYLDM	Lahad Datu	20.50	77	Pn	Pn	14 08 15.3	+0.3
MYLDM	Lahad Datu	20.50	77	P	P	14 08 12.3	-0.2
	comp=Z,27nm,1.2s						
MND	Mandalay	21.45	354	P	P	14 08 24.0	+1.4
TOLI2	Tolitoli	22.30	88	P	P	14 08 31.3	-0.6
GTOI	Gorontalo	24.52	90	P	P	14 08 51.2	-2.3
	comp=Z,6.7nm,0.7s						
SHL	Shillong	25.67	346	P	P	14 09 04.1	+0.2
SHL				IAmb	IAmb	14 09 05.8	
	comp=Z,46nm,0.7s						
SHL	Shillong	25.67	346	eP	P	14 09 04.1	+0.2
SHL				IAmb	IAmb	14 09 06.3	
	comp=Z,28nm,0.7s						
PZH	PanZhiHua	25.98	7	P	P	14 09 09.7	+3.0
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
GUWA	GUWAHATI	26.31	346	eP	P	14 09 09.9	+0.3
TEZP	TEZPUR	26.48	349⇑	eP	P	14 09 06.4	-4.7
H08S2	Diego Garcia H	27.17	252	T	T	14 36 56.1	
	baz=73,slow=75,SNR=741						
H08S3	Diego Garcia H	27.18	252	T	T	14 37 00.7	
	baz=73,slow=75,SNR=884						
H08S1	Diego Carcia H	27.19	252	T	T	14 36 57.0	
	baz=73,slow=75,SNR=229						
LBMI	Labuha	29.04	92	P	P	14 09 31.8	-2.3
	comp=Z,1μmcomp=Z,15nm,0.8s						
CD2	Chengdu	30.60	9	P	P	14 09 49.0	+1.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	Enshi	31.35	18	P	P	14 09 52.6	-1.8
ENH				IAmb	IAmb	14 09 55.0	
	comp=Z,14nm,0.8s						
ENH	Enshi	31.35	18	P	P	14 09 54.3	-0.1
XAN	Xi'an	34.71	15	P	P	14 10 22.9	-0.8
XAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LYN	LuoYang	36.26	20⇓	iP	P	14 10 38.2	+1.3
LYN				pP	pP	14 10 50.6	+0.6
LYN				pmax	pmax		
	comp=Z,30nm,0.8s						
NJ2	Nanjing	36.76	30	eP	P	14 10 43.8	+2.6
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
GTA	Gaotai	38.69	2	eP	P	14 10 58.0	+0.4
GTA				pP	pP	14 11 12.0	+1.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,66nm,5.1s						
GTA				LR	LR		
	comp=Z,78nm,17.1s						
GTA				LR	LR		
	comp=Z,140nm,18.9s						
JOW	Kunigami	38.76	45	LR	LR	14 26 38.3	
	comp=Z,54nm,19.4s,baz=102,slow=36						
WB0	Warramunga Arr	40.58	122	P	P	14 11 11.5	-1.9
WB0				IAmb	IAmb	14 12 35.1	
	comp=Z,25nm,1.9s						
WRA	Warramunga Arr	40.60	122	P	P	14 11 12.2	-1.6
	comp=Z,0.7nm,0.7s,baz=309,slow=8.9,SNR=18						
WRA				PcP	PcP	14 13 15.7	+0.5
	comp=Z,1.1nm,0.5s,baz=316,slow=2.5,SNR=13						
	comp=Z,0.7nm,0.7s						
WRA	Warramunga Arr	40.60	122	P	P	14 11 11.1	-2.6
WB2	Warramunga Arr	40.62	122	P	P	14 11 11.4	-2.4
HHC	Hu-ho-hao-te	41.82	15	eP	P	14 11 27.4	+3.9
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,5.1s						
FORT	Forrest	41.96	141	P	P	14 11 23.9	-0.8
FORT				IAmb	IAmb	14 11 49.0	
	comp=Z,41nm,1.1s						
AS31	Alice Springs	41.98	127	P	P	14 11 23.7	-1.3
ASAR	Alice Springs	41.98	127	P	P	14 11 23.5	-1.5
	comp=Z,0.5nm,0.3s,baz=301,slow=7.6,SNR=39						
ASAR				PcP	PcP	14 13 20.4	+0.7
	comp=Z,1.4nm,0.7s,baz=305,slow=2.8,SNR=11						
	comp=Z,0.5nm,0.3s						
ASAR	Alice Springs	41.98	127	P	P	14 11 23.1	-1.9
BJT	Baijiatuau	42.45	20	P	P	14 11 29.5	+1.1
BJT				IAmb	IAmb	14 11 30.7	
	comp=Z,18nm,0.9s						
BJT	Baijiatuau	42.45	20	P	P	14 11 29.9	+1.4
BJI	Beijing	42.47	20	P	P	14 11 30.2	+1.6
BJI				pmax	pmax		
	comp=Z,22nm,0.7s						
JSU	Suzuyama	43.15	41	P	P	14 11 33.3	-0.9
JSU				IAmb	IAmb	14 13 10.6	
	comp=Z,44nm,1.1s						
KSH	Kashi	43.89	335	P	P	14 11 40.0	-0.3
KSH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WMQ	Urumqi	44.14	349	eP	P	14 11 43.1	+1.0
WMQ				pP	pP	14 11 58.4	+2.9
WMQ				sP	sP	14 12 04.3	+3.0
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JNU	Nakatsue	44.45	40	P	P	14 11 44.9	+0.2
NRN	Naryn	45.48	336	P	P	14 11 54.1	+0.9
NRN				IAmb	IAmb	14 11 55.0	
	comp=Z,9.1nm,0.5s						
KSAR	Wonju Array Be	45.63	33	P	P	14 11 54.8	+0.8
KSRS	Korea Array	45.66	33	P	P	14 11 54.1	-0.1
	comp=Z,5.8nm,0.8s,baz=220,slow=8.6,SNR=15						
	comp=Z,5.8nm,0.8s						
KS19	Wonju Array Si	45.66	33	P	P	14 11 54.1	-0.2
XLT	XiLinHaoTe	45.91	18	eP	P	14 11 57.4	+1.1
XLT				sP	sP	14 12 15.0	-0.5
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,180nm,4.1s						
GAR	Garm	46.14	329	P	P	14 11 57.8	-0.3
GAR				IAmb	IAmb	14 12 01.0	
	comp=Z,7.4nm,0.8s						
BOOM	Boomskoye usch	46.40	337	P	P	14 12 00.8	+0.5
BOOM				IAmb	IAmb	14 12 02.2	
	comp=Z,4.6nm,0.6s						
CHGR	Chuyangaron	46.48	328	P	P	14 12 00.5	-0.3
CHGR				IAmb	IAmb	14 12 01.6	
	comp=Z,20nm,1.2s						
UCH	Uchtor	46.76	336	P	P	14 12 04.7	+1.3
	SNR=5.4						
JMN	Monobe	46.78	41	P	P	14 12 03.3	+0.1
TKM2	Tokmak 2	46.90	337	P	P	14 12 05.6	+1.4
	SNR=8.4						
KBK	Karagaybulak	46.94	336	P	P	14 12 06.8	+2.3
	SNR=5.5						
AML	Almayashu	47.02	335	P	P	14 12 06.7	+1.3
	SNR=8.1						
JHS	Saijyo	47.07	40	P	P	14 12 05.6	+0.2
AAK	Ala-Archa	47.10	336	P	P	14 12 06.8	+1.1
SONM	Songino Array	47.59	7	P	P	14 12 10.4	+1.1
	comp=Z,3.4nm,0.6s,baz=191,slow=9.8,SNR=20						
SONM				PcP	PcP	14 13 39.2	+0.7
	comp=Z,1.5nm,0.7s,baz=182,slow=4.6,SNR=4.4						
	comp=Z,3.4nm,0.6s						
SONM	Songino Array	47.59	7	P	P	14 12 10.1	+0.8
SONM				IAmb	IAmb	14 12 11.3	
	comp=Z,3.7nm,0.8s						
USP	Ospenovka	47.63	336	P	P	14 12 10.8	+1.2
	SNR=8.3						
ULN	Ulaanbaatar	47.70	8	P	P	14 12 11.3	+1.0
ULN				IAmb	IAmb	14 12 12.2	
	comp=Z,3.7nm,0.8s						
MK31	Makanchi Array	48.18	345	P	P	14 12 14.1	+0.3
MK31				IAmb	IAmb	14 12 15.3	
	comp=Z,5.8nm,0.7s						
MKAR	Makanchi Array	48.18	345	P	P	14 12 14.6	+0.8
	comp=Z,11nm,0.7s,baz=156,slow=8.9,SNR=95						
	comp=Z,11nm,0.7s						
MKAR	Makanchi Array	48.18	345	P	P	14 12 14.1	+0.3
MAKZ	Makanchi	48.27	345	P	P	14 12 14.8	+0.3
MAKZ				IAmb	IAmb	14 13 26.4	
	comp=Z,11nm,1.1s						
MAKZ	Makanchi	48.27	345	P	P	14 12 14.8	+0.3
MAKZ				pP	pP	14 12 27.1	-1.0
BBOO	Buckleboo	48.53	137	P	P	14 12 17.2	+0.4
BBOO				IAmb	IAmb	14 12 19.1	
	comp=Z,24nm,1.4s						
KK31	Karatay Array	49.20	333	P	P	14 12 22.3	+0.6
KKAR	Karatay Array	49.20	333	P	P	14 12 22.0	+0.3
CN2	Changchun	49.30	26	eP	P	14 12 26.5	+4.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JGF	Kuroka	50.20	42	P	P	14 12 29.5	0.0
STKA	Stephens Creek	51.97	132	P	P	14 12 42.5	-0.3
	comp=Z,1.0nm,0.5s,baz=233,slow=7.8,SNR=3.5						
	comp=Z,1.0nm,0.5s						
STKA	Stephens Creek	51.97	132	P	P	14 12 43.0	+0.2
USRK	Ussuriysk Ar.	52.66	30	P	P	14 12 48.0	+0.3
	comp=Z,5.3nm,0.8s,baz=224,slow=6.0,SNR=6.2						
	comp=Z,5.3nm,0.8s						
USRK	Ussuriysk Ar.	52.66	30	P	P	14 12 48.3	+0.6
ZAA0	Zalesovo Array	54.40	350	P	P	14 13 00.3	+0.1
ZAA0				IAmb	IAmb	14 13 01.4	
	comp=Z,8.6nm,0.8s						
ZALV	Zalesovo Beam	54.40	350	P	P	14 13 00.6	+0.4
	comp=Z,6.2nm,0.4s,baz=176,slow=6.2,SNR=34						
	comp=Z,6.2nm,0.4s						
ZALV	Zalesovo Beam	54.40	350	P	P	14 13 00.3	+0.1
EIDS	Eidsvold	56.95	121	P	P	14 13 18.3	-0.8
EIDS				IAmb	IAmb	14 14 03.7	
	comp=Z,22nm,1.6s						
BVAR	Borovoye Array	57.28	340	LR	LR	14 41 10.5	
	comp=Z,46nm,19.2s,baz=160,slow=39						
BRVK	Borovoye	57.34	340	P	P	14 13 21.0	-0.3
BRVK				IAmb	IAmb	14 13 37.9	
	comp=Z,3.9nm,0.6s						
BRVK	Borovoye	57.34	340	P	P	14 13 20.3	-1.0
BRVK				pP	pP	14 13 33.2	-1.9
ABKAR	Akbulak array	58.69	331	P	P	14 13 30.3	-0.5
ABKAR				IAmb	IAmb	14 13 49.1	
	comp=Z,3.4nm,0.8s						
KMBO	Kilima Mbogo	61.26	268	LR	LR	14 34 48.4	
	comp=Z,345nm,21.8s,baz=94,slow=31						
KBZ	Khabaz	65.40	319	P	P	14 14 16.3	+0.4
	comp=Z,2.1nm,0.8s,baz=138,slow=6.7,SNR=5.1						
	comp=Z,2.1nm,0.8s						
YAK	Yakutsk	65.68	16	P	P	14 14 16.6	-0.7
YAK				x	x	14 14 20.0	
YAK				pP	pP	14 14 32.6	+1.2
YAK				sP	sP	14 14 37.4	+0.3
NRIK	Noril'sk	69.05	356	P	P	14 14 37.1	-1.5
	comp=Z,1.5nm,0.3s,baz=135,slow=4.3,SNR=1.9						
	comp=Z,1.5nm,0.3s						
BRTR	Keskin Array B	70.49	312	P	P	14 14 46.5	-1.8
	comp=Z,1.6nm,0.8s,baz=120,slow=6.3,SNR=7.2						
	comp=Z,1.6nm,0.8s						
BRTR	Keskin Array B	70.49	312	P	P	14 14 48.0	-0.3
MA2	Magadan	71.36	25	P	P	14 14 53.2	+0.4
AKASG	Malin Array Be	76.55	322	P	P	14 15 22.6	-0.8
	comp=Z,0.8nm,0.4s,baz=90,slow=5.8,SNR=4.3						
	comp=Z,0.8nm,0.4s						
RPZ	Rata Peaks	77.84	135	P	P	14 15 30.9	+0.1
	comp=Z,5.4nm,0.5s,baz=256,slow=3.5,SNR=5.1						
	comp=Z,5.4nm,0.5s						
RPZ	Rata Peaks	77.84	135	P	P	14 15 31.2	+0.3
BURAR	Bucovina Array	78.35	319	P	P	14 15 34.3	+0.6
BUR08	Bucovina Ar. S	78.37	319	P	P	14 15 34.7	+0.9
BUR08				IAmb	IAmb	14 16 16.2	
	comp=Z,12nm,1.4s						
NACGM	Naroch	79.09	326	PP	PP	14 18 43.3	+6.2
	baz=105						
LVZ	Lovozero	79.87	340	P	P	14 15 41.3	-0.2
BKZ	Black Stump Fm	81.06	130	P	P	14 15 48.3	-0.2
FIA1	FINESS Array S	81.16	332	P	P	14 15 48.8	+0.4
FINES	FINESS Array B	81.16	332	P	P	14 15 48.8	+0.4
	comp=Z,3.0nm,0.5s,baz=108,slow=5.1,SNR=28						
	comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	81.16	332	P	P	14 15 48.6	+0.2
VYHS	Vyhne	82.72	319	eP	P	14 15 57.2	+0.2
ARCES	ARCESS Array B	83.57	340	P	P	14 16 01.3	+0.4
	comp=Z,0.7nm,0.4s,baz=106,slow=4.9,SNR=14						
	comp=Z,0.7nm,0.4s						
ARCES	ARCESS Array B	83.57	340	P	P	14 16 01.1	+0.2
ARCES				IAmb	IAmb	14 17 19.0	
	comp=Z,28nm,1.6s						
VRAC	Vranov	84.28	319	LR	LR	14 59 29.9	
	comp=Z,18nm,18.0s,baz=70,slow=40						
GERES	GERESS Array B	86.14	319	P	P	14 16 12.8	-1.5
	comp=Z,0.5nm,0.6s,baz=89,slow=5.4,SNR=5.4						
	comp=Z,0.5nm,0.6s						
CLL	Collm	86.74	321	eP	P	14 16 18.0	+0.9
TXAR	Lajitas Array	143.51	34	PKP	PKPdf	14 23 08.8	+0.3
	comp=Z,0.5nm,0.5s,baz=288,slow=0.3,SNR=5.3						
CPUP	Villa Florida	145.38	220	PKPbc	PKPab	14 23 12.6	+0.9
	comp=Z,1.4nm,0.6s,baz=55,slow=4.5,SNR=3.9						

*HVO **06** 14:07:40.4±1.0, 19°.39N±0°.01×155°.276W±0°.009, h2km±3km, ML2.5/22, ML1.7/34(NEIC), Error ellipse: s-maj=2.0km s-min=1.3km az=172.0*

NEIC 06 14:07:40.8±1.3**, 19°.389N**±0°.010×**155°.28W**±0°.01**, h5**km±2km**, Error ellipse: s-maj=1.7km s-min=1.1km az=124.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	Rim	0.01	48	Pg	Pg	14 07 41.0	-1.0
SDHHI	Sand Hill	0.01	270	Pg	Pg	14 07 41.2	-0.7
KKO	Keanakako`i	0.02	59	Pg	Pg	14 07 41.3	-0.7
NPH	North Pit	0.02	0	Pg	Pg	14 07 41.2	-0.8
WRMHI	West Rim	0.03	313		Pg	14 07 41.5	-0.6
OBL	Observatory Le	0.03	354	IAML		14 07 41.3	
	comp=E,721nm,0.7s						
OBL				Pg	Pg	14 07 41.5	-0.6
BYL	Byron's Ledge	0.03	41		Pg	14 07 41.6	-0.5
UWE	Uwekahuna	0.03	340		Pg	14 07 41.7	-0.4
UWB	Uwekahuna B	0.04	5	IAML		14 07 41.4	
	comp=N,574nm,1.9s						
UWB				Pg	Pg	14 07 41.7	-0.5
UWB				IAML		14 07 42.1	
	comp=E,600nm,0.1s						
HATHI	Halema‘uma‘u T	0.04	29	Pg	Pg	14 07 41.6	-0.6
HATHI				IAML		14 07 41.7	
	comp=E,504nm,0.7s						
SBLHI	Steaming Bluff	0.04	18	Pg	Pg	14 07 41.6	-0.6
SBLHI				IAML		14 07 41.9	
	comp=N,1μm,0.6s						
SBLHI				IAML		14 07 42.2	
	comp=E,706nm,0.2s						
PUH	Pauahi	0.06	104		Pg	14 07 42.3	-0.1
PUH	Pauahi	0.06	104		Sg	14 07 44.6	+1.0
PUH	Pauahi	0.06	104	IAML		14 07 43.6	
	comp=N,763nm,0.2s						
RSD	Rainshed	0.07	2	Pg	Pg	14 07 42.5	-0.1
HLP	Hilina Pali	0.10	195	Pg	Pg	14 07 43.0	+0.1
HLP				IAML		14 07 45.1	
	comp=N,536nm,1.1s						
HLP				IAML		14 07 45.5	
	comp=E,639nm,0.3s						
KNHH	Kane Nui o Ham	0.11	95		Pg	14 07 43.2	+0.1
MLH	Mauna Loa	0.14	316		Pg	14 07 44.2	+0.3
MLH					Sg	14 07 46.8	+0.9
MLH	Mauna Loa	0.14	316	IAML		14 07 47.9	
	comp=N,1μm,0.3s						
NPOC	North of Pu‘u	0.16	89	IAML		14 07 44.0	
	comp=E,466nm,0.9s						
NPOC	North of Pu‘u	0.16	89		Pg	14 07 44.1	0.0
AIN	Ainahou	0.17	264		Pg	14 07 44.8	+0.5
AIN					Sg	14 07 48.2	+1.7
AIN	Ainahou	0.17	264	IAML		14 07 48.5	
	comp=N,642nm,0.4s						
JCUZ	Jacuzzi	0.17	92		Pg	14 07 44.2	-0.1
JCUZ	Jacuzzi	0.17	92	IAML		14 07 46.0	
	comp=N,413nm,0.7s						
JCUZ				IAML		14 07 47.5	
	comp=E,552nm,0.7s						
HTC	Hot Caves	0.19	216		Pg	14 07 44.9	+0.4
JOKA	Jonika Flow	0.27	80		Pg	14 07 45.7	-0.3
JOKA					Sg	14 07 50.0	+0.5
HMH	Humu‘ula Sheep	0.28	318		Sg	14 07 51.2	+0.8
HMH	Humu‘ula Sheep	0.28	318	Pg	Pg	14 07 46.6	+0.1
HMH	Humu‘ula Sheep	0.28	318	IAML		14 07 52.5	
	comp=E,140nm,2.0s						
HMH				IAML		14 07 53.1	
	comp=N,134nm,1.5s						
MWH	Moku‘aweowe	0.31	288		Pg	14 07 47.2	+0.1
MWH	Moku‘aweowe	0.31	288	IAML		14 07 56.3	
	comp=N,390nm,1.0s						
MLOA	Mauna Loa Obse	0.31	298	Pg	Pg	14 07 46.6	-0.5
MLOA				IAML		14 07 51.9	
	comp=N,197nm,1.8s						
KHU	Kahuku	0.35	246		Pg	14 07 47.4	-0.2
KHU					Sg	14 07 53.7	+1.5
ALEP	Alea Permanent	0.37	294		Pg	14 07 48.2	0.0
ALEP					Sg	14 07 53.8	+0.6
POHA	Pohakuloa	0.44	327	Pg	Pg	14 07 49.1	-0.2
POHA				IAML		14 07 51.4	
	comp=N,133nm,3.4s						
POHA				IAML		14 07 57.4	
	comp=N,136nm,0.7s						
HUH	Hualalai	0.60	299		Pg	14 07 52.2	-0.2
KHLU	Kahalu`u	0.61	289	Pg	Pg	14 07 52.2	-0.4

*IDC **06** 14:16:30.0±2.1, 36°.94S×178°.85E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=59.2km s-min=28.0km az=133.0*

*WEL **06** 14:16:31.1±1.6, 37˚S±9˚×17˚9E±1˚1, h10km±8km, M3.5/13, ML3.8/13, MLv3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=123.9*

*NEIC **06** 14:16:34.5±1.3, 37°.3S±0°.2×178°.8E±0°.3, h27km±19km,*

mb4.1/8, Error ellipse: s-maj=48.1km s-min=19.5km az=127.0
*NOU **06** 14:16:37.3, 37°.75S×179°.05E, h102km, MLv3.9/7, Off E. Coast of N. Island, N.Z.*
ISC 06 14:16:30.5±2.4**, 37°.24S**±0°.07×**179°.36E**±0°.10**, h26**km±14km**, n120,** σ1s07/118**, mb4.0**/6**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.90	248		Pn	14 16 45.1	-2.3
MXZ	Matakaoa Point	0.90	248	P	Pb	14 16 55.5	+8.1
MXZ	Matakaoa Point	0.90	248	P	Pn	14 16 45.4	-2.0
WMGZ	Waiomatatini S	0.95	232	P	Pb	14 16 49.2	+0.9
WMGZ				S	Sn	14 17 01.1	+0.3
PKGZ	Pakihiroa	1.21	237	P	Pn	14 16 51.7	0.0
PKGZ				S	Sn	14 17 07.1	-0.2
PUZ	Puketiti	1.21	226	P	Pb	14 16 52.9	+0.2
PUZ				S	Sb	14 17 07.7	-0.2
HAZ	Te Kaha	1.35	247	P	Pn	14 16 52.3	-1.4
HAZ				S	Sn	14 17 10.3	-0.5
TWGZ	Tauwhareparae	1.44	229	P	Pb	14 16 56.2	-0.5
TWGZ				S	Sb	14 17 14.7	+0.1
RUGZ	Raukumara Rang	1.52	241	P	Pn	14 16 56.8	+0.7
CNGZ	Carnagh Statio	1.54	216	P	Pb	14 16 58.7	+0.3
TKGZ	Te Karaka	1.69	224	P	Pn	14 16 59.2	+0.9
WIZ	White Island	1.75	260	P	Pn	14 16 59.3	+0.2
MWZ	Matawai	1.82	232	P	Pn	14 17 00.8	+0.7
RIGZ	Rimuhau	1.93	220	P	Pn	14 17 02.9	+1.2
RAGZ	Rawiri	1.98	230	P	Pn	14 17 03.8	+1.4
WHRZ	Whale Island	1.99	251	P	Pn	14 17 03.0	+0.6
URZ	Urewera	2.05	239	Pn	Pn	14 17 04.6	+1.3
	17nm,0.3s,baz=347,slow=1.3,SNR=246						
URZ				Sn	Sn	14 17 27.6	-0.4
	41nm,0.3s,baz=332,slow=19,SNR=27						
URZ	Urewera	2.05	239		Pn	14 17 04.1	+0.8
URZ	Urewera	2.05	239	P	Pn	14 17 04.5	+1.2
URZ	Urewera	2.05	239	P	Pn	14 17 04.2	+0.9
SNGZ	Shannon Statio	2.22	225	P	Pn	14 17 06.6	+0.9
KNZ	Kokohu	2.22	216	P	Pn	14 17 06.0	+0.4
MHGZ	Mahia Peninsul	2.23	210	P	Pn	14 17 07.0	+1.2
EDRZ	Edgecumbe	2.25	246	P	Pn	14 17 07.2	+1.1
OPRZ	Ohinepanea	2.31	254	P	Pn	14 17 06.6	-0.3
RTZ	Ruatahuna	2.33	233	P	Pn	14 17 08.2	+1.0
MUGZ	Murupara	2.39	238	P	Pn	14 17 08.7	+0.7
RAHZ	Arahi	2.45	226	P	Pn	14 17 09.6	+0.8
TARZ	Mount Tarawera	2.47	245	P	Pn	14 17 10.4	+1.3
WHHZ	Waihua	2.48	222	P	Pn	14 17 10.1	+0.8
RRRZ	Republican Roa	2.51	243	P	Pn	14 17 11.8	+2.2
TGRZ	Tauranga	2.51	258	P	Pn	14 17 09.3	-0.3
OMRZ	Omania	2.52	249	P	Pn	14 17 11.3	+1.5
MTHZ	Maungataniwha	2.56	230	P	Pn	14 17 11.0	+0.7
HLRZ	Highlands Stat	2.59	246	P	Pn	14 17 11.8	+1.1
KARZ	Kaharoa	2.59	251	P	Pn	14 17 11.0	+0.3
PRRZ	Plateau Road	2.66	241	P	Pn	14 17 11.7	0.0
ALRZ	Allen Road	2.73	240	P	Pn	14 17 13.3	+0.7
NMHZ	Naumai	2.74	226	P	Pn	14 17 13.7	+0.9
ARHZ	Aropaoanui	2.75	222	P	Pn	14 17 13.5	+0.7
MRHZ	Matea Rd	2.81	235	P	Pn	14 17 14.4	+0.5
BKZ	Black Stump Fm	2.97	229		Pn	14 17 16.1	+0.2
BKZ	Black Stump Fm	2.97	229	P	Pn	14 17 16.5	+0.6
BKZ	Black Stump Fm	2.97	229	P	Pn	14 17 16.3	+0.4
CKHZ	Cape Kidnapper	3.01	216	P	Pn	14 17 16.4	0.0
MCHZ	McNeill Hill	3.04	223	P	Pn	14 17 17.2	+0.3
TOZ	Tahuroa Road	3.10	260	P	Pn	14 17 16.6	-1.2
KWHZ	Kaweka Forest	3.18	226	P	Pn	14 17 18.7	-0.1
KAHZ	Kahuranaki	3.21	217	P	Pn	14 17 19.1	-0.2
RATZ	Rangitukua	3.26	239	P	Pn	14 17 21.0	+1.0
GRZ	Great Barrier	3.28	286	P	Pn	14 17 18.9	-1.3
MKAZ	Moumakai	3.35	271	P	Pn	14 17 19.5	-1.7
BHHZ	Black Hill Sta	3.43	228	P	Pn	14 17 22.4	+0.1
TMVZ	Te Maari	3.44	236	P	Pn	14 17 22.6	+0.1
ETVZ	East Tongariro	3.44	235	P	Pn	14 17 22.8	+0.2
NTVZ	North Tongarir	3.44	236	P	Pn	14 17 23.1	+0.5
KRVZ	Karewarewa	3.47	236	P	Pn	14 17 23.6	+0.7
OTVZ	Oturere	3.49	235	P	Pn	14 17 23.0	-0.2
NNVZ	North Ngauruho	3.50	236	P	Pn	14 17 24.3	+0.9
WTVZ	West Tongariro	3.51	237	P	Pn	14 17 25.1	+1.6
SNVZ	South Ngauruho	3.52	235	P	Pn	14 17 24.0	+0.5
NGZ	Ngauruhoe	3.54	236	P	Pn	14 17 24.5	+0.6
ETAZ	East Tamaki Re	3.55	273	P	Pn	14 17 22.6	-1.4
MOVZ	Moawhango	3.57	231	P	Pn	14 17 24.5	+0.2
TWVZ	Taurewa	3.59	238	P	Pn	14 17 25.9	+1.3
MBAZ	Motutapu North	3.60	276	P	Pn	14 17 23.6	-0.9
WPHZ	Waipukurau	3.63	218	P	Pn	14 17 24.7	-0.4
PNHZ	Pukenui	3.64	222	P	Pn	14 17 24.2	-1.0
ABAZ	Army Bay	3.68	279	P	Pn	14 17 24.6	-1.0
PRHZ	Porangahau	3.70	214	P	Pn	14 17 24.9	-1.1
EPAZ	Eden Park BICE	3.71	274	P	Pn	14 17 27.2	+1.1
HBAZ	Herne Bay Bore	3.72	275	P	Pn	14 17 25.9	-0.3
AWAZ	Awhitu Peninsu	3.77	271	P	Pn	14 17 26.0	-0.9
HIZ	Hauiti	3.78	249	P	Pn	14 17 28.8	+1.7
HIZ	Hauiti	3.78	249	P	Pn	14 17 28.3	+1.2
WTAZ	Waiatarua	3.84	273	P	Pn	14 17 27.2	-0.7
RVAZ	Riverhead Bore	3.85	275	P	Pn	14 17 27.1	-0.9
TSZ	Takapari Road	3.87	222	P	Pn	14 17 27.5	-0.9
ANWZ	Angora Road	3.93	214	P	Pn	14 17 28.5	-0.6
DVHZ	Dannevirke	3.94	218	P	Pn	14 17 28.3	-1.0
VRZ	Vera Road	4.08	241	P	Pn	14 17 32.5	+1.3
POWZ	Post Office Ro	4.22	221	P	Pn	14 17 32.1	-1.0
WCZ	Waipu Caves	4.24	286	P	Pn	14 17 32.7	-0.7
PRWZ	Pori Road	4.24	218	P	Pn	14 17 32.5	-0.9
WAZ	Wanganui	4.25	232	P	Pn	14 17 34.5	+0.9
TIWZ	Tintock	4.45	216	P	Pn	14 17 35.3	-1.0
LREZ	Lake Rotokare	4.48	239	P	Pn	14 17 38.1	+1.4
NEZ	North Egmont	4.61	242	P	Pn	14 17 40.7	+2.1
OGWZ	Otaki Gorge	4.84	221	P	Pn	14 17 40.0	-1.6
KIW	Kapiti Island	5.01	222	P	Pn	14 17 43.0	-1.0
OUZ	Omahuta	5.07	292	P	Pn	14 17 44.5	-0.3
SNZO	South Karori	5.44	220	Pn	Pn	14 17 48.4	-1.4
TCW	Tory Channel	5.59	223	P	Pn	14 17 50.4	-1.5
TUWZ	Tuamarina	5.93	223	Pn	Pn	14 17 53.8	-2.7
BSWZ	Blackbirch Sta	6.16	222	Pn	Pn	14 17 59.0	-0.8
QRZ	Quartz Range	6.41	234	P	Pn	14 18 02.0	-1.2
QRZ	Quartz Range	6.41	234	P	Pn	14 18 01.4	-1.8
KHZ	Kahutara	6.84	219	P	Pn	14 18 07.6	-1.5
ODZ	Otahua Downs	10.19	217	Pn	Pn	14 18 51.8	-3.3
ODZ	Otahua Downs	10.19	217	P	Pn	14 18 52.7	-2.3
STKA	Stephens Creek	31.41	268	P	P	14 22 50.4	+0.9
STKA				IAmb	IAmb	14 22 52.7	
	comp=Z,1.6nm,1.4s						
BBOO	Buckleboo	35.50	264	P	P	14 23 24.8	-0.3
COEN	Coen	39.66	296	P	P	14 24 01.0	+0.6
COEN				IAmb	IAmb	14 24 27.6	
	comp=Z,14nm,1.4s						
AS31	Alice Springs	41.08	276	P	P	14 24 11.7	-0.4
ASAR	Alice Springs	41.08	276	P	P	14 24 11.7	-0.5
	comp=Z,1.5nm,0.6s,baz=117,slow=7.2,SNR=44						
	comp=Z,1.5nm,0.6s						
ASAR	Alice Springs	41.08	276	P	P	14 24 11.3	-0.9
WR0	Warramunga Arr	42.52	281	P	P	14 24 23.4	-0.6
WR0				IAmb	IAmb	14 24 24.9	
	comp=Z,6.2nm,1.4s						
FORT	Forrest	42.58	263	P	P	14 24 23.5	-0.8
WRAB	Tennant Creek	42.69	281	P	P	14 24 24.4	-0.9
WRAB				IAmb	IAmb	14 25 07.5	
	comp=Z,7.3nm,1.4s						
WRA	Warramunga Arr	42.69	281	P	P	14 24 24.7	-0.6
	comp=Z,0.7nm,0.3s,baz=123,slow=7.0,SNR=42						
	comp=Z,0.7nm,0.3s						
WRA	Warramunga Arr	42.69	281	P	P	14 24 24.6	-0.7
H03S2	Juan Fernandez	78.52	124	T	T	15 55 13.1	
	baz=231						
H03S1	Juan Fernandez	78.53	124	T	T	15 55 10.1	
	baz=231						
H03S3	Juan Fernandez	78.54	124	T	T	15 55 06.2	
	baz=231						
H03N3	Juan Fernandez	78.75	123	T	T	15 55 20.1	
	baz=235						
H03N2	Juan Fernandez	78.75	123	T	T	15 55 16.3	
	baz=235						
H03N1	Juan Fernandez	78.77	123	T	T	15 55 17.1	
	baz=235						
ARCES	ARCESS Array B	144.69	344	PKP	PKPdf	14 36 04.6	+0.9
	comp=Z,2.9nm,1.0s,baz=77,slow=1.9,SNR=3.8						
FINES	FINESS Array B	150.57	334	PKPbc	PKiKP	14 36 20.9	+1.2
	comp=Z,1.7nm,0.8s,baz=31,slow=3.2,SNR=4.0						
NOA	NORSAR Array B	155.02	346	PKPbc	PKPbc	14 36 33.9	
	comp=Z,1.3nm,0.9s,baz=19,slow=2.5,SNR=3.3						

---

*IDC **06** 14:20:50.2±1.3, 21°.10S×168°.88E, h0km, mb3.9/4, mbtmp3.9/5, ML3.7/1, MS2.9/2, Error ellipse: s-maj=80.6km s-min=20.3km az=166.0*
*NOU **06** 14:20:53.0, 20°.36S×168°.28E, h0km, MLv4.1/13, Loyalty Islands*
ISC 06 14:20:53.6±1.0**, 20°.50S**±0°.08×**168°.6E**±0°.1**, h26**km**, n15,** σ1s99/15**, mb3.9**/4**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.11	208	P	Pb	14 21 14.5	+0.3
LIFNC	LIFOU	1.30	257	P	Pn	14 21 13.6	-2.5
YATNC	Mamie plateau,	2.22	225	P	Pn	14 21 28.1	-0.7
OUENC	Ouen Island, N	2.51	220	P	Pn	14 21 34.4	+1.6
DZM	Mont Dzumac	2.54	232	Pn	Pn	14 21 33.7	+0.4
	17nm,0.3s,baz=106,slow=9.1,SNR=1906						
DZM				Sn	Sn	14 22 02.2	-1.3
	40nm,0.3s,baz=118,slow=19,SNR=11						
DZM				LR	LR	14 22 12.5	
	comp=Z,172nm,18.9s,baz=203,slow=33						
	48nm,0.3s						
DZM	Mont Dzumac	2.54	232	P	Pn	14 21 33.5	+0.2
NOUC	Port Laguerre	2.67	233	P	Pn	14 21 35.6	+0.7
RTV	Rentapao	2.69	357	P	Pn	14 21 35.5	+0.2
DVP	Devils Point	2.78	352	P	Pn	14 21 36.2	-0.3
KOUNC	Koumac, New Ca	4.04	268	P	Pn	14 21 53.5	-0.3
AFI	Afiamalu	19.85	74	LR	LR	14 31 42.2	
	comp=Z,46nm,18.9s,baz=336,slow=33						
RAR	Rarotonga	29.55	97	P	P	14 26 51.9	-4.4
	2.6nm,0.4s,baz=256,slow=8.3,SNR=1.9						
	2.6nm,0.4s						
WRA	Warramunga Arr	32.12	265	P	P	14 27 19.6	+0.5
	0.2nm,0.7s,baz=90,slow=8.6,SNR=4.7						
	0.2nm,0.7s						
ASAR	Alice Springs	32.25	258	P	P	14 27 21.9	+1.7
	1.0nm,0.7s,baz=87,slow=8.9,SNR=20						
	1.0nm,0.7s						
NVAR	Mina Array Bea	90.08	49	P	P	14 33 55.3	+3.6
	0.7nm,0.8s,baz=230,slow=7.4,SNR=5.9						
	0.7nm,0.8s						

---

*ISK **06** 14:22:46.8, 40°.73N×34°.15E, h15km, ML3.7/29*
*DDA **06** 14:22:47.4±0.0, 40°.71N×34°.14E, h15km±2km, MW3.5*
*CFUSG **06** 14:22:47.8, 40°.80N×34°.10E, h5km, mb3.0/4, Northern Turkey Magtype MSH 3.1 from 4 stations*
*IDC **06** 14:22:47.2±1.1, 40°.65N×34°.20E, h0km, mb3.5/1, mbtmp3.5/4, ML3.6/3, MS2.6/1, Error ellipse: s-maj=18.2km s-min=8.7km az=112.0*
ISC 06 14:22:47.7±1.0**, 40°.72N**±0°.02×**34°.13E**±0°.02**, h8**km±9km**, n63,** σ1s39/89**, 6C-5D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOS	Tosya	0.32	346	PG	Pg	14 22 54.1	-0.1
TOS				SG	Sg	14 22 58.9	+0.4
CANT	Cankiri	0.40	254	PG	Pg	14 22 56.0	+0.4
CANT				SG	Sb	14 23 02.1	-1.3
KAGI	orum-Kargı	0.49	32	P	Pg	14 22 57.3	0.0
KAGI				*i* AML	AML	14 23 05.0	
	comp=E,2μm,0.5s						
KAGI				S	Sg	14 23 05.0	+1.2
KAGI				*i* AML	AML	14 23 06.0	
	comp=N,2μm,0.8s						
ELDT	Eldivan	0.58	247	P	Pb	14 22 59.4	-0.8
ELDT				S	Sb	14 23 07.6	-1.1
ELDT				*i* AML	AML	14 23 09.0	
	comp=E,4μm,0.2s						
ELDT				*i* AML	AML	14 23 12.0	
	comp=N,3μm,0.9s						
CORM	Corum	0.66	145	PG	Pg	14 22 59.7	-0.8
CORM				SG	Sb	14 23 10.1	-0.9
KMON	Kastamonu	0.70	338	PG	Pg	14 23 00.9	-0.4
KMON				SG	Sg	14 23 11.2	+0.8
PELI	Kastamonı-Ara	0.85	313	P	Pg	14 23 04.6	+0.6
PELI				S	Sg	14 23 15.9	+0.9
PELI				*i* AML	AML	14 23 17.0	
	comp=N,1μm,0.4s						
PELI				*i* AML	AML	14 23 18.0	
	comp=E,932nm,0.3s						
BOYA	Sinop/Boyabat-	0.91	27	P	Pb	14 23 04.7	-1.1
BOYA				S	Sb	14 23 17.5	-0.6
BOYA				*i* AML	AML	14 23 23.0	
	comp=N,1μm,0.5s						
BOYA				*i* AML	AML	14 23 24.0	
	comp=E,841nm,0.4s						
BRTR	Keskin Array B	1.06	201	Pg	Pb	14 23 07.5	-0.9
	91nm,0.3s,baz=28,slow=14,SNR=1941						
BRTR				Lg	Lg	14 23 21.6	
	72nm,0.3s,baz=23,slow=24,SNR=12						
CDAG	Cicekdag	1.11	170	P	Pn	14 23 08.6	-1.0
CDAG				S	Sn	14 23 24.2	-0.9
CDAG				*i* AML	AML	14 23 29.0	
	comp=N,408nm,0.4s						
CDAG				*i* AML	AML	14 23 31.0	
	comp=E,413nm,0.3s						
SAFT	Safranbolu	1.21	296	PN	Pn	14 23 09.8	-1.1
SAFT				SN	Sg	14 23 26.8	+0.3
CKRK	Yozgat, Cekere	1.23	121	P	Pn	14 23 10.5	-0.7
CKRK				S	Sg	14 23 27.4	0.0
CKRK				*i* AML	AML	14 23 30.0	
	comp=N,350nm,0.4s						
CKRK				*i* AML	AML	14 23 31.0	
	comp=E,597nm,0.6s						
BZK	Bozkurt	1.24	356	⇑S	Sg	14 23 29.5	+1.9
BZK	Bozkurt	1.24	356	PN	Pn	14 23 09.5	-1.8
DIKM	Dikmen	1.26	42	⇑P	Pb	14 23 11.4	-0.3
DIKM				⇑S	Sg	14 23 28.5	+0.2
DIKM	Dikmen	1.26	42	PN	Pn	14 23 10.3	-1.3
DIKM				SN	Sb	14 23 27.3	-0.8
AMSY	Amasya-Merkez	1.30	93	P	Pg	14 23 12.7	+0.1
AMSY				S	Sg	14 23 32.3	+2.8
AMSY				*i* AML	AML	14 23 35.0	
	comp=E,1μm,0.3s						
AMSY				*i* AML	AML	14 23 36.0	
	comp=N,2μm,0.5s						
YARM	Yarimca-Ladik(	1.30	81	PN	Pn	14 23 10.9	-1.4
ANTO	Ankara	1.33	231	⇑P	Pb	14 23 12.4	-0.5
ANTO	Ankara	1.33	231	PN	Pn	14 23 11.7	-0.9
LOD	Lodumlu	1.33	232	PN	Pn	14 23 11.3	-1.4
KIZO	Buyukkizoglu-L	1.38	82	PN	Pn	14 23 12.0	-1.3
KAMT	Kaman	1.39	193	PN	Pn	14 23 12.2	-1.2
YOZ	Yozgat	1.42	139	PN	Pn	14 23 12.6	-1.2
KVT	Kavak	1.50	76	PN	Pn	14 23 13.7	-1.2
AFSR	Afar-Bala (An	1.51	213	PN	Pn	14 23 14.3	-0.8
SIRC	Yozgat	1.59	150	P	Pb	14 23 17.1	-0.3
SIRC				S	Sg	14 23 38.7	-0.2
SIRC				*i* AML	AML	14 23 39.0	
	comp=N,612nm,0.3s						
SIRC				*i* AML	AML	14 23 41.0	
	comp=E,499nm,0.3s						
KOZK	Kozakli-Nevseh	1.61	159	PN	Pn	14 23 15.5	-1.0
BTIN	Bartın	1.69	303	P	Pg	14 23 19.7	-0.3
BTIN				S	Sg	14 23 42.7	+0.8
BTIN				*i* AML	AML	14 23 48.0	
	comp=N,401nm,0.7s						
BTIN				*i* AML	AML	14 23 50.0	
	comp=E,350nm,0.6s						
KIBS	BOLU	1.76	261	P	Pb	14 23 19.4	-0.8
KIBS				S	Sg	14 23 47.0	+2.7
KIBS				*i* AML	AML	14 23 48.0	
	comp=E,449nm,0.6s						
KIBS				*i* AML	AML	14 23 55.0	
	comp=N,313nm,0.9s						
YAYX	Yaylak	1.80	188	PN	Pn	14 23 18.2	-0.9
KKUL	Konya-Kulu	1.81	211	P	Pb	14 23 20.1	-1.0
KKUL				S	Sg	14 23 44.6	-1.2
KKUL				*i* AML	AML	14 23 48.0	
	comp=N,771nm,0.6s						
KKUL				*i* AML	AML	14 23 49.0	
	comp=E,556nm,0.3s						
SERE	Sereflikochisa	1.82	194	PN	Pn	14 23 18.5	-1.0
TOKT	Tokat	1.89	101	PN	Pn	14 23 19.1	-1.1
KULU	Kulu	1.89	208	PN	Pn	14 23 19.5	-0.8
YIGI	Dzce	2.05	278	P	Pb	14 23 23.5	-1.6
KDZE	Karadeniz Ereo	2.12	287	⇓P	Pn	14 23 23.9	+0.6
KDZE				⇓S	Sb	14 23 51.4	-1.3
GUNE	Kayseri	2.15	147	P	Pb	14 23 26.6	-0.4
GUNE				S	Sg	14 23 58.0	+1.1
GUNE				*i* AML	AML	14 24 01.0	
	comp=E,1μm,0.5s						
GUNE				*i* AML	AML	14 24 03.0	
	comp=N,829nm,0.5s						
BNN	Bunyan	2.29	144	PN	Pn	14 23 25.1	-0.8
SVSK	Karacayir	2.34	109	PN	Pn	14 23 25.7	-0.7
CHBY	Cihanbeyli	2.34	204	PN	Pn	14 23 26.1	-0.4
GULA	Gulagac	2.38	178	PN	Pn	14 23 26.2	-0.8
RSDY	Resadiye-TOKAT	2.46	97	PN	Pn	14 23 27.4	-0.7
SULT	Sultanhani-AKS	2.56	191	PN	Pn	14 23 29.3	-0.3
ALIN	Konya, Altinte	2.60	202	P	Pn	14 23 30.6	+0.5
ALIN				S	Sg	14 24 11.2	-0.1
LADK	Ladik-KONYA	2.86	209	PN	Pn	14 23 33.3	-0.4
SARI	SarD1z-Kayseri	2.91	142	PN	Pn	14 23 34.1	-0.4
YAL	Yalta	3.76	0	*e*P	Pb	14 23 49.9	-4.4
YAL				Pm		14 23 50.1	
	comp=Z,17nm,0.5s						
YAL				Sm		14 24 37.8	
	comp=E,7.0nm,0.3s						
YAL				*e*S	Sb	14 24 38.2	-1.9
YAL				Sm		14 24 40.6	
	comp=N,6.0nm,0.3s						
SEV	Sevastopol'	3.84	355	*e*P	Pn	14 23 47.8	+0.8
SEV				Pm		14 23 53.7	
	comp=Z,13nm,0.5s						
SEV				*e*S	Sn	14 24 32.4	+0.2
SEV				Sm		14 24 37.8	
	comp=N,9.0nm,0.5s						
SEV				Sm		14 24 37.8	
	comp=E,4.0nm,0.3s						
ALU	Alushta	3.96	3	*e*P	Pn	14 23 49.9	+1.2
ALU				Pm		14 23 52.5	
	comp=Z,20nm,0.5s						
ALU				*e*S	Sn	14 24 38.1	+2.8
ALU				Sm		14 24 38.8	
	comp=N,13nm,0.2s						
ALU				Sm		14 24 38.8	
	comp=E,5.0nm,0.3s						
ISP	Isparta	4.03	225	PN	Pn	14 23 50.1	+0.4
SUTC	Sutluce-Ispart	4.05	218	PN	Pn	14 23 50.4	+0.3
SUDU	Sudak	4.22	8	*e*P	Pn	14 23 54.0	+1.8
SUDU				Pm		14 23 57.5	
	comp=Z,26nm,0.4s						
SUDU				*e*S	Sn	14 24 42.5	+1.0
SUDU				Sm		14 24 43.2	
	comp=N,11nm,0.5s						
SUDU				Sm		14 24 43.2	
	comp=E,12nm,0.5s						
SIM	Simferopol'	4.22	360	*e*P	Pn	14 23 56.0	+3.7
SIM				*e*S	Sb	14 24 48.2	-5.2
SIM				Sm		14 24 49.4	
	comp=N,18nm,0.4s						
TIRR	Tirgusor	5.63	313	⇓P	Pn	14 24 11.8	+0.2
TPGR	Topolog	5.89	316	⇑P	Pn	14 24 16.0	+0.8
CFR	Carcaliu	6.26	317	⇑P	Pn	14 24 21.7	+1.5
KBZ	Khabaz	7.17	62	Pn	Pn	14 24 35.3	+2.6
	comp=N,0.2nm,0.3s,baz=259,slow=10,SNR=3.7						
	comp=N,1.0nm,0.5s						
MMAI	Mount Meron Ar	7.76	172	Pn	Pn	14 24 42.1	+1.2
	comp=N,1.9nm,0.3s,baz=0.0,slow=12,SNR=6.6						
MMAI				LR	LR	14 28 20.9	
	comp=N,42nm,19.0s,baz=324,slow=43						
	comp=N,1.8nm,0.4s						
VOIR		8.14	308	⇓P	Pn	14 24 46.9	+0.7
BURAR	Bucovina Array	9.40	320	⇓P	Pn	14 25 04.7	+1.3
AKASG	Malin Array Be	10.55	343	Pn	Pn	14 25 18.9	-0.2
	comp=N,1.3nm,0.3s,baz=156,slow=13,SNR=5.1						
	comp=N,0.5nm,0.4s						
FINES	FINESS Array B	21.32	349	P	P	14 27 36.9	+2.2
	comp=N,2.4nm,0.9s,baz=161,slow=13,SNR=1.5						
	comp=N,2.4nm,0.9s						

MAN 06 14:27:45.3, 11°.23N×124°.20E, h1km, mb3.8, ML2.5, MS2.1, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.94	194	*e*P	Pb	14 28 04.0	-0.4
LLP				*e*S	Sn	14 28 23.7	+3.9
TABP	Talibon, Bohol	1.14	174	⇓*e*P	Pg	14 28 07.0	-0.2
TABP				*e*S	Sn	14 28 24.5	-0.2

---

*NIED **06** 14:46:05.0, 25°.73N×125°.06E, h26km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.24; $M_{\theta\theta}$1.14; $M_{\phi\phi}$0.10; $M_{r\theta}$-1.17; $M_{\theta\phi}$0.45; $M_{\phi r}$-0.81; Fault plane solution: $M_0$1.91000×10^{15} NP1: ϕ_s260.00000°, δ22.00000°, λ-70.00000°. NP2: ϕ_s59.00000°, δ69.00000°, λ-98.00000°.*
*JMA **06** 14:46:05.0±0.2, 25°.7N±0°.8×125°.1E±0°.9, h26km, MV3.9/14, NW OFF MIYAKOJIMA ISLAND*
*NEIC **06** 14:46:09.2±1.5, 25°.6N±0°.1×125°.17E±0°.09, h45km±10km, mb4.4/15, Error ellipse: s-maj=17.1km s-min=9.9km az=150.0*
*IDC **06** 14:46:12.5±3.2, 25°.80N×125°.36E, h74km±32km, mb3.6/11, mbtmp3.9/13, MS3.4/8, Error ellipse: s-maj=29.0km s-min=13.7km az=60.0*
ISC 06 14:46:08.3±0.9**, 25°.61N**±0°.05×**125°.20E**±0°.04**, h36**km±2km**, n66,** σ1s56/68**, mb4.2**/21**, MS3.6**/6**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.68	177	P	Pn	14 46 20.4	-1.1
JIKM				S	Sn	14 46 31.3	+0.5
JIRB	Irabujima	0.78	182	P	Pn	14 46 21.2	-1.4
JIRB				S	Sn	14 46 32.9	-0.1
JMJ	Miyako jima 2	0.79	174	P	Pn	14 46 24.3	+1.4
JOGS	Gusukube	0.86	168	P	Pn	14 46 23.6	-0.2
JOGS				S	Sn	14 46 36.7	+1.4
JMJ2	Miyako jima3	0.87	173	P	Pn	14 46 23.3	-0.6
JMJ2				*e*S	Sn	14 46 36.7	+1.3
JTJ	Tarama	1.06	205	P	Pn	14 46 25.3	-1.3
JTJ				S	Sn	14 46 39.3	-0.8
JISG	Ishigakijimahi	1.30	219	P	Pn	14 46 27.9	-1.9
JISG				*e*S	Sn	14 46 44.5	-1.4
JIJ	Ishigaki jima	1.57	218	P	Pn	14 46 32.0	-1.5
JIJ				*e*S	Sn	14 46 52.3	-0.3
JKE	Kume jima 2	1.59	63	P	Pn	14 46 32.8	-1.1
JKRS	Kuro-shima	1.74	219	P	Pn	14 46 35.4	-0.6
IRIF	Iriomote-Funau	1.84	227	P	Pn	14 46 35.3	-2.0
HATJ	Hateruma jima	2.00	220	P	Pn	14 46 39.1	-0.3
YOJ	Yonaguni jima	2.29	241	Pn	Pn	14 46 45.4	+2.0
YOJ	Yonaguni jima	2.29	241	P	Pn	14 46 45.5	+2.0
JOW	Kunigami	3.02	65	P	Pn	14 46 55.0	+1.5
	8.5nm,0.3s,baz=137,slow=15,SNR=12						
JOW				S	Sn	14 47 21.2	-7.1
	25nm,0.5s,baz=220,slow=11,SNR=4.8						
JOW	Kunigami	3.02	65	P	Pn	14 46 58.2	+4.7
TATO	Taipei	3.42	260	Pn	Pn	14 46 58.9	-0.2
NACB	Ninganchiao	3.58	247	Pn	Pn	14 47 01.2	0.0
NACB	Ninganchiao	3.58	247	P	Pn	14 47 02.4	+1.3
YHNB	Yeheng	3.59	256		Pn	14 47 01.8	+0.4
YHNB	Yeheng	3.59	256	P	Pn	14 47 02.0	+0.5
YULB	Yu-li	4.19	239		Pn	14 47 09.5	-0.1
YULB	Yu-li	4.19	239	P	Pn	14 47 09.6	0.0
SSLB	Suanglung	4.27	246		Pn	14 47 12.4	+1.7
SSLB	Suanglung	4.27	246	P	Pn	14 47 12.9	+2.2
TWGBT	Beinan	4.68	234	P	Pn	14 47 15.4	-0.9
TWG	Pinlang	4.68	235		Pn	14 47 15.1	-1.3
TPUB	Ta-pu	4.76	242		Pn	14 47 18.9	+1.5
KSRS	Korea Array	12.04	10	P	Pn	14 48 58.4	+1.2
	0.5nm,0.7s,baz=174,slow=13,SNR=2.9						
KSRS				LR	LR	14 53 52.7	
	comp=Z,104nm,19.7s,baz=195,slow=39						
MJAR	Matsushiro Arr	15.57	42	LR	LR	14 56 24.1	
	comp=Z,75nm,18.6s,baz=246,slow=40						
GUMO	Guam	22.01	119	P	P	14 51 00.2	+0.7
	75nm,0.7s,baz=237,slow=22,SNR=3.6						
ASAJ	Asahikawa	23.25	33	LR	LR	15 00 18.6	
	comp=Z,53nm,18.2s,baz=210,slow=37						
SONM	Songino Array	26.69	331	P	P	14 51 44.5	+0.6
	1.9nm,0.8s,baz=150,slow=9.0,SNR=8.4						
SONM				LR	LR	15 03 42.3	
	comp=Z,85nm,20.5s,baz=165,slow=40						
	1.9nm,0.8s						
SONM	Songino Array	26.69	331	P	P	14 51 42.5	-1.5
MK31	Makanchi Array	39.95	313	P	P	14 53 38.5	-0.5
MK31				IAmb	IAmb	14 53 44.1	
	comp=Z,4.9nm,1.2s						
MKAR	Makanchi Array	39.95	313	P	P	14 53 38.9	-0.1
	comp=Z,1.3nm,0.7s,baz=98,slow=8.0,SNR=5.7						
	comp=Z,1.3nm,0.7s						
MKAR	Makanchi Array	39.95	313	P	P	14 53 38.6	-0.4
ZAA0	Zalesovo Array	41.13	324	P	P	14 53 47.3	-1.3
ZALV	Zalesovo Beam	41.13	324	P	P	14 53 48.0	-0.6
	comp=Z,3.2nm,0.6s,baz=112,slow=7.3,SNR=14						
	comp=Z,3.2nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZALV	Zalesovo Beam	41.13	324	P	P	14 53 47.2	-1.4
KURK	Kurchatov	43.42	318	P	P	14 54 06.7	-0.6
KURK				IAmb	IAmb	14 54 15.1	
	comp=Z,5.4nm,1.1s						
KURBB	Kurchatov Arra	43.45	318	P	P	14 54 07.5	-0.1
	comp=Z,2.2nm,0.8s,baz=105,slow=8.2,SNR=12						
	comp=Z,2.2nm,0.8s						
AAK	Ala-Archa	44.60	306	LR	LR	15 14 43.4	
	comp=Z,77nm,18.5s,baz=164,slow=38						
WRAB	Tennant Creek	46.13	168	P	P	14 54 28.2	-1.0
WRAB				IAmb	IAmb	14 54 46.2	
	comp=Z,6.5nm,1.2s						
WRA	Warramunga Arr	46.14	168	P	P	14 54 30.6	+1.4
	comp=Z,1.8nm,0.7s,baz=351,slow=8.5,SNR=18						
	comp=Z,1.8nm,0.7s						
WRA	Warramunga Arr	46.14	168	P	P	14 54 28.3	-0.9
BRVK	Borovoye	49.01	319	P	P	14 54 50.5	-0.8
BRVK				IAmb	IAmb	14 54 52.2	
	comp=Z,3.0nm,1.1s						
ASAR	Alice Springs	49.70	170	P	P	14 54 58.6	+1.8
	comp=Z,1.2nm,0.8s,baz=355,slow=8.2,SNR=15						
	comp=Z,1.2nm,0.8s						
ABKAR	Akbulak array	55.09	313	P	P	14 55 36.2	-0.3
ARU	Arti	56.20	322	LR	LR	15 23 13.4	
	comp=Z,52nm,18.7s,baz=142,slow=40						
ARU	Arti	56.20	322	P	P	14 55 44.0	-0.3
ARU				IAmb	IAmb	14 55 44.8	
	comp=Z,3.7nm,0.7s						
GEYT	Alibeck	57.24	300	P	P	14 55 53.5	+1.3
	comp=Z,2.6nm,0.7s,baz=129,slow=2.1,SNR=6.5						
	comp=Z,2.6nm,0.7s						
KIRV	Kirov	61.17	325	LR	LR	15 24 58.7	
	comp=Z,59nm,18.3s,baz=111,slow=38						
MLY	Manley	64.60	28	P	P	14 56 43.0	+1.3
MLY				IAmb	IAmb	14 56 43.7	
	comp=Z,5.7nm,1.4s						
H23K	Yukon River	65.01	27	P	P	14 56 45.2	+0.9
NEA2	Nenana	65.37	28	P	P	14 56 47.5	+0.9
NEA2				IAmb	IAmb	14 56 48.9	
	comp=Z,4.8nm,1.1s						
MDM	Murphy Dome	65.67	28	P	P	14 56 49.8	+1.2
MDM				IAmb	IAmb	14 56 50.5	
	comp=Z,4.2nm,0.9s						
ILAR	Eielson Array	66.27	28	P	P	14 56 52.1	-0.3
	comp=Z,0.3nm,0.8s,baz=280,slow=5.4,SNR=4.1						
	comp=Z,0.3nm,0.8s						
BMAR	Burnt Mountain	66.72	25	P	P	14 56 56.9	+1.5
KLU	Klutina	67.32	31	P	P	14 56 59.4	+0.1
EGAK	Eagle	68.67	27	P	P	14 57 08.2	+0.6
EGAK				IAmb	IAmb	14 57 45.0	
	comp=Z,5.9nm,1.3s						
DAWY	Dawson	69.59	28	P	P	14 57 14.5	+1.1
AKASG	Malin Array Be	74.22	319	P	P	14 57 40.0	-1.3
	comp=Z,0.2nm,0.3s,baz=57,slow=3.4,SNR=2.4						
	comp=Z,0.2nm,0.3s						
BRTR	Keskin Array B	75.25	307	P	P	14 57 47.5	-0.2
	comp=Z,0.5nm,0.6s,baz=52,slow=7.5,SNR=2.8						
	comp=Z,0.5nm,0.6s						
NOA	NORSAR Array B	78.65	333	LR	LR	15 36 35.0	
	comp=Z,21nm,18.1s,baz=290,slow=38						
YKA	Yellowknife Ar	80.22	24	P	P	14 58 12.9	-1.8
	comp=Z,1.8nm,0.9s,baz=300,slow=4.9,SNR=4.7						
	comp=Z,1.8nm,0.9s						

MAN 06 14:46:57.5, 12°.16N×121°.89E, h5km, mb4.4, ML3.2, MS3.0, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	Roxas	1.03	125	⇓eP	Pb	14 47 17.8	-0.1
RCP				eS	Sn	14 47 33.0	-0.5

IDC 06 14:57:54.4±1.4, 8°.82S×108°.85W, h0km, mb3.7/6, mbtmp3.7/6, MS4.1/47, Error ellipse: s-maj=44.3km s-min=32.6km az=58.0

GCMT 06 14:57:58.0±0.3, 9°.02S±0°.02×108°.96W±0°.02, h21km±1km, MW5.0/106, Moment Tensor Solution. s31,c39; s106,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.37±.14; $M_{\theta\theta}$1.09±.12; $M_{\phi\phi}$-0.71±.12; $M_{r\theta}$-0.03±.19; $M_{\theta\phi}$3.08±.10; $M_{\phi r}$-1.07±.23; Best double couple: $M_0$3.39200×10^{16} NP1:ϕ_s9.00000°, δ86.00000°, λ-161.00000°. NP2:ϕ_s278.00000°, δ71.00000°, λ-5.00000°. Principal axes: T 3.5160, Plg10.0000°, Azm142.0000°; N -0.2450, Plg71.0000°, Azm22.0000°; P -3.2670, Plg16.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function

ISC 06 14:57:56.0±1.6, 8°.8S±0°.2×108°.8W±0°.3, h10km, n59, σ1.00/9, mb3.6/6, MS4.1/46, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	18.24	181	LR	LR	15 06 59.6	
	comp=Z,714nm,18.7s,baz=1.0,slow=30						
CMIG	Matias Romero	29.18	28	P	P	15 03 56.8	-1.0
	3.3nm,0.6s,baz=125,slow=21,SNR=7.4						
CMIG				LR	LR	15 13 16.6	
	comp=Z,272nm,18.0s,baz=211,slow=32						
	3.3nm,0.6s						
ATAH	Atahualpa	30.18	89	LR	LR	15 13 21.5	
	comp=Z,171nm,18.4s,baz=261,slow=31						
NNA	Nana	31.61	99	LR	LR	15 13 40.0	
	comp=Z,165nm,19.8s,baz=267,slow=30						
LPIG	La Paz	32.73	357	LR	LR	15 14 57.4	
	comp=Z,170nm,20.0s,baz=182,slow=31						
H03N2	Juan Fernandez	36.89	136	T	T	15 44 00.6	
	baz=308,slow=77,SNR=56						
H03N1	Juan Fernandez	36.90	136	T	T	15 44 06.6	
	baz=308,slow=77,SNR=53						
H03N3	Juan Fernandez	36.90	136	T	T	15 43 57.6	
	baz=308,slow=77,SNR=65						
ROSC	El Rosal	36.97	70	LR	LR	15 17 26.4	
	comp=Z,258nm,21.3s,baz=252,slow=32						
TXAR	Lajitas Array	38.23	7	P	P	15 05 17.2	+0.8
	0.1nm,0.3s,baz=181,slow=4.5,SNR=2.9						
TXAR				LR	LR	15 18 14.8	
	comp=Z,131nm,21.5s,baz=184,slow=32						
	0.1nm,0.3s						
LPAZ	La Paz	40.35	105	P	P	15 05 35.7	+0.6
	0.9nm,0.6s,baz=263,slow=11,SNR=3.6						
LPAZ				LR	LR	15 18 31.4	
	comp=Z,241nm,20.8s,baz=274,slow=31						
	0.9nm,0.6s						
PPT	Papeete	40.55	253	LR	LR	15 17 39.6	
	comp=Z,252nm,21.5s,baz=83,slow=29						
SDV	Santo Domingo	41.90	66	LR	LR	15 19 56.9	
	comp=Z,144nm,21.9s,baz=233,slow=32						
PFO	Pinyon Flats O	42.79	351	LR	LR	15 19 22.1	
	comp=Z,341nm,21.2s,baz=177,slow=30						
ANMO	Albuquerque	43.56	3	LR	LR	15 21 25.1	
	comp=Z,214nm,18.6s,baz=186,slow=32						
PLCA	Paso Flores	46.50	140	LR	LR	15 20 42.4	
	comp=Z,465nm,21.6s,baz=338,slow=29						
SIV	San Ignacio	47.10	104	LR	LR	15 23 13.0	
	comp=Z,144nm,19.6s,baz=282,slow=32						
NVAR	Mina Array Bea	47.80	350	P	P	15 06 35.1	+1.1
	0.8nm,0.6s,baz=183,slow=10,SNR=9.1						
NVAR				LR	LR	15 22 28.7	
	comp=Z,347nm,20.1s,baz=172,slow=31						
	0.8nm,0.6s						
PCRV	Puerto La Cruz	47.85	68	LR	LR	15 25 07.8	
	comp=Z,102nm,19.0s,slow=34						
ELK	Elko	49.64	354	LR	LR	15 23 39.5	
	comp=Z,275nm,21.6s,baz=180,slow=31						
SJG	San Juan	49.89	57	LR	LR	15 25 04.8	
	comp=Z,147nm,21.4s,baz=238,slow=33						
TKL	Tuckaleechee C	50.13	27	LR	LR	15 27 50.0	
	comp=Z,54nm,18.8s,baz=224,slow=36						
RAR	Rarotonga	50.53	250	LR	LR	15 23 54.3	
	comp=Z,108nm,18.2s,baz=100,slow=31						
PDAR	Pinedale Array	51.31	359	P	P	15 07 00.6	-0.1
	0.3nm,0.7s,baz=149,slow=7.2,SNR=2.3						
PDAR				LR	LR	15 25 54.0	
	comp=Z,223nm,18.2s,baz=200,slow=33						
	0.3nm,0.7s						
CPUP	Villa Florida	51.74	117	LR	LR	15 24 53.2	
	comp=Z,292nm,21.9s,baz=274,slow=31						
YBH	Yreka Blue Hor	51.87	347	LR	LR	15 24 21.7	
	comp=Z,246nm,20.1s,baz=170,slow=31						
NEW	Newport	57.28	353	LR	LR	15 28 19.7	
	comp=Z,169nm,20.1s,baz=190,slow=32						
MDP	Montagnes des	57.69	78	LR	LR	15 30 16.4	
	comp=Z,126nm,18.9s,baz=292,slow=34						
SADO	Sadowa	59.66	24	LR	LR	15 32 47.4	
	comp=Z,77nm,19.9s,baz=203,slow=35						
ULM	Lac du Bonnet	59.87	10	LR	LR	15 31 06.8	
	comp=Z,86nm,18.5s,baz=314,slow=33						
PMSA	Palmer Station	64.03	160	LR	LR	15 28 25.3	
	comp=Z,233nm,19.8s,baz=292,slow=29						
RAO	Raoul Island	67.54	242	LR	LR	15 30 48.6	
	comp=Z,141nm,20.6s,baz=46,slow=29						
DLBC	Dease Lake	69.17	348	LR	LR	15 35 50.7	
	comp=Z,209nm,18.2s,baz=166,slow=33						
YKA	Yellowknife Ar	71.21	357	LR	LR	15 37 16.7	
	comp=Z,38nm,19.6s,baz=272,slow=33						
MSVF	Nonsavu	71.37	254	LR	LR	15 32 54.9	
	comp=Z,132nm,21.5s,baz=95,slow=29						
URZ	Urewera	72.11	233	LR	LR	15 36 58.4	
	comp=Z,146nm,18.3s,baz=208,slow=32						
RCBR	Riachuelo	72.30	93	LR	LR	15 41 00.8	
	comp=Z,82nm,18.3s,baz=92,slow=36						
SCHQ	Schefferville	72.47	24	LR	LR	15 39 55.8	
	comp=Z,88nm,22.0s,baz=218,slow=35						
KDAK	Kodiak Island	75.28	337	LR	LR	15 35 51.0	
	comp=Z,347nm,18.0s,baz=172,slow=30						
RPZ	Rata Peaks	76.85	227	LR	LR	15 34 57.6	
	comp=Z,192nm,21.8s,baz=74,slow=29						
FRB	Frobisher Bay	78.50	17	LR	LR	15 42 19.5	
	comp=Z,62nm,21.1s,baz=208,slow=34						
ILAR	Eielson Array	78.68	344	P	P	15 09 58.0	-0.1
	0.4nm,0.7s,baz=172,slow=5.4,SNR=5.8						
ILAR				LR	LR	15 38 35.8	
	comp=Z,125nm,19.1s,baz=140,slow=31						
	0.4nm,0.7s						
INK	Inuvik	78.88	351	LR	LR	15 41 09.9	
	comp=Z,155nm,21.4s,baz=152,slow=33						
QSPA	South Pole Qui	81.29	180	LR	LR	15 41 25.2	
	comp=Z,93nm,18.5s,baz=98,slow=32						
DZM	Mont Dzumac	81.90	249	LR	LR	15 38 53.2	
	comp=Z,71nm,21.2s,baz=223,slow=30						
SFJD	Kangerlussuaq	86.27	20	LR	LR	15 48 13.3	
	comp=Z,97nm,18.2s,baz=239,slow=35						
SNAA	Sanae	86.68	162	LR	LR	15 43 45.6	
	comp=Z,53nm,18.5s,baz=190,slow=32						
H11S2	WAKE ISLAND Hy	87.56	289	T	T	16 47 29.9	
	baz=101,slow=74,SNR=181						
H11S1	WAKE ISLAND Hy	87.57	289	T	T	16 47 24.2	
	baz=101,slow=74,SNR=96						
H11S3	WAKE ISLAND Hy	87.58	289	T	T	16 47 24.9	
	baz=101,slow=74,SNR=76						
H11N3	WAKE ISLAND Hy	87.59	290	T	T	16 47 27.7	
	baz=100,slow=74,SNR=27						
H11N2	WAKE ISLAND Hy	87.60	290	T	T	16 47 34.9	
	baz=100,slow=74,SNR=21						
H11N1	WAKE ISLAND Hy	87.60	290	T	T	16 47 31.4	
	baz=100,slow=74,SNR=16						
SHEM	Shemya Is, Ala	89.20	324	LR	LR	15 42 01.7	
	comp=Z,211nm,21.4s,baz=146,slow=30						
BBTS	Babate	94.38	76	LR	LR	15 51 08.9	
	comp=Z,109nm,18.3s,baz=210,slow=34						
PETK	Petropavlovsk-	99.05	322	LR	LR	15 46 42.3	
	comp=Z,181nm,21.4s,baz=88,slow=30						
NRIK	Noril'sk	118.59	353	PKP	PKiKP	15 16 44.5	+0.7
	1.6nm,0.4s,baz=54,slow=7.2,SNR=4.0						
GEYT	Alibeck	148.69	20	PKPbc	PKPbc	15 17 42.7	-1.4
	1.0nm,0.7s,baz=286,slow=2.6,SNR=1.5						
CMAR	Chiang Mai Arr	151.40	293	PKPbc	PKPbc	15 17 50.5	-0.7
	1.1nm,0.8s,baz=40,slow=1.1,SNR=9.0						

IDC 06 15:02:04.2±16.0, 13°.26S×66°.34E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=973.1km s-min=35.0km az=40.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	8.22	48	T	T	15 12 06.7	
	baz=226,slow=76						
H08S2	Diego Garcia H	8.23	48	T	T	15 12 10.7	
	baz=226,slow=76						
H08S3	Diego Garcia H	8.24	48	T	T	15 12 08.2	
	baz=226,slow=76						
BRTR	Keskin Array B	60.87	332	P	P	15 12 18.8	0.0
	0.2nm,0.4s,baz=139,slow=7.8,SNR=1.7						
	0.2nm,0.4s						
ASAR	Alice Springs	64.42	110	P	P	15 12 42.6	-0.3
	0.8nm,1.0s,baz=280,slow=5.5,SNR=6.7						
	0.8nm,1.0s						
WRA	Warramunga Arr	65.14	106	P	P	15 12 47.9	+0.4
	0.7nm,0.9s,baz=273,slow=6.1,SNR=5.5						
	0.7nm,0.9s						

DDA 06 15:13:41.9±0.0, 37°.00N×28°.12E, h7km±1km, ML2.4

ATH 06 15:13:42.8, 37°.04N×28°.27E, h10km±31km, ML2.5/4, Error ellipse: s-maj=31.6km s-min=1.9km az=0.0

THE 06 15:13:42.4, 37°.04N×28°.29E, h10km±31km, ML2.5/4, Error ellipse: s-maj=31.6km s-min=1.2km az=0.0

ISC 06 15:13:42.5±0.9, 37°.03N±0°.02×28°.22E±0°.03, h12km±8km, n19, σ0.82/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	Mugla, Merkez-	0.24	20	P	Pg	15 13 48.0	+0.4
MULA				S	Sg	15 13 51.5	+0.4
MULA				i AML	AML	15 13 52.0	
	comp=N,479nm,0.5s						
TURN	Turunc	0.26	176	P	Pg	15 13 47.6	-0.4
TURN				S	Sg	15 13 51.2	-0.3
TURN				i AML	AML	15 13 55.0	
	comp=E,620nm,0.6s						
AYDN	Tasoluk	0.68	337	P	Pg	15 13 55.2	-0.6
AYDN				S	Sg	15 14 04.4	-0.4
AYDN				i AML	AML	15 14 05.0	
	comp=E,367nm,0.5s						
AYDN				i AML	AML	15 14 05.0	
	comp=N,219nm,0.3s						
TAVA	DENIZLI_Tavas	0.70	52	P	Pn	15 13 57.5	-0.9
TAVA				S	Sn	15 14 08.0	-1.1
TAVA				i AML	AML	15 14 10.0	
	comp=E,67nm,0.4s						
ARG	Arkhangelos	0.82	185	P	Pg	15 13 58.0	-0.4
ARG				S	Sb	15 14 10.5	+0.8
	252nm,0.3s						
ARG	Arkhangelos	0.82	185	P	Pg	15 13 58.1	-0.3
ARG				S	Sb	15 14 10.1	+0.4
ARG				AML	AML	15 14 14.8	
	comp=E,520µm,0.4s						
ARG				AML	AML	15 14 15.1	
	comp=N,493µm,0.3s						
DDIM	Aydin, Didim	0.89	299	P	Pg	15 14 00.4	+0.6
DDIM				S	Sb	15 14 12.6	+0.9
NIS1	Nisyros Isl.	0.94	243	P	Pg	15 14 00.2	-0.5
NISR	Nisiros	0.97	245	P	Pg	15 14 00.6	-0.7
NISR				S	Sb	15 14 15.7	+1.6
	comp=N,340nm,0.2s						
NISR	Nisiros	0.97	245	P	Pg	15 14 01.0	-0.3
NISR				S	Sb	15 14 15.6	+1.6
NISR				AML	AML	15 14 17.1	
	comp=E,850µm,0.3s						
NISR				AML	AML	15 14 17.4	
	comp=N,509µm,0.2s						
GCAM	G?zelcaml?	1.03	310	P	Pg	15 14 01.9	-0.5
GOLH	Golhisar	1.09	79	P	Pn	15 14 05.9	+2.2
SMG	Samos	1.29	302	P	Pn	15 14 06.0	-0.4
SMG				S	Sb	15 14 23.3	-0.1
	comp=N,130nm,0.3s						
SMG	Samos	1.29	302	P	Pn	15 14 06.6	+0.2
SMG				S	Sb	15 14 23.9	+0.5
SMG				AML	AML	15 14 29.5	
	comp=E,230µm,0.3s						
SMG				AML	AML	15 14 31.5	
	comp=N,284µm,0.4s						
AKAS	Kas	1.37	125	P	Pg	15 14 08.2	-0.6
MANT	Manisa	1.48	10	P	Pb	15 14 10.0	-0.1
PASA	Karahalli, USA	1.65	37	P	Pb	15 14 12.5	-0.5
KARP	Karpathos	1.71	210	P	Pn	15 14 11.6	-0.6
KARP				S	Sn	15 14 34.2	+0.2
	comp=N,140nm,0.4s						
KARP	Karpathos	1.71	210	P	Pn	15 14 12.7	+0.5
KARP				AML	AML	15 14 35.6	
	comp=E,350µm,0.4s						
KARP				AML	AML	15 14 36.7	
	comp=N,200µm,0.4s						

NEIC 06 15:18:47.9±1.9, 38°.86N±0°.06×140°.46E±0°.09, h109km±6km, mb4.5/58, Error ellipse: s-maj=10.7km s-min=7.8km az=108.0

BJI 06 15:18:47.6±0.0, 38°.80N×140°.47E, h129km, mb4.6/26, mB4.8/15

JMA 06 15:18:48.1±0.1, 38°.9N±0°.3×140°.6E±0°.4, h114km, MV3.9/40, NORTHERN YAMAGATA PREF

NIED 06 15:18:48.1, 38°.85N×140°.55E, h114km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.12; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$1.38; $M_{r\theta}$0.67; $M_{\theta\phi}$0.04; $M_{\phi r}$0.43; Fault plane solution: $M_0$1.50000×10^{15} NP1: ϕ_s337.00000°, δ41.00000°, λ-132.00000°. NP2: ϕ_s207.00000°, δ61.00000°, λ-60.00000°.

IDC 06 15:18:49.2±1.7, 38°.81N×140°.50E, h125km±16km, mb3.7/22, mbtmp4.1/27, MS3.0/3 Error ellipse: s-maj=13.8km s-min=10.9km az=94.0

ISC 06 15:18:48.4±0.6, 38°.80N±0°.04×140°.56E±0°.04, h119km±5km, n175, σ1.40/183, mb4.4/68, 1C-20D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	Kaneyama	0.20	306	⇓P	Pn	15 19 04.0	-0.9
JYK				⇓eS	Sn	15 19 15.9	-1.3
JOFO	Osakifurukawao	0.34	126	⇓iP	Pn	15 19 05.0	-0.3
JOFO				⇓S	Sn	15 19 18.0	-0.1
JOU	Okura	0.44	170	⇓iP	Pn	15 19 05.7	-0.3
JOU				⇓eS	Sn	15 19 18.8	-0.3
JMK	Ichinoseki	0.53	74	⇓iP	Pn	15 19 05.5	-0.8
JMK				⇓eS	Sn	15 19 18.9	-1.1
JRG	Rokugo	0.59	5	⇓iP	Pn	15 19 06.0	-0.8
JRG				⇓eS	Sn	15 19 19.6	-1.1
JYA	Atsumi	0.70	253	⇓iP	Pn	15 19 07.0	-0.5
JYA				⇓S	Sn	15 19 20.9	-1.2
JYS	Shirataka	0.70	214	⇓iP	Pn	15 19 07.4	-0.3
JYS				⇓eS	Sn	15 19 22.2	+0.1
JIO	Ouri	0.71	119	i P	Pn	15 19 07.0	-0.7
JIO				S	Sn	15 19 20.9	-1.3
JOM	Ohasama	0.88	40	⇓iP	Pn	15 19 08.4	-0.6
JOM				⇓S	Sn	15 19 23.5	-1.3
JMM	Marumori	0.95	169	Pn	Pn	15 19 09.6	-0.2
JMM				Sn	Sn	15 19 25.5	-0.6
JMM	Marumori	0.95	169	P	Pn	15 19 10.0	+0.2
JAW	Awa shima	1.09	252	P	Pn	15 19 10.8	-0.3
JAW				S	Sn	15 19 27.5	-0.8
JOTO	OTAMA OYAMA	1.25	188	P	Pn	15 19 13.5	+0.6
JNS	Sasagawa	1.39	225	i P	Pn	15 19 14.6	+0.2
JNS				eS	Sn	15 19 34.6	+0.4
JANG	Nango	1.73	25	⇓iP	Pn	15 19 17.9	-0.6
JANG				⇓eS	Sn	15 19 40.5	-0.9
JSD	Sado	1.96	248		Pn	15 19 20.7	-0.6
JSD	Sado	1.96	248	P	Pn	15 19 21.1	-0.2
JTM	Tenmabayashi	2.02	11	Pn	Pn	15 19 21.6	-0.4
JTM	Tenmabayashi	2.02	11	P	Pn	15 19 21.8	-0.2
MJB9	Matsu-Tunnel	2.93	220		Pn	15 19 34.6	+0.9
MAJO	Matsushiro	2.93	220	Pn	Pn	15 19 34.6	+0.9
MAJO	Matsushiro	2.93	220	P	Pn	15 19 35.0	+1.3
MJAR	Matsushiro Arr	2.93	220	P	Pn	15 19 34.7	+1.0
	14nm,0.3s,baz=33,slow=14,SNR=100						
MJAR				S	Sn	15 20 02.2	-6.4
	9.1nm,0.4s,baz=184,slow=26,SNR=3.4						
MJAR				LR	LR	15 20 18.6	
	comp=Z,32nm,19.8s,baz=62,slow=31						
ERM	Erimo	3.77	31	Pn	Pn	15 19 43.3	-1.4
ERM	Erimo	3.77	31	P	Pn	15 19 43.5	-1.2
JEM	Erimo	3.77	31	P	Pn	15 19 43.3	-1.4
JGF	Kuroka	4.09	220	Pn	Pn	15 19 51.0	+1.9
JGF	Kuroka	4.09	220	P	Pn	15 19 51.3	+2.1
INU	Inuyama	4.46	221	Pn	Pn	15 19 55.8	+1.8
INU	Inuyama	4.46	221	P	Pn	15 19 56.3	+2.2
JKA	Kamikawa-asahi	5.52	15	Pn	Pn	15 20 06.7	-1.5
JHJ	Hachijo jima 2	5.71	187	P	Pn	15 20 09.8	-1.0
	153nm,0.3s,baz=88,slow=23,SNR=6.3						
JHJ				S	Sn	15 21 11.5	-3.6
	208nm,0.3s,baz=50,slow=22,SNR=5.0						
JHS	Saijyo	7.07	240	P	Pn	15 20 31.8	+2.5
	58nm,2.8s						
JMN	Monobe	7.40	229	P	Pn	15 20 35.0	+1.3
	50nm,1.5s						
YSS	Yuzh-Sakhalins	8.30	10	Pn	Pn	15 20 42.5	-3.3
YSS	Yuzh-Sakhalins	8.30	10	P	Pn	15 20 47.0	+1.2
	62nm,0.5s						
USRK	Ussuriysk Ar.	8.39	313	P	Pn	15 20 47.5	+0.5
	7.9nm,0.5s,baz=122,slow=14,SNR=13						
USRK				LR	LR	15 24 04.3	
	comp=Z,86nm,19.4s,baz=225,slow=38						
MDJ	Mudanjiang	10.05	309	P	Pn	15 21 13.0	+3.6
MDJ				pmax	pmax		
	comp=Z,16nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,170nm,5.7s						
KSRS	Korea Array	10.05	266	P	Pn	15 21 11.7	+2.2
	2.3nm,0.6s,baz=76,slow=14,SNR=11						
KLR	Kul'dur	12.19	332	P	Pn	15 21 38.5	+0.5
	1.8nm,0.6s,baz=142,slow=19,SNR=2.8						
JOW	Kunigami	15.77	224		P	15 22 26.4	+1.1
JOW				IAmb	IAmb	15 22 55.3	
	comp=Z,29nm,1.1s						
BJI	Beijing	18.87	281	P	Pn	15 23 01.5	+0.4
BJI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
XLT	XiLinHaoTe	19.04	293	⇓iP	P	15 22 59.5	-1.7
XLT				pmax	pmax		
	comp=Z,17nm,0.7s						
XLT				pmax	pmax		
	comp=Z,240nm,5.5s						
YHNB	Yeheng	21.50	235	P	P	15 23 26.4	-1.4
NACB	Ninganchiao	21.72	233	P	P	15 23 28.3	-1.7
NACB				IAmb	IAmb	15 23 37.0	
	comp=Z,18nm,1.0s						
HHC	Hu-ho-hao-te	22.32	284	eP	P	15 23 34.6	-1.7
HHC				pmax	pmax		
	comp=Z,31nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.4s						
SSLB	Suanglung	22.40	234	P	P	15 23 34.0	-3.0
SSLB				IAmb	IAmb	15 23 50.8	
	comp=Z,23nm,1.4s						
SSLB	Suanglung	22.40	234	P	P	15 23 34.7	-2.4
	comp=Z,11nm,1.6s						
YULB	Yu-li	22.47	232	P	P	15 23 33.6	-4.2
YULB				IAmb	IAmb	15 23 37.9	
	comp=Z,16nm,1.2s						
YULB	Yu-li	22.47	232	P	P	15 23 35.9	-1.9
TPUB	Ta-pu	22.96	233	P	P	15 23 42.8	+0.3
	comp=Z,23nm,2.0s						
BTO	Baotou	23.51	284	eP	P	15 23 46.4	-1.3
YAK	Yakutsk	24.20	347	P	P	15 23 53.9	+0.5
SEY	Seymchan	25.20	13	P	P	15 24 02.9	+0.4
	comp=Z,4.4nm,0.3s,baz=167,slow=14,SNR=4.8						
	comp=Z,4.4nm,0.3s						
ULN	Ulaanbaatar	25.83	301	P	P	15 24 05.3	-3.4
SONM	Songino Array	26.27	301	P	P	15 24 12.3	-0.2
	comp=Z,1.2nm,0.7s,baz=97,slow=10,SNR=7.3						
	comp=Z,1.2nm,0.7s						
SONM	Songino Array	26.27	301	P	P	15 24 10.9	-1.6
ENH	Enshi	26.88	261	P	P	15 24 17.0	-1.0
ENH	Enshi	26.88	261	P	P	15 24 19.6	+1.5
	comp=Z,41nm,0.7s						
LZH	Lanzhou	29.16	276	eP	P	15 24 41.8	+3.4
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
H11N2	WAKE ISLAND Hy	29.65	122	T	T	15 55 21.5	
	baz=317,slow=75						
H11N1	WAKE ISLAND Hy	29.66	122	T	T	15 55 24.7	
	baz=317,slow=75						
H11N3	WAKE ISLAND Hy	29.66	122	T	T	15 55 34.2	
	baz=317,slow=75						
GYA	Guiyang	30.91	257	⇑iP	P	15 24 53.9	-0.1
GYA				pmax	pmax		
	comp=Z,15nm,0.8s						
KMI	Kunming	34.61	258	⇓P	P	15 25 28.1	+1.8
KMI				pmax	pmax		
	comp=Z,11nm,0.7s						
PZH	PanZhiHua	34.66	261	P	P	15 25 27.3	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
WMQ	Urumqi	39.46	295	eP	P	15 26 07.9	+0.9
ZALV	Zalesovo Beam	40.24	311	P	P	15 26 13.0	-0.1
	comp=Z,0.9nm,0.3s,baz=92,slow=8.2,SNR=7.4						
ZALV				PcP	PcP	15 28 14.7	0.0
	comp=Z,1.7nm,0.3s,baz=100,slow=2.9,SNR=8.0						
	comp=Z,0.9nm,0.3s						
PHRA	Phrae	40.35	252	P	P	15 26 14.0	-0.5
CHTO	Chiang Mai	41.12	253	P	P	15 26 21.2	+0.4

CHTO				IAmb	IAmb	15 26 27.2	
	comp=Z,3.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.34**	**253**	P	**P**	**15 26 23.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=42,slow=4.9,SNR=7.3						
	comp=Z,0.7nm,0.6s						
FAKI	**Fak Fak**	**42.22**	**192**	P	**P**	**15 26 31.0**	**+1.3**
	comp=Z,7.8nm,1.7s						
MK31	**Makanchi Array**	**42.63**	**300**	P	**P**	**15 26 31.8**	**-1.0**
MK31				IAmb	IAmb	15 26 52.1	
	comp=Z,9.4nm,1.4s						
MKAR	**Makanchi Array**	**42.63**	**300**	P	**P**	**15 26 33.3**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=86,slow=9.9,SNR=22						
	comp=Z,1.3nm,0.5s						
MKAR	**Makanchi Array**	**42.63**	**300**	P	**P**	**15 26 31.2**	**-1.5**
SANI	**Sanana**	**42.81**	**202**	P	**P**	**15 26 34.4**	**-0.1**
	comp=Z,16nm,0.8s						
MAKZ	**Makanchi**	**42.84**	**300**	P	**P**	**15 26 33.7**	**-0.7**
MAKZ				IAmb	IAmb	15 26 40.2	
	comp=Z,16nm,1.4s						
KURK	**Kurchatov**	**44.33**	**307**	P	**P**	**15 26 45.5**	**-0.7**
KURK				IAmb	IAmb	15 26 46.8	
	comp=Z,6.2nm,0.6s						
JIRN	**Jiri**	**46.22**	**273**	*e*P	**P**	**15 27 03.4**	**+1.4**
	comp=Z,4.2nm,0.3s						
RAMN	**Ramite**	**46.24**	**272**	*e*P	**P**	**15 27 02.6**	**+0.6**
	comp=Z,9.6nm,0.6s						
KDAK	**Kodiak Island**	**46.25**	**43**	P	**P**	**15 27 01.3**	**0.0**
	comp=Z,6.8nm,0.9s,baz=287,slow=4.4,SNR=5.1						
	comp=Z,6.8nm,0.9s						
GUN	**Gumba**	**46.34**	**274**	*e*P	**P**	**15 27 04.3**	**+1.4**
	comp=Z,11nm,0.3s						
PKI	**Pulchoki**	**46.87**	**273**	*e*P	**P**	**15 27 07.7**	**+0.7**
PKIN	**Phulchoki**	**46.88**	**273**	*e*P	**P**	**15 27 07.8**	**+0.8**
	comp=Z,4.7nm,0.5s						
DANN	**Dangsing**	**47.79**	**275**	*e*P	**P**	**15 27 15.3**	**+1.2**
	comp=Z,18nm,0.3s						
BOOM	**Boomskoye usch**	**48.11**	**296**	P	**P**	**15 27 15.0**	**-1.2**
ILAR	**Eielson Array**	**48.37**	**33**	P	**P**	**15 27 18.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=267,slow=5.6,SNR=10.0						
ILAR				PcP	**PcP**	**15 28 41.4**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=272,slow=4.5,SNR=1.9						
	comp=Z,0.6nm,0.6s						
BRVK	**Borovoye**	**48.95**	**311**	P	**P**	**15 27 20.1**	**-2.2**
BRVK				IAmb	IAmb	15 27 24.0	
	comp=Z,5.2nm,1.1s						
BMAR	**Burnt Mountain**	**49.12**	**30**	P	**P**	**15 27 25.3**	**+1.9**
SCRK	**Sand Creek**	**49.71**	**34**	P	**P**	**15 27 28.3**	**+0.3**
SCRK				IAmb	IAmb	15 27 47.0	
	comp=Z,6.1nm,1.4s						
ISLE	**Juniper Island**	**51.03**	**38**	P	**P**	**15 27 40.7**	**+2.6**
KK31	**Karatay Array**	**51.67**	**299**	P	**P**	**15 27 43.0**	**0.0**
KKAR	**Karatay Array**	**51.67**	**299**	P	**P**	**15 27 42.9**	**-0.1**
MTN	**Manton Dam**	**52.13**	**192**	P	**P**	**15 27 46.8**	**+0.3**
MTN	**Manton Dam**	**52.13**	**192**	P	**P**	**15 27 46.8**	**+0.3**
	comp=Z,11nm,0.6s						
EPYK	**Eagle Plains**	**52.33**	**30**	P	**P**	**15 27 49.0**	**+1.5**
EPYK				IAmb	IAmb	15 27 49.4	
	comp=Z,4.9nm,0.6s						
COEN	**Coen**	**52.54**	**177**	P	**P**	**15 27 50.6**	**+1.1**
COEN				IAmb	IAmb	15 27 55.9	
	comp=Z,12nm,1.4s						
COEN	**Coen**	**52.54**	**177**	P	**P**	**15 27 50.7**	**+1.2**
	comp=Z,6.2nm,0.7s						
INK	**Inuvik**	**53.12**	**28**	P	**P**	**15 27 54.1**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=286,slow=6.7,SNR=16						
	comp=Z,1.6nm,0.4s						
INK	**Inuvik**	**53.12**	**28**	P	**P**	**15 27 53.8**	**+0.6**
INK				IAmb	IAmb	15 28 15.2	
	comp=Z,4.0nm,1.2s						
GAR	**Garm**	**53.35**	**294**	P	**P**	**15 27 55.1**	**-0.5**
GAR				IAmb	IAmb	15 27 58.4	
	comp=Z,12nm,1.3s						
CHGR	**Chuyangaron**	**54.31**	**294**	P	**P**	**15 28 02.8**	**+0.3**
ARU	**Arti**	**54.60**	**318**	P	**P**	**15 28 03.8**	**-0.3**
ARU				IAmb	IAmb	15 28 05.8	
	comp=Z,4.2nm,0.6s						
A36M	**Sachs Harbour**	**54.88**	**22**	P	**P**	**15 28 07.1**	**+1.2**
A36M				IAmb	IAmb	15 28 35.9	
	comp=Z,5.0nm,0.8s						
KNRA	**Kununurra**	**55.31**	**194**	P	**P**	**15 28 10.5**	**+0.9**
KNRA	**Kununurra**	**55.31**	**194**	P	**P**	**15 28 10.5**	**+0.9**
	comp=Z,10nm,1.4s						
C36M	**Paulatuk**	**56.11**	**25**	P	**P**	**15 28 15.4**	**+0.7**
C36M				IAmb	IAmb	15 28 50.2	
	comp=Z,4.6nm,1.2s						
ABKAR	**Akbulak array**	**56.30**	**309**	P	**P**	**15 28 15.8**	**-0.6**
EUNU	**Eureka**	**58.54**	**9**	P	**P**	**15 28 31.8**	**0.0**
EUNU				IAmb	IAmb	15 29 09.1	
	comp=Z,5.6nm,1.2s						
WB0	**Warramunga Arr**	**58.55**	**187**	P	**P**	**15 28 32.3**	**-0.1**
WRAB	**Tennant Creek**	**58.72**	**187**	P	**P**	**15 28 33.1**	**-0.5**
WRAB				IAmb	IAmb	15 28 36.8	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**58.72**	**187**	P	**P**	**15 28 33.5**	**-0.1**
	comp=Z,6.0nm,1.5s						
WR0	**Warramunga Arr**	**58.72**	**187**	P	**P**	**15 28 33.3**	**-0.3**
WB2	**Warramunga Arr**	**58.73**	**187**	P	**P**	**15 28 33.4**	**-0.3**
WB2				IAmb	IAmb	15 28 34.2	
	comp=Z,4.3nm,0.8s						
WRA	**Warramunga Arr**	**58.73**	**187**	P	**P**	**15 28 33.5**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=3.2,slow=7.4,SNR=108						
	comp=Z,3.0nm,0.5s						
CTAO	**Charters Tower**	**58.82**	**174**	P	**P**	**15 28 36.5**	**+2.1**
CTAO				IAmb	IAmb	15 29 03.6	
	comp=Z,10.0nm,1.4s						
QIS	**Mount Isa**	**59.05**	**181**	P	**P**	**15 28 36.0**	**+0.1**
	comp=Z,4.0nm,1.9s						
RES	**Resolute Bay**	**61.06**	**14**	P	**P**	**15 28 48.8**	**-0.2**
RES				IAmb	IAmb	15 28 54.2	
	comp=Z,6.4nm,1.2s						
ARCES	**ARCESS Array B**	**62.11**	**339**	P	**P**	**15 28 55.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=60,slow=8.3,SNR=9.8						
	comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	**62.11**	**339**	P	**P**	**15 28 55.9**	**-0.2**
GEYT	**Alibeck**	**62.40**	**298**	P	**P**	**15 28 57.8**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=0.0,slow=5.8,SNR=2.7						
	comp=Z,1.3nm,0.7s						
AS01	**Alice Springs**	**62.45**	**187**	P	**P**	**15 28 59.3**	**+0.4**
	comp=Z,4.8nm,0.7s						
AS31	**Alice Springs**	**62.45**	**187**	P	**P**	**15 28 58.5**	**-0.4**
ASAR	**Alice Springs**	**62.45**	**187**	P	**P**	**15 28 59.2**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=0.8,slow=6.5,SNR=63						
ASAR				LR	LR	15 55 03.7	
	comp=Z,105nm,21.1s,baz=324,slow=35						
	comp=Z,2.7nm,0.8s						
ASAR	**Alice Springs**	**62.45**	**187**	P	**P**	**15 28 58.8**	**-0.2**
YKA	**Yellowknife Ar**	**62.62**	**30**	P	**P**	**15 28 60.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=298,slow=6.3,SNR=3.3						
	comp=Z,0.7nm,0.7s						
WRKA	**Warakurna**	**64.54**	**192**	P	**P**	**15 29 13.1**	**+0.5**
	comp=Z,9.1nm,1.4s						
QLP	**Quilpie**	**65.14**	**176**	P	**P**	**15 29 14.0**	**-2.4**
	comp=Z,25nm,1.1s						
RMQ	**Roma**	**65.40**	**172**	P	**P**	**15 29 19.5**	**+1.4**
	comp=Z,5.0nm,0.6s						
INKA	**Innaminka**	**66.20**	**180**	P	**P**	**15 29 24.4**	**+1.2**
	comp=Z,9.5nm,1.2s						
OOD	**Oodnadatta**	**66.41**	**185**	P	**P**	**15 29 25.6**	**+1.1**
FINES	**FINESS Array B**	**66.94**	**332**	P	**P**	**15 29 27.3**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=46,slow=5.5,SNR=6.5						
	comp=Z,3.7nm,0.8s						
FINES	**FINESS Array B**	**66.94**	**332**	P	**P**	**15 29 27.2**	**-0.4**
LCRK	**Leigh Creek**	**68.93**	**182**	P	**P**	**15 29 41.6**	**+1.3**
	comp=Z,22nm,1.6s						
PINE	**Pine Mountain**	**69.71**	**50**	P	**P**	**15 29 47.6**	**+2.1**
PINE				IAmb	IAmb	15 30 19.4	
	comp=Z,6.5nm,1.2s						
SCO	**Scoresbysund**	**70.29**	**354**	P	**P**	**15 29 48.7**	**+0.5**
STKA	**Stephens Creek**	**70.33**	**179**	P	**P**	**15 29 49.5**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=1.5,slow=12,SNR=4.3						
	comp=Z,1.2nm,0.7s						
K05A	**Summer Lake**	**70.34**	**51**	P	**P**	**15 29 51.1**	**+1.8**
K05A				IAmb	IAmb	15 30 15.9	
	comp=Z,15nm,1.5s						
NACGM	**Naroch**	**70.88**	**326**	*e*P	**P**	**15 29 51.2**	**-0.9**
	comp=Z,9.0nm,0.9s,baz=49						
NC405	**NORSAR Array S**	**72.09**	**337**	P	**P**	**15 29 59.1**	**-0.1**
NC405				IAmb	IAmb	15 30 25.9	
	comp=Z,8.8nm,1.1s						
NC204	**NORSAR Array S**	**72.25**	**337**	P	**P**	**15 30 00.4**	**+0.1**
NB2	**NORSAR Subarra**	**72.30**	**337**	P	**P**	**15 30 00.1**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**72.30**	**337**	P	**P**	**15 30 00.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=53,slow=7.0,SNR=6.3						
	comp=Z,0.7nm,0.6s						
NBO00	**NORSAR Array S**	**72.44**	**337**	P	**P**	**15 30 01.3**	**-0.1**
AKASG	**Malin Array Be**	**72.49**	**322**	P	**P**	**15 30 01.5**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=45,slow=6.6,SNR=14						
	comp=Z,0.8nm,0.4s						
AKASG	**Malin Array Be**	**72.49**	**322**	P	**P**	**15 30 01.1**	**-0.7**
AKBB	**Malin Array Si**	**72.49**	**322**	P	**P**	**15 30 00.8**	**-1.0**
AKBB				IAmb	IAmb	15 30 24.7	
	comp=Z,9.3nm,1.4s						
LRM	**Limekiln Ridge**	**73.35**	**44**	P	**P**	**15 30 08.6**	**+1.3**
DLMT	**Dillon**	**73.56**	**45**	P	**P**	**15 30 09.8**	**+1.4**
BOZ	**Bozeman (W)**	**73.94**	**44**	P	**P**	**15 30 11.8**	**+1.2**
KVN	**Kaiserville**	**74.22**	**53**	P	**P**	**15 30 14.0**	**+1.6**
NVAR	**Mina Array Bea**	**74.47**	**53**	P	**P**	**15 30 15.6**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=294,slow=4.6,SNR=5.1						
	comp=Z,0.4nm,0.5s						
YHH	**Holmes Hill**	**74.88**	**44**	P	**P**	**15 30 17.6**	**+1.3**
BUR08	**Bucovina Ar. S**	**76.50**	**321**	P	**P**	**15 30 25.3**	**+0.1**
BUR08				IAmb	IAmb	15 30 51.9	
	comp=Z,7.4nm,1.4s						
BURAR	**Bucovina Array**	**76.51**	**321**	P	**P**	**15 30 25.3**	**0.0**
BW06	**Boulder Array**	**76.90**	**45**	P	**P**	**15 30 27.7**	**-0.1**
PDAR	**Pinedale Array**	**76.90**	**45**	P	**P**	**15 30 28.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=170,slow=1.5,SNR=5.6						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**76.90**	**45**	P	**P**	**15 30 27.9**	**+0.2**
BRTR	**Keskin Array B**	**77.18**	**311**	P	**P**	**15 30 29.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=87,slow=2.7,SNR=4.1						
	comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**77.18**	**311**	P	**P**	**15 30 29.0**	**-0.3**
CRVS	**Cervenica-Dubn**	**77.40**	**324**	*e*P	**P**	**15 30 32.5**	**+2.4**
KECS	**Kecovo**	**78.15**	**324**	*e*P	P	15 30 38.6	+4.4
ULM	**Lac du Bonnet**	**78.39**	**33**	P	**P**	**15 30 34.6**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=299,slow=10,SNR=3.4						
	comp=Z,3.1nm,0.8s						
VYHS	**Vyhne**	**78.89**	**325**	*e*P	P	15 30 43.2	+4.9
GEC2	**GERESS Array S**	**80.86**	**328**	P	**P**	**15 30 49.0**	**0.0**
GERES	**GERESS Array B**	**80.86**	**328**	P	**P**	**15 30 48.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=41,slow=5.3,SNR=5.9						
	comp=Z,0.3nm,0.4s						
GERES	**GERESS Array B**	**80.86**	**328**	P	**P**	**15 30 48.9**	**-0.2**
VTS	**Vitosha**	**81.01**	**318**	P	**P**	**15 30 50.6**	**+0.6**
VTS				IAmb	IAmb	15 30 51.4	
	comp=Z,2.4nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**84.04**	**328**	P	**P**	**15 31 05.9**	**+0.1**
FUORN				IAmb	IAmb	15 31 47.6	
	comp=Z,10nm,1.5s						
TROLL	**Troll, Antarti**	**140.69**	**199**	PKPdf	**PKPdf**	**15 37 57.9**	**-4.9**
SNAA	**Sanae**	**142.23**	**198**	PKPdf	**PKPdf**	**15 38 00.6**	**-4.9**
VNA2	**Neumayer--Watz**	**143.82**	**197**	PKPdf	PKPbc	15 38 06.9	+0.6
	baz=110,slow=3.1						
VNA3	**Neumayer Olymp**	**144.09**	**196**	PKPdf	PKPbc	15 38 07.1	0.0
VNA1	**Neumayer--Stat**	**144.22**	**197**	PKPdf	PKPbc	15 38 07.9	+0.5
LPAZ	**La Paz**	**146.32**	**56**	PKPbc	**PKPab**	**15 38 16.7**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=15,slow=1.9,SNR=8.5						

MAN 06 15:31:55.2, 7°.57N×123°.57E, h1km, mb3.8, ML2.5, MS2.0, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.34**	**326**	⇓*e*P	Pg	15 32 01.9	+0.2
PAGZ				*i* S	Sg	15 32 07.1	+1.0
CTBH	**Cotabato--PC H**	**0.75**	**117**	⇓*e*P	Pg	15 32 10.1	+0.4
CTBH				*i* S	Sb	15 32 21.8	-0.2

*NEIC **06** 15:38:55.3±1.5, 23°.4S±0°.1×179°.3E±0°.1, h554km±12km, mb4.4/36, Error ellipse: s-maj=19.5km s-min=16.7km az=212.0*

*IDC **06** 15:38:56.8±1.4, 23°.46S×179°.09E, h557km±15km, mb3.6/10, mbtmp4.4/12, Error ellipse: s-maj=17.5km s-min=14.2km az=36.0*

ISC 06 15:38:54.6±0.5**, 23°.53S**±0°.06×**179°.30E**±0°.07**, h548km, n89, σ1s.88/107, mb4.3/27, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.89**	**348**	P	**P**	**15 40 32.3**	**0.0**
	16nm,0.4s,baz=192,slow=8.0,SNR=51						
GLKZ	**Green Lake**	**6.22**	**157**	P	**P**	**15 40 37.2**	**+2.1**
MARNC	**Mare, Loyalty**	**10.62**	**279**	P	**P**	**15 41 19.3**	**+0.3**
NIUE	**Niue**	**10.97**	**68**	P	**P**	**15 41 23.2**	**+0.6**
OUENC	**Ouen Island, N**	**11.54**	**273**	P	**P**	**15 41 29.0**	**+0.6**
DZM	**Mont Dzumac**	**11.95**	**274**	P	**P**	**15 41 33.9**	**+1.1**
	2.6nm,0.8s,baz=173,slow=22,SNR=6.3						
DZM	**Mont Dzumac**	**11.95**	**274**	P	**P**	**15 41 33.3**	**+0.5**
AFI	**Afiamalu**	**12.76**	**43**	P	**P**	**15 41 39.1**	**-2.2**
	54nm,0.8s,baz=24,slow=2.5,SNR=8.1						
AFI				S	**S**	**15 43 54.2**	**-4.2**
	28nm,0.8s,baz=187,slow=14,SNR=2.1						
AFI	**Afiamalu**	**12.76**	**43**	P	**P**	**15 41 39.2**	**-2.1**
KUZ	**Kuaotunu**	**13.53**	**192**	P	**P**	**15 41 50.8**	**+2.1**
MXZ	**Matakaoa Point**	**14.01**	**183**	P	**P**	**15 41 54.2**	**+0.4**
MXZ	**Matakaoa Point**	**14.01**	**183**	P	**P**	**15 41 54.4**	**+0.7**
HAZ	**Te Kaha**	**14.24**	**185**	P	**P**	**15 41 55.1**	**-0.9**
HAZ				S	**S**	**15 44 21.6**	**-4.0**
WMGZ	**Waiomatatini S**	**14.26**	**183**	P	**P**	**15 41 54.3**	**-2.0**
WMGZ				S	**S**	**15 44 18.2**	**-7.8**
PKGZ	**Pakihiroa**	**14.35**	**184**	P	**P**	**15 41 55.8**	**-1.5**
PKGZ				S	**S**	**15 44 23.8**	**-4.0**
RUGZ	**Raukumara Rang**	**14.45**	**185**	P	**P**	**15 41 55.7**	**-2.8**
PUZ	**Puketiti**	**14.52**	**183**	P	**P**	**15 41 57.8**	**-1.2**
PUZ				S	**S**	**15 44 27.7**	**-3.3**
TOZ	**Tahuroa Road**	**14.52**	**192**	P	**P**	**15 41 58.8**	**-0.2**
TWGZ	**Tauwhareparae**	**14.64**	**184**	P	**P**	**15 41 59.2**	**-1.1**
TWGZ				S	**S**	**15 44 29.6**	**-3.7**
URZ	**Urewera**	**14.80**	**187**	P	**P**	**15 42 00.4**	**-1.5**
	35nm,0.6s,baz=1.9,slow=2.9,SNR=23						
URZ				S	**S**	**15 44 32.4**	**-3.7**
	24nm,0.9s,baz=305,slow=21,SNR=9.1						
URZ	**Urewera**	**14.80**	**187**	P	**P**	**15 42 00.2**	**-1.6**
MWZ	**Matawai**	**14.83**	**185**	P	**P**	**15 42 00.8**	**-1.4**
TKGZ	**Te Karaka**	**14.91**	**184**	P	**P**	**15 42 01.9**	**-1.1**
CNGZ	**Carnagh Statio**	**14.93**	**183**	P	**P**	**15 42 02.9**	**-0.3**
RIGZ	**Rimuhau**	**15.18**	**185**	P	**P**	**15 42 04.1**	**-1.8**
RIGZ				S	**S**	**15 44 38.2**	**-5.0**
SNGZ	**Shannon Statio**	**15.29**	**186**	P	**P**	**15 42 05.8**	**-1.2**
SNGZ				S	**S**	**15 44 40.1**	**-5.0**
HIZ	**Hauiti**	**15.41**	**193**	P	**P**	**15 42 09.7**	**+1.5**
RAHZ	**Arahi**	**15.45**	**187**	P	**P**	**15 42 07.0**	**-1.6**
RAHZ				S	**S**	**15 44 45.3**	**-2.5**
KNZ	**Kokohu**	**15.50**	**185**	P	**P**	**15 42 07.7**	**-1.3**
KNZ				S	**S**	**15 44 46.6**	**-2.0**
MHGZ	**Mahia Peninsul**	**15.62**	**184**	P	**P**	**15 42 10.0**	**-0.2**
BKZ	**Black Stump Fm**	**15.77**	**188**	P	**P**	**15 42 10.0**	**-1.8**
BKZ				S	**S**	**15 44 48.6**	**-4.6**
BFZ	**Birch Farm**	**17.29**	**188**	P	**P**	**15 42 24.6**	**-1.3**
SNZO	**South Karori**	**18.14**	**191**	P	**P**	**15 42 34.9**	**+1.3**
QRZ	**Quartz Range**	**18.16**	**197**	P	**P**	**15 42 35.6**	**+1.7**
NNZ	**Nelson**	**18.32**	**194**	P	**P**	**15 42 35.6**	**+0.2**
RPZ	**Rata Peaks**	**21.25**	**197**	P	**P**	**15 43 02.8**	**+0.9**
	12nm,1.0s,baz=109,slow=1.9,SNR=7.7						
	12nm,1.0s						
MLZ	**Mavora Lakes**	**23.61**	**200**	P	**P**	**15 43 24.6**	**+1.6**
WHZ	**Wether Hill Ro**	**24.13**	**200**	P	**P**	**15 43 28.9**	**+1.3**
ARMA	**Armidale**	**25.56**	**248**	P	**P**	**15 43 41.5**	**+0.9**
ARMA				IAmb	IAmb	15 43 50.0	
	comp=Z,8.9nm,1.1s						
EIDS	**Eidsvold**	**25.74**	**260**	P	**P**	**15 43 41.9**	**-0.2**
EIDS				IAmb	IAmb	15 44 04.2	
	comp=Z,11nm,1.4s						
CAN	**Canberra**	**28.78**	**239**	P	**P**	**15 44 09.9**	**+1.3**
CAN				IAmb	IAmb	15 44 20.4	
	comp=Z,18nm,1.2s						
CTA	**Charters Tower**	**30.84**	**270**	P	**P**	**15 44 27.3**	**+0.7**
	comp=Z,8.7nm,0.5s,baz=94,slow=8.0,SNR=40						
	comp=Z,8.7nm,0.5s						
CTAO	**Charters Tower**	**30.84**	**270**	P	**P**	**15 44 26.9**	**+0.3**
CTAO				IAmb	IAmb	15 44 28.0	
	comp=Z,10nm,0.5s						
TOO	**Toolangi**	**32.12**	**236**	P	**P**	**15 44 38.0**	**+0.7**
TOO				IAmb	IAmb	15 45 11.3	
	comp=Z,15nm,1.2s						
PMG	**Port Moresby**	**33.77**	**289**	P	**P**	**15 44 52.0**	**+0.5**
	comp=Z,14nm,0.7s,baz=111,slow=9.4,SNR=6.5						
	comp=Z,14nm,0.7s						
PMG	**Port Moresby**	**33.77**	**289**	P	**P**	**15 44 51.4**	**-0.1**
STKA	**Stephens Creek**	**34.27**	**248**	P	**P**	**15 44 56.4**	**+0.9**
	comp=Z,2.8nm,0.5s,baz=95,slow=11,SNR=14						
STKA				PcP	**PcP**	**15 47 17.2**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=95,slow=5.3,SNR=4.3						
	comp=Z,2.8nm,0.5s						
STKA	**Stephens Creek**	**34.27**	**248**	P	**P**	**15 44 56.2**	**+0.7**
COEN	**Coen**	**35.43**	**279**	P	**P**	**15 45 05.9**	**+0.6**
COEN				IAmb	IAmb	15 45 20.5	
	comp=Z,10.0nm,1.2s						
BBOO	**Buckleboo**	**39.00**	**246**	P	**P**	**15 45 34.1**	**-0.3**
BBOO				IAmb	IAmb	15 45 47.5	
	comp=Z,28nm,1.4s						
AS31	**Alice Springs**	**41.47**	**260**	P	**P**	**15 45 54.1**	**-0.2**
ASAR	**Alice Springs**	**41.47**	**260**	P	**P**	**15 45 54.4**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=91,slow=8.2,SNR=38						
ASAR				PcP	**PcP**	**15 47 38.8**	**-0.2**
	comp=Z,1.4nm,1.2s,baz=94,slow=5.1,SNR=5.6						
ASAR				S	**S**	**15 51 29.0**	**-1.4**
	comp=Z,0.1nm,0.7s,baz=80,slow=16,SNR=1.8						
	comp=Z,3.8nm,0.7s						
ASAR	**Alice Springs**	**41.47**	**260**	P	**P**	**15 45 53.5**	**-0.7**
WR0	**Warramunga Arr**	**41.61**	**266**	P	**P**	**15 45 54.6**	**-0.8**
WB2	**Warramunga Arr**	**41.78**	**266**	P	**P**	**15 45 56.1**	**-0.6**
WB2				IAmb	IAmb	15 45 57.0	
	comp=Z,9.6nm,0.8s						
WRAB	**Tennant Creek**	**41.79**	**266**	P	**P**	**15 45 56.1**	**-0.7**
WRA	**Warramunga Arr**	**41.80**	**266**	P	**P**	**15 45 56.2**	**-0.6**
	comp=Z,4.9nm,0.6s,baz=90,slow=5.9,SNR=195						
WRA				S	**S**	**15 51 31.7**	**-3.6**
	comp=Z,0.5nm,0.9s,baz=125,slow=15,SNR=3.1						
	comp=Z,4.9nm,0.6s						
FORT	**Forrest**	**45.84**	**249**	P	**P**	**15 46 27.7**	**-0.3**
MTN	**Manton Dam**	**46.79**	**274**	P	**P**	**15 46 34.5**	**-0.9**
MTN				IAmb	IAmb	15 47 04.8	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**48.05**	**270**	P	**P**	**15 46 44.6**	**-0.3**
KNRA				IAmb	IAmb	15 46 45.1	
	comp=Z,19nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.22**	**266**	P	**P**	**15 47 00.2**	**-0.6**
SIJI	**Sorong**	**51.71**	**289**	P	**P**	**15 47 10.9**	**-0.8**
	comp=Z,7.5nm,0.6s,baz=105,slow=8.4,SNR=7.8						
	comp=Z,7.5nm,0.6s						
PSA00	**Pilbara Seismi**	**54.60**	**260**	P	**P**	**15 47 31.3**	**-0.8**
PSA00				IAmb	IAmb	15 47 53.1	
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**54.69**	**185**	P	**P**	**15 47 33.2**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=24,slow=6.6,SNR=6.4						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**54.69**	**185**	P	**P**	**15 47 32.3**	**+0.5**
MBWA	**Marble Bar**	**54.81**	**260**	P	**P**	**15 47 32.5**	**-1.1**
MBWA				IAmb	IAmb	15 47 34.2	
	comp=Z,20nm,1.4s						
NWAO	**Narrogin (SRO)**	**54.81**	**245**	P	**P**	**15 47 32.5**	**-1.0**
NWAO				IAmb	IAmb	15 48 02.5	
	comp=Z,51nm,1.4s						
MORW	**Morawa**	**56.40**	**250**	P	**P**	**15 47 44.1**	**-0.4**
MORW				IAmb	IAmb	15 48 04.5	
	comp=Z,24nm,1.2s						
MMRI	**Maumere**	**56.45**	**275**	P	**P**	**15 47 44.1**	**-1.0**
CASY	**Casey**	**60.16**	**206**	P	**P**	**15 48 09.2**	**0.0**
CASY				IAmb	IAmb	15 48 12.7	
	comp=Z,23nm,1.4s						
TOLI2	**Tolitoli**	**61.87**	**285**	P	**P**	**15 48 20.3**	**-1.1**
QSPA	**South Pole Qui**	**66.55**	**180**	P	**P**	**15 48 52.1**	**+1.8**
QSPA				IAmb	IAmb	15 48 52.8	
	comp=Z,6.1nm,0.7s						
SMAI	**San Martin Ant**	**76.67**	**159**	P	**P**	**15 49 51.2**	**+2.3**
SMAI				IAmb	IAmb	15 49 52.1	
	comp=Z,10.0nm,0.7s						
BELA	**Belgrano 2**	**76.88**	**173**	P	**P**	**15 49 51.1**	**+1.1**
BELA				IAmb	IAmb	15 49 51.9	
	comp=Z,8.3nm,0.7s						
MAW	**Mawson**	**77.87**	**201**	P	**P**	**15 49 57.7**	**+2.2**
	comp=Z,6.9nm,0.6s,baz=136,slow=5.6,SNR=21						
	comp=Z,6.9nm,0.6s						
MAW	**Mawson**	**77.87**	**201**	P	**P**	**15 49 57.1**	**+1.6**
TROLL	**Troll, Antarti**	**84.69**	**181**	P	**P**	**15 50 31.5**	**+0.8**
SNAA	**Sanae**	**85.04**	**179**	P	**P**	**15 50 32.7**	**+0.4**
SNAA	**Sanae**	**85.04**	**179**	P	**P**	**15 50 32.4**	**+0.1**
VNA3	**Neumayer Olymp**	**85.27**	**177**	P	**P**	**15 50 34.0**	**+0.6**
VNA2	**Neumayer--Watz**	**85.68**	**178**	P	**P**	**15 50 36.1**	**+0.8**
	baz=183,slow=4.5						
VNA1	**Neumayer--Stat**	**85.93**	**177**	P	**P**	**15 50 37.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.80**	**291**	P	**P**	**15 50 52.6**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=141,slow=4.2,SNR=4.7						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**131.40**	**348**	PKP	**PKiKP**	**15 57 05.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=60,slow=2.9,SNR=6.1						
AKASG	**Malin Array Be**	**144.32**	**327**	PKP	**PKPdf**	**15 57 28.3**	**0.0**
	comp=Z,2.0nm,0.5s,baz=46,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**146.85**	**307**	PKPbc	**PKPbc**	**15 57 36.5**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=128,slow=3.7,SNR=6.7						
CLL	**Collm**	**150.32**	**343**	*i* PKPbc	**PKiKP**	**15 57 45.0**	**+0.5**
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**152.29**	**339**	PKP	**PKPdf**	**15 57 42.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=60,slow=5.8,SNR=1.4						
GERES				PKPbc	**PKiKP**	**15 57 49.1**	**+0.4**
	comp=Z,1.3nm,1.0s,baz=352,slow=5.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**169.43**	**193**	PKP	**PKPdf**	**15 57 58.8**	**-1.3**
	comp=Z,0.8nm,1.0s,baz=265,slow=2.1,SNR=3.0						
TORD				PKPab	**PKPab**	**15 59 17.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=157,slow=4.8,SNR=10						

*DDA **06** 15:45:00.9±0.0, 40°.71N×34°.15E, h9km±1km, MW3.4*

*ISK **06** 15:45:00.8, 40°.73N×34°.14E, h10km, ML3.5/21*

ISC 06 15:45:01.0±0.9**, 40°.71N**±0°.02×**34°.13E**±0°.02**, h13km**±9km**, n57, σ0s.70/76, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.33**	**346**	PG	**Pg**	**15 45 07.8**	**0.0**
TOS				SG	**Sg**	**15 45 12.4**	**0.0**
CANT	**Cankiri**	**0.40**	**255**	PG	**Pb**	**15 45 09.7**	**-0.3**
CANT				SG	**Sb**	**15 45 15.4**	**-0.7**
ILGA	**Ilgaz**	**0.46**	**317**	P	**Pg**	**15 45 10.5**	**+0.3**
KAGI	**orum-Kargı**	**0.50**	**32**	P	**Pg**	**15 45 10.8**	**-0.1**
KAGI				S	**Sg**	**15 45 17.8**	**+0.2**
KAGI				*i* AML	AML	15 45 19.0	
	comp=E,945nm,0.5s						
CTAK	**Corum_Osmancik**	**0.51**	**97**	P	**Pg**	**15 45 11.1**	**0.0**
CTAK				S	**Sg**	**15 45 17.9**	**-0.1**
CTAK				*i* AML	AML	15 45 19.0	
	comp=N,514nm,0.6s						
CTAK				*i* AML	AML	15 45 19.0	
	comp=E,482nm,0.6s						
ELDT	**Eldivan**	**0.58**	**247**	P	**Pb**	**15 45 12.9**	**-0.2**
CORM	**Corum**	**0.66**	**144**	PG	**Pg**	**15 45 13.8**	**-0.1**
CORM				SG	**Sb**	**15 45 24.1**	**+0.5**
KMON	**Kastamonu**	**0.71**	**339**	PG	**Pg**	**15 45 14.9**	**+0.1**
KMON				SG	**Sb**	**15 45 24.9**	**-0.1**
DELI	**KIRIKKALE**	**0.73**	**193**	P	**Pg**	**15 45 15.1**	**-0.2**
DELI				*i* AML	AML	15 45 25.0	
	comp=N,836nm,0.2s						
DELI				*i* AML	AML	15 45 25.0	
	comp=E,801nm,0.3s						
DELI				S	**Sg**	**15 45 25.1**	**+0.1**
COAL	**Corum-Alaca**	**0.80**	**125**	P	**Pg**	**15 45 16.3**	**-0.2**
COAL				S	**Sb**	**15 45 27.4**	**-0.2**
COAL				*i* AML	AML	15 45 30.0	
	comp=N,207nm,0.8s						
COAL				*i* AML	AML	15 45 32.0	
	comp=E,311nm,0.5s						
PELI	**Kastamonı-Ara**	**0.85**	**314**	P	**Pb**	**15 45 17.9**	**+0.2**
PELI				S	**Sb**	**15 45 29.2**	**+0.2**
PELI				*i* AML	AML	15 45 30.0	
	comp=N,1µm,0.5s						
BOYA	**Sinop/Boyabat-**	**0.92**	**27**	P	**Pb**	**15 45 18.2**	**-0.6**
BOYA				S	**Sb**	**15 45 29.7**	**-1.3**
BOYA				*i* AML	AML	15 45 36.0	
	comp=N,506nm,0.6s						
BOYA				*i* AML	AML	15 45 36.0	
	comp=E,413nm,0.7s						
CDAG	**Cicekdag**	**1.11**	**170**	P	**Pb**	**15 45 21.9**	**-0.2**
SAFT	**Safranbolu**	**1.21**	**296**	PN	**Pg**	**15 45 24.5**	**+0.2**
CKRK	**Yozgat, Cekere**	**1.23**	**121**	P	**Pg**	**15 45 24.4**	**-0.2**
CKRK				S	**Sn**	**15 45 40.3**	**-0.2**
CKRK				*i* AML	AML	15 45 41.0	
	comp=N,207nm,0.5s						
CKRK				*i* AML	AML	15 45 44.0	
	comp=E,253nm,0.9s						
BZK	**Bozkurt**	**1.25**	**356**	PN	**Pn**	**15 45 23.9**	**-0.2**
BZK				SN	**Sg**	**15 45 42.2**	**+0.9**
KBUK	**KARABUK-Merkez**	**1.25**	**295**	P	**Pg**	**15 45 24.8**	**-0.3**
HAVZ	**Havza**	**1.26**	**73**	P	**Pb**	**15 45 24.4**	**-0.2**
HAVZ				S	**Sg**	**15 45 42.2**	**+0.5**
HAVZ				*i* AML	AML	15 45 43.0	
	comp=E,426nm,0.5s						
DIKM	**Dikmen**	**1.27**	**42**	PN	**Pb**	**15 45 24.8**	**+0.1**
DIKM				SN	**Sg**	**15 45 42.1**	**+0.2**
CMDR	**Camlidere-ANKA**	**1.28**	**261**	P	**Pb**	**15 45 24.9**	**-0.1**
AMSY	**Amasya-Merkez**	**1.30**	**93**	P	**Pg**	**15 45 25.8**	**-0.3**
YARM	**Yarimca-Ladik(**	**1.31**	**80**	PN	**Pn**	**15 45 24.9**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ANTO	**Ankara**	**1.32**	**231**	PN	**Pg**	**15 45 26.3**	**-0.2**
LOD	**Lodumlu**	**1.33**	**232**	PN	**Pn**	**15 45 24.8**	**-0.5**
KAMT	**Kaman**	**1.38**	**193**	PN	**Pn**	**15 45 26.0**	**-0.1**
KIZO	**Buyukkizoglu-L**	**1.38**	**82**	PN	**Pb**	**15 45 26.8**	**0.0**
BBAL	**Bala**	**1.40**	**214**	P	**Pg**	**15 45 27.5**	**-0.5**
YOZ	**Yozgat**	**1.41**	**139**	PN	**Pb**	**15 45 27.3**	**0.0**
CIDE	**Kastamonu/Cide**	**1.47**	**323**	P	**Pg**	**15 45 29.5**	**+0.3**
KVT	**Kavak**	**1.50**	**75**	PN	**Pb**	**15 45 28.2**	**-0.6**
AFSR	**Afar-Bala (An**	**1.50**	**213**	PN	**Pb**	**15 45 28.2**	**-0.6**
BCAM	**Yenicaga**	**1.57**	**274**	P	**Pb**	**15 45 30.3**	**+0.3**
SIRC	**Yozgat**	**1.58**	**150**	P	**Pb**	**15 45 30.3**	**+0.1**
SIRC				S	**Sb**	**15 45 50.9**	**+0.7**
SIRC				*i* AML	AML	15 45 53.0	
	comp=N,235nm,0.3s						
SIRC				*i* AML	AML	15 45 54.0	
	comp=E,201nm,0.4s						
KIRS	**Kirsehir-Merke**	**1.59**	**186**	P	**Pb**	**15 45 30.1**	**-0.1**
KIRS				S	**Sg**	**15 45 52.6**	**+0.4**
KIRS				*i* AML	AML	15 45 54.0	
	comp=E,436nm,0.6s						
HACI	**Hacifakili, Ak**	**1.59**	**129**	P	**Pg**	**15 45 31.4**	**-0.1**
HACI				S	**Sg**	**15 45 52.1**	**-0.1**
KOZK	**Kozakli-Nevseh**	**1.61**	**159**	PN	**Pb**	**15 45 30.1**	**-0.5**
DEVR	**Zonguldak/Devr**	**1.69**	**285**	P	**Pg**	**15 45 32.6**	**-0.8**
SAMS	**Samsun-Alacam**	**1.69**	**67**	P	**Pb**	**15 45 32.3**	**+0.4**
SAMS				S	**Sg**	**15 45 54.1**	**-1.2**
SAMS				*i* AML	AML	15 46 02.0	
	comp=E,148nm,0.6s						
BTIN	**Bartın**	**1.69**	**304**	P	**Pg**	**15 45 33.2**	**-0.2**
KIBS	**BOLU**	**1.76**	**261**	P	**Pb**	**15 45 32.7**	**-0.5**
YAYX	**Yaylak**	**1.79**	**188**	PN	**Pb**	**15 45 32.8**	**-0.9**
KKUL	**Konya-Kulu**	**1.80**	**211**	P	**Pb**	**15 45 33.4**	**-0.5**
SERE	**Sereflikochisa**	**1.82**	**194**	PN	**Pb**	**15 45 33.4**	**-0.8**
KULU	**Kulu**	**1.88**	**208**	PN	**Pb**	**15 45 34.4**	**-0.9**
TOKT	**Tokat**	**1.89**	**101**	PN	**Pb**	**15 45 34.1**	**-1.2**
AVNS	**Nevsehir-Avano**	**1.98**	**164**	P	**Pb**	**15 45 36.5**	**-0.6**
YIGI	**Dzce**	**2.05**	**278**	P	**Pg**	**15 45 39.7**	**-0.6**
AKSY	**AKSARAY - Alti**	**2.08**	**188**	P	**Pb**	**15 45 38.3**	**-0.3**
AKSY				S	**Sg**	**15 46 07.3**	**-0.6**
AKSY				*i* AML	AML	15 46 09.0	
	comp=E,229nm,0.7s						
AKSY				*i* AML	AML	15 46 12.0	
	comp=N,158nm,0.6s						
GUNE	**Kayseri**	**2.15**	**147**	P	**Pb**	**15 45 40.6**	**+0.8**
BNN	**Bunyan**	**2.28**	**144**	PN	**Pn**	**15 45 39.8**	**+1.3**
CHBY	**Cihanbeyli**	**2.33**	**205**	PN	**Pn**	**15 45 40.8**	**+1.6**
SVSK	**Karacayir**	**2.33**	**109**	PN	**Pn**	**15 45 40.4**	**+1.3**
GULA	**Gulagac**	**2.37**	**178**	PN	**Pn**	**15 45 41.1**	**+1.4**
RSDY	**Resadiye-TOKAT**	**2.46**	**96**	PN	**Pn**	**15 45 41.6**	**+0.8**
SULT	**Sultanhani-AKS**	**2.56**	**191**	PN	**Pn**	**15 45 43.9**	**+1.7**
SARI	**SarD1z-Kayseri**	**2.91**	**142**	PN	**Pn**	**15 45 48.6**	**+1.5**
CUKAN	**kangal_SIVAS**	**2.92**	**117**	P	**Pb**	**15 45 50.6**	**-2.4**

---

*NEIC **06** 15:52:42.1±1.0, 34°.9S±0°.1×178°.9W±0°.2, h10km±2km, mb4.3/6, Error ellipse: s-maj=39.0km s-min=5.9km az=126.0*
*IDC **06** 15:52:43.8±3.2, 34°.78S×179°.28W, h0km, mb3.8/2, mbtmp4.0/4, ML3.8/2, MS2.5/1, Error ellipse: s-maj=71.2km s-min=33.1km az=115.0*
ISC 06 15:52:42.3±2.4**, 34°.8S**±0°.2×**179°.0W**±0°.3**, h10**km**, n18, σ1s12**/18**, mb4.1**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.48**	**218**	Pn	**Pn**	**15 53 35.5**	**-0.9**
URZ	**Urewera**	**4.63**	**221**	Pn	**Pn**	**15 53 54.6**	**+2.4**
	4.6nm,0.3s,baz=38,slow=12,SNR=10						
URZ				Sn	**Sn**	**15 54 45.6**	**-0.3**
	4.7nm,0.3s,baz=208,slow=21,SNR=6.9						
	9.4nm,0.3s						
BKZ	**Black Stump Fm**	**5.62**	**218**	Pn	**Pn**	**15 54 06.4**	**+0.5**
RAO	**Raoul Island**	**5.64**	**10**	LR	LR	15 55 57.8	
	comp=Z,47nm,20.2s,baz=353,slow=34						
BFZ	**Birch Farm**	**6.94**	**211**	Pn	**Pn**	**15 54 24.2**	**+0.2**
THZ	**Tophouse**	**9.38**	**220**	Pn	**Pn**	**15 54 57.7**	**+0.1**
KHZ	**Kahutara**	**9.55**	**215**	Pn	**Pn**	**15 55 00.1**	**+0.3**
RPZ	**Rata Peaks**	**11.73**	**218**	Pn	**Pn**	**15 55 30.0**	**+0.3**
	0.5nm,0.3s,baz=7.1,slow=8.1,SNR=1.7						
RPZ				Sn	Sn	15 57 27.6	-13
	0.2nm,0.3s,baz=57,slow=21,SNR=2.6						
	9.4nm,0.9s						
AS31	**Alice Springs**	**42.21**	**272**	P	**P**	**16 00 35.3**	**-0.3**
ASAR	**Alice Springs**	**42.21**	**272**	P	**P**	**16 00 37.3**	**+1.7**
	0.9nm,0.7s,baz=113,slow=8.0,SNR=10						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**42.21**	**272**	P	**P**	**16 00 35.3**	**-0.3**
WB2	**Warramunga Arr**	**43.59**	**277**	P	**P**	**16 00 47.9**	**+1.1**
WB2				IAmb	IAmb	16 01 08.8	
	comp=Z,4.7nm,1.1s						
WRAB	**Tennant Creek**	**43.59**	**277**	P	**P**	**16 00 48.0**	**+1.1**
WRAB				IAmb	IAmb	16 01 13.4	
	comp=Z,6.3nm,1.4s						
WRA	**Warramunga Arr**	**43.60**	**277**	P	**P**	**16 00 47.9**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=118,slow=7.5,SNR=8.3						
	comp=Z,1.1nm,0.8s						
WB0	**Warramunga Arr**	**43.64**	**278**	P	**P**	**16 00 48.2**	**+1.0**
WB0				IAmb	IAmb	16 01 03.2	
	comp=Z,3.2nm,1.1s						
FORT	**Forrest**	**44.24**	**260**	P	**P**	**16 00 51.2**	**-0.7**
SOEI	**Soe**	**57.26**	**282**	P	**P**	**16 02 28.6**	**-1.8**
SOEI				IAmb	IAmb	16 03 04.6	
	comp=Z,14nm,1.1s						
FINES	**FINESS Array B**	**148.93**	**337**	PKPbc	**PKiKP**	**16 12 31.7**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=27,slow=3.4,SNR=4.0						

---

*IDC **06** 16:02:10.3±12.0, 29°.73N×81°.34E, h86km±103km, mb3.3/5, mbtmp3.5/7, ML3.6/2, Error ellipse: s-maj=144.4km s-min=21.3km az=60.0*
ISC 06 16:02:01.6±1.0**, 29°.6N**±0°.1×**81°.15E**±0°.09**, h10**km**, n9, σ1s07**/10**, mb3.8**/5**, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**3.55**	**256**	*e*P	**Pb**	**16 03 06.0**	**+1.4**
NDI				*e*S	**Sn**	**16 03 37.5**	**-1.4**
CEP	**Cherat**	**8.93**	**301**	P	**Pn**	**16 04 10.5**	**-0.3**
MKAR	**Makanchi Array**	**17.20**	**3**	P	**Pn**	**16 06 02.6**	**+0.6**
	0.1nm,0.3s,baz=184,slow=11,SNR=2.4						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.65**	**120**	P	**P**	**16 06 31.7**	**+1.1**
	0.1nm,0.3s,baz=306,slow=9.9,SNR=6.8						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**21.10**	**355**	P	**P**	**16 06 46.0**	**-0.2**
	0.6nm,0.3s,baz=181,slow=10,SNR=7.9						
	0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**24.49**	**5**	P	**P**	**16 07 20.8**	**0.0**
	1.0nm,0.4s,baz=196,slow=12,SNR=7.9						
	1.0nm,0.4s						
BVAR	**Borovoye Array**	**24.71**	**344**	P	**P**	**16 07 22.2**	**-0.6**
	0.2nm,0.4s,baz=151,slow=13,SNR=1.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**71.07**	**127**	P	**P**	**16 13 19.2**	**-1.0**
	0.5nm,0.6s,baz=323,slow=6.1,SNR=8.0						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**73.31**	**130**	P	**P**	**16 13 32.6**	**-0.9**
	0.3nm,0.3s,baz=315,slow=6.2,SNR=14						
	0.3nm,0.3s						

---

*IDC **06** 16:03:14.1±1.2, 10°.88N×126°.59E, h0km, mb3.9/7, mbtmp3.9/7, MS3.0/1, Error ellipse: s-maj=90.6km s-min=17.2km az=70.0*
*NEIC **06** 16:03:15.3±1.9, 10°.9N±0°.1×126°.8E±0°.2, h10km±1km, mb4.5/21, Error ellipse: s-maj=33.6km s-min=18.4km az=258.0*
*MAN **06** 16:03:17.3, 11°.07N×126°.69E, h5km, mb4.7, ML3.6, MS3.5*
ISC 06 16:03:13.5±2.0**, 10°.88N**±0°.05×**126°.70E**±0°.06**, h1**km±12km**, n45, σ1s59**/54**, mb4.3**/16**, 7C-4D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.62**	**227⇑**	*e*P	**Pg**	**16 03 45.8**	**+1.2**
SCPH				*e*S	**Sn**	**16 03 58.3**	**-6.5**
TABP	**Talibon, Bohol**	**2.46**	**252⇓**	*e*P	**Pn**	**16 03 56.9**	**+2.1**
TABP				*e*S	**Sn**	**16 04 24.0**	**-1.5**
GHBP	**Garcia Hernand**	**2.65**	**242⇑**	*e*P	**Pb**	**16 04 00.6**	**-1.3**
GHBP				*e*S	**Sn**	**16 04 31.4**	**+1.1**
BIPH	**Bislig**	**2.70**	**187⇑**	*i*P	**Pn**	**16 04 01.1**	**+3.0**
BIPH				*i* S	**Sn**	**16 04 30.2**	**-1.4**
LLP	**Lapu-Lapu**	**2.75**	**258⇓**	*i*P	**Pn**	**16 04 00.7**	**+1.9**
LLP				*i* S	**Sn**	**16 04 33.8**	**+1.2**
TBP	**Tagbilaran**	**3.03**	**247**	*e*P	**Pn**	**16 04 04.2**	**+1.4**
TBP				*i* S	**Sn**	**16 04 41.4**	**+1.6**
CGP	**Cagayan de Oro**	**3.12**	**219⇑**	*e*P	**Pb**	**16 04 07.7**	**-2.2**
CGP				*e*S	**Sn**	**16 04 42.1**	**+0.2**
LSIP	**Lazi, Siquijor**	**3.49**	**240⇓**	*e*P	**Pn**	**16 04 11.4**	**+2.4**
LSIP				*e*S	**Sn**	**16 04 49.8**	**-1.1**
RCP	**Roxas**	**3.94**	**280⇑**	*e*P	**Pn**	**16 04 17.3**	**+2.1**
KCP	**Kidapawan**	**4.17**	**203⇓**	*e*P	Pg	16 04 46.4	+13
KCP				*i* S	**Sn**	**16 05 09.4**	**+1.6**
CTBH	**Cotabato--PC H**	**4.37**	**214⇑**	*e*P	**Pg**	**16 04 36.6**	**-0.8**
LQP	**Lukban**	**5.97**	**303⇑**	*e*P	**Pb**	**16 04 57.2**	**-1.4**
JOW	**Kunigami**	**15.93**	**5**	LR	LR	16 13 26.4	
	comp=Z,51nm,18.0s,baz=340,slow=38						
BATI	**Baumata**	**21.17**	**188**	P	**P**	**16 08 01.8**	**+1.3**
	9.5nm,0.6s,baz=171,slow=1.7,SNR=4.6						
	9.5nm,0.6s						
JMN	**Monobe**	**23.67**	**15**	P	**P**	**16 08 24.4**	**-2.4**
MTN	**Manton Dam**	**23.98**	**169**	P	**P**	**16 08 27.6**	**-2.3**
MTN				IAmb	IAmb	16 08 39.3	
	comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**31.39**	**166**	P	**P**	**16 09 34.8**	**-1.5**
WB0				IAmb	IAmb	16 09 41.9	
	comp=Z,5.6nm,1.5s						
WRA	**Warramunga Arr**	**31.54**	**166**	P	**P**	**16 09 37.9**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=345,slow=8.8,SNR=7.3						
WRA				PcP	**PcP**	**16 12 31.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=339,slow=2.6,SNR=2.0						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**31.54**	**166**	P	**P**	**16 09 36.8**	**-0.9**
WR0	**Warramunga Arr**	**31.61**	**166**	P	**P**	**16 09 35.9**	**-2.3**
WR0				IAmb	IAmb	16 10 12.6	
	comp=Z,6.9nm,1.4s						
AS31	**Alice Springs**	**35.05**	**168**	P	**P**	**16 10 07.9**	**-0.4**
ASAR	**Alice Springs**	**35.05**	**168**	P	**P**	**16 10 08.6**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=352,slow=7.2,SNR=63						
ASAR				PcP	**PcP**	**16 12 41.0**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=342,slow=2.4,SNR=5.6						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**35.05**	**168**	P	**P**	**16 10 07.4**	**-0.9**
SONM	**Songino Array**	**40.60**	**339**	P	**P**	**16 10 55.2**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=113,slow=6.7,SNR=3.5						
	comp=Z,0.6nm,0.9s						
FORT	**Forrest**	**41.44**	**178**	P	**P**	**16 11 02.5**	**+0.5**
BBOO	**Buckleboo**	**44.36**	**169**	P	**P**	**16 11 25.8**	**+0.2**
STKA	**Stephens Creek**	**44.85**	**162**	P	**P**	**16 11 30.4**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=332,slow=13,SNR=9.6						
	comp=Z,1.2nm,0.4s						
STKA	**Stephens Creek**	**44.85**	**162**	P	**P**	**16 11 30.1**	**+0.5**
MKAR	**Makanchi Array**	**51.80**	**322**	P	**P**	**16 12 23.8**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=125,slow=7.6,SNR=2.9						
	comp=Z,0.9nm,0.8s						
KURK	**Kurchatov**	**55.80**	**325**	P	**P**	**16 12 51.9**	**-0.4**
KURK				IAmb	IAmb	16 12 53.3	
	comp=Z,4.0nm,1.1s						
KURBB	**Kurchatov Arra**	**55.81**	**325**	P	**P**	**16 12 52.3**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=122,slow=7.1,SNR=8.5						
	comp=Z,1.6nm,1.0s						
GAR	**Garm**	**57.23**	**309**	P	**P**	**16 13 02.0**	**-0.9**
GAR				IAmb	IAmb	16 13 04.7	
	comp=Z,11nm,1.1s						
KKAR	**Karatay Array**	**58.12**	**314**	P	**P**	**16 13 08.5**	**-0.5**
BKZ	**Black Stump Fm**	**67.98**	**140**	P	**P**	**16 14 13.9**	**-0.6**
SPU	**Mount Spurr**	**76.32**	**30**	P	**P**	**16 15 03.9**	**-0.3**
CAST	**Castle Rocks**	**76.41**	**27**	P	**P**	**16 15 05.3**	**+0.7**
CAST				IAmb	IAmb	16 15 24.7	
	comp=Z,5.1nm,1.3s						
GHO	**Glory Hole Cre**	**77.83**	**29**	P	**P**	**16 15 13.4**	**+0.7**
CASY	**Casey**	**77.87**	**187**	P	**P**	**16 15 13.5**	**+0.9**
BMAR	**Burnt Mountain**	**79.54**	**23**	P	**P**	**16 15 23.3**	**+1.3**
I26K	**Coal Creek Min**	**80.26**	**25**	P	**P**	**16 15 26.0**	**+0.2**
I26K				IAmb	IAmb	16 16 00.2	
	comp=Z,11nm,1.5s						
ARCES	**ARCESS Array B**	**83.77**	**340**	P	**P**	**16 15 43.6**	**-0.6**
FARO	**Faro, Yukon**	**85.05**	**28**	P	**P**	**16 15 51.7**	**+0.8**
FARO				IAmb	IAmb	16 15 52.3	
	comp=Z,1.6nm,0.8s						
C36M	**Paulatuk**	**86.53**	**20**	P	**P**	**16 15 57.9**	**-0.1**
C36M				IAmb	IAmb	16 16 34.0	
	comp=Z,8.1nm,1.2s						
EUNU	**Eureka**	**87.61**	**5**	P	**P**	**16 16 04.2**	**+1.0**
BURAR	**Bucovina Array**	**89.66**	**318**	P	**P**	**16 16 13.1**	**-0.5**

---

*NEIC **06** 16:17:03.7±2.4, 35°.2S±0°.2×178°.4W±0°.2, h10km±2km, mb4.2/9, Error ellipse: s-maj=36.5km s-min=22.2km az=148.0*
*IDC **06** 16:17:05.3±2.4, 35°.18S×178°.99W, h0km, mb4.0/3, mbtmp4.0/6, ML3.7/3, MS3.5/1, Error ellipse: s-maj=51.2km s-min=30.7km az=117.0*
*WEL **06** 16:17:11.6±0.8, 35°S±9°×17°9W±1°2, h178km±15km, M4.0/18, mB4.2/5, ML4.6/20, MLv4.3/18, Mw(mB)3.3/5, Error ellipse: s-maj=0.0km s-min=0.0km az=122.5*
ISC 06 16:17:10.1±1.5**, 35°.20S**±0°.07×**178°.9W**±0°.1**, h35**km**, n53, σ1s47**/78**, mb4.1**/6**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.28**	**223**	Pn	**Pn**	**16 17 58.9**	**0.0**
MXZ	**Matakaoa Point**	**3.28**	**223**	P	**Pn**	**16 17 59.1**	**+0.2**
MXZ				S	**Sn**	**16 18 38.0**	**+1.3**
WMGZ	**Waiomatatini S**	**3.41**	**219**	P	**Pn**	**16 18 01.0**	**+0.2**
WMGZ				S	**Sn**	**16 18 42.9**	**+3.0**
PKGZ	**Pakihiroa**	**3.64**	**222**	P	**Pn**	**16 18 04.7**	**+0.8**
PKGZ				S	**Sn**	**16 18 47.7**	**+2.0**
PUZ	**Puketiti**	**3.68**	**218**	P	**Pn**	**16 18 05.5**	**+1.0**
PUZ				S	**Sn**	**16 18 48.2**	**+1.6**
HAZ	**Te Kaha**	**3.71**	**226**	P	**Pn**	**16 18 05.6**	**+0.7**
HAZ				S	**Sn**	**16 18 50.4**	**+3.0**
TWGZ	**Tauwhareparae**	**3.90**	**220**	P	**Pn**	**16 18 08.5**	**+0.9**
TWGZ				S	**Sn**	**16 18 54.7**	**+2.5**
RUGZ	**Raukumara Rang**	**3.92**	**224**	P	**Pn**	**16 18 09.1**	**+1.3**
RUGZ				S	**Sn**	**16 18 56.3**	**+3.7**
CNGZ	**Carnagh Statio**	**4.03**	**215**	P	**Pn**	**16 18 11.1**	**+1.8**
CNGZ				S	**Sn**	**16 18 55.2**	**0.0**
TKGZ	**Te Karaka**	**4.17**	**218**	P	**Pn**	**16 18 12.3**	**+1.2**
TKGZ				S	**Sn**	**16 19 00.1**	**+1.4**
MWZ	**Matawai**	**4.26**	**222**	P	**Pn**	**16 18 12.9**	**+0.5**
MWZ				S	**Sn**	**16 19 03.3**	**+2.4**
RIGZ	**Rimuhau**	**4.42**	**217**	P	**Pn**	**16 18 15.4**	**+0.8**
RIGZ				S	**Sn**	**16 19 07.6**	**+2.8**
RAGZ	**Rawiri**	**4.44**	**221**	S	**Sn**	**16 19 05.7**	**+0.3**
URZ	**Urewera**	**4.44**	**225**	Pn	**Pn**	**16 18 14.9**	**0.0**
	6.1nm,0.3s,baz=348,slow=4.5,SNR=68						
URZ				Sn	**Sn**	**16 19 06.1**	**+0.6**
	10nm,0.3s,baz=2.1,slow=1.7,SNR=14						
	22nm,0.5s						
URZ	**Urewera**	**4.44**	**225**	P	**Pn**	**16 18 14.8**	**-0.2**
URZ				S	**Sn**	**16 19 06.0**	**+0.6**
KUZ	**Kuaotunu**	**4.65**	**249**	P	**Pn**	**16 18 18.3**	**+0.5**
SNGZ	**Shannon Statio**	**4.69**	**219**	P	**Pn**	**16 18 19.5**	**+1.1**
SNGZ				S	**Sn**	**16 19 12.5**	**+1.0**
KNZ	**Kokohu**	**4.71**	**215**	P	**Pn**	**16 18 18.5**	**-0.1**
KNZ				S	**Sn**	**16 19 11.4**	**-0.6**
MHGZ	**Mahia Peninsul**	**4.71**	**212**	P	**Pn**	**16 18 19.9**	**+1.3**
GRZ	**Great Barrier**	**4.73**	**256**	P	**Pn**	**16 18 18.3**	**-0.6**
MUGZ	**Murupara**	**4.79**	**226**	P	**Pn**	**16 18 19.9**	**+0.2**
MUGZ				S	**Sn**	**16 19 12.2**	**-1.8**
RAHZ	**Arahi**	**4.92**	**220**	P	**Pn**	**16 18 22.8**	**+1.3**
MTHZ	**Maungataniwha**	**5.01**	**222**	P	**Pn**	**16 18 23.5**	**+0.8**
NMHZ	**Naumai**	**5.20**	**220**	P	**Pn**	**16 18 26.9**	**+1.5**
ARHZ	**Aropaoanui**	**5.23**	**218**	P	**Pn**	**16 18 26.2**	**+0.5**
ARHZ				S	**Sn**	**16 19 25.1**	**+0.3**
BKZ	**Black Stump Fm**	**5.42**	**222**		**Pn**	**16 18 27.9**	**-0.5**
BKZ	**Black Stump Fm**	**5.42**	**222**	P	**Pn**	**16 18 28.0**	**-0.4**
MCHZ	**McNeill Hill**	**5.52**	**219**	P	**Pn**	**16 18 29.6**	**-0.1**
KAHZ	**Kahuranaki**	**5.70**	**215**	P	**Pn**	**16 18 29.1**	**-3.2**
KAHZ				S	**Sn**	**16 19 36.4**	**0.0**
TMVZ	**Te Maari**	**5.83**	**226**	P	**Pn**	**16 18 32.3**	**-1.9**
TMVZ				S	**Sn**	**16 19 38.5**	**-1.4**
NTVZ	**North Tongarir**	**5.84**	**227**	P	**Pn**	**16 18 34.7**	**+0.5**
NTVZ				S	**Sn**	**16 19 39.1**	**-1.0**
ETVZ	**East Tongariro**	**5.84**	**226**	P	**Pn**	**16 18 34.8**	**+0.5**
BHHZ	**Black Hill Sta**	**5.88**	**222**	P	**Pn**	**16 18 34.9**	**+0.1**
BHHZ				S	**Sn**	**16 19 37.5**	**-3.6**
WPHZ	**Waipukurau**	**6.12**	**216**	P	**Pn**	**16 18 37.7**	**-0.3**
WPHZ				S	**Sn**	**16 19 44.5**	**-2.2**
PNHZ	**Pukenui**	**6.12**	**218**	P	**Pn**	**16 18 38.3**	**+0.2**
PNHZ				S	**Sn**	**16 19 44.5**	**-2.4**
TSZ	**Takapari Road**	**6.35**	**219**	P	**Pn**	**16 18 40.2**	**-1.0**
TSZ				S	**Sn**	**16 19 48.8**	**-3.7**
LTZ	**Lake Taylor**	**10.23**	**220**	Pn	**Pn**	**16 19 33.7**	**-0.7**
RPZ	**Rata Peaks**	**11.52**	**219**	Pn	**Pn**	**16 19 50.4**	**-1.6**
	0.6nm,0.3s,baz=304,slow=21,SNR=1.8						
RPZ				Sn	Sn	16 21 47.5	-12
	0.8nm,0.3s,baz=29,slow=22,SNR=8.6						
	4.9nm,0.8s						
DZM	**Mont Dzumac**	**18.34**	**312**	P	**P**	**16 21 21.6**	**+0.1**
	0.1nm,0.3s,baz=302,slow=23,SNR=1.8						
DZM				LR	LR	16 27 27.6	
	comp=Z,157nm,19.4s,baz=25,slow=34						
	1.1nm,0.6s						
DZM	**Mont Dzumac**	**18.34**	**312**	P	**Pn**	**16 21 22.9**	**+1.2**
KOUNC	**Koumac, New Ca**	**20.80**	**310**	P	**P**	**16 21 49.4**	**+1.0**
KOUNC				IAmb	IAmb	16 22 00.8	
	comp=Z,9.2nm,1.1s						
CTA	**Charters Tower**	**34.16**	**287**	P	**P**	**16 23 52.1**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=134,slow=12,SNR=2.7						
	comp=Z,2.0nm,0.8s						
CTAO	**Charters Tower**	**34.16**	**287**	P	**P**	**16 23 52.1**	**+0.1**
CTAO				IAmb	IAmb	16 24 34.5	
	comp=Z,6.5nm,1.2s						
COEN	**Coen**	**40.14**	**292**	P	**P**	**16 24 43.1**	**+0.3**
AS31	**Alice Springs**	**42.35**	**273**	P	**P**	**16 24 59.4**	**-1.6**
ASAR	**Alice Springs**	**42.35**	**273**	P	**P**	**16 25 00.1**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=116,slow=7.7,SNR=40						
ASAR				PcP	**PcP**	**16 26 54.4**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=120,slow=4.4,SNR=1.2						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**42.35**	**273**	P	**P**	**16 24 59.6**	**-1.4**
WR0	**Warramunga Arr**	**43.60**	**278**	P	**P**	**16 25 09.7**	**-1.4**
WR0				IAmb	IAmb	16 25 19.3	
	comp=Z,2.9nm,1.0s						
WB2	**Warramunga Arr**	**43.77**	**278**	P	**P**	**16 25 11.1**	**-1.3**
WRAB	**Tennant Creek**	**43.77**	**278**	P	**P**	**16 25 10.8**	**-1.7**
WRAB				IAmb	IAmb	16 25 27.8	
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	**43.77**	**278**	P	**P**	**16 25 11.1**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=123,slow=7.5,SNR=50						
	comp=Z,1.0nm,0.4s						
WB0	**Warramunga Arr**	**43.82**	**278**	P	**P**	**16 25 11.5**	**-1.3**
WB0				IAmb	IAmb	16 25 33.7	
	comp=Z,7.9nm,1.3s						
FINES	**FINESS Array B**	**149.32**	**337**	PKPbc	**PKPbc**	**16 36 54.7**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=28,slow=4.4,SNR=7.8						

KRSC 06 16:23:10.5±1.3**, 49°.15N**×**157°.81E, h16**km±26km**, ML3.9, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.89**	**325**	S	Sn	16 24 05.1	-0.4
PAU	**Pauzhetka**	**2.41**	**345**	P	Pn	16 23 51.1	+1.8
PAU				*e*S	Sb	16 24 20.9	-2.0
KDTR	**Khodutka, Kamc**	**2.67**	**4**	*e*S	Sb	16 24 28.4	-2.0
ASAK	**Asacha**	**3.24**	**1**	*e*P	Pn	16 24 03.7	+2.9
RUS	**Russkaya**	**3.32**	**7**	*e*P	Pn	16 24 04.6	+2.8
RUS				*e*S	Sb	16 24 45.0	-4.1
MTVR	**Mutnovka**	**3.35**	**4**	*e*P	Pn	16 24 05.1	+2.8
MTVR				*e*S	Sn	16 24 45.6	+3.8
GRL	**Gorelyy**	**3.41**	**3**	*e*P	Pn	16 24 06.5	+3.3
GRL				*e*S	Sn	16 24 47.2	+3.8
KRMR	**Karymshinskiy**	**3.69**	**3**	*e*P	Pn	16 24 10.6	+3.7
PET	**Petropavlovsk**	**3.92**	**7**	P	Pn	16 24 13.1	+3.1
DALK	**Dalny**	**3.93**	**8**	*e*P	Pn	16 24 13.4	+3.2
UGLR	**Uglovaya**	**4.12**	**9**	*e*P	Pn	16 24 16.9	+4.1
AVH	**Avacha**	**4.16**	**8**	P	Pn	16 24 17.6	+4.1
SMAR	**Somma**	**4.17**	**8**	*e*P	Pn	16 24 18.0	+4.4
KOK	**Koryaka**	**4.18**	**7**	*e*P	Pn	16 24 18.2	+4.5
SDLR	**Sedlovina**	**4.19**	**9**	*e*P	Pn	16 24 17.0	+3.1
GNL	**Ganaly**	**4.55**	**1**	*e*P	Pn	16 24 22.9	+4.0
TUMR	**Tumrok**	**6.31**	**12**	*e*P	Pn	16 24 48.2	+5.3

---

*VAO **06** 16:48:33.7±0.3, 27°.99S×66°.77W, h153km, mb4.7*
*NEIC **06** 16:48:34.5±1.6, 27°.96S±0°.06×66°.70W±0°.09, h149km±6km, mb4.7/43, Md4.9(SJA), Mwr4.7(GUC), Error ellipse: s-maj=11.5km s-min=8.7km az=90.0*
*SJA **06** 16:48:34.8±0.7, 27°.97S×66°.78W, h176km±3km, ML4.7, MW4.4*
*IDC **06** 16:48:36.5±2.9, 27°.81S×66°.57W, h165km±25km, mb4.0/8, mbtmp4.5/11, MS3.2/1, Error ellipse: s-maj=23.2km s-min=16.5km az=101.0*
*GUC **06** 16:48:37.5±0.5, 27°.85S×66°.86W, h137km±7km, ML4.8*
ISC 06 16:48:35.3±0.6**, 27°.93S**±0°.03×**66°.79W**±0°.03**, h164**km±5km**, n251, σ1s42**/291**, mb4.7**/24**, 13C-4D, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TINO	**Tinogasta**	**0.71**	**259**	*e*P	**Pn**	**16 49 00.9**	**+1.4**
TINO				*e*S	**Sn**	**16 49 19.7**	**+1.7**
CYA	**Choya**	**1.01**	**121⇑**	*i*P	**Pn**	**16 49 02.8**	**+1.3**
CYA				*e*S	**Sn**	**16 49 21.6**	**-0.1**
CYA	**Choya**	**1.01**	**121**	*e*P	**Pn**	**16 49 02.8**	**+1.3**
CYA				*e*S	**Sn**	**16 49 22.9**	**+1.2**
ACLC	**CERRO LA CRUZ**	**1.50**	**186**	*e*P	**Pn**	**16 49 07.2**	**+1.0**
ACLC				*e*S	**Sn**	**16 49 30.4**	**+0.4**
ACLC				IAML		16 49 31.4	
	comp=Z,2μm,0.4s						
AHML	**Horco Molle**	**1.72**	**49**	*e*P	**Pn**	**16 49 09.4**	**+1.1**
AHML				*e*S	**Sn**	**16 49 33.5**	**-0.1**
AC02	**Maricunga**	**2.35**	**297**		**Pn**	**16 49 17.2**	**+1.4**
AC02	**Maricunga**	**2.35**	**297⇓**	*i*P	**Pn**	**16 49 17.9**	**+2.0**
AC02				IAML		16 50 02.7	
	comp=N,3μm,0.2s						
APLL	**PUNTA DE LOS L**	**2.47**	**175**	*e*P	**Pn**	**16 49 17.0**	**+0.2**
AVFE	**Valle Fertil**	**2.79**	**192**	*e*P	**Pn**	**16 49 20.8**	**+0.1**
AVFE				*e*S	**Sn**	**16 49 55.1**	**-0.8**
AVFE				IAML		16 49 59.2	
	comp=Z,2μm,0.4s						
ACDV	**Cuesta del Vie**	**3.03**	**222**	*e*P	**Pn**	**16 49 24.8**	**+1.1**
ACDV				*e*S	**Sn**	**16 50 02.7**	**+1.3**
ACDV				IAML		16 50 03.2	
	comp=Z,936nm,0.7s						
GO03	**Copiap**	**3.08**	**275**		**Pn**	**16 49 25.0**	**+0.8**
GO03	**Copiap**	**3.08**	**275⇑**	*i*P	**Pn**	**16 49 25.1**	**+0.8**
GO03				*i* S	**Sn**	**16 50 01.3**	**-0.8**
GO03	**Copiap**	**3.08**	**275**	*e*P	**Pn**	**16 49 25.2**	**+0.9**
GO03				*e*S	**Sn**	**16 50 01.8**	**-0.4**
AC05	**El Transito**	**3.21**	**253**		**Pn**	**16 49 27.0**	**+1.1**
AC05	**El Transito**	**3.21**	**253⇑**	*i*P	**Pn**	**16 49 27.1**	**+1.2**
AC05				*e*S	**Sn**	**16 50 05.7**	**+0.5**
AC06	**Mina Casimiro**	**3.22**	**279**		**Pn**	**16 49 26.7**	**+0.7**
AC06	**Mina Casimiro**	**3.22**	**279**	*e*P	**Pn**	**16 49 26.4**	**+0.5**
AC06				*e*S	**Sn**	**16 50 04.7**	**-0.6**
AC06				IAML		16 50 06.4	
	comp=N,4μm,0.3s						
ACHE	**Chepes**	**3.23**	**178**	*e*P	**Pn**	**16 49 26.7**	**+0.5**
AROD	**Rodeo**	**3.24**	**226**	*e*P	**Pn**	**16 49 27.7**	**+1.1**
AROD				*e*S	**Sn**	**16 50 08.2**	**+1.7**
ACCO	**Cerro Coronel**	**3.32**	**216**	*e*P	**Pn**	**16 49 28.0**	**+0.5**
ACCO				*e*S	**Sn**	**16 50 09.1**	**+1.0**
SLA	**San Lorenzo**	**3.39**	**20**	*e*P	**Pn**	**16 49 30.4**	**+2.1**
SLA				*e*S	**Sn**	**16 50 08.9**	**-0.7**
SLA				IAML		16 50 17.4	
	comp=Z,469nm,0.9s						
CO01	**Juntas del Tor**	**3.55**	**234**		**Pn**	**16 49 31.6**	**+1.2**
CO01	**Juntas del Tor**	**3.55**	**234⇑**	*i*P	**Pn**	**16 49 32.0**	**+1.6**
CO01				*e*S	**Sn**	**16 50 15.0**	**+1.8**
CO01				IAML		16 50 17.2	
	comp=E,566nm,0.5s						
LCO	**Las Campanas**	**3.61**	**252**		**Pn**	**16 49 31.5**	**+0.3**
LCO	**Las Campanas**	**3.61**	**252⇑**	*i*P	**Pn**	**16 49 31.6**	**+0.3**
LCO				*e*S	**Sn**	**16 50 14.0**	**-0.7**
LCO	**Las Campanas**	**3.61**	**252**	*e*P	**Pn**	**16 49 31.0**	**-0.2**
RTLL	**Cerro Villicun**	**3.70**	**203⇑**	*i*P	**Pn**	**16 49 32.1**	**0.0**
RTLL				*e*S	**Sn**	**16 50 14.6**	**-1.7**
RTLL	**Cerro Villicun**	**3.70**	**203**	*e*P	**Pn**	**16 49 32.1**	**0.0**
RTLL				*e*S	**Sn**	**16 50 15.3**	**-1.0**
GO02	**Mina Guanaco**	**3.73**	**317**		**Pn**	**16 49 34.4**	**+1.6**
GO02	**Mina Guanaco**	**3.73**	**317**	*e*P	**Pn**	**16 49 34.0**	**+1.2**
GO02				*e*S	**Sn**	**16 50 21.6**	**+4.2**
AC04	**Llanos de Chal**	**3.80**	**265**		**Pn**	**16 49 33.0**	**-0.3**
AC04	**Llanos de Chal**	**3.80**	**265⇑**	*e*P	**Pn**	**16 49 33.2**	**-0.2**
AC04	**Llanos de Chal**	**3.80**	**265**	*e*P	**Pn**	**16 49 33.4**	**0.0**
AC04				*e*S	**Sn**	**16 50 16.4**	**-2.2**
AC04				IAML		16 50 20.9	
	comp=Z,1μm,0.3s						
AC01	**Pan de Azucar**	**3.83**	**297**		**Pn**	**16 49 33.8**	**-0.1**
AC01	**Pan de Azucar**	**3.83**	**297⇓**	*e*P	**Pn**	**16 49 34.1**	**+0.3**
AC01				*e*S	**Sn**	**16 50 17.2**	**-2.2**
AC01	**Pan de Azucar**	**3.83**	**297**	*e*P	**Pn**	**16 49 34.2**	**+0.3**
AC01				*e*S	**Sn**	**16 50 19.4**	**0.0**

AC01				IAML		16 50 25.4	
	comp=Z,700nm,0.3s						
TCA	**Tanti**	**3.90**	**151**	*e*P	**Pn**	**16 49 34.6**	**-0.1**
TCA				*e*S	**Sn**	**16 50 19.0**	**-2.0**
TCA				IAML		16 50 19.5	
	comp=Z,779nm,0.5s						
ZON	**Zonda**	**3.96**	**204**		**Pn**	**16 49 35.4**	**-0.1**
ZON	**Zonda**	**3.96**	**204**	*e*P	**Pn**	**16 49 35.6**	**+0.1**
ZON				*e*S	**Sn**	**16 50 21.7**	**-0.8**
ZON				IAML		16 50 23.8	
	comp=Z,631nm,0.3s						
AZAP	**Zapla**	**4.00**	**23**	*e*P	**Pn**	**16 49 37.6**	**+1.4**
AZAP				*e*P	**Pn**	**16 49 37.9**	**+1.7**
AZAP				IAML		16 50 33.4	
	comp=Z,330nm,0.9s						
GO04	**Tololo Observa**	**4.17**	**237**		**Pn**	**16 49 38.0**	**-0.2**
GO04	**Tololo Observa**	**4.17**	**237**⇑	*e*P	**Pn**	**16 49 38.1**	**-0.2**
GO04	**Tololo Observa**	**4.17**	**237**	*e*P	**Pn**	**16 49 38.2**	**-0.1**
GO04				*e*S	**Sn**	**16 50 27.6**	**+0.2**
RTCV	**Cerro Valdivia**	**4.21**	**201**	*e*P	Pn	16 49 33.4	-5.3
RTCV				*e*P	**Pn**	**16 49 38.6**	**-0.1**
RTCV				*e*S	**Sn**	**16 50 27.1**	**-1.0**
CO05	**La Serena**	**4.38**	**242**		**Pn**	**16 49 39.5**	**-1.4**
CO05	**La Serena**	**4.38**	**242**⇑	*e*P	**Pn**	**16 49 39.6**	**-1.2**
RTLS	**Leoncito**	**4.43**	**209**	*e*P	**Pn**	**16 49 41.9**	**+0.1**
RTLS				*e*S	**Sn**	**16 50 33.2**	**-0.6**
RTLS				*e*S	**Sn**	**16 50 33.4**	**-0.4**
RTLS				IAML		16 50 38.8	
	comp=Z,774nm,0.6s						
CO03	**El Pedregal**	**4.48**	**229**		**Pn**	**16 49 42.0**	**-0.2**
CO03	**El Pedregal**	**4.48**	**229**⇑	*i*P	**Pn**	**16 49 42.0**	**-0.2**
ASTB	**Santa Barbara**	**4.48**	**28**	*e*P	**Pn**	**16 49 43.9**	**+1.5**
MRA	**San Martin**	**4.57**	**169**	*e*P	**Pn**	**16 49 43.1**	**-0.3**
MRA				*e*S	**Sn**	**16 50 33.9**	**-2.8**
MRA				IAML		16 50 35.3	
	comp=Z,2µm,0.5s						
PB14	**IPOC Station P**	**4.62**	**315**		**Pn**	**16 49 44.3**	**0.0**
PB14	**IPOC Station P**	**4.62**	**315**⇓	*e*P	**Pn**	**16 49 45.1**	**+0.7**
PB14				*e*S	**Sn**	**16 50 37.2**	**-1.0**
PB14	**IPOC Station P**	**4.62**	**315**	*e*P	**Pn**	**16 49 45.3**	**+1.0**
PB14				*e*S	**Sn**	**16 50 37.9**	**-0.3**
PB14				IAML		16 50 39.4	
	comp=Z,319nm,1.0s						
ALOL	**LOMAS DE OLMED**	**4.81**	**32**	*e*P	**Pn**	**16 49 48.0**	**+1.5**
CO02	**Combarbal**	**4.91**	**227**		**Pn**	**16 49 46.9**	**-1.0**
CO02	**Combarbal**	**4.91**	**227**⇑	*e*P	**Pn**	**16 49 47.0**	**-1.0**
ASAL	**Salagasta**	**4.98**	**200**	*e*P	**Pn**	**16 49 48.6**	**-0.1**
ASAL				*e*S	**Sn**	**16 50 45.9**	**-0.3**
CO06	**Fray Jorge**	**5.04**	**236**		**Pn**	**16 49 47.3**	**-2.3**
CO06	**Fray Jorge**	**5.04**	**236**⇑	*e*P	**Pn**	**16 49 47.2**	**-2.3**
AF01	**San Pedro de A**	**5.11**	**345**		**Pn**	**16 49 52.2**	**+1.5**
ARCO	**CERRO ARCO**	**5.24**	**200**	*e*P	**Pn**	**16 49 52.1**	**-0.1**
ARCO				*e*S	**Sn**	**16 50 45.9**	**-6.6**
ARCO				*e*S	**Sn**	**16 50 51.1**	**-1.4**
ARCO				IAML		16 51 15.8	
	comp=Z,584nm,0.8s						
PB15	**IPOC Station P**	**5.29**	**332**		**Pn**	**16 49 53.6**	**+0.6**
PB15	**IPOC Station P**	**5.29**	**332**	*e*P	**Pn**	**16 49 54.1**	**+1.1**
PB15				*e*S	**Sn**	**16 50 54.3**	**+0.5**
PB15				IAML		16 51 03.9	
	comp=Z,603nm,0.2s						
AAGR	**Agrelo**	**5.44**	**198**	*e*P	**Pn**	**16 49 54.6**	**-0.2**
AAGR				*e*S	**Sn**	**16 50 54.5**	**-2.5**
PB10	**IPOC Station P**	**5.55**	**321**		**Pn**	**16 49 56.6**	**+0.3**
PB10	**IPOC Station P**	**5.55**	**321**⇓	*e*P	**Pn**	**16 49 56.7**	**+0.4**
LVC	**Limon Verde**	**5.63**	**340**		**Pn**	**16 49 58.4**	**+0.7**
LVC	**Limon Verde**	**5.63**	**340**	*e*P	**Pn**	**16 49 58.4**	**+0.7**
PB06	**IPOC Station P**	**5.78**	**334**		**Pn**	**16 49 59.6**	**+0.2**
VA03	**San Esteban**	**5.82**	**213**		**Pn**	**16 49 59.0**	**-0.8**
VA03	**San Esteban**	**5.82**	**213**	*e*P	**Pn**	**16 49 59.2**	**-0.5**
VA03				*e*S	**Sn**	**16 51 05.3**	**-0.8**
VA06	**Catapilco**	**6.05**	**219**		**Pn**	**16 50 00.4**	**-2.3**
ROCH	**El Roble**	**6.21**	**215**	*e*P	**Pn**	**16 50 03.0**	**-2.1**
ROCH				⇑*e*P	**Pn**	**16 50 03.0**	**-2.1**
ROCH				*e*S	**Sn**	**16 51 13.4**	**-2.2**
ROC1	**El Roble**	**6.22**	**215**		**Pn**	**16 50 02.8**	**-2.4**
PB04	**IPOC Station P**	**6.35**	**331**	Pn	**Pn**	**16 50 06.4**	**-0.6**
MT03	**Universidad Ad**	**6.41**	**209**		**Pn**	**16 50 06.6**	**-1.0**
MT05	**Renca**	**6.42**	**211**		**Pn**	**16 50 06.2**	**-1.6**
PB03	**IPOC Station P**	**6.44**	**335**		**Pn**	**16 50 07.9**	**-0.3**
PB09	**IPOC Station P**	**6.50**	**339**	Pn	**Pn**	**16 50 09.1**	**+0.1**
MT02	**Curacav**	**6.50**	**214**		**Pn**	**16 50 06.4**	**-2.4**
LMEL	**Las Melosas**	**6.59**	**206**		**Pn**	**16 50 09.0**	**-1.1**
PB07	**IPOC Station P**	**6.79**	**335**		**Pn**	**16 50 12.0**	**-0.8**
MT09	**Talagante**	**6.86**	**211**		**Pn**	**16 50 10.9**	**-2.7**
MT01	**Popeta**	**7.05**	**212**		**Pn**	**16 50 12.9**	**-3.1**
VA05	**Santo Domingo**	**7.06**	**215**		**Pn**	**16 50 12.7**	**-3.4**
PB02	**IPOC Station P**	**7.16**	**336**		**Pn**	**16 50 16.6**	**-1.1**
PB01	**IPOC Station P**	**7.28**	**340**		**Pn**	**16 50 18.0**	**-1.2**
BO01	**Tunca**	**7.42**	**209**	Pn	**Pn**	**16 50 17.7**	**-3.2**
BO02	**Sierra Bellavi**	**7.65**	**206**		**Pn**	**16 50 21.8**	**-2.2**
PATCX	**Punta Patache**	**7.71**	**336**		**Pn**	**16 50 22.9**	**-2.1**
TA01	**Diego Aracena**	**7.96**	**336**		**Pn**	**16 50 25.8**	**-2.4**
PB08	**IPOC Station P**	**8.05**	**344**	Pn	**Pn**	**16 50 27.8**	**-1.9**
TA02	**Huaiquique**	**8.21**	**337**		**Pn**	**16 50 29.2**	**-2.3**
GO05	**Huala**	**8.31**	**211**	Pn	**Pn**	**16 50 29.4**	**-3.4**
GO01	**Chusmiza**	**8.51**	**344**	Pn	**Pn**	**16 50 34.6**	**-1.3**
PB11	**IPOC Station P**	**8.54**	**341**		**Pn**	**16 50 33.4**	**-2.6**
CPUP	**Villa Florida**	**8.57**	**81**	P	**Pn**	**16 50 34.9**	**-1.4**
	comp=Z,17nm,0.9s,baz=268,slow=11,SNR=32						
CPUP	**Villa Florida**	**8.57**	**81**	Pn	**Pn**	**16 50 33.9**	**-2.3**
CPUP	**Villa Florida**	**8.57**	**81**	*e*P	**Pn**	**16 50 33.8**	**-2.5**
ML02	**Panimavida**	**8.75**	**206**	Pn	**Pn**	**16 50 35.1**	**-3.4**
ITQB	**Itaqui**	**9.08**	**103**		**Pn**	**16 50 41.1**	**-1.9**
ITQB	**Itaqui**	**9.08**	**103**	*e*P	**Pn**	**16 50 40.4**	**-2.5**
AZCA	**Azaras, Argent**	**9.55**	**93**	*e*P	**Pn**	**16 50 47.8**	**-1.3**
PB12	**IPOC Station P**	**9.82**	**340**	Pn	**Pn**	**16 50 49.9**	**-3.1**
PB16	**IPOC Station P**	**9.87**	**345**	Pn	**Pn**	**16 50 52.5**	**-1.5**
AP01	**Chacalluta**	**10.06**	**340**	Pn	**Pn**	**16 50 53.9**	**-2.0**
BI05	**Punta Hualpn**	**10.33**	**210**	Pn	**Pn**	**16 50 55.2**	**-4.0**
UNIS	**Unistalda (Bra**	**10.37**	**99**	*e*P	**Pn**	**16 50 58.9**	**-1.1**
MURT	**Porto Murtinho**	**10.41**	**55**	*e*P	**Pn**	**16 51 00.0**	**-0.5**
RODS	**Rosario do Sul**	**10.41**	**106**	*e*P	**Pn**	**16 50 59.7**	**-0.8**
TRQA	**Tornquist**	**10.88**	**159**		**Pn**	**16 51 03.9**	**-2.6**
CRSM	**Crissiumal (Br**	**11.30**	**91**	*e*P	**Pn**	**16 51 10.1**	**-2.0**
BBRB	**Robore, Bolivi**	**11.55**	**35**	*e*P	**Pn**	**16 51 13.9**	**-1.5**
LPAZ	**La Paz**	**11.65**	**354**	P	**Pn**	**16 51 17.1**	**-0.2**
	comp=Z,13nm,0.3s,baz=152,slow=4.9,SNR=72						
LPAZ				S	**Sn**	**16 53 21.2**	**-5.6**
	comp=Z,4.1nm,0.5s,baz=256,slow=19,SNR=2.3						
LPAZ	**La Paz**	**11.65**	**354**	Pn	**Pn**	**16 51 16.5**	**-0.8**
LPAZ	**La Paz**	**11.65**	**354**	*e*P	**Pn**	**16 51 17.2**	**-0.1**
VA04	**Juan Fernndez**	**11.82**	**238**		**Pn**	**16 51 17.6**	**-1.2**
CPSB	**Cacapava Do Su**	**11.92**	**105**	*e*P	**Pn**	**16 51 19.1**	**-1.1**
MCR1	**Marechal Candi**	**11.96**	**76**	*e*P	**Pn**	**16 51 21.4**	**+0.8**
PLTB	**Pedras Altas**	**12.06**	**112**	Pn	**Pn**	**16 51 19.8**	**-2.2**
PLTB	**Pedras Altas**	**12.06**	**112**	*e*P	**Pn**	**16 51 19.6**	**-2.4**
BBSD	**Serra de San D**	**12.11**	**29**	*e*P	**Pn**	**16 51 22.3**	**-0.4**
ALGR	**Alto Alegre (B**	**12.15**	**97**	*e*P	**Pn**	**16 51 22.0**	**-1.1**
GO06	**Curarrehue**	**12.26**	**197**	Pn	**Pn**	**16 51 22.5**	**-2.1**
AQDB	**Aquidauana**	**12.54**	**56**	Pn	**Pn**	**16 51 26.9**	**-1.3**
AQDB	**Aquidauana**	**12.54**	**56**	*e*P	**Pn**	**16 51 27.7**	**-0.4**
PANT	**Pantanal (Braz**	**12.88**	**49**	*e*P	**Pn**	**16 51 32.0**	**-0.7**
SIV	**San Ignacio**	**13.00**	**25**	P	**Pn**	**16 51 33.5**	**-0.7**
	comp=Z,22nm,0.8s,baz=209,slow=13,SNR=112						
ITAB	**Concordia**	**13.02**	**90**	P	**P**	**16 51 38.4**	**-0.2**
ITAB	**Concordia**	**13.02**	**90**	*e*P	**Pn**	**16 51 32.5**	**-1.8**
PLCA	**Paso Flores**	**13.15**	**193**	P	**Pn**	**16 51 35.5**	**-0.3**
	comp=Z,3.3nm,0.4s,baz=8.0,slow=10.0,SNR=18						
PLCA	**Paso Flores**	**13.15**	**193**	Pn	**Pn**	**16 51 35.2**	**-0.7**
PLCA	**Paso Flores**	**13.15**	**193**	*e*P	**Pn**	**16 51 34.8**	**-1.0**
PTGB	**Pitanga**	**13.58**	**80**	*e*P	**Pn**	**16 51 39.8**	**-1.7**
LL04	**Puerto Octay**	**13.75**	**198**	Pn	**Pn**	**16 51 40.2**	**-3.2**
TRCB	**Terra Rica**	**13.77**	**71**	P	**P**	**16 51 45.5**	**-1.6**
RPRD	**Ribas do Rio P**	**14.04**	**61**	*e*P	**Pn**	**16 51 47.4**	**+0.1**
CNLB	**Canela**	**14.06**	**99**	*e*P	**Pn**	**16 51 46.2**	**-1.3**
PTLB	**Pontes e Lacer**	**14.30**	**31**	Pn	**Pn**	**16 51 49.7**	**-0.8**
PTLB	**Pontes e Lacer**	**14.30**	**31**	*e*P	**Pn**	**16 51 50.2**	**-0.2**
LL05	**Los Muermos**	**14.52**	**200**	Pn	**Pn**	**16 51 50.9**	**-2.1**
PP1B	**Ponte de Pedra**	**15.03**	**49**	*e*P	**Pn**	**16 51 59.3**	**-0.2**
PCMB	**Pacaembu**	**15.43**	**69**	*e*P	**Pn**	**16 52 04.2**	**-0.3**
TER01	**Tubaro-SC**	**15.58**	**96**	*e*P	**Pn**	**16 52 04.7**	**-1.5**
SALV	**Santo Antonio**	**15.77**	**43**	*e*P	**Pn**	**16 52 08.0**	**-0.6**
LL02	**Futaleuf**	**15.77**	**194**	P	**Pn**	**16 52 08.0**	**-0.5**
TIJ01	**Guaruva-PR**	**16.11**	**85**	*e*P	**Pn**	**16 52 11.3**	**-1.5**
VILB	**Vilhena**	**16.12**	**24**		**Pn**	**16 52 12.6**	**-0.3**
VILB				IAmb	IAmb	16 52 13.2	
	comp=Z,109nm,0.7s						
VILB	**Vilhena**	**16.12**	**24**	*e*P	**Pn**	**16 52 12.2**	**-0.7**
FRTB	**Fartura**	**16.18**	**77**	*e*P	**Pn**	**16 52 12.9**	**-0.8**
ITRB	**Iturama**	**17.10**	**65**	*e*P	**Pn**	**16 52 24.3**	**-0.4**
AY01	**Puyuhuapi**	**17.12**	**194**		**P**	**16 52 23.3**	**-0.5**
AY01				IAmb	IAmb	16 52 25.6	
	comp=Z,18nm,0.7s						
PET01	**Itanhaem-SP**	**17.89**	**83**	*e*P	**P**	**16 52 32.1**	**-0.3**
BB19B	**Bebedouro**	**17.95**	**72**	*e*P	**P**	**16 52 32.2**	**-1.0**
ETMB	**Extrema**	**18.02**	**2**	Pn	**Pn**	**16 52 35.2**	**-0.5**
ETMB				IAmb	IAmb	16 52 38.1	
	comp=Z,26nm,0.7s						
ETMB	**Extrema**	**18.02**	**2**	*e*P	**Pn**	**16 52 35.2**	**-0.5**
RCLB	**Rio Claro- Sao**	**18.26**	**77**	*e*P	**P**	**16 52 36.7**	**+0.1**
ARAG	**Araguaiana, MT**	**18.45**	**52**	*e*P	**P**	**16 52 38.4**	**-0.2**
VAO	**Valinhos**	**18.55**	**79**	*e*P	**P**	**16 52 39.8**	**0.0**
PDRB	**Porto dos Gac**	**18.77**	**32**	*e*P	**P**	**16 52 40.9**	**-1.2**
SAML	**Samuel**	**19.18**	**11**	P	**P**	**16 52 46.1**	**-0.4**
SAML				IAmb	IAmb	16 52 48.6	
	comp=Z,33nm,0.7s						
PARB	**Paraibuna**	**19.61**	**81**	*e*P	**P**	**16 52 50.8**	**-0.5**
IPMB	**Ipameri, GO**	**19.74**	**64**	*e*P	**P**	**16 52 51.8**	**-0.8**
CLDB	**Colider**	**19.86**	**33**	*e*P	**P**	**16 52 52.3**	**-1.5**
CZSB	**Cruzeiro do Su**	**20.86**	**343**	P	**P**	**16 53 05.2**	**+0.7**
CZSB				IAmb	IAmb	16 53 10.2	
	comp=Z,17nm,0.6s						
CZSB	**Cruzeiro do Su**	**20.86**	**343**	*e*P	**P**	**16 53 05.0**	**+0.5**
PMNB	**Patos De Minas**	**20.88**	**68**	*e*P	**P**	**16 53 04.2**	**-0.6**
BSCB	**Bom Sucesso**	**21.17**	**76**	*e*P	**P**	**16 53 07.4**	**-0.6**
MAN01	**Angra dos Reis**	**21.21**	**81**	*e*P	**P**	**16 53 07.4**	**-0.9**
BDFB	**Brasilia**	**21.25**	**59**	P	**P**	**16 53 07.4**	**-1.4**
	comp=Z,26nm,0.8s,baz=236,slow=9.4,SNR=35						
	comp=Z,26nm,0.8s						
BDFB	**Brasilia**	**21.25**	**59**	P	**P**	**16 53 07.5**	**-1.4**
BDFB				IAmb	IAmb	16 53 09.2	
	comp=Z,26nm,0.9s						
BDFB	**Brasilia**	**21.25**	**59**	*e*P	**P**	**16 53 07.8**	**-1.1**
SNDB	**Serra Nova Dou**	**21.50**	**45**	*e*P	**P**	**16 53 09.1**	**-2.3**
VAS01	**Vassouras-RJ**	**21.86**	**80**	*e*P	**P**	**16 53 14.8**	**-0.3**
DUB01	**Friburgo-RJ**	**22.86**	**81**	*e*P	**P**	**16 53 24.3**	**-0.3**
NPGB	**Novo Progresso**	**23.42**	**30**	*e*P	**P**	**16 53 27.8**	**-2.0**
CAM01	**Campos-RJ**	**23.57**	**81**	*e*P	**P**	**16 53 30.1**	**-0.9**
TBTG	**Tabatinga, AM**	**23.80**	**352**	P	**P**	**16 53 32.7**	**-0.4**
TBTG				IAmb	IAmb	16 53 36.9	
	comp=Z,71nm,1.1s						
TBTG	**Tabatinga, AM**	**23.80**	**352**	*e*P	**P**	**16 53 33.4**	**+0.2**
MC01	**Montes Claros**	**23.86**	**67**	*e*P	**P**	**16 53 32.5**	**-1.3**
MG05	**Puerto Natales**	**24.11**	**189**	P	**P**	**16 53 35.5**	**-0.2**
JANB	**Januaria**	**24.47**	**63**	*e*P	**P**	**16 53 37.9**	**-1.5**
EFI	**East Falkland**	**24.61**	**167**	P	**P**	**16 53 39.6**	**-0.6**
SJMB	**Sao Joao De Ma**	**25.20**	**74**	*e*P	**P**	**16 53 45.2**	**-0.7**
SDBA	**SAO DESIDERIO**	**25.63**	**57**	*e*P	**P**	**16 53 48.5**	**-1.4**
ITTB	**Itaituba**	**25.68**	**26**	*e*P	**P**	**16 53 49.3**	**-1.0**
SMTB	**Santa Maria do**	**26.22**	**47**	*e*P	**P**	**16 53 55.1**	**-0.1**
NAN01	**Guarapari, ES**	**26.48**	**73**	*e*P	**P**	**16 53 56.1**	**-1.4**
PRPB	**Parauapebas**	**26.97**	**40**	*e*P	**P**	**16 54 01.0**	**-0.9**
GUA01	**Guaratinga, BA**	**27.34**	**71**	*e*P	**P**	**16 54 04.1**	**-1.0**
CMC01	**Camacan, BA**	**28.18**	**69**	*e*P	**P**	**16 54 12.0**	**-0.6**
MALB	**Monte Alegre**	**28.56**	**27**	*e*P	**P**	**16 54 14.1**	**-1.9**
GDU01	**Guandu, BA**	**29.01**	**66**	*e*P	**P**	**16 54 18.4**	**-1.5**
BOAV	**Boa Vista**	**30.74**	**12**	P	**P**	**16 54 35.3**	**+0.1**
BOAV				IAmb	IAmb	16 54 37.4	
	comp=Z,33nm,1.0s						
BOAV	**Boa Vista**	**30.74**	**12**	*e*P	**P**	**16 54 35.8**	**+0.6**
MCPB	**Macapa, AP**	**30.83**	**30**	*e*P	**P**	**16 54 34.7**	**-1.3**
TMAB	**Tom-Au,PA,Br**	**31.06**	**38**	*e*P	**P**	**16 54 38.4**	**+0.4**
ROSB	**Rosrio**	**32.98**	**45**	*e*P	**P**	**16 54 54.6**	**-0.2**
HOPE	**Hope Point**	**34.37**	**148**	P	**P**	**16 55 07.0**	**+0.6**
SDV	**Santo Domingo**	**36.78**	**354**	LR	LR	17 14 00.4	
	comp=Z,32nm,18.8s,baz=220,slow=42						
PMSA	**Palmer Station**	**36.90**	**178**	P	**P**	**16 55 28.1**	**+0.4**
PMSA				IAmb	IAmb	16 55 39.2	
	comp=Z,22nm,1.2s						
PMSA	**Palmer Station**	**36.90**	**178**	*e*P	**P**	**16 55 26.2**	**-1.6**
TOSP	**Speyside**	**39.46**	**10**	P	**P**	**16 55 50.9**	**+1.2**
GRGR	**Grenville**	**40.13**	**8**	P	**P**	**16 55 55.8**	**+0.6**
FDF	**Fort de France**	**42.76**	**8**	P	**P**	**16 56 16.1**	**-0.6**
MLPR	**Magueyes Islan**	**45.62**	**360**	P	**P**	**16 56 39.7**	**+0.3**
MLPR				IAmb	IAmb	16 56 43.3	
	comp=Z,45nm,1.4s						
CELP	**Cerrillos**	**45.73**	**0**	P	**P**	**16 56 39.7**	**-0.5**
CELP				IAmb	IAmb	16 56 45.4	
	comp=Z,16nm,1.1s						
BELA	**Belgrano 2**	**52.14**	**172**	P	**P**	**16 57 29.2**	**+0.9**
BELA				IAmb	IAmb	16 57 30.7	
	comp=Z,14nm,0.6s						
VNA3	**Neumayer Olymp**	**53.40**	**160**	P	**P**	**16 57 38.7**	**+1.0**
VNA1	**Neumayer--Stat**	**53.61**	**159**	P	**P**	**16 57 40.7**	**+1.6**
VNA2	**Neumayer--Watz**	**53.98**	**160**	P	**P**	**16 57 42.9**	**+1.1**
	baz=280,slow=7.4						
SNAA	**Sanae**	**55.60**	**160**	P	**P**	**16 57 54.5**	**+0.9**
SNAA	**Sanae**	**55.60**	**160**	P	**P**	**16 57 54.1**	**+0.5**
TROLL	**Troll, Antarti**	**57.32**	**160**	P	**P**	**16 58 06.8**	**+1.0**
QSPA	**South Pole Qui**	**62.29**	**180**	P	**P**	**16 58 41.3**	**+1.5**
	comp=Z,13nm,0.7s,baz=176,slow=1.1,SNR=128						
	comp=Z,13nm,0.7s						
QSPA	**South Pole Qui**	**62.29**	**180**	P	**P**	**16 58 41.0**	**+1.1**
QSPA				IAmb	IAmb	16 58 42.2	
	comp=Z,14nm,0.8s						
FPAL	**Fort Paine**	**64.63**	**343**	P	**P**	**16 58 56.1**	**+0.7**
FPAL				IAmb	IAmb	16 59 00.9	
	comp=Z,8.3nm,1.1s						
V55A	**Taylorsville**	**64.88**	**347**	P	**P**	**16 58 57.8**	**+0.9**
V55A				IAmb	IAmb	16 59 22.5	
	comp=Z,16nm,1.4s						
X48A	**Hartselle**	**64.94**	**342**	P	**P**	**16 58 57.9**	**+0.6**
X48A				IAmb	IAmb	16 59 36.0	
	comp=Z,13nm,1.4s						
WVT	**Waverly**	**66.73**	**342**	P	**P**	**16 59 08.8**	**+0.1**
WVT				IAmb	IAmb	16 59 09.6	
	comp=Z,7.1nm,0.8s						
TXAR	**Lajitas Array**	**66.99**	**325**	P	**P**	**16 59 11.3**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=152,slow=8.1,SNR=2.9						
	comp=Z,0.3nm,0.7s						
CCM	**Cathedral Cave**	**69.52**	**340**	P	**P**	**16 59 26.7**	**+0.6**
VNDA	**Vanda**	**70.88**	**190**	P	**P**	**16 59 36.3**	**+2.4**
	comp=Z,1.6nm,0.8s,baz=145,slow=4.4,SNR=7.0						
	comp=Z,1.6nm,0.8s						
F64A	**Sherman**	**73.45**	**359**	P	**P**	**16 59 50.9**	**+1.5**
F64A				IAmb	IAmb	17 00 31.8	
	comp=Z,21nm,1.4s						
TRQ	**Mont Tremblant**	**74.13**	**354**	P	**P**	**16 59 54.3**	**+0.8**
E62A	**Clayton Lake**	**74.24**	**358**	P	**P**	**16 59 55.6**	**+1.6**
E62A				IAmb	IAmb	17 00 05.8	
	comp=Z,30nm,1.5s						
I42A	**Draeger Farm,**	**74.29**	**344**	P	**P**	**16 59 54.9**	**+0.6**
D62A	**Allapoint, All**	**74.69**	**358**	P	**P**	**16 59 57.7**	**+1.1**
BATG	**Bathurst New B**	**74.86**	**1**	P	**P**	**16 59 58.7**	**+1.2**
BATG				IAmb	IAmb	16 59 59.1	
	comp=Z,24nm,1.5s						
E46A	**Sault Ste Mari**	**75.63**	**348**	P	**P**	**17 00 01.4**	**-0.5**
E46A				IAmb	IAmb	17 00 16.2	
	comp=Z,22nm,1.4s						
D41A	**Chassel**	**77.19**	**345**	P	**P**	**17 00 12.4**	**+1.7**
D41A				IAmb	IAmb	17 00 38.9	
	comp=Z,20nm,1.3s						
SOE	**Somerset East**	**77.29**	**120**	P	**P**	**17 00 12.9**	**+1.0**
SOE				IAmb	IAmb	17 00 17.4	
	comp=Z,16nm,1.1s						
MAW	**Mawson**	**77.65**	**162**	P	**P**	**17 00 15.0**	**+1.9**
	comp=Z,8.3nm,0.7s,baz=195,slow=5.5,SNR=11						
	comp=Z,8.3nm,0.7s						
MAW	**Mawson**	**77.65**	**162**	P	**P**	**17 00 14.8**	**+1.7**
TOA0	**Torodi Ar. Sit**	**77.83**	**68**	P	**P**	**17 00 13.5**	**-1.5**
TOA0				IAmb	IAmb	17 00 17.0	
	comp=Z,7.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.83**	**68**	P	**P**	**17 00 14.2**	**-0.8**
	comp=Z,5.2nm,0.6s,baz=254,slow=5.5,SNR=33						
	comp=Z,5.2nm,0.6s						
BOSA	**Boshof**	**78.80**	**116**	P	**P**	**17 00 20.6**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=258,slow=4.3,SNR=8.2						
	comp=Z,3.7nm,0.7s						
BOSA	**Boshof**	**78.80**	**116**	P	**P**	**17 00 20.8**	**+0.4**
LBTB	**Lobatse**	**80.64**	**113**	P	**P**	**17 00 30.9**	**+0.5**
EGMT	**Eagleton**	**84.88**	**333**	P	**P**	**17 00 52.3**	**+0.8**
EGMT				IAmb	IAmb	17 01 10.2	
	comp=Z,11nm,0.8s						
PLID	**Pearl Lake**	**85.38**	**327**	P	**P**	**17 00 55.3**	**+1.1**
ESDC	**Sonseca Array**	**89.10**	**43**	P	**P**	**17 01 12.4**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=263,slow=5.0,SNR=2.8						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**124.96**	**203**	PKP	**PKiKP**	**17 07 16.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=134,slow=1.7,SNR=27						
WRA	**Warramunga Arr**	**128.21**	**206**	PKP	**PKiKP**	**17 07 23.6**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=154,slow=2.0,SNR=22						
SIJI	**Sorong**	**146.53**	**214**	PKPbc	**PKPab**	**17 07 58.8**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=16,slow=12,SNR=6.0						
KAPI	**Kappang**	**146.65**	**192**	PKPbc	**PKPab**	**17 07 59.2**	**-0.6**
	comp=Z,6.3nm,0.6s,baz=318,slow=18,SNR=5.8						
ZALV	**Zalesovo Beam**	**146.71**	**31**	PKPbc	**PKPbc**	**17 07 57.6**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=308,slow=4.0,SNR=16						
KSH	**Kashi**	**147.16**	**60**	PKPbc	**PKPdf**	**17 07 57.7**	**+0.8**
MKAR	**Makanchi Array**	**149.32**	**44**	PKPbc	**PKiKP**	**17 08 05.8**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=295,slow=2.5,SNR=12						
PZH	**PanZhiHua**	**169.69**	**95**	PKP	**PKPdf**	**17 08 22.6**	**-1.2**

NEIC ***06*** *16:53:04.0±1.8, 19°.1S±0°.2×178°.5W±0°.2, h595km±18km, mb4.2/6, Error ellipse: s-maj=33.7km s-min=23.2km az=174.0*

IDC ***06*** *16:53:05.1±5.5, 19°.26S×178°.68W, h597km±37km, mb2.9/3, mbtmp3.8/5, Error ellipse: s-maj=183.8km s-min=60.8km az=155.0*

ISC 06 16:53:03.5±0.8**, 19°.1S**±0°.2×**178°.4W**±0°.1**, h600**km**, n18,** σ**0s75**/19**, mb4.0**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.62**	**292**	P	**P**	**16 54 26.6**	**+0.1**
	2.2nm,0.5s,baz=208,slow=9.5,SNR=5.6						
NIUE	**Niue**	**8.04**	**91**	P	**P**	**16 55 02.7**	**-0.5**
AFI	**Afiamalu**	**8.23**	**52**	P	**P**	**16 55 04.8**	**-0.4**
RAO	**Raoul Island**	**10.08**	**177**	P	**P**	**16 55 23.1**	**+0.3**
MARNC	**Mare, Loyalty**	**12.91**	**257**	P	**P**	**16 55 49.6**	**-1.8**
DZM	**Mont Dzumac**	**14.46**	**256**	P	**P**	**16 56 07.1**	**+0.3**
	2.2nm,1.0s,baz=87,slow=22,SNR=1.6						
CTA	**Charters Tower**	**33.24**	**262**	P	**P**	**16 58 53.2**	**+0.4**
	0.7nm,0.4s,baz=114,slow=10.0,SNR=1.6						
	0.7nm,0.4s						
CTAO	**Charters Tower**	**33.24**	**262**	P	**P**	**16 58 53.4**	**+0.4**
CTAO				IAmb	IAmb	16 59 49.2	
	comp=Z,13nm,1.6s						
WR0	**Warramunga Arr**	**44.21**	**261**	P	**P**	**17 00 20.9**	**-0.2**
WR0				IAmb	IAmb	17 01 58.9	
	comp=Z,20nm,1.9s						
WB0	**Warramunga Arr**	**44.37**	**261**	P	**P**	**17 00 22.3**	**-0.1**
WB0				IAmb	IAmb	17 00 52.9	
	comp=Z,13nm,1.6s						
WB2	**Warramunga Arr**	**44.39**	**261**	P	**P**	**17 00 22.4**	**0.0**
WB2				IAmb	IAmb	17 01 17.5	
	comp=Z,8.1nm,1.4s						
WRA	**Warramunga Arr**	**44.40**	**261**	P	**P**	**17 00 22.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=97,slow=7.6,SNR=32						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**44.45**	**255**	P	**P**	**17 00 21.9**	**-1.0**
ASAR	**Alice Springs**	**44.45**	**255**	P	**P**	**17 00 22.5**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=90,slow=8.2,SNR=35						
ASAR				PcP	**PcP**	**17 01 54.4**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=116,slow=4.3,SNR=1.7						
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**44.45**	**255**	P	**P**	**17 00 21.9**	**-1.0**
KNRA	**Kununurra**	**50.35**	**265**	P	**P**	**17 01 07.9**	**+0.9**
AKASG	**Malin Array Be**	**141.63**	**332**	PKP	**PKPdf**	**17 11 27.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=45,slow=3.7,SNR=5.4						
CLL	**Collm**	**146.65**	**347**	*e*PKPbc	**PKPab**	**17 11 42.0**	**+0.3**

JMA ***06*** *16:55:13.8±0.2, 32°.3N±0°.6×141°.0E±0°.9, h13km, MV4.1/33, E OFF HACHIJOJIMA ISLAND*

NIED ***06*** *16:55:13.8, 32°.29N×141°.03E, h13km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}5.39; $M_{\theta\theta}$0.29; $M_{\phi\phi}$-5.69; $M_{r\theta}$-0.74; $M_{\theta\phi}$-1.86; $M_{\phi r}$-7.94; Fault plane solution: $M_0$9.87000×10^{14} NP1:ϕ_s27.00000°, δ19.00000°, λ109.00000°. NP2:ϕ_s187.00000°, δ72.00000°, λ84.00000°.*

IDC ***06*** *16:55:14.0±2.6, 31°.96N×140°.95E, h57km±22km, mb3.7/12, mbtmp3.9/14, ML2.9/1, MS3.4/5 Error ellipse: s-maj=21.5km s-min=17.2km az=101.0*

NEIC ***06*** *16:55:15.8±0.8, 32°.3N±0°.1×140°.8E±0°.1, h52km±5km, mb4.5/38, Error ellipse: s-maj=16.3km s-min=13.8km az=184.0*

ISC 06 16:55:15.4±2.3**, 32°.2N**±0°.1×**140°.95E**±0°.10**, h62**km±16km**, n99,** σ**1s27**/98**, mb4.4**/30**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.04**	**286**	P	**Pn**	**16 55 34.0**	**-0.1**
JHCJ	**Hachijojimakas**	**1.31**	**313**	P	**Pn**	**16 55 37.5**	**-0.2**
JHCJ				*e*S	**Sn**	**16 55 54.4**	**+0.1**
JHJ2	**Mitsune**	**1.33**	**314**		**Pn**	**16 55 37.7**	**-0.1**
JHJ2	**Mitsune**	**1.33**	**314**	P	**Pn**	**16 55 37.9**	**+0.1**
JHJ2				S	**Sn**	**16 55 54.8**	**+0.1**
JHJ	**Hachijo jima 2**	**1.35**	**314**	P	**Pn**	**16 55 38.0**	**-0.2**
	605nm,0.6s,baz=162,slow=24,SNR=20						
JHJ				S	**Sn**	**16 55 53.2**	**-2.1**
	707nm,0.4s,baz=130,slow=22,SNR=9.5						
JMKN	**Mikurajimanish**	**2.05**	**327**	P	**Pn**	**16 55 47.9**	**+0.3**
JMKN				*e*S	**Sn**	**16 56 13.6**	**+1.5**
JMYK	**Miyake Tsubota**	**2.21**	**328**	P	**Pn**	**16 55 50.9**	**+1.1**
JMYK				S	**Sn**	**16 56 17.9**	**+2.0**
BSO1	**Boso 1**	**2.46**	**1**	P	**Pn**	**16 55 53.0**	**+0.3**
JKO	**Kozu shima**	**2.51**	**323**	P	**Pn**	**16 55 55.2**	**+1.3**
JKO				*e*S	**Sn**	**16 56 25.7**	**+2.4**
TK02	**Tokai 2**	**3.20**	**304**	P	**Pn**	**16 56 05.1**	**+2.0**
JOD2	**Odawara 2**	**3.44**	**334**	P	**Pn**	**16 56 07.2**	**+0.6**
JOD2				*e*S	**Sn**	**16 56 45.9**	**-0.2**
JYN	**Shimob**	**3.86**	**329**	P	**Pn**	**16 56 14.6**	**+2.2**
JIE	**Ise**	**4.18**	**303**	P	**Pn**	**16 56 18.3**	**+1.6**
JRY	**Ryogami san**	**4.18**	**337**	P	**Pn**	**16 56 18.2**	**+1.5**
JRY				*e*S	**Sn**	**16 57 06.0**	**+1.6**
JAG	**Ashikaga**	**4.41**	**344**	P	**Pn**	**16 56 19.4**	**-0.4**
JGF	**Kuroka**	**4.53**	**320**	Pn	**Pn**	**16 56 19.8**	**-1.7**
INU	**Inuyama**	**4.55**	**315**	Pn	**Pn**	**16 56 19.7**	**-2.0**
JTNC	**Tanabenakahech**	**4.77**	**291**	P	**Pn**	**16 56 26.0**	**+1.2**
JYTA	**Yamagatataniai**	**4.88**	**315**	P	**Pn**	**16 56 28.9**	**+2.6**
MJAR	**Matsushiro Arr**	**4.90**	**333**	P	**Pn**	**16 56 28.4**	**+1.9**
	0.4nm,0.3s,baz=162,slow=14,SNR=31						
	14nm,0.8s						
MAJO	**Matsushiro**	**4.90**	**333**	Pn	**Pn**	**16 56 25.3**	**-1.3**
MAT	**Matsushiro**	**4.90**	**333**	P	**Pn**	**16 56 29.6**	**+3.0**
MJB9	**Matsu-Tunnel**	**4.91**	**333**	Pn	**Pn**	**16 56 25.3**	**-1.4**
JWY	**Kouya**	**4.93**	**296**	P	**Pn**	**16 56 29.1**	**+2.2**
JOTO	**OTAMA OYAMA**	**5.39**	**355**	P	**Pn**	**16 56 32.6**	**-0.6**
JOTO				S	**Sn**	**16 57 31.8**	**-2.1**
JMM	**Marumori**	**5.67**	**359**		**Pn**	**16 56 36.1**	**-0.9**
JMN	**Monobe**	**6.14**	**286**	Pn	**Pn**	**16 56 44.5**	**+1.0**
ERM	**Erimo**	**9.97**	**10**	Pn	**Pn**	**16 57 34.0**	**-1.8**
KSRS	**Korea Array**	**11.92**	**300**	P	**Pn**	**16 58 03.8**	**+1.2**
	1.0nm,0.7s,baz=115,slow=14,SNR=1.6						
KSRS				LR	LR	17 02 34.7	
	comp=Z,51nm,19.1s,baz=110,slow=37						
USA0B	**Ussuriysk Arra**	**13.90**	**332**	P	**P**	**16 58 33.6**	**-1.9**
USRK	**Ussuriysk Ar.**	**13.90**	**332**	P	**P**	**16 58 33.6**	**-2.0**
KLR	**Kul'dur**	**18.38**	**341**	P	**P**	**16 59 24.0**	**-1.1**
	1.2nm,0.5s,baz=138,slow=15,SNR=4.3						
YHNB	**Yeheng**	**18.76**	**251**	P	**P**	**16 59 29.4**	**-0.1**
YHNB				IAmb	IAmb	17 00 01.9	
	comp=Z,63nm,1.5s						
NACB	**Ninganchiao**	**18.82**	**250**	P	**P**	**16 59 29.7**	**-0.4**
GUMO	**Guam**	**18.86**	**168**	LR	LR	17 05 23.9	
	comp=Z,98nm,19.0s,baz=324,slow=33						
SSLB	**Suanglung**	**19.52**	**250**	P	**P**	**16 59 37.5**	**-0.3**
SSLB				IAmb	IAmb	16 59 39.3	
	comp=Z,29nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**26.34**	**112**	T	T	17 29 18.1	
	baz=301						
H11N1	**WAKE ISLAND Hy**	**26.35**	**112**	T	T	17 29 18.1	
	baz=301						
H11N3	**WAKE ISLAND Hy**	**26.36**	**112**	T	T	17 29 18.1	
	baz=301						
H11S3	**WAKE ISLAND Hy**	**26.88**	**114**	T	T	17 29 35.8	
	baz=305,slow=74,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**26.88**	**114**	T	T	17 29 35.7	
	baz=305,slow=74,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**26.89**	**114**	T	T	17 29 35.1	
	baz=305						
ULN	**Ulaanbaatar**	**30.02**	**311**	P	**P**	**17 01 18.5**	**+0.1**
SONM	**Songino Array**	**30.43**	**311**	P	**P**	**17 01 23.0**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=114,slow=8.5,SNR=10						
SONM				LR	LR	17 13 12.8	
	comp=Z,99nm,18.2s,baz=203,slow=35						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**30.43**	**311**	P	**P**	**17 01 22.5**	**+0.4**
TIXI	**Tiksi**	**40.05**	**354**	P	**P**	**17 02 44.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**40.10**	**260**	P	**P**	**17 02 43.8**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=50,slow=7.2,SNR=7.1						
	comp=Z,0.7nm,0.6s						
KAPI	**Kappang**	**42.13**	**212**	LR	LR	17 21 18.7	
	comp=Z,128nm,19.8s,baz=234,slow=37						
ZAA0	**Zalesovo Array**	**45.02**	**316**	P	**P**	**17 03 21.7**	**-2.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	45.02	316	P	P	17 03 24.4	-0.1
	comp=Z,0.8nm,0.4s,baz=88,slow=10,SNR=4.9						
ZALV				PcP	PcP	17 05 05.1	+0.5
	comp=Z,0.5nm,0.5s,baz=98,slow=4.4,SNR=2.6						
	comp=Z,0.8nm,0.4s						
ZALV	Zalesovo Beam	45.02	316	P	P	17 03 21.9	-2.7
MK31	Makanchi Array	46.51	306	P	P	17 03 36.5	-0.1
MK31				IAmb	IAmb	17 03 37.3	
	comp=Z,4.4nm,0.6s						
MKAR	Makanchi Array	46.51	306	P	P	17 03 36.8	+0.3
	comp=Z,4.4nm,0.4s,baz=86,slow=9.7,SNR=87						
	comp=Z,4.4nm,0.4s						
MKAR	Makanchi Array	46.51	306	P	P	17 03 36.4	-0.1
MAKZ	Makanchi	46.73	306	P	P	17 03 38.2	0.0
KURK	Kurchatov	48.74	311	P	P	17 03 53.2	-0.5
KURK				IAmb	IAmb	17 03 54.3	
	comp=Z,6.1nm,0.8s						
H21K	Melozitna Rive	51.39	29	P	P	17 04 15.7	+2.1
H21K				IAmb	IAmb	17 04 22.1	
	comp=Z,4.7nm,1.2s						
PPLA	Purkeypile	51.40	33	P	P	17 04 15.6	+1.7
MLY	Manley	52.20	30	P	P	17 04 21.0	+1.4
MLY				IAmb	IAmb	17 04 51.0	
	comp=Z,6.9nm,1.4s						
WRA	Warramunga Arr	52.22	188	P	P	17 04 17.3	-2.8
	comp=Z,1.4nm,0.3s,baz=3.3,slow=7.7,SNR=10						
	comp=Z,1.4nm,0.3s						
AAK	Ala-Archa	52.58	302	P	P	17 04 22.7	-0.2
NEA2	Nenana	52.88	31	P	P	17 04 25.6	+0.9
NEA2				IAmb	IAmb	17 04 29.6	
	comp=Z,3.1nm,0.9s						
TOLK	Toolik Lake Re	52.98	25	P	P	17 04 26.7	+1.3
TOLK				IAmb	IAmb	17 04 57.0	
	comp=Z,7.0nm,1.4s						
MDM	Murphy Dome	53.26	30	P	P	17 04 28.7	+1.3
MDM				IAmb	IAmb	17 04 49.2	
	comp=Z,5.9nm,1.5s						
CCB	Clear Creek Bu	53.43	31	P	P	17 04 30.0	+1.4
CCB				IAmb	IAmb	17 04 35.4	
	comp=Z,7.0nm,1.5s						
H24K	Noodor Dome	53.44	29	P	P	17 04 30.4	+1.6
H24K				IAmb	IAmb	17 04 35.9	
	comp=Z,5.8nm,1.2s						
BRVK	Borovoye	53.70	315	P	P	17 04 30.6	-0.2
BRVK				IAmb	IAmb	17 04 34.4	
	comp=Z,2.9nm,0.9s						
IL31		53.83	30	P	P	17 04 31.9	+0.4
IL31				IAmb	IAmb	17 04 38.1	
	comp=Z,7.0nm,1.4s						
ILAR	Eielson Array	53.83	30	P	P	17 04 31.4	-0.2
	comp=Z,0.9nm,0.8s,baz=268,slow=6.1,SNR=7.5						
	comp=Z,0.9nm,0.8s						
RIDG	Independent Ri	54.73	32	P	P	17 04 38.0	-0.2
BMAR	Burnt Mountain	54.79	27	P	P	17 04 40.6	+2.1
SCRK	Sand Creek	55.10	31	P	P	17 04 41.5	+0.5
J26L	Joseph Creek	55.26	31	P	P	17 04 42.5	+0.5
KK31	Karatay Array	55.33	303	P	P	17 04 42.6	-0.3
KKAR	Karatay Array	55.33	303	P	P	17 04 42.4	-0.5
WAX	Waxell Ridge	55.90	36	P	P	17 04 47.9	+1.3
K27K	Chicken	55.94	31	P	P	17 04 48.0	+1.2
K27K				IAmb	IAmb	17 04 49.0	
	comp=Z,3.5nm,1.1s						
ASAR	Alice Springs	55.94	188	P	P	17 04 44.6	-2.6
	comp=Z,0.5nm,0.4s,baz=3.4,slow=7.4,SNR=26						
	comp=Z,0.5nm,0.4s						
CHGR	Chuyangaron	57.51	298	P	P	17 04 58.0	-0.4
M30M	Minto, Yukon	58.48	33	P	P	17 05 06.3	+1.5
M30M				IAmb	IAmb	17 05 09.9	
	comp=Z,6.6nm,1.5s						
INK	Inuvik	58.89	26	P	P	17 05 07.8	+0.4
	comp=Z,1.5nm,0.7s,baz=268,slow=2.3,SNR=5.8						
	comp=Z,1.5nm,0.7s						
N31M	Braeburn, Yuko	59.15	34	P	P	17 05 11.3	+1.8
M31M	Drury Creek, Y	59.66	33	P	P	17 05 14.0	+1.1
ARU	Arti	59.79	320	P	P	17 05 13.9	0.0
ARU				IAmb	IAmb	17 05 15.4	
	comp=Z,2.7nm,0.6s						
FARO	Faro, Yukon	60.13	33	P	P	17 05 17.3	+1.2
FARO				IAmb	IAmb	17 05 48.7	
	comp=Z,4.1nm,1.4s						
ABKAR	Akbulak array	60.84	312	P	P	17 05 21.0	-0.2
ABKAR	Akbulak array	60.84	312	P	P	17 05 20.9	-0.2
ABKAR				IAmb	IAmb	17 05 38.3	
	comp=Z,1.9nm,0.8s						
FINES	FINESS Array B	72.93	333	P	P	17 06 37.6	-0.2
PINE	Pine Mountain	73.80	48	P	P	17 06 44.9	+1.4
PINE				IAmb	IAmb	17 06 45.9	
	comp=Z,4.8nm,0.8s						
K05A	Summer Lake	74.36	49	P	P	17 06 48.0	+1.3
K05A				IAmb	IAmb	17 06 49.0	
	comp=Z,6.8nm,1.1s						
AKASG	Malin Array Be	77.91	323	P	P	17 07 05.6	-0.9
	comp=Z,1.0nm,0.7s,baz=49,slow=6.2,SNR=5.2						
	comp=Z,1.0nm,0.7s						
NVAR	Mina Array Bea	78.23	52	P	P	17 07 08.8	0.0
	comp=Z,0.4nm,0.5s,baz=281,slow=6.7,SNR=4.4						
	comp=Z,0.4nm,0.5s						
NVAR	Mina Array Bea	78.23	52	P	P	17 07 09.8	+1.0
NC204	NORSAR Array S	78.47	338	P	P	17 07 09.8	+0.2
NOA	NORSAR Array B	78.51	338	LR	LR	17 44 30.4	
	comp=Z,12nm,20.4s,baz=70,slow=38						
BRTR	Keskin Array B	81.79	312	P	P	17 07 27.8	-0.1
	comp=Z,0.5nm,0.8s,baz=132,slow=3.5,SNR=3.9						
	comp=Z,0.5nm,0.8s						
RAYN	Ar Rayn	82.15	293	P	P	17 07 30.2	+0.2
RAYN				IAmb	IAmb	17 07 47.8	
	comp=Z,2.6nm,0.7s						
TXAR	Lajitas Array	93.39	52	P	P	17 08 24.4	+0.1
	comp=Z,0.7nm,0.7s,baz=294,slow=3.3,SNR=5.9						
	comp=Z,0.7nm,0.7s						
LPAZ	La Paz	149.25	66	PKPbc	PKPbc	17 14 58.9	+0.5
	comp=Z,1.1nm,0.8s,baz=21,slow=6.0,SNR=5.4						

NEIC 06 16:57:19.3±0.6**, 40.46N**±0.04×**104.62W**±0.08**, h7**km±3km**,**
mb_Lg3.0/73**, ML3.0**/30**, Error ellipse: s-maj=10.4km s-min=3.8km az=120.0, Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRIGG	Briggsdale	0.26	61	Pg	Pg	16 57 24.9	+0.4
BRIGG				IAML		16 57 29.5	
	comp=N,2µm,0.2s						
BRIGG				IAML		16 57 32.7	
	comp=E,2µm,0.5s						
ISCO	Idaho Springs	1.00	230	Pg	Pg	16 57 38.1	-0.5
ISCO				IAML		16 57 51.5	
	comp=E,159nm,0.3s						
ISCO				IAML		16 57 51.5	
	comp=E,147nm,0.3s						
PHWY	Pilot Hill	1.06	323	Pg	Pg	16 57 39.2	-0.4
PHWY				IAML		16 58 00.6	
	comp=E,192nm,0.5s						
PHWY				IAML		16 58 03.2	
	comp=E,156nm,0.7s						
N23A	Red Feather La	1.10	294		Pg	16 57 40.1	-0.3
N23A				IAML		16 57 55.9	
	comp=E,411nm,0.2s						
N23A				IAML		16 57 56.3	
	comp=N,366nm,0.1s						
Q24A	Divide	1.54	195		Pn	16 57 47.6	+0.1
Q24A				IAmb_Lg		16 58 07.8	
	comp=Z,148nm,0.8s						
Q24A				IAML		16 58 11.7	
	comp=E,510nm,0.5s						
Q24A				IAML		16 58 12.2	
	comp=N,660nm,0.2s						
OGNE	Ogallala	2.03	75	Pn	Pb	16 57 56.8	+0.3
OGNE				IAML		16 58 24.3	
	comp=N,407nm,0.2s						
OGNE				IAML		16 58 26.5	
	comp=N,331nm,0.2s						
OGNE				IAmb_Lg		16 58 27.4	
	comp=Z,148nm,0.8s						
SMCO	Snowmass	2.22	236	Pg	Pg	16 58 00.9	-0.9
SMCO				IAML		16 58 32.3	
	comp=Z,144nm,0.5s						
SMCO				IAmb_Lg		16 58 32.8	
	comp=Z,39nm,0.8s						
SMCO				IAML		16 58 33.8	
	comp=Z,89nm,0.3s						
O20A	White River Ci	2.79	265	Pg	Pg	16 58 11.3	-1.4
O20A				IAML		16 58 53.7	
	comp=N,68nm,0.8s						
O20A				IAML		16 59 01.5	
	comp=E,80nm,0.9s						
SDCO	Great Sand Dun	2.79	194	Pg	Pb	16 58 10.4	+0.7
S22A	4UR Ranch, Cre	3.21	213	Pg	Pg	16 58 19.6	-1.1
S22A				IAML		16 59 04.9	
	comp=E,23nm,0.7s						
S22A				IAML		16 59 06.0	
	comp=N,21nm,0.7s						
T25A	Trinidad	3.32	177	IAmb_Lg		16 59 05.5	
	comp=Z,54nm,0.7s						
PV15	Paradox Valley	3.66	236	Pg	Pg	16 58 27.8	-1.6
PV15				IAML		16 59 19.8	
	comp=N,37nm,1.0s						
RSSD	Black Hills	3.69	7	Pg	Pg	16 58 29.8	-0.2
RSSD				IAmb_Lg		16 59 24.9	
	comp=Z,52nm,0.7s						
PV01	Paradox Valley	3.84	234	IAmb_Lg		16 59 26.7	
	comp=Z,38nm,1.2s						
PV04	Paradox Valley	3.90	240	IAmb_Lg		16 59 24.0	
	comp=Z,34nm,1.1s						
PV16	Nyswonger Mesa	3.96	239	IAmb_Lg		16 59 29.3	
	comp=Z,40nm,1.2s						
PV20	West Nyswonger	3.97	239	IAmb_Lg		16 59 29.0	
	comp=Z,31nm,1.1s						
PV17	East Wray Mesa	4.00	239	IAmb_Lg		16 59 32.6	
	comp=Z,31nm,1.1s						
CBKS	Cedar Bluff	4.11	112	Pn	Pn	16 58 23.4	+0.8
CBKS				IAmb_Lg		16 59 31.6	
	comp=Z,27nm,0.8s						
CBKS				IAML		16 59 33.1	
	comp=Z,180nm,0.7s						
CBKS				IAML		16 59 35.2	
	comp=Z,164nm,0.8s						
MVCO	Mesa Verde	4.43	224	Pg	Pg	16 58 42.7	-1.6
MVCO				IAML		16 59 54.1	
	comp=Z,20nm,0.9s						
MVCO				IAML		16 59 57.4	
	comp=Z,17nm,2.4s						
P17A	Butcher Ranch,	4.80	260		Pb	16 58 43.7	-0.2
R32A	Long Quarter,	5.01	112	IAmb_Lg		17 00 07.5	
	comp=Z,32nm,0.8s						
JLU	Jordanelle	5.21	274	Pg	Pb	16 58 53.4	+2.6
Q16A	Castle Valley	5.28	255		Pb	16 58 54.3	+2.2
SNOW	Snow King Moun	5.47	305	Pg	Pb	16 58 55.5	+0.2
OK032	Salt Plains WL	6.20	124	IAmb_Lg		17 00 36.8	
	comp=Z,16nm,0.9s						
KAN14	Manchester OK	6.27	122	IAmb_Lg		17 00 52.2	
	comp=Z,25nm,1.0s						
KSU1	Kansas State U	6.32	100	IAmb_Lg		17 00 44.8	
	comp=Z,21nm,0.9s						
LAO	LASA Array	6.34	350	IAmb_Lg		17 00 48.9	
	comp=Z,21nm,0.9s						
CSTR	Hydro, Custer	6.71	134	IAmb_Lg		17 00 57.3	
	comp=Z,1.3nm,0.7s						
ECSD	EROS Data Cent	6.80	59	IAmb_Lg		17 00 54.6	
	comp=Z,15nm,0.9s						
BLOK	Blackwell	6.87	120	IAmb_Lg		17 00 58.4	
	comp=Z,19nm,0.9s						
OK050	Pawnee Station	7.24	122	IAmb_Lg		17 01 18.1	
	comp=Z,18nm,1.1s						
OK045	Pawnee Station	7.24	121	IAmb_Lg		17 01 15.6	
	comp=Z,16nm,0.9s						
OK048	Pawnee Station	7.25	121	IAmb_Lg		17 01 17.4	
	comp=Z,21nm,1.1s						
T35A	Sooner Cattle	7.26	117	IAmb_Lg		17 01 08.8	
	comp=Z,30nm,1.2s						
QUOK	Quay	7.55	122	IAmb_Lg		17 01 28.2	
	comp=Z,23nm,1.2s						
OK034	N. Norfolk Rd.	7.64	123	IAmb_Lg		17 01 36.9	
	comp=Z,17nm,1.2s						
DEOK	Depew	7.88	123	IAmb_Lg		17 01 50.8	
	comp=Z,12nm,1.0s						

*NIED **06** 17:52:32.1, 31.02N×129.03E, h10km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr0.12; Mθθ1.34; Mφφ-1.47; Mrθ-1.25; Mθφ2.94; Mφr-0.33; Fault plane solution: M0 3.50000×10^14 NP1: φs191.00000°, δ71.00000°, λ171.00000°. NP2: φs284.00000°, δ81.00000°, λ19.00000°.*
JMA 06 17:52:32.1±0.2**, 31.0N**±0.4×**129.0E**±0.9**, h10**km±2km**,**
MV3.6/31**, SW OFF KYUSHU, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.88	42	*i* P	Pg	17 52 48.8	-0.3
JSJ				S	Sg	17 52 59.8	-0.7
JKC	Kuchinoerabu	1.15	119	P	Pb	17 52 53.7	-0.4
JKC				S	Sb	17 53 08.3	-0.8
JSU	Suzuyama	1.31	68	*e*P	Pn	17 52 56.2	-0.4
JSU				S	Sb	17 53 13.5	-0.3
JNN	Nakanoshima	1.38	148	P	Pn	17 52 56.9	-0.6
JYAK	Yakushimahirau	1.50	121	P	Pn	17 52 58.5	-0.6
JFU	Fukue jima 2	1.65	352	*e*P	Pn	17 53 01.2	+0.1
JTN	Tanegashima 3	1.72	102	*e*P	Pn	17 53 02.4	+0.2
JMTN	Minamitane	1.73	111	*e*P	Pb	17 53 03.1	-0.8
JZO	Okuchi	1.74	50	*e*P	Pb	17 53 03.6	-0.6
JTZ	Takazaki	1.97	63	P	Pn	17 53 06.0	+0.4

*ROM **06** 18:15:19.7±0.0, 42.799N±0.002×13.173E±0.003, h10km, ML3.6/55, Error ellipse: s-maj=0.3km s-min=0.1km az=72.0*
*IDC **06** 18:15:19.8±1.1, 42.88N×13.29E, h0km, mb3.6/5, mbtmp3.5/9, ML3.3/4, MS3.5/1, Error ellipse: s-maj=21.5km s-min=13.8km az=88.0*
*LDG **06** 18:15:19.1±0.2, 42.77N×13.24E, h10km, Ml2.9/24, Error ellipse: s-maj=8.6km s-min=4.6km az=47.0*
*PRU **06** 18:15:20.9±0.0, 42.77N×13.51E, h10km*
ISC 06 18:15:20.4±0.7**, 42.81N**±0.01×**13.19E**±0.02**, h9**km±4km**,**
n244, σ1§49/266**, mb3.6**/5**, 28C-3D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1245	Castelsantange	0.05	2	⇑P	Pg	18 15 22.1	-0.3
T1245				S	Sg	18 15 23.6	-0.2
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1244	Arquata del Tr	0.10	121	P	Pg	18 15 22.8	-0.1
T1244				S	Sg	18 15 25.0	+0.4
T1202	Accumoli, Fraz	0.11	164	⇑P	Pg	18 15 22.9	-0.1
T1202				S	Sg	18 15 25.1	+0.2
MMO1	Montemonaco	0.14	49	⇑P	Pg	18 15 23.4	-0.1
MMO1				S	Sg	18 15 26.2	+0.5
T1216	Preci, Frazion	0.15	304	P	Pg	18 15 23.5	-0.2
T1216				S	Sg	18 15 26.2	+0.3
T1216				AML	AML		
	comp=E,43000µm,0.4s						
T1216				AML	AML		
	comp=E,43000µm,0.4s						
T1216				AML	AML		
	comp=N,73200µm,0.5s						
T1216				AML	AML		
	comp=N,73150µm,0.5s						
T1201	Domo (RI)	0.16	162	P	Pg	18 15 23.9	+0.1
T1201				S	Sg	18 15 27.1	+1.0
T1204	Amatrice, Fraz	0.16	144	⇑P	Pg	18 15 23.8	-0.1
T1204				S	Sg	18 15 26.9	+0.5
T1204				AML	AML		
	comp=N,36400µm,1.0s						
T1204				AML	AML		
	comp=E,54700µm,1.2s						
T1204				AML	AML		
	comp=N,36450µm,1.0s						
FEMA	Monte Fema	0.18	327	P	Pg	18 15 24.2	-0.1
FEMA				S	Sg	18 15 27.6	+0.6
FEMA				AML	AML		
	comp=N,41150µm,1.1s						
FEMA				AML	AML		
	comp=E,85850µm,0.3s						
FEMA				AML	AML		
	comp=N,41200µm,1.1s						
FEMA				AML	AML		
	comp=E,85900µm,0.3s						
FEMA				AML	AML		
	comp=N,41150µm,1.1s						
T1241	Roccafluvione,	0.19	75	P	Pg	18 15 24.3	0.0
T1241				S	Sg	18 15 27.7	+0.7
T1241				AML	AML		
	comp=E,46900µm,0.3s						
T1241				AML	AML		
	comp=N,45000µm,0.3s						
T1241				AML	AML		
	comp=N,46000µm,0.3s						
T1241				AML	AML		
	comp=E,46950µm,0.3s						
T1241				AML	AML		
	comp=E,48350µm,0.3s						
T1241				AML	AML		
	comp=N,44950µm,0.3s						
T1241				AML	AML		
	comp=N,46050µm,0.3s						
T1256	Bolognola (MC)	0.20	9	⇑P	Pg	18 15 24.5	-0.1
T1256				S	Sg	18 15 28.2	+0.7
T1256				AML	AML		
	comp=E,30300µm,0.3s						
T1256				AML	AML		
	comp=N,39350µm,1.0s						
T1256				AML	AML		
	comp=E,30050µm,0.3s						
T1256				AML	AML		
	comp=N,37350µm,1.0s						
T1256				AML	AML		
	comp=E,30350µm,0.3s						
T1256				AML	AML		
	comp=E,30000µm,0.3s						
T1256				AML	AML		
	comp=N,39400µm,1.0s						
SMA1	SAN MARTINO	0.21	148	⇑P	Pg	18 15 24.5	-0.2
SMA1				S	Sg	18 15 28.0	+0.4
SMA1				AML	AML		
	comp=E,29400µm,1.6s						
SMA1				AML	AML		
	comp=N,37200µm,0.4s						
SMA1				AML	AML		
	comp=N,37150µm,0.4s						
SMA1				AML	AML		
	comp=E,29350µm,1.6s						
T1217	Poggiodomo (PG	0.21	243	⇑P	Pg	18 15 24.5	-0.2
T1217				S	Sg	18 15 28.3	+0.7
T1217				AML	AML		
	comp=N,23850µm,1.5s						
T1217				AML	AML		
	comp=N,23950µm,1.5s						
T1217				AML	AML		
	comp=N,23950µm,1.5s						
T1217				AML	AML		
	comp=N,23850µm,1.5s						
T1217				AML	AML		
	comp=E,23100µm,0.5s						
T1217				AML	AML		
	comp=E,22950µm,0.6s						
LNSS	Leonessa	0.23	208	⇑P	Pg	18 15 24.9	-0.2
LNSS				S	Sg	18 15 29.1	+0.8
LNSS				AML	AML		
	comp=E,37500µm,0.3s						
LNSS				AML	AML		
	comp=N,94300µm,0.2s						
T1215	Vallo di Nera,	0.23	269	⇑P	Pg	18 15 24.9	-0.2
T1215				S	Sg	18 15 28.9	+0.6
T1215				AML	AML		
	comp=E,11100µm,1.1s						
T1215				AML	AML		
	comp=N,18300µm,0.2s						
T1215				AML	AML		
	comp=E,12600µm,1.1s						
T1215				AML	AML		
	comp=N,18250µm,0.2s						
T1215				AML	AML		
	comp=E,12550µm,1.1s						
T1215				AML	AML		
	comp=N,17650µm,0.2s						
T1215				AML	AML		
	comp=N,18250µm,0.2s						
T1215				AML	AML		
	comp=E,12575µm,1.1s						
T1215				AML	AML		
	comp=E,11050µm,1.1s						
T1215				AML	AML		
	comp=N,17600µm,0.2s						
FDMO	Fiordimonte	0.24	343	⇑P	Pg	18 15 25.1	-0.1
FDMO				S	Sg	18 15 29.4	+0.9
FDMO				AML	AML		
	comp=E,19550µm,0.5s						
FDMO				AML	AML		
	comp=N,23750µm,0.5s						
T1221	Campello sul C	0.26	282	P	Pg	18 15 25.4	-0.1
T1221				S	Sg	18 15 29.7	+0.7
CESI	CESI - Serrava	0.28	314	⇑P	Pg	18 15 26.0	-0.1
CESI				S	Sg	18 15 30.8	+0.8
CESI				AML	AML		
	comp=E,18850µm,1.0s						
CESI				AML	AML		
	comp=N,51150µm,0.2s						
CSP1	Cessapalombo	0.28	3	⇑P	Pg	18 15 26.0	-0.1
CSP1				S	Sg	18 15 30.9	+0.9
CSP1				AML	AML		
	comp=N,46000µm,0.3s						
CSP1				AML	AML		
	comp=E,28300µm,0.5s						
CSP1				AML	AML		
	comp=N,45950µm,0.3s						
RM33	Pellescritta (	0.30	176	⇑P	Pg	18 15 26.1	-0.3
RM33				S	Sg	18 15 31.1	+0.8
RM33				AML	AML		
	comp=E,34450µm,0.2s						
RM33				AML	AML		
	comp=E,34200µm,0.2s						
RM33				AML	AML		
	comp=E,34450µm,0.2s						
RM33				AML	AML		
	comp=N,20350µm,0.4s						
RM33				AML	AML		
	comp=E,34150µm,0.2s						
RM33				AML	AML		
	comp=N,20250µm,1.0s						
T1220	Camerino, Fraz	0.31	347	P	Pg	18 15 26.4	-0.2
T1220				S	Sg	18 15 31.9	+1.1
CAMP	Campotosto	0.32	149	⇑P	Pg	18 15 26.3	-0.4
CAMP				S	Sg	18 15 31.3	+0.3
CAMP				AML	AML		
	comp=E,11585µm,0.2s						
CAMP				AML	AML		
	comp=N,6930µm,0.7s						
T1246	Crognaleto (TE	0.32	135	P	Pg	18 15 26.4	-0.4
T1246				S	Sg	18 15 31.5	+0.5
TERO	Teramo	0.36	121	⇓P	Pg	18 15 26.9	-0.5
TERO				S	Sg	18 15 32.9	+0.6
TERO				AML	AML		
	comp=N,10585µm,0.9s						
TERO				AML	AML		
	comp=N,11900µm,0.9s						
TERO				AML	AML		
	comp=N,10595µm,0.9s						
TERO				AML	AML		
	comp=E,9810µm,1.3s						
TERO				AML	AML		
	comp=E,10900µm,1.3s						
T1211	Morro Reatino	0.37	222	⇑P	Pg	18 15 27.2	-0.5
T1211				S	Sg	18 15 33.3	+0.8
T1211				AML	AML		
	comp=E,13750µm,1.6s						
T1211				AML	AML		
	comp=N,29400µm,0.3s						
T1211				AML	AML		
	comp=E,14650µm,1.6s						
T1211				AML	AML		
	comp=N,29150µm,0.3s						
T1211				AML	AML		
	comp=N,29450µm,0.3s						
T1211				AML	AML		
	comp=E,14700µm,1.6s						
T1211				AML	AML		
	comp=N,29100µm,0.3s						
T1211				AML	AML		
	comp=E,13750µm,1.6s						
T1247	Pizzolo (AQ)	0.38	167	⇑P	Pg	18 15 27.4	-0.4
T1247				S	Sg	18 15 33.5	+0.8
T1247				AML	AML		
	comp=N,28550µm,0.4s						
T1247				AML	AML		
	comp=E,25650µm,1.1s						
SEF1	Sefro	0.38	333	P	Pg	18 15 27.6	-0.3
SEF1				S	Sg	18 15 33.9	+1.0
SEF1				AML	AML		
	comp=E,15500µm,0.2s						
SEF1				AML	AML		
	comp=N,18700µm,0.7s						
SEF1				AML	AML		
	comp=E,15550µm,0.2s						

ARRO Arrone 0.39 234 ⇑P **Pg 18 15 27.5 -0.4**
ARRO AML AML
comp=E,8325µm,0.2s
ARRO AML AML
comp=N,7430µm,1.6s
MDAR Monte D'Aria 0.39 355 P **Pg 18 15 27.9 -0.2**
OFFI Offida 0.39 71 P **Pg 18 15 28.7 +0.7**
OFFI AML AML
comp=N,26250µm,0.6s
OFFI AML AML
comp=E,20650µm,0.5s
MNTP Montappone 0.39 32 P **Pg 18 15 28.6 +0.5**
MNTP S **Sb 18 15 36.1 +0.5**
MNTP AML AML
comp=E,19150µm,1.2s
MNTP AML AML
comp=N,22500µm,0.2s
PIO1 Pioraco 0.40 338 P **Pg 18 15 28.0 -0.2**
PIO1 S **Sg 18 15 34.5 +1.0**
PIO1 AML AML
comp=E,8590µm,0.5s
PIO1 AML AML
comp=N,13200µm,1.1s
PIO1 AML AML
comp=N,13200µm,1.1s
PIO1 AML AML
comp=E,8590µm,0.5s
SSM1 San Severino M 0.42 359 P **Pg 18 15 28.5 -0.2**
FIU1 Fiuminata 0.42 334 P **Pg 18 15 28.4 -0.3**
FIU1 AML AML
comp=N,9070µm,0.3s
FIU1 AML AML
comp=N,9085µm,0.3s
FIU1 AML AML
comp=E,6860µm,0.1s
GAG1 Gagliole 0.44 349 P **Pg 18 15 28.9 -0.1**
GAG1 S **Sg 18 15 36.1 +1.3**
GAG1 AML AML
comp=E,25600µm,0.2s
GAG1 AML AML
comp=N,19200µm,0.4s
ASSB Assisi San Ben 0.45 301 P **Pg 18 15 28.8 -0.4**
GIGS Gran Sasso 0.46 141 AML AML
comp=N,1660µm,0.6s
GIGS AML AML
comp=E,2335µm,0.4s
AQU L'Aquila 0.48 160 P **Pg 18 15 29.1 -0.7**
AQU AML AML
comp=E,6915µm,0.8s
AQU AML AML
comp=E,6955µm,0.8s
AQU AML AML
comp=E,6910µm,0.8s
AQU AML AML
comp=N,6815µm,0.4s
AQU AML AML
comp=N,6785µm,0.4s
SNTG Esanatoglia 0.48 338 ⇑P **Pg 18 15 29.4 -0.4**
SNTG AML AML
comp=N,5740µm,0.3s
SNTG AML AML
comp=E,6120µm,0.8s
SNTG AML AML
comp=N,5715µm,0.3s
SNTG AML AML
comp=E,6050µm,0.3s
CESX Cesi 0.49 246 ⇑P **Pg 18 15 29.2 -0.6**
CESX AML AML
comp=E,6120µm,0.7s
CESX AML AML
comp=N,5870µm,0.4s
EL6 Elcito 0.53 353 P **Pg 18 15 30.2 -0.4**
EL6 S **Sb 18 15 39.0 -0.6**
EL6 AML AML
comp=E,10080µm,0.2s
EL6 AML AML
comp=E,10060µm,0.2s
EL6 AML AML
comp=N,14000µm,0.2s
TRTR Tortoreto Alta 0.54 90 P **Pg 18 15 31.6 +0.9**
TRTR AML AML
comp=N,13450µm,1.2s
TRTR AML AML
comp=E,17600µm,0.7s
FIAM Fiamignano 0.54 185 ⇑P **Pg 18 15 30.1 -0.8**
FIAM S **Sg 18 15 38.4 +0.4**
FIAM AML AML
comp=E,4760µm,0.9s
FIAM AML AML
comp=N,4465µm,0.4s
ATCC AVT- Casa Cast 0.55 314 P **Pg 18 15 30.7 -0.4**
ATCC AML AML
comp=N,4790µm,0.8s
ATCC AML AML
comp=E,4690µm,0.6s
ATCC AML AML
comp=N,4785µm,0.8s
CING Cingoli 0.57 1 P **Pg 18 15 31.0 -0.4**
CADA Capodarco di F 0.57 47 P **Pb 18 15 32.8 +0.2**
FOSV Fossato di Vic 0.58 328 P **Pg 18 15 31.1 -0.5**
FOSV AML AML
comp=E,4500µm,0.3s
FOSV AML AML
comp=N,5375µm,0.6s
CIMA Civitanova Mar 0.61 35 P **Pg 18 15 33.0 +0.8**
FAGN Fagnano 0.62 151 P **Pg 18 15 31.4 -0.9**
FAGN AML AML
comp=E,9065µm,0.4s
FAGN AML AML
comp=N,7575µm,0.5s
VCEL Villa Celiera 0.64 130 AML AML
comp=E,6555µm,0.5s
VCEL AML AML
comp=N,5970µm,0.6s
PP3 Marolino 0.65 28 P **Pg 18 15 33.5 +0.6**
PP3 AML AML
comp=E,48750µm,0.4s
PP3 AML AML
comp=N,45050µm,0.4s
PP3 AML AML
comp=N,46650µm,0.4s
PP3 AML AML
comp=E,49650µm,0.4s
MURB Monte Urbino 0.67 313 P **Pg 18 15 33.0 -0.3**
MURB AML AML
comp=E,7275µm,1.5s
MURB AML AML
comp=N,9540µm,0.3s
MURB AML AML
comp=N,9540µm,0.3s
MURB AML AML
comp=E,7270µm,1.5s
MURB AML AML
comp=E,8395µm,0.7s
MURB AML AML
comp=N,9775µm,0.3s
SSFR Montelago di S 0.69 335 P **Pg 18 15 33.1 -0.7**
SSFR S **Sb 18 15 44.3 -0.2**
SSFR AML AML
comp=N,10215µm,1.3s
SSFR AML AML
comp=E,8405µm,0.2s
SSFR AML AML
comp=E,8985µm,0.2s
SSFR AML AML
comp=E,8410µm,0.2s
SSFR AML AML
comp=N,9630µm,0.2s
SSFR AML AML
comp=N,10220µm,1.3s
ARVD Arcevia 0.71 346 P **Pg 18 15 33.5 -0.6**
ARVD AML AML
comp=E,2665µm,0.3s
ARVD AML AML
comp=N,1840µm,0.9s
ATFO Monte Foce - G 0.72 321 P **Pg 18 15 33.7 -0.6**
T0110 Collepietro 0.73 143 P **Pg 18 15 33.3 -1.1**
T0110 AML AML
comp=N,5550µm,0.4s
T0110 AML AML
comp=E,4850µm,0.6s
ATLO AVT- Montelove 0.76 312 P **Pg 18 15 34.3 -0.8**
FRON Frontone 0.79 335 P **Pg 18 15 34.6 -0.9**
FRON S **Sb 18 15 46.9 -0.2**
FRON AML AML
comp=E,1995µm,0.4s
FRON AML AML
comp=N,3480µm,0.3s
TB01 Gubbio 0.79 317 P **Pg 18 15 34.9 -0.8**
MGAB Montegabbione 0.80 278 P **Pg 18 15 35.1 -0.6**
MGAB AML AML
comp=E,4650µm,0.8s
MGAB AML AML
comp=N,5680µm,0.3s
MGAB AML AML
comp=E,5020µm,0.9s
MGAB AML AML
comp=N,6695µm,0.4s
MGAB AML AML
comp=N,5685µm,0.3s
TB02 Pietralunga 0.80 315 P **Pg 18 15 35.0 -0.8**
AOI Ancona 0.80 22 P **Pg 18 15 35.5 -0.3**
AOI AML AML
comp=E,4205µm,0.4s
AOI AML AML
comp=N,4375µm,0.3s
ATVO AVT- Monte Val 0.81 315 P **Pg 18 15 35.1 -0.8**
ATVO AML AML
comp=E,1650µm,0.8s
ATVO AML AML
comp=N,1890µm,0.5s
ATVA AVT- Monte Val 0.81 306 P **Pg 18 15 35.2 -0.8**
TB03 Pietralunga 0.82 317 P **Pg 18 15 35.3 -0.9**
MTCE Montecelio 0.85 203 P **Pg 18 15 35.2 -1.6**
MTCE AML AML
comp=N,1525µm,0.6s
MTCE AML AML
comp=E,2535µm,0.6s
ATMI Monte Miggiano 0.85 308 P **Pg 18 15 36.4 -0.4**
ATPI Pietralunga - 0.86 319 P **Pg 18 15 36.2 -0.8**
ATPI AML AML
comp=E,1760µm,0.5s
ATPI AML AML
comp=N,1620µm,0.6s
ATPI AML AML
comp=E,1765µm,0.5s
CERT Cerreto 0.87 190 P **Pg 18 15 35.5 -1.6**
CERT AML AML
comp=E,3125µm,0.6s
CERT AML AML
comp=N,2945µm,0.5s
MPAG Monte Paganucc 0.88 339 P **Pg 18 15 36.5 -0.8**
MPAG S **Sb 18 15 50.3 +0.5**
MPAG AML AML
comp=E,3605µm,0.3s
MPAG AML AML
comp=N,2905µm,0.8s
MPAG AML AML
comp=E,3390µm,0.3s
MPAG AML AML
comp=N,2355µm,0.8s
SENI Senigallia 0.90 2 P **Pg 18 15 37.6 -0.1**
SENI AML AML
comp=N,11050µm,1.2s
SENI AML AML
comp=N,2455µm,1.1s
SENI AML AML
comp=N,11100µm,1.2s
SENI AML AML
comp=E,3760µm,0.6s
SENI AML AML
comp=E,14250µm,0.4s
SENI AML AML
comp=N,2460µm,1.1s
NARO Abbazia di Nar 0.92 331 P **Pg 18 15 37.0 -1.0**
NARO AML AML
comp=N,1455µm,0.6s
NARO AML AML
comp=E,1360µm,0.5s
FSSB Fossombrone 0.93 342 P **Pg 18 15 37.6 -0.8**
FSSB S **Sn 18 15 52.3 -1.0**
FSSB AML AML
comp=E,7815µm,0.4s
FSSB AML AML
comp=N,10725µm,0.3s
SACS San Casciano d 0.94 273 P **Pg 18 15 38.0 -0.4**
SACS AML AML
comp=E,1525µm,1.6s
SACS AML AML
comp=N,2370µm,0.8s
SACS AML AML
comp=N,2340µm,1.2s
SACS AML AML
comp=E,1505µm,0.8s
VVLD Villa Vallelon 0.99 161 P **Pg 18 15 38.0 -1.5**
VVLD AML AML
comp=E,1830µm,0.9s
VVLD AML AML
comp=N,2260µm,0.6s
GUAR Guarcino 1.02 175 P **Pg 18 15 39.0 -1.0**
GUAR AML AML
comp=N,3170µm,0.5s
GUAR AML AML
comp=E,2045µm,0.8s
PE3 Peglio 1.02 331 AML AML
comp=N,24µm,0.1s
PE3 AML AML
comp=E,15µm,0.3s
PE3 AML AML
comp=E,15µm,0.3s
CAFI Castiglion Fio 1.03 301 P **Pg 18 15 39.5 -0.8**
CAFI AML AML
comp=N,998µm,0.6s
CAFI AML AML
comp=E,934µm,1.0s
LATE Laterza 1.04 260 P **Pg 18 15 39.7 -0.6**
LPEL Lama dei Pelig 1.06 135 P **Pg 18 15 38.9 -1.9**
LPEL AML AML
comp=N,2030µm,0.6s
LPEL AML AML
comp=E,1665µm,0.5s
MCIV Monte Civitell 1.11 269 P **Pb 18 15 41.1 -0.7**
MCIV AML AML
comp=E,932µm,1.0s
MCIV AML AML
comp=N,848µm,0.6s
TOLF Tolfa 1.15 230 P **Pb 18 15 41.1 -1.4**
TOLF AML AML
comp=N,1118µm,1.6s
TOLF AML AML
comp=E,1280µm,0.7s
POFI Posta Fibreno 1.16 160 P **Pb 18 15 42.1 -0.5**
GIUL Giuliano Di Ro 1.25 178 P **Pn 18 15 43.6 -0.5**
LATB Latina 1.32 187 P **Pn 18 15 43.0 -2.1**
CERA Filignano 1.36 153 P **Pg 18 15 46.3 -0.1**
MIDA Miranda 1.41 145 P **Pn 18 15 46.5 +0.1**
ASQU Asqua 1.42 315 P **Pn 18 15 46.7 +0.2**
SFI Santa Sofia 1.47 319 P **Pb 18 15 47.9 0.0**
FROS Frosini 1.54 286 P **Pn 18 15 47.8 -0.3**
OSSC Osservatorio P 1.59 297 P **Pn 18 15 48.5 -0.3**
RUFI Rufina 1.60 311 P **Pn 18 15 49.1 +0.2**
BSSO Busso 1.64 140 P **Pg 18 15 51.7 -0.1**
MELA Melanico ??? S 1.81 127 P **Pn 18 15 52.8 +1.0**
PALZ Palazzo San Ge 2.79 131 P **Pn 18 16 06.3 +1.1**
CEY Cerknica 3.06 16 *e*Pn **Pn 18 16 09.6 +0.5**
PGF Pioggiola 3.10 267 *e*P **Pn 18 16 09.9 +0.3**
PGF *e*Sn **Sn 18 16 46.5 -0.3**
comp=E,12nm,0.3s
ROVR Rover Verones 3.22 333 P **Pn 18 16 12.2 +0.9**
CGRP Cima Grappa 3.23 343 P **Pn 18 16 12.2 +0.7**
CGRP Cima Grappa 3.23 343 AML AML
comp=E,110µm,1.3s
CGRP Cima Grappa 3.23 343 AML AML
comp=N,83µm,0.7s
MGRS Mrkonjic Grad 3.26 59 *e*Pn **Pn 18 16 13.3 +1.6**
STON Ston 3.32 87 *e*Pn **Pn 18 16 11.2 -1.3**
DOSS Dosso del Somm 3.39 336 ⇑P **Pn 18 16 15.8 +2.1**
DOSS Dosso del Somm 3.39 336 AML AML
comp=E,236µm,0.6s
DOSS Dosso del Somm 3.39 336 AML AML
comp=N,172µm,0.8s
DOSS Dosso del Somm 3.39 336 AML AML
comp=E,163µm,0.6s
DOSS Dosso del Somm 3.39 336 AML AML
comp=N,222µm,0.6s
DOSS Dosso del Somm 3.39 336 AML AML
comp=E,136µm,0.6s
DOSS Dosso del Somm 3.39 336 AML AML
comp=N,97µm,0.4s
DOSS Dosso del Somm 3.39 336 AML AML
comp=E,148µm,0.6s
DOSS Dosso del Somm 3.39 336 AML AML
comp=N,146µm,0.4s
CTI Castel Tesino 3.42 342 AML AML
comp=N,122µm,0.5s
CTI Castel Tesino 3.42 342 AML AML
comp=N,177µm,0.2s
CTI Castel Tesino 3.42 342 AML AML
comp=N,178µm,0.2s
CTI Castel Tesino 3.42 342 AML AML
comp=E,96µm,1.6s
CTI Castel Tesino 3.42 342 AML AML
comp=E,194µm,0.3s
CTI Castel Tesino 3.42 342 ⇑P **Pn 18 16 15.3 +1.3**
MPRI Monte Prat 3.44 358 ⇑P **Pn 18 16 15.0 +0.8**
MPRI Monte Prat 3.44 358 AML AML
comp=E,171µm,1.6s
MPRI Monte Prat 3.44 358 AML AML
comp=N,293µm,0.9s
MPRI Monte Prat 3.44 358 AML AML
comp=E,166µm,1.4s
MPRI Monte Prat 3.44 358 AML AML
comp=N,197µm,1.4s
MPRI Monte Prat 3.44 358 AML AML
comp=E,234µm,1.3s
MPRI Monte Prat 3.44 358 AML AML
comp=N,286µm,1.2s
A051A Mrakovica 3.48 49 *e*Pn **Pn 18 16 17.2 +2.4**
BLY Banja Luka 3.49 55 *e*Pn **Pn 18 16 17.0 +2.2**
LUSI Trento, Gardas 3.54 334 AML AML
comp=E,124µm,0.5s
LUSI Trento, Gardas 3.54 334 AML AML
comp=E,124µm,0.5s
LUSI Trento, Gardas 3.54 334 AML AML
comp=N,162µm,0.4s
LUSI Trento, Gardas 3.54 334 ⇓P **Pn 18 16 16.9 +1.3**
GAGG Gaggia 3.64 335 ⇑P **Pn 18 16 19.2 +2.1**
GAGG Gaggia 3.64 335 AML AML
comp=N,146µm,1.1s
GAGG Gaggia 3.64 335 AML AML
comp=E,207µm,0.9s
GAGG Gaggia 3.64 335 AML AML
comp=N,90µm,0.7s
GAGG Gaggia 3.64 335 AML AML
comp=E,125µm,1.4s
RONC Roncone 3.67 331 P **Pn 18 16 20.1 +2.6**
RONC Roncone 3.67 331 AML AML
comp=N,656µm,1.5s
RONC Roncone 3.67 331 AML AML
comp=E,1740µm,0.8s
ACOM Acomizza, Ital 3.75 3 ⇓P **Pn 18 16 19.3 +0.7**
ACOM Acomizza, Ital 3.75 3 AML AML
comp=E,261µm,0.9s
ACOM Acomizza, Ital 3.75 3 AML AML
comp=E,144µm,1.2s
ACOM Acomizza, Ital 3.75 3 AML AML
comp=N,161µm,1.4s
ACOM Acomizza, Ital 3.75 3 AML AML
comp=N,184µm,1.3s
ZOU Zoufplan 3.75 358 P **Pn 18 16 19.1 +0.4**
ZOU Zoufplan 3.75 358 AML AML
comp=E,130µm,1.3s
ZOU Zoufplan 3.75 358 AML AML
comp=N,132µm,0.9s
EUCT Pavia 3.78 311 ⇑P **Pg 18 16 33.5 +0.8**
EUCT Pavia 3.78 311 AML AML
comp=N,1034µm,1.5s
EUCT Pavia 3.78 311 AML AML
comp=E,906µm,1.4s
TREB Trebinje 3.80 90 *e*Pn **Pn 18 16 19.8 +0.6**
OBKA Obir 3.83 14 *e*Pn **Pn 18 16 20.7 +1.1**
OBKA Obir 3.83 14 *e*Pn **Pn 18 16 20.0 +0.4**
comp=E,1.4nm,0.2s
MYKA Terra Mystica 3.84 5 *e*Pn **Pn 18 16 20.1 +0.4**
comp=E,4.9nm,0.4s
KOSI Kohlern 3.88 341 AML AML
comp=E,151µm,0.6s
KOSI Kohlern 3.88 341 AML AML
comp=E,202µm,1.1s
KOSI Kohlern 3.88 341 AML AML
comp=N,168µm,0.7s
KOSI Kohlern 3.88 341 ⇑P **Pn 18 16 21.9 +1.6**
BOSI Bolzano 3.92 341 AML AML
comp=E,370µm,0.5s
BOSI Bolzano 3.92 341 AML AML
comp=E,400µm,0.8s
BOSI Bolzano 3.92 341 AML AML
comp=N,450µm,1.6s
BOSI Bolzano 3.92 341 ⇑P **Pn 18 16 17.5 -3.3**
RORO Rocca Rossa 3.95 291 S **Sg 18 17 32.0 +4.8**
ABTA Abfaltersbach 3.97 353 *e*Pn **Pn 18 16 22.6 +1.1**
comp=N,14nm,0.4s,SNR=22
SOKA Soboth 4.09 18 *e*Pn **Pn 18 16 24.7 +1.5**
comp=N,2.1nm,0.3s
RISI Rein 4.21 350 AML AML
comp=E,343µm,0.5s
RISI Rein 4.21 350 AML AML
comp=N,272µm,0.5s
RISI Rein 4.21 350 ⇑P **Pn 18 16 27.3 +2.3**
KBA Koelnbreinsper 4.27 1 *e*Pn **Pn 18 16 26.9 +1.1**
comp=N,20nm,0.6s,SNR=18
KBA Koelnbreinsper 4.27 1 *e*Pn **Pn 18 16 26.9 +1.1**
KBA *e*Sn **Sn 18 17 16.6 +0.7**
SBF Sospel 4.33 286 *e*P **Pn 18 16 26.4 0.0**
SBF *e*Sn **Sn 18 17 19.5 +2.5**
comp=N,43nm,0.8s
HAPS Han Pijesak,BI 4.39 71 *e*Pn **Pn 18 16 29.2 +1.9**
FETA Feichten 4.56 338 *e*Pn **Pn 18 16 31.7 +1.9**
comp=N,3.4nm,0.3s,SNR=6.4
WTTA Wattenberg 4.59 347 *i* Pn **Pn 18 16 32.3 +2.2**
comp=N,2.4nm,0.2s,SNR=13
WTTA Wattenberg 4.59 347 *e*Pn **Pn 18 16 32.4 +2.3**
RUDO Rudo 4.59 78 *e*Pn **Pn 18 16 29.8 -0.2**
DAVOX Davos/Dischmat 4.62 331 Pn **Pn 18 16 32.6 +2.0**
comp=N,2.7nm,0.3s,baz=149,slow=23,SNR=22
DAVOX Sn **Sn 18 17 27.4 +3.0**
comp=N,2.0nm,0.3s,baz=313,slow=16,SNR=6.5
comp=N,6.0nm,0.4s
SQTA Sankt Quirin 4.63 343 *e*Pn **Pn 18 16 32.5 +1.9**
comp=N,5.1nm,0.2s,SNR=10.0
BBLS Lazići 4.66 75 *e*Pn **Pn 18 16 32.6 +1.6**
WATA Walderalm 4.67 346 *i* Pn **Pn 18 16 33.6 +2.4**
comp=N,3.5nm,0.2s,SNR=11
ARSA Arzberg 4.74 20 *e*Pn **Pn 18 16 32.2 +0.1**
comp=N,3.8nm,0.6s
ARSA Arzberg 4.74 20 *e*Pn **Pn 18 16 33.0 +0.9**
ARSA *e*Sn **Sn 18 17 26.1 -1.1**
MOTA Moosalm 4.77 343 *e*Pn **Pn 18 16 34.7 +2.0**
comp=N,10nm,0.6s
BIOA Bad Ischl, Aus 4.89 4 *e*Pn **Pn 18 16 35.2 +1.0**
comp=N,5.9nm,0.2s,SNR=17
LMR La Mourre 4.92 278 *e*P **Pn 18 16 34.6 +0.1**
LMR *e*Sn **Sn 18 17 32.8 +1.3**
comp=N,1.1nm,0.3s
RJOB Jochberg 4.94 357 *e*Pn **Pn 18 16 36.6 +1.8**
RJOB *e*Sn **Sn 18 17 35.5 +3.4**
RETA Reutte 4.98 341 *e*Pn **Pn 18 16 37.7 +2.2**
comp=N,4.1nm,0.3s
MBDF Montbardon 5.03 295 *e*P **Pn 18 16 37.2 +1.1**
MBDF *e*Sn **Sn 18 17 35.8 +1.4**
comp=N,2.4nm,0.2s
PLONS Plons/SG 5.03 329 *e*Pn **Pn 18 16 39.8 +3.7**
PLONS *e*Sn **Sn 18 17 38.4 +4.1**
DAVA Damuels 5.05 334 *e*Pn **Pn 18 16 39.1 +2.5**
comp=N,11nm,0.6s
DAVA Damuels 5.05 334 *e*Pn **Pn 18 16 39.3 +2.8**
MOA Molln 5.10 8 *e*Pn **Pn 18 16 37.8 +0.8**
comp=N,2.0nm,0.3s
MOA Molln 5.10 8 *e*Pn **Pn 18 16 38.0 +1.0**
MOA *e*Sn **Sn 18 17 36.9 +0.9**
DIVS Divibare 5.12 73 *e*Pn **Pn 18 16 37.8 +0.4**
FRGS Fruska Gora 5.33 62 *e*Pn **Pn 18 16 37.5 -2.6**
UBR Ueberruh 5.33 337 *e*Pn **Pn 18 16 42.5 +2.2**
UBR *e*Sn **Sn 18 17 45.4 +3.5**
LPG La Plagne 5.35 302 *e*P **Pn 18 16 42.0 +1.3**
LPG *e*Sn **Sn 18 17 42.3 -0.4**
comp=N,0.5nm,0.1s
LPL La Plagne 5.37 302 *e*Pn **Pn 18 16 38.0 -3.0**
LPL La Plagne 5.37 302 *e*P **Pn 18 16 42.2 +1.2**
LPL *e*Sn **Sn 18 17 43.6 +0.5**
comp=N,4.0nm,0.4s
CONA Conrad Observa 5.46 19 *e*Pn **Pn 18 16 42.4 +0.4**
comp=N,1.1nm,0.2s
SMRF Simiane la Rot 5.67 284 *e*P **Pn 18 16 45.8 +1.0**
SMRF *e*Sn **Sn 18 17 50.3 +0.2**
comp=N,0.4nm,0.2s
ORIF Oris-en-Rattie 5.69 294 *e*P **Pn 18 16 46.9 +1.7**
ORIF *e*Sn **Sn 18 17 49.8 -0.8**

comp=N,0.6nm,0.2s
SLE **Schleitheim** **5.96 328** *e*Pn **Pn** **18 16 50.1 +1.3**
SLE *e*Sn **Sn** **18 17 57.2 0.0**
BALST Balsthal **5.97 321** *e*Pn **Pn** **18 16 50.3 +1.3**
GEC2 GERESS Array S **6.05 3** *e*Pn **Pn** **18 16 51.4 +1.3**
GEC2 *e*Sn **Sn** **18 17 58.8 -0.8**
GERES GERESS Array B **6.05 3** Pn **Pn** **18 16 49.8 -0.3**
comp=N,0.6nm,0.3s,baz=175,slow=13,SNR=20
GERES Pg **Pb** **18 17 01.5 -4.5**
comp=N,0.7nm,0.3s,baz=176,slow=14,SNR=6.9
GERES Sn **Sn** **18 17 57.6 -1.9**
comp=N,2.6nm,0.3s,baz=168,slow=24,SNR=9.4
comp=N,0.8nm,0.3s
CKRC Cesky Krumlov **6.06 7** *e*PN **Pn** **18 16 49.7 -0.6**
CKRC *e*SN **Sn** **18 17 58.2 -1.6**
MODS Modra-Piesok **6.26 26** *e*PN **Pn** **18 16 52.3 -0.7**
CABF La Chapelle **6.33 309** *e*P **Pn** **18 16 55.7 +1.8**
KHC Kasperske Hory **6.33 2** *e*PN **Pn** **18 16 53.6 -0.3**
KHC *e*SN **Sn** **18 18 03.2 -3.2**
WET Wettzell **6.34 358** *e*Pn **Pn** **18 16 53.4 -0.7**
WET *e*Sn **Sn** **18 18 04.3 -2.3**
BFO Black Forest **6.49 330** *e*Pn **Pn** **18 16 57.4 +1.3**
BFO *e*Sn **Sn** **18 18 09.4 -0.8**
VIVF Saint-Julien-l **6.49 291** *e*Pn **Pn** **18 16 52.9 -3.2**
VIVF *e*Sn **Sn** **18 18 10.9 +0.6**
comp=N,0.2nm,0.2s
HINF Hinteralfeld **6.71 320** *e*P **Pn** **18 16 59.0 -0.1**
HINF *e*Sn **Sn** **18 18 13.9 -1.8**
comp=N,4.9nm,0.2s
LASF Ste Croix **6.91 284** *e*P **Pn** **18 17 03.0 +1.1**
LASF *e*Sn **Sn** **18 18 20.8 +0.2**
VRAC Vranov **6.92 19** LR LR 18 19 16.6
comp=N,29nm,20.5s,baz=176,slow=35
VYHS Vyhne **6.93 33** *e*PN **Pn** **18 17 01.7 -0.4**
VYHS *e*SN **Sn** **18 18 20.1 -0.9**
CDF Champ du Feu **6.97 326** *e*P **Pn** **18 17 03.5 +0.8**
CDF *e*Sn **Sn** **18 18 20.4 -1.7**
comp=N,6.3nm,0.3s
HAU Haudompre **7.08 320** *e*P **Pn** **18 17 04.5 +0.3**
HAU *e*Sn **Sn** **18 18 22.8 -2.0**
comp=N,20nm,0.4s
GOPC GO Pecny, Ondr **7.19 8** *e*SN **Sn** **18 18 24.7 -2.9**
NKC Novy Kostel **7.45 356** *e*SN **Sn** **18 18 30.6 -3.2**
KEST Kesra **7.67 204** Pn **Pn** **18 17 14.6 +2.3**
comp=N,0.2nm,0.3s,baz=60,slow=20,SNR=1.6
comp=N,1.8nm,0.7s
SMF Signal de Mont **7.68 303** *e*P **Pn** **18 17 13.6 +1.2**
SMF *e*Sn **Sn** **18 18 37.4 -2.1**
comp=N,0.7nm,0.2s
KRLC Kraliky **7.68 18** *e*SN **Sn** **18 18 34.4 -5.2**
PAGF Fort de Pagny **7.76 320** *e*P **Pn** **18 17 14.3 +0.7**
baz=137
PAGF *e*Sn **Sn** **18 18 39.2 -2.4**
comp=N,3.2nm,0.3s
LOR Lormes **7.97 307** *e*P **Pn** **18 17 17.5 +1.1**
baz=127
LOR *e*Sn **Sn** **18 18 44.6 -2.0**
comp=N,2.4nm,0.3s
AVF Avril sur Loir **8.05 303** *e*Pn **Pn** **18 17 14.3 -3.1**
AVF Avril sur Loir **8.05 303** *e*P **Pn** **18 17 19.7 +2.3**
AVF *e*Sn **Sn** **18 18 47.0 -1.5**
comp=N,0.3nm,0.2s
MTLF Montolieu **8.05 278** *e*Pn **Pn** **18 17 13.8 -3.7**
MEZF Maizieres J'vi **8.05 318** *e*P **Pn** **18 17 19.1 +1.6**
baz=139
MEZF *e*Sn **Sn** **18 18 46.0 -2.6**
comp=N,1.7nm,0.3s
SSF Saint Saulge **8.08 305** *e*P **Pn** **18 17 18.9 +1.1**
SSF *e*Sn **Sn** **18 18 47.6 -1.7**
comp=N,0.8nm,0.2s
BRG Berggiesshubel **8.09 3** *e*P Pb 18 17 30.6 -10
BRG Amp 18 17 31.9
comp=Z,1.5nm,0.5s
BRG *e*x x 18 18 43.8
BRG *e*x x 18 19 46.5
BRG Amp 18 20 01.6
comp=Z,6.4nm,1.0s
SAVF Savonnieres en **8.09 319** *e*Pn **Pn** **18 17 13.9 -4.2**
baz=132
SAVF *e*Sn **Sn** **18 18 47.9 -1.8**
comp=Z,2.5nm,0.3s
BGF Bois d'Agland **8.27 301** *e*P **Pn** **18 17 21.6 +1.2**
BGF *e*Sn **Sn** **18 18 52.2 -1.7**
comp=Z,0.8nm,0.2s
CAF Calviac **8.31 289** *e*P **Pn** **18 17 22.8 +1.7**
CLL Collm **8.51 359** *e*Pn **Pn** **18 17 25.0 +1.3**
CLL *e*(Sn) Sn 18 18 49.0 -11
CLL *e*x x 18 19 03.0
CLL *e*Sg **Sg** **18 19 48.0 -5.2**
comp=Z,26nm,1.7s
TCF Toulx Ste Croi **8.57 298** *e*Pn **Pn** **18 17 21.1 -3.6**
TCF *e*Sn **Sn** **18 19 00.6 -1.0**
comp=Z,0.3nm,0.2s
BAIF Baives **9.54 323** *e*Pn **Pn** **18 17 35.8 -2.0**
MLR Muntele Rosu **9.56 69** Pn **Pn** **18 17 38.4 +0.1**
comp=Z,0.1nm,0.3s,baz=288,slow=20,SNR=1.9
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea **31.18 202** P **P** **18 21 41.4 +1.5**
comp=Z,0.5nm,0.7s,baz=2.6,slow=9.6,SNR=3.6
comp=Z,0.5nm,0.7s
WSAR Wadi Sarin **42.22 103** LR LR 18 45 35.2
comp=Z,58nm,19.2s,baz=116,slow=43
MKAR Makanchi Array **47.76 60** P **P** **18 23 58.4 +0.7**
comp=Z,0.4nm,0.6s,baz=288,slow=7.5,SNR=1.8
comp=Z,0.4nm,0.6s
SONM Songino Array **61.80 50** P **P** **18 25 40.4 +0.8**
comp=Z,0.7nm,0.8s,baz=316,slow=6.0,SNR=4.5
comp=Z,0.7nm,0.8s
CMAR Chiang Mai Arr **74.65 79** P **P** **18 27 00.1 -0.3**
comp=Z,0.3nm,0.6s,baz=303,slow=8.4,SNR=4.1
comp=Z,0.3nm,0.6s
PDAR Pinedale Array **80.50 321** P **P** **18 27 32.7 -0.3**
comp=Z,0.7nm,1.1s,baz=59,slow=4.3,SNR=2.4
comp=Z,0.7nm,1.1s

ROM 06 18:16:30.3±0.1**, 42.775N**±0.004×**13.043E**±0.005**, h11km, Md1.0**/6**, 2C-4D, Error ellipse: s-maj=0.4km s-min=0.3km az=283.0, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
T1217 Poggiodomo (PG **0.10 232** ⇑P Pg 18 16 33.5 +0.4
T1217 S Sg 18 16 35.6 +0.4
T1217 END
T1216 Preci, Frazion **0.12 351** ⇓P Pg 18 16 33.8 +0.5
T1216 S Sg 18 16 36.3 +0.8
T1216 AML AML
comp=E,4438μm,0.8s
T1216 AML AML
comp=N,6700μm,0.7s
T1216 END
T1215 Vallo di Nera, **0.13 282** P Pg 18 16 34.0 +0.5
T1215 S Sg 18 16 36.3 +0.5
T1215 END
T1245 Castelsantange **0.13 53** P Pg 18 16 34.1 +0.5
T1245 S Sg 18 16 36.6 +0.5
T1245 END
T1202 Accumoli, Fraz **0.15 118** ⇓P Pg 18 16 34.5 +0.6
T1202 S Sg 18 16 37.5 +1.1
T1202 END
LNSS Leonessa **0.17 181** ⇓P Pg 18 16 34.8 +0.6
LNSS S Sg 18 16 37.6 +0.8
LNSS AML AML
comp=E,588μm,0.1s
LNSS AML AML
comp=N,1645μm,0.1s
LNSS END
MMO1 Montemonaco **0.24 59** ⇓P Pg 18 16 35.7 +0.4
MMO1 S Sg 18 16 39.6 +0.8
CESI CESI - Serrava **0.25 336** P Pg 18 16 36.2 +0.7
CESI S Sg 18 16 40.0 +1.0
FDMO Fiordimonte **0.26 7** ⇑P Pb 18 16 36.7 -0.4
FDMO S Sb 18 16 40.5 -1.1
ARRO Arrone **0.28 226** P Pg 18 16 36.6 +0.6

IDC 06 18:22:54.7±12.0**, 15.37S**×**165.09E, h0km, mb3.7**/3**, mbtmp3.6**/4**, ML3.2**/1**, Error ellipse: s-maj=217.3km s-min=34.9km az=51.0, Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
DZM Mont Dzumac **6.79 169** Pn Pn 18 24 36.1 +0.4
0.5nm,0.3s,baz=342,slow=6.4,SNR=11
DZM Sn Sn 18 25 53.0 -0.8
0.1nm,0.3s,baz=330,slow=20,SNR=2.1
1.0nm,0.3s
STKA Stephens Creek **26.99 228** P P 18 28 38.4 +0.1
1.2nm,0.5s,baz=52,slow=11,SNR=4.8
1.2nm,0.5s
WRA Warramunga Arr **29.63 257** P P 18 29 02.1 0.0
0.1nm,0.3s,baz=85,slow=9.0,SNR=5.7
0.1nm,0.3s
ASAR Alice Springs **30.48 249** P P 18 29 09.5 -0.1
0.4nm,0.3s,baz=78,slow=9.2,SNR=31
0.4nm,0.3s

---

*TRN **06** 18:27:13.3, 16.82N×61.02W, h29km, MD4.8*
*NEIC **06** 18:27:13.8±2.3, 16.82N±0.05×60.87W±0.08, h30km±5km, mb4.8/97, Error ellipse: s-maj=11.2km s-min=6.4km az=68.0*
*IDC **06** 18:27:15.0±1.7, 16.80N×60.93W, h40km±16km, mb4.1/22, mbtmp4.4/26, ML3.6/4, MS3.8/52, Error ellipse: s-maj=14.2km s-min=11.5km az=77.0*
ISC 06 18:27:14.3±0.5**, 16.88N**±0.03×**60.93W**±0.04**, h33**km±2km**, h34km:pP-P, n497, σ1.23**/491**, mb4.7**/77**, MS3.8**/48**, 17C-3D, Leeward Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
H05N1 Guadeloupe/Mar **0.57 193** Pn **Pb** **18 27 25.4 -0.7**
H05N1 Sn **Sb** **18 27 33.9 -0.2**
GDSD La Dsirade Is **0.57 193** **Pb** **18 27 24.9 -1.2**
ABD La Joyeuse, An **0.67 234**⇓*i*P **Pn** **18 27 26.3 -1.1**
ABD *e*S **Sb** **18 27 36.1 -0.7**
ANBD Bethesda, Anti **0.82 282**⇓*i*P **Pn** **18 27 29.2 -0.3**
ANBD *e*S **Sn** **18 27 40.2 -0.3**
ANDO Antigua, Disas **0.90 285** *e*P **Pn** **18 27 30.4 -0.2**
ANDO *e*S **Sn** **18 27 42.5 +0.1**
MAGL Barre de l'ile **0.98 200** **Pn** **18 27 31.4 -0.3**
MAGL Barre de l'ile **0.98 200** *e*P **Pn** **18 27 31.6 -0.2**
MAGL *e*S **Sb** **18 27 45.2 -0.3**
GDHS Morne Mazeau, **1.00 233** **Pn** **18 27 31.6 -0.5**
CBE Ff, Capester **1.03 219** **Pn** **18 27 32.6 +0.1**
CBE Ff, Capester **1.03 219** *e*P **Pn** **18 27 32.4 -0.1**
ANWB Willy Bob **1.14 314** **Pn** **18 27 34.2 +0.3**
ANWB Sn **Sb** **18 27 49.6 -0.4**
ANWB Willy Bob **1.14 314**⇓*i*P **Pn** **18 27 34.2 +0.3**
ANWB *e*S **Sn** **18 27 48.9 +0.5**
TDBA Terre de Bas, **1.23 214** Pn **Pn** **18 27 35.5 +0.4**
TDBA Terre de Bas, **1.23 214** *e*P **Pn** **18 27 35.6 +0.4**
TDBA *e*S **Sn** **18 27 48.6 -2.0**
TBG Guadaloupe-3 **1.23 214** *e*P **Pb** **18 27 36.2 -0.8**
MBFL Flemmings, Mon **1.24 264** *e*P **Pn** **18 27 35.8 +0.5**
MBFL *e*S **Sn** **18 27 50.9 0.0**
MDVC Dominica, Viel **1.33 200** *e*P **Pn** **18 27 37.0 +0.3**
MDVC *e*S **Sn** **18 27 53.2 -0.1**
MDCT Cottage Hill, **1.35 202** *e*P **Pn** **18 27 37.6 +0.7**
MDCT *e*S **Sb** **18 27 55.2 -0.9**
DSLB Salisbury **1.51 198**⇑*i*P **Pn** **18 27 39.3 +0.3**
DSLB *e*S **Sn** **18 27 58.1 +0.6**
SVN Savane Anatole **2.04 187** Pn **Pn** **18 27 46.0 -0.3**
SVN Savane Anatole **2.04 187** *e*P **Pn** **18 27 46.0 -0.3**
SEUS St. Eustatius **2.06 288** Pn **Pn** **18 27 47.8 +1.2**
SEUS St. Eustatius **2.06 288** *e*P **Pn** **18 27 47.9 +1.4**
SEUS *e*S **Sn** **18 28 10.7 -0.4**
BAMF Morne Balai **2.06 186** *e*P **Pn** **18 27 46.2 -0.5**
PCM Pelee Case Pet **2.07 188** *e*P **Pn** **18 27 46.2 -0.5**
GBMF Grand Be **2.08 186** *e*P **Pn** **18 27 46.5 -0.4**
ILAM Ilet Lapin Mar **2.09 179** Pn **Pn** **18 27 47.0 0.0**
ILAM Ilet Lapin Mar **2.09 179** *e*P **Pn** **18 27 46.6 -0.4**
ILAM *e*S **Sn** **18 28 11.9 0.0**
PML Morne Lenard **2.10 187** *e*P **Pn** **18 27 46.9 -0.2**
FDF Fort de France **2.14 186** Pn **Pn** **18 27 47.4 -0.4**
FDF Fort de France **2.14 186** *e*P **Pn** **18 27 47.0 -0.7**
FDF *e*S **Sn** **18 28 12.5 -0.8**
LPMF Morne Lapointe **2.29 181** *e*P **Pn** **18 27 49.3 -0.5**
ZAM Aeronautique **2.29 182** *e*P **Pn** **18 27 49.4 -0.4**
MVM Montagne Vaucl **2.31 179** *e*P **Pn** **18 27 50.1 +0.1**
TRMF Trois Ilets **2.33 183** *e*P **Pn** **18 27 50.0 -0.3**
BIM Bigot **2.35 183** Pn **Pn** **18 27 50.8 +0.2**
BIM Bigot **2.35 183** *e*P **Pn** **18 27 50.7 0.0**
BIM *e*S **Sn** **18 28 18.6 +0.2**
SMRT St. Maarten **2.36 300** Pn **Pn** **18 27 51.6 +0.9**
SMRT St. Maarten **2.36 300** *e*P **Pn** **18 27 51.2 +0.4**
SMRT *e*S **Sn** **18 28 17.5 -1.1**
MPOM Morne Pois Mar **2.42 178** Pn **Pn** **18 27 51.6 0.0**
MPOM Morne Pois Mar **2.42 178** *e*P **Pn** **18 27 51.5 0.0**
MPOM *e*S **Sn** **18 28 20.2 +0.2**
H05S1 Guadeloupe/Mar **2.44 178** Pn **Pn** **18 27 52.4 +0.6**
H05S1 Sn **Sn** **18 28 19.7 -0.8**
SLBI Saint Lucia, B **2.84 181** *e*P **Pn** **18 27 57.4 +0.1**
SLBI *e*S **Sn** **18 28 30.3 0.0**
SLCP Castries, St. **2.85 181** *e*S **Sn** **18 28 31.4 +0.7**
SLB Belfond **3.03 182** *e*P **Pn** **18 28 02.8 +2.7**
CDVI St. Croix **3.77 284** Pn **Pn** **18 28 10.8 +0.6**
CDVI St. Croix **3.77 284** *e*P **Pn** **18 28 11.6 +1.5**
BBGH Gun Hill **3.94 160** *e*P **Pn** **18 28 13.4 +0.9**
STVI Saint Thomas **4.11 292** **Pn** **18 28 15.6 +0.7**
GCMP Grenada, Carri **4.39 186** *e*P **Pn** **18 28 20.0 +1.3**
CUPR Culebra, Puert **4.39 290** Pn **Pn** **18 28 19.4 +0.7**
GRGR Grenville **4.77 189** *e*P **Pn** **18 28 25.5 +1.6**
GRFF Grenada Fort F **4.86 189** *e* **Pn** **18 28 28.7 +3.6**
HUMP Col San Antoni **4.86 286** **Pn** **18 28 26.6 +1.4**
CBYP Canovanas **4.90 287** **Pn** **18 28 27.2 +1.5**
GCPR Guaynabo City **5.12 287** Pn **Pn** **18 28 29.3 +0.6**
SJG San Juan **5.13 285** Pn **Pn** **18 28 29.9 +1.1**
20nm,0.3s,baz=108,slow=16,SNR=34
SJG Sn **Sn** **18 29 30.0 +2.9**
7.3nm,0.3s,baz=113,slow=17,SNR=1.3
SJG LR LR 18 30 41.2
comp=Z,2μm,19.1s,baz=114,slow=40
101nm,0.6s
SJG San Juan **5.13 285** **Pn** **18 28 30.8 +1.9**
CELP Cerrillos **5.52 283** **Pn** **18 28 36.0 +1.8**
AOPR Arecibo Observ **5.75 286** **Pn** **18 28 39.5 +2.2**
AOPR Arecibo Observ **5.75 286** *e*P **Pn** **18 28 38.8 +1.5**
MLPR Magueyes Islan **5.94 281** **Pn** **18 28 41.4 +1.4**
CRPR Cabo Rojo, PR **6.01 282** **Pn** **18 28 41.8 +0.9**
AGPR Aguadilla, PR **6.10 286** **Pn** **18 28 44.5 +2.3**
TRN Trinidad (W) **6.21 184** *e*P **Pn** **18 28 45.1 +1.4**
PCRV Puerto La Cruz **7.57 209** Pn **Pn** **18 29 02.5 0.0**
1.0nm,0.3s,baz=15,slow=3.6,SNR=6.7
PCRV LR LR 18 32 20.5
comp=Z,429nm,18.6s,slow=41
19nm,0.8s
SDDR Presa de Saban **10.08 284** Pn **Pn** **18 29 36.1 -0.8**
BAUV El Baul **10.50 222** Pn **Pn** **18 29 42.7 +0.2**
BAUV El Baul **10.50 222** *e*P **Pn** **18 29 42.8 +0.2**
SDV Santo Domingo **12.35 231** Pn **Pn** **18 30 06.5 -1.5**
0.9nm,0.3s,baz=20,slow=9.6,SNR=2.4
SDV LR LR 18 35 00.5
comp=Z,236nm,20.8s,baz=46,slow=38
3.4nm,0.3s
SDV Santo Domingo **12.35 231** *e*P **Pn** **18 30 12.2 +4.2**
MDP Montagnes des **14.24 144** Pn Pn 18 30 26.7 -7.1
0.8nm,0.3s,baz=341,slow=15,SNR=11
MDP Sn Sn 18 32 53.0 -18
1.7nm,0.3s,baz=275,slow=14,SNR=8.2
MDP LR LR 18 36 59.7
comp=Z,185nm,20.1s,baz=344,slow=41
BOAV Boa Vista **14.39 178** Pn **Pn** **18 30 32.8 -3.1**
BOAV Boa Vista **14.39 178** *e*P **Pn** **18 30 36.2 +0.3**
MTDJ Mount Denham **15.89 277** Pn **Pn** **18 30 56.4 +0.7**
MTDJ IAmb IAmb 18 31 23.8
comp=Z,130nm,1.5s
ROSC El Rosal **17.76 229** P **Pn** **18 31 17.2 -2.3**
comp=Z,2.1nm,0.3s,baz=180,slow=18,SNR=2.2
ROSC LR LR 18 39 53.4
comp=Z,416nm,19.2s,baz=44,slow=43
comp=Z,5.8nm,0.3s
SGCB S£o Gabriel d **17.93 200** *e*P **P** **18 31 22.5 +0.9**
MACA Manacapuru-AM **19.91 179** *e*P **Pn** **18 31 46.2 +1.1**
ITTB Itaituba **21.72 166** *e*P **P** **18 32 06.0 +3.1**
DWPF Disney Wildern **21.96 304** P **P** **18 32 05.8 +0.4**
baz=116
TBTG Tabatinga, AM **22.73 204** *e*P **P** **18 32 18.6 +4.9**
TMAB Tom-Au,PA,Br **22.94 145** *e*P **P** **18 32 18.4 +2.6**
NPGB Novo Progresso **24.40 167** *e*P **P** **18 32 34.2 +4.4**
TIGA Tifton **25.18 309** P **P** **18 32 37.3 +0.4**
baz=120
PRPB Parauapebas **25.40 153** *e*P **P** **18 32 43.7 +4.7**
JSRW J. Sargeant Re **25.55 328** P **P** **18 32 37.8 -2.3**
ROSB Rosrio **25.71 138** *e*P **P** **18 32 46.7 +4.9**
KMSC Kings Mountain **25.74 319** P **P** **18 32 42.7 +0.8**
baz=130
GOGA Godfrey **26.13 313** P **P** **18 32 46.1 +0.8**
baz=124
BOSC San Juan Bosco **26.40 223** P **P** **18 32 45.6 -2.6**
CZSB Cruzeiro do Su **27.08 206** *e*P **P** **18 33 00.5 +6.4**
TKL Tuckaleechee C **27.63 317** LR LR 18 43 32.8
comp=Z,241nm,21.0s,baz=128,slow=35
CLDB Colider **28.03 169** *e*P **P** **18 33 07.4 +4.8**
BINY Binghamton **28.34 336** P **P** **18 33 06.6 +1.4**
baz=148
LRAL Lakeview Retre **28.48 309** P **P** **18 33 07.3 +0.8**
baz=118
PDRB Porto dos Gac **28.61 171** *e*P P 18 33 12.8 +5.0
LBNH Lisbon **28.82 343** P **P** **18 33 10.3 +0.9**
baz=158
O53A New Philadelph **29.18 327** P **P** **18 33 13.6 +0.9**
baz=137
P52A Corning **29.23 325** P **P** **18 33 14.1 +1.0**
baz=135
ATAH Atahualpa **29.45 217** P **P** **18 33 15.3 -0.4**
comp=Z,7.4nm,0.8s,baz=45,slow=10.0,SNR=5.0
ATAH LR LR 18 47 26.8
comp=Z,177nm,18.2s,baz=19,slow=41
comp=Z,7.4nm,0.8s
VILB Vilhena **29.65 179** *e*P P 18 33 22.7 +5.7
ACSO Alum Creek Sta **30.12 325** P **P** **18 33 21.7 +0.7**
baz=134
PLAL Pickwick Lake **30.20 312** P **P** **18 33 22.2 +0.4**
PLAL IAmb IAmb 18 33 23.2
comp=Z,8.9nm,0.7s
WVT Waverly **30.61 314** P **P** **18 33 26.0 +0.5**
WVT Waverly **30.61 314** P **P** **18 33 25.9 +0.5**
baz=122
P49A Miami Univ. Ec **30.63 322** P **P** **18 33 26.2 +0.7**
baz=131
WCI Wyandotte Cave **30.78 319** P **P** **18 33 27.5 +0.7**
baz=127
OXF Oxford **30.94 310** P **P** **18 33 29.2 +0.9**
baz=118
O48B Farmland **31.36 323** P **P** **18 33 32.3 +0.3**
baz=131
SADO Sadowa **31.75 335** LR LR 18 44 42.3
comp=Z,144nm,20.1s,baz=188,slow=33
AAM Ann Arbor **31.94 327** P **P** **18 33 38.4 +1.4**
baz=136
PTLB Pontes e Lacer **32.17 177** *e*P **P** **18 33 43.4 +4.2**
CMIG Matias Romero **32.45 275** LR LR 18 46 22.6
comp=Z,140nm,21.9s,baz=76,slow=35
CGM3 Cape Girardeau **32.48 314** P **P** **18 33 39.0 -2.8**
CGM3 IAmb IAmb 18 33 43.1
comp=Z,6.5nm,0.9s
SFIN Lafayette **32.58 321** P **P** **18 33 43.9 +1.3**
baz=128
SIV San Ignacio **32.66 180** P **P** **18 33 43.8 +0.3**
comp=Z,4.3nm,0.6s,baz=356,slow=8.5,SNR=18
SIV LR LR 18 47 29.6
comp=Z,164nm,21.1s,baz=316,slow=37
comp=Z,4.3nm,0.6s
NNA Nana **32.71 210** LR LR 18 48 22.3
comp=Z,105nm,18.9s,baz=20,slow=39
RCBR Riachuelo **33.48 130** LR LR 18 44 45.9
comp=Z,128nm,21.7s,baz=116,slow=31
LPAZ La Paz **33.71 193** P **P** **18 33 52.0 -1.3**
comp=Z,0.5nm,0.6s,baz=0.0,slow=11,SNR=1.8
LPAZ LR LR 18 48 29.6
comp=Z,192nm,20.8s,baz=358,slow=38
comp=Z,0.5nm,0.6s
LPAZ La Paz **33.71 193** P P 18 33 48.6 -4.8
CCM Cathedral Cave **33.94 314** P **P** **18 33 52.4 -2.2**
CCM Cathedral Cave **33.94 314** P **P** **18 33 55.2 +0.6**
baz=120
CCM Cathedral Cave **33.94 314** P **P** **18 33 54.5 -0.1**
CCM x **pP** **18 34 00.2 -3.1**
NATX Nacogdoches **33.96 302** P **P** **18 33 52.4 -2.4**
NATX Nacogdoches **33.96 302** P **P** **18 33 55.4 +0.6**
baz=108
HDIL Hopedale **34.03 320** P **P** **18 33 56.8 +1.5**
baz=126
MIAR Mount Ida **34.07 307** P **P** **18 33 56.3 +0.5**
baz=113
L44A Lake County Fo **34.19 323** P **P** **18 33 57.7 +1.0**
baz=130
MGMO Mountain Grove **34.22 312** P **P** **18 33 55.8 -1.3**
MGMO IAmb IAmb 18 33 58.2
comp=Z,11nm,1.1s
GLMI Grayling **34.24 329** P **P** **18 33 55.6 -1.5**
GLMI Grayling **34.24 329** P **P** **18 33 58.6 +1.5**
baz=137,SNR=5.1
HHAR Hobbs **35.04 310** P **P** **18 34 04.3 +0.1**
HHAR IAmb IAmb 18 34 05.5
comp=Z,6.4nm,0.6s
P40A Paris **35.23 316** P **P** **18 34 05.7 0.0**
P40A IAmb IAmb 18 34 06.7
comp=Z,8.7nm,0.7s
435B Jarrell **36.10 299** P **P** **18 34 13.3 0.0**
baz=104
TUL1 Leonard **36.27 308** P **P** **18 34 15.3 +0.6**
baz=112
WHTX Lake Whitney, **36.30 301** P **P** **18 34 14.9 -0.1**
WHTX IAmb IAmb 18 34 16.2
comp=Z,13nm,0.7s
WHTX Lake Whitney, **36.30 301** P **P** **18 34 15.4 +0.4**
baz=106
DEOK Depew **36.78 308** P **P** **18 34 17.9 -1.1**
DEOK IAmb IAmb 18 34 20.4
comp=Z,21nm,0.8s
OK031 S. Brethren Rd **37.08 308** P **P** **18 34 19.2 -2.3**
833A Chaparral WMA, **37.15 295** P **P** **18 34 21.9 -0.3**
baz=100
JCT Junction City **37.90 298** P **P** **18 34 25.8 -2.9**
JCT IAmb IAmb 18 34 29.2
comp=Z,22nm,1.1s
JCT Junction City **37.90 298** P **P** **18 34 28.3 -0.3**
baz=102
KSU1 Kansas State U **38.15 313** P **P** **18 34 30.9 +0.3**
baz=115
SCHQ Schefferville **38.16 354** P **P** **18 34 31.1 +0.8**
comp=Z,7.3nm,0.5s,baz=170,slow=11,SNR=18
SCHQ LR LR 18 49 32.0
comp=Z,154nm,18.1s,baz=176,slow=35
comp=Z,7.3nm,0.5s
WMOK Wichita Mounta **38.16 305** P **P** **18 34 29.9 -0.9**
WMOK Wichita Mounta **38.16 305** P **P** **18 34 30.9 +0.1**
baz=108,SNR=7.0
ABTX Abilene, Hawle **38.26 302** P **P** **18 34 31.2 -0.4**
ABTX Abilene, Hawle **38.26 302** P **P** **18 34 31.7 +0.1**
baz=105,SNR=12
SPMN Marine on St. **38.85 323** P **P** **18 34 37.2 +0.8**
baz=126
ELIS Ellis County **39.08 307** P **P** **18 34 37.7 -0.7**
ELIS IAmb IAmb 18 34 40.3
comp=Z,32nm,1.2s
PB07 IPOC Station P **39.35 193** P **P** **18 34 38.4 -2.6**
R32A Long Quarter, **39.38 311** P **P** **18 34 37.5 -3.5**
R32A IAmb IAmb 18 34 42.2
comp=Z,20nm,0.8s
EYMN Ely **39.84 328** P **P** **18 34 45.6 +1.0**
baz=131
LVC Limon Verde **40.01 192** P **P** **18 34 44.2 -2.4**
BGNE Belgrade **40.22 315** P **P** **18 34 46.0 -1.8**
BGNE Belgrade **40.22 315** P **P** **18 34 48.4 +0.5**
baz=116
CBKS Cedar Bluff **40.27 311** P **P** **18 34 48.5 +0.1**
baz=112
ECSD EROS Data Cent **40.32 319** P **P** **18 34 46.9 -1.7**
ECSD EROS Data Cent **40.32 319** P **P** **18 34 48.7 +0.1**
baz=120
AMTX Amarillo **40.49 304** P **P** **18 34 49.2 -1.1**
AMTX IAmb IAmb 18 34 51.4
comp=Z,7.8nm,0.7s
AMTX Amarillo **40.49 304** P **P** **18 34 50.6 +0.4**
baz=106
TXAR Lajitas Array **41.01 295** P **P** **18 34 54.3 -0.3**
comp=Z,0.7nm,0.5s,baz=113,slow=7.1,SNR=17
TXAR PcP **PcP** **18 36 55.8 +1.4**
comp=Z,0.7nm,0.6s,baz=111,slow=4.9,SNR=4.9
TXAR LR LR 18 58 03.4
comp=Z,46nm,18.5s,baz=68,slow=45
comp=Z,0.7nm,0.5s
TX31 Lajitas Ar. Si **41.01 295** P **P** **18 34 53.9 -0.7**
TX32 Lajitas Array **41.01 295** P **P** **18 34 54.2 -0.4**
MSTX Muleshoe **41.13 303** P **P** **18 34 54.9 -0.7**
MSTX IAmb IAmb 18 34 56.5
comp=Z,13nm,0.8s
MSTX Muleshoe **41.13 303** P **P** **18 34 55.5 0.0**
baz=104,SNR=9.4
B35A Bob, Littlefor **41.26 327** P **P** **18 34 55.7 -0.6**

B35A IAmb IAmb 18 34 57.7
comp=Z,11nm,0.8s
HTMS Hat Mesa 41.51 300 P P 18 34 57.4 -1.3
CLN7 Carlsbad 7 41.64 300 P P 18 34 58.1 -1.6
AGMN Agassiz Nation 42.36 325 P P 18 35 05.0 -0.3
AGMN IAmb IAmb 18 35 06.3
comp=Z,12nm,0.8s
AGMN Agassiz Nation 42.36 325 P P 18 35 05.8 +0.5
baz=126
KSCO Kaye Shedlock' 42.45 310 P P 18 35 06.7 +0.3
baz=109
HPIG 42.51 292 P P 18 35 05.4 -1.6
GO02 Mina Guanaco 42.63 192 P P 18 35 06.7 -1.3
OGNE Ogallala 42.70 313 P P 18 35 08.9 +0.5
baz=112
BBTS Babate 42.72 87 LR LR 18 49 12.2
comp=Z,163nm,18.4s,baz=278,slow=31
CPUP Villa Florida 43.09 175 P P 18 35 10.1 -1.3
comp=Z,1.9nm,0.7s,baz=335,slow=8.1,SNR=3.4
CPUP LR LR 18 54 13.4
comp=Z,48nm,20.9s,baz=29,slow=38
comp=Z,1.9nm,0.7s
T25A Trinidad 43.23 307 P P 18 35 12.9 +0.1
baz=106
ULM Lac du Bonnet 43.53 328 P P 18 35 14.6 -0.1
comp=Z,11nm,0.6s,baz=129,slow=8.0,SNR=15
comp=Z,11nm,0.6s
ULM Lac du Bonnet 43.53 328 P P 18 35 13.1 -1.6
ULM IAmb IAmb 18 35 15.4
comp=Z,11nm,0.7s
SDCO Great Sand Dun 44.23 307 P P 18 35 20.4 -0.6
SDCO Great Sand Dun 44.23 307 P P 18 35 21.6 +0.6
baz=106,SNR=7.3
BNM Barren Site 44.29 302 P P 18 35 21.2 -0.3
Q24A Divide 44.31 309 P P 18 35 22.1 +0.6
baz=107
ANMO Albuquerque 44.31 303 LR LR 18 57 04.1
comp=Z,88nm,18.9s,baz=108,slow=40
ANMO Albuquerque 44.31 303 P P 18 35 22.2 +0.7
baz=102
ANMO Albuquerque 44.31 303 P P 18 35 21.5 0.0
ANMO pP **pwP 18 35 36.3 +1.9**
SBM South Baldy 44.71 301 P P 18 35 22.4 -2.5
121A Cookes Peak, D 44.97 299 P P 18 35 28.2 +1.4
121A IAmb IAmb 18 35 29.1
comp=Z,11nm,0.8s
121A Cookes Peak, D 44.97 299 P P 18 35 27.9 +1.1
baz=99,SNR=7.4
S22A 4UR Ranch, Cre 45.25 307 P P 18 35 29.3 +0.3
baz=105
RSSD Black Hills 45.28 316 P P 18 35 30.0 +0.9
baz=113
N23A Red Feather La 45.47 311 P P 18 35 32.6 +1.8
baz=108
SMCO Snowmass 45.73 309 P P 18 35 32.9 -0.1
SLBS Sierra La Lagu 46.30 287 P P 18 35 38.0 +0.8
SLBS IAmb IAmb 18 35 56.1
comp=Z,15nm,1.3s
K22A Casper 46.45 313 P P 18 35 38.9 +0.6
baz=109
LPIG La Paz 46.62 287 LR LR 18 57 29.6
comp=Z,46nm,18.4s,baz=70,slow=39
PV13 Radium Mtn., P 46.87 307 P P 18 35 40.5 -1.3
PV13 IAmb IAmb 18 35 43.7
comp=Z,18nm,1.3s
W18A Petrified Fore 46.99 302 P P 18 35 43.3 +0.6
baz=100,SNR=5.5
X18A Snowflake 47.06 302 P P 18 35 43.7 +0.4
X18A IAmb IAmb 18 35 45.4
comp=Z,9.1nm,0.9s
FRB Frobisher Bay 47.12 355 LR LR 18 53 45.9
comp=Z,84nm,21.8s,baz=186,slow=34
DGMT Dagmar 47.21 322 P P 18 35 44.6 +0.6
baz=117
TUC Tucson 47.45 299 P P 18 35 47.1 +0.9
baz=97
TUC Tucson 47.45 299 P P 18 35 46.8 +0.6
TUC pP **sP 18 35 58.3 +0.6**
P18A Preston Nutter 48.30 308 P P 18 35 52.8 -0.1
P18A IAmb IAmb 18 35 54.3
comp=Z,5.0nm,0.8s
WUAZ Wupatki 48.37 303 P P 18 35 54.2 +0.8
WUAZ IAmb IAmb 18 35 55.6
comp=Z,11nm,0.8s
WUAZ Wupatki 48.37 303 P P 18 35 54.3 +0.9
baz=99,SNR=9.8
BW06 Boulder Array 48.61 313 P P 18 35 55.6 +0.4
BW06 IAmb IAmb 18 35 56.3
comp=Z,6.9nm,0.8s
BW06 Boulder Array 48.61 313 P P 18 35 55.9 +0.7
baz=107,SNR=5.9
PD31 Pinedale Array 48.61 313 P P 18 35 55.1 -0.1
PD31 IAmb IAmb 18 35 56.2
comp=Z,6.2nm,0.8s
PDAR Pinedale Array 48.61 313 P P 18 35 55.7 +0.5
comp=Z,5.4nm,0.7s,baz=117,slow=9.4,SNR=32
PDAR LR LR 18 56 05.6
comp=Z,100nm,21.6s,baz=117,slow=36
comp=Z,5.4nm,0.7s
PDAR Pinedale Array 48.61 313 P P 18 35 54.8 -0.4
214A Organ Pipe Nat 49.13 298 P P 18 35 59.4 +0.3
baz=95
RLMT Red Lodge 49.13 316 P P 18 35 60.0 +0.9
baz=109
FFC Flin Flon 49.17 330 P P 18 35 58.6 -0.4
FFC pP **pwP 18 36 13.2 -0.7**
JLU Jordanelle 49.42 309 P P 18 36 02.1 +0.7
JLU IAmb IAmb 18 36 03.6
comp=Z,11nm,0.7s
Y14A Wickenburg 49.49 300 P P 18 36 02.3 +0.5
TCUT Toone Canyon 49.51 310 P P 18 36 00.9 -1.2
REDW Red Top Meadow 49.69 313 P P 18 36 03.5 +0.1
MOOW Moose Ponds 49.72 313 P P 18 36 03.2 -0.5
HWUT Hardware Ranch 49.74 311 P P 18 36 02.0 -1.8
HWUT IAmb IAmb 18 36 05.4
comp=Z,20nm,1.5s
SPUT South Promonto 50.32 310 P P 18 36 08.4 +0.3
SPUT IAmb IAmb 18 36 09.3
comp=Z,6.9nm,0.8s
YHL Hebgen Lake 50.34 315 P P 18 36 08.7 +0.2
DUG Dugway, Tooele 50.35 308 P P 18 36 09.1 +0.8
baz=102,SNR=5.6
PDMCI Parker Dam,Lak 50.47 301 P P 18 36 09.6 +0.4
baz=96
SFJD Kangerlussuaq 50.54 5 P P 18 36 10.1 +0.9
comp=Z,4.3nm,0.6s,baz=208,slow=17,SNR=1.8
SFJD LR LR 18 59 33.0
comp=Z,43nm,18.2s,baz=204,slow=38
comp=Z,4.3nm,0.6s
BGU Big Grassy Mou 50.66 309 P P 18 36 11.7 +0.9
BGU IAmb IAmb 18 36 12.6
comp=Z,11nm,0.8s
BOZ Bozeman (W) 50.86 316 P P 18 36 13.1 +0.9
baz=107
IRM Iron Mountain 51.28 300 P P 18 36 16.3 +0.9
baz=96,SNR=6.0
BC3 Big Chuckawall 51.49 300 P P 18 36 16.7 -0.3
baz=95
SWSC Sam W. Stewart 51.73 299 P P 18 36 19.1 +0.5
baz=94
GMRC Granite Mounta 51.77 301 P P 18 36 19.7 +0.6
baz=96
IKP In-Ko-Pah, Jac 51.97 298 P P 18 36 20.8 +0.2
baz=94
BELC Belle Mtn. Jos 51.97 300 P P 18 36 20.9 +0.2
baz=95
TUQ Turquoise Moun 52.05 302 P P 18 36 21.7 +0.5
baz=96
H10N3 ASCENSION HYDR 52.06 114 T T 19 32 46.1
baz=298,slow=74,SNR=46
H10N2 ASCENSION HYDR 52.07 114 T T 19 32 47.6
baz=298,slow=74,SNR=44
H10N1 ASCENSION HYDR 52.08 114 T T 19 32 59.9
baz=298,SNR=71
R11A Troy Canyon, C 52.14 306 P P 18 36 22.5 +0.6
baz=98
MONP2 Monument Peak 52.25 299 P P 18 36 23.1 +0.3
baz=94
HLID Hailey 52.25 312 P P 18 36 22.7 +0.1
HLID Hailey 52.25 312 P P 18 36 22.7 +0.1
baz=103
ELK Elko 52.27 309 LR LR 19 01 17.8
comp=Z,120nm,18.7s,baz=112,slow=39
TPFO Pinon Flats 52.32 300 P P 18 36 22.8 -0.5
baz=94
HEC Hector,Ludlow 52.32 301 P P 18 36 24.2 +1.0
baz=95
PFO Pinyon Flats O 52.33 300 LR LR 19 04 10.2
comp=Z,88nm,18.1s,baz=138,slow=42
H10S3 ASCENSION HYDR 52.46 116 T T 19 33 33.3
baz=296,slow=74,SNR=13
H10S2 ASCENSION HYDR 52.47 116 T T 19 33 34.9
baz=284,slow=74,SNR=4.5
TPNV Topopah Spring 52.48 304 P P 18 36 22.6 -1.8
TPNV Topopah Spring 52.48 304 P P 18 36 25.5 +1.2
baz=97,SNR=6.2
ILULI Ilulissat 52.68 4 P P 18 36 24.9 -0.2
GSC Goldstone, Bar 52.75 302 P P 18 36 26.9 +0.5
baz=95
MDT Midelt 52.94 61 LR LR 18 53 28.6
comp=Z,48nm,21.4s,baz=274,slow=30
MURC Murrieta 52.94 300 P P 18 36 28.5 +0.8
baz=94
BFSC Mount Baldy Ra 53.37 300 P P 18 36 31.2 +0.2
baz=94
MPMC Manual Prospec 53.37 303 P P 18 36 31.6 +0.5
baz=96
LRMC Laurel Mtn Rad 53.48 302 P P 18 36 32.5 +0.7
baz=95
EDW2 Edwards Air Fo 53.69 301 P P 18 36 33.5 +0.3
baz=94
CWC Cottonwood Cre 53.88 303 P P 18 36 35.0 +0.2
baz=95
ESDC Sonseca Array 54.10 53 P P 18 36 36.2 0.0
comp=Z,1.3nm,1.0s,baz=264,slow=8.4,SNR=3.9
ESDC LR LR 18 55 03.5
comp=Z,52nm,20.2s,baz=264,slow=31
comp=Z,1.3nm,1.0s
NV11 Mina Array Sit 54.15 305 P P 18 36 35.4 -1.3
NV11 IAmb IAmb 18 36 38.7
comp=Z,9.6nm,1.1s
NVAR Mina Array Bea 54.27 305 P P 18 36 38.0 +0.4
comp=Z,3.0nm,0.8s,baz=96,slow=7.3,SNR=24
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 54.27 305 P P 18 36 37.4 -0.2
BORG Borgarnes 54.76 20 LR LR 18 54 19.1
comp=Z,38nm,21.9s,baz=189,slow=30
SNCC San Nicolas Is 54.87 299 P P 18 36 41.4 -0.4
baz=92
PKM Mcpherson Peak 55.18 301 P P 18 36 43.4 -0.8
baz=93
NEW Newport 55.21 317 P P 18 36 44.1 +0.1
baz=104
I07A Izee 55.96 312 P P 18 36 49.9 +0.3
I07A IAmb IAmb 18 37 11.1
comp=Z,6.0nm,1.0s
K05A Summer Lake 56.76 310 P P 18 36 55.0 -0.4
K05A IAmb IAmb 18 36 57.5
comp=Z,8.8nm,0.8s
SUMG Summit 57.20 8 *i* P P 18 36 58.0 -0.3
YBH Yreka Blue Hor 57.98 309 LR LR 19 03 37.4
comp=Z,88nm,20.0s,baz=88,slow=38
PLCA Paso Flores 58.01 189 P P 18 37 03.4 -0.5
comp=Z,1.2nm,0.6s,baz=18,slow=8.5,SNR=5.3
comp=Z,1.2nm,0.6s
PLCA Paso Flores 58.01 189 P P 18 37 03.7 -0.2
PLCA IAmb IAmb 18 37 28.9
comp=Z,15nm,1.4s
HUMO Hull Mountain 58.26 310 P P 18 37 03.3 -2.4
HUMO IAmb IAmb 18 37 06.7
comp=Z,20nm,1.5s
KMRM Mail Ridge 58.61 307 P P 18 37 08.2 -0.1
YKA Yellowknife Ar 58.74 334 P P 18 37 08.6 -0.2
comp=Z,5.5nm,0.6s,baz=108,slow=7.2,SNR=29
YKA LR LR 19 02 19.6
comp=Z,62nm,20.5s,baz=246,slow=36
comp=Z,5.5nm,0.6s
YKA Yellowknife Ar 58.74 334 P P 18 37 08.0 -0.7
CLF Chambon-Foret 59.75 44 P P 18 37 16.3 +0.4
CLF pP **pwP 18 37 31.4 +0.3**
TOA0 Torodi Ar. Sit 60.39 84 P P 18 37 19.0 -1.9
TORD Torodi Ar. Bea 60.39 84 P P 18 37 19.7 -1.2
comp=Z,1.1nm,0.6s,baz=286,slow=5.7,SNR=8.1
TORD LR LR 19 00 18.0
comp=Z,133nm,20.4s,baz=204,slow=33
comp=Z,1.1nm,0.6s
RES Resolute Bay 60.72 350 LR LR 19 02 33.2
comp=Z,97nm,20.4s,baz=194,slow=35
RES Resolute Bay 60.72 350 P P 18 37 21.5 -0.6
RES IAmb IAmb 18 37 35.6
comp=Z,6.0nm,1.1s
SSB Saint Sauveur 60.99 47 P P 18 37 23.1 -1.4
SSB IAmb IAmb 18 38 00.6
comp=Z,6.0nm,1.0s
KOTAN Kotaneelee Air 62.20 330 P P 18 37 33.4 +1.1
baz=105
BBB Bella Bella 62.88 320 LR LR 19 05 37.3
comp=Z,123nm,20.6s,baz=108,slow=37
LIRD Liard River Hi 63.03 329 P P 18 37 39.2 +1.2
baz=103
KEST Kesra 64.49 58 P P 18 37 48.9 +0.7
comp=Z,4.4nm,0.7s,baz=262,slow=8.2,SNR=7.5
comp=Z,4.4nm,0.7s
KEST Kesra 64.49 58 P P 18 37 46.3 -1.8
KEST IAmb IAmb 18 38 05.8
comp=Z,12nm,1.1s
TGTN Hyland Airport 64.53 331 P P 18 37 49.5 +1.6
baz=102,SNR=11
DAVOX Davos/Dischmat 64.79 46 LR LR 19 01 17.5
comp=Z,53nm,19.6s,baz=269,slow=32
DLBC Dease Lake 64.85 327 LR LR 19 08 40.7
comp=Z,107nm,18.7s,baz=104,slow=38
DLBC Dease Lake 64.85 327 P P 18 37 49.7 -0.3
DLBC IAmb IAmb 18 37 52.5
comp=Z,7.5nm,1.1s
DLBC Dease Lake 64.85 327 P P 18 37 51.4 +1.4
baz=99
FUORN Ofenpass-Fuorn 65.05 46 P P 18 37 49.8 -2.0
FUORN IAmb IAmb 18 37 53.7
comp=Z,4.3nm,0.8s
SKAR Skarslia 65.28 30 *eP* P 18 37 53.8 +1.1
FETA Feichten 65.38 46 *eP* P 18 37 54.7 +0.9
comp=Z,3.8nm,0.6s
R33M Jennings River 65.47 328 P P 18 37 55.8 +1.7
baz=98
MOTA Moosalm 65.64 45 *eP* P 18 37 55.9 +0.4
comp=Z,1.8nm,0.5s
SQTA Sankt Quirin 65.71 45 *eP* P 18 37 56.6 +0.7
comp=Z,1.9nm,0.3s
CTI Castel Tesino 66.00 47 P P 18 37 56.9 -0.8
CTI IAmb IAmb 18 37 59.0
comp=Z,6.4nm,1.0s
Q32M Nakina River 66.08 328 P P 18 37 59.4 +1.2
baz=97
MMPY Sheldon Lake, 66.12 332 P P 18 37 58.5 +0.4
baz=100
A36M Sachs Harbour 66.22 342 P P 18 37 58.8 +0.3
baz=109
P33M Teslin, Yukon 66.51 329 P P 18 38 01.3 +0.6
baz=97
NAO01 NORSAR Array S 66.55 30 P P 18 37 59.9 -0.9
CESX Cesi 66.72 50 P P 18 38 00.1 -2.2
NB2 NORSAR Subarra 66.74 30 P P 18 38 02.9 +0.8
baz=262,slow=6.5
NB2 NORSAR Subarra 66.74 30 P P 18 38 02.9 +0.8
comp=Z,1.9nm,0.7s,baz=262,slow=6.5
NOA NORSAR Array B 66.74 30 P P 18 38 02.9 +0.8
comp=Z,2.6nm,0.7s,baz=262,slow=6.3,SNR=13
NOA LR LR 19 01 55.8
comp=Z,56nm,21.5s,baz=265,slow=31
comp=Z,2.6nm,0.7s
NC303 NORSAR Array S 66.84 30 P P 18 38 02.2 -0.5
CLUD Cludinico 66.86 46 P P 18 38 02.0 -1.1
NC602 NORSAR Array S 66.86 31 *eP* P 18 38 03.8 +1.0
CLL Collm 66.99 41 *iP* P 18 38 04.5 +0.7
comp=Z,5.0nm,0.8s
CLL *ep*P **pP 18 38 13.0 +0.6**
FARO Faro, Yukon 67.02 331 P P 18 38 04.9 +0.9
FARO IAmb IAmb 18 38 06.1
comp=Z,8.0nm,0.9s
FARO Faro, Yukon 67.02 331 P P 18 38 04.8 +0.9
baz=98
GERES GERESS Array B 67.40 44 P P 18 38 06.6 -0.1
comp=Z,1.1nm,0.6s,baz=297,slow=4.3,SNR=10
comp=Z,1.1nm,0.6s
GERES GERESS Array B 67.40 44 P P 18 38 05.3 -1.3
M31M Drury Creek, Y 67.50 331 P P 18 38 08.1 +1.1
M31M Drury Creek, Y 67.50 331 P P 18 38 08.7 +1.7
baz=96,SNR=10.0
MOA Molln 67.79 45 *iP* P 18 38 09.3 +0.3
comp=Z,0.7nm,0.3s
HFS Hagfors 67.86 31 LR LR 19 01 35.0
comp=Z,47nm,21.7s,baz=106,slow=30
OBKA Obir 68.01 46 *eP* P 18 38 11.1 +0.7
comp=Z,5.2nm,0.7s
INK Inuvik 68.02 338 P P 18 38 09.0 -1.0
INK IAmb IAmb 18 38 11.0
comp=Z,7.8nm,0.8s
INK Inuvik 68.02 338 P P 18 38 09.9 0.0
baz=100,SNR=7.7
N31M Braeburn, Yuko 68.09 330 P P 18 38 11.4 +0.7
N31M Braeburn, Yuko 68.09 330 P P 18 38 11.5 +0.9
baz=95
O30N Mendenhall 68.18 329 P P 18 38 11.7 +0.5
baz=94
PLBC Pleasant Camp 68.22 328 P P 18 38 12.3 +0.9
baz=94
SOKA Soboth 68.34 46 *eP* P 18 38 12.5 0.0
comp=Z,1.4nm,0.5s
VAE Valguarnera 68.43 56 LR LR 19 04 39.6
comp=Z,69nm,18.4s,baz=334,slow=33
P30M Million Dollar 68.56 329 P P 18 38 14.7 +1.0
baz=93
M30M Minto, Yukon 68.66 331 P P 18 38 14.6 +0.5
M30M IAmb IAmb 18 38 16.3
comp=Z,8.8nm,0.8s
M30M Minto, Yukon 68.66 331 P P 18 38 15.1 +1.0
baz=94
N30M Aishikik Lake 68.71 330 P P 18 38 15.5 +0.9
baz=94
G30M tAoh Zraii Nji 68.85 336 P P 18 38 15.8 +0.5
baz=97
CONA Conrad Observa 68.86 45 *eP* P 18 38 17.5 +1.7
comp=Z,0.4nm,0.3s
HYT Haines Junctio 68.88 329 P P 18 38 16.5 +0.8
baz=93
EPYK Eagle Plains 68.98 335 P P 18 38 16.0 -0.1
baz=96
K29M Barlow Dome 69.08 333 P P 18 38 17.6 +0.7
baz=94
YUK6 Outpost Mounta 69.30 329 P P 18 38 18.8 +0.4
baz=92
L29M L29M 69.31 332 P P 18 38 18.5 +0.3
baz=94
O29M Mount Kennedy 69.38 329 P P 18 38 19.2 +0.4
baz=92
M29M Somme Creek 69.42 331 P P 18 38 19.4 +0.4
baz=93
YUK4 Talbot Arm 69.45 330 P P 18 38 19.2 -0.1
baz=92
I29M Ogilvie Camp, 69.53 334 P P 18 38 19.9 +0.3
baz=94
MODS Modra-Piesok 69.79 44 *eP* P 18 38 22.1 +0.7
MORC Moravsky Berou 69.89 43 ⇑P P 18 38 22.0 -0.1
DAWY Dawson 69.92 333 P P 18 38 21.4 -0.6
DAWY IAmb IAmb 18 38 23.5
comp=Z,4.0nm,0.7s
DAWY Dawson 69.92 333 P P 18 38 22.8 +0.8
baz=93
O28M Mount Upton 70.19 329 P P 18 38 25.3 +1.3
baz=91
YUK3 Moose Creek 70.33 330 P P 18 38 25.2 +0.5
baz=91
EGAK Eagle 70.71 333 P P 18 38 26.1 -0.6
EGAK IAmb IAmb 18 38 28.3
comp=Z,5.7nm,0.7s
EGAK Eagle 70.71 333 P P 18 38 27.1 +0.4
baz=91
TRO Tromso 70.77 21 *eP* P 18 38 28.3 +1.3
TRO IAmb IAmb 18 38 30.1
comp=Z,21nm,1.2s
VYHS Vyhne 70.82 44 *eP* P 18 38 28.1 +0.4
MORH Mrgy, Hungar 70.86 46 ⇑P P 18 38 28.6 +0.7
H27K Steamboat Moun 70.91 335 P P 18 38 28.0 +0.1
baz=92
BARN Barnard Glacie 70.91 329 P P 18 38 28.5 +0.2
BARN IAmb IAmb 18 38 50.9
comp=Z,14nm,1.4s
I27K Kandik River 70.93 334 P P 18 38 28.5 +0.4
baz=91
BCAR Beaver Creek A 70.97 332 P P 18 38 29.6 +1.2
G27K Doyon Strip 70.97 336 P P 18 38 28.3 0.0
baz=92
L27K Beaver Creek, 70.98 332 P P 18 38 28.9 +0.4
L27K Beaver Creek, 70.98 332 P P 18 38 29.9 +1.4
baz=90
E27K Coleen River 71.00 337 P P 18 38 28.2 -0.2
baz=92
M27K Edge Creek, AK 71.01 331 P P 18 38 29.8 +1.1
M27K IAmb IAmb 18 38 31.1
comp=Z,8.0nm,0.9s
M27K Edge Creek, AK 71.01 331 P P 18 38 30.0 +1.2
baz=90
K27K Chicken 71.10 333 P P 18 38 30.3 +1.1
K27K IAmb IAmb 18 38 31.6
comp=Z,11nm,0.9s
K27K Chicken 71.10 333 P P 18 38 30.2 +1.1
baz=90
M26K Nabesna, AK 71.53 331 P P 18 38 33.2 +1.4
baz=89
MCARA McCarthy VSAT 71.56 330 P P 18 38 33.6 +1.6
MCARA McCarthy VSAT 71.56 330 P P 18 38 34.0 +2.1
baz=89
I26K Coal Creek Min 71.57 334 P P 18 38 30.8 -1.1
I26K Coal Creek Min 71.57 334 P P 18 38 32.4 +0.6
baz=90
L26K Log Cabin Wild 71.68 332 P P 18 38 33.8 +1.1
L26K Log Cabin Wild 71.68 332 P P 18 38 33.9 +1.3
baz=89,SNR=8.4
J26L Joseph Creek 71.75 333 P P 18 38 33.9 +0.7
baz=89
C27K Jago River 71.80 339 P P 18 38 33.8 +0.6
baz=91
G26K Porcupine Rive 71.82 336 P P 18 38 33.6 +0.2
baz=90
MENT Mentasta 71.85 331 P P 18 38 34.7 +1.0
SCRK Sand Creek 71.94 333 P P 18 38 34.6 +0.3
baz=89
F26K Sheenjek River 71.95 337 P P 18 38 35.0 +0.7
baz=90
KTK1 Kautokeino 72.29 22 *eP* P 18 38 37.1 +1.0
KTK1 IAmb IAmb 18 38 38.2
comp=Z,7.7nm,0.8s
N25K Chitina, Valde 72.31 330 P P 18 38 37.4 +0.8
baz=87
RIDG Independent Ri 72.33 332 P P 18 38 37.1 +0.5
baz=88
BMRM Bremner River 72.34 329 P P 18 38 37.2 +0.5
baz=87
E25K Arctic Village 72.48 337 P P 18 38 37.3 -0.1
baz=88
J25K Salcha River, 72.53 333 P P 18 38 38.0 +0.3
baz=88
F25K Christian Rive 72.53 336 P P 18 38 38.5 +0.8
baz=88
HARP HAARP 72.53 331 P P 18 38 38.9 +1.1
baz=87
PRP Porcupine Dome 72.55 334 P P 18 38 38.4 +0.5
baz=88
H25K Birch Creek 72.64 335 P P 18 38 38.9 +0.6
baz=88
PAX Paxson 72.65 332 P P 18 38 39.1 +0.6
baz=87
G25K Bearman Lake 72.73 336 P P 18 38 39.4 +0.6
baz=88
D25K Kavik River 72.74 338 P P 18 38 39.8 +0.8
baz=88
K24K Donnelly Dome 72.74 332 P P 18 38 39.7 +0.7
baz=87
KLU Klutina 72.95 330 P P 18 38 40.9 +0.6
baz=86
BZS Buzias 72.98 47 ⇑P P 18 38 41.8 +1.1
M24K Tolsona, Glenn 73.03 331 P P 18 38 41.4 +0.6
baz=86
ARCES ARCESS Array B 73.08 22 P P 18 38 41.4 +0.5
comp=Z,3.4nm,0.7s,baz=270,slow=3.6,SNR=9.8
comp=Z,3.4nm,0.7s
IL31 73.17 333 P P 18 38 40.8 -0.6
IL31 IAmb IAmb 18 38 42.2
comp=Z,5.0nm,0.7s
ILAR Eielson Array 73.17 333 P P 18 38 41.6 +0.2
comp=Z,5.0nm,0.9s,baz=101,slow=4.7,SNR=60
ILAR LR LR 19 13 16.8
comp=Z,50nm,19.4s,baz=78,slow=38
comp=Z,5.0nm,0.9s
ILAR Eielson Array 73.17 333 P P 18 38 41.2 -0.3
HDA Harding Lake 73.22 333 P P 18 38 42.0 +0.2
baz=86
G24K Hadweenzic Riv 73.28 336 P P 18 38 42.7 +0.6
baz=86
TRPA Tarpa 73.31 44 ⇑P P 18 38 44.5 +1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POKR	Poker Plat Res	73.38	334	P	P	18 38 43.2	+0.5
	baz=86						
F24K	Squaw Lake	73.39	336	P	P	18 38 43.5	+0.7
	baz=86						
H24K	Noodor Dome	73.51	335	P	P	18 38 43.8	+0.3
H24K				IAmb	IAmb	18 38 45.2	
	comp=Z,8.4nm,0.8s						
H24K	Noodor Dome	73.51	335	P	P	18 38 44.3	+0.8
	baz=86						
DHY	Denali Highway	73.51	332	P	P	18 38 44.9	+1.2
	baz=85						
C24K	Franklin Bluff	73.54	339	P	P	18 38 44.6	+1.0
	baz=86						
COLA	College	73.57	334	P	P	18 38 44.8	+1.0
	baz=85						
E24K	Your Creek	73.58	337	P	P	18 38 44.9	+1.0
	baz=86						
DRGR		73.59	45	⇑P	P	18 38 45.5	+1.1
SCM	Sheep Creek Mo	73.59	330	P	P	18 38 44.1	0.0
	baz=85						
WAT6	Susitna Watana	73.72	331	P	P	18 38 45.1	+0.1
	baz=85						
MDM	Murphy Dome	73.72	334	P	P	18 38 44.5	-0.3
M23K	Glacier View	73.78	330	P	P	18 38 46.1	+1.0
	baz=85						
GZR	Gura Zlata	73.82	47	⇑P	P	18 38 46.6	+0.8
FINES	FINESS Array B	73.92	30	P	P	18 38 46.5	+0.6
	comp=Z,7.4nm,0.7s,baz=240,slow=5.6,SNR=32						
FINES				LR	LR	19 07 59.3	
	comp=Z,62nm,19.9s,baz=248,slow=33						
	comp=Z,7.4nm,0.7s						
TOLK	Toolik Lake Re	73.93	338	P	P	18 38 46.5	+0.6
	baz=85						
BLKB	Belogradchik	73.99	49	⇑P	P	18 38 46.3	-0.5
E23K	Chandalar	74.00	337	P	P	18 38 47.1	+0.6
	baz=85						
WAT1	Susitna Watana	74.07	332	P	P	18 38 47.2	+0.4
	baz=84						
NEA2	Nenana	74.12	333	P	P	18 38 46.7	-0.3
NEA2	Nenana	74.12	333	P	P	18 38 47.4	+0.4
	baz=84,SNR=12						
MCK	McKinley	74.15	332	P	P	18 38 47.6	+0.3
	baz=84						
KNK	Knik Glacier	74.17	330	P	P	18 38 47.9	+0.5
	baz=84						
I23K	Minto, Yukon-K	74.18	334	P	P	18 38 48.0	+0.6
	baz=84						
C23K	Itkillik River	74.19	339	P	P	18 38 48.1	+0.8
	baz=84						
H23K	Yukon River	74.19	335	P	P	18 38 48.3	+0.8
	baz=84						
G23K	Bananza Creek	74.29	336	P	P	18 38 48.6	+0.5
	baz=84						
D23K	Nanushuk River	74.30	338	P	P	18 38 48.7	+0.6
	baz=84						
COLD	Coldfoot	74.31	336	P	P	18 38 48.8	+0.7
	baz=84						
MLY	Manley	74.78	334	P	P	18 38 51.5	+0.6
	baz=83,SNR=6.0						
TRF	Thorofare Moun	74.78	332	P	P	18 38 51.5	+0.4
TRF	Thorofare Moun	74.78	332	P	P	18 38 52.0	+0.9
	baz=83,SNR=9.2						
E22K	Anaktuvuk Pass	74.81	337	P	P	18 38 52.0	+0.9
	baz=83						
CUT	Chulitna	74.90	331	P	P	18 38 52.2	+0.5
	baz=83						
BPAW	Bear Paw Mtn.	75.00	333	P	P	18 38 52.6	+0.3
BPAW				IAmb	IAmb	18 38 53.3	
	comp=Z,12nm,0.9s						
BPAW	Bear Paw Mtn.	75.00	333	P	P	18 38 52.7	+0.5
	baz=82,SNR=8.9						
F22K	John River	75.03	337	P	P	18 38 52.3	0.0
	baz=82						
ARR	Arges	75.12	47	⇑P	P	18 38 54.2	+0.9
BURAR	Bucovina Array	75.17	44	⇑P	P	18 38 54.5	+0.9
BURAR	Bucovina Array	75.17	44	P	P	18 38 54.7	+1.1
VOIR		75.39	47	⇑P	P	18 38 56.1	+1.2
H21K	Melozitna Rive	75.55	335	P	P	18 38 55.4	+0.1
	baz=81						
SKT	Skwentna	75.55	331	P	P	18 38 55.6	+0.2
	baz=81						
CAST	Castle Rocks	75.58	332	P	P	18 38 56.0	+0.4
	baz=81						
G21K	Allakaket	75.70	336	P	P	18 38 56.6	+0.4
	baz=81						
PPLA	Purkeypile	75.71	332	P	P	18 38 56.6	+0.1
	baz=81						
MNK	Minsk	75.76	37	*i* P	P	18 38 53.2	-3.5
	comp=E,1.0nm,0.6s						
MNK				*i* P	P	18 38 53.2	-3.5
	comp=N,20nm,0.8s						
MNK				*i* P	P	18 38 53.2	-3.5
	comp=Z,9.0nm,0.5s,baz=99						
MNK				*i* PcP	pP	18 39 06.5	+1.1
MNK				*i* PP	PP	18 41 43.2	-3.3
MNK				*i* PPP	PPP	18 43 29.7	
MNK				*i* S	S	18 48 33.7	-2.5
MNK				*i* SS	SS	18 53 27.1	-0.9
MNK				*i* SSS	SSS	18 56 50.3	
MNK				*i* LQ	LQ	19 06 24.3	
MNK				*i* LR	LR	19 12 09.7	
MNK				*i* LRM	MLR	19 14 30.2	
	comp=E,4.0nm,11.6s						
MNK				*i* LRM	MLR	19 14 37.3	
	comp=Z,48nm,12.9s						
MNK				*i* LRM	MLR	19 14 59.9	
	comp=N,631nm,13.5s						
IMAR	Indian Mountai	75.88	335	P	P	18 38 57.6	+0.4
N20K	Mount Spurr	75.99	330	P	P	18 38 58.4	+0.4
	baz=81						
MLR	Muntele Rosu	76.01	46	⇑P	P	18 39 00.0	+1.6
COVR	Voineasa-Covas	76.12	46	⇑P	P	18 39 00.4	+1.3
NEHR	Nehoiu	76.26	46	⇑P	P	18 39 01.0	+1.2
M20K	Styx River	76.31	331	P	P	18 38 60.0	+0.1
	baz=80						
J20K	Nowinta River	76.36	333	P	P	18 39 00.4	+0.4
	baz=80						
K20K	Telida	76.48	332	P	P	18 39 00.9	+0.2
	baz=80						
VRI	Vrincioaia	76.48	46	⇑P	P	18 38 56.6	-4.4
L20K	Farewell, AK	76.55	332	P	P	18 39 01.2	+0.1
	baz=79						
KDAK	Kodiak Island	76.77	327	LR	LR	19 13 15.3	
	comp=N,86nm,20.8s,baz=142,slow=36						
M19K	Big River Lodg	76.89	331	P	P	18 39 03.4	+0.3
	baz=79						
L19K	White Mountain	77.05	331	P	P	18 39 04.3	+0.3
	baz=78						
Q19K	Cape Douglas,	77.11	328	P	P	18 39 04.1	-0.2
	baz=79						
IDI	Anoyia	77.11	57	⇑P	P	18 39 06.4	+1.5
N19K	Bonanza Creek	77.15	330	P	P	18 39 04.4	-0.2
	baz=78						
SORM	Soroca	77.16	43	⇑P	P	18 39 03.8	-0.9
O19K	Port Alsworth	77.20	329	P	P	18 39 04.8	+0.1
	baz=78						
AKASG	Malin Array Be	77.23	41	P	P	18 39 05.1	0.0
	comp=N,1.0nm,0.6s,baz=287,slow=4.3,SNR=5.0						
AKASG				LR	LR	19 09 59.6	
	comp=N,70nm,20.1s,baz=272,slow=33						
	comp=N,1.0nm,0.6s						
AK05	Malin Array Si	77.23	41	P	P	18 39 03.5	-1.7
AK05				IAmb	IAmb	18 39 38.4	
	comp=Z,12nm,1.4s						
O18K	Koktuh Hills	77.70	329	P	P	18 39 07.9	+0.3
	baz=78						
N18K	Kilae Creek	77.86	330	P	P	18 39 08.4	-0.1
	baz=77						
Q18K	Katmai Hardscr	77.86	328	P	P	18 39 08.8	+0.1
	baz=78						
O17K	Koliganek Bris	78.65	329	P	P	18 39 12.8	0.0
	baz=76						
O16K	Kokwok River B	79.19	329	P	P	18 39 15.6	-0.2
	baz=75						
KLMR	Klimovskoe	80.41	29	*e*P	P	18 39 21.0	-1.3
KLMR				AMP		18 39 23.2	
	comp=Z,15nm,1.4s						
PMSA	Palmer Station	81.43	181	LR	LR	19 18 13.4	
	comp=Z,66nm,18.0s,baz=267,slow=38						
TSUM	Tsumeb	85.07	112	LR	LR	19 09 22.1	
	comp=Z,87nm,21.9s,baz=330,slow=30						
KIRV	Kirov	85.91	29	LR	LR	19 15 47.1	
	comp=Z,42nm,19.1s,baz=288,slow=34						
KBZ	Khabaz	88.12	45	P	P	18 40 01.9	+0.1
	comp=Z,2.7nm,0.9s,baz=231,slow=3.7,SNR=7.4						
	comp=Z,2.7nm,0.9s						
NRIK	Noril'sk	91.14	11	LR	LR	19 21 21.8	
	comp=Z,86nm,20.6s,baz=346,slow=36						
MBAR	Mbarara	91.77	90	LR	LR	19 21 38.5	
	comp=Z,64nm,19.1s,baz=36,slow=36						
SUR	Sutherland	92.14	123	LR	LR	19 15 28.9	
	comp=Z,46nm,19.1s,baz=245,slow=31						
PPT	Papeete	93.73	253	LR	LR	19 18 54.2	
	comp=Z,45nm,18.3s,baz=230,slow=33						
BOSA	Boshof	94.67	118	LR	LR	19 15 25.3	
	comp=Z,31nm,19.6s,baz=22,slow=30						
KMBO	Kilima Mbogo	98.15	89	LR	LR	19 24 19.0	
	comp=Z,84nm,19.0s,baz=93,slow=35						
BVAR	Borovoye Array	98.74	27	LR	LR	19 21 57.8	
	comp=Z,70nm,21.0s,baz=264,slow=33						
MA2	Magadan	99.57	344	LR	LR	19 26 32.9	
	comp=Z,50nm,20.7s,baz=100,slow=36						
WMQ	Urumqi	113.12	24	*e*P	PKiKP	18 45 48.0	-0.6
GTA	Gaotai	121.19	17	*e*PKPbc	PKPdf	18 46 01.6	-2.8
HHC	Hu-ho-hao-te	122.15	7	*e*P	PKPdf	18 46 05.4	-0.7
PZH	PanZhiHua	133.71	22	PKP	PKPdf	18 46 27.3	-1.3
CMAR	Chiang Mai Arr	139.69	30	PKP	PKPdf	18 46 39.7	0.0
	comp=Z,0.3nm,0.7s,baz=299,slow=1.9,SNR=2.5						
ASAR	Alice Springs	164.54	242	PKP	PKPdf	18 47 13.9	-1.6
	comp=Z,0.4nm,0.7s,baz=114,slow=0.9,SNR=6.8						
ASAR				PKPab	PKPab	18 48 09.4	-1.1
	comp=Z,0.2nm,0.3s,baz=116,slow=4.1,SNR=4.6						
WRA	Warramunga Arr	165.19	256	PKP	PKPdf	18 47 14.9	-1.1
	comp=Z,1.1nm,0.8s,baz=75,slow=0.6,SNR=9.3						

*IDC **06** 18:43:55.2±1.7, 52.°24S×167.°06E, h0km, mb3.7/2, mbtmp4.0/4, ML4.2/2, MS3.3/1, Error ellipse: s-maj=46.2km s-min=38.5km az=145.0*

*WEL **06** 18:44:08.9±1.1, 51°S±6°×16°8E±1°1, h12km, M4.8/2, ML4.9/12, MLv4.8/2, Error ellipse: s-maj=0.0km s-min=0.0km az=94.4*

ISC 06 18:44:01.2±1.2**, 51.°94S**±0.°10×**167.°2E**±0.°1**, h35km, n32,** σ**2.s34**/42**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APZ	The Paps	5.14	6	P	Pn	18 45 17.3	+1.5
APZ				S	Sn	18 46 13.3	-0.5
SYZ	Scrubby Hill	5.56	14	P	Pn	18 45 22.4	+1.0
SYZ				S	Sn	18 46 21.3	-2.7
PYZ	Puysegur Point	5.79	356	S	Sn	18 46 28.4	-1.3
WHZ	Wether Hill Ro	6.08	5	P	Pn	18 45 29.9	+1.4
WHZ				S	Sn	18 46 36.6	-0.1
TUZ	Tuapeka	6.21	16	P	Pn	18 45 32.0	+1.7
TUZ				S	Sn	18 46 38.1	-1.8
HHSZ	Highcliff Hill	6.46	22	P	Pn	18 45 36.4	+2.6
HHSZ				S	Sn	18 46 44.5	-1.9
DCZ	Deep Cove	6.48	360	P	Pn	18 45 36.8	+2.7
DCZ				S	Sn	18 46 45.4	-1.3
MLZ	Mavora Lakes	6.61	6	P	Pn	18 45 39.3	+3.4
MLZ				S	Sn	18 46 51.7	+1.8
EAZ	Earnscleugh	6.86	13	P	Pn	18 45 41.2	+1.9
EAZ				S	Sn	18 46 54.9	-1.2
WKZ	Wanaka	7.22	10	P	Pn	18 45 48.0	+3.7
WKZ				S	Sn	18 47 05.0	-0.1
ODZ	Otahua Downs	7.27	20	P	Pn	18 45 48.0	+3.0
ODZ				S	Sn	18 47 03.4	-2.8
MSZ	Milford Sound	7.29	4	P	Pn	18 45 49.2	+4.1
LBZ	Lake Benmore	7.82	16	P	Pn	18 45 54.2	+1.7
LBZ				S	Sn	18 47 17.9	-1.8
JCZ	Jackson Bay	7.95	8	P	Pn	18 45 55.1	+0.8
JCZ				S	Sn	18 47 16.3	-6.6
TMZ	Timaru	7.98	20	P	Pn	18 45 57.8	+3.2
TMZ				S	Sn	18 47 21.6	-2.0
ARCZ	Arundel	8.43	20	P	Pn	18 46 03.7	+2.8
ARCZ				S	Sn	18 47 33.7	-1.1
RPZ	Rata Peaks	8.63	19	Pn	Pn	18 46 06.2	+2.6
	4.1nm,0.3s,baz=187,slow=4.9,SNR=21						
RPZ				Sn	Sn	18 47 39.7	+0.1
	1.4nm,0.3s,baz=6.8,slow=20,SNR=1.7						
	9.1nm,0.3s						
RPZ	Rata Peaks	8.63	19	P	Pn	18 46 06.5	+2.9
RACZ	Rakaia	8.87	24	P	Pn	18 46 09.6	+2.8
URZ	Urewera	15.35	31	Pn	Pn	18 47 37.3	+2.3
	0.5nm,0.3s,baz=295,slow=11,SNR=1.5						
	6.9nm,0.9s						
VNDA	Vanda	25.76	183	LR	LR	18 57 42.6	
	comp=Z,69nm,19.1s,baz=323,slow=32						
ASAR	Alice Springs	38.01	305	P	P	18 51 16.1	+0.2
	0.9nm,0.7s,baz=145,slow=8.3,SNR=17						
ASAR				PcP	PcP	18 53 30.4	-0.5
	0.2nm,0.5s,baz=134,slow=4.0,SNR=1.6						
	0.9nm,0.7s						
WRA	Warramunga Arr	40.93	309	P	P	18 51 39.6	-0.6
	1.0nm,0.9s,baz=145,slow=7.5,SNR=5.3						
WRA				PcP	PcP	18 53 39.5	-0.6
	0.2nm,0.6s,baz=150,slow=3.0,SNR=5.2						
	1.0nm,0.9s						
H01W1	Cape Leeuwin H	41.13	273	T	T	19 34 29.3	
	baz=132,SNR=59						
H01W2	Cape Leeuwin H	41.14	273	T	T	19 34 29.3	
	baz=132,slow=74,SNR=70						
H01W3	Cape Leeuwin H	41.15	273	T	T	19 34 29.3	
	baz=132,slow=74,SNR=66						
H08S2	Diego Garcia H	86.93	262	T	T	20 31 35.1	
	baz=142,slow=76,SNR=6.0						
H08S1	Diego Carcia H	86.94	262	T	T	20 31 31.8	
	baz=142,slow=76,SNR=4.1						
H08S3	Diego Garcia H	86.95	262	T	T	20 31 36.6	
	baz=142,slow=76,SNR=6.0						
ILAR	Eielson Array	121.67	21	PKP	PKPdf	19 02 49.1	-0.7
	0.5nm,0.9s,baz=252,slow=1.4,SNR=4.6						
TORD	Torodi Ar. Bea	139.58	202	PKP	PKPdf	19 03 24.3	-0.8
	0.5nm,0.8s,baz=172,slow=2.3,SNR=2.6						
BRTR	Keskin Array B	145.99	268	PKPbc	PKPbc	19 03 36.1	-0.6
	2.1nm,0.9s,baz=130,slow=3.2,SNR=9.9						

*IDC **06** 19:02:56.3±3.0, 36.°28N×70.°97E, h178km±26km, mb3.5/12, mbtmp3.9/17, Error ellipse: s-maj=20.7km s-min=15.0km az=21.0*

*MOS **06** 19:02:56.0±0.8, 36.°37N×70.°90E, h183km, mb4.0/8, Error ellipse: s-maj=16.2km s-min=7.2km az=94.9*

*SOME **06** 19:03:05.2, 38.°38N×71.°85E, h0km*

*NNC **06** 19:03:11.0±11.0, 37.°59N×71.°37E, h264km±125km, mb2.9, mpv3.9, Error ellipse: s-maj=125.7km s-min=69.0km az=177.0*

ISC 06 19:02:54.9±0.7**, 36.°30N**±0.°07×**70.°87E**±0.°06**, h150km, n62,** σ**2.s44**/83**, mb3.9**/17**, 9C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	5.16	50	P	Pn	19 04 09.6	-0.8
KSH				sP		19 04 39.4	
KSH				S	Sn	19 04 59.8	-10
KSH				pmax	pmax		
	comp=Z,14nm,0.4s						
KSH				smax	smax		
	comp=N,73nm,0.5s						
KSH				smax	smax		
	comp=E,55nm,0.8s						
IUG	Iuzhnay	5.88	354	*e*P	Pn	19 04 22.6	+2.6
	comp=E,755nm,0.4s						
IUG				*e*S	Sn	19 05 23.6	-2.9
	comp=E,524nm,0.8s						
CHM	Chimkent	6.09	351	*e*P	Pn	19 04 25.6	+2.9
	comp=E,1.9nm,0.9s						
CHM				*e*S	Sn	19 05 29.0	-2.5
	comp=E,982nm,0.4s						
AML	Almayashu	6.22	20	P	Pn	19 04 26.4	+1.6
	SNR=72						
UCH	Uchtor	6.56	24	P	Pn	19 04 30.8	+1.4
	SNR=20						
DZA	Taraz	6.59	3	*e*P	Pn	19 04 31.5	+2.1
	comp=E,93nm,0.2s						
DZA				*e*S	Sn	19 05 39.5	-4.0
	comp=E,360nm,0.5s						
MRKS	Merke	6.69	15	*e*P	Pn	19 04 32.0	+1.3
	comp=E,27nm,0.3s						
MRKS				*e*S	Sn	19 05 40.4	-5.6
	comp=E,79nm,0.6s						
EKS2	Erkin-Say	6.74	19	P	Pn	19 04 33.2	+1.7
	SNR=20						
KK31	Karatay Array	6.80	358	⇓P	Pn	19 04 33.6	+1.3
	comp=E,4.6nm,0.3s,baz=180,slow=13,SNR=203						
KK31				⇓S	Sn	19 05 43.2	-5.4
	comp=E,53nm,0.6s,baz=187,slow=24,SNR=6.5						
KK31	Karatay Array	6.80	358	PN	Pn	19 04 33.5	+1.3
AAK	Ala-Archa	6.92	23	P	Pn	19 04 35.6	+1.7
	SNR=6.2						
AAK	Ala-Archa	6.92	23	P	Pn	19 04 35.3	+1.4
	comp=E,4.3nm,0.3s,baz=166,slow=1.8,SNR=13						
AAK				S	Sn	19 05 49.2	-2.4
	comp=E,7.0nm,0.5s,baz=331,slow=20,SNR=13						
KBK	Karagaybulak	7.09	25	P	Pn	19 04 38.5	+2.3
	SNR=7.3						
CHMS	Chumysh	7.33	23	P	Pn	19 04 40.5	+1.3
	SNR=5.6						
USP	Ospenovka	7.50	21	P	Pn	19 04 42.8	+1.3
	SNR=6.5						
TKM2	Tokmak 2	7.55	27	P	Pn	19 04 43.1	+0.8
	SNR=11						
TKM2	Tokmak 2	7.55	27	⇓P	Pn	19 04 43.2	+0.8
	comp=E,8.8nm,0.7s						
TKM2				⇑S	Sn	19 05 54.8	-12
	comp=E,7.8nm,0.8s						
TKM2	Tokmak 2	7.55	27	PN	Pn	19 04 43.2	+0.8
SGDS	Sogindy	7.71	21	*e*P	Pn	19 04 47.4	+3.1
	comp=E,2.5nm,0.2s						
SGDS				*e*S	Sn	19 06 07.9	-2.4
	comp=E,6.1nm,0.4s						
DGS	Degeres	7.89	27	*e*P	Pn	19 04 54.3	+7.5
	comp=E,1.5nm,0.2s						
DGS				*e*S	Sn	19 06 19.9	+5.0
	comp=E,3.0nm,0.3s						
GEYT	Alibeck	10.31	283	P	Pn	19 05 21.5	+2.5
	comp=E,0.6nm,0.4s,baz=97,slow=12,SNR=2.2						
GEYT				S	Sn	19 07 12.8	-0.3
	comp=E,1.6nm,0.5s,baz=56,slow=47,SNR=1.9						
DANN	Dangsing	13.47	122	*e*P	P	19 06 03.4	-1.0
	comp=E,28nm,0.4s						
MKAR	Makanchi Array	13.52	36	P	Pn	19 06 00.2	-0.3
	comp=E,0.9nm,0.7s,baz=231,slow=9.1,SNR=8.4						
MKAR	Makanchi Array	13.52	36	*i* P	Pn	19 06 03.4	+2.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GKN	Gorkha	14.29	121	*e*P	P	19 06 12.8	-0.5
	comp=Z,40nm,0.7s						
KKN	Kakani	14.86	121	*e*P	P	19 06 20.2	+0.4
	comp=Z,4.5nm,0.5s						
PKIN	Phulchoki	15.08	121	*e*P	P	19 06 23.0	+0.8
	comp=Z,25nm,0.5s						
PKI	Pulchoki	15.09	121	*e*P	P	19 06 22.9	+0.5
GUN	Gumba	15.21	119	*e*P	P	19 06 25.2	+1.4
	comp=Z,10nm,0.4s						
AB31	Akbulak array	15.21	332	⇓P	Pn	19 06 20.7	-1.0
	comp=Z,3.6nm,0.7s,baz=144,slow=11,SNR=33						
AB31	Akbulak array	15.21	332	*e*P	Pn	19 06 20.7	-1.0
KURBB	Kurchatov Arra	15.35	19	P	Pn	19 06 22.7	-0.7
	comp=Z,0.8nm,0.6s,baz=208,slow=10,SNR=4.2						
KURK	Kurchatov	15.46	19	*i* P	Pn	19 06 25.7	+1.0
JIRN	Jiri	15.58	119	*e*P	P	19 06 29.6	+1.7
	comp=Z,37nm,0.4s						
RAMN	Ramite	16.30	120	*e*P	P	19 06 37.5	+1.8
BVAR	Borovoye Array	16.73	359	P	P	19 06 39.2	-0.7
	comp=Z,2.0nm,0.5s,baz=157,slow=9.0,SNR=18						
BRVK	Borovoye	16.76	359	*ce*P	P	19 06 40.3	0.0
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	Aktyubinsk	16.90	331	⇑P	P	19 06 41.9	0.0
	comp=Z,3.9nm,0.5s						
AKTO	Aktyubinsk	16.90	331	P	P	19 06 41.9	0.0
DGZ	Jazzator, Alta	18.00	37	*i* P	P	19 06 54.8	+0.7
DGZ				pmax	pmax		
	comp=Z,6.0nm,2.0s						
ZALV	Zalesovo Beam	20.14	24	P	P	19 07 15.8	-1.3
	comp=Z,2.7nm,0.5s,baz=221,slow=10,SNR=14						
	comp=Z,2.7nm,0.5s						
ARU	Arti	21.79	341	P	P	19 07 33.4	-1.2
	comp=Z,2.0nm,0.5s,baz=142,slow=7.7,SNR=4.5						
	comp=Z,2.0nm,0.5s						
ARU	Arti	21.79	341	*c i*P	P	19 07 34.1	-0.5
ARU				*PP	pP	19 08 05.7	+3.9
ARU				S	S	19 11 23.4	-1.9
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ	Khabaz	22.60	298	*i* P	P	19 07 40.9	-1.8
KBZ				pmax	pmax		
	comp=Z,6.0nm,2.5s						
KIV	Kislovodsk	22.79	298	*e*P	P	19 07 44.0	-0.6
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BELG	Belogornoye	22.98	322	P	P	19 07 46.5	+0.4
	comp=Z,4.7nm,0.4s,baz=261,slow=3.2,SNR=4.4						
	comp=Z,4.7nm,0.4s						
OBN	Obninsk	30.02	320	⇑*e*P	P	19 08 53.7	+4.5
OBN				*e**PP	pP	19 09 27.4	+5.9
OBN				*e*		19 09 51.2	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	Malin Array Be	32.99	309	P	P	19 09 15.6	+0.3
	comp=Z,0.5nm,0.5s,baz=82,slow=7.3,SNR=5.6						
	comp=Z,0.5nm,0.5s						
AKASG	Malin Array Be	32.99	309	*ce*P	P	19 09 15.8	+0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NRIK	Noril'sk	34.34	10	*ce*P	P	19 09 26.3	-0.5
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MNK	Minsk	34.57	316	*i* P	P	19 09 27.7	-1.2
	comp=E,2.0nm,0.8s						
MNK				*i* P	P	19 09 27.7	-1.2
	comp=N,21nm,0.8s						
MNK				*i* P	P	19 09 27.7	-1.2
	comp=Z,5.0nm,0.8s,baz=284						
MNK				*i* pP	pP	19 10 07.3	+5.7
MNK				*i* PP	PnPn	19 10 50.1	+0.3
MNK				*i* S	S	19 14 43.1	-3.6
MNK				*i* sS	sS	19 15 53.8	+8.6
MNK				*i* SS	SnSn	19 17 19.3	+3.1
MNK				*i* LRM	MLR	19 25 41.1	
	comp=Z,42nm,16.1s						
MNK				*i* LRM	MLR	19 25 51.5	
	comp=E,73nm,23.9s						
MNK				*i* LRM	MLR	19 25 52.1	
	comp=N,374nm,18.1s						
MNK	Minsk	34.57	316	*i* P	P	19 09 27.7	-1.2
MNK				*i* *PP	pP	19 10 07.2	+5.7
MNK				*i*		19 10 50.0	
MNK				*i*		19 11 57.7	
MNK				*i* S	S	19 14 43.0	-3.6
MNK				*i* *SS	sS	19 15 53.7	+8.6
MNK				*i*		19 19 28.1	
MNK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,21nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,42nm,16.0s						
MNK				MLR	MLR		
	comp=E,73nm,24.0s						
MNK				MLR	MLR		
	comp=N,374nm,18.0s						
FINES	FINESS Array B	37.59	326	P	P	19 09 54.3	-0.2
	comp=N,5.0nm,1.0s,baz=121,slow=8.6,SNR=16						
	comp=N,5.0nm,1.0s						
ARCES	ARCESS Array B	41.29	338	P	P	19 10 24.7	-0.4
	comp=N,2.0nm,0.5s,baz=114,slow=7.9,SNR=17						
	comp=N,2.0nm,0.5s						
NOA	NORSAR Array B	44.48	323	P	P	19 10 50.0	-0.8
	comp=N,1.9nm,0.7s,baz=98,slow=7.7,SNR=7.8						
	comp=N,1.9nm,0.7s						
BILL	Bilibino	58.83	26	⇑*e*P	P	19 12 36.8	-0.3
BILL				*e**PP	PcP	19 13 23.7	-1.2
BILL				*e*		19 14 45.5	
BILL				*e*S	S	19 20 37.7	+7.3
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TORD	Torodi Ar. Bea	65.61	269	P	P	19 13 20.7	-2.3
	comp=Z,0.7nm,0.6s,baz=51,slow=6.5,SNR=11						
	comp=Z,0.7nm,0.6s						
INK	Inuvik	74.12	9	P	P	19 14 11.6	-2.5
	comp=Z,0.9nm,0.6s,baz=327,slow=4.5,SNR=8.0						
	comp=Z,0.9nm,0.6s						
YKA	Yellowknife Ar	81.45	3	P	P	19 14 53.4	-1.3
	comp=Z,0.3nm,0.4s,baz=351,slow=5.5,SNR=1.7						
	comp=Z,0.3nm,0.4s						
WRA	Warramunga Arr	81.97	122	P	P	19 14 56.5	-1.7
	comp=Z,0.4nm,0.4s,baz=325,slow=4.9,SNR=13						
	comp=Z,0.4nm,0.4s						
WRA	Warramunga Arr	81.97	122	*ce*P	P	19 14 57.5	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	84.22	125	P	P	19 15 07.9	-1.8
	comp=Z,0.7nm,0.6s,baz=312,slow=5.3,SNR=12						

comp=Z,0.7nm,0.6s

*IDC **06** 19:24:11.6±1.9, 36°.68N×76°.50E, h0^{km}, mb3.5/3, mbtmp3.3/7, ML2.8/3, Error ellipse: s-maj=33.0km s-min=25.5km az=99.0*

ISC 06 19:24:22.9±1.7**, 36°.9N**±0°.1×**76°.9E**±0°.2**, h100^{km}, n7, σ2ˢ.42**/8**, mb3.1**/3**, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.07**	**343**	Pn	**Pn**	**19 25 48.8**	**-1.4**
	0.2nm,0.3s,baz=137,slow=18,SNR=4.1						
AAK				Sn	**Sn**	**19 26 59.7**	**+1.3**
	0.2nm,0.3s,baz=3.4,slow=19,SNR=2.1						
AAK				Lg	Lg	19 27 25.7	
	0.2nm,0.3s,baz=189,slow=13,SNR=1.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**10.72**	**20**	Pn	**Pn**	**19 26 50.6**	**-2.6**
	0.1nm,0.3s,baz=201,slow=12,SNR=2.0						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**13.82**	**4**	Pn	**Pn**	**19 27 31.5**	**-2.8**
	0.6nm,0.8s,baz=193,slow=13,SNR=4.7						
ZALV	**Zalesovo Beam**	**17.96**	**15**	P	**Pn**	**19 28 26.5**	**+0.7**
	0.1nm,0.3s,baz=200,slow=11,SNR=5.0						
	1.0nm,0.7s						
SONM	**Songino Array**	**24.27**	**54**	P	**P**	**19 29 33.7**	**+3.0**
	0.7nm,0.9s,baz=251,slow=12,SNR=3.5						
	0.7nm,0.9s						
FINES	**FINESS Array B**	**39.90**	**325**	P	**P**	**19 31 47.2**	**+0.6**
	2.3nm,0.8s,baz=111,slow=7.7,SNR=1.8						
	2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.46**	**272**	P	**P**	**19 35 25.7**	**-1.1**
	0.1nm,0.3s,baz=45,slow=4.9,SNR=1.3						
	0.1nm,0.3s						

*NEIC **06** 19:38:13.6±2.7, 54°.50N±0°.09×167°.3W±0°.1, h42^{km}±42^{km}, Error ellipse: s-maj=14.4km s-min=4.7km az=147.0*

AEIC 06 19:38:14.8±1.4**, 53°.4N**±0°.1×**166°.2W**±0°.1**, h72^{km}**±9^{km}**, ML3.4, ML3.7**/8(NEIC)**, Error ellipse: s-maj=19.6km s-min=6.0km az=144.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.49**	**339**		Pn	19 38 28.5	+0.9
UNV	**Unalaska Valle**	**0.49**	**339**		Sn	19 38 38.7	+1.7
AKUT	**Akutan**	**0.79**	**19**		Pn	19 38 31.4	+0.6
NIKH	**Nikolski High**	**1.65**	**256**		Pn	19 38 42.1	+0.3
FALS	**False Pass**	**2.20**	**47**		Pn	19 38 49.9	+0.8
SDPT	**Sand Point**	**3.88**	**57**	Pn	Pn	19 39 12.3	+0.4
SDPT				IAML		19 39 47.5	
	comp=E,109nm,2.0s						
CNBA	**Chernabura Isl**	**4.15**	**67**	Pn	Pn	19 39 15.7	+0.1
CNBA				IAML		19 40 46.1	
	comp=N,82nm,3.7s						
CNBA				IAML		19 41 24.6	
	comp=E,86nm,3.7s						
CHGN	**Chignik**	**5.36**	**54**	Pn	Pn	19 39 32.6	+0.5
CHGN				IAML		19 42 51.7	
	comp=N,45nm,1.1s						
OHAK	**Old Harbor**	**8.30**	**57**	Pn	Pn	19 40 06.9	-5.4
KDAK	**Kodiak Island**	**8.87**	**55**	Pn	Pn	19 40 18.1	-1.9

*AEIC **06** 19:40:49.7±2.5, 61°.75N±0°.03×148°.20W±0°.06, h12^{km}±3^{km}, ML4.2, mb4.5/5(NEIC), ML4.4/156(NEIC), Mwr4.1/109(NEIC), Error ellipse: s-maj=5.1km s-min=3.7km az=162.0*

*ANF **06** 19:40:50.7±0.2, 61°.74N×148°.25W, h0^{km}, ML4.6/105, ML4.6/104, Error ellipse: s-maj=2.3km s-min=1.8km az=155.0*

*NEIC **06** 19:40:50.6±2.4, 61°.73N±0°.02×148°.18W±0°.04, h5^{km}±2^{km}, Error ellipse: s-maj=3.0km s-min=2.9km az=320.0*

*NEIC **06** 19:40:50.4, 61°.73N×148°.20W, h4^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.50; $M_{\theta\theta}$0.21; $M_{\phi\phi}$1.29; $M_{r\theta}$0.13; $M_{\theta\phi}$-0.62; $M_{\phi r}$-0.11; Fault plane solution: $M_0$1.55000×10^{15} NP1:ϕ_s158.16000°, δ42.28000°, λ-85.90000°. NP2:ϕ_s332.62000°, δ47.85000°, λ-93.72000°. Principal axes: T 1.5826, Plg3.0000°, Azm65.0000°; N -0.0701, Plg3.0000°, Azm335.0000°; P -1.5126, Plg86.0000°, Azm200.0000°;*

*IDC **06** 19:40:54.2±2.0, 61°.77N×148°.13W, h33^{km}±16^{km}, mb3.9/30, mbtmp4.1/35, ML3.6/5, MS3.5/27 Error ellipse: s-maj=11.0km s-min=10.0km az=84.0*

ISC 06 19:40:50.1±0.8**, 61°.73N**±0°.01×**148°.20W**±0°.01**, h7^{km}**±4^{km}**, n358, σ1ˢ.69**/384**, mb4.3**/38**, MS3.6**/23**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SML	**Sawmill**	**0.10**	**320**	Pg	**Pg**	**19 40 52.5**	**+0.1**
SML				IAML		19 40 55.2	
	comp=N,89µm,1.0s						
SML	**Sawmill**	**0.10**	**320**	P	**Pg**	**19 40 52.9**	**+0.5**
	baz=133,SNR=1000						
SML				S	**Sg**	**19 40 54.8**	**+0.8**
	baz=133						
M23K	**Glacier View**	**0.23**	**75**	P	**Pb**	**19 40 55.3**	**+0.6**
	baz=258,SNR=1000						
M23K				S	**Sg**	**19 40 58.7**	**+0.8**
	baz=258						
KNK	**Knik Glacier**	**0.34**	**201**	Pg	**Pg**	**19 40 56.8**	**-0.1**
KNK				IAML		19 41 03.5	
	comp=E,28µm,0.7s						
KNK	**Knik Glacier**	**0.34**	**201**	P	**Pg**	**19 40 57.0**	**+0.2**
	baz=21,SNR=1000						
KNK				S	**Sg**	**19 41 01.8**	**+0.4**
	baz=21						
GHO	**Glory Hole Cre**	**0.35**	**277**	Pg	**Pb**	**19 40 57.2**	**-1.5**
GHO				Sg	**Sg**	**19 41 01.9**	**+0.4**
GHO				IAML		19 41 03.5	
	comp=E,36µm,0.8s						
GHO				IAML		19 41 06.2	
	comp=N,32µm,0.6s						
SCM	**Sheep Creek Mo**	**0.43**	**76**	Pg	**Pg**	**19 40 58.5**	**+0.1**
SCM	**Sheep Creek Mo**	**0.43**	**76**		**Sb**	**19 41 04.9**	**-1.9**
SCM	**Sheep Creek Mo**	**0.43**	**76**	IAML		19 41 06.0	
	comp=E,34µm,0.8s						
SCM				IAML		19 41 06.3	
	comp=N,31µm,0.7s						
SCM	**Sheep Creek Mo**	**0.43**	**76**	P	**Pb**	**19 40 58.7**	**-1.3**
	baz=258,SNR=1000						
SCM				S	**Sb**	**19 41 04.7**	**-2.0**
	baz=258						
PMR	**Palmer**	**0.47**	**253**	Pg	**Pg**	**19 40 58.7**	**-0.5**
PMR				Sg	**Sg**	**19 41 05.1**	**-0.2**
PMR	**Palmer**	**0.47**	**253**	P	**Pg**	**19 40 58.9**	**-0.2**
	baz=71,SNR=1000						
PMR				S	**Sg**	**19 41 05.0**	**-0.2**
	baz=71						
WAT6	**Susitna Watana**	**0.88**	**14**		**Pg**	**19 41 06.2**	**-0.8**
WAT6	**Susitna Watana**	**0.88**	**14**	P	**Pg**	**19 41 06.3**	**-0.8**
	baz=194,SNR=1000						
WAT6				S	**Sg**	**19 41 17.5**	**-0.9**
	baz=194						
PWL	**Port Wells**	**0.88**	**184**	Pg	**Pg**	**19 41 06.8**	**-0.2**
PWL				Sg	**Sg**	**19 41 18.4**	**0.0**
PWL				IAML		19 41 20.4	
	comp=E,10µm,0.8s						
PWL				IAML		19 41 22.2	
	comp=N,8µm,0.7s						
PWL	**Port Wells**	**0.88**	**184**	P	**Pg**	**19 41 06.9**	**-0.1**
	baz=4.5,SNR=286						
PWL				S	**Sg**	**19 41 18.7**	**+0.3**
	baz=4.5						
M22K	**Willow**	**0.91**	**272**	Pg	**Pg**	**19 41 06.8**	**-0.8**
M22K				IAML		19 41 23.0	
	comp=E,11µm,0.9s						
M22K				IAML		19 41 23.2	
	comp=N,12µm,0.9s						
M22K	**Willow**	**0.91**	**272**	P	**Pg**	**19 41 06.9**	**-0.8**
	baz=90,SNR=247						
M22K				S	**Sb**	**19 41 19.5**	**-1.1**
	baz=90						
RC01	**Rabbit Creek A**	**0.98**	**230**		**Pb**	**19 41 08.6**	**-0.9**
RC01	**Rabbit Creek A**	**0.98**	**230**		**Sb**	**19 41 22.1**	**-0.5**
RC01	**Rabbit Creek A**	**0.98**	**230**	P	**Pb**	**19 41 08.6**	**-0.9**
	baz=48,SNR=642						
RC01				S	**Sb**	**19 41 21.9**	**-0.7**
	baz=48						
M24K	**Tolsona, Glenn**	**1.03**	**68**		**Pg**	**19 41 09.4**	**-0.4**
M24K				IAML		19 41 24.9	
	comp=N,14µm,0.7s						
M24K	**Tolsona, Glenn**	**1.03**	**68**	P	**Pg**	**19 41 09.5**	**-0.4**
	baz=250,SNR=1000						
M24K				S	**Sn**	**19 41 23.9**	**-1.8**
	baz=250						
WAT1	**Susitna Watana**	**1.11**	**352**		**Pb**	**19 41 10.6**	**-1.2**
WAT1	**Susitna Watana**	**1.11**	**352**	P	**Pb**	**19 41 10.6**	**-1.2**
	baz=171						
WAT1				S	**Sg**	**19 41 25.0**	**-0.9**
	baz=171						
KLU	**Klutina**	**1.11**	**101**		**Pb**	**19 41 10.4**	**-1.4**
KLU				IAML		19 41 28.5	
	comp=E,8µm,0.6s						
KLU	**Klutina**	**1.11**	**101**		**Sb**	**19 41 24.8**	**-1.8**
KLU	**Klutina**	**1.11**	**101**	P	**Pb**	**19 41 10.5**	**-1.3**
	baz=284,SNR=977						
KLU				S	**Sb**	**19 41 24.6**	**-2.0**
	baz=284						
CUT	**Chulitna**	**1.18**	**306**		**Pb**	**19 41 11.8**	**-1.1**
CUT	**Chulitna**	**1.18**	**306**		**Sn**	**19 41 27.9**	**-1.6**
CUT	**Chulitna**	**1.18**	**306**	P	**Pb**	**19 41 11.9**	**-1.1**
	baz=123,SNR=457						
CUT				S	**Sn**	**19 41 27.8**	**-1.6**
	baz=123						
SUA	**Susitna One**	**1.25**	**259**		**Pn**	**19 41 11.2**	**-2.9**
SUA	**Susitna One**	**1.25**	**259**	P	**Pn**	**19 41 12.3**	**-1.8**
	baz=76,SNR=96						
SUA				S	**Sb**	**19 41 28.8**	**-1.5**
	baz=76						
DIV	**Divide**	**1.31**	**116**	Pn	**Pn**	**19 41 13.0**	**-2.0**
DHY	**Denali Highway**	**1.40**	**16**	Pn	**Pn**	**19 41 14.9**	**-1.3**
DHY	**Denali Highway**	**1.40**	**16**	P	**Pn**	**19 41 15.0**	**-1.3**
	baz=196,SNR=619						
DHY				S	**Sn**	**19 41 33.1**	**-2.0**
	baz=196						
O22K	**Cooper Landing**	**1.46**	**211**	Pn	**Pb**	**19 41 16.4**	**-1.1**
O22K	**Cooper Landing**	**1.46**	**211**	P	**Pb**	**19 41 16.4**	**-1.1**
	baz=30,SNR=168						
O22K				Sg	**Sg**	**19 41 38.1**	**+1.2**
	baz=30						
HIN	**Hinchinbrook I**	**1.57**	**148**	Pn	**Pg**	**19 41 19.7**	**-0.6**
HIN				IAML		19 41 49.9	
	comp=N,3µm,0.7s						
HARP	**HAARP**	**1.58**	**64**	P	**Pb**	**19 41 18.3**	**-1.4**
	baz=247,SNR=472						
HARP				Sb	**Sb**	**19 41 39.1**	**-0.8**
	baz=247						
SKT	**Skwentna**	**1.60**	**280**	Pn	**Pb**	**19 41 18.5**	**-1.5**
SKT				IAML		19 41 40.2	
	comp=N,4µm,0.6s						
SKT				IAML		19 41 47.2	
	comp=E,3µm,0.8s						
SKT	**Skwentna**	**1.60**	**280**	P	**Pb**	**19 41 18.4**	**-1.6**
	baz=97,SNR=588						
SKT				Sb	**Sb**	**19 41 39.6**	**-0.8**
	baz=97						
EYAK	**Cordova Ski Ar**	**1.68**	**134**	Pn	**Pg**	**19 41 21.4**	**-0.9**
EYAK	**Cordova Ski Ar**	**1.68**	**134**	P	**Pb**	**19 41 20.4**	**-0.9**
	baz=316,SNR=198						
EYAK				Sg	**Sg**	**19 41 45.7**	**+1.6**
	baz=316						
RND	**Reindeer**	**1.71**	**350**		**Pb**	**19 41 20.4**	**-1.4**
RND				IAML		19 41 44.2	
	comp=N,4µm,0.9s						
RND				IAML		19 41 46.4	
	comp=E,4µm,0.8s						
N25K	**Chitina, Valde**	**1.72**	**93**	Pn	**Pn**	**19 41 19.4**	**-1.2**
N25K				IAML		19 41 48.6	
	comp=N,3µm,0.7s						
N25K	**Chitina, Valde**	**1.72**	**93**	P	**Pn**	**19 41 19.4**	**-1.2**
	baz=276,SNR=523						
N25K				S	**Sn**	**19 41 40.5**	**-2.4**
	baz=276						
CAPN	**Captain Cook N**	**1.73**	**237**		**Pb**	**19 41 21.2**	**-0.9**
CAPN	**Captain Cook N**	**1.73**	**237**	P	**Pn**	**19 41 19.3**	**-1.2**
	baz=54						
CAPN				Sg	**Sg**	**19 41 47.1**	**+1.6**
	baz=54						
SEW	**Seward**	**1.75**	**201**	Pn	**Pb**	**19 41 21.7**	**-0.7**
SEW	**Seward**	**1.75**	**201**	P	**Pn**	**19 41 20.0**	**-0.8**
	baz=20,SNR=100						
SEW				Sb	**Sg**	**19 41 45.2**	**-0.9**
	baz=20						
PAX	**Paxson**	**1.78**	**45**	Pn	**Pn**	**19 41 20.8**	**-0.6**
PAX	**Paxson**	**1.78**	**45**	P	**Pn**	**19 41 20.8**	**-0.6**
	baz=227,SNR=321						
PAX				S	**Sn**	**19 41 42.8**	**-1.6**
	baz=227						
P23K	**Montague Islan**	**1.78**	**167**	P	**Pb**	**19 41 22.8**	**-0.4**
	baz=348,SNR=46						
P23K				Sb	**Sg**	**19 41 47.1**	**-0.3**
	baz=348						
BMRM	**Bremner River**	**1.90**	**112**	Pn	**Pn**	**19 41 22.7**	**-0.3**
BMRM	**Bremner River**	**1.90**	**112**	P	**Pn**	**19 41 21.6**	**-1.4**
	baz=296,SNR=327						
BMRM				S	**Sn**	**19 41 45.5**	**-1.6**
	baz=296						
SPU	**Mount Spurr**	**1.93**	**255**	Pn	**Pb**	**19 41 23.9**	**-1.8**
TRF	**Thorofare Moun**	**1.98**	**332**	Pn	**Pb**	**19 41 24.4**	**-2.2**
TRF				IAML		19 41 53.7	
	comp=N,3µm,0.5s						
TRF	**Thorofare Moun**	**1.98**	**332**	P	**Pb**	**19 41 24.5**	**-2.0**
	baz=150,SNR=275						
TRF				Sb	**Sb**	**19 41 51.2**	**-0.2**
	baz=150						
N20K	**Mount Spurr**	**2.00**	**256**	P	**Pn**	**19 41 24.6**	**+0.2**
	baz=72,SNR=176						
N20K				Sb	**Sb**	**19 41 52.3**	**+0.4**
	baz=72						
SPCR	**Spurr Chakacha**	**2.00**	**256**	P	**Pb**	**19 41 24.8**	**-2.1**
	baz=72,SNR=125						
MCK	**McKinley**	**2.04**	**351**	Pn	**Pb**	**19 41 25.4**	**-2.1**
MCK				IAML		19 41 56.7	
	comp=N,2µm,0.7s						
MCK				IAML		19 41 57.9	
	comp=E,2µm,0.6s						
MCK	**McKinley**	**2.04**	**351**	P	**Pb**	**19 41 25.5**	**-2.0**
	baz=170,SNR=303						
MCK				Sb	**Sb**	**19 41 52.8**	**-0.1**
	baz=170						
GLB	**Gilahina Butte**	**2.12**	**96**	Pn	**Pn**	**19 41 25.3**	**-0.7**
GLB				IAML		19 41 59.3	
	comp=E,3µm,0.8s						
PPLA	**Purkeypile**	**2.20**	**304**		**Pb**	**19 41 27.8**	**-2.5**
PPLA	**Purkeypile**	**2.20**	**304**	P	**Pb**	**19 41 27.8**	**-2.5**
	baz=120,SNR=177						
KTH	**Kantishna Hill**	**2.22**	**327**		**Pn**	**19 41 26.5**	**-0.9**
KTH				IAML		19 42 03.0	
	comp=N,2µm,1.0s						
VRDI	**Verde Repeater**	**2.33**	**100**	Pn	**Pn**	**19 41 28.4**	**-0.8**
VRDI				IAML		19 42 05.3	
	comp=N,3µm,0.7s						
VRDI				IAML		19 42 05.9	
	comp=E,2µm,0.8s						
M20K	**Styx River**	**2.35**	**276**	P	**Pb**	**19 41 31.3**	**-1.5**
	baz=91						
M20K				Sb	**Sb**	**19 42 01.2**	**-0.7**
	baz=91						
BRSE	**Bradley Lake S**	**2.36**	**213**	P	**Pb**	**19 41 30.7**	**-2.2**
	baz=31,SNR=121						
K24K	**Donnelly Dome**	**2.36**	**27**	P	**Pb**	**19 41 31.7**	**-1.3**
	baz=209,SNR=443						
K24K				Sb	**Sb**	**19 42 02.1**	**-0.1**
	baz=209						
BRLK	**Bradley Lake**	**2.38**	**215**		**Pn**	**19 41 30.1**	**+0.6**
BRLK				IAML		19 42 08.2	
	comp=N,1µm,0.8s						
BRLK				IAML		19 42 12.8	
	comp=E,2µm,1.0s						
HMT	**Hamilton**	**2.38**	**124**		**Pn**	**19 41 30.5**	**+1.0**
MENT	**Mentasta**	**2.42**	**58**	Pn	**Pb**	**19 41 31.1**	**-2.9**
MENT				IAML		19 42 10.9	
	comp=E,3µm,0.7s						
MENT				IAML		19 42 12.9	
	comp=N,2µm,0.8s						
CAST	**Castle Rocks**	**2.47**	**315**		**Pb**	**19 41 31.6**	**-3.2**
CAST				IAML		19 42 09.1	
	comp=E,1µm,0.8s						
CAST	**Castle Rocks**	**2.47**	**315**	P	**Pb**	**19 41 31.5**	**-3.2**
	baz=131,SNR=446						
Q23K	**Middleton Isla**	**2.48**	**158**	Pn	**Pb**	**19 41 32.6**	**-2.5**
Q23K	**Middleton Isla**	**2.48**	**158**	Pg	**Pg**	**19 41 37.2**	**-0.5**
	baz=339						
MCARA	**McCarthy VSAT**	**2.50**	**96**		**Pn**	**19 41 31.7**	**+0.4**
MCARA	**McCarthy VSAT**	**2.50**	**96**	P	**Pn**	**19 41 31.9**	**+0.7**
	baz=281,SNR=313						
RDJH	**Redoubt Jeurge**	**2.51**	**245**		**Pb**	**19 41 32.8**	**-2.7**
BWN	**Browne**	**2.52**	**347**		**Pn**	**19 41 32.1**	**+0.7**
RIDG	**Independent Ri**	**2.54**	**36**	Pn	**Pb**	**19 41 33.3**	**-2.7**
RIDG				IAML		19 42 13.9	
	comp=E,2µm,0.9s						
RIDG				IAML		19 42 14.3	
	comp=N,2µm,1.1s						
RIDG	**Independent Ri**	**2.54**	**36**	P	**Pb**	**19 41 33.6**	**-2.4**
	baz=219,SNR=252						
RIDG				Sb	**Sb**	**19 42 06.9**	**-0.6**
	baz=219						
M26K	**Nabesna, AK**	**2.54**	**72**	P	**Pb**	**19 41 33.0**	**-3.0**
	baz=257						
M26K				Sb	**Sb**	**19 42 07.1**	**-0.4**
	baz=257						
NICHA	**Nichawak Mount**	**2.55**	**124**		**Pn**	**19 41 32.5**	**+0.6**
RSO	**Redoubt South**	**2.55**	**242**		**Pn**	**19 41 33.2**	**+1.1**
KAIM	**Kayak Island**	**2.59**	**133**		**Pb**	**19 41 34.2**	**-2.7**
KAIM				IAML		19 42 16.7	
	comp=N,1µm,1.2s						
KAIM				IAML		19 42 16.7	
	comp=E,1µm,1.3s						
L26K	**Log Cabin Wild**	**2.61**	**58**	Pn	**Pn**	**19 41 33.4**	**+0.7**
L26K				IAML		19 42 13.4	
	comp=N,2µm,0.7s						
L26K				IAML		19 42 17.6	
	comp=E,2µm,0.5s						
L26K	**Log Cabin Wild**	**2.61**	**58**	P	**Pb**	**19 41 34.6**	**-2.6**
	baz=242,SNR=571						
L26K				Sb	**Sb**	**19 42 08.5**	**-0.9**
	baz=242						
CNPM	**China Poot**	**2.67**	**215**		**Pn**	**19 41 33.3**	**-0.3**
CNPM				IAML		19 42 21.8	
	comp=E,2µm,0.7s						
CNPM				IAML		19 42 22.5	
	comp=N,1µm,0.8s						
HOM	**Homer**	**2.68**	**221**	P	**Pb**	**19 41 35.8**	**-2.6**
	baz=38						
BPAW	**Bear Paw Mtn.**	**2.70**	**333**	Pn	**Pn**	**19 41 33.0**	**-0.9**
BPAW	**Bear Paw Mtn.**	**2.70**	**333**	P	**Pn**	**19 41 34.1**	**+0.2**
	baz=150,SNR=77						
O20K	**Slope Mountain**	**2.72**	**234**	P	**Pb**	**19 41 36.4**	**-2.8**
	baz=50,SNR=31						
SUCK	**Suckling Hills**	**2.73**	**126**		**Pn**	**19 41 35.9**	**+1.5**
SUCK				IAML		19 42 19.4	
	comp=N,1µm,0.6s						
SUCK				IAML		19 42 27.2	
	comp=E,1µm,1.2s						
KHIT	**Khitrov Hills**	**2.73**	**116**		**Pn**	**19 41 35.8**	**+1.4**
HDA	**Harding Lake**	**2.75**	**11**	Pn	**Pn**	**19 41 35.1**	**+0.5**
HDA				IAML		19 42 15.0	
	comp=E,2µm,0.6s						
HDA	**Harding Lake**	**2.75**	**11**	P	**Pb**	**19 41 36.3**	**-3.2**
	baz=192,SNR=444						
WRH	**Wood River Hil**	**2.75**	**1**		**Pn**	**19 41 34.7**	**+0.1**
WRH				IAML		19 42 16.4	
	comp=E,951nm,0.9s						
WRH				IAML		19 42 20.8	
	comp=N,1µm,1.0s						
L20K	**Farewell, AK**	**2.77**	**288**	P	**Pb**	**19 41 37.3**	**-2.7**
	baz=103						
GRIN	**Grindle Hills**	**2.79**	**119**		**Pb**	**19 41 36.9**	**-3.4**
CHUM	**Lake Minchumin**	**2.87**	**321**		**Pn**	**19 41 37.1**	**+0.8**
CHUM	**Lake Minchumin**	**2.87**	**321**	P	**Pn**	**19 41 36.9**	**+0.7**
	baz=137,SNR=104						
NEA2	**Nenana**	**2.90**	**353**		**Pn**	**19 41 35.1**	**-1.6**
NEA2	**Nenana**	**2.90**	**353**	P	**Pn**	**19 41 36.7**	**0.0**
	baz=172,SNR=99						
NEA2				Sb	**Sb**	**19 42 16.6**	**-1.2**
	baz=172						
WAX	**Waxell Ridge**	**2.90**	**114**	Pn	**Pn**	**19 41 38.5**	**+1.7**
CCB	**Clear Creek Bu**	**2.93**	**3**		**Pn**	**19 41 37.4**	**+0.3**
CCB				IAML		19 42 24.1	
	comp=E,913nm,0.8s						
KIAG	**Kiagna River**	**2.93**	**104**		**Pn**	**19 41 38.0**	**+0.7**
M19K	**Big River Lodg**	**2.94**	**276**	P	**Pb**	**19 41 39.1**	**-3.8**
	baz=90						
SCRK	**Sand Creek**	**2.97**	**39**		**Pn**	**19 41 36.1**	**-1.6**
SCRK				IAML		19 42 24.1	
	comp=E,1µm,1.6s						
SCRK				IAML		19 42 24.6	
	comp=N,1µm,0.7s						
SCRK	**Sand Creek**	**2.97**	**39**	P	**Pb**	**19 41 39.7**	**-3.7**
	baz=222						
ILSW	**Iliamna Southw**	**2.99**	**236**		**Pn**	**19 41 39.3**	**+1.3**
ILSW				IAML		19 42 27.6	
	comp=N,824nm,0.8s						
ILSW				IAML		19 42 27.6	
	comp=E,731nm,0.8s						
M27K	**Edge Creek, AK**	**3.04**	**75**	P	**Pb**	**19 41 41.2**	**-3.5**
	baz=261,SNR=101						
SNH	**Sunshine Point**	**3.04**	**118**	Pn	**Pn**	**19 41 40.2**	**+1.5**
SNH				IAML		19 42 24.9	
	comp=E,1µm,1.0s						
SNH				IAML		19 42 32.0	
	comp=N,1µm,0.8s						
ISLE	**Juniper Island**	**3.06**	**109**	Pn	**Pn**	**19 41 40.6**	**+1.6**
ISLE				IAML		19 42 35.3	
	comp=E,1µm,1.1s						
BARK	**Barkley Ridge**	**3.08**	**113**		**Pn**	**19 41 41.0**	**+1.7**
IL31		**3.11**	**10**	Pn	**Pn**	**19 41 40.4**	**+0.9**
ILAR	**Eielson Array**	**3.11**	**10**	Pn	**Pn**	**19 41 40.3**	**+0.7**
	comp=E,13nm,0.3s,baz=191,slow=13,SNR=495						
ILAR				Sn	**Sb**	**19 42 20.1**	**-3.6**
	comp=E,68nm,0.3s,baz=188,slow=20,SNR=13						
ILAR				LR	LR	19 43 00.7	
	comp=E,661nm,18.9s,baz=160,slow=41						
	comp=E,98nm,0.6s						
ILAR	**Eielson Array**	**3.11**	**10**	Pn	**Pn**	**19 41 40.7**	**+1.1**
COLA	**College**	**3.16**	**3**		**Pn**	**19 41 40.4**	**+0.2**
COLA	**College**	**3.16**	**3**	P	**Pb**	**19 41 43.1**	**-3.4**
	baz=183						
TCOL	**CIGO, UAF Yank**	**3.16**	**3**	P	**Pb**	**19 41 42.9**	**-3.6**
	baz=183,SNR=105						
J25K	**Salcha River,**	**3.16**	**23**	P	**Pn**	**19 41 42.0**	**+1.7**
	baz=205						
K20K	**Telida**	**3.17**	**304**	P	**Pb**	**19 41 42.9**	**-3.9**
	baz=118						
N19K	**Bonanza Creek**	**3.17**	**256**	P	**Pn**	**19 41 42.4**	**+1.9**
	baz=70						
L19K	**White Mountain**	**3.17**	**281**	Pn	**Pb**	**19 41 42.9**	**-4.0**
L19K				IAML		19 42 35.4	
	comp=E,766nm,1.1s						
L19K	**White Mountain**	**3.17**	**281**	P	**Pb**	**19 41 42.7**	**-4.1**
	baz=95						
P19K	**Oil Pt**	**3.24**	**232**	Pn	**Pn**	**19 41 43.7**	**+2.3**
P19K				IAML		19 42 45.7	
	comp=N,1µm,1.0s						
P19K	**Oil Pt**	**3.24**	**232**	P	**Pn**	**19 41 43.4**	**+2.1**
	baz=48						
MDM	**Murphy Dome**	**3.24**	**360**		**Pn**	**19 41 41.9**	**+0.5**
MDM				IAML		19 42 27.3	
	comp=N,1µm,1.0s						
MDM				IAML		19 42 36.8	
	comp=E,941nm,0.8s						
L27K	**Beaver Creek,**	**3.25**	**63**	Pn	**Pb**	**19 41 44.0**	**-4.2**
L27K	**Beaver Creek,**	**3.25**	**63**	P	**Pn**	**19 41 43.8**	**+2.2**
	baz=249						
BCAR	**Beaver Creek A**	**3.27**	**63**		**Pn**	**19 41 43.0**	**+1.1**
O19K	**Port Alsworth**	**3.36**	**245**	Pn	**Pn**	**19 41 44.8**	**+1.8**
O19K				IAML		19 42 34.7	
	comp=N,1µm,0.5s						
O19K				IAML		19 42 52.2	
	comp=E,746nm,0.5s						
O19K	**Port Alsworth**	**3.36**	**245**	P	**Pb**	**19 41 45.8**	**-4.1**
	baz=60,SNR=55						
POKR	**Poker Plat Res**	**3.42**	**5**	Pn	**Pn**	**19 41 45.1**	**+1.3**
POKR				IAML		19 42 38.6	
	comp=N,932nm,0.8s						
POKR	**Poker Plat Res**	**3.42**	**5**	P	Pb	19 41 46.1	-4.8
	baz=186,SNR=130						
MESA	**MESA**	**3.42**	**114**	Pn	**Pn**	**19 41 45.8**	**+1.7**
MESA	**MESA**	**3.42**	**114**	P	**Pn**	**19 41 45.8**	**+1.7**
	baz=300,SNR=21						
YAH	**Yahtse**	**3.43**	**111**	Pn	**Pn**	**19 41 45.6**	**+1.4**
YAH				IAML		19 42 38.6	
	comp=E,758nm,1.0s						
I23K	**Minto, Yukon-K**	**3.47**	**352**	Pn	**Pn**	**19 41 45.3**	**+0.8**
I23K				IAML		19 42 40.5	
	comp=N,1µm,0.8s						
I23K				IAML		19 42 42.8	
	comp=E,732nm,0.9s						
I23K	**Minto, Yukon-K**	**3.47**	**352**	P	**Pn**	**19 41 45.0**	**+0.6**
	baz=171,SNR=138						
J26L	**Joseph Creek**	**3.49**	**35**	Pn	**Pn**	**19 41 46.2**	**+1.3**
J26L				IAML		19 42 40.8	
	comp=N,577nm,0.8s						
J26L	**Joseph Creek**	**3.49**	**35**	P	**Pn**	**19 41 46.5**	**+1.6**

baz=219
MLY Manley 3.50 342 Pn 19 41 45.7 +0.7
MLY Manley 3.50 342 P Pn 19 41 45.8 +0.8
baz=160,SNR=223
BVCY Beaver Creek 3.52 76 P Pn 19 41 47.4 +2.2
baz=262,SNR=35
SVW2 Sparrevohn 3.60 263 Pn Pn 19 41 48.2 +1.9
K27K Chicken 3.63 48 Pn Pn 19 41 48.7 +2.0
K27K Chicken 3.63 48 P Pn 19 41 48.8 +2.0
baz=233
J20K Nowinta River 3.66 315 Pn Pn 19 41 47.9 +0.8
J20K IAML 19 42 45.9
comp=E,851nm,0.9s
J20K IAML 19 42 48.2
comp=N,883nm,1.1s
J20K Nowinta River 3.66 315 P Pn 19 41 48.3 +1.2
baz=129
TABL Table Mountain 3.67 108 Pn Pn 19 41 48.6 +1.2
TABL IAML 19 42 45.5
comp=E,539nm,1.0s
TABL IAML 19 42 53.4
comp=N,680nm,1.1s
YUK3 Moose Creek 3.68 86 P Pn 19 41 49.4 +1.7
baz=273,SNR=64
Q20K Shuyak Island 3.77 216 P Pn 19 41 50.5 +1.9
baz=32,SNR=5.6
TTA Tatalina 3.84 292 Pn Pn 19 41 50.1 +0.4
TTA IAML 19 42 53.6
comp=E,691nm,0.9s
TTA IAML 19 42 59.3
comp=N,474nm,0.8s
TTA Tatalina 3.84 292 P Pn 19 41 51.3 +1.6
baz=105,SNR=44
I21K Tanana 3.85 336 Pn Pn 19 41 50.3 +0.5
I21K Tanana 3.85 336 P Pn 19 41 50.5 +0.7
baz=152
N18K Kilae Creek 3.87 258 Pn Pn 19 41 50.7 +0.7
N18K Kilae Creek 3.87 258 P Pn 19 41 51.8 +1.8
baz=71,SNR=54
Q19K Cape Douglas, 3.90 226 Pn Pn 19 41 52.7 +2.2
Q19K Cape Douglas, 3.90 226 P Pn 19 41 52.4 +1.9
baz=42,SNR=7.8
O18K Koktuh Hills 3.92 244 P Pn 19 41 51.9 +1.2
baz=58,SNR=48
SAMH Samovar Hills 3.96 111 Pn 19 41 53.6 +2.3
PRP Porcupine Dome 3.98 16 Pn 19 41 53.5 +1.8
PRP IAML 19 42 53.2
comp=E,499nm,0.7s
PRP Porcupine Dome 3.98 16 P Pn 19 41 54.0 +2.3
baz=199,SNR=175
O28M Mount Upton 3.99 100 P Pn 19 41 53.5 +1.6
baz=288,SNR=34
YUK8 Steele Glacier 4.07 93 P Pn 19 41 55.0 +2.0
baz=280,SNR=32
H24K Noodor Dome 4.12 2 Pn Pn 19 41 54.4 +0.8
H24K IAML 19 43 03.3
comp=E,602nm,0.8s
H24K IAML 19 43 08.8
comp=N,355nm,1.0s
H24K Noodor Dome 4.12 2 P Pn 19 41 54.6 +1.1
baz=182
H23K Yukon River 4.15 352 Pn Pn 19 41 54.6 +0.7
H23K IAML 19 43 06.7
comp=E,318nm,1.2s
H23K Yukon River 4.15 352 P Pn 19 41 54.7 +0.8
baz=171
P18K Big Mountain, 4.19 239 Pn Pn 19 41 56.1 +1.7
P18K Big Mountain, 4.19 239 P Pn 19 41 56.4 +1.9
baz=53
PCA Pinnacle 4.21 109 Pn Pn 19 41 57.3 +2.5
PINM Pinnacle 4.21 109 P Pn 19 41 56.8 +2.0
baz=297,SNR=34
I26K Coal Creek Min 4.24 30 Pn 19 41 56.9 +1.9
I26K Coal Creek Min 4.24 30 P Pn 19 41 57.3 +2.3
baz=214
H22K Ishtalitna Cre 4.41 343 P Pn 19 41 58.1 +0.7
baz=160,SNR=36
EGAK Eagle 4.41 43 Pn Pn 19 41 59.7 +2.3
EGAK Eagle 4.41 43 P Pn 19 41 59.4 +1.9
baz=229,SNR=34
H21K Melozitna Rive 4.44 335 Pn Pn 19 41 58.3 +0.4
H21K Melozitna Rive 4.44 335 P Pn 19 41 58.5 +0.6
baz=150
KDAK Kodiak Island 4.54 211 Pn Pn 19 41 59.3 +0.1
comp=E,5.9nm,0.3s,baz=54,slow=8.2,SNR=30
KDAK Sn **Sn 19 42 49.4 -2.7**
comp=E,5.9nm,0.3s,baz=320,slow=17,SNR=7.3
KDAK Lg Lg 19 43 03.8
comp=E,6.4nm,0.3s,baz=198,slow=20,SNR=2.2
KDAK LR LR 19 44 08.0
comp=E,544nm,18.4s,baz=46,slow=42
comp=E,28nm,0.5s
KDAK Kodiak Island 4.54 211 Pn 19 42 00.2 +1.1
KDAK IAML 19 43 16.0
comp=E,338nm,1.0s
KDAK IAML 19 43 21.2
comp=E,301nm,1.1s
KDAK Kodiak Island 4.54 211 P Pn 19 42 00.1 +0.9
baz=27
YUK4 Talbot Arm 4.59 91 P Pn 19 42 01.3 +1.2
baz=278
Q18K Katmai Hardscr 4.59 231 P Pn 19 42 00.4 +0.3
baz=45
M29M Somme Creek 4.63 77 P Pn 19 42 02.9 +2.3
baz=266
DAWY Dawson 4.66 56 Pn 19 42 03.4 +2.5
DAWY IAML 19 43 24.8
comp=N,281nm,0.9s
DAWY IAML 19 43 35.9
comp=E,203nm,1.3s
DAWY Dawson 4.66 56 P Pn 19 42 03.4 +2.5
baz=244,SNR=93
H25K Birch Creek 4.67 12 P Pn 19 42 03.5 +2.5
baz=194
O17K Koliganek Bris 4.79 250 P Pn 19 42 04.3 +1.7
baz=62,SNR=12
PNL Peninsula 4.79 112 Pn 19 42 04.6 +1.8
PNL Peninsula 4.79 112 P Pn 19 42 05.4 +2.6
baz=300,SNR=8.2
YUK6 Outpost Mounta 4.80 95 P Pn 19 42 04.9 +1.9
baz=284,SNR=12
P17K Kvichak River 4.81 242 P Pn 19 42 04.4 +1.6
baz=54,SNR=23
I27K Kandik River 4.87 34 P Pn 19 42 05.8 +2.0
baz=220,SNR=24
L29M L29M 4.88 69 P Pn 19 42 06.2 +2.3
baz=258,SNR=18
O29M Mount Kennedy 4.90 103 P Pn 19 42 06.6 +2.4
baz=291
IMAR Indian Mountai 4.92 333 Pn Pn 19 42 05.0 +0.6
G24K Hadweenzic Riv 5.00 3 P Pn 19 42 07.9 +2.4
baz=184,SNR=33
G23K Bananza Creek 5.06 352 P Pn 19 42 07.6 +1.2
baz=170
G25K Bearman Lake 5.13 9 P Pn 19 42 09.8 +2.5
baz=191,SNR=73
Q17K Contact Creek 5.19 231 P Pn 19 42 10.2 +1.9
baz=45
Q16K King Salmon 5.21 238 P Pn 19 42 10.1 +1.7
baz=50,SNR=8.7
OHAK Old Harbor 5.21 212 Pn Pn 19 42 09.0 +0.6
OHAK IAML 19 43 47.4
comp=E,168nm,1.4s
OHAK IAML 19 43 49.0
comp=N,162nm,1.3s
OHAK Old Harbor 5.21 212 P Pn 19 42 09.1 +0.6
baz=28
HYT Haines Junctio 5.24 95 Pn Pn 19 42 10.6 +1.6
HYT IAML 19 43 43.0
comp=N,142nm,1.3s
HYT Haines Junctio 5.24 95 P Pn 19 42 10.0 +1.0
baz=285,SNR=11
N16K Nishlik Lake 5.28 261 P Pn 19 42 11.0 +1.6
baz=72,SNR=15
J29M Klondike Camp 5.29 55 Pn Pn 19 42 10.4 +0.8
J29M Klondike Camp 5.29 55 P Pn 19 42 11.3 +1.7
baz=244,SNR=19
N30M Aishikik Lake 5.31 88 P Pn 19 42 11.0 +1.0
baz=278
O16K Kokwok River B 5.32 251 P Pn 19 42 11.3 +1.4
baz=62
G21K Allakaket 5.33 337 P Pn 19 42 10.9 +0.8
baz=152
K29M Barlow Dome 5.34 62 P Pn 19 42 12.3 +2.0
baz=252,SNR=17
H27K Steamboat Moun 5.38 30 P Pn 19 42 12.7 +1.8
baz=216

G22K Bettles 5.40 346 P Pn 19 42 12.2 +1.1
baz=163
M30M Minto, Yukon 5.42 76 Pn 19 42 13.2 +1.9
M30M Minto, Yukon 5.42 76 P Pn 19 42 13.0 +1.7
baz=266
P16K Nushagak River 5.56 245 P Pn 19 42 15.4 +2.2
baz=56
G26K Porcupine Rive 5.58 18 P Pn 19 42 15.4 +2.0
baz=202
COLD Coldfoot 5.58 352 Pn 19 42 15.0 +1.4
COLD Coldfoot 5.58 352 P Pn 19 42 15.3 +1.8
baz=170
P30M Million Dollar 5.71 101 P Pn 19 42 17.0 +1.6
baz=291,SNR=9.0
I29M Ogilvie Camp, 5.73 46 Pn 19 42 15.8 +0.3
I29M Ogilvie Camp, 5.73 46 P Pn 19 42 17.2 +1.7
baz=235,SNR=96
F24K Squaw Lake 5.81 1 P Pn 19 42 18.6 +1.9
baz=181
G27K Doyon Strip 5.84 26 P Pn 19 42 18.9 +1.8
baz=212
O30N Mendenhall 5.92 94 P Pn 19 42 21.0 +2.7
baz=285
BMAR Burnt Mountain 5.93 14 Pn Pn 19 42 20.0 +1.7
N31M Braeburn, Yuko 5.93 87 P Pn 19 42 21.1 +2.7
baz=278
F21K Alatna River 5.96 340 P Pn 19 42 19.9 +1.1
baz=155
MAYO Mayo, Yukon 5.97 66 P Pn 19 42 21.2 +2.3
baz=257
F25K Christian Rive 5.99 9 P Pn 19 42 21.0 +1.9
baz=192
F22K John River 6.04 345 P Pn 19 42 21.3 +1.4
baz=162
F26K Sheenjek River 6.23 14 P Pn 19 42 24.4 +1.9
baz=198,SNR=63
PLBC Pleasant Camp 6.26 106 P Pn 19 42 24.9 +2.1
baz=297
E24K Your Creek 6.37 359 P Pn 19 42 26.3 +1.9
baz=179
E23K Chandalar 6.38 355 P Pn 19 42 26.2 +1.7
baz=174
E25K Arctic Village 6.51 9 P Pn 19 42 28.2 +1.9
baz=191,SNR=26
WHY Whitehorse 6.53 94 Pn Pn 19 42 27.4 +0.8
WHY Whitehorse 6.53 94 P Pn 19 42 26.0 -0.6
baz=285
M31M Drury Creek, Y 6.53 80 Pn 19 42 28.5 +2.0
M31M Drury Creek, Y 6.53 80 P Pn 19 42 28.1 +1.6
baz=272,SNR=20
E22K Anaktuvuk Pass 6.61 348 P Pn 19 42 28.2 +0.6
baz=165,SNR=20
SKAG Skagway 6.74 104 Pn Pn 19 42 30.3 +1.0
SKAG Skagway 6.74 104 P Pn 19 42 30.1 +0.8
baz=295,SNR=11
EPYK Eagle Plains 6.85 42 Pn 19 42 31.6 +0.7
EPYK Eagle Plains 6.85 42 P Pn 19 42 31.1 +0.1
baz=233,SNR=20
TOLK Toolik Lake Re 6.96 356 P Pn 19 42 33.8 +1.3
baz=175,SNR=16
FARO Faro, Yukon 7.02 79 P Pn 19 42 34.3 +1.0
baz=273
E27K Coleen River 7.05 20 P Pn 19 42 35.3 +1.5
baz=206
S31K Pelican 7.11 117 P Pn 19 42 35.5 +1.0
baz=307
D23K Nanushuk River 7.34 353 P Pn 19 42 39.6 +2.1
baz=171
BESE Bessie Mountai 7.37 109 Pn Pn 19 42 40.6 +2.5
G30M tAoh Zraii Nji 7.39 39 P Pn 19 42 35.9 -2.4
baz=230,SNR=15
P32M Atlin 7.43 100 P Pn 19 42 40.4 +1.5
baz=293
D25K Kavik River 7.66 5 P Pn 19 42 45.4 +3.3
baz=186
R32K Eaglecrest 7.68 111 P Pn 19 42 44.5 +2.2
baz=303
MMPY Sheldon Lake, 7.97 76 P Pn 19 42 44.8 -1.5
baz=271,SNR=9.5
C24K Franklin Bluff 8.03 359 P Pn 19 42 48.7 +1.7
baz=178
SIT Sitka 8.06 120 Pn Pn 19 42 48.6 +1.0
SIT Sitka 8.06 120 P Pn 19 42 48.0 +0.4
baz=311
S32K Killisnoo 8.12 116 P Pn 19 42 49.4 +1.2
baz=308
C27K Jago River 8.14 11 P Pn 19 42 50.6 +2.1
baz=195
C23K Itkillik River 8.20 354 P Pn 19 42 51.9 +2.6
baz=172,SNR=19
ANM Nome 8.27 298 Pn Pn 19 42 51.9 +1.6
ANM Nome 8.27 298 P Pn 19 42 52.7 +2.4
baz=102
C26K Camden Bay 8.33 8 P Pn 19 42 53.6 +2.5
baz=191
Q32M Nakina River 8.37 102 P Pn 19 42 53.5 +1.6
baz=296
F31M Tsiigehtchic 8.44 41 P Pn 19 42 53.5 +0.9
baz=234,SNR=15
R33M Jennings River 8.80 98 P Pn 19 42 59.0 +1.2
baz=293
INK Inuvik 9.03 37 Pn Pn 19 43 01.4 +0.7
comp=N,0.3nm,0.3s,baz=222,slow=14,SNR=8.1
INK Sn **Sn 19 44 40.6 -2.0**
comp=N,0.5nm,0.3s,baz=212,slow=9.5,SNR=1.9
INK Lg Lg 19 45 38.4
comp=N,0.7nm,0.3s,baz=290,slow=8.4,SNR=9.1
INK LR LR 19 46 38.3
comp=N,253nm,20.7s,baz=232,slow=38
comp=N,7.6nm,0.8s
INK Inuvik 9.03 37 P Pn 19 43 01.3 +0.5
baz=230
S34M Telegraph Cree 9.40 106 P Pn 19 43 07.0 +1.1
baz=301,SNR=6.0
DLBC Dease Lake 9.65 102 Pn Pn 19 43 09.9 +0.5
comp=N,0.3nm,0.3s,baz=283,slow=12,SNR=3.6
DLBC Lg Lg 19 45 53.1
baz=212,slow=11
DLBC LR LR 19 46 53.2
comp=N,319nm,19.4s,baz=298,slow=37
comp=N,2.9nm,0.7s
DLBC Dease Lake 9.65 102 Pn Pn 19 43 10.9 +1.5
DLBC Dease Lake 9.65 102 P Pn 19 43 09.3 0.0
baz=298
WRAK Wrangell Islan 9.73 116 P Pn 19 43 10.4 0.0
baz=310
KOTAN Kotaneelee Air 11.83 87 P Pn 19 43 40.6 +1.5
baz=288
C36M Paulatuk 12.49 42 Pn Pn 19 43 47.1 -0.9
C36M Paulatuk 12.49 42 P Pn 19 43 46.9 -1.0
baz=244
A36M Sachs Harbour 13.55 31 Pn Pn 19 44 03.4 +0.9
A36M Sachs Harbour 13.55 31 P Pn 19 44 02.7 +0.2
baz=232
BBB Bella Bella 14.48 122 LR LR 19 49 24.8
comp=N,94nm,20.9s,baz=8.5,slow=35
YKA Yellowknife Ar 15.64 72 Pn Pn 19 44 30.6 0.0
comp=N,0.1nm,0.3s,baz=288,slow=38,SNR=3.9
YKA LR LR 19 50 47.2
comp=N,321nm,18.5s,baz=305,slow=38
comp=N,3.4nm,0.9s
YKA Yellowknife Ar 15.64 72 Pn Pn 19 44 29.4 -1.3
HILA High Level 15.76 88 P P 19 44 36.0 -0.3
WAPA Wapiti River 16.40 100 P P 19 44 44.8 +1.3
WAPA IAmb IAmb 19 44 50.1
comp=Z,33nm,0.9s
NEW Newport 22.07 113 P P 19 45 47.3 +1.8
comp=Z,1.8nm,0.7s,baz=331,slow=11,SNR=4.0
NEW LR LR 19 54 21.1
comp=Z,106nm,20.4s,baz=307,slow=37
comp=Z,1.8nm,0.7s
NEW Newport 22.07 113 P P 19 45 46.3 +0.9
baz=319
RES Resolute Bay 22.57 34 P P 19 45 49.5 -0.9
comp=Z,2.4nm,0.9s,baz=283,slow=10,SNR=2.3
RES LR LR 19 55 13.8
comp=Z,76nm,19.7s,baz=0.5,slow=38
comp=Z,2.4nm,0.9s
I07A Izee 24.41 123 P P 19 46 09.2 +0.1
BMO Blue Mountains 24.67 119 P P 19 46 12.0 +0.5
BMO IAmb IAmb 19 46 26.7
comp=Z,9.5nm,1.2s
YBH Yreka Blue Hor 25.20 131 P P 19 46 17.0 +0.8
comp=Z,3.9nm,1.0s,baz=296,slow=0.8,SNR=9.9
YBH LR LR 19 55 26.2
comp=Z,64nm,18.2s,baz=277,slow=35
comp=Z,3.9nm,1.0s
SEY Seymchan 26.77 299 P P 19 46 29.3 -0.9
comp=Z,3.9nm,0.8s,baz=77,slow=11,SNR=8.2
comp=Z,3.9nm,0.8s
GCMT Greycliff 27.27 108 P P 19 46 34.8 -0.2
ELK Elko 28.93 121 P P 19 46 49.2 -0.7
comp=Z,0.7nm,0.8s,baz=321,slow=2.8,SNR=3.5
comp=Z,0.7nm,0.8s
MA2 Magadan 29.03 293 LR LR 19 59 36.0
comp=Z,68nm,18.0s,baz=65,slow=39
PETK Petropavlovsk- 29.55 278 P P 19 46 54.4 -0.6
comp=Z,2.5nm,0.8s,baz=69,slow=12,SNR=1.5
comp=Z,2.5nm,0.8s
PDAR Pinedale Array 29.68 112 P P 19 46 56.5 -0.1
comp=Z,0.4nm,0.7s,baz=320,slow=4.9,SNR=2.0
PDAR PcP **PcP 19 49 58.7 -1.8**
comp=Z,0.6nm,0.6s,baz=256,slow=1.9,SNR=2.0
comp=Z,0.4nm,0.7s
NVAR Mina Array Bea 29.72 128 P P 19 46 56.7 -0.2
comp=Z,0.3nm,0.7s,baz=315,slow=8.5,SNR=1.8
NVAR PcP **PcP 19 50 01.8 +1.1**
comp=Z,0.9nm,0.9s,baz=320,slow=2.4,SNR=4.9
comp=Z,0.3nm,0.7s
ULM Lac du Bonnet 30.57 88 LR LR 19 59 46.6
comp=Z,218nm,18.2s,baz=353,slow=37
FRB Frobisher Bay 34.34 51 LR LR 20 02 23.5
comp=Z,65nm,21.3s,baz=220,slow=38
PFO Pinyon Flats O 34.67 129 LR LR 20 01 12.2
comp=Z,63nm,18.1s,baz=192,slow=35
ANMO Albuquerque 37.51 116 LR LR 20 02 54.3
comp=Z,64nm,21.0s,baz=334,slow=35
SFJD Kangerlussuaq 38.38 39 LR LR 20 03 42.8
comp=Z,49nm,19.9s,baz=304,slow=36
I42A Draeger Farm, 38.43 90 P P 19 48 10.0 -2.1
SCHQ Schefferville 40.66 61 LR LR 20 05 54.2
comp=Z,77nm,18.9s,baz=248,slow=37
SADO Sadowa 42.40 81 LR LR 20 06 46.0
comp=Z,75nm,20.1s,baz=0.5,slow=37
NRIK Noril'sk 43.36 335 P P 19 48 52.6 +0.2
comp=Z,2.6nm,0.7s,baz=34,slow=8.6,SNR=4.5
comp=Z,2.6nm,0.7s
TXAR Lajitas Array 43.54 117 PcP PcP 19 50 42.1 +0.1
comp=Z,0.6nm,0.7s,baz=20,slow=1.1,SNR=3.1
TXAR LR LR 20 09 06.8
comp=Z,52nm,20.3s,baz=332,slow=39
HEH HeiHe 45.23 296 eP P 19 49 06.6 -1.0
TKL Tuckaleechee C 47.33 93 LR LR 20 10 12.6
comp=Z,208nm,18.1s,baz=334,slow=37
USRK Ussuriysk Ar. 47.81 287 LR LR 20 11 22.4
comp=Z,125nm,19.1s,baz=227,slow=38
ARCES ARCESS Array B 48.94 3 P P 19 49 35.2 -1.1
comp=Z,2.7nm,1.0s,baz=6.1,slow=9.3,SNR=2.4
comp=Z,2.7nm,1.0s
MJAR Matsushiro Arr 50.98 276 P P 19 49 52.3 +0.1
comp=Z,2.1nm,0.9s,baz=62,slow=4.6,SNR=2.5
MJAR LR LR 20 14 04.3
comp=Z,43nm,18.5s,baz=208,slow=39
comp=Z,2.1nm,0.9s
KSRS Korea Array 55.04 285 P P 19 50 22.4 +0.3
comp=Z,1.8nm,0.8s,baz=29,slow=6.0,SNR=4.5
comp=Z,1.8nm,0.8s
SONM Songino Array 55.62 308 P P 19 50 27.0 +0.7
comp=Z,3.1nm,0.8s,baz=26,slow=7.0,SNR=18
comp=Z,3.1nm,0.8s
NOA NORSAR Array B 56.54 12 LR LR 20 16 14.5
comp=Z,13nm,20.3s,baz=115,slow=38
FINES FINESS Array B 57.07 3 P P 19 50 36.6 +0.4
comp=Z,3.2nm,1.0s,baz=143,slow=19,SNR=1.7
comp=Z,3.2nm,1.0s
ZALV Zalesovo Beam 57.31 326 P P 19 50 37.1 -1.0
comp=Z,1.7nm,0.7s,baz=31,slow=6.9,SNR=7.9
comp=Z,1.7nm,0.7s
HFS Hagfors 57.66 11 P P 19 50 39.3 -1.1
comp=Z,3.0nm,0.9s,baz=32,slow=14,SNR=1.5
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 59.41 300 eP P 19 50 52.8 -0.3
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.0s
EKA Eskdalemuir Ar 60.08 22 P P 19 50 57.1 -0.2
comp=Z,2.1nm,0.6s,baz=330,slow=5.0,SNR=6.2
comp=Z,2.1nm,0.6s
ARU Arti 60.33 343 P P 19 50 58.5 -0.5
comp=Z,2.4nm,0.5s,baz=11,slow=6.4,SNR=7.4
comp=Z,2.4nm,0.5s
BVAR Borovoye Array 61.57 335 P P 19 51 07.0 -0.5
comp=Z,1.6nm,0.8s,baz=64,slow=5.1,SNR=7.0
comp=Z,1.6nm,0.8s
NJ2 Nanjing 63.66 289 eP P 19 51 24.7 +3.0
NJ2 pmax pmax
comp=Z,12nm,0.5s
MNK Minsk 64.07 3 *i* P P 19 51 27.9 +3.8
comp=E,3.0nm,0.9s
MNK *i* P P 19 51 27.9 +3.8
comp=N,24nm,0.8s
MNK *i* P P 19 51 27.9 +3.8
comp=Z,7.0nm,0.8s,baz=178
MNK *i* PcP **PcP 19 52 02.9 +3.6**
MNK *i* PP **PP 19 53 48.7 +4.5**
MNK *i* PPP PPP 19 55 18.8
MNK *i* S **S 20 00 05.3 +4.8**
MNK *i* SS **SS 20 04 15.3 +7.3**
MNK *i* SSS SSS 20 07 15.0
MNK *i* LQ LQ 20 14 36.6
MNK *i* LR LR 20 18 45.4
MNK *i* LRM MLR 20 21 06.0
comp=N,384nm,12.8s
MNK *i* LRM MLR 20 21 11.7
comp=Z,52nm,11.5s
MNK *i* LRM MLR 20 21 12.3
comp=E,5.0nm,10.2s
MKAR Makanchi Array 64.48 324 P P 19 51 26.1 -0.8
comp=E,1.4nm,0.8s,baz=37,slow=7.3,SNR=6.0
comp=E,1.4nm,0.8s
GTA Gaotai 65.29 308 eP P 19 51 33.3 +0.8
GTA pP sP 19 51 36.7 +0.5
GTA sP pP 19 51 40.7 +5.5
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,70nm,4.4s
GTA LR LR
comp=N,120nm,16.0s
GTA LR LR
comp=E,96nm,17.8s
GTA LR LR
comp=Z,76nm,17.1s
BELG Belogornoye 65.53 349 P P 19 51 32.4 -1.1
comp=Z,14nm,1.0s,baz=29,slow=1.9,SNR=3.5
comp=Z,14nm,1.0s
WMQ Urumqi 65.57 319 eP P 19 51 34.4 +0.2
CLL Collm 66.31 13 eP P 19 51 42.0 +3.3
LZH Lanzhou 66.62 303 eP P 19 51 41.8 +0.7
LZH pP sP 19 51 45.6 +0.7
LZH sP pP 19 51 49.3 +5.4
LZH pmax pmax
comp=Z,18nm,1.5s
LZH LR LR
comp=N,160nm,16.4s
LZH LR LR
comp=E,220nm,17.1s
LZH LR LR
comp=Z,260nm,16.4s
DPC Dobruska-Polom 67.58 11 eP P 19 51 46.7 -0.2
KRLC Kraliky 67.90 10 eP P 19 51 50.3 +1.4
AKASG Malin Array Be 67.90 2 P P 19 51 47.9 -0.9
comp=Z,0.6nm,0.4s,baz=355,slow=6.0,SNR=6.6
comp=Z,0.6nm,0.4s
KHC Kasperske Hory 68.53 13 eP P 19 51 54.0 +1.2
VRAC Vranov 68.64 11 P P 19 51 53.5 0.0
comp=Z,1.9nm,0.7s,baz=355,slow=12,SNR=2.8
comp=Z,1.9nm,0.7s
GERES GERESS Array B 68.82 13 P P 19 51 54.2 -0.5
comp=Z,0.7nm,0.8s,baz=12,slow=5.0,SNR=4.0
comp=Z,0.7nm,0.8s
DAVOX Davos/Dischmat 70.41 16 P P 19 52 04.2 -0.5
comp=Z,3.2nm,0.8s,baz=352,slow=7.1,SNR=1.9
comp=Z,3.2nm,0.8s
SJG San Juan 70.47 88 LR LR 20 24 21.5
comp=Z,56nm,20.1s,baz=310,slow=37
KSH Kashi 72.95 326 P P 19 52 24.1 +4.1
KSH pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 74.51 352 P P 19 52 29.6 +0.8
comp=Z,3.5nm,0.9s,baz=327,slow=3.5,SNR=8.4
comp=Z,3.5nm,0.9s
ESDC Sonseca Array 74.87 28 P P 19 52 32.4 +1.3
comp=Z,1.0nm,0.8s,baz=326,slow=5.6,SNR=3.5
comp=Z,1.0nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**75.88**	**300**	P	**P**	**19 52 35.7**	**-1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
SDV	**Santo Domingo**	**76.34**	**97**	LR	LR	20 27 37.5	
	comp=Z,54nm,20.0s,baz=344,slow=37						
GEYT	**Alibeck**	**78.41**	**339**	P	**P**	**19 52 51.3**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=293,slow=7.7,SNR=2.5						
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.88**	**359**	P	**P**	**19 52 53.9**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=48,slow=2.3,SNR=3.1						
	comp=Z,0.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**84.19**	**298**	P	**P**	**19 53 21.6**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=6.3,slow=6.1,SNR=25						
	comp=Z,3.2nm,0.9s						
NNA	**Nana**	**91.87**	**112**	LR	LR	20 38 59.4	
	comp=Z,22nm,18.8s,baz=195,slow=38						
LPAZ	**La Paz**	**99.57**	**106**	LR	LR	20 45 41.1	
	comp=Z,25nm,18.6s,baz=250,slow=39						
BOSA	**Boshof**	**146.59**	**10**	PKPbc	**PKPbc**	**20 00 30.1**	**-1.9**
	comp=Z,2.4nm,1.0s,baz=330,slow=5.7,SNR=1.6						

---

*NEIC **06** 19:43:07.6±0.8, 36.°37N±0.°01×97.°080W±0.°006, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=12.0*
*TUL **06** 19:43:07.6±0.9, 36.°37N±0.°01×97.°07W±0.°02, h6km±5km, ML3.0, mb_Lg3.1/76(NEIC), Error ellipse: s-maj=2.0km s-min=1.4km az=61.0*
*ANF **06** 19:43:08.5±0.6, 36.°35N×97.°05W, h5km, ML3.5/11, Error ellipse: s-maj=5.8km s-min=5.2km az=19.0*
ISC 06 19:43:07.9±0.8**, 36.°36N**±0.°02×**97.°09W**±0.°02**, h10**km**, n94, σ0.s94**/68**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK050	**Pawnee Station**	**0.10**	**68**		**Pg**	**19 43 09.7**	**-0.8**
OK050				Sg	**Sg**	**19 43 11.1**	**-1.2**
OK048	**Pawnee Station**	**0.13**	**64**	Pg	**Pg**	**19 43 10.3**	**-0.7**
OK048				Sg	**Sg**	**19 43 12.2**	**-1.1**
OK046	**Pawnee Station**	**0.15**	**75**		**Pg**	**19 43 10.8**	**-0.6**
OK045	**Pawnee Station**	**0.16**	**57**		**Pg**	**19 43 10.9**	**-0.6**
OK049	**E0420 Rd and N**	**0.18**	**286**	Pg	**Pg**	**19 43 11.6**	**-0.2**
OK044	**Pawnee Station**	**0.24**	**86**	Pg	**Pg**	**19 43 12.3**	**-0.6**
OK051	**E0350 and S346**	**0.25**	**55**	Pg	**Pg**	**19 43 12.6**	**-0.5**
OK033	**Mehan**	**0.34**	**158**	Pg	**Pg**	**19 43 14.6**	**-0.1**
QUOK	**Quay**	**0.36**	**121**	Pg	**Pg**	**19 43 14.8**	**-0.3**
BLOK	**Blackwell**	**0.41**	**346**	Pg	**Pg**	**19 43 15.7**	**-0.3**
OK031	**S. Brethren Rd**	**0.45**	**153**	Pg	**Pg**	**19 43 16.6**	**-0.2**
OK034	**N. Norfolk Rd.**	**0.46**	**138**	Pg	**Pg**	**19 43 16.8**	**-0.2**
OK029	**Liberty Lake**	**0.63**	**208**	Pg	**Pg**	**19 43 20.1**	**-0.1**
DEOK	**Depew**	**0.70**	**137**	Pg	**Pg**	**19 43 21.2**	**-0.3**
OK005	**Luther M Schoo**	**0.71**	**186**	Pg	**Pg**	**19 43 21.4**	**-0.1**
KAN13	**South Haven SW**	**0.72**	**335**	Pg	**Pg**	**19 43 21.4**	**-0.5**
T35A	**Sooner Cattle**	**0.73**	**40**	Pg	**Pg**	**19 43 21.3**	**-0.6**
T35B	**Sooner Cattle**	**0.73**	**40**	P	**Pg**	**19 43 21.4**	**-0.6**
	baz=221						
T35B				S	**Sg**	**19 43 30.7**	**-0.8**
	baz=221						
CROK	**Carrier**	**0.73**	**282**	Pg	**Pg**	**19 43 21.8**	**-0.3**
GC02	**Grant County #**	**0.79**	**309**	Pg	**Pg**	**19 43 22.6**	**-0.6**
OK025	**Westminster Rd**	**0.80**	**194**	Pg	**Pg**	**19 43 23.2**	**-0.2**
BCOK	**Bluff Creek, N**	**0.81**	**211**	Pg	**Pg**	**19 43 23.3**	**-0.3**
KAN17	**Caldwell West**	**0.87**	**322**	Pg	**Pg**	**19 43 24.2**	**-0.5**
KAN09	**Caldwell North**	**0.88**	**332**	Pg	**Pg**	**19 43 24.3**	**-0.6**
KAN14	**Manchester OK**	**0.92**	**311**		**Pg**	**19 43 25.0**	**-0.6**
OK011	**Prague**	**0.93**	**159**	Pg	**Pg**	**19 43 24.0**	**-1.8**
KS20	**Mayfield South**	**0.94**	**337**	Pg	**Pg**	**19 43 25.4**	**-0.7**
KAN01	**Argonia South**	**0.96**	**326**	Pg	**Pg**	**19 43 25.7**	**-0.7**
OK032	**Salt Plains WL**	**1.00**	**297**	Pg	**Pg**	**19 43 26.5**	**-0.7**
KS21	**Milan North St**	**1.03**	**334**	Pg	**Pg**	**19 43 26.9**	**-0.9**
KAN06	**Argonia West S**	**1.08**	**326**	Pg	**Pg**	**19 43 27.9**	**-0.8**
KAN08	**Anthony NE Sta**	**1.12**	**321**		**Pb**	**19 43 28.6**	**-0.7**
FNO	**Franklin**	**1.13**	**193**		**Pb**	**19 43 28.7**	**-0.8**
TUL1	**Leonard**	**1.15**	**113**		**Pb**	**19 43 28.7**	**-1.1**
TUL1	**Leonard**	**1.15**	**113**	P	**Pb**	**19 43 28.9**	**-0.9**
	baz=294						
TUL1				S	**Sg**	**19 43 44.5**	**-0.3**
	baz=294						
KAN12	**Harper NE Stat**	**1.19**	**323**		**Pb**	**19 43 29.9**	**-0.6**
OK038	**West end E0370**	**1.33**	**276**	Pn	**Pn**	**19 43 31.5**	**-1.1**
OK035	**E0210 Rd and N**	**1.35**	**285**		**Pn**	**19 43 32.7**	**-0.1**
CSTR	**Hydro, Custer**	**1.48**	**242**		**Pn**	**19 43 34.8**	**+0.2**
NOKA	**Waynoka**	**1.51**	**281**		**Pb**	**19 43 35.4**	**-0.6**
U32A	**Winter Ranch,**	**1.54**	**271**		**Pn**	**19 43 35.8**	**+0.3**
U32A	**Winter Ranch,**	**1.54**	**271**	P	**Pb**	**19 43 36.1**	**-0.5**
	baz=90						
U32A				S	**Sg**	**19 43 57.0**	**-0.5**
	baz=90						
RLO	**Rose Lookout**	**1.68**	**96**		**Pb**	**19 43 38.0**	**-1.0**
ELIS	**Ellis County**	**1.90**	**262**	Pn	**Pn**	**19 43 41.1**	**+0.6**
ELIS				IAmb_Lg		19 44 11.9	
	comp=Z,83nm,0.7s						
WMOK	**Wichita Mounta**	**2.12**	**221**		**Pn**	**19 43 44.1**	**+0.6**
WMOK	**Wichita Mounta**	**2.12**	**221**	P	**Pb**	**19 43 44.9**	**-1.6**
	baz=40						
WMOK				S	**Sb**	**19 44 12.9**	**0.0**
	baz=40						
U38A	**Gravette**	**2.19**	**87**		**Pb**	**19 43 45.8**	**-1.8**
U38A	**Gravette**	**2.19**	**87**	P	**Pb**	**19 43 45.7**	**-1.9**
	baz=269						
X37A	**Clayton**	**2.26**	**141**	Pn	**Pn**	**19 43 46.3**	**+1.0**
X37A	**Clayton**	**2.26**	**141**	P	**Pn**	**19 43 46.3**	**+1.0**
	baz=322						
X37A				S	**Sg**	**19 44 18.8**	**-1.6**
	baz=322						
LOOK	**Love County**	**2.36**	**182**	IAmb_Lg		19 44 21.7	
	comp=Z,9.1nm,0.8s						
R32A	**Long Quarter,**	**2.43**	**328**	P	**Pn**	**19 43 48.8**	**+1.1**
	baz=148						
R32A				S	**Sb**	**19 44 23.3**	**+1.5**
	baz=148						
HHAR	**Hobbs**	**2.55**	**91**	Pn	**Pn**	**19 43 50.9**	**+1.6**
KSU1	**Kansas State U**	**2.77**	**8**	S	**Sb**	**19 44 33.4**	**+2.0**
	baz=188						
Z35A	**Perchaven, San**	**3.02**	**183**	P	**Pn**	**19 43 56.9**	**+1.1**
	baz=2.4						
CBKS	**Cedar Bluff**	**3.23**	**320**	IAmb_Lg		19 44 57.2	
	comp=Z,41nm,0.9s						
MIAR	**Mount Ida**	**3.39**	**121**	Pn	**Pn**	**19 44 00.6**	**-0.3**
MIAR	**Mount Ida**	**3.39**	**121**	S	**Sn**	**19 44 43.2**	**+1.9**
	baz=304						
Z38A	**Mt. Pleasant**	**3.54**	**150**	S	**Sn**	**19 44 46.7**	**+1.7**
	baz=332						
MGMO	**Mountain Grove**	**3.96**	**77**	Pn	**Pn**	**19 44 09.9**	**+1.2**
MGMO				IAmb_Lg		19 45 17.3	
	comp=Z,39nm,0.8s						
WHAR	**Wooly Hollow**	**4.05**	**104**	Pn	**Pn**	**19 44 11.2**	**+1.3**
WHAR				IAmb_Lg		19 45 22.2	
	comp=Z,44nm,0.8s						
UALR	**University of**	**4.18**	**111**	IAmb_Lg		19 45 24.5	
	comp=Z,40nm,0.8s						
ABTX	**Abilene, Hawle**	**4.28**	**210**	IAmb_Lg		19 45 25.9	
	comp=Z,32nm,1.0s						
R40A	**Maddies Statio**	**4.30**	**62**	Pn	**Pn**	**19 44 14.3**	**+0.8**
R40A				IAmb_Lg		19 45 23.4	
	comp=Z,50nm,0.9s						
P38A	**Dawn**	**4.31**	**40**	IAmb_Lg		19 45 26.7	
	comp=Z,55nm,0.8s						
CCAR	**Cane Creek**	**4.99**	**118**	IAmb_Lg		19 45 56.6	
	comp=Z,24nm,0.7s						
BGNE	**Belgrade**	**5.11**	**351**	IAmb_Lg		19 45 53.1	
	comp=Z,36nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.13**	**303**	IAmb_Lg		19 45 59.9	
	comp=Z,26nm,0.8s						
FVM	**French Village**	**5.57**	**71**	IAmb_Lg		19 46 02.9	
	comp=Z,26nm,0.8s						
GNAR	**Gosnell**	**5.74**	**92**	IAmb_Lg		19 46 15.1	
	comp=Z,25nm,0.8s						
SLM	**Saint Louis**	**5.91**	**65**	IAmb_Lg		19 46 14.2	
	comp=Z,30nm,0.8s						
T25A	**Trinidad**	**5.93**	**280**	IAmb_Lg		19 46 27.7	
	comp=Z,20nm,0.8s						
CGM3	**Cape Girardeau**	**6.04**	**79**	IAmb_Lg		19 46 20.9	
	comp=Z,30nm,0.8s						
JCT	**Junction City**	**6.29**	**202**	IAmb_Lg		19 46 32.5	
	comp=Z,22nm,0.8s						
SCIA	**State Center**	**6.31**	**27**	IAmb_Lg		19 46 30.7	
	comp=Z,38nm,0.8s						
S44A	**Carbondale**	**6.41**	**76**	IAmb_Lg		19 46 30.8	
	comp=Z,27nm,0.9s						
W45A	**Hickory Valley**	**6.54**	**98**	IAmb_Lg		19 46 38.9	
	comp=Z,34nm,0.8s						
Y45A	**Yeager Farm, C**	**6.67**	**110**	IAmb_Lg		19 46 46.9	
	comp=Z,29nm,0.9s						
P43A	**Skaggs, Pawnee**	**6.82**	**59**	IAmb_Lg		19 46 45.8	
	comp=Z,34nm,0.8s						
BRIGG	**Briggsdale**	**7.06**	**309**	IAmb_Lg		19 46 57.8	
	comp=Z,24nm,0.8s						
K38A	**Parkersburg**	**7.11**	**27**	IAmb_Lg		19 47 09.1	
	comp=Z,29nm,0.8s						
L40A	**Anamosa**	**7.29**	**37**	IAmb_Lg		19 47 06.1	
	comp=Z,22nm,0.8s						
OLIL	**Olney**	**7.53**	**69**	IAmb_Lg		19 47 19.2	
	comp=Z,19nm,0.9s						
USIN	**University of**	**7.70**	**75**	IAmb_Lg		19 47 21.8	
	comp=Z,18nm,0.8s						
O44A	**Mansfield**	**7.77**	**58**	IAmb_Lg		19 47 19.8	
	comp=Z,27nm,0.8s						
T47A	**Sharon Grove**	**8.05**	**83**	IAmb_Lg		19 47 25.8	
	comp=Z,14nm,0.7s						
N23A	**Red Feather La**	**8.27**	**306**	IAmb_Lg		19 47 43.0	
	comp=Z,21nm,0.9s						
JFWS	**Jewell Farm**	**8.41**	**37**	IAmb_Lg		19 47 33.0	
	comp=Z,21nm,0.7s						
M44A	**Midewin, Midew**	**8.66**	**52**	IAmb_Lg		19 47 49.6	
	comp=Z,18nm,0.8s						
HQIL	**Hanson Quary C**	**9.01**	**50**	IAmb_Lg		19 47 52.6	
	comp=Z,24nm,1.0s						
I40A	**Norwalk**	**9.01**	**31**	IAmb_Lg		19 48 04.5	
	comp=Z,12nm,0.8s						
K43A	**Burlington**	**9.27**	**44**	IAmb_Lg		19 48 10.6	
	comp=Z,21nm,0.8s						
K22A	**Casper**	**9.62**	**314**	IAmb_Lg		19 48 23.4	
	comp=Z,11nm,1.0s						
I42A	**Draeger Farm,**	**9.79**	**37**	IAmb_Lg		19 48 22.6	
	comp=Z,16nm,0.8s						

---

*IDC **06** 19:45:57.4±1.1, 34.°95N×33.°77E, h0km, mb3.7/5, mbtmp4.0/11, ML4.2/6, MS3.1/1, Error ellipse: s-maj=24.5km s-min=16.8km az=56.0*
*SGS **06** 19:45:59.7, 34.°99N×34.°67E, h10km, Ml3.9*
*ISK **06** 19:46:00.4, 34.°71N×33.°61E, h28km, ML4.0/24*
*NIC **06** 19:46:01.8±0.0, 34.°77N×33.°62E, h30km±31km, Ml4.1/8*
*GII **06** 19:46:02.4±0.1, 34.°73N×33.°68E, h25km, mb4.1/2, MD3.9/2, Mm3.5/14*
*DDA **06** 19:46:03.0±0.0, 34.°80N×33.°65E, h38km±30km, MW3.9*
*GRAL **06** 19:46:05.1±0.3, 34.°46N×34.°08E, h0km±7km, MD4.0*
ISC 06 19:46:01.5±0.9**, 34.°75N**±0.°02×**33.°70E**±0.°02**, h34**km±2km**, n155, σ1.s42**/207**, mb3.6**/7**, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MVOU	**Mavrovouni**	**0.27**	**347**	P	**Pn**	**19 46 08.6**	**-0.2**
MVOU				S	**Sn**	**19 46 14.1**	**+1.4**
MVOU				AML	AML	19 46 15.8	
	48nm,0.4s						
MVOU				AML	AML	19 46 15.8	
	48nm,0.4s						
MVOU				AML	AML	19 46 16.3	
	67nm,0.3s						
MVOU				AML	AML	19 46 16.3	
	67nm,0.3s						
PARAL	**Paralimni**	**0.37**	**48**	P	**Pn**	**19 46 11.5**	**+1.0**
PARAL				S	**Sb**	**19 46 18.1**	**+1.9**
PARAL				AML	AML	19 46 21.0	
	47nm,0.4s						
PARAL				AML	AML	19 46 21.0	
	47nm,0.4s						
PARAL				AML	AML	19 46 21.0	
	34nm,0.6s						
PARAL				AML	AML	19 46 21.0	
	34nm,0.6s						
CSS	**Mathiatis**	**0.37**	**305**	PG	**Pb**	**19 46 09.2**	**-1.1**
CSS				SG	**Sn**	**19 46 14.6**	**-1.7**
CSS	**Mathiatis**	**0.37**	**305**	P	**Pb**	**19 46 08.8**	**-1.5**
CSS	**Mathiatis**	**0.37**	**305**	P	**Pb**	**19 46 09.3**	**-1.1**
CSS				S	**Sn**	**19 46 15.3**	**-1.0**
CSS				AML	AML	19 46 15.4	
	24nm,0.6s						
CSS				AML	AML	19 46 15.4	
	24nm,0.6s						
CSS				AML	AML	19 46 18.1	
	35nm,0.6s						
CSS				AML	AML	19 46 18.1	
	35nm,0.6s						
CSS	**Mathiatis**	**0.37**	**305**	Pg	**Pb**	**19 46 09.3**	**-1.1**
ASGA	**Asgata**	**0.38**	**276**	P	**Pb**	**19 46 09.2**	**-1.1**
ASGA				S	**Sb**	**19 46 16.2**	**-0.2**
ASGA				AML	AML	19 46 16.8	
	91nm,0.4s						
ASGA				AML	AML	19 46 16.8	
	91nm,0.4s						
ASGA				AML	AML	19 46 17.1	
	60nm,0.3s						
ASGA				AML	AML	19 46 17.1	
	60nm,0.3s						
ATHAL	**Athalassa**	**0.47**	**327**	P	**Pb**	**19 46 11.3**	**-0.3**
ATHAL				S	**Sb**	**19 46 18.9**	**+0.3**
ATHAL				AML	AML	19 46 19.9	
	104nm,0.7s						
ATHAL				AML	AML	19 46 19.9	
	104nm,0.7s						
ATHAL				AML	AML	19 46 25.1	
	118nm,0.9s						
ATHAL				AML	AML	19 46 25.1	
	118nm,0.9s						
LFK	**Lefkose**	**0.55**	**345**	PG	**Pn**	**19 46 12.8**	**-0.1**
LFK				SG	**Sb**	**19 46 21.7**	**+0.9**
SZAC	**Souni**	**0.68**	**271**	P	**Pn**	**19 46 13.8**	**-0.8**
SZAC				S	**Sn**	**19 46 24.3**	**+0.2**
SZAC				AML	AML	19 46 24.5	
	116nm,0.5s						
SZAC				AML	AML	19 46 24.5	
	116nm,0.5s						
SZAC				AML	AML	19 46 24.6	
	71nm,0.4s						
SZAC				AML	AML	19 46 24.6	
	71nm,0.4s						
LEF	**Lefka**	**0.76**	**299**	PG	**Pn**	**19 46 15.3**	**-0.5**
LEF				SG	**Sn**	**19 46 26.1**	**-0.1**
EREN	**Erenkoy**	**0.87**	**26**	PG	**Pn**	**19 46 18.2**	**+0.9**
NATA	**Nata**	**0.93**	**272**	P	**Pn**	**19 46 17.8**	**-0.4**
NATA				S	**Sn**	**19 46 31.9**	**+1.5**
ALFC	**Alefka**	**0.99**	**294**	P	**Pn**	**19 46 18.1**	**-1.0**
ALFC				S	**Sn**	**19 46 30.7**	**-1.2**
ALFC				AML	AML	19 46 33.7	
	58nm,0.2s						
ALFC				AML	AML	19 46 33.7	
	58nm,0.2s						
AKMS	**Akamas**	**1.16**	**284**	P	**Pn**	**19 46 21.1**	**-0.2**
AKMS				S	**Sn**	**19 46 37.4**	**+1.5**
AKMS				AML	AML	19 46 39.2	
	27nm,0.3s						
AKMS				AML	AML	19 46 39.2	
	27nm,0.3s						
AKMS				AML	AML	19 46 39.6	
	40nm,0.4s						
AKMS				AML	AML	19 46 39.6	
	40nm,0.4s						
AKK2	**Akkuyu-Mersin**	**1.39**	**355**	PN	**Pn**	**19 46 24.7**	**+0.3**
AKK2				SN	**Sn**	**19 46 42.6**	**+1.0**
AKK1	**Akkuyu-Mersin**	**1.40**	**355**	PN	**Pn**	**19 46 25.1**	**+0.6**
TISA	**Tisan-Mersin**	**1.41**	**359**	PN	**Pn**	**19 46 25.3**	**+0.6**
TISA				SN	**Sn**	**19 46 43.3**	**+1.2**
AKKU	**Akkuyu-Mersin**	**1.41**	**355**	PN	**Pn**	**19 46 25.2**	**+0.4**
AKKU				SN	**Sn**	**19 46 43.2**	**+1.0**
GULN	**MERSIN_Gulnar**	**1.44**	**355**	P	**Pn**	**19 46 25.4**	**+0.3**
GULN				S	**Sn**	**19 46 43.0**	**+0.2**
GULN				*i* AML	AML	19 46 45.0	
	comp=E,763nm,0.4s						
GULN				*i* AML	AML	19 46 46.0	
	comp=N,1µm,0.4s						
YESI	**Yesilovacik-Me**	**1.45**	**358**	PN	**Pn**	**19 46 25.9**	**+0.7**
YESI				SN	**Sn**	**19 46 44.6**	**+1.7**
KARG	**Kargicak-Mersi**	**1.45**	**0**	PN	**Pn**	**19 46 27.3**	**+2.0**
OREN	**Orenkoy-Mersin**	**1.47**	**352**	PN	**Pn**	**19 46 25.4**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.47**	**341**	PN	**Pn**	**19 46 25.4**	**-0.2**
TEPK	**Tepekoy-MERSIN**	**1.48**	**355**	PN	**Pn**	**19 46 26.2**	**+0.5**
IKL	**Isikli**	**1.49**	**359**	PN	**Pn**	**19 46 26.1**	**+0.3**
IKL				SN	**Sn**	**19 46 45.4**	**+1.4**
SILI	**Silifke-Mersin**	**1.62**	**6**	PN	**Pn**	**19 46 28.7**	**+1.0**
BERE	**Bereket-Mersin**	**1.64**	**346**	PN	**Pn**	**19 46 28.4**	**+0.3**
KEBE	**Keben-Mersin**	**1.69**	**0**	PN	**Pn**	**19 46 29.3**	**+0.6**
TEVE	**Tevekalti-Mers**	**1.70**	**353**	PN	**Pn**	**19 46 29.5**	**+0.8**
BEYL	**Beirut**	**1.72**	**120**	*e*P	**Pn**	**19 46 28.3**	**-0.6**
KIZK	**Mersin**	**1.76**	**12**	PN	**Pn**	**19 46 30.5**	**+0.9**
KIZK	**Mersin**	**1.76**	**12**	P	**Pn**	**19 46 30.7**	**+1.1**
BHL	**Bhannes**	**1.82**	**117**	*e*P	**Pn**	**19 46 30.1**	**-0.4**
BHL				*e*S	**Sn**	**19 46 48.7**	**-3.7**
DQRL	**Deir Qamar**	**1.86**	**123**	*e*P	**Pn**	**19 46 30.6**	**-0.4**
DQRL				*e*S	**Sn**	**19 46 49.6**	**-3.8**
GAZI	**Gazipasa**	**1.87**	**323**	PN	**Pn**	**19 46 30.8**	**-0.2**
GAZI	**Gazipasa**	**1.87**	**323**	P	**Pn**	**19 46 30.9**	**-0.2**
GAZI				S	**Sn**	**19 46 52.0**	**-1.4**
GAZI				*i* AML	AML	19 46 55.0	
	comp=E,681nm,0.7s						
GAZI				*i* AML	AML	19 46 55.0	
	comp=N,918nm,0.8s						
HWQ	**Hawqa**	**1.91**	**104**	*e*P	**Pn**	**19 46 32.4**	**+0.7**
HWQ				*e*S	**Sn**	**19 46 52.7**	**-2.0**
ERMK	**Ermenek**	**2.00**	**341**	P	**Pn**	**19 46 34.2**	**+1.2**
ERMK				S	**Sn**	**19 46 59.0**	**+2.1**
ERMK				*i* AML	AML	19 47 02.0	
	comp=N,843nm,0.6s						
QRWL	**Qaraoun**	**2.03**	**126**	*e*P	**Pn**	**19 46 33.4**	**0.0**
HNTI	**Hanita**	**2.06**	**143**	P	**Pn**	**19 46 34.0**	**+0.3**
HNTI	**Hanita**	**2.06**	**143**	Pn	**Pn**	**19 46 34.0**	**+0.3**
HNTI				Sn	**Sn**	**19 46 58.1**	**-0.1**
RCY	**Rachaya**	**2.17**	**125**	*e*P	**Pn**	**19 46 35.5**	**+0.3**
MMA0B	**Mount Meron ar**	**2.23**	**140**	Pn	**Pn**	**19 46 36.4**	**+0.3**
MMA0B				Sn	**Sn**	**19 47 02.5**	**-0.1**
MMAI	**Mount Meron Ar**	**2.23**	**140**	Pn	**Pn**	**19 46 36.7**	**+0.6**
	444nm,0.3s,baz=310,slow=12,SNR=1107						
MMAI				Sn	**Sn**	**19 47 01.8**	**-0.7**
	353nm,0.3s,baz=311,slow=28,SNR=9.9						
	225nm,0.3s						
GEM	**Giv'at Ha'Em**	**2.24**	**133**	P	**Pn**	**19 46 36.7**	**+0.6**
GEM	**Giv'at Ha'Em**	**2.24**	**133**	Pn	**Pn**	**19 46 36.8**	**+0.6**
GEM				Sn	**Sn**	**19 47 02.4**	**-0.1**
NATI	**Neve Ativ**	**2.25**	**131**	P	**Pn**	**19 46 36.8**	**+0.5**
NATI	**Neve Ativ**	**2.25**	**131**	Pn	**Pn**	**19 46 36.7**	**+0.5**
NATI				Sn	**Sn**	**19 47 02.7**	**0.0**
BLGI	**Bet Lehem HaGe**	**2.36**	**148**	P	**Pn**	**19 46 38.2**	**+0.4**
BLGI	**Bet Lehem HaGe**	**2.36**	**148**	Pn	**Pn**	**19 46 38.2**	**+0.4**
BLGI				Sn	**Sn**	**19 47 05.9**	**+0.3**
OFRI	**`Ofer**	**2.38**	**153**	P	**Pn**	**19 46 38.0**	**0.0**
OFRI	**`Ofer**	**2.38**	**153**	Pn	**Pn**	**19 46 38.1**	**0.0**
OFRI				Sn	**Sn**	**19 47 05.5**	**-0.5**
DED	**Mersin**	**2.38**	**22**	P	**Pn**	**19 46 38.9**	**+0.8**
DED				S	**Sn**	**19 47 06.4**	**+0.3**
DED				*i* AML	AML	19 47 10.0	
	comp=E,272nm,0.4s						
DED				*i* AML	AML	19 47 13.0	
	comp=N,104nm,0.7s						
HDMB	**Hadim**	**2.42**	**336**	PN	**Pn**	**19 46 39.3**	**+0.5**
KRMN	**Karaman**	**2.45**	**352**	PN	**Pn**	**19 46 39.9**	**+0.8**
KSHT	**Keshet**	**2.49**	**135**	Pn	**Pn**	**19 46 40.8**	**+1.2**
KKBE	**Karaman, Kazim**	**2.54**	**346**	P	**Pn**	**19 46 40.7**	**+0.3**
YURE	**YUREGIR**	**2.60**	**37**	P	**Pn**	**19 46 41.9**	**+0.8**
SHMJ	**Saham**	**2.65**	**139**	P	**Pn**	**19 46 43.1**	**+1.3**
GULE	**Gulek**	**2.67**	**19**	P	**Pn**	**19 46 44.7**	**+2.4**
KERG	**Konya-Eregli**	**2.68**	**7**	P	**Pn**	**19 46 44.9**	**+2.5**
KERG				S	**Sn**	**19 47 14.8**	**+1.1**
MMLI	**Mount Malkishu**	**2.71**	**148**	Pn	**Pn**	**19 46 43.5**	**+0.8**
MMLI				Sn	**Sn**	**19 47 14.6**	**+0.2**
SLTI	**Sal'it**	**2.74**	**156**	P	**Pn**	**19 46 43.0**	**0.0**
SLTI	**Sal'it**	**2.74**	**156**	Pn	**Pn**	**19 46 43.1**	**0.0**
KEPZ	**Antalya-Kepez**	**2.74**	**322**	P	**Pn**	**19 46 44.1**	**+1.0**
HMDT	**Nahal Hemdat**	**2.92**	**148**	P	**Pn**	**19 46 46.8**	**+1.3**
HMDT	**Nahal Hemdat**	**2.92**	**148**	Pn	**Pn**	**19 46 46.8**	**+1.3**
HMDT				Sn	**Sn**	**19 47 20.1**	**+0.8**
SALP	**Salfit**	**2.95**	**155**	Pn	**Pn**	**19 46 46.4**	**+0.5**
SALP				Sn	**Sn**	**19 47 20.6**	**+0.5**
SEDI	**Konya, Seydise**	**3.12**	**330**	P	**Pn**	**19 46 49.8**	**+1.4**
UJAP	**Al Uja**	**3.15**	**152**	PN	**Pn**	**19 46 50.1**	**+1.4**
UJAP	**Al Uja**	**3.15**	**152**	P	**Pn**	**19 46 49.6**	**+0.9**
UJAP	**Al Uja**	**3.15**	**152**	Pn	**Pn**	**19 46 49.7**	**+1.0**
UJAP				Sn	**Sn**	**19 47 25.7**	**+0.6**
AKUM	**Antalya-Kumluc**	**3.16**	**301**	P	**Pn**	**19 46 51.8**	**+3.0**
KMER	**Konya-Meram**	**3.20**	**341**	P	**Pn**	**19 46 50.3**	**+0.9**
KOZT	**Kozan**	**3.22**	**32**	PN	**Pn**	**19 46 50.4**	**+0.7**
NIDE	**Nigde/Merkez-G**	**3.36**	**15**	P	**Pn**	**19 46 52.5**	**+0.8**
HSUJ	**Al Zarqa**	**3.36**	**141**	P	**Pn**	**19 46 53.4**	**+1.8**
AMAZ	**Amatzia**	**3.37**	**162**	Pn	**Pn**	**19 46 52.5**	**+0.9**
AMAZ				Sn	**Sn**	**19 47 31.0**	**+0.6**
KUZU	**Kuzuini**	**3.41**	**53**	P	**Pn**	**19 46 52.6**	**+0.4**
KAMA	**Osmaniye**	**3.42**	**44**	P	**Pn**	**19 46 51.5**	**-1.0**
KAMA				S	**Sn**	**19 47 26.2**	**-5.7**
DSI	**Dead Sea**	**3.47**	**156**	Pn	**Pn**	**19 46 54.2**	**+1.2**
KORT	**Korkueli**	**3.53**	**310**	P	**Pn**	**19 46 54.3**	**+0.3**
ANDN	**Andirin**	**3.54**	**36**	P	**Pn**	**19 46 55.9**	**+1.8**
ANDN				*i* AML	AML	19 47 29.0	
	comp=E,61nm,1.3s						
ANDN				S	**Sn**	**19 47 35.8**	**+0.9**
ANDN				*i* AML	AML	19 47 40.0	
	comp=N,61nm,0.3s						
YTIR	**Yattir**	**3.58**	**160**	P	**Pn**	**19 46 55.6**	**+0.9**
YTIR	**Yattir**	**3.58**	**160**	Pn	**Pn**	**19 46 55.5**	**+0.9**
YTIR				Sn	**Sn**	**19 47 36.2**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**3.60**	**21**	P	**Pn**	**19 46 56.4**	**+1.5**
YAHY				S	**Sn**	**19 47 36.2**	**0.0**
YAHY				*i* AML	AML	19 47 44.0	
	comp=E,60nm,0.4s						
ALIN	**Konya, Altinte**	**3.60**	**350**	P	**Pn**	**19 46 56.9**	**+1.9**
WALJ	**Wala**	**3.64**	**150**	P	**Pn**	**19 46 56.8**	**+1.5**
MDBI	**Mazsada**	**3.70**	**157**	P	**Pn**	**19 46 57.5**	**+1.4**
MDBI	**Mazsada**	**3.70**	**157**	Pn	**Pn**	**19 46 57.3**	**+1.2**
MDBI				Sn	**Sn**	**19 47 38.9**	**+0.4**
ASF	**Jabal al Asfar**	**3.71**	**133**	Pn	**Pn**	**19 46 58.2**	**+1.8**
	24nm,0.3s,baz=313,slow=5.8,SNR=121						
ASF				Sn	**Sn**	**19 47 41.2**	**+2.4**
	40nm,0.3s,baz=318,slow=21,SNR=21						
	61nm,0.3s						
ASF	**Jabal al Asfar**	**3.71**	**133**	P	**Pn**	**19 46 58.5**	**+2.1**
DOGA	**KONYA_Doganhis**	**3.73**	**334**	P	**Pn**	**19 46 58.0**	**+1.2**
GHAJ	**Ghor Haditha**	**3.77**	**155**	P	**Pn**	**19 46 59.0**	**+1.8**
GHAJ	**Ghor Haditha**	**3.77**	**155**	Pn	**Pn**	**19 46 58.8**	**+1.6**
LISJ	**El Lisan**	**3.80**	**156**	P	**Pn**	**19 46 59.7**	**+2.1**
KAHM	**Kahramanmaras,**	**3.83**	**43**	P	**Pn**	**19 46 58.5**	**+0.4**
KAHM				S	**Sn**	**19 47 39.2**	**-2.7**
KAHM				*i* AML	AML	19 47 43.0	
	comp=N,74nm,0.5s						
KAHM				*i* AML	AML	19 47 43.0	
	comp=E,85nm,0.4s						
KZIT	**Kziot**	**3.88**	**171**	Pn	**Pn**	**19 46 59.3**	**+0.6**
KZIT				Sn	**Sn**	**19 47 43.4**	**+0.4**
KDHN	**Kadinhani**	**3.98**	**342**	P	**Pn**	**19 47 01.3**	**+1.2**
BAGO	**Egridir - ISPA**	**4.00**	**325**	P	**Pn**	**19 47 01.2**	**+0.7**
ISP	**Isparta**	**4.00**	**321**	Pn	**Pn**	**19 47 02.4**	**+1.9**
SWQJ	**Swaqa**	**4.02**	**150**	P	**Pn**	**19 47 00.3**	**-0.4**
GZT	**Gaziantep**	**4.07**	**49**	P	**Pn**	**19 47 01.6**	**+0.2**
BRDR	**BURDUR-Merkez**	**4.16**	**316**	P	**Pn**	**19 47 05.0**	**+2.4**
GOLH	**Golhisar**	**4.18**	**308**	P	**Pn**	**19 47 03.6**	**+0.8**
SARI	**SarD1z-Kayseri**	**4.25**	**30**	PN	**Pn**	**19 47 05.7**	**+1.7**
CAEL	**Denizli, Camel**	**4.27**	**305**	P	**Pn**	**19 47 05.6**	**+1.3**
ZFRI	**Zfri**	**4.36**	**163**	P	**Pn**	**19 47 06.0**	**+0.7**
ZFRI	**Zfri**	**4.36**	**163**	Pn	**Pn**	**19 47 06.0**	**+0.7**
ZFRI				Sn	**Sn**	**19 47 55.4**	**+0.4**
PRNI	**Paran**	**4.52**	**166**	P	**Pn**	**19 47 08.4**	**+0.9**
PRNI	**Paran**	**4.52**	**166**	Pn	**Pn**	**19 47 08.1**	**+0.6**
KRMI	**Paran Flat**	**4.70**	**169**	Pn	**Pn**	**19 47 10.7**	**+0.7**
KRMI				Sn	**Sn**	**19 48 03.6**	**+0.3**
SIRC	**Yozgat**	**4.72**	**14**	P	**Pn**	**19 47 12.4**	**+2.0**
TAVA	**DENIZLI_Tavas**	**4.73**	**306**	P	**Pn**	**19 47 10.8**	**+0.3**
HSNJ	**Maan**	**4.78**	**159**	P	**Pn**	**19 47 13.6**	**+2.4**
BBAL	**Bala**	**4.81**	**355**	P	**Pn**	**19 47 12.6**	**+1.1**
HRFI	**Mount Harif**	**4.83**	**166**	Pn	**Pn**	**19 47 12.6**	**+0.8**
HRFI				Sn	**Sn**	**19 48 07.1**	**+0.5**
TURN	**Turunc**	**4.88**	**296**	P	**Pn**	**19 47 12.5**	**+0.2**
TURN				S	Sn	19 47 57.5	-10
TURN				*i* AML	AML	19 48 06.0	
	comp=E,39nm,0.3s						
TURN				*i* AML	AML	19 48 15.0	
	comp=N,53nm,0.2s						
AKCD	**Akcadag**	**4.91**	**43**	P	**Pn**	**19 47 13.7**	**+0.8**
AKCD				S	**Sn**	**19 48 01.5**	**-7.1**
AKCD				*i* AML	AML	19 48 11.0	
	comp=N,58nm,0.3s						
PASA	**Karahalli, USA**	**4.94**	**318**	P	**Pn**	**19 47 14.5**	**+1.2**
BRTR	**Keskin Array B**	**4.97**	**359**	Pn	**Pn**	**19 47 15.9**	**+2.2**
	1.9nm,0.3s,baz=198,slow=14,SNR=56						
MULA	**Mugla, Merkez-**	**5.03**	**301**	P	**Pn**	**19 47 15.1**	**+0.6**
MBRI	**Mt Berech**	**5.04**	**168**	P	**Pn**	**19 47 15.6**	**+0.8**
	24nm56µm2µm,0.5s						
MBRI	**Mt Berech**	**5.04**	**168**	Pn	**Pn**	**19 47 15.6**	**+0.8**
MBRI				Sn	**Sn**	**19 48 12.5**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**5.08**	**23**	P	**Pn**	**19 47 16.6**	**+1.2**
HANO	**Al Hamad**	**5.13**	**129**	P	**Pn**	**19 47 18.4**	**+2.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AQBJ	**Aqaba**	**5.13**	**167**	P	**Pn**	**19 47 17.4**	**+1.5**
EIL	**Elat**	**5.17**	**168**	Pn	**Pn**	**19 47 17.2**	**+0.8**
	15nm,0.3s,baz=330,slow=3.9,SNR=81						
EIL				Sn	**Sn**	**19 48 13.2**	**-1.8**
	32nm,0.3s,baz=166,slow=12,SNR=9.9						
	35nm,0.4s						
EIL	**Elat**	**5.17**	**168**	PN	**Pn**	**19 47 17.2**	**+0.8**
EIL	**Elat**	**5.17**	**168**	P	**Pn**	**19 47 17.3**	**+0.8**
EIL	**Elat**	**5.17**	**168**	Pn	**Pn**	**19 47 17.0**	**+0.5**
EIL				Sn	**Sn**	**19 48 15.6**	**+0.6**
DELI	**KIRIKKALE**	**5.24**	**2**	P	**Pn**	**19 47 19.2**	**+1.7**
USAK	**Uak-Merkez**	**5.46**	**318**	P	**Pn**	**19 47 21.3**	**+0.8**
HQLS		**5.55**	**168**	P	**Pn**	**19 47 22.1**	**+0.4**
HQLS		**5.55**	**168**	S	**Sn**	**19 48 23.6**	**-0.9**
MANT	**Manisa**	**5.57**	**314**	P	**Pn**	**19 47 21.1**	**-1.1**
JMOS	**Jabal al Moall**	**5.69**	**168**	S	**Sn**	**19 48 27.7**	**0.0**
JMOS				P	**Pn**	**19 47 24.4**	**+0.8**
HAQS	**Haql**	**5.78**	**169**	P	**Pn**	**19 47 25.2**	**+0.4**
BDAS	**Al Bad`**	**6.41**	**169**	P	**Pn**	**19 47 33.5**	**-0.1**
IDI	**Anoyia**	**7.25**	**277**	Pn	**Pn**	**19 47 43.4**	**-1.7**
	2.3nm,0.3s,baz=82,slow=5.8,SNR=38						
IDI				Sn	**Sn**	**19 49 00.2**	**-6.1**
	6.5nm,0.3s,baz=115,slow=3.2,SNR=10						
	6.1nm,0.3s						
AKASG	**Malin Array Be**	**16.27**	**350**	Pn	**Pn**	**19 49 44.5**	**-2.8**
	0.2nm,0.3s,baz=170,slow=11,SNR=1.0						
	0.8nm,0.5s						
GEYT	**Alibeck**	**19.91**	**74**	P	**P**	**19 50 30.7**	**+0.6**
	0.2nm,0.3s,baz=274,slow=12,SNR=6.4						
	3.6nm,0.8s						
KEST	**Kesra**	**19.91**	**280**	LR	LR	20 01 17.6	
	comp=Z,50nm,18.6s,baz=238,slow=46						
GERES	**GERESS Array B**	**20.43**	**320**	P	**P**	**19 50 35.0**	**-0.7**
	1.2nm,0.4s,baz=133,slow=8.7,SNR=22						
	1.2nm,0.4s						
KHC	**Kasperske Hory**	**20.66**	**320**	*e*P	**P**	**19 50 37.0**	**-1.2**
WTTA	**Wattenberg**	**20.74**	**314**	*e*Pn	**P**	**19 50 39.3**	**+0.1**
	0.8nm,0.5s						
SQTA	**Sankt Quirin**	**20.97**	**313**	*e*Pn	Pn	19 50 44.8	+0.4
	0.8nm,0.3s						
MOTA	**Moosalm**	**21.10**	**313**	*e*Pn	**P**	**19 50 43.0**	**-0.1**
	2.1nm,0.7s						
RETA	**Reutte**	**21.37**	**313**	*e*Pn	**P**	**19 50 46.3**	**+0.5**
	0.8nm,0.4s						
CLL	**Collm**	**22.30**	**324**	*i* P	**P**	**19 50 56.5**	**+0.7**
	comp=Z,12nm,1.3s						
CLL				*e*x	x	19 51 36.0	
FINES	**FINESS Array B**	**27.16**	**352**	P	**P**	**19 51 39.5**	**-1.7**
	comp=Z,7.4nm,1.1s,baz=152,slow=9.3,SNR=3.9						
	comp=Z,7.4nm,1.1s						
ESDC	**Sonseca Array**	**30.25**	**291**	P	**P**	**19 52 11.3**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=74,slow=8.9,SNR=1.6						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**35.13**	**355**	P	**P**	**19 52 48.6**	**-2.8**
	comp=Z,3.1nm,1.1s,baz=180,slow=7.1,SNR=1.6						
	comp=Z,3.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**36.06**	**241**	P	**P**	**19 53 02.6**	**+2.7**
	comp=Z,0.3nm,1.0s,baz=26,slow=6.9,SNR=3.0						
	comp=Z,0.3nm,1.0s						

*IDC **06** 19:45:59.9±2.4, 21.°03S×178.°08W, h480^{km}±21^{km}, mb3.1/6, mbtmp4.0/8, Error ellipse: s-maj=35.3km s-min=21.2km az=134.0*

ISC 06 19:46:01.3±0.9**, 21.°0S**±0.°2×**178.°2W**±0.°2**, h495^{km}, n14, σ0.s78**/15**, mb3.5**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.83**	**312**	P	**P**	**19 47 25.6**	**-1.0**
	33nm,0.5s,baz=136,slow=5.7,SNR=59						
URZ	**Urewera**	**17.69**	**192**	P	**P**	**19 49 38.0**	**-0.8**
	3.0nm,0.3s,baz=354,slow=10,SNR=1.8						
ASAR	**Alice Springs**	**44.26**	**257**	P	**P**	**19 53 26.4**	**0.0**
	1.0nm,0.7s,baz=80,slow=10.0,SNR=10						
ASAR				PcP	**PcP**	**19 55 01.3**	**+1.0**
	0.6nm,0.6s,baz=105,slow=3.8,SNR=11						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**44.39**	**263**	P	**P**	**19 53 26.8**	**-0.6**
	0.3nm,0.3s,baz=97,slow=7.6,SNR=22						
WRA				PcP	**PcP**	**19 55 02.0**	**+1.2**
	0.2nm,0.7s,baz=100,slow=6.7,SNR=1.4						
	0.3nm,0.3s						
SEY	**Seymchan**	**86.82**	**347**	P	**P**	**19 57 53.0**	**+0.9**
	3.5nm,0.7s,baz=128,slow=6.2,SNR=6.0						
	3.5nm,0.7s						
ILAR	**Eielson Array**	**88.83**	**13**	P	**P**	**19 58 00.9**	**-0.5**
	0.6nm,0.6s,baz=221,slow=5.7,SNR=7.7						
	0.6nm,0.6s						
PDAR	**Pinedale Array**	**89.42**	**43**	P	**P**	**19 58 04.2**	**-0.8**
	0.2nm,0.6s,baz=281,slow=9.1,SNR=2.6						
	0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.14**	**290**	P	**P**	**19 58 09.2**	**+0.6**
	0.8nm,0.8s,baz=121,slow=2.7,SNR=6.0						
	0.8nm,0.8s						
BVAR	**Borovoye Array**	**119.36**	**320**	PKP	**PKPdf**	**20 03 53.7**	**+0.1**
	0.5nm,0.3s,baz=112,slow=3.0,SNR=5.1						
ARCES	**ARCESS Array B**	**129.38**	**349**	PKP	**PKPdf**	**20 04 13.0**	**+0.7**
	1.3nm,0.8s,baz=49,slow=6.1,SNR=5.8						
FINES	**FINESS Array B**	**136.20**	**343**	PKP	**PKPdf**	**20 04 25.6**	**+0.3**
	5.4nm,1.1s,baz=108,slow=4.5,SNR=1.6						
AKASG	**Malin Array Be**	**143.37**	**331**	PKP	PKPab	20 04 36.6	0.0
	2.7nm,0.4s,baz=44,slow=4.3,SNR=17						
BRTR	**Keskin Array B**	**147.06**	**312**	PKPbc	**PKPbc**	**20 04 48.9**	**+0.4**
	0.8nm,0.6s,baz=105,slow=4.2,SNR=5.1						
GERES	**GERESS Array B**	**150.63**	**344**	PKPbc	**PKPbc**	**20 04 56.9**	**0.0**
	0.5nm,0.6s,baz=27,slow=3.3,SNR=5.8						

MAN 06 19:54:06.1, 19.°05N×121.°17E, h8^{km}, mb4.1, ML2.9, MS2.5, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.36**	**53**	⇓*e*P	Pg	19 54 13.9	+0.7
CICP				*e*S	Sb	19 54 20.3	-0.3
PACPP	**Pamplona Cagay**	**0.61**	**164**	⇓*i*P	Pg	19 54 18.4	+0.5
PACPP				*i* S	Sn	19 54 31.2	+0.2

TAP 06 20:25:51.4, 24.°16N×121.°67E, h11^{km}, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.04**	**269**	P	Pg	20 25 54.3	+0.8
	baz=267						
ETL				*i* S	Sg	20 25 55.9	+0.8
	baz=267						
NACB	**Ninganchiao**	**0.07**	**281**	P	Pg	20 25 54.5	+0.8
	baz=281						
NACB				*i* S	Sg	20 25 56.4	+1.0
	baz=281						
TWD	**Chiawan**	**0.10**	**220**	P	Pg	20 25 54.5	+0.4
	baz=217						
TWD				*e*S	Sg	20 25 56.4	+0.3
	baz=217						
ETLH	**Xiulin Townshi**	**0.18**	**285**	*e*P	Pb	20 25 56.4	-0.3
	baz=285						
ETLH				*i* S	Sg	20 25 59.5	+1.4
	baz=285						
ENA	**Nanau**	**0.28**	**14**	P	Pb	20 25 58.2	-0.2
	baz=15						
ENA				S	Sb	20 26 02.6	-0.5
	baz=15						
WHF	**Hehuan Shan**	**0.37**	**268**	P	Pb	20 25 59.9	-0.3
	baz=267						
WHF				S	Sb	20 26 05.9	-0.3
	baz=267						
NNSB	**Datong**	**0.37**	**316**	*e*P	Pb	20 26 00.5	+0.3
	baz=315						
NNSB				S	Sb	20 26 06.3	+0.3
	baz=315						
NNSH	**Datong**	**0.37**	**316**	*e*P	Pg	20 25 59.3	+0.4
	baz=315						
NNSH				*e*S	Sb	20 26 05.2	-0.9
	baz=315						
NNS	**Nan Shan**	**0.39**	**316**	P	Pg	20 25 59.7	+0.5
	baz=316						
NNS				S	Sb	20 26 05.8	-0.6
	baz=316						
LATG	**Datong**	**0.40**	**341**	P	Pb	20 26 00.4	-0.2
	baz=340						
LATG				S	Sb	20 26 06.8	+0.1
	baz=340						
FUSS	**Fushou**	**0.40**	**283**	*e*P	Pb	20 26 00.9	+0.2
	baz=282						
FUSS				S	Sb	20 26 06.9	0.0
	baz=282						
ESL	**Shilin**	**0.41**	**212**	P	Pb	20 26 00.1	-0.6
	baz=211						
ESL				S	Sb	20 26 07.0	+0.1
	baz=211						
CHGB	**Renai**	**0.46**	**258**	P	Pb	20 26 01.8	0.0
	baz=257						
CHGB				*e*S	Sb	20 26 08.3	-0.4
	baz=257						
ENTT	**Nioudou**	**0.49**	**349**	*i* P	Pb	20 26 01.8	-0.3
	baz=349						
ENTT				S	Sb	20 26 09.2	-0.1
	baz=349						
WUSB	**Renai**	**0.53**	**252**	S	Sb	20 26 10.6	0.0
	baz=251						
EGFH	**Guangfu**	**0.54**	**204**	P	Pb	20 26 02.4	-0.4
	baz=204						
EGFH				S	Sb	20 26 11.1	+0.5
	baz=204						
YHNB	**Yeheng**	**0.57**	**332**	P	Pb	20 26 03.6	+0.1
	baz=332						
NSK	**Sanguang**	**0.59**	**331**	*i* P	Pb	20 26 03.5	-0.3
	baz=331						
NSK				S	Sb	20 26 12.3	+0.1
	baz=331						
YOJ	**Yonaguni jima**	**1.26**	**76**	*e*P	Pn	20 26 14.8	-0.2
	baz=75						

*BJI **06** 20:25:46.7±0.0, 26.°18N×128.°93E, h16^{km}, mb4.6/65, mB4.8/43, Ms4.6/66, Ms7 4.5/64*

*IDC **06** 20:25:48.3±0.4, 26.°42N×128.°83E, h0^{km}, mb4.5/35, mbtmp4.5/38, ML3.2/3, MS4.1/66, Error ellipse: s-maj=13.5km s-min=9.5km az=71.0*

*NEIC **06** 20:25:50.2±1.8, 26.°32N±0.°05×128.°74E±0.°07, h15^{km}±3^{km}, mb5.2/105, Error ellipse: s-maj=9.4km s-min=6.6km az=53.0*

*MOS **06** 20:25:51.9±1.0, 26.°41N×128.°70E, h36^{km}, mb5.0/47, MS4.8/6, Error ellipse: s-maj=8.5km s-min=4.8km az=115.7*

*NIED **06** 20:25:52.5, 26.°41N×128.°83E, h35^{km}, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.96; $M_{\theta\theta}$0.25; $M_{\phi\phi}$0.71; $M_{r\theta}$-0.07; $M_{\theta\phi}$0.70; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.11000×10^{16} NP1:ϕ_s48.00000°, δ44.00000°, λ-72.00000°. NP2:ϕ_s204.00000°, δ49.00000°, λ-106.00000°.*

*JMA **06** 20:25:52.5±0.2, 26.°4N±0.°7×12°9E±°, h35^{km}±3^{km}, MD4.8/13, MW4.8/13, NEAR OKINAWAJIMA ISLAND*

JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .

*GCMT **06** 20:25:54.2±0.4, 26.°40N±0.°03×128.°82E±0.°03, h21^{km}±1^{km}, MW4.8/70, Moment Tensor Solution. s28,c30; s70,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.04±.16; $M_{\theta\theta}$1.06±.10; $M_{\phi\phi}$0.98±.10; $M_{r\theta}$0.62±.17; $M_{\theta\phi}$1.16±.06; $M_{\phi r}$0.54±.17; Best double couple: $M_0$2.26500×10^{16} NP1:ϕ_s227.00000°, δ56.00000°, λ-89.00000°. NP2: ϕ_s45.00000°, δ34.00000°, λ-92.00000°. Principal axes: T 2.3360, Plg11.0000°, Azm316.0000°; N -0.1370, Plg1.0000°, Azm46.0000°; P -2.1930, Plg79.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 20:25:51.9±0.5**, 26.°36N**±0.°03×**128.°85E**±0.°03**, h25^{km}**±3^{km}**, h25^{km}:pP-P, n631, σ1.s69**/619**, mb5.0**/159**, MS4.3**/93**, 42C-8D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.70**	**312**	Pn	**Pb**	**20 26 05.2**	**-0.4**
	6µm,0.3s,baz=121,slow=22						
JOW				Sn	**Sb**	**20 26 12.8**	**-2.1**
	3µm,0.3s,baz=112,slow=19,SNR=10						
JOW	**Kunigami**	**0.70**	**312**	Pg	**Pb**	**20 26 03.7**	**-1.9**
JOW	**Kunigami**	**0.70**	**312**	P	**Pb**	**20 26 05.1**	**-0.4**
JOW	**Kunigami**	**0.70**	**312**	P	**Pb**	**20 26 05.2**	**-0.4**
JOW				*e*S	**Sb**	**20 26 13.8**	**-1.1**
JOW	**Kunigami**	**0.70**	**312**	A	A	20 26 05.2	
	comp=E,29nm,1.1s,comp=E,34nm,1.1s						
JYRO	**Yoronjima**	**0.76**	**332**	P	**Pb**	**20 26 06.0**	**-0.5**
JYRO				*e*S	**Sb**	**20 26 15.0**	**-1.4**
JYRO	**Yoronjima**	**0.76**	**332**	A	A	20 26 06.0	
	comp=E,39nm,4.4s,comp=E,27nm,1.8s						
JNTH	**Nagotoyohara**	**0.76**	**282**	P	**Pb**	**20 26 06.1**	**-0.4**
JNTH				S	**Sb**	**20 26 16.8**	**+0.3**
JNTH	**Nagotoyohara**	**0.76**	**282**	A	A	20 26 06.1	
	comp=E,28nm,0.9s,comp=E,37nm,2.6s						
JJT3	**Tamagusuku3**	**0.98**	**258**	P	**Pb**	**20 26 10.2**	**-0.1**
JJT3				S	**Sn**	**20 26 23.4**	**+0.2**
JJT3	**Tamagusuku3**	**0.98**	**258**	A	A	20 26 10.2	
	comp=E,56nm,3.0s,comp=E,77nm,2.8s						
JOKE	**Okinoerabujima**	**1.03**	**346**	P	**Pn**	**20 26 10.3**	**-0.5**
JOKE				*e*S	**Sb**	**20 26 22.8**	**-1.5**
JOKE	**Okinoerabujima**	**1.03**	**346**	A	A	20 26 10.3	
	comp=E,61nm,1.6s,comp=E,53nm,2.3s						
JIH	**Iheya**	**1.04**	**311**	P	**Pn**	**20 26 10.5**	**-0.4**
JIH				S	**Sb**	**20 26 23.2**	**-1.3**
JIH	**Iheya**	**1.04**	**311**	A	A	20 26 10.5	
	comp=E,37nm,1.0s,comp=E,37nm,1.6s						
JTK	**Tokunoshima**	**1.43**	**3**	P	**Pn**	**20 26 15.7**	**-0.5**
JTK				*e*S	**Sn**	**20 26 32.4**	**-1.8**
JTK	**Tokunoshima**	**1.43**	**3**	A	A	20 26 15.7	
	comp=E,19nm,2.9s,comp=E,16nm,2.8s						
JAGN	**Aguni-jima**	**1.46**	**279**	P	**Pn**	**20 26 16.9**	**+0.3**
JAGN				S	**Sn**	**20 26 34.4**	**-0.6**
JAGN	**Aguni-jima**	**1.46**	**279**	A	A	20 26 16.9	
	comp=E,35nm,2.1s,comp=E,39nm,3.2s						
JKE	**Kume jima 2**	**1.86**	**270**	A	A	20 26 22.7	
	comp=E,8.0nm,4.0s,comp=E,9.0nm,2.9s						
JAMN	**Amaminishikomi**	**1.90**	**9**	A	A	20 26 23.0	
	comp=E,13nm,2.6s,comp=E,6.0nm,2.5s						
JAM	**Amami Oshima**	**2.15**	**18**	A	A	20 26 26.8	
	comp=E,7.0nm,6.5s,comp=E,6.0nm,3.9s						
JZK	**Kikaishima**	**2.19**	**27**	A	A	20 26 27.4	
	comp=E,24nm,3.0s,comp=E,21nm,2.8s						
JMZ	**Minamidaito 2**	**2.19**	**104**	P	**Pn**	**20 26 26.4**	**-0.4**
JMZ				S	**Sn**	**20 26 50.4**	**-2.7**
JMZ	**Minamidaito 2**	**2.19**	**104**	A	A	20 26 26.4	
	comp=E,12nm,1.1s,comp=E,17nm,1.8s						
JKDJ	**Kitadaitoujima**	**2.23**	**100**	P	**Pn**	**20 26 27.1**	**-0.1**
JKDJ				S	**Sn**	**20 26 51.8**	**-2.2**
JKDJ	**Kitadaitoujima**	**2.23**	**100**	A	A	20 26 27.1	
	comp=E,12nm,1.3s,comp=E,17nm,1.0s						
JTAJ	**Takarajima**	**2.80**	**6**	A	A	20 26 35.9	
	comp=E,8.0nm,4.2s,comp=E,8.0nm,4.0s						
JOGS	**Gusukube**	**3.50**	**244**	A	A	20 26 46.4	
	comp=E,15nm,3.7s,comp=E,10.0nm,3.6s						
JIKM	**Ikemajima**	**3.55**	**247**	A	A	20 26 47.2	
	comp=E,9.0nm,4.1s,comp=E,11nm,2.7s						
JMJ	**Miyako jima 2**	**3.56**	**245**	P	**Pn**	**20 26 46.3**	**+0.7**
JMJ2	**Miyako jima3**	**3.57**	**244**	A	A	20 26 47.5	
	comp=E,11nm,5.5s,comp=E,13nm,4.1s						
JNN	**Nakanoshima**	**3.59**	**14**	A	A	20 26 47.1	
	comp=E,5.0nm,2.9s,comp=E,3.0nm,7.2s						
JIRB	**Irabujima**	**3.66**	**246**	A	A	20 26 48.7	
	comp=E,7.0nm,11.1s,comp=E,8.0nm,4.1s						
JTJ	**Tarama**	**4.12**	**246**	A	A	20 26 55.2	
	comp=E,6.0nm,3.3s,comp=E,4.0nm,3.2s						
JKRS	**Kuro-shima**	**4.87**	**245**	A	A	20 27 05.7	
	comp=E,8.0nm,5.8s,comp=E,9.0nm,3.0s						
HATJ	**Hateruma jima**	**5.12**	**244**	A	A	20 27 09.2	
	comp=E,7.0nm,3.2s,comp=E,7.0nm,3.1s						
JSU	**Suzuyama**	**5.32**	**15**		**Pn**	**20 27 09.7**	**0.0**
YOJ	**Yonaguni jima**	**5.61**	**252**	Pn	**Pn**	**20 27 11.6**	**-2.2**
YOJ	**Yonaguni jima**	**5.61**	**252**	P	**Pn**	**20 27 12.6**	**-1.1**
YOJ	**Yonaguni jima**	**5.61**	**252**	P	**Pn**	**20 27 11.6**	**-2.2**
TATO	**Taipei**	**6.79**	**260**	Pn	**Pn**	**20 27 27.3**	**-2.6**
NACB	**Ninganchiao**	**6.92**	**253**	Pn	**Pn**	**20 27 29.2**	**-2.5**
NACB	**Ninganchiao**	**6.92**	**253**	P	**Pn**	**20 27 29.9**	**-1.9**
YHNB	**Yeheng**	**6.96**	**258**		**Pn**	**20 27 32.0**	**-0.4**
YHNB	**Yeheng**	**6.96**	**258**	P	**Pn**	**20 27 33.3**	**+0.9**
JNU	**Nakatsue**	**6.97**	**14**	Pn	**Pn**	**20 27 33.2**	**+0.8**
JNU	**Nakatsue**	**6.97**	**14**	P	**Pn**	**20 27 33.0**	**+0.6**
	135nm,0.8s						
YULB	**Yu-li**	**7.47**	**248**	Pn	**Pn**	**20 27 35.0**	**-4.3**
YULB	**Yu-li**	**7.47**	**248**	P	**Pn**	**20 27 35.7**	**-3.6**
SSLB	**Suanglung**	**7.61**	**252**		**Pn**	**20 27 38.5**	**-2.7**
SSLB	**Suanglung**	**7.61**	**252**	P	**Pn**	**20 27 38.9**	**-2.3**
TWGBT	**Beinan**	**7.90**	**245**	P	**Pn**	**20 27 41.4**	**-3.9**
TWG	**Pinlang**	**7.91**	**245**	Pn	Pn	20 27 40.4	-4.9
TPUB	**Ta-pu**	**8.07**	**250**	Pn	**Pn**	**20 27 45.5**	**-2.0**
TPUB	**Ta-pu**	**8.07**	**250**	P	**Pn**	**20 27 45.9**	**-1.6**
SSE	**Sheshan**	**8.22**	**307**	P	**Pn**	**20 27 50.4**	**+0.8**
SSE				pmax	pmax		
	comp=Z,33nm,0.8s						
SSE				LR	LR		
	comp=N,590nm,12.7s						
SSE				LR	LR		
	comp=E,1µm,14.1s						
SSE				LR	LR		
	comp=Z,2µm,14.3s						
JMN	**Monobe**	**8.54**	**29**		**Pn**	**20 27 53.4**	**-0.6**
JMN	**Monobe**	**8.54**	**29**	P	**Pn**	**20 27 53.5**	**-0.5**
JHS	**Saijyo**	**9.36**	**22**	Pn	**Pn**	**20 28 06.1**	**+0.9**
JHS	**Saijyo**	**9.36**	**22**	P	**Pn**	**20 28 07.3**	**+2.1**
NJ2	**Nanjing**	**10.41**	**305**	⇓P	**Pn**	**20 28 20.9**	**+1.3**
NJ2				S	**Sn**	**20 30 19.0**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,22nm,1.0s						
NJ2				LR	LR		
	comp=N,2µm,13.3s						
NJ2				LR	LR		
	comp=E,3µm,13.3s						
NJ2				LR	LR		
	comp=Z,4µm,14.2s						
KSRS	**Korea Array**	**11.09**	**356**	Pn	**Pn**	**20 28 29.2**	**+0.4**
	0.7nm,0.3s,baz=175,slow=14,SNR=32						
KSRS				LR	LR	20 33 10.3	
	comp=Z,1µm,18.2s,baz=180,slow=40						
	12nm,0.7s						
INU	**Inuyama**	**11.38**	**36**	Pn	**Pn**	**20 28 32.1**	**-0.6**
JHJ	**Hachijo jima 2**	**11.64**	**52**	Sn	**Sn**	**20 30 43.2**	**-2.3**
	23nm,0.3s,baz=253,slow=19,SNR=1.4						
JHJ				LR	LR	20 32 17.2	
	comp=Z,566nm,21.8s,baz=248,slow=33						
JGF	**Kuroka**	**11.75**	**36**	P	**Pn**	**20 28 40.5**	**+2.6**
MJAR	**Matsushiro Arr**	**12.91**	**36**	Pn	**Pn**	**20 28 53.9**	**+0.2**
	baz=201,slow=13,SNR=1.9						
MJAR				LR	LR	20 34 07.1	
	comp=Z,242nm,19.3s,baz=219,slow=39						
	0.3nm,0.3s						
WHN	**Wuhan**	**13.42**	**291**	⇓P	**P**	**20 29 10.8**	**+0.9**
WHN				S	**Sn**	**20 31 31.3**	**+2.1**
WHN				pmax	pmax		
	comp=Z,160nm,1.4s						
WHN				LR	LR		
	comp=N,3µm,16.9s						
WHN				LR	LR		
	comp=E,2µm,12.5s						
WHN				LR	LR		
	comp=Z,4µm,13.7s						
TIA	**Tai'an**	**14.03**	**317**	P	**P**	**20 29 18.1**	**+1.5**
TIA				S	Sn	20 31 24.6	-19
TIA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIA				pmax	pmax		
	comp=Z,190nm,5.0s						
TIA				LR	LR		
	comp=N,950nm,15.3s						
TIA				LR	LR		
	comp=E,1µm,15.0s						
TIA				LR	LR		
	comp=Z,2µm,14.7s						
SNY	**Shenyang**	**16.03**	**346**	⇓P	P	20 29 47.0	+8.1
SNY				S	**S**	**20 32 43.8**	**-2.0**
SNY				pmax	pmax		
	comp=Z,21nm,1.1s						
SNY				pmax	pmax		
	comp=Z,500nm,5.0s						
SNY				LR	LR		
	comp=N,1µm,15.7s						
SNY				LR	LR		
	comp=E,700nm,14.4s						
SNY				LR	LR		
	comp=Z,2µm,15.1s						
HNS	**HongShan**	**16.27**	**316**	⇑P	**P**	**20 29 41.5**	**-0.1**
HNS				S	**Sn**	**20 32 39.6**	**+1.0**
HNS				SS	**SnSn**	**20 32 54.6**	**+2.9**
HNS				pmax	pmax		
	comp=Z,41nm,1.0s						
HNS				LR	LR		
	comp=Z,1µm,13.7s						
HNS				LR	LR		
	comp=Z,1µm,14.7s						
HNS				LR	LR		
	comp=Z,2µm,13.5s						
LYN	**LuoYang**	**16.31**	**304**	⇓*i*P	**P**	**20 29 42.3**	**+0.3**
LYN				sP	pwP	20 29 53.4	+2.0
LYN				S	**Sn**	**20 32 45.1**	**+5.7**
LYN				SS	**SnSn**	**20 33 04.9**	**+12**
LYN				pmax	pmax		
	comp=Z,40nm,1.4s						
LYN				pmax	pmax		
	comp=Z,240nm,3.9s						
LYN				LR	LR		
	comp=Z,630nm,15.7s						
LYN				LR	LR		
	comp=Z,2µm,14.9s						
LYN				LR	LR		
	comp=Z,3µm,14.7s						
BJT	**Baijiatuau**	**17.25**	**325**	P	**Pn**	**20 29 51.2**	**+0.2**
BJT	**Baijiatuau**	**17.25**	**325**	P	**Pn**	**20 29 51.2**	**+0.2**
BJT				pmax	pmax		
	comp=Z,36nm,0.8s						
BJI	**Beijing**	**17.26**	**325**	P	**P**	**20 29 52.3**	**-0.2**
BJI				pmax	pmax		
	comp=Z,47nm,0.8s						
BJI				LR	LR		
	comp=Z,370nm,13.2s						
BJI				LR	LR		
	comp=Z,990nm,14.1s						
BJI				LR	LR		
	comp=Z,2µm,14.4s						
ENH	**Enshi**	**17.49**	**287**	P	**Pn**	**20 29 53.9**	**-0.3**
ENH	**Enshi**	**17.49**	**287**	P	**P**	**20 29 55.4**	**+0.2**
CN2	**Changchun**	**17.62**	**352**	⇑P	**P**	**20 29 56.8**	**+0.3**
CN2				*e*pP	pP	20 29 59.5	-3.1
CN2				*e*S	**Sn**	**20 33 11.8**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,2µm,13.0s						
CN2				LR	LR		
	comp=Z,800nm,13.0s						
CN2				LR	LR		
	comp=Z,2µm,13.0s						
TIY	**Taiyuan**	**17.91**	**313**	*e*P	**P**	**20 30 01.3**	**+1.5**
TIY				LR	LR		
	comp=Z,1µm,13.7s						
TIY				LR	LR		
	comp=Z,1µm,12.7s						
TIY				LR	LR		
	comp=Z,2µm,14.4s						
USRK	**Ussuriysk Ar.**	**17.98**	**7**	P	**Pn**	**20 30 00.1**	**0.0**
	comp=Z,0.7nm,0.3s,baz=193,slow=9.3,SNR=7.1						
USRK				LR	LR	20 37 05.6	
	comp=Z,432nm,18.4s,baz=178,slow=38						
	comp=Z,3.1nm,0.6s						
XAN	**Xi'an**	**18.84**	**299**	P	**Pn**	**20 30 10.2**	**-0.4**
XAN				pP	pwP	20 30 21.0	+1.5
XAN				pmax	pmax		
	comp=Z,12nm,0.5s						
XAN				pmax	pmax		
	comp=Z,300nm,5.4s						
XAN				LR	LR		
	comp=Z,1µm,14.7s						
XAN				LR	LR		
	comp=Z,1µm,16.0s						
XAN				LR	LR		
	comp=Z,2µm,15.8s						
QIZ	**Qiongzhong**	**18.98**	**251**	P	**P**	**20 30 10.9**	**-0.7**
QIZ				S	**S**	**20 33 45.9**	**+0.2**
QIZ				LR	LR		
	comp=Z,470nm,17.5s						
QIZ				LR	LR		
	comp=Z,330nm,16.7s						
QIZ				LR	LR		
	comp=Z,450nm,21.5s						
BNX	**BinXian**	**19.38**	**357**	⇑P	**P**	**20 30 15.9**	**+0.2**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,170nm,4.8s						
DAV	**Davao City (W)**	**19.43**	**190**	LR	LR	20 37 29.6	
	comp=Z,252nm,21.6s,baz=348,slow=36						
ERM	**Erimo**	**19.55**	**33**	P	**P**	**20 30 18.0**	**+0.4**
GUMO	**Guam**	**19.67**	**127**	LR	LR	20 36 39.1	
	comp=Z,267nm,19.2s,baz=307,slow=33						

GYA Guiyang 19.88 275⇓iP Pn 20 30 23.7 +0.5
GYA sP sP 20 30 33.4 +2.7
GYA S S 20 33 53.8 -10
GYA SS SnSn 20 34 24.6 +4.1
GYA pmax pmax
comp=Z,19nm,1.4s
GYA pmax pmax
comp=Z,250nm,5.1s
GYA LR LR
comp=Z,590nm,12.2s
GYA LR LR
comp=Z,2µm,15.2s
GYA LR LR
comp=Z,2µm,13.6s
XLT XiLinHaoTe 20.34 333 eP P 20 30 25.4 -1.0
XLT sP pwP 20 30 36.2 0.0
XLT S S 20 34 12.0 -1.2
XLT sS sS 20 34 23.8 +1.0
XLT pmax pmax
comp=Z,25nm,0.8s
XLT pmax pmax
comp=Z,240nm,4.8s
XLT LR LR
comp=Z,1µm,15.0s
XLT LR LR
comp=Z,1µm,15.4s
HHC Hu-ho-hao-te 20.35 320 eP P 20 30 26.2 -0.3
HHC S S 20 34 11.6 -1.9
HHC pmax pmax
comp=Z,41nm,1.0s
HHC pmax pmax
comp=Z,320nm,5.2s
HHC LR LR
comp=Z,2µm,14.5s
HHC LR LR
comp=Z,2µm,14.1s
HHC LR LR
comp=Z,3µm,14.4s
YUK Yuzh-Kuril'sk 22.38 34 i P P 20 30 49.6 +1.4
CD2 Chengdu 22.47 287 P P 20 30 47.1 -2.3
CD2 S S 20 34 49.2 -5.6
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 LR LR
comp=Z,870nm,14.1s
CD2 LR LR
comp=Z,2µm,15.7s
CD2 LR LR
comp=Z,2µm,14.1s
KLR Kul'dur 22.95 5 P P 20 30 53.6 -0.5
comp=Z,2.4nm,0.5s,baz=232,slow=7.5,SNR=6.8
KLR LR LR 20 40 03.7
comp=Z,317nm,18.6s,baz=176,slow=37
comp=Z,2.4nm,0.5s
KLR Kul'dur 22.95 5ceP P 20 30 54.4 +0.3
KLR pmax pmax
comp=Z,14nm,1.7s
MYLDM Lahad Datu 23.27 207 P P 20 30 55.5 -2.1
MYLDM Lahad Datu 23.27 207 P P 20 30 59.5 +1.8
comp=Z,29nm,1.1s
YSS Yuzh-Sakhalins 23.32 25 P P 20 30 58.0 0.0
YSS Yuzh-Sakhalins 23.32 25ceP P 20 30 59.6 +1.7
YSS pmax pmax
comp=Z,138nm,1.7s
LZH Lanzhou 23.43 301 ⇓P P 20 30 58.2 -1.1
LZH pP sP 20 31 07.1 -1.7
LZH sP pwP 20 31 10.9 +1.9
LZH S S 20 35 10.5 -0.8
LZH pmax pmax
comp=Z,26nm,1.4s
LZH pmax pmax
comp=Z,320nm,5.5s
LZH LR LR
comp=Z,800nm,16.5s
LZH LR LR
comp=Z,1µm,16.2s
LZH LR LR
comp=Z,1µm,18.1s
KKM Kota Kinabalu 23.53 213 P P 20 31 02.4 +2.1
KMI Kunming 23.55 273 ⇑P P 20 31 01.5 +0.9
KMI S S 20 35 10.2 -3.3
KMI pmax pmax
comp=Z,31nm,0.9s
KMI pmax pmax
comp=Z,220nm,6.2s
KMI LR LR
comp=Z,270nm,10.3s
KMI LR LR
comp=Z,1µm,13.8s
KMI LR LR
comp=Z,1µm,14.1s
HEH HeiHe 23.89 358 eP P 20 31 05.4 +2.0
HEH LR LR
comp=Z,530nm,16.3s
HEH LR LR
comp=Z,840nm,15.5s
HEH LR LR
comp=Z,780nm,16.9s
PZH PanZhiHua 24.27 276 ⇓P P 20 31 07.5 +0.2
PZH S S 20 35 18.8 -6.0
PZH sS pS 20 35 29.8 -2.8
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,120nm,4.2s
PZH LR LR
comp=Z,1µm,14.7s
PZH LR LR
comp=Z,3µm,14.9s
PZH LR LR
comp=Z,3µm,14.8s
GAMI Galela, Maluku 24.40 183 P P 20 31 05.0 -3.4
comp=Z,28nm,0.7s
UGL Uglegorsk 24.90 21 eP P 20 31 03.3 -9.3
UGL pmax pmax
comp=Z,90nm,0.8s
UGL MLR MLR
comp=E,3µm,13.0s
UGL MLR MLR
comp=N,4µm,22.0s
UGL MLR MLR
comp=Z,2µm,18.0s
GTOI Gorontalo 26.18 193 P P 20 31 37.7 +13
TOLI2 Tolitoli 26.27 198 P P 20 31 26.4 +1.0
TOLI2 Tolitoli 26.27 198 P P 20 31 24.8 -0.6
MRSI Marisa 26.58 196 P P 20 31 27.6 -0.5
comp=Z,21nm,1.4s
TYV Tymovskoe 26.65 20 eP P 20 31 20.5 -8.0
TYV pmax pmax
comp=Z,23nm,1.0s
TYV pmax pmax
comp=Z,1µm,3.8s
LBMI Labuha 26.87 183 P P 20 31 33.9 +3.1
comp=Z,37nm,1.0s
SIJI Sorong 27.17 175 LR LR 20 41 47.6
comp=Z,215nm,19.6s,baz=1.5,slow=35
MPSI Mapaga 27.27 200 P P 20 31 33.8 -0.6
TNCH TengChong 27.34 274 ⇑P P 20 31 35.2 0.0
TNCH pP pP 20 31 40.8 -1.2
TNCH sP pwP 20 31 45.2 +0.2
TNCH PP PnPn 20 32 20.1 +0.5
TNCH S S 20 36 08.7 -5.1
TNCH pmax pmax
comp=Z,15nm,1.5s
TNCH pmax pmax
comp=Z,190nm,6.0s
TNCH LR LR
comp=Z,470nm,10.8s
TNCH LR LR
comp=Z,1µm,12.4s
TNCH LR LR
comp=Z,2µm,12.7s
ZEA Zeya 27.38 358 eP P 20 31 35.5 +0.5
ZEA e 20 31 51.8
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=N,500nm,17.0s
ZEA MLR MLR
comp=Z,300nm,17.0s
ULN Ulaanbaatar 27.45 327 P P 20 31 33.0 -2.9
ULN Ulaanbaatar 27.45 327 P P 20 31 37.2 +1.3
ULN Ulaanbaatar 27.45 327ceP P 20 31 34.9 -1.0
ULN pmax pmax
comp=Z,30nm,0.8s
GTA Gaotai 27.51 306 ⇑P P 20 31 35.2 -1.4
GTA sP sP 20 31 45.9 -0.3
GTA PP PnPn 20 32 21.6 -0.1
GTA PcP PcP 20 34 55.9 +1.5
GTA S S 20 36 10.3 -5.9
GTA pmax pmax
comp=Z,32nm,0.9s
GTA pmax pmax
comp=Z,110nm,4.4s
GTA LR LR
comp=Z,460nm,16.4s
GTA LR LR
comp=Z,1µm,17.1s
GTA LR LR
comp=Z,1µm,16.4s
SONM Songino Array 27.75 326 P P 20 31 37.1 -1.5
comp=Z,27nm,0.8s,baz=137,slow=9.6,SNR=146
SONM PcP PcP 20 34 55.0 +0.2
comp=Z,0.3nm,0.6s,baz=130,slow=2.2,SNR=1.6
SONM LR LR 20 44 31.5
comp=Z,601nm,19.3s,baz=134,slow=41
comp=Z,27nm,0.8s
SONM Songino Array 27.75 326 P P 20 31 37.1 -1.5
SONM IAmb IAmb 20 31 41.4
comp=Z,33nm,0.9s
SONM Songino Array 27.75 326 P P 20 31 37.1 -1.5
SONM pmax pmax
comp=Z,33nm,0.9s
SANI Sanana 28.38 186 P P 20 31 42.7 -1.5
comp=Z,25nm,0.8s
CMMT Chiang Mai 28.57 261 P P 20 31 44.6 -1.4
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 28.70 260 P P 20 31 49.0 +1.8
comp=Z,1.7nm,0.9s,baz=65,slow=7.2,SNR=12
CMAR PcP PcP 20 34 58.3 +0.9
comp=Z,0.4nm,0.7s,baz=69,slow=2.3,SNR=4.4
CMAR LR LR 20 44 50.8
comp=Z,375nm,18.3s,baz=70,slow=40
comp=Z,1.7nm,0.9s
SRPI Serui, Papua 28.95 165 P P 20 31 52.8 +3.4
FAKI Fak Fak 29.29 173 P P 20 31 52.0 -0.4
FAKI IAmb IAmb 20 31 54.3
comp=Z,40nm,1.5s
FAKI Fak Fak 29.29 173 P P 20 31 51.3 -1.1
comp=Z,19nm,1.1s
FAKI Fak Fak 29.29 173 P P 20 31 53.3 +0.9
GOMU GeErMu 30.57 297 P P 20 32 03.8 -0.2
GOMU pP pP 20 32 08.3 -2.5
GOMU sP sP 20 32 10.7 -3.0
GOMU S S 20 37 13.1 +8.4
GOMU sS sS 20 37 20.7 +4.2
GOMU pmax pmax
comp=Z,10.0nm,1.1s
GOMU pmax pmax
comp=Z,140nm,4.5s
GOMU LR LR
comp=Z,150nm,12.9s
GOMU LR LR
comp=Z,250nm,15.8s
GOMU LR LR
comp=Z,310nm,16.7s
BBSI Bau Bau 32.24 192 P P 20 32 13.8 -4.6
comp=Z,14nm,1.1s
KAPI Kappang 32.41 197 LR LR 20 45 18.7
comp=Z,187nm,19.9s,baz=110,slow=36
LSA Lhasa 33.35 285 P P 20 32 27.2 -1.5
LSA Lhasa 33.35 285 P P 20 32 27.2 -1.5
LSA pmax pmax
comp=Z,6.0nm,0.6s
SAUI Saumlaki 34.22 176 P P 20 32 34.7 -0.9
PEA0B Petropavlovsk- 34.30 31 P P 20 32 32.4 -3.7
PEA0B Petropavlovsk- 34.30 31 P P 20 32 32.4 -3.7
PEA0B pmax pmax
comp=Z,183nm,1.6s
PETK Petropavlovsk- 34.30 31 P P 20 32 34.9 -1.2
comp=Z,5.6nm,0.9s,baz=216,slow=9.4,SNR=2.4
PETK LR LR 20 49 29.2
comp=Z,88nm,18.1s,baz=226,slow=42
comp=Z,5.6nm,0.9s
PETK Petropavlovsk- 34.30 31 P P 20 32 34.3 -1.8
IPM Ipoh 34.38 236 P P 20 32 33.0 -4.1
YAK Yakutsk 35.67 1 P P 20 32 47.5 -0.3
comp=Z,7.2nm,0.4s,baz=138,slow=0.9,SNR=4.8
YAK LR LR 20 47 46.2
comp=Z,172nm,19.7s,baz=246,slow=37
comp=Z,7.2nm,0.4s
YAK Yakutsk 35.67 1 eP P 20 32 47.8 +0.1
YAK e*PP pwP 20 32 59.3 +1.1
YAK eS S 20 38 21.0 -1.5
YAK eSS SnSn 20 40 46.6 +1.8
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax smax
comp=E,152nm,3.0s
YAK smax smax
comp=N,175nm,3.5s
SOEI Soe 36.17 188 P P 20 32 52.8 +0.2
comp=N,34nm,1.0s
MA2 Magadan 36.51 19 LR LR 20 49 25.6
comp=N,149nm,19.0s,baz=214,slow=39
BATI Baumata 36.69 189 P P 20 32 55.8 -1.2
comp=N,19nm,0.6s,baz=4.5,slow=2.3,SNR=9.3
comp=N,19nm,0.6s
BATI Baumata 36.69 189 P P 20 33 00.1 +3.1
comp=N,43nm,0.8s
TWSI Taliwang, Sumb 36.77 200 P P 20 32 58.6 +1.0
comp=N,21nm,1.5s
ODAN Odare 36.96 280 eP P 20 33 00.4 +0.9
comp=N,11nm,0.8s
WMQ Urumqi 37.47 308 eP P 20 33 02.9 -0.6
WMQ pP pwP 20 33 13.3 -0.7
WMQ sP sP 20 33 17.6 +4.6
WMQ pmax pmax
comp=N,25nm,1.3s
WMQ LR LR
comp=N,360nm,15.5s
WMQ LR LR
comp=N,740nm,17.3s
WMQ LR LR
comp=N,410nm,20.9s
RAMN Ramite 37.64 281 eP P 20 33 06.0 +0.7
KRVT Keravat (AS076 37.85 140 LR LR 20 49 07.8
comp=N,55nm,18.8s,baz=64,slow=37
JIRN Jiri 37.90 282 eP P 20 33 07.9 +0.3
comp=N,9.7nm,0.4s
PKIN Phulchoki 38.60 282 eP P 20 33 13.5 0.0
comp=N,25nm,0.4s
KKN Kakani 38.68 282 eP P 20 33 13.8 -0.2
MTN Manton Dam 39.03 176 P P 20 33 14.8 -1.8
GKN Gorkha 39.21 283 eP P 20 33 18.4 0.0
DGZ Jazzator, Alta 39.41 317 i P P 20 33 18.7 -1.0
DGZ pmax pmax
comp=Z,1.0nm,1.0s
SEY Seymchan 39.74 17 P P 20 33 20.8 -1.3
comp=Z,5.4nm,0.7s,baz=228,slow=7.6,SNR=10
comp=Z,5.4nm,0.7s
PMG Port Moresby 39.75 151 P P 20 33 22.1 -0.6
comp=Z,12nm,0.8s,baz=47,slow=2.5,SNR=4.3
PMG LR LR 20 50 25.2
comp=Z,123nm,18.1s,baz=304,slow=37
comp=Z,12nm,0.8s
PMG Port Moresby 39.75 151ceP P 20 33 23.6 +0.9
PMG pmax pmax
comp=Z,18nm,2.5s
DANN Dangsing 39.93 283 eP P 20 33 24.6 +0.1
comp=Z,66nm,0.8s
ZSN Zaisan 40.32 313 eP P 20 33 25.3 -1.9
baz=313
ZSN Zaisan 40.32 313 eP P 20 33 25.3 -1.9
KNRA Kununurra 41.78 180 P P 20 33 37.5 -1.9
KNRA IAmb IAmb 20 33 41.6
comp=Z,39nm,1.1s
KNRA Kununurra 41.78 180 P P 20 33 40.4 +1.0
MK31 Makanchi Array 41.87 312 P P 20 33 37.2 -2.8
MK31 Makanchi Array 41.87 312 i P P 20 33 39.4 -0.6
MKAR Makanchi Array 41.87 312 P P 20 33 39.0 -1.0
comp=Z,3.3nm,0.6s,baz=92,slow=9.4,SNR=30
MKAR PcP PcP 20 35 35.2 -0.2
comp=Z,1.8nm,0.8s,baz=72,slow=4.7,SNR=3.8
MKAR ScP ScP 20 39 28.2 +4.0
comp=Z,0.5nm,0.8s,baz=92,slow=5.5,SNR=1.9
MKAR LR LR 20 53 34.5
comp=Z,256nm,18.9s,baz=114,slow=40
comp=Z,3.3nm,0.6s
MKAR Makanchi Array 41.87 312 P P 20 33 38.5 -1.5
MAKZ Makanchi 42.08 312 P P 20 33 39.3 -2.4
MAKZ Makanchi 42.08 312 P P 20 33 39.3 -2.4
MAKZ pmax pmax
comp=Z,23nm,1.2s
COEN Coen 42.42 159 P P 20 33 44.2 -0.5
COEN Coen 42.42 159 P P 20 33 46.1 +1.4
ZAA0 Zalesovo Array 42.49 323 P P 20 33 42.2 -2.6
ZALV Zalesovo Beam 42.49 323 P P 20 33 43.3 -1.5
comp=Z,5.4nm,0.5s,baz=110,slow=8.5,SNR=26
ZALV PcP PcP 20 35 36.8 -0.5
comp=Z,1.0nm,0.6s,baz=98,slow=4.4,SNR=2.4
ZALV ScP ScP 20 39 29.6 +3.1
comp=Z,0.2nm,0.3s,baz=134,slow=4.2,SNR=1.5
ZALV LR LR 20 53 12.7
comp=Z,425nm,21.1s,baz=102,slow=39
comp=Z,5.4nm,0.5s
ZALV Zalesovo Beam 42.49 323 P P 20 33 41.8 -3.1
SHLS Shalkode 43.26 306 eP P 20 33 46.6 -4.8
baz=306
SHLS Shalkode 43.26 306 eP P 20 33 46.5 -4.9
UZB Uzynbulak 43.58 306 eP P 20 33 52.0 -2.1
comp=Z,7.9nm,1.3s,baz=306
UZB Uzynbulak 43.58 306 eP P 20 33 51.9 -2.1
UZB pmax pmax
comp=Z,8.0nm,1.3s
KPKS Kokpek 43.85 306 eP P 20 33 54.4 -1.9
comp=Z,11nm,1.0s,baz=306
KPKS Kokpek 43.85 306 eP P 20 33 54.3 -1.9
KPKS pmax pmax
comp=Z,11nm,1.0s
SATY Saty 44.02 306 eP P 20 33 56.4 -1.1
comp=Z,9.3nm,1.1s,baz=306
SATY Saty 44.02 306 eP P 20 33 56.4 -1.1
SATY pmax pmax
comp=Z,9.0nm,1.1s
TDK Taldyqorghan 44.23 308 eP P 20 33 58.1 -1.1
baz=308
TDK Taldyqorghan 44.23 308 eP P 20 33 58.0 -1.1
KURK Kurchatov 45.11 316 P P 20 34 05.1 -0.9
KURK Kurchatov 45.11 316ceP P 20 34 05.6 -0.4
KURK pmax pmax
comp=Z,12nm,1.7s
CHKK Chushkaly 45.12 307 eP P 20 34 05.4 -0.8
baz=307
CHKK Chushkaly 45.12 307 eP P 20 34 05.4 -0.8
KURBB Kurchatov Arra 45.15 316 P P 20 34 05.1 -1.2
comp=Z,3.5nm,0.7s,baz=103,slow=8.8,SNR=14
KURBB PcP PcP 20 35 47.4 +1.0
comp=Z,2.8nm,1.0s,baz=111,slow=2.8,SNR=2.0
comp=Z,3.5nm,0.7s
TIXI Tiksi 45.33 0 P P 20 34 07.2 -0.2
comp=Z,1.9nm,0.5s,baz=302,slow=0.4,SNR=15
TIXI LR LR 20 55 06.5
comp=Z,297nm,18.2s,baz=128,slow=39
comp=Z,1.9nm,0.5s
TIXI Tiksi 45.33 0 P P 20 34 07.0 -0.4
TIXI IAmb IAmb 20 34 20.3
comp=Z,24nm,1.3s
TIXI Tiksi 45.33 0ceP P 20 34 08.3 +0.9
TIXI pmax pmax
comp=Z,13nm,1.7s
AMKA Amchitka 45.40 43 P P 20 34 05.9 -2.3
KUU Kurty 45.59 307 eP P 20 34 08.3 -1.6
baz=307
KUU Kurty 45.59 307 eP P 20 34 08.3 -1.6
KSH Kashi 45.68 300 P P 20 34 15.0 +4.2
KSH sP pwP 20 34 24.9 +3.5
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,420nm,14.6s
KSH LR LR
comp=Z,300nm,19.5s
KSH LR LR
comp=Z,500nm,14.8s
BOOM Boomskoye usch 45.78 305 P P 20 34 09.8 -1.9
BOOM Boomskoye usch 45.78 305 P P 20 34 09.8 -1.9
BOOM pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 46.06 305 P P 20 34 14.1 +0.2
SNR=25
WB0 Warramunga Arr 46.16 173 P P 20 34 15.1 +0.5
WB0 IAmb IAmb 20 34 16.1
comp=Z,14nm,0.8s
WRAB Tennant Creek 46.32 173 P P 20 34 17.1 +1.3
WRAB Tennant Creek 46.32 173ceP P 20 34 17.2 +1.4
WRAB pmax pmax
comp=Z,22nm,1.3s
WRA Warramunga Arr 46.33 173 P P 20 34 16.6 +0.6
comp=Z,12nm,0.9s,baz=353,slow=8.4,SNR=65
WRA LR LR 20 53 27.3
comp=Z,133nm,20.3s,baz=306,slow=36
comp=Z,12nm,0.9s
WRA Warramunga Arr 46.33 173 P P 20 34 15.4 -0.5
WRA Warramunga Arr 46.33 173ceP P 20 34 16.8 +0.9
WRA pmax pmax
comp=Z,9.0nm,0.7s
WB2 Warramunga Arr 46.33 173 P P 20 34 16.1 +0.2
WB2 IAmb IAmb 20 34 18.0
comp=Z,17nm,0.9s
WR0 Warramunga Arr 46.37 173 P P 20 34 16.4 +0.2
WR0 IAmb IAmb 20 34 18.4
comp=Z,28nm,1.1s
KBK Karagaybulak 46.52 305 P P 20 34 18.6 +1.0
SNR=9.3
HNR Honiara 46.67 136 LR LR 20 56 52.0
comp=Z,727nm,18.1s,baz=250,slow=40
CHMS Chumysh 46.69 305 P P 20 34 19.3 +0.7
SNR=12
SGDS Sogindy 46.80 306 eP P 20 34 18.1 -1.5
baz=306
SGDS Sogindy 46.80 306 eP P 20 34 18.0 -1.5
UCH Uchtor 46.83 304 P P 20 34 21.6 +1.3
SNR=32
AAK Ala-Archa 46.86 305 P P 20 34 20.4 +0.3
SNR=5.2
AAK Ala-Archa 46.86 305 P P 20 34 20.1 0.0
comp=Z,3.9nm,0.7s,baz=121,slow=4.6,SNR=17
AAK ScP ScP 20 39 49.5 +4.5
comp=Z,0.4nm,0.5s,baz=18,slow=20,SNR=1.2
AAK LR LR 20 57 36.2
comp=Z,294nm,19.1s,baz=114,slow=41
comp=Z,3.9nm,0.7s
AAK Ala-Archa 46.86 305ceP P 20 34 20.3 +0.2
AAK pmax pmax
comp=Z,3.0nm,0.7s
USP Ospenovka 46.88 306 P P 20 34 20.6 +0.5
SNR=7.5
BTLS Baital 47.31 308 eP P 20 34 22.7 -0.7
comp=Z,8.5nm,0.9s,baz=308
BTLS Baital 47.31 308 eP P 20 34 22.7 -0.7
BTLS pmax pmax
comp=Z,9.0nm,0.9s
BILL Bilibino 47.38 18⇑eP P 20 34 25.3 +1.7
BILL e 20 36 14.0
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,208nm,16.0s
EKS2 Erkin-Say 47.39 305 P P 20 34 24.6 +0.4
SNR=5.2
AML Almayashu 47.44 304 P P 20 34 26.3 +1.3
SNR=9.6
QIS Mount Isa 47.79 166 P P 20 34 28.6 +1.3
PSA00 Pilbara Seismi 48.44 191 P P 20 34 32.3 +0.1
PSA00 IAmb IAmb 20 34 47.6
comp=Z,12nm,0.8s
BRZS Berezniki 48.73 314 eP P 20 34 32.7 -1.7
baz=314
BRZS Berezniki 48.73 314 eP P 20 34 32.6 -1.7
CTA Charters Tower 49.16 158 P P 20 34 39.2 +1.4
comp=Z,13nm,0.9s,baz=334,slow=9.1,SNR=19
comp=Z,13nm,0.9s
CTAO Charters Tower 49.16 158 P P 20 34 38.5 +0.7
CTAO IAmb IAmb 20 34 40.2
comp=Z,15nm,0.8s
CTAO Charters Tower 49.16 158 P P 20 34 38.5 +0.7
CTAO pmax pmax
comp=Z,15nm,0.8s
NRIK Noril'sk 49.30 342 P P 20 34 38.2 -0.1
comp=Z,2.3nm,0.5s,baz=166,slow=4.2,SNR=1.8
NRIK LR LR 20 57 34.5
comp=Z,486nm,18.4s,baz=134,slow=39
comp=Z,2.3nm,0.5s

NRIK **Noril'sk** 49.30 342 *ce*P **P** **20 34 38.0 -0.4**
NRIK pmax pmax
comp=Z,7.0nm,1.4s
PALK **Pallekele** 49.51 256 LR LR 20 57 28.1
comp=Z,128nm,18.1s,baz=196,slow=38
KK31 **Karatay Array** 49.79 305 P **P** **20 34 43.4 +0.8**
KK31 **Karatay Array** 49.79 305 P **P** **20 34 43.4 +0.8**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR **Karatay Array** 49.79 305 P **P** **20 34 43.4 +0.8**
KKAR **Karatay Array** 49.79 305 P **P** **20 34 43.4 +0.8**
AS31 **Alice Springs** 49.97 174 P **P** **20 34 43.7 -0.3**
ASAR **Alice Springs** 49.97 174 P **P** **20 34 45.3 +1.3**
comp=Z,11nm,0.9s,baz=358,slow=7.5,SNR=82
ASAR PcP **PcP** **20 36 04.1 +0.2**
comp=Z,0.6nm,0.6s,baz=4.6,slow=4.6,SNR=0.8
ASAR LR LR 20 55 52.5
comp=Z,87nm,20.1s,baz=320,slow=36
comp=Z,11nm,0.9s
ASAR **Alice Springs** 49.97 174 P **P** **20 34 44.1 +0.1**
AS01 **Alice Springs** 49.97 174 P **P** **20 34 45.6 +1.6**
IUG **luzhnay** 50.16 304 *e*P **P** **20 34 44.6 -0.9**
baz=304
IUG **luzhnay** 50.16 304 *e*P **P** **20 34 44.6 -0.9**
BVAR **Borovoye Array** 50.55 318 P **P** **20 34 47.8 -0.3**
comp=Z,4.6nm,0.6s,baz=78,slow=9.4,SNR=34
BVAR LR LR 20 58 04.8
comp=Z,937nm,19.4s,baz=93,slow=38
comp=Z,4.6nm,0.6s
BRVK **Borovoye** 50.62 318 P **P** **20 34 46.5 -2.1**
BRVK IAmb IAmb 20 35 00.2
comp=Z,31nm,0.9s
BRVK **Borovoye** 50.62 318 *ce*P **P** **20 34 48.5 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
CHGR **Chuyangaron** 51.01 300 P **P** **20 34 51.3 -0.6**
CHGR IAmb IAmb 20 35 03.8
comp=Z,31nm,0.8s
CHGR **Chuyangaron** 51.01 300 P **P** **20 34 51.3 -0.6**
CHGR pmax pmax
comp=Z,31nm,0.8s
WRKA **Warakurna** 51.10 181 P **P** **20 34 53.6 +1.1**
OOD **Oodnadatta** 54.24 173 P **P** **20 35 16.8 +1.2**
MORW **Morawa** 56.46 193 P **P** **20 35 30.0 -1.6**
MORW IAmb IAmb 20 35 37.2
comp=Z,49nm,1.6s
SVE **Sverdlovsk** 56.50 322 *e*P **P** **20 35 32.2 +0.5**
SVE pmax pmax
comp=Z,27nm,1.0s
SVE MLR MLR
comp=Z,1μm,15.0s
MULG **Mulgathing** 56.54 175 P **P** **20 35 33.4 +1.2**
FORT **Forrest** 56.82 181 P **P** **20 35 34.7 +0.5**
FORT **Forrest** 56.82 181 P **P** **20 35 35.5 +1.4**
ABKAR **Akbulak array** 56.97 313 P **P** **20 35 34.7 -0.4**
ARU **Arti** 57.64 322 LR LR 21 02 56.7
comp=Z,502nm,19.7s,baz=94,slow=39
ARU **Arti** 57.64 322 P **P** **20 35 38.3 -1.4**
ARU IAmb IAmb 20 35 51.1
comp=Z,19nm,0.8s
ARU **Arti** 57.64 322 *c i*P **P** **20 35 38.8 -1.0**
ARU *PP **sP** **20 35 49.5 0.0**
ARU 20 36 30.3
ARU 20 37 43.1
ARU S **S** **20 43 35.1 -1.3**
ARU SS **SS** **20 47 22.3 -4.0**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU MLR MLR
comp=Z,916nm,16.0s
N16K **Nishlik Lake** 58.79 34 P **P** **20 35 49.3 +1.5**
baz=269
O16K **Kokwok River B** 59.12 35 P **P** **20 35 51.7 +1.7**
baz=270
STKA **Stephens Creek** 59.17 167 P **P** **20 35 51.6 +0.9**
comp=Z,2.7nm,0.5s,baz=358,slow=8.4,SNR=12
STKA LR LR 21 01 40.4
comp=Z,60nm,19.6s,baz=349,slow=36
comp=Z,2.7nm,0.5s
STKA **Stephens Creek** 59.17 167 P **P** **20 35 52.1 +1.5**
BBOO **Buckleboo** 59.24 173 P **P** **20 35 51.7 +0.6**
GEYT **Alibeck** 59.71 300 P **P** **20 35 55.1 +0.5**
comp=Z,2.5nm,0.5s,baz=90,slow=1.5,SNR=9.3
GEYT LR LR 21 07 02.7
comp=Z,321nm,18.2s,baz=111,slow=42
comp=Z,2.5nm,0.5s
P17K **Kvichak River** 59.97 35 P **P** **20 35 55.1 -0.8**
baz=272
TTA **Tatalina** 60.13 31 P **P** **20 35 58.3 +1.3**
baz=270
N18K **Kilae Creek** 60.21 33 P **P** **20 35 57.6 0.0**
N18K IAmb IAmb 20 36 34.9
comp=Z,46nm,1.8s
N18K **Kilae Creek** 60.21 33 P **P** **20 35 58.7 +1.1**
baz=271
SVW2 **Sparrevohn** 60.35 33 P **P** **20 35 58.9 +0.3**
SVW2 IAmb IAmb 20 36 12.9
comp=Z,11nm,0.9s
DZM **Mont Dzumac** 60.36 139 *e*LR LR 20 53 54.4
comp=Z,162nm,22.1s
DZM **Mont Dzumac** 60.36 139 LR LR 20 58 35.9
comp=Z,115nm,21.1s,baz=230,slow=33
ARMA **Armidale** 60.52 157 P **P** **20 36 00.2 +0.1**
ARMA IAmb IAmb 20 36 03.1
comp=Z,45nm,1.6s
O18K **Koktuh Hills** 60.58 34 P **P** **20 35 59.9 -0.2**
O18K **Koktuh Hills** 60.58 34 P **P** **20 36 00.9 +0.8**
baz=272
P18K **Big Mountain,** 60.59 35 P **P** **20 36 01.3 +1.1**
baz=273
L19K **White Mountain** 60.68 32 P **P** **20 36 01.8 +1.0**
L19K IAmb IAmb 20 36 15.0
comp=Z,15nm,1.0s
L19K **White Mountain** 60.68 32 P **P** **20 36 01.4 +0.6**
baz=272
N19K **Bonanza Creek** 60.90 33 P **P** **20 36 03.1 +0.8**
N19K IAmb IAmb 20 36 16.0
comp=Z,27nm,1.4s
M19K **Big River Lodg** 60.90 32 P **P** **20 36 03.2 +1.0**
M19K IAmb IAmb 20 36 17.7
comp=Z,20nm,1.2s
M19K **Big River Lodg** 60.90 32 P **P** **20 36 03.6 +1.4**
baz=272
J20K **Nowinta River** 60.96 29 P **P** **20 36 03.3 +0.7**
J20K IAmb IAmb 20 36 17.1
comp=Z,27nm,1.1s
J20K **Nowinta River** 60.96 29 P **P** **20 36 03.5 +0.9**
baz=271
O19K **Port Alsworth** 61.01 34 P **P** **20 36 03.7 +0.7**
baz=273
K20K **Telida** 61.01 30 P **P** **20 36 03.6 +0.6**
K20K IAmb IAmb 20 36 17.6
comp=Z,32nm,1.1s
K20K **Telida** 61.01 30 P **P** **20 36 03.8 +0.8**
baz=272
IMAR **Indian Mountai** 61.12 27 P **P** **20 36 03.6 0.0**
L20K **Farewell, AK** 61.12 31 P **P** **20 36 05.4 +1.6**
baz=272
G21K **Allakaket** 61.22 27 P **P** **20 36 06.2 +1.9**
baz=270
F21K **Alatna River** 61.23 26 P **P** **20 36 06.0 +1.6**
baz=270
Q19K **Cape Douglas,** 61.43 35 P **P** **20 36 04.9 -1.0**
M20K **Styx River** 61.50 32 P **P** **20 36 07.5 +1.1**
M20K IAmb IAmb 20 36 20.8
comp=Z,11nm,0.8s
M20K **Styx River** 61.50 32 P **P** **20 36 07.9 +1.4**
baz=273
H21K **Melozitna Rive** 61.51 28 P **P** **20 36 06.3 0.0**
H21K IAmb IAmb 20 36 20.7
comp=Z,24nm,1.1s
H21K **Melozitna Rive** 61.51 28 P **P** **20 36 08.1 +1.7**
baz=271
ILSW **Iliamna Southw** 61.61 34 P **P** **20 36 06.8 -0.5**
ILSW IAmb IAmb 20 36 20.4
comp=Z,9.4nm,0.8s
F22K **John River** 61.73 25 P **P** **20 36 09.0 +1.2**
baz=271
RSO **Redoubt South** 61.77 33 P **P** **20 36 06.9 -1.4**
CHUM **Lake Minchumin** 61.78 30 P **P** **20 36 09.6 +1.4**
baz=273
E22K **Anaktuvuk Pass** 61.86 25 P **P** **20 36 09.7 +1.0**
baz=271
I21K **Tanana** 61.87 28 P **P** **20 36 09.1 +0.4**
I21K IAmb IAmb 20 36 27.7
comp=Z,17nm,0.9s
baz=272
I21K **Tanana** 61.87 28 P **P** **20 36 09.9 +1.2**
baz=272
PPLA **Purkeypile** 61.88 31 P **P** **20 36 09.6 +0.5**
PPLA IAmb IAmb 20 36 23.4
comp=Z,26nm,1.2s
PPLA **Purkeypile** 61.88 31 P **P** **20 36 10.4 +1.4**
baz=273
CAST **Castle Rocks** 61.90 30 P **P** **20 36 09.7 +0.6**
CAST IAmb IAmb 20 36 23.3
comp=Z,20nm,1.0s
CAST **Castle Rocks** 61.90 30 P **P** **20 36 10.5 +1.5**
baz=273,SNR=5.4
N20K **Mount Spurr** 61.98 33 P **P** **20 36 10.0 +0.3**
baz=274
SPCR **Spurr Chakacha** 61.98 33 P **P** **20 36 10.4 +0.8**
baz=274
G22K **Bettles** 62.00 26 P **P** **20 36 10.3 +0.7**
baz=272
KDAK **Kodiak Island** 62.08 36 P **P** **20 36 11.0 +0.7**
comp=Z,9.3nm,0.7s,baz=267,slow=8.9,SNR=6.0
comp=Z,9.3nm,0.7s
KDAK **Kodiak Island** 62.08 36 P **P** **20 36 11.5 +1.2**
KDAK **Kodiak Island** 62.08 36 P **P** **20 36 11.0 +0.7**
H22K **Ishtalitna Cre** 62.09 27 P **P** **20 36 10.9 +0.7**
baz=272,SNR=11
SKT **Skwentna** 62.25 32 P **P** **20 36 10.0 -1.3**
SKT IAmb IAmb 20 36 24.6
comp=Z,10nm,0.9s
SKT **Skwentna** 62.25 32 P **P** **20 36 11.8 +0.4**
baz=274
D23K **Nanushuk River** 62.26 24 P **P** **20 36 11.8 +0.5**
baz=272
C23K **Itkillik River** 62.27 23 P **P** **20 36 11.1 -0.3**
baz=271
BPAW **Bear Paw Mtn.** 62.35 29 P **P** **20 36 12.4 +0.4**
BPAW IAmb IAmb 20 36 26.2
comp=Z,14nm,1.2s
BPAW **Bear Paw Mtn.** 62.35 29 P **P** **20 36 12.2 +0.2**
baz=274
MLY **Manley** 62.40 28 P **P** **20 36 13.6 +1.2**
MLY IAmb IAmb 20 36 26.7
comp=Z,27nm,1.2s
MLY **Manley** 62.40 28 P **P** **20 36 13.5 +1.1**
baz=274,SNR=8.6
KIRV **Kirov** 62.47 325 LR LR 21 06 42.4
comp=Z,575nm,18.4s,baz=90,slow=39
G23K **Bananza Creek** 62.60 26 P **P** **20 36 14.9 +1.2**
baz=273
SUA **Susitna One** 62.66 32 P **P** **20 36 12.2 -2.0**
SUA **Susitna One** 62.66 32 P **P** **20 36 13.7 -0.5**
baz=275
TOLK **Toolik Lake Re** 62.67 24 P **P** **20 36 15.1 +1.0**
TOLK IAmb IAmb 20 36 33.8
comp=Z,28nm,1.2s
TOLK **Toolik Lake Re** 62.67 24 P **P** **20 36 15.4 +1.2**
baz=273
E23K **Chandalar** 62.69 25 P **P** **20 36 14.3 0.0**
baz=273
BRLK **Bradley Lake** 62.76 34 P **P** **20 36 14.8 -0.1**
CUT **Chulitna** 62.80 31 P **P** **20 36 15.3 +0.3**
baz=275
BRSE **Bradley Lake S** 62.84 34 P **P** **20 36 16.1 +0.7**
baz=276
H23K **Yukon River** 62.85 27 P **P** **20 36 16.7 +1.4**
H23K **Yukon River** 62.85 27 P **P** **20 36 17.0 +1.7**
baz=274,SNR=13
C24K **Franklin Bluff** 62.94 23 P **P** **20 36 16.5 +0.7**
baz=273
M22K **Willow** 62.94 32 P **P** **20 36 16.0 +0.2**
baz=276
I23K **Minto, Yukon-K** 62.98 28 P **P** **20 36 16.7 +0.6**
I23K IAmb IAmb 20 36 47.6
comp=Z,24nm,1.4s
I23K **Minto, Yukon-K** 62.98 28 P **P** **20 36 17.1 +1.0**
baz=275
E24K **Your Creek** 63.11 25 P **P** **20 36 18.2 +1.2**
baz=274
NEA2 **Nenana** 63.15 29 P **P** **20 36 17.3 +0.1**
NEA2 **Nenana** 63.15 29 P **P** **20 36 18.4 +1.1**
baz=275,SNR=11
RC01 **Rabbit Creek A** 63.19 33 P **P** **20 36 18.0 +0.4**
RC01 IAmb IAmb 20 37 21.4
comp=Z,30nm,1.1s
MCK **McKinley** 63.28 30 P **P** **20 36 19.1 +0.9**
MCK IAmb IAmb 20 36 32.2
comp=Z,23nm,0.9s
MCK **McKinley** 63.28 30 P **P** **20 36 18.3 +0.1**
baz=276,SNR=6.3
MCK **McKinley** 63.28 30 P **P** **20 36 19.1 +0.9**
MCK pmax pmax
comp=Z,23nm,0.9s
F24K **Squaw Lake** 63.38 25 P **P** **20 36 20.2 +1.4**
baz=275,SNR=13
PMR **Palmer** 63.42 32 P **P** **20 36 19.3 +0.2**
baz=277
SEW **Seward** 63.44 34 P **P** **20 36 19.1 -0.1**
SEW IAmb IAmb 20 36 31.9
comp=Z,29nm,0.9s
SEW **Seward** 63.44 34 P **P** **20 36 19.1 -0.1**
baz=277
MDM **Murphy Dome** 63.47 28 P **P** **20 36 20.0 +0.6**
GHO **Glory Hole Cre** 63.50 32 P **P** **20 36 17.8 -2.0**
H24K **Noodor Dome** 63.53 27 P **P** **20 36 21.2 +1.3**
H24K IAmb IAmb 20 36 38.7
comp=Z,8.9nm,0.8s
H24K **Noodor Dome** 63.53 27 P **P** **20 36 20.4 +0.5**
baz=276
WAT1 **Susitna Watana** 63.55 31 P **P** **20 36 19.9 -0.1**
baz=277
G24K **Hadweenzic Riv** 63.61 26 P **P** **20 36 20.3 0.0**
baz=276
KNK **Knik Glacier** 63.76 32 P **P** **20 36 21.4 0.0**
baz=277
D25K **Kavik River** 63.78 23 P **P** **20 36 21.5 0.0**
baz=275
POKR **Poker Plat Res** 63.79 28 P **P** **20 36 21.3 -0.2**
baz=276
PWL **Port Wells** 63.90 33 P **P** **20 36 22.0 -0.3**
baz=276
WAT6 **Susitna Watana** 63.95 31 P **P** **20 36 23.1 +0.3**
baz=277,SNR=5.4
PRGR **Permogore** 63.99 328 *e*P **P** **20 36 24.8 +2.0**
PRGR *e* 20 36 58.9
PRGR pmax pmax
comp=Z,7.0nm,0.8s
DHY **Denali Highway** 64.06 30 P **P** **20 36 23.2 -0.3**
DHY IAmb IAmb 20 37 36.0
comp=Z,28nm,1.7s
ILAR **Eielson Array** 64.06 28 P **P** **20 36 22.9 -0.4**
comp=Z,1.2nm,0.8s,baz=258,slow=5.9,SNR=8.6
ILAR LR LR 21 07 50.5
comp=Z,69nm,18.0s,baz=278,slow=39
comp=Z,1.2nm,0.8s
ILAR **Eielson Array** 64.06 28 P **P** **20 36 22.8 -0.5**
ILAR **Eielson Array** 64.06 28 P **P** **20 36 22.8 -0.5**
HDA **Harding Lake** 64.08 29 P **P** **20 36 23.5 +0.1**
baz=277,SNR=6.8
G25K **Bearman Lake** 64.15 26 P **P** **20 36 24.9 +1.2**
baz=277
E25K **Arctic Village** 64.19 25 P **P** **20 36 25.7 +1.5**
baz=277
F25K **Christian River** 64.23 25 P **P** **20 36 26.4 +1.9**
baz=277
SCM **Sheep Creek Mo** 64.24 32 P **P** **20 36 25.7 +1.1**
baz=278
H25K **Birch Creek** 64.32 27 P **P** **20 36 27.2 +2.3**
baz=277
BELG **Belgornoye** 64.36 318 LR LR 21 06 28.4
comp=Z,362nm,19.4s,baz=84,slow=38
PRP **Porcupine Dome** 64.54 27 P **P** **20 36 28.2 +1.6**
baz=278
BMAR **Burnt Mountain** 64.65 25 P **P** **20 36 28.9 +1.7**
K24K **Donnelly Dome** 64.67 29 P **P** **20 36 28.6 +1.2**
baz=278
C27K **Jago River** 64.68 23 P **P** **20 36 28.8 +1.5**
baz=278
J25K **Salcha River,** 64.73 28 P **P** **20 36 28.9 +1.1**
baz=278
M24K **Tolsona, Glenn** 64.74 31 P **P** **20 36 30.1 +2.2**
baz=279
F26K **Sheenjek River** 64.78 25 P **P** **20 36 30.0 +2.0**
baz=278
MSVF **Nonsavu** 64.84 127 LR LR 21 04 32.5
comp=Z,42nm,18.1s,baz=301,slow=36
PAX **Paxson** 64.93 30 P **P** **20 36 29.0 -0.1**
PAX IAmb IAmb 20 36 35.3
comp=Z,27nm,1.6s
baz=279
PAX **Paxson** 64.93 30 P **P** **20 36 30.3 +1.2**
baz=279
PAX **Paxson** 64.93 30 P **P** **20 36 29.0 -0.1**
PAX pmax pmax
comp=Z,27nm,1.6s
KLU **Klutina** 64.96 32 P **P** **20 36 29.6 +0.3**
KLU IAmb IAmb 20 36 42.5
comp=Z,12nm,1.0s
KLU **Klutina** 64.96 32 P **P** **20 36 30.8 +1.5**
baz=280
G26K **Porcupine Rive** 65.03 26 P **P** **20 36 31.4 +1.8**
baz=279
RIDG **Independent Ri** 65.09 29 P **P** **20 36 29.4 -0.7**
RIDG IAmb IAmb 20 36 43.4
comp=Z,27nm,1.4s
RIDG **Independent Ri** 65.09 29 P **P** **20 36 31.0 +0.9**
baz=279
HARP **HAARP** 65.17 31 P **P** **20 36 31.9 +1.3**
baz=280
SCRK **Sand Creek** 65.42 29 P **P** **20 36 31.1 -1.2**
SCRK IAmb IAmb 20 36 45.6
comp=Z,52nm,1.9s
SCRK **Sand Creek** 65.42 29 P **P** **20 36 32.7 +0.4**
baz=280
DOT **Dot Lake** 65.45 29 P **P** **20 36 32.4 0.0**
DOT IAmb IAmb 20 36 45.4
comp=Z,12nm,0.8s
J26L **Joseph Creek** 65.52 28 P **P** **20 36 33.0 +0.1**
J26L IAmb IAmb 20 36 45.3
comp=Z,9.1nm,0.8s
J26L **Joseph Creek** 65.52 28 P **P** **20 36 33.4 +0.5**
baz=280
I26K **Coal Creek Min** 65.55 27 P **P** **20 36 34.2 +1.3**
baz=280
N25K **Chitina, Valde** 65.56 32 P **P** **20 36 33.1 -0.1**
N25K IAmb IAmb 20 37 05.7
comp=Z,14nm,1.2s
N25K **Chitina, Valde** 65.56 32 P **P** **20 36 34.4 +1.1**
baz=281
E27K **Coleen River** 65.66 24 P **P** **20 36 34.6 +0.9**
baz=280
BMRM **Bremner River** 65.68 32 P **P** **20 36 34.1 +0.1**
BMRM **Bremner River** 65.68 32 P **P** **20 36 34.5 +0.5**
baz=281
L26K **Log Cabin Wild** 65.88 30 P **P** **20 36 36.4 +1.2**
baz=281
G27K **Doyon Strip** 65.88 26 P **P** **20 36 36.9 +1.8**
baz=281
GLB **Gilahina Butte** 65.97 32 P **P** **20 36 35.9 0.0**
GLB IAmb IAmb 20 36 50.2
comp=Z,36nm,1.6s
KAIM **Kayak Island** 65.97 33 P **P** **20 36 35.9 +0.1**
H27K **Steamboat Moun** 66.04 26 P **P** **20 36 38.0 +1.7**
baz=281
I27K **Kandik River** 66.13 27 P **P** **20 36 38.2 +1.5**
baz=281
M26K **Nabesna, AK** 66.16 31 P **P** **20 36 38.4 +1.4**
M26K **Nabesna, AK** 66.16 31 P **P** **20 36 38.3 +1.3**
baz=282,SNR=7.0
VRDI **Verde Repeater** 66.18 32 P **P** **20 36 36.5 -0.8**
K27K **Chicken** 66.24 29 P **P** **20 36 38.7 +1.2**
K27K **Chicken** 66.24 29 P **P** **20 36 38.4 +1.0**
baz=282
MCARA **McCarthy VSAT** 66.35 32 P **P** **20 36 39.2 +1.0**
baz=282
EGAK **Eagle** 66.48 28 P **P** **20 36 40.2 +1.2**
baz=282
MAK **Makhachkala** 66.49 308 *e*P **P** **20 36 37.5 -1.9**
MAK *e* 20 39 02.6
MAK *e*PPP PPP 20 40 40.7
MAK *e*S **S** **20 45 26.2 -2.3**
MAK pmax pmax
comp=Z,81nm,0.7s
L27K **Beaver Creek,** 66.55 30 P **P** **20 36 40.4 +0.8**
L27K **Beaver Creek,** 66.55 30 P **P** **20 36 41.3 +1.8**
baz=282
BCAR **Beaver Creek A** 66.57 30 P **P** **20 36 39.0 -0.7**
M27K **Edge Creek, AK** 66.67 31 P **P** **20 36 41.3 +0.8**
M27K **Edge Creek, AK** 66.67 31 P **P** **20 36 40.6 +0.2**
baz=282
AKT **Akhty** 66.71 306 *e*P **P** **20 36 41.5 +0.5**
AKT *e* 20 37 09.9
AKT pmax pmax
comp=Z,20nm,1.2s
KLMR **Klimovskoe** 67.04 328 *e*P P 20 36 51.6 +9.0
KLMR AMP 20 36 54.5
comp=Z,25nm,1.6s
KLMR *e*PP PP 20 39 21.6 +12
KLMR **Klimovskoe** 67.04 328 *e*P P 20 36 51.5 +8.9
KLMR pmax pmax
comp=Z,25nm,1.6s
DAWY **Dawson** 67.39 28 P **P** **20 36 45.7 +0.9**
baz=284
TABL **Table Mountain** 67.45 32 P **P** **20 36 44.5 -1.1**
TABL IAmb IAmb 20 38 33.8
comp=Z,29nm,1.2s
YUK3 **Moose Creek** 67.46 31 P **P** **20 36 46.2 +0.7**
baz=284
I29M **Ogilvie Camp,** 67.53 27 P **P** **20 36 46.7 +1.0**
baz=284
O28M **Mount Upton** 67.83 32 P **P** **20 36 49.1 +1.2**
baz=285
YUK8 **Steele Glacier** 67.90 31 P **P** **20 36 49.1 +0.7**
baz=285
EPYK **Eagle Plains** 67.90 26 P **P** **20 36 49.2 +1.1**
baz=285
G30M **tAoh Zraii Nji** 67.93 25 P **P** **20 36 49.3 +1.1**
baz=286
APA **Apatity** 67.97 336 *i*P **P** **20 36 46.9 -1.5**
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,400nm,17.0s
L29M **L29M** 68.17 29 P **P** **20 36 50.8 +1.0**
baz=285
VRH **Novokhopyorsk** 68.19 317 *e*P **P** **20 36 49.8 -0.2**
VRH *e**SP **pwP** **20 37 00.8 +0.1**
VRH pmax pmax
comp=Z,10.0nm,0.7s
M29M **Somme Creek** 68.20 30 P **P** **20 36 51.3 +1.3**
baz=285
K29M **Barlow Dome** 68.24 28 P **P** **20 36 51.4 +1.1**
baz=286
BCPM **Bancas Point** 68.30 33 P **P** **20 36 49.6 -1.0**
YUK4 **Talbot Arm** 68.41 31 P **P** **20 36 52.6 +1.1**
baz=286
PNL **Peninsula** 68.50 33 P **P** **20 36 53.3 +1.5**
baz=286
INK **Inuvik** 68.55 23 P **P** **20 36 52.5 +0.6**
comp=Z,2.0nm,0.5s,baz=312,slow=5.3,SNR=15
INK LR LR 21 12 03.5
comp=Z,45nm,18.1s,baz=287,slow=40
comp=Z,2.0nm,0.5s
INK **Inuvik** 68.55 23 P **P** **20 36 53.1 +1.1**
INK **Inuvik** 68.55 23 P **P** **20 36 53.1 +1.1**
baz=287
YUK6 **Outpost Mounta** 68.65 32 P **P** **20 36 54.2 +1.2**
baz=286
O29M **Mount Kennedy** 68.72 32 P **P** **20 36 54.2 +0.8**
baz=286
F31M **Tsiigehtchic** 68.73 24 P **P** **20 36 54.3 +1.2**
baz=288
SPITS **Spitsbergen Ar** 68.82 348 LR LR 21 10 02.8
comp=Z,131nm,19.1s,baz=357,slow=39
M30M **Minto, Yukon** 68.91 30 P **P** **20 36 55.9 +1.4**
M30M **Minto, Yukon** 68.91 30 P **P** **20 36 55.8 +1.4**
baz=287
HYT **Haines Junctio** 69.08 32 P **P** **20 36 57.2 +1.6**
baz=287
ZEI **Tsey** 69.08 308 *e*P **P** **20 36 55.2 -0.9**
ZEI pmax pmax
comp=Z,13nm,1.0s
N30M **Aishikik Lake** 69.09 31 P **P** **20 36 57.2 +1.6**
baz=287
GNI **Garni** 69.26 305 LR LR 21 11 28.4
comp=Z,168nm,18.6s,baz=76,slow=40
MOS **Moscow** 69.31 323 *e*P P 20 37 07.1 +10
LPSR **Galich'ya Gora** 69.47 319 *e*P **P** **20 36 58.1 +0.1**
LPSR *e**SP **pwP** **20 37 08.4 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
KBZ **Khabaz** 69.51 309 P **P** **20 36 58.8 +0.4**
comp=Z,5.2nm,0.8s,baz=173,slow=2.9,SNR=12
KBZ LR LR 21 10 35.7
comp=Z,175nm,18.5s,baz=64,slow=39
comp=Z,5.2nm,0.8s

KBZ Khabaz 69.51 309 ceP P 20 36 59.0 +0.6
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KEV Kevo 69.52 339 P P 20 36 57.2 -0.8
KEV Kevo 69.52 339 P P 20 36 57.2 -0.8
KEV pmax pmax
comp=Z,53nm,1.6s
P30M Million Dollar 69.55 32 P P 20 37 00.1 +1.7
baz=288
VORR Voronezh 69.58 318 eP P 20 36 58.9 +0.3
VORR pmax pmax
comp=Z,20nm,0.4s
KVAR Kislovodsk Arr 69.58 310 LR LR 21 10 19.9
comp=Z,103nm,18.8s,baz=281,slow=38
KIV Kislovodsk 69.59 310 eP P 20 36 58.6 -0.4
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,144nm,17.0s
SHA1 Shidzhatmaz 69.67 310 i P P 20 36 59.2 -0.5
N31M Braeburn, Yuko 69.69 31 P P 20 36 59.9 +0.7
N31M Braeburn, Yuko 69.69 31 P P 20 37 00.9 +1.7
baz=288
VSR Storozhevoye 69.73 318 eP P 20 36 58.9 -0.7
VSR e*SP pwP 20 37 11.2 +0.9
VSR pmax pmax
comp=Z,7.0nm,0.6s
A36M Sachs Harbour 69.93 19 P P 20 37 01.7 +1.2
OBN Obninsk 70.07 322 LR LR 21 10 30.6
comp=Z,161nm,18.4s,baz=37,slow=38
OBN Obninsk 70.07 322 ⇑eP P 20 37 00.6 -1.0
OBN e 20 37 27.1
OBN e 20 39 33.9
OBN pmax pmax
comp=Z,27nm,2.5s
OBN MLR MLR
comp=Z,605nm,18.0s
M31M Drury Creek, Y 70.09 30 P P 20 37 03.1 +1.4
baz=289
ARCES ARCESS Array B 70.09 339 P P 20 37 01.0 -0.6
comp=Z,2.8nm,0.9s,baz=72,slow=6.7,SNR=2.6
ARCES LR LR 21 13 49.4
comp=Z,214nm,18.1s,baz=66,slow=41
comp=Z,2.8nm,0.9s
ARCES ARCESS Array B 70.09 339 P P 20 37 01.4 -0.1
ARCES IAmb IAmb 20 37 28.9
comp=Z,24nm,1.4s
ARCES ARCESS Array B 70.09 339 P P 20 37 01.5 -0.1
ARCES pmax pmax
comp=Z,24nm,1.5s
WHY Whitehorse 70.36 31 P P 20 37 04.5 +1.0
WHY IAmb IAmb 20 37 17.6
comp=Z,22nm,1.4s
WHY Whitehorse 70.36 31 P P 20 37 04.9 +1.4
baz=289
SKAG Skagway 70.54 33 P P 20 37 06.1 +1.8
baz=289
FARO Faro, Yukon 70.54 29 P P 20 37 06.2 +1.7
FARO IAmb IAmb 20 37 18.5
comp=Z,17nm,0.8s
FARO Faro, Yukon 70.54 29 P P 20 37 06.1 +1.7
baz=290
NOR Nord 70.85 355 eP P 20 37 07.5 +1.6
NOR IAmb IAmb 20 37 23.4
comp=Z,2.6nm,1.0s
MMPY Sheldon Lake, 71.32 29 P P 20 37 10.6 +1.5
baz=291
C36M Paulatuk 71.38 21 P P 20 37 10.2 +1.0
baz=295,SNR=5.4
S32K Killisnoo 71.57 34 P P 20 37 11.2 +0.5
baz=290
SOC Sochi 71.75 310 eP P 20 37 10.5 -1.5
SOC eS S 20 46 28.1 -2.6
SOC eSSS SSS 20 54 10.6
EUNU Eureka 72.09 6 P P 20 37 14.3 +0.7
R33M Jennings River 72.65 32 P P 20 37 18.3 +1.0
baz=292
ANN Anapa 72.89 312 eP P 20 37 19.8 +1.0
ANN pmax pmax
comp=Z,154nm,1.3s
FIA1 FINESS Array S 73.03 331 P P 20 37 18.9 -0.4
FIA1 IAmb IAmb 20 37 31.7
comp=Z,32nm,1.1s
FINES FINESS Array B 73.03 331 P P 20 37 19.4 +0.1
comp=Z,3.6nm,0.6s,baz=59,slow=5.5,SNR=27
FINES LR LR 21 13 15.9
comp=Z,295nm,19.5s,baz=30,slow=39
comp=Z,3.6nm,0.6s
FINES FINESS Array B 73.03 331 P P 20 37 19.3 0.0
TGTN Hyland Airport 73.04 29 P P 20 37 20.9 +1.4
baz=294
WRAK Wrangell Islan 73.09 35 P P 20 37 21.2 +1.4
baz=292
DLBC Dease Lake 73.47 33 LR LR 21 12 43.0
comp=Z,47nm,19.5s,baz=276,slow=38
T35M Bob Quinn 73.94 34 P P 20 37 24.0 -0.8
baz=294
LIRD Liard River Hi 74.91 31 P P 20 37 32.0 +1.6
baz=296
MNK Minsk 74.98 324 i P P 20 37 31.8 +0.9
comp=E,4.0nm,1.2s
MNK i P P 20 37 31.8 +0.9
comp=N,20nm,0.7s
MNK i P P 20 37 31.8 +0.9
comp=Z,12nm,0.9s,baz=66
MNK i PcP PcP 20 37 45.6 +1.0
MNK i PP PP 20 40 19.0 +0.6
MNK i PPP PPP 20 42 04.9
MNK i S S 20 47 06.6 -0.4
MNK i SS SS 20 51 55.5 +0.6
MNK i SSS SSS 20 55 18.1
MNK i LQ LQ 21 05 30.4
MNK i LR LR 21 11 12.0
MNK i LRM MLR 21 13 38.6
comp=N,201nm,19.1s
MNK i LRM MLR 21 13 54.9
comp=E,70nm,17.2s
MNK i LRM MLR 21 13 56.1
comp=Z,508nm,17.2s
MNK Minsk 74.98 324 i P P 20 37 31.8 +0.9
MNK i 20 37 45.5
MNK i 20 40 18.9
MNK i PPP PPP 20 42 04.8
MNK i S S 20 47 06.5 -0.4
MNK i 20 47 40.7
MNK i SS SS 20 51 55.5 +0.6
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=N,20nm,0.7s
MNK pmax pmax
comp=E,4.0nm,1.2s
MNK MLR MLR
comp=N,201nm,19.0s
MNK MLR MLR
comp=E,70nm,17.0s
MNK MLR MLR
comp=Z,508nm,17.0s
DAG Danmarks Havn 75.20 353 i P P 20 37 32.0 +0.2
DAG IAmb IAmb 20 37 46.8
comp=Z,4.9nm,0.8s
RES Resolute Bay 75.32 11 P P 20 37 33.3 +0.8
comp=Z,19nm,0.7s,baz=284,slow=8.3,SNR=14
RES LR LR 21 15 01.4
comp=Z,50nm,18.2s,baz=356,slow=39
comp=Z,19nm,0.7s
RES Resolute Bay 75.32 11 P P 20 37 33.3 +0.8
RES IAmb IAmb 20 37 38.4
comp=Z,20nm,0.8s
RES Resolute Bay 75.32 11 P P 20 37 33.3 +0.8
RES pmax pmax
comp=Z,20nm,0.8s
NACGM Naroch 75.40 324 eP P 20 37 34.5 +1.3
comp=Z,14nm,0.9s,baz=65
AKASG Malin Array Be 75.80 320 P P 20 37 35.6 -0.1
comp=Z,1.7nm,0.3s,baz=58,slow=6.8,SNR=17
AKASG LR LR 21 13 37.3
comp=Z,669nm,18.6s,baz=62,slow=38
comp=Z,1.7nm,0.3s
AKASG Malin Array Be 75.80 320 P P 20 37 35.1 -0.5
AKBB Malin Array Si 75.80 320 P P 20 37 34.1 -1.5
AKBB IAmb IAmb 20 37 48.1
comp=Z,16nm,0.6s
AKBB Malin Array Si 75.80 320 ceP P 20 37 36.5 +0.9
AKBB pmax pmax
comp=Z,5.0nm,0.6s

NEEM North Greenlan 76.43 360 i P P 20 37 42.7 +3.5
NEEM IAmb IAmb 20 37 52.6
comp=Z,19nm,0.9s
SORM Soroca 77.39 318 ⇑P P 20 37 45.7 +1.0
BR131 Keskin Array S 77.40 308 i P P 20 37 44.7 -0.4
BRTR Keskin Array B 77.40 308 P P 20 37 45.6 +0.5
comp=Z,5.8nm,0.8s,baz=105,slow=4.2,SNR=30
BRTR LR LR 21 16 37.4
comp=Z,87nm,18.8s,baz=76,slow=39
comp=Z,5.8nm,0.8s
DBG Daneborg 77.56 352 eP P 20 37 44.8 -0.4
DBG IAmb IAmb 20 38 03.9
comp=Z,6.4nm,0.8s
YKA Yellowknife Ar 78.17 25 P P 20 37 49.1 +0.4
comp=Z,2.5nm,0.7s,baz=300,slow=5.5,SNR=9.1
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 78.17 25 ceP P 20 37 49.9 +1.1
YKA pmax pmax
comp=Z,3.0nm,0.7s
JMIC Jan Mayen 78.41 347 LR LR 21 14 56.9
comp=Z,123nm,18.9s,baz=245,slow=38
CFR Carcaliu 78.81 315 ⇑P P 20 37 53.3 +0.7
MMAI Mount Meron Ar 78.81 301 LR LR 21 18 19.3
comp=Z,124nm,19.1s,baz=42,slow=40
HFS Hagfors 78.97 333 LR LR 21 17 39.2
comp=Z,278nm,18.6s,baz=76,slow=39
TESR Tescani 79.14 317 ⇑P P 20 37 55.3 +0.8
NC405 NORSAR Array S 79.20 334 P P 20 37 54.3 -0.3
ODBI Odobesti 79.23 316 ⇑P P 20 37 55.8 +0.9
VRI Vrincioaia 79.39 316 ⇑P P 20 37 57.7 +1.9
PLOR Plostina 79.44 316 ⇑P P 20 37 57.9 +1.8
NB2 NORSAR Subarra 79.45 334 P P 20 37 55.6 -0.3
comp=Z,5.1nm,0.8s,baz=53,slow=5.9
NOA NORSAR Array B 79.45 334 P P 20 37 55.8 -0.1
comp=Z,3.1nm,0.8s,baz=51,slow=5.5,SNR=8.8
NOA LR LR 21 17 07.1
comp=Z,205nm,18.1s,baz=60,slow=39
comp=Z,3.1nm,0.8s
NC204 NORSAR Array S 79.48 334 P P 20 37 55.6 -0.5
BUR08 Bucovina Ar. S 79.51 318 P P 20 37 55.4 -1.2
BURAR Bucovina Array 79.51 318 ⇑P P 20 37 57.2 +0.6
NEHR Nehoiu 79.86 316 ⇑P P 20 38 00.2 +1.8
OZUR 79.87 316 ⇑P P 20 38 00.1 +1.6
MLR Muntele Rosu 80.05 316 ⇑P P 20 38 00.0 +0.5
MLR Muntele Rosu 80.05 316 LR LR 21 16 29.1
comp=Z,151nm,20.5s,baz=58,slow=38
DOPR Dopca 80.17 316 ⇑P P 20 38 01.2 +1.1
EIL Elat 80.54 298 LR LR 21 19 49.8
comp=Z,125nm,18.6s,baz=60,slow=40
KOLS Kolonicke sedl 80.61 320 eP P 20 38 02.5 +0.1
KOLS Kolonicke sedl 80.61 320 eP P 20 38 02.5 +0.1
ARR Arges 80.92 316 ⇑P P 20 38 06.3 +2.1
SUMG Summit 80.95 356 i P P 20 38 03.0 -1.2
SUMG IAmb IAmb 20 38 09.7
comp=Z,18nm,0.9s
HUMR Humele 81.10 315 ⇑P P 20 38 07.1 +2.0
ELL Elmali 81.31 307 P P 20 38 05.3 -1.2
ELL Elmali 81.31 307 P P 20 38 05.3 -1.2
ELL pmax pmax
comp=Z,30nm,0.6s
ATD Arta Tunnel 81.44 279 LR LR 21 16 16.1
comp=Z,36nm,18.0s,baz=56,slow=37
GZR Gura Zlata 82.05 317 ⇑P P 20 38 11.6 +1.4
OKC Ostrava-Krasne 82.47 322 AMS AMS 21 17 30.0
comp=Z,400nm,16.4s
VYHS Vyhne 82.80 321 eP P 20 38 15.3 +1.4
VYHS Vyhne 82.80 321 eP P 20 38 15.3 +1.4
VYHS pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 82.83 323 ⇑P P 20 38 15.2 +1.1
MORC Moravsky Berou 82.83 323 eP P 20 38 16.9 +2.8
MAUC Maruska 82.89 322 eP P 20 38 15.7 +1.3
MAUC ex x 20 38 25.5
MAUC AMS AMS 21 18 30.0
comp=Z,1μm,14.3s
KSP Ksiaz 82.92 324 eP P 20 38 16.8 +2.3
KSP epP pwP 20 38 27.3 +2.1
BLKB Belogradchik 82.99 315 ⇑P P 20 38 17.1 +2.0
KRLC Kraliky 83.08 323 eP P 20 38 17.2 +1.8
KRLC ex x 20 38 27.4
KRLC AMS AMS 21 18 40.0
comp=Z,500nm,14.2s
KRLC Kraliky 83.08 323 eP P 20 38 17.2 +1.8
KRLC e 20 38 27.4
KRLC MLR MLR
comp=Z,500nm,14.2s
OSTC Ostas 83.12 324 AMS AMS 21 18 50.0
comp=Z,600nm,18.0s
VTS Vitosha 83.13 314 ⇑P P 20 38 17.9 +2.0
DPC Dobruska-Polom 83.18 323 eP P 20 38 18.6 +2.7
DPC ex x 20 38 28.8
DPC AMS AMS 21 18 20.0
comp=Z,400nm,15.1s
DPC Dobruska-Polom 83.18 323 eP P 20 38 18.6 +2.7
DPC e 20 38 28.8
DPC MLR MLR
comp=Z,400nm,15.1s
UPC Upice 83.26 324 AMS AMS 21 19 00.0
comp=Z,600nm,18.7s
VRAC Vranov 83.60 322 ⇑P P 20 38 19.9 +1.8
VRAC Vranov 83.60 322 LR LR 21 18 47.3
comp=Z,525nm,18.5s,baz=68,slow=38
VRAC Vranov 83.60 322 eP P 20 38 19.9 +1.8
RAR Rarotonga 83.77 117 LR LR 21 09 24.8
comp=Z,34nm,22.0s,baz=248,slow=31
KRUC Moravsky 83.85 322 eP P 20 38 21.4 +2.1
PVCC Panska Ves 84.01 324 AMS AMS 21 19 30.0
comp=Z,600nm,16.8s
TREC Trest 84.21 323 eP P 20 38 24.5 +3.3
TREC ex x 20 38 35.1
TREC AMS AMS 21 18 30.0
comp=Z,500nm,15.6s
TREC Trest 84.21 323 eP P 20 38 24.5 +3.3
TREC e 20 38 35.1
TREC MLR MLR
comp=Z,500nm,15.6s
GOPC GO Pecny, Ondr 84.24 324 AMS AMS 21 18 50.0
comp=Z,500nm,15.5s
PRU Pruhonice 84.33 324 eP P 20 38 25.0 +3.3
PRU ex x 20 38 35.5
PRU AMS AMS 21 19 40.0
comp=Z,400nm,17.4s
PRU Pruhonice 84.33 324 eP P 20 38 25.0 +3.3
PRU e 20 38 35.5
PRU MLR MLR
comp=Z,400nm,17.4s
CLL Collm 84.37 325 eP P 20 38 23.0 +1.1
comp=Z,9.0nm,1.0s
CLL ex x 20 38 34.0
comp=Z,13nm,0.8s
CLL LH 21 13 00.0
comp=N,300nm,21.5s
CLL LH 21 13 00.0
comp=E,300nm,21.8s
CLL Collm 84.37 325 eP P 20 38 23.0 +1.1
CLL e 20 38 34.0
CLL pmax pmax
comp=Z,9.0nm,1.0s
ICESG Greenland Ices 84.46 356 i P P 20 38 19.6 -2.8
ICESG IAmb IAmb 20 38 28.1
comp=Z,10nm,0.8s
CONA Conrad Observa 84.77 322 eP P 20 38 25.8 +1.6
comp=Z,4.7nm,0.8s
CKRC Cesky Krumlov 85.12 323 eP P 20 38 26.9 +1.1
CKRC ex x 20 38 38.2
NEW Newport 85.16 38 P P 20 38 26.0 0.0
NEW IAmb IAmb 20 38 28.4
comp=Z,34nm,1.8s
NEW Newport 85.16 38 P P 20 38 26.6 +0.6
baz=305
NEW Newport 85.16 38 P P 20 38 26.0 0.0
NEW pmax pmax
comp=Z,34nm,1.8s
NKC Novy Kostel 85.28 325 eP P 20 38 28.9 +2.3
NKC ex x 20 38 38.9
NKC AMS AMS 21 20 40.0
comp=Z,800nm,17.9s
NKC Novy Kostel 85.28 325 eP P 20 38 28.9 +2.3
NKC e 20 38 38.9
NKC MLR MLR
comp=Z,800nm,17.9s
KHC Kasperske Hory 85.33 323 eP P 20 38 28.5 +1.6
KHC ex x 20 38 36.0
KHC ex x 20 38 39.8
KHC AMS AMS 21 19 30.0

comp=Z,500nm,11.7s
KHC Kasperske Hory 85.33 323 eP P 20 38 28.5 +1.6
KHC e 20 38 39.8
KHC MLR MLR
comp=Z,500nm,11.7s
GERES GERESS Array B 85.44 323 P P 20 38 27.6 +0.2
comp=Z,1.8nm,0.7s,baz=56,slow=5.0,SNR=14
GERES LR LR 21 20 04.2
comp=Z,468nm,18.2s,baz=60,slow=38
comp=Z,1.8nm,0.7s
MOA Molln 85.70 322 eP P 20 38 32.1 +3.4
comp=Z,4.2nm,0.8s
SOKA Soboth 85.94 321 i P P 20 38 33.7 +3.7
comp=Z,2.9nm,0.7s
BIOA Bad Ischl, Aus 86.14 322 eP P 20 38 33.2 +2.3
comp=Z,10nm,1.7s
SFJD Kangerlussuaq 86.94 360 LR LR 21 20 21.4
comp=Z,70nm,18.2s,baz=358,slow=38
SFJD Kangerlussuaq 86.94 360 i P P 20 38 36.4 +2.1
SFJD IAmb IAmb 20 38 39.8
comp=Z,11nm,0.9s
ABTA Abfaltersbach 87.32 322 eP P 20 38 38.9 +2.1
comp=Z,3.9nm,0.7s
DY2G Dye2 87.39 358 i P P 20 38 40.5 +3.7
DY2G IAmb IAmb 20 38 43.4
comp=Z,11nm,0.8s
WATA Walderalm 87.48 323 eP P 20 38 40.4 +2.8
comp=Z,6.5nm,0.9s
WTTA Wattenberg 87.49 323 eP P 20 38 39.8 +2.2
comp=Z,2.9nm,0.6s
MOTA Moosalm 87.73 323 eP P 20 38 40.7 +2.0
comp=Z,7.6nm,1.1s
MSO Missoula 87.74 38 P P 20 38 39.8 +1.0
baz=307
SQTA Sankt Quirin 87.75 323 eP P 20 38 39.7 +0.9
comp=Z,5.4nm,1.1s
RETA Reutte 87.83 323 eP P 20 38 42.2 +3.1
comp=Z,6.2nm,1.2s
FETA Feichten 88.13 323 eP P 20 38 42.6 +1.9
comp=Z,3.5nm,1.0s
DAVA Damuels 88.42 323 eP P 20 38 45.1 +3.0
comp=Z,8.9nm,0.9s
DAVOX Davos/Dischmat 88.73 323 LR LR 21 22 40.5
comp=Z,508nm,18.5s,baz=82,slow=38
EKA Eskdalemuir Ar 88.90 335 LR LR 21 23 19.7
comp=Z,206nm,19.2s,baz=8.5,slow=39
FRB Frobisher Bay 89.16 8 LR LR 21 21 36.7
comp=Z,73nm,18.5s,baz=332,slow=38
HLID Hailey 89.44 40 P P 20 38 48.3 +1.3
baz=307
BOZ Bozeman (W) 89.77 38 P P 20 38 49.4 +1.0
baz=309
NVAR Mina Array Bea 90.01 46 P P 20 38 51.0 +1.2
comp=Z,0.3nm,0.4s,baz=294,slow=5.4,SNR=5.6
comp=Z,0.3nm,0.4s
PPT Papeete 90.40 109 LR LR 21 12 36.9
comp=Z,73nm,19.2s,baz=338,slow=31
PPT2 Papeete2 90.41 109 eLR LR 21 07 50.5
comp=Z,91nm,21.0s
PPT2 eLR LR 21 07 50.8
comp=Z,106nm,24.5s
ELK Elko 90.62 43 LR LR 21 21 08.2
comp=Z,46nm,18.6s,baz=278,slow=37
RLMT Red Lodge 91.35 37 P P 20 38 56.8 +0.9
baz=311
R11A Troy Canyon, C 91.81 45 P P 20 38 58.7 +0.6
baz=306
FURC Furnace Creek, 92.07 47 P P 20 39 00.4 +1.3
baz=305
LRMC Laurel Mtn Rad 92.09 49 P P 20 39 01.0 +1.6
baz=305
TPNV Topopah Spring 92.19 47 P P 20 39 01.2 +1.3
baz=306
DUG Dugway, Tooele 92.42 42 P P 20 39 02.4 +1.6
baz=308
PDAR Pinedale Array 92.71 39 P P 20 39 02.6 +0.3
comp=Z,0.9nm,0.9s,baz=253,slow=1.5,SNR=6.1
comp=Z,0.9nm,0.9s
GSC Goldstone, Bar 92.78 48 P P 20 39 02.7 +0.2
baz=305
BFSC Mount Baldy Ra 92.81 50 P P 20 39 03.4 +0.7
baz=305
TBI Tubuai 93.14 114 eLR LR 21 09 05.9
comp=Z,428nm,31.0s
TUQ Turquoise Moun 93.29 48 P P 20 39 06.0 +1.1
baz=306
HEC Hector,Ludlow 93.36 48 P P 20 39 06.5 +1.3
baz=306
MURC Murrieta 93.48 50 P P 20 39 06.9 +1.1
baz=305
GMRC Granite Mounta 93.84 48 P P 20 39 09.0 +1.5
baz=306
PFO Pinyon Flats O 93.98 49 P P 20 39 09.1 +1.0
comp=Z,3.1nm,0.9s,baz=27,slow=3.2,SNR=4.1
PFO LR LR 21 19 09.6
comp=Z,49nm,18.4s,baz=222,slow=34
comp=Z,3.1nm,0.9s
PFO Pinyon Flats O 93.98 49 P P 20 39 09.7 +1.5
baz=306
TPFO Pinon Flats 93.99 49 P P 20 39 10.0 +1.8
baz=306
BELC Belle Mtn. Jos 94.07 49 P P 20 39 10.1 +1.5
baz=306
MONP2 Monument Peak 94.42 50 P P 20 39 11.4 +1.1
baz=305
IRM Iron Mountain 94.55 48 P P 20 39 11.6 +0.9
baz=306
BC3 Big Chuckawall 94.64 49 P P 20 39 11.7 +0.5
baz=306
KEST Kesra 95.90 315 LR LR 21 29 24.0
comp=Z,105nm,18.1s,baz=266,slow=40
MBAR Mbarara 97.54 273 LR LR 21 26 30.8
comp=Z,50nm,18.1s,baz=45,slow=37
SCHQ Schefferville 98.03 9 LR LR 21 27 03.3
comp=Z,64nm,19.0s,baz=240,slow=38
TORD Torodi Ar. Bea 115.35 301 PKP PKiKP 20 44 31.3 -0.8
comp=Z,0.5nm,0.7s,baz=19,slow=2.2,SNR=4.0
TROLL Troll, Antarti 125.79 198 PKPdf PKiKP 20 44 52.0 +0.9
VNA2 Neumayer--Watz 129.06 197 PKPdf PKiKP 20 44 57.9 +0.5
baz=74,slow=1.1
NNA Nana 151.91 64 PKPbc PKiKP 20 45 45.8 -0.1
comp=Z,3.7nm,0.3s,baz=312,slow=3.5,SNR=5.9
NNA Nana 151.91 64 c iPKIKP PKiKP 20 45 46.8 +0.9
NNA pmax pmax
comp=Z,25nm,1.7s

JMA 06 20:26:34.4±0.0, 35.°4N±0.°1×133.°9E±0.°1, h7km, MV1.0/32, EASTERN TOTTORI PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.04**	**290**	*i* P	Pg	20 26 35.7	-0.1
JAD	**Aida**	**0.49**	**150**	P	Pg	20 26 43.8	+0.1
JAD				S	Sg	20 26 50.4	+0.3
JKSM	**Kasumi**	**0.69**	**71**	*e*S	Sg	20 26 56.8	+0.3
JHS	**Saijyo**	**0.72**	**240**	*e*S	Sg	20 26 57.6	+0.1

IDC 06 20:33:51.1±3.1, 34.°18N×139.°77E, h0km, mb3.3/2, mbtmp3.1/3, ML1.6/1, Error ellipse: s-maj=104.3km s-min=26.3km az=71.0

JMA 06 20:33:54.0±0.2, 34.°6N±0.°8×140.°6E±0.°8, h55km±2km, MV2.1/28, SE OFF BOSO PENINSULA

ISC 06 20:33:54.7±1.2, 34.°59N±0.°07×140.°58E±0.°08, h51km±11km, n11, σ0.s57/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.21**	**345**	P	**Pn**	**20 34 02.9**	**0.0**
BSO3				X		20 34 09.7	
BSO1	**Boso 1**	**0.34**	**80**	P	**Pn**	**20 34 03.4**	**-0.2**
BSO1				X		20 34 10.5	
BSO4	**Boso 4**	**0.44**	**334**	P	**Pn**	**20 34 05.7**	**+0.4**
BSO4				*e*X		20 34 14.0	
KTR	**Katsuura**	**0.59**	**339**	P	**Pn**	**20 34 07.1**	**0.0**
KTR				S	**Sn**	**20 34 15.8**	**-0.3**
JKUC	**kamogawauchiur**	**0.64**	**331**	P	**Pn**	**20 34 07.7**	**0.0**
JKUC				S	**Sn**	**20 34 17.1**	**-0.1**
JMKN	**Mikurajimanish**	**1.07**	**230**	S	**Sn**	**20 34 27.8**	**+0.5**
KTJ3	**Kamata3**	**1.28**	**286**	P	**Pn**	**20 34 16.2**	**-0.1**
KTJ3				S	**Sn**	**20 34 31.4**	**-1.0**
JOD2	**Odawara 2**	**1.39**	**299**	P	**Pn**	**20 34 17.8**	**+0.1**
JOD2				S	**Sn**	**20 34 34.6**	**-0.4**
MJAR	**Matsushiro Arr**	**2.74**	**316**	Pn	**Pn**	**20 34 35.6**	**-0.5**
	0.1nm,0.3s,baz=147,slow=14,SNR=8.2						
MJAR				Sn	**Sn**	**20 35 09.3**	**+1.3**

0.2nm,0.3s,baz=123,slow=17,SNR=7.8
0.6nm,0.3s
SONM Songino Array 28.66 308 P **P** **20 39 47.0 +0.3**
0.3nm,0.6s,baz=126,slow=7.3,SNR=2.5
0.3nm,0.6s
WRA Warramunga Arr 54.56 187 P **P** **20 43 17.5 -0.2**
0.2nm,0.6s,baz=1.3,slow=7.5,SNR=1.3
0.2nm,0.6s

---

*TAP **06** 20:49:49.6,24˚.02N×121˚.63E,h42km,ML2.9,B*
*JMA **06** 20:49:49.7±0.1,24˚.0N±0˚.7×121˚.7E±0˚.6,h40km,MV2.4/10,*
TAIWAN REGION
ISC 06 20:49:50.5±1.2,**24˚.02N**±0˚.02×**121˚.63E**±0˚.02,**h35**km,**n117,**
σ0.52/221,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=197	**0.05**	**203**	*eP*		**Pn**	**20 49 57.4**	**+1.1**
HWA				*eS*		**Sn**	**20 50 02.2**	**+1.9**
TWD	**Chiawan** baz=339	**0.06**	**334**	P		**Pn**	**20 49 56.8**	**+0.5**
TWD				S		**Sn**	**20 50 01.7**	**+1.3**
ETL	**Fush Village** baz=357	**0.14**	**359**	P		**Pn**	**20 49 57.1**	**+0.3**
ETL				S		**Sn**	**20 50 02.4**	**+1.2**
NACB	**Ninganchiao**	**0.15**	**349**	P		**Pn**	**20 49 57.0**	**+0.1**
NACB	**Ninganchiao** baz=348	**0.15**	**349**	P		**Pn**	**20 49 57.1**	**+0.2**
NACB				*eS*		**Sn**	**20 50 02.3**	**+0.9**
ETLH	**Xiulin Townshi** baz=323	**0.23**	**324**	*eP*		**Pn**	**20 49 57.8**	**+0.1**
ETLH				*eS*		**Sn**	**20 50 03.0**	**+0.4**
ESL	**Shilin** baz=219	**0.27**	**220**	P		**Pn**	**20 49 57.6**	**-0.5**
ESL				S		**Sn**	**20 50 02.7**	**-0.6**
WHF	**Hehuan Shan** baz=290	**0.35**	**290**	P		**Pn**	**20 49 59.5**	**0.0**
WHF				S		**Sn**	**20 50 06.2**	**+0.6**
EGFH	**Guangfu** baz=207	**0.40**	**207**	*eP*		**Pn**	**20 49 58.5**	**-1.2**
EGFH				*eS*		**Sn**	**20 50 06.4**	**+0.4**
FUSS	**Fushou** baz=302	**0.41**	**303**	P		**Pn**	**20 50 00.3**	**+0.1**
FUSS				S		**Sn**	**20 50 07.7**	**+0.8**
CHGB	**Renai** baz=275	**0.41**	**275**	P		**Pn**	**20 50 00.3**	**+0.1**
CHGB				S		**Sn**	**20 50 07.2**	**+0.3**
ENA	**Nanau** baz=15	**0.42**	**15**	P		**Pn**	**20 49 59.9**	**-0.1**
ENA				S		**Sn**	**20 50 06.9**	**+0.4**
OWD	**Renai** baz=260	**0.42**	**261**	P		**Pn**	**20 50 00.2**	**+0.1**
OWD				S		**Sn**	**20 50 06.7**	**-0.1**
NNSB	**Datong** baz=330	**0.46**	**331**	P		**Pn**	**20 50 00.6**	**-0.1**
NNSB				*eS*		**Sn**	**20 50 08.2**	**+0.4**
WUSB	**Renai** baz=266	**0.47**	**266**	P		**Pn**	**20 50 00.9**	**+0.1**
WUSB				S		**Sn**	**20 50 07.9**	**0.0**
TWT	**Tachien** baz=298	**0.47**	**299**	P		**Pn**	**20 50 01.2**	**+0.3**
TWT				S		**Sn**	**20 50 08.8**	**+0.7**
NNS	**Nan Shan** baz=331	**0.47**	**331**	P		**Pn**	**20 49 59.8**	**-1.1**
NNS				*eS*		**Sn**	**20 50 07.6**	**-0.5**
TDCB	**Techi** baz=298	**0.48**	**298**	P		**Pn**	**20 50 01.1**	**+0.1**
TDCB				*eS*		**Sn**	**20 50 08.8**	**+0.3**
LATG	**Datong** baz=349	**0.52**	**350**	P		**Pn**	**20 50 01.1**	**-0.4**
LATG				S		**Sn**	**20 50 08.4**	**-0.7**
VWDT	**VWDT** baz=239	**0.52**	**239**	P		**Pn**	**20 50 01.2**	**-0.2**
VWDT				S		**Sn**	**20 50 08.5**	**-0.5**
HGSD	**Ruisui** baz=199	**0.56**	**199**	P		**Pn**	**20 50 02.0**	**0.0**
HGSD				*eS*		**Sn**	**20 50 10.4**	**+0.3**
EHY	**Hungye** baz=208	**0.59**	**208**	*eP*		**Pn**	**20 50 01.8**	**-0.6**
EHY				*eS*		**Sn**	**20 50 10.7**	**0.0**
ENTT	**Nioudou** baz=355	**0.62**	**355**	P		**Pn**	**20 50 01.5**	**-1.3**
ENTT				S		**Sn**	**20 50 10.4**	**-1.1**
TWC	**Suao** baz=19	**0.62**	**19**	P		**Pn**	**20 50 02.8**	**0.0**
TWC				*eS*		**Sn**	**20 50 12.3**	**+0.8**
WCS	**Beigang Elemen** baz=273	**0.65**	**273**	*eP*		**Pn**	**20 50 03.1**	**-0.2**
WCS				*eS*		**Sn**	**20 50 13.1**	**+0.7**
SSLB	**Suanglung**	**0.66**	**249**	P		**Pn**	**20 50 03.1**	**-0.3**
SSLB	**Suanglung** baz=249	**0.66**	**249**	*eP*		**Pn**	**20 50 02.8**	**-0.6**
SSLB				*eS*		**Sn**	**20 50 12.9**	**+0.3**
WHP	**Taichung City** baz=292	**0.67**	**292**	*eP*		**Pn**	**20 50 04.0**	**+0.4**
WHP				*eS*		**Sn**	**20 50 13.7**	**+0.8**
SMLT	**Sun Moon Lake** baz=258	**0.68**	**258**	*eP*		**Pn**	**20 50 03.5**	**-0.3**
SMLT				*eS*		**Sn**	**20 50 13.8**	**+0.6**
YHNB	**Yeheng**	**0.68**	**340**	P		**Pn**	**20 50 03.7**	**-0.1**
YHNB	**Yeheng** baz=340	**0.68**	**340**	P		**Pn**	**20 50 03.6**	**-0.2**
YHNB				S		**Sn**	**20 50 13.0**	**-0.2**
NSK	**Sanguang** baz=339	**0.69**	**339**	*eP*		**Pn**	**20 50 02.8**	**-1.1**
NSK				*eS*		**Sn**	**20 50 12.5**	**-1.0**
TWE	**Neicheng** baz=4.0	**0.69**	**3**	*eP*		**Pn**	**20 50 03.6**	**-0.3**
TWE				*eS*		**Sn**	**20 50 13.5**	**+0.1**
YULB	**Yu-li**	**0.70**	**206**	P		**Pn**	**20 50 02.4**	**-1.5**
YULB	**Yu-li** baz=205	**0.70**	**206**	*eP*		**Pn**	**20 50 03.2**	**-0.7**
YULB				*eS*		**Sn**	**20 50 13.5**	**+0.1**
TYC	**Yuchr** baz=260	**0.71**	**261**	*eP*		**Pn**	**20 50 03.9**	**-0.2**
TYC				*eS*		**Sn**	**20 50 14.1**	**+0.3**
EYUL	**Yuli** baz=202	**0.73**	**203**	*eP*		**Pn**	**20 50 04.1**	**-0.2**
EYUL				*eS*		**Sn**	**20 50 14.6**	**+0.3**
FUSB	**Fushanzhiwuyua** baz=357	**0.73**	**357**	P		**Pn**	**20 50 04.1**	**-0.3**
FUSB				*eS*		**Sn**	**20 50 14.4**	**0.0**
NWLT	**Wulai** baz=351	**0.76**	**351**	*eP*		**Pn**	**20 50 04.4**	**-0.3**
NWLT				*eS*		**Sn**	**20 50 15.2**	**+0.2**
NFF	**Wufeng Townshi** baz=322	**0.76**	**323**	*eP*		**Pn**	**20 50 04.0**	**-0.8**
NFF				*eS*		**Sn**	**20 50 15.4**	**+0.2**
WHYT	**Xinyi Township** baz=245	**0.78**	**245**	*eP*		**Pn**	**20 50 04.5**	**-0.5**
WHYT				*eS*		**Sn**	**20 50 16.1**	**+0.5**
YUS	**Yu-Shan** baz=229	**0.81**	**229**	*eP*		**Pn**	**20 50 05.2**	**-0.7**
YUS				*eS*		**Sn**	**20 50 16.9**	**-0.2**
NSTT	**Nanjuang** baz=316	**0.83**	**317**	*eP*		**Pn**	**20 50 06.2**	**+0.5**
NSTT				*eS*		**Sn**	**20 50 17.5**	**+0.7**
LIOB	**Emei** baz=318	**0.83**	**318**	P		**Pn**	**20 50 06.0**	**+0.3**
LIOB				*eS*		**Sn**	**20 50 17.9**	**+1.0**
TWQ1	**Liyutan** baz=292	**0.84**	**293**	*eP*		**Pn**	**20 50 05.7**	**-0.1**
TWQ1				*eS*		**Sn**	**20 50 17.6**	**+0.6**
WJS	**Zhushan** baz=256	**0.85**	**256**	*eP*		**Pn**	**20 50 05.6**	**-0.3**
WJS				*eS*		**Sn**	**20 50 17.9**	**+0.7**
EGS	baz=19	**0.86**	**19**	*eP*		**Pn**	**20 50 05.9**	**-0.2**
EGS				*eS*		**Sn**	**20 50 18.2**	**+0.7**
WNT	**Mingjian** baz=260	**0.87**	**261**	*eP*		**Pn**	**20 50 06.1**	**-0.1**
WNT				*eS*		**Sn**	**20 50 18.4**	**+0.5**
FULB	**Fuli** baz=200	**0.88**	**200**	*eP*		**Pn**	**20 50 06.4**	**+0.1**
FULB				*eS*		**Sn**	**20 50 18.6**	**+0.8**
TCU	**Taichung** baz=278	**0.88**	**278**	*eP*		**Pn**	**20 50 05.9**	**-0.4**
TCU				*eS*		**Sn**	**20 50 18.2**	**+0.4**
NSY	**Sanyi** baz=296	**0.88**	**296**	*eP*		**Pn**	**20 50 06.2**	**-0.2**
NSY				*eS*		**Sn**	**20 50 18.6**	**+0.5**
ALS	**Alishan** baz=235	**0.91**	**236**	*eP*		**Pn**	**20 50 06.8**	**-0.2**
ALS				*eS*		**Sn**	**20 50 19.3**	**+0.2**
NMLH	**Miaoli** baz=303	**0.92**	**304**	*eP*		**Pn**	**20 50 06.7**	**-0.2**
NMLH				*eS*		**Sn**	**20 50 19.3**	**+0.4**
NHDH	**Xindian Distri** baz=354	**0.94**	**354**	*eP*		**Pn**	**20 50 07.1**	**-0.1**
NHDH				*eS*		**Sn**	**20 50 19.9**	**+0.5**
CHKT	**Chengkung** baz=194	**0.95**	**195**	*eP*		**Pn**	**20 50 07.4**	**+0.1**
CHKT				*eS*		**Sn**	**20 50 20.1**	**+0.5**
TWA	**Mucha** baz=357	**0.95**	**358**	*eP*		**Pn**	**20 50 07.2**	**-0.2**
TWA				*eS*		**Sn**	**20 50 20.1**	**+0.3**
WDJ	**Dajia District** baz=289	**0.96**	**290**	*eP*		**Pn**	**20 50 07.4**	**0.0**
WDJ				*eS*		**Sn**	**20 50 20.3**	**+0.5**
TIPB	**Shuangxi** baz=10.0	**0.96**	**11**	*eP*		**Pn**	**20 50 07.2**	**-0.3**
TIPB				*eS*		**Sn**	**20 50 20.6**	**+0.6**
CHN5	**Tsauling** baz=244	**0.97**	**244**	*eP*		**Pn**	**20 50 07.3**	**-0.3**
CHN5				*eS*		**Sn**	**20 50 20.9**	**+0.7**
WCHH	**Zhanghua** baz=273	**0.98**	**273**	*eP*		**Pn**	**20 50 07.7**	**0.0**
WCHH				*eS*		**Sn**	**20 50 20.9**	**+0.6**
ELDTW	**Lidau** baz=213	**1.00**	**214**	*eP*		**Pn**	**20 50 07.2**	**-0.9**
ELDTW				*eS*		**Sn**	**20 50 21.0**	**-0.1**
TWB1	**Santiao Chiao** baz=18	**1.03**	**19**	*eP*		**Pn**	**20 50 08.3**	**-0.2**
TWB1				*eS*		**Sn**	**20 50 22.8**	**+1.1**
WDLH	**Douliu** baz=251	**1.05**	**252**	*eP*		**Pn**	**20 50 08.7**	**0.0**
WDLH				*eS*		**Sn**	**20 50 22.9**	**+0.8**
NWF	**Wu-fen Shan** baz=7.0	**1.05**	**8**	*eS*		**Sn**	**20 50 22.7**	**+0.4**
EDH	**Donghe** baz=195	**1.09**	**196**	*eP*		**Pn**	**20 50 09.1**	**-0.1**
EDH				*eS*		**Sn**	**20 50 24.0**	**+1.0**
SXI1	**Grass Mountain** baz=11	**1.09**	**12**	*eP*		**Pn**	**20 50 09.2**	**-0.2**
SXI1				*eS*		**Sn**	**20 50 23.5**	**+0.2**
TWS1	**Kuangyinshan** baz=350	**1.09**	**350**	*eP*		**Pn**	**20 50 09.1**	**-0.1**
TWS1				*eS*		**Sn**	**20 50 23.4**	**+0.3**
WCKO	**Fanlu** baz=238	**1.10**	**238**	*eP*		**Pn**	**20 50 09.4**	**0.0**
WCKO				*eS*		**Sn**	**20 50 23.5**	**0.0**
YM01	**YM01** baz=357	**1.12**	**357**	*eP*		**Pn**	**20 50 09.7**	**0.0**
YM01				*eS*		**Sn**	**20 50 24.4**	**+0.5**
NTST	**Danshui** baz=351	**1.15**	**352**	*eP*		**Pn**	**20 50 10.1**	**+0.1**
NTST				*eS*		**Sn**	**20 50 25.1**	**+0.6**
WRL	**Guolierlin Hig** baz=264	**1.15**	**264**	*eP*		**Pn**	**20 50 10.2**	**+0.1**
WRL				*eS*		**Sn**	**20 50 24.9**	**+0.3**
STYH	**Taoyuan** baz=222	**1.15**	**223**	*eP*		**Pn**	**20 50 09.6**	**-0.5**
STYH				*eS*		**Sn**	**20 50 24.9**	**+0.2**
ANP	**Anpu** baz=355	**1.16**	**355**	*eP*		**Pn**	**20 50 10.4**	**+0.1**
ANP				*eS*		**Sn**	**20 50 25.7**	**+0.7**
TPUB	**Ta-pu**	**1.16**	**232**	P		**Pn**	**20 50 10.9**	**+0.6**
TPUB	**Ta-pu** baz=231	**1.16**	**232**	*eP*		**Pn**	**20 50 10.3**	**0.0**
TPUB				*eS*		**Sn**	**20 50 25.6**	**+0.6**
LONT	**Longtian** baz=202	**1.20**	**202**	*eP*		**Pn**	**20 50 10.6**	**-0.2**
LONT				*eS*		**Sn**	**20 50 26.7**	**+0.8**
WTP	**Ta-pu** baz=230	**1.21**	**230**	*eP*		**Pn**	**20 50 11.1**	**+0.1**
WTP				*eS*		**Sn**	**20 50 26.5**	**+0.3**
CHY	**Chiayi** baz=244	**1.22**	**245**	*eP*		**Pn**	**20 50 10.8**	**-0.2**
CHY				*eS*		**Sn**	**20 50 26.5**	**+0.2**
JYNG	**Yonaguni jima**	**1.28**	**70**	P		**Pn**	**20 50 11.5**	**-0.3**
JYNG				*eS*		**Sn**	**20 50 27.6**	**-0.1**
TWK	**Hsinying** baz=233	**1.29**	**234**	*eP*		**Pn**	**20 50 11.9**	**-0.1**
TWK				*eS*		**Sn**	**20 50 28.7**	**+0.6**
TWG	**Pinlang** baz=202	**1.30**	**203**	*eP*		**Pn**	**20 50 12.3**	**+0.2**
TWG				*eS*		**Sn**	**20 50 28.8**	**+0.4**
TWGBT	**Beinan**	**1.30**	**203**	P		**Pn**	**20 50 11.6**	**-0.6**
TWGBT	**Beinan** baz=202	**1.30**	**203**	*eP*		**Pn**	**20 50 11.8**	**-0.4**
TWGBT				*eS*		**Sn**	**20 50 28.3**	**-0.1**
CHN1	**Nanshi** baz=230	**1.31**	**231**	*eP*		**Pn**	**20 50 12.1**	**-0.2**
CHN1				*eS*		**Sn**	**20 50 28.2**	**-0.4**
YOJ	**Yonaguni jima**	**1.34**	**71**	P		**Pn**	**20 50 12.6**	**0.0**
YOJ	**Yonaguni jima** baz=70	**1.34**	**71**	*eP*		**Pn**	**20 50 12.4**	**-0.3**
YOJ				*eS*		**Sn**	**20 50 30.0**	**+0.8**
YOJ	**Yonaguni jima** baz=70	**1.34**	**71**	P		**Pn**	**20 50 12.2**	**-0.5**
SGST	**Jiashian** baz=225	**1.34**	**226**	*eP*		**Pn**	**20 50 12.3**	**-0.4**
SGST				*eS*		**Sn**	**20 50 29.5**	**+0.1**
WSF	**Szhu** baz=253	**1.34**	**254**	*eS*		**Sn**	**20 50 29.9**	**+0.5**
LDUT	**Ludao** baz=186	**1.35**	**186**	*eP*		**Pn**	**20 50 12.5**	**-0.4**
LDUT				*eS*		**Sn**	**20 50 30.0**	**+0.4**
WSL	**Shuilin Townsh** baz=248	**1.38**	**249**	*eP*		**Pn**	**20 50 12.9**	**-0.3**
WSL				*eS*		**Sn**	**20 50 30.9**	**+0.7**
SCST	**Cishan** baz=222	**1.54**	**223**	*eP*		**Pn**	**20 50 15.7**	**+0.2**
SCST				*eS*		**Sn**	**20 50 34.5**	**+0.3**
ECL	**Taimali** baz=203	**1.55**	**204**	*eP*		**Pn**	**20 50 16.0**	**+0.4**
ECL				*eS*		**Sn**	**20 50 34.8**	**+0.4**
SSD	**Sandimen** baz=215	**1.57**	**216**	*eP*		**Pn**	**20 50 16.0**	**+0.1**
SSD				*eS*		**Sn**	**20 50 35.7**	**+0.8**
TSMG	**Majia** baz=214	**1.59**	**215**	*eP*		**Pn**	**20 50 16.6**	**+0.4**
TSMG				*eS*		**Sn**	**20 50 35.4**	**-0.1**
TSCK	**Chigu Township** baz=238	**1.66**	**239**	*eP*		**Pn**	**20 50 16.3**	**-0.8**
TSCK				*eS*		**Sn**	**20 50 37.4**	**+0.2**
MASBT	**Mashibuluo** baz=213	**1.68**	**213**	*eP*		**Pn**	**20 50 17.6**	**+0.2**
MASBT				*eS*		**Sn**	**20 50 38.0**	**+0.4**
TAWH	**Dawu Township** baz=202	**1.81**	**202**	*eP*		**Pn**	**20 50 19.4**	**+0.3**
TAWH				*eS*		**Sn**	**20 51 41.0**	**+0.1**
SCZT	**Fangliau** baz=209	**1.89**	**210**	*eP*		**Pn**	**20 50 20.6**	**+0.4**
SCZT				*eS*		**Sn**	**20 50 43.1**	**+0.3**
IRIF	**Iriomote-Funau**	**1.95**	**80**	P		**Pn**	**20 50 20.8**	**-0.3**
IRIF				*eS*		**Sn**	**20 50 43.9**	**-0.4**
PHUB	**P'eng-hu** baz=254	**1.95**	**255**	*eP*		**Pn**	**20 50 21.1**	**+0.1**
PHUB				*eS*		**Sn**	**20 50 44.0**	**-0.4**
PNG	**Penghu** baz=256	**1.95**	**257**	*eP*		**Pn**	**20 50 20.8**	**-0.3**
PNG				*eS*		**Sn**	**20 50 44.5**	**+0.1**
SLIU	**Shizi** baz=203	**1.95**	**203**	*eP*		**Pn**	**20 50 21.1**	**0.0**
SLIU				*eS*		**Sn**	**20 50 44.7**	**+0.2**
WDGT	**Dungji** baz=247	**1.96**	**248**	*eP*		**Pn**	**20 50 21.3**	**+0.1**
WDGT				*eS*		**Sn**	**20 50 44.4**	**-0.2**
LAY	**Lan-yu** baz=181	**1.98**	**182**	*eP*		**Pn**	**20 50 21.5**	**0.0**
LAY				*eS*		**Sn**	**20 50 45.1**	**0.0**
LYUB	**Lan-yu** baz=181	**2.01**	**181**	*eP*		**Pn**	**20 50 22.0**	**+0.1**
LYUB				*eS*		**Sn**	**20 50 46.6**	**+0.7**
SMST	**Manzhou Townsh** baz=200	**2.12**	**200**	*eP*		**Pn**	**20 50 23.5**	**0.0**
SMST				*eS*		**Sn**	**20 50 48.2**	**-0.4**
JKRS	**Kuro-shima**	**2.19**	**84**	P		**Pn**	**20 50 24.5**	**+0.1**
JKRS				S		**Sn**	**20 50 51.1**	**+0.9**
TWKBT	**Hengchun** baz=199	**2.21**	**200**	*eP*		**Pn**	**20 50 24.5**	**-0.1**
TWKBT				*eS*		**Sn**	**20 50 50.2**	**-0.4**
VWUC	**VWUC** baz=295	**2.21**	**296**	*eP*		**Pn**	**20 50 24.5**	**-0.1**
VWUC				*eS*		**Sn**	**20 50 49.7**	**-0.9**
JIJ	**Ishigaki jima**	**2.32**	**81**	P		**Pn**	**20 50 25.8**	**-0.4**
JIJ				S		**Sn**	**20 50 52.3**	**-1.3**
PTMZ	**Houxiangcun** baz=293	**2.50**	**294**	*eP*		**Pn**	**20 50 28.6**	**0.0**
PTMZ				*eS*		**Sn**	**20 50 57.4**	**-0.5**
JISG	**Ishigakijimahi** baz=293	**2.51**	**77**	*eP*		**Pn**	**20 50 28.2**	**-0.6**
JISG				S		**Sn**	**20 50 57.3**	**-0.9**
JTJ	**Tarama**	**2.87**	**77**	*eS*		**Sn**	**20 51 07.8**	**+0.7**
KNMB	**Chin-men Tao** baz=278	**2.99**	**279**	*eS*		**Sn**	**20 51 09.1**	**-0.9**
MHZQ	**Yeshan** baz=311	**3.13**	**312**	*eS*		**Sn**	**20 51 12.8**	**-0.8**
XPSS	**Dashiqiu** baz=335	**3.17**	**336**	*eP*		**Pn**	**20 50 38.1**	**+0.2**
XPSS				*eS*		**Sn**	**20 51 13.5**	**-1.0**

---

*TAP **06** 20:53:54.6,23˚.22N×120˚.82E,h7km,ML4.0,C*
*JMA **06** 20:53:56.2±0.5,23˚.N±1˚×12˚.1E±˚,h0km,MV3.6/13,*
TAIWAN REGION
*NIED **06** 20:53:56.2,23˚.18N×121˚.10E,h0km,MW4.0,Moment*
Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm;
Mrr4.01; Mθθ-8.09; Mφφ4.08; Mrθ-5.37; Mθφ2.20; Mφr-3.17;
Fault plane solution: M₀9.57000×10¹⁴ NP1:
φs137.00000°,δ41.00000°,λ155.00000°. NP2:
φs246.00000°,δ74.00000°,λ52.00000°.
ISC 06 20:53:54.7±0.8,**23˚.20N**±0˚.01×**120˚.87E**±0˚.01,**h9**km±6km,
n149,σ1§07/261,21C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan** baz=224	**0.11**	**249**	⇑*iP*		**Pg**	**20 53 56.9**	**-0.4**
STYT				*i* S		**Sg**	**20 53 58.6**	**-0.7**
ELDTW	**Lidau** baz=99	**0.14**	**96**	⇓*iP*		**Pg**	**20 53 59.2**	**+1.4**
ELDTW				*i* S		**Sg**	**20 54 02.2**	**+2.3**
WTP	**Ta-pu** baz=279	**0.24**	**280**	⇓*iP*		**Pg**	**20 53 59.4**	**-0.2**
WTP				*i* S		**Sg**	**20 54 02.7**	**-0.2**
TPUB	**Ta-pu**	**0.24**	**293**	P		**Pg**	**20 53 59.6**	**-0.1**
TPUB	**Ta-pu** baz=296	**0.24**	**293**	⇓*iP*		**Pg**	**20 53 59.5**	**-0.1**
TPUB				*i* S		**Sg**	**20 54 02.8**	**-0.1**
SGST	**Jiashian** baz=243	**0.29**	**245**	⇑*iP*		**Pg**	**20 53 59.7**	**-0.9**
SGST				*i* S		**Sg**	**20 54 03.9**	**-0.5**
YUS	**Yu-Shan** baz=24	**0.29**	**15**	⇑*iP*		**Pb**	**20 54 01.4**	**-1.1**
YUS				*i* S		**Sb**	**20 54 06.2**	**-1.5**
CHN4	**Tsaushan** baz=308	**0.29**	**300**	⇓*iP*		**Pg**	**20 53 59.7**	**-0.9**
CHN4				*i* S		**Sg**	**20 54 04.2**	**-0.4**
ALS	**Alishan** baz=358	**0.31**	**349**	⇑*iP*		**Pg**	**20 54 01.3**	**+0.2**
ALS				*i* S		**Sg**	**20 54 05.9**	**+0.7**
CHN1	**Nanshi** baz=264	**0.32**	**267**	⇑*iP*		**Pg**	**20 54 01.2**	**+0.2**
CHN1				*i* S		**Sg**	**20 54 06.0**	**+0.8**
ECS	**Chishang** baz=109	**0.34**	**109**	P		**Pb**	**20 54 03.0**	**+0.1**
ECS				*eS*		**Sb**	**20 54 09.3**	**+0.8**
WCKO	**Fanlu** baz=327	**0.34**	**314**	P		**Pg**	**20 54 00.6**	**-0.8**
WCKO				S		**Sg**	**20 54 05.7**	**-0.3**
	baz=327							

TWK	**Hsinying**	**0.36**	**280**	⇓*i*P	**Pg**	**20 54 02.0**	**+0.2**
	baz=279						
TWK				S	**Sg**	**20 54 07.0**	**+0.5**
	baz=279						
LONT	**Longtian**	**0.38**	**141**	⇓*i*P	**Pb**	**20 54 03.5**	**-0.1**
	baz=135						
LONT				S	**Sb**	**20 54 09.1**	**-0.6**
	baz=135						
FULB	**Fuli**	**0.39**	**91**	⇓P	**Pn**	**20 54 04.5**	**-2.2**
	baz=85						
FULB				S	**Sb**	**20 54 11.2**	**+1.3**
	baz=85						
TWF1	**Yuli**	**0.42**	**69**	⇑*i*P	**Pb**	**20 54 04.3**	**-0.1**
	baz=79						
TWF1				*i* S	**Sb**	**20 54 10.3**	**-0.6**
	baz=79						
TWG	**Pinlang**	**0.42**	**154**	⇓*i*P	**Pb**	**20 54 04.2**	**-0.2**
	baz=150						
TWG				*i* S	**Sb**	**20 54 10.3**	**-0.6**
	baz=150						
CHN5	**Tsauling**	**0.43**	**336**	P	**Pg**	**20 54 02.6**	**-0.6**
	baz=340						
CHN5				S	**Sg**	**20 54 09.2**	**+0.4**
	baz=340						
TWGBT	**Beinan**	**0.43**	**153**	P	**Pb**	**20 54 04.6**	**+0.1**
TWGBT	**Beinan**	**0.43**	**153**	⇓*i*P	**Pb**	**20 54 04.2**	**-0.3**
	baz=150						
TWGBT				*i* S	**Sb**	**20 54 10.5**	**-0.6**
	baz=150						
YULB	**Yu-li**	**0.43**	**64**	P	**Pb**	**20 54 04.4**	**-0.2**
YULB	**Yu-li**	**0.43**	**64**	⇑P	**Pb**	**20 54 04.3**	**-0.3**
	baz=67						
YULB				S	**Sb**	**20 54 09.9**	**-1.4**
	baz=67						
EYUL	**Yuli**	**0.44**	**71**	P	**Pb**	**20 54 04.6**	**0.0**
	baz=80						
EYUL				S	**Sb**	**20 54 10.7**	**-0.6**
	baz=80						
EDH	**Donghe**	**0.46**	**120**	*e*P	**Pn**	**20 54 05.5**	**-2.1**
	baz=125						
EDH				*e*S	**Sb**	**20 54 13.3**	**+1.3**
	baz=125						
CHKT	**Chengkung**	**0.47**	**103**	⇓*i*P	**Pn**	**20 54 06.1**	**-1.5**
	baz=104						
CHKT				S	**Sb**	**20 54 14.7**	**+2.6**
	baz=104						
SCST	**Cishan**	**0.47**	**228**	P	**Pb**	**20 54 04.8**	**-0.5**
	baz=224						
SCST				*e*S	**Sb**	**20 54 12.9**	**+0.6**
	baz=224						
CHN3	**Shinhua**	**0.48**	**255**	*i* P	**Pb**	**20 54 05.0**	**-0.5**
	baz=267						
CHN3				*i* S	**Sb**	**20 54 14.6**	**+1.9**
	baz=267						
CHN2	**Minshiung**	**0.49**	**312**	P	**Pg**	**20 54 05.1**	**+0.9**
	baz=314						
CHN2				S	**Sb**	**20 54 13.0**	**+0.1**
	baz=314						
WHYT	**Xinyi Township**	**0.49**	**358**	⇑P	**Pg**	**20 54 04.8**	**+0.5**
	baz=2.0						
WHYT				*e*S	**Sg**	**20 54 11.2**	**+0.5**
	baz=2.0						
CHY	**Chiayi**	**0.50**	**305**	*e*P	**Pg**	**20 54 05.0**	**+0.5**
	baz=308						
CHY				*e*S	**Sb**	**20 54 13.5**	**+0.2**
	baz=308						
SSD	**Sandimen**	**0.51**	**206**	⇑*i*P	**Pb**	**20 54 04.7**	**-1.1**
	baz=195						
SSD				S	**Sg**	**20 54 11.1**	**-0.1**
	baz=195						
EHY	**Hungye**	**0.51**	**54**	⇑*i*P	**Pb**	**20 54 05.6**	**-0.3**
	baz=63						
EHY				*i* S	**Sb**	**20 54 12.4**	**-1.1**
	baz=63						
SHHT	**Tainan City**	**0.52**	**249**	P	**Pb**	**20 54 05.8**	**-0.2**
	baz=261						
SHHT				S	**Sb**	**20 54 15.0**	**+1.4**
	baz=261						
TSMG	**Majia**	**0.54**	**203**	P	**Pb**	**20 54 05.2**	**-1.1**
	baz=193						
TSMG				*e*S	**Sb**	**20 54 13.4**	**-0.8**
	baz=193						
SSHA	**Shanhua**	**0.54**	**263**	*e*P	**Pb**	**20 54 06.9**	**+0.5**
	baz=262						
SSHA				*e*S	**Sb**	**20 54 16.0**	**+1.7**
	baz=262						
WGK	**Gukeng**	**0.56**	**329**	P	**Pb**	**20 54 06.5**	**-0.2**
	baz=333						
WGK				S	**Sb**	**20 54 15.4**	**+0.6**
	baz=333						
TWM1	**Shoushan**	**0.56**	**228**	⇑P	**Pb**	**20 54 07.3**	**+0.5**
	baz=224						
TWM1				S	**Sn**	**20 54 18.4**	**-0.1**
	baz=224						
ICHU	**Yijhu**	**0.57**	**286**	*e*P	**Pg**	**20 54 06.3**	**+0.7**
	baz=286						
ICHU				*e*S	**Sb**	**20 54 15.5**	**+0.5**
	baz=286						
WDLH	**Douliu**	**0.57**	**328**	*e*P	**Pb**	**20 54 06.8**	**-0.1**
	baz=330						
WDLH				*e*S	**Sb**	**20 54 15.6**	**+0.4**
	baz=330						
HGSD	**Ruisui**	**0.58**	**60**	P	**Pn**	**20 54 07.7**	**-1.6**
	baz=68						
HGSD				*e*S	**Sn**	**20 54 16.9**	**-2.1**
	baz=68						
SSLB	**Suanglung**	**0.58**	**7**	P	**Pg**	**20 54 06.1**	**+0.1**
SSLB	**Suanglung**	**0.58**	**7**	⇑*i*P	**Pg**	**20 54 06.2**	**+0.1**
	baz=17						
SSLB				*e*S	**Sg**	**20 54 13.5**	**-0.3**
	baz=17						
VWDT	**VWDT**	**0.60**	**24**	⇑P	**Pb**	**20 54 06.8**	**-0.6**
	baz=25						
VWDT				*e*S	**Sb**	**20 54 17.2**	**+1.1**
	baz=25						
ECL	**Taimali**	**0.61**	**173**	⇓*i*P	**Pb**	**20 54 07.0**	**-0.6**
	baz=162						
ECL				S	**Sb**	**20 54 16.1**	**-0.2**
	baz=162						
TAI1	**Yung-k'ang**	**0.61**	**255**	*e*P	**Pn**	**20 54 08.9**	**-0.7**
	baz=265						
TAI1				*e*S	**Sn**	**20 54 18.8**	**-0.8**
	baz=265						
CHN8	**Yiju**	**0.62**	**283**	P	**Pg**	**20 54 07.2**	**+0.4**
	baz=284						
CHN8				*e*S	**Sg**	**20 54 16.5**	**+1.6**
	baz=284						
SCLT	**Jiali**	**0.62**	**267**	P	**Pg**	**20 54 07.4**	**+0.7**
	baz=266						
SCLT				S	**Sb**	**20 54 18.1**	**+1.4**
	baz=266						
MASBT	**Mashibuluo**	**0.63**	**201**	⇑*i*P	**Pb**	**20 54 07.0**	**-1.0**
	baz=197						
MASBT				*e*S	**Sb**	**20 54 16.8**	**-0.1**
	baz=197						
WJS	**Zhushan**	**0.63**	**348**	P	**Pb**	**20 54 08.0**	**+0.1**
	baz=351						
WJS				*e*S	**Sb**	**20 54 17.9**	**+1.0**
	baz=351						
WSL	**Shuilin Townsh**	**0.67**	**298**	*e*P	**Pg**	**20 54 06.9**	**-0.7**
	baz=299						
WSL				*e*S	**Sg**	**20 54 18.0**	**+1.5**
	baz=299						
SMLT	**Sun Moon Lake**	**0.68**	**2**	⇑*i*P	**Pb**	**20 54 08.4**	**-0.4**
	baz=13						
SMLT				*i* S	**Sn**	**20 54 21.0**	**-0.5**
	baz=13						
EGFH	**Guangfu**	**0.69**	**48**	*e*P	**Pn**	**20 54 09.2**	**-1.5**
	baz=58						
EGFH				*e*S	**Sb**	**20 54 18.2**	**-0.5**
	baz=58						
WNT	**Mingjian**	**0.69**	**346**	⇑P	**Pb**	**20 54 09.4**	**+0.4**
	baz=349						
WNT				*e*S	**Sb**	**20 54 19.5**	**+0.8**
	baz=349						
TYC	**Yuchr**	**0.70**	**359**	⇑*i*P	**Pb**	**20 54 08.9**	**-0.2**
	baz=10.0						
TYC				*i* S	**Sn**	**20 54 20.5**	**-1.3**
	baz=10.0						
TSCK	**Chigu Township**	**0.72**	**266**	*e*P	**Pg**	**20 54 08.2**	**-0.5**
	baz=265						
TSCK				*e*S	**Sb**	**20 54 19.6**	**-0.1**
	baz=265						
WSF	**Szhu**	**0.74**	**306**	P	**Pg**	**20 54 09.3**	**+0.4**
	baz=307						
WSF				S	**Sg**	**20 54 19.8**	**+1.3**
	baz=307						
LDUT	**Ludao**	**0.76**	**134**	P	**Pn**	**20 54 10.2**	**-1.6**
	baz=133						
LDUT				S	**Sn**	**20 54 22.4**	**-1.0**
	baz=133						
WSSB	**Gushan**	**0.79**	**225**	*e*P	**Pn**	**20 54 12.2**	**0.0**
	baz=239						
WSSB				*e*S	**Sn**	**20 54 25.9**	**+1.7**
	baz=239						
ESL	**Shilin**	**0.80**	**40**	P	**Pb**	**20 54 10.4**	**-0.4**
	baz=42						
ESL				S	**Sb**	**20 54 21.7**	**0.0**
	baz=42						
OWD	**Renai**	**0.80**	**20**	P	**Pg**	**20 54 10.0**	**-0.1**
	baz=33						
WUSB	**Renai**	**0.82**	**16**	⇑P	**Pg**	**20 54 10.2**	**-0.3**
	baz=3.0						
EAST	**Anshuo**	**0.82**	**182**	⇑*i*P	**Pn**	**20 54 11.1**	**-1.4**
	baz=168						
EAST				*e*S	**Sb**	**20 54 21.4**	**-0.9**
	baz=168						
KAU	**Kaohsiung**	**0.82**	**219**	*e*P	**Pn**	**20 54 12.8**	**+0.3**
	baz=217						
WRL	**Guolierlin Hig**	**0.83**	**327**	*e*P	**Pg**	**20 54 09.8**	**-0.9**
	baz=329						
WRL				*e*S	**Sg**	**20 54 21.6**	**+0.1**
	baz=329						
TAW	**Tawu**	**0.84**	**178**	*e*P	**Pn**	**20 54 11.3**	**-1.5**
	baz=167						
WCS	**Beigang Elemen**	**0.85**	**2**	*e*P	**Pg**	**20 54 10.7**	**-0.4**
	baz=4.0						
WCS				*e*S	**Sb**	**20 54 23.2**	**-0.1**
	baz=4.0						
WTCT	**Ta-ch'eng**	**0.85**	**321**	*e*P	**Pg**	**20 54 11.2**	**0.0**
	baz=322						
WTCT				*e*S	**Sb**	**20 54 23.7**	**+0.4**
	baz=322						
SCZT	**Fangliau**	**0.86**	**196**	⇑P	**Pb**	**20 54 11.4**	**-0.5**
	baz=202						
SCZT				*e*S	**Sn**	**20 54 24.9**	**-0.8**
	baz=202						
TAWH	**Dawu Township**	**0.86**	**179**	P	**Pb**	**20 54 10.8**	**-1.1**
	baz=172						
TAWH				*e*S	**Sn**	**20 54 23.9**	**-1.8**
	baz=172						
CHGB	**Renai**	**0.90**	**18**	P	**Pg**	**20 54 11.7**	**-0.3**
	baz=20						
CHGB				*e*S	**Sn**	**20 54 27.1**	**0.0**
	baz=20						
WCHH	**Zhanghua**	**0.92**	**342**	P	**Pg**	**20 54 12.7**	**+0.3**
	baz=343						
WCHH				S	**Sb**	**20 54 26.3**	**+1.1**
	baz=343						
TCU	**Taichung**	**0.96**	**349**	P	**Pn**	**20 54 13.9**	**-0.5**
	baz=351						
TCU				S	**Sn**	**20 54 28.4**	**+0.2**
	baz=351						
SLIU	**Shizi**	**0.99**	**184**	*e*P	**Pn**	**20 54 14.0**	**-0.8**
	baz=183						
SLIU				*e*S	**Sn**	**20 54 29.7**	**+0.8**
	baz=183						
WHF	**Hehuan Shan**	**1.00**	**21**	⇑*i*P	**Pg**	**20 54 13.8**	**-0.2**
	baz=23						
WHF				S	**Sn**	**20 54 30.6**	**+0.7**
	baz=23						
HWA	**Hwalien**	**1.02**	**41**	*e*P	**Pn**	**20 54 15.3**	**0.0**
	baz=42						
HWA				*e*S	**Sn**	**20 54 29.9**	**+0.2**
	baz=42						
WHP	**Taichung City**	**1.07**	**4**	P	**Pn**	**20 54 16.1**	**0.0**
	baz=18						
WHP				*e*S	**Sn**	**20 54 32.2**	**+1.1**
	baz=18						
TDCB	**Techi**	**1.08**	**14**	*e*P	**Pg**	**20 54 14.8**	**-0.7**
	baz=22						
TDCB				*e*S	**Sn**	**20 54 31.9**	**+0.5**
	baz=22						
TWT	**Tachien**	**1.08**	**15**	*e*P	**Pb**	**20 54 15.4**	**-0.4**
	baz=23						
TWT				*e*S	**Sn**	**20 54 31.9**	**+0.3**
	baz=23						
FUSS	**Fushou**	**1.09**	**18**	*e*P	**Pg**	**20 54 15.0**	**-0.7**
	baz=19						
FUSS				*e*S	**Sn**	**20 54 34.2**	**+2.3**
	baz=19						
TWD	**Chiawan**	**1.10**	**37**	P	**Pn**	**20 54 16.3**	**0.0**
	baz=48						
TWD				S	**Sn**	**20 54 31.3**	**-0.3**
	baz=48						
WDGT	**Dungji**	**1.12**	**273**	⇓*i*P	**Pb**	**20 54 15.1**	**-1.1**
	baz=273						
WDGT				S	**Sg**	**20 54 29.5**	**-1.1**
	baz=273						
TWQ1	**Liyutan**	**1.14**	**355**	P	**Pn**	**20 54 17.2**	**+0.2**
	baz=357						
TWQ1				S	**Sn**	**20 54 33.5**	**+0.6**
	baz=357						
ETLH	**Xiulin Townshi**	**1.14**	**29**	*e*P	**Pn**	**20 54 16.4**	**-0.7**
	baz=29						
ETLH				*e*S	**Sn**	**20 54 33.2**	**+0.2**
	baz=29						
WDJ	**Dajia District**	**1.16**	**350**	*e*P	**Pn**	**20 54 17.6**	**+0.4**
	baz=337						
WDJ				*e*S	**Sn**	**20 54 34.5**	**+1.3**
	baz=337						
NACB	**Ninganchiao**	**1.17**	**34**	P	**Pn**	**20 54 17.4**	**0.0**
NACB	**Ninganchiao**	**1.17**	**34**	*e*P	**Pn**	**20 54 16.7**	**-0.7**
	baz=45						
NACB				*e*S	**Sn**	**20 54 32.6**	**-0.9**
	baz=45						
ETL	**Fush Village**	**1.17**	**36**	*e*P	**Pn**	**20 54 17.5**	**+0.1**
	baz=46						
ETL				*e*S	**Sn**	**20 54 33.5**	**-0.2**
	baz=46						
SMST	**Manzhou Townsh**	**1.18**	**182**	*e*P	**Pn**	**20 54 17.8**	**+0.3**
	baz=181						
SMST				*e*S	**Sn**	**20 54 36.8**	**+3.1**
	baz=181						
HEN	**Hengchun**	**1.20**	**186**	*e*P	**Pn**	**20 54 18.3**	**+0.6**
	baz=185						
HEN				*e*S	**Sn**	**20 54 37.8**	**+3.7**
	baz=185						
NSY	**Sanyi**	**1.21**	**355**	P	**Pg**	**20 54 18.6**	**+0.6**
	baz=357						
NSY				*e*S	**Sn**	**20 54 35.9**	**+1.4**
	baz=357						
PHUB	**P'eng-hu**	**1.23**	**285**	*e*P	**Pn**	**20 54 16.6**	**-1.6**
	baz=284						
PHUB				*e*S	**Sb**	**20 54 32.2**	**-2.1**
	baz=284						
TWK1	**Hengchun**	**1.26**	**183**	P	**Pg**	**20 54 19.7**	**+0.8**
	baz=183						
TWK1				S	**Sn**	**20 54 39.3**	**+3.8**
	baz=183						
TWKBT	**Hengchun**	**1.26**	**182**	*e*P	**Pg**	**20 54 19.6**	**+0.7**
	baz=183						
TWKBT				*e*S	**Sn**	**20 54 39.2**	**+3.5**
	baz=183						
PNG	**Penghu**	**1.26**	**287**	⇓P	**Pn**	**20 54 17.3**	**-1.3**
	baz=272						
PNG				*e*S	**Sb**	**20 54 32.9**	**-2.2**
	baz=272						
TSEB	**Hengchuen, Pin**	**1.30**	**179**	*e*P	**Pg**	**20 54 20.9**	**+1.2**
	baz=193						
NNSB	**Datong**	**1.30**	**21**	*e*P	**Pn**	**20 54 19.0**	**-0.4**
	baz=17						
NNSB				*e*S	**Sn**	**20 54 39.0**	**+2.1**
	baz=17						
NNS	**Nan Shan**	**1.31**	**20**	P	**Pn**	**20 54 18.3**	**-1.1**
	baz=16						
NNS				*e*S	**Sn**	**20 54 38.4**	**+1.2**
	baz=16						
LAY	**Lan-yu**	**1.32**	**151**	*e*P	**Pg**	**20 54 19.1**	**-1.0**
	baz=135						
VCHM	**Qimei**	**1.33**	**270**	*e*P	**Pn**	**20 54 17.9**	**-1.5**
	baz=270						
VCHM				*e*S	**Sb**	**20 54 34.7**	**-2.2**
	baz=270						
NMLH	**Miaoli**	**1.33**	**357**	*e*P	**Pg**	**20 54 20.6**	**+0.3**
	baz=358						
NMLH				*e*S	**Sg**	**20 54 39.6**	**+2.1**
	baz=358						
LYUB	**Lan-yu**	**1.37**	**151**	*e*P	**Pn**	**20 54 17.9**	**-2.1**
	baz=136						
NSTT	**Nanjuang**	**1.43**	**5**	P	**Pg**	**20 54 21.7**	**-0.4**
	baz=354						
NSTT				*e*S	**Sg**	**20 54 41.3**	**+0.7**
	baz=354						
NFF	**Wufeng Townshi**	**1.44**	**9**	*e*P	**Pn**	**20 54 21.1**	**-0.1**
	baz=358						
LIOB	**Emei**	**1.44**	**5**	*e*P	**Pg**	**20 54 22.1**	**-0.3**
	baz=354						
LIOB				*e*S	**Sg**	**20 54 42.7**	**+1.6**
	baz=354						
LATG	**Datong**	**1.45**	**24**	*e*P	**Pb**	**20 54 21.7**	**-0.4**
	baz=35						
LATG				*e*S	**Sg**	**20 54 42.1**	**+0.6**
	baz=35						
ENA	**Nanau**	**1.46**	**33**	*e*P	**Pg**	**20 54 21.8**	**-0.9**
	baz=44						
ENA				*e*S	**Sg**	**20 54 42.1**	**+0.5**
	baz=44						
NDT	**Datong Townshi**	**1.51**	**23**	*e*P	**Pn**	**20 54 21.3**	**-0.7**
	baz=34						
NDT				*e*S	**Sb**	**20 54 41.8**	**-0.5**
	baz=34						
YHNB	**Yeheng**	**1.53**	**17**	P	**Pg**	**20 54 24.1**	**0.0**
YHNB	**Yeheng**	**1.53**	**17**	P	**Pb**	**20 54 23.2**	**-0.1**
	baz=7.0						
YHNB				S	**Sg**	**20 54 45.6**	**+1.6**
	baz=7.0						
NSK	**Sanguang**	**1.53**	**17**	P	**Pn**	**20 54 22.2**	**-0.2**
	baz=6.0						
NSK				S	**Sg**	**20 54 45.0**	**+1.0**
	baz=6.0						
ENTT	**Nioudou**	**1.56**	**24**	P	**Pb**	**20 54 23.1**	**-0.8**
	baz=34						
ENTT				S	**Sg**	**20 54 46.0**	**+0.9**
	baz=34						
SBCB	**Hsinchu**	**1.58**	**4**	*e*P	**Pg**	**20 54 24.6**	**-0.5**
	baz=4.0						
SBCB				*e*S	**Sg**	**20 54 47.0**	**+1.3**
	baz=4.0						
HSN	**Hsinchu**	**1.59**	**3**	*e*P	**Pg**	**20 54 27.3**	**+2.0**
	baz=348						
TWC	**Suao**	**1.66**	**32**	P	**Pg**	**20 54 26.3**	**-0.3**
	baz=43						
TWC				*e*S	**Sg**	**20 54 47.8**	**-0.3**
	baz=43						
NWLT	**Wulai**	**1.67**	**20**	*e*P	**Pb**	**20 54 25.1**	**-0.6**
	baz=9.0						
TWE	**Neicheng**	**1.68**	**26**	P	**Pg**	**20 54 26.8**	**-0.1**
	baz=37						
TWE				*e*S	**Sg**	**20 54 50.5**	**+1.9**
	baz=37						
FUSB	**Fushanzhiwuyua**	**1.68**	**23**	*e*P	**Pg**	**20 54 26.4**	**-0.6**
	baz=12						
FUSB				*e*S	**Sg**	**20 54 49.8**	**+1.0**
	baz=12						
NCUH	**Zhongli**	**1.78**	**9**	*e*P	**Pg**	**20 54 30.1**	**+1.2**
	baz=352						
TWA	**Mucha**	**1.88**	**20**	*e*P	**Pg**	**20 54 30.4**	**-0.5**
	baz=29						
TWA				*e*S	**Sg**	**20 54 57.8**	**+2.5**
	baz=29						
EGS		**1.90**	**30**	*e*P	**Pg**	**20 54 30.5**	**-0.7**
	baz=47						
TAP	**Taipei**	**1.92**	**17**	*e*P	**Pg**	**20 54 32.2**	**+0.7**
	baz=2.0						
TWS1	**Kuangyinshan**	**1.95**	**15**	*e*P	**Pg**	**20 54 32.9**	**+0.7**
	baz=16						
TIPB	**Shuangxi**	**1.96**	**26**	*e*P	**Pg**	**20 54 31.6**	**-0.8**
	baz=7.0						
TIPB				*e*S	**Sg**	**20 54 58.4**	**+0.5**
	baz=7.0						
NTST	**Danshui**	**2.02**	**15**	*e*P	**Pg**	**20 54 33.9**	**+0.4**
	baz=16						
NWF	**Wu-fen Shan**	**2.04**	**24**	*e*P	**Pg**	**20 54 33.2**	**-0.5**
	baz=44						
YM01	**YM01**	**2.04**	**18**	*e*P	**Pb**	**20 54 32.4**	**+0.4**
	baz=3.0						
ANP	**Anpu**	**2.06**	**17**	*e*P	**Pb**	**20 54 31.7**	**-0.7**
	baz=17						
TWB1	**Santiao Chiao**	**2.07**	**29**	*e*P	**Pg**	**20 54 33.8**	**-0.5**
	baz=44						
SXI1	**Grass Mountain**	**2.09**	**26**	*e*P	**Pg**	**20 54 34.3**	**-0.6**
	baz=45						
TWY	**Chenhua**	**2.17**	**18**	*e*P	**Pg**	**20 54 35.8**	**-0.5**
	baz=18						
VWUC	**VWUC**	**2.20**	**324**	*e*P	**Pn**	**20 54 30.6**	**-0.9**
	baz=325						
JYNG	**Yonagunijimaku**	**2.27**	**56**	*e*P	**Pb**	**20 54 33.6**	**-2.3**
JYNG				*e*S	**Sb**	**20 55 02.5**	**-1.5**
YOJ	**Yonaguni jima**	**2.33**	**57**	*e*P	**Pb**	**20 54 34.2**	**-2.7**
	baz=58						
YOJ				*e*S	**Sb**	**20 55 05.1**	**-0.6**
	baz=58						
YOJ	**Yonaguni jima**	**2.33**	**57**	P	**Pb**	**20 54 35.0**	**-1.9**
YOJ				*e*S	**Sb**	**20 55 03.8**	**-1.9**
PTMZ	**Houxiangcun**	**2.43**	**319**	*e*P	**Pn**	**20 54 33.7**	**-0.9**
	baz=320						
KNM	**Kinmen**	**2.54**	**299**	*e*P	**Pn**	**20 54 36.4**	**+0.3**
	baz=297						
KNMB	**Chin-men Tao**	**2.60**	**299**	*e*P	**Pn**	**20 54 35.9**	**-1.1**
	baz=299						
HATJ	**Hateruma jima**	**2.82**	**72**	P	**Pn**	**20 54 41.0**	**+0.9**
HATJ				*e*S	**Sn**	**20 55 14.2**	**0.0**
IRIF	**Iriomote-Funau**	**2.85**	**66**	P	**Pn**	**20 54 42.1**	**+1.7**
ZPLA	**Ao Xicun**	**2.95**	**285**	*e*P	**Pn**	**20 54 40.3**	**-1.5**
	baz=284						
MATB	**Ma-tsu**	**3.05**	**344**	*e*P	**Pn**	**20 54 42.5**	**-0.7**
	baz=344						
JKRS	**Kuro-shima**	**3.05**	**70**	P	**Pn**	**20 54 44.4**	**+1.1**
JKRS				*e*S	**Sn**	**20 55 20.5**	**+0.5**
AXDP	**Jialang**	**3.14**	**303**	*e*P	**Pn**	**20 54 43.3**	**-1.1**
	baz=303						
JIJ	**Ishigaki jima**	**3.21**	**68**	P	**Pn**	**20 54 46.1**	**+0.7**
JIJ				*e*S	**Sn**	**20 55 23.7**	**-0.1**
MHZQ	**Yeshan**	**3.33**	**330**	*e*P	**Pn**	**20 54 46.4**	**-0.7**
	baz=330						
JISG	**Ishigakijimahi**	**3.44**	**66**	*e*P	**Pn**	**20 54 49.3**	**+0.8**
JISG				*e*S	**Sn**	**20 55 29.4**	**0.0**
JTJ	**Tarama**	**3.79**	**67**	P	**Pn**	**20 54 54.6**	**+1.3**
JTJ				*e*S	**Sn**	**20 55 38.5**	**+0.4**
JIRB	**Irabujima**	**4.25**	**67**	*e*P	**Pn**	**20 55 00.8**	**+1.0**
JMJ2	**Miyako jima3**	**4.35**	**69**	P	**Pn**	**20 55 02.4**	**+1.3**
JMJ2				*e*S	**Sn**	**20 55 52.0**	**-0.1**

---

*THE **06** 21:09:09.0, 37.°54N×23.°61E, h0km±1km, ML2.6/7, Error ellipse: s-maj=1.1km s-min=0.5km az=219.0*
*ATH **06** 21:09:09.6, 37.°57N×23.°60E, h12km±2km, ML2.8/5, Error ellipse: s-maj=2.3km s-min=0.9km az=306.0*
ISC 06 21:09:09.5±0.9**, 37.°56N**±0.°03×**23.°60E**±0.°03**, h15**km±8km**, n24,** σ**0.s80**/36**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YDRA	**Hydra**	**0.24**	**206**	P	**Pg**	**21 09 14.4**	**-0.3**
YDRA				S	**Sg**	**21 09 18.7**	**+0.5**
YDRA				AML	AML	21 09 19.7	
	comp=N,15107μm,0.2s						
YDRA				AML	AML	21 09 19.7	
	comp=E,15542μm,0.2s						
VLY	**Voula,Athens**	**0.33**	**28**	P	**Pg**	**21 09 16.0**	**-0.4**
VLY				S	**Sg**	**21 09 21.4**	**+0.4**
	comp=E,1μm,0.3s						
VLY	**Voula,Athens**	**0.33**	**28**	P	**Pg**	**21 09 16.0**	**-0.4**
VLY				S	**Sg**	**21 09 20.9**	**-0.1**
VLY				AML	AML	21 09 24.0	
	comp=E,2425μm,0.2s						
VLY				AML	AML	21 09 24.5	
	comp=N,1647μm,0.2s						
ATH	**Athens Observa**	**0.42**	**13**	P	**Pg**	**21 09 17.5**	**-0.5**
ATH				S	**Sg**	**21 09 24.4**	**+0.7**
	comp=N,2μm,0.4s						
ATH	**Athens Observa**	**0.42**	**13**	P	**Pg**	**21 09 17.7**	**-0.3**
ATH				AML	AML	21 09 25.1	
	comp=N,4011μm,0.6s						
ATH				AML	AML	21 09 25.4	
	comp=E,2752μm,0.3s						
ATHU	**Athens Univers**	**0.43**	**20**	P	**Pg**	**21 09 17.7**	**-0.5**
ATHU				S	**Sg**	**21 09 24.6**	**+0.5**
	comp=E,222nm,0.2s						
ATHU	**Athens Univers**	**0.43**	**20**	P	**Pg**	**21 09 17.7**	**-0.5**
ATHU				S	**Sg**	**21 09 23.8**	**-0.3**
PTL	**Penteli**	**0.53**	**23**	P	**Pg**	**21 09 19.4**	**-0.6**
PTL				S	**Sg**	**21 09 26.8**	**-0.4**
DION	**Dionisos Attik**	**0.58**	**27**	P	**Pg**	**21 09 20.5**	**-0.4**
DION				S	**Sb**	**21 09 29.5**	**0.0**
	comp=E,868nm,0.2s						
DION	**Dionisos Attik**	**0.58**	**27**	P	**Pg**	**21 09 20.6**	**-0.4**
VILL	**Villia**	**0.64**	**340**	P	**Pg**	**21 09 21.4**	**-0.7**
VILL				S	**Sb**	**21 09 32.0**	**+0.7**
	comp=E,750nm,0.3s						
LOUT	**Loutraki**	**0.65**	**311**	P	**Pg**	**21 09 21.4**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VIL2	**Platees**	**0.70**	**338**	P	**Pg**	**21 09 21.3**	**-1.9**
VIL2				S	**Sg**	**21 09 30.5**	**-1.9**
VIL2				AML	AML	21 09 32.7	
	comp=N,1821μm,0.3s						
VIL2				AML	AML	21 09 33.1	
	comp=E,2664μm,0.3s						
THAL	**Thalero**	**0.88**	**303**	P	**Pb**	**21 09 26.8**	**+0.4**
MNVA	**Monemvasia**	**0.98**	**207**	P	**Pg**	**21 09 27.7**	**-0.8**
VLI	**Veliai**	**0.99**	**212**	P	**Pg**	**21 09 27.5**	**-1.2**
KYMI	**Kymi, Euboea I**	**1.14**	**20**	P	**Pg**	**21 09 30.7**	**-0.9**
TNSA	**Tinos**	**1.25**	**91**	P	**Pg**	**21 09 32.4**	**-1.1**
TNSA				AML	AML	21 09 51.0	
	comp=E,682μm,0.3s						
TNSA				AML	AML	21 09 52.2	
	comp=N,1458μm,0.2s						
KTHA	**Kythira Island**	**1.37**	**198**	P	**Pn**	**21 09 33.8**	**-0.3**
ITM	**Ithomi**	**1.38**	**255**	P	**Pn**	**21 09 34.5**	**+0.2**
DRO	**Drossia**	**1.55**	**285**	P	**Pn**	**21 09 37.4**	**+0.9**
APE	**Apeiranthos**	**1.62**	**107**	P	**Pn**	**21 09 37.6**	**0.0**
APE				S	**Sb**	**21 10 00.1**	**+0.7**
	comp=N,115nm,0.2s						
ANX	**Ano Chora**	**1.68**	**308**	P	**Pn**	**21 09 39.3**	**+0.9**
ANX				S	**Sb**	**21 10 02.4**	**+1.3**
	comp=N,82nm,0.5s						
NEO	**Neokhori**	**1.77**	**351**	P	**Pn**	**21 09 39.3**	**-0.3**

IDC 06 21:30:15.8±6.8**, 19°.96S**×**176°.69W, h0^{km}, mb3.6**/2**, mbtmp3.6**/2**, Error ellipse: s-maj=330.4km s-min=101.9km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.84**	**256**	P	P	21 38 40.0	0.0
	0.8nm,0.8s,baz=101,slow=7.4,SNR=8.2						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**45.89**	**261**	P	P	21 38 40.2	-0.2
	0.3nm,0.3s,baz=98,slow=7.6,SNR=27						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**143.13**	**332**	PKP	PKPdf	21 49 50.9	-0.7
	0.1nm,0.3s,baz=45,slow=3.6,SNR=4.1						

*VAO **06** 21:31:00.9±0.5, 6°.61N×73°.08W, h139^{km}±7^{km}, mb4.1*
*NEIC **06** 21:31:00.9±1.8, 6°.74N±0°.10×73°.03W±0°.08, h148^{km}±11^{km}, mb4.4/31, Mwr4.4(RSNC), Error ellipse: s-maj=14.8km s-min=10.1km az=155.0*
*IDC **06** 21:31:01.4±0.6, 6°.76N×72°.99W, h164^{km}±7^{km}, mb3.5/12, mbtmp4.1/15, Error ellipse: s-maj=15.3km s-min=7.5km az=132.0*
*RSNC **06** 21:31:01.0±0.8, 6°.84N×73°.12W, h159^{km}±3^{km}, ML4.3, Mw4.4, Fault plane solution: NP1:ϕ_s124.00000°, δ76.00000°, λ-168.00000°.*
ISC 06 21:31:00.6±0.6**, 6°.82N**±0°.03×**73°.13W**±0°.04**, h156**^{km}±5^{km}**, n112, σ1^{s}51**/155**, mb4.3**/26**, 9C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**194**	⇓iP	**Pn**	**21 31 22.4**	**+0.5**
BARC				eS	**Sn**	**21 31 38.5**	**+0.2**
BARC				IAML		21 31 40.3	
	comp=Z,9μm,0.4s						
BRRC	**Barranca, Sant**	**0.65**	**296**	⇑iP	**Pn**	**21 31 24.2**	**+0.9**
BRRC				eS	**Sn**	**21 31 41.4**	**+0.6**
BRRC				IAML		21 31 45.3	
	comp=Z,4μm,0.3s						
PAMC	**Pamplona, Colo**	**0.67**	**40**	⇑iP	**Pn**	**21 31 25.2**	**+1.2**
PAMC				eS	**Sn**	**21 31 42.5**	**+0.6**
PAMC				IAML		21 31 45.5	
	comp=Z,3μm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	eP	**Pn**	**21 31 28.8**	**-0.3**
PTBC				eS	**Sn**	**21 31 50.0**	**-1.0**
PTBC				IAML		21 31 52.8	
	comp=Z,2μm,0.2s						
TAMC	**Tame, Arauca**	**1.38**	**106**	⇑iP	**Pn**	**21 31 30.8**	**+1.4**
TAMC				IAML		21 31 51.8	
	comp=Z,1μm,0.4s						
TAMC				eS	**Sn**	**21 31 52.6**	**+1.2**
SPBC	**San Pablo de B**	**1.50**	**219**	i P	**Pn**	**21 31 31.1**	**+0.5**
SPBC				eS	**Sn**	**21 31 53.5**	**-0.2**
SPBC				IAML		21 31 58.3	
	comp=Z,3μm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	⇑eP	**Pn**	**21 31 34.4**	**+0.1**
ZARC				eS	**Sn**	**21 32 00.5**	**+0.3**
ZARC				IAML		21 32 06.2	
	comp=Z,2μm,0.2s						
NORC	**Norcasia**	**2.14**	**234**	⇑eP	**Pn**	**21 31 38.0**	**+0.2**
NORC				eS	**Sn**	**21 32 06.9**	**+0.5**
NORC				IAML		21 32 12.1	
	comp=Z,1μm,0.2s						
CHIC	**Chingaza**	**2.26**	**195**	⇓iP	**Pn**	**21 31 40.2**	**+0.6**
CHIC				eS	**Sn**	**21 32 10.0**	**+0.4**
CHIC				IAML		21 32 20.1	
	comp=Z,1μm,0.4s						
ROSC	**El Rosal**	**2.30**	**211**	P	**Pn**	**21 31 42.1**	**+2.2**
	comp=Z,1μm,0.4s,baz=309,slow=21,SNR=1019						
ROSC				S	**Sn**	**21 32 12.6**	**+2.2**
	comp=Z,2μm,0.3s,baz=129,slow=23,SNR=7.0						
ROSC	**El Rosal**	**2.30**	**211**	⇓iP	**Pn**	**21 31 42.0**	**+2.0**
ROSC				eS	**Sn**	**21 32 12.7**	**+2.4**
ROSC				IAML		21 32 17.1	
	comp=Z,4μm,0.4s						
HELC	**Santa Helena**	**2.47**	**255**	Pn	**Pn**	**21 31 41.9**	**0.0**
HELC	**Santa Helena**	**2.47**	**255**	eP	**Pn**	**21 31 42.1**	**+0.1**
HELC				eS	**Sn**	**21 32 14.9**	**+1.1**
HELC				IAML		21 32 22.8	
	comp=Z,1μm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	⇑eP	**Pn**	**21 31 41.9**	**-0.8**
UREC				eS	**Sn**	**21 32 13.0**	**-2.3**
UREC				IAML		21 32 18.4	
	comp=Z,1μm,0.1s						
LL1C	**La Loma 1 Cana**	**2.73**	**351**	eP	**Pn**	**21 31 47.5**	**+2.7**
LL1C				eS	**Sn**	**21 32 22.1**	**+2.9**
LL1C				IAML		21 32 30.5	
	comp=Z,4μm,0.5s						
VILC	**Villavicencio,**	**2.75**	**192**	eP	**Pn**	**21 31 45.7**	**+0.5**
VILC				eS	**Sn**	**21 32 20.2**	**+0.4**
VILC				IAML		21 32 25.5	
	comp=Z,1μm,0.3s						
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓iP	**Pn**	**21 31 45.5**	**0.0**
PTGC				eS	**Sn**	**21 32 18.8**	**-1.6**
PTGC				IAML		21 32 23.9	
	comp=Z,1μm,0.3s						
LL5C	**La Loma 5 El P**	**2.97**	**349**	eP	**Pn**	**21 31 49.3**	**+1.5**
LL5C				eS	**Sn**	**21 32 25.3**	**+1.0**
LL5C				IAML		21 32 32.5	
	comp=Z,887nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.02**	**252**	⇑eP	**Pn**	**21 31 49.5**	**+0.9**
CBOC				eS	**Sn**	**21 32 26.8**	**+1.0**
CBOC				IAML		21 32 37.4	
	comp=Z,368nm,0.5s						
DBBC	**Dabeiba**	**3.07**	**274**	eP	**Pn**	**21 31 49.9**	**+0.8**
DBBC				eS	**Sn**	**21 32 25.7**	**-1.0**
SDV	**Santo Domingo**	**3.21**	**50**	P	**Pn**	**21 31 52.1**	**+1.1**
	comp=Z,500nm,0.3s,baz=189,slow=3.1,SNR=286						
SDV				S	**Sn**	**21 32 30.4**	**+0.4**
	comp=Z,380nm,0.5s,baz=65,slow=23,SNR=16						
SDV	**Santo Domingo**	**3.21**	**50**	Pn	**Pn**	**21 31 51.8**	**+0.8**
SDV				Sn	**Sn**	**21 32 28.8**	**-1.3**
SDV	**Santo Domingo**	**3.21**	**50**	eP	**Pn**	**21 31 52.1**	**+1.1**
ARGC	**Ariguani, Magd**	**3.21**	**340**	eP	**Pn**	**21 31 52.3**	**+1.4**
ARGC				eS	**Sn**	**21 32 31.8**	**+1.8**
ARGC				IAML		21 32 38.2	
	comp=Z,325nm,0.6s						
ANIL	**Santa Ana**	**3.24**	**224**	eP	**Pn**	**21 31 52.7**	**+1.2**
ANIL				eS	**Sn**	**21 32 33.4**	**+2.4**
ANIL				IAML		21 32 36.7	
	comp=Z,3μm,0.3s						
PRAC	**Prado**	**3.55**	**210**	eP	**Pn**	**21 31 55.3**	**+0.1**
PRAC				eS	**Sn**	**21 32 37.5**	**-0.2**
PRAC				IAML		21 32 44.7	
	comp=Z,2μm,0.4s						
ORTC	**Ortega, Tolima**	**3.58**	**216**	eP	**Pn**	**21 31 56.4**	**+0.8**
ORTC				eS	**Sn**	**21 32 39.6**	**+1.2**
ORTC				IAML		21 32 46.3	
	comp=Z,842nm,0.4s						
SJCC	**San Jacinto, C**	**3.67**	**326**	⇓iP	**Pn**	**21 31 56.0**	**-0.8**
SJCC				eS	**Sn**	**21 32 37.4**	**-3.0**
SJCC				IAML		21 32 41.8	
	comp=Z,360nm,0.4s						
PLMC	**San Jos del P**	**3.67**	**239**	⇑eP	**Pn**	**21 31 57.8**	**+1.0**
PLMC				eS	**Sn**	**21 32 41.8**	**+1.2**
PLMC				IAML		21 32 44.1	
	comp=Z,292nm,0.4s						
LCBC	**Los crdobas,**	**3.79**	**302**	eP	**Pn**	**21 31 58.5**	**+0.2**
LCBC				eS	**Sn**	**21 32 44.5**	**+1.3**
LCBC				IAML		21 32 48.7	
	comp=Z,373nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	eP	**Pn**	**21 32 02.8**	**-0.6**
CRJC				eS	**Sn**	**21 32 51.2**	**-1.2**
CRJC				IAML		21 32 52.2	
	comp=Z,476nm,0.4s						
YOTC	**Yotoco, Valle**	**4.27**	**229**	⇑iP	**Pn**	**21 32 04.9**	**+0.2**
YOTC				eS	**Sn**	**21 32 56.1**	**+1.6**
YOTC				IAML		21 33 07.5	
	comp=Z,87nm,0.8s						
GUVC	**San Jose del G**	**4.28**	**173**	eP	**Pn**	**21 32 04.2**	**-0.5**
GUVC				eS	**Sn**	**21 32 53.9**	**-0.7**
GUVC				IAML		21 32 59.6	
	comp=Z,373nm,0.2s						
PTAC	**Punta Ardita,**	**4.66**	**274**	eP	**Pn**	**21 32 09.2**	**-0.4**
PTAC				eS	**Sn**	**21 32 59.1**	**-4.4**
PTAC				IAML		21 33 09.7	
	comp=Z,64nm,0.2s						
BETC	**Betania**	**4.72**	**209**	eP	**Pn**	**21 32 10.4**	**-0.1**
BETC				eS	**Sn**	**21 32 59.1**	**-5.8**
BETC				IAML		21 33 08.0	
	comp=Z,188nm,0.5s						
URIC	**Uribia, Colomb**	**4.97**	**13**		**Pn**	**21 32 13.1**	**-0.7**
URIC	**Uribia, Colomb**	**4.97**	**13**	eP	**Pn**	**21 32 13.2**	**-0.6**
URIC				eS	**Sn**	**21 33 07.1**	**-3.8**
URIC				IAML		21 33 15.4	
	comp=Z,108nm,0.4s						
MALC	**Bahia Malaga**	**5.04**	**237**	eP	**Pn**	**21 32 16.5**	**+1.9**
MALC				eS	**Sn**	**21 33 13.5**	**+1.1**
MALC				IAML		21 33 28.2	
	comp=Z,60nm,0.6s						
GARC	**Garzon, Huila**	**5.17**	**207**	eP	**Pn**	**21 32 16.5**	**-0.2**
GARC				eS	**Sn**	**21 33 13.9**	**-2.1**
GARC				IAML		21 33 17.2	
	comp=Z,279nm,0.3s						
BAUV	**El Baul**	**5.46**	**67**		**Pn**	**21 32 18.5**	**-1.7**
FLOC	**Florencia**	**5.78**	**206**	eP	**Pn**	**21 32 24.9**	**+0.4**
FLOC				eS	**Sn**	**21 33 30.1**	**-0.1**
FLOC				IAML		21 33 36.5	
	comp=Z,50nm,0.4s						
BBAC	**Balboa, Cauca**	**6.29**	**221**	eP	**Pn**	**21 32 31.6**	**+0.1**
BBAC				eS	**Sn**	**21 33 42.2**	**-0.5**
BBAC				IAML		21 33 49.9	
	comp=Z,32nm,0.3s						
HATO	**Hato, Curacao**	**6.72**	**37**	Pn	**Pn**	**21 32 36.8**	**-0.2**
GCUF	**Volcan Galeras**	**6.97**	**217**	eP	**Pn**	**21 32 42.4**	**+1.6**
GCUF				eS	**Sn**	**21 33 54.0**	**-5.4**
GCUF				IAML		21 34 07.5	
	comp=Z,18nm,0.5s						
BCIP	**Isla Barro Col**	**7.04**	**290**	Pn	**Pn**	**21 32 39.9**	**-1.3**
BCIP	**Isla Barro Col**	**7.04**	**290**	eP	**Pn**	**21 32 40.3**	**-0.9**
BCIP				eS	**Sn**	**21 33 59.1**	**-1.2**
AZU	**Azuero**	**7.16**	**278**	eP	**Pn**	**21 32 42.3**	**-0.4**
AZU				eS	**Sn**	**21 33 58.8**	**-4.2**
PCRV	**Puerto La Cruz**	**9.03**	**68**	P	**Pn**	**21 33 07.0**	**-0.8**
	comp=Z,11nm,0.3s,baz=312,slow=5.2,SNR=23						
SGCB	**S£o Gabriel d**	**9.20**	**138**	eP	**Pn**	**21 33 07.7**	**-2.2**
HDC	**Heredia**	**11.32**	**287**	eP	**Pn**	**21 33 39.9**	**+1.9**
TBTG	**Tabatinga, AM**	**11.40**	**164**	eP	**Pn**	**21 33 36.9**	**-2.0**
MTDJ	**Mount Denham**	**12.12**	**340**	Pn	**Pn**	**21 33 49.9**	**+1.5**
SJG	**San Juan**	**13.12**	**31**	P	**Pn**	**21 34 00.7**	**-0.4**
	comp=Z,4.1nm,0.4s,baz=218,slow=17,SNR=2.0						
SJG				S	**Sn**	**21 36 23.5**	**-3.0**
	comp=Z,7.6nm,0.2s,baz=323,slow=19,SNR=3.5						
BOAV	**Boa Vista**	**13.31**	**109**		**Pn**	**21 34 01.4**	**-2.2**
BOAV	**Boa Vista**	**13.31**	**109**	eP	**Pn**	**21 34 02.5**	**-1.1**
CZSB	**Cruzeiro do Su**	**14.46**	**178**	eP	**Pn**	**21 34 16.6**	**-1.5**
MACA	**Manacapuru-AM**	**15.89**	**128**	eP	**Pn**	**21 34 35.2**	**-0.7**
ETMB	**Extrema**	**17.91**	**157**	P	**P**	**21 34 58.2**	**-0.3**
ETMB				IAmb	IAmb	21 35 02.7	
	comp=Z,6.3nm,0.8s						
ETMB	**Extrema**	**17.91**	**157**	eP	**P**	**21 34 58.0**	**-0.6**
MDP	**Montagnes des**	**20.45**	**94**	P	**P**	**21 35 25.6**	**-0.4**
	comp=Z,6.4nm,0.9s,baz=256,slow=13,SNR=2.6						
	comp=Z,6.4nm,0.9s						
ITTB	**Itaituba**	**20.61**	**122**	eP	**P**	**21 35 28.2**	**+0.4**
MALB	**Monte Alegre**	**20.70**	**114**	eP	**P**	**21 35 29.5**	**+0.7**
MCPB	**Macapa, AP**	**22.20**	**108**	eP	**P**	**21 35 45.4**	**+0.9**
NPGB	**Novo Progresso**	**22.45**	**128**	eP	**P**	**21 35 46.8**	**-0.1**
VILB	**Vilhena**	**23.47**	**147**	P	**P**	**21 35 54.7**	**-1.6**
VILB				IAmb	IAmb	21 36 28.9	
	comp=Z,15nm,0.8s						
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**21 35 56.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=356,slow=12,SNR=3.1						
	comp=Z,0.8nm,0.6s						
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**21 35 56.4**	**-0.7**
LPAZ	**La Paz**	**23.49**	**168**	eP	**P**	**21 35 56.8**	**-0.3**
PDRB	**Porto dos Gac**	**24.52**	**138**	eP	**P**	**21 36 05.9**	**0.0**
CLDB	**Colider**	**24.63**	**135**	eP	**P**	**21 36 06.5**	**-0.3**
ARAG	**Araguaiana, MT**	**30.77**	**137**	eP	**P**	**21 37 01.2**	**-0.4**
PLAL	**Pickwick Lake**	**31.22**	**336**	P	**P**	**21 37 07.3**	**+2.0**
PLAL				IAmb	IAmb	21 37 08.7	
	comp=Z,7.2nm,0.9s						
WVT	**Waverly**	**32.13**	**337**	P	**P**	**21 37 15.1**	**+1.9**
T47A	**Sharon Grove**	**32.62**	**339**	P	**P**	**21 37 19.5**	**+2.0**
T47A				IAmb	IAmb	21 37 20.1	
	comp=Z,8.3nm,0.7s						
WCI	**Wyandotte Cave**	**33.47**	**341**	P	**P**	**21 37 26.5**	**+1.7**
WCI				IAmb	IAmb	21 37 27.5	
	comp=Z,6.8nm,0.7s						
LCAR	**Lake Charles**	**33.47**	**333**	P	**P**	**21 37 26.8**	**+1.9**
LCAR				IAmb	IAmb	21 37 27.1	
	comp=Z,4.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**33.77**	**332**	P	**P**	**21 37 27.8**	**+0.3**
FCAR				IAmb	IAmb	21 37 29.2	
	comp=Z,11nm,1.2s						
CGM3	**Cape Girardeau**	**33.87**	**336**	P	**P**	**21 37 29.6**	**+1.3**
CGM3				IAmb	IAmb	21 37 30.0	
	comp=Z,7.4nm,0.6s						
CCM	**Cathedral Cave**	**35.17**	**335**	P	**P**	**21 37 41.0**	**+1.4**
SFIN	**Lafayette**	**35.68**	**342**	P	**P**	**21 37 45.4**	**+1.6**
R40A	**Maddies Statio**	**35.80**	**334**	P	**P**	**21 37 45.9**	**+0.9**
R40A				IAmb	IAmb	21 37 46.5	
	comp=Z,5.7nm,0.5s						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**21 37 52.0**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=131,slow=8.6,SNR=12						
TXAR				PcP	**PcP**	**21 40 12.7**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=143,slow=3.2,SNR=2.9						
	comp=Z,0.5nm,0.4s						
OK051	**E0350 and S346**	**36.63**	**327**	P	**P**	**21 37 51.5**	**-0.6**
P40A	**Paris**	**36.75**	**335**	P	**P**	**21 37 53.2**	**+0.3**
P40A				IAmb	IAmb	21 37 54.9	
	comp=Z,17nm,1.2s						
N38A	**Joes South For**	**38.30**	**335**	P	**P**	**21 38 08.2**	**+2.2**
JFWS	**Jewell Farm**	**38.99**	**340**	P	**P**	**21 38 12.1**	**+0.3**
SDCO	**Great Sand Dun**	**42.54**	**321**	P	**P**	**21 38 42.7**	**+1.5**
EYMN	**Ely**	**43.87**	**342**	P	**P**	**21 38 52.0**	**+0.6**
PV15	**Paradox Valley**	**44.78**	**320**	P	**P**	**21 39 01.0**	**+1.9**
PV15				IAmb	IAmb	21 39 03.2	
	comp=Z,9.2nm,1.2s						
PV13	**Radium Mtn., P**	**44.90**	**319**	P	**P**	**21 39 01.7**	**+1.7**
WUAZ	**Wupatki**	**45.22**	**315**	P	**P**	**21 39 04.0**	**+1.6**
WUAZ				IAmb	IAmb	21 39 06.5	
	comp=Z,6.0nm,1.1s						
SRU	**San Rafael Swe**	**46.54**	**319**	P	**P**	**21 39 14.8**	**+2.0**
LCMT	**Little Creek M**	**47.27**	**315**	P	**P**	**21 39 20.1**	**+1.7**
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**21 39 18.5**	**+0.4**
	comp=Z,6.2nm,0.5s,baz=148,slow=7.3,SNR=9.9						
	comp=Z,6.2nm,0.5s						
MVU	**Marysvale**	**47.32**	**318**	P	**P**	**21 39 20.6**	**+1.6**
MVU				IAmb	IAmb	21 39 21.9	
	comp=Z,11nm,0.9s						
PD31	**Pinedale Array**	**48.07**	**324**	P	**P**	**21 39 25.9**	**+1.2**
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**21 39 25.4**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=126,slow=9.3,SNR=12						
	comp=Z,0.9nm,0.5s						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**21 39 24.9**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=184,slow=7.3,SNR=6.4						
	comp=Z,1.8nm,0.5s						
BGU	**Big Grassy Mou**	**49.14**	**320**	P	**P**	**21 39 34.3**	**+1.6**
BGU				IAmb	IAmb	21 39 34.9	
	comp=Z,3.6nm,0.9s						
NVAR	**Mina Array Bea**	**51.48**	**315**	P	**P**	**21 39 51.6**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=137,slow=8.0,SNR=3.5						
	comp=Z,0.3nm,0.5s						
MFID	**Camas Ranch**	**52.22**	**321**	P	**P**	**21 39 57.5**	**+1.8**
MFID				IAmb	IAmb	21 39 58.3	
	comp=Z,4.5nm,1.1s						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**21 41 12.8**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=133,slow=6.6,SNR=27						
	comp=Z,2.7nm,0.5s						
SUMG	**Summit**	**68.99**	**11**	i P	**P**	**21 41 49.0**	**-0.1**
A36M	**Sachs Harbour**	**72.43**	**345**	P	**P**	**21 42 10.1**	**+0.6**
A36M				IAmb	IAmb	21 42 10.8	
	comp=Z,7.0nm,0.7s						
INK	**Inuvik**	**73.03**	**340**	P	**P**	**21 42 13.8**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=111,slow=4.3,SNR=10						
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.74**	**78**	P	**P**	**21 42 16.7**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=282,slow=6.6,SNR=5.7						
	comp=Z,0.2nm,0.3s						
ILAR	**Eielson Array**	**76.96**	**335**	P	**P**	**21 42 36.3**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=127,slow=5.2,SNR=4.4						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**86.67**	**20**	P	**P**	**21 43 26.4**	**0.0**
	comp=Z,1.3nm,0.7s,baz=291,slow=3.4,SNR=3.6						
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**122.32**	**20**	PKP	**PKPdf**	**21 49 36.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=271,slow=3.5,SNR=5.1						
SONM	**Songino Array**	**125.58**	**0**	PKP	**PKiKP**	**21 49 44.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=100,slow=1.6,SNR=1.9						
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**21 50 30.4**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=120,slow=3.5,SNR=14						
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPbc**	**21 50 34.0**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=106,slow=2.9,SNR=10						

*MDD **06** 21:33:29.8±0.5, 35°.67N×3°.68W, h0^{km}, mb_Lg2.7/13, Error ellipse: s-maj=4.4km s-min=2.9km az=17.0*
*SFS **06** 21:33:29.0, 35°.66N×3°.67W, ML2.7, ALBORAN SUR*
*INMG **06** 21:33:30.3±1.6, 35°.71N×3°.65W, h0^{km}, ML2.2, Error ellipse: s-maj=4.6km s-min=3.6km az=88.0*
*CNRM **06** 21:33:32.0, 35°.58N×3°.62W, h33^{km}, ml2.4*
ISC 06 21:33:29.7±1.1**, 35°.67N**±0°.02×**3°.60W**±0°.03**, h17**^{km}±9^{km}**, n48, σ1^{s}25**/80**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.53**	**212**	P	**Pb**	**21 33 41.2**	**+0.7**
PALE				S	**Sb**	**21 33 48.9**	**+1.0**
EALB	**Alboran**	**0.53**	**59**	Pg	**Pb**	**21 33 41.2**	**+0.6**
EALB				Sg	**Sb**	**21 33 49.4**	**+1.4**
EALB				i Vmb_Lg		21 33 50.7	
WMELI	**Melilla**	**0.63**	**123**	P	**Pg**	**21 33 42.5**	**+0.3**
WMELI				S	**Sg**	**21 33 49.9**	**-0.7**
EMEL	**Melilla**	**0.64**	**125**	Pg	**Pg**	**21 33 42.7**	**+0.4**
EMEL				Sg	**Sg**	**21 33 51.5**	**+0.7**
CHAS	**Isla Isabel II**	**1.07**	**117**	P	**Pb**	**21 33 48.6**	**-1.1**
CHAS				S	**Sb**	**21 34 02.2**	**-1.2**
AKLM	**AKL**	**1.18**	**191**	P	**Pb**	**21 33 51.7**	**+0.1**
ELGU	**Los Guajares,**	**1.20**	**359**	Pg	**Pb**	**21 33 50.6**	**-1.3**
ELGU				Sg	**Sb**	**21 34 07.0**	**-0.2**
ELGU				i Vmb_Lg		21 34 10.3	
TAF	**Taforalt**	**1.29**	**131**	P	**Pn**	**21 33 52.3**	**-0.7**
EMIJ	**Mijas**	**1.30**	**314**	Pg	**Pn**	**21 33 52.2**	**-1.0**
EMIJ				Sg	**Sb**	**21 34 08.8**	**-1.5**
EMIJ				i Vmb_Lg		21 34 09.3	
EBER	**Berja**	**1.35**	**25**	Pg	**Pn**	**21 33 53.2**	**-0.8**
EBER				Sg	**Sb**	**21 34 12.6**	**+0.8**
EBER				i Vmb_Lg		21 34 15.2	
EGOR	**Sierra Gorda,**	**1.50**	**344**	Pg	**Pb**	**21 33 57.4**	**+0.3**
EGOR				Sg	**Sg**	**21 34 18.5**	**+0.4**
EGOR				i Vmb_Lg		21 34 20.6	
CHEFC	**Chefchaouen**	**1.53**	**249**	P	**Pb**	**21 33 56.9**	**-0.8**
JBK	**JBK**	**1.58**	**147**	P	**Pn**	**21 33 56.4**	**-0.7**
JBK				S	**Sn**	**21 34 15.2**	**-2.0**
EJIF	**Jimena Fronter**	**1.71**	**298**	Pg	**Pn**	**21 33 58.9**	**+0.3**
ENIJ	**Nijar**	**1.72**	**40**	Pn	**Pn**	**21 33 58.3**	**-0.6**
ENIJ				Sn	**Sn**	**21 34 18.9**	**-1.6**
ENIJ				i Vmb_Lg		21 34 24.5	
EQES	**Quesada**	**2.17**	**11**	Pn	**Pb**	**21 34 07.3**	**-1.3**
EQES				Sn	**Sb**	**21 34 36.1**	**+0.7**
LCRM	**LCR**	**2.23**	**208**	P	**Pn**	**21 34 07.4**	**+1.3**
LCRM				S	**Sn**	**21 34 33.3**	**0.0**
EADA	**Adamuz**	**2.62**	**343**	Pn	**Pn**	**21 34 12.9**	**+1.6**
EADA				Sn	**Sn**	**21 34 44.5**	**+1.9**
ECAB	**El Cabril**	**2.81**	**329**	Pn	**Pn**	**21 34 15.3**	**+1.4**
ECAB				Sn	**Sn**	**21 34 47.5**	**+0.1**
ECAB				Sg	**Sg**	**21 34 56.1**	**-3.9**
ECAB				i Vmb_Lg		21 34 57.6	
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**21 34 17.8**	**+1.9**
MDT	**Midelt**	**2.97**	**197**	P	**Pn**	**21 34 17.9**	**+1.8**
EMIN	**Mina Concepcio**	**3.24**	**311**	Pn	**Pn**	**21 34 19.9**	**+0.2**
EMIN				Sn	**Sn**	**21 34 57.1**	**-0.8**
EMIN				i Vmb_Lg		21 35 49.0	
ZHG	**ZHG**	**3.35**	**229**	P	**Pn**	**21 34 21.6**	**+0.3**
ETOB	**Tobarra**	**3.39**	**28**	Pn	**Pn**	**21 34 23.9**	**+2.0**
ETOB				Sn	**Sn**	**21 35 02.8**	**+0.9**
ETOB				i Vmb_Lg		21 36 23.3	
EGRO	**El Granado**	**3.64**	**302**	Pn	**Pn**	**21 34 25.7**	**+0.5**
EGRO				i Vmb_Lg		21 34 27.9	
EGRO				Sn	**Sn**	**21 35 07.0**	**-0.7**
PBAR	**Barrancos**	**3.72**	**313**	ePn	**Pn**	**21 34 26.9**	**+0.5**
PBAR				eSn	**Sn**	**21 35 08.6**	**-1.2**
PBAR				A	A	21 35 10.7	
	2.4nm,0.5s						
PVAQ	**Vaqueiros**	**3.74**	**299**	ePn	**Pn**	**21 34 27.2**	**+0.6**
PVAQ				eSn	**Sn**	**21 35 09.3**	**-1.0**
PVAQ				A	A	21 35 15.9	
	4.7nm,0.3s						
PVAQ	**Vaqueiros**	**3.74**	**299**	P	**Pn**	**21 34 26.9**	**+0.3**
PAB	**San Pablo**	**3.92**	**351**	i Vmb_Lg		21 34 25.7	
PAB				Pn	**Pn**	**21 34 30.7**	**+1.5**
PAB				Sn	**Sn**	**21 35 14.3**	**-0.5**
PCVE	**Castro Verde**	**4.07**	**300**	ePn	**Pn**	**21 34 32.1**	**+0.9**
PCVE				eSn	**Sn**	**21 35 18.7**	**+0.2**
PCVE				A	A	21 35 23.3	
	5.0nm,0.6s						
EBAD	**Badajoz**	**4.11**	**320**	Pn	**Pn**	**21 34 32.1**	**+0.3**
EBAD				Sn	**Sn**	**21 35 19.6**	**+0.1**
EBAD				i Vmb_Lg		21 35 21.7	
MESJ	**Messejana**	**4.30**	**302**	eP	**Pn**	**21 34 34.3**	**0.0**
PESTR	**Estremoz**	**4.51**	**316**	ePn	**Pn**	**21 34 38.1**	**+0.9**
PESTR				eSn	**Sn**	**21 35 28.7**	**-0.6**
PESTR				A	A	21 35 30.8	
	2.1nm,0.5s						
PESTR	**Estremoz**	**4.51**	**316**	P	**Pn**	**21 34 39.1**	**+1.9**
PTEO	**Sao Teotonio**	**4.53**	**296**	ePn	**Pn**	**21 34 38.0**	**+0.5**
EVO	**Evora**	**4.54**	**310**	ePn	**Pn**	**21 34 38.5**	**+0.9**
EVO				eSn	**Sn**	**21 35 28.0**	**-2.0**
EVO				A	A	21 35 29.7	
	3.3nm,0.4s						
PNCL	**Nicolau / Gran**	**4.64**	**303**	ePn	**Pn**	**21 34 39.6**	**+0.6**
PNCL				eSn	**Sn**	**21 35 31.4**	**-1.1**
PNCL				A	A	21 35 36.9	
	2.3nm,0.4s						
PMRV	**Marv??o**	**4.81**	**322**	ePn	**Pn**	**21 34 42.7**	**+1.3**
PMRV				eSn	**Sn**	**21 35 36.5**	**-0.3**
PMRV				A	A	21 35 53.2	
	2.1nm,1.0s						
PMTG	**Montargil**	**5.01**	**314**	ePn	**Pn**	**21 34 45.4**	**+1.3**
PMTG				eSn	**Sn**	**21 35 41.3**	**-0.3**
PMTG				A	A	21 35 51.5	
	2.5nm,0.6s						
PCBR	**Castelo Branco**	**5.17**	**325**	ePn	**Pn**	**21 34 48.4**	**+2.1**
PCBR				eSn	**Sn**	**21 35 45.6**	**-0.1**
PACT	**Alcochete**	**5.20**	**308**	ePn	**Pn**	**21 34 47.6**	**+1.0**
PMAFR	**Mafra**	**5.59**	**308**	ePn	**Pn**	**21 34 54.6**	**+2.5**
PSBE	**So Bento**	**5.63**	**314**	ePn	**Pn**	**21 34 54.4**	**+1.7**
PSBE				eSn	**Sn**	**21 35 56.3**	**-0.8**
PVIS	**Viseu**	**6.07**	**327**	ePn	**Pn**	**21 35 00.0**	**+1.3**
MVO	**Moncorvo**	**6.11**	**335**	ePn	**Pn**	**21 35 01.4**	**+2.1**
MVO				eSn	**Sn**	**21 36 09.6**	**+0.7**
PVRL	**Vila Real**	**6.46**	**331**	ePn	**Pn**	**21 35 05.6**	**+1.5**
POLO	**Lamas de Olo**	**6.58**	**331**	ePn	**Pn**	**21 35 07.6**	**+1.9**
PBRG	**Braganca**	**6.60**	**339**	ePn	**Pn**	**21 35 08.4**	**+2.4**

*KRSC **06** 21:36:08.2±1.0, 55°.02N×160°.48E, h176^{km}±11^{km}, ML4.1*
*MOS **06** 21:36:08.5±0.5, 55°.11N×160°.25E, h184^{km}, mb3.7/1, Error ellipse: s-maj=20.0km s-min=5.2km az=76.9*
*IDC **06** 21:36:10.1±1.7, 55°.16N×159°.91E, h182^{km}±16^{km}, mb3.2/12, mbtmp3.6/14, Error ellipse: s-maj=19.2km s-min=14.9km az=114.0*
ISC 06 21:36:09.1±0.7**, 55°.04N**±0°.03×**160°.40E**±0°.05**, h179**^{km}±5^{km}**, n93, σ0^{s}89**/154**, mb3.3**/13**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.16**	**359**	eP	**Pn**	**21 36 32.6**	**-0.2**
TUMD				eS	**Sn**	**21 36 50.6**	**-0.6**
TUMR	**Tumrok**	**0.28**	**329**	eP	**Pn**	**21 36 33.5**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TUMR				eS	Sn	21 36 51.9	+0.2
TUMR	Tumrok	0.28	329	PN	Pn	21 36 33.5	+0.4
TUMR				S	Sn	21 36 51.9	+0.2
KMNR	Kamenistaya	0.72	353	eP	Pn	21 36 35.1	+0.2
KMNR				eS	Sn	21 36 54.9	-0.1
KMNR	Kamenistaya	0.72	353	PN	Pn	21 36 35.1	+0.2
KMNR				S	Sn	21 36 54.9	-0.1
BZMR	Bezymyannaya	0.90	3	eP	Pn	21 36 36.1	+0.1
BZMR				eS	Sn	21 36 57.1	+0.1
BZMR	Bezymyannaya	0.90	3	PN	Pn	21 36 36.1	+0.1
BZMR				S	Sn	21 36 57.1	+0.1
KIRR	Kirishev	0.92	358	eP	Pn	21 36 36.2	0.0
KIRR				eS	Sn	21 36 56.6	-0.6
KIRR	Kirishev	0.92	358	PN	Pn	21 36 36.2	0.0
KIRR				S	Sn	21 36 56.6	-0.6
BZGR	Bezymyannyi-Gr	0.92	10	eP	Pn	21 36 36.5	+0.4
BZGR				eS	Sn	21 36 57.3	+0.1
BZGR	Bezymyannyi-Gr	0.92	10	PN	Pn	21 36 36.5	+0.4
BZGR				S	Sn	21 36 57.3	+0.1
BZWR	Bezymyannyi-We	0.93	3	eP	Pn	21 36 36.2	-0.1
BZWR				eS	Sn	21 36 56.8	-0.6
BZWR	Bezymyannyi-We	0.93	3	PN	Pn	21 36 36.2	-0.1
BZWR				S	Sn	21 36 56.8	-0.6
KPT	Kopyto	0.93	354	eP	Pn	21 36 35.9	-0.3
KPT	Kopyto	0.93	354	PN	Pn	21 36 35.9	-0.3
ZLN	Zelenaya	1.00	13	eP	Pn	21 36 37.0	+0.2
ZLN				eS	Sn	21 36 58.8	+0.5
ZLN	Zelenaya	1.00	13	PN	Pn	21 36 37.0	+0.2
ZLN				S	Sn	21 36 58.8	+0.5
LGNR	Loginova	1.06	9	eP	Pn	21 36 37.9	+0.5
LGNR	Loginova	1.06	9	PN	Pn	21 36 37.9	+0.5
KOZ	Kozyrevsk	1.06	344	eP	Pn	21 36 37.1	0.0
KOZ				eS	Sn	21 36 58.6	-0.3
KOZ	Kozyrevsk	1.06	344	PN	Pn	21 36 37.1	0.0
KOZ				S	Sn	21 36 58.6	-0.3
CIRR	Tsirk	1.09	10	eP	Pn	21 36 37.8	+0.3
CIRR				eS	Sn	21 36 58.8	-0.8
CIRR	Tsirk	1.09	10	PN	Pn	21 36 37.8	+0.3
CIRR				S	Sn	21 36 58.8	-0.8
KII	Karymskiy	1.15	209	eP	Pn	21 36 38.4	+0.5
KII	Karymskiy	1.15	209	PN	Pn	21 36 38.4	+0.5
KRSR	Krestovskiy	1.18	4	eP	Pn	21 36 38.2	+0.1
KRSR				eS	Sn	21 37 00.0	-0.8
KRSR	Krestovskiy	1.18	4	PN	Pn	21 36 38.2	+0.1
KRSR				S	Sn	21 37 00.0	-0.8
KLY	Klyuchi	1.28	6	eP	Pn	21 36 39.2	+0.4
KLY				eS	Sn	21 37 01.5	-0.5
KLY	Klyuchi	1.28	6	PN	Pn	21 36 39.2	+0.4
KLY				S	Sn	21 37 01.5	-0.5
SRDR	Sredinnyy	1.34	343	eP	Pn	21 36 39.1	-0.3
SRDR				eS	Sn	21 37 01.5	-1.6
SRDR	Sredinnyy	1.34	343	PN	Pn	21 36 39.1	-0.3
SRDR				S	Sn	21 37 01.5	-1.6
BDR	Baidarnaya	1.60	16	eP	Pn	21 36 42.1	+0.2
BDR				eS	Sn	21 37 07.6	+0.2
BDR	Baidarnaya	1.60	16	PN	Pn	21 36 42.1	+0.2
BDR				S	Sn	21 37 07.6	+0.2
SMKR	Semkarok	1.66	21	eP	Pn	21 36 42.4	-0.1
SMKR				eS	Sn	21 37 08.4	-0.1
SMKR	Semkarok	1.66	21	PN	Pn	21 36 42.4	-0.1
SMKR				S	Sn	21 37 08.4	-0.1
SRKR	Sorokina	1.67	15	eP	Pn	21 36 42.8	+0.2
SRKR				eS	Sn	21 37 09.5	+0.7
SRKR	Sorokina	1.67	15	PN	Pn	21 36 42.8	+0.2
SRKR				S	Sn	21 37 09.5	+0.7
KBG	Krutoberegovo	1.79	46	eP	Pn	21 36 43.7	+0.1
KBG				eS	Sn	21 37 09.1	-1.5
KBG	Krutoberegovo	1.79	46	PN	Pn	21 36 43.7	+0.1
KBG				S	Sn	21 37 09.1	-1.5
KBTR	Krutoberegovo	1.80	49	eP	Pn	21 36 44.0	+0.2
KBTR				eS	Sn	21 37 08.9	-2.0
KBTR	Krutoberegovo	1.80	49	PN	Pn	21 36 44.0	+0.2
KBTR				S	Sn	21 37 08.9	-2.0
SPN	Mys Shipunski	1.96	187	eP	Pn	21 36 44.7	-0.9
SPN				eS	Sn	21 37 11.4	-2.5
SPN	Mys Shipunski	1.96	187	PN	Pn	21 36 44.7	-0.9
SPN				S	Sn	21 37 11.4	-2.5
GNL	Ganaly	1.97	228	eP	Pn	21 36 46.3	+0.5
GNL				eS	Sn	21 37 14.7	+0.4
GNL	Ganaly	1.97	228	PN	Pn	21 36 46.3	+0.5
GNL				S	Sn	21 37 14.7	+0.4
KRX	Arik	1.98	212	eP	Pn	21 36 46.9	+1.0
KRX	Arik	1.98	212	PN	Pn	21 36 46.9	+1.0
SDLR	Sedlovina	1.98	207	eP	Pn	21 36 46.5	+0.6
SDLR				eS	Sn	21 37 13.9	-0.6
SDLR	Sedlovina	1.98	207	PN	Pn	21 36 46.5	+0.6
SDLR				S	Sn	21 37 13.9	-0.6
KRER	Koryakskii	1.99	210	eP	Pn	21 36 47.1	+0.9
KRER	Koryakskii	1.99	210	PN	Pn	21 36 47.1	+0.9
SMAR	Somma	2.02	209	eP	Pn	21 36 46.9	+0.5
SMAR				eS	Sn	21 37 14.9	-0.4
SMAR	Somma	2.02	209	PN	Pn	21 36 46.9	+0.5
SMAR				S	Sn	21 37 14.9	-0.4
AVH	Avacha	2.03	210	eP	Pn	21 36 47.5	+1.1
AVH	Avacha	2.03	210	PN	Pn	21 36 47.5	+1.1
KOK	Koryaka	2.04	211	eP	Pn	21 36 47.6	+1.1
KOK	Koryaka	2.04	211	PN	Pn	21 36 47.6	+1.1
UGLR	Uglovaya	2.06	207	eP	Pn	21 36 47.5	+0.7
UGLR				eS	Sn	21 37 16.0	0.0
UGLR	Uglovaya	2.06	207	PN	Pn	21 36 47.5	+0.7
UGLR				S	Sn	21 37 16.0	0.0
DALK	Dalny	2.24	206	eP	Pn	21 36 48.8	+0.2
DALK				eS	Sn	21 37 18.6	-0.7
DALK	Dalny	2.24	206	PN	Pn	21 36 48.8	+0.2
DALK				S	Sn	21 37 18.6	-0.7
PET	Petropavlovsk	2.27	208	eP	Pn	21 36 49.3	+0.3
PET				eS	Sn	21 37 19.2	-0.7
PET	Petropavlovsk	2.27	208	PN	Pn	21 36 49.3	+0.3
PET				S	Sn	21 37 19.2	-0.7
PETK	Petropavlovsk-	2.51	221	P	Pn	21 36 51.7	-0.1
	10nm,0.5s,baz=69,slow=15,SNR=47						
KRMR	Karymshinskiy	2.59	212	eP	Pn	21 36 52.7	0.0
KRMR				eS	Sn	21 37 27.2	+0.6
KRMR	Karymshinskiy	2.59	212	PN	Pn	21 36 52.7	0.0
KRMR				S	Sn	21 37 27.2	+0.6
RUS	Russkaya	2.84	204	eP	Pn	21 36 55.1	-0.6
RUS				eS	Sn	21 37 30.2	-1.8
RUS	Russkaya	2.84	204	PN	Pn	21 36 55.1	-0.6
RUS				S	Sn	21 37 30.2	-1.8
GRL	Gorelyy	2.85	210	eP	Pn	21 36 56.7	+0.8
GRL				eS	Sn	21 37 33.1	+0.7
GRL	Gorelyy	2.85	210	PN	Pn	21 36 56.7	+0.8
GRL				S	Sn	21 37 33.1	+0.7
APC	Apacha	2.86	223	eP	Pn	21 36 56.8	+0.9
APC	Apacha	2.86	223	PN	Pn	21 36 56.8	+0.9
MTVR	Mutnovka	2.88	208	eP	Pn	21 36 57.0	+0.7
MTVR				eS	Sn	21 37 33.7	+0.6
MTVR	Mutnovka	2.88	208	PN	Pn	21 36 57.0	+0.7
MTVR				S	Sn	21 37 33.7	+0.6
ASAK	Asacha	3.05	210	eP	Pn	21 36 59.0	+0.7
ASAK				eS	Sn	21 37 36.1	-0.5
ASAK	Asacha	3.05	210	PN	Pn	21 36 59.0	+0.7
ASAK				S	Sn	21 37 36.1	-0.5
BKI	Bering	3.20	85	eP	Pn	21 37 00.7	+0.7
BKI				eS	Sn	21 37 38.6	-1.2
BKI	Bering	3.20	85	PN	Pn	21 37 00.7	+0.7
BKI				S	Sn	21 37 38.6	-1.2
KDTR	Khodutka, Kamc	3.52	204	eS	Sn	21 37 42.8	-4.2
MA2	Magadan	6.92	315	P	Pn	21 37 46.1	-1.8
	10.0nm,0.8s,baz=142,slow=12,SNR=2.2						
TIXI	Tiksi	21.41	333	P	P	21 40 41.3	-1.1
	0.5nm,0.4s,baz=27,slow=1.5,SNR=3.5						
	0.5nm,0.4s						
MJAR	Matsushiro Arr	23.94	229	P	P	21 41 06.9	+0.3
	3.8nm,0.7s,baz=29,slow=8.0,SNR=4.2						
	3.8nm,0.7s						
ILAR	Eielson Array	27.34	48	P	P	21 41 38.8	+1.9
	0.3nm,0.7s,baz=265,slow=8.0,SNR=2.1						
	0.3nm,0.7s						
MKAR	Makanchi Array	47.50	294	P	P	21 44 23.0	-2.7
	0.3nm,0.4s,baz=50,slow=7.2,SNR=1.4						
	0.3nm,0.4s						
PDAR	Pinedale Array	56.43	62	P	P	21 45 34.0	+2.1
	0.2nm,0.4s,baz=344,slow=3.7,SNR=3.8						
	0.2nm,0.4s						
FINES	FINESS Array B	58.41	336	P	P	21 45 44.1	-1.1
	3.1nm,0.9s,baz=43,slow=6.5,SNR=8.5						
	3.1nm,0.9s						
CMAR	Chiang Mai Arr	58.78	257	P	P	21 45 47.5	-0.9
	0.5nm,0.6s,baz=10.0,slow=7.4,SNR=4.9						
	0.5nm,0.6s						
NOA	NORSAR Array B	61.72	344	P	P	21 46 06.9	-0.9
	0.9nm,0.9s,baz=16,slow=5.6,SNR=1.7						
TXAR	Lajitas Array	69.72	68	P	P	21 47 01.6	+2.1
	0.3nm,0.6s,baz=295,slow=5.0,SNR=4.9						
	0.3nm,0.6s						
GERES	GERESS Array B	72.78	338	P	P	21 47 16.8	-0.7
	0.2nm,0.5s,baz=22,slow=5.5,SNR=1.7						
	0.2nm,0.5s						
WRA	Warramunga Arr	77.93	205	P	P	21 47 47.5	+0.6
	0.4nm,0.6s,baz=19,slow=6.0,SNR=6.0						
	0.4nm,0.6s						
ASAR	Alice Springs	81.61	204	P	P	21 48 07.7	+1.0
	0.5nm,0.8s,baz=17,slow=6.8,SNR=3.1						
	0.5nm,0.8s						
ESDC	Sonseca Array	84.71	348	P	P	21 48 23.0	+0.3
	0.7nm,0.7s,baz=338,slow=6.1,SNR=4.8						
	0.7nm,0.7s						

*JMA **06** 21:36:45.0±0.1, 40°.2N±0°.3×142°.4E±0°.7, h35km±1km, MD3.8/40, MV4.1/40, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
*NIED **06** 21:36:45.0, 40°.16N×142°.42E, h35km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.81; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-5.03; $M_{r\theta}$3.30; $M_{\theta\phi}$-0.90; $M_{\phi r}$5.85; Fault plane solution: $M_0$8.38000×10^{14} NP1: ϕ_s174.00000°, δ21.00000°, λ60.00000°. NP2: ϕ_s25.00000°, δ72.00000°, λ101.00000°.*
*NEIC **06** 21:36:47.9±1.6, 40°.18N±0°.06×142°.21E±0°.07, h54km±8km, mb4.5/11 Error ellipse: s-maj=8.7km s-min=7.2km az=164.0*
*IDC **06** 21:36:49.4±3.3, 40°.06N×142°.39E, h82km±29km, mb3.5/12, mbtmp3.8/14, MS3.2/6, Error ellipse: s-maj=25.7km s-min=18.1km az=82.0*
ISC 06 21:36:46.1±1.1, **40°.16N**±0°.04×**142°.31E**±0°.06, **h43**km±9km, **n68**, σ**1s.52**/65, **mb4.0**/19, **MS3.5**/3, **18D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.40	238	⇓iP	Pn	21 36 55.3	-0.5
JTH				⇓S	Sn	21 37 02.8	+0.3
JTH	Tanohata	0.40	238	A	A	21 36 55.3	
	comp=E,6.0nm,0.6s,comp=E,7.0nm,0.4s						
JKEN	Kujiedanarisaw	0.46	276	⇓iP	Pn	21 36 56.0	-0.5
JKEN				⇓S	Sn	21 37 03.5	-0.2
JKEN	Kujiedanarisaw	0.46	276	A	A	21 36 56.0	
	comp=E,14nm,0.3s,comp=E,12nm,1.0s						
JANG	Nango	0.64	290	⇓iP	Pn	21 36 58.5	-0.3
JANG				⇓S	Sn	21 37 07.8	-0.2
JANG	Nango	0.64	290	A	A	21 36 58.5	
	comp=E,4.0nm,0.2s,comp=E,4.0nm,0.2s						
MIYJ	Miyakonagasawa	0.69	213	⇓iP	Pn	21 36 58.8	-0.7
MIYJ				⇓S	Sn	21 37 09.0	-0.1
JKZ	Kuzumaki	0.77	257	⇓iP	Pn	21 37 00.9	+0.3
JKZ				⇓S	Sn	21 37 11.9	+0.8
JOM	Ohasama	1.04	229	⇓iP	Pn	21 37 04.8	+0.5
JOM				⇓S	Sn	21 37 19.2	+1.7
JOM	Ohasama	1.04	229	A	A	21 37 04.8	
	comp=E,6.0nm,0.3s,comp=E,4.0nm,0.5s						
JARK	Aomorirokkasho	1.11	320	⇓iP	Pn	21 37 05.2	0.0
JARK				⇓S	Sn	21 37 20.3	+0.9
JSZI	Iwateshizukuis	1.12	249	A	A	21 37 06.0	
	comp=E,8.0nm,0.6s,comp=E,8.0nm,0.6s						
JTM	Tenmabayashi	1.14	304		Pn	21 37 06.1	+0.5
JTM				Sn	Sn	21 37 21.3	+1.3
JTM	Tenmabayashi	1.14	304	P	Pn	21 37 06.1	+0.5
JTM	Tenmabayashi	1.14	304	⇓iP	Pn	21 37 06.0	+0.5
JTM				⇓S	Sn	21 37 21.6	+1.7
OFUJ	Ofunato	1.18	205	i P	Pn	21 37 06.2	0.0
JAH	Hinai	1.28	272	⇓iP	Pn	21 37 08.6	+1.0
JAH				⇓eS	Sn	21 37 26.2	+2.6
JMK	Ichinoseki	1.47	215	P	Pn	21 37 10.8	+0.6
JMK				S	Sn	21 37 30.7	+2.6
JRG	Rokugo	1.50	240	P	Pn	21 37 11.8	+1.3
ERM	Erimo	1.96	19		Pn	21 37 18.3	+1.3
ERM				Sn	Sn	21 37 43.0	+2.6
ERM	Erimo	1.96	19	P	Pn	21 37 18.1	+1.2
JEM	Erimo	1.97	19	P	Pn	21 37 18.4	+1.5
JMM	Marumori	2.57	208		Pn	21 37 26.5	+1.2
JMM	Marumori	2.57	208	P	Pn	21 37 27.3	+2.0
JSD	Sado	3.79	237		Pn	21 37 43.4	+1.3
JSD	Sado	3.79	237	P	Pn	21 37 44.2	+2.1
JKA	Kamikawa-asahi	3.96	3		Pn	21 37 44.7	+0.3
MJB9	Matsu-Tunnel	4.84	223		Pn	21 37 58.1	+1.7
MAJO	Matsushiro	4.84	223		Pn	21 37 58.8	+2.4
MAJO	Matsushiro	4.84	223	P	Pn	21 37 59.6	+3.2
MJAR	Matsushiro Arr	4.84	223	P	Pn	21 37 59.6	+3.1
	7.1nm,0.6s,baz=31,slow=14,SNR=39						
MJAR				LR	LR	21 40 09.1	
	comp=Z,89nm,21.9s,baz=95,slow=42						
JGF	Kuroka	6.00	222	Pn	Pn	21 38 15.5	+3.1
JGF	Kuroka	6.00	222	P	Pn	21 38 16.3	+3.9
USRK	Ussuriysk Ar.	8.66	301	P	Pn	21 38 53.2	+4.4
	2.7nm,0.6s,baz=115,slow=13,SNR=4.7						
KSRS	Korea Array	11.54	261	LR	LR	21 43 52.4	
	comp=Z,53nm,18.2s,baz=65,slow=36						
KLR	Kul'dur	11.77	324	LR	LR	21 44 17.4	
	comp=Z,62nm,18.9s,baz=192,slow=38						
SONM	Songino Array	26.76	299	P	P	21 42 22.2	+0.3
	0.9nm,0.7s,baz=95,slow=8.2,SNR=7.0						
	0.9nm,0.7s						
H11N2	WAKE ISLAND Hy	29.30	127	T	T	22 13 40.2	
	baz=319,slow=75,SNR=72						
H11N1	WAKE ISLAND Hy	29.31	127	T	T	22 13 42.7	
	baz=319,slow=75,SNR=58						
H11N3	WAKE ISLAND Hy	29.32	127	T	T	22 13 43.4	
	baz=319,slow=75,SNR=41						
H11S1	WAKE ISLAND Hy	30.11	129	T	T	22 14 36.6	
	baz=321,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	30.12	129	T	T	22 14 46.8	
	baz=321,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	30.13	129	T	T	22 14 47.8	
	baz=321,slow=76,SNR=14						
ZALV	Zalesovo Beam	40.40	310	P	P	21 44 19.4	-0.3
	1.2nm,0.6s,baz=85,slow=8.4,SNR=5.4						
	1.2nm,0.6s						
MKAR	Makanchi Array	43.12	299	P	P	21 44 42.0	-0.2
	0.9nm,0.5s,baz=82,slow=9.6,SNR=6.5						
	0.9nm,0.5s						
KURK	Kurchatov	44.62	306	P	P	21 44 53.2	-0.9
KURK				IAmb	IAmb	21 44 57.5	
	comp=Z,5.4nm,0.7s						
ILAR	Eielson Array	46.50	34	P	P	21 45 08.1	-0.7
	comp=Z,0.4nm,0.8s,baz=258,slow=5.0,SNR=4.3						
	comp=Z,0.4nm,0.8s						
INK	Inuvik	51.30	28	P	P	21 45 45.0	-0.5
	comp=Z,0.6nm,0.4s,baz=275,slow=6.2,SNR=4.8						
	comp=Z,0.6nm,0.4s						
ARU	Arti	54.52	317	LR	LR	22 09 52.3	
	comp=Z,46nm,19.8s,baz=206,slow=36						
ARU	Arti	54.52	317	P	P	21 46 09.2	-0.1
ARU				IAmb	IAmb	21 46 09.9	
	comp=Z,3.7nm,0.7s						
ABKAR	Akbulak array	56.50	309	P	P	21 46 23.4	-0.2
KNRA	Kununurra	56.96	196	P	P	21 46 27.7	+0.5
KBL	Kabul	56.99	289	P	P	21 46 27.0	-0.7
KBL				IAmb	IAmb	21 46 28.3	
	comp=Z,4.8nm,0.9s						
WB0	Warramunga Arr	60.07	189	P	P	21 46 48.0	-0.9
WB0				IAmb	IAmb	21 47 13.6	
	comp=Z,4.7nm,1.1s						
WR0	Warramunga Arr	60.24	188	P	P	21 46 49.6	-0.5
WR0				IAmb	IAmb	21 47 06.8	
	comp=Z,6.7nm,1.4s						
WB2	Warramunga Arr	60.24	189	P	P	21 46 49.6	-0.5
WRA	Warramunga Arr	60.25	189	P	P	21 46 48.5	-1.6
	comp=Z,0.2nm,0.4s,baz=5.8,slow=6.8,SNR=8.0						
	comp=Z,0.2nm,0.4s						
WRA	Warramunga Arr	60.25	189	P	P	21 46 47.8	-2.3
GEYT	Alibeck	62.97	298	P	P	21 47 08.4	0.0
	comp=Z,1.3nm,0.6s,baz=262,slow=3.0,SNR=5.0						
	comp=Z,1.3nm,0.6s						
ASAR	Alice Springs	63.97	189	P	P	21 47 13.2	-1.8
	comp=Z,0.1nm,0.3s,baz=358,slow=5.6,SNR=2.1						
	comp=Z,0.1nm,0.3s						
FINES	FINESS Array B	66.39	332	P	P	21 47 30.3	+0.1
	comp=Z,2.9nm,0.9s,baz=34,slow=7.1,SNR=5.4						
FINES				LR	LR	22 18 48.2	
	comp=Z,25nm,21.4s,baz=18,slow=38						
	comp=Z,2.9nm,0.9s						
K05A	Summer Lake	68.45	52	P	P	21 47 44.9	+1.1
K05A				IAmb	IAmb	21 48 25.9	
	comp=Z,9.3nm,1.5s						
KIV	Kislovodsk	69.40	310	P	P	21 47 49.4	-0.3
KIV				IAmb	IAmb	21 47 51.6	
	comp=Z,4.2nm,0.8s						
KBZ	Khabaz	69.41	310	P	P	21 47 49.3	-0.2
	comp=Z,0.7nm,0.5s,baz=45,slow=8.6,SNR=1.9						
	comp=Z,0.7nm,0.5s						
NOA	NORSAR Array B	71.58	337	P	P	21 48 02.0	-0.6
	comp=Z,0.7nm,0.7s,baz=29,slow=8.2,SNR=1.9						
	comp=Z,0.7nm,0.7s						
STKA	Stephens Creek	71.67	181	LR	LR	22 20 57.0	
	comp=Z,81nm,20.0s,baz=280,slow=37						
AKASG	Malin Array Be	72.26	322	P	P	21 48 06.3	-0.5
	comp=Z,0.7nm,0.5s,baz=41,slow=6.6,SNR=2.8						
	comp=Z,0.7nm,0.5s						
CLL	Collm	78.74	330	eP	P	21 48 43.0	-0.8

*IDC **06** 22:00:37.7±3.6, 52°.16N×158°.52E, h109km±16km, mb3.5/5, mbtmp3.8/5, MS3.7/1, Error ellipse: s-maj=60.0km s-min=32.7km az=18.0*
*KRSC **06** 22:00:37.2±0.8, 52°.38N×159°.13E, h93km±6km, ML3.9*
ISC 06 22:00:37.7±0.9, **52°.38N**±0°.05×**159°.09E**±0°.07, **h98**km±6km, **n38**, σ**0s.96**/53, **mb3.9**/5, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.36	278	eP	Pn	22 00 52.4	+0.1
RUS				eS	Sn	22 01 03.0	-0.3
MTVR	Mutnovka	0.56	281	eP	Pn	22 00 54.4	+0.5
MTVR				eS	Sn	22 01 06.1	0.0
GRL	Gorelyy	0.65	286	eP	Pn	22 00 55.7	+1.1
GRL				eS	Sn	22 01 08.9	+1.7
DALK	Dalny	0.68	343	eP	Pn	22 00 55.3	+0.6
DALK				eS	Sn	22 01 07.3	-0.2
PET	Petropavlovsk	0.69	338	eP	Pn	22 00 55.4	+0.6
PET				eS	Sn	22 01 07.5	-0.2
ASAK	Asacha	0.73	270	eP	Pn	22 00 56.0	+0.7
ASAK				eS	Sn	22 01 09.5	+1.0
KRMR	Karymshinskiy	0.74	308	eP	Pn	22 00 55.5	+0.3
KRMR				eS	Sn	22 01 08.5	+0.1
UGLR	Uglovaya	0.84	349	eP	Pn	22 00 57.2	+0.8
UGLR				eS	Sn	22 01 11.1	+0.6
KDTR	Khodutka, Kamc	0.85	228	eP	Pn	22 00 56.8	+0.5
KDTR				eS	Sn	22 01 09.9	-0.4
SMAR	Somma	0.90	349	eP	Pn	22 00 57.6	+0.5
SMAR				eS	Sn	22 01 11.1	-0.6
SDLR	Sedlovina	0.91	352	eP	Pn	22 00 57.4	+0.3
SDLR				eS	Sn	22 01 11.7	+0.1
AVH	Avacha	0.91	347	eP	Pn	22 00 58.0	+1.0
AVH				eS	Sn	22 01 12.7	+1.1
SPN	Mys Shipunski	0.91	38	eP	Pn	22 00 57.2	+0.2
SPN				eS	Sn	22 01 10.9	-0.6
KRER	Koryakskii	0.95	347	eP	Pn	22 00 58.3	+0.7
KRER				eS	Sn	22 01 12.9	+0.4
KOK	Koryaka	0.95	343	eP	Pn	22 00 58.3	+0.8
KOK				eS	Sn	22 01 12.9	+0.5
KRX	Arik	1.01	345	eP	Pn	22 00 58.9	+0.7
KRX				eS	Sn	22 01 12.8	-0.9
PETK	Petropavlovsk-	1.11	311	P	Pn	22 00 59.1	-0.2
	9.0nm,0.3s,baz=114,slow=15,SNR=28						
PETK				S	Sn	22 01 16.4	+0.9
	22nm,0.4s,baz=217,slow=29,SNR=16						
APC	Apacha	1.30	296	eP	Pn	22 01 02.4	+1.1
APC				eS	Sn	22 01 20.3	+1.1
GNL	Ganaly	1.49	333	eP	Pn	22 01 04.0	+0.3
GNL				eS	Sn	22 01 23.2	-0.3
KII	Karymskiy	1.67	7	eP	Pn	22 01 07.5	+1.5
KII				eS	Sn	22 01 28.8	+1.3
PAU	Pauzhetka	1.68	238	eP	Pn	22 01 07.5	+1.4
PAU				eS	Sn	22 01 28.9	+1.2
SKR	Severo-Kuril's	2.52	229	eP	Pn	22 01 17.9	+1.0
SKR				eS	Sn	22 01 47.1	+0.1
TUMR	Tumrok	2.97	12	eP	Pn	22 01 24.8	+1.8
KMNR	Kamenistaya	3.45	11	eP	Pn	22 01 31.4	+2.0
KBTR	Krutoberegovo	4.41	28	eP	Pn	22 01 43.0	+0.8
H11N2	WAKE ISLAND Hy	33.15	166	T	T	22 42 20.0	
	baz=348,slow=74,SNR=3.7						
H11N3	WAKE ISLAND Hy	33.17	166	T	T	22 42 20.5	
	baz=348,slow=74,SNR=4.7						
H11N1	WAKE ISLAND Hy	33.17	166	T	T	22 42 20.5	
	baz=348,SNR=5.0						
H11S1	WAKE ISLAND Hy	34.33	167	T	T	22 43 50.3	
	baz=353,slow=74						
H11S3	WAKE ISLAND Hy	34.34	167	T	T	22 43 53.2	
	baz=353,slow=74						
H11S2	WAKE ISLAND Hy	34.35	167	T	T	22 43 54.1	
	baz=353						
MKAR	Makanchi Array	47.91	296	P	P	22 09 03.2	-2.5
	1.0nm,1.0s,baz=56,slow=6.7,SNR=5.2						
	1.0nm,1.0s						
ARCES	ARCESS Array B	53.77	342	P	P	22 09 48.4	-0.8
	1.1nm,0.8s,baz=39,slow=7.2,SNR=1.4						
	1.1nm,0.8s						
SIJI	Sorong	57.99	213	LR	LR	22 32 20.0	
	comp=Z,60nm,20.1s,baz=79,slow=33						
FINES	FINESS Array B	60.53	336	P	P	22 10 36.2	-0.7
	2.6nm,0.9s,baz=19,slow=6.3,SNR=5.8						
	2.6nm,0.9s						
NB2	NORSAR Subarra	64.05	343	P	P	22 10 59.9	-0.5
	comp=Z,0.8nm,0.6s,baz=21,slow=6.9						
NOA	NORSAR Array B	64.05	343	P	P	22 11 00.0	-0.4
	comp=Z,0.9nm,0.6s,baz=20,slow=6.7,SNR=5.0						
	comp=Z,0.9nm,0.6s						
TXAR	Lajitas Array	71.48	66	P	P	22 11 49.3	+1.7
	comp=Z,0.3nm,0.6s,baz=289,slow=4.0,SNR=4.3						
	comp=Z,0.3nm,0.6s						

OMAN 06 22:36:12.1±0.2, **20°.81N**×**61°.58E**, **h36**km±53km, **mb4.3**/1, **ml2.7**/7, **Error ellipse: s-maj=9.1km s-min=4.0km az=273.0**, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBK	Wadi Bani Khal	3.02	307	P	Pn	22 36 57.1	-0.3
	SNR=25						
WBK				S	Sn	22 37 32.9	+0.6
MHTO	MHTO	3.38	274	P	Pn	22 37 02.0	-0.3
	SNR=22						
MHTO				S	Sn	22 37 42.1	+0.9
JMDO	Jabal Madar	3.59	296	P	Pn	22 37 05.7	+0.5
	SNR=23						
JMDO				S	Sn	22 37 47.1	+0.7
WSAR	Wadi Sarin	3.65	312	P	Pn	22 37 05.8	-0.3
	SNR=18						
WSAR				S	Sn	22 37 47.3	-0.7
DQM	DQM	3.89	258	P	Pn	22 37 09.0	-0.3
	SNR=44						
DQM				S	Sn	22 37 54.2	+0.4
SMDO	Samad	3.97	305	P	Pn	22 37 11.1	+0.5
SMDO				S	Sn	22 37 56.0	+0.1
BSY	Bisya	4.50	296	P	Pn	22 37 18.8	+1.0
	SNR=8.6						
BSY				S	Sn	22 38 10.1	+1.1
UMZA	Um Al Zommool	6.26	289	P	Pn	22 37 42.5	+0.6
UMZA				S	Sn	22 38 52.6	+0.4

*AEIC **06** 22:45:35.5±1.3, 63°.31N±0°.02×151°.06W±0°.05, h14km±6km, ML3.3, ML3.5/132(NEIC), Error ellipse: s-maj=4.4km s-min=0.7km az=127.0*
*NEIC **06** 22:45:35.6±1.3, 63°.30N±0°.03×151°.07W±0°.04, h14km±4km, Error ellipse: s-maj=4.0km s-min=2.6km az=186.0*
ISC 06 22:45:35.2±0.8, **63°.30N**±0°.02×**151°.06W**±0°.02, **h10**km, **n181**, σ**0s.80**/172, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.26	14		Pb	22 45 41.3	-0.7
KTH					Sb	22 45 45.4	-1.2
KTH	Kantishna Hill	0.26	14	IAML		22 45 46.0	
	comp=E,6μm,0.4s						
KTH				IAML		22 45 46.9	
	comp=N,6μm,0.6s						
TRF	Thorofare Moun	0.38	67		Pg	22 45 43.2	+0.5
TRF				IAML		22 45 49.4	
	comp=E,3μm,0.3s						
TRF	Thorofare Moun	0.38	67		Sg	22 45 48.7	+0.9
TRF	Thorofare Moun	0.38	67	P	Pg	22 45 43.1	+0.5
	baz=248						
TRF				S	Sg	22 45 48.7	+0.9
	baz=248						
CAST	Castle Rocks	0.47	285		Pg	22 45 44.6	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAST	**Castle Rocks**	**0.47**	**285**	IAML		22 45 52.2	
	comp=N,1μm,0.3s						
CAST				IAML		22 45 56.6	
	comp=E,2μm,0.5s						
CAST	**Castle Rocks**	**0.47**	**285**	P	**Pg**	**22 45 44.6**	**+0.2**
	baz=103						
PPLA	**Purkeypile**	**0.66**	**232**		**Pg**	**22 45 47.6**	**-0.2**
PPLA	**Purkeypile**	**0.66**	**232**	P	**Pg**	**22 45 47.7**	**-0.2**
	baz=51						
BPAW	**Bear Paw Mtn.**	**0.80**	**2**	Pg	**Pg**	**22 45 50.7**	**+0.2**
BPAW				IAML		22 46 04.6	
	comp=E,2μm,0.6s						
BPAW	**Bear Paw Mtn.**	**0.80**	**2**		**Sg**	**22 46 00.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**0.80**	**2**	P	**Pg**	**22 45 50.8**	**+0.2**
	baz=182						
CHUM	**Lake Minchumin**	**0.81**	**317**		**Pb**	**22 45 51.2**	**-0.1**
CHUM					**Sg**	**22 46 01.6**	**+0.3**
CHUM	**Lake Minchumin**	**0.81**	**317**	P	**Pb**	**22 45 51.2**	**-0.1**
	baz=135						
CHUM				S	**Sg**	**22 46 01.6**	**+0.3**
	baz=135						
CUT	**Chulitna**	**0.97**	**158**		**Pg**	**22 45 53.6**	**-0.3**
CUT				IAML		22 46 08.1	
	comp=E,2μm,0.4s						
CUT	**Chulitna**	**0.97**	**158**		**Sg**	**22 46 05.9**	**-0.6**
CUT	**Chulitna**	**0.97**	**158**	P	**Pg**	**22 45 53.6**	**-0.3**
	baz=338						
RND	**Reindeer**	**1.00**	**83**		**Pg**	**22 45 53.9**	**-0.6**
MCK	**McKinley**	**1.05**	**65**		**Pg**	**22 45 54.9**	**-0.5**
MCK				IAML		22 46 12.7	
	comp=E,934nm,0.5s						
MCK				IAML		22 46 14.3	
	comp=N,945nm,0.5s						
MCK	**McKinley**	**1.05**	**65**		**Sg**	**22 46 08.6**	**-0.3**
MCK	**McKinley**	**1.05**	**65**	P	**Pg**	**22 45 54.8**	**-0.5**
	baz=247						
MCK				S	**Sg**	**22 46 08.6**	**-0.3**
	baz=247						
WAT7	**Susitna Watana**	**1.11**	**114**		**Pg**	**22 45 55.8**	**-0.8**
BWN	**Browne**	**1.12**	**38**		**Pn**	**22 45 57.3**	**+0.3**
BWN	**Browne**	**1.12**	**38**	IAML		22 46 24.0	
	comp=N,945nm,0.6s						
BWN				IAML		22 46 24.4	
	comp=E,1μm,1.0s						
WAT1	**Susitna Watana**	**1.24**	**111**		**Pn**	**22 45 57.9**	**-0.7**
WAT1					**Sb**	**22 46 14.4**	**-0.2**
WAT1	**Susitna Watana**	**1.24**	**111**	P	**Pn**	**22 45 57.9**	**-0.7**
	baz=294						
SKT	**Skwentna**	**1.35**	**189**		**Pn**	**22 45 59.9**	**-0.1**
SKT				IAML		22 46 18.0	
	comp=N,669nm,0.5s						
SKT				IAML		22 46 21.0	
	comp=E,681nm,0.4s						
SKT	**Skwentna**	**1.35**	**189**	P	**Pn**	**22 45 59.8**	**-0.2**
	baz=9.0						
K20K	**Telida**	**1.36**	**274**		**Pn**	**22 45 59.9**	**-0.3**
K20K				IAML		22 46 24.1	
	comp=N,539nm,0.6s						
K20K	**Telida**	**1.36**	**274**	P	**Pn**	**22 45 59.7**	**-0.5**
	baz=91						
NEA2	**Nenana**	**1.57**	**33**		**Pn**	**22 46 02.2**	**-0.8**
NEA2	**Nenana**	**1.57**	**33**	P	**Pn**	**22 46 02.1**	**-1.0**
	baz=215						
M22K	**Willow**	**1.62**	**164**		**Pn**	**22 46 03.3**	**-0.3**
M22K	**Willow**	**1.62**	**164**	P	**Pn**	**22 46 03.3**	**-0.3**
	baz=345						
J20K	**Nowinta River**	**1.63**	**304**	Pn	**Pn**	**22 46 03.9**	**0.0**
J20K				IAML		22 46 28.3	
	comp=N,821nm,0.5s						
J20K	**Nowinta River**	**1.63**	**304**	P	**Pn**	**22 46 03.8**	**0.0**
	baz=121						
WAT6	**Susitna Watana**	**1.68**	**114**		**Pn**	**22 46 04.2**	**-0.5**
WAT6	**Susitna Watana**	**1.68**	**114**	P	**Pn**	**22 46 04.2**	**-0.5**
	baz=297						
DHY	**Denali Highway**	**1.69**	**96**		**Pn**	**22 46 04.8**	**0.0**
DHY				IAML		22 46 28.8	
	comp=N,400nm,0.6s						
DHY	**Denali Highway**	**1.69**	**96**	P	**Pn**	**22 46 04.8**	**0.0**
	baz=280						
M20K	**Styx River**	**1.72**	**215**		**Pn**	**22 46 05.2**	**0.0**
M20K				IAML		22 46 29.9	
	comp=E,567nm,0.4s						
M20K				IAML		22 46 30.6	
	comp=N,708nm,0.6s						
MLY	**Manley**	**1.74**	**5**		**Pn**	**22 46 05.3**	**-0.2**
MLY	**Manley**	**1.74**	**5**	P	**Pn**	**22 46 05.6**	**+0.1**
	baz=185						
WRH	**Wood River Hil**	**1.76**	**47**		**Pn**	**22 46 05.5**	**-0.3**
GHO	**Glory Hole Cre**	**1.83**	**146**		**Pn**	**22 46 06.3**	**-0.4**
SUA	**Susitna One**	**1.85**	**175**		**Pn**	**22 46 07.2**	**+0.2**
SUA	**Susitna One**	**1.85**	**175**	P	**Pn**	**22 46 07.2**	**+0.2**
	baz=356						
I21K	**Tanana**	**1.93**	**348**		**Pn**	**22 46 08.3**	**+0.3**
I21K				IAML		22 46 37.6	
	comp=E,323nm,0.6s						
I21K				IAML		22 46 37.8	
	comp=N,300nm,0.4s						
I21K	**Tanana**	**1.93**	**348**	P	**Pn**	**22 46 08.3**	**+0.3**
	baz=168						
PMR	**Palmer**	**1.94**	**152**		**Pn**	**22 46 08.1**	**+0.1**
PMR				IAML		22 46 37.0	
	comp=E,558nm,0.5s						
PMR				IAML		22 46 38.8	
	comp=N,441nm,0.6s						
PMR	**Palmer**	**1.94**	**152**	P	**Pn**	**22 46 08.2**	**+0.1**
	baz=333						
SML	**Sawmill**	**1.96**	**139**		**Pn**	**22 46 08.2**	**-0.4**
SML	**Sawmill**	**1.96**	**139**	P	**Pn**	**22 46 08.1**	**-0.4**
	baz=321						
CCB	**Clear Creek Bu**	**1.97**	**45**		**Pn**	**22 46 08.0**	**-0.5**
CCB				IAML		22 46 38.2	
	comp=E,292nm,0.4s						
CCB				IAML		22 46 38.3	
	comp=N,382nm,0.3s						
I23K	**Minto, Yukon-K**	**2.00**	**21**		**Pn**	**22 46 08.8**	**-0.2**
I23K				IAML		22 46 39.0	
	comp=N,273nm,0.5s						
I23K	**Minto, Yukon-K**	**2.00**	**21**	P	**Pn**	**22 46 08.7**	**-0.2**
	baz=203						
L19K	**White Mountain**	**2.08**	**239**		**Pn**	**22 46 09.4**	**-0.6**
L19K	**White Mountain**	**2.08**	**239**	P	**Pn**	**22 46 09.1**	**-1.0**
	baz=55						
MDM	**Murphy Dome**	**2.08**	**36**		**Pn**	**22 46 09.4**	**-0.7**
MDM	**Murphy Dome**	**2.08**	**36**	IAML		22 46 43.7	
	comp=E,229nm,0.5s						
M19K	**Big River Lodg**	**2.08**	**229**		**Pn**	**22 46 10.1**	**-0.1**
TCOL	**CIGO, UAF Yank**	**2.11**	**40**	P	**Pn**	**22 46 10.1**	**-0.4**
	baz=223						
HDA	**Harding Lake**	**2.13**	**57**		**Pn**	**22 46 10.3**	**-0.5**
HDA	**Harding Lake**	**2.13**	**57**	IAML		22 46 45.1	
	comp=E,326nm,0.5s						
HDA				IAML		22 46 48.7	
	comp=N,357nm,0.5s						
HDA	**Harding Lake**	**2.13**	**57**	P	**Pn**	**22 46 10.3**	**-0.5**
	baz=241						
M23K	**Glacier View**	**2.17**	**133**	P	**Pn**	**22 46 11.0**	**-0.3**
	baz=316						
N20K	**Mount Spurr**	**2.18**	**195**	P	**Pn**	**22 46 12.2**	**+0.7**
	baz=14						
SPCR	**Spurr Chakacha**	**2.18**	**195**	P	**Pn**	**22 46 12.1**	**+0.6**
	baz=14						
SPU	**Mount Spurr**	**2.18**	**193**		**Pn**	**22 46 11.3**	**-0.2**
KNK	**Knik Glacier**	**2.25**	**146**		**Pn**	**22 46 13.0**	**+0.5**
KNK	**Knik Glacier**	**2.25**	**146**	IAML		22 46 45.9	
	comp=N,306nm,0.4s						
KNK	**Knik Glacier**	**2.25**	**146**	P	**Pn**	**22 46 13.0**	**+0.5**
	baz=329						
SCM	**Sheep Creek Mo**	**2.27**	**129**		**Pn**	**22 46 12.5**	**-0.3**
SCM	**Sheep Creek Mo**	**2.27**	**129**	P	**Pn**	**22 46 12.5**	**-0.3**
	baz=312						
TTA	**Tatalina**	**2.28**	**263**		**Pn**	**22 46 12.5**	**-0.4**
TTA				IAML		22 46 48.5	
	comp=N,254nm,0.5s						
TTA				IAML		22 46 49.3	
	comp=E,334nm,0.8s						
TTA	**Tatalina**	**2.28**	**263**	P	**Pn**	**22 46 12.3**	**-0.6**
	baz=78						
RC01	**Rabbit Creek A**	**2.31**	**164**		**Pn**	**22 46 12.8**	**-0.4**
RC01	**Rabbit Creek A**	**2.31**	**164**	IAML		22 46 45.8	
	comp=N,241nm,0.4s						
RC01				IAML		22 46 48.0	
	comp=E,258nm,0.3s						
RC01	**Rabbit Creek A**	**2.31**	**164**	P	**Pn**	**22 46 12.8**	**-0.4**
	baz=345						
IL31		**2.36**	**49**		**Pn**	**22 46 13.4**	**-0.4**
ILAR	**Eielson Array**	**2.36**	**49**	Pn	**Pn**	**22 46 13.5**	**-0.4**
POKR	**Poker Plat Res**	**2.42**	**39**	Pn	**Pn**	**22 46 14.8**	**0.0**
POKR	**Poker Plat Res**	**2.42**	**39**	P	**Pn**	**22 46 14.9**	**+0.2**
	baz=223						
K24K	**Donnelly Dome**	**2.42**	**76**	P	**Pn**	**22 46 15.0**	**+0.2**
	baz=260						
H21K	**Melozitna Rive**	**2.48**	**343**		**Pn**	**22 46 15.9**	**+0.3**
H21K				IAML		22 46 55.1	
	comp=N,246nm,0.7s						
H21K				IAML		22 46 59.2	
	comp=E,200nm,1.1s						
M24K	**Tolsona, Glenn**	**2.55**	**116**		**Pn**	**22 46 17.2**	**+0.6**
M24K				IAML		22 46 55.1	
	comp=N,305nm,0.6s						
M24K	**Tolsona, Glenn**	**2.55**	**116**	P	**Pn**	**22 46 17.2**	**+0.6**
	baz=300						
PAX	**Paxson**	**2.56**	**95**		**Pn**	**22 46 17.3**	**+0.5**
PAX	**Paxson**	**2.56**	**95**	P	**Pn**	**22 46 17.4**	**+0.6**
	baz=280						
H22K	**Ishtalitna Cre**	**2.60**	**357**	P	**Pn**	**22 46 17.8**	**+0.5**
	baz=177						
H23K	**Yukon River**	**2.62**	**14**	Pn	**Pn**	**22 46 17.4**	**-0.1**
H23K				IAML		22 46 58.5	
	comp=E,160nm,0.7s						
H23K	**Yukon River**	**2.62**	**14**	P	**Pn**	**22 46 17.6**	**+0.1**
	baz=195						
PWL	**Port Wells**	**2.77**	**151**		**Pn**	**22 46 21.1**	**+1.6**
PWL	**Port Wells**	**2.77**	**151**	P	**Pn**	**22 46 21.1**	**+1.6**
	baz=334						
RIDG	**Independent Ri**	**2.82**	**78**		**Pn**	**22 46 21.2**	**+0.9**
RIDG	**Independent Ri**	**2.82**	**78**	IAML		22 47 09.4	
	comp=E,230nm,1.3s						
RIDG	**Independent Ri**	**2.82**	**78**	P	**Pn**	**22 46 21.2**	**+0.9**
	baz=264						
SLKM	**Skilak Lake**	**2.83**	**172**		**Pn**	**22 46 21.2**	**+0.7**
J25K	**Salcha River,**	**2.83**	**60**		**Pn**	**22 46 20.1**	**-0.4**
J25K				IAML		22 47 05.9	
	comp=E,129nm,0.7s						
J25K				IAML		22 47 06.4	
	comp=N,111nm,0.7s						
J25K	**Salcha River,**	**2.83**	**60**	P	**Pn**	**22 46 20.4**	**-0.2**
	baz=245						
RDJH	**Redoubt Jeurge**	**2.84**	**198**		**Pn**	**22 46 21.7**	**+1.0**
HARP	**HAARP**	**2.86**	**106**	P	**Pn**	**22 46 22.3**	**+1.5**
	baz=291						
H24K	**Noodor Dome**	**2.89**	**27**	Pn	**Pn**	**22 46 21.0**	**-0.3**
IMAR	**Indian Mountai**	**2.93**	**338**		**Pn**	**22 46 22.0**	**+0.2**
RSO	**Redoubt South**	**2.96**	**196**		**Pn**	**22 46 23.1**	**+0.8**
N19K	**Bonanza Creek**	**2.97**	**214**	Pn	**Pn**	**22 46 22.7**	**+0.3**
N19K				IAML		22 47 12.1	
	comp=N,120nm,0.4s						
N19K				IAML		22 47 14.1	
	comp=E,156nm,0.7s						
N19K	**Bonanza Creek**	**2.97**	**214**	P	**Pn**	**22 46 22.8**	**+0.3**
	baz=31						
KLU	**Klutina**	**3.00**	**125**		**Pn**	**22 46 23.8**	**+0.9**
KLU	**Klutina**	**3.00**	**125**	IAML		22 47 05.5	
	comp=N,188nm,0.5s						
KLU				IAML		22 47 06.9	
	comp=E,143nm,0.7s						
KLU	**Klutina**	**3.00**	**125**	P	**Pn**	**22 46 23.8**	**+0.9**
	baz=310						
SVW2	**Sparrevohn**	**3.06**	**226**		**Pn**	**22 46 23.5**	**-0.1**
DOT	**Dot Lake**	**3.16**	**81**		**Pn**	**22 46 24.6**	**-0.3**
SCRK	**Sand Creek**	**3.23**	**75**		**Pn**	**22 46 26.0**	**0.0**
SCRK	**Sand Creek**	**3.23**	**75**	IAML		22 47 18.3	
	comp=E,115nm,0.6s						
SCRK				IAML		22 47 18.7	
	comp=N,107nm,0.7s						
SCRK	**Sand Creek**	**3.23**	**75**	P	**Pn**	**22 46 26.0**	**0.0**
	baz=261						
PRP	**Porcupine Dome**	**3.27**	**45**		**Pn**	**22 46 26.7**	**+0.1**
PRP	**Porcupine Dome**	**3.27**	**45**	IAML		22 47 21.3	
	comp=N,95nm,0.5s						
PRP				IAML		22 47 24.0	
	comp=E,79nm,0.7s						
PRP	**Porcupine Dome**	**3.27**	**45**	P	**Pn**	**22 46 26.7**	**+0.1**
	baz=230						
DIV	**Divide**	**3.30**	**129**		**Pn**	**22 46 27.9**	**+1.0**
SEW	**Seward**	**3.30**	**166**	Pn	**Pn**	**22 46 26.9**	**+0.1**
MENT	**Mentasta**	**3.36**	**93**		**Pn**	**22 46 28.2**	**+0.5**
MENT				IAML		22 47 26.1	
	comp=N,130nm,0.6s						
MENT				IAML		22 47 29.4	
	comp=E,153nm,0.7s						
G23K	**Bananza Creek**	**3.45**	**7**	P	**Pn**	**22 46 29.8**	**+0.9**
	baz=188						
N25K	**Chitina, Valde**	**3.45**	**117**		**Pn**	**22 46 28.9**	**-0.1**
N25K	**Chitina, Valde**	**3.45**	**117**	P	**Pn**	**22 46 30.9**	**+1.9**
	baz=302						
ILSW	**Iliamna Southw**	**3.48**	**198**		**Pn**	**22 46 29.4**	**0.0**
ILSW				IAML		22 47 36.1	
	comp=N,34nm,1.0s						
ILSW				IAML		22 47 39.4	
	comp=E,43nm,0.8s						
N18K	**Kilae Creek**	**3.48**	**223**	Pn	**Pn**	**22 46 29.2**	**-0.1**
N18K				IAML		22 47 34.2	
	comp=E,127nm,0.8s						
O19K	**Port Alsworth**	**3.48**	**208**		**Pn**	**22 46 29.2**	**-0.1**
L26K	**Log Cabin Wild**	**3.51**	**91**		**Pn**	**22 46 29.6**	**-0.2**
L26K	**Log Cabin Wild**	**3.51**	**91**	P	**Pn**	**22 46 31.7**	**+1.9**
	baz=278						
J26L	**Joseph Creek**	**3.53**	**67**		**Pn**	**22 46 29.7**	**-0.3**
J26L				IAML		22 47 29.3	
	comp=E,75nm,0.6s						
J26L				IAML		22 47 30.0	
	comp=N,101nm,0.5s						
BRLK	**Bradley Lake**	**3.55**	**179**		**Pn**	**22 46 32.2**	**+1.8**
BRSE	**Bradley Lake S**	**3.58**	**177**		**Pn**	**22 46 32.0**	**+1.4**
BRSE	**Bradley Lake S**	**3.58**	**177**	P	**Pn**	**22 46 32.0**	**+1.4**
	baz=358						
EYAK	**Cordova Ski Ar**	**3.73**	**135**	Pn	**Pn**	**22 46 33.3**	**+0.6**
G24K	**Hadweenzic Riv**	**3.74**	**22**	P	**Pn**	**22 46 32.9**	**0.0**
	baz=206						
CNPM	**China Poot**	**3.79**	**181**		**Pn**	**22 46 35.2**	**+1.6**
CNPM	**China Poot**	**3.79**	**181**	IAML		22 47 40.7	
	comp=E,85nm,0.7s						
CNPM				IAML		22 47 51.8	
	comp=N,54nm,2.0s						
BMRM	**Bremner River**	**3.83**	**125**		**Pn**	**22 46 35.0**	**+0.8**
BMRM	**Bremner River**	**3.83**	**125**	P	**Pn**	**22 46 35.0**	**+0.8**
	baz=311						
GLB	**Gilahina Butte**	**3.86**	**116**		**Pn**	**22 46 36.5**	**+1.9**
GLB	**Gilahina Butte**	**3.86**	**116**	IAML		22 47 40.9	
	comp=N,65nm,0.7s						
COLD	**Coldfoot**	**3.96**	**5**		**Pn**	**22 46 36.8**	**+1.0**
O18K	**Koktuh Hills**	**3.99**	**212**	Pn	**Pn**	**22 46 37.1**	**+0.7**
O18K				IAML		22 47 43.5	
	comp=E,76nm,0.7s						
O18K				IAML		22 47 45.2	
	comp=N,70nm,0.6s						
O18K	**Koktuh Hills**	**3.99**	**212**	P	**Pn**	**22 46 37.0**	**+0.7**
	baz=28						
I26K	**Coal Creek Min**	**3.99**	**56**		**Pn**	**22 46 36.5**	**+0.2**
I26K				IAML		22 47 43.7	
	comp=N,86nm,0.5s						
I26K				IAML		22 47 53.5	
	comp=E,74nm,1.1s						
GOAT	**Goat Mountain**	**4.05**	**130**		**Pn**	**22 46 38.0**	**+0.8**
G25K	**Bearman Lake**	**4.06**	**29**	P	**Pn**	**22 46 37.3**	**0.0**
	baz=214						
F21K	**Alatna River**	**4.07**	**347**	P	**Pn**	**22 46 38.4**	**+1.0**
	baz=164						
K27K	**Chicken**	**4.07**	**76**		**Pn**	**22 46 37.7**	**+0.3**
K27K				IAML		22 47 44.0	
	comp=N,61nm,0.6s						
FYU	**Fort Yukon**	**4.11**	**35**		**Pn**	**22 46 37.9**	**0.0**
FYU				IAML		22 47 52.3	
	comp=N,54nm,0.6s						
FYU				IAML		22 48 01.3	
	comp=E,59nm,1.6s						
VRDI	**Verde Repeater**	**4.12**	**117**		**Pn**	**22 46 39.7**	**+1.4**
VRDI	**Verde Repeater**	**4.12**	**117**	IAML		22 47 45.8	
	comp=N,41nm,1.1s						
L27K	**Beaver Creek,**	**4.19**	**89**		**Pn**	**22 46 39.2**	**+0.1**
BCAR	**Beaver Creek A**	**4.21**	**89**	Pn	**Pn**	**22 46 40.0**	**+0.6**
MCARA	**McCarthy VSAT**	**4.21**	**114**		**Pn**	**22 46 41.6**	**+2.2**
MCARA	**McCarthy VSAT**	**4.21**	**114**	P	**Pn**	**22 46 41.1**	**+1.7**
	baz=301						
M27K	**Edge Creek, AK**	**4.32**	**99**		**Pn**	**22 46 42.6**	**+1.7**
M27K				IAML		22 47 59.7	
	comp=N,40nm,0.9s						
M27K	**Edge Creek, AK**	**4.32**	**99**	P	**Pn**	**22 46 42.7**	**+1.7**
	baz=287						
P18K	**Big Mountain,**	**4.41**	**209**	P	**Pn**	**22 46 42.7**	**+0.6**
	baz=25						
F24K	**Squaw Lake**	**4.44**	**16**	P	**Pn**	**22 46 43.0**	**+0.5**
	baz=199						
EGAK	**Eagle**	**4.60**	**67**		**Pn**	**22 46 44.4**	**-0.3**
BALM	**Baldy**	**4.68**	**115**		**Pn**	**22 46 47.1**	**+1.3**
I27K	**Kandik River**	**4.70**	**56**	P	**Pn**	**22 46 47.0**	**+0.9**
	baz=245						
KIAG	**Kiagna River**	**4.73**	**116**		**Pn**	**22 46 47.7**	**+1.0**
Q20K	**Shuyak Island**	**4.75**	**188**	P	**Pn**	**22 46 48.2**	**+1.4**
	baz=7.3						
WAX	**Waxell Ridge**	**4.83**	**123**	Pn	**Pn**	**22 46 46.7**	**-1.1**
F25K	**Christian Rive**	**4.86**	**25**	P	**Pn**	**22 46 49.1**	**+0.7**
	baz=210						
P17K	**Kvichak River**	**4.87**	**215**	P	**Pn**	**22 46 49.4**	**+1.0**
	baz=30						
BARN	**Barnard Glacie**	**4.95**	**113**		**Pn**	**22 46 51.6**	**+2.0**
BARN	**Barnard Glacie**	**4.95**	**113**	IAML		22 47 56.8	
	comp=N,25nm,1.8s						
BMAR	**Burnt Mountain**	**4.95**	**30**	Pn	**Pn**	**22 46 50.1**	**+0.6**
Q18K	**Katmai Hardscr**	**5.05**	**204**	P	**Pn**	**22 46 52.1**	**+1.2**
	baz=21						
YUK3	**Moose Creek**	**5.14**	**103**	P	**Pn**	**22 46 54.9**	**+2.6**
	baz=292						
DAWY	**Dawson**	**5.25**	**76**	Pn	**Pn**	**22 46 53.7**	**0.0**
DAWY				IAML		22 48 26.3	
	comp=E,29nm,0.6s						
DAWY				IAML		22 48 33.5	
	comp=N,33nm,0.9s						
DAWY	**Dawson**	**5.25**	**76**	P	**Pn**	**22 46 54.1**	**+0.5**
	baz=267						
G27K	**Doyon Strip**	**5.31**	**44**	P	**Pn**	**22 46 54.1**	**-0.4**
	baz=233						
TOLK	**Toolik Lake Re**	**5.40**	**6**	P	**Pn**	**22 46 57.5**	**+1.9**
	baz=187						
I29M	**Ogilvie Camp,**	**5.92**	**64**		**Pn**	**22 47 03.0**	**+0.2**
PCA	**Pinnacle**	**6.06**	**117**		**Pn**	**22 47 06.4**	**+1.6**
PINM	**Pinnacle**	**6.06**	**117**	P	**Pn**	**22 47 06.4**	**+1.5**
	baz=307						

*IDC **06** 22:45:58.1±1.2, 35.°91S×99.°32W, h0km, mb3.9/6, mbtmp3.9/6, MS3.8/28, Error ellipse: s-maj=34.5km s-min=30.2km az=109.0*

ISC 06 22:45:59.7±1.1**, 35.°9S**±0.°2×**99.°3W**±0.°3**, h10km, n41, σ0.s57**/7**, mb3.9**/6**, MS3.9**/27**, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**12.25**	**313**	LR	LR	22 52 03.4	
	comp=Z,704nm,20.8s,baz=156,slow=30						
H03S2	**Juan Fernandez**	**16.85**	**89**	T	T	23 07 56.9	
	baz=254,slow=75,SNR=95						
H03S1	**Juan Fernandez**	**16.86**	**89**	T	T	23 07 58.0	
	baz=254,slow=75,SNR=66						
H03S3	**Juan Fernandez**	**16.86**	**89**	T	T	23 07 56.8	
	baz=254,slow=75,SNR=62						
H03N2	**Juan Fernandez**	**16.93**	**87**	T	T	23 07 59.3	
	baz=248,slow=72,SNR=10						
H03N3	**Juan Fernandez**	**16.94**	**88**	T	T	23 08 00.5	
	baz=248,slow=72,SNR=9.6						
H03N1	**Juan Fernandez**	**16.95**	**88**	T	T	23 08 00.9	
	baz=248,slow=72,SNR=13						
PLCA	**Paso Flores**	**23.00**	**111**	LR	LR	22 57 53.4	
	comp=Z,121nm,20.8s,baz=274,slow=31						
NNA	**Nana**	**31.30**	**46**	LR	LR	23 02 14.2	
	comp=Z,120nm,18.6s,baz=196,slow=31						
LPAZ	**La Paz**	**33.92**	**63**	P	**P**	**22 52 44.6**	**+0.8**
	1.6nm,0.9s,baz=220,slow=11,SNR=4.3						
LPAZ				LR	LR	23 03 23.1	
	comp=Z,96nm,19.9s,baz=288,slow=31						
	1.6nm,0.9s						
ATAH	**Atahualpa**	**34.46**	**39**	LR	LR	23 03 30.0	
	comp=Z,183nm,20.9s,baz=219,slow=30						
PMSA	**Palmer Station**	**35.72**	**155**	LR	LR	23 03 08.2	
	comp=Z,202nm,20.7s,baz=282,slow=29						
CPUP	**Villa Florida**	**36.94**	**87**	LR	LR	23 07 25.5	
	comp=Z,50nm,18.3s,baz=243,slow=35						
SIV	**San Ignacio**	**39.36**	**70**	P	**P**	**22 53 28.8**	**-0.7**
	1.2nm,0.6s,baz=242,slow=9.6,SNR=5.8						
SIV				LR	LR	23 07 54.8	
	comp=Z,64nm,21.4s,baz=262,slow=33						
	1.2nm,0.6s						
ROSC	**El Rosal**	**46.83**	**35**	LR	LR	23 12 16.2	
	comp=Z,137nm,18.4s,baz=226,slow=34						
BDFB	**Brasilia**	**49.79**	**80**	LR	LR	23 14 16.9	
	comp=Z,57nm,18.9s,baz=162,slow=34						
SDV	**Santo Domingo**	**52.12**	**37**	LR	LR	23 16 26.6	
	comp=Z,82nm,18.4s,baz=161,slow=35						
CMIG	**Matias Romero**	**52.90**	**5**	LR	LR	23 12 00.9	
	comp=Z,42nm,18.4s,baz=186,slow=30						
PCRV	**Puerto La Cruz**	**56.31**	**42**	LR	LR	23 18 41.0	
	comp=Z,236nm,18.1s,slow=35						
VNDA	**Vanda**	**57.11**	**195**	P	**P**	**22 55 45.8**	**+0.1**
	1.0nm,0.8s,baz=98,slow=6.7,SNR=4.5						
VNDA				LR	LR	23 13 45.4	
	comp=Z,79nm,20.8s,baz=326,slow=29						
	1.0nm,0.8s						
SNAA	**Sanae**	**58.31**	**158**	LR	LR	23 16 20.4	
	comp=Z,101nm,20.5s,baz=190,slow=31						
MDP	**Montagnes des**	**59.78**	**57**	LR	LR	23 19 21.4	
	comp=Z,138nm,20.3s,baz=231,slow=34						
URZ	**Urewera**	**64.43**	**240**	LR	LR	23 17 25.0	
	comp=Z,89nm,18.6s,baz=310,slow=29						
TXAR	**Lajitas Array**	**65.05**	**356**	P	**P**	**22 56 39.9**	**-0.3**
	1.1nm,1.0s,baz=171,slow=8.4,SNR=6.3						
	1.1nm,1.0s						
RCBR	**Riachuelo**	**65.13**	**79**	LR	LR	23 22 29.3	
	comp=Z,50nm,19.2s,baz=344,slow=34						
RPZ	**Rata Peaks**	**66.05**	**233**	LR	LR	23 17 58.9	
	comp=Z,94nm,21.2s,baz=83,slow=29						
TKL	**Tuckaleechee C**	**72.68**	**13**	LR	LR	23 26 26.8	
	comp=Z,26nm,21.0s,baz=174,slow=33						
NVAR	**Mina Array Bea**	**76.05**	**345**	P	**P**	**22 57 47.6**	**+0.3**
	1.3nm,0.7s,baz=181,slow=7.0,SNR=9.8						
	1.3nm,0.7s						
ELK	**Elko**	**77.70**	**348**	LR	LR	23 25 48.7	
	comp=Z,75nm,19.9s,baz=290,slow=31						
PDAR	**Pinedale Array**	**78.88**	**352**	P	**P**	**22 58 03.1**	**0.0**
	1.1nm,0.8s,baz=142,slow=7.4,SNR=6.1						
	1.1nm,0.8s						
YBH	**Yreka Blue Hor**	**80.21**	**342**	LR	LR	23 25 44.2	
	comp=Z,55nm,21.3s,baz=225,slow=30						
STKA	**Stephens Creek**	**91.65**	**228**	LR	LR	23 34 22.4	
	comp=Z,155nm,18.4s,baz=318,slow=32						
SUR	**Sutherland**	**91.90**	**133**	LR	LR	23 36 05.2	
	comp=Z,42nm,18.6s,baz=142,slow=33						
BBTS	**Babate**	**92.75**	**74**	LR	LR	23 36 22.2	
	comp=Z,34nm,20.5s,baz=146,slow=33						
SCHQ	**Schefferville**	**94.61**	**18**	LR	LR	23 38 06.1	
	comp=Z,51nm,18.7s,baz=236,slow=33						
CTA	**Charters Tower**	**96.67**	**239**	LR	LR	23 35 51.3	
	comp=Z,100nm,19.4s,baz=264,slow=31						
BOSA	**Boshof**	**97.26**	**133**	LR	LR	23 39 44.8	
	comp=Z,42nm,19.1s,baz=172,slow=33						
H01W1	**Cape Leeuwin H**	**102.94**	**208**	T	T	00 54 53.2	
	baz=151,slow=76,SNR=4.6						
H01W2	**Cape Leeuwin H**	**102.94**	**208**	T	T	00 54 56.9	
	baz=151,slow=76,SNR=4.5						
H01W3	**Cape Leeuwin H**	**102.96**	**208**	T	T	00 54 58.7	
	baz=151,slow=76,SNR=5.1						
BRTR	**Keskin Array B**	**142.97**	**70**	PKP	**PKPdf**	**23 05 33.8**	**+0.1**
	0.6nm,0.9s,baz=134,slow=3.1,SNR=4.2						

*IDC **06** 23:11:10.6±1.1, 8.°79S×105.°71E, h0km, mb3.8/8, mbtmp3.9/9, ML4.7/1, Error ellipse: s-maj=32.8km s-min=18.2km az=50.0*

ISC 06 23:11:11.8±0.8**, 8.°82S**±0.°07×**105.°70E**±0.°08**, h10km, n23, σ0.s67**/17**, mb3.8**/8**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.62**	**180**	P	**Pn**	**23 11 40.1**	**-0.4**
BBJI	**Bungbulang**	**2.35**	**55**	P	Pn	23 11 48.3	-2.3
LEM	**Lembang**	**2.74**	**44**	Pn	**Pn**	**23 11 56.1**	**+0.1**
	131nm,0.3s,baz=252,slow=20,SNR=43						
LEM				Sn	**Sn**	**23 12 29.7**	**+0.4**
	54nm,0.3s,baz=269,slow=23,SNR=12						
	258nm,0.3s						
UGM	**Wanagama**	**4.86**	**80**	P	**Pn**	**23 12 23.8**	**-1.2**
MNAI	**Manna**	**5.20**	**328**	P	**Pn**	**23 12 28.7**	**-1.0**
JAGI	**Jajag, Banyuwa**	**8.36**	**88**	P	**Pn**	**23 13 12.9**	**-0.3**
PLAI	**Plampang**	**11.93**	**91**	P	**Pn**	**23 14 00.7**	**-1.5**
	34nm,1.1s						
H01W3	**Cape Leeuwin H**	**27.07**	**165**	T	T	23 45 18.3	
	baz=344						
H01W1	**Cape Leeuwin H**	**27.09**	**165**	T	T	23 45 24.2	
	baz=344						
H01W2	**Cape Leeuwin H**	**27.09**	**165**	T	T	23 45 23.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=344						
CMAR	**Chiang Mai Arr**	**27.91**	**346**	P	**P**	**23 17 02.3**	**0.0**
	0.5nm,0.3s,baz=179,slow=8.0,SNR=6.1						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**29.81**	**115**	P	**P**	**23 17 19.1**	**-0.2**
	1.1nm,0.7s,baz=289,slow=11,SNR=19						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**30.75**	**122**	P	**P**	**23 17 28.0**	**+0.4**
	0.3nm,0.4s,baz=304,slow=8.9,SNR=4.5						
	0.3nm,0.4s						
H08S2	**Diego Garcia H**	**32.88**	**270**	T	T	23 52 38.1	
	baz=94,slow=74,SNR=10.0						
H08S3	**Diego Garcia H**	**32.89**	**270**	T	T	23 52 40.4	
	baz=94,slow=74,SNR=9.2						
H08S1	**Diego Carcia H**	**32.90**	**270**	T	T	23 52 39.2	
	baz=94,slow=74,SNR=6.2						
STKA	**Stephens Creek**	**40.43**	**130**	P	**P**	**23 18 51.0**	**+0.4**
	1.7nm,0.5s,baz=306,slow=8.7,SNR=3.6						
	1.7nm,0.5s						
SONM	**Songino Array**	**56.41**	**1**	P	**P**	**23 20 53.6**	**+0.1**
	0.3nm,0.5s,baz=157,slow=7.8,SNR=1.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.17**	**341**	P	**P**	**23 21 13.2**	**+0.3**
	0.8nm,0.6s,baz=166,slow=7.3,SNR=8.5						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**64.98**	**347**	P	**P**	**23 21 51.7**	**0.0**
	0.6nm,0.4s,baz=168,slow=5.6,SNR=4.2						
	0.6nm,0.4s						
BRTR	**Keskin Array B**	**82.08**	**312**	P	**P**	**23 23 33.2**	**+0.3**
	0.6nm,0.7s,baz=116,slow=5.7,SNR=5.2						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**145.72**	**49**	PKPbc	**PKPdf**	**23 30 52.2**	**+0.7**
	0.2nm,0.4s,baz=335,slow=4.0,SNR=3.3						
TKL	**Tuckaleechee C**	**151.92**	**17**	PKPbc	**PKPbc**	**23 31 08.1**	**+0.4**
	2.5nm,0.9s,baz=142,slow=3.5,SNR=5.1						

*IDC **06** 23:57:53.7±1.9, 59°.93N×153°.21W, h78km±29km, mb3.3/3, mbtmp3.6/8, Error ellipse: s-maj=34.2km s-min=10.6km az=107.0*

*NEIC **06** 23:57:54.8±1.1, 59°.84N±0°.05×152°.93W±0°.09, h115km±5km, Error ellipse: s-maj=7.4km s-min=6.5km az=165.0*

*AEIC **06** 23:57:56.3±1.1, 59°.87N±0°.04×152°.91W±0°.09, h105km±6km, ML3.1, ML3.2/118(NEIC), Error ellipse: s-maj=6.4km s-min=6.3km az=82.0*

ISC 06 23:57:55.5±0.9**, 59°.87N**±0°.04×**152°.90W**±0°.05**, h108km**±6km**, n181,** σ0s**72**/184**, mb3.5**/3**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.16**	**313**	IAML		23 58 01.8	
	comp=N,11nm,4.3s						
ILSW				IAML		23 58 03.4	
	comp=E,11nm,2.1s						
ILSW					**Pn**	**23 58 10.1**	**-0.7**
O20K	**Slope Mountain**	**0.25**	**34**	P	**Pn**	**23 58 10.9**	**0.0**
	baz=214						
O20K				S	**Sn**	**23 58 23.0**	**+0.4**
	baz=214						
OPT	**Oil Point**	**0.28**	**217**	P	**Pn**	**23 58 10.9**	**-0.1**
	baz=36						
P19K	**Oil Pt**	**0.28**	**217**	Pn	**Pn**	**23 58 10.8**	**-0.2**
P19K	**Oil Pt**	**0.28**	**217**	P	**Pn**	**23 58 10.8**	**-0.2**
	baz=36						
P19K				S	**Sn**	**23 58 22.5**	**-0.1**
	baz=36						
RSO	**Redoubt South**	**0.60**	**7**		**Pn**	**23 58 13.0**	**-0.1**
HOM	**Homer**	**0.67**	**108**		**Pn**	**23 58 13.5**	**+0.2**
HOM				IAML		23 58 28.9	
	comp=E,798nm,0.2s						
HOM				IAML		23 58 29.3	
	comp=N,933nm,0.8s						
HOM	**Homer**	**0.67**	**108**	P	**Pn**	**23 58 13.6**	**+0.2**
	baz=289						
RDJH	**Redoubt Jeurge**	**0.72**	**4**		**Pn**	**23 58 13.8**	**-0.2**
O19K	**Port Alsworth**	**0.78**	**295**		**Pn**	**23 58 14.2**	**-0.1**
O19K				IAML		23 58 28.6	
	comp=E,733nm,0.5s						
O19K				IAML		23 58 28.7	
	comp=N,845nm,0.4s						
O19K	**Port Alsworth**	**0.78**	**295**	P	**Pn**	**23 58 14.2**	**-0.1**
	baz=114						
O19K				S	**Sn**	**23 58 28.0**	**-0.6**
	baz=114						
CNPM	**China Poot**	**0.91**	**112**		**Pn**	**23 58 15.7**	**0.0**
CNPM				IAML		23 58 31.0	
	comp=E,1μm,0.5s						
CNPM	**China Poot**	**0.91**	**112**		**Sn**	**23 58 30.6**	**-0.3**
Q19K	**Cape Douglas,**	**1.02**	**202**		**Pn**	**23 58 16.5**	**-0.3**
Q19K				IAML		23 58 35.8	
	comp=N,332nm,0.9s						
Q19K				IAML		23 58 36.5	
	comp=E,369nm,0.6s						
Q19K	**Cape Douglas,**	**1.02**	**202**	P	**Pn**	**23 58 16.4**	**-0.3**
	baz=21						
BRLK	**Bradley Lake**	**1.02**	**95**		**Pn**	**23 58 16.7**	**-0.1**
BRLK				IAML		23 58 33.7	
	comp=N,826nm,0.2s						
BRLK	**Bradley Lake**	**1.02**	**95**		**Sn**	**23 58 32.5**	**-0.4**
BRSE	**Bradley Lake S**	**1.10**	**96**		**Pn**	**23 58 17.5**	**-0.1**
BRSE	**Bradley Lake S**	**1.10**	**96**	P	**Pn**	**23 58 17.5**	**-0.1**
	baz=278						
O18K	**Koktuh Hills**	**1.16**	**270**	Pn	**Pn**	**23 58 18.2**	**-0.1**
O18K	**Koktuh Hills**	**1.16**	**270**	P	**Pn**	**23 58 18.1**	**-0.1**
	baz=88						
N19K	**Bonanza Creek**	**1.23**	**321**	Pn	**Pn**	**23 58 19.0**	**-0.1**
N19K	**Bonanza Creek**	**1.23**	**321**	P	**Pn**	**23 58 18.9**	**-0.1**
	baz=140						
N19K				S	**Sn**	**23 58 36.2**	**-0.8**
	baz=140						
CAPN	**Captain Cook N**	**1.25**	**43**	Pn	**Pn**	**23 58 20.1**	**+0.9**
CAPN	**Captain Cook N**	**1.25**	**43**	P	**Pn**	**23 58 21.1**	**+1.9**
	baz=225						
P18K	**Big Mountain,**	**1.27**	**249**	Pn	**Pn**	**23 58 19.1**	**-0.5**
P18K	**Big Mountain,**	**1.27**	**249**	P	**Pn**	**23 58 19.1**	**-0.5**
	baz=67						
Q20K	**Shuyak Island**	**1.29**	**168**	P	**Pn**	**23 58 19.6**	**-0.1**
	baz=348						
N20K	**Mount Spurr**	**1.38**	**14**	P	**Pn**	**23 58 20.7**	**0.0**
	baz=195						
SPCR	**Spurr Chakacha**	**1.38**	**14**	P	**Pn**	**23 58 20.8**	**0.0**
	baz=195						
SPU	**Mount Spurr**	**1.38**	**17**		**Pn**	**23 58 20.8**	**0.0**
SLKM	**Skilak Lake**	**1.48**	**63**		**Pn**	**23 58 21.6**	**-0.4**
KAHC	**Katmai Hardscr**	**1.64**	**222**	P	**Pn**	**23 58 24.0**	**+0.1**
	baz=40						
Q18K	**Katmai Hardscr**	**1.64**	**222**	P	**Pn**	**23 58 23.9**	**0.0**
	baz=40						
N18K	**Kilae Creek**	**1.69**	**300**		**Pn**	**23 58 24.3**	**-0.2**
N18K	**Kilae Creek**	**1.69**	**300**	P	**Pn**	**23 58 24.4**	**-0.2**
	baz=117						
O22K	**Cooper Landing**	**1.70**	**68**		**Pn**	**23 58 24.7**	**+0.1**
O22K	**Cooper Landing**	**1.70**	**68**	P	**Pn**	**23 58 24.6**	**+0.1**
	baz=250						
SEW	**Seward**	**1.75**	**81**		**Pn**	**23 58 24.9**	**-0.3**
SEW	**Seward**	**1.75**	**81**	P	**Pn**	**23 58 24.9**	**-0.3**
	baz=264						
SVW2	**Sparrevohn**	**1.81**	**314**		**Pn**	**23 58 25.5**	**-0.4**
SUA	**Susitna One**	**1.92**	**33**		**Pn**	**23 58 27.7**	**+0.3**
SUA				IAML		23 58 54.3	
	comp=N,218nm,0.8s						
RC01	**Rabbit Creek A**	**1.99**	**51**		**Pn**	**23 58 28.2**	**0.0**
RC01	**Rabbit Creek A**	**1.99**	**51**	P	**Pn**	**23 58 28.1**	**0.0**
	baz=234						
M20K	**Styx River**	**2.02**	**357**		**Pn**	**23 58 29.0**	**+0.3**
KDAK	**Kodiak Island**	**2.10**	**175**	P	**Pn**	**23 58 28.7**	**-1.0**
	comp=N,57nm,0.3s,baz=8.1,slow=13,SNR=184						
KDAK				S	**Sn**	**23 58 54.3**	**-1.5**
	comp=N,31nm,0.3s,baz=88,slow=20,SNR=13						
KDAK	**Kodiak Island**	**2.10**	**175**	Pn	**Pn**	**23 58 28.7**	**-1.0**
KDAK				IAML		23 58 55.2	
	comp=N,92nm,0.5s						
KDAK				IAML		23 59 02.9	
	comp=N,93nm,0.5s						
M19K	**Big River Lodg**	**2.17**	**341**		**Pn**	**23 58 30.5**	**+0.1**
SKT	**Skwentna**	**2.22**	**17**		**Pn**	**23 58 31.1**	**-0.1**
SKT	**Skwentna**	**2.22**	**17**	P	**Pn**	**23 58 31.1**	**-0.1**
	baz=198						
Q17K	**Contact Creek**	**2.23**	**225**	P	**Pn**	**23 58 31.6**	**+0.2**
	baz=42						
M22K	**Willow**	**2.33**	**35**		**Pn**	**23 58 32.9**	**+0.4**
M22K	**Willow**	**2.33**	**35**	P	**Pn**	**23 58 33.0**	**+0.4**
	baz=217						
PWL	**Port Wells**	**2.48**	**64**		**Pn**	**23 58 34.3**	**-0.2**
PWL				IAML		23 59 04.1	
	comp=E,181nm,0.5s						
PWL	**Port Wells**	**2.48**	**64**	P	**Pn**	**23 58 33.8**	**-0.7**
	baz=248						
L19K	**White Mountain**	**2.50**	**339**	Pn	**Pn**	**23 58 34.8**	**-0.1**
PMR	**Palmer**	**2.53**	**45**		**Pn**	**23 58 34.4**	**-0.8**
PMR				IAML		23 59 04.2	
	comp=E,76nm,0.2s						
PMR				IAML		23 59 06.3	
	comp=N,98nm,0.3s						
PMR	**Palmer**	**2.53**	**45**	P	**Pn**	**23 58 34.2**	**-0.9**
	baz=229						
OHAK	**Old Harbor**	**2.67**	**184**	Pn	**Pn**	**23 58 35.8**	**-1.1**
OHAK				IAML		23 59 08.2	
	comp=E,90nm,0.5s						
OHAK				IAML		23 59 16.2	
	comp=N,87nm,3.0s						
OHAK	**Old Harbor**	**2.67**	**184**	P	**Pn**	**23 58 35.8**	**-1.1**
	baz=4.1						
KNK	**Knik Glacier**	**2.68**	**53**		**Pn**	**23 58 36.4**	**-0.9**
KNK				IAML		23 59 07.7	
	comp=N,166nm,0.6s						
KNK	**Knik Glacier**	**2.68**	**53**	P	**Pn**	**23 58 36.3**	**-0.9**
	baz=237						
GHO	**Glory Hole Cre**	**2.73**	**44**		**Pn**	**23 58 36.7**	**-1.1**
GHO				IAML		23 59 12.9	
	comp=E,144nm,0.4s						
GHO				IAML		23 59 13.2	
	comp=N,123nm,0.4s						
SML	**Sawmill**	**2.96**	**47**		**Pn**	**23 58 39.9**	**-1.0**
SML				IAML		23 59 15.6	
	comp=E,70nm,0.9s						
SML				IAML		23 59 15.8	
	comp=N,78nm,0.5s						
SML	**Sawmill**	**2.96**	**47**	P	**Pn**	**23 58 40.0**	**-0.9**
	baz=231						
PPLA	**Purkeypile**	**3.06**	**6**		**Pn**	**23 58 42.2**	**0.0**
PPLA	**Purkeypile**	**3.06**	**6**	P	**Pn**	**23 58 43.1**	**+0.9**
	baz=187						
M23K	**Glacier View**	**3.19**	**51**	P	**Pn**	**23 58 43.0**	**-0.8**
	baz=235						
SCM	**Sheep Creek Mo**	**3.36**	**52**	Pn	**Pn**	**23 58 45.3**	**-1.0**
SCM				IAML		23 59 26.9	
	comp=E,86nm,0.2s						
SCM				IAML		23 59 31.1	
	comp=N,73nm,0.7s						
SCM	**Sheep Creek Mo**	**3.36**	**52**	P	**Pn**	**23 58 45.6**	**-0.6**
	baz=237						
SII	**Sitkinak Islan**	**3.39**	**192**	Pn	**Pn**	**23 58 46.3**	**-0.3**
TTA	**Tatalina**	**3.41**	**335**	Pn	**Pn**	**23 58 46.4**	**-0.5**
TTA	**Tatalina**	**3.41**	**335**	P	**Pn**	**23 58 46.4**	**-0.5**
	baz=153						
K20K	**Telida**	**3.54**	**351**		**Pn**	**23 58 48.9**	**+0.3**
K20K	**Telida**	**3.54**	**351**	P	**Pn**	**23 58 48.8**	**+0.3**
	baz=170						
CAST	**Castle Rocks**	**3.58**	**6**		**Pn**	**23 58 49.2**	**+0.1**
CAST	**Castle Rocks**	**3.58**	**6**	P	**Pn**	**23 58 48.9**	**-0.2**
	baz=187						
WAT1	**Susitna Watana**	**3.63**	**33**	P	**Pn**	**23 58 49.3**	**-0.5**
	baz=217						
WAT6	**Susitna Watana**	**3.69**	**40**		**Pn**	**23 58 49.9**	**-0.8**
WAT6	**Susitna Watana**	**3.69**	**40**	P	**Pn**	**23 58 49.9**	**-0.8**
	baz=225						
DIV	**Divide**	**3.75**	**67**	Pn	**Pn**	**23 58 51.6**	**+0.2**
KLU	**Klutina**	**3.80**	**62**		**Pn**	**23 58 51.2**	**-0.8**
KLU				IAML		23 59 35.0	
	comp=E,61nm,0.3s						
KLU	**Klutina**	**3.80**	**62**	P	**Pn**	**23 58 51.0**	**-1.0**
	baz=248						
TRF	**Thorofare Moun**	**3.80**	**18**		**Pn**	**23 58 52.3**	**+0.1**
TRF				IAML		23 59 58.8	
	comp=E,28nm,2.9s						
TRF				IAML		00 00 03.5	
	comp=N,28nm,3.2s						
TRF	**Thorofare Moun**	**3.80**	**18**	P	**Pn**	**23 58 51.7**	**-0.5**
	baz=200						
KTH	**Kantishna Hill**	**3.81**	**13**		**Pn**	**23 58 51.9**	**-0.4**
KTH				IAML		00 00 09.3	
	comp=N,20nm,1.2s						
KTH				IAML		00 00 27.6	
	comp=E,19nm,3.7s						
M24K	**Tolsona, Glenn**	**3.97**	**53**	Pn	**Pn**	**23 58 54.2**	**-0.1**
M24K	**Tolsona, Glenn**	**3.97**	**53**	P	**Pn**	**23 58 53.9**	**-0.5**
	baz=239						
CHUM	**Lake Minchumin**	**4.04**	**4**		**Pn**	**23 58 55.2**	**0.0**
RND	**Reindeer**	**4.04**	**27**		**Pn**	**23 58 55.2**	**-0.1**
RND				IAML		23 59 48.1	
	comp=E,14nm,0.8s						
GOAT	**Goat Mountain**	**4.14**	**77**		**Pn**	**23 58 55.7**	**-0.9**
DHY	**Denali Highway**	**4.17**	**37**	IAML		23 59 45.1	
	comp=E,32nm,0.2s						
DHY				IAML		23 59 45.6	
	comp=N,29nm,0.3s						
DHY	**Denali Highway**	**4.17**	**37**	P	**Pn**	**23 58 56.5**	**-0.6**
	baz=222						
BMRM	**Bremner River**	**4.26**	**71**	Pn	**Pn**	**23 58 58.1**	**-0.1**
BMRM	**Bremner River**	**4.26**	**71**	P	**Pn**	**23 58 57.5**	**-0.7**
	baz=259						
KAIM	**Kayak Island**	**4.27**	**86**	Pn	**Pn**	**23 58 57.1**	**-1.3**
MCK	**McKinley**	**4.31**	**24**		**Pn**	**23 58 59.0**	**+0.2**
MCK	**McKinley**	**4.31**	**24**	IAML		23 59 44.3	
	comp=E,16nm,4.8s						
MCK				IAML		00 00 30.4	
	comp=N,21nm,4.0s						
MCK	**McKinley**	**4.31**	**24**	P	**Pn**	**23 58 59.0**	**+0.2**
	baz=208						
BPAW	**Bear Paw Mtn.**	**4.34**	**11**	Pn	**Pn**	**23 58 58.8**	**-0.5**
BPAW				IAML		00 00 19.7	
	comp=N,11nm,2.6s						
BPAW				IAML		00 01 16.9	
	comp=E,15nm,4.2s						
BPAW	**Bear Paw Mtn.**	**4.34**	**11**	P	**Pn**	**23 58 58.5**	**-0.8**
	baz=193						
J20K	**Nowinta River**	**4.36**	**353**	Pn	**Pn**	**23 58 59.9**	**+0.4**
J20K				IAML		23 59 37.3	
	comp=N,12nm,3.0s						
J20K				IAML		00 00 09.9	
	comp=E,14nm,4.1s						
N25K	**Chitina, Valde**	**4.43**	**63**	Pn	**Pn**	**23 58 59.9**	**-0.7**
N25K				IAML		00 00 05.1	
	comp=N,24nm,2.8s						
N25K				IAML		00 00 21.6	
	comp=E,19nm,3.1s						
N25K	**Chitina, Valde**	**4.43**	**63**	P	**Pn**	**23 58 59.8**	**-0.7**
	baz=251						
BWN	**Browne**	**4.61**	**19**		**Pn**	**23 59 03.3**	**+0.4**
BWN				IAML		00 00 24.8	
	comp=N,34nm,2.7s						
BWN				IAML		00 01 12.4	
	comp=E,29nm,3.0s						
BERG	**Berg Lake**	**4.63**	**80**	Pn	**Pn**	**23 59 03.7**	**+0.5**
PAX	**Paxson**	**4.73**	**46**		**Pn**	**23 59 04.5**	**-0.2**
PAX	**Paxson**	**4.73**	**46**	P	**Pn**	**23 59 04.2**	**-0.4**
	baz=232						
GLB	**Gilahina Butte**	**4.74**	**67**	Pn	**Pn**	**23 59 05.0**	**+0.3**
GLB				IAML		23 59 58.8	
	comp=N,28nm,0.8s						
GLB				IAML		00 00 58.0	
	comp=E,18nm,3.2s						
VRDI	**Verde Repeater**	**4.86**	**70**	Pn	**Pn**	**23 59 06.4**	**-0.1**
VRDI				IAML		23 59 57.5	
	comp=N,21nm,3.4s						
VRDI				IAML		00 00 19.6	
	comp=E,14nm,3.6s						
WAX	**Waxell Ridge**	**5.05**	**79**	Pn	**Pn**	**23 59 09.5**	**+0.5**
SNH	**Sunshine Point**	**5.06**	**82**	Pn	**Pn**	**23 59 09.8**	**+0.8**
NEA2	**Nenana**	**5.07**	**19**		**Pn**	**23 59 08.5**	**-0.6**
NEA2				IAML		00 00 29.1	
	comp=N,8.1nm,4.3s						
NEA2				IAML		00 00 30.4	
	comp=E,12nm,4.5s						
NEA2	**Nenana**	**5.07**	**19**	P	**Pn**	**23 59 08.2**	**-0.9**
	baz=202						
MCARA	**McCarthy VSAT**	**5.10**	**68**	Pn	**Pn**	**23 59 09.8**	**+0.3**
MCARA				IAML		00 00 09.3	
	comp=E,25nm,0.6s						
WRH	**Wood River Hil**	**5.14**	**24**		**Pn**	**23 59 09.6**	**-0.4**
WRH				IAML		00 00 59.6	
	comp=N,11nm,4.0s						
WRH				IAML		00 02 09.4	
	comp=E,14nm,4.2s						
K24K	**Donnelly Dome**	**5.19**	**37**	P	**Pn**	**23 59 11.7**	**+0.9**
	baz=224						
MLY	**Manley**	**5.28**	**10**		**Pn**	**23 59 11.6**	**-0.3**
MLY				IAML		00 01 16.8	
	comp=N,13nm,4.9s						
MLY				IAML		00 01 52.6	
	comp=E,9.9nm,4.8s						
MLY	**Manley**	**5.28**	**10**	P	**Pn**	**23 59 11.3**	**-0.6**
	baz=192						
ISLE	**Juniper Island**	**5.32**	**78**	Pn	**Pn**	**23 59 11.2**	**-1.4**
KIAG	**Kiagna River**	**5.33**	**74**		**Pn**	**23 59 12.8**	**0.0**
HDA	**Harding Lake**	**5.34**	**29**		**Pn**	**23 59 12.1**	**-0.6**
HDA				IAML		00 00 13.1	
	comp=N,17nm,0.8s						
HDA	**Harding Lake**	**5.34**	**29**	P	**Pn**	**23 59 12.0**	**-0.8**
	baz=214						
I21K	**Tanana**	**5.35**	**4**	Pn	**Pn**	**23 59 13.0**	**+0.3**
I21K				IAML		00 00 54.4	
	comp=E,17nm,3.4s						
I21K				IAML		00 02 16.3	
	comp=N,19nm,3.9s						
CCB	**Clear Creek Bu**	**5.35**	**24**	IAML		00 00 14.7	
	comp=E,9.0nm,4.1s						
CCB				IAML		00 01 13.3	
	comp=N,8.3nm,4.4s						
BALM	**Baldy**	**5.36**	**73**		**Pn**	**23 59 12.8**	**-0.2**
MENT	**Mentasta**	**5.38**	**51**		**Pn**	**23 59 12.3**	**-1.0**
MENT				IAML		00 00 29.9	
	comp=E,18nm,1.2s						
MENT				IAML		00 00 30.1	
	comp=N,18nm,0.8s						
M26K	**Nabesna, AK**	**5.43**	**58**	Pn	**Pn**	**23 59 15.0**	**+1.0**
RIDG	**Independent Ri**	**5.44**	**41**		**Pn**	**23 59 14.1**	**-0.1**
RIDG	**Independent Ri**	**5.44**	**41**	P	**Pn**	**23 59 14.0**	**-0.2**
	baz=228						
MESA	**MESA**	**5.50**	**82**	Pn	**Pn**	**23 59 16.2**	**+1.1**
TCOL	**CIGO, UAF Yank**	**5.54**	**23**		**Pn**	**23 59 15.3**	**-0.1**
COLA	**College**	**5.54**	**23**		**Pn**	**23 59 15.3**	**-0.1**
I23K	**Minto, Yukon-K**	**5.54**	**16**		**Pn**	**23 59 15.6**	**+0.1**
I23K	**Minto, Yukon-K**	**5.54**	**16**	P	**Pn**	**23 59 14.7**	**-0.8**
	baz=199						
MDM	**Murphy Dome**	**5.55**	**21**		**Pn**	**23 59 15.1**	**-0.4**
L26K	**Log Cabin Wild**	**5.57**	**51**	Pn	**Pn**	**23 59 16.0**	**+0.2**
YAH	**Yahtse**	**5.60**	**80**	Pn	**Pn**	**23 59 17.5**	**+1.0**
DOT	**Dot Lake**	**5.65**	**44**	Pn	**Pn**	**23 59 16.7**	**-0.3**
ILAR	**Eielson Array**	**5.66**	**27**	P	**Pn**	**23 59 16.4**	**-0.7**
	comp=N,4.7nm,0.5s,baz=219,slow=14,SNR=64						
ILAR				S	**Sn**	**00 00 18.4**	**-2.2**
	comp=N,1.1nm,0.3s,baz=198,slow=18,SNR=5.7						
BARN	**Barnard Glacie**	**5.69**	**73**	Pn	**Pn**	**23 59 18.2**	**+0.6**
POKR	**Poker Plat Res**	**5.84**	**23**	Pn	**Pn**	**23 59 19.4**	**-0.1**
POKR	**Poker Plat Res**	**5.84**	**23**	P	**Pn**	**23 59 18.0**	**-1.5**
	baz=208						
SCRK	**Sand Creek**	**5.89**	**42**		**Pn**	**23 59 18.7**	**-1.6**
SCRK	**Sand Creek**	**5.89**	**42**	P	**Pn**	**23 59 18.7**	**-1.6**
	baz=230						
M27K	**Edge Creek, AK**	**5.90**	**60**	Pn	**Pn**	**23 59 21.4**	**+1.0**
TABL	**Table Mountain**	**5.90**	**79**	Pn	**Pn**	**23 59 21.2**	**+0.6**
J25K	**Salcha River,**	**5.92**	**33**	P	**Pn**	**23 59 19.8**	**-0.8**
	baz=220						
IMAR	**Indian Mountai**	**6.15**	**357**	Pn	**Pn**	**23 59 24.0**	**+0.4**
H23K	**Yukon River**	**6.17**	**13**		**Pn**	**23 59 24.0**	**+0.1**
L27K	**Beaver Creek,**	**6.20**	**54**	Pn	**Pn**	**23 59 24.0**	**-0.4**
BCAR	**Beaver Creek A**	**6.21**	**54**	Pn	**Pn**	**23 59 24.3**	**-0.3**
PCA	**Pinnacle**	**6.35**	**82**	Pn	**Pn**	**23 59 27.4**	**+0.8**
PINM	**Pinnacle**	**6.36**	**83**	P	**Pn**	**23 59 26.9**	**+0.4**
	baz=274						
J26L	**Joseph Creek**	**6.38**	**39**	P	**Pn**	**23 59 26.1**	**-0.7**
	baz=228						
H24K	**Noodor Dome**	**6.41**	**19**	Pn	**Pn**	**23 59 26.5**	**-0.8**
K27K	**Chicken**	**6.59**	**46**	Pn	**Pn**	**23 59 29.2**	**-0.5**
PRP	**Porcupine Dome**	**6.60**	**28**		**Pn**	**23 59 29.5**	**-0.4**
PRP	**Porcupine Dome**	**6.60**	**28**	P	**Pn**	**23 59 29.5**	**-0.4**
	baz=214						
PNL	**Peninsula**	**6.83**	**86**		**Pn**	**23 59 33.1**	**+0.3**
PNL	**Peninsula**	**6.83**	**86**	P	**Pn**	**23 59 33.1**	**+0.3**
	baz=278						
I26K	**Coal Creek Min**	**7.06**	**35**	Pn	**Pn**	**23 59 35.5**	**-0.5**
EGAK	**Eagle**	**7.35**	**43**	Pn	**Pn**	**23 59 38.9**	**-1.0**
COLD	**Coldfoot**	**7.48**	**8**	Pn	**Pn**	**23 59 41.8**	**+0.1**
FYU	**Fort Yukon**	**7.55**	**24**	Pn	**Pn**	**23 59 42.2**	**-0.4**
G25K	**Bearman Lake**	**7.56**	**21**	P	**Pn**	**23 59 39.8**	**-2.9**
	baz=207						
DAWY	**Dawson**	**7.62**	**51**	Pn	**Pn**	**23 59 43.4**	**-0.3**
HYT	**Haines Junctio**	**7.70**	**76**	Pn	**Pn**	**23 59 45.8**	**+1.0**
M30M	**Minto, Yukon**	**8.23**	**64**	Pn	**Pn**	**23 59 52.8**	**+0.9**
BMAR	**Burnt Mountain**	**8.43**	**22**	Pn	**Pn**	**23 59 53.9**	**-0.7**
SKAG	**Skagway**	**8.90**	**85**	Pn	**Pn**	**00 00 02.3**	**+1.3**
TOLK	**Toolik Lake Re**	**8.92**	**8**	Pn	**Pn**	**00 00 02.2**	**+0.9**
WHY	**Whitehorse**	**8.99**	**77**	Pn	**Pn**	**00 00 02.0**	**-0.3**
SIT	**Sitka**	**9.63**	**99**	Pn	**Pn**	**00 00 10.6**	**-0.3**
JIS	**Juneau Island**	**9.66**	**91**	Pn	**Pn**	**00 00 13.9**	**+2.6**
DLBC	**Dease Lake**	**11.81**	**87**	P	**Pn**	**00 00 42.7**	**+2.3**
	comp=N,1.5nm,0.5s,baz=263,slow=9.6,SNR=14						
INK	**Inuvik**	**11.91**	**37**	P	**Pn**	**00 00 41.3**	**-0.1**
	comp=N,0.8nm,0.7s,baz=241,slow=12,SNR=1.9						
YKA	**Yellowknife Ar**	**18.46**	**65**	P	**Pn**	**00 02 03.3**	**-0.5**
	comp=N,0.5nm,0.6s,baz=278,slow=9.8,SNR=6.1						
SONM	**Songino Array**	**54.91**	**306**	P	**P**	**00 07 15.7**	**+1.1**
	comp=N,0.3nm,0.5s,baz=48,slow=6.9,SNR=2.3						
	comp=N,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**57.51**	**324**	P	**P**	**00 07 33.2**	**+0.4**
	comp=N,0.8nm,0.5s,baz=28,slow=7.2,SNR=3.7						
	comp=N,0.8nm,0.5s						
MKAR	**Makanchi Array**	**64.56**	**321**	P	**P**	**00 08 20.3**	**-0.3**
	comp=N,0.5nm,0.9s,baz=32,slow=8.5,SNR=1.5						
	comp=N,0.5nm,0.9s						

MAN 07 00:07:49.9, 16°.63N×120°.32E, h37km, mb3.8, ML2.6, MS2.1, Luzon

*LDG **07** 00:18:05.1±0.1, 42°.89N×13°.26E, h8km, Ml3.0/18, Error ellipse: s-maj=3.3km s-min=2.0km az=56.0*

*ROM **07** 00:18:06.0±0.1, 42°.893N±0°.002×13°.211E±0°.003, h6km, ML3.1/41, Error ellipse: s-maj=0.2km s-min=0.1km az=237.0*

*IDC **07** 00:18:06.3±2.6, 43°.04N×13°.34E, h0km, mb3.2/1, mbtmp3.2/3, ML2.4/2, Error ellipse: s-maj=126.1km s-min=16.2km az=100.0*

*PRU **07** 00:18:06.8±0.0, 42°.83N×14°.03E, h10km*

ISC 07 00:18:06.5±0.8**, 42°.90N**±0°.02×**13°.21E**±0°.02**, h9km**±4km**, n93,** σ2s**29**/128**, 20C-18D, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.04**	**203**	⇑P	**Pg**	**00 18 07.6**	**-0.9**
T1245				S	**Sg**	**00 18 08.6**	**-1.3**
MMO1	**Montemonaco**	**0.08**	**89**	⇑P	**Pg**	**00 18 08.3**	**-0.5**
MMO1				S	**Sg**	**00 18 09.8**	**-0.8**
T1256	**Bolognola (MC)**	**0.11**	**5**	P	**Pg**	**00 18 08.7**	**-0.6**
T1256				S	**Sg**	**00 18 10.8**	**-0.4**
T1256				AML	AML		
	comp=E,24750μm,1.1s						
T1256				AML	AML		
	comp=E,24600μm,1.1s						
T1256				AML	AML		
	comp=N,19550μm,0.6s						
T1256				AML	AML		
	comp=N,21700μm,0.6s						
T1256				AML	AML		
	comp=E,24550μm,1.1s						
FEMA	**Monte Fema**	**0.14**	**299**	⇓P	**Pg**	**00 18 09.5**	**-0.1**
FEMA				S	**Sg**	**00 18 11.8**	**0.0**
FEMA				AML	AML		
	comp=E,19300μm,0.6s						
FEMA				AML	AML		
	comp=N,18500μm,1.5s						
FEMA				AML	AML		
	comp=N,18550μm,1.5s						
T1216	**Preci, Frazion**	**0.14**	**267**	P	**Pg**	**00 18 09.4**	**-0.2**
T1216				S	**Sg**	**00 18 12.1**	**+0.2**
T1241	**Roccafluvione,**	**0.17**	**104**	P	**Pg**	**00 18 09.9**	**-0.2**
T1241				S	**Sg**	**00 18 12.9**	**+0.4**
T1241				AML	AML		
	comp=N,19500μm,0.8s						
T1241				AML	AML		
	comp=E,22400μm,0.4s						
T1241				AML	AML		
	comp=N,19450μm,0.8s						
FDMO	**Fiordimonte**	**0.17**	**327**	P	**Pg**	**00 18 09.8**	**-0.3**
FDMO				S	**Sg**	**00 18 12.9**	**+0.3**
FDMO				AML	AML		
	comp=E,9470μm,1.5s						
FDMO				AML	AML		
	comp=N,10185μm,0.6s						
GUMA	**Gualdo di Mace**	**0.19**	**29**	P	**Pg**	**00 18 10.7**	**+0.2**
GUMA				S	**Sg**	**00 18 14.3**	**+1.1**

GUMA AML AML
comp=E,24300µm,0.5s
GUMA AML AML
comp=N,22450µm,0.3s
GUMA AML AML
comp=N,23400µm,0.6s
GUMA AML AML
comp=E,25500µm,0.3s
CSP1 Cessapalombo 0.19 358 P **Pg 00 18 10.4 -0.2**
CSP1 S **Sg 00 18 13.8 +0.4**
CSP1 AML AML
comp=E,6420µm,0.8s
CSP1 AML AML
comp=N,10180µm,1.5s
CSP1 AML AML
comp=N,10200µm,1.5s
CSP1 AML AML
comp=E,6430µm,0.8s
CSP1 AML AML
comp=N,10125µm,1.5s
CSP1 AML AML
comp=E,6415µm,0.8s
CSP1 AML AML
comp=N,10185µm,1.5s
T1204 Amatrice, Fraz 0.23 161 ⇓P **Pg 00 18 11.2 -0.1**
T1204 S **Sg 00 18 15.5 +1.0**
T1204 AML AML
comp=E,10410µm,1.3s
T1204 AML AML
comp=N,6550µm,0.8s
T1204 AML AML
comp=E,10440µm,1.3s
T1201 Domo (RI) 0.24 173 P **Pg 00 18 11.5 +0.1**
CESI CESI - Serrava 0.25 296 ⇑P **Pg 00 18 11.5 -0.1**
CESI S **Sg 00 18 16.0 +1.0**
CESI AML AML
comp=E,9820µm,0.8s
CESI AML AML
comp=N,13850µm,0.4s
CESI AML AML
comp=E,9825µm,0.8s
T1215 Vallo di Nera, 0.27 249 ⇑P **Pg 00 18 11.9 0.0**
T1215 S **Sg 00 18 16.5 +0.9**
T1215 AML AML
comp=N,3435µm,0.7s
T1215 AML AML
comp=E,4000µm,0.3s
T1215 AML AML
comp=N,3430µm,0.7s
T1215 AML AML
comp=E,4175µm,0.3s
T1215 AML AML
comp=N,3390µm,0.7s
T1217 Poggiodomo (PG 0.28 228 P **Pg 00 18 12.0 -0.1**
T1217 S **Sg 00 18 16.9 +1.0**
T1217 AML AML
comp=N,6530µm,1.3s
T1217 AML AML
comp=N,6665µm,1.4s
T1217 AML AML
comp=E,3555µm,0.6s
T1217 AML AML
comp=E,3470µm,0.6s
T1217 AML AML
comp=N,6675µm,1.4s
SMA1 SAN MARTINO 0.28 161 ⇓P **Pg 00 18 11.9 -0.2**
SMA1 S **Sg 00 18 16.8 +0.8**
SMA1 AML AML
comp=N,11150µm,0.5s
SMA1 AML AML
comp=E,7915µm,1.6s
SEF1 Sefro 0.32 322 ⇓P **Pg 00 18 13.1 +0.3**
SEF1 AML AML
comp=E,9010µm,0.2s
SEF1 AML AML
comp=N,11650µm,0.3s
SEF1 AML AML
comp=N,11650µm,0.3s
SEF1 AML AML
comp=E,9010µm,0.3s
LNSS Leonessa 0.32 203 ⇓P **Pg 00 18 13.0 +0.1**
LNSS AML AML
comp=N,12500µm,0.3s
LNSS AML AML
comp=E,6645µm,0.3s
OFFI Offida 0.35 84 ⇑P **Pb 00 18 14.4 -0.5**
OFFI AML AML
comp=E,9070µm,0.8s
OFFI AML AML
comp=E,9075µm,0.8s
OFFI AML AML
comp=N,10250µm,1.4s
RM33 Pellescritta (0.39 180 ⇓P **Pg 00 18 13.9 -0.3**
RM33 AML AML
comp=E,3590µm,1.1s
RM33 AML AML
comp=N,3090µm,1.4s
RM33 AML AML
comp=E,3595µm,1.1s
RM33 AML AML
comp=N,3085µm,1.4s
RM33 AML AML
comp=E,3580µm,1.1s
CAMP Campotosto 0.39 158 ⇓P **Pg 00 18 13.8 -0.4**
CAMP AML AML
comp=N,2710µm,0.7s
CAMP AML AML
comp=E,4145µm,0.3s
TERO Teramo 0.40 133 ⇑P **Pg 00 18 14.1 -0.2**
TERO AML AML
comp=N,3210µm,0.6s
TERO AML AML
comp=E,3625µm,0.4s
SNTG Esanatoglia 0.41 331 P **Pg 00 18 14.3 -0.2**
SNTG AML AML
comp=N,1955µm,0.9s
SNTG AML AML
comp=N,1975µm,1.2s
SNTG AML AML
comp=E,1895µm,1.2s
SNTG AML AML
comp=E,1965µm,0.2s
ASSB Assisi San Ben 0.43 290 ⇑P **Pg 00 18 14.6 -0.4**
ASSB AML AML
comp=E,2650µm,0.4s
ASSB AML AML
comp=N,2825µm,0.2s
T1211 Morro Reatino 0.45 216 ⇓P **Pg 00 18 15.2 -0.1**
T1211 S **Sb 00 18 24.0 +0.5**
T1211 AML AML
comp=N,5590µm,1.2s
T1211 AML AML
comp=E,2020µm,0.4s
T1211 AML AML
comp=N,5565µm,1.2s
T1211 AML AML
comp=E,2018µm,0.4s
T1211 AML AML
comp=N,5595µm,1.2s
T1211 AML AML
comp=E,2045µm,0.4s
T1211 AML AML
comp=N,5570µm,1.2s
ARRO Arrone 0.46 226 ⇑P **Pg 00 18 15.2 -0.2**
ARRO AML AML
comp=E,1340µm,0.3s
ARRO AML AML
comp=N,1495µm,1.3s
T1247 Pizzolo (AQ) 0.46 172 ⇓P **Pg 00 18 15.1 -0.3**
T1247 S **Sb 00 18 25.0 +1.2**
T1247 AML AML
comp=E,3685µm,0.9s
T1247 AML AML
comp=N,3380µm,1.0s
CING Cingoli 0.48 359 ⇑P **Pg 00 18 15.6 -0.2**
CING AML AML
comp=N,1091µm,0.8s
CING AML AML
comp=E,1845µm,0.4s
ATCC AVT- Casa Cast 0.51 305 ⇑P **Pg 00 18 16.1 -0.3**
ATCC AML AML
comp=E,2805µm,0.5s
ATCC AML AML
comp=N,2625µm,0.9s
ATCC AML AML
comp=N,2630µm,0.9s
FOSV Fossato di Vic 0.52 320 ⇑P **Pg 00 18 16.2 -0.4**

GIGS Gran Sasso 0.52 149 ⇑P **Pg 00 18 16.1 -0.5**
GIGS AML AML
comp=N,500µm,0.8s
GIGS AML AML
comp=E,870µm,0.3s
TRTR Tortoreto Alta 0.52 100 ⇓P **Pb 00 18 17.8 -0.1**
TRTR AML AML
comp=E,6920µm,0.5s
TRTR AML AML
comp=N,7065µm,0.4s
CESX Cesi 0.55 239 ⇑P **Pg 00 18 16.6 -0.5**
CESX AML AML
comp=N,1740µm,0.5s
CESX AML AML
comp=E,2195µm,1.4s
AQU L'Aquila 0.56 165 ⇓P **Pg 00 18 16.8 -0.6**
AQU S **Sb 00 18 27.0 +0.3**
AQU AML AML
comp=E,2135µm,1.0s
AQU AML AML
comp=N,1645µm,1.2s
AQU AML AML
comp=E,2145µm,1.0s
AQU AML AML
comp=N,1660µm,1.2s
AQU AML AML
comp=E,2130µm,1.0s
PP3 Marolino 0.56 31 ⇑P **Pg 00 18 18.2 +0.8**
PP3 AML AML
comp=E,3560µm,1.4s
PP3 AML AML
comp=N,2765µm,1.0s
PP3 AML AML
comp=N,2815µm,1.0s
PP3 AML AML
comp=E,3580µm,1.4s
MURB Monte Urbino 0.62 306 ⇓P **Pg 00 18 18.4 -0.2**
MURB S **Sb 00 18 30.0 +1.5**
MURB AML AML
comp=E,3275µm,1.2s
MURB AML AML
comp=N,3200µm,0.3s
MURB AML AML
comp=E,3180µm,1.1s
MURB AML AML
comp=N,3205µm,0.3s
MURB AML AML
comp=N,3140µm,0.3s
ARVD Arcevia 0.63 342 ⇓P **Pg 00 18 18.5 -0.3**
ARVD S **Sb 00 18 29.0 +0.3**
ARVD AML AML
comp=E,759µm,1.0s
ARVD AML AML
comp=E,760µm,1.0s
ARVD AML AML
comp=N,696µm,0.7s
FIAM Fiamignano 0.63 186 ⇓P **Pg 00 18 17.5 -1.3**
FIAM S **Sg 00 18 28.0 +0.9**
FIAM AML AML
comp=N,1125µm,0.4s
FIAM AML AML
comp=E,1470µm,0.8s
ATFO Monte Foce - G 0.66 315 ⇑P **Pg 00 18 19.1 -0.2**
ATFO AML AML
comp=E,913µm,1.0s
ATFO AML AML
comp=N,1590µm,1.5s
ATFO AML AML
comp=E,912µm,1.0s
ATTE AVT- Monte Tez 0.70 296 P **Pg 00 18 20.1 +0.1**
FRON Frontone 0.71 330 S **Sb 00 18 32.0 +0.9**
ATVO AVT- Monte Val 0.76 310 P **Pg 00 18 20.6 -0.7**
ATVO AML AML
comp=E,869µm,0.6s
ATVO AML AML
comp=N,740µm,0.6s
ATVO AML AML
comp=N,740µm,0.6s
T0110 Collepietro 0.79 148 ⇓P **Pg 00 18 20.8 -1.0**
T0110 AML AML
comp=E,2205µm,0.4s
T0110 AML AML
comp=N,2200µm,0.6s
MPAG Monte Paganucc 0.80 336 P **Pg 00 18 22.2 +0.2**
MPAG S **Sb 00 18 36.0 +2.3**
MPAG AML AML
comp=E,943µm,0.8s
MPAG AML AML
comp=N,837µm,1.2s
MPAG AML AML
comp=E,942µm,0.8s
MPAG AML AML
comp=N,836µm,1.2s
MGAB Montegabbione 0.81 271 ⇑P **Pg 00 18 21.5 -0.5**
MGAB AML AML
comp=N,2405µm,0.4s
MGAB AML AML
comp=N,2505µm,0.4s
MGAB AML AML
comp=E,1295µm,0.4s
MGAB AML AML
comp=E,1006µm,0.3s
ATPI Pietralunga - 0.81 313 ⇓P **Pg 00 18 21.8 -0.3**
ATPI AML AML
comp=E,822µm,0.9s
ATPI AML AML
comp=N,646µm,1.6s
FSSB Fossombrone 0.86 338 ⇑P **Pg 00 18 23.4 +0.4**
FSSB AML AML
comp=E,1930µm,0.4s
FSSB AML AML
comp=N,1915µm,0.3s
APEC Apecchio 0.88 319 S **Sb 00 18 38.0 +2.2**
SACS San Casciano d 0.96 268 ⇑P **Pg 00 18 26.0 +1.1**
SACS AML AML
comp=E,838µm,1.1s
SACS AML AML
comp=N,680µm,1.0s
CAFI Castiglion Fio 1.01 296 ⇓P **Pg 00 18 25.9 0.0**
CAFI AML AML
comp=E,336µm,1.0s
CAFI AML AML
comp=N,488µm,1.1s
SSP9 Sansepolcro 1.04 311 ⇑P **Pb 00 18 28.0 +1.4**
SAMA S.Maria delle 1.21 203 S **Sg 00 18 45.0 -0.3**
POFI Posta Fibreno 1.24 162 ⇑P **Pb 00 18 31.2 +1.1**
APRC Apricena 2.07 123 ⇓P **Pn 00 18 42.1 +0.6**
PAOL Paolisi 2.12 151 P **Pb 00 18 46.1 +1.0**
SNAL S. Angelo Dei 2.47 142 S **Sn 00 19 15.0 -2.4**
PGF Pioggiola 3.12 265 *e*P **Pn 00 18 56.4 +0.4**
PGF *e*Sn **Sn 00 19 29.0 -4.5**
comp=N,7.5nm,0.5s
MYKA Terra Mystica 3.75 5 *e*Pn **Pn 00 19 05.3 +0.7**
comp=N,1.4nm,0.3s
ABTA Abfaltersbach 3.88 353 *i* Pn **Pn 00 19 07.6 +1.2**
comp=N,8.3nm,0.5s,SNR=13
KBA Koelnbreinsper 4.18 1 *e*Pn **Pn 00 19 12.1 +1.5**
comp=N,3.8nm,0.7s
SBF Sospel 4.32 285 *e*P **Pn 00 19 13.4 +1.0**
SBF *e*Sn **Sn 00 19 57.7 -5.3**
comp=N,12nm,0.6s
FETA Feichten 4.48 338 *e*Pn **Pn 00 19 17.3 +2.5**
comp=N,2.3nm,0.4s,SNR=4.5
WTTA Wattenberg 4.51 346 *e*Pn **Pn 00 19 17.6 +2.5**
comp=N,0.7nm,0.2s
SQTA Sankt Quirin 4.55 343 *e*Pn **Pn 00 19 17.9 +2.3**
comp=N,6.1nm,0.4s,SNR=9.4
WATA Walderalm 4.59 346 *e*Pn **Pn 00 19 18.7 +2.5**
comp=N,4.3nm,0.5s,SNR=6.3
MOTA Moosalm 4.69 342 *i* Pn **Pn 00 19 20.6 +3.0**
comp=N,4.1nm,0.7s
BIOA Bad Ischl, Aus 4.80 3 *e*Pn **Pn 00 19 20.2 +1.2**
comp=N,1.8nm,0.3s
RETA Reutte 4.91 340 *e*Pn **Pn 00 19 22.5 +2.1**
comp=N,2.9nm,0.4s,SNR=5.6
LMR La Mourre 4.93 277 *e*P **Pn 00 19 21.9 +1.2**
LMR *e*Sn **Sn 00 20 12.2 -5.6**
comp=N,5.8nm,0.7s
DAVA Damuels 4.98 333 *e*Pn **Pn 00 19 24.8 +3.2**
comp=N,1.2nm,0.3s
MBDF Montbardon 5.01 294 *e*P **Pn 00 19 23.6 +1.7**
MBDF *e*Sn **Sn 00 20 14.5 -5.5**
comp=N,6.0nm,0.7s
MOA Molln 5.01 8 *e*Pn **Pn 00 19 22.3 +0.4**
comp=N,0.6nm,0.3s
LPG La Plagne 5.32 301 *e*P **Pn 00 19 28.3 +1.9**

LPG *e*Sn **Sn 00 20 22.2 -5.8**
comp=N,5.3nm,0.8s
LPL La Plagne 5.34 302 *e*P **Pn 00 19 28.3 +1.7**
LPL *e*Sn **Sn 00 20 22.9 -5.5**
comp=N,4.2nm,0.7s
CONA Conrad Observa 5.37 19 *e*Pn **Pn 00 19 27.8 +1.0**
comp=N,0.4nm,0.2s
SMRF Simiane la Rot 5.66 284 *e*P **Pn 00 19 32.4 +1.5**
SMRF *e*Sn **Sn 00 20 29.7 -6.3**
comp=N,16nm,0.9s
ORIF Oris-en-Rattie 5.67 293 *e*P **Pn 00 19 32.6 +1.6**
ORIF *e*Sn **Sn 00 20 30.1 -6.1**
comp=N,2.5nm,0.6s
GERES GERESS Array B 5.96 3 Pn **Pn 00 19 34.8 -0.1**
comp=N,0.1nm,0.3s,baz=178,slow=14,SNR=2.6
GERES Sn **Sn 00 20 40.1 -3.2**
comp=N,0.2nm,0.3s,baz=182,slow=24,SNR=1.8
comp=N,0.3nm,0.3s
KHC Kasperske Hory 6.24 2 *e*PN **Pn 00 19 38.6 -0.2**
KHC *e*SN **Sn 00 20 48.1 -2.1**
CABF La Chapelle 6.29 309 *e*P **Pn 00 19 41.4 +2.0**
CABF *e*Sn **Sn 00 20 44.7 -6.7**
comp=N,3.2nm,0.7s
HINF Hinteralfeld 6.65 320 *e*P **Pn 00 19 46.6 +2.2**
HINF *e*Sn **Sn 00 20 53.7 -6.6**
comp=N,4.0nm,0.4s
CDF Champ du Feu 6.91 325 *e*P **Pn 00 19 49.3 +1.4**
CDF *e*Sn **Sn 00 20 59.8 -6.9**
comp=N,3.7nm,0.6s
HAU Haudompre 7.03 319 *e*P **Pn 00 19 51.3 +1.8**
HAU *e*Sn **Sn 00 21 03.7 -5.8**
comp=N,4.6nm,0.4s
PRU Pruhonice 7.15 7 *e*SN **Sn 00 21 09.3 -3.3**
PAGF Fort de Pagny 7.71 320 *e*P **Pn 00 19 58.1 -0.8**
PAGF *e*Sn **Sn 00 21 20.3 -6.0**
comp=N,2.0nm,0.3s
KEST Kesra 7.76 204 Pn **Pn 00 20 02.1 +2.5**
baz=78,slow=15,SNR=1.9
comp=N,3.3nm,1.0s
LOR Lormes 7.93 307 *e*P **Pn 00 20 04.5 +2.6**
LOR *e*Sn Sn 00 21 23.4 -8.3
comp=N,2.4nm,0.4s
MEZF Maizieres J'vi 8.00 317 *e*P **Pn 00 20 05.1 +2.3**
MEZF *e*Sn Sn 00 21 25.7 -7.7
comp=N,2.5nm,0.4s
AVF Avril sur Loir 8.01 302 *e*P **Pn 00 20 04.4 +1.4**
SSF Saint Saulge 8.04 305 *e*P **Pn 00 20 05.9 +2.5**
SSF *e*Sn Sn 00 21 26.7 -7.7
comp=N,2.2nm,0.6s
BGF Bois d'Agland 8.24 300 *e*P **Pn 00 20 08.8 +2.7**
CAF Calviac 8.30 288 *e*P **Pn 00 20 09.0 +2.0**
CAF *e*Sn Sn 00 21 32.9 -8.0
comp=N,6.6nm,0.9s
CLL Collm 8.42 359 *e*Sg Sg 00 22 33.0 -3.4
CLL *ex* x 00 22 48.0
TORD Torodi Ar. Bea 31.27 202 P **P 00 24 29.4 +2.7**
comp=N,0.2nm,0.6s,baz=12,slow=7.9,SNR=1.2
comp=N,0.2nm,0.6s

---

*KRNET **07** 00:28:51.8±0.1, 39.43N×73.66E, mb3.2*
*NNC **07** 00:28:54.1±2.1, 39.40N×73.66E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=16.3km s-min=9.0km az=168.0
*SOME **07** 00:28:54.7, 39.72N×73.13E, h0km*
ISC 07 00:28:53.1±1.6, **39.53N**±0.06×**73.58E**±0.04, **h2**km±14km,
n47, **σ2s18/74**, **18C-6D**, **Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.17**	**329**	⇑*i*P	**Pg**	**00 29 16.3**	**+0.8**
	baz=29						
OHH				⇑*i*S	**Sn**	**00 29 34.3**	**+1.1**
	baz=29						
BTK	**Batken**	**2.19**	**285**	⇑*e*P	**Pb**	**00 29 33.2**	**-0.4**
	baz=87						
BTK				⇑*i*S	**Sb**	**00 30 03.0**	**+1.8**
	baz=87						
ARLS	**Aral**	**2.40**	**13**	⇑*e*P	**Pb**	**00 29 35.8**	**-1.3**
	baz=12						
ARLS				⇑*i*S	**Sb**	**00 30 07.6**	**+0.3**
	baz=12						
GAR	**Garm**	**2.59**	**259**	⇑*e*P	**Pb**	**00 29 37.9**	**-2.4**
	baz=62						
GAR				⇑*i*S	**Sb**	**00 30 11.3**	**-1.3**
	baz=62						
TRKS	**Terek-Say**	**2.73**	**318**	⇑*e*P	**Pn**	**00 29 40.0**	**+1.8**
	baz=18						
TRKS				⇑*i*S	**Sb**	**00 30 14.9**	**-1.9**
	baz=18						
UCH	**Uchtor**	**2.79**	**14**	⇑*i*P	**Pb**	**00 29 41.3**	**-2.7**
	baz=13						
UCH				⇑*i*S	**Sb**	**00 30 17.2**	**-1.6**
	baz=13						
EKS2	**Erkin-Say**	**3.14**	**3**	⇓*e*P	**Pb**	**00 29 46.3**	**-3.4**
	baz=1.0						
EKS2				⇓*i*S	**Sb**	**00 30 25.8**	**-2.6**
	baz=1.0						
AAK	**Ala-Archa**	**3.18**	**12**	⇑*e*P	**Pb**	**00 29 46.6**	**-3.9**
	baz=11						
AAK				⇑*i*S	**Sb**	**00 30 26.8**	**-3.0**
	baz=11						
MRKS	**Merke**	**3.23**	**355**	*e*P	**Pb**	**00 29 52.2**	**+1.0**
	4.9nm,0.6s						
MRKS				*e*S	**Sb**	**00 30 33.5**	**+2.6**
	17nm,0.6s						
MRKS	**Merke**	**3.23**	**355**	Pg	**Pb**	**00 29 49.5**	**-1.7**
	4.8nm,0.3s						
MRKS				Lg	Lg	00 30 33.5	
	17nm,0.6s						
CHMS	**Chumysh**	**3.58**	**14**	⇑Pn	**Pb**	**00 29 55.1**	**-2.1**
	1.7nm,0.5s						
CHMS				⇓Lg	Lg	00 30 50.4	
	8.3nm,0.8s						
TKM2	**Tokmak 2**	**3.72**	**23**	⇑Pg	**Pg**	**00 30 05.9**	**+1.5**
	2.5nm,0.6s						
TKM2				⇑Lg	Lg	00 30 55.6	
	9.6nm,0.7s						
IUG	**Iuzhnay**	**3.76**	**315**	*e*P	**Pb**	**00 29 57.7**	**-2.5**
	95nm,0.3s						
IUG				*e*S	**Sb**	**00 30 43.0**	**-3.2**
	21nm,0.4s						
IUG	**Iuzhnay**	**3.76**	**315**	Pg	**Pn**	**00 29 55.5**	**+3.3**
	94nm,0.3s						
IUG				Lg	Lg	00 30 43.0	
	21nm,0.4s						
DZA	**Taraz**	**3.77**	**334**	*e*P	**Pb**	**00 29 59.1**	**-1.3**
	14nm,0.3s						
DZA				*e*S	**Sb**	**00 30 45.5**	**-1.0**
	67nm,0.4s						
KST	**Kastek**	**3.95**	**26**	*e*P	**Pg**	**00 30 08.8**	**+0.1**
	1.9nm,0.5s						
KST				*e*S	**Sg**	**00 31 02.3**	**+2.5**
	12nm,0.8s						
KST	**Kastek**	**3.95**	**26**	Pg	**Pg**	**00 30 06.8**	**-1.9**
	1.1nm,0.6s						
KST				Lg	Lg	00 31 02.3	
	12nm,0.7s						
SGDS	**Sogindy**	**4.00**	**11**	*e*P	**Pg**	**00 30 08.8**	**-1.0**
	1.9nm,0.8s						
SGDS				*e*S	**Sg**	**00 31 02.5**	**+0.9**
	5.3nm,0.1s						
SGDS	**Sogindy**	**4.00**	**11**	Pg	**Pb**	**00 30 06.6**	**+2.2**
	1.9nm,0.4s						
SGDS				Lg	Lg	00 31 02.5	
	5.3nm,0.7s						
DGS	**Degeres**	**4.06**	**23**	*e*P	**Pg**	**00 30 11.4**	**+0.5**
	1.6nm,0.7s						
DGS				*e*S	**Sg**	**00 31 06.8**	**+3.2**
	16nm,0.6s						
DGS	**Degeres**	**4.06**	**23**	Pg	**Pg**	**00 30 09.0**	**-1.9**
	3.6nm,0.4s						
DGS				Lg	Lg	00 31 06.7	
	16nm,0.6s						
CHM	**Chimkent**	**4.11**	**314**	*e*P	**Pb**	**00 30 04.6**	**-1.5**
	50nm,0.1s						
CHM				*e*S	**Sb**	**00 30 55.0**	**-1.2**
	55nm,0.3s						
MTBS	**Maitube**	**4.19**	**30**	*e*P	**Pg**	**00 30 13.6**	**+0.2**
	2.7nm,0.4s						
MTBS				*e*S	**Sg**	**00 31 10.5**	**+2.8**
	7.5nm,0.4s						
MTBS	**Maitube**	**4.19**	**30**	Pg	**Pg**	**00 30 11.0**	**-2.4**
	3.0nm,0.3s						
MTBS				Lg	Lg	00 31 10.4	
	6.0nm,0.6s						
KK31	**Karatay Array**	**4.26**	**328**	⇓Pn	Pn	00 30 03.2	+4.2
	0.3nm,0.2s,baz=136,slow=11,SNR=17						

KK31				⇓Pg	**Pg**	**00 30 12.8**	**-1.9**
	1.1nm,0.3s,baz=148,slow=15,SNR=9.8						
KK31				⇓Sn	**Sb**	**00 30 56.3**	**-4.2**
	6.1nm,0.7s						
KK31				⇑Lg	Lg	00 31 12.6	
	1.7nm,0.3s,baz=152,slow=29						
TNSS	**Tian-Shan**	**4.33**	**35**	*e*P	**Pg**	**00 30 16.6**	**+0.5**
	2.0nm,0.3s						
TNSS				*e*S	**Sg**	**00 31 15.6**	**+3.5**
	3.7nm,0.5s						
TNSS	**Tian-Shan**	**4.33**	**35**	Pg	**Pg**	**00 30 14.3**	**-1.7**
	2.4nm,0.7s						
TNSS				Lg	Lg	00 31 15.5	
	3.7nm,0.8s						
KRBS	**Karabastau**	**4.45**	**20**	*e*P	**Pg**	**00 30 17.7**	**-0.7**
	1.5nm,0.4s						
KRBS				*e*S	**Sg**	**00 31 17.3**	**+1.2**
	5.1nm,0.5s						
KRBS	**Karabastau**	**4.45**	**20**	Pg	**Pg**	**00 30 15.5**	**-2.9**
	2.3nm,0.8s						
KRBS				Lg	Lg	00 31 17.3	
	6.3nm,0.7s						
MDOK	**Medeo**	**4.47**	**35**	*e*P	**Pg**	**00 30 18.6**	**-0.2**
	1.2nm,0.9s						
MDOK				*e*S	**Sg**	**00 31 18.9**	**+2.1**
	11nm,0.1s						
MDOK	**Medeo**	**4.47**	**35**	Pg	**Pg**	**00 30 16.5**	**-2.3**
	1.7nm,0.6s						
MDOK				Pg	Pb	00 30 16.6	+4.1
	1.7nm,0.6s						
MDOK				Lg	Lg	00 31 18.9	
	10.0nm,1.0s						
MDOK				Lg	Lg	00 31 19.8	
	5.0nm,0.7s						
KOTS	**Kotyrbulak**	**4.56**	**35**	*e*P	**Pg**	**00 30 19.9**	**-0.5**
	1.8nm,0.2s						
KOTS				*e*S	**Sg**	**00 31 21.3**	**+1.8**
	22nm,0.7s						
KOTS	**Kotyrbulak**	**4.56**	**35**	Pg	**Pg**	**00 30 17.8**	**-2.6**
	1.9nm,0.3s						
KOTS				Lg	Lg	00 31 21.3	
	20nm,0.8s						
KTBS	**Karatobe**	**4.79**	**28**	*e*P	**Pg**	**00 30 24.1**	**-0.7**
	1.3nm,0.4s						
KTBS				*e*S	**Sg**	**00 31 28.5**	**+1.7**
	7.5nm,0.5s						
KTBS	**Karatobe**	**4.79**	**28**	Pg	**Pg**	**00 30 21.7**	**-3.0**
	0.7nm,0.7s						
KTBS				Lg	Lg	00 31 29.0	
	7.5nm,0.7s						
KUU	**Kurty**	**4.83**	**24**	*e*P	**Pg**	**00 30 24.1**	**-1.5**
	0.6nm,0.4s						
KUU				*e*S	**Sg**	**00 31 28.6**	**+0.4**
	8.5nm,0.8s						
KUU	**Kurty**	**4.83**	**24**	Pg	**Pg**	**00 30 21.6**	**-3.9**
	1.5nm,0.3s						
KUU				Lg	Lg	00 31 28.6	
	8.5nm,0.8s						
CHKK	**Chushkaly**	**5.02**	**29**	*e*P	**Pg**	**00 30 28.4**	**-0.9**
	1.3nm,0.1s						
CHKK				*e*S	**Sg**	**00 31 35.6**	**+1.3**
	6.3nm,0.4s						
CHKK	**Chushkaly**	**5.02**	**29**	Pg	**Pg**	**00 30 26.0**	**-3.3**
	1.3nm,0.1s						
CHKK				Lg	Lg	00 31 35.5	
	6.7nm,0.5s						
SATY	**Saty**	**5.07**	**44**	*e*P	**Pg**	**00 30 30.3**	**+0.2**
	2.0nm,0.5s						
SATY				*e*S	**Sg**	**00 31 39.2**	**+3.4**
	3.9nm,0.3s						
SATY	**Saty**	**5.07**	**44**	Pg	**Pg**	**00 30 27.8**	**-2.4**
	2.0nm,0.5s						
SATY				Lg	Lg	00 31 39.2	
	3.9nm,0.6s						
KPKS	**Kokpek**	**5.49**	**43**	*e*P	**Pg**	**00 30 38.0**	**-0.4**
	1.3nm,0.1s						
KPKS				*e*S	**Sg**	**00 31 52.0**	**+2.5**
	4.9nm,0.4s						
KPKS	**Kokpek**	**5.49**	**43**	Pg	**Pg**	**00 30 35.5**	**-2.8**
	1.7nm,0.7s						
KPKS				Lg	Lg	00 31 52.0	
	4.7nm,0.9s						
ARXS	**Arharly**	**5.65**	**33**	*e*P	**Pg**	**00 30 39.6**	**-1.8**
	1.3nm,0.5s						
ARXS				*e*S	**Sg**	**00 31 55.1**	**+0.5**
	6.9nm,0.9s						
ARXS	**Arharly**	**5.65**	**33**	Pg	**Pg**	**00 30 37.5**	**-4.0**
	2.4nm,0.3s						
ARXS				Lg	Lg	00 31 55.2	
	6.0nm,0.6s						
BLB	**Baldybastay**	**5.85**	**37**	*e*P	**Pg**	**00 30 43.9**	**-1.3**
	1.5nm,0.5s						
BLB				*e*S	**Sg**	**00 32 02.2**	**+1.2**
	4.5nm,0.1s						
BLB	**Baldybastay**	**5.85**	**37**	Pg	Pg	00 30 40.5	-4.7
	1.6nm,0.7s						
BLB				Lg	Lg	00 32 00.7	
	4.7nm,0.8s						

MAN 07 00:38:07.4, 5°.52N×125°.24E, h25km, mb3.9, ML2.7, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.63**	**333**	⇑*e*P	Pb	00 38 20.0	0.0

TRN 07 00:44:48.0, 16°.87N×61°.01W, h22km, MD2.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.60**	**230**	*e*S	Sn	00 45 12.9	+2.6
ANBD	**Bethesda, Anti**	**0.75**	**284**	*e*P	Pn	00 45 05.0	+1.8
ANBD				*e*S	Sn	00 45 16.4	+2.6
ANDO	**Antigua, Disas**	**0.82**	**287**	*e*S	Sn	00 45 18.7	+2.9
MAGL	**Barre de l'ile**	**0.95**	**196**	*e*P	Pn	00 45 07.8	+1.8
MAGL				*e*S	Sn	00 45 22.0	+3.1
ANWB	**Willy Bob**	**1.09**	**317**	*e*P	Pb	00 45 10.2	+2.1
ANWB				*e*S	Sn	00 45 24.9	+2.5

RSPR 07 00:46:20.0, 18°.91N×64°.98W, h25km±11km, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.56**	**178**	⇑*e*P	Pb	00 46 30.1	-1.2
STVI	**Saint Thomas**	**0.56**	**178**	⇑*e*P	Pb	00 46 30.1	-1.2
STVI				*e*S	Sb	00 46 37.9	-1.1
SJVI	**Gifft Hill Sch**	**0.61**	**161**	⇑*e*P	Pb	00 46 30.9	-1.3
SJVI	**Gifft Hill Sch**	**0.61**	**161**	*e*S	Sb	00 46 39.0	-1.4
CUPR	**Culebra, Puert**	**0.67**	**206**	⇑*e*P	Pb	00 46 31.6	-1.5
CUPR	**Culebra, Puert**	**0.67**	**206**	*e*S	Sb	00 46 40.5	-1.5
CBYP	**Canovanas**	**1.05**	**233**	⇑*e*P	Pn	00 46 36.7	-2.5
CBYP	**Canovanas**	**1.05**	**233**	⇑*e*P	Pn	00 46 36.7	-2.5
CBYP				*e*S	Sb	00 46 50.0	-3.0
HUMP	**Col San Antoni**	**1.13**	**227**	*e*S	Sn	00 46 52.2	-2.8
HUMP	**Col San Antoni**	**1.13**	**227**	*e*S	Sn	00 46 52.2	-2.8

*IDC **07** 00:54:30.3±6.8, 36°.07N×70°.57E, h186km±64km, mb3.1/3, mbtmp3.6/5, Error ellipse: s-maj=91.1km s-min=48.7km az=139.0*

ISC 07 00:54:19.7±2.1**, 37°.0N**±0°.2×**68°.6E**±0°.2**, h10km, n6, σ1s.70**/6**, 1C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.24**	**13**	Pn	**Pb**	**00 56 08.4**	**0.0**
	1.6nm,0.3s,baz=187,slow=16,SNR=32						
KK31				⇓Pg	**Pg**	**00 56 19.2**	**0.0**
	0.5nm,0.3s,baz=188,slow=12,SNR=3.6						
KK31				⇑Lg	Lg	00 57 21.6	
	3.4nm,0.5s,baz=188,slow=26						
AAK	**Ala-Archa**	**7.21**	**37**	P	Pn	00 56 13.3	+8.1
	1.6nm,0.3s,baz=192,slow=14,SNR=9.9						
AAK				S	**Sn**	**00 57 28.3**	**+1.1**
	1.9nm,0.5s,baz=350,slow=22,SNR=3.4						
MKAR	**Makanchi Array**	**14.09**	**42**	P	**Pn**	**00 57 39.8**	**+0.5**
	0.4nm,0.5s,baz=210,slow=13,SNR=2.1						
ZALV	**Zalesovo Beam**	**20.30**	**28**	P	**P**	**00 58 52.9**	**-2.6**
	0.5nm,0.3s,baz=216,slow=11,SNR=3.4						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**35.98**	**326**	P	P	01 01 26.9	+6.6
	3.4nm,1.0s,baz=108,slow=4.5,SNR=1.3						
	3.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**63.81**	**267**	P	**P**	**01 04 53.1**	**+0.7**
	0.3nm,0.8s,baz=53,slow=6.4,SNR=1.4						
	0.3nm,0.8s						

*BJI **07** 01:44:22.0±0.0, 36°.00N×96°.80W, h15km, mb5.5/6, mB5.9/5, Ms5.4/6, Ms7 5.0/7*

*ANF **07** 01:44:23.8±1.0, 36°.00N×96°.77W, h1km±7km, ML6.2/25, Error ellipse: s-maj=3.7km s-min=3.5km az=49.0*

*IDC **07** 01:44:24.7±0.4, 36°.05N×96°.75W, h0km, mb4.4/23, mbtmp4.5/34, ML4.1/10, MS4.5/80, Error ellipse: s-maj=9.4km s-min=7.8km az=149.0*

*NEIC **07** 01:44:24.6, 35°.99N×96°.80W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.18; $M_{\theta\theta}$2.28; $M_{\phi\phi}$-2.10; $M_{r\theta}$0.09; $M_{\theta\phi}$-1.20; $M_{\phi r}$0.99; Fault plane solution: $M_0$2.69000×10^{16} NP1:ϕ_s241.34000°, δ72.82000°, λ-167.55000°. NP2:ϕ_s147.61000°, δ78.12000°, λ-17.57000°. Principal axes: T 2.5970, Plg4.0000°, Azm195.0000°; N 0.1795, Plg69.0000°, Azm295.0000°; P -2.7765, Plg21.0000°, Azm104.0000°;*

*TUL **07** 01:44:24.5±0.5, 35°.991N±0°.005×96°.803W±0°.009, h4km±1km, ML5.1, mb4.6/89(NEIC), mb_Lg5.2/134(NEIC), Ms_20 4.8/118(NEIC), Mwr4.9/103(NEIC), Mww5.0(NEIC) Error ellipse: s-maj=1.2km s-min=0.4km az=127.0*

*MOS **07** 01:44:25.6±1.8, 35°.98N×96°.77W, h29km, mb4.9/16, MS4.9/12, Error ellipse: s-maj=5.8km s-min=5.3km az=61.4*

*NEIC **07** 01:44:25, 36°.09N×96°.68W, h14km, Moment Tensor Solution. Duration: 2s.0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70; $M_{\theta\theta}$3.50; $M_{\phi\phi}$-2.80; $M_{r\theta}$1.31; $M_{\theta\phi}$-1.87; $M_{\phi r}$-0.45; Fault plane solution: $M_0$3.97000×10^{16} NP1:ϕ_s59.00000°, δ78.00000°, λ171.00000°. NP2:ϕ_s151.00000°, δ81.00000°, λ12.00000°. Principal axes: T 4.3919, Plg15.0000°, Azm16.0000°; N -1.0723, Plg75.0000°, Azm187.0000°; P -3.3196, Plg2.0000°, Azm285.0000°;*

*NEIC **07** 01:44:25.1±0.5, 35°.988N±0°.008×96°.805W±0°.007, h3km±2km Error ellipse: s-maj=1.3km s-min=0.4km az=210.0*

*GCMT **07** 01:44:26.5±0.2, 36°.16N±0°.01×96°.73W±0°.01, h12km, MW5.0/128, Moment Tensor Solution. s45,c64; s128,c204; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.78±.08; $M_{\theta\theta}$3.85±.08; $M_{\phi\phi}$-3.07±.07; $M_{r\theta}$-0.76±.22; $M_{\theta\phi}$-2.14±.07; $M_{\phi r}$-1.07±.22; Best double couple: $M_0$4.31600×10^{16} NP1:ϕ_s63.00000°, δ79.00000°, λ-162.00000°. NP2:ϕ_s329.00000°, δ72.00000°, λ-11.00000°. Principal axes: T 4.4950, Plg5.0000°, Azm195.0000°; N -0.3570, Plg69.0000°, Azm92.0000°; P -4.1360, Plg20.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 01:44:24.1±0.7**, 35°.99N**±0°.02×**96°.77W**±0°.02**, h7km**±4km**, n918, σ1s.43**/874**, mb4.6**/72**, MS4.8**/148**, 4C, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK034	**N. Norfolk Rd.**	**0.05**	**63**		**Pg**	**01 44 26.6**	**+0.9**
OK034				Sg	**Sg**	**01 44 28.0**	**+1.2**
OK031	**S. Brethren Rd**	**0.06**	**239**	Pg	**Pg**	**01 44 25.7**	**-0.1**
OK031				Sg	**Sg**	**01 44 26.9**	**-0.2**
OK033	**Mehan**	**0.15**	**293**	Pg	**Pg**	**01 44 27.2**	**+0.1**
OK033				Sg	**Sg**	**01 44 28.1**	**-1.1**
QUOK	**Quay**	**0.19**	**15**	Pg	**Pg**	**01 44 28.9**	**+0.9**
QUOK				Sg	**Sg**	**01 44 30.7**	**+0.1**
DEOK	**Depew**	**0.26**	**123**	Pg	**Pb**	**01 44 30.4**	**-0.9**
DEOK				Sg	**Sg**	**01 44 34.2**	**+1.4**
OK044	**Pawnee Station**	**0.39**	**357**	Pg	**Pg**	**01 44 32.1**	**+0.4**
OK044				Sg	**Sg**	**01 44 37.5**	**+0.7**
OK046	**Pawnee Station**	**0.42**	**345**	Pg	**Pg**	**01 44 32.9**	**+0.5**
OK046				Sg	**Sg**	**01 44 38.6**	**+0.7**
OK050	**Pawnee Station**	**0.44**	**337**		**Pg**	**01 44 32.9**	**+0.2**
OK050				Sg	**Sg**	**01 44 39.0**	**+0.4**
OK048	**Pawnee Station**	**0.45**	**342**	Pg	**Pg**	**01 44 33.2**	**+0.3**
OK048				Sg	**Sg**	**01 44 39.0**	**+0.2**
OK005	**Luther M Schoo**	**0.47**	**226**	Pg	**Pg**	**01 44 33.6**	**+0.3**
OK045	**Pawnee Station**	**0.48**	**345**		**Pg**	**01 44 33.8**	**+0.4**
OK045					**Sg**	**01 44 40.2**	**+0.6**
OK011	**Prague**	**0.51**	**172**		**Pg**	**01 44 34.5**	**+0.6**
OK051	**E0350 and S346**	**0.52**	**354**	Pg	**Pg**	**01 44 34.6**	**+0.4**
OK029	**Liberty Lake**	**0.59**	**251**	Pg	**Pg**	**01 44 35.2**	**-0.2**
OK049	**E0420 Rd and N**	**0.60**	**314**	Pg	**Pg**	**01 44 35.7**	**0.0**
OK025	**Westminster Rd**	**0.61**	**229**	Pg	**Pg**	**01 44 35.9**	**-0.1**
OK025				IAmb_Lg		01 44 44.1	
	comp=Z,43μm,0.9s						
OK009	**Oakdale Elemen**	**0.67**	**233**		**Pg**	**01 44 37.1**	**+0.2**
BCOK	**Bluff Creek, N**	**0.76**	**244**	Pg	**Pg**	**01 44 38.3**	**-0.3**
BCOK				IAmb_Lg		01 44 49.1	
	comp=Z,7μm,1.0s						
TUL1	**Leonard**	**0.80**	**95**	Pg	**Pb**	**01 44 40.0**	**-0.3**
TUL1	**Leonard**	**0.80**	**95**	P	**Pb**	**01 44 40.3**	**-0.1**
	baz=276,SNR=1000						
TUL1				S	**Sb**	**01 44 51.3**	**-0.1**
	baz=276						
TUL1	**Leonard**	**0.80**	**95**	P	**Pb**	**01 44 40.1**	**-0.3**
	baz=276,SNR=1000						
TUL1				Sb	**Sb**	**01 44 51.3**	**-0.1**
	baz=276						
BLOK	**Blackwell**	**0.85**	**335**	Pg	**Pg**	**01 44 40.6**	**+0.1**
BLOK				IAmb_Lg		01 44 51.1	
	comp=Z,6μm,0.8s						
FNO	**Franklin**	**0.89**	**215**	Pg	**Pg**	**01 44 40.8**	**-0.4**
FNO				IAmb_Lg		01 44 53.1	
	comp=Z,41μm,0.9s						
T35A	**Sooner Cattle**	**0.95**	**13**	Pg	**Pg**	**01 44 42.7**	**+0.2**
T35B	**Sooner Cattle**	**0.95**	**13**	P	**Pg**	**01 44 42.7**	**+0.3**
	baz=194,SNR=1000						
T35B				S	**Sb**	**01 44 56.2**	**+0.3**
	baz=194						
CROK	**Carrier**	**1.11**	**298**		**Pg**	**01 44 45.0**	**-0.4**
KAN13	**South Haven SW**	**1.17**	**331**		**Pg**	**01 44 46.6**	**-0.1**
GC02	**Grant County #**	**1.23**	**315**		**Pg**	**01 44 47.3**	**-0.4**
KAN17	**Caldwell West**	**1.32**	**323**		**Pn**	**01 44 49.0**	**-0.1**
KAN09	**Caldwell North**	**1.33**	**330**		**Pn**	**01 44 49.4**	**+0.1**
KAN09				IAmb_Lg		01 45 08.1	
	comp=Z,10μm,1.3s						
KAN14	**Manchester OK**	**1.36**	**316**		**Pn**	**01 44 49.5**	**-0.2**
KS20	**Mayfield South**	**1.39**	**333**		**Pn**	**01 44 50.1**	**+0.1**
KS20				IAmb_Lg		01 45 11.4	
	comp=Z,25μm,1.0s						
KAN01	**Argonia South**	**1.41**	**326**		**Pn**	**01 44 50.4**	**0.0**
KAN01				IAmb_Lg		01 45 10.8	
	comp=Z,17μm,1.0s						
OK032	**Salt Plains WL**	**1.42**	**306**		**Pn**	**01 44 50.1**	**-0.3**
RLO	**Rose Lookout**	**1.43**	**82**		**Pb**	**01 44 50.8**	**-0.3**
KS21	**Milan North St**	**1.48**	**331**		**Pb**	**01 44 51.8**	**-0.3**
KAN06	**Argonia West S**	**1.53**	**326**	IAmb_Lg		01 45 15.0	
	comp=Z,13μm,0.8s						
KAN08	**Anthony NE Sta**	**1.57**	**322**		**Pn**	**01 44 52.6**	**+0.1**
CSTR	**Hydro, Custer**	**1.59**	**258**		**Pn**	**01 44 52.8**	**-0.1**
CSTR				IAmb_Lg		01 45 13.3	
	comp=Z,407nm,0.7s						
X34A	**Smith Ranch, M**	**1.63**	**212**		**Pn**	**01 44 53.9**	**+0.5**
X34A				IAmb_Lg		01 45 17.6	
	comp=Z,14μm,1.1s						
KAN12	**Harper NE Stat**	**1.64**	**323**		**Pn**	**01 44 53.8**	**+0.4**
OK035	**E0210 Rd and N**	**1.72**	**295**	Pn	**Pn**	**01 44 54.9**	**+0.3**
X37A	**Clayton**	**1.80**	**140**	Pn	**Pb**	**01 44 57.2**	**-0.4**
X37A				IAmb_Lg		01 45 24.5	
	comp=Z,15μm,0.9s						
X37A	**Clayton**	**1.80**	**140**	P	**Pb**	**01 44 57.1**	**-0.4**
	baz=321,SNR=1000						
X37A				Sb	**Sg**	**01 45 23.2**	**+1.1**
	baz=321						
U32A	**Winter Ranch,**	**1.85**	**283**	Pn	**Pn**	**01 44 56.5**	**+0.2**
U32A	**Winter Ranch,**	**1.85**	**283**	P	**Pn**	**01 44 56.7**	**+0.4**
	baz=102,SNR=1000						
U32A				S	**Sg**	**01 45 23.5**	**0.0**
	baz=102						
NOKA	**Waynoka**	**1.86**	**291**	IAmb_Lg		01 45 25.9	
	comp=Z,30μm,0.9s						
U38A	**Gravette**	**1.98**	**76**	Pn	**Pb**	**01 44 59.7**	**-0.9**
U38A	**Gravette**	**1.98**	**76**	P	**Pb**	**01 44 59.7**	**-0.9**
	baz=258,SNR=1000						
U38A				Sb	**Sg**	**01 45 28.1**	**+0.3**
	baz=258						
LOOK	**Love County**	**2.02**	**190**	Pn	**Pn**	**01 44 59.8**	**+1.1**
LOOK				IAmb_Lg		01 45 32.5	
	comp=Z,17μm,0.9s						
WMOK	**Wichita Mounta**	**2.06**	**233**		**Pn**	**01 44 59.8**	**+0.6**
WMOK				IAmb_Lg		01 45 33.8	
	comp=Z,15μm,0.9s						
WMOK	**Wichita Mounta**	**2.06**	**233**	P	**Pn**	**01 44 59.9**	**+0.6**
	baz=52,SNR=1000						
WMOK				Sb	**Sb**	**01 45 28.5**	**+0.7**
	baz=52						
WMOK	**Wichita Mounta**	**2.06**	**233**	P	**Pn**	**01 45 00.2**	**+0.9**
	baz=52,SNR=1000						
WMOK				S	**Sg**	**01 45 29.6**	**-0.7**
	baz=52						
WMOK	**Wichita Mounta**	**2.06**	**233**	P	**Pn**	**01 44 59.8**	**+0.6**
WMOK				pmax	pmax		
	comp=Z,15μm,0.9s						
ELIS	**Ellis County**	**2.15**	**273**	Pn	**Pn**	**01 45 01.1**	**+0.6**
ELIS				IAmb_Lg		01 45 34.2	
	comp=Z,7μm,0.7s						
HHAR	**Hobbs**	**2.31**	**82**	Pn	**Pn**	**01 45 03.9**	**+1.2**
Z35A	**Perchaven, San**	**2.68**	**189**	Pn	**Pn**	**01 45 08.8**	**+1.1**
Z35A				IAmb_Lg		01 45 55.6	
	comp=Z,8μm,1.1s						
Z35A	**Perchaven, San**	**2.68**	**189**	P	**Pn**	**01 45 08.8**	**+1.1**
	baz=7.8,SNR=276						
Z35A				Sb	**Sg**	**01 45 48.1**	**-2.1**
	baz=7.8						
R32A	**Long Quarter,**	**2.88**	**328**	Pn	**Pn**	**01 45 11.0**	**+0.4**
R32A	**Long Quarter,**	**2.88**	**328**	P	**Pn**	**01 45 11.2**	**+0.7**
	baz=147,SNR=76						
R32A				Sb	**Sb**	**01 45 53.8**	**+2.4**
	baz=147						
MIAR	**Mount Ida**	**2.98**	**118**	Pn	**Pn**	**01 45 13.5**	**+1.6**
MIAR				IAmb_Lg		01 46 06.0	
	comp=Z,5μm,0.8s						
MIAR	**Mount Ida**	**2.98**	**118**	P	**Pn**	**01 45 13.3**	**+1.4**
	baz=300,SNR=1000						
MIAR				S	**Sb**	**01 45 52.0**	**-2.3**
	baz=300						
MIAR	**Mount Ida**	**2.98**	**118**	P	**Pn**	**01 45 13.4**	**+1.6**
	baz=300,SNR=605						
MIAR	**Mount Ida**	**2.98**	**118**	P	**Pn**	**01 45 13.5**	**+1.6**
MIAR				pmax	pmax		
	comp=Z,5μm,0.8s						
Z38A	**Mt. Pleasant**	**3.09**	**151**	IAmb_Lg		01 46 11.3	
	comp=Z,9μm,0.8s						
Z38A	**Mt. Pleasant**	**3.09**	**151**	P	**Pn**	**01 45 14.8**	**+1.4**
	baz=332,SNR=106						
Z38A				S	**Sn**	**01 45 53.9**	**+3.2**
	baz=332						
KSU1	**Kansas State U**	**3.11**	**2**	Pn	**Pn**	**01 45 14.2**	**+0.5**
KSU1				IAmb_Lg		01 46 10.3	
	comp=Z,12μm,0.8s						
KSU1	**Kansas State U**	**3.11**	**2**	P	**Pn**	**01 45 14.0**	**+0.3**
	baz=183,SNR=173						
KSU1	**Kansas State U**	**3.11**	**2**	P	**Pn**	**01 45 14.2**	**+0.5**
	baz=183,SNR=228						
KSU1				Sb	**Sg**	**01 46 02.0**	**-2.1**
	baz=183						
CBKS	**Cedar Bluff**	**3.68**	**321**	Pn	**Pn**	**01 45 21.9**	**+0.3**
CBKS				IAmb_Lg		01 46 30.7	
	comp=Z,5μm,0.9s						
CBKS	**Cedar Bluff**	**3.68**	**321**	P	**Pn**	**01 45 22.3**	**+0.8**
	baz=140,SNR=66						
CBKS				S	**Sg**	**01 46 21.6**	**-0.7**
	baz=140						
CBKS	**Cedar Bluff**	**3.68**	**321**	P	**Pn**	**01 45 22.3**	**+0.8**
	baz=140,SNR=16						
CBKS				S	**Sn**	**01 46 08.0**	**+2.7**
	baz=140						
CBKS	**Cedar Bluff**	**3.68**	**321**	P	**Pn**	**01 45 21.9**	**+0.3**
CBKS				pmax	pmax		
	comp=Z,5μm,0.9s						
WHAR	**Wooly Hollow**	**3.72**	**99**		**Pn**	**01 45 22.7**	**+0.7**
WHAR				IAmb_Lg		01 46 27.1	
	comp=Z,7μm,0.9s						
FCAR	**Ozark Folk Cen**	**3.77**	**90**	Pn	**Pn**	**01 45 22.9**	**+0.2**
FCAR				IAmb_Lg		01 46 25.7	
	comp=Z,8μm,0.9s						
WLAR	**White Oak Lake**	**3.78**	**126**	Pn	**Pn**	**01 45 23.8**	**+0.9**
WLAR				IAmb_Lg		01 46 29.8	
	comp=Z,7μm,0.9s						
MGMO	**Mountain Grove**	**3.81**	**71**	Pn	**Pn**	**01 45 23.7**	**+0.4**
MGMO				IAmb_Lg		01 46 25.5	
	comp=Z,4μm,0.8s						
UALR	**University of**	**3.81**	**107**	Pn	**Pn**	**01 45 24.5**	**+1.2**
UALR				IAmb_Lg		01 46 34.0	
	comp=Z,6μm,0.8s						
WHTX	**Lake Whitney,**	**4.03**	**188**	Pn	**Pn**	**01 45 26.2**	**0.0**
WHTX	**Lake Whitney,**	**4.03**	**188**	P	**Pn**	**01 45 26.7**	**+0.5**
	baz=7.5,SNR=180						
WHTX	**Lake Whitney,**	**4.03**	**188**	P	**Pn**	**01 45 26.8**	**+0.5**
	baz=7.5,SNR=114						
WHTX				S	**Sn**	**01 46 16.0**	**+2.4**
	baz=7.5						
237A	**Washetta, Mont**	**4.05**	**168**	Pn	**Pn**	**01 45 27.2**	**+0.6**
237A				IAmb_Lg		01 46 38.8	
	comp=Z,7μm,1.1s						
237A	**Washetta, Mont**	**4.05**	**168**	P	**Pn**	**01 45 27.2**	**+0.6**
	baz=349,SNR=92						
237A				S	**Sn**	**01 46 15.7**	**+1.3**
	baz=349						
ABTX	**Abilene, Hawle**	**4.11**	**216**	Pn	**Pn**	**01 45 26.9**	**-0.5**
ABTX				IAmb_Lg		01 46 41.6	
	comp=Z,7μm,0.8s						
ABTX	**Abilene, Hawle**	**4.11**	**216**	P	**Pn**	**01 45 27.6**	**+0.2**
	baz=34,SNR=42						
ABTX	**Abilene, Hawle**	**4.11**	**216**	P	**Pn**	**01 45 28.0**	**+0.5**
	baz=34						
AMTX	**Amarillo**	**4.16**	**256**	Pn	**Pn**	**01 45 28.9**	**+0.7**
AMTX	**Amarillo**	**4.16**	**256**	P	**Pn**	**01 45 29.3**	**+1.1**
	baz=73,SNR=50						
AMTX	**Amarillo**	**4.16**	**256**	P	**Pn**	**01 45 29.0**	**+0.8**
	baz=73						
R40A	**Maddies Statio**	**4.27**	**56**	Pn	**Pn**	**01 45 30.4**	**+0.8**
R40A	**Maddies Statio**	**4.27**	**56**	P	**Pn**	**01 45 30.9**	**+1.3**
	baz=239,SNR=188						
R40A				S	**Sn**	**01 46 21.2**	**+1.5**
	baz=239						
P38A	**Dawn**	**4.45**	**34**	IAmb_Lg		01 46 46.4	
	comp=Z,5μm,0.7s						
P38A	**Dawn**	**4.45**	**34**	P	**Pn**	**01 45 32.7**	**+0.6**
	baz=216,SNR=242						
LCAR	**Lake Charles**	**4.55**	**87**	Pn	**Pn**	**01 45 33.4**	**-0.1**
LCAR				IAmb_Lg		01 46 57.2	
	comp=Z,4μm,0.9s						
LCAR	**Lake Charles**	**4.55**	**87**	P	**Pn**	**01 45 34.3**	**+0.8**
	baz=271,SNR=186						
NATX	**Nacogdoches**	**4.57**	**157**	Pn	**Pn**	**01 45 34.0**	**+0.3**
NATX				IAmb_Lg		01 46 57.6	
	comp=Z,4μm,0.9s						
NATX	**Nacogdoches**	**4.57**	**157**	P	**Pn**	**01 45 34.3**	**+0.6**
	baz=338,SNR=18						
NATX				S	**Sn**	**01 46 27.4**	**+0.3**
	baz=338						
CCAR	**Cane Creek**	**4.60**	**115**	Pn	**Pn**	**01 45 34.9**	**+0.8**
CCAR				IAmb_Lg		01 47 00.9	
	comp=Z,3μm,0.8s						
CCAR	**Cane Creek**	**4.60**	**115**	P	**Pn**	**01 45 35.7**	**+1.7**
	baz=298,SNR=73						
N33B	**J Bar K, Exete**	**4.77**	**354**	P	**Pn**	**01 45 37.1**	**+0.5**
	baz=174,SNR=96						
N33B				S	**Sg**	**01 46 53.8**	**-3.6**
	baz=174						
N33A	**J Bar K, Exete**	**4.78**	**354**	Pn	**Pn**	**01 45 37.0**	**+0.4**
CCM	**Cathedral Cave**	**4.88**	**63**	Pn	**Pn**	**01 45 38.8**	**+0.8**
CCM				IAmb_Lg		01 46 59.5	
	comp=Z,8μm,1.0s						
CCM	**Cathedral Cave**	**4.88**	**63**	P	**Pn**	**01 45 39.3**	**+1.3**
	baz=247,SNR=141						
CCM				S	**Sg**	**01 46 56.4**	**-4.4**
	baz=247						
CCM	**Cathedral Cave**	**4.88**	**63**	P	**Pn**	**01 45 38.8**	**+0.8**
	baz=247						
CCM				S	**Sn**	**01 46 35.4**	**+0.6**
	baz=247						
CCM	**Cathedral Cave**	**4.88**	**63**	P	**Pn**	**01 45 38.8**	**+0.8**
CCM				pmax	pmax		
	comp=Z,8μm,1.0s						
N35A	**Tabor**	**4.95**	**10**	Pn	**Pn**	**01 45 39.0**	**0.0**
N35A				IAmb_Lg		01 47 10.3	
	comp=Z,6μm,0.7s						
N35A	**Tabor**	**4.95**	**10**	P	**Pn**	**01 45 39.5**	**+0.5**
	baz=191,SNR=116						
HBAR	**Harrisburg**	**4.99**	**93**	Pn	**Pn**	**01 45 40.1**	**+0.6**
HBAR				IAmb_Lg		01 47 11.9	
	comp=Z,7μm,0.8s						
HBAR	**Harrisburg**	**4.99**	**93**	P	**Pn**	**01 45 40.8**	**+1.3**
	baz=277,SNR=21						
P40A	**Paris**	**5.15**	**45**	Pn	**Pn**	**01 45 41.8**	**+0.1**

P40A IAmb_Lg 01 47 18.7
comp=Z,5µm,0.9s
P40A Paris 5.15 45 P **Pn** **01 45 42.4 +0.7**
baz=228,SNR=133
PBMO Poplar Bluff 5.18 79 IAmb_Lg 01 47 16.9
comp=Z,6µm,0.7s
435B Jarrell 5.23 188 Pn **Pn** **01 45 42.6 -0.3**
435B IAmb_Lg 01 47 20.7
comp=Z,5µm,0.7s
435B Jarrell 5.23 188 P **Pn** **01 45 43.3 +0.4**
baz=6.9,SNR=52
435B Jarrell 5.23 188 P **Pn** **01 45 43.1 +0.3**
baz=6.9
MSTX Muleshoe 5.32 250 Pn **Pn** **01 45 43.6 -0.6**
MSTX Muleshoe 5.32 250 P **Pn** **01 45 44.4 +0.2**
baz=66,SNR=111
MSTX S **Sn** **01 46 46.3 +0.5**
baz=66
MSTX Muleshoe 5.32 250 P **Pn** **01 45 44.6 +0.5**
baz=66,SNR=47
MSTX S **Sn** **01 46 46.4 +0.5**
baz=66
FVM French Village 5.46 67 Pn **Pn** **01 45 46.1 +0.2**
FVM French Village 5.46 67 P **Pn** **01 45 46.8 +0.9**
baz=251,SNR=104
FVM S **Sn** **01 46 49.6 +0.6**
baz=251
FVM French Village 5.46 67 P **Pn** **01 45 46.1 +0.2**
FVM pmax pmax
comp=Z,8µm,1.1s
143A Socs Landing, 5.52 125 Pn **Pn** **01 45 46.1 -0.7**
143A IAmb_Lg 01 47 30.1
comp=Z,4µm,0.9s
BGNE Belgrade 5.52 349 Pn **Pn** **01 45 46.5 -0.3**
BGNE Belgrade 5.52 349 P **Pn** **01 45 47.2 +0.4**
baz=169,SNR=56
BGNE S **Sn** **01 46 50.3 -0.3**
baz=169
BGNE Belgrade 5.52 349 P **Pn** **01 45 46.9 +0.1**
baz=169,SNR=82
BGNE S **Sn** **01 46 50.3 -0.3**
baz=169
HDBT Hernando Brdge 5.54 97 IAmb_Lg 01 47 23.9
comp=Z,6µm,1.1s
N38A Joes South For 5.54 29 IAmb_Lg 01 47 32.8
comp=Z,6µm,0.8s
N38A Joes South For 5.54 29 P **Pn** **01 45 47.2 +0.1**
baz=211,SNR=127
N38A S **Sn** **01 46 52.2 +1.0**
baz=211
KSCO Kaye Shedlock' 5.55 305 Pn **Pn** **01 45 46.7 -0.6**
KSCO Kaye Shedlock' 5.55 305 P **Pn** **01 45 47.7 +0.4**
baz=121,SNR=76
KSCO Kaye Shedlock' 5.55 305 P **Pn** **01 45 48.0 +0.7**
baz=121,SNR=79
MET Memphis--Engin 5.64 97 IAmb_Lg 01 47 33.5
comp=Z,5µm,0.8s
PARMO Parma 5.71 81 Pn **Pn** **01 45 48.5 -0.8**
SLM Saint Louis 5.84 61 IAmb_Lg 01 47 34.1
comp=Z,5µm,0.7s
SLM Saint Louis 5.84 61 S **Sn** **01 46 58.2 -0.2**
baz=245
CGM3 Cape Girardeau 5.87 75 IAmb_Lg 01 47 32.2
comp=Z,6µm,0.9s
LNXT Lenox 5.90 87 Pn **Pn** **01 45 52.2 +0.2**
LNXT Lenox 5.90 87 P **Pn** **01 45 52.8 +0.8**
baz=271,SNR=23
342A Flagon Creek P 5.91 140 IAmb_Lg 01 47 40.5
comp=Z,2µm,0.9s
L34A Svendsen Farm, 5.98 3 Pn **Pn** **01 45 52.6 -0.5**
L34A Svendsen Farm, 5.98 3 P **Pn** **01 45 53.6 +0.4**
baz=183,SNR=18
441A DeRidder 6.02 149 S **Sn** **01 47 04.9 +2.1**
baz=331
HALT Halls 6.03 89 Pn **Pn** **01 45 54.3 +0.5**
HALT IAmb_Lg 01 47 48.8
comp=Z,5µm,0.7s
JCT Junction City 6.05 206 Pn **Pn** **01 45 54.4 +0.3**
JCT IAmb_Lg 01 47 48.7
comp=Z,5µm,0.9s
JCT Junction City 6.05 206 P **Pn** **01 45 53.6 -0.6**
baz=24,SNR=93
JCT Junction City 6.05 206 P **Pn** **01 45 54.4 +0.3**
baz=24,SNR=102
JCT Junction City 6.05 206 P **Pn** **01 45 54.4 +0.3**
JCT pmax pmax
comp=Z,5µm,1.0s
GLAT Glass 6.06 85 Pn **Pn** **01 45 54.9 +0.7**
HKT Hockley 6.07 172 Pn **Pn** **01 45 53.1 -1.2**
HKT Hockley 6.07 172 P **Pn** **01 45 54.7 +0.4**
baz=353
HKT S **Sn** **01 47 02.4 -1.6**
baz=353
HKT Hockley 6.07 172 *i* P **Pn** **01 45 54.8 +0.5**
HICK Hickman 6.12 83 Pn **Pn** **01 45 56.2 +1.2**
OXF Oxford 6.20 102 P **Pn** **01 45 56.1 0.0**
baz=286
OXF S **Sn** **01 47 08.2 +0.9**
baz=286
W45A Hickory Valley 6.24 95 Pn **Pn** **01 45 56.1 -0.6**
W45A IAmb_Lg 01 47 55.8
comp=Z,4µm,0.9s
W45A Hickory Valley 6.24 95 P **Pn** **01 45 56.4 -0.2**
baz=280,SNR=74
T25A Trinidad 6.25 283 Pn **Pn** **01 45 56.3 -0.8**
T25A IAmb_Lg 01 47 49.4
comp=Z,5µm,0.8s
T25A Trinidad 6.25 283 P **Pn** **01 45 57.3 +0.2**
baz=98,SNR=86
S44A Carbondale 6.26 72 Pn **Pn** **01 45 57.1 +0.1**
S44A IAmb_Lg 01 47 55.2
comp=Z,5µm,0.8s
S44A Carbondale 6.26 72 P **Pn** **01 45 57.3 +0.3**
baz=256,SNR=96
S44A S **Sn** **01 47 08.8 -0.1**
baz=256
Y45A Yeager Farm, C 6.30 108 Pn **Pn** **01 45 57.7 +0.1**
Y45A Yeager Farm, C 6.30 108 P **Pn** **01 45 56.1 0.0**
baz=292,SNR=68
VBMS Vicksburg 6.41 124 Pn **Pn** **01 45 58.9 0.0**
VBMS Vicksburg 6.41 124 P **Pn** **01 45 59.0 0.0**
baz=308,SNR=20
OGNE Ogallala 6.45 322 Pn **Pn** **01 45 59.7 +0.1**
OGNE Ogallala 6.45 322 P **Pn** **01 46 00.8 +1.2**
baz=139,SNR=40
OGNE S **Sn** **01 47 12.8 -0.6**
baz=139
OGNE Ogallala 6.45 322 P **Pn** **01 46 00.6 +1.0**
baz=139,SNR=26
OGNE S **Sn** **01 47 12.3 -1.2**
baz=139
SCIA State Center 6.53 24 Pn **Pn** **01 46 00.7 +0.1**
SCIA IAmb_Lg 01 48 06.0
comp=Z,3µm,0.7s
SCIA State Center 6.53 24 P **Pn** **01 46 00.9 +0.3**
baz=206,SNR=51
SCIA State Center 6.53 24 P **Pn** **01 46 00.7 +0.1**
baz=206,SNR=75
CPRX Cap Rock 6.56 245 Pn **Pn** **01 46 02.0 +0.8**
N41A Harden Midland 6.62 43 Pn **Pn** **01 46 02.0 +0.2**
T45B Paducah 6.62 79 P **Pn** **01 46 02.5 +0.5**
baz=264,SNR=16
T45B S **Sn** **01 47 17.7 -0.1**
baz=264
T45A Paducah 6.63 79 Pn **Pn** **01 46 02.0 0.0**
HTMS Hat Mesa 6.68 240 Pn **Pn** **01 46 02.9 +0.1**
344A Westbrook Farm 6.76 130 Pn **Pn** **01 46 04.3 +0.5**
344A IAmb_Lg 01 48 16.8
comp=Z,2µm,1.2s
344A Westbrook Farm 6.76 130 S **Sn** **01 47 22.8 +1.6**
baz=314
P43A Skaggs, Pawnee 6.80 55 Pn **Pn** **01 46 05.1 +0.7**
P43A IAmb_Lg 01 48 07.4
comp=Z,4µm,0.7s
P43A Skaggs, Pawnee 6.80 55 P **Pn** **01 46 05.2 +0.9**
baz=240,SNR=94
P43A S **Sn** **01 47 21.2 -0.8**
baz=240
K31A O'Neill 6.80 348 Pn **Pn** **01 46 04.3 -0.2**
K31A O'Neill 6.80 348 P **Pn** **01 46 05.3 +0.8**
baz=167,SNR=52
Q44A Meyer Farm, Va 6.82 62 Pn **Pn** **01 46 05.4 +0.8**
Q44A Meyer Farm, Va 6.82 62 P **Pn** **01 46 05.4 +0.8**
baz=247,SNR=71
CLN7 Carlsbad 7 6.83 241 Pn **Pn** **01 46 04.3 -0.6**
CLNB Carlsbad 6.96 240 Pn **Pn** **01 46 05.4 -1.4**

735A Kenedy 7.16 187 Pn **Pn** **01 46 08.9 -0.5**
735A IAmb_Lg 01 48 22.2
comp=Z,2µm,0.9s
PLAL Pickwick Lake 7.17 96 Pn **Pn** **01 46 08.6 -0.7**
146A Union 7.20 115 P **Pn** **01 46 10.9 +1.0**
baz=300
SDCO Great Sand Dun 7.21 287 Pn **Pn** **01 46 10.2 -0.2**
SDCO IAmb_Lg 01 48 18.3
comp=Z,2µm,1.1s
SDCO Great Sand Dun 7.21 287 P **Pn** **01 46 11.5 +1.2**
baz=102,SNR=108
SDCO Great Sand Dun 7.21 287 P **Pn** **01 46 11.3 +1.0**
baz=102,SNR=751
WVT Waverly 7.24 86 Pn **Pn** **01 46 09.5 -0.9**
WVT Waverly 7.24 86 P **Pn** **01 46 09.8 -0.6**
baz=272,SNR=35
WVT Waverly 7.24 86 P **Pn** **01 46 09.7 -0.8**
baz=272
WVT Waverly 7.24 86 P **Pn** **01 46 09.5 -0.9**
WVT pmax pmax
comp=Z,1µm,0.8s
Q24A Divide 7.29 297 Pn **Pn** **01 46 11.4 0.0**
Q24A IAmb_Lg 01 48 23.6
comp=Z,4µm,0.9s
Q24A Divide 7.29 297 P **Pn** **01 46 11.5 0.0**
baz=112,SNR=127
K38A Parkersburg 7.34 24 Pn **Pn** **01 46 11.2 -0.5**
K38A IAmb_Lg 01 48 32.9
comp=Z,4µm,0.9s
K38A Parkersburg 7.34 24 P **Pn** **01 46 11.2 -0.5**
baz=206,SNR=61
GDL2 Guadalupe Moun 7.34 241 Pn **Pn** **01 46 12.1 +0.1**
OLIL Olney 7.43 66 Pn **Pn** **01 46 12.7 -0.3**
HDIL Hopedale 7.44 50 Pn **Pn** **01 46 13.5 +0.3**
HDIL Hopedale 7.44 50 P **Pn** **01 46 13.5 +0.3**
baz=235,SNR=119
HDIL Hopedale 7.44 50 P **Pn** **01 46 13.2 0.0**
baz=235,SNR=106
L40A Anamosa 7.45 34 Pn **Pn** **01 46 12.8 -0.4**
L40A IAmb_Lg 01 48 19.7
comp=Z,3µm,0.9s
BRIGG Briggsdale 7.50 310 Pn **Pn** **01 46 14.3 +0.1**
346A Big Creek Wild 7.62 125 Pn **Pn** **01 46 15.9 +0.2**
346A Big Creek Wild 7.62 125 P **Pn** **01 46 16.7 +1.0**
baz=309,SNR=6.9
Z47A Carrollton 7.70 109 Pn **Pn** **01 46 16.7 0.0**
Z47A Carrollton 7.70 109 P **Pn** **01 46 17.2 +0.5**
baz=294,SNR=42
ECSD EROS Data Cent 7.74 1 Pn **Pn** **01 46 16.2 -1.0**
ECSD IAmb_Lg 01 48 36.9
comp=Z,2µm,0.9s
ECSD EROS Data Cent 7.74 1 P **Pn** **01 46 16.9 -0.4**
baz=181,SNR=410
ECSD EROS Data Cent 7.74 1 P **Pn** **01 46 17.0 -0.2**
baz=181,SNR=175
O44A Mansfield 7.76 55 Pn **Pn** **01 46 17.1 -0.4**
O44A IAmb_Lg 01 48 32.5
comp=Z,3µm,1.0s
O44A Mansfield 7.76 55 P **Pn** **01 46 18.1 +0.6**
baz=240,SNR=15
T47A Sharon Grove 7.85 80 Pn **Pn** **01 46 18.4 -0.4**
T47A Sharon Grove 7.85 80 P **Pn** **01 46 19.5 +0.7**
baz=266,SNR=49
833A Chaparral WMA, 7.96 197 Pn **Pn** **01 46 19.7 -0.6**
833A IAmb_Lg 01 48 52.5
comp=Z,2µm,1.0s
833A Chaparral WMA, 7.96 197 P **Pn** **01 46 20.8 +0.5**
baz=15,SNR=40
833A Chaparral WMA, 7.96 197 P **Pn** **01 46 21.0 +0.7**
baz=15,SNR=68
ANMO Albuquerque 7.97 265 Pn **Pn** **01 46 21.0 +0.3**
comp=Z,0.6nm,0.3s,baz=89,slow=15,SNR=46
ANMO Pg Pb 01 46 49.1 +6.4
comp=Z,11nm,0.3s,baz=80,slow=17,SNR=16
ANMO Lg Lg 01 48 32.5
comp=Z,51nm,0.3s,baz=58,slow=10.0,SNR=4.3
ANMO LR LR 01 49 34.5
comp=Z,7µm,18.7s,baz=81,slow=39
comp=Z,10nm,0.7s
ANMO Albuquerque 7.97 265 Pn **Pn** **01 46 19.9 -0.7**
ANMO Albuquerque 7.97 265 P **Pn** **01 46 21.1 +0.4**
baz=80
ANMO Albuquerque 7.97 265 P **Pn** **01 46 21.9 +1.3**
baz=80
ANMO Albuquerque 7.97 265 *i* P **Pn** **01 46 20.5 -0.1**
V48A Smith Brothers 8.08 89 Pn **Pn** **01 46 21.5 -0.5**
X48A Hartselle 8.11 98 Pn **Pn** **01 46 21.9 -0.4**
X48A Hartselle 8.11 98 P **Pn** **01 46 21.8 -0.5**
baz=284,SNR=22
L42A Oliver, Polo 8.16 40 Pn **Pn** **01 46 22.4 -0.7**
L42A IAmb_Lg 01 48 48.9
comp=Z,2µm,0.8s
L42A Oliver, Polo 8.16 40 P **Pn** **01 46 23.0 -0.1**
baz=225,SNR=99
S22A 4UR Ranch, Cre 8.25 285 Pn **Pn** **01 46 24.6 0.0**
S22A 4UR Ranch, Cre 8.25 285 P **Pn** **01 46 25.8 +1.3**
baz=99,SNR=71
BNM Barren Site 8.29 260 Pn **Pn** **01 46 24.4 -0.6**
P46A Rosedale 8.39 62 Pn **Pn** **01 46 25.8 -0.4**
P46A Rosedale 8.39 62 P **Pn** **01 46 27.1 +0.9**
baz=247
I37A Lemond, Waseca 8.43 17 Pn **Pn** **01 46 25.0 -1.6**
I37A IAmb_Lg 01 49 06.8
comp=Z,2µm,0.8s
I37B Waseca 8.43 17 P **Pn** **01 46 25.7 -0.9**
baz=199,SNR=15
CLTN Cedars of Leba 8.46 86 Pn **Pn** **01 46 26.4 -0.7**
Y22D IRIS PASSCAL I 8.54 260 P **Pn** **01 46 29.6 +1.2**
baz=74
JFWS Jewell Farm 8.56 34 Pn **Pn** **01 46 27.7 -0.8**
JFWS IAmb_Lg 01 49 02.7
comp=Z,2µm,0.8s
JFWS Jewell Farm 8.56 34 P **Pn** **01 46 28.9 +0.4**
baz=218,SNR=138
JFWS Jewell Farm 8.56 34 P **Pn** **01 46 28.1 -0.4**
baz=218,SNR=220
JFWS Jewell Farm 8.56 34 P **Pn** **01 46 27.7 -0.8**
JFWS pmax pmax
comp=Z,2µm,0.8s
LRAL Lakeview Retre 8.59 107 Pn **Pn** **01 46 28.8 -0.1**
LRAL Lakeview Retre 8.59 107 P **Pn** **01 46 29.3 +0.4**
baz=293,SNR=41
LRAL Lakeview Retre 8.59 107 P **Pn** **01 46 29.2 +0.4**
baz=293,SNR=42
SUSD Miller 8.61 349 Pn **Pn** **01 46 28.4 -0.8**
SUSD Miller 8.61 349 P **Pn** **01 46 28.6 -0.6**
baz=168,SNR=11
PHWY Pilot Hill 8.62 311 Pn **Pn** **01 46 28.7 -1.0**
PHWY IAmb_Lg 01 49 03.8
comp=Z,2µm,0.8s
WCI Wyandotte Cave 8.66 72 Pn **Pn** **01 46 30.8 +0.8**
WCI Wyandotte Cave 8.66 72 P **Pn** **01 46 30.4 +0.5**
baz=258,SNR=29
WCI Wyandotte Cave 8.66 72 P **Pn** **01 46 30.5 +0.5**
baz=258
WCI Wyandotte Cave 8.66 72 P **Pn** **01 46 30.8 +0.8**
M44A Midewin, Midew 8.70 49 Pn **Pn** **01 46 30.1 -0.2**
M44A Midewin, Midew 8.70 49 P **Pn** **01 46 30.8 +0.5**
baz=234,SNR=15
SMCO Snowmass 8.70 295 Pn **Pn** **01 46 30.7 -0.1**
N23A Red Feather La 8.71 307 Pn **Pn** **01 46 30.4 -0.4**
N23A Red Feather La 8.71 307 P **Pn** **01 46 30.8 +0.1**
baz=122,SNR=63
BLO Bloomington 8.73 66 Pn **Pn** **01 46 31.7 +0.8**
BLO Bloomington 8.73 66 P **Pn** **01 46 31.7 +0.8**
Y49A Blount Mountai 8.77 101 Pn **Pn** **01 46 31.2 -0.2**
Y49A Blount Mountai 8.77 101 P **Pn** **01 46 31.8 +0.4**
baz=287,SNR=33
SBM South Baldy 8.78 260 Pn **Pn** **01 46 30.9 -0.9**
SFIN Lafayette 8.79 57 Pn **Pn** **01 46 31.8 +0.2**
SFIN IAmb_Lg 01 49 03.1
comp=Z,3µm,0.9s
SFIN Lafayette 8.79 57 P **Pn** **01 46 32.0 +0.4**
baz=243,SNR=48
SFIN Lafayette 8.79 57 P **Pn** **01 46 31.8 +0.2**
baz=243,SNR=22
TX31 Lajitas Ar. Si 8.82 223 Pn **Pn** **01 46 31.0 -1.2**
TX31 Lajitas Ar. Si 8.82 223 P **Pn** **01 46 31.6 -0.6**
baz=39,SNR=20
TX32 Lajitas Array 8.82 223 Pn **Pn** **01 46 31.1 -1.1**
TXAR Lajitas Array 8.82 223 Pn **Pn** **01 46 31.1 -1.0**
comp=Z,1.9nm,0.3s,baz=44,slow=12,SNR=70
TXAR Sn **Sn** **01 48 06.4 -5.5**
comp=Z,31nm,0.3s,baz=48,slow=16,SNR=4.0
TXAR Lg Lg 01 49 01.7
comp=Z,81nm,0.3s,baz=40,slow=28,SNR=9.1

TXAR LR LR 01 50 10.2
comp=Z,5µm,21.9s,baz=28,slow=39
comp=Z,27nm,0.7s
TXAR Lajitas Array 8.82 223 Pn **Pn** **01 46 31.8 -0.3**
TXAR Lajitas Array 8.82 223 P **Pn** **01 46 31.8 -0.3**
SWET Sewanee 8.86 92 Pn **Pn** **01 46 33.2 +0.5**
U49A Red Boiling Sp 8.90 83 Pn **Pn** **01 46 33.5 +0.4**
HQIL Hanson Quary C 9.05 47 Pn **Pn** **01 46 35.2 -0.1**
HQIL IAmb_Lg 01 49 15.5
comp=Z,6µm,1.1s
I40A Norwalk 9.20 29 Pn **Pn** **01 46 36.5 -0.8**
I40A IAmb_Lg 01 49 17.8
comp=Z,1µm,0.9s
I40A Norwalk 9.20 29 P **Pn** **01 46 36.7 -0.6**
baz=213,SNR=111
FPAL Fort Paine 9.24 96 Pn **Pn** **01 46 37.6 -0.3**
L44A Lake County Fo 9.25 45 Pn **Pn** **01 46 36.9 -1.1**
L44A Lake County Fo 9.25 45 P **Pn** **01 46 37.3 -0.7**
baz=231,SNR=36
K43A Burlington 9.36 42 Pn **Pn** **01 46 38.6 -0.9**
K43A IAmb_Lg 01 49 22.3
comp=Z,3µm,1.0s
K43A Burlington 9.36 42 P **Pn** **01 46 39.0 -0.5**
baz=227,SNR=50
W50A Signal Mountai 9.37 91 Pn **Pn** **01 46 40.1 +0.5**
BRAL Brewton 9.42 118 Pn **Pn** **01 46 40.1 -0.2**
BRAL Brewton 9.42 118 P **Pn** **01 46 41.1 +0.7**
baz=303,SNR=18
MVCO Mesa Verde 9.51 281 P **Pn** **01 46 43.5 +1.7**
baz=94,SNR=27
R49A Shelbyville 9.54 73 Pn **Pn** **01 46 41.6 -0.4**
250A Grady 9.59 112 P **Pn** **01 46 42.5 -0.2**
baz=298,SNR=88
T50A Nancy 9.66 80 P **Pn** **01 46 44.2 +0.5**
baz=268
T50A P **Pn** **01 46 44.2 +0.5**
baz=268
SPMN Marine on St. 9.71 17 IAmb_Lg 01 49 53.6
comp=Z,1µm,0.9s
SPMN Marine on St. 9.71 17 P **Pn** **01 46 43.0 -1.2**
baz=200,SNR=47
SPMN Marine on St. 9.71 17 P **Pn** **01 46 42.2 -2.0**
baz=200,SNR=117
121A Cookes Peak, D 9.74 252 P **Pn** **01 46 45.1 +0.1**
baz=66,SNR=5.4
X51A Calhoun 9.84 95 Pn **Pn** **01 46 46.0 -0.1**
X51A Calhoun 9.84 95 P **Pn** **01 46 47.5 +1.4**
baz=282,SNR=14
X51A P **Pn** **01 46 47.5 +1.4**
baz=282,SNR=14
RSSD Black Hills 9.85 328 Pn **Pn** **01 46 45.9 -0.5**
RSSD IAmb_Lg 01 49 42.8
comp=Z,3µm,0.8s
RSSD Black Hills 9.85 328 P **Pn** **01 46 47.0 +0.6**
baz=143,SNR=34
RSSD Black Hills 9.85 328 P **Pn** **01 46 46.5 +0.2**
baz=143
RSSD Black Hills 9.85 328 P **Pn** **01 46 45.9 -0.5**
RSSD pmax pmax
comp=Z,3µm,0.9s
F33A 5 Mile Ranch, 9.85 2 IAmb_Lg 01 49 43.4
comp=Z,2µm,0.8s
Z51A Franklin 9.92 102 Pn **Pn** **01 46 46.7 -0.4**
Z51A Franklin 9.92 102 P **Pn** **01 46 47.4 +0.3**
baz=289,SNR=13
I42A Draeger Farm, 9.93 35 Pn **Pn** **01 46 46.4 -0.9**
I42A IAmb_Lg 01 49 40.6
comp=Z,2µm,0.9s
I42A Draeger Farm, 9.93 35 P **Pn** **01 46 47.3 0.0**
baz=220,SNR=87
RWWY Rawlins 9.93 308 Pn **Pn** **01 46 47.0 -0.6**
O20A White River Ci 9.95 298 Pn **Pn** **01 46 47.2 -0.6**
O20A White River Ci 9.95 298 P **Pn** **01 46 49.2 +1.5**
baz=111,SNR=12
CPCT Cooper Cave 9.98 89 Pn **Pn** **01 46 47.7 -0.3**
K22A Casper 10.06 314 Pn **Pn** **01 46 48.7 -0.6**
K22A Casper 10.06 314 P **Pn** **01 46 50.0 +0.7**
baz=128
K22A Casper 10.06 314 P **Pn** **01 46 48.9 -0.4**
baz=128,SNR=25
V51A Loudon 10.08 87 P **Pn** **01 46 49.1 -0.3**
baz=275,SNR=25
O48B Farmland 10.09 62 P **Pn** **01 46 48.9 -0.7**
baz=249,SNR=15
O48B S **Sn** **01 48 39.5 -3.5**
baz=249
O48B Farmland 10.09 62 P **Pn** **01 46 48.8 -0.7**
baz=249,SNR=17
L46A Eue Claire 10.13 50 Pn **Pn** **01 46 48.6 -1.4**
L46A Eue Claire 10.13 50 P **Pn** **01 46 49.5 -0.5**
baz=237,SNR=20
L46A P **Pn** **01 46 49.5 -0.5**
baz=237,SNR=20
F36A Milaca 10.17 13 Pn **Pn** **01 46 49.2 -1.3**
F36A Milaca 10.17 13 P **Pn** **01 46 49.4 -1.1**
baz=195,SNR=36
P49A Miami Univ. Ec 10.18 66 Pn **Pn** **01 46 50.3 -0.5**
P49A Miami Univ. Ec 10.18 66 P **Pn** **01 46 50.7 0.0**
baz=253,SNR=9.8
R50A Paris 10.20 73 Pn **Pn** **01 46 50.3 -0.7**
R50A Paris 10.20 73 P **Pn** **01 46 51.4 +0.4**
baz=261,SNR=20
R50A P **Pn** **01 46 51.4 +0.4**
baz=261,SNR=20
152A Waverly Hall 10.50 105 Pn **Pn** **01 46 54.7 -0.5**
152A Waverly Hall 10.50 105 P **Pn** **01 46 56.0 +0.9**
baz=292,SNR=11
W52A Murphy 10.51 91 Pn **Pn** **01 46 54.6 -0.6**
W52A Murphy 10.51 91 P **Pn** **01 46 55.3 +0.1**
baz=279,SNR=9.5
G40A Rib Lake 10.53 26 Pn **Pn** **01 46 54.6 -0.8**
G40A Rib Lake 10.53 26 P **Pn** **01 46 54.7 -0.8**
baz=211,SNR=80
TKL Tuckaleechee C 10.56 88 Pn **Pn** **01 46 56.5 +0.6**
comp=Z,3.0nm,0.3s,baz=239,slow=9.9,SNR=29
TKL Lg Lg 01 49 52.0
comp=Z,40nm,0.3s,baz=346,slow=23,SNR=4.0
comp=Z,20nm,0.6s
TKL Tuckaleechee C 10.56 88 Pn **Pn** **01 46 55.7 -0.2**
TKL Tuckaleechee C 10.56 88 P **Pn** **01 46 56.3 +0.3**
baz=276,SNR=14
TKL Tuckaleechee C 10.56 88 P **Pn** **01 46 55.7 -0.2**
Y52A Lilburn 10.65 98 Pn **Pn** **01 46 56.5 -0.6**
Y52A Lilburn 10.65 98 P **Pn** **01 46 57.9 +0.8**
baz=285
Y52A P **Pn** **01 46 57.9 +0.8**
baz=285
O49A Covington 10.66 63 P **Pn** **01 46 57.1 -0.2**
baz=251,SNR=14
O49A P **Pn** **01 46 57.1 -0.2**
baz=251,SNR=14
451A Vernon 10.66 117 Pn **Pn** **01 46 56.8 -0.5**
451A Vernon 10.66 117 P **Pn** **01 46 57.4 +0.1**
baz=303,SNR=14
V52A Sevierville 10.69 87 P **Pn** **01 46 58.0 +0.3**
baz=275,SNR=9.3
TZTN Tazewell 10.69 83 P **Pn** **01 46 58.0 +0.2**
baz=271,SNR=15
TZTN Tazewell 10.69 83 P **Pn** **01 46 57.7 -0.1**
baz=271,SNR=7.4
S51A Beattyville 10.69 77 P **Pn** **01 46 58.5 +0.7**
baz=265,SNR=32
S51A P **Pn** **01 46 58.5 +0.7**
baz=265,SNR=32
352A Blakely 10.84 111 P **Pn** **01 46 59.5 -0.2**
baz=298,SNR=20
H43A Windswept, Lux 10.91 36 Pn **Pn** **01 46 59.8 -0.9**
H43A Windswept, Lux 10.91 36 P **Pn** **01 47 00.5 -0.2**
baz=222,SNR=144
E28A Huff 10.98 346 P **Pn** **01 47 00.6 -1.0**
baz=163,SNR=17
N49A Columbus Grove 11.03 60 P **Pn** **01 47 00.9 -1.5**
baz=248,SNR=29
N49A P **Pn** **01 47 00.9 -1.5**
baz=248,SNR=29
Q51A Peebles 11.09 70 P **Pn** **01 47 02.8 -0.4**
baz=258,SNR=19
Q51A P **Pn** **01 47 02.8 -0.4**
baz=258,SNR=19
GOGA Godfrey 11.25 99 P **Pn** **01 47 05.3 -0.1**
baz=287,SNR=28
GOGA Godfrey 11.25 99 P **Pn** **01 47 04.9 -0.5**
baz=287,SNR=9.5
L48A N Adams 11.29 54 P **Pn** **01 47 05.0 -1.0**
baz=242,SNR=40
L48A P **Pn** **01 47 05.0 -1.0**
baz=242,SNR=40

E38A **The Farm, Brul** 11.31 19 Pn Pn 01 47 04.2 -2.0
BG3 **Lake Jocassee** 11.33 91 Pn Pn 01 47 05.8 -0.6
V53A **Saluda** 11.34 88 Pn Pn 01 47 06.0 -0.6
I45A **Fountain** 11.39 42 Pn Pn 01 47 05.9 -1.4
P51A **Williamsport** 11.40 68 Pn Pn 01 47 06.8 -0.7
ACSO **Alum Creek Sta** 11.66 65 P Pn 01 47 10.2 -0.8
baz=253,SNR=19
J47A **Sunmer** 11.71 48 Pn Pn 01 47 10.1 -1.6
HPIG 11.79 223 Pn Pn 01 47 11.3 -1.6
154A **Montrose** 11.79 103 Pn Pn 01 47 11.7 -1.1
154A **Montrose** 11.79 103 P Pn 01 47 12.6 -0.2
baz=290
TIGA **Tifton** 11.87 109 P Pn 01 47 12.5 -1.4
baz=296,SNR=5.2
WUAZ **Wupatki** 11.88 272 P Pn 01 47 15.5 +1.3
baz=84,SNR=17
AAM **Ann Arbor** 11.97 54 Pn Pn 01 47 14.5 -0.7
AAM **Ann Arbor** 11.97 54 P Pn 01 47 14.7 -0.5
baz=242,SNR=18
AAM **Ann Arbor** 11.97 54 P Pn 01 47 14.5 -0.7
BW06 **Boulder Array** 11.98 308 P Pn 01 47 14.7 -0.9
baz=120,SNR=17
PD31 **Pinedale Array** 11.98 308 Pn Pn 01 47 14.6 -1.0
PDAR **Pinedale Array** 11.98 308 Pn Pn 01 47 13.8 -1.7
comp=Z,1.1nm,0.3s,baz=122,slow=14,SNR=43
PDAR Lg Lg 01 50 40.7
comp=Z,20nm,0.3s,baz=113,slow=32,SNR=4.6
PDAR LR LR 01 52 03.4
comp=Z,3µm,19.5s,baz=122,slow=38
M50A **Fremont** 12.01 59 Pn Pn 01 47 14.6 -1.1
M50A **Fremont** 12.01 59 P Pn 01 47 16.2 +0.5
baz=248
M50A P Pn 01 47 16.2 +0.5
baz=248
HODGE **Hodges** 12.02 94 Pn Pn 01 47 14.7 -1.2
MDND **Maddock** 12.04 351 P Pn 01 47 11.9 -4.3
baz=169,SNR=6.0
R53A **Hurricane** 12.05 74 Pn Pn 01 47 15.6 -0.8
R53A **Hurricane** 12.05 74 P Pn 01 47 15.8 -0.6
baz=263,SNR=19
R53A P Pn 01 47 15.8 -0.6
baz=263,SNR=19
U54A **Nelsons Funny** 12.09 83 Pn Pn 01 47 15.9 -1.0
U54A **Nelsons Funny** 12.09 83 P Pn 01 47 16.4 -0.4
baz=272,SNR=10
U54A P Pn 01 47 16.4 -0.4
baz=272,SNR=10
P52A **Corning** 12.14 68 Pn Pn 01 47 17.0 -0.5
P52A **Corning** 12.14 68 P Pn 01 47 16.4 -1.1
baz=257,SNR=28
TUC **Tucson** 12.17 257 Pn Pn 01 47 16.5 -1.6
TUC **Tucson** 12.17 257 P Pn 01 47 18.3 +0.2
baz=68
TUC **Tucson** 12.17 257 P Pn 01 47 16.5 -1.6
PAULI **Pauline** 12.26 91 Pn Pn 01 47 19.2 0.0
N51A **Ashland** 12.31 62 Pn Pn 01 47 19.2 -0.7
AGMN **Agassiz Nation** 12.32 3 P Pn 01 47 17.1 -2.9
baz=184,SNR=22
AGMN **Agassiz Nation** 12.32 3 P Pn 01 47 16.8 -3.2
baz=184,SNR=83
G45A **Suttons Bay** 12.37 40 Pn Pn 01 47 18.5 -2.1
O52A **Adamsville** 12.47 66 Pn Pn 01 47 20.7 -1.4
S54A **Dingess, Beckl** 12.51 77 Pn Pn 01 47 21.4 -1.3
255A **Hazlehurst** 12.54 105 Pn Pn 01 47 20.8 -2.2
255A **Hazlehurst** 12.54 105 P Pn 01 47 21.9 -1.1
baz=293,SNR=20
B35A **Bob, Littlefor** 12.57 9 Pn Pn 01 47 20.4 -3.0
B35A **Bob, Littlefor** 12.57 9 P Pn 01 47 21.1 -2.3
baz=192,SNR=11
EYMN **Ely** 12.57 16 P Pn 01 47 20.1 -3.4
baz=200,SNR=85
EYMN **Ely** 12.57 16 P Pn 01 47 20.1 -3.4
baz=200,SNR=44
KMSC **Kings Mountain** 12.60 89 Pn Pn 01 47 22.1 -1.8
KMSC **Kings Mountain** 12.60 89 P Pn 01 47 23.5 -0.4
baz=278
KMSC **Kings Mountain** 12.60 89 P Pn 01 47 22.8 -1.1
baz=278,SNR=18
V55A **Taylorsville** 12.62 86 Pn Pn 01 47 22.9 -1.1
V55A **Taylorsville** 12.62 86 P Pn 01 47 24.0 0.0
baz=275
V55A P Pn 01 47 24.0 0.0
baz=275
D41A **Chassel** 12.65 26 P Pn 01 47 21.5 -2.9
baz=212,SNR=68
P53A **Whipple** 12.67 69 Pn Pn 01 47 23.0 -1.8
P53A **Whipple** 12.67 69 P Pn 01 47 23.4 -1.3
baz=259,SNR=19
P53A P Pn 01 47 23.4 -1.3
baz=259,SNR=19
NLU **North Lily Min** 12.71 293 Pn Pn 01 47 23.7 -1.9
E43A **Lone Tree Farm** 12.71 32 Pn Pn 01 47 22.7 -2.6
E43A **Lone Tree Farm** 12.71 32 P Pn 01 47 22.5 -2.8
baz=219,SNR=112
HAW **Hawthorne Fire** 12.75 97 P Pn 01 47 25.5 -0.4
baz=286,SNR=11
GLMI **Grayling** 12.78 43 Pn Pn 01 47 24.2 -2.1
GLMI **Grayling** 12.78 43 P Pn 01 47 24.5 -1.8
baz=230,SNR=31
GLMI **Grayling** 12.78 43 P Pn 01 47 24.4 -2.0
baz=230,SNR=93
JSC **Jenkinsville** 12.81 93 Pn Pn 01 47 25.2 -1.6
JSC **Jenkinsville** 12.81 93 P Pn 01 47 25.2 -1.6
LAO **LASA Array** 12.82 329 Pn Pn 01 47 25.1 -1.8
LAO **LASA Array** 12.82 329 P Pn 01 47 26.7 -0.2
baz=143
LAO **LASA Array** 12.82 329 P Pn 01 47 25.1 -1.8
baz=143,SNR=12
O53A **New Philadelph** 12.97 66 Pn Pn 01 47 27.1 -1.7
O53A **New Philadelph** 12.97 66 P Pn 01 47 27.7 -1.2
baz=256,SNR=12
Q54A **Coxs Mills** 13.01 72 Pn Pn 01 47 28.0 -1.4
Q54A **Coxs Mills** 13.01 72 P Pn 01 47 29.8 +0.4
baz=262
Q54A P Pn 01 47 29.8 +0.4
baz=262
LOHW **Long Hollow** 13.07 310 Pn Pn 01 47 29.1 -1.3
RLMT **Red Lodge** 13.16 318 P Pn 01 47 31.3 -0.3
baz=130
BLA **Blacksburg** 13.20 80 Pn Pn 01 47 31.2 -0.9
BLA **Blacksburg** 13.20 80 P Pn 01 47 31.9 -0.1
baz=270
BLA **Blacksburg** 13.20 80 P Pn 01 47 31.7 -0.3
baz=270,SNR=7.7
BLA **Blacksburg** 13.20 80 P Pn 01 47 31.2 -0.9
MOOW **Moose Ponds** 13.23 310 Pn Pn 01 47 30.5 -2.1
M52A **Chesterland** 13.24 61 Pn Pn 01 47 30.8 -1.8
M52A **Chesterland** 13.24 61 P Pn 01 47 31.2 -1.3
baz=250
M52A P Pn 01 47 31.2 -1.3
baz=250
U56A **King** 13.25 84 Pn Pn 01 47 32.3 -0.5
ECR **Eagle Creek** 13.29 307 Pn Pn 01 47 30.9 -2.5
I49A **Point Hope** 13.31 49 Pn Pn 01 47 30.7 -2.8
I49A **Point Hope** 13.31 49 P Pn 01 47 31.2 -2.3
baz=238
I49A P Pn 01 47 31.2 -2.3
baz=238
DUG **Dugway, Tooele** 13.31 293 P Pn 01 47 35.1 +1.4
baz=103,SNR=5.7
FXWY **Fox Creek** 13.35 309 Pn Pn 01 47 33.5 -0.7
SPUT **South Promonto** 13.35 298 Pn Pn 01 47 33.5 -0.8
N53A **Lisbon** 13.39 64 Pn Pn 01 47 33.0 -1.5
N53A **Lisbon** 13.39 64 P Pn 01 47 33.0 -1.5
baz=254
N53A P Pn 01 47 33.0 -1.5
baz=254
BIRD **Birdtown, Kers** 13.39 91 Pn Pn 01 47 33.4 -1.2
456A **Hilliard** 13.39 109 Pn Pn 01 47 32.9 -1.8
456A **Hilliard** 13.39 109 P Pn 01 47 33.9 -0.8
baz=297
CCUT **Cedar City** 13.40 282 Pn Pn 01 47 31.5 -3.5
H17A **Grant Village** 13.47 313 P Pn 01 47 37.8 +1.9
baz=124
R55A **Marlinton** 13.48 75 P Pn 01 47 34.3 -1.7
baz=265
R55A P Pn 01 47 34.3 -1.7
baz=265
O54A **Avella** 13.57 67 Pn Pn 01 47 36.5 -0.7
O54A **Avella** 13.57 67 P Pn 01 47 36.8 -0.3
baz=257
O54A P Pn 01 47 36.8 -0.3
baz=257
DGMT **Dagmar** 13.62 339 Pn Pn 01 47 35.1 -2.7
DGMT **Dagmar** 13.62 339 P Pn 01 47 35.0 -2.8
baz=154,SNR=30
BGU **Big Grassy Mou** 13.66 296 Pn Pn 01 47 35.5 -3.0
656A **Willston** 13.68 115 Pn Pn 01 47 36.1 -2.5
W57A **Gilead** 13.69 89 Pn Pn 01 47 36.5 -2.1
M53A **WI Miller and** 13.69 62 P Pn 01 47 37.0 -1.7
baz=252
GCMT **Greycliff** 13.81 319 Pn Pn 01 47 38.3 -2.1
YHH **Holmes Hill** 13.86 314 Pn Pn 01 47 39.0 -2.3
MCWV **Mont Chateau** 13.87 70 Pn Pn 01 47 38.5 -2.6
MCWV **Mont Chateau** 13.87 70 P Pn 01 47 38.9 -2.2
baz=260
214A **Organ Pipe Nat** 13.90 258 Pn Pn 01 47 38.8 -3.0
214A **Organ Pipe Nat** 13.90 258 P Pn 01 47 42.5 +0.8
baz=69
E46A **Sault Ste Mari** 13.97 38 P Pn 01 47 39.8 -2.6
baz=226,SNR=15
NHSC **New Hope** 13.98 97 Pn Pn 01 47 40.9 -1.8
NHSC **New Hope** 13.98 97 P Pn 01 47 41.7 -1.0
baz=287
ZAIG **Zacatecas** 14.10 202 Pn Pn 01 47 43.5 -1.1
T57A **Hurt** 14.13 81 Pn Pn 01 47 43.5 -1.3
T57A **Hurt** 14.13 81 P Pn 01 47 44.0 -0.8
baz=271
T57A P Pn 01 47 44.0 -0.8
baz=271
Y58A **Scranton** 14.19 93 Pn Pn 01 47 42.5 -2.9
QLMT **Earthquake Lak** 14.22 313 Pn Pn 01 47 43.9 -2.2
ULM **Lac du Bonnet** 14.27 2 Pn Pn 01 47 41.9 -4.6
comp=Z,12nm,0.3s,baz=179,slow=12,SNR=47
ULM Sn Sn 01 50 13.0 -12
comp=Z,7.2nm,0.3s,baz=88,slow=20,SNR=3.5
ULM Lg Lg 01 51 47.7
comp=Z,4.0nm,0.3s,baz=90,slow=21,SNR=1.9
ULM LR LR 01 53 28.7
comp=Z,3µm,20.7s,baz=188,slow=38
comp=Z,40nm,0.5s
ULM **Lac du Bonnet** 14.27 2 P Pn 01 47 42.0 -4.6
Q56A **Snyder Ridge,** 14.29 72 Pn Pn 01 47 43.7 -3.2
PDMCI **Parker Dam,Lak** 14.31 268 P Pn 01 47 49.1 +1.9
baz=78,SNR=7.7
X58A **Rowland** 14.32 91 Pn Pn 01 47 44.0 -3.3
V58A **Windy Hill, Pi** 14.32 86 Pn Pn 01 47 46.6 -0.7
S57A **Dark Hollow, R** 14.38 78 Pn Pn 01 47 45.9 -2.2
ERPA **Erie** 14.40 60 Pn Pn 01 47 45.4 -3.0
ERPA **Erie** 14.40 60 P Pn 01 47 46.4 -1.9
baz=250
BOZ **Bozeman (W)** 14.77 315 P Pn 01 47 53.3 -0.3
baz=126,SNR=6.1
Y59A **Loris** 14.81 93 Pn Pn 01 47 51.4 -2.6
M55A **Ridgway** 15.07 63 P Pn 01 47 56.3 -1.3
baz=255,SNR=5.3
M55A P Pn 01 47 56.3 -1.3
baz=255,SNR=5.3
IRM **Iron Mountain** 15.16 268 P Pn 01 47 60.0 +1.2
baz=78,SNR=15
GLA **Glamis** 15.17 264 P Pn 01 47 60.0 +1.0
baz=74,SNR=6.9
DWPF **Disney Wildern** 15.18 117 P Pn 01 47 57.2 -1.8
baz=305
R11A **Troy Canyon, C** 15.19 285 Pn Pn 01 47 57.6 -1.6
R11A **Troy Canyon, C** 15.19 285 P Pn 01 48 01.2 +1.9
baz=93,SNR=28
R58B **Mineral** 15.23 77 Pn Pn 01 47 56.6 -3.0
R58B IAmb IAmb 01 47 59.7
comp=Z,15nm,0.8s
ELK **Elko** 15.24 294 Pn Pn 01 48 01.6 +1.6
comp=Z,0.1nm,0.3s,baz=99,slow=8.0,SNR=10
ELK Lg Lg 01 52 25.3
comp=Z,0.2nm,0.3s,baz=52,slow=22,SNR=1.5
ELK LR LR 01 54 12.5
comp=Z,5µm,18.6s,baz=102,slow=39
comp=Z,6.5nm,0.9s
P57A **Homestead Farm** 15.25 71 Pn Pn 01 47 57.2 -2.7
Y60A **Bolivia** 15.34 92 Pn Pn 01 47 58.2 -2.8
CNNC **Cliffs of the** 15.38 87 P Pn 01 48 00.3 -1.3
baz=278
EGMT **Eagleton** 15.39 325 Pn Pn 01 47 59.0 -2.9
EGMT IAmb IAmb 01 48 09.1
comp=Z,44nm,1.1s
EGMT **Eagleton** 15.39 325 P Pn 01 48 00.7 -1.2
baz=137
GMRC **Granite Mounta** 15.46 271 P Pn 01 48 04.1 +1.3
baz=80,SNR=45
WVNY **West Valley, N** 15.46 60 Pn Pn 01 47 58.5 -4.2
WVNY IAmb IAmb 01 48 08.5
comp=Z,14nm,0.7s
T59A **Double "B" Far** 15.49 81 Pn Pn 01 48 01.0 -2.1
T59A IAmb IAmb 01 48 11.5
comp=Z,18nm,0.8s
HLID **Hailey** 15.52 305 P Pn 01 48 03.9 +0.4
baz=113,SNR=13
BC3 **Big Chuckawall** 15.52 267 P P 01 48 06.6 -1.5
baz=76,SNR=28
SSPA **Standing Stone** 15.53 67 Pn Pn 01 48 00.7 -2.9
SSPA IAmb IAmb 01 48 12.4
comp=Z,20nm,0.6s
SSPA **Standing Stone** 15.53 67 P Pn 01 48 01.5 -2.1
baz=259,SNR=5.3
SSPA **Standing Stone** 15.53 67 P Pn 01 48 01.9 -1.7
baz=259
TUQ **Turquoise Moun** 15.57 274 P P 01 48 07.0 -1.7
baz=82,SNR=21
TPNV **Topopah Spring** 15.70 279 Pn Pn 01 48 04.0 -2.0
TPNV **Topopah Spring** 15.70 279 P Pn 01 48 07.5 +1.5
baz=88,SNR=10
TPNV **Topopah Spring** 15.70 279 P Pn 01 48 04.0 -2.0
TPNV pmax pmax
comp=Z,15nm,1.4s
SHOC **Shoshone, Teco** 15.80 275 P Pn 01 48 07.3 +0.1
baz=84,SNR=13
BELC **Belle Mtn. Jos** 15.88 268 P P 01 48 11.6 -0.5
baz=77,SNR=38
SWSC **Sam W. Stewart** 15.98 265 P P 01 48 11.3 -1.8
baz=74,SNR=7.6
HEC **Hector,Ludlow** 16.00 272 P P 01 48 12.8 -0.5
baz=80,SNR=24
SADO **Sadowa** 16.02 51 Pn Pn 01 48 06.2 -3.7
comp=Z,1.1nm,0.3s,baz=266,slow=12,SNR=12
SADO Sn Sn 01 50 58.5 -9.2
comp=Z,10nm,0.3s,baz=264,slow=11,SNR=3.6
SADO Lg Lg 01 52 38.3
comp=Z,11nm,0.3s,baz=297,slow=20,SNR=1.6
SADO LR LR 01 54 23.3
comp=Z,3µm,18.4s,baz=226,slow=38
comp=Z,8.7nm,0.6s
L56A **Greenwood** 16.12 62 P Pn 01 48 08.4 -2.9
baz=254
L56A P Pn 01 48 08.4 -2.9
baz=254
FURC **Furnace Creek,** 16.22 278 P P 01 48 14.7 -1.0
baz=86,SNR=14
PMD **Palm Desert** 16.27 267 Pn Pn 01 48 12.5 -0.7
PMD IAmb IAmb 01 48 20.6
comp=Z,17nm,1.2s
QSM **Queen of Sheba** 16.27 276 Pn 01 48 14.6 +1.3
QSM IAmb IAmb 01 48 21.3
comp=Z,60nm,1.1s
GSC **Goldstone, Bar** 16.30 273 P P 01 48 16.4 -0.3
baz=82,SNR=31
IKP **In-Ko-Pah, Jac** 16.32 264 P P 01 48 15.6 -1.3
baz=73,SNR=8.7
TPFO **Pinon Flats** 16.34 267 P P 01 48 16.6 -0.6
baz=76,SNR=7.8
PFO **Pinyon Flats O** 16.35 267 Pn P 01 48 18.0 +0.7
comp=Z,0.2nm,0.3s,baz=88,slow=11,SNR=12
PFO Lg Lg 01 53 02.2
comp=Z,0.1nm,0.3s,baz=247,slow=5.9,SNR=3.1
PFO LR LR 01 54 52.3
comp=Z,2µm,20.8s,baz=82,slow=38
comp=Z,15nm,1.0s
PFO **Pinyon Flats O** 16.35 267 Pn 01 48 15.8 +1.5
PFO **Pinyon Flats O** 16.35 267 P P 01 48 16.8 -0.5
baz=76,SNR=7.5
PFO **Pinyon Flats O** 16.35 267 P Pn 01 48 15.8 +1.5
PFO pmax pmax
comp=Z,37nm,1.3s
MFID **Camas Ranch** 16.41 303 Pn 01 48 15.0 -0.1
TPH **Tonopah** 16.46 283 P Pn 01 48 16.6 +0.7
TPH **Tonopah** 16.46 283 P Pn 01 48 16.6 +0.7
TPH pmax pmax
comp=Z,262nm,1.6s
GMN **Gold Mountain** 16.50 281 P Pn 01 48 16.2 -0.1
GMN IAmb IAmb 01 48 24.3
comp=Z,67nm,1.8s
MONP2 **Monument Peak** 16.50 265 P P 01 48 18.5 -0.6
baz=74
BBRC **Big Bear Solar** 16.58 270 P P 01 48 21.8 +1.9
baz=78,SNR=10
MZP **Montezuma Peak** 16.59 282 Pn Pn 01 48 17.1 -0.4
GRAC **Grapevine Rang** 16.59 280 P P 01 48 20.1 +0.2
baz=87,SNR=11
LPIG **La Paz** 16.64 228 Pn P 01 48 22.1 +1.7
comp=Z,45nm,0.8s,baz=241,slow=5.0,SNR=5.6
LPIG LR LR 01 55 00.3
comp=Z,1µm,20.5s,baz=44,slow=38
SLBS **Sierra La Lagu** 16.74 227 Pn 01 48 18.6 -0.7
SLBS IAmb IAmb 01 48 27.8
comp=Z,31nm,0.9s
BAR **Barrett** 16.76 264 Pn 01 48 20.4 +0.9
BAR IAmb IAmb 01 48 27.5
comp=Z,67nm,1.0s
MPMC **Manual Prospec** 16.76 276 P P 01 48 22.4 +0.4
baz=84,SNR=48
MSO **Missoula** 16.79 315 Pn 01 48 19.9 +0.1
MSO **Missoula** 16.79 315 P Pn 01 48 20.6 +0.7
baz=124
LCH **Last Change Ra** 16.81 280 Pn 01 48 20.8 +0.6
MURC **Murrieta** 16.95 268 P P 01 48 24.8 +1.0
baz=76,SNR=22
LRMC **Laurel Mtn Rad** 16.99 274 P P 01 48 25.4 +1.0
baz=82,SNR=31
K57A **Scipio Center** 17.03 61 Pn Pn 01 48 21.2 -1.6
109C **Camp Elliot, M** 17.05 265 P P 01 48 26.3 +1.3
baz=74,SNR=8.7
WUPA **West Chester U** 17.14 70 Pn Pn 01 48 21.5 -2.7
BFSC **Mount Baldy Ra** 17.18 270 P P 01 48 29.1 +2.6
baz=78,SNR=19
PLID **Pearl Lake** 17.18 308 Pn 01 48 24.9 0.0
KVN **Kaiserville** 17.19 287 Pn 01 48 25.5 +0.5
KVN IAmb IAmb 01 48 33.2
comp=Z,42nm,1.1s
KVN **Kaiserville** 17.19 287 P Pn 01 48 25.5 +0.5
KVN pmax pmax
comp=Z,42nm,1.1s
CWC **Cottonwood Cre** 17.20 278 P P 01 48 28.1 +1.3
baz=85
NV11 **Mina Array Sit** 17.21 285 Pn 01 48 26.4 -0.4
NV11 IAmb IAmb 01 48 30.1
comp=Z,47nm,1.1s
BINY **Binghamton** 17.27 63 P Pn 01 48 25.5 -0.3
baz=256
TIN **Tinemaha, Big** 17.28 280 P P 01 48 29.8 +2.2
baz=87
CCAC **Calif City Air** 17.31 273 P P 01 48 27.9 +0.1
CCAC IAmb IAmb 01 48 34.1
comp=Z,46nm,0.8s
NVAR **Mina Array Bea** 17.32 285 P P 01 48 29.0 +0.9
comp=Z,0.4nm,0.3s,baz=88,slow=10,SNR=119
comp=Z,25nm,0.9s
EDW2 **Edwards Air Fo** 17.33 273 P P 01 48 30.0 +1.9
baz=80,SNR=21
J57A **Williamstown** 17.60 59 P Pn 01 48 29.0 -0.8
baz=252
J57A P Pn 01 48 29.0 -0.8
baz=252
ISA **Isabella, Lake** 17.60 275 P P 01 48 30.8 -0.3
ISA IAmb IAmb 01 48 36.8
comp=Z,52nm,1.2s
ISA **Isabella, Lake** 17.60 275 P P 01 48 32.1 +1.0
baz=82,SNR=16
ISA **Isabella, Lake** 17.60 275 P P 01 48 30.8 -0.3
ISA pmax pmax
comp=Z,52nm,1.3s
OMMB **Old Mammoth Mi** 17.88 282 P P 01 48 35.0 +0.7
BMO **Blue Mountains** 17.93 306 P P 01 48 35.4 +0.7
BMO IAmb IAmb 01 48 39.9
comp=Z,81nm,1.8s
BMO **Blue Mountains** 17.93 306 P P 01 48 35.4 +0.7
BMO pmax pmax
comp=Z,81nm,1.8s
L59A **Walton** 17.95 63 P Pn 01 48 33.5 -0.7
L59A IAmb IAmb 01 48 43.1
comp=Z,174nm,1.9s
ARVC **Arvin** 17.97 274 P P 01 48 38.4 +3.3
baz=81,SNR=14
OSI **Osito Audit: C** 17.97 272 P P 01 48 38.6 +3.5
baz=79
CIS **Catalina Islan** 17.98 268 P P 01 48 38.6 +3.4
baz=76
WCNY **West Carthage** 18.01 57 P Pn 01 48 33.3 -1.7
baz=251
BRNJ **Basking Ridge** 18.03 68 P Pn 01 48 34.5 -0.7
BRNJ IAmb IAmb 01 48 39.1
comp=Z,31nm,0.9s
VES **Vestal, Richgr** 18.07 276 P P 01 48 39.2 +3.0
baz=83
WALA **Waterton Lakes** 18.12 321 P Pn 01 48 36.4 +0.1
TLIG **Tlapa** 18.42 185 P Pn 01 48 40.0 -0.3
TLIG IAmb IAmb 01 48 44.3
comp=Z,49nm,0.9s
PAL **Palisades** 18.57 67 P Pn 01 48 42.6 +0.8
baz=262
J59A **Piesco** 18.65 60 P P 01 48 42.5 -0.1
PKM **Mcpherson Peak** 18.80 273 P Pn 01 48 47.4 +2.5
baz=80,SNR=9.4
SMMC **Simmler** 18.88 275 P Pn 01 48 48.6 +2.9
baz=81
CMIG **Matias Romero** 18.89 174 P Pn 01 48 46.7 +0.8
comp=Z,3.0nm,0.3s,baz=350,slow=8.6,SNR=38
CMIG LR LR 01 59 21.7
comp=Z,474nm,19.2s,baz=12,slow=47
comp=Z,21nm,0.6s
LONY **Lake Ozonia** 18.95 56 P P 01 48 44.2 -1.6
LONY **Lake Ozonia** 18.95 56 P P 01 48 45.6 -0.2
baz=251
NCB **Newcomb** 18.99 58 P P 01 48 44.9 -1.4
NCB IAmb IAmb 01 48 57.8
comp=Z,26nm,0.6s
BEKR **Beckworth** 18.99 289 P Pn 01 48 47.0 -0.1
TRY **Troy** 19.06 62 P Pn 01 48 47.8 0.0
BMNY **Brushton-Moira** 19.07 56 P P 01 48 46.4 -0.8
baz=250
FFC **Flin Flon** 19.08 351 P P 01 48 46.2 -1.0
FFC IAmb IAmb 01 48 57.8
comp=Z,23nm,0.8s
FFC **Flin Flon** 19.08 351 P P 01 48 46.2 -1.0
FFC pmax pmax
comp=Z,23nm,0.8s
ACCN **Adirondack Com** 19.22 60 P P 01 48 48.5 -0.2
ACCN IAmb IAmb 01 49 02.3
comp=Z,29nm,0.9s
NEW **Newport** 19.38 316 P Pn 01 48 51.9 +0.2
comp=Z,0.3nm,0.3s,baz=130,slow=9.1,SNR=13
NEW LR LR 01 57 07.8
comp=Z,907nm,21.5s,baz=119,slow=39
comp=Z,7.1nm,0.7s
NEW **Newport** 19.38 316 P P 01 48 50.7 +0.2
NEW **Newport** 19.38 316 P Pn 01 48 52.8 +1.2
baz=122,SNR=6.5
NEW **Newport** 19.38 316 P P 01 48 50.7 +0.2
NEW pmax pmax
comp=Z,10.0nm,0.9s
TRQ **Mont Tremblant** 19.56 52 P P 01 48 51.7 -0.8
TRQ IAmb IAmb 01 49 04.2
comp=Z,34nm,1.1s
E08A **Dider Farm, El** 19.71 309 P P 01 48 53.5 -0.6
E08A IAmb IAmb 01 48 58.9
comp=Z,17nm,0.7s
L61B **Northampton** 19.72 64 P P 01 48 53.9 -0.3
baz=259
HAWA **Hanford** 19.97 308 P P 01 48 57.7 +0.8
HAWA IAmb IAmb 01 49 02.3
comp=Z,28nm,1.0s
PINE **Pine Mountain** 20.07 300 P P 01 48 58.0 -0.3
B08A **Colville Reser** 20.71 314 P P 01 49 04.5 -0.5
EDM **Edmonton** 20.80 331 P P 01 49 05.0 -0.9
EDM IAmb IAmb 01 49 17.5
comp=Z,62nm,1.1s
EDM **Edmonton** 20.80 331 P P 01 49 05.0 -0.9
EDM pmax pmax
comp=Z,62nm,1.1s
YBH **Yreka Blue Hor** 20.96 294 P P 01 49 08.2 +0.4
comp=Z,18nm,1.0s,baz=111,slow=6.4,SNR=15
YBH LR LR 01 57 50.2
comp=Z,1µm,19.1s,baz=96,slow=38
comp=Z,18nm,1.0s
YBH **Yreka Blue Hor** 20.96 294 P P 01 49 06.1 -1.7
YBH IAmb IAmb 01 49 14.3
comp=Z,45nm,0.9s
YBH **Yreka Blue Hor** 20.96 294 P P 01 49 06.1 -1.7
YBH pmax pmax
comp=Z,45nm,1.0s
LTY **Liberty** 21.03 310 P P 01 49 07.2 -1.3

LTY IAmb IAmb 01 49 15.1
comp=Z,17nm,0.8s
D05A Enumclaw 21.84 309 P **P** **01 49 15.9 -1.2**
MTO3 Montecristo 22.50 161 P **P** **01 49 23.8 -0.8**
MTO3 IAmb IAmb 01 49 46.8
comp=Z,15nm,0.9s
FCC Fort Churchill 22.86 4 P **P** **01 49 28.5 +0.7**
FCC Fort Churchill 22.86 4 P **P** **01 49 28.5 +0.7**
FCC pmax pmax
comp=Z,75nm,1.0s
BRLDA Berland Lookou 23.10 328 P **P** **01 49 29.1 -1.4**
TGUH Tegucigalpa,Un 23.44 156 P **P** **01 49 34.9 +0.5**
BBB Bella Bella 27.45 316 LR LR 02 01 41.0
comp=Z,1µm,18.1s,baz=120,slow=38
JTS Las Juntas de 27.74 154 *i* P **P** **01 50 14.1 +0.6**
JTS pmax pmax
comp=Z,7.0nm,1.1s
SCHQ Schefferville 27.90 38 P **P** **01 50 15.5 +0.9**
comp=Z,6.4nm,0.8s,baz=244,slow=6.8,SNR=6.7
SCHQ LR LR 02 01 47.4
comp=Z,2µm,18.6s,baz=242,slow=38
comp=Z,6.4nm,0.8s
SDDR Presa de Saban 28.12 120 IAMs_20 IAMs_20 02 02 06.0
comp=Z,2µm,20.0s
YKA Yellowknife Ar 28.77 343 P **P** **01 50 22.8 +0.6**
comp=Z,1.4nm,0.8s,baz=141,slow=8.5,SNR=8.9
YKA LR LR 02 02 09.5
comp=Z,2µm,18.5s,baz=140,slow=37
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 28.77 343 P **P** **01 50 21.1 -1.1**
YKA Yellowknife Ar 28.77 343 P **P** **01 50 21.1 -1.1**
DLBC Dease Lake 31.32 326 P **P** **01 50 47.7 +2.7**
comp=Z,2.4nm,0.9s,baz=112,slow=8.7,SNR=5.1
comp=Z,2.4nm,0.9s
PRSN Puerto Rico Se 31.58 116 P **P** **01 50 47.1 -0.4**
SJG San Juan 32.38 115 P **P** **01 50 56.5 +2.0**
comp=Z,11nm,0.8s,baz=126,slow=3.4,SNR=5.5
SJG LR LR 02 05 25.1
comp=Z,270nm,20.0s,baz=313,slow=39
comp=Z,11nm,0.8s
FRB Frobisher Bay 32.67 23 P **P** **01 50 56.2 -0.5**
comp=Z,14nm,0.7s,baz=214,slow=12,SNR=6.4
FRB LR LR 02 04 20.2
comp=Z,2µm,18.8s,baz=224,slow=37
comp=Z,14nm,0.7s
JIS Juneau Island 33.27 324 IAMs_20 IAMs_20 02 04 46.1
comp=Z,2µm,18.0s
SDV Santo Domingo 35.98 132 P **P** **01 51 28.0 +2.0**
comp=Z,4.5nm,0.3s,baz=30,slow=11,SNR=4.5
SDV LR LR 02 08 46.5
comp=Z,226nm,19.2s,baz=334,slow=41
comp=Z,4.5nm,0.3s
M30M Minto, Yukon 36.28 330 P **P** **01 51 27.9 -0.1**
M30M IAmb IAmb 01 51 47.4
comp=Z,24nm,1.7s
M30M Minto, Yukon 36.28 330 P **P** **01 51 30.3 +2.2**
baz=118
BCPM Bancas Point 36.42 325 IAMs_20 IAMs_20 02 05 17.5
comp=Z,2µm,18.0s
C36M Paulatuk 36.62 344 IAMs_20 IAMs_20 02 06 46.7
comp=Z,1µm,20.0s
K29M Barlow Dome 37.18 331 P **P** **01 51 36.6 +0.8**
baz=119
TABL Table Mountain 37.30 325 IAMs_20 IAMs_20 02 04 52.7
comp=Z,1µm,22.0s
BAUV El Baul 37.53 129 P **P** **01 51 38.9 -0.2**
YAH Yahtse 37.55 325 IAMs_20 IAMs_20 02 05 09.4
comp=Z,2µm,21.0s
J29M Klondike Camp 37.74 332 IAMs_20 IAMs_20 02 05 08.4
comp=Z,1µm,19.0s
ISLE Juniper Island 37.91 325 IAMs_20 IAMs_20 02 05 22.9
comp=Z,2µm,22.0s
WAX Waxell Ridge 38.10 325 IAMs_20 IAMs_20 02 06 20.9
comp=Z,1µm,19.0s
EPYK Eagle Plains 38.19 335 IAMs_20 IAMs_20 02 07 16.1
comp=Z,1µm,18.0s
EPYK Eagle Plains 38.19 335 P **P** **01 51 44.7 +0.6**
baz=123
INK Inuvik 38.31 339 P **P** **01 51 46.1 +1.1**
comp=Z,3.0nm,0.8s,baz=116,slow=7.3,SNR=7.9
INK LR LR 02 08 23.4
comp=Z,959nm,19.6s,baz=124,slow=38
comp=Z,3.0nm,0.8s
INK Inuvik 38.31 339 P **P** **01 51 45.2 +0.1**
baz=128
G30M tAoh Zraii Nji 38.36 336 P **P** **01 51 49.1 +3.6**
baz=124
BERG Berg Lake 38.48 324 IAMs_20 IAMs_20 02 05 35.0
comp=Z,2µm,20.0s
MCARA McCarthy VSAT 38.49 326 IAMs_20 IAMs_20 02 06 57.1
comp=Z,1µm,18.0s
VRDI Verde Repeater 38.63 326 IAMs_20 IAMs_20 02 06 48.9
comp=Z,1µm,18.0s
RES Resolute Bay 38.80 1 P **P** **01 51 49.2 +0.1**
comp=Z,6.3nm,0.9s,baz=171,slow=12,SNR=11
RES LR LR 02 08 23.9
comp=Z,1µm,20.3s,baz=182,slow=37
comp=Z,6.3nm,0.9s
M26K Nabesna, AK 38.83 328 P **P** **01 51 51.7 +2.1**
baz=111
PCRV Puerto La Cruz 38.85 123 LR LR 02 09 02.3
comp=Z,1µm,19.8s,slow=38
GLB Gilahina Butte 38.86 326 IAMs_20 IAMs_20 02 05 48.1
comp=Z,1µm,20.0s
A36M Sachs Harbour 38.94 346 P **P** **01 51 49.1 -1.2**
A36M IAmb IAmb 01 52 12.5
comp=Z,11nm,0.8s
A36M IAMs_20 IAMs_20 02 07 38.2
comp=Z,1µm,19.0s
A36M Sachs Harbour 38.94 346 P **P** **01 51 50.2 -0.1**
baz=142
EGAK Eagle 39.02 332 P **P** **01 51 52.7 +1.6**
baz=116
K27K Chicken 39.07 330 P **P** **01 51 52.7 +1.2**
baz=114
N25K Chitina, Valde 39.27 326 IAMs_20 IAMs_20 02 07 07.9
comp=Z,1µm,18.0s
I27K Kandik River 39.56 333 P **P** **01 51 57.4 +1.8**
baz=116
H27K Steamboat Moun 39.80 334 P **P** **01 51 58.5 +0.9**
baz=117
SCRK Sand Creek 39.82 330 P **P** **01 51 59.7 +1.7**
baz=112
J26L Joseph Creek 39.85 331 P **P** **01 51 57.9 -0.3**
J26L Joseph Creek 39.85 331 P **P** **01 51 59.6 +1.4**
baz=113
I26K Coal Creek Min 40.01 332 IAMs_20 IAMs_20 02 06 51.4
comp=Z,2µm,19.0s
I26K Coal Creek Min 40.01 332 P **P** **01 51 57.9 -1.4**
baz=114
RIDG Independent Ri 40.09 329 IAMs_20 IAMs_20 02 08 21.6
comp=Z,1µm,18.0s
PAX Paxson 40.10 328 P **P** **01 51 59.3 -0.9**
baz=109
G27K Doyon Strip 40.12 334 P **P** **01 52 00.4 +0.2**
baz=117
K24K Donnelly Dome 40.51 329 P **P** **01 52 04.9 +1.5**
baz=110
SCM Sheep Creek Mo 40.59 326 IAMs_20 IAMs_20 02 06 45.6
comp=Z,1µm,19.0s
J25K Salcha River, 40.62 330 P **P** **01 52 02.9 -1.5**
baz=111
SFJD Kangerlussuaq 40.65 26 P **P** **01 52 05.2 +0.7**
comp=Z,18nm,0.9s,baz=255,slow=6.3,SNR=5.0
SFJD LR LR 02 08 58.7
comp=Z,1µm,20.0s,baz=240,slow=36
comp=Z,18nm,0.9s
E27K Coleen River 40.75 336 P **P** **01 52 06.3 +0.9**
baz=119
NRS Narsarsuaq 40.78 35 *i* P **P** **01 52 01.9 -3.8**
PWL Port Wells 40.81 324 IAMs_20 IAMs_20 02 07 45.4
comp=Z,2µm,19.0s
G26K Porcupine Rive 40.93 334 P **P** **01 52 08.9 +2.0**
baz=115
DHY Denali Highway 40.96 328 IAMs_20 IAMs_20 02 07 10.4
comp=Z,1µm,19.0s
PRP Porcupine Dome 41.01 331 IAMs_20 IAMs_20 02 07 21.7
comp=Z,2µm,19.0s
PRP Porcupine Dome 41.01 331 P **P** **01 52 09.6 +1.8**
baz=112
SML Sawmill 41.04 325 IAMs_20 IAMs_20 02 06 59.5
comp=Z,1µm,22.0s
HDA Harding Lake 41.19 330 IAMs_20 IAMs_20 02 10 20.5
comp=Z,1µm,19.0s
HDA Harding Lake 41.19 330 P **P** **01 52 10.9 +1.8**
baz=109
IL31 41.28 330 P **P** **01 52 08.9 -0.9**
IL31 IAmb IAmb 01 52 26.2
comp=Z,14nm,1.1s
ILAR Eielson Array 41.28 330 P **P** **01 52 11.2 +1.3**
comp=Z,2.5nm,0.7s,baz=104,slow=7.4,SNR=39
ILAR LR LR 02 09 32.8
comp=Z,535nm,20.1s,baz=95,slow=37
comp=Z,2.5nm,0.7s
ILAR Eielson Array 41.28 330 P **P** **01 52 09.8 -0.1**
ILAR Eielson Array 41.28 330 P **P** **01 52 09.8 -0.1**
GHO Glory Hole Cre 41.30 325 IAMs_20 IAMs_20 02 07 21.5
comp=Z,1µm,18.0s
F26K Sheenjek River 41.38 335 P **P** **01 52 11.5 +0.9**
baz=116
H25K Birch Creek 41.40 332 P **P** **01 52 12.6 +1.9**
baz=112
COHC Cochancay 41.61 153 P **P** **01 52 11.3 -1.7**
CCB Clear Creek Bu 41.62 330 IAMs_20 IAMs_20 02 07 54.8
comp=Z,1µm,18.0s
POKR Poker Plat Res 41.62 330 IAMs_20 IAMs_20 02 08 02.9
comp=Z,2µm,19.0s
RND Reindeer 41.69 328 IAMs_20 IAMs_20 02 08 27.9
comp=Z,1µm,19.0s
G25K Bearman Lake 41.70 333 P **P** **01 52 15.4 +2.2**
baz=112
COLA College 41.71 330 *i* P **P** **01 52 13.6 +0.3**
COLA pmax pmax
comp=Z,22nm,2.6s
M22K Willow 41.85 325 IAMs_20 IAMs_20 02 07 58.0
comp=Z,2µm,20.0s
F25K Christian Rive 41.86 334 P **P** **01 52 15.7 +1.1**
baz=114
H24K Noodor Dome 42.03 331 P **P** **01 52 16.3 +0.2**
H24K IAmb IAmb 01 53 30.6
comp=Z,21nm,1.5s
H24K IAMs_20 IAMs_20 02 07 43.8
comp=Z,1µm,20.0s
H24K Noodor Dome 42.03 331 P **P** **01 52 18.1 +2.1**
baz=110
E25K Arctic Village 42.05 335 P **P** **01 52 17.3 +1.2**
baz=114
SUA Susitna One 42.08 325 IAMs_20 IAMs_20 02 08 03.1
comp=Z,2µm,21.0s
NEA2 Nenana 42.12 329 P **P** **01 52 19.1 +2.4**
baz=107
G24K Hadweenzic Riv 42.18 333 P **P** **01 52 19.0 +1.8**
baz=111
TRF Thorofare Moun 42.33 328 IAMs_20 IAMs_20 02 08 02.6
comp=Z,2µm,20.0s
TRF Thorofare Moun 42.33 328 P **P** **01 52 20.8 +2.2**
baz=104
I23K Minto, Yukon-K 42.40 330 IAMs_20 IAMs_20 02 09 54.6
comp=Z,867nm,18.0s
I23K Minto, Yukon-K 42.40 330 P **P** **01 52 20.1 +1.2**
baz=107
KDAK Kodiak Island 42.43 319 LR LR 02 09 06.5
comp=Z,1µm,18.2s,baz=77,slow=35
SKT Skwentna 42.55 325 IAMs_20 IAMs_20 02 08 30.6
comp=Z,2µm,20.0s
SKT Skwentna 42.55 325 P **P** **01 52 22.4 +2.1**
baz=102
F24K Squaw Lake 42.62 334 P **P** **01 52 21.6 +0.8**
baz=111
KTH Kantishna Hill 42.63 328 P **P** **01 52 21.0 0.0**
KTH IAMs_20 IAMs_20 02 09 31.6
comp=Z,2µm,18.0s
H23K Yukon River 42.68 331 P **P** **01 52 22.0 +0.8**
baz=108
N20K Mount Spurr 42.72 324 P **P** **01 52 22.5 +0.8**
baz=100
SPCR Spurr Chakacha 42.72 324 P **P** **01 52 22.2 +0.5**
baz=100
D25K Kavik River 42.81 337 P **P** **01 52 23.5 +1.1**
baz=115
MLY Manley 42.93 330 P **P** **01 52 24.7 +1.4**
baz=116
E24K Your Creek 43.04 334 P **P** **01 52 25.9 +1.7**
baz=111
PPLA Purkeypile 43.04 326 P **P** **01 52 23.9 -0.4**
baz=102
CAST Castle Rocks 43.10 327 P **P** **01 52 22.6 -2.1**
CAST IAMs_20 IAMs_20 02 09 15.2
comp=Z,1µm,19.0s
CAST Castle Rocks 43.10 327 P **P** **01 52 26.4 +1.7**
baz=103
G23K Bananza Creek 43.14 332 P **P** **01 52 27.4 +2.4**
baz=108
M20K Styx River 43.28 325 IAMs_20 IAMs_20 02 08 31.8
comp=Z,1µm,19.0s
M20K Styx River 43.28 325 P **P** **01 52 28.5 +2.2**
baz=100
TOLK Toolik Lake Re 43.62 335 **P** **01 52 29.7 +0.9**
TOLK IAmb IAmb 01 53 00.9
comp=Z,6.6nm,0.8s
TOLK Toolik Lake Re 43.62 335 P **P** **01 52 30.6 +1.8**
baz=111
L20K Farewell, AK 43.73 326 P **P** **01 52 32.4 +2.6**
baz=100
N19K Bonanza Creek 43.76 323 P **P** **01 52 32.3 +2.2**
baz=98
G22K Bettles 43.76 332 P **P** **01 52 32.5 +2.6**
baz=107
Q18K Katmai Hardscr 43.79 320 P **P** **01 52 32.1 +1.6**
baz=95
M19K Big River Lodg 43.87 325 IAMs_20 IAMs_20 02 09 23.4
comp=Z,1µm,18.0s
M19K Big River Lodg 43.87 325 P **P** **01 52 32.6 +1.6**
baz=99
H21K Melozitna Rive 43.93 330 IAMs_20 IAMs_20 02 10 21.9
comp=Z,1µm,19.0s
H21K Melozitna Rive 43.93 330 P **P** **01 52 31.8 +0.4**
baz=104
K20K Telida 43.97 327 IAMs_20 IAMs_20 02 09 12.0
comp=Z,1µm,18.0s
K20K Telida 43.97 327 P **P** **01 52 34.7 +3.0**
baz=101
D23K Nanushuk River 44.11 335 P **P** **01 52 33.5 +0.8**
baz=110
L19K White Mountain 44.13 325 IAMs_20 IAMs_20 02 09 19.2
comp=Z,2µm,22.0s
L19K White Mountain 44.13 325 P **P** **01 52 35.6 +2.6**
baz=99
J20K Nowinta River 44.16 328 P **P** **01 52 34.1 +0.9**
J20K IAmb IAmb 01 53 35.6
comp=Z,9.1nm,0.9s
J20K IAMs_20 IAMs_20 02 09 13.0
comp=Z,1µm,22.0s
J20K Nowinta River 44.16 328 P **P** **01 52 34.9 +1.7**
baz=101
F22K John River 44.18 333 P **P** **01 52 35.1 +1.8**
baz=107
G21K Allakaket 44.42 331 P **P** **01 52 37.0 +1.7**
baz=104
F21K Alatna River 44.59 332 P **P** **01 52 37.7 +1.1**
baz=105
TTA Tatalina 44.77 326 P **P** **01 52 40.4 +2.3**
baz=98
ICESG Greenland Ices 45.25 25 *i* P **P** **01 52 41.3 -0.9**
ICESG IAmb IAmb 01 52 43.9
comp=Z,26nm,1.3s
NEEM North Greenlan 45.99 13 *i* P **P** **01 52 48.0 0.0**
NEEM IAmb IAmb 01 52 51.4
comp=Z,24nm,1.0s
ATAH Atahualpa 46.24 154 LR LR 02 13 47.7
comp=Z,251nm,21.5s,baz=335,slow=38
SUMG Summit 46.67 21 *i* P **P** **01 52 53.0 -0.5**
SUMG IAmb IAmb 01 52 57.9
comp=Z,1µm,4.6s
A21K Barrow 46.76 338 IAMs_20 IAMs_20 02 12 12.7
comp=Z,1µm,21.0s
BOAV Boa Vista 47.33 127 P **P** **01 52 59.4 +0.6**
BOAV IAmb IAmb 01 53 00.8
comp=Z,4.7nm,0.8s
MDP Montagnes des 50.84 117 LR LR 02 17 44.1
comp=Z,254nm,19.5s,baz=322,slow=39
NNA Nana 51.29 155 LR LR 02 17 39.1
comp=Z,63nm,20.5s,baz=332,slow=39
MACA Manacapuru-AM 51.51 131 P **P** **01 53 30.1 -0.6**
MACA IAmb IAmb 01 54 14.4
comp=Z,8.1nm,0.8s
BORG Borgarnes 51.98 32 LR LR 02 14 57.4
comp=Z,1µm,18.4s,baz=273,slow=35
DAG Danmarks Havn 52.57 16 *i* P **P** **01 53 38.0 +0.1**
DAG IAmb IAmb 01 53 38.7
comp=Z,9.9nm,0.8s
NOR Nord 53.19 10 *i* P **P** **01 53 42.9 +0.5**
NOR IAmb IAmb 01 53 46.9
comp=Z,4.6nm,0.9s
ETMB Extrema 53.90 142 P **P** **01 53 47.1 -1.2**
ETMB IAmb IAmb 01 54 18.1
comp=Z,6.8nm,1.0s
JMIC Jan Mayen 55.89 23 LR LR 02 17 45.2
comp=Z,680nm,18.8s,baz=248,slow=36
LPAZ La Paz 58.63 147 P **P** **01 54 24.4 +1.5**
comp=Z,1.1nm,0.7s,baz=7.2,slow=3.9,SNR=6.1
LPAZ LR LR 02 24 39.2
comp=Z,246nm,18.9s,baz=332,slow=41
comp=Z,1.1nm,0.7s
LPAZ La Paz 58.63 147 P **P** **01 54 21.0 -1.9**
LPAZ IAmb IAmb 01 55 41.9
comp=Z,7.8nm,1.4s
LPAZ La Paz 58.63 147 P **P** **01 54 21.0 -1.9**
LPAZ pmax pmax
comp=Z,8.0nm,1.4s
SPITS Spitsbergen Ar 59.55 13 LR LR 02 20 28.8
comp=Z,912nm,19.1s,baz=276,slow=36
BILL Bilibino 59.66 334 IAMs_20 IAMs_20 02 19 51.8
comp=Z,665nm,20.0s
BILL Bilibino 59.66 334 *c i* P **P** **01 54 27.2 -1.5**
BILL *i* 01 55 17.6
BILL pmax pmax
comp=Z,31nm,1.9s
BILL MLR MLR
comp=Z,638nm,14.0s
TAOE Nuku Hiva Isla 60.45 231 *e* LR LR 02 12 24.5
comp=Z,243nm,21.7s
PB11 IPOC Station P 61.10 151 P **P** **01 54 37.5 -1.7**
SIV San Ignacio 61.75 140 LR LR 02 25 16.3
comp=Z,232nm,18.3s,baz=328,slow=40
PTLB Pontes e Lacer 62.32 138 P **P** **01 54 46.1 -1.3**
PTLB IAmb IAmb 01 55 13.5
comp=Z,12nm,1.4s
ESK Eskdalemuir 63.18 40 P **P** **01 54 53.0 +0.3**
ESK Eskdalemuir 63.18 40 P **P** **01 54 53.0 +0.3**
ESK pmax pmax
comp=Z,102nm,1.6s
EKA Eskdalemuir Ar 63.20 40 LR LR 02 21 03.9
comp=Z,684nm,18.3s,baz=294,slow=35
RPN Rapa Nui 63.88 192 LR LR 02 19 17.7
comp=Z,228nm,19.0s,baz=4.0,slow=33
TRO Tromso 64.86 20 *e* P **P** **01 55 05.3 +1.9**
TRO IAmb IAmb 01 55 05.3
comp=Z,14nm,0.8s
FAUS Fauske 65.06 23 *e* P **P** **01 55 05.3 +0.5**
JETT Jettan, Norway 65.32 20 *e* P **P** **01 55 08.4 +1.8**
JETT IAmb IAmb 01 55 08.8
comp=Z,24nm,0.7s
MOR8 Moi Rana 65.46 25 *e* P **P** **01 55 09.1 +1.6**
NSS Namsos 65.49 27 *e* P **P** **01 55 08.8 +1.2**
HAMF Hammerfest 65.52 18 *e* P **P** **01 55 09.0 +1.3**
HAMF IAmb IAmb 01 55 10.7
comp=Z,23nm,1.0s
KTK1 Kautokeino 66.45 20 *e* P **P** **01 55 14.3 +0.5**
KTK1 IAmb IAmb 01 55 15.9
comp=Z,15nm,0.9s
ARA0 ARCESS Array S 66.72 19 *e* P **P** **01 55 16.4 +1.0**
ARA0 IAmb IAmb 01 55 20.0
comp=Z,17nm,1.0s
ARCES ARCESS Array B 66.72 19 P **P** **01 55 16.4 +1.0**
comp=Z,8.9nm,0.8s,baz=312,slow=5.4,SNR=19
ARCES LR LR 02 23 37.4
comp=Z,818nm,21.1s,baz=293,slow=35
comp=Z,8.9nm,0.8s
ARCES ARCESS Array B 66.72 19 P **P** **01 55 15.6 +0.1**
ARCES ARCESS Array B 66.72 19 P **P** **01 55 15.6 +0.1**
ARCES pmax pmax
comp=Z,18nm,1.2s
KEV Kevo 66.95 18 P **P** **01 55 17.2 +0.3**
KEV Kevo 66.95 18 P **P** **01 55 17.2 +0.3**
KEV pmax pmax
comp=Z,30nm,1.4s
NB2 NORSAR Subarra 67.10 30 P **P** **01 55 18.8 +0.7**
baz=302,slow=6.9
NB2 NORSAR Subarra 67.10 30 P **P** **01 55 18.8 +0.7**
comp=Z,3.6nm,0.8s,baz=302,slow=6.9
NOA NORSAR Array B 67.10 30 P **P** **01 55 18.9 +0.9**
comp=Z,2.8nm,0.8s,baz=302,slow=6.6,SNR=9.3
NOA LR LR 02 24 22.5
comp=Z,486nm,18.0s,baz=295,slow=36
comp=Z,2.8nm,0.8s
NOA NORSAR Array B 67.10 30 P **P** **01 55 19.0 +0.9**
SEY Seymchan 67.16 332 *i* P **P** **01 55 20.9 +2.5**
SEY pmax pmax
comp=Z,7.0nm,1.1s
TIXI Tiksi 67.96 346 LR LR 02 27 07.6
comp=Z,661nm,19.3s,baz=47,slow=38
AQDB Aquidauana 68.30 138 P **P** **01 55 25.6 -0.4**
AQDB IAmb IAmb 01 55 50.0
comp=Z,5.1nm,0.9s
HFS Hagfors 68.62 30 LR LR 02 24 51.5
comp=Z,572nm,19.4s,baz=276,slow=35
BDFB Brasilia 69.00 129 P **P** **01 55 32.7 +2.1**
comp=Z,2.6nm,0.8s,baz=329,slow=12,SNR=3.7
BDFB LR LR 02 28 25.6
comp=Z,622nm,18.2s,baz=320,slow=38
comp=Z,2.6nm,0.8s
MA2 Magadan 69.77 330 LR LR 02 28 54.7
comp=Z,383nm,18.7s,baz=47,slow=38
PAB San Pablo 69.85 55 IAMs_20 IAMs_20 02 23 46.3
comp=Z,456nm,19.0s
ESDC Sonseca Array 70.04 55 P **P** **01 55 38.2 +1.3**
comp=Z,1.3nm,0.9s,baz=306,slow=6.4,SNR=6.6
ESDC LR LR 02 24 12.9
comp=Z,430nm,19.2s,baz=289,slow=34
comp=Z,1.3nm,0.9s
UPP Uppsala 70.37 29 *e* P **P** **01 55 38.6 +0.2**
PETK Petropavlovsk- 70.38 322 LR LR 02 26 18.6
comp=Z,190nm,21.9s,baz=46,slow=36
RCBR Riachuelo 70.50 113 LR LR 02 29 39.1
comp=Z,173nm,19.2s,baz=93,slow=38
AVE Averroes 70.90 62 IAMs_20 IAMs_20 02 22 54.5
comp=Z,656nm,20.0s
CPUP Villa Florida 72.30 143 P **P** **01 55 52.9 +2.4**
comp=Z,1.8nm,0.9s,baz=306,slow=6.8,SNR=3.3
CPUP LR LR 02 32 31.0
comp=Z,134nm,18.1s,baz=324,slow=40
comp=Z,1.8nm,0.9s
FINES FINESS Array B 72.44 25 P **P** **01 55 52.3 +1.4**
comp=Z,10nm,0.7s,baz=282,slow=4.2,SNR=21
FINES LR LR 02 26 56.1
comp=Z,538nm,19.7s,baz=350,slow=35
comp=Z,10nm,0.7s
FINES FINESS Array B 72.44 25 P **P** **01 55 49.6 -1.2**
FINES FINESS Array B 72.44 25 P **P** **01 55 49.7 -1.2**
FIA1 FINESS Array S 72.44 25 P **P** **01 55 50.5 -0.4**
PPT Papeete 73.01 233 LR LR 02 22 41.0
comp=Z,280nm,19.2s,baz=16,slow=31
PPT2 Papeete2 73.03 233 *e* LR LR 02 18 12.9
comp=Z,248nm,21.5s
PPT2 *e* LR LR 02 18 13.7
comp=Z,245nm,21.8s
CART Cartagena 73.11 56 IAMs_20 IAMs_20 02 26 58.6
comp=Z,396nm,19.0s
MDT Midelt 73.16 62 LR LR 02 24 57.6
comp=Z,231nm,20.0s,baz=314,slow=33
CLL Collm 73.55 38 IAMs_20 IAMs_20 02 27 14.1
comp=Z,476nm,20.0s
CLL Collm 73.55 38 *e* S **S** **02 05 27.0 -0.8**
CLL *e* SS **SS** **02 10 18.0 +8.4**
CLL *e* SSS SSS 02 13 30.0
CLL *e* SSSS 02 15 18.0
CLL LmV 02 27 00.0
comp=Z,400nm,19.9s
CLL Collm 73.55 38 *e* P **P** **01 55 56.0 -1.7**
CLL *e* S **S** **02 05 27.0 -0.8**
CLL MLR MLR
comp=Z,400nm,19.9s
BBTS Babate 73.73 84 LR LR 02 24 48.3
comp=Z,300nm,18.1s,baz=268,slow=33
NKC Novy Kostel 73.92 39 AMS AMS 02 28 20.0
comp=Z,700nm,21.1s
BRG Berggiesshubel 74.28 38 *e* P **P** **01 56 04.1 +2.1**
BRG Amp 01 56 04.7
comp=Z,7.9nm,0.9s
BRG Berggiesshubel 74.28 38 *e* P **P** **01 56 04.0 +2.1**
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG MLR MLR
comp=N,312nm,14.6s
BRG MLR MLR
comp=E,305nm,12.4s
BRG MLR MLR
comp=Z,475nm,13.1s
DAVOX Davos/Dischmat 74.62 43 LR LR 02 28 33.0
comp=Z,852nm,18.0s,baz=294,slow=36
VSU Vasula 74.79 27 *i* P **P** **01 56 05.4 +0.7**
VSU pmax pmax

comp=Z,69nm,1.1s
PVCC Panska Ves 74.81 38 AMS AMS 02 29 00.0
comp=Z,400nm,14.8s
FUORN Ofenpass-Fuorn 74.92 43 **P** **01 56 04.3 -1.8**
NRIK Noril'sk 74.94 358 P **P** **01 56 08.0 +2.6**
comp=Z,2.4nm,0.5s,baz=18,slow=3.9,SNR=3.6
NRIK LR LR 02 30 04.6
comp=Z,522nm,19.6s,baz=20,slow=37
comp=Z,2.4nm,0.5s
NRIK Noril'sk 74.94 358 P **P** **01 56 08.0 +2.6**
FETA Feichten 74.94 43 *e*P **P** **01 56 08.8 +2.7**
comp=Z,2.5nm,0.6s
PRU Pruhonice 75.14 38 *e*P **P** **01 56 09.3 +2.4**
PRU AMS AMS 02 30 00.0
comp=Z,600nm,13.8s
PRU Pruhonice 75.14 38 *e*P **P** **01 56 09.3 +2.4**
PRU MLR MLR
comp=Z,600nm,13.8s
KHC Kasperske Hory 75.18 40 *e*P **P** **01 56 09.7 +2.5**
KHC AMS AMS 02 30 40.0
comp=Z,600nm,14.1s
KHC Kasperske Hory 75.18 40 *e*P **P** **01 56 09.7 +2.5**
KHC MLR MLR
comp=Z,600nm,14.1s
WATA Walderalm 75.21 42 *i* P **P** **01 56 10.1 +2.4**
comp=Z,1.2nm,0.4s
WTTA Wattenberg 75.29 42 *e*P **P** **01 56 10.9 +2.8**
comp=Z,1.5nm,0.5s
GOPC GO Pecny, Ondr 75.31 38 AMS AMS 02 30 10.0
comp=Z,600nm,14.6s
GERES GERESS Array B 75.42 40 P **P** **01 56 10.5 +1.8**
comp=Z,2.6nm,0.7s,baz=328,slow=4.7,SNR=21
GERES LR LR 02 27 33.8
comp=Z,282nm,19.2s,baz=294,slow=34
comp=Z,2.6nm,0.7s
GERES GERESS Array B 75.42 40 P **P** **01 56 09.3 +0.6**
GERES GERESS Array B 75.42 40 P **P** **01 56 09.3 +0.6**
VSVD Vaisvydziai 75.46 30 *e*P **P** **01 56 08.7 +0.1**
UPC Upice 75.54 37 AMS AMS 02 31 10.0
comp=Z,600nm,15.1s
OSTC Ostas 75.61 37 *e*P **P** **01 56 11.7 +2.0**
OSTC AMS AMS 02 31 20.0
comp=Z,600nm,14.1s
CKRC Cesky Krumlov 75.75 40 AMS AMS 02 30 40.0
comp=Z,400nm,16.7s
DPC Dobruska-Polom 75.79 37 *e*P **P** **01 56 12.8 +2.0**
DPC AMS AMS 02 31 20.0
comp=Z,600nm,15.3s
DPC Dobruska-Polom 75.79 37 *e*P **P** **01 56 12.8 +2.0**
DPC MLR MLR
comp=Z,600nm,15.3s
PABE Paberze 75.80 30 P **P** **01 56 10.0 -0.6**
PABE Paberze 75.80 30 *e*P **P** **01 56 10.8 +0.2**
TREC Trest 76.05 39 AMS AMS 02 30 30.0
comp=Z,500nm,15.2s
BIOA Bad Ischl, Aus 76.10 41 *e*P **P** **01 56 14.8 +2.3**
comp=Z,0.7nm,0.4s
KRLC Kraliky 76.20 37 *e*P **P** **01 56 15.3 +2.2**
KRLC AMS AMS 02 31 20.0
comp=Z,600nm,14.4s
KRLC Kraliky 76.20 37 *e*P **P** **01 56 15.3 +2.2**
KRLC MLR MLR
comp=Z,600nm,14.4s
VRAC Vranov 76.60 38 LR LR 02 30 16.9
comp=Z,551nm,18.0s,baz=287,slow=36
VRAC Vranov 76.60 38 *e*P **P** **01 56 17.3 +2.0**
ISAL Salakas 76.63 29 *e*P **P** **01 56 14.1 -1.2**
KRUC Moravsky 76.66 38 *e*P **P** **01 56 16.5 +0.9**
ZCCA Zocca 76.69 45 P **P** **01 56 17.1 +1.1**
MORC Moravsky Berou 76.77 37 P **P** **01 56 15.9 -0.4**
MORC IAmb IAmb 01 57 27.0
comp=Z,19nm,2.0s
MORC Moravsky Berou 76.77 37 *e*P **P** **01 56 18.3 +2.0**
MORC Moravsky Berou 76.77 37 P **P** **01 56 15.9 -0.4**
MORC pmax pmax
comp=Z,19nm,2.0s
IIGN Ignalina 76.82 29 *e*P **P** **01 56 13.9 -2.5**
OKC Ostrava-Krasne 77.02 37 AMS AMS 02 32 00.0
comp=Z,400nm,14.2s
KLMR Klimovskoe 77.11 20 *e*P **P** **01 56 14.1 -3.8**
KLMR LR LR 02 25 29.6
KLMR AMP 02 29 57.0
comp=Z,266nm,12.8s
KLMR Klimovskoe 77.11 20 *e*P **P** **01 56 14.1 -3.8**
KLMR MLR MLR
comp=Z,266nm,13.0s
CONA Conrad Observa 77.11 40 *e*P **P** **01 56 20.9 +2.5**
comp=Z,2.5nm,0.6s
MAUC Maruska 77.17 38 AMS AMS 02 31 10.0
comp=Z,1μm,16.6s
TBI Tubuai 77.22 229 *e*LR LR 02 20 10.0
comp=Z,2μm,28.2s
TBI *e*LR LR 02 20 10.4
comp=Z,1μm,34.0s
OBKA Obir 77.33 41 *e*P **P** **01 56 21.4 +1.9**
comp=Z,7.2nm,0.5s
NACGM Naroch 77.37 30 *e*P **P** **01 56 21.3 +1.8**
comp=Z,20nm,0.8s,baz=316
ARSA Arzberg 77.37 40 *e*P **P** **01 56 21.8 +2.1**
comp=Z,1.5nm,0.5s
RONA Rosalia, Austr 77.48 40 *e*P **P** **01 56 22.7 +2.3**
comp=Z,1.7nm,0.6s
OJC Ojcow 77.57 36 P **P** **01 56 18.7 -2.0**
OJC IAmb IAmb 01 56 21.5
comp=Z,6.9nm,1.0s
OJC Ojcow 77.57 36 P **P** **01 56 18.7 -2.0**
OJC pmax pmax
comp=Z,7.0nm,1.0s
MNK Minsk 78.10 29 *i* P **P** **01 56 24.2 +0.6**
comp=E,1.0nm,0.8s
MNK *i* P **P** **01 56 24.2 +0.6**
comp=N,19nm,0.8s
MNK *i* P **P** **01 56 24.2 +0.6**
comp=Z,17nm,0.8s,baz=317
MNK *i* PcP **PcP** **01 56 33.4 +0.2**
MNK *i* PP PP 01 59 53.5 +34
MNK *i* PPP PPP 02 01 08.5
MNK *i* S **S** **02 06 19.8 +1.9**
MNK *i* SS SS 02 11 35.3 +17
MNK *i* SSS SSS 02 15 18.2
MNK *i* LQ LQ 02 24 19.4
MNK *i* LR LR 02 26 38.6
MNK *i* LRM MLR 02 31 00.9
comp=N,399nm,18.8s
MNK *i* LRM MLR 02 31 03.8
comp=Z,647nm,18.9s
MNK *i* LRM MLR 02 31 07.6
comp=E,55nm,18.8s
MNK Minsk 78.10 29 *i* P **P** **01 56 24.2 +0.6**
MNK *i* 01 56 33.4
MNK *i* PPP PPP 02 01 08.5
MNK *i* S **S** **02 06 19.8 +1.9**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,19nm,0.9s
MNK MLR MLR
comp=N,399nm,19.0s
MNK MLR MLR
comp=Z,647nm,19.0s
MNK MLR MLR
comp=E,55nm,19.0s
VYHS Vyhne 78.25 38 *e*P **P** **01 56 26.6 +2.0**
VYHS Vyhne 78.25 38 *e*P **P** **01 56 26.6 +2.0**
PSZ Piszkesteto 79.16 38 IAMs_20 IAMs_20 02 32 43.5
comp=Z,425nm,18.0s
PLCA Paso Flores 80.06 160 LR LR 02 29 24.3
comp=Z,57nm,19.6s,baz=353,slow=34
OBN Obninsk 80.85 25 LR LR 02 32 07.4
comp=Z,105nm,19.4s,baz=346,slow=35
OBN Obninsk 80.85 25 IAMs_20 IAMs_20 02 31 57.3
comp=Z,490nm,20.0s
OBN Obninsk 80.85 25↑ *e*P **P** **01 56 39.5 +1.0**
OBN *e*S **S** **02 06 48.8 +1.8**
OBN pmax pmax
comp=Z,26nm,1.7s
OBN MLR MLR
comp=Z,413nm,19.0s
KEST Kesra 80.97 52 LR LR 02 30 19.3
comp=Z,380nm,21.1s,baz=283,slow=34
AKASG Malin Array Be 81.47 31 P **P** **01 56 43.1 +1.1**
comp=Z,2.5nm,0.6s,baz=316,slow=4.6,SNR=15
AKASG LR LR 02 33 37.3
comp=Z,412nm,18.3s,baz=317,slow=36
comp=Z,2.5nm,0.6s
AKASG Malin Array Be 81.47 31 *ce*P **P** **01 56 43.4 +1.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 81.47 31 P **P** **01 56 41.5 -0.5**
AKBB IAmb IAmb 01 56 46.5
comp=Z,5.5nm,0.8s
AKBB Malin Array Si 81.47 31 *ce*P **P** **01 56 42.8 +0.9**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
KIRV Kirov 81.64 17 LR LR 02 32 17.1
comp=Z,626nm,22.0s,baz=343,slow=35
KIRV Kirov 81.64 17 *i* P **P** **01 56 43.3 +0.6**
BURAR Bucovina Array 81.95 35 P **P** **01 56 44.0 -0.7**
BURAR IAmb IAmb 01 56 48.8
comp=Z,4.7nm,1.0s
RAR Rarotonga 82.35 237 LR LR 02 27 14.1
comp=Z,151nm,20.9s,baz=97,slow=31
TIP Timpagrande 83.31 46 IAMs_20 IAMs_20 02 32 04.0
comp=Z,516nm,22.0s
ASAJ Asahikawa 83.79 321 LR LR 02 36 33.5
comp=Z,103nm,19.5s,baz=56,slow=37
MLR Muntele Rosu 83.83 37 LR LR 02 35 23.5
comp=Z,302nm,18.1s,baz=294,slow=36
MLR Muntele Rosu 83.83 37 IAMs_20 IAMs_20 02 34 13.9
comp=Z,359nm,20.0s
KLR Kul'dur 84.86 330 LR LR 02 36 35.6
comp=Z,128nm,19.5s,baz=38,slow=37
ARU Arti 85.58 13 LR LR 02 38 48.6
comp=Z,332nm,19.7s,baz=359,slow=38
ARU Arti 85.58 13 P **P** **01 57 04.4 +1.4**
ARU 02 00 21.3
ARU S **S** **02 07 29.3 -5.8**
ARU SS **SS** **02 13 12.4 +3.2**
ARU MLR MLR
comp=Z,371nm,16.0s
AFI Afiamalu 86.33 250 LR LR 02 30 46.7
comp=Z,97nm,19.8s,baz=94,slow=32
BELG Belogornoye 86.66 21 LR LR 02 35 44.2
comp=Z,560nm,18.4s,baz=324,slow=36
USRK Ussuriysk Ar. 88.75 327 LR LR 02 40 20.5
comp=Z,284nm,18.1s,baz=24,slow=38
TORD Torodi Ar. Bea 89.09 74 LR LR 02 33 37.8
comp=Z,445nm,20.4s,baz=342,slow=33
ZAA0 Zalesovo Array 90.42 359 P **P** **01 57 24.3 -1.9**
ZAA0 IAmb IAmb 01 57 29.2
comp=Z,3.1nm,0.8s
ZALV Zalesovo Beam 90.42 359 P **P** **01 57 27.5 +1.3**
comp=Z,2.9nm,0.9s,baz=15,slow=6.2,SNR=8.9
ZALV LR LR 02 41 28.9
comp=Z,255nm,20.4s,baz=348,slow=38
comp=Z,2.9nm,0.9s
ZALV Zalesovo Beam 90.42 359 P **P** **01 57 24.9 -1.3**
ZALV Zalesovo Beam 90.42 359 P **P** **01 57 24.9 -1.3**
BRVK Borovoye 90.61 8 P **P** **01 57 26.4 -0.6**
BRVK IAmb IAmb 01 59 20.7
comp=Z,3.9nm,0.7s
BRVK Borovoye 90.61 8 *i* P **P** **01 57 27.4 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 90.66 8 LR LR 02 42 15.4
comp=Z,527nm,19.1s,baz=352,slow=38
IDI Anoyia 90.68 44 LR LR 02 40 14.4
comp=Z,118nm,18.2s,baz=334,slow=37
MJAR Matsushiro Arr 91.61 319 LR LR 02 38 30.0
comp=Z,224nm,21.2s,baz=36,slow=35
CN2 Changchun 91.80 331 *e*P P 01 57 27.7 -5.1
ISP Isparta 91.83 39 IAMs_20 IAMs_20 02 40 28.2
comp=Z,398nm,19.0s
BRTR Kevin Array B 91.90 36 LR LR 02 40 51.9
comp=Z,161nm,18.1s,baz=310,slow=37
KIV Kislovodsk 92.32 28 IAMs_20 IAMs_20 02 37 52.0
comp=Z,378nm,20.0s
KIV Kislovodsk 92.32 28 *e*P **P** **01 57 35.0 -0.3**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,320nm,20.0s
KVAR Kislovodsk Arr 92.32 28 LR LR 02 38 10.5
comp=Z,416nm,21.8s,baz=272,slow=35
KBZ Khabaz 92.59 28 LR LR 02 38 25.3
comp=Z,523nm,21.8s,baz=327,slow=35
ABKAR Akbulak array 92.65 15 P **P** **01 57 35.6 -1.0**
KURK Kurchatov 93.57 3 *i* P **P** **01 57 38.9 -1.9**
KURK pmax pmax
comp=Z,2.0nm,1.2s
KURBB Kurchatov Arra 93.66 3 LR LR 02 42 44.2
comp=Z,693nm,21.6s,baz=292,slow=37
SONM Songino Array 94.02 345 P **P** **01 57 45.1 +2.0**
comp=Z,0.7nm,0.8s,baz=351,slow=3.9,SNR=3.7
SONM LR LR 02 42 21.2
comp=Z,301nm,20.8s,baz=20,slow=37
comp=Z,0.7nm,0.8s
XLT XiLinHaoTe 95.06 337 *e*P **P** **01 57 48.6 +0.6**
XLT S **S** **02 08 59.8 -3.4**
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT LR LR
comp=Z,1μm,17.8s
XLT LR LR
comp=Z,450nm,17.7s
KSRS Korea Array 96.00 326 LR LR 02 45 08.7
comp=Z,126nm,18.4s,baz=30,slow=38
JCJ Chichijima 96.19 310 LR LR 02 36 12.6
comp=Z,176nm,20.0s,baz=98,slow=32
GNI Garni 96.37 29 LR LR 02 42 52.6
comp=Z,335nm,18.3s,baz=327,slow=36
GNI Garni 96.37 29 IAMs_20 IAMs_20 02 42 41.1
comp=Z,389nm,19.0s
MSVF Nonsavu 96.44 253 LR LR 02 36 34.2
comp=Z,225nm,18.4s,baz=186,slow=32
MAKZ Makanchi 97.57 1 IAMs_20 IAMs_20 02 46 34.7
comp=Z,426nm,21.0s
MKAR Makanchi Array 97.59 1 LR LR 02 46 56.1
comp=Z,232nm,18.3s,baz=336,slow=38
MMAI Mount Meron Ar 98.06 39 LR LR 02 43 16.0
comp=Z,79nm,21.0s,baz=223,slow=36
HHC Hu-ho-hao-te 99.23 339 *e*P **Pdif** **01 58 04.0 -2.9**
HHC pmax pmax
comp=Z,32nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.3s
HHC LR LR
comp=Z,440nm,14.6s
HHC LR LR
comp=Z,770nm,14.1s
HHC LR LR
comp=Z,650nm,15.5s
WMQ Urumqi 100.46 357 *e*P **Pdif** **01 58 15.0 +2.8**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ LR LR
comp=Z,200nm,19.1s
WMQ LR LR
comp=Z,400nm,16.9s
WMQ LR LR
comp=Z,380nm,23.3s
UOSS Minazif 114.23 27 IAMs_20 IAMs_20 02 51 09.1
comp=Z,207nm,22.0s
TNCH TengChong 117.62 344 PKP PKPdf 02 03 03.8 -7.8
TNCH sPKP 02 03 12.8
TNCH AMB AMB
comp=Z,140nm,4.3s
LODK Lodwar 120.56 59 IAMs_20 IAMs_20 02 53 23.9
comp=Z,196nm,21.0s
KMBO Kilima Mbogo 125.10 61 IAMs_20 IAMs_20 02 54 48.4
comp=Z,243nm,21.0s
WRA Warramunga Arr 132.64 276 PKP **PKiKP** **02 03 43.2 +1.9**
comp=Z,0.6nm,0.9s,baz=50,slow=2.2,SNR=2.0
PSA00 Pilbara Seismi 145.06 284 PKPbc **PKPbc** **02 04 01.2 -0.9**
MAW Mawson 146.28 166 PKPbc **PKiKP** **02 04 07.2 -0.4**
comp=Z,3.2nm,0.7s,baz=216,slow=5.2,SNR=5.6
MAW Mawson 146.28 166 PKPbc **PKPab** **02 04 06.0 +0.7**
MAW Mawson 146.28 166 PKP2 **PKPab** **02 04 06.0 +0.7**

IDC 07 01:48:28.4±1.7, 2.64S×141.00E, h0km, mb3.9/2, mbtmp4.0/3, ML3.8/1, MS3.2/1, Error ellipse: s-maj=143.4km s-min=27.9km az=111.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.38**	**200**	P	P	01 52 45.5	+0.5
	0.3nm,0.3s,baz=21,slow=12,SNR=18						
WRA				LR	LR	02 00 23.1	
	comp=Z,88nm,21.9s,baz=334,slow=39						
ASAR	**Alice Springs**	**22.00**	**198**	P	P	01 53 23.9	-0.4
	1.1nm,0.6s,baz=28,slow=9.7,SNR=10						
	1.1nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**32.88**	**49**	T	T	02 29 04.5	
	baz=231,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**32.89**	**49**	T	T	02 29 05.8	
	baz=231,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**32.89**	**49**	T	T	02 29 05.8	
	baz=231,slow=75,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**33.77**	**48**	T	T	02 30 18.5	
	baz=229,slow=76,SNR=41						
H11N2	**WAKE ISLAND Hy**	**33.78**	**48**	T	T	02 30 13.4	
	baz=229,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**33.79**	**48**	T	T	02 30 13.7	
	baz=229,slow=76,SNR=27						
ILAR	**Eielson Array**	**84.83**	**24**	P	P	02 01 04.5	-0.1
	1.7nm,0.7s,baz=257,slow=4.6,SNR=16						
	1.7nm,0.7s						
LPAZ	**La Paz**	**145.62**	**124**	PKPbc	PKPdf	02 08 10.0	-0.6
	0.9nm,0.7s,baz=236,slow=2.5,SNR=5.2						

NEIC 07 01:52:29.7±0.4, 36.000N±0.008×96.78W±0.01, h6km, ML2.5/42, Error ellipse: s-maj=1.3km s-min=1.1km az=123.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK034	**N. Norfolk Rd.**	**0.05**	**79**	Pg	Pg	01 52 31.4	+0.2
OK034				Sg	Sg	01 52 32.4	+0.2
OK034				IAML		01 52 32.5	
	4μm,0.1s						
OK031	**S. Brethren Rd**	**0.07**	**228**	Pg	Pg	01 52 31.9	+0.5
OK031				Sg	Sg	01 52 33.1	+0.6
OK033	**Mehan**	**0.14**	**289**	Pg	Pg	01 52 33.0	+0.4
OK033				Sg	Sg	01 52 35.3	+0.9
QUOK	**Quay**	**0.18**	**18**	Pg	Pg	01 52 33.7	+0.4
DEOK	**Depew**	**0.28**	**125**	Pg	Pg	01 52 35.5	+0.5
DEOK				Sg	Sg	01 52 39.4	+0.7
DEOK				IAML		01 52 43.0	
	comp=N,691nm,0.2s						
DEOK				IAML		01 52 43.1	
	comp=E,494nm,0.3s						
OK044	**Pawnee Station**	**0.37**	**357**	Pg	Pg	01 52 37.1	+0.2
OK046	**Pawnee Station**	**0.41**	**345**	Pg	Pg	01 52 38.0	+0.3
OK046				IAML		01 52 46.2	
	comp=E,409nm,1.2s						
OK050	**Pawnee Station**	**0.43**	**337**		Pg	01 52 38.2	+0.3
OK048	**Pawnee Station**	**0.44**	**342**	Pg	Pg	01 52 38.5	+0.4
OK045	**Pawnee Station**	**0.46**	**345**	Pg	Pg	01 52 38.9	+0.3
OK045				IAML		01 52 54.2	
	comp=E,452nm,0.5s						
OK051	**E0350 and S346**	**0.51**	**355**	Pg	Pg	01 52 39.7	+0.2
OK051				IAML		01 52 47.0	
	comp=E,321nm,1.0s						
OK029	**Liberty Lake**	**0.59**	**250**	Pg	Pg	01 52 41.2	+0.2
OK029				IAML		01 52 51.7	
	comp=E,375nm,1.4s						
OK049	**E0420 Rd and N**	**0.59**	**314**	Pg	Pg	01 52 41.1	+0.1
OK049				IAML		01 52 56.9	
	comp=E,376nm,0.8s						
BCOK	**Bluff Creek, N**	**0.76**	**243**	Pg	Pg	01 52 44.5	+0.2
TUL1	**Leonard**	**0.80**	**96**	Pg	Pg	01 52 45.0	-0.1
TUL1				IAML		01 52 49.6	
	comp=N,234nm,1.3s						
TUL1				IAML		01 52 57.7	
	comp=E,269nm,0.8s						
BLOK	**Blackwell**	**0.84**	**335**	Pg	Pg	01 52 45.8	0.0
BLOK				IAML		01 52 53.5	
	comp=E,359nm,1.2s						
T35A	**Sooner Cattle**	**0.94**	**13**	Pg	Pg	01 52 47.5	-0.2
CROK	**Carrier**	**1.10**	**298**	Pg	Pg	01 52 50.5	-0.2
KAN13	**South Haven SW**	**1.16**	**331**	Pg	Pg	01 52 51.5	-0.4
KAN17	**Caldwell West**	**1.31**	**323**		Pn	01 52 53.6	-0.9
KS20	**Mayfield South**	**1.38**	**333**		Pn	01 52 55.5	0.0
KAN01	**Argonia South**	**1.40**	**326**		Pn	01 52 55.9	+0.1
RLO	**Rose Lookout**	**1.43**	**83**		Pn	01 52 55.9	-0.2
KS21	**Milan North St**	**1.47**	**331**		Pn	01 52 56.7	0.0
X34A	**Smith Ranch, M**	**1.64**	**212**		Pb	01 53 00.1	-0.3
U38A	**Gravette**	**1.98**	**77**	Pn	Pn	01 53 04.0	+0.2

*TUL **07** 01:52:31.3±3.9, 36.088N±0.008×96.75W±0.02, h4km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=169.0*

NEIC 07 01:52:32.9±0.4, 36.006N±0.006×96.77W±0.02, h5km±1km, ML2.6/42, ML3.0(TUL), Error ellipse: s-maj=1.8km s-min=0.9km az=103.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK034	**N. Norfolk Rd.**	**0.04**	**85**	Pg	Pg	01 52 34.5	+0.3
OK034				IAML		01 52 34.6	
	1μm,0.1s						
OK034				IAML		01 52 35.2	
	2μm,0.1s						
OK034				Sg	Sg	01 52 35.5	+0.4
OK031	**S. Brethren Rd**	**0.08**	**227**	Pg	Pg	01 52 35.1	+0.5
OK031				Sg	Sg	01 52 36.5	+0.6
OK031				IAML		01 52 36.6	
	12μm,0.2s						
OK031				IAML		01 52 36.6	
	3μm,0.2s						
OK033	**Mehan**	**0.14**	**285**	Pg	Pg	01 52 36.3	+0.5
OK033				Sg	Sg	01 52 38.7	+0.9
OK033				IAML		01 52 38.8	
	1μm,0.2s						
OK033				IAML		01 52 38.8	
	2μm,0.2s						
QUOK	**Quay**	**0.17**	**16**	Pg	Pg	01 52 36.9	+0.6
QUOK				Sg	Sg	01 52 39.7	+1.0
QUOK				IAML		01 52 39.8	
	comp=E,1μm,0.3s						
QUOK				IAML		01 52 40.2	
	comp=N,495nm,0.3s						
OK044	**Pawnee Station**	**0.37**	**356**	Pg	Pg	01 52 40.5	+0.5
OK044				IAML		01 52 43.3	
	comp=N,379nm,1.2s						
OK044				IAML		01 52 51.6	
	comp=N,347nm,1.2s						
OK046	**Pawnee Station**	**0.41**	**344**	Pg	Pg	01 52 41.2	+0.5
OK046				Sg	Sg	01 52 46.8	+0.7
OK046				IAML		01 52 48.4	
	comp=N,377nm,1.2s						
OK046				IAML		01 52 54.9	
	comp=N,555nm,1.3s						
OK050	**Pawnee Station**	**0.42**	**336**	Pg	Pg	01 52 41.6	+0.5
OK050				Sg	Sg	01 52 47.3	+0.6
OK050				IAML		01 52 47.6	
	comp=N,403nm,0.5s						
OK050				IAML		01 52 47.6	
	comp=N,339nm,0.2s						
OK048	**Pawnee Station**	**0.43**	**341**	Pg	Pg	01 52 41.7	+0.4
OK048				Sg	Sg	01 52 47.8	+0.8
OK048				IAML		01 52 48.1	
	comp=N,324nm,0.8s						
OK048				IAML		01 52 51.4	
	comp=N,368nm,1.1s						
OK045	**Pawnee Station**	**0.46**	**344**	Pg	Pg	01 52 42.2	+0.5
OK045				Sg	Sg	01 52 48.5	+0.7
OK045				IAML		01 52 55.7	
	comp=N,670nm,0.7s						
OK045				IAML		01 52 57.3	
	comp=N,413nm,1.4s						
OK051	**E0350 and S346**	**0.50**	**354**	Pg	Pg	01 52 42.8	+0.3
OK051				IAML		01 52 52.8	
	comp=N,377nm,0.6s						
OK049	**E0420 Rd and N**	**0.59**	**313**	Pg	Pg	01 52 44.6	+0.4
OK049				Sg	Sg	01 52 52.6	+0.6
OK049				IAML		01 52 58.2	
	comp=N,320nm,0.9s						
OK029	**Liberty Lake**	**0.60**	**250**	Pg	Pg	01 52 44.8	+0.5
OK029				IAML		01 52 53.9	
	comp=N,330nm,1.4s						
BCOK	**Bluff Creek, N**	**0.77**	**243**	Pg	Pg	01 52 47.7	+0.1
BCOK				Sg	Sb	01 52 58.6	-0.9
BCOK				IAML		01 52 58.7	
	comp=N,402nm,1.4s						
BCOK				IAML		01 53 06.7	
	comp=E,332nm,1.0s						
TUL1	**Leonard**	**0.80**	**97**	Pg	Pg	01 52 48.2	0.0
TUL1				IAML		01 53 10.5	
	comp=N,233nm,1.1s						
BLOK	**Blackwell**	**0.83**	**335**	Pg	Pg	01 52 49.1	+0.1
BLOK				IAML		01 53 08.8	

comp=N,397nm,0.8s
T35A Sooner Cattle 0.93 13 Pg Pg 01 52 50.8 0.0
T35A IAML 01 53 03.4
comp=E,278nm,1.4s
T35A IAML 01 53 19.4
comp=N,335nm,0.9s
CROK Carrier 1.10 297 Pg Pg 01 52 54.1 +0.1
CROK IAML 01 53 12.5
comp=E,506nm,1.4s
CROK IAML 01 53 12.6
comp=N,538nm,1.3s
KAN13 South Haven SW 1.16 331 Pg Pg 01 52 55.0 -0.1
GC02 Grant County # 1.22 314 Pg Pg 01 52 56.1 -0.2
KAN17 Caldwell West 1.31 323 Pn 01 52 57.9 0.0
KAN09 Caldwell North 1.32 329 Pn 01 52 57.9 -0.1
KS20 Mayfield South 1.38 333 Pn 01 52 58.8 +0.1
KAN01 Argonia South 1.40 325 Pb 01 52 59.3 -0.2
RLO Rose Lookout 1.42 83 Pn 01 52 59.4 0.0
KAN06 Argonia West S 1.52 325 Pb 01 53 01.4 -0.2
KAN08 Anthony NE Sta 1.56 322 Pb 01 53 01.9 -0.3
CSTR Hydro, Custer 1.60 258 Pb 01 53 02.5 -0.5
KAN12 Harper NE Stat 1.62 323 Pb 01 53 02.9 -0.5
X34A Smith Ranch, M 1.65 212 Pb 01 53 03.3 -0.5
LOOK Love County 2.04 190 Pn Pn 01 53 07.5 -0.3
WMOK Wichita Mounta 2.08 233 Pn Pn 01 53 08.6 +0.2
HHAR Hobbs 2.31 82 Pn Pn 01 53 10.5 -1.0

ROM 07 01:54:11.1±0.1, 42.750N×0.003×13.170E±0.004, h10km, ML2.2/16, 4C-5D, Error ellipse: s-maj=0.3km s-min=0.2km az=259.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.11**	**7**	⇓P	Pg	01 54 14.5	+0.5
T1245				S	Sg	01 54 16.7	+0.7
T1245				AML	AML		
	comp=E,8490μm,0.7s						
T1245				AML	AML		
	comp=E,8485μm,0.7s						
T1245				AML	AML		
	comp=N,8475μm,0.3s						
T1245				AML	AML		
	comp=E,8715μm,0.7s						
T1245				AML	AML		
	comp=N,8865μm,0.3s						
T1245				AML	AML		
	comp=E,8710μm,0.7s						
T1245				AML	AML		
	comp=N,8475μm,0.3s						
T1204	**Amatrice, Fraz**	**0.13**	**124**	P	Pg	01 54 14.9	+0.7
T1204				S	Sg	01 54 17.5	+1.0
T1204				AML	AML		
	comp=E,2795μm,0.4s						
T1204				AML	AML		
	comp=N,2290μm,0.4s						
T1204				AML	AML		
	comp=N,2285μm,0.4s						
LNSS	**Leonessa**	**0.17**	**213**	P	Pg	01 54 15.7	+0.7
LNSS				S	Sg	01 54 18.8	+1.2
LNSS				AML	AML		
	comp=N,2805μm,0.1s						
LNSS				AML	AML		
	comp=E,1365μm,0.2s						
LNSS				AML	AML		
	comp=E,1370μm,0.2s						
T1216	**Preci, Frazion**	**0.18**	**322**	⇓P	Pg	01 54 15.4	+0.5
T1216				S	Sg	01 54 18.7	+1.0
T1217	**Poggiodomo (PG**	**0.18**	**258**	P	Pg	01 54 15.6	+0.6
T1217				S	Sg	01 54 18.9	+1.2
T1217				AML	AML		
	comp=E,1390μm,0.6s						
T1217				AML	AML		
	comp=N,1835μm,0.5s						
T1217				AML	AML		
	comp=E,1308μm,0.4s						
T1217				AML	AML		
	comp=E,1385μm,0.6s						
T1217				AML	AML		
	comp=E,1306μm,0.4s						
T1217				AML	AML		
	comp=N,1835μm,0.5s						
T1217				AML	AML		
	comp=E,1303μm,0.4s						
T1217				AML	AML		
	comp=E,1384μm,0.6s						
T1217				AML	AML		
	comp=N,1855μm,0.4s						
MMO1	**Montemonaco**	**0.19**	**38**	P	Pg	01 54 15.7	+0.5
MMO1				S	Sg	01 54 19.1	+1.2
T1241	**Roccafluvione,**	**0.22**	**61**	P	Pg	01 54 16.2	+0.5
T1241				S	Sg	01 54 20.1	+1.3
T1241				AML	AML		
	comp=E,638μm,0.7s						
T1241				AML	AML		
	comp=N,456μm,0.5s						
T1241				AML	AML		
	comp=E,638μm,0.7s						
T1215	**Vallo di Nera,**	**0.23**	**283**	⇓P	Pg	01 54 16.4	+0.6
T1215				S	Sg	01 54 20.1	+1.1
T1215				AML	AML		
	comp=E,844μm,1.1s						
T1215				AML	AML		
	comp=N,544μm,0.5s						
T1215				AML	AML		
	comp=E,845μm,1.1s						
T1215				AML	AML		
	comp=E,845μm,1.1s						
T1256	**Bolognola (MC)**	**0.26**	**9**	S	Sg	01 54 21.0	+0.9
CAMP	**Campotosto**	**0.28**	**140**	P	Pg	01 54 17.2	+0.4
CAMP				S	Sg	01 54 21.6	+1.1
CAMP				AML	AML		
	comp=E,267μm,0.5s						
CAMP				AML	AML		
	comp=N,299μm,1.3s						
FDMO	**Fiordimonte**	**0.29**	**348**	P	Pg	01 54 17.3	+0.3
FDMO				S	Sg	01 54 22.2	+1.2
FDMO				AML	AML		
	comp=E,584μm,0.2s						
FDMO				AML	AML		
	comp=N,626μm,0.3s						
T1211	**Morro Reatino**	**0.32**	**227**	P	Pg	01 54 17.9	+0.5
T1211				S	Sb	01 54 23.6	-0.6
T1211				AML	AML		
	comp=E,896μm,0.4s						
T1211				AML	AML		
	comp=N,916μm,0.9s						
T1211				AML	AML		
	comp=E,898μm,0.4s						
CESI	**CESI - Serrava**	**0.32**	**323**	⇓P	Pg	01 54 17.9	+0.3
CESI				S	Sb	01 54 23.4	-1.0
CESI				AML	AML		
	comp=E,428μm,1.5s						
CESI				AML	AML		
	comp=N,626μm,0.5s						
CESI				AML	AML		
	comp=N,626μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.32**	**163**	P	Pg	01 54 18.1	+0.5
T1247				S	Sb	01 54 23.8	-0.5
T1247				AML	AML		
	comp=E,798μm,0.4s						
T1247				AML	AML		
	comp=E,798μm,0.4s						
T1247				AML	AML		
	comp=N,981μm,0.1s						
GUMA	**Gualdo di Mace**	**0.34**	**21**	P	Pb	01 54 18.5	-0.7
GUMA				S	Sb	01 54 24.5	-0.2
CSP1	**Cessapalombo**	**0.34**	**4**	P	Pg	01 54 18.4	+0.4
CSP1				S	Sb	01 54 23.9	-1.1
ARRO	**Arrone**	**0.34**	**240**	P	Pg	01 54 18.5	+0.6
ARRO				S	Sb	01 54 24.4	-0.5
ARRO				AML	AML		
	comp=E,375μm,0.2s						
ARRO				AML	AML		
	comp=N,271μm,1.0s						
TERO	**Teramo**	**0.34**	**112**	P	Pg	01 54 18.3	+0.4
TERO				S	Sb	01 54 23.9	-1.0
TERO				AML	AML		
	comp=E,848μm,0.8s						
TERO				AML	AML		
	comp=N,1434μm,0.1s						
GIGS	**Gran Sasso**	**0.42**	**135**	P	Pg	01 54 19.4	0.0
GIGS				S	Sg	01 54 25.9	+0.9
OFFI	**Offida**	**0.42**	**64**	P	Pb	01 54 20.6	-0.1
OFFI				S	Sb	01 54 29.1	+1.9
AQU	**L'Aquila**	**0.43**	**156**	P	Pg	01 54 19.9	+0.3
AQU				S	Sb	01 54 27.4	-0.1
AQU				AML	AML		
	comp=E,284μm,1.3s						
AQU				AML	AML		
	comp=N,284μm,1.3s						
AQU				AML	AML		
	comp=E,247μm,1.3s						
AQU				AML	AML		
	comp=N,308μm,1.3s						
AQU				AML	AML		
	comp=N,309μm,1.3s						
CESX	**Cesi**	**0.46**	**252**	P	Pg	01 54 20.5	+0.5
CESX				S	Sb	01 54 27.2	-0.9
CESX				AML	AML		
	comp=N,292μm,0.4s						
CESX				AML	AML		
	comp=E,218μm,0.2s						
ASSB	**Assisi San Ben**	**0.48**	**308**	P	Pg	01 54 20.5	+0.1
ASSB				S	Sb	01 54 28.7	-0.1
ASSB				AML	AML		
	comp=N,319μm,0.3s						
ASSB				AML	AML		
	comp=N,318μm,0.3s						
ASSB				AML	AML		
	comp=E,196μm,1.6s						
FIAM	**Fiamignano**	**0.48**	**185**	P	Pg	01 54 20.8	+0.3
FIAM				S	Sb	01 54 28.2	-0.8
FIAM				AML	AML		
	comp=E,366μm,0.3s						
FIAM				AML	AML		
	comp=N,248μm,0.8s						
ATCC	**AVT- Casa Cast**	**0.58**	**318**	⇑P	Pg	01 54 22.6	+0.1
ATCC				S	Sb	01 54 31.9	0.0
CING	**Cingoli**	**0.63**	**2**	P	Pb	01 54 23.8	-0.4
CING				S	Sb	01 54 33.7	+0.6
T0110	**Collepietro**	**0.69**	**139**	⇑P	Pg	01 54 24.6	+0.1
T0110				S	Sb	01 54 34.8	-0.2
MGAB	**Montegabbione**	**0.80**	**282**	P	Pb	01 54 27.4	+0.4
MGAB				S	Sn	01 54 40.0	-0.4
ROM9	**Roma**	**1.04**	**208**	⇑P	Pg	01 54 27.8	-3.3
PTRJ	**Pietraroja**	**1.71**	**143**	P	Pn	01 54 40.0	-1.2
PTRJ				AML	AML		
	comp=E,908μm,0.1s						
PTRJ				AML	AML		
	comp=N,1312μm,1.0s						
VITU	**Vitulano (BN)**	**1.91**	**145**	⇑P	Pn	01 54 41.0	-2.8
PAOL	**Paolisi**	**2.01**	**148**	⇓P	Pn	01 54 46.1	+0.9

*IDC **07** 02:11:37.7±1.3, 39.57N×74.41E, h0km, mb3.9/4, mbtmp3.9/5, ML3.5/1, MS4.1/1, Error ellipse: s-maj=34.2km s-min=16.2km az=94.0*
*KRNET **07** 02:11:38.1±0.1, 39.66N×74.72E, mb3.7*
*NNC **07** 02:11:45.0±1.3, 40.03N×74.47E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=10.8km s-min=7.5km az=162.0*
*SOME **07** 02:11:46.4, 40.15N×74.38E, h0km*
ISC 07 02:11:39.3±1.7, 39.76N±0.05×74.65E±0.03, h5km±11km, n72, σ2s00/103, mb3.9/4, 17C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.62**	**299**	⇑*i*P	**Pb**	**02 12 10.2**	**+0.5**
	baz=1.0						
OHH				⇑*i*S	**Sg**	**02 12 33.7**	**+2.3**
	baz=1.0						
ARLS	**Aral**	**2.11**	**353**	⇑*i*P	**Pb**	**02 12 18.3**	**+0.1**
	baz=53						
ARLS				⇑*i*S	**Sg**	**02 12 47.8**	**+0.6**
	baz=53						
UCH	**Uchtor**	**2.47**	**358**	P	**Pb**	**02 12 25.2**	**+0.8**
	SNR=48						
UCH	**Uchtor**	**2.47**	**358**	⇑*i*P	**Pb**	**02 12 23.5**	**-0.9**
	baz=57						
UCH				⇑*i*S	**Sb**	**02 12 56.5**	**+1.2**
	baz=57						
AML	**Almayashu**	**2.48**	**343**	P	**Pb**	**02 12 25.3**	**+0.7**
	SNR=22						
ULHL	**Ulahol**	**2.76**	**25**	P	**Pb**	**02 12 29.3**	**0.0**
	SNR=21						
ULHL	**Ulahol**	**2.76**	**25**	⇑*i*P	**Pb**	**02 12 26.9**	**-2.4**
	baz=24						
ULHL				⇑*i*S	**Sb**	**02 13 02.4**	**-1.1**
	baz=24						
AAK	**Ala-Archa**	**2.88**	**358**	P	**Pb**	**02 12 31.0**	**-0.2**
	SNR=30						
AAK	**Ala-Archa**	**2.88**	**358**	Pn	**Pb**	**02 12 31.0**	**-0.2**
	5.6nm,0.3s,baz=188,slow=9.9,SNR=30						
AAK				Sn	**Sb**	**02 13 09.5**	**+2.7**
	3.0nm,0.3s,baz=272,slow=23,SNR=7.7 21nm,0.6s						
AAK	**Ala-Archa**	**2.88**	**358**	⇑*e*P	**Pb**	**02 12 29.0**	**-2.2**
	baz=57						
AAK				⇑*i*S	**Sb**	**02 13 06.1**	**-0.7**
	baz=57						
BOOM	**Boomskoye usch**	**2.90**	**19**	⇓*e*P	**Pb**	**02 12 29.0**	**-2.6**
	baz=18						
BOOM				⇓*i*S	**Sb**	**02 13 06.1**	**-1.2**
	baz=18						
KBK	**Karagaybulak**	**2.90**	**4**	P	**Pb**	**02 12 31.4**	**-0.3**
	SNR=24						
KBK	**Karagaybulak**	**2.90**	**4**	⇓*i*P	**Pb**	**02 12 29.3**	**-2.4**
	baz=3.0						
KBK				⇓*i*S	**Sb**	**02 13 06.5**	**-1.0**
	baz=3.0						
EKS2	**Erkin-Say**	**2.97**	**347**	P	**Pg**	**02 12 35.3**	**-0.9**
	SNR=5.0						
EKS2	**Erkin-Say**	**2.97**	**347**	⇓*e*P	**Pb**	**02 12 30.4**	**-2.4**
	baz=47						
EKS2				⇓*i*S	**Sb**	**02 13 08.6**	**-0.9**
	baz=47						
MRKS	**Merke**	**3.17**	**341**	*e*P	**Pb**	**02 12 38.2**	**+2.1**
	9.1nm,0.4s						
MRKS				*e*S	**Sb**	**02 13 15.7**	**+0.6**
	37nm,0.3s						
MRKS	**Merke**	**3.17**	**341**	Pg	**Pb**	**02 12 34.4**	**-1.8**
	9.1nm,0.4s						
MRKS				Lg	Lg	02 13 14.1	
	37nm,0.3s						
CHMS	**Chumysh**	**3.24**	**1**	P	**Pb**	**02 12 36.3**	**-1.0**
	SNR=6.2						
CHMS	**Chumysh**	**3.24**	**1**	⇓Pn	**Pb**	**02 12 35.4**	**-1.8**
	5.4nm,0.5s						
CHMS				⇓Lg	Lg	02 13 22.8	
	24nm,0.7s						
TKM2	**Tokmak 2**	**3.24**	**12**	P	**Pb**	**02 12 36.0**	**-1.4**
	SNR=12						
TKM2	**Tokmak 2**	**3.24**	**12**	⇑*e*P	**Pb**	**02 12 34.0**	**-3.4**
	baz=11						
TKM2				⇑*i*S	**Sb**	**02 13 14.5**	**-2.7**
	baz=11						
TKM2	**Tokmak 2**	**3.24**	**12**	⇑Pn	**Pb**	**02 12 36.1**	**-1.3**
	7.5nm,0.5s						
TKM2				⇓Lg	Lg	02 13 19.0	
	34nm,0.8s						
KST	**Kastek**	**3.42**	**16**	*e*P	**Pg**	**02 12 44.0**	**-0.9**
	15nm,0.8s						
KST				*e*S	**Sb**	**02 13 25.2**	**+2.7**
	74nm,0.6s						
GAR	**Garm**	**3.44**	**259**	⇑*e*P	**Pn**	**02 12 36.0**	**+2.3**
	baz=60						
GAR				⇑*i*S	**Sb**	**02 13 17.9**	**-5.1**
	baz=60						
USP	**Ospenovka**	**3.50**	**358**	P	**Pg**	**02 12 45.2**	**-1.3**
	SNR=6.8						
DGS	**Degeres**	**3.58**	**13**	*e*P	**Pg**	**02 12 48.9**	**+1.0**
	10nm,0.3s						
DGS				*e*S	**Sg**	**02 13 33.9**	**-0.3**
	32nm,0.6s						
DGS	**Degeres**	**3.58**	**13**	Pg	**Pg**	**02 12 46.0**	**-1.9**
	15nm,0.5s						
DGS				Lg	Lg	02 13 33.4	
	32nm,0.6s						
IZV	**Izvestkoviy**	**3.59**	**24**	*e*P	**Pg**	**02 12 49.9**	**+1.8**
	21nm,0.5s						
IZV				*e*S	**Sg**	**02 13 35.7**	**+1.1**
	23nm,0.6s						
IZV	**Izvestkoviy**	**3.59**	**24**	Pg	**Pg**	**02 12 46.7**	**-1.4**
	20nm,0.5s						
IZV				Lg	Lg	02 13 34.7	
	41nm,0.8s						
MTBS	**Maitube**	**3.62**	**21**	*e*P	**Pg**	**02 12 49.5**	**+0.7**
	20nm,0.6s						
MTBS				*e*S	**Sg**	**02 13 35.0**	**-0.6**
	15nm,0.4s						
MTBS	**Maitube**	**3.62**	**21**	Pg	**Pg**	**02 12 46.7**	**-2.0**
	33nm,0.6s						
MTBS				Lg	Lg	02 13 35.6	
	18nm,0.5s						
SGDS	**Sogindy**	**3.69**	**360**	*e*P	**Pg**	**02 12 50.0**	**0.0**
	5.2nm,0.2s						
SGDS				*e*S	**Sg**	**02 13 36.0**	**-1.7**
	15nm,0.4s						
SGDS	**Sogindy**	**3.69**	**360**	Pg	**Pb**	**02 12 47.4**	**+2.4**
	5.3nm,0.4s						
SGDS				Lg	Lg	02 13 36.0	
	15nm,0.9s						
TNSS	**Tian-Shan**	**3.70**	**27**	*e*P	**Pg**	**02 12 52.2**	**+1.9**
	10nm,0.6s						
TNSS				*e*S	**Sg**	**02 13 39.2**	**+1.0**
	14nm,0.6s						
TNSS	**Tian-Shan**	**3.70**	**27**	Pg	**Pg**	**02 12 48.5**	**-1.8**
	20nm,0.5s						
TNSS				Lg	Lg	02 13 37.8	
	14nm,0.6s						
MDOK	**Medeo**	**3.85**	**27**	Pg	**Pg**	**02 12 50.3**	**-2.8**
	8.1nm,0.4s						
MDOK				Lg	Lg	02 13 44.0	
	29nm,0.7s						
KOTS	**Kotyrbulak**	**3.93**	**27**	*e*P	**Pg**	**02 12 56.5**	**+1.9**
	7.0nm,0.4s						
KOTS				*e*S	**Sg**	**02 13 46.8**	**+1.2**
	48nm,0.4s						
KOTS	**Kotyrbulak**	**3.93**	**27**	Pg	**Pg**	**02 12 52.8**	**-1.9**
	7.1nm,0.3s						
KOTS				Lg	Lg	02 13 44.8	
	48nm,0.8s						
DZA	**Taraz**	**4.00**	**322**	*e*P	**Pb**	**02 12 52.3**	**+2.0**
	51nm,0.1s						
DZA				*e*S	**Sb**	**02 13 39.4**	**+0.3**
	178nm,0.2s						
KRBS	**Karabastau**	**4.01**	**11**	*e*P	**Pg**	**02 12 56.1**	**+0.1**
	6.4nm,0.4s						
KRBS				*e*S	**Sg**	**02 13 46.2**	**-1.8**
	24nm,0.7s						
KRBS	**Karabastau**	**4.01**	**11**	Pg	**Pg**	**02 12 53.5**	**-2.5**
	8.3nm,0.4s						
KRBS				Lg	Lg	02 13 46.2	
	24nm,0.7s						
KTBS	**Karatobe**	**4.23**	**20**	*e*P	**Pg**	**02 13 01.0**	**+0.6**
	12nm,0.4s						
KTBS				*e*S	**Sg**	**02 13 54.4**	**-0.8**
	39nm,0.8s						
KTBS	**Karatobe**	**4.23**	**20**	Pg	**Pg**	**02 12 58.1**	**-2.3**
	12nm,0.5s						
KTBS				Lg	Lg	02 13 54.4	
	39nm,0.8s						
IUG	**Iuzhnay**	**4.23**	**306**	*e*P	**Pg**	**02 12 58.4**	**-2.0**
	128nm,0.5s						
IUG				*e*S	**Sb**	**02 13 50.2**	**+4.5**
	32nm,0.7s						
IUG	**Iuzhnay**	**4.23**	**306**	Pg	**Pn**	**02 12 46.3**	**+1.8**
	88nm,0.2s						
IUG				Lg	Lg	02 13 34.1	
	54nm,0.4s						
KUU	**Kurty**	**4.32**	**16**	*e*P	**Pg**	**02 13 01.7**	**-0.3**
	2.4nm,0.2s						
KUU				*e*S	**Sg**	**02 13 55.9**	**-2.0**
	19nm,0.4s						
KUU	**Kurty**	**4.32**	**16**	Pg	**Pb**	**02 12 58.9**	**+3.2**
	4.6nm,0.4s						
KUU				Lg	Lg	02 13 55.2	
	27nm,0.6s						
CHKK	**Chushkaly**	**4.45**	**22**	*e*P	**Pg**	**02 13 05.0**	**+0.5**
	2.6nm,0.3s						
CHKK				*e*S	**Sg**	**02 14 01.7**	**-0.4**
	22nm,0.0s						
CHKK	**Chushkaly**	**4.45**	**22**	Pg	**Pg**	**02 13 02.2**	**-2.3**
	5.4nm,0.2s						
CHKK				Lg	Lg	02 14 01.2	
	22nm,0.7s						
KK31	**Karatay Array**	**4.56**	**318**	Pn	**Pn**	**02 12 50.6**	**+1.6**
	0.4nm,0.2s,baz=124,slow=13,SNR=29						
KK31				⇑Pg	**Pg**	**02 13 03.9**	**-2.8**
	1.0nm,0.3s,baz=141,slow=16,SNR=8.2						
KK31				⇑Lg	Lg	02 14 02.5	
	4.1nm,0.4s,baz=126,slow=29,SNR=5.2						
KURS	**Kuram**	**4.56**	**34**	*e*P	**Pg**	**02 13 07.7**	**+0.9**
	7.4nm,0.6s						
KURS				*e*S	**Sg**	**02 14 06.2**	**+0.4**
	9.5nm,1.1s						
KURS	**Kuram**	**4.56**	**34**	Pg	**Pg**	**02 13 05.0**	**-1.8**
	7.8nm,0.8s						
KURS				Lg	Lg	02 14 05.6	
	9.5nm,1.1s						
CHM	**Chimkent**	**4.59**	**305**	*e*P	**Pg**	**02 13 05.8**	**-1.5**
	211nm,0.2s						
CHM				*e*S	**Sb**	**02 14 02.5**	**+6.5**
	129nm,0.4s						
UZB	**Uzynbulak**	**4.71**	**43**	*e*P	**Pg**	**02 13 12.1**	**+2.5**
	2.6nm,0.3s						
UZB				*e*S	**Sg**	**02 14 13.9**	**+3.2**
	12nm,0.6s						
UZB	**Uzynbulak**	**4.71**	**43**	Pg	**Pg**	**02 13 09.6**	**-0.1**
	3.8nm,0.5s						
UZB				Lg	Lg	02 14 13.9	
	12nm,0.8s						
KPKS	**Kokpek**	**4.78**	**38**	*e*P	**Pg**	**02 13 11.3**	**+0.4**
	3.7nm,0.3s						
KPKS				*e*S	**Sg**	**02 14 12.4**	**-0.3**
	22nm,0.4s						
KPKS	**Kokpek**	**4.78**	**38**	Pg	**Pg**	**02 13 08.2**	**-2.7**
	8.8nm,0.5s						
KPKS				Lg	Lg	02 14 11.3	
	22nm,0.4s						
SHLS	**Shalkode**	**4.96**	**45**	*e*P	**Pg**	02 13 21.2	+6.9
	5.5nm,0.3s						
SHLS				*e*S	Sg	02 14 29.7	+11
	8.8nm,0.8s						
SHLS	**Shalkode**	**4.96**	**45**	Pg	**Pg**	**02 13 18.3**	**+4.0**
	3.4nm,0.4s						
SHLS				Lg	Lg	02 14 29.0	
	8.8nm,0.8s						
ARXS	**Arharly**	**5.04**	**27**	*e*P	**Pg**	**02 13 15.6**	**-0.3**
	11nm,0.7s						
ARXS				*e*S	**Sg**	**02 14 20.0**	**-1.1**
	9.6nm,0.8s						
ARXS	**Arharly**	**5.04**	**27**	Pg	**Pb**	**02 13 11.5**	**+3.5**
	20nm,0.8s						
ARXS				Lg	Lg	02 14 17.2	
	7.5nm,0.7s						
PDGK	**Podgornoye**	**5.09**	**44**	Pg	**Pg**	**02 13 13.1**	**-3.7**
	5.2nm,0.9s						
PDGK				Lg	Lg	02 14 20.4	
	6.7nm,0.9s						
PDGK	**Podgornoye**	**5.09**	**44**	⇓Pn	Pb	02 13 02.8	-6.1
	1.9nm,0.6s						
PDGK				⇓Pg	**Pg**	**02 13 17.0**	**+0.2**
	14nm,0.9s						
PDGK				⇓Lg	Lg	02 14 24.5	
	19nm,0.9s						
BLB	**Baldybastay**	**5.19**	**32**	*e*P	**Pg**	**02 13 18.2**	**-0.5**
	12nm,0.5s						
BLB				*e*S	**Sg**	**02 14 24.7**	**-1.2**
	12nm,0.8s						
BLB	**Baldybastay**	**5.19**	**32**	Pg	**Pg**	**02 13 15.9**	**-2.8**
	12nm,0.6s						
BLB				Lg	Lg	02 14 24.7	
	9.7nm,0.4s						
DJR	**Jarkent**	**5.96**	**38**	*e*P	**Pg**	**02 13 34.7**	**+1.3**
	1.8nm,0.5s						
DJR				*e*S	**Sg**	**02 14 52.7**	**+2.2**
	6.2nm,0.7s						
DJR	**Jarkent**	**5.96**	**38**	Pg	**Pg**	**02 13 30.9**	**-2.5**
	1.8nm,0.3s						
DJR				Lg	Lg	02 14 51.1	
	4.0nm,0.5s						
FINES	**FINESS Array B**	**36.51**	**323**	P	**P**	**02 18 44.9**	**-0.4**
	4.8nm,1.0s,baz=116,slow=13,SNR=3.4 4.8nm,1.0s						
ARCES	**ARCESS Array B**	**39.31**	**335**	P	**P**	**02 19 08.9**	**0.0**
	2.1nm,1.0s,baz=102,slow=8.4,SNR=4.6 2.1nm,1.0s						
DAV	**Davao City (W)**	**55.94**	**112**	LR	LR	02 47 50.6	
	comp=Z,171nm,21.9s,baz=6.0,slow=39						
TORD	**Torodi Ar. Bea**	**68.65**	**270**	P	**P**	**02 22 41.9**	**-2.0**
	0.5nm,0.4s,baz=51,slow=5.5,SNR=14 0.5nm,0.4s						
WRA	**Warramunga Arr**	**81.37**	**125**	P	**P**	**02 23 56.6**	**-0.5**
	0.4nm,0.7s,baz=322,slow=5.0,SNR=7.3 0.4nm,0.7s						

IDC 07 02:22:17.0±7.2, 1.47S×149.92E, h0km, mb3.5/2,

mbtmp3.5/2, Error ellipse: s-maj=331.1km s-min=53.2km az=108.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.86**	**219**	P	P	02 27 32.3	0.0
	0.9nm,0.7s,baz=44,slow=9.3,SNR=17						
	0.9nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**25.80**	**39**	T	T	02 54 51.4	
	baz=221,slow=75,SNR=337						
H11S2	**WAKE ISLAND Hy**	**25.81**	**39**	T	T	02 54 52.1	
	baz=221,slow=75,SNR=215						
H11S1	**WAKE ISLAND Hy**	**25.82**	**39**	T	T	02 54 52.9	
	baz=221,slow=75,SNR=204						
H11N1	**WAKE ISLAND Hy**	**26.85**	**38**	T	T	02 56 06.6	
	baz=220,slow=76,SNR=123						
H11N3	**WAKE ISLAND Hy**	**26.86**	**38**	T	T	02 56 01.5	
	baz=220,slow=76,SNR=227						
H11N2	**WAKE ISLAND Hy**	**26.86**	**38**	T	T	02 56 08.5	
	baz=220,slow=76,SNR=162						
ASAR	**Alice Springs**	**26.97**	**214**	P	P	02 28 00.7	0.0
	0.4nm,0.5s,baz=45,slow=7.9,SNR=7.1						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.47**	**292**	PKPbc	PKPdf	02 42 00.5	+0.5
	0.4nm,0.7s,baz=50,slow=3.1,SNR=2.9						

*NEIC **07** 02:35:16.9±1.6, 15°.85S±0°.08×73°.0W±0°.1, h100km±13km, mb4.2/8, ML4.2(ARE), Error ellipse: s-maj=15.8km s-min=11.0km az=65.0*
*ARE **07** 02:35:16±1.6, 16°.00S±0°.08×73°.3W±0°.1, h103km±8km, Error ellipse: s-maj=14.4km s-min=10.6km az=65.0*
*IDC **07** 02:35:20.7±1.9, 15°.72S×73°.00W, h136km±19km, mb3.2/3, mbtmp3.7/5, Error ellipse: s-maj=32.9km s-min=16.1km az=41.0*
*VAO **07** 02:35:26.3±1.0, 15°.07S×72°.41W, h112km±7km, mb3.9*

ISC 07 02:35:16.6±0.7, 15°.85S±0°.07×73°.00W±0°.08, h100km, n62, σ1°59/50, mb3.9/6, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.57**	**135**	Pn	**Pn**	**02 36 11.2**	**+1.1**
PB12	**IPOC Station P**	**3.75**	**137**	Pn	**Pn**	**02 36 13.7**	**+1.1**
PB16	**IPOC Station P**	**4.16**	**127**	Pn	**Pn**	**02 36 20.9**	**+2.4**
LPAZ	**La Paz**	**4.70**	**96**	P	Pn	02 36 30.8	+4.9
	16nm,0.3s,baz=309,slow=7.7,SNR=174						
LPAZ	**La Paz**	**4.70**	**96**	Pn	**Pn**	**02 36 30.2**	**+4.3**
LPAZ	**La Paz**	**4.70**	**96**	*e*P	Pn	02 36 30.8	+5.0
PB11	**IPOC Station P**	**5.03**	**141**	Pn	**Pn**	**02 36 30.0**	**+0.1**
TA02	**Huaiquique**	**5.18**	**149**	Pn	**Pn**	**02 36 31.9**	**+0.2**
GO01	**Chusmiza**	**5.25**	**137**	Pn	**Pn**	**02 36 33.9**	**+0.7**
NNA	**Nana**	**5.35**	**315**	P	**Pn**	**02 36 36.5**	**+2.4**
	10.0nm,0.4s,baz=139,slow=11,SNR=4.7						
NNA				S	**Sn**	**02 37 38.8**	**+4.2**
	26nm,0.4s,baz=237,slow=14,SNR=6.0						
NNA	**Nana**	**5.35**	**315**	Pn	**Pn**	**02 36 34.4**	**+0.3**
TA01	**Diego Aracena**	**5.40**	**151**	Pn	**Pn**	**02 36 34.7**	**-0.1**
PB08	**IPOC Station P**	**5.62**	**140**	Pn	**Pn**	**02 36 39.2**	**+1.0**
PB01	**IPOC Station P**	**6.15**	**148**	Pn	**Pn**	**02 36 45.1**	**+0.1**
PB02	**IPOC Station P**	**6.19**	**152**	Pn	**Pn**	**02 36 45.8**	**+0.2**
PB07	**IPOC Station P**	**6.55**	**154**	Pn	**Pn**	**02 36 50.4**	**-0.1**
PB03	**IPOC Station P**	**6.89**	**154**	Pn	**Pn**	**02 36 55.9**	**+0.7**
PB09	**IPOC Station P**	**6.91**	**150**	Pn	**Pn**	**02 36 56.7**	**+1.3**
PB04	**IPOC Station P**	**6.99**	**158**	Pn	**Pn**	**02 36 56.3**	**-0.3**
LVC	**Limon Verde**	**7.76**	**151**	Pn	**Pn**	**02 37 07.8**	**+0.7**
PB10	**IPOC Station P**	**7.97**	**164**	Pn	**Pn**	**02 37 08.8**	**-0.8**
CZSB	**Cruzeiro do Su**	**8.07**	**2**	*e*P	**Pn**	**02 37 08.1**	**-3.1**
ETMB	**Extrema**	**8.93**	**49**	Pn	**Pn**	**02 37 22.3**	**-0.5**
ETMB	**Extrema**	**8.93**	**49**	*e*P	**Pn**	**02 37 21.3**	**-1.5**
SIV	**San Ignacio**	**11.48**	**92**	P	**Pn**	**02 37 56.4**	**-1.1**
	2.9nm,0.6s,baz=279,slow=11,SNR=19						
AC02	**Maricunga**	**11.51**	**162**	Pn	**Pn**	**02 37 58.2**	**0.0**
VILB	**Vilhena**	**12.73**	**79**	Pn	**Pn**	**02 38 12.6**	**-1.4**
VILB	**Vilhena**	**12.73**	**79**	*e*P	**Pn**	**02 38 13.1**	**-1.0**
AC05	**El Transito**	**13.17**	**169**	Pn	Pn	02 38 14.9	-4.9
LCO	**Las Campanas**	**13.27**	**171**	Pn	Pn	02 38 16.3	-5.0
PDRB	**Porto dos Gac**	**16.36**	**77**	*e*P	**Pn**	**02 38 59.6**	**-0.8**
SALV	**Santo Antonio**	**16.65**	**93**	*e*P	**P**	**02 39 06.1**	**+1.4**
SGCB	**S£o Gabriel d**	**16.70**	**21**	*e*P	**Pn**	**02 39 04.2**	**-0.4**
PP1B	**Ponte de Pedra**	**17.45**	**98**	*e*P	**Pn**	**02 39 17.4**	**+3.6**
CLDB	**Colider**	**17.45**	**76**	*e*P	**P**	**02 39 13.3**	**-0.3**
MACA	**Manacapuru-AM**	**17.49**	**45**	P	**Pn**	**02 39 14.2**	**-0.1**
MACA				IAmb	IAmb	02 39 14.5	
	comp=Z,8.4nm,0.6s						
MACA	**Manacapuru-AM**	**17.49**	**45**	*e*P	**P**	**02 39 11.9**	**-2.1**
CPUP	**Vila Florida**	**17.94**	**128**	*e*P	Pn	02 39 28.9	+9.2
H03N1	**Juan Fernandez**	**18.31**	**196**	T	T	02 58 02.7	
	baz=17,slow=74,SNR=296						
H03N2	**Juan Fernandez**	**18.32**	**196**	T	T	02 58 03.3	
	baz=17,slow=74,SNR=309						
H03N3	**Juan Fernandez**	**18.33**	**196**	T	T	02 58 02.4	
	baz=17,slow=74,SNR=287						
NPGB	**Novo Progresso**	**19.36**	**65**	*e*P	**P**	**02 39 33.9**	**-0.6**
AZCA	**Azaras, Argent**	**19.90**	**131**	*e*P	Pn	02 39 50.6	+7.8
ARAG	**Araguaiana, MT**	**20.39**	**93**	*e*P	Pn	02 39 48.5	-0.1
ITTB	**Itaituba**	**20.45**	**58**	*e*P	**P**	**02 39 45.2**	**-1.1**
PTGB	**Pitanga**	**21.51**	**118**	*e*P	P	02 40 05.4	+7.8
BOAV	**Boa Vista**	**21.93**	**35**	P	**P**	**02 40 02.2**	**+0.1**
BOAV				IAmb	IAmb	02 40 08.3	
	comp=Z,6.5nm,1.0s						
ITAB	**Concordia**	**22.44**	**124**	P	**P**	**02 40 06.9**	**-0.4**
ITAB	**Concordia**	**22.44**	**124**	*e*P	P	02 40 14.8	+7.5
MALB	**Monte Alegre**	**23.12**	**55**	*e*P	**P**	**02 40 13.9**	**-0.3**
GO06	**Curarrehue**	**23.69**	**177**	P	**P**	**02 40 17.9**	**-1.4**
GO06				IAmb	IAmb	02 40 37.7	
	comp=Z,20nm,1.5s						
BDFB	**Brasilia**	**24.05**	**93**	*e*P	**P**	**02 40 26.6**	**+3.7**
TRQA	**Tornquist**	**24.17**	**158**	P	**P**	**02 40 22.8**	**-0.7**
TRQA				IAmb	IAmb	02 40 59.9	
	comp=Z,11nm,1.2s						
PLCA	**Paso Flores**	**24.89**	**176**	P	**P**	**02 40 32.0**	**+1.8**
	comp=Z,1.3nm,0.6s,baz=348,slow=12,SNR=5.6						
	comp=Z,1.3nm,0.6s						
PLCA	**Paso Flores**	**24.89**	**176**	P	**P**	**02 40 29.9**	**-0.2**
LL05	**Los Muermos**	**25.47**	**181**	P	**P**	**02 40 34.0**	**-1.3**
CAM01	**Campos-RJ**	**30.22**	**106**	*e*P	**P**	02 41 23.3	+5.4
TXAR	**Lajitas Array**	**53.80**	**327**	P	**P**	**02 44 27.5**	**-1.7**
	comp=Z,0.1nm,0.7s,baz=123,slow=10.0,SNR=1.5						
	comp=Z,0.1nm,0.7s						
SNAA	**Sanae**	**68.85**	**161**	P	**P**	**02 46 10.8**	**+0.8**
SNAA				IAmb	IAmb	02 46 40.8	
	comp=Z,7.2nm,1.5s						
TORD	**Torodi Ar. Bea**	**79.27**	**73**	P	**P**	**02 47 11.3**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=244,slow=4.9,SNR=5.6						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**135.42**	**218**	PKP	**PKPdf**	**02 54 25.6**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=135,slow=1.9,SNR=5.4						
SONM	**Songino Array**	**148.10**	**1**	PKPbc	**PKPbc**	**02 54 50.7**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=340,slow=2.9,SNR=2.9						

*THE **07** 03:01:56.8, 38°.46N×20°.60E, h15km±2km, ML2.5/7, Error ellipse: s-maj=2.7km s-min=0.4km az=57.0*
*ATH **07** 03:01:56.8, 38°.45N×20°.53E, h7km±2km, ML3.0/1, Error ellipse: s-maj=8.9km s-min=1.4km az=99.0*

ISC 07 03:01:56.8±1.1, 38°.46N±0°.03×20°.56E±0°.08, h9km±6km, n15, σ0°57/27, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.00**	**325**	P	**Pg**	**03 01 58.3**	**-0.2**
FSK				S	**Sg**	**03 01 59.1**	**-0.5**
FSK				AML	AML	03 01 59.3	
	comp=N,35688µm,0.2s						
FSK				AML	AML	03 01 59.6	
	comp=E,77188µm,0.1s						
EVGI	**Lefkada island**	**0.18**	**24**	P	**Pg**	**03 02 00.8**	**+0.2**
EVGI				S	**Sg**	**03 02 04.0**	**+0.8**
	comp=E,11µm,0.1s						
EVGI	**Lefkada island**	**0.18**	**24**	P	**Pg**	**03 02 00.8**	**+0.2**
EVGI				S	**Sg**	**03 02 04.0**	**+0.8**
DRAG	**Dragano-Lefkad**	**0.23**	**2**	P	**Pg**	**03 02 01.5**	**0.0**
DRAG				S	**Sg**	**03 02 05.3**	**+0.7**
KEF4	**Livadi, Kephal**	**0.23**	**209**	P	**Pg**	**03 02 02.0**	**+0.6**
DMLN	**Damoulianata-K**	**0.27**	**214**	P	**Pg**	**03 02 02.6**	**+0.4**
DMLN				S	**Sb**	**03 02 07.7**	**-0.7**
	comp=E,1µm,0.4s						
NYDR	**Nydri-Lefkada**	**0.28**	**22**	P	**Pg**	**03 02 02.5**	**+0.1**
NYDR				S	**Sg**	**03 02 06.0**	**-0.1**
	comp=E,810nm,0.2s						
VLS	**Valsamata**	**0.28**	**176**	P	**Pg**	**03 02 02.5**	**0.0**
VLS				S	**Sg**	**03 02 07.3**	**+1.1**
	comp=E,2µm,0.2s						
KEF3	**Kipouria, Keph**	**0.31**	**214**	P	**Pg**	**03 02 02.7**	**-0.2**
LKD2	**Lefkada island**	**0.34**	**13**	P	**Pg**	**03 02 03.5**	**-0.1**
LKD2				S	**Sg**	**03 02 08.9**	**+0.8**
	comp=E,392nm,0.2s						
LKD2	**Lefkada island**	**0.34**	**13**	P	**Pg**	**03 02 03.5**	**-0.1**
LKD2				S	**Sg**	**03 02 08.8**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.34**	**177**	P	**Pg**	**03 02 03.8**	**+0.2**
PSDA				S	**Sb**	**03 02 09.7**	**-0.9**
	comp=E,3µm,0.2s						
PSDA	**Pessada-Kefalo**	**0.34**	**177**	P	**Pg**	**03 02 03.5**	**-0.1**
TSLK	**Tsoukalades, L**	**0.37**	**11**	P	**Pg**	**03 02 04.3**	**+0.1**
TSLK				S	**Sb**	**03 02 10.7**	**-0.9**
	comp=E,325nm,0.7s						
TSLK	**Tsoukalades, L**	**0.37**	**11**	P	**Pg**	**03 02 04.2**	**+0.1**
TSLK				S	**Sb**	**03 02 10.9**	**-0.6**

*LDG **07** 03:13:04.8±0.1, 42°.96N×13°.17E, h8km, Md2.9/1, Ml2.9/15, Error ellipse: s-maj=2.7km s-min=2.1km az=35.0*
*ROM **07** 03:13:05.1±0.1, 42°.945N±0°.003×13°.211E±0°.005, h8km, ML3.1/39, Error ellipse: s-maj=0.3km s-min=0.3km az=98.0*
*PRU **07** 03:13:06.9±0.0, 42°.93N×13°.79E, h10km*

ISC 07 03:13:04.9±0.8, 42°.94N±0°.02×13°.19E±0°.02, h13km±4km, n89, σ2°31/131, 24C-20D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1256	**Bolognola (MC)**	**0.07**	**21**	P	**Pg**	**03 13 06.8**	**-0.9**
T1256				S	**Sg**	**03 13 08.0**	**-1.8**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1245	**Castelsantange**	**0.09**	**183**	⇑P	**Pg**	**03 13 07.8**	**-0.2**
T1245				S	**Sg**	**03 13 09.8**	**-0.3**
T1245				AML	AML		
	comp=N,51950µm,0.9s						
T1245				AML	AML		
	comp=E,45550µm,0.2s						
T1245				AML	AML		
	comp=E,46700µm,0.2s						
T1245				AML	AML		
	comp=N,51950µm,1.0s						
T1245				AML	AML		
	comp=N,51500µm,0.3s						
FEMA	**Monte Fema**	**0.11**	**280**	⇓P	**Pg**	**03 13 08.3**	**+0.2**
FEMA				S	**Sg**	**03 13 11.0**	**+0.5**
FEMA				AML	AML		
	comp=E,46150µm,0.5s						
FEMA				AML	AML		
	comp=N,40450µm,0.4s						
MMO1	**Montemonaco**	**0.11**	**114**	⇓P	**Pg**	**03 13 07.8**	**-0.3**
MMO1				S	**Sg**	**03 13 09.7**	**-0.7**
FDMO	**Fiordimonte**	**0.12**	**320**	⇑P	**Pg**	**03 13 08.1**	**-0.1**
FDMO				S	**Sg**	**03 13 10.4**	**-0.2**
FDMO				AML	AML		
	comp=E,15000µm,0.8s						
FDMO				AML	AML		
	comp=N,23400µm,0.3s						
T1216	**Preci, Frazion**	**0.14**	**248**	P	**Pg**	**03 13 08.8**	**+0.3**
T1216				S	**Sg**	**03 13 11.7**	**+0.7**
T1216				AML	AML		
	comp=E,10060µm,0.3s						
T1216				AML	AML		
	comp=N,12520µm,0.3s						
T1216				AML	AML		
	comp=E,10070µm,0.3s						
T1216				AML	AML		
	comp=N,12525µm,0.3s						
T1216				AML	AML		
	comp=E,10075µm,0.3s						
CSP1	**Cessapalombo**	**0.15**	**3**	⇓P	**Pg**	**03 13 08.6**	**-0.1**
CSP1				S	**Sg**	**03 13 11.1**	**-0.2**
CSP1				AML	AML		
	comp=E,13700µm,1.5s						
CSP1				AML	AML		
	comp=N,27100µm,0.4s						
CSP1				AML	AML		
	comp=E,13650µm,1.5s						
CSP1				AML	AML		
	comp=N,27050µm,0.4s						
GUMA	**Gualdo di Mace**	**0.16**	**41**	⇓P	**Pg**	**03 13 09.0**	**+0.2**
GUMA				S	**Sg**	**03 13 11.7**	**+0.2**
GUMA				AML	AML		
	comp=E,45050µm,0.6s						
GUMA				AML	AML		
	comp=E,45000µm,0.5s						
GUMA				AML	AML		
	comp=N,54100µm,0.6s						
GUMA				AML	AML		
	comp=E,49950µm,1.3s						
GUMA				AML	AML		
	comp=N,54450µm,0.6s						
CESI	**CESI - Serrava**	**0.22**	**286**	⇑P	**Pg**	**03 13 10.3**	**+0.6**
CESI				S	**Sg**	**03 13 14.5**	**+1.4**
CESI				AML	AML		
	comp=N,19900µm,0.5s						
CESI				AML	AML		
	comp=E,14000µm,1.1s						
T1215	**Vallo di Nera,**	**0.28**	**239**	⇑P	**Pg**	**03 13 11.4**	**+0.7**
T1215				S	**Sb**	**03 13 16.7**	**+0.3**
T1215				AML	AML		
	comp=E,1425µm,0.8s						
T1215				AML	AML		
	comp=N,1852µm,0.5s						
T1215				AML	AML		
	comp=E,1430µm,0.8s						
T1215				AML	AML		
	comp=N,1885µm,0.5s						
T1215				AML	AML		
	comp=N,1854µm,0.5s						
T1215				AML	AML		
	comp=E,1455µm,0.5s						
MNTP	**Montappone**	**0.28**	**46**	P	**Pb**	**03 13 11.8**	**0.0**
MNTP				S	**Sb**	**03 13 17.3**	**+0.9**
MNTP				AML	AML		
	comp=E,12200µm,0.6s						
MNTP				AML	AML		
	comp=N,11150µm,1.5s						
MNTP				AML	AML		
	comp=E,12200µm,0.6s						
MNTP				AML	AML		
	comp=N,11150µm,1.5s						
T1204	**Amatrice, Fraz**	**0.28**	**161**	⇓P	**Pb**	**03 13 11.6**	**-0.3**
T1204				S	**Sb**	**03 13 16.6**	**0.0**
T1204				AML	AML		
	comp=E,6010µm,0.9s						
T1204				AML	AML		
	comp=N,3390µm,0.6s						
T1204				AML	AML		
	comp=N,3395µm,0.6s						
T1204				AML	AML		
	comp=E,6015µm,0.9s						
T1217	**Poggiodomo (PG**	**0.30**	**220**	⇑P	**Pg**	**03 13 11.8**	**+0.7**
T1217				S	**Sb**	**03 13 17.2**	**+0.1**
T1217				AML	AML		
	comp=E,2680µm,0.8s						
T1217				AML	AML		
	comp=N,2555µm,1.4s						
T1217				AML	AML		
	comp=E,2585µm,0.8s						
T1217				AML	AML		
	comp=N,2500µm,0.8s						
T1217				AML	AML		
	comp=E,2685µm,0.8s						
T1217				AML	AML		
	comp=N,2555µm,1.4s						
T1217				AML	AML		
	comp=N,2500µm,0.8s						
T1217				AML	AML		
	comp=E,2590µm,0.8s						
SMA1	**SAN MARTINO**	**0.33**	**162**	⇑P	**Pg**	**03 13 12.2**	**+0.5**
SMA1				S	**Sb**	**03 13 17.7**	**-0.2**
SMA1				AML	AML		
	comp=N,4230µm,0.7s						
SMA1				AML	AML		
	comp=E,4155µm,0.5s						
LNSS	**Leonessa**	**0.36**	**198**	⇓P	**Pg**	**03 13 12.9**	**+0.7**
LNSS				S	**Sb**	**03 13 19.1**	**+0.4**
LNSS				AML	AML		
	comp=N,4210µm,0.4s						
LNSS				AML	AML		
	comp=E,1805µm,0.4s						
OFFI	**Offida**	**0.36**	**91**	⇑P	**Pb**	**03 13 13.7**	**+0.6**
OFFI				AML	AML		
	comp=E,3415µm,1.2s						
OFFI				AML	AML		
	comp=N,6180µm,1.5s						
SNTG	**Esanatoglia**	**0.36**	**329**	⇑P	**Pg**	**03 13 12.7**	**+0.5**
SNTG				S	**Sb**	**03 13 18.8**	**-0.1**
SNTG				AML	AML		
	comp=E,4325µm,0.4s						
SNTG				AML	AML		
	comp=N,3355µm,0.3s						
SNTG				AML	AML		
	comp=E,4330µm,0.4s						
SNTG				AML	AML		
	comp=N,3360µm,0.3s						
SNTG				AML	AML		
	comp=E,4110µm,0.3s						
SNTG				AML	AML		
	comp=N,3755µm,0.3s						
EL6	**Elcito**	**0.39**	**350**	P	**Pg**	**03 13 13.1**	**+0.3**
EL6				S	**Sb**	**03 13 19.8**	**+0.1**
EL6				AML	AML		
	comp=N,4720µm,1.0s						
EL6				AML	AML		
	comp=E,5785µm,1.6s						
CING	**Cingoli**	**0.43**	**0**	⇑P	**Pg**	**03 13 13.8**	**+0.3**
CING				S	**Sb**	**03 13 21.3**	**+0.5**
CING				AML	AML		
	comp=E,2605µm,1.4s						
CING				AML	AML		
	comp=N,1740µm,1.5s						
RM33	**Pellescritta (**	**0.43**	**178**	P	**Pg**	**03 13 12.1**	**-1.5**
TERO	**Teramo**	**0.44**	**137**	⇑P	**Pg**	**03 13 13.9**	**+0.3**
TERO				S	**Sb**	**03 13 21.1**	**0.0**
TERO				AML	AML		
	comp=E,2480µm,0.9s						
TERO				AML	AML		
	comp=N,1600µm,1.5s						
TERO				AML	AML		
	comp=N,1645µm,1.5s						
TERO				AML	AML		
	comp=E,2595µm,0.9s						
ATCC	**AVT- Casa Cast**	**0.47**	**301**	⇑P	**Pg**	**03 13 14.8**	**+0.6**
ATCC				S	**Sb**	**03 13 22.4**	**+0.5**
T1211	**Morro Reatino**	**0.48**	**211**	⇓P	**Pg**	**03 13 14.6**	**+0.2**
T1211				AML	AML		
	comp=E,1350µm,1.5s						
T1211				AML	AML		
	comp=N,2385µm,0.3s						
T1211				AML	AML		
	comp=N,2400µm,1.0s						
T1211				AML	AML		
	comp=E,1380µm,1.5s						
T1247	**Pizzolo (AQ)**	**0.51**	**171**	⇑P	**Pg**	**03 13 15.4**	**+0.5**
T1247				S	**Sb**	**03 13 25.0**	**+2.0**
T1247				AML	AML		
	comp=N,2135µm,1.1s						
T1247				AML	AML		
	comp=E,2595µm,0.6s						
PP3	**Marolino**	**0.53**	**35**	⇓P	**Pb**	**03 13 16.7**	**+0.7**
PP3				AML	AML		
	comp=E,4180µm,1.3s						
PP3				AML	AML		
	comp=E,4175µm,1.3s						
PP3				AML	AML		
	comp=N,4665µm,0.8s						
PP3				AML	AML		
	comp=E,4165µm,1.3s						
PP3				AML	AML		
	comp=N,4915µm,0.8s						
TRTR	**Tortoreto Alta**	**0.55**	**104**	⇓P	**Pb**	**03 13 17.2**	**+0.9**
TRTR				AML	AML		
	comp=E,3345µm,1.6s						
TRTR				AML	AML		
	comp=N,3935µm,0.3s						
CESX	**Cesi**	**0.56**	**234**	⇑P	**Pg**	**03 13 16.2**	**+0.3**
CESX				AML	AML		
	comp=N,1325µm,0.8s						
CESX				AML	AML		
	comp=E,1170µm,0.6s						
GIGS	**Gran Sasso**	**0.57**	**151**	⇑P	**Pg**	**03 13 16.2**	**+0.2**
GIGS				S	**Sb**	**03 13 26.0**	**+1.3**
GIGS				AML	AML		
	comp=E,460µm,0.8s						
GIGS				AML	AML		
	comp=N,397µm,0.2s						
GIGS				AML	AML		
	comp=E,460µm,0.8s						
GIGS				AML	AML		
	comp=N,396µm,0.2s						
SSFR	**Montelago di S**	**0.58**	**329**	⇑P	**Pg**	**03 13 16.6**	**+0.4**
SSFR				S	**Sb**	**03 13 26.0**	**+1.0**
SSFR				AML	AML		
	comp=E,3075µm,0.3s						
SSFR				AML	AML		
	comp=E,2810µm,1.4s						
SSFR				AML	AML		
	comp=N,2490µm,0.5s						
SSFR				AML	AML		
	comp=N,2830µm,0.2s						
ARVD	**Arcevia**	**0.58**	**342**	⇑P	**Pg**	**03 13 16.7**	**+0.4**
ARVD				S	**Sb**	**03 13 26.1**	**+0.9**
MURB	**Monte Urbino**	**0.58**	**303**	P	**Pg**	**03 13 16.9**	**+0.5**
MURB				S	**Sb**	**03 13 26.8**	**+1.6**
MURB				AML	AML		
	comp=E,5690µm,0.4s						
MURB				AML	AML		
	comp=E,5490µm,0.4s						
MURB				AML	AML		
	comp=N,4490µm,0.4s						
MURB				AML	AML		
	comp=N,4495µm,0.4s						
AQU	**L'Aquila**	**0.61**	**165**	⇓P	**Pg**	**03 13 17.1**	**+0.3**
AQU				S	**Sb**	**03 13 27.0**	**+1.1**
AQU				AML	AML		
	comp=E,1067µm,1.1s						
AQU				AML	AML		
	comp=N,979µm,1.0s						
AQU				AML	AML		
	comp=N,968µm,1.3s						
AQU				AML	AML		
	comp=E,1033µm,1.1s						
AQU				AML	AML		
	comp=N,969µm,1.3s						
AQU				AML	AML		
	comp=E,1065µm,1.1s						
AQU				AML	AML		
	comp=N,980µm,1.0s						
ATFO	**Monte Foce - G**	**0.62**	**313**	⇓P	**Pg**	**03 13 17.5**	**+0.4**
ATFO				AML	AML		
	comp=E,2120µm,1.1s						
ATFO				AML	AML		
	comp=N,1760µm,0.7s						
ATTE	**AVT- Monte Tez**	**0.67**	**293**	P	**Pn**	**03 13 21.2**	**+1.1**
FRON	**Frontone**	**0.67**	**329**	⇓P	**Pg**	**03 13 18.2**	**+0.3**
FRON				AML	AML		
	comp=N,3060µm,0.4s						
FRON				AML	AML		
	comp=E,2035µm,0.5s						
FRON				AML	AML		
	comp=N,3065µm,0.4s						
FIAM	**Fiamignano**	**0.68**	**185**	⇑P	**Pg**	**03 13 18.1**	**0.0**
FIAM				AML	AML		
	comp=N,711µm,0.9s						
FIAM				AML	AML		
	comp=E,627µm,1.0s						
ATVO	**AVT- Monte Val**	**0.72**	**308**	⇑P	**Pg**	**03 13 19.1**	**+0.1**
ATVO				S	**Sb**	**03 13 30.8**	**+1.6**
ATVO				AML	AML		
	comp=E,1033µm,1.4s						
ATVO				AML	AML		
	comp=N,1210µm,0.5s						
VCEL	**Villa Celiera**	**0.73**	**139**	⇑P	**Pb**	**03 13 20.1**	**+0.7**
VCEL				AML	AML		
	comp=E,956µm,1.4s						
VCEL				AML	AML		
	comp=N,1006µm,1.4s						
VCEL				AML	AML		
	comp=E,956µm,1.4s						
ATPI	**Pietralunga -**	**0.77**	**311**	⇓P	**Pg**	**03 13 20.1**	**+0.3**
ATPI				S	**Sb**	**03 13 31.9**	**+1.4**
ATMI	**Monte Miggiano**	**0.78**	**300**	⇓P	**Pb**	**03 13 21.5**	**+1.1**
ATMI				AML	AML		
	comp=E,1695µm,0.6s						
ATMI				AML	AML		
	comp=N,1520µm,0.6s						

MGAB	**Montegabbione**	**0.80**	**268**	⇓P	**Pg**	**03 13 20.8**	**+0.5**
MGAB				S	**Sn**	**03 13 34.0**	**+0.5**
MGAB				AML	AML		
	comp=E,1022µm,1.0s						
MGAB				AML	AML		
	comp=N,2280µm,0.6s						
MGAB				AML	AML		
	comp=E,1052µm,1.0s						
MGAB				AML	AML		
	comp=N,2175µm,0.5s						
NARO	**Abbazia di Nar**	**0.80**	**326**	⇑P	**Pg**	**03 13 20.6**	**+0.2**
NARO				AML	AML		
	comp=N,622µm,1.1s						
NARO				AML	AML		
	comp=E,822µm,0.5s						
FSSB	**Fossombrone**	**0.81**	**338**	S	**Sn**	**03 13 35.0**	**+1.1**
T0110	**Collepietro**	**0.84**	**149**	⇓P	**Pg**	**03 13 21.0**	**-0.1**
T0110				AML	AML		
	comp=E,1285µm,0.8s						
T0110				AML	AML		
	comp=N,1022µm,0.4s						
T0110				AML	AML		
	comp=E,1290µm,0.8s						
T0110				AML	AML		
	comp=N,1022µm,0.4s						
PE3	**Peglio**	**0.91**	**326**	⇑P	**Pn**	**03 13 24.0**	**+0.6**
SACS	**San Casciano d**	**0.95**	**265**	⇓P	**Pb**	**03 13 24.0**	**+0.8**
SACS				AML	AML		
	comp=E,682µm,0.6s						
SACS				AML	AML		
	comp=E,678µm,0.6s						
SACS				AML	AML		
	comp=N,617µm,0.9s						
SACS				AML	AML		
	comp=E,682µm,0.6s						
SACS				AML	AML		
	comp=N,634µm,0.9s						
SACS				AML	AML		
	comp=E,678µm,0.6s						
CAFI	**Castiglion Fio**	**0.98**	**294**	⇑P	**Pg**	**03 13 24.0**	**+0.2**
CAFI				AML	AML		
	comp=E,588µm,1.2s						
CAFI				AML	AML		
	comp=N,524µm,0.6s						
CAFI				AML	AML		
	comp=E,588µm,1.2s						
SSP9	**Sansepolcro**	**1.00**	**309**	⇑P	**Pb**	**03 13 24.6**	**+0.6**
CERT	**Cerreto**	**1.01**	**189**	⇓P	**Pn**	**03 13 26.9**	**+2.2**
LATE	**Laterza**	**1.07**	**253**	⇓P	**Pn**	**03 13 27.3**	**+1.6**
MCIV	**Monte Civitell**	**1.13**	**262**	⇓P	**Pn**	**03 13 27.8**	**+1.4**
MCIV				AML	AML		
	comp=N,246µm,1.4s						
MCIV				AML	AML		
	comp=E,248µm,1.5s						
ARCI	**Arcidosso**	**1.27**	**266**	P	**Pn**	**03 13 28.2**	**-0.2**
TRIV	**Trivento**	**1.55**	**139**	⇑P	**Pg**	**03 13 35.5**	**+0.9**
PGF	**Pioggiola**	**3.11**	**264**	*e*P	**Pn**	**03 13 55.2**	**+1.4**
PGF				*e*Sn	**Sn**	**03 14 27.4**	**-3.5**
	comp=E,0.8nm,0.4s						
MYKA	**Terra Mystica**	**3.70**	**5**	*e*Pn	**Pn**	**03 14 02.7**	**+1.0**
	comp=E,1.1nm,0.3s						
ABTA	**Abfaltersbach**	**3.83**	**353**	*e*Pn	**Pn**	**03 14 05.5**	**+1.9**
	comp=E,7.6nm,0.5s,SNR=8.4						
KBA	**Koelnbreinsper**	**4.14**	**1**	*e*Pn	**Pn**	**03 14 09.5**	**+1.6**
	comp=E,0.9nm,0.2s						
SBF	**Sospel**	**4.29**	**284**	*e*P	**Pn**	**03 14 11.6**	**+1.6**
FETA	**Feichten**	**4.44**	**338**	*e*Pn	**Pn**	**03 14 15.9**	**+3.9**
	comp=E,4.2nm,0.5s,SNR=5.2						
WTTA	**Wattenberg**	**4.46**	**346**	*e*Pn	**Pn**	**03 14 15.7**	**+3.4**
	comp=E,1.6nm,0.2s,SNR=5.6						
SQTA	**Sankt Quirin**	**4.50**	**342**	*e*Pn	**Pn**	**03 14 15.9**	**+3.1**
	comp=E,4.5nm,0.3s,SNR=8.7						
WATA	**Walderalm**	**4.54**	**346**	*e*Pn	**Pn**	**03 14 17.1**	**+3.8**
	comp=E,0.7nm,0.2s						
MOTA	**Moosalm**	**4.64**	**342**	*e*Pn	**Pn**	**03 14 18.5**	**+3.7**
	comp=E,2.8nm,0.4s						
BIOA	**Bad Ischl, Aus**	**4.76**	**4**	*e*Pn	**Pn**	**03 14 17.6**	**+1.4**
	comp=E,2.3nm,0.3s						
RETA	**Reutte**	**4.86**	**340**	*e*Pn	**Pn**	**03 14 21.2**	**+3.5**
	comp=E,2.0nm,0.3s						
LMR	**La Mourre**	**4.91**	**277**	*e*P	**Pn**	**03 14 20.4**	**+2.1**
LMR				*e*Sn	**Sn**	**03 15 10.0**	**-4.9**
	comp=E,0.5nm,0.3s						
DAVA	**Damuels**	**4.94**	**333**	*e*Pn	**Pn**	**03 14 23.1**	**+4.3**
	comp=E,1.8nm,0.3s						
MOA	**Molln**	**4.96**	**8**	*e*Pn	**Pn**	**03 14 20.8**	**+1.7**
	comp=E,0.3nm,0.1s						
MBDF	**Montbardon**	**4.98**	**293**	*e*P	**Pn**	**03 14 21.8**	**+2.4**
MBDF				*e*Sn	**Sn**	**03 15 11.8**	**-5.0**
	comp=E,8.3nm,0.7s						
LPG	**La Plagne**	**5.29**	**301**	*e*P	**Pn**	**03 14 27.0**	**+3.2**
LPG				*e*Sn	**Sn**	**03 15 19.3**	**-5.4**
	comp=E,4.3nm,0.5s						
LPL	**La Plagne**	**5.31**	**301**	*e*P	**Pn**	**03 14 26.0**	**+2.0**
LPL				*e*Sn	**Sn**	**03 15 22.0**	**-3.1**
	comp=E,3.5nm,0.5s						
CONA	**Conrad Observa**	**5.33**	**20**	*e*Pn	**Pn**	**03 14 25.3**	**+1.2**
	comp=E,0.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**5.64**	**293**	*e*P	**Pn**	**03 14 32.0**	**+3.6**
ORIF				*e*Sn	**Sn**	**03 15 27.6**	**-5.5**
	comp=E,4.9nm,0.6s						
SMRF	**Simiane la Rot**	**5.64**	**283**	*e*P	**Pn**	**03 14 31.0**	**+2.6**
CKRC	**Cesky Krumlov**	**5.93**	**7**	*e*SN	**Sn**	**03 15 39.6**	**-0.5**
KHC	**Kasperske Hory**	**6.20**	**2**	*e*PN	**Pn**	**03 14 37.1**	**+1.1**
KHC				*e*SN	**Sn**	**03 15 46.1**	**-0.6**
CABF	**La Chapelle**	**6.25**	**308**	*e*P	**Pn**	**03 14 39.0**	**+2.2**
CABF				*e*Sn	**Sn**	**03 15 43.3**	**-4.7**
	comp=E,22nm,1.0s						
HINF	**Hinteralfeld**	**6.61**	**320**	*e*P	**Pn**	**03 14 44.2**	**+2.5**
HINF				*e*Sn	**Sn**	**03 15 50.2**	**-6.6**
	comp=E,8.0nm,0.5s						
CDF	**Champ du Feu**	**6.86**	**325**	*e*P	**Pn**	**03 14 47.2**	**+2.0**
CDF				*e*Sn	**Sn**	**03 15 56.7**	**-6.4**
	comp=E,2.1nm,0.4s						
LASF	**Ste Croix**	**6.88**	**283**	*e*P	**Pn**	**03 14 48.3**	**+2.9**
HAU	**Haudompre**	**6.98**	**319**	*e*P	**Pn**	**03 14 49.5**	**+2.7**
HAU				*e*Sn	**Sn**	**03 15 59.1**	**-6.9**
	comp=E,14nm,0.6s						
SMF	**Signal de Mont**	**7.61**	**302**	*e*P	**Pn**	**03 14 57.0**	**+1.6**
SMF				*e*Sn	**Sn**	**03 16 14.6**	**-6.9**
	comp=E,0.5nm,0.3s						
SFTF	**Sexfontaines**	**7.77**	**315**	*e*P	**Pn**	**03 15 00.5**	**+2.9**
LOR	**Lormes**	**7.89**	**306**	*e*P	**Pn**	**03 15 01.8**	**+2.5**
LOR				*e*Sn	**Sn**	**03 16 21.0**	**-7.4**
	comp=E,4.6nm,0.6s						
AVF	**Avril sur Loir**	**7.98**	**302**	*e*P	**Pn**	**03 15 03.5**	**+3.1**
SAVF	**Savonnieres en**	**8.00**	**318**	*e*P	**Pn**	**03 15 01.7**	**+1.0**
SSF	**Saint Saulge**	**8.00**	**304**	*e*P	**Pn**	**03 15 02.6**	**+1.8**
SSF				*e*Sn	Sn	03 16 21.7	-9.4
	comp=E,6.4nm,0.9s						
BGF	**Bois d'Agland**	**8.20**	**300**	*e*P	**Pn**	**03 15 06.8**	**+3.3**
CAF	**Calviac**	**8.27**	**288**	*e*P	**Pn**	**03 15 07.4**	**+2.9**

*IDC **07** 03:14:32.4±1.2, 36°.81S×52°.50E, h0km, mb3.7/6, mbtmp3.7/6, MS3.6/2, Error ellipse: s-maj=39.7km s-min=26.8km az=20.0*

ISC 07 03:14:34.1±1.2**, 36°.8S**±0°.2×**52°.5E**±0°.2**, h10**km**, n13, σ0.71**/6**, mb3.8**/6**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	**Boshof**	**24.26**	**282**	P	**P**	**03 19 51.0**	**-0.6**
	3.4nm,1.0s,baz=102,slow=9.2,SNR=2.5						
	3.4nm,1.0s						
H08S1	**Diego Carcia H**	**34.30**	**37**	T	T	03 57 33.7	
	baz=211,slow=76,SNR=3.7						
H08S3	**Diego Garcia H**	**34.32**	**37**	T	T	03 57 37.9	
	baz=205,slow=76						
KMBO	**Kilima Mbogo**	**38.22**	**335**	LR	LR	03 36 07.2	
	comp=Z,89nm,19.8s,baz=92,slow=34						
SNAA	**Sanae**	**44.70**	**202**	P	**P**	**03 22 46.5**	**-0.4**
	1.0nm,0.8s,baz=102,slow=9.3,SNR=2.3						
	1.0nm,0.8s						
H01W2	**Cape Leeuwin H**	**49.23**	**107**	T	T	04 16 26.7	
	baz=248,slow=75,SNR=83						
H01W3	**Cape Leeuwin H**	**49.24**	**107**	T	T	04 16 27.3	
	baz=248,slow=75,SNR=79						
H01W1	**Cape Leeuwin H**	**49.25**	**107**	T	T	04 16 28.0	
	baz=248,slow=75,SNR=81						
QSPA	**South Pole Qui**	**53.35**	**180**	P	**P**	**03 23 54.1**	**+0.7**
	0.7nm,0.3s,baz=239,slow=2.0,SNR=3.8						
	0.7nm,0.3s						
TORD	**Torodi Ar. Bea**	**68.95**	**306**	P	**P**	**03 25 40.2**	**+0.6**
	0.6nm,0.9s,baz=123,slow=7.6,SNR=3.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**69.64**	**105**	P	**P**	**03 25 43.7**	**-0.4**
	0.3nm,0.5s,baz=239,slow=5.5,SNR=5.8						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**71.99**	**102**	P	**P**	**03 25 58.2**	**-0.2**
	0.3nm,0.7s,baz=231,slow=5.2,SNR=2.2						
	0.3nm,0.7s						
GNI	**Garni**	**76.94**	**354**	LR	LR	03 59 00.3	
	comp=Z,34nm,18.0s,baz=134,slow=35						

*DJA **07** 03:26:31.1±0.5, 2°N±3°×12°7E±°, h112km±5km, M4.1/10, mb4.2/4, MLv4.0/10*

*NEIC **07** 03:26:32.0±1.5, 1°.7N±0°.1×127°.1E±0°.1, h122km±8km, mb4.4/17, Error ellipse: s-maj=19.7km s-min=12.0km az=56.0*

*IDC **07** 03:26:34.6±11.0, 1°.55N×127°.03E, h148km±110km, mb3.4/6, mbtmp3.9/7, ML4.2/1, MS3.2/1, Error ellipse: s-maj=84.8km s-min=16.3km az=59.0*

ISC 07 03:26:30.3±0.6**, 1°.72N**±0°.06×**127°.05E**±0°.06**, h103**km**, n44, σ2.05**/47**, mb4.3**/15**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.75**	**81**	P	**Pn**	**03 26 50.0**	**+1.6**
GAMI				S	**Sn**	**03 27 04.1**	**+2.0**
TNTI	**Ternate**	**1.00**	**161**		**Pn**	**03 26 53.6**	**+2.7**
TNTI	**Ternate**	**1.00**	**161**	P	**Pn**	**03 26 53.8**	**+2.9**
TNTI				S	**Sn**	**03 27 12.3**	**+5.9**
LBMI	**Labuha**	**2.39**	**169**	P	**Pn**	**03 27 11.1**	**+3.0**
SGSI	**Sangihe**	**2.47**	**322**	P	**Pn**	**03 27 09.8**	**+0.7**
SANI	**Sanana**	**3.89**	**196**	P	**Pn**	**03 27 29.0**	**+0.9**
SANI				S	**Sn**	**03 28 09.7**	**-3.2**
GTOI	**Gorontalo**	**4.18**	**255**	P	**Pn**	**03 27 36.2**	**+4.3**
NLAI	**Namlea**	**4.93**	**179**	P	**Pn**	**03 27 43.8**	**+1.7**
LUWI	**Luwuk**	**5.08**	**237**	Pn	**Pn**	**03 27 46.7**	**+2.6**
TOLI2	**Tolitoli**	**6.29**	**265**	Pn	**Pn**	**03 28 02.8**	**+2.1**
BNSI	**Bone**	**9.22**	**229**	P	**Pn**	**03 28 43.3**	**+2.8**
	14nm,0.6s						
BKSI	**Bulukumba**	**9.84**	**225**	P	**Pn**	**03 28 53.5**	**+4.7**
	18nm,0.5s						
KAPI	**Kappang**	**9.89**	**227**	P	**Pn**	**03 28 52.7**	**+3.1**
	2.2nm,0.3s,baz=37,slow=5.8,SNR=7.4						
KAPI				S	**Sn**	**03 30 39.1**	**+0.3**
	5.6nm,0.4s,baz=22,slow=20,SNR=6.1						
	7.4nm,0.4s						
KAPI	**Kappang**	**9.89**	**227**	Pn	**Pn**	**03 28 51.8**	**+2.2**
SBUM	**Sibu**	**14.84**	**273**	Pn	**Pn**	**03 29 54.4**	**-0.5**
MTNI	**Mataram**	**14.95**	**226**	P	**Pn**	**03 29 56.8**	**+0.5**
MTN	**Manton Dam**	**15.03**	**164**	Pn	**Pn**	**03 29 55.7**	**-1.7**
KNRA	**Kununurra**	**17.37**	**174**	P	**Pn**	**03 30 26.1**	**-0.2**
TPUB	**Ta-pu**	**22.34**	**344**	P	**P**	**03 31 19.8**	**0.0**
WB0	**Warramunga Arr**	**22.54**	**162**	P	**P**	**03 31 20.5**	**-1.4**
WB0				IAmb	IAmb	03 31 28.1	
	comp=Z,14nm,0.7s						
WRAB	**Tennant Creek**	**22.68**	**162**	P	**P**	**03 31 22.0**	**-1.4**
WRAB				IAmb	IAmb	03 31 29.4	
	comp=Z,15nm,0.6s						
WRA	**Warramunga Arr**	**22.69**	**162**	P	**P**	**03 31 22.0**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=341,slow=11,SNR=35						
	comp=Z,1.5nm,0.5s						
WRA	**Warramunga Arr**	**22.69**	**162**	P	**P**	**03 31 20.7**	**-2.7**
WB2	**Warramunga Arr**	**22.69**	**162**	P	**P**	**03 31 21.7**	**-1.8**
WB2				IAmb	IAmb	03 31 29.9	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**22.77**	**162**	P	**P**	**03 31 22.6**	**-1.6**
WR0				IAmb	IAmb	03 31 31.8	
	comp=Z,13nm,1.4s						
MBWA	**Marble Bar**	**23.84**	**197**	P	**P**	**03 31 33.9**	**-0.2**
MBWA				IAmb	IAmb	03 31 41.3	
	comp=Z,12nm,1.1s						
PSA00	**Pilbara Seismi**	**24.20**	**197**	P	**P**	**03 31 37.0**	**-0.4**
PSA00				IAmb	IAmb	03 31 38.9	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**26.10**	**166**	P	**P**	**03 31 53.5**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=349,slow=7.8,SNR=8.3						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**26.10**	**166**	P	**P**	**03 31 55.0**	**+0.3**
MORW	**Morawa**	**32.38**	**198**	P	**P**	**03 32 49.4**	**-0.9**
KSRS	**Korea Array**	**35.57**	**1**	LR	LR	03 52 06.4	
	comp=Z,33nm,18.3s,baz=195,slow=43						
STKA	**Stephens Creek**	**36.15**	**159**	P	**P**	**03 33 21.8**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=348,slow=14,SNR=3.2						
	comp=Z,1.2nm,0.7s						
ARMA	**Armidale**	**39.63**	**146**	P	**P**	**03 33 52.7**	**+0.4**
SONM	**Songino Array**	**49.29**	**342**	P	**P**	**03 35 09.0**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=154,slow=7.2,SNR=4.1						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**59.38**	**326**	P	**P**	**03 36 21.9**	**0.0**
MK31				IAmb	IAmb	03 36 23.5	
	comp=Z,4.5nm,1.4s						
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**03 36 22.3**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=118,slow=7.6,SNR=19						
	comp=Z,1.8nm,0.5s						
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**03 36 21.9**	**+0.1**
MAKZ	**Makanchi**	**59.56**	**326**	P	**P**	**03 36 23.6**	**+0.5**
MAKZ				IAmb	IAmb	03 37 03.8	
	comp=Z,7.3nm,1.2s						
LBZ	**Lake Benmore**	**59.86**	**145**	P	**P**	**03 36 24.6**	**-0.5**
ZALV	**Zalesovo Beam**	**62.51**	**333**	P	**P**	**03 36 44.0**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=133,slow=8.3,SNR=1.8						
	comp=Z,0.5nm,0.3s						
KURK	**Kurchatov**	**63.59**	**328**	P	**P**	**03 36 49.8**	**-0.3**
KURK				IAmb	IAmb	03 36 53.0	
	comp=Z,5.2nm,0.7s						
KK31	**Karatay Array**	**64.91**	**318**	P	**P**	**03 36 58.1**	**-0.8**
KKAR	**Karatay Array**	**64.91**	**318**	P	**P**	**03 36 58.1**	**-0.8**
ABKAR	**Akbulak array**	**73.90**	**321**	P	**P**	**03 37 52.8**	**-1.3**

*MEX **07** 03:26:58.1±0.4, 13°.93N×93°.31W, h15km, MD4.1*

*IDC **07** 03:26:59.5±5.5, 14°.55N×92°.78W, h0km, mb3.6/3, mbtmp3.4/5, ML3.1/2, MS3.7/2, Error ellipse: s-maj=164.7km s-min=51.0km az=36.0*

ISC 07 03:26:58.6±2.6**, 14°.23N**±0°.08×**93°.17W**±0°.05**, h6**km±15km**, n24, σ1.17**/36**, mb3.9**/3**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**1.11**	**52**	*e*P	**Pb**	**03 27 19.6**	**-0.6**
THIG				*e*S	**Sn**	**03 27 36.2**	**-0.1**
PATR	**El Naranjo**	**1.27**	**45**	*e*P	**Pn**	**03 27 22.1**	**-1.1**
PATR				*e*S	**Sg**	**03 27 40.8**	**+1.4**
CHUJ	**Union Juarez**	**1.34**	**50**	*e*P	**Pn**	**03 27 23.0**	**-1.2**
CHUJ				*e*S	**Sg**	**03 27 42.7**	**+0.9**
PAVE	**Pavencul**	**1.36**	**45**	*e*P	**Pn**	**03 27 23.5**	**-0.9**
PAVE				*e*S	**Sg**	**03 27 43.5**	**+1.1**
PCIG		**1.47**	**358**	*e*P	**Pn**	**03 27 25.1**	**-0.6**
PCIG				*e*S	**Sg**	**03 27 45.7**	**-0.3**
CCIG	**Comitan**	**2.27**	**26**	*e*P	**Pb**	**03 27 39.5**	**-0.8**
CCIG				*e*S	**Sg**	**03 28 10.1**	**-1.7**
TGIG		**2.54**	**1**	*e*P	**Pn**	**03 27 42.1**	**+1.6**
TGIG				*e*S	**Sb**	**03 28 14.4**	**-1.8**
UXUV	**UXUV**	**3.21**	**343**	*e*P	**Pn**	**03 27 51.9**	**+2.1**
UXUV				*e*S	**Sn**	**03 28 29.5**	**+1.0**
HUIG	**Huatulco**	**3.23**	**299**	*e*P	**Pn**	**03 27 48.5**	**-1.4**
HUIG				*e*		03 28 22.2	
CMIG	**Matias Romero**	**3.29**	**330**	Pn	**Pn**	**03 27 51.4**	**+0.6**
	1.8nm,0.3s,baz=142,slow=11,SNR=20						
CMIG				Sn	**Sn**	**03 28 30.8**	**+0.4**
	4.5nm,0.3s,baz=79,slow=22,SNR=4.1						
	3.3nm,0.3s						
CMIG	**Matias Romero**	**3.29**	**330**	*e*P	**Pn**	**03 27 51.4**	**+0.6**
CMIG				*e*S	**Sn**	**03 28 29.5**	**-0.9**
NEUV	**Arroyo Zacate**	**4.29**	**324**	*e*P	**Pn**	**03 28 03.8**	**-0.8**
NEUV				*e*S	**Sn**	**03 28 54.8**	**-0.3**
YOIG	**Yosondua**	**4.96**	**302**	*e*	**Pn**	**03 28 15.9**	**+1.8**
YOIG				*e*		03 29 11.7	
PNIG	**Pinotepa**	**5.25**	**295**	*e*	**Pn**	**03 28 17.0**	**-0.7**
PNIG				*e*		03 29 09.3	
TXIG	**Tlaxiaco**	**5.36**	**305**	*e*P	**Pn**	**03 28 18.6**	**-0.9**
TXIG				*e*S	**Sn**	**03 29 19.9**	**-1.7**
FTIG	**Fresnillo de T**	**6.01**	**308**	*e*P	**Pn**	**03 28 27.9**	**-0.5**
FTIG				*e*S	**Sn**	**03 29 36.3**	**-1.4**
MGIG	**Malinaltepec**	**6.05**	**300**	*e*	**Pn**	**03 28 30.2**	**+1.2**
JAUV	**Jalcomulco**	**6.18**	**326**	*e*P	**Pn**	**03 28 31.8**	**+1.2**
JAUV				*e*S	**Sn**	**03 29 40.8**	**-1.0**
TXAR	**Lajitas Array**	**17.90**	**329**	P	**P**	**03 31 10.0**	**+0.8**
	baz=153,slow=12,SNR=3.1						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**32.79**	**322**	P	**P**	**03 33 34.6**	**+1.5**
	0.2nm,0.5s,baz=118,slow=7.2,SNR=2.2						
	0.2nm,0.5s						
MDP	**Montagnes des**	**40.91**	**99**	LR	LR	03 55 19.0	
	comp=Z,30nm,18.6s,baz=232,slow=42						
YKA	**Yellowknife Ar**	**50.55**	**347**	P	**P**	**03 35 57.8**	**0.0**
	1.1nm,0.8s,baz=153,slow=7.6,SNR=5.5						
	1.1nm,0.8s						
INK	**Inuvik**	**59.91**	**344**	P	**P**	**03 37 05.3**	**+0.2**
	0.6nm,0.6s,baz=147,slow=5.1,SNR=4.4						
	0.6nm,0.6s						
KDAK	**Kodiak Island**	**61.93**	**328**	LR	LR	04 03 19.9	
	comp=Z,141nm,18.6s,baz=256,slow=35						

*DDA **07** 03:34:03.4±0.0, 35°.29N×31°.40E, h12km±2km, ML2.4*

*ISK **07** 03:34:03.9, 34°.99N×31°.19E, h30km, ML3.0/24*

NIC 07 03:34:02.7±0.0**, 35°.61N**×**31°.26E, h3**km**, Ml3.1**/6**, 1D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**1.06**	**54**	P	Pn	03 34 26.0	+1.6
GAZI				S	Sn	03 34 42.8	+3.0
GAZI				*i* AML	AML	03 34 44.0	
	comp=N,186nm,0.6s						
GAZI				*i* AML	AML	03 34 44.0	
	comp=E,131nm,0.6s						
AKMS	**Akamas**	**1.06**	**124**	⇓P	Pg	03 34 23.2	+0.2
AKMS				S	Sn	03 34 40.1	+0.3
AKMS				AML	AML	03 34 41.0	
	1.9nm,0.4s						
AKMS				AML	AML	03 34 41.0	
	1.9nm,0.4s						
AKMS				AML	AML	03 34 41.9	
	3.3nm,0.5s						
AKMS				AML	AML	03 34 41.9	
	3.3nm,0.5s						
ALFC	**Alefka**	**1.19**	**112**	P	Pg	03 34 25.5	+0.1
ALFC				S	Sn	03 34 43.2	+0.3
ALFC				AML	AML	03 34 44.7	
	1.1nm,0.3s						
ALFC				AML	AML	03 34 44.7	
	1.1nm,0.3s						
ALFC				AML	AML	03 34 48.5	
	1.5nm,0.3s						
ALFC				AML	AML	03 34 48.5	
	1.5nm,0.3s						
NATA	**Nata**	**1.36**	**127**	P	Pn	03 34 28.2	-0.3
NATA				S	Sn	03 34 48.3	+1.2
NATA				AML	AML	03 34 54.9	
	4.9nm,0.4s						
NATA				AML	AML	03 34 54.9	
	4.9nm,0.4s						
NATA				AML	AML	03 35 00.3	
	2.9nm,1.0s						
NATA				AML	AML	03 35 00.3	
	2.9nm,1.0s						
LEF	**Lefka**	**1.42**	**110**	PN	Pn	03 34 27.7	-1.7
LEF				SN	Sg	03 34 44.1	-4.2
KORT	**Korkueli**	**1.57**	**332**	PN	Pg	03 34 37.8	+5.1
KORT				SN	Sg	03 35 03.2	+10
ELL	**Elmali**	**1.57**	**316**	PN	Pg	03 34 37.2	+4.3
SZAC	**Souni**	**1.58**	**122**	P	Pn	03 34 31.5	-0.2
SZAC				S	Sg	03 34 54.0	+0.6
SZAC				AML	AML	03 35 00.1	
	0.6nm,0.4s						
SZAC				AML	AML	03 35 00.1	
	0.6nm,0.4s						
SZAC				AML	AML	03 35 03.5	
	0.8nm,0.5s						
SZAC				AML	AML	03 35 03.5	
	0.8nm,0.5s						
TEKE	**Tekeli-Mersin**	**1.60**	**70**	PN	Pg	03 34 35.4	+2.2
TEKE				SN	Sg	03 34 57.8	+3.9
HDMB	**Hadim**	**1.67**	**36**	PN	Pg	03 34 39.5	+4.8
HDMB				SN	Sg	03 35 06.0	+10
ERMK	**Ermenek**	**1.69**	**52**	P	Pg	03 34 37.0	+2.0
ERMK				S	Sg	03 35 03.7	+6.8
ERMK				*i* AML	AML	03 35 08.0	
	comp=N,70nm,0.6s						
ERMK				*i* AML	AML	03 35 09.0	
	comp=E,45nm,0.5s						
BERE	**Bereket-Mersin**	**1.75**	**65**	PN	Pg	03 34 38.2	+1.9
BERE				SN	Sg	03 35 03.4	+4.4
ATHAL	**Athalassa**	**1.81**	**104**	S	Sg	03 35 00.4	-0.4
CSS	**Mathiatis**	**1.81**	**110**	PN	Pn	03 34 32.8	-2.1
CSS				SN	Sn	03 34 54.3	-4.1
CSS	**Mathiatis**	**1.81**	**110**	P	Pn	03 34 35.2	+0.4
ASGA	**Asgata**	**1.82**	**116**	P	Pn	03 34 34.9	-0.1
ASGA				S	Sb	03 34 59.8	-0.1
ASGA				AML	AML	03 35 07.0	
	0.5nm,0.5s						
ASGA				AML	AML	03 35 07.0	
	0.5nm,0.5s						
ASGA				AML	AML	03 35 09.0	
	0.5nm,1.1s						
ASGA				AML	AML	03 35 09.0	
	0.5nm,1.1s						
SEYD	**Seydisehir-KON**	**1.85**	**14**	PN	Pg	03 34 43.2	+5.1
SEYD				SN	Sg	03 35 11.5	+9.4
SUTC	**Sutluce-Ispart**	**1.87**	**354**	PN	Pg	03 34 43.5	+4.9
SEDI	**Konya, Seydise**	**1.88**	**12**	P	Pg	03 34 43.0	+4.3
SEDI				S	Sg	03 35 10.9	+7.9
SEDI				*i* AML	AML	03 35 20.0	
	comp=N,49nm,1.0s						
SEDI				*i* AML	AML	03 35 20.0	
	comp=E,46nm,1.0s						
LFK	**Lefkose**	**1.89**	**100**	PN	Pn	03 34 35.6	-0.3
AKKU	**Akkuyu-Mersin**	**1.94**	**73**	PN	Pg	03 34 40.0	+0.2
AKKU				SN	Sg	03 35 06.2	+1.3
GULN	**MERSIN_Gulnar**	**1.94**	**72**	P	Pb	03 34 38.9	+0.2
GULN				S	Sg	03 35 05.8	+0.8
GULN				*i* AML	AML	03 35 12.0	
	comp=N,22nm,0.3s						
GULN				*i* AML	AML	03 35 14.0	
	comp=E,21nm,0.5s						
TEVE	**Tevekalti-Mers**	**1.95**	**64**	PN	Pg	03 34 40.8	+0.7
TEVE				SN	Sg	03 35 08.0	+2.7
MVOU	**Mavrovouni**	**2.03**	**106**	P	Pn	03 34 37.7	-0.1
MVOU				AML	AML	03 35 15.3	
	0.2nm,0.8s						
MVOU				AML	AML	03 35 16.1	
	0.2nm,0.9s						
FETY	**Fethiye**	**2.04**	**301**	PN	Pg	03 34 41.3	-0.4
IKL	**Isikli**	**2.06**	**72**	PN	Pg	03 34 41.7	-0.5
IKL				SN	Sg	03 35 09.3	+0.3
CAME	**Cameli-Denizli**	**2.07**	**311**	PN	Pg	03 34 43.3	+1.0
KKBE	**Karaman, Kazim**	**2.10**	**40**	P	Pg	03 34 44.8	+1.9
KKBE				S	Sg	03 35 12.5	+2.3
KKBE				*i* AML	AML	03 35 24.0	
	comp=N,22nm,0.7s						
KKBE				*i* AML	AML	03 35 28.0	
	comp=E,24nm,0.5s						
KEBE	**Keben-Mersin**	**2.15**	**67**	PN	Pg	03 34 43.7	-0.3
KRMN	**Karaman**	**2.25**	**45**	PN	Pg	03 34 47.2	+1.5
DALY	**Dalyan (Mula)**	**2.43**	**300**	PN	Pb	03 34 46.8	-0.2
KONT	**Konya--Tatoy**	**2.49**	**20**	PN	Pg	03 34 52.1	+1.7
KIZK	**Mersin**	**2.49**	**69**	PN	Pb	03 34 48.2	+0.1
LADK	**Ladik-KONYA**	**2.73**	**19**	PN	Pg	03 34 55.3	+0.3
YER	**Yerkesik**	**2.84**	**303**	PN	Pb	03 34 53.1	-1.0
MERS	**Mersin**	**2.92**	**64**	PN	Pb	03 34 54.9	-0.5
KERG	**Konya-Eregli**	**2.92**	**51**	P	Pb	03 34 56.7	+1.1
KERG				S	Sg	03 35 34.6	-2.1
KERG				*i* AML	AML	03 35 40.0	
	comp=E,14nm,0.7s						
KERG				*i* AML	AML	03 35 50.0	
	comp=N,22nm,0.6s						
CHBY	**Cihanbeyli**	**3.24**	**23**	PN	Pb	03 35 02.5	+1.6
KARA	**Karaisali**	**3.47**	**61**	PN	Pb	03 35 03.2	-1.6
CMRD	**Camardi-Nigde**	**3.63**	**55**	PN	Pb	03 35 06.1	-1.5
TAHT	**Tahtakopru-Hat**	**4.07**	**78**	PN	Pn	03 35 09.1	+3.3

*NEIC **07** 03:50:17.8±2.0, 15°.85N±0°.05×93°.96W±0°.05, h89km±7km, mb4.8/130, Md5.0/133(MEX), Error ellipse: s-maj=8.0km s-min=6.1km az=203.0*

*IDC **07** 03:50:17.7±0.7, 15°.88N×93°.91W, h87km±4km, mb4.4/25, mbtmp4.7/26, MS3.4/28, Error ellipse: s-maj=22.4km s-min=6.9km az=51.0*

*GCMT **07** 03:50:18.8±0.6, 15°.99N±0°.03×93°.97W±0°.03, h102km±7km, MW4.7/71, Moment Tensor Solution. s15,c15; s71,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.04±.10; $M_{\theta\theta}$-0.01±.13; $M_{\phi\phi}$0.06±.14; $M_{r\theta}$0.97±.05; $M_{\theta\phi}$0.36±.12; $M_{\phi r}$-1.15±.05; Best double couple: $M_0$1.51400×10^{16} NP1:ϕ_s141.00000°, δ87.00000°, λ94.00000°. NP2:*

ϕs263.00000°,δ5.00000°,λ31.00000°. Principal axes: T 1.3290, Plg47.0000°, Azm56.0000°; N 0.3700, Plg4.0000°, Azm321.0000°; P -1.6990, Plg42.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*MEX **07** 03:50:19.2±0.7, 15°.87N×93°.96W, h95km±5km, MD5.0*
*SNET **07** 03:50:21.0±1.1, 14°.16N×94°.16W, h35km±999km, ML4.7*
*UCR **07** 03:50:21.0±1.1, 14°.16N×94°.16W, h35km±999km, ML4.2, mb4.8(NEIC)*
*GCG **07** 03:50:21.1±0.7, 16°.10N×93°.68W, h33km±343km, MD4.9*
ISC 07 03:50:17.4±0.4**, 15°.83N**±0°.03×**94°.02W**±0°.03**, h92**km±3km**, h92km:pP-P, n644,** σ1s**90**/662**, mb4.8**/114**, 42C-13D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.78**	**99**		**Pn**	**03 50 34.6**	**-0.2**
PCIG					**Sn**	**03 50 47.8**	**-0.1**
PCIG		**0.78**	**99**	⇓eP	**Pn**	**03 50 34.6**	**-0.2**
PCIG				eS	**Sn**	**03 50 47.8**	**-0.1**
NILT	**Santiago Nilte**	**0.93**	**322**	eP	**Pn**	**03 50 37.3**	**+0.8**
NILT				eS	**Sn**	**03 50 51.7**	**+0.9**
TGIG		**1.28**	**42**		**Pn**	**03 50 40.4**	**-0.2**
TGIG					**Sn**	**03 50 56.3**	**-1.8**
TGIG		**1.28**	**42**	⇓eP	**Pn**	**03 50 40.4**	**-0.2**
TGIG				eS	**Sn**	**03 50 56.3**	**-1.8**
TGBT	**Tuxtla Gutierr**	**1.30**	**43**		**Pn**	**03 50 40.6**	**-0.1**
TGBT					**Sn**	**03 50 56.6**	**-1.8**
TGBT	**Tuxtla Gutierr**	**1.30**	**43**	⇑eP	**Pn**	**03 50 40.6**	**-0.1**
TGBT				eS	**Sn**	**03 50 56.6**	**-1.8**
UXUV	**UXUV**	**1.49**	**355**	⇓eP	**Pn**	**03 50 43.9**	**+0.7**
UXUV				eS	**Sn**	**03 51 02.7**	**+0.1**
CMIG	**Matias Romero**	**1.51**	**327**	P	**Pn**	**03 50 43.7**	**+0.4**
	468nm,0.3s,baz=154,slow=14,SNR=2441						
CMIG				S	**Sn**	**03 51 02.9**	**-0.1**
	4μm,0.4s,baz=97,slow=15,SNR=24						
CMIG				LR	LR	03 51 36.2	
	comp=Z,388nm,21.8s,baz=304,slow=51						
CMIG	**Matias Romero**	**1.51**	**327**		**Pn**	**03 50 43.7**	**+0.4**
CMIG					**Sn**	**03 51 03.2**	**+0.2**
CMIG	**Matias Romero**	**1.51**	**327**	⇑eP	**Pn**	**03 50 43.7**	**+0.4**
CMIG				eS	**Sn**	**03 51 03.2**	**+0.2**
PATR	**El Naranjo**	**1.86**	**112**	⇑eP	**Pn**	**03 50 48.3**	**+0.2**
PATR				eS	**Sn**	**03 51 11.2**	**-0.1**
CCIG	**Comitan**	**1.86**	**76**		**Pn**	**03 50 48.1**	**+0.1**
CCIG				Sn	**Sn**	**03 51 09.2**	**-2.2**
CCIG	**Comitan**	**1.86**	**76**	⇓eP	**Pn**	**03 50 48.2**	**+0.1**
CCIG				eS	**Sn**	**03 51 09.1**	**-2.3**
PAVE	**Pavencul**	**1.88**	**109**	⇑eP	**Pn**	**03 50 49.0**	**+0.6**
PAVE				eS	**Sn**	**03 51 12.7**	**+0.8**
THIG		**1.92**	**118**		**Pn**	**03 50 49.0**	**+0.4**
THIG					**Sn**	**03 51 12.0**	**-0.5**
THIG		**1.92**	**118**	⇑eP	**Pn**	**03 50 49.0**	**+0.4**
THIG				eS	**Sn**	**03 51 12.0**	**-0.5**
CHUJ	**Union Juarez**	**1.98**	**111**	⇑eP	**Pn**	**03 50 50.0**	**+0.4**
CHUJ				eS	**Sn**	**03 51 14.6**	**+0.4**
HUIG	**Huatulco**	**2.01**	**269**		**Pn**	**03 50 49.0**	**-0.9**
HUIG	**Huatulco**	**2.01**	**269**	⇑eP	**Pn**	**03 50 49.0**	**-0.9**
HUIG				eS	**Sn**	**03 51 11.0**	**-3.6**
MIHL	**Minatitlan**	**2.21**	**347**	⇑iP	**Pn**	**03 50 53.7**	**+1.3**
MIHL				iS	**Sn**	**03 51 20.4**	**+1.2**
TUIG	**Tuzandepetl**	**2.23**	**350**	⇓eP	**Pn**	**03 50 53.0**	**+0.3**
TUIG				eS	**Sn**	**03 51 18.6**	**-1.1**
PANG	**Puerto Angel**	**2.37**	**267**		**Pn**	**03 50 53.4**	**-1.1**
PANG	**Puerto Angel**	**2.37**	**267**	⇑eP	**Pn**	**03 50 53.4**	**-1.1**
PANG				eS	**Sn**	**03 51 19.7**	**-3.3**
VHSA	**Villahermosa**	**2.38**	**26**	⇑eP	**Pn**	**03 50 55.8**	**+1.1**
VHSA				iS	**Sn**	**03 51 22.8**	**-0.5**
HUEH	**Huehuetenango**	**2.48**	**101**		**Pn**	**03 50 56.7**	**+0.6**
NEUV	**Arroyo Zacate**	**2.54**	**318**	⇑eP	**Pn**	**03 50 57.4**	**+0.6**
NEUV				eS	**Sn**	**03 51 26.1**	**-0.9**
RTAL	**Retalhuleu**	**2.59**	**120**	Pn	**Pn**	**03 50 57.9**	**+0.4**
STG3	**Santiaguito 3,**	**2.61**	**115**	eP	**Pn**	**03 50 59.8**	**+1.9**
OXLC	**Oaxaca**	**2.86**	**296**	⇑eP	**Pn**	**03 51 03.5**	**+2.3**
OXLC				iS	**Sn**	**03 51 35.6**	**+0.7**
OXBJ	**Oaxaca**	**2.88**	**296**		**Pn**	**03 51 03.0**	**+1.5**
OXBJ					**Sn**	**03 51 35.6**	**+0.2**
OXBJ	**Oaxaca**	**2.88**	**296**	⇑eP	**Pn**	**03 51 03.0**	**+1.5**
OXBJ				iS	**Sn**	**03 51 35.6**	**+0.2**
OXIG	**Oaxaca**	**2.88**	**296**		**Pn**	**03 51 03.8**	**+2.2**
OXIG					**Sn**	**03 51 36.1**	**+0.4**
VHO	**Vista Hermosa**	**2.89**	**296**	⇑eP	**Pn**	**03 51 03.8**	**+2.2**
VHO				eS	**Sn**	**03 51 36.1**	**+0.5**
PMUV	**Sontecomapan**	**2.90**	**339**	⇑eP	**Pn**	**03 51 00.8**	**-0.9**
PMUV				eS	**Sn**	**03 51 32.7**	**-3.2**
PEIG	**Puerto Escondi**	**3.02**	**274**		**Pn**	**03 51 02.6**	**-0.6**
PEIG	**Puerto Escondi**	**3.02**	**274**	⇑eP	**Pn**	**03 51 02.6**	**-0.6**
PEIG				eS	**Sn**	**03 51 34.6**	**-3.9**
FUG	**Fuego 3**	**3.36**	**114**	eP	**Pn**	**03 51 09.6**	**+1.6**
FUG				eS	**Sn**	**03 51 52.1**	**+5.1**
YOIG	**Yosondua**	**3.54**	**287**		**Pn**	**03 51 11.9**	**+1.5**
YOIG	**Yosondua**	**3.54**	**287**	⇑eP	**Pn**	**03 51 11.9**	**+1.5**
YOIG				eS	**Sn**	**03 51 47.0**	**-4.5**
PCG	**Pacaya**	**3.59**	**113**	eP	**Pn**	**03 51 13.7**	**+2.6**
TOIG	**Toxpalan**	**3.69**	**308**		**Pn**	**03 51 14.4**	**+2.0**
TOIG					**Sn**	**03 51 54.3**	**-0.6**
TOIG	**Toxpalan**	**3.69**	**308**	⇓eP	**Pn**	**03 51 14.4**	**+2.0**
TOIG				eS	**Sn**	**03 51 54.3**	**-0.6**
NBG	**Las Nubes**	**3.75**	**109**	eP	**Pn**	**03 51 15.4**	**+2.0**
NBG				eS	**Sn**	**03 52 00.5**	**+3.9**
TXIG	**Tlaxiaco**	**3.87**	**292**		**Pn**	**03 51 16.9**	**+2.0**
TXIG	**Tlaxiaco**	**3.87**	**292**	⇑eP	**Pn**	**03 51 16.9**	**+2.0**
TXIG				e		03 51 49.7	
PNIG	**Pinotepa**	**3.99**	**279**		**Pn**	**03 51 16.5**	**+0.1**
PNIG	**Pinotepa**	**3.99**	**279**	⇑eP	**Pn**	**03 51 16.5**	**+0.1**
PNIG				eS	**Sn**	**03 51 57.6**	**-4.5**
TPIG	**Tehuac#an**	**4.11**	**309**		**Pn**	**03 51 20.2**	**+2.1**
TPIG					**Sn**	**03 52 04.0**	**-1.2**
TPIG	**Tehuac#an**	**4.11**	**309**	⇑eP	**Pn**	**03 51 20.2**	**+2.1**
TPIG				eS	**Sn**	**03 52 04.0**	**-1.2**
PETF	**Flores**	**4.13**	**74**		**Pn**	**03 51 18.0**	**-0.2**
SCIG	**Sabancuy**	**4.13**	**40**	⇑eP	**Pn**	**03 51 17.6**	**-0.7**
SCIG				eS	**Sn**	**03 52 00.6**	**-4.9**
HLIG	**Huajuapan de L**	**4.14**	**299**		**Pn**	**03 51 20.9**	**+2.4**
HLIG	**Huajuapan de L**	**4.14**	**299**	⇑eP	**Pn**	**03 51 20.9**	**+2.4**
HLIG				eS	**Sn**	**03 52 04.0**	**-1.9**
OZST	**Orizaba**	**4.21**	**316**	iP	**Pn**	**03 51 20.6**	**+1.1**
OZST				eS	**Sn**	**03 52 05.7**	**-2.0**
MRL	**Marmol**	**4.24**	**99**	eP	**Pn**	**03 51 21.0**	**+1.0**
MRL				eS	**Sn**	**03 52 07.9**	**-0.7**
JAUV	**Jalcomulco**	**4.41**	**323**	⇑eP	**Pn**	**03 51 21.7**	**-0.4**
JAUV				eS	**Sn**	**03 52 09.3**	**-3.0**
FTIG	**Fresnillo de T**	**4.45**	**298**		**Pn**	**03 51 25.4**	**+2.7**
FTIG					**Sn**	**03 52 12.3**	**-1.1**
FTIG	**Fresnillo de T**	**4.45**	**298**	⇑eP	**Pn**	**03 51 25.4**	**+2.7**
FTIG				eS	**Sn**	**03 52 12.3**	**-1.1**
SLOZ	**Alcaldia de Sa**	**4.47**	**113**	eP	**Pn**	**03 51 23.6**	**+0.8**
LVIG	**Laguna Verde**	**4.50**	**330**	⇑eP	**Pn**	**03 51 22.4**	**-0.9**
LVIG				eS	**Sn**	**03 52 09.2**	**-5.2**
NUBE	**Las Nubes**	**4.52**	**114**	eP	**Pn**	**03 51 24.3**	**+0.6**
NUBE	**Las Nubes**	**4.52**	**114**	eP	**Pn**	**03 51 24.3**	**+0.6**
MGIG	**Malinaltepec**	**4.64**	**288**		**Pn**	**03 51 27.3**	**+1.9**
MGIG	**Malinaltepec**	**4.64**	**288**	⇑eP	**Pn**	**03 51 27.3**	**+1.9**
MGIG				eS	**Sn**	**03 52 15.3**	**-2.8**
ESQI	**Esquipulas**	**4.69**	**105**		**Pn**	**03 51 25.4**	**-0.5**
TLIG	**Tlapa**	**4.69**	**292**	Pn	**Pn**	**03 51 28.2**	**+2.3**
TLIG	**Tlapa**	**4.69**	**292**	⇑eP	**Pn**	**03 51 28.4**	**+2.5**
TLIG				eS	**Sn**	**03 52 16.1**	**-3.1**
CEVE	**Cerro Verde**	**4.69**	**114**	eP	**Pn**	**03 51 27.4**	**+1.3**
CEVE				IAML		03 52 31.0	
	comp=Z,2μm,0.5s						
CEVE	**Cerro Verde**	**4.69**	**114**	eP	**Pn**	**03 51 27.4**	**+1.3**
CEVE				IAML		03 52 31.0	
	comp=Z,2μm,0.5s						
MTO3	**Montecristo**	**4.72**	**107**	Pn	**Pn**	**03 51 25.8**	**-0.6**
HMTT	**Tlapaneco**	**4.77**	**295**		**Pn**	**03 51 30.1**	**+3.0**
HMTT					**Sn**	**03 52 20.2**	**-1.0**
HMTT	**Tlapaneco**	**4.77**	**295**	iP	**Pn**	**03 51 30.1**	**+3.0**
HMTT				eS	**Sn**	**03 52 20.2**	**-1.0**
CRIG	**Cruz Grande**	**4.99**	**281**		**Pn**	**03 51 30.4**	**+0.5**
CRIG	**Cruz Grande**	**4.99**	**281**	⇑eP	**Pn**	**03 51 30.4**	**+0.5**
CRIG				eS	**Sn**	**03 52 20.6**	**-5.9**
UEES	**Universidad Ev**	**5.08**	**114**	eP	**Pn**	**03 51 31.6**	**+0.4**
UEES	**Universidad Ev**	**5.08**	**114**	eP	**Pn**	**03 51 31.6**	**+0.4**
PHPU	**Puebla**	**5.09**	**310**		**Pn**	**03 51 36.0**	**+4.4**
PHPU					**Sn**	**03 52 28.1**	**-1.2**
PHPU	**Puebla**	**5.09**	**310**	iP	**Pn**	**03 51 36.0**	**+4.4**
PHPU				eS	**Sn**	**03 52 28.1**	**-1.2**
SNET	**Serv Nac Est T**	**5.09**	**114**	Pn	**Pn**	**03 51 32.2**	**+0.7**
PAVA	**Las Pavas**	**5.34**	**112**	eP	**Pn**	**03 51 35.5**	**+0.6**
PAVA	**Las Pavas**	**5.34**	**112**	eP	**Pn**	**03 51 35.5**	**+0.6**
COEG	**Centro de Oper**	**5.43**	**113**	eP	**Pn**	**03 51 37.1**	**+1.1**
COEG				IAML		03 51 42.2	
	comp=Z,576nm,0.5s						
COEG				eS	**Sn**	**03 52 35.9**	**-1.4**
COEG	**Centro de Oper**	**5.43**	**113**	eP	**Pn**	**03 51 37.1**	**+1.1**
COEG				IAML		03 51 42.2	
	comp=Z,576nm,0.5s						
COEG				eS	**Sn**	**03 52 35.9**	**-1.4**
PPM	**Popocatepetl**	**5.45**	**307**	⇑eP	**Pn**	**03 51 40.8**	**+4.2**
PPM				eS	**Sn**	**03 52 38.2**	**-0.1**
PPIG	**Popocatepetl**	**5.46**	**307**		**Pn**	**03 51 40.8**	**+4.1**
PPIG					**Sn**	**03 52 38.2**	**-0.2**
CXUV	**Coxquihui**	**5.50**	**322**	⇑eP	**Pn**	**03 51 37.5**	**+0.6**
CXUV				eS	**Sn**	**03 52 36.4**	**-2.5**
DAIG	**Los Arroyos**	**5.54**	**283**		**Pn**	**03 51 38.5**	**+1.2**
DAIG	**Los Arroyos**	**5.54**	**283**	⇑eP	**Pn**	**03 51 38.5**	**+1.2**
DAIG				eS	**Sn**	**03 52 33.2**	**-6.4**
SCLA	**Alcaldia de Sa**	**5.54**	**112**	eP	**Pn**	**03 51 38.1**	**+0.7**
SCLA	**Alcaldia de Sa**	**5.54**	**112**	eP	**Pn**	**03 51 38.1**	**+0.7**
AMVM	**AMECAMECA**	**5.61**	**307**		**Pn**	**03 51 42.9**	**+4.3**
AMVM	**AMECAMECA**	**5.61**	**307**	⇑eP	**Pn**	**03 51 42.9**	**+4.3**
AMVM				eS	**Sn**	**03 52 37.9**	**-4.1**
YAIG	**Yautepec**	**5.69**	**303**		**Pn**	**03 51 42.9**	**+3.4**
YAIG	**Yautepec**	**5.69**	**303**	⇑eP	**Pn**	**03 51 42.9**	**+3.4**
YAIG				eS	**Sn**	**03 52 40.5**	**-3.1**
PQSS	**Presa 15 de Se**	**5.72**	**112**	eP	**Pn**	**03 51 40.4**	**+0.7**
PQSS	**Presa 15 de Se**	**5.72**	**112**	eP	**Pn**	**03 51 40.4**	**+0.7**
MEIG	**Mezcala**	**5.75**	**292**		**Pn**	**03 51 43.3**	**+2.9**
MEIG	**Mezcala**	**5.75**	**292**	⇑eP	**Pn**	**03 51 43.3**	**+2.9**
MEIG				eS	**Sn**	**03 52 43.2**	**-1.9**
COEB	**Comit de Eme**	**5.79**	**113**	eP	**Pn**	**03 51 41.9**	**+0.9**
COEB	**Comit de Eme**	**5.79**	**113**	eP	**Pn**	**03 51 41.9**	**+0.9**
MPVM	**San Francisco**	**5.83**	**306**	eP	**Pn**	**03 51 45.8**	**+4.2**
MPVM				eS	**Sn**	**03 52 46.8**	**-0.3**
PLIG	**Platanillo**	**5.83**	**297**		**Pn**	**03 51 44.7**	**+3.3**
PLIG	**Platanillo**	**5.83**	**297**	⇓eP	**Pn**	**03 51 44.7**	**+3.3**
PLIG				eS	**Sn**	**03 52 44.0**	**-3.0**
THVM	**De Xico**	**5.86**	**307**	e	**Pn**	**03 51 46.7**	**+4.7**
THVM				e		03 52 42.4	
XCVM	**Xochimilco**	**5.94**	**306**	e	**Pn**	**03 51 46.8**	**+3.7**
TLVM	**San Miguel Top**	**5.95**	**305**	e	**Pn**	**03 51 47.4**	**+4.2**
TLVM				e		03 52 43.7	
VTVM	**Tizayuca**	**5.99**	**312**	e	**Pn**	**03 51 48.4**	**+4.6**
PBVM	**Pinon**	**6.02**	**307**	e	Pn	03 52 26.3	+42
UNM	**Universidad Na**	**6.03**	**306**	Pn	**Pn**	**03 51 47.7**	**+3.4**
MAVM	**Malinalco, Edo**	**6.09**	**302**	eP	Pn	03 51 55.2	+10
MAVM				eS	**Sn**	**03 52 51.5**	**-1.9**
AOVM	**Tlapan**	**6.11**	**305**	⇑eP	**Pn**	**03 51 49.7**	**+4.2**
AOVM				eS	**Sn**	**03 52 50.5**	**-3.8**
CAIG	**El Cayaco**	**6.12**	**282**		**Pn**	**03 51 46.3**	**+1.0**
CAIG	**El Cayaco**	**6.12**	**282**	⇑eP	**Pn**	**03 51 46.3**	**+1.0**
CAIG				eS	**Sn**	**03 52 46.4**	**-7.5**
INVM	**La Marquesa**	**6.17**	**305**	⇑eP	**Pn**	**03 51 50.4**	**+4.1**
INVM				eS	**Sn**	**03 52 51.7**	**-4.0**
ZUVM	**ZUMPANGO**	**6.25**	**310**		**Pn**	**03 51 46.8**	**-0.5**
ZUVM	**ZUMPANGO**	**6.25**	**310**	e	**Pn**	**03 51 46.8**	**-0.5**
TOVM	**TOLUCA**	**6.40**	**303**		**Pn**	**03 51 53.5**	**+4.1**
TOVM	**TOLUCA**	**6.40**	**303**	e	**Pn**	**03 51 53.5**	**+4.1**
TOVM				e		03 52 56.3	
LCND	**La Caada**	**6.44**	**112**	eP	**Pn**	**03 51 50.1**	**+0.5**
LCND				eS	**Sn**	**03 52 59.1**	**-2.6**
LCND	**La Caada**	**6.44**	**112**	eP	**Pn**	**03 51 50.1**	**+0.5**
LCND				eS	**Sn**	**03 52 59.1**	**-2.6**
DHIG	**Demacu**	**6.53**	**314**		**Pn**	**03 51 55.1**	**+4.1**
DEIG	**Demacu**	**6.53**	**314**	⇑eP	**Pn**	**03 51 55.1**	**+4.1**
DEIG				eS	**Sn**	**03 53 12.2**	**+8.1**
ARIG	**Puente Sto Nin**	**6.53**	**293**		**Pn**	**03 51 54.2**	**+3.3**
ARIG	**Puente Sto Nin**	**6.53**	**293**	⇑eP	**Pn**	**03 51 54.2**	**+3.3**
ARIG				eS	**Sn**	**03 52 59.8**	**-4.1**
TGUH	**Tegucigalpa,Un**	**6.75**	**104**	Pn	**Pn**	**03 51 54.7**	**+0.6**
TEIG	**Tepich**	**7.00**	**50**	Pn	**Pn**	**03 51 55.3**	**-2.0**
CRIN	**San Cristobal**	**7.43**	**114**	Pn	**Pn**	**03 52 04.4**	**+1.1**
CNGN	**Cerro Negro**	**7.83**	**114**	Pn	**Pn**	**03 52 07.7**	**-1.0**
MOIG	**Morelia**	**7.83**	**300**		**Pn**	**03 52 10.8**	**+2.0**
MOIG	**Morelia**	**7.83**	**300**	⇑eP	**Pn**	**03 52 13.4**	**+4.5**
MOIG				e		03 53 58.8	
RPIG	**Rio Verde**	**8.26**	**318**		**Pn**	**03 52 18.4**	**+3.9**
RPIG	**Rio Verde**	**8.26**	**318**	e	**Pn**	**03 52 18.4**	**+3.9**
MATN	**Matagalpa**	**8.35**	**109**	Pn	**Pn**	**03 52 15.7**	**-0.1**
GTIG	**Gomez Farias**	**8.69**	**327**		**Pn**	**03 52 24.2**	**+3.9**
GTIG	**Gomez Farias**	**8.69**	**327**	eP	**Pn**	**03 52 24.2**	**+3.9**
GTIG				eS	**Sn**	**03 53 48.9**	**-7.7**
BOAB	**BOACO BROADBAN**	**8.77**	**111**	Pn	**Pn**	**03 52 21.8**	**+0.4**
MMIG	**Aquila**	**9.25**	**287**		**Pn**	**03 52 30.4**	**+2.5**
MMIG	**Aquila**	**9.25**	**287**	eP	**Pn**	**03 52 30.4**	**+2.5**
ACON	**Acoyapa**	**9.40**	**113**	Pn	**Pn**	**03 52 29.5**	**-0.5**
ORTG	**Ortega, Santa**	**9.95**	**122**	Pn	**Pn**	**03 52 37.5**	**0.0**
AAIG	**Aguscalientes**	**10.00**	**309**		**Pn**	**03 52 42.3**	**+3.9**
AAIG	**Aguscalientes**	**10.00**	**309**	e	**Pn**	**03 52 40.4**	**+2.1**
AAIG				⇑eP	**Pn**	**03 52 42.3**	**+3.9**
DUNO	**Dulce Nombre,**	**10.08**	**123**	Pn	**Pn**	**03 52 40.5**	**+1.3**
ESPN	**Las Esperanzas**	**10.10**	**110**	Pn	**Pn**	**03 52 39.6**	**+0.1**
LNIG	**Linares**	**10.37**	**331**	⇑eP	**Pn**	**03 52 45.6**	**+2.4**
LNIG				eS	Sn	03 54 28.4	-9.1
JTS	**Las Juntas de**	**10.40**	**121**	Pn	**Pn**	**03 52 43.7**	**0.0**
ZAIG	**Zacatecas**	**10.62**	**312**	Pn	**Pn**	**03 52 47.7**	**+0.8**
ZAIG	**Zacatecas**	**10.62**	**312**	e	**Pn**	**03 52 50.5**	**+3.7**
COVE	**Coope Vega, Sa**	**10.65**	**117**	Pn	**Pn**	**03 52 45.9**	**-1.1**
CIHU	**Emiliano Zapat**	**10.78**	**290**	e	**Pn**	**03 52 52.1**	**+3.3**
JACO	**JACO, Garabito**	**10.99**	**123**	Pn	**Pn**	**03 52 52.5**	**+0.8**
CJM	**Chamela**	**11.13**	**291**	e	**Pn**	**03 52 56.8**	**+3.4**
ANIG	**Ahuacatlan**	**11.24**	**299**		**Pn**	**03 52 59.6**	**+4.5**
ANIG	**Ahuacatlan**	**11.24**	**299**	e	**Pn**	**03 52 59.6**	**+4.5**
ESTA	**Talpa de Allen**	**11.25**	**295**	e	**Pn**	**03 52 58.7**	**+3.3**
HDC	**Heredia**	**11.25**	**120**	Pn	**Pn**	**03 52 55.0**	**-0.4**
HDC	**Heredia**	**11.25**	**120**	eP	**Pn**	**03 52 55.3**	**-0.1**
MNIG	**Monterrey**	**11.36**	**330**		**Pn**	**03 52 59.5**	**+2.7**
MNIG	**Monterrey**	**11.36**	**330**	e	**Pn**	**03 52 59.5**	**+2.7**
RIMA	**Rio Macho**	**11.59**	**120**	Pn	**Pn**	**03 53 00.2**	**+0.2**
BATAN	**Batan**	**11.83**	**117**	Pn	**Pn**	**03 53 02.8**	**-0.2**
PEZE	**Perez Zeledon,**	**11.95**	**121**	Pn	**Pn**	**03 53 04.9**	**+0.2**
SOR	**Soroa**	**12.49**	**55**	Pn	**Pn**	**03 53 09.0**	**-2.8**
833A	**Chaparral WMA,**	**13.40**	**339**	Pn	**Pn**	**03 53 24.5**	**+0.8**
833A	**Chaparral WMA,**	**13.40**	**339**	P	**Pn**	**03 53 25.0**	**+1.3**
	baz=156,SNR=27						
PDIG	**Papasquiaro**	**14.05**	**313**	P	**P**	**03 53 37.3**	**-0.1**
PDIG	**Papasquiaro**	**14.05**	**313**	eP	**P**	**03 53 37.3**	**-0.1**
HKT	**Hockley**	**14.16**	**354**	Pn	**Pn**	**03 53 33.6**	**0.0**
435B	**Jarrell**	**15.24**	**348**	Pn	**Pn**	**03 53 47.5**	**0.0**
435B	**Jarrell**	**15.24**	**348**	P	**Pn**	**03 53 49.0**	**+1.5**
	baz=166						
435B				S	Sn	03 56 25.0	-11
	baz=166						
HPIG		**15.47**	**318**	Pn	**Pn**	**03 53 51.4**	**+0.7**
JCT	**Junction City**	**15.52**	**341**		**Pn**	**03 53 52.1**	**+1.1**
JCT	**Junction City**	**15.52**	**341**	P	**P**	**03 53 52.5**	**-0.9**
	baz=158,SNR=39						
NATX	**Nacogdoches**	**15.87**	**358**	P	**P**	**03 53 57.6**	**+0.3**
	baz=177						
NATX				S	Sn	03 56 37.1	-14
	baz=177						
TXAR	**Lajitas Array**	**16.12**	**328**	P	**P**	**03 54 01.2**	**+1.1**
	comp=Z,10nm,0.8s,baz=146,slow=14,SNR=113						
TX31	**Lajitas Ar. Si**	**16.12**	**328**		**P**	**03 54 00.2**	**+0.1**
TX32	**Lajitas Array**	**16.12**	**328**		**P**	**03 54 00.1**	**-0.1**
WHTX	**Lake Whitney,**	**16.40**	**350**	P	**P**	**03 54 02.7**	**-0.4**
	baz=168,SNR=10						
BRAL	**Brewton**	**16.55**	**21**	P	**Pn**	**03 54 03.5**	**-0.3**
	baz=204						
BRAL				S	Sn	03 56 53.4	-14
	baz=204						
VBMS	**Vicksburg**	**16.63**	**10**	P	**Pn**	**03 54 05.0**	**+0.2**
	baz=191						
DWPF	**Disney Wildern**	**16.89**	**42**	P	**Pn**	**03 54 05.9**	**-2.1**
	baz=226						
DWPF				S	Sn	03 57 00.6	-15
	baz=226						
146A	**Union**	**17.33**	**14**		**Pn**	**03 54 13.4**	**-0.1**
LPIG	**La Paz**	**17.37**	**301**	LR	LR	04 01 43.7	
	comp=Z,77nm,20.1s,baz=128,slow=39						
Z38A	**Mt. Pleasant**	**17.38**	**357**		**P**	**03 54 12.5**	**-1.5**
ABTX	**Abilene, Hawle**	**17.49**	**344**	P	**Pn**	**03 54 16.3**	**+0.9**
	baz=161,SNR=28						
250A	**Grady**	**17.56**	**22**	P	**P**	**03 54 15.8**	**-0.2**
Z35A	**Perchaven, San**	**17.67**	**351**	P	**P**	**03 54 17.0**	**-0.2**
WLAR	**White Oak Lake**	**17.80**	**2**	P	**P**	**03 54 18.5**	**-0.2**
Z47A	**Carrollton**	**18.12**	**16**	P	**P**	**03 54 21.6**	**-0.4**
TIGA	**Tifton**	**18.23**	**30**	P	**P**	**03 54 23.3**	**+0.1**
	baz=213						
LRAL	**Lakeview Retre**	**18.28**	**19**	P	**P**	**03 54 22.3**	**-1.6**
LRAL	**Lakeview Retre**	**18.28**	**19**	P	**P**	**03 54 22.6**	**-1.2**
	baz=202,SNR=8.9						
LRAL				S	S	03 57 33.6	-14
	baz=202						
LOOK	**Love County**	**18.31**	**352**	P	**Pn**	**03 54 24.9**	**-0.4**
GTBY	**Guantanamo Bay**	**18.45**	**74**	P	**P**	**03 54 24.3**	**-1.5**
MIAR	**Mount Ida**	**18.65**	**1**	P	**P**	**03 54 27.2**	**-0.7**
MIAR	**Mount Ida**	**18.65**	**1**	P	**P**	**03 54 27.7**	**-0.2**
	baz=181,SNR=21						
MIAR				S	S	03 57 40.3	-15
	baz=181						
X37A	**Clayton**	**18.73**	**357**	P	**P**	**03 54 29.1**	**+0.3**
GDL2	**Guadalupe Moun**	**18.82**	**332**	P	**Pn**	**03 54 31.7**	**+0.2**
UALR	**University of**	**18.93**	**4**	P	**P**	**03 54 30.1**	**-0.9**
X34A	**Smith Ranch, M**	**19.01**	**350**	P	**P**	**03 54 32.7**	**+0.9**
OXF	**Oxford**	**19.06**	**12**	P	**P**	**03 54 31.6**	**-0.8**
	baz=193						
WMOK	**Wichita Mounta**	**19.31**	**348**	P	**P**	**03 54 35.0**	**-0.1**
WMOK	**Wichita Mounta**	**19.31**	**348**	P	**P**	**03 54 35.6**	**+0.4**
	baz=165,SNR=26						
WMOK				S	**S**	**03 57 59.2**	**-10**
	baz=165						
CGIG		**19.32**	**321**	e	**Pn**	**03 54 39.7**	**+2.3**
X48A	**Hartselle**	**19.58**	**17**	P	**P**	**03 54 36.8**	**-1.3**
FNO	**Franklin**	**19.59**	**352**		**P**	**03 54 38.8**	**+0.7**
MSTX	**Muleshoe**	**19.72**	**338**	P	**P**	**03 54 40.5**	**+0.8**
MSTX	**Muleshoe**	**19.72**	**338**	P	**P**	**03 54 40.9**	**+1.3**
	baz=154,SNR=46						
OK025	**Westminster Rd**	**19.90**	**352**	P	**P**	**03 54 41.5**	**0.0**
GOGA	**Godfrey**	**19.94**	**27**	P	**P**	**03 54 42.9**	**+0.9**
	baz=211,SNR=6.5						
BCOK	**Bluff Creek, N**	**20.01**	**351**	P	**P**	**03 54 42.5**	**-0.3**
FCAR	**Ozark Folk Cen**	**20.05**	**4**	P	**P**	**03 54 42.4**	**-0.8**
DEOK	**Depew**	**20.06**	**354**	P	**P**	**03 54 42.4**	**-0.9**
TUL1	**Leonard**	**20.07**	**356**	P	**P**	**03 54 42.6**	**-0.8**
TUL1	**Leonard**	**20.07**	**356**	P	**P**	**03 54 43.8**	**+0.5**
	baz=174,SNR=13						
TUL1				S	**S**	**03 58 18.0**	**-5.8**
	baz=174						
OK029	**Liberty Lake**	**20.13**	**352**	P	**P**	**03 54 43.8**	**-0.2**
CSTR	**Hydro, Custer**	**20.18**	**349**	P	**P**	**03 54 44.8**	**+0.2**
AMTX	**Amarillo**	**20.19**	**341**	P	**P**	**03 54 46.2**	**+1.5**
AMTX	**Amarillo**	**20.19**	**341**	P	Pn	03 54 46.5	-1.0
	baz=158						
OK031	**S. Brethren Rd**	**20.20**	**353**	P	**P**	**03 54 44.4**	**-0.5**
OK034	**N. Norfolk Rd.**	**20.25**	**354**	P	**P**	**03 54 44.8**	**-0.5**
OK033	**Mehan**	**20.30**	**353**	P	**P**	**03 54 44.6**	**-1.3**
LCAR	**Lake Charles**	**20.32**	**7**	P	**P**	**03 54 43.6**	**-2.5**
HELC	**Santa Helena**	**20.50**	**116**	P	**P**	**03 54 47.1**	**-1.5**
OK050	**Pawnee Station**	**20.66**	**353**	P	**P**	**03 54 49.9**	**+0.2**
121A	**Cookes Peak, D**	**20.80**	**326**	P	Pn	03 54 55.1	+0.3
	baz=139,SNR=66						
WVT	**Waverly**	**20.96**	**14**	P	**P**	**03 54 50.2**	**-2.7**
WVT	**Waverly**	**20.96**	**14**	P	**P**	**03 54 52.4**	**-0.6**
	baz=196						
BLOK	**Blackwell**	**21.05**	**353**	P	**P**	**03 54 52.7**	**-1.1**
MGMO	**Mountain Grove**	**21.30**	**4**	P	**P**	**03 54 56.6**	**0.0**
CPCT	**Cooper Cave**	**21.31**	**22**	P	**P**	**03 54 55.9**	**-0.8**
Y22D	**IRIS PASSCAL I**	**21.57**	**330**	P	**P**	**03 55 02.1**	**+2.4**
	baz=144						
T45A	**Paducah**	**21.64**	**12**	P	**P**	**03 54 58.3**	**-1.9**
LENM	**Lemitar**	**21.67**	**330**	P	**P**	**03 55 02.6**	**+1.9**
CGM3	**Cape Girardeau**	**21.73**	**9**	P	**P**	**03 54 59.2**	**-2.0**
TKL	**Tuckaleechee C**	**21.77**	**23**	P	**P**	**03 55 01.2**	**-0.5**
	comp=Z,3.2nm,0.5s,baz=188,slow=11,SNR=6.4						
TKL				LR	LR	04 04 03.1	
	comp=Z,83nm,20.7s,baz=204,slow=38						
	comp=Z,3.2nm,0.5s						
IMBA	**Imbabura, San**	**21.96**	**133**	P	**P**	**03 55 05.0**	**+0.7**
ANMO	**Albuquerque**	**22.07**	**332**	P	**P**	**03 55 07.7**	**+2.7**
	comp=Z,14nm,0.7s,baz=143,slow=12,SNR=77						
	comp=Z,14nm,0.7s						
ANMO	**Albuquerque**	**22.07**	**332**	P	**P**	**03 55 07.5**	**+2.4**
	baz=146						
ROSC	**El Rosal**	**22.21**	**117**	P	**P**	**03 55 08.4**	**+1.5**
	comp=Z,35nm,0.6s,baz=147,slow=6.8,SNR=25						
	comp=Z,35nm,0.6s						
CCM	**Cathedral Cave**	**22.28**	**6**	P	**P**	**03 55 04.8**	**-2.1**
CCM	**Cathedral Cave**	**22.28**	**6**	P	**P**	**03 55 05.5**	**-1.5**
	baz=187						
KMSC	**Kings Mountain**	**22.34**	**28**	P	**P**	**03 55 07.1**	**-0.6**
	baz=213						
TUC	**Tucson**	**22.39**	**320**	P	**P**	**03 55 10.9**	**+2.6**
TUC	**Tucson**	**22.39**	**320**	P	**P**	**03 55 11.1**	**+2.7**
	baz=133						
TZTN	**Tazewell**	**22.64**	**22**	P	**P**	**03 55 09.2**	**-1.6**
	baz=207						
USIN	**University of**	**22.76**	**13**	P	**P**	**03 55 10.8**	**-1.2**
T25A	**Trinidad**	**23.14**	**338**	P	**P**	**03 55 18.6**	**+2.6**
	baz=153,SNR=21						
KSU1	**Kansas State U**	**23.30**	**355**	P	**P**	**03 55 17.0**	**-0.2**
	baz=173,SNR=6.7						
WCI	**Wyandotte Cave**	**23.33**	**16**	P	**P**	**03 55 16.0**	**-1.5**
WCI	**Wyandotte Cave**	**23.33**	**16**	P	**P**	**03 55 15.7**	**-1.8**
	baz=199						
CBKS	**Cedar Bluff**	**23.45**	**349**	P	**P**	**03 55 18.8**	**+0.3**
CBKS	**Cedar Bluff**	**23.45**	**349**	P	**P**	**03 55 19.8**	**+1.2**
	baz=166,SNR=14						
214A	**Organ Pipe Nat**	**23.46**	**317**	P	**P**	**03 55 21.6**	**+2.8**
	baz=128,SNR=14						
P38A	**Dawn**	**23.72**	**1**	P	**P**	**03 55 19.6**	**-1.3**
W18A	**Petrified Fore**	**23.82**	**327**	P	**P**	**03 55 23.5**	**+1.3**
	baz=139						
SDV	**Santo Domingo**	**23.85**	**104**	P	**P**	**03 55 22.5**	**-0.1**
	comp=Z,21nm,0.7s,baz=320,slow=8.7,SNR=5.0						
SDV				LR	LR	04 05 13.5	
	comp=Z,69nm,21.5s,baz=278,slow=38						
	comp=Z,21nm,0.7s						
SDV	**Santo Domingo**	**23.85**	**104**	P	**P**	**03 55 21.8**	**-0.8**
SDV	**Santo Domingo**	**23.85**	**104**	eP	**P**	**03 55 22.7**	**+0.1**
SDCO	**Great Sand Dun**	**24.08**	**337**	P	**P**	**03 55 26.6**	**+2.0**
	baz=152,SNR=15						
KSCO	**Kaye Shedlock'**	**24.30**	**344**	P	**P**	**03 55 28.1**	**+1.7**
	baz=159,SNR=12						
BOSC	**San Juan Bosco**	**24.32**	**140**	P	**P**	**03 55 29.4**	**+2.7**
113A	**Mohawk Valley,**	**24.59**	**317**	P	**P**	**03 55 32.1**	**+3.2**
S22A	**4UR Ranch, Cre**	**24.60**	**335**	P	**P**	**03 55 31.8**	**+2.5**
	baz=149						
MVCO	**Mesa Verde**	**24.87**	**332**	P	**P**	**03 55 33.3**	**+1.7**
MVCO	**Mesa Verde**	**24.87**	**332**	P	**P**	**03 55 34.0**	**+2.3**
	baz=145,SNR=11						
HDIL	**Hopedale**	**24.98**	**9**	P	**P**	**03 55 31.5**	**-0.9**
	baz=190						
P49A	**Miami Univ. Ec**	**24.98**	**17**	P	**P**	**03 55 30.4**	**-2.0**
	baz=201						
WUAZ	**Wupatki**	**25.01**	**325**	P	**P**	**03 55 36.0**	**+3.1**
	baz=137,SNR=6.9						
Q24A	**Divide**	**25.04**	**339**	P	**P**	**03 55 35.3**	**+2.0**
	baz=154						
SFIN	**Lafayette**	**25.20**	**12**	P	**P**	**03 55 31.7**	**-2.6**
SFIN	**Lafayette**	**25.20**	**12**	P	**P**	**03 55 32.6**	**-1.7**
	baz=195						
O48B	**Farmland**	**25.54**	**16**	P	**P**	**03 55 35.9**	**-1.6**
	baz=200						
BLYC	**Blythe**	**25.70**	**318**	P	**P**	**03 55 39.0**	**0.0**
BGNE	**Belgrade**	**25.74**	**353**	IAmb	IAmb	03 55 41.5	
	comp=Z,27nm,0.5s						
BGNE	**Belgrade**	**25.74**	**353**	P	**P**	**03 55 39.1**	**-0.2**
	baz=170						
PV13	**Radium Mtn., P**	**25.79**	**332**	IAmb	IAmb	03 55 46.4	
	comp=Z,25nm,1.0s						
SMCO	**Snowmass**	**25.89**	**336**	IAmb	IAmb	03 56 06.9	
	comp=Z,24nm,1.1s						
P52A	**Corning**	**25.90**	**21**	P	**P**	**03 55 39.6**	**-1.1**
	baz=207						
PV11	**David Mesa, Pa**	**25.93**	**333**	IAmb	IAmb	03 56 07.2	
	comp=Z,22nm,1.0s						
OGNE	**Ogallala**	**25.98**	**346**	IAmb	IAmb	03 55 44.5	
	comp=Z,52nm,0.9s						
OGNE	**Ogallala**	**25.98**	**346**	P	**P**	**03 55 42.4**	**+0.9**
	baz=162,SNR=8.8						
SCIA	**State Center**	**26.00**	**1**	IAmb	IAmb	03 55 42.8	
	comp=Z,41nm,0.8s						
SCIA	**State Center**	**26.00**	**1**	P	**P**	**03 55 41.2**	**-0.4**
	baz=181,SNR=6.7						
PV23	**Carpenter Ridg**	**26.12**	**333**	P	**P**	**03 55 45.3**	**+2.3**
PV23				IAmb	IAmb	03 55 47.0	
	comp=Z,22nm,0.9s						
L34A	**Svendsen Farm,**	**26.13**	**356**	P	**P**	**03 55 41.7**	**-1.1**
L34A				IAmb	IAmb	03 56 06.5	
	comp=Z,50nm,1.0s						
ACSO	**Alum Creek Sta**	**26.15**	**19**	P	**P**	**03 55 41.4**	**-1.5**
	baz=204						
L40A	**Anamosa**	**26.26**	**5**	IAmb	IAmb	03 56 19.3	

comp=Z,36nm,0.9s
L42A **Oliver, Polo** 26.36 7 IAmb IAmb 03 55 45.1
comp=Z,17nm,0.8s
SJG **San Juan** 26.74 81 LR LR 04 06 03.9
comp=Z,27nm,20.5s,baz=264,slow=36
K38A **Parkersburg** 26.75 2 IAmb IAmb 03 56 12.3
comp=Z,27nm,0.9s
PFO **Pinyon Flats O** 26.90 315 LR LR 04 07 34.3
comp=Z,135nm,21.0s,baz=147,slow=38
K31A **O'Neill** 27.02 352 P P 03 55 50.5 -0.3
K31A IAmb IAmb 03 55 57.5
comp=Z,42nm,0.8s
N23A **Red Feather La** 27.04 340 P P 03 55 54.7 +3.4
baz=154
JFWS **Jewell Farm** 27.19 6 P P 03 55 51.5 -0.8
baz=188,SNR=7.3
O20A **White River Ci** 27.21 336 P P 03 55 54.8 +2.1
baz=148
L48A **N Adams** 27.31 16 IAmb IAmb 03 56 20.2
comp=Z,18nm,0.8s
MTPU **Mount Pierson** 27.32 328 P P 03 55 55.2 +1.2
ECSD **EROS Data Cent** 27.91 356 IAmb IAmb 03 55 59.3
comp=Z,23nm,1.0s
ECSD **EROS Data Cent** 27.91 356 P P 03 55 58.2 -0.5
baz=174,SNR=22
M53A **Wl Miller and** 28.01 22 P P 03 55 58.1 -1.5
baz=208
RWWY **Rawlins** 28.18 339 P P 03 56 02.4 +1.0
RWWY IAmb IAmb 03 56 05.4
comp=Z,40nm,1.4s
K22A **Casper** 28.81 341 P P 03 56 08.9 +2.0
baz=154
SUSD **Miller** 28.83 353 P P 03 56 07.2 +0.3
baz=170
TPNV **Topopah Spring** 28.84 321 P P 03 56 10.0 +2.8
baz=131
PCRV **Puerto La Cruz** 29.16 97 LR LR 04 08 45.9
comp=Z,68nm,21.7s,slow=38
SPR3 **Spring Creek 3** 29.16 326 IAmb IAmb 03 56 14.1
comp=Z,4.9nm,1.0s
DUG **Dugway, Tooele** 29.28 330 P P 03 56 11.3 +0.2
baz=140
SPMN **Marine on St.** 29.33 2 P P 03 56 10.8 -0.4
baz=182,SNR=16
R11A **Troy Canyon, C** 29.39 324 P P 03 56 15.4 +3.2
baz=134
RSSD **Black Hills** 29.46 345 P P 03 56 13.3 +0.6
RSSD **Black Hills** 29.46 345 P P 03 56 14.4 +1.7
baz=160
F36A **Milaca** 29.95 1 IAmb IAmb 03 56 16.8
comp=Z,21nm,1.0s
PD31 **Pinedale Array** 29.97 337 P P 03 56 16.4 -0.9
PDAR **Pinedale Array** 29.97 337 P P 03 56 19.1 +1.8
comp=Z,2.6nm,0.7s,baz=144,slow=8.8,SNR=24
comp=Z,2.6nm,0.7s
BW06 **Boulder Array** 29.97 337 P P 03 56 19.7 +2.4
baz=149,SNR=5.9
GLMI **Grayling** 29.98 13 P P 03 56 15.3 -1.7
baz=198
SPUT **South Promonto** 29.98 332 IAmb IAmb 03 56 59.3
comp=Z,20nm,1.9s
F33A **5 Mile Ranch,** 29.98 357 IAmb IAmb 03 56 16.9
comp=Z,15nm,0.9s
AHID **Auburn Hatcher** 30.58 335 IAmb IAmb 03 56 26.9
comp=Z,10nm,0.8s
E38A **The Farm, Brul** 30.76 3 IAmb IAmb 03 56 24.6
comp=Z,9.9nm,0.5s
ELK **Elko** 30.91 328 LR LR 04 09 19.5
comp=Z,76nm,19.3s,baz=178,slow=37
REDW **Red Top Meadow** 30.98 336 P P 03 56 27.9 +1.7
SGCB **St:o Gabriel d** 31.00 118 eP P 03 56 25.3 -1.1
NVAR **Mina Array Bea** 31.04 321 P P 03 56 30.4 +3.7
comp=Z,8.5nm,0.7s,baz=132,slow=8.8,SNR=101
TBTG **Tabatinga, AM** 31.06 128 eP P 03 56 27.8 +0.9
LOHW **Long Hollow** 31.09 336 IAmb IAmb 03 56 30.7
comp=Z,20nm,0.9s
TPAW **Teton Pass** 31.12 336 IAmb IAmb 03 56 34.7
comp=Z,31nm,1.1s
MOOW **Moose Ponds** 31.26 336 IAmb IAmb 03 56 32.1
comp=Z,16nm,0.9s
FXWY **Fox Creek** 31.28 336 P P 03 56 30.8 +2.0
FXWY IAmb IAmb 03 56 32.4
comp=Z,12nm,0.9s
IMW **Indian Meadow** 31.46 336 IAmb IAmb 03 56 34.7
comp=Z,13nm,1.1s
SADO **Sadowa** 31.47 21 P P 03 56 28.3 -1.9
comp=Z,1.1nm,0.3s,baz=253,slow=7.3,SNR=5.1
SADO LR LR 04 10 29.7
comp=Z,52nm,20.6s,baz=200,slow=39
comp=Z,1.1nm,0.3s
CZSB **Cruzeiro do Su** 31.52 136 P P 03 56 30.8 -0.1
CZSB IAmb IAmb 03 56 36.4
comp=Z,15nm,0.6s
CZSB **Cruzeiro do Su** 31.52 136 eP P 03 56 33.2 +2.3
FLWY **Flagg Ranch** 31.53 337 IAmb IAmb 03 56 34.6
comp=Z,12nm,0.8s
H17A **Grant Village** 31.75 337 IAmb IAmb 03 56 39.6
comp=Z,13nm,1.2s
H17A **Grant Village** 31.75 337 P P 03 56 35.6 +2.6
baz=148
RLMT **Red Lodge** 31.91 339 IAmb IAmb 03 56 37.6
comp=Z,34nm,1.5s
RLMT **Red Lodge** 31.91 339 P P 03 56 35.4 +1.1
baz=151,SNR=7.7
EYMN **Ely** 32.10 3 IAmb IAmb 03 56 39.5
comp=Z,38nm,1.8s
EYMN **Ely** 32.10 3 P P 03 56 34.2 -1.4
baz=184
YMR **Madison River** 32.13 337 IAmb IAmb 03 56 40.4
comp=Z,23nm,0.8s
YHH **Holmes Hill** 32.19 337 P P 03 56 39.1 +2.3
YHH IAmb IAmb 03 56 40.8
comp=Z,9.4nm,1.0s
MDND **Maddock** 32.26 353 P P 03 56 37.9 +0.7
baz=170,SNR=8.6
LAO **LASA Array** 32.41 344 IAmb IAmb 03 56 40.9
comp=Z,14nm,0.9s
LAO **LASA Array** 32.41 344 P P 03 56 40.2 +1.7
baz=157,SNR=7.6
AGMN **Agassiz Nation** 32.42 358 P P 03 56 38.0 -0.5
baz=176,SNR=16
HLID **Hailey** 32.65 332 P P 03 56 43.6 +2.8
baz=141,SNR=9.6
MCMT **McKenzie Canyo** 33.00 335 P P 03 56 46.4 +2.6
BOZ **Bozeman (W)** 33.16 337 IAmb IAmb 03 56 51.9
comp=Z,12nm,1.2s
BOZ **Bozeman (W)** 33.16 337 P P 03 56 47.9 +2.7
baz=148,SNR=9.4
DGMT **Dagmar** 33.61 348 P P 03 56 50.6 +1.7
baz=162,SNR=7.3
WVOR **Wild Horse Val** 33.90 326 IAmb IAmb 03 56 55.7
comp=Z,10.0nm,1.2s
HRY **Holter Researc** 34.18 338 P P 03 56 55.4 +1.5
ULM **Lac du Bonnet** 34.37 358 P P 03 56 54.1 -1.2
comp=Z,30nm,0.8s,baz=184,slow=9.4,SNR=23
ULM LR LR 04 13 11.9
comp=Z,39nm,18.5s,baz=0.5,slow=40
comp=Z,30nm,0.8s
ULM **Lac du Bonnet** 34.37 358 P P 03 56 53.4 -1.9
PLID **Pearl Lake** 34.55 332 IAmb IAmb 03 57 00.8
comp=Z,30nm,1.6s
EGMT **Eagleton** 34.63 341 IAmb IAmb 03 57 00.9
comp=Z,30nm,1.3s
EGMT **Eagleton** 34.63 341 P P 03 56 58.5 +0.8
baz=152
BMO **Blue Mountains** 34.98 331 IAmb IAmb 03 57 22.5
comp=Z,12nm,1.6s
MSO **Missoula** 35.08 336 IAmb IAmb 03 57 04.9
comp=Z,17nm,1.1s
MSO **Missoula** 35.08 336 P P 03 57 02.9 +1.2
baz=145,SNR=8.9
BOAV **Boa Vista** 35.58 109 P P 03 57 04.4 -1.9
BOAV IAmb IAmb 03 57 06.8
comp=Z,3.7nm,0.8s
BOAV **Boa Vista** 35.58 109 eP P 03 57 04.7 -1.6
YBH **Yreka Blue Hor** 35.73 322 LR LR 04 13 13.5
comp=Z,74nm,20.3s,baz=155,slow=38
F10A **Beach Ranch, E** 35.79 332 IAmb IAmb 03 57 47.0
comp=Z,14nm,0.9s
WALA **Waterton Lakes** 36.92 338 IAmb IAmb 03 57 20.0
comp=Z,14nm,1.2s
ETMB **Extrema** 37.51 131 P P 03 57 21.2 -1.4
ETMB IAmb IAmb 03 57 23.6
comp=Z,6.6nm,1.0s
ETMB **Extrema** 37.51 131 eP P 03 57 22.4 -0.1
NEW **Newport** 37.51 334 LR LR 04 13 29.7
comp=Z,35nm,20.9s,baz=159,slow=37
NEW **Newport** 37.51 334 P P 03 57 23.9 +1.6
baz=141
C09A **Chrisman Ranch** 37.64 333 IAmb IAmb 03 57 27.4
comp=Z,21nm,1.6s
MACA **Manacapuru-AM** 37.99 117 IAmb IAmb 03 57 26.6
comp=Z,37nm,0.6s
MACA **Manacapuru-AM** 37.99 117 eP P 03 57 25.7 -1.0
FFC **Flin Flon** 39.31 353 P P 03 57 36.9 -0.3
FFC **Flin Flon** 39.31 353 P P 03 57 37.2 +0.1
FFC pP pP 03 57 56.1 -2.7
FFC sP sP 03 58 08.9 -0.5
LPAZ **La Paz** 40.88 140 P P 03 57 51.9 +0.6
comp=Z,4.3nm,0.8s,baz=345,slow=4.7,SNR=14
comp=Z,4.3nm,0.8s
LPAZ **La Paz** 40.88 140 eP P 03 57 52.3 +1.0
LPAZ **La Paz** 40.88 140 P P 03 57 51.0 -0.2
LPAZ pP pP 03 58 15.3 +2.4
LLLB **Lillooet** 41.32 333 P P 03 57 55.5 +1.7
LLLB IAmb IAmb 03 57 57.8
comp=Z,31nm,1.8s
MDP **Montagnes des** 41.98 100 LR LR 04 16 23.9
comp=Z,21nm,21.0s,baz=282,slow=37
BRLDA **Berland Lookou** 42.32 340 IAmb IAmb 03 58 04.4
comp=Z,11nm,0.8s
PB11 **IPOC Station P** 42.71 145 IAmb IAmb 03 58 07.8
comp=Z,12nm,0.7s
ITTB **Itaituba** 42.87 115 eP P 03 58 05.1 -1.8
GO01 **Chusmiza** 42.89 144 IAmb IAmb 03 58 10.4
comp=Z,6.9nm,0.7s
MALB **Monte Alegre** 43.03 111 eP P 03 58 07.3 -0.9
WAPA **Wapiti River** 43.83 339 IAmb IAmb 03 58 16.0
comp=Z,19nm,0.8s
VILB **Vilhena** 44.01 129 IAmb IAmb 03 58 17.3
comp=Z,24nm,0.9s
VILB **Vilhena** 44.01 129 eP P 03 58 15.8 -0.3
SCHQ **Schefferville** 44.24 22 LR LR 04 17 57.1
comp=Z,74nm,19.6s,baz=240,slow=38
MCPB **Macapa, AP** 44.43 107 eP P 03 58 18.1 -1.4
NPGB **Novo Progresso** 44.52 118 eP P 03 58 18.0 -2.1
RPN **Rapa Nui** 45.21 199 LR LR 04 11 34.4
comp=Z,31nm,19.5s,baz=149,slow=28
SIV **San Ignacio** 45.35 133 LR LR 04 14 57.6
comp=Z,32nm,18.4s,baz=266,slow=33
LVC **Limon Verde** 45.43 147 eP P 03 58 29.6 +2.0
PDRB **Porto dos Gac** 45.88 124 eP P 03 58 29.6 -1.3
CLDB **Colider** 46.21 123 eP P 03 58 31.6 -1.9
PTLB **Pontes e Lacer** 46.39 130 P P 03 58 34.2 -0.6
PTLB IAmb IAmb 03 58 35.5
comp=Z,8.6nm,1.1s
PTLB **Pontes e Lacer** 46.39 130 eP P 03 58 34.6 -0.2
YKA **Yellowknife Ar** 48.82 347 P P 03 58 53.6 +0.6
comp=Z,20nm,0.6s,baz=155,slow=7.5,SNR=123
YKA pP pP 03 59 15.3 -0.1
comp=Z,2.4nm,0.6s,baz=154,slow=7.7,SNR=2.6
YKA sP sP 03 59 23.2 -2.6
comp=Z,4.8nm,0.8s,baz=148,slow=8.0,SNR=3.7
YKA LR LR 04 21 59.8
comp=Z,64nm,18.2s,baz=228,slow=39
comp=Z,20nm,0.6s
YKA **Yellowknife Ar** 48.82 347 P P 03 58 53.3 +0.3
TMAB **Tom-Au,PA,Br** 48.86 108 eP P 03 58 53.0 -1.0
PRPB **Parauapebas** 48.92 113 eP P 03 58 53.8 -0.8
SALV **Santo Antonio** 49.24 128 eP P 03 58 56.5 -0.5
KOTAN **Kotaneelee Air** 49.33 341 P P 03 58 59.0 +2.0
baz=135,SNR=6.5
DLBC **Dease Lake** 50.20 336 P P 03 59 06.3 +2.6
baz=132
SNDB **Serra Nova Dou** 50.50 121 eP P 03 59 06.0 -0.5
WTLY **Watson Lake, Y** 50.91 338 IAmb IAmb 03 59 12.4
comp=Z,12nm,0.8s
WTLY **Watson Lake, Y** 50.91 338 P P 03 59 11.1 +2.1
baz=135
FRB **Frobisher Bay** 51.01 14 LR LR 04 22 45.0
comp=Z,77nm,18.9s,baz=211,slow=38
R33M **Jennings River** 51.21 337 P P 03 59 13.6 +2.3
baz=132
WRGLY **Wrigley** 51.59 343 P P 03 59 15.6 +1.7
baz=143
TGTN **Hyland Airport** 51.75 340 P P 03 59 17.8 +2.6
baz=136,SNR=7.1
SMTB **Santa Maria do** 52.11 115 eP P 03 59 17.8 -0.8
AQDB **Aquidauana** 52.13 133 IAmb IAmb 03 59 20.3
comp=Z,31nm,1.9s
AQDB **Aquidauana** 52.13 133 eP P 03 59 18.3 -0.2
ARAG **Araguaiana, MT** 52.13 125 eP P 03 59 18.0 -0.6
P32M **Atlin** 52.40 336 P P 03 59 23.0 +2.9
baz=129
P33M **Teslin, Yukon** 52.45 337 P P 03 59 22.0 +1.5
baz=130
ROSB **Rosrio** 52.72 106 eP P 03 59 21.1 -2.0
N32M **Quiet Lake** 53.17 338 P P 03 59 28.9 +3.1
baz=130,SNR=7.2
MMPY **Sheldon Lake,** 53.52 340 P P 03 59 30.8 +2.5
baz=133
FARO **Faro, Yukon** 53.97 338 IAmb IAmb 03 59 34.8
comp=Z,6.3nm,0.9s
FARO **Faro, Yukon** 53.97 338 P P 03 59 34.2 +2.7
baz=131,SNR=5.5
O30N **Mendenhall** 54.07 336 P P 03 59 35.3 +3.0
baz=127
M31M **Drury Creek, Y** 54.33 338 P P 03 59 36.3 +2.2
baz=130
N31M **Braeburn, Yuko** 54.39 337 P P 03 59 36.5 +1.9
baz=128
N30M **Aishikik Lake** 54.87 336 P P 03 59 40.6 +2.5
baz=126
CPUP **Villa Florida** 55.03 139 P P 03 59 39.0 -0.6
comp=Z,2.4nm,0.8s,baz=336,slow=5.8,SNR=5.6
CPUP pP pP 04 00 02.1 -0.2
comp=Z,2.2nm,0.8s,baz=316,slow=2.2,SNR=3.3
comp=Z,2.4nm,0.8s
CPUP **Villa Florida** 55.03 139 eP P 03 59 39.2 -0.4
BDFB **Brasilia** 55.14 122 P P 03 59 40.9 +0.2
comp=Z,17nm,0.8s,baz=295,slow=9.1,SNR=21
comp=Z,17nm,0.8s
BDFB **Brasilia** 55.14 122 P P 03 59 40.7 -0.1
BDFB **Brasilia** 55.14 122 eP P 03 59 40.9 +0.2
M30M **Minto, Yukon** 55.44 338 P P 03 59 44.4 +2.3
baz=127
MAYO **Mayo, Yukon** 55.75 339 P P 03 59 46.2 +1.9
baz=129
M29M **Somme Creek** 55.98 337 P P 03 59 48.0 +1.9
baz=125
PCMB **Pacaembu** 56.05 130 eP P 03 59 46.9 -0.2
SDBA **SAO DESIDERIO** 56.11 117 eP P 03 59 47.4 -0.2
L29M **L29M** 56.25 338 P P 03 59 49.6 +1.7
baz=126
IPMB **Ipameri, GO** 56.26 125 eP P 03 59 48.4 -0.2
YUK3 **Moose Creek** 56.38 336 P P 03 59 50.0 +1.0
baz=123
K29M **Barlow Dome** 56.47 339 P P 03 59 51.0 +1.5
baz=127
C36M **Paulatuk** 56.70 348 P P 03 59 51.2 +0.3
baz=144
DAWY **Dawson** 57.27 338 P P 03 59 56.1 +1.0
baz=125
PTGB **Pitanga** 57.43 134 eP P 03 59 55.9 -1.0
L27K **Beaver Creek,** 57.61 336 P P 03 59 59.4 +1.8
baz=122
F31M **Tsiigehtchic** 57.61 343 P P 03 59 58.7 +1.3
baz=133
I29M **Ogilvie Camp,** 57.66 340 P P 03 59 58.3 +0.4
baz=127
BB19B **Bebedouro** 57.77 128 eP P 03 59 59.6 +0.3
ITQB **Itaqui** 57.85 141 eP P 03 59 59.9 +0.3
JANB **Januaria** 57.90 120 eP P 04 00 00.1 -0.2
PMNB **Patos De Minas** 57.97 124 eP P 04 00 01.1 +0.4
G30M **tAoh Zraii Nji** 58.02 342 P P 04 00 00.7 +0.4
baz=130
INK **Inuvik** 58.15 344 P P 04 00 02.5 +1.4
comp=Z,7.7nm,0.5s,baz=127,slow=6.1,SNR=7.4
INK pP pP 04 00 25.0 +0.9
comp=Z,8.9nm,0.8s,baz=119,slow=10,SNR=5.1
INK sP sP 04 00 32.4 -2.0
comp=Z,9.3nm,0.7s,baz=97,slow=8.2,SNR=5.4
comp=Z,7.7nm,0.5s
INK **Inuvik** 58.15 344 P P 04 00 01.2 0.0
INK **Inuvik** 58.15 344 P P 04 00 02.6 +1.5
baz=134,SNR=9.3
K27K **Chicken** 58.22 337 P P 04 00 02.7 +0.9
baz=122
EGAK **Eagle** 58.30 338 P P 04 00 03.3 +1.0
baz=124
SFJD **Kangerlussuaq** 58.39 18 LR LR 04 25 45.9
comp=Z,74nm,18.1s,baz=224,slow=36
RES **Resolute Bay** 58.87 360 P P 04 00 05.7 -0.3
RES IAmb IAmb 04 00 06.6
comp=Z,13nm,0.8s
I27K **Kandik River** 58.93 339 P P 04 00 08.4 +1.8
baz=124
PAX **Paxson** 58.99 335 P P 04 00 08.8 +1.6
baz=118
ITAB **Concordia** 59.02 136 P P 04 00 06.1 -1.7
ITAB **Concordia** 59.02 136 eP P 04 00 07.6 -0.3
J26L **Joseph Creek** 59.03 337 P P 04 00 10.0 +2.5
baz=121
MC01 **Montes Claros** 59.03 121 eP P 04 00 07.7 -0.4
A36M **Sachs Harbour** 59.09 349 P P 04 00 07.7 +0.1
baz=144
RIDG **Independent Ri** 59.12 336 P P 04 00 09.3 +1.2
baz=119
H27K **Steamboat Moun** 59.25 340 P P 04 00 10.5 +1.6
baz=124
I26K **Coal Creek Min** 59.30 338 P P 04 00 10.4 +1.2
baz=122
RCLB **Rio Claro- Sao** 59.30 129 eP P 04 00 10.7 +0.8
K24K **Donnelly Dome** 59.52 336 P P 04 00 12.1 +1.4
baz=118
G27K **Doyon Strip** 59.62 340 P P 04 00 11.8 +0.4
baz=124
J25K **Salcha River,** 59.76 337 P P 04 00 13.8 +1.3
baz=119
VAO **Valinhos** 60.07 129 eP P 04 00 15.6 +0.4
WAT1 **Susitna Watana** 60.19 334 P P 04 00 15.9 +0.6
baz=115
HDA **Harding Lake** 60.26 336 IAmb IAmb 04 00 17.6
comp=Z,5.2nm,0.8s
HDA **Harding Lake** 60.26 336 P P 04 00 16.6 +0.9
baz=118
PRP **Porcupine Dome** 60.26 338 P P 04 00 16.6 +0.6
PRP IAmb IAmb 04 00 18.6
comp=Z,9.4nm,1.0s
PRP **Porcupine Dome** 60.26 338 P P 04 00 17.2 +1.2
baz=120
CPSB **Cacapava Do Su** 60.32 140 eP P 04 00 16.3 -0.4
PLCA **Paso Flores** 60.34 160 P P 04 00 16.6 -0.1
comp=Z,2.5nm,0.8s,baz=344,slow=8.3,SNR=5.8
comp=Z,2.5nm,0.8s
PLCA **Paso Flores** 60.34 160 eP P 04 00 16.8 +0.1
E27K **Coleen River** 60.39 341 P P 04 00 18.1 +1.5
baz=125
G26K **Porcupine Rive** 60.40 340 P P 04 00 17.8 +1.1
baz=122
IL31 **60.40 337** IAmb IAmb 04 00 21.1
comp=Z,13nm,1.2s
ILAR **Eielson Array** 60.40 337 P P 04 00 17.8 +1.1
comp=Z,2.8nm,0.8s,baz=159,slow=4.8,SNR=53
ILAR pP pP 04 00 40.8 +1.0
comp=Z,1.0nm,0.4s,baz=128,slow=4.8,SNR=4.9
ILAR PP PP 04 02 34.4 +3.6
comp=Z,1.2nm,0.8s,baz=110,slow=7.5,SNR=6.1
comp=Z,2.8nm,0.8s
RND **Reindeer** 60.56 335 P P 04 00 18.4 +0.4
RND IAmb IAmb 04 00 44.4
comp=Z,14nm,1.1s
SUA **Susitna One** 60.57 333 P P 04 00 19.7 +1.6
baz=112
BSCB **Bom Sucesso** 60.62 126 eP P 04 00 19.1 +0.1
MCK **McKinley** 60.73 335 P P 04 00 21.0 +1.9
baz=115
CUT **Chulitna** 60.73 334 P P 04 00 20.3 +1.3
baz=113
H25K **Birch Creek** 60.74 339 P P 04 00 20.3 +1.3
baz=120
POKR **Poker Plat Res** 60.77 337 P P 04 00 20.7 +1.4
baz=117
COLA **College** 60.82 337 P P 04 00 19.5 0.0
COLA pP pP 04 00 42.4 -0.2
F26K **Sheenjek River** 60.92 340 P P 04 00 21.9 +1.6
baz=122
G25K **Bearman Lake** 61.09 339 P P 04 00 22.6 +1.3
baz=120
SKT **Skwentna** 61.12 333 P P 04 00 23.3 +1.7
baz=112
N20K **Mount Spurr** 61.13 332 P P 04 00 22.6 +0.8
baz=111
SPCR **Spurr Chakacha** 61.13 332 P P 04 00 22.2 +0.4
baz=111
PLTB **Pedras Altas** 61.16 141 eP P 04 00 21.9 -0.4
TRF **Thorofare Moun** 61.16 335 P P 04 00 23.5 +1.3
TRF **Thorofare Moun** 61.16 335 P P 04 00 23.1 +0.9
baz=114
CNLB **Canela** 61.24 137 eP P 04 00 23.2 +0.2
PARB **Parabuna** 61.27 128 eP P 04 00 23.1 -0.2
H24K **Noodor Dome** 61.27 338 P P 04 00 23.9 +1.2
baz=117
GDU01 **Guandu, BA** 61.31 116 eP P 04 00 23.9 +0.3
F25K **Christian Rive** 61.35 340 P P 04 00 25.1 +1.8
baz=120
RCBR **Riachuelo** 61.41 106 LR LR 04 28 50.9
comp=Z,36nm,19.1s,baz=51,slow=38
TRQA **Tornquist** 61.46 152 eP P 04 00 24.5 +0.2
I23K **Minto, Yukon-K** 61.51 337 IAmb IAmb 04 00 26.6
comp=Z,7.9nm,0.8s
I23K **Minto, Yukon-K** 61.51 337 P P 04 00 25.8 +1.6
baz=116
G24K **Hadweenzic Riv** 61.53 339 P P 04 00 25.9 +1.5
baz=118
E25K **Arctic Village** 61.60 341 P P 04 00 26.7 +1.9
baz=121
BPAW **Bear Paw Mtn.** 61.71 335 P P 04 00 25.9 +0.2
BPAW IAmb IAmb 04 00 28.0
comp=Z,24nm,1.4s
BPAW **Bear Paw Mtn.** 61.71 335 P P 04 00 26.9 +1.2
baz=113
M20K **Styx River** 61.79 333 P P 04 00 26.8 +0.5
baz=110
C27K **Jago River** 61.84 342 P P 04 00 28.0 +1.6
baz=123
H23K **Yukon River** 61.88 337 P P 04 00 28.1 +1.3
baz=116
TER01 **Tubaro-SC** 61.88 135 eP P 04 00 27.4 +0.1
CAST **Castle Rocks** 61.90 334 P P 04 00 26.9 0.0
baz=112
MLY **Manley** 61.99 336 IAmb IAmb 04 00 53.3
comp=Z,10nm,1.0s
MLY **Manley** 61.99 336 P P 04 00 28.9 +1.3
baz=114
CMC01 **Camacan, BA** 62.10 117 eP P 04 00 28.5 -0.5
ANGG **Ammassalik, Gr** 62.11 23 eP P 04 00 28.8 +0.6
SJMB **Sao Joao De Ma** 62.30 121 eP P 04 00 29.9 -0.4
L20K **Farewell, AK** 62.32 333 P P 04 00 30.7 +1.0
baz=110
M19K **Big River Lodg** 62.35 332 P P 04 00 31.1 +1.1
baz=105
GUA01 **Guaratinga, BA** 62.43 119 eP P 04 00 30.5 -0.6
G23K **Bananza Creek** 62.44 338 P P 04 00 31.3 +0.8
baz=116
D25K **Kavik River** 62.47 342 P P 04 00 32.0 +1.3
baz=120
E24K **Your Creek** 62.53 340 P P 04 00 32.5 +1.4
baz=118
H22K **Ishtalitna Cre** 62.59 337 P P 04 00 32.4 +0.9
baz=114
K20K **Telida** 62.71 334 P P 04 00 32.7 +0.4
baz=110
COLD **Coldfoot** 62.73 339 P P 04 00 34.3 +1.9
baz=116
NAN01 **Guarapari, ES** 62.76 120 eP P 04 00 32.7 -0.6
E23K **Chandalar** 62.90 340 P P 04 00 34.6 +1.0
baz=117
O17K **Koliganek Bris** 62.98 330 P P 04 00 34.8 +0.6
baz=105
J20K **Nowinta River** 63.02 335 P P 04 00 35.2 +0.9
baz=110
H21K **Melozitna Rive** 63.04 337 P P 04 00 35.4 +0.9
baz=112
G22K **Bettles** 63.06 338 P P 04 00 35.4 +0.8
baz=114
DUB01 **Friburgo-RJ** 63.08 125 eP P 04 00 35.2 -0.3
TOLK **Toolik Lake Re** 63.15 340 P P 04 00 36.3 +1.1
baz=117
CHNA **Chernabura Isl** 63.17 324 P P 04 00 36.3 +0.8
baz=101
RIB01 **Linhares ES** 63.25 122 eP P 04 00 36.1 -0.4
C24K **Franklin Bluff** 63.38 341 P P 04 00 38.0 +1.4
baz=118
TTA **Tatalina** 63.40 333 P P 04 00 38.4 +1.4
baz=108
CAM01 **Campos-RJ** 63.51 125 eP P 04 00 37.9 -0.3
F22K **John River** 63.54 339 P P 04 00 39.3 +1.6
baz=114
G21K **Allakaket** 63.63 337 P P 04 00 39.1 +0.8
baz=112

ALF01	Guarapari-ES	63.63	123	*e*P	P	04 00 38.8	-0.2
D23K	Nanushuk River	63.66	340	P	P	04 00 39.7	+1.2
	baz=116						
SDPT	Sand Point	63.77	324	P	P	04 00 40.2	+0.8
	baz=100						
F21K	Alatna River	63.89	338	P	P	04 00 41.7	+1.6
	baz=112						
PPT	Papeete	64.02	241	LR	LR	04 20 24.4	
	comp=Z,70nm,21.1s,baz=79,slow=28						
C23K	Itkillik River	64.03	341	P	P	04 00 42.7	+1.9
	baz=116						
EUNU	Eureka	64.36	1	P	P	04 00 43.3	+0.3
SUMG	Summit	65.01	16	*i* P	P	04 00 47.9	+0.2
SUMG				IAmb	IAmb	04 00 49.3	
	comp=Z,22nm,1.4s						
NEEM	North Greenlan	65.26	9	*i* P	P	04 00 49.3	+0.2
NEEM				IAmb	IAmb	04 00 49.5	
	comp=Z,16nm,0.9s						
ALE	Alert	67.90	4	P	P	04 01 04.2	-1.3
ALE				pP	pP	04 01 27.5	-1.5
BORG	Borgarnes	68.43	26	LR	LR	04 31 45.5	
	comp=Z,30nm,18.2s,baz=198,slow=36						
DAG	Danmarks Havn	71.35	14	*i* P	P	04 01 26.4	-0.4
DAG				IAmb	IAmb	04 01 27.4	
	comp=Z,24nm,0.7s						
NOR	Nord	72.60	9	*i* P	P	04 01 33.9	-0.2
NOR				IAmb	IAmb	04 01 34.9	
	comp=Z,14nm,0.9s						
RAR	Rarotonga	74.26	242	LR	LR	04 28 52.7	
	comp=Z,28nm,18.0s,baz=221,slow=31						
KBS	Kingsbay	77.60	11	*e*P	P	04 02 04.1	+1.1
EKA	Eskdalemuir Ar	77.63	36	P	P	04 02 03.8	+0.2
	comp=Z,1.4nm,0.5s,baz=283,slow=4.8,SNR=9.9						
	comp=Z,1.4nm,0.5s						
SPA0	Spitsbergen Ar	78.69	11	*e*P	P	04 02 10.3	+1.3
ESDC	Sonseca Array	80.12	52	P	P	04 02 17.9	+0.4
	comp=Z,2.4nm,0.8s,baz=292,slow=4.7,SNR=9.7						
ESDC				LR	LR	04 30 46.1	
	comp=Z,28nm,21.6s,baz=302,slow=30						
	comp=Z,2.4nm,0.8s						
SUE	Sulen	80.48	29	*e*P	P	04 02 20.2	+1.3
SUE				IAmb	IAmb	04 02 21.0	
	comp=Z,34nm,0.9s						
MDT	Midelt	81.11	58	LR	LR	04 33 13.4	
	comp=Z,17nm,18.8s,baz=352,slow=32						
ODD1	Odda	81.69	30	*e*P	P	04 02 27.3	+1.8
ODD1				IAmb	IAmb	04 02 27.7	
	comp=Z,17nm,0.8s						
BLS5	Blasjo	81.75	31	*e*P	P	04 02 27.3	+1.5
BLS5				IAmb	IAmb	04 02 29.0	
	comp=Z,649nm,2.5s						
DOMB	Dombas	82.16	28	*e*P	P	04 02 29.3	+1.4
DOMB				IAmb	IAmb	04 02 29.9	
	comp=Z,25nm,0.8s						
SKAR	Skarslia	82.25	29	*e*P	P	04 02 29.5	+1.1
SKAR				IAmb	IAmb	04 02 29.8	
	comp=Z,13nm,0.8s						
SNART	Snartemo	82.45	31	*e*P	P	04 02 30.2	+0.8
STEI	Steigen	82.48	21	*e*P	P	04 02 30.7	+1.4
STEI				IAmb	IAmb	04 02 31.0	
	comp=Z,24nm,0.9s						
NSS	Namsos	82.55	25	*e*P	P	04 02 30.9	+1.1
TRO	Tromso	82.97	19	*e*P	P	04 02 34.9	+3.1
DOU	Dourbes	83.43	40	*d*P	P	04 02 35.9	+1.3
JETT	Jettan, Norway	83.46	19	*e*P	P	04 02 36.4	+1.9
JETT				IAmb	IAmb	04 02 36.8	
	comp=Z,89nm,0.8s						
BMRD	Maredsous	83.47	40	*d*P	P	04 02 35.3	+0.5
NB2	NORSAR Subarra	83.47	28	P	P	04 02 35.8	+1.1
	baz=293,slow=5.3						
NB2	NORSAR Subarra	83.47	28	P	P	04 02 35.8	+1.1
	comp=Z,16nm,0.8s,baz=293,slow=5.3						
NOA	NORSAR Array B	83.47	28	P	P	04 02 36.1	+1.4
	comp=Z,12nm,0.8s,baz=290,slow=5.2,SNR=32						
	comp=Z,12nm,0.8s						
BGES	Gesves	83.64	39	*d*P	P	04 02 36.4	+0.7
NC602	NORSAR Array S	83.73	28	*e*P	P	04 02 37.6	+1.7
BCLA	Clavier	83.77	39	*d*P	P	04 02 36.9	+0.5
RCHB	Rochefort	83.80	40	*d*P	P	04 02 37.2	+0.7
BSTI	Sart Tilman	83.88	39	*d*P	P	04 02 37.7	+0.8
KTK1	Kautokeino	84.61	19	*e*P	P	04 02 41.2	+0.9
KTK1				IAmb	IAmb	04 02 42.5	
	comp=Z,13nm,1.1s						
HFS	Hagfors	84.95	29	P	P	04 02 43.0	+0.9
	comp=Z,9.7nm,0.8s,baz=60,slow=3.6,SNR=9.9						
	comp=Z,9.7nm,0.8s						
ARA0	ARCESS Array S	85.02	18	*e*P	P	04 02 43.2	+0.9
ARA0				IAmb	IAmb	04 02 44.3	
	comp=Z,30nm,1.3s						
ARCES	ARCESS Array B	85.02	18	P	P	04 02 43.2	+0.9
	comp=Z,4.4nm,0.5s,baz=295,slow=4.2,SNR=51						
ARCES				pP	pP	04 03 07.3	+0.6
	comp=Z,1.6nm,0.6s,baz=297,slow=3.8,SNR=2.1						
	comp=Z,4.4nm,0.5s						
ARCES	ARCESS Array B	85.02	18	P	P	04 02 42.9	+0.6
BFO	Black Forest	86.30	41	P	P	04 02 48.6	-0.5
BFO				IAmb	IAmb	04 02 50.0	
	comp=Z,13nm,1.2s						
DAVA	Damuels	87.64	41	*e*P	P	04 02 56.5	+0.7
	comp=Z,5.2nm,0.6s						
DAVOX	Davos/Dischmat	87.82	42	P	P	04 02 57.5	+0.8
	comp=Z,4.5nm,0.8s,baz=317,slow=11,SNR=8.1						
DAVOX				LR	LR	04 42 26.0	
	comp=Z,5.6nm,20.4s,baz=265,slow=36						
	comp=Z,4.5nm,0.8s						
CLL	Collm	88.05	37	*e*P	P	04 02 57.0	-0.4
CLL				*e*sP	sP	04 03 34.0	+2.2
CLL				*e*PP	PP	04 06 23.0	-1.7
FUORN	Ofenpass-Fuorn	88.13	42	IAmb	IAmb	04 02 59.8	
	comp=Z,7.1nm,0.8s						
RETA	Reutte	88.13	41	*e*P	P	04 02 58.8	+0.7
	comp=Z,3.4nm,0.6s						
NKC	Novy Kostel	88.14	38	*e*P	P	04 02 59.0	+1.1
FETA	Feichten	88.28	41	*e*P	P	04 02 59.6	+0.7
	comp=Z,4.3nm,0.7s						
MOTA	Moosalm	88.40	41	*i* P	P	04 02 60.0	+0.6
	comp=Z,3.4nm,0.7s						
SQTA	Sankt Quirin	88.51	41	*i* P	P	04 03 00.4	+0.5
	comp=Z,1.3nm,0.4s						
BRG	Berggiesshubel	88.76	37	*e*P	P	04 03 01.3	+0.5
BRG				Amp		04 03 02.4	
	comp=Z,8.6nm,1.0s						
KHC	Kasperske Hory	89.24	39	*e*P	P	04 03 04.3	+1.1
GEC2	GERESS Array S	89.43	39	P	P	04 03 02.9	-1.2
GEC2				IAmb	IAmb	04 03 05.5	
	comp=Z,7.6nm,1.0s						
GERES	GERESS Array B	89.43	39	P	P	04 03 04.7	+0.6
	comp=Z,3.5nm,0.8s,baz=316,slow=3.7,SNR=21						
	comp=Z,3.5nm,0.8s						
PRU	Pruhonice	89.47	38	*e*P	P	04 03 05.0	+0.8
ABTA	Abfaltersbach	89.52	41	*e*P	P	04 03 05.5	+0.9
	comp=Z,3.3nm,0.8s						
FINES	FINESS Array B	89.67	25	P	P	04 03 05.9	+1.1
	comp=Z,4.2nm,0.8s,baz=218,slow=8.4,SNR=6.1						
FINES				LR	LR	04 42 55.4	
	comp=Z,36nm,21.1s,baz=14,slow=35						
	comp=Z,4.2nm,0.8s						
KSP	Ksiaz	90.13	36	*e*P	P	04 03 07.2	0.0
MOA	Molln	90.18	40	*i* P	P	04 03 08.0	+0.5
	comp=Z,6.8nm,0.9s						
OSTC	Ostas	90.21	37	*e*P	P	04 03 08.5	+0.9
DPC	Dobruska-Polom	90.36	37	*e*P	P	04 03 09.3	+0.9
KRLC	Kraliky	90.74	37	*e*P	P	04 03 11.2	+1.0
KRUC	Moravsky	90.96	38	*e*P	P	04 03 11.3	+0.2
VRAC	Vranov	90.97	38	P	P	04 03 11.7	+0.5
	comp=Z,4.0nm,0.8s,baz=285,slow=4.6,SNR=4.0						
VRAC				LR	LR	04 46 08.7	
	comp=Z,16nm,18.0s,baz=314,slow=37						
	comp=Z,4.0nm,0.8s						
VRAC	Vranov	90.97	38	*e*P	P	04 03 12.1	+0.9
CONA	Conrad Observa	91.12	39	*e*P	P	04 03 12.8	+0.8
	comp=Z,4.7nm,0.7s,SNR=4.6						
ARSA	Arzberg	91.20	40	*e*P	P	04 03 12.5	+0.2
	comp=Z,3.3nm,1.1s						
MORC	Moravsky Berou	91.32	37	IAmb	IAmb	04 03 15.2	
	comp=Z,11nm,1.4s						
MORC	Moravsky Berou	91.32	37	*e*P	P	04 03 13.1	+0.3
RONA	Rosalia, Austr	91.48	39	*i* P	P	04 03 14.5	+0.8
	comp=Z,6.1nm,0.7s						
MAUC	Maruska	91.67	37	*e*P	P	04 03 15.8	+1.4
MODS	Modra-Piesok	91.78	38	*e*P	P	04 03 16.1	+1.1
TORD	Torodi Ar. Bea	91.84	76	P	P	04 03 13.0	-2.8
	comp=Z,0.3nm,0.5s,baz=304,slow=3.7,SNR=5.8						
OJC	Ojcow	92.41	36	*e*P	P	04 03 16.1	-1.7
OJC	Ojcow	92.41	36	P	P	04 03 15.7	-2.1
VYHS	Vyhne	92.66	38	*e*P	P	04 03 20.3	+1.3
MSVF	Nonsavu	92.81	252	LR	LR	04 37 14.9	
	comp=Z,76nm,18.8s,baz=135,slow=30						
NACGM	Naroch	93.64	30	*e*P	P	04 03 23.2	-0.1
	comp=Z,17nm,0.9s,baz=304						
CRVS	Cervenica-Dubn	93.99	37	*e*P	P	04 03 26.0	+0.9
KOLS	Kolonicke sedl	94.44	36	*e*P	P	04 03 28.7	+1.5
AKASG	Malin Array Be	97.26	32	P	P	04 03 38.8	-1.1
	comp=Z,0.9nm,0.7s,baz=296,slow=3.8,SNR=4.2						
	comp=Z,0.9nm,0.7s						
MLR	Muntele Rosu	98.37	38	P	P	04 03 45.2	-0.1
	comp=Z,5.1nm,0.8s,baz=240,slow=3.1,SNR=6.2						
	comp=Z,5.1nm,0.8s						
HHC	Hu-ho-hao-te	118.82	338	*e*P	PKPdf	04 08 55.4	0.0
WMQ	Urumqi	120.63	359	*e*P	PKiKP	04 08 59.3	+0.4
BOSA	Boshof	122.89	114	PKP	PKiKP	04 09 04.2	+0.5
	comp=Z,5.1nm,0.8s,baz=270,slow=4.0,SNR=7.1						
WRA	Warramunga Arr	133.92	257	PKP	PKiKP	04 09 25.8	-0.1
	comp=Z,0.9nm,0.8s,baz=83,slow=2.7,SNR=9.1						
WRA				pPKP	pPKPdf	04 09 52.6	+2.4
	comp=Z,0.8nm,0.7s,baz=86,slow=2.2,SNR=3.6						
ASAR	Alice Springs	134.40	252	PKP	PKiKP	04 09 27.1	+0.3
	comp=Z,0.3nm,0.4s,baz=166,slow=0.8,SNR=4.9						
PZH	PanZhiHua	135.22	340	PKP	PKPdf	04 09 26.0	-1.1
CMAR	Chiang Mai Arr	143.62	339	PKP	PKPbc	04 09 40.9	+1.0
	comp=Z,1.6nm,0.3s,baz=343,slow=2.8,SNR=4.5						

GRAL ***07*** *03:52:21.8±0.3, 33°.31N×35°.78E, h4km±6km, MD2.8*
GII ***07*** *03:52:21.7±0.1, 33°.34N×35°.77E, h3km, MD1.6/2, Mm1.7/3*
ISC 07 03:52:21.2±1.0**, 33°.33N**±0°.04×**35°.83E**±0°.07**, h12**km±6km**,**
n17, σ**0.39**/26**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATI	Neve Ativ	0.10	229	Pg	Pg	03 52 24.1	0.0
NATI				Sg	Sg	03 52 25.9	-0.4
RCY	Rachaya	0.17	2	*e*P	Pg	03 52 25.4	+0.2
RCY				*e*S	Sg	03 52 28.0	+0.1
GEM	Giv'at Ha'Em	0.18	229	Pg	Pg	03 52 25.4	+0.1
GEM				Sg	Sg	03 52 28.6	+0.4
KSHT	Keshet	0.35	183	Pg	Pb	03 52 29.4	0.0
DQRL	Deir Qamar	0.43	330	*e*P	Pg	03 52 29.7	-0.2
DQRL				*e*S	Sg	03 52 35.4	-0.2
MMA0B	Mount Meron ar	0.48	229	Pg	Pg	03 52 30.9	+0.3
MMA0B				Sg	Sb	03 52 38.4	-0.1
MMC7	Mount Meron ar	0.48	230	Pg	Pb	03 52 31.3	-0.3
ZAHL	Zahle	0.53	5	*e*P	Pg	03 52 31.8	+0.2
ZAHL				*e*S	Sg	03 52 39.2	+0.6
BHL	Bhannes	0.59	346	*e*P	Pg	03 52 32.6	-0.2
HNTI	Hanita	0.60	246	Pg	Pg	03 52 33.0	0.0
HNTI				Sg	Sb	03 52 42.6	+0.5
HWQ	Hawqa	0.95	6	*e*P	Pg	03 52 39.4	-0.2
MMLI	Mount Malkishu	0.95	201	Pg	Pn	03 52 40.2	-0.2
MMLI				Sg	Sn	03 52 53.9	0.0
OFRI	`Ofer	1.00	225	Pg	Pb	03 52 40.6	+0.1
OFRI				Sg	Sn	03 52 55.0	-0.1
HMDT	Nahal Hemdat	1.10	193	Pg	Pn	03 52 42.5	0.0
DSI	Dead Sea	1.80	192	Pn	Pb	03 52 53.8	-0.2
AMAZ	Amatzia	1.95	204	Pn	Pn	03 52 54.9	+0.7
YTIR	Yattir	2.05	197	Pn	Pb	03 52 57.3	-1.2

ROM 07 04:01:31.9±0.2**, 42°.994N**±0°.008×**13°.22E**±0°.01**, h3**km**,**
ML0.7/1**, 1C, Error ellipse: s-maj=1.1km s-min=0.7km**
az=233.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1256	Bolognola (MC)	0.01	29	P	Pg	04 01 32.1	-0.6
T1256				S	Sg	04 01 32.4	-1.0
CSP1	Cessapalombo	0.10	355	P	Pg	04 01 34.0	+0.1
CSP1				S	Sg	04 01 35.9	+0.7
FDMO	Fiordimonte	0.10	294	⥣P	Pg	04 01 34.9	+1.0
FDMO				S	Sg	04 01 36.3	+1.0
FDMO				AML	AML		
	comp=E,1260μm,0.2s						
FDMO				AML	AML		
	comp=N,950μm,1.0s						
FDMO				AML	AML		
	comp=N,951μm,1.0s						
FDMO				AML	AML		
	comp=N,77μm,0.8s						
FDMO				AML	AML		
	comp=E,84μm,0.5s						
GUMA	Gualdo di Mace	0.11	52	P	Pg	04 01 34.5	+0.5
GUMA				S	Sg	04 01 36.8	+1.2
GUMA				AML	AML		
	comp=E,429μm,1.4s						
GUMA				AML	AML		
	comp=N,548μm,1.2s						
GUMA				AML	AML		
	comp=E,1830μm,0.9s						
GUMA				AML	AML		
	comp=N,828μm,1.1s						
MMO1	Montemonaco	0.12	140	P	Pg	04 01 34.6	+0.3
MMO1				S	Sg	04 01 37.1	+1.1
T1216	Preci, Frazion	0.18	235	S	Sg	04 01 39.0	+1.3
T1204	Amatrice, Fraz	0.33	167	S	Sg	04 01 43.0	+0.5
ASSB	Assisi San Ben	0.41	277	AML	AML		
	comp=N,840μm,0.9s						
ASSB				AML	AML		
	comp=E,761μm,0.2s						

NEIC ***07*** *04:02:12.4±1.4, 57°.21N±0°.07×154°.2W±0°.1, h61km±15km,*
Error ellipse: s-maj=12.8km s-min=6.2km az=133.0
AEIC ***07*** *04:02:13.9±1.6, 57°.25N±0°.04×154°.25W±0°.09, h43km±9km,*
ML3.2, ML3.4/50(NEIC), Error ellipse: s-maj=7.8km
s-min=5.2km az=128.0
IDC ***07*** *04:02:18.4±2.0, 57°.37N×152°.24W, h0km, mb3.6/5,*
mbtmp3.4/7, ML2.9/2, Error ellipse: s-maj=46.9km
s-min=17.6km az=52.0
ISC 07 04:02:12.3±1.1**, 57°.21N**±0°.06×**154°.19W**±0°.05**,**
h62km±13km**, n116,** σ**0.86**/117**, mb3.3**/5**, Kodiak Island**
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.49	88	Pn	Pn	04 02 24.3	-0.1
OHAK				Sn	Sn	04 02 32.8	-0.3
OHAK	Old Harbor	0.49	88	P	Pn	04 02 24.2	-0.1
	baz=272						
OHAK				S	Sn	04 02 32.9	-0.1
	baz=272						
SII	Sitkinak Islan	0.65	179		Pn	04 02 26.4	+0.3
SII				Sn	Sn	04 02 36.6	+0.4
SII	Sitkinak Islan	0.65	179	P	Pn	04 02 26.4	+0.3
	baz=357						
KDAK	Kodiak Island	1.04	56	Pn	Pn	04 02 31.4	+0.5
	82nm,0.3s,baz=232,slow=4.0,SNR=2433						
KDAK				Sn	Sn	04 02 45.2	+0.4
	82nm,0.3s,baz=264,slow=12,SNR=8.0						
KDAK	Kodiak Island	1.04	56	Pn	Pn	04 02 30.4	-0.5
KDAK				Sn	Sn	04 02 45.1	+0.4
KDAK				IAML		04 02 51.7	
	874nm,0.7s						
KDAK	Kodiak Island	1.04	56	S	Sn	04 02 45.3	+0.5
	baz=240						
Q17K	Contact Creek	1.39	320	P	Pn	04 02 35.4	-0.3
	baz=139						
Q17K				S	Sn	04 02 53.4	+0.1
	baz=139						
KAHC	Katmai Hardscr	1.51	344	P	Pn	04 02 37.4	+0.2
	baz=164						
Q18K	Katmai Hardscr	1.51	344	P	Pn	04 02 37.3	+0.1
	baz=164						
Q18K				S	Sn	04 02 56.4	+0.4
	baz=164						
Q20K	Shuyak Island	1.70	34	P	Pn	04 02 40.5	+0.8
	baz=216						
Q19K	Cape Douglas,	1.75	9	Pn	Pn	04 02 40.7	+0.3
Q19K				IAML		04 03 10.0	
	comp=N,529nm,0.9s						
Q19K				IAML		04 03 12.2	
	comp=E,575nm,1.0s						
R16K	Pilot Point	1.86	283	P	Pn	04 02 42.3	+0.4
	baz=99						
P18K	Big Mountain,	2.26	346	Pn	Pn	04 02 45.7	-1.6
P18K	Big Mountain,	2.26	346	P	Pn	04 02 47.4	+0.1
	baz=166						
P17K	Kvichak River	2.32	330	P	Pn	04 02 48.1	+0.1
	baz=148						
CHGN	Chignik	2.50	250	Pn	Pn	04 02 50.2	-0.3
CHGN				IAML		04 03 37.9	
	comp=E,267nm,0.6s						
CHGN				IAML		04 03 37.9	
	comp=N,239nm,0.6s						
P19K	Oil Pt	2.50	11	Pn	Pn	04 02 49.9	-0.7
P19K				IAML		04 03 29.3	
	comp=E,181nm,0.8s						
P19K				IAML		04 03 34.1	
	comp=N,155nm,0.7s						
O18K	Koktuh Hills	2.71	349	Pn	Pn	04 02 52.7	-0.7
O18K				IAML		04 03 33.2	
	comp=E,149nm,0.8s						
O18K				IAML		04 03 39.4	
	comp=N,116nm,0.8s						
O18K	Koktuh Hills	2.71	349	P	Pn	04 02 53.9	+0.6
	baz=169						
P16K	Nushagak River	2.72	314	P	Pn	04 02 53.6	+0.1
	baz=131						
CNPM	China Poot	2.80	33	Pn	Pn	04 02 55.0	+0.4
CNPM				IAML		04 03 44.3	
	comp=N,111nm,0.8s						
CNPM				IAML		04 03 45.4	
	comp=E,120nm,0.9s						
HOM	Homer	2.80	28	Pn	Pn	04 02 53.7	-0.9
ILSW	Iliamna Southw	2.84	11	Pn	Pn	04 02 56.0	+0.8
ILSW				IAML		04 03 35.2	
	comp=E,62nm,0.5s						
ILSW				IAML		04 03 52.3	
	comp=N,52nm,0.6s						
O17K	Koliganek Bris	2.99	331	P	Pn	04 02 57.2	0.0
	baz=148						
O19K	Port Alsworth	3.00	359	Pn	Pn	04 02 57.3	0.0
O19K	Port Alsworth	3.00	359	P	Pn	04 02 58.0	+0.7
	baz=179						
BRLK	Bradley Lake	3.10	33	Pn	Pn	04 02 58.9	+0.2
BRLK				IAML		04 03 52.7	
	comp=E,84nm,1.0s						
BRSE	Bradley Lake S	3.12	34		Pn	04 02 59.5	+0.5
BRSE	Bradley Lake S	3.12	34	P	Pn	04 02 59.5	+0.5
	baz=218						
RSO	Redoubt South	3.35	12	Pn	Pn	04 03 00.4	-1.8
N18K	Kilae Creek	3.59	347	Pn	Pn	04 03 05.0	-0.5
N18K				IAML		04 04 03.5	
	comp=E,52nm,1.3s						
N19K	Bonanza Creek	3.62	358	Pn	Pn	04 03 03.8	-2.1
SEW	Seward	3.82	38	Pn	Pn	04 03 07.6	-0.9
SEW	Seward	3.82	38	P	Pn	04 03 08.1	-0.4
	baz=223						
SLKM	Skilak Lake	3.90	30		Pn	04 03 09.8	+0.2
SDPT	Sand Point	3.97	245	Pn	Pn	04 03 10.4	-0.1
SVW2	Sparrevohn	3.97	350	Pn	Pn	04 03 09.9	-0.6
SVW2				IAML		04 04 17.4	
	comp=N,46nm,0.8s						
O22K	Cooper Landing	4.02	33	Pn	Pn	04 03 10.5	-0.8
N16K	Nishlik Lake	4.05	326	P	Pn	04 03 12.2	+0.5
	baz=142						
SPU	Mount Spurr	4.13	15	Pn	Pn	04 03 13.0	+0.2
RC01	Rabbit Creek A	4.52	29	Pn	Pn	04 03 18.3	+0.2
RC01				IAML		04 04 05.0	
	comp=E,31nm,3.0s						
RC01				IAML		04 04 51.0	
	comp=N,28nm,3.4s						
RC01	Rabbit Creek A	4.52	29	P	Pn	04 03 18.8	+0.8
	baz=213						
M19K	Big River Lodg	4.71	359	Pn	Pn	04 03 21.4	+0.7
M19K				IAML		04 04 41.7	
	comp=E,24nm,1.1s						
M20K	Styx River	4.72	6	Pn	Pn	04 03 21.7	+0.8
M20K				IAML		04 04 56.3	
	comp=N,22nm,1.4s						
M20K	Styx River	4.72	6	P	Pn	04 03 22.1	+1.2
	baz=187						
PWL	Port Wells	4.75	37	Pn	Pn	04 03 20.4	-0.9
PWL				IAML		04 03 59.5	
	comp=N,44nm,3.0s						
PWL				IAML		04 05 26.7	
	comp=E,41nm,3.3s						
PWL	Port Wells	4.75	37	P	Pn	04 03 21.2	0.0
	baz=223						
SKT	Skwentna	4.97	15	Pn	Pn	04 03 24.7	+0.4
SKT				IAML		04 04 41.8	
	comp=E,25nm,2.3s						
SKT				IAML		04 04 48.2	
	comp=N,20nm,3.9s						
L19K	White Mountain	5.00	356	Pn	Pn	04 03 25.1	+0.4
L19K				IAML		04 04 51.2	
	comp=E,24nm,1.6s						
L19K				IAML		04 04 52.4	
	comp=N,39nm,1.1s						
KNK	Knik Glacier	5.14	32	Pn	Pn	04 03 26.1	-0.5
KNK				IAML		04 04 52.9	
	comp=N,30nm,3.7s						
KNK				IAML		04 05 03.6	
	comp=E,27nm,1.9s						
KNK	Knik Glacier	5.14	32	P	Pn	04 03 26.4	-0.2
	baz=218						
SML	Sawmill	5.49	30	Pn	Pn	04 03 30.1	-1.4
EYAK	Cordova Ski Ar	5.51	49	Pn	Pn	04 03 31.3	-0.4
PPLA	Purkeypile	5.79	9	Pn	Pn	04 03 37.8	+2.1
SCM	Sheep Creek Mo	5.81	34	Pn	Pn	04 03 35.1	-0.7
SCM	Sheep Creek Mo	5.81	34	P	Pn	04 03 36.1	+0.3
	baz=220						
TTA	Tatalina	5.81	352	Pn	Pn	04 03 36.9	+1.0
DIV	Divide	5.85	44	Pn	Pn	04 03 36.1	-0.2
KLU	Klutina	6.03	41	Pn	Pn	04 03 38.8	0.0
KLU	Klutina	6.03	41	P	Pn	04 03 39.0	+0.2
	baz=229						
K20K	Telida	6.17	1	Pn	Pn	04 03 41.1	+0.5
BMRM	Bremner River	6.21	49	Pn	Pn	04 03 41.2	-0.1
BMRM	Bremner River	6.21	49	P	Pn	04 03 41.4	+0.1
	baz=237						
BERG	Berg Lake	6.32	55	Pn	Pn	04 03 41.7	-1.0
CAST	Castle Rocks	6.32	9	Pn	Pn	04 03 43.8	+1.1
M24K	Tolsona, Glenn	6.37	36	Pn	Pn	04 03 44.4	+0.9
TRF	Thorofare Moun	6.55	16	Pn	Pn	04 03 46.6	+0.5
KTH	Kantishna Hill	6.57	13	Pn	Pn	04 03 45.6	-0.6
N25K	Chitina, Valde	6.59	44	Pn	Pn	04 03 46.8	+0.3
SNH	Sunshine Point	6.62	59	Pn	Pn	04 03 47.5	+0.6
WAX	Waxell Ridge	6.72	56	Pn	Pn	04 03 48.4	+0.1
DHY	Denali Highway	6.80	27	Pn	Pn	04 03 50.2	+0.9
GLB	Gilahina Butte	6.80	47	Pn	Pn	04 03 48.9	-0.4
VRDI	Verde Repeater	6.83	49	Pn	Pn	04 03 49.8	0.0
J20K	Nowinta River	6.99	0	Pn	Pn	04 03 52.5	+0.7
ISLE	Juniper Island	7.02	56	Pn	Pn	04 03 52.3	-0.1
MCK	McKinley	7.04	19	Pn	Pn	04 03 53.4	+0.8
MCARA	McCarthy VSAT	7.08	49	Pn	Pn	04 03 53.0	-0.2
BPAW	Bear Paw Mtn.	7.09	11	Pn	Pn	04 03 54.7	+1.4
YAH	Yahtse	7.20	59	Pn	Pn	04 03 54.8	-0.2
PAX	Paxson	7.24	33	Pn	Pn	04 03 55.0	-0.3
TABL	Table Mountain	7.51	59	Pn	Pn	04 03 59.1	0.0
BARN	Barnard Glacie	7.51	54	Pn	Pn	04 03 59.1	-0.1
UNV	Unalaska Valle	7.75	249	Pn	Pn	04 04 02.5	+0.2
NEA2	Nenana	7.82	16	Pn	Pn	04 04 03.0	-0.1
PCA	Pinnacle	7.82	62	Pn	Pn	04 04 03.7	+0.4
WRH	Wood River Hil	7.87	20	Pn	Pn	04 04 03.2	-0.6
L26K	Log Cabin Wild	7.95	38	Pn	Pn	04 04 06.6	+1.6
HDA	Harding Lake	8.04	23	Pn	Pn	04 04 05.8	-0.4
M27K	Edge Creek, AK	8.07	45	Pn	Pn	04 04 06.3	-0.5
MDM	Murphy Dome	8.29	18	Pn	Pn	04 04 09.2	-0.5
IL31		8.37	22	Pn	Pn	04 04 10.7	0.0
ILAR	Eielson Array	8.37	22	Pn	Pn	04 04 07.5	-3.2
	comp=E,0.1nm,0.3s,baz=220,slow=14,SNR=2.0						
	comp=E,0.2nm,0.6s						
ILAR	Eielson Array	8.37	22	Pn	Pn	04 04 09.7	-1.0
H21K	Melozitna Rive	8.51	4	Pn	Pn	04 04 14.1	+1.6
L27K	Beaver Creek,	8.51	41	Pn	Pn	04 04 12.1	-0.5
J25K	Salcha River,	8.57	26	Pn	Pn	04 04 14.0	+0.5
IMAR	Indian Mountai	8.81	1	Pn	Pn	04 04 15.8	-0.9
H23K	Yukon River	8.93	12	Pn	Pn	04 04 18.3	0.0
K27K	Chicken	9.06	36	Pn	Pn	04 04 20.1	0.0
H24K	Noodor Dome	9.16	17	Pn	Pn	04 04 21.3	-0.2
HYT	Haines Junctio	9.33	60	Pn	Pn	04 04 24.1	+0.1
EGAK	Eagle	9.86	34	Pn	Pn	04 04 32.0	+0.9
DAWY	Dawson	9.98	40	Pn	Pn	04 04 33.5	+0.8
WHY	Whitehorse	10.55	63	Pn	Pn	04 04 40.5	-0.1
BMAR	Burnt Mountain	11.17	19	Pn	Pn	04 04 47.6	-1.4
GRNB	Grenville Isla	14.11	94	Pn	Pn	04 05 29.2	+0.4
INK	Inuvik	14.50	32	Pn	P	04 05 41.3	+2.5
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=6.8						
INK	Inuvik	14.50	32	Pn	P	04 05 35.1	-3.7
YKA	Yellowknife Ar	20.32	58	P	Pn	04 06 46.2	+0.9
	comp=E,0.1nm,0.3s,baz=270,slow=11,SNR=4.1						
	comp=E,0.5nm,0.6s						
NVAR	Mina Array Bea	30.05	113	P	P	04 08 21.1	+5.6
	comp=E,0.3nm,0.6s,baz=313,slow=9.2,SNR=2.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,0.3nm,0.6s						
PDAR	Pinedale Array	31.49	98	P	P	04 08 32.8	+4.7
	comp=E,0.3nm,0.6s,baz=302,slow=5.8,SNR=4.4						
	comp=E,0.3nm,0.6s						
TXAR	Lajitas Array	44.69	107	P	P	04 10 24.1	+5.2
	comp=E,0.4nm,0.9s,baz=292,slow=4.8,SNR=2.3						
	comp=E,0.4nm,0.9s						
AKASG	Malin Array Be	72.42	358	P	P	04 13 45.6	+14
	comp=E,1.0nm,0.5s,baz=2.0,slow=5.9,SNR=4.9						
	comp=E,1.0nm,0.5s						
GERES	GERESS Array B	73.84	8	P	P	04 13 53.4	+14
	comp=E,0.6nm,0.7s,baz=347,slow=4.7,SNR=4.6						
	comp=E,0.6nm,0.7s						

DJA 07 04:14:41.3±0.5, 11°S±4°×11°8E±°, h10km, M4.5/12, mb4.5/7, mB5.3/2, MLv4.5/12, Mw(mB)4.7/2, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	Plampang	2.59	3	P	Pn	04 15 22.8	-0.5
PLAI				S	Sn	04 15 49.8	-5.1
TWSI	Taliwang, Sumb	2.77	345	P	Pn	04 15 25.0	-0.8
TWSI				S	Sn	04 15 54.5	-4.9
KLNI	Mataram	3.34	333	P	Pn	04 15 33.8	+0.1
KLNI				S	Sn	04 16 08.3	-5.2
IGBI	Denpasar	3.56	317	P	Pn	04 15 36.9	+0.3
DNP	Denpasar	3.62	319	P	Pn	04 15 37.5	0.0
DNP				S	Sn	04 16 16.7	-3.6
RTBI	Rangdo, Negare	3.96	318	P	Pn	04 15 42.2	0.0
SRBI	Singaraja	4.08	324	P	Pn	04 15 43.6	-0.3
JAGI	Jajag, Banyuwa	4.51	310	P	Pn	04 15 48.4	-1.3
ABJI	Asem Bagus	4.92	317	P	Pn	04 15 55.1	-0.2
KMMI	Kalianget	5.65	320	P	Pn	04 16 05.9	+0.5
	0.2nm20nm,0.8s						
BSSI	Bau Bau, Buton	5.97	29	P	Pn	04 16 10.6	+0.8
	0.2nm27nm,0.8s						
BKSI	Bulukumba	6.55	22	P	Pn	04 16 17.6	-0.2
	0.1nm28nm,0.6s						
PWJI	Pagerwojo	6.66	300	P	Pn	04 16 20.4	+1.1
	0.2nm20nm,0.5s						
KAPI	Kappang	6.71	18	P	Pn	04 16 20.3	+0.3
	0.2nm21nm,0.7s						
SOEI	Soe	6.74	76	P	Pn	04 16 25.5	+4.9
PCJI	Pacitan	7.12	296	P	Pn	04 16 26.8	+1.2
	0.3nm59nm,1.3s						
BNSI	Bone	7.41	20	P	Pn	04 16 29.7	+0.2
	0.0nm13nm,0.6s						
KKSI	Kolaka, Sulawe	8.24	29	P	Pn	04 16 41.8	+0.8
	0.3nm3μm42nm,0.4s						

NNC 07 04:17:53.9±3.9, 36°.79N×70°.82E, h0km, mb4.1, mpv4.1, Error ellipse: s-maj=31.4km s-min=23.9km az=4.0
ISC 07 04:17:56.0±3.2, 36°.6N±0°.2×70°.9E±0°.1, h100km, n12, σ0s.74/16, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.97	20	P	Pn	04 19 22.0	-0.1
	SNR=44						
UCH	Uchtor	6.31	25	P	Pn	04 19 26.6	-0.2
	SNR=9.5						
EKS2	Erkin-Say	6.48	19	P	Pn	04 19 29.2	+0.3
	SNR=7.3						
KK31	Karatay Array	6.55	357	⇓P	Pn	04 19 30.1	+0.4
	7.7nm,0.3s,baz=186,slow=15,SNR=102						
KK31				⇓S	Sn	04 20 43.2	+0.3
	5.1nm,0.4s,baz=186,slow=19,SNR=11						
AAK	Ala-Archa	6.67	23	P	Pn	04 19 31.6	+0.2
	SNR=14						
CHMS	Chumysh	7.08	23	P	Pn	04 19 36.8	-0.1
	SNR=6.2						
CHMS	Chumysh	7.08	23	⇑P	Pn	04 19 36.5	-0.4
	4.6nm,0.4s						
USP	Ospenovka	7.24	21	P	Pn	04 19 39.2	+0.1
	SNR=9.0						
TKM2	Tokmak 2	7.30	28	⇑P	Pn	04 19 40.7	+0.6
	SNR=9.5						
TKM2	Tokmak 2	7.30	28	⇓P	Pn	04 19 39.6	-0.5
	3.6nm,0.5s						
TKM2				⇓S	Sn	04 21 01.7	+0.2
	2.6nm,0.8s						
AB31	Akbulak array	15.01	331	⇑P	Pn	04 21 22.1	-0.6
	0.3nm,0.3s,baz=152,slow=14,SNR=26						
AB31				S	Sn	04 24 06.3	-2.0
	0.7nm,0.4s,baz=153,slow=23,SNR=6.3						
AKTO	Aktyubinsk	16.71	330	⇑P	P	04 21 45.0	+0.5
	1.4nm,0.8s						
AKTO				⇓S	Sn	04 24 50.3	+1.1
	1.1nm,0.9s						

SNET 07 04:18:49.3±1.2, 12°.63N×88°.30W, h13km±18km, ML2.9
INET 07 04:18:49.2±0.7, 12°.74N×88°.20W, h15km±24km, ML3.5
ISC 07 04:18:47.1±2.7, 12°.6N±0°.1×88°.24W±0°.07, h15km±13km, n14, σ0s.63/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCND	La Caada	0.83	24	eP	Pg	04 19 03.7	+0.5
LCND				eS	Sg	04 19 14.8	+0.6
LCND				IAML		04 19 20.6	
	comp=Z,472nm,0.3s						
ALJI	Alcalda de J	0.84	338	eS	Sb	04 19 14.3	-0.1
ALJI				IAML		04 19 15.9	
	comp=Z,551nm,0.2s						
COEB	Comit de Eme	0.98	344	eP	Pg	04 19 06.2	0.0
COEB				eS	Sg	04 19 18.3	-0.7
COEB				IAML		04 19 22.3	
	comp=Z,360nm,0.4s						
PQSS	Presa 15 de Se	1.11	344	eP	Pb	04 19 07.9	-0.2
PQSS				eS	Sg	04 19 22.8	-0.4
CRIN	San Cristobal	1.18	83	eP	Pn	04 19 09.7	+0.6
CRIN				eS	Sb	04 19 25.0	+0.8
CRIN				IAML		04 19 29.2	
	comp=E,1μm,0.3s						
COEG	Centro de Oper	1.23	330	eP	Pb	04 19 09.8	-0.4
COEG				eS	Sb	04 19 25.2	-0.7
COEG				IAML		04 19 34.7	
	comp=Z,229nm,0.2s						
SCLA	Alcaldia de Sa	1.24	338	eP	Pb	04 19 09.8	-0.4
SCLA				eS	Sb	04 19 25.9	-0.2
PAVA	Las Pavas	1.34	330	eP	Pn	04 19 11.5	+0.1
PAVA				eS	Sn	04 19 29.3	+0.2
CNGN	Cerro Negro	1.51	92	eP	Pn	04 19 13.2	-0.5
MOMN	Momotombo	1.67	95	eP	Pn	04 19 16.4	+0.5
NUBE	Las Nubes	2.01	312	eP	Pn	04 19 21.6	+1.0
NUBE				IAML		04 19 46.9	
	comp=Z,90nm,0.2s						
SLOZ	Alcaldia de Sa	2.10	315	eP	Pn	04 19 22.5	+0.7
MATN	Matagalpa	2.29	80	eP	Pn	04 19 23.7	-0.8
BOAB	BOACO BROADBAN	2.52	92	eP	Pn	04 19 26.6	-0.9

MAN 07 04:37:45.8, 15°.29N×122°.62E, h19km, mb4.4, ML3.2, MS3.0, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCNP	Jose Panganiba	1.00	175	⇓eP	Pb	04 38 03.8	-0.7
PCPH	Palayan	1.49	281	⇑eP	Pn	04 38 10.5	-1.0
PCPH				eS	Sn	04 38 25.1	-5.4
LQP	Lukban	1.57	222	⇑iP	Pn	04 38 12.5	-0.3
LQP				i S	Sn	04 38 33.2	+0.4
TGY	Tagaytay City	2.01	234	⇑eP	Pb	04 38 21.0	-0.8
TGY				eS	Sg	04 38 48.6	-2.0

ISK 07 04:38:58.3, 38°.04N×30°.09E, h3km, ML3.3/23
DDA 07 04:38:58.3±0.0, 38°.02N×30°.05E, h11km±1km, MW3.5
ISC 07 04:38:58.8±0.9, 38°.03N±0°.02×30°.07E±0°.02, h11km±6km, n63, σ0s.67/84, 9C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BASM	Basmaki-Afyon	0.12	190	PG	Pg	04 39 01.6	-0.1
BASM				SG	Sg	04 39 04.1	+0.2
KZIL	AFYON_Kizioren	0.23	13	P	Pg	04 39 03.3	-0.3
KZIL				S	Sg	04 39 07.7	+0.8
KZIL				i AML	AML	04 39 08.0	
	comp=E,1μm,0.6s						
KZIL				i AML	AML	04 39 09.0	
	comp=N,1μm,0.3s						
BRDR	BURDUR-Merkez	0.34	182	P	Pg	04 39 05.3	-0.2
BRDR				S	Sg	04 39 10.3	+0.2
BRDR				i AML	AML	04 39 11.0	
	comp=N,1μm,0.4s						
ISP	Isparta	0.41	121	PG	Pg	04 39 06.5	-0.4
ISP				SG	Sb	04 39 13.4	-1.1
KHL	Karahalli	0.52	304	PG	Pb	04 39 09.2	-0.8
PASA	Karahalli, USA	0.56	304	P	Pg	04 39 09.1	-0.5
SHUT	Suhut-Afyon	0.64	36	PG	Pg	04 39 11.1	-0.1
SHUT				SG	Sb	04 39 21.2	+0.1
BCK	Bucak	0.70	144	PG	Pb	04 39 12.6	-0.5
BCK				SG	Sb	04 39 23.4	+0.6
AFYO	Afyonkarahisar	0.77	13	P	Pg	04 39 13.3	-0.5
AFYO				S	Sb	04 39 25.4	+0.4
AFYO				i AML	AML	04 39 29.0	
	comp=N,2μm,0.5s						
AFYO				i AML	AML	04 39 34.0	
	comp=E,2μm,0.8s						
BUCA	Burdur, Bucak-	0.80	151	P	Pb	04 39 14.2	-0.6
BUCA				S	Sn	04 39 27.6	-0.5
BUCA				i AML	AML	04 39 28.0	
	comp=N,511nm,0.6s						
BUCA				i AML	AML	04 39 31.0	
	comp=E,355nm,0.4s						
APMY	Acipayam-Deniz	0.83	228	PG	Pg	04 39 13.9	-0.9
APMY				SG	Sb	04 39 27.5	+1.0
GOLH	Golhisar	0.89	207	P	Pg	04 39 14.7	-1.3
GOLH				S	Sb	04 39 29.2	+0.9
GOLH				i AML	AML	04 39 34.0	
	comp=E,739nm,0.6s						
GOLH				i AML	AML	04 39 39.0	
	comp=N,520nm,0.9s						
SUTC	Sutluce-Ispart	0.92	127	PG	Pg	04 39 16.3	-0.2
SUTC				SG	Sb	04 39 29.8	+0.6
YVAC	Isparta, Yalva	0.95	75	P	Pg	04 39 16.8	-0.3
YVAC				S	Sn	04 39 32.4	+0.5
YVAC				i AML	AML	04 39 34.0	
	comp=N,413nm,1.0s						
YVAC				i AML	AML	04 39 35.0	
	comp=E,301nm,0.4s						
KORT	Korkueli	1.05	168	PG	Pn	04 39 19.4	-0.3
KORT				SG	Sn	04 39 34.6	+0.2
KORT	Korkueli	1.05	168	P	Pn	04 39 19.3	-0.4
USAK	Uak-Merkez	1.07	310	P	Pg	04 39 18.9	-0.6
USAK				S	Sb	04 39 33.6	+0.1
USAK				i AML	AML	04 39 40.0	
	comp=N,494nm,0.5s						
USAK				i AML	AML	04 39 43.0	
	comp=E,601nm,0.8s						
TAVA	DENIZLI_Tavas	1.08	239	P	Pg	04 39 18.7	-0.9
TAVA				S	Sn	04 39 34.5	-0.5
TAVA				i AML	AML	04 39 42.0	
	comp=N,317nm,0.5s						
CAEL	Denizli, Camel	1.09	214	P	Pg	04 39 19.2	-0.6
GEDZ	Gediz	1.14	333	PN	Pn	04 39 20.8	+0.1
GEDZ				SN	Sn	04 39 37.6	+1.2
ANTB	Antalya	1.22	158	PN	Pn	04 39 22.6	+0.8
CAME	Cameli-Denizli	1.25	210	PN	Pn	04 39 23.1	+0.7
DOGA	KONYA_Doganhis	1.26	86	P	Pn	04 39 22.4	-0.1
DOGA				S	Sn	04 39 40.5	+0.9
DOGA				i AML	AML	04 39 43.0	
	comp=N,527nm,0.4s						
DOGA				i AML	AML	04 39 46.0	
	comp=E,497nm,0.4s						
MANT	Manisa	1.28	291	P	Pn	04 39 22.7	-0.1
MANT				S	Sb	04 39 39.5	-0.1
MANT				i AML	AML	04 39 44.0	
	comp=N,907nm,0.4s						
MANT				i AML	AML	04 39 48.0	
	comp=E,938nm,0.5s						
ELL	Elmali	1.29	186	PN	Pg	04 39 23.8	+0.2
SEDI	Konya, Seydise	1.45	113	P	Pb	04 39 25.5	-0.5
SEDI				S	Sb	04 39 44.6	+0.1
SEDI				i AML	AML	04 39 56.0	
	comp=E,330nm,0.8s						
DEMI	Demirci	1.47	314	P	Pg	04 39 26.4	-0.6
ANDZ	Kutahya, Merke	1.48	355	P	Pn	04 39 24.6	-0.9
SEYD	Seydisehir-KON	1.53	114	PN	Pb	04 39 27.2	-0.1
CIFT	Cifteler, Eski	1.54	30	PN	Pb	04 39 26.8	-0.5
MULA	Mugla, Merkez-	1.59	241	P	Pn	04 39 27.0	-0.1
ESKT	Eskisehir	1.60	22	PN	Pb	04 39 28.4	-0.1
FETY	Fethiye	1.60	210	PN	Pb	04 39 28.4	0.0
SGAZ	Eskisehir, Sey	1.61	22	P	Pn	04 39 26.5	-0.7
SGAZ				S	Sg	04 39 50.8	+0.3
KIZT	Kizilcal	1.65	59	PN	Pb	04 39 28.9	-0.4
DALY	Dalyan (Mula)	1.66	223	PN	Pb	04 39 28.8	-0.6
KDHN	Kadinhani	1.68	73	P	Pn	04 39 28.7	+0.4
YER	Yerkesik	1.68	238	PN	Pb	04 39 29.6	-0.2
AKUM	Antalya-Kumluc	1.72	173	P	Pg	04 39 31.3	-0.5
AYDB	Zeytinkoy-Aydi	1.73	268	PN	Pb	04 39 30.5	-0.1
AYDN	Tasoluk	1.78	259	P	Pn	04 39 29.6	+0.1
AYDN				S	Sg	04 39 57.9	+2.0
AYDN				i AML	AML	04 40 05.0	
	comp=N,204nm,0.6s						
KONT	Konya--Tatoy	1.81	92	PN	Pb	04 39 31.6	-0.3
SVRH	Sivrihisar-ESK	1.81	38	PN	Pb	04 39 31.2	-0.8
LADK	Ladik-KONYA	1.81	84	PN	Pb	04 39 31.4	-0.7
GOMA	Golmarmara-Man	1.82	292	PN	Pb	04 39 31.6	-0.6
KMER	Konya-Meram	1.83	98	P	Pb	04 39 31.7	-0.7
AKAS	Kas	1.84	192	PN	Pb	04 39 31.9	-0.6
AKAS	Kas	1.84	192	P	Pn	04 39 30.3	-0.1
TURN	Turunc	1.92	230	PN	Pb	04 39 33.2	-0.7
TURN	Turunc	1.92	230	P	Pn	04 39 32.2	+0.7
AKHS	Akhisar	1.96	296	P	Pg	04 39 35.3	-1.2
DURS	Dursunbey	2.00	322	P	Pn	04 39 32.8	+0.1
HDMB	Hadim	2.19	118	PN	Pn	04 39 36.6	+1.2
ALIN	Konya, Altinte	2.23	82	P	Pb	04 39 37.5	-1.6
IDI	Anoyia	4.99	238	⇑P	Pn	04 40 14.7	+1.1
TIRR	Tirgusor	6.54	349	⇑P	Pn	04 40 35.6	+0.7
TPGR	Topolog	6.93	350	⇑P	Pn	04 40 40.2	-0.1
VRI	Vrincioaia	8.21	343	⇑P	Pn	04 40 58.7	+0.8
PLOR	Plostina	8.22	343	⇑P	Pn	04 40 58.6	+0.7
DOPR	Dopca	8.66	338	⇑P	Pn	04 41 04.6	+0.6
OZUR		8.66	340	⇑P	Pn	04 41 04.3	+0.2
HERR	Herculane	8.93	322	⇑P	Pn	04 41 07.7	-0.1
GZR	Gura Zlata	9.15	326	⇑P	Pn	04 41 09.7	-1.1

ANF 07 04:52:35.0±0.2, 37°.38N×97°.75W, h2km, ML3.8/17, Error ellipse: s-maj=3.2km s-min=2.3km az=56.0
NEIC 07 04:52:35.7±0.4, 37°.37N±0°.03×97°.74W±0°.03, h2km±7km, mb_Lg3.1/69, ML3.1/15, Error ellipse: s-maj=4.6km s-min=3.7km az=156.0
ISC 07 04:52:35.3±1.0, 37°.38N±0°.02×97°.73W±0°.02, h5km±8km, n124, σ0s.58/134, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KS21	Milan North St	0.11	151	Pg	Pg	04 52 37.5	0.0
KS21					Sg	04 52 39.2	+0.2
KAN06	Argonia West S	0.17	218	Pg	Pg	04 52 38.5	-0.2
KAN06				Sg	Sg	04 52 40.8	0.0
KS20	Mayfield South	0.21	137	Pg	Pg	04 52 39.4	+0.1
KS20				Sg	Sg	04 52 42.3	+0.3
KAN01	Argonia South	0.23	186	Pg	Pg	04 52 39.7	0.0
KAN01				Sg	Sg	04 52 43.1	+0.3
KAN12	Harper NE Stat	0.23	248	Pg	Pg	04 52 39.7	0.0
KAN12				Sg	Sg	04 52 43.1	+0.3
KAN08	Anthony NE Sta	0.25	231	Pg	Pg	04 52 40.1	0.0
KAN08				Sg	Sg	04 52 43.5	+0.2
KAN09	Caldwell North	0.26	160		Pg	04 52 40.4	0.0
KAN17	Caldwell West	0.34	185		Pg	04 52 41.8	0.0
KAN17				Sg	Sg	04 52 46.5	+0.2
KAN13	South Haven SW	0.42	151	Pg	Pg	04 52 43.2	-0.1
KAN13				Sg	Sg	04 52 48.8	0.0
KAN14	Manchester OK	0.46	204		Pg	04 52 44.1	-0.1
KAN14				Sg	Sg	04 52 50.4	+0.2
GC02	Grant County #	0.54	191	Pg	Pg	04 52 45.4	-0.2
GC02				Sg	Sg	04 52 52.6	0.0
OK032	Salt Plains WL	0.69	214	Pg	Pg	04 52 48.2	-0.3
OK032				Sg	Sg	04 52 57.5	-0.1
BLOK	Blackwell	0.74	146	Pg	Pg	04 52 49.2	-0.4
BLOK				Sg	Sg	04 52 59.1	-0.1
CROK	Carrier	0.90	193	Pg	Pg	04 52 52.0	-0.5
CROK				Sg	Sg	04 53 04.1	-0.1
OK049	E0420 Rd and N	1.03	161	Pg	Pg	04 52 54.4	-0.6
T35A	Sooner Cattle	1.08	115	Pg	Pg	04 52 55.3	-0.6
T35A				Sg	Sg	04 53 09.4	-0.5
T35B	Sooner Cattle	1.08	115	P	Pg	04 52 55.4	-0.6
	baz=296,SNR=80						
T35B				S	Sg	04 53 09.6	-0.3
	baz=296						
OK051	E0350 and S346	1.13	140		Pg	04 52 56.3	-0.7
OK051				Sg	Sg	04 53 11.1	-0.5
OK045	Pawnee Station	1.13	145		Pg	04 52 56.4	-0.6
OK048	Pawnee Station	1.15	147	Pg	Pg	04 52 56.6	-0.7
OK050	Pawnee Station	1.15	148	Pg	Pg	04 52 56.1	-1.3
OK050				Sg	Sg	04 53 11.9	-0.5
OK046	Pawnee Station	1.18	146	Pg	Pg	04 52 57.2	-0.7
NOKA	Waynoka	1.22	233	Pg	Pg	04 52 57.4	-1.2
OK044	Pawnee Station	1.25	143	Pg	Pg	04 52 58.5	-0.8
R32A	Long Quarter,	1.30	324	Pg	Pg	04 52 59.1	-1.0
R32A	Long Quarter,	1.30	324	P	Pg	04 52 59.0	-1.1
	baz=143,SNR=31						
R32A				S	Sg	04 53 16.4	-0.6
	baz=143						
U32A	Winter Ranch,	1.43	226		Pn	04 53 01.5	-0.4
U32A	Winter Ranch,	1.43	226	P	Pn	04 53 01.5	-0.4
	baz=45,SNR=42						
QUOK	Quay	1.46	146		Pn	04 53 02.0	-0.3
OK034	N. Norfolk Rd.	1.59	149		Pn	04 53 04.1	-0.1
OK031	S. Brethren Rd	1.60	153		Pn	04 53 04.2	+0.1
OK029	Liberty Lake	1.60	172		Pn	04 53 04.4	+0.1
BCOK	Bluff Creek, N	1.73	177	Pn	Pn	04 53 06.3	+0.3
OK025	Westminster Rd	1.82	170	Pn	Pn	04 53 07.6	+0.2
DEOK	Depew	1.83	147	Pn	Pn	04 53 07.6	+0.2
CSTR	Hydro, Custer	1.90	204	Pn	Pn	04 53 08.4	+0.1
KSU1	Kansas State U	1.93	27	Pn	Pn	04 53 09.3	+0.6
KSU1				IAmb_Lg		04 53 41.5	
	comp=Z,101nm,0.8s						
KSU1	Kansas State U	1.93	27	P	Pn	04 53 09.4	+0.6
	baz=208,SNR=22						
KSU1				S	Sb	04 53 35.6	+0.2
	baz=208						
KSU1	Kansas State U	1.93	27	P	Pn	04 53 09.4	+0.6
	baz=208						
KSU1				S	Sb	04 53 35.6	+0.2
	baz=208						
CBKS	Cedar Bluff	2.13	313	Pn	Pn	04 53 12.0	+0.4
CBKS	Cedar Bluff	2.13	313	P	Pn	04 53 12.2	+0.5
	baz=132,SNR=23						
CBKS				S	Sn	04 53 39.9	+1.3
	baz=132						
CBKS	Cedar Bluff	2.13	313	P	Pn	04 53 12.1	+0.4
	baz=132						
CBKS				S	Sn	04 53 39.9	+1.3
	baz=132						
FNO	Franklin	2.14	173	Pn	Pn	04 53 11.7	+0.1
TUL1	Leonard	2.14	133	Pn	Pn	04 53 11.9	+0.2
TUL1				IAmb_Lg		04 53 46.5	
	comp=Z,109nm,0.9s						
TUL1	Leonard	2.14	133	P	Pn	04 53 11.9	+0.2
	baz=314,SNR=49						
TUL1				S	Sb	04 53 42.0	+0.6
	baz=314						
TUL1	Leonard	2.14	133	P	Pn	04 53 11.9	+0.2
	baz=314						
TUL1				S	Sb	04 53 42.0	+0.6
	baz=314						
RLO	Rose Lookout	2.49	118	Pn	Pn	04 53 16.4	0.0
WMOK	Wichita Mounta	2.77	198	Pn	Pn	04 53 20.4	0.0
WMOK	Wichita Mounta	2.77	198	P	Pn	04 53 20.4	0.0
	baz=17,SNR=16						
WMOK				S	Sn	04 53 55.0	+0.7
	baz=17						
WMOK	Wichita Mounta	2.77	198	P	Pn	04 53 20.4	0.0
	baz=17						
WMOK				S	Sn	04 53 55.1	+0.7
	baz=17						
X34A	Smith Ranch, M	2.78	182	Pn	Pn	04 53 21.0	+0.5
U38A	Gravette	2.84	108	Pn	Pn	04 53 21.9	+0.6
HHAR	Hobbs	3.23	109	Pn	Pn	04 53 27.0	+0.3
HHAR	Hobbs	3.23	109	P	Pn	04 53 27.7	+1.0
	baz=291						
N33B	J Bar K, Exete	3.36	4	P	Pn	04 53 28.5	+0.1
	baz=184						
N33A	J Bar K, Exete	3.36	4	Pn	Pn	04 53 28.5	0.0
X37A	Clayton	3.38	145	Pn	Pn	04 53 29.4	+0.6
X37A				IAmb_Lg		04 54 30.9	
	comp=Z,47nm,0.7s						
X37A	Clayton	3.38	145	P	Pn	04 53 29.2	+0.5
	baz=326,SNR=79						
LOOK	Love County	3.41	172	Pn	Pn	04 53 29.1	-0.1
LOOK				IAmb_Lg		04 54 32.3	
	comp=Z,47nm,0.9s						
N35A	Tabor	3.83	24	Pn	Pn	04 53 35.1	+0.2
P38A	Dawn	3.98	55	Pn	Pn	04 53 36.9	-0.1
BGNE	Belgrade	4.03	355	Pn	Pn	04 53 37.6	-0.1
BGNE				IAmb_Lg		04 54 55.3	
	comp=Z,32nm,0.8s						
BGNE	Belgrade	4.03	355	P	Pn	04 53 37.7	0.0
	baz=175,SNR=11						
BGNE	Belgrade	4.03	355	P	Pn	04 53 38.3	+0.5
	baz=175						
AMTX	Amarillo	4.05	233	Pn	Pn	04 53 38.1	0.0
AMTX				IAmb_Lg		04 54 49.8	
	comp=Z,57nm,0.8s						
AMTX	Amarillo	4.05	233	P	Pn	04 53 38.9	+0.8
	baz=51,SNR=8.3						
AMTX				S	Sn	04 54 27.3	+1.3
	baz=51						
AMTX	Amarillo	4.05	233	P	Pn	04 53 39.0	+0.9
	baz=51						
AMTX				S	Sn	04 54 27.3	+1.3
	baz=51						
Z35A	Perchaven, San	4.06	174	Pn	Pn	04 53 38.1	0.0
Z35A	Perchaven, San	4.06	174	S	Sn	04 54 26.0	-0.1
	baz=355						
KSCO	Kaye Shedlock'	4.19	294	Pn	Pn	04 53 39.7	-0.3
KSCO				IAmb_Lg		04 54 56.7	
	comp=Z,35nm,0.8s						
KSCO	Kaye Shedlock'	4.19	294	S	Sn	04 54 29.7	+0.3
	baz=112						
MGMO	Mountain Grove	4.36	91	Pn	Pn	04 53 42.3	+0.1
MGMO				IAmb_Lg		04 54 52.8	
	comp=Z,44nm,0.7s						
MIAR	Mount Ida	4.40	129	Pn	Pn	04 53 42.7	0.0
MIAR	Mount Ida	4.40	129	P	Pn	04 53 43.1	+0.3
	baz=311,SNR=11						
MIAR	Mount Ida	4.40	129	P	Pn	04 53 43.1	+0.3
	baz=311						
MIAR				S	Sn	04 54 35.0	+0.6
	baz=311						
R40A	Maddies Statio	4.42	76	Pn	Pn	04 53 42.8	-0.1
R40A				IAmb_Lg		04 54 57.3	
	comp=Z,30nm,0.9s						
L34A	Svendsen Farm,	4.70	12	Pn	Pn	04 53 46.6	-0.2
FCAR	Ozark Folk Cen	4.75	107	Pn	Pn	04 53 47.5	-0.1
FCAR				IAmb_Lg		04 55 03.9	
	comp=Z,30nm,0.7s						
WHAR	Wooly Hollow	4.86	114	Pn	Pn	04 53 48.6	-0.5
WHAR				IAmb_Lg		04 55 10.5	
	comp=Z,38nm,0.9s						
N38A	Joes South For	4.88	44	Pn	Pn	04 53 49.3	-0.1
OGNE	Ogallala	4.88	318	Pn	Pn	04 53 49.9	+0.4
OGNE				IAmb_Lg		04 55 19.9	
	comp=Z,46nm,0.8s						
OGNE	Ogallala	4.88	318	P	Pn	04 53 50.6	+1.2
	baz=136						
OGNE	Ogallala	4.88	318	P	Pn	04 53 50.6	+1.2
	baz=136						
OGNE				S	Sn	04 54 46.3	-0.2
	baz=136						
P40A	Paris	4.95	63	IAmb_Lg		04 55 14.1	
	comp=Z,29nm,0.8s						
ABTX	Abilene, Hawle	5.00	199	Pn	Pn	04 53 49.5	-1.6
UALR	University of	5.08	119	IAmb_Lg		04 55 25.2	
	comp=Z,24nm,0.7s						
CCM	Cathedral Cave	5.18	81	Pn	Pn	04 53 53.8	+0.2
CCM	Cathedral Cave	5.18	81	P	Pn	04 53 53.9	+0.4
	baz=264						
WLAR	White Oak Lake	5.27	133	IAmb_Lg		04 55 25.8	
	comp=Z,30nm,0.9s						
K31A	O'Neill	5.29	352	Pn	Pn	04 53 54.9	-0.2
K31A				IAmb_Lg		04 55 23.3	
	comp=Z,31nm,0.8s						
MSTX	Muleshoe	5.33	232	Pn	Pn	04 53 55.5	-0.1
MSTX	Muleshoe	5.33	232	P	Pn	04 53 55.9	+0.2
	baz=49,SNR=5.8						
MSTX	Muleshoe	5.33	232	P	Pn	04 53 55.9	+0.2
	baz=49						
MSTX				S	Sn	04 54 57.8	+0.3
	baz=49						
T25A	Trinidad	5.33	269	Pn	Pn	04 53 55.4	-0.4
T25A				IAmb_Lg		04 55 33.6	
	comp=Z,30nm,1.1s						
T25A	Trinidad	5.33	269	P	Pn	04 53 55.7	-0.1
	baz=85						

WHTX	**Lake Whitney,**	**5.38**	**178**	Pn	**Pn**	**04 53 55.7**	**-0.5**
WHTX	**Lake Whitney,**	**5.38**	**178**	P	**Pn**	**04 53 55.7**	**-0.5**
	baz=358,SNR=16						
WHTX	**Lake Whitney,**	**5.38**	**178**	P	**Pn**	**04 53 55.8**	**-0.5**
	baz=358						
LCAR	**Lake Charles**	**5.44**	**102**	IAmb_Lg		04 55 33.1	
	comp=Z,24nm,1.0s						
237A	**Washetta, Mont**	**5.60**	**163**	Pn	**Pn**	**04 53 58.4**	**-0.8**
SCIA	**State Center**	**5.71**	**36**	IAmb_Lg		04 55 45.8	
	comp=Z,40nm,0.8s						
FVM	**French Village**	**5.82**	**82**	Pn	**Pn**	**04 54 01.8**	**-0.5**
CCAR	**Cane Creek**	**5.96**	**124**	IAmb_Lg		04 55 55.4	
	comp=Z,33nm,1.1s						
BRIGG	**Briggsdale**	**6.05**	**304**	IAmb_Lg		04 55 55.5	
	comp=Z,23nm,0.9s						
Q24A	**Divide**	**6.05**	**287**	Pn	**Pn**	**04 54 05.2**	**-0.6**
SDCO	**Great Sand Dun**	**6.18**	**276**	Pn	**Pn**	**04 54 07.4**	**-0.1**
ECSD	**EROS Data Cent**	**6.40**	**7**	Pn	**Pn**	**04 54 09.2**	**-1.0**
ECSD	**EROS Data Cent**	**6.40**	**7**	P	**Pn**	**04 54 09.7**	**-0.5**
	baz=188,SNR=6.8						
ECSD	**EROS Data Cent**	**6.40**	**7**	P	**Pn**	**04 54 09.8**	**-0.5**
	baz=188						
PARMO	**Parma**	**6.42**	**94**	IAmb_Lg		04 56 13.9	
	comp=Z,33nm,0.8s						
CGM3	**Cape Girardeau**	**6.43**	**88**	IAmb_Lg		04 56 18.0	
	comp=Z,11nm,0.7s						
K38A	**Parkersburg**	**6.49**	**34**	IAmb_Lg		04 56 06.3	
	comp=Z,29nm,0.8s						
435B	**Jarrell**	**6.58**	**179**	IAmb_Lg		04 56 09.0	
	comp=Z,23nm,0.9s						
435B	**Jarrell**	**6.58**	**179**	S	**Sn**	**04 55 25.6**	**-2.7**
	baz=359						
S44A	**Carbondale**	**6.74**	**85**	IAmb_Lg		04 56 06.7	
	comp=Z,25nm,0.8s						
L40A	**Anamosa**	**6.86**	**45**	IAmb_Lg		04 56 20.6	
	comp=Z,30nm,0.9s						
143A	**Socs Landing,**	**6.98**	**130**	IAmb_Lg		04 56 27.3	
	comp=Z,17nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.03**	**75**	IAmb_Lg		04 56 31.1	
	comp=Z,19nm,0.8s						
W45A	**Hickory Valley**	**7.25**	**105**	IAmb_Lg		04 56 31.1	
	comp=Z,25nm,0.7s						
N23A	**Red Feather La**	**7.28**	**301**	IAmb_Lg		04 56 30.5	
	comp=Z,23nm,0.8s						
L42A	**Oliver, Polo**	**7.74**	**51**	IAmb_Lg		04 56 52.4	
	comp=Z,18nm,0.8s						
O44A	**Mansfield**	**7.75**	**66**	IAmb_Lg		04 56 42.4	
	comp=Z,15nm,0.9s						
K22A	**Casper**	**8.55**	**311**	IAmb_Lg		04 57 20.1	
	comp=Z,21nm,1.2s						
G40A	**Rib Lake**	**9.70**	**33**	IAmb_Lg		04 57 54.5	
	comp=Z,14nm,1.2s						

*IDC **07** 05:47:20.3±3.9, 12°.81N×143°.51E, h69km±33km, mb3.8/5, mbtmp4.1/5, MS3.6/2, Error ellipse: s-maj=53.6km s-min=22.7km az=118.0*

ISC 07 05:47:16.5±1.0**, 12°.9N**±0°.2×**143°.2E**±0°.2**, h35km, n12, σ1s.39/8, mb4.2/5, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.77**	**65**	P	**Pn**	**05 47 46.4**	**+1.7**
	586nm,0.3s,baz=341,slow=23,SNR=62						
GUMO				S	**Sn**	**05 48 04.8**	**-1.2**
	714nm,0.3s,baz=58,slow=22,SNR=34						
GUMO				LR	LR	05 48 33.1	
	comp=Z,126nm,18.3s,baz=281,slow=47						
H11N1	**WAKE ISLAND Hy**	**23.71**	**70**	T	T	06 16 53.6	
	baz=255,slow=75,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**23.72**	**70**	T	T	06 16 52.6	
	baz=255,slow=75,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**23.73**	**70**	T	T	06 16 39.6	
	baz=255,slow=75,SNR=4.5						
WRA	**Warramunga Arr**	**33.74**	**195**	P	**P**	**05 53 54.8**	**-0.1**
	0.4nm,0.8s,baz=19,slow=9.7,SNR=5.1						
	0.4nm,0.8s						
AFI	**Afiamalu**	**51.92**	**119**	LR	LR	06 13 07.5	
	comp=Z,49nm,19.4s,baz=260,slow=30						
ILAR	**Eielson Array**	**69.92**	**25**	P	**P**	**05 58 22.2**	**-1.6**
	0.5nm,0.4s,baz=251,slow=5.8,SNR=17						
	0.5nm,0.4s						
YKA	**Yellowknife Ar**	**84.25**	**27**	P	**P**	**05 59 44.0**	**-0.3**
	0.8nm,0.4s,baz=284,slow=5.1,SNR=26						
	0.8nm,0.4s						
ARCES	**ARCESS Array B**	**87.28**	**342**	P	**P**	**06 00 00.8**	**+1.5**
	4.7nm,1.1s,baz=76,slow=7.5,SNR=2.4						
	4.7nm,1.1s						
FINES	**FINESS Array B**	**91.14**	**335**	P	**P**	**06 00 17.9**	**+0.3**
	3.1nm,0.9s,baz=72,slow=6.2,SNR=5.5						
	3.1nm,0.9s						
MMAI	**Mount Meron Ar**	**97.51**	**306**	LR	LR	06 49 55.3	
	comp=Z,27nm,20.1s,baz=84,slow=38						
LPAZ	**La Paz**	**149.49**	**100**	PKPbc	**PKPbc**	**06 07 03.4**	**-0.4**
	1.2nm,0.7s,baz=341,slow=3.6,SNR=5.7						

IDC 07 05:57:02.0±1.7**, 8°.32S×126°.20E, h0km, mb3.5**/2**, mbtmp3.4**/4**, ML3.3**/2**, Error ellipse: s-maj=263.5km s-min=31.3km az=60.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.99**	**147**	Pn	Pn	06 00 20.5	-1.1
	0.2nm,0.3s,baz=322,slow=14,SNR=12						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**16.95**	**155**	Pn	P	06 01 01.9	-1.0
	0.1nm,0.3s,baz=336,slow=10.0,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**67.33**	**329**	P	P	06 07 59.1	+0.2
	0.2nm,0.5s,baz=123,slow=7.3,SNR=1.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.72**	**330**	P	P	06 08 25.7	-0.1
	0.4nm,0.5s,baz=132,slow=5.2,SNR=6.2						
	0.4nm,0.5s						

*BUL **07** 06:02:46.7±1.6, 26°.96S×26°.12E, h3km±19km, MD3.5*
*EAF **07** 06:02:46.7±1.6, 26°.96S×26°.11E, h3km±19km, MD3.4*

PRE 07 06:02:37.9±1.1**, 26°.93S×26°.71E, h2km, ML2.2, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.58**	**89**	*e*P	Pg	06 02 49.9	+0.8
PRYS				*e*S	Sg	06 02 56.6	0.0
PRYS				IAML		06 03 02.6	
	comp=Z,31nm,0.6s						
SWZ	**Schweizer**	**1.25**	**258**	*e*P	Pn	06 03 02.9	+0.3
SWZ				*e*S	Sb	06 03 19.0	0.0
SWZ				IAML		06 03 25.1	
	comp=Z,51nm,0.3s						
HRAO	**HartRAO**	**1.36**	**40**	*e*P	Pn	06 03 04.0	0.0
HRAO				*e*S	Sn	06 03 23.0	+0.3
HRAO				IAML		06 03 26.4	
	comp=Z,24nm,0.3s						
SNKL	**Senekal, Frees**	**1.64**	**145**	*e*P	Pb	06 03 08.7	-0.2
SNKL				*e*S	Sg	06 03 31.6	+1.1
SNKL				IAML		06 03 36.6	
	comp=Z,18nm,0.8s						
BOSA	**Boshof**	**2.11**	**217**	*i* P	Pb	06 03 17.3	+0.3
BOSA				*i* S	Sn	06 03 42.4	+1.1
BOSA	**Boshof**	**2.11**	**217**	*i* P	Pb	06 03 17.3	+0.3
BOSA				*i* S	Sn	06 03 42.4	+1.1
LBTB	**Lobatse**	**2.16**	**332**	*e*P	Pb	06 03 16.4	-1.4
LBTB				*e*S	Sn	06 03 43.0	+0.7
LBTB				IAML		06 03 47.7	
	comp=Z,23nm,0.5s						
LBTB	**Lobatse**	**2.16**	**332**	*i* P	Pg	06 03 21.7	+2.5
LBTB				*i* S	Sb	06 03 45.7	+0.7
LBTB	**Lobatse**	**2.16**	**332**	*i* P	Pg	06 03 21.7	+2.5
LBTB				*i* S	Sb	06 03 45.7	+0.7
LEPH	**Lephalale, Lim**	**3.22**	**18**	*e*P	Pn	06 03 29.7	+0.1
LEPH				*e*S	Sn	06 04 08.3	-0.2
LEPH				IAML		06 04 22.1	
	comp=Z,7.1nm,1.0s						
MOPA	**Mopani**	**5.44**	**52**	*i* P	Pb	06 04 14.7	+1.0
MOPA				*i* S	Sb	06 05 17.4	-2.0
MOPA	**Mopani**	**5.44**	**52**	*i* P	Pb	06 04 14.7	+1.0
MOPA				*i* S	Sb	06 05 17.4	-2.0
BFON	**Badsfontein, M**	**5.52**	**208**	*e*P	Pn	06 04 01.6	+0.4
BFON				*e*S	Sn	06 05 03.6	-1.8
BFON				IAML		06 05 16.6	
	comp=Z,2.9nm,0.8s						
BRAK	**Brakfontein**	**5.87**	**214**	*e*P	Pn	06 04 06.8	+0.9
BRAK				*e*S	Sn	06 05 11.4	-2.5
BRAK				IAML		06 05 58.3	
	comp=Z,29nm,3.1s						
FRAZ	**Fraserburg**	**6.79**	**222**	*e*P	Pn	06 04 20.1	+1.4
FRAZ				*e*S	Sn	06 05 34.1	-2.7
FRAZ				IAML		06 06 21.1	
	comp=Z,18nm,2.0s						

IDC 07 06:06:57.5±2.6**, 53°.65N×86°.96E, h0km, mbtmp2.6**/2**, ML2.4**/2**, Error ellipse: s-maj=23.5km s-min=14.7km az=76.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**284**	I		06 16 00.0	
	baz=101,slow=333,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.30**	**284**	Pg	Pg	06 07 21.3	-1.2
	0.9nm,0.3s,baz=99,slow=17,SNR=11						
ZALV				Lg	Lg	06 07 39.6	
	1.0nm,0.3s,baz=105,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.01**	**243**	Pn	Pn	06 08 28.8	+1.3
	0.1nm,0.3s,baz=62,slow=14,SNR=2.3						
KURBB				Lg	Lg	06 10 07.1	
	baz=52,slow=33,SNR=1.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.49**	**205**	Pn	Pn	06 08 49.3	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=4.2						
MKAR				Lg	Lg	06 10 52.3	
	baz=25,slow=32,SNR=2.4						
	0.2nm,0.3s						

IDC 07 06:14:39.8±2.4**, 54°.13N×86°.43E, h0km, mbtmp3.1**/2**, ML2.9**/2**, Error ellipse: s-maj=19.7km s-min=12.2km az=58.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**260**	I		06 21 50.0	
	baz=79,slow=333,SNR=5.2						
ZALV	**Zalesovo Beam**	**0.97**	**260**	Pg	Pg	06 14 57.2	-1.1
	1.1nm,0.3s,baz=77,slow=17,SNR=11						
ZALV				Lg	Lg	06 15 11.8	
	1.6nm,0.3s,baz=79,slow=30,SNR=13						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	06 16 10.5	+1.1
	0.2nm,0.3s,baz=54,slow=13,SNR=9.5						
KURBB				Lg	Lg	06 17 49.1	
	baz=56,slow=30,SNR=2.1						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	06 16 35.4	+0.9
	0.3nm,0.3s,baz=24,slow=13,SNR=12						
	0.4nm,0.3s						

MEX 07 06:22:14.7±0.4**, 16°.85N×97°.63W, h15km**±324km**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOIG	**Yosondua**	**0.08**	**83**	*e*P	Pg	06 22 17.3	-0.9
YOIG				*e*S	Sg	06 22 19.5	-0.9
YOIG	**Yosondua**	**0.08**	**83**	*i* P	Pg	06 22 17.3	-0.9
YOIG				*i* S	Sg	06 22 19.4	-1.0
TXIG	**Tlaxiaco**	**0.42**	**342**	*e*P	Pg	06 22 22.4	-1.0
TXIG				*e*S	Sg	06 22 28.3	-1.0
TXIG	**Tlaxiaco**	**0.42**	**342**	*e*P	Pg	06 22 22.4	-1.0
TXIG				*e*S	Sg	06 22 28.2	-1.1
PNIG	**Pinotepa**	**0.66**	**227**	*e*P	Pg	06 22 25.6	-2.0
PNIG				*e*S	Sg	06 22 33.7	-2.7
PNIG	**Pinotepa**	**0.66**	**227**	*i* P	Pg	06 22 25.6	-2.0
PNIG				*i* S	Sg	06 22 33.6	-2.7
VHO	**Vista Hermosa**	**0.89**	**75**	*e*P	Pb	06 22 31.4	-0.5
VHO				*e*S	Sb	06 22 43.5	-0.1
VHO	**Vista Hermosa**	**0.89**	**75**	*e*P	Pb	06 22 31.4	-0.6
VHO				*e*S	Sb	06 22 43.5	-0.2
OXBJ	**Oaxaca**	**0.89**	**76**	*e*P	Pb	06 22 31.7	-0.3
OXBJ				*e*S	Sb	06 22 43.8	-0.1
OXBJ	**Oaxaca**	**0.89**	**76**	*e*P	Pb	06 22 31.3	-0.7
OXBJ				*e*S	Sb	06 22 43.5	-0.3
OXLC	**Oaxaca**	**0.91**	**76**	*e*P	Pb	06 22 32.2	-0.1
OXLC				*e*S	Sg	06 22 44.5	0.0
OXLC	**Oaxaca**	**0.91**	**76**	*e*P	Pb	06 22 31.6	-0.8
OXLC				*e*S	Sb	06 22 44.2	-0.1
PEIG	**Puerto Escondi**	**0.96**	**151**	*e*P	Pb	06 22 31.6	-1.5
PEIG				*e*S	Sb	06 22 44.4	-1.2
PEIG	**Puerto Escondi**	**0.96**	**151**	*i* P	Pb	06 22 31.6	-1.5
PEIG				*i* S	Sb	06 22 44.4	-1.2
MGIG	**Malinaltepec**	**1.03**	**292**	*e*P	Pb	06 22 33.1	-1.3
MGIG				*e*S	Sb	06 22 46.6	-1.2
TLIG	**Tlapa**	**1.14**	**309**	*e*P	Pb	06 22 35.0	-1.3
TLIG				*e*S	Sb	06 22 49.6	-1.4
TLIG	**Tlapa**	**1.14**	**309**	*i* P	Pb	06 22 35.0	-1.2
TLIG				*i* S	Sb	06 22 49.5	-1.5
FTIG	**Fresnillo de T**	**1.16**	**336**	*e*P	Pn	06 22 35.6	-0.8
FTIG				*e*S	Sb	06 22 51.2	-0.2
FTIG	**Fresnillo de T**	**1.16**	**336**	*i* P	Pn	06 22 35.5	-0.9
FTIG				*i* S	Sb	06 22 51.2	-0.2
HMTT	**Tlapaneco**	**1.30**	**317**	*e*P	Pn	06 22 38.2	-0.1
HMTT				*e*S	Sb	06 22 54.7	-0.7
HMTT	**Tlapaneco**	**1.30**	**317**	*e*P	Pn	06 22 37.9	-0.5
HMTT				*e*S	Sb	06 22 54.0	-1.4
TOIG	**Toxpalan**	**1.35**	**23**	*e*P	Pb	06 22 39.7	-0.1
TOIG				*e*S	Sb	06 22 57.4	+0.3
TOIG	**Toxpalan**	**1.35**	**23**	*e*P	Pb	06 22 39.8	-0.1
TOIG				*e*S	Sb	06 22 57.5	+0.5
CRIG	**Cruz Grande**	**1.44**	**266**	*e*P	Pn	06 22 38.5	-1.7
CRIG				*e*S	Sn	06 22 57.0	-1.9
CRIG	**Cruz Grande**	**1.44**	**266**	*i* P	Pn	06 22 38.5	-1.7
CRIG				*i* S	Sn	06 22 56.6	-2.3
TPIG	**Tehuac#an**	**1.58**	**9**	*e*P	Pb	06 22 43.8	0.0
TPIG				*e*S	Sg	06 23 05.2	-0.7
TPIG	**Tehuac#an**	**1.58**	**9**	*e*P	Pb	06 22 43.8	0.0
TPIG				*e*S	Sg	06 23 05.3	-0.6
PANG	**Puerto Angel**	**1.62**	**136**	*e*P	Pn	06 22 37.6	-5.0
PANG				*e*S	Sn	06 23 02.0	-1.2
HUIG	**Huatulco**	**1.81**	**126**	*e*P	Pn	06 22 45.6	+0.3
HUIG				*e*S	Sb	06 23 09.4	-0.6
HUIG	**Huatulco**	**1.81**	**126**	*e*P	Pn	06 22 46.0	+0.7
HUIG				*e*S	Sn	06 23 07.8	-0.2
DAIG	**Los Arroyos**	**1.94**	**275**	*e*P	Pn	06 22 46.5	-0.6
DAIG				*e*S	Sn	06 23 09.4	-1.8
DAIG	**Los Arroyos**	**1.94**	**275**	*e*P	Pn	06 22 46.6	-0.5
DAIG				*e*S	Sn	06 23 09.2	-2.1
NEUV	**Arroyo Zacate**	**1.95**	**63**	*e*P	Pb	06 22 49.7	-0.2
NEUV				*e*S	Sg	06 23 15.7	-1.7
NEUV	**Arroyo Zacate**	**1.95**	**63**	*e*P	Pb	06 22 49.7	-0.2
NEUV				*e*S	Sb	06 23 15.5	+1.6
OZST	**Orizaba**	**2.07**	**14**	*e*P	Pg	06 22 54.1	-0.3
OZST				*e*S	Sb	06 23 19.3	+1.8
OZST	**Orizaba**	**2.07**	**14**	*e*P	Pb	06 22 51.6	-0.4
OZST				*e*S	Sb	06 23 18.5	+1.0
ACP2	**Acapulco**	**2.16**	**271**	*e*P	Pn	06 22 49.8	-0.3
ACP2				*e*S	Sb	06 23 19.0	-1.1
ACP2	**Acapulco**	**2.16**	**271**	*e*P	Pn	06 22 49.6	-0.6
ACP2				*e*S	Sn	06 23 17.1	+0.4
MEIG	**Mezcala**	**2.18**	**300**	*e*P	Pn	06 22 51.5	+1.0
MEIG				*e*S	Sb	06 23 20.2	-0.6
MEIG	**Mezcala**	**2.18**	**300**	*e*P	Pn	06 22 51.6	+1.0
MEIG				*e*S	Sb	06 23 20.0	-0.8
PHPU	**Puebla**	**2.25**	**347**	*e*S	Sg	06 23 25.0	-2.0
PLIG	**Platanillo**	**2.36**	**311**	*e*P	Pn	06 22 54.5	+1.6
PLIG				*e*S	Sb	06 23 24.6	-1.2
PLIG	**Platanillo**	**2.36**	**311**	*e*P	Pn	06 22 54.4	+1.5
PLIG				*e*S	Sb	06 23 23.9	-1.9
PPM	**Popocatepetl**	**2.40**	**337**	*e*P	Pb	06 22 57.3	-0.7
PPM				*e*S	Sb	06 23 29.1	+1.5
PPM	**Popocatepetl**	**2.40**	**337**	*e*P	Pb	06 22 56.5	-1.4
PPM				*e*S	Sb	06 23 26.2	-1.4
YAIG	**Yautepec**	**2.43**	**326**	*e*P	Pb	06 22 57.1	-1.1
YAIG				*e*S	Sb	06 23 27.7	-0.3
YAIG	**Yautepec**	**2.43**	**326**	*e*P	Pb	06 22 56.2	-1.9
YAIG				*e*S	Sb	06 23 26.7	-1.2
AMVM	**AMECAMECA**	**2.52**	**334**	*e*	Pn	06 22 45.0	-10
AMVM				*e*		06 23 31.2	
AMVM	**AMECAMECA**	**2.52**	**334**	*e*P	Pn	06 22 51.0	-4.4
AMVM				*e*S	Sb	06 23 31.2	+0.3
CAIG	**El Cayaco**	**2.53**	**275**	*e*P	Pn	06 22 54.4	-0.9
CAIG				*e*S	Sn	06 23 23.6	-2.2
JAUV	**Jalcomulco**	**2.63**	**17**	*e*P	Pb	06 23 01.8	+0.3
JAUV				*e*S	Sb	06 23 32.3	-1.3
JAUV	**Jalcomulco**	**2.63**	**17**	*e*P	Pb	06 23 01.2	-0.3
JAUV				*e*S	Sb	06 23 34.5	+0.9
CMIG	**Matias Romero**	**2.64**	**84**	*e*P	Pn	06 22 58.6	+1.8
CMIG				*e*S	Sb	06 23 31.3	-2.6
MPVM	**San Francisco**	**2.69**	**331**	*e*	Pb	06 23 03.8	+1.2
MPVM				*e*		06 23 37.2	
MPVM	**San Francisco**	**2.69**	**331**	*e*P	Pb	06 23 00.4	-2.2
MPVM				*e*S	Sb	06 23 35.5	+0.1
MAVM	**Malinalco, Edo**	**2.75**	**320**	*e*	Pg	06 23 08.2	+0.8
MAVM				*e*		06 23 44.9	
MAVM	**Malinalco, Edo**	**2.75**	**320**	*e*P	Pg	06 23 06.7	-0.7
MAVM				*e*S	Sb	06 23 35.9	-1.4
TLVM	**San Miguel Top**	**2.76**	**329**	*e*	Pb	06 23 03.5	-0.5
TLVM				*e*		06 23 36.5	
TLVM	**San Miguel Top**	**2.76**	**329**	*e*P	Pn	06 23 01.1	+2.4
TLVM				*e*S	Sb	06 23 35.4	-2.4
THVM	**De Xico**	**2.76**	**333**	*e*	Pb	06 23 05.0	+1.0
THVM				*e*		06 23 37.7	
THVM	**De Xico**	**2.76**	**333**	*e*P	Pb	06 23 02.9	-1.1
THVM				*e*S	Sb	06 23 39.5	+1.8
XCVM	**Xochimilco**	**2.78**	**330**	*e*	Pb	06 23 03.0	-1.2
XCVM				*e*		06 23 40.9	
XCVM	**Xochimilco**	**2.78**	**330**	*e*P	Pb	06 23 02.1	-2.1
XCVM				*e*S	Sb	06 23 37.6	-0.6
COVM	**Coyoacan**	**2.88**	**330**	*e*		06 23 43.3	
COVM				*e*	Sb	06 23 40.5	-0.7
COVM	**Coyoacan**	**2.88**	**330**	*e*P	Pb	06 23 06.6	+0.6
COVM				*e*S	Sb	06 23 40.1	-1.1
COVM				*e*S	Sg	06 23 42.0	-5.5
AOVM	**Tlapan**	**2.90**	**326**	*e*	Pb	06 23 04.3	-2.0
AOVM				*e*		06 23 40.0	
AOVM	**Tlapan**	**2.90**	**326**	*e*P	Pb	06 23 04.4	-1.9
AOVM				*e*S	Sb	06 23 42.3	+0.5
NILT	**Santiago Nilte**	**2.90**	**95**	*e*S	Sg	06 23 45.3	-2.7
BJVM	**Benito Juarez**	**2.91**	**330**	*e*	Pb	06 23 06.5	0.0
BJVM				*e*		06 23 40.1	
BJVM	**Benito Juarez**	**2.91**	**330**	*e*P	Pb	06 23 06.7	+0.3
BJVM				*e*S	Sb	06 23 39.5	-2.4
PMUV	**Sontecomapan**	**2.93**	**54**	*e*P	Pn	06 23 02.0	+1.3
PMUV				*e*S	Sg	06 23 46.6	-2.2
PMUV	**Sontecomapan**	**2.93**	**54**	*e*P	Pn	06 23 02.0	+1.3
PMUV				*e*S	Sb	06 23 41.2	-1.0
PBVM	**Pinon**	**2.93**	**332**	*e*	Pn	06 22 45.1	-16
PBVM				*e*		06 23 20.6	
PBVM	**Pinon**	**2.93**	**332**	*e*	Pn	06 22 43.3	-17
PBVM				*e*		06 23 18.1	
INVM	**La Marquesa**	**2.95**	**326**	*e*	Pb	06 23 06.7	-0.5
INVM				*e*		06 23 44.8	
INVM	**La Marquesa**	**2.95**	**326**	*e*P	Pb	06 23 05.4	-1.8
INVM				*e*S	Sb	06 23 40.5	-2.7
CJVM	**Cuajimalpa**	**2.96**	**328**	*e*	Pb	06 23 08.7	+1.5
CJVM				*e*		06 23 42.6	
CJVM	**Cuajimalpa**	**2.96**	**328**	*e*P	Pb	06 23 06.1	-1.1
CJVM				*e*S	Sb	06 23 42.7	-0.6
ARIG	**Puente Sto Nin**	**2.96**	**299**	*e*P	Pn	06 23 02.8	+1.7
ARIG				*e*S	Sb	06 23 42.9	-0.2
ARIG	**Puente Sto Nin**	**2.96**	**299**	*e*P	Pn	06 23 02.8	+1.6
ARIG				*e*S	Sn	06 23 36.1	-0.3
GMVM	**Gustavo A Made**	**2.98**	**332**	*e*	Pb	06 23 07.3	-0.5
GMVM				*e*		06 23 45.8	
GMVM	**Gustavo A Made**	**2.98**	**332**	*e*P	Pb	06 23 06.1	-1.6
GMVM				*e*S	Sb	06 23 42.9	-1.2
APVM	**Azcapotzalco**	**3.02**	**330**	*e*	Pb	06 23 08.1	-0.4
APVM				*e*		06 23 48.2	
APVM	**Azcapotzalco**	**3.02**	**330**	*e*P	Pb	06 23 07.4	-1.0
APVM				*e*S	Sb	06 23 42.9	-2.4
PTVM	**Pico Tres Padr**	**3.07**	**333**	*e*	Pb	06 23 10.7	+1.4
PTVM				*e*		06 23 49.5	
PTVM	**Pico Tres Padr**	**3.07**	**333**	*e*P	Pb	06 23 09.3	0.0
PTVM				*e*S	Sb	06 23 46.9	+0.3
LVIG	**Laguna Verde**	**3.08**	**22**	*e*P	Pb	06 23 08.0	-1.2
LVIG				*e*S	Sb	06 23 49.4	+2.7
LVIG	**Laguna Verde**	**3.08**	**22**	*e*P	Pn	06 23 03.9	+1.1
LVIG				*e*S	Sn	06 23 41.8	+2.4
VTVM	**Tizayuca**	**3.10**	**340**	*e*	Pb	06 23 11.2	+1.4
VTVM				*e*		06 23 51.1	
VTVM	**Tizayuca**	**3.10**	**340**	*e*P	Pb	06 23 09.4	-0.4
VTVM				*e*S	Sb	06 23 48.9	+1.4
TOVM	**TOLUCA**	**3.11**	**322**	*e*	Pb	06 23 08.3	-1.6
TOVM				*e*		06 23 48.1	
TOVM	**TOLUCA**	**3.11**	**322**	*e*P	Pb	06 23 07.2	-2.7
TOVM				*e*S	Sb	06 23 46.6	-1.1
TEJU	**Tejupilco**	**3.16**	**311**	*e*P	Pb	06 23 10.8	+0.1
TEJU				*e*S	Sb	06 23 50.4	+1.3
TEJU	**Tejupilco**	**3.16**	**311**	*e*	Pb	06 23 10.1	-0.6
TEJU				*e*		06 23 47.1	
ZUVM	**ZUMPANGO**	**3.27**	**335**	*e*	Pb	06 23 14.6	+2.1
ZUVM				*e*		06 23 53.2	
ZUVM	**ZUMPANGO**	**3.27**	**335**	*e*P	Pb	06 23 11.1	-1.5
ZUVM				*e*S	Sb	06 23 52.5	+0.3
CXUV	**Coxquihui**	**3.31**	**1**	*e*P	Pb	06 23 14.1	+1.0
CXUV				*e*S	Sn	06 23 44.4	-0.6
CXUV	**Coxquihui**	**3.31**	**1**	*e*P	Pb	06 23 12.9	-0.3
CXUV				*e*S	Sb	06 23 52.9	-0.4
UXUV	**UXUV**	**3.37**	**81**	*e*P	Pb	06 23 15.7	+1.6
UXUV				*e*S	Sb	06 23 54.1	-0.7
UXUV	**UXUV**	**3.37**	**81**	*e*P	Pn	06 23 10.4	+3.6
UXUV				*e*S	Sb	06 23 52.5	-2.3
ATVM	**ATLACOMULCO**	**3.58**	**324**	*e*	Pb	06 23 18.7	+0.8
ATVM				*e*		06 24 03.1	
ATVM	**ATLACOMULCO**	**3.58**	**324**	*e*P	Pb	06 23 17.4	-0.5
ATVM				*e*S	Sb	06 24 00.9	-0.4
DEIG	**Demacu**	**3.69**	**339**	*e*P	Pg	06 23 22.7	-2.6
DEIG				*e*S	Sb	06 24 04.2	-0.1
DEIG	**Demacu**	**3.69**	**339**	*e*	Pb	06 23 20.8	+1.2
DEIG				*e*		06 24 01.3	
ACIG	**Acambay**	**3.78**	**326**	*e*	Pb	06 23 23.0	+1.7
ACIG				*e*		06 24 11.6	
ACIG	**Acambay**	**3.78**	**326**	*e*	Pb	06 23 23.7	+2.4
ACIG				*e*		06 24 10.6	
TGIG		**4.32**	**90**	*e*P	Pb	06 23 33.0	+2.6
TGIG		**4.32**	**90**	*e*	Pb	06 23 28.1	-2.2
TGIG				*e*		06 24 18.0	
PCIG		**4.39**	**104**	*e*P	Pn	06 23 24.6	+3.9
PCIG				*e*S	Sn	06 24 03.6	-8.0
PCIG		**4.39**	**104**	*e*P	Pn	06 23 19.6	-1.1
PCIG				*e*S	Sn	06 24 11.4	-0.2
MOIG	**Morelia**	**4.40**	**310**	*e*P	Pb	06 23 35.4	+3.5
MOIG				*e*S	Sb	06 24 28.5	+3.7
MOIG	**Morelia**	**4.40**	**310**	*e*	Pb	06 23 33.6	+1.7
MOIG				*e*		06 24 26.4	
JRQG	**Juriquilla Cam**	**4.67**	**326**	*e*P	Pg	06 23 40.4	-3.8
JRQG				*e*S	Sb	06 24 38.2	+5.5
JRQG	**Juriquilla Cam**	**4.67**	**326**	*e*	Pg	06 23 40.9	-3.4
JRQG				*e*		06 24 39.9	
CCIG	**Comitan**	**5.30**	**95**	*e*P	Pb	06 23 42.8	-4.3
CCIG				*e*S	Sg	06 24 59.9	-5.0
CCIG	**Comitan**	**5.30**	**95**	*e*	Pb	06 23 41.1	-6.0
CCIG				*e*		06 24 49.4	
RPIG	**Rio Verde**	**5.48**	**336**	*e*P	Pg	06 23 55.8	-3.9
RPIG				*e*S	Sg	06 25 06.8	-4.0
RPIG	**Rio Verde**	**5.48**	**336**	*e*P	Pn	06 23 36.9	+0.9
RPIG				*e*S	Sn	06 24 42.2	+3.4
MMIG	**Aquila**	**5.64**	**286**	*e*P	Pn	06 23 38.9	+0.9
MMIG				*e*S	Sb	06 24 58.5	-1.8
MMIG	**Aquila**	**5.64**	**286**	*e*	Pn	06 23 33.4	-4.5
MMIG				*e*		06 24 58.1	
AAIG	**Aguscalientes**	**6.79**	**319**	*e*	Pb	06 24 17.8	+5.3
AAIG				*e*		06 25 44.3	
CIHU	**Emiliano Zapat**	**7.17**	**291**	*e*		06 25 41.0	
ZAIG	**Zacatecas**	**7.50**	**323**	*e*	Pb	06 24 30.3	+5.6
ZAIG				*e*		06 26 05.2	
ZAIG	**Zacatecas**	**7.50**	**323**	*e*	Pb	06 24 27.0	+2.3
ZAIG				*e*		06 26 05.8	
ESTA	**Talpa de Allen**	**7.70**	**298**	*e*		06 25 56.8	
ESTA				*e*		06 25 59.1	

IDC 07 06:27:55.6±3.0**, 54°.48N×86°.81E, h0km, mbtmp3.0**/2**, ML2.6**/2**, Error ellipse: s-maj=26.5km s-min=18.2km az=50.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**246**	I		06 36 40.0	
	baz=65,slow=332,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.28**	**246**	Pg	Pg	06 28 18.5	-1.7
	0.9nm,0.3s,baz=63,slow=16,SNR=8.5						
ZALV				Lg	Lg	06 28 37.5	
	1.1nm,0.3s,baz=66,slow=29,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.35**	**236**	Pn	Pn	06 29 31.3	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=12						
KURBB				Lg	Lg	06 31 16.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=46,slow=31,SNR=2.1						
	1.8nm,0.9s						
MKAR	**Makanchi Array**	**8.21**	**202**	Pn	Pn	06 29 57.1	+1.2
	0.2nm,0.3s,baz=24,slow=14,SNR=5.9						
MKAR				Lg	Lg	06 32 14.1	
	baz=16,slow=32,SNR=3.5						
	0.3nm,0.4s						

*IDC **07** 06:29:27.1±0.5, 13°.86N×144°.97E, h138km±4km, mb3.4/8, mbtmp3.8/8, Error ellipse: s-maj=38.9km s-min=17.2km az=106.0*

*NEIC **07** 06:29:28.4±1.2, 13°.8N±0°.1×144°.9E±0°.2, h141km±8km, mb4.2/13, Error ellipse: s-maj=30.4km s-min=14.1km az=118.0*

ISC 07 06:29:26.9±0.7**, 14°.0N**±0°.1×**145°.0E**±0°.2**, h125**km**, n26, σ1s.82**/27**, mb4.1**/15**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.41**	**192**	P	**Pn**	**06 29 47.7**	**+2.7**
	730nm,0.3s,baz=100,slow=3.6,SNR=117						
GUMO				S	**Sn**	**06 30 01.9**	**+3.4**
	2µm,0.3s,baz=153,slow=3.0,SNR=120						
PATS	**Pohnpei**	**14.93**	**117**		**P**	**06 32 54.1**	**-0.1**
WB0	**Warramunga Arr**	**35.12**	**197**	P	**P**	**06 36 06.0**	**-2.5**
WR0	**Warramunga Arr**	**35.26**	**197**	P	**P**	**06 36 07.5**	**-2.2**
WR0				IAmb	IAmb	06 36 34.1	
	comp=Z,8.8nm,1.5s						
WB2	**Warramunga Arr**	**35.30**	**197**	P	**P**	**06 36 07.3**	**-2.8**
WRA	**Warramunga Arr**	**35.30**	**197**	P	**P**	**06 36 07.7**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=19,slow=8.3,SNR=13						
	comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**35.30**	**197**	P	**P**	**06 36 07.1**	**-3.0**
ASAR	**Alice Springs**	**38.95**	**196**	P	**P**	**06 36 38.5**	**-2.4**
	comp=Z,0.2nm,0.4s,baz=17,slow=6.7,SNR=7.3						
	comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**61.26**	**316**	P	**P**	**06 39 29.9**	**+0.9**
MK31				IAmb	IAmb	06 40 05.8	
	comp=Z,3.2nm,1.2s						
MKAR	**Makanchi Array**	**61.26**	**316**	P	**P**	**06 39 28.8**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=89,slow=7.7,SNR=3.1						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**61.26**	**316**	P	**P**	**06 39 29.3**	**+0.4**
SUA	**Susitna One**	**65.61**	**28**	P	**P**	**06 39 57.6**	**+0.2**
NRIK	**Noril'sk**	**65.78**	**341**	P	**P**	**06 39 58.2**	**0.0**
	comp=Z,3.7nm,0.6s,baz=110,slow=4.4,SNR=4.9						
	comp=Z,3.7nm,0.6s						
KLU	**Klutina**	**67.87**	**29**	P	**P**	**06 40 12.3**	**+0.6**
IL31		**68.17**	**25**	P	**P**	**06 40 11.3**	**-2.0**
IL31				IAmb	IAmb	06 40 20.0	
	comp=Z,5.6nm,1.4s						
ILAR	**Eielson Array**	**68.17**	**25**	P	**P**	**06 40 11.0**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=249,slow=5.8,SNR=8.4						
	comp=Z,0.4nm,0.4s						
TOLK	**Toolik Lake Re**	**68.21**	**21**	P	**P**	**06 40 12.9**	**-0.7**
J25K	**Salcha River,**	**68.77**	**26**	P	**P**	**06 40 15.8**	**-1.5**
J25K				IAmb	IAmb	06 40 38.1	
	comp=Z,6.9nm,1.5s						
J26L	**Joseph Creek**	**69.51**	**26**	P	**P**	**06 40 21.6**	**-0.3**
J26L				IAmb	IAmb	06 40 51.9	
	comp=Z,4.1nm,1.4s						
BMAR	**Burnt Mountain**	**69.70**	**23**	P	**P**	**06 40 23.4**	**+0.5**
M27K	**Edge Creek, AK**	**69.90**	**28**	P	**P**	**06 40 25.4**	**+1.0**
M27K				IAmb	IAmb	06 40 45.1	
	comp=Z,13nm,1.4s						
BCAR	**Beaver Creek A**	**70.05**	**28**	P	**P**	**06 40 23.4**	**-1.7**
M31M	**Drury Creek, Y**	**73.38**	**29**	P	**P**	**06 40 46.1**	**+1.2**
M31M				IAmb	IAmb	06 41 22.0	
	comp=Z,5.5nm,1.2s						
YKA	**Yellowknife Ar**	**82.47**	**27**	P	**P**	**06 41 34.0**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=287,slow=5.5,SNR=3.5						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**86.61**	**51**	P	**P**	**06 41 57.3**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=258,slow=7.1,SNR=5.6						
	comp=Z,0.6nm,0.7s						
ELK	**Elko**	**88.25**	**49**	P	**P**	**06 42 05.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=321,slow=2.5,SNR=4.0						
	comp=Z,0.7nm,0.5s						

*ISN **07** 06:36:21.2±1.4, 32°.50N×47°.92E, h15km±8km, ML2.9*

*TEH **07** 06:36:21.9, 32°.52N×47°.95E, h8km, ML3.3*

ISC 07 06:36:22.0±1.3**, 32°.52N**±0°.03×**47°.91E**±0°.03**, h6**km±13km**, n41, σ1s.28**/48**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.56**	**287**	*e*Pg	**Pb**	**06 36 34.0**	**-0.2**
DHL1				*e*Sg	**Sb**	**06 36 42.4**	**0.0**
IKFM	**Kafar-mosalman**	**1.01**	**357**	*e*Pg	**Pg**	**06 36 40.5**	**-0.9**
IKFM				*e*		06 37 02.6	
	comp=Z,14µm,0.3s						
IKMR	**Kamar-syah**	**1.07**	**21**	*e*Pg	**Pg**	**06 36 42.3**	**-0.4**
IKMR				*e*		06 37 04.5	
	comp=Z,11µm,0.6s						
IDOB	**Doab**	**1.29**	**10**	*e*Pg	**Pn**	**06 36 46.2**	**-0.5**
AHWZ	**Ahwaz**	**1.33**	**152**	*e*Pg	**Pg**	**06 36 47.4**	**-0.2**
AHWZ				*e*Sg	**Sg**	**06 37 07.5**	**+2.6**
AMIS	**Naft Sefid**	**1.44**	**126**	*e*Pg	**Pg**	**06 36 49.1**	**-0.5**
AMIS				*e*Sg	**Sg**	**06 37 09.1**	**+0.8**
IKOM	**Komasi**	**1.69**	**349**	*e*Pn	**Pb**	**06 36 53.1**	**-0.5**
IKOM				*e*		06 37 26.4	
	comp=Z,3µm,0.8s						
RAFI	**Al-Rafai**	**1.72**	**243**	*e*Pg	**Pn**	**06 36 52.0**	**-0.4**
RAFI				*e*Sg	**Sb**	**06 37 16.0**	**+0.2**
RAFI				AML	AML	06 37 20.6	
	comp=E,158nm,0.3s						
IBDR	**Badra**	**1.77**	**290**	*e*Pg	**Pn**	**06 36 53.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**06 37 17.0**	**-0.4**
HSAM	**Samen**	**1.79**	**19**	*e*Pn	**Pb**	**06 36 55.1**	**-0.2**
HSAM				*e*		06 36 59.6	
	comp=Z,2µm,0.2s						
ILBA	**Ilam Banvizeh**	**1.81**	**308**	*e*Pn	**Pn**	**06 36 54.3**	**+0.5**
IBZA	**Bozab**	**1.95**	**359**	*e*Pn	**Pb**	**06 36 56.9**	**-1.2**
IBZA				*e*		06 37 33.7	
	comp=Z,2µm,0.6s						
KER	**Kermanshah**	**1.98**	**341**	*e*Pn	**Pb**	**06 36 58.9**	**+0.4**
KER				*e*		06 37 32.0	
	comp=Z,1µm,0.4s						
KHMZ	**Khomeyn**	**2.11**	**54**	*e*Pn	**Pb**	**06 37 00.3**	**-0.4**
IGHG	**Ghaleghazi**	**2.13**	**329**	*e*Pn	**Pn**	**06 36 59.6**	**+1.3**
IGHG				*e*		06 37 46.3	
	comp=Z,1µm,0.8s						
HAGD	**Aghdareh**	**2.52**	**24**	*e*Pn	**Pb**	**06 37 05.4**	**-2.4**
HAGD				*e*		06 37 51.5	
	comp=Z,1µm,0.6s						
IPIR	**Pirpir**	**2.52**	**85**	*e*		06 37 46.1	
	comp=Z,1µm,0.4s						
IPIR				*e*Pn	**Pb**	**06 37 05.7**	**-2.1**
SHK1	**Shahrekord**	**2.52**	**93**	*e*Pn	**Pn**	**06 37 03.9**	**+0.2**
SHK1				*e*		06 37 52.1	
	comp=Z,817nm,0.4s						
IDHR	**Dehrash**	**2.52**	**330**	*e*Pn	**Pn**	**06 37 05.3**	**+1.6**
IDHR				*e*		06 37 58.6	
	comp=Z,2µm,0.4s						
ILIN	**Lien**	**2.52**	**342**	*e*Pn	**Pb**	**06 37 05.7**	**-2.2**
SNGE	**Sanandaj**	**2.61**	**350**	*e*Pn	**Pb**	**06 37 08.5**	**-0.9**
ASAO	**Ashtian**	**2.69**	**40**	*e*Pn	**Pb**	**06 37 08.0**	**-2.7**
IBRJ	**Brojen**	**2.90**	**101**	*e*Pn	**Pn**	**06 37 09.4**	**+0.5**
IBRJ				*e*		06 38 12.5	
	comp=Z,726nm,0.5s						
BHD	**Baghdad**	**3.07**	**285**	*e*Pn	**Pn**	**06 37 12.0**	**+1.0**
BHD				*e*Sn	**Sn**	**06 37 48.0**	**+0.1**
QAMS	**Qamsar**	**3.17**	**66**	*e*Pn	**Pn**	**06 37 14.5**	**+1.9**
QAMS				*e*		06 38 07.8	
	comp=Z,1µm,0.5s						
IKLH	**Kolahrood**	**3.19**	**74**	*e*Pn	**Pn**	**06 37 14.4**	**+1.5**
IKLH				*e*		06 38 12.5	
	comp=Z,614nm,0.4s						
IRAZ	**Razeghan**	**3.33**	**30**	*e*Pn	**Pn**	**06 37 16.7**	**+1.8**
IRAZ				*e*		06 37 21.4	
	comp=Z,1µm,0.6s						
GHVR	**GHOM**	**3.44**	**54**	*e*Pn	**Pn**	**06 37 18.1**	**+1.9**
KLNJ	**Kolanjah**	**3.47**	**115**	*e*Pn	**Pn**	**06 37 17.3**	**+0.4**
QABG	**Abgarm-Qazvin**	**3.47**	**23**	*e*Pn	**Pn**	**06 37 18.9**	**+2.1**
IGAR	**Gharneh**	**3.49**	**91**	*e*Pn	**Pn**	**06 37 17.9**	**+0.9**
IQOM	**Qom**	**3.51**	**48**	*e*Pn	**Pn**	**06 37 18.5**	**+1.2**
IZEF	**Zefreh**	**3.74**	**83**	*e*Pn	**Pn**	**06 37 21.6**	**+1.1**
IZEF				*e*		06 37 22.6	
	comp=Z,318nm,0.3s						
KRSH	**Karshahi**	**3.82**	**67**	*e*Pn	**Pn**	**06 37 22.6**	**+1.0**
IRAM	**Ramesheh**	**3.85**	**99**	*e*Pn	**Pn**	**06 37 21.9**	**-0.1**
IVRN	**Varamin**	**4.03**	**51**	*e*Pn	**Pn**	**06 37 24.7**	**+0.4**
IVRN				*e*		06 37 40.2	
	comp=Z,325nm,0.8s						
ISFB	**Sefidab**	**4.05**	**62**	*e*Pn	**Pn**	**06 37 25.8**	**+1.1**
IKRK	**Kirkuk**	**4.13**	**315**	*e*Pn	**Pn**	**06 37 26.0**	**+0.3**
IKRK				*e*Sn	**Sn**	**06 38 14.0**	**-0.3**
NASN	**Na'in**	**4.14**	**85**	*e*Pn	**Pn**	**06 37 27.3**	**+1.3**
CHTH	**Charan**	**4.31**	**37**	*e*Pn	**Pn**	**06 37 30.2**	**+1.9**
DAMV	**Damavand**	**4.58**	**46**	*e*Pn	**Pn**	**06 37 33.9**	**+1.8**

*IDC **07** 06:42:48.1±2.2, 32°.56N×47°.75E, h0km, mb3.7/6, mbtmp3.8/6, MS2.6/2, Error ellipse: s-maj=47.7km s-min=27.9km az=164.0*

*ISN **07** 06:42:50.6±1.0, 32°.49N×47°.95E, h14km±6km, ML3.3*

*TEH **07** 06:42:50.0, 32°.51N×47°.94E, h8km, ML3.7*

ISC 07 06:42:50.8±1.1**, 32°.50N**±0°.03×**47°.93E**±0°.03**, h14**km±8km**, n63, σ1s.76**/68**, mb3.6**/6**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.58**	**288**	*e*Pg	**Pg**	**06 43 01.8**	**-0.3**
DHL1				*e*Sg	**Sg**	**06 43 10.7**	**+0.9**
IKFM	**Kafar-mosalman**	**1.02**	**356**	*e*Sg	**Sg**	**06 43 24.3**	**+0.4**
IKFM				*e*Pg	**Pg**	**06 43 09.6**	**-0.9**
IKMR	**Kamar-syah**	**1.08**	**20**	*e*		06 43 33.0	
	comp=Z,29µm,0.8s						
IKMR				*e*Pg	**Pb**	**06 43 09.9**	**-1.4**
IDOB	**Doab**	**1.30**	**9**	*e*Pn	**Pn**	**06 43 14.6**	**-0.1**
AHWZ	**Ahwaz**	**1.32**	**152**	*e*Pg	**Pb**	**06 43 15.8**	**+0.5**
AMIS	**Naft Sefid**	**1.42**	**126**	*e*Pg	**Pn**	**06 43 17.3**	**+1.1**
AMIS				*e*Sg	**Sg**	**06 43 37.7**	**+1.0**
IKOM	**Komasi**	**1.70**	**348**	*e*Pn	**Pn**	**06 43 22.0**	**+1.8**
IKOM				*e*		06 43 51.7	
	comp=Z,9µm,0.6s						
RAFI	**Al-Rafai**	**1.73**	**244**	*e*Pg	**Pb**	**06 43 22.0**	**-0.3**
RAFI				*e*Sg	**Sg**	**06 43 46.0**	**-0.4**
RAFI				AML	AML	06 44 00.9	
	comp=E,373nm,0.4s						
IBDR	**Badra**	**1.79**	**290**	*e*Pg	**Pn**	**06 43 23.0**	**+1.8**
IBDR				*e*Sg	**Sb**	**06 43 47.0**	**+1.4**
HSAM	**Samen**	**1.79**	**18**	*e*Pn	**Pn**	**06 43 23.5**	**+1.9**
HSAM				*e*		06 43 27.9	
	comp=Z,4µm,0.4s						
ILBA	**Ilam Banvizeh**	**1.83**	**308**	*e*Pn	**Pn**	**06 43 22.7**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.92**	**337**	*e*Pn	**Pn**	**06 43 25.3**	**+2.1**
KCHF				*e*		06 43 56.1	
	comp=Z,4µm,0.5s						
IBZA	**Bozab**	**1.96**	**358**	*e*Pn	**Pn**	**06 43 25.8**	**+1.9**
IBZA				*e*		06 44 02.3	
	comp=Z,6µm,0.6s						
KER	**Kermanshah**	**1.99**	**341**	*e*Pn	**Pn**	**06 43 25.8**	**+1.6**
KHMZ	**Khomeyn**	**2.10**	**54**	*e*Pn	**Pn**	**06 43 29.1**	**+3.3**
IGHG	**Ghaleghazi**	**2.15**	**328**	*e*Pn	**Pn**	**06 43 27.7**	**+1.3**
IGHG				*e*		06 44 10.8	
	comp=Z,4µm,0.9s						
SHK1	**Shahrekord**	**2.50**	**93**	*e*Pn	**Pn**	**06 43 32.9**	**+1.6**
IPIR	**Pirpir**	**2.51**	**85**	*e*Pn	**Pn**	**06 43 34.1**	**+2.7**
IPIR				*e*		06 44 24.9	
	comp=Z,3µm,0.7s						
HAGD	**Aghdareh**	**2.52**	**23**	*e*Pn	**Pn**	**06 43 33.7**	**+2.1**
HAGD				*e*		06 44 20.0	
	comp=Z,4µm,0.7s						
ILIN	**Lien**	**2.54**	**342**	*e*Pn	**Pn**	**06 43 34.1**	**+2.3**
ILIN				*e*		06 44 20.5	
	comp=Z,2µm,0.5s						
IDHR	**Dehrash**	**2.54**	**330**	*e*Pn	**Pn**	**06 43 32.8**	**+1.0**
IDHR				*e*		06 44 20.5	
	comp=Z,3µm,0.7s						
SNGE	**Sanandaj**	**2.63**	**350**	*e*Pn	**Pn**	**06 43 35.0**	**+2.0**
ASAO	**Ashtian**	**2.69**	**40**	*e*Pn	**Pn**	**06 43 36.8**	**+2.9**
IBRJ	**Brojen**	**2.88**	**101**	*e*Pn	**Pn**	**06 43 37.7**	**+1.1**
IBRJ				*e*		06 44 40.7	
	comp=Z,2µm,0.9s						
BHD	**Baghdad**	**3.08**	**285**	*e*Pn	**Pn**	**06 43 41.0**	**+2.0**
BHD				*e*Sn	**Sn**	**06 44 18.0**	**+2.3**
QAMS	**Qamsar**	**3.16**	**66**	*e*Pn	**Pn**	**06 43 42.4**	**+2.1**
QAMS				*e*		06 44 38.8	
	comp=Z,4µm,0.4s						
IKLH	**Kolahrood**	**3.17**	**74**	*e*Pn	**Pn**	**06 43 42.7**	**+2.1**
IKLH				*e*		06 44 41.1	
	comp=Z,1µm,0.6s						
IRAZ	**Razeghan**	**3.34**	**29**	*e*Pn	**Pn**	**06 43 45.1**	**+2.4**
IRAZ				*e*		06 43 49.9	
	comp=Z,3µm,0.5s						
GHVR	**GHOM**	**3.43**	**54**	*e*Pn	**Pn**	**06 43 46.9**	**+2.9**
KLNJ	**Kolanjah**	**3.46**	**115**	*e*Pn	**Pn**	**06 43 45.4**	**+0.9**
KLNJ				*e*		06 44 57.7	
	comp=Z,2µm,0.8s						
IGAR	**Gharneh**	**3.48**	**91**	*e*Pn	**Pn**	**06 43 45.9**	**+1.2**
IGAR				*e*		06 44 31.2	
	comp=Z,890nm,0.2s						
QABG	**Abgarm-Qazvin**	**3.48**	**23**	*e*Pn	**Pn**	**06 43 46.5**	**+1.8**
IQOM	**Qom**	**3.51**	**47**	*e*Pn	**Pn**	**06 43 47.0**	**+1.9**
IQOM				*e*		06 43 55.3	
	comp=Z,2µm,0.4s						
IZEF	**Zefreh**	**3.73**	**83**	*e*Pn	**Pn**	**06 43 49.7**	**+1.5**
IZEF				*e*		06 43 52.0	
	comp=Z,759nm,0.2s						
KRSH	**Karshahi**	**3.82**	**66**	*e*Pn	**Pn**	**06 43 50.9**	**+1.6**
KRSH				*e*		06 45 03.5	
	comp=Z,811nm,0.6s						
IRAM	**Ramesheh**	**3.84**	**99**	*e*Pn	**Pn**	**06 43 50.3**	**+0.6**
IRAM				*e*		06 44 10.3	
	comp=Z,482nm,0.4s						
IMHD	**Mahdasht**	**3.90**	**35**	*e*Pn	**Pn**	**06 43 51.0**	**+0.6**
IVRN	**Varamin**	**4.02**	**51**	*e*Pn	**Pn**	**06 43 53.8**	**+1.8**
IVRN				*e*		06 44 08.6	
	comp=Z,992nm,0.7s						
ISFB	**Sefidab**	**4.05**	**62**	*e*Pn	**Pn**	**06 43 53.6**	**+1.2**
NASN	**Na'in**	**4.13**	**85**	*e*Pn	**Pn**	**06 43 55.5**	**+1.8**
IKRK	**Kirkuk**	**4.15**	**315**	*e*Pn	**Pn**	**06 43 56.0**	**+2.2**
IKRK				*e*Sn	**Sn**	**06 44 44.0**	**+1.9**
ZNJK	**Zanjan**	**4.20**	**8**	*e*Pn	**Pn**	**06 43 57.0**	**+2.3**
CHTH	**Charan**	**4.31**	**37**	*e*Pn	**Pn**	**06 43 58.7**	**+2.6**
IGZV	**Ghazvin**	**4.31**	**25**	*e*		06 45 29.5	
	comp=N,1µm,1.1s						
JIR1	**Jirandeh**	**4.47**	**20**	*e*Pn	**Pn**	**06 44 00.4**	**+2.1**
DAMV	**Damavand**	**4.58**	**46**	*e*Pn	**Pn**	**06 44 01.8**	**+1.9**
IDMV	**Damavand**	**4.58**	**47**	*e*Pn	**Pn**	**06 44 01.7**	**+1.8**
AHBU	**AHRAM**	**4.64**	**140**	*e*Pn	**Pn**	**06 44 02.0**	**+1.5**
KLST	**Kelardasht - M**	**4.76**	**32**	*e*Pn	**Pn**	**06 44 04.7**	**+2.2**
ANAR	**Anarak**	**4.93**	**80**	*e*Pn	**Pn**	**06 44 05.6**	**+1.0**
ILAS	**Lasjerd**	**5.07**	**54**	*e*Pn	**Pn**	**06 44 08.1**	**+1.5**
IPRN	**Peran**	**5.21**	**43**	*e*Pn	**Pn**	**06 44 09.4**	**+0.9**
ISHM	**Shahmirzad**	**5.53**	**52**	*e*Pn	**Pn**	**06 44 14.6**	**+1.6**
IANJ	**Anjilo**	**5.78**	**58**	*e*Pn	**Pn**	**06 44 17.4**	**+1.0**
IGLO	**Ghaloghah**	**6.29**	**49**	*e*Pn	**Pn**	**06 44 25.8**	**+2.4**
TKDS	**Koohdasht(Taba**	**7.80**	**79**	*e*Pn	**Pn**	**06 44 44.8**	**+0.9**
GNI	**Garni**	**8.05**	**342**	LR	LR	06 48 14.4	
	comp=N,26nm,20.6s,baz=297,slow=41						
AKASG	**Malin Array Be**	**22.83**	**328**	P	**P**	**06 47 50.3**	**-2.9**
	comp=N,0.5nm,0.5s,baz=136,slow=8.6,SNR=4.2						
AKASG				LR	LR	06 57 34.8	
	comp=N,30nm,18.9s,baz=40,slow=39						
	comp=N,0.5nm,0.5s						
MKAR	**Makanchi Array**	**29.79**	**51**	P	**P**	**06 48 57.4**	**+0.3**
	comp=N,1.0nm,0.7s,baz=246,slow=7.8,SNR=8.0						
	comp=N,1.0nm,0.7s						
FINES	**FINESS Array B**	**32.24**	**340**	P	**P**	**06 49 17.1**	**-1.2**
	comp=N,4.8nm,1.0s,baz=146,slow=9.0,SNR=6.8						
	comp=N,4.8nm,1.0s						
ZALV	**Zalesovo Beam**	**33.82**	**40**	P	**P**	**06 49 31.9**	**-0.4**
	comp=N,1.8nm,0.5s,baz=237,slow=8.0,SNR=9.2						
	comp=N,1.8nm,0.5s						
ARCES	**ARCESS Array B**	**39.16**	**348**	P	**P**	**06 50 17.4**	**-0.4**
	comp=N,0.4nm,0.5s,baz=162,slow=12,SNR=1.1						
	comp=N,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**46.35**	**256**	P	**P**	**06 51 15.0**	**-1.7**
	comp=N,0.3nm,0.7s,baz=65,slow=8.2,SNR=2.4						
	comp=N,0.3nm,0.7s						

*PRU **07** 06:46:38.8±0.0, 44°.12N×10°.12E, h10km*

ROM 07 06:46:34.0±0.1**, 42°.810N**±0°.003×**13°.134E**±0°.004**, h9**km**, ML2.7**/28**, 10C-7D, Error ellipse: s-maj=0.3km s-min=0.3km az=46.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.06**	**41**	P	Pg	06 46 36.6	+0.4
T1245				S	Sg	06 46 37.2	-0.6
T1245				AML	AML		
	comp=E,63500µm,0.6s						
T1245				AML	AML		
	comp=N,50800µm,0.3s						
T1245				AML	AML		
	comp=N,53900µm,0.3s						
T1245				AML	AML		
	comp=N,50750µm,0.3s						
T1245				AML	AML		
	comp=E,57950µm,0.6s						
T1245				AML	AML		
	comp=E,63450µm,0.6s						
T1245				AML	AML		
	comp=N,50750µm,0.3s						
T1216	**Preci, Frazion**	**0.12**	**314**	P	Pg	06 46 37.4	+0.6
T1216				S	Sg	06 46 39.6	+0.8
T1216				AML	AML		
	comp=N,17900µm,0.4s						
T1216				AML	AML		
	comp=E,11950µm,0.6s						
T1216				AML	AML		
	comp=N,17950µm,0.4s						
T1216				AML	AML		
	comp=E,11920µm,0.6s						
T1216				AML	AML		
	comp=E,11900µm,0.6s						
MMO1	**Montemonaco**	**0.17**	**58**	⇓P	Pg	06 46 38.2	+0.6
MMO1				S	Sg	06 46 41.1	+0.9
T1217	**Poggiodomo (PG**	**0.18**	**237**	P	Pg	06 46 38.5	+0.7
T1217				S	Sg	06 46 41.7	+1.3
T1217				AML	AML		
	comp=E,2880µm,0.5s						
T1217				AML	AML		
	comp=E,2805µm,1.2s						
T1217				AML	AML		
	comp=N,4190µm,0.3s						
T1217				AML	AML		
	comp=N,4255µm,0.3s						
T1217				AML	AML		
	comp=E,2815µm,1.2s						
T1217				AML	AML		
	comp=E,2885µm,0.5s						
T1217				AML	AML		
	comp=E,2825µm,1.2s						
T1217				AML	AML		
	comp=N,4250µm,0.3s						
T1217				AML	AML		
	comp=N,4185µm,0.3s						
T1204	**Amatrice, Fraz**	**0.19**	**135**	P	Pg	06 46 38.9	+0.8
T1204				S	Sg	06 46 42.3	+1.5
T1204				AML	AML		
	comp=N,3595µm,1.2s						
T1204				AML	AML		
	comp=E,5925µm,0.8s						
T1204				AML	AML		
	comp=N,3600µm,1.2s						
T1204				AML	AML		
	comp=E,5935µm,0.8s						
T1204				AML	AML		
	comp=N,3585µm,1.2s						
T1215	**Vallo di Nera,**	**0.20**	**268**	P	Pg	06 46 38.8	+0.7
T1215				S	Sg	06 46 42.1	+1.2
T1215				AML	AML		
	comp=E,3240µm,0.5s						
T1215				AML	AML		
	comp=N,2025µm,0.9s						
T1215				AML	AML		
	comp=E,3195µm,0.5s						
T1215				AML	AML		
	comp=N,2017µm,0.4s						
T1215				AML	AML		
	comp=E,3190µm,0.4s						
T1215				AML	AML		
	comp=N,2015µm,0.5s						
T1215				AML	AML		
	comp=E,3195µm,0.4s						
T1215				AML	AML		
	comp=N,2020µm,0.5s						
T1215				AML	AML		
	comp=E,3185µm,0.4s						
T1215				AML	AML		
	comp=E,3235µm,0.5s						
LNSS	**Leonessa**	**0.22**	**198**	P	Pg	06 46 39.2	+0.7
LNSS				S	Sg	06 46 43.0	+1.5
LNSS				AML	AML		
	comp=E,3080µm,0.3s						
LNSS				AML	AML		
	comp=N,7955µm,0.3s						
T1241	**Roccafluvione,**	**0.22**	**78**	P	Pg	06 46 39.3	+0.7
T1241				S	Sg	06 46 43.1	+1.4
T1241				AML	AML		
	comp=E,25050µm,0.2s						
T1241				AML	AML		
	comp=N,11150µm,1.3s						
T1241				AML	AML		
	comp=N,10400µm,0.2s						
T1241				AML	AML		
	comp=E,25050µm,0.2s						
T1241				AML	AML		
	comp=E,26100µm,0.2s						
FDMO	**Fiordimonte**	**0.23**	**351**	P	Pg	06 46 39.4	+0.7
FDMO				S	Sg	06 46 43.2	+1.3
FDMO				AML	AML		
	comp=E,3910µm,1.2s						
FDMO				AML	AML		
	comp=N,5330µm,0.4s						
FDMO				AML	AML		
	comp=E,3915µm,1.2s						
CESI	**CESI - Serrava**	**0.26**	**319**	P	Pg	06 46 39.9	+0.6
CESI				S	Sb	06 46 44.2	-1.3
CESI				AML	AML		
	comp=N,6365µm,0.3s						
CESI				AML	AML		
	comp=E,3770µm,0.4s						
CSP1	**Cessapalombo**	**0.29**	**10**	⇑P	Pg	06 46 40.4	+0.6
CSP1				AML	AML		
	comp=E,3970µm,0.2s						
CSP1				AML	AML		
	comp=N,6420µm,0.3s						
GUMA	**Gualdo di Mace**	**0.29**	**30**	P	Pb	06 46 40.9	-0.6
GUMA				S	Sb	06 46 46.0	-0.4
GUMA				AML	AML		
	comp=E,15050µm,0.4s						
GUMA				AML	AML		
	comp=N,13500µm,0.6s						
GUMA				AML	AML		
	comp=N,13450µm,0.6s						
GUMA				AML	AML		
	comp=E,16950µm,0.3s						
GUMA				AML	AML		
	comp=N,17700µm,0.4s						
RM33	**Pellescritta (**	**0.31**	**169**	P	Pg	06 46 40.7	+0.6
RM33				S	Sb	06 46 45.9	-1.0
RM33				AML	AML		
	comp=N,1336µm,1.6s						
RM33				AML	AML		
	comp=N,1288µm,1.6s						
RM33				AML	AML		
	comp=E,1235µm,0.7s						
RM33				AML	AML		
	comp=N,1338µm,1.6s						
RM33				AML	AML		
	comp=N,1292µm,1.6s						
RM33				AML	AML		
	comp=E,1230µm,0.7s						
RM33				AML	AML		
	comp=N,1334µm,1.6s						
RM33				AML	AML		
	comp=N,1288µm,1.6s						
RM33				AML	AML		
	comp=E,1285µm,0.8s						
CAMP	**Campotosto**	**0.34**	**143**	P	Pg	06 46 41.3	+0.5
CAMP				S	Sb	06 46 46.7	-1.2
CAMP				AML	AML		
	comp=N,811µm,0.4s						
CAMP				AML	AML		
	comp=E,924µm,0.3s						
ARRO	**Arrone**	**0.36**	**230**	⇑P	Pg	06 46 41.7	+0.6
ARRO				AML	AML		
	comp=E,984µm,1.6s						
ARRO				AML	AML		
	comp=N,1041µm,0.6s						
ARRO				AML	AML		
	comp=E,984µm,1.6s						
ARRO				AML	AML		
	comp=N,1038µm,0.6s						
T1247	**Pizzolo (AQ)**	**0.39**	**162**	P	Pb	06 46 42.5	-0.6
T1247				AML	AML		
	comp=E,1840µm,0.8s						
T1247				AML	AML		
	comp=N,1430µm,0.7s						

TERO	Teramo	0.39	118	P	Pg	06 46 42.0	+0.3
TERO				S	Sb	06 46 48.4	-1.0
TERO				AML	AML		
	comp=E,1580μm,1.0s						
TERO				AML	AML		
	comp=N,2110μm,0.5s						
ASSB	Assisi San Ben	0.42	304	S	Sb	06 46 50.0	-0.1
OFFI	Offida	0.42	73	P	Pb	06 46 43.7	0.0
OFFI				AML	AML		
	comp=N,3225μm,0.4s						
OFFI				AML	AML		
	comp=E,3090μm,0.7s						
GAG1	Gagliole	0.43	354	⇓P	Pb	06 46 43.3	-0.5
GAG1				AML	AML		
	comp=E,3620μm,0.3s						
GAG1				AML	AML		
	comp=N,4980μm,1.3s						
GAG1				AML	AML		
	comp=E,3615μm,0.3s						
SNTG	Esanatoglia	0.47	342	⇑P	Pg	06 46 43.6	+0.4
SNTG				AML	AML		
	comp=E,573μm,0.5s						
SNTG				AML	AML		
	comp=N,585μm,0.7s						
SNTG				AML	AML		
	comp=N,589μm,0.7s						
SNTG				AML	AML		
	comp=E,602μm,0.5s						
GIGS	Gran Sasso	0.48	138	P	Pg	06 46 43.5	+0.1
GIGS				AML	AML		
	comp=E,246μm,0.4s						
GIGS				AML	AML		
	comp=N,248μm,1.6s						
GIGS				AML	AML		
	comp=N,248μm,1.6s						
GIGS				AML	AML		
	comp=E,246μm,0.4s						
EL6	Elcito	0.52	357	⇑P	Pg	06 46 44.5	+0.4
EL6				S	Sb	06 46 54.0	+1.0
EL6				AML	AML		
	comp=E,1835μm,0.2s						
EL6				AML	AML		
	comp=N,1720μm,0.8s						
EL6				AML	AML		
	comp=N,1725μm,0.8s						
ATCC	AVT- Casa Cast	0.52	316	P	Pg	06 46 44.6	+0.5
ATCC				S	Sb	06 46 54.0	+1.0
ATCC				AML	AML		
	comp=N,1002μm,0.4s						
ATCC				AML	AML		
	comp=E,1155μm,0.3s						
ATCC				AML	AML		
	comp=N,1000μm,0.4s						
FIAM	Fiamignano	0.54	181	P	Pg	06 46 44.8	+0.2
FIAM				S	Sb	06 46 54.0	+0.4
FIAM				AML	AML		
	comp=E,596μm,0.5s						
FIAM				AML	AML		
	comp=N,500μm,0.3s						
CING	Cingoli	0.57	5	P	Pg	06 46 45.3	+0.3
CING				AML	AML		
	comp=N,996μm,0.2s						
CING				AML	AML		
	comp=E,928μm,0.5s						
MURB	Monte Urbino	0.64	316	⇓P	Pg	06 46 46.8	+0.5
MURB				AML	AML		
	comp=N,1805μm,1.0s						
MURB				AML	AML		
	comp=E,1750μm,0.3s						
MURB				AML	AML		
	comp=E,1595μm,0.3s						
MURB				AML	AML		
	comp=N,2010μm,1.0s						
PP3	Marolino	0.67	31	⇑P	Pb	06 46 48.2	+0.4
PP3				AML	AML		
	comp=E,5080μm,0.4s						
PP3				AML	AML		
	comp=N,3450μm,1.3s						
PP3				AML	AML		
	comp=E,5335μm,0.3s						
PP3				AML	AML		
	comp=E,5080μm,0.3s						
PP3				AML	AML		
	comp=N,3350μm,1.3s						
PP3				AML	AML		
	comp=N,3450μm,1.3s						
VCEL	Villa Celiera	0.67	128	⇓P	Pb	06 46 47.4	-0.5
VCEL				AML	AML		
	comp=E,811μm,1.4s						
VCEL				AML	AML		
	comp=N,898μm,0.9s						
VCEL				AML	AML		
	comp=E,812μm,1.4s						
VCEL				AML	AML		
	comp=N,898μm,0.9s						
SSFR	Montelago di S	0.68	338	⇓P	Pb	06 46 48.0	0.0
SSFR				AML	AML		
	comp=N,955μm,0.2s						
SSFR				AML	AML		
	comp=E,1059μm,0.2s						
SSFR				AML	AML		
	comp=E,1096μm,0.2s						
SSFR				AML	AML		
	comp=N,1080μm,0.8s						
ARVD	Arcevia	0.70	348	⇓P	Pg	06 46 47.9	+0.3
ARVD				S	Sb	06 46 59.0	+0.8
ARVD				AML	AML		
	comp=E,374μm,1.0s						
ARVD				AML	AML		
	comp=N,286μm,0.7s						
T0110	Collepietro	0.75	141	⇑P	Pg	06 46 48.8	+0.2
T0110				AML	AML		
	comp=E,692μm,1.1s						
T0110				AML	AML		
	comp=N,730μm,0.5s						
MGAB	Montegabbione	0.76	278	⇑P	Pn	06 46 51.6	+0.7
FRON	Frontone	0.77	337	⇓P	Pg	06 46 49.1	+0.3
FRON				AML	AML		
	comp=E,316μm,0.6s						
FRON				AML	AML		
	comp=N,492μm,0.4s						
ATVO	AVT- Monte Val	0.78	317	⇑P	Pb	06 46 49.5	-0.2
ATVO				AML	AML		
	comp=N,288μm,0.6s						
ATVO				AML	AML		
	comp=E,282μm,1.5s						
ATVO				AML	AML		
	comp=N,288μm,0.6s						
ATPI	Pietralunga -	0.83	320	⇑P	Pg	06 46 50.3	+0.2
ATPI				AML	AML		
	comp=E,244μm,0.5s						
ATPI				AML	AML		
	comp=E,244μm,0.5s						
ATPI				AML	AML		
	comp=N,295μm,0.4s						
MPAG	Monte Paganucc	0.86	342	P	Pg	06 46 50.1	-0.6
MPAG				AML	AML		
	comp=E,389μm,0.4s						
MPAG				AML	AML		
	comp=N,344μm,0.5s						
CERT	Cerreto	0.87	188	⇑P	Pb	06 46 51.2	0.0
CERT				AML	AML		
	comp=E,646μm,0.6s						
CERT				AML	AML		
	comp=N,300μm,1.6s						
KHC	Kasperske Hory	6.33	3	*e*PN	Pn	06 48 00.3	-7.2
KHC				*e*SN	Sn	06 49 02.9	-17

NNC 07 06:49:36.6±4.1, 37°.72N×78°.38E, h0km, mb3.7, mpv3.4, 4C-3D, Error ellipse: s-maj=34.6km s-min=30.6km az=41.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	5.61	339	⇓Pg	Pb	06 51 17.4	+1.9
	2.9nm,0.7s						
TKM2				⇑Lg	Lg	06 52 36.7	
	6.0nm,0.7s						
PDGK	Podgornoye	5.66	8	⇑Pn	Pn	06 51 02.2	+0.1
	1.4nm,0.5s						
PDGK				⇓Pg	Pb	06 51 20.2	+3.8
	2.2nm,0.4s						
PDGK				⇑Lg	Lg	06 52 38.8	
	10.0nm,0.8s						
MK31	Makanchi Array	9.51	16	⇑Pn	Pn	06 51 55.9	+1.1
	0.8nm,0.6s,baz=202,slow=13,SNR=8.9						
MK31				⇓Sn	Sn	06 53 42.2	-0.3
	1.5nm,0.7s,baz=198,slow=24						

---

*NOU **07** 06:52:44.8, 34°.72S×178°.80W, h109km, MLv4.8/12, South of Kermadec Islands*
*NEIC **07** 06:52:45.3±1.7, 34°.54S±0°.08×179°.16W±0°.09, h35km±2km, mb4.6/33, Error ellipse: s-maj=15.4km s-min=9.4km az=142.0*
*WEL **07** 06:52:46.0±1.1, 35°S±19°×17°9W±2°3, h33km, M4.9/14, mB5.5/5, ML5.1/14, MLv4.9/14, Mw(mB)4.9/5, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7*
*IDC **07** 06:52:47.4±2.1, 34°.46S×179°.28W, h53km±18km, mb4.2/10, mbtmp4.5/13, ML4.6/3, MS4.1/39, Error ellipse: s-maj=16.7km s-min=13.1km az=150.0*
ISC 07 06:52:44.7±0.4, **34°.52S**±0°.05×**179°.12W**±0°.07, **h35**km, **n136**, σ**1°.30**/114, **mb4.6**/25, **MS4.1**/40, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.68	214	Pn	Pn	06 53 39.1	0.0
MXZ	Matakaoa Point	3.68	214	P	Pn	06 53 40.7	+1.7
MXZ	Matakaoa Point	3.68	214	P	Pn	06 53 39.8	+0.8
MXZ				S	Sn	06 54 20.5	-0.7
WMGZ	Waiomatatini S	3.85	211	P	Pn	06 53 42.0	+0.6
WMGZ				S	Sn	06 54 26.4	+1.1
PKGZ	Pakihiroa	4.05	213	P	Pn	06 53 44.3	+0.1
PKGZ				S	Sn	06 54 31.6	+1.2
HAZ	Te Kaha	4.09	217	P	Pn	06 53 45.4	+0.8
HAZ				S	Sn	06 54 33.9	+2.7
PUZ	Puketiti	4.13	210	P	Pn	06 53 45.1	-0.1
PUZ				S	Sn	06 54 32.8	+0.5
RUGZ	Raukumara Rang	4.30	216	P	Pn	06 53 48.7	+1.0
RUGZ				S	Sn	06 54 38.4	+1.7
TWGZ	Tauwhareparae	4.33	212	P	Pn	06 53 49.4	+1.3
TWGZ				S	Sn	06 54 38.0	+0.6
CNGZ	Carnagh Statio	4.50	208	P	Pn	06 53 49.8	-0.5
TKGZ	Te Karaka	4.61	211	P	Pn	06 53 52.8	+1.0
MWZ	Matawai	4.67	214	P	Pn	06 53 52.5	-0.1
MWZ				S	Sn	06 54 47.0	+1.4
KUZ	Kuaotunu	4.75	241	P	Pn	06 53 56.0	+2.2
URZ	Urewera	4.81	218	P	Pn	06 53 55.0	+0.4
	28nm,0.3s,baz=356,slow=4.2,SNR=129						
URZ				S	Sn	06 54 50.7	+1.7
	136nm,0.5s,baz=294,slow=12,SNR=6.6						
	142nm,0.5s						
URZ	Urewera	4.81	218	Pn	Pn	06 53 54.1	-0.5
URZ	Urewera	4.81	218	P	Pn	06 53 54.8	+0.2
URZ	Urewera	4.81	218	P	Pn	06 53 54.7	+0.2
URZ				S	Sn	06 54 50.1	+1.0
RAGZ	Rawiri	4.85	214	P	Pn	06 53 55.6	+0.5
RIGZ	Rimuhau	4.87	210	P	Pn	06 53 55.0	-0.4
RIGZ				S	Sn	06 54 51.2	+0.6
EDRZ	Edgecumbe	4.90	222	P	Pn	06 53 58.1	+2.2
OMRZ	Omania	5.10	224	P	Pn	06 54 04.0	+5.4
TARZ	Mount Tarawera	5.12	222	P	Pn	06 54 00.5	+1.6
MUGZ	Murupara	5.15	219	P	Pn	06 53 59.4	+0.1
MUGZ				S	Sn	06 54 57.3	-0.1
RRRZ	Republican Roa	5.19	221	P	Pn	06 54 01.8	+2.1
MHGZ	Mahia Peninsul	5.20	206	P	Pn	06 53 59.5	-0.5
BKZ	Black Stump Fm	5.82	216		Pn	06 54 08.1	-0.4
BKZ	Black Stump Fm	5.82	216	P	Pn	06 54 08.1	-0.4
OUZ	Omahuta	6.03	261	P	Pn	06 54 14.4	+3.1
HIZ	Hauiti	6.28	229	P	Pn	06 54 16.4	+1.7
CTZ	Chatham Island	9.40	169	P	Pn	06 54 53.9	-3.6
KHZ	Kahutara	9.76	214	P	Pn	06 55 01.0	-1.4
RPZ	Rata Peaks	11.93	217	P	Pn	06 55 29.3	-2.9
	14nm,0.6s,baz=47,slow=1.3,SNR=11						
RPZ				S	Sn	06 57 33.0	-11
	15nm,0.7s,baz=69,slow=16,SNR=3.3						
RPZ	Rata Peaks	11.93	217	P	Pn	06 55 30.3	-1.9
ODZ	Otahua Downs	13.12	214	P	Pn	06 55 46.5	-1.9
JCZ	Jackson Bay	13.35	221	P	Pn	06 55 51.1	-0.6
SYZ	Scrubby Hill	14.94	213	P	Pn	06 56 10.1	-3.0
MSVF	Nonsavu	16.91	351	P	Pn	06 56 37.7	-1.0
	0.3nm,0.3s,baz=192,slow=21,SNR=4.8						
MSVF				LR	LR	07 02 16.3	
	comp=Z,710nm,18.3s,baz=169,slow=34						
	4.3nm,0.8s						
MSVF	Nonsavu	16.91	351	Pn	Pn	06 56 37.9	-0.8
MARNC	Mare, Loyalty	17.23	316	Pn	Pn	06 56 41.4	-1.2
OUENC	Ouen Island, N	17.23	311	Pn	Pn	06 56 41.8	-0.8
OUENC				IAmb	IAmb	06 57 08.9	
	comp=Z,40nm,1.2s						
ONTNC	Ouen Toro	17.56	310		P	06 56 47.3	-0.2
DZM	Mont Dzumac	17.74	311	*e*Pn	P	06 56 49.8	+0.2
	comp=Z,37nm,1.1s						
DZM				*e*LR	LR	07 00 59.6	
	comp=Z,2μm,23.2s						
DZM	Mont Dzumac	17.74	311	P	P	06 56 49.6	+0.1
	comp=Z,0.3nm,0.3s,baz=126,slow=16,SNR=6.5						
DZM				LR	LR	07 02 44.2	
	comp=Z,2μm,18.4s,baz=142,slow=34						
	comp=Z,8.5nm,0.8s						
DZM	Mont Dzumac	17.74	311		P	06 56 52.6	+3.0
KOUNC	Koumac, New Ca	20.21	309	P	Pn	06 57 19.1	+0.4
KOUNC				IAmb	IAmb	06 57 20.4	
	comp=Z,33nm,0.8s						
AFI	Afiamalu	21.57	20	P	P	06 57 33.4	+2.1
RAR	Rarotonga	21.59	57	P	P	06 57 33.4	+1.9
	comp=Z,14nm,0.9s,baz=228,slow=3.8,SNR=3.7						
RAR				LR	LR	07 03 36.0	
	comp=Z,117nm,21.8s,baz=256,slow=30						
	comp=Z,14nm,0.9s						
RAR	Rarotonga	21.59	57	P	P	06 57 30.9	-0.6
RAR				IAmb	IAmb	06 57 35.1	
	comp=Z,25nm,1.1s						
ARMA	Armidale	24.97	271	P	P	06 58 02.5	-2.6
ARMA				IAmb	IAmb	06 58 25.6	
	comp=Z,10nm,1.0s						
EIDS	Eidsvold	27.30	281	P	P	06 58 24.9	-1.2
EIDS				IAmb	IAmb	06 58 28.5	
	comp=Z,8.7nm,0.7s						
TBI	Tubuai	28.14	75	*e*LR	LR	07 05 47.8	
	comp=Z,6μm,22.8s						
TBI				*e*LR	LR	07 05 47.8	
	comp=Z,1μm,24.8s						
PPT2	Papeete2	31.28	65	*e*LR	LR	07 07 15.7	
	comp=Z,328nm,24.0s						
PPT2				*e*LR	LR	07 07 15.7	
	comp=Z,184nm,22.2s						
PPT	Papeete	31.30	65	LR	LR	07 08 18.3	
	comp=Z,173nm,21.2s,baz=258,slow=30						
HNR	Honiara	31.49	318	LR	LR	07 09 43.8	
	comp=Z,2μm,21.3s,baz=202,slow=32						
STKA	Stephens Creek	32.84	263	P	P	06 59 16.3	+1.2
	comp=Z,3.0nm,0.8s,baz=86,slow=12,SNR=5.2						
STKA				LR	LR	07 12 13.2	
	comp=Z,685nm,18.1s,baz=79,slow=36						
	comp=Z,3.0nm,0.8s						
STKA	Stephens Creek	32.84	263	P	P	06 59 14.8	-0.2
CTA	Charters Tower	33.78	286	P	P	06 59 24.8	+1.5
	comp=Z,8.9nm,0.6s,baz=110,slow=9.6,SNR=19						
CTA				LR	LR	07 12 14.3	
	comp=Z,262nm,18.1s,baz=84,slow=35						
	comp=Z,8.9nm,0.6s						
CTAO	Charters Tower	33.78	286	P	P	06 59 23.6	+0.3
CTAO				IAmb	IAmb	06 59 25.9	
	comp=Z,13nm,0.9s						
TARA	Tarawa	36.46	347	P	P	06 59 46.2	-0.2
COEN	Coen	39.70	292	P	P	07 00 15.0	+1.3
COEN				IAmb	IAmb	07 00 15.9	
	comp=Z,15nm,0.9s						
PMG	Port Moresby	39.72	301	LR	LR	07 14 31.4	
	comp=Z,706nm,19.5s,baz=128,slow=33						
KRVT	Keravat (AS076	40.25	312	LR	LR	07 15 41.1	
	comp=Z,112nm,19.3s,baz=270,slow=34						
AS31	Alice Springs	42.12	272	P	P	07 00 33.8	+0.1
AS31				IAmb	IAmb	07 00 34.8	
	comp=Z,7.8nm,0.7s						
ASAR	Alice Springs	42.12	272	P	P	07 00 33.3	-0.4
	comp=Z,22nm,0.7s,baz=114,slow=7.4,SNR=183						
ASAR				PcP	PcP	07 02 27.1	-0.7
	comp=Z,5.3nm,0.8s,baz=120,slow=3.9,SNR=10						
ASAR				S	S	07 06 48.7	-2.5
	comp=Z,2.4nm,0.8s,baz=119,slow=16,SNR=13						
ASAR				LR	LR	07 17 55.7	
	comp=Z,502nm,18.8s,baz=138,slow=36						
	comp=Z,22nm,0.7s						
ASAR	Alice Springs	42.12	272	P	P	07 00 33.7	0.0
WR0	Warramunga Arr	43.31	277	P	P	07 00 42.9	-0.5
WR0				IAmb	IAmb	07 00 44.8	
	comp=Z,10nm,0.9s						
WB2	Warramunga Arr	43.48	277	P	P	07 00 44.2	-0.5
WB2				IAmb	IAmb	07 00 46.0	
	comp=Z,12nm,0.6s						
WRAB	Tennant Creek	43.48	277	P	P	07 00 44.4	-0.3
WRAB				IAmb	IAmb	07 00 46.0	
	comp=Z,11nm,0.7s						
WRA	Warramunga Arr	43.48	277	P	P	07 00 44.2	-0.5
	comp=Z,11nm,0.7s,baz=120,slow=7.4,SNR=68						
WRA				PcP	PcP	07 02 31.6	-0.9
	comp=Z,2.7nm,0.7s,baz=116,slow=3.2,SNR=7.1						
WRA				LR	LR	07 19 32.1	
	comp=Z,525nm,18.2s,baz=108,slow=37						
	comp=Z,11nm,0.7s						
WRA	Warramunga Arr	43.48	277	P	P	07 00 43.9	-0.8
WB0	Warramunga Arr	43.53	277	P	P	07 00 44.1	-0.9
WB0				IAmb	IAmb	07 00 46.0	
	comp=Z,12nm,0.7s						
SBA	Scott Base	43.87	184	P	P	07 00 48.2	+1.2
TAOE	Nuku Hiva Isla	43.89	64	*e*LR	LR	07 13 06.1	
	comp=Z,153nm,23.8s						
VNDA	Vanda	43.91	186	P	P	07 00 48.9	+1.5
	comp=Z,0.8nm,0.7s,baz=24,slow=5.7,SNR=5.3						
	comp=Z,0.8nm,0.7s						
VNDA	Vanda	43.91	186	P	P	07 00 46.8	-0.6
FORT	Forrest	44.22	260	P	P	07 00 49.5	-1.0
NWAO	Narrogin (SRO)	52.16	253	LR	LR	07 22 50.7	
	comp=Z,156nm,18.1s,baz=282,slow=35						
MORW	Morawa	54.55	257	P	P	07 02 07.7	-1.8
PSA00	Pilbara Seismi	54.66	267	P	P	07 02 08.4	-1.9
PSA00				IAmb	IAmb	07 02 10.5	
	comp=Z,4.7nm,0.9s						
MBWA	Marble Bar	54.95	267	P	P	07 02 10.8	-1.5
MBWA				IAmb	IAmb	07 02 12.2	
	comp=Z,6.6nm,0.8s						
QSPA	South Pole Qui	55.60	180	P	P	07 02 19.0	+2.4
	comp=Z,3.6nm,0.6s,baz=358,slow=1.1,SNR=34						
	comp=Z,3.6nm,0.6s						
QSPA	South Pole Qui	55.60	180	P	P	07 02 18.9	+2.3
SIJI	Sorong	57.08	295	LR	LR	07 26 19.2	
	comp=Z,231nm,19.8s,baz=188,slow=35						
BATI	Baumata	57.36	281	LR	LR	07 28 32.9	
	comp=Z,931nm,18.9s,baz=242,slow=38						
GUMO	Guam	58.82	318	LR	LR	07 25 33.9	
	comp=Z,43nm,19.3s,baz=169,slow=34						
RPN	Rapa Nui	59.33	103	LR	LR	07 25 03.8	
	comp=Z,124nm,18.0s,baz=230,slow=33						
SANI	Sanana	60.36	290	P	P	07 02 49.3	-1.2
	comp=Z,30nm,0.8s						
KAPI	Kappang	63.50	283	LR	LR	07 32 17.4	
	comp=Z,262nm,18.4s,baz=148,slow=37						
BELA	Belgrano 2	65.84	172	P	P	07 03 26.5	+0.5
BELA				IAmb	IAmb	07 03 27.8	
	comp=Z,4.3nm,0.8s						
SMAI	San Martin Ant	65.98	158	P	P	07 03 27.3	+0.4
SMAI				IAmb	IAmb	07 03 41.0	
	comp=Z,5.1nm,1.0s						
MAW	Mawson	68.13	201	LR	LR	07 33 08.2	
	comp=Z,169nm,18.7s,baz=108,slow=36						
PMSA	Palmer Station	68.91	155	LR	LR	07 27 34.6	
	comp=Z,125nm,18.3s,baz=268,slow=30						
USHA	Ushuaia	73.06	146	LR	LR	07 27 31.4	
	comp=Z,1μm,22.0s,baz=242,slow=28						
TROLL	Troll, Antarti	73.76	181	P	P	07 04 16.0	+1.1
SNAA	Sanae	74.07	179	P	P	07 04 17.4	+0.8
SNAA	Sanae	74.07	179	LR	LR	07 37 04.4	
	comp=Z,92nm,18.2s,baz=189,slow=36						
SNAA	Sanae	74.07	179	P	P	07 04 17.5	+0.9
SNAA				IAmb	IAmb	07 04 29.0	
	comp=Z,4.5nm,0.9s						
VNA3	Neumayer Olymp	74.26	176	P	P	07 04 18.3	+0.6
VNA2	Neumayer--Watz	74.68	177	P	P	07 04 21.2	+1.1
	baz=172,slow=5.6						
VNA1	Neumayer--Stat	74.92	177	P	P	07 04 22.5	+1.1
PLCA	Paso Flores	80.39	133	P	P	07 04 53.6	+0.9
	comp=Z,1.5nm,0.8s,baz=231,slow=10,SNR=3.6						
PLCA				LR	LR	07 33 58.2	
	comp=Z,68nm,19.3s,baz=219,slow=31						
	comp=Z,1.5nm,0.8s						
MJAR	Matsushiro Arr	81.11	326	LR	LR	07 38 20.9	
	comp=Z,52nm,18.3s,baz=170,slow=34						
MT01	Popeta	84.14	127	P	P	07 05 12.5	+0.2
MT02	Curacav	84.58	127	P	P	07 05 14.9	+0.3
ASAJ	Asahikawa	85.67	333	LR	LR	07 39 15.2	
	comp=Z,93nm,19.8s,baz=164,slow=33						
SHEM	Shemya Is, Ala	87.09	356	LR	LR	07 42 11.6	
	comp=Z,94nm,18.8s,baz=296,slow=34						
LPIG	La Paz	87.50	59	LR	LR	07 35 07.5	
	comp=Z,69nm,21.5s,baz=234,slow=29						
PEA0B	Petropavlovsk-	89.57	346	P	P	07 05 38.8	+0.9
PETK	Petropavlovsk-	89.57	346	P	P	07 05 38.7	+0.7
	comp=Z,19nm,0.8s,baz=139,slow=4.9,SNR=13						
	comp=Z,19nm,0.8s						
PETK	Petropavlovsk-	89.57	346	P	P	07 05 39.0	+1.0
PFO	Pinyon Flats O	89.68	48	LR	LR	07 41 08.3	
	comp=Z,72nm,18.0s,baz=245,slow=32						
NVAR	Mina Array Bea	91.89	43	P	P	07 05 50.7	+1.3
	comp=Z,0.1nm,0.3s,baz=228,slow=9.2,SNR=4.0						
	comp=Z,0.1nm,0.3s						
CN2	Changchun	92.86	323	*e*P	P	07 05 51.9	-1.6
NNA	Nana	93.17	107	LR	LR	07 38 40.3	
	comp=Z,104nm,20.4s,baz=208,slow=30						
CMAR	Chiang Mai Arr	93.88	290	LR	LR	07 51 15.4	
	comp=Z,59nm,18.9s,baz=275,slow=37						
KLR	Kul'dur	94.12	330	LR	LR	07 43 27.1	
	comp=Z,51nm,21.5s,baz=170,slow=32						
ATAH	Atahualpa	94.75	102	LR	LR	07 42 29.1	
	comp=Z,57nm,18.1s,baz=226,slow=31						
CMIG	Matias Romero	94.90	73	LR	LR	07 38 33.2	
	comp=Z,44nm,21.8s,baz=232,slow=29						
ELK	Elko	95.20	43	LR	LR	07 44 37.0	
	comp=Z,89nm,18.0s,baz=232,slow=33						
TXAR	Lajitas Array	95.39	58	LR	LR	07 47 25.4	
	comp=Z,41nm,18.4s,baz=265,slow=34						
ANMO	Albuquerque	96.87	52	LR	LR	07 44 11.3	
	comp=Z,48nm,18.3s,baz=260,slow=32						
MA2	Magadan	97.02	345	LR	LR	07 44 02.2	
	comp=Z,50nm,20.1s,baz=118,slow=32						
LPAZ	La Paz	97.28	115	LR	LR	07 42 37.5	
	comp=Z,46nm,19.0s,baz=174,slow=31						
CPUP	Villa Florida	98.13	130	LR	LR	07 42 23.8	
	comp=Z,81nm,22.0s,baz=222,slow=30						
HHC	Hu-ho-hao-te	98.42	314	*e*P	Pdif	07 06 22.4	+3.4
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,5.3s						
PDAR	Pinedale Array	99.75	44	LR	LR	07 47 38.2	
	comp=Z,60nm,18.6s,baz=268,slow=33						
MKAR	Makanchi Array	119.65	309	PKP	PKPdf	07 11 29.5	-1.0
	comp=Z,1.6nm,0.8s,baz=56,slow=3.1,SNR=9.1						
ZALV	Zalesovo Beam	120.44	317	PKP	PKPdf	07 11 30.7	-1.0
	comp=Z,0.5nm,0.3s,baz=132,slow=2.2,SNR=4.6						
ARCES	ARCESS Array B	142.38	346	PKhKP	PKPpre	07 12 09.7	
	comp=Z,2.2nm,0.7s,baz=0.0,slow=3.6,SNR=4.6						
KBZ	Khabaz	146.44	299	PKPbc	PKPab	07 12 21.8	-0.9
	comp=Z,4.7nm,0.9s,baz=200,slow=6.2,SNR=5.6						
FINES	FINESS Array B	148.62	337	PKPbc	PKPbc	07 12 26.9	-0.2
	comp=Z,15nm,0.8s,baz=56,slow=3.4,SNR=20						
NB2	NORSAR Subarra	152.64	349	PKP	PKiKP	07 12 37.3	+0.3
	comp=Z,6.2nm,0.8s,baz=21,slow=4.3						
NOA	NORSAR Array B	152.64	349	PKPbc	PKiKP	07 12 36.6	-0.4
	comp=Z,1.7nm,1.0s,baz=15,slow=3.7,SNR=7.9						
NOA				PKPab	PKPab	07 12 47.3	-0.2
	comp=Z,5.4nm,0.8s,baz=23,slow=2.5,SNR=14						
NACGM	Naroch	152.81	326	*e*PKP	PKiKP	07 12 36.9	-0.5
	comp=Z,18nm,0.8s,baz=52						
BRTR	Keskin Array B	153.46	291	PKPbc	PKiKP	07 12 39.0	-0.6
	comp=Z,1.6nm,0.7s,baz=148,slow=4.0,SNR=7.4						
AKASG	Malin Array Be	153.83	317	PKPbc	PKPbc	07 12 39.0	-0.6
	comp=Z,2.8nm,0.7s,baz=66,slow=2.8,SNR=9.5						

---

*SJA **07** 06:53:12.6±0.7, 28°.02S×70°.84W, h66km±3km, ML4.0, MW4.0*
*NEIC **07** 06:53:12.8±2.5, 28°.06S±0°.04×71°.04W±0°.09, h58km±8km, mb4.2/2, ML4.1(GUC), Error ellipse: s-maj=11.7km s-min=4.8km az=100.0*
*GUC **07** 06:53:13.6±0.9, 28°.12S×70°.71W, h54km±4km, ML4.1*
*IDC **07** 06:53:14.4±0.9, 28°.47S×70°.65W, h64km±8km, mb3.7/1, mbtmp3.7/3, MS3.1/4, Error ellipse: s-maj=52.3km s-min=22.5km az=144.0*
ISC 07 06:53:12.3±0.7, **28°.04S**±0°.03×**70°.92W**±0°.04, **h55**km±5km, **n114**, σ**2°.28**/157, **2C-1D**, **Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.22	220	Pn	Pn	06 53 24.5	+3.2
AC04				Sn	Sn	06 53 32.0	+4.0
AC04	Llanos de Chal	0.22	220	⇓iP	Pn	06 53 24.6	+3.2
AC04				eS	Sn	06 53 31.9	+4.0
AC04				IAML		06 53 32.6	
	comp=E,47µm,0.1s						
AC04	Llanos de Chal	0.22	220	eP	Pn	06 53 24.0	+2.6
AC04				eP	Pn	06 53 24.2	+2.8
AC04				eS	Sn	06 53 32.5	+4.6
AC04				IAML		06 53 32.6	
	comp=Z,7µm,0.1s						
GO03	Copiap	0.75	54		Pn	06 53 28.5	+1.6
GO03				Sn	Sn	06 53 39.1	+1.5
GO03	Copiap	0.75	54	eP	Pn	06 53 28.3	+1.3
GO03				eS	Sn	06 53 39.0	+1.3
GO03				IAML		06 53 39.9	
	comp=E,9µm,0.1s						
GO03	Copiap	0.75	54	eP	Pn	06 53 28.0	+1.0
GO03				eP	Pn	06 53 28.3	+1.3
GO03				eS	Sn	06 53 39.1	+1.5
AC06	Mina Casimiro	0.84	37	Pn	Pn	06 53 30.6	+2.4
AC06				Sn	Sn	06 53 42.4	+2.7
AC06	Mina Casimiro	0.84	37	⇑iP	Pn	06 53 30.5	+2.4
AC06				eS	Sn	06 53 42.3	+2.6
AC06				IAML		06 53 43.1	
	comp=N,16µm,0.3s						
AC05	El Transito	0.98	145		Pn	06 53 30.8	+0.8
AC05				Sn	Sn	06 53 43.0	-0.1
AC05	El Transito	0.98	145	⇑iP	Pn	06 53 30.7	+0.6
AC05				eS	Sn	06 53 43.1	-0.1
AC05	El Transito	0.98	145	eP	Pn	06 53 30.7	+0.6
AC05				eS	Sn	06 53 41.5	-1.6
AC05				IAML		06 53 44.5	
	comp=Z,3µm,0.8s						
LCO	Las Campanas	0.99	169		Pn	06 53 31.3	+0.9
LCO				Sn	Sn	06 53 43.7	+0.1
LCO	Las Campanas	0.99	169	i P	Pn	06 53 31.2	+0.9
LCO				eS	Sn	06 53 43.6	0.0
LCO	Las Campanas	0.99	169	eP	Pn	06 53 31.0	+0.7
CO05	La Serena	1.90	189	Pn	Pn	06 53 44.0	+1.7
CO05	La Serena	1.90	189	eP	Pn	06 53 43.7	+1.4
CO05				eS	Sn	06 54 06.8	+1.7
CO05				IAML		06 54 18.6	
	comp=E,1µm,0.3s						
AC01	Pan de Azucar	1.90	9	Pn	Pn	06 53 44.9	+2.5
AC01	Pan de Azucar	1.90	9	i P	Pn	06 53 44.9	+2.5
AC01				eS	Sn	06 54 12.3	+7.1
AC01				IAML		06 54 17.7	
	comp=E,2µm,0.4s						
AC01	Pan de Azucar	1.90	9	eP	Pn	06 53 39.7	-2.7
AC01				eP	Pn	06 53 44.8	+2.4
AC01				eS	Sn	06 54 01.2	-4.0
AC01				IAML		06 54 18.2	
	comp=Z,985nm,0.4s						
AC02	Maricunga	1.99	53	Pn	Pn	06 53 46.9	+2.9
AC02	Maricunga	1.99	53	i P	Pn	06 53 46.8	+2.8
AC02				eS	Sn	06 54 11.4	+3.4
AC02				IAML		06 54 13.0	
	comp=E,3µm,0.3s						
AC02	Maricunga	1.99	53	eP	Pn	06 53 46.0	+2.0
AC02				eP	Pn	06 53 46.9	+2.9
AC02				eS	Sn	06 54 11.9	+3.9
AC02				IAML		06 54 12.9	
	comp=Z,1µm,0.2s						
CO01	Juntas del Tor	2.06	160		Pn	06 53 46.6	+1.8
CO01	Juntas del Tor	2.06	160	eP	Pn	06 53 46.7	+1.8
CO01				eS	Sn	06 54 12.0	+2.4
CO01	Juntas del Tor	2.06	160	eP	Pn	06 53 46.9	+2.0
CO01				eS	Sn	06 54 13.0	+3.4
CO01				IAML		06 54 15.3	
	comp=Z,574nm,0.5s						
GO04	Tololo Observa	2.13	177		Pn	06 53 47.8	+2.0
GO04	Tololo Observa	2.13	177	i P	Pn	06 53 47.6	+1.9
GO04				eS	Sn	06 54 12.7	+1.5
GO04	Tololo Observa	2.13	177	eP	Pn	06 53 47.7	+2.0
GO04				eS	Sn	06 54 14.4	+3.2
AROD	Rodeo	2.47	150	eP	Pn	06 53 53.0	+2.5
AROD				eS	Sn	06 54 25.4	+5.8
CO06	Fray Jorge	2.70	193		Pn	06 53 54.0	+0.7
CO06	Fray Jorge	2.70	193	eP	Pn	06 53 53.9	+0.6
CO06				IAML		06 54 41.2	
	comp=E,359nm,0.5s						
CO03	El Pedregal	2.80	176		Pn	06 53 56.6	+1.9
CO03	El Pedregal	2.80	176	eP	Pn	06 53 56.6	+1.9
CO03				eS	Sn	06 54 29.3	+1.9
CO03				IAML		06 54 39.5	
	comp=E,710nm,0.4s						
CO03	El Pedregal	2.80	176	eP	Pn	06 53 56.7	+1.9
CO03				eP	Pn	06 53 56.8	+2.0
CO03				eS	Sn	06 54 24.2	-3.2
CO03				eS	Sn	06 54 30.2	+2.8
CO03				IAML		06 54 35.5	
	comp=Z,273nm,0.4s						
ACCO	Cerro Coronel	3.01	148	eP	Pn	06 54 01.0	+3.1
ACCO				eS	Sn	06 54 39.2	+6.2
GO02	Mina Guanaco	3.10	23	Pn	Pn	06 54 01.4	+2.3
GO02	Mina Guanaco	3.10	23	eP	Pn	06 54 01.3	+2.3
GO02	Mina Guanaco	3.10	23	eP	Pn	06 53 56.2	-2.9
GO02				eP	Pn	06 54 01.0	+2.0
GO02				eS	Sn	06 54 52.4	+17
CO02	Combarbal	3.16	181	Pn	Pn	06 54 01.0	+1.3
CO02	Combarbal	3.16	181	eP	Pn	06 54 00.8	+1.1
CO02	Combarbal	3.16	181	eP	Pn	06 54 01.0	+1.3
CO02				eS	Sn	06 54 40.7	+4.5
CO02				IAML		06 54 44.4	
	comp=Z,377nm,0.7s						
PB14	IPOC Station P	3.43	8	Pn	Pn	06 54 04.7	+1.1
PB14	IPOC Station P	3.43	8	eP	Pn	06 54 05.0	+1.5
PB14	IPOC Station P	3.43	8	eP	Pn	06 54 00.2	-3.4
PB14				eP	Pn	06 54 05.0	+1.5
PB14				eS	Sn	06 55 00.2	+17
PB14				IAML		06 55 03.7	
	comp=Z,453nm,0.6s						
ACLC	CERRO LA CRUZ	3.75	113	eP	Pn	06 54 09.8	+2.0
ACLC				eS	Sn	06 54 58.6	+7.8
ACLC				IAML		06 54 59.4	
	comp=Z,158nm,0.4s						
RTLL	Cerro Villicun	3.91	148	eP	Pn	06 54 12.0	+2.1
RTLL				eS	Sn	06 54 56.2	+1.6
ZON	Zonda	4.00	151	Pn	Pn	06 54 13.4	+2.3
ZON	Zonda	4.00	151	eP	Pn	06 54 14.7	+3.5
ZON				eS	Sn	06 54 56.7	-0.2
RTLS	Leoncito	4.01	160	eP	Pn	06 54 15.0	+3.5
RTLS				eS	Sn	06 55 01.2	+3.9
RTLS				IAML		06 55 17.4	
	comp=Z,225nm,1.3s						
APLL	PUNTA DE LOS L	4.50	123	eP	Pn	06 54 19.6	+1.6
APLL				eS	Sn	06 55 09.7	+0.6
PB10	IPOC Station P	4.51	4	Pn	Pn	06 54 18.2	0.0
PB10	IPOC Station P	4.51	4	eP	Pn	06 54 17.7	-0.4
PB10	IPOC Station P	4.51	4	eP	Pn	06 54 19.7	+1.5
PB10				eP	Pn	06 54 24.2	+6.0
PB10				eS	Sn	06 55 24.2	+15
PB10				IAML		06 55 40.4	
	comp=Z,129nm,1.1s						
VA06	Catapilco	4.52	184	Pn	Pn	06 54 18.6	+0.4
VA06	Catapilco	4.52	184	eP	Pn	06 54 18.6	+0.4
CYA	Choya	4.53	96	eP	Pn	06 54 20.1	+1.7
CYA				eP	Pn	06 54 20.2	+1.8
CYA				eS	Sn	06 55 09.7	-0.1
CYA				eS	Sn	06 55 09.8	-0.1
CYA				IAML		06 55 14.7	
	comp=Z,138nm,1.1s						
VA03	San Esteban	4.72	176		Pn	06 54 21.1	0.0
VA03	San Esteban	4.72	176	eP	Pn	06 54 22.8	+1.6
VA03	San Esteban	4.72	176	eP	Pn	06 54 22.9	+1.8
VA03				eS	Sn	06 55 20.2	+5.5
VA03				IAML		06 55 35.4	
	comp=Z,260nm,0.9s						
ASAL	Salagasta	4.88	159	eP	Pn	06 54 26.0	+2.7
ASAL				eS	Sn	06 55 19.7	+1.1
ROCH	El Roble	4.92	181	eP	Pn	06 54 24.4	+0.4
ROC1	El Roble	4.93	181		Pn	06 54 24.4	+0.4
ROC1	El Roble	4.93	181	eP	Pn	06 54 24.0	0.0
ROC1				eP	Pn	06 54 24.5	+0.4
ROC1				eS	Sn	06 55 24.2	+4.4
PB15	IPOC Station P	4.98	15		Pn	06 54 26.1	+1.4
PB15	IPOC Station P	4.98	15	eP	Pn	06 54 26.4	+1.7
PB15	IPOC Station P	4.98	15	eP	Pn	06 54 27.0	+2.2
PB15				eS	Sn	06 55 37.2	+16
PEL	Peldehue	5.10	178	eP	Pn	06 54 27.1	+0.9
PEL	Peldehue	5.10	178	eP	Pn	06 54 27.5	+1.3
MT02	Curacav	5.21	182		Pn	06 54 27.9	+0.2
MT05	Renca	5.34	178	Pn	Pn	06 54 30.1	+0.5
PB06	IPOC Station P	5.44	13	Pn	Pn	06 54 31.9	+0.8
MT03	Universidad Ad	5.45	176	Pn	Pn	06 54 32.8	+1.7
AF01	San Pedro de A	5.63	27	Pn	Pn	06 54 36.2	+2.5
VA05	Santo Domingo	5.64	186		Pn	06 54 32.6	-0.9
LVC	Limon Verde	5.70	19	Pn	Pn	06 54 35.8	+1.1
PB04	IPOC Station P	5.72	7	Pn	Pn	06 54 35.6	+0.8
MT09	Talagante	5.72	181		Pn	06 54 35.1	+0.3
MT01	Popeta	5.82	183		Pn	06 54 35.9	-0.1
PB03	IPOC Station P	6.05	10		Pn	06 54 39.6	+0.2
BO01	Tunca	6.34	181		Pn	06 54 42.7	-0.4
PB07	IPOC Station P	6.35	9	Pn	Pn	06 54 43.6	+0.1
PB09	IPOC Station P	6.39	14	Pn	Pn	06 54 44.8	+0.7
BO02	Sierra Bellavi	6.74	179		Pn	06 54 48.6	-0.1
PB02	IPOC Station P	6.75	8	Pn	Pn	06 54 48.3	-0.6
GO05	Huala	7.01	187	Pn	Pn	06 54 50.7	-1.6
PB01	IPOC Station P	7.08	11		Pn	06 54 52.9	-0.5
ML02	Panimavida	7.72	183	Pn	Pn	06 55 00.5	-1.5
PB08	IPOC Station P	8.02	12	Pn	Pn	06 55 07.2	+0.6
H03N1	Juan Fernandez	8.74	230	P	Pn	06 55 16.4	+0.7
	baz=291,slow=28,SNR=31						
H03N1				T	T	07 04 28.4	
	baz=55,slow=72,SNR=535						
H03N2	Juan Fernandez	8.75	230	P	Pn	06 55 16.6	+0.7
	baz=291,slow=28,SNR=20						
H03N2				T	T	07 04 24.7	
	baz=55,slow=72,SNR=398						
H03N3	Juan Fernandez	8.76	230	P	Pn	06 55 16.4	+0.4
	baz=291,slow=28,SNR=35						
H03N3				T	T	07 04 26.7	
	baz=55,slow=72,SNR=437						
VA04	Juan Fernndez	8.80	229	Pn	Pn	06 55 17.5	+0.6
H03S3	Juan Fernandez	8.97	228	P	Pn	06 55 18.1	-0.7
	SNR=29						
H03S1	Juan Fernandez	8.98	228	P	Pn	06 55 18.3	-0.7
	SNR=26						
H03S2	Juan Fernandez	8.98	228	P	Pn	06 55 18.2	-0.9
	SNR=28						
GO06	Curarrehue	11.53	182	Pn	Pn	06 55 53.1	-1.1
LPAZ	La Paz	11.97	13	P	Pn	06 56 07.0	+6.2
	comp=Z,0.9nm,0.6s,baz=200,slow=7.5,SNR=5.6						
LPAZ	La Paz	11.97	13	Pn	Pn	06 56 00.7	-0.2
CPUP	Villa Florida	12.21	85	P	Pn	06 56 03.8	+0.3
	comp=Z,1.2nm,0.7s,baz=258,slow=12,SNR=4.1						
CPUP				LR	LR	07 01 31.3	
	comp=Z,43nm,19.2s,baz=234,slow=41						
CPUP	Villa Florida	12.21	85	Pn	Pn	06 56 04.3	+0.8
TRQA	Tornquist	12.48	145	Pn	Pn	06 56 08.7	+1.5
ITQB	Itaqui	12.63	101	Pn	Pn	06 56 08.3	-0.9
PLCA	Paso Flores	12.67	179	LR	LR	07 01 39.1	
	comp=Z,76nm,18.9s,baz=59,slow=41						
SIV	San Ignacio	15.05	39	P	Pn	06 56 39.5	-2.2
	comp=Z,0.8nm,0.4s,baz=239,slow=12,SNR=5.9						
PLTB	Pedras Altas	15.47	108	Pn	Pn	06 56 46.4	-0.6
PLTB				IAmb	IAmb	06 56 48.1	
	comp=Z,9.1nm,0.9s						
NNA	Nana	16.90	340	LR	LR	07 02 37.1	
	comp=Z,21nm,19.6s,baz=204,slow=32						
SNAA	Sanae	56.77	159	P	P	07 02 50.3	-0.1
SNAA				IAmb	IAmb	07 03 23.2	
	comp=Z,5.1nm,1.2s						
TORD	Torodi Ar. Bea	81.28	70	P	P	07 05 23.3	+0.3
	comp=Z,1.0nm,0.7s,baz=248,slow=1.6,SNR=5.0						
TORD				pP	sP	07 05 40.5	-4.5
	comp=Z,0.6nm,0.8s,baz=266,slow=4.8,SNR=2.6						
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	96.74	341	LR	LR	07 51 46.7	
	comp=Z,51nm,19.7s,baz=274,slow=36						
H11S2	WAKE ISLAND Hy	126.63	273	T	T	09 31 34.9	
	baz=112,slow=75,SNR=4.7						
H11S1	WAKE ISLAND Hy	126.64	273	T	T	09 31 37.7	
	baz=112,slow=75,SNR=6.2						
H11S3	WAKE ISLAND Hy	126.65	273	T	T	09 31 33.8	
	baz=112,slow=75,SNR=6.9						
ZALV	Zalesovo Beam	148.59	28	PKPbc	PKiKP	07 12 54.6	+0.5
	comp=Z,1.1nm,0.6s,baz=289,slow=4.5,SNR=4.7						
ZALV				pPKPbc	sPKPbc	07 13 12.9	-2.3
	comp=Z,0.7nm,0.5s,baz=298,slow=3.1,SNR=2.5						
MKAR	Makanchi Array	151.87	41	PKPbc	PKiKP	07 13 02.2	+1.0
	comp=Z,0.5nm,0.5s,baz=294,slow=3.6,SNR=5.3						
MKAR				pPKPbc	sPKPbc	07 13 21.2	-2.2
	comp=Z,0.7nm,0.8s,baz=0.0,slow=3.0,SNR=2.8						

IDC 07 06:55:38.5±4.1, 5°.95S×130°.66E, h120km±54km, mb3.4/1, mbtmp3.6/4, Error ellipse: s-maj=120.2km s-min=23.7km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.08	7	P	Pn	06 56 52.9	+0.2
	8.8nm,0.2s,baz=217,slow=20,SNR=8.7						
SIJI				S	Sn	06 57 46.9	-3.5
	12nm,0.2s,baz=227,slow=22,SNR=8.6						
WRA	Warramunga Arr	14.36	166	P	Pn	06 58 54.4	-1.9
	0.3nm,0.5s,baz=346,slow=11,SNR=13						
ASAR	Alice Springs	17.89	170	P	Pn	06 59 40.1	+0.3
	0.6nm,0.6s,baz=348,slow=9.7,SNR=11						
MKAR	Makanchi Array	67.72	326	P	P	07 06 23.0	-0.1
	0.4nm,0.3s,baz=123,slow=6.8,SNR=6.3						
	0.4nm,0.3s						

IDC 07 07:12:09.2±11.0, 22°.30S×172°.10W, h0km, mb4.1/4, mbtmp4.1/5, ML3.7/1, Error ellipse: s-maj=217.1km s-min=135.9km az=47.0
NEIC 07 07:12:13.1±1.2, 24°.3S±0°.1×171°.9W±0°.1, h10km±2km, mb4.4/10, Error ellipse: s-maj=23.6km s-min=3.3km az=136.0
ISC 07 07:12:16.4±1.2, 24°.2S±0°.1×172°.1W±0°.2, h35km, n20, σ1s.45/20, mb4.4/10, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	5.45	22	Pn	Pn	07 13 34.6	-0.5
RAO	Raoul Island	7.28	225	Pn	Pn	07 13 59.6	-0.7
AFI	Afiamalu	10.22	2	Pn	Pn	07 14 40.5	-0.2
MSVF	Nonsavu	11.25	303	Pn	Pn	07 14 56.4	+1.6
DZM	Mont Dzumac	19.89	272	P	P	07 16 42.1	-2.9
	0.2nm,0.3s,baz=90,slow=20,SNR=1.7						
	3.6nm,0.8s						
CTA	Charters Tower	38.73	268	P	P	07 19 36.5	-1.1
	3.8nm,0.4s,baz=99,slow=10,SNR=14						
	3.8nm,0.4s						
STKA	Stephens Creek	41.38	249	P	P	07 20 02.1	+2.8
	1.0nm,0.6s,baz=114,slow=20,SNR=1.6						
	1.0nm,0.6s						
STKA	Stephens Creek	41.38	249	P	P	07 20 02.2	+2.9
BBOO	Buckleboo	46.02	247	P	P	07 20 38.5	+1.7
AS31	Alice Springs	49.13	259	P	P	07 21 00.9	-0.2
AS31				IAmb	IAmb	07 21 14.3	
	comp=Z,1.6nm,1.2s						
ASAR	Alice Springs	49.13	259	P	P	07 21 00.9	-0.2
	comp=Z,0.4nm,0.3s,baz=94,slow=6.6,SNR=14						
	comp=Z,0.4nm,0.3s						
ASAR	Alice Springs	49.13	259	P	P	07 21 01.4	+0.3
WR0	Warramunga Arr	49.43	264	P	P	07 21 03.4	+0.1
WR0				IAmb	IAmb	07 21 13.3	
	comp=Z,7.7nm,1.4s						
WB2	Warramunga Arr	49.61	264	P	P	07 21 05.0	+0.3
WB2				IAmb	IAmb	07 21 10.4	
	comp=Z,5.2nm,1.1s						
WB0	Warramunga Arr	49.62	264	P	P	07 21 04.8	+0.1
WB0				IAmb	IAmb	07 21 25.1	
	comp=Z,5.4nm,1.3s						
WRA	Warramunga Arr	49.62	264	P	P	07 21 04.8	0.0
	comp=Z,1.7nm,0.4s,baz=100,slow=8.2,SNR=56						
	comp=Z,1.7nm,0.4s						
WRA	Warramunga Arr	49.62	264	P	P	07 21 05.0	+0.3
PSA00	Pilbara Seismi	62.23	257	P	P	07 22 33.9	-1.1
MBWA	Marble Bar	62.45	258	P	P	07 22 35.1	-1.4
MBWA				IAmb	IAmb	07 23 18.3	
	comp=Z,20nm,1.4s						
QSPA	South Pole Qui	65.92	180	P	P	07 22 59.4	+0.7
QSPA				IAmb	IAmb	07 23 38.3	
	comp=Z,3.2nm,1.4s						

IDC 07 07:15:06.4±3.2, 18°.43N×81°.59W, h0km, mb3.3/3, mbtmp3.3/3, MS2.8/2, Error ellipse: s-maj=95.3km s-min=60.4km az=58.0
SSNC 07 07:15:13.6±4.1, 18°.67N×81°.39W, h25km±87km, MW3.5
ISC 07 07:15:09.3±1.2, 18°.77N±0°.10×81°.39W±0°.08, h10km, n16, σ2s.37/15, mb3.3/3, 2D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGV	Manicaragua	3.58	21	⇓eP	Pn	07 16 06.8	+2.0
MGV				eS	Sn	07 16 45.8	-1.4
CCCC	Cccc	4.18	54	eP	Pb	07 16 21.1	-1.9
SOR	Soroa	4.28	340	eP	Pn	07 16 17.7	+3.2
LMGC	Las Mercedes	4.34	72	eP	Pn	07 16 17.6	+2.3
STH	Stony Hill	4.41	98	i P	Pn	07 16 18.0	+1.7
HOJ	Hope	4.47	99	i P	Pn	07 16 19.7	+2.5
GWJ	Greenwich	4.48	98	i P	Pn	07 16 19.1	+1.7
HLGC	Holguin	5.45	66	eP	Pn	07 16 34.3	+3.7
RCC	Rio Carpintero	5.51	76	⇓eP	Pn	07 16 33.2	+1.7
MASC	Masc	6.90	77	eP	Pn	07 16 53.9	+3.3
CMIG	Matias Romero	12.95	265	LR	LR	07 23 17.5	
	comp=Z,41nm,18.2s,baz=110,slow=39						
SJG	San Juan	14.48	90	LR	LR	07 23 14.1	
	comp=Z,46nm,21.8s,baz=268,slow=33						
TXAR	Lajitas Array	22.86	302	P	P	07 20 12.4	-0.6
	0.6nm,0.6s,baz=112,slow=9.8,SNR=8.9						
	0.6nm,0.6s						
PDAR	Pinedale Array	33.75	321	P	P	07 21 51.3	-0.1
	0.3nm,0.8s,baz=129,slow=11,SNR=2.4						
	0.3nm,0.8s						
ILAR	Eielson Array	62.78	334	P	P	07 25 34.3	-0.4
	0.2nm,0.6s,baz=111,slow=7.2,SNR=2.0						
	0.2nm,0.6s						
WRA	Warramunga Arr	146.31	262	PKPbc	PKPdf	07 34 48.3	-1.6
	0.5nm,0.8s,baz=84,slow=4.0,SNR=4.8						

MAN 07 07:21:25.8, 8°.67N×126°.39E, h42km, mb3.8, ML2.5, MS2.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.49	183	⇑iP	Pn	07 21 38.2	+1.7
BIPH				i S	Sn	07 21 46.8	+2.8
CGP	Cagayan de Oro	1.69	263	⇑eP	Pn	07 21 53.9	+1.1
CGP				eS	Sn	07 22 14.1	+0.8

ISU 07 07:21:49, 41°.72N×68°.66E, h3km
SOME 07 07:21:49.4, 41°.63N×68°.75E, h20km
NNC 07 07:21:53.3±2.5, 41°.95N×68°.76E, h0km, mb3.4, mpv3.5, Error ellipse: s-maj=15.1km s-min=11.1km az=53.0
ISC 07 07:21:48.7±1.3, 41°.74N±0°.04×68°.66E±0°.06, h10km, n21, σ2s.94/35, 2C, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NZBK	Nazarbek	0.62	146	P	Pg	07 21 59.4	-1.3
NZBK				S	Sg	07 22 08.3	-0.5
TAS	Tashkent	0.63	131	P	Pg	07 22 01.1	+0.2
TAS				S	Sb	07 22 10.3	-0.4
CHM	Chimkent	0.91	50	eP	Pg	07 22 06.8	+0.6
	180nm,0.4s						
CHM				eS	Sg	07 22 19.1	+1.0
	609nm,0.3s						
CHRV	Charvak	0.97	95	P	Pg	07 22 07.1	-0.3
CHRV				S	Sg	07 22 20.2	+0.2
CHMG	Chimgan	1.03	100	P	Pg	07 22 08.3	-0.2
CHMG				S	Sb	07 22 22.5	+0.2
IUG	Iuzhnay	1.10	68	eP	Pb	07 22 10.5	+0.6
	31nm,0.1s						
IUG				eS	Sn	07 22 26.2	+0.6
	295nm,0.2s						
KRSA	Karasay	1.76	204	P	Pb	07 22 21.1	-0.1
KRSA				S	Sg	07 22 44.8	-0.6
KK31	Karatay Array	1.93	44	⇑P	Pb	07 22 24.6	+0.5
	5.1nm,0.4s,baz=232,slow=17,SNR=30						
KK31				⇑S	Sb	07 22 48.4	+0.2
	20nm,0.3s,baz=230,slow=27,SNR=21						
MINT	Mingtut	2.16	125	S	Sg	07 22 58.1	0.0
BTK	Batken	2.34	135	S	Sb	07 23 01.5	+1.4
MRKS	Merke	3.53	72	eP	Pb	07 22 52.5	+1.2
	1.3nm,0.2s						
MRKS				eS	Sb	07 23 38.4	+4.1
	36nm,0.3s						
SGDS	Sogindy	4.72	67	eP	Pb	07 23 14.3	+2.7
	0.6nm,0.3s						
SGDS				eS	Sg	07 24 16.6	-3.8
	11nm,0.5s						
SGDS	Sogindy	4.72	67	Pg	Pg	07 23 17.3	-1.9
	0.6nm,0.3s						
SGDS				Lg	Lg	07 24 16.6	
	11nm,0.5s						
DGS	Degeres	5.47	72	eP	Pb	07 23 27.1	+2.8
	3.7nm,0.1s						
DGS				eS	Sg	07 24 38.8	-5.4
	19nm,0.5s						
DGS	Degeres	5.47	72	Pg	Pg	07 23 30.2	-3.2
	3.7nm,0.1s						
DGS				Lg	Lg	07 24 38.8	
	19nm,0.5s						
KRBS	Karabastau	5.52	67	eP	Pb	07 23 27.4	+2.1
	1.7nm,0.3s						
KRBS				eS	Sb	07 24 38.7	+7.1
	6.3nm,1.4s						
KRBS	Karabastau	5.52	67	Pg	Pg	07 23 31.9	-2.6
	1.7nm,0.3s						
KRBS				Lg	Lg	07 24 40.0	
	5.6nm,0.5s						
KST	Kastek	5.56	74	eP	Pb	07 23 29.2	+3.3
	0.9nm,0.2s						
KST				eS	Sg	07 24 41.1	-6.1
	12nm,0.8s						
KST	Kastek	5.56	74	Pg	Pg	07 23 31.7	-3.5
	0.9nm,0.2s						
KST				Lg	Lg	07 24 41.1	
	12nm,0.8s						
MTBS	Maitube	5.91	74	eP	Pb	07 23 35.7	+3.8
	1.4nm,0.1s						
MTBS				eS	Sg	07 24 52.8	-5.7
	6.1nm,0.4s						
MTBS	Maitube	5.91	74	Pg	Pg	07 23 38.6	-3.3
	1.4nm,0.1s						
MTBS				Lg	Lg	07 24 52.8	
	6.1nm,0.4s						

NOU 07 07:25:39.9, 37°.93S×176°.12E, h237km, MLv3.5/6, North Island, New Zealand
WEL 07 07:25:46.6±0.7, 38°S±4°×17°6E±°, h177km±6km, M2.7/31, MLv2.7/31, Error ellipse: s-maj=0.0km s-min=0.0km az=72.7, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WPRZ	Whakapapatarin	0.48	166	P	Pn	07 26 11.6	+0.6
TOZ	Tahuroa Road	0.51	308	P	Pn	07 26 11.4	+0.3
TOZ				S	Sn	07 26 31.9	+2.0
RATZ	Rangitukua	0.84	193	P	Pn	07 26 13.4	+0.5
MRHZ	Matea Rd	0.84	158	P	Pn	07 26 13.3	+0.4
MRHZ				S	Sn	07 26 33.8	+0.3
URZ	Urewera	0.89	104	P	Pn	07 26 13.1	-0.1
URZ	Urewera	0.89	104	P	Pn	07 26 13.2	0.0
URZ				S	Sn	07 26 33.9	+0.2
RITZ	Rihia Road	0.93	187	P	Pn	07 26 14.2	+0.7
RTZ	Ruatahuna	0.95	127	P	Pn	07 26 14.0	+0.3
KATZ	Kakaramea	0.96	195	P	Pn	07 26 14.3	+0.5
HIZ	Hauiti	1.02	243	P	Pn	07 26 14.2	+0.1
HIZ	Hauiti	1.02	243	P	Pn	07 26 14.4	+0.3
MTHZ	Maungataniwha	1.03	141	P	Pn	07 26 14.8	+0.6
MTHZ				S	Sn	07 26 36.5	+0.7
NTVZ	North Tongarir	1.08	194	P	Pn	07 26 15.1	+0.4
KRVZ	Karewarewa	1.08	195	P	Pn	07 26 15.0	+0.2
TMVZ	Te Maari	1.09	193	P	Pn	07 26 15.1	+0.3
ETVZ	East Tongariro	1.11	192	P	Pn	07 26 15.3	+0.4
TWVZ	Taurewa	1.11	204	P	Pn	07 26 15.3	+0.3
WTVZ	West Tongariro	1.11	197	P	Pn	07 26 15.3	+0.3
NNVZ	North Ngauruho	1.12	196	P	Pn	07 26 15.5	+0.4
OTVZ	Oturere	1.14	194	P	Pn	07 26 15.7	+0.4
OTVZ				S	Sn	07 26 39.3	+1.7
MKAZ	Moumakai	1.16	324	P	Pn	07 26 15.1	-0.1
NGZ	Ngauruhoe	1.17	196	P	Pn	07 26 15.8	+0.3
SNVZ	South Ngauruho	1.17	194	P	Pn	07 26 15.8	+0.3
BKZ	Black Stump Fm	1.18	161	P	Pn	07 26 15.4	0.0
BKZ	Black Stump Fm	1.18	161	P	Pn	07 26 15.5	+0.1
RAGZ	Rawiri	1.19	112	P	Pn	07 26 16.2	+0.6
RAHZ	Arahi	1.21	136	P	Pn	07 26 16.5	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NMHZ	Naumai	1.22	149	P	Pn	07 26 16.2	+0.4
NMHZ				S	Sn	07 26 40.3	+1.8
MWZ	Matawai	1.23	104	P	Pn	07 26 16.2	+0.4
SNGZ	Shannon Statio	1.27	125	P	Pn	07 26 16.9	+0.7
WNVZ	Wahianoa	1.31	194	P	Pn	07 26 17.0	+0.2
RUGZ	Raukumara Rang	1.32	87	P	Pn	07 26 16.0	-0.8
KUZ	Kuaotunu	1.32	350	P	Pn	07 26 16.2	-0.5
PKVZ	Pokaka	1.34	203	P	Pn	07 26 17.6	+0.8
MOVZ	Moawhango	1.37	188	P	Pn	07 26 16.7	-0.4
ETAZ	East Tamaki Re	1.39	321	P	Pn	07 26 16.7	-0.6
KWHZ	Kaweka Forest	1.41	167	P	Pn	07 26 17.6	+0.2
HAZ	Te Kaha	1.43	79	P	Pn	07 26 17.6	0.0
ARHZ	Aropaoanui	1.44	148	P	Pn	07 26 18.3	+0.7
WIAZ	Waiheke Island	1.44	331	P	Pn	07 26 17.4	-0.3
BHHZ	Black Hill Sta	1.44	178	P	Pn	07 26 17.5	-0.2
VRZ	Vera Road	1.45	222	P	Pn	07 26 18.3	+0.5
AWAZ	Awhitu Peninsu	1.47	312	P	Pn	07 26 17.2	-0.8
MCHZ	McNeill Hill	1.49	159	P	Pn	07 26 18.9	+0.7
RIGZ	Rimuhau	1.52	116	P	Pn	07 26 19.0	+0.5
MBAZ	Motutapu North	1.56	325	P	Pn	07 26 18.4	-0.4
KNZ	Kokohu	1.63	127	P	Pn	07 26 19.7	+0.2
PKGZ	Pakihiroa	1.64	85	P	Pn	07 26 19.9	+0.2
CKHZ	Cape Kidnapper	1.81	153	P	Pn	07 26 21.8	+0.5
MHGZ	Mahia Peninsul	1.85	127	P	Pn	07 26 22.4	+0.6
PNHZ	Pukenui	1.87	176	P	Pn	07 26 21.4	-0.6
KAHZ	Kahuranaki	1.87	159	P	Pn	07 26 22.2	+0.2
WAZ	Wanganui	1.88	205	P	Pn	07 26 22.1	0.0
LREZ	Lake Rotokare	1.89	221	P	Pn	07 26 22.4	+0.3
WMGZ	Waiomatatini S	1.92	84	P	Pn	07 26 22.3	-0.2
NEZ	North Egmont	1.93	230	P	Pn	07 26 23.3	+0.6
TSZ	Takapari Road	2.01	181	P	Pn	07 26 22.6	-0.9
TSZ				S	Sn	07 26 50.0	-2.2
WPHZ	Waipukurau	2.04	171	P	Pn	07 26 23.5	-0.3
WPHZ				S	Sn	07 26 51.0	-1.9
NBEZ	Newall Road No	2.07	233	P	Pn	07 26 24.5	+0.4
PXZ	Pawanui	2.09	162	P	Pn	07 26 23.9	-0.4
PXZ				S	Sn	07 26 51.5	-2.3
DVHZ	Dannevirke	2.25	177	P	Pn	07 26 24.9	-1.3
DVHZ				S	Sn	07 26 54.5	-2.6
PRHZ	Porangahau	2.27	168	P	Pn	07 26 25.6	-0.7
PRHZ				S	Sn	07 26 55.5	-1.9
POWZ	Post Office Ro	2.35	185	P	Pn	07 26 25.7	-1.6
POWZ				S	Sn	07 26 57.1	-1.9
ANWZ	Angora Road	2.43	172	P	Pn	07 26 27.3	-1.0
ANWZ				S	Sn	07 26 58.6	-2.2
PRWZ	Pori Road	2.50	181	P	Pn	07 26 27.7	-1.3
PRWZ				S	Sn	07 26 58.7	-3.5
MRZ	Mangatainoka R	2.63	187	P	Pn	07 26 28.4	-2.1
MRZ				S	Sn	07 27 01.3	-3.6
BFZ	Birch Farm	2.63	176	P	Pn	07 26 29.2	-1.4
BFZ	Birch Farm	2.63	176	P	Pn	07 26 28.9	-1.7
BFZ				S	Sn	07 27 01.7	-3.4
TIWZ	Tintock	2.72	182	P	Pn	07 26 29.8	-1.9
TIWZ				S	Sn	07 27 03.1	-3.9
OGWZ	Otaki Gorge	2.84	193	P	Pn	07 26 30.9	-2.1
OGWZ				S	Sn	07 27 04.5	-4.9
HOWZ	Holdsworth Sta	2.87	188	P	Pn	07 26 30.9	-2.6
HOWZ				S	Sn	07 27 05.2	-4.9
KIW	Kapiti Island	2.93	197	P	Pn	07 26 31.5	-2.7
KIW				S	Sn	07 27 07.7	-3.8
TMWZ	Te Maipa	3.05	182	P	Pn	07 26 33.4	-2.3
TMWZ				S	Sn	07 27 10.1	-4.1
MTW	Mount Morrison	3.13	187	P	Pn	07 26 33.5	-3.1
MTW				S	Sn	07 27 11.1	-4.6
CAW	Cannon Point	3.14	193	P	Pn	07 26 34.0	-2.8
CAW				S	Sn	07 27 10.2	-5.7
DUWZ	D'Urville Isla	3.19	210	P	Pn	07 26 34.4	-3.0
DUWZ				S	Sn	07 27 14.7	-2.4
TRWZ	Traveller	3.35	184	P	Pn	07 26 36.5	-2.8
TRWZ				S	Sn	07 27 15.4	-5.3
MSWZ	Moikau Station	3.41	190	P	Pn	07 26 36.7	-3.4
MSWZ				S	Sn	07 27 16.6	-5.5
TCW	Tory Channel	3.43	202	P	Pn	07 26 37.2	-3.1
TCW				S	Sn	07 27 17.3	-5.0
TUWZ	Tuamarina	3.73	205	P	Pn	07 26 40.4	-3.7
TUWZ				S	Sn	07 27 23.6	-5.6
NNZ	Nelson	3.76	212	P	Pn	07 26 41.2	-3.2
NNZ				S	Sn	07 27 25.3	-4.4
TKNZ	Takaka Hill	3.80	217	P	Pn	07 26 42.1	-2.8
TKNZ				S	Sn	07 27 26.4	-4.3
QRZ	Quartz Range	3.87	223	P	Pn	07 26 44.0	-1.8
QRZ	Quartz Range	3.87	223	P	Pn	07 26 42.0	-3.8
BSWZ	Blackbirch Sta	4.01	203	P	Pn	07 26 44.0	-3.6
MRNZ	Matariki Terra	4.18	216	P	Pn	07 26 46.5	-3.3
THZ	Tophouse	4.41	212	P	Pn	07 26 49.5	-3.3
KHZ	Kahutara	4.75	203	P	Pn	07 26 53.0	-4.1
KHZ	Kahutara	4.75	203	P	Pn	07 26 53.2	-3.9
GVZ	Greta Valley S	5.41	204	P	Pn	07 27 01.0	-4.7
LTZ	Lake Taylor	5.52	210	P	Pn	07 27 02.5	-4.7
INZ	Inchbonnie	5.83	215	P	Pn	07 27 06.7	-4.5
OKCZ	Okains Bay	6.09	201	P	Pn	07 27 09.9	-4.8
MQZ	McQueen's Vall	6.20	203	P	Pn	07 27 10.1	-5.9
AKCZ	Akaroa Harbour	6.27	201	P	Pn	07 27 12.0	-4.9
ARCZ	Arundel	6.93	210	P	Pn	07 27 20.2	-5.5
TMZ	Timaru	7.36	209	P	Pn	07 27 25.6	-5.8

*MAN **07** 07:29:47.6, 4.°22N×126.°04E, h158km, mb5.0, ML4.0, MS4.0*
*IDC **07** 07:29:47.7±0.9, 4.°04N×125.°98E, h166km±8km, mb3.9/18, mbtmp4.4/22, MS3.4/2, Error ellipse: s-maj=17.9km s-min=7.3km az=71.0*
*NEIC **07** 07:29:47.1±1.3, 4.°09N±0.°05×125.°99E±0.°09, h153km±6km, mb4.6/30, Error ellipse: s-maj=13.3km s-min=7.7km az=79.0*
*DJA **07** 07:29:48.6±0.3, 4°N±4°×12°6E±°, h132km±3km, M4.5/14, mb4.6/14, mB5.0/6, MLv4.6/14, Mw(mB)4.4/6*
ISC 07 07:29:46.2±0.4, **4.°04N**±0.°04×**126.°03E**±0.°06, **h150**km, **n113**, σ**1.§31**/122, **mb4.5**/31, **3C-3D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	0.60	235	P	Pn	07 30 08.7	+0.5
SGSI				S	Sn	07 30 25.2	+0.4
GSPH	General Santos	2.30	332⇑	eP	Pn	07 30 24.6	-0.5
GSPH				iS	Sn	07 30 53.1	-2.0
GAMI	Galela, Maluku	2.80	141	P	Pn	07 30 31.1	-0.1
GAMI				S	Sn	07 31 02.8	-3.1
DAV	Davao City (W)	3.05	352	P	Pn	07 30 36.1	+1.9
	156nm,0.3s,baz=160,slow=18,SNR=1.7						
DAV				S	Sn	07 31 14.3	+2.9
	971nm,0.4s,baz=314,slow=22,SNR=7.1						
DAV	Davao City (W)	3.05	352	Pn	Pn	07 30 34.4	+0.2
DAV	Davao City (W)	3.05	352	P	Pn	07 30 39.2	+5.0
DAV	Davao City (W)	3.05	352	P	Pn	07 30 47.7	+13
KCP	Kidapawan	3.10	343⇑	eP	Pn	07 30 35.1	+0.2
KCP				eS	Sn	07 31 09.7	-3.0
TNTI	Ternate	3.51	158	Pn	Pn	07 30 40.6	+0.4
TNTI	Ternate	3.51	158	P	Pn	07 30 38.9	-1.2
CTBH	Cotabato--PC H	3.63	331⇓	eP	Pn	07 30 41.9	+0.3
BIPH	Bislig	4.13	5⇓	iP	Pn	07 30 43.4	-4.9
BIPH				iS	Sn	07 31 35.5	-1.0
GTOI	Gorontalo	4.53	222	P	Pn	07 30 55.2	+1.8
CGP	Cagayan de Oro	4.58	343⇑	eP	Pn	07 30 57.8	+3.6
CGP				eS	Sn	07 31 51.0	+3.8
LBMI	Labuha	4.87	162	P	Pn	07 30 57.4	-0.6
MRSI	Marisa	5.40	229	P	Pn	07 31 07.6	+2.6
	0.4nm1μm109nm,0.6s						
SCPH	Surigao	5.73	355⇓	eP	Pn	07 31 01.0	-8.4
TOLI2	Tolitoli	5.99	241	Pn	Pn	07 31 13.7	+0.9
TOLI2	Tolitoli	5.99	241	P	Pn	07 31 14.2	+1.4
LUWI	Luwuk	6.00	213	Pn	Pn	07 31 14.7	+1.7
LUWI	Luwuk	6.00	213	P	Pn	07 31 14.9	+1.9
	0.7nm242nm,1.0s						
SANI	Sanana	6.04	180	P	Pn	07 31 11.9	-1.6
	0.9nm3μm150nm,0.7s						
SANI				S	Sn	07 32 14.9	-7.0
	0.9nm3μm150nm,0.7s						
SANI	Sanana	6.04	180	P	Pn	07 31 12.0	-1.6
APSI	Ampana	6.58	222	P	Pn	07 31 22.6	+1.9
	0.3nm986nm61nm,0.7s						
MPSI	Mapaga	7.14	239	P	Pn	07 31 40.0	+12
SIJI	Sorong	7.15	133	P	Pn	07 31 29.8	+1.4
	12nm,0.4s,baz=320,slow=17,SNR=4.7						
SIJI				S	Sn	07 32 49.2	+0.7
	6.3nm,0.3s,baz=119,slow=21,SNR=1.4						
SIJI	Sorong	7.15	133	P	Pn	07 31 28.8	+0.4
	0.1nm12nm,0.5s						
NLAI	Namlea	7.31	172	P	Pn	07 31 29.8	-0.6
	0.6nm7μm55nm,0.9s						
MYLDM	Lahad Datu	7.59	279		Pn	07 31 34.3	+0.2
MYLDM	Lahad Datu	7.59	279	P	Pn	07 31 36.1	+1.9
	0.2nm78nm,1.1s						
KRAI	Karang Ratu	7.68	162	P	Pn	07 31 35.9	+0.5
FAKI	Fak Fak	9.30	138	Pn	Pn	07 31 59.0	+2.0
FAKI	Fak Fak	9.30	138	P	Pn	07 31 58.1	+1.1
	31nm,1.0s						
FAKI	Fak Fak	9.30	138	P	Pn	07 31 59.3	+2.3
SPSI	Sidrap Palu	10.11	218	P	Pn	07 32 09.0	+1.2
	48nm,0.7s						
KAPI	Kappang	10.96	215	P	Pn	07 32 19.8	+0.9
	36nm,0.6s,baz=30,slow=10,SNR=7.2						
KAPI	Kappang	10.96	215	Pn	Pn	07 32 19.5	+0.6
KAPI	Kappang	10.96	215	P	Pn	07 32 19.7	+0.7
	63nm,1.0s						
BBKI	Banjar Baru	13.43	236	P	Pn	07 32 53.8	+2.7
	6μm77nm,0.4s						
SBUM	Sibu	13.87	264	Pn	Pn	07 32 56.3	-0.3
SBUM					P	07 32 58.4	-1.7
SBUM	Sibu	13.87	264	P	P	07 33 02.3	+2.3
	17nm,1.0s						
BATI	Baumata	14.34	189	P	Pn	07 33 03.2	+0.6
	30nm,0.4s,baz=27,slow=9.0,SNR=1.7						
TWSI	Taliwang, Sumb	15.62	216	P	P	07 33 20.5	+1.0
	82nm,0.8s						
KLNI	Mataram	15.85	219	P	P	07 33 29.6	+7.6
KSM	Kuching	15.90	261	P	P	07 33 22.8	+0.2
KSM				IAmb	IAmb	07 33 24.8	
	comp=Z,18nm,0.8s						
KSM	Kuching	15.90	261	P	P	07 33 25.2	+2.6
	comp=Z,28nm,0.9s						
JAGI	Jajag, Banyuwa	17.16	224	P	P	07 33 36.1	-0.4
JAGI				IAmb	IAmb	07 33 41.7	
	comp=Z,39nm,1.1s						
MTN	Manton Dam	17.52	163	P	P	07 33 40.0	-0.3
MTN				IAmb	IAmb	07 34 07.2	
	comp=Z,21nm,1.2s						
KDU	Kakadu	17.81	159	P	P	07 33 44.5	+1.0
KNRA	Kununurra	19.77	172	P	P	07 34 05.6	+0.7
KNRA	Kununurra	19.77	172	P	P	07 34 05.6	+0.7
LEM	Lembang	21.31	240	P	P	07 34 21.6	0.0
	comp=Z,21nm,0.5s,baz=75,slow=20,SNR=3.7						
	comp=Z,21nm,0.5s						
WB0	Warramunga Arr	25.04	161	P	P	07 34 56.8	+0.1
WRAB	Tennant Creek	25.18	161	P	P	07 34 58.4	+0.4
WRAB				IAmb	IAmb	07 35 01.5	
	comp=Z,20nm,1.0s						
WRAB	Tennant Creek	25.18	161	P	P	07 34 58.8	+0.8
WRA	Warramunga Arr	25.19	161	P	P	07 34 58.1	0.0
	comp=Z,9.8nm,0.5s,baz=340,slow=10,SNR=140						
WRA				S	S	07 39 11.5	-0.9
	comp=Z,0.3nm,0.6s,baz=353,slow=15,SNR=2.1						
WRA				ScP	ScP	07 41 52.0	-1.4
	comp=Z,1.2nm,0.8s,baz=341,slow=2.9,SNR=7.3						
	comp=Z,9.8nm,0.5s						
WRA	Warramunga Arr	25.19	161	P	P	07 34 58.5	+0.5
WB2	Warramunga Arr	25.20	161	P	P	07 34 58.2	+0.1
WB2				IAmb	IAmb	07 35 01.6	
	comp=Z,34nm,1.2s						
WB1	Warramunga Ar.	25.21	161	P	P	07 34 58.6	+0.4
WR0	Warramunga Arr	25.27	161	P	P	07 34 58.8	0.0
WR0				IAmb	IAmb	07 35 01.5	
	comp=Z,9.8nm,0.6s						
MBWA	Marble Bar	25.79	194	P	P	07 35 02.9	-0.5
MBWA				IAmb	IAmb	07 35 06.4	
	comp=Z,16nm,1.1s						
MBWA	Marble Bar	25.79	194	P	P	07 35 03.5	+0.1
PSA00	Pilbara Seismi	26.16	193	P	P	07 35 06.9	+0.1
PSA00	Pilbara Seismi	26.16	193	P	P	07 35 06.4	-0.4
PSA00				IAmb	IAmb	07 35 07.6	
	comp=Z,12nm,0.8s						
PSA00	Pilbara Seismi	26.16	193	P	P	07 35 07.0	+0.2
RPSI	Rantau Prapat	27.09	268	P	P	07 35 14.9	-0.3
RPSI				IAmb	IAmb	07 35 16.6	
	comp=Z,14nm,1.2s						
KRVT	Keravat (AS076	27.27	107	P	P	07 35 17.2	+0.4
	comp=Z,21nm,0.4s,baz=310,slow=7.9,SNR=3.7						
GSI	Gunungsitoli	28.55	265	P	P	07 35 27.4	-0.8
AS31	Alice Springs	28.59	165		P	07 35 28.7	+0.2
ASAR	Alice Springs	28.59	165	P	P	07 35 28.9	+0.5
	comp=Z,5.1nm,0.6s,baz=343,slow=7.4,SNR=120						
ASAR				PcP	PcP	07 38 35.8	-0.3
	comp=Z,0.5nm,0.6s,baz=307,slow=1.9,SNR=2.6						
ASAR				S	S	07 40 03.2	-2.6
	comp=Z,0.5nm,0.7s,baz=348,slow=16,SNR=3.5						
ASAR				ScP	ScP	07 42 01.3	-2.2
	comp=Z,0.8nm,0.7s,baz=342,slow=2.4,SNR=6.0						
	comp=Z,5.1nm,0.6s						
ASAR	Alice Springs	28.59	165	P	P	07 35 29.2	+0.8
AS01	Alice Springs	28.60	165	P	P	07 35 29.1	+0.6
WRKA	Warakurna	28.98	176	P	P	07 35 32.8	+0.9
CMAR	Chiang Mai Arr	30.11	301	P	P	07 35 42.9	+0.9
	comp=Z,1.5nm,0.3s,baz=105,slow=5.7,SNR=1.6						
	comp=Z,1.5nm,0.3s						
MEEK	Meekatharra	31.32	193	P	P	07 35 52.5	-0.1
KSRS	Korea Array	33.30	3	P	P	07 36 10.5	+0.8
	comp=Z,0.9nm,0.5s,baz=177,slow=9.3,SNR=2.6						
	comp=Z,0.9nm,0.5s						
MJAR	Matsushiro Arr	34.24	18	LR	LR	07 50 01.2	
	comp=Z,28nm,21.0s,baz=197,slow=35						
MORW	Morawa	34.28	196	P	P	07 36 17.9	-0.4
MORW				IAmb	IAmb	07 36 18.4	
	comp=Z,9.7nm,0.8s						
FORT	Forrest	34.67	177	P	P	07 36 22.1	+0.5
LCRK	Leigh Creek	36.22	162	P	P	07 36 35.9	+1.2
NWAO	Narrogin (SRO)	37.69	192	P	P	07 36 47.6	+0.4
NWAO				IAmb	IAmb	07 36 48.4	
	comp=Z,33nm,1.2s						
BBOO	Buckleboo	37.86	166	P	P	07 36 49.4	+0.8
STKA	Stephens Creek	38.67	159	P	P	07 36 56.4	+1.1
	comp=Z,7.3nm,0.8s,baz=328,slow=9.5,SNR=9.7						
	comp=Z,7.3nm,0.8s						
STKA	Stephens Creek	38.67	159	P	P	07 36 56.6	+1.2
STKA	Stephens Creek	38.67	159	P	P	07 36 56.5	+1.1
SHL	Shillong	39.13	307	P	P	07 36 58.8	-0.8
SHL				IAmb	IAmb	07 36 59.8	
	comp=Z,17nm,0.7s						
CN2	Changchun	39.60	359	eP	P	07 37 02.6	-0.4
CN2				esP	sP	07 37 50.0	-1.5
USA0B	Ussuriysk Arra	40.34	7	P	P	07 37 09.1	+0.1
USA0B				IAmb	IAmb	07 37 15.0	
	comp=Z,28nm,1.4s						
USRK	Ussuriysk Ar.	40.34	7	P	P	07 37 09.1	0.0
	comp=Z,1.6nm,0.6s,baz=186,slow=4.3,SNR=3.1						
	comp=Z,1.6nm,0.6s						
USRK	Ussuriysk Ar.	40.34	7	P	P	07 37 09.7	+0.7
SONM	Songino Array	46.79	342	P	P	07 38 00.3	-0.5
	comp=Z,0.3nm,0.4s,baz=28,slow=42,SNR=2.9						
	comp=Z,0.3nm,0.4s						
PETK	Petropavlovsk-	55.42	23	P	P	07 39 05.6	+0.7
	comp=Z,4.8nm,1.0s,baz=289,slow=14,SNR=1.2						
	comp=Z,4.8nm,1.0s						
PETK	Petropavlovsk-	55.42	23	P	P	07 39 04.2	-0.7
MK31	Makanchi Array	56.91	325	P	P	07 39 14.8	-0.8
MKAR	Makanchi Array	56.91	325	P	P	07 39 14.6	-1.0
	comp=Z,3.2nm,0.5s,baz=122,slow=8.3,SNR=30						
MKAR				PcP	PcP	07 40 08.8	-0.5
	comp=Z,0.7nm,0.3s,baz=123,slow=5.7,SNR=5.2						
MKAR				ScP	ScP	07 43 53.0	-2.0
	comp=Z,0.4nm,0.7s,baz=101,slow=4.6,SNR=2.1						
	comp=Z,3.2nm,0.5s						
MKAR	Makanchi Array	56.91	325	P	P	07 39 14.8	-0.8
MAKZ	Makanchi	57.09	325	P	P	07 39 17.5	+0.6
MAKZ				IAmb	IAmb	07 39 17.8	
	comp=Z,3.4nm,0.6s						
ZALV	Zalesovo Beam	60.00	333	P	P	07 39 35.1	-1.8
	comp=Z,0.7nm,0.3s,baz=108,slow=9.4,SNR=4.2						
ZALV				PcP	PcP	07 40 20.4	-1.0
	comp=Z,0.8nm,0.6s,baz=108,slow=4.7,SNR=3.7						
	comp=Z,0.7nm,0.3s						
ARSB	Arslanbob	60.15	316	P	P	07 39 37.0	-1.3
KURK	Kurchatov	61.11	328	P	P	07 39 44.6	+0.2
BRVK	Borovoye	66.75	327	P	P	07 40 20.2	-1.1
NRIK	Noril'sk	69.97	346	P	P	07 40 40.8	-0.2
	comp=Z,2.9nm,0.5s,baz=138,slow=6.5,SNR=6.4						
	comp=Z,2.9nm,0.5s						
GEYT	Alibeck	70.16	309	LR	LR	08 14 14.0	
	comp=Z,66nm,19.7s,baz=150,slow=38						
ABKAR	Akbulak array	71.47	321	P	P	07 40 48.9	-1.6
VNDA	Vanda	83.82	173	P	P	07 41 59.0	+0.7
	comp=Z,2.3nm,0.6s,baz=322,slow=7.1,SNR=13						
	comp=Z,2.3nm,0.6s						
VNDA	Vanda	83.82	173	P	P	07 41 59.0	+0.7
BRTR	Keskin Array B	89.29	310	P	P	07 42 25.1	-0.8
	comp=Z,0.7nm,0.7s,baz=92,slow=7.5,SNR=3.0						
	comp=Z,0.7nm,0.7s						
ARCES	ARCESS Array B	89.92	340	P	P	07 42 26.7	-1.3
	comp=Z,1.0nm,0.6s,baz=56,slow=6.5,SNR=7.3						
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	91.21	321	P	P	07 42 32.3	-2.1
	comp=Z,0.3nm,0.4s,baz=90,slow=1.9,SNR=1.8						
	comp=Z,0.3nm,0.4s						
FINES	FINESS Array B	91.23	332	P	P	07 42 32.6	-1.6
	comp=Z,6.4nm,1.0s,baz=92,slow=7.0,SNR=3.9						
	comp=Z,6.4nm,1.0s						
QSPA	South Pole Qui	93.94	180	P	P	07 42 48.1	+1.4
QSPA				IAmb	IAmb	07 42 48.4	
	comp=Z,4.6nm,0.9s						
NOA	NORSAR Array B	98.20	333	P	P	07 43 04.2	-2.0
	comp=Z,0.8nm,0.7s,baz=71,slow=7.1,SNR=3.7						
	comp=Z,0.8nm,0.7s						
TORD	Torodi Ar. Bea	122.16	288	PKP	PKPdf	07 48 23.1	-1.1
	comp=Z,0.5nm,0.5s,baz=76,slow=1.6,SNR=4.7						

*IDC **07** 07:33:58.4±0.7, 36.°52N×98.°72W, h0km, mb3.7/2, mbtmp3.7/10, ML3.9/6, Error ellipse: s-maj=10.6km s-min=8.5km az=143.0*
*TUL **07** 07:33:59.6±1.7, 36.°46N±0.°02×98.°76W±0.°02, h8km±6km, ML3.9, mb4.1/8(NEIC), mb_Lg3.8/112(NEIC), Error ellipse: s-maj=2.6km s-min=2.1km az=111.0*
*NEIC **07** 07:34:00.1±1.6, 36.°45N±0.°02×98.°73W±0.°04, h8km±5km, Error ellipse: s-maj=4.7km s-min=2.1km az=120.0*
*ANF **07** 07:34:01.2±1.2, 36.°43N×98.°63W, h5km, ML4.7/22, Error ellipse: s-maj=15.0km s-min=13.6km az=148.0*
ISC 07 07:33:59.4±0.9, **36.°47N**±0.°02×**98.°68W**±0.°02, **h9**km±7km, **n297**, σ**1.§47**/319, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NOKA	Waynoka	0.26	310	Pg	Pg	07 34 04.6	0.0
NOKA				Sg	Sg	07 34 08.1	0.0
U32A	Winter Ranch,	0.27	251	Pg	Pg	07 34 03.9	-0.9
U32A				Sg	Sg	07 34 07.7	-0.8
U32A	Winter Ranch,	0.27	251	P	Pg	07 34 03.9	-0.9
	baz=70,SNR=1000						
U32A				S	Sg	07 34 07.7	-0.8
	baz=70						
CROK	Carrier	0.56	86		Pg	07 34 11.9	+1.6
CROK				Sg	Sb	07 34 20.6	+1.0
ELIS	Ellis County	0.72	236	Pg	Pg	07 34 12.5	-0.8
ELIS				Sg	Sg	07 34 22.1	-0.5
KAN14	Manchester OK	0.76	50		Pg	07 34 15.1	+1.2
KAN14				Sg	Sb	07 34 26.5	+1.3
GC02	Grant County #	0.76	60		Pg	07 34 15.3	+1.2
GC02				Sg	Sb	07 34 26.7	+1.3
CSTR	Hydro, Custer	0.82	180	Pg	Pg	07 34 15.2	0.0
CSTR				IAmb_Lg		07 34 24.8	
	comp=Z,64nm,0.8s						
CSTR				Sg	Sg	07 34 26.6	+0.8
KAN16	Harper SW Stat	0.90	33	Sg	Sb	07 34 30.6	+1.2
KAN17	Caldwell West	0.94	52	Pg	Pg	07 34 18.3	+1.0
KAN17				Sg	Sb	07 34 31.5	+1.2
KAN08	Anthony NE Sta	0.95	37	Pg	Pg	07 34 18.4	+0.8
KAN12	Harper NE Stat	0.99	33	Pg	Pg	07 34 19.3	+0.8
KAN01	Argonia South	1.01	47	Pg	Pg	07 34 19.7	+0.9
KAN06	Argonia West S	1.02	40		Pg	07 34 19.8	+0.8
KAN09	Caldwell North	1.08	52		Pg	07 34 20.9	+0.7
KAN13	South Haven SW	1.11	60		Pg	07 34 21.4	+0.8
OK049	E0420 Rd and N	1.11	93		Pg	07 34 21.6	+0.8
KS21	Milan North St	1.16	45		Pg	07 34 22.2	+0.7
KS20	Mayfield South	1.18	50		Pb	07 34 22.7	+0.7
BCOK	Bluff Creek, N	1.19	133	Pn	Pb	07 34 22.2	+0.1
OK029	Liberty Lake	1.20	124		Pb	07 34 22.4	+0.2
BLOK	Blackwell	1.22	76		Pn	07 34 23.3	+0.7
BLOK				IAmb_Lg		07 34 41.0	
	comp=Z,479nm,0.8s						
OK050	Pawnee Station	1.37	93		Pn	07 34 26.1	+1.3
OK048	Pawnee Station	1.40	92		Pn	07 34 26.6	+1.4
OK025	Westminster Rd	1.40	129		Pn	07 34 25.9	+0.8
OK045	Pawnee Station	1.42	90		Pn	07 34 26.8	+1.4
OK046	Pawnee Station	1.43	92		Pn	07 34 27.1	+1.5
OK005	Luther M Schoo	1.46	123	Pn	Pn	07 34 27.1	+1.2
OK033	Mehan	1.47	106		Pn	07 34 27.4	+1.3
OK051	E0350 and S346	1.49	88		Pb	07 34 28.0	+0.8
OK044	Pawnee Station	1.52	93	Pn	Pb	07 34 28.5	+0.7
OK031	S. Brethren Rd	1.58	108	Pn	Pn	07 34 28.9	+1.3
FNO	Franklin	1.59	139	Pn	Pn	07 34 29.1	+1.3
QUOK	Quay	1.62	100	Pn	Pn	07 34 29.4	+1.2
OK034	N. Norfolk Rd.	1.66	105	Pn	Pn	07 34 30.1	+1.5
WMOK	Wichita Mounta	1.73	183	Pn	Pn	07 34 29.7	0.0
WMOK	Wichita Mounta	1.73	183	P	Pn	07 34 29.5	-0.1
	baz=1.1,SNR=418						
WMOK				S	Sb	07 34 53.6	+0.4
	baz=1.1						
WMOK	Wichita Mounta	1.73	183	P	Pn	07 34 29.6	0.0
	baz=1.1,SNR=174						
WMOK				S	Sn	07 34 52.7	+0.8
	baz=1.1						
T35A	Sooner Cattle	1.80	75	Pn	Pn	07 34 31.9	+1.2
T35A				IAmb_Lg		07 34 58.8	
	comp=Z,450nm,0.9s						
T35B	Sooner Cattle	1.80	75	P	Pn	07 34 32.3	+1.6
	baz=256,SNR=351						
T35B				S	Sg	07 34 58.0	+0.8
	baz=256						
DEOK	Depew	1.87	109		Pn	07 34 33.0	+1.3
R32A	Long Quarter,	1.95	359		Pn	07 34 34.0	+1.2
R32A	Long Quarter,	1.95	359	P	Pn	07 34 34.2	+1.5
	baz=181,SNR=155						
R32A				S	Sb	07 35 01.6	+2.0
	baz=181						
X34A	Smith Ranch, M	1.99	159		Pn	07 34 34.2	+0.9
TUL1	Leonard	2.40	103	Pn	Pn	07 34 40.2	+1.3
TUL1				IAmb_Lg		07 35 16.0	
	comp=Z,295nm,0.8s						
TUL1	Leonard	2.40	103	P	Pn	07 34 40.4	+1.5
	baz=284,SNR=210						
TUL1				S	Sn	07 35 11.5	+3.0
	baz=284						
TUL1	Leonard	2.40	103	P	Pn	07 34 40.4	+1.5
	baz=284,SNR=108						
TUL1				Sb	Sb	07 35 14.9	+2.3
	baz=284						
CBKS	Cedar Bluff	2.49	341	Pn	Pn	07 34 41.1	+1.0
CBKS	Cedar Bluff	2.49	341	P	Pn	07 34 41.1	+1.0
	baz=161,SNR=124						
CBKS				S	Sb	07 35 15.9	+0.8
	baz=161						
CBKS	Cedar Bluff	2.49	341	P	Pn	07 34 40.9	+0.8
	baz=161,SNR=113						
CBKS				Sb	Sb	07 35 16.9	+1.8
	baz=161						
LOOK	Love County	2.76	153	Pn	Pn	07 34 45.0	+1.1
LOOK				IAmb_Lg		07 35 34.9	
	comp=Z,212nm,0.8s						
AMTX	Amarillo	2.91	238	Pn	Pn	07 34 46.9	+0.9
AMTX				IAmb_Lg		07 35 34.3	
	comp=Z,272nm,0.7s						
AMTX	Amarillo	2.91	238	P	Pn	07 34 47.0	+1.1
	baz=56,SNR=29						
AMTX				S	Sb	07 35 28.6	+1.4
	baz=56						
AMTX	Amarillo	2.91	238	P	Pn	07 34 46.7	+0.7
	baz=56						
AMTX				Sb	Sb	07 35 29.0	+1.7
	baz=56						
RLO	Rose Lookout	2.97	95	Pn	Pn	07 34 49.4	+2.6
RLO				IAmb_Lg		07 35 34.7	
	comp=Z,188nm,0.7s						
KSU1	Kansas State U	3.10	31	Pn	Pn	07 34 50.5	+2.0
KSU1				IAmb_Lg		07 35 46.6	
	comp=Z,280nm,0.9s						
KSU1	Kansas State U	3.10	31	P	Pn	07 34 50.7	+2.2
	baz=213,SNR=100						
KSU1	Kansas State U	3.10	31	P	Pn	07 34 50.5	+2.0
	baz=213,SNR=30						
KSU1				S	Sn	07 35 28.6	+2.9
	baz=213						
X37A	Clayton	3.29	124	Pn	Pn	07 34 52.2	+1.1
X37A	Clayton	3.29	124	P	Pn	07 34 52.1	+1.0
	baz=305,SNR=81						
Z35A	Perchaven, San	3.34	159		Pn	07 34 53.0	+1.2
Z35A	Perchaven, San	3.34	159	P	Pn	07 34 53.2	+1.3
	baz=339,SNR=51						
Z35A				S	Sb	07 35 43.4	+3.7
	baz=339						
U38A	Gravette	3.46	89	Pn	Pn	07 34 55.4	+1.9
HHAR	Hobbs	3.83	91		Pn	07 35 00.4	+1.8
HHAR				IAmb_Lg		07 36 04.6	

comp=Z,312nm,1.0s
ABTX Abilene, Hawle 3.92 192 Pn 07 35 00.1 +0.3
ABTX IAmb_Lg 07 36 07.3
comp=Z,210nm,1.0s
ABTX Abilene, Hawle 3.92 192 P Pn 07 35 00.1 +0.3
baz=11,SNR=14
ABTX Abilene, Hawle 3.92 192 P Pn 07 34 60.0 +0.3
baz=11,SNR=15
KSCO Kaye Shedlock' 4.03 310 Pn Pn 07 35 01.9 +0.5
KSCO Kaye Shedlock' 4.03 310 P Pn 07 35 01.6 +0.2
baz=128
KSCO Sb **Sb 07 36 03.1 +3.6**
baz=128
MSTX Muleshoe 4.17 235 Pn 07 35 03.8 +0.4
MSTX IAmb_Lg 07 36 14.7
comp=Z,223nm,0.8s
MSTX Muleshoe 4.17 235 P Pn 07 35 03.9 +0.5
baz=52,SNR=29
MSTX Muleshoe 4.17 235 P Pn 07 35 03.4 0.0
baz=52,SNR=28
MSTX Sb **Sb 07 36 07.1 +3.4**
baz=52
N33B J Bar K, Exete 4.37 12 P Pn 07 35 06.0 0.0
baz=194,SNR=55
N33B S **Sn 07 35 57.6 +0.5**
baz=194
N33A J Bar K, Exete 4.37 12 Pn 07 35 05.9 -0.1
N33A IAmb_Lg 07 36 26.0
comp=Z,179nm,0.7s
Z38A Mt. Pleasant 4.41 135 Pn Pn 07 35 07.2 +0.7
Z38A IAmb_Lg 07 36 24.2
comp=Z,158nm,0.8s
Z38A Mt. Pleasant 4.41 135 S Sg 07 36 19.3 -1.8
baz=317
WHTX Lake Whitney, 4.58 167 Pn 07 35 09.6 +0.7
WHTX Lake Whitney, 4.58 167 P Pn 07 35 09.4 +0.6
baz=347,SNR=30
WHTX Lake Whitney, 4.58 167 P Pn 07 35 09.4 +0.6
baz=347,SNR=6.9
WHTX Sb **Sb 07 36 20.2 +5.0**
baz=347
MIAR Mount Ida 4.58 113 Pn Pn 07 35 10.2 +1.3
MIAR IAmb_Lg 07 36 37.5
comp=Z,200nm,0.8s
MIAR Mount Ida 4.58 113 P Pn 07 35 10.3 +1.4
baz=296,SNR=38
MIAR Mount Ida 4.58 113 P Pn 07 35 10.4 +1.4
baz=296,SNR=8.2
T25A Trinidad 4.65 280 Pn Pn 07 35 10.0 +0.1
T25A Trinidad 4.65 280 P Pn 07 35 09.9 -0.1
baz=97,SNR=10
T25A Sb **Sb 07 36 22.0 +4.6**
baz=97
BGNE Belgrade 4.95 5 Pn Pn 07 35 14.5 +0.6
BGNE IAmb_Lg 07 36 38.8
comp=Z,189nm,0.7s
BGNE Belgrade 4.95 5 P Pn 07 35 14.7 +0.7
baz=186,SNR=33
BGNE Belgrade 4.95 5 P Pn 07 35 14.6 +0.6
baz=186,SNR=17
N35A Tabor 4.99 28 Pn 07 35 15.7 +1.2
N35A Tabor 4.99 28 P Pn 07 35 16.5 +2.0
baz=210,SNR=23
237A Washetta, Mont 5.05 151 Pn 07 35 15.1 -0.2
237A IAmb_Lg 07 36 49.6
comp=Z,153nm,0.9s
237A Washetta, Mont 5.05 151 P Pn 07 35 15.2 -0.1
baz=332,SNR=7.6
P38A Dawn 5.14 51 Pn Pn 07 35 18.2 +1.6
P38A IAmb_Lg 07 36 48.6
comp=Z,131nm,0.8s
P38A Dawn 5.14 51 P Pn 07 35 18.2 +1.6
baz=234,SNR=26
OGNE Ogallala 5.18 331 Pn Pn 07 35 18.7 +1.5
OGNE IAmb_Lg 07 36 58.0
comp=Z,239nm,0.9s
OGNE Ogallala 5.18 331 P Pn 07 35 18.7 +1.5
baz=149,SNR=22
OGNE Ogallala 5.18 331 P Pn 07 35 18.5 +1.3
baz=149
MGMO Mountain Grove 5.19 81 Pn 07 35 18.8 +1.5
WHAR Wooly Hollow 5.32 101 Pn 07 35 20.6 +1.5
WHAR IAmb_Lg 07 37 03.5
comp=Z,160nm,0.9s
FCAR Ozark Folk Cen 5.34 94 Pn Pn 07 35 21.0 +1.7
FCAR IAmb_Lg 07 36 53.1
comp=Z,134nm,0.8s
WLAR White Oak Lake 5.34 120 Pn Pn 07 35 19.9 +0.6
WLAR IAmb_Lg 07 36 56.5
comp=Z,192nm,0.8s
R40A Maddies Statio 5.42 68 Pn 07 35 21.6 +1.2
R40A IAmb_Lg 07 36 58.0
comp=Z,95nm,0.9s
R40A Maddies Statio 5.42 68 P Pn 07 35 21.4 +1.0
baz=252
UALR University of 5.43 106 Pn Pn 07 35 22.3 +1.8
UALR IAmb_Lg 07 37 02.3
comp=Z,130nm,0.7s
CPRX Cap Rock 5.47 233 Pn Pn 07 35 21.7 +0.5
SDCO Great Sand Dun 5.60 285 Pn Pn 07 35 24.0 +0.9
SDCO Great Sand Dun 5.60 285 S Sb 07 35 51.6 +6.8
baz=101
SDCO Great Sand Dun 5.60 285 P Pn 07 35 23.6 +0.5
baz=101,SNR=19
Q24A Divide 5.70 298 Pn Pn 07 35 26.1 +1.5
Q24A IAmb_Lg 07 36 59.9
comp=Z,143nm,0.8s
Q24A Divide 5.70 298 P Pn 07 35 24.5 -0.1
baz=114
HTMS Hat Mesa 5.71 227 Pn Pn 07 35 24.9 +0.4
435B Jarrell 5.74 171 Pn Pn 07 35 25.0 +0.1
435B IAmb_Lg 07 37 14.8
comp=Z,150nm,0.8s
435B Jarrell 5.74 171 P Pn 07 35 25.1 +0.3
baz=351
435B Jarrell 5.74 171 P Pn 07 35 25.3 +0.4
baz=351
NATX Nacogdoches 5.76 143 IAmb_Lg 07 37 15.4
comp=Z,131nm,0.8s
NATX Nacogdoches 5.76 143 P Pn 07 35 23.6 -1.4
baz=325
L34A Svendsen Farm, 5.78 17 Pn 07 35 25.1 -0.2
CLN7 Carlsbad 7 5.86 228 Pn 07 35 27.3 +0.8
CLNB Carlsbad 6.00 227 Pn 07 35 29.2 +0.7
BRIGG Briggsdale 6.03 315 Pn Pn 07 35 29.7 +0.7
BRIGG IAmb_Lg 07 37 10.9
comp=Z,181nm,0.9s
JCT Junction City 6.05 189 Pn Pn 07 35 27.9 -1.1
JCT IAmb_Lg 07 37 20.0
comp=Z,158nm,0.8s
JCT Junction City 6.05 189 P Pn 07 35 29.2 +0.1
baz=8.2
P40A Paris 6.07 58 Pn 07 35 30.7 +1.4
P40A IAmb_Lg 07 37 19.6
comp=Z,190nm,0.8s
P40A Paris 6.07 58 P Pn 07 35 30.5 +1.2
baz=242
N38A Joes South For 6.07 43 Pn Pn 07 35 30.7 +1.4
N38A Joes South For 6.07 43 P Pn 07 35 30.5 +1.2
baz=226,SNR=9.4
N38A S **Sg 07 37 12.5 -1.6**
baz=226
LCAR Lake Charles 6.09 92 Pn Pn 07 35 30.2 +0.6
LCAR IAmb_Lg 07 37 12.4
comp=Z,89nm,0.8s
CCM Cathedral Cave 6.14 73 Pn 07 35 32.2 +1.9
CCM IAmb_Lg 07 37 13.9
comp=Z,186nm,1.0s
CCM Cathedral Cave 6.14 73 P Pn 07 35 31.6 +1.3
baz=257
K31A O'Neill 6.15 360 Pn Pn 07 35 30.3 -0.1
K31A IAmb_Lg 07 37 28.4
comp=Z,149nm,0.7s
CCAR Cane Creek 6.20 112 IAmb_Lg 07 37 24.1
comp=Z,159nm,1.0s
GDL2 Guadalupe Moun 6.34 229 Pn Pn 07 35 31.0 -2.1
ISCO Idaho Springs 6.39 303 IAmb_Lg 07 37 27.3
comp=Z,92nm,1.1s
ISCO Idaho Springs 6.39 303 S Sg 07 37 18.0 -6.6
baz=120
ANMO Albuquerque 6.50 259 Pn Pn 07 35 36.1 +0.6
comp=Z,0.3nm,0.3s,baz=76,slow=12,SNR=10
ANMO Pg **Pb 07 35 57.4 +4.5**
comp=Z,1.3nm,0.3s,baz=74,slow=14,SNR=17
ANMO Lg Lg 07 37 21.2
comp=Z,5.8nm,0.3s,baz=112,slow=6.0,SNR=6.0
comp=Z,1.5nm,0.6s
ANMO Albuquerque 6.50 259 Pn Pn 07 35 34.3 -1.2
ANMO Albuquerque 6.50 259 P Pn 07 35 35.2 -0.3
baz=74
HBAR Harrisburg 6.57 96 Pn Pn 07 35 35.7 -0.4
S22A 4UR Ranch, Cre 6.63 284 Pn Pn 07 35 37.8 +0.4
S22A 4UR Ranch, Cre 6.63 284 P Pn 07 35 37.2 -0.1
baz=99
PBMO Poplar Bluff 6.64 85 Pn Pn 07 35 38.3 +1.1
PBMO IAmb_Lg 07 37 35.3
comp=Z,98nm,0.7s
FVM French Village 6.76 75 Pn Pn 07 35 37.5 -1.3
FVM IAmb_Lg 07 37 38.6
comp=Z,97nm,0.8s
SCIA State Center 6.89 36 Pn Pn 07 35 38.7 -1.9
BNM Barren Site 6.89 253 Pn Pn 07 35 40.9 0.0
SLM Saint Louis 7.05 70 Pn Pn 07 35 44.1 +1.3
SLM IAmb_Lg 07 37 51.8
comp=Z,115nm,0.7s
CRNM Carthage 7.05 252 Pn Pn 07 35 43.5 +0.5
143A Socs Landing, 7.08 120 IAmb_Lg 07 37 54.5
comp=Z,87nm,0.9s
SMCO Smwass 7.10 295 Pn Pn 07 35 41.4 -2.4
Y22D IRIS PASSCAL I 7.15 253 IAmb_Lg 07 38 05.0
comp=Z,140nm,0.8s
PHWY Pilot Hill 7.16 314 Pn 07 35 44.7 +0.2
PHWY IAmb_Lg 07 37 44.8
comp=Z,131nm,1.0s
PARMO Parma 7.19 86 Pn Pn 07 35 46.1 +1.5
PARMO IAmb_Lg 07 37 55.0
comp=Z,167nm,0.7s
N23A Red Feather La 7.20 310 Pn Pn 07 35 46.4 +1.3
N23A Red Feather La 7.20 310 P Pn 07 35 45.2 +0.2
baz=126,SNR=5.9
MET Memphis--Engin 7.24 98 IAmb_Lg 07 37 59.4
comp=Z,144nm,0.8s
CGM3 Cape Girardeau 7.28 81 Pn Pn 07 35 47.5 +1.6
CGM3 IAmb_Lg 07 37 51.8
comp=Z,64nm,0.7s
ECSD EROS Data Cent 7.43 12 Pn Pn 07 35 46.9 -1.1
ECSD EROS Data Cent 7.43 12 P Pn 07 35 47.4 -0.5
baz=193,SNR=16
N41A Harden Midland 7.45 53 Pn Pn 07 35 49.5 +1.3
S44A Carbondale 7.63 78 IAmb_Lg 07 38 20.6
comp=Z,97nm,0.7s
K38A Parkersburg 7.67 35 Pn Pn 07 35 51.4 0.0
OXF Oxford 7.81 102 Pn Pn 07 35 54.8 +1.5
OXF IAmb_Lg 07 38 17.4
comp=Z,106nm,1.0s
OXF Oxford 7.81 102 P Pn 07 35 54.0 +0.8
baz=287
W45A Hickory Valley 7.83 97 Pn Pn 07 35 54.8 +1.3
P43A Skaggs, Pawnee 7.89 64 Pn 07 35 55.4 +1.1
Y45A Yeager Farm, C 7.92 106 Pn Pn 07 35 56.7 +1.9
Y45A IAmb_Lg 07 38 29.4
comp=Z,76nm,0.8s
SUSD Miller 7.97 359 Pn Pn 07 35 54.8 -0.6
SUSD IAmb_Lg 07 38 28.0
comp=Z,110nm,1.1s
SUSD Miller 7.97 359 P Pn 07 35 56.0 +0.6
baz=179
VBMS Vicksburg 7.97 120 IAmb_Lg 07 38 32.5
comp=Z,57nm,1.1s
Q44A Meyer Farm, Va 8.04 70 Pn Pn 07 35 55.9 -0.4
L40A Anamosa 8.04 44 Pn Pn 07 35 57.4 +1.1
833A Chaparral WMA, 8.14 184 Pn Pn 07 35 58.2 +0.4
833A IAmb_Lg 07 38 30.9
comp=Z,71nm,0.8s
833A Chaparral WMA, 8.14 184 P Pn 07 35 58.9 +1.1
baz=3.7
PV02 Paradox Valley 8.20 285 IAmb_Lg 07 38 30.8
comp=Z,60nm,1.0s
PV13 Radium Mtn., P 8.25 285 Pn Pn 07 35 59.2 -0.3
TX31 Lajitas Ar. Si 8.26 212 Pn 07 35 59.5 +0.1
TX31 Lajitas Ar. Si 8.26 212 P Pn 07 35 59.1 -0.3
baz=29,SNR=16
TX32 Lajitas Array 8.26 212 Pn Pn 07 35 59.1 -0.3
TXAR Lajitas Array 8.26 212 Pn Pn 07 35 58.6 -0.8
comp=Z,1.0nm,0.3s,baz=37,slow=11,SNR=35
TXAR Sn **Sn 07 37 29.9 -3.0**
comp=Z,1.4nm,0.3s,baz=30,slow=15,SNR=1.3
TXAR Lg Lg 07 38 16.5
comp=Z,5.0nm,0.3s,baz=31,slow=30,SNR=11
comp=Z,1.1nm,0.3s
TXAR Lajitas Array 8.26 212 Pn Pn 07 35 59.0 -0.5
344A Westbrook Farm 8.28 125 IAmb_Lg 07 38 37.6
comp=Z,56nm,1.3s
PV11 David Mesa, Pa 8.32 286 Pn Pn 07 35 59.5 -0.9
HDIL Hopedale 8.41 58 Pn Pn 07 36 02.1 +0.6
HDIL Hopedale 8.41 58 P Pn 07 36 02.0 +0.5
baz=244,SNR=8.2
HDIL Hopedale 8.41 58 P Pn 07 36 02.4 +1.0
baz=244,SNR=19
RWWY Rawlins 8.43 311 Pn Pn 07 36 04.5 +2.5
RWWY IAmb_Lg 07 38 27.1
comp=Z,123nm,1.3s
PV14 Lion Creek, Pa 8.45 286 Pn Pn 07 36 03.8 +1.6
PV23 Carpenter Ridg 8.45 287 Pn Pn 07 36 04.1 +1.9
121A Cookes Peak, D 8.48 245 Pn Pn 07 36 02.5 0.0
121A Cookes Peak, D 8.48 245 P Pn 07 36 01.8 -0.7
baz=60
I37A Lemond, Waseca 8.55 27 IAmb_Lg 07 38 39.1
comp=Z,73nm,0.8s
K22A Casper 8.65 318 Pn Pn 07 36 07.7 +2.9
K22A IAmb_Lg 07 38 42.2
comp=Z,107nm,0.9s
K22A Casper 8.65 318 P Pn 07 36 04.9 +0.1
baz=133
RSSD Black Hills 8.67 334 Pn Pn 07 36 04.7 -0.5
RSSD IAmb_Lg 07 38 46.6
comp=Z,70nm,0.7s
RSSD Black Hills 8.67 334 P Pn 07 36 06.2 +1.1
baz=150,SNR=9.1
RSSD Black Hills 8.67 334 P Pn 07 36 05.8 +0.7
baz=150
OLIL Olney 8.70 72 Pn Pn 07 36 07.9 +2.5
PLAL Pickwick Lake 8.75 97 Pn Pn 07 36 06.6 +0.5
WVT Waverly 8.77 89 Pn Pn 07 36 08.5 +2.2
WVT Waverly 8.77 89 P Pn 07 36 07.1 +0.8
baz=275
O44A Mansfield 8.83 62 Pn 07 36 08.3 +1.1
L42A Oliver, Polo 8.91 49 Pn Pn 07 36 10.3 +1.9
JFWS Jewell Farm 9.14 43 Pn Pn 07 36 13.0 +1.5
JFWS IAmb_Lg 07 39 15.7
comp=Z,107nm,0.8s
JFWS Jewell Farm 9.14 43 P Pn 07 36 11.8 +0.3
baz=228,SNR=12
JFWS Jewell Farm 9.14 43 P Pn 07 36 12.3 +0.8
baz=228,SNR=7.4
T47A Sharon Grove 9.31 83 Pn Pn 07 36 16.6 +2.8
F33A 5 Mile Ranch, 9.53 10 Pn 07 36 16.1 -0.7
F33A IAmb_Lg 07 39 01.7
comp=Z,63nm,1.1s
M44A Midewin, Midew 9.63 56 Pn Pn 07 36 18.0 -0.2
I40A Norwalk 9.64 37 Pn Pn 07 36 20.8 +2.5
I40A IAmb_Lg 07 39 09.7
comp=Z,57nm,0.8s
I40A Norwalk 9.64 37 P Pn 07 36 19.3 +0.9
baz=222
X48A Hartselle 9.70 99 P Pn 07 36 19.7 +0.6
baz=285
SPMN Marine on St. 9.81 25 Pn 07 36 20.4 -0.2
SPMN IAmb_Lg 07 39 21.1
comp=Z,50nm,0.9s
SPMN Marine on St. 9.81 25 P Pn 07 36 22.1 +1.5
baz=209
SPMN Marine on St. 9.81 25 P Pn 07 36 21.9 +1.2
baz=209
SFIN Lafayette 9.89 63 P Pn 07 36 22.8 +1.1
baz=250
BLO Bloomington 9.99 71 Pn 07 36 24.3 +1.2
WCI Wyandotte Cave 10.02 76 Pn Pn 07 36 24.4 +0.9
WCI Wyandotte Cave 10.02 76 P Pn 07 36 24.3 +0.9
baz=264
K43A Burlington 10.12 49 Pn Pn 07 36 25.0 +0.1
F36A Milaca 10.15 21 Pn Pn 07 36 25.7 +0.3
LRAL Lakeview Retre 10.20 106 Pn Pn 07 36 26.6 +0.6
LRAL Lakeview Retre 10.20 106 P Pn 07 36 26.6 +0.6
baz=293
LRAL Lakeview Retre 10.20 106 P Pn 07 36 26.9 +0.9
baz=293
E28A Huff 10.21 352 Pn Pn 07 36 26.8 +0.7
WUAZ Wupatki 10.33 268 P Pn 07 36 28.3 +0.4
baz=81
Y49A Blount Mountai 10.38 101 Pn Pn 07 36 28.4 -0.1
U49A Red Boiling Sp 10.39 86 Pn Pn 07 36 30.9 +2.3
SWET Sewanee 10.43 93 Pn Pn 07 36 31.2 +2.1
PD31 Pinedale Array 10.48 310 Pn Pn 07 36 30.9 +0.9
PDAR Pinedale Array 10.48 310 Pn Pn 07 36 30.4 +0.4
comp=Z,0.4nm,0.3s,baz=123,slow=15,SNR=12
PDAR Lg Lg 07 39 24.1
comp=Z,1.6nm,0.3s,baz=125,slow=31,SNR=9.6
comp=Z,0.6nm,0.4s
PDAR Pinedale Array 10.48 310 Pn Pn 07 36 26.0 -4.0
BW06 Boulder Array 10.48 310 Pn Pn 07 36 30.6 +0.6
BW06 Boulder Array 10.48 310 P Pn 07 36 30.6 +0.6
baz=124
I42A Draeger Farm, 10.52 42 Pn Pn 07 36 29.3 -1.0
G40A Rib Lake 10.88 33 Pn 07 36 35.1 -0.1
P48A Milroy 10.88 70 Pn 07 36 35.3 0.0
R49A Shelbyville 10.90 76 Pn Pn 07 36 35.6 0.0
R49A Shelbyville 10.90 76 P Pn 07 36 36.3 +0.7
baz=264
R49A P **Pn 07 36 36.3 +0.7**
baz=264
N47A Urbana 11.06 63 Pn 07 36 37.5 -0.4
T50A Nancy 11.12 83 Pn Pn 07 36 39.5 +0.8
HPIG 11.21 214 Pn 07 36 38.4 -1.6
250A Grady 11.21 110 Pn Pn 07 36 40.9 +1.1
H43A Windswept, Lux 11.52 43 Pn Pn 07 36 44.4 +0.4
CPCT Cooper Cave 11.52 91 Pn Pn 07 36 44.8 +0.7
R50A Paris 11.57 77 Pn Pn 07 36 47.1 +2.4
V51A Loudon 11.61 89 07 36 46.8 +1.5
V51A Loudon 11.61 89 P Pn 07 36 46.6 +1.3
baz=278
LAO LASA Array 11.66 333 Pn Pn 07 36 46.2 +0.2
LAO LASA Array 11.66 333 P Pn 07 36 46.0 -0.1
baz=149
LAO LASA Array 11.66 333 P Pn 07 36 45.7 -0.3
baz=149
TPAW Teton Pass 11.73 310 Pn Pn 07 36 44.5 -2.6
MOOW Moose Ponds 11.75 312 Pn Pn 07 36 46.4 -0.9
RLMT Red Lodge 11.78 320 Pn Pn 07 36 48.7 +0.9
RLMT Red Lodge 11.78 320 P Pn 07 36 49.1 +1.3
baz=134
FXWY Fox Creek 11.86 311 Pn Pn 07 36 46.4 -2.4
COWI Conover 12.00 34 Pn Pn 07 36 50.8 +0.2
TKL Tuckaleechee C 12.09 89 Pn Pn 07 36 51.3 -0.7
comp=Z,0.8nm,0.3s,baz=282,slow=8.9,SNR=12
TKL Sn **Sn 07 39 01.9 -5.1**
comp=Z,0.5nm,0.3s,baz=306,slow=19,SNR=1.7
TKL Lg Lg 07 40 16.3
comp=Z,2.1nm,0.3s,baz=353,slow=20,SNR=9.2
comp=Z,3.6nm,0.5s
TKL Tuckaleechee C 12.09 89 Pn Pn 07 36 51.4 -0.5
S51A Beattyville 12.12 80 Pn 07 36 52.3 +0.1
S51A Beattyville 12.12 80 P Pn 07 36 52.5 +0.4
baz=269
S51A P **Pn 07 36 52.5 +0.4**
baz=269
TZTN Tazewell 12.18 85 Pn Pn 07 36 54.0 +0.9
V52A Sevierville 12.21 88 Pn Pn 07 36 54.0 +0.4
L48A N Adams 12.33 59 Pn Pn 07 36 54.6 -0.4
L48A N Adams 12.33 59 P Pn 07 36 54.4 -0.6
baz=248
L48A P **Pn 07 36 54.4 -0.6**
baz=248
Q51A Peebles 12.41 74 Pn 07 36 56.9 +0.7
B35A Bob, Littlefor 12.43 16 Pn Pn 07 36 53.7 -2.7
EYMN Ely 12.64 23 Pn Pn 07 36 56.5 -2.8
EYMN Ely 12.64 23 P Pn 07 36 57.4 -1.9
baz=208
DGMT Dagmar 12.66 343 P Pn 07 36 57.6 -2.0
baz=160
V53A Saluda 12.87 89 Pn Pn 07 37 02.9 +0.4
ACSO Alum Creek Sta 12.88 68 Pn Pn 07 37 01.3 -1.4
ACSO Alum Creek Sta 12.88 68 P Pn 07 37 01.4 -1.2
baz=258
D41A Chassel 12.99 32 Pn Pn 07 37 03.8 -0.2
E43A Lone Tree Farm 13.21 38 Pn Pn 07 37 06.7 -0.4
Q52A Bidwell 13.23 74 Pn Pn 07 37 06.9 -0.6
Q52A Bidwell 13.23 74 P Pn 07 37 08.8 +1.4
baz=264
Q52A P **Pn 07 37 08.8 +1.4**
baz=264
P52A Corning 13.42 71 Pn Pn 07 37 09.4 -0.6
P52A Corning 13.42 71 P Pn 07 37 09.9 -0.1
baz=262
R53A Hurricane 13.44 77 Pn Pn 07 37 12.0 +1.8
GLMI Grayling 13.54 48 Pn Pn 07 37 10.8 -0.8
GLMI Grayling 13.54 48 P Pn 07 37 10.5 -1.2
baz=237
ULM Lac du Bonnet 13.93 8 Pn Pn 07 37 12.1 -4.7
comp=Z,2.1nm,0.4s,baz=189,slow=12,SNR=1.4
ULM Sn Sn 07 39 37.4 -14
comp=Z,0.4nm,0.3s,baz=218,slow=19,SNR=1.4
ULM Lg Lg 07 41 11.6
comp=Z,0.3nm,0.3s,baz=258,slow=18,SNR=1.6
M52A Chesterland 14.39 64 Pn Pn 07 37 23.6 +0.4
E46A Sault Ste Mari 14.61 43 Pn Pn 07 37 24.1 -2.2
M53A WI Miller and 14.86 65 Pn Pn 07 37 30.4 +0.7
R55A Marlinton 14.87 77 Pn Pn 07 37 30.2 +0.3
S57A Dark Hollow, R 15.79 79 Pn Pn 07 37 43.7 +1.7
M55A Ridgway 16.27 66 Pn Pn 07 37 47.3 -0.7
M55A IAmb IAmb 07 38 04.4
comp=Z,22nm,1.2s
WVNY West Valley, N 16.59 63 Pn Pn 07 37 51.8 -0.4
WVNY IAmb IAmb 07 38 11.4
comp=Z,21nm,1.2s
SSPA Standing Stone 16.78 69 Pn Pn 07 37 54.4 -0.2
SADO Sadowa 16.97 55 Pn Pn 07 37 53.7 -3.2
comp=Z,0.1nm,0.3s,baz=265,slow=15,SNR=3.2
SADO Sn Sn 07 40 53.5 -12
comp=Z,0.2nm,0.3s,baz=268,slow=18,SNR=1.5
comp=Z,2.5nm,0.9s
SADO Sadowa 16.97 55 Pn Pn 07 37 56.0 -0.9
SADO IAmb IAmb 07 38 20.4
comp=Z,20nm,1.3s
L56A Greenwood 17.29 64 Pn 07 38 02.6 +1.6
M57A Sunshine Farm, 17.45 67 Pn 07 38 04.2 +1.1
M57A IAmb IAmb 07 38 13.2
comp=Z,24nm,1.4s
KSPA Keystone Colle 18.50 67 P P 07 38 13.6 -2.2
YBH Yreka Blue Hor 19.35 293 P P 07 38 25.2 0.0
comp=Z,1.9nm,1.0s,baz=96,slow=4.3,SNR=2.3
CMIG Matias Romero 19.59 169 P P 07 38 27.7 -0.2
comp=Z,0.1nm,0.3s,baz=7.1,slow=11,SNR=1.6
comp=Z,1.8nm,1.0s
ILAR Eielson Array 40.10 330 P P 07 41 34.3 -0.7
comp=Z,0.2nm,0.6s,baz=102,slow=8.1,SNR=1.5
comp=Z,0.2nm,0.6s
ARCES ARCESS Array B 66.75 18 P P 07 44 52.4 +1.8
comp=Z,2.4nm,0.9s,baz=312,slow=7.2,SNR=2.1
comp=Z,2.4nm,0.9s

---

*IDC **07** 07:45:40.6±2.6, 53.°74N×86.°82E, h0km, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=22.8km s-min=12.7km az=71.0*

*NNC **07** 07:45:41.7±2.0, 53.°73N×86.°80E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=17.6km s-min=8.1km az=38.0, Suspected Mining explosion.*

ISC 07 07:45:39.3±3.5, 53.°8N±0.°1×87.°0E±0.°2, h0km, n8, σ1s 41/11, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**278**	I		07 54 20.0	
	0.1nm,0.7s,baz=98,slow=331,SNR=7.3						
ZAA0	**Zalesovo Array**	**1.31**	**278**	⇓P	**Pb**	**07 46 04.2**	**-0.6**
	0.1nm,0.2s						
ZAA0				⇑S	**Sg**	**07 46 20.7**	**-0.7**
	4.3nm,1.1s						
ZALV	**Zalesovo Beam**	**1.31**	**278**	Pg	**Pg**	**07 46 03.8**	**-0.6**
	1.1nm,0.3s,baz=101,slow=16,SNR=8.8						
ZALV				Lg	Lg	07 46 18.9	
	1.4nm,0.3s,baz=102,slow=27,SNR=13						
KURK	**Kurchatov**	**6.00**	**243**	⇑Pn	**Pn**	**07 47 11.0**	**+1.8**
	3.1nm,1.2s						
KURK				⇑Lg	Lg	07 48 48.6	
	6.0nm,1.2s						
KURBB	**Kurchatov Arra**	**6.10**	**242**	Pn	**Pn**	**07 47 11.3**	**+0.7**
	0.1nm,0.3s,baz=59,slow=14,SNR=8.2						
KURBB				Lg	Lg	07 48 51.5	
	baz=54,slow=34,SNR=1.2						
	1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**6.10**	**242**	⇑Pn	**Pn**	**07 47 13.4**	**+2.8**
	2.7nm,0.8s						
KURBB				⇓Sn	**Sn**	**07 48 21.0**	**0.0**
	2.5nm,0.7s						
KURBB				⇓Lg	Lg	07 48 51.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	5.7nm,0.8s						
MK31	Makanchi Array	7.62	205	⇑Pn	Pn	07 47 30.7	-0.8
	1.4nm,0.7s,baz=24,slow=14,SNR=5.1						
MK31				⇑Sn	Sn	07 48 59.2	+0.8
	0.2nm,0.4s						
MK31				Lg	Lg	07 49 42.0	
	4.6nm,1.2s,baz=24,slow=29,SNR=3.0						
MKAR	Makanchi Array	7.62	205	Pn	Pn	07 47 32.3	+0.9
	0.1nm,0.3s,baz=27,slow=14,SNR=5.8						
MKAR				Sn	Sn	07 48 57.5	-1.0
	0.1nm,0.3s,baz=19,slow=27,SNR=3.3						
MKAR				Lg	Lg	07 49 38.8	
	0.1nm,0.3s,baz=21,slow=33,SNR=3.4						
	0.4nm,0.5s						

*IDC **07** 07:47:49.9±2.1, 36°.72S×62°.27W, h0km, mb3.7/2, mbtmp3.7/4, ML4.0/2, Error ellipse: s-maj=54.4km s-min=18.7km az=124.0*
*NEIC **07** 07:47:53.7±1.1, 36°.61S±0°.05×62°.3W±0°.1, h15km±4km, mb4.0/9, Md4.0(SJA), Error ellipse: s-maj=12.0km s-min=6.9km az=78.0*
*SJA **07** 07:47:54.2±0.6, 36°.62S×62°.45W, h80km±999km, ML4.0, MW3.6*
ISC 07 07:47:55.7±0.7**, 36°.54S**±0°.05×**62°.41W**±0°.06**, h35km, n45,** σ1ˢ.**34**/51**, Southern Argentina**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	1.55	167		Pn	07 48 19.8	-1.1
TRQA				Sn	Sn	07 48 38.7	-1.1
TRQA	Tornquist	1.55	167	eP	Pn	07 48 20.5	-0.4
TRQA				eS	Sn	07 48 40.5	+0.6
TRQA				IAML		07 48 44.8	
	comp=Z,786nm,0.1s						
FIUBA	FACULTAD INGEN	3.74	60	eP	Pn	07 48 52.6	+1.7
FIUBA				eS	Sn	07 49 34.7	+0.9
MRA	San Martin	4.94	325	eP	Pn	07 49 08.6	+1.2
MRA				eS	Sn	07 50 02.6	-0.7
MRA				IAML		07 50 55.6	
	comp=Z,180nm,0.5s						
PIL	Pilar	5.01	345	eS	Sn	07 50 04.8	-0.3
TCA	Tanti	5.50	340	eP	Pn	07 49 15.9	+0.7
TCA				IAML		07 51 07.1	
	comp=Z,72nm,0.6s						
EDS3	Malargue	5.71	276	eP	Pn	07 49 19.5	+1.4
LMEL	Las Melosas	6.92	291	Pn	Pn	07 49 35.3	+0.5
BO02	Sierra Bellavi	7.04	282	Pn	Pn	07 49 37.1	+0.8
ZON	Zonda	7.20	312	Pn	Pn	07 49 39.6	+1.0
MT03	Universidad Ad	7.31	292	Pn	Pn	07 49 40.3	+0.2
ML02	Panimavida	7.33	273	Pn	Pn	07 49 42.4	+2.1
BO01	Tunca	7.40	284	Pn	Pn	07 49 42.3	+1.1
MT09	Talagante	7.55	289	Pn	Pn	07 49 43.9	+0.6
PLCA	Paso Flores	7.62	234	Pn	Pn	07 49 42.9	-1.5
	comp=Z,0.4nm,0.3s,baz=62,slow=15,SNR=14						
PLCA				Sn	Sn	07 51 07.9	-1.5
	comp=Z,1.0nm,0.3s,baz=72,slow=20,SNR=1.9						
PLCA				Lg	Lg	07 51 52.4	
	comp=Z,5.5nm,0.3s,baz=18,slow=12,SNR=5.3						
	comp=Z,0.8nm,0.5s						
VA03	San Esteban	7.69	297	Pn	Pn	07 49 46.5	+1.2
MT01	Popeta	7.71	288	Pn	Pn	07 49 46.8	+1.3
GO06	Curarrehue	7.77	244	Pn	Pn	07 49 45.9	-0.5
MT02	Curacav	7.88	292	Pn	Pn	07 49 49.0	+1.2
GO05	Huala	7.89	278	Pn	Pn	07 49 48.1	+0.2
ROC1	El Roble	7.92	294	Pn	Pn	07 49 50.8	+2.1
ACLC	CERRO LA CRUZ	8.05	330	i P	Pn	07 49 51.1	+0.8
VA06	Catapilco	8.34	296	Pn	Pn	07 49 53.6	-0.4
ITQB	Itaqui	8.39	37	Pn	Pn	07 49 54.0	-0.8
PLTB	Pedras Altas	8.71	59	Pn	Pn	07 49 58.8	-0.5
CO02	Combarbal	8.90	304	Pn	Pn	07 50 03.6	+1.7
CO03	El Pedregal	8.94	307	Pn	Pn	07 50 05.0	+2.6
CO01	Juntas del Tor	9.17	313	Pn	Pn	07 50 06.5	+0.7
GO04	Tololo Observa	9.46	310	Pn	Pn	07 50 10.7	+1.0
CO06	Fray Jorge	9.66	305	Pn	Pn	07 50 13.2	+1.0
AC05	El Transito	10.14	317	Pn	Pn	07 50 20.8	+1.9
CPUP	Villa Florida	11.06	24	Pn	Pn	07 50 30.2	-1.1
	comp=Z,0.4nm,0.3s,baz=206,slow=11,SNR=8.9						
CPUP				Sn	Sn	07 52 28.9	-4.9
	comp=Z,0.5nm,0.3s,baz=317,slow=19,SNR=1.8						
CPUP				Lg	Lg	07 53 45.3	
	comp=Z,0.4nm,0.3s,baz=122,slow=18,SNR=1.8						
	comp=Z,1.0nm,0.3s						
PB14	IPOC Station P	13.72	328	Pn	Pn	07 51 07.8	-0.2
EFI	East Falkland	15.45	170	Pn	Pn	07 51 30.3	-0.4
PB03	IPOC Station P	15.79	334	Pn	Pn	07 51 36.0	+0.5
PB03				IAmb	IAmb	07 51 43.3	
	comp=Z,6.5nm,1.1s						
PB07	IPOC Station P	16.13	334	Pn	Pn	07 51 40.4	+0.5
PB07				IAmb	IAmb	07 51 47.0	
	comp=Z,16nm,1.5s						
PB02	IPOC Station P	16.51	335	Pn	Pn	07 51 46.4	+1.8
PB02				IAmb	IAmb	07 52 06.5	
	comp=Z,28nm,1.5s						
PB16	IPOC Station P	19.18	339	P	P	07 52 18.1	+1.1
SIV	San Ignacio	20.50	4	P	P	07 52 31.7	+0.9
	comp=Z,7.2nm,0.9s,baz=191,slow=10,SNR=32						
	comp=Z,7.2nm,0.9s						
LPAZ	La Paz	20.80	344	P	P	07 52 35.8	+1.1
	comp=Z,0.7nm,0.4s,baz=149,slow=5.9,SNR=8.3						
	comp=Z,0.7nm,0.4s						
LPAZ	La Paz	20.80	344	P	P	07 52 35.6	+0.9
VILB	Vilhena	23.57	5	P	P	07 53 04.0	+0.9
VILB				IAmb	IAmb	07 53 04.3	
	comp=Z,8.0nm,0.7s						
MCRA	Macar, Loja	35.85	329	P	P	07 54 53.1	+0.9
MCRA				IAmb	IAmb	07 55 23.8	
	comp=Z,5.8nm,1.5s						
QSPA	South Pole Qui	53.71	180	P	P	07 57 14.5	+0.6
QSPA				IAmb	IAmb	07 57 48.7	
	comp=Z,2.2nm,1.2s						
WRA	Warramunga Arr	121.64	199	PKP	PKPdf	08 06 45.7	-0.5
	comp=Z,0.1nm,0.4s,baz=175,slow=1.8,SNR=6.5						

*IDC **07** 07:59:41.1±1.6, 29°.41S×61°.19E, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, MS3.6/8, Error ellipse: s-maj=85.0km s-min=26.2km az=28.0*
*NEIC **07** 07:59:43.6±0.6, 29°.1S±0°.1×61°.1E±0°.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=34.9km s-min=16.7km az=231.0*
ISC 07 07:59:43.6±1.2**, 29°.0S**±0°.2×**61°.2E**±0°.1**, h10km, n29,** σ1ˢ.**12**/18**, mb4.3**/8**, MS3.5**/8**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	9.26	326	Pn	Pn	08 01 55.5	-1.8
VOI	Vohitsoka	14.83	295	Pn	Pn	08 03 12.5	-1.0
ABPO	Ambohimpanom	16.19	305	Pn	Pn	08 03 30.4	-1.0
ABPO				IAmb	IAmb	08 03 34.3	
	comp=Z,7.6nm,1.1s						
OPO	Ambohidratompo	16.51	306	Pn	Pn	08 03 36.1	+0.6
	baz=120,slow=20,SNR=1.6						
OPO				Sn	Sn	08 06 25.4	-14
	baz=9.2,slow=20,SNR=1.4						
	comp=Z,1.4nm,0.3s						
KMBO	Kilima Mbogo	35.94	316	LR	LR	08 18 21.3	
	comp=Z,80nm,19.1s,baz=92,slow=31						
MAW	Mawson	38.65	179	LR	LR	08 20 20.6	
	comp=Z,57nm,18.6s,baz=42,slow=32						
TSUM	Tsumeb	40.83	274	LR	LR	08 23 55.6	
	comp=Z,42nm,18.4s,baz=178,slow=36						
ATD	Arta Tunnel	44.03	334	LR	LR	08 24 21.0	
	comp=Z,45nm,18.6s,baz=1.0,slow=33						
H01W2	Cape Leeuwin H	44.84	112	T	T	08 55 34.5	
	baz=262,slow=74,SNR=21						
H01W3	Cape Leeuwin H	44.84	112	T	T	08 55 33.2	
	baz=262,slow=74,SNR=19						
H01W1	Cape Leeuwin H	44.86	112	T	T	08 55 34.9	
	baz=262,slow=74,SNR=19						
FITZ	Fitzroy Crossi	59.41	95	P	P	08 09 45.3	-1.3
VNDA	Vanda	64.17	166	LR	LR	08 36 03.4	
	comp=Z,56nm,18.3s,baz=326,slow=34						
ASAR	Alice Springs	64.42	104	P	P	08 10 19.4	-1.0
	comp=Z,0.7nm,0.6s,baz=244,slow=6.3,SNR=7.9						
	comp=Z,0.7nm,0.6s						
WRA	Warramunga Arr	66.23	100	P	P	08 10 30.9	-1.3
	comp=Z,0.5nm,0.7s,baz=246,slow=6.0,SNR=11						
	comp=Z,0.5nm,0.7s						
WRA	Warramunga Arr	66.23	100	P	P	08 10 32.0	-0.2
WB0	Warramunga Arr	66.35	100	P	P	08 10 32.5	-0.5
WB0				IAmb	IAmb	08 10 43.0	
	comp=Z,5.7nm,1.3s						
WR0	Warramunga Arr	66.40	100	P	P	08 10 31.1	-2.1
WR0				IAmb	IAmb	08 10 51.5	
	comp=Z,4.7nm,1.3s						
GEYT	Alibeck	66.64	357	P	P	08 10 34.5	+0.3
GEYT				IAmb	IAmb	08 10 35.4	
	comp=Z,2.3nm,0.6s						
GYA0B	ALIBECK ARRAY	66.64	357	P	P	08 10 34.8	+0.5
GYA0B				IAmb	IAmb	08 10 35.3	
	comp=Z,4.1nm,0.7s						
GNI	Garni	70.48	347	LR	LR	08 40 06.1	
	comp=Z,26nm,19.4s,baz=142,slow=34						
TORD	Torodi Ar. Bea	71.12	297	P	P	08 11 03.2	+0.6
	comp=Z,0.7nm,0.8s,baz=132,slow=4.9,SNR=3.4						
SIJI	Sorong	72.16	81	LR	LR	08 38 57.5	
	comp=Z,61nm,19.2s,baz=56,slow=33						
MKAR	Makanchi Array	77.80	15	P	P	08 11 42.5	+1.7
	comp=Z,0.6nm,0.8s,baz=201,slow=6.2,SNR=4.0						
	comp=Z,0.6nm,0.8s						
MKAR	Makanchi Array	77.80	15	P	P	08 11 41.4	+0.5
ABKAR	Akbulak array	77.91	359	P	P	08 11 41.9	+0.6
NACB	Ninganchiao	78.50	54	P	P	08 11 45.4	+0.2
KIRV	Kirov	87.81	354	LR	LR	08 51 48.8	
	comp=Z,34nm,18.1s,baz=133,slow=36						
YKA	Yellowknife Ar	146.39	357	PKPbc	PKPdf	08 19 23.0	+0.3
	comp=Z,0.8nm,0.7s,baz=350,slow=2.9,SNR=5.2						

*IDC **07** 08:28:43.6±7.5, 52°.88N×170°.60W, h0km, mb3.3/3, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=148.1km s-min=70.0km az=107.0*
*NEIC **07** 08:28:50.1±1.5, 52°.28N±0°.06×169°.6W±0°.1, h10km±2km, Error ellipse: s-maj=16.0km s-min=6.4km az=304.0*
*AEIC **07** 08:28:51.8±2.2, 52°.4N±0°.1×169°.6W±0°.1, h17km±7km, ML3.2, mb4.1/5(NEIC), Error ellipse: s-maj=19.1km s-min=5.2km az=151.0*
ISC 07 08:28:49.0±1.1**, 52°.21N**±0°.10×**169°.58W**±0°.08**, h10km, n34,** σ1ˢ.**06**/28**, mb3.2**/3**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLES	Cleveland East	0.65	343		Pg	08 29 01.1	-0.4
NIKH	Nikolski High	0.88	30		Pg	08 29 06.1	+0.1
NIKH	Nikolski High	0.88	30		Sg	08 29 17.2	-0.3
UNV	Unalaska Valle	2.48	47		Pn	08 29 29.7	+0.4
UNV	Unalaska Valle	2.48	47		Sn	08 30 00.7	+1.1
AKUT	Akutan	2.99	48	Pn	Pn	08 29 38.0	+1.5
ADK	Adak	4.40	269	Pn	Pn	08 29 57.1	+1.3
KIWB	Kanaga Island	4.69	269	Pn	Pn	08 30 00.4	+0.6
SDPT	Sand Point	6.24	56	Pn	Pn	08 30 20.4	-0.6
O18K	Koktuh Hills	11.08	41	Pn	Pn	08 31 28.7	+1.3
KDAK	Kodiak Island	11.23	54	Pn	Pn	08 31 28.6	-0.7
	0.2nm,0.3s,baz=253,slow=5.8,SNR=1.2						
	11nm,1.0s						
Q19K	Cape Douglas,	11.23	47	Pn	Pn	08 31 31.9	+2.4
N18K	Kilae Creek	11.35	36	Pn	Pn	08 31 31.0	0.0
SVW2	Sparrevohn	11.75	35	Pn	Pn	08 31 36.7	+0.2
M19K	Big River Lodg	12.72	34	Pn	Pn	08 31 51.5	+1.8
L19K	White Mountain	12.75	33	Pn	Pn	08 31 50.0	-0.2
PPLA	Purkeypile	14.14	34	Pn	Pn	08 32 09.2	-0.1
CAST	Castle Rocks	14.53	33	Pn	Pn	08 32 15.3	+0.9
CUT	Chulitna	14.53	38	Pn	Pn	08 32 15.3	+0.9
KTH	Kantishna Hill	15.01	34	Pn	Pn	08 32 19.8	-1.2
BPAW	Bear Paw Mtn.	15.35	32	Pn	Pn	08 32 25.5	+0.1
BPAW				IAmb	IAmb	08 32 52.5	
	comp=Z,8.1nm,1.2s						
SCM	Sheep Creek Mo	15.40	43	Pn	Pn	08 32 26.1	0.0
EGAK	Eagle	19.24	38	P	P	08 33 12.9	-0.2
HYT	Haines Junctio	19.50	51	P	Pn	08 33 17.9	+0.5
HYT				IAmb	IAmb	08 33 58.5	
	comp=Z,20nm,1.5s						
SKAG	Skagway	20.37	56	P	P	08 33 26.2	+0.9
SKAG				IAmb	IAmb	08 33 27.5	
	comp=Z,19nm,1.3s						
YKA	Yellowknife Ar	30.44	49	P	P	08 34 58.7	-2.6
	comp=Z,0.3nm,0.8s,baz=288,slow=8.7,SNR=1.4						
	comp=Z,0.3nm,0.8s						
H11N2	WAKE ISLAND Hy	37.25	218	T	T	09 15 39.2	
	baz=24						
H11N3	WAKE ISLAND Hy	37.26	218	T	T	09 15 42.9	
	baz=24						
H11N1	WAKE ISLAND Hy	37.27	218	T	T	09 15 49.1	
	baz=24						
H11S1	WAKE ISLAND Hy	38.44	218	T	T	09 17 12.5	
	baz=23,slow=76,SNR=43						
H11S2	WAKE ISLAND Hy	38.45	218	T	T	09 17 06.5	
	baz=23,slow=76,SNR=31						
H11S3	WAKE ISLAND Hy	38.45	218	T	T	09 17 08.7	
	baz=23,slow=76,SNR=21						
PDAR	Pinedale Array	40.56	79	P	P	08 36 28.8	+0.2
	comp=Z,0.3nm,0.7s,baz=303,slow=4.0,SNR=4.6						
	comp=Z,0.3nm,0.7s						
TXAR	Lajitas Array	52.88	89	P	P	08 38 04.9	-0.1
	comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=4.3						
	comp=Z,0.3nm,0.6s						

NOU 07 08:33:29.2, 16°.34S×167°.50E, h12km, MLv4.0/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	Devils Point	1.53	155	P	Pb	08 33 56.9	-0.6
RTV	Rentapao	1.69	149	P	Pn	08 33 58.2	-0.4
KOUNC	Koumac, New Ca	5.18	216	P	Pn	08 34 46.4	-0.2
YATNC	Mamie plateau,	5.72	186	P	Pn	08 34 53.5	-0.5
DZM	Mont Dzumac	5.79	190	P	Pn	08 34 54.3	-0.7
OUENC	Ouen Island, N	6.08	186	P	Pn	08 34 59.4	+0.5

*IDC **07** 08:45:03.2±1.5, 17°.52S×175°.16W, h194km±14km, mb3.8/19, mbtmp4.4/21, Error ellipse: s-maj=16.1km s-min=9.5km az=129.0*
*NEIC **07** 08:45:06.9±1.7, 17°.41S±0°.07×174°.9W±0°.1, h247km±14km, mb4.1/20, Error ellipse: s-maj=15.6km s-min=9.6km az=80.0*
ISC 07 08:45:03.8±0.4**, 17°.52S**±0°.08×**175°.14W**±0°.07**, h200km, n58,** σ0ˢ.**95**/55**, mb4.1**/26**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.83	43	P	Pn	08 46 17.5	+1.3
	67nm,0.3s,baz=203,slow=2.9,SNR=21						
AFI				S	Sn	08 47 11.6	-1.6
	116nm,0.3s,baz=335,slow=23,SNR=9.9						
AFI	Afiamalu	4.83	43		Pn	08 46 18.3	+2.1
NIUE	Niue	5.19	108		Pn	08 46 22.8	+2.2
MSVF	Nonsavu	6.50	267	P	Pn	08 46 46.2	+8.5
	56nm,0.7s,baz=111,slow=13,SNR=43						
MSVF	Nonsavu	6.50	267		Pn	08 46 46.4	+8.7
RAR	Rarotonga	14.96	107	P	P	08 48 25.9	-0.4
	23nm,0.9s,baz=270,slow=7.1,SNR=5.4						
MARNC	Mare, Loyalty	16.35	253	P	Pn	08 48 44.3	+1.9
LIFNC	LIFOU	16.96	256	P	Pn	08 48 49.6	-0.1
DZM	Mont Dzumac	17.91	252	P	Pn	08 49 01.3	+0.4
DZM				IAmb	IAmb	08 49 03.7	
	comp=Z,5.5nm,0.9s						
URZ	Urewera	21.75	197	P	P	08 49 38.9	-0.5
	comp=Z,14nm,0.4s,baz=47,slow=4.0,SNR=19						
	comp=Z,14nm,0.4s						
BKZ	Black Stump Fm	22.77	197	P	P	08 49 47.6	-1.5
HNR	Honiara	25.50	285	P	P	08 50 21.2	+7.1
	comp=Z,948nm,0.6s,baz=183,slow=2.8,SNR=5.0						
THZ	Tophouse	26.25	201	P	P	08 50 21.1	+0.6
RPZ	Rata Peaks	28.61	201	P	P	08 50 41.8	+0.4
	comp=Z,8.7nm,0.8s,baz=0.0,slow=2.0,SNR=2.1						
	comp=Z,8.7nm,0.8s						
WHZ	Wether Hill Ro	31.60	203	P	P	08 51 09.1	+1.4
ARMA	Armidale	32.84	241	P	P	08 51 19.3	+0.4
ARMA				IAmb	IAmb	08 51 19.9	
	comp=Z,8.3nm,0.8s						
CTA	Charters Tower	36.58	260	P	P	08 51 50.5	-0.4
	comp=Z,3.8nm,0.8s,baz=105,slow=9.6,SNR=8.4						
	comp=Z,3.8nm,0.8s						
CTAO	Charters Tower	36.58	260	P	P	08 51 50.5	-0.4
CTAO				IAmb	IAmb	08 51 51.5	
	comp=Z,3.4nm,0.8s						
TOO	Toolangi	39.85	232	P	P	08 52 17.6	-0.3
COEN	Coen	40.23	269	P	P	08 52 22.2	+0.9
COEN				IAmb	IAmb	08 52 22.5	
	comp=Z,3.8nm,0.7s						
STKA	Stephens Creek	41.55	242	P	P	08 52 31.6	-0.4
	comp=Z,7.8nm,0.8s,baz=88,slow=9.2,SNR=14						
	comp=Z,7.8nm,0.8s						
STKA	Stephens Creek	41.55	242	P	P	08 52 32.2	+0.3
BBOO	Buckleboo	46.32	241	P	P	08 53 09.6	-0.3
BBOO				IAmb	IAmb	08 53 32.9	
	comp=Z,15nm,1.2s						
WR0	Warramunga Arr	47.58	259	P	P	08 53 19.7	0.0
WB0	Warramunga Arr	47.73	259	P	P	08 53 19.9	-1.1
WB0				IAmb	IAmb	08 53 20.8	
	comp=Z,6.1nm,0.8s						
WB2	Warramunga Arr	47.76	259	P	P	08 53 20.2	-1.0
WRA	Warramunga Arr	47.77	259	P	P	08 53 20.4	-0.9
	comp=Z,3.2nm,0.7s,baz=97,slow=6.8,SNR=43						
WRA				PcP	PcP	08 54 46.6	-0.5
	comp=Z,0.9nm,0.9s,baz=92,slow=3.5,SNR=4.4						
	comp=Z,3.2nm,0.7s						
WRA	Warramunga Arr	47.77	259	P	P	08 53 20.6	-0.7
AS31	Alice Springs	47.89	254	P	P	08 53 21.8	-0.4
AS31				IAmb	IAmb	08 53 22.8	
	comp=Z,7.0nm,0.8s						
ASAR	Alice Springs	47.89	254	P	P	08 53 21.5	-0.7
	comp=Z,26nm,0.7s,baz=89,slow=8.4,SNR=288						
ASAR				PcP	PcP	08 54 46.8	-0.8
	comp=Z,0.9nm,0.6s,baz=99,slow=3.8,SNR=3.9						
	comp=Z,26nm,0.7s						
MTN	Manton Dam	51.93	267	P	P	08 53 52.2	-0.4
MTN				IAmb	IAmb	08 54 20.0	
	comp=Z,15nm,1.4s						
VNDA	Vanda	61.11	186	P	P	08 54 56.9	+0.5
	comp=Z,3.2nm,0.9s,baz=0.6,slow=5.7,SNR=14						
	comp=Z,3.2nm,0.9s						
VNDA	Vanda	61.11	186	P	P	08 54 57.3	+0.9
VNDA				IAmb	IAmb	08 54 58.0	
	comp=Z,3.1nm,0.8s						
MJAR	Matsushiro Arr	69.51	321	P	P	08 55 51.2	+0.4
	comp=Z,1.4nm,0.7s,baz=110,slow=5.0,SNR=2.4						
	comp=Z,1.4nm,0.7s						
QSPA	South Pole Qui	72.53	180	P	P	08 56 08.5	-0.3
	comp=Z,5.0nm,0.8s,baz=26,slow=3.4,SNR=7.1						
	comp=Z,5.0nm,0.8s						
QSPA	South Pole Qui	72.53	180	P	P	08 56 08.2	-0.5
QSPA				IAmb	IAmb	08 56 09.4	
	comp=Z,5.9nm,0.9s						
PETK	Petropavlovsk-	74.15	343	P	P	08 56 18.3	+0.2
	comp=Z,5.5nm,1.0s,baz=108,slow=8.8,SNR=2.1						
	comp=Z,5.5nm,1.0s						
YBH	Yreka Blue Hor	76.29	38	P	P	08 56 31.1	+0.4
	comp=Z,0.8nm,0.6s,baz=225,slow=4.3,SNR=1.7						
	comp=Z,0.8nm,0.6s						
KSRS	Korea Array	76.52	317	P	P	08 56 32.8	+0.9
	comp=Z,1.7nm,0.9s,baz=141,slow=7.9,SNR=3.3						
	comp=Z,1.7nm,0.9s						
NVAR	Mina Array Bea	77.01	42	P	P	08 56 35.2	+0.2
	comp=Z,0.6nm,0.6s,baz=221,slow=8.1,SNR=6.6						
	comp=Z,0.6nm,0.6s						
ELK	Elko	80.27	42	P	P	08 56 52.5	-0.2
	comp=Z,1.0nm,0.8s,baz=270,slow=3.0,SNR=3.7						
	comp=Z,1.0nm,0.8s						
TXAR	Lajitas Array	83.17	56	P	P	08 57 08.4	+0.5
	comp=Z,0.4nm,0.8s,baz=230,slow=5.6,SNR=5.0						
	comp=Z,0.4nm,0.8s						
ILAR	Eielson Array	84.84	12	P	P	08 57 14.8	-0.6
	comp=Z,0.9nm,0.5s,baz=224,slow=5.3,SNR=26						
	comp=Z,0.9nm,0.5s						
PDAR	Pinedale Array	84.95	42	P	P	08 57 16.1	-0.6
	comp=Z,0.3nm,0.6s,baz=234,slow=4.3,SNR=3.9						
	comp=Z,0.3nm,0.6s						
MAW	Mawson	85.26	199	P	P	08 57 17.6	0.0
	comp=Z,2.1nm,0.6s,baz=149,slow=9.7,SNR=6.7						
	comp=Z,2.1nm,0.6s						
H03S2	Juan Fernandez	85.42	124	T	T	10 30 57.7	
	baz=249						
H03S1	Juan Fernandez	85.43	124	T	T	10 30 57.7	
	baz=249						
H03S3	Juan Fernandez	85.43	124	T	T	10 30 57.5	
	baz=249,SNR=6.9						
TROLL	Troll, Antarti	90.68	179	P	P	08 57 42.4	-1.2
SNAA	Sanae	90.88	178	P	P	08 57 42.8	-1.6
VNA3	Neumayer Olymp	90.90	175	P	P	08 57 43.1	-1.4
VNA2	Neumayer--Watz	91.38	176	P	P	08 57 46.1	-0.5
	baz=190,slow=4.1						
VNA1	Neumayer--Stat	91.58	176	P	P	08 57 46.6	-0.9
CMAR	Chiang Mai Arr	91.70	289	P	P	08 57 50.7	+1.6
	comp=Z,1.9nm,0.3s,baz=87,slow=5.8,SNR=4.6						
	comp=Z,1.9nm,0.3s						
CLL	Collm	145.67	351	i PKPbc	PKPbc	09 04 18.4	-0.5
	comp=Z,8.0nm,0.9s						
BRTR	Keskin Array B	146.66	317	PKPbc	PKPbc	09 04 21.8	-0.7
	comp=Z,1.9nm,0.8s,baz=66,slow=1.7,SNR=8.7						
GERES	GERESS Array B	147.94	349	PKPbc	PKPbc	09 04 25.1	-0.4
	comp=Z,1.3nm,0.8s,baz=25,slow=4.4,SNR=6.5						
TORD	Torodi Ar. Bea	174.69	144	PKP	PKPdf	09 04 48.5	-2.0
	comp=Z,0.6nm,0.8s,baz=180,slow=1.4,SNR=2.6						

*NEIC **07** 08:51:15.5±1.5, 24°.0S±0°.1×179°.7W±0°.2, h493km±13km, mb4.6/24, Error ellipse: s-maj=20.1km s-min=18.2km az=76.0*
*NOU **07** 08:51:15.1, 23°.77S×179°.24W, h543km, mb4.6/48, South of Fiji Islands*
*IDC **07** 08:51:16.3±1.0, 23°.92S×179°.85W, h499km±11km, mb3.9/16, mbtmp4.8/21, Error ellipse: s-maj=13.8km s-min=11.8km az=69.0*
ISC 07 08:51:16.3±0.5**, 23°.98S**±0°.06×**179°.70W**±0°.08**, h512km, n124,** σ1ˢ.**42**/139**, mb4.5**/27**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.49	163	P	P	08 52 49.7	+1.5
	136nm,0.4s,baz=314,slow=22,SNR=1.5						
RAO				S	S	08 54 03.6	+0.1
	417nm,0.7s,baz=292,slow=21,SNR=2.2						
RAO	Raoul Island	5.49	163	P	P	08 52 46.4	-1.9
GLKZ	Green Lake	5.50	164	P	P	08 52 49.7	+1.4
MSVF	Nonsavu	6.56	341	P	P	08 52 58.4	-0.5
	31nm,0.4s,baz=200,slow=6.4,SNR=111						
MSVF	Nonsavu	6.56	341	P	P	08 52 58.2	-0.7
MSVF	Nonsavu	6.56	341	P	P	08 52 58.6	-0.2
NIUE	Niue	10.32	64	P	P	08 53 36.5	-0.7
MARNC	Mare, Loyalty	11.59	280	P	P	08 53 50.7	+0.1
OUENC	Ouen Island, N	12.47	274	P	P	08 54 01.6	+1.7
AFI	Afiamalu	12.51	38	P	P	08 53 59.6	-0.8
	13nm,0.4s,baz=235,slow=16,SNR=0.9						
AFI				S	S	08 56 05.5	-10
	15nm,0.7s,baz=239,slow=19,SNR=1.8						
AFI	Afiamalu	12.51	38	P	P	08 53 58.4	-2.0
ONTNC	Ouen Toro	12.85	275	P	P	08 54 02.2	-1.7
DZM	Mont Dzumac	12.90	276	P	P	08 54 03.5	-1.0
	3.7nm,0.6s,baz=91,slow=18,SNR=8.1						
WCZ	Waipu Caves	12.98	202	P	P	08 54 07.5	+2.5
KUZ	Kuaotunu	13.32	196	P	P	08 54 10.2	+1.6
KUZ	Kuaotunu	13.32	196	P	P	08 54 10.1	+1.5
MKAZ	Moumakai	13.80	197	P	P	08 54 14.4	+0.8
WMGZ	Waiomatatini S	13.89	186	P	P	08 54 15.9	+1.4
WMGZ				S	S	08 56 42.8	+1.3
PKGZ	Pakihiroa	13.99	187	P	P	08 54 17.0	+1.3
PKGZ				S	S	08 56 43.1	-0.5
PUZ	Puketiti	14.15	187	P	P	08 54 17.6	+0.3
PUZ				S	S	08 56 39.7	-6.9
URZ	Urewera	14.49	190	P	P	08 54 20.0	-0.9
	6.3nm,0.3s,baz=17,slow=1.4,SNR=14						
URZ				S	S	08 56 51.3	-1.7
	30nm,0.8s,baz=160,slow=23,SNR=17						
URZ	Urewera	14.49	190	P	P	08 54 21.5	+0.7
URZ	Urewera	14.49	190	P	P	08 54 19.4	-1.4
URZ				S	S	08 56 48.4	-4.6
MWZ	Matawai	14.50	189	P	P	08 54 19.8	-1.2
MWZ				S	S	08 56 52.3	-1.0
TKGZ	Te Karaka	14.56	188	P	P	08 54 22.2	+0.6
HIZ	Hauiti	15.21	196	P	P	08 54 30.1	+1.7
BKZ	Black Stump Fm	15.48	191	P	P	08 54 31.7	+0.5
BKZ	Black Stump Fm	15.48	191	P	P	08 54 27.0	-4.3
BKZ				S	S	08 57 05.2	-6.7
BFZ	Birch Farm	17.00	191	P	P	08 54 45.2	-1.4
	67nm,2.9s						
QRZ	Quartz Range	18.02	199	P	P	08 54 56.7	+0.6
KHZ	Kahutara	19.22	195	P	P	08 55 07.4	+0.4
RPZ	Rata Peaks	21.10	199	P	P	08 55 25.0	+0.9
	4.0nm,0.5s,baz=37,slow=5.1,SNR=5.0						
	4.0nm,0.5s						
RPZ	Rata Peaks	21.10	199	P	P	08 55 24.7	+0.6
RPZ				IAmb	IAmb	08 55 46.6	
	comp=Z,26nm,1.2s						
RPZ	Rata Peaks	21.10	199	P	P	08 55 24.6	+0.5
JCZ	Jackson Bay	22.15	202	P	P	08 55 34.1	+0.4
ARMA	Armidale	26.25	250	P	P	08 56 12.0	+1.7
ARMA				IAmb	IAmb	08 56 12.9	
	comp=Z,13nm,0.8s						
ARMA	Armidale	26.25	250	P	P	08 56 11.9	+1.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	Eidsvold	26.57	261	P	P	08 56 13.5	+0.5
EIDS				IAmb	IAmb	08 56 14.2	
	comp=Z,17nm,0.6s						
EIDS	Eidsvold	26.57	261	P	P	08 56 13.6	+0.5
RK1H	Rockhampton Ha	27.28	265	P	P	08 56 19.7	+0.3
SYDH	Sydney Hard Ro	27.57	243	P	P	08 56 23.2	+1.4
RMQ	Roma	28.61	258	P	P	08 56 32.3	+1.3
CAN	Canberra	29.34	240	P	P	08 56 38.5	+1.3
CAN				IAmb	IAmb	08 56 39.0	
	comp=Z,15nm,0.6s						
CAN	Canberra	29.34	240	P	P	08 56 38.4	+1.1
CMSA	Cobar Meteorol	31.44	248	P	P	08 56 55.8	+0.4
CTA	Charters Tower	31.75	270	P	P	08 56 58.3	+0.1
	comp=Z,41nm,0.4s,baz=95,slow=10,SNR=141						
	comp=Z,41nm,0.4s						
CTA	Charters Tower	31.75	270	P	P	08 56 58.6	+0.4
CTAO	Charters Tower	31.75	270	P	P	08 56 58.5	+0.4
CTAO	Charters Tower	31.75	270	P	P	08 56 58.6	+0.4
TOO	Toolangi	32.63	237	P	P	08 57 06.4	+0.9
TOO				IAmb	IAmb	08 57 06.9	
	comp=Z,11nm,0.6s						
TOO	Toolangi	32.63	237	P	P	08 57 06.5	+0.9
QLP	Quilpie	32.65	258	P	P	08 57 05.9	+0.1
	comp=Z,27nm,0.9s						
TAU	Tasmania Unive	33.08	227	P	P	08 57 10.4	+1.2
KRVT	Keravat (AS076	33.54	301	P	P	08 57 12.9	-0.6
	comp=Z,41nm,0.7s,baz=134,slow=18,SNR=2.5						
	comp=Z,41nm,0.7s						
BRAT	Ballarat	33.83	238	P	P	08 57 17.3	+1.7
MTSU	Mount Surprise	34.02	273	P	P	08 57 17.9	+0.4
PMG	Port Moresby	34.78	289	P	P	08 57 23.5	-0.3
	comp=Z,23nm,0.7s,baz=90,slow=5.2,SNR=10.0						
	comp=Z,23nm,0.7s						
PMG	Port Moresby	34.78	289	P	P	08 57 23.4	-0.5
PMG	Port Moresby	34.78	289	P	P	08 57 23.4	-0.5
	comp=Z,33nm,0.9s						
STKA	Stephens Creek	34.95	248	P	P	08 57 25.2	+0.1
	comp=Z,4.2nm,0.4s,baz=90,slow=10,SNR=32						
	comp=Z,4.2nm,0.4s						
STKA	Stephens Creek	34.95	248	P	P	08 57 25.6	+0.5
STKA	Stephens Creek	34.95	248	P	P	08 57 25.5	+0.4
ARPS	Mount Arapiles	35.31	240	P	P	08 57 28.7	+0.6
COEN	Coen	36.40	279	P	P	08 57 37.1	-0.2
COEN				IAmb	IAmb	08 57 38.5	
	comp=Z,17nm,1.4s						
HTT	Hallett	37.29	246	P	P	08 57 44.9	+0.4
QIS	Mount Isa	37.72	267	P	P	08 57 47.8	-0.4
LCRK	Leigh Creek	37.81	251	P	P	08 57 48.8	0.0
BBOO	Buckleboo	39.66	247	P	P	08 58 03.3	-0.5
OOD	Oodnadatta	40.15	255	P	P	08 58 08.5	+0.8
MULG	Mulgathing	41.41	251	P	P	08 58 17.4	-0.3
AS31	Alice Springs	42.29	261	P	P	08 58 24.7	-0.1
ASAR	Alice Springs	42.29	261	P	P	08 58 24.4	-0.4
	comp=Z,13nm,0.5s,baz=98,slow=7.2,SNR=189						
ASAR				ScP	ScP	09 03 11.0	+2.3
	comp=Z,2.0nm,0.8s,baz=113,slow=4.4,SNR=11						
ASAR				S	S	09 04 07.9	-0.6
	comp=Z,0.4nm,0.8s,baz=91,slow=16,SNR=3.6						
	comp=Z,13nm,0.5s						
ASAR	Alice Springs	42.29	261	P	P	08 58 24.6	-0.3
WR0	Warramunga Arr	42.49	266	P	P	08 58 25.4	-1.0
WR0				IAmb	IAmb	08 58 26.2	
	comp=Z,15nm,0.8s						
WB1	Warramunga Ar.	42.66	266	P	P	08 58 27.0	-0.8
WB2	Warramunga Arr	42.66	266	P	P	08 58 27.1	-0.7
WRAB	Tennant Creek	42.67	266	P	P	08 58 26.9	-0.9
WB0	Warramunga Arr	42.67	266	P	P	08 58 27.2	-0.6
WRA	Warramunga Arr	42.67	266	P	P	08 58 27.1	-0.8
	comp=Z,26nm,0.5s,baz=96,slow=8.4,SNR=812						
WRA				PcP	PcP	09 00 08.3	+0.1
	comp=Z,0.8nm,0.5s,baz=103,slow=3.0,SNR=3.1						
WRA				ScP	ScP	09 03 13.2	+2.9
	comp=Z,1.3nm,0.8s,baz=102,slow=3.8,SNR=7.6						
WRA				S	S	09 04 14.7	+0.7
	comp=Z,0.3nm,0.7s,baz=99,slow=6.4,SNR=2.2						
	comp=Z,26nm,0.5s						
WRA	Warramunga Arr	42.67	266	P	P	08 58 27.1	-0.8
FORT	Forrest	46.54	250	P	P	08 58 57.2	-0.3
FORT	Forrest	46.54	250	P	P	08 58 56.9	-0.6
WRKA	Warakurna	47.09	257	P	P	08 59 01.4	-0.4
MTN	Manton Dam	47.73	274	P	P	08 59 04.8	-1.9
MTN				IAmb	IAmb	08 59 06.5	
	comp=Z,15nm,1.0s						
KNRA	Kununurra	48.96	270	P	P	08 59 15.8	-0.1
KNRA	Kununurra	48.96	270	P	P	08 59 15.7	-0.2
SIJI	Sorong	52.72	288	P	P	08 59 42.7	-0.6
	comp=Z,30nm,0.6s,baz=85,slow=11,SNR=11						
	comp=Z,30nm,0.6s						
SIJI	Sorong	52.72	288	P	P	08 59 42.9	-0.4
SWI	Sorong	52.73	288	P	P	08 59 43.0	-0.4
SOEI	Soe	55.12	275	P	P	09 00 00.0	-0.5
SOEI				IAmb	IAmb	09 00 11.4	
	comp=Z,29nm,0.9s						
SOEI	Soe	55.12	275	P	P	09 00 01.9	+1.4
KLBR	Kellerberrin	55.21	247	P	P	09 00 00.5	-0.2
MEEK	Meekatharra	55.35	253	P	P	09 00 00.8	-1.0
PSA00	Pilbara Seismi	55.42	260	P	P	09 00 01.8	-0.6
PSA00	Pilbara Seismi	55.42	260	P	P	09 00 01.6	-0.7
NWAO	Narrogin (SRO)	55.45	246	P	P	09 00 02.1	-0.2
	comp=Z,3.4nm,0.4s,baz=336,slow=5.9,SNR=7.1						
	comp=Z,3.4nm,0.4s						
NWAO	Narrogin (SRO)	55.45	246	P	P	09 00 02.3	-0.1
NWAO				IAmb	IAmb	09 00 02.9	
	comp=Z,32nm,1.4s						
NWAO	Narrogin (SRO)	55.45	246	P	P	09 00 02.1	-0.2
MBWA	Marble Bar	55.63	260	P	P	09 00 03.4	-0.4
MBWA	Marble Bar	55.63	260	P	P	09 00 03.2	-0.6
BLDU	Ballidu	56.25	248	P	P	09 00 07.5	-0.5
MUN	Mundaring	56.45	247	P	P	09 00 09.3	0.0
MORW	Morawa	57.10	250	P	P	09 00 13.9	0.0
MORW				IAmb	IAmb	09 00 14.0	
	comp=Z,16nm,0.5s						
MORW	Morawa	57.10	250	P	P	09 00 13.5	-0.4
GIRL	Giralia	60.16	257	P	P	09 00 35.2	+0.6
BKSI	Bulukumba	60.65	278	P	P	09 00 37.5	-0.4
PLAI	Plampang	61.40	273	P	P	09 00 42.3	-0.5
TOLI2	Tolitoli	62.86	284	P	P	09 00 50.8	-1.6
TOLI2				IAmb	IAmb	09 00 53.3	
	comp=Z,13nm,0.8s						
TOLI2	Tolitoli	62.86	284	P	P	09 00 50.1	-2.3
QSPA	South Pole Qui	66.10	180	P	P	09 01 14.1	+2.0
	comp=Z,2.8nm,0.8s,baz=25,slow=0.9,SNR=18						
	comp=Z,2.8nm,0.8s						
QSPA	South Pole Qui	66.10	180	P	P	09 01 14.4	+2.3
MJAR	Matsushiro Arr	72.12	325	P	P	09 01 48.5	-0.2
	comp=Z,9.8nm,1.4s,baz=167,slow=5.9,SNR=2.7						
	comp=Z,9.8nm,1.4s						
MAW	Mawson	77.77	200	P	P	09 02 21.6	+1.8
	comp=Z,1.3nm,0.5s,baz=132,slow=14,SNR=2.5						
	comp=Z,1.3nm,0.5s						
KSRS	Korea Array	78.48	320	P	P	09 02 25.1	+1.0
	comp=Z,1.4nm,0.6s,baz=134,slow=6.2,SNR=4.8						
	comp=Z,1.4nm,0.6s						
PETK	Petropavlovsk-	79.24	346	P	P	09 02 28.4	+0.6
	comp=Z,10nm,0.9s,baz=145,slow=8.5,SNR=3.8						
	comp=Z,10nm,0.9s						
USRK	Ussuriysk Ar.	80.98	327	P	P	09 02 38.0	+0.9
	comp=Z,2.0nm,0.7s,baz=166,slow=5.6,SNR=5.2						
	comp=Z,2.0nm,0.7s						
CN2	Changchun	84.12	323	eP	P	09 02 50.3	-2.6
CN2				ePP	PP	09 06 16.9	+0.1
CMAR	Chiang Mai Arr	89.81	290	P	P	09 03 22.7	+2.1
	comp=Z,2.1nm,0.3s,baz=140,slow=3.2,SNR=11						
	comp=Z,2.1nm,0.3s						
MKAR	Makanchi Array	112.41	313	PKiKP	PKiKP	09 08 52.9	-0.9
	comp=Z,0.5nm,0.7s,baz=117,slow=1.4,SNR=5.0						
ARCES	ARCESS Array B	132.02	348	PKP	PKPdf	09 09 30.7	+0.1
	comp=Z,3.2nm,0.9s,baz=329,slow=4.2,SNR=5.3						
FINES	FINESS Array B	138.61	342	PKP	PKPdf	09 09 44.0	+0.9
	comp=Z,2.7nm,0.8s,baz=4.1,slow=2.0,SNR=4.6						
AKASG	Malin Array Be	145.19	327	PKPbc	PKPdf	09 09 55.5	+0.4
	comp=Z,1.6nm,0.3s,baz=46,slow=4.6,SNR=13						
BRTR	Keskin Array B	147.84	307	PKPbc	PKPbc	09 10 03.5	-0.3
	comp=Z,1.3nm,0.6s,baz=152,slow=6.3,SNR=6.7						
CLL	Collm	151.01	343	i PKPbc	PKiKP	09 10 11.1	-0.1
	comp=Z,5.0nm,0.7s						
CLL				e(PKiKP)		09 10 15.0	
CLL				ePKPab	PKPab	09 10 20.0	-0.7

*NEIC **07** 08:59:34.0±0.9, 12°.160S±0°.010×167°.3E±0°.2, h230km±7km, mb4.3/28, Error ellipse: s-maj=21.4km s-min=1.5km az=89.0*

*IDC **07** 08:59:41.8±6.2, 12°.16S×167°.06E, h307km±69km, mb3.3/9, mbtmp3.9/10, Error ellipse: s-maj=51.5km s-min=22.5km az=164.0*

ISC 07 08:59:32.8±0.5**, 12°.11S**±0°.09×**167°.2E**±0°.1**, h220km, n50, σ0s.70**/50**, mb4.2**/22**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	8.61	180	Pn	Pn	09 01 34.7	+0.8
MARNC	Mare, Loyalty	9.35	175	Pn	Pn	09 01 42.3	-1.0
DZM	Mont Dzumac	9.93	184	P	P	09 01 58.3	+0.2
	1.7nm,0.6s,baz=41,slow=6.6,SNR=12						
DZM				S	S	09 03 51.8	+9.4
	2.1nm,0.7s,baz=48,slow=23,SNR=1.5						
DZM	Mont Dzumac	9.93	184	Pn	Pn	09 01 51.9	+0.9
FUNA	Funafuti	12.29	74		P	09 02 25.0	+0.5
EIDS	Eidsvold	20.17	227	P	P	09 03 50.7	0.0
EIDS				IAmb	IAmb	09 03 52.8	
	comp=Z,5.4nm,0.6s						
CTA	Charters Tower	21.65	246	P	P	09 04 07.7	+1.6
	comp=Z,1.0nm,0.5s,baz=82,slow=11,SNR=1.8						
	comp=Z,1.0nm,0.5s						
WR0	Warramunga Arr	32.34	252	P	P	09 05 41.0	-0.7
WR0				IAmb	IAmb	09 06 25.0	
	comp=Z,10.0nm,1.5s						
WB0	Warramunga Arr	32.44	252	P	P	09 05 42.0	-0.6
WB2	Warramunga Arr	32.51	252	P	P	09 05 42.8	-0.4
WRA	Warramunga Arr	32.52	252	P	P	09 05 42.4	-0.9
	comp=Z,0.4nm,0.8s,baz=84,slow=8.8,SNR=2.8						
	comp=Z,0.4nm,0.8s						
WRA	Warramunga Arr	32.52	252	P	P	09 05 43.1	-0.2
ASAR	Alice Springs	33.65	245	P	P	09 05 52.2	-0.9
	comp=Z,0.2nm,0.6s,baz=64,slow=10,SNR=5.0						
	comp=Z,0.2nm,0.6s						
BBOO	Buckleboo	35.21	229	P	P	09 06 06.0	-0.3
KNRA	Kununurra	37.49	260	P	P	09 06 26.0	+0.3
KNRA				IAmb	IAmb	09 06 29.8	
	comp=Z,9.5nm,1.1s						
JKA	Kamikawa-asahi	60.29	340	P	P	09 09 18.9	+0.8
SEY	Seymchan	75.70	353	P	P	09 10 53.9	+0.3
	comp=Z,3.9nm,0.9s,baz=173,slow=5.6,SNR=5.6						
	comp=Z,3.9nm,0.9s						
QSPA	South Pole Qui	77.90	180	P	P	09 11 06.2	+0.1
CAST	Castle Rocks	81.52	17	P	P	09 11 25.8	+0.5
SCM	Sheep Creek Mo	81.83	20	P	P	09 11 28.0	+1.0
TRF	Thorofare Moun	82.07	18	P	P	09 11 28.3	-0.1
TRF				IAmb	IAmb	09 11 40.6	
	comp=Z,11nm,1.4s						
BMRM	Bremner River	82.17	22	P	P	09 11 28.9	+0.1
N25K	Chitina, Valde	82.61	21	P	P	09 11 30.8	-0.3
IMAR	Indian Mountai	83.06	15	P	P	09 11 33.9	+0.7
TABL	Table Mountain	83.11	23	P	P	09 11 34.1	+0.3
CCB	Clear Creek Bu	83.70	18	P	P	09 11 36.5	0.0
CCB				IAmb	IAmb	09 11 37.3	
	comp=Z,4.2nm,0.8s						
HDA	Harding Lake	83.79	18	P	P	09 11 37.7	+0.8
MDM	Murphy Dome	83.80	17	P	P	09 11 37.3	+0.3
MDM				IAmb	IAmb	09 11 37.7	
	comp=Z,4.0nm,0.8s						
H23K	Yukon River	84.06	16	P	P	09 11 38.9	+0.5
IL31		84.06	18	P	P	09 11 38.5	+0.2
IL31				IAmb	IAmb	09 12 01.4	
	comp=Z,7.7nm,1.5s						
ILAR	Eielson Array	84.06	18	P	P	09 11 38.4	+0.1
	comp=Z,3.5nm,0.6s,baz=247,slow=5.2,SNR=57						
	comp=Z,3.5nm,0.6s						
ILAR	Eielson Array	84.06	18	P	P	09 11 38.5	+0.2
M27K	Edge Creek, AK	84.07	21	P	P	09 11 38.5	-0.1
M27K				IAmb	IAmb	09 12 08.8	
	comp=Z,15nm,1.4s						
DOT	Dot Lake	84.17	20	P	P	09 11 39.0	0.0
DOT				IAmb	IAmb	09 11 56.7	
	comp=Z,14nm,1.5s						
J25K	Salcha River,	84.42	19	P	P	09 11 40.5	+0.3
J25K				IAmb	IAmb	09 11 41.6	
	comp=Z,5.0nm,0.7s						
SCRK	Sand Creek	84.42	19	P	P	09 11 40.7	+0.3
SCRK				IAmb	IAmb	09 11 42.0	
	comp=Z,3.0nm,0.8s						
J26L	Joseph Creek	84.91	19	P	P	09 11 41.9	-0.9
J26L				IAmb	IAmb	09 12 23.2	
	comp=Z,7.6nm,1.4s						
I26K	Coal Creek Min	85.58	19	P	P	09 11 46.1	+0.2
I26K				IAmb	IAmb	09 12 00.3	
	comp=Z,2.8nm,0.8s						
NVAR	Mina Array Bea	85.60	49	P	P	09 11 47.1	+0.3
	comp=Z,0.7nm,0.8s,baz=237,slow=6.1,SNR=4.9						
	comp=Z,0.7nm,0.8s						
NVAR	Mina Array Bea	85.60	49	P	P	09 11 45.9	-1.0
BMAR	Burnt Mountain	86.59	17	P	P	09 11 52.5	+1.6
I07A	Izee	86.64	44	P	P	09 11 52.6	+0.8
TXAR	Lajitas Array	95.05	61	P	P	09 12 30.8	-0.4
	comp=Z,0.2nm,0.7s,baz=234,slow=7.7,SNR=2.2						
	comp=Z,0.2nm,0.7s						
YKA	Yellowknife Ar	95.25	27	P	P	09 12 30.4	-0.7
	comp=Z,0.4nm,0.6s,baz=257,slow=4.6,SNR=1.8						
	comp=Z,0.4nm,0.6s						
MK31	Makanchi Array	95.30	317	P	P	09 12 30.4	-1.4
MK31				IAmb	IAmb	09 12 38.2	
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	95.30	317	P	P	09 12 31.4	-0.4
	comp=Z,0.9nm,0.6s,baz=94,slow=4.9,SNR=6.9						
	comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	95.30	317	P	P	09 12 30.8	-1.0
MT02	Curacav	108.41	131	Pdif	Pdif	09 13 29.5	-1.2
ARCES	ARCESS Array B	117.73	346	PKP	PKPdf	09 17 51.6	-0.6
	comp=Z,4.2nm,1.1s,baz=20,slow=3.9,SNR=6.4						
ARCES	ARCESS Array B	117.73	346	PKPdf	PKPdf	09 17 51.9	-0.4

*IDC **07** 09:06:43.2±2.6, 10°.66S×161°.36E, h45km±22km, mb3.5/8, mbtmp3.9/10, ML3.9/2, MS3.5/8, Error ellipse: s-maj=26.6km s-min=16.5km az=67.0*

ISC 07 09:06:44.3±0.8**, 10°.74S**±0°.10×**161°.3E**±0°.1**, h61km, n15, σ1s.71**/13**, mb3.7**/8**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.87	314	P	Pn	09 07 11.6	-2.5
	5μm,0.6s,baz=187,slow=8.0,SNR=16						
HNR				S	Sn	09 07 35.3	-1.4
	6μm,0.3s,baz=70,slow=19,SNR=4.2						
HNR				LR	LR	09 08 02.0	
	comp=Z,7μm,19.2s,baz=186,slow=42						
KRVT	Keravat (AS076	11.21	304	LR	LR	09 14 07.6	
	comp=Z,144nm,18.5s,baz=261,slow=40						
DZM	Mont Dzumac	12.29	157	P	Pn	09 09 36.1	-0.6
	0.4nm,0.3s,baz=3.2,slow=6.1,SNR=20						
DZM				S	Sn	09 11 48.8	-3.3
	1.5nm,0.6s,baz=357,slow=22,SNR=1.1						
DZM				LR	LR	09 13 45.6	
	comp=Z,128nm,18.7s,baz=5.0,slow=34						
	2.7nm,0.7s						
PMG	Port Moresby	14.00	274	LR	LR	09 15 13.2	
	comp=Z,241nm,18.7s,baz=103,slow=36						
CTA	Charters Tower	17.23	236	P	P	09 10 43.0	+1.3
	0.4nm,0.3s,baz=57,slow=12,SNR=13						
CTA				LR	LR	09 16 20.2	
	comp=Z,73nm,19.7s,baz=261,slow=33						
	6.5nm,0.7s						
AFI	Afiamalu	26.47	100	LR	LR	09 21 09.3	
	comp=Z,90nm,18.2s,baz=111,slow=33						
WRA	Warramunga Arr	27.54	247	P	P	09 12 26.8	+1.2
	0.8nm,0.6s,baz=77,slow=9.5,SNR=14						
WRA				LR	LR	09 23 29.8	
	comp=Z,163nm,18.0s,baz=312,slow=36						
	0.8nm,0.6s						
STKA	Stephens Creek	27.83	218	LR	LR	09 23 26.3	
	comp=Z,111nm,18.4s,baz=19,slow=36						
ASAR	Alice Springs	29.10	240	P	P	09 12 39.8	+0.2
	0.4nm,0.8s,baz=65,slow=10.0,SNR=3.5						
ASAR				LR	LR	09 24 25.0	
	comp=Z,164nm,18.4s,baz=330,slow=36						
	0.4nm,0.8s						
VNDA	Vanda	66.76	180	P	P	09 17 30.4	+1.5
	0.4nm,0.5s,baz=354,slow=7.0,SNR=2.2						
	0.4nm,0.5s						
CMAR	Chiang Mai Arr	68.02	295	P	P	09 17 39.3	+1.5
	0.9nm,0.4s,baz=120,slow=6.1,SNR=1.3						
	0.9nm,0.4s						
SONM	Songino Array	75.90	325	P	P	09 18 24.7	+0.2
	0.6nm,0.6s,baz=129,slow=4.2,SNR=2.7						
	0.6nm,0.6s						
ILAR	Eielson Array	84.66	20	P	P	09 19 11.0	-0.1
	0.5nm,0.9s,baz=239,slow=6.2,SNR=2.7						
	0.5nm,0.9s						
NVAR	Mina Array Bea	89.18	51	P	P	09 19 35.1	+1.2
	0.5nm,0.7s,baz=235,slow=7.6,SNR=4.0						
	0.5nm,0.7s						
MKAR	Makanchi Array	90.34	318	P	P	09 19 38.5	-0.5
	0.3nm,0.4s,baz=90,slow=5.9,SNR=5.2						
	0.3nm,0.4s						

*IDC **07** 09:11:33.0±0.9, 9°.45N×125°.70E, h0km, mb3.8/7, mbtmp3.8/7, MS2.9/2, Error ellipse: s-maj=73.9km s-min=18.6km az=71.0*

*MAN **07** 09:11:42.3, 9°.55N×126°.04E, h42km, mb4.3, ML3.2, MS2.9*

ISC 07 09:11:41.7±1.2**, 9°.56N**±0°.07×**126°.09E**±0°.10**, h67km**±10km**, n16, σ1s.14**/21**, mb3.8**/7**, 2C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.63	291	⇓eP	Pn	09 11 55.1	-0.6
SCPH				eS	Sn	09 12 04.5	-1.4
MSLP	Maasin	1.34	295	⇑iP	Pn	09 12 05.7	+1.2
MSLP				i S	Sn	09 12 23.9	+2.3
BIPH	Bislig	1.39	169	⇓eP	Pn	09 12 05.8	+0.6
BIPH				eS	Sn	09 12 23.5	+0.8
CGP	Cagayan de Oro	1.76	232	⇓eP	Pn	09 12 11.3	+1.2
CGP				eS	Sn	09 12 30.6	-1.0
TBP	Tagbilaran	2.20	274	eP	Pn	09 12 16.0	0.0
TBP				i S	Sn	09 12 42.6	+0.4
DAV	Davao City (W)	2.52	192	LR	LR	09 13 11.9	
	comp=Z,116nm,19.1s,baz=76,slow=42						
KCP	Kidapawan	2.72	201	⇓eP	Pn	09 12 24.3	+1.2
RCP	Roxas	3.84	301	⇑eP	Pn	09 12 40.1	+1.7
WRA	Warramunga Arr	30.42	165	P	P	09 17 47.1	-0.8
	0.4nm,0.6s,baz=345,slow=9.2,SNR=9.5						
WRA				PcP	PcP	09 20 46.4	+0.1
	0.3nm,0.6s,baz=342,slow=2.9,SNR=1.8						
	0.4nm,0.6s						
ASAR	Alice Springs	33.89	167	P	P	09 18 18.4	0.0
	0.4nm,0.4s,baz=351,slow=6.8,SNR=21						
ASAR				PcP	PcP	09 20 55.7	-0.1
	0.2nm,0.5s,baz=346,slow=3.3,SNR=2.3						
	0.4nm,0.4s						
USRK	Ussuriysk Ar.	34.89	7	P	P	09 18 28.1	+1.3
	1.8nm,0.7s,baz=181,slow=8.1,SNR=2.3						
	1.8nm,0.7s						
MKAR	Makanchi Array	52.49	323	P	P	09 20 47.0	-0.9
	0.4nm,0.7s,baz=112,slow=9.4,SNR=2.8						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	56.56	326	P	P	09 21 16.3	-1.0
	0.5nm,0.6s,baz=121,slow=7.4,SNR=4.7						
	0.5nm,0.6s						
BVAR	Borovoye Array	62.15	326	P	P	09 21 55.7	-0.2
	0.5nm,0.5s,baz=120,slow=5.8,SNR=2.4						
	0.5nm,0.5s						
FINES	FINESS Array B	86.43	332	P	P	09 24 15.5	-1.2
	3.5nm,0.9s,baz=98,slow=10.0,SNR=3.8						
	3.5nm,0.9s						
IDI	Anoyia	93.55	306	LR	LR	10 10 50.0	
	comp=Z,14nm,20.3s,baz=4.0,slow=38						

ASRS 07 09:27:16.3±0.3**, 52°N**±2°×**9°8E**±°**, h5km, MLh4.5**/6**, Error ellipse: s-maj=3.9km s-min=2.8km az=32.0, confirmed, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	Kungurtug, Tuv	1.86	185	Pg	Pg	09 27 53.1	+1.2
KNGR				Sg	Sg	09 28 18.0	+2.0
MOY	Mondy	2.15	110	Pg	Pg	09 27 57.4	0.0
MOY				Sg	Sg	09 28 24.5	-0.8
KZLR	Kyzyl	2.17	251	Pg	Pg	09 27 59.6	+1.8
KZLR				Sg	Sg	09 28 27.5	+1.6
ARDR	Aradan	2.64	274	Pg	Pg	09 28 07.1	+0.1
ARDR				Sg	Sg	09 28 42.7	+1.6
MINR	Mina	3.23	321	Pg	Pg	09 28 22.6	+4.4
MINR				Sg	Sg	09 29 07.3	+7.2
CERR	Cheremushki	3.88	278	Pg	Pg	09 28 31.6	+1.0
CERR				Sg	Sg	09 29 22.4	+1.6
DJOS	Djoyskaya Sosn	3.89	278	Pg	Pg	09 28 32.7	+2.0
DJOS				Sg	Sg	09 29 22.6	+1.5
DJO	Djoy, Khakassi	4.00	277	Pn	Pb	09 28 23.3	-3.8
DJO				Pg	Pg	09 28 33.3	+0.5
DJO				Sg	Sg	09 29 27.2	+2.6
IRK	Irkutsk	4.00	90	Pg	Pg	09 28 32.8	-0.1
IRK				Sg	Sg	09 29 22.7	-2.1
ZAK	Zakamensk	4.04	119	Pg	Pb	09 28 30.6	+2.7
ZAK				Sg	Sb	09 29 21.3	+4.4
GZL	Zheleznogorsk	4.54	329	Pg	Pg	09 28 44.6	+1.4
GZL				Sg	Sg	09 29 45.4	+3.4
GZLN	Zheleznogorsk	4.57	331	Pg	Pg	09 28 44.5	+0.8
GZLN				Sg	Sg	09 29 45.3	+2.4
SHTK	Zheleznogorsk-	4.58	330	Pg	Pb	09 28 37.7	+0.7
SHTK				Sg	Sb	09 29 37.7	+5.2
LUZB	Luzhba, Kemero	5.47	286	Sg	Sg	09 30 09.3	-2.6
TASR	Tashtagol	6.02	277	Sg	Sg	09 30 25.7	-3.9
CUR	Chagan-Uzun	6.35	252	Sg	Sg	09 30 38.9	-1.3
ULGR	Ulagan, Altay	6.38	257	Sg	Sg	09 30 40.3	-0.7
ARTR	Artybash	6.48	268	Sg	Sg	09 30 47.4	+3.1
CHBI	Chibit, Altay	6.76	256	Sg	Sg	09 30 56.7	+3.4
ELT	Eltsovka	7.02	281	Sg	Sg	09 31 02.1	+0.6

DDA 07 09:56:27.9±0.0**, 39°.76N×26°.13E, h7km**±1km**, ML1.3, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.10	322	P	Pg	09 56 30.5	+0.3
BOZC				i AML	AML	09 56 32.0	
	comp=N,244nm,0.3s						
BOZC				i AML	AML	09 56 32.0	
	comp=E,145nm,0.3s						
BOZC				S	Sg	09 56 32.2	+0.4
KOCA	Canakkale, Ayv	0.26	179	P	Pg	09 56 33.5	+0.5
KOCA				S	Sg	09 56 37.6	+1.1
KOCA				i AML	AML	09 56 40.0	
	comp=N,57nm,1.2s						
KOCA				i AML	AML	09 56 46.0	
	comp=E,39nm,0.9s						
BAYC	CANAKKALE_Bayr	0.32	94	P	Pg	09 56 34.4	+0.2
BAYC				i AML	AML	09 56 39.0	
	comp=N,33nm,0.3s						
BAYC				S	Sg	09 56 39.1	+0.8
BUHA	Balikesir, Bur	0.77	109	P	Pn	09 56 44.5	-0.7
BUHA				S	Sg	09 56 52.8	0.0
BUHA				i AML	AML	09 56 57.0	
	comp=N,9.4nm,0.6s						
BUHA				i AML	AML	09 57 00.0	
	comp=E,12nm,0.5s						

*KRNET **07** 10:27:52.2±0.1, 43°.15N×70°.47E, mb2.7*

*NNC **07** 10:27:52.5±0.4, 42°.90N×71°.01E, h0km, mb3.1, mpv2.1, Error ellipse: s-maj=6.1km s-min=1.9km az=25.0, Suspected Mining explosion.*

ISC 07 10:27:51.3±1.0**, 43°.1N**±0°.2×**71°.01E**±0°.04**, h0km, n16, σ0s.60**/31**, 19C-13D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	Karatay Array	0.36	273	⇑P	Pb	10 28 00.5	-0.1
KK06				⇑S	Sb	10 28 06.4	-0.4
KK05	Karatay Array	0.36	277	⇓P	Pb	10 28 00.6	0.0
KK05				⇓S	Sb	10 28 06.5	-0.3
KK02	Karatay Array	0.37	274	⇓P	Pb	10 28 00.7	0.0
KK02				⇑S	Sb	10 28 06.8	-0.2
KK31	Karatay Array	0.37	274	⇓P	Pb	10 28 00.7	-0.1
	0.5nm,0.2s,baz=260,slow=51,SNR=75						
KK31				⇓S	Sb	10 28 06.6	-0.4
	2.6nm,0.2s,baz=118,slow=31,SNR=17						
KKAR	Karatay Array	0.37	274	⇓iP	Pb	10 28 00.6	-0.1
	baz=45						
KKAR				⇓iS	Sb	10 28 06.7	-0.3
	baz=45						
KK01	Karatay Array	0.37	275	⇓P	Pb	10 28 00.9	+0.1
KK01				⇑S	Sb	10 28 07.0	-0.2
KK04	Karatay Array	0.37	275	⇑P	Pb	10 28 00.9	+0.1
KK04				⇓S	Sb	10 28 07.0	-0.1
KK07	Karatay Array	0.38	272	⇑P	Pb	10 28 00.7	-0.1
KK07				⇓S	Sb	10 28 06.8	-0.4
KK03	Karatay Array	0.38	274	⇓P	Pb	10 28 00.9	0.0
KK03				⇑S	Sb	10 28 07.0	-0.3
KK09	Karatay Array	0.38	277	⇑P	Pb	10 28 01.0	+0.1
KK09				⇑S	Sb	10 28 07.3	0.0
KK08	Karatay Array	0.39	274	⇑P	Pb	10 28 01.0	0.0
KK08				⇓S	Sb	10 28 07.3	-0.2

EKS2	**Erkin-Say**	**2.07**	**101**	⇑*i*P	**Pg**	**10 28 31.4**	**+0.4**
	baz=0.0						
EKS2				⇑*i*S	**Sg**	**10 28 59.9**	**+2.0**
	baz=0.0						
USP	**Ospenovka**	**2.56**	**85**	⇑*i*P	**Pb**	**10 28 38.2**	**+0.1**
	baz=86						
USP				⇑*i*S	**Sg**	**10 29 11.7**	**-1.8**
	baz=86						
UCH	**Uchtor**	**2.72**	**107**	⇑*i*P	**Pb**	**10 28 40.2**	**-0.8**
	baz=6.0						
UCH				⇑*i*S	**Sb**	**10 29 15.4**	**+0.3**
	baz=6.0						
ARLS	**Aral**	**2.73**	**115**	⇑*e*P	**Pb**	**10 28 40.2**	**-0.9**
	baz=13						
ARLS				⇑*i*S	**Sb**	**10 29 15.4**	**+0.1**
	baz=13						
TKM2	**Tokmak 2**	**3.37**	**91**	⇓Pg	**Pg**	**10 28 56.2**	**+0.4**
	2.2nm,0.8s						
TKM2				⇑Lg	Lg	10 29 36.7	
	0.6nm,0.4s						

*JMA **07** 10:57:05.4±0.1, 24°.0N±0°.6×121°.5E±0°.4, h48km, MV2.4/6, TAIWAN REGION*
*TAP **07** 10:57:06.1, 24°.14N×121°.95E, h3km, ML3.0, C*
ISC 07 10:57:06.7±1.1**, 24°.11N**±0°.02×**121°.99E**±0°.02**, h6**km±9km**,**
n91, σ**1s.11**/146**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.30**	**311**	*e*P	**Pg**	**10 57 12.3**	**-0.3**
	baz=313						
ETL	**Fush Village**	**0.34**	**279**	*i* P	**Pg**	**10 57 13.2**	**-0.2**
	baz=272						
ETL				*i* S	**Sg**	**10 57 19.1**	**+1.2**
	baz=272						
TWD	**Chiawan**	**0.36**	**266**	*e*P	**Pg**	**10 57 13.8**	**+0.1**
	baz=275						
TWD				*e*S	**Sg**	**10 57 18.9**	**+0.4**
	baz=275						
NACB	**Ninganchiao**	**0.37**	**280**	P	**Pb**	**10 57 15.2**	**-0.5**
NACB	**Ninganchiao**	**0.37**	**280**	*i* P	**Pg**	**10 57 13.4**	**-0.4**
	baz=275						
NACB				S	**Sg**	**10 57 19.4**	**+0.6**
	baz=275						
HWA	**Hwalien**	**0.38**	**250**	*i* P	**Pb**	**10 57 15.6**	**-0.3**
	baz=224						
EWUT	**Wuta**	**0.39**	**330**	*i* P	**Pg**	**10 57 13.5**	**-0.8**
	baz=334						
EWUT				*i* S	**Sg**	**10 57 19.4**	**0.0**
	baz=334						
ENA	**Nanau**	**0.39**	**324**	P	**Pg**	**10 57 14.6**	**+0.3**
	baz=341						
ENA				S	**Sg**	**10 57 20.3**	**+0.8**
	baz=341						
TEYL	**Yanliau Villag**	**0.43**	**236**	*i* P	**Pb**	**10 57 15.9**	**-0.8**
	baz=215						
ETLH	**Xiulin Townshi**	**0.48**	**282**	*e*P	**Pg**	**10 57 15.7**	**-0.2**
	baz=278						
ETLH				*e*S	**Sg**	**10 57 22.5**	**+0.3**
	baz=278						
ETM	**Tongmen**	**0.48**	**253**	P	**Pg**	**10 57 16.4**	**+0.4**
	baz=245						
ETM				*e*S	**Sg**	**10 57 23.7**	**+1.5**
	baz=245						
TWC	**Suao**	**0.52**	**345**	*e*P	**Pb**	**10 57 17.8**	**-0.4**
	baz=342						
TWC				*e*S	**Sb**	**10 57 24.4**	**-1.5**
	baz=342						
TEGC	**Jichi Village**	**0.57**	**226**	*e*P	**Pn**	**10 57 20.1**	**-1.3**
	baz=205						
ESL	**Shilin**	**0.59**	**240**	P	**Pg**	**10 57 18.4**	**+0.4**
	baz=232						
ESL				*e*S	**Sb**	**10 57 28.5**	**+0.4**
	baz=232						
LATG	**Datong**	**0.60**	**315**	*i* P	**Pg**	**10 57 18.3**	**0.0**
	baz=317						
LATG				*i* S	**Sg**	**10 57 27.3**	**+1.1**
	baz=317						
NNSB	**Datong**	**0.64**	**300**	P	**Pg**	**10 57 19.2**	**+0.1**
	baz=299						
NNSB				*e*S	**Sg**	**10 57 28.3**	**+0.8**
	baz=299						
NNS	**Nan Shan**	**0.65**	**300**	*e*P	**Pg**	**10 57 18.4**	**-0.9**
	baz=300						
NNS				*e*S	**Sg**	**10 57 27.8**	**-0.1**
	baz=300						
ENTT	**Nioudou**	**0.66**	**324**	P	**Pg**	**10 57 18.7**	**-0.6**
	baz=326						
ENTT				S	**Sb**	**10 57 29.2**	**-0.8**
	baz=326						
NDT	**Datong Townshi**	**0.66**	**318**	*e*P	**Pg**	**10 57 17.6**	**-1.8**
	baz=330						
NDT				*e*S	**Sg**	**10 57 27.7**	**-0.3**
	baz=330						
WHF	**Hehuan Shan**	**0.67**	**273**	P	**Pg**	**10 57 19.6**	**0.0**
	baz=269						
WHF				*e*S	**Sg**	**10 57 29.1**	**+0.8**
	baz=269						
EGFH	**Guangfu**	**0.68**	**230**	P	**Pb**	**10 57 20.6**	**-0.4**
	baz=209						
EGFH				*e*S	**Sn**	**10 57 32.3**	**-1.5**
	baz=209						
TWE	**Neicheng**	**0.68**	**334**	*e*P	**Pb**	**10 57 20.4**	**-0.6**
	baz=338						
FUSS	**Fushou**	**0.70**	**282**	*i* P	**Pg**	**10 57 19.9**	**-0.2**
	baz=279						
FUSS				S	**Sg**	**10 57 30.7**	**+1.5**
	baz=279						
EGS		**0.73**	**356**	*e*P	**Pn**	**10 57 23.2**	**-0.4**
	baz=349						
FUSB	**Fushanzhiwuyua**	**0.75**	**330**	P	**Pb**	**10 57 21.6**	**-0.6**
	baz=333						
FUSB				*e*S	**Sb**	**10 57 32.9**	**+0.2**
	baz=333						
CHGB	**Renai**	**0.75**	**266**	P	**Pg**	**10 57 21.5**	**+0.4**
	baz=262						
CHGB				*e*S	**Sb**	**10 57 33.4**	**+0.5**
	baz=262						
TWT	**Tachien**	**0.76**	**281**	*e*P	**Pn**	**10 57 23.0**	**-1.2**
	baz=278						
TWT				*e*S	**Sb**	**10 57 33.5**	**+0.4**
	baz=278						
OWD	**Renai**	**0.76**	**259**	P	**Pg**	**10 57 21.7**	**+0.3**
	baz=254						
OWD				S	**Sg**	**10 57 32.8**	**+1.5**
	baz=254						
TDCB	**Techi**	**0.78**	**281**	*e*P	**Pb**	**10 57 22.4**	**-0.3**
	baz=278						
TDCB				*e*S	**Sb**	**10 57 34.1**	**+0.6**
	baz=278						
YHNB	**Yeheng**	**0.79**	**315**	P	**Pb**	**10 57 22.8**	**-0.2**
YHNB	**Yeheng**	**0.79**	**315**	*e*P	**Pg**	**10 57 22.2**	**+0.3**
	baz=327						
YHNB				*e*S	**Sg**	**10 57 33.0**	**+0.7**
	baz=327						
NWLT	**Wulai**	**0.80**	**326**	P	**Pg**	**10 57 22.2**	**0.0**
	baz=328						
NWLT				*e*S	**Sg**	**10 57 32.6**	**0.0**
	baz=328						
HGSD	**Ruisui**	**0.81**	**220**	*e*P	**Pn**	**10 57 23.9**	**-0.8**
	baz=199						
HGSD				*e*S	**Sn**	**10 57 36.7**	**-0.2**
	baz=199						
NSK	**Sanguang**	**0.81**	**314**	P	**Pg**	**10 57 21.7**	**-0.6**
	baz=316						
NSK				*e*S	**Sg**	**10 57 32.7**	**-0.1**
	baz=316						
WUSB	**Renai**	**0.81**	**262**	P	**Pg**	**10 57 22.6**	**+0.3**
	baz=258						
WUSB				*e*S	**Sb**	**10 57 34.6**	**+0.1**
	baz=258						
VWDT	**VWDT**	**0.85**	**246**	P	**Pb**	**10 57 23.6**	**-0.4**
	baz=241						
VWDT				*e*S	**Sn**	**10 57 36.7**	**-1.5**
	baz=241						
EHY	**Hungye**	**0.86**	**226**	*e*P	**Pn**	**10 57 24.3**	**-1.1**
	baz=208						
EHY				*e*S	**Sn**	**10 57 37.3**	**-0.9**
	baz=208						
TIPB	**Shuangxi**	**0.87**	**350**	*e*P	**Pn**	**10 57 24.3**	**-1.3**
	baz=353						
JYNG	**Yonagunijimaku**	**0.93**	**68**	*e*P	**Pn**	**10 57 28.7**	**+2.3**
JYNG				S	**Sn**	**10 57 45.7**	**+5.6**
TWA	**Mucha**	**0.94**	**337**	P	**Pn**	**10 57 25.4**	**-1.1**
	baz=340						
NFF	**Wufeng Townshi**	**0.95**	**303**	*e*P	**Pg**	**10 57 24.4**	**-0.7**
	baz=303						
NFF				*e*S	**Sg**	**10 57 37.6**	**+0.2**
	baz=303						
YULB	**Yu-li**	**0.96**	**222**	P	**Pn**	**10 57 26.7**	**0.0**
YULB	**Yu-li**	**0.96**	**222**	*e*P	**Pn**	**10 57 25.6**	**-1.2**
	baz=218						
YULB				*e*S	**Sn**	**10 57 40.3**	**-0.4**
	baz=218						
WHP	**Taichung City**	**0.97**	**280**	P	**Pb**	**10 57 26.0**	**0.0**
	baz=278						
EYUL	**Yuli**	**0.98**	**219**	P	**Pn**	**10 57 26.4**	**-0.6**
	baz=233						
NWF	**Wu-fen Shan**	**0.98**	**349**	*e*P	**Pn**	**10 57 27.7**	**+0.6**
	baz=342						
SXI1	**Grass Mountain**	**0.99**	**354**	*e*P	**Pn**	**10 57 27.0**	**-0.3**
	baz=356						
WCS	**Beigang Elemen**	**0.99**	**267**	*e*P	**Pg**	**10 57 24.9**	**-0.8**
	baz=263						
YOJ	**Yonaguni jima**	**0.99**	**69**	P	Pn	10 57 30.5	+3.3
YOJ	**Yonaguni jima**	**0.99**	**69**	*e*P	**Pn**	**10 57 27.3**	**+0.1**
	baz=60						
YOJ				*e*S	**Sn**	**10 57 41.5**	**-0.1**
	baz=60						
SSLB	**Suanglung**	**1.00**	**252**	P	**Pb**	**10 57 26.2**	**-0.4**
SSLB	**Suanglung**	**1.00**	**252**	P	**Pb**	**10 57 26.1**	**-0.4**
	baz=258						
SSLB				*e*S	**Sg**	**10 57 39.4**	**+0.5**
	baz=258						
SMLT	**Sun Moon Lake**	**1.02**	**258**	P	**Pg**	**10 57 26.6**	**+0.2**
	baz=253						
SMLT				*e*S	**Sb**	**10 57 41.4**	**+0.7**
	baz=253						
LIOB	**Emei**	**1.04**	**301**	*e*P	**Pn**	**10 57 27.2**	**-0.7**
	baz=301						
NSTT	**Nanjuang**	**1.04**	**300**	P	**Pg**	**10 57 26.9**	**+0.2**
	baz=300						
NSTT				*e*S	**Sg**	**10 57 40.8**	**+0.6**
	baz=300						
TYC	**Yuchr**	**1.06**	**259**	*e*P	**Pb**	**10 57 27.1**	**-0.3**
	baz=255						
TYC				*e*S	**Sb**	**10 57 41.4**	**-0.1**
	baz=255						
YM01	**YM01**	**1.10**	**340**	*e*P	**Pn**	**10 57 30.4**	**+1.6**
	baz=322						
FULB	**Fuli**	**1.11**	**215**	*e*P	**Pn**	**10 57 29.3**	**+0.5**
	baz=196						
WHYT	**Xinyi Township**	**1.12**	**249**	*e*P	**Pb**	**10 57 27.5**	**-1.1**
	baz=254						
WHYT				*e*S	**Sn**	**10 57 44.0**	**-0.8**
	baz=254						
TWQ1	**Liyutan**	**1.14**	**282**	*e*P	**Pg**	**10 57 30.4**	**+1.9**
	baz=280						
NSY	**Sanyi**	**1.16**	**285**	*e*P	**Pg**	**10 57 29.7**	**+0.7**
	baz=284						
WJS	**Zhushan**	**1.19**	**256**	*e*P	**Pg**	**10 57 30.5**	**+0.9**
	baz=252						
WJS				*e*S	**Sn**	**10 57 48.2**	**+1.7**
	baz=252						
TCU	**Taichung**	**1.20**	**272**	*e*P	**Pg**	**10 57 32.5**	**+2.7**
	baz=269						
TCU				*e*S	**Sn**	**10 57 49.8**	**+3.0**
	baz=269						
ALS	**Alishan**	**1.24**	**242**	*e*P	**Pg**	**10 57 31.3**	**+0.7**
	baz=236						
ALS				*e*S	**Sn**	**10 57 48.4**	**+0.3**
	baz=236						
ELDTW	**Lidau**	**1.28**	**225**	*e*P	**Pn**	**10 57 30.2**	**-1.1**
	baz=220						
EDH	**Donghe**	**1.29**	**209**	*e*P	**Pg**	**10 57 31.1**	**-0.5**
	baz=190						
EDH				*e*S	**Sg**	**10 57 49.6**	**+1.3**
	baz=190						
WDLH	**Douliu**	**1.40**	**253**	*e*P	**Pg**	**10 57 34.9**	**+1.4**
	baz=246						
WCKO	**Fanlu**	**1.44**	**243**	*e*P	**Pg**	**10 57 34.3**	**+0.1**
	baz=222						
WCKO				*e*S	**Sg**	**10 57 55.3**	**+2.4**
	baz=222						
STYH	**Taoyuan**	**1.46**	**230**	*e*P	**Pn**	**10 57 32.8**	**-0.8**
	baz=215						
STYH				*e*S	**Sg**	**10 57 53.3**	**-0.2**
	baz=215						
TPUB	**Ta-pu**	**1.48**	**237**	P	**Pg**	**10 57 36.6**	**+1.4**
TPUB	**Ta-pu**	**1.48**	**237**	*e*P	**Pg**	**10 57 35.1**	**-0.1**
	baz=231						
TPUB				*e*S	**Sg**	**10 57 57.8**	**+3.4**
	baz=231						
CHN4	**Tsaushan**	**1.49**	**240**	*e*P	**Pg**	**10 57 34.9**	**-0.3**
	baz=220						
CHN4				*e*S	**Sg**	**10 57 57.0**	**+2.4**
	baz=220						
WRL	**Guolierlin Hig**	**1.49**	**262**	*e*P	**Pg**	**10 57 35.1**	**-0.2**
	baz=254						
WRL				*e*S	**Sg**	**10 57 56.1**	**+1.4**
	baz=254						
WTP	**Ta-pu**	**1.53**	**236**	*e*P	**Pb**	**10 57 35.0**	**-0.5**
	baz=230						
WTP				*e*S	**Sg**	**10 57 58.6**	**+2.7**
	baz=230						
TWGBT	**Beinan**	**1.53**	**213**	P	**Pg**	**10 57 36.8**	**+0.7**
TWGBT	**Beinan**	**1.53**	**213**	*e*P	**Pb**	**10 57 34.9**	**-0.7**
	baz=195						
TWGBT				*e*S	**Sb**	**10 57 54.8**	**-0.5**
	baz=195						
TWG	**Pinlang**	**1.54**	**214**	*e*P	**Pb**	**10 57 34.6**	**-1.0**
	baz=195						
TWG				*e*S	**Sb**	**10 57 54.9**	**-0.5**
	baz=195						
TWK	**Hsinying**	**1.61**	**239**	*e*P	**Pg**	**10 57 37.2**	**-0.4**
	baz=231						
TWK				*e*S	**Sg**	**10 58 00.3**	**+1.7**
	baz=231						
CHN1	**Nanshi**	**1.63**	**236**	*e*P	**Pg**	**10 57 37.7**	**-0.2**
	baz=228						
WSL	**Shuilin Townsh**	**1.72**	**251**	*e*P	**Pb**	**10 57 37.9**	**-0.8**
	baz=242						
WSL				*e*S	**Sg**	**10 58 02.5**	**+0.5**
	baz=242						
SSD	**Sandimen**	**1.84**	**223**	*e*P	**Pb**	**10 57 40.5**	**-0.4**
	baz=210						
TSMG	**Majia**	**1.87**	**222**	*e*P	**Pb**	**10 57 40.6**	**-0.6**
	baz=204						
TSMG				*e*S	**Sg**	**10 58 06.6**	**-0.1**
	baz=204						
MASBT	**Mashibuluo**	**1.94**	**220**	*e*P	**Pb**	**10 57 41.8**	**-0.8**
	baz=203						
MASBT				*e*S	**Sg**	**10 58 08.9**	**-0.3**
	baz=203						
JIJ	**Ishigaki jima**	**1.98**	**82**	*e*P	**Pg**	**10 57 43.9**	**-0.8**
EAST	**Anshuo**	**2.01**	**212**	*e*P	**Pb**	**10 57 42.4**	**-1.4**
	baz=209						
SCZT	**Fangliau**	**2.14**	**216**	*e*P	**Pb**	**10 57 45.4**	**-0.6**
	baz=200						
JISG	**Ishigakijimahi**	**2.17**	**77**	*e*P	**Pg**	**10 57 46.6**	**-1.7**
PHUB	**P'eng-hu**	**2.29**	**256**	*e*P	**Pb**	**10 57 46.6**	**-2.0**
	baz=245						
PHUB				S	**Sb**	**10 58 16.0**	**-1.2**
	baz=245						
PNG	**Penghu**	**2.30**	**257**	*e*S	**Sb**	**10 58 15.7**	**-1.5**
	baz=246						
WDGT	**Dungji**	**2.30**	**249**	*e*P	**Pb**	**10 57 47.0**	**-1.6**
	baz=221						
WDGT				*e*S	**Sb**	**10 58 16.2**	**-1.1**
	baz=221						
VWUC	**VWUC**	**2.48**	**291**	*e*P	**Pn**	**10 57 48.3**	**+0.6**
	baz=288						

*KRNET **07** 11:04:53.5±0.1, 39°.51N×71°.78E, mb3.0*
*ISU **07** 11:04:55, 39°.79N×72°.19E, h2km*
ISC 07 11:04:53.5±1.8**, 39°.52N**±0°.05×**71°.74E**±0°.06**, h2**km±12km**,**
n9, σ**2s.06**/17**, 11C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.85**	**2**	P	**Pn**	**11 05 11.3**	**-1.4**
FRG				S	**Sg**	**11 05 21.7**	**+0.7**
BTK	**Batken**	**0.89**	**307**	⇑*i*P	**Pg**	**11 05 11.2**	**+0.5**
	baz=7.0						
BTK				⇑*i*S	**Sb**	**11 05 24.3**	**+0.1**
	baz=7.0						
MINT	**Mingtut**	**1.11**	**328**	S	**Sn**	**11 05 33.6**	**+1.4**
TSTA	**Tashata**	**1.20**	**28**	S	**Sb**	**11 05 30.2**	**-2.8**
GAR	**Garm**	**1.22**	**245**	⇑*i*P	**Pg**	**11 05 17.3**	**+0.3**
	baz=46						
GAR				⇑*i*S	**Sn**	**11 05 34.7**	**-0.3**
	baz=46						
CHGR	**Chuyangaron**	**2.19**	**248**	⇑*i*P	**Pb**	**11 05 33.5**	**-0.4**
	baz=48						
CHGR				⇑*i*S	**Sg**	**11 06 02.9**	**-0.9**
	baz=48						
CHMG	**Chimgan**	**2.42**	**327**	P	**Pg**	**11 05 39.8**	**-0.1**
CHMG				S	**Sg**	**11 06 13.8**	**+2.5**
UCH	**Uchtor**	**3.42**	**37**	⇑*i*P	**Pn**	**11 05 50.4**	**+2.0**
	baz=36						
UCH				⇑*i*S	**Sn**	**11 06 32.0**	**+2.2**
	baz=36						
KK31	**Karatay Array**	**3.70**	**346**	⇑Pn	**Pn**	**11 05 53.6**	**+1.9**
	0.3nm,0.3s,baz=151,slow=11,SNR=14						
KK31				⇓Pg	**Pg**	**11 06 03.0**	**-1.4**
	5.1nm,0.6s,baz=149,slow=16,SNR=26						
KK31				⇑Sn	**Sb**	**11 06 40.3**	**-4.6**
	2.1nm,0.6s						
KK31				⇑Lg	Lg	11 06 50.6	
	1.5nm,0.3s,baz=150,slow=28						

*KRNET **07** 11:10:40.5±0.1, 41°.32N×70°.34E, mb2.6*
ISC 07 11:10:42.5±1.3**, 41°.22N**±0°.06×**70°.4E**±0°.1**, h10**km**, n5,**
σ**0s.72**/8**, 5C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.20**	**165**	⇑*i*P	**Pn**	**11 11 04.4**	**-1.1**
	baz=64						
BTK				⇑*i*S	**Sb**	**11 11 21.9**	**+0.8**
	baz=64						
KK31	**Karatay Array**	**1.88**	**2**	⇑Pn	**Pg**	**11 11 18.9**	**+0.3**
	1.4nm,0.3s,baz=193,slow=15,SNR=28						
KK31				⇑Lg	Lg	11 11 48.1	
	4.8nm,0.6s,baz=190,slow=29,SNR=5.9						
GAR	**Garm**	**2.22**	**182**	⇓*e*P	**Pn**	**11 11 19.4**	**-0.1**
	baz=80						
GAR				⇓*i*S	**Sn**	**11 11 47.6**	**+0.6**
	baz=80						
CHGR	**Chuyangaron**	**2.73**	**201**	⇓*i*P	**Pn**	**11 11 26.0**	**-0.5**
	baz=99						
CHGR				⇓*i*S	**Sn**	**11 11 59.5**	**-0.2**
	baz=99						
TKM2	**Tokmak 2**	**4.22**	**65**	⇑Pg	**Pg**	**11 12 03.4**	**+0.1**
	2.9nm,1.1s						
TKM2				⇓Lg	Lg	11 13 05.3	
	2.8nm,0.7s						

*NAO **07** 11:25:46.9±1.5, 77°.72N×20°.42E, h16km±10km, ML2.9*
*IEPN **07** 11:25:47.0, 77°.74N×20°.14E, h10km*
*BER **07** 11:25:49.2±2.3, 77°.73N×20°.40E, h17km±10km, ML2.7, MW3.2, ML2.9(NAO), Confirmed Earthquake*
*KOLA **07** 11:25:56.8, 77°.07N×20°.70E, h0km, ML2.4*
ISC 07 11:25:46.4±0.9**, 77°.76N**±0°.05×**20°.66E**±0°.04**, h10**km**, n25,**
σ**1s.51**/33**, 1D, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.99**	**297**	Pg	**Pg**	**11 26 05.2**	**-0.2**
	baz=122,slow=22						
SPA0				Lg	Lg	11 26 17.4	
	baz=118,slow=28						
SPA0	**Spitsbergen Ar**	**0.99**	**297**	⇓*i*P	**Pg**	**11 26 05.1**	**-0.3**
SPA0				*i* S	**Sg**	**11 26 17.2**	**-1.1**
SPA0	**Spitsbergen Ar**	**0.99**	**297**	Pg	**Pg**	**11 26 05.2**	**-0.2**
	baz=122,slow=22						
SPA0				Sg	**Sg**	**11 26 17.4**	**-1.0**
	baz=118,slow=28						
SPA0				IAML		11 26 20.5	
	comp=Z,301nm,0.2s						
HSPB	**Hornsund (broa**	**1.36**	**238**	*e*P	**Pn**	**11 26 11.6**	**+0.2**
HSPB				*e*S	**Sb**	**11 26 28.4**	**-0.8**
HSPB	**Hornsund (broa**	**1.36**	**238**	*e*P	**Pn**	**11 26 11.5**	**+0.2**
HSPB				*e*S	**Sb**	**11 26 27.6**	**-1.6**
HSPB				*e*Sg	**Sn**	**11 26 29.1**	**-0.3**
HSPB				IAML		11 26 29.6	
	comp=Z,252nm,0.4s						
BRBA	**Barentsburg A**	**1.39**	**286**	Pg	**Pn**	**11 26 12.6**	**+0.9**
BRBA				Lg	Lg	11 26 30.6	
BRBA	**Barentsburg A**	**1.39**	**286**	*e*Pg	**Pn**	**11 26 12.7**	**+0.9**
BRBA				*e*Sg	**Sb**	**11 26 30.5**	**+0.3**
BRBA				IAML		11 26 32.2	
	comp=Z,640nm,0.2s						
BRBB	**Barentsburg B**	**1.40**	**287**	Pg	**Pn**	**11 26 12.6**	**+0.7**
BRBB				Lg	Lg	11 26 31.4	
BRBB	**Barentsburg B**	**1.40**	**287**	*e*Pg	**Pn**	**11 26 12.6**	**+0.7**
BRBB				*e*Sg	**Sb**	**11 26 30.6**	**+0.2**
HOPEN	**Hopen**	**1.59**	**140**	Pn	**Pn**	**11 26 16.1**	**+1.7**
HOPEN				Lg	Lg	11 26 36.6	
HOPEN	**Hopen**	**1.59**	**140**	*e*P	**Pn**	**11 26 16.2**	**+1.7**
HOPEN				*e*S	**Sn**	**11 26 35.0**	**0.0**
HOPEN				*e*Sg	**Sb**	**11 26 37.1**	**+1.3**
HOPEN				IAML		11 26 39.3	
	comp=Z,444nm,0.3s						
KBS	**Kingsbay**	**2.12**	**308**	Pn	**Pn**	**11 26 21.1**	**-0.7**
KBS				Pg	**Pb**	**11 26 25.5**	**+0.6**
KBS				Lg	Lg	11 26 52.0	
KBS	**Kingsbay**	**2.12**	**308**	*e*P	**Pn**	**11 26 21.1**	**-0.7**
KBS				*e*Pg	**Pb**	**11 26 25.6**	**+0.8**
KBS				*e*Sg	**Sn**	**11 26 51.5**	**+3.3**
KBS				IAML		11 26 53.8	
	comp=Z,195nm,0.2s						
ZFI	**Zemlya Franca-**	**5.83**	**46**	*e*P	**Pn**	**11 27 11.9**	**-0.7**
ZFI				*e*S	**Sn**	**11 28 14.8**	**-4.6**
	comp=Z,32nm,1.8s						
OMEGA	**Omega**	**5.83**	**46**	*e*S	Sn	11 28 14.1	-5.4
HAMF	**Hammerfest**	**7.20**	**172**	*e*S	Sn	11 28 44.9	-8.3
HAMF				IAML		11 28 51.3	
	comp=Z,4.6nm,0.9s						
VADS	**Vadso**	**8.03**	**158**	*e*P	**Pn**	**11 27 41.9**	**-1.0**
VADS				*e*S	Sn	11 29 05.3	-8.3
VADS				IAML		11 29 16.0	
	comp=Z,4.8nm,0.7s						
TRO	**Tromso**	**8.19**	**184**	*e*S	Sn	11 29 05.7	-12
TRO				*e*		11 29 17.9	
TRO				IAML		11 29 24.8	
	comp=Z,3.2nm,0.6s						
KEV	**Kevo**	**8.23**	**164**	*e*P	Pn	11 27 41.7	-3.9
KEV				*i* S	Sn	11 29 09.8	-8.7
KEV				*e*		11 29 18.8	
JETT	**Jettan, Norway**	**8.25**	**181**	*e*P	**Pn**	**11 27 43.6**	**-2.3**
JETT				*e*S	Sn	11 29 08.8	-10
JETT				IAML		11 29 20.6	
	comp=Z,4.2nm,0.4s						
ARA0	**ARCESS Array S**	**8.38**	**168**	Pn	**Pn**	**11 27 45.4**	**-2.2**
	baz=352,slow=11						
ARA0				Sn	Sn	11 29 11.6	-10
	baz=356,slow=22						
ARCES	**ARCESS Array B**	**8.38**	**168**	P	**Pn**	**11 27 47.0**	**-0.6**
ARCES				S	Sn	11 29 11.7	-10
PRVG	**Vayda Guba**	**8.65**	**152**	P	**Pn**	**11 27 51.4**	**0.0**
PRVG				S	Sn	11 29 19.9	-8.8
KIF	**Kilpisjarvi**	**8.80**	**180**	Pn	Pn	11 27 50.7	-2.8
TERR	**Teriberka**	**9.48**	**147**	P	**Pn**	**11 28 05.2**	**+2.5**
TERR				S	Sn	11 29 38.6	-11

*GII **07** 11:26:07.8±0.0, 29°.15N×34°.25E, h1km, MD1.6/2, Mm1.9/3*
*HLW **07** 11:26:08.3, 29°.03N×34°.26E, h6km±4km, Md2.6*
ISC 07 11:26:07.5±1.2**, 29°.10N**±0°.04×**34°.23E**±0°.05**, h5**km±13km**,**
n12, σ**0s.49**/19**, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUB	**Nuweibaa**	**0.37**	**101**	P	**Pg**	**11 26 14.9**	**+0.2**
	baz=97						
HBST	**Basata**	**0.46**	**75**	P	**Pg**	**11 26 16.8**	**+0.5**
	baz=66						
HBST				S	**Sb**	**11 26 23.8**	**-1.3**
	baz=66						
HDHB	**Dhahab**	**0.51**	**138**	⇑P	**Pg**	**11 26 17.4**	**+0.1**
	baz=134						
HKAT	**Jabal Katrina**	**0.61**	**200**	P	**Pg**	**11 26 19.5**	**+0.2**
	baz=206						
HKAT				S	**Sg**	**11 26 27.0**	**-0.2**
	baz=206						
TR2	**Tor 2**	**0.84**	**212**	P	**Pg**	**11 26 23.7**	**+0.1**
	baz=217						
EIL	**Elat**	**0.85**	**48**	Pg	**Pg**	**11 26 23.8**	**0.0**
EIL				Sg	**Sb**	**11 26 36.1**	**-0.3**
MBRI	**Mt Berech**	**0.91**	**41**	Pg	**Pg**	**11 26 24.9**	**-0.2**
MBRI				Sg	**Sb**	**11 26 38.3**	**-0.1**
KRMI	**Paran Flat**	**1.10**	**23**	Pg	**Pg**	**11 26 28.2**	**-0.5**
KRMI				Sg	**Sg**	**11 26 43.3**	**+0.3**
TR1	**Tor 1**	**1.12**	**193**	⇑P	**Pg**	**11 26 28.5**	**-0.4**
	baz=196						

HRFI	**Mount Harif**	**1.17**	**37**	Pg	**Pg**	**11 26 29.7**	**-0.2**
HRFI				Sg	**Sg**	**11 26 45.1**	**0.0**
PRNI	**Paran**	**1.42**	**28**	Pn	**Pn**	**11 26 33.9**	**-0.1**
PRNI				Sn	**Sn**	**11 26 54.0**	**+0.9**
SUZ	**Suez**	**1.42**	**302**	P	**Pb**	**11 26 34.7**	**+0.2**
	baz=304						

ROM 07 11:28:21.3±0.1, 43°.022N±0°.004×13°.100E±0°.005, h7km, ML2.3/19, 10C-7D, Error ellipse: s-maj=0.3km s-min=0.3km az=219.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.02**	**327**	P	Pg	11 28 22.5	-0.3
T1256	**Bolognola (MC)**	**0.09**	**99**	P	Pg	11 28 23.9	+0.2
T1256				S	Sg	11 28 25.7	+0.4
T1256				AML	AML		
	comp=E,1165μm,1.6s						
T1256				AML	AML		
	comp=N,1236μm,1.3s						
T1256				AML	AML		
	comp=E,1166μm,1.6s						
T1256				AML	AML		
	comp=N,1402μm,1.3s						
T1256				AML	AML		
	comp=E,1140μm,1.6s						
T1256				AML	AML		
	comp=N,1234μm,1.3s						
T1256				AML	AML		
	comp=E,1135μm,1.6s						
T1256				AML	AML		
	comp=N,1232μm,1.3s						
CSP1	**Cessapalombo**	**0.10**	**48**	⇑P	Pg	11 28 24.1	+0.3
CSP1				S	Sg	11 28 26.2	+0.7
CSP1				AML	AML		
	comp=E,2055μm,0.5s						
CSP1				AML	AML		
	comp=E,2050μm,0.5s						
CSP1				AML	AML		
	comp=E,2045μm,0.5s						
CSP1				AML	AML		
	comp=N,2270μm,0.3s						
T1216	**Preci, Frazion**	**0.14**	**205**	⇑P	Pg	11 28 24.9	+0.6
T1216				S	Sg	11 28 28.0	+1.5
T1216				AML	AML		
	comp=E,1820μm,0.4s						
T1216				AML	AML		
	comp=N,2250μm,0.9s						
CESI	**CESI - Serrava**	**0.14**	**263**	P	Pg	11 28 25.1	+0.7
CESI				S	Sg	11 28 28.1	+1.5
GUMA	**Gualdo di Mace**	**0.18**	**77**	⇑P	Pg	11 28 25.9	+0.9
GUMA				S	Sg	11 28 29.4	+1.9
GUMA				AML	AML		
	comp=N,2140μm,1.2s						
GUMA				AML	AML		
	comp=E,1910μm,0.4s						
GUMA				AML	AML		
	comp=E,2505μm,0.4s						
GUMA				AML	AML		
	comp=N,2145μm,1.2s						
GUMA				AML	AML		
	comp=N,3155μm,0.4s						
T1245	**Castelsantange**	**0.18**	**159**	⇑P	Pg	11 28 25.4	+0.3
T1245				AML	AML		
	comp=E,18850μm,0.7s						
T1245				AML	AML		
	comp=N,14200μm,0.2s						
T1245				AML	AML		
	comp=N,14250μm,0.2s						
T1245				AML	AML		
	comp=N,14800μm,0.2s						
T1245				AML	AML		
	comp=E,16700μm,0.7s						
T1245				AML	AML		
	comp=E,18900μm,0.7s						
NRCA	**Norcia**	**0.19**	**177**	⇓P	Pg	11 28 25.2	0.0
NRCA				AML	AML		
	comp=E,30050μm,0.1s						
NRCA				AML	AML		
	comp=E,30000μm,0.1s						
NRCA				AML	AML		
	comp=N,32550μm,0.1s						
NRCA				AML	AML		
	comp=E,33150μm,0.1s						
NRCA				AML	AML		
	comp=N,30400μm,0.1s						
NRCA				AML	AML		
	comp=E,30050μm,0.1s						
MMO1	**Montemonaco**	**0.21**	**126**	⇑P	Pg	11 28 25.9	+0.4
MMO1				S	Sg	11 28 29.8	+1.4
SNTG	**Esanatoglia**	**0.26**	**333**	⇓P	Pg	11 28 27.0	+0.5
SNTG				S	Sb	11 28 31.8	-1.3
SNTG				AML	AML		
	comp=E,202μm,0.5s						
SNTG				AML	AML		
	comp=N,218μm,0.2s						
SNTG				AML	AML		
	comp=E,252μm,0.2s						
SNTG				AML	AML		
	comp=N,264μm,0.5s						
SNTG				AML	AML		
	comp=N,264μm,0.5s						
SNTG				AML	AML		
	comp=E,253μm,0.2s						
T1215	**Vallo di Nera,**	**0.28**	**218**	⇓P	Pg	11 28 27.5	+0.7
T1215				S	Sb	11 28 32.4	-1.2
T1215				AML	AML		
	comp=E,646μm,0.2s						
T1215				AML	AML		
	comp=N,856μm,0.2s						
T1215				AML	AML		
	comp=N,856μm,0.2s						
T1241	**Roccafluvione,**	**0.29**	**124**	P	Pg	11 28 27.6	+0.5
T1241				AML	AML		
	comp=E,1735μm,0.8s						
T1241				AML	AML		
	comp=N,1515μm,0.3s						
T1241				AML	AML		
	comp=E,1800μm,0.8s						
T1241				AML	AML		
	comp=N,1600μm,0.3s						
T1241				AML	AML		
	comp=N,1595μm,0.3s						
EL6	**Elcito**	**0.31**	**0**	⇓P	Pg	11 28 27.9	+0.4
EL6				S	Sb	11 28 33.4	-1.1
EL6				AML	AML		
	comp=E,1800μm,1.6s						
EL6				AML	AML		
	comp=N,1050μm,1.6s						
ASSB	**Assisi San Ben**	**0.32**	**274**	⇑P	Pg	11 28 28.3	+0.5
ASSB				S	Sb	11 28 34.0	-0.9
ASSB				AML	AML		
	comp=E,538μm,0.3s						
ASSB				AML	AML		
	comp=N,593μm,0.3s						
T1217	**Poggiodomo (PG**	**0.33**	**202**	P	Pg	11 28 28.6	+0.7
T1217				S	Sb	11 28 34.2	-0.9
T1217				AML	AML		
	comp=E,1060μm,0.2s						
T1217				AML	AML		
	comp=N,1454μm,0.4s						
T1217				AML	AML		
	comp=E,1026μm,0.2s						
T1217				AML	AML		
	comp=N,1362μm,0.4s						
T1217				AML	AML		
	comp=N,1360μm,0.4s						
T1217				AML	AML		
	comp=E,1025μm,0.2s						
CING	**Cingoli**	**0.36**	**11**	⇑P	Pg	11 28 28.9	+0.5
CING				S	Sb	11 28 35.1	-0.8
CING				AML	AML		
	comp=E,234μm,1.2s						
CING				AML	AML		
	comp=N,228μm,0.2s						
FOSV	**Fossato di Vic**	**0.37**	**318**	⇑P	Pg	11 28 29.1	+0.6
FOSV				S	Sb	11 28 35.6	-0.6
FOSV				AML	AML		
	comp=E,274μm,0.6s						
FOSV				AML	AML		
	comp=N,496μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.38**	**296**	⇑P	Pg	11 28 29.4	+0.7
ATCC				S	Sb	11 28 36.1	-0.3
ATCC				AML	AML		
	comp=E,1130μm,0.2s						
ATCC				AML	AML		
	comp=N,610μm,1.1s						
ATCC				AML	AML		
	comp=E,1135μm,0.2s						
ATCC				AML	AML		
	comp=N,610μm,1.1s						
LNSS	**Leonessa**	**0.42**	**186**	P	Pn	11 28 37.1	+3.2
SMA1	**SAN MARTINO**	**0.43**	**156**	⇓P	Pg	11 28 29.8	+0.2
SMA1				AML	AML		
	comp=N,1295μm,1.6s						
SMA1				AML	AML		
	comp=E,1315μm,0.3s						
SMA1				AML	AML		
	comp=N,1290μm,1.6s						
SSFR	**Montelago di S**	**0.47**	**331**	⇓P	Pg	11 28 31.0	+0.5
SSFR				S	Sb	11 28 39.4	+0.1
SSFR				AML	AML		
	comp=E,486μm,0.2s						
SSFR				AML	AML		
	comp=N,486μm,0.2s						
MURB	**Monte Urbino**	**0.49**	**300**	P	Pg	11 28 31.4	+0.6
MURB				AML	AML		
	comp=N,496μm,0.2s						
MURB				AML	AML		
	comp=E,784μm,0.3s						
ARVD	**Arcevia**	**0.49**	**346**	P	Pg	11 28 31.2	+0.3
ARVD				S	Sb	11 28 39.8	+0.2
ATFO	**Monte Foce - G**	**0.52**	**312**	⇓P	Pg	11 28 32.0	+0.6
ATFO				AML	AML		
	comp=E,103μm,1.4s						
ATFO				AML	AML		
	comp=N,90μm,1.3s						
ATFO				AML	AML		
	comp=E,103μm,1.4s						
ATFO				AML	AML		
	comp=N,90μm,1.3s						
T1211	**Morro Reatino**	**0.52**	**200**	P	Pn	11 28 40.6	+5.3
T1211				S	Sn	11 28 53.2	+8.9
CESX	**Cesi**	**0.56**	**223**	P	Pg	11 28 32.3	+0.2
CESX				S	Sb	11 28 41.3	-0.4
ATVO	**AVT- Monte Val**	**0.62**	**306**	P	Pg	11 28 33.6	+0.3
ATVO				S	Sb	11 28 44.0	+0.5
MPAG	**Monte Paganucc**	**0.66**	**338**	P	Pb	11 28 34.6	-0.5
MPAG				AML	AML		
	comp=N,98μm,1.1s						
MPAG				AML	AML		
	comp=E,150μm,0.8s						
MPAG				AML	AML		
	comp=N,98μm,1.1s						
ATPI	**Pietralunga -**	**0.67**	**310**	P	Pg	11 28 34.4	+0.2
GIGS	**Gran Sasso**	**0.67**	**149**	⇑P	Pg	11 28 34.1	-0.1
GIGS				S	Sb	11 28 44.7	-0.1
GIGS				AML	AML		
	comp=E,85μm,1.1s						
GIGS				AML	AML		
	comp=E,85μm,1.1s						
GIGS				AML	AML		
	comp=N,87μm,0.5s						
NARO	**Abbazia di Nar**	**0.70**	**327**	P	Pg	11 28 35.0	+0.1
FSSB	**Fossombrone**	**0.71**	**341**	P	Pg	11 28 35.5	+0.5

ROM 07 11:28:40.0±0.1, 42°.794N±0°.004×13°.170E±0°.005, h9km, ML2.3/7, 7C-2D, Error ellipse: s-maj=0.4km s-min=0.4km az=340.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.06**	**314**	P	Pg	11 28 42.3	+0.2
NRCA				S	Sg	11 28 43.5	0.0
NRCA				AML	AML		
	comp=E,30050μm,0.1s						
NRCA				AML	AML		
	comp=N,30400μm,0.1s						
NRCA				AML	AML		
	comp=E,33150μm,0.1s						
NRCA				AML	AML		
	comp=N,32550μm,0.1s						
T1245	**Castelsantange**	**0.06**	**12**	⇑P	Pg	11 28 42.4	+0.2
T1245				S	Sg	11 28 43.8	0.0
T1245				AML	AML		
	comp=E,18850μm,0.7s						
T1245				AML	AML		
	comp=N,14200μm,0.2s						
T1245				AML	AML		
	comp=E,16700μm,0.7s						
T1245				AML	AML		
	comp=N,14250μm,0.2s						
T1245				AML	AML		
	comp=N,14800μm,0.2s						
T1245				AML	AML		
	comp=E,18850μm,0.7s						
T1216	**Preci, Frazion**	**0.15**	**311**	P	Pg	11 28 43.9	+0.6
T1216				S	Sg	11 28 46.5	+1.0
MMO1	**Montemonaco**	**0.16**	**48**	P	Pg	11 28 43.9	+0.5
MMO1				S	Sg	11 28 46.5	+0.7
T1204	**Amatrice, Fraz**	**0.16**	**137**	⇑P	Pg	11 28 44.3	+0.8
T1204				S	Sg	11 28 46.9	+0.9
T1204				AML	AML		
	comp=E,1795μm,0.4s						
T1204				AML	AML		
	comp=N,1278μm,0.4s						
T1204				AML	AML		
	comp=E,1792μm,0.4s						
T1204				AML	AML		
	comp=N,1278μm,0.4s						
T1217	**Poggiodomo (PG**	**0.19**	**245**	⇑P	Pg	11 28 44.9	+0.8
T1217				S	Sg	11 28 48.2	+1.4
T1241	**Roccafluvione,**	**0.20**	**72**	P	Pg	11 28 44.8	+0.6
T1241				S	Sg	11 28 48.2	+1.1
T1241				AML	AML		
	comp=E,1800μm,0.8s						
T1241				AML	AML		
	comp=N,1600μm,0.3s						
T1241				AML	AML		
	comp=N,1595μm,0.3s						
SMA1	**SAN MARTINO**	**0.20**	**143**	⇓P	Pg	11 28 45.0	+0.8
SMA1				S	Sg	11 28 48.4	+1.3
SMA1				AML	AML		
	comp=E,1315μm,0.3s						
SMA1				AML	AML		
	comp=N,1290μm,1.6s						
LNSS	**Leonessa**	**0.21**	**207**	⇓P	Pg	11 28 45.2	+0.8
LNSS				S	Sg	11 28 49.0	+1.6
LNSS				AML	AML		
	comp=E,1375μm,0.4s						
LNSS				AML	AML		
	comp=N,3575μm,0.1s						
T1256	**Bolognola (MC)**	**0.22**	**11**	⇑P	Pg	11 28 45.0	+0.5
T1256				S	Sg	11 28 48.5	+1.0
T1215	**Vallo di Nera,**	**0.22**	**272**	P	Pg	11 28 45.2	+0.7
T1215				S	Sg	11 28 48.9	+1.3
T1215				AML	AML		
	comp=E,647μm,0.2s						
T1215				AML	AML		
	comp=N,856μm,0.2s						
RM33	**Pellescritta (**	**0.29**	**173**	⇑P	Pg	11 28 46.4	+0.6
RM33				S	Sb	11 28 51.2	-1.1
RM33				AML	AML		
	comp=E,933μm,1.2s						
RM33				AML	AML		
	comp=E,831μm,1.2s						
RM33				AML	AML		
	comp=N,684μm,0.1s						
RM33				AML	AML		
	comp=N,678μm,1.5s						
T1211	**Morro Reatino**	**0.35**	**222**	P	Pg	11 28 47.5	+0.6
TERO	**Teramo**	**0.36**	**118**	⇑P	Pg	11 28 47.5	+0.3
TERO				S	Sg	11 28 53.2	+1.2
TERO				AML	AML		
	comp=E,434μm,0.3s						
TERO				AML	AML		
	comp=N,669μm,0.4s						
ARRO	**Arrone**	**0.37**	**234**	P	Pb	11 28 48.0	-0.7
OFFI	**Offida**	**0.41**	**69**	⇑P	Pb	11 28 49.2	-0.1
OFFI				S	Sb	11 28 56.3	+0.7
OFFI				AML	AML		
	comp=E,876μm,0.6s						
OFFI				AML	AML		
	comp=N,1020μm,0.7s						
EL6	**Elcito**	**0.54**	**355**	S	Sb	11 28 60.0	+0.5
ARVD	**Arcevia**	**0.72**	**347**	S	Sb	11 29 06.0	+1.2

*NOU **07** 11:30:02.9, 37°.06S×179°.90E, h0km, MLv4.2/7, Off E. Coast of N. Island, N.Z.*

*WEL **07** 11:30:11.6±1.7, 37°.5S±7°.×17°.9E±1°.4, h17km±17km, M3.4/11, ML3.7/12, MLv3.4/11, Error ellipse: s-maj=0.0km s-min=0.0km az=97.1*

ISC 07 11:30:09.2±3.0, 37°.12S±0°.09×179°.4E±0°.1, h10km±14km, n78, σ0ᵗ76/83, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.95**	**242**	P	Pg	**11 30 27.6**	**0.0**
MXZ	**Matakaoa Point**	**0.95**	**242**	P	**Pg**	**11 30 27.1**	**-0.5**
WMGZ	**Waiomatatini S**	**1.03**	**227**	P	**Pb**	**11 30 30.6**	**+1.4**
PKGZ	**Pakihiroa**	**1.28**	**233**	P	**Pb**	**11 30 33.4**	**0.0**
PKGZ				S	**Sb**	**11 30 49.6**	**-0.4**
PUZ	**Puketiti**	**1.29**	**223**	P	**Pn**	**11 30 33.9**	**+0.6**
PUZ				S	**Sb**	**11 30 50.6**	**+0.2**
HAZ	**Te Kaha**	**1.41**	**243**	P	**Pn**	**11 30 33.9**	**-1.1**
HAZ				S	**Sb**	**11 30 52.4**	**-1.3**
TWGZ	**Tauwhareparae**	**1.52**	**226**	P	**Pn**	**11 30 37.7**	**+1.1**
TWGZ				S	**Sn**	**11 30 56.8**	**+0.3**
RUGZ	**Raukumara Rang**	**1.58**	**237**	P	**Pn**	**11 30 38.4**	**+0.9**
TKGZ	**Te Karaka**	**1.78**	**222**	P	**Pn**	**11 30 40.5**	**+0.4**
TKGZ				S	**Sn**	**11 31 02.3**	**-0.5**
MWZ	**Matawai**	**1.90**	**230**	P	**Pn**	**11 30 42.1**	**+0.4**
RIGZ	**Rimuhau**	**2.03**	**218**	P	**Pn**	**11 30 43.8**	**+0.3**
RAGZ	**Rawiri**	**2.07**	**228**	P	**Pn**	**11 30 44.5**	**+0.4**
URZ	**Urewera**	**2.12**	**237**	P	**Pn**	**11 30 45.7**	**+1.0**
URZ	**Urewera**	**2.12**	**237**	P	**Pn**	**11 30 45.1**	**+0.4**
SNGZ	**Shannon Statio**	**2.31**	**223**	P	**Pn**	**11 30 47.4**	**+0.1**
EDRZ	**Edgecumbe**	**2.31**	**244**	P	**Pn**	**11 30 47.7**	**+0.3**
MARZ	**Manawahe**	**2.31**	**247**	P	**Pn**	**11 30 47.1**	**-0.2**
KNZ	**Kokohu**	**2.32**	**215**	P	**Pn**	**11 30 47.2**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.33**	**209**	P	**Pn**	**11 30 48.2**	**+0.6**
OPRZ	**Ohinepanea**	**2.35**	**251**	P	**Pn**	**11 30 47.4**	**-0.5**
RTZ	**Ruatahuna**	**2.41**	**231**	P	**Pn**	**11 30 49.0**	**+0.3**
MUGZ	**Murupara**	**2.46**	**236**	P	**Pn**	**11 30 49.4**	**-0.1**
MKRZ	**Makatiti**	**2.52**	**245**	P	**Pn**	**11 30 51.0**	**+0.8**
TARZ	**Mount Tarawera**	**2.53**	**243**	P	**Pn**	**11 30 51.2**	**+0.8**
RAHZ	**Arahi**	**2.54**	**224**	P	**Pn**	**11 30 50.8**	**+0.3**
TGRZ	**Tauranga**	**2.55**	**255**	P	**Pn**	**11 30 50.2**	**-0.3**
RRRZ	**Republican Roa**	**2.57**	**241**	P	**Pn**	**11 30 51.5**	**+0.6**
OMRZ	**Omania**	**2.57**	**247**	P	**Pn**	**11 30 51.4**	**+0.4**
WHHZ	**Waihua**	**2.58**	**220**	P	**Pn**	**11 30 51.1**	**+0.1**
KARZ	**Kaharoa**	**2.64**	**249**	P	**Pn**	**11 30 52.0**	**+0.1**
MTHZ	**Maungataniwha**	**2.64**	**228**	P	**Pn**	**11 30 52.4**	**+0.5**
HLRZ	**Highlands Stat**	**2.64**	**244**	P	**Pn**	**11 30 52.8**	**+0.8**
PRRZ	**Plateau Road**	**2.73**	**239**	P	**Pn**	**11 30 53.0**	**-0.1**
HSRZ	**Hossack Road**	**2.75**	**243**	P	**Pn**	**11 30 54.4**	**+1.0**
ALRZ	**Allen Road**	**2.79**	**238**	P	**Pn**	**11 30 54.1**	**+0.1**
NMHZ	**Naumai**	**2.82**	**225**	P	**Pn**	**11 30 54.6**	**+0.2**
ARHZ	**Aropaoanui**	**2.84**	**220**	P	**Pn**	**11 30 54.6**	**0.0**
MRHZ	**Matea Rd**	**2.89**	**233**	P	**Pn**	**11 30 55.6**	**+0.3**
WPRZ	**Whakapapatarin**	**2.90**	**240**	P	**Pn**	**11 30 56.2**	**+0.8**
KUZ	**Kuaotunu**	**2.95**	**276**	P	**Pn**	**11 30 55.6**	**-0.5**
KUZ	**Kuaotunu**	**2.95**	**276**	P	**Pn**	**11 30 54.3**	**-1.8**
BKZ	**Black Stump Fm**	**3.05**	**227**	P	**Pn**	**11 30 57.4**	**-0.2**
BKZ	**Black Stump Fm**	**3.05**	**227**	P	**Pn**	**11 30 57.3**	**-0.2**
CKHZ	**Cape Kidnapper**	**3.11**	**215**	P	**Pn**	**11 30 57.6**	**-0.7**
MCHZ	**McNeill Hill**	**3.13**	**221**	P	**Pn**	**11 30 58.3**	**-0.3**
TOZ	**Tahuroa Road**	**3.14**	**258**	P	**Pn**	**11 30 57.6**	**-1.1**
GRZ	**Great Barrier**	**3.26**	**284**	P	**Pn**	**11 31 00.0**	**-0.3**
KWHZ	**Kaweka Forest**	**3.26**	**224**	P	**Pn**	**11 30 59.9**	**-0.6**
KAHZ	**Kahuranaki**	**3.31**	**215**	P	**Pn**	**11 31 00.1**	**-1.0**
RITZ	**Rihia Road**	**3.33**	**235**	P	**Pn**	**11 31 01.7**	**+0.3**
MKAZ	**Moumakai**	**3.36**	**269**	P	**Pn**	**11 31 00.6**	**-1.1**
WIAZ	**Waiheke Island**	**3.41**	**274**	P	**Pn**	**11 31 02.3**	**-0.1**
PXZ	**Pawanui**	**3.50**	**213**	P	**Pn**	**11 31 02.8**	**-1.0**
TMVZ	**Te Maari**	**3.51**	**234**	P	**Pn**	**11 31 03.4**	**-0.6**
BHHZ	**Black Hill Sta**	**3.51**	**227**	P	**Pn**	**11 31 03.4**	**-0.5**
ETVZ	**East Tongariro**	**3.52**	**234**	P	**Pn**	**11 31 03.5**	**-0.5**
NTVZ	**North Tongarir**	**3.52**	**235**	P	**Pn**	**11 31 03.7**	**-0.4**
KRVZ	**Karewarewa**	**3.54**	**235**	P	**Pn**	**11 31 04.3**	**0.0**
ETAZ	**East Tamaki Re**	**3.56**	**271**	P	**Pn**	**11 31 04.7**	**+0.3**
NNVZ	**North Ngauruho**	**3.57**	**235**	P	**Pn**	**11 31 05.3**	**+0.4**
WTVZ	**West Tongariro**	**3.58**	**235**	P	**Pn**	**11 31 05.5**	**+0.6**
SNVZ	**South Ngauruho**	**3.59**	**234**	P	**Pn**	**11 31 04.9**	**-0.2**
MBAZ	**Motutapu North**	**3.60**	**274**	P	**Pn**	**11 31 05.1**	**0.0**
NGZ	**Ngauruhoe**	**3.61**	**234**	P	**Pn**	**11 31 04.8**	**-0.5**
MOVZ	**Moawhango**	**3.65**	**230**	P	**Pn**	**11 31 05.4**	**-0.4**
EPAZ	**Eden Park BICE**	**3.71**	**272**	P	**Pn**	**11 31 07.3**	**+0.8**
HBAZ	**Herne Bay Bore**	**3.72**	**273**	P	**Pn**	**11 31 07.2**	**+0.5**
WPHZ	**Waipukurau**	**3.73**	**217**	P	**Pn**	**11 31 05.3**	**-1.5**
PNHZ	**Pukenui**	**3.73**	**221**	P	**Pn**	**11 31 05.9**	**-1.0**
PRHZ	**Porangahau**	**3.80**	**213**	P	**Pn**	**11 31 05.8**	**-2.0**
HIZ	**Hauiti**	**3.83**	**247**	P	**Pn**	**11 31 09.4**	**+1.1**
HIZ	**Hauiti**	**3.83**	**247**	P	**Pn**	**11 31 09.1**	**+0.8**
RVAZ	**Riverhead Bore**	**3.85**	**274**	P	**Pn**	**11 31 08.6**	**+0.1**
VRZ	**Vera Road**	**4.15**	**240**	P	**Pn**	**11 31 13.3**	**+0.7**
BFZ	**Birch Farm**	**4.31**	**213**	P	**Pn**	**11 31 13.1**	**-1.7**
OUZ	**Omahuta**	**5.04**	**290**	P	**Pn**	**11 31 25.3**	**+0.5**
OUZ	**Omahuta**	**5.04**	**290**	P	**Pn**	**11 31 25.0**	**+0.2**
CTZ	**Chatham Island**	**7.28**	**156**	P	**Pn**	**11 31 57.9**	**+2.3**

IDC 07 11:47:36.8±7.1, 15°.36S×74°.27W, h97km±33km, mb3.1/2, mbtmp3.7/5, Error ellipse: s-maj=166.6km s-min=18.6km az=35.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.18**	**323**	P	Pn	11 48 38.3	-0.2
	43nm,0.4s,baz=121,slow=11,SNR=19						
NNA				S	Sn	11 49 26.7	+0.3
	44nm,0.3s,baz=269,slow=14,SNR=2.7						
LPAZ	**La Paz**	**5.99**	**100**	P	Pn	11 49 03.3	-0.1
	2.4nm,0.3s,baz=264,slow=9.8,SNR=23						
ATAH	**Atahualpa**	**9.12**	**333**	P	Pn	11 49 47.1	+1.1
	3.4nm,0.7s,baz=160,slow=12,SNR=3.2						
ATAH				S	Sn	11 51 37.9	+11
	4.0nm,0.7s,baz=303,slow=21,SNR=2.0						
H03N1	**Juan Fernandez**	**18.48**	**192**	T	T	12 10 19.7	
	baz=14,slow=74,SNR=904						
H03N2	**Juan Fernandez**	**18.49**	**192**	T	T	12 10 18.8	
	baz=14,slow=74,SNR=1125						
H03N3	**Juan Fernandez**	**18.50**	**192**	T	T	12 10 18.5	
	baz=14,slow=74,SNR=1136						
TXAR	**Lajitas Array**	**52.73**	**327**	P	P	11 56 41.7	-0.2
	0.3nm,0.8s,baz=143,slow=7.6,SNR=2.5						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.31**	**73**	P	P	11 59 37.8	+0.1
	0.6nm,0.9s,baz=248,slow=3.9,SNR=2.8						
	0.6nm,0.9s						

*NEIC **07** 11:56:26.0±1.9, 23°.00N±0°.05×121°.36E±0°.04, h12km±4km, mb4.9/58, ML5.0(TAP), Error ellipse: s-maj=6.7km s-min=5.3km az=180.0*

*NIED **07** 11:56:25.4, 23°.14N×121°.53E, h0km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.00; Mθθ-0.43; Mφφ0.43; Mrθ1.08; Mθφ-0.54; Mrφ0.93; Fault plane solution: M₀1.51000×10¹⁶ NP1: φs299.00000°, δ20.00000°, λ169.00000°. NP2: φs40.00000°, δ86.00000°, λ71.00000°.*

*JMA **07** 11:56:25.4±0.3, 23°.1N±0°.9×12°.2E±°, h0km, MD4.4/15, MV4.8/15, TAIWAN REGION*

*MOS **07** 11:56:26.0±1.0, 22°.91N×121°.40E, h33km, mb4.9/39, MS4.1/6, Error ellipse: s-maj=8.5km s-min=5.6km az=105.6*

*TAP **07** 11:56:26.1, 23°.03N×121°.34E, h20km, ML5.1, B*

*BJI **07** 11:56:26.6±0.0, 23°.09N×121°.39E, h20km, mb4.3/46, mB4.8/29, ML4.5/7, Ms4.4/53, Ms7 4.3/49*

*ASIES **07** 11:56:26.1, 22°.99N×121°.35E, h17km, MW4.5*

*IDC **07** 11:56:30.3±3.5, 22°.92N×121°.41E, h60km±32km, mb4.1/29, mbtmp4.4/31, ML3.8/2, MS3.9/25, Error ellipse: s-maj=15.9km s-min=10.7km az=72.0*

ISC 07 11:56:26.7±0.6, 23°.00N±0°.01×121°.41E±0°.02, h23km±4km, n433, σ1ᵗ76/579, mb4.7/103, MS4.0/36, 31C-80D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.10**	**254**	⇑*i*P	**Pb**	**11 56 29.9**	**-1.3**
	baz=213						
EDH				*i* S	**Sb**	**11 56 32.5**	**-1.7**
	baz=213						
CHKT	**Chengkung**	**0.11**	**337**	⇑*i*P	**Pb**	**11 56 30.3**	**-1.0**
	baz=22						
CHKT				*i* S	**Sb**	**11 56 33.2**	**-1.1**
	baz=22						
ECS	**Chishang**	**0.20**	**298**	⇑P	**Pb**	**11 56 31.2**	**-1.1**
	baz=300						

ECS				eS	Sb	11 56 35.4	-0.6
	baz=300						
FULB	Fuli	0.22	331⇑	iP	Pb	11 56 31.3	-1.3
	baz=345						
FULB				S	Sb	11 56 35.6	-1.0
	baz=345						
LONT	Longtian	0.28	250⇓	iP	Pb	11 56 32.0	-1.2
	baz=238						
LONT				i S	Sb	11 56 36.5	-1.2
	baz=238						
ECBN	Changbin	0.32	7⇑	iP	Pb	11 56 32.5	-1.4
	baz=19						
ECBN				eS	Sb	11 56 37.9	-0.9
	baz=19						
LDUT	Ludao	0.33	171⇓	iP	Pb	11 56 33.9	-0.2
	baz=162						
LDUT				S	Sb	11 56 39.9	+0.8
	baz=162						
TTN	Taitung	0.35	225⇑	eP	Pb	11 56 32.8	-1.5
	baz=212						
TTN				eS	Sb	11 56 39.2	-0.3
	baz=212						
EYUL	Yuli	0.35	346⇓	iP	Pb	11 56 33.4	-1.1
	baz=356						
EYUL				eS	Sb	11 56 39.6	-0.2
	baz=356						
TWGBT	Beinan	0.36	239	P	Pb	11 56 33.3	-1.2
TWGBT	Beinan	0.36	239⇓	iP	Pb	11 56 33.1	-1.4
	baz=229						
TWGBT				eS	Sb	11 56 37.4	-2.4
	baz=229						
TWG	Pinlang	0.36	240		Pb	11 56 33.0	-1.5
TWG				Sg	Sb	11 56 38.2	-1.8
TWG	Pinlang	0.36	240⇓	iP	Pb	11 56 33.1	-1.5
	baz=229						
TWG				eS	Sb	11 56 38.1	-1.8
	baz=229						
TWF1	Yuli	0.36	343⇓	iP	Pb	11 56 33.4	-1.3
	baz=354						
TWF1				eS	Sb	11 56 38.5	-1.6
	baz=354						
YULB	Yu-li	0.40	345	Pg	Pb	11 56 33.5	-1.8
YULB				Sg	Sb	11 56 40.2	-0.9
YULB	Yu-li	0.40	345	P	Pb	11 56 34.0	-1.3
YULB	Yu-li	0.40	345⇓	iP	Pb	11 56 33.8	-1.5
	baz=353						
YULB				S	Sb	11 56 39.0	-2.1
	baz=353						
ELDTW	Lidau	0.41	297⇓	iP	Pb	11 56 33.2	-2.3
	baz=298						
ELDTW				S	Sb	11 56 37.9	-3.5
	baz=298						
HGSD	Ruisui	0.49	1	⇑P	Pb	11 56 35.9	-0.8
	baz=9.0						
HGSD				eS	Sb	11 56 43.3	-0.2
	baz=9.0						
EHY	Hungye	0.51	351⇓	iP	Pb	11 56 35.5	-1.6
	baz=359						
EHY				eS	Sb	11 56 42.8	-1.3
	baz=359						
ECL	Taimali	0.58	226	i P	Pb	11 56 36.2	-2.1
	baz=219						
ECL				eS	Sb	11 56 43.6	-2.6
	baz=219						
STYH	Taoyuan	0.61	286	⇓P	Pb	11 56 35.7	-3.0
	baz=286						
STYH				eS	Sb	11 56 43.0	-3.9
	baz=286						
STYT	Tauyuan	0.62	285⇓	iP	Pb	11 56 37.0	-2.1
	baz=284						
STYT				S	Sb	11 56 44.6	-2.8
	baz=284						
YUS	Yu-Shan	0.64	319⇓	iP	Pb	11 56 37.8	-1.9
	baz=322						
YUS				S	Sb	11 56 45.5	-2.9
	baz=322						
EGFH	Guangfu	0.66	1⇓	iP	Pb	11 56 37.9	-1.8
	baz=7.0						
EGFH				eS	Sb	11 56 47.7	-0.9
	baz=7.0						
SLGT	Liugui	0.70	269⇓	eP	Pb	11 56 38.5	-1.8
	baz=267						
SLGT				eS	Sb	11 56 47.0	-2.7
	baz=267						
TEGC	Jichi Village	0.71	10	eP	Pb	11 56 40.5	-0.1
	baz=16						
TEGC				eS	Sb	11 56 50.6	+0.6
	baz=16						
ALS	Alishan	0.75	312⇓	iP	Pb	11 56 39.9	-1.5
	baz=314						
ALS				eS	Sb	11 56 49.3	-2.0
	baz=314						
SSD	Sandimen	0.76	251⇓	iP	Pb	11 56 39.1	-2.3
	baz=246						
SSD				eS	Sb	11 56 48.0	-3.3
	baz=246						
TSMG	Majia	0.77	248⇓	iP	Pb	11 56 39.2	-2.2
	baz=243						
TSMG				eS	Sb	11 56 48.0	-3.4
	baz=243						
SGST	Jiashian	0.77	276	⇓P	Pb	11 56 39.2	-2.3
	baz=274						
SGST				eS	Sb	11 56 49.1	-2.3
	baz=274						
WTP	Ta-pu	0.77	289	⇓P	Pb	11 56 40.1	-1.5
	baz=288						
WTP				eS	Sb	11 56 50.5	-1.1
	baz=288						
TPUB	Ta-pu	0.78	293	Pg	Pb	11 56 40.1	-1.5
TPUB				Sg	Sb	11 56 50.4	-1.4
TPUB	Ta-pu	0.78	293	P	Pb	11 56 40.4	-1.2
TPUB	Ta-pu	0.78	293⇓	iP	Pb	11 56 40.1	-1.5
	baz=292						
TPUB				eS	Sb	11 56 50.4	-1.4
	baz=292						
VWDT	VWDT	0.79	342	⇓P	Pb	11 56 40.4	-1.4
	baz=346						
VWDT				eS	Sb	11 56 50.0	-2.1
	baz=346						
EAST	Anshuo	0.81	220⇑	iP	Pb	11 56 40.0	-2.1
	baz=215						
EAST				eS	Sb	11 56 51.2	-1.3
	baz=215						
ESL	Shilin	0.81	1⇓	eP	Pb	11 56 40.0	-2.2
	baz=7.0						
MASBT	Mashibuluo	0.82	242	⇓P	Pb	11 56 40.3	-2.0
	baz=238						
MASBT				eS	Sb	11 56 49.6	-3.2
	baz=238						
TAWH	Dawu Township	0.82	216⇑	eP	Pb	11 56 39.1	-3.2
	baz=211						
TAWH				eS	Sb	11 56 49.5	-3.4
	baz=211						
CHN4	Tsaushan	0.83	295⇓	eP	Pb	11 56 40.3	-2.2
	baz=295						
CHN4				eS	Sb	11 56 51.7	-1.5
	baz=295						
CHN1	Nanshi	0.83	283	⇓P	Pb	11 56 41.5	-1.0
	baz=282						
CHN1				eS	Sb	11 56 52.9	-0.4
	baz=282						
SCST	Cishan	0.85	262	⇓P	Pn	11 56 42.0	-1.3
	baz=260						
SCST				eS	Sb	11 56 53.1	-0.8
	baz=260						
WCKO	Fanlu	0.86	301⇓	eP	Pn	11 56 40.8	-2.6
	baz=301						
WCKO				eS	Sb	11 56 52.1	-2.0
	baz=301						
WHYT	Xinyi Township	0.86	324	⇓P	Pn	11 56 41.8	-1.7
	baz=326						
WHYT				eS	Sb	11 56 52.2	-2.0
	baz=326						
SNST	Tainan City	0.87	285⇓	eP	Pb	11 56 44.1	+0.9
	baz=284						
TEYL	Yanliau Villag	0.88	11	eP	Pn	11 56 42.1	-1.5
	baz=15						
TEYL				eS	Sn	11 56 57.1	+1.4
	baz=15						
SSLB	Suanglung	0.89	332		Pn	11 56 41.8	-2.0
SSLB				Sg	Sb	11 56 52.6	-2.4
SSLB	Suanglung	0.89	332	P	Pn	11 56 42.2	-1.6
SSLB	Suanglung	0.89	332	⇓P	Pn	11 56 41.9	-2.0
	baz=335						
SSLB				eS	Sb	11 56 52.6	-2.4
	baz=335						
TWK	Hsinying	0.89	287	⇓P	Pn	11 56 42.3	-1.6
	baz=287						
TWK				eS	Sb	11 56 54.9	-0.1
	baz=287						
CHN5	Tsauling	0.90	311	eP	Pn	11 56 41.9	-2.1
	baz=313						
CHN5				eS	Sb	11 56 54.2	-1.1
	baz=313						
TSPT	Pingtung City	0.90	249	eP	Pn	11 56 43.9	-0.1
	baz=246						
TWM1	Shoushan	0.93	259⇓	eP	Pn	11 56 44.0	-0.4
	baz=256						
TWM1				eS	Sn	11 57 00.1	+3.1
	baz=256						
SCZT	Fangliau	0.96	230	⇑P	Pn	11 56 43.0	-1.8
	baz=225						
SCZT				eS	Sn	11 57 00.3	+2.5
	baz=225						
ETM	Tongmen	0.96	4	eP	Pn	11 56 42.5	-2.3
	baz=8.0						
ETM				eS	Sb	11 56 54.4	-2.6
	baz=8.0						
SLIU	Shizi	0.96	216⇑	eP	Pn	11 56 42.3	-2.5
	baz=212						
SLIU				eS	Sb	11 56 55.4	-1.7
	baz=212						
CHN3	Shinhua	0.97	275⇓	eP	Pn	11 56 45.0	+0.2
	baz=273						
CHN3				eS	Sn	11 56 59.4	+1.5
	baz=273						
LAY	Lan-yu	0.97	172	eP	Pn	11 56 42.8	-2.1
	baz=169						
LAY				eS	Sb	11 56 57.0	-0.2
	baz=169						
OWD	Renai	0.97	347	⇓P	Pn	11 56 43.1	-2.0
	baz=351						
OWD				eS	Sb	11 56 55.6	-2.0
	baz=351						
SHHT	Tainan City	0.98	271⇓	eP	Pn	11 56 44.5	-0.5
	baz=269						
SHHT				eS	Sn	11 57 00.1	+1.9
	baz=269						
HWA	Hwalien	0.99	10	eP	Pn	11 56 43.5	-1.6
	baz=15						
HWA				eS	Sn	11 56 58.5	+0.1
	baz=15						
SMLT	Sun Moon Lake	0.99	332⇓	eP	Pn	11 56 44.0	-1.3
	baz=335						
SMLT				eS	Sb	11 56 57.8	-0.3
	baz=335						
LYUB	Lan-yu	1.01	171	eP	Pn	11 56 42.4	-3.0
	baz=168						
LYUB				eS	Sn	11 56 55.6	-3.2
	baz=168						
CHN2	Minshiung	1.01	302⇓	eP	Pn	11 56 45.1	-0.4
	baz=302						
CHN2				eS	Sb	11 56 59.3	+0.9
	baz=302						
SNJT	Kaohsiung City	1.02	256	eP	Pn	11 56 45.1	-0.5
	baz=254						
SNJT				eS	Sb	11 57 00.0	+1.3
	baz=254						
WUSB	Renai	1.02	345⇓	eP	Pn	11 56 44.1	-1.7
	baz=348						
WUSB				eS	Sn	11 56 56.7	-2.7
	baz=348						
WJS	Zhushan	1.03	323⇓	eP	Pn	11 56 45.5	-0.2
	baz=324						
WJS				eS	Sn	11 56 59.3	-0.2
	baz=324						
TYC	Yuchr	1.03	331⇓	eP	Pn	11 56 44.7	-1.0
	baz=333						
TYC				eS	Sn	11 56 59.4	-0.1
	baz=333						
CHY	Chiayi	1.03	299⇓	eP	Pn	11 56 45.1	-0.7
	baz=299						
CHY				eS	Sn	11 56 58.9	-0.6
	baz=299						
WGK	Gukeng	1.04	311⇓	eP	Pn	11 56 45.6	-0.2
	baz=313						
WGK				eS	Sb	11 57 00.1	+0.9
	baz=313						
SSHA	Shanhua	1.04	278	eP	Pn	11 56 46.2	+0.3
	baz=276						
SSHA				eS	Sb	11 57 01.6	+2.2
	baz=276						
WDLH	Douliu	1.05	311⇓	eP	Pn	11 56 45.8	-0.2
	baz=312						
WDLH				eS	Sn	11 57 00.1	0.0
	baz=312						
CHGB	Renai	1.08	348	eP	Pn	11 56 45.0	-1.6
	baz=351						
CHGB				eS	Sn	11 56 58.2	-2.7
	baz=351						
TWD	Chiawan	1.09	9	eP	Pn	11 56 44.6	-1.9
	baz=13						
TWD				eS	Sn	11 56 60.0	-0.9
	baz=13						
WPL	Puli Township	1.09	338	eP	Pn	11 56 45.4	-1.2
	baz=340						
WPL				eS	Sn	11 56 59.8	-1.1
	baz=340						
TAI1	Yung-k'ang	1.09	272	eP	Pn	11 56 47.0	+0.5
	baz=270						
TAI1				eS	Sb	11 57 02.0	+1.3
	baz=270						
WNT	Mingjian	1.10	323⇓	eP	Pn	11 56 46.8	+0.1
	baz=325						
WNT				eS	Sb	11 57 01.6	+0.6
	baz=325						
ICHU	Yijhu	1.10	289⇓	eP	Pn	11 56 46.5	-0.2
	baz=289						
ICHU				eS	Sb	11 57 02.3	+1.3
	baz=289						
KAU	Kaohsiung	1.10	247	eP	Pn	11 56 47.1	+0.4
	baz=244						
SMST	Manzhou Townsh	1.11	209	eP	Pn	11 56 44.7	-2.2
	baz=205						
TAI	Tainan	1.12	270	eP	Pb	11 56 48.2	+0.8
	baz=268						
DPDB	Guoxing	1.12	337⇓	eP	Pn	11 56 46.4	-0.7
	baz=339						
DPDB				eS	Sn	11 57 00.8	-1.0
	baz=339						
WSSB	Gushan	1.12	252	eP	Pb	11 56 48.0	+0.6
	baz=249						
WNT1	Nantou City	1.12	323	eP	Pn	11 56 47.2	+0.2
	baz=325						
WNT1				eS	Sb	11 57 02.3	+0.6
	baz=325						
SCLT	Jiali	1.13	279⇓	eP	Pn	11 56 47.1	-0.1
	baz=278						
SCLT				eS	Sb	11 57 03.3	+1.3
	baz=278						
WCS	Beigang Elemen	1.15	337⇓	eP	Pn	11 56 45.7	-1.6
	baz=339						
WCS				eS	Sn	11 57 00.9	-1.4
	baz=339						
WHF	Hehuan Shan	1.15	353⇓	eP	Pn	11 56 45.8	-2.0
	baz=357						
WHF				eS	Sn	11 57 00.6	-2.3
	baz=357						
CHN8	Yiju	1.16	287⇓	eP	Pn	11 56 47.1	-0.3
	baz=287						
CHN8				eS	Sb	11 57 03.4	+0.8
	baz=287						
WTK	Tuku	1.16	306⇓	eP	Pn	11 56 47.1	-0.5
	baz=307						
TWP	Hsiaoliuchiu	1.17	236	eP	Pb	11 56 49.7	+1.5
	baz=233						
TWP				eS	Sb	11 57 09.4	+6.5
	baz=233						
ETL	Fush Village	1.17	10	eP	Pn	11 56 45.9	-1.8
	baz=13						
ETL				eS	Sn	11 56 60.0	-3.0
	baz=13						
HEN	Hengchun	1.17	212	eP	Pb	11 56 48.7	+0.4
	baz=208						
NACB	Ninganchiao	1.18	8		Pn	11 56 45.6	-2.2
NACB				Sg	Sb	11 57 05.3	+2.0
NACB	Ninganchiao	1.18	8	P	Pn	11 56 46.6	-1.2
NACB	Ninganchiao	1.18	8⇓	eP	Pn	11 56 45.5	-2.3
	baz=11						
NACB				eS	Sn	11 56 59.9	-3.3
	baz=11						
TWKBT	Hengchun	1.19	208	eP	Pn	11 56 46.2	-1.8
	baz=204						
TWK1	Hengchun	1.19	208	eP	Pn	11 56 46.5	-1.4
	baz=204						
TSEB	Hengchuen, Pin	1.19	203	eP	Pn	11 56 46.3	-1.7
	baz=202						
ETLH	Xiulin Townshi	1.20	3⇓	eP	Pn	11 56 45.9	-2.3
	baz=6.0						
ETLH				eS	Sn	11 57 00.7	-3.2
	baz=6.0						
SNW	Nanwan	1.20	211	eP	Pb	11 56 49.1	+0.3
	baz=207						
WSL	Shuilin Townsh	1.21	296⇓	eP	Pn	11 56 46.7	-1.4
	baz=296						
WSL				eS	Sn	11 57 01.9	-1.8
	baz=296						
WYL	Yuanlin Townsh	1.22	322	eP	Pn	11 56 49.0	+0.6
	baz=323						
WYL				eS	Sb	11 57 06.1	+1.6
	baz=323						
WWF	Wufeng	1.23	328	eP	Pn	11 56 47.9	-0.5
	baz=330						
WWF				eS	Sn	11 57 03.8	-0.4
	baz=330						
TSCK	Chigu Township	1.23	277	eP	Pn	11 56 47.3	-1.2
	baz=276						
TSCK				eS	Sn	11 57 04.1	-0.2
	baz=276						
FUSS	Fushou	1.25	353⇓	eP	Pn	11 56 47.8	-1.2
	baz=356						
FUSS				eS	Sn	11 57 02.7	-2.5
	baz=356						
WSF	Szhu	1.26	300⇓	eP	Pn	11 56 48.5	-0.4
	baz=301						
WSF				eS	Sn	11 57 05.7	+0.6
	baz=301						
TWT	Tachien	1.27	350	eP	Pn	11 56 48.3	-0.8
	baz=352						
TWT				eS	Sn	11 57 03.1	-2.4
	baz=352						
TDCB	Techi	1.27	350⇓	eP	Pn	11 56 48.3	-0.8
	baz=352						
WRL	Guolierlin Hig	1.30	314⇓	eP	Pn	11 56 48.4	-1.1
	baz=314						
WRL				eS	Sn	11 57 05.2	-1.0
	baz=314						
TCU	Taichung	1.32	330⇓	eP	Pn	11 56 50.4	+0.6
	baz=331						
TCU				eS	Sb	11 57 08.4	+0.9
	baz=331						
WCHH	Zhanghua	1.33	324	eP	Pn	11 56 50.4	+0.6
	baz=325						
WCHH				eS	Sn	11 57 07.4	+0.6
	baz=325						
WHP	Taichung City	1.34	342	eP	Pn	11 56 50.0	-0.1
	baz=344						
WHP				eS	Sb	11 57 10.7	+2.6
	baz=344						
WTCT	Ta-ch'eng	1.35	310	eP	Pn	11 56 49.8	-0.3
	baz=311						
WTCT				eS	Sn	11 57 05.3	-2.0
	baz=311						
WMLT	Mailiao	1.35	306	eP	Pn	11 56 50.3	+0.1
	baz=307						
NNSB	Datong	1.42	359⇓	eP	Pn	11 56 50.1	-1.2
	baz=1.0						
NNSB				eS	Sn	11 57 07.1	-2.1
	baz=1.0						
NNSH	Datong	1.42	359⇓	eP	Pn	11 56 49.0	-2.2
	baz=1.0						
NNSH				eS	Sn	11 57 06.0	-3.2
	baz=1.0						
NNS	Nan Shan	1.43	359	eP	Pn	11 56 49.3	-2.1
	baz=1.0						
NNS				eS	Sn	11 57 07.3	-2.2
	baz=1.0						
ENA	Nanau	1.45	12	eP	Pn	11 56 50.1	-1.4
	baz=15						
ENA				eS	Sn	11 57 09.8	-0.1
	baz=15						
TWQ1	Liyutan	1.46	337⇓	eP	Pn	11 56 52.8	+1.1
	baz=339						
TWQ1				eS	Sb	11 57 11.9	+0.5
	baz=339						
EWUT	Wuta	1.48	13	eP	Pn	11 56 49.2	-2.7
	baz=16						
EWUT				eS	Sn	11 57 09.2	-1.3
	baz=16						
WDJ	Dajia District	1.52	332	eP	Pb	11 56 53.7	-0.5
	baz=334						
WDJ				eS	Sb	11 57 14.3	+1.4
	baz=334						
NSY	Sanyi	1.53	337	eP	Pb	11 56 53.9	-0.5
	baz=339						
NSY				eS	Sb	11 57 14.4	+1.0
	baz=339						
LATG	Datong	1.53	4	eP	Pn	11 56 51.1	-1.6
	baz=6.0						
LATG				eS	Sb	11 57 13.3	-0.2
	baz=6.0						
NDT	Datong Townshi	1.60	3⇑	eP	Pn	11 56 50.9	-2.6
	baz=6.0						
NDT				eS	Sn	11 57 13.5	+0.1
	baz=6.0						
NMLH	Miaoli	1.63	340	eP	Pn	11 56 55.0	+1.0
	baz=341						
NMLH				eS	Sb	11 57 15.6	-0.7
	baz=341						
WDGT	Dungji	1.63	279⇓	eP	Pn	11 56 53.0	-1.0
	baz=278						
WDGT				eS	Sn	11 57 13.2	-1.1
	baz=278						
ENTT	Nioudou	1.64	5	eP	Pn	11 56 52.1	-2.0
	baz=8.0						
ENTT				eS	Sn	11 57 12.5	-1.9
	baz=8.0						
NFF	Wufeng Townshi	1.65	351	eP	Pn	11 56 53.6	-0.7
	baz=353						
NFF				eS	Sn	11 57 13.1	-1.6
	baz=353						
NDS	Dongshan	1.65	10	eP	Pn	11 56 48.8	-5.5
	baz=12						
TWC	Suao	1.65	14	eP	Pn	11 56 53.4	-0.9
	baz=17						
TWC				eS	Sn	11 57 15.6	+0.8
	baz=17						
YHNB	Yeheng	1.66	359		Pn	11 56 54.9	+0.4
YHNB	Yeheng	1.66	359	P	Pn	11 56 55.2	+0.7
YHNB	Yeheng	1.66	359	eP	Pn	11 56 53.9	-0.6
	baz=1.0						
YHNB				eS	Sn	11 57 12.7	-2.4
	baz=1.0						
NSTT	Nanjuang	1.67	347	eP	Pn	11 56 55.1	+0.6
	baz=349						
NSTT				eS	Sn	11 57 16.1	+1.0
	baz=349						
NSK	Sanguang	1.67	358	eP	Pn	11 56 53.2	-1.4
	baz=1.0						
NSK				eS	Sn	11 57 13.3	-2.0
	baz=1.0						
LIOB	Emei	1.68	348	eP	Pn	11 56 55.6	+0.9
	baz=349						
LIOB				eS	Sn	11 57 16.2	+0.7
	baz=349						
TWE	Neicheng	1.73	8	eP	Pn	11 56 54.6	-0.7
	baz=10.0						
TWE				eS	Sn	11 57 16.6	0.0
	baz=10.0						
NJN	Zhunan	1.75	344	eP	Pn	11 56 57.0	+1.4
	baz=345						
NJN				eS	Sb	11 57 19.0	-0.6
	baz=345						
NJD	Zhudong	1.75	350	eP	Pn	11 56 57.1	+1.5
	baz=352						
FUSB	Fushanzhiwuyua	1.76	5	eP	Pn	11 56 54.8	-1.1
	baz=7.0						
FUSB				eS	Sn	11 57 16.9	-0.7
	baz=7.0						
PHUB	P'eng-hu	1.77	287	eP	Pn	11 56 55.0	-0.9
	baz=286						
PHUB				eS	Sn	11 57 15.4	-2.2
	baz=286						
NWLT	Wulai	1.77	3	eP	Pn	11 56 54.8	-1.1
	baz=5.0						
ILA	Ilan	1.78	10	eP	Pb	11 56 58.1	-0.6
	baz=12						
PNG	Penghu	1.80	289	eP	Pn	11 56 55.5	-0.7
	baz=288						
PNG				eS	Sn	11 57 17.0	-1.3
	baz=288						
HSN1	Hsinchu	1.81	349	eP	Pn	11 56 57.1	+0.7
	baz=350						
SBCB	Hsinchu	1.82	348	eP	Pn	11 56 58.0	+1.3

baz=349
VCHM Qimei 1.84 277 *e*P **Pn 11 56 55.8 -1.0**
baz=276
VCHM *e*S **Sn 11 57 17.0 -2.3**
baz=276
HSN Hsinchu 1.84 347 *e*P **Pn 11 56 57.1 +0.3**
baz=350
EGS 1.90 14 *e*P **Pn 11 56 58.3 +0.7**
baz=17
NHDH Xindian Distri 1.96 3 *e*P **Pn 11 56 58.8 +0.3**
baz=5.0
NHDH *e*S **Sn 11 57 21.8 -0.5**
baz=5.0
TATO Taipei 1.97 2 Pn 11 56 58.7 +0.1
TATO Taipei 1.97 2 P **Pn 11 56 59.1 +0.5**
TATO Taipei 1.97 2 *e*P **Pn 11 56 58.1 -0.5**
baz=4.0
NCUH Zhongli 1.97 354 *e*P **Pn 11 57 00.1 +1.4**
baz=356
NCU National Centr 1.97 354 *e*P **Pn 11 56 58.6 0.0**
baz=356
TWA Mucha 1.98 5 *e*P **Pn 11 56 58.9 +0.1**
baz=7.0
NTY Taoyuan 1.99 357 *e*P **Pn 11 56 59.5 +0.6**
baz=359
TIPB Shuangxi 2.00 11 *e*P **Pn 11 56 58.8 -0.3**
baz=13
JYNG Yonagunijimaku 2.02 44 P **Pn 11 56 59.5 +0.2**
JYNG *e*S **Sn 11 57 23.0 -0.8**
JYNG Yonagunijimaku 2.02 44 A A 11 56 59.5
comp=E,8.0nm,1.4s,comp=E,14nm,1.0s
NHW Xinwu Township 2.02 351 *e*P **Pn 11 57 01.3 +1.9**
baz=352
TAP Taipei 2.03 2 *e*P **Pb 11 57 02.2 -0.8**
baz=4.0
NHY Taipei 2.03 4 *e*P **Pn 11 56 58.6 -0.9**
baz=6.0
YOJ Yonaguni jima 2.06 45 Pn **Pn 11 57 00.1 +0.2**
YOJ Yonaguni jima 2.06 45 P **Pn 11 57 00.7 +0.7**
YOJ Yonaguni jima 2.06 45⇓ *e*P **Pn 11 57 00.0 +0.1**
baz=47
YOJ *e*S **Sn 11 57 24.9 -0.1**
baz=47
YOJ Yonaguni jima 2.06 45 P **Pn 11 57 00.3 +0.3**
YOJ S **Sn 11 57 24.9 -0.1**
YOJ Yonaguni jima 2.06 45 A A 11 57 00.3
comp=E,7.0nm,3.0s,comp=E,5.0nm,2.4s
YOJ Yonaguni jima 2.06 45 P **Pn 11 57 00.1 +0.2**
TWB1 Santiao Chiao 2.07 15 *e*P **Pn 11 57 00.7 +0.8**
baz=17
NWF Wu-fen Shan 2.09 9 *e*P **Pn 11 57 00.4 0.0**
baz=11
WFSB Wu-fen Shan 2.09 9 *e*P **Pn 11 57 00.4 +0.1**
baz=11
TWS1 Kuangyinshan 2.09 0 *e*P **Pn 11 57 01.7 +1.4**
baz=2.0
SXI1 Grass Mountain 2.13 11 *e*P **Pn 11 57 01.4 +0.5**
baz=13
YM01 YM01 2.14 4 *e*P **Pn 11 57 00.8 -0.3**
baz=6.0
NTST Danshui 2.15 1 *e*P **Pn 11 57 02.7 +1.5**
baz=3.0
TNOU National Taiwa 2.16 9 *e*P **Pn 11 57 00.0 -1.3**
baz=11
ANP Anpu 2.18 3 *e*P **Pn 11 57 01.5 -0.1**
baz=5.0
YM08 YM08 2.18 4 *e*P **Pn 11 57 00.9 -0.7**
baz=6.0
TWY Chenhua 2.27 4 *e*P **Pn 11 57 03.1 +0.3**
baz=6.0
HATJ Hateruma jima 2.44 64 P **Pn 11 57 05.1 0.0**
HATJ S **Sn 11 57 33.0 -1.1**
HATJ Hateruma jima 2.44 64 A A 11 57 05.1
comp=E,6.0nm,3.6s,comp=E,5.0nm,5.1s
IRIF Iriomote-Funau 2.51 58 *i* P **Pn 11 57 06.1 +0.1**
IRIF S **Sn 11 57 35.5 -0.4**
IRIF Iriomote-Funau 2.51 58 A A 11 57 06.1
comp=E,8.0nm,6.7s,comp=E,7.0nm,0.9s
VWUC VWUC 2.67 318 *e*P **Pn 11 57 07.6 -0.7**
baz=318
VWUC *e*S **Sn 11 57 37.8 -2.1**
baz=318
JKRS Kuro-shima 2.68 62 P **Pn 11 57 08.8 +0.4**
JKRS *e*S **Sn 11 57 40.5 +0.3**
JKRS Kuro-shima 2.68 62 A A 11 57 08.8
comp=E,5.0nm,5.3s,comp=E,5.0nm,1.6s
PCYT Pengchaiyu 2.69 13 *e*P **Pn 11 57 09.6 +1.1**
baz=15
JIJ Ishigaki jima 2.85 61 *i* P **Pn 11 57 10.3 -0.4**
JIJ S **Sn 11 57 42.3 -2.0**
PTMZ Houxiangcun 2.92 315 *e*P **Pn 11 57 11.2 -0.5**
baz=315
PTMZ *e*S **Sn 11 57 44.0 -2.0**
baz=315
KNM Kinmen 3.07 298 *e*P **Pn 11 57 14.5 +0.7**
baz=296
KNM *e*S **Sn 11 57 50.0 +0.2**
baz=296
JISG Ishigakijimahi 3.09 59 *i* P **Pn 11 57 13.8 -0.3**
JISG S **Sn 11 57 49.4 -0.9**
JISG Ishigakijimahi 3.09 59 A A 11 57 13.8
comp=E,4.0nm,9.3s,comp=E,4.0nm,7.3s
QZH Quanzhou 3.22 307⇓ *i* Pn **Pn 11 57 14.9 -1.0**
QZH Pg **Pb 11 57 24.0 +0.7**
QZH Sn **Sn 11 57 50.8 -2.7**
QZH smax smax
comp=N,1μm,0.5s
QZH smax smax
comp=E,940nm,0.5s
MATB Ma-tsu 3.41 337 *e*P **Pn 11 57 17.7 -0.8**
baz=337
MATB *e*S **Sn 11 57 55.8 -2.3**
baz=337
JTJ Tarama 3.43 61 P **Pn 11 57 19.0 +0.3**
JTJ *e*S **Sn 11 57 57.6 -1.0**
MSUT Lienchiang 3.43 337 *e*P **Pn 11 57 18.5 -0.3**
baz=338
MSUT *e*S **Sn 11 57 56.7 -2.0**
baz=338
ZPLA Ao Xicun 3.49 286 *e*P **Pn 11 57 18.6 -1.0**
baz=285
ZPLA *e*S **Sn 11 57 55.3 -4.7**
baz=285
AXDP Jialang 3.67 302 *e*P **Pn 11 57 21.3 -0.8**
baz=301
AXDP *e*S **Sn 11 58 02.0 -2.6**
baz=301
DSXP Dongshan 3.73 282 *e*P **Pn 11 57 21.9 -0.9**
baz=281
MHZQ Yeshan 3.77 325 *e*P **Pn 11 57 22.8 -0.6**
baz=325
MHZQ *e*S **Sn 11 58 03.7 -3.3**
baz=325
LYJJ Jianjiangzhen 3.84 337 *e*P **Pn 11 57 23.6 -0.8**
baz=338
LYJJ *e*S **Sn 11 58 07.1 -1.6**
baz=338
JIRB Irabujima 3.89 61 P **Pn 11 57 24.9 -0.2**
JIRB *e*S **Sn 11 58 08.9 -1.2**
JMJ2 Miyako jima3 3.98 63 P **Pn 11 57 26.9 +0.6**
JMJ2 S **Sn 11 58 12.2 0.0**
JMJ Miyako jima 2 3.99 62 P **Pn 11 57 27.2 +0.8**
JMJ Miyako jima 2 3.99 62 *e*P **Pn 11 57 26.4 0.0**
baz=64
JMJ *e*S **Sn 11 58 12.2 -0.2**
baz=64
JIKM Ikemajima 4.00 61 P **Pn 11 57 26.4 -0.2**
JIKM S **Sn 11 58 12.3 -0.4**
JOGS Gusukube 4.05 64 P **Pn 11 57 28.0 +0.7**
JOGS *e*S **Sn 11 58 14.2 +0.1**
XPSS Dashiqiu 4.07 344 *e*P **Pn 11 57 26.7 -0.7**
baz=345
HKPS Hong Kong Po S 6.75 265 Pn **Pn 11 58 04.7 +0.2**
HKPS Hong Kong Po S 6.75 265 P **Pn 11 58 05.2 +0.7**
JOW Kunigami 7.30 57 P **Pn 11 58 10.0 -2.0**
13nm,0.3s,baz=228,slow=12,SNR=11
JOW S **Sn 11 59 29.4 -4.9**
12nm,0.3s,baz=160,slow=28,SNR=1.1
JOW Kunigami 7.30 57 Pn **Pn 11 58 10.3 -1.7**
GZH Guangzhou 7.43 272 Pn **Pn 11 58 10.5 -3.2**
GZH Sn **Sn 11 59 33.8 -3.5**
GZH smax smax
comp=N,310nm,1.0s
GZH smax smax
comp=E,270nm,1.3s
SSE Sheshan 8.06 359 P **Pn 11 58 22.0 -0.4**
SSE S **Sn 11 59 55.2 +2.3**
SSE pmax pmax
comp=Z,12nm,0.8s
SSE pmax pmax
comp=Z,110nm,5.1s
SSE LR LR
comp=N,520nm,17.0s
SSE LR LR
comp=E,490nm,17.2s
LQP Lukban 8.84 179⇓ *e*P Pn 11 58 28.1 -5.2
CNSH ChangSha 9.23 306⇑ P **Pn 11 58 37.0 -1.4**
CNSH S **Sn 12 00 15.2 -6.3**
CNSH smax smax
comp=N,430nm,1.2s
CNSH smax smax
comp=E,370nm,0.9s
NJ2 Nanjing 9.30 346 *e*P **Pn 11 58 41.1 +1.8**
NJ2 pP 11 58 43.1
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 smax smax
comp=N,170nm,0.8s
NJ2 smax smax
comp=E,180nm,0.8s
NJ2 LR LR
comp=N,2μm,6.5s
NJ2 LR LR
comp=E,520nm,3.9s
NJ2 LR LR
comp=Z,2μm,12.8s
WHN Wuhan 9.81 321⇑ P **Pn 11 58 46.0 -0.3**
WHN sP 11 58 53.1
WHN S **Sn 12 00 34.2 -1.5**
WHN LR LR
comp=N,3μm,11.2s
WHN LR LR
comp=E,4μm,14.5s
WHN LR LR
comp=Z,5μm,12.1s
QIZ Qiongzhong 11.50 252 P **Pn 11 59 10.3 +0.7**
QIZ S **Sn 12 01 19.2 +1.8**
QIZ LR LR
comp=N,730nm,12.9s
QIZ LR LR
comp=E,750nm,17.8s
QIZ LR LR
comp=Z,1μm,15.3s
TIA Tai'an 13.68 345 *e*P P 11 59 54.5 +6.7
TIA S **S 12 02 25.5 -7.5**
TIA pmax pmax
comp=Z,10.0nm,0.6s
TIA pmax pmax
comp=Z,180nm,3.5s
TIA LR LR
comp=N,910nm,13.5s
TIA LR LR
comp=E,370nm,3.3s
TIA LR LR
comp=Z,1μm,11.4s
GYA Guiyang 13.84 287⇓ *i*P **Pn 11 59 43.1 +1.5**
GYA S **Sn 12 02 15.5 +0.9**
GYA pmax pmax
comp=Z,18nm,0.7s
GYA pmax pmax
comp=Z,160nm,6.8s
GYA LR LR
comp=Z,800nm,11.1s
GYA LR LR
comp=Z,2μm,13.1s
GYA LR LR
comp=Z,2μm,12.3s
LYN LuoYang 13.91 328 *e*P **P 11 59 46.8 -3.6**
LYN pP Pn 11 59 50.0 +7.5
LYN sP 11 59 52.8
LYN PP **PnPn 11 59 56.0 +5.4**
LYN S **Sn 12 02 22.3 +6.0**
LYN pmax pmax
comp=Z,170nm,6.9s
LYN LR LR
comp=Z,2μm,11.5s
LYN LR LR
comp=Z,790nm,12.7s
LYN LR LR
comp=Z,2μm,11.9s
KSRS Korea Array 15.46 20 P **P 12 00 05.8 -1.8**
comp=Z,0.6nm,0.3s,baz=196,slow=12,SNR=20
KSRS LR LR 12 06 59.2
comp=Z,433nm,18.1s,baz=195,slow=40
comp=Z,6.4nm,0.6s
HNS HongShan 15.47 340⇑ P **P 12 00 09.2 +1.5**
HNS pmax pmax
comp=Z,12nm,1.0s
HNS LR LR
comp=Z,1μm,13.3s
HNS LR LR
comp=Z,970nm,14.0s
HNS LR LR
comp=Z,1μm,14.5s
KS19 Wonju Array Si 15.48 20 P **Pn 12 00 05.1 +1.5**
KS19 IAmb IAmb 12 00 08.3
comp=Z,90nm,1.8s
XAN Xi'an 15.52 318 P **P 12 00 12.3 +3.9**
XAN pP sP 12 00 23.5 +5.5
XAN SS S 12 03 45.9 +35
XAN pmax pmax
comp=Z,12nm,1.5s
XAN LR LR
comp=N,1μm,12.9s
XAN LR LR
comp=E,1μm,13.3s
XAN LR LR
comp=Z,2μm,13.5s
KMI Kunming 17.18 281⇑ P **P 12 00 30.8 +3.8**
KMI pmax pmax
comp=Z,12nm,1.1s
KMI LR LR
comp=Z,390nm,11.3s
KMI LR LR
comp=Z,890nm,12.3s
KMI LR LR
comp=Z,1μm,13.5s
MYLDM Lahad Datu 17.94 189 P **P 12 00 35.8 +0.6**
comp=Z,38nm,1.1s
PZH PanZhiHua 18.20 285 P **P 12 00 41.3 +3.1**
PZH S **S 12 04 08.1 +2.6**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,3.9s
PZH LR LR
comp=Z,360nm,13.3s
PZH LR LR
comp=Z,850nm,13.1s
PZH LR LR
comp=Z,1μm,13.7s
JHJ Hachijo jima 2 19.07 54 LR LR 12 07 59.8
comp=Z,160nm,21.2s,baz=298,slow=36
HHC Hu-ho-hao-te 19.63 337 *e*P **Pn 12 00 57.7 +2.5**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,340nm,5.0s
HHC LR LR
comp=Z,1μm,12.1s
HHC LR LR
comp=Z,740nm,11.1s
HHC LR LR
comp=Z,2μm,12.5s
MJAR Matsushiro Arr 19.83 43 P **Pn 12 00 58.0 +0.6**
comp=Z,0.1nm,0.3s,baz=234,slow=7.3,SNR=8.0
MJAR LR LR 12 09 34.4
comp=Z,186nm,18.2s,baz=218,slow=39
comp=Z,3.4nm,0.6s
LZH Lanzhou 20.05 315 *e*P Pn 12 01 01.3 +1.1
LZH pP sP 12 01 08.3 +0.2
LZH sP pP 12 01 14.9 +10
LZH S **S 12 04 40.8 -2.0**
LZH SS **SnSn 12 05 04.3 +4.5**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,250nm,4.6s
LZH LR LR
comp=Z,910nm,15.6s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,1μm,17.1s
TNCH TengChong 21.00 280 *e*P **P 12 01 11.4 +2.5**
TNCH pP pP 12 01 13.3 -2.2
TNCH PP **PnPn 12 01 34.2 +6.3**
TNCH S **S 12 04 59.6 -2.4**
TNCH SS **SnSn 12 05 33.9 +10**
TNCH pmax pmax
comp=Z,35nm,0.9s
TNCH pmax pmax
comp=Z,230nm,4.4s
TNCH LR LR
comp=Z,330nm,11.5s
TNCH LR LR
comp=Z,580nm,12.1s
TNCH LR LR
comp=Z,780nm,15.3s
CN2 Changchun 21.01 8 *e*P **P 12 01 08.0 -0.6**
CN2 *e*S **S 12 04 56.7 -4.7**
CN2 LR LR
comp=Z,760nm,12.0s
CN2 LR LR
comp=Z,380nm,12.0s
CN2 LR LR
comp=Z,620nm,14.0s
XLT XiLinHaoTe 21.30 349 *e*P **P 12 01 16.4 +4.6**
XLT S **S 12 05 06.8 -0.6**
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,260nm,3.6s
XLT LR LR
comp=Z,570nm,13.5s
XLT LR LR
comp=Z,560nm,14.8s
CHTO Chiang Mai 21.39 263 P **P 12 01 13.3 +0.4**
CHTO Chiang Mai 21.39 263 P **P 12 01 13.3 +0.4**
CHTO pmax pmax
comp=Z,11nm,0.9s
CM31 Chiang Mai Arr 21.49 262 P **P 12 01 15.0 +1.1**
CMAR Chiang Mai Arr 21.49 262 P **P 12 01 15.3 +1.4**
comp=Z,2.0nm,0.8s,baz=62,slow=7.6,SNR=17
CMAR PcP **PcP 12 05 16.6 0.0**
comp=Z,2.6nm,0.9s,baz=62,slow=0.9,SNR=6.5
CMAR LR LR 12 10 42.4
comp=Z,428nm,18.2s,baz=75,slow=40
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 21.49 262 P **P 12 01 15.9 +2.0**
CMAR Chiang Mai Arr 21.49 262 P **P 12 01 15.9 +2.0**
TOLI2 Tolitoli 21.77 182 P **P 12 01 18.8 +1.9**
TOLI2 IAmb IAmb 12 01 22.7
comp=Z,62nm,1.4s
GTOI Gorontalo 22.29 176 P **P 12 01 17.7 -4.8**
comp=Z,20nm,0.8s
SBUM Sibu 22.29 205 P **P 12 01 22.6 +0.1**
SBUM Sibu 22.29 205 P **P 12 01 22.8 +0.3**
comp=Z,8.6nm,0.7s
MRSI Marisa 22.39 179 P **P 12 01 29.8 +6.2**
MDJ Mudanjiang 22.58 15 P **P 12 01 27.3 +1.9**
MDJ pP pP 12 01 30.4 -1.3
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ pmax pmax
comp=Z,610nm,4.4s
USRK Ussuriysk Ar. 22.87 20 P **P 12 01 29.4 +1.0**
comp=Z,2.1nm,0.6s,baz=200,slow=8.7,SNR=11
comp=Z,2.1nm,0.6s
USA0B Ussuriysk Arra 22.87 20 P **P 12 01 29.2 +0.8**
USA0B IAmb IAmb 12 01 49.8
comp=Z,72nm,1.9s
USA0B Ussuriysk Arra 22.87 20 P **P 12 01 29.2 +0.8**
USA0B pmax pmax
comp=Z,73nm,1.9s
APSI Ampana 23.77 179 P **P 12 01 38.3 +0.7**
comp=Z,1μmcomp=Z,110nm,1.0s
LUWI Luwuk 23.93 177 P **P 12 01 38.2 -1.0**
LUWI Luwuk 23.93 177 P **P 12 01 38.3 -0.9**
comp=Z,2μmcomp=Z,93nm,0.9s
LBMI Labuha 24.23 165 P **P 12 01 42.7 +0.7**
comp=Z,51nm,0.9s
GTA Gaotai 24.58 317 *e*P **P 12 01 46.9 +1.8**
GTA pP pP 12 01 50.6 -1.6
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,4.6s
GTA LR LR
comp=Z,390nm,14.9s
GTA LR LR
comp=Z,570nm,14.5s
GTA LR LR
comp=Z,760nm,15.6s
SANI Sanana 25.30 169 P **P 12 01 49.6 -2.0**
comp=Z,25nm,0.8s
ERM Erimo 26.25 39*c e*P **P 12 01 57.8 -2.2**
ERM pmax pmax
comp=Z,32nm,1.0s
GOMU GeErMu 26.50 306 P **P 12 02 02.2 -0.7**
GOMU pP pP 12 02 08.8 -1.1
GOMU sP sP 12 02 11.9 -0.8
GOMU sS sS 12 06 45.8 -2.1
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU LR LR
comp=Z,240nm,13.6s
GOMU LR LR
comp=Z,550nm,13.5s
GOMU LR LR
comp=Z,600nm,13.6s
NLAI Namlea 26.66 167 P **P 12 02 05.3 +1.3**
comp=Z,11μmcomp=Z,42nm,0.9s
IPM Ipoh 26.97 230 P **P 12 02 04.7 -2.1**
comp=Z,15nm,0.8s
SHL Shillong 27.01 281 P **P 12 02 08.0 +0.7**
SHL IAmb IAmb 12 02 12.7
comp=Z,14nm,0.8s
SHL Shillong 27.01 281 P **P 12 02 08.0 +0.7**
SHL pmax pmax
comp=Z,14nm,0.8s
MYKOM Kota Tinggi 27.11 221 P **P 12 02 10.6 +2.6**
comp=Z,23nm,0.9s
ASAJ Asahikawa 27.33 35 LR LR 12 13 58.1
comp=Z,164nm,19.1s,baz=172,slow=38
ASAJ Asahikawa 27.33 35 P **P 12 02 11.1 +1.3**
ASAJ pmax pmax
comp=Z,53nm,1.4s
JKA Kamikawa-asahi 27.34 35 P **P 12 02 11.1 +1.3**
JKA IAmb IAmb 12 02 12.6
comp=Z,53nm,1.4s
ULN Ulaanbaatar 27.34 339 P **P 12 02 11.7 +1.7**
comp=Z,28nm,0.8s
ULN Ulaanbaatar 27.34 339⇓ *e*P **P 12 02 09.2 -0.8**
ULN pmax pmax
comp=Z,16nm,2.5s
KLR Kul'dur 27.42 15 P **P 12 02 11.4 +0.9**
comp=Z,4.1nm,0.8s,baz=214,slow=7.6,SNR=7.0
KLR LR LR 12 14 07.3
comp=Z,270nm,18.0s,baz=202,slow=38
comp=Z,4.1nm,0.8s
KLR Kul'dur 27.42 15⇑ *e*P **P 12 02 11.4 +0.9**
KLR pmax pmax
comp=Z,9.0nm,2.2s
SONM Songino Array 27.54 338 P **P 12 02 11.0 -0.8**
comp=Z,2.5nm,0.7s,baz=156,slow=9.3,SNR=14
SONM PcP **PcP 12 05 29.8 +0.4**
comp=Z,1.3nm,1.0s,baz=147,slow=3.4,SNR=3.4
SONM LR LR 12 14 12.7
comp=Z,498nm,18.5s,baz=155,slow=38
comp=Z,2.5nm,0.7s
SONM Songino Array 27.54 338 P **P 12 02 11.7 0.0**
SONM Songino Array 27.54 338 P **P 12 02 11.7 0.0**
SONM pmax pmax
comp=Z,10.0nm,1.5s
HEH HeiHe 27.60 8 *e*P P 12 02 22.1 +10
KAPI Kappang 27.89 184 P **P 12 02 13.9 -1.1**
comp=Z,2.0nm,0.3s,baz=21,slow=8.6,SNR=1.5
KAPI LR LR 12 15 29.9
comp=Z,208nm,18.6s,baz=121,slow=41
comp=Z,2.0nm,0.3s
YUK Yuzh-Kuril'sk 29.06 38⇑ *e*P **P 12 02 22.6 -2.6**
YSS Yuzh-Sakhalins 29.43 30 *e*P **P 12 02 29.8 +1.4**
YSS pmax pmax
comp=Z,20nm,1.4s
YSS MLR MLR
comp=Z,800nm,17.0s
WMQ Urumqi 34.63 315 *e*P **P 12 03 17.5 +3.3**
WMQ LR LR

comp=Z,360nm,15.1s
WMQ LR LR
comp=Z,360nm,16.1s
WMQ LR LR
comp=Z,170nm,17.1s
DGZ Jazzator, Alta 37.66 324⇑ *e*P **P 12 03 40.7 +0.5**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
KNRA Kununurra 39.11 169 P **P 12 03 50.4 -2.0**
KNRA IAmb IAmb 12 04 53.3
comp=Z,24nm,1.3s
MK31 Makanchi Array 39.33 317 P **P 12 03 54.6 +0.5**
MK31 Makanchi Array 39.33 317 P **P 12 03 54.6 +0.5**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 39.33 317 P **P 12 03 54.2 +0.1**
comp=Z,6.8nm,0.8s,baz=111,slow=8.8,SNR=21
MKAR PcP **PcP 12 06 01.4 -0.9**
comp=Z,4.1nm,0.8s,baz=104,slow=3.9,SNR=8.3
MKAR LR LR 12 20 26.2
comp=Z,74nm,18.9s,baz=107,slow=36
comp=Z,6.8nm,0.8s
MKAR Makanchi Array 39.33 317 P **P 12 03 54.8 +0.6**
YAK Yakutsk 39.42 6⇓ *e*P **P 12 03 53.6 -0.9**
YAK pmax pmax
comp=Z,54nm,4.8s
MAKZ Makanchi 39.54 317 P **P 12 03 56.3 +0.5**
MAKZ Makanchi 39.54 317 P **P 12 03 56.3 +0.5**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
PETK Petropavlovsk- 40.73 33 P **P 12 04 05.9 +0.3**
comp=Z,5.2nm,0.8s,baz=234,slow=6.9,SNR=2.4
PETK LR LR 12 22 18.1
comp=Z,156nm,18.1s,baz=171,slow=38
comp=Z,5.2nm,0.8s
PET Petropavlovsk 41.17 34⇓ *e*P **P 12 04 10.3 +1.1**
PET pmax pmax
comp=Z,80nm,1.7s
ZAA0 Zalesovo Array 41.35 328 P **P 12 04 10.2 -0.5**
ZAA0 IAmb IAmb 12 04 13.8
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 41.35 328 P **P 12 04 10.1 -0.6**
comp=Z,15nm,0.7s,baz=116,slow=8.5,SNR=34
ZALV PcP **PcP 12 06 04.8 -3.9**
comp=Z,0.7nm,0.5s,baz=103,slow=4.6,SNR=1.7
ZALV LR LR 12 21 56.3
comp=Z,76nm,20.5s,baz=119,slow=37
comp=Z,15nm,0.7s
KSH Kashi 41.72 304 P P 12 04 19.4 +5.3
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH LR LR
comp=Z,180nm,11.6s
KSH LR LR
comp=Z,320nm,10.8s
KSH LR LR
comp=Z,290nm,15.9s
MA2 Magadan 42.00 22 LR LR 12 22 55.7
comp=Z,139nm,18.9s,baz=240,slow=38
MA2 Magadan 42.00 22⇓ *e*P **P 12 04 14.3 -1.6**
MA2 pmax pmax
comp=Z,294nm,4.2s
PALK Pallekele 42.12 255 LR LR 12 23 25.5
comp=Z,222nm,18.1s,baz=162,slow=38
H11N1 WAKE ISLAND Hy 42.36 86 T T 12 49 35.3
baz=282,slow=75,SNR=363
H11N2 WAKE ISLAND Hy 42.36 86 T T 12 49 33.7
baz=282,slow=75,SNR=401
H11N3 WAKE ISLAND Hy 42.38 86 T T 12 49 34.7
baz=282,slow=75,SNR=328
H11S3 WAKE ISLAND Hy 42.45 87 T T 12 49 42.9
baz=284,slow=75,SNR=246
H11S1 WAKE ISLAND Hy 42.46 87 T T 12 49 41.5
baz=284,slow=75,SNR=164
COEN Coen 42.47 148 P **P 12 04 19.7 -0.4**
COEN IAmb IAmb 12 04 20.7
comp=Z,25nm,0.8s
H11S2 WAKE ISLAND Hy 42.47 87 T T 12 49 43.0
baz=284,slow=75,SNR=190
KURK Kurchatov 43.13 321 P **P 12 04 26.2 +1.0**
KURK IAmb IAmb 12 04 28.6
comp=Z,19nm,1.2s
KURK Kurchatov 43.13 321⇑ *e*P **P 12 04 27.8 +2.6**
KURK pmax pmax
comp=Z,21nm,1.7s
KURBB Kurchatov Arra 43.15 321 P **P 12 04 24.9 -0.4**
comp=Z,6.5nm,0.8s,baz=112,slow=7.8,SNR=28
KURBB PcP **PcP 12 06 12.8 -1.9**
comp=Z,0.8nm,0.2s,baz=123,slow=3.5,SNR=2.3
comp=Z,6.5nm,0.8s
AAK Ala-Archa 43.39 308 P **P 12 04 27.3 -0.4**
comp=Z,1.6nm,0.6s,baz=31,slow=5.9,SNR=2.1
AAK LR LR 12 25 10.8
comp=Z,258nm,18.9s,baz=108,slow=40
comp=Z,1.6nm,0.6s
AAK Ala-Archa 43.39 308⇓ *e*P **P 12 04 27.7 0.0**
AAK pmax pmax
comp=Z,4.0nm,0.9s
PSA00 Pilbara Seismi 44.33 182 P **P 12 04 33.3 -1.8**
PSA00 IAmb IAmb 12 04 34.1
comp=Z,15nm,0.7s
WB0 Warramunga Arr 44.36 162 P **P 12 04 33.6 -1.8**
WB0 IAmb IAmb 12 04 34.1
comp=Z,12nm,1.2s
WRAB Tennant Creek 44.50 163 P **P 12 04 34.8 -1.8**
WRAB IAmb IAmb 12 04 35.4
comp=Z,10nm,1.2s
WRAB Tennant Creek 44.50 163⇑ *e*P **P 12 04 34.1 -2.4**
WRAB pmax pmax
comp=Z,10.0nm,1.2s
WRA Warramunga Arr 44.51 163 P **P 12 04 34.1 -2.4**
comp=Z,3.8nm,0.6s,baz=343,slow=8.8,SNR=31
WRA PcP **PcP 12 06 17.6 -2.1**
comp=Z,1.2nm,0.6s,baz=342,slow=3.7,SNR=7.4
WRA LR LR 12 26 04.7
comp=Z,149nm,18.1s,baz=320,slow=40
comp=Z,3.8nm,0.6s
WRA Warramunga Arr 44.51 163 P **P 12 04 36.3 -0.3**
WRA Warramunga Arr 44.51 163 *i* P **P 12 04 34.7 -1.9**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WB2 Warramunga Arr 44.51 163 P **P 12 04 35.2 -1.4**
WR0 Warramunga Arr 44.58 162 P **P 12 04 35.4 -1.8**
SEY Seymchan 45.02 19 P **P 12 04 41.8 +1.7**
comp=Z,3.2nm,0.7s,baz=198,slow=11,SNR=4.5
comp=Z,3.2nm,0.7s
GIRL Giralia 45.90 189 P **P 12 04 47.7 +0.1**
GAR Garm 46.02 303 P **P 12 04 49.1 +0.5**
GAR IAmb IAmb 12 05 00.6
comp=Z,24nm,1.0s
KK31 Karatay Array 46.36 308 P **P 12 04 51.5 +0.4**
KK31 Karatay Array 46.36 308 P **P 12 04 51.5 +0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 46.36 308 P **P 12 04 51.9 +0.8**
KKAR Karatay Array 46.36 308 P **P 12 04 51.5 +0.4**
KKAR Karatay Array 46.36 308 P **P 12 04 51.5 +0.4**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 46.86 296 P **P 12 04 56.0 +0.6**
KBL IAmb IAmb 12 05 00.1
comp=Z,11nm,1.0s
KBL Kabul 46.86 296 P **P 12 04 56.0 +0.6**
KBL pmax pmax
comp=Z,11nm,1.0s
CHGR Chuyangaron 46.89 302 P **P 12 04 56.8 +1.3**
CHGR IAmb IAmb 12 05 07.0
comp=Z,16nm,0.9s
CHGR Chuyangaron 46.89 302 P **P 12 04 56.8 +1.3**
CHGR pmax pmax
comp=Z,16nm,0.9s
AS31 Alice Springs 47.95 165 P **P 12 05 03.6 0.0**
ASAR Alice Springs 47.95 165 P **P 12 05 02.4 -1.3**
ASAR PcP **PcP 12 06 30.1 -1.7**
comp=Z,2.7nm,0.9s,baz=340,slow=6.5,SNR=37
comp=Z,1.7nm,0.8s,baz=334,slow=3.3,SNR=5.4
comp=Z,2.7nm,0.9s
ASAR Alice Springs 47.95 165 P **P 12 05 04.0 +0.4**
ASAR Alice Springs 47.95 165 P **P 12 05 04.0 +0.4**
BVAR Borovoye Array 48.72 321 P **P 12 05 09.9 +0.6**
comp=Z,2.2nm,0.5s,baz=113,slow=8.6,SNR=11
BVAR PcP **PcP 12 06 33.2 -0.9**
comp=Z,3.2nm,0.8s,baz=120,slow=5.3,SNR=5.5
BVAR LR LR 12 27 14.1
comp=Z,86nm,20.1s,baz=88,slow=38
comp=Z,2.2nm,0.5s
BRVK Borovoye 48.79 321 P **P 12 05 10.6 +0.8**
BRVK IAmb IAmb 12 05 13.5
comp=Z,9.0nm,0.9s
BRVK Borovoye 48.79 321⇓ *e*P **P 12 05 10.3 +0.5**
BRVK pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 48.86 3 P **P 12 05 10.0 0.0**
comp=Z,0.8nm,0.3s,baz=346,slow=1.5,SNR=4.5
TIXI LR LR 12 27 42.8
comp=Z,96nm,18.7s,baz=116,slow=38
comp=Z,0.8nm,0.3s
TIXI Tiksi 48.86 3⇑ *e*P **P 12 05 10.8 +0.8**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
CTA Charters Tower 49.21 149 LR LR 12 25 02.0
comp=Z,93nm,20.3s,baz=278,slow=35
CTAO Charters Tower 49.21 149 P **P 12 05 13.8 +0.4**
CTAO IAmb IAmb 12 05 14.4
comp=Z,13nm,0.9s
CTAO Charters Tower 49.21 149 P **P 12 05 13.8 +0.4**
CTAO pmax pmax
comp=Z,13nm,1.0s
HNR Honiara 49.62 126 LR LR 12 25 21.1
comp=Z,531nm,18.3s,baz=336,slow=35
NRIK Noril'sk 50.59 345 P **P 12 05 21.9 -1.3**
comp=Z,2.1nm,0.5s,baz=126,slow=13,SNR=4.0
comp=Z,2.1nm,0.5s
NRIK Noril'sk 50.59 345⇑ *e*P **P 12 05 22.2 -1.1**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
MORW Morawa 52.03 186 P **P 12 05 34.2 -0.3**
MORW IAmb IAmb 12 06 38.2
comp=Z,64nm,1.9s
FORT Forrest 53.85 173 P **P 12 05 47.7 -0.2**
ABKAR Akbulak array 54.42 315 P **P 12 05 52.5 +0.5**
ABKAR IAmb IAmb 12 05 56.1
comp=Z,8.6nm,0.8s
ABKAR Akbulak array 54.42 315 P **P 12 05 52.1 +0.2**
SVE Sverdlovsk 55.12 324 *e*P **P 12 05 56.9 0.0**
SVE pmax pmax
comp=Z,20nm,0.9s
GEYT Alibeck 55.58 301 P **P 12 06 01.7 +1.1**
comp=Z,6.4nm,0.8s,baz=79,slow=7.5,SNR=8.6
comp=Z,6.4nm,0.8s
GEYT Alibeck 55.58 301 P **P 12 06 01.7 +1.1**
GEYT IAmb IAmb 12 06 02.9
comp=Z,7.0nm,0.8s
ARU Arti 56.17 323 P **P 12 06 04.2 -0.2**
ARU IAmb IAmb 12 06 08.0
comp=Z,13nm,0.9s
ARU Arti 56.17 323 *c i*P **P 12 06 04.3 -0.2**
ARU 12 06 56.1
ARU 12 08 05.8
ARU S **S 12 13 56.1 +3.8**
ARU SS **SS 12 17 40.7 +2.0**
ARU pmax pmax
comp=Z,16nm,0.9s
ARU MLR MLR
comp=Z,126nm,15.0s
BBOO Buckleboo 57.23 165 P **P 12 06 12.0 -0.2**
STKA Stephens Creek 57.89 160 P **P 12 06 15.9 -0.9**
comp=Z,6.0nm,0.8s,baz=343,slow=7.4,SNR=9.1
comp=Z,6.0nm,0.8s
STKA Stephens Creek 57.89 160 P **P 12 06 16.8 0.0**
STKA Stephens Creek 57.89 160⇑ *e*P **P 12 06 15.7 -1.1**
ARMA Armidale 60.52 150 P **P 12 06 36.0 +0.7**
ARMA IAmb IAmb 12 07 06.0
comp=Z,23nm,1.2s
KIRV Kirov 61.30 325 *d e*P **P 12 06 39.6 -0.5**
BELG Belogornoye 62.31 318 *c e*P **P 12 06 49.5 +2.6**
BELG pmax pmax
comp=Z,4.0nm,1.0s
MAK Makhachkala 63.17 308 *e*P P 12 06 47.3 -5.6
MAK *e*S **S 12 15 15.8 -7.1**
MAK pmax pmax
comp=Z,224nm,1.1s
MAK MLR MLR
comp=Z,115nm,12.0s
CAN Canberra 63.63 155 P **P 12 06 56.5 +0.6**
CAN Canberra 63.63 155 P **P 12 06 56.5 +0.6**
CAN pmax pmax
comp=Z,136nm,2.0s
TOO Toolangi 64.37 159 P **P 12 07 01.2 +0.5**
TOO Toolangi 64.37 159 P **P 12 07 01.2 +0.5**
TOO pmax pmax
comp=Z,48nm,1.5s
GNI Garni 65.64 305 LR LR 12 40 37.1
comp=Z,41nm,18.8s,baz=80,slow=40
ZEI Tsey 65.81 308 *e*P **P 12 07 09.5 -1.0**
ZEI pmax pmax
comp=Z,16nm,1.3s
ONI Oni 66.17 308 P **P 12 07 13.8 +1.2**
ONI Oni 66.17 308 P **P 12 07 13.8 +1.2**
ONI pmax pmax
comp=Z,22nm,1.0s
KLMR Klimovskoe 66.27 328 *e*P **P 12 07 10.5 -2.3**
KLMR AMP 12 07 12.7
comp=Z,19nm,1.2s
KLMR LR LR 12 36 50.7
KLMR LRM MLR 12 38 50.6
KLMR AMP 12 39 09.5
comp=Z,178nm,12.7s
KLMR Klimovskoe 66.27 328 *e*P **P 12 07 10.4 -2.3**
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR MLR MLR
comp=Z,178nm,13.0s
KBZ Khabaz 66.38 309 P **P 12 07 14.3 +0.6**
comp=Z,15nm,0.9s,baz=103,slow=3.3,SNR=14
comp=Z,15nm,0.9s
KBZ Khabaz 66.38 309⇓ *e*P **P 12 07 14.4 +0.6**
KBZ pmax pmax
comp=Z,18nm,0.9s
TTA Tatalina 66.42 30 P **P 12 07 14.8 +0.9**
TTA IAmb IAmb 12 09 37.9
comp=Z,35nm,2.0s
TTA Tatalina 66.42 30 P **P 12 07 14.8 +0.9**
TTA pmax pmax
comp=Z,35nm,2.0s
KIV Kislovodsk 66.49 309 *e*P **P 12 07 14.8 +0.1**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,75nm,17.0s
NEY Neytrino 66.59 309⇑ *e*P **P 12 07 14.7 -0.7**
NEY pmax pmax
comp=Z,3.0nm,0.8s
O18K Koktuh Hills 67.11 33 P **P 12 07 20.0 +1.8**
IMAR Indian Mountai 67.14 26 P **P 12 07 19.6 +1.3**
TOLK Toolik Lake Re 68.45 23 P **P 12 07 26.7 +0.2**
TOLK IAmb IAmb 12 08 32.9
comp=Z,34nm,1.9s
OBN Obninsk 68.56 322⇑ *e*P **P 12 07 27.1 -0.2**
OBN *e* 12 09 59.2
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,62nm,15.0s
MSVF Nonsavu 68.57 121⇑ *e*P **P 12 07 27.2 -0.9**
MSVF pmax pmax
comp=Z,8.0nm,1.0s
KDAK Kodiak Island 68.75 35 LR LR 12 39 06.5
comp=Z,67nm,19.4s,baz=247,slow=37
RAYN Ar Rayn 68.89 287 P **P 12 07 29.6 -0.5**
RAYN IAmb IAmb 12 07 31.1
comp=Z,6.6nm,1.1s
RAYN Ar Rayn 68.89 287 P **P 12 07 29.6 -0.5**
RAYN pmax pmax
comp=Z,7.0nm,1.1s
MARD Mardin 69.26 303 P **P 12 07 32.9 +0.6**
MDM Murphy Dome 69.57 27 P **P 12 07 34.3 +0.8**
MDM IAmb IAmb 12 07 43.2
comp=Z,18nm,1.3s
COLA College 69.74 27⇓ *e*P **P 12 07 33.5 -1.0**
COLA pmax pmax
comp=Z,4.0nm,1.3s
ANN Anapa 70.02 311 *e*P P 12 07 43.7 +7.1
ANN pmax pmax
comp=Z,119nm,1.0s
ILAR Eielson Array 70.17 27 P **P 12 07 37.1 -0.1**
comp=Z,0.5nm,0.6s,baz=282,slow=5.3,SNR=7.7
comp=Z,0.5nm,0.6s
BMAR Burnt Mountain 70.52 24 P **P 12 07 41.2 +1.9**
ARCES ARCESS Array B 70.71 338 P **P 12 07 39.3 -1.1**
comp=Z,1.9nm,0.8s,baz=60,slow=9.6,SNR=4.2
comp=Z,1.9nm,0.8s
ARCES ARCESS Array B 70.71 338 P **P 12 07 39.9 -0.5**
ARCES pmax pmax
comp=Z,56nm,1.8s
M24K Tolsona, Glenn 71.06 30 P **P 12 07 42.8 +0.1**
FINES FINESS Array B 72.57 330 P **P 12 07 50.3 -1.4**
comp=Z,7.7nm,0.9s,baz=63,slow=6.4,SNR=11
comp=Z,7.7nm,0.9s
FINES FINESS Array B 72.57 330 *i* P **P 12 07 50.2 -1.5**
FINES pmax pmax
comp=Z,8.0nm,0.9s
BCAR Beaver Creek A 72.77 28 P **P 12 07 55.0 +2.1**
DAWY Dawson 73.49 27 P **P 12 07 58.0 +0.8**
DAWY IAmb IAmb 12 08 56.9
comp=Z,12nm,1.4s
NOR Nord 73.53 354 *i* P **P 12 07 57.8 +0.7**
NOR IAmb IAmb 12 07 59.9
comp=Z,2.3nm,1.0s
AKASG Malin Array Be 73.89 319 P **P 12 07 58.0 -1.7**
comp=Z,2.0nm,0.6s,baz=62,slow=6.5,SNR=8.1
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 73.89 319⇓ *e*P **P 12 07 58.8 -0.9**
BR131 Keskin Array S 74.04 307⇑ *e*P **P 12 08 01.1 +0.1**
BRTR Keskin Array B 74.04 307 P **P 12 08 00.7 -0.3**
comp=Z,3.1nm,0.8s,baz=96,slow=5.3,SNR=12
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 74.04 307 P **P 12 08 01.2 +0.2**
BRTR Keskin Array B 74.04 307 *i* P **P 12 08 04.1 +3.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
NACGM Naroch 74.08 323 *e*P **P 12 07 58.8 -2.0**
comp=Z,20nm,0.9s,baz=73
INK Inuvik 74.24 22 P **P 12 08 01.8 +0.4**
INK IAmb IAmb 12 09 30.1
comp=Z,34nm,2.0s
INK Inuvik 74.24 22 P **P 12 08 01.8 +0.4**
INK pmax pmax
comp=Z,34nm,2.0s
BURAR Bucovina Array 77.36 316 P **P 12 08 18.9 -0.9**
BURAR IAmb IAmb 12 08 24.3
comp=Z,6.9nm,1.1s
MLR Muntele Rosu 77.62 314 P **P 12 08 21.4 0.0**
comp=Z,4.1nm,0.6s,baz=44,slow=8.2,SNR=5.2
comp=Z,4.1nm,0.6s
HFS Hagfors 78.69 331 P **P 12 08 24.8 -2.0**
comp=Z,7.1nm,0.9s,baz=76,slow=12,SNR=5.2
HFS LR LR 12 46 45.7
comp=Z,212nm,18.3s,baz=70,slow=38
comp=Z,7.1nm,0.9s
NC405 NORSAR Array S 79.11 332 P **P 12 08 28.4 -0.7**
NB2 NORSAR Subarra 79.36 332 P **P 12 08 28.9 -1.6**
comp=Z,1.1nm,0.6s,baz=58,slow=5.6
NOA NORSAR Array B 79.36 332 P **P 12 08 29.3 -1.2**
comp=Z,2.0nm,0.6s,baz=58,slow=5.6,SNR=6.8
NOA LR LR 12 47 39.8
comp=Z,152nm,18.1s,baz=60,slow=39
comp=Z,2.0nm,0.6s
NEEM North Greenlan 79.67 358 *i* P **P 12 08 34.1 +1.8**
NEEM IAmb IAmb 12 08 35.8
comp=Z,6.1nm,0.6s
VTS Vitosha 80.48 312 P **P 12 08 37.0 -0.1**
VTS IAmb IAmb 12 08 41.3
comp=Z,15nm,1.1s
VTS Vitosha 80.48 312 P **P 12 08 37.0 -0.1**
VTS pmax pmax
comp=Z,15nm,1.1s
VYHS Vyhne 80.99 319 *e*P **P 12 08 39.5 0.0**
VYHS Vyhne 80.99 319 *e*P **P 12 08 39.5 0.0**
VYHS pmax pmax
comp=Z,10.0nm,1.1s
IDI Anoyia 82.08 305 LR LR 12 52 32.2
comp=Z,22nm,18.1s,baz=79,slow=41
CLL Collm 83.12 323 *e*P **P 12 08 50.0 -0.6**
comp=Z,7.0nm,1.0s
CLL *e*PP **PP 12 12 05.0 +3.7**
CLL Collm 83.12 323 *e*P **P 12 08 49.0 -1.6**
CLL pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 83.69 354 *i* P **P 12 08 55.0 +1.3**
SUMG IAmb IAmb 12 08 57.0
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 83.82 321⇓ *e*P **P 12 08 53.9 -0.5**
KHC pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 83.88 321 P **P 12 08 53.8 -0.9**
comp=Z,4.0nm,0.3s,baz=46,slow=4.2,SNR=8.9
comp=Z,4.0nm,0.3s
YKA Yellowknife Ar 83.97 23 P **P 12 08 54.4 -0.4**
comp=Z,1.9nm,0.8s,baz=305,slow=4.8,SNR=4.8
comp=Z,1.9nm,0.8s
YKA Yellowknife Ar 83.97 23 *i* P **P 12 08 55.4 +0.6**
YKA pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 85.06 267⇓ *e*P **P 12 09 00.1 -1.4**
MEM Membach 87.27 325 *d*PcP **PcP 12 09 13.9 +0.4**
ESDC Sonseca Array 99.48 320 LR LR 12 59 14.4
comp=Z,34nm,18.6s,baz=339,slow=38

IDC ***07*** *12:13:11.6±2.5,34.46S×179.00W,h0km,mb3.9/2, mbtmp4.0/3,ML4.1/1,Error ellipse: s-maj=64.8km s-min=35.7km az=125.0*

NEIC ***07*** *12:13:14.9±1.0,34.7S±0.1×178.9W±0.2,h21km±10km, mb4.3/9,Error ellipse: s-maj=24.8km s-min=11.0km az=61.0*

WEL ***07*** *12:13:18.7±0.8,35.S±10.×17.9W±1.4,h33km,M4.1/16, mB4.8/4,ML4.4/25,MLv4.2/16,Mw(mB)4.0/4,Error ellipse: s-maj=0.0km s-min=0.0km az=125.2*

ISC 07 12:13:16.1±1.3,**34.54S**±0.08×**178.9W**±0.1,**h35**km,**n52,** σ1§**45**/84,**mb4.2**/7,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.79**	**217**	Pn	**Pn**	**12 14 09.9**	**-2.1**
MXZ	**Matakaoa Point**	**3.79**	**217**	P	**Pn**	**12 14 11.7**	**-0.3**
MXZ				S	**Sn**	**12 14 56.0**	**+0.7**
WMGZ	**Waiomatatini S**	**3.95**	**213**	P	**Pn**	**12 14 16.1**	**+2.0**
WMGZ				S	**Sn**	**12 15 01.0**	**+1.8**
PKGZ	**Pakihiroa**	**4.16**	**216**	P	**Pn**	**12 14 17.2**	**+0.1**
PKGZ				S	**Sn**	**12 15 02.9**	**-1.6**
HAZ	**Te Kaha**	**4.21**	**219**	P	**Pn**	**12 14 19.2**	**+1.6**
HAZ				S	**Sn**	**12 15 08.5**	**+3.0**
PUZ	**Puketiti**	**4.22**	**213**	P	**Pn**	**12 14 18.9**	**+0.9**
PUZ				S	**Sn**	**12 15 06.2**	**+0.2**
RUGZ	**Raukumara Rang**	**4.42**	**218**	P	**Pn**	**12 14 21.7**	**+1.0**
RUGZ				S	**Sn**	**12 15 12.4**	**+1.4**
TWGZ	**Tauwhareparae**	**4.44**	**214**	P	**Pn**	**12 14 22.8**	**+1.9**
TWGZ				S	**Sn**	**12 15 12.7**	**+1.3**
CNGZ	**Carnagh Statio**	**4.59**	**210**	P	**Pn**	**12 14 25.3**	**+2.3**
TKGZ	**Te Karaka**	**4.71**	**213**	P	**Pn**	**12 14 25.8**	**+1.2**
TKGZ				S	**Sn**	**12 15 17.6**	**-0.4**
MWZ	**Matawai**	**4.78**	**217**	P	**Pn**	**12 14 26.0**	**+0.4**
MWZ				S	**Sn**	**12 15 20.6**	**+0.8**
URZ	**Urewera**	**4.94**	**220**	Pn	**Pn**	**12 14 28.2**	**+0.5**
	6.9nm,0.3s,baz=354,slow=4.2,SNR=37						
URZ				Sn	**Sn**	**12 15 22.8**	**-0.7**
	2.7nm,0.3s,baz=194,slow=19,SNR=6.0						
	12nm,0.3s						
URZ	**Urewera**	**4.94**	**220**	P	**Pn**	**12 14 28.4**	**+0.7**
URZ				S	**Sn**	**12 15 24.0**	**+0.5**
RAGZ	**Rawiri**	**4.96**	**216**	P	**Pn**	**12 14 28.8**	**+0.7**
RAGZ				S	**Sn**	**12 15 23.3**	**-0.9**
OPRZ	**Ohinepanea**	**4.96**	**227**	P	**Pn**	**12 14 29.9**	**+1.8**
RIGZ	**Rimuhau**	**4.97**	**212**	P	**Pn**	**12 14 29.1**	**+0.9**
RIGZ				S	**Sn**	**12 15 25.0**	**+0.6**
MARZ	**Manawahe**	**4.99**	**225**	P	**Pn**	**12 14 29.8**	**+1.3**
TGRZ	**Tauranga**	**5.08**	**230**	P	**Pn**	**12 14 30.8**	**+1.2**
SNGZ	**Shannon Statio**	**5.22**	**215**	P	**Pn**	**12 14 32.8**	**+1.2**
SNGZ				S	**Sn**	**12 15 31.5**	**+0.9**
KNZ	**Kokohu**	**5.27**	**211**	P	**Pn**	**12 14 31.2**	**-1.0**
KNZ				S	**Sn**	**12 15 28.5**	**-3.2**
RTZ	**Ruatahuna**	**5.27**	**218**	P	**Pn**	**12 14 33.0**	**+0.6**
RTZ				S	**Sn**	**12 15 33.9**	**+2.0**
MUGZ	**Murupara**	**5.28**	**221**	P	**Pn**	**12 14 32.5**	**+0.1**
MUGZ				S	**Sn**	**12 15 31.0**	**-1.0**
MHGZ	**Mahia Peninsul**	**5.28**	**209**	P	**Pn**	**12 14 33.8**	**+1.3**
MHGZ				S	**Sn**	**12 15 31.7**	**-0.5**
RAHZ	**Arahi**	**5.45**	**216**	P	**Pn**	**12 14 35.9**	**+1.1**
RAHZ				S	**Sn**	**12 15 37.4**	**+1.2**
MTHZ	**Maungataniwha**	**5.52**	**218**	P	**Pn**	**12 14 36.0**	**+0.2**
MTHZ				S	**Sn**	**12 15 39.1**	**+1.1**
TOZ	**Tahuroa Road**	**5.57**	**234**	P	**Pn**	**12 14 38.4**	**+2.1**
MRHZ	**Matea Rd**	**5.73**	**220**	P	**Pn**	**12 14 38.9**	**+0.3**
MRHZ				S	**Sn**	**12 15 41.8**	**-1.4**

NMHZ	**Naumai**	**5.73**	**216**	P	**Pn**	**12 14 39.8**	**+1.1**
NMHZ				S	**Sn**	**12 15 44.3**	**+1.2**
ARHZ	**Aropaoanui**	**5.77**	**214**	P	**Pn**	**12 14 39.5**	**+0.4**
ARHZ				S	**Sn**	**12 15 44.0**	**0.0**
BKZ	**Black Stump Fm**	**5.93**	**218**	Pn	**Pn**	**12 14 42.3**	**+0.8**
BKZ	**Black Stump Fm**	**5.93**	**218**	P	**Pn**	**12 14 41.1**	**-0.4**
BKZ				S	**Sn**	**12 15 45.6**	**-2.7**
MCHZ	**McNeill Hill**	**6.05**	**215**	P	**Pn**	**12 14 43.2**	**+0.2**
MCHZ				S	**Sn**	**12 15 51.1**	**0.0**
OUZ	**Omahuta**	**6.24**	**262**	Pn	**Pn**	**12 14 44.8**	**-0.9**
KAHZ	**Kahuranaki**	**6.25**	**212**	P	**Pn**	**12 14 45.2**	**-0.7**
KAHZ				S	**Sn**	**12 15 54.1**	**-2.0**
TMVZ	**Te Maari**	**6.32**	**222**	P	**Pn**	**12 14 46.8**	**0.0**
TMVZ				S	**Sn**	**12 15 58.2**	**+0.5**
NTVZ	**North Tongarir**	**6.32**	**222**	P	**Pn**	**12 14 47.2**	**+0.4**
BHHZ	**Black Hill Sta**	**6.40**	**218**	P	**Pn**	**12 14 48.0**	**+0.2**
BHHZ				S	**Sn**	**12 15 59.7**	**+0.1**
MOVZ	**Moawhango**	**6.50**	**220**	P	**Pn**	**12 14 49.0**	**-0.2**
MOVZ				S	**Sn**	**12 15 58.3**	**-3.9**
DVHZ	**Dannevirke**	**6.98**	**213**	P	**Pn**	**12 14 59.3**	**+3.5**
DVHZ				S	**Sn**	**12 16 09.7**	**-4.3**
BFZ	**Birch Farm**	**7.26**	**211**	Pn	**Pn**	**12 14 57.5**	**-2.1**
TUWZ	**Tuamarina**	**8.92**	**217**	Pn	**Pn**	**12 15 18.4**	**-4.0**
CTAO	**Charters Tower**	**33.99**	**286**	P	**P**	**12 19 57.4**	**+0.8**
CTAO				IAmb	IAmb	12 19 58.4	
	comp=Z,6.9nm,1.2s						
AS31	**Alice Springs**	**42.34**	**272**	P	**P**	**12 21 07.1**	**+0.1**
ASAR	**Alice Springs**	**42.34**	**272**	P	**P**	**12 21 06.7**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=114,slow=7.3,SNR=34						
ASAR				PcP	**PcP**	**12 22 59.6**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=122,slow=4.1,SNR=5.0						
	comp=Z,1.0nm,0.5s						
WR0	**Warramunga Arr**	**43.53**	**277**	P	**P**	**12 21 16.5**	**-0.1**
WR0				IAmb	IAmb	12 21 49.3	
	comp=Z,7.3nm,1.5s						
WB2	**Warramunga Arr**	**43.70**	**277**	P	**P**	**12 21 17.6**	**-0.3**
WB2				IAmb	IAmb	12 21 30.3	
	comp=Z,8.0nm,1.4s						
WRAB	**Tennant Creek**	**43.70**	**277**	P	**P**	**12 21 18.0**	**+0.1**
WRAB				IAmb	IAmb	12 21 46.3	
	comp=Z,5.1nm,1.4s						
WRA	**Warramunga Arr**	**43.71**	**277**	P	**P**	**12 21 17.4**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=118,slow=7.6,SNR=28						
WRA				PcP	**PcP**	**12 23 04.5**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=114,slow=2.9,SNR=1.6						
	comp=Z,0.7nm,0.5s						
WRA	**Warramunga Arr**	**43.71**	**277**	P	**P**	**12 21 17.4**	**-0.6**
WB0	**Warramunga Arr**	**43.75**	**277**	P	**P**	**12 21 17.8**	**-0.5**
WB0				IAmb	IAmb	12 21 42.0	
	comp=Z,6.3nm,1.4s						
QSPA	**South Pole Qui**	**55.58**	**180**	P	**P**	**12 22 48.5**	**+0.6**
FINES	**FINESS Array B**	**148.73**	**337**	PKPbc	**PKiKP**	**12 32 59.7**	**-0.5**
	comp=Z,9.1nm,1.1s,baz=97,slow=4.6,SNR=4.1						

JMA 07 12:25:10.1±0.0**, 35°.4N**±0°.1×**133°.8E**±0°.1**, h9km, MV1.0**/32**, EASTERN TOTTORI PREF, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.05**	**186**	*i* P	Pg	12 25 11.9	-0.1
JKR				*e*S	Sg	12 25 13.1	-0.2
JAD	**Aida**	**0.56**	**150**	*i* P	Pg	12 25 20.9	-0.1
JAD				*e*S	Sg	12 25 28.4	+0.1
JKSM	**Kasumi**	**0.70**	**77**	*e*P	Pg	12 25 23.4	-0.3
JKSM				*e*S	Sg	12 25 32.6	-0.3
JHS	**Saijyo**	**0.72**	**234**	*e*P	Pg	12 25 23.9	-0.2
JHS				*e*S	Sg	12 25 33.6	+0.2
JHS	**Saijyo**	**0.72**	**234**	P	Pn	12 25 33.2	+6.7
JISK	**Izumosakaura**	**0.80**	**276**	*e*P	Pg	12 25 25.2	-0.3

*DJA **07** 12:29:52.7±0.5, 10°N±5°×12°4E±°, h525km±16km, M4.5/14, mB4.7/7, mb4.4/14, MLv5.0/3, Mw(mB)4.0/7*
*MAN **07** 12:29:53.5, 9°.41N×124°.09E, h523km, mb4.4, ML3.2, MS3.0*
*NEIC **07** 12:29:53.1±1.6, 9°.4N±0°.1×124°.3E±0°.2, h525km±10km, mb4.4/30, Error ellipse: s-maj=22.4km s-min=14.1km az=73.0*
*IDC **07** 12:29:54.9±1.8, 9°.31N×124°.16E, h550km±22km, mb3.3/17, mbtmp4.3/19, Error ellipse: s-maj=25.5km s-min=7.9km az=74.0*
ISC 07 12:29:54.1±0.4**, 9°.37N**±0°.06×**124°.25E**±0°.10**, h550km, n107,** σ**1s.76**/113**, mb4.1**/31**, 1C-9D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.50**	**310**⇓	*i*P	**P**	**12 30 56.8**	**-2.7**
MSLP	**Maasin**	**0.97**	**38**⇓	*i*P	**P**	**12 30 57.8**	**-2.5**
LLP	**Lapu-Lapu**	**0.98**	**344**⇓	*e*P	**P**	**12 30 57.1**	**-3.3**
SNPH	**Sibulan**	**1.00**	**269**⇓	*i*P	**P**	**12 30 57.3**	**-3.2**
CGP	**Cagayan de Oro**	**1.01**	**154**⇓	*e*P	**P**	**12 30 57.8**	**-2.7**
SCPH	**Surigao**	**1.29**	**71**⇓	*i*P	**P**	**12 30 58.7**	**-2.5**
CTBH	**Cotabato--PC H**	**2.13**	**180**⇓	*i*P	**P**	**12 31 02.5**	**-1.9**
BIPH	**Bislig**	**2.40**	**119**⇓	*e*P	**P**	**12 31 02.2**	**-3.5**
BIPH				*e*S	**S**	**12 31 56.0**	**-7.9**
KCP	**Kidapawan**	**2.49**	**160**⇑	*i*P	**P**	**12 31 04.3**	**-2.0**
RCP	**Roxas**	**2.63**	**326**⇓	*e*P	**P**	**12 31 04.0**	**-2.9**
RCP				*e*S	**S**	**12 32 00.8**	**-5.5**
MYLDM	**Lahad Datu**	**7.06**	**234**	P	**P**	**12 31 44.3**	**+1.6**
MYLDM	**Lahad Datu**	**7.06**	**234**	P	**P**	**12 31 43.6**	**+0.9**
	0.1nm24nm,1.0s						
GAMI	**Galela, Maluku**	**8.27**	**155**	P	**P**	**12 31 53.2**	**-1.4**
	92nm,1.1s						
KKM	**Kota Kinabalu**	**8.62**	**248**	P	**P**	**12 31 57.0**	**-1.2**
KKM	**Kota Kinabalu**	**8.62**	**248**	P	**P**	**12 31 57.8**	**-0.4**
	16nm,1.8s						
GTOI	**Gorontalo**	**8.76**	**188**	P	**P**	**12 31 58.2**	**-1.3**
	0.2nm720nm44nm,0.8s						
TOLI2	**Tolitoli**	**8.90**	**203**	P	**P**	**12 31 59.5**	**-1.4**
TOLI2	**Tolitoli**	**8.90**	**203**	P	**P**	**12 32 00.3**	**-0.6**
TNTI	**Ternate**	**9.09**	**160**	P	**P**	**12 32 01.7**	**-1.1**
TNTI	**Ternate**	**9.09**	**160**	P	P	12 32 17.5	+15
TNTI	**Ternate**	**9.09**	**160**	P	**P**	**12 32 04.3**	**+1.5**
	78nm,0.6s						
MRSI	**Marisa**	**9.12**	**195**	P	**P**	**12 32 03.5**	**+0.3**
	1µm102nm,0.7s						
MPSI	**Mapaga**	**9.96**	**206**	P	**P**	**12 32 11.7**	**0.0**
	22nm,0.6s						
LUWI	**Luwuk**	**10.44**	**188**	P	**P**	**12 32 16.2**	**-0.5**
LUWI	**Luwuk**	**10.44**	**188**	P	**P**	**12 32 16.5**	**-0.2**
	2µm90nm,0.8s						
LUWI	**Luwuk**	**10.44**	**188**	P	**P**	**12 32 17.0**	**+0.3**
LBMI	**Labuha**	**10.45**	**162**	P	**P**	**12 32 16.8**	**0.0**
	2µm129nm,0.6s						
APSI	**Ampana**	**10.53**	**194**	P	**P**	**12 32 17.7**	**+0.1**
	1µm118nm,0.8s						
SANI	**Sanana**	**11.47**	**171**	P	**P**	**12 32 24.1**	**-3.2**
SIJI	**Sorong**	**12.34**	**145**	P	**P**	**12 32 36.6**	**+0.4**
	10nm,0.4s,baz=328,slow=16,SNR=9.8						
NLAI	**Namlea**	**12.84**	**167**	P	**P**	**12 32 42.4**	**+1.0**
	48nm,1.1s						
TWGBT	**Beinan**	**13.72**	**348**	P	**P**	**12 32 47.4**	**-2.9**
TWG	**Pinlang**	**13.72**	**348**	P	**P**	**12 32 46.9**	**-3.4**
SBUM	**Sibu**	**13.79**	**241**	P	**P**	**12 32 51.1**	**-0.1**
SBUM	**Sibu**	**13.79**	**241**	P	**P**	**12 32 51.8**	**+0.6**
	305nm22nm,0.8s						
MTKI	**Muara Teweh, K**	**13.84**	**223**	P	**P**	**12 32 52.6**	**+0.8**
	31nm,0.5s						
SPSI	**Sidrap Palu**	**13.98**	**199**	P	**P**	**12 32 52.8**	**-0.3**
YULB	**Yu-li**	**14.23**	**349**	P	**P**	**12 32 52.2**	**-3.4**
YULB	**Yu-li**	**14.23**	**349**	P	**P**	**12 32 52.6**	**-3.0**
TPUB	**Ta-pu**	**14.28**	**346**	P	**P**	**12 32 54.4**	**-1.8**
TPUB	**Ta-pu**	**14.28**	**346**	P	**P**	**12 32 54.4**	**-1.8**
FAKI	**Fak Fak**	**14.58**	**146**	P	**P**	**12 32 59.2**	**-0.2**
FAKI	**Fak Fak**	**14.58**	**146**	P	**P**	**12 32 59.4**	**+0.1**
SSLB	**Suanglung**	**14.68**	**348**	P	**P**	**12 32 57.7**	**-2.6**
SSLB	**Suanglung**	**14.68**	**348**	P	**P**	**12 32 58.6**	**-1.7**
YOJ	**Yonaguni jima**	**15.06**	**356**	P	**P**	**12 33 04.0**	**-0.1**
YHNB	**Yeheng**	**15.46**	**350**	P	**P**	**12 33 06.3**	**-2.0**
YHNB				IAmb	IAmb	12 33 10.2	
	comp=Z,21nm,1.0s						
YHNB	**Yeheng**	**15.46**	**350**	P	**P**	**12 33 05.9**	**-2.5**
KSM	**Kuching**	**15.93**	**241**	P	**P**	**12 33 12.6**	**-0.5**
KSM				IAmb	IAmb	12 33 13.6	
	comp=Z,9.6nm,0.6s						
SOEI	**Soe**	**19.00**	**180**	P	**P**	**12 33 40.5**	**-0.8**
BATI	**Baumata**	**19.45**	**182**	P	**P**	**12 33 44.9**	**-0.5**
	comp=Z,38nm,0.4s,baz=256,slow=1.6,SNR=6.4						
MTN	**Manton Dam**	**23.10**	**163**	P	**P**	**12 34 17.4**	**-0.8**
MTN				IAmb	IAmb	12 34 32.2	
	comp=Z,13nm,1.2s						
KNRA	**Kununurra**	**25.28**	**170**	P	**P**	**12 34 37.3**	**-0.1**
KNRA				IAmb	IAmb	12 34 53.6	
	comp=Z,32nm,1.5s						
WB0	**Warramunga Arr**	**30.63**	**161**	P	**P**	**12 35 23.7**	**-0.4**
WB0				IAmb	IAmb	12 35 45.5	
	comp=Z,13nm,1.5s						
WRAB	**Tennant Creek**	**30.77**	**161**	P	**P**	**12 35 25.0**	**-0.2**
WRAB				IAmb	IAmb	12 35 25.8	
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**30.77**	**161**	P	**P**	**12 35 25.1**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=333,slow=9.6,SNR=159						
WRA				PcP	**PcP**	**12 38 06.7**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=343,slow=3.0,SNR=6.3						
WRA				S	**S**	**12 39 46.3**	**-4.0**
	comp=Z,1.7nm,0.6s,baz=341,slow=15,SNR=12						
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**30.77**	**161**	P	**P**	**12 35 24.3**	**-1.0**
WB2	**Warramunga Arr**	**30.78**	**161**	P	**P**	**12 35 25.1**	**-0.2**
WB2				IAmb	IAmb	12 35 25.9	
	comp=Z,6.5nm,0.7s						
WR0	**Warramunga Arr**	**30.85**	**161**	P	**P**	**12 35 26.1**	**0.0**
PSA00	**Pilbara Seismi**	**31.05**	**188**	P	**P**	**12 35 27.3**	**-0.4**
PSA00				IAmb	IAmb	12 35 42.9	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**34.16**	**164**	P	**P**	**12 35 55.1**	**+1.1**
AS31				IAmb	IAmb	12 35 55.5	
	comp=Z,5.1nm,0.3s						
ASAR	**Alice Springs**	**34.16**	**164**	P	**P**	**12 35 54.6**	**+0.6**
	comp=Z,4.2nm,0.3s,baz=339,slow=7.0,SNR=319						
ASAR				PcP	**PcP**	**12 38 16.1**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=343,slow=3.1,SNR=7.8						
ASAR				S	**S**	**12 40 41.2**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=358,slow=19,SNR=13						
	comp=Z,4.2nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.35**	**10**	P	**P**	**12 36 04.6**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=188,slow=8.4,SNR=1.7						
	comp=Z,1.0nm,0.7s						
MORW	**Morawa**	**39.02**	**191**	P	**P**	**12 36 33.7**	**-0.2**
MORW				IAmb	IAmb	12 37 15.8	
	comp=Z,23nm,1.3s						
SONM	**Songino Array**	**41.21**	**342**	P	**P**	**12 36 52.0**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=152,slow=9.4,SNR=2.9						
	comp=Z,0.3nm,0.4s						
NWAO	**Narrogin (SRO)**	**42.59**	**189**	P	**P**	**12 37 02.2**	**+0.1**
	comp=Z,14nm,1.1s,baz=90,slow=20,SNR=2.6						
	comp=Z,14nm,1.1s						
NWAO	**Narrogin (SRO)**	**42.59**	**189**	P	**P**	**12 37 02.6**	**+0.5**
BBOO	**Buckleboo**	**43.43**	**165**	P	**P**	**12 37 09.4**	**+0.7**
STKA	**Stephens Creek**	**44.24**	**159**	P	**P**	**12 37 16.1**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=327,slow=7.5,SNR=5.3						
	comp=Z,1.0nm,0.4s						
PETK	**Petropavlovsk-**	**51.29**	**25**	P	**P**	**12 38 08.8**	**+1.5**
	comp=Z,4.7nm,1.0s,baz=142,slow=5.4,SNR=1.8						
	comp=Z,4.7nm,1.0s						
MK31	**Makanchi Array**	**51.56**	**324**	P	**P**	**12 38 10.8**	**+1.3**
MKAR	**Makanchi Array**	**51.56**	**324**	P	**P**	**12 38 10.8**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=114,slow=6.7,SNR=18						
MKAR				PcP	**PcP**	**12 39 15.1**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=126,slow=3.1,SNR=8.3						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**51.56**	**324**	P	**P**	**12 38 10.6**	**+1.1**
DZM	**Mont Dzumac**	**51.85**	**128**	P	**P**	**12 38 13.6**	**+1.6**
	comp=Z,4.6nm,0.9s,baz=117,slow=20,SNR=1.5						
	comp=Z,4.6nm,0.9s						
ZALV	**Zalesovo Beam**	**54.48**	**333**	P	**P**	**12 38 30.4**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=124,slow=6.4,SNR=7.0						
	comp=Z,1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**54.48**	**333**	P	**P**	**12 38 30.7**	**+0.6**
KURK	**Kurchatov**	**55.70**	**327**	P	**P**	**12 38 39.4**	**+0.8**
KURK				IAmb	IAmb	12 38 40.7	
	comp=Z,5.9nm,0.7s						
KKAR	**Karatay Array**	**57.48**	**316**	P	**P**	**12 38 51.5**	**+0.4**
BRVK	**Borovoye**	**61.36**	**326**	P	**P**	**12 39 17.7**	**+1.1**
NRIK	**Noril'sk**	**64.41**	**346**	P	**P**	**12 39 37.0**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=130,slow=7.4,SNR=7.9						
	comp=Z,3.4nm,0.6s						
ABKAR	**Akbulak array**	**66.27**	**320**	P	**P**	**12 39 48.2**	**+0.2**
RPZ	**Rata Peaks**	**67.76**	**145**	P	**P**	**12 39 58.4**	**+1.1**
	comp=Z,2.4nm,0.4s,baz=27,slow=16,SNR=1.6						
	comp=Z,2.4nm,0.4s						
BKZ	**Black Stump Fm**	**68.41**	**139**	P	**P**	**12 40 02.4**	**+1.0**
IMAR	**Indian Mountai**	**78.25**	**24**	P	**P**	**12 40 58.7**	**+1.8**
M20K	**Styx River**	**78.32**	**29**	P	**P**	**12 40 58.5**	**+1.0**
M20K				IAmb	IAmb	12 41 19.0	
	comp=Z,19nm,1.5s						
KDAK	**Kodiak Island**	**78.50**	**33**	P	**P**	**12 40 59.4**	**+1.0**
BRLK	**Bradley Lake**	**79.39**	**31**	P	**P**	**12 41 03.7**	**+0.5**
TOLK	**Toolik Lake Re**	**79.95**	**22**	P	**P**	**12 41 07.5**	**+1.5**
IL31		**81.11**	**26**	P	**P**	**12 41 12.5**	**+0.5**
ILAR	**Eielson Array**	**81.11**	**26**	P	**P**	**12 41 12.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=245,slow=5.0,SNR=11						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**81.11**	**26**	P	**P**	**12 41 12.3**	**+0.3**
M24K	**Tolsona, Glenn**	**81.60**	**28**	P	**P**	**12 41 16.5**	**+1.8**
M24K				IAmb	IAmb	12 41 30.4	
	comp=Z,28nm,1.2s						
BMAR	**Burnt Mountain**	**81.87**	**23**	P	**P**	**12 41 18.5**	**+2.6**
EGAK	**Eagle**	**83.56**	**25**	P	**P**	**12 41 26.6**	**+2.2**
EGAK				IAmb	IAmb	12 41 27.1	
	comp=Z,7.2nm,1.4s						
ARCES	**ARCESS Array B**	**84.34**	**340**	P	**P**	**12 41 27.5**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=76,slow=5.4,SNR=4.8						
	comp=Z,2.3nm,0.8s						
DAWY	**Dawson**	**84.42**	**26**	P	**P**	**12 41 30.4**	**+1.7**
DAWY				IAmb	IAmb	12 41 51.4	
	comp=Z,9.8nm,1.5s						
FIA1	**FINESS Array S**	**85.73**	**332**	P	**P**	**12 41 35.2**	**+0.2**
FINES	**FINESS Array B**	**85.73**	**332**	P	**P**	**12 41 35.6**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=65,slow=4.0,SNR=20						
	comp=Z,1.6nm,0.4s						
FINES	**FINESS Array B**	**85.73**	**332**	P	**P**	**12 41 35.4**	**+0.4**
INK	**Inuvik**	**85.85**	**21**	P	**P**	**12 41 36.7**	**+1.3**
VNDA	**Vanda**	**89.30**	**172**	P	**P**	**12 41 52.3**	**+1.0**
	comp=Z,1.1nm,1.1s,baz=326,slow=3.6,SNR=2.9						
	comp=Z,1.1nm,1.1s						
EUNU	**Eureka**	**89.33**	**5**		**P**	**12 41 52.6**	**+1.0**
EUNU				IAmb	IAmb	12 42 21.1	
	comp=Z,11nm,1.5s						
NB2	**NORSAR Subarra**	**92.67**	**333**	P	**P**	**12 42 06.7**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=63,slow=4.6						
NOA	**NORSAR Array B**	**92.67**	**333**	P	**P**	**12 42 06.7**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=63,slow=4.7,SNR=3.9						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**118.73**	**291**	PKP	**PKiKP**	**12 47 40.2**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=44,slow=2.9,SNR=5.0						
TXAR	**Lajitas Array**	**119.92**	**48**	PKP	**PKiKP**	**12 47 44.4**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=239,slow=1.8,SNR=5.6						
PLCA	**Paso Flores**	**146.11**	**160**	PKPbc	**PKPab**	**12 48 34.5**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=159,slow=21,SNR=5.9						

IDC 07 12:37:57.2±2.4**, 4°.57S**×**152°.87E, h0km, mb3.5**/2**, mbtmp3.5**/2**, Error ellipse: s-maj=42.0km s-min=25.0km az=39.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.88**	**287**	Pn	Pn	12 38 17.8	+1.0
	35nm,0.3s,baz=198,slow=1.9,SNR=80						
KRVT				Sn	Sn	12 38 30.1	-0.1
	138nm,0.3s,baz=93,slow=22,SNR=13						
WRA	**Warramunga Arr**	**23.65**	**228**	P	P	12 43 11.1	+0.6
	1.7nm,0.7s,baz=53,slow=10,SNR=16						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**26.37**	**222**	P	P	12 43 36.0	+0.6
	0.2nm,0.5s,baz=55,slow=9.0,SNR=7.4						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.30**	**289**	PKPbc	PKPbc	12 57 49.2	-2.3
	0.3nm,0.4s,baz=74,slow=2.7,SNR=5.1						

*ISK **07** 12:45:59.9, 39°.64N×29°.22E, h9km, ML2.6/15*
*DDA **07** 12:46:00.5±0.0, 39°.69N×29°.33E, h7km±3km, ML1.9*
ISC 07 12:46:00.4±1.0**, 39°.68N**±0°.02×**29°.28E**±0°.02**, h6km**±9km**, n33,** σ**0s.66**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.26**	**148**	PG	**Pg**	**12 46 05.8**	**+0.1**
TVSB				SG	**Sg**	**12 46 10.0**	**+0.8**
ULDT	**Uludag**	**0.48**	**347**	P	**Pg**	**12 46 10.1**	**+0.3**
ULDT				*i* AML	AML	12 46 16.0	
	comp=E,196nm,0.5s						
ULDT				*i* AML	AML	12 46 16.0	
	comp=N,216nm,0.1s						
ULDT				S	**Sg**	**12 46 16.3**	**+0.2**
ANDZ	**Kutahya, Merke**	**0.51**	**109**	P	**Pg**	**12 46 10.2**	**0.0**
ANDZ				S	**Sg**	**12 46 17.2**	**+0.4**
ANDZ				*i* AML	AML	12 46 18.0	
	comp=N,74nm,0.2s						
ANDZ				*i* AML	AML	12 46 18.0	
	comp=E,75nm,0.3s						
DST	**Dursunbey**	**0.52**	**262**	PG	**Pg**	**12 46 09.5**	**-0.9**
IGD	**Bursa**	**0.59**	**354**	P	**Pg**	**12 46 12.0**	**+0.2**
IGD				S	**Sg**	**12 46 19.7**	**+0.1**
IGD				*i* AML	AML	12 46 20.0	
	comp=E,61nm,0.4s						
IGD				*i* AML	AML	12 46 20.0	
	comp=N,86nm,0.1s						
GDZ	**Gediz**	**0.60**	**165**	P	**Pg**	**12 46 12.1**	**0.0**
GDZ				S	**Sb**	**12 46 20.7**	**-1.6**
GDZ				*i* AML	AML	12 46 22.0	
	comp=N,68nm,0.3s						
DURS	**Dursunbey**	**0.63**	**264**	P	**Pb**	**12 46 14.2**	**+0.4**
BILE	**Bilecik/Merkez**	**0.67**	**43**	P	**Pg**	**12 46 12.8**	**-0.5**
BILE				*i* AML	AML	12 46 20.0	
	comp=N,198nm,1.0s						
MDNY	**Mudanya-Bursa**	**0.76**	**336**	PG	**Pg**	**12 46 15.2**	**+0.2**
GEMT	**Gemlik**	**0.76**	**355**	PG	**Pb**	**12 46 16.1**	**0.0**
DEMI	**Demirci**	**0.77**	**215**	P	**Pn**	**12 46 16.9**	**-0.9**
DEMI				*i* AML	AML	12 46 32.0	
	comp=N,102nm,0.3s						
DEMI				*i* AML	AML	12 46 34.0	
	comp=E,106nm,0.3s						
ADVT	**Abdulvahap**	**0.83**	**25**	PG	**Pb**	**12 46 17.7**	**+0.4**
ADVT				SG	**Sn**	**12 46 30.2**	**-1.1**
KCTX	**Karacabey (Bur**	**0.92**	**310**	PG	**Pg**	**12 46 18.1**	**-0.1**
KCTX				SG	**Sb**	**12 46 31.3**	**-0.1**
BORA	**Eskisehir**	**0.93**	**77**	PG	**Pn**	**12 46 19.4**	**-0.6**
BORA	**Eskisehir**	**0.93**	**77**	P	**Pg**	**12 46 17.6**	**-0.6**
BORA				S	**Sg**	**12 46 30.4**	**+0.1**
BORA				*i* AML	AML	12 46 36.0	
	comp=E,41nm,0.4s						
BORA				*i* AML	AML	12 46 36.0	
	comp=N,41nm,0.4s						
ARMT	**Armutlu**	**0.95**	**340**	PG	**Pb**	**12 46 18.8**	**-0.4**
ARMT				SG	**Sb**	**12 46 32.7**	**+0.7**
USAK	**Uak-Merkez**	**0.98**	**192**	P	**Pn**	**12 46 21.2**	**+0.5**
USAK				S	**Sn**	**12 46 34.4**	**-0.6**
USAK				*i* AML	AML	12 46 51.0	
	comp=N,36nm,1.4s						
USAK				*i* AML	AML	12 46 53.0	
	comp=E,43nm,1.3s						
SRCK	**Saricakaya, Es**	**1.10**	**70**	PN	**Pn**	**12 46 22.5**	**+0.2**
SRCK				SN	**Sn**	**12 46 38.7**	**+0.9**
GEYV	**SAKARYA_Geyve**	**1.12**	**44**	P	**Pn**	**12 46 22.8**	**+0.2**
GEYV				*i* AML	AML	12 46 39.0	
	comp=N,68nm,0.3s						
GEYV				S	**Sn**	**12 46 39.1**	**+0.8**
GEYV				*i* AML	AML	12 46 40.0	
	comp=E,59nm,0.4s						
HRT	**Hereke**	**1.18**	**14**	PN	**Pn**	**12 46 23.5**	**0.0**
HRT				SN	**Sn**	**12 46 39.9**	**-0.1**
GULT	**Gulveren**	**1.21**	**51**	PN	**Pn**	**12 46 24.3**	**+0.3**
GULT				SN	**Sn**	**12 46 42.4**	**+1.7**
SGAZ	**Eskisehir, Sey**	**1.21**	**96**	P	**Pb**	**12 46 22.7**	**-1.1**
SGAZ				S	**Sg**	**12 46 39.2**	**-0.3**
SGAZ				*i* AML	AML	12 46 42.0	
	comp=E,66nm,0.7s						
SGAZ				*i* AML	AML	12 46 44.0	
	comp=N,35nm,0.3s						
GONE	**Gonen-Balikesi**	**1.28**	**287**	PN	**Pn**	**12 46 24.1**	**-0.7**
MANT	**Manisa**	**1.31**	**206**	P	**Pg**	**12 46 26.7**	**+1.1**
MANT				S	**Sn**	**12 46 44.2**	**+0.9**
MANT				*i* AML	AML	12 46 46.0	
	comp=N,20nm,0.7s						
MANT				*i* AML	AML	12 46 50.0	
	comp=E,20nm,0.4s						
SAUV	**Serdivan-Sakar**	**1.33**	**37**	PN	**Pg**	**12 46 26.2**	**+0.2**
PASA	**Karahalli, USA**	**1.33**	**173**	P	**Pg**	**12 46 26.1**	**0.0**
PASA				S	**Sn**	**12 46 44.9**	**+1.2**
PASA				*i* AML	AML	12 46 48.0	
	comp=E,9.7nm,0.6s						
KAVV	**Kandilli-Istan**	**1.40**	**353**	PN	**Pb**	**12 46 26.8**	**-0.1**
ISK	**Istanbul-Kandi**	**1.40**	**353**	PN	**Pb**	**12 46 26.6**	**-0.3**
SILT	**Sile**	**1.50**	**10**	PN	**Pb**	**12 46 28.4**	**-0.3**
KAYN	**Sakarya, Kayna**	**1.52**	**32**	P	**Pn**	**12 46 27.8**	**-0.3**
KAYN				*i* AML	AML	12 46 50.0	
	comp=E,21nm,0.3s						
KAYN				*i* AML	AML	12 46 50.0	
	comp=N,14nm,0.4s						
KLYT	**Kilyos**	**1.59**	**353**	PN	**Pb**	**12 46 29.5**	**-0.6**
MRMT	**Marmara Adasi**	**1.59**	**306**	PN	**Pn**	**12 46 28.8**	**-0.3**
SAHE	**Sakarya_HENDEK**	**1.68**	**45**	P	**Pb**	**12 46 32.1**	**+0.3**
SAHE				*i* AML	AML	12 46 59.0	
	comp=N,13nm,0.4s						
SAHE				*i* AML	AML	12 47 02.0	
	comp=E,19nm,1.0s						

*IDC **07** 12:50:26.9±0.5, 84°.96N×97°.30E, h0km, mb3.9/25, mbtmp3.9/27, ML5.0/1, MS3.6/57, Error ellipse: s-maj=15.4km s-min=11.4km az=134.0*
*MOS **07** 12:50:28.9±1.1, 84°.86N×103°.15E, h10km, mb4.6/27, Error ellipse: s-maj=83.2km s-min=7.4km az=87.7*
*NEIC **07** 12:50:30.6±1.3, 84°.9N±0°.1×10°2E±°, h10km±5km, mb4.6/45, Error ellipse: s-maj=22.8km s-min=14.1km az=130.0*
ISC 07 12:50:29.6±0.4**, 85°.01N**±0°.06×**101°.04E**±0°.06**, h10km, n186,** σ**2s.29**/141**, mb4.5**/71**, MS3.6**/58**, 11C-8D, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZFI	**Zemlya Franca-**	**7.43**	**266**	*e*P	Pn	12 52 08.2	-10
ZFI				S	Sn	12 53 20.9	-21
OMEGA	**Omega**	**7.45**	**266**	*e*P	Pn	12 52 08.2	-10
OMEGA				*e*S	Sn	12 53 20.9	-21
TIXI	**Tiksi**	**14.21**	**143**	Pn	P	12 53 51.5	-6.4
	26nm,0.3s,baz=314,slow=0.0,SNR=2.1						
TIXI				LR	LR	12 58 53.8	
	comp=Z,93nm,21.2s,baz=314,slow=35						
	1.1nm,0.4s						
TIXI	**Tiksi**	**14.21**	**143**		**Pn**	**12 53 49.5**	**-0.9**
TIXI	**Tiksi**	**14.21**	**143**⇑	*e*P	**Pn**	**12 53 49.3**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
NRIK	**Noril'sk**	**15.94**	**198**	Pn	**Pn**	**12 54 07.2**	**-6.3**
	comp=Z,0.4nm,0.3s,baz=16,slow=8.8,SNR=7.9						
NRIK				LR	LR	13 00 54.5	
	comp=Z,498nm,18.7s,baz=10.0,slow=40						
NRIK	**Noril'sk**	**15.94**	**198**	Pn	**Pn**	**12 54 10.1**	**-3.3**
NRIK	**Noril'sk**	**15.94**	**198***c*	*i*P	**Pn**	**12 54 13.5**	**0.0**
NRIK				pmax	pmax		
	comp=Z,12nm,0.8s						
ARCES	**ARCESS Array B**	**19.91**	**269**	P	P	12 54 54.5	-6.3
	comp=Z,4.2nm,1.0s,baz=18,slow=15,SNR=2.1						
ARCES				LR	LR	13 03 01.0	
	comp=Z,94nm,18.1s,baz=27,slow=38						
RES	**Resolute Bay**	**20.29**	**12**	LR	LR	13 03 16.2	
	comp=Z,159nm,18.4s,baz=35,slow=38						
BILL	**Bilibino**	**20.48**	**103**	*i* P	Pn	12 55 06.9	-2.2
BILL				*i*		12 55 13.0	
BILL				pmax	pmax		
	comp=Z,23nm,1.0s						
APA	**Apatity**	**21.14**	**260**⇓	*i*P	**P**	**12 55 18.5**	**+4.4**
APA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,400nm,10.0s						
A36M	**Sachs Harbour**	**21.89**	**37**	P	**P**	**12 55 24.3**	**+2.2**
A36M				IAmb	IAmb	12 55 34.8	
	comp=Z,37nm,0.9s						
LSH	**Leshukonskoye**	**22.76**	**245**	*e*P	**P**	**12 55 28.3**	**-3.1**
YAK	**Yakutsk**	**23.83**	**146**	*e*P	**P**	**12 55 44.2**	**+2.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
SEY	**Seymchan**	**24.38**	**120**	P	**P**	**12 55 48.0**	**+0.7**
	comp=E,2.2nm,0.8s,baz=12,slow=22,SNR=1.5						
	comp=E,2.2nm,0.8s						
SEY	**Seymchan**	**24.38**	**120**⇑	*e*P	**P**	**12 55 46.9**	**-0.4**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.1s						
C36M	**Paulatuk**	**24.58**	**37**	P	**P**	**12 55 50.3**	**+1.3**
INK	**Inuvik**	**25.06**	**46**	P	**P**	**12 55 55.1**	**+1.7**
	comp=Z,11nm,1.1s,baz=348,slow=8.7,SNR=8.5						
INK				LR	LR	13 06 20.7	

comp=Z,59nm,20.7s,baz=311,slow=38
comp=Z,11nm,1.1s
INK Inuvik 25.06 46 P **P** **12 55 55.5 +2.1**
PRGR Permogore 25.98 244 *e*P **P** **12 55 59.8 -1.9**
PRGR Permogore 25.98 244 *e*P **P** **12 55 59.8 -1.9**
PRGR *e* 12 56 39.2
PRGR pmax pmax
comp=Z,42nm,1.0s
KLMR Klimovskoe 27.24 250 *e*P **P** **12 56 09.2 -3.9**
KLMR Klimovskoe 27.24 250 *e*P **P** **12 56 09.8 -3.4**
KLMR AMP 12 56 11.5
comp=Z,21nm,1.2s
KLMR Klimovskoe 27.24 250 *e*P **P** **12 56 09.8 -3.4**
KLMR pmax pmax
comp=Z,21nm,1.2s
COLA College 27.46 60⇓ *e*P **P** **12 56 14.6 -0.5**
COLA pmax pmax
comp=Z,12nm,1.6s
MA2 Magadan 27.59 123 LR LR 13 05 58.3
comp=Z,60nm,18.8s,baz=328,slow=34
ILAR Eielson Array 27.64 59 P **P** **12 56 18.4 +1.7**
comp=Z,3.1nm,0.9s,baz=348,slow=8.2,SNR=17
ILAR PcP **PcP** **12 59 32.7 -0.6**
comp=Z,0.3nm,0.9s,baz=312,slow=2.0,SNR=4.3
ILAR LR LR 13 07 23.8
comp=Z,63nm,18.8s,baz=310,slow=36
comp=Z,3.1nm,0.9s
ILAR Eielson Array 27.64 59 P **P** **12 56 18.0 +1.3**
SFJD Kangerlussuaq 27.66 336 LR LR 13 06 24.6
comp=Z,132nm,19.0s,baz=356,slow=35
FINES FINESS Array B 27.80 264 P **P** **12 56 13.0 -5.2**
comp=Z,3.0nm,0.9s,baz=15,slow=5.8,SNR=1.7
FINES LR LR 13 07 50.5
comp=Z,68nm,19.7s,baz=116,slow=38
comp=Z,3.0nm,0.9s
FINES FINESS Array B 27.80 264 P **P** **12 56 13.0 -5.2**
BORG Borgarnes 28.39 310 LR LR 13 05 32.3
comp=Z,28nm,20.2s,baz=334,slow=32
KIRV Kirov 28.71 239 LR LR 13 09 23.9
comp=Z,138nm,20.2s,baz=347,slow=40
KIRV Kirov 28.71 239 *ce*P **P** **12 56 28.5 +2.3**
NOA NORSAR Array B 29.50 279 LR LR 13 07 55.0
comp=Z,39nm,20.2s,baz=55,slow=36
SKT Skwentna 30.04 64 P P 12 56 41.5 +3.4
SKT IAmb IAmb 12 57 00.1
comp=Z,14nm,1.4s
HFS Hagfors 30.18 276 LR LR 13 08 01.6
comp=Z,52nm,20.8s,baz=33,slow=35
ARU Arti 30.21 228 LR LR 13 10 17.8
comp=Z,225nm,19.4s,baz=354,slow=40
ARU Arti 30.21 228 P **P** **12 56 41.2 +1.6**
ARU 12 57 35.6
ARU S **S** **13 01 42.6 +4.2**
ARU SS **SnSn** **13 03 16.3 +4.9**
ARU MLR MLR
comp=Z,182nm,16.0s
VSU Vasula 30.69 262⇑ *e*P **P** **12 56 47.6 +3.8**
VSU pmax pmax
comp=Z,40nm,1.3s
FRB Frobisher Bay 31.36 351 LR LR 13 08 51.3
comp=Z,51nm,19.6s,baz=23,slow=35
ZALV Zalesovo Beam 31.43 198 P **P** **12 56 46.9 -3.5**
comp=Z,0.9nm,0.7s,baz=19,slow=5.2,SNR=2.0
ZALV PcP **PcP** **12 59 41.9 -1.4**
comp=Z,0.2nm,0.3s,baz=344,slow=4.8,SNR=1.8
ZALV LR LR 13 10 37.5
comp=Z,162nm,18.8s,baz=28,slow=39
comp=Z,0.9nm,0.7s
ZALV Zalesovo Beam 31.43 198 P **P** **12 56 51.5 +1.1**
ZALV Zalesovo Beam 31.43 198 P **P** **12 56 51.5 +1.1**
YKA Yellowknife Ar 31.87 31 P **P** **12 56 54.0 -0.2**
comp=Z,2.1nm,0.9s,baz=353,slow=9.5,SNR=5.2
YKA LR LR 13 09 59.0
comp=Z,176nm,18.2s,baz=319,slow=36
comp=Z,2.1nm,0.9s
YKA Yellowknife Ar 31.87 31 *i* P **P** **12 56 54.4 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 32.89 215 P **P** **12 57 03.5 +0.3**
BRVK IAmb IAmb 12 57 10.8
comp=Z,12nm,1.2s
BRVK Borovoye 32.89 215 *ce*P **P** **12 57 03.7 +0.5**
BRVK pmax pmax
comp=Z,11nm,1.7s
BVAR Borovoye Array 32.92 215 LR LR 13 12 46.9
comp=Z,140nm,18.7s,baz=15,slow=41
OBN Obninsk 33.17 251⇓ *e*P **P** **12 57 06.8 +1.2**
OBN pmax pmax
comp=Z,8.0nm,1.0s
KDAK Kodiak Island 34.11 66 LR LR 13 10 32.3
comp=Z,86nm,21.6s,baz=11,slow=35
NACGM Naroch 34.21 261 *e*P **P** **12 57 17.0 +2.3**
comp=Z,19nm,1.0s,baz=8.8
KURK Kurchatov 34.87 205⇑ *e*P **P** **12 57 20.6 +0.2**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 34.97 205 P **P** **12 57 18.5 -2.7**
comp=Z,0.4nm,0.2s,baz=27,slow=6.3,SNR=5.9
KURBB PcP **PcP** **12 59 50.9 -2.2**
comp=Z,0.4nm,0.5s,baz=1.8,slow=2.5,SNR=4.2
KURBB LR LR 13 14 29.0
comp=Z,168nm,18.5s,baz=193,slow=41
comp=Z,0.4nm,0.2s
BELG Belogornoye 34.99 239 P **P** **12 57 17.3 -4.1**
comp=Z,12nm,0.9s,baz=103,slow=16,SNR=2.2
BELG LR LR 13 13 57.8
comp=Z,86nm,19.9s,baz=336,slow=41
comp=Z,12nm,0.9s
BELG Belogornoye 34.99 239⇓ *e*P **P** **12 57 20.5 -0.9**
BELG pmax pmax
comp=Z,3.0nm,1.0s
DLBC Dease Lake 35.09 45 LR LR 13 12 25.2
comp=Z,78nm,20.3s,baz=314,slow=37
DLBC Dease Lake 35.09 45 P **P** **12 57 23.2 +0.9**
LPSR Galich'ya Gora 35.47 248 *e*P **P** **12 57 28.1 +2.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
HEH HeiHe 35.49 151 *e*P **P** **12 57 27.0 +1.3**
DGZ Jazzator, Alta 35.62 195⇓ *e*P **P** **12 57 28.4 +1.3**
DGZ pmax pmax
comp=Z,12nm,1.5s
VORR Voronezh 36.37 248 *e*P **P** **12 57 37.5 +4.2**
VRH Novokhopyorsk 36.64 245 *e*P **P** **12 57 38.3 +2.8**
VRH pmax pmax
comp=Z,20nm,1.2s
KLR Kul'dur 36.71 146 LR LR 13 11 42.0
comp=Z,86nm,20.9s,baz=354,slow=35
VSR Storozhevoye 36.83 248 *e*P **P** **12 57 39.0 +1.9**
VSR pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 37.27 225 P **P** **12 57 41.5 +0.6**
ABKAR Akbulak array 37.27 225 P **P** **12 57 41.2 +0.3**
ABKAR IAmb IAmb 12 57 48.4
comp=Z,7.8nm,1.4s
ULN Ulaanbaatar 37.33 173⇑ *e*P **P** **12 57 42.2 +0.5**
ULN pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 37.35 174 P **P** **12 57 40.4 -1.4**
comp=Z,1.5nm,0.7s,baz=342,slow=8.6,SNR=6.7
SONM LR LR 13 13 58.5
comp=Z,94nm,18.1s,baz=346,slow=38
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 38.17 258 P **P** **12 57 45.8 -2.7**
comp=Z,0.2nm,0.3s,baz=4.8,slow=8.3,SNR=0.8
AKASG LR LR 13 16 26.3
comp=Z,74nm,18.2s,baz=43,slow=41
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 38.17 258 *i* P **P** **12 57 49.5 +1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 38.17 258⇑ *e*P **P** **12 57 49.5 +1.0**
MAKZ Makanchi 38.66 201 P **P** **12 57 53.7 +1.0**
MAKZ Makanchi 38.66 201 P **P** **12 57 53.7 +1.0**
MAKZ pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 38.66 201 P **P** **12 57 52.9 +0.1**
MK31 Makanchi Array 38.66 201⇓ *i* P **P** **12 57 53.3 +0.5**
MKAR Makanchi Array 38.66 201 P **P** **12 57 51.7 -1.1**
comp=Z,1.9nm,0.8s,baz=6.3,slow=6.6,SNR=12
MKAR LR LR 13 15 01.0
comp=Z,108nm,19.2s,baz=70,slow=38
comp=Z,1.9nm,0.8s
MKAR Makanchi Array 38.66 201 P **P** **12 57 52.2 -0.6**
MKAR Makanchi Array 38.66 201 P **P** **12 57 52.2 -0.6**
CLL Collm 38.98 274 *e*P **P** **12 57 55.0 -0.3**
OJC Ojcow 39.47 267 *e*P **P** **12 58 00.8 +1.4**
OJC Ojcow 39.47 267 P **P** **12 58 01.1 +1.7**
OJC IAmb IAmb 12 58 02.6
comp=Z,18nm,1.2s
OJC Ojcow 39.47 267 P **P** **12 58 01.1 +1.7**
OJC pmax pmax
comp=Z,19nm,1.2s
MORC Moravsky Berou 40.10 269 P **P** **12 58 07.0 +2.2**
MORC Moravsky Berou 40.10 269 *e*P **P** **12 58 09.0 +4.2**
MORC Moravsky Berou 40.10 269 P **P** **12 58 07.0 +2.2**
MORC pmax pmax
comp=Z,10.0nm,1.2s
FFC Flin Flon 40.12 21 *i* P **P** **12 58 04.3 -0.5**
STHS Stebnicka Huta 40.13 266 *e*P **P** **12 58 09.1 +4.1**
STHS Stebnicka Huta 40.13 266 *e*P **P** **12 58 09.1 +4.1**
SCHQ Schefferville 40.28 349 LR LR 13 14 03.9
comp=Z,58nm,19.2s,baz=120,slow=35
VRAC Vranov 40.65 270 LR LR 13 14 46.8
comp=Z,51nm,22.0s,baz=18,slow=36
VRAC Vranov 40.65 270 *e*P **P** **12 58 13.9 +4.7**
KRUC Moravsky 40.91 270 *e*P **P** **12 58 15.3 +3.9**
VYHS Vyhne 41.26 268 *e*P P 12 58 19.3 +5.0
VYHS Vyhne 41.26 268 *e*P P 12 58 19.3 +5.0
GERES GERESS Array B 41.36 273 P **P** **12 58 11.8 -3.4**
comp=Z,0.2nm,0.3s,baz=23,slow=7.8,SNR=1.2
GERES LR LR 13 16 45.9
comp=Z,37nm,18.1s,baz=298,slow=38
comp=Z,0.2nm,0.3s
BBB Bella Bella 41.44 45 LR LR 13 16 02.7
comp=Z,67nm,21.8s,baz=276,slow=37
WMQ Urumqi 41.49 195 *e*P **P** **12 58 18.1 +1.8**
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ LR LR
comp=Z,250nm,22.7s
MODS Modra-Piesok 41.52 269 *e*P P 12 58 22.1 +5.7
MODS Modra-Piesok 41.52 269 *e*P P 12 58 22.1 +5.7
BURAR Bucovina Array 41.58 261 P **P** **12 58 18.2 +1.2**
USRK Ussuriysk Ar. 41.74 146 P **P** **12 58 18.6 +0.4**
comp=Z,1.3nm,0.9s,baz=339,slow=7.7,SNR=2.6
comp=Z,1.3nm,0.9s
ASAJ Asahikawa 42.42 135 LR LR 13 16 45.8
comp=Z,53nm,18.7s,baz=0.5,slow=37
AAK Ala-Archa 43.10 209 P **P** **12 58 27.4 -2.1**
comp=Z,1.4nm,0.8s,baz=21,slow=9.3,SNR=2.5
AAK LR LR 13 19 18.8
comp=Z,316nm,18.8s,baz=355,slow=40
comp=Z,1.4nm,0.8s
AAK Ala-Archa 43.10 209 P **P** **12 58 31.1 +1.5**
AAK IAmb IAmb 12 58 38.5
comp=Z,14nm,1.4s
AAK Ala-Archa 43.10 209 *ce*P **P** **12 58 30.1 +0.6**
AAK pmax pmax
comp=Z,7.0nm,1.3s
DAVOX Davos/Dischmat 43.74 276 LR LR 13 17 22.7
comp=Z,24nm,19.6s,baz=86,slow=37
KIV Kislovodsk 43.76 243 P **P** **12 58 35.7 +1.0**
KIV Kislovodsk 43.76 243 *e*P **P** **12 58 37.0 +2.3**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,39nm,16.0s
FUORN Ofenpass-Fuorn 43.87 276 P **P** **12 58 38.0 +2.2**
FUORN IAmb IAmb 12 58 41.9
comp=Z,9.7nm,1.1s
KBZ Khabaz 43.97 242 P **P** **12 58 33.7 -2.6**
comp=Z,1.8nm,0.7s,baz=312,slow=22,SNR=2.7
KBZ LR LR 13 19 12.9
comp=Z,64nm,21.1s,baz=12,slow=40
comp=Z,1.8nm,0.7s
KBZ Khabaz 43.97 242⇑ *e*P **P** **12 58 34.9 -1.4**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
HHC Hu-ho-hao-te 44.41 169 *e*P **P** **12 58 40.8 +0.8**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,160nm,3.8s
ULM Lac du Bonnet 44.77 15 LR LR 13 17 57.2
comp=Z,81nm,18.4s,baz=42,slow=37
ZEI Tsey 44.83 241 *e*P **P** **12 58 47.8 +4.4**
ZEI pmax pmax
comp=Z,7.0nm,1.5s
GTA Gaotai 45.75 181 *e*P P 12 58 59.2 +8.5
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=N,230nm,18.5s
GTA LR LR
comp=E,150nm,18.5s
GTA LR LR
comp=Z,120nm,18.5s
B08A Colville Reser 45.76 37 P **P** **12 58 51.2 +0.6**
NEW Newport 45.97 35 LR LR 13 18 43.9
comp=Z,92nm,18.1s,baz=351,slow=37
NEW Newport 45.97 35 P **P** **12 58 54.1 +1.9**
NEW Newport 45.97 35 P **P** **12 58 54.1 +1.9**
NEW pmax pmax
comp=Z,23nm,1.3s
KSH Kashi 46.15 207 P P 12 59 00.7 +6.8
GAR Garm 46.92 213 P **P** **12 59 01.1 +1.2**
GNI Garni 47.39 240 LR LR 13 22 44.0
comp=Z,33nm,18.0s,baz=358,slow=41
LAO LASA Array 48.02 25 P **P** **12 59 10.5 +2.2**
KSRS Korea Array 48.29 151 LR LR 13 21 29.8
comp=Z,35nm,18.2s,baz=235,slow=38
GEYT Alibeck 48.66 226 P **P** **12 59 09.4 -3.8**
comp=Z,1.4nm,0.6s,baz=331,slow=8.7,SNR=1.7
GEYT LR LR 13 22 23.2
comp=Z,92nm,18.6s,baz=21,slow=40
comp=Z,1.4nm,0.6s
BR131 Keskin Array S 48.69 251⇓ *e*P **P** **12 59 15.9 +2.3**
BRTR Keskin Array B 48.69 251 P **P** **12 59 09.7 -3.9**
comp=Z,0.5nm,0.8s,baz=352,slow=5.8,SNR=6.0
BRTR LR LR 13 26 17.2
comp=Z,52nm,18.1s,baz=10.0,slow=44
comp=Z,0.5nm,0.8s
BRTR Keskin Array B 48.69 251 P **P** **12 59 16.2 +2.6**
BRTR Keskin Array B 48.69 251 P **P** **12 59 16.2 +2.6**
G08A Pilot Rock 48.84 37 P **P** **12 59 16.2 +1.6**
G08A IAmb IAmb 12 59 25.7
comp=Z,8.4nm,1.0s
BOZ Bozeman (W) 48.89 30 P **P** **12 59 16.6 +1.6**
BOZ IAmb IAmb 12 59 25.0
comp=Z,4.8nm,0.9s
BOZ Bozeman (W) 48.89 30 P **P** **12 59 16.6 +1.6**
BOZ pmax pmax
comp=Z,5.0nm,1.0s
LZH Lanzhou 49.08 177 *e*P P 12 59 08.7 -7.9
LZH sP pP 12 59 14.5 -4.0
LZH pmax pmax
comp=Z,13nm,0.9s
BMO Blue Mountains 49.36 36 P **P** **12 59 20.1 +1.5**
BMO IAmb IAmb 12 59 30.6
comp=Z,6.8nm,1.3s
BMO Blue Mountains 49.36 36 P **P** **12 59 20.2 +1.5**
BMO pmax pmax
comp=Z,7.0nm,1.3s
MJAR Matsushiro Arr 49.70 140 P **P** **12 59 21.6 +0.4**
comp=Z,2.0nm,0.9s,baz=349,slow=6.8,SNR=4.7
MJAR LR LR 13 20 50.5
comp=Z,54nm,18.1s,baz=210,slow=37
comp=Z,2.0nm,0.9s
YHH Holmes Hill 49.73 30 P **P** **12 59 23.0 +1.3**
H17A Grant Village 50.13 29 P **P** **12 59 27.1 +2.3**
H17A IAmb IAmb 12 59 37.1
comp=Z,6.7nm,1.1s
SADO Sadowa 50.45 0 LR LR 13 20 40.9
comp=Z,74nm,18.7s,baz=28,slow=36
IMW Indian Meadow 50.61 30 P **P** **12 59 30.2 +1.8**
RSSD Black Hills 50.66 23 P **P** **12 59 29.3 +0.7**
RSSD IAmb IAmb 12 59 30.8
comp=Z,9.6nm,1.0s
RSSD Black Hills 50.66 23 P **P** **12 59 29.3 +0.7**
RSSD pmax pmax
comp=Z,10.0nm,1.0s
MOOW Moose Ponds 50.77 30 P **P** **12 59 31.8 +2.3**
J08A Circle Bar Ran 50.79 37 P **P** **12 59 32.0 +2.5**
FXWY Fox Creek 50.87 30 P **P** **12 59 31.9 +1.7**
FXWY IAmb IAmb 12 59 41.3
comp=Z,8.9nm,1.4s
WVOR Wild Horse Val 51.70 37 P **P** **12 59 38.0 +1.6**
WVOR Wild Horse Val 51.70 37 P **P** **12 59 38.0 +1.6**
WVOR pmax pmax
comp=Z,8.0nm,1.5s
PDAR Pinedale Array 51.80 28 P **P** **12 59 37.8 +0.6**
comp=Z,0.4nm,0.8s,baz=354,slow=3.2,SNR=3.0
PDAR LR LR 13 22 22.3
comp=Z,109nm,19.0s,baz=2.0,slow=37
comp=Z,0.4nm,0.8s
ESDC Sonseca Array 51.98 289 P **P** **12 59 35.7 -2.7**
comp=Z,0.7nm,0.9s,baz=354,slow=12,SNR=3.0
comp=Z,0.7nm,0.9s
MOD Modoc Plateau 52.14 39 P **P** **12 59 41.1 +1.4**
MOD IAmb IAmb 12 59 51.6
comp=Z,10nm,1.1s
YBH Yreka Blue Hor 52.18 41 LR LR 13 23 14.6
comp=Z,84nm,20.0s,baz=340,slow=38
HWUT Hardware Ranch 52.87 30 P **P** **12 59 46.4 +1.2**
HWUT IAmb IAmb 12 59 55.7
comp=Z,13nm,1.2s
NJ2 Nanjing 53.35 161 *e*P P 12 59 59.4 +11
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ELK Elko 53.56 34 LR LR 13 23 06.4
comp=Z,85nm,20.1s,baz=343,slow=36
BEKR Beckworth 54.17 39 P **P** **12 59 55.7 +1.1**
BEKR IAmb IAmb 13 00 05.9
comp=Z,5.9nm,1.1s
KEST Kesra 54.76 275 P **P** **12 59 55.0 -3.8**
comp=Z,3.7nm,0.6s,baz=42,slow=13,SNR=2.4
comp=Z,3.7nm,0.6s
PNTR Pine Nut 54.98 38 P **P** **13 00 02.9 +2.3**
PNTR IAmb IAmb 13 00 18.2
comp=Z,7.8nm,1.0s
SPR3 Spring Creek 3 55.34 33 P **P** **13 00 06.1 +2.7**
SPR3 IAmb IAmb 13 00 15.5
comp=Z,7.7nm,1.1s
RYN Ryan 55.50 37 P **P** **13 00 06.4 +2.1**
RYN IAmb IAmb 13 00 15.9
comp=Z,13nm,1.3s
Q16A Castle Valley 55.57 30 P **P** **13 00 06.1 +1.2**
Q16A IAmb IAmb 13 00 16.6
comp=Z,16nm,1.4s
NVAR Mina Array Bea 55.71 37 P **P** **13 00 07.3 +1.4**
comp=Z,0.5nm,0.7s,baz=343,slow=4.6,SNR=4.9
comp=Z,0.5nm,0.7s
S22A 4UR Ranch, Cre 56.92 26 P **P** **13 00 16.6 +2.0**
S22A IAmb IAmb 13 00 25.9
comp=Z,8.4nm,1.3s
GWY Greenwater Val 58.03 36 P **P** **13 00 23.6 +1.4**
GWY IAmb IAmb 13 00 24.8
comp=Z,13nm,1.3s
EIL Elat 58.57 249 LR LR 13 30 27.1
comp=Z,56nm,18.2s,baz=30,slow=41
PZH PanZhiHua 58.62 179 P P 13 00 30.0 +3.5
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,6.5s
TKL Tuckaleechee C 59.53 5 LR LR 13 25 11.3
comp=Z,125nm,20.8s,baz=360,slow=35
ANMO Albuquerque 59.72 26 LR LR 13 26 36.6
comp=Z,122nm,20.2s,baz=354,slow=36
ANMO Albuquerque 59.72 26⇓ *i* P **P** **13 00 34.5 +0.4**
ANMO pmax pmax
comp=Z,6.0nm,1.4s
PFO Pinyon Flats O 60.60 36 LR LR 13 28 10.9
comp=Z,112nm,18.2s,baz=316,slow=37
TX31 Lajitas Ar. Si 65.42 24 P **P** **13 01 11.9 -0.1**
TX32 Lajitas Array 65.42 24 P **P** **13 01 12.0 -0.1**
TX32 IAmb IAmb 13 01 12.5
comp=Z,8.6nm,1.5s
TXAR Lajitas Array 65.42 24 P **P** **13 01 11.9 -0.2**
comp=Z,1.3nm,0.7s,baz=7.8,slow=3.4,SNR=12
TXAR LR LR 13 30 17.4
comp=Z,76nm,19.4s,baz=350,slow=36
comp=Z,1.3nm,0.7s
TXAR Lajitas Array 65.42 24 P **P** **13 01 12.4 +0.4**
TXAR Lajitas Array 65.42 24 P **P** **13 01 12.4 +0.4**
CMAR Chiang Mai Arr 66.63 182 P **P** **13 01 18.3 -1.6**
comp=Z,1.1nm,0.7s,baz=353,slow=7.6,SNR=7.0
CMAR LR LR 13 32 08.4
comp=Z,49nm,18.5s,baz=330,slow=38
comp=Z,1.1nm,0.7s
CMAR Chiang Mai Arr 66.63 182 *i* P **P** **13 01 20.0 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
LPIG La Paz 70.36 30 LR LR 13 34 44.2
comp=Z,53nm,18.8s,baz=339,slow=38
ATD Arta Tunnel 75.93 239 LR LR 13 41 07.5
comp=Z,44nm,19.1s,baz=48,slow=40
SJG San Juan 76.91 347 LR LR 13 38 36.7
comp=Z,19nm,18.3s,baz=62,slow=38
TORD Torodi Ar. Bea 77.80 280 P **P** **13 02 23.6 -3.0**
comp=Z,1.2nm,0.8s,baz=359,slow=6.5,SNR=6.7
comp=Z,1.2nm,0.8s
CMIG Matias Romero 77.86 16 LR LR 13 40 05.7
comp=Z,33nm,19.5s,baz=12,slow=38
PALK Pallekele 78.07 201 LR LR 13 39 30.2
comp=Z,104nm,18.4s,baz=156,slow=38
ROSC El Rosal 90.20 355 LR LR 13 44 55.0
comp=Z,31nm,20.1s,baz=81,slow=36
MSEY Mahe Island 91.12 225 *i* P **P** **13 03 35.7 +1.6**

MAN 07 13:02:10.5, 12.87N×120.96E, h6km, mb3.9, ML2.7, MS2.3, Mindoro

IDC 07 13:19:21.6±57.0, 17.18S×178.71W, h340km±67km, mb3.3/3, mbtmp4.0/3, Error ellipse: s-maj=908.0km s-min=129.3km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.14**	**259**	P		13 20 21.6	0.0
	2.9nm,0.7s,baz=165,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**38.73**	**240**	P	P	13 26 14.3	0.0
	2.1nm,0.9s,baz=100,slow=12,SNR=2.3						
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**44.48**	**259**	P	P	13 27 00.6	-0.1
	0.5nm,0.3s,baz=94,slow=7.4,SNR=35						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**44.71**	**254**	P	P	13 27 02.2	-0.3
	2.2nm,0.5s,baz=89,slow=8.4,SNR=45						
	2.2nm,0.5s						

IDC 07 13:21:33.1±3.4, 30.79N×140.58E, h0km, mb3.5/3, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=141.5km s-min=26.3km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.07**	**342**	Pn	Pn	13 23 03.7	-0.3
	0.1nm,0.3s,baz=163,slow=11,SNR=4.1						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.09**	**307**	P	P	13 30 06.6	-0.1
	0.7nm,1.0s,baz=95,slow=6.1,SNR=3.0						
	0.7nm,1.0s						
WRA	**Warramunga Arr**	**50.80**	**188**	P	P	13 30 35.0	-0.3
	0.2nm,0.4s,baz=6.0,slow=7.6,SNR=14						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**54.52**	**188**	P	P	13 31 03.0	+0.1
	0.3nm,0.5s,baz=9.5,slow=7.0,SNR=8.6						
	0.3nm,0.5s						

*IDC **07** 13:39:32.5±0.8, 13.87N×144.53E, h154km±7km, mb3.5/6, mbtmp3.9/6, Error ellipse: s-maj=43.3km s-min=19.4km az=96.0*

*NEIC **07** 13:39:33.0±1.0, 13.89N±0.07×144.7E±0.2, h159km±5km, mb4.5/13, Error ellipse: s-maj=35.0km s-min=7.7km az=100.0*

ISC 07 13:39:32.4±0.7, 13.9N±0.1×144.3E±0.2, h150km, n22, σ0.89/24, mb4.3/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.57**	**116**	P	**Pn**	**13 39 55.3**	**+1.1**
	468nm,0.4s,baz=75,slow=1.1,SNR=52						
GUMO				S	**Sn**	**13 40 11.2**	**+0.6**
	246nm,0.4s,baz=309,slow=23,SNR=4.9						
GUMO	**Guam**	**0.57**	**116**	Pn	**Pn**	**13 39 54.9**	**+0.8**
GUMO				Sn	**Sn**	**13 40 11.2**	**+0.6**
JNU	**Nakatsue**	**22.77**	**330**	P		13 44 23.7	+1.6
JNU				IAmb	IAmb	13 44 35.2	
	comp=Z,21nm,1.3s						
COEN	**Coen**	**27.65**	**182**	P	**P**	**13 45 06.8**	**+0.5**
COEN				IAmb	IAmb	13 45 24.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,14nm,1.4s						
MTN	**Manton Dam**	**29.57**	**207**	P	**P**	**13 45 24.2**	**+0.9**
MTN				IAmb	IAmb	13 45 31.1	
	comp=Z,21nm,1.2s						
WB0	**Warramunga Arr**	**34.81**	**197**	P	**P**	**13 46 08.7**	**-0.3**
WB0				IAmb	IAmb	13 46 09.9	
	comp=Z,3.4nm,0.6s						
WR0	**Warramunga Arr**	**34.95**	**196**	P	**P**	**13 46 10.3**	**+0.1**
WRAB	**Tennant Creek**	**34.98**	**197**	P	**P**	**13 46 10.4**	**0.0**
WRAB				IAmb	IAmb	13 46 11.6	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**34.99**	**197**	P	**P**	**13 46 10.9**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=23,slow=9.7,SNR=31						
	comp=Z,2.6nm,0.8s						
AS31	**Alice Springs**	**38.65**	**195**	P	**P**	**13 46 41.5**	**-0.1**
ASAR	**Alice Springs**	**38.65**	**195**	P	**P**	**13 46 41.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=16,slow=13,SNR=22						
	comp=Z,0.5nm,0.5s						
PSA00	**Pilbara Seismi**	**42.63**	**215**	P	**P**	**13 47 12.9**	**-1.2**
STKA	**Stephens Creek**	**45.54**	**183**	P	**P**	**13 47 36.9**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=23,slow=5.4,SNR=4.1						
	comp=Z,2.8nm,0.9s						
STKA	**Stephens Creek**	**45.54**	**183**	P	**P**	**13 47 36.7**	**-0.5**
FORT	**Forrest**	**47.05**	**199**	P	**P**	**13 47 49.5**	**+0.6**
BBOO	**Buckleboo**	**47.06**	**190**	P	**P**	**13 47 49.3**	**+0.2**
MORW	**Morawa**	**50.67**	**212**	P	**P**	**13 48 16.2**	**-0.5**
MORW				IAmb	IAmb	13 48 46.5	
	comp=Z,26nm,1.5s						
TOO	**Toolangi**	**51.15**	**179**	P	**P**	**13 48 19.6**	**-0.5**
TOO				IAmb	IAmb	13 48 25.8	
	comp=Z,21nm,1.3s						
MKAR	**Makanchi Array**	**60.95**	**316**	P	**P**	**13 49 30.9**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=94,slow=8.5,SNR=3.3						
	comp=Z,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**87.16**	**51**	P	**P**	**13 52 01.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=271,slow=5.1,SNR=2.5						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**90.72**	**335**	P	**P**	**13 52 15.9**	**-2.1**
	comp=Z,3.9nm,1.0s,baz=72,slow=10,SNR=4.6						
	comp=Z,3.9nm,1.0s						
LPAZ	**La Paz**	**148.57**	**99**	PKPbc	**PKPbc**	**13 59 02.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=314,slow=2.0,SNR=2.4						

*NEIC **07** 13:43:17.4±0.5, 36°.47N±0°.02×98°.70W±0°.02, h5km±2km, Error ellipse: s-maj=4.1km s-min=3.0km az=317.0*
*TUL **07** 13:43:17.4±0.8, 36°.47N±0°.02×98°.75W±0°.03, h8km±7km, ML3.3, mb_Lg3.2/75(NEIC), Error ellipse: s-maj=3.8km s-min=2.5km az=120.0*
*ANF **07** 13:43:18.0±1.2, 36°.46N×98°.75W, h3km±10km, ML3.9/10, Error ellipse: s-maj=7.1km s-min=4.9km az=60.0*
ISC 07 13:43:17.4±1.2**, 36°.46N**±0°.03×**98°.70W**±0°.02**, h2**km±12km**, n95, σ0^{s}55**/72**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.26**	**253**	Pg	**Pg**	**13 43 22.2**	**-0.1**
U32A					**Sg**	**13 43 25.9**	**+0.3**
U32A	**Winter Ranch,**	**0.26**	**253**	P	**Pg**	**13 43 22.1**	**-0.2**
	baz=65						
U32A				S	**Sg**	**13 43 26.0**	**+0.3**
	baz=65						
NOKA	**Waynoka**	**0.26**	**314**	Pg	**Pg**	**13 43 22.3**	**-0.1**
NOKA				Sg	**Sg**	**13 43 25.8**	**0.0**
CROK	**Carrier**	**0.58**	**85**	Pg	**Pg**	**13 43 29.2**	**+0.7**
ELIS	**Ellis County**	**0.70**	**236**	Pg	**Pg**	**13 43 30.8**	**0.0**
KAN14	**Manchester OK**	**0.78**	**50**		**Pg**	**13 43 32.4**	**+0.1**
GC02	**Grant County #**	**0.78**	**59**	Pg	**Pg**	**13 43 32.5**	**+0.1**
CSTR	**Hydro, Custer**	**0.81**	**179**	Pg	**Pg**	**13 43 33.0**	**+0.2**
KAN17	**Caldwell West**	**0.95**	**52**	Pg	**Pg**	**13 43 35.7**	**0.0**
KAN08	**Anthony NE Sta**	**0.97**	**37**	Pg	**Pg**	**13 43 35.7**	**-0.2**
KAN12	**Harper NE Stat**	**1.01**	**34**	Pg	**Pg**	**13 43 35.3**	**-1.5**
KAN01	**Argonia South**	**1.03**	**47**	Pg	**Pg**	**13 43 37.1**	**0.0**
KAN06	**Argonia West S**	**1.04**	**40**	Pg	**Pg**	**13 43 37.0**	**-0.3**
KAN09	**Caldwell North**	**1.10**	**52**	Pg	**Pg**	**13 43 38.3**	**-0.3**
OK049	**E0420 Rd and N**	**1.13**	**92**		**Pg**	**13 43 38.7**	**-0.2**
KAN13	**South Haven SW**	**1.13**	**60**	Pg	**Pg**	**13 43 38.8**	**-0.2**
KS21	**Milan North St**	**1.17**	**45**	Pg	**Pg**	**13 43 39.6**	**-0.3**
BCOK	**Bluff Creek, N**	**1.19**	**132**		**Pg**	**13 43 39.9**	**-0.3**
KS20	**Mayfield South**	**1.20**	**50**		**Pg**	**13 43 40.0**	**-0.5**
OK029	**Liberty Lake**	**1.20**	**123**	Pn	**Pg**	**13 43 40.0**	**-0.5**
BLOK	**Blackwell**	**1.23**	**75**		**Pg**	**13 43 40.6**	**-0.4**
OK050	**Pawnee Station**	**1.39**	**92**		**Pn**	**13 43 43.3**	**-0.5**
OK025	**Westminster Rd**	**1.41**	**128**		**Pn**	**13 43 43.6**	**-0.4**
OK048	**Pawnee Station**	**1.42**	**91**		**Pn**	**13 43 43.7**	**-0.5**
OK045	**Pawnee Station**	**1.43**	**90**		**Pn**	**13 43 44.0**	**-0.4**
OK046	**Pawnee Station**	**1.45**	**92**		**Pn**	**13 43 44.3**	**-0.3**
OK033	**Mehan**	**1.48**	**106**		**Pn**	**13 43 44.7**	**-0.4**
OK051	**E0350 and S346**	**1.50**	**88**		**Pn**	**13 43 45.2**	**-0.2**
OK044	**Pawnee Station**	**1.54**	**92**		**Pn**	**13 43 45.6**	**-0.2**
OK031	**S. Brethren Rd**	**1.59**	**108**		**Pn**	**13 43 46.3**	**-0.2**
FNO	**Franklin**	**1.59**	**138**		**Pn**	**13 43 46.4**	**-0.3**
QUOK	**Quay**	**1.63**	**99**		**Pn**	**13 43 46.8**	**-0.4**
OK034	**N. Norfolk Rd.**	**1.67**	**105**		**Pn**	**13 43 47.1**	**-0.5**
WMOK	**Wichita Mounta**	**1.71**	**182**	Pn	**Pn**	**13 43 47.3**	**-1.1**
WMOK	**Wichita Mounta**	**1.71**	**182**	P	**Pn**	**13 43 47.4**	**-0.9**
	baz=0.8						
T35A	**Sooner Cattle**	**1.82**	**75**	Pn	**Pn**	**13 43 48.8**	**-0.9**
T35B	**Sooner Cattle**	**1.82**	**75**	P	**Pn**	**13 43 50.7**	**+1.0**
	baz=257						
T35B				S	**Sb**	**13 44 15.2**	**+0.6**
	baz=257						
DEOK	**Depew**	**1.88**	**108**		**Pn**	**13 43 49.8**	**-0.8**
DEOK				IAmb_Lg		13 44 17.1	
	comp=Z,25nm,0.7s						
R32A	**Long Quarter,**	**1.96**	**360**		**Pn**	**13 43 51.8**	**+0.1**
R32A	**Long Quarter,**	**1.96**	**360**	P	**Pn**	**13 43 52.1**	**+0.3**
	baz=181						
R32A				S	**Sb**	**13 44 18.8**	**-0.1**
	baz=181						
X34A	**Smith Ranch, M**	**1.98**	**159**	IAmb_Lg		13 44 26.5	
	comp=Z,119nm,0.8s						
TUL1	**Leonard**	**2.41**	**102**	IAmb_Lg		13 44 35.4	
	comp=Z,73nm,0.8s						
TUL1	**Leonard**	**2.41**	**102**	P	**Pn**	**13 43 59.8**	**+1.9**
	baz=284						
TUL1				S	**Sb**	**13 44 32.3**	**+0.5**
	baz=284						
CBKS	**Cedar Bluff**	**2.50**	**341**	Pn	**Pn**	**13 43 59.8**	**+0.7**
CBKS				IAmb_Lg		13 44 37.7	
	comp=Z,117nm,0.8s						
CBKS	**Cedar Bluff**	**2.50**	**341**	S	**Sb**	**13 44 33.2**	**-0.9**
	baz=161						
LOOK	**Love County**	**2.75**	**153**		**Pn**	**13 44 02.4**	**-0.2**
LOOK				IAmb_Lg		13 44 52.3	
	comp=Z,78nm,0.8s						
AMTX	**Amarillo**	**2.89**	**238**		**Pn**	**13 44 04.9**	**+0.4**
RLO	**Rose Lookout**	**2.98**	**94**	IAmb_Lg		13 44 51.8	
	comp=Z,30nm,0.7s						
KSU1	**Kansas State U**	**3.12**	**31**	P	**Pn**	**13 44 08.5**	**+0.9**
	baz=213						
KSU1				S	**Sn**	**13 44 45.4**	**0.0**
	baz=213						
X37A	**Clayton**	**3.29**	**123**	IAmb_Lg		13 45 07.5	
	comp=Z,66nm,0.7s						
Z35A	**Perchaven, San**	**3.34**	**159**	Pn	**Pn**	**13 44 10.9**	**+0.3**
Z35A	**Perchaven, San**	**3.34**	**159**	P	**Pn**	**13 44 11.2**	**+0.6**
	baz=339						
U38A	**Gravette**	**3.48**	**89**		**Pn**	**13 44 12.5**	**-0.1**
ABTX	**Abilene, Hawle**	**3.90**	**192**	Pn	**Pn**	**13 44 18.1**	**-0.3**
ABTX	**Abilene, Hawle**	**3.90**	**192**	P	**Pn**	**13 44 18.1**	**-0.3**
	baz=11						
KSCO	**Kaye Shedlock'**	**4.03**	**311**	Pn	**Pn**	**13 44 20.1**	**-0.1**
KSCO				IAmb_Lg		13 45 32.6	
	comp=Z,51nm,0.8s						
MSTX	**Muleshoe**	**4.16**	**235**	IAmb_Lg		13 45 37.0	
	comp=Z,61nm,0.7s						
N33A	**J Bar K, Exete**	**4.39**	**12**	Pn	**Pn**	**13 44 24.1**	**-1.0**
N33A				IAmb_Lg		13 45 44.4	
	comp=Z,53nm,0.9s						
Z38A	**Mt. Pleasant**	**4.41**	**135**	IAmb_Lg		13 45 39.6	
	comp=Z,38nm,0.8s						
MIAR	**Mount Ida**	**4.59**	**113**	IAmb_Lg		13 45 55.1	
	comp=Z,36nm,0.7s						
T25A	**Trinidad**	**4.63**	**280**		**Pn**	**13 44 28.3**	**-0.4**
T25A				IAmb_Lg		13 45 51.0	
	comp=Z,63nm,1.1s						
BGNE	**Belgrade**	**4.96**	**5**	Pn	**Pn**	**13 44 32.6**	**-0.4**
BGNE				IAmb_Lg		13 45 57.8	
	comp=Z,38nm,0.8s						
BGNE	**Belgrade**	**4.96**	**5**	P	**Pn**	**13 44 32.6**	**-0.4**
	baz=186						
N35A	**Tabor**	**5.01**	**28**	Pn	**Pn**	**13 44 33.5**	**-0.1**
237A	**Washetta, Mont**	**5.05**	**151**	Pn	**Pn**	**13 44 33.4**	**-0.7**
237A				IAmb_Lg		13 46 04.1	
	comp=Z,32nm,0.8s						
P38A	**Dawn**	**5.16**	**51**	IAmb_Lg		13 46 14.0	
	comp=Z,31nm,0.9s						
OGNE	**Ogallala**	**5.19**	**331**	Pn	**Pn**	**13 44 36.7**	**+0.6**
OGNE				IAmb_Lg		13 46 12.2	
	comp=Z,61nm,0.8s						
MGMO	**Mountain Grove**	**5.21**	**80**	IAmb_Lg		13 46 04.5	
	comp=Z,31nm,0.8s						
WHAR	**Wooly Hollow**	**5.33**	**101**	IAmb_Lg		13 46 12.3	
	comp=Z,35nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.35**	**94**	IAmb_Lg		13 46 08.4	
	comp=Z,30nm,0.8s						
WLAR	**White Oak Lake**	**5.35**	**119**	IAmb_Lg		13 46 21.0	
	comp=Z,30nm,0.8s						
R40A	**Maddies Statio**	**5.44**	**68**	Pn	**Pn**	**13 44 39.4**	**-0.1**
R40A				IAmb_Lg		13 46 13.3	
	comp=Z,31nm,0.8s						
SDCO	**Great Sand Dun**	**5.59**	**285**		**Pn**	**13 44 42.2**	**+0.4**
SDCO	**Great Sand Dun**	**5.59**	**285**	P	**Pn**	**13 44 42.3**	**+0.4**
	baz=101						
Q24A	**Divide**	**5.69**	**298**	IAmb_Lg		13 46 23.1	
	comp=Z,28nm,0.8s						
435B	**Jarrell**	**5.73**	**170**	IAmb_Lg		13 46 26.9	
	comp=Z,32nm,0.7s						
NATX	**Nacogdoches**	**5.76**	**143**	IAmb_Lg		13 46 36.5	
	comp=Z,38nm,0.8s						
L34A	**Svendsen Farm,**	**5.79**	**17**	Pn	**Pn**	**13 44 44.2**	**-0.1**
JCT	**Junction City**	**6.03**	**189**	Pn	**Pn**	**13 44 47.5**	**-0.2**
JCT				IAmb_Lg		13 46 38.1	
	comp=Z,32nm,0.8s						
BRIGG	**Briggsdale**	**6.03**	**315**	IAmb_Lg		13 46 28.7	
	comp=Z,43nm,0.9s						
N38A	**Joes South For**	**6.09**	**43**	Pn	**Pn**	**13 44 48.0**	**-0.4**
CCM	**Cathedral Cave**	**6.16**	**73**	IAmb_Lg		13 46 37.6	
	comp=Z,51nm,0.9s						
K31A	**O'Neill**	**6.16**	**360**	IAmb_Lg		13 46 41.3	
	comp=Z,44nm,0.7s						
PBMO	**Poplar Bluff**	**6.66**	**85**	IAmb_Lg		13 47 04.6	
	comp=Z,47nm,1.0s						
SCIA	**State Center**	**6.91**	**36**	IAmb_Lg		13 47 04.1	
	comp=Z,38nm,0.7s						
GNAR	**Gosnell**	**7.04**	**91**	IAmb_Lg		13 46 58.5	
	comp=Z,38nm,0.7s						
SLM	**Saint Louis**	**7.07**	**70**	IAmb_Lg		13 47 01.9	
	comp=Z,42nm,0.9s						
PHWY	**Pilot Hill**	**7.16**	**315**	IAmb_Lg		13 47 18.3	
	comp=Z,28nm,0.9s						
CGM3	**Cape Girardeau**	**7.29**	**81**	IAmb_Lg		13 47 15.5	
	comp=Z,22nm,0.9s						
S44A	**Carbondale**	**7.65**	**78**	IAmb_Lg		13 47 22.6	
	comp=Z,37nm,0.8s						
W45A	**Hickory Valley**	**7.84**	**97**	IAmb_Lg		13 47 41.0	
	comp=Z,27nm,0.8s						
K22A	**Casper**	**8.65**	**318**	IAmb_Lg		13 47 56.8	
	comp=Z,23nm,0.8s						
RSSD	**Black Hills**	**8.67**	**334**	IAmb_Lg		13 47 57.9	
	comp=Z,19nm,0.9s						
JFWS	**Jewell Farm**	**9.16**	**43**	IAmb_Lg		13 48 33.7	
	comp=Z,21nm,0.7s						
I40A	**Norwalk**	**9.66**	**37**	IAmb_Lg		13 48 33.8	
	comp=Z,14nm,0.8s						

IDC 07 13:55:58.4±8.1**, 7°.45N**×**94°.33E, h0**km**, mb3.1**/3**, mbtmp3.1**/3**, Error ellipse: s-maj=423.7km s-min=32.1km az=58.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.44**	**236**	T	T	14 28 45.6	
	baz=54						
H08S2	**Diego Garcia H**	**26.44**	**236**	T	T	14 28 45.6	
	baz=54						
H08S1	**Diego Carcia H**	**26.46**	**236**	T	T	14 28 45.6	
	baz=54						
MKAR	**Makanchi Array**	**40.54**	**347**	P	P	14 03 39.3	-0.1
	0.3nm,0.7s,baz=162,slow=8.3,SNR=2.2						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**47.86**	**125**	P	P	14 04 38.2	-0.3
	0.3nm,0.8s,baz=304,slow=8.5,SNR=5.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**49.50**	**130**	P	P	14 04 51.1	+0.1
	baz=305,slow=7.8,SNR=1.1						

MAN 07 13:58:27.2, 9°.51N×**126°.47E, h21**km**, mb4.1, ML2.9, MS2.5, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.05**	**239**	⇓eP	Pb	13 59 09.0	+5.3
CGP				eS	Sb	13 59 32.2	+3.4

IDC 07 14:09:54.4±2.0**, 14°.73S**×**173°.82W, h0**km**, mb3.2**/2**, mbtmp3.4**/3**, ML4.1**/1**, Error ellipse: s-maj=171.9km s-min=26.5km az=159.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**68**	Pn	Pn	14 10 31.4	-0.1
	60nm,0.3s,baz=196,slow=2.2,SNR=279						
AFI				Sn	Sn	14 10 53.3	-5.6
	102nm,0.3s,baz=39,slow=22,SNR=26						
	124nm,0.3s						
WRA	**Warramunga Arr**	**49.60**	**256**	P	P	14 18 47.5	-0.4
	0.2nm,1.0s,baz=93,slow=7.4,SNR=1.4						
	0.2nm,1.0s						
ASAR	**Alice Springs**	**49.93**	**251**	P	P	14 18 50.4	0.0
	0.4nm,0.7s,baz=82,slow=8.4,SNR=8.7						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**145.38**	**321**	PKPbc	PKPbc	14 29 34.1	-0.6
	0.4nm,0.3s,baz=32,slow=3.6,SNR=1.9						

IDC 07 14:38:27.1±1.6**, 41°.35N**×**123°.79E, h0**km**, mb3.9**/2**, mbtmp3.5**/4**, ML2.2**/2**, MS3.4**/1**, Error ellipse: s-maj=25.8km s-min=18.5km az=46.0, Northeastern China**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**5.04**	**139**	Pn	Pn	14 39 44.5	+0.6
	0.2nm,0.3s,baz=321,slow=14,SNR=2.7						
KSRS				Pg	Pg	14 40 00.4	-3.2
	1.0nm,0.3s,baz=321,slow=18,SNR=14						
KSRS				Lg	Lg	14 41 04.5	
	1.8nm,0.3s,baz=318,slow=30,SNR=10						
	0.8nm,0.5s						
USRK	**Ussuriysk Ar.**	**6.67**	**62**	Pn	Pn	14 40 06.0	-0.3
	0.2nm,0.3s,baz=252,slow=13,SNR=5.4						
USRK				Pg	Pb	14 40 27.9	+4.0
	0.3nm,0.3s,baz=251,slow=16,SNR=4.6						
USRK				Lg	Lg	14 41 58.3	
	0.4nm,0.3s,baz=254,slow=23,SNR=7.9						
	0.7nm,0.4s						
KLR	**Kul'dur**	**9.67**	**33**	Lg	Lg	14 43 33.2	
	0.1nm,0.3s,baz=314,slow=24,SNR=2.8						
JHJ	**Hachijo jima 2**	**15.14**	**118**	LR	LR	14 48 03.6	
	comp=Z,176nm,21.9s,baz=226,slow=38						
TIXI	**Tiksi**	**30.48**	**3**	P	P	14 44 41.4	+0.2
	1.5nm,0.7s,baz=229,slow=20,SNR=6.2						
	1.5nm,0.7s						
AKASG	**Malin Array Be**	**61.98**	**314**	P	P	14 48 48.5	-0.2
	0.4nm,0.3s,baz=51,slow=6.7,SNR=4.9						
	0.4nm,0.3s						

TAP 07 14:38:27.8, 23°.10N×**121°.33E, h20**km±1km**, ML1.5, A, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.04**	**83**	P	Pg	14 38 31.9	+0.6
	baz=86						
CHKT				iS	Sg	14 38 34.0	+0.4
	baz=86						
ECS	**Chishang**	**0.10**	**270**	eP	Pg	14 38 32.7	+1.0
	baz=270						
ECS				eS	Sg	14 38 36.3	+1.9
	baz=270						
FULB	**Fuli**	**0.11**	**343**	iP	Pg	14 38 32.4	+0.5
	baz=343						
FULB				S	Sg	14 38 35.6	+1.0
	baz=343						
EDH	**Donghe**	**0.12**	**190**	eP	Pg	14 38 32.4	+0.4
	baz=190						
EDH				S	Sg	14 38 35.6	+0.9
	baz=190						
EYUL	**Yuli**	**0.25**	**358**	eP	Pn	14 38 35.4	-1.1
	baz=358						
EYUL				S	Sg	14 38 39.3	+1.5
	baz=358						
TWF1	**Yuli**	**0.26**	**354**	P	Pg	14 38 34.4	+0.5
	baz=355						
TWF1				S	Sg	14 38 38.5	+0.5
	baz=355						
LONT	**Longtian**	**0.26**	**224**	eP	Pb	14 38 33.8	0.0
	baz=224						
LONT				eS	Sg	14 38 39.5	+1.4
	baz=224						
YULB	**Yu-li**	**0.30**	**355**	P	Pb	14 38 34.9	+0.4
	baz=354						
YULB				S	Sg	14 38 39.2	+0.2
	baz=354						
ELDTW	**Lidau**	**0.30**	**288**	iP	Pb	14 38 34.7	+0.1
	baz=288						
ELDTW				eS	Sb	14 38 38.9	-0.3
	baz=288						
TWGBT	**Beinan**	**0.36**	**220**	eP	Pb	14 38 35.7	+0.1
	baz=219						
TWG	**Pinlang**	**0.36**	**221**	eP	Pb	14 38 36.0	+0.4
	baz=219						
TWG				eS	Sb	14 38 41.5	+0.7
	baz=219						
TTN	**Taitung**	**0.38**	**206**	eP	Pb	14 38 36.2	+0.3
	baz=205						
HGSD	**Ruisui**	**0.41**	**13**	eP	Pn	14 38 37.7	-0.8
	baz=12						
LDUT	**Ludao**	**0.44**	**163**	eP	Pb	14 38 37.1	+0.2
	baz=162						
LDUT				eS	Sn	14 38 44.8	-1.6
	baz=162						
STYH	**Taoyuan**	**0.51**	**279**	eP	Pb	14 38 38.1	-0.1
	baz=279						
ALS	**Alishan**	**0.63**	**311**	eP	Pn	14 38 41.5	-0.5
	baz=311						
TPUB	**Ta-pu**	**0.67**	**288**	eP	Pn	14 38 42.0	-0.3
	baz=287						
WTP	**Ta-pu**	**0.67**	**283**	eP	Pn	14 38 42.0	-0.3
	baz=282						
WTP				S	Sg	14 38 51.2	+1.0
	baz=282						
ESL	**Shilin**	**0.72**	**8**	eP	Pb	14 38 41.8	0.0
	baz=8.0						
CHN1	**Nanshi**	**0.74**	**277**	eP	Pn	14 38 43.4	+0.2
	baz=276						
MASBT	**Mashibuluo**	**0.80**	**233**	eP	Pb	14 38 43.1	0.0
	baz=233						

*IDC **07** 14:51:13.8±1.5, 5°.65S×150°.38E, h0km, mb3.1/2, mbtmp3.3/3, ML3.8/1, MS2.7/1, Error ellipse: s-maj=101.2km s-min=20.2km az=137.0*
*NEIC **07** 14:51:19.1±3.0, 5°.6S±0°.2×150°.4E±0°.2, h41km±22km, mb4.0/6, Error ellipse: s-maj=35.9km s-min=5.4km az=131.0*
ISC 07 14:51:22.2±1.0**, 5°.5S**±0°.2×**150°.7E**±0°.2**, h114**km**, n14, σ2^{s}01**/14**, mb3.7**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.82**	**49**	Pn	**Pn**	**14 51 50.9**	**-2.3**
	28nm,0.3s,baz=307,slow=1.2,SNR=17						
KRVT				Sn	**Sn**	**14 52 19.3**	**+2.5**
	41nm,0.3s,baz=78,slow=21,SNR=4.7						
	120nm,0.5s						
RABL	**Rabaul**	**2.00**	**49**	Pn	**Pn**	**14 51 52.8**	**-2.7**
CTAO	**Charters Tower**	**15.10**	**196**	Pn	**Pn**	**14 54 46.3**	**-3.4**
GUMO	**Guam**	**19.83**	**343**	LR	LR	15 03 49.9	
	comp=Z,21nm,19.0s,baz=328,slow=38						
WB0	**Warramunga Arr**	**21.23**	**227**		**P**	**14 55 59.9**	**+0.7**
WB0				IAmb	IAmb	14 56 37.5	
	comp=Z,2.7nm,1.0s						
WR0	**Warramunga Arr**	**21.25**	**226**		**P**	**14 56 00.0**	**+0.6**
WR0				IAmb	IAmb	14 56 28.2	
	comp=Z,8.0nm,1.5s						
WRAB	**Tennant Creek**	**21.37**	**226**		**P**	**14 56 00.8**	**+0.1**
WRAB				IAmb	IAmb	14 56 10.0	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**21.38**	**226**	P	**P**	**14 56 00.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=52,slow=10,SNR=5.9						
	comp=Z,0.4nm,0.7s						
ONTNC	**Ouen Toro**	**22.63**	**139**	P	**P**	**14 56 16.2**	**+2.5**
ONTNC				IAmb	IAmb	14 56 23.8	
	comp=Z,20nm,1.0s						
AS31	**Alice Springs**	**24.20**	**220**	P	**P**	**14 56 29.6**	**+1.3**
ASAR	**Alice Springs**	**24.20**	**220**	P	**P**	**14 56 29.6**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=57,slow=9.0,SNR=22						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**24.20**	**220**	P	**P**	**14 56 30.0**	**+1.6**
NWAO	**Narrogin (SRO)**	**41.37**	**224**	P	**P**	**14 58 57.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**148.47**	**286**	PKPbc	**PKPab**	**15 11 01.6**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=68,slow=2.1,SNR=2.4						

*VAO **07** 15:24:07.6±0.3, 23°.90S×66°.57W, h204km, mb4.5*
*IDC **07** 15:24:07.1±0.8, 23°.90S×66°.54W, h200km±7km, mb3.9/14, mbtmp4.5/21, MS2.4/1, Error ellipse: s-maj=11.9km s-min=9.5km az=54.0*
*NEIC **07** 15:24:07.5±1.5, 23°.99S±0°.07×66°.62W±0°.09, h209km±7km, mb4.7/219, Mwr4.6(GUC), Error ellipse: s-maj=11.9km s-min=9.4km az=70.0*
*GUC **07** 15:24:13.5±0.7, 23°.73S×67°.26W, h215km±6km, ML4.8*
ISC 07 15:24:06.2±0.6**, 23°.94S**±0°.04×**66°.60W**±0°.05**, h196**km±5km**, n492, σ0^{s}97**/495**, mb4.7**/112**, 16C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.75**	**304**		**Pn**	**15 24 45.1**	**+2.8**
AF01	**San Pedro de A**	**1.75**	**304**	⇑iP	**Pn**	**15 24 45.8**	**+3.5**
AF01				eS	**Sn**	**15 25 09.8**	**-0.5**
LVC	**Limon Verde**	**2.50**	**301**	P	**Pn**	**15 24 52.5**	**+2.2**
	726nm,0.3s,baz=112,slow=8.6,SNR=2159						
LVC				S	**Sn**	**15 25 26.1**	**+1.5**
	436nm,0.4s,baz=264,slow=20,SNR=12						
LVC				LR	LR	15 25 50.4	
	comp=Z,75nm,19.1s,baz=50,slow=41						
LVC	**Limon Verde**	**2.50**	**301**		**Pn**	**15 24 52.3**	**+2.0**
LVC	**Limon Verde**	**2.50**	**301**	⇑iP	**Pn**	**15 24 52.3**	**+2.0**
LVC				eS	**Sn**	**15 25 23.2**	**-1.4**
LVC	**Limon Verde**	**2.50**	**301**	eP	**Pn**	**15 24 52.3**	**+2.0**
PB15	**IPOC Station P**	**2.74**	**285**		**Pn**	**15 24 54.3**	**+1.5**
PB15	**IPOC Station P**	**2.74**	**285**	⇑iP	**Pn**	**15 24 54.5**	**+1.7**
PB15				eS	**Sn**	**15 25 25.9**	**-3.2**
GO02	**Mina Guanaco**	**2.99**	**245**		**Pn**	**15 24 56.9**	**+1.1**
GO02	**Mina Guanaco**	**2.99**	**245**	⇑eP	**Pn**	**15 24 57.0**	**+1.1**
GO02				eS	**Sn**	**15 25 34.7**	**+0.1**
PB06	**IPOC Station P**	**3.00**	**294**		**Pn**	**15 24 57.3**	**+1.5**
PB06	**IPOC Station P**	**3.00**	**294**	⇑iP	**Pn**	**15 24 57.4**	**+1.6**
PB06				eS	**Sn**	**15 25 32.0**	**-2.4**
PB06				IAML		15 25 36.0	
	comp=N,3μm,0.2s						
PB09	**IPOC Station P**	**3.24**	**311**		**Pn**	**15 25 00.5**	**+1.7**
PB09	**IPOC Station P**	**3.24**	**311**	⇑iP	**Pn**	**15 25 00.7**	**+2.0**
PB09				eS	**Sn**	**15 25 38.0**	**-1.8**
PB09				IAML		15 25 53.4	
	comp=E,498nm,0.5s						
PB03	**IPOC Station P**	**3.46**	**302**		**Pn**	**15 25 02.4**	**+1.0**
PB03	**IPOC Station P**	**3.46**	**302**	⇑iP	**Pn**	**15 25 02.5**	**+1.1**
PB03				eS	**Sn**	**15 25 39.3**	**-5.3**
PB03				IAML		15 25 45.4	
	comp=N,2μm,0.3s						
PB14	**IPOC Station P**	**3.54**	**258**		**Pn**	**15 25 02.8**	**+0.3**
PB14	**IPOC Station P**	**3.54**	**258**	⇑iP	**Pn**	**15 25 03.1**	**+0.6**
PB14				eS	**Sn**	**15 25 43.9**	**-2.6**
PB14				IAML		15 25 46.9	
	comp=E,2μm,0.2s						
PB04	**IPOC Station P**	**3.64**	**295**		**Pn**	**15 25 04.2**	**+0.7**
PB04	**IPOC Station P**	**3.64**	**295**	⇑iP	**Pn**	**15 25 04.4**	**+0.9**
PB10	**IPOC Station P**	**3.65**	**276**		**Pn**	**15 25 04.0**	**+0.5**
PB10	**IPOC Station P**	**3.65**	**276**	⇑iP	**Pn**	**15 25 04.2**	**+0.6**
AC02	**Maricunga**	**3.69**	**218**		**Pn**	**15 25 05.5**	**+1.1**
PB07	**IPOC Station P**	**3.75**	**305**		**Pn**	**15 25 05.4**	**+0.4**
PB07	**IPOC Station P**	**3.75**	**305**	⇑iP	**Pn**	**15 25 05.8**	**+0.9**
PB01	**IPOC Station P**	**3.93**	**317**		**Pn**	**15 25 07.8**	**+0.7**
PB01	**IPOC Station P**	**3.93**	**317**	⇑iP	**Pn**	**15 25 08.0**	**+0.8**
PB01				eS	**Sn**	**15 25 53.3**	**-1.6**
PB02	**IPOC Station P**	**4.01**	**310**		**Pn**	**15 25 08.6**	**+0.5**
PB02	**IPOC Station P**	**4.01**	**310**	⇑iP	**Pn**	**15 25 08.6**	**+0.5**
AC01	**Pan de Azucar**	**4.25**	**238**		**Pn**	**15 25 10.4**	**-0.5**
PB08	**IPOC Station P**	**4.46**	**327**	Pn	**Pn**	**15 25 15.5**	**+1.4**

PB08 IPOC Station P 4.46 327⇑iP Pn 15 25 15.8 +1.8
PATCX Punta Patache 4.52 313 Pn 15 25 14.1 -0.4
TA01 Diego Aracena 4.72 315 Pn Pn 15 25 16.4 -0.6
AC06 Mina Casimiro 4.81 224 Pn Pn 15 25 17.0 -1.1
GO01 Chusmiza 4.88 330 Pn 15 25 20.3 +0.7
GO01 Chusmiza 4.88 330⇑iP Pn 15 25 20.7 +1.1
GO03 Copiap 4.90 221 Pn 15 25 18.1 -1.2
TA02 Huaiquique 4.91 317 Pn 15 25 18.4 -0.9
PB11 IPOC Station P 5.03 325 Pn 15 25 20.8 -0.4
PB11 IPOC Station P 5.03 325⇑iP Pn 15 25 20.9 -0.2
AC04 Llanos de Chal 5.86 223 Pn Pn 15 25 30.3 -1.2
AC05 El Transito 5.89 213 Pn 15 25 31.3 -0.8
PB16 IPOC Station P 6.20 333 Pn 15 25 36.9 +0.2
LC0 Las Campanas 6.25 215 Pn 15 25 35.6 -1.3
PB12 IPOC Station P 6.34 326 Pn Pn 15 25 36.1 -1.8
AP01 Chacalluta 6.55 327 Pn 15 25 40.2 -0.4
GO04 Tololo Observa 7.25 210 Pn 15 25 48.1 -1.8
LPAZ La Paz 7.74 349 P Pn 15 25 58.2 +1.4
comp=E,30nm,0.4s,baz=146,slow=5.3,SNR=96
LPAZ S Sn 15 27 23.2 -1.3
comp=E,9.5nm,0.7s,baz=252,slow=20,SNR=2.0
LPAZ La Paz 7.74 349 Pn 15 25 57.2 +0.4
CO03 El Pedregal 7.78 207 Pn 15 25 55.3 -1.3
CO06 Fray Jorge 8.07 213 Pn Pn 15 25 57.8 -2.6
CO02 Combarbal 8.23 207 Pn Pn 15 26 00.7 -1.8
BBRB Robore, Bolivi 8.47 50 eP Pn 15 26 05.3 -0.4
MURT Porto Murtinho 8.59 76 eP Pn 15 26 07.2 -0.1
CPUP Villa Florida 8.73 108 P Pn 15 26 10.0 +1.0
comp=E,18nm,0.7s,baz=292,slow=11,SNR=42
CPUP S Sn 15 27 41.9 -5.0
comp=E,4.0nm,0.8s,baz=205,slow=18,SNR=1.4
CPUP Villa Florida 8.73 108 eP Pn 15 26 10.5 +1.5
SIV San Ignacio 9.46 34 P Pn 15 26 19.0 +0.4
comp=E,5.8nm,0.6s,baz=209,slow=12,SNR=31
VA03 San Esteban 9.46 201 Pn 15 26 18.3 -0.2
ROC1 El Roble 9.81 202 Pn Pn 15 26 22.5 -0.7
ANTJ Antonio Joao (9.95 81 eP Pn 15 26 25.1 +0.3
MT02 Curacav 10.11 202 Pn Pn 15 26 25.8 -1.0
AZCA Azaras, Argent 10.40 116 eP Pn 15 26 32.8 +2.2
PANT Pantanal (Braz 10.51 64 eP Pn 15 26 33.0 +0.9
ITQB Itaqui 10.58 125 Pn 15 26 33.5 +0.6
ITQB Itaqui 10.58 125 eP Pn 15 26 34.0 +1.0
AQDB Aquidauana 10.66 73 Pn 15 26 34.7 +0.5
AQDB Aquidauana 10.66 73 eP Pn 15 26 34.6 +0.4
MT01 Popeta 10.70 201 Pn Pn 15 26 32.5 -1.9
PTLB Pontes e Lacer 10.98 41 Pn 15 26 39.0 +0.8
PTLB Pontes e Lacer 10.98 41 eP Pn 15 26 38.6 +0.4
BO02 Sierra Bellavi 11.42 198 Pn Pn 15 26 43.1 -0.7
MCR1 Marechal Candi 11.47 95 eP Pn 15 26 46.4 +1.8
UNIS Unistalda (Bra 11.51 119 eP Pn 15 26 46.4 +1.4
CRSM Crissiumal (Br 11.86 110 eP Pn 15 26 49.5 +0.1
RODS Rosario do Sul 11.99 125 eP Pn 15 26 52.4 +1.4
FRBT Francisco Belt 12.44 102 eP Pn 15 26 58.8 +1.9
VILB Vilhena 12.49 30 Pn Pn 15 26 58.1 +0.6
VILB Vilhena 12.49 30 eP Pn 15 26 58.5 +0.9
SALV Santo Antonio 12.99 54 eP Pn 15 27 05.1 +1.3
ALGR Alto Alegre (B 13.09 115 eP Pn 15 27 06.5 +1.5
PTGB Pitanga 13.27 96 eP Pn 15 27 07.8 +0.5
CPSB Cacapava Do Su 13.36 122 eP Pn 15 27 08.2 -0.1
ITAB Concordia 13.46 107 Pn Pn 15 27 10.4 +0.8
ITAB Concordia 13.46 107 eP Pn 15 27 10.6 +1.0
PLTB Pedras Altas 13.88 127 P Pn 15 27 14.6 -0.2
PLTB Pedras Altas 13.88 127 eP Pn 15 27 14.7 -0.1
ETMB Extrema 14.05 2 P P 15 27 18.9 +0.1
ETMB Extrema 14.05 2 eP Pn 15 27 17.7 +0.7
PCMB Pacaembu 14.33 84 eP P 15 27 22.5 +0.4
TRQA Tornquist 14.62 165 Pn Pn 15 27 22.0 -1.9
CNLB Canela 15.06 114 eP P 15 27 30.5 +0.4
SAML Samuel 15.26 13 P Pn 15 27 30.8 -1.1
NNA Nana 15.36 319 P P 15 27 34.0 +0.5
comp=E,9.3nm,0.5s,baz=128,slow=11,SNR=4.4
PDRB Porto dos Gac 15.43 39 eP P 15 27 34.8 +0.6
FRTB Fartura 15.62 91 eP P 15 27 36.6 +0.3
ITRB Iturama 15.65 78 eP P 15 27 38.1 +1.5
TIJ01 Guaruva-PR 16.06 99 eP P 15 27 41.0 -0.1
ARAG Araguaiana, MT 16.13 62 eP Pn 15 27 43.9 +1.5
GO06 Curarrehue 16.14 194 Pn 15 27 42.4 0.0
GO06 IAmb IAmb 15 27 45.1
comp=E,25nm,1.1s
TER01 Tubaro-SC 16.32 110 eP P 15 27 44.2 +0.3
CLDB Colider 16.57 40 eP P 15 27 46.6 -0.1
BB19B Bebedouro 16.94 84 eP Pn 15 27 51.8 -0.3
PLCA Paso Flores 17.07 190 P Pn 15 27 53.2 -0.3
comp=E,2.4nm,0.5s,baz=23,slow=11,SNR=9.0
PLCA Paso Flores 17.07 190 P 15 27 52.6 +0.5
PLCA Paso Flores 17.07 190 eP Pn 15 27 53.0 -0.5
CZSB Cruzeiro do Su 17.15 339 Pn 15 27 54.8 +0.2
CZSB IAmb IAmb 15 27 57.4
comp=Z,27nm,0.6s
CZSB Cruzeiro do Su 17.15 339 eP Pn 15 27 54.6 +0.1
RCLB Rio Claro- Sao 17.59 89 eP Pn 15 27 59.3 -0.5
LL04 Puerto Octay 17.61 195 P P 15 27 57.1 -0.9
LL04 IAmb IAmb 15 28 02.5
comp=E,15nm,0.8s
PET01 Itanhaem-SP 17.64 95 eP Pn 15 27 59.8 -0.5
VAO Valinhos 18.03 91 eP Pn 15 28 04.0 -1.0
IPMB Ipameri, GO 18.15 74 eP Pn 15 28 05.4 -1.0
SNDB Serra Nova Dou 18.78 53 eP P 15 28 11.9 +1.0
PARB Paraibuna 19.23 92 eP Pn 15 28 15.5 -0.2
BDFB Brasilia 19.32 68 P P 15 28 18.3 +1.5
comp=Z,20nm,0.7s,baz=242,slow=12,SNR=24
BDFB Brasilia 19.32 68 P P 15 28 17.5 +0.7
BDFB IAmb IAmb 15 28 19.6
comp=Z,25nm,0.8s
BDFB Brasilia 19.32 68 eP P 15 28 17.9 +1.1
PMNB Patos De Minas 19.54 78 eP P 15 28 19.3 +0.2
TBTG Tabatinga, AM 19.89 350 P P 15 28 23.5 +0.7
TBTG IAmb IAmb 15 28 27.4
comp=Z,195nm,1.3s
TBTG Tabatinga, AM 19.89 350 eP P 15 28 24.0 +1.2
NPGB Novo Progresso 19.96 35 eP P 15 28 22.1 -1.4
ATAH Atahualpa 20.18 324 P P 15 28 28.2 +1.8
comp=Z,6.0nm,0.8s,baz=155,slow=7.1,SNR=5.8
comp=Z,6.0nm,0.8s
BSCB Bom Sucesso 20.37 86 eP P 15 28 28.5 +0.5
MACA Manacapuru-AM 21.43 16 P P 15 28 37.7 -1.4
MACA IAmb IAmb 15 28 40.5
comp=Z,19nm,0.8s
MACA Manacapuru-AM 21.43 16 eP P 15 28 38.0 -1.1
ITTB Itaituba 22.09 30 eP P 15 28 44.8 -0.9
DUB01 Friburgo-RJ 22.37 90 eP P 15 28 49.2 +0.9
MC01 Montes Claros 22.41 76 eP P 15 28 48.9 +0.1
JANB Januaria 22.76 71 eP P 15 28 51.9 0.0
MCRA Macar, Loja 23.33 324 P P 15 28 57.5 +0.5
SDBA SAO DESIDERIO 23.55 65 eP P 15 28 59.0 0.0
SMTB Santa Maria do 23.55 54 eP P 15 28 59.5 +0.4
BOSC San Juan Bosco 23.65 329 P P 15 29 00.6 +0.6
SGCB SEo Gabriel d 23.68 359 eP P 15 29 00.2 +0.1
PRPB Parauapebas 23.92 45 eP P 15 29 02.4 0.0
SJMB Sao Joao De Ma 24.22 82 eP P 15 29 05.1 0.0
COHC Cochancay 24.61 328 P P 15 29 08.9 +0.4
RIB01 Linhares ES 24.77 84 eP P 15 29 10.5 +0.5
GUA01 Guaratinga, BA 26.14 79 eP P 15 29 22.8 +0.3
TULM Tulcn-Chalpat 26.81 335 P P 15 29 29.1 +0.2
BOAV Boa Vista 26.83 14 P P 15 29 28.5 -0.1
BOAV IAmb IAmb 15 29 29.3
comp=Z,5.3nm,0.7s
BOAV Boa Vista 26.83 14 eP P 15 29 29.1 +0.5
CMC01 Camacan, BA 26.85 76 eP P 15 29 28.5 -0.2
GDU01 Guandu, BA 27.47 73 eP P 15 29 34.0 -0.3
BAUV El Baul 32.71 357 P P 15 30 19.4 -0.9
BAUV IAmb IAmb 15 30 20.6
comp=Z,18nm,0.8s
SDV Santo Domingo 32.86 353 P P 15 30 20.2 -1.7
BCIP Isla Barro Col 35.35 337 P P 15 30 43.4 +0.2
TOSP Speyside 35.52 10 P P 15 30 45.3 +0.8
GRGR Grenville 36.17 8 P P 15 30 50.5 +0.4
SRBA San Rafael, Bu 36.81 332 P P 15 30 56.7 +1.1
MCLT Moule a Chique 37.82 9 P P 15 31 04.3 +0.3
FDF Fort de France 38.80 8 P P 15 31 11.5 -0.7
ANWB Willy Bob 41.62 7 P P 15 31 33.0 -2.1
MLPR Magueyes Islan 41.65 359 P P 15 31 35.8 +0.3
MLPR IAmb IAmb 15 31 40.6
comp=Z,34nm,1.2s
CUPR Culebra, Puert 42.01 2 P P 15 31 37.2 -1.1
TEIG Tepich 48.71 333 P P 15 32 30.5 -0.5
TEIG IAmb IAmb 15 32 30.9
comp=Z,15nm,0.7s
SOR Soroa 49.11 340 P P 15 32 34.4 +0.4
SOR IAmb IAmb 15 32 34.8
comp=Z,23nm,0.8s

061Z Ochoppi 51.41 343 P P 15 32 51.6 +0.5
VNA3 Neumayer Olymp 57.09 161 P P 15 33 32.8 +1.2
VNA1 Neumayer--Stat 57.28 160 P P 15 33 35.4 +2.5
VNA2 Neumayer--Watz 57.65 160 P P 15 33 36.8 +1.3
baz=286,slow=8.3
VNA2 Neumayer--Watz 57.65 160 PP PP 15 35 43.6 -1.8
baz=178,slow=5.5
GOGA Godfrey 59.25 344 P P 15 33 46.0 -0.9
baz=162
SNAA Sanae 59.29 161 P P 15 33 47.9 +1.0
SNAA Sanae 59.29 161 P P 15 33 47.3 +0.4
baz=144,slow=9.8
LRAL Lakeview Retre 59.90 340 P P 15 33 50.5 -0.9
LRAL IAmb IAmb 15 33 51.7
comp=Z,16nm,1.1s
LRAL Lakeview Retre 59.90 340 P P 15 33 51.0 -0.5
baz=158
KMSC Kings Mountain 60.39 346 P P 15 33 55.4 +0.7
baz=165
X51A Calhoun 60.71 343 P P 15 33 55.9 -1.0
833A Chaparral WMA, 60.81 327 P P 15 33 58.0 +0.3
833A Chaparral WMA, 60.81 327 P P 15 33 59.0 +1.3
baz=146
FPAL Fort Paine 60.90 342 P P 15 33 57.6 -0.6
FPAL IAmb IAmb 15 33 58.5
comp=Z,12nm,0.8s
TROLL Troll, Antarti 61.00 161 P P 15 33 60.0 +1.3
V55A Taylorsville 61.05 346 P P 15 33 59.4 +0.2
V55A IAmb IAmb 15 34 00.6
comp=Z,19nm,1.2s
X48A Hartselle 61.23 341 P P 15 33 59.8 -0.6
W50A Signal Mountai 61.43 343 P P 15 34 00.9 -0.9
W50A IAmb IAmb 15 34 02.9
comp=Z,14nm,1.1s
SWET Sewanee 61.62 342 P P 15 34 02.5 -0.6
SWET IAmb IAmb 15 34 03.5
comp=Z,15nm,0.7s
V51A Loudon 61.74 344 P P 15 34 02.7 -1.1
V51A IAmb IAmb 15 34 41.0
comp=Z,23nm,1.4s
OXF Oxford 62.03 339 P P 15 34 04.7 -1.0
OXF Oxford 62.03 339 P P 15 34 04.8 -1.0
baz=156
PLAL Pickwick Lake 62.04 340 P P 15 34 04.5 -1.3
PLAL IAmb IAmb 15 34 05.8
comp=Z,16nm,1.1s
V48A Smith Brothers 62.36 341 P P 15 34 07.1 -0.8
V48A IAmb IAmb 15 34 08.3
comp=Z,12nm,0.8s
CLTN Cedars of Leba 62.55 342 P P 15 34 08.6 -0.6
CLTN IAmb IAmb 15 34 09.5
comp=Z,8.2nm,0.8s
W45A Hickory Valley 62.55 339 P P 15 34 08.0 -1.2
WLAR White Oak Lake 62.62 335 P P 15 34 09.9 +0.2
JCT Junction City 62.79 328 P P 15 34 10.6 -0.3
JCT Junction City 62.79 328 P P 15 34 11.0 +0.1
baz=146
U49A Red Boiling Sp 62.79 343 P P 15 34 10.0 -0.7
U49A IAmb IAmb 15 34 48.4
comp=Z,10nm,1.2s
WHTX Lake Whitney, 62.95 331 P P 15 34 12.0 +0.1
WHTX IAmb IAmb 15 34 13.1
comp=Z,17nm,1.1s
WHTX Lake Whitney, 62.95 331 P P 15 34 12.0 +0.1
baz=148
WVT Waverly 63.02 341 P P 15 34 11.2 -1.1
WVT Waverly 63.02 341 P P 15 34 11.2 -1.1
baz=158
HPIG 63.10 321 P P 15 34 13.1 -0.2
HPIG IAmb IAmb 15 34 14.7
comp=Z,7.1nm,0.6s
T47A Sharon Grove 63.61 342 P P 15 34 14.7 -1.4
T47A IAmb IAmb 15 34 16.6
comp=Z,19nm,1.1s
WHAR Wooly Hollow 63.74 337 P P 15 34 15.8 -1.2
WHAR IAmb IAmb 15 34 17.9
comp=Z,5.7nm,0.7s
TX32 Lajitas Array 63.84 324 P P 15 34 17.9 -0.1
TXAR Lajitas Array 63.84 324 P P 15 34 18.4 +0.5
comp=Z,2.3nm,0.7s,baz=152,slow=8.7,SNR=29
comp=Z,2.3nm,0.7s
TXAR Lajitas Array 63.84 324 P P 15 34 17.8 -0.1
TX31 Lajitas Ar. Si 63.84 324 P P 15 34 18.1 +0.2
TX31 IAmb IAmb 15 34 19.2
comp=Z,8.4nm,0.8s
Z35A Perchaven, San 64.00 332 P P 15 34 18.8 0.0
LCAR Lake Charles 64.04 338 P P 15 34 17.9 -1.0
LCAR IAmb IAmb 15 34 18.8
comp=Z,5.6nm,0.7s
FCAR Ozark Folk Cen 64.22 337 P P 15 34 19.3 -0.8
FCAR IAmb IAmb 15 34 20.3
comp=Z,9.3nm,0.9s
Q52A Bidwell 64.27 346 P P 15 34 19.7 -0.6
X37A Clayton 64.30 334 P P 15 34 20.5 -0.1
X37A IAmb IAmb 15 34 22.2
comp=Z,20nm,1.0s
MCWV Mont Chateau 64.46 349 P P 15 34 21.9 +0.3
baz=167
ABTX Abilene, Hawle 64.48 329 P P 15 34 21.5 -0.4
ABTX IAmb IAmb 15 34 23.2
comp=Z,11nm,1.1s
ABTX Abilene, Hawle 64.48 329 P P 15 34 21.7 -0.2
baz=147
WCI Wyandotte Cave 64.54 343 P P 15 34 22.6 +0.4
baz=160
P53A Whipple 64.59 347 P P 15 34 22.1 -0.3
P53A IAmb IAmb 15 34 23.1
comp=Z,22nm,1.3s
HHAR Hobbs 65.23 336 P P 15 34 26.0 -0.6
HHAR IAmb IAmb 15 34 27.4
comp=Z,15nm,0.8s
MGMO Mountain Grove 65.40 338 P P 15 34 27.0 -0.7
MGMO IAmb IAmb 15 34 28.5
comp=Z,14nm,0.8s
U38A Gravette 65.53 336 P P 15 34 27.9 -0.7
U38A IAmb IAmb 15 34 29.4
comp=Z,8.9nm,0.8s
FVM French Village 65.54 339 P P 15 34 27.4 -1.1
RLO Rose Lookout 65.54 335 P P 15 34 28.4 -0.3
RLO IAmb IAmb 15 34 29.7
comp=Z,14nm,0.7s
DEOK Depew 65.84 334 P P 15 34 29.9 -0.7
DEOK IAmb IAmb 15 34 31.5
comp=Z,32nm,0.9s
CCM Cathedral Cave 65.87 339 P P 15 34 29.9 -0.7
CCM Cathedral Cave 65.87 339 P P 15 34 30.2 -0.5
baz=155
OK034 N. Norfolk Rd. 66.07 334 P 15 34 31.8 -0.3
OK031 S. Brethren Rd 66.08 333 P 15 34 31.9 -0.1
OK033 Mehan 66.19 333 P 15 34 32.6 -0.2
OK029 Liberty Lake 66.20 333 P 15 34 32.6 -0.3
QUOK Quay 66.21 334 P 15 34 32.7 -0.2
QUOK IAmb IAmb 15 34 34.0
comp=Z,44nm,1.2s
S39A Bolivar 66.25 337 P P 15 34 32.7 -0.4
L59A Walton 66.25 353 P P 15 34 33.5 +0.4
HRV Adam Dziewonsk 66.27 356 P P 15 34 32.8 -0.3
baz=175
QSPA South Pole Qui 66.27 180 P P 15 34 34.3 +1.2
comp=Z,4.7nm,0.6s,baz=320,slow=0.8,SNR=31
comp=Z,4.7nm,0.6s
L61B Northampton 66.29 355 P P 15 34 33.2 -0.1
baz=174
BINY Binghamton 66.37 352 P P 15 34 33.8 -0.1
baz=171
R40A Maddies Statio 66.42 338 P P 15 34 33.3 -0.9
R40A IAmb IAmb 15 34 34.7
comp=Z,9.8nm,0.7s
GDL2 Guadalupe Moun 66.47 326 P P 15 34 35.0 +0.2
OK050 Pawnee Station 66.52 334 P P 15 34 35.0 +0.2
OK048 Pawnee Station 66.52 334 P P 15 34 34.6 -0.3
OK051 E0350 and S346 66.55 334 P P 15 34 35.3 +0.3
N49A Columbus Grove 66.56 346 P P 15 34 34.2 -0.9
N49A IAmb IAmb 15 34 35.0
comp=Z,19nm,1.1s
OK049 E0420 Rd and N 66.66 333 P 15 34 35.7 -0.1
SFIN Lafayette 66.77 343 P P 15 34 35.9 -0.5
baz=160
T35A Sooner Cattle 66.78 334 P 15 34 36.3 -0.2
T35A IAmb IAmb 15 34 37.7
comp=Z,20nm,1.1s
ERPA Erie 66.88 349 P P 15 34 37.3 +0.3
baz=167
BLOK Blackwell 66.92 334 P 15 34 37.5 0.0
BLOK IAmb IAmb 15 34 39.3
comp=Z,26nm,1.1s
MSTX Muleshoe 67.08 328 P P 15 34 38.5 -0.1
MSTX IAmb IAmb 15 34 40.2
comp=Z,21nm,0.9s
MSTX Muleshoe 67.08 328 P P 15 34 38.2 -0.4
baz=144
KAN13 South Haven SW 67.25 334 P 15 34 39.5 0.0
KAN13 IAmb IAmb 15 34 40.7
comp=Z,21nm,0.9s
AMTX Amarillo 67.30 329 P P 15 34 39.3 -0.7
AMTX Amarillo 67.30 329 P P 15 34 40.2 +0.3
baz=145
KAN17 Caldwell West 67.39 333 P 15 34 39.9 -0.5
KAN17 IAmb IAmb 15 34 41.6
comp=Z,12nm,0.8s
KAN14 Manchester OK 67.40 333 P P 15 34 40.3 -0.1
KAN14 IAmb IAmb 15 34 41.5
comp=Z,19nm,1.2s
KAN09 Caldwell North 67.41 334 P P 15 34 40.7 +0.2
KAN09 IAmb IAmb 15 34 41.7
comp=Z,16nm,0.7s
DBIC Dimbokro 67.43 71 P P 15 34 40.6 -0.5
comp=Z,1.5nm,0.4s,baz=250,slow=8.1,SNR=4.1
comp=Z,1.5nm,0.4s
DBIC Dimbokro 67.43 71 P P 15 34 40.1 -0.9
J59A Piesco 67.46 354 P P 15 34 41.4 +0.7
J59A IAmb IAmb 15 34 42.4
comp=Z,17nm,0.8s
KS20 Mayfield South 67.47 334 P 15 34 40.7 -0.2
KS20 IAmb IAmb 15 34 42.0
comp=Z,16nm,0.9s
P40A Paris 67.47 339 P P 15 34 40.0 -0.8
P40A IAmb IAmb 15 34 41.7
comp=Z,17nm,0.8s
KAN01 Argonia South 67.48 333 P 15 34 41.2 +0.2
KAN06 Argonia West S 67.61 333 P P 15 34 41.5 -0.2
KAN06 IAmb IAmb 15 34 43.0
comp=Z,28nm,1.2s
KAN08 Anthony NE Sta 67.63 333 P 15 34 42.0 +0.1
P38A Dawn 68.05 338 P P 15 34 43.9 -0.5
N41A Harden Midland 68.16 340 P P 15 34 44.1 -0.9
319A Douglas 68.52 321 P P 15 34 48.4 +0.8
319A IAmb IAmb 15 34 49.9
comp=Z,13nm,0.7s
121A Cookes Peak, D 68.55 323 P P 15 34 49.2 +1.3
121A IAmb IAmb 15 34 50.5
comp=Z,11nm,0.9s
121A Cookes Peak, D 68.55 323 P P 15 34 49.1 +1.2
baz=140
KSU1 Kansas State U 68.71 335 P P 15 34 48.2 -0.3
KSU1 IAmb IAmb 15 34 49.2
comp=Z,22nm,0.9s
KSU1 Kansas State U 68.71 335 P P 15 34 49.0 +0.5
baz=151
G65A Princeton 68.81 359 P P 15 34 49.6 +0.7
G65A IAmb IAmb 15 35 10.6
comp=Z,22nm,1.2s
PKME Peaks-Kenny Pk 68.91 358 P P 15 34 49.7 +0.1
PKME IAmb IAmb 15 35 33.5
comp=Z,20nm,1.1s
PKME Peaks-Kenny Pk 68.91 358 P P 15 34 50.4 +0.8
baz=177
G62A West of Eustis 68.91 357 P P 15 34 50.1 +0.4
R32A Long Quarter, 68.96 333 P P 15 34 50.2 +0.1
N38A Joes South For 69.00 339 P P 15 34 49.8 -0.5
N38A IAmb IAmb 15 34 50.5
comp=Z,15nm,0.7s
SBM South Baldy 69.33 325 P P 15 34 52.6 -0.3
LENM Lemitar 69.36 325 P P 15 34 53.4 +0.5
F64A Sherman 69.48 359 P P 15 34 53.2 +0.1
F64A IAmb IAmb 15 34 54.6
comp=Z,13nm,0.6s
L40A Anamosa 69.51 341 P P 15 34 52.8 -0.5
ANMO Albuquerque 69.70 326 P P 15 34 55.5 +0.6
baz=142
CBKS Cedar Bluff 69.72 333 P P 15 34 54.9 +0.1
CBKS Cedar Bluff 69.72 333 P P 15 34 55.0 +0.2
baz=148
N35A Tabor 69.89 337 P P 15 34 55.1 -0.6
SCIA State Center 69.99 339 P P 15 34 56.1 -0.2
SCIA IAmb IAmb 15 34 57.0
comp=Z,17nm,0.8s
SCIA State Center 69.99 339 P P 15 34 55.8 -0.5
baz=154
JFWS Jewell Farm 70.00 342 P P 15 34 55.9 -0.4
JFWS IAmb IAmb 15 34 56.9
comp=Z,14nm,0.7s
JFWS Jewell Farm 70.00 342 P P 15 34 56.6 +0.2
baz=157
TUC Tucson 70.06 321 P P 15 34 58.1 +1.1
baz=138
TRQ Mont Tremblant 70.20 354 P P 15 34 57.3 -0.2
E62A Clayton Lake 70.27 358 P P 15 34 58.6 +0.7
E62A IAmb IAmb 15 34 59.2
comp=Z,35nm,1.4s
PQI Presque Isle 70.28 359 P P 15 34 58.6 +0.7
PQI IAmb IAmb 15 34 59.8
comp=Z,25nm,1.1s
T25A Trinidad 70.42 329 P P 15 34 60.0 +0.6
baz=144
N33A J Bar K, Exete 70.45 336 P P 15 34 58.9 -0.2
K38A Parkersburg 70.52 340 P P 15 34 59.2 -0.3
D62A Allapoint, All 70.72 358 P P 15 35 00.8 +0.2
D62A IAmb IAmb 15 35 01.9
comp=Z,11nm,0.8s
BATG Bathurst New B 70.88 0 P P 15 35 01.6 +0.1
BATG IAmb IAmb 15 35 02.9
comp=Z,10nm,0.8s
214A Organ Pipe Nat 70.99 320 P P 15 35 03.5 +0.8
baz=136
KSCO Kaye Shedlock' 71.12 331 P P 15 35 04.1 +0.7
baz=146
BGNE Belgrade 71.30 335 P P 15 35 04.5 +0.3
BGNE Belgrade 71.30 335 P P 15 35 04.4 +0.1
baz=150
SDCO Great Sand Dun 71.43 328 P P 15 35 05.7 +0.2
SDCO Great Sand Dun 71.43 328 P P 15 35 06.4 +1.0
baz=143
W18A Petrified Fore 71.56 324 P P 15 35 07.1 +0.9
baz=139
S22A 4UR Ranch, Cre 72.07 327 P P 15 35 10.1 +0.8
baz=142
Q24A Divide 72.23 329 P P 15 35 10.2 -0.1
baz=143
E43A Lone Tree Farm 72.38 345 P P 15 35 09.9 -0.6
E43A IAmb IAmb 15 35 50.3
comp=Z,24nm,1.5s
OGNE Ogallala 72.46 333 P P 15 35 11.7 +0.5
baz=146
MVCO Mesa Verde 72.50 326 P P 15 35 12.7 +0.9
MVCO Mesa Verde 72.50 326 P P 15 35 12.1 +0.3
baz=140
WUAZ Wupatki 72.75 323 P P 15 35 13.8 +0.6
WUAZ IAmb IAmb 15 35 15.8
comp=Z,8.3nm,0.9s
WUAZ Wupatki 72.75 323 P P 15 35 14.2 +1.0
baz=138
ECSD EROS Data Cent 72.76 338 P P 15 35 12.4 -0.5
ECSD IAmb IAmb 15 35 14.2
comp=Z,16nm,0.9s
ECSD EROS Data Cent 72.76 338 P P 15 35 13.0 +0.2
baz=152
SPMN Marine on St. 72.86 341 P P 15 35 12.8 -0.6
SPMN IAmb IAmb 15 35 13.8
comp=Z,13nm,1.0s
SPMN Marine on St. 72.86 341 P P 15 35 13.3 0.0
baz=155
GLA Glamis 72.97 319 P P 15 35 15.4 +1.1
baz=135
SMCO Snowmass 73.27 328 P P 15 35 16.8 +0.3
DRLN Deer Lake 73.31 6 P P 15 35 16.1 +0.2
DRLN IAmb IAmb 15 35 16.9
comp=Z,16nm,0.8s
D41A Chassel 73.40 345 P P 15 35 16.3 -0.2
IKP In-Ko-Pah, Jac 73.47 318 P P 15 35 18.9 +1.5
baz=134
SWSC Sam W. Stewart 73.48 318 P P 15 35 18.2 +0.9
baz=134
F36A Milaca 73.65 341 P P 15 35 17.6 -0.5
F36A IAmb IAmb 15 35 18.5
comp=Z,15nm,0.8s
BC3 Big Chuckawall 73.77 319 P P 15 35 20.7 +1.6
baz=134,SNR=7.4
MONP2 Monument Peak 73.83 318 P P 15 35 20.4 +0.8
baz=134
BAR Barrett 73.83 318 P P 15 35 20.1 +0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BAR				IAmb	IAmb	15 35 21.6	
	comp=Z,7.4nm,0.8s						
U15A	North Rim	73.92	323	P	P	15 35 21.1	+0.9
IRM	Iron Mountain	73.93	320	P	P	15 35 21.6	+1.6
	baz=135,SNR=5.2						
N23A	Red Feather La	74.14	330	P	P	15 35 21.7	+0.4
N23A				IAmb	IAmb	15 35 23.6	
	comp=Z,8.8nm,0.9s						
N23A	Red Feather La	74.14	330	P	P	15 35 22.6	+1.2
	baz=143						
PHWY	Pilot Hill	74.25	331	P	P	15 35 22.4	+0.4
BELC	Belle Mtn. Jos	74.33	319	P	P	15 35 23.9	+1.5
	baz=134						
TPFO	Pinon Flats	74.33	318	P	P	15 35 23.9	+1.5
	baz=134						
PFO	Pinyon Flats O	74.34	319	P	P	15 35 22.1	-0.4
PFO	Pinyon Flats O	74.34	319	P	P	15 35 24.1	+1.6
	baz=134						
O20A	White River Ci	74.62	328	P	P	15 35 24.9	+0.8
O20A				IAmb	IAmb	15 35 26.4	
	comp=Z,14nm,0.9s						
O20A	White River Ci	74.62	328	P	P	15 35 25.6	+1.6
	baz=141						
GMRC	Granite Mounta	74.67	320	P	P	15 35 26.0	+1.7
	baz=134,SNR=12						
MURC	Murrieta	74.78	318	P	P	15 35 26.1	+1.2
	baz=133						
VNDA	Vanda	74.83	190	P	P	15 35 25.6	+1.2
	comp=Z,1.1nm,1.0s,baz=133,slow=1.7,SNR=4.2						
	comp=Z,1.1nm,1.0s						
ELS	Elsinore Mount	74.95	318	P	P	15 35 26.8	+0.9
EYMN	Ely	74.97	343	P	P	15 35 25.6	+0.1
EYMN	Ely	74.97	343	P	P	15 35 25.3	-0.3
	baz=157						
SRU	San Rafael Swe	74.98	326	P	P	15 35 26.9	+0.9
SRU				IAmb	IAmb	15 35 28.1	
	comp=Z,8.2nm,0.7s						
MTPU	Mount Pierson	75.05	324	P	P	15 35 26.8	+0.1
BBRC	Big Bear Solar	75.06	319	P	P	15 35 28.0	+1.2
	baz=133						
HEC	Hector,Ludlow	75.10	319	P	P	15 35 28.0	+1.3
	baz=134,SNR=6.2						
P18A	Preston Nutter	75.22	327	P	P	15 35 28.7	+1.1
P18A				IAmb	IAmb	15 35 29.7	
	comp=Z,7.4nm,0.7s						
TUQ	Turquoise Moun	75.28	320	P	P	15 35 29.4	+1.5
	baz=134						
CCUT	Cedar City	75.33	323	P	P	15 35 29.0	+0.8
CCUT				IAmb	IAmb	15 35 31.3	
	comp=Z,9.5nm,0.8s						
RWWY	Rawlins	75.35	330	P	P	15 35 29.1	+0.9
RWWY				IAmb	IAmb	15 35 30.5	
	comp=Z,12nm,0.8s						
P17A	Butcher Ranch,	75.36	326	P	P	15 35 28.7	+0.5
MSU	Marysvale	75.39	325	P	P	15 35 29.1	+0.5
BFSC	Mount Baldy Ra	75.50	318	P	P	15 35 30.8	+1.7
	baz=133						
RDMU	Red Mountain	75.61	328	P	P	15 35 29.9	+0.2
RDMU				IAmb	IAmb	15 35 31.3	
	comp=Z,8.1nm,0.6s						
GSC	Goldstone, Bar	75.71	320	P	P	15 35 31.8	+1.6
	baz=134						
K22A	Casper	75.80	331	P	P	15 35 32.0	+1.3
	baz=143						
RSSD	Black Hills	75.92	333	P	P	15 35 31.1	-0.3
RSSD				IAmb	IAmb	15 35 33.1	
	comp=Z,9.7nm,0.9s						
RSSD	Black Hills	75.92	333	P	P	15 35 32.2	+0.9
	baz=145						
B35A	Bob, Littlefor	75.97	342	P	P	15 35 31.1	-0.2
B35A				IAmb	IAmb	15 35 32.0	
	comp=Z,15nm,0.8s						
EDW2	Edwards Air Fo	76.13	319	P	P	15 35 33.6	+1.0
	baz=133						
PRN	Pahroc Range	76.16	322	P	P	15 35 32.6	-0.2
TOA0	Torodi Ar. Sit	76.20	69	P	P	15 35 31.8	-1.5
TORD	Torodi Ar. Bea	76.20	69	P	P	15 35 32.2	-1.0
	comp=Z,2.9nm,0.6s,baz=257,slow=5.7,SNR=25						
	comp=Z,2.9nm,0.6s						
GWY	Greenwater Val	76.24	320	P	P	15 35 33.6	+0.4
LRMC	Laurel Mtn Rad	76.35	319	P	P	15 35 34.9	+1.0
	baz=133						
TPNV	Topopah Spring	76.52	321	P	P	15 35 36.2	+1.4
	baz=134,SNR=6.7						
FURC	Furnace Creek,	76.54	320	P	P	15 35 36.5	+1.8
	baz=134						
AGMN	Agassiz Nation	76.55	340	P	P	15 35 34.3	-0.2
AGMN				IAmb	IAmb	15 35 35.3	
	comp=Z,12nm,0.8s						
SCZ2	Santa Cruz Isl	76.55	317	P	P	15 35 36.1	+1.2
	baz=131						
MPMC	Manual Prospec	76.63	320	P	P	15 35 36.2	+0.7
	baz=133						
E28A	Huff	76.67	337	P	P	15 35 35.3	+0.1
SBC	Santa Barbara	76.90	317	P	P	15 35 38.2	+1.5
	baz=132						
SPR3	Spring Creek 3	76.90	324	P	P	15 35 38.0	+0.9
SPR3				IAmb	IAmb	15 35 38.8	
	comp=Z,4.6nm,0.7s						
TCUT	Toone Canyon	76.93	327	P	P	15 35 38.3	+1.1
ISA	Isabella, Lake	76.95	319	P	P	15 35 38.2	+1.0
ISA	Isabella, Lake	76.95	319	P	P	15 35 38.7	+1.5
	baz=132						
DUG	Dugway, Tooele	76.96	325	P	P	15 35 38.3	+1.1
	baz=138						
R11A	Troy Canyon, C	77.13	323	P	P	15 35 39.3	+1.1
R11A	Troy Canyon, C	77.13	323	P	P	15 35 39.6	+1.4
	baz=135,SNR=7.3						
CWC	Cottonwood Cre	77.24	320	P	P	15 35 39.8	+0.9
	baz=133						
PKM	Mcpherson Peak	77.25	318	P	P	15 35 40.3	+1.3
	baz=132						
BW06	Boulder Array	77.28	329	P	P	15 35 39.5	+0.5
BW06	Boulder Array	77.28	329	P	P	15 35 39.7	+0.6
	baz=140						
PD31	Pinedale Array	77.28	329	P	P	15 35 38.7	-0.4
PDAR	Pinedale Array	77.28	329	P	P	15 35 39.7	+0.6
	comp=Z,2.3nm,0.6s,baz=134,slow=7.8,SNR=22						
	comp=Z,2.3nm,0.6s						
GMN	Gold Mountain	77.35	321	P	P	15 35 39.9	+0.3
MDND	Maddock	77.37	338	P	P	15 35 39.4	+0.2
MDND	Maddock	77.37	338	P	P	15 35 39.8	+0.7
	baz=149						
HWUT	Hardware Ranch	77.38	327	P	P	15 35 39.4	-0.1
VES	Vestal, Richgr	77.44	319	P	P	15 35 40.5	+0.8
	baz=132						
LCH	Last Change Ra	77.52	321	P	P	15 35 40.7	+0.3
SPUT	South Promonto	77.60	326	P	P	15 35 41.5	+0.7
SPUT				IAmb	IAmb	15 35 42.4	
	comp=Z,7.2nm,0.7s						
BGU	Big Grassy Mou	77.61	326	P	P	15 35 41.1	+0.3
MZP	Montezuma Peak	77.69	321	P	P	15 35 41.7	+0.2
AHID	Auburn Hatcher	78.02	328	P	P	15 35 43.8	+0.7
AHID				IAmb	IAmb	15 35 45.0	
	comp=Z,18nm,0.9s						
HVU	Hansel Valley	78.11	327	P	P	15 35 43.6	+0.1
ULM	Lac du Bonnet	78.28	341	P	P	15 35 44.2	+0.2
	comp=Z,8.3nm,0.5s,baz=154,slow=6.6,SNR=9.9						
	comp=Z,8.3nm,0.5s						
ULM	Lac du Bonnet	78.28	341	P	P	15 35 43.9	-0.1
ULM				IAmb	IAmb	15 35 44.8	
	comp=Z,9.6nm,0.7s						
REDW	Red Top Meadow	78.35	329	P	P	15 35 45.0	+0.1
REDW				IAmb	IAmb	15 35 47.1	
	comp=Z,8.4nm,0.9s						
LOHW	Long Hollow	78.42	329	P	P	15 35 45.9	+0.6
LOHW				IAmb	IAmb	15 35 47.4	
	comp=Z,7.8nm,0.7s						
SCHQ	Schefferville	78.44	360	P	P	15 35 45.0	+0.1
	comp=Z,5.1nm,0.6s,baz=153,slow=4.3,SNR=5.2						
	comp=Z,5.1nm,0.6s						
TPAW	Teton Pass	78.49	329	P	P	15 35 46.1	+0.4
OMMB	Old Mammoth Mi	78.57	320	P	P	15 35 46.8	+0.4
OMMB				IAmb	IAmb	15 35 48.5	
	comp=Z,7.8nm,0.7s						
MOOW	Moose Ponds	78.59	329	P	P	15 35 46.6	+0.4
ELK	Elko	78.64	324	P	P	15 35 47.1	+0.5
FXWY	Fox Creek	78.64	329	P	P	15 35 46.9	+0.4
LHV	Little Huntoon	78.72	321	P	P	15 35 47.7	+1.0
NVAR	Mina Array Bea	78.72	321	P	P	15 35 48.3	+1.2
	comp=Z,1.7nm,0.7s,baz=153,slow=6.4,SNR=12						
	comp=Z,1.7nm,0.7s						
NVAR	Mina Array Bea	78.72	321	P	P	15 35 47.5	+0.5
IMW	Indian Meadow	78.80	329	P	P	15 35 48.3	+0.9
IMW				IAmb	IAmb	15 35 49.7	
	comp=Z,12nm,0.8s						
FLWY	Flagg Ranch	78.83	329	P	P	15 35 48.4	+0.9
FLWY				IAmb	IAmb	15 35 50.1	
	comp=Z,11nm,0.8s						
LAO	LASA Array	78.90	333	P	P	15 35 48.3	+0.7
LAO				IAmb	IAmb	15 35 49.3	
	comp=Z,29nm,1.2s						
LAO	LASA Array	78.90	333	P	P	15 35 48.0	+0.3
	baz=144						
RLMT	Red Lodge	78.97	331	P	P	15 35 48.8	+0.5
RLMT				IAmb	IAmb	15 35 50.2	
	comp=Z,11nm,0.6s						
RLMT	Red Lodge	78.97	331	P	P	15 35 49.3	+1.1
	baz=141,SNR=13						
H17A	Grant Village	79.00	330	P	P	15 35 49.9	+1.4
	baz=140						
KVN	Kaiserville	79.03	322	P	P	15 35 48.9	+0.2
KVN				IAmb	IAmb	15 35 50.6	
	comp=Z,8.6nm,0.8s						
WAKR	Walker	79.43	320	P	P	15 35 51.8	+0.9
YHH	Holmes Hill	79.43	330	P	P	15 35 52.0	+1.1
YHH				IAmb	IAmb	15 35 53.6	
	comp=Z,14nm,0.7s						
DGMT	Dagmar	79.55	336	P	P	15 35 52.1	+1.1
DGMT	Dagmar	79.55	336	P	P	15 35 52.2	+1.1
	baz=146,SNR=6.3						
YHB	Horse Butte	79.56	329	P	P	15 35 52.3	+0.8
YHB				IAmb	IAmb	15 35 54.1	
	comp=Z,12nm,0.8s						
GCMT	Greycliff	79.66	331	P	P	15 35 51.8	-0.1
PNTR	Pine Nut	79.91	321	P	P	15 35 53.8	+0.3
PNTR				IAmb	IAmb	15 35 56.0	
	comp=Z,14nm,0.8s						
PAHR	Pah Rah Range	80.20	321	P	P	15 35 55.7	+0.7
PAHR				IAmb	IAmb	15 35 57.4	
	comp=Z,14nm,0.9s						
HLID	Hailey	80.24	327	P	P	15 35 56.4	+1.3
HLID				IAmb	IAmb	15 35 57.8	
	comp=Z,16nm,0.8s						
HLID	Hailey	80.24	327	P	P	15 35 56.3	+1.3
	baz=137,SNR=20						
BCYI	Bear Canyon	80.29	328	P	P	15 35 56.1	+0.8
MCMT	McKenzie Canyo	80.40	329	P	P	15 35 56.8	+0.8
BOZ	Bozeman (W)	80.40	330	P	P	15 35 56.2	+0.3
BOZ	Bozeman (W)	80.40	330	P	P	15 35 56.6	+0.7
	baz=139						
BOSA	Boshof	80.43	117	P	P	15 35 56.6	+0.1
	comp=Z,1.5nm,0.7s,baz=254,slow=4.2,SNR=4.1						
	comp=Z,1.5nm,0.7s						
AFDM	Forest Hills D	80.62	320	P	P	15 35 57.3	+0.3
DLMT	Dillon	80.68	329	P	P	15 35 57.6	+0.3
DLMT				IAmb	IAmb	15 35 59.6	
	comp=Z,30nm,1.4s						
BEKR	Beckworth	80.87	321	P	P	15 35 58.2	-0.3
LRM	Limekiln Ridge	80.95	329	P	P	15 35 59.9	+1.0
HRY	Holter Researc	81.34	330	P	P	15 36 01.1	+0.4
MAW	Mawson	81.39	163	P	P	15 36 01.3	+0.7
	comp=Z,3.3nm,0.9s,baz=302,slow=11,SNR=2.7						
	comp=Z,3.3nm,0.9s						
EGMT	Eagleton	81.43	332	P	P	15 36 01.0	-0.2
EGMT				IAmb	IAmb	15 36 02.5	
	comp=Z,11nm,0.9s						
EGMT	Eagleton	81.43	332	P	P	15 36 01.7	+0.5
	baz=141						
PLID	Pearl Lake	82.12	327	P	P	15 36 05.3	+0.3
PLID				IAmb	IAmb	15 36 07.0	
	comp=Z,18nm,0.8s						
J08A	Circle Bar Ran	82.18	325	P	P	15 36 05.8	+0.6
J08A				IAmb	IAmb	15 36 07.4	
	comp=Z,28nm,1.3s						
MOD	Modoc Plateau	82.19	323	P	P	15 36 05.4	0.0
MSO	Missoula	82.39	329	P	P	15 36 06.9	+0.7
	baz=137						
BMO	Blue Mountains	82.61	326	P	P	15 36 07.8	+0.4
K05A	Summer Lake	83.07	323	P	P	15 36 11.1	+1.2
K05A				IAmb	IAmb	15 36 12.3	
	comp=Z,17nm,0.8s						
I07A	Izee	83.22	325	P	P	15 36 10.6	0.0
F10A	Beach Ranch, E	83.36	327	P	P	15 36 12.1	+0.8
F10A				IAmb	IAmb	15 36 17.1	
	comp=Z,9.6nm,0.7s						
G08A	Pilot Rock	83.76	326	P	P	15 36 13.9	+0.6
PINE	Pine Mountain	83.80	324	P	P	15 36 13.3	-0.3
PINE				IAmb	IAmb	15 36 16.4	
	comp=Z,13nm,1.0s						
WALA	Waterton Lakes	84.02	331	P	P	15 36 14.3	-0.2
WALA				IAmb	IAmb	15 36 47.6	
	comp=Z,15nm,1.3s						
FFC	Flin Flon	84.02	340	P	P	15 36 14.0	-0.2
FFC				IAmb	IAmb	15 36 15.2	
	comp=Z,10nm,1.1s						
D08A	Wollman Farm,	84.95	327	P	P	15 36 18.6	-0.4
D08A				IAmb	IAmb	15 36 20.9	
	comp=Z,11nm,1.1s						
C09A	Chrisman Ranch	85.15	328	P	P	15 36 20.6	+0.6
BUCK	Buck Mountain	85.18	323	P	P	15 36 20.2	-0.2
PAB	San Pablo	85.78	43	P	P	15 36 24.1	+0.6
LTY	Liberty	85.97	326	P	P	15 36 24.4	+0.2
LTY				IAmb	IAmb	15 36 25.6	
	comp=Z,11nm,1.1s						
ESDC	Sonseca Array	86.09	43	P	P	15 36 25.2	+0.2
	comp=Z,2.2nm,0.9s,baz=231,slow=5.2,SNR=7.6						
	comp=Z,2.2nm,0.9s						
EDM	Edmonton	86.87	334	P	P	15 36 27.7	-0.7
EDM				IAmb	IAmb	15 36 28.8	
	comp=Z,21nm,1.1s						
WAPA	Wapiti River	90.70	333	P	P	15 36 46.6	+0.2
YKA	Yellowknife Ar	94.19	340	P	P	15 37 02.6	+0.4
	comp=Z,4.0nm,0.6s,baz=139,slow=4.5,SNR=24						
	comp=Z,4.0nm,0.6s						
DLBC	Dease Lake	97.35	332	P	Pdif	15 37 17.7	+1.0
	baz=124						
P33M	Teslin, Yukon	99.52	332	P	Pdif	15 37 27.4	+1.0
	baz=122						
KHC	Kasperske Hory	101.63	41	*e*PP	PP	15 41 46.6	-2.6
KHC				AMS	AMS	16 31 20.0	
	comp=Z,200nm,5.8s						
CKRC	Cesky Krumlov	101.96	42	AMS	AMS	16 28 30.0	
	comp=Z,200nm,28.2s						
PRU	Pruhonice	102.54	41	AMS	AMS	16 29 30.0	
	comp=Z,200nm,30.5s						
GOPC	GO Pecny, Ondr	102.66	41	*e*PP	PP	15 41 48.8	-8.1
GOPC				AMS	AMS	16 30 20.0	
	comp=Z,200nm,31.0s						
PVCC	Panska Ves	102.76	40	AMS	AMS	16 29 40.0	
	comp=Z,100nm,15.8s						
TREC	Trest	102.85	42	AMS	AMS	16 31 20.0	
	comp=Z,100nm,17.1s						
L29M	L29M	103.15	334	P	Pdif	15 37 43.3	+0.9
	baz=117						
DPC	Dobruska-Polom	103.74	41	AMS	AMS	16 35 50.0	
	comp=Z,300nm,5.1s						
OSTC	Ostas	103.75	41	AMS	AMS	16 33 30.0	
	comp=Z,100nm,19.8s						
KRLC	Kraliky	103.92	41	AMS	AMS	16 29 50.0	
	comp=Z,200nm,5.2s						
MAUC	Maruska	104.31	42	*e*PP	PP	15 41 45.5	-24
MAUC				AMS	AMS	16 30 50.0	
	comp=Z,500nm,29.0s						
CHIR	Chirikof Islan	108.92	323	P	PKiKP	15 42 11.7	0.0
	baz=105						
E24K	Your Creek	108.99	337	P	PKiKP	15 42 12.1	+0.5
	baz=107						
MLY	Manley	109.01	333	P	PKiKP	15 42 12.4	+0.6
	baz=106						
PPLA	Purkeypile	109.05	331	P	PKiKP	15 42 12.6	+0.6
	baz=105						
CAST	Castle Rocks	109.14	332	P	PKiKP	15 42 12.7	+0.7
	baz=105						
I21K	Tanana	109.55	333	P	PKiKP	15 42 13.4	+0.7
	baz=105						
Q16K	King Salmon	110.15	326	P	PKiKP	15 42 15.6	+1.7
	baz=103						
P17K	Kvichak River	110.16	327	P	PKiKP	15 42 15.0	+1.0
	baz=103						
KBZ	Khabaz	119.95	52	PKP	PKPdf	15 42 33.1	-0.1
	comp=Z,2.7nm,0.9s,baz=168,slow=5.2,SNR=3.8						
CTA	Charters Tower	125.79	219	PKP	PKPdf	15 42 45.3	0.0
	comp=Z,2.6nm,0.8s,baz=45,slow=7.1,SNR=2.2						
ASAR	Alice Springs	128.67	204	PKhKP	PKPpre	15 42 31.8	
	comp=Z,0.4nm,1.0s,baz=136,slow=2.1,SNR=2.3						
ASAR				PKP	PKPdf	15 42 50.5	-0.3
	comp=Z,3.4nm,0.7s,baz=137,slow=2.0,SNR=55						
ASAR				SKPbc	SKPbc	15 45 51.0	
	comp=Z,0.3nm,0.8s,baz=140,slow=3.2,SNR=5.2						
WRA	Warramunga Arr	131.85	207	PKhKP	PKPpre	15 42 43.0	
	comp=Z,0.2nm,0.4s,baz=153,slow=1.5,SNR=7.7						
WRA				PKP	PKPdf	15 42 57.0	+0.2
	comp=Z,2.0nm,0.5s,baz=163,slow=1.7,SNR=12						
WRA				SKPbc	SKPbc	15 46 02.8	-1.6
	comp=Z,2.1nm,0.7s,baz=159,slow=3.6,SNR=15						
PETK	Petropavlovsk-	135.78	323	PKP	PKPdf	15 43 03.6	+0.5
	comp=Z,1.3nm,0.5s,baz=40,slow=1.1,SNR=0.9						
BVAR	Borovoye Array	136.52	37	SKPbc	SKPbc	15 46 17.8	-0.6
	comp=Z,0.5nm,0.5s,baz=298,slow=3.2,SNR=3.9						
ZALV	Zalesovo Beam	143.16	28	PKP	PKPbc	15 43 14.4	+0.5
	comp=Z,6.9nm,0.7s,baz=299,slow=4.0,SNR=30						
ZALV				SKPbc	SKPbc	15 46 35.9	-0.2
	comp=Z,0.8nm,0.5s,baz=319,slow=1.1,SNR=2.4						
BATI	Baumata	144.62	198	PKP	PKPdf	15 43 20.4	+0.2
	comp=Z,18nm,0.6s,baz=252,slow=2.1,SNR=6.4						
MKAR	Makanchi Array	146.24	40	PKPbc	PKPbc	15 43 22.9	-0.6
	comp=Z,10nm,0.6s,baz=326,slow=1.8,SNR=65						
LEM	Lembang	148.91	169	PKPbc	PKPbc	15 43 31.8	0.0
	baz=311,slow=20						
SIJI	Sorong	149.85	218	PKPbc	PKPbc	15 43 34.2	+0.3
	comp=Z,18nm,0.7s,baz=23,slow=5.5,SNR=14						
USRK	Ussuriysk Ar.	154.70	328	PKPbc	PKPbc	15 43 43.4	-0.4
	comp=Z,0.7nm,0.6s,baz=42,slow=4.9,SNR=4.8						
MJAR	Matsushiro Arr	155.24	306	PKPbc	PKPdf	15 43 45.2	+9.0
	comp=Z,1.3nm,0.7s,baz=83,slow=1.4,SNR=4.3						
MJAR				PKPab	PKPab	15 44 02.5	+0.3
	comp=Z,3.0nm,0.8s,baz=50,slow=2.4,SNR=6.2						
SONM	Songino Array	155.51	11	PKP	PKPdf	15 43 36.7	+0.3
	comp=Z,0.7nm,0.8s,baz=107,slow=5.7,SNR=4.3						
SONM				PKPbc	PKPdf	15 43 46.2	+10
	comp=Z,0.9nm,0.8s,baz=81,slow=0.1,SNR=3.8						
SONM				PKPab	PKPab	15 44 03.6	+0.6
	comp=Z,2.0nm,0.7s,baz=318,slow=4.3,SNR=10						
CMAR	Chiang Mai Arr	165.46	109	PKP	PKPdf	15 43 47.9	0.0
	comp=Z,0.4nm,0.6s,baz=266,slow=1.6,SNR=5.1						
PZH	PanZhiHua	169.14	74	PKP	PKPdf	15 43 48.6	-1.9

IDC **07** *15:24:16.2±2.0, 34.°39S×178.°84W, h0km, mb4.2/3, mbtmp4.3/4, ML4.4/1, MS3.4/2, Error ellipse: s-maj=58.6km s-min=36.3km az=141.0*

NOU **07** *15:25:12.8, 37.°69S×178.°35E, h23km, MLv3.6/6, Off E. Coast of N. Island, N.Z.*

WEL **07** *15:25:15.3, 38°S±30'×17°8E±1°9, h29km±24km, M2.2/7, ML2.4/7, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=175.3*

ISC 07 15:24:20.4±1.7**, 34.°7S**±0.°2×**178.°6W**±0.°2**, h35km, n24,** σ**1.s68**/26**, mb4.2**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.80	220	P	Pn	15 25 18.6	+2.2
WMGZ	Waiomatatini S	3.94	216	P	Pn	15 25 20.7	+2.3
PKGZ	Pakihiroa	4.17	219	P	Pn	15 25 22.5	+1.0
PUZ	Puketiti	4.22	216	P	Pn	15 25 23.8	+1.6
HAZ	Te Kaha	4.23	222	P	Pn	15 25 24.2	+1.9
RUGZ	Raukumara Rang	4.44	221	P	Pn	15 25 26.7	+1.4
TWGZ	Tauwhareparae	4.44	217	P	Pn	15 25 27.1	+1.9
CNGZ	Carnagh Statio	4.58	213	P	Pn	15 25 29.8	+2.7
TKGZ	Te Karaka	4.71	216	P	Pn	15 25 30.7	+1.9
MWZ	Matawai	4.79	219	P	Pn	15 25 30.8	+0.8
URZ	Urewera	4.96	223	Pn	Pn	15 25 33.5	+1.2
	14nm,0.3s,baz=351,slow=3.7,SNR=66						
URZ				Sn	Sn	15 26 26.9	-1.5
	9.6nm,0.3s,baz=194,slow=22,SNR=11						
	28nm,0.3s						
URZ	Urewera	4.96	223	P	Pn	15 25 33.2	+0.9
URZ	Urewera	4.96	223	P	Pn	15 25 33.3	+1.0
BKZ	Black Stump Fm	5.95	220	P	Pn	15 25 46.5	+0.5
HIZ	Hauiti	6.49	232	P	Pn	15 25 57.3	+3.9
KHZ	Kahutara	9.86	216	P	Pn	15 26 40.2	+0.6
RPZ	Rata Peaks	12.05	218	Pn	Pn	15 27 07.0	-2.6
	0.6nm,0.3s,baz=334,slow=18,SNR=1.9						
RPZ				Sn	Sn	15 29 11.2	-12
	0.7nm,0.3s,baz=312,slow=21,SNR=9.1						
RPZ				LR	LR	15 32 23.2	
	comp=Z,188nm,18.7s,baz=352,slow=40						
RPZ	Rata Peaks	12.05	218	P	Pn	15 27 09.8	+0.2
	30nm,2.0s						
MSVF	Nonsavu	17.13	349	LR	LR	15 33 51.5	
	comp=Z,97nm,18.3s,baz=169,slow=34						
CTA	Charters Tower	34.20	286	P	P	15 31 02.2	-0.5
	1.4nm,0.4s,baz=126,slow=9.8,SNR=2.5						
	1.4nm,0.4s						
ASAR	Alice Springs	42.53	272	P	P	15 32 12.1	-0.6
	2.9nm,0.5s,baz=114,slow=7.8,SNR=86						
ASAR				PcP	PcP	15 34 05.2	+0.3
	0.5nm,0.5s,baz=116,slow=3.8,SNR=6.1						
	2.9nm,0.5s						
WRA	Warramunga Arr	43.90	277	P	P	15 32 22.8	-1.0
	1.8nm,0.5s,baz=118,slow=7.8,SNR=57						
WRA				PcP	PcP	15 34 10.0	+0.4
	0.4nm,0.7s,baz=113,slow=3.1,SNR=2.5						
	1.8nm,0.5s						
FINES	FINESS Array B	148.91	337	PKPbc	PKPbc	15 44 03.6	+0.1
	2.5nm,0.8s,baz=72,slow=1.8,SNR=8.5						
HFS	Hagfors	153.28	346	PKPab	PKPab	15 44 25.9	0.0
	4.1nm,0.9s,baz=8.5,slow=2.9,SNR=4.7						

IDC **07** *15:29:03.6±1.5, 5.°51S×153.°05E, h0km, mb3.4/4, mbtmp3.4/5, ML0.9/1, Error ellipse: s-maj=27.4km s-min=15.7km az=69.0*

ISC 07 15:29:09.3±1.5**, 5.°4S**±0.°1×**153.°0E**±0.°2**, h37km, n7,** σ**0.s73**/8**,** **mb3.4**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.46	320	Pg	Pn	15 29 32.5	-0.5
	130nm,0.3s,baz=300,slow=0.8,SNR=72						
KRVT				Lg	Lg	15 29 53.5	
	92nm,0.3s,baz=274,slow=17,SNR=6.8						
PMG	Port Moresby	6.97	235	Pn	Pn	15 30 48.0	-0.9
	0.1nm,0.3s,baz=324,slow=22,SNR=1.0						
PMG				Sn	Sn	15 32 08.1	+1.1
	2.0nm,0.3s,baz=77,slow=15,SNR=9.2						
	1.7nm,0.5s						
WRA	Warramunga Arr	23.15	230	P	P	15 34 12.2	-0.4
	1.0nm,0.9s,baz=52,slow=10.0,SNR=4.8						
	1.0nm,0.9s						
ASAR	Alice Springs	25.79	223	P	P	15 34 37.1	0.0
	0.6nm,0.9s,baz=59,slow=9.2,SNR=5.7						
	0.6nm,0.9s						
MKAR	Makanchi Array	80.90	319	P	P	15 41 20.0	+0.3
	0.3nm,0.7s,baz=98,slow=7.9,SNR=1.6						
	0.3nm,0.7s						
ILAR	Eielson Array	82.69	22	P	P	15 41 29.1	+0.3
	0.3nm,0.8s,baz=254,slow=5.3,SNR=1.7						
	0.3nm,0.8s						
TORD	Torodi Ar. Bea	150.65	287	PKPbc	PKPbc	15 48 58.5	0.0
	0.4nm,0.7s,baz=80,slow=3.1,SNR=2.8						

IDC **07** *15:44:29.3±0.8, 0.°79N×126.°49E, h0km, mb3.9/7, mbtmp3.9/8, ML3.3/1, MS3.4/2, Error ellipse: s-maj=43.4km s-min=14.2km az=71.0*

NEIC **07** *15:44:36.0±1.6, 0.°83N±0.°07×126.°80E±0.°05, h42km±5km, mb4.3/13, Error ellipse: s-maj=11.2km s-min=6.4km az=201.0*

ISC 07 15:44:35.0±0.5**, 0.°85N**±0.°07×**126.°77E**±0.°06**, h35km, n34,** σ**1.s46**/37**, mb4.0**/13**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.60	98		Pn	15 44 47.6	+0.5
TNTI				Sn	Sn	15 44 56.2	+0.5
LUWI	Luwuk	4.42	245	Pn	Pn	15 45 39.4	-0.2
SIJI	Sorong	4.81	111	Pn	Pn	15 45 47.2	+2.1
	1.2nm,0.3s,baz=203,slow=23,SNR=12						
SIJI				Sn	Sn	15 46 39.8	+0.1
	baz=106,slow=23						
	3.5nm,0.4s						
TOLI2	Tolitoli	5.99	273	Pn	Pn	15 46 01.7	+0.4
FAKI	Fak Fak	6.64	124	Pn	Pn	15 46 12.3	+2.1
MTN	Manton Dam	14.28	162	Pn	Pn	15 47 54.0	-0.8
KNRA	Kununurra	16.54	173	P	P	15 48 27.0	+0.3
KNRA				IAmb	IAmb	15 48 51.2	
	comp=Z,22nm,1.4s						
WB0	Warramunga Arr	21.81	160	P	P	15 49 23.8	-0.6
WB0				IAmb	IAmb	15 49 41.5	
	comp=Z,7.3nm,1.2s						
WRAB	Tennant Creek	21.95	161	P	P	15 49 25.2	-0.7
WRA	Warramunga Arr	21.96	161	P	P	15 49 25.6	-0.4
	comp=Z,2.2nm,0.4s,baz=337,slow=11,SNR=76						
WRA				S	S	15 53 21.7	-5.0
	comp=Z,0.1nm,0.5s,baz=331,slow=19,SNR=1.6						

comp=Z,2.2nm,0.4s
WB2 Warramunga Arr 21.96 161 P P 15 49 25.4 -0.5
TPUB Ta-pu 23.10 345 P P 15 49 39.2 +1.3
TPUB IAmb IAmb 15 49 47.6
comp=Z,30nm,1.3s
AS31 Alice Springs 25.34 165 P P 15 49 57.5 -1.4
ASAR Alice Springs 25.34 165 P P 15 49 58.2 -0.6
comp=Z,1.0nm,0.5s,baz=344,slow=12,SNR=51
ASAR PcP **PcP 15 53 29.4 -1.9**
comp=Z,0.3nm,0.7s,baz=346,slow=2.8,SNR=4.2
ASAR S **S 15 54 27.3 +4.3**
comp=Z,0.2nm,0.7s,baz=348,slow=20,SNR=2.3
comp=Z,1.0nm,0.5s
ASAR Alice Springs 25.34 165 P P 15 49 57.5 -1.4
CTAO Charters Tower 28.25 139 P P 15 50 25.1 0.0
CTAO IAmb IAmb 15 50 38.8
comp=Z,7.2nm,1.1s
MORW Morawa 31.47 198 P P 15 50 54.7 +1.2
FORT Forrest 31.48 178 P P 15 50 53.0 -0.6
JHJ Hachijo jima 2 34.35 20 LR LR 16 05 29.6
comp=Z,43nm,18.5s,baz=191,slow=36
USRK Ussuriysk Ar. 43.41 5 P P 15 52 34.4 +0.1
comp=Z,1.2nm,0.7s,baz=170,slow=7.3,SNR=1.6
comp=Z,1.2nm,0.7s
SONM Songino Array 50.02 342 P P 15 53 26.2 0.0
comp=Z,0.4nm,0.6s,baz=169,slow=7.4,SNR=2.4
comp=Z,0.4nm,0.6s
PETK Petropavlovsk- 58.07 21 P P 15 54 25.1 +0.4
comp=Z,5.8nm,1.0s,baz=202,slow=7.3,SNR=1.4
comp=Z,5.8nm,1.0s
PETK Petropavlovsk- 58.07 21 P P 15 54 24.7 +0.1
MK31 Makanchi Array 59.94 326 P P 15 54 37.4 -0.4
MK31 IAmb IAmb 15 54 44.1
comp=Z,3.5nm,1.3s
MKAR Makanchi Array 59.94 326 P P 15 54 37.6 -0.2
comp=Z,0.6nm,0.4s,baz=117,slow=8.1,SNR=18
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 59.94 326 P P 15 54 37.2 -0.6
MAKZ Makanchi 60.12 326 P P 15 54 39.5 +0.4
MAKZ IAmb IAmb 15 54 53.4
comp=Z,3.4nm,1.1s
ZALV Zalesovo Beam 63.16 334 P P 15 54 57.2 -2.1
comp=Z,0.5nm,0.4s,baz=125,slow=5.3,SNR=1.9
comp=Z,0.5nm,0.4s
KURK Kurchatov 64.18 328 P P 15 55 06.1 -0.1
KURK IAmb IAmb 15 55 06.7
comp=Z,4.3nm,0.6s
ABKAR Akbulak array 74.40 321 P P 15 56 08.5 -0.9
GNI Garni 83.35 310 LR LR 16 40 26.3
comp=Z,29nm,18.5s,baz=302,slow=40
IMAR Indian Mountai 84.94 24 P P 15 57 06.5 +0.2
WRH Wood River Hil 87.13 26 P P 15 57 16.9 -0.3
H24K Noodor Dome 87.32 24 P P 15 57 17.4 -0.7

---

*AEIC **07** 16:33:50.5±1.9,55.4N±0.1×151.8W±0.2,h6km±8km, Error ellipse: s-maj=18.8km s-min=11.1km az=155.0*
NEIC 07 16:33:45±0.9,54.9N±0.1×151.7W±0.2,h13km±9km, ML3.6/20,ML2.8(AEIC), Error ellipse: s-maj=19.1km s-min=13.1km az=165.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SII	**Sitkinak Islan**	**2.16**	**321**	Pn	Pn	16 34 20.2	-0.6
SII				IAML		16 34 37.2	
	comp=N,318nm,4.1s						
SII				IAML		16 35 21.4	
	comp=E,289nm,3.0s						
OHAK	**Old Harbor**	**2.48**	**340**	Pn	Pn	16 34 23.5	-1.5
KDAK	**Kodiak Island**	**2.91**	**351**	Pn	Pn	16 34 29.9	-1.2
CHGN	**Chignik**	**4.05**	**293**	Pn	Pn	16 34 46.5	-0.1
CHGN				IAML		16 36 02.1	
	comp=N,74nm,3.2s						
CHGN				IAML		16 36 41.7	
	comp=E,102nm,4.2s						
Q19K	**Cape Douglas,**	**4.16**	**346**	Pn	Pn	16 34 48.2	0.0
CNPM	**China Poot**	**4.63**	**3**	Pn	Pn	16 34 53.8	-0.8
CNPM				IAML		16 37 54.1	
	comp=E,79nm,4.1s						
P19K	**Oil Pt**	**4.82**	**351**	Pn	Pn	16 34 58.1	+0.8
P18K	**Big Mountain,**	**4.88**	**338**	Pn	Pn	16 34 57.7	-0.4
P18K				IAML		16 38 04.6	
	comp=E,31nm,4.7s						
ILSW	**Iliamna Southw**	**5.14**	**352**	Pn	Pn	16 35 01.3	-0.4
ILSW				IAML		16 36 16.6	
	comp=E,49nm,3.9s						
ILSW				IAML		16 36 27.2	
	comp=N,48nm,4.8s						
O18K	**Koktuh Hills**	**5.30**	**340**	Pn	Pn	16 35 04.6	+0.8
O18K				IAML		16 36 17.1	
	comp=N,42nm,4.5s						
O18K				IAML		16 37 24.0	
	comp=E,38nm,4.7s						
N19K	**Bonanza Creek**	**6.09**	**347**	Pn	Pn	16 35 15.0	+0.2
HIN	**Hinchinbrook I**	**6.16**	**25**	Pn	Pn	16 35 15.4	-0.2
N18K	**Kilae Creek**	**6.20**	**341**	Pn	Pn	16 35 15.7	-0.4
EYAK	**Cordova Ski Ar**	**6.48**	**27**	Pn	Pn	16 35 19.3	-0.7
SVW2	**Sparrevohn**	**6.53**	**343**	Pn	Pn	16 35 20.3	-0.4
RAGM	**Ragged Mountai**	**6.65**	**32**	Pn	Pn	16 35 22.1	-0.3
BERG	**Berg Lake**	**6.96**	**35**	Pn	Pn	16 35 27.0	+0.4
GHO	**Glory Hole Cre**	**7.03**	**11**	Pn	Pn	16 35 27.5	-0.1
SML	**Sawmill**	**7.13**	**13**	Pn	Pn	16 35 28.7	-0.3
BMRM	**Bremner River**	**7.14**	**29**	Pn	Pn	16 35 29.1	0.0
WAX	**Waxell Ridge**	**7.29**	**37**	Pn	Pn	16 35 31.2	0.0
SCM	**Sheep Creek Mo**	**7.30**	**17**	Pn	Pn	16 35 31.5	+0.1
L19K	**White Mountain**	**7.47**	**349**	Pn	Pn	16 35 33.6	+0.1
ISLE	**Juniper Island**	**7.58**	**37**	Pn	Pn	16 35 35.5	+0.3
YAH	**Yahtse**	**7.63**	**40**	Pn	Pn	16 35 35.9	-0.1
N25K	**Chitina, Valde**	**7.68**	**26**	Pn	Pn	16 35 37.4	+0.9
VRDI	**Verde Repeater**	**7.69**	**31**	Pn	Pn	16 35 36.7	0.0
GLB	**Gilahina Butte**	**7.75**	**29**	Pn	Pn	16 35 37.5	0.0
M24K	**Tolsona, Glenn**	**7.76**	**20**	Pn	Pn	16 35 37.5	-0.2
KTH	**Kantishna Hill**	**8.67**	**2**	Pn	Pn	16 35 51.1	+1.0
P29M	**Windy Craggy**	**8.91**	**52**	Pn	Pn	16 35 53.3	0.0
DOT	**Dot Lake**	**9.58**	**21**	Pn	Pn	16 36 01.0	-1.5
N31M	**Braeburn, Yuko**	**10.65**	**45**	Pn	Pn	16 36 14.8	-2.4

IDC 07 16:45:25.8±2.5,21.78N×94.93E,h0km,mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=178.0km s-min=25.0km az=57.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.02**	**131**	Pg	Pb	16 46 56.8	+2.3
	0.2nm,0.3s,baz=302,slow=18,SNR=13						
MKAR	**Makanchi Array**	**26.98**	**341**	P	P	16 51 09.1	-0.1
	0.5nm,0.6s,baz=156,slow=8.6,SNR=5.3						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**56.60**	**134**	P	P	16 55 10.8	0.0
	0.4nm,0.7s,baz=321,slow=7.4,SNR=8.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**58.98**	**138**	P	P	16 55 27.5	0.0
	0.4nm,0.7s,baz=316,slow=7.0,SNR=11						
	0.4nm,0.7s						

---

*LDG **07** 16:58:31.8±0.1,43.01N×13.18E,h9km,Md3.4/1,Ml3.1/21, Error ellipse: s-maj=2.2km s-min=1.7km az=65.0*
*ROM **07** 16:58:32.5±0.1,43.016N±0.003×13.136E±0.005, h9km,ML3.4/59, Error ellipse: s-maj=0.4km s-min=0.2km az=260.0*
*PRU **07** 16:58:35.3±0.0,43.06N×13.64E,h10km*
ISC 07 16:58:32.0±0.8,42.97N±0.02×13.16E±0.02,h13km±4km, n153,σ2.80/200,18C-29D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1256	**Bolognola (MC)**	**0.06**	**56**	P	**Pg**	**16 58 34.6**	**-0.1**
T1256				AML	AML		
	comp=E,75600µm,0.8s						
T1256				AML	AML		
	comp=N,68500µm,1.2s						
FEMA	**Monte Fema**	**0.08**	**262**	P	**Pg**	**16 58 35.2**	**+0.3**
FEMA				S	**Sg**	**16 58 37.0**	**0.0**
FEMA				AML	AML		
	comp=E,89800µm,1.5s						
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
	comp=E,89800µm,1.5s						
FDMO	**Fiordimonte**	**0.08**	**319**	P	**Pg**	**16 58 34.2**	**-0.6**
T1245	**Castelsantange**	**0.12**	**170**	P	**Pb**	**16 58 36.5**	**+0.3**
T1245				AML	AML		
	comp=E,25750µm,0.7s						
T1245				AML	AML		
	comp=E,28350µm,0.7s						
T1245				AML	AML		
	comp=N,32300µm,0.9s						
T1245				AML	AML		
	comp=E,25800µm,0.7s						
T1245				AML	AML		
	comp=N,35550µm,0.9s						
CSP1	**Cessapalombo**	**0.12**	**15**	P	**Pg**	**16 58 35.2**	**-0.2**
CSP1				S	**Sg**	**16 58 36.9**	**-0.9**
CSP1				AML	AML		
	comp=E,92750µm,0.8s						
CSP1				AML	AML		
CSP1				AML	AML		
T1216	**Preci, Frazion**	**0.13**	**232**	P	**Pb**	**16 58 36.4**	**0.0**
T1216				S	**Sb**	**16 58 39.2**	**-0.1**
T1216				AML	AML		
	comp=E,42750µm,0.7s						
T1216				AML	AML		
	comp=N,60150µm,0.3s						
T1216				AML	AML		
	comp=E,42750µm,0.8s						
T1216				AML	AML		
	comp=N,60200µm,0.3s						
MMO1	**Montemonaco**	**0.14**	**121**	P	**Pb**	**16 58 36.8**	**+0.2**
MMO1				S	**Sb**	**16 58 40.0**	**+0.3**
GUMA	**Gualdo di Mace**	**0.16**	**55**	⇑P	**Pg**	**16 58 31.5**	**-4.3**
GUMA				AML	AML		
	comp=E,70350µm,0.5s						
GUMA				AML	AML		
	comp=N,74400µm,0.5s						
GUMA				AML	AML		
	comp=E,48050µm,0.8s						
GUMA				AML	AML		
	comp=N,74350µm,0.5s						
GUMA				AML	AML		
	comp=N,87200µm,0.5s						
CESI	**CESI - Serrava**	**0.19**	**280**	⇓P	**Pg**	**16 58 36.9**	**+0.6**
CESI				S	**Sg**	**16 58 40.1**	**+0.8**
CESI				AML	AML		
	comp=E,63100µm,0.5s						
CESI				AML	AML		
	comp=N,49600µm,0.4s						
MDAR	**Monte D'Aria**	**0.22**	**357**	⇓P	**Pg**	**16 58 37.0**	**+0.1**
MDAR				S	**Sg**	**16 58 39.9**	**-0.3**
MDAR				AML	AML		
	comp=E,14550µm,0.5s						
MDAR				AML	AML		
	comp=N,26650µm,0.7s						
T1241	**Roccafluvione,**	**0.23**	**120**	P	**Pb**	**16 58 38.5**	**+0.4**
T1241				S	**Sb**	**16 58 43.1**	**+0.9**
T1241				AML	AML		
	comp=E,8100µm,0.8s						
T1241				AML	AML		
	comp=N,6515µm,0.6s						
T1241				AML	AML		
	comp=E,7855µm,0.8s						
T1241				AML	AML		
	comp=N,6975µm,0.6s						
T1241				AML	AML		
	comp=N,6510µm,0.6s						
T1241				AML	AML		
	comp=E,7850µm,0.8s						
T1241				AML	AML		
	comp=E,8100µm,0.8s						
T1241				AML	AML		
	comp=N,6515µm,0.6s						
T1241				AML	AML		
	comp=N,6970µm,0.6s						
SEF1	**Sefro**	**0.23**	**318**	⇓P	**Pg**	**16 58 37.3**	**+0.3**
SEF1				AML	AML		
	comp=E,64700µm,1.2s						
SEF1				AML	AML		
	comp=N,52050µm,0.5s						
PIO1	**Pioraco**	**0.24**	**328**	P	**Pg**	**16 58 37.2**	**0.0**
PIO1				AML	AML		
	comp=E,15250µm,0.8s						
PIO1				AML	AML		
	comp=N,19300µm,1.1s						
SSM1	**San Severino M**	**0.26**	**3**	P	**Pg**	**16 58 37.5**	**+0.1**
SSM1				S	**Sg**	**16 58 41.3**	**+0.3**
FIU1	**Fiuminata**	**0.27**	**322**	P	**Pg**	**16 58 37.8**	**+0.1**
FIU1				S	**Sg**	**16 58 42.0**	**+0.4**
FIU1				AML	AML		
	comp=E,15550µm,0.3s						
FIU1				AML	AML		
	comp=N,14150µm,0.3s						
T1215	**Vallo di Nera,**	**0.28**	**232**	P	**Pb**	**16 58 38.9**	**+0.1**
T1215				S	**Sb**	**16 58 44.0**	**+0.6**
T1215				AML	AML		
	comp=N,5330µm,1.6s						
T1215				AML	AML		
	comp=E,6400µm,1.4s						
T1215				AML	AML		
	comp=N,5180µm,1.6s						
T1215				AML	AML		
	comp=N,5170µm,1.6s						
T1215				AML	AML		
	comp=E,6375µm,1.4s						
T1215				AML	AML		
	comp=E,6415µm,1.4s						
T1215				AML	AML		
	comp=N,5325µm,1.6s						
MNTP	**Montappone**	**0.28**	**54**	⇓P	**Pb**	**16 58 39.5**	**+0.6**
MNTP				S	**Sb**	**16 58 44.6**	**+1.0**
MNTP				AML	AML		
	comp=N,20400µm,1.5s						
MNTP				AML	AML		
	comp=E,25150µm,1.6s						
T1217	**Poggiodomo (PG**	**0.31**	**213**	P	**Pb**	**16 58 39.7**	**+0.2**
T1217				S	**Sb**	**16 58 45.6**	**+1.1**
T1217				AML	AML		
	comp=E,7205µm,1.2s						
T1217				AML	AML		
	comp=E,7375µm,1.2s						
T1217				AML	AML		
	comp=E,7210µm,1.2s						
T1217				AML	AML		
	comp=N,9330µm,0.6s						
T1217				AML	AML		
	comp=E,7385µm,1.2s						
T1217				AML	AML		
	comp=N,9335µm,0.6s						
T1217				AML	AML		
	comp=N,9340µm,0.6s						
T1217				AML	AML		
	comp=E,7205µm,1.2s						
T1204	**Amatrice, Fraz**	**0.32**	**159**	P	**Pb**	**16 58 40.1**	**+0.5**
T1204				S	**Sb**	**16 58 46.3**	**+1.5**
T1204				AML	AML		
	comp=E,7615µm,0.3s						
T1204				AML	AML		
	comp=N,5880µm,0.8s						
T1204				AML	AML		
	comp=E,7610µm,0.3s						
T1204				AML	AML		
	comp=N,5875µm,0.8s						
SNTG	**Esanatoglia**	**0.32**	**330**	⇓P	**Pg**	**16 58 38.6**	**0.0**
SNTG				AML	AML		
	comp=E,7115µm,1.2s						
SNTG				AML	AML		
	comp=N,6945µm,0.9s						
SNTG				AML	AML		
	comp=N,6535µm,0.9s						
SNTG				AML	AML		
	comp=E,7255µm,1.2s						
T1243	**Rocca Santa Ma**	**0.35**	**143**	P	**Pb**	**16 58 40.8**	**+0.7**
T1243				S	**Sb**	**16 58 47.2**	**+1.6**
EL6	**Elcito**	**0.36**	**353**	P	**Pg**	**16 58 39.4**	**+0.1**
EL6				S	**Sg**	**16 58 44.5**	**+0.4**
EL6				AML	AML		
	comp=E,16900µm,0.2s						
EL6				AML	AML		
	comp=N,13100µm,1.1s						
SMA1	**SAN MARTINO**	**0.37**	**159**	P	**Pb**	**16 58 40.9**	**+0.5**
SMA1				AML	AML		
	comp=E,7520µm,1.2s						
SMA1				AML	AML		
	comp=N,4980µm,0.8s						
SMA1				AML	AML		
	comp=E,7515µm,1.2s						
ASSB	**Assisi San Ben**	**0.38**	**281**	⇓P	**Pg**	**16 58 40.0**	**+0.5**
LNSS	**Leonessa**	**0.38**	**194**	⇑P	**Pb**	**16 58 41.2**	**+0.5**
LNSS				AML	AML		
	comp=E,2705µm,1.3s						
LNSS				AML	AML		
	comp=N,5520µm,0.9s						
OFFI	**Offida**	**0.39**	**96**	S	**Sg**	**16 58 43.0**	**-2.0**
CING	**Cingoli**	**0.40**	**4**	⇑P	**Pg**	**16 58 40.2**	**+0.2**
CING				AML	AML		
	comp=N,6400µm,0.3s						
CING				AML	AML		
	comp=E,11300µm,1.2s						
FOSV	**Fossato di Vic**	**0.43**	**318**	⇓P	**Pg**	**16 58 40.8**	**+0.1**
FOSV				AML	AML		
	comp=E,10670µm,0.3s						
FOSV				AML	AML		
	comp=N,12300µm,0.3s						
ATCC	**AVT- Casa Cast**	**0.44**	**299**	⇓P	**Pg**	**16 58 41.1**	**+0.4**
RM33	**Pellescritta (**	**0.47**	**175**	P	**Pb**	**16 58 42.4**	**+0.2**
RM33				S	**Sb**	**16 58 50.6**	**+1.6**
RM33				AML	AML		
	comp=E,2530µm,1.4s						
RM33				AML	AML		
	comp=N,2380µm,1.6s						
RM33				AML	AML		
	comp=E,2495µm,1.4s						
RM33				AML	AML		
	comp=N,2355µm,1.6s						
CAMP	**Campotosto**	**0.47**	**157**	S	**Sg**	**16 58 43.0**	**-4.7**
TERO	**Teramo**	**0.48**	**137**	P	**Pb**	**16 58 42.9**	**+0.6**
TERO				S	**Sb**	**16 58 51.5**	**+2.2**
TERO				AML	AML		
	comp=N,3375µm,0.7s						
TERO				AML	AML		
	comp=N,3280µm,0.7s						
TERO				AML	AML		
	comp=N,3370µm,0.7s						
TERO				AML	AML		
	comp=E,3470µm,1.4s						
TERO				AML	AML		
	comp=E,3245µm,1.4s						
MMUR	**Monte Murano**	**0.48**	**346**	⇓P	Pn	16 58 49.6	+4.9
MMUR				AML	AML		
	comp=E,15650µm,0.3s						
MMUR				AML	AML		
	comp=N,9580µm,1.3s						
ARRO	**Arrone**	**0.49**	**217**	⇑P	**Pb**	**16 58 43.2**	**+0.7**
ARRO				AML	AML		
	comp=E,2675µm,1.0s						
ARRO				AML	AML		
	comp=N,1995µm,1.6s						
T1211	**Morro Reatino**	**0.49**	**207**	⇑P	**Pb**	**16 58 43.8**	**+1.2**
T1211				AML	AML		
	comp=E,3835µm,0.7s						
T1211				AML	AML		
	comp=E,3910µm,0.7s						
T1211				AML	AML		
	comp=N,4640µm,1.3s						
T1211				AML	AML		
	comp=N,4665µm,0.6s						
PP3	**Marolino**	**0.52**	**39**	⇑P	**Pb**	**16 58 43.0**	**0.0**
PP3				AML	AML		
	comp=E,8150µm,0.6s						
PP3				AML	AML		
	comp=E,8475µm,0.6s						
PP3				AML	AML		
	comp=N,8620µm,1.1s						
PP3				AML	AML		
	comp=N,7980µm,0.9s						
SSFR	**Montelago di S**	**0.54**	**329**	⇓P	**Pg**	**16 58 42.6**	**0.0**
SSFR				AML	AML		
	comp=E,15850µm,1.2s						
SSFR				AML	AML		
	comp=N,12400µm,0.9s						
SSFR				AML	AML		
	comp=E,15550µm,1.2s						
SSFR				AML	AML		
	comp=N,13400µm,0.2s						
T1247	**Pizzolo (AQ)**	**0.54**	**169**	S	**Sn**	**16 58 55.0**	**+0.5**
ARVD	**Arcevia**	**0.55**	**343**	⇓P	**Pg**	**16 58 42.7**	**0.0**
ARVD				AML	AML		
	comp=E,6575µm,0.6s						
ARVD				AML	AML		
	comp=N,3635µm,0.2s						
MURB	**Monte Urbino**	**0.55**	**302**	⇓P	Pn	16 58 52.2	+6.5
MURB				AML	AML		
	comp=E,16150µm,1.0s						
MURB				AML	AML		
	comp=N,14350µm,0.3s						
MURB				AML	AML		
	comp=N,14050µm,0.3s						
MURB				AML	AML		
	comp=E,14650µm,1.0s						
CESX	**Cesi**	**0.56**	**230**	⇓P	**Pb**	**16 58 43.9**	**+0.2**
CESX				S	**Sn**	**16 58 54.0**	**-0.9**
CESX				AML	AML		
	comp=N,6590µm,0.7s						
CESX				AML	AML		
	comp=E,5755µm,1.3s						
TRTR	**Tortoreto Alta**	**0.58**	**106**	S	**Sg**	**16 58 47.0**	**-3.9**
ATFO	**Monte Foce - G**	**0.58**	**313**	P	**Pg**	**16 58 43.3**	**-0.1**
ATFO				AML	AML		
	comp=N,3515µm,1.0s						
ATFO				AML	AML		
	comp=E,2885µm,0.4s						
GIGS	**Gran Sasso**	**0.60**	**150**	S	**Sn**	**16 58 56.0**	**-0.1**
FRON	**Frontone**	**0.63**	**330**	⇓P	**Pg**	**16 58 44.1**	**-0.2**
FRON				AML	AML		
	comp=E,4170µm,0.4s						
FRON				AML	AML		
	comp=N,7630µm,0.3s						
ATTE	**AVT- Monte Tez**	**0.63**	**291**	P	**Pg**	**16 58 44.5**	**+0.1**
ATTE				AML	AML		
	comp=E,1930µm,0.4s						
ATTE				AML	AML		
	comp=N,2365µm,0.6s						
AOI	**Ancona**	**0.66**	**29**	P	**Pb**	**16 58 45.7**	**+0.3**
AOI				AML	AML		
	comp=N,2455µm,0.4s						
AOI				AML	AML		
	comp=E,2220µm,0.7s						
ATVO	**AVT- Monte Val**	**0.69**	**307**	⇓P	**Pg**	**16 58 45.3**	**-0.1**
ATVO				AML	AML		
	comp=E,2005µm,0.3s						
ATVO				AML	AML		
	comp=N,1960µm,0.4s						
MPAG	**Monte Paganucc**	**0.72**	**336**	⇓P	**Pg**	**16 58 45.9**	**-0.1**
MPAG				AML	AML		
	comp=E,3130µm,0.4s						
MPAG				AML	AML		
	comp=N,2765µm,0.8s						
MPAG				AML	AML		
	comp=N,2505µm,0.8s						
MPAG				AML	AML		
	comp=E,3100µm,0.4s						
ATPI	**Pietralunga -**	**0.73**	**311**	⇓P	**Pg**	**16 58 46.2**	**0.0**
SENI	**Senigallia**	**0.73**	**4**	P	**Pn**	**16 58 47.7**	**-0.3**
NARO	**Abbazia di Nar**	**0.77**	**327**	⇓P	**Pg**	**16 58 46.5**	**-0.4**
NARO				AML	AML		
	comp=E,1605µm,1.2s						
NARO				AML	AML		
	comp=N,1050µm,0.9s						
VCEL	**Villa Celiera**	**0.77**	**139**	P	**Pn**	**16 58 48.6**	**0.0**
VCEL				S	**Sn**	**16 59 01.6**	**+1.5**
FSSB	**Fossombrone**	**0.77**	**339**	⇓P	**Pg**	**16 58 47.1**	**+0.1**
FSSB				AML	AML		
	comp=N,19400µm,0.4s						
FSSB				AML	AML		
	comp=E,8530µm,0.3s						
MGAB	**Montegabbione**	**0.77**	**266**	⇑P	**Pb**	**16 58 47.6**	**+0.2**
MGAB				AML	AML		
	comp=E,2975µm,0.6s						
MGAB				AML	AML		
	comp=N,4380µm,0.6s						
MGAB				AML	AML		
	comp=E,3665µm,0.6s						
MGAB				AML	AML		
	comp=N,4630µm,0.6s						
APEC	**Apecchio**	**0.80**	**317**	P	**Pb**	**16 58 48.0**	**+0.3**
BADI	**Badiali**	**0.86**	**309**	⇓P	**Pg**	**16 58 48.5**	**-0.1**
BADI				AML	AML		
	comp=E,120µm,1.0s						
BADI				AML	AML		
	comp=N,1135µm,0.4s						
PE3	**Peglio**	**0.87**	**326**	⇑P	**Pb**	**16 58 48.9**	**-0.1**
PE3				AML	AML		
	comp=N,22µm,0.9s						
PE3				AML	AML		
	comp=E,19µm,0.9s						
SACS	**San Casciano d**	**0.93**	**263**	⇑P	**Pn**	**16 58 51.2**	**+0.4**
SACS				AML	AML		

comp=E,1715µm,0.6s
SACS AML AML
comp=E,1575µm,0.7s
SACS AML AML
comp=N,2160µm,0.8s
SACS AML AML
comp=N,2150µm,0.8s
CAFI Castiglion Fio 0.94 293 ⇑P **Pb 16 58 50.4 +0.1**
CAFI AML AML
comp=E,1315µm,0.6s
CAFI AML AML
comp=E,1340µm,0.6s
CAFI AML AML
comp=N,1206µm,1.0s
CAFI AML AML
comp=N,1170µm,1.0s
SSP9 Sansepolcro 0.96 309 ⇑P **Pn 16 58 51.3 0.0**
SSP9 AML AML
comp=N,1091µm,0.5s
SSP9 AML AML
comp=E,1230µm,1.6s
CPGN Carpegna, Ital 1.03 324 ⇓P **Pn 16 58 52.7 +0.4**
MCIV Monte Civitell 1.11 260 ⇑P **Pg 16 58 54.6 +1.3**
MCIV AML AML
comp=N,423µm,0.9s
MCIV AML AML
comp=E,561µm,0.7s
SF04 Casetta 1.11 263 ⇓P **Pg 16 58 54.9 +1.5**
SF01 Poggio Pratacc 1.19 263 P **Pn 16 58 53.2 -1.2**
SF01 AML AML
comp=E,593µm,0.9s
SF01 AML AML
comp=N,805µm,1.0s
SFI Santa Sofia 1.33 315 ⇑P **Pg 16 58 58.0 +0.4**
SFI AML AML
comp=N,490µm,0.8s
SFI AML AML
comp=E,572µm,1.2s
MTCR Monte La Croce 1.89 305 P **Pn 16 59 04.8 +0.7**
NDIM Novi di Modena 2.52 320 S **Sg 16 59 60.0 +7.2**
SKDS Skadanscina 2.64 13 *e*Pn **Pn 16 59 15.4 +1.1**
SKDS *e*Sn **Sn 16 59 47.8 +1.5**
SKDS IAML 16 59 48.7
comp=Z,40nm,0.3s
CEY Cerknica 2.91 18 *e*Pn **Pn 16 59 19.9 +1.9**
SABO M.te Sabotino 3.02 6 ⇑P **Pn 16 59 21.2 +1.6**
SABO AML AML
comp=N,1415µm,0.7s
SABO AML AML
comp=E,305µm,0.6s
SABO AML AML
comp=N,387µm,0.7s
SABO AML AML
comp=E,1275µm,1.2s
CGRP Cima Grappa 3.06 342 ⇑P **Pn 16 59 22.2 +1.9**
PGF Pioggiola 3.09 264 *e*P **Pn 16 59 22.4 +1.8**
PGF *e*Sn **Sn 16 59 54.4 -3.1**
comp=E,24nm,0.8s
MGRS Mrkonjic Grad 3.19 62 *e*Pn **Pn 16 59 25.3 +3.4**
DOSS Dosso del Somm 3.23 335 ⇓P **Pb 16 59 26.0 -3.3**
DOSS AML AML
comp=E,172µm,0.5s
DOSS AML AML
comp=N,175µm,0.9s
CTI Castel Tesino 3.26 341 P **Pn 16 59 25.4 +2.5**
CTI AML AML
comp=N,216µm,0.3s
CTI AML AML
comp=E,202µm,1.6s
MPRI Monte Prat 3.27 358 P **Pn 16 59 25.4 +2.4**
MPRI AML AML
comp=E,319µm,0.7s
MPRI AML AML
comp=N,267µm,1.4s
STON Ston 3.33 90 *e*Pn **Pn 16 59 25.7 +1.9**
CIMO Cimolais 3.38 351 P **Pn 16 59 25.9 +1.4**
CIMO AML AML
comp=E,55µm,0.6s
CIMO AML AML
comp=N,60µm,0.6s
LUSI Trento, Gardas 3.38 333 ⇓P **Pb 16 59 28.8 -3.0**
A051A Mrakovica 3.38 52 *e*Pn **Pn 16 59 27.5 +2.9**
BLY Banja Luka 3.41 57 *e*Pn **Pb 16 59 32.0 -0.2**
ACOM Acomizza, Ital 3.58 4 ⇑P **Pn 16 59 30.1 +2.7**
ACOM AML AML
comp=E,306µm,0.9s
ACOM AML AML
comp=N,246µm,0.9s
ACOM AML AML
comp=N,213µm,0.9s
ACOM AML AML
comp=E,306µm,0.8s
ZOU Zoufplan 3.58 358 ⇑P **Pn 16 59 29.4 +1.9**
ZOU AML AML
comp=E,166µm,1.1s
ZOU AML AML
comp=N,181µm,1.6s
ZOU AML AML
comp=E,166µm,1.1s
ZOU AML AML
comp=N,157µm,1.4s
OBKA Obir 3.67 15 *e*Pn **Pn 16 59 31.1 +2.5**
MYKA Terra Mystica 3.67 5 *i* Pn **Pn 16 59 30.8 +2.2**
comp=N,7.8nm,0.3s,SNR=6.8
KOSI Kohlern 3.71 341 ⇓P **Pn 16 59 32.0 +2.8**
APPI Appiano 3.77 339 ⇓P **Pn 16 59 32.5 +2.6**
MILN Milano 3.77 313 P **Pn 16 59 30.6 +0.7**
ABTA Abfaltersbach 3.80 353 *i* Pn **Pn 16 59 32.7 +2.3**
comp=N,66nm,0.5s,SNR=90
ABTA *i* Sn **Sn 17 00 16.0 +1.1**
comp=N,23nm,0.6s
TREB Trebinje 3.82 92 *e*Pn **Pn 16 59 33.7 +3.1**
RISI Rein 4.05 349 ⇓P **Pn 16 59 33.3 -0.5**
KBA Koelnbreinsper 4.11 2 *i* Pn **Pn 16 59 37.9 +3.3**
comp=N,5.3nm,0.3s,SNR=4.2
KBA *i* Sn **Sn 17 00 23.5 +0.9**
comp=N,25nm,0.5s
KBA Koelnbreinsper 4.11 2 *e*Pn **Pn 16 59 38.0 +3.3**
ROSI Rosskopf 4.14 343 ⇑P **Pn 16 59 38.0 +2.8**
SBF Sospel 4.26 284 *e*P **Pn 16 59 38.3 +1.6**
SBF *e*Sn **Sn 17 00 22.0 -4.4**
comp=N,17nm,0.5s
FETA Feichten 4.40 338 *i* Pn **Pn 16 59 41.7 +3.1**
comp=N,5.6nm,0.3s,SNR=17
WTTA Wattenberg 4.42 346 *e*Pn **Pn 16 59 42.2 +3.2**
comp=N,13nm,0.5s,SNR=5.6
WTTA Wattenberg 4.42 346 *e*Pn **Pn 16 59 42.4 +3.4**
WTTA Wattenberg 4.42 346 ⇓P **Pn 16 59 42.9 +4.0**
SQTA Sankt Quirin 4.47 343 *i* Pn **Pn 16 59 43.4 +3.9**
comp=N,35nm,0.4s,SNR=9.3
WATA Walderalm 4.50 346 *e*Pn **Pn 16 59 43.6 +3.6**
comp=N,22nm,0.5s,SNR=14
DRME Dracevica, Mon 4.52 98 *e*Pn **Pn 16 59 43.9 +3.8**
ARSA Arzberg 4.59 21 *i* Pn **Pn 16 59 42.7 +1.5**
comp=N,2.5nm,0.3s,SNR=5.7
ARSA Arzberg 4.59 21 *e*Pn **Pn 16 59 42.6 +1.5**
ARSA Arzberg 4.59 21 ⇓P **Pn 16 59 43.0 +1.8**
MOTA Moosalm 4.61 342 *i* Pn **Pn 16 59 44.7 +3.2**
comp=N,16nm,0.5s,SNR=18
BBLS Lazići 4.63 77 *e*Pn **Pn 16 59 43.4 +1.6**
BIOA Bad Ischl, Aus 4.73 4 *i* Pn **Pn 16 59 46.0 +2.9**
comp=N,12nm,0.3s,SNR=5.9
RETA Reutte 4.82 340 *i* Pn **Pn 16 59 47.4 +3.1**
comp=N,6.0nm,0.3s,SNR=13
PLONS Plons/SG 4.88 328 *e*Pn **Pn 16 59 49.7 +4.6**
PLONS *e*Sn **Sn 17 00 47.3 +5.8**
LMR La Mourre 4.88 276 *e*P **Pn 16 59 46.6 +1.5**
LMR *e*Sn **Sn 17 00 36.7 -4.7**
comp=N,1.3nm,0.4s
DAVA Damuels 4.90 333 *e*Pn **Pn 16 59 47.4 +1.9**
comp=N,13nm,0.7s,SNR=7.0
DAVA Damuels 4.90 333 *e*Pn Pn 16 59 51.0 +5.6
MOA Molln 4.94 9 *i* Pn **Pn 16 59 48.1 +2.2**
comp=N,1.9nm,0.3s,SNR=7.4
MOA Molln 4.94 9 *e*Pn **Pn 16 59 49.0 +3.1**
MOA *e*Sn **Sn 17 00 46.1 +3.2**
MBDF Montbardon 4.94 293 *e*P **Pn 16 59 48.7 +2.6**
MBDF *e*Sn **Sn 17 00 38.2 -5.0**
comp=N,8.8nm,0.8s
UBR Ueberruh 5.18 336 *e*Pn **Pn 16 59 53.3 +4.1**
LPG La Plagne 5.25 301 *e*P **Pn 16 59 53.2 +2.8**
LPG *e*Sn **Sn 17 00 45.6 -5.4**
comp=N,6.9nm,0.6s
LPL La Plagne 5.27 301 *e*P **Pn 16 59 53.3 +2.6**
LPL *e*Sn **Sn 17 00 46.1 -5.3**
comp=N,9.1nm,0.5s

CONA Conrad Observa 5.31 20 *i* Pn **Pn 16 59 52.7 +1.7**
comp=N,1.3nm,0.2s,SNR=8.9
ORIF Oris-en-Rattie 5.61 293 *e*P **Pn 16 59 57.9 +2.8**
ORIF *e*Sn **Sn 17 00 53.9 -5.5**
comp=N,3.7nm,0.5s
SMRF Simiane la Rot 5.61 283 *e*P **Pn 16 59 58.0 +2.8**
SMRF *e*Sn **Sn 17 00 54.1 -5.4**
comp=N,2.7nm,0.5s
SLE Schleitheim 5.81 327 *e*Pn **Pn 17 00 00.5 +2.6**
BALST Balsthal 5.83 320 *e*Pn **Pn 17 00 01.1 +3.0**
BALST *e*Sn **Sn 17 01 11.1 +6.3**
GEC2 GERESS Array S 5.88 3 *e*Pn **Pn 17 00 00.6 +1.7**
GEC2 *e*Sn **Sn 17 01 07.0 +0.7**
CKRC Cesky Krumlov 5.90 7 *e*PN **Pn 16 59 59.7 +0.6**
CKRC *e*SN **Sn 17 01 04.4 -2.2**
KHC Kasperske Hory 6.17 3 *e*PN **Pn 17 00 03.9 +1.1**
KHC *e*SN **Sn 17 01 11.5 -1.6**
WET Wettzell 6.17 358 *e*Pn **Pn 17 00 04.2 +1.3**
WET *e*Sn **Sn 17 01 10.7 -2.6**
CABF La Chapelle 6.21 308 *e*P **Pn 17 00 06.0 +2.6**
CABF *e*Sn **Sn 17 01 08.2 -6.1**
comp=N,7.5nm,0.6s
VIVF Saint-Julien-l 6.41 290 *e*P **Pn 17 00 08.9 +2.7**
VIVF *e*Sn **Sn 17 01 13.0 -6.2**
comp=N,1.6nm,0.5s
HINF Hinteralfeld 6.57 320 *e*P **Pn 17 00 09.7 +1.4**
HINF *e*Sn **Sn 17 01 16.6 -6.5**
comp=N,12nm,0.5s
VYHS Vyhne 6.80 34 *e*PN Pb 17 00 21.4 -8.6
VYHS *e*SN **Sn 17 01 30.0 +1.3**
CDF Champ du Feu 6.82 325 *e*P **Pn 17 00 13.3 +1.5**
CDF *e*Sn **Sn 17 01 22.8 -6.6**
comp=N,6.0nm,0.5s
ROTZ Rotzenmuhle 6.83 355 *e*Sn **Sn 17 01 27.3 -2.1**
GRF Grafenberg Arr 6.85 349 *e*Sn **Sn 17 01 29.3 -0.7**
LASF Ste Croix 6.85 282 *e*P **Pn 17 00 15.3 +3.1**
LASF *e*Sn **Sn 17 01 23.8 -6.3**
comp=N,0.8nm,0.3s
HAU Haudompre 6.94 319 *e*P **Pn 17 00 15.3 +1.9**
HAU *e*Sn **Sn 17 01 25.5 -6.8**
comp=N,12nm,0.4s
GOPC GO Pecny, Ondr 7.03 9 *e*SN **Sn 17 01 31.4 -3.0**
MANZ Manzenberg 7.05 354 *e*Pn **Pn 17 00 17.4 +2.5**
MANZ *e*Sn **Sn 17 01 32.1 -2.8**
PRU Pruhonice 7.08 7 *e*PN **Pn 17 00 15.9 +0.6**
PRU *e*SN **Sn 17 01 33.0 -2.6**
NKC Novy Kostel 7.28 356 *e*SN **Sn 17 01 38.4 -2.1**
GUNZ Gunzen 7.42 356 *e*Pn **Pn 17 00 22.2 +2.3**
SMF Signal de Mont 7.58 302 *e*P **Pn 17 00 25.5 +3.4**
SMF *e*Sn **Sn 17 01 40.8 -7.0**
comp=N,4.5nm,0.5s
PAGF Fort de Pagny 7.63 320 *e*P **Pn 17 00 25.8 +3.0**
PAGF *e*Sn **Sn 17 01 41.6 -7.4**
comp=N,6.5nm,0.4s
SFTF Sexfontaines 7.73 315 *e*P **Pn 17 00 27.6 +3.4**
SFTF *e*Sn **Sn 17 01 44.4 -7.2**
comp=N,7.6nm,0.3s
LOR Lormes 7.85 306 *e*P **Pn 17 00 28.8 +2.9**
LOR *e*Sn **Sn 17 01 47.1 -7.6**
comp=N,2.1nm,0.3s
BRG Berggiesshubel 7.92 4 *e*P Pb 17 00 43.6 -5.5
BRG Amp 17 00 44.4
comp=Z,1.7nm,0.5s
BRG *ex* x 17 01 52.6
BRG *ex* x 17 03 01.7
BRG Amp 17 03 15.1
comp=Z,16nm,1.6s
AVF Avril sur Loir 7.94 302 *e*P **Pn 17 00 30.3 +3.2**
SAVF Savonnieres en 7.96 318 *e*P **Pn 17 00 30.8 +3.5**
MTLF Montolieu 8.01 276 *e*P **Pn 17 00 32.5 +4.4**
MTLF *e*Sn **Sn 17 01 51.5 -7.0**
comp=Z,0.6nm,0.3s
BGF Bois d'Agland 8.17 300 *e*P **Pn 17 00 33.8 +3.6**
CLL Collm 8.34 359 *e*Pn **Pn 17 00 34.0 +1.5**
CLL *ex* x 17 00 38.0
CLL *ex* x 17 02 06.0
CLL *e*Sg **Sg 17 02 58.0 -1.4**
comp=Z,15nm,1.2s
CLL *ex* x 17 03 09.0
comp=Z,15nm,1.2s

*WEL **07** 16:59:00,39˙38S×173˙77E,h17km,ML5.0,Mw4.7, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁶ Nm; Mrr=0.06; Mθθ=0.50; Mϕϕ=-0.44; Mrθ=-0.27; Mθϕ=1.25; Mϕr=-0.86; Fault plane solution: M0=1.61000×10¹⁶ NP1: ϕs=191.00000°,δ=90.00000°,λ=146.00000°. Principal axes: T 1675.9400, Plg=23.0000°, Azm=141.0000°; N -130.7800, Plg=56.0000°, Azm=11.0000°; P -1545.1600, Plg=23.0000°, Azm=241.0000°;*
*IDC **07** 16:59:05.5±0.7,39˙54S×173˙73E,h0km,mb4.2/8, mbtmp4.2/9,ML4.7/2,MS3.8/33 Error ellipse: s-maj=20.5km s-min=18.1km az=55.0*
*BJI **07** 16:59:06.5±0.0,39˙52S×173˙48E,h11km,mb5.3/4, mB5.5/2,Ms5.0/1,Ms7 4.9/1*
*NEIC **07** 16:59:06.4±0.8,39˙37S±0˙05×173˙8E±0˙1,h13km±3km, Error ellipse: s-maj=14.2km s-min=5.0km az=116.0*
*WEL **07** 16:59:07.2±0.6,39˚S±3˙×17˙4E±˚,h14km±2km,M5.1/11, ML5.4/11,MLv5.1/11,Error ellipse: s-maj=0.0km s-min=0.0km az=137.1*
ISC 07 16:59:07.8±0.9,39˙38S±0˙03×173˙74E±0˙03,h17km±5km, n251,σ1°29/240,mb4.6/15,MS3.8/32,Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.11**	**106**	P	**Pb**	**16 59 11.4**	**0.0**
NMEZ				S	**Sb**	**16 59 14.2**	**+0.4**
NBEZ	**Newall Road No**	**0.15**	**41**	P	**Pg**	**16 59 12.2**	**+0.3**
NBEZ				S	**Sg**	**16 59 15.7**	**+1.0**
KHEZ	**Kahui Hut**	**0.23**	**68**	P	**Pb**	**16 59 13.1**	**-0.4**
PKE	**Pukeiti**	**0.27**	**46**	P	**Pb**	**16 59 13.9**	**-0.2**
NEZ	**North Egmont**	**0.30**	**68**	P	**Pb**	**16 59 13.9**	**-0.7**
PREZ	**Palmer Road**	**0.33**	**83**	P	**Pb**	**16 59 14.7**	**-0.4**
PREZ				S	**Sb**	**16 59 20.0**	**-0.1**
DREZ	**Durham Road**	**0.41**	**62**	P	**Pb**	**16 59 16.0**	**-0.5**
LREZ	**Lake Rotokare**	**0.52**	**99**	P	**Pb**	**16 59 18.0**	**-0.3**
LREZ				S	**Sb**	**16 59 26.0**	**+0.4**
MHEZ	**Mangahewa**	**0.55**	**56**	P	**Pb**	**16 59 18.4**	**-0.5**
VRZ	**Vera Road**	**0.83**	**72**	P	**Pg**	**16 59 22.6**	**-1.4**
WAZ	**Wanganui**	**1.03**	**111**	P	**Pb**	**16 59 26.3**	**-0.8**
HIZ	**Hauiti**	**1.23**	**45**		**Pn**	**16 59 28.7**	**-1.4**
HIZ	**Hauiti**	**1.23**	**45**	P	**Pn**	**16 59 28.7**	**-1.4**
HIZ				S	**Sg**	**16 59 46.0**	**-1.6**
PKVZ	**Pokaka**	**1.25**	**86**	P	**Pn**	**16 59 29.6**	**-0.9**
PKVZ				S	**Sg**	**16 59 46.8**	**-1.4**
MTVZ	**Mangateitei**	**1.34**	**91**	P	**Pn**	**16 59 31.4**	**-0.3**
MTVZ				S	**Sg**	**16 59 50.1**	**-1.1**
TWVZ	**Taurewa**	**1.35**	**77**	P	**Pn**	**16 59 31.0**	**-1.0**
TWVZ				S	**Sb**	**16 59 48.2**	**-1.5**
TRVZ	**Turoa**	**1.41**	**87**	P	**Pn**	**16 59 32.4**	**-0.4**
TRVZ				S	**Sb**	**16 59 50.9**	**-0.4**
FWVZ	**Far West T-bar**	**1.41**	**85**	P	**Pn**	**16 59 32.3**	**-0.5**
FWVZ				S	**Sn**	**16 59 50.2**	**-1.0**
DRZ	**Dome Shelter**	**1.42**	**86**	P	**Pb**	**16 59 33.2**	**-0.7**
DRZ				S	**Sb**	**16 59 51.2**	**-0.6**
DUWZ	**D'Urville Isla**	**1.42**	**174**	P	**Pn**	**16 59 32.7**	**-0.1**
DUWZ				S	**Sn**	**16 59 52.9**	**+1.7**
WHVZ	**Whangaehu Hut**	**1.44**	**87**	P	**Pn**	**16 59 32.7**	**-0.4**
WHVZ				S	**Sn**	**16 59 51.3**	**-0.4**
WNVZ	**Wahianoa**	**1.44**	**88**	P	**Pn**	**16 59 32.9**	**-0.2**
WNVZ				S	**Sn**	**16 59 51.4**	**-0.4**
NGZ	**Ngauruhoe**	**1.46**	**82**	P	**Pn**	**16 59 33.0**	**-0.4**
NGZ				S	**Sn**	**16 59 51.7**	**-0.5**
WTVZ	**West Tongariro**	**1.46**	**80**	P	**Pn**	**16 59 33.0**	**-0.4**
WTVZ				S	**Sn**	**16 59 51.4**	**-0.8**
OHWZ	**Ohakea**	**1.47**	**125**	P	**Pb**	**16 59 34.3**	**-0.2**
OHWZ				S	**Sg**	**16 59 54.6**	**-0.5**
NNVZ	**North Ngauruho**	**1.48**	**81**	P	**Pn**	**16 59 33.3**	**-0.4**
SNVZ	**South Ngauruho**	**1.49**	**83**	P	**Pn**	**16 59 33.6**	**-0.2**
SNVZ				S	**Sb**	**16 59 53.3**	**-0.3**
TUVZ	**Tukino**	**1.49**	**86**	P	**Pb**	**16 59 34.0**	**-1.0**
KRVZ	**Karewarewa**	**1.50**	**80**	P	**Pn**	**16 59 33.8**	**-0.2**
OTVZ	**Oturere**	**1.51**	**82**	P	**Pn**	**16 59 33.8**	**-0.3**
NTVZ	**North Tongarir**	**1.53**	**80**	P	**Pn**	**16 59 33.9**	**-0.4**
TMVZ	**Te Maari**	**1.55**	**81**	P	**Pn**	**16 59 34.5**	**-0.1**
ETVZ	**East Tongariro**	**1.55**	**81**	P	**Pb**	**16 59 34.8**	**-1.2**
MOVZ	**Moawhango**	**1.56**	**92**	P	**Pn**	**16 59 34.2**	**-0.5**
KATZ	**Kakaramea**	**1.57**	**76**	P	**Pn**	**16 59 34.8**	**-0.1**
RATZ	**Rangitukua**	**1.66**	**73**	P	**Pn**	**16 59 36.1**	**0.0**

RITZ Rihia Road 1.70 77 P **Pb 16 59 37.0 -1.5**
QRZ Quartz Range 1.71 212 **Pn 16 59 36.2 -0.6**
QRZ Quartz Range 1.71 212 P **Pn 16 59 36.3 -0.6**
KIW Kapiti Island 1.73 149 P **Pn 16 59 37.5 +0.6**
TKNZ Takaka Hill 1.75 200 P **Pn 16 59 37.6 +0.2**
TLZ Tolley Road 1.75 54 P **Pn 16 59 36.8 -0.5**
BHHZ Black Hill Sta 1.80 94 P **Pn 16 59 38.1 +0.1**
OGWZ Otaki Gorge 1.80 143 P **Pn 16 59 38.9 +0.8**
TSZ Takapari Road 1.84 112 P **Pn 16 59 39.2 +0.7**
NNZ Nelson 1.85 188 **Pn 16 59 39.0 +0.3**
NNZ Nelson 1.85 188 P **Pn 16 59 39.1 +0.4**
POWZ Post Office Ro 1.86 123 P **Pn 16 59 39.9 +1.2**
WHTZ Whakaora 1.87 68 P **Pb 16 59 41.1 -0.3**
TCW Tory Channel 1.87 168 P **Pn 16 59 39.7 +0.7**
HATZ Hinemaiaia 1.89 76 P **Pb 16 59 39.9 -1.9**
MRZ Mangatainoka R 1.90 133 P **Pn 16 59 40.5 +1.1**
PNHZ Pukenui 1.97 106 P **Pn 16 59 40.9 +0.6**
CAW Cannon Point 2.00 150 P **Pn 16 59 41.4 +0.7**
HOWZ Holdsworth Sta 2.04 139 P **Pn 16 59 42.6 +1.3**
TUWZ Tuamarina 2.05 176 **Pn 16 59 42.1 +0.7**
TUWZ Tuamarina 2.05 176 P **Pn 16 59 42.1 +0.7**
WEL Wellington 2.06 158 P **Pn 16 59 42.6 +1.1**
PRWZ Pori Road 2.08 125 P **Pb 16 59 44.1 -0.8**
WPRZ Whakapapatarin 2.08 66 P **Pn 16 59 41.5 -0.3**
KWHZ Kaweka Forest 2.08 92 P **Pn 16 59 42.8 +0.9**
DVHZ Dannevirke 2.08 117 P **Pn 16 59 43.2 +1.3**
GRRZ Galatos Road 2.12 62 P **Pn 16 59 42.2 -0.2**
BKZ Black Stump Fm 2.15 85 **Pn 16 59 42.8 0.0**
BKZ Black Stump Fm 2.15 85 P **Pn 16 59 42.8 0.0**
MRNZ Matariki Terra 2.15 200 P **Pn 16 59 43.4 +0.6**
TOZ Tahuroa Road 2.15 41 P **Pn 16 59 41.9 -0.8**
MRHZ Matea Rd 2.15 76 P **Pn 16 59 43.6 +0.7**
TIWZ Tintock 2.16 131 P **Pn 16 59 45.3 -1.0**
ALRZ Allen Road 2.19 69 P **Pn 16 59 43.9 +0.6**
WPHZ Waipukurau 2.19 109 P **Pb 16 59 45.8 -1.1**
HRRZ Handcock Road 2.22 64 P **Pb 16 59 45.0 -2.4**
MTW Mount Morrison 2.23 143 P **Pn 16 59 45.7 +1.9**
HSRZ Hossack Road 2.23 62 P **Pn 16 59 44.0 +0.1**
PRRZ Plateau Road 2.25 68 P **Pb 16 59 47.2 -0.7**
UTU Utuhina 2.27 59 P **Pb 16 59 46.1 -2.0**
MCHZ McNeill Hill 2.29 92 P **Pn 16 59 47.4 -1.2**
NGRZ Ngongotaha 2.30 57 P **Pn 16 59 45.7 +0.8**
KMRZ Kaimai 2.31 49 P **Pn 16 59 45.7 +0.8**
BFZ Birch Farm 2.32 125 P **Pn 16 59 46.9 +1.8**
BSWZ Blackbirch Sta 2.33 177 P **Pn 16 59 46.4 +1.2**
HLRZ Highlands Stat 2.33 62 P **Pb 16 59 49.5 +0.2**
MSWZ Moikau Station 2.33 151 P **Pn 16 59 46.8 +1.5**
ANWZ Angora Road 2.36 118 P **Pn 16 59 47.8 +2.1**
PAWZ Paruwai Farm 2.38 148 P **Pn 16 59 47.6 +1.7**
TMWZ Te Maipa 2.38 137 P **Pn 16 59 49.1 -1.1**
KARZ Kaharoa 2.38 56 P **Pb 16 59 48.2 -2.0**
CMWZ Cape Campbell 2.39 171 P **Pb 16 59 49.1 -1.2**
NMHZ Naumai 2.40 84 P **Pb 16 59 47.9 -2.6**
PRHZ Porangahau 2.40 113 P **Pn 16 59 48.3 +2.1**
RRRZ Republican Roa 2.40 65 P **Pb 16 59 48.3 -2.2**
OMRZ Omania 2.42 59 P **Pb 16 59 50.9 +0.1**
AWAZ Awhitu Peninsu 2.42 17 P **Pn 16 59 46.5 0.0**
CPWZ Castlepoint 2.43 130 P **Pb 16 59 51.0 +0.1**
TARZ Mount Tarawera 2.45 63 P **Pb 16 59 51.7 +0.5**
KAHZ Kahuranaki 2.46 101 P **Pb 16 59 50.5 -1.0**
MTHZ Maungataniwha 2.47 79 P **Pn 16 59 47.5 +0.3**
PLWZ Palliser 2.47 153 P **Pn 16 59 48.9 +1.7**
LIRZ Lichensteins R 2.49 57 P **Pb 16 59 50.0 -1.9**
PXZ Pawanui 2.49 106 P **Pb 16 59 50.9 -1.2**
TRWZ Traveller 2.50 144 P **Pn 16 59 49.7 +2.1**
ARHZ Aropaoanui 2.53 88 P **Pb 16 59 50.0 -2.6**
MUPZ Murupara 2.53 70 P **Pb 16 59 51.0 -1.1**
WTAZ Waiatarua 2.53 15 P **Pn 16 59 48.5 +0.5**
MKAZ Moumakai 2.54 27 P **Pn 16 59 47.9 -0.2**
TGRZ Tauranga 2.58 51 P **Pn 16 59 48.4 -0.2**
CKHZ Cape Kidnapper 2.60 97 P **Pb 16 59 51.5 -2.3**
ETAZ East Tamaki Re 2.60 21 P **Pn 16 59 49.1 +0.2**
EPAZ Eden Park BICE 2.62 18 P **Pn 16 59 49.8 +0.6**
RTZ Ruatahuna 2.64 74 P **Pn 16 59 51.2 +1.6**
RAHZ Arahi 2.64 81 P **Pn 16 59 50.9 +1.4**
HBAZ Herne Bay Bore 2.65 17 P **Pn 16 59 50.3 +0.7**
OPRZ Ohinepanea 2.69 56 P **Pn 16 59 49.8 -0.3**
MARZ Manawahe 2.69 60 P **Pb 16 59 55.3 -0.1**
RVAZ Riverhead Bore 2.69 15 P **Pn 16 59 50.2 +0.1**
WHHZ Waihua 2.73 85 P **Pb 16 59 53.3 -2.8**
MBAZ Motutapu North 2.77 20 P **Pn 16 59 51.4 +0.2**
DSZ Denniston Nort 2.78 211 P **Pn 16 59 51.6 +0.1**
WIAZ Waiheke Island 2.81 23 P **Pn 16 59 52.3 +0.5**
URZ Urewera 2.86 68 Pn **Pb 16 59 55.2 -3.1**
40nm,0.3s,baz=319,slow=7.3,SNR=96
URZ Sn **Sb 17 00 30.6 -2.4**
86nm,0.3s,baz=258,slow=22,SNR=3.2
URZ LR LR 17 01 18.6
comp=Z,3µm,18.0s,baz=278,slow=45
520nm,0.5s
URZ Urewera 2.86 68 P **Pn 16 59 54.0 +1.5**
SNGZ Shannon Statio 2.87 79 P **Pn 16 59 54.8 +2.2**
MYRZ Mayor Island 2.88 44 P **Pb 16 59 56.9 -1.7**
ABAZ Army Bay 2.91 18 P **Pn 16 59 53.4 +0.2**
RAWZ Rawiri 3.00 74 P **Pn 16 59 57.9 -2.9**
KHZ Kahutara 3.03 183 P **Pn 16 59 56.5 +1.6**
KUZ Kuaotunu 3.06 31 P **Pn 16 59 54.5 -0.8**
KNZ Kokohu 3.08 85 P **Pn 16 59 56.7 +1.2**
MWZ Matawai 3.14 72 P **Pn 16 59 57.4 +1.0**
RIGZ Rimuhau 3.20 79 P **Pn 16 59 59.2 +2.0**
MHGZ Mahia Peninsul 3.24 87 P **Pn 16 59 58.9 +1.1**
TKGZ Te Karaka 3.34 75 P **Pn 17 00 01.5 +2.3**
RUGZ Raukumara Rang 3.39 67 P **Pn 17 00 01.4 +1.4**
GRZ Great Barrier 3.41 24 P **Pn 16 59 59.7 -0.4**
WCZ Waipu Caves 3.47 8 P **Pn 17 00 01.1 +0.2**
TWGZ Tauwhareparae 3.53 71 P **Pn 17 00 04.1 +2.4**
HAZ Te Kaha 3.56 64 P **Pn 17 00 02.8 +0.7**
LTZ Lake Taylor 3.57 198 **Pn 17 00 03.1 +0.7**
LTZ Lake Taylor 3.57 198 P **Pn 17 00 03.3 +0.9**
GVZ Greta Valley S 3.62 188 P **Pn 17 00 04.0 +1.0**
PKGZ Pakihiroa 3.71 68 P **Pn 17 00 06.3 +2.1**
INZ Inchbonnie 3.76 207 P **Pn 17 00 05.4 +0.4**
PUZ Puketiti 3.77 71 P **Pn 17 00 06.7 +1.7**
AMCZ Kimberley 3.88 192 P **Pn 17 00 07.6 +1.1**
WMGZ Waiomatatini S 3.98 68 P **Pn 17 00 09.4 +1.4**
MXZ Matakaoa Point 4.02 65 **Pn 17 00 06.7 -1.8**
MXZ Matakaoa Point 4.02 65 P **Pb** 17 00 12.8 -5.2
OXZ Oxford 4.14 197 **Pn 17 00 10.2 +0.1**
OXZ Oxford 4.14 197 P **Pn 17 00 10.5 +0.3**
OUZ Omahuta 4.16 358 P **Pn 17 00 10.6 +0.3**
WVZ Waitaha Valley 4.33 211 P **Pn 17 00 12.9 +0.2**
OKCZ Okains Bay 4.37 186 P **Pn 17 00 13.4 +0.1**
MQZ McQueen's Vall 4.40 190 **Pn 17 00 12.8 -0.8**
MQZ McQueen's Vall 4.40 190 P **Pn 17 00 12.6 -1.0**
RACZ Rakaia 4.50 195 P **Pn 17 00 14.8 -0.3**
AKCZ Akaroa Harbour 4.53 188 P **Pn 17 00 15.3 -0.2**
GCSZ Gaunt Creek Bo 4.69 212 P **Pn 17 00 17.8 +0.1**
WACZ Wakanui South 4.77 197 P **Pn 17 00 19.1 +0.3**
RPZ Rata Peaks 4.77 204 Pn **Pn 17 00 18.5 -0.3**
75nm,0.3s,baz=274,slow=2.6,SNR=146
RPZ Sn **Sn 17 01 10.0 -3.8**
73nm,0.3s,baz=12,slow=21,SNR=4.1
RPZ LR LR 17 02 46.3
comp=Z,1µm,18.6s,baz=358,slow=48
RPZ Rata Peaks 4.77 204 P **Pn 17 00 18.9 0.0**
ARCZ Arundel 4.95 202 P **Pn 17 00 20.9 -0.3**
FOZ Fox Glacier 5.09 214 **Pn 17 00 22.6 -0.4**
FOZ Fox Glacier 5.09 214 P **Pn 17 00 22.6 -0.4**
TMZ Timaru 5.40 201 P **Pn 17 00 27.0 -0.4**
LBZ Lake Benmore 5.66 207 **Pn 17 00 30.6 -0.4**
LBZ Lake Benmore 5.66 207 P **Pn 17 00 30.5 -0.5**
JCZ Jackson Bay 5.97 217 P **Pn 17 00 34.6 -0.8**
ODZ Otahua Downs 6.11 201 **Pn 17 00 36.2 -0.8**
ODZ Otahua Downs 6.11 201 P **Pn 17 00 36.3 -0.8**
WKZ Wanaka 6.47 211 P **Pn 17 00 41.6 -0.6**
EAZ Earnscleugh 6.70 208 P **Pn 17 00 43.6 -1.8**
MSZ Milford Sound 6.83 217 P **Pn 17 00 46.3 -0.7**
HHSZ Highcliff Hill 6.90 199 P **Pn 17 00 47.2 -0.8**
TUZ Tuapeka 7.23 203 P **Pn 17 00 51.6 -1.0**
MLZ Mavora Lakes 7.28 213 **Pn 17 00 52.4 -1.0**
MLZ Mavora Lakes 7.28 213 P **Pn 17 00 52.3 -1.0**
WHZ Wether Hill Ro 7.78 211 **Pn 17 00 58.6 -1.5**
WHZ Wether Hill Ro 7.78 211 P **Pn 17 00 58.7 -1.4**
DCZ Deep Cove 7.79 217 **Pn 17 00 59.1 -1.0**
DCZ Deep Cove 7.79 217 P **Pn 17 00 59.9 -0.2**
SYZ Scrubby Hill 7.91 204 P **Pn 17 01 00.7 -1.0**
CTZ Chatham Island 8.44 124 P **Pn 17 01 08.9 -0.2**
PYZ Puysegur Point 8.54 215 P **Pn 17 01 11.1 +0.7**
APZ The Paps 8.55 208 P **Pn 17 01 08.7 -2.0**
RAO Raoul Island 12.23 37 LR LR 17 06 27.4

	comp=Z,360nm,18.1s,baz=314,slow=36						
DZM	Mont Dzumac	18.35	338	eLR	LR	17 07 37.5	
	comp=Z,641nm,26.9s						
DZM	Mont Dzumac	18.35	338	P	P	17 03 26.5	+5.1
	5.8nm,1.0s,baz=133,slow=9.3,SNR=2.6						
DZM				LR	LR	17 08 53.0	
	comp=Z,446nm,19.9s,baz=178,slow=32						
MSVF	Nonsavu	21.89	11	P	P	17 04 05.6	+5.6
	9.9nm,0.7s,baz=105,slow=22,SNR=2.3						
MSVF	Nonsavu	21.89	11	P	P	17 04 05.4	+5.4
MSVF				IAmb	IAmb	17 04 11.9	
	comp=Z,32nm,0.7s						
STKA	Stephens Creek	27.08	276	LR	LR	17 14 27.5	
	comp=Z,186nm,21.1s,baz=110,slow=34						
AFI	Afiamalu	28.40	31	LR	LR	17 14 36.3	
	comp=Z,69nm,21.5s,baz=194,slow=33						
RAR	Rarotonga	29.01	59	LR	LR	17 15 44.5	
	comp=Z,77nm,20.8s,baz=240,slow=34						
CTA	Charters Tower	30.46	301	LR	LR	17 16 48.4	
	comp=Z,365nm,19.0s,baz=124,slow=35						
HNR	Honiara	32.27	334	LR	LR	17 16 16.8	
	comp=Z,1μm,19.5s,baz=187,slow=32						
TBI	Tubuai	34.98	74	eLR	LR	17 15 17.9	
	comp=Z,4μm,24.2s						
TBI				eLR	LR	17 15 17.9	
	comp=Z,860nm,27.8s						
ASAR	Alice Springs	37.07	283	P	P	17 06 18.1	+1.1
	comp=Z,1.2nm,0.8s,baz=129,slow=7.7,SNR=15						
ASAR				PcP	PcP	17 08 37.2	-0.4
	comp=Z,0.9nm,0.6s,baz=122,slow=4.1,SNR=2.3						
ASAR				LR	LR	17 22 03.2	
	comp=Z,474nm,18.1s,baz=134,slow=37						
	comp=Z,1.2nm,0.8s						
ASAR	Alice Springs	37.07	283	P	P	17 06 16.2	-0.9
PMG	Port Moresby	38.14	314	LR	LR	17 19 54.5	
	comp=Z,93nm,20.1s,baz=114,slow=33						
PPT2	Papeete2	38.50	66	eS	S	17 12 23.8	-0.3
	comp=Z,47nm,23.8s						
PPT2				eLR	LR	17 16 56.1	
PPT2				eLR	LR	17 16 56.6	
	comp=Z,331nm,28.0s						
PPT	Papeete	38.51	66	LR	LR	17 18 03.4	
	comp=Z,159nm,21.2s,baz=240,slow=30						
VNDA	Vanda	38.58	184	P	P	17 06 28.6	-0.5
	comp=Z,0.6nm,0.7s,baz=348,slow=8.2,SNR=3.9						
VNDA				LR	LR	17 21 34.6	
	comp=Z,84nm,18.1s,baz=12,slow=35						
	comp=Z,0.6nm,0.7s						
VNDA	Vanda	38.58	184	P	P	17 06 25.9	-3.2
WB2	Warramunga Arr	38.94	288	P	P	17 06 31.7	-1.1
WB2				IAmb	IAmb	17 07 16.2	
	comp=Z,21nm,1.8s						
WRA	Warramunga Arr	38.95	288	P	P	17 06 34.0	+1.0
	comp=Z,1.2nm,0.8s,baz=126,slow=8.1,SNR=12						
WRA				LR	LR	17 22 46.4	
	comp=Z,235nm,18.5s,baz=112,slow=36						
	comp=Z,1.2nm,0.8s						
WRA	Warramunga Arr	38.95	288	P	P	17 06 31.6	-1.3
KRVT	Keravat (AS076	40.08	325	LR	LR	17 20 50.6	
	comp=Z,96nm,20.2s,baz=300,slow=32						
MORW	Morawa	48.09	264	P	P	17 07 44.8	-1.6
MORW				IAmb	IAmb	17 07 59.5	
	comp=Z,59nm,1.9s						
KWAJ	Kwajalein Atol	48.27	352	P	P	17 07 46.6	-1.3
QSPA	South Pole Qui	50.74	180	P	P	17 08 06.3	-0.1
	comp=Z,8.4nm,0.9s,baz=328,slow=0.4,SNR=29						
	comp=Z,8.4nm,0.9s						
TAOE	Nuku Hiva Isla	51.13	66	eLR	LR	17 22 46.9	
	comp=Z,160nm,25.3s						
SIJI	Sorong	54.47	304	LR	LR	17 31 43.1	
	comp=Z,63nm,18.2s,baz=208,slow=36						
KAPI	Kappang	59.41	291	LR	LR	17 35 37.8	
	comp=Z,152nm,18.3s,baz=140,slow=37						
MAW	Mawson	61.45	204	LR	LR	17 35 26.2	
	comp=Z,94nm,18.3s,baz=102,slow=36						
BELA	Belgrano 2	61.74	173	P	P	17 09 23.9	-0.7
BELA				IAmb	IAmb	17 09 35.8	
	comp=Z,6.8nm,1.0s						
SMAI	San Martin Ant	63.61	159	P	P	17 09 37.9	+0.8
SMAI				IAmb	IAmb	17 09 39.4	
	comp=Z,9.8nm,0.9s						
RPN	Rapa Nui	63.71	104	LR	LR	17 31 27.3	
	comp=Z,28nm,19.7s,baz=178,slow=30						
PMSA	Palmer Station	66.80	157	P	P	17 09 57.1	-0.7
	comp=Z,15nm,0.9s,baz=252,slow=4.3,SNR=4.3						
	comp=Z,15nm,0.9s						
PMSA	Palmer Station	66.80	157	P	P	17 09 57.4	-0.4
LEM	Lembang	67.29	280	LR	LR	17 41 12.3	
	comp=Z,108nm,18.7s,baz=172,slow=38						
TROLL	Troll, Antarti	68.74	183	P	P	17 10 09.0	-1.1
SNAA	Sanae	69.22	181	P	P	17 10 10.9	-2.1
SNAA	Sanae	69.22	181	LR	LR	17 38 28.7	
	comp=Z,40nm,19.9s,baz=189,slow=34						
SNAA	Sanae	69.22	181	P	P	17 10 12.1	-1.0
SNAA				IAmb	IAmb	17 10 30.5	
	comp=Z,6.1nm,1.2s						
VNA3	Neumayer Olymp	69.65	179	P	P	17 10 14.2	-1.4
VNA2	Neumayer--Watz	70.00	180	P	P	17 10 16.5	-1.2
	baz=181,slow=3.5						
VNA1	Neumayer--Stat	70.27	179	P	P	17 10 19.3	-0.1
JOW	Kunigami	78.35	319	LR	LR	17 40 16.5	
	comp=Z,54nm,20.1s,baz=8.0,slow=32						
PLCA	Paso Flores	81.07	136	P	P	17 11 21.9	0.0
	comp=Z,3.1nm,0.7s,baz=238,slow=5.4,SNR=11						
PLCA				LR	LR	17 39 31.8	
	comp=Z,82nm,18.1s,baz=203,slow=30						
	comp=Z,3.1nm,0.7s						
PLCA	Paso Flores	81.07	136	P	P	17 11 21.7	-0.2
PLCA				IAmb	IAmb	17 11 31.7	
	comp=Z,12nm,1.3s						
MJAR	Matsushiro Arr	82.34	332	LR	LR	17 44 03.1	
	comp=Z,29nm,20.0s,baz=135,slow=33						
KSRS	Korea Array	87.30	325	P	P	17 11 55.9	+2.7
	comp=Z,1.7nm,0.9s,baz=316,slow=29,SNR=3.1						
KSRS				LR	LR	17 49 19.7	
	comp=Z,12nm,19.1s,baz=230,slow=34						
	comp=Z,1.7nm,0.9s						
CMAR	Chiang Mai Arr	90.34	294	P	P	17 12 09.6	+1.6
	comp=Z,0.2nm,0.3s,baz=133,slow=5.0,SNR=2.2						
CMAR				LR	LR	17 59 32.8	
	comp=Z,27nm,18.0s,baz=125,slow=40						
	comp=Z,0.2nm,0.3s						
PZH	PanZhiHua	93.78	301	P	P	17 12 26.0	+2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
LPIG	La Paz	94.86	63	LR	LR	17 52 55.6	
	comp=Z,30nm,18.4s,baz=252,slow=34						
LVC	Limon Verde	95.02	125	LR	LR	17 46 55.4	
	comp=Z,47nm,18.8s,baz=226,slow=30						
KLR	Kul'dur	95.72	334	LR	LR	17 59 09.5	
	comp=Z,50nm,18.0s,baz=155,slow=38						
NNA	Nana	96.99	112	LR	LR	17 49 25.1	
	comp=Z,49nm,18.0s,baz=200,slow=31						
HHC	Hu-ho-hao-te	97.89	317	eP	Pdif	17 12 44.3	+2.0
LZH	Lanzhou	98.91	310	eP	Pdif	17 12 51.7	+4.7
LZH				pP	sP	17 12 56.8	+1.9
ATAH	Atahualpa	99.09	107	LR	LR	17 48 19.8	
	comp=Z,44nm,20.3s,baz=205,slow=30						
YBH	Yreka Blue Hor	99.25	43	LR	LR	17 48 00.9	
	comp=Z,22nm,20.8s,baz=296,slow=30						
LPAZ	La Paz	100.06	121	LR	LR	17 51 52.0	
	comp=Z,24nm,18.0s,baz=184,slow=32						
WMQ	Urumqi	113.41	308	ePKP	PKiKP	17 17 43.8	-0.5
KBZ	Khabaz	143.39	293	PKhKP	PKPpre	17 18 36.8	
	comp=Z,3.7nm,0.9s,baz=129,slow=3.7,SNR=5.2						
ASF	Jabal al Asfar	144.52	272	PKP	PKPbc	17 18 42.4	+0.5
	comp=Z,1.7nm,0.8s,baz=132,slow=2.1,SNR=4.7						
ARCES	ARCESS Array B	145.42	341	PKPbc	PKPbc	17 18 43.1	-0.4
	comp=Z,3.6nm,0.8s,baz=15,slow=5.1,SNR=6.2						
MMAI	Mount Meron Ar	146.01	272	PKPbc	PKPdf	17 18 46.2	+0.4
	comp=Z,0.6nm,0.3s,baz=96,slow=4.3,SNR=3.2						
BRTR	Keskin Array B	149.41	284	PKPbc	PKPbc	17 18 55.6	-0.1
	comp=Z,1.9nm,0.8s,baz=154,slow=5.8,SNR=9.5						
FINES	FINESS Array B	150.33	329	PKPbc	PKPbc	17 18 57.0	0.0
	comp=Z,3.1nm,0.7s,baz=15,slow=7.9,SNR=5.3						
TORD	Torodi Ar. Bea	152.94	197	PKPbc	PKPbc	17 19 04.1	-0.3
	comp=Z,0.2nm,0.4s,baz=145,slow=2.6,SNR=2.0						
NOA	NORSAR Array B	155.76	339	PKPab	PKPab	17 19 27.0	+0.6
	comp=Z,0.9nm,0.9s,baz=31,slow=3.2,SNR=1.6						

IDC 07 17:08:46.2±10.0**, 1.63N×66.67E, h0km, mb3.4**/2**, mbtmp3.4**/2**, MS3.3**/2**, Error ellipse: s-maj=888.0km s-min=48.6km az=39.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	15.07	68	LR	LR	17 15 59.0	
	comp=Z,71nm,20.6s,baz=27,slow=29						
LSZ	Lusaka	41.60	245	LR	LR	17 31 25.8	
	comp=Z,73nm,19.2s,baz=163,slow=33						
H01W3	Cape Leeuwin H	57.35	134	T	T	18 20 42.2	
	baz=300,slow=75,SNR=40						
H01W2	Cape Leeuwin H	57.36	134	T	T	18 20 44.2	
	baz=300,slow=75,SNR=42						
H01W1	Cape Leeuwin H	57.37	134	T	T	18 20 43.9	
	baz=300,slow=75,SNR=38						
WRA	Warramunga Arr	69.65	112	P	P	17 19 58.5	+0.3
	0.4nm,0.7s,baz=289,slow=5.8,SNR=3.3						
	0.4nm,0.7s						
ASAR	Alice Springs	69.92	116	P	P	17 19 59.6	-0.2
	0.3nm,0.7s,baz=290,slow=6.0,SNR=6.5						
	0.3nm,0.7s						
TXAR	Lajitas Array	147.85	344	PKPbc	PKPbc	17 28 33.4	-0.7
	1.0nm,0.7s,baz=57,slow=3.3,SNR=11						

NOU 07 17:14:52.1, 22.26S×179.44W, h582km, mb4.7/46, South of Fiji Islands

NEIC 07 17:14:52.5±1.7, 22.2S±0.1×179.6W±0.1, h581km±6km, mb4.7/191, Error ellipse: s-maj=16.6km s-min=14.4km az=106.0

IDC 07 17:14:53.4±1.1, 22.22S×179.67W, h590km±11km, mb3.8/17, mbtmp4.7/19, Error ellipse: s-maj=12.9km s-min=9.5km az=138.0

ISC 07 17:14:53.2±0.3**, 22.37S**±0.05×**179.48W**±0.06**, h600km, n624, σ1.10**/647**, mb4.7**/122**, 20C-48D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.16	333	P	P	17 16 25.5	-2.1
	325nm,0.5s,baz=249,slow=22,SNR=618						
MSVF	Nonsavu	5.16	333	P	P	17 16 25.9	-1.7
RAO	Raoul Island	7.00	169	P	P	17 16 41.9	-1.1
	352nm,0.3s,baz=93,slow=23,SNR=9.0						
RAO				S	S	17 18 10.9	-2.3
	225nm,0.3s,baz=110,slow=22,SNR=3.6						
RAO	Raoul Island	7.00	169	P	P	17 16 41.6	-1.4
GLKZ	Green Lake	7.01	169	P	P	17 16 42.2	-0.9
GLKZ				S	S	17 18 08.5	-4.7
FUTU	Fugatoga	8.12	9	P	P	17 16 51.8	-2.0
NIUE	Niue	9.52	72	P	P	17 17 05.5	-1.7
AFI	Afiamalu	11.15	42	P	P	17 17 18.8	-4.7
	48nm,0.5s,baz=111,slow=2.1,SNR=10						
AFI				S	S	17 19 15.7	-11
	9.0nm,0.3s,baz=230,slow=18,SNR=1.6						
AFI	Afiamalu	11.15	42	P	P	17 17 18.4	-5.2
AFI	Afiamalu	11.15	42	P	P	17 17 20.3	-3.3
MARNC	Mare, Loyalty	11.63	272	P	P	17 17 26.8	-1.4
MARNC	Mare, Loyalty	11.63	272	P	P	17 17 27.2	-1.0
LIFNC	LIFOU	12.46	275	P	P	17 17 34.3	-2.3
OUENC	Ouen Island, N	12.66	267	P	P	17 17 37.2	-1.4
ONTNC	Ouen Toro	13.02	268	P	P	17 17 41.5	-0.7
DZM	Mont Dzumac	13.04	269	P	P	17 17 40.9	-1.6
	28nm,0.6s,baz=70,slow=21,SNR=25						
DZM	Mont Dzumac	13.04	269	P	P	17 17 41.0	-1.6
DZM	Mont Dzumac	13.04	269	P	P	17 17 41.5	-1.1
NOUC	Port Laguerre	13.17	268	P	P	17 17 42.0	-1.8
KOUNC	Koumac, New Ca	15.22	274	P	P	17 18 03.0	-0.5
MXZ	Matakaoa Point	15.27	187	P	P	17 18 03.2	-0.4
URZ	Urewera	16.11	190	P	P	17 18 08.6	-2.7
	98nm,0.8s,baz=80,slow=6.1,SNR=22						
URZ				S	S	17 20 51.0	-1.8
	30nm,0.8s,baz=296,slow=22,SNR=11						
URZ	Urewera	16.11	190	P	P	17 18 08.7	-2.6
BKZ	Black Stump Fm	17.10	191	P	P	17 18 18.6	-1.9
BKZ				IAmb	IAmb	17 18 20.1	
	comp=Z,25nm,0.7s						
BFZ	Birch Farm	18.62	190	P	P	17 18 33.9	-0.3
MSWZ	Moikau Station	19.51	192	P	P	17 18 42.4	+0.1
QRZ	Quartz Range	19.61	198	P	P	17 18 43.9	+0.8
NNZ	Nelson	19.74	196	P	P	17 18 44.5	+0.2
KHZ	Kahutara	20.83	195	P	P	17 18 53.2	-1.0
KHZ	Kahutara	20.83	195	P	P	17 18 53.3	-0.8
RPZ	Rata Peaks	22.69	198	P	P	17 19 10.9	+0.2
	comp=Z,11nm,0.6s,baz=40,slow=3.3,SNR=10						
	comp=Z,11nm,0.6s						
JCZ	Jackson Bay	23.72	201	P	P	17 19 20.3	+0.3
MLZ	Mavora Lakes	25.09	201	P	P	17 19 32.2	+0.2
WHZ	Wether Hill Ro	25.61	201	P	P	17 19 37.1	+0.6
ARMA	Armidale	27.04	247	P	P	17 19 50.6	+1.1
ARMA				IAmb	IAmb	17 20 03.6	
	comp=Z,32nm,1.5s						
EIDS	Eidsvold	27.06	258	P	P	17 19 50.0	+0.4
EIDS				IAmb	IAmb	17 19 50.6	
	comp=Z,6.8nm,0.6s						
SYDH	Sydney Hard Ro	28.53	240	P	P	17 20 03.7	+1.5
RMQ	Roma	29.17	255	P	P	17 20 09.0	+1.1
AULRC	Lightning Ridg	30.04	250	P	P	17 20 16.2	+0.9
CNB	Canberra Magne	30.06	238	P	P	17 20 17.1	+1.7
CAN	Canberra	30.34	238	P	P	17 20 18.8	+0.9
CAN				IAmb	IAmb	17 20 20.1	
	comp=Z,28nm,0.9s						
CAN	Canberra	30.34	238	P	P	17 20 18.1	+0.2
CTA	Charters Tower	31.98	268	P	P	17 20 32.3	+0.2
	comp=Z,15nm,0.4s,baz=97,slow=11,SNR=11						
CTA				PcP	PcP	17 23 03.9	+0.6
	comp=Z,4.0nm,0.5s,baz=106,slow=4.9,SNR=4.0						
	comp=Z,15nm,0.4s						
CTA	Charters Tower	31.98	268	P	P	17 20 32.2	+0.2
CTAO	Charters Tower	31.98	268	P	P	17 20 32.1	+0.1
CTAO				IAmb	IAmb	17 20 32.6	
	comp=Z,17nm,0.5s						
CTAO	Charters Tower	31.98	268	P	P	17 20 32.4	+0.4
CMSA	Cobar Meteorol	32.25	246	P	P	17 20 34.8	+0.7
TOO	Toolangi	33.70	235	P	P	17 20 47.1	+0.8
TOO				IAmb	IAmb	17 20 47.8	
	comp=Z,14nm,0.7s						
MTSU	Mount Surprise	34.17	270	P	P	17 20 50.5	+0.1
TAU	Tasmania Unive	34.34	225	P	P	17 20 52.1	+0.7
PMG	Port Moresby	34.48	287	P	P	17 20 52.3	-0.7
PMG	Port Moresby	34.48	287	P	P	17 20 52.7	-0.3
BRAT	Ballarat	34.88	236	P	P	17 20 57.6	+1.6
STKA	Stephens Creek	35.76	246	P	P	17 21 03.9	+0.6
	comp=Z,5.6nm,0.4s,baz=87,slow=8.2,SNR=26						
	comp=Z,5.6nm,0.4s						
STKA	Stephens Creek	35.76	246	P	P	17 21 04.0	+0.6
STKA	Stephens Creek	35.76	246	P	P	17 21 04.2	+0.8
PATS	Pohnpei	36.27	321	P	P	17 21 07.4	-0.3
COEN	Coen	36.38	277	P	P	17 21 08.8	+0.1
COEN				IAmb	IAmb	17 21 09.3	
	comp=Z,20nm,1.4s						
MANU	Manus Island	38.01	297	P	P	17 21 21.0	-1.0
MANU				IAmb	IAmb	17 21 21.6	
	comp=Z,12nm,0.7s						
MANU	Manus Island	38.01	297	P	P	17 21 21.4	-0.6
HTT	Hallett	38.16	244	P	P	17 21 23.4	+0.4
BBOO	Buckleboo	40.50	245	P	P	17 21 41.6	-0.1
BBOO				IAmb	IAmb	17 22 19.2	
	comp=Z,30nm,1.2s						
AS01	Alice Springs	42.74	259	P	P	17 21 59.5	+0.1
AS31	Alice Springs	42.78	259	P	P	17 21 59.5	-0.2
ASAR	Alice Springs	42.78	259	P	P	17 21 59.7	0.0
	comp=Z,8.1nm,0.6s,baz=102,slow=8.0,SNR=32						
ASAR				PcP	PcP	17 23 37.6	+0.6
	comp=Z,3.5nm,0.6s,baz=104,slow=3.8,SNR=12						
ASAR				ScP	ScP	17 26 34.7	+3.0
	comp=Z,1.2nm,0.8s,baz=98,slow=4.2,SNR=4.3						
ASAR				S	S	17 27 39.1	-2.6
	comp=Z,4.1nm,0.9s,baz=96,slow=16,SNR=18						
	comp=Z,8.1nm,0.6s						
ASAR	Alice Springs	42.78	259	P	P	17 21 59.3	-0.5
WR0	Warramunga Arr	42.82	264	P	P	17 21 59.2	-0.9
WB0	Warramunga Arr	43.00	265	P	P	17 22 00.3	-1.2
WB0				IAmb	IAmb	17 22 01.5	
	comp=Z,16nm,0.6s						
WB2	Warramunga Arr	43.00	264	P	P	17 22 00.5	-1.0
WB2				IAmb	IAmb	17 22 01.6	
	comp=Z,14nm,0.7s						
WB1	Warramunga Ar.	43.00	264	P	P	17 22 00.8	-0.7
WRAB	Tennant Creek	43.00	264	P	P	17 22 00.7	-0.8
WRAB				IAmb	IAmb	17 22 01.6	
	comp=Z,12nm,0.5s						
WRAB	Tennant Creek	43.00	264	P	P	17 22 01.0	-0.5
WRA	Warramunga Arr	43.01	264	P	P	17 22 00.9	-0.6
	comp=Z,14nm,0.8s,baz=95,slow=8.0,SNR=342						
WRA				PcP	PcP	17 23 38.5	+0.6
	comp=Z,2.4nm,0.9s,baz=92,slow=4.3,SNR=4.8						
WRA				ScP	ScP	17 26 35.5	+2.9
	comp=Z,0.7nm,0.8s,baz=102,slow=3.9,SNR=3.4						
WRA				S	S	17 27 41.8	-3.2
	comp=Z,1.1nm,0.7s,baz=99,slow=13,SNR=5.7						
	comp=Z,14nm,0.8s						
GENI	Genyem	43.80	291	P	P	17 22 07.8	+0.1
	comp=Z,47nm,0.9s						
FORT	Forrest	47.31	248	P	P	17 22 33.9	-0.2
FORT				IAmb	IAmb	17 22 51.5	
	comp=Z,37nm,1.4s						
WRKA	Warakurna	47.66	256	P	P	17 22 36.7	-0.1
MTN	Manton Dam	47.84	273	P	P	17 22 37.5	-0.8
MTN				IAmb	IAmb	17 22 38.0	
	comp=Z,16nm,0.7s						
HMH	Humu'ula Sheep	47.85	31	P	P	17 22 38.3	-0.2
HON	Honolulu	48.21	27	P	P	17 22 40.7	-0.1
KNRA	Kununurra	49.19	268	P	P	17 22 47.9	-0.4
KNRA				IAmb	IAmb	17 22 48.5	
	comp=Z,19nm,0.6s						
FAKI	Fak Fak	50.62	285	P	P	17 22 57.5	-1.2
FAKI				IAmb	IAmb	17 22 58.8	
	comp=Z,25nm,1.0s						
BNDI	Bandanaira	52.04	282	P	P	17 23 08.6	-0.3
SOEI	Soe	55.21	274	P	P	17 23 32.0	+0.6
SOEI	Soe	55.21	274	P	P	17 23 32.1	+0.7
PSA00	Pilbara Seismi	55.92	258	P	P	17 23 35.7	-0.4
SBA	Scott Base	55.93	183	P	P	17 23 37.8	+2.7
VNDA	Vanda	55.94	185	P	P	17 23 37.3	+2.1
	comp=Z,4.1nm,0.8s,baz=356,slow=7.5,SNR=24						
	comp=Z,4.1nm,0.8s						
VNDA	Vanda	55.94	185	P	P	17 23 37.9	+2.6
MBWA	Marble Bar	56.12	259	P	P	17 23 36.7	-0.7
MBWA				IAmb	IAmb	17 23 37.9	
	comp=Z,17nm,0.7s						
NWAO	Narrogin (SRO)	56.31	245	P	P	17 23 38.9	+0.4
SANI	Sanana	56.62	283	P	P	17 23 39.9	-1.0
TNTI	Ternate	56.63	287	P	P	17 23 39.9	-1.1
TNTI				IAmb	IAmb	17 23 40.6	
	comp=Z,33nm,1.1s						
MMRI	Maumere	57.48	274	P	P	17 23 46.0	-0.8
MMRI				IAmb	IAmb	17 23 47.0	
	comp=Z,37nm,1.1s						
MORW	Morawa	57.86	249	P	P	17 23 49.3	+0.2
LUWI	Luwuk	59.95	282	P	P	17 24 03.0	-0.3
LUWI				IAmb	IAmb	17 24 04.3	
	comp=Z,37nm,1.1s						
TOLI2	Tolitoli	62.67	284	P	P	17 24 20.3	-0.7
TOLI2				IAmb	IAmb	17 24 22.7	
	comp=Z,15nm,0.6s						
TOLI2	Tolitoli	62.67	284	P	P	17 24 21.7	+0.7
UGM	Wanagama	68.57	270	P	P	17 24 57.5	-0.2
KKM	Kota Kinabalu	68.93	286	P	P	17 24 59.7	-0.2
KKM				IAmb	IAmb	17 25 00.8	
	comp=Z,14nm,0.6s						
JOW	Kunigami	70.33	311	P	P	17 25 07.9	0.0
JOW				IAmb	IAmb	17 25 09.5	
	comp=Z,26nm,0.7s						
JGF	Kuroka	70.67	324	P	P	17 25 09.4	-0.3
JGF				IAmb	IAmb	17 25 10.0	
	comp=Z,12nm,0.8s						
MJAR	Matsushiro Arr	70.91	325	P	P	17 25 10.6	-0.6
	comp=Z,12nm,0.8s,baz=160,slow=6.0,SNR=20						
	comp=Z,12nm,0.8s						
MAJO	Matsushiro	70.92	325	P	P	17 25 10.7	-0.5
MAJO				IAmb	IAmb	17 25 11.7	
	comp=Z,12nm,0.8s						
MAJO	Matsushiro	70.92	325	P	P	17 25 11.1	0.0
MJB9	Matsu-Tunnel	70.92	325	P	P	17 25 11.5	+0.4
MJB9				IAmb	IAmb	17 25 12.7	
	comp=Z,12nm,0.8s						
JMN	Monobe	71.30	320	P	P	17 25 13.7	+0.2
JSU	Suzuyama	71.89	316	P	P	17 25 16.8	-0.2
JSU				IAmb	IAmb	17 25 17.9	
	comp=Z,21nm,0.7s						
KSM	Kuching	72.33	279	P	P	17 25 20.0	+0.1
KSM				IAmb	IAmb	17 25 20.9	
	comp=Z,25nm,0.7s						
KSM	Kuching	72.33	279	P	P	17 25 20.3	+0.5
JHS	Saijyo	72.64	321	P	P	17 25 21.4	+0.3
JHS	Saijyo	72.64	321	P	P	17 25 21.7	+0.5
YOJ	Yonaguni jima	72.70	306	P	P	17 25 21.3	-0.4
JNU	Nakatsue	72.71	318	P	P	17 25 21.5	-0.1
JNU				IAmb	IAmb	17 25 22.5	
	comp=Z,20nm,1.1s						
JTM	Tenmabayashi	72.75	330	P	P	17 25 22.0	+0.4
JTM				IAmb	IAmb	17 25 22.7	
	comp=Z,28nm,0.7s						
YULB	Yu-li	73.39	305	P	P	17 25 24.4	-1.3
YULB				IAmb	IAmb	17 25 33.8	
	comp=Z,11nm,0.7s						
NACB	Ninganchiao	73.60	305	P	P	17 25 26.4	-0.4
NACB				IAmb	IAmb	17 25 27.1	
	comp=Z,30nm,0.8s						
NACB	Ninganchiao	73.60	305	P	P	17 25 26.6	-0.2
TPUB	Ta-pu	73.85	304	P	P	17 25 27.1	-1.1
TPUB	Ta-pu	73.85	304	P	P	17 25 27.2	-1.1
SSLB	Suanglung	73.87	305	P	P	17 25 27.3	-1.1
SSLB				IAmb	IAmb	17 25 28.1	
	comp=Z,27nm,0.6s						
SSLB	Suanglung	73.87	305	P	P	17 25 27.5	-0.9
KIWB	Kanaga Island	73.92	2	P	P	17 25 27.8	-0.2
ADK	Adak	73.97	2	P	P	17 25 27.7	-0.5
YHNB	Yeheng	74.05	306	P	P	17 25 29.0	-0.4
YHNB				IAmb	IAmb	17 25 30.1	
	comp=Z,18nm,0.8s						
YHNB	Yeheng	74.05	306	P	P	17 25 29.6	+0.2
JKA	Kamikawa-asahi	74.72	333	P	P	17 25 33.8	+1.1
JKA				IAmb	IAmb	17 25 35.2	
	comp=Z,16nm,0.8s						
NIKH	Nikolski High	75.58	7	P	P	17 25 36.6	-0.6
NIKH	Nikolski High	75.58	7	P	P	17 25 36.1	-1.1
	baz=190						
UNV	Unalaska Valle	76.72	8	P	P	17 25 42.5	-0.9
UNV				IAmb	IAmb	17 26 16.5	
	comp=Z,83nm,1.5s						
UNV	Unalaska Valle	76.72	8	P	P	17 25 41.7	-1.7
	baz=192						
YSS	Yuzh-Sakhalins	76.96	334	P	P	17 25 45.7	+0.9
YSS				IAmb	IAmb	17 25 48.4	
	comp=Z,17nm,0.6s						
YSS	Yuzh-Sakhalins	76.96	334	P	P	17 25 45.8	+0.9
AKUT	Akutan	77.09	8	P	P	17 25 44.6	-0.8
SMAI	San Martin Ant	77.36	159	P	P	17 25 48.8	+2.0
SMAI				IAmb	IAmb	17 25 50.4	
	comp=Z,17nm,0.9s						
KSRS	Korea Array	77.39	320	P	P	17 25 47.8	+0.4
	comp=Z,3.2nm,0.8s,baz=124,slow=5.7,SNR=9.0						
	comp=Z,3.2nm,0.8s						
PET	Petropavlovsk	77.44	347	P	P	17 25 47.6	+0.2
PEA0B	Petropavlovsk-	77.73	346	P	P	17 25 49.0	0.0
PETK	Petropavlovsk-	77.73	346	P	P	17 25 48.0	-0.9
	comp=Z,21nm,0.7s,baz=130,slow=6.0,SNR=36						
	comp=Z,21nm,0.7s						
PETK	Petropavlovsk-	77.73	346	P	P	17 25 48.2	-0.7
BELA	Belgrano 2	77.89	173	P	P	17 25 50.8	+1.2
MYKOM	Kota Tinggi	78.37	277	P	P	17 25 53.7	+0.3
MAW	Mawson	79.35	200	P	P	17 25 59.0	+1.6
	comp=Z,2.4nm,0.5s,baz=169,slow=5.9,SNR=4.4						
	comp=Z,2.4nm,0.5s						
MAW	Mawson	79.35	200	P	P	17 26 00.0	+2.6
USA0B	Ussuriysk Arra	79.74	327	P	P	17 26 01.0	+1.2
USRK	Ussuriysk Ar.	79.74	327	P	P	17 26 00.3	+0.5
	comp=Z,7.0nm,0.8s,baz=115,slow=2.7,SNR=16						
	comp=Z,7.0nm,0.8s						
USRK	Ussuriysk Ar.	79.74	327	P	P	17 26 00.7	+0.9
SCZ2	Santa Cruz Isl	79.88	47	P	P	17 25 59.9	-0.9
	baz=234						
NJ2	Nanjing	80.02	311	eP	P	17 26 03.0	+1.4
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
PKM	Mcpherson Peak	80.28	46	P	P	17 26 04.1	+1.0
	baz=234						
CIS	Catalina Islan	80.36	48	P	P	17 26 04.5	+1.1
	baz=235						
CHIR	Chirikof Islan	80.48	13	P	P	17 26 04.6	+1.3
	baz=202						
BCW	Bitter Crk WRg	80.57	46	P	P	17 26 06.2	+1.6
BCW				IAmb	IAmb	17 26 07.3	
	comp=Z,20nm,1.2s						
KMRM	Mail Ridge	81.06	40	P	P	17 26 08.3	+1.4
KMRM				IAmb	IAmb	17 26 10.1	
	comp=Z,27nm,0.9s						
MDJ	Mudanjiang	81.27	326	P	P	17 26 08.4	+0.7
MDJ				pmax	pmax		
	comp=Z,16nm,0.9s						

MDJ pmax pmax
comp=Z,400nm,3.6s
MONP2 **Monument Peak** 81.47 49 P **P** 17 26 10.9 +1.6
baz=237
EDW2 **Edwards Air Fo** 81.49 47 P **P** 17 26 10.8 +1.6
baz=235
IKP **In-Ko-Pah, Jac** 81.55 50 P **P** 17 26 10.8 +1.2
baz=257
ISA **Isabella, Lake** 81.62 46 P **P** 17 26 11.1 +1.3
ISA **Isabella, Lake** 81.62 46 P **P** 17 26 11.7 +1.9
baz=235
SLBS **Sierra La Lagu** 81.63 60 P **P** 17 26 11.9 +1.8
CMB **Columbia Colle** 81.76 43 P **P** 17 26 11.4 +0.9
PFO **Pinyon Flats O** 81.83 49 P **P** 17 26 11.9 +0.9
baz=236
SWSC **Sam W. Stewart** 81.93 50 P **P** 17 26 12.8 +1.4
baz=237
AFDM **Forest Hills D** 81.94 42 P **P** 17 26 12.3 +1.0
ORV **Oroville** 81.98 41 P **P** 17 26 12.5 +1.0
IPM **Ipoh** 82.02 278 P **P** 17 26 12.3 +0.1
IPM IAmb IAmb 17 26 13.6
comp=Z,15nm,0.7s
IPM **Ipoh** 82.02 278 P **P** 17 26 13.3 +1.0
LRMC **Laurel Mtn Rad** 82.04 47 P **P** 17 26 13.6 +1.6
baz=236
OHAK **Old Harbor** 82.28 14 P **P** 17 26 12.7 +0.3
CWC **Cottonwood Cre** 82.32 46 P **P** 17 26 15.0 +1.5
baz=235
BELC **Belle Mtn. Jos** 82.37 49 P **P** 17 26 15.2 +1.4
baz=237
WHN **Wuhan** 82.45 307 ⇑P **P** 17 26 15.2 +1.2
EMB **Emerald Bay** 82.50 43 P **P** 17 26 15.1 +0.7
MPMC **Manual Prospec** 82.50 46 P **P** 17 26 15.8 +1.4
baz=236
GSC **Goldstone, Bar** 82.53 47 P **P** 17 26 15.6 +1.1
baz=236
BC3 **Big Chuckawall** 82.56 49 P **P** 17 26 15.7 +1.1
baz=237
TIN **Tinemaha, Big** 82.58 45 P **P** 17 26 15.7 +1.0
baz=235
HEC **Hector Ludlow** 82.59 48 P **P** 17 26 15.5 +0.7
baz=236
YBH **Yreka Blue Hor** 82.60 39 P **P** 17 26 15.9 +1.3
WAKR **Walker** 82.64 43 P **P** 17 26 16.2 +1.1
Q17K **Contact Creek** 82.69 12 P **P** 17 26 14.7 +0.1
baz=202
QSM **Queen of Sheba** 82.86 47 P **P** 17 26 17.1 +1.1
BEKR **Beckworth** 82.87 42 P **P** 17 26 17.1 +1.0
PNTR **Pine Nut** 82.88 43 P **P** 17 26 17.8 +1.5
PNTR IAmb IAmb 17 26 18.7
comp=Z,18nm,0.8s
Q16K **King Salmon** 82.93 12 P **P** 17 26 15.9 +0.2
baz=201
CN2 **Changchun** 82.95 323 eP **P** 17 26 15.8 -0.4
CN2 eS **S** 17 35 45.8 -0.5
CN2 pmax pmax
comp=Z,20nm,1.0s
HUMO **Hull Mountain** 83.00 38 P **P** 17 26 17.9 +1.3
P16K **Nushagak River** 83.02 11 P **P** 17 26 16.6 +0.5
baz=200
GMRC **Granite Mounta** 83.03 48 P **P** 17 26 18.0 +0.9
baz=237
YERR **Yerington** 83.05 43 P **P** 17 26 17.9 +0.8
IRM **Iron Mountain** 83.05 49 P **P** 17 26 18.3 +1.3
baz=237
LCH **Last Change Ra** 83.06 45 P **P** 17 26 18.0 +0.8
LHV **Little Huntoon** 83.09 44 P **P** 17 26 18.1 +1.1
GRAC **Grapevine Rang** 83.11 45 P **P** 17 26 18.7 +1.5
baz=236
GWY **Greenwater Val** 83.12 46 P **P** 17 26 18.4 +0.9
DBO **Dodson Butte** 83.16 38 P **P** 17 26 18.6 +1.2
DBO IAmb IAmb 17 26 32.1
comp=Z,20nm,1.2s
BNX **BinXian** 83.16 326 ⇑P **P** 17 26 17.6 +0.4
BNX pmax pmax
comp=Z,30nm,0.8s
BNX pmax pmax
comp=Z,420nm,4.1s
TUQ **Turquoise Moun** 83.21 47 P **P** 17 26 19.4 +1.5
baz=237
Q18K **Katmai Hardscr** 83.22 13 P **P** 17 26 17.1 -0.2
baz=203
RYN **Ryan** 83.29 44 P **P** 17 26 19.3 +1.1
NVAR **Mina Array Bea** 83.32 44 P **P** 17 26 19.5 +1.1
comp=Z,4.8nm,0.9s,baz=225,slow=8.5,SNR=24
comp=Z,4.8nm,0.9s
NVAR **Mina Array Bea** 83.32 44 P **P** 17 26 19.2 +0.7
GMN **Gold Mountain** 83.35 45 P **P** 17 26 19.4 +0.7
PAHR **Pah Rah Range** 83.38 42 P **P** 17 26 19.6 +0.9
HSIG 83.44 55 P **P** 17 26 20.4 +1.4
P17K **Kvichak River** 83.45 12 P **P** 17 26 18.4 +0.1
baz=201
O16K **Kokwok River B** 83.53 11 P **P** 17 26 18.1 -0.6
baz=200
TIA **Tai'an** 83.53 313 P **P** 17 26 20.3 +1.0
TIA pmax pmax
comp=Z,20nm,0.9s
214A **Organ Pipe Nat** 83.55 52 P **P** 17 26 21.0 +1.5
baz=239
KVN **Kaiserville** 83.81 43 P **P** 17 26 20.9 +0.1
TPH **Tonopah** 83.81 45 P **P** 17 26 21.9 +1.0
TPH IAmb IAmb 17 26 23.1
comp=Z,32nm,1.1s
TPNV **Topopah Spring** 83.82 46 P **P** 17 26 21.7 +0.7
TPNV **Topopah Spring** 83.82 46 P **P** 17 26 22.1 +1.2
baz=236
PDMCI **Parker Dam,Lak** 83.83 49 P **P** 17 26 22.4 +1.6
baz=238
P18K **Big Mountain,** 83.87 12 P **P** 17 26 20.1 -0.4
P18K IAmb IAmb 17 26 20.6
comp=Z,19nm,0.8s
P18K **Big Mountain,** 83.87 12 P **P** 17 26 20.0 -0.4
baz=202
O17K **Koliganek Bris** 83.87 11 P **P** 17 26 21.0 +0.7
baz=201
GSI **Gunungsitoli** 83.97 274 P **P** 17 26 23.2 +1.2
MOD **Modoc Plateau** 84.12 40 P **P** 17 26 23.4 +1.2
N16K **Nishlik Lake** 84.25 10 P **P** 17 26 23.1 +0.8
baz=199
K05A **Summer Lake** 84.27 39 P **P** 17 26 24.5 +1.5
K05A IAmb IAmb 17 26 25.8
comp=Z,23nm,1.3s
O18K **Koktuh Hills** 84.30 12 P **P** 17 26 21.9 -0.6
O18K **Koktuh Hills** 84.30 12 P **P** 17 26 22.6 +0.1
baz=202,SNR=5.1
O19K **Port Alsworth** 84.79 12 P **P** 17 26 24.4 -0.4
O19K **Port Alsworth** 84.79 12 P **P** 17 26 24.9 +0.1
baz=203,SNR=9.6
CNPM **China Poot** 84.83 14 P **P** 17 26 24.9 -0.2
ILSW **Iliamna Southw** 84.83 13 P **P** 17 26 25.0 -0.3
ILSW IAmb IAmb 17 26 25.7
comp=Z,36nm,0.8s
PRN **Pahroc Range** 84.88 46 P **P** 17 26 26.6 +0.6
R11A **Troy Canyon, C** 85.04 45 P **P** 17 26 27.2 +0.4
baz=237
BRLK **Bradley Lake** 85.12 14 P **P** 17 26 26.4 -0.1
BRLK IAmb IAmb 17 26 31.6
comp=Z,43nm,1.3s
TUC **Tucson** 85.21 52 P **P** 17 26 27.7 0.0
TUC **Tucson** 85.21 52 P **P** 17 26 29.9 +2.2
baz=240
MA2 **Magadan** 85.22 345 P **P** 17 26 26.8 -0.2
MA2 IAmb IAmb 17 26 28.2
comp=Z,25nm,1.0s
N19K **Bonanza Creek** 85.33 12 P **P** 17 26 26.5 -1.1
baz=203
SVW2 **Sparrevohn** 85.38 11 P **P** 17 26 27.5 -0.2
SVW2 IAmb IAmb 17 27 09.6
comp=Z,23nm,1.5s
NONG **Nongkai** 85.65 291 P **P** 17 26 30.9 +0.9
HNS **HongShan** 85.80 313 ⇑P **P** 17 26 31.6 +1.4
HNS pmax pmax
comp=Z,12nm,1.0s
TROLL **Troll, Antarti** 85.86 181 P **P** 17 26 31.3 +1.1
TROLL **Troll, Antarti** 85.86 181 pP pP 17 28 41.0 +3.3
I07A **Izee** 85.90 39 P **P** 17 26 32.3 +1.6
ENH **Enshi** 85.96 305 P **P** 17 26 31.3 +0.1
ENH IAmb IAmb 17 26 33.2
comp=Z,21nm,0.9s
ENH **Enshi** 85.96 305 P **P** 17 26 32.3 +1.1
N20K **Mount Spurr** 86.13 13 P **P** 17 26 30.6 -0.8
baz=205
SPU **Mount Spurr** 86.15 13 P **P** 17 26 30.3 -1.1
P23K **Montague Islan** 86.15 16 P **P** 17 26 31.2 -0.1
baz=210

HEH **HeiHe** 86.18 329 eP **P** 17 26 32.0 +0.3
SNAA **Sanae** 86.19 179 P **P** 17 26 32.3 +0.6
SNAA **Sanae** 86.19 179 pP pP 17 28 42.6 +3.4
SNAA **Sanae** 86.19 179 P **P** 17 26 32.3 +0.6
U15A **North Rim** 86.23 48 P **P** 17 26 33.8 +1.1
U15A IAmb IAmb 17 26 35.4
comp=Z,7.3nm,0.8s
M19K **Big River Lodg** 86.35 12 P **P** 17 26 32.2 -0.1
M19K IAmb IAmb 17 26 33.0
comp=Z,10nm,0.7s
M19K **Big River Lodg** 86.35 12 P **P** 17 26 32.4 +0.1
baz=203
VNA3 **Neumayer Olymp** 86.37 177 P **P** 17 26 33.3 +0.8
VNA3 **Neumayer Olymp** 86.37 177 pP pP 17 28 40.5 +0.3
L19K **White Mountain** 86.52 11 P **P** 17 26 33.4 +0.3
L19K IAmb IAmb 17 26 34.5
comp=Z,22nm,0.8s
L19K **White Mountain** 86.52 11 P **P** 17 26 33.4 +0.3
baz=203,SNR=7.8
RC01 **Rabbit Creek A** 86.56 14 P **P** 17 26 33.4 +0.1
RC01 IAmb IAmb 17 26 34.2
comp=Z,27nm,1.0s
RC01 **Rabbit Creek A** 86.56 14 P **P** 17 26 33.2 -0.1
baz=207
M20K **Styx River** 86.57 12 P **P** 17 26 33.3 -0.1
baz=204
ELK **Elko** 86.58 43 P **P** 17 26 34.5 +0.3
SUA **Susitna One** 86.68 13 P **P** 17 26 33.8 -0.2
SUA **Susitna One** 86.68 13 P **P** 17 26 34.0 0.0
baz=206
PWL **Port Wells** 86.68 15 P **P** 17 26 33.7 -0.2
PWL **Port Wells** 86.68 15 P **P** 17 26 33.7 -0.2
baz=205
VNA2 **Neumayer--Watz** 86.80 177 P **P** 17 26 35.5 +1.0
baz=182,slow=2.9
VNA2 **Neumayer--Watz** 86.80 177 pP pP 17 28 45.0 +2.8
baz=180,slow=2.9
G08A **Pilot Rock** 86.93 38 P **P** 17 26 36.6 +1.1
G08A IAmb IAmb 17 26 37.9
comp=Z,16nm,1.2s
L20K **Farewell, AK** 86.97 12 P **P** 17 26 35.1 -0.2
baz=204
SKT **Skwentna** 86.98 13 P **P** 17 26 34.2 -1.1
SKT IAmb IAmb 17 27 10.1
comp=Z,19nm,1.4s
SKT **Skwentna** 86.98 13 P **P** 17 26 34.6 -0.7
baz=206
TTA **Tatalina** 87.02 11 P **P** 17 26 35.7 +0.2
TTA IAmb IAmb 17 26 36.6
comp=Z,11nm,1.1s
TTA **Tatalina** 87.02 11 P **P** 17 26 35.3 -0.2
baz=202
VNA1 **Neumayer--Stat** 87.03 177 P **P** 17 26 36.7 +1.2
VNA1 **Neumayer--Stat** 87.03 177 pP pP 17 28 46.3 +2.7
EYAK **Cordova Ski Ar** 87.04 16 P **P** 17 26 35.8 +0.3
EYAK **Cordova Ski Ar** 87.04 16 P **P** 17 26 35.3 -0.2
baz=211
M22K **Willow** 87.07 14 P **P** 17 26 35.3 -0.4
baz=207
MTPU **Mount Pierson** 87.14 47 P **P** 17 26 38.9 +1.8
KNK **Knik Glacier** 87.14 14 P **P** 17 26 36.2 +0.1
KNK IAmb IAmb 17 26 37.0
comp=Z,18nm,0.6s
KNK **Knik Glacier** 87.14 14 P **P** 17 26 35.6 -0.5
baz=209
PMR **Palmer** 87.15 14 P **P** 17 26 35.1 -0.9
baz=208
HAWA **Hanford** 87.26 37 P **P** 17 26 38.0 +1.1
HAWA IAmb IAmb 17 26 39.0
comp=Z,9.7nm,0.8s
GHO **Glory Hole Cre** 87.35 14 P **P** 17 26 37.0 -0.1
SML **Sawmill** 87.52 14 P **P** 17 26 37.8 0.0
SML IAmb IAmb 17 26 44.8
comp=Z,17nm,1.1s
SML **Sawmill** 87.52 14 P **P** 17 26 37.6 -0.2
baz=209
121A **Cookes Peak, D** 87.53 53 P **P** 17 26 40.3 +1.5
baz=242
DIV **Divide** 87.54 16 P **P** 17 26 37.9 -0.1
DIV IAmb IAmb 17 26 39.0
comp=Z,17nm,0.8s
BMO **Blue Mountains** 87.62 39 P **P** 17 26 39.5 +0.6
CUT **Chulitna** 87.62 13 P **P** 17 26 37.6 -0.6
CUT **Chulitna** 87.62 13 P **P** 17 26 37.6 -0.6
baz=207
M23K **Glacier View** 87.64 14 P **P** 17 26 38.3 -0.1
baz=209
PPLA **Purkeypile** 87.68 12 P **P** 17 26 37.6 -1.1
PPLA IAmb IAmb 17 26 46.7
comp=Z,16nm,1.1s
BMRM **Bremner River** 87.70 16 P **P** 17 26 38.9 +0.3
BMRM **Bremner River** 87.70 16 P **P** 17 26 38.7 0.0
baz=212
WAX **Waxell Ridge** 87.73 17 P **P** 17 26 39.6 +0.7
K20K **Telida** 87.75 11 P **P** 17 26 38.7 -0.1
K20K IAmb IAmb 17 26 39.7
comp=Z,11nm,0.8s
K20K **Telida** 87.75 11 P **P** 17 26 38.9 0.0
baz=204,SNR=5.7
MESA **MESA** 87.75 18 P **P** 17 26 39.5 +0.4
baz=214
SCM **Sheep Creek Mo** 87.77 15 P **P** 17 26 39.3 +0.2
SCM **Sheep Creek Mo** 87.77 15 P **P** 17 26 39.6 +0.5
baz=210,SNR=7.5
KLU **Klutina** 87.81 15 P **P** 17 26 39.5 +0.2
KLU IAmb IAmb 17 26 40.0
comp=Z,15nm,1.0s
KLU **Klutina** 87.81 15 P **P** 17 26 39.3 0.0
baz=211
ISLE **Juniper Island** 87.99 17 P **P** 17 26 40.6 +0.5
PCA **Pinnacle** 88.17 18 P **P** 17 26 41.4 +0.5
CAST **Castle Rocks** 88.17 12 P **P** 17 26 39.6 -1.3
CAST **Castle Rocks** 88.17 12 P **P** 17 26 39.7 -1.1
baz=205,SNR=16
XAN **Xi'an** 88.18 308 P **P** 17 26 42.6 +1.0
XAN pmax pmax
comp=Z,16nm,0.8s
TABL **Table Mountain** 88.20 18 P **P** 17 26 41.9 +0.6
VRDI **Verde Repeater** 88.22 17 P **P** 17 26 41.9 +0.6
VRDI IAmb IAmb 17 26 42.1
comp=Z,14nm,1.0s
N25K **Chitina, Valde** 88.24 16 P **P** 17 26 41.8 +0.6
N25K IAmb IAmb 17 26 42.6
comp=Z,12nm,0.7s
N25K **Chitina, Valde** 88.24 16 P **P** 17 26 41.5 +0.3
baz=212
M24K **Tolsona, Glenn** 88.28 15 P **P** 17 26 42.4 +1.0
baz=211
GLB **Gilahina Butte** 88.30 16 P **P** 17 26 42.2 +0.7
GLB IAmb IAmb 17 26 42.8
comp=Z,15nm,0.8s
F10A **Beach Ranch, E** 88.31 38 P **P** 17 26 42.5 +0.5
F10A IAmb IAmb 17 26 43.6
comp=Z,10.0nm,0.9s
WAT6 **Susitna Watana** 88.33 14 P **P** 17 26 42.0 +0.3
baz=209,SNR=5.0
WAT1 **Susitna Watana** 88.37 14 P **P** 17 26 41.8 +0.1
baz=208
XLT **XiLinHaoTe** 88.44 319 eP **P** 17 26 46.9 +4.3
XLT pP pP 17 28 46.2 -4.5
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,360nm,5.2s
MCARA **McCarthy VSAT** 88.46 17 P **P** 17 26 42.8 +0.6
baz=213
J20K **Nowinta River** 88.49 11 P **P** 17 26 42.4 +0.1
J20K IAmb IAmb 17 26 43.3
comp=Z,33nm,1.5s
J20K **Nowinta River** 88.49 11 P **P** 17 26 42.1 -0.1
baz=203
KTH **Kantishna Hill** 88.52 12 P **P** 17 26 41.4 -1.1
KTH IAmb IAmb 17 26 42.8
comp=Z,14nm,0.8s
PLID **Pearl Lake** 88.52 39 P **P** 17 26 43.6 +0.5
PLID IAmb IAmb 17 26 45.1
comp=Z,14nm,1.5s
B08A **Colville Reser** 88.54 35 P **P** 17 26 43.4 +0.5
B08A IAmb IAmb 17 26 44.4
comp=Z,12nm,1.1s
CHUM **Lake Minchumin** 88.55 12 P **P** 17 26 42.4 -0.1
baz=205
TRF **Thorofare Moun** 88.56 13 P **P** 17 26 42.3 -0.5
TRF **Thorofare Moun** 88.56 13 P **P** 17 26 42.2 -0.6
baz=207,SNR=11
BARN **Barnard Glacie** 88.56 17 P **P** 17 26 43.5 +0.6

BARN IAmb IAmb 17 26 44.5
comp=Z,20nm,0.9s
P29M **Windy Craggy** 88.56 20 P **P** 17 26 43.5 +0.8
baz=218
HLID **Hailey** 88.63 41 P **P** 17 26 44.5 +0.8
HLID **Hailey** 88.63 41 P **P** 17 26 44.6 +1.0
baz=237
SPUT **South Promonto** 88.66 44 P **P** 17 26 44.4 +0.6
SPUT IAmb IAmb 17 26 46.1
comp=Z,6.9nm,1.0s
HVU **Hansel Valley** 88.70 43 P **P** 17 26 44.5 +0.6
HVU IAmb IAmb 17 26 46.2
comp=Z,7.5nm,1.0s
O28M **Mount Upton** 88.74 18 P **P** 17 26 44.4 +0.5
baz=216
HARP **HAARP** 88.78 15 P **P** 17 26 44.5 +0.9
baz=212
SRU **San Rafael Swe** 88.80 47 P **P** 17 26 45.0 +0.5
SRU IAmb IAmb 17 26 46.8
comp=Z,7.9nm,0.9s
RND **Reindeer** 88.82 13 P **P** 17 26 43.8 -0.1
O29M **Mount Kennedy** 88.84 19 P **P** 17 26 44.0 -0.1
baz=217
DHY **Denali Highway** 88.85 14 P **P** 17 26 43.7 -0.4
DHY IAmb IAmb 17 27 20.6
comp=Z,16nm,1.4s
DHY **Denali Highway** 88.85 14 P **P** 17 26 44.6 +0.5
baz=210
LENM **Lemitar** 88.90 52 P **P** 17 26 45.6 +0.5
KMI **Kunming** 88.98 298 ⇑P **P** 17 26 47.8 +2.1
KMI pmax pmax
comp=Z,11nm,1.1s
MCK **McKinley** 89.09 13 P **P** 17 26 44.8 -0.3
MCK IAmb IAmb 17 26 47.0
comp=Z,12nm,0.9s
MCK **McKinley** 89.09 13 P **P** 17 26 45.0 0.0
baz=208,SNR=5.6
P30M **Million Dollar** 89.19 20 P **P** 17 26 45.4 -0.3
baz=219
PAX **Paxson** 89.19 15 P **P** 17 26 45.4 -0.3
baz=211
TX31 **Lajitas Ar. Si** 89.21 58 P **P** 17 26 47.2 +0.6
TX31 IAmb IAmb 17 26 49.7
comp=Z,22nm,1.2s
TX32 **Lajitas Array** 89.21 58 P **P** 17 26 47.3 +0.7
TX32 IAmb IAmb 17 26 49.7
comp=Z,7.5nm,1.2s
TXAR **Lajitas Array** 89.21 58 P **P** 17 26 48.3 +1.8
comp=Z,2.3nm,0.8s,baz=214,slow=5.8,SNR=21
comp=Z,2.3nm,0.8s
TXAR **Lajitas Array** 89.21 58 P **P** 17 26 47.8 +1.2
YUK8 **Steele Glacier** 89.28 18 P **P** 17 26 46.8 +0.5
baz=216
M26K **Nabesna, AK** 89.32 16 P **P** 17 26 46.5 +0.3
baz=213
BWN **Browne** 89.37 13 P **P** 17 26 46.0 -0.3
CM31 **Chiang Mai Arr** 89.45 290 P **P** 17 26 49.0 +1.2
CM31 IAmb IAmb 17 26 50.7
comp=Z,14nm,0.9s
CMAR **Chiang Mai Arr** 89.45 290 P **P** 17 26 49.7 +1.9
comp=Z,8.7nm,0.8s,baz=134,slow=3.3,SNR=82
comp=Z,8.7nm,0.8s
CMAR **Chiang Mai Arr** 89.45 290 P **P** 17 26 49.0 +1.2
YUK3 **Moose Creek** 89.48 17 P **P** 17 26 47.8 +0.6
baz=216
S34M **Telegraph Cree** 89.52 24 P **P** 17 26 47.9 +0.8
baz=224
M27K **Edge Creek, AK** 89.58 17 P **P** 17 26 48.0 +0.5
M27K IAmb IAmb 17 26 50.5
comp=Z,17nm,1.1s
M27K **Edge Creek, AK** 89.58 17 P **P** 17 26 48.8 +1.3
baz=214
CHTO **Chiang Mai** 89.59 290 P **P** 17 26 48.8 +0.4
ANMO **Albuquerque** 89.64 52 P **P** 17 26 49.2 +0.6
ANMO **Albuquerque** 89.64 52 P **P** 17 26 49.8 +1.2
baz=242
BCYI **Bear Canyon** 89.65 41 P **P** 17 26 48.1 -0.3
YUK4 **Talbot Arm** 89.65 18 P **P** 17 26 48.6 +0.7
baz=217
HHC **Hu-ho-hao-te** 89.68 315 eP **P** 17 26 51.8 +3.3
HHC pmax pmax
comp=Z,44nm,0.7s
HHC pmax pmax
comp=Z,340nm,5.1s
L26K **Log Cabin Wild** 89.76 16 P **P** 17 26 48.2 0.0
baz=213
I21K **Tanana** 89.79 11 P **P** 17 26 47.8 -0.4
I21K IAmb IAmb 17 26 49.1
comp=Z,9.7nm,0.8s
I21K **Tanana** 89.79 11 P **P** 17 26 48.7 +0.4
baz=205
K24K **Donnelly Dome** 89.84 14 P **P** 17 26 49.1 +0.6
baz=211
MLY **Manley** 89.89 12 P **P** 17 26 47.8 -1.0
MLY IAmb IAmb 17 26 49.3
comp=Z,8.0nm,1.2s
MLY **Manley** 89.89 12 P **P** 17 26 48.5 -0.2
baz=206
BVCY **Beaver Creek** 89.89 17 P **P** 17 26 49.7 +0.8
baz=215
WRH **Wood River Hil** 89.92 13 P **P** 17 26 48.1 -0.7
WRH IAmb IAmb 17 26 49.3
comp=Z,18nm,1.0s
H21K **Melozitna Rive** 90.08 11 P **P** 17 26 49.6 0.0
H21K IAmb IAmb 17 26 50.8
comp=Z,5.7nm,0.8s
H21K **Melozitna Rive** 90.08 11 P **P** 17 26 50.3 +0.6
baz=205
HDA **Harding Lake** 90.11 14 P **P** 17 26 49.3 -0.4
HDA IAmb IAmb 17 26 50.1
comp=Z,7.9nm,0.7s
HDA **Harding Lake** 90.11 14 P **P** 17 26 49.3 -0.4
baz=210
DOT **Dot Lake** 90.11 15 P **P** 17 26 48.6 -1.1
DOT IAmb IAmb 17 26 49.9
comp=Z,15nm,0.9s
CCB **Clear Creek Bu** 90.13 13 P **P** 17 26 48.6 -1.2
CCB IAmb IAmb 17 26 50.0
comp=Z,7.8nm,0.6s
L27K **Beaver Creek,** 90.17 16 P **P** 17 26 50.1 0.0
baz=214
I23K **Minto, Yukon-K** 90.26 12 P **P** 17 26 50.0 -0.4
baz=208
AHID **Auburn Hatcher** 90.27 43 P **P** 17 26 51.9 +0.6
AHID IAmb IAmb 17 26 54.1
comp=Z,5.9nm,0.8s
MDM **Murphy Dome** 90.32 13 P **P** 17 26 49.8 -1.0
MDM IAmb IAmb 17 26 50.4
comp=Z,14nm,1.2s
TCOL **CIGO, UAF Yank** 90.32 13 P **P** 17 26 50.8 +0.1
baz=209
COLA **College** 90.32 13 P **P** 17 26 50.0 -0.7
baz=209
COLA **College** 90.32 13 P **P** 17 26 50.8 +0.2
PZH **PanZhiHua** 90.37 298 P **P** 17 26 52.8 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,4.9s
SCRK **Sand Creek** 90.41 15 P **P** 17 26 50.9 -0.4
baz=213
IL31 90.43 13 P **P** 17 26 50.0 -1.2
IL31 IAmb IAmb 17 26 51.5
comp=Z,8.8nm,1.1s
ILAR **Eielson Array** 90.43 13 P **P** 17 26 50.5 -0.7
comp=Z,2.4nm,0.7s,baz=211,slow=4.9,SNR=18
comp=Z,2.4nm,0.7s
H22K **Ishtalitna Cre** 90.55 11 P **P** 17 26 51.8 +0.1
baz=206
M29M **Somme Creek** 90.58 18 P **P** 17 26 52.3 +0.2
baz=218
P33M **Teslin, Yukon** 90.61 21 P **P** 17 26 52.5 +0.3
baz=222
J25K **Salcha River,** 90.63 14 P **P** 17 26 52.5 +0.3
baz=211
S22A **4UR Ranch, Cre** 90.67 49 P **P** 17 26 54.3 +0.9
baz=242
REDW **Red Top Meadow** 90.73 43 P **P** 17 26 53.5 0.0
REDW IAmb IAmb 17 26 55.8
comp=Z,7.5nm,1.1s
BILL **Bilibino** 90.75 355 P **P** 17 26 52.4 -0.2
BILL IAmb IAmb 17 26 53.7
comp=Z,9.1nm,0.8s
G21K **Allakaket** 90.75 10 P **P** 17 26 53.0 +0.4
baz=204
H23K **Yukon River** 90.83 12 P **P** 17 26 52.3 -0.8
baz=208

K27K	Chicken	90.91	16	P	P	17 26 53.8	+0.3
	baz=214						
J26L	Joseph Creek	90.95	15	P	P	17 26 55.0	+1.3
	baz=213						
H24K	Noodor Dome	91.16	12	P	P	17 26 57.9	+3.3
	baz=209						
M30M	Minto, Yukon	91.16	18	P	P	17 26 55.2	+0.5
	baz=219						
L29M	L29M	91.20	17	P	P	17 26 55.9	+1.1
	baz=218						
BW06	Boulder Array	91.26	44	P	P	17 26 56.2	+0.3
	baz=240						
PD31	Pinedale Array	91.26	44	P	P	17 26 56.0	+0.1
PD31				IAmb	IAmb	17 26 57.9	
	comp=Z,5.1nm,1.1s						
PDAR	Pinedale Array	91.26	44	P	P	17 26 56.3	+0.4
	comp=Z,1.7nm,0.8s,baz=209,slow=3.1,SNR=12						
	comp=Z,1.7nm,0.8s						
PRP	Porcupine Dome	91.37	13	P	P	17 26 55.9	+0.2
	baz=211						
BOZ	Bozeman (W)	91.39	41	P	P	17 26 57.1	+0.7
	baz=239						
H17A	Grant Village	91.43	42	P	P	17 26 58.9	+2.2
	baz=240						
G22K	Bettles	91.45	11	P	P	17 26 56.0	+0.1
	baz=206						
G23K	Bananza Creek	91.53	11	P	P	17 26 57.1	+0.8
	baz=207						
M31M	Drury Creek, Y	91.59	19	P	P	17 26 57.2	+0.5
	baz=221						
SDCO	Great Sand Dun	91.61	50	P	P	17 26 58.6	+0.9
	baz=243						
DAWY	Dawson	91.63	16	P	P	17 26 56.8	0.0
	baz=217						
EGAK	Eagle	91.76	15	P	P	17 26 57.6	+0.3
	baz=215						
F22K	John River	91.87	10	P	P	17 26 58.5	+0.7
	baz=205						
MSTX	Muleshoe	91.92	54	P	P	17 27 00.1	+1.1
	baz=244						
WTLY	Watson Lake, Y	91.93	23	P	P	17 26 59.2	+0.9
	baz=226						
FARO	Faro, Yukon	91.94	20	P	P	17 26 58.6	+0.4
	baz=222						
K29M	Barlow Dome	91.95	17	P	P	17 26 59.3	+0.9
	baz=218						
H25K	Birch Creek	91.95	13	P	P	17 26 58.8	+0.6
	baz=211						
COLD	Coldfoot	91.96	11	P	P	17 26 58.8	+0.6
	baz=207						
G24K	Hadweenzic Riv	92.00	12	P	P	17 26 58.9	+0.5
	baz=209						
T25A	Trinidad	92.11	51	P	P	17 27 00.0	+0.1
	baz=244						
F24K	Squaw Lake	92.64	12	P	P	17 27 02.0	+0.6
	baz=209						
H27K	Steamboat Moun	92.87	14	P	P	17 27 03.2	+0.8
	baz=215						
G26K	Porcupine Rive	92.97	13	P	P	17 27 03.7	+0.9
	baz=213						
E24K	Your Creek	93.02	11	P	P	17 27 03.3	+0.2
	baz=209						
G27K	Doyon Strip	93.31	14	P	P	17 27 04.7	+0.2
	baz=215						
YAK	Yakutsk	93.33	339	P	P	17 27 03.6	-0.9
EPYK	Eagle Plains	94.14	16	P	P	17 27 08.1	-0.1
	baz=219						
C24K	Franklin Bluff	94.43	10	P	P	17 27 10.2	+0.8
	baz=208						
E27K	Coleen River	94.47	13	P	P	17 27 10.5	+0.8
	baz=215						
G30M	tAoh Zraii Nji	94.74	16	P	P	17 27 11.1	+0.1
	baz=220						
C27K	Jago River	95.24	12	P	P	17 27 13.6	+0.5
	baz=213						
RSSD	Black Hills	95.44	44	P	P	17 27 14.5	-0.4
	baz=244						
F31M	Tsiigehtchic	95.72	16	P	P	17 27 15.2	-0.1
	baz=222						
SONM	Songino Array	96.26	319	P	P	17 27 18.2	-0.2
	comp=Z,0.5nm,0.5s,baz=127,slow=3.6,SNR=3.3						
SONM				PP	PP	17 31 25.7	+3.1
	comp=Z,1.1nm,1.1s,baz=101,slow=4.7,SNR=3.9						
	comp=Z,0.5nm,0.5s						
INK	Inuvik	96.43	16	P	P	17 27 18.2	-0.2
	baz=222						
GTA	Gaotai	97.09	310	eP	P	17 27 23.2	+0.9
GTA				pP	pwP	17 29 35.6	-0.9
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMSC	Kings Mountain	108.92	59	P	PKiKP	17 32 16.6	+1.0
	baz=256						
ZALV	Zalesovo Beam	111.07	321	PKiKP	PKiKP	17 32 18.0	-1.1
	comp=Z,1.9nm,0.6s,baz=154,slow=0.2,SNR=10						
MKAR	Makanchi Array	111.47	313	PKiKP	PKiKP	17 32 19.4	-0.7
	comp=Z,1.3nm,0.5s,baz=199,slow=1.2,SNR=21						
GAR	Garm	119.09	303		PKPdf	17 32 35.0	-0.1
KK31	Karatay Array	119.31	308		PKPdf	17 32 34.9	-0.4
KKAR	Karatay Array	119.31	308		PKPdf	17 32 34.8	-0.5
KKAR	Karatay Array	119.31	308		PKPdf	17 32 34.9	-0.4
KBL	Kabul	119.56	298		PKiKP	17 32 36.5	+0.1
BRVK	Borovoye	119.66	319		PKPdf	17 32 35.2	-0.4
SPITS	Spitsbergen Ar	123.63	356	PKP	PKiKP	17 32 42.8	-0.2
	comp=Z,26nm,1.0s,baz=25,slow=3.8,SNR=3.6						
ARU	Arti	125.93	324	PKP	PKiKP	17 32 47.7	-0.3
	comp=Z,8.4nm,0.4s,baz=144,slow=2.2,SNR=24						
GEYT	Alibeck	128.60	301	PKP	PKiKP	17 32 53.8	-0.2
	comp=Z,2.6nm,0.6s,baz=252,slow=3.0,SNR=6.7						
KIRV	Kirov	129.87	329	PKP	PKPdf	17 32 54.8	-0.1
	comp=Z,11nm,0.8s,baz=246,slow=6.4,SNR=3.7						
ARCES	ARCESS Array B	130.49	349	PKP	PKPdf	17 32 55.6	-0.3
	comp=Z,4.5nm,0.6s,baz=356,slow=1.2,SNR=14						
BELG	Belogornoye	133.24	322	PKP	PKPdf	17 33 01.9	+0.4
	comp=Z,12nm,0.5s,baz=336,slow=2.5,SNR=12						
FINES	FINESS Array B	137.14	342	PKhKP	PKPpre	17 32 55.5	
	comp=Z,3.0nm,0.8s,baz=103,slow=4.1,SNR=8.6						
FINES				PKP	PKPdf	17 33 08.4	0.0
	comp=Z,2.6nm,0.5s,baz=358,slow=2.1,SNR=8.5						
FINES				SKPbc	SKPbc	17 35 47.5	+1.5
	comp=Z,2.1nm,0.8s,baz=222,slow=4.9,SNR=1.3						
GNI	Garni	138.72	306	PKP	PKPdf	17 33 12.2	-0.1
	comp=Z,4.9nm,0.8s,baz=68,slow=23,SNR=2.4						
DOMB	Dombas	139.91	354	eP	PKPdf	17 33 06.6	-7.0
AKN	Aaknes	139.96	355	eP	PKPdf	17 33 07.6	-6.1
NB2	NORSAR Subarra	140.64	352	PKP	PKPdf	17 33 08.7	-6.3
	baz=16,slow=4.0						
NB2	NORSAR Subarra	140.64	352	PKP	PKPdf	17 33 08.7	-6.3
	comp=Z,1.3nm,0.6s,baz=16,slow=4.0						
NOA	NORSAR Array B	140.64	352	PKhKP	PKPpre	17 33 08.7	
	comp=Z,0.9nm,0.5s,baz=4.1,slow=3.1,SNR=7.9						
NOA				PKP	PKPdf	17 33 15.4	+0.5
	comp=Z,1.9nm,0.7s,baz=13,slow=4.1,SNR=5.7						
NC602	NORSAR Array S	140.89	351	eP	PKPdf	17 33 10.9	-4.4
HFS	Hagfors	141.14	350	PKhKP	PKPpre	17 33 10.5	
	comp=Z,8.4nm,0.4s,baz=72,slow=4.8,SNR=66						
ASK	Askoy	141.77	356	eP	PKPdf	17 33 13.3	-3.6
NACGM	Naroch	142.03	335	ePKP	PKPdf	17 33 14.8	-2.7
	comp=Z,12nm,0.8s,baz=42						
ODD1	Odda	142.24	355	eP	PKPdf	17 33 14.9	-2.9
BLS5	Blasjo	142.74	355	eP	PKPdf	17 33 16.4	-2.3
MBAR	Mbarara	142.74	236	PKP	PKPdf	17 33 19.8	-0.5
	comp=Z,7.7nm,0.6s,baz=128,slow=2.5,SNR=20						
MBAR	Mbarara	142.74	236		PKPdf	17 33 19.3	-1.1
KMY	Karmoy	143.03	356	eP	PKPbc	17 33 17.4	-0.1
SNART	Snartemo	143.74	354	eP	PKPbc	17 33 19.4	-0.3
LEWI	Lewis, Hebride	143.86	7	eP	PKPbc	17 33 18.3	-1.8
AKASG	Malin Array Be	143.93	329	PKP	PKPbc	17 33 20.0	-0.4
	comp=Z,11nm,0.4s,baz=44,slow=4.2,SNR=87						
AKASG				SKPbc	SKiKP	17 36 05.9	+1.2
	comp=Z,1.6nm,0.7s,baz=42,slow=2.5,SNR=5.0						
AKASG	Malin Array Be	143.93	329		PKPbc	17 33 19.6	-0.9
AKBB	Malin Array Si	143.93	329		PKPbc	17 33 19.7	-0.8
KAC	Achnashellach	144.65	5	eP	PKPbc	17 33 22.6	+0.1
MCD	Coleburn Disti	144.71	4	eP	PKPbc	17 33 22.4	-0.3
KPL	Plockton	144.78	6	eP	PKPbc	17 33 22.8	-0.1
GAZ	Gaziantep	145.14	303	PKPbc	PKPab	17 33 25.3	-0.7
BNN	Bunyan	145.70	307		PKPbc	17 33 25.8	-0.5
LAWE	Loch Awe, Argy	145.87	6	eP	PKPbc	17 33 26.2	+0.1
BZK	Bozkurt	145.88	313		PKPbc	17 33 25.6	-0.9
SORM	Soroca	146.02	326	⇓P	PKPbc	17 33 26.7	-0.1
ASF	Jabal al Asfar	146.36	295	PKPbc	PKPbc	17 33 29.1	+0.8
	comp=Z,9.6nm,0.6s,baz=122,slow=3.0,SNR=26						
EBL	Broad Law	146.53	4	eP	PKPbc	17 33 27.9	0.0
MILM	Milestii Mici	146.53	324	⇓P	PKPbc	17 33 27.9	-0.3
GKP	Gorka Klasztor	146.61	342	ePKPbc	PKPbc	17 33 28.5	+0.4
BEL	Belsk	146.67	337	ePKPbc	PKiKP	17 33 29.2	-1.1
EKA	Eskdalemuir Ar	146.96	4	PKPbc	PKPbc	17 33 28.9	-0.2

	comp=Z,6.7nm,0.6s,baz=0.6,slow=2.7,SNR=27						
ESK	Eskdalemuir	146.97	4	eP	PKPbc	17 33 28.8	-0.3
BR131	Keskin Array S	147.01	309		PKPbc	17 33 29.5	-0.3
BRTR	Keskin Array B	147.01	309	PKPbc	PKPbc	17 33 29.8	-0.1
	comp=Z,7.5nm,0.7s,baz=138,slow=4.7,SNR=49						
BRTR	Keskin Array B	147.01	309		PKPbc	17 33 29.6	-0.3
NEWG	New Galloway	147.10	5	eP	PKPbc	17 33 29.3	-0.1
VASR	Vaslui	147.26	324	⇓P	PKPbc	17 33 29.6	-0.5
GAL1	Galloway	147.31	6	eP	PKPbc	17 33 29.2	-0.8
MMAI	Mount Meron Ar	147.48	297	PKPbc	PKiKP	17 33 32.2	-0.5
	comp=Z,15nm,0.5s,baz=76,slow=7.1,SNR=45						
EDMD	Edmundbyers	147.53	3	eP	PKPbc	17 33 30.4	-0.2
ANTO	Ankara	147.56	310	⇓P	PKiKP	17 33 31.9	-0.9
ANTO	Ankara	147.56	310		PKPbc	17 33 31.6	+0.3
BR231	Keskin MP Arra	147.58	310		PKPbc	17 33 31.9	+0.5
VARL	Varlezi	147.68	323	⇓P	PKPbc	17 33 31.1	-0.1
SCTR	Scanteiesti	147.73	323	⇓P	PKPbc	17 33 31.7	+0.4
GHRR		147.82	324	⇓P	PKiKP	17 33 32.6	-0.3
IOMK	Kirk Michael	147.92	6	eP	PKPbc	17 33 31.8	+0.2
BUR08	Bucovina Ar. S	147.94	328		PKiKP	17 33 32.6	-0.7
CFR	Carcaliu	147.95	322	⇑P	PKPbc	17 33 31.9	0.0
TESR	Tescani	147.95	325	⇓P	PKPbc	17 33 31.9	-0.1
BURAR	Bucovina Array	147.95	328	⇓P	PKiKP	17 33 32.9	-0.4
BURAR	Bucovina Array	147.95	328		PKPbc	17 33 32.2	+0.2
TPGR	Topolog	147.97	321	⇓P	PKiKP	17 33 32.5	-0.8
WIM	Isle of Man	148.02	6	eP	PKPbc	17 33 32.2	+0.3
TIRR	Tirgusor	148.21	321	⇓P	PKPbc	17 33 32.8	+0.3
EIL	Elat	148.30	291	PKPbc	PKiKP	17 33 34.1	-0.3
	comp=Z,16nm,0.7s,baz=23,slow=2.3,SNR=16						
VRI	Vrincioaia	148.32	324	⇓P	PKPbc	17 33 32.8	0.0
OJC	Ojcow	148.35	336	ePKPbc	PKPbc	17 33 30.9	-1.9
OJC	Ojcow	148.35	336	PKPdf	PKPdf	17 33 29.9	+1.5
HARR	Harsova	148.35	321	⇓P	PKPbc	17 33 32.9	0.0
MFTR	Murfatlar	148.36	320	⇑P	PKPbc	17 33 32.8	-0.2
KOLS	Kolonicke sedl	148.36	332	ePKP	PKiKP	17 33 34.0	0.0
PLOR	Plostina	148.37	324	⇓P	PKPbc	17 33 32.9	-0.1
TLBR	Topalu	148.37	321	⇓P	PKPbc	17 33 32.9	-0.1
STHS	Stebnicka Huta	148.42	334	ePKP	PKPbc	17 33 33.2	+0.2
MDUB	Mudurnu	148.43	312		PKPbc	17 33 32.6	-0.9
MANR	Mangalia	148.46	319	⇓P	PKiKP	17 33 34.0	-0.3
COVR	Voineasa-Covas	148.61	324	⇓P	PKPbc	17 33 33.0	-0.6
OZUR		148.68	325	⇓P	PKiKP	17 33 34.1	-0.7
CRVS	Cervenica-Dubn	148.73	333	ePKP	PKiKP	17 33 34.8	0.0
CSS	Mathiatis	148.74	301		PKPbc	17 33 34.2	-0.1
ARCR	ARCALIA	148.74	328	⇓P	PKiKP	17 33 34.6	-0.2
NEHR	Nehoiu	148.83	324	⇓P	PKPbc	17 33 33.4	-0.7
TRPA	Tarpa	148.85	331	⇓P	PKiKP	17 33 34.4	-0.5
TRPA	Tarpa	148.85	331	PKP	PKiKP	17 33 34.4	-0.5
WLF1	Llynfaes	148.90	6	eP	PKPbc	17 33 32.9	-1.1
DOPR	Dopca	148.97	325	⇓P	PKiKP	17 33 35.3	-0.1
MLR	Muntele Rosu	148.98	324	⇓P	PKPbc	17 33 34.5	-0.1
MLR	Muntele Rosu	148.98	324	PKPbc	PKPbc	17 33 34.7	0.0
	comp=Z,7.9nm,0.7s,baz=350,slow=2.5,SNR=10						
MLR	Muntele Rosu	148.98	324	PKPdf	PKPdf	17 33 30.4	+0.6
MLR				PKPbc	PKPbc	17 33 34.6	0.0
KSP	Ksiaz	149.02	340	ePKPbc	PKiKP	17 33 35.4	+0.1
BORA	Eskisehir	149.19	311		PKPbc	17 33 35.0	-0.3
SECR		149.20	323	⇓P	PKPbc	17 33 35.0	0.0
OKC	Ostrava-Krasne	149.26	337	⇑ePKP	PKiKP	17 33 35.6	-0.2
ABAH	Abaujker	149.29	332	PKP	PKiKP	17 33 36.1	+0.2
OSTC	Ostas	149.29	340	⇑ePKP	PKiKP	17 33 36.1	+0.2
CJR	Cluj-Napoca	149.37	328	⇓P	PKiKP	17 33 36.0	-0.2
MESR	Meseseni	149.37	329	⇓P	PKPbc	17 33 35.5	+0.2
FOEL	Foel Wylfa	149.39	4	eP	PKPbc	17 33 34.2	-1.1
UPC	Upice	149.40	340	⇑ePKP	PKiKP	17 33 36.1	0.0
DPC	Dobruska-Polom	149.44	340	⇑ePKP	PKiKP	17 33 36.5	+0.3
VOIR		149.50	325	⇓P	PKPbc	17 33 35.6	-0.3
CLL	Collm	149.52	344		PKPbc	17 33 35.6	+0.1
CLL	Collm	149.52	344	⇓iPKPbc	PKiKP	17 33 36.0	-0.3
	comp=Z,46nm,0.7s						
CLL				⇑iPKPab	PKPab	17 33 43.2	+0.1
	comp=Z,24nm,0.7s						
CLL				ex	x	17 33 51.0	
	comp=Z,14nm,1.2s						
CLL				ex	x	17 35 58.0	
CLL				eSKPdf	SKPdf	17 36 12.0	+4.2
MORC	Moravsky Berou	149.53	338	⇓P	PKiKP	17 33 36.4	0.0
MORC	Moravsky Berou	149.53	338		PKiKP	17 33 35.9	-0.5
MORC	Moravsky Berou	149.53	338	ePKP	PKiKP	17 33 36.4	0.0
KRLC	Kraliky	149.53	339	⇑ePKP	PKiKP	17 33 36.4	0.0
BRG	Berggiesshubel	149.68	343	i PKP	PKiKP	17 33 36.8	+0.1
BRG				Amp		17 33 37.5	
	comp=Z,34nm,0.6s						
BRG				i x	x	17 33 44.3	
BRG				Amp		17 33 44.9	
	comp=Z,14nm,0.7s						
ARR	Arges	149.76	325	⇓P	PKiKP	17 33 37.9	+0.8
MAUC	Maruska	149.77	337	⇑ePKP	PKiKP	17 33 37.4	+0.5
HLM1	Long Mynd	149.78	4	eP	PKPbc	17 33 35.9	-0.2
PVCC	Panska Ves	149.81	342	⇑ePKP	PKiKP	17 33 37.2	+0.3
RAZG	Razgrad	149.84	321	⇓P	PKiKP	17 33 36.8	-0.5
VYHS	Vyhne	150.12	335	ePKP	PKiKP	17 33 37.8	+0.2
VYHS				e		17 33 46.6	
HUMR	Humele	150.12	324	⇓P	PKPbc	17 33 36.8	-0.4
PSZ	Piszkesteto	150.15	333	⇓P	PKiKP	17 33 37.5	-0.3
LOT	Lotru	150.16	326	⇓P	PKPbc	17 33 37.1	-0.3
RSBS	Rosebush, Pemb	150.18	7	eP	PKPbc	17 33 37.0	-0.1
VRAC	Vranov	150.25	339	⇓P	PKiKP	17 33 38.1	+0.2
VRAC	Vranov	150.25	339	ePKP	PKiKP	17 33 37.9	0.0
GOPC	GO Pecny, Ondr	150.30	341	⇑ePKP	PKiKP	17 33 38.2	+0.2
PRU	Pruhonice	150.30	342	⇑ePKP	PKiKP	17 33 38.0	+0.1
PRU				ePKPAB	PKPab	17 33 47.4	+0.9
MONM	Monmouth	150.46	4	eP	PKPbc	17 33 37.2	-0.5
KRUC	Moravsky	150.53	339	ePKP	PKiKP	17 33 38.3	-0.1
SIRR	Siria	150.62	329	⇓P	PKiKP	17 33 39.0	+0.2
TREC	Trest	150.63	340	⇑ePKP	PKiKP	17 33 38.8	+0.1
TREC				ePKPAB	PKPab	17 33 48.7	+0.8
NKC	Novy Kostel	150.65	344	⇑ePKP	PKiKP	17 33 38.9	+0.2
NKC				ePKPAB	PKPab	17 33 48.4	+0.4
GZR	Gura Zlata	150.71	327	⇓P	PKPbc	17 33 38.5	-0.1
MODS	Modra-Piesok	150.80	337	ePKP	PKiKP	17 33 39.8	+0.7
ELL	Elmali	150.83	306		PKPbc	17 33 39.1	-0.2
SRE	Strehaia	150.99	325	⇓P	PKPbc	17 33 39.1	-0.1
PLVB	Pleven	151.04	322	⇓P	PKiKP	17 33 39.7	0.0
BZS	Buzias	151.12	328	⇓P	PKPbc	17 33 39.4	0.0
AKAS	Kas	151.25	305		PKPbc	17 33 39.0	-1.2
HERR	Herculane	151.25	327	⇓P	PKiKP	17 33 39.9	-0.2
KHC	Kasperske Hory	151.35	342		PKiKP	17 33 40.1	-0.1
KHC				PKPab	PKPab	17 33 51.2	+0.2
KHC	Kasperske Hory	151.35	342	ePKPDF	PKPdf	17 33 34.1	+0.9
KHC				⇑ePKP	PKiKP	17 33 40.5	+0.3
KHC				ePKPAB	PKPab	17 33 51.7	+0.7
PUNG	Punghina	151.39	325	⇓P	PKPbc	17 33 39.1	-0.9
CKRC	Cesky Krumlov	151.41	341	⇑ePKP	PKiKP	17 33 40.8	+0.5
CKRC				ePKPAB	PKPab	17 33 51.8	+0.6
BTNL	Ternell	151.49	352	dPKiKP	PKiKP	17 33 40.5	+0.1
GEC2	GERESS Array S	151.57	342		PKiKP	17 33 40.5	-0.3
GEC2					PKPab	17 33 51.8	-0.2
GERES	GERESS Array B	151.57	342	PKP	PKPdf	17 33 34.2	+0.6
	comp=Z,0.2nm,0.4s,baz=38,slow=1.7,SNR=2.1						
GERES				PKPbc	PKiKP	17 33 40.9	+0.1
	comp=Z,5.7nm,0.8s,baz=29,slow=3.0,SNR=28						
GERES				PKPab	PKPab	17 33 52.1	+0.1
	comp=Z,1.8nm,0.5s,baz=46,slow=4.2,SNR=8.9						
GERES	GERESS Array B	151.57	342		PKPbc	17 33 40.1	-0.4
GERES				PKPab	PKPab	17 33 52.0	+0.1
MDVR	Moldovita	151.67	327	⇓P	PKiKP	17 33 40.7	-0.3
CONA	Conrad Observa	151.69	338	i P	PKiKP	17 33 41.2	+0.2
	comp=Z,10.0nm,0.7s						
CONA				i P	PKPab	17 33 53.4	+1.0
	comp=Z,8.8nm,1.0s						
RONA	Rosalia, Austr	151.73	337	i P	PKiKP	17 33 41.3	+0.2
	comp=Z,13nm,0.6s						
RONA				i P	PKPab	17 33 53.7	+1.1
	comp=Z,15nm,1.4s						
BCLA	Clavier	151.75	354	dPKP	PKPab	17 33 52.0	-0.6
BMRD	Maredsous	151.92	354	dPKP	PKiKP	17 33 41.2	0.0
BLKB	Belogradchik	151.97	324	⇓P	PKPbc	17 33 40.6	-0.9
MOA	Molln	152.28	340	i P	PKiKP	17 33 41.9	-0.2
	comp=Z,3.5nm,0.6s						
MOA				i P	PKPab	17 33 55.8	+0.8
	comp=Z,7.3nm,1.1s						
VTS	Vitosha	152.32	322	PKPbc	PKPbc	17 33 42.3	-0.1
ARSA	Arzberg	152.38	338	i P	PKPab	17 33 55.7	+0.3
	comp=Z,8.0nm,1.4s						
BOVS	Bovan	152.48	325	⇓P	PKPbc	17 33 41.1	-1.4
BIOA	Bad Ischl, Aus	152.62	341	i P	PKPab	17 33 57.1	+0.7
	comp=Z,12nm,0.7s						
SOKA	Soboth	153.05	338	eP	PKPab	17 33 58.5	+0.2
	comp=Z,4.6nm,1.0s						
BFO	Black Forest	153.35	348	PKPbc	PKiKP	17 33 44.5	+0.1
BFO					PKPab	17 33 58.9	-0.6

WATA	Walderalm	153.54	343	eP	PKPbc	17 33 44.6	-0.3
	comp=Z,3.8nm,0.5s						
WATA				eP	PKPab	17 34 00.9	+0.5
	comp=Z,6.3nm,0.5s						
MYKA	Terra Mystica	153.56	339	i P	PKPbc	17 33 44.4	-0.4
	comp=Z,2.6nm,0.4s						
MYKA				i P	PKPab	17 34 00.3	-0.2
	comp=Z,6.5nm,0.8s						
WTTA	Wattenberg	153.59	343	eP	PKiKP	17 33 45.0	-0.1
	comp=Z,4.7nm,0.5s						
WTTA				eP	PKPab	17 34 01.4	+0.6
	comp=Z,11nm,0.5s						
RETA	Reutte	153.61	344	eP	PKiKP	17 33 44.8	-0.2
	comp=Z,1.1nm,0.7s						
RETA				eP	PKPab	17 34 01.1	+0.4
	comp=Z,5.5nm,0.6s						
MOTA	Moosalm	153.66	344	eP	PKPab	17 34 01.3	+0.3
	comp=Z,16nm,1.2s						
SQTA	Sankt Quirin	153.75	343	eP	PKPbc	17 33 44.9	-0.3
	comp=Z,3.1nm,0.6s						
SQTA				eP	PKPab	17 34 01.8	+0.4
	comp=Z,8.3nm,0.8s						
ABTA	Abfaltersbach	153.81	341	eP	PKPbc	17 33 44.8	-0.6
	comp=Z,4.3nm,0.6s						
ABTA				eP	PKPab	17 34 01.2	-0.3
	comp=Z,7.8nm,0.6s,SNR=5.1						
CLUD	Cludinico	153.96	340		PKPab	17 34 01.2	-1.0
DAVA	Damuels	154.01	345	eP	PKiKP	17 33 45.8	-0.1
	comp=Z,3.8nm,1.0s						
DAVA				eP	PKPab	17 34 02.8	+0.3
	comp=Z,11nm,0.8s						
FETA	Feichten	154.06	344	i P	PKPab	17 34 03.2	+0.5
	comp=Z,8.1nm,1.3s						
FUORN	Ofenpass-Fuorn	154.55	344		PKPab	17 34 05.4	+0.4
IDI	Anoyia	155.15	307	PKPbc	PKPbc	17 33 49.5	
	comp=Z,9.2nm,1.0s,baz=205,slow=8.6,SNR=3.0						
VAE	Valguarnera	160.75	325	PKP	PKPdf	17 33 45.9	+0.2
	comp=Z,7.4nm,0.3s,baz=234,slow=23,SNR=2.2						
ESDC	Sonseca Array	162.33	11	PKPab	PKPab	17 34 38.8	+0.1
	comp=Z,2.4nm,0.9s,baz=343,slow=4.6,SNR=7.7						
ESDC	Sonseca Array	162.33	11		PKPab	17 34 38.5	-0.3
MDT	Midelt	168.64	22	PKPab	PKPab	17 35 07.4	+0.5
	comp=Z,3.4nm,0.8s,baz=293,slow=3.8,SNR=5.2						
TORD	Torodi Ar. Bea	170.76	187	PKP	PKPdf	17 33 54.2	0.0
	comp=Z,1.7nm,0.8s,baz=40,slow=0.7,SNR=8.3						
TORD				PKPab	PKPab	17 35 17.4	+1.0
	comp=Z,0.9nm,0.7s,baz=182,slow=3.6,SNR=5.2						

NEIC ***07*** *17:14:54.8±2.4, 48°.17N±0°.02×122°.78W±0°.02, h28^{km}±8^{km}, Error ellipse: s-maj=3.4km s-min=1.3km az=220.0*

PGC ***07*** *17:14:55.6±0.9, 48°.15N×122°.78W, h13^{km}, ML3.0, ML2.6/25, 53km Ese of Victoria, Bc Washington*

SEA ***07*** *17:14:55.1±2.2, 48°.16N±0°.02×122°.76W±0°.02, h24^{km}±6^{km}, ML3.0/25, ML2.7/30(NEIC), Error ellipse: s-maj=3.0km s-min=1.2km az=162.0*

ISC 07 17:14:54.4±0.9**, 48°.17N**±0°.01×**122°.78W**±0°.01**, h28**^{km}±5^{km}**, n150,** σ**0^{s}.87**/201**, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVOH	Skagit Valley	0.16	39		Pb	17 14 59.5	-0.4
SVOH					Sb	17 15 02.8	-0.8
SVOH	Skagit Valley	0.16	39	P	Pb	17 14 59.5	-0.4
SVOH				S	Sb	17 15 01.8	-1.8
SQM	Sequim	0.20	242		Pb	17 15 00.6	+0.2
SQM					Sb	17 15 05.4	+1.0
SWID	South Whidbey	0.29	123		Pb	17 15 01.5	-0.1
SWID					Sb	17 15 06.8	+0.4
ERW	Mount Erie	0.30	20		Pb	17 15 01.5	-0.2
ERW					Sb	17 15 06.3	-0.5
B013	Quilcene	0.37	194		Pb	17 15 02.2	-0.4
B013	Quilcene	0.37	194		Pb	17 15 02.2	-0.4
B013					Sb	17 15 07.6	-0.5
UWFH	University of	0.41	338		Pb	17 15 03.0	-0.3
EVCC	Everett Colleg	0.42	112		Pb	17 15 03.4	0.0
EVCC					Sn	17 15 10.8	-0.5
BEVT	Boeing Everett	0.42	126		Pb	17 15 03.6	+0.1
BEVT					Sb	17 15 10.4	+0.8
VGZ	Gonzales	0.44	304		Pb	17 15 03.3	-0.4
VGZ					Sb	17 15 09.7	-0.4
VGZ	Gonzales	0.44	304	P	Pb	17 15 03.3	-0.4
VGZ				S	Sb	17 15 09.4	-0.6
C04A	Brinnon	0.47	196		Pb	17 15 03.8	-0.5
C04A					Sb	17 15 10.6	-0.2
LYNC	Lynnwood City	0.47	136		Pb	17 15 04.4	+0.1
B04A	Port Angeles	0.50	257		Pb	17 15 04.5	-0.2
B04A					Sb	17 15 11.9	+0.2
B04A	Port Angeles	0.50	257		Pb	17 15 04.5	-0.2
B04A	Port Angeles	0.50	257	IAML		17 15 12.2	
	comp=N,597nm,0.4s						
B04A				IAML		17 15 12.5	
	comp=E,782nm,0.5s						
SCCW	Shoreline CC	0.50	146		Pb	17 15 05.2	+0.4
SCCW					Sn	17 15 13.6	+0.1
CMW	Cultus Mountai	0.51	60		Pb	17 15 04.9	-0.1
CMW	Cultus Mountai	0.51	60	P	Pb	17 15 04.9	-0.1
MCW	Mount Constitu	0.51	356		Pb	17 15 05.0	0.0
MCW	Mount Constitu	0.51	356	P	Pb	17 15 05.0	0.0
EVGW	Everett Gatewa	0.52	127		Sb	17 15 13.1	+0.7
HDW	Hoodsport	0.55	200		Pb	17 15 05.2	-0.5
HDW	Hoodsport	0.55	200	P	Pb	17 15 05.2	-0.5
HDW				S	Sb	17 15 12.2	-1.1
JCW	Jim Creek	0.57	87		Pb	17 15 05.4	-0.5
JCW	Jim Creek	0.57	87	P	Pb	17 15 05.4	-0.5
STW	Striped Peak	0.60	269		Pb	17 15 06.0	-0.3
STW	Striped Peak	0.60	269	P	Pb	17 15 06.0	-0.3
GNW	Green Mountain	0.60	183		Pb	17 15 05.8	-0.6
GNW					Sb	17 15 14.2	-0.5
GNW	Green Mountain	0.60	183	P	Pb	17 15 05.9	-0.6
GNW				S	Sb	17 15 13.9	-0.7
GMW	Gold Mountain	0.62	180		Pb	17 15 06.0	-0.7
ALKI	Alki Wastewate	0.64	158		Pn	17 15 07.8	+0.2
B011	North Saanich	0.66	317		Pb	17 15 06.8	-0.5
B011	North Saanich	0.66	317	P	Pb	17 15 06.9	-0.5
B011				S	Sb	17 15 15.7	-0.4
MBPA	Monroe Substat	0.66	114		Sb	17 15 15.9	-0.2
B009	North Saanich	0.66	317	P	Pb	17 15 06.9	-0.5
B009				S	Sb	17 15 16.0	-0.2
B010	North Saanich	0.66	317	P	Pb	17 15 06.9	-0.5
B010				S	Sb	17 15 16.0	-0.2
PA01	PA01 North	0.66	318	P	Pb	17 15 07.0	-0.4
PA01				S	Sb	17 15 16.1	0.0
PGC	Sidney	0.66	317		Pb	17 15 06.8	-0.5
PGC	Sidney	0.66	317	IAML		17 15 16.6	
	comp=E,704nm,0.3s						
PGC	Sidney	0.66	317	P	Pb	17 15 06.9	-0.5
PGC				S	Sb	17 15 16.1	-0.1
SNB	Saturna Island	0.66	337		Pb	17 15 07.5	+0.1
SNB	Saturna Island	0.66	337	P	Pb	17 15 07.5	+0.1
SNB				S	Sb	17 15 16.6	+0.3
SP2	Seward Park 2	0.71	150		Pn	17 15 09.1	+0.6
OSD	Olympics--Snow	0.71	241		Pb	17 15 08.6	+0.2
OSD	Olympics--Snow	0.71	241	P	Pb	17 15 08.6	+0.2
SYMB	Survey Mountai	0.79	300	P	Pb	17 15 08.6	-1.0
SYMB				S	Sb	17 15 19.3	-0.6
MBW	Mount Baker	0.85	43		Pb	17 15 10.9	+0.2
MBW	Mount Baker	0.85	43	P	Pb	17 15 10.9	+0.2
TTW	Tolt Reservoir	0.87	122		Pn	17 15 10.5	-0.4
C05A	Tolt Reservoir	0.87	122		Pn	17 15 10.3	-0.5
C05A					Sb	17 15 21.7	-0.6
C05A	Tolt Reservoir	0.87	122	P	Pn	17 15 10.3	-0.5
C05A				S	Sb	17 15 21.5	-0.8
OBC	Olympics--Boni	0.88	262		Pn	17 15 11.1	+0.1
OBC	Olympics--Boni	0.88	262	P	Pn	17 15 11.1	+0.1
RPW	Rockport	0.89	71		Pn	17 15 11.2	0.0
RPW	Rockport	0.89	71	P	Pn	17 15 11.1	0.0
RPW				S	Sb	17 15 21.6	-1.3
P403	Sandy Floe Qua	0.92	264		Pb	17 15 13.4	+1.6
GOBB	Galiano Island	0.92	328	P	Pn	17 15 11.6	+0.1
GOBB				S	Sb	17 15 23.4	-0.2
B06A	Marblemount	0.93	67		Pn	17 15 11.8	+0.2
B06A	Marblemount	0.93	67	P	Pn	17 15 11.9	+0.3
B06A				S	Sb	17 15 23.6	-0.3
A05A	Maple Falls	0.95	29	P	Pb	17 15 12.5	+0.2
A05A				S	Sn	17 15 24.9	+0.4
OLQ	Olympics--Lake	0.95	227		Pb	17 15 13.1	+0.8
VDB	Vedder Mountai	0.97	27		Pn	17 15 12.5	+0.4
VDB	Vedder Mountai	0.97	27	P	Pn	17 15 12.6	+0.4
VDB				S	Sb	17 15 25.1	0.0
RATT	Rattlesnake La	0.99	138		Pn	17 15 12.1	-0.4
RATT					Sn	17 15 25.6	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NLWA	Neilton Lookou	1.07	224		Pb	17 15 14.7	+0.4
GPW	Glacier Peak	1.10	92		Pn	17 15 14.7	+0.4
GPW	Glacier Peak	1.10	92	P	Pn	17 15 14.6	+0.4
GPW				S	Sn	17 15 28.4	-0.3
B926	Mesachie Lake	1.11	306		Pn	17 15 14.2	+0.1
B926	Mesachie Lake	1.11	306	P	Pn	17 15 13.9	-0.2
B926				S	Sn	17 15 28.3	-0.2
CLRS	Cowichan Lake	1.11	306	P	Pn	17 15 13.9	-0.2
CLRS				S	Sn	17 15 28.3	-0.2
D05A	Enumclaw	1.12	151		Pn	17 15 14.6	+0.4
D05A	Enumclaw	1.12	151	P	Pn	17 15 14.8	+0.6
D05A				S	Sn	17 15 29.2	+0.5
HNBB	Haney	1.13	7	P	Pn	17 15 14.7	+0.3
HNBB				S	Sn	17 15 29.0	0.0
GSM	Grass Mountain	1.17	145		Pn	17 15 15.3	+0.2
PFB	Port Renfrew	1.18	291	P	Pn	17 15 15.0	-0.1
PFB				S	Sn	17 15 30.0	-0.3
C03A	Quillayute Air	1.22	260	Pn	Pn	17 15 16.3	+0.7
C03A				IAML		17 15 30.4	
	comp=E,259nm,4.1s						
CPW	Capitol Peak	1.22	192	P	Pn	17 15 16.2	+0.5
CPW				S	Sn	17 15 31.8	+0.6
B941	Kapowsin	1.24	162		Pn	17 15 16.0	+0.2
OCP	Olym-Cheeka Pk	1.24	277	P	Pb	17 15 17.1	-0.1
OCP				S	Sb	17 15 33.1	+0.3
WISH	Wishkah	1.25	213	P	Pn	17 15 16.7	+0.7
BIB	Bowen Island	1.29	344	P	Pn	17 15 17.4	+0.8
BIB				S	Sn	17 15 33.6	+0.8
WRW	Wenatchee Ridg	1.31	103		Pn	17 15 17.7	+0.7
NLLB	Nanaimo Lost L	1.33	323		Pb	17 15 18.2	-0.4
NLLB	Nanaimo Lost L	1.33	323	P	Pn	17 15 17.6	+0.4
NLLB				S	Sn	17 15 34.7	+0.9
RRHS	Rochester High	1.38	187		Pb	17 15 19.7	+0.1
OBSR	Observation Ro	1.43	152		Pb	17 15 20.1	-0.4
FMW	Mount Fremont	1.45	148		Pn	17 15 19.4	+0.5
FMW	Mount Fremont	1.45	148	P	Pn	17 15 19.2	+0.3
FMW				S	Sb	17 15 39.2	+0.3
RCS	Mount Rainier-	1.48	151		Pn	17 15 20.6	+1.1
REMR	Mount Rainier-	1.49	154		Pn	17 15 20.4	+0.8
GHNB	Nanoose	1.49	320	P	Pn	17 15 20.4	+1.1
GHNB				S	Sn	17 15 38.3	+0.4
HOPB	Hope	1.52	36	P	Pb	17 15 21.6	-0.3
HOPB				S	Sb	17 15 40.0	-0.6
WPB	Watts Point	1.52	349	P	Pn	17 15 20.8	+1.0
WPB				S	Sn	17 15 39.8	+1.2
PANH	Panhandle Gap,	1.52	149		Pn	17 15 20.9	+1.0
SR41	SR410 Landslid	1.53	146		Pn	17 15 21.4	+1.3
LON	Longmire	1.56	155		Pn	17 15 21.4	+1.0
SLFW	Sugar Loaf	1.57	104		Pb	17 15 22.2	-0.7
SHB	Sechelt	1.60	334	P	Pn	17 15 22.0	+1.0
NLW	Nelson Butte	1.64	92		Pb	17 15 23.6	-0.4
TWW	Teanaway	1.65	128		Pb	17 15 24.3	0.0
LTY	Liberty	1.69	122		Pn	17 15 22.9	+0.8
LTY				IAML		17 15 46.7	
	comp=N,90nm,0.2s						
LTY				IAML		17 15 48.5	
	comp=E,48nm,0.2s						
LTY	Liberty	1.69	122	P	Pn	17 15 23.9	+1.7
LTY				S	Sb	17 15 45.1	-0.7
WPW	White Pass	1.69	150		Pb	17 15 24.0	-0.9
B928	Bamfield	1.70	294	P	Pn	17 15 23.8	+1.6
B928				S	Sb	17 15 46.2	+0.3
BFSB	Bamfield	1.70	294	P	Pn	17 15 23.9	+1.6
BFSB				S	Sn	17 15 44.7	+1.6
B927	Port Alberni	1.71	309		Pn	17 15 23.9	+1.7
B927	Port Alberni	1.71	309	P	Pn	17 15 23.7	+1.4
B927				S	Sn	17 15 44.4	+1.2
E03A	Lebam	1.71	198	Pn	Pn	17 15 23.7	+1.4
E03A				IAML		17 15 51.9	
	comp=E,82nm,2.7s						
E03A				IAML		17 16 13.5	
	comp=N,74nm,3.5s						
E03A	Lebam	1.71	198	P	Pb	17 15 24.7	-0.4
E03A				S	Sb	17 15 45.7	-0.4
ETW	Entiat	1.74	108		Pn	17 15 24.3	+1.4
TBM	Table Mountain	1.78	123		Pb	17 15 25.9	-0.5
GLK	Glacier Lake	1.79	153		Pb	17 15 25.9	-0.8
RADR	Rader Ridge	1.88	202	Pn	Pn	17 15 25.8	+1.1
RADR				IAML		17 15 57.0	
	comp=E,117nm,1.9s						
RADR				IAML		17 16 01.7	
	comp=N,91nm,3.6s						
TXB	Texada	1.88	325	S	Sn	17 15 49.6	+2.1
ERK	Elk Rock	1.89	171		Pn	17 15 27.0	+2.1
B201	Coldwater, Mou	1.90	169		Pn	17 15 26.9	+1.9
NAC	Naches	1.95	137		Pb	17 15 28.8	-0.5
EBG	Ellensburg	1.96	129		Pb	17 15 28.5	-0.9
WSLR	Whistler	1.96	357		Pb	17 15 28.6	-0.9
WSLR	Whistler	1.96	357	P	Pb	17 15 28.2	-1.3
WSLR				S	Sb	17 15 52.3	-1.3
OZB	Mount Ozzard	1.97	295	Pn	Pn	17 15 25.9	0.0
OZB	Mount Ozzard	1.97	295	S	Sb	17 15 53.9	+0.2
B202	Windy Ridge, M	1.97	167		Pb	17 15 28.7	-1.0
FL2	Flat Top 2	1.99	171		Pb	17 15 29.0	-1.1
VALT	Mount Saint He	2.00	168		Pn	17 15 24.9	-1.6
SEPW	September Lobe	2.01	168		Pb	17 15 29.1	-1.3
B203	Quarry, Mount	2.02	171		Pb	17 15 29.5	-1.0
HSR	South Ridge	2.04	168		Pb	17 15 29.5	-1.3
B023	Clatskanie	2.07	186		Pb	17 15 30.1	-1.2
CDFW	Cedar Flats	2.11	166		Pb	17 15 30.6	-1.5
ASR	Mount Adams--S	2.17	158		Pb	17 15 31.7	-1.5
MTMW	Mount Mitchell	2.18	170		Pb	17 15 32.1	-1.1
YA2	Yakima	2.24	136		Pn	17 15 28.9	-0.8
EPH	Ephrata	2.30	110		Pn	17 15 31.5	+1.1
B08A	Colville Reser	2.31	84	Pn	Pn	17 15 30.8	+0.2
B08A	Colville Reser	2.31	84	S	Sb	17 16 04.0	+0.4
LLLB	Lillooet	2.51	13	Pn	Pn	17 15 34.5	+1.1
LLLB				IAML		17 16 11.1	
	comp=E,27nm,0.9s						
LLLB				IAML		17 16 16.6	
	comp=N,42nm,0.7s						
LLLB	Lillooet	2.51	13	P	Pn	17 15 36.2	+2.7
LLLB				S	Sb	17 16 09.9	+0.6
SPLB	Strathcona Par	2.56	313	S	Sb	17 16 09.2	-1.5
GDR	Gold River	2.68	308	S	Sb	17 16 13.4	-0.7
HAWA	Hanford	2.83	128	Pn	Pn	17 15 38.2	+0.4
HAWA				IAML		17 16 28.0	
	comp=N,16nm,0.6s						
HAWA				IAML		17 16 38.8	
	comp=N,18nm,4.3s						
D08A	Wollman Farm,	2.84	112	Pn	Pn	17 15 38.7	+0.9
D08A				IAML		17 16 05.4	
	comp=N,18nm,4.7s						
D08A				IAML		17 16 26.0	
	comp=E,19nm,2.3s						
OD2	Odessa Site #2	2.85	104		Pn	17 15 39.0	+0.9
C09A	Chrisman Ranch	3.05	95		Pn	17 15 40.6	-0.2
C09A	Chrisman Ranch	3.05	95	Sg	Sb	17 16 27.9	+3.2
NCRB	Newcastle Ridg	3.10	317	P	Pb	17 15 46.1	-2.7
WOSB	Woss	3.19	310	P	Pb	17 15 47.6	-2.8
WOSB				S	Sb	17 16 26.3	-2.5
UMPQ	Umpqua Communi	4.89	185		Pn	17 16 05.5	-0.6

*NNC **07** 17:17:20.8±0.5, 43°.25N×78°.25E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=9.0km s-min=2.4km az=178.0*
*SOME **07** 17:17:22.1, 43°.18N×78°.27E, h5km*
ISC 07 17:17:21.5±0.9**, 43°.22N**±0°.07×**78°.27E**±0°.03**, h8**km±11km**, n12,** σ**0.46**/23**, 5C-1D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ZHN	Zhinishke	0.13	115	eP	Pg	17 17 24.7	+0.2
	5.4nm,0.1s						
ZHN				eS	Sg	17 17 26.7	+0.2
	44nm,0.2s						
ZHN	Zhinishke	0.13	115	P	Pg	17 17 24.6	+0.2
ZHN				S	Sg	17 17 26.7	+0.2
SATY	Saty	0.19	149	eP	Pg	17 17 25.3	-0.2
	19nm,0.1s						
SATY				eS	Sg	17 17 27.8	-0.4
	56nm,0.1s						
SATY	Saty	0.19	149	P	Pg	17 17 25.2	-0.2
	19nm,0.1s						
SATY				S	Sg	17 17 27.8	-0.4
	56nm,0.1s						
KURS	Kuram	0.27	344	eP	Pb	17 17 28.1	-0.6
	1.5nm,0.1s						
KURS				eS	Sb	17 17 32.6	-0.9
	1.3nm,0.2s						
KPKS	Kokpek	0.39	51	eP	Pb	17 17 30.3	-0.3
	1.4nm,0.1s						
KPKS				eS	Sb	17 17 36.1	-0.7
	5.6nm,0.2s						
UZB	Uzynbulak	0.55	98	eP	Pg	17 17 32.5	+0.2
	1.7nm,0.1s						
UZB				eS	Sg	17 17 39.8	+0.2
	7.7nm,0.1s						
UZB	Uzynbulak	0.55	98	P	Pg	17 17 32.4	+0.2
	1.7nm,0.1s						
UZB				S	Sg	17 17 39.7	+0.2
	7.7nm,0.1s						
KOTS	Kotyrbulak	0.85	271	eP	Pg	17 17 37.9	+0.1
	0.5nm,0.3s						
KOTS				eS	Sg	17 17 49.4	+0.6
	5.4nm,0.2s						
PDGK	Podgornoye	0.90	83	⇓P	Pg	17 17 38.9	+0.2
	1.0nm,0.9s						
PDGK				⇑S	Sg	17 17 50.5	+0.1
	0.6nm,0.5s						
MDOK	Medeo	0.90	267	⇑P	Pg	17 17 38.9	+0.2
	3.8nm,1.4s						
MDOK				⇑S	Sg	17 17 49.9	-0.5
	1.5nm,0.5s						
TKM2	Tokmak 2	1.98	262	⇑Pg	Pn	17 17 56.4	+0.9
	1.6nm,0.9s						
TKM2				⇑Lg	Lg	17 18 22.6	
	2.4nm,1.1s						

DDA 07 17:31:54.7±0.0**, 36°.96N**×**27°.97E, h7**km±4km**, ML1.0, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
TURN	Turunc	0.28	129	P	Pg	17 31 59.5	-0.7
TURN				S	Sg	17 32 04.1	0.0
MULA	Mugla, Merkez-	0.41	43	P	Pg	17 32 02.9	+0.2
MULA				i AML	AML	17 32 10.0	
	comp=E,11nm,0.5s						
BDRM	Kayabasi	0.44	285	P	Pg	17 32 03.7	+0.5
BDRM				S	Sg	17 32 08.8	-0.1
AYDN	Tasoluk	0.71	354	P	Pg	17 32 07.5	-0.9
AYDN				S	Sg	17 32 16.9	-0.6
AYDN				i AML	AML	17 32 18.0	
	comp=N,6.4nm,0.5s						

*IDC **07** 17:42:55.7±48.0, 21°.89S×176°.44W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=889.2km s-min=173.8km az=85.0*
*NEIC **07** 17:43:14.2±1.6, 21°.4S±0°.2×176°.5W±0°.2, h170km±10km, mb4.3/12, Error ellipse: s-maj=26.6km s-min=21.3km az=151.0*
ISC 07 17:43:14.6±0.8**, 21°.3S**±0°.2×**176°.5W**±0°.1**, h183**km**, n20,** σ**0.79**/19**, mb4.0**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
NIUE	Niue	6.56	71	Pn	Pn	17 44 48.5	-0.6
AFI	Afiamalu	8.63	32	Pn	Pn	17 45 15.5	-0.8
EIDS	Eidsvold	29.99	256	P	P	17 49 06.6	+0.4
EIDS				IAmb	IAmb	17 49 38.6	
	comp=Z,10nm,1.2s						
CTAO	Charters Tower	34.81	265	P	P	17 49 48.1	-0.1
CTAO				IAmb	IAmb	17 49 52.2	
	comp=Z,4.8nm,0.6s						
STKA	Stephens Creek	38.71	245	P	P	17 50 20.1	-0.8
	comp=Z,1.0nm,0.5s,baz=58,slow=9.5,SNR=3.5						
	comp=Z,1.0nm,0.5s						
STKA	Stephens Creek	38.71	245	P	P	17 50 20.1	-0.8
BBOO	Buckleboo	43.45	244	P	P	17 50 58.3	-1.3
AS31	Alice Springs	45.70	257	P	P	17 51 17.1	-0.5
ASAR	Alice Springs	45.70	257	P	P	17 51 18.1	+0.5
	comp=Z,1.5nm,0.7s,baz=91,slow=7.4,SNR=42						
	comp=Z,1.5nm,0.7s						
ASAR	Alice Springs	45.70	257	P	P	17 51 17.8	+0.2
WB0	Warramunga Arr	45.86	263	P	P	17 51 19.3	+0.4
WB0				IAmb	IAmb	17 51 49.3	
	comp=Z,7.9nm,1.3s						
WB2	Warramunga Arr	45.87	262	P	P	17 51 19.3	+0.4
WB2				IAmb	IAmb	17 51 56.5	
	comp=Z,9.0nm,1.5s						
WRA	Warramunga Arr	45.88	262	P	P	17 51 20.1	+1.1
	comp=Z,1.5nm,0.6s,baz=102,slow=7.8,SNR=32						
	comp=Z,1.5nm,0.6s						
WRA	Warramunga Arr	45.88	262	P	P	17 51 19.4	+0.4
FORT	Forrest	50.26	247	P	P	17 51 51.3	-1.1
FORT				IAmb	IAmb	17 52 02.0	
	comp=Z,21nm,1.1s						
KNRA	Kununurra	52.00	266	P	P	17 52 05.8	+0.3
QSPA	South Pole Qui	68.76	180	P	P	17 54 04.0	+5.5
QSPA				IAmb	IAmb	17 54 20.1	
	comp=Z,5.2nm,1.4s						
AMKA	Amchitka	72.47	357	P	P	17 54 22.0	+1.3
PMSA	Palmer Station	79.99	156	P	P	17 55 03.9	+0.8
CLL	Collm	149.16	348	ePKPbc	PKiKP	18 02 42.0	-0.2

NOU 07 17:55:31.5, 14°.88S×**167°.29E, h57**km**, MLv4.4**/8**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DVP	Devils Point	2.96	163	P	Pn	17 56 16.5	+0.5
RTV	Rentapao	3.09	160	P	Pn	17 56 17.5	-0.4
KOUNC	Koumac, New Ca	6.32	206	P	Pn	17 57 02.1	-0.1
YATNC	Mamie plateau,	7.15	183	P	Pn	17 57 12.5	-1.0
DZM	Mont Dzumac	7.20	186	P	Pn	17 57 14.7	+0.5

*HVO **07** 17:59:58.0±0.9, 19°.12N±0°.05×155°.10W±0°.03, h46km±3km, ML2.8/11, ML2.6/42(NEIC), Error ellipse: s-maj=8.6km s-min=2.7km az=152.0*
NEIC 07 17:59:56.1±1.2**, 19°.09N**±0°.05×**155°.12W**±0°.04**, h53**km±2km**, Error ellipse: s-maj=8.3km s-min=3.3km az=142.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
HLP	Hilina Pali	0.27	319		Pn	18 00 06.0	+0.7
HLP	Hilina Pali	0.27	319	IAML		18 00 12.4	
	comp=N,410nm,0.2s						
KNHH	Kane Nui o Ham	0.29	351		Pn	18 00 05.8	+0.2
JCUZ	Jacuzzi	0.29	4		Sn	18 00 11.6	-0.7
PUH	Pauahi	0.29	342		Pn	18 00 05.8	+0.2
PUH					Sn	18 00 11.5	-0.8
PUH	Pauahi	0.29	342	IAML		18 00 12.2	
	comp=N,340nm,0.5s						
HTC	Hot Caves	0.30	299		Pn	18 00 06.3	+0.8
HTC					Sn	18 00 11.7	-0.6
NPOC	North of Pu‘u	0.30	2		Sn	18 00 11.6	-0.8
NPOC	North of Pu‘u	0.30	2		Pn	18 00 05.8	+0.2
NPOC				IAML		18 00 11.6	
	comp=E,694nm,0.9s						
NPOC	North of Pu‘u	0.30	2	IAML		18 00 06.7	
	comp=N,701nm,0.8s						
KKO	Keanakako`i	0.33	336		Sn	18 00 12.2	-0.8
KKO	Keanakako`i	0.33	336		Pn	18 00 06.2	+0.2
KKO	Keanakako`i	0.33	336	IAML		18 00 06.4	
	comp=E,754nm,1.3s						
KKO				IAML		18 00 06.6	
	comp=N,847nm,1.0s						
RIM	Rim	0.33	334		Sn	18 00 12.2	-0.8
RIM	Rim	0.33	334	IAML		18 00 05.6	
	comp=E,743nm,1.3s						
RIM				IAML		18 00 08.5	
	comp=N,964nm,1.4s						
RIM	Rim	0.33	334		Pn	18 00 06.2	+0.2
SDHHI	Sand Hill	0.34	331		Sn	18 00 12.8	-0.2
SDHHI	Sand Hill	0.34	331		Pn	18 00 06.2	+0.2
SDHHI	Sand Hill	0.34	331	IAML		18 00 09.3	
	comp=N,1μm,1.0s						
BYL	Byron's Ledge	0.34	337		Pn	18 00 06.2	+0.2
BYL					Sn	18 00 12.4	-0.8
BYL	Byron's Ledge	0.34	337	IAML		18 00 12.6	
	comp=E,556nm,0.5s						
BYL				IAML		18 00 12.8	
	comp=N,614nm,0.3s						
HATHI	Halema‘uma‘u T	0.35	338		Pn	18 00 06.3	+0.1
HATHI					Sn	18 00 12.6	-0.7
HATHI	Halema‘uma‘u T	0.35	338	IAML		18 00 13.2	
	comp=N,530nm,0.6s						
HATHI				IAML		18 00 13.2	
	comp=E,567nm,0.5s						
WRMHI	West Rim	0.35	331		Pn	18 00 06.3	+0.1
JOKA	Jonika Flow	0.35	18		Pn	18 00 06.2	+0.1
JOKA					Sn	18 00 12.1	-1.1
OBL	Observatory Le	0.36	334		Pn	18 00 06.3	+0.1
SBLHI	Steaming Bluff	0.36	337		Sn	18 00 12.7	-0.8
SBLHI	Steaming Bluff	0.36	337		Pn	18 00 06.3	+0.1
SBLHI	Steaming Bluff	0.36	337	IAML		18 00 07.5	
	comp=N,506nm,1.2s						
SBLHI				IAML		18 00 10.6	
	comp=E,394nm,1.1s						
UWB	Uwekahuna B	0.36	336		Pn	18 00 06.3	0.0
UWB	Uwekahuna B	0.36	336	IAML		18 00 06.3	
	comp=E,202nm,1.1s						
UWB				IAML		18 00 11.2	
	comp=N,243nm,1.4s						
UWE	Uwekahuna	0.36	333		Sn	18 00 12.7	-0.8
UWE	Uwekahuna	0.36	333		Pn	18 00 06.3	0.0
UWE	Uwekahuna	0.36	333	IAML		18 00 10.2	
	comp=N,771nm,1.5s						
UWE				IAML		18 00 12.2	
	comp=E,884nm,1.4s						
RSD	Rainshed	0.40	338		Pn	18 00 06.7	+0.1
RSD					Sn	18 00 13.6	-0.6
HPO	Honuapo	0.41	269		Pn	18 00 07.1	+0.6
AIN	Ainahou	0.42	311		Pn	18 00 07.5	+0.6
AIN					Sn	18 00 14.6	0.0
AIN	Ainahou	0.42	311	IAML		18 00 14.8	
	comp=E,1μm,0.1s						
AIN				IAML		18 00 15.2	
	comp=N,3μm,0.2s						
MLH	Mauna Loa	0.47	328		Pn	18 00 07.7	+0.2
MLH					Sn	18 00 14.9	-0.7
MLH	Mauna Loa	0.47	328	IAML		18 00 15.1	
	comp=E,284nm,0.2s						
MLH				IAML		18 00 18.2	
	comp=N,331nm,0.1s						
KHU	Kahuku	0.49	288		Pn	18 00 08.0	+0.3
KHU					Sn	18 00 15.6	-0.5
KHU	Kahuku	0.49	288	IAML		18 00 15.9	
	comp=N,655nm,0.1s						
KHU				IAML		18 00 16.0	
	comp=E,1μm,0.3s						
MWH	Moku‘aweowe	0.59	311		Pn	18 00 09.1	-0.1
MWH	Moku‘aweowe	0.59	311	IAML		18 00 21.7	
	comp=E,266nm,1.0s						
HMH	Humu‘ula Sheep	0.61	326		Pn	18 00 09.6	+0.4
HMH				IAML		18 00 18.2	
	comp=E,382nm,0.2s						
HMH	Humu‘ula Sheep	0.61	326		Sn	18 00 18.0	-0.6
MLOA	Mauna Loa Obse	0.61	316		Pn	18 00 09.4	+0.1
MLOA					Sn	18 00 17.9	-1.0
MLOA	Mauna Loa Obse	0.61	316	IAML		18 00 18.6	
	comp=N,530nm,0.2s						
MLOA				IAML		18 00 18.6	
	comp=E,435nm,0.1s						
ALEP	Alea Permanent	0.67	312		Pn	18 00 09.7	-0.2
ALEP					Sn	18 00 18.4	-1.5
POHA	Pohakuloa	0.77	330	Pn	Pn	18 00 11.0	-0.1
POHA				IAML		18 00 21.3	
	comp=E,323nm,0.1s						
POHA				IAML		18 00 23.2	
	comp=E,320nm,0.1s						
CPH	Captain Cook	0.85	298		Pn	18 00 11.7	-0.2
CPH					Sn	18 00 22.4	-1.1
KHLU	Kahalu`u	0.88	304		Pn	18 00 12.3	-0.1
KHLU					Sn	18 00 23.1	-1.3
KHLU	Kahalu`u	0.88	304	IAML		18 00 24.4	
	comp=E,186nm,0.1s						
HUH	Hualalai	0.90	311		Pn	18 00 12.9	+0.1
HUH	Hualalai	0.90	311	IAML		18 00 19.7	
	comp=N,347nm,3.8s						
HUH				IAML		18 00 39.6	
	comp=E,232nm,2.5s						

IDC 07 18:12:19.8±2.5**, 2°.73N**×**128°.70E, h0**km**, mb3.3**/3**, mbtmp3.4**/3**, Error ellipse: s-maj=165.5km s-min=28.6km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	Warramunga Arr	23.20	166	P	P	18 17 28.8	+0.3
	0.4nm,0.5s,baz=346,slow=10.0,SNR=8.3						
	0.4nm,0.5s						
ASAR	Alice Springs	26.72	169	P	P	18 18 00.1	-1.0
	0.2nm,0.6s,baz=354,slow=7.7,SNR=4.0						
	0.2nm,0.6s						
MKAR	Makanchi Array	59.50	325	P	P	18 22 25.5	+0.6
	0.3nm,0.4s,baz=105,slow=8.1,SNR=2.3						
	0.3nm,0.4s						

*IDC **07** 18:16:46.5±1.6, 0°.13S×123°.31E, h132km±14km, mb3.6/10, mbtmp4.1/12, Error ellipse: s-maj=16.2km s-min=11.4km az=58.0*
*NEIC **07** 18:16:46.1±1.1, 0°.08S±0°.07×123°.50E±0°.06, h119km±8km, mb4.2/20, Error ellipse: s-maj=11.5km s-min=6.4km az=150.0*
*DJA **07** 18:16:48.8±0.2, 0°S±2°×12°3E±°, h107km±5km, M4.5/21, mb4.7/15, mB5.0/6, MLv4.7/21, Mw(mB)4.3/6*
ISC 07 18:16:49.2±0.4**, 0°.22S**±0°.05×**123°.35E**±0°.05**, h157**km**, n107,** σ**1.68**/114**, mb4.1**/18**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
GTOI	Gorontalo	0.92	338	P	Pn	18 17 11.4	-2.6
GTOI				S	Sn	18 17 29.1	-3.9
LUWI	Luwuk	1.00	215	Pn	Pn	18 17 09.9	-4.6
LUWI	Luwuk	1.00	215	P	Pn	18 17 10.5	-4.1
LUWI				S	Sn	18 17 27.2	-6.9
LUWI	Luwuk	1.00	215	P	Pn	18 17 10.5	-4.1
MRSI	Marisa	1.57	296	P	Pn	18 17 15.6	-4.4
APSI	Ampana	1.83	248	P	Pn	18 17 19.7	-3.1
TOLI2	Tolitoli	2.89	297	Pn	Pn	18 17 32.0	-3.4
SANI	Sanana	3.20	125	P	Pn	18 17 35.2	-4.1
SANI	Sanana	3.20	125	P	Pn	18 17 35.3	-4.1
MPSI	Mapaga	3.50	279	P	Pn	18 17 41.2	-1.9
TNTI	Ternate	4.14	76	Pn	Pn	18 17 44.6	-6.8
TNTI	Ternate	4.14	76	P	Pn	18 17 50.3	-1.1
LBMI	Labuha	4.17	96	P	Pn	18 17 48.6	-3.3
KKSI	Kolaka, Sulawe	4.27	203	P	Pn	18 17 51.3	-1.9
NLAI	Namlea	4.80	129	P	Pn	18 17 58.5	-1.6
SPSI	Sidrap Palu	5.16	224	P	Pn	18 18 04.4	-0.4
	0.4nm1μm55nm,0.8s						
BNSI	Bone	5.26	218	P	Pn	18 18 05.9	-0.3
	0.2nm25nm,0.6s						
BBSI	Bau Bau	5.29	188	P	Pn	18 18 04.9	-1.6
	0.2nm40nm,0.6s						
PMSI	Majene	5.50	234	P	Pn	18 18 10.7	+1.3
	0.4nm33nm,0.5s						
KRAI	Karang Ratu	5.91	121	P	Pn	18 18 14.2	-0.6
	0.4nm2μm69nm,0.6s						
AAI	Ambon	5.94	125	P	Pn	18 18 14.7	-0.5
	0.8nm3μm164nm,0.5s						
KAPI	Kappang	5.96	217	P	Pn	18 18 14.7	-0.8
	14nm,0.4s,baz=34,slow=12,SNR=8.4						
KAPI				S	Sn	18 19 18.9	-4.2
	17nm,0.5s,baz=52,slow=19,SNR=0.9						
KAPI	Kappang	5.96	217	P	Pn	18 18 15.1	-0.4
	0.2nm25nm,0.8s						
KAPI	Kappang	5.96	217	P	Pn	18 18 14.8	-0.7
BKSI	Bulukumba	6.00	212	P	Pn	18 18 15.2	-0.8
	0.2nm34nm,0.8s						
MSAI	Masohi	6.38	119	P	Pn	18 18 20.6	-0.5
	0.1nm194nm13nm,0.5s						
BKB	Balikpapan	6.53	261	Pn	Pn	18 18 21.5	-1.6
BKB	Balikpapan	6.53	261	P	Pn	18 18 22.8	-0.3
	0.4nm98nm,0.9s						
BKB	Balikpapan	6.53	261	P	Pn	18 18 23.3	+0.2
BSSI	Bau Bau, Buton	6.54	206	P	Pn	18 18 24.0	+0.9
	0.5nm1μm155nm,0.8s						
MYLDM	Lahad Datu	7.23	318		Pn	18 18 33.6	+1.3
MYLDM	Lahad Datu	7.23	318	P	Pn	18 18 33.9	+1.6
	0.5nm2μm128nm,0.6s						
BNDI	Bandanaira	7.82	123	P	Pn	18 18 39.5	-0.7
	0.5nm139nm,0.7s						
BNDI	Bandanaira	7.82	123	P	Pn	18 18 39.4	-0.7
SIJI	Sorong	7.94	95	P	Pn	18 18 40.4	-1.5
	9.8nm,0.4s,baz=252,slow=18,SNR=13						
SIJI				S	Sn	18 20 08.1	-2.5
	3.1nm,0.4s,baz=217,slow=20,SNR=1.6						
FAKI	Fak Fak	9.29	107		Pn	18 18 57.0	-2.8
FAKI	Fak Fak	9.29	107	P	Pn	18 18 57.4	-2.4
	18nm,0.6s						
FAKI	Fak Fak	9.29	107	P	Pn	18 18 57.4	-2.4
KKM	Kota Kinabalu	9.46	311		Pn	18 19 03.1	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	9.46	311	P	Pn	18 19 02.7	+0.6
	1μm59nm,0.6s						
KKM	Kota Kinabalu	9.46	311	P	Pn	18 19 04.7	+2.6
SOEI	Soe	9.51	175	Pn	Pn	18 19 04.4	+1.6
SOEI	Soe	9.51	175	P	Pn	18 19 03.8	+1.0
BATI	Baumata	9.92	178	P	Pn	18 19 10.1	+1.9
	19nm,0.7s,baz=41,slow=15,SNR=7.0						
MTN	Manton Dam	14.72	149	Pn	Pn	18 20 07.9	-2.1
KDU	Kakadu	15.34	144	P	Pn	18 20 17.3	-0.2
KNRA	Kununurra	16.26	161		Pn	18 20 28.7	-0.1
KNRA				IAmb	IAmb	18 20 31.1	
	comp=Z,12nm,0.8s						
BBJI	Bungbulang	17.23	245	P	Pn	18 20 41.2	+0.6
MYKOM	Kota Tinggi	19.60	276	P	P	18 21 06.0	+0.5
MYKOM				IAmb	IAmb	18 21 07.1	
	comp=Z,10.0nm,0.6s						
MNAI	Manna	20.78	258	P	P	18 21 18.9	+0.7
MBWA	Marble Bar	21.11	189	P	P	18 21 20.6	-1.0
MBWA				IAmb	IAmb	18 21 53.6	
	comp=Z,20nm,1.4s						
MBWA	Marble Bar	21.11	189	P	P	18 21 22.1	+0.6
PSA00	Pilbara Seismi	21.49	189	P	P	18 21 27.1	+1.4
PSA00	Pilbara Seismi	21.49	189	P	P	18 21 27.1	+1.4
PSA00				IAmb	IAmb	18 22 06.2	
	comp=Z,7.8nm,1.3s						
WB0	Warramunga Arr	22.23	152	P	P	18 21 33.4	+0.1
WB0				IAmb	IAmb	18 22 11.6	
	comp=Z,4.9nm,0.8s						
WRAB	Tennant Creek	22.36	152	P	P	18 21 35.1	+0.6
WRA	Warramunga Arr	22.36	152	P	P	18 21 34.8	+0.2
	comp=Z,2.4nm,0.5s,baz=335,slow=10,SNR=32						
WRA				PcP	PcP	18 25 24.4	+0.3
	comp=Z,0.3nm,0.5s,baz=333,slow=2.3,SNR=2.3						
WRA				ScP	ScP	18 28 49.1	+2.0
	comp=Z,0.4nm,0.6s,baz=323,slow=2.8,SNR=2.3						
	comp=Z,2.4nm,0.5s						
WRA	Warramunga Arr	22.36	152	P	P	18 21 34.3	-0.2
WB2	Warramunga Arr	22.36	152	P	P	18 21 35.0	+0.5
WB2				IAmb	IAmb	18 22 17.6	
	comp=Z,9.1nm,1.2s						
WR0	Warramunga Arr	22.47	151	P	P	18 21 35.3	-0.2
WR0				IAmb	IAmb	18 22 00.8	
	comp=Z,8.5nm,1.1s						
IPM	Ipoh	22.79	282	P	P	18 21 39.3	+0.7
IPM				IAmb	IAmb	18 21 41.5	
	comp=Z,6.1nm,0.7s						
COEN	Coen	23.90	126	P	P	18 21 49.5	+0.7
WRKA	Warakurna	25.13	169	P	P	18 22 00.7	+0.9
AS31	Alice Springs	25.46	157	P	P	18 22 04.0	+1.3
ASAR	Alice Springs	25.46	157	P	P	18 22 03.5	+0.7
	comp=Z,0.4nm,0.4s,baz=332,slow=9.2,SNR=15						
ASAR				PcP	PcP	18 25 31.2	+0.5
	comp=Z,1.5nm,0.5s,baz=349,slow=2.3,SNR=16						
ASAR				ScP	ScP	18 28 58.0	+2.5
	comp=Z,0.5nm,0.6s,baz=343,slow=2.9,SNR=3.1						
	comp=Z,0.4nm,0.4s						
AS01	Alice Springs	25.47	157	P	P	18 22 04.8	+1.9
QIS	Mount Isa	25.71	143	P	P	18 22 06.6	+1.5
MEEK	Meekatharra	26.65	189	P	P	18 22 13.8	+0.3
MORW	Morawa	29.52	193	P	P	18 22 39.2	+0.3
CMAR	Chiang Mai Arr	30.33	309	P	P	18 22 46.7	+0.5
	comp=Z,0.7nm,0.6s,baz=130,slow=7.4,SNR=10						
CMAR				PcP	PcP	18 25 43.2	+0.5
	comp=Z,0.4nm,0.5s,baz=168,slow=1.7,SNR=6.5						
	comp=Z,0.7nm,0.6s						
CHTO	Chiang Mai	30.53	310	P	P	18 22 48.6	+0.6
FORT	Forrest	30.72	172	P	P	18 22 49.9	+0.5
FORT	Forrest	30.72	172	P	P	18 22 50.2	+0.8
BLDU	Ballidu	30.88	191	P	P	18 22 50.8	0.0
MULG	Mulgathing	31.58	162	P	P	18 22 58.1	+1.1
KLBR	Kellerberrin	31.64	189	P	P	18 22 57.8	+0.2
NWAO	Narrogin (SRO)	33.04	189	P	P	18 23 10.4	+0.7
LCRK	Leigh Creek	33.22	156	P	P	18 23 13.1	+1.8
STKA	Stephens Creek	35.90	153	P	P	18 23 35.0	+0.7
	comp=Z,3.0nm,0.5s,baz=343,slow=13,SNR=7.8						
STKA				PcP	PcP	18 25 58.7	+0.6
	comp=Z,1.7nm,0.5s,baz=1.1,slow=6.4,SNR=4.6						
	comp=Z,3.0nm,0.5s						
STKA	Stephens Creek	35.90	153	P	P	18 23 35.9	+1.5
STKA	Stephens Creek	35.90	153	P	P	18 23 36.0	+1.6
HTT	Hallett	36.13	158	P	P	18 23 38.1	+1.7
	comp=Z,14nm,2.9s						
CMSA	Cobar Meteorol	37.65	148	P	P	18 23 51.3	+2.2
ARPS	Mount Arapiles	40.20	157	P	P	18 24 12.0	+1.7
	comp=Z,18nm,0.9s						
ARMA	Armidale	40.30	141	P	P	18 24 14.0	+2.6
CAN	Canberra	42.32	148	P	P	18 24 30.3	+2.6
TAPN	Taplejung	43.85	312	eP	P	18 24 41.0	+0.6
	comp=Z,8.1nm,0.5s						
RAMN	Ramite	44.48	310	eP	P	18 24 46.8	+1.4
JIRN	Jiri	45.16	311	eP	P	18 24 51.5	+0.6
	comp=Z,14nm,0.5s						
GUN	Gumba	45.53	311	eP	P	18 24 54.3	+0.6
	comp=Z,21nm,0.5s						
PKI	Pulchoki	45.71	310	eP	P	18 24 55.2	+0.1
PKIN	Phulchoki	45.72	310	eP	P	18 24 55.3	+0.1
GKN	Gorkha	46.52	310	eP	P	18 25 01.4	+0.1
	comp=Z,10nm,0.6s						
DZM	Mont Dzumac	47.25	120	P	P	18 25 08.2	+1.2
	comp=Z,6.8nm,0.9s,baz=292,slow=16,SNR=3.1						
	comp=Z,6.8nm,0.9s						
DANN	Dangsing	47.36	310	eP	P	18 25 08.1	+0.1
	comp=Z,30nm,0.6s						
SONM	Songino Array	50.09	345	P	P	18 25 27.4	-0.9
	comp=Z,1.1nm,0.6s,baz=157,slow=9.0,SNR=8.1						
SONM				PcP	PcP	18 26 44.7	-0.9
	comp=Z,0.6nm,0.6s,baz=173,slow=4.4,SNR=2.6						
	comp=Z,1.1nm,0.6s						
SONM	Songino Array	50.09	345	P	P	18 25 27.9	-0.3
SONM				IAmb	IAmb	18 25 39.3	
	comp=Z,2.7nm,1.4s						
MK31	Makanchi Array	58.98	328	P	P	18 26 31.4	-0.9
MKAR	Makanchi Array	58.98	328	P	P	18 26 31.2	-1.1
	comp=Z,0.9nm,0.4s,baz=123,slow=8.8,SNR=19						
MKAR				PcP	PcP	18 27 18.7	-1.0
	comp=Z,0.8nm,0.5s,baz=148,slow=2.5,SNR=7.9						
	comp=Z,0.9nm,0.4s						
MKAR	Makanchi Array	58.98	328	P	P	18 26 31.4	-0.9
YAK	Yakutsk	62.28	3	P	P	18 26 53.2	-1.0
ZALV	Zalesovo Beam	62.66	336	P	P	18 26 55.0	-1.9
	comp=Z,0.5nm,0.4s,baz=130,slow=8.1,SNR=2.0						
	comp=Z,0.5nm,0.4s						
KURK	Kurchatov	63.34	330	P	P	18 27 00.1	-1.4
KURK				IAmb	IAmb	18 27 00.7	
	comp=Z,2.6nm,0.8s						
VNDA	Vanda	79.98	172	P	P	18 28 41.5	+1.1
	comp=Z,1.0nm,0.4s,baz=328,slow=6.1,SNR=11						
	comp=Z,1.0nm,0.4s						
ILAR	Eielson Array	90.10	25	P	P	18 29 29.6	-1.5
	comp=Z,0.4nm,0.6s,baz=250,slow=5.2,SNR=2.4						
	comp=Z,0.4nm,0.6s						
PDAR	Pinedale Array	116.54	41	PKP	PKiKP	18 35 15.3	+0.2
	comp=Z,0.2nm,0.5s,baz=325,slow=1.1,SNR=4.8						
TORD	Torodi Ar. Bea	120.80	285	PKP	PKPdf	18 35 23.0	-0.7
	comp=Z,0.4nm,0.5s,baz=85,slow=1.7,SNR=3.0						

IDC ***07*** *18:21:23.5±1.3, 10°.05S×160°.71E, h0km, mb4.0/7, mbtmp4.0/8, ML4.0/1, MS3.2/5, Error ellipse: s-maj=26.3km s-min=24.1km az=89.0*

NEIC ***07*** *18:21:24.7±1.2, 10°.33S±0°.09×160°.7E±0°.1, h10km±2km, mb4.3/14, Error ellipse: s-maj=24.4km s-min=14.8km az=77.0*

ISC 07 18:21:27.8±0.7**, 10°.24S**±0°.07×**160°.63E**±0°.10**, h37**km**, n31,** σ**1s.84**/27**, mb4.1**/10**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.05	320	Pn	Pn	18 21 45.2	-0.7
	2μm,0.3s,baz=179,slow=15,SNR=41						
HNR				Sn	Sn	18 21 57.7	-1.5
	14μm,0.3s,baz=232,slow=16,SNR=19						
HNR	Honiara	1.05	320	Pn	Pn	18 21 45.1	-0.8
RABL	Rabaul	10.32	305	Pn	Pn	18 23 54.5	+1.0
KRVT	Keravat (AS076	10.37	304	LR	LR	18 28 08.9	
	comp=Z,114nm,19.8s,baz=306,slow=39						
LIFNC	LIFOU	12.26	150	Pn	Pn	18 24 23.1	+3.2
DZM	Mont Dzumac	13.02	155	LR	LR	18 29 06.4	
	comp=Z,80nm,19.0s,baz=356,slow=35						
PMG	Port Moresby	13.30	272	LR	LR	18 29 03.3	
	comp=Z,108nm,21.4s,baz=40,slow=34						
CTA	Charters Tower	16.97	233	P	P	18 25 25.5	+1.5
	0.4nm,0.3s,baz=62,slow=12,SNR=16						
CTA				LR	LR	18 31 23.0	
	comp=Z,154nm,18.0s,baz=76,slow=35						
	12nm,0.8s						
CTAO	Charters Tower	16.97	233		Pn	18 25 22.0	-0.5
CTAO				IAmb	IAmb	18 25 30.3	
	comp=Z,14nm,0.8s						
PATS	Pohnpei	17.12	352		Pn	18 25 22.4	-1.8
PATS				IAmb	IAmb	18 25 26.9	
	comp=Z,143nm,1.2s						
COEN	Coen	17.46	256	Pn	Pn	18 25 28.2	-0.4
EIDS	Eidsvold	17.57	210	Pn	Pn	18 25 28.0	-1.8
EIDS				IAmb	IAmb	18 25 31.9	
	comp=Z,15nm,1.4s						
MSVF	Nonsavu	18.46	116	Pn	P	18 25 35.8	-4.8
MSVF				IAmb	IAmb	18 25 56.6	
	comp=Z,31nm,1.4s						
WB0	Warramunga Arr	27.02	246	P	P	18 27 04.6	-2.0
WB0				IAmb	IAmb	18 27 18.5	
	comp=Z,5.4nm,1.1s						
WB2	Warramunga Arr	27.11	246	P	P	18 27 07.8	+0.3
WB2				IAmb	IAmb	18 27 19.0	
	comp=Z,10nm,1.4s						
WRA	Warramunga Arr	27.12	246	P	P	18 27 09.1	+1.6
	comp=Z,0.7nm,0.4s,baz=75,slow=9.3,SNR=6.3						
	comp=Z,0.7nm,0.4s						
WRA	Warramunga Arr	27.12	246	P	P	18 27 07.8	+0.2
STKA	Stephens Creek	27.82	216	P	P	18 27 11.3	-2.3
GUMO	Guam	28.37	326	LR	LR	18 37 24.5	
	comp=Z,33nm,21.3s,baz=120,slow=34						
ASAR	Alice Springs	28.77	239	P	P	18 27 24.9	+2.6
	comp=Z,0.7nm,0.7s,baz=61,slow=10,SNR=6.7						
	comp=Z,0.7nm,0.7s						
KNRA	Kununurra	31.50	257	P	P	18 27 45.6	-0.9
KNRA				IAmb	IAmb	18 27 57.5	
	comp=Z,13nm,1.1s						
BBOO	Buckleboo	31.89	222	P	P	18 27 47.1	-2.6
BATI	Baumata	36.37	267	LR	LR	18 46 53.3	
	comp=Z,763nm,18.1s,baz=281,slow=42						
MCQ	Macquarie Isla	44.17	181		P	18 29 32.3	-0.4
KSRS	Korea Array	56.48	329	P	P	18 31 07.1	+1.0
	comp=Z,1.4nm,0.8s,baz=145,slow=6.8,SNR=3.2						
	comp=Z,1.4nm,0.8s						
JKA	Kamikawa-asahi	56.52	344	P	P	18 31 07.7	+1.4
CMAR	Chiang Mai Arr	67.20	295	P	P	18 32 20.0	+1.3
	comp=Z,1.3nm,0.8s,baz=122,slow=4.9,SNR=14						
	comp=Z,1.3nm,0.8s						
SONM	Songino Array	75.10	326	P	P	18 33 07.1	+1.0
	comp=Z,0.9nm,0.6s,baz=142,slow=5.0,SNR=6.8						
	comp=Z,0.9nm,0.6s						
SONM	Songino Array	75.10	326	P	P	18 33 07.3	+1.2
SONM				IAmb	IAmb	18 33 08.0	
	comp=Z,0.9nm,0.7s						
ILAR	Eielson Array	84.41	20	P	P	18 33 56.2	+0.2
	comp=Z,0.9nm,0.5s,baz=224,slow=5.5,SNR=17						
	comp=Z,0.9nm,0.5s						
MKAR	Makanchi Array	89.52	318	P	P	18 34 21.9	+0.7
	comp=Z,0.7nm,0.8s,baz=103,slow=5.8,SNR=2.2						
	comp=Z,0.7nm,0.8s						

IDC 07 18:32:38.7±2.0**, 1°.64N**×**126°.55E, h0**km**, mb3.4**/3**, mbtmp3.5**/3**, MS3.3**/1**, Error ellipse: s-maj=164.2km s-min=25.6km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.77	161	P	P	18 37 42.2	-0.8
	0.9nm,0.5s,baz=339,slow=11,SNR=8.1						
	0.9nm,0.5s						
ASAR	Alice Springs	26.15	165	P	P	18 38 15.6	+0.6
	0.2nm,0.3s,baz=353,slow=15,SNR=6.1						
	0.2nm,0.3s						
USRK	Ussuriysk Ar.	42.65	6	LR	LR	19 01 18.3	
	comp=Z,31nm,18.1s,baz=131,slow=40						
MKAR	Makanchi Array	59.17	326	P	P	18 42 41.5	-0.1
	0.3nm,0.4s,baz=124,slow=7.2,SNR=6.3						
	0.3nm,0.4s						

SLM ***07*** *18:35:05.6±0.6, 36°.88N±0°.02×89°.12W±0°.01, h0km±7km, Md2.7/17, mb_Lg2.5/31(NEIC), Error ellipse: s-maj=2.7km s-min=1.1km az=201.0*

NEIC 07 18:35:05.1±0.8**, 36°.88N**±0°.02×**89°.11W**±0°.02**, h7**km±6km**, Error ellipse: s-maj=2.5km s-min=1.9km az=133.0, New Madrid region, Missouri**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHRM	Charleston	0.21	264		Pg	18 35 09.3	+0.1
EPRM	East Prairie	0.26	232		Pg	18 35 10.0	-0.2
EPRM					Sg	18 35 14.0	+0.4
FMKY	Fulgham	0.26	143		Pg	18 35 10.5	+0.2
DWDM	Dogwood	0.32	256		Pg	18 35 11.3	-0.1
HENM	Henderson Moun	0.33	242		Pg	18 35 11.6	0.0
HENM					Sg	18 35 16.4	+0.3
HICK	Hickman	0.35	196		Pg	18 35 11.8	-0.1
SJMO	Saint John's B	0.39	231		Pg	18 35 12.6	-0.1
T45A	Paducah	0.40	69		Pg	18 35 13.4	+0.6
MATM	Matthews	0.41	256		Pg	18 35 13.2	+0.1
KEWM	Kewanee	0.43	246		Pg	18 35 13.4	-0.1
KEWM					Sg	18 35 19.3	+0.2
NMMO	New Madrid	0.46	231		Sg	18 35 20.2	+0.2
WALK	Watson Lake	0.48	226		Pg	18 35 14.4	-0.1
FLPT	Flippin	0.49	200		Pg	18 35 14.7	0.0
CATM	Catron	0.51	239		Pg	18 35 14.8	-0.1
CATM					Sg	18 35 22.0	+0.4
COKM	Charter Oak	0.52	252		Pg	18 35 15.1	-0.2
PARMO	Parma	0.56	248		Pg	18 35 15.6	-0.3
PARMO					Sg	18 35 23.2	-0.1
MARMO	Marston	0.57	233		Pg	18 35 16.1	0.0
GUAMO	Guam	0.59	272		Pg	18 35 16.2	-0.2
GUAMO					Sg	18 35 24.2	+0.1
PPLM	Point Pleasant	0.61	219		Pg	18 35 16.6	-0.2
WYBT	Wynnburg	0.61	211		Pg	18 35 16.9	-0.1
GLAT	Glass	0.62	194		Pg	18 35 17.1	0.0
PGVM	Portageville	0.65	231		Pg	18 35 17.4	-0.3
MLDM	Malden	0.70	249		Pg	18 35 18.3	-0.3
BRNM	Bernie	0.73	258		Pg	18 35 18.6	-0.6
WADM	Wardell	0.75	228		Pg	18 35 19.3	-0.3
S44A	Carbondale	0.83	352		Pg	18 35 21.1	+0.1
S44A	Carbondale	0.83	352	Pg	Pg	18 35 20.2	-0.8
LNXT	Lenox	0.83	202		Pg	18 35 21.0	-0.1
BRGM	Braggadocio	0.90	222		Pg	18 35 22.0	-0.4
CWPT	Cottonwood Poi	0.96	206		Pg	18 35 23.5	-0.1
GNAR	Gosnell	1.17	219		Pg	18 35 27.4	-0.1
WVT	Waverly	1.27	125		Pn	18 35 27.3	-2.0
T47A	Sharon Grove	1.61	85		Pn	18 35 34.5	+0.6
W45A	Hickory Valley	1.71	182	Pn	Pn	18 35 35.7	+0.3
LCAR	Lake Charles	1.84	245		Pn	18 35 37.7	+0.6
LCAR				IAmb_Lg		18 36 06.5	
	comp=Z,14nm,0.7s						
MET	Memphis--Engin	1.87	201		Pn	18 35 38.0	+0.5
Q44A	Meyer Farm, Va	2.03	2	Pn	Pn	18 35 40.4	+0.7
PLAL	Pickwick Lake	2.06	156		Pn	18 35 41.1	+0.8
CCM	Cathedral Cave	2.07	305		Pn	18 35 41.4	+1.1
CCM				IAmb_Lg		18 36 12.8	
	comp=Z,20nm,0.7s						
PWLA	Pickwick Lake	2.07	156		Pn	18 35 41.2	+0.8
V48A	Smith Brothers	2.17	121		Pn	18 35 43.0	+1.4
V48A				IAmb_Lg		18 36 19.8	
	comp=Z,13nm,0.8s						
CLTN	Cedars of Leba	2.37	108		Pn	18 35 45.9	+1.5
CLTN				IAmb_Lg		18 36 21.4	
	comp=Z,29nm,0.9s						
OXF	Oxford	2.37	186	Pn	Pn	18 35 45.4	+1.0
FCAR	Ozark Folk Cen	2.63	249		Pn	18 35 49.3	+1.3
U49A	Red Boiling Sp	2.70	97		Pn	18 35 50.4	+1.4
U49A				IAmb_Lg		18 36 32.3	
	comp=Z,9.9nm,0.7s						
P43A	Skaggs, Pawnee	2.78	353	Pn	Pn	18 35 51.6	+1.5
R40A	Maddies Statio	2.88	300		Pn	18 35 52.6	+1.1
WHAR	Wooly Hollow	3.02	239	Pn	Pn	18 35 54.3	+0.9
SWET	Sewanee	3.06	122		Pn	18 35 55.3	+1.4
SWET				IAmb_Lg		18 36 41.4	
	comp=Z,8.3nm,0.9s						
O44A	Mansfield	3.31	9	IAmb_Lg		18 36 53.8	
	comp=Z,16nm,0.9s						
T50A	Nancy	3.42	86	Pn	Pn	18 36 00.3	+1.4
S39A	Bolivar	3.46	285	Pn	Pn	18 35 60.0	+0.6
P40A	Paris	3.52	320	IAmb_Lg		18 36 56.4	
	comp=Z,11nm,0.9s						
FPAL	Fort Paine	3.68	128	IAmb_Lg		18 37 10.4	
	comp=Z,10.0nm,0.8s						
Y49A	Blount Mountai	3.73	143	IAmb_Lg		18 37 07.5	
	comp=Z,12nm,0.7s						
CPCT	Cooper Cave	3.97	110	IAmb_Lg		18 37 12.1	
	comp=Z,6.4nm,0.8s						
MIAR	Mount Ida	4.32	239	IAmb_Lg		18 37 25.7	
	comp=Z,8.4nm,0.8s						
TKL	Tuckaleechee C	4.48	104	IAmb_Lg		18 37 31.0	
	comp=Z,11nm,0.8s						
W52A	Murphy	4.56	111		Pn	18 36 15.7	+1.2
W52A				IAmb_Lg		18 37 36.2	
	comp=Z,9.6nm,0.9s						
V52A	Sevierville	4.57	101	IAmb_Lg		18 37 31.1	
	comp=Z,18nm,0.7s						
Z51A	Franklin	4.79	137	IAmb_Lg		18 37 43.0	
	comp=Z,6.9nm,0.8s						
OK035	E0210 Rd and N	7.71	272	IAmb_Lg		18 39 10.6	
	comp=Z,12nm,0.7s						

LDG ***07*** *18:56:16.5±0.1, 42°.90N×13°.09E, h8km, Md4.0/1, Ml3.6/32, Error ellipse: s-maj=2.1km s-min=1.4km az=43.0*

IDC ***07*** *18:56:16.0±0.7, 42°.97N×13°.00E, h0km, mb4.0/16, mbtmp3.9/25, ML3.6/9, MS2.9/9, Error ellipse: s-maj=14.8km s-min=10.4km az=88.0*

NEIC ***07*** *18:56:17.4±1.5, 42°.91N±0°.05×13°.06E±0°.06, h7km±6km, Error ellipse: s-maj=8.5km s-min=5.4km az=218.0*

PDG ***07*** *18:56:17.2±0.6, 42°.90N×13°.15E, h16km, ML4.0/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

ROM ***07*** *18:56:17.0±0.0, 42°.888N±0°.001×13°.148E±0°.003, h11km, ML4.0/99, Mw3.8, Error ellipse: s-maj=0.2km s-min=0.1km az=61.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-5.33; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$5.48; $M_{r\theta}$2.16; $M_{\theta\phi}$-2.43; $M_{\phi r}$-1.81; Fault plane solution: $M_0$6.53513×10^{14} NP1:ϕ_s175.00000°, δ36.00000°, λ-65.00000°. NP2:ϕ_s325.00000°, δ58.00000°, λ-107.00000°.*

PRU ***07*** *18:56:18.9±0.0, 42°.95N×13°.46E, h10km, M4.3*

MED_RC ***07*** *18:56:19.0±0.9, 42°.89N×13°.15E, h13km±2km, MW4.1/7, Moment Tensor Solution.Mantle waves: s7,c9; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.13±.29; $M_{\theta\theta}$0.07±.18; $M_{\phi\phi}$1.06±.17; $M_{r\theta}$1.19±.34; $M_{\theta\phi}$-0.18±.13; $M_{\phi r}$-0.79±.26; Best double couple: $M_0$1.78000×10^{15} NP1:ϕ_s318.00000°, δ72.00000°, λ-108.00000°. NP2: ϕ_s185.00000°, δ25.00000°, λ-46.00000°. Principal axes: T 1.5800, Plg25.0000°, Azm62.0000°; N 0.4000, Plg17.0000°, Azm323.0000°; P -1.9800, Plg59.0000°, Azm202.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

STR ***07*** *18:56:22.6±1.6, 43°N±6°×1°3E±1°4, h10km, MLv4.0/28 Error ellipse: s-maj=0.0km s-min=0.0km az=97.9, preliminary*

ISC 07 18:56:17.8±0.6**, 42°.88N**±0°.01×**13°.14E**±0°.02**, h13**km±3km**, n466,** σ**1s.89**/526**, mb4.1**/21**, 53C-32D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1245	Castelsantange	0.05	123	⇓P	Pg	18 56 19.6	-0.8
T1245				S	Sg	18 56 21.4	-0.9
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1216	Preci, Frazion	0.09	276	⇑P	Pg	18 56 20.2	-0.4
T1216				S	Sg	18 56 22.3	-0.4
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
FEMA	Monte Fema	0.10	322	⇓P	Pg	18 56 20.3	-0.6
FEMA				S	Sg	18 56 22.6	-0.6
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
T1256	Bolognola (MC)	0.14	28	⇓P	Pg	18 56 20.6	-0.8
T1256				S	Sg	18 56 23.2	-0.9
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
MMO1	Montemonaco	0.14	83	⇑P	Pg	18 56 20.6	-0.8
MMO1				S	Sg	18 56 23.0	-1.0
FDMO	Fiordimonte	0.16	347		Pg	18 56 20.2	-1.4
FDMO	Fiordimonte	0.16	347	⇑P	Pg	18 56 21.0	-0.7
FDMO				S	Sg	18 56 23.7	-0.6
FDMO				AML	AML		
FDMO				AML	AML		
T1244	Arquata del Tr	0.17	136	⇓P	Pg	18 56 21.5	-0.4
T1244				S	Sg	18 56 24.7	0.0
CESI	CESI - Serrava	0.21	306	⇑P	Pg	18 56 22.1	-0.3
CESI				S	Sg	18 56 25.9	+0.3
CESI				AML	AML		
CESI				AML	AML		
T1215	Vallo di Nera,	0.21	248	⇑P	Pg	18 56 22.2	-0.2
T1215				S	Sg	18 56 26.1	+0.5
T1215				AML	AML		
	comp=E,23700μm,0.8s						
T1215				AML	AML		
	comp=N,24300μm,0.9s						
T1215				AML	AML		
	comp=E,24000μm,0.8s						
T1215				AML	AML		
	comp=N,25450μm,1.0s						
T1221	Campello sul C	0.21	265	⇑P	Pg	18 56 22.3	-0.2
T1221				S	Sg	18 56 26.1	+0.3
CSP1	Cessapalombo	0.22	14	⇓P	Pg	18 56 21.9	-0.7
CSP1				S	Sg	18 56 25.3	-0.6
CSP1				AML	AML		
CSP1				AML	AML		
CSP1				AML	AML		
T1241	Roccafluvione,	0.22	96	⇑P	Pg	18 56 21.9	-0.7
T1241				S	Sg	18 56 25.4	-0.4
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1217	Poggiodomo (PG	0.23	222	⇑P	Pg	18 56 22.5	-0.2
T1217				S	Sg	18 56 26.8	+0.7
T1217				AML	AML		
	comp=E,40800μm,0.7s						
T1217				AML	AML		
	comp=N,70550μm,0.5s						
T1217				AML	AML		
	comp=E,40700μm,1.4s						
T1217				AML	AML		
	comp=E,40650μm,1.4s						
T1217				AML	AML		
	comp=N,69150μm,0.5s						
T1217				AML	AML		
	comp=E,40800μm,0.7s						
T1220	Camerino, Fraz	0.23	351	⇓P	Pg	18 56 22.2	-0.6
T1220				S	Sg	18 56 26.0	-0.2
GUMA	Gualdo di Mace	0.23	39	⇑P	Pg	18 56 22.4	-0.4
GUMA				S	Sg	18 56 26.4	+0.2
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
T1201	Domo (RI)	0.24	159	P	Pg	18 56 22.8	-0.1
T1201				S	Sg	18 56 27.1	+0.7
T1204	Amatrice, Fraz	0.24	147	⇑P	Pg	18 56 22.6	-0.5
T1204				S	Sg	18 56 27.0	+0.4
T1204				AML	AML		
	comp=N,61550μm,1.0s						
T1204				AML	AML		
	comp=E,88150μm,1.6s						
T1204				AML	AML		
	comp=E,88200μm,1.6s						
T1204				AML	AML		

comp=N,61500µm,1.0s
LNSS Leonessa 0.29 194 ⇑P **Pg 18 56 23.4 -0.4**
LNSS S **Sg 18 56 28.6 +0.8**
LNSS AML AML
comp=E,48600µm,0.2s
LNSS AML AML
SMA1 SAN MARTINO 0.29 150 ⇑P **Pg 18 56 23.2 -0.6**
SMA1 S **Sg 18 56 28.3 +0.4**
T1243 Rocca Santa Ma 0.29 129 ⇑P **Pg 18 56 23.1 -0.8**
T1243 S **Sg 18 56 28.1 +0.1**
SEF1 Sefro 0.30 333 P **Pg 18 56 23.4 -0.6**
SEF1 S **Sb 18 56 28.2 -1.7**
SEF1 AML AML
comp=E,76950µm,1.4s
SEF1 AML AML
comp=N,98600µm,0.2s
SEF1 AML AML
comp=E,76900µm,1.4s
SEF1 AML AML
comp=N,98500µm,0.2s
MDAR Monte D'Aria 0.31 1 P **Pg 18 56 23.5 -0.7**
MDAR S **Sb 18 56 28.4 -1.9**
MDAR AML AML
comp=E,60200µm,0.6s
MDAR AML AML
comp=N,79200µm,0.5s
PIO1 Pioraco 0.32 339 P **Pg 18 56 23.7 -0.6**
PIO1 AML AML
comp=E,30500µm,0.8s
PIO1 AML AML
comp=N,51000µm,1.1s
PIO1 AML AML
comp=E,30550µm,0.8s
PIO1 AML AML
comp=N,51000µm,1.0s
FIU1 Fiuminata 0.34 334 P **Pg 18 56 24.3 -0.4**
FIU1 S **Sb 18 56 29.5 -1.6**
FIU1 AML AML
comp=E,32850µm,0.3s
FIU1 AML AML
comp=N,30250µm,0.2s
FIU1 AML AML
comp=N,30300µm,0.2s
FIU1 AML AML
comp=E,32800µm,0.3s
SSM1 San Severino M 0.35 5 P **Pg 18 56 24.2 -0.6**
SSM1 S **Sb 18 56 29.4 -1.9**
MNTP Montappone 0.35 44 P **Pb 18 56 24.7 -1.2**
MNTP AML AML
MNTP AML AML
MNTP AML AML
MNTP AML AML
GAG1 Gagliole 0.36 352 P **Pg 18 56 24.5 -0.6**
GAG1 AML AML
GAG1 AML AML
GAG1 AML AML
comp=E,97050µm,0.6s
RM33 Pellescritta (0.38 171 ⇑P **Pg 18 56 24.8 -0.6**
RM33 S **Sg 18 56 31.0 +0.5**
RM33 AML AML
comp=N,28900µm,0.3s
RM33 AML AML
comp=E,36100µm,0.8s
RM33 AML AML
comp=E,36950µm,0.8s
RM33 AML AML
comp=E,36150µm,0.8s
RM33 AML AML
comp=N,28950µm,0.3s
RM33 AML AML
comp=E,36900µm,0.8s
RM33 AML AML
comp=N,28950µm,0.3s
ASSB Assisi San Ben 0.39 295 ⇑P **Pg 18 56 25.0 -0.6**
ASSB S **Sg 18 56 31.1 +0.3**
T1246 Crognaleto (TE 0.40 138 ⇑P **Pg 18 56 25.0 -0.8**
T1246 S **Sg 18 56 31.1 -0.1**
CAMP Campotosto 0.40 150 **Pg 18 56 24.9 -0.9**
CAMP Campotosto 0.40 150 ⇑P **Pg 18 56 25.1 -0.7**
CAMP S **Sg 18 56 31.3 +0.1**
CAMP AML AML
comp=E,37150µm,0.2s
CAMP AML AML
comp=N,18500µm,0.7s
SNTG Esanatoglia 0.40 339 ⇓P **Pg 18 56 25.0 -0.8**
SNTG S **Sb 18 56 31.4 -1.5**
SNTG AML AML
comp=N,20200µm,0.4s
SNTG AML AML
comp=E,19700µm,0.2s
SNTG AML AML
comp=E,19000µm,0.4s
SNTG AML AML
comp=N,20200µm,0.4s
SNTG AML AML
comp=N,21950µm,0.8s
SNTG AML AML
comp=E,19000µm,0.4s
ARRO Arrone 0.41 222 ⇑P **Pg 18 56 25.6 -0.3**
ARRO AML AML
comp=N,20250µm,0.3s
ARRO AML AML
comp=E,24100µm,1.5s
OFFI Offida 0.41 82 ⇑P **Pb 18 56 25.9 -0.9**
OFFI AML AML
comp=E,81050µm,0.3s
OFFI AML AML
comp=N,68450µm,0.4s
TERO Teramo 0.43 127 ⇑P **Pg 18 56 25.4 -0.9**
TERO S **Sg 18 56 32.3 +0.2**
EL6 Elcito 0.45 357 P **Pg 18 56 25.9 -0.8**
EL6 AML AML
comp=E,43150µm,1.3s
EL6 AML AML
comp=N,54150µm,0.9s
T1247 Pizzolo (AQ) 0.46 165 P **Pg 18 56 26.2 -0.6**
T1247 AML AML
comp=N,28900µm,0.2s
T1247 AML AML
comp=E,31200µm,1.3s
T1247 AML AML
comp=N,28850µm,0.2s
ATCC AVT- Casa Cast 0.47 310 ⇑P **Pg 18 56 26.6 -0.6**
ATCC AML AML
comp=E,45200µm,0.8s
ATCC AML AML
comp=N,32200µm,1.6s
CESX Cesi 0.49 237 **Pg 18 56 26.3 -1.1**
CESX Cesi 0.49 237 ⇑P **Pg 18 56 26.9 -0.5**
CESX AML AML
comp=E,21850µm,0.4s
CESX AML AML
comp=N,20200µm,0.4s
CING Cingoli 0.50 5 P **Pg 18 56 26.7 -0.9**
CING AML AML
comp=E,27650µm,0.8s
CING AML AML
comp=N,21600µm,0.1s
FOSV Fossato di Vic 0.50 327 ⇑P **Pg 18 56 26.8 -0.7**
GIGS Gran Sasso 0.54 143 P **Pg 18 56 27.1 -1.2**
GIGS AML AML
comp=E,5535µm,0.2s
GIGS AML AML
comp=N,5680µm,0.4s
CADA Capodarco di F 0.56 56 P **Pb 18 56 29.0 -0.4**
AQU L'Aquila 0.56 159 **Pg 18 56 27.8 -0.9**
AQU L'Aquila 0.56 159 P **Pg 18 56 27.9 -0.9**
AQU S **Sg 18 56 36.6 +0.3**
AQU AML AML
comp=E,12250µm,1.4s
AQU AML AML
comp=N,13550µm,0.9s
AQU AML AML
comp=E,12800µm,1.4s
AQU AML AML
comp=N,13200µm,0.9s
MMUR Monte Murano 0.57 350 AML AML
comp=E,36900µm,0.5s
MMUR AML AML
comp=N,16800µm,0.4s
MMUR AML AML
comp=N,16800µm,0.4s
CIMA Civitanova Mar 0.58 43 P **Pb 18 56 29.0 -0.7**
MURB Monte Urbino 0.59 311 **Pg 18 56 28.5 -0.8**
MURB Monte Urbino 0.59 311 P **Pg 18 56 28.6 -0.7**
MURB AML AML
comp=E,42250µm,0.4s
MURB AML AML
comp=N,42000µm,1.0s
MURB AML AML
comp=E,42250µm,0.4s
MURB AML AML
comp=N,42000µm,1.0s
MURB AML AML
comp=E,46300µm,0.4s
MURB AML AML
comp=N,43800µm,0.3s
PP3 Marolino 0.60 35 ⇑P **Pb 18 56 29.4 -0.8**
PP3 AML AML
comp=N,50250µm,0.7s
PP3 AML AML
comp=N,50250µm,0.7s
PP3 AML AML
comp=N,52400µm,0.7s
PP3 AML AML
comp=E,34800µm,1.6s
PP3 AML AML
comp=E,34250µm,0.7s
SSFR Montelago di S 0.61 335 AML AML
comp=N,40050µm,1.2s
SSFR AML AML
comp=E,26600µm,0.2s
SSFR AML AML
comp=E,29800µm,0.2s
SSFR AML AML
comp=N,38700µm,0.2s
FIAM Fiamignano 0.61 181 ⇑P **Pg 18 56 28.8 -1.0**
FIAM S **Sg 18 56 38.0 +0.1**
FIAM AML AML
comp=E,12310µm,1.5s
FIAM AML AML
comp=N,11670µm,0.4s
ARVD Arcevia 0.63 347 P **Pg 18 56 29.1 -1.0**
ARVD S **Sb 18 56 39.0 -0.5**
ARVD AML AML
comp=N,7175µm,1.1s
ARVD AML AML
comp=E,8355µm,0.3s
ATFO Monte Foce - G 0.64 320 ⇑P **Pg 18 56 29.3 -0.9**
ATFO AML AML
comp=N,10175µm,0.9s
ATFO AML AML
comp=E,11955µm,0.6s
ATTE AVT- Monte Tez 0.66 299 AML AML
comp=E,7755µm,1.5s
ATTE AML AML
comp=N,8275µm,0.4s
ATLO AVT- Montelove 0.69 309 ⇑P **Pg 18 56 30.2 -1.0**
FRON Frontone 0.70 335 ⇑P **Pg 18 56 30.3 -1.2**
FRON S **Sb 18 56 41.3 -0.3**
FRON AML AML
comp=E,9470µm,0.3s
FRON AML AML
comp=N,14800µm,1.1s
FRON AML AML
comp=E,9480µm,0.3s
VCEL Villa Celiera 0.71 133 AML AML
comp=E,16600µm,0.7s
VCEL AML AML
comp=N,18350µm,1.0s
TB01 Gubbio 0.72 315 ⇑P **Pg 18 56 30.8 -0.9**
ATVO AVT- Monte Val 0.73 313 ⇑P **Pg 18 56 30.9 -1.1**
ATVO AML AML
comp=E,9720µm,0.7s
ATVO AML AML
comp=N,12300µm,0.9s
ATVA AVT- Monte Val 0.74 303 ⇑P **Pg 18 56 31.1 -1.0**
AOI Ancona 0.75 27 ⇑P **Pg 18 56 31.3 -1.0**
AOI AML AML
comp=E,13950µm,0.4s
AOI AML AML
comp=N,12350µm,1.1s
ATMI Monte Miggiano 0.78 306 P **Pg 18 56 32.0 -0.9**
ATMI AML AML
comp=E,20500µm,0.4s
ATMI AML AML
comp=E,20450µm,0.4s
ATMI AML AML
comp=N,20350µm,0.7s
ATPI Pietralunga - 0.78 317 AML AML
comp=E,6800µm,0.5s
ATPI AML AML
comp=N,7375µm,0.7s
PCRO Pietralacroce 0.78 22 P **Pb 18 56 32.7 -0.5**
MPAG Monte Paganucc 0.80 340 P **Pg 18 56 32.2 -1.1**
T0110 Collepietro 0.81 144 ⇑P **Pg 18 56 31.9 -1.6**
T0110 AML AML
comp=E,15150µm,1.1s
T0110 AML AML
comp=N,18300µm,0.5s
SENI Senigallia 0.83 5 P **Pg 18 56 32.2 -1.5**
SENI AML AML
comp=E,8455µm,0.9s
SENI AML AML
comp=N,8625µm,0.9s
SENI AML AML
comp=E,8470µm,0.9s
SENI AML AML
comp=N,8635µm,0.9s
FSSB Fossombrone 0.85 342 P **Pg 18 56 33.2 -1.1**
FSSB AML AML
comp=E,23300µm,0.3s
FSSB AML AML
comp=N,20950µm,0.3s
APEC Apecchio 0.86 323 P **Pb 18 56 34.1 -0.4**
PTQR Pietraquaria 0.88 167 P **Pg 18 56 33.1 -1.7**
PTQR AML AML
comp=E,5460µm,0.3s
PTQR AML AML
comp=N,4545µm,0.7s
SACS San Casciano d 0.90 268 ⇑P **Pg 18 56 34.4 -0.8**
SACS AML AML
comp=E,8840µm,1.0s
SACS AML AML
comp=N,7205µm,0.6s
SACS AML AML
comp=E,9080µm,1.0s
SACS AML AML
comp=N,6845µm,0.6s
MTCE Montecelio 0.91 199 ⇑P **Pg 18 56 33.5 -1.7**
MTCE AML AML
comp=E,8985µm,0.4s
MTCE AML AML
comp=N,5095µm,1.3s
CERT Cerreto 0.94 187 P **Pg 18 56 34.1 -1.8**
CERT AML AML
comp=E,12400µm,0.8s
CERT AML AML
comp=N,7790µm,1.0s
PE3 Peglio 0.94 330 P **Pg 18 56 35.2 -0.7**
CAFI Castiglion Fio 0.97 298 ⇑P **Pg 18 56 35.4 -1.1**
CAFI AML AML
comp=E,7020µm,0.9s
CAFI AML AML
comp=N,5795µm,0.9s
CAFI AML AML
comp=E,7095µm,0.9s
CAFI AML AML
comp=N,6065µm,0.9s
SSP9 Sansepolcro 1.01 314 P **Pg 18 56 35.6 -1.7**
SSP9 AML AML
comp=N,4525µm,0.7s
SSP9 AML AML
comp=E,5530µm,1.3s
LATE Laterza 1.02 255 **Pg 18 56 36.2 -1.1**
LATE Laterza 1.02 255 ⇑P **Pg 18 56 36.5 -0.9**
RCAV Rocca di Cave 1.04 188 P **Pg 18 56 36.0 -1.8**
RCAV AML AML
comp=N,7475µm,0.4s
RCAV AML AML
comp=E,11565µm,1.1s
VVLD Villa Vallelon 1.07 160 P **Pg 18 56 36.8 -1.7**
VVLD AML AML
comp=N,5995µm,0.6s
VVLD AML AML
comp=E,4630µm,1.0s
MCIV Monte Civitell 1.08 265 P **Pg 18 56 37.3 -1.3**
MCIV AML AML
comp=E,3320µm,0.8s
MCIV AML AML
comp=N,3480µm,0.6s
SF04 Casetta 1.09 268 AML AML
comp=N,3405µm,0.6s
SF04 AML AML
comp=E,3965µm,0.4s
GUAR Guarcino 1.09 173 P **Pb 18 56 38.0 -0.6**
GUAR AML AML
comp=N,6805µm,0.6s
GUAR AML AML
comp=E,6660µm,0.7s
CPGN Carpegna, Ital 1.09 327 P **Pb 18 56 38.3 -0.4**
CPGN AML AML
comp=N,10230µm,0.9s
CPGN AML AML
comp=E,11800µm,0.9s
CPGN AML AML
comp=N,6965µm,1.6s
CPGN AML AML
comp=E,9320µm,1.1s
CAFR Castel Frentan 1.11 126 P **Pb 18 56 37.4 -1.4**
RMP Rome, Mte Porz 1.12 197 P **Pb 18 56 38.0 -0.9**
RMP AML AML
comp=N,9900µm,1.0s
RMP AML AML
comp=E,6530µm,1.4s
LPEL Lama dei Pelig 1.14 137 P **Pb 18 56 37.4 -2.0**
LPEL AML AML
comp=N,7715µm,1.1s
LPEL AML AML
comp=E,6910µm,0.9s
SF01 Poggio Pratacc 1.16 267 AML AML
comp=E,4705µm,0.7s
SF01 AML AML
comp=N,3705µm,1.3s
VIVA Pratoni del Vi 1.16 194 P **Pb 18 56 38.9 -0.8**
VIVA AML AML
comp=N,19750µm,0.4s
VIVA AML AML
comp=E,12450µm,0.6s
TOLF Tolfa 1.17 226 P **Pb 18 56 38.9 -1.0**
TOLF AML AML
comp=N,5420µm,1.6s
TOLF AML AML
comp=E,6005µm,0.5s
ARCI Arcidosso 1.22 269 P **Pn 18 56 39.8 -0.9**
ARCI AML AML
comp=E,1390µm,0.6s
ARCI AML AML
comp=N,1245µm,0.6s
POFI Posta Fibreno 1.24 160 P **Pn 18 56 39.6 -1.2**
POFI AML AML
comp=E,4040µm,1.2s
POFI AML AML
comp=N,2645µm,1.1s
LAV9 Lanuvio 1.25 195 P **Pn 18 56 40.4 -0.5**
LAV9 AML AML
comp=E,10510µm,0.4s
LAV9 AML AML
comp=N,12400µm,0.4s
LAV9 AML AML
comp=E,10790µm,0.4s
LAV9 AML AML
comp=N,12800µm,0.4s
LRP Arpino 1.28 165 P **Pn 18 56 41.1 -0.2**
LRP AML AML
comp=E,1905µm,1.0s
LRP AML AML
comp=N,3535µm,1.4s
GIUL Giuliano Di Ro 1.32 176 P **Pn 18 56 41.3 -0.7**
GIUL AML AML
comp=N,3150µm,1.1s
GIUL AML AML
comp=E,2380µm,1.1s
ASQU Asqua 1.34 313 P **Pn 18 56 41.2 -1.1**
ASQU AML AML
comp=N,2530µm,1.2s
ASQU AML AML
comp=E,2160µm,0.8s
SFI Santa Sofia 1.39 318 P **Pn 18 56 42.6 -0.3**
SFI AML AML
comp=E,2745µm,1.1s
SFI AML AML
comp=N,2180µm,0.8s
SFI AML AML
comp=N,2170µm,0.8s
SFI AML AML
comp=E,2715µm,1.1s
LATB Latina 1.39 185 P **Pn 18 56 41.5 -1.3**
LATB AML AML
comp=N,1210µm,0.8s
LATB AML AML
comp=E,1435µm,0.8s
CERA Filignano 1.44 153 P **Pn 18 56 42.7 -0.9**
CERA AML AML
comp=E,4310µm,0.6s
CERA AML AML
comp=N,4525µm,0.7s
FRES Fresagrandinar 1.45 128 P **Pn 18 56 42.2 -1.6**
FRES AML AML
comp=E,2805µm,0.6s
FRES AML AML
comp=N,1565µm,0.6s
MIDA Miranda 1.49 146 P **Pn 18 56 43.3 -1.0**
MIDA AML AML
comp=N,2020µm,0.5s
MIDA AML AML
comp=N,2255µm,0.9s
MIDA AML AML
comp=E,2585µm,1.1s
MIDA AML AML
comp=E,2425µm,1.1s
OSSC Osservatorio P 1.52 296 Pn **Pn 18 56 44.8 0.0**
OSSC Osservatorio P 1.52 296 P **Pn 18 56 44.4 -0.4**
OSSC AML AML
comp=E,1810µm,0.9s
OSSC AML AML
comp=N,1520µm,0.8s
OSSC AML AML
comp=E,1490µm,0.8s
OSSC AML AML
comp=N,1750µm,0.9s
RUFI Rufina 1.52 310 P **Pn 18 56 44.3 -0.4**
RUFI AML AML
comp=N,2485µm,1.1s
RUFI AML AML
comp=E,2435µm,0.7s
TRIV Trivento 1.53 136 AML AML
comp=N,62000µm,1.4s
TRIV AML AML
comp=N,3390µm,1.3s
TRIV AML AML
comp=E,60500µm,1.4s
TRIV AML AML
comp=E,2955µm,1.3s
MAON Monte Argentar 1.55 254 P **Pn 18 56 44.4 -0.7**
MAON AML AML
comp=E,1088µm,0.5s
MAON AML AML
comp=N,902µm,1.0s
LMD Lutirano 1.58 319 P **Pn 18 56 45.9 +0.3**
LMD AML AML
comp=E,1800µm,0.8s
LMD AML AML
comp=N,1730µm,1.2s
TRIF Trifonti 1.66 279 AML AML
comp=E,906µm,0.9s
TRIF AML AML
comp=N,1056µm,0.6s
CASP Castiglione de 1.67 268 Pn **Pn 18 56 46.0 -0.8**
CASP Castiglione de 1.67 268 P **Pn 18 56 45.8 -1.0**
CASP AML AML
comp=E,449µm,0.8s
CASP AML AML
comp=N,488µm,0.7s
VAGA Valle Agricola 1.68 150 P **Pn 18 56 47.0 +0.1**
VAGA AML AML
comp=E,1098µm,0.6s
VAGA AML AML
comp=N,1625µm,0.9s
BSSO Busso 1.72 140 P **Pb 18 56 48.6 -0.6**
BRIS BRISIGHELLA 1.73 318 P **Pn 18 56 46.7 -0.9**
SEI Scarperia 1.75 313 P **Pn 18 56 47.8 0.0**
CIGN Sant'Elia a Pi 1.80 132 P **Pn 18 56 49.1 +0.7**
CIGN AML AML
comp=N,1325µm,0.7s
CIGN AML AML
comp=E,1247µm,1.4s
MPPT Montemurlo 1.84 307 P **Pn 18 56 48.6 -0.5**
MPPT AML AML

comp=N,1540µm,1.0s
MPPT AML AML
comp=E,1335µm,1.4s
PIGN Pignataro Magg 1.85 155 P **Pn** 18 56 49.0 -0.2
PIGN AML AML
comp=N,640µm,1.6s
PIGN AML AML
comp=E,832µm,1.3s
MELA Melanico ??? S 1.89 128 P **Pn** 18 56 50.3 +0.6
MELA AML AML
comp=N,5215µm,0.7s
MELA AML AML
comp=E,4145µm,0.6s
MELA AML AML
comp=N,5070µm,0.7s
MELA AML AML
comp=E,4230µm,0.6s
MTCR Monte La Croce 1.93 307 P **Pn** 18 56 49.6 -0.8
BRJN Brijuni 2.07 12 P **Pn** 18 56 51.1 -1.1
PSB1 Pescosannita 2.07 142 P **Pn** 18 56 52.0 -0.3
POPM Popiglio 2.09 305 P **Pn** 18 56 52.4 -0.1
POPM AML AML
comp=E,622µm,1.4s
POPM AML AML
comp=N,736µm,1.2s
APRC Apricena 2.11 121 P **Pn** 18 56 53.1 +0.3
APRC AML AML
comp=N,2515µm,0.6s
APRC AML AML
comp=E,1960µm,0.5s
PAOL Paolisi 2.13 150 Pn **Pn** 18 56 54.6 +1.4
ZCCA Zocca 2.15 314 **Pn** 18 56 53.3 0.0
CELB S.Piero in Cam 2.16 267 AML AML
comp=E,374µm,0.6s
CELB AML AML
comp=N,216µm,0.6s
MAIM Mastiano 2.19 299 P **Pn** 18 56 53.5 -0.4
MAIM AML AML
comp=E,706µm,0.9s
MAIM AML AML
comp=N,594µm,0.8s
SGRT San Giovanni R 2.24 119 **Pn** 18 56 55.3 +0.7
SGRT San Giovanni R 2.24 119 P **Pn** 18 56 55.1 +0.5
SGRT AML AML
comp=E,2305µm,0.7s
SGRT AML AML
comp=N,2340µm,0.9s
CARD Cardoso 2.25 302 P **Pn** 18 56 54.1 -0.5
CARD AML AML
comp=E,881µm,0.9s
CARD AML AML
comp=N,796µm,0.6s
VLC Villacollemand 2.37 304 Pn **Pn** 18 56 55.8 -0.6
SGTA Sant Agata di 2.41 136 AML AML
comp=N,690µm,1.1s
SGTA AML AML
comp=E,1265µm,0.8s
SGTA AML AML
comp=E,1225µm,0.8s
SGTA AML AML
comp=N,648µm,1.1s
VENL Venezia Lido 2.59 348 AML AML
comp=E,2065µm,1.2s
VENL AML AML
comp=N,2425µm,0.7s
CAPA Cerignola FG 2.64 130 AML AML
comp=N,2130µm,1.1s
CAPA AML AML
comp=E,2325µm,0.9s
TEOL Teolo 2.69 337 **Pn** 18 57 01.2 +0.4
TEOL Teolo 2.69 337 P **Pn** 18 57 01.1 +0.3
SKDS Skadanscina 2.74 13 *i* Pn **Pn** 18 57 00.6 -0.8
SKDS *e*Sn **Sn** 18 57 32.2 -2.3
SKDS IAML 18 57 35.7
comp=Z,206nm,0.2s
PRMA PARMA 2.78 314 **Pn** 18 57 01.7 -0.2
ZOVE Zovencedo 2.83 336 P **Pn** 18 57 03.1 +0.4
PALZ Palazzo San Ge 2.86 132 AML AML
comp=E,1535µm,0.7s
PALZ AML AML
comp=N,1540µm,1.0s
MRVN Minervino Murg 2.92 128 AML AML
comp=E,426µm,1.0s
MRVN AML AML
comp=N,384µm,0.6s
SMPL Sampolo 2.96 256 AML AML
comp=N,60µm,1.4s
SMPL AML AML
comp=E,75µm,1.6s
SMPL Sampolo 2.96 256 P **Pn** 18 57 04.4 0.0
MSSA Maissana 2.99 300 Pn **Pn** 18 57 04.9 -0.1
CEY Cerknica 3.00 18 *e*Pn **Pn** 18 57 04.7 -0.4
CMPR Campora 3.03 147 AML AML
comp=E,172µm,1.4s
CMPR AML AML
comp=N,180µm,0.8s
PGF Pioggiola 3.07 265 *e*P **Pn** 18 57 06.4 +0.4
PGF *e*Sn **Sn** 18 57 37.0 -5.6
comp=N,55nm,0.6s
PGF Pioggiola 3.07 265 AML AML
comp=E,114µm,1.5s
PGF AML AML
comp=N,89µm,1.5s
PGF Pioggiola 3.07 265 P **Pn** 18 57 06.2 +0.2
SABO M.te Sabotino 3.12 6 Pn **Pn** 18 57 06.3 -0.4
SABO M.te Sabotino 3.12 6 ⇑P **Pn** 18 57 06.1 -0.5
SABO AML AML
comp=E,4885µm,0.6s
SABO AML AML
comp=N,1420µm,1.0s
SABO AML AML
comp=N,5770µm,1.0s
SABO AML AML
comp=E,1185µm,0.6s
ROVR Rover Verones 3.14 333 P **Pn** 18 57 07.7 +0.7
ROVR AML AML
comp=E,627µm,0.8s
ROVR AML AML
comp=N,775µm,1.0s
ROVR AML AML
comp=E,254µm,0.8s
ROVR AML AML
comp=N,296µm,1.1s
CGRP Cima Grappa 3.15 343 AML AML
comp=N,1001µm,0.7s
CGRP AML AML
comp=E,903µm,0.5s
CGRP AML AML
comp=N,960µm,0.7s
CGRP AML AML
comp=E,900µm,0.5s
MGRS Mrkonjic Grad 3.25 60 *e*Pn **Pn** 18 57 09.6 +1.1
AMUR Altamura 3.25 126 AML AML
comp=E,499µm,0.9s
AMUR AML AML
comp=N,446µm,0.4s
DOSS Dosso del Somm 3.31 336 AML AML
comp=N,646µm,1.2s
DOSS AML AML
comp=N,531µm,1.0s
DOSS AML AML
comp=E,536µm,1.0s
DOSS AML AML
comp=E,624µm,1.2s
LJU Ljubljana 3.31 17 *i* Pn **Pn** 18 57 09.5 +0.1
LJU *e*Sn **Sn** 18 57 48.5 -0.2
LJU IAML 18 58 18.3
comp=Z,262nm,0.5s
SALO Salr 3.32 326 **Pn** 18 57 10.8 +1.4
SALO Salr 3.32 326 AML AML
comp=N,698µm,1.2s
SALO AML AML
comp=E,594µm,1.2s
PRIJ Prijedor 3.33 50 *e*Pn **Pb** 18 57 14.9 -1.7
CTI Castel Tesino 3.34 342 **Pn** 18 57 10.4 +0.6
CTI Castel Tesino 3.34 342 AML AML
comp=N,823µm,0.4s
CTI AML AML
comp=E,698µm,0.7s
STON Ston 3.35 89 *e*Pn **Pn** 18 57 08.2 -1.7
STON Ston 3.35 89 AML AML
comp=N,306µm,0.8s
STON AML AML
comp=E,233µm,0.8s
BAD Bernadia 3.36 1 ⇑P **Pn** 18 57 09.6 -0.4
MPRI Monte Prat 3.36 358 ⇑P **Pn** 18 57 10.0 0.0
MPRI AML AML
comp=E,1095µm,0.9s
MPRI AML AML
comp=N,1288µm,0.6s
AJAC Base Areonaval 3.38 255 P **Pn** 18 57 11.1 +1.0
STAL STALIGIAL 3.39 355 **Pn** 18 57 10.1 -0.3
STAL STALIGIAL 3.39 355 P **Pn** 18 57 09.8 -0.6
STAL AML AML
comp=N,756µm,1.6s
STAL AML AML
comp=N,606µm,0.3s
STAL AML AML
comp=E,708µm,0.4s
STAL AML AML
comp=E,892µm,0.4s
BOO Bordano 3.44 360 ⇑P **Pn** 18 57 10.6 -0.4
LUSI Trento, Gardas 3.46 334 P **Pn** 18 57 12.0 +0.7
LUSI AML AML
comp=E,576µm,0.9s
LUSI AML AML
comp=N,605µm,0.7s
A051A Mrakovica 3.46 51 *e*Pn **Pn** 18 57 11.1 -0.3
CIMO Cimolais 3.46 352 **Pn** 18 57 11.2 -0.3
CIMO Cimolais 3.46 352 AML AML
comp=E,218µm,0.8s
CIMO AML AML
comp=N,227µm,1.5s
CIMO AML AML
comp=N,230µm,1.5s
CIMO AML AML
comp=E,218µm,0.8s
BLY Banja Luka 3.47 56 *e*Pn **Pn** 18 57 11.9 +0.4
MATE Matera 3.48 129 ⇓P **Pn** 18 57 13.1 +1.5
MATE ⇑S **Sn** 18 57 53.4 +0.8
AGOR Agordo 3.49 347 AML AML
comp=E,286µm,1.1s
AGOR AML AML
comp=N,250µm,1.0s
AGOR AML AML
comp=E,390µm,1.4s
AGOR AML AML
comp=N,380µm,1.6s
CUC Castrocucco 3.52 144 Pn **Pn** 18 57 13.7 +1.5
PTCC Patocco-Chiusa 3.53 2 ⇑P **Pn** 18 57 11.6 -0.7
PTCC AML AML
comp=N,406µm,0.9s
PTCC AML AML
comp=E,331µm,0.9s
FUSE Fusea 3.53 358 P **Pn** 18 57 12.0 -0.4
GAGG Gaggia 3.56 335 P **Pn** 18 57 13.6 +0.7
GAGG AML AML
comp=E,642µm,1.0s
GAGG AML AML
comp=N,552µm,0.8s
PRED Cave del Predi 3.57 5 **Pn** 18 57 12.5 -0.4
CLUD Cludinico 3.58 357 Pn **Pn** 18 57 12.6 -0.4
CLUD Cludinico 3.58 357 AML AML
comp=E,504µm,0.9s
CLUD AML AML
comp=E,504µm,0.9s
CLUD AML AML
comp=N,488µm,0.9s
CLUD AML AML
comp=N,518µm,0.9s
NOCI Noci 3.60 124 AML AML
comp=E,439µm,0.5s
NOCI AML AML
comp=N,487µm,0.6s
ZONE Zone 3.60 324 AML AML
comp=E,352µm,0.3s
ZONE AML AML
comp=N,560µm,0.2s
ACOM Acomizza, Ital 3.68 4 P **Pn** 18 57 14.2 -0.3
ACOM AML AML
comp=E,826µm,1.2s
ACOM AML AML
comp=N,674µm,0.7s
ACOM AML AML
comp=N,644µm,0.9s
ACOM AML AML
comp=E,825µm,1.2s
ZOU Zoufplan 3.68 358 ⇑P **Pn** 18 57 14.3 -0.2
ZOU AML AML
comp=N,616µm,1.0s
ZOU AML AML
comp=E,587µm,1.1s
ZOU AML AML
comp=E,589µm,1.1s
ZOU AML AML
comp=N,592µm,0.9s
MABI Malga Bissina 3.69 330 P **Pn** 18 57 15.5 +0.9
MABI AML AML
comp=E,168µm,0.8s
MABI AML AML
comp=N,221µm,0.7s
FVI Forni Avoltri 3.72 356 P **Pn** 18 57 14.9 -0.1
FVI AML AML
comp=E,332µm,0.5s
FVI AML AML
comp=N,372µm,0.6s
OBKA Obir 3.77 15 *e*Pn **Pn** 18 57 14.8 -0.8
OBKA Obir 3.77 15 *i* Pn **Pn** 18 57 15.1 -0.5
comp=N,7.4nm,0.2s
MYKA Terra Mystica 3.77 5 *i* Pn **Pn** 18 57 15.8 +0.2
comp=N,34nm,0.4s,SNR=20
MYKA *i* Sn **Sn** 18 57 60.0 +0.1
comp=N,46nm,0.4s
KOSI Kohlern 3.79 341 P **Pn** 18 57 17.3 +1.2
KOSI AML AML
comp=N,454µm,0.6s
KOSI AML AML
comp=E,650µm,0.7s
CANO Canova, Maglio 3.80 292 AML AML
comp=N,196µm,1.2s
CANO AML AML
comp=E,436µm,1.1s
TREB Trebinje 3.84 91 *e*Pn **Pn** 18 57 16.9 +0.3
APPI Appiano 3.85 340 P **Pn** 18 57 17.5 +0.8
APPI AML AML
comp=E,424µm,1.2s
APPI AML AML
comp=N,417µm,1.1s
ABTA Abfaltersbach 3.89 354 *i* Pn **Pn** 18 57 18.0 +0.6
comp=N,121nm,0.5s,SNR=63
ABTA *e*Sn **Sn** 18 58 04.3 +1.3
comp=N,76nm,0.5s
TAR1 Taranto 3.90 126 AML AML
comp=N,504µm,0.6s
TAR1 AML AML
comp=E,378µm,0.9s
BRY Bratogost 3.97 88 *e*Pn **Pn** 18 57 19.0 +0.5
BRY Bratogost 3.97 88 *i* Pn **Pn** 18 57 18.7 +0.2
BRY *i* Sn **Sn** 18 58 05.4 +0.4
HCY Herceg Novi 3.98 94 *e*Pn **Pn** 18 57 18.1 -0.3
HCY Herceg Novi 3.98 94 ⇑*i* Pn **Pn** 18 57 18.7 +0.3
HCY *i* Sn **Sn** 18 58 05.6 +0.7
SOKA Soboth 4.03 19 *i* Pn **Pn** 18 57 19.0 -0.2
comp=E,8.1nm,0.3s
BRMO Bormio 4.10 332 P **Pn** 18 57 22.1 +1.8
RISI Rein 4.13 350 AML AML
comp=N,938µm,0.4s
RISI AML AML
comp=E,766µm,0.4s
MOSI Grossmontoni 4.16 335 P **Pn** 18 57 23.6 +2.4
BERNI Berninapass 4.17 329 P **Pn** 18 57 22.9 +1.5
KBA Koelnbreinsper 4.20 2 *i* Pn **Pn** 18 57 22.1 +0.5
comp=E,62nm,0.6s,SNR=47
KBA *e*Sn **Sn** 18 58 09.9 -0.8
comp=E,114nm,0.8s
KBA Koelnbreinsper 4.20 2 *e*Pn **Pn** 18 57 22.2 +0.5
KBA *e*Sn **Sn** 18 58 11.0 +0.3
SAOF Saorge 4.21 287 P **Pn** 18 57 22.2 +0.5
MUGIO Muggio 4.22 317 AML AML
comp=E,146µm,0.6s
MUGIO AML AML
comp=N,124µm,1.5s
ROSI Rosskopf 4.23 344 AML AML
comp=N,646µm,0.5s
ROSI AML AML
comp=E,592µm,1.3s
UPM Unac-Piva 4.24 84 *e*Pn **Pn** 18 57 24.0 +1.8
UPM Unac-Piva 4.24 84 *e*Pn **Pn** 18 57 22.5 +0.3
UPM *i* Sn **Sn** 18 58 11.8 +0.1
FUORN Ofenpass-Fuorn 4.26 332 **Pn** 18 57 24.6 +2.0
FUORN Ofenpass-Fuorn 4.26 332 P **Pn** 18 57 24.7 +2.1
SBF Sospel 4.27 285 *e*P **Pn** 18 57 22.7 +0.2
SBF *e*Sn **Sn** 18 58 05.6 -6.6
comp=E,65nm,0.6s
CEME Cevo 4.27 93 ⇓*i* Pn **Pn** 18 57 22.9 +0.3
CEME *i* Sn **Sn** 18 58 12.7 +0.4
NKME Niksic 4.28 90 ⇑*i* Pn **Pn** 18 57 23.0 +0.3
NKME *i* Sn **Sn** 18 58 12.9 +0.4
BUM Brajici-Budva 4.29 96 ⇑*i* Pn **Pn** 18 57 23.2 +0.4
BUM *i* Sn **Sn** 18 58 13.2 +0.4
TURF col de Turini 4.32 287 P **Pn** 18 57 23.9 +0.5
VARE Varese 4.33 315 AML AML
comp=E,196µm,0.9s
VARE AML AML
comp=N,197µm,0.8s
HAPS Han Pijesak,Bl 4.40 72 *e*Pn **Pn** 18 57 25.5 +1.1
VSL Villasalto 4.41 221 AML AML
comp=E,118µm,0.7s
VSL AML AML
comp=N,110µm,0.5s
BEHE Becsehely 4.43 35 P **Pn** 18 57 24.6 0.0
SPIF crte de Spivo 4.45 287 P **Pn** 18 57 28.1 +3.0
FETA Feichten 4.48 338 *i* Pn **Pn** 18 57 27.3 +1.9
comp=N,48nm,0.7s,SNR=18
FETA *e*Sn **Sn** 18 58 20.0 +2.5
comp=N,44nm,0.7s
TUE Stuetta 4.49 324 **Pn** 18 57 25.7 0.0
WTTA Wattenberg 4.51 347 *i* Pn **Pn** 18 57 27.7 +1.8
comp=N,36nm,0.6s,SNR=18
WTTA *i* Sn **Sn** 18 58 21.0 +2.7
comp=N,46nm,0.3s
WTTA Wattenberg 4.51 347 *e*Pn **Pn** 18 57 28.4 +2.5
WTTA *e*Sn **Sn** 18 58 23.0 +4.7
DRME Dracevica, Mon 4.52 97 *e*Pn **Pn** 18 57 26.3 +0.4
DRME Dracevica, Mon 4.52 97 *e*Pn **Pn** 18 57 26.4 +0.5
DRME *i* Sn **Sn** 18 58 18.8 +0.4
DAVOX Davos/Dischmat 4.53 330 Pn **Pn** 18 57 27.3 +1.1
baz=163,slow=18
DAVOX Sn **Sn** 18 58 18.4 -0.5
comp=N,4.3nm,0.3s,baz=143,slow=20,SNR=4.0
DAVOX LR LR 18 59 17.3
comp=N,62nm,18.4s,baz=139,slow=41
DAVOX Davos/Dischmat 4.53 330 P **Pn** 18 57 28.6 +2.4
PDG Podgorica 4.54 94 ⇓P **Pn** 18 57 27.2 +1.1
PDG ⇑S **Sn** 18 58 18.7 0.0
PDG Podgorica 4.54 94 Pn **Pn** 18 57 26.4 +0.3
PDG Podgorica 4.54 94 AML AML
comp=E,166µm,1.4s
PDG AML AML
comp=E,236µm,0.8s
PDG AML AML
comp=N,220µm,0.7s
PDG AML AML
comp=N,286µm,0.7s
TTG Podgorica 4.54 94 ⇓*i* Pn **Pn** 18 57 26.6 +0.5
TTG *i* Sn **Sn** 18 58 19.1 +0.4
SQTA Sankt Quirin 4.55 343 *i* Pn **Pn** 18 57 28.3 +1.9
comp=N,33nm,0.4s,SNR=28
SQTA *e*Sn **Sn** 18 58 22.8 +3.6
comp=N,107nm,0.7s
WATA Walderalm 4.59 347 *i* Pn **Pn** 18 57 29.3 +2.3
comp=N,65nm,0.6s,SNR=29
WATA *e*Sn **Sn** 18 58 22.6 +2.4
comp=N,47nm,0.5s
PLE Pljevlja 4.60 82 ⇓*i* Pn **Pn** 18 57 27.4 +0.3
PLE *i* Sn **Sn** 18 58 20.5 0.0
TIP Timpagrande 4.60 142 **Pn** 18 57 28.3 +1.2
RUDO Rudo 4.61 79 *e*Pn **Pn** 18 57 26.5 -0.7
ULC Ulcinj 4.61 99 ⇓*i* Pn **Pn** 18 57 27.7 +0.5
ULC *i* Sn **Sn** 18 58 21.0 +0.3
CALF Calern 4.62 283 P **Pn** 18 57 27.8 +0.5
BBLS Lazići 4.67 76 *e*Pn **Pn** 18 57 28.2 +0.1
ARSA Arzberg 4.69 20 *i* Pn **Pn** 18 57 27.6 -0.6
comp=N,9.9nm,0.3s,SNR=8.0
ARSA *i* Sn **Sn** 18 58 19.9 -2.5
comp=N,24nm,0.4s
ARSA Arzberg 4.69 20 *e*Pn **Pn** 18 57 27.7 -0.5
KOME Kolasin 4.69 88 ⇑*i* Pn **Pn** 18 57 28.7 +0.4
KOME *i* Sn **Sn** 18 58 22.7 +0.1
MOTA Moosalm 4.69 343 *i* Pn **Pn** 18 57 30.4 +2.1
comp=N,26nm,0.4s,SNR=17
MOTA *e*Sn **Sn** 18 58 25.7 +3.0
comp=N,68nm,0.6s
KOVH Kovagotottos 4.78 46 P **Pn** 18 57 28.3 -1.2
KOVH S **Sn** 18 58 22.2 -2.6
BIOA Bad Ischl, Aus 4.82 4 *i* Pn **Pn** 18 57 30.3 +0.2
comp=N,37nm,0.3s,SNR=32
BIOA *e*Sn **Sn** 18 58 26.8 +1.0
comp=N,100nm,0.6s
SURF Saint Ours 4.86 291 P **Pn** 18 57 31.5 +0.8
LMR La Mourre 4.87 278 *e*P **Pn** 18 57 30.2 -0.5
LMR *e*Sn **Sn** 18 58 20.1 -6.9
comp=N,16nm,0.6s
JAUF Jausiers 4.88 291 P **Pn** 18 57 32.3 +1.3
SCTE Santa Cesarea 4.89 123 Pn **Pn** 18 57 32.2 +1.2
RETA Reutte 4.90 341 *i* Pn **Pn** 18 57 33.4 +2.2
comp=N,18nm,0.3s,SNR=12
RETA *i* Sn **Sn** 18 58 30.9 +3.1
comp=N,18nm,0.3s
TEKS Tekeris 4.92 68 *e*Pn **Pn** 18 57 29.3 -2.2
PLONS Plons/SG 4.95 329 *e*Pn **Pn** 18 57 34.5 +2.7
PLONS *e*Sn **Sn** 18 58 33.5 +4.6
MBDF Montbardon 4.96 294 *e*P **Pn** 18 57 32.5 +0.4
MBDF *e*Sn **Sn** 18 58 22.2 -7.2
comp=N,53nm,0.8s
IVA Berane 4.97 88 *e*Pn **Pn** 18 57 32.5 +0.4
IVA *i* Sn **Sn** 18 58 29.4 0.0
DAVA Damuels 4.97 334 *i* Pn **Pn** 18 57 34.4 +2.2
comp=N,9.8nm,0.3s,SNR=15
DAVA *e*Sn **Sn** 18 58 31.3 +1.7
comp=N,24nm,0.3s
DAVA Damuels 4.97 334 *e*Pn **Pn** 18 57 36.5 +4.3
TRIGF Trigance 4.99 282 P **Pn** 18 57 33.3 +0.9
CREF Crivoux 5.01 292 P **Pn** 18 57 34.3 +1.6
MOA Molln 5.03 9 *i* Pn **Pn** 18 57 33.1 +0.2
comp=N,14nm,0.3s
MOA *i* Sn **Sn** 18 58 31.0 +0.1
comp=N,23nm,0.3s
MOA Molln 5.03 9 *e*Pn **Pn** 18 57 33.2 +0.2
PVY Plav 5.03 91 ⇑*i* Pn **Pn** 18 57 33.4 +0.3
PVY *i* Sn **Sn** 18 58 31.1 -0.1
OGAG Argentiere 5.04 290 P **Pn** 18 57 38.0 +4.9
FLAF Flassans-sur-l 5.06 278 P **Pn** 18 57 33.9 +0.6
DIVS Divibare 5.13 74 Pn **Pn** 18 57 34.7 +0.3
DIVS Divibare 5.13 74 *e*Pn **Pn** 18 57 33.5 -0.9
MORH Mrgy, Hungar 5.16 48 ⇑P **Pn** 18 57 35.8 +1.2
MORH Mrgy, Hungar 5.16 48 P **Pn** 18 57 34.0 -0.6
TIR Tirane 5.23 105 ⇓P **Pn** 18 57 36.6 +0.9
TIR ⇓S **Sn** 18 58 34.9 -1.0
TIR Tirane 5.23 105 Pn **Pn** 18 57 36.4 +0.7
TIH Tihany 5.25 38 P **Pn** 18 57 37.0 +1.1
UBR Ueberruh 5.25 337 *e*Pn Pn 18 57 41.4 +5.4
BLAF les Blancs 5.28 284 P **Pn** 18 57 37.6 +1.3
LPG La Plagne 5.28 302 *e*P **Pn** 18 57 38.0 +1.4
LPG *e*Sn **Sn** 18 58 30.1 -7.4
comp=N,40nm,0.6s
MPLH Magyarpolny 5.30 35 P **Pn** 18 57 35.5 -1.2
MPLH S **Sn** 18 58 36.1 -1.5
LPL La Plagne 5.30 302 *e*P **Pn** 18 57 38.4 +1.5
LPL *e*Sn **Sn** 18 58 30.5 -7.4
comp=N,50nm,0.8s
RONA Rosalia, Austr 5.31 24 *i* Pn **Pn** 18 57 36.2 -0.6
comp=N,4.6nm,0.2s,SNR=9.2
RONA *i* Sn **Sn** 18 58 36.4 -1.4
comp=N,12nm,0.4s
FRGS Fruska Gora 5.32 62 ⇓P **Pn** 18 57 36.9 -0.1
FRGS Fruska Gora 5.32 62 *e*Pn **Pn** 18 57 35.2 -1.8
VLO Vlora 5.34 115 **Pn** 18 57 38.2 +1.1
SOP Sopron 5.38 26 P **Pn** 18 57 37.2 -0.5
SOP S **Sn** 18 58 34.4 -4.9
CONA Conrad Observa 5.40 20 *i* Pn **Pn** 18 57 37.6 -0.4
comp=N,20nm,0.5s,SNR=10
CONA *i* Sn **Sn** 18 58 37.3 -2.8
comp=N,12nm,0.3s
FUR Furstenfeldbru 5.44 347 *e*Sn **Sn** 18 58 43.9 +2.8
RSL Roselend 5.45 303 P **Pn** 18 57 40.7 +1.9
VAE Valguarnera 5.48 169 Pn **Pn** 18 57 41.9 +2.7
comp=N,1.9nm,0.3s,baz=30,slow=20,SNR=1.4
comp=N,5.3nm,0.3s
BSTF la Bastide-des 5.55 283 P **Pn** 18 57 41.4 +1.3
GDM Grand'Maison 5.57 297 P **Pn** 18 57 44.5 +4.0
AIGLE Aigle 5.61 310 P **Pn** 18 57 43.0 +2.2
SMRF Simiane la Rot 5.61 284 *e*P **Pn** 18 57 42.5 +1.5
SMRF *e*Sn **Sn** 18 58 38.0 -7.3
comp=N,22nm,0.7s
ORIF Oris-en-Rattie 5.62 294 *e*P **Pn** 18 57 43.0 +1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ORIF				eSn	Sn	18 58 38.0	-7.6
	comp=N,22nm,0.5s						
ORIF	Oris-en-Rattie	5.62	294	P	Pn	18 57 43.4	+2.3
RUSF	Rustrel	5.67	283	P	Pn	18 57 43.6	+1.8
RAFF	Raffo Rosso	5.73	170	Pn	Pn	18 57 44.0	+1.4
GRN	Grenoble	5.83	296	P	Pn	18 57 46.4	+2.5
SULZ	Cheisacher	5.85	324	P	Pn	18 57 45.6	+1.5
SLE	Schleitheim	5.88	328	ePn	Pn	18 57 45.4	+0.8
SLE	Schleitheim	5.88	328	P	Pn	18 57 45.2	+0.7
SLE	Schleitheim	5.88	328	S	Sn	18 58 51.0	-0.8
BALST	Balsthal	5.89	321	ePn	Pn	18 57 46.8	+2.0
BALST				eSn	Sn	18 58 52.0	-0.1
BALST	Balsthal	5.89	321	P	Pn	18 57 46.1	+1.4
KEK	Kerkira	5.93	120	Pn	Pn	18 57 46.0	+0.6
OHR	Ohrid	5.98	105	i Pn	Pn	18 57 48.1	+2.1
GEC2	GERESS Array S	5.98	4	Pn	Pn	18 57 45.1	-0.9
GEC2	GERESS Array S	5.98	4	ePn	Pn	18 57 45.3	-0.7
GEC2				eSn	Sn	18 58 52.2	-2.2
GERES	GERESS Array B	5.98	4	Pn	Pn	18 57 45.3	-0.7
	comp=N,2.7nm,0.3s,baz=170,slow=13,SNR=66						
GERES				Sn	Sn	18 58 51.9	-2.5
	comp=N,6.1nm,0.3s,baz=187,slow=22,SNR=8.4						
GERES				LR	LR	19 00 43.6	
	comp=N,112nm,18.8s,baz=204,slow=45						
	comp=N,4.3nm,0.3s						
CKRC	Cesky Krumlov	6.00	7	ePN	Pn	18 57 45.3	-0.9
CKRC				eSN	Sn	18 58 50.9	-3.8
OGSM	Saint Maurice	6.00	300	P	Pn	18 57 48.1	+1.8
ZST	Bratislava	6.00	26	ePN	Pn	18 57 45.6	-0.6
ZST				eSN	Sn	18 58 52.3	-2.4
BOURR	Bourrignon	6.15	319	P	Pn	18 57 48.7	+0.4
FELD	Feldberg im Sc	6.16	326	P	Pn	18 57 49.3	+0.7
FELD	Feldberg im Sc	6.16	326	S	Sn	18 58 57.8	-1.2
MODS	Modra-Piesok	6.21	26	ePN	Pn	18 57 47.9	-1.2
MODS				eSN	Sn	18 58 55.5	-4.5
SKO	Skopje	6.21	96	i Pn	Pn	18 57 50.3	+1.1
BRANT	Les Verrieres	6.23	313	P	Pn	18 57 51.2	+1.7
CABF	La Chapelle	6.25	309	eP	Pn	18 57 50.6	+0.8
CABF				eSn	Sn	18 58 53.1	-8.0
	comp=N,22nm,0.6s						
KHC	Kasperske Hory	6.26	3	Pn	Pn	18 57 48.9	-0.9
KHC	Kasperske Hory	6.26	3	ePN	Pn	18 57 48.9	-0.9
KHC				eSN	Sn	18 58 57.0	-4.2
KIZ	Kirchzarten	6.26	326	P	Pn	18 57 50.6	+0.8
WET	Wettzell	6.27	358	ePn	Pn	18 57 48.8	-1.1
WET				eSn	Sn	18 58 57.1	-4.3
BOVS	Bovan	6.30	80	⇓P	Pn	18 57 50.7	+0.3
BOVS				⇓S	Sn	18 59 00.8	-1.4
CHMF	Charmoille	6.33	316	P	Pn	18 57 51.9	+1.0
BFO	Black Forest	6.41	330	Pn	Pn	18 57 52.4	+0.6
BFO	Black Forest	6.41	330	ePn	Pn	18 57 53.8	+2.0
BFO				eSn	Sn	18 59 03.7	-1.1
VIVF	Saint-Julien-l	6.43	291	eP	Pn	18 57 54.0	+1.9
VIVF				eSn	Sn	18 58 57.2	-8.2
	comp=N,3.1nm,0.4s						
RIVEL	MONT RIVEL	6.43	310	P	Pn	18 57 53.0	+0.8
VOGT	Vogtsburg - To	6.46	325	P	Pn	18 57 53.7	+1.1
VOGT	Vogtsburg - To	6.46	325	S	Sn	18 59 05.0	-1.3
MDVR	Moldovita	6.49	70	⇑P	Pn	18 57 52.5	-0.5
FNA	Florina	6.50	106	Pn	Pn	18 57 53.9	+0.7
MOF	Molkenrain	6.52	322	P	Pn	18 57 54.1	+0.6
BOUC	Bouclans	6.54	314	P	Pn	18 57 54.6	+1.0
KRUC	Moravsky	6.58	19	ePN	Pn	18 57 53.3	-0.9
KRUC				eSN	Sn	18 59 05.6	-3.5
TREC	Trest	6.62	13	ePN	Pn	18 57 55.2	+0.5
TREC				eSN	Sn	18 59 05.7	-4.3
HINF	Hinteralfeld	6.63	320	eP	Pn	18 57 55.2	+0.3
HINF				eSn	Sn	18 59 01.9	-8.4
	comp=N,44nm,0.5s						
SSB	Saint Sauveur	6.64	294	Pn	Pn	18 57 54.2	-0.8
RONF	Ronchamp	6.65	319	P	Pn	18 57 56.3	+1.1
BZS	Buzias	6.68	63	⇓P	Pn	18 57 55.1	-0.4
ECH	Echery	6.79	324		Pn	18 57 57.2	+0.2
ECH	Echery	6.79	324	P	Pn	18 57 57.7	+0.7
ECH				S	Sn	18 59 11.8	-2.4
STIP	Stip	6.82	97	i Pn	Pn	18 57 59.8	+2.4
LASF	Ste Croix	6.86	283	eP	Pn	18 57 58.6	+0.6
LASF				eSn	Sn	18 59 07.4	-8.5
	comp=N,2.7nm,0.6s						
WLS	Welschbruch	6.86	326	P	Pn	18 57 58.9	+0.9
WLS				S	Sn	18 59 14.9	-1.0
VRAC	Vranov	6.86	19	Pn	Pn	18 57 57.3	-0.7
	comp=N,0.7nm,0.3s,baz=224,slow=15,SNR=2.2						
VRAC				Sn	Sn	18 59 11.7	-4.3
	baz=92,slow=18						
VRAC				LR	LR	19 00 46.0	
	comp=N,32nm,21.3s,baz=215,slow=40						
	comp=N,2.3nm,0.4s						
VRAC	Vranov	6.86	19	ePN	Pn	18 57 57.4	-0.7
VYHS	Vyhne	6.89	33	ePN	Pn	18 57 57.5	-0.9
VYHS				eSN	Sn	18 59 13.2	-3.4
CDF	Champ du Feu	6.89	325	eP	Pn	18 57 59.0	+0.5
CDF				eSn	Sn	18 59 08.1	-8.6
	comp=N,19nm,0.4s						
ROTZ	Rotzenmuhle	6.92	355	eSn	Sn	18 59 13.9	-3.4
PSZ	Piszkesteto	6.93	41	⇓P	Pn	18 57 59.0	0.0
PSZ	Piszkesteto	6.93	41	Pn	Pn	18 58 00.3	+1.3
PSZ	Piszkesteto	6.93	41	P	Pn	18 57 59.3	+0.2
GRA1	Grafenberg Arr	6.94	350	Pn	Pn	18 57 59.1	0.0
GRF	Grafenberg Arr	6.94	350	eSn	Sn	18 59 14.7	-3.2
SIRR	Siria	6.96	58	⇓P	Pn	18 58 00.5	+1.1
HAU	Haudompre	7.00	319	eP	Pn	18 58 00.5	+0.5
HAU				eSn	Sn	18 59 10.8	-8.6
	comp=N,114nm,0.6s						
BLKB	Belogradchik	7.00	81	⇓P	Pn	18 58 01.0	+0.9
BLKB				⇓S	Sn	18 59 17.8	-1.8
DJES	Djerdap	7.02	72	⇓P	Pn	18 58 01.3	+1.0
GOPC	GO Pecny, Ondr	7.13	9	ePN	Pn	18 57 59.6	-2.1
MANZ	Manzenberg	7.14	355	ePn	Pn	18 58 02.2	+0.3
PRU	Pruhonice	7.17	7	ePN	Pn	18 58 01.1	-1.2
VAY	Valandovo	7.19	99	i Pn	Pn	18 58 02.6	+0.1
NKC	Novy Kostel	7.37	357	ePN	Pn	18 58 05.3	+0.3
NKC				eSN	Sn	18 59 23.6	-4.9
GZR	Gura Zlata	7.38	67	⇓P	Pn	18 58 05.2	0.0
KKB	Krupnik	7.44	94	i P	Pn	18 58 07.4	+1.4
VTS	Vitosha	7.44	89	⇓P	Pn	18 58 07.2	+1.1
VTS	Vitosha	7.44	89	Pn	Pn	18 58 06.9	+0.8
VTS	Vitosha	7.44	89	i P	Pn	18 58 07.0	+0.8
MORC	Moravsky Berou	7.54	22		Pn	18 58 07.3	-0.1
MORC	Moravsky Berou	7.54	22	ePN	Pn	18 58 07.3	-0.1
SMF	Signal de Mont	7.61	303	eP	Pn	18 58 08.7	+0.4
SMF				eSn	Sn	18 59 25.4	-9.0
	comp=N,16nm,0.5s						
PAGF	Fort de Pagny	7.68	320	eP	Pn	18 58 11.1	+1.8
PAGF				eSn	Sn	18 59 27.0	-9.2
	comp=N,22nm,0.6s						
KEST	Kesra	7.72	204	Pn	Pn	18 58 11.4	+1.5
	comp=N,0.5nm,0.3s,baz=350,slow=9.1,SNR=3.0						
	comp=N,3.6nm,0.7s						
KEST	Kesra	7.72	204	Pn	Pn	18 58 10.7	+0.8
SFTF	Sexfontaines	7.79	316	eP	Pn	18 58 12.4	+1.7
SFTF				eSn	Sn	18 59 29.6	-9.1
	comp=N,9.4nm,0.3s						
DPC	Dobruska-Polom	7.79	15	ePN	Pn	18 58 09.3	-1.5
LOR	Lormes	7.89	307	eP	Pn	18 58 12.8	+0.6
	baz=121						
LOR				eSn	Sn	18 59 32.2	-9.2
	comp=N,12nm,0.4s						
MMB	Musomiste	7.97	96	i P	Pn	18 58 14.3	+1.0
MEZF	Maizieres J'vi	7.97	318	eP	Pn	18 58 14.3	+1.0
MEZF				eSn	Sn	18 59 34.1	-9.2
	comp=N,27nm,0.6s						
AVF	Avril sur Loir	7.97	303	eP	Pn	18 58 13.3	0.0
AVF				eSn	Sn	18 59 34.1	-9.2
	comp=N,6.3nm,0.6s						
MTLF	Montolieu	8.00	277	eP	Pn	18 58 15.7	+2.0
MTLF				eSn	Sn	18 59 35.0	-9.1
	comp=N,4.5nm,0.6s						
SSF	Saint Saulge	8.00	305	eP	Pn	18 58 13.7	0.0
SSF				eSn	Sn	18 59 34.8	-9.3
	comp=N,4.9nm,0.3s						
BRG	Berggiesshubel	8.01	4	eP	Pn	18 58 16.5	+2.6
BRG				Amp		18 58 21.5	
	comp=Z,3.4nm,0.5s						
BRG				ex	x	18 59 39.6	
BRG				ex	x	19 00 54.4	
BRG				Amp		19 01 10.1	
	comp=Z,28nm,1.4s						
SAVF	Savonnieres en	8.01	318	eP	Pn	18 58 16.2	+2.4
SAVF				eSn	Sn	18 59 35.0	-9.3
	comp=Z,9.2nm,0.5s						
BGF	Bois d'Agland	8.20	300	eP	Pn	18 58 18.0	+1.6
BGF				eSn	Sn	18 59 39.4	-9.4
	comp=Z,18nm,0.5s						
CAF	Calviac	8.25	288	eP	Pn	18 58 18.6	+1.4
CAF				eSn	Sn	18 59 40.8	-9.4
	comp=Z,1.0nm,0.3s						
PLVB	Pleven	8.42	83	⇓P	Pn	18 58 20.2	+0.8
CLL	Collm	8.43	359	Pn	Pn	18 58 18.6	-0.9
CLL	Collm	8.43	359	ePn	Pn	18 58 19.0	-0.5
CLL				eSn	Sn	18 59 44.0	-11
CLL				ex	x	19 00 00.0	
CLL				ex	x	19 00 13.0	
CLL				ex	x	19 00 22.0	
CLL				eSg	Sg	19 00 44.0	-4.1
CLL				eSgmax		19 00 56.0	
	comp=Z,21nm,1.0s						
TRPA	Tarpa	8.43	48	⇓P	Pn	18 58 19.5	-0.1
TRPA	Tarpa	8.43	48	P	Pn	18 58 23.6	+4.1
TCF	Toulx Ste Croi	8.51	297	eSn	Sn	18 59 46.9	-10
	comp=Z,3.1nm,0.5s						
STHS	Stebnicka Huta	8.62	38	ePN	Pn	18 58 21.4	-0.8
HYF	Humbligny	8.62	304	eP	Pn	18 58 24.2	+2.0
ITM	Ithomi	8.82	127	Pn	Pn	18 58 27.0	+2.0
PVL	Pavlikeni	8.94	84	i P	Pn	18 58 26.3	-0.2
LFF	La Frestale	9.18	287	eP	Pn	18 58 30.1	+0.2
LFF				eSn	Sn	19 00 02.9	-10
	comp=Z,2.2nm,0.3s						
BCLA	Clavier	9.26	327	dx	x	18 58 51.7	
DOU	Dourbes	9.31	324	dPP	Pn	18 59 00.6	+29
BGES	Gesves	9.32	326	dx	x	18 58 46.0	
EPF	Esparros	9.39	275	eP	Pn	18 58 34.1	+1.4
BMRD	Maredsous	9.39	325	dPP	Pn	18 59 01.2	+28
RDO	Rodhopi	9.39	96	Pn	Pn	18 58 33.4	+0.6
BAIF	Baives	9.45	322	eP	Pn	18 58 35.3	+1.7
MLR	Muntele Rosu	9.57	70	Pn	Pn	18 58 37.9	+2.6
	comp=Z,0.3nm,0.3s,baz=156,slow=10,SNR=8.0						
MLR				LR	LR	19 03 01.5	
	comp=Z,78nm,21.5s,baz=253,slow=42						
	comp=Z,2.6nm,0.5s						
MLR	Muntele Rosu	9.57	70		Pn	18 58 36.6	+1.4
BURAR	Bucovina Array	9.74	57	Pn	Pn	18 58 39.3	+1.7
MFF	Saint Martin d	10.15	296	eP	Pn	18 58 44.8	+1.6
FLN	La Foliniere	11.17	306	eP	Pn	18 58 59.5	+2.5
FLN				eSn	Sn	19 00 50.2	-11
	comp=Z,1.2nm,0.4s						
GRR	Gorron	11.23	304	eP	Pn	18 59 00.4	+2.5
GRR				eSn	Sn	19 00 52.0	-11
	comp=Z,1.7nm,0.4s						
IDI	Anoyia	11.86	126	Pn	Pn	18 59 08.5	+1.8
	comp=Z,0.2nm,0.3s,baz=322,slow=17,SNR=1.5						
IDI				Sn	Sn	19 01 11.4	-7.5
	comp=Z,0.2nm,0.3s,baz=286,slow=20,SNR=2.0						
	comp=Z,3.5nm,0.7s						
IDI	Anoyia	11.86	126	Pn	Pn	18 59 07.4	+0.8
SGMF	Saint Gilles	12.23	301	eP	Pn	18 59 13.4	+1.8
ROSF	Rostrenen	12.71	301	eP	Pn	18 59 19.4	+1.3
ESDC	Sonseca Array	13.25	262	Pn	Pn	18 59 28.6	+3.0
	baz=59,slow=15,SNR=4.2						
ESDC				LR	LR	19 04 22.6	
	comp=Z,66nm,19.7s,baz=60,slow=37						
AKASG	Malin Array Be	13.50	49	LR	LR	19 05 42.4	
	comp=Z,35nm,18.5s,baz=292,slow=42						
NACGM	Naroch	14.97	32	eP	P	19 00 08.6	+14
	comp=Z,8.0nm,0.8s,baz=219						
BRTR	Keskin Array B	15.72	95	Pn	P	19 00 05.2	+2.2
	baz=289,slow=15,SNR=5.1						
EKA	Eskdalemuir Ar	16.35	325	Pn	Pn	19 00 05.4	-1.4
	baz=127,slow=14						
	comp=Z,0.3nm,0.4s						
HFS	Hagfors	17.28	1	P	Pn	19 00 18.1	-0.5
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=1.5						
HFS				LR	LR	19 07 44.6	
	comp=Z,49nm,18.9s,baz=100,slow=40						
	comp=Z,6.0nm,1.1s						
NB2	NORSAR Subarra	18.22	357	P	P	19 00 31.9	+1.5
	comp=Z,1.8nm,0.9s,baz=176,slow=11						
NOA	NORSAR Array B	18.22	357	P	Pn	19 00 30.1	-0.2
	baz=176,slow=12,SNR=3.1						
NOA				LR	LR	19 08 22.3	
	comp=Z,40nm,18.6s,baz=5.0,slow=40						
	comp=Z,0.4nm,0.6s						
MMAI	Mount Meron Ar	20.08	112	P	Pn	19 00 52.2	-0.6
	comp=Z,6.4nm,0.7s,baz=322,slow=9.1,SNR=11						
	comp=Z,6.4nm,0.7s						
FINES	FINESS Array B	20.14	18	P	P	19 00 51.1	-0.2
	comp=Z,9.2nm,1.1s,baz=207,slow=8.9,SNR=6.7						
	comp=Z,9.2nm,1.1s						
FINES	FINESS Array B	20.14	18	P	P	19 00 51.5	+0.2
KIV	Kislovodsk	21.45	77	P	P	19 01 03.9	-1.9
KIV				IAmb	IAmb	19 01 14.5	
	comp=Z,15nm,1.1s						
ASF	Jabal al Asfar	21.60	112	P	P	19 01 11.8	+4.4
	comp=Z,5.2nm,0.8s,baz=288,slow=4.4,SNR=9.0						
KBZ	Khabaz	21.63	78	P	P	19 01 08.7	+1.2
	comp=Z,7.7nm,0.9s,baz=262,slow=8.9,SNR=9.9						
	comp=Z,7.7nm,0.9s						
ONI	Oni	22.22	80		P	19 01 17.3	+3.3
GURO	Guroymak-BITLI	22.27	91	P	P	19 01 15.3	+0.7
GNI	Garni	23.75	86	P	P	19 01 31.6	+1.7
	comp=Z,2.7nm,0.5s,baz=262,slow=20,SNR=2.0						
	comp=Z,2.7nm,0.5s						
BELG	Belogornoye	24.90	56	P	P	19 01 41.1	+1.1
	comp=Z,22nm,0.8s,baz=190,slow=1.4,SNR=9.5						
	comp=Z,22nm,0.8s						
TOA0	Torodi Ar. Sit	31.24	202	P	P	19 02 36.9	-0.2
TOA0				IAmb	IAmb	19 02 38.6	
	comp=Z,2.3nm,0.6s						
TORD	Torodi Ar. Bea	31.24	202	P	P	19 02 37.5	+0.5
	comp=Z,2.0nm,0.6s,baz=18,slow=8.9,SNR=15						
	comp=Z,2.0nm,0.6s						
ARU	Arti	31.75	49	P	P	19 02 40.5	-0.7
ABKAR	Akbulak array	32.66	62	P	P	19 02 50.2	+0.9
GEYT	Alibeck	34.29	83	P	P	19 03 05.2	+1.5
	comp=Z,2.1nm,0.8s,baz=279,slow=10,SNR=4.2						
	comp=Z,2.1nm,0.8s						
BRVK	Borovoye	38.62	54	P	P	19 03 41.3	+0.9
BRVK				IAmb	IAmb	19 03 47.1	
	comp=Z,5.7nm,1.0s						
KK31	Karatay Array	41.25	69	P	P	19 04 02.4	0.0
KK31				IAmb	IAmb	19 04 07.3	
	comp=Z,3.6nm,1.0s						
KKAR	Karatay Array	41.25	69	P	P	19 04 02.3	-0.1
KKAR	Karatay Array	41.25	69	P	P	19 04 01.3	-1.1
KKAR				IAmb	IAmb	19 04 07.3	
	comp=Z,3.6nm,1.0s						
CHGR	Chuyangaron	41.98	76	P	P	19 04 09.7	+1.2
KURK	Kurchatov	44.17	56	P	P	19 04 26.0	0.0
KURK				IAmb	IAmb	19 04 39.7	
	comp=Z,8.4nm,1.5s						
MBAR	Mbarara	46.09	155	LR	LR	19 25 06.8	
	comp=Z,33nm,18.9s,baz=106,slow=38						
KSH	Kashi	46.43	72	P	P	19 04 40.7	-3.5
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZALV	Zalesovo Beam	46.89	50	P	P	19 04 47.7	+0.3
	comp=Z,0.9nm,0.6s,baz=297,slow=6.3,SNR=1.8						
	comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	47.75	60	P	P	19 04 54.6	+0.3
	comp=Z,1.1nm,0.6s,baz=293,slow=6.5,SNR=10.0						
	comp=Z,1.1nm,0.6s						
MKAR	Makanchi Array	47.75	60	P	P	19 04 55.0	+0.7
A36M	Sachs Harbour	61.74	346	P	P	19 06 35.2	-0.1
SONM	Songino Array	61.78	50	P	P	19 06 35.8	-0.4
	comp=Z,2.1nm,1.0s,baz=316,slow=8.1,SNR=8.1						
	comp=Z,2.1nm,1.0s						
YKA	Yellowknife Ar	66.94	336	P	P	19 07 09.3	-0.2
	comp=Z,2.3nm,0.9s,baz=41,slow=6.1,SNR=3.7						
	comp=Z,2.3nm,0.9s						
ILAR	Eielson Array	71.55	351	P	P	19 07 39.0	+1.1
	comp=Z,0.4nm,0.8s,baz=19,slow=5.7,SNR=3.2						
	comp=Z,0.4nm,0.8s						
BOSA	Boshof	72.01	169	P	P	19 07 41.2	0.0
	comp=Z,2.7nm,0.8s,baz=0.0,slow=7.1,SNR=3.6						
	comp=Z,2.7nm,0.8s						
CMAR	Chiang Mai Arr	74.67	79	P	P	19 07 57.5	+0.2
	comp=Z,1.0nm,0.7s,baz=306,slow=7.2,SNR=17						
	comp=Z,1.0nm,0.7s						
PDAR	Pinedale Array	80.42	321	P	P	19 08 29.1	-0.2
	comp=Z,0.1nm,0.5s,baz=60,slow=5.3,SNR=2.4						
	comp=Z,0.1nm,0.5s						
TXAR	Lajitas Array	87.65	309	P	P	19 09 06.5	+0.3
	comp=Z,0.1nm,0.5s,baz=71,slow=5.8,SNR=1.7						
	comp=Z,0.1nm,0.5s						
ASAR	Alice Springs	127.98	88	PKP	PKPdf	19 15 22.5	-1.0
	comp=Z,0.3nm,0.9s,baz=318,slow=1.2,SNR=1.7						

DJA 07 19:58:43.6±0.6,**8°S**±6°×**10°7E**±°,**h10km**,**M4.0**/11,**mb4.6**/3, **MLv3.7**/11,**Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.91	351	P	Pg	19 59 00.7	-0.4
SKJI	Sukabumi	1.39	329	P	Pn	19 59 08.2	-0.9
LEM	Lembang	1.42	14	P	Pn	19 59 09.2	-0.4
JCJI	Jatiwangi	1.98	30	P	Pn	19 59 14.3	-2.8
CTJI	Waduk Cacaban	2.24	58	P	Pn	19 59 21.2	+0.4
SBJI	Serang	2.37	331	P	Pn	19 59 22.9	+0.4
UGM	Wanagama	3.23	85	P	Pn	19 59 34.0	-0.5
SMRI	Semarang	3.35	70	P	Pn	19 59 36.1	+0.1
KASI	Kota Agung	3.83	314	P	Pn	19 59 42.9	+0.2
PCJI	Pacitan	3.87	90	P	Pn	19 59 43.2	0.0
MNAI	Manna	5.75	311	P	Pn	20 00 08.8	-0.2
	1.2nm281nm,1.4s						
GMJI	Gumukmas	6.11	91	P	Pn	20 00 14.2	+0.2
KLNI	Mataram	8.74	92	P	Pn	20 00 49.8	-0.3
	14nm,1.2s						
TWSI	Taliwang, Sumb	9.52	94	P	Pn	20 01 00.7	-0.2
MMRI	Maumere	14.81	93	P	Pn	20 02 13.4	+0.1

DJA 07 20:09:02.0±0.4,**0°N**±3°×**12°0E**±°,**h35km**±9km,**M4.0**/13, **mb4.1**/3,**MLv3.9**/13,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.28	299	P	Pn	20 09 11.0	+1.3
MRSI	Marisa	1.82	81	P	Pn	20 09 31.5	+0.7
APSI	Ampana	1.87	126	P	Pn	20 09 32.7	+1.2
SGKI	Sangatta, Kali	2.64	254	P	Pn	20 09 40.3	-1.8
GTOI	Gorontalo	2.90	81	P	Pn	20 09 45.2	-0.5
LUWI	Luwuk	2.91	115	P	Pn	20 09 46.6	+0.8
BKB	Balikpapan	3.55	246	P	Pn	20 09 53.6	-1.1
SPSI	Sidrap Palu	4.15	185	P	Pn	20 10 03.3	+0.3
BNSI	Bone	4.57	180	P	Pn	20 10 09.7	+1.0
MYLDM	Lahad Datu	5.21	342	P	Pn	20 10 19.0	+1.5
	0.2nm27nm,0.9s						
BKSI	Bulukumba	5.49	180	P	Pn	20 10 21.0	-0.3
	0.0nm6.6nm,0.5s						
SANI	Sanana	6.26	111	P	Pn	20 10 30.3	-1.6

ISU ***07*** *20:09:17,39°.78N×68°.38E,h12km*
NNC ***07*** *20:09:17.6±3.8,40°.06N×67°.98E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=32.4km s-min=16.3km az=15.0*
ISC 07 20:09:18.8±1.0,**39°.89N**±0°.05×**67°.76E**±0°.05,**h26km**±8km, **n17**,$\sigma 1^{s}$**94**/26,**6C-4D**,**Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRSA	Karasay	0.23	357	P	Pb	20 09 23.7	-1.3
KRSA				S	Sb	20 09 31.9	+2.7
DZI	Dzhizak	0.23	13	P	Pb	20 09 23.4	-1.7
DZI				S	Sb	20 09 31.2	+1.9
PKMR	Pachkamar	1.71	219	P	Pn	20 09 47.4	+0.4
PKMR				S	Sb	20 10 12.8	+2.0
BAYS	Baysun	1.73	195	P	Pn	20 09 44.8	-2.6
BAYS				S	Sn	20 10 08.6	-0.1
KUMR	Kumaryk	1.77	40	S	Sb	20 10 12.3	+0.2
TAS	Tashkent	1.85	39	S	Sb	20 10 16.0	+1.3
YBZ	Yangibazar	1.98	44	P	Pn	20 09 52.0	+1.3
YBZ				S	Sn	20 10 14.9	+0.1
ZRB	Zarabog	2.13	213	P	Pn	20 09 53.5	+0.8
ZRB				S	Sb	20 10 23.1	+0.4
CHMG	Chimgan	2.38	45	S	Sb	20 10 28.9	-1.3
CHRV	Charvak	2.42	43	S	Sb	20 10 31.5	+0.5
MINT	Mingtut	2.53	76	S	Sn	20 10 28.5	+0.2
FRG	Fergana	3.13	80	S	Sn	20 10 46.7	+3.7
NAM	Namangan	3.17	68	S	Sb	20 10 50.9	-1.9
KK31	Karatay Array	3.82	32	⇓Pg	Pb	20 10 24.7	-0.8
	3.2nm,0.4s,baz=215,slow=17,SNR=7.0						
KK31				⇑Lg	Lg	20 11 13.2	
	14nm,0.4s,baz=212,slow=28,SNR=19						
CHMS	Chumysh	6.11	57	⇑Pn	Pn	20 10 47.4	0.0
	1.2nm,0.5s						
CHMS				⇓Sn	Sn	20 11 52.7	-3.7
	4.2nm,0.6s						
CHMS				⇓Lg	Lg	20 12 21.7	
	4.1nm,0.6s						
TKM2	Tokmak 2	6.63	60	⇓Pn	Pn	20 10 53.1	-1.6
	0.8nm,0.4s						
TKM2				⇑Pg	Pb	20 11 16.7	+3.3
	1.8nm,0.7s						
TKM2				⇑Lg	Lg	20 12 40.5	
	5.8nm,1.0s						
AB31	Akbulak array	10.89	332	Pn	Pn	20 11 51.4	-1.5
	0.2nm,0.3s,baz=164,slow=12,SNR=21						
AB31				⇑Sn	Sn	20 13 55.5	+1.7
	0.7nm,0.7s,baz=150,slow=25,SNR=4.5						
AB31				⇑Lg	Lg	20 15 00.9	
	2.5nm,0.8s						

IDC ***07*** *20:33:19.0±1.2,27°.68N×139°.73E,h472km±29km,mb2.8/3, mbtmp3.7/5,Error ellipse: s-maj=75.5km s-min=20.8km az=80.0*
JMA ***07*** *20:33:22.5±0.1,28°N±1°×14°1E±°,h474km,MV3.8/30,W OFF OGASAWARA*
ISC 07 20:33:19.8±1.0,**27°.8N**±0°.1×**140°.2E**±0°.2,**h500km**,**n15**, $\sigma 0^{s}$**88**/16,**mb2.8**/3,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.85	111	P	P	20 34 24.5	+0.3
JCJ	Chichijima	1.85	111	P	P	20 34 23.8	-0.4
	159nm,0.5s,baz=284,slow=20,SNR=2.0						
JCJ				S	S	20 35 14.8	-1.6
	219nm,0.6s,baz=276,slow=22,SNR=1.8						
BSO3	Boso 3	7.02	2	P	P	20 35 06.2	+0.5
JIE	Ise	7.27	336	eP	P	20 35 09.5	+1.0
JOD2	Odawara 2	7.54	353	eP	P	20 35 11.1	-0.3
JHU	Hanno	8.11	354	eP	P	20 35 16.2	-0.9
JRY	Ryogami san	8.31	352	P	P	20 35 19.0	-0.3
JYT	Yasato	8.44	360	P	P	20 35 20.6	+0.1
JAG	Ashikaga	8.66	356	P	P	20 35 21.8	-1.1
JHO	Hitachi	8.83	2	P	P	20 35 25.3	+0.7
MJAR	Matsushiro Arr	8.92	349	P	P	20 35 24.6	-1.0
	0.8nm,0.3s,baz=167,slow=9.8,SNR=5.6						
JFK	Kawauchi	9.59	3	eP	P	20 35 34.0	+1.3
WRA	Warramunga Arr	47.77	188	P	P	20 41 11.6	+0.4
	0.1nm,0.3s,baz=4.0,slow=7.6,SNR=5.3						
	0.1nm,0.3s						
MKAR	Makanchi Array	48.72	309	P	P	20 41 17.5	-0.5
	0.3nm,0.8s,baz=86,slow=9.4,SNR=1.8						
	0.3nm,0.8s						
FINES	FINESS Array B	76.58	333	P	P	20 44 18.6	+0.6
	4.2nm,1.0s,baz=69,slow=5.4,SNR=8.5						
	4.2nm,1.0s						

IDC ***07*** *20:47:34.5±1.0,15°.14N×122°.75E,h0km,mb3.9/10, mbtmp3.9/10,MS3.3/8,Error ellipse: s-maj=55.3km s-min=15.5km az=62.0*
MAN ***07*** *20:47:35.5,15°.26N×122°.49E,h1km,mb4.9,ML3.8,MS3.7*
NEIC ***07*** *20:47:36.1±1.0,15°.16N±0°.04×122°.5E±0°.2,h10km±1km, mb4.2/14,Error ellipse: s-maj=25.6km s-min=5.2km az=101.0*
ISC 07 20:47:35.3±0.6,**15°.19N**±0°.04×**122°.64E**±0°.06,**h10km**,**n54**, $\sigma 1^{s}$**22**/45,**mb4.2**/18,**MS3.4**/8,**6C-1D**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCNP	Jose Panganiba	0.90	176	⇑iP	Pn	20 47 54.6	+0.6
JCNP				i S	Sn	20 48 07.6	+0.5
LQP	Lukban	1.51	225	⇑eP	Pb	20 48 02.7	-0.8
LQP				eS	Sg	20 48 26.7	+2.7
PCPH	Palayan	1.53	284	⇑eP	Pn	20 48 01.1	-1.7
PCPH				eS	Sn	20 48 20.9	-1.9
TGY	Tagaytay City	1.97	237	⇑eP	Pg	20 48 14.3	+1.2
TGY				eS	Sg	20 48 39.7	+1.0
LUBP	Lubang	2.73	238	⇑eP	Pb	20 48 23.3	-1.0
SIPP	Brgy, Tapao	3.43	323	⇓iP	Pg	20 48 40.2	-0.8
SIPP				i S	Sg	20 49 28.1	+2.6
RCP	Roxas	3.61	178	⇑eP	Pb	20 48 36.9	-2.4
TWG	Pinlang	7.73	349	Pn	Pn	20 49 28.9	+0.8
YULB	Yu-li	8.26	351	Pn	Pn	20 49 35.2	0.0
TPUB	Ta-pu	8.29	347	Pn	Pn	20 49 36.6	+1.0
JOW	Kunigami	12.72	23	LR	LR	20 55 33.0	
	comp=Z,57nm,19.3s,baz=122,slow=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBUM	Sibu	16.30	220	Pn	Pn	20 51 23.8	-0.8
GUMO	Guam	21.59	91	LR	LR	21 01 47.8	
	comp=Z,59nm,18.0s,baz=280,slow=40						
KSRS	Korea Array	22.66	11	LR	LR	21 01 12.8	
	comp=Z,63nm,19.7s,baz=325,slow=36						
CM31	Chiang Mai Arr	22.91	281	P	P	20 52 38.5	-1.1
CM31				IAmb	IAmb	20 52 49.5	
	comp=Z,10.0nm,1.1s						
CMAR	Chiang Mai Arr	22.91	281	P	P	20 52 40.9	+1.3
	comp=Z,0.8nm,0.6s,baz=96,slow=7.8,SNR=5.2						
CMAR				LR	LR	21 01 48.4	
	comp=Z,62nm,20.2s,baz=90,slow=37						
	comp=Z,0.8nm,0.6s						
CMAR	Chiang Mai Arr	22.91	281	P	P	20 52 38.3	-1.3
CHTO	Chiang Mai	22.94	282	P	P	20 52 39.0	-0.9
KLR	Kul'dur	34.76	10	LR	LR	21 08 06.4	
	comp=Z,65nm,19.1s,baz=209,slow=35						
SONM	Songino Array	35.22	341	P	P	20 54 31.1	+1.1
	comp=Z,0.3nm,0.5s,baz=150,slow=8.4,SNR=3.0						
SONM				LR	LR	21 09 37.0	
	comp=Z,64nm,19.2s,baz=178,slow=38						
	comp=Z,0.3nm,0.5s						
SONM	Songino Array	35.22	341	P	P	20 54 31.6	+1.6
SONM				IAmb	IAmb	20 54 42.1	
	comp=Z,1.0nm,1.0s						
WB0	Warramunga Arr	36.61	161	P	P	20 54 41.5	-0.5
WB0				IAmb	IAmb	20 54 58.7	
	comp=Z,5.3nm,1.1s						
WRA	Warramunga Arr	36.76	161	P	P	20 54 42.8	-0.5
	comp=Z,1.3nm,0.6s,baz=344,slow=9.0,SNR=23						
	comp=Z,1.3nm,0.6s						
WRA	Warramunga Arr	36.76	161	P	P	20 54 43.0	-0.2
WB2	Warramunga Arr	36.77	161	P	P	20 54 43.0	-0.3
WB2				IAmb	IAmb	20 54 43.6	
	comp=Z,6.7nm,1.2s						
AS31	Alice Springs	40.16	164	P	P	20 55 12.1	+0.3
AS31				IAmb	IAmb	20 55 12.9	
	comp=Z,0.9nm,0.4s						
ASAR	Alice Springs	40.16	164	P	P	20 55 12.0	+0.2
	comp=Z,0.7nm,0.3s,baz=339,slow=7.6,SNR=36						
	comp=Z,0.7nm,0.3s						
ASAR	Alice Springs	40.16	164	P	P	20 55 12.6	+0.8
PALK	Pallekele	41.82	264	LR	LR	21 11 42.2	
	comp=Z,60nm,18.9s,baz=172,slow=34						
H11S3	WAKE ISLAND Hy	42.21	79	T	T	21 40 46.6	
	baz=273						
H11S1	WAKE ISLAND Hy	42.23	79	T	T	21 40 45.5	
	baz=273						
H11S2	WAKE ISLAND Hy	42.23	79	T	T	21 40 50.2	
	baz=273						
H11N1	WAKE ISLAND Hy	42.37	77	T	T	21 40 54.9	
	baz=270,slow=75,SNR=4.7						
H11N2	WAKE ISLAND Hy	42.37	77	T	T	21 40 54.2	
	baz=270,slow=75,SNR=5.2						
H11N3	WAKE ISLAND Hy	42.38	77	T	T	21 40 57.5	
	baz=270,slow=75,SNR=3.9						
HNR	Honiara	44.33	121	LR	LR	21 14 44.6	
	comp=Z,602nm,18.1s,baz=217,slow=37						
MK31	Makanchi Array	45.99	322	P	P	20 55 58.0	-0.8
MK31				IAmb	IAmb	20 56 09.0	
	comp=Z,4.6nm,1.2s						
MKAR	Makanchi Array	45.99	322	P	P	20 56 00.4	+1.5
	comp=Z,2.3nm,0.8s,baz=120,slow=8.4,SNR=4.8						
MKAR				LR	LR	21 16 24.9	
	comp=Z,38nm,18.4s,baz=141,slow=38						
	comp=Z,2.3nm,0.8s						
MKAR	Makanchi Array	45.99	322	P	P	20 55 58.9	0.0
FORT	Forrest	46.00	174	P	P	20 55 59.1	+0.1
KSH	Kashi	47.35	310	P	P	20 56 17.7	+8.0
KSH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZALV	Zalesovo Beam	48.63	331	P	P	20 56 20.2	+1.0
	comp=Z,0.6nm,0.4s,baz=122,slow=7.5,SNR=2.3						
	comp=Z,0.6nm,0.4s						
ZALV	Zalesovo Beam	48.63	331	P	P	20 56 19.4	+0.2
KURK	Kurchatov	50.03	325	P	P	20 56 30.2	+0.3
KURBB	Kurchatov Arra	50.03	325	P	P	20 56 32.2	+2.2
	comp=Z,4.5nm,0.7s,baz=120,slow=8.5,SNR=13						
	comp=Z,4.5nm,0.7s						
STKA	Stephens Creek	50.21	159	P	P	20 56 31.8	+0.3
	comp=Z,1.7nm,0.6s,baz=296,slow=7.4,SNR=5.2						
	comp=Z,1.7nm,0.6s						
CHGR	Chuyangaron	52.28	307	P	P	20 56 45.7	-1.5
KKAR	Karatay Array	52.31	313	P	P	20 56 46.4	-0.9
BRVK	Borovoye	55.70	325	P	P	20 57 10.4	-1.4
BRVK				IAmb	IAmb	20 57 21.4	
	comp=Z,5.5nm,1.1s						
TIXI	Tiksi	56.56	2	P	P	20 57 17.5	-0.2
TIXI				IAmb	IAmb	20 57 26.6	
	comp=Z,4.8nm,1.1s						
GEYT	Alibeck	60.80	305	P	P	20 57 49.7	+1.8
	comp=Z,1.3nm,0.9s,baz=27,slow=4.8,SNR=2.2						
	comp=Z,1.3nm,0.9s						
ABKAR	Akbulak array	60.86	318	P	P	20 57 47.2	-0.8
NB2	NORSAR Subarra	86.80	333	P	P	21 00 27.6	+7.8
	comp=Z,1.6nm,0.7s,baz=63,slow=5.3						
NOA	NORSAR Array B	86.80	333	P	P	21 00 20.2	+0.4
	comp=Z,0.5nm,0.6s,baz=79,slow=2.3,SNR=1.7						
	comp=Z,0.5nm,0.6s						

*IDC **07** 20:51:27.0±2.7, 43°.07N×105°.00W, h0km, mbtmp3.6/2, ML3.3/2, Error ellipse: s-maj=51.3km s-min=11.0km az=156.0*

*NEIC **07** 20:51:30.2±1.1, 43°.67N±0°.06×105°.18W±0°.05, h0km±2km, ML3.6/62, Error ellipse: s-maj=10.4km s-min=5.0km az=344.0*

ISC 07 20:51:29.8±1.4**, 43°.66N**±0°.06×**105°.20W**±0°.07**, h0**km**, n68, σ0s.86**/67**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.96	61	Pg	Pn	20 51 48.8	-2.0
K22A	Casper	1.40	224		Pn	20 51 54.9	-1.8
K22A				IAML		20 52 24.3	
	comp=N,620nm,0.3s						
PHWY	Pilot Hill	2.36	185		Pn	20 52 09.9	-0.1
RWWY	Rawlins	2.46	218		Pn	20 52 12.3	+0.8
RWWY				IAML		20 52 49.7	
	comp=N,330nm,0.7s						
N23A	Red Feather La	2.81	192		Pn	20 52 16.8	+0.5
N23A				IAML		20 53 01.1	
	comp=N,270nm,0.7s						
N23A				IAML		20 54 03.8	
	comp=E,255nm,3.8s						
LAO	LASA Array	3.12	347		Pn	20 52 20.9	+0.6
BRIGG	Briggsdale	3.14	168	Pn	Pn	20 52 21.2	+0.6
RLMT	Red Lodge	3.27	298		Pn	20 52 23.8	+1.4
RLMT				IAML		20 53 30.7	
	comp=E,102nm,1.4s						
RLMT				IAML		20 54 20.8	
	comp=E,111nm,4.1s						
BW06	Boulder Array	3.31	256		Pn	20 52 23.5	+0.5
BW06				IAML		20 53 17.1	
	comp=E,95nm,0.6s						
PD31	Pinedale Array	3.31	256		Pn	20 52 23.5	+0.5
PDAR	Pinedale Array	3.31	256	Pn	Pn	20 52 23.7	+0.7
	comp=E,2.0nm,0.3s,baz=86,slow=16,SNR=44						
PDAR				Lg	Lg	20 53 12.1	
	comp=E,16nm,0.3s,baz=87,slow=33,SNR=8.9						
	comp=E,3.1nm,0.3s						
OGNE	Ogallala	3.58	138		Pn	20 52 27.0	+0.3
YMP	Mirror Lake Pl	3.73	289		Pn	20 52 29.6	+0.8
YMP				IAML		20 53 53.6	
	comp=N,128nm,0.6s						
GCMT	Greycliff	3.83	305		Pn	20 52 30.2	0.0
LKWY	Lake	3.85	285	Pn	Pn	20 52 30.5	-0.1
LKWY				IAML		20 52 57.2	
	comp=N,107nm,1.0s						
LKWY				IAML		20 53 45.0	
	comp=N,80nm,1.2s						
LOHW	Long Hollow	3.92	271		Pn	20 52 31.2	-0.3
LOHW				IAML		20 53 55.6	
	comp=N,52nm,1.8s						
H17A	Grant Village	3.95	283		Pn	20 52 33.2	+1.3
H17A				IAML		20 53 42.5	
	comp=N,56nm,1.4s						
FLWY	Flagg Ranch	4.00	278		Pn	20 52 32.8	+0.2
FLWY				IAML		20 53 57.9	
	comp=N,74nm,1.2s						
MOOW	Moose Ponds	4.02	273		Pn	20 52 33.1	+0.3
SNOW	Snow King Moun	4.04	269		Pn	20 52 35.3	+2.2
SNOW				IAML		20 54 03.0	
	comp=N,94nm,1.5s						
YPP	Pitchstone Pla	4.09	281		Pn	20 52 34.3	+0.4
REDW	Red Top Meadow	4.12	268	Pn	Pn	20 52 34.7	+0.4
REDW				IAML		20 53 45.5	
	comp=N,101nm,0.7s						
REDW				IAML		20 54 02.1	
	comp=N,101nm,1.2s						
IMW	Indian Meadow	4.16	275		Pn	20 52 35.1	+0.2
IMW				IAML		20 53 05.8	
	comp=N,83nm,0.5s						
IMW				IAML		20 53 59.9	
	comp=N,56nm,0.6s						
TPAW	Teton Pass	4.18	270		Pn	20 52 35.2	+0.1
TPAW				IAML		20 53 55.1	
	comp=N,58nm,1.2s						
TPAW				IAML		20 54 17.3	
	comp=N,49nm,1.3s						
O20A	White River Ci	4.19	214	Pn	Pn	20 52 36.1	+1.0
YHH	Holmes Hill	4.22	288		Pn	20 52 35.3	-0.3
FXWY	Fox Creek	4.23	272		Pn	20 52 36.4	+0.6
YHL	Hebgen Lake	4.46	288	Pn	Pn	20 52 39.2	+0.2
YHL				IAML		20 53 57.8	
	comp=N,49nm,1.3s						
YHL				IAML		20 54 10.0	
	comp=E,55nm,1.1s						
RDMU	Red Mountain	4.48	228	Pn	Pn	20 52 39.7	+0.5
RDMU				IAML		20 54 01.0	
	comp=E,73nm,1.3s						
RDMU				IAML		20 54 50.3	
	comp=N,45nm,2.0s						
ECR	Eagle Creek	4.54	265	Pn	Pn	20 52 40.1	+0.1
QLMT	Earthquake Lak	4.63	287	Pn	Pn	20 52 40.0	-1.2
Q24A	Divide	4.69	180	Pn	Pn	20 52 41.4	-0.6
Q24A				IAML		20 54 09.4	
	comp=E,59nm,0.8s						
Q24A				IAML		20 55 14.1	
	comp=N,62nm,3.5s						
BOZ	Bozeman (W)	4.98	295	Pn	Pn	20 52 46.0	0.0
BOZ				IAML		20 55 59.9	
	comp=N,33nm,4.4s						
KSCO	Kaye Shedlock'	5.03	156	Pn	Pn	20 52 46.4	-0.2
HWUT	Hardware Ranch	5.12	249		Pn	20 52 46.6	-1.3
HWUT				IAML		20 54 34.9	
	comp=N,44nm,1.4s						
TCUT	Toone Canyon	5.25	243		Pn	20 52 50.1	+0.3
EGMT	Eagleton	5.41	326		Pn	20 52 50.8	-0.9
P18A	Preston Nutter	5.52	225		Pn	20 52 54.4	+0.9
DLMT	Dillon	5.56	290		Pn	20 52 53.8	-0.1
JLU	Jordanelle	5.56	239		Pn	20 52 54.2	+0.2
HRY	Holter Researc	5.59	305		Pn	20 52 54.4	0.0
LRM	Limekiln Ridge	5.60	295	Pn	Pn	20 52 54.4	-0.1
MCMT	McKenzie Canyo	5.62	285		Pn	20 52 53.8	-1.1
CTU	Camp Tracy	5.70	241	Pn	Pn	20 52 54.6	-1.2
PV22	Blue Mesa, Par	5.79	209	Pn	Pn	20 52 57.2	+0.1
PV07	Paradox Valley	5.83	208		Pn	20 52 57.3	-0.4
PV21	Cone Mtn., Par	5.83	211	Pn	Pn	20 52 56.4	-1.3
PV15	Paradox Valley	5.86	206		Pn	20 52 59.2	+1.1
HVU	Hansel Valley	5.89	254		Pn	20 52 58.7	+0.3
P17A	Butcher Ranch,	5.89	227		Pn	20 52 58.9	+0.5
SDCO	Great Sand Dun	5.91	182	Pn	Pn	20 52 59.1	+0.3
PV23	Carpenter Ridg	5.94	210	Pn	Pn	20 52 59.6	+0.3
BCYI	Bear Canyon	5.96	279	Pn	Pn	20 52 59.3	-0.1
PV10	Paradox Valley	6.02	210	Pn	Pn	20 53 02.8	+2.5
PV11	David Mesa, Pa	6.03	209		Pn	20 53 01.3	+0.9
S22A	4UR Ranch, Cre	6.03	192		Pn	20 53 01.3	+0.8
SRU	San Rafael Swe	6.05	223		Pn	20 53 00.9	+0.2
PV13	Radium Mtn., P	6.14	208		Pn	20 53 02.6	+0.7
ECSD	EROS Data Cent	6.22	86		Pn	20 53 01.4	-1.5
TMUT	Trail Mountain	6.27	228		Pn	20 53 04.1	+0.3
BGU	Big Grassy Mou	6.42	248		Pn	20 53 05.5	-0.1
Q16A	Castle Valley	6.53	226		Pn	20 53 07.4	+0.1
T25A	Trinidad	6.54	174		Pn	20 53 07.4	0.0
DUG	Dugway, Tooele	6.65	241		Pn	20 53 10.0	+1.1
MVU	Marysvale	7.38	228		Pn	20 53 20.1	+1.0
MTPU	Mount Pierson	7.71	226		Pn	20 53 24.9	+1.3
I10CA	LAC DU BONNET	9.06	41	I		21 43 25.0	
	comp=N,0.4nm,1.1s,baz=217,slow=311,SNR=12						
ULM	Lac du Bonnet	9.17	41	Pn	Pn	20 53 43.9	+0.6
	comp=N,0.8nm,0.3s,baz=230,slow=12,SNR=2.0						
ULM				Lg	Lg	20 56 17.6	
	comp=N,0.7nm,0.3s,baz=301,slow=18,SNR=3.9						
	comp=N,2.1nm,0.3s						

*IDC **07** 20:51:30.1±1.2, 28°.34N×83°.43E, h0km, mb3.6/5, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=50.8km s-min=22.5km az=62.0*

ISC 07 20:51:35.4±1.3**, 28°.4N**±0°.2×**83°.5E**±0°.3**, h35**km**, n6, σ0s.95**/6**, mb3.4**/5**, Nepal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.38	357	P	Pn	20 55 46.8	-0.5
	0.1nm,0.3s,baz=174,slow=11,SNR=5.5						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	25.54	2	P	P	20 57 00.4	-0.2
	0.7nm,0.4s,baz=167,slow=9.5,SNR=2.1						
	0.7nm,0.4s						
BVAR	Borovoye Array	26.43	342	P	P	20 57 10.2	+1.5
	0.5nm,0.6s,baz=141,slow=9.3,SNR=3.7						
	0.5nm,0.6s						
WRA	Warramunga Arr	68.75	128	P	P	21 02 36.1	+0.2
	0.5nm,0.5s,baz=323,slow=6.4,SNR=14						
	0.5nm,0.5s						
ASAR	Alice Springs	71.00	132	P	P	21 02 49.9	0.0
	0.2nm,0.5s,baz=313,slow=5.6,SNR=4.4						
	0.2nm,0.5s						
TORD	Torodi Ar. Bea	76.71	278	P	P	21 03 23.0	-0.4
	0.2nm,0.6s,baz=62,slow=3.7,SNR=1.5						
	0.2nm,0.6s						

*HEL **07** 20:57:42.7±0.1, 67°.83N×20°.12E, h0km, ML2.1, ML2.2(UPP), Explosion*

*IDC **07** 20:57:43.0±1.2, 67°.76N×20°.28E, h0km, mbtmp3.1/3, ML2.2/3, Error ellipse: s-maj=18.0km s-min=8.6km az=117.0*

*KOLA **07** 20:57:43.9, 67°.65N×20°.39E, h0km, ML2.2*

ISC 07 20:57:41.0±0.8**, 67°.79N**±0°.03×**20°.29E**±0°.04**, h0**km**, n20, σ1s.45**/27**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RATU	Laukkuluspa	0.27	278	*i* P	Pg	20 57 46.2	+0.1
KOVU	Salmi	0.44	354	*i* P	Pg	20 57 49.5	+0.1
KOVU				*i* S	Sg	20 57 55.2	0.0
NIKU	Nikkaluokta	0.48	280	*i* P	Pg	20 57 50.1	-0.2
DUNU	Dundret	0.68	171	*i* P	Pb	20 57 55.9	+0.2
LANU	Lannavaara	0.69	67	*e*S	Sb	20 58 05.7	-0.4
MASU	Masugnsbyn	0.73	116	*i* P	Pb	20 57 56.6	0.0
KIF	Kilpisjarvi	1.24	9	*e*PB	Pb	20 58 05.4	+0.1
KIF				MSG		20 58 21.7	
	comp=Z,30nm,0.2s						
KIF				*e*SB	Sb	20 58 21.9	+0.2
KIF	Kilpisjarvi	1.24	9	*e*P	Pb	20 58 05.3	+0.1
HEF	Hetta	1.41	62	MSG		20 58 24.8	
	comp=Z,9.4nm,0.2s						
HEF				*e*SB	Sn	20 58 27.5	+0.3
HEF	Hetta	1.41	62	*e*P	Pg	20 58 07.4	-0.5
ERTU	Ertsjaerv	1.44	148	*e*P	Pg	20 58 08.0	-0.6
KTK1	Kautokeino	1.64	40	*e*SN	Sg	20 58 34.8	+1.0
TOF	Tornio	2.34	135	MSG		20 58 47.9	
	comp=Z,8.9nm,0.2s						
ARCES	ARCESS Array B	2.59	45	Pn	Pb	20 58 26.5	-1.8
	comp=Z,1.0nm,0.3s,baz=229,slow=15,SNR=41						
ARCES				Sn	Sb	20 59 00.5	-0.2
	comp=Z,3.1nm,0.3s,baz=230,slow=26,SNR=23						
	comp=Z,2.2nm,0.3s						
ARCES	ARCESS Array B	2.59	45	P	Pb	20 58 26.7	-1.6
ARCES				S	Sb	20 59 00.9	+0.3
PRVG	Vayda Guba	4.75	60	S	Sn	20 59 50.8	+1.5
APA0	Apatity Array	4.84	86	P	Pn	20 58 57.3	+2.3
APA0				S	Sn	20 59 51.2	-0.5
TERR	Teriberka	5.63	69	P	Pn	20 59 07.3	+1.5
TERR				S	Sn	21 00 08.8	-2.2
FINES	FINESS Array B	6.83	156	Pn	Pn	20 59 24.7	+2.4
	comp=Z,0.1nm,0.3s,baz=345,slow=15,SNR=3.9						
FINES				Sn	Sn	21 00 41.3	+0.6
	comp=Z,0.3nm,0.3s,baz=347,slow=22,SNR=5.7						
FINES				Lg	Lg	21 01 15.4	
	comp=Z,0.2nm,0.3s,baz=345,slow=30,SNR=1.5						
	comp=Z,3.6nm,0.9s						
NOA	NORSAR Array B	7.82	214	Pn	Pn	20 59 36.7	+0.8
	baz=24,slow=12,SNR=1.5						
NOA				Sn	Sn	21 01 00.5	-4.6
	baz=27,slow=17,SNR=1.3						
NOA				Lg	Lg	21 01 47.3	
	baz=23,slow=16,SNR=1.3						
	comp=Z,0.7nm,0.9s						

ROM 07 21:00:47.1±0.2**, 42°.991N**±0°.009×**13°.09E**±0°.01**, h10**km±1km**, ML1.9**/10**, 1C-1D, Error ellipse: s-maj=1.1km s-min=0.8km az=321.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.05	359	P	Pg	21 00 49.2	-0.1
FDMO				S	Sg	21 00 50.2	-0.5
FDMO				AML	AML		
	comp=E,2420μm,0.4s						
FDMO				AML	AML		
	comp=N,2265μm,1.1s						
T1256	Bolognola (MC)	0.10	81	P	Pg	21 00 50.4	+0.4
T1256				S	Sg	21 00 52.6	+0.6
T1256				AML	AML		
	comp=E,628μm,0.8s						
T1256				AML	AML		
	comp=N,524μm,0.7s						
T1216	Preci, Frazion	0.11	207	P	Pb	21 00 50.9	-0.5
T1216				S	Sg	21 00 52.8	+0.8
CSP1	Cessapalombo	0.13	40	⇑P	Pg	21 00 50.7	+0.3
CSP1				S	Sg	21 00 53.1	+0.4
CESI	CESI - Serrava	0.14	276	AML	AML		
	comp=N,1160μm,0.3s						
CESI				AML	AML		
	comp=E,1235μm,0.8s						
T1245	Castelsantange	0.15	151	P	Pg	21 00 51.1	+0.5
T1245				S	Sg	21 00 53.3	+0.1
T1245				AML	AML		
	comp=E,384μm,0.7s						
T1245				AML	AML		
	comp=N,690μm,0.6s						
T1245				AML	AML		
	comp=E,291μm,0.1s						
T1245				AML	AML		
	comp=N,508μm,0.6s						
T1245				AML	AML		
	comp=E,654μm,0.3s						
T1245				AML	AML		
	comp=N,948μm,0.3s						
T1245				AML	AML		
	comp=N,900μm,0.3s						
T1245				AML	AML		
	comp=E,590μm,0.3s						
GUMA	Gualdo di Mace	0.20	68	P	Pb	21 00 52.2	-0.6
GUMA				AML	AML		
	comp=N,644μm,0.4s						
GUMA				AML	AML		
	comp=E,933μm,0.5s						
GUMA				AML	AML		
	comp=N,797μm,0.4s						
GUMA				AML	AML		
	comp=E,932μm,0.4s						
MMO1	Montemonaco	0.20	118	P	Pb	21 00 52.2	-0.6
MMO1				S	Sg	21 00 55.1	+0.9
T1215	Vallo di Nera,	0.25	221	⇓P	Pb	21 00 53.0	-0.7
T1215				S	Sg	21 00 56.4	+0.7
T1241	Roccafluvione,	0.28	118	AML	AML		
	comp=N,160μm,0.4s						
T1241				AML	AML		
	comp=E,206μm,0.5s						
SNTG	Esanatoglia	0.29	338	AML	AML		
	comp=N,180μm,0.8s						
SNTG				AML	AML		
	comp=E,264μm,0.1s						
T1204	Amatrice, Fraz	0.36	152	AML	AML		
	comp=N,109μm,0.7s						
T1204				AML	AML		
	comp=E,147μm,1.1s						
ATCC	AVT- Casa Cast	0.38	301	AML	AML		
	comp=N,236μm,0.3s						
ATCC				AML	AML		
	comp=E,196μm,1.3s						
TERO	Teramo	0.53	134	AML	AML		
	comp=N,72μm,0.5s						
TERO				AML	AML		
	comp=E,72μm,0.5s						
T0110	Collepietro	0.92	146	AML	AML		
	comp=E,326μm,0.5s						
T0110				AML	AML		
	comp=N,300μm,0.5s						
VIVA	Pratoni del Vi	1.26	191	AML	AML		
	comp=E,485μm,0.6s						
VIVA				AML	AML		
	comp=N,374μm,1.0s						
VIVA				AML	AML		
	comp=N,373μm,1.0s						

ROM 07 21:01:27.3±0.3**, 43°.05N**±0°.01×**13°.021E**±0°.009**, h8**km**, ML1.6**/3**, 4C-2D, Error ellipse: s-maj=1.4km s-min=0.4km az=169.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.05	100	AML	AML		
	comp=N,2265μm,1.1s						
FDMO				AML	AML		
	comp=E,2415μm,0.4s						
FEMA	Monte Fema	0.09	166	S	Sg	21 01 30.0	-1.3
FEMA	Monte Fema	0.09	166	AML	AML		
	comp=E,7795μm,0.8s						
FEMA				AML	AML		
	comp=N,4770μm,0.3s						
CESI	CESI - Serrava	0.09	245	AML	AML		
	comp=E,1230μm,0.8s						
CESI				AML	AML		
	comp=N,1160μm,0.3s						
CSP1	Cessapalombo	0.14	71	AML	AML		
	comp=N,1050μm,0.4s						
CSP1				AML	AML		
	comp=E,768μm,0.5s						
T1256	Bolognola (MC)	0.15	104	AML	AML		
	comp=N,524μm,0.7s						
T1256				AML	AML		
	comp=E,622μm,0.8s						
T1256				AML	AML		
	comp=N,584μm,0.7s						
T1256				AML	AML		
	comp=E,628μm,0.8s						
SNTG	Esanatoglia	0.22	344	AML	AML		
	comp=E,264μm,0.1s						
SNTG				AML	AML		
	comp=N,180μm,0.8s						
T1245	Castelsantange	0.23	147	⇑P	Pg	21 01 32.6	+0.7
T1245				S	Sg	21 01 36.6	+1.6
T1245				AML	AML		
	comp=N,900μm,0.3s						
T1245				AML	AML		
	comp=E,590μm,0.3s						
T1245				AML	AML		
	comp=E,654μm,0.3s						
T1245				AML	AML		
	comp=N,948μm,0.3s						
T1245				AML	AML		
	comp=N,900μm,0.3s						
MMO1	Montemonaco	0.27	123	⇑P	Pb	21 01 33.6	-0.8
MMO1				S	Sb	21 01 38.0	-1.1
T1215	Vallo di Nera,	0.27	205	⇓P	Pg	21 01 33.5	+0.8
T1215				S	Sb	21 01 38.0	-1.1
CING	Cingoli	0.35	21	S	Sg	21 01 37.0	-2.0
T1241	Roccafluvione,	0.35	122	P	Pb	21 01 35.2	-0.7
T1241				S	Sb	21 01 41.1	-0.6
T1241				AML	AML		
	comp=E,206μm,0.5s						
T1241				AML	AML		
	comp=N,160μm,0.4s						
MURB	Monte Urbino	0.42	301	S	Sg	21 01 38.0	-3.2
LNSS	Leonessa	0.44	178	P	Pg	21 01 35.9	0.0
LNSS				S	Sb	21 01 43.2	-0.9
ARVD	Arcevia	0.46	353	S	Sg	21 01 39.0	-3.3
ATFO	Monte Foce - G	0.46	315	S	Sg	21 01 39.0	-3.4
T1243	Rocca Santa Ma	0.47	138	⇑P	Pg	21 01 34.4	-2.0
ATTE	AVT- Monte Tez	0.51	288	⇑P	Pn	21 01 42.1	+1.1
CESX	Cesi	0.54	217	⇓P	Pg	21 01 38.4	+0.6
CESX				S	Sb	21 01 47.0	0.0
CESX				AML	AML		
	comp=E,100μm,1.2s						
CESX				AML	AML		
	comp=N,94μm,0.2s						
RM33	Pellescritta (	0.55	165	P	Pg	21 01 38.3	+0.2
MGAB	Montegabbione	0.68	259	AML	AML		
	comp=N,45μm,1.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MGAB				AML	AML		
	comp=E,61μm,1.6s						

NNC ***07*** *21:02:50.3±0.6, 46°.37N×79°.74E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=7.8km s-min=2.6km az=140.0*
SOME ***07*** *21:02:52.6, 46°.23N×79°.65E, h5km*
ASRS ***07*** *21:02:59.0±0.8, 47°N±3°×8°0E±°, h9km, MLh3.7/3, Error ellipse: s-maj=8.6km s-min=4.5km az=36.5, confirmed*
ISC 07 21:02:50.6±0.7**, 46°.37N**±0°.03×**79°.74E**±0°.03**, h10**km**, n59, σ2s.84**/89**, 7C-7D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAKZ	Makanchi	1.60	73	⇑P	Pb	21 03 20.4	+0.2
	8.1nm,0.3s						
MAKZ				⇑S	Sb	21 03 40.6	0.0
	20nm,0.6s						
MAKZ	Makanchi	1.60	73	Pg	Pg	21 03 20.6	-0.7
MAKZ				Sg	Sg	21 03 41.4	-0.7
TDK	Taldyqorghan	1.66	215	eP	Pg	21 03 21.7	-0.6
	68nm,0.2s						
TDK				eS	Sb	21 03 42.4	+0.2
	344nm,0.4s						
TDK	Taldyqorghan	1.66	215	P	Pg	21 03 21.7	-0.6
	68nm,0.2s						
TDK				S	Sb	21 03 42.3	+0.2
	344nm,0.4s						
MK31	Makanchi Array	1.81	76	P	Pb	21 03 24.1	+0.3
	2.4nm,0.2s,baz=247,slow=17,SNR=555						
MK31				⇓S	Sb	21 03 46.9	+0.4
	26nm,0.5s,baz=241,slow=32,SNR=13						
MKAR	Makanchi Array	1.81	76	Pg	Pb	21 03 24.2	+0.4
MKAR				Sg	Sg	21 03 47.8	-0.9
DJR	Jarkent	2.04	179	eP	Pb	21 03 28.1	+0.4
	10nm,0.1s						
DJR				eS	Sb	21 03 53.5	+0.3
	117nm,0.3s						
DJR	Jarkent	2.04	179	P	Pb	21 03 28.1	+0.4
	10nm,0.1s						
DJR				S	Sb	21 03 53.5	+0.3
	117nm,0.3s						
ARXS	Arharly	2.55	213	eP	Pb	21 03 37.2	+0.9
	4.2nm,0.2s						
ARXS				eS	Sb	21 04 08.7	+1.0
	66nm,0.3s						
ARXS	Arharly	2.55	213	Pg	Pb	21 03 37.2	+0.9
	4.2nm,0.2s						
ARXS				Lg	Lg	21 04 08.7	
	66nm,0.3s						
KPKS	Kokpek	3.00	195	eP	Pb	21 03 45.2	+1.1
	7.0nm,0.1s						
KPKS				eS	Sb	21 04 22.3	+1.5
	72nm,0.3s						
KPKS	Kokpek	3.00	195	Pg	Pb	21 03 45.2	+1.1
	7.0nm,0.1s						
KPKS				Lg	Lg	21 04 22.3	
	72nm,0.3s						
PDGK	Podgornoye	3.05	183	Pg	Pb	21 03 46.5	+1.5
	2.7nm,0.3s						
PDGK				Lg	Lg	21 04 24.2	
	20nm,0.3s						
PDGK	Podgornoye	3.05	183	⇓Pg	Pg	21 03 46.7	-2.3
	2.8nm,0.4s						
PDGK				⇑Lg	Lg	21 04 25.6	
	21nm,0.5s						
KURS	Kuram	3.09	202	eP	Pg	21 03 47.6	-2.1
	3.1nm,0.2s						
KURS				eS	Sg	21 04 26.4	-3.4
	21nm,0.4s						
KURS	Kuram	3.09	202	Pg	Pg	21 03 47.6	-2.1
	3.1nm,0.2s						
KURS				Lg	Lg	21 04 26.4	
	21nm,0.4s						
CHKK	Chushkaly	3.18	219	eP	Pg	21 03 49.3	-2.2
	4.8nm,0.3s						
CHKK				eS	Sg	21 04 29.0	-3.7
	57nm,0.3s						
CHKK	Chushkaly	3.18	219	Pg	Pg	21 03 49.3	-2.2
	4.8nm,0.3s						
CHKK				Lg	Lg	21 04 29.0	
	57nm,0.3s						
SHLS	Shalkode	3.22	184	eP	Pb	21 03 49.2	+1.3
	2.8nm,0.1s						
SHLS				eS	Sb	21 04 29.4	+2.2
	39nm,0.6s						
SHLS	Shalkode	3.22	184	Pg	Pb	21 03 49.2	+1.3
	2.8nm,0.1s						
SHLS				Lg	Lg	21 04 29.4	
	39nm,0.6s						
UZB	Uzynbulak	3.26	189	eP	Pb	21 03 50.3	+1.6
	1.3nm,0.1s						
UZB				eS	Sb	21 04 30.8	+2.3
	22nm,0.4s						
UZB	Uzynbulak	3.26	189	Pg	Pb	21 03 50.3	+1.6
	1.3nm,0.1s						
UZB				Lg	Lg	21 04 30.8	
	22nm,0.4s						
ZHN	Zhinishke	3.33	197	eP	Pb	21 03 51.7	+1.9
	6.1nm,0.0s						
ZHN				eS	Sb	21 04 33.3	+2.8
	83nm,0.2s						
ZHN	Zhinishke	3.33	197	Pg	Pb	21 03 51.7	+1.9
ZHN				Lg	Lg	21 04 33.3	
KTBS	Karatobe	3.43	220	eP	Pg	21 03 53.4	-2.8
	4.1nm,0.2s						
KTBS				eS	Sg	21 04 36.5	-4.2
	83nm,0.6s						
SATY	Saty	3.45	196	eP	Pg	21 03 54.3	-2.3
	1.7nm,0.1s						
SATY				eS	Sg	21 04 38.2	-3.0
	46nm,0.3s						
SATY	Saty	3.45	196	Pg	Pg	21 03 54.3	-2.3
	1.7nm,0.1s						
SATY				Lg	Lg	21 04 38.2	
	46nm,0.3s						
KUU	Kurty	3.45	225	eP	Pb	21 03 53.8	+2.0
	3.6nm,0.3s						
KUU				eS	Sb	21 04 37.0	+3.2
	52nm,0.3s						
KUU	Kurty	3.45	225	Pg	Pb	21 03 53.8	+2.0
	3.6nm,0.3s						
KUU				Lg	Lg	21 04 37.0	
	52nm,0.3s						
KOTS	Kotyrbulak	3.65	212	eP	Pg	21 03 57.9	-2.6
	2.4nm,0.3s						
KOTS				eS	Sg	21 04 44.1	-3.8
	23nm,0.5s						
KOTS	Kotyrbulak	3.65	212	Pg	Pg	21 03 57.9	-2.6
	2.4nm,0.3s						
KOTS				Lg	Lg	21 04 44.1	
	23nm,0.5s						
ZSN	Zaisan	3.68	71	eP	Pb	21 03 56.8	+1.3
	1.2nm,0.2s						
ZSN				eS	Sb	21 04 43.8	+3.6
	7.7nm,0.3s						
MDOK	Medeo	3.74	212	eP	Pg	21 03 59.1	-3.0
	1.9nm,0.4s						
MDOK				eS	Sg	21 04 46.5	-4.0
	16nm,0.8s						
MDOK	Medeo	3.74	212	Pg	Pg	21 03 59.1	-3.0
	1.9nm,0.4s						
MDOK				⇓Pg	Pb	21 03 59.6	+2.9
	3.9nm,0.8s						
MDOK				Lg	Lg	21 04 46.5	
	16nm,0.8s						
MDOK				⇑Lg	Lg	21 04 46.7	
	15nm,0.5s						
TNSS	Tian-Shan	3.88	212	eP	Pb	21 04 01.7	+2.4
	2.6nm,0.1s						
TNSS				eS	Sg	21 04 50.8	-4.4
	6.9nm,0.4s						
TNSS	Tian-Shan	3.88	212	Pg	Pb	21 04 01.7	+2.4
	2.6nm,0.1s						
TNSS				Lg	Lg	21 04 50.8	
	6.9nm,0.4s						
KRBS	Karabastau	3.93	229	eP	Pb	21 04 01.9	+2.0
	3.0nm,0.3s						
KRBS				eS	Sb	21 04 51.6	+4.0
	18nm,0.3s						
KRBS	Karabastau	3.93	229	Pg	Pb	21 04 02.0	+2.0
	3.0nm,0.3s						
KRBS				Lg	Lg	21 04 51.6	
	18nm,0.3s						
DGS	Degeres	4.21	223	eP	Pb	21 04 07.3	+2.4
	6.8nm,0.4s						
DGS				eS	Sg	21 05 00.5	-5.3
	35nm,0.6s						
DGS	Degeres	4.21	223	Pg	Pb	21 04 07.3	+2.4
	6.8nm,0.4s						
DGS				Lg	Lg	21 05 00.5	
	35nm,0.6s						
KST	Kastek	4.28	220	eP	Pb	21 04 08.5	+2.5
	1.7nm,0.2s						
KST				eS	Sb	21 05 02.2	+4.5
	17nm,0.6s						
KST	Kastek	4.28	220	Pg	Pb	21 04 08.5	+2.5
	1.7nm,0.2s						
KST				Lg	Lg	21 05 02.2	
	17nm,0.6s						
KURBB	Kurchatov Arra	4.33	350	⇓Pg	Pb	21 04 06.4	-0.3
	2.0nm,0.3s						
KURBB				⇓Lg	Lg	21 05 05.9	
	20nm,0.7s						
KURK	Kurchatov	4.41	351	⇓Pg	Pb	21 04 09.8	+1.8
	3.0nm,0.6s						
KURK				⇑Lg	Lg	21 05 08.2	
	8.0nm,0.6s						
KURK	Kurchatov	4.41	351	Pg	Pb	21 04 10.7	+2.7
KURK				S	Sn	21 04 48.9	0.0
KURK				Sg	Sg	21 05 08.9	-3.2
TKM2	Tokmak 2	4.54	222	⇑Lg	Lg	21 05 14.4	
	6.0nm,0.5s						
SGDS	Sogindy	4.66	233	eP	Pb	21 04 14.9	+2.5
	1.5nm,0.2s						
SGDS				eS	Sb	21 05 13.2	+4.7
	7.4nm,0.5s						
SGDS	Sogindy	4.66	233	Pg	Pb	21 04 14.9	+2.5
	1.5nm,0.2s						
SGDS				Lg	Lg	21 05 13.2	
	7.4nm,0.5s						
CHMS	Chumysh	4.90	228	⇓Lg	Lg	21 05 24.1	
	14nm,0.9s						
AAK	Ala-Archa	5.29	227	Pg	Pg	21 04 27.4	-4.4
AAK				Sg	Sg	21 05 34.4	-6.0
OTUK	Ortayu	5.37	293	⇑Lg	Lg	21 05 38.9	
	11nm,0.7s						
MRKS	Merke	5.90	234	eP	Pg	21 04 38.9	-4.6
	0.6nm,0.1s						
MRKS				eS	Sg	21 05 54.9	-5.0
	13nm,0.7s						
DGZ	Jazzator, Alta	6.14	54	Pn	Pn	21 04 28.1	+6.6
DGZ				Sg	Sg	21 06 04.2	-3.3
CHBI	Chibit, Altay	6.50	50	Pn	Pn	21 04 34.4	+8.0
CHBI				Pg	Pg	21 04 51.5	-3.5
CHBI				Sg	Sg	21 06 14.8	-4.4
CUR	Chagan-Uzun	6.85	54	Pn	Pn	21 04 36.9	+5.7
CUR				S	Sn	21 05 56.6	+7.3
CUR				Sg	Sg	21 06 26.7	-3.7
ULGR	Ulagan, Altay	6.92	49	Pn	Pn	21 04 36.1	+4.0
ULGR				Sg	Sg	21 06 28.4	-4.2
ARTR	Artybash	7.35	40	Sg	Sg	21 06 43.7	-2.5
ELT	Eltsovka	8.07	29	Sg	Sg	21 06 59.2	-10
TASR	Tashtagol	8.30	37	Sg	Sg	21 07 12.9	-3.7

TAP 07 21:08:33.0, 23°.06N×120°.84E, h3km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STYH	Taoyuan	0.12	329	eP	Pg	21 08 35.2	-0.2
	baz=329						
STYH				eS	Sg	21 08 37.1	+0.1
	baz=329						
STYT	Tauyuan	0.13	321	i P	Pg	21 08 36.1	+0.6
	baz=324						
STYT				S	Sg	21 08 38.1	+0.9
	baz=324						
ELDTW	Lidau	0.20	52	i P	Pg	21 08 37.9	+0.9
	baz=53						
ELDTW				S	Sg	21 08 40.8	+1.2
	baz=53						
SGST	Jiashian	0.24	274	i P	Pg	21 08 38.8	+1.1
	baz=275						
SGST				S	Sg	21 08 42.3	+1.5
	baz=275						
WTP	Ta-pu	0.28	311	i P	Pb	21 08 39.7	-1.1
	baz=312						
WTP				i S	Sb	21 08 44.2	-1.7
	baz=312						
LONT	Longtian	0.31	121	P	Pg	21 08 40.0	+1.1
	baz=111						
LONT				S	Sg	21 08 44.5	+1.6
	baz=111						
TPUB	Ta-pu	0.31	320	P	Pb	21 08 40.3	-0.9
	baz=320						
TPUB				S	Sb	21 08 45.4	-1.4
	baz=320						
CHN1	Nanshi	0.32	293	P	Pb	21 08 40.2	-1.1
	baz=302						
CHN1				S	Sb	21 08 45.8	-1.1
	baz=302						
TWG	Pinlang	0.32	139	i P	Pb	21 08 40.5	-0.9
	baz=138						
TWG				S	Sb	21 08 45.6	-1.5
	baz=138						
TWGBT	Beinan	0.33	138	P	Pb	21 08 40.4	-1.1
	baz=138						
TWGBT				i S	Sb	21 08 45.5	-1.8
	baz=138						
CHN4	Tsaushan	0.37	321	eP	Pg	21 08 40.9	+0.8
	baz=333						
CHN4				eS	Sb	21 08 47.0	-1.4
	baz=333						
SSD	Sandimen	0.37	212	P	Pg	21 08 40.5	+0.4
	baz=211						
SSD				eS	Sb	21 08 47.5	-1.0
	baz=211						
TWK	Hsinying	0.39	302	P	Pb	21 08 42.3	-0.3
	baz=314						
TWK				eS	Sb	21 08 47.4	-1.6
	baz=314						
TSMG	Majia	0.40	207	P	Pg	21 08 41.0	+0.3
	baz=208						
TSMG				eS	Sg	21 08 45.8	-0.2
	baz=208						
WCKO	Fanlu	0.43	329	i P	Pb	21 08 42.9	-0.5
	baz=339						
WCKO				S	Sb	21 08 49.3	-1.0
	baz=339						
FULB	Fuli	0.43	72	eP	Pb	21 08 43.0	-0.4
	baz=61						
FULB				S	Sb	21 08 49.4	-0.9
	baz=61						
ALS	Alishan	0.45	355	P	Pg	21 08 42.6	+0.9
	baz=356						
ALS				S	Sg	21 08 49.1	+1.7
	baz=356						
MASBT	Mashibuluo	0.49	203	P	Pg	21 08 42.6	+0.2
	baz=207						
TWF1	Yuli	0.51	55	eP	Pb	21 08 44.3	-0.3
	baz=55						
TWF1				eS	Sb	21 08 53.3	+0.9
	baz=55						
EYUL	Yuli	0.52	57	eP	Pb	21 08 44.7	-0.1
	baz=57						
EYUL				eS	Sb	21 08 52.7	-0.1
	baz=57						

UCR ***07*** *21:08:41.4±1.4, 9°.55N×84°.81W, h12km±3km, MW4.1*
INET ***07*** *21:08:41.3±0.4, 9°.58N×84°.79W, h15km±8km, MW3.2*
ISC 07 21:08:40.9±1.3**, 9°.55N**±0°.05×**84°.81W**±0°.03**, h14**km±10km**, n52, σ0s.63**/63**, 5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACO	JACO, Garabito	0.19	54	eP	Pb	21 08 46.2	+0.1
JACO				eS	Sb	21 08 49.8	+0.2
POPE	POPE, Guanacas	0.68	319	eP	Pg	21 08 54.0	-0.1
JTS	Las Juntas de	0.75	349	eP	Pg	21 08 54.8	-0.6
JTS	Las Juntas de	0.75	349	eP	Pg	21 08 54.8	-0.6
INDI	Punta indio, G	0.75	295	eP	Pg	21 08 55.6	+0.1
LCR2	La Lucha 2	0.82	77	eP	Pg	21 08 56.1	-0.7
HDC	Heredia	0.82	57	eP	Pg	21 08 56.6	-0.3
HDC3	Heredia 3	0.82	57	eP	Pg	21 08 56.6	-0.3
HDC3	Heredia 3	0.82	57	eP	Pg	21 08 56.6	-0.3
SJS	Escuela Geolog	0.84	63	eP	Pg	21 08 56.8	-0.4
DUNO	Dulce Nombre,	0.85	308	eP	Pg	21 08 57.0	-0.3
DUNO	Dulce Nombre,	0.85	308	eP	Pg	21 08 57.1	-0.3
NICO	Nicoya	0.85	313	eP	Pb	21 08 58.2	+0.7
CRPO	Crater poas	0.86	42	eP	Pg	21 08 57.3	-0.4
CASO	Castillo	0.88	5	eP	Pg	21 08 57.6	-0.4
CASO				eS	Sn	21 09 11.3	-0.2
OCM	Ochomogo	0.91	68	eP	Pg	21 08 57.6	-0.8
RIMA	Rio Macho	0.96	77	eP	Pg	21 08 58.6	-0.9
RIMA	Rio Macho	0.96	77	eP	Pg	21 08 58.5	-0.9
EDDO	Dominical	0.98	107	eP	Pb	21 08 59.5	-0.1
SAJU	San Juanillo,	1.02	300	eP	Pb	21 08 59.3	-1.1
ORTG	Ortega, Santa	1.03	322	eP	Pb	21 08 59.7	-0.8
ORTG	Ortega, Santa	1.03	322	eP	Pb	21 08 59.7	-0.8
CDM	Cerro de Muert	1.03	90	eP	Pb	21 09 00.4	-0.4
CDM	Cerro de Muert	1.03	90	eP	Pb	21 09 00.8	0.0
CDM				eS	Sn	21 09 16.1	+0.3
HAYA	Volcan Irazu	1.05	66	eP	Pb	21 09 00.6	-0.4
ACAL	Aguas Claras	1.10	348	eP	Pb	21 09 01.1	-0.6
ACAL				eS	Sn	21 09 18.1	+1.1
PEZE	Perez Zeledon,	1.13	98	eP	Pb	21 09 01.9	-0.4
PEZE	Perez Zeledon,	1.13	98	eP	Pb	21 09 02.5	+0.2
CUI	Cuipilapa	1.15	343	eP	Pb	21 09 01.7	-0.9
CUI				eS	Sn	21 09 19.0	+0.7
VTCV	VTCV, Calle Va	1.15	68	eP	Pb	21 09 02.5	-0.2
RIFO	Rio Frio, Sara	1.16	49	eP	Pb	21 09 02.2	-0.5
PTEN	Parque Tenorio	1.17	352	⇓iP	Pb	21 09 02.2	-0.7
COLC	Colonia	1.17	341	eP	Pn	21 09 02.1	-0.9
COLC				eS	Sn	21 09 19.6	+0.8
HORNC	Hornillas	1.21	343	⇓eP	Pn	21 09 02.6	-0.9
HORNC				eS	Sg	21 09 20.2	+0.2
GUAB	Guayabo de Bag	1.22	340	eP	Pn	21 09 02.8	-0.8
COVE	Coope Vega, Sa	1.23	19	eP	Pn	21 09 02.9	-0.7
MESS	Mesas	1.24	342	⇓iP	Pn	21 09 03.2	-0.6
MESS				eS	Sg	21 09 21.2	+0.2
VMAR	Armenia, Volca	1.29	347	eP	Pn	21 09 04.0	-0.6
VERA	Finca Concepci	1.30	358	eP	Pn	21 09 04.0	-0.5
GPS2	Hotel Rincn d	1.31	336	eP	Pn	21 09 04.6	-0.2
GPS3	Bodega del ICE	1.31	336	eP	Pn	21 09 04.1	-0.8
GPS1	Guardaparques	1.33	337	eP	Pn	21 09 04.4	-0.7
VRLE	La Escondida,	1.34	336	eP	Pn	21 09 04.8	-0.5
LAPC	Finca la Perla	1.35	333	⇓iP	Pn	21 09 04.8	-0.6
LAPC				eS	Sn	21 09 23.3	+0.1
BUEV	Buena Vista	1.37	335	eP	Pn	21 09 04.9	-0.8
MRVA	Moravia de Chi	1.38	79	eP	Pn	21 09 05.7	-0.2
GBS3	Finca Las Img	1.38	333	⇓iP	Pn	21 09 05.3	-0.4
GBS3				eS	Sg	21 09 26.1	+0.8
GB1A	Borinquen Arri	1.39	335	eP	Pn	21 09 05.3	-0.6
BUAI	Buenos Aires	1.41	339	eP	Pn	21 09 05.8	-0.5
BUAI				eS	Sb	21 09 25.9	+1.0
SRBA	San Rafael, Bu	1.47	102	eP	Pn	21 09 07.0	-0.1
ACON	Acoyapa	2.43	352	eP	Pn	21 09 21.4	+1.3
ESPN	Las Esperanzas	2.68	11	eP	Pn	21 09 24.1	+0.6

IDC ***07*** *21:31:22.7±0.3, 8°.16S×104°.81E, h0km, mb5.2/34, mbtmp5.2/35, ML4.5/1, MS5.0/69, Error ellipse: s-maj=12.0km s-min=7.5km az=38.0*
NEIC ***07*** *21:31:24.8, 8°.14S×104°.83E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr0.22; Mθθ1.06; Mφφ-1.29; Mrθ0.63; Mθφ-4.19; Mφr-1.19; Fault plane solution: M0 4.56000×10^{17} NP1:φs81.29000°, δ73.81000°, λ173.71000°. NP2:φs173.05000°, δ83.96000°, λ16.28000°. Principal axes: T 4.5892, Plg16.0000°, Azm38.0000°; N -0.0512, Plg73.0000°, Azm193.0000°; P -4.5380, Plg7.0000°, Azm306.0000°;*
MOS ***07*** *21:31:24.8±0.9, 8°.05S×104°.90E, h24km, mb5.8/53, MS5.1/17 Error ellipse: s-maj=8.1km s-min=4.6km az=111.3*
KLM ***07*** *21:31:25, 8°.42S×104°.46E, h41km, mb5.9*
DJA ***07*** *21:31:25.7±0.9, 8°S±2°×10°5E±°, h16km±6km, M5.7/112, mb5.9/112, mB6.1/97, MLv6.4/25, Mw5.7/144, Mw(mB)5.8/97, MwMwp5.4/49, Mwp5.6/49*
PRE ***07*** *21:31:25.5±2.2, 8°.21S×104°.74E, h10km, mb5.4*
NEIC ***07*** *21:31:28.3±1.7, 8°.11S±0°.08×104°.84E±0°.07, h33km±1km, mb5.8/159, Ms_20 5.3/95, Mwb5.7/38, Mww5.8, Error ellipse: s-maj=13.8km s-min=10.4km az=216.0*
NEIC ***07*** *21:31:29, 8°.85S×104°.72E, h50km, Moment Tensor Solution. Duration: 9s.2 Moment tensor: Scale 10^{17}Nm; Mrr1.55; Mθθ1.39; Mφφ-2.94; Mrθ0.10; Mθφ-4.99; Mφr-1.02; Fault plane solution: M0 5.69000×10^{17} NP1:φs78.00000°, δ78.00000°, λ176.00000°. NP2:φs169.00000°, δ86.00000°, λ12.00000°. Principal axes: T 4.7934, Plg11.0000°, Azm34.0000°; N 1.4969, Plg77.0000°, Azm186.0000°; P -6.2902, Plg6.0000°, Azm303.0000°;*
GCMT ***07*** *21:31:30.3±0.1, 8°.32S±0°.01×104°.83E±0°.01, h42km, MW5.8/159, Moment Tensor Solution. s147,c300; s159,c447; Duration: 1s.9 Moment tensor: Scale 10^{17} Nm; Mrr-0.52±.04; Mθθ2.58±.04; Mφφ-2.06±.05; Mrθ0.64±.06; Mθφ-4.99±.04; Mφr-2.00±.06; Best double couple: M0 5.88800×10^{17} NP1:φs347.00000°, δ89.00000°, λ-21.00000°. NP2:φs77.00000°, δ69.00000°, λ-179.00000°. Principal axes: T 6.1620, Plg14.0000°, Azm34.0000°; N -0.5480, Plg69.0000°, Azm164.0000°; P -5.6140, Plg15.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 07 21:31:27.3±0.3**, 8°.13S**±0°.03×**104°.79E**±0°.03**, h31**km±1km**, h32**km**:pP-P, n1108, σ2s.00**/1158**, mb5.7**/229**, MS5.2**/167**, 96C-36D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKJI	Sukabumi	2.08	58	P	Pn	21 32 01.2	+1.2
SBJI	Serang	2.40	34	P	Pn	21 32 06.6	+2.1
CNJI	Cibinong	2.46	71	P	Pn	21 32 06.2	+0.9
XMI	Christmas Isla	2.47	159	P	Pn	21 32 02.7	-2.8
KASI	Kota Agung	2.60	354	P	Pn	21 32 08.7	+1.4
CBJI	Citeko	2.66	50	P	Pn	21 32 08.7	+0.7
TNG	Tangerang	2.68	44	P	Pb	21 32 15.5	+0.9
TNG				P	Pn	21 32 10.7	+2.4
BLSI	Bandar Lampung	2.78	9	P	Pn	21 32 11.5	+1.8
BBJI	Bungbulang	2.91	77	P	Pn	21 32 12.9	+1.3
LEM	Lembang	3.09	65	P	Pn	21 32 16.8	+2.7
LWLI	Liwa	3.18	347	P	Pn	21 32 16.6	+1.3
KLI	Kotabumi	3.25	1	P	Pn	21 32 18.2	+2.1
JCJI	Jatiwangi	3.82	65	P	Pn	21 32 25.5	+1.5
MNAI	Manna	4.17	334	Pn	Pn	21 32 29.3	+0.5
MNAI	Manna	4.17	334	P	Pn	21 32 29.5	+0.7
MNAI	Manna	4.17	334	P	Pn	21 32 30.3	+1.5
CTJI	Waduk Cacaban	4.50	76	P	Pn	21 32 36.2	+2.9
KSI	Kapahiang	4.96	334	P	Pn	21 32 40.1	+0.4
	50nm53μm4μm,0.7s						
UBSI	University, Be	5.01	330	P	Pn	21 32 40.6	+0.2
	23nm43μm49μm3μm,0.8s						
PMBI	Palembang	5.17	360		Pn	21 32 44.5	+2.0
PMBI	Palembang	5.17	360	P	Pn	21 32 45.0	+2.4
	26nm24μm35μm4μm,0.9s						
PMBI	Palembang	5.17	360	P	Pn	21 32 45.0	+2.4
	4μm,0.9s						
YOGI	Yogyakarta	5.46	87	P	Pn	21 32 47.1	+0.5
	32nm9μm35μm2μm,0.9s						
MASI	Maura Aman, Be	5.57	333	P	Pn	21 32 48.8	+0.7
	14nm15μm28μm2μm,1.4s						
UGM	Wanagama	5.68	88		Pn	21 32 49.9	+0.2
UGM	Wanagama	5.68	88	P	Pn	21 32 50.5	+0.8
	53nm22μm44μm5μm,0.9s						
UGM	Wanagama	5.68	88	P	Pn	21 32 51.3	+1.6
SMRI	Semarang	5.70	80	Pn	Pn	21 32 52.0	+2.1
SMRI	Semarang	5.70	80	P	Pn	21 32 53.4	+3.4
	34nm25μm49μm3μm,0.8s						
SMRI	Semarang	5.70	80	P	Pn	21 32 54.3	+4.3
TPI	Tanjungpandan	6.05	28	P	Pn	21 32 56.6	+1.9
PPBI	Pangkal Pinang	6.08	13	P	Pn	21 32 57.0	+1.9
	5.8nm26μm13μm1μm,0.8s						
PCJI	Pacitan	6.32	91	P	Pn	21 32 59.3	+0.9
	35nm21μm34μm5μm,1.0s						
JMBI	JAMBI	6.55	350	P	Pn	21 33 03.3	+1.7
	5.6nm9μm846nm,0.9s						
TBJI	Tambak Boyo	7.12	80	P	Pn	21 33 11.9	+2.5
	7.4nm13μm11μm1μm,0.7s						
PPSI	Pulau Pagai	7.15	318	P	Pn	21 33 09.9	+0.1
	15nm29μm36μm3μm,0.8s						
KRKI	Karangkates	7.58	91	P	Pn	21 33 17.4	+1.6
	20nm9μm764nm,0.6s						
DSRI	Dabo	7.60	358	P	Pn	21 33 17.8	+1.8
	2.9nm14μm5μm450nm,0.9s						
SDSI	Sungai Dareh	7.89	335	P	Pn	21 33 20.4	+0.3
	2.4nm15μm4μm243nm,0.8s						
BWJI	Bawean	8.13	74	P	Pn	21 33 26.0	+2.7
	14μm20μm3μm,0.9s						
PDSI	Padang	8.37	329	P	Pn	21 33 25.1	-1.5
	26μm7μm490nm,0.7s						
PBKI	Pangkalan Bun	8.71	52	P	Pn	21 33 33.0	+1.7

1µm,0.9s
SISI Saibi 8.83 320 P **Pn** 21 33 32.1 -0.8
15µm1µm,0.7s
TPRI Tanjung Pinang 8.99 358 P **Pn** 21 33 36.9 +1.8
9µm466nm,0.8s
KMMI Kalianget 9.16 84 P **Pn** 21 33 37.6 +0.2
7µm256nm,0.8s
BKNI Bangkinang 9.19 336 Pn **Pn** 21 33 37.2 -0.7
BKNI Bangkinang 9.19 336 P **Pn** 21 33 37.1 -0.8
11µm5µm540nm,0.7s
BKNI Bangkinang 9.19 336 P **Pn** 21 33 37.8 -0.1
JAGI Jajag, Banyuwa 9.27 93 Pn **Pn** 21 33 39.0 +0.1
JAGI Jajag, Banyuwa 9.27 93 P **Pn** 21 33 39.1 +0.1
13µm28µm2µm,0.8s
JAGI Jajag, Banyuwa 9.27 93 P **Pn** 21 33 39.9 +0.9
ABJI Asem Bagus 9.36 89 P **Pn** 21 33 41.6 +1.4
2µm,0.8s
MYKOM **Kota Tinggi 9.90 355** Pn **Pn** 21 33 47.7 +0.2
MYKOM **Kota Tinggi 9.90 355** P **Pn** 21 33 48.7 +1.2
7µm4µm141nm,0.8s
MYKOM **Kota Tinggi 9.90 355** P **Pn** 21 33 49.0 +1.5
RTBI Rangdo, Negare 10.05 93 P **Pn** 21 33 50.3 +0.6
35µm5µm,0.9s
IGBI Denpasar 10.27 95 P **Pn** 21 33 52.1 -0.5
8µm27µm1µm,0.8s
MNSI Mandailing Nat 10.28 329 P **Pn** 21 33 50.4 -2.3
18µm4µm358nm,0.7s
PBSI Pulau Batu 10.32 321 P **Pn** 21 33 52.8 -0.5
558nm,0.8s
SRBI Singaraja 10.32 90 P **Pn** 21 33 53.7 +0.4
10µm16µm1µm,0.7s
DNP Denpasar 10.32 94 P **Pn** 21 33 54.4 +1.0
60µm5µm,0.7s
KSM Kuching 11.01 30 Pn **Pn** 21 34 03.6 +0.8
KSM Kuching 11.01 30 P **Pn** 21 34 04.3 +1.5
20µm5µm335nm,0.9s
KSM Kuching 11.01 30 P **Pn** 21 34 04.0 +1.2
KSM Kuching 11.01 30 P **Pn** 21 34 05.6 +2.8
BBKI Banjar Baru 11.02 66 P **Pn** 21 34 06.2 +3.3
24µm1µm,0.9s
KLNI Mataram 11.19 92 P **Pn** 21 34 04.6 -0.7
TRSI Tarutung 11.64 330 P **Pn** 21 34 12.6 +1.0
4µm409nm,0.7s
GSI Gunungsitoli 11.81 322 Pn **Pn** 21 34 11.5 -2.3
GSI Gunungsitoli 11.81 322 P **Pn** 21 34 11.8 -2.0
16µm338nm,0.6s
GSI Gunungsitoli 11.81 322 P **Pn** 21 34 12.2 -1.6
TWSI Taliwang, Sumb 11.98 94 P **Pn** 21 34 15.6 -0.4
12µm15µm1µm,0.7s
JRMM Jerantut 12.16 349 P **Pn** 21 34 19.0 +0.5
RPSI Rantau Prapat 12.24 331 P **Pn** 21 34 17.2 -2.4
PSI Prapat 12.33 331 P **Pn** 21 34 17.1 -3.9
15µm2µm91nm,1.1s
PSI Prapat 12.33 331 P **Pn** 21 34 20.5 -0.5
PSI Prapat 12.33 331 P **Pn** 21 34 17.2 -3.8
MTKI Muara Teweh, K 12.34 55 P **Pn** 21 34 22.5 +1.5
SBUM Sibu 12.86 35 Pn **Pn** 21 34 29.8 +1.7
SBUM Sibu 12.86 35 P **Pn** 21 34 30.5 +2.4
8µm6µm268nm,0.7s
SBUM Sibu 12.86 35 P **Pn** 21 34 32.0 +3.9
PLAI Plampang 12.86 94 P **Pn** 21 34 27.6 -0.6
12µm15µm2µm,0.8s
PLAI Plampang 12.86 94 P **Pn** 21 34 28.5 +0.3
IPM Ipoh 13.08 343 Pn **Pn** 21 34 30.8 -0.3
IPM Ipoh 13.08 343 P **Pn** 21 34 31.3 +0.2
1µm65nm,0.6s
IPM Ipoh 13.08 343 P **Pn** 21 34 33.0 +1.9
IPM Ipoh 13.08 343 P **Pn** 21 34 32.7 +1.6
TSI Tuntungan 13.12 332 P **Pn** 21 34 31.2 -0.4
11µm240nm,0.9s
KCSI Kotacane, Aceh 13.53 329 P **Pn** 21 34 33.7 -3.5
2µm202nm,1.0s
BKB Balikpapan 13.86 61 **Pn** 21 34 44.7 +3.0
BKB Balikpapan 13.86 61 P **Pn** 21 34 45.7 +4.0
16µm11µm1µm,0.9s
BKB Balikpapan 13.86 61 P **P** 21 34 46.0 -3.6
SMKI Samarinda 14.54 59 P **Pn** 21 34 53.9 +2.9
13µm19µm1µm,1.2s
PMSI Majene 14.78 73 P **Pn** 21 34 54.5 +0.1
8µm6µm372nm,1.0s
MLSI Meulaboh, Aceh 14.89 326 P **Pn** 21 34 53.0 -2.7
4µm381nm,0.8s
KAPI Kappang 15.18 79 Pn **Pn** 21 34 59.5 -0.2
2.0nm,0.3s,baz=270,slow=7.6,SNR=27
KAPI LR LR 21 41 32.4
comp=Z,16µm,21.9s,baz=264,slow=40
47nm,0.6s
KAPI Kappang 15.18 79 Pn **Pn** 21 34 58.8 -0.8
KAPI Kappang 15.18 79 P **Pn** 21 35 00.1 +0.5
KAPI P **Pn** 21 35 00.1 +0.5
KAPI S **Sn** 21 37 41.7 -5.2
KAPI S **Sn** 21 37 41.7 -5.2
KAPI Kappang 15.18 79 P **Pn** 21 35 00.0 +0.4
3µm187nm,0.9s
KAPI Kappang 15.18 79 P **Pn** 21 35 01.7 +2.1
KAPI Kappang 15.18 79*d i* P **Pn** 21 34 59.7 +0.1
KAPI pmax pmax
comp=Z,51nm,0.7s
LHMI Lhok Sumawe 15.40 329 Pn **Pn** 21 34 59.3 -3.2
LHMI Lhok Sumawe 15.40 329 P **Pn** 21 35 01.1 -1.5
comp=Z,11µmcomp=Z,6µmcomp=Z,404nm,0.8s
LHMI Lhok Sumawe 15.40 329 P **Pn** 21 35 01.5 -1.1
SPSI Sidrap Palu 15.46 75 P **Pn** 21 35 03.0 -0.2
comp=Z,6µmcomp=Z,3µmcomp=Z,145nm,0.9s
BKSI Bulukumba 15.48 81 P **Pn** 21 35 04.0 +0.5
comp=Z,5µmcomp=Z,3µmcomp=Z,270nm,1.1s
BNSI Bone 15.67 77 P **Pn** 21 35 06.9 +0.9
comp=Z,5µmcomp=Z,5µmcomp=Z,207nm,1.9s
BSSI Bau Bau, Buton 15.70 84 P **Pn** 21 35 06.8 +0.3
comp=Z,5µmcomp=Z,11µmcomp=Z,717nm,1.0s
SKLT Songkhla 15.76 345 P **Pn** 21 35 03.7 -3.4
comp=Z,1µmcomp=Z,84nm,0.9s
SKLT Songkhla 15.76 345 P **Pn** 21 35 08.3 +1.2
GIRL Giralia 17.05 149 P **Pn** 21 35 19.9 -3.6
baz=17,SNR=121
GIRL Giralia 17.05 149 Pn **Pn** 21 35 19.7 -3.8
GIRL IAmb IAmb 21 35 25.0
comp=Z,916nm,0.8s
GIRL Giralia 17.05 149 P **Pn** 21 35 21.0 -2.5
KKSI Kolaka, Sulawe 17.22 78 P **Pn** 21 35 26.0 +0.4
comp=Z,3µmcomp=Z,133nm,1.0s
MPSI Mapaga 17.25 62 P **P** 21 35 27.4 +0.1
comp=Z,11µmcomp=Z,8µmcomp=Z,647nm,1.3s
MMRI Maumere 17.27 93 Pn **Pn** 21 35 22.8 -3.5
MMRI IAmb IAmb 21 35 30.3
comp=Z,1µm,1.2s
MMRI Maumere 17.27 93 P **Pn** 21 35 23.7 -2.6
comp=Z,8µmcomp=Z,9µmcomp=Z,901nm,0.9s
MMRI Maumere 17.27 93 P **P** 21 35 27.7 +0.1
SRIT Nakonsritamara 17.40 343 Pn **Pn** 21 35 26.0 -1.9
SRIT Nakonsritamara 17.40 343 P **Pn** 21 35 27.2 -0.7
comp=Z,118nm,0.8s
BBSI Bau Bau 17.85 83 P **P** 21 35 34.3 +0.3
comp=Z,5µmcomp=Z,562nm,0.9s
SURA Surathani 17.93 343 P **P** 21 35 35.0 +0.1
KKM Kota Kinabalu 18.11 39 P **Pn** 21 35 36.9 +0.1
KKM Kota Kinabalu 18.11 39 P **P** 21 35 37.3 +0.3
comp=Z,16µmcomp=Z,31µmcomp=Z,3µm,0.8s
KKM Kota Kinabalu 18.11 39 P **P** 21 35 37.6 +0.7
APSI Ampana 18.26 68 P **P** 21 35 38.0 -0.5
comp=Z,9µmcomp=Z,7µmcomp=Z,464nm,0.9s
TOLI2 Tolitoli 18.40 61 P **P** 21 35 39.9 -0.1
TOLI2 IAmb IAmb 21 35 49.4
comp=Z,671nm,0.9s
TOLI2 Tolitoli 18.40 61 P **Pn** 21 35 41.0 +0.8
BATI Baumata 18.75 98 P **Pn** 21 35 44.9 +0.4
comp=Z,9µmcomp=Z,11µmcomp=Z,698nm,0.8s
MYLDM **Lahad Datu 19.02 46** **Pn** 21 35 49.1 +1.4
MYLDM IAmb IAmb 21 35 59.6
comp=Z,548nm,0.8s
MYLDM **Lahad Datu 19.02 46** P **Pn** 21 35 49.5 +1.8
comp=Z,23µmcomp=Z,22µmcomp=Z,805nm,0.8s
MRSI Marisa 19.11 64 P **P** 21 35 46.0 -1.9
comp=Z,9µmcomp=Z,5µmcomp=Z,259nm,0.7s
LUWI Luwuk 19.25 69 P **P** 21 35 48.4 -0.9
LUWI Luwuk 19.25 69 P **P** 21 35 49.3 0.0
comp=Z,9µmcomp=Z,8µmcomp=Z,591nm,1.3s
LUWI Luwuk 19.25 69 P **P** 21 35 50.0 +0.7
comp=Z,592nm,1.3s
SOEI Soe 19.31 96 P **P** 21 35 49.2 -1.0
SOEI IAmb IAmb 21 35 57.3
comp=Z,460nm,0.9s
SOEI Soe 19.31 96 P **P** 21 35 50.1 0.0
comp=Z,12µmcomp=Z,18µmcomp=Z,2µm,0.8s
SOEI Soe 19.31 96 P **Pn** 21 35 51.6 +0.3
MBWA Marble Bar 19.39 134 P **P** 21 35 50.8 0.0
MBWA Marble Bar 19.39 134 P **P** 21 35 51.4 +0.6
MBWA P **P** 21 35 51.4 +0.6
MBWA P **P** 21 35 51.4 +0.6
MBWA Marble Bar 19.39 134 P **Pn** 21 35 51.8 -0.3
PSA00 Pilbara Seismi 19.73 134 P **P** 21 35 54.3 -0.3
PSA00 Pilbara Seismi 19.73 134 P **Pn** 21 35 56.3 +0.1
GTOI Gorontalo 20.14 65 P **P** 21 35 55.9 -3.2
comp=Z,2µmcomp=Z,118nm,0.7s
DLV T Lat 20.28 10 P Pn 21 36 02.3 -0.5
SANI Sanana 21.95 75 P **P** 21 36 16.7 -1.9
comp=Z,6µmcomp=Z,3µmcomp=Z,206nm,1.0s
NAYO Nakonayok 22.56 351 P **P** 21 36 25.6 +0.5
PPR Puerto Princes 22.56 38*ǁ i* P **P** 21 36 24.8 -0.3
MEEK Meekatharra 22.61 146 P **P** 21 36 25.9 +0.3
baz=23,SNR=18
MEEK Meekatharra 22.61 146 P **P** 21 36 26.1 +0.5
NLAI Namlea 22.72 79 P **P** 21 36 26.3 -0.6
comp=Z,9µmcomp=Z,251nm,0.7s
ZCP Zamboanga City 22.82 50*ǁ e* P **P** 21 36 29.5 +1.6
PBA Port Blair 23.02 328 P **P** 21 36 28.6 -1.3
PBA IAmb IAmb 21 36 51.9
comp=Z,433nm,1.4s
PBA Port Blair 23.02 328 P **P** 21 36 28.9 -1.0
PBA Port Blair 23.02 328 *e* P **P** 21 36 29.8 -0.2
UBPT Khong Chiam 23.27 2 P **P** 21 36 31.6 -0.8
UBPT IAmb IAmb 21 36 34.6
comp=Z,281nm,1.0s
UBPT Khong Chiam 23.27 2 P **P** 21 36 33.2 +0.8
comp=Z,300nm,0.9s
UBPT Khong Chiam 23.27 2 P **P** 21 36 32.5 +0.1
comp=Z,314nm,0.9s
MORW Morawa 23.37 154 P **P** 21 36 33.7 +0.4
baz=24,SNR=5.3
MORW Morawa 23.37 154 P **P** 21 36 32.9 -0.4
MORW Morawa 23.37 154 P **P** 21 36 35.7 +2.4
AAI Ambon 23.69 81 P **P** 21 36 32.8 -3.8
LBMI Labuha 23.82 73 P **P** 21 36 37.7 -0.1
KRAI Karang Ratu 23.96 80 P **P** 21 36 35.4 -3.8
TNTI Ternate 24.18 70 P **P** 21 36 39.4 -1.8
TNTI Ternate 24.18 70 P **P** 21 36 40.7 -0.5
TNTI Ternate 24.18 70 P **P** 21 36 41.1 -0.1
MSAI Masohi 24.48 80 P **P** 21 36 39.5 -4.4
GSPH General Santos 24.57 56*ǁ e* P **P** 21 36 46.5 +1.6
KNRA Kununurra 24.61 110 P **P** 21 36 45.0 0.0
baz=25,SNR=81
KNRA Kununurra 24.61 110 P **P** 21 36 44.8 -0.3
KNRA Kununurra 24.61 110 P **P** 21 36 45.5 +0.4
CTBH Cotabato--PC H 24.67 52*ǁ e* P **P** 21 36 46.2 +0.6
DCPH Dipolog City 24.85 49*ǁ e* P **P** 21 36 48.0 +0.7
GAMI Galela, Maluku 24.98 68 P **P** 21 36 47.6 -0.9
comp=Z,4µmcomp=Z,17µmcomp=Z,2µm,0.9s
BLDU Ballidu 25.00 155 P **P** 21 36 49.3 +0.9
baz=25,SNR=8.0
BLDU Ballidu 25.00 155 P **P** 21 36 48.7 +0.3
CNOP Candoni, Negro 25.18 45*ǁ i* P **P** 21 36 51.2 +0.9
BNDI Bandanaira 25.21 83 P **P** 21 36 50.8 +0.2
comp=Z,4µmcomp=Z,10µmcomp=Z,550nm,1.2s
BNDI Bandanaira 25.21 83 P **P** 21 36 51.3 +0.7
KCP Kidapawan 25.21 54*ǁ e* P **P** 21 36 50.4 -0.2
DAV Davao City (W) 25.64 54 P **P** 21 36 55.1 +0.7
comp=Z,531nm,0.9s,baz=221,slow=2.3,SNR=10
DAV LR LR 21 48 06.6
comp=Z,4µm,20.2s,baz=238,slow=39
DAV Davao City (W) 25.64 54 P **P** 21 36 54.4 -0.1
DAV Davao City (W) 25.64 54 P **P** 21 36 54.8 +0.3
DAV Davao City (W) 25.64 54 P **P** 21 36 54.8 +0.3
comp=Z,10µmcomp=Z,13µmcomp=Z,683nm,0.9s
DAV Davao City (W) 25.64 54 P **P** 21 36 58.4 +3.9
BUKP Musuan 25.71 52*ǁ i* P **P** 21 36 55.5 +0.4
CGP Cagayan de Oro 25.78 51*ǁ e* P **P** 21 36 57.5 +1.8
TBP Tagbilaran 25.96 47*ǁ i* P **P** 21 36 57.0 -0.3
MUN Mundaring 26.00 157 P **P** 21 36 58.1 +0.6
baz=26,SNR=7.5
MUN Mundaring 26.00 157 P **P** 21 36 57.6 +0.1
NONG Nongkai 26.08 356 P **P** 21 36 59.4 +1.1
SAUI Saumlaki 26.25 92 P **P** 21 36 58.8 -1.2
SAUI IAmb IAmb 21 37 22.7
comp=Z,449nm,0.8s
SAUI Saumlaki 26.25 92 P **P** 21 36 59.1 -0.9
comp=Z,9µmcomp=Z,652nm,0.9s
SAUI Saumlaki 26.25 92 P **P** 21 36 59.4 -0.6
KLBR Kellerberrin 26.29 154 P **P** 21 37 00.6 +0.4
baz=26,SNR=11
KLBR Kellerberrin 26.29 154 P **P** 21 37 00.5 +0.4
MTN Manton Dam 26.31 102 P **P** 21 37 00.5 0.0
baz=26,SNR=19
MTN Manton Dam 26.31 102 P **P** 21 36 59.2 -1.3
MTN IAmb IAmb 21 37 23.7
comp=Z,205nm,0.9s
MTN Manton Dam 26.31 102 P **P** 21 37 00.8 +0.3
RCP Roxas 26.49 43*ǁ e* P **P** 21 37 02.7 +0.6
BIPH Bislig 26.92 53*ǁ i* P **P** 21 37 05.0 -1.0
MSLP Maasin 26.99 48*ǁ i* P **P** 21 37 06.2 -0.4
CM31 Chiang Mai Arr 27.04 348 P **P** 21 37 08.0 +1.0
CM31 IAmb IAmb 21 37 19.9
comp=Z,190nm,0.9s
CM31 Chiang Mai Arr 27.04 348 P **P** 21 37 08.7 +1.7
SNR=99
CM31 P **P** 21 37 08.7 +1.7
SNR=99
CM31 S **S** 21 41 40.0 -2.9
CM31 S **S** 21 41 40.0 -2.9
CMAR Chiang Mai Arr 27.04 348 P **P** 21 37 08.1 +1.0
comp=Z,96nm,0.7s,baz=181,slow=8.6,SNR=436
CMAR PcP **PcP** 21 40 29.9 +1.9
comp=Z,3.8nm,0.9s,baz=198,slow=3.4,SNR=1.6
CMAR S **S** 21 41 41.2 -1.8
comp=Z,1.0nm,0.8s,baz=116,slow=27,SNR=0.6
CMAR LR LR 21 49 55.8
comp=Z,3µm,18.7s,baz=175,slow=41
comp=Z,96nm,0.7s
CMAR Chiang Mai Arr 27.04 348*ce* P **P** 21 37 08.6 +1.6
CMAR pmax pmax
comp=Z,108nm,0.7s
NWAO Narrogin (SRO) 27.24 157 P **P** 21 37 08.5 -0.2
comp=Z,10nm,0.8s,baz=6.7,slow=17,SNR=4.5
NWAO S **S** 21 41 48.0 +2.2
comp=Z,13nm,0.8s,baz=277,slow=22,SNR=1.0
NWAO LR LR 21 49 12.5
comp=Z,3µm,18.6s,baz=190,slow=39
comp=Z,10nm,0.8s
NWAO Narrogin (SRO) 27.24 157 P **P** 21 37 09.6 +0.9
baz=27,SNR=4.5
NWAO P **P** 21 37 09.6 +0.9
baz=27,SNR=4.5
NWAO Narrogin (SRO) 27.24 157 P **P** 21 37 08.4 -0.3
NWAO Narrogin (SRO) 27.24 157 IAMs_20 IAMs_20 21 45 18.9
comp=Z,5µm,22.0s
NWAO Narrogin (SRO) 27.24 157 P **P** 21 37 09.6 +0.9
TGY Tagaytay City 27.29 36*ǁ e* P **P** 21 37 09.8 +0.5
SWI Sorong 27.34 76 P **P** 21 37 08.6 -1.2
comp=Z,3µmcomp=Z,358nm,0.8s
SIJI Sorong 27.34 76 P **P** 21 37 08.8 -1.0
comp=Z,193nm,0.8s,baz=295,slow=5.6,SNR=58
SIJI S **S** 21 41 44.1 -3.9
comp=Z,24nm,0.3s,baz=307,slow=19,SNR=9.4
SIJI LR LR 21 48 16.6
comp=Z,2µm,20.4s,baz=265,slow=37
comp=Z,193nm,0.8s
SIJI Sorong 27.34 76 P **P** 21 37 08.5 -1.4
comp=Z,3µmcomp=Z,270nm,0.8s
CHTO Chiang Mai 27.39 348 P **P** 21 37 10.9 +0.8
CHTO Chiang Mai 27.39 348 P **P** 21 37 10.9 +0.8
CHTO pmax pmax
comp=Z,124nm,0.9s
QIZ Qiongzhong 27.44 10 IAMs_20 IAMs_20 21 48 06.6
comp=Z,6µm,22.0s
QIZ Qiongzhong 27.44 10*ǁ i* P **P** 21 37 12.4 +1.8
QIZ S **S** 21 41 52.5 +3.2
QIZ pmax pmax
comp=Z,350nm,1.6s
QIZ pmax pmax
comp=Z,2µm,2.7s
QIZ LR LR
comp=Z,6µm,16.5s
QIZ LR LR
comp=Z,14µm,21.6s
QIZ LR LR
comp=Z,6µm,18.4s
QIZ Qiongzhong 27.44 10 P **P** 21 37 12.6 +2.0
KDU Kakadu 27.59 102 P **P** 21 37 11.6 -0.5
baz=28,SNR=30
KDU Kakadu 27.59 102 P **P** 21 37 11.8 -0.2
LQP Lukban 27.65 37*ǁ e* P **P** 21 37 12.4 -0.3
FAKI Fak Fak 27.81 81 P **P** 21 37 12.8 -1.2
FAKI IAmb IAmb 21 37 36.2
comp=Z,701nm,1.8s
FAKI Fak Fak 27.81 81 P **P** 21 37 13.2 -0.8
comp=Z,3µmcomp=Z,5µmcomp=Z,140nm,0.8s
FAKI Fak Fak 27.81 81 P **P** 21 37 13.0 -1.0
WRKA Warakurna 28.03 130 P **P** 21 37 15.1 -0.8
baz=28,SNR=20
WRKA Warakurna 28.03 130 P **P** 21 37 16.0 +0.1
PALK Pallekele 28.48 302 P **P** 21 37 21.3 +1.3
comp=Z,40nm,1.0s,baz=218,slow=6.2,SNR=13
PALK S **S** 21 42 08.3 +2.5
comp=Z,5.1nm,0.9s,baz=63,slow=9.0,SNR=1.7
PALK LR LR 21 47 08.3
comp=Z,5µm,20.6s,baz=234,slow=33
comp=Z,40nm,1.0s
PALK Pallekele 28.48 302 P **P** 21 37 21.4 +1.4
PALK Pallekele 28.48 302 IAMs_20 IAMs_20 21 46 46.0
comp=Z,5µm,21.0s
PALK Pallekele 28.48 302 P **P** 21 37 22.9 +2.9
comp=Z,95nm,1.6s
PALK Pallekele 28.48 302*ce* P **P** 21 37 18.8 -1.2
PALK pmax pmax
comp=Z,87nm,3.8s
PCPH Palayan 28.55 34*ǁ e* P **P** 21 37 19.5 -1.0
RKGY Rocky Gully 28.64 159 P **P** 21 37 23.1 +1.9
AUALB St Joseph's Co 29.33 158 P **P** 21 37 30.6 +3.4
RKPI Ransiki, Papua 30.00 79 P **P** 21 37 32.8 -0.7
comp=Z,222nm,0.8s
MWPI Manokwari, Pap 30.00 78 P **P** 21 37 33.8 +0.3
comp=Z,4µmcomp=Z,216nm,0.9s
WB0 Warramunga Arr 30.91 115 IAmb IAmb 21 38 34.8
comp=Z,88nm,0.7s
WRA Warramunga Arr 30.91 115 P **P** 21 37 41.3 -0.2
comp=Z,61nm,0.9s,baz=287,slow=10,SNR=247
WRA S **S** 21 42 41.1 -2.9
comp=Z,4.1nm,0.7s,baz=311,slow=15,SNR=1.7
WRA LR LR 21 50 53.1
comp=Z,3µm,20.6s,baz=285,slow=38
WRA P3KPbc 22 09 24.5
comp=Z,0.6nm,0.9s,baz=113,slow=4.4,SNR=1.9
comp=Z,61nm,0.9s
WRAB Tennant Creek 30.92 115 P **P** 21 37 40.3 -1.3
WRAB IAmb IAmb 21 38 39.5
comp=Z,97nm,0.8s
WRAB Tennant Creek 30.92 115 P **P** 21 37 41.5 -0.2
WRAB Tennant Creek 30.92 115*d i* P **P** 21 37 41.4 -0.2
WRAB pmax pmax
comp=Z,89nm,1.0s
WB2 Warramunga Arr 30.93 115 IAmb IAmb 21 37 59.8
comp=Z,86nm,0.7s
WR0 Warramunga Arr 31.10 115 P **P** 21 37 42.3 -0.9
WR0 IAmb IAmb 21 38 49.7
comp=Z,133nm,0.9s
MND Mandalay 31.14 344 P **P** 21 37 44.5 +1.1
FORT Forest 31.31 139 P **P** 21 37 44.6 -0.3
baz=31,SNR=11
FORT Forest 31.31 139 P **P** 21 37 43.9 -1.0
FORT Forest 31.31 139 P **P** 21 37 44.9 0.0
HKPS Hong Kong Po S 31.58 17 P **P** 21 37 47.5 +0.3
HKPS Hong Kong Po S 31.58 17 IAMs_20 IAMs_20 21 50 59.0
comp=Z,4µm,20.0s
HKPS Hong Kong Po S 31.58 17 P **P** 21 37 49.0 +1.7
ASAR Alice Springs 31.88 122 P **P** 21 37 49.3 -0.7
comp=Z,36nm,1.0s,baz=294,slow=8.0,SNR=120
ASAR PP PP 21 38 41.9 -20
comp=Z,89nm,0.8s,baz=294,slow=9.0,SNR=7.2
ASAR S **S** 21 43 01.3 +2.2
comp=Z,0.9nm,0.6s,baz=316,slow=13,SNR=1.5
ASAR LR LR 21 50 03.4
comp=Z,5µm,21.8s,baz=300,slow=35
ASAR P3KPbc 22 09 23.3
comp=Z,0.1nm,0.3s,baz=123,slow=4.6,SNR=4.2
comp=Z,36nm,1.0s
H08S2 Diego Garcia H 31.99 269 T T 22 11 43.2
baz=90,slow=74
H08S3 Diego Garcia H 32.00 269 T T 22 12 20.6
baz=90
H08S1 Diego Carcia H 32.01 269 T T 22 12 00.2
baz=90,slow=74
DGAR Diego Garcia 32.05 269 IAMs_20 IAMs_20 21 48 11.2
comp=Z,4µm,21.0s
MDRS Chennai 32.22 311 *e* P **P** 21 37 55.2 +2.3
MDRS *e* P **P** 21 37 55.3 +2.3
TRD Trivandrum 32.29 300 *e* P **P** 21 37 56.3 +2.7
SAIH SAIHA 32.55 339 *e* P **P** 21 37 57.7 +1.7
SAIH *e* P **P** 21 37 57.7 +1.7
SAIH IAmb IAmb 21 38 00.7
comp=Z,232nm,1.0s
SAIH IAmb IAmb 21 38 00.7
comp=Z,202nm,0.9s
KOD Kodaikanal 32.75 303 *e* P **P** 21 38 00.6 +2.5
SALM Salem 32.95 306 *e* P **P** 21 38 02.9 +3.5
SALM IAmb IAmb 21 38 05.2
comp=Z,122nm,1.1s
KMI Kunming 33.11 357 ⇑P **P** 21 38 03.8 +2.8
KMI PP **PP** 21 39 14.5 -1.8
KMI S **S** 21 43 20.9 +2.4
KMI pmax pmax
comp=Z,440nm,0.9s
KMI pmax pmax
comp=Z,2µm,3.5s
KMI LR LR
comp=Z,7µm,16.4s
KMI LR LR
comp=Z,3µm,19.0s
KMI LR LR
comp=Z,9µm,17.9s
VIS Vishakhapatnam 33.31 321 *e* P **P** 21 38 03.8 +1.3
VIS *e* P **pP** 21 38 04.6 -5.2
TNCH TengChong 33.52 350 ⇑P **P** 21 38 06.5 +2.0
TNCH PP **PP** 21 39 19.4 -1.3
TNCH S **S** 21 43 27.6 +2.9
TNCH pmax pmax
comp=Z,300nm,1.6s
TNCH pmax pmax
comp=Z,800nm,3.6s
TNCH LR LR
comp=Z,2µm,15.2s
TNCH LR LR
comp=Z,2µm,15.4s
TNCH LR LR
comp=Z,6µm,20.1s
PCHI Peechi 33.84 303*ǁ e* P **P** 21 38 10.1 +2.9
BWNR Bhubaneshwar 33.86 327 *e* P **P** 21 38 08.9 +1.6
GYA Guiyang 34.43 3*ǁ i* P **P** 21 38 14.6 +2.3
GYA PP **PP** 21 39 35.5 +4.8
GYA S **S** 21 43 39.2 +0.6
GYA pmax pmax
comp=Z,740nm,0.8s
GYA pmax pmax
comp=Z,3µm,5.9s
GYA LR LR
comp=Z,2µm,24.4s
GYA LR LR
comp=Z,6µm,21.5s
GYA LR LR
comp=Z,3µm,23.2s
PZH PanZhiHua 34.55 355 P **P** 21 38 14.7 +1.4
PZH sP **pP** 21 38 22.5 +1.4
PZH S **S** 21 43 40.2 -0.4
PZH PcS **PcS** 21 44 37.3 +2.7
PZH ScS **ScS** 21 48 37.3 +3.2
PZH pmax pmax
comp=Z,60nm,1.1s
PZH pmax pmax
comp=Z,700nm,8.9s
PZH LR LR
comp=Z,5µm,19.8s
PZH LR LR
comp=Z,8µm,21.7s
PZH LR LR
comp=Z,4µm,17.3s
TWG Pinlang 34.65 27 P **P** 21 38 13.8 -0.3
TWG IAmb IAmb 21 38 24.4
comp=Z,244nm,0.9s
TWGBT **Beinan 34.65 27** P **P** 21 38 15.4 +1.3
SILR SILCHAR 34.74 341 *e* P **P** 21 38 16.8 +2.0
SILR *e* P **pP** 21 38 17.1 -5.4
SILR IAmb IAmb 21 38 21.5
comp=Z,891nm,0.8s
SILR IAmb IAmb 21 38 21.5
comp=Z,868nm,0.8s
SILR *e* S **S** 21 43 42.4 -0.7
OOD Oodnadatta 35.13 128 P **P** 21 38 17.8 -0.5
MULG Mulgathing 35.16 133 P **P** 21 38 18.5 +0.1
YULB Yu-li 35.24 27 P **P** 21 38 19.4 +0.2

SSLB	Suanglung	35.44	26	P	P	21 38 22.0	+1.1
QZH	Quanzhou	35.52	22⇑	iP	P	21 38 22.2	+0.7
QZH				PP	PP	21 39 46.2	+3.6
QZH				S	S	21 43 55.6	+0.4
QZH				SS	SnSn	21 46 20.4	+3.5
QZH				pmax	pmax		
	comp=Z,68nm,1.0s						
QZH				pmax	pmax		
	comp=Z,1µm,4.4s						
QZH				LR	LR		
	comp=Z,900nm,12.3s						
QZH				LR	LR		
	comp=Z,2µm,13.7s						
QZH				LR	LR		
	comp=Z,2µm,15.6s						
MNCI	Minicoy	35.58	297	P	P	21 38 24.1	+1.9
MNCI				IAmb	IAmb	21 38 28.2	
	comp=Z,215nm,1.1s						
MNCY	Minicoy	35.59	296	eP	P	21 38 25.1	+2.7
MNCY				eP	pP	21 38 25.5	-4.2
MNCY				IAmb	IAmb	21 38 27.9	
	comp=Z,177nm,1.1s						
GENI	Genyem	35.63	83	P	P	21 38 21.0	-1.7
	comp=Z,6µmcomp=Z,197nm,1.3s						
GENI	Genyem	35.63	83	P	P	21 38 21.1	-1.7
SHL	Shillong	35.77	340	P	P	21 38 23.8	-0.1
SHL	Shillong	35.77	340	P	P	21 38 24.8	+0.9
	SNR=108						
SHL				S	S	21 43 56.0	-3.4
SHL	Shillong	35.77	340	eP	P	21 38 24.4	+0.5
SHL				IAmb	IAmb	21 38 28.9	
	comp=Z,185nm,0.8s						
SHL	Shillong	35.77	340	P	P	21 38 23.8	-0.1
SHL				pmax	pmax		
	comp=Z,244nm,0.8s						
QIS	Mount Isa	35.83	114	P	P	21 38 25.0	+0.6
	baz=36,SNR=38						
QIS	Mount Isa	35.83	114	P	P	21 38 25.0	+0.6
NACB	Ninganchiao	36.05	27	P	P	21 38 25.7	-0.5
NACB	Ninganchiao	36.05	27	P	P	21 38 27.0	+0.8
HYB	Hyderabad	36.29	315	eP	P	21 38 29.2	+0.9
HYB				IAmb	IAmb	21 38 31.8	
	comp=Z,74nm,0.9s						
HYBB	Hyderabad (bro	36.29	315	IVmB_BB		21 38 31.4	
	comp=Z,452nm,0.9s						
HYBB				IVmBBB		21 38 31.4	
	comp=Z,471nm,1.0s						
HYBB				IVMsBB		21 52 25.9	
	comp=Z,462nm,17.4s						
YHNB	Yeheng	36.39	26	IAmb	IAmb	21 38 33.1	
	comp=Z,165nm,0.7s						
YHNB	Yeheng	36.39	26	P	P	21 38 29.9	+0.8
GUWA	GUWAHATI	36.41	340	eP	P	21 38 33.1	+4.0
GUWA				IAML		21 38 34.1	
	comp=Z,125nm,0.8s						
TEZP	TEZPUR	36.45	342	eP	P	21 38 30.2	+0.7
TEZP				IAmb	IAmb	21 38 35.1	
	comp=Z,465nm,0.6s						
TEZP				eS	S	21 44 07.1	-2.2
ITAN	ITANAGAR	36.67	343	eP	P	21 38 32.8	+1.4
ITAN				IAmb	IAmb	21 38 37.1	
	comp=Z,700nm,0.7s						
ITAN				eS	S	21 44 09.2	-3.6
TATO	Taipei	36.71	26	P	P	21 38 31.6	-0.1
TATO				IAmb	IAmb	21 38 34.9	
	comp=Z,329nm,1.1s						
TATO	Taipei	36.71	26	P	P	21 38 32.3	+0.6
TATO				P	P	21 38 32.3	+0.6
TATO				P	P	21 38 32.3	+0.6
TATO	Taipei	36.71	26	P	P	21 38 32.4	+0.7
TATO	Taipei	36.71	26	P	P	21 38 31.8	+0.1
TATO				pP	sP	21 38 42.2	-0.3
BOK	Bokaro	36.71	330	eP	P	21 38 34.3	+2.5
BOK				eP	pP	21 38 34.4	-4.7
BOK				IAmb	IAmb	21 38 39.9	
	comp=Z,316nm,0.8s						
BOK				IAmb	IAmb	21 38 40.0	
	comp=Z,322nm,0.8s						
CNSH	ChangSha	36.95	12⇑	P	P	21 38 35.1	+1.4
CNSH				S	S	21 44 16.6	-0.3
CNSH				pmax	pmax		
	comp=Z,210nm,0.9s						
CNSH				LR	LR		
	comp=Z,2µm,18.4s						
CNSH				LR	LR		
	comp=Z,5µm,19.6s						
CNSH				LR	LR		
	comp=Z,2µm,18.7s						
YOJ	Yonaguni jima	36.95	28	P	P	21 38 33.8	0.0
YOJ	Yonaguni jima	36.95	28	P	P	21 38 34.5	+0.7
YOJ	Yonaguni jima	36.95	28	P	P	21 38 33.8	0.0
YOJ				pmax	pmax		
	comp=Z,1µm,0.7s						
ZIRO	ZIRO	36.99	344	eP	P	21 38 34.9	+0.5
ZIRO				IAmb	IAmb	21 38 39.0	
	comp=Z,630nm,0.6s						
BLSP	Bilaspur	37.39	324	eP	P	21 38 38.8	+1.2
BBOO	Buckleboo	37.96	135	P	P	21 38 41.7	-0.7
	baz=38,SNR=17						
BBOO	Buckleboo	37.96	135	P	P	21 38 41.3	-1.1
BBOO	Buckleboo	37.96	135	P	P	21 38 41.7	-0.7
COEN	Coen	38.08	102	P	P	21 38 43.7	+0.2
	baz=38,SNR=22						
COEN	Coen	38.08	102	IAmb	IAmb	21 39 05.7	
	comp=Z,113nm,1.0s						
COEN	Coen	38.08	102	P	P	21 38 43.8	+0.2
LCRK	Leigh Creek	38.33	130	P	P	21 38 45.8	+0.3
LATR	Latur	38.37	314	eP	P	21 38 47.3	+1.4
LATR				IAmb	IAmb	21 38 49.6	
	comp=Z,70nm,0.9s						
ENH	Enshi	38.45	7	P	P	21 38 46.6	+0.2
ENH				IAMs_20	IAMs_20	21 54 54.3	
	comp=Z,3µm,22.0s						
ENH	Enshi	38.45	7	P	P	21 38 47.4	+1.0
ENH	Enshi	38.45	7	P	P	21 38 46.0	-0.4
ENH				pP	pP	21 38 55.2	+1.0
ENH				sP	pwP	21 39 01.8	+1.4
GTK	Tadong	38.57	337	eP	P	21 38 49.7	+2.1
GTK				eP	pP	21 38 50.2	-5.2
GTK				IAML		21 38 54.2	
	comp=Z,173nm,0.8s						
GTK				IAmb	IAmb	21 38 54.4	
	comp=Z,169nm,0.7s						
CD2	Chengdu	38.83	359	P	P	21 38 50.3	+0.7
CD2				sP	pwP	21 39 04.1	+0.6
CD2				PP	PnPn	21 40 22.3	+0.9
CD2				S	S	21 44 47.9	+2.4
CD2				pmax	pmax		
	comp=Z,450nm,0.9s						
CD2				pmax	pmax		
	comp=Z,2µm,2.6s						
CD2				LR	LR		
	comp=Z,2µm,12.9s						
CD2				LR	LR		
	comp=Z,3µm,15.5s						
CD2				LR	LR		
	comp=Z,2µm,14.5s						
RAMN	Ramite	39.08	334	eP	P	21 38 55.5	+3.5
	comp=Z,352nm,0.8s						
RAMN	Ramite	39.08	334	eP	P	21 38 55.5	+3.5
	comp=Z,319nm,0.7s						
WHYH	Whyalla	39.16	134	P	P	21 38 52.4	+0.1
INKA	Innaminka	39.16	124	P	P	21 38 53.3	+0.8
KAD	Karad	39.42	310	eP	P	21 38 56.5	+1.7
KAD				IAmb	IAmb	21 38 58.7	
	comp=Z,102nm,0.9s						
JBP	Jabalpur	39.45	323	eP	P	21 38 54.8	-0.1
JBP				IAmb	IAmb	21 38 57.0	
	comp=Z,118nm,0.8s						
JBP				eS	S	21 44 54.5	-0.5
PTPS	Port Pirie	39.53	134	P	P	21 38 56.2	+0.7
WHN	Wuhan	39.53	13⇑	iP	P	21 38 57.0	+1.6
WHN				sP	pP	21 39 03.9	+0.7
WHN				PP	PnPn	21 40 34.5	+4.8
WHN				S	S	21 45 00.2	+4.2
WHN				pmax	pmax		
	comp=Z,170nm,0.9s						
WHN				pmax	pmax		
	comp=Z,3µm,4.7s						
WHN				LR	LR		
	comp=Z,5µm,18.0s						
WHN				LR	LR		
	comp=Z,3µm,12.3s						
WHN				LR	LR		
	comp=Z,5µm,13.1s						
AKL	Akola	39.58	317	eP	P	21 38 57.7	+1.7
MTSU	Mount Surprise	39.67	109	P	P	21 38 58.6	+1.6
	baz=40,SNR=28						
MTSU	Mount Surprise	39.67	109	P	P	21 38 58.6	+1.6
LSA	Lhasa	39.84	341	iP	P	21 38 59.3	+0.8
	SNR=322						
JIRN	Jiri	39.87	334	eP	P	21 39 01.4	+2.6
	comp=Z,1µm,0.9s						
JIRN	Jiri	39.87	334	eP	P	21 39 01.7	+2.9
	comp=Z,1µm,0.9s						
ALBI	Allahabad	40.07	327	eP	P	21 39 01.9	+2.0
PKI	Pulchoki	40.15	333	eP	P	21 39 03.7	+2.7
	comp=Z,229nm,0.8s						
PKI	Pulchoki	40.15	333	eP	P	21 39 03.7	+2.7
	comp=Z,229nm,0.8s						
PKIN	Phulchoki	40.16	333	eP	P	21 39 03.7	+2.7
	comp=Z,220nm,0.7s						
PKIN	Phulchoki	40.16	333	eP	P	21 39 03.5	+2.5
	comp=Z,220nm,0.7s						
GUN	Gumba	40.23	334	eP	P	21 39 04.7	+3.0
	comp=Z,1µm,0.8s						
GUN	Gumba	40.23	334	eP	P	21 39 04.6	+2.9
	comp=Z,926nm,0.8s						
HTT	Hallett	40.33	134	P	P	21 39 02.0	-0.2
	baz=40,SNR=12						
HTT	Hallett	40.33	134	P	P	21 39 02.4	+0.2
POO	Poona	40.42	311	eP	P	21 39 04.5	+1.4
POO				eP	pP	21 39 04.6	-5.9
VLK	Valmikinagar	40.65	331	eP	P	21 39 07.9	+3.1
VLK				IAmb	IAmb	21 39 14.5	
	comp=Z,588nm,0.8s						
GKN	Gorkha	40.87	332	eP	P	21 39 09.8	+3.0
	comp=Z,577nm,0.8s						
GKN	Gorkha	40.87	332	eP	P	21 39 09.7	+3.0
	comp=Z,577nm,0.8s						
BHPL	Bhopal	41.09	320	eP	P	21 39 08.4	-0.2
BHPL				eP	pP	21 39 09.1	-6.8
BHPL				IAmb	IAmb	21 39 17.6	
	comp=Z,118nm,0.5s						
JOW	Kunigami	41.55	32	P	P	21 39 12.6	+0.3
	comp=Z,248nm,0.9s,baz=259,slow=7.2,SNR=30						
JOW				LR	LR	21 57 06.9	
	comp=Z,885nm,21.8s,baz=218,slow=37						
	comp=Z,248nm,0.9s						
JOW	Kunigami	41.55	32	P	P	21 39 12.0	-0.2
JOW				IAmb	IAmb	21 39 14.8	
	comp=Z,283nm,1.0s						
JOW	Kunigami	41.55	32	P	P	21 39 12.8	+0.6
STKA	Stephens Creek	41.56	130	P	P	21 39 12.2	-0.1
	comp=Z,54nm,0.8s,baz=302,slow=8.4,SNR=76						
STKA				S	S	21 45 28.1	+1.6
	comp=Z,6.1nm,0.8s,baz=352,slow=7.1,SNR=1.4						
STKA				LR	LR	21 57 34.4	
	comp=Z,3µm,20.0s,baz=287,slow=38						
	comp=Z,54nm,0.8s						
STKA	Stephens Creek	41.56	130	P	P	21 39 12.3	0.0
	baz=42,SNR=25						
STKA	Stephens Creek	41.56	130	P	P	21 39 11.3	-1.0
STKA	Stephens Creek	41.56	130	P	P	21 39 12.5	+0.2
DANN	Dangsing	41.57	332	eP	P	21 39 15.5	+2.8
	comp=Z,2µm,0.8s						
DANN	Dangsing	41.57	332	eP	P	21 39 15.2	+2.5
	comp=Z,2µm,0.8s						
QLP	Quilpie	41.65	121	P	P	21 39 14.4	+1.3
	baz=42,SNR=7.7						
QLP	Quilpie	41.65	121	P	P	21 39 14.3	+1.2
ROCAM	Rodrigues Isla	41.71	249	IAMs_20	IAMs_20	21 51 41.1	
	comp=Z,3µm,21.0s						
CTA	Charters Tower	41.81	111	P	P	21 39 15.2	+0.6
	comp=Z,22nm,0.8s,baz=274,slow=10.0,SNR=24						
CTA				S	S	21 45 31.4	+0.9
	comp=Z,1.2nm,0.3s,baz=282,slow=9.3,SNR=1.2						
CTA				LR	LR	21 56 01.5	
	comp=Z,3µm,22.0s,baz=280,slow=35						
	comp=Z,22nm,0.8s						
CTA	Charters Tower	41.81	111	P	P	21 39 16.1	+1.5
CTAO	Charters Tower	41.81	111	P	P	21 39 14.6	+0.1
CTAO				IAmb	IAmb	21 39 35.1	
	comp=Z,209nm,1.1s						
CTAO	Charters Tower	41.81	111	P	P	21 39 16.0	+1.5
CTAO	Charters Tower	41.81	111	P	P	21 39 14.6	+0.1
CTAO				pmax	pmax		
	comp=Z,209nm,1.1s						
PMG	Port Moresby	41.88	95	P	P	21 39 15.3	+0.2
	comp=Z,45nm,0.8s,baz=296,slow=5.4,SNR=15						
PMG				LR	LR	21 58 46.1	
	comp=Z,1µm,21.6s,baz=282,slow=39						
	comp=Z,45nm,0.8s						
PMG	Port Moresby	41.88	95	P	P	21 39 14.5	-0.6
PMG				IAmb	IAmb	21 39 33.2	
	comp=Z,216nm,1.2s						
PMG	Port Moresby	41.88	95	P	P	21 39 14.7	-0.4
	comp=Z,2µmcomp=Z,130nm,0.8s						
PMG	Port Moresby	41.88	95	P	P	21 39 15.9	+0.8
PMG	Port Moresby	41.88	95	P	P	21 39 15.7	+0.6
PMG	Port Moresby	41.88	95c	eP	P	21 39 15.2	+0.1
PMG				pmax	pmax		
	comp=Z,51nm,0.8s						
SSE	Sheshan	42.05	21	P	P	21 39 17.8	+1.6
SSE				S	S	21 45 35.1	+1.7
SSE				pmax	pmax		
	comp=Z,97nm,1.0s						
SSE				pmax	pmax		
	comp=Z,790nm,3.6s						
XAN	Xi'an	42.12	5⇑	iP	P	21 39 17.5	+0.7
XAN				pP	pP	21 39 26.4	+1.7
XAN				PP	PP	21 40 55.9	+1.1
XAN				S	S	21 45 32.9	-1.7
XAN				pmax	pmax		
	comp=Z,160nm,1.1s						
XAN				pmax	pmax		
	comp=Z,2µm,4.5s						
XAN				LR	LR		
	comp=Z,2µm,24.9s						
XAN				LR	LR		
	comp=Z,9µm,24.2s						
XAN				LR	LR		
	comp=Z,5µm,16.8s						
NJ2	Nanjing	42.15	18⇑	iP	P	21 39 18.7	+1.7
NJ2				S	S	21 45 37.8	+2.8
NJ2				sS	sS	21 45 51.5	+3.2
NJ2				pmax	pmax		
	comp=Z,160nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,2µm,3.5s						
NJ2				LR	LR		
	comp=Z,2µm,20.6s						
NJ2				LR	LR		
	comp=Z,2µm,14.2s						
NJ2				LR	LR		
	comp=Z,2µm,16.1s						
TV1H	Townsville Har	42.17	110	P	P	21 39 19.2	+1.7
MANU	Manus Island	42.81	84	IAmb	IAmb	21 39 26.3	
	comp=Z,100nm,0.8s						
MANU	Manus Island	42.81	84	P	P	21 39 23.6	+0.8
LYN	LuoYang	43.06	9⇑	iP	P	21 39 25.9	+1.5
LYN				PP	PP	21 41 08.7	+3.8
LYN				S	S	21 45 48.7	+0.3
LYN				pmax	pmax		
	comp=Z,60nm,1.0s						
LYN				pmax	pmax		
	comp=Z,2µm,4.7s						
LYN				LR	LR		
	comp=Z,2µm,25.2s						
LYN				LR	LR		
	comp=Z,4µm,21.5s						
LYN				LR	LR		
	comp=Z,3µm,20.2s						
LZH	Lanzhou	43.99	359	⇑P	P	21 39 33.7	+1.6
LZH				pP	pP	21 39 36.6	-3.4
LZH				sP	sP	21 39 39.6	-3.0
LZH				S	S	21 46 02.4	+0.2
LZH				sS	pS	21 46 13.4	+1.8
LZH				pmax	pmax		
	comp=Z,140nm,1.3s						
LZH				pmax	pmax		
	comp=Z,570nm,5.1s						
LZH				LR	LR		
	comp=Z,4µm,14.6s						
LZH				LR	LR		
	comp=Z,5µm,16.2s						
LZH				LR	LR		
	comp=Z,4µm,18.1s						
ARPS	Mount Arapiles	44.09	136	P	P	21 39 33.8	+1.1
	baz=44,SNR=8.3						
ARPS	Mount Arapiles	44.09	136	P	P	21 39 33.4	+0.7
LGTI	Lohaghat	44.21	329	eP	P	21 39 35.8	+2.1
PTH	Pithoragarh	44.30	329	eP	P	21 39 36.8	+2.1
CMSA	Cobar Meteorol	44.59	127	P	P	21 39 37.4	+0.6
	baz=45,SNR=50						
CMSA	Cobar Meteorol	44.59	127	P	P	21 39 37.4	+0.6
SONA	Sohna	45.00	325	eP	P	21 39 41.4	+1.4
BISR	Bishrakh	45.04	325	eP	P	21 39 43.2	+2.8
GOMU	GeErMu	45.08	349	P	P	21 39 43.9	+2.9
GOMU				pP	pP	21 39 48.4	-0.6
GOMU				sP	sP	21 39 52.6	+1.0
GOMU				SS	SS	21 49 37.4	-4.0
GOMU				pmax	pmax		
	comp=Z,240nm,0.7s						
GOMU				LR	LR		
	comp=Z,2µm,17.8s						
GOMU				LR	LR		
	comp=Z,1µm,15.7s						
GOMU				LR	LR		
	comp=Z,2µm,19.2s						
AJM	Ajmer	45.16	321	eP	P	21 39 42.4	+1.0
GUMO	Guam	45.26	62	LR	LR	21 59 50.8	
	comp=Z,724nm,19.9s,baz=236,slow=38						
GUMO	Guam	45.26	62	P	P	21 39 39.1	-3.3
GUMO	Guam	45.26	62	P	P	21 39 39.7	-2.7
GUMO	Guam	45.26	62	P	P	21 39 39.1	-3.3
GUMO				pmax	pmax		
	comp=Z,220nm,0.7s						
RMQ	Roma	45.49	119	P	P	21 39 45.9	+1.7
	baz=46,SNR=21						
RMQ	Roma	45.49	119	P	P	21 39 45.8	+1.7
TIA	Tai'an	45.60	14	P	P	21 39 45.0	+0.3
TIA				S	S	21 46 24.1	-1.2
TIA				pmax	pmax		
	comp=Z,66nm,0.8s						
TIA				pmax	pmax		
	comp=Z,690nm,4.1s						
TIA				LR	LR		
	comp=Z,1µm,18.5s						
TIA				LR	LR		
	comp=Z,2µm,11.4s						
TIA				LR	LR		
	comp=Z,2µm,15.0s						
KHET	Khetri	45.61	323	eP	P	21 39 46.2	+1.2
AULRC	Lightning Ridg	45.70	123	P	P	21 39 46.9	+1.2
BRAT	Ballarat	45.93	136	P	P	21 39 49.2	+1.9
JUMK	Jumkunaria	45.98	314	eP	P	21 39 54.6	+6.7
VJP	Vajepar	45.99	314	eP	P	21 39 50.0	+2.0
DDI	Dehra Dun	46.05	327	eP	P	21 39 49.8	+1.3
DDI				IAmb	IAmb	21 39 57.6	
	comp=Z,243nm,0.8s						
TIY	Taiyuan	46.16	8	⇑P	P	21 39 50.3	+1.1
TIY				PP	PP	21 41 39.6	+1.6
TIY				S	S	21 46 31.2	-2.2
TIY				pmax	pmax		
	comp=Z,110nm,0.8s						
TIY				pmax	pmax		
	comp=Z,1µm,4.8s						
TIY				LR	LR		
	comp=Z,800nm,16.3s						
TIY				LR	LR		
	comp=Z,5µm,20.5s						
TIY				LR	LR		
	comp=Z,2µm,20.6s						
HNS	HongShan	46.23	11	⇑P	P	21 39 50.4	+0.8
HNS				PP	PP	21 41 41.7	+3.1
HNS				S	S	21 46 33.6	-0.6
HNS				SS	SS	21 50 01.1	+1.0
HNS				pmax	pmax		
	comp=Z,89nm,1.0s						
HNS				pmax	pmax		
	comp=Z,1µm,5.8s						
HNS				LR	LR		
	comp=Z,1µm,18.3s						
HNS				LR	LR		
	comp=Z,3µm,19.5s						
HNS				LR	LR		
	comp=Z,2µm,16.1s						
BHUJ	Bhuj	46.41	313	eP	P	21 39 53.6	+2.3
BHUJ				eP	pP	21 39 54.1	-4.7
BHUJ				IAmb	IAmb	21 39 56.3	
	comp=Z,146nm,1.2s						
JSU	Suzuyama	46.43	31	IAmb	IAmb	21 39 52.9	
	comp=Z,237nm,1.0s						
JSU	Suzuyama	46.43	31	P	P	21 39 51.1	-0.3
BHUN	Bhuj North	46.47	313	eP	P	21 39 53.4	+1.6
TOO	Toolangi	47.02	135	P	P	21 39 58.0	+2.0
	baz=47,SNR=3.8						
TOO	Toolangi	47.02	135	P	P	21 39 56.9	+0.9
TOO	Toolangi	47.02	135	P	P	21 39 57.0	+1.0
TOO	Toolangi	47.02	135	P	P	21 39 56.9	+0.9
TOO				pmax	pmax		
	comp=Z,45nm,1.1s						
KRVT	Keravat (AS076	47.09	88	LR	LR	22 04 56.1	
	comp=Z,666nm,19.3s,baz=43,slow=43						
SMLA	Simla	47.16	327	eP	P	21 39 58.9	+1.9
SMLA				eP	pP	21 39 59.4	-5.1
SMLA				IAmb	IAmb	21 40 06.2	
	comp=Z,258nm,0.7s						
SMLA				IAmb	IAmb	21 40 06.3	
	comp=Z,388nm,1.0s						
RABL	Rabaul	47.24	88	P	P	21 39 56.0	-2.0
RABL				IAmb	IAmb	21 41 00.9	
	comp=Z,66nm,0.7s						
EIDS	Eidsvold	47.25	117	P	P	21 39 59.1	+1.2
	baz=47,SNR=3.3						
EIDS	Eidsvold	47.25	117	P	P	21 39 58.2	+0.3
EIDS				IAmb	IAmb	21 40 19.7	
	comp=Z,77nm,1.0s						
EIDS	Eidsvold	47.25	117	P	P	21 39 59.1	+1.2
GTA	Gaotai	47.52	355	⇑P	P	21 40 01.6	+1.7
GTA				pP	pP	21 40 04.7	-3.2
GTA				sP	sP	21 40 08.6	-1.9
GTA				PP	PP	21 41 53.4	+1.7
GTA				S	S	21 46 53.3	+0.4
GTA				sS	pS	21 47 02.5	0.0
GTA				ScS	ScS	21 49 47.8	-3.8
GTA				SS	SS	21 50 20.5	-0.9
GTA				pmax	pmax		
	comp=Z,2µm,4.3s						
GTA				LR	LR		
	comp=Z,3µm,21.4s						
GTA				LR	LR		
	comp=Z,5µm,21.5s						
GTA				LR	LR		
	comp=Z,3µm,21.8s						
JNU	Nakatsue	47.95	30	IAmb	IAmb	21 40 22.9	
	comp=Z,269nm,1.2s						
JNU	Nakatsue	47.95	30	P	P	21 40 02.8	-0.4
CAN	Canberra	48.61	131	P	P	21 40 07.7	-0.7
CAN				IAmb	IAmb	21 40 32.3	
	comp=Z,377nm,2.0s						
CAN	Canberra	48.61	131	P	P	21 40 09.3	+0.9
CAN	Canberra	48.61	131	P	P	21 40 07.7	-0.7
CAN				pmax	pmax		
	comp=Z,377nm,2.0s						
CAN				MLR	MLR		
	comp=Z,4µm,19.0s						
CAN	Canberra	48.61	131	P	P	21 40 06.4	-1.9
CAN				pP	pP	21 40 15.9	+0.1
AUPHS	Peel High Scho	48.62	125	P	P	21 40 09.6	+1.2
BTO	Baotou	48.73	5	eP	P	21 40 10.8	+1.6
BTO				PP	PP	21 42 02.3	-0.3
BTO				S	S	21 47 13.8	+3.9
CNB	Canberra Magne	48.88	130	P	P	21 40 11.9	+1.5
	baz=49,SNR=5.2						
CNB	Canberra Magne	48.88	130	P	P	21 40 11.7	+1.2
THN	Thein Dam	48.95	327	eP	P	21 40 11.1	+0.3
THN				IAmb	IAmb	21 40 20.2	
	comp=Z,400nm,0.5s						
RER	Riviere de l'E	48.99	249	IAMs_20	IAMs_20	21 55 15.4	
	comp=Z,3µm,20.0s						
ARMA	Armidale	49.02	123	P	P	21 40 15.4	+3.8
	baz=49,SNR=3.8						
ARMA	Armidale	49.02	123	P	P	21 40 10.8	-0.8
ARMA				IAmb	IAmb	21 40 32.0	
	comp=Z,137nm,1.9s						
ARMA	Armidale	49.02	123	P	P	21 40 13.1	+1.4
BJT	Baijiatuau	49.05	12	P	P	21 40 11.3	-0.2
BJT				IAmb	IAmb	21 40 16.1	
	comp=Z,55nm,0.8s						
BJT	Baijiatuau	49.05	12	P	P	21 40 12.6	+1.1
BJT	Baijiatuau	49.05	12	P	P	21 40 11.3	-0.2
BJT				pmax	pmax		
	comp=Z,55nm,0.8s						
BJT	Baijiatuau	49.05	12	P	P	21 40 11.4	-0.1

BJT pP **pP** **21 40 20.4 +1.5**
BJI Beijing 49.07 12 P **P** **21 40 12.1 +0.5**
BJI pP **pP** **21 40 18.2 -0.9**
BJI S **S** **21 47 14.1 -0.4**
BJI pmax pmax
comp=Z,57nm,1.0s
BJI pmax pmax
comp=Z,350nm,3.5s
BJI LR LR
comp=Z,3μm,18.4s
BJI LR LR
comp=Z,2μm,20.8s
TJN Taejon 49.09 24 P **P** **21 40 12.3 +0.4**
TJN Taejon 49.09 24⇓ *e*P **P** **21 40 12.2 +0.4**
MSEY Mahe Island 49.10 271 IAMs_20 IAMs_20 21 56 42.2
comp=Z,3μm,20.0s
HHC Hu-ho-hao-te 49.13 7 *e*P **P** **21 40 13.6 +1.3**
HHC PP **PP** **21 42 05.9 -0.4**
HHC S **S** **21 47 16.2 +0.6**
HHC SS **SS** **21 50 47.1 -0.2**
HHC pmax pmax
comp=Z,120nm,1.1s
HHC pmax pmax
comp=Z,2μm,5.6s
HHC LR LR
comp=Z,4μm,20.1s
HHC LR LR
comp=Z,9μm,19.0s
HHC LR LR
comp=Z,7μm,19.7s
DL2 Dalian 49.34 17 P P 21 40 03.7 -10
DL2 S **S** **21 47 13.3 -5.0**
DL2 pmax pmax
comp=Z,88nm,0.8s
DL2 pmax pmax
comp=Z,670nm,4.4s
DL2 LR LR
comp=N,1μm,27.2s
DL2 LR LR
comp=E,2μm,18.1s
DL2 LR LR
comp=Z,2μm,22.9s
AUWSH Wavell State H 49.42 119 P **P** **21 40 16.4 +1.8**
MGCD Mangrove Creek 49.47 127 P **P** **21 40 17.0 +2.1**
baz=50,SNR=4.4
JMU Jammu 49.61 327 *e*P **P** **21 40 18.2 +2.3**
INCN Inchon 49.76 23 P **P** **21 40 15.8 -1.2**
INCN IAmb IAmb 21 40 19.4
comp=Z,57nm,0.8s
INCN Inchon 49.76 23 P **P** **21 40 17.6 +0.6**
INCN Inchon 49.76 23 P **P** **21 40 15.8 -1.2**
INCN pmax pmax
comp=Z,57nm,0.8s
JMN Monobe 49.95 32 IAmb IAmb 21 40 37.1
comp=Z,116nm,1.0s
JMN Monobe 49.95 32 P **P** **21 40 18.7 +0.1**
DORU Doru 50.08 328 *e*P **P** **21 40 21.0 +1.3**
KSAR Wonju Array Be 50.22 24 P **P** **21 40 19.6 -0.8**
KSAR Wonju Array Be 50.22 24 P **P** **21 40 19.6 -0.8**
KSRS Korea Array 50.24 24 P **P** **21 40 20.9 +0.4**
comp=Z,35nm,0.8s,baz=209,slow=8.1,SNR=46
KSRS S **S** **21 47 30.5 -0.5**
comp=Z,0.6nm,0.4s,baz=172,slow=16,SNR=1.7
KSRS LR LR 22 02 48.7
comp=Z,584nm,19.5s,baz=200,slow=38
comp=Z,35nm,0.8s
KSRS Korea Array 50.24 24 P **P** **21 40 21.0 +0.4**
KS19 Wonju Array Si 50.26 24 IAmb IAmb 21 40 43.5
comp=Z,213nm,1.6s
JCJ Chichijima 50.39 45 LR LR 22 03 36.3
comp=Z,496nm,19.8s,baz=274,slow=38
JHS Saijyo 50.56 30 IAmb IAmb 21 40 44.2
comp=Z,145nm,0.7s
JHS Saijyo 50.56 30 P **P** **21 40 22.7 -0.4**
PYAG Pyongyang 50.82 21 P **P** **21 40 23.8 -1.2**
PYAG pP **pP** **21 40 26.8 -5.9**
PYAG S **S** **21 47 40.7 +1.8**
PYAG AmB
comp=Z,306nm,0.9s
PYAG AMS AMS
comp=N,2μm,5.5s
PYAG AMS AMS
comp=E,1μm,4.2s
PYAG AMS AMS
comp=Z,688nm,2.3s
TAU Tasmania Unive 50.85 140 IAMs_20 IAMs_20 22 03 20.7
comp=Z,3μm,20.0s
TAU Tasmania Unive 50.85 140 P **P** **21 40 26.9 +1.7**
SUJ Sinuiju 51.33 19 P **P** **21 40 26.8 -2.0**
SNY Shenyang 52.61 18 ⇑P **P** **21 40 37.6 -0.7**
SNY S **S** **21 47 59.8 -3.7**
SNY pmax pmax
comp=Z,49nm,1.1s
SNY pmax pmax
comp=Z,1μm,4.9s
SNY LR LR
comp=Z,2μm,14.5s
SNY LR LR
comp=Z,2μm,20.4s
SNY LR LR
comp=Z,3μm,21.4s
JHJ Hachijo jima 2 52.82 37 LR LR 22 03 25.8
comp=Z,962nm,21.1s,baz=262,slow=36
JGF Kuroka 53.23 33 P **P** **21 40 41.3 -1.8**
WMQ Urumqi 53.98 345⇓ P **P** **21 40 50.4 +2.0**
WMQ pP pP 21 40 54.7 -1.4
WMQ S **S** **21 48 21.8 -0.4**
WMQ ScS **ScS** **21 50 34.1 -1.5**
WMQ SS **SS** **21 52 02.7 -1.4**
WMQ pmax pmax
comp=Z,2μm,4.7s
WMQ LR LR
comp=Z,1μm,19.5s
WMQ LR LR
comp=Z,2μm,23.1s
WMQ LR LR
comp=Z,2μm,24.9s
DQM DQM 54.22 302 P **P** **21 40 52.0 +1.5**
SNR=34
DQM S **S** **21 48 24.9 -1.2**
KBL Kabul 54.27 324 P **P** **21 40 50.1 -0.8**
KBL IAmb IAmb 21 41 01.4
comp=Z,65nm,0.8s
KBL Kabul 54.27 324 P **P** **21 40 51.0 +0.2**
SNR=43
KBL S **S** **21 48 22.2 -4.5**
KBL Kabul 54.27 324 P **P** **21 40 50.1 -0.8**
KBL pmax pmax
comp=Z,65nm,0.8s
WBK Wadi Bani Khal 54.27 305 P **P** **21 40 52.4 +1.5**
SNR=34
WBK P **P** **21 40 52.4 +1.5**
SNR=34
WBK S **S** **21 48 30.3 +3.4**
WBK S **S** **21 48 30.3 +3.4**
MHTO MHTO 54.33 303 P **P** **21 40 51.9 +0.6**
SNR=31
MHTO S **S** **21 48 27.9 +0.3**
MAJO Matsushiro 54.39 33 P **P** **21 40 48.6 -2.8**
MAJO Matsushiro 54.39 33 P **P** **21 40 49.4 -2.1**
MAJO Matsushiro 54.39 33⇓ *e*P **P** **21 40 49.3 -2.2**
MAJO pmax pmax
comp=Z,26nm,0.8s
MJAR Matsushiro Arr 54.39 33 P **P** **21 40 48.9 -2.5**
comp=Z,16nm,0.7s,baz=209,slow=6.8,SNR=28
MJAR LR LR 22 06 11.4
comp=Z,661nm,19.5s,baz=228,slow=38
MJB9 Matsu-Tunnel 54.39 33 IAmb IAmb 21 40 53.0
comp=Z,139nm,1.7s
KSH Kashi 54.41 333 P **P** **21 40 51.4 -0.3**
KSH sP pP 21 40 58.3 -1.0
KSH S **S** **21 48 23.5 -4.8**
KSH pmax pmax
comp=Z,190nm,0.7s
KSH pmax pmax
comp=Z,790nm,4.4s
KSH LR LR
comp=Z,870nm,19.4s
KSH LR LR
comp=Z,1μm,20.0s
KSH LR LR
comp=Z,2μm,22.8s
HNR Honiara 54.48 96 LR LR 22 06 50.3
comp=Z,9μm,19.4s,baz=275,slow=39
WSAR Wadi Sarin 54.85 306 P **P** **21 40 56.2 +1.1**
comp=Z,36nm,0.9s,baz=140,slow=7.0,SNR=40

WSAR S **S** **21 48 37.4 +2.8**
comp=Z,1.0nm,0.7s,baz=348,slow=17,SNR=1.4
WSAR LR LR 22 01 34.1
comp=Z,3μm,21.2s,baz=128,slow=33
comp=Z,36nm,0.9s
WSAR Wadi Sarin 54.85 306 P **P** **21 40 56.8 +1.7**
SNR=38
WSAR S **S** **21 48 38.6 +4.1**
JMDO Jabal Madar 54.86 305 P **P** **21 40 56.4 +1.3**
SNR=27
CN2 Changchun 54.98 18 *e*P **P** **21 40 54.2 -1.4**
CN2 sP sP 21 41 08.2 +1.9
CN2 sS sS 21 48 50.2 +0.9
CN2 SS **SS** **21 52 17.6 -2.1**
CN2 pmax pmax
comp=Z,90nm,0.6s
CN2 pmax pmax
comp=Z,980nm,5.5s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,21.0s
SMDO Samad 55.23 305 P **P** **21 40 59.5 +1.5**
SNR=42
SMDO P **P** **21 40 59.5 +1.5**
SNR=42
BIDO Bidbid 55.39 306 P **P** **21 41 00.8 +1.8**
SNR=62
DMTO DMTO 55.52 298 P **P** **21 41 00.6 +0.6**
SNR=14
DMTO P **P** **21 41 00.6 +0.6**
SNR=14
JSD Sado 55.53 32 IAmb IAmb 21 41 17.8
comp=Z,66nm,0.7s
JSD Sado 55.53 32 P **P** **21 41 00.3 +0.6**
SONM Songino Array 55.74 1 P **P** **21 41 02.7 +1.5**
comp=Z,131nm,0.7s,baz=173,slow=8.8,SNR=425
SONM S **S** **21 48 45.8 0.0**
comp=Z,0.3nm,0.6s,baz=193,slow=5.8,SNR=1.4
SONM LR LR 22 07 38.8
comp=Z,2μm,18.2s,baz=168,slow=39
comp=Z,131nm,0.7s
SONM Songino Array 55.74 1 IAmb IAmb 21 41 08.4
comp=Z,165nm,0.8s
BSY Bisya 55.78 304 P **P** **21 41 03.5 +1.7**
SNR=36
ULN Ulaanbaatar 55.78 2 P **P** **21 41 02.2 +0.7**
ULN IAmb IAmb 21 41 08.6
comp=Z,127nm,0.8s
ULN Ulaanbaatar 55.78 2 IAMs_20 IAMs_20 22 08 48.2
comp=Z,3μm,19.0s
ULN Ulaanbaatar 55.78 2*c i*P **P** **21 41 02.8 +1.3**
ULN pmax pmax
comp=Z,67nm,0.9s
SHLS Shalkode 56.01 338 *e*P **P** **21 41 03.3 +0.2**
baz=339
SHLS *e*S **S** **21 48 46.5 -3.0**
baz=339
SHLS Shalkode 56.01 338 *e*P **P** **21 41 03.3 +0.2**
SHLS *e*S **S** **21 48 46.5 -3.0**
HOQ Hoqain 56.08 305 P **P** **21 41 05.7 +1.7**
SNR=34
RBK Rabkut 56.09 297 P **P** **21 41 05.0 +0.8**
SNR=22
UZB Uzynbulak 56.16 337 *e*P **P** **21 41 05.3 +0.9**
baz=338
UZB *e*S **S** **21 48 50.5 -1.2**
baz=338
UZB Uzynbulak 56.16 337 *e*P **P** **21 41 05.2 +0.9**
UZB *e*S **S** **21 48 50.4 -1.2**
SATY Saty 56.32 337 *e*P **P** **21 41 06.2 +0.8**
baz=338
SATY *e*S **S** **21 48 53.8 0.0**
baz=338
SATY Saty 56.32 337 *e*P **P** **21 41 06.1 +0.7**
SATY *e*S **S** **21 48 53.8 0.0**
ZHN Zhinishke 56.41 337 *e*P **P** **21 41 06.9 +0.9**
baz=338
ZHN *e*S **S** **21 48 55.1 +0.3**
baz=338
ZHN Zhinishke 56.41 337 *e*P **P** **21 41 06.9 +0.9**
ZHN *e*S **S** **21 48 55.1 +0.3**
ULHL Ulahol 56.52 335 P P 21 41 16.2 +9.2
SNR=9.5
KPKS Kokpek 56.56 337 *e*P **P** **21 41 07.8 +0.7**
baz=338
KPKS *e*S **S** **21 48 56.5 -0.5**
baz=338
KPKS Kokpek 56.56 337 *e*P **P** **21 41 07.7 +0.7**
KPKS *e*S **S** **21 48 56.4 -0.5**
WHFO Wadi Hawf 56.63 298 P **P** **21 41 08.3 +0.3**
SNR=20
JMM Marumori 56.77 34 P **P** **21 41 08.2 -0.3**
GAR Garm 56.77 328 IAmb IAmb 21 41 17.4
comp=Z,147nm,0.7s
OPO Ambohidratompo 56.79 253 P **P** **21 41 09.7 +0.4**
comp=Z,15nm,1.0s,baz=88,slow=6.9,SNR=8.8
comp=Z,15nm,1.0s
ABTO Aybut 56.83 297 P **P** **21 41 10.0 +0.6**
SNR=22
TNSS Tian-Shan 56.88 336 *e*P **P** **21 41 10.3 +0.6**
baz=336
TNSS Tian-Shan 56.88 336 *e*P **P** **21 41 10.3 +0.6**
AAA Alma-Ata 57.04 336 *e*P **P** **21 41 11.1 +0.6**
baz=337
AAA Alma-Ata 57.04 336 *e*P **P** **21 41 11.0 +0.6**
MDJ Mudanjiang 57.07 21 P **P** **21 41 10.5 0.0**
MDJ S **S** **21 49 07.1 +3.7**
MDJ sS pS 21 49 13.3 +0.1
MDJ pmax pmax
comp=Z,36nm,0.9s
MDJ pmax pmax
comp=Z,800nm,7.6s
MDJ LR LR
comp=Z,2μm,20.6s
MDJ LR LR
comp=Z,2μm,20.6s
MDJ LR LR
comp=Z,2μm,21.7s
MDJ Mudanjiang 57.07 21 P **P** **21 41 10.6 0.0**
CHGR Chuyangaron 57.14 327 P **P** **21 41 07.4 -3.8**
UCH Uchtor 57.25 334 P **P** **21 41 14.3 +1.9**
SNR=10
BNX BinXian 57.33 19 ⇑P **P** **21 41 12.4 +0.1**
BNX pP **sP** **21 41 22.2 -0.9**
BNX sP **pwP** **21 41 26.1 -1.9**
BNX PP **PP** **21 43 25.4 +5.4**
BNX S **S** **21 49 05.6 -1.1**
BNX sS **sS** **21 49 22.2 +2.2**
BNX pmax pmax
comp=Z,140nm,0.8s
BNX pmax pmax
comp=Z,1μm,5.9s
BNX LR LR
comp=Z,2μm,19.5s
BNX LR LR
comp=Z,1μm,18.4s
BNX LR LR
comp=Z,2μm,21.6s
TKM2 Tokmak 2 57.34 335 P **P** **21 41 13.2 +0.5**
SNR=37
VOI Vohitsoka 57.36 249 P **P** **21 41 13.5 +0.3**
VOI IAmb IAmb 21 41 32.4
comp=Z,148nm,1.8s
VOI Vohitsoka 57.36 249 *e*P **P** **21 41 14.3 +1.1**
VOI Vohitsoka 57.36 249 P **P** **21 41 14.7 +1.5**
KBK Karagaybulak 57.41 334 P **P** **21 41 14.2 +1.1**
SNR=17
UMZA Um Al Zommool 57.44 303 P **P** **21 41 14.5 +0.9**
UMZA S **S** **21 49 08.8 -0.1**
AML Almayashu 57.54 333 P **P** **21 41 15.6 +1.2**
SNR=24
CHKK Chushkaly 57.55 336 *e*P **P** **21 41 14.4 +0.4**
baz=337
CHKK Chushkaly 57.55 336 *e*P **P** **21 41 14.3 +0.4**
ALNE Al Ain 57.56 305 P **P** **21 41 15.6 +1.2**
SNR=21
ALNE Al Ain 57.56 305 *i* P **P** **21 41 15.6 +1.2**
SNR=11
AAK Ala-Archa 57.59 334 P **P** **21 41 16.1 +1.7**
SNR=9.4
AAK Ala-Archa 57.59 334 LR LR 22 10 38.5
comp=Z,1μm,19.0s,baz=141,slow=41
AAK Ala-Archa 57.59 334 P **P** **21 41 15.6 +1.1**

AAK IAmb IAmb 21 41 28.4
comp=Z,49nm,0.8s
AAK Ala-Archa 57.59 334 IAMs_20 IAMs_20 22 09 46.9
comp=Z,1μm,20.0s
AAK Ala-Archa 57.59 334 P **P** **21 41 16.1 +1.7**
AAK Ala-Archa 57.59 334 *i* P **P** **21 41 15.5 +1.1**
SNR=33
AAK Ala-Archa 57.59 334 P **P** **21 41 15.6 +1.1**
AAK pmax pmax
comp=Z,49nm,0.8s
AAK MLR MLR
comp=Z,2μm,20.0s
USA0B Ussuriysk Arra 57.60 23 IAmb IAmb 21 41 20.4
comp=Z,104nm,0.8s
USA0B Ussuriysk Arra 57.60 23*c i*P **P** **21 41 14.0 -0.3**
USRK Ussuriysk Ar. 57.60 23 P **P** **21 41 14.1 -0.2**
comp=Z,65nm,0.8s,baz=218,slow=6.4,SNR=50
USRK S **S** **21 49 02.8 -7.5**
comp=Z,2.0nm,0.9s,baz=121,slow=26,SNR=0.8
comp=Z,65nm,0.8s
ASHO Ashiyiah 57.61 306 P **P** **21 41 16.0 +1.2**
SNR=12
ASHO Ashiyiah 57.61 306 *i* P **P** **21 41 16.0 +1.2**
SNR=23
HATD Hatta, Dubai 57.62 306 P **P** **21 41 16.2 +1.4**
SNR=17
HATD Hatta, Dubai 57.62 306 *i* P **P** **21 41 15.9 +1.1**
SNR=33
CHMS Chumysh 57.77 334 P **P** **21 41 16.8 +1.2**
SNR=6.7
KUU Kurty 57.84 336 *e*P **P** **21 41 15.9 -0.1**
baz=337
KUU Kurty 57.84 336 *e*P **P** **21 41 15.9 -0.1**
MSFE Esma-Masafi 57.85 307 *i* P **P** **21 41 17.8 +1.3**
SNR=16
MASF Masafi 57.85 307 P **P** **21 41 18.0 +1.5**
SNR=11
EKS2 Erkin-Say 57.92 333 P **P** **21 41 18.5 +1.8**
SNR=38
TDK Taldyqorghan 57.98 338 *e*P **P** **21 41 17.4 +0.5**
baz=339
TDK *e*S **S** **21 49 12.8 -2.6**
baz=339
TDK Taldyqorghan 57.98 338 *e*P **P** **21 41 17.4 +0.5**
TDK *e*S **S** **21 49 12.7 -2.6**
BANOM Banah 58.01 307 *i* P **P** **21 41 18.9 +1.4**
SNR=5.3
FAQ Al Faqa, Dubai 58.01 306 P **P** **21 41 18.7 +1.1**
SNR=20
FAQ P **P** **21 41 18.7 +1.1**
SNR=20
FAQ Al Faqa, Dubai 58.01 306 *i* P **P** **21 41 18.6 +1.1**
SNR=71
NAZ Nazwa, Dubai 58.07 306 P **P** **21 41 18.9 +1.0**
SNR=10
NAZ Nazwa, Dubai 58.07 306 *i* P **P** **21 41 19.0 +1.0**
SNR=16
ZSN Zaisan 58.09 344 *e*P **P** **21 41 18.9 +1.1**
baz=345
ZSN *e*S **S** **21 49 16.7 0.0**
baz=345
ZSN Zaisan 58.09 344 *e*P **P** **21 41 18.8 +1.1**
ZSN *e*S **S** **21 49 16.7 0.0**
USP Ospenovka 58.09 334 P **P** **21 41 19.4 +1.6**
SNR=11
ASUD Al Ashush, Dub 58.17 306 P **P** **21 41 19.8 +1.2**
SNR=7.8
ASUD P **P** **21 41 19.8 +1.2**
SNR=7.8
ASUD Al Ashush, Dub 58.17 306 *i* P **P** **21 41 20.0 +1.4**
SNR=32
SGDS Sogindy 58.19 334 *e*P **P** **21 41 18.6 +0.1**
baz=335
SGDS Sogindy 58.19 334 *e*P **P** **21 41 18.6 +0.1**
SHME Shamm 58.19 307 *i* P **P** **21 41 20.3 +1.5**
SNR=6.1
MK31 Makanchi Array 58.24 342 P **P** **21 41 19.2 +0.4**
MK31 Makanchi Array 58.24 342*c i*P **P** **21 41 18.9 +0.2**
MKAR Makanchi Array 58.24 342 P **P** **21 41 19.2 +0.5**
comp=Z,23nm,0.8s,baz=145,slow=8.8,SNR=90
MKAR S **S** **21 49 16.2 -2.5**
comp=Z,0.8nm,0.8s,baz=150,slow=12,SNR=1.9
MKAR LR LR 22 09 41.5
comp=Z,1μm,21.8s,baz=158,slow=39
comp=Z,23nm,0.8s
ZAK Zakamensk 58.28 359 *e*P **P** **21 41 19.9 +0.8**
ZAK pmax pmax
comp=Z,81nm,1.0s
ZAK pmax pmax
comp=Z,32nm,0.9s
MAKZ Makanchi 58.35 342 P **P** **21 41 19.4 -0.1**
MAKZ IAmb IAmb 21 41 28.6
comp=Z,75nm,0.8s
MAKZ Makanchi 58.35 342 P **P** **21 41 19.4 -0.1**
MAKZ pmax pmax
comp=Z,75nm,0.8s
MAKZ MLR MLR
comp=Z,800nm,19.0s
MAKZ Makanchi 58.35 342 P **P** **21 41 19.8 +0.3**
HRA Herat 58.38 319 P **P** **21 41 19.6 -0.7**
HIA Hailar 58.64 11 P **P** **21 41 21.4 0.0**
HIA IAmb IAmb 21 41 22.6
comp=Z,92nm,0.8s
HIA Hailar 58.64 11 IAMs_20 IAMs_20 22 10 32.5
comp=Z,2μm,19.0s
HIA Hailar 58.64 11 P **P** **21 41 21.5 0.0**
HIA Hailar 58.64 11 P **P** **21 41 21.4 0.0**
HIA pmax pmax
comp=Z,92nm,0.8s
HIA MLR MLR
comp=Z,2μm,19.0s
KOUNC Koumac, New Ca 58.67 109 P **P** **21 41 24.2 +2.0**
MZR Muzera 58.96 303 P **P** **21 41 25.4 +1.2**
SNR=12
MZR Muzera 58.96 303 *i* P **P** **21 41 25.5 +1.3**
SNR=33
JTM Tenmabayashi 59.03 32 P **P** **21 41 25.6 +1.3**
CRZF Crozet Islands 59.05 220 IAMs_20 IAMs_20 22 00 10.7
comp=Z,3μm,20.0s
DZA Taraz 59.22 332 *e*P **P** **21 41 25.5 -0.2**
baz=332
DZA Taraz 59.22 332 *e*P **P** **21 41 25.4 -0.2**
IUG Iuzhnay 59.27 330 *e*P **P** **21 41 26.7 +0.6**
baz=331
IUG *e*S **S** **21 49 28.9 -3.5**
baz=331
IUG Iuzhnay 59.27 330 *e*P **P** **21 41 26.7 +0.6**
IUG *e*S **S** **21 49 28.8 -3.6**
DGZ Jazzator, Alta 59.55 347*c i*P **P** **21 41 29.3 +1.3**
DGZ pmax pmax
comp=Z,94nm,0.8s
DGZ MLR MLR
comp=Z,2μm,19.0s
MOY Mondy 59.65 357 *e*P **P** **21 41 29.8 +1.3**
MOY pmax pmax
comp=Z,265nm,2.1s
BTLS Baital 59.72 335 *e*P **P** **21 41 29.1 +0.1**
baz=336
BTLS Baital 59.72 335 *e*P **P** **21 41 29.1 +0.1**
IRK Irkutsk 60.13 360 *e*P **P** **21 41 33.0 +1.3**
IRK pmax pmax
comp=Z,250nm,1.9s
TEY Ternei 60.17 26 *e*P **P** **21 41 29.7 -2.3**
CIT Chita 60.38 6 *e*P **P** **21 41 35.2 +1.7**
CIT *e* 21 41 39.8
CIT *e* 21 43 47.4
CIT pmax pmax
comp=Z,237nm,2.6s
NOUC Port Laguerre 60.63 111 P **P** **21 41 36.4 +0.7**
DZM Mont Dzumac 60.76 111 *e*P P 21 41 42.0 +5.3
comp=Z,206nm,1.4s
DZM Mont Dzumac 60.76 111 *e*SS SS 21 53 53.2 +1.8
comp=Z,952nm,29.2s
DZM *e*LR LR 21 59 32.0
comp=Z,5μm,23.1s
DZM Mont Dzumac 60.76 111 P **P** **21 41 37.8 +1.1**
comp=Z,5.5nm,0.8s,baz=345,slow=10,SNR=3.3
comp=Z,5.5nm,0.8s
DZM Mont Dzumac 60.76 111 P **P** **21 41 37.3 +0.6**
ONTNC Ouen Toro 60.78 111 P **P** **21 41 37.4 +0.7**
OUENC Ouen Island, N 61.14 111 P **P** **21 41 41.1 +1.9**
YATNC Mamie plateau, 61.17 111 P **P** **21 41 41.5 +2.1**
HEH HeiHe 61.38 16 *e*P **P** **21 41 40.1 -0.1**
HEH pP **pP** **21 41 44.3 -3.7**
HEH S **S** **21 50 02.4 +3.5**
HEH SS **SS** **21 53 59.4 -0.8**

HEH pmax pmax
comp=Z,230nm,0.8s
HEH LR LR
comp=Z,2µm,19.5s
HEH LR LR
comp=Z,2µm,18.7s
HEH LR LR
comp=Z,2µm,17.5s
LIFNC LIFOU 61.44 109 P **P** **21 41 41.6 +0.3**
KLR Kul'dur 61.81 20 LR LR 22 08 26.2
comp=Z,2µm,21.4s,baz=220,slow=36
KLR Kul'dur 61.81 20*c iP* **P** **21 41 42.5 -0.6**
KLR pmax pmax
comp=Z,89nm,0.8s
KLR MLR MLR
comp=Z,2µm,22.0s
MARNC Mare, Loyalty 62.20 110 P **P** **21 41 49.9 +3.5**
ASAJ Asahikawa 62.23 30 LR LR 22 10 21.9
comp=Z,448nm,19.7s,baz=205,slow=38
ASAJ Asahikawa 62.23 30 P **P** **21 41 45.0 -1.1**
ASAJ pmax pmax
comp=Z,60nm,1.1s
JKA Kamikawa-asahi 62.23 30 P **P** **21 41 45.0 -1.0**
JKA IAmb IAmb 21 41 53.7
comp=Z,60nm,1.1s
KURBB Kurchatov Arra 62.79 342 LR LR 22 12 52.3
comp=Z,912nm,19.7s,baz=147,slow=40
KURK Kurchatov 62.84 342 P **P** **21 41 50.4 +0.3**
KURK Kurchatov 62.84 342 P **P** **21 41 50.8 +0.8**
KURK Kurchatov 62.84 342*c iP* **P** **21 41 50.3 +0.3**
KURK pmax pmax
comp=Z,52nm,0.8s
GEYT Alibeck 63.18 320 P **P** **21 41 53.2 +0.6**
comp=Z,34nm,0.8s,baz=152,slow=6.7,SNR=56
GEYT S **S** **21 50 18.9 -3.2**
comp=Z,0.7nm,0.4s,baz=159,slow=23,SNR=1.6
GEYT LR LR 22 11 30.8
comp=Z,2µm,20.4s,baz=140,slow=38
comp=Z,34nm,0.8s
GEYT Alibeck 63.18 320 IAmb IAmb 21 42 05.9
comp=Z,113nm,0.8s
GYA0B ALIBECK ARRAY 63.18 320 IAmb IAmb 21 42 05.8
comp=Z,106nm,0.8s
ZALV Zalesovo Beam 64.10 347 P **P** **21 41 58.5 +0.2**
comp=Z,37nm,0.4s,baz=157,slow=5.5,SNR=140
ZALV S **S** **21 50 30.7 -2.2**
comp=Z,3.0nm,0.9s,baz=108,slow=4.8,SNR=4.1
ZALV PKP2ab 22 11 02.3
comp=Z,0.3nm,0.5s,baz=318,slow=4.0,SNR=4.1
ZALV LR LR 22 13 14.0
comp=Z,2µm,19.2s,baz=147,slow=39
comp=Z,37nm,0.4s
YSS Yuzh-Sakhalins 64.38 28 P **P** **21 41 59.3 -1.0**
YSS Yuzh-Sakhalins 64.38 28 P **P** **21 42 00.0 -0.3**
YSS Yuzh-Sakhalins 64.38 28*eP* **P** **21 41 59.9 -0.3**
YSS *eS* **S** **21 50 29.9 -6.7**
YSS *eSS* **SS** **21 54 53.4 +6.2**
YSS pmax pmax
comp=Z,800nm,3.0s
YSS pmax pmax
comp=Z,290nm,1.0s
YSS MLR MLR
comp=Z,1µm,17.0s
ZEA Zeya 64.50 15*ceP* **P** **21 42 01.8 +0.9**
ZEA *e* 21 44 23.5
ZEA *eS* **S** **21 50 38.0 +0.2**
ZEA pmax pmax
comp=E,70nm,0.7s
ZEA pmax pmax
comp=N,60nm,0.8s
ZEA pmax pmax
comp=Z,190nm,0.8s
ZEA pmax pmax
comp=N,300nm,5.9s
ZEA pmax pmax
comp=Z,500nm,5.9s
ZEA pmax pmax
comp=E,200nm,3.9s
ZEA pmax pmax
comp=Z,200nm,6.5s
ZEA smax smax
comp=E,500nm,6.0s
ZEA smax smax
comp=N,600nm,7.8s
ATD Arta Tunnel 64.63 287 LR LR 22 07 05.3
comp=N,464nm,18.5s,baz=98,slow=33
ATD Arta Tunnel 64.63 287 P **P** **21 42 03.5 +0.9**
ATD Arta Tunnel 64.63 287 P **P** **21 42 04.4 +1.8**
ATD Arta Tunnel 64.63 287*eP* **P** **21 42 02.8 +0.2**
ATD IAMs_20 IAMs_20 21 57 30.8
comp=N,4µm,0.1s
GRNR Gornyy 64.74 22⇓*iP* P 21 41 51.6 -11
GRNR *eS* S 21 50 31.7 -9.2
GRNR pmax pmax
comp=E,5.0nm,0.6s
GRNR pmax pmax
comp=N,8.0nm,0.9s
GRNR pmax pmax
comp=Z,7.0nm,0.8s
GRNR smax smax
comp=E,3.0nm,1.0s
GRNR smax smax
comp=N,5.0nm,2.2s
GRNR MLR MLR
comp=E,1µm,19.0s
UGL Uglegorsk 65.66 26*eP* **P** **21 42 08.7 +0.2**
UGL pmax pmax
comp=Z,270nm,1.0s
MAW Mawson 65.67 196 P **P** **21 42 09.6 +1.3**
comp=Z,11nm,0.8s,baz=46,slow=5.7,SNR=14
MAW LR LR 22 04 37.4
comp=Z,1µm,21.6s,baz=36,slow=30
MAW PKP2ab 22 10 54.5
comp=Z,5.1nm,1.0s,baz=281,slow=5.2,SNR=4.6
comp=Z,11nm,0.8s
MAW Mawson 65.67 196 P **P** **21 42 08.5 +0.2**
baz=66,SNR=6.9
KUR Kuril'sk 65.69 32 P **P** **21 42 08.0 -0.8**
KUR *eS* **S** **21 50 54.9 +2.1**
KUR pmax pmax
comp=Z,401nm,1.0s
KUR MLR MLR
comp=Z,3µm,20.0s
JCZ Jackson Bay 65.78 135 P **P** **21 42 10.6 +1.0**
RAYN Ar Rayn 65.90 300 P **P** **21 42 10.2 -0.5**
RAYN IAmb IAmb 21 42 30.4
comp=Z,62nm,1.0s
RAYN Ar Rayn 65.90 300 IAMs_20 IAMs_20 22 09 21.6
comp=Z,2µm,20.0s
RAYN Ar Rayn 65.90 300 P **P** **21 42 10.8 +0.1**
RAYN Ar Rayn 65.90 300*i* P **P** **21 42 10.9 +0.2**
SNR=12
RAYN Ar Rayn 65.90 300 P **P** **21 42 10.2 -0.5**
RAYN pmax pmax
comp=Z,62nm,1.0s
BOD Bodaibo 66.15 5*eP* **P** **21 42 11.4 -0.1**
BOD pmax pmax
comp=Z,157nm,1.8s
FOZ Fox Glacier 66.39 134 IAMs_20 IAMs_20 22 07 08.9
comp=Z,2µm,22.0s
KIBK Kibwezi 66.65 271 P **P** **21 42 16.4 +0.7**
KIBK IAMs_20 IAMs_20 22 05 56.4
comp=Z,2µm,21.0s
KIBK Kibwezi 66.65 271 P **P** **21 42 17.0 +1.2**
SNR=14
ANKE Ethiopia-Afar 67.14 284*eP* **P** **21 42 21.1 +1.9**
TYV Tymovskoe 67.25 25*eP* **P** **21 42 19.3 +0.6**
TYV pmax pmax
comp=Z,700nm,3.6s
TYV pmax pmax
comp=Z,16nm,1.0s
RPZ Rata Peaks 67.31 134 P **P** **21 42 20.4 +1.1**
comp=Z,11nm,0.9s,baz=246,slow=20,SNR=3.9
RPZ LR LR 22 12 33.4
comp=Z,1µm,18.2s,baz=281,slow=37
comp=Z,11nm,0.9s
RPZ Rata Peaks 67.31 134 IAMs_20 IAMs_20 22 11 55.2
comp=Z,2µm,20.0s
BVAR Borovoye Array 67.57 338 LR LR 22 15 32.7
comp=Z,634nm,21.2s,baz=126,slow=39
DESE Dese 67.58 286*eP* **P** **21 42 23.8 +1.9**
KMBO Kilima Mbogo 67.61 272 P **P** **21 42 22.4 +0.3**
comp=Z,2.4nm,1.1s,baz=52,slow=20,SNR=18
KMBO LR LR 22 05 45.8
comp=Z,75nm,21.9s,baz=95,slow=30
KMBO Kilima Mbogo 67.61 272 P **P** **21 42 22.3 +0.3**
KMBO Kilima Mbogo 67.61 272 IAMs_20 IAMs_20 22 06 06.7
comp=Z,2µm,22.0s
KMBO Kilima Mbogo 67.61 272⇓*iP* **P** **21 42 23.4 +1.4**
KMBO IAmb IAmb 21 42 25.3
comp=Z,148nm,1.2s
KMBO Kilima Mbogo 67.61 272*eP* **P** **21 42 22.6 +0.6**
KMBO Kilima Mbogo 67.61 272*i* P **P** **21 42 23.5 +1.4**
SNR=30
KMBO Kilima Mbogo 67.61 272*diP* **P** **21 42 23.3 +1.3**
KMBO Kilima Mbogo 67.61 272 P **P** **21 42 21.9 -0.1**
KMBO pP **sP** **21 42 32.8 +0.2**
BRVK Borovoye 67.64 338 P **P** **21 42 20.9 -0.2**
BRVK IAmb IAmb 21 42 29.4
comp=Z,91nm,0.6s
BRVK Borovoye 67.64 338*ciP* **P** **21 42 21.5 +0.4**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 67.64 338 P **P** **21 42 21.3 +0.2**
BRVK pP **pP** **21 42 28.6 -0.4**
CCD Concordia, Ant 67.76 175 P **P** **21 42 21.9 -0.2**
DILA Dilla 67.87 280*eP* **P** **21 42 24.8 +1.2**
AAE Adis Abeba 67.95 283*eP* **P** **21 42 26.8 +2.5**
AAE IAMs_20 IAMs_20 22 01 34.8
comp=N,9µm,22.8s
OXZ Oxford 67.95 133 IAMs_20 IAMs_20 22 09 21.0
comp=Z,2µm,19.0s
FURI Furi 68.00 283 IAMs_20 IAMs_20 22 08 08.9
comp=Z,2µm,20.0s
FURI Furi 68.00 283*eP* **P** **21 42 27.1 +2.6**
THZ Tophouse 68.33 132 P **P** **21 42 25.4 -0.4**
THZ IAmb IAmb 21 43 02.3
comp=Z,75nm,0.9s
SNZO South Karori 69.60 131 IAMs_20 IAMs_20 22 11 22.8
comp=Z,2µm,20.0s
LKRN Lenkeran, Azer 69.79 316 P **P** **21 42 36.1 +1.3**
LODK Lodwar 70.19 277 P **P** **21 42 39.8 +1.9**
SNR=13
LODK Lodwar 70.19 277*eP* **P** **21 42 37.5 -0.4**
LODK *eP* **pP** **21 42 46.0 +0.4**
BKZ Black Stump Fm 70.73 129 P **P** **21 42 41.0 +0.3**
BKZ IAmb IAmb 21 42 53.4
comp=Z,84nm,0.9s
BKZ Black Stump Fm 70.73 129 P **P** **21 42 41.2 +0.5**
URZ Urewera 71.14 128 LR LR 22 15 31.2
comp=Z,2µm,18.3s,baz=358,slow=37
POGA Pongola 71.31 244*eP* **P** **21 42 45.0 +0.6**
POGA IAmb IAmb 21 42 46.7
comp=Z,25nm,0.8s
MOPA Mopani 71.61 248*eP* **P** **21 42 47.1 +0.8**
MOPA IAmb IAmb 21 42 49.2
comp=Z,3.9nm,0.8s
MSVF Nonsavu 71.68 106 LR LR 22 15 37.9
comp=Z,695nm,19.7s,baz=288,slow=37
AKT Akhty 71.83 318*eP* **P** **21 42 48.1 +0.8**
AKT *e* 21 43 05.5
AKT pmax pmax
comp=Z,75nm,0.7s
SEKA Sheki 72.05 318 P **P** **21 42 49.3 +0.7**
NAX Nakhchivan 72.27 315 P **P** **21 42 51.1 +1.1**
GANJ Ganja 72.37 317 P **P** **21 42 51.8 +1.3**
YAK Yakutsk 72.57 12 LR LR 22 16 43.4
comp=Z,1µm,20.2s,baz=226,slow=38
YAK Yakutsk 72.57 12 P **P** **21 42 50.2 -0.9**
YAK IAMs_20 IAMs_20 22 19 08.9
comp=Z,1µm,20.0s
YAK Yakutsk 72.57 12*eP* **P** **21 42 50.9 -0.2**
YAK *e*PP **sP** **21 43 01.1 -1.0**
YAK *e* 21 43 07.7
YAK *e* 21 45 32.4
YAK *eS* **S** **21 52 14.0 +0.6**
YAK *e* 21 53 02.0
YAK *eSS* **SS** **21 56 54.4 +1.3**
YAK pmax pmax
comp=Z,240nm,0.8s
YAK pmax pmax
comp=N,40nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK pmax pmax
comp=Z,859nm,6.8s
YAK pmax pmax
comp=N,233nm,3.2s
YAK pmax pmax
comp=E,485nm,6.6s
YAK smax smax
comp=E,421nm,3.8s
YAK smax smax
comp=N,251nm,3.7s
YAK MLR MLR
comp=Z,1µm,22.0s
YAK MLR MLR
comp=N,437nm,19.0s
YAK MLR MLR
comp=E,1µm,19.0s
ZKTA Zakatala 72.64 318 P **P** **21 42 53.4 +1.4**
MAK Makhachkala 72.70 320*eP* **P** **21 42 47.7 -4.6**
MAK *e*PPP PPP 21 47 18.5
MAK *eS* **S** **21 52 10.8 -4.8**
MAK *eSSS* SSS 22 00 12.4
MAK pmax pmax
comp=Z,454nm,1.2s
CRLN Carolina, Mapu 72.82 245*eP* **P** **21 42 53.8 +0.1**
CRLN IAmb IAmb 21 42 55.6
comp=Z,15nm,0.8s
NWCL Newcastle 72.92 244*eP* **P** **21 42 55.1 +0.9**
NWCL IAmb IAmb 21 42 57.5
comp=Z,24nm,0.8s
MUSN Musina, Limpop 73.06 249⇓*iP* **P** **21 42 56.0 +1.0**
MUSN IAmb IAmb 21 42 58.0
comp=Z,48nm,1.2s
GNI Garni 73.22 316 P **P** **21 42 54.9 -0.9**
GNI IAmb IAmb 21 43 14.4
comp=Z,53nm,0.8s
GNI Garni 73.22 316*diP* **P** **21 42 55.8 +0.1**
GNI pmax pmax
comp=Z,31nm,1.0s
SKR Severo-Kuril's 73.43 31*eP* **P** **21 42 53.3 -3.1**
SKR *eS* **SKiKP** **21 52 25.2 -0.1**
SKR pmax pmax
comp=Z,500nm,5.5s
SKR MLR MLR
comp=Z,700nm,18.0s
KSTD Kokstad 73.43 241*eP* **P** **21 42 58.0 +0.8**
KSTD IAmb IAmb 21 42 59.6
comp=Z,24nm,0.8s
GROC Groznyy 73.91 319*eP* **P** **21 42 58.0 -1.5**
GROC *e* 21 43 12.3
GROC *eS* **SKiKP** **21 52 27.0 +0.7**
GROC pmax pmax
comp=Z,40nm,0.7s
MBAR Mbarara 74.13 272 LR LR 22 10 27.3
comp=Z,1µm,21.0s,baz=83,slow=32
MBAR Mbarara 74.13 272 P **P** **21 43 01.8 +0.2**
MBAR Mbarara 74.13 272 IAMs_20 IAMs_20 22 10 27.5
comp=Z,1µm,20.0s
MBAR Mbarara 74.13 272*eP* **P** **21 43 00.7 -0.9**
MBAR Mbarara 74.13 272*diP* **P** **21 43 02.6 +1.0**
MBAR pmax pmax
comp=Z,70nm,1.0s
SVE Sverdlovsk 74.15 337*eP* **P** **21 43 01.9 +1.4**
SVE *eS* **S** **21 52 30.8 -0.7**
SVE pmax pmax
comp=Z,181nm,1.0s
SVE MLR MLR
comp=Z,1µm,23.0s
SLR Silverton 74.40 246⇓*iP* **P** **21 43 03.7 +0.7**
SLR IAmb IAmb 21 43 04.6
comp=Z,45nm,0.9s
KARS Kars 74.57 316 P **P** **21 43 04.1 +0.5**
KARS Kars 74.57 316 P **P** **21 43 04.1 +0.5**
KARS pmax pmax
comp=Z,424nm,0.7s
ARU Arti 74.71 335 LR LR 22 20 55.6
comp=Z,1µm,19.3s,baz=126,slow=40
ARU Arti 74.71 335 P **P** **21 43 04.6 +0.7**
ARU IAmb IAmb 21 43 24.4
comp=Z,93nm,0.8s
ARU IAMs_20 IAMs_20 22 20 41.8
comp=Z,1µm,19.0s
ARU Arti 74.71 335*diP* **P** **21 43 05.2 +1.4**
ARU pmax pmax
comp=Z,41nm,0.8s
SNKL Senekal, Frees 74.79 243*eP* **P** **21 43 06.0 +0.8**
SNKL IAmb IAmb 21 43 06.8
comp=Z,20nm,0.8s
MARD Mardin 74.86 312 IAmb IAmb 21 43 22.6
comp=Z,162nm,0.7s
LEPH Lephalale, Lim 74.90 248⇓*iP* **P** **21 43 06.5 +0.7**
LEPH IAmb IAmb 21 43 08.5
comp=Z,56nm,0.9s
ZEI Tsey 74.96 318*eP* **P** **21 43 06.2 +0.3**
ZEI pmax pmax
comp=Z,51nm,0.8s
RAO Raoul Island 75.01 118 LR LR 22 15 22.0
comp=Z,2µm,19.9s,baz=261,slow=35
LSZ Lusaka 75.04 256 LR LR 22 10 40.4
comp=Z,2µm,21.9s,baz=104,slow=31
PRYS Parys 75.19 244⇓*iP* **P** **21 43 07.9 +0.4**
PRYS IAmb IAmb 21 43 09.1
comp=Z,57nm,0.9s
VNDA Vanda 75.27 169 P **P** **21 43 07.2 +0.4**
comp=Z,7.4nm,0.9s,baz=298,slow=6.3,SNR=36
VNDA S **SKiKP** **21 52 32.8 +5.2**
comp=Z,0.7nm,0.9s,baz=213,slow=12,SNR=1.9
VNDA LR LR 22 13 31.6
comp=Z,817nm,18.8s,baz=314,slow=34
comp=Z,7.4nm,0.9s
VNDA Vanda 75.27 169 P **P** **21 43 06.5 -0.3**
KSR Koster 75.64 245*eP* **P** **21 43 09.1 -1.1**
KSR IAmb IAmb 21 43 27.1
comp=Z,34nm,1.2s
PEA0B Petropavlovsk- 75.65 30 P **P** **21 43 08.5 -0.8**
PEA0B IAmb IAmb 21 43 48.9
comp=Z,110nm,1.1s
PEA0B Petropavlovsk- 75.65 30 P **P** **21 43 08.5 -0.8**
PEA0B pmax pmax
comp=Z,110nm,1.2s
PETK Petropavlovsk- 75.65 30 P **P** **21 43 08.7 -0.6**
comp=Z,18nm,0.9s,baz=208,slow=5.0,SNR=8.9
PETK LR LR 22 16 52.8
comp=Z,689nm,22.0s,baz=238,slow=36
comp=Z,18nm,0.9s
GRHM Grahamstown, E 75.92 238*eP* **P** **21 43 13.2 +1.7**
GRHM IAmb IAmb 21 43 14.4
comp=Z,51nm,1.2s
NEY Neytrino 75.94 318⇑*iP* **P** **21 43 12.8 +1.4**
NEY pmax pmax
comp=Z,5.0nm,1.1s
ASF Jabal al Asfar 76.02 306 LR LR 22 15 11.4
comp=Z,2µm,21.3s,baz=113,slow=35
KBZ Khabaz 76.03 319 P **P** **21 43 11.9 +0.3**
comp=Z,28nm,1.0s,baz=144,slow=2.9,SNR=32
KBZ S **S** **21 52 49.8 -3.2**
comp=Z,0.8nm,0.6s,baz=58,slow=17,SNR=1.0
comp=Z,28nm,1.0s
KBZ Khabaz 76.03 319*diP* **P** **21 43 12.0 +0.3**
KBZ pmax pmax
comp=Z,35nm,1.0s
PET Petropavlovsk 76.07 30 P **P** **21 43 11.5 -0.2**
KIV Kislovodsk 76.27 319⇑*iP* **P** **21 43 15.0 +1.8**
KIV Kislovodsk 76.27 319 P **P** **21 43 13.4 +0.2**
KIV Kislovodsk 76.27 319*i* P **P** **21 43 13.5 +0.3**
SNR=11
KIV Kislovodsk 76.27 319*eP* **P** **21 43 14.4 +1.2**
KIV *e* 21 46 06.2
KIV *eS* **S** **21 52 58.6 +2.8**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,229nm,18.0s
SBA Scott Base 76.36 169 IAMs_20 IAMs_20 22 13 16.1
comp=Z,1µm,19.0s
GOF Gofitskoye 76.52 320⇑*eP* **P** **21 43 14.9 +0.4**
GOF *eS* S 21 53 13.8 +15
GOF pmax pmax
comp=Z,81nm,1.3s
SOE Somerset East 76.61 238*eP* **P** **21 43 17.4 +1.9**
SOE IAmb IAmb 21 43 17.6
comp=Z,41nm,0.9s
MA2 Magadan 76.75 22 LR LR 22 17 55.6
comp=Z,537nm,19.9s,baz=242,slow=36
MA2 Magadan 76.75 22 P **P** **21 43 15.4 -0.1**
MA2 IAmb IAmb 21 43 38.7
comp=Z,144nm,1.3s
MA2 Magadan 76.75 22 P **P** **21 43 15.6 +0.2**
MA2 Magadan 76.75 22⇑*eP* **P** **21 43 15.6 +0.2**
MA2 pmax pmax
comp=Z,28nm,0.9s
GHAJ Ghor Haditha 76.82 305 P **P** **21 43 16.8 +0.4**
GHAJ IAmb IAmb 21 43 37.2
comp=Z,102nm,0.8s
GHAJ IAMs_20 IAMs_20 22 13 45.7
comp=Z,2µm,21.0s
EIL Elat 76.83 303 LR LR 22 14 09.6
comp=Z,1µm,21.9s,baz=102,slow=33
LBTB Lobatse 76.85 246 LR LR 22 11 52.0
comp=Z,1µm,20.3s,baz=96,slow=32
LBTB Lobatse 76.85 246 IAmb IAmb 21 43 18.7
comp=Z,21nm,0.8s
LBTB Lobatse 76.85 246⇓*iP* **P** **21 43 17.8 +0.8**
LBTB IAmb IAmb 21 43 18.5
comp=Z,21nm,0.8s
SWZ Schweizer 76.99 244*eP* **P** **21 43 18.1 +0.4**
SWZ IAmb IAmb 21 43 20.4
comp=Z,26nm,0.9s
BOSA Boshof 77.00 243 P **P** **21 43 17.9 +0.2**
comp=Z,18nm,0.5s,baz=110,slow=4.6,SNR=51
BOSA S **S** **21 53 02.6 -2.0**
comp=Z,1.8nm,0.9s,baz=155,slow=16,SNR=1.2
BOSA LR LR 22 13 14.0
comp=Z,524nm,18.2s,baz=86,slow=33
comp=Z,18nm,0.5s
BOSA Boshof 77.00 243 IAmb IAmb 21 43 40.9
comp=Z,106nm,1.6s
BOSA Boshof 77.00 243⇓*iP* **P** **21 43 18.4 +0.6**
BOSA IAmb IAmb 21 43 18.8
comp=Z,22nm,0.7s
BUFB Buffelsbos 77.27 237*eP* **P** **21 43 21.1 +2.1**
BUFB IAmb IAmb 21 43 31.0
comp=Z,39nm,1.1s
BELG Belogornoye 77.41 328 LR LR 22 22 22.2
comp=Z,943nm,20.9s,baz=110,slow=40
BELG Belogornoye 77.41 328*diP* **P** **21 43 20.1 +0.8**
BELG pmax pmax
comp=Z,7.0nm,1.0s
ROSN Rosenhof 77.44 237*eP* **P** **21 43 21.3 +1.4**
ROSN IAmb IAmb 21 43 22.1
comp=Z,14nm,0.7s
GAZ Gaziantep 77.46 311 IAmb IAmb 21 43 38.2
comp=Z,89nm,0.8s
MMAI Mount Meron Ar 77.49 306 LR LR 22 16 09.8
comp=Z,2µm,21.6s,baz=323,slow=35
SOC Sochi 78.07 318*eP* **P** **21 43 21.1 -2.1**
SOC *e* 21 43 35.4
SOC *e*PPP PPP 21 48 08.8
SOC *eSS* SS 21 58 14.4 -3.0
SOC pmax pmax
comp=Z,31nm,1.0s
SOC MLR MLR
comp=Z,542nm,20.0s
NRIK Noril'sk 78.21 354 P **P** **21 43 23.6 +0.2**
comp=Z,12nm,0.7s,baz=180,slow=4.6,SNR=10
NRIK S **S** **21 53 09.4 -6.3**
comp=Z,1.1nm,0.3s,baz=170,slow=5.0,SNR=1.6
NRIK LR LR 22 21 06.3
comp=Z,950nm,21.1s,baz=162,slow=38
comp=Z,12nm,0.7s
NRIK Noril'sk 78.21 354*ceP* **P** **21 43 23.1 -0.3**
NRIK pmax pmax
comp=Z,16nm,0.9s
ROOI Rooidraai Farm 78.31 239*eP* **P** **21 43 26.2 +1.2**
ROOI IAmb IAmb 21 43 27.4
comp=Z,35nm,0.8s
BRAK Brakfontein 78.90 239*eP* **P** **21 43 29.5 +1.2**
BRAK IAmb IAmb 21 43 30.7
comp=Z,34nm,0.8s
BNN Bunyan 79.05 312 IAmb IAmb 21 43 45.3
comp=Z,99nm,1.0s
TOKA Tokat 79.09 314 P **P** **21 43 29.1 +0.1**
GRAN Grantham 79.49 239*eP* **P** **21 43 32.8 +1.4**
GRAN IAmb IAmb 21 43 33.7
comp=Z,19nm,0.8s
SEY Seymchan 79.60 20⇓*eP* **P** **21 43 31.5 +0.4**
SEY pmax pmax
comp=Z,41nm,1.7s
CSS Mathiatis 79.72 308 IAmb IAmb 21 43 50.7
comp=Z,77nm,0.9s
CSS IAMs_20 IAMs_20 22 18 49.3
comp=Z,2µm,20.0s
KIRV Kirov 79.92 334 LR LR 22 23 01.3
comp=Z,1µm,21.8s,baz=115,slow=39
KIRV Kirov 79.92 334*ceP* **P** **21 43 35.1 +2.2**

MERW Merweville 80.02 238 *e*P **P 21 43 36.0 +1.7**
MERW IAmb IAmb 21 43 36.8
comp=Z,12nm,0.7s
VRH Novokhopyorsk 80.04 325 *e*P **P 21 43 34.9 +1.1**
VRH *e* 21 43 44.9
VRH *e*S **S 21 53 27.7 -8.2**
VRH pmax pmax
comp=Z,40nm,0.8s
FRAZ Fraserburg 80.16 239 *e*P **P 21 43 36.0 +0.9**
FRAZ IAmb IAmb 21 43 37.6
comp=Z,35nm,0.7s
SUR Sutherland 80.63 239 LR LR 22 12 16.1
comp=Z,3µm,21.3s,baz=99,slow=30
SUR Sutherland 80.63 239 P **P 21 43 37.8 0.0**
BR131 Keskin Array S 80.95 312 IAmb IAmb 21 43 56.2
comp=Z,69nm,0.8s
BR131 Keskin Array S 80.95 312 P **P 21 43 39.1 0.0**
SNR=13
BR131 Keskin Array S 80.95 312*d i*P **P 21 43 38.7 -0.5**
BRTR Keskin Array B 80.95 312 P **P 21 43 38.9 -0.3**
comp=Z,20nm,0.9s,baz=130,slow=6.0,SNR=69
BRTR LR LR 22 19 56.0
comp=Z,1µm,21.5s,baz=118,slow=36
comp=Z,20nm,0.9s
BRTR Keskin Array B 80.95 312 P **P 21 43 38.6 -0.6**
comp=Z,1µm,18.3s,baz=35,slow=39
TIXI Tiksi 81.19 8 LR LR 22 24 26.4
TIXI Tiksi 81.19 8 P **P 21 43 37.9 -1.7**
TIXI Tiksi 81.19 8*ce*P **P 21 43 38.5 -1.0**
TIXI pmax pmax
comp=Z,26nm,0.7s
TIXI MLR MLR
comp=Z,2µm,18.0s
AUGR Augrabies 81.31 242 *e*P **P 21 43 42.4 +1.1**
AUGR IAmb IAmb 21 43 43.7
comp=Z,39nm,1.0s
ILGA Ilgaz 81.32 314 IAmb IAmb 21 44 01.3
comp=Z,82nm,0.9s
ELIM Elim 81.38 236 *e*P **P 21 43 40.6 -0.8**
ELIM IAmb IAmb 21 43 43.4
comp=Z,20nm,0.9s
VSR Storozhevoye 81.50 325 *e*P **P 21 43 41.9 +0.3**
VSR *e* 21 43 53.3
VSR pmax pmax
comp=Z,60nm,1.3s
CVNA Calvinia 81.59 239 *e*P **P 21 43 42.1 -0.6**
CVNA IAmb IAmb 21 43 56.9
comp=Z,74nm,1.4s
ANTO Ankara 81.62 312 ⇑P **P 21 43 43.2 +0.6**
ANTO Ankara 81.62 312 P **P 21 43 42.5 -0.1**
ANTO IAmb IAmb 21 44 00.7
comp=Z,227nm,1.9s
ANTO Ankara 81.62 312 P **P 21 43 42.5 -0.1**
ANTO pmax pmax
comp=Z,227nm,1.9s
BR231 Keskin MP Arra 81.62 312 P **P 21 43 42.7 +0.1**
VORR Voronezh 81.67 325 *e*P **P 21 43 42.9 +0.5**
VORR pmax pmax
comp=Z,30nm,0.8s
AFI Afiamalu 81.75 103 LR LR 22 19 26.3
comp=Z,321nm,21.2s,baz=278,slow=35
CER Ceres 81.84 237 *e*P **P 21 43 42.8 -1.2**
QSPA South Pole Qui 81.87 180 P **P 21 43 43.2 -0.3**
comp=Z,8.9nm,0.8s,baz=306,slow=1.7,SNR=23
QSPA LR LR 22 16 58.1
comp=Z,447nm,18.4s,baz=322,slow=33
comp=Z,8.9nm,0.8s
QSPA South Pole Qui 81.87 180 IAMs_20 IAMs_20 22 14 49.9
comp=Z,946nm,21.0s
LPSR Galich'ya Gora 82.21 326 *e*P **P 21 43 45.9 +0.6**
LPSR *e* 21 43 57.9
LPSR *e*S **S 21 53 49.6 -8.7**
LPSR pmax pmax
comp=Z,50nm,1.0s
SIM Simferopol' 82.31 317 *e*P **P 21 43 47.8 +1.8**
SIM *e* 21 43 54.3
SIM *e*S **S 21 54 01.3 +1.5**
SIM *e*SS **SS 21 59 27.0 +6.1**
SIM pmax pmax
comp=Z,49nm,0.9s
SIM pmax pmax
comp=Z,87nm,1.4s
SIM smax smax
comp=N,460nm,10.0s
SIM pmax pmax
comp=N,100nm,13.7s
SIM MLR MLR
comp=Z,170nm,19.7s
PRGR Permogore 83.17 336 ⇑*i*P **P 21 43 51.7 +1.6**
PRGR *e* 21 47 01.3
PRGR *e*S **S 21 54 07.7 -0.1**
PRGR pmax pmax
comp=Z,72nm,0.8s
BORA Eskisehir 83.34 312 IAmb IAmb 21 44 11.6
comp=Z,58nm,1.0s
NVL N'lazarevskaya 83.36 199 *e*P **P 21 43 52.2 +1.2**
NVL *e*S **S 21 54 04.9 -4.7**
NVL pmax pmax
comp=Z,36nm,1.1s
MOS Moscow 84.18 328 *e*P **P 21 43 56.8 +1.4**
MOS *e* 21 44 06.0
MOS *e* 21 47 14.6
MOS *e*S **S 21 54 16.5 -1.7**
MOS pmax pmax
comp=Z,30nm,0.7s
OBN Obninsk 84.49 328 LR LR 22 24 59.8
comp=Z,122nm,21.5s,baz=104,slow=38
OBN Obninsk 84.49 328 P **P 21 43 56.9 0.0**
OBN Obninsk 84.49 328 IAMs_20 IAMs_20 22 23 50.9
comp=Z,925nm,22.0s
OBN Obninsk 84.49 328*de*P **P 21 43 57.1 +0.2**
OBN *i* 21 44 09.6
OBN *e* 21 47 15.2
OBN *i*S **S 21 54 14.8 -6.5**
OBN *e*SS **SS 21 59 50.2 -2.3**
OBN pmax pmax
comp=Z,36nm,1.1s
OBN MLR MLR
comp=Z,830nm,21.0s
KARP Karpathos 84.74 307 P **P 21 43 58.9 +0.1**
KARP IAMs_20 IAMs_20 22 21 32.2
comp=Z,1µm,21.0s
TSUM Tsumeb 84.75 251 LR LR 22 16 49.5
comp=Z,2µm,20.4s,baz=94,slow=32
TSUM Tsumeb 84.75 251 P **P 21 43 59.6 +0.3**
TSUM IAmb IAmb 21 44 22.7
comp=Z,95nm,1.9s
TSUM Tsumeb 84.75 251 *e*P **P 21 43 59.6 +0.3**
TSUM IAmb IAmb 21 44 18.8
comp=Z,25nm,1.1s
KLMR Klimovskoe 85.40 334 *e*P **P 21 44 03.0 +1.6**
KLMR *e*P **P 21 44 03.0 +1.6**
KLMR *e*P **P 21 44 03.0 +1.6**
KLMR AMP 21 44 21.5
comp=Z,122nm,1.2s
KLMR S **S 21 54 27.3 -2.8**
KLMR *S* **S 21 54 27.3 -2.8**
KLMR LQ LQ 22 16 45.2
KLMR LQ LQ 22 16 45.2
KLMR LR LR 22 19 46.4
KLMR AMP 22 26 15.9
comp=Z,450nm,20.0s
KLMR Klimovskoe 85.40 334 *e*P **P 21 44 02.9 +1.6**
KLMR S **S 21 54 27.3 -2.8**
KLMR pmax pmax
comp=Z,122nm,1.2s
KLMR MLR MLR
comp=Z,450nm,20.0s
PURM Purcari 85.63 318 ⇑P **P 21 44 04.0 +1.2**
PSN Preselentsi 86.00 315 *i*P pP 21 44 21.0 +8.1
TIRR Tirgusor 86.05 316 ⇑P **P 21 44 05.8 +0.8**
TIRR Tirgusor 86.05 316 IAmb IAmb 21 44 22.5
comp=Z,70nm,0.8s
TROLL Troll, Antarti 86.09 198 P **P 21 44 05.1 +0.1**
TPGR Topolog 86.15 316 ⇑P **P 21 44 06.0 +0.4**
CVD1 Cernavoda-Powe 86.25 316 P **P 21 44 07.8 +1.8**
SANT Santorini 86.27 307 ⇑P **P 21 44 07.5 +1.1**
TLBR Topalu 86.32 316 ⇑P **P 21 44 07.1 +0.8**
APE Apeiranthos 86.37 308 P **P 21 44 07.1 +0.2**
ICOR Ion Corvin 86.38 315 ⇓P **P 21 44 07.7 +1.0**
CFR Carcaliu 86.43 316 ⇑P **P 21 44 07.1 +0.2**
PRD Provadia 86.43 314 *i*P pP 21 44 23.3 +8.3
MILM Milestii Mici 86.44 318 ⇑P **P 21 44 07.4 +0.5**
HARR Harsova 86.44 316 ⇑P **P 21 44 08.5 +1.6**

IDI Anoyia 86.49 306 ⇑P **P 21 44 09.2 +1.7**
IDI Anoyia 86.49 306 LR LR 22 25 39.2
comp=Z,255nm,18.8s,baz=84,slow=38
IDI Anoyia 86.49 306 IAmb IAmb 21 44 27.5
comp=Z,57nm,0.7s
VLDR Vladesti 86.64 317 ⇑P **P 21 44 08.4 +0.5**
VARL Varlezi 86.81 317 ⇑P **P 21 44 10.5 +1.8**
JMB Yambol 86.83 313 *i*P pP 21 44 25.5 +8.4
SORM Soroca 87.06 319 ⇓P **P 21 44 10.3 +0.4**
GHRR 87.15 317 ⇑P **P 21 44 12.2 +1.8**
PGOR Pogoanele 87.15 316 ⇑P **P 21 44 10.9 +0.5**
RAZG Razgrad 87.15 315 ⇑P **P 21 44 11.5 +1.0**
AKASG Malin Array Be 87.22 322 P **P 21 44 10.1 -0.6**
comp=Z,2.1nm,0.6s,baz=83,slow=5.2,SNR=15
AKASG PP **PP 21 47 33.6 -1.3**
comp=Z,1.0nm,0.6s,baz=53,slow=2.1,SNR=1.7
AKASG S **S 21 54 40.2 -8.1**
comp=Z,0.2nm,0.3s,baz=135,slow=14,SNR=1.1
comp=Z,2.1nm,0.6s
AKASG Malin Array Be 87.22 322 IAmb IAmb 21 44 39.5
comp=Z,107nm,2.0s
AKBB Malin Array Si 87.22 322 IAmb IAmb 21 44 25.8
comp=Z,34nm,0.8s
AKBB Malin Array Si 87.22 322⇑*e*P **P 21 44 10.5 -0.1**
BILL Bilibino 87.27 19 P **P 21 44 09.6 -0.9**
BILL Bilibino 87.27 19 *i*P **P 21 44 10.3 -0.2**
BILL *i* 21 44 14.7
BILL *i*S **SKSac 21 54 32.6 -2.8**
BILL *i*SS **SS 22 00 32.7 -0.1**
BILL pmax pmax
comp=Z,10.0nm,0.9s
RDO Rodhopi 87.29 312 P **P 21 44 11.2 0.0**
ODBI Odobesti 87.31 317 ⇑P **P 21 44 13.1 +1.9**
SZH Strazhica 87.49 314 *i*P **P 21 44 13.0 +0.9**
ISR Istrita 87.50 316 ⇑P **P 21 44 13.4 +1.2**
VRI Vrincioaia 87.56 317 ⇑P **P 21 44 13.8 +1.4**
SULR 87.60 316 ⇑P **P 21 44 12.7 +0.2**
PLOR Plostina 87.61 317 ⇑P **P 21 44 14.2 +1.5**
NEHR Nehoiu 87.75 316 ⇑P **P 21 44 15.0 +1.6**
TESR Tescani 87.77 317 ⇑P **P 21 44 14.6 +1.2**
SNAA Sanae 87.80 198 P **P 21 44 13.7 +0.5**
SNAA Sanae 87.80 198 PKiKP **PKiKP 21 49 13.2 -2.6**
SNAA Sanae 87.80 198 LR LR 22 17 04.2
comp=Z,869nm,21.9s,baz=110,slow=31
SNAA Sanae 87.80 198 P **P 21 44 13.7 +0.5**
SNAA IAmb IAmb 21 44 36.8
comp=Z,49nm,1.0s
SNAA IAMs_20 IAMs_20 22 22 55.4
comp=Z,963nm,21.0s
SNAA Sanae 87.80 198⇓*i*P **P 21 44 14.2 +1.0**
SNAA Sanae 87.80 198⇓*e*P **P 21 44 14.4 +1.2**
SNAA pmax pmax
comp=Z,32nm,1.7s
SECR 87.81 316 ⇑P **P 21 44 14.9 +1.3**
PVL Pavlikeni 87.90 314 *i*P **P 21 44 15.0 +0.9**
COVR Voineasa-Covas 87.91 317 ⇑P **P 21 44 14.5 +0.4**
GIRR Girov 87.98 318 P **P 21 44 15.4 +1.0**
ZIMR 87.98 314 P **P 21 44 15.3 +0.8**
MLR Muntele Rosu 88.00 316 ⇑P **P 21 44 16.1 +1.4**
MLR Muntele Rosu 88.00 316 LR LR 22 27 28.5
comp=Z,650nm,19.9s,baz=73,slow=38
RZN Rozhen 88.01 312 *i*P **P 21 44 15.3 +0.4**
PLD Plovdiv 88.11 313 *i*P **P 21 44 16.6 +1.5**
COPA Copaceanca 88.19 315 ⇓P **P 21 44 16.3 +0.9**
OZUR 88.25 317 ⇑P **P 21 44 16.4 +0.6**
HUMR Humele 88.45 315 ⇑P **P 21 44 17.2 +0.6**
PLVB Pleven 88.45 314 ⇑P **P 21 44 17.8 +1.1**
DOPR Dopca 88.49 317 ⇑P **P 21 44 17.9 +1.0**
PGB Panagyurishte 88.59 313 *i*P **P 21 44 17.9 +0.4**
VOIR 88.60 316 ⇑P **P 21 44 17.6 +0.2**
MMB Musomiste 88.71 312 *i*P **P 21 44 20.7 +2.7**
VLAD Vladila 88.73 315 ⇑P **P 21 44 18.4 +0.4**
BURAR Bucovina Array 88.98 318 ⇑P **P 21 44 20.9 +1.7**
BUR08 Bucovina Ar. S 89.00 318 IAmb IAmb 21 44 37.3
comp=Z,67nm,0.8s
MNK Minsk 89.04 325 *i*P **P 21 44 19.7 +0.5**
comp=E,3.0nm,1.0s
MNK *i*P **P 21 44 19.7 +0.5**
comp=N,33nm,0.9s
MNK *i*P **P 21 44 19.7 +0.5**
comp=Z,24nm,1.0s,baz=105
MNK *i*PP **PP 21 47 49.3 -0.1**
MNK *i*PPP PPP 21 49 45.8
MNK *i*SKS 21 54 24.0
MNK *i*S **SKSac 21 54 47.0 +0.4**
MNK *i*SKKS 21 55 51.8
MNK *i*SS **SS 22 01 00.1 +0.8**
MNK *i*SSS SSS 22 04 35.5
MNK *i*LQ LQ 22 21 40.1
MNK *i*LR LR 22 23 34.1
MNK *i*LRM MLR 22 26 34.5
comp=N,519nm,18.6s
MNK *i*LRM MLR 22 28 23.1
comp=E,84nm,18.6s
MNK *i*LRM MLR 22 28 32.9
comp=Z,544nm,18.6s
MNK Minsk 89.04 325 *i*P **P 21 44 19.7 +0.5**
MNK *i* 21 47 49.3
MNK *i*PPP PPP 21 49 45.7
MNK *i*S **SKSac 21 54 47.0 +0.4**
MNK *i*SS **SS 22 01 00.0 +0.8**
MNK *i*SSS SSS 22 04 35.5
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,33nm,0.9s
MNK pmax pmax
comp=Z,24nm,1.0s
VTS Vitosha 89.28 313 ⇑P **P 21 44 21.5 +0.7**
VTS Vitosha 89.28 313 IAmb IAmb 21 44 39.3
comp=Z,54nm,0.8s
VTS Vitosha 89.28 313 *i*P **P 21 44 20.9 +0.1**
ARCR ARCALIA 89.44 318 ⇓P **P 21 44 22.6 +1.4**
VNA2 Neumayer--Watz 89.44 198 P **P 21 44 22.0 +1.1**
baz=92,slow=4.0
LOT Lotru 89.48 316 ⇑P **P 21 44 22.3 +0.7**
BAIL Bailesti 89.49 314 ⇓P **P 21 44 22.7 +1.1**
VAY Valandovo 89.51 312 *i*P **P 21 44 21.6 -0.1**
NACGM Naroch 89.76 326 *e*P **P 21 44 24.2 +1.7**
comp=Z,21nm,1.0s,baz=106
VNA1 Neumayer--Stat 89.82 198 P **P 21 44 25.0 +2.4**
CJR Cluj-Napoca 89.86 317 ⇑P **P 21 44 24.8 +1.5**
BLKB Belogradchik 89.88 314 ⇑P **P 21 44 24.4 +0.9**
VNA3 Neumayer Olymp 89.98 197 P **P 21 44 24.4 +1.0**
BMR Baia Mare 90.13 318 ⇑P **P 21 44 25.5 +1.0**
GZR Gura Zlata 90.16 316 ⇑P **P 21 44 25.8 +1.0**
DEV Deva 90.17 316 ⇑P **P 21 44 26.3 +1.7**
MARR Marisel-Cluj 90.18 317 P **P 21 44 25.9 +1.0**
IIGN Ignalina 90.19 326 *e*P **P 21 44 26.8 +2.3**
DJES Djerdap 90.19 315 ⇑P **P 21 44 26.2 +1.4**
HERR Herculane 90.31 315 ⇓P **P 21 44 25.7 +0.3**
MESR Meseseni 90.39 317 ⇑P **P 21 44 27.3 +1.6**
APA Apatity 90.48 339⇑*i*P P 21 44 38.8 +13
APA pmax pmax
comp=Z,16nm,0.8s
APA MLR MLR
comp=Z,1µm,21.0s
VSU Vasula 90.68 329 *e*P **P 21 44 27.1 +0.4**
MDVR Moldovita 90.78 315 ⇑P **P 21 44 28.7 +1.0**
TRPA Tarpa 90.85 318 ⇑P **P 21 44 29.4 +1.6**
TRPA Tarpa 90.85 318 P **P 21 44 29.3 +1.6**
BZS Buzias 91.00 316 ⇑P **P 21 44 29.2 +0.6**
SIRR Siria 91.09 316 ⇑P **P 21 44 29.9 +0.9**
UZH Uzhgorod 91.11 319 *e*P P 21 44 34.0 +5.0
UZH *e* 21 44 39.6
UZH *e* 21 44 45.2
UZH *e* 21 48 05.7
UZH *e*PPP PPP 21 50 14.3
UZH *e* 21 55 02.2
UZH *e*S **S 21 55 31.0 +6.2**
UZH *e* 21 56 40.1
UZH MLR MLR
comp=N,74nm,20.0s
UZH MLR MLR
comp=E,65nm,20.0s
UZH MLR MLR
comp=Z,86nm,20.0s
LTVH Ltavrtes, Hu 91.13 318 ⇓P **P 21 44 29.6 +0.5**
KOLS Kolonicke sedl 91.18 319 *e*P **P 21 44 30.5 +1.2**
KOLS *e* 21 44 45.6
KOLS Kolonicke sedl 91.18 319 *e*P **P 21 44 30.5 +1.2**
BELA Belgrano 2 91.24 188 P **P 21 44 28.6 -0.6**
BELA IAmb IAmb 21 44 56.9
comp=Z,114nm,1.9s
PABE Paberze 91.47 326 IAMs_20 IAMs_20 22 33 18.7
comp=Z,835nm,20.0s
PABE Paberze 91.47 326 *e*P **P 21 44 30.8 +0.4**
FINES FINESS Array B 91.72 332 P **P 21 44 32.8 +1.3**
comp=Z,4.7nm,0.9s,baz=108,slow=12,SNR=5.7
FINES PP **PP 21 48 11.5 +1.0**
comp=Z,12nm,0.9s,baz=120,slow=11,SNR=2.4
FINES LR LR 22 30 29.1
comp=Z,770nm,21.4s,baz=95,slow=39
comp=Z,4.7nm,0.9s
DIVS Divibare 91.88 314 IAmb IAmb 21 44 51.9
comp=Z,31nm,0.9s
STHS Stebnicka Huta 91.93 320 *e*P **P 21 44 34.2 +1.4**
STHS *e* 21 44 47.7
STHS Stebnicka Huta 91.93 320 *e*P **P 21 44 34.2 +1.4**
STHS *e* 21 44 47.7
RAR Rarotonga 92.12 112 LR LR 22 24 21.7
comp=Z,344nm,20.7s,baz=264,slow=34
PDG Podgorica 92.14 312 ⇑P **P 21 44 35.5 +1.6**
MTSE Matsula 92.22 329 *e*P **P 21 44 33.2 -0.7**
PBUR Paburge 92.70 326 *e*P **P 21 44 36.4 +0.2**
MORH Mrgy, Hungar 93.15 316 ⇑P **P 21 44 38.9 +0.4**
MORH Mrgy, Hungar 93.15 316 P **P 21 44 38.7 +0.3**
VYHS Vyhne 93.35 318 *e*P **P 21 44 40.5 +1.1**
VYHS *e* 21 44 54.7
VYHS Vyhne 93.35 318 *e*P **P 21 44 40.5 +1.1**
VYHS *e* 21 44 54.7
KOVH Kovagotottos 93.50 316 P **P 21 44 40.4 +0.2**
CSKK Cskako 93.57 317 P **P 21 44 40.3 -0.2**
ARA0 ARCESS Array S 93.83 340 *e*P **P 21 44 53.6 +12**
ARCES ARCESS Array B 93.83 340 P **P 21 44 41.2 +0.1**
comp=Z,6.9nm,0.9s,baz=92,slow=6.1,SNR=10.0
ARCES PP **PP 21 48 26.3 -0.6**
comp=Z,5.0nm,0.8s,baz=104,slow=7.6,SNR=2.9
ARCES LR LR 22 30 08.6
comp=Z,888nm,21.9s,baz=100,slow=38
comp=Z,6.9nm,0.9s
OKC Ostrava-Krasne 93.99 320 *e*pP **pP 21 44 57.3 +6.9**
OKC *e*S **S 21 55 53.1 +2.6**
OKC AMS AMS 22 31 30.0
comp=Z,500nm,19.8s
MAUC Maruska 94.13 319 *e*pP **pP 21 44 58.5 +7.4**
MAUC AMS AMS 22 33 30.0
comp=Z,1µm,27.7s
MODS Modra-Piesok 94.36 318 *e*P **P 21 44 45.3 +1.2**
MODS *e* 21 44 59.8
MODS Modra-Piesok 94.36 318 *e*P **P 21 44 45.3 +1.2**
MODS *e* 21 44 59.8
MORC Moravsky Berou 94.37 320 *e*P **P 21 44 44.6 +0.5**
MORC *e* 21 44 57.9
BEHE Becsehely 94.46 316 P pP 21 44 59.2 +6.5
KTK1 Kautokeino 94.51 339 *e*P P 21 44 53.4 +9.1
KRLC Kraliky 94.89 320 *e*pP **pP 21 45 01.5 +6.9**
KRLC AMS AMS 22 32 10.0
comp=Z,600nm,20.0s
VRAC Vranov 94.92 319 *e*P **P 21 44 46.7 +0.1**
VRAC *e* 21 44 59.3
KRUC Moravsky 95.03 319 *e*P **P 21 44 46.8 -0.3**
KRUC *e* 21 45 02.0
VAE Valguarnera 95.18 307 LR LR 22 29 59.7
comp=Z,155nm,19.6s,baz=158,slow=37
DPC Dobruska-Polom 95.22 320 *e*pP **pP 21 45 03.4 +7.3**
DPC *e*S **S 21 56 00.3 -1.0**
DPC AMS AMS 22 32 40.0
comp=Z,700nm,23.6s
CONA Conrad Observa 95.25 318 *e*P P 21 45 01.7 +13
comp=Z,6.6nm,0.9s
CONA *e*P PP 21 48 47.2 +8.5
comp=Z,14nm,1.4s
OSTC Ostas 95.31 320 *e*pP **pP 21 45 03.9 +7.4**
OSTC AMS AMS 22 33 00.0
comp=Z,700nm,19.1s
ARSA Arzberg 95.41 317 *e*P P 21 45 03.4 +15
comp=Z,5.8nm,0.8s
ARSA *e*P PP 21 48 50.7 +11
comp=Z,23nm,1.6s
UPC Upice 95.43 320 *e*S **S 21 56 08.2 +5.1**
UPC AMS AMS 22 33 00.0
comp=Z,800nm,19.0s
UPP Uppsala 95.54 330 *e*P **P 21 44 49.5 +0.4**
TREC Trest 95.64 319 *e*pP **pP 21 45 05.7 +7.7**
TREC *e*S **S 21 56 01.6 -3.4**
TREC AMS AMS 22 32 40.0
comp=Z,500nm,18.3s
SOKA Soboth 95.68 316 *e*P PP 21 48 53.6 +12
comp=Z,16nm,1.2s
GOPC GO Pecny, Ondr 96.16 319 *e*S **S 21 56 06.6 -2.8**
GOPC AMS AMS 22 33 30.0
comp=Z,600nm,23.1s
PRU Pruhonice 96.32 320 *e*pP pP 21 45 09.0 +7.9
PRU *e*S **S 21 56 16.1 +5.4**
PRU AMS AMS 22 33 40.0
comp=Z,700nm,27.0s
PVCC Panska Ves 96.35 320 AMS AMS 22 33 40.0
comp=Z,600nm,24.1s
CKRC Cesky Krumlov 96.37 318 *e*pP pP 21 45 09.6 +8.2
CKRC *e*S **S 21 56 12.9 +1.6**
CKRC AMS AMS 22 33 10.0
comp=Z,500nm,18.5s
AQU L'Aquila 96.44 312 IAMs_20 IAMs_20 22 29 08.3
comp=Z,637nm,22.0s
GERES GERESS Array B 96.77 318 P **P 21 44 55.0 -0.1**
comp=Z,0.6nm,0.7s,baz=76,slow=5.6,SNR=4.9
GERES PP **PP 21 48 49.7 -0.7**
comp=Z,2.0nm,0.9s,baz=119,slow=4.7,SNR=3.7
GERES LR LR 22 35 06.1
comp=Z,168nm,18.2s,baz=64,slow=40
comp=Z,0.6nm,0.7s
GERES GERESS Array B 96.77 318 P **P 21 44 55.0 -0.1**
BRG Berggiesshubel 96.78 320 Amp 21 45 15.1
comp=Z,7.2nm,1.1s
BRG *e*(P) **pP 21 45 10.6 +7.5**
KHC Kasperske Hory 96.87 319 *e*pP **pP 21 45 10.5 +6.8**
KHC *e*S **S 21 56 12.6 -3.1**
KHC AMS AMS 22 33 30.0
comp=Z,600nm,21.1s
DEL Delary 97.22 326 *e*P Pdif 21 44 58.0 +1.0
STEI Steigen 97.30 338 *e*P Pdif 21 45 06.8 +10
CLL Collm 97.40 321 *e*P Pdif 21 44 58.0 +0.2
CLL *e*sP pwP 21 45 14.0 +0.4
CLL *e*PP PP 21 48 45.0 -10
CLL *e*SKSac **SKSac 21 55 30.0 -2.8**
CLL *e*S **S 21 56 18.0 -1.9**
CLL *e*PS **PS 21 57 45.0 -1.2**
CLL *e*PPS PPS 21 58 31.0
CLL *e*SS **SS 22 02 55.0 -3.9**
CLL *e*SSS SSS 22 06 48.0
CLL *ex* x 22 08 36.0
CLL *e*SSSS 22 10 06.0
CLL Collm 97.40 321 *e*P Pdif 21 44 58.0 +0.2
CLL *e*S **S 21 56 18.0 -1.9**
HFS Hagfors 97.53 330 LR LR 22 33 13.3
comp=Z,612nm,20.9s,baz=78,slow=38
SPITS Spitsbergen Ar 97.58 348 LR LR 22 37 49.7
comp=Z,815nm,18.1s,baz=61,slow=41
NKC Novy Kostel 97.68 320 AMS AMS 22 35 40.0
comp=Z,900nm,20.9s
WTTA Wattenberg 98.05 317 *e*P Pdif 21 45 14.7 +14
comp=Z,6.3nm,0.8s
WTTA *i*P PP 21 49 10.4 +10
comp=Z,10nm,1.3s
WATA Walderalm 98.09 317 *e*P Pdif 21 45 15.5 +14
comp=Z,3.2nm,0.8s
SQTA Sankt Quirin 98.33 317 *e*P Pdif 21 45 17.5 +15
comp=Z,4.5nm,0.8s
SQTA *i*P PP 21 49 12.6 +10
comp=Z,9.5nm,1.1s
MOTA Moosalm 98.41 317 *e*P Pdif 21 45 17.9 +15
comp=Z,9.9nm,1.1s
MOTA *e*P PP 21 49 12.1 +9.0
comp=Z,8.4nm,1.0s
RETA Reutte 98.65 317 *e*P Pdif 21 45 18.4 +15
comp=Z,6.6nm,0.7s
VLC Villacollemand 98.76 313 IAMs_20 IAMs_20 22 31 16.6
comp=Z,815nm,22.0s
NB2 NORSAR Subarra 98.79 331 P Pdif 21 45 16.3 +12
baz=89,slow=4.6
NB2 NORSAR Subarra 98.79 331 P Pdif 21 45 16.3 +12
comp=Z,3.0nm,1.0s,baz=89,slow=4.6
NB2 PP **PP 21 49 11.8 +6.4**
comp=Z,2.7nm,0.7s,baz=88,slow=7.9
NOA NORSAR Array B 98.79 331 P Pdif 21 45 04.8 +1.0
comp=Z,0.6nm,0.8s,baz=56,slow=11,SNR=2.0
NOA PP **PP 21 49 00.8 -4.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.8nm,0.8s,baz=87,slow=7.0,SNR=4.2						
NOA				LR	LR	22 34 52.0	
	comp=Z,507nm,19.8s,baz=80,slow=38						
	comp=Z,0.6nm,0.8s						
KEST	**Kesra**	**99.10**	**305**	P	**Pdif**	**21 45 07.9**	**+2.0**
	comp=Z,2.8nm,0.8s,baz=146,slow=3.6,SNR=1.5						
KEST				LR	LR	22 31 47.5	
	comp=Z,333nm,20.0s,baz=18,slow=37						
	comp=Z,2.8nm,0.8s						
DAVA	**Damuels**	**99.24**	**317**	*e*P	**Pdif**	**21 45 22.1**	**+16**
	comp=Z,9.8nm,0.8s						
KONO	**Kongsberg**	**99.59**	**329**	IAMs_20	IAMs_20	22 35 03.0	
	comp=Z,887nm,20.0s						
TBI	**Tubuai**	**101.05**	**116**	*e*SS	SS	22 03 52.9	+1.8
	comp=Z,4µm,32.0s						
TBI	**Tubuai**	**101.05**	**116**	*e*LR	LR	22 18 11.8	
	comp=Z,4µm,25.8s						
WLF	**Walferdange**	**101.74**	**319**	IAMs_20	IAMs_20	22 38 17.9	
	comp=Z,578nm,18.0s						
PPT2	**Papeete2**	**102.26**	**110**	*e*SS	SS	22 04 09.4	+1.1
	comp=Z,850nm,29.5s						
PPT2	**Papeete2**	**102.26**	**110**	*e*LR	LR	22 18 45.3	
	comp=Z,686nm,23.8s						
TORD	**Torodi Ar. Bea**	**104.49**	**281**	Pdiff	**Pdif**	**21 45 23.1**	**-7.1**
	comp=Z,0.2nm,0.8s,baz=95,slow=5.7,SNR=2.2						
TORD				PP	**PKiKP**	**21 49 43.6**	**-2.9**
	comp=Z,0.8nm,0.9s,baz=111,slow=8.0,SNR=2.8						
ILAR	**Eielson Array**	**105.09**	**25**	Pdiff	**Pdif**	**21 45 20.1**	**-12**
	comp=Z,1.1nm,0.9s,baz=280,slow=4.6,SNR=7.1						
ILAR				PP	**PKiKP**	**21 49 44.8**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=282,slow=7.3,SNR=6.1						
ILAR				PKKPab	**PKKPab**	**22 01 30.1**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=130,slow=1.8,SNR=7.8						
DAG	**Danmarks Havn**	**105.21**	**349**	*i* P	**Pdif**	**21 45 42.0**	**+10**
DAG	**Danmarks Havn**	**105.21**	**349**	*i* P	**PP**	**21 49 56.0**	**+2.9**
ESDC	**Sonseca Array**	**109.57**	**309**	PKiKP	**PKiKP**	**21 49 52.6**	**-2.8**
	comp=Z,0.2nm,0.5s,baz=68,slow=6.7,SNR=2.1						
ESDC				PP	**PP**	**21 50 20.3**	**-6.0**
	comp=Z,1.8nm,1.0s,baz=58,slow=5.6,SNR=4.3						
SFS	**San Fernando**	**111.66**	**306**	IAMs_20	IAMs_20	22 42 02.0	
	comp=Z,980nm,20.0s						
AVE	**Averroes**	**112.96**	**303**	IAMs_20	IAMs_20	22 40 10.8	
	comp=Z,1µm,20.0s						
MESJ	**Messejana**	**113.09**	**308**	*e*PP	**PP**	**21 50 52.0**	**+0.5**
MESJ				IAMs_20	IAMs_20	22 46 19.5	
	comp=Z,441nm,18.0s						
TAOE	**Nuku Hiva Isla**	**113.14**	**103**	*e*LR	LR	22 23 48.3	
	comp=Z,1µm,24.5s						
YKA	**Yellowknife Ar**	**118.66**	**20**	PKP	**PKPdf**	**21 50 10.7**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=327,slow=2.2,SNR=2.0						
YKA				PKKP	PKKPdf	22 00 47.9	-12
	comp=Z,1.9nm,0.7s,baz=123,slow=4.2,SNR=6.2						
BEKR	**Beckworth**	**128.84**	**44**		**PKPdf**	**21 50 30.5**	**-1.9**
PLID	**Pearl Lake**	**129.06**	**37**	PKPdf	**PKPdf**	**21 50 30.6**	**-2.2**
EGMT	**Eagleton**	**130.66**	**30**	P	**PKiKP**	**21 50 37.0**	**+0.7**
	baz=312						
DLMT	**Dillon**	**130.86**	**34**	IAMs_20	IAMs_20	22 50 41.7	
	comp=Z,653nm,20.0s						
NVAR	**Mina Array Bea**	**130.90**	**45**	PKP	**PKPdf**	**21 50 36.9**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=230,slow=3.7,SNR=4.1						
NVAR				PP	**PP**	**21 52 46.2**	**-6.4**
	comp=Z,0.2nm,0.3s,baz=261,slow=4.5,SNR=1.8						
NVAR				SKPbc	**SKPbc**	**21 53 57.5**	**-1.1**
	comp=Z,6.4nm,1.0s,baz=276,slow=4.2,SNR=7.1						
PLCA	**Paso Flores**	**131.19**	**185**	PKP	**PKPdf**	**21 50 36.6**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=246,slow=6.3,SNR=3.9						
BOZ	**Bozeman (W)**	**131.25**	**34**	P	**PKiKP**	**21 50 38.7**	**+0.9**
	baz=309						
MPMC	**Manual Prospec**	**132.52**	**48**	P	**PKiKP**	**21 50 41.4**	**+0.7**
	baz=295						
FLWY	**Flagg Ranch**	**132.72**	**35**	IAMs_20	IAMs_20	22 39 34.8	
	comp=Z,693nm,21.0s						
SCHQ	**Schefferville**	**132.94**	**353**	PKP	**PKPdf**	**21 50 40.1**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=338,slow=5.4,SNR=2.1						
BW06	**Boulder Array**	**134.19**	**35**	P	**PKiKP**	**21 50 44.7**	**+0.9**
	baz=309						
PDAR	**Pinedale Array**	**134.19**	**35**	PKP	**PKPdf**	**21 50 41.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=84,slow=1.9,SNR=4.6						
ULM	**Lac du Bonnet**	**134.62**	**19**	PKP	**PKPdf**	**21 50 42.6**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=245,slow=9.4,SNR=1.7						
ALF01	**Guarapari-ES**	**135.67**	**229**	*e*P	**PKPdf**	**21 50 43.0**	**-2.6**
TER01	**Tubaro-SC**	**135.70**	**214**	*e*P	**PKiKP**	**21 50 47.2**	**+0.1**
RIB01	**Linhares ES**	**136.18**	**231**	*e*P	**PKiKP**	**21 50 47.5**	**-0.7**
RSSD	**Black Hills**	**136.23**	**30**	PKPdf	**PKPdf**	**21 50 44.5**	**-1.8**
RSSD	**Black Hills**	**136.23**	**30**	P	**PKPdf**	**21 50 46.9**	**+0.6**
	baz=316						
RSSD	**Black Hills**	**136.23**	**30**	PKIKP	**PKPdf**	**21 50 44.5**	**-1.8**
MAN01	**Angra dos Reis**	**136.59**	**224**	*e*P	**PKiKP**	**21 50 48.4**	**-0.7**
O20A	**White River Ci**	**136.60**	**37**	P	**PKiKP**	**21 50 48.4**	**-0.4**
	baz=308						
NAN01	**Guarapari, ES**	**136.80**	**233**	*e*P	**PKiKP**	**21 50 49.6**	**+0.1**
PARB	**Paraibuna**	**137.39**	**222**	*e*P	**PKiKP**	**21 50 50.2**	**-0.6**
PHWY	**Pilot Hill**	**137.46**	**34**	IAMs_20	IAMs_20	22 46 08.2	
	comp=Z,566nm,20.0s						
CMC01	**Camacan, BA**	**137.63**	**237**	*e*P	**PKiKP**	**21 50 50.9**	**-0.4**
PET01	**Itanhaem-SP**	**137.79**	**220**	*e*P	**PKiKP**	**21 50 50.9**	**-0.5**
RCBR	**Riachuelo**	**138.42**	**252**	IAMs_20	IAMs_20	22 42 07.8	
	comp=Z,742nm,21.0s						
RCBR	**Riachuelo**	**138.42**	**252**	*e*P	**PKPdf**	**21 50 51.0**	**+0.1**
GDU01	**Guandu, BA**	**138.50**	**239**	*e*P	**PKiKP**	**21 50 52.4**	**-0.7**
VAO	**Valinhos**	**138.51**	**221**	*e*P	**PKPdf**	**21 50 51.9**	**+1.0**
FRTB	**Fartura**	**139.91**	**218**	*e*P	**PKPdf**	**21 50 54.0**	**+0.6**
PTGB	**Pitanga**	**140.31**	**214**	*e*P	**PKiKP**	**21 50 55.7**	**-1.0**
MC01	**Montes Claros**	**140.43**	**231**	*e*P	**PKPdf**	**21 50 55.1**	**+0.6**
ANMO	**Albuquerque**	**140.85**	**42**	IAMs_20	IAMs_20	22 44 26.8	
	comp=Z,694nm,19.0s						
CPUP	**Villa Florida**	**141.59**	**206**	PKhKP	PKPpre	21 50 53.0	
	comp=Z,1.7nm,0.7s,baz=193,slow=2.1,SNR=3.8						
JANB	**Januaria**	**141.68**	**233**	*e*P	**PKPdf**	**21 50 57.8**	**+1.0**
SLBS	**Sierra La Lagu**	**143.32**	**61**	PKPdf	PKPbc	21 50 57.4	+0.7
GDL2	**Guadalupe Moun**	**143.86**	**44**	PKPdf	PKPbc	21 50 58.4	+0.4
CLNB	**Carlsbad**	**144.16**	**44**	PKPdf	PKPbc	21 50 59.1	+0.2
BDFB	**Brasilia**	**144.17**	**229**	PKP	PKPbc	21 50 59.5	+0.2
	comp=Z,3.7nm,0.8s,baz=132,slow=7.0,SNR=4.4						
BDFB	**Brasilia**	**144.17**	**229**	PKPdf	PKPbc	21 50 59.4	0.0
BDFB	**Brasilia**	**144.17**	**229**	*e*P	**PKPdf**	**21 51 01.9**	**+0.6**
OK038	**West end E0370**	**144.57**	**34**	IAMs_20	IAMs_20	23 01 55.3	
	comp=Z,795nm,22.0s						
OK032	**Salt Plains WL**	**144.61**	**33**	PKPdf	**PKPab**	**21 50 59.8**	**-0.1**
J59A	**Piesco**	**144.80**	**359**	PKPdf	**PKPab**	**21 50 59.7**	**-0.7**
ACCN	**Adirondack Com**	**144.86**	**358**	PKPdf	**PKPab**	**21 51 00.1**	**-0.5**
BLOK	**Blackwell**	**145.17**	**32**	PKPbc	**PKPbc**	**21 51 01.6**	**-0.2**
P40A	**Paris**	**145.28**	**23**	PKPbc	**PKPbc**	**21 51 01.4**	**-0.6**
HDIL	**Hopedale**	**145.35**	**19**	P	**PKPbc**	**21 51 01.9**	**-0.4**
	baz=335						
AQDB	**Aquidauana**	**145.70**	**214**		**PKPdf**	**21 51 02.3**	**-1.4**
AQDB	**Aquidauana**	**145.70**	**214**	*e*P	**PKPdf**	**21 51 03.8**	**+0.1**
WMOK	**Wichita Mounta**	**145.79**	**36**	P	**PKPbc**	**21 51 03.9**	**0.0**
	baz=315						
TXAR	**Lajitas Array**	**145.95**	**48**	PKPbc	**PKPab**	**21 51 05.5**	**+0.4**
	comp=Z,35nm,0.9s,baz=299,slow=2.6,SNR=121						
OK031	**S. Brethren Rd**	**145.98**	**32**	IAMs_20	IAMs_20	23 00 17.7	
	comp=Z,676nm,22.0s						
BINY	**Binghamton**	**146.06**	**1**	P	**PKPbc**	**21 51 04.6**	**+0.1**
	baz=358						
SFIN	**Lafayette**	**146.18**	**16**	P	**PKPbc**	**21 51 04.9**	**0.0**
	baz=338						
GO02	**Mina Guanaco**	**146.46**	**189**		**PKPbc**	**21 51 06.1**	**-0.4**
M53A	**WI Miller and**	**146.47**	**7**	P	**PKPbc**	**21 51 05.6**	**-0.1**
	baz=350						
TUL1	**Leonard**	**146.56**	**31**	P	**PKPbc**	**21 51 06.1**	**-0.1**
	baz=321						
ABTX	**Abilene, Hawle**	**146.72**	**40**	P	**PKPab**	**21 51 07.6**	**-0.4**
	baz=312						
O48B	**Farmland**	**146.80**	**14**	P	**PKPbc**	**21 51 06.2**	**-0.5**
	baz=342						
U38A	**Gravette**	**146.84**	**29**	PKPdf	**PKPdf**	**21 51 05.3**	**+0.2**
ARAG	**Araguaiana, MT**	**146.87**	**224**	*e*P	**PKPbc**	**21 51 07.1**	**-0.4**
CCM	**Cathedral Cave**	**146.87**	**24**		**PKPbc**	**21 51 06.4**	**-0.6**
CCM	**Cathedral Cave**	**146.87**	**24**	P	**PKPbc**	**21 51 06.5**	**-0.4**
	baz=330						
CCM	**Cathedral Cave**	**146.87**	**24**	PKP2	**PKPbc**	**21 51 06.4**	**-0.6**
ROSB	**Rosrio**	**147.12**	**252**	*e*P	**PKPbc**	**21 51 07.4**	**-1.0**
ACSO	**Alum Creek Sta**	**147.29**	**11**	P	**PKPbc**	**21 51 08.3**	**+0.2**
	baz=346						
SSPA	**Standing Stone**	**147.54**	**4**	PKPdf	**PKPdf**	**21 51 06.4**	**+0.2**
SSPA	**Standing Stone**	**147.54**	**4**	P	**PKPbc**	**21 51 08.9**	**+0.1**
	baz=355						
P49A	**Miami Univ. Ec**	**147.59**	**14**	P	**PKPbc**	**21 51 08.8**	**-0.2**
	baz=342						
SMTB	**Santa Maria do**	**147.72**	**239**	*e*P	**PKPdf**	**21 51 08.3**	**+1.1**
JCT	**Junction City**	**148.00**	**43**	P	**PKPbc**	**21 51 11.0**	**+0.6**
	baz=309						
P52A	**Corning**	**148.02**	**10**	P	**PKPbc**	**21 51 10.2**	**+0.1**
	baz=347						
WCI	**Wyandotte Cave**	**148.41**	**17**	PKPbc	**PKPbc**	**21 51 10.7**	**-0.5**
WCI	**Wyandotte Cave**	**148.41**	**17**	P	**PKPbc**	**21 51 10.9**	**-0.2**
	baz=339						
WCI	**Wyandotte Cave**	**148.41**	**17**	PKP2	**PKPbc**	**21 51 10.7**	**-0.5**
WHTX	**Lake Whitney,**	**148.51**	**38**	P	**PKPbc**	**21 51 12.1**	**+0.5**
	baz=314						
MIAR	**Mount Ida**	**148.75**	**30**	P	**PKPbc**	**21 51 12.5**	**+0.3**
	baz=323						
LVC	**Limon Verde**	**148.83**	**191**	*e*P	**PKPdf**	**21 51 09.6**	**+0.3**
SNDB	**Serra Nova Dou**	**148.95**	**230**	*e*P	**PKPdf**	**21 51 10.1**	**+0.8**
SALV	**Santo Antonio**	**149.28**	**219**	*e*P	**PKPdf**	**21 51 10.8**	**+1.1**
833A	**Chaparral WMA,**	**149.60**	**46**	P	**PKiKP**	**21 51 15.5**	**0.0**
	baz=307						
WVT	**Waverly**	**149.84**	**21**	PKPbc	**PKPbc**	**21 51 14.3**	**-0.5**
WVT	**Waverly**	**149.84**	**21**	IAMs_20	IAMs_20	23 02 05.9	
	comp=Z,700nm,21.0s						
WVT	**Waverly**	**149.84**	**21**	P	**PKPbc**	**21 51 15.0**	**+0.1**
	baz=334						
WVT	**Waverly**	**149.84**	**21**	PKP2	**PKPbc**	**21 51 14.4**	**-0.5**
WVT				MLR	MLR		
	comp=Z,700nm,21.0s						
OXF	**Oxford**	**150.67**	**24**	IAMs_20	IAMs_20	23 12 44.1	
	comp=Z,665nm,20.0s						
OXF	**Oxford**	**150.67**	**24**	P	**PKPbc**	**21 51 16.7**	**-0.2**
	baz=330						
PLAL	**Pickwick Lake**	**150.78**	**22**	PKPbc	**PKPbc**	**21 51 16.4**	**-0.8**
PRPB	**Parauapebas**	**150.96**	**241**	*e*P	**PKPdf**	**21 51 13.9**	**+1.4**
TMAB	**Tom-Au,PA,Br**	**151.02**	**250**	*e*P	**PKPbc**	**21 51 15.7**	**-2.6**
PTLB	**Pontes e Lacer**	**151.67**	**214**	PKPbc	**PKPbc**	**21 51 17.9**	**-1.8**
PTLB	**Pontes e Lacer**	**151.67**	**214**	*e*P	**PKPdf**	**21 51 14.8**	**+1.4**
SIV	**San Ignacio**	**152.25**	**210**	PKP	**PKPdf**	**21 51 14.3**	**0.0**
	comp=Z,1.6nm,0.6s,baz=95,slow=4.5,SNR=1.0						
SIV				PKPbc	**PKPbc**	**21 51 20.8**	**-0.3**
	comp=Z,12nm,1.0s,baz=136,slow=2.8,SNR=4.3						
CLDB	**Colider**	**152.99**	**226**	*e*P	**PKPdf**	**21 51 16.8**	**+1.4**
PB12	**IPOC Station P**	**152.99**	**190**	PKPbc	**PKPbc**	**21 51 22.1**	**-0.7**
PB16	**IPOC Station P**	**153.11**	**192**	PKPbc	**PKPbc**	**21 51 21.1**	**-2.5**
PDRB	**Porto dos Gac**	**153.12**	**223**	*e*P	**PKPdf**	**21 51 17.4**	**+1.8**
VILB	**Vilhena**	**154.29**	**216**	PKPdf	**PKPdf**	**21 51 14.0**	**-3.3**
VILB	**Vilhena**	**154.29**	**216**	*e*P	**PKPdf**	**21 51 18.6**	**+1.3**
LPAZ	**La Paz**	**154.75**	**196**	PKP	**PKPdf**	**21 51 18.4**	**-0.3**
	comp=Z,2.4nm,1.1s,baz=225,slow=7.1,SNR=3.5						
LPAZ				PKPbc	**PKiKP**	**21 51 28.3**	**+1.1**
	comp=Z,5.5nm,1.1s,baz=110,slow=4.4,SNR=4.6						
LPAZ	**La Paz**	**154.75**	**196**	*e*P	**PKPdf**	**21 51 19.7**	**+1.1**
NPGB	**Novo Progresso**	**155.12**	**233**	*e*P	**PKPdf**	**21 51 19.4**	**+1.0**
MCPB	**Macapa, AP**	**155.43**	**251**	*e*P	**PKPdf**	**21 51 21.2**	**+2.3**
MALB	**Monte Alegre**	**156.88**	**245**	*e*P	**PKPdf**	**21 51 21.8**	**+1.0**
ITTB	**Itaituba**	**156.95**	**238**	*e*P	**PKPdf**	**21 51 21.2**	**+0.3**
MDP	**Montagnes des**	**157.38**	**264**	PKP	**PKPdf**	**21 51 20.0**	**-1.5**
	comp=Z,5.1nm,0.8s,baz=174,slow=4.3,SNR=2.5						
ETMB	**Extrema**	**160.05**	**207**	*e*P	**PKPdf**	**21 51 25.9**	**+1.3**
MACA	**Manacapuru-AM**	**161.68**	**233**	*e*P	**PKPdf**	**21 51 27.9**	**+1.6**
CZSB	**Cruzeiro do Su**	**164.05**	**189**	*e*P	**PKPdf**	**21 51 30.3**	**+1.6**
BOAV	**Boa Vista**	**164.31**	**250**	*e*P	**PKPdf**	**21 51 30.6**	**+1.6**
TBTG	**Tabatinga, AM**	**166.67**	**204**	*e*P	**PKPdf**	**21 51 32.0**	**+1.2**
SGCB	**S£o Gabriel d**	**168.44**	**225**	*e*P	**PKPdf**	**21 51 34.1**	**+1.9**
ACON	**Acoyapa**	**169.47**	**68**		**PKPab**	**21 52 43.6**	**-2.2**
HDC	**Heredia**	**171.01**	**77**	*e*P	**PKPdf**	**21 51 34.4**	**+0.6**
SDV	**Santo Domingo**	**175.41**	**280**	*e*P	**PKPdf**	**21 51 36.7**	**+1.1**
ROSC	**El Rosal**	**176.62**	**195**	PKP	**PKPdf**	**21 51 40.8**	**+4.6**
	comp=Z,3.9nm,0.4s,baz=234,slow=6.9,SNR=1.6						

*KRNET **07** 22:24:43.3±0.1, 39°.36N×72°.78E, h15km, mb3.0*
*NNC **07** 22:24:50.6±2.8, 39°.31N×72°.87E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=22.1km s-min=14.1km az=12.0*
ISC 07 22:24:45.9±1.8**, 39°.41N**±0°.07×**72°.64E**±0°.06**, h6**km±13km**, n10,** σ1§**44**/18**, 16C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.65**	**276**	⇑*i*P	**Pg**	**22 24 58.0**	**-0.5**
	baz=79						
DRK				⇑*i*S	**Sb**	**22 25 09.0**	**-0.3**
	baz=79						
BTK	**Batken**	**1.54**	**295**	⇑*i*P	**Pb**	**22 25 14.4**	**-0.5**
	baz=95						
BTK				⇑*i*S	**Sg**	**22 25 37.1**	**+1.6**
	baz=95						
GAR	**Garm**	**1.85**	**258**	⇑*i*P	**Pb**	**22 25 19.4**	**-0.8**
	baz=60						
GAR				⇑*i*S	**Sg**	**22 25 45.8**	**+0.4**
	baz=60						
TRKS	**Terek-Say**	**2.40**	**332**	⇑*i*P	**Pn**	**22 25 26.5**	**+0.6**
	baz=30						
TRKS				⇑*i*S	**Sb**	**22 25 57.9**	**-1.7**
	baz=30						
ARK	**Arkit**	**2.44**	**348**	⇑*i*P	**Pn**	**22 25 27.4**	**+1.1**
	baz=46						
ARK				⇑*i*S	**Sb**	**22 25 59.9**	**-0.6**
	baz=46						
ARLS	**Aral**	**2.76**	**27**	⇓*e*P	**Pn**	**22 25 31.1**	**+0.3**
	baz=25						
ARLS				⇓*i*S	**Sn**	**22 26 05.7**	**+1.2**
	baz=25						
CHGR	**Chuyangaron**	**2.81**	**256**	⇑*e*P	**Pn**	**22 25 33.0**	**+1.5**
	baz=57						
CHGR				⇑*i*S	**Sb**	**22 26 09.1**	**-2.2**
	baz=57						
CHMS	**Chumysh**	**3.92**	**23**	⇑Pn	**Pb**	**22 25 53.1**	**-2.3**
	4.1nm,0.8s						
CHMS				⇑Lg	Lg	22 26 52.9	
	1.7nm,0.6s						
KK31	**Karatay Array**	**4.02**	**337**	⇑Pn	**Pb**	**22 25 55.0**	**-2.1**
	0.7nm,0.4s,baz=155,slow=14,SNR=15						
KK31				Sn	**Sb**	**22 26 46.8**	**+0.9**
	3.8nm,0.7s,baz=156,slow=26,SNR=6.0						
KK31				⇓Lg	Lg	22 27 04.9	
	2.9nm,0.7s						
TKM2	**Tokmak 2**	**4.15**	**32**	⇓Pg	**Pg**	**22 26 06.6**	**+1.2**
	1.1nm,0.5s						
TKM2				⇑Lg	Lg	22 27 03.8	
	2.9nm,0.7s						

IDC 07 22:48:27.6±2.1**, 2°.90N**×**128°.81E, h0**km**, mb3.8**/4**, mbtmp3.8**/4**, MS3.7**/2**, Error ellipse: s-maj=159.5km s-min=21.8km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**167**	P	P	22 53 38.0	+0.3
	0.8nm,0.4s,baz=344,slow=10.0,SNR=17						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**26.87**	**170**	P	P	22 54 09.3	-1.0
	0.6nm,0.5s,baz=353,slow=7.6,SNR=12						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**36.66**	**162**	P	P	22 55 35.3	-0.8
	0.6nm,0.3s,baz=354,slow=9.2,SNR=3.1						
	0.6nm,0.3s						
YAK	**Yakutsk**	**58.99**	**0**	LR	LR	23 24 15.8	
	comp=Z,53nm,20.1s,baz=292,slow=36						
MKAR	**Makanchi Array**	**59.42**	**325**	P	P	22 58 32.9	+0.8
	0.5nm,0.4s,baz=115,slow=8.4,SNR=12						
	0.5nm,0.4s						
IDI	**Anoyia**	**99.65**	**306**	LR	LR	23 52 08.6	
	comp=Z,42nm,21.9s,baz=262,slow=38						

IDC 07 22:50:36.7±2.0**, 6°.11S**×**125°.63E, h0**km**, mb3.4**/1**, mbtmp3.5**/3**, ML3.7**/2**, MS3.2**/1**, Error ellipse: s-maj=170.4km s-min=30.8km az=62.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.14**	**149**	Pn	Pn	22 54 26.5	+1.3
	0.2nm,0.3s,baz=326,slow=11,SNR=6.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.18**	**156**	P	P	22 55 01.6	-0.5
	0.5nm,0.3s,baz=341,slow=11,SNR=19						
	1.1nm,0.4s						
JOW	**Kunigami**	**32.85**	**4**	LR	LR	23 12 16.1	
	comp=Z,38nm,18.3s,baz=340,slow=40						
MKAR	**Makanchi Array**	**65.17**	**329**	P	P	23 01 19.7	0.0
	0.2nm,0.4s,baz=120,slow=5.2,SNR=2.6						
	0.2nm,0.4s						

*IDC **07** 23:04:53.9±1.0, 31°.82S×178°.07W, h0km, mb4.3/4, mbtmp4.3/5, ML4.5/1, MS3.6/2, Error ellipse: s-maj=30.0km s-min=22.5km az=89.0*
*NEIC **07** 23:04:54.2±1.8, 31°.94S±0°.08×177°.8W±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=19.6km s-min=5.0km az=128.0*
ISC 07 23:04:54.6±0.7**, 31°.99S**±0°.07×**178°.0W**±0°.1**, h10**km**, n37,** σ1§**74**/37**, mb4.4**/9**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.73**	**2**	Pn	**Pn**	**23 05 36.2**	**-2.4**
	88nm,0.3s,baz=122,slow=13,SNR=7.4						
RAO				Sn	**Sn**	**23 06 10.4**	**-1.3**
	179nm,0.3s,baz=257,slow=16,SNR=4.7						
	250nm,0.2s						
RAO	**Raoul Island**	**2.73**	**2**	Pn	**Pn**	**23 05 37.4**	**-1.2**
URZ	**Urewera**	**7.41**	**211**	Pn	**Pn**	**23 06 40.4**	**-2.4**
	2.3nm,0.3s,baz=341,slow=3.3,SNR=8.9						
URZ				Sn	**Sn**	**23 08 02.1**	**-4.8**
	3.5nm,0.3s,baz=279,slow=23,SNR=7.6						
OUZ	**Omahuta**	**7.69**	**243**		**Pn**	**23 06 49.1**	**+2.5**
BKZ	**Black Stump Fm**	**8.43**	**210**	Pn	**Pn**	**23 06 57.2**	**+0.3**
MSWZ	**Moikau Station**	**10.84**	**208**	Pn	**Pn**	**23 07 33.9**	**+4.1**
THZ	**Tophouse**	**12.15**	**214**	Pn	**Pn**	**23 07 47.3**	**-0.4**
RPZ	**Rata Peaks**	**14.52**	**213**	Pn	Pn	23 08 14.8	-5.4
	0.9nm,0.3s,baz=201,slow=20,SNR=1.4						
RPZ				Sn	Sn	23 10 44.2	-17
	0.6nm,0.3s,baz=188,slow=23,SNR=1.7						
DZM	**Mont Dzumac**	**16.98**	**302**	LR	LR	23 14 31.2	
	comp=Z,252nm,18.7s,baz=178,slow=34						
CTA	**Charters Tower**	**34.06**	**282**	P	**P**	**23 11 40.5**	**+1.2**
	2.5nm,0.5s,baz=111,slow=9.6,SNR=5.9						
CTA				LR	LR	23 22 35.8	
	comp=Z,90nm,21.4s,baz=102,slow=31						
	2.5nm,0.5s						
CTAO	**Charters Tower**	**34.06**	**282**	P	**P**	**23 11 40.6**	**+1.4**
CTAO				IAmb	IAmb	23 11 58.0	
	comp=Z,7.4nm,1.0s						
BBOO	**Buckleboo**	**38.54**	**256**	P	**P**	**23 12 17.0**	**-0.5**
BBOO				IAmb	IAmb	23 12 18.7	
	comp=Z,9.6nm,1.1s						
COEN	**Coen**	**39.71**	**288**	P	**P**	**23 12 27.8**	**+0.4**
COEN				IAmb	IAmb	23 12 38.8	
	comp=Z,5.5nm,0.6s						
ASAR	**Alice Springs**	**43.02**	**269**	P	**P**	**23 12 54.6**	**0.0**
	comp=Z,3.6nm,0.8s,baz=108,slow=7.8,SNR=24						
	comp=Z,3.6nm,0.8s						
WR0	**Warramunga Arr**	**43.98**	**274**	P	**P**	**23 13 02.3**	**0.0**
WR0				IAmb	IAmb	23 13 03.5	
	comp=Z,5.6nm,0.9s						
WB2	**Warramunga Arr**	**44.15**	**274**	P	**P**	**23 13 03.9**	**+0.3**
WB2				IAmb	IAmb	23 13 13.8	
	comp=Z,8.5nm,0.5s						
WRA	**Warramunga Arr**	**44.16**	**274**	P	**P**	**23 13 04.0**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=115,slow=7.6,SNR=19						
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**44.16**	**274**	P	**P**	**23 13 04.0**	**+0.3**
WB0	**Warramunga Arr**	**44.19**	**274**	P	**P**	**23 13 04.4**	**+0.4**
VNDA	**Vanda**	**46.51**	**186**	P	**P**	**23 13 18.7**	**-3.0**
MTN	**Manton Dam**	**50.22**	**280**	P	**P**	**23 13 51.3**	**+0.2**
QSPA	**South Pole Qui**	**58.12**	**180**	P	**P**	**23 14 51.0**	**+2.8**
	comp=Z,1.2nm,0.5s,baz=343,slow=7.7,SNR=12						
	comp=Z,1.2nm,0.5s						
QSPA	**South Pole Qui**	**58.12**	**180**	P	**P**	**23 14 50.6**	**+2.4**
QSPA				IAmb	IAmb	23 15 09.4	
	comp=Z,4.8nm,1.0s						
TROLL	**Troll, Antarti**	**76.28**	**180**	P	**P**	**23 16 45.2**	**+2.0**
SNAA	**Sanae**	**76.57**	**178**	P	**P**	**23 16 45.8**	**+1.0**
SNAA	**Sanae**	**76.57**	**178**	P	**P**	**23 16 45.5**	**+0.8**
SNAA				IAmb	IAmb	23 16 54.5	
	comp=Z,3.1nm,1.1s						
VNA3	**Neumayer Olymp**	**76.72**	**176**	P	**P**	**23 16 46.1**	**+0.5**
VNA2	**Neumayer--Watz**	**77.15**	**177**	P	**P**	**23 16 50.0**	**+1.9**
	baz=179,slow=5.2						
MKAR	**Makanchi Array**	**118.77**	**309**	PKP	**PKPdf**	**23 23 43.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=151,slow=1.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**119.20**	**318**	PKP	**PKiKP**	**23 23 45.5**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=119,slow=5.1,SNR=1.6						
ARCES	**ARCESS Array B**	**140.14**	**347**	PKP	**PKiKP**	**23 24 24.5**	**-0.5**
	comp=Z,4.7nm,0.9s,baz=64,slow=2.1,SNR=2.8						
FINES	**FINESS Array B**	**146.63**	**339**	PKPbc	**PKPbc**	**23 24 35.9**	**+0.2**
	comp=Z,4.5nm,0.5s,baz=47,slow=4.2,SNR=30						
NB2	**NORSAR Subarra**	**150.32**	**351**	PKP	**PKPbc**	**23 24 46.0**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=14,slow=4.1						
NOA	**NORSAR Array B**	**150.32**	**351**	PKPbc	**PKiKP**	**23 24 46.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=15,slow=4.1,SNR=3.0						
AKASG	**Malin Array Be**	**152.53**	**321**	PKPbc	**PKPbc**	**23 24 49.6**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=51,slow=1.9,SNR=1.8						
BRTR	**Keskin Array B**	**153.30**	**296**	PKPbc	**PKPbc**	**23 24 52.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=101,slow=4.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**161.24**	**179**	PKPab	**PKPab**	**23 25 39.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=181,slow=3.2,SNR=4.3						

IDC 07 23:07:01.7±2.0**, 1°.22N**×**126°.47E, h0**km**, mb3.7**/3**, mbtmp3.8**/3**, MS3.2**/2**, Error ellipse: s-maj=175.3km s-min=25.1km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**21.97**	**55**	LR	LR	23 20 05.9	
	comp=Z,38nm,19.6s,baz=155,slow=36						
WRA	**Warramunga Arr**	**22.40**	**160**	P	P	23 12 00.8	-1.2
	1.7nm,0.6s,baz=339,slow=11,SNR=24						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**25.77**	**164**	P	P	23 12 35.4	+0.9
	1.1nm,0.4s,baz=344,slow=8.9,SNR=22						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**59.47**	**326**	P	P	23 17 06.4	-0.2
	0.3nm,0.4s,baz=119,slow=8.3,SNR=5.8						
	0.3nm,0.4s						
RAR	**Rarotonga**	**75.33**	**112**	LR	LR	23 54 35.1	
	comp=Z,26nm,18.1s,baz=274,slow=38						

*ROM **07** 23:20:59.2±0.1, 43°.008N±0°.003×13°.143E±0°.005, h8km, ML2.6/36, Error ellipse: s-maj=0.4km s-min=0.2km az=69.0*
*PRU **07** 23:21:01.9±0.0, 43°.03N×13°.73E, h10km*
ISC 07 23:20:55.5±1.1**, 43°.14N**±0°.02×**13°.50E**±0°.05**, h13**km±7km**, n56,** σ1§**84**/78**, 19C-18D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMA	**Gualdo di Mace**	**0.14**	**236**	⇑P	Pg	23 21 03.4	+4.3
GUMA				S	**Sg**	**23 21 05.9**	**+4.3**
GUMA				AML	AML		
	comp=E,14900µm,0.6s						
GUMA				AML	AML		
	comp=E,14850µm,0.6s						
GUMA				AML	AML		
	comp=N,11350µm,0.8s						
GUMA				AML	AML		
	comp=E,12600µm,0.7s						
GUMA				AML	AML		
	comp=N,14150µm,0.8s						
CSP1	**Cessapalombo**	**0.22**	**257**	P	**Pg**	**23 21 01.9**	**+1.6**
CSP1				S	**Sg**	**23 21 03.8**	**+0.1**
T1256	**Bolognola (MC)**	**0.24**	**236**	⇑P	**Pg**	**23 21 01.2**	**+0.5**
T1256				S	**Sg**	**23 21 02.5**	**-1.7**
T1256				AML	AML		
	comp=E,14450µm,0.8s						
T1256				AML	AML		
	comp=E,14700µm,0.8s						
T1256				AML	AML		
	comp=E,14450µm,0.9s						
T1256				AML	AML		
	comp=N,16400µm,0.4s						
T1256				AML	AML		
	comp=N,15400µm,0.4s						
OFFI	**Offida**	**0.25**	**146**	⇑P	Pg	23 21 08.7	+8.0
OFFI				AML	AML		
	comp=E,1098µm,0.4s						
OFFI				AML	AML		
	comp=N,1370µm,0.8s						
MDAR	**Monte D'Aria**	**0.26**	**281**	P	**Pb**	**23 21 03.6**	**+1.5**
MDAR				S	**Sb**	**23 21 06.9**	**+0.3**
MMO1	**Montemonaco**	**0.27**	**207**	P	**Pb**	**23 21 03.4**	**+1.1**
MMO1				S	**Sb**	**23 21 06.4**	**-0.5**
T1241	**Roccafluvione,**	**0.29**	**190**	P	**Pn**	**23 21 04.9**	**-0.5**
T1241				S	**Sb**	**23 21 09.5**	**+2.2**
T1241				AML	AML		
	comp=E,2310µm,0.5s						
T1241				AML	AML		
	comp=E,2450µm,0.5s						
T1241				AML	AML		
	comp=N,2095µm,0.5s						
T1241				AML	AML		
	comp=E,2445µm,0.5s						
T1241				AML	AML		
	comp=N,2005µm,0.5s						
T1241				AML	AML		
	comp=E,2310µm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1241				AML	AML		
	comp=N,2090µm,0.5s						
FDMO	**Fiordimonte**	**0.32**	**251**	P	**Pg**	**23 21 00.8**	**-1.2**
FDMO				S	**Sg**	**23 21 01.8**	**-4.6**
CING	**Cingoli**	**0.32**	**317**	⇓P	**Pn**	**23 21 07.0**	**+1.0**
CING				AML	AML		
	comp=E,1251µm,0.2s						
CING				AML	AML		
	comp=N,1425µm,0.8s						
CING				AML	AML		
	comp=E,1246µm,0.2s						
GAG1	**Gagliole**	**0.33**	**287**	⇑P	**Pb**	**23 21 04.9**	**+1.7**
GAG1				AML	AML		
	comp=E,4690µm,1.5s						
GAG1				AML	AML		
	comp=E,4685µm,1.5s						
GAG1				AML	AML		
	comp=N,5320µm,0.4s						
EL6	**Elcito**	**0.34**	**303**	⇑P	**Pn**	**23 21 06.1**	**-0.1**
EL6				AML	AML		
	comp=N,2155µm,0.2s						
EL6				AML	AML		
	comp=E,2140µm,0.3s						
EL6				AML	AML		
	comp=N,2160µm,0.2s						
T1245	**Castelsantange**	**0.36**	**219**	P	**Pg**	**23 21 03.0**	**+0.1**
T1245				S	**Sg**	**23 21 05.9**	**-2.0**
T1245				AML	AML		
	comp=N,7420µm,1.4s						
T1245				AML	AML		
	comp=E,5935µm,0.2s						
T1245				AML	AML		
	comp=N,6990µm,1.4s						
T1245				AML	AML		
	comp=N,7425µm,1.4s						
T1245				AML	AML		
	comp=E,5855µm,0.2s						
T1245				AML	AML		
	comp=E,5940µm,0.2s						
FEMA	**Monte Fema**	**0.37**	**241**	⇑P	**Pg**	**23 21 01.8**	**-1.2**
FEMA				S	**Sg**	**23 21 03.6**	**-4.5**
FEMA				AML	AML		
	comp=E,20450µm,0.4s						
FEMA				AML	AML		
	comp=N,22150µm,0.2s						
FEMA				AML	AML		
	comp=N,22200µm,0.2s						
FEMA				AML	AML		
	comp=N,22150µm,0.2s						
FEMA				AML	AML		
	comp=E,20450µm,0.4s						
SEF1	**Sefro**	**0.40**	**271**	⇑P	**Pg**	**23 21 04.0**	**+0.5**
SEF1				S	**Sg**	**23 21 07.4**	**-1.5**
SEF1				AML	AML		
	comp=E,8090µm,1.0s						
SEF1				AML	AML		
	comp=N,10365µm,0.3s						
SEF1				AML	AML		
	comp=E,8090µm,1.1s						
SEF1				AML	AML		
	comp=N,10390µm,0.3s						
SEF1				AML	AML		
	comp=N,10370µm,0.3s						
SNTG	**Esanatoglia**	**0.42**	**286**	⇓P	**Pb**	**23 21 05.4**	**+0.5**
SNTG				AML	AML		
	comp=E,868µm,1.4s						
SNTG				AML	AML		
	comp=N,1096µm,0.2s						
SNTG				AML	AML		
	comp=E,919µm,1.4s						
SNTG				AML	AML		
	comp=N,1100µm,0.2s						
SNTG				AML	AML		
	comp=E,868µm,1.4s						
SNTG				AML	AML		
	comp=N,1096µm,0.2s						
T1216	**Preci, Frazion**	**0.43**	**235**	⇑P	**Pg**	**23 21 03.0**	**-1.1**
T1216				S	**Sg**	**23 21 05.8**	**-4.0**
T1216				AML	AML		
	comp=E,11850µm,0.4s						
T1216				AML	AML		
	comp=N,16050µm,0.3s						
T1216				AML	AML		
	comp=E,11850µm,0.4s						
T1243	**Rocca Santa Ma**	**0.45**	**185**	P	**Pn**	**23 21 07.1**	**-0.5**
T1243				S	**Sb**	**23 21 13.3**	**+1.4**
T1204	**Amatrice, Fraz**	**0.48**	**196**	⇓P	**Pb**	**23 21 07.2**	**+1.3**
T1204				S	**Sb**	**23 21 12.8**	**-0.2**
TERO	**Teramo**	**0.53**	**171**	⇑P	**Pn**	**23 21 09.3**	**+0.6**
TERO				AML	AML		
	comp=N,528µm,0.7s						
TERO				AML	AML		
	comp=E,748µm,1.1s						
ARVD	**Arcevia**	**0.54**	**311**	⇑P	**Pn**	**23 21 09.5**	**+0.6**
ARVD				S	**Sn**	**23 21 19.0**	**+1.2**
ARVD				AML	AML		
	comp=E,884µm,0.3s						
ARVD				AML	AML		
	comp=N,564µm,0.2s						
FOSV	**Fossato di Vic**	**0.56**	**286**	⇓P	**Pb**	**23 21 07.5**	**+0.3**
FOSV				AML	AML		
	comp=N,2905µm,0.3s						
FOSV				AML	AML		
	comp=E,1905µm,0.8s						
T1217	**Poggiodomo (PG**	**0.60**	**224**	P	**Pg**	**23 21 06.3**	**-0.9**
T1217				AML	AML		
	comp=E,1385µm,0.3s						
T1217				AML	AML		
	comp=N,1105µm,0.8s						
T1217				AML	AML		
	comp=E,1340µm,0.3s						
T1217				AML	AML		
	comp=N,989µm,0.4s						
T1217				AML	AML		
	comp=E,1385µm,0.3s						
SSFR	**Montelago di S**	**0.60**	**300**	⇑P	**Pb**	**23 21 09.4**	**+1.5**
SSFR				AML	AML		
	comp=E,3110µm,0.7s						
SSFR				AML	AML		
	comp=N,2725µm,0.2s						
SSFR				AML	AML		
	comp=E,3005µm,0.2s						
SSFR				AML	AML		
	comp=N,2325µm,0.2s						
CAMP	**Campotosto**	**0.61**	**186**	⇓P	**Pn**	**23 21 09.2**	**-0.7**
CAMP				AML	AML		
	comp=N,565µm,0.3s						
CAMP				AML	AML		
	comp=E,432µm,0.3s						
ASSB	**Assisi San Ben**	**0.62**	**261**	⇓P	**Pg**	**23 21 06.8**	**-0.9**
ASSB				AML	AML		
	comp=N,3090µm,0.2s						
ASSB				AML	AML		
	comp=E,5090µm,0.3s						
ATCC	**AVT- Casa Cast**	**0.63**	**274**	⇓P	**Pg**	**23 21 07.8**	**0.0**
ATCC				AML	AML		
	comp=N,2805µm,0.2s						
ATCC				AML	AML		
	comp=E,3750µm,0.2s						
LNSS	**Leonessa**	**0.64**	**212**	P	**Pg**	**23 21 07.9**	**0.0**
LNSS				AML	AML		
	comp=E,433µm,1.0s						
LNSS				AML	AML		
	comp=N,918µm,0.7s						
RM33	**Pellescritta (**	**0.67**	**198**	⇓P	**Pb**	**23 21 09.1**	**+0.1**
RM33				S	**Sb**	**23 21 18.0**	**-0.2**
RM33				AML	AML		
	comp=E,571µm,0.3s						
RM33				AML	AML		
	comp=N,502µm,1.5s						
RM33				AML	AML		
	comp=E,572µm,0.3s						
FRON	**Frontone**	**0.68**	**304**	⇓P	**Pn**	**23 21 10.9**	**+0.1**
FRON				AML	AML		
	comp=E,537µm,0.2s						
FRON				AML	AML		
	comp=N,979µm,0.4s						
FRON				AML	AML		
	comp=E,538µm,0.2s						
FRON				AML	AML		
	comp=N,976µm,0.4s						
GIGS	**Gran Sasso**	**0.69**	**176**	⇑P	**Pn**	**23 21 11.6**	**+0.5**
GIGS				S	**Sn**	**23 21 22.0**	**+0.3**
GIGS				AML	AML		
	comp=E,187µm,0.6s						
GIGS				AML	AML		
	comp=N,163µm,0.5s						
ATFO	**Monte Foce - G**	**0.71**	**289**	⇓P	**Pb**	**23 21 10.3**	**+0.5**
ATFO				AML	AML		
	comp=N,414µm,0.3s						
ATFO				AML	AML		
	comp=E,557µm,1.1s						
T1247	**Pizzolo (AQ)**	**0.72**	**192**	⇓P	**Pn**	**23 21 11.0**	**-0.3**
T1247				AML	AML		
	comp=E,528µm,0.7s						
T1247				AML	AML		
	comp=N,588µm,1.2s						
T1247				AML	AML		
	comp=N,588µm,1.2s						
MURB	**Monte Urbino**	**0.72**	**280**	⇑P	**Pg**	**23 21 09.9**	**+0.4**
MURB				AML	AML		
	comp=E,2530µm,1.5s						
MURB				AML	AML		
	comp=E,2685µm,0.3s						
MURB				AML	AML		
	comp=N,2265µm,1.5s						
MURB				AML	AML		
	comp=N,2120µm,0.9s						
MPAG	**Monte Paganucc**	**0.72**	**312**	⇓P	**Pn**	**23 21 12.8**	**+1.3**
MPAG				S	**Sn**	**23 21 25.0**	**+2.5**
FSSB	**Fossombrone**	**0.76**	**317**	P	**Pn**	**23 21 13.7**	**+1.8**
FSSB				S	**Sn**	**23 21 27.0**	**+3.7**
FSSB				AML	AML		
	comp=E,1445µm,0.5s						
FSSB				AML	AML		
	comp=N,3415µm,0.3s						
ARRO	**Arrone**	**0.78**	**224**	P	**Pg**	**23 21 09.1**	**-1.5**
AQU	**L'Aquila**	**0.79**	**185**	S	**Sn**	**23 21 25.0**	**+0.9**
ATVO	**AVT- Monte Val**	**0.83**	**287**	⇓P	**Pg**	**23 21 12.0**	**+0.5**
ATVO				AML	AML		
	comp=E,282µm,0.5s						
ATVO				AML	AML		
	comp=N,352µm,0.4s						
ATVO				AML	AML		
	comp=E,282µm,0.5s						
ATTE	**AVT- Monte Tez**	**0.84**	**274**	⇑P	**Pb**	**23 21 12.6**	**+0.7**
ATTE				AML	AML		
	comp=N,279µm,0.4s						
ATTE				AML	AML		
	comp=E,308µm,0.8s						
ATPI	**Pietralunga -**	**0.86**	**291**	⇑P	**Pb**	**23 21 13.0**	**+0.8**
ATPI				AML	AML		
	comp=E,294µm,1.0s						
ATPI				AML	AML		
	comp=N,281µm,0.5s						
ATPI				AML	AML		
	comp=E,294µm,1.0s						
CESX	**Cesi**	**0.86**	**232**	⇓P	**Pg**	**23 21 10.5**	**-1.6**
CESX				S	**Sg**	**23 21 21.0**	**-2.3**
CESX				AML	AML		
	comp=E,860µm,0.4s						
CESX				AML	AML		
	comp=N,761µm,0.6s						
APEC	**Apecchio**	**0.89**	**298**	⇓P	**Pn**	**23 21 14.5**	**+0.8**
APEC				S	**Sn**	**23 21 28.0**	**+1.5**
PE3	**Peglio**	**0.92**	**308**	⇑P	**Pn**	**23 21 16.1**	**+2.0**
FIAM	**Fiamignano**	**0.92**	**198**	⇓P	**Pg**	**23 21 13.1**	**-0.1**
FIAM				AML	AML		
	comp=E,201µm,0.5s						
FIAM				AML	AML		
	comp=N,244µm,1.6s						
T0110	**Collepietro**	**0.94**	**167**	⇑P	**Pn**	**23 21 16.3**	**+1.8**
T0110				AML	AML		
	comp=E,419µm,0.6s						
T0110				AML	AML		
	comp=N,475µm,0.4s						
BADI	**Badiali**	**0.98**	**292**	⇓P	**Pn**	**23 21 15.8**	**+0.8**
BADI				S	**Sb**	**23 21 29.0**	**+1.7**
CAFI	**Castiglion Fio**	**1.13**	**280**	⇑P	**Pb**	**23 21 17.5**	**+0.5**
CAFI				AML	AML		
	comp=N,160µm,1.5s						
CAFI				AML	AML		
	comp=E,156µm,0.8s						
SACS	**San Casciano d**	**1.20**	**256**	⇑P	**Pb**	**23 21 17.9**	**-0.2**
SACS				AML	AML		
	comp=E,160µm,0.6s						
SACS				AML	AML		
	comp=N,220µm,0.7s						
CERT	**Cerreto**	**1.25**	**198**	⇓P	**Pg**	**23 21 20.5**	**+1.0**
CERT				AML	AML		
	comp=E,183µm,1.3s						
CERT				AML	AML		
	comp=N,142µm,0.5s						
ABTA	**Abfaltersbach**	**3.67**	**349**	*i* Pn	**Pb**	**23 21 59.4**	**-0.8**
	comp=N,3.9nm,0.3s						
ABTA				*e*Sn	**Sb**	**23 22 44.7**	**0.0**
	comp=N,1.2nm,0.3s						
WTTA	**Wattenberg**	**4.33**	**343**	*i* Pn	**Pb**	**23 22 09.8**	**-1.6**
	comp=N,0.6nm,0.2s						
WTTA				*e*Sn	**Sb**	**23 23 00.7**	**-2.9**
	comp=N,2.6nm,0.4s						
FETA	**Feichten**	**4.35**	**334**	*i* Pn	**Pb**	**23 22 09.3**	**-2.4**
	comp=N,0.9nm,0.3s						
SQTA	**Sankt Quirin**	**4.39**	**339**	*i* Pn	**Pb**	**23 22 10.1**	**-2.3**
	comp=N,1.1nm,0.2s						
SQTA				*i* Sn	**Sb**	**23 23 01.3**	**-4.0**
	comp=N,1.1nm,0.2s						
WATA	**Walderalm**	**4.41**	**343**	*i* Pn	**Pb**	**23 22 10.8**	**-2.0**
	comp=N,1.1nm,0.2s						
RETA	**Reutte**	**4.75**	**337**	*i* Pn	**Pb**	**23 22 14.6**	**-4.0**
	comp=N,0.9nm,0.2s						
KHC	**Kasperske Hory**	**5.99**	**1**	*e*PN	Pn	23 22 31.5	+7.7
KHC				*e*SN	**Sn**	**23 23 37.0**	**+4.8**

---

*IDC **07** 23:33:37.1±1.8, 41°.94S×173°.99E, h0km, mb3.5/2, mbtmp3.6/4, ML3.6/2, MS2.7/1, Error ellipse: s-maj=47.3km s-min=25.5km az=136.0*
*NOU **07** 23:33:41.8, 42°.16S×174°.08E, h34km, MLv4.2/11, Off E. Coast of S. Island, N.Z.*
*WEL **07** 23:33:42.3±0.4, 42°S±3°×17°4E±°, h23km±3km, M4.0/7, ML4.3/7, MLv4.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=119.2*
ISC 07 23:33:41.3±1.1**, 42°.10S**±0°.03×**173°.95E**±0°.03**, h29**km±9km**, n101, σ1s.33**/113**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.38**	**352**	P	**Pn**	**23 33 50.9**	**0.0**
BSWZ				S	**Sb**	**23 33 56.5**	**+0.8**
CMWZ	**Cape Campbell**	**0.40**	**30**	P	**Pn**	**23 33 52.8**	**+1.6**
CMWZ				S	**Sn**	**23 34 00.4**	**+2.8**
KHZ	**Kahutara**	**0.44**	**223**	P	**Pn**	**23 33 53.1**	**+1.3**
KHZ	**Kahutara**	**0.44**	**223**	P	**Pn**	**23 33 53.0**	**+1.3**
KHZ				S	**Sn**	**23 33 59.7**	**+1.0**
TUWZ	**Tuamarina**	**0.67**	**360**	P	**Pn**	**23 33 55.0**	**+0.2**
TUWZ				S	**Sb**	**23 34 03.6**	**+0.2**
THZ	**Tophouse**	**0.85**	**293**	P	**Pb**	**23 33 56.9**	**-0.6**
THZ				S	**Sb**	**23 34 07.9**	**-0.7**
TCW	**Tory Channel**	**0.92**	**16**	P	**Pn**	**23 33 59.0**	**+0.7**
TCW				S	**Sb**	**23 34 10.7**	**+0.2**
SNZO	**South Karori**	**0.97**	**36**	P	**Pn**	**23 34 00.5**	**+1.6**
NNZ	**Nelson**	**0.97**	**334**	P	**Pb**	**23 33 58.9**	**-0.7**
WEL	**Wellington**	**1.02**	**37**	P	**Pb**	**23 34 01.1**	**+0.8**
WEL				S	**Sn**	**23 34 14.7**	**+1.8**
GVZ	**Greta Valley S**	**1.10**	**217**	P	**Pb**	**23 34 02.5**	**+0.7**
GVZ				S	**Sn**	**23 34 16.9**	**+1.8**
PLWZ	**Palliser**	**1.11**	**62**	P	**Pb**	**23 34 02.2**	**+0.3**
MRNZ	**Matariki Terra**	**1.13**	**308**	P	**Pn**	**23 34 01.6**	**+0.4**
MRNZ				S	**Sb**	**23 34 15.6**	**-1.0**
MSWZ	**Moikau Station**	**1.19**	**56**	P	**Pb**	**23 34 03.3**	**+0.1**
DUWZ	**D'Urville Isla**	**1.29**	**359**	P	**Pn**	**23 34 04.0**	**+0.5**
TKNZ	**Takaka Hill**	**1.29**	**325**	P	**Pn**	**23 34 03.9**	**+0.4**
TKNZ				S	**Sn**	**23 34 19.8**	**0.0**
CAW	**Cannon Point**	**1.29**	**41**	P	**Pb**	**23 34 04.7**	**-0.3**
PAWZ	**Paruwai Farm**	**1.32**	**58**	P	**Pb**	**23 34 04.8**	**-0.6**
LTZ	**Lake Taylor**	**1.42**	**241**	P	**Pb**	**23 34 06.5**	**-0.7**
KIW	**Kapiti Island**	**1.43**	**31**	P	**Pb**	**23 34 06.7**	**-0.6**
AMCZ	**Amberley**	**1.44**	**221**	P	**Pb**	**23 34 06.7**	**-0.8**
TRWZ	**Traveller**	**1.48**	**62**	P	**Pb**	**23 34 06.7**	**-1.4**
MTW	**Mount Morrison**	**1.49**	**52**	P	**Pn**	**23 34 06.9**	**+0.7**
OGWZ	**Otaki Gorge**	**1.57**	**36**	P	**Pb**	**23 34 08.5**	**-1.3**
DSZ	**Denniston Nort**	**1.64**	**282**	P	**Pn**	**23 34 09.6**	**+1.4**
QRZ	**Quartz Range**	**1.66**	**319**	P	**Pn**	**23 34 09.8**	**+1.4**
QRZ	**Quartz Range**	**1.66**	**319**	P	**Pn**	**23 34 09.8**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.68**	**45**	P	**Pn**	**23 34 09.4**	**+0.7**
OKCZ	**Okains Bay**	**1.75**	**202**	P	**Pb**	**23 34 10.9**	**-2.0**
MQZ	**McQueen's Vall**	**1.87**	**210**	P	**Pn**	**23 34 11.5**	**+0.1**
OXZ	**Oxford**	**1.87**	**228**	P	**Pn**	**23 34 11.7**	**+0.3**
MRZ	**Mangatainoka R**	**1.89**	**41**	P	**Pn**	**23 34 12.4**	**+0.8**
AKCZ	**Akaroa Harbour**	**1.93**	**203**	P	**Pn**	**23 34 13.0**	**+0.7**
INZ	**Inchbonnie**	**1.96**	**250**	P	**Pn**	**23 34 13.7**	**+1.2**
TIWZ	**Tintock**	**1.96**	**49**	P	**Pn**	**23 34 13.0**	**+0.3**
RACZ	**Rakaia**	**2.10**	**219**	P	**Pn**	**23 34 14.8**	**+0.2**
OHWZ	**Ohakea**	**2.15**	**29**	P	**Pb**	**23 34 17.5**	**-2.1**
PRWZ	**Pori Road**	**2.17**	**45**	P	**Pn**	**23 34 15.9**	**+0.5**
POWZ	**Post Office Ro**	**2.19**	**39**	P	**Pn**	**23 34 16.2**	**+0.5**
BFZ	**Birch Farm**	**2.23**	**52**	P	**Pn**	**23 34 16.3**	**-0.1**
BFZ	**Birch Farm**	**2.23**	**52**	P	**Pn**	**23 34 16.3**	**-0.1**
WACZ	**Wakanui South**	**2.41**	**219**	P	**Pn**	**23 34 19.2**	**+0.5**
DVHZ	**Dannevirke**	**2.45**	**44**	P	**Pn**	**23 34 19.3**	**-0.1**
WAZ	**Wanganui**	**2.47**	**19**	P	**Pb**	**23 34 22.5**	**-2.5**
TSZ	**Takapari Road**	**2.54**	**37**	P	**Pn**	**23 34 21.0**	**+0.3**
WVZ	**Waitaha Valley**	**2.57**	**246**	P	**Pn**	**23 34 22.1**	**+1.2**
LREZ	**Lake Rotokare**	**2.66**	**8**	P	**Pb**	**23 34 27.5**	**-0.6**
RPZ	**Rata Peaks**	**2.67**	**232**	Pn	**Pn**	**23 34 22.8**	**+0.4**
	8.4nm,0.3s,baz=236,slow=0.7,SNR=41						
RPZ				Sn	**Sn**	**23 34 52.7**	**-1.1**
	28nm,0.3s,baz=338,slow=21,SNR=36						
	16nm,0.3s						
RPZ	**Rata Peaks**	**2.67**	**232**	P	**Pn**	**23 34 23.1**	**+0.7**
RPZ	**Rata Peaks**	**2.67**	**232**	P	**Pn**	**23 34 23.0**	**+0.6**
NMEZ	**Namu Road**	**2.68**	**359**	P	**Pb**	**23 34 27.1**	**-1.5**
ARCZ	**Arundel**	**2.75**	**227**	P	**Pn**	**23 34 23.7**	**+0.2**
PNHZ	**Pukenui**	**2.77**	**39**	P	**Pn**	**23 34 23.8**	**+0.1**
WPHZ	**Waipukurau**	**2.77**	**44**	P	**Pn**	**23 34 23.7**	**0.0**
KHEZ	**Kahui Hut**	**2.80**	**1**	P	**Pb**	**23 34 28.7**	**-2.0**
NEZ	**North Egmont**	**2.82**	**2**	P	**Pb**	**23 34 28.9**	**-2.2**
NBEZ	**Newall Road No**	**2.83**	**359**	P	**Pb**	**23 34 28.1**	**-2.9**
PKE	**Pukeiti**	**2.90**	**1**	P	**Pb**	**23 34 29.6**	**-2.7**
GCSZ	**Gaunt Creek Bo**	**2.94**	**244**	P	**Pn**	**23 34 27.7**	**+1.7**
MTVZ	**Mangateitei**	**2.94**	**24**	P	**Pn**	**23 34 28.4**	**+2.2**
MOVZ	**Moawhango**	**3.02**	**28**	P	**Pn**	**23 34 28.0**	**+0.9**
VRZ	**Vera Road**	**3.03**	**12**	P	**Pn**	**23 34 29.8**	**+2.5**
WNVZ	**Wahianoa**	**3.04**	**25**	P	**Pn**	**23 34 29.3**	**+1.8**
BHHZ	**Black Hill Sta**	**3.06**	**32**	P	**Pn**	**23 34 28.5**	**+0.7**
WHVZ	**Whangaehu Hut**	**3.07**	**24**	P	**Pn**	**23 34 30.2**	**+2.0**
FWVZ	**Far West T-bar**	**3.09**	**24**	P	**Pn**	**23 34 30.6**	**+2.3**
TMZ	**Timaru**	**3.14**	**222**	P	**Pn**	**23 34 29.7**	**+0.9**
NGZ	**Ngauruhoe**	**3.18**	**24**	P	**Pn**	**23 34 31.2**	**+1.7**
SNVZ	**South Ngauruho**	**3.18**	**24**	P	**Pn**	**23 34 31.2**	**+1.7**
KAHZ	**Kahuranaki**	**3.19**	**45**	P	**Pn**	**23 34 29.3**	**-0.3**
OTVZ	**Oturere**	**3.21**	**25**	P	**Pn**	**23 34 33.6**	**+3.7**
NNVZ	**North Ngauruho**	**3.22**	**24**	P	**Pn**	**23 34 31.9**	**+1.8**
TMVZ	**Te Maari**	**3.26**	**25**	P	**Pn**	**23 34 32.0**	**+1.4**
NTVZ	**North Tongarir**	**3.27**	**24**	P	**Pn**	**23 34 32.3**	**+1.6**
FOZ	**Fox Glacier**	**3.36**	**243**	P	**Pn**	**23 34 33.1**	**+1.2**
BKZ	**Black Stump Fm**	**3.51**	**34**	P	**Pn**	**23 34 33.4**	**-0.5**
BKZ	**Black Stump Fm**	**3.51**	**34**	P	**Pn**	**23 34 33.5**	**-0.5**
LBZ	**Lake Benmore**	**3.58**	**229**	P	**Pn**	**23 34 35.9**	**+1.1**
HIZ	**Hauiti**	**3.65**	**11**	P	**Pn**	**23 34 37.8**	**+2.0**
HIZ	**Hauiti**	**3.65**	**11**	P	**Pn**	**23 34 38.0**	**+2.2**
ODZ	**Otahua Downs**	**3.80**	**218**	P	**Pn**	**23 34 37.9**	**-0.1**
ODZ	**Otahua Downs**	**3.80**	**218**	P	**Pn**	**23 34 37.8**	**-0.1**
JCZ	**Jackson Bay**	**4.27**	**241**	P	**Pn**	**23 34 45.1**	**+0.7**
JCZ	**Jackson Bay**	**4.27**	**241**	P	**Pn**	**23 34 44.8**	**+0.4**
HHSZ	**Highcliff Hill**	**4.49**	**211**	P	**Pn**	**23 34 48.0**	**+0.5**
WKZ	**Wanaka**	**4.51**	**231**	P	**Pn**	**23 34 49.1**	**+1.5**
TOZ	**Tahuroa Road**	**4.52**	**16**	P	**Pn**	**23 34 49.2**	**+1.4**
URZ	**Urewera**	**4.53**	**33**	Pn	**Pn**	**23 34 45.1**	**-2.9**
	2.9nm,0.3s,baz=347,slow=3.9,SNR=12						
URZ				Sn	**Sn**	**23 35 37.4**	**-2.3**
	8.6nm,0.3s,baz=173,slow=15,SNR=8.2						
URZ				LR	LR	23 36 35.7	
	comp=Z,98nm,20.9s,baz=274,slow=41						
	6.9nm,0.3s						
URZ	**Urewera**	**4.53**	**33**	P	**Pn**	**23 34 46.6**	**-1.4**
URZ	**Urewera**	**4.53**	**33**	P	**Pn**	**23 34 46.5**	**-1.5**
EAZ	**Earnscleugh**	**4.60**	**225**	P	**Pn**	**23 34 49.5**	**+0.6**
TUZ	**Tuapeka**	**4.96**	**217**	P	**Pn**	**23 34 54.6**	**+0.9**
AWAZ	**Awhitu Peninsu**	**5.05**	**6**	P	**Pn**	**23 34 57.4**	**+2.3**
MKAZ	**Moumakai**	**5.07**	**11**	P	**Pn**	**23 34 56.8**	**+1.5**
HAZ	**Te Kaha**	**5.24**	**35**	P	**Pn**	**23 34 56.7**	**-1.0**
SYZ	**Scrubby Hill**	**5.62**	**216**	P	**Pn**	**23 35 03.7**	**+0.8**
SYZ	**Scrubby Hill**	**5.62**	**216**	P	**Pn**	**23 35 03.6**	**+0.8**
CTZ	**Chatham Island**	**7.12**	**106**	P	**Pn**	**23 35 24.2**	**+0.8**
ASAR	**Alice Springs**	**37.91**	**286**	P	**P**	**23 40 56.5**	**+0.4**
	0.4nm,0.5s,baz=125,slow=6.7,SNR=4.1						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**40.02**	**291**	P	**P**	**23 41 12.9**	**-0.9**
	0.3nm,0.4s,baz=129,slow=8.6,SNR=5.9						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.38**	**195**	PKPbc	**PKPbc**	**23 53 30.8**	**+0.6**
	0.8nm,0.5s,baz=161,slow=2.7,SNR=5.6						

---

*IDC **07** 23:40:52.4±2.9, 20°.27S×178°.51W, h563km±21km, mb3.0/7, mbtmp3.9/9, Error ellipse: s-maj=82.7km s-min=14.6km az=154.0*
ISC 07 23:40:56.6±1.4**, 19°.5S**±0°.5×**179°.0W**±0°.2**, h600**km**, n13, σ1s.68**/15**, mb3.5**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.34**	**301**	P	**P**	**23 42 16.2**	**-1.7**
	9.8nm,0.5s,baz=238,slow=1.6,SNR=16						
DZM	**Mont Dzumac**	**13.89**	**257**	P	**P**	**23 43 52.2**	**-2.4**
	4.2nm,0.8s,baz=146,slow=13,SNR=2.6						
CTA	**Charters Tower**	**32.70**	**263**	P	**P**	**23 46 42.6**	**+1.1**
	0.9nm,0.3s,baz=84,slow=9.2,SNR=1.6						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**43.85**	**261**	P	**P**	**23 48 11.7**	**+0.2**
	0.5nm,0.3s,baz=97,slow=7.5,SNR=18						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**43.88**	**256**	P	**P**	**23 48 11.8**	**+0.1**
	1.5nm,0.5s,baz=96,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**23 49 44.0**	**-0.2**
	0.1nm,0.4s,baz=99,slow=4.2,SNR=6.2						
ASAR				S	**S**	**23 54 04.5**	**+3.8**
	0.4nm,0.9s,baz=86,slow=15,SNR=2.7						
	1.5nm,0.5s						
NVAR	**Mina Array Bea**	**80.92**	**44**	P	**P**	**23 52 10.5**	**+0.7**
	0.3nm,0.6s,baz=241,slow=6.0,SNR=3.6						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**87.28**	**58**	P	**P**	**23 52 40.9**	**-0.1**
	0.4nm,0.9s,baz=217,slow=6.0,SNR=4.1						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**87.54**	**13**	P	**P**	**23 52 43.0**	**+1.7**
	0.4nm,0.4s,baz=215,slow=5.8,SNR=7.7						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**88.86**	**44**	P	**P**	**23 52 48.5**	**+0.2**
	0.4nm,0.6s,baz=215,slow=3.6,SNR=5.2						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**109.86**	**314**	PKiKP	**PKiKP**	**23 58 20.9**	**+0.3**
	0.2nm,0.4s,baz=130,slow=2.0,SNR=4.1						
AKASG	**Malin Array Be**	**141.70**	**331**	PKP	**PKPdf**	**23 59 18.5**	**-2.1**
	1.6nm,0.4s,baz=43,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**145.50**	**313**	PKPbc	**PKiKP**	**23 59 31.0**	**-1.0**
	0.7nm,0.5s,baz=136,slow=3.4,SNR=6.3						
GERES	**GERESS Array B**	**148.99**	**344**	PKPbc	**PKiKP**	**23 59 39.7**	**+0.8**
	0.4nm,0.5s,baz=29,slow=3.0,SNR=5.6						

DJA 07 23:44:19.1±0.7**, 8°S**±7°×**10°7E**±°**, h10**km**, M4.0**/8**, mb4.2**/1**, MLv3.9**/8**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.77**	**49**	P	Pb	23 44 34.3	-0.2
SKJI	**Sukabumi**	**0.81**	**0**	P	Pg	23 44 34.6	-0.1
LEM	**Lembang**	**1.45**	**47**	P	Pn	23 44 45.6	+0.1
SBJI	**Serang**	**1.74**	**346**	P	Pn	23 44 48.9	-0.5
KASI	**Kota Agung**	**3.06**	**318**	P	Pn	23 45 07.6	0.0
UGM	**Wanagama**	**3.94**	**92**	P	Pn	23 45 19.0	-0.7
PCJI	**Pacitan**	**4.60**	**95**	P	Pn	23 45 29.0	+0.3
MNAI	**Manna**	**4.96**	**314**	P	Pn	23 45 33.9	+0.2
TWSI	**Taliwang, Sumb**	**10.27**	**96**	P	Pn	23 46 47.0	+0.4

---

*TAP **08** 00:04:04.8, 24°.92N×122°.56E, h40km, ML3.1, D*
*JMA **08** 00:04:05.4±0.3, 24°N±2°×122°.3E±0°.7, h1km±3km, MV2.4/8, TAIWAN REGION*
ISC 08 00:04:05.8±1.1**, 24°.84N**±0°.04×**122°.47E**±0°.02**, h19**km±3km**, n38, σ0s.49**/63**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.47**	**291**	*e*P	**Pg**	**00 04 14.8**	**-0.6**
	baz=279						
TWB1				*e*S	**Sb**	**00 04 22.1**	**+0.1**
	baz=279						
EGS		**0.49**	**270**	*e*P	**Pg**	**00 04 15.5**	**-0.3**
	baz=259						
JYNG	**Yonagunijimaku**	**0.58**	**132**	P	**Pb**	**00 04 17.1**	**-0.2**

JYNG				S	Sb	00 04 25.0	-0.1
SXI1	Grass Mountain	0.59	295	eP	Pb	00 04 17.4	-0.2
	baz=285						
SXI1				i S	Sg	00 04 27.0	+1.2
	baz=285						
TIPB	Shuangxi	0.60	282	i P	Pb	00 04 17.7	+0.1
	baz=274						
TIPB				S	Sg	00 04 26.8	+0.9
	baz=274						
TWC	Suao	0.61	248	eP	Pb	00 04 17.4	-0.4
	baz=244						
TWC				eS	Sn	00 04 29.0	+0.2
	baz=244						
YOJ	Yonaguni jima	0.62	128	i P	Pb	00 04 17.7	-0.3
	baz=133						
YOJ				i S	Sb	00 04 25.9	-0.4
	baz=133						
YOJ	Yonaguni jima	0.62	128	P	Pb	00 04 17.8	-0.2
YOJ				S	Sg	00 04 26.9	+0.3
NWF	Wu-fen Shan	0.66	290	P	Pb	00 04 18.9	+0.1
	baz=282						
NWF				i S	Sn	00 04 29.2	-1.0
	baz=282						
WFSB	Wu-fen Shan	0.66	290	i P	Pg	00 04 19.0	0.0
	baz=282						
WFSB				S	Sn	00 04 29.3	-0.8
	baz=282						
TNOU	National Taiwa	0.70	296	i P	Pb	00 04 19.4	0.0
	baz=288						
TNOU				S	Sg	00 04 29.1	0.0
	baz=288						
TWE	Neicheng	0.74	261	P	Pb	00 04 20.0	-0.1
	baz=256						
ENA	Nanau	0.78	238	eP	Pb	00 04 20.7	-0.1
	baz=236						
ENA				eS	Sn	00 04 33.9	+1.0
	baz=236						
FUSB	Fushanzhiwuyua	0.81	264	P	Pb	00 04 21.3	0.0
	baz=260						
FUSB				S	Sn	00 04 34.0	+0.3
	baz=260						
ENTT	Nioudou	0.84	256	eP	Pb	00 04 21.6	-0.3
	baz=242						
ENTT				eS	Sn	00 04 34.8	+0.2
	baz=242						
YM08	YM08	0.87	293	P	Pb	00 04 21.8	-0.5
	baz=295						
YM01	YM01	0.87	290	eP	Pb	00 04 22.5	+0.2
	baz=294						
TWY	Chenhua	0.90	299	eP	Pg	00 04 23.3	-0.1
	baz=292						
TWY				eS	Sn	00 04 35.8	0.0
	baz=292						
TATO	Taipei	0.90	279	eP	Pn	00 04 23.6	+0.1
	baz=273						
NDT	Datong Townshi	0.90	255	eP	Pb	00 04 21.5	-1.4
	baz=252						
NDT				eS	Sg	00 04 35.4	0.0
	baz=252						
LATG	Datong	0.91	250	eP	Pb	00 04 23.1	0.0
	baz=248						
LATG				eS	Sn	00 04 36.9	+0.6
	baz=248						
LATG	Datong	0.91	250	eP	Pb	00 04 23.1	0.0
	baz=57						
YHNB	Yeheng	1.01	260	eP	Pg	00 04 25.4	-0.1
	baz=249						
NSK	Sanguang	1.02	261	eP	Pb	00 04 24.4	-0.6
	baz=249						
NACB	Ninganchiao	1.04	230	eP	Pb	00 04 25.2	0.0
	baz=235						
NACB				eS	Sg	00 04 40.2	+0.5
	baz=235						
NNSB	Datong	1.07	248	eP	Pg	00 04 26.4	-0.3
	baz=245						
NNSB				eS	Sg	00 04 41.5	+0.6
	baz=245						
NNSB	Datong	1.07	248	eS	Pg	00 04 26.4	-0.3
	baz=58						
NNSH	Datong	1.07	248	P	Pb	00 04 25.5	-0.4
	baz=246						
NNSH				eS	Sg	00 04 40.6	-0.2
	baz=246						
NNS	Nan Shan	1.07	248	eP	Pb	00 04 25.0	-0.9
	baz=246						
NNS				eS	Sg	00 04 41.0	+0.1
	baz=246						
ETLH	Xiulin Townshi	1.10	235	eP	Pb	00 04 26.6	+0.3
	baz=238						
ETLH				eS	Sg	00 04 42.0	+0.3
	baz=238						
TWD	Chiawan	1.10	226	eP	Pn	00 04 26.0	-0.2
	baz=232						
IRIF	Iriomote-Funau	1.25	114	P	Pg	00 04 29.9	-0.2
IRIF				S	Sg	00 04 46.9	+0.3
WHF	Hehuan Shan	1.30	238	eP	Pb	00 04 30.4	+0.5
	baz=224						
CHGB	Renai	1.41	237	eP	Pg	00 04 32.7	-0.5
	baz=225						
HATJ	Hateruma jima	1.45	122	P	Pb	00 04 31.9	-0.3
HATJ				S	Sb	00 04 50.6	+0.4
WUSB	Renai	1.50	236	eP	Pb	00 04 33.6	+0.5
	baz=223						
JKRS	Kuro-shima	1.53	113	P	Pb	00 04 34.1	+0.6
JKRS				S	Sg	00 04 54.6	-0.7
JIJ	Ishigaki jima	1.60	107	P	Pb	00 04 35.6	+0.9
JIJ				S	Sg	00 04 57.7	+0.3

TAP 08 00:04:07.5, 24°.11N×120°.86E, h6km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WCS	Beigang Elemen	0.07	139	P	Pg	00 04 09.4	+0.2
	baz=139						
WCS				i S	Sg	00 04 11.3	+0.9
	baz=139						
TCU	Taichung	0.17	282	P	Pg	00 04 12.8	+1.9
	baz=281						
TCU				eS	Sg	00 04 17.0	+3.7
	baz=281						
WHP	Taichung City	0.18	26	i P	Pg	00 04 12.4	+1.2
	baz=27						
WHP				S	Sg	00 04 16.4	+2.8
	baz=27						
TYC	Yuchr	0.21	181	i P	Pg	00 04 12.7	+1.0
	baz=165						
TYC				i S	Sg	00 04 16.5	+2.1
	baz=165						
SMLT	Sun Moon Lake	0.23	171	eP	Pg	00 04 13.1	+0.9
	baz=159						
SMLT				eS	Sg	00 04 17.3	+2.1
	baz=159						
TWQ1	Liyutan	0.25	341	i P	Pg	00 04 14.0	+1.6
	baz=343						
TWQ1				i S	Sg	00 04 18.8	+3.1
	baz=343						
WUSB	Renai	0.27	117	i P	Pg	00 04 13.5	+0.8
	baz=118						
WUSB				i S	Sg	00 04 18.0	+1.6
	baz=118						
WCHH	Zhanghua	0.28	263	eP	Pb	00 04 14.9	0.0
	baz=260						
WCHH				eS	Sb	00 04 19.9	0.0
	baz=260						
CHGB	Renai	0.29	100	i P	Pg	00 04 14.2	+0.9
	baz=102						
CHGB				S	Sg	00 04 18.8	+1.5
	baz=102						
TDCB	Techi	0.31	63	i P	Pg	00 04 14.2	+0.7
	baz=74						
TDCB				S	Sg	00 04 18.4	+0.7
	baz=74						
NSY	Sanyi	0.32	344	eP	Pg	00 04 14.7	+1.0
	baz=345						
TWT	Tachien	0.32	64	eP	Pg	00 04 14.8	+0.9
	baz=74						
TWT				eS	Sg	00 04 18.5	+0.3
	baz=74						
OWD	Renai	0.33	119	P	Pg	00 04 14.8	+0.8
	baz=120						
OWD				S	Sg	00 04 19.9	+1.5
	baz=120						
SSLB	Suanglung	0.34	165	eP	Pg	00 04 14.9	+0.8
	baz=153						
SSLB				eS	Sb	00 04 21.0	-0.7
	baz=153						
WHF	Hehuan Shan	0.37	85	P	Pb	00 04 16.0	-0.8
	baz=87						
WHF				eS	Sb	00 04 21.8	-1.3
	baz=87						
FUSS	Fushou	0.38	69	eP	Pg	00 04 15.4	+0.5
	baz=71						
FUSS				eS	Sg	00 04 20.3	+0.4
	baz=71						
WHYT	Xinyi Township	0.41	181	P	Pb	00 04 16.7	-0.7
	baz=170						
WHYT				eS	Sb	00 04 23.1	-0.9
	baz=170						
VWDT	VWDT	0.44	144	P	Pg	00 04 16.8	+0.8
	baz=134						
VWDT				eS	Sb	00 04 24.2	-0.4
	baz=134						
NFF	Wufeng Townshi	0.57	24	eP	Pg	00 04 18.3	-0.2
	baz=27						
NNSB	Datong	0.57	57	eP	Pg	00 04 18.7	+0.1
	baz=58						
ETLH	Xiulin Townshi	0.58	81	eP	Pb	00 04 19.5	-0.7
	baz=82						
ETLH				eS	Sg	00 04 27.2	+1.0
	baz=82						
ALS	Alishan	0.60	185	eP	Pb	00 04 20.1	-0.6
	baz=182						
ALS				eS	Sb	00 04 29.3	-0.3
	baz=182						
YUS	Yu-Shan	0.63	172	eP	Pb	00 04 20.9	-0.3
	baz=162						
YUS				eS	Sb	00 04 30.8	+0.4
	baz=162						
YULB	Yu-li	0.82	151	P	Pb	00 04 23.9	-0.4
	baz=143						
YULB				eS	Sb	00 04 34.9	-0.8
	baz=143						
TPUB	Ta-pu	0.84	195	eP	Pg	00 04 23.2	-0.4
	baz=192						
TPUB				eS	Sb	00 04 37.3	+1.2
	baz=192						
STYT	Tauyuan	0.95	186	P	Pg	00 04 25.9	+0.1
	baz=182						
STYT				eS	Sb	00 04 39.4	+0.1
	baz=182						
CHN1	Nanshi	0.97	198	eP	Pb	00 04 26.6	-0.3
	baz=195						
CHN1				eS	Sb	00 04 41.0	+1.0
	baz=195						

AUST 08 00:12:55.9±0.9, 32°.58S×122°.39E, h10km, Error ellipse: s-maj=12.9km s-min=8.0km az=170.0
NOU 08 00:12:57.4, 32°.39S×122°.41E, h10km, mb4.0/13, Western Australia
ISC 08 00:12:56.9±0.9, 32°.47S±0°.06×122°.42E±0°.05, h19km, n28, σ2s.07/38, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBL	Kambalda	1.19	337	P	Pg	00 13 20.9	+0.8
	baz=1.3						
KMBL				S	Sg	00 13 37.3	+1.5
	baz=1.3						
KLBR	Kellerberrin	4.06	281	P	Pn	00 13 58.4	+0.4
	baz=4.0,SNR=10.0						
KLBR				S	Sn	00 14 43.1	-1.9
	baz=4.0						
KLBR	Kellerberrin	4.06	281	P	Pn	00 13 59.9	+1.9
NWAO	Narrogin (SRO)	4.39	263	P	Pn	00 14 02.4	-0.2
	baz=4.3,SNR=9.7						
NWAO				P	Pn	00 14 02.4	-0.2
	baz=4.3,SNR=9.7						
NWAO	Narrogin (SRO)	4.39	263	P	Pn	00 14 05.0	+2.4
RKGY	Rocky Gully	5.02	243	P	Pn	00 14 11.6	+0.4
	baz=4.9,SNR=8.9						
RKGY				S	Sn	00 15 07.0	-1.6
	baz=4.9						
RKGY	Rocky Gully	5.02	243	P	Pn	00 14 12.3	+1.1
FORT	Forrest	5.10	72	P	Pn	00 14 14.5	+2.2
	baz=5.1						
FORT				S	Sn	00 15 12.1	+1.4
	baz=5.1						
FORT	Forrest	5.10	72	P	Pn	00 14 15.0	+2.7
BLDU	Ballidu	5.21	289	P	Pn	00 14 13.3	-0.6
	baz=5.2						
BLDU	Ballidu	5.21	289	P	Pn	00 14 14.1	+0.2
MUN	Mundaring	5.29	274	P	Pn	00 14 14.6	-0.3
	baz=5.3,SNR=4.0						
MUN	Mundaring	5.29	274	P	Pn	00 14 16.0	+1.1
MORW	Morawa	6.45	300	P	Pn	00 14 31.7	+0.7
	baz=6.5,SNR=5.6						
MORW				S	Sn	00 15 40.0	-4.1
	baz=6.5						
MORW	Morawa	6.45	300	P	Pn	00 14 32.9	+1.9
MEEK	Meekatharra	6.69	329	P	Pn	00 14 35.0	+0.7
	baz=6.8						
MEEK				S	Sn	00 15 47.2	-2.9
	baz=6.8						
MEEK	Meekatharra	6.69	329	P	Pn	00 14 35.3	+1.0
WRKA	Warakurna	9.03	36	P	Pn	00 15 09.2	+2.9
	baz=9.1,SNR=5.2						
WRKA				S	Sn	00 16 47.0	-0.5
	baz=9.1						
WRKA	Warakurna	9.03	36	P	Pn	00 15 08.6	+2.3
MULG	Mulgathing	10.19	81	P	Pn	00 15 23.1	+1.0
	baz=10						
MULG				S	Sn	00 17 12.4	-3.5
	baz=10						
MULG	Mulgathing	10.19	81	P	Pn	00 15 23.2	+1.0
PSA00	Pilbara Seismi	11.10	347	P	Pn	00 15 34.1	-0.6
BBOO	Buckleboo	11.51	95	P	Pn	00 15 39.7	-0.5
	baz=12						
MBWA	Marble Bar	11.52	347	P	Pn	00 15 39.7	-0.8
OOD	Oodnadatta	12.39	71	P	Pn	00 15 51.7	-0.6
	baz=12						
OOD				S	Sn	00 18 03.8	-6.2
	baz=12						
OOD	Oodnadatta	12.39	71	P	Pn	00 15 52.1	-0.3
WC3	Warramunga Arr	16.43	44	P	Pn	00 16 45.1	-1.4
	baz=16						
COEN	Coen	26.44	51	P	P	00 18 36.4	+3.7

IDC 08 00:14:46.1±3.1, 37°.12N×71°.24E, h90km±25km, mb3.4/6, mbtmp3.8/13, MS3.0/1, Error ellipse: s-maj=38.2km s-min=18.8km az=145.0
NNC 08 00:14:47.8±1.9, 37°.30N×71°.05E, h90km±47km, mb3.7, mpv4.2, Error ellipse: s-maj=18.5km s-min=13.4km az=147.0
NEIC 08 00:14:47.9±1.4, 37°.26N±0°.06×71°.22E±0°.06, h99km±2km, mb4.2/14, Error ellipse: s-maj=9.2km s-min=6.3km az=152.0
ISC 08 00:14:46.6±0.5, 37°.16N±0°.04×71°.27E±0°.05, h106km, n109, σ2s.31/116, mb4.1/14, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAR	Garm	1.99	338		Pn	00 15 20.3	+0.8
CHGR	Chuyangaron	2.25	312	Pn	Pn	00 15 22.6	-0.1
CHGR				Sn	Sn	00 15 49.8	-0.6
KBL	Kabul	3.18	215	Pn	Pn	00 15 37.6	+2.5
KBL	Kabul	3.18	215	P	Pn	00 15 37.7	+2.5
CEP	Cherat	3.37	171	P	Pn	00 15 40.3	+2.8
CEP				S	Sn	00 16 21.0	+4.2
CHCP	Chirah Chowk	3.85	154	P	Pn	00 15 46.5	+2.6
NIL	Nilore	3.85	155		Pn	00 15 46.8	+2.8
NIL	Nilore	3.85	155	P	Pn	00 15 46.7	+2.7
THW	Thamme Wali	4.37	175	P	Pn	00 15 51.9	+1.0
IUG	Iuzhnay	5.08	349	Pg	Pn	00 16 01.1	+0.6
	187nm,0.2s						
IUG				Lg	Lg	00 16 56.1	
	104nm,0.3s						
AML	Almayashu	5.31	20	P	Pn	00 16 04.6	+0.7
	SNR=50						
JMU	Jammu	5.34	145	eP	Pn	00 16 05.5	+1.6
JMU				eS	Sn	00 17 00.6	-3.6
UCH	Uchtor	5.65	25	P	Pn	00 16 09.2	+0.6
	SNR=15						
EKS2	Erkin-Say	5.83	19	P	Pn	00 16 12.0	+1.3
	SNR=15						
THN	Thein Dam	5.96	141	eP	Pn	00 16 13.1	+0.6
THN				IAML		00 17 20.0	
	comp=N,176nm,0.3s						
THN				IAML		00 17 22.1	
	comp=E,231nm,0.3s						
KK31	Karatay Array	5.97	355		Pn	00 16 12.8	+0.3
KK31	Karatay Array	5.97	355	P	Pn	00 16 12.8	+0.3
	comp=E,3.0nm,0.2s,baz=181,slow=12,SNR=71						
KK31				⇑S	Sn	00 17 16.8	-2.7
	comp=E,19nm,0.3s						
KKAR	Karatay Array	5.97	355	Pn	Pn	00 16 12.6	+0.1
KKAR	Karatay Array	5.97	355	Pn	Pn	00 16 12.8	+0.3
AAK	Ala-Archa	6.01	23	P	Pn	00 16 14.5	+1.4
	SNR=17						
AAK	Ala-Archa	6.01	23	P	Pn	00 16 14.6	+1.4
	comp=E,11nm,0.3s,baz=170,slow=5.9,SNR=43						
AAK				S	Sn	00 17 17.6	-3.0
	comp=E,24nm,0.6s,baz=160,slow=23,SNR=11						
AAK	Ala-Archa	6.01	23	Pn	Pn	00 16 14.7	+1.5
KBK	Karagaybulak	6.18	26	P	Pn	00 16 17.5	+2.0
	SNR=7.4						
ULHL	Ulahol	6.36	35	P	Pn	00 16 18.9	+0.9
	SNR=11						
CHMS	Chumysh	6.42	23	P	Pn	00 16 19.5	+0.9
	SNR=19						
CHMS	Chumysh	6.42	23	⇓P	Pn	00 16 19.3	+0.8
	comp=E,22nm,0.7s						
CHMS				⇑S	Sn	00 17 30.2	-0.1
	comp=E,16nm,0.6s						
USP	Ospenovka	6.58	21	P	Pn	00 16 21.3	+0.5
	SNR=14						
TKM2	Tokmak 2	6.64	29	P	Pn	00 16 22.9	+1.1
	SNR=6.1						
TKM2	Tokmak 2	6.64	29	⇑P	Pn	00 16 22.9	+1.1
	comp=E,6.9nm,0.6s						
SGDS	Sogindy	6.79	21	Pg	Pn	00 16 23.5	-0.2
	comp=E,8.4nm,0.2s						
SGDS				Lg	Lg	00 17 34.5	
	comp=E,11nm,0.3s						
KST	Kastek	6.89	30	Pg	Pn	00 16 26.0	+0.9
	comp=E,6.7nm,0.4s						
DGS	Degeres	6.99	28	Pg	Pn	00 16 26.9	+0.5
	comp=E,7.1nm,0.4s						
DGS				Lg	Lg	00 17 40.3	
	comp=E,13nm,0.6s						
BHK	Bhakra	7.13	142	eS	Sn	00 17 42.8	-5.1
MTBS	Maitube	7.15	32	Pg	Pn	00 16 29.8	+1.2
	comp=E,5.8nm,0.5s						
TNSS	Tian-Shan	7.31	35	Pg	Pn	00 16 28.4	-2.6
	comp=E,3.2nm,0.3s						
TNSS				Lg	Lg	00 17 42.7	
	comp=E,5.0nm,0.6s						
KRBS	Karabastau	7.34	26	Pg	Pn	00 16 31.1	-0.1
	comp=E,3.7nm,0.4s						
KRBS				Lg	Lg	00 17 47.4	
	comp=E,3.9nm,0.5s						
MDOK	Medeo	7.45	35	Pg	Pn	00 16 33.7	+0.9
	comp=E,4.9nm,0.3s						
PDGK	Podgornoye	8.80	43	⇑P	Pn	00 16 51.2	+0.2
	comp=E,2.2nm,0.8s						
GEYT	Alibeck	10.48	278	P	Pn	00 17 11.4	-2.4
	comp=E,2.4nm,0.4s,baz=106,slow=9.3,SNR=18						
GEYT				S	Sn	00 19 03.1	-6.0
	comp=E,7.7nm,0.3s,baz=108,slow=22,SNR=16						
GEYT	Alibeck	10.48	278		Pn	00 17 11.6	-2.1
GYA0B	ALIBECK ARRAY	10.48	278	Pn	Pn	00 17 11.5	-2.2
GYA0B					Sn	00 19 04.2	-5.0
GYA0B	ALIBECK ARRAY	10.48	278	⇑P	Pn	00 17 11.5	-2.2
GYA0B				⇑S	Sn	00 19 01.0	-8.2
PTH	Pithoragarh	10.65	133	eP	Pn	00 17 14.2	-2.0
PTH				eS	Sn	00 19 03.1	-10
AJM	Ajmer	11.02	164	eP	Pn	00 17 18.2	-3.0
AJM				eS	Sn	00 19 12.1	-10
MAKZ	Makanchi	12.49	36	Pn	Pn	00 17 40.5	-0.1
MK31	Makanchi Array	12.63	37		Pn	00 17 42.5	+0.1
MK31	Makanchi Array	12.63	37	P	Pn	00 17 42.2	-0.2
	comp=E,1.5nm,0.7s,baz=225,slow=16,SNR=9.5						
MK31				S	Sn	00 19 15.0	-46
	comp=E,0.3nm,0.2s,baz=229,slow=29,SNR=5.4						
MKAR	Makanchi Array	12.63	37	P	Pn	00 17 42.3	-0.1
	comp=E,1.6nm,0.7s,baz=226,slow=14,SNR=11						
MKAR	Makanchi Array	12.63	37	Pn	Pn	00 17 42.8	+0.4
DANN	Dangsing	13.68	126	eP	Pn	00 17 53.0	-3.5
	comp=E,17nm,0.3s						
JUMK	Jumkunaria	13.77	184	eP	Pn	00 17 49.4	-8.0
JUMK				eS	Sn	00 20 08.2	-21
KURBB	Kurchatov Arra	14.43	19	P	Pn	00 18 05.0	-0.7
	comp=E,0.4nm,0.4s,baz=208,slow=10,SNR=2.0						
KURBB	Kurchatov Arra	14.43	19	⇑P	P	00 18 08.3	-1.1
	comp=E,2.6nm,0.8s						
GKN	Gorkha	14.48	125	eP	Pn	00 18 02.6	-4.1
	comp=E,26nm,0.3s						
KURK	Kurchatov	14.54	19	⇓P	P	00 18 09.1	-1.5
	comp=E,3.3nm,1.1s						
AB31	Akbulak array	14.62	329	P	Pn	00 18 06.7	-1.4
	comp=E,0.4nm,0.2s,baz=135,slow=13,SNR=35						
AB31				⇓S	Sn	00 20 36.6	-13
	comp=E,2.4nm,0.5s						
ABKAR	Akbulak array	14.62	329	Pn	Pn	00 18 07.1	-1.0
ABKAR	Akbulak array	14.62	329	Pn	Pn	00 18 08.0	-0.2
KKN	Kakani	15.05	124	eP	Pn	00 18 10.0	-3.9
PKIN	Phulchoki	15.27	125	eP	Pn	00 18 12.3	-4.4
	comp=E,9.7nm,0.4s						
PKI	Pulchoki	15.28	125	eP	Pn	00 18 12.3	-4.6
	comp=E,8.2nm,0.4s						
GUN	Gumba	15.37	123	eP	Pn	00 18 14.0	-4.1
	comp=E,12nm,0.4s						
JIRN	Jiri	15.74	123	eP	Pn	00 18 18.6	-4.1
	comp=E,18nm,0.4s						
BVAR	Borovoye Array	15.88	358	P	Pn	00 18 22.9	-1.0
	comp=E,0.6nm,0.5s,baz=158,slow=13,SNR=4.5						
BRVK	Borovoye	15.92	358	Pn	Pn	00 18 24.5	+0.1
RAMN	Ramite	16.48	124	eP	Pn	00 18 26.1	-5.7
BANOM	Banah	16.96	233	P	P	00 18 39.8	+2.2
SHME	Shamm	16.97	234	P	P	00 18 40.8	+3.1
WSAR	Wadi Sarin	17.63	222	P	Pn	00 18 46.8	+1.2
	comp=E,1.6nm,0.6s,baz=67,slow=13,SNR=5.9						
WBK	Wadi Bani Khal	17.97	220	P	Pn	00 18 53.1	+3.4
	SNR=10						
ASHO	Ashiyiah	18.00	231	P	Pn	00 18 51.9	+1.9
SMDO	Samad	18.09	223	P	Pn	00 18 54.0	+2.8
JMDO	Jabal Madar	18.62	221	P	Pn	00 18 59.1	+1.7
ALNE	Al Ain	18.65	230	P	Pn	00 18 58.1	+0.4
ALNE				P	Pn	00 18 58.1	+0.4
BSY	Bisya	18.81	224	P	Pn	00 19 01.1	+1.4
ZAA0	Zalesovo Array	19.23	25	P	P	00 19 03.2	+0.9
ZALV	Zalesovo Beam	19.23	25	P	P	00 19 02.8	+0.5
	comp=E,2.5nm,0.4s,baz=218,slow=11,SNR=13						
ZALV	Zalesovo Beam	19.23	25	P	P	00 19 02.9	+0.7
MHTO	MHTO	19.83	219	P	Pn	00 19 12.4	+0.8
UMZA	Um Al Zommool	20.01	228	P	P	00 19 12.9	+1.9
MZWR	Madinat Zayed	20.03	233	P	Pn	00 19 13.5	-0.4
MZR	Muzera	20.83	232	P	P	00 19 21.6	+1.8
GNI	Garni	20.91	286	P	Pn	00 19 24.7	+0.4
	comp=E,1.3nm,0.5s,baz=40,slow=20,SNR=1.8						
GNI				LR	LR	00 30 29.8	
	comp=E,42nm,19.7s,baz=358,slow=45						
ARU	Arti	21.09	340	P	P	00 19 25.2	+3.0
	comp=E,0.7nm,0.4s,baz=121,slow=18,SNR=1.1						
	comp=E,0.7nm,0.4s						
SMRA	Abu-Samra	21.41	240	P	P	00 19 28.8	+2.8
DOK	Doka	23.82	224	P	P	00 19 51.4	+1.5
DMTO	DMTO	24.12	221	P	P	00 19 54.6	+2.0
WHFO	Wadi Hawf	24.58	224	P	P	00 19 58.3	+1.5
	SNR=9.3						
ABTO	Aybut	25.30	224	P	P	00 20 07.6	+4.2
	SNR=9.6						
SONM	Songino Array	27.79	56	P	P	00 20 27.4	+1.8
	comp=E,0.5nm,0.7s,baz=256,slow=10,SNR=3.1						
	comp=E,0.5nm,0.7s						
FINES	FINESS Array B	37.07	326	P	P	00 21 47.9	+1.8
	comp=E,2.4nm,0.9s,baz=125,slow=7.0,SNR=1.1						
	comp=E,2.4nm,0.9s						
CTI	Castel Tesino	44.53	301	P	P	00 22 48.2	+0.5
TIXI	Tiksi	45.09	22	P	P	00 22 53.0	+1.4
TIXI				IAmb	IAmb	00 22 53.6	
	comp=Z,2.8nm,0.5s						
TORD	Torodi Ar. Bea	65.95	269	P	P	00 25 22.4	+0.6
	comp=Z,0.5nm,0.7s,baz=52,slow=6.0,SNR=3.0						
	comp=Z,0.5nm,0.7s						
TOLK	Toolik Lake Re	70.23	15	P	P	00 25 49.4	+1.7
TOLK				IAmb	IAmb	00 26 14.6	
	comp=Z,7.8nm,1.5s						
IMAR	Indian Mountai	71.48	18	P	P	00 25 56.7	+1.4
J20K	Nowinta River	72.84	19	P	P	00 26 05.2	+1.9
INK	Inuvik	73.22	9	P	P	00 26 07.8	+2.2
INK				IAmb	IAmb	00 26 51.1	
	comp=Z,8.9nm,1.5s						
K20K	Telida	73.52	20	P	P	00 26 09.0	+1.6
K20K				IAmb	IAmb	00 26 22.4	
	comp=Z,6.5nm,1.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAST	Castle Rocks	73.99	19	P	P	00 26 12.0	+1.8
ILAR	Eielson Array	74.09	16	P	P	00 26 11.7	+1.0
	comp=Z,0.3nm,0.8s,baz=317,slow=4.9,SNR=4.1						
	comp=Z,0.3nm,0.8s						
PPLA	Purkeypile	74.39	19	P	P	00 26 13.9	+1.2
MCK	McKinley	74.51	17	P	P	00 26 13.4	+0.2
J25K	Salcha River,	74.56	15	P	P	00 26 14.3	+0.8
J25K				IAmb	IAmb	00 26 27.1	
	comp=Z,4.9nm,1.4s						
J26L	Joseph Creek	75.03	15	P	P	00 26 16.5	+0.2
J26L				IAmb	IAmb	00 26 49.1	
	comp=Z,1.9nm,1.1s						
LBTB	Lobatse	75.31	222	P	P	00 26 18.7	+0.4
LBTB				IAmb	IAmb	00 27 00.9	
	comp=Z,5.9nm,1.1s						
DHY	Denali Highway	75.44	17	P	P	00 26 20.2	+1.5
DHY				IAmb	IAmb	00 26 22.8	
	comp=Z,3.5nm,1.0s						
BCAR	Beaver Creek A	76.67	15	P	P	00 26 27.7	+2.1
YKA	Yellowknife Ar	80.58	3	P	P	00 26 48.4	+1.5
	comp=Z,1.0nm,0.7s,baz=352,slow=4.9,SNR=4.0						
	comp=Z,1.0nm,0.7s						

*IDC **08** 00:15:53.6±0.8, 3°.30S×139°.85E, h0km, mb4.0/11, mbtmp4.1/14, ML4.4/2, MS3.7/3, Error ellipse: s-maj=31.7km s-min=11.9km az=89.0*
*DJA **08** 00:15:57.4±0.4, 3°S±4°×14°0E±°, h10km, M4.8/8, mB4.8/2, mb4.6/8, MLv4.9/4, Mw(mB)4.1/2*
*NEIC **08** 00:16:01.6±1.0, 3°.44S±0°.06×139°.69E±0°.08, h48km±9km, mb4.3/18, Error ellipse: s-maj=11.4km s-min=8.2km az=79.0*
ISC 08 00:15:56.4±0.5**, 3°.37S**±0°.05×**139°.81E**±0°.05**, h10**km**, n61, σ1s.98**/62**, mb4.2**/14**, 1C, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	0.85	25	P	Pb	00 16 12.4	-0.9
GENI	Genyem	0.85	25	P	Pb	00 16 12.4	-0.9
WAMI	Wamena	1.21	245	P	Pg	00 16 21.5	+1.9
SRPI	Serui, Papua	3.86	293	P	Pb	00 17 02.5	-2.1
FAKI	Fak Fak	7.56	273	Pn	Pn	00 17 45.7	-1.0
FAKI	Fak Fak	7.56	273	P	Pn	00 17 45.4	-1.3
MANU	Manus Island	7.67	80	Pn	Pn	00 17 51.7	+3.5
SIJI	Sorong	8.89	286	Pn	Pn	00 18 08.1	+3.1
	2.2nm,0.3s,baz=131,slow=20,SNR=2.2						
PMG	Port Moresby	9.45	130	Pn	Pn	00 18 12.7	-0.1
	6.9nm,0.4s,baz=310,slow=7.9,SNR=1.9						
PMG				Sn	Sn	00 19 58.9	-0.3
	2.1nm,0.3s,baz=242,slow=14,SNR=1.7						
PMG	Port Moresby	9.45	130	Pn	Pn	00 18 15.5	+2.8
SAUI	Saumlaki	9.62	241	Pn	Pn	00 18 15.1	0.0
COEN	Coen	11.04	163		Pn	00 18 35.8	+1.3
KDU	Kakadu	11.76	218	P	Pn	00 18 45.2	+0.8
MTN	Manton Dam	12.74	222	Pn	Pn	00 18 57.9	+0.2
MTN	Manton Dam	12.74	222	P	Pn	00 18 59.0	+1.3
KNRA	Kununurra	16.36	221	Pn	Pn	00 19 45.8	-0.6
KNRA				IAmb	IAmb	00 19 56.5	
	comp=Z,26nm,0.7s						
SOEI	Soe	16.68	247	Pn	Pn	00 19 49.9	-0.7
SOEI	Soe	16.68	247	P	P	00 19 55.2	+2.2
	comp=Z,59nm,0.8s						
QIS	Mount Isa	17.09	181	P	P	00 19 58.6	+1.3
WB0	Warramunga Arr	17.14	198	Pn	Pn	00 19 54.3	-1.9
WB0				IAmb	IAmb	00 20 10.6	
	comp=Z,15nm,0.8s						
LUWI	Luwuk	17.18	277		P	00 19 57.5	-0.9
LUWI				IAmb	IAmb	00 20 12.5	
	comp=Z,33nm,0.9s						
GTOI	Gorontalo	17.25	283	P	P	00 20 04.4	+5.3
	comp=Z,14nm,1.0s						
WR0	Warramunga Arr	17.27	197	Pn	Pn	00 19 56.4	-1.5
WR0				IAmb	IAmb	00 20 03.7	
	comp=Z,15nm,0.8s						
WRAB	Tennant Creek	17.30	197		Pn	00 19 58.3	0.0
WRAB				IAmb	IAmb	00 20 10.8	
	comp=Z,26nm,0.8s						
WB2	Warramunga Arr	17.31	197		Pn	00 19 58.6	+0.2
WB2				IAmb	IAmb	00 20 18.8	
	comp=Z,20nm,0.6s						
WRA	Warramunga Arr	17.32	198	P	Pn	00 19 56.0	-2.4
	comp=Z,2.4nm,0.3s,baz=18,slow=14,SNR=18						
WRA				S	Sn	00 23 02.8	-8.5
	comp=Z,3.5nm,0.9s,baz=10,slow=21,SNR=3.8						
WRA				Lg	Lg	00 25 06.1	
	baz=24,slow=29						
WRA				LR	LR	00 27 10.4	
	comp=Z,218nm,20.3s,baz=18,slow=39						
	comp=Z,4.0nm,0.5s						
WRA	Warramunga Arr	17.32	198		Pn	00 19 57.8	-0.6
CTA	Charters Tower	17.77	160	P	Pn	00 20 04.5	+0.4
	comp=Z,0.3nm,0.3s,baz=341,slow=12,SNR=4.9						
CTA				LR	LR	00 27 43.3	
	comp=Z,194nm,18.8s,baz=312,slow=40						
	comp=Z,3.7nm,0.8s						
CTAO	Charters Tower	17.77	160		Pn	00 20 04.2	+0.1
TOLI2	Tolitoli	19.53	283	P	P	00 20 24.0	-0.3
TOLI2				IAmb	IAmb	00 20 35.0	
	comp=Z,13nm,0.8s						
BNSI	Bone	19.68	266	P	Pn	00 20 30.6	+3.3
	comp=Z,21nm,0.9s						
AS01	Alice Springs	20.96	195	P	P	00 20 42.5	+2.7
AS31	Alice Springs	20.97	195	P	P	00 20 40.8	+0.9
AS31				IAmb	IAmb	00 20 53.8	
	comp=Z,8.5nm,0.6s						
ASAR	Alice Springs	20.97	195	P	P	00 20 40.1	+0.2
	comp=Z,13nm,0.9s,baz=20,slow=8.9,SNR=20						
ASAR				S	S	00 24 35.5	+1.7
	comp=Z,2.3nm,0.6s,baz=16,slow=27,SNR=7.1						
	comp=Z,13nm,0.9s						
ASAR	Alice Springs	20.97	195	P	P	00 20 40.3	+0.4
WRKA	Warakurna	24.23	206	P	P	00 21 15.6	+2.0
INKA	Innaminka	24.25	178	P	P	00 21 14.4	+0.6
EIDS	Eidsvold	24.42	155	P	P	00 21 15.6	+0.3
EIDS				IAmb	IAmb	00 21 17.0	
	comp=Z,12nm,0.7s						
STKA	Stephens Creek	28.41	177	LR	LR	00 34 13.7	
	comp=Z,175nm,18.3s,baz=19,slow=39						
KSRS	Korea Array	42.09	346	P	P	00 23 48.6	0.0
	comp=Z,1.2nm,0.6s,baz=153,slow=9.3,SNR=4.0						
	comp=Z,1.2nm,0.6s						
CMAR	Chiang Mai Arr	45.71	300	P	P	00 24 16.3	-1.8
	comp=Z,0.4nm,0.3s,baz=108,slow=6.0,SNR=1.0						
	comp=Z,0.4nm,0.3s						
KMI	Kunming	45.78	310	⇑P	P	00 24 12.7	-6.1
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PZH	PanZhiHua	47.28	311	P	P	00 24 32.0	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
USRK	Ussuriysk Ar.	47.87	352	P	P	00 24 31.3	-3.2
	comp=Z,2.4nm,0.8s,baz=170,slow=8.8,SNR=2.8						
	comp=Z,2.4nm,0.8s						
TUWZ	Tuamarina	48.72	146	P	P	00 24 40.8	-0.4
RPZ	Rata Peaks	48.77	150	P	P	00 24 41.4	-0.2
LBZ	Lake Benmore	48.84	151	P	P	00 24 41.8	-0.3
HHC	Hu-ho-hao-te	51.01	332	eP	P	00 25 00.2	+1.4
HHC				pmax	pmax		
	comp=Z,33nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,5.8s						
WMQ	Urumqi	66.20	321	eP	P	00 26 45.4	+0.8
MK31	Makanchi Array	70.97	322	P	P	00 27 13.7	-0.7
MKAR	Makanchi Array	70.97	322	P	P	00 27 13.7	-0.6
	comp=Z,1.0nm,0.6s,baz=104,slow=7.7,SNR=14						
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	70.97	322	P	P	00 27 14.0	-0.4
MAKZ	Makanchi	71.17	322	P	P	00 27 14.9	-0.6
ZALV	Zalesovo Beam	73.05	330	P	P	00 27 25.2	-1.3
	comp=Z,0.5nm,0.5s,baz=101,slow=7.5,SNR=2.2						
	comp=Z,0.5nm,0.5s						
KURBB	Kurchatov Arra	74.89	325	P	P	00 27 36.1	-1.3
	comp=Z,0.4nm,0.4s,baz=114,slow=5.4,SNR=4.2						
	comp=Z,0.4nm,0.4s						
VNDA	Vanda	75.03	175	P	P	00 27 37.3	-0.5
	comp=Z,1.9nm,0.6s,baz=329,slow=7.7,SNR=17						
	comp=Z,1.9nm,0.6s						
VNDA	Vanda	75.03	175	P	P	00 27 37.7	-0.1
VNDA				IAmb	IAmb	00 27 38.1	
	comp=Z,1.9nm,0.6s						
TIXI	Tiksi	75.22	356	P	P	00 27 36.9	-1.9
	comp=Z,0.7nm,0.4s,baz=11,slow=0.7,SNR=3.7						
	comp=Z,0.7nm,0.4s						
BVAR	Borovoye Array	80.47	325	P	P	00 28 07.6	-0.9
	comp=Z,1.4nm,0.4s,baz=107,slow=8.3,SNR=6.1						
	comp=Z,1.4nm,0.4s						
ILAR	Eielson Array	85.98	24	P	P	00 28 33.6	-3.0
	comp=Z,0.9nm,0.8s,baz=255,slow=4.6,SNR=8.5						
	comp=Z,0.9nm,0.8s						
QSPA	South Pole Qui	86.58	180	P	P	00 28 39.8	-0.1

*ISK **08** 00:21:14.5, 37°.07N×31°.07E, h118km±2km, ML2.7/18*
*DDA **08** 00:21:17.0±0.0, 37°.06N×31°.15E, h85km±5km, ML2.7*
*NIC **08** 00:21:18.9±0.0, 36°.88N×31°.23E, h32km±51km, Ml3.1/5*
ISC 08 00:21:14.8±1.5**, 37°.05N**±0°.04×**31°.12E**±0°.03**, h110**km±9km**, n49, σ1s.25**/71**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANTB	Antalya	0.40	248	PG	Pn	00 21 31.4	+0.4
KEPZ	Antalya-Kepez	0.42	111	P	Pn	00 21 30.8	-0.4
KEPZ				*i* AML	AML	00 21 43.0	
	comp=N,191nm,0.2s						
BUCA	Burdur, Bucak-	0.52	302	P	Pn	00 21 32.0	+0.1
BUCA				S	Sn	00 21 43.0	-1.8
BCK	Bucak	0.59	314	PG	Pn	00 21 32.9	+0.6
KORT	Korkueli	0.61	265	PG	Pn	00 21 33.5	+0.9
KORT				SG	Sn	00 21 46.8	+0.8
KORT	Korkueli	0.61	265	P	Pn	00 21 32.5	-0.1
KORT				S	Sn	00 21 45.2	-0.8
KORT				*i* AML	AML	00 21 47.0	
	comp=E,181nm,0.7s						
SEDI	Konya, Seydise	0.65	52	P	Pn	00 21 33.3	+0.4
SEDI				S	Sn	00 21 45.2	-1.3
SEYD	Seydisehir-KON	0.68	58	PG	Pn	00 21 33.7	+0.6
ISP	Isparta	0.90	329	PG	Pn	00 21 35.0	-0.1
AKUM	Antalya-Kumluc	0.96	221	P	Pn	00 21 36.7	+1.1
AKUM				S	Sn	00 21 53.9	+2.7
AKUM				*i* AML	AML	00 21 58.0	
	comp=E,109nm,0.3s						
AKUM				*i* AML	AML	00 21 59.0	
	comp=N,241nm,0.8s						
BAGO	Egridir - ISPA	0.97	345	P	Pn	00 21 36.1	+0.4
ELL	Elmali	1.01	253	PG	Pn	00 21 36.7	+0.4
ELL	Elmali	1.01	253	P	Pn	00 21 38.5	+2.2
BRDR	BURDUR-Merkez	1.06	308	P	Pn	00 21 37.1	+0.4
BRDR				S	Sn	00 21 50.7	-2.5
HDMB	Hadim	1.10	94	PN	Pn	00 21 38.5	+1.2
DOGA	KONYA_Doganhis	1.14	22	P	Pn	00 21 38.8	+1.1
DOGA				S	Sn	00 21 54.2	-0.7
DOGA				*i* AML	AML	00 21 55.0	
	comp=E,84nm,0.5s						
DOGA				*i* AML	AML	00 21 55.0	
	comp=N,131nm,0.4s						
BASM	Basmaki-Afyon	1.21	316	PN	Pn	00 21 39.1	+0.8
BASM				SN	Sn	00 21 56.7	+0.5
YVAC	Isparta, Yalva	1.22	5	P	Pn	00 21 39.2	+0.7
KMER	Konya-Meram	1.23	54	P	Pn	00 21 39.0	+0.4
KMER				S	Sn	00 21 55.2	-1.3
GOLH	Golhisar	1.26	279	P	Pn	00 21 39.9	+1.0
GAZI	Gazipasa	1.26	130	PN	Pn	00 21 40.1	+1.2
GAZI	Gazipasa	1.26	130	P	Pn	00 21 39.4	+0.6
GAZI				S	Sn	00 21 56.7	-0.4
GAZI				*i* AML	AML	00 22 00.0	
	comp=E,125nm,0.3s						
GAZI				*i* AML	AML	00 22 02.0	
	comp=N,102nm,0.5s						
KONT	Konya--Tatoy	1.33	48	PN	Pn	00 21 41.3	+1.7
CAME	Cameli-Denizli	1.46	266	PN	Pn	00 21 41.6	+0.4
AKAS	Kas	1.47	237	PN	Pn	00 21 40.9	-0.4
AKAS				SN	Sn	00 22 02.2	+0.8
KKBE	Karaman, Kazim	1.47	83	P	Pn	00 21 42.3	+1.0
KKBE				S	Sn	00 22 01.6	+0.1
ERMK	Ermenek	1.50	105	P	Pn	00 21 43.1	+1.4
ERMK				S	Sn	00 22 02.1	-0.1
ERMK				*i* AML	AML	00 22 04.0	
	comp=N,117nm,0.2s						
ERMK				*i* AML	AML	00 22 06.0	
	comp=E,131nm,0.3s						
APMY	Acipayam-Deniz	1.51	287	PN	Pn	00 21 42.2	+0.5
LADK	Ladik-KONYA	1.52	40	PN	Pn	00 21 41.9	0.0
KSL	Kastellorizon	1.53	234	P	Pn	00 21 42.5	+0.6
KSL				S	Sn	00 22 02.6	+0.2
SHUT	Suhut-Afyon	1.56	344	PN	Pn	00 21 42.9	+0.4
KDHN	Kadinhani	1.67	28	P	Pn	00 21 44.5	+0.8
FETY	Fethiye	1.68	256	PN	Pn	00 21 44.6	+0.8
KRMN	Karaman	1.72	85	PN	Pn	00 21 45.5	+1.1
BERE	Bereket-Mersin	1.83	112	PN	Pn	00 21 47.1	+1.3
TEKE	Tekeli-Mersin	1.85	119	PN	Pn	00 21 47.3	+1.5
KIZT	Kizilcal	1.92	18	PN	Pn	00 21 47.7	+0.8
DALY	Dalyan (Mula)	1.99	264	PN	Pn	00 21 47.9	+0.3
GULN	MERSIN_Gulnar	2.14	113	P	Pn	00 21 51.2	+1.7
GULN				S	Sn	00 22 16.3	+0.2
ALFC	Alefka	2.24	147	P	Pn	00 21 50.8	-0.1
ALFC				S	Sn	00 22 15.9	-2.6
ALFC				AML	AML	00 22 19.4	
	0.4nm,0.3s						
ALFC				AML	AML	00 22 19.4	
	0.4nm,0.3s						
ALFC				AML	AML	00 22 20.1	
	0.5nm,0.2s						
ALFC				AML	AML	00 22 20.1	
	0.5nm,0.2s						
AKMS	Akamas	2.26	154	P	Pn	00 21 51.2	+0.1
AKMS				S	Sn	00 22 16.9	-1.9
AKMS				AML	AML	00 22 29.3	
	0.4nm,0.3s						
AKMS				AML	AML	00 22 29.3	
	0.4nm,0.3s						
YER	Yerkesik	2.27	273	PN	Pn	00 21 51.1	-0.1
TURN	Turunc	2.32	264	PN	Pn	00 21 52.1	+0.3
NATA	Nata	2.56	152	P	Pn	00 21 55.9	+0.9
NATA				S	Sn	00 22 24.9	-0.9
NATA				AML	AML	00 22 42.0	
	0.3nm,0.4s						
NATA				AML	AML	00 22 42.0	
	0.3nm,0.4s						
NATA				AML	AML	00 22 44.5	
	0.4nm,0.6s						
NATA				AML	AML	00 22 44.5	
	0.4nm,0.6s						
SZAC	Souni	2.70	147	P	Pn	00 21 58.5	+1.6
SZAC				S	Sn	00 22 28.0	-1.3
SZAC				AML	AML	00 22 42.3	
	0.2nm,0.3s						
SZAC				AML	AML	00 22 42.3	
	0.2nm,0.3s						
SZAC				AML	AML	00 22 43.9	
	0.2nm,0.6s						
SZAC				AML	AML	00 22 43.9	
	0.2nm,0.6s						
CSS	Mathiatis	2.75	139	P	Pn	00 21 57.5	0.0
CSS				S	Sn	00 22 28.9	-1.5
ASGA	Asgata	2.85	142	P	Pn	00 21 60.0	+1.2
MVOU	Mavrovouni	2.88	134	P	Pn	00 22 00.3	+1.1
MVOU				S	Sn	00 22 31.1	-2.3
MVOU				AML	AML	00 22 35.4	
	0.1nm,0.4s						
MVOU				AML	AML	00 22 35.4	
	0.1nm,0.4s						
OSC1	CSNet OBS 1	3.55	178	P	Pn	00 22 10.2	+2.2
OSC1				S	Sn	00 22 45.0	-4.2

*IDC **08** 00:25:52.9±1.0, 16°.57N×148°.41E, h0km, mb4.0/10, mbtmp4.0/10, MS3.0/2, Error ellipse: s-maj=32.6km s-min=19.7km az=92.0*
*NEIC **08** 00:25:54.1±1.4, 16°.4N±0°.1×148°.42E±0°.10, h10km±2km, mb4.5/13, Error ellipse: s-maj=21.9km s-min=15.7km az=168.0*
ISC 08 00:25:57.3±0.7**, 16°.43N**±0°.09×**148°.5E**±0°.1**, h35**km**, n26, σ1s.23**/26**, mb4.3**/17**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.46	231	Sn	Sn	00 27 51.7	-1.6
	33nm,0.3s,baz=25,slow=21,SNR=5.3						
GUMO				LR	LR	00 29 00.1	
	comp=Z,108nm,20.4s,baz=44,slow=41						
PATS	Pohnpei	13.57	134	Pn	Pn	00 29 05.5	-1.8
INU	Inuyama	21.43	334	P	P	00 30 41.5	-0.9
INU				IAmb	IAmb	00 30 43.6	
	comp=Z,28nm,1.0s						
JGF	Kuroka	21.51	335	P	P	00 30 42.1	-1.1
JGF				IAmb	IAmb	00 30 43.8	
	comp=Z,35nm,1.2s						
MJAR	Matsushiro Arr	22.00	338	P	P	00 30 46.0	-2.5
	comp=Z,5.0nm,0.9s,baz=169,slow=8.8,SNR=2.7						
	comp=Z,5.0nm,0.9s						
WB0	Warramunga Arr	38.53	202	P	P	00 33 18.5	+1.9
WB0				IAmb	IAmb	00 33 28.2	
	comp=Z,6.0nm,0.8s						
WB2	Warramunga Arr	38.71	201	P	P	00 33 20.0	+1.8
WB2				IAmb	IAmb	00 33 29.7	
	comp=Z,6.2nm,0.8s						
WRA	Warramunga Arr	38.71	202	P	P	00 33 20.1	+1.9
	comp=Z,2.7nm,0.8s,baz=28,slow=9.2,SNR=25						
	comp=Z,2.7nm,0.8s						
WRA	Warramunga Arr	38.71	202	P	P	00 33 20.1	+1.9
ASAR	Alice Springs	42.31	200	P	P	00 33 48.5	+0.5
	comp=Z,0.7nm,0.8s,baz=23,slow=6.6,SNR=5.7						
	comp=Z,0.7nm,0.8s						
SONM	Songino Array	46.54	322	P	P	00 34 21.7	0.0
	comp=Z,1.2nm,0.6s,baz=133,slow=6.5,SNR=7.9						
	comp=Z,1.2nm,0.6s						
SONM	Songino Array	46.54	322	P	P	00 34 22.2	+0.5
CMAR	Chiang Mai Arr	47.16	280	P	P	00 34 27.4	+0.7
	comp=Z,2.3nm,0.7s,baz=71,slow=6.5,SNR=14						
	comp=Z,2.3nm,0.7s						
YAK	Yakutsk	47.45	348	LR	LR	00 54 15.4	
	comp=Z,24nm,20.2s,baz=96,slow=36						
ZAA0	Zalesovo Array	61.40	323	P	P	00 36 09.4	-0.4
ZAA0				IAmb	IAmb	00 36 10.5	
	comp=Z,3.6nm,0.8s						
ZALV	Zalesovo Beam	61.40	323	P	P	00 36 09.4	-0.4
	comp=Z,3.8nm,0.8s,baz=101,slow=6.5,SNR=16						
	comp=Z,3.8nm,0.8s						
ZALV	Zalesovo Beam	61.40	323	P	P	00 36 09.6	-0.2
MKAR	Makanchi Array	61.91	315	P	P	00 36 13.7	+0.2
	comp=Z,1.2nm,0.7s,baz=102,slow=7.0,SNR=9.1						
MKAR				PcP	PcP	00 36 54.5	+0.4
	comp=Z,1.2nm,0.9s,baz=95,slow=2.7,SNR=4.0						
	comp=Z,1.2nm,0.7s						
ILAR	Eielson Array	64.54	25	P	P	00 36 30.1	-0.4
	comp=Z,0.7nm,1.0s,baz=270,slow=6.1,SNR=3.8						
	comp=Z,0.7nm,1.0s						
KURK	Kurchatov	64.70	319	P	P	00 36 31.9	+0.1
KKAR	Karatay Array	70.23	310	P	P	00 37 07.0	+0.1
KKAR				IAmb	IAmb	00 37 08.2	
	comp=Z,2.8nm,0.8s						
CHGR	Chuyangaron	71.67	306	P	P	00 37 15.7	-0.2
KBL	Kabul	72.28	302	P	P	00 37 18.9	-0.9
KBL				IAmb	IAmb	00 37 20.9	
	comp=Z,4.1nm,0.8s						
ARU	Arti	76.42	325	P	P	00 37 43.5	+0.3
	comp=Z,3.8nm,0.7s,baz=90,slow=2.8,SNR=4.7						
	comp=Z,3.8nm,0.7s						
ABKAR	Akbulak array	76.78	318	P	P	00 37 45.1	-0.2
NVAR	Mina Array Bea	82.46	52	P	P	00 38 18.7	+1.9
	comp=Z,0.1nm,0.3s,baz=280,slow=5.4,SNR=2.3						
	comp=Z,0.1nm,0.3s						

*IDC **08** 00:28:25.6±1.4, 16°.46N×148°.57E, h0km, mb4.0/10, mbtmp4.0/10, Error ellipse: s-maj=45.3km s-min=21.1km az=91.0*
ISC 08 00:28:30.9±1.3**, 16°.4N**±0°.1×**148°.5E**±0°.2**, h35**km**, n11, σ0s.60**/11**, mb3.9**/10**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.50	232	Sn	Sn	00 30 27.3	-0.4
	18nm,0.3s,baz=183,slow=23,SNR=1.8						
MJAR	Matsushiro Arr	22.03	337	P	P	00 33 22.3	-0.1
	1.4nm,0.3s,baz=164,slow=11,SNR=4.0						
	1.4nm,0.3s						
WRA	Warramunga Arr	38.72	202	P	P	00 35 52.9	+1.0
	1.9nm,0.9s,baz=25,slow=9.1,SNR=7.2						
	1.9nm,0.9s						
ASAR	Alice Springs	42.32	200	P	P	00 36 20.7	-0.9
	0.2nm,0.4s,baz=24,slow=7.1,SNR=1.3						
	0.2nm,0.4s						
SONM	Songino Array	46.58	322	P	P	00 36 55.4	-0.1
	1.0nm,0.8s,baz=126,slow=6.4,SNR=5.7						
	1.0nm,0.8s						
CMAR	Chiang Mai Arr	47.21	280	P	P	00 37 01.3	+0.6
	0.8nm,0.3s,baz=72,slow=6.8,SNR=6.4						
	0.8nm,0.3s						
ZALV	Zalesovo Beam	61.44	323	P	P	00 38 43.2	-0.5
	1.8nm,0.7s,baz=97,slow=6.6,SNR=6.8						
	1.8nm,0.7s						
MKAR	Makanchi Array	61.96	315	P	P	00 38 47.1	-0.2
	0.8nm,0.8s,baz=85,slow=8.4,SNR=4.3						
	0.8nm,0.8s						
ILAR	Eielson Array	64.52	25	P	P	00 39 03.8	-0.2
	0.8nm,1.1s,baz=239,slow=5.1,SNR=3.1						
	0.8nm,1.1s						
BVAR	Borovoye Array	69.92	321	P	P	00 39 38.6	+0.2
	4.0nm,0.7s,baz=97,slow=7.2,SNR=20						
	4.0nm,0.7s						
ARU	Arti	76.46	325	P	P	00 40 17.3	+0.4
	1.2nm,0.3s,baz=158,slow=11,SNR=4.8						
	1.2nm,0.3s						

*DDA **08** 00:39:48.0±0.0, 35°.59N×31°.39E, h11km±3km, ML1.6*
*ISK **08** 00:39:53.4, 35°.54N×32°.31E, h5km, ML1.9/12*
NIC 08 00:39:45.0±0.0**, 35°.47N**×**31°.65E, h11**km**, Ml2.3**/5**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKMS	Akamas	0.72	128	P	Pg	00 39 58.7	-0.2
AKMS				S	Sb	00 40 09.6	+0.3
AKMS				AML	AML	00 40 11.3	
	0.6nm,0.7s						
AKMS				AML	AML	00 40 11.3	
	0.6nm,0.7s						
AKMS				AML	AML	00 40 13.2	
	0.7nm,0.4s						
AKMS				AML	AML	00 40 13.2	
	0.7nm,0.4s						
ALFC	Alefka	0.84	111	P	Pb	00 40 02.0	+0.5
ALFC				S	Sb	00 40 13.4	+0.6
ALFC				AML	AML	00 40 18.1	
	0.4nm,0.4s						
ALFC				AML	AML	00 40 18.1	
	0.4nm,0.4s						
ALFC				AML	AML	00 40 20.2	
	0.3nm,0.4s						
ALFC				AML	AML	00 40 20.2	
	0.3nm,0.4s						
GAZI	Gazipasa	0.94	35	PG	Pn	00 40 06.9	+2.8
GAZI	Gazipasa	0.94	35	P	Pn	00 40 05.7	+1.6
GAZI				S	Sn	00 40 21.1	+3.5
GAZI				*i* AML	AML	00 40 23.0	
	comp=E,14nm,0.4s						
GAZI				*i* AML	AML	00 40 25.0	
	comp=N,17nm,0.7s						
NATA	Nata	1.02	132	P	Pg	00 40 03.7	-0.9
NATA				S	Sn	00 40 19.5	0.0
NATA				AML	AML	00 40 26.0	
	0.5nm,0.5s						
NATA				AML	AML	00 40 26.0	
	0.5nm,0.5s						
NATA				AML	AML	00 40 28.0	
	0.8nm,0.7s						
NATA				AML	AML	00 40 28.0	
	0.8nm,0.7s						
LEF	Lefka	1.07	108	PG	Pn	00 40 06.4	+0.5
SZAC	Souni	1.23	125	P	Pn	00 40 07.8	-0.4
SZAC				S	Sn	00 40 25.5	+0.7
SZAC				AML	AML	00 40 33.3	
	0.2nm,0.4s						
SZAC				AML	AML	00 40 33.3	
	0.2nm,0.4s						
SZAC				AML	AML	00 40 35.1	
	0.2nm,0.4s						
SZAC				AML	AML	00 40 35.1	
	0.2nm,0.4s						
TEKE	Tekeli-Mersin	1.37	60	PG	Pg	00 40 11.5	+0.2
TEKE				SG	Sb	00 40 25.2	-2.9
KEPZ	Antalya-Kepez	1.43	359	P	Pg	00 40 13.3	+0.8
KEPZ				S	Sg	00 40 31.0	-0.2
CSS	Mathiatis	1.47	110	PG	Pg	00 40 14.0	+0.9
CSS	Mathiatis	1.47	110	P	Pb	00 40 11.9	-0.3
CSS				S	Sb	00 40 31.0	+0.2
ASGA	Asgata	1.48	117	P	Pn	00 40 11.4	0.0
ASGA				S	Sg	00 40 31.9	-0.5
ASGA				AML	AML	00 40 38.0	
	0.1nm,0.5s						
ASGA				AML	AML	00 40 38.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.1nm,0.5s						
ASGA				AML	AML	00 40 40.6	
	0.1nm,0.6s						
ASGA				AML	AML	00 40 40.6	
	0.1nm,0.6s						
LFK	**Lefkose**	**1.55**	**96**	PG	Pg	00 40 14.7	0.0
BERE	**Bereket-Mersin**	**1.55**	**55**	PN	Pg	00 40 15.8	+1.0
ERMK	**Ermenek**	**1.56**	**41**	P	Pg	00 40 19.4	+4.5
ERMK				*i* AML	AML	00 40 43.0	
	comp=E,12nm,0.9s						
ERMK				*i* AML	AML	00 40 45.0	
	comp=N,10nm,0.4s						
HDMB	**Hadim**	**1.64**	**24**	PN	Pg	00 40 21.7	+5.2
HDMB				SN	Sg	00 40 42.3	+4.4
MVOU	**Mavrovouni**	**1.68**	**105**	P	Pn	00 40 14.4	+0.1
AKKU	**Akkuyu-Mersin**	**1.69**	**65**	PN	Pg	00 40 17.6	+0.1
GULN	**MERSIN_Gulnar**	**1.70**	**64**	P	Pg	00 40 17.9	+0.3
GULN				*i* AML	AML	00 40 44.0	
	comp=E,5.7nm,0.7s						
TEVE	**Tevekalti-Mers**	**1.75**	**56**	PN	Pg	00 40 18.9	+0.4
IKL	**Isikli**	**1.82**	**64**	PN	Pg	00 40 19.8	-0.2
KORT	**Korkueli**	**1.86**	**326**	PN	Pg	00 40 32.2	+12
KEBE	**Keben-Mersin**	**1.94**	**59**	PN	Pb	00 40 21.2	+0.8
SEDI	**Konya, Seydise**	**1.98**	**2**	P	Pg	00 40 25.7	+2.6
SEDI				S	Sg	00 40 50.0	+1.2
SEDI				*i* AML	AML	00 40 59.0	
	comp=E,8.2nm,0.7s						
SEDI				*i* AML	AML	00 41 02.0	
	comp=N,5.0nm,1.2s						
KKBE	**Karaman, Kazim**	**2.04**	**30**	P	Pg	00 40 24.5	+0.4
KKBE				S	Sg	00 40 52.5	+2.0
OSC2	**CSNet OBS 4**	**2.44**	**168**	S	Sn	00 40 44.5	-10

OTT ***08*** *00:41:33.6±0.3, 71.°96N×75.°01W, h18km, MN3.3/2, 130km southeast from Pond Inlet, Nu Baffin Island Seismic Zone, Nt.*

ISC 08 00:41:31.7±1.0**, 72.°01N**±0.°05×**74.°92W**±0.°06**, h32km, n6,** σ**3.ˢ04**/12**, Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	**Clyde River**	**2.56**	**124**	PN	**Pb**	**00 42 15.5**	**-1.4**
CLRN				SN	**Sn**	**00 42 46.3**	**+5.4**
CLRN				Trac		00 42 54.4	
	comp=Z,35nm,0.1s						
CLRN				LG	Lg	00 42 55.6	
ILON	**Igloolik, Nuna**	**3.50**	**224**	PN	**Pn**	**00 42 25.4**	**+1.6**
ILON				SN	**Sn**	**00 43 05.3**	**+1.2**
ILON				LG	Lg	00 43 20.9	
ILON				Trac		00 43 31.6	
	comp=Z,38nm,0.4s						
TULEG	**Thule**	**4.84**	**17**	*i* P	**Pn**	**00 42 43.0**	**+0.9**
TULEG				*i* S	**Sn**	**00 43 36.4**	**-0.5**
RES	**Resolute Bay**	**6.32**	**304**	PN	**Pn**	**00 43 04.7**	**+2.3**
RES				SN	**Sn**	**00 44 13.1**	**-0.1**
RES				SN	**Sn**	**00 44 13.7**	**+0.4**
RES				LG	Lg	00 44 51.8	
RES				Trac		00 45 04.0	
	comp=Z,402nm,3.8s						
FRB	**Frobisher Bay**	**8.63**	**161**	PN	**Pn**	**00 43 35.6**	**+1.5**
FRB				SN	**Sn**	**00 45 06.5**	**-3.7**
FRB				LG	Lg	00 46 00.9	
FRB				Trac		00 46 10.2	
	comp=Z,146nm,1.8s						
KNGQ	**Kangiqsujuaq**	**10.54**	**172**	SN	**Sn**	**00 45 51.9**	**-5.0**
KNGQ				LG	Lg	00 46 58.0	

MOS ***08*** *00:58:40.6±0.8, 5.°73S×146.°44E, h44km, mb5.5/52, Error ellipse: s-maj=7.7km s-min=5.0km az=104.2*

BJI ***08*** *00:58:41.5±0.0, 5.°71S×146.°70E, h62km, mb5.3/73, mB5.3/38, Ms4.9/19, Ms7 4.6/20*

NEIC ***08*** *00:58:43.8±1.3, 5.°76S±0.°06×146.°52E±0.°07, h53km±4km, mb5.4/247, Error ellipse: s-maj=9.7km s-min=8.4km az=104.0*

DJA ***08*** *00:58:44.6±0.3, 6°S±2°×14°7E±°, h70km±3km, M5.4/93, mb5.6/93, mB5.8/48, MLv5.8/4, Mw(mB)5.3/48, MwMwp5.5/6, Mwp5.7/6*

IDC ***08*** *00:58:44.1±1.9, 5.°87S×146.°39E, h65km±17km, mb4.9/23, mbtmp5.2/27, MS4.3/53, Error ellipse: s-maj=11.3km s-min=8.4km az=97.0*

GCMT ***08*** *00:58:45.8±0.1, 5.°77S±0.°01×146.°52E±0.°01, h66km±1km, MW5.2/126, Moment Tensor Solution. s98,c132; s126,c218; Duration: 1ˢ0 Moment tensor: Scale 10^16 Nm; Mrr5.08±.18; Mθθ-5.34±.15; Mφφ0.25±.17; Mrθ-4.64±.11; Mθφ2.44±.13; Mφr3.78±.12; Best double couple: M0 8.27800×10^16 NP1:φs305.00000°, δ69.00000°, λ103.00000°. NP2:φs93.00000°, δ24.00000°, λ60.00000°. Principal axes: T 7.8960, Plg64.0000°, Azm236.0000°; N 0.7620, Plg12.0000°, Azm120.0000°; P -8.6600, Plg23.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***08*** *00:58:53, 5.°68S×146.°58E, h141km, mb5.5*

ISC 08 00:58:43.1±0.3**, 5.°82S**±0.°03×**146.°51E**±0.°03**, h55**km±2km**, h55km:pP-P, n986,** σ**1.ˢ15**/959**, mb5.4**/246**, MS4.3**/60**, 25C-14D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**170**	P	**Pn**	**00 59 37.9**	**+1.2**
	1μm,0.6s,baz=343,slow=9.3,SNR=226						
PMG				S	**Sn**	**01 00 19.8**	**+1.6**
	1μm,0.9s,baz=20,slow=18,SNR=1.9						
PMG				LR	LR	01 01 30.0	
	comp=Z,15μm,18.2s,baz=347,slow=46						
PMG	**Port Moresby**	**3.62**	**170**	Pn	**Pn**	**00 59 38.2**	**+1.5**
PMG	**Port Moresby**	**3.62**	**170**	P	**Pn**	**00 59 38.5**	**+1.8**
PMG	**Port Moresby**	**3.62**	**170**	P	**Pn**	**00 59 38.7**	**+2.0**
PMG	**Port Moresby**	**3.62**	**170**	*c i*P	**Pn**	**00 59 37.9**	**+1.2**
PMG				pmax	pmax		
	comp=Z,541nm,0.7s						
MANU	**Manus Island**	**3.85**	**13**	Pn	**Pn**	**00 59 39.4**	**-0.4**
MANU	**Manus Island**	**3.85**	**13**	P	**Pn**	**00 59 39.5**	**-0.3**
KRVT	**Keravat (AS076**	**5.70**	**75**	P	**Pn**	**01 00 04.1**	**-1.0**
	comp=Z,758nm,0.9s,baz=224,slow=2.7,SNR=18						
KRVT				LR	LR	01 02 14.4	
	comp=Z,5μm,21.7s,baz=10,slow=36						
RABL	**Rabaul**	**5.86**	**74**	Pn	**Pn**	**01 00 07.1**	**-0.3**
RABL	**Rabaul**	**5.86**	**74**	P	**Pn**	**01 00 08.1**	**+0.7**
GENI	**Genyem**	**7.09**	**297**	P	**Pn**	**01 00 28.2**	**+3.9**
	comp=Z,4.8nmcomp=Z,8μmcomp=Z,462nm,0.9s						
GENI	**Genyem**	**7.09**	**297**	P	Pn	01 00 29.0	+4.7
	comp=Z,465nm,0.9s						
COEN	**Coen**	**8.73**	**202**	P	**Pn**	**01 00 48.9**	**+2.1**
	baz=8.8,SNR=330						
COEN	**Coen**	**8.73**	**202**	Pn	**Pn**	**01 00 48.7**	**+1.9**
COEN	**Coen**	**8.73**	**202**	P	**Pn**	**01 00 49.5**	**+2.8**
MTSU	**Mount Surprise**	**12.43**	**190**	P	**Pn**	**01 01 39.2**	**+1.9**
	baz=12,SNR=39						
MTSU	**Mount Surprise**	**12.43**	**190**	P	**Pn**	**01 01 39.6**	**+2.3**
RKPI	**Ransiki, Papua**	**13.03**	**289**	P	**Pn**	**01 01 47.4**	**+1.9**
	comp=Z,8μmcomp=Z,156nm,0.9s						
MWPI	**Manokwari, Pap**	**13.36**	**291**	P	**Pn**	**01 01 52.0**	**+1.9**
	comp=Z,4μmcomp=Z,135nm,0.8s						
TV1H	**Townsville Har**	**13.36**	**179**	P	Pn	01 01 55.3	+5.2
HNR	**Honiara**	**13.79**	**106**	P	**Pn**	**01 01 54.4**	**-1.6**
	comp=Z,4μm,1.0s,baz=243,slow=7.1,SNR=2.5						
HNR				LR	LR	01 06 45.0	
	comp=Z,10μm,20.3s,baz=264,slow=35						
HNR	**Honiara**	**13.79**	**106**	Pn	**Pn**	**01 01 54.7**	**-1.2**
HNR	**Honiara**	**13.79**	**106**	P	**Pn**	**01 01 54.7**	**-1.2**
CTA	**Charters Tower**	**14.19**	**181**	P	**Pn**	**01 02 02.4**	**+1.2**
	comp=Z,42nm,0.7s,baz=0.9,slow=14,SNR=67						
CTA				LR	LR	01 07 41.5	
	comp=Z,3μm,20.2s,baz=359,slow=38						
CTA	**Charters Tower**	**14.19**	**181**	P	**Pn**	**01 02 05.8**	**+4.6**
CTAO	**Charters Tower**	**14.19**	**181**	Pn	**Pn**	**01 02 03.1**	**+1.9**
CTAO	**Charters Tower**	**14.19**	**181**	P	**P**	**01 02 05.9**	**-1.2**
CTAO	**Charters Tower**	**14.19**	**181**	P	**Pn**	**01 02 03.1**	**+1.9**
FAKI	**Fak Fak**	**14.51**	**281**		**Pn**	**01 02 06.3**	**+0.8**
FAKI	**Fak Fak**	**14.51**	**281**	P	**Pn**	**01 02 05.6**	**+0.1**
	comp=Z,2μmcomp=Z,156nm,1.0s						
FAKI	**Fak Fak**	**14.51**	**281**	P	**Pn**	**01 02 06.7**	**+1.2**
SAUI	**Saumlaki**	**15.25**	**261**		**Pn**	**01 02 15.8**	**+0.6**
SAUI				IAmb	IAmb	01 02 19.2	
	comp=Z,305nm,0.9s						
SAUI	**Saumlaki**	**15.25**	**261**	P	**Pn**	**01 02 16.5**	**+1.4**
	comp=Z,11μmcomp=Z,353nm,0.9s						
SAUI	**Saumlaki**	**15.25**	**261**	P	**Pn**	**01 02 18.1**	**+3.0**
	comp=Z,352nm,1.0s						
KDU	**Kakadu**	**15.44**	**243**	P	**Pn**	**01 02 17.9**	**+0.4**
	baz=16,SNR=138						
KDU	**Kakadu**	**15.44**	**243**	P	**Pn**	**01 02 18.4**	**+0.9**
SIJI	**Sorong**	**15.99**	**287**	P	**Pn**	**01 02 24.5**	**-0.1**
	comp=Z,850nm,1.0s,baz=89,slow=9.6,SNR=48						
SIJI	**Sorong**	**15.99**	**287**	P	**Pn**	**01 02 24.2**	**-0.4**
	comp=Z,8μmcomp=Z,1μm,0.9s						
SWI	**Sorong**	**16.00**	**287**	P	**Pn**	**01 02 24.3**	**-0.4**
	comp=Z,12μmcomp=Z,2μm,0.8s						
QIS	**Mount Isa**	**16.11**	**204**	P	**Pn**	**01 02 27.0**	**+0.9**
	baz=16,SNR=21						
QIS	**Mount Isa**	**16.11**	**204**	P	**Pn**	**01 02 27.7**	**+1.6**
BNDI	**Bandanaira**	**16.59**	**274**	P	**Pn**	**01 02 33.2**	**+1.1**
	comp=Z,8μmcomp=Z,706nm,1.1s						
BNDI	**Bandanaira**	**16.59**	**274**	P	**P**	**01 02 36.2**	**+2.4**
	comp=Z,713nm,1.1s						
MTN	**Manton Dam**	**16.69**	**244**	P	**Pn**	**01 02 34.2**	**+0.8**
	baz=17,SNR=4.5						
MTN	**Manton Dam**	**16.69**	**244**		**Pn**	**01 02 33.5**	**+0.1**
MTN	**Manton Dam**	**16.69**	**244**	P	**Pn**	**01 02 35.4**	**+2.0**
PATS	**Pohnpei**	**17.23**	**43**	P	**P**	**01 02 40.9**	**0.0**
	baz=17,SNR=5.7						
PATS	**Pohnpei**	**17.23**	**43**	P	**P**	**01 02 41.0**	**0.0**
PATS				IAmb	IAmb	01 02 45.0	
	comp=Z,318nm,1.0s						
PATS	**Pohnpei**	**17.23**	**43**	P	**P**	**01 02 43.6**	**+2.7**
WB0	**Warramunga Arr**	**18.20**	**219**	P	**P**	**01 02 52.0**	**+0.4**
KRAI	**Karang Ratu**	**18.23**	**277**	P	**Pn**	**01 02 54.3**	**+2.0**
	comp=Z,33μmcomp=Z,43μmcomp=Z,216nm,0.9s						
WR0	**Warramunga Arr**	**18.25**	**219**	P	**P**	**01 02 52.0**	**-0.2**
WR0				IAmb	IAmb	01 02 59.3	
	comp=Z,162nm,0.8s						
WRAB	**Tennant Creek**	**18.35**	**219**	P	**P**	**01 02 53.6**	**+0.4**
WRAB	**Tennant Creek**	**18.35**	**219**	P	**P**	**01 02 53.4**	**+0.1**
WRAB	**Tennant Creek**	**18.35**	**219**	*de*P	**P**	**01 02 53.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,76nm,0.8s						
WB2	**Warramunga Arr**	**18.35**	**219**	P	**P**	**01 02 53.7**	**+0.4**
	baz=18						
WB2	**Warramunga Arr**	**18.35**	**219**	P	**P**	**01 02 52.7**	**-0.6**
WRA	**Warramunga Arr**	**18.36**	**219**	P	**P**	**01 02 53.5**	**+0.1**
	comp=Z,50nm,0.8s,baz=44,slow=12,SNR=69						
WRA				S	**Sn**	**01 06 13.2**	**-5.2**
	comp=Z,29nm,0.9s,baz=45,slow=22,SNR=6.1						
WRA				PcP	**PcP**	**01 07 23.9**	**+0.8**
	comp=Z,9.0nm,0.7s,baz=24,slow=1.6,SNR=6.0						
WRA				LR	LR	01 10 47.2	
	comp=Z,3μm,19.5s,baz=26,slow=40						
WRA	**Warramunga Arr**	**18.36**	**219**	P	**P**	**01 02 52.6**	**-0.8**
AAI	**Ambon**	**18.37**	**276**	P	**Pn**	**01 02 55.3**	**+1.2**
	comp=Z,6μmcomp=Z,670nm,0.7s						
AUMOU	**Moura State Hi**	**18.95**	**170**	P	**Pn**	**01 03 02.6**	**+1.7**
GUMO	**Guam**	**19.35**	**355**	P	**Pn**	**01 03 05.6**	**-0.1**
	comp=Z,324nm,0.8s,baz=182,slow=8.5,SNR=9.5						
GUMO				LR	LR	01 10 30.3	
	comp=Z,747nm,18.4s,baz=168,slow=36						
GUMO	**Guam**	**19.35**	**355**	P	**P**	**01 03 04.1**	**-0.1**
GUMO	**Guam**	**19.35**	**355**	P	**Pn**	**01 03 08.1**	**+2.3**
	comp=Z,440nm,0.8s						
GUMO	**Guam**	**19.35**	**355**	P	**P**	**01 03 04.1**	**-0.1**
GUMO				pmax	pmax		
	comp=Z,305nm,0.8s						
NLAI	**Namlea**	**19.52**	**277**	P	**P**	**01 03 07.5**	**+1.4**
	comp=Z,158nm,1.4s						
LBMI	**Labuha**	**19.66**	**284**	P	**P**	**01 03 09.2**	**+1.5**
	comp=Z,6μmcomp=Z,558nm,0.9s						
EIDS	**Eidsvold**	**19.93**	**168**	P	**P**	**01 03 10.1**	**-0.4**
	baz=20,SNR=14						
EIDS	**Eidsvold**	**19.93**	**168**	P	**P**	**01 03 11.1**	**+0.6**
EIDS	**Eidsvold**	**19.93**	**168**	P	**P**	**01 03 12.0**	**+1.5**
KNRA	**Kununurra**	**19.98**	**239**	P	**P**	**01 03 10.8**	**-0.3**
	baz=20,SNR=13						
KNRA	**Kununurra**	**19.98**	**239**	P	**P**	**01 03 10.9**	**-0.2**
KNRA				IAmb	IAmb	01 03 22.6	
	comp=Z,130nm,0.7s						
KNRA	**Kununurra**	**19.98**	**239**	P	**P**	**01 03 10.8**	**-0.3**
GAMI	**Galela, Maluku**	**20.18**	**292**	P	**P**	**01 03 14.9**	**+1.5**
	comp=Z,176nm,1.0s						
TNTI	**Ternate**	**20.20**	**288**	P	**P**	**01 03 13.8**	**+0.2**
TNTI				IAmb	IAmb	01 03 19.8	
	comp=Z,130nm,1.0s						
TNTI	**Ternate**	**20.20**	**288**	P	**P**	**01 03 13.3**	**-0.3**
	comp=Z,2μmcomp=Z,152nm,1.1s						
TNTI	**Ternate**	**20.20**	**288**	P	Pn	01 03 16.6	+0.7
	comp=Z,152nm,1.1s						
RMQ	**Roma**	**20.66**	**174**	P	**P**	**01 03 20.0**	**+1.6**
	baz=21,SNR=73						
RMQ	**Roma**	**20.66**	**174**	P	Pn	01 03 22.9	+1.6
QLP	**Quilpie**	**20.76**	**186**	P	**P**	**01 03 20.6**	**+1.1**
	baz=21,SNR=9.1						
QLP	**Quilpie**	**20.76**	**186**	P	**P**	**01 03 22.1**	**+2.6**
SANI	**Sanana**	**20.81**	**280**	P	**P**	**01 03 20.0**	**-0.1**
	comp=Z,3μmcomp=Z,269nm,1.3s						
SANI	**Sanana**	**20.81**	**280**	P	Pn	01 03 23.4	+0.3
AS01	**Alice Springs**	**21.47**	**213**	P	**P**	**01 03 28.7**	**+1.5**
AS31	**Alice Springs**	**21.50**	**213**	P	**P**	**01 03 27.9**	**+0.4**
ASAR	**Alice Springs**	**21.50**	**213**	P	**P**	**01 03 27.7**	**+0.2**
	comp=Z,20nm,0.7s,baz=44,slow=9.1,SNR=143						
ASAR				S	**S**	**01 07 22.6**	**-0.5**
	comp=Z,3.6nm,1.0s,baz=40,slow=20,SNR=1.6						
ASAR				LR	LR	01 12 57.3	
	comp=Z,5μm,19.4s,baz=39,slow=40						
	comp=Z,20nm,0.7s						
ASAR	**Alice Springs**	**21.50**	**213**	P	**P**	**01 03 28.3**	**+0.8**
SOEI	**Soe**	**22.38**	**259**	P	**P**	**01 03 37.5**	**+0.4**
SOEI	**Soe**	**22.38**	**259**	P	**P**	**01 03 37.5**	**+0.4**
	comp=Z,4μmcomp=Z,375nm,0.9s						
SOEI	**Soe**	**22.38**	**259**	P	**P**	**01 03 39.7**	**+2.6**
INKA	**Innaminka**	**22.48**	**193**	P	**P**	**01 03 38.7**	**+0.8**
KOUNC	**Koumac, New Ca**	**22.63**	**132**	P	**P**	**01 03 40.4**	**+0.8**
KOUNC	**Koumac, New Ca**	**22.63**	**132**	P	**P**	**01 03 41.5**	**+1.9**
SGSI	**Sangihe**	**22.98**	**294**	P	**P**	**01 03 42.8**	**-0.5**
	comp=Z,195nm,0.4s						
BATI	**Baumata**	**23.03**	**258**	P	**P**	**01 03 44.2**	**+0.3**
	comp=Z,3μmcomp=Z,330nm,0.7s						
AULRC	**Lightning Ridg**	**23.53**	**177**	P	**P**	**01 03 48.5**	**+0.1**
BBSI	**Bau Bau**	**23.82**	**270**	P	**P**	**01 03 53.2**	**+1.8**
	comp=Z,198nm,0.9s						
OOD	**Oodnadatta**	**24.15**	**204**	P	**P**	**01 03 54.8**	**+0.6**
LUWI	**Luwuk**	**24.16**	**280**	P	**P**	**01 03 55.1**	**+0.7**
LUWI	**Luwuk**	**24.16**	**280**	P	**P**	**01 03 55.6**	**+1.2**
	comp=Z,13μmcomp=Z,1μm,1.3s						
LUWI	**Luwuk**	**24.16**	**280**	P	**P**	**01 03 56.4**	**+2.0**
MMRI	**Maumere**	**24.24**	**262**	P	**P**	**01 03 54.9**	**-0.2**
MMRI	**Maumere**	**24.24**	**262**	P	**P**	**01 03 54.7**	**-0.4**
	comp=Z,5μmcomp=Z,309nm,0.6s						
MMRI	**Maumere**	**24.24**	**262**	P	**P**	**01 03 55.8**	**+0.7**
GTOI	**Gorontalo**	**24.32**	**285**	P	**P**	**01 03 57.6**	**+1.7**
	comp=Z,3μmcomp=Z,256nm,0.7s						
KKSI	**Kolaka, Sulawe**	**24.82**	**273**	P	**P**	**01 04 01.3**	**+0.9**
	comp=Z,58nm,0.4s						
ARMA	**Armidale**	**24.94**	**169**	P	**P**	**01 04 00.4**	**-1.1**
	baz=25,SNR=9.7						
ARMA	**Armidale**	**24.94**	**169**	P	**P**	**01 04 02.6**	**+1.2**
ARMA	**Armidale**	**24.94**	**169**	P	**P**	**01 04 02.4**	**+0.9**
LIFNC	**LIFOU**	**25.01**	**128**	P	**P**	**01 04 02.9**	**+0.9**
LIFNC	**LIFOU**	**25.01**	**128**	P	**P**	**01 04 03.0**	**+0.9**
DZM	**Mont Dzumac**	**25.15**	**132**	*e*P	**P**	**01 04 02.3**	**-1.1**
	comp=Z,112nm,1.2s						
DZM				*e*S	**S**	**01 08 24.4**	**-0.4**
	comp=Z,358nm,26.2s						
DZM				*e*LR	LR	01 10 25.5	
	comp=Z,2μm,24.7s						
DZM	**Mont Dzumac**	**25.15**	**132**	P	**P**	**01 04 03.3**	**-0.1**
	comp=Z,16nm,0.6s,baz=349,slow=10,SNR=14						
DZM				LR	LR	01 13 55.9	
	comp=Z,354nm,18.1s,baz=356,slow=36						
	comp=Z,16nm,0.6s						
DZM	**Mont Dzumac**	**25.15**	**132**	P	**P**	**01 04 03.3**	**-0.1**
DZM	**Mont Dzumac**	**25.15**	**132**	P	**P**	**01 04 03.9**	**+0.5**
APSI	**Ampana**	**25.29**	**280**	P	**P**	**01 04 05.7**	**+1.1**
	comp=Z,5μmcomp=Z,424nm,0.9s						
ONTNC	**Ouen Toro**	**25.30**	**132**	P	**P**	**01 04 04.2**	**-0.4**
MRSI	**Marisa**	**25.32**	**284**	P	**P**	**01 04 04.4**	**-0.5**
	comp=Z,1μmcomp=Z,130nm,1.1s						
YATNC	**Mamie plateau,**	**25.47**	**131**	P	**P**	**01 04 06.8**	**+0.5**
AUPHS	**Peel High Scho**	**25.48**	**171**	P	**P**	**01 04 07.4**	**+1.1**
KWAJ	**Kwajalein Atol**	**25.57**	**56**	P	**P**	**01 04 06.0**	**-1.1**
KWAJ	**Kwajalein Atol**	**25.57**	**56**	P	**P**	**01 04 06.0**	**-1.1**
KWAJ				pmax	pmax		
	comp=Z,408nm,1.2s						
CMSA	**Cobar Meteorol**	**25.60**	**182**	P	**P**	**01 04 07.6**	**+0.3**
	baz=26,SNR=20						
CMSA	**Cobar Meteorol**	**25.60**	**182**	P	**P**	**01 04 07.8**	**+0.5**
LCRK	**Leigh Creek**	**25.71**	**197**	P	**P**	**01 04 08.5**	**+0.2**
BSSI	**Bau Bau, Buton**	**25.88**	**268**	P	**P**	**01 04 11.1**	**+1.0**
	comp=Z,2μmcomp=Z,140nm,1.0s						
WRKA	**Warakurna**	**25.88**	**221**	P	**P**	**01 04 10.0**	**0.0**
	baz=26,SNR=41						
WRKA	**Warakurna**	**25.88**	**221**	P	**P**	**01 04 10.0**	**0.0**
MARNC	**Mare, Loyalty**	**26.01**	**129**	P	**P**	**01 04 10.1**	**-1.0**
BKSI	**Bulukumba**	**26.27**	**270**	P	**P**	**01 04 13.9**	**+0.4**
	comp=Z,1μmcomp=Z,111nm,0.9s						
STKA	**Stephens Creek**	**26.33**	**189**	P	**P**	**01 04 13.8**	**-0.1**
	comp=Z,71nm,0.9s,baz=350,slow=8.7,SNR=62						
STKA				LR	LR	01 15 58.6	
	comp=Z,2μm,19.3s,baz=9.2,slow=39						
	comp=Z,71nm,0.9s						
STKA	**Stephens Creek**	**26.33**	**189**	P	**P**	**01 04 14.2**	**+0.3**
	baz=26,SNR=83						
STKA	**Stephens Creek**	**26.33**	**189**	P	**P**	**01 04 14.2**	**+0.3**
STKA	**Stephens Creek**	**26.33**	**189**	P	**P**	**01 04 15.3**	**+1.4**
STKA	**Stephens Creek**	**26.33**	**189**	*de*P	**P**	**01 04 15.1**	**+1.2**
BNSI	**Bone**	**26.34**	**272**	P	**P**	**01 04 14.5**	**+0.3**
	comp=Z,776nmcomp=Z,89nm,1.1s						
AUDCS	**Dubbo College**	**26.35**	**176**	P	**P**	**01 04 16.6**	**+2.5**
TOLI2	**Tolitoli**	**26.60**	**284**	P	**P**	**01 04 16.1**	**-0.5**
TOLI2				IAmb	IAmb	01 04 17.6	
	comp=Z,111nm,1.1s						
TOLI2	**Tolitoli**	**26.60**	**284**	P	**P**	**01 04 16.2**	**-0.3**
KAPI	**Kappang**	**26.65**	**270**	P	**P**	**01 04 17.1**	**0.0**
	comp=Z,36nm,0.8s,baz=79,slow=4.1,SNR=21						
KAPI				LR	LR	01 16 20.7	
	comp=Z,500nm,20.4s,baz=78,slow=40						
	comp=Z,36nm,0.8s						
KAPI	**Kappang**	**26.65**	**270**	P	**P**	**01 04 17.0**	**0.0**
KAPI				IAmb	IAmb	01 04 23.7	
	comp=Z,87nm,0.9s						
KAPI	**Kappang**	**26.65**	**270**	P	**P**	**01 04 17.0**	**0.0**
	comp=Z,891nmcomp=Z,91nm,1.1s						
KAPI	**Kappang**	**26.65**	**270**	P	**P**	**01 04 17.6**	**+0.6**
KAPI	**Kappang**	**26.65**	**270**	*c i*P	**P**	**01 04 17.3**	**+0.3**
KAPI				pmax	pmax		
	comp=Z,47nm,0.9s						
SPSI	**Sidrap Palu**	**26.70**	**273**	P	**P**	**01 04 17.4**	**-0.1**
	comp=Z,8μmcomp=Z,3μmcomp=Z,74nm,1.0s						
MULG	**Mulgathing**	**27.01**	**204**	P	**P**	**01 04 20.4**	**+0.3**
MPSI	**Mapaga**	**27.26**	**282**	P	**P**	**01 04 22.2**	**-0.3**
	comp=Z,783nmcomp=Z,60nm,1.0s						
PMSI	**Majene**	**27.60**	**274**	P	**P**	**01 04 26.5**	**+0.9**
	comp=Z,37nm,0.9s						
WHYH	**Whyalla**	**28.33**	**196**	P	**P**	**01 04 32.9**	**+1.1**
HTT	**Hallett**	**28.36**	**193**	P	**P**	**01 04 32.1**	**-0.1**
	baz=28,SNR=32						
HTT	**Hallett**	**28.36**	**193**	P	**P**	**01 04 33.3**	**+1.1**
BBOO	**Buckleboo**	**28.57**	**199**	P	**P**	**01 04 33.5**	**-0.5**
	baz=29,SNR=11						
BBOO	**Buckleboo**	**28.57**	**199**	IAmb	IAmb	01 04 36.2	
	comp=Z,186nm,1.9s						
BBOO	**Buckleboo**	**28.57**	**199**	P	**P**	**01 04 33.8**	**-0.1**
PLAI	**Plampang**	**28.65**	**262**	P	**P**	**01 04 33.2**	**-1.7**
	comp=Z,74nm,0.9s						
PLAI	**Plampang**	**28.65**	**262**	P	**P**	**01 04 33.6**	**-1.3**
CNB	**Canberra Magne**	**29.47**	**175**	P	**P**	**01 04 40.9**	**-1.2**
	baz=30,SNR=7.9						
TWSI	**Taliwang, Sumb**	**29.53**	**263**	P	**P**	**01 04 41.9**	**-0.8**
	comp=Z,40nm,0.8s						
BKB	**Balikpapan**	**29.89**	**278**	P	**P**	**01 04 46.7**	**+0.7**
BKB	**Balikpapan**	**29.89**	**278**	P	**P**	**01 04 48.1**	**+2.2**
	comp=Z,3μmcomp=Z,170nm,0.9s						
BKB	**Balikpapan**	**29.89**	**278**	P	**P**	**01 04 48.9**	**+3.0**
	comp=Z,168nm,0.9s						
MYLDM	**Lahad Datu**	**30.02**	**291**	P	**P**	**01 04 47.1**	**0.0**
MYLDM				IAmb	IAmb	01 05 18.8	
	comp=Z,122nm,1.2s						
MYLDM	**Lahad Datu**	**30.02**	**291**	P	**P**	**01 04 48.0**	**+0.9**
	comp=Z,67nm,1.2s						
MBWA	**Marble Bar**	**30.09**	**237**	P	**P**	**01 04 47.8**	**+0.2**
MBWA	**Marble Bar**	**30.09**	**237**	P	**P**	**01 04 48.0**	**+0.4**
PSA00	**Pilbara Seismi**	**30.19**	**236**	P	**P**	**01 04 48.6**	**+0.2**
PSA00				IAmb	IAmb	01 04 50.2	
	comp=Z,63nm,0.7s						
PSA00	**Pilbara Seismi**	**30.19**	**236**	P	**P**	**01 04 48.6**	**+0.2**
PSA00	**Pilbara Seismi**	**30.19**	**236**	P	**P**	**01 04 48.9**	**+0.5**
FORT	**Forrest**	**30.28**	**213**	P	**P**	**01 04 49.1**	**0.0**
	baz=30,SNR=16						
FORT	**Forrest**	**30.28**	**213**	P	**P**	**01 04 48.9**	**-0.3**
FORT				IAmb	IAmb	01 05 59.4	
	comp=Z,64nm,0.9s						
FORT	**Forrest**	**30.28**	**213**	P	**P**	**01 04 50.2**	**+1.0**
KLNI	**Mataram**	**30.29**	**263**	P	**P**	**01 04 50.5**	**+1.1**
	comp=Z,2μmcomp=Z,126nm,0.8s						
ARPS	**Mount Arapiles**	**31.10**	**187**	P	**P**	**01 04 57.4**	**+1.0**
	baz=31,SNR=6.5						
ARPS	**Mount Arapiles**	**31.10**	**187**	P	**P**	**01 04 57.3**	**+1.0**
TOO	**Toolangi**	**31.62**	**182**	P	**P**	**01 05 02.2**	**+1.3**
	baz=32,SNR=4.2						
TOO	**Toolangi**	**31.62**	**182**	P	**P**	**01 05 01.8**	**+0.9**
TOO				pP	**pP**	**01 05 17.6**	**+2.1**
TOO	**Toolangi**	**31.62**	**182**	P	**P**	**01 05 02.0**	**+1.1**
BBKI	**Banjar Baru**	**31.65**	**273**	P	**P**	**01 05 02.4**	**+1.0**
	comp=Z,46nm,0.6s						
BRAT	**Ballarat**	**31.67**	**184**	P	**P**	**01 05 03.1**	**+1.8**
SPMM	**Sapulut**	**31.77**	**289**	P	**P**	**01 05 04.0**	**+1.5**
BYJI	**Banyuwangi**	**32.00**	**264**	P	**P**	**01 05 03.5**	**-1.0**
ABJI	**Asem Bagus**	**32.10**	**265**	P	**P**	**01 05 04.3**	**-1.1**
JAGI	**Jajag, Banyuwa**	**32.21**	**263**	IAmb	IAmb	01 05 12.0	
	comp=Z,45nm,0.9s						
JAGI	**Jajag, Banyuwa**	**32.21**	**263**	P	**P**	**01 05 03.8**	**-2.6**
	comp=Z,58nm,0.8s						
JAGI	**Jajag, Banyuwa**	**32.21**	**263**	P	**P**	**01 05 04.1**	**-2.3**
KKM	**Kota Kinabalu**	**32.46**	**291**	P	**P**	**01 05 08.4**	**-0.2**
KKM	**Kota Kinabalu**	**32.46**	**291**	P	**P**	**01 05 08.4**	**-0.2**
	comp=Z,17nm,0.8s						
FUNA	**Funafuti**	**32.54**	**97**	P	**P**	**01 05 09.7**	**+0.5**
FUNA	**Funafuti**	**32.54**	**97**	P	**P**	**01 05 09.6**	**+0.4**
JCJ	**Chichijima**	**32.99**	**353**	LR	LR	01 16 20.5	
	comp=Z,364nm,21.8s,baz=101,slow=32						
MSVF	**Nonsavu**	**33.00**	**114**	P	**P**	**01 05 13.4**	**0.0**
	comp=Z,9.6nm,0.8s,baz=259,slow=6.1,SNR=5.2						
MSVF				LR	LR	01 17 52.2	
	comp=Z,315nm,18.5s,baz=245,slow=35						
	comp=Z,9.6nm,0.8s						
MSVF	**Nonsavu**	**33.00**	**114**	P	**P**	**01 05 14.7**	**+1.4**
MSVF	**Nonsavu**	**33.00**	**114**	P	**P**	**01 05 14.7**	**+1.4**
MSVF				pmax	pmax		
	comp=Z,21nm,1.0s						
BWJI	**Bawean**	**33.67**	**268**	P	**P**	**01 05 19.8**	**+0.6**
	comp=Z,389nm,1.1s						
MEEK	**Meekatharra**	**33.70**	**229**	P	**P**	**01 05 20.0**	**+0.7**
	baz=34,SNR=38						
MEEK	**Meekatharra**	**33.70**	**229**	P	**P**	**01 05 20.0**	**+0.7**
PBKI	**Pangkalan Bun**	**34.88**	**274**	P	**P**	**01 05 31.1**	**+1.5**
	comp=Z,372nm,1.0s						
PCJI	**Pacitan**	**35.14**	**264**	P	**P**	**01 05 30.9**	**-0.9**
	comp=Z,165nm,0.9s						
SBUM	**Sibu**	**35.22**	**283**	IAmb	IAmb	01 05 34.7	
	comp=Z,33nm,0.9s						
SBUM	**Sibu**	**35.22**	**283**	P	**P**	**01 05 33.3**	**+0.8**
	comp=Z,393nmcomp=Z,40nm,1.0s						
SBUM	**Sibu**	**35.22**	**283**	P	**P**	**01 05 34.0**	**+1.5**
GIRL	**Giralia**	**35.35**	**239**	P	**P**	**01 05 35.5**	**+2.0**
	baz=35,SNR=5.4						
GIRL	**Giralia**	**35.35**	**239**	P	**P**	**01 05 34.6**	**+1.1**
UGM	**Wanagama**	**35.78**	**265**	P	**P**	**01 05 36.3**	**-1.1**
	comp=Z,163nm,0.9s						
UGM	**Wanagama**	**35.78**	**265**	P	**P**	**01 05 36.7**	**-0.7**
SMRI	**Semarang**	**35.86**	**266**	P	**P**	**01 05 37.2**	**-0.9**
SMRI	**Semarang**	**35.86**	**266**	P	**P**	**01 05 38.0**	**0.0**
	comp=Z,62nm,0.9s						
SMRI	**Semarang**	**35.86**	**266**	P	**P**	**01 05 38.4**	**+0.4**
KSM	**Kuching**	**36.87**	**280**	P	**P**	**01 05 46.3**	**-0.3**
KSM	**Kuching**	**36.87**	**280**	P	**P**	**01 05 46.8**	**+0.2**
	comp=Z,1μmcomp=Z,97nm,1.4s						
KSM	**Kuching**	**36.87**	**280**	P	**P**	**01 05 48.0**	**+1.4**
KSM	**Kuching**	**36.87**	**280**	P	**P**	**01 05 47.5**	**+0.9**
MORW	**Morawa**	**36.93**	**228**	P	**P**	**01 05 47.4**	**+0.5**
	baz=37,SNR=7.0						
MORW	**Morawa**	**36.93**	**228**	P	**P**	**01 05 46.7**	**-0.3**
MORW				IAmb	IAmb	01 05 55.2	
	comp=Z,54nm,1.1s						
MORW	**Morawa**	**36.93**	**228**	P	**P**	**01 05 47.6**	**+0.6**
JOW	**Kunigami**	**36.95**	**332**	LR	LR	01 18 40.7	
	comp=Z,357nm,19.9s,baz=188,slow=32						
JOW	**Kunigami**	**36.95**	**332**	P	**P**	**01 05 47.2**	**0.0**
JOW	**Kunigami**	**36.95**	**332**	P	**P**	**01 05 48.4**	**+1.3**
SCJI	**Gunung Srandil**	**37.12**	**265**	P	**P**	**01 05 48.0**	**-0.8**
	comp=Z,89nm,0.5s						
KLBR	**Kellerberrin**	**37.17**	**223**	P	**P**	**01 05 49.1**	**+0.1**
	baz=37,SNR=4.9						

KLBR **Kellerberrin** **37.17 223** P **P** **01 05 49.3 +0.3**
BLDU **Ballidu** **37.31 225** P **P** **01 05 50.5 +0.2**
baz=37,SNR=22
BLDU **Ballidu** **37.31 225** P **P** **01 05 50.4 +0.2**
TWGBT **Beinan** **37.80 320** P **P** **01 05 56.2 +1.9**
comp=Z,32nm,0.7s
TWG **Pinlang** **37.80 320** IAmb IAmb 01 05 59.2
comp=Z,40nm,1.1s
YOJ **Yonaguni jima** **37.82 324** P **P** **01 05 54.7 +0.3**
YOJ **Yonaguni jima** **37.82 324** P **P** **01 05 55.7 +1.2**
YOJ **Yonaguni jima** **37.82 324** P **P** **01 05 54.7 +0.3**
YOJ pmax pmax
comp=Z,113nm,0.8s
JCJI **Jatiwangi** **38.02 267** P **P** **01 05 56.3 -0.1**
comp=Z,64µmcomp=Z,267nm,0.4s
YULB **Yu-li** **38.07 321** P **P** **01 05 56.4 -0.3**
YULB IAmb IAmb 01 06 08.8
comp=Z,39nm,0.9s
YULB **Yu-li** **38.07 321** P **P** **01 05 57.2 +0.5**
NWAO **Narrogin (SRO)** **38.34 222** P **P** **01 05 58.2 -0.6**
comp=Z,12nm,0.7s,baz=264,slow=12,SNR=6.2
NWAO LR LR 01 23 57.3
comp=Z,1µm,18.8s,baz=280,slow=40
comp=Z,12nm,0.7s
NWAO **Narrogin (SRO)** **38.34 222** P **P** **01 05 58.9 +0.1**
baz=38,SNR=5.6
NWAO P **P** **01 05 58.9 +0.1**
baz=38,SNR=5.6
NWAO **Narrogin (SRO)** **38.34 222** P **P** **01 05 59.1 +0.3**
NWAO IAmb IAmb 01 06 01.2
comp=Z,56nm,1.4s
NWAO **Narrogin (SRO)** **38.34 222** P **P** **01 05 59.1 +0.3**
NWAO pmax pmax
comp=Z,56nm,1.4s
TPUB **Ta-pu** **38.43 320** IAmb IAmb 01 06 01.3
comp=Z,74nm,0.9s
TPUB **Ta-pu** **38.43 320** P **P** **01 05 59.8 +0.1**
NACB **Ninganchiao** **38.45 322** P **P** **01 05 59.6 -0.2**
NACB **Ninganchiao** **38.45 322** P **P** **01 06 00.7 +0.9**
MUN **Mundaring** **38.46 224** P **P** **01 06 00.4 +0.6**
baz=39,SNR=3.5
MUN **Mundaring** **38.46 224** P **P** **01 06 00.7 +0.9**
OUZ **Omahuta** **38.46 143** P **P** **01 06 00.4 +0.7**
SSLB **Suanglung** **38.57 321** P **P** **01 06 00.7 -0.2**
SSLB IAmb IAmb 01 06 06.2
comp=Z,48nm,1.1s
SSLB **Suanglung** **38.57 321** P **P** **01 06 01.1 +0.2**
BBJI **Bungbulang** **38.62 265** P **P** **01 06 00.8 -0.8**
LEM **Lembang** **38.66 266** P **P** **01 06 01.7 -0.3**
comp=Z,154nm,0.8s
YHNB **Yeheng** **38.95 322** P **P** **01 06 04.2 +0.1**
YHNB **Yeheng** **38.95 322** P **P** **01 06 05.4 +1.3**
TATO **Taipei** **39.11 323** P **P** **01 06 05.7 +0.4**
TATO **Taipei** **39.11 323** P **P** **01 06 06.5 +1.2**
CNJI **Cibinong** **39.14 266** P **P** **01 06 04.6 -1.2**
comp=Z,2µmcomp=Z,259nm,1.1s
RKGY **Rocky Gully** **39.56 220** P **P** **01 06 09.8 +0.8**
baz=40,SNR=7.3
SKJI **Sukabumi** **39.71 266** P **P** **01 06 10.0 -0.6**
comp=Z,3µmcomp=Z,280nm,0.7s
JSU **Suzuyama** **40.16 339** P **P** **01 06 13.9 -0.1**
JSU **Suzuyama** **40.16 339** P **P** **01 06 14.7 +0.7**
PPBI **Pangkal Pinang** **40.43 273** P **P** **01 06 17.6 +1.1**
comp=Z,20µmcomp=Z,167nm,1.0s
XMI **Christmas Isla** **40.65 261** P **P** **01 06 19.7 +1.4**
KNMB **Chin-men Tao** **40.70 319** P **P** **01 06 16.6 -2.0**
KNMB IAmb IAmb 01 06 20.9
comp=Z,69nm,0.8s
QZH **Quanzhou** **40.90 320** *e*P **P** **01 06 20.3 +0.1**
QZH S **S** **01 12 29.0 +0.9**
JMN **Monobe** **41.11 344** P **P** **01 06 21.9 0.0**
JMN **Monobe** **41.11 344** P **P** **01 06 22.4 +0.6**
JNU **Nakatsue** **41.47 340** P **P** **01 06 25.1 +0.3**
JNU IAmb IAmb 01 06 26.6
comp=Z,106nm,1.0s
JNU **Nakatsue** **41.47 340** P **P** **01 06 25.9 +1.1**
DLV **T Lat** **41.73 295** P **P** **01 06 27.8 +0.4**
KASI **Kota Agung** **41.80 268** P **P** **01 06 26.4 -1.4**
comp=Z,2µmcomp=Z,238nm,1.0s
AFI **Afiamalu** **41.82 104** P **P** **01 06 28.8 +0.8**
comp=Z,118nm,1.1s,baz=260,slow=19,SNR=5.4
AFI LR LR 01 20 49.6
comp=Z,372nm,21.6s,baz=273,slow=32
comp=Z,118nm,1.1s
AFI **Afiamalu** **41.82 104** P **P** **01 06 28.0 0.0**
AFI **Afiamalu** **41.82 104** P **P** **01 06 29.8 +1.8**
INU **Inuyama** **41.91 348** P **P** **01 06 27.8 -0.5**
INU **Inuyama** **41.91 348** P **P** **01 06 28.8 +0.5**
QRZ **Quartz Range** **41.92 150** P **P** **01 06 29.8 +1.5**
QRZ IAmb IAmb 01 07 53.7
comp=Z,153nm,1.4s
JGF **Kuroka** **42.09 349** P **P** **01 06 29.5 -0.3**
JGF IAmb IAmb 01 06 30.6
comp=Z,55nm,0.8s
JGF **Kuroka** **42.09 349** P **P** **01 06 29.9 +0.1**
DSRI **Dabo** **42.19 276** P **P** **01 06 31.3 +0.4**
comp=Z,137nm,0.9s
LWLI **Liwa** **42.26 269** P **P** **01 06 30.8 -0.9**
comp=Z,22µmcomp=Z,218nm,0.8s
TPRI **Tanjung Pinang** **42.45 278** P **P** **01 06 33.6 +0.5**
comp=Z,7µmcomp=Z,200nm,1.0s
JHS **Saijyo** **42.52 344** P **P** **01 06 32.7 -0.5**
JHS IAmb IAmb 01 06 34.8
comp=Z,66nm,0.8s
JHS **Saijyo** **42.52 344** P **P** **01 06 33.9 +0.6**
URZ **Urewera** **42.59 144** LR LR 01 23 23.0
comp=Z,334nm,19.8s,baz=37,slow=35
THZ **Tophouse** **42.81 151** P **P** **01 06 36.5 +0.8**
JCZ **Jackson Bay** **42.83 156** P **P** **01 06 38.1 +2.3**
MJAR **Matsushiro Arr** **42.85 350** P **P** **01 06 35.3 -0.7**
comp=Z,32nm,0.9s,baz=171,slow=8.0,SNR=36
MJAR LR LR 01 24 26.1
comp=Z,197nm,18.6s,baz=162,slow=36
comp=Z,32nm,0.9s
MAJO **Matsushiro** **42.85 350** P **P** **01 06 35.3 -0.6**
MAJO IAmb IAmb 01 06 36.8
comp=Z,52nm,0.9s
MAJO **Matsushiro** **42.85 350** P **P** **01 06 35.9 -0.1**
MAJO **Matsushiro** **42.85 350** P **P** **01 06 35.3 -0.6**
MAJO pmax pmax
comp=Z,52nm,1.0s
MAJO **Matsushiro** **42.85 350** P **P** **01 06 34.1 -1.8**
MAJO pP **pP** **01 06 49.6 -0.4**
MJB9 **Matsu-Tunnel** **42.85 350** P **P** **01 06 36.0 0.0**
MJB9 IAmb IAmb 01 06 37.8
comp=Z,53nm,1.0s
JMBI **JAMBI** **42.97 274** P **P** **01 06 39.7 +2.4**
comp=Z,180nm,0.7s
TUWZ **Tuamarina** **43.08 150** P **P** **01 06 38.4 +0.6**
BSWZ **Blackbirch Sta** **43.26 150** P **P** **01 06 40.1 +0.9**
MYKOM **Kota Tinggi** **43.27 279** P **P** **01 06 40.1 +0.4**
MYKOM IAmb IAmb 01 06 41.6
comp=Z,59nm,0.7s
MYKOM **Kota Tinggi** **43.27 279** P **P** **01 06 40.2 +0.5**
comp=Z,2µmcomp=Z,94nm,0.9s
MYKOM **Kota Tinggi** **43.27 279** P **P** **01 06 41.0 +1.3**
LTZ **Lake Taylor** **43.30 152** P **P** **01 06 40.9 +1.3**
LTZ IAmb IAmb 01 06 42.5
comp=Z,129nm,1.5s
DCZ **Deep Cove** **43.38 159** P **P** **01 06 41.2 +1.0**
DCZ IAmb IAmb 01 06 43.2
comp=Z,61nm,1.0s
RPZ **Rata Peaks** **43.48 154** LR LR 01 23 03.1
comp=Z,598nm,21.8s,baz=325,slow=34
RPZ **Rata Peaks** **43.48 154** P **P** **01 06 41.9 +0.9**
RPZ IAmb IAmb 01 06 43.4
comp=Z,62nm,0.7s
OXZ **Oxford** **43.61 153** P **P** **01 06 42.4 +0.4**
KHZ **Kahutara** **43.62 151** P **P** **01 06 42.4 +0.4**
KHZ IAmb IAmb 01 06 43.7
comp=Z,116nm,1.4s
KHZ **Kahutara** **43.62 151** P **P** **01 06 42.5 +0.4**
LBZ **Lake Benmore** **43.65 155** P **P** **01 06 43.5 +1.1**
LBZ IAmb IAmb 01 06 44.1
comp=Z,54nm,0.8s
MLZ **Mavora Lakes** **43.66 158** P **P** **01 06 43.3 +0.9**
MLZ IAmb IAmb 01 06 59.2
comp=Z,104nm,1.3s
BFZ **Birch Farm** **43.75 147** P **P** **01 06 43.3 +0.1**
QIZ **Qiongzhong** **43.75 305** P **P** **01 06 43.9 +0.4**
QIZ **Qiongzhong** **43.75 305** P **P** **01 06 44.7 +1.2**
QIZ S **S** **01 13 10.8 +0.5**
QIZ sS **sS** **01 13 38.8 +4.1**
QIZ LR LR
comp=Z,300nm,15.3s
QIZ LR LR
comp=Z,280nm,20.4s
JMM **Marumori** **43.78 353** P **P** **01 06 43.7 +0.3**
JMM IAmb IAmb 01 06 44.9
comp=Z,68nm,1.0s
JMM **Marumori** **43.78 353** P **P** **01 06 44.0 +0.6**
WHZ **Wether Hill Ro** **44.04 158** P **P** **01 06 46.1 +0.7**
WHZ IAmb IAmb 01 06 47.2
comp=Z,72nm,1.1s
MQZ **McQueen's Vall** **44.19 153** P **P** **01 06 46.7 +0.1**
MQZ IAmb IAmb 01 06 48.5
comp=Z,80nm,1.3s
MASI **Maura Aman, Be** **44.21 271** P **P** **01 06 46.8 -0.5**
comp=Z,1µmcomp=Z,148nm,0.7s
JSD **Sado** **44.30 351** P **P** **01 06 47.3 -0.3**
JSD IAmb IAmb 01 06 50.9
comp=Z,54nm,0.7s
NIUE **Niue** **44.39 111** P **P** **01 06 48.8 +0.2**
JRMM **Jerantut** **45.02 281** P **P** **01 06 55.0 +1.3**
SDSI **Sungai Dareh** **45.25 274** P **P** **01 06 55.5 0.0**
comp=Z,2µmcomp=Z,161nm,0.9s
TJN **Taejon** **45.65 338** P **P** **01 06 58.0 -0.3**
TJN **Taejon** **45.65 338** P **P** **01 06 59.3 +1.0**
TJN **Taejon** **45.65 338**⇑ *e*P **P** **01 06 59.4 +1.1**
UBPT **Khong Chiam** **45.74 298** P **P** **01 06 59.7 +0.3**
UBPT **Khong Chiam** **45.74 298** P **P** **01 07 02.5 +3.1**
comp=Z,31nm,0.5s
BKNI **Bangkinang** **45.80 276** P **P** **01 07 00.3 +0.3**
BKNI **Bangkinang** **45.80 276** P **P** **01 06 59.9 0.0**
comp=Z,185nm,1.1s
BKNI **Bangkinang** **45.80 276** P **P** **01 07 00.8 +0.9**
NJ2 **Nanjing** **45.96 327**⇑ *i*P **P** **01 07 02.3 +1.5**
NJ2 pmax pmax
comp=Z,53nm,1.0s
KSRS **Korea Array** **46.41 340** P **P** **01 07 05.1 +0.8**
comp=Z,77nm,1.1s,baz=159,slow=9.2,SNR=61
KSRS LR LR 01 23 30.7
comp=Z,348nm,21.9s,baz=150,slow=32
comp=Z,77nm,1.1s
KS19 **Wonju Array Si** **46.47 339** P **P** **01 07 05.0 +0.2**
IPM **Ipoh** **46.56 282** P **P** **01 07 05.7 -0.2**
comp=Z,108nm,1.0s
IPM **Ipoh** **46.56 282** P **P** **01 07 07.0 +1.1**
IPM **Ipoh** **46.56 282** P **P** **01 07 06.5 +0.6**
JTM **Tenmabayashi** **46.65 354** P **P** **01 07 05.9 -0.1**
JTM **Tenmabayashi** **46.65 354** P **P** **01 07 07.2 +1.1**
GULI **GuiLin** **46.80 313** ⇓P **P** **01 07 05.4 -2.2**
INCN **Inchon** **46.90 338** P **P** **01 07 08.7 +0.6**
INCN **Inchon** **46.90 338** P **P** **01 07 09.6 +1.4**
INCN **Inchon** **46.90 338** P **P** **01 07 08.7 +0.6**
INCN pmax pmax
comp=Z,131nm,1.1s
MNSI **Mandailing Nat** **47.31 276** P **P** **01 07 11.5 -0.3**
comp=Z,85nm,0.9s
SKLT **Songkhla** **47.57 285** P **P** **01 07 14.1 +0.3**
comp=Z,87nm,1.0s
SKLT **Songkhla** **47.57 285** P **P** **01 07 14.7 +0.9**
RPSI **Rantau Prapat** **48.27 279** P **P** **01 07 19.1 -0.1**
PSI **Prapat** **48.29 279** P **P** **01 07 19.0 -0.4**
comp=Z,81nm,1.0s
PSI **Prapat** **48.29 279** P **P** **01 07 19.4 -0.1**
PSI **Prapat** **48.29 279** P **P** **01 07 19.1 -0.4**
PSI pmax pmax
comp=Z,130nm,1.3s
MIDW **Midway** **48.56 44** P **P** **01 07 21.2 +0.1**
JOHN **Johnston Islan** **48.90 62** P **P** **01 07 23.6 -0.3**
SRIT **Nakonsritamara** **48.91 287** P **P** **01 07 24.1 0.0**
SRIT **Nakonsritamara** **48.91 287** P **P** **01 07 25.6 +1.5**
NONG **Nongkai** **48.92 300** P **P** **01 07 24.3 +0.2**
SURA **Surathani** **49.04 287** P **P** **01 07 26.5 +1.4**
NAYO **Nakonayok** **49.08 294** P **P** **01 07 27.0 +1.6**
GSI **Gunungsitoli** **49.37 277** P **P** **01 07 26.9 -0.7**
GSI **Gunungsitoli** **49.37 277** P **P** **01 07 27.2 -0.5**
comp=Z,162nm,0.8s
GSI **Gunungsitoli** **49.37 277** P **P** **01 07 27.2 -0.5**
KCSI **Kotacane, Aceh** **49.55 280** P **P** **01 07 27.5 -1.5**
comp=Z,110nm,0.9s
JKA **Kamikawa-asahi** **49.83 356** P **P** **01 07 31.4 +0.8**
JKA IAmb IAmb 01 07 32.8
comp=Z,57nm,1.0s
ASAJ **Asahikawa** **49.83 356** LR LR 01 25 47.2
comp=Z,148nm,21.8s,baz=171,slow=32
ASAJ **Asahikawa** **49.83 356** P **P** **01 07 31.4 +0.8**
ASAJ pmax pmax
comp=Z,57nm,1.0s
GYA **Guiyang** **50.20 312**⇓ *i*P **P** **01 07 34.8 +0.9**
GYA sP sP 01 08 00.7 +5.9
GYA S **S** **01 14 40.9 -1.4**
GYA SS **SS** **01 18 10.9 -5.6**
GYA pmax pmax
comp=Z,20nm,1.2s
GYA pmax pmax
comp=Z,140nm,3.5s
GYA LR LR
comp=Z,170nm,8.3s
GYA LR LR
comp=Z,170nm,8.0s
GYA LR LR
comp=Z,100nm,10.7s
ENH **Enshi** **50.46 318** IAmb IAmb 01 07 37.6
comp=Z,65nm,1.2s
ENH **Emi** **50.46 318** P **P** **01 07 35.8 +0.2**
ENH **Enshi** **50.46 318** P **P** **01 07 34.0 -1.6**
ENH pP **pP** **01 07 44.9 -5.4**
LHMI **Lhok Sumawe** **50.69 282** P **P** **01 07 37.5 -0.1**
LHMI **Lhok Sumawe** **50.69 282** P **P** **01 07 37.8 +0.2**
comp=Z,149nm,1.5s
LHMI **Lhok Sumawe** **50.69 282** P **P** **01 07 38.4 +0.8**
KUR **Kuril'sk** **50.84 1**⇓ *e*P **P** **01 07 39.3 +1.2**
KUR pmax pmax
comp=Z,228nm,1.0s
MLSI **Meulaboh, Aceh** **51.03 280** P **P** **01 07 39.3 -0.9**
comp=Z,210nm,0.7s
LYN **LuoYang** **51.42 324** ⇓P **P** **01 07 42.4 -0.3**
LYN S **S** **01 14 58.8 +0.1**
LYN pmax pmax
comp=Z,30nm,1.1s
LYN LR LR
comp=Z,2µm,25.2s
LYN LR LR
comp=Z,1µm,27.3s
USA0B **Ussuriysk Arra** **51.48 347** IAmb IAmb 01 07 44.3
comp=Z,32nm,0.9s
USA0B **Ussuriysk Arra** **51.48 347**⇓ *e*P **P** **01 07 43.7 +0.7**
USRK **Ussuriysk Ar.** **51.48 347** P **P** **01 07 43.4 +0.4**
comp=Z,24nm,0.7s,baz=169,slow=7.5,SNR=36
USRK LR LR 01 28 16.7
comp=Z,131nm,18.5s,baz=148,slow=34
comp=Z,24nm,0.7s
PHRA **Phrae** **51.63 299** P **P** **01 07 45.1 +0.5**
SNY **Shenyang** **51.84 338**⇑ P **P** **01 07 46.2 +0.5**
SNY S **S** **01 15 06.4 +2.3**
SNY pmax pmax
comp=Z,53nm,0.7s
SNY pmax pmax
comp=Z,470nm,5.1s
SNY LR LR
comp=Z,370nm,5.3s
SNY LR LR
comp=Z,420nm,6.3s
SNY LR LR
comp=Z,720nm,16.4s
HNS **HongShan** **52.23 328** ⇓P **P** **01 07 48.6 -0.1**
HNS sP **sP** **01 08 16.2 +6.4**
HNS S **S** **01 15 09.2 -0.5**
HNS sS **sS** **01 15 37.7 +3.4**
HNS SS **SS** **01 18 45.6 -2.5**
HNS pmax pmax
comp=Z,140nm,0.8s
HNS LR LR
comp=Z,350nm,15.5s
HNS LR LR
comp=Z,370nm,21.5s
MDJ **Mudanjiang** **52.46 345** P **P** **01 07 50.8 +0.5**
MDJ IAmb IAmb 01 07 52.0
comp=Z,52nm,1.1s
MDJ **Mudanjiang** **52.46 345** P **P** **01 07 51.6 +1.3**
KMI **Kunming** **52.50 308**⇑ P **P** **01 07 52.5 +1.3**
KMI pP sP 01 08 10.4 -1.8
KMI pmax pmax
comp=Z,33nm,0.9s
KMI LR LR
comp=Z,200nm,22.0s
KMI LR LR
comp=Z,220nm,17.4s
KMI LR LR
comp=Z,310nm,32.4s
YSS **Yuzh-Sakhalins** **52.65 357** P **P** **01 07 51.3 -0.3**
YSS IAmb IAmb 01 07 53.3
comp=Z,48nm,0.9s
YSS **Yuzh-Sakhalins** **52.65 357** P **P** **01 07 52.6 +1.0**
YSS **Yuzh-Sakhalins** **52.65 357** *e*P **P** **01 07 52.1 +0.5**
YSS pmax pmax
comp=Z,40nm,0.8s
CM31 **Chiang Mai Arr** **52.73 298** P **P** **01 07 53.5 +0.6**
CM31 IAmb IAmb 01 07 55.8
comp=Z,21nm,0.7s
CMAR **Chiang Mai Arr** **52.73 298** P **P** **01 07 53.6 +0.7**
comp=Z,12nm,0.6s,baz=120,slow=5.6,SNR=50
CMAR LR LR 01 31 29.4
comp=Z,88nm,19.9s,baz=125,slow=37
comp=Z,12nm,0.6s
CMAR **Chiang Mai Arr** **52.73 298***c* *e*P **P** **01 07 53.5 +0.7**
CMAR pmax pmax
comp=Z,13nm,0.6s
CHTO **Chiang Mai** **52.87 299** P **P** **01 07 54.3 +0.5**
CHTO **Chiang Mai** **52.87 299** P **P** **01 07 54.3 +0.5**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
CN2 **Changchun** **52.93 341** *e*P **P** **01 07 53.5 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
XAN **Xi'an** **53.23 321** P **P** **01 07 56.0 -0.3**
XAN pP sP 01 08 15.1 -2.2
XAN pmax pmax
comp=Z,65nm,1.2s
XAN **Xi'an** **53.23 321** P **P** **01 07 55.7 -0.6**
XAN sP **sP** **01 08 14.8 -2.5**
BJT **Baijiatuao** **53.49 331** P **P** **01 07 58.1 +0.2**
BJT IAmb IAmb 01 07 59.1
comp=Z,36nm,0.9s
BJT **Baijiatuao** **53.49 331** P **P** **01 07 58.5 +0.5**
BJT **Baijiatuao** **53.49 331** P **P** **01 07 58.2 +0.2**
BJT pmax pmax
comp=Z,36nm,0.9s
BJT **Baijiatuao** **53.49 331** P **P** **01 07 56.7 -1.3**
BJT pP **pP** **01 08 08.7 -4.2**
BJT sP **sP** **01 08 16.1 -3.0**
BJI **Beijing** **53.51 331** P **P** **01 07 57.8 -0.3**
BJI S **S** **01 15 28.3 +1.3**
BJI pmax pmax
comp=Z,41nm,1.1s
BJI pmax pmax
comp=Z,250nm,4.8s
PZH **PanZhiHua** **53.97 309** P **P** **01 08 02.0 +0.1**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,140nm,5.9s
BNX **BinXian** **54.09 344** ⇑P **P** **01 08 02.2 0.0**
BNX pP **sP** **01 08 20.4 -2.3**
BNX sP pP 01 08 27.7 +11
BNX S **S** **01 15 34.4 -0.3**
BNX pmax pmax
comp=Z,80nm,1.1s
BNX pmax pmax
comp=Z,260nm,6.3s
BNX LR LR
comp=Z,420nm,6.0s
BNX LR LR
comp=Z,350nm,6.7s
BNX LR LR
comp=Z,410nm,14.6s
RAR **Rarotonga** **54.16 112** LR LR 01 29 39.8
comp=Z,45nm,20.3s,baz=292,slow=34
RAR **Rarotonga** **54.16 112** P **P** **01 08 03.4 +0.2**
RAR IAmb IAmb 01 08 06.4
comp=Z,67nm,1.1s
RAR **Rarotonga** **54.16 112** P **P** **01 08 05.6 +2.4**
RAR **Rarotonga** **54.16 112** P **P** **01 08 03.4 +0.2**
RAR pmax pmax
comp=Z,67nm,1.1s
CD2 **Chengdu** **54.80 314** P **P** **01 08 07.8 0.0**
CD2 pmax pmax
comp=Z,30nm,0.6s
TNCH **TengChong** **55.83 305** *e*P **P** **01 08 17.3 +1.9**
TNCH pP sP 01 08 34.7 -2.3
TNCH pmax pmax
comp=Z,25nm,0.7s
KLR **Kul'dur** **56.31 348** LR LR 01 31 23.9
comp=Z,140nm,19.4s,baz=172,slow=35
KLR **Kul'dur** **56.31 348***c* *i*P **P** **01 08 18.5 +0.3**
KLR pmax pmax
comp=Z,55nm,1.7s
HHC **Hu-ho-hao-te** **56.42 329** *e*P **P** **01 08 20.2 +0.9**
HHC pmax pmax
comp=Z,75nm,0.8s
HHC pmax pmax
comp=Z,400nm,6.1s
TYV **Tymovskoe** **56.55 357** *e*P **P** **01 08 20.1 +0.3**
TYV *e*S **S** **01 16 09.2 +1.8**
TYV pmax pmax
comp=Z,25nm,1.3s
TYV pmax pmax
comp=Z,800nm,4.6s
TYV smax smax
comp=N,400nm,5.8s
TYV smax smax
comp=E,900nm,5.8s
MND **Mandalay** **56.56 301** P **P** **01 08 21.4 +0.9**
XLT **XiLinHaoTe** **56.60 334** *e*P **P** **01 08 20.5 +0.1**
XLT pP sP 01 08 38.6 -3.1
XLT sP pP 01 08 43.1 +7.7
XLT PP **PP** **01 10 25.8 -1.2**
XLT S **S** **01 16 06.8 -1.7**
XLT sS sS 01 16 32.9 +0.2
XLT pmax pmax
comp=E,22nm,1.1s
XLT pmax pmax
comp=E,110nm,10.1s
XLT LR LR
comp=E,460nm,5.6s
XLT LR LR
comp=E,400nm,19.0s
GRNR **Gornyy** **57.03 352**⇑ *i*P **P** **01 08 24.4 +1.1**
GRNR pmax pmax
comp=N,10.0nm,0.8s
GRNR pmax pmax
comp=Z,20nm,1.2s
LZH **Lanzhou** **57.76 320** *e*P **P** **01 08 29.2 +0.3**
LZH pP sP 01 08 49.4 -0.6
LZH pmax pmax
comp=Z,76nm,1.2s
LZH LR LR
comp=Z,290nm,15.7s
LZH LR LR
comp=Z,240nm,17.4s
LZH LR LR
comp=Z,290nm,17.4s
HEH **HeiHe** **58.24 346** *e*P **P** **01 08 31.4 -0.4**
HEH pmax pmax
comp=Z,33nm,0.9s
PEA0B **Petropavlovsk-** **59.47 8** P **P** **01 08 40.6 +0.3**
PEA0B **Petropavlovsk-** **59.47 8***c* *e*P **P** **01 08 40.9 +0.7**
PETK **Petropavlovsk-** **59.47 8** P **P** **01 08 40.5 +0.3**
comp=Z,34nm,0.9s,baz=180,slow=5.8,SNR=15
PETK LR LR 01 30 15.8
comp=Z,489nm,21.8s,baz=197,slow=32
comp=Z,34nm,0.9s
PETK **Petropavlovsk-** **59.47 8** P **P** **01 08 41.1 +0.9**
PETK **Petropavlovsk-** **59.47 8** P **P** **01 08 41.1 +0.9**
HIA **Hailar** **59.62 340** P **P** **01 08 41.8 +0.4**
HIA **Hailar** **59.62 340** P **P** **01 08 42.4 +1.0**
HIA **Hailar** **59.62 340***d* *i*P **P** **01 08 41.3 -0.1**
HIA pmax pmax
comp=Z,90nm,1.1s
HIA **Hailar** **59.62 340** P **P** **01 08 40.1 -1.3**
HIA pP **pP** **01 08 57.7 +1.3**
DRV **Dumont d'Urvil** **60.91 183** P **P** **01 08 48.9 -1.0**
DRV pP **pP** **01 09 03.6 -2.2**
DRV sP **sP** **01 09 10.3 -1.9**
SHL **Shillong** **61.51 303** P **P** **01 08 55.4 +0.5**
SHL IAmb IAmb 01 08 56.9
comp=Z,51nm,1.0s
SHL **Shillong** **61.51 303** P **P** **01 08 55.4 +0.5**
SHL pmax pmax
comp=Z,51nm,1.0s
ZEA **Zeya** **61.51 347** *e*P **P** **01 08 55.0 +0.8**
ZEA pmax pmax
comp=N,30nm,0.8s

ZEA pmax pmax
comp=Z,50nm,1.0s
MWH Moku'aweowe 62.26 65 P P 01 09 00.6 +0.1
GTA Gaotai 62.29 320 ⇑P **P 01 09 00.0 +0.1**
GTA pP sP 01 09 19.6 -1.5
GTA S **S 01 17 24.9 +2.6**
GTA pmax pmax
comp=Z,18nm,1.2s
GTA pmax pmax
comp=Z,210nm,5.6s
GTA LR LR
comp=Z,210nm,16.7s
GTA LR LR
comp=Z,150nm,17.4s
GTA LR LR
comp=Z,130nm,17.4s
SHEM Shemya Is, Ala 62.85 18 LR LR 01 31 56.2
comp=Z,202nm,21.8s,baz=308,slow=32
PPT Papeete 63.41 107 P P 01 09 08.6 +1.0
comp=Z,15nm,0.5s,baz=252,slow=19,SNR=2.6
PPT LR LR 01 33 43.5
comp=Z,86nm,20.5s,baz=266,slow=33
comp=Z,15nm,0.5s
PPT2 Papeete2 63.41 107 *e*S **S 01 17 36.9 0.0**
comp=Z,86nm,25.5s
PPT2 Papeete2 63.41 107 *e*LR LR 01 28 08.8
comp=Z,374nm,28.5s
ULN Ulaanbaatar 63.72 331 P P 01 09 09.8 +0.6
ULN IAmb IAmb 01 09 11.5
comp=Z,40nm,0.8s
ULN Ulaanbaatar 63.72 331 P P 01 09 09.6 +0.4
comp=Z,240nm,0.9s
ULN Ulaanbaatar 63.72 331 *ce*P **P 01 09 09.6 +0.4**
ULN pmax pmax
comp=Z,44nm,0.8s
ULN Ulaanbaatar 63.72 331 P P 01 09 08.6 -0.6
LSA Lhasa 63.74 307 P P 01 09 10.4 +0.3
LSA Lhasa 63.74 307 P P 01 09 10.4 +0.3
LSA pmax pmax
comp=Z,22nm,1.0s
TBI Tubuai 63.89 113 *e*LR LR 01 28 23.0
comp=Z,2μm,38.0s
GOMU GeErMu 63.92 315 P P 01 09 11.3 +0.3
GOMU pmax pmax
comp=Z,8.0nm,0.8s
GOMU pmax pmax
comp=Z,69nm,4.7s
SONM Songino Array 64.01 331 P P 01 09 11.3 +0.1
comp=Z,28nm,0.9s,baz=148,slow=8.2,SNR=86
SONM LR LR 01 38 07.3
comp=Z,208nm,19.6s,baz=164,slow=37
SONM PKP2bc 01 38 08.7
comp=Z,4.5nm,0.8s,baz=292,slow=2.1,SNR=15
comp=Z,28nm,0.9s
SONM Songino Array 64.01 331 P **P 01 09 11.2 +0.1**
SONM IAmb IAmb 01 09 13.3
comp=Z,33nm,1.0s
SONM Songino Array 64.01 331 P P 01 09 11.2 +0.1
SONM pmax pmax
comp=Z,33nm,1.0s
CIT Chita 64.11 338 *e*P **P 01 09 11.6 +0.1**
CIT *e* 01 09 28.0
CIT *e* 01 09 46.6
CIT pmax pmax
comp=Z,157nm,1.1s
MA2 Magadan 65.28 2 LR LR 01 34 01.2
comp=Z,151nm,21.2s,baz=163,slow=32
MA2 Magadan 65.28 2 P **P 01 09 19.8 +0.9**
MA2 IAmb IAmb 01 09 20.7
comp=Z,36nm,0.8s
MA2 Magadan 65.28 2 *de*P **P 01 09 20.0 +1.1**
MA2 pmax pmax
comp=Z,130nm,2.5s
CASY Casey 65.30 195 P P 01 09 19.3 +0.3
CASY IAmb IAmb 01 09 20.4
comp=Z,40nm,0.8s
CASY Casey 65.30 195 P **P 01 09 17.9 -1.1**
CASY pP **pP 01 09 33.5 -1.4**
ADK Adak 65.50 24 P P 01 09 20.0 -0.5
ADK Adak 65.50 24 P P 01 09 20.0 -0.5
ADK pmax pmax
comp=Z,85nm,1.2s
ODAN Odare 65.74 303 *e*P **P 01 09 23.0 +0.1**
PALK Pallekele 66.93 280 LR LR 01 41 19.6
comp=Z,106nm,21.5s,baz=210,slow=38
PALK Pallekele 66.93 280 P P 01 09 30.7 +0.2
PALK IAmb IAmb 01 09 33.3
comp=Z,25nm,0.9s
PALK Pallekele 66.93 280 P P 01 09 31.3 +0.8
comp=Z,41nm,1.3s
PALK Pallekele 66.93 280 ⇑ *e*P **P 01 09 30.5 0.0**
PALK pmax pmax
comp=Z,37nm,1.0s
JIRN Jiri 67.02 303 *e*P **P 01 09 31.2 0.0**
comp=Z,19nm,0.7s
ZAK Zakamensk 67.25 332 *e*P **P 01 09 31.5 -0.4**
ZAK pmax pmax
comp=Z,70nm,0.9s
GUN Gumba 67.36 303 *e*P **P 01 09 33.1 -0.3**
comp=Z,53nm,0.8s
PKI Pulchoki 67.64 303 *e*P **P 01 09 35.1 0.0**
PKIN Phulchoki 67.65 303 *e*P **P 01 09 34.9 -0.2**
KKN Kakani 67.82 303 *e*P **P 01 09 35.6 -0.5**
GKN Gorkha 68.43 303 *e*P **P 01 09 40.0 +0.2**
SEY Seymchan 68.70 3 ⇑ *e*P **P 01 09 41.0 +0.4**
SEY pmax pmax
comp=Z,20nm,0.7s
YAK Yakutsk 68.89 352 LR LR 01 38 11.6
comp=Z,124nm,21.0s,baz=90,slow=34
YAK Yakutsk 68.89 352 P P 01 09 41.7 0.0
YAK Yakutsk 68.89 352 *ce*P **P 01 09 42.1 +0.3**
YAK pmax pmax
comp=Z,32nm,0.7s
MOY Mondy 69.18 332 *e*P **P 01 09 44.9 +0.9**
MOY pmax pmax
comp=Z,47nm,1.5s
DANN Dangsing 69.27 303 *e*P **P 01 09 44.6 -0.7**
comp=Z,27nm,0.8s
CCD Concordia, Ant 70.50 186 P P 01 09 50.4 -1.7
CCD pP **pP 01 10 06.0 -2.1**
HYBB Hyderabad (bro 70.94 291 *e*P **P 01 09 55.7 +0.3**
UNV Unalaska Valle 71.27 27 P P 01 09 55.9 -0.6
PCHI Peechi 71.72 283 ⇑ *e*P **P 01 10 00.3 +0.2**
VNDA Vanda 72.12 177 P P 01 10 01.4 +0.1
comp=Z,22nm,0.8s,baz=330,slow=6.5,SNR=128
comp=Z,22nm,0.8s
VNDA Vanda 72.12 177 P P 01 10 02.0 +0.7
VNDA Vanda 72.12 177 P P 01 10 02.0 +0.7
VNDA pmax pmax
comp=Z,24nm,0.8s
WMQ Urumqi 72.34 319 *e*P **P 01 10 04.4 +1.1**
WMQ pP PcP 01 10 22.3 +1.3
WMQ sP sP 01 10 30.3 +5.1
WMQ pmax pmax
comp=Z,35nm,0.7s
WMQ pmax pmax
comp=Z,260nm,7.1s
TAOE Nuku Hiva Isla 72.71 97 *e*P **P 01 10 08.0 +1.9**
comp=Z,76nm,26.0s
TAOE Nuku Hiva Isla 72.71 97 *e*LR LR 01 32 27.3
comp=Z,260nm,22.4s
SBA Scott Base 72.77 176 P P 01 10 06.8 +1.6
SBA Scott Base 72.77 176 P P 01 10 06.8 +1.6
SBA pmax pmax
comp=Z,16nm,1.0s
BILL Bilibino 75.00 8 P P 01 10 18.9 +0.6
BILL IAmb IAmb 01 10 20.2
comp=Z,34nm,1.0s
BILL Bilibino 75.00 8 *c i*P **P 01 10 19.6 +1.3**
BILL 01 10 32.0
BILL *e**PP **pP 01 10 36.0 +2.6**
BILL *e*S **S 01 19 52.7 +1.1**
BILL pmax pmax
comp=Z,37nm,1.3s
BILL MLR MLR
comp=Z,54nm,7.0s
CHNA Chernabura Isl 75.11 29 P P 01 10 19.8 +0.7
baz=236
DGZ Jazzator, Alta 75.20 325 *ce*P **P 01 10 20.2 +0.1**
DGZ pmax pmax
comp=Z,11nm,1.0s
POO Poona 75.55 291 *e*P P 01 10 17.0 -5.5
ZSN Zaisan 75.72 322 *e*P **P 01 10 21.6 -1.3**
baz=322
ZSN Zaisan 75.72 322 *e*P **P 01 10 21.6 -1.3**

CHGN Chignik 76.47 28 P P 01 10 27.5 +0.6
CHGN IAmb IAmb 01 10 28.1
comp=Z,64nm,0.9s
CHGN Chignik 76.47 28 P P 01 10 27.8 +0.9
baz=237
MK31 Makanchi Array 77.05 321 P P 01 10 29.9 -0.5
MK31 Makanchi Array 77.05 321 *de*P **P 01 10 30.2 -0.2**
MKAR Makanchi Array 77.05 321 P P 01 10 29.9 -0.6
comp=Z,14nm,0.8s,baz=102,slow=7.1,SNR=55
comp=Z,14nm,0.8s
MKAR Makanchi Array 77.05 321 P P 01 10 30.2 -0.2
MAKZ Makanchi 77.25 321 P P 01 10 31.1 -0.5
MAKZ Makanchi 77.25 321 P P 01 10 31.1 -0.5
MAKZ pmax pmax
comp=Z,19nm,0.8s
R16K Pilot Point 77.55 27 P P 01 10 33.8 +0.9
baz=238
SHLS Shalkode 77.57 316 *e*P **P 01 10 30.4 -3.1**
baz=316
SHLS Shalkode 77.57 316 eP P 01 10 30.4 -3.1
UZB Uzynbulak 77.87 316 eP P 01 10 34.4 -0.9
baz=316
UZB Uzynbulak 77.87 316 eP P 01 10 34.4 -0.9
TIXI Tiksi 78.18 354 LR LR 01 44 03.5
comp=Z,77nm,22.0s,baz=128,slow=35
TIXI Tiksi 78.18 354 P **P 01 10 35.8 -0.3**
TIXI Tiksi 78.18 354 ⇑ *e*P **P 01 10 35.1 -1.1**
TIXI pmax pmax
comp=Z,26nm,1.0s
KPKS Kokpek 78.21 316 *e*P **P 01 10 35.5 -1.6**
baz=316
KPKS Kokpek 78.21 316 eP P 01 10 35.4 -1.6
O16K Kokwok River B 78.42 25 P P 01 10 38.6 +0.9
baz=237
Q16K King Salmon 78.55 26 P P 01 10 38.5 0.0
baz=238
ZALV Zalesovo Beam 78.60 328 P P 01 10 37.2 -1.7
comp=Z,13nm,0.6s,baz=111,slow=5.8,SNR=62
ZALV PKKPbc **PKKPbc 01 29 34.9 -2.1**
comp=Z,2.0nm,0.8s,baz=323,slow=2.2,SNR=7.9
ZALV PKPPKP **P'P'df 01 37 41.7 +4.8**
comp=Z,1.3nm,0.8s,baz=302,slow=3.2,SNR=5.6
ZALV LR LR 01 45 57.6
comp=Z,123nm,19.3s,baz=116,slow=36
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 78.60 328 P P 01 10 37.4 -1.5
ZALV Zalesovo Beam 78.60 328 *i* P **P 01 10 37.2 -1.7**
ZALV pmax pmax
comp=Z,14nm,0.6s
N16K Nishlik Lake 78.63 24 P P 01 10 40.4 +1.5
baz=236
Q17K Contact Creek 78.68 27 P P 01 10 39.6 +0.3
baz=239
ANM Nome 78.70 19 P P 01 10 40.6 +1.4
baz=229
KSH Kashi 78.89 312 P P 01 10 42.6 +1.6
KSH pP sP 01 11 02.1 -0.8
KSH pmax pmax
comp=Z,13nm,0.9s
P17K Kvichak River 78.92 26 P P 01 10 40.9 +0.5
baz=238
O17K Koliganek Bris 78.95 25 P P 01 10 41.3 +0.7
baz=238
TNSS Tian-Shan 79.27 316 *e*P **P 01 10 43.0 -0.4**
baz=316
TNSS Tian-Shan 79.27 316 eP P 01 10 42.9 -0.4
Q18K Katmai Hardscr 79.28 27 P P 01 10 42.8 +0.2
baz=240
OHAK Old Harbor 79.37 29 P P 01 10 44.2 +1.3
baz=241
NIL Nilore 79.42 306 P P 01 10 43.6 -0.3
NIL IAmb IAmb 01 10 45.4
comp=Z,47nm,0.8s
NIL Nilore 79.42 306 P P 01 10 43.6 -0.3
NIL pmax pmax
comp=Z,47nm,0.9s
NRN Naryn 79.44 314 P P 01 10 44.0 -0.2
NRN Naryn 79.44 314 P P 01 10 44.0 -0.2
NRN pmax pmax
comp=Z,9.0nm,0.8s
P18K Big Mountain, 79.56 26 P P 01 10 44.4 +0.3
baz=239
BOOM Boomskoye usch 79.80 315 P P 01 10 45.6 -0.4
BOOM Boomskoye usch 79.80 315 P P 01 10 45.6 -0.4
BOOM pmax pmax
comp=Z,22nm,0.7s
N18K Kilae Creek 79.94 25 P P 01 10 47.1 +1.0
baz=238
KUU Kurty 79.96 316 *e*P **P 01 10 45.1 -1.4**
comp=Z,16nm,0.7s,baz=316
KUU Kurty 79.96 316 eP P 01 10 45.1 -1.4
KUU pmax pmax
comp=Z,16nm,0.7s
KDAK Kodiak Island 79.97 28 LR LR 01 38 46.2
comp=Z,354nm,20.7s,baz=261,slow=30
Q19K Cape Douglas, 80.03 27 P P 01 10 46.7 +0.1
baz=241
TKM2 Tokmak 2 80.17 315 P P 01 10 48.7 +0.8
SNR=14
SVW2 Sparrevohn 80.28 25 P P 01 10 48.0 +0.1
O19K Port Alsworth 80.36 26 P P 01 10 48.0 -0.2
baz=240
KBK Karagaybulak 80.55 315 P P 01 10 50.8 +0.8
SNR=7.2
P19K Oil Pt 80.57 27 P P 01 10 49.2 -0.3
P19K IAmb IAmb 01 10 50.4
comp=Z,57nm,0.8s
P19K Oil Pt 80.57 27 P P 01 10 49.6 +0.1
baz=241
N19K Bonanza Creek 80.60 25 P P 01 10 49.4 -0.3
N19K IAmb IAmb 01 13 43.1
comp=Z,100nm,1.9s
N19K Bonanza Creek 80.60 25 P P 01 10 50.4 +0.7
baz=240
UCH Uchtor 80.74 314 P P 01 10 51.5 +0.1
SNR=22
KURK Kurchatov 80.78 323 P P 01 10 49.8 -0.9
KURK Kurchatov 80.78 323 P P 01 10 49.8 -0.9
KURK pmax pmax
comp=Z,13nm,0.9s
CHMS Chumysh 80.79 315 P P 01 10 51.3 +0.2
SNR=9.6
KURBB Kurchatov Arra 80.80 323 PKKPbc PKKPbc 01 29 30.1 -1.8
comp=Z,0.5nm,0.3s,baz=295,slow=2.9,SNR=9.3
KURBB LR LR 01 48 05.0
comp=Z,96nm,19.2s,baz=167,slow=37
AAK Ala-Archa 80.87 315 P P 01 10 51.1 -0.6
SNR=13
AAK Ala-Archa 80.87 315 LR LR 01 50 25.5
comp=Z,47nm,18.1s,baz=101,slow=38
AAK Ala-Archa 80.87 315 P P 01 10 51.0 -0.6
AAK Ala-Archa 80.87 315 *de*P **P 01 10 51.5 -0.1**
AAK pmax pmax
comp=Z,8.0nm,0.7s
SGDS Sogindy 81.01 316 *e*P **P 01 10 50.5 -1.7**
baz=316
SGDS Sogindy 81.01 316 eP P 01 10 50.5 -1.7
USP Ospenovka 81.04 315 P P 01 10 52.0 -0.4
SNR=20
TTA Tatalina 81.07 23 P P 01 10 52.9 +0.7
TTA Tatalina 81.07 23 P P 01 10 52.9 +0.7
baz=238
TTA Tatalina 81.07 23 P P 01 10 52.9 +0.7
TTA pmax pmax
comp=Z,26nm,1.4s
L19K White Mountain 81.14 24 P P 01 10 53.0 +0.5
L19K White Mountain 81.14 24 P P 01 10 53.5 +1.0
baz=239,SNR=7.4
M19K Big River Lodg 81.19 24 P P 01 10 53.7 +1.0
baz=240
AML Almayashu 81.30 314 P P 01 10 54.3 +0.1
SNR=46
EKS2 Erkin-Say 81.38 315 P P 01 10 54.3 -0.1
SNR=20
L20K Farewell, AK 81.69 24 P P 01 10 55.9 +0.5
baz=240
M20K Styx River 81.70 25 P P 01 10 56.2 +0.7
M20K Styx River 81.70 25 P P 01 10 55.7 +0.2
baz=241
GCSA Galena City Sc 81.73 21 P P 01 10 56.5 +1.1
baz=237
BRSE Bradley Lake S 81.73 27 P P 01 10 56.3 +0.7
baz=243
N20K Mount Spurr 81.76 25 P P 01 10 56.0 +0.2
baz=242
SPCR Spurr Chakacha 81.76 25 P P 01 10 56.3 +0.4
baz=242

BTLS Baital 81.86 317 *e*P **P 01 10 54.7 -2.0**
comp=Z,5.2nm,0.7s,baz=317
BTLS Baital 81.86 317 eP P 01 10 54.6 -2.0
BTLS pmax pmax
comp=Z,5.0nm,0.7s
K20K Telida 82.05 23 P P 01 10 58.0 +0.8
K20K Telida 82.05 23 P P 01 10 58.6 +1.4
baz=240,SNR=11
MAW Mawson 82.23 203 P P 01 10 58.6 +0.5
comp=Z,32nm,0.8s,baz=92,slow=6.4,SNR=41
MAW LR LR 01 45 53.8
comp=Z,188nm,20.9s,baz=90,slow=34
comp=Z,32nm,0.8s
MAW Mawson 82.23 203 P P 01 10 58.4 +0.3
baz=82,SNR=26
MAW Mawson 82.23 203 P P 01 10 58.9 +0.8
MAW Mawson 82.23 203 P P 01 10 58.9 +0.8
MAW pmax pmax
comp=Z,7.0nm,0.8s
SKT Skwentna 82.41 25 P P 01 10 57.9 -1.2
baz=242
J20K Nowinta River 82.44 22 IAmb IAmb 01 11 01.4
comp=Z,37nm,1.3s
J20K Nowinta River 82.44 22 P P 01 10 59.8 +0.6
baz=240
SEW Seward 82.47 27 P P 01 10 59.7 +0.3
baz=244
SUA Susitna One 82.50 26 P P 01 11 00.1 +0.4
baz=243
O22K Cooper Landing 82.51 27 P P 01 11 00.6 +1.0
baz=244
PPLA Purkeypile 82.57 24 P P 01 11 02.9 +2.8
baz=242
RC01 Rabbit Creek A 82.77 26 P P 01 11 01.1 +0.1
baz=244
CAST Castle Rocks 82.86 23 P P 01 11 01.7 +0.3
baz=242,SNR=9.5
M22K Willow 82.90 25 P P 01 11 01.7 +0.1
baz=244
CHUM Lake Minchumin 82.99 23 P P 01 11 03.2 +1.1
baz=241,SNR=20
KBL Kabul 83.03 306 P P 01 11 02.3 -0.9
KBL Kabul 83.03 306 P P 01 11 02.3 -0.9
KBL pmax pmax
comp=Z,58nm,0.6s
CUT Chulitna 83.13 25 P P 01 11 01.9 -0.9
CUT IAmb IAmb 01 11 03.1
comp=Z,76nm,1.3s
CUT Chulitna 83.13 25 P P 01 11 02.7 -0.1
baz=243
DZA Taraz 83.18 314 *e*P **P 01 11 02.4 -1.3**
baz=314
DZA Taraz 83.18 314 eP P 01 11 02.3 -1.3
PMR Palmer 83.26 26 P P 01 11 02.1 -1.3
PMR Palmer 83.26 26 P P 01 11 03.1 -0.3
baz=245
PMR Palmer 83.26 26 P P 01 11 02.2 -1.3
PMR pmax pmax
comp=Z,128nm,1.9s
PWL Port Wells 83.29 27 P P 01 11 04.2 +0.5
PWL IAmb IAmb 01 11 05.4
comp=Z,64nm,1.1s
PWL Port Wells 83.29 27 P P 01 11 04.3 +0.6
baz=245,SNR=6.4
KTH Kantishna Hill 83.39 24 IAmb IAmb 01 11 04.6
comp=Z,36nm,1.1s
KNK Knik Glacier 83.47 26 P P 01 11 05.7 +1.1
baz=245
TRF Thorofare Moun 83.59 24 IAmb IAmb 01 11 51.9
comp=Z,56nm,1.7s
TRF Thorofare Moun 83.59 24 P P 01 11 04.4 -1.0
baz=243
BPAW Bear Paw Mtn. 83.61 23 P P 01 11 04.8 -0.5
baz=243,SNR=7.1
Q23K Middleton Isla 83.63 28 P P 01 11 06.8 +1.4
MID Middleton Isla 83.63 28 P P 01 11 06.2 +0.8
MID Middleton Isla 83.63 28 P P 01 11 06.3 +0.8
MID pmax pmax
comp=Z,769nm,1.2s
H21K Melozitna Rive 83.67 21 P P 01 11 05.9 +0.3
H21K IAmb IAmb 01 11 09.2
comp=Z,62nm,1.9s
H21K Melozitna Rive 83.67 21 P P 01 11 05.9 +0.3
baz=241
SML Sawmill 83.69 26 P P 01 11 05.8 0.0
SML IAmb IAmb 01 11 07.6
comp=Z,74nm,1.2s
SML Sawmill 83.69 26 P P 01 11 06.4 +0.6
baz=245,SNR=6.7
I21K Tanana 83.74 22 IAmb IAmb 01 11 08.5
comp=Z,45nm,1.1s
I21K Tanana 83.74 22 P P 01 11 06.9 +1.0
baz=242
KK31 Karatay Array 83.81 314 IAmb IAmb 01 12 35.0
comp=Z,16nm,0.3s
KKAR Karatay Array 83.81 314 IAmb IAmb 01 12 35.0
comp=Z,16nm,0.3s
G21K Allakaket 83.85 20 P P 01 11 06.6 +0.1
baz=240
IUG Iuzhnay 83.94 313 *e*P **P 01 11 06.0 -1.6**
baz=313
IUG Iuzhnay 83.94 313 eP P 01 11 06.0 -1.6
M23K Glacier View 83.95 26 P P 01 11 06.9 -0.2
baz=246
WAT1 Susitna Watana 84.03 25 P P 01 11 07.3 -0.2
baz=245
MLY Manley 84.14 22 IAmb IAmb 01 11 09.3
comp=Z,29nm,0.8s
MLY Manley 84.14 22 P P 01 11 08.7 +0.7
baz=243,SNR=23
SCM Sheep Creek Mo 84.14 26 P P 01 11 08.0 -0.1
SCM IAmb IAmb 01 11 10.0
comp=Z,53nm,1.1s
SCM Sheep Creek Mo 84.14 26 P P 01 11 08.2 +0.1
baz=246
SCM Sheep Creek Mo 84.14 26 P P 01 11 08.0 -0.1
SCM pmax pmax
comp=Z,53nm,1.1s
QSPA South Pole Qui 84.15 180 LR LR 01 47 15.8
comp=Z,1μm,20.8s,baz=12,slow=35
QSPA South Pole Qui 84.15 180 P P 01 11 08.1 -0.1
QSPA IAmb IAmb 01 11 09.1
comp=Z,32nm,0.7s
BRZS Berezniki 84.15 321 *e*P **P 01 11 06.2 -2.1**
comp=Z,12nm,1.0s,baz=322
BRZS Berezniki 84.15 321 eP P 01 11 06.2 -2.1
BRZS pmax pmax
comp=Z,12nm,1.0s
RND Reindeer 84.15 24 IAmb IAmb 01 11 08.5
comp=Z,32nm,1.0s
F21K Alatna River 84.21 20 P P 01 11 08.8 +0.5
baz=240
BWN Browne 84.24 23 IAmb IAmb 01 11 09.5
comp=Z,54nm,1.0s
MCK McKinley 84.26 24 IAmb IAmb 01 11 09.1
comp=Z,65nm,1.1s
MCK McKinley 84.26 24 P P 01 11 08.4 -0.2
baz=244,SNR=18
WAT6 Susitna Watana 84.27 25 P P 01 11 09.0 +0.1
baz=246,SNR=6.8
H22K Ishtalitna Cre 84.30 21 P P 01 11 09.3 +0.5
baz=242
DIV Divide 84.55 27 P P 01 11 09.7 -0.5
DIV IAmb IAmb 01 11 11.7
comp=Z,36nm,0.9s
NEA2 Nenana 84.58 23 IAmb IAmb 01 11 10.6
comp=Z,22nm,0.9s
NEA2 Nenana 84.58 23 P P 01 11 10.0 -0.2
baz=244,SNR=10
KLU Klutina 84.62 26 P P 01 11 10.4 -0.2
KLU IAmb IAmb 01 11 12.6
comp=Z,32nm,1.0s
KLU Klutina 84.62 26 P P 01 11 10.8 +0.2
baz=248,SNR=7.0
DHY Denali Highway 84.62 25 P P 01 11 10.7 +0.1
DHY IAmb IAmb 01 11 11.8
comp=Z,29nm,1.0s
DHY Denali Highway 84.62 25 P P 01 11 11.1 +0.4
baz=246,SNR=10
I23K Minto, Yukon-K 84.71 22 IAmb IAmb 01 11 20.1
comp=Z,69nm,2.0s
I23K Minto, Yukon-K 84.71 22 P P 01 11 10.7 -0.1
baz=244
KAIM Kayak Island 84.72 28 P P 01 11 10.9 -0.1
baz=249
G22K Bettles 84.74 20 P P 01 11 11.7 +0.8
baz=242

M24K **Tolsona, Glenn** 84.75 26 P P 01 11 11.7 +0.6
baz=247
F22K **John River** 84.79 20 P P 01 11 11.7 +0.5
baz=241
WRH **Wood River Hil** 84.91 23 P P 01 11 11.0 -0.9
WRH IAmb IAmb 01 11 12.7
comp=Z,40nm,1.0s
H23K **Yukon River** 84.94 22 P P 01 11 12.3 +0.3
H23K IAmb IAmb 01 11 13.5
comp=Z,17nm,0.8s
H23K **Yukon River** 84.94 22 P P 01 11 12.1 0.0
baz=244
NRIK **Noril'sk** 84.95 342 P P 01 11 11.0 -0.9
comp=Z,55nm,0.8s,baz=119,slow=4.9,SNR=76
NRIK LR LR 01 47 05.4
comp=Z,159nm,21.6s,baz=124,slow=34
comp=Z,55nm,0.8s
NRIK **Noril'sk** 84.95 342*d i* P P 01 11 11.2 -0.8
NRIK pmax pmax
comp=Z,69nm,0.9s
BMRM **Bremner River** 85.01 27 IAmb IAmb 01 11 13.9
comp=Z,54nm,1.1s
BMRM **Bremner River** 85.01 27 P P 01 11 12.4 -0.1
baz=249
MDM **Murphy Dome** 85.06 23 IAmb IAmb 01 11 54.9
comp=Z,47nm,1.8s
CCB **Clear Creek Bu** 85.10 23 IAmb IAmb 01 11 12.9
comp=Z,35nm,1.0s
G23K **Bananza Creek** 85.16 21 P P 01 11 14.0 +0.9
baz=243
TCOL **CIGO, UAF Yank** 85.17 23 P P 01 11 12.0 -1.1
TCOL IAmb IAmb 01 11 13.3
comp=Z,34nm,0.8s
TCOL **CIGO, UAF Yank** 85.17 23 P P 01 11 12.3 -0.8
baz=245
COLA **College** 85.17 23 P P 01 11 12.4 -0.7
COLA IAmb IAmb 01 11 13.3
comp=Z,33nm,0.8s
COLA **College** 85.17 23 P P 01 11 12.1 -1.0
baz=245
COLA **College** 85.17 23*d i* P P 01 11 12.7 -0.4
COLA pmax pmax
comp=Z,30nm,0.9s
E22K **Anaktuvuk Pass** 85.21 19 P P 01 11 14.3 +0.9
baz=242
N25K **Chitina, Valde** 85.25 27 P P 01 11 14.6 +0.8
N25K IAmb IAmb 01 12 10.8
comp=Z,94nm,1.9s
N25K **Chitina, Valde** 85.25 27 P P 01 11 14.2 +0.5
baz=249
HARP **HAARP** 85.30 26 P P 01 11 14.4 +0.5
baz=248
COLD **Coldfoot** 85.33 20 P P 01 11 14.8 +0.9
COLD IAmb IAmb 01 11 15.9
comp=Z,21nm,1.0s
COLD **Coldfoot** 85.33 20 P P 01 11 15.1 +1.1
baz=243
HDA **Harding Lake** 85.34 24 P P 01 11 13.1 -0.9
baz=246,SNR=7.2
PAX **Paxson** 85.38 25 P P 01 11 14.8 +0.4
PAX IAmb IAmb 01 11 33.1
comp=Z,40nm,1.8s
PAX **Paxson** 85.38 25 P P 01 11 13.6 -0.8
baz=248
PAX **Paxson** 85.38 25 P P 01 11 14.8 +0.4
PAX pmax pmax
comp=Z,40nm,1.8s
A21K **Barrow** 85.42 16 P P 01 11 14.7 +0.4
A21K **Barrow** 85.42 16 P P 01 11 15.3 +1.1
baz=237
POKR **Poker Plat Res** 85.44 23 P P 01 11 13.9 -0.6
POKR **Poker Plat Res** 85.44 23 P P 01 11 13.6 -0.9
baz=246
IL31 85.51 23 P P 01 11 13.8 -0.9
IL31 IAmb IAmb 01 11 14.6
comp=Z,32nm,0.8s
ILAR **Eielson Array** 85.51 23 P P 01 11 13.8 -1.0
comp=Z,26nm,0.7s,baz=253,slow=4.8,SNR=198
ILAR PKKPbc PKKPbc 01 29 18.8 -2.7
comp=Z,0.6nm,1.0s,baz=355,slow=1.5,SNR=4.2
ILAR LR LR 01 43 23.4
comp=Z,269nm,21.9s,baz=246,slow=31
comp=Z,26nm,0.7s
ILAR **Eielson Array** 85.51 23 P P 01 11 13.4 -1.4
GLB **Gilahina Butte** 85.54 27 P P 01 11 15.7 +0.6
GLB IAmb IAmb 01 11 16.5
comp=Z,25nm,0.9s
H24K **Noodor Dome** 85.57 22 IAmb IAmb 01 11 17.1
comp=Z,22nm,1.1s
H24K **Noodor Dome** 85.57 22 P P 01 11 15.6 +0.4
baz=245,SNR=10
K24K **Donnelly Dome** 85.57 24 P P 01 11 14.9 -0.3
baz=247
VRDI **Verde Repeater** 85.63 27 P P 01 11 15.4 -0.3
VRDI IAmb IAmb 01 11 16.7
comp=Z,24nm,1.0s
MCARA **McCarthy VSAT** 85.88 27 IAmb IAmb 01 11 18.4
comp=Z,24nm,1.0s
MCARA P P 01 11 18.6 +1.8
MCARA **McCarthy VSAT** 85.88 27 P P 01 11 17.5 +0.8
baz=250
E23K **Chandalar** 85.91 20 P P 01 11 17.7 +0.8
baz=244
RIDG **Independent Ri** 85.93 25 P P 01 11 16.8 -0.2
RIDG **Independent Ri** 85.93 25 P P 01 11 17.4 +0.3
baz=248
MESA **MESA** 85.97 28 P P 01 11 18.0 +0.5
baz=251
D23K **Nanushuk River** 85.97 19 P P 01 11 18.5 +1.4
baz=242,SNR=24
J25K **Salcha River,** 86.05 24 P P 01 11 17.6 +0.1
J25K **Salcha River,** 86.05 24 P P 01 11 17.7 +0.1
baz=248,SNR=30
G24K **Hadweenzic Riv** 86.07 21 P P 01 11 18.1 +0.4
baz=246
TOLK **Toolik Lake Re** 86.19 19 P P 01 11 18.8 +0.6
TOLK IAmb IAmb 01 11 19.6
comp=Z,16nm,0.8s
TOLK **Toolik Lake Re** 86.19 19 P P 01 11 19.4 +1.3
baz=244,SNR=11
DOT **Dot Lake** 86.22 25 P P 01 11 19.1 +0.6
DOT IAmb IAmb 01 11 19.7
comp=Z,36nm,1.0s
M26K **Nabesna, AK** 86.24 26 P P 01 11 19.1 +0.5
baz=250
F24K **Squaw Lake** 86.27 21 P P 01 11 19.9 +1.3
baz=245
E24K **Your Creek** 86.30 20 P P 01 11 19.2 +0.4
baz=245
L26K **Log Cabin Wild** 86.30 25 P P 01 11 19.4 +0.5
L26K IAmb IAmb 01 11 20.2
comp=Z,13nm,0.8s
L26K **Log Cabin Wild** 86.30 25 P P 01 11 19.7 +0.8
baz=250,SNR=5.8
PRP **Porcupine Dome** 86.33 23 P P 01 11 17.8 -1.3
baz=248
BVAR **Borovoye Array** 86.34 324 PKKPbc PKKPbc 01 29 17.4 -1.6
comp=Z,0.8nm,0.7s,baz=318,slow=1.9,SNR=4.4
BVAR LR LR 01 50 14.6
comp=Z,57nm,21.9s,baz=100,slow=36
SCRK **Sand Creek** 86.37 24 P P 01 11 18.7 -0.6
SCRK **Sand Creek** 86.37 24 P P 01 11 19.7 +0.4
baz=249
BARN **Barnard Glacie** 86.39 28 P P 01 11 19.8 +0.2
BARN IAmb IAmb 01 11 21.4
comp=Z,33nm,0.8s
C23K **Itkillik River** 86.40 18 P P 01 11 20.0 +0.9
baz=242,SNR=24
BRVK **Borovoye** 86.41 324 P P 01 11 18.5 -1.1
BRVK **Borovoye** 86.41 324*c i* P P 01 11 18.4 -1.1
BRVK pmax pmax
comp=Z,13nm,1.0s
H25K **Birch Creek** 86.51 22 P P 01 11 20.6 +0.9
baz=247
G25K **Bearman Lake** 86.60 22 P P 01 11 20.8 +0.7
baz=247
M27K **Edge Creek, AK** 86.72 26 P P 01 11 21.5 +0.5
M27K **Edge Creek, AK** 86.72 26 P P 01 11 22.1 +1.0
baz=251
J26L **Joseph Creek** 86.73 24 IAmb IAmb 01 11 22.4
comp=Z,26nm,1.1s
J26L **Joseph Creek** 86.73 24 P P 01 11 21.7 +0.7
baz=249,SNR=12
PINM **Pinnacle** 86.75 29 P P 01 11 21.9 +0.8
baz=253
FYU **Fort Yukon** 86.84 22 P P 01 11 21.8 +0.5
FYU IAmb IAmb 01 11 23.2
comp=Z,33nm,0.9s
C24K **Franklin Bluff** 86.94 18 P P 01 11 22.9 +1.1
baz=244
L27K **Beaver Creek,** 86.97 26 P P 01 11 22.5 +0.3
L27K IAmb IAmb 01 11 23.4
comp=Z,26nm,1.1s
L27K **Beaver Creek,** 86.97 26 P P 01 11 23.0 +0.9
baz=251
O28M **Mount Upton** 86.99 28 P P 01 11 22.9 +0.4
baz=253
PNL **Peninsula** 87.04 29 P P 01 11 23.2 +0.6
baz=253
F25K **Christian Rive** 87.09 21 P P 01 11 23.8 +1.2
baz=247
YUK3 **Moose Creek** 87.17 27 P P 01 11 23.8 +0.5
baz=252,SNR=8.7
I26K **Coal Creek Min** 87.18 23 P P 01 11 23.0 0.0
baz=250
K27K **Chicken** 87.18 25 P P 01 11 24.1 +1.0
baz=251,SNR=22
BVCY **Beaver Creek** 87.18 26 P P 01 11 23.9 +0.7
baz=252,SNR=6.4
E25K **Arctic Village** 87.32 20 P P 01 11 24.7 +0.9
baz=247,SNR=6.7
YUK8 **Steele Glacier** 87.34 28 P P 01 11 25.6 +1.3
baz=253,SNR=7.8
BMAR **Burnt Mountain** 87.40 21 P P 01 11 25.1 +1.0
G26K **Porcupine Rive** 87.52 22 P P 01 11 25.7 +1.1
baz=249
D25K **Kavik River** 87.52 19 P P 01 11 25.5 +0.8
baz=247
O29M **Mount Kennedy** 87.62 29 P P 01 11 26.2 +0.8
baz=254,SNR=6.1
F26K **Sheenjek River** 87.66 21 P P 01 11 26.1 +0.8
baz=249
EGAK **Eagle** 87.80 24 P P 01 11 26.2 +0.2
EGAK IAmb IAmb 01 11 27.5
comp=Z,26nm,0.9s
EGAK **Eagle** 87.80 24 P P 01 11 26.8 +0.8
baz=252
P29M **Windy Craggy** 87.84 30 P P 01 11 27.6 +1.3
baz=255
YUK4 **Talbot Arm** 87.87 28 P P 01 11 28.6 +1.9
baz=254,SNR=5.8
I27K **Kandik River** 87.88 23 P P 01 11 27.4 +0.9
baz=251
YUK6 **Outpost Mounta** 87.89 28 P P 01 11 27.2 +0.4
baz=254
H27K **Steamboat Moun** 88.12 23 P P 01 11 28.3 +0.7
baz=251
C26K **Camden Bay** 88.22 19 P P 01 11 29.4 +1.5
baz=248
M29M **Somme Creek** 88.26 27 P P 01 11 29.6 +1.2
baz=254
G27K **Doyon Strip** 88.26 22 P P 01 11 28.7 +0.5
baz=251
HYT **Haines Junctio** 88.27 28 P P 01 11 28.8 +0.3
HYT IAmb IAmb 01 11 30.6
comp=Z,25nm,1.0s
HYT **Haines Junctio** 88.27 28 P P 01 11 29.2 +0.7
baz=255,SNR=7.9
DAWY **Dawson** 88.31 25 P P 01 11 29.1 +0.5
DAWY IAmb IAmb 01 11 30.4
comp=Z,37nm,1.0s
DAWY **Dawson** 88.31 25 P P 01 11 29.7 +1.1
baz=253,SNR=20
P30M **Million Dollar** 88.35 29 P P 01 11 30.2 +1.4
baz=255
PLBC **Pleasant Camp** 88.47 30 P P 01 11 30.2 +0.9
baz=256
C27K **Jago River** 88.50 19 P P 01 11 30.5 +1.2
baz=249
HRA **Herat** 88.53 305 P P 01 11 29.5 -1.0
HRA IAmb IAmb 01 12 10.5
comp=Z,27nm,1.5s
L29M **L29M** 88.59 26 P P 01 11 31.1 +1.3
baz=254
N30M **Aishikik Lake** 88.62 28 P P 01 11 31.0 +0.9
baz=255
RER **Riviere de l'E** 88.64 249 P P 01 11 29.1 -2.0
E27K **Coleen River** 88.73 21 P P 01 11 31.5 +1.1
baz=251
O30N **Mendenhall** 88.92 29 P P 01 11 32.0 +0.5
baz=256
SKAG **Skagway** 88.99 30 P P 01 11 31.8 +0.1
SKAG IAmb IAmb 01 11 33.9
comp=Z,34nm,1.3s
SKAG **Skagway** 88.99 30 P P 01 11 32.6 +0.9
baz=257
CRZF **Crozet Islands** 89.03 224 P P 01 11 32.3 0.0
M30M **Minto, Yukon** 89.04 27 P P 01 11 33.0 +1.0
baz=256
K29M **Barlow Dome** 89.05 25 P P 01 11 32.9 +0.7
baz=255
JIS **Juneau Island** 89.21 31 P P 01 11 31.7 -1.1
N31M **Braeburn, Yuko** 89.24 28 P P 01 11 33.8 +0.8
baz=256
WHY **Whitehorse** 89.48 29 P P 01 11 35.5 +1.3
baz=257
P32M **Atlin** 89.82 30 P P 01 11 37.5 +1.8
baz=258
EPYK **Eagle Plains** 90.02 23 P P 01 11 36.5 0.0
EPYK **Eagle Plains** 90.02 23 P P 01 11 36.8 +0.3
baz=256
M31M **Drury Creek, Y** 90.04 27 P P 01 11 36.8 +0.2
baz=258
WSAR **Wadi Sarin** 90.32 293 LR LR 01 57 47.0
comp=Z,48nm,18.8s,baz=132,slow=39
G30M **tAoh Zraii Nji** 90.36 23 P P 01 11 38.2 +0.1
baz=256
FARO **Faro, Yukon** 90.53 27 P P 01 11 39.3 +0.4
baz=259
F31M **Tsiigehtchic** 91.41 22 P P 01 11 42.9 +0.1
baz=258
DLBC **Dease Lake** 91.50 32 LR LR 01 46 29.7
comp=Z,233nm,20.2s,baz=253,slow=31
DLBC **Dease Lake** 91.50 32 P P 01 11 45.5 +1.9
baz=261
MMPY **Sheldon Lake,** 91.55 27 P P 01 11 44.4 +0.6
baz=260
INK **Inuvik** 91.66 21 LR LR 01 48 32.2
comp=Z,155nm,19.9s,baz=242,slow=33
INK **Inuvik** 91.66 21 IAmb IAmb 01 11 44.7
comp=Z,18nm,1.1s
INK **Inuvik** 91.66 21 P P 01 11 44.5 +0.5
baz=259
BBB **Bella Bella** 91.72 38 LR LR 01 45 42.9
comp=Z,252nm,19.6s,baz=44,slow=31
ABKAR **Akbulak array** 92.12 319 P P 01 11 44.4 -2.1
ABKAR **Akbulak array** 92.12 319 IAmb IAmb 01 11 46.0
comp=Z,5.4nm,0.9s
GEYT **Alibeck** 92.27 308 P P 01 11 46.3 -1.3
comp=Z,5.2nm,0.9s,baz=144,slow=2.7,SNR=11
comp=Z,5.2nm,0.9s
GEYT **Alibeck** 92.27 308 P P 01 11 46.9 -0.7
GYA0B **ALIBECK ARRAY** 92.27 308 P P 01 11 47.0 -0.6
TGTN **Hyland Airport** 92.79 29 P P 01 11 49.6 +0.1
baz=263
LIRD **Liard River Hi** 93.64 31 P P 01 11 53.8 +0.4
baz=265
ARU **Arti** 93.67 326 PKKPbc PKKPbc 01 28 60.0 -0.7
comp=Z,4.5nm,0.8s,baz=270,slow=2.0,SNR=7.4
ARU LR LR 01 53 59.7
comp=Z,78nm,21.2s,baz=94,slow=35
ARU **Arti** 93.67 326*c i* P P 01 11 51.1 -2.4
ARU 01 15 36.7
ARU S SKSac 01 22 19.8 -3.6
ARU pmax pmax
comp=Z,7.0nm,1.0s
HUMO **Hull Mountain** 94.29 48 P P 01 11 57.1 +0.4
HUMO IAmb IAmb 01 11 59.8
comp=Z,22nm,1.2s
YBH **Yreka Blue Hor** 94.41 49 LR LR 01 45 49.5
comp=Z,273nm,21.3s,baz=308,slow=30
YBH **Yreka Blue Hor** 94.41 49 P P 01 11 57.7 +0.3
YBH IAmb IAmb 01 12 00.0
comp=Z,27nm,1.2s
YBH **Yreka Blue Hor** 94.41 49 P P 01 11 57.7 +0.3
YBH pmax pmax
comp=Z,27nm,1.3s
KOTAN **Kotaneelee Air** 94.72 30 P P 01 11 59.6 +1.3
baz=267
A36M **Sachs Harbour** 94.95 18 IAmb IAmb 01 12 01.4
comp=Z,11nm,0.8s
A36M **Sachs Harbour** 94.95 18 P P 01 11 59.2 +0.2
baz=266
C36M **Paulatuk** 95.20 21 P P 01 11 59.9 -0.3
baz=267
ORV **Oroville** 95.20 51 P P 01 12 00.8 -0.2
ORV IAmb IAmb 01 12 02.9
comp=Z,11nm,1.0s
ORV **Oroville** 95.20 51 P P 01 12 00.8 -0.2
ORV pmax pmax
comp=Z,11nm,1.0s
AFDM **Forest Hills D** 95.58 52 P P 01 12 02.9 +0.1
AFDM IAmb IAmb 01 12 04.8
comp=Z,18nm,1.3s
BEKR **Beckworth** 96.09 51 P P 01 12 04.3 -0.9
MOD **Modoc Plateau** 96.22 49 P P 01 12 04.7 -1.1
PKM **Mcpherson Peak** 96.30 56 P P 01 12 07.0 +0.6
baz=267
MPK **Martis Peak** 96.32 51 P P 01 12 06.7 +0.2
MPK IAmb IAmb 01 12 08.8
comp=Z,23nm,1.3s
BELA **Belgrano 2** 96.42 180 IAmb IAmb 01 12 06.4
comp=Z,14nm,0.9s
PNTR **Pine Nut** 96.65 51 P P 01 12 08.2 +0.3
PNTR IAmb IAmb 01 12 10.2
comp=Z,12nm,1.2s
VOI **Vohitsoka** 96.81 247 IAmb IAmb 01 12 09.2
comp=Z,11nm,0.7s
ABPO **Ambohimpanom** 96.85 250 P P 01 12 09.1 0.0
ABPO IAmb IAmb 01 12 11.4
comp=Z,14nm,0.9s
ABPO **Ambohimpanom** 96.85 250 P P 01 12 09.1 0.0
ABPO pmax pmax
comp=Z,14nm,1.0s
PNT **Penticton** 96.90 41 P P 01 12 08.2 -0.3
PNT pmax pmax
comp=Z,12nm,1.2s
HAWA **Hanford** 96.91 44 P P 01 12 09.0 +0.4
HAWA IAmb IAmb 01 12 10.4
comp=Z,15nm,1.1s
B08A **Colville Reser** 97.07 42 P P 01 12 09.6 +0.3
B08A IAmb IAmb 01 12 10.7
comp=Z,15nm,1.2s
E08A **Dider Farm, El** 97.23 44 P P 01 12 10.0 -0.1
E08A IAmb IAmb 01 12 12.4
comp=Z,15nm,1.2s
ISA **Isabella, Lake** 97.43 55 P Pdif 01 12 12.1 +0.7
baz=268
WVOR **Wild Horse Val** 97.47 48 P P 01 12 11.8 +0.4
WVOR **Wild Horse Val** 97.47 48 P P 01 12 11.8 +0.4
WVOR pmax pmax
comp=Z,6.0nm,1.0s
RYN **Ryan** 97.47 52 P P 01 12 11.5 -0.1
RYN IAmb IAmb 01 12 42.0
comp=Z,18nm,2.0s
LHV **Little Huntoon** 97.48 52 P P 01 12 10.6 -0.7
J08A **Circle Bar Ran** 97.61 47 P P 01 12 12.3 +0.4
J08A IAmb IAmb 01 12 14.4
comp=Z,8.7nm,1.1s
NVAR **Mina Array Bea** 97.64 52 P P 01 12 12.0 -0.4
comp=Z,2.6nm,0.8s,baz=257,slow=5.9,SNR=18
NVAR PP PP 01 16 08.2 -2.5
comp=Z,0.6nm,0.8s,baz=266,slow=5.9,SNR=4.6
comp=Z,2.6nm,0.8s
NVAR **Mina Array Bea** 97.64 52 P P 01 12 12.5 +0.1
NV11 **Mina Array Sit** 97.76 52 P P 01 12 12.8 -0.1
CWC **Cottonwood Cre** 97.77 54 P P 01 12 13.3 +0.4
baz=269
C09A **Chrisman Ranch** 97.78 43 P P 01 12 12.5 0.0
C09A IAmb IAmb 01 12 15.1
comp=Z,8.4nm,1.0s
EDW2 **Edwards Air Fo** 97.80 56 P Pdif 01 12 14.1 +1.1
baz=268
KVN **Kaiserville** 97.81 51 P P 01 12 13.3 +0.2
KVN **Kaiserville** 97.81 51 P P 01 12 13.3 +0.2
KVN pmax pmax
comp=Z,7.0nm,1.3s
E09A **Wood Farm, Sta** 97.86 44 P P 01 12 13.2 +0.3
DSP **Deep Springs** 97.88 53 P P 01 12 13.3 +0.1
BFSC **Mount Baldy Ra** 98.06 56 P Pdif 01 12 15.1 +0.8
baz=268
LRMC **Laurel Mtn Rad** 98.07 55 P Pdif 01 12 15.5 +1.2
baz=269
MPMC **Manual Prospec** 98.24 55 P Pdif 01 12 16.3 +1.1
baz=269
BMO **Blue Mountains** 98.45 46 IAmb IAmb 01 12 17.1
comp=Z,12nm,1.2s
F10A **Beach Ranch, E** 98.50 45 P P 01 12 15.9 0.0
F10A IAmb IAmb 01 12 17.8
comp=Z,12nm,1.0s
NEW **Newport** 98.55 42 LR LR 01 49 29.1
comp=Z,115nm,21.6s,baz=292,slow=31
NEW **Newport** 98.55 42 P P 01 12 16.0 0.0
NEW IAmb IAmb 01 12 18.1
comp=Z,14nm,1.1s
NEW **Newport** 98.55 42 P Pdif 01 12 16.7 +0.7
baz=271
NEW **Newport** 98.55 42 P P 01 12 16.0 0.0
NEW pmax pmax
comp=Z,14nm,1.1s
KIRV **Kirov** 98.64 328 LR LR 01 58 34.6
comp=Z,61nm,20.3s,baz=84,slow=36
FURC **Furnace Creek,** 98.75 54 P Pdif 01 12 18.8 +1.7
baz=269
GSC **Goldstone, Bar** 98.78 55 P P 01 12 17.8 +0.4
baz=269
TROLL **Troll, Atarti** 98.88 191 Pdiff P 01 12 16.9 -0.3
PFO **Pinyon Flats O** 99.04 57 LR LR 01 49 59.5
comp=Z,229nm,20.4s,baz=286,slow=31
PFO **Pinyon Flats O** 99.04 57 P Pdif 01 12 19.2 +0.6
baz=269
TPFO **Pinon Flats** 99.04 57 P Pdif 01 12 19.4 +0.7
baz=269
MONP2 **Monument Peak** 99.06 58 P Pdif 01 12 19.9 +1.0
baz=269
HEC **Hector,Ludlow** 99.16 56 P Pdif 01 12 19.9 +0.8
baz=269
SHOC **Shoshone, Teco** 99.22 55 P Pdif 01 12 20.3 +1.0
baz=270
YKA **Yellowknife Ar** 99.24 28 P Pdif 01 12 17.6 -1.0
comp=Z,3.8nm,1.1s,baz=274,slow=4.9,SNR=7.0
YKA LR LR 01 50 13.6
comp=Z,155nm,21.5s,baz=264,slow=31
comp=Z,3.8nm,1.1s
YKA **Yellowknife Ar** 99.24 28 P Pdif 01 12 18.8 +0.1
YKA **Yellowknife Ar** 99.24 28 P Pdif 01 12 18.8 +0.1
TPNV **Topopah Spring** 99.25 54 P Pdif 01 12 21.0 +1.4
baz=270
BELC **Belle Mtn. Jos** 99.43 57 P Pdif 01 12 21.1 +0.7
baz=269
TUQ **Turquoise Moun** 99.50 55 P Pdif 01 12 21.6 +1.0
baz=270
SWSC **Sam W. Stewart** 99.58 58 P Pdif 01 12 21.1 +0.2
baz=269
GMRC **Granite Mounta** 99.72 56 P Pdif 01 12 22.6 +0.9
baz=270
R11A **Troy Canyon, C** 99.78 52 P Pdif 01 12 22.6 +0.7
baz=270
RPN **Rapa Nui** 99.86 119 LR LR 01 51 37.2
comp=Z,40nm,19.5s,baz=234,slow=32
BELG **Belogornoye** 100.01 322 LR LR 01 59 59.9
comp=Z,19nm,21.5s,baz=126,slow=37
SNAA **Sanae** 100.09 189 PKiKP PKiKP 01 16 48.5 -1.3
SNAA **Sanae** 100.09 189 Pdiff Pdif 01 12 20.5 -1.9
SNAA **Sanae** 100.09 189 PP PP 01 16 27.7 -0.1
IRM **Iron Mountain** 100.14 56 P Pdif 01 12 24.7 +1.3
baz=270
HLID **Hailey** 100.56 47 P Pdif 01 12 26.3 +1.0
baz=272
MSO **Missoula** 100.75 44 P Pdif 01 12 26.6 +0.7
baz=273
VNA2 **Neumayer--Watz** 101.46 188 Pdiff Pdif 01 12 27.7 -0.7
baz=133,slow=3.5
VNA3 **Neumayer Olymp** 101.49 188 Pdiff Pdif 01 12 28.2 -0.4
DUG **Dugway, Tooele** 101.88 50 P Pdif 01 12 32.2 +1.0
baz=272
214A **Organ Pipe Nat** 102.11 59 P Pdif 01 12 33.6 +1.4
baz=271
BOZ **Bozeman (W)** 102.43 45 P Pdif 01 12 34.6 +1.1
baz=274
WUAZ **Wupatki** 103.22 55 P Pdif 01 12 38.3 +1.1
baz=272
H17A **Grant Village** 103.28 46 P Pdif 01 12 38.3 +0.9
baz=275
BW06 **Boulder Array** 104.16 47 P Pdif 01 12 41.8 +0.4
baz=275
PDAR **Pinedale Array** 104.16 47 Pdiff Pdif 01 12 40.4 -0.9
comp=Z,2.2nm,0.9s,baz=250,slow=1.7,SNR=13
PDAR PKiKP PKiKP 01 16 57.3 -0.9
comp=Z,1.2nm,1.0s,baz=180,slow=0.9,SNR=4.0
PDAR PKKPbc PKKPbc 01 28 29.5 -1.5

comp=Z,1.0nm,0.8s,baz=104,slow=3.8,SNR=5.6
ARCES ARCESS Array B 105.93 342 Pdiff **Pdif 01 12 44.5 -3.8**
comp=Z,4.2nm,0.8s,baz=70,slow=7.9,SNR=4.0
ARCES PKKPbc **PKKPbc 01 28 22.1 -4.0**
comp=Z,11nm,1.1s,baz=228,slow=2.3,SNR=6.4
LAO LASA Array 106.04 43 P **PKiKP 01 17 01.1 -0.2**
baz=279
121A Cookes Peak, D 106.34 58 P **PKiKP 01 17 02.7 +0.3**
baz=274
N23A Red Feather La 107.04 49 P **PKiKP 01 17 02.9 -0.7**
baz=277
DGMT Dagmar 107.09 41 P **PKiKP 01 17 04.6 +1.4**
baz=281
ANMO Albuquerque 107.27 55 P **PKiKP 01 17 04.7 +0.6**
baz=275
FINES FINESS Array B 109.30 334 Pdiff **Pdif 01 13 01.2 -2.2**
comp=Z,3.4nm,1.0s,baz=252,slow=36,SNR=1.6
TXAR Lajitas Array 110.10 61 PKiKP **PKiKP 01 17 09.7 +0.2**
comp=Z,1.7nm,0.9s,baz=277,slow=0.7,SNR=13
TXAR PP **PP 01 17 41.4 -2.3**
comp=Z,1.2nm,1.1s,baz=235,slow=3.2,SNR=4.1
MSTX Muleshoe 110.40 56 P **PKiKP 01 17 09.8 -0.1**
baz=277
MNK Minsk 111.09 327 *i* PKP PKiKP 01 16 58.4 -12
MNK *i* PKP PKiKP 01 16 58.4 -12
MNK *i* PKP PKiKP 01 16 58.4 -12
baz=70
MNK *i* pPKP PP 01 17 35.3 -14
MNK *i* PP **PP 01 17 48.4 -1.3**
MNK *i* PPP PPP 01 20 09.0
MNK *i* SKS **SKSdf 01 24 23.7 +5.8**
MNK *i* SKKS 01 26 25.8
MNK *i* PS **PKKPab 01 28 17.1 -0.3**
MNK *i* SS **SS 01 33 18.7 +1.3**
MNK *i* SSS SSS 01 37 12.3
MNK *i* LQ LQ 01 56 24.5
MNK *i* LR LR 02 00 04.9
MNK Minsk 111.09 327 *i* PKIKP PKiKP 01 16 58.4 -12
MNK *i* 01 17 48.3
MNK *i* PPP PPP 01 20 08.9
MNK *i* PS **PKKPab 01 28 17.0 -0.3**
MNK *i* SS SS 01 33 18.7 +1.3
BRTR Keskin Array B 111.24 310 PKKPbc PKKPbc 01 28 09.2 +0.8
comp=Z,1.4nm,0.9s,baz=214,slow=4.4,SNR=6.4
AKASG Malin Array Be 111.58 323 PP **PP 01 17 51.5 -1.8**
comp=Z,2.0nm,0.9s,baz=60,slow=7.1,SNR=7.7
ABTX Abilene, Hawle 113.17 57 P **PKiKP 01 17 15.0 -0.1**
baz=278
JCT Junction City 113.32 59 P **PKiKP 01 17 15.1 -0.4**
baz=277
833A Chaparral WMA, 113.93 62 P **PKiKP 01 17 16.1 -0.6**
baz=277
TUL1 Leonard 115.74 53 P **PKPdf 01 17 19.5 -0.4**
baz=282
MIAR Mount Ida 117.80 54 P **PKPdf 01 17 24.3 +0.4**
baz=283
JFWS Jewell Farm 117.97 44 P **PKPdf 01 17 22.2 -1.8**
baz=290
VYHS Vyhne 118.66 323 *e*PP PP 01 18 42.8 -0.4
CCM Cathedral Cave 118.74 50 **PKPdf 01 17 24.4 -1.2**
CCM Cathedral Cave 118.74 50 PKIKP **PKPdf 01 17 24.4 -1.2**
HDIL Hopedale 119.42 46 P **PKPdf 01 17 26.5 -0.3**
baz=289
LL02 Futaleuf 120.13 148 **PKPdf 01 17 28.5 +0.4**
CLL Collm 120.55 328 *e*PKiKP **PKiKP 01 17 30.0 +1.2**
CLL *ex* x 01 17 54.0
CLL *e*PP **PP 01 18 57.0 +1.1**
CLL *e*PS **PS 01 28 45.0 -2.8**
CLL *e*PPS PPS 01 30 24.0
CLL *ex* x 01 38 00.0
CLL *e*(SSSS) 01 42 54.0
CLL Collm 120.55 328 *e*PKIKP **PKiKP 01 17 30.0 +1.2**
VBMS Vicksburg 120.82 56 P **PKPdf 01 17 29.8 +0.1**
baz=284
CKRC Cesky Krumlov 121.15 325 *e*PKPDF **PKPdf 01 17 30.1 +0.2**
KHC Kasperske Hory 121.40 326 *e*PKPDF **PKPdf 01 17 30.3 -0.1**
KHC Kasperske Hory 121.40 326 *e*PKIKP **PKPdf 01 17 30.3 -0.1**
GERES GERESS Array B 121.48 325 PKP **PKPdf 01 17 28.7 -2.0**
comp=Z,0.8nm,0.6s,baz=82,slow=2.2,SNR=5.6
WVT Waverly 121.92 51 P **PKPdf 01 17 30.3 -1.5**
baz=288
WCI Wyandotte Cave 122.40 48 **PKPdf 01 17 32.0 -0.6**
WCI Wyandotte Cave 122.40 48 P **PKPdf 01 17 31.7 -0.9**
baz=290
WCI Wyandotte Cave 122.40 48 PKIKP **PKPdf 01 17 32.0 -0.6**
O48B Farmland 122.49 45 P **PKPdf 01 17 31.9 -0.9**
baz=292
PLCA Paso Flores 122.54 147 PKP **PKPdf 01 17 32.6 -0.4**
comp=Z,12nm,0.8s,baz=217,slow=2.8,SNR=30
PLCA Paso Flores 122.54 147 *e*P **PKPdf 01 17 32.5 -0.5**
AAM Ann Arbor 122.71 43 P **PKPdf 01 17 32.3 -0.8**
baz=295
P49A Miami Univ. Ec 123.07 46 P **PKPdf 01 17 33.0 -0.9**
baz=292
LRAL Lakeview Retre 123.48 54 P **PKPdf 01 17 34.0 -0.8**
baz=287
BRAL Brewton 123.95 56 P **PKPdf 01 17 35.6 -0.1**
baz=285
ACSO Alum Creek Sta 124.03 45 P **PKPdf 01 17 34.9 -0.8**
baz=294
P52A Corning 124.87 45 P **PKPdf 01 17 36.4 -0.9**
baz=295
TZTN Tazewell 125.04 49 P **PKPdf 01 17 37.4 -0.4**
baz=291
M53A WI Miller and 125.08 42 P **PKPdf 01 17 36.9 -0.8**
baz=297
ERPA Erie 125.23 41 P **PKPdf 01 17 37.1 -0.9**
baz=298
O53A New Philadelph 125.25 44 P **PKPdf 01 17 37.8 -0.3**
baz=296
GOGA Godfrey 126.18 53 P **PKPdf 01 17 39.2 -0.8**
baz=289
MCWV Mont Chateau 126.45 44 P **PKPdf 01 17 39.3 -1.1**
baz=297
TIGA Tifton 126.71 55 P **PKPdf 01 17 40.9 -0.2**
baz=288
BLA Blacksburg 127.09 47 P **PKPdf 01 17 42.0 +0.3**
baz=294
KMSC Kings Mountain 127.23 50 P **PKPdf 01 17 41.3 -0.6**
baz=292
LONY Lake Ozonia 127.30 36 P **PKPdf 01 17 41.5 -0.3**
baz=305
SSPA Standing Stone 127.32 42 PKPdf **PKPdf 01 17 41.6 -0.5**
SSPA Standing Stone 127.32 42 P **PKPdf 01 17 41.5 -0.5**
baz=299
BINY Binghamton 127.77 39 P **PKPdf 01 17 41.9 -1.0**
baz=302
MATN Matagalpa 127.86 78 **PKPdf 01 17 43.8 0.0**
J59A Piesco 128.00 37 **PKPdf 01 17 43.1 -0.1**
TRQA Tornquist 128.94 151 PKPdf **PKPdf 01 17 46.0 +0.8**
TRQA Tornquist 128.94 151 PKIKP **PKPdf 01 17 46.0 +0.8**
PAL Palisades 129.72 40 P **PKPdf 01 17 46.5 0.0**
baz=303
CNNC Cliffs of the 129.77 48 P **PKPdf 01 17 46.9 +0.1**
baz=295
LVC Limon Verde 135.29 130 *e*P **PKPdf 01 17 56.1 -1.9**
GO01 Chusmiza 136.69 127 PKPpre PKPpre 01 17 52.1
GO01 PKPdf **PKPdf 01 18 02.4 +1.5**
ESDC Sonseca Array 137.07 326 PP **PP 01 20 43.3 -0.8**
comp=Z,1.7nm,1.0s,baz=49,slow=3.9,SNR=5.8
PLTB Pedras Altas 137.99 154 PKPpre 01 17 54.9
PLTB PKPdf **PKPdf 01 18 04.4 +2.0**
ITQB Itaqui 138.30 149 PKPdf **PKPdf 01 18 04.0 +1.0**
CZSB Cruzeiro do Su 138.63 109 PKPpre 01 17 58.5
CZSB PKPdf **PKPdf 01 18 05.0 +0.9**
LPAZ La Paz 139.29 123 PKhKP PKPpre 01 17 58.0
comp=Z,4.8nm,0.9s,baz=223,slow=2.7,SNR=13
LPAZ PKP **PKPdf 01 18 05.8 -0.1**
comp=Z,4.9nm,0.8s,baz=337,slow=3.2,SNR=11
LPAZ La Paz 139.29 123 PKPdf **PKPdf 01 18 06.7 +0.8**
LPAZ La Paz 139.29 123 PKIKP **PKPdf 01 18 06.7 +0.8**
ROSC El Rosal 139.34 89 PKP **PKPdf 01 18 05.3 -0.5**
comp=Z,16nm,0.8s,baz=285,slow=19,SNR=11
CPUP Villa Florida 140.56 145 PKhKP PKPpre 01 17 59.1
comp=Z,5.0nm,0.9s,baz=220,slow=5.6,SNR=3.6
CPUP PKP **PKPdf 01 18 05.4 -1.8**
comp=Z,11nm,0.8s,baz=225,slow=4.0,SNR=9.3
CPUP Villa Florida 140.56 145 PKPpre PKPpre 01 18 01.5
CPUP PKPdf **PKPdf 01 18 08.7 +1.5**
CPUP Villa Florida 140.56 145 *e*P **PKPdf 01 18 05.6 -1.6**
CNLB Canela 141.28 155 *e*P **PKPdf 01 18 07.7 -0.8**
ITAB Concordia 142.52 152 *e*P **PKPdf 01 18 08.8 -1.9**
TER01 Tubaro-SC 142.67 157 *e*P **PKPdf 01 18 09.4 -1.5**
SDV Santo Domingo 143.05 83 PKPdf PKPbc 01 18 09.7 +0.6
SDV Santo Domingo 143.05 83 *e*P PKPbc 01 18 09.8 +0.6

ETMB Extrema 143.89 115 *e*P PKPab 01 18 10.4 -0.2
TOA0 Torodi Ar. Sit 144.57 284 PKPdf **PKPab 01 18 11.3 -1.9**
TORD Torodi Ar. Bea 144.57 284 PKP **PKPab 01 18 12.5 -0.7**
comp=Z,29nm,0.8s,baz=73,slow=3.2,SNR=118
PTGB Pitanga 144.67 150 *e*P **PKPab 01 18 13.5 +0.2**
MLPR Magueyes Islan 145.09 67 **PKPbc 01 18 14.3 -0.6**
TIJ01 Guaruva-PR 145.56 155 *e*P **PKPdf 01 18 14.6 -1.6**
AQDB Aquidauana 145.95 141 *e*P **PKPdf 01 18 15.1 -1.7**
SGCB SÃo Gabriel d 146.00 99 *e*P **PKPdf 01 18 15.7 -1.5**
PTLB Pontes e Lacer 146.96 130 *e*P **PKPdf 01 18 17.6 -1.0**
FRTB Fartura 147.03 152 *e*P **PKPdf 01 18 17.2 -1.5**
PARB Paraibuna 148.69 158 *e*P **PKPdf 01 18 19.6 -1.9**
SALV Santo Antonio 149.19 135 *e*P **PKPdf 01 18 22.1 -0.2**
MAN01 Angra dos Reis 149.71 161 *e*P **PKPdf 01 18 20.5 -2.6**
ANWB Willy Bob 149.95 64 PKPdf **PKPdf 01 18 23.0 -0.4**
CBE Ff, Capester 150.62 67 **PKPbc 01 18 30.1 +0.1**
GDSD La Dsirade Is 151.04 67 PKPdf **PKPdf 01 18 25.1 -0.1**
PDRB Porto dos Gac 151.11 127 *e*P **PKPdf 01 18 24.1 -1.3**
KIC Kosan Boka 151.41 273⇑ *e*P **PKPbc 01 18 32.0 0.0**
comp=Z,8.3nm,0.4s
TIC Toumodi 151.69 273⇑ *e*P **PKPbc 01 18 33.5 +0.9**
comp=Z,16nm,0.6s
LIC Lamto 151.69 272⇑ *e*P **PKPbc 01 18 33.5 +0.9**
comp=Z,22nm,0.6s
IPMB Ipameri, GO 152.24 149 *e*P **PKPdf 01 18 26.3 -0.8**
CLDB Colider 152.29 127 *e*P **PKPdf 01 18 27.2 0.0**
BOAV Boa Vista 152.83 96 PKPdf **PKPdf 01 18 28.6 +0.6**
BOAV PKPbc **PKPbc 01 18 35.5 +0.4**
BOAV Boa Vista 152.83 96 *e*P **PKPdf 01 18 26.9 -1.0**
BDFB Brasilia 154.28 146 PKP **PKPdf 01 18 30.0 -0.1**
comp=Z,4.5nm,0.9s,baz=243,slow=2.3,SNR=6.0
BDFB PKPbc **PKPbc 01 18 38.2 -0.2**
comp=Z,30nm,0.8s,baz=204,slow=3.5,SNR=30
BDFB Brasilia 154.28 146 PKPdf **PKPdf 01 18 31.4 +1.3**
BDFB PKPbc **PKPbc 01 18 39.0 +0.6**
SJMB Sao Joao De Ma 154.48 163 *e*P **PKPdf 01 18 28.3 -1.9**
NPGB Novo Progresso 154.71 120 *e*P **PKPdf 01 18 30.0 -0.6**
SNDB Serra Nova Dou 154.98 135 *e*P **PKPdf 01 18 30.7 -0.3**
ITTB Itaituba 155.59 114 *e*P **PKPdf 01 18 30.9 -0.9**
NAN01 Guarapari, ES 155.59 165 *e*P **PKPdf 01 18 30.0 -1.7**
MALB Monte Alegre 157.90 110 *e*P **PKPdf 01 18 33.6 -1.3**
SMTB Santa Maria do 159.75 136 *e*P **PKPdf 01 18 35.5 -1.5**
PRPB Parauapebas 159.81 126 *e*P **PKPdf 01 18 35.3 -1.8**
MCPB Macapa, AP 160.47 108 *e*P **PKPdf 01 18 36.6 -1.2**

ROM 08 01:13:00.4±0.0,**42°836N**±0°002×**13°165E**±0°003,
h11km,**ML2.5**/48,**37C-17D**,**Error ellipse: s-maj=0.2km**
s-min=0.2km az=37.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.03**	**39**		⇓P	Pg	01 13 02.8	+0.2
T1245					S	Sg	01 13 04.3	+0.2
T1245					AML	AML		
	comp=E,60300µm,0.2s							
T1245					AML	AML		
	comp=N,66400µm,0.6s							
T1245					AML	AML		
	comp=E,60100µm,0.2s							
T1245					AML	AML		
	comp=E,60250µm,0.2s							
T1245					AML	AML		
	comp=N,66450µm,0.6s							
T1245					AML	AML		
	comp=N,57400µm,0.6s							
T1216	**Preci, Frazion**	**0.12**	**297**		⇑P	Pg	01 13 03.9	+0.5
T1216					S	Sg	01 13 06.1	+0.5
T1216					AML	AML		
	comp=E,6115µm,1.0s							
T1216					AML	AML		
	comp=N,5920µm,0.3s							
T1216					AML	AML		
	comp=N,5915µm,0.3s							
T1216					AML	AML		
	comp=N,5915µm,0.3s							
T1216					AML	AML		
	comp=E,6125µm,1.0s							
MMO1	**Montemonaco**	**0.14**	**62**		⇑P	Pg	01 13 04.1	+0.4
MMO1					S	Sg	01 13 06.5	+0.5
FEMA	**Monte Fema**	**0.15**	**326**		⇑P	Pg	01 13 04.5	+0.5
FEMA					S	Sg	01 13 07.2	+0.7
FEMA					AML	AML		
	comp=N,4495µm,0.6s							
FEMA					AML	AML		
	comp=E,5700µm,1.2s							
FEMA					AML	AML		
	comp=N,4490µm,0.6s							
T1256	**Bolognola (MC)**	**0.18**	**15**		⇑P	Pg	01 13 04.8	+0.5
T1256					S	Sg	01 13 08.0	+0.8
T1256					AML	AML		
	comp=E,4325µm,0.6s							
T1256					AML	AML		
	comp=N,4925µm,0.1s							
T1256					AML	AML		
	comp=E,4370µm,0.6s							
T1256					AML	AML		
	comp=E,4330µm,0.6s							
T1256					AML	AML		
	comp=N,4655µm,0.1s							
T1256					AML	AML		
	comp=E,4330µm,0.6s							
T1256					AML	AML		
	comp=N,4920µm,0.1s							
T1256					AML	AML		
	comp=N,4925µm,0.1s							
T1256					AML	AML		
	comp=E,4325µm,0.6s							
T1204	**Amatrice, Fraz**	**0.20**	**145**		⇑P	Pg	01 13 05.2	+0.6
T1204					S	Sg	01 13 08.6	+1.0
T1241	**Roccafluvione,**	**0.20**	**84**		⇑P	Pg	01 13 05.2	+0.6
T1241					S	Sg	01 13 08.6	+1.0
T1241					AML	AML		
	comp=E,8420µm,0.2s							
T1241					AML	AML		
	comp=N,11615µm,0.7s							
T1241					AML	AML		
	comp=E,9685µm,0.2s							
T1241					AML	AML		
	comp=N,10990µm,0.2s							
T1241					AML	AML		
	comp=E,8420µm,0.2s							
T1241					AML	AML		
	comp=N,11600µm,0.7s							
T1241					AML	AML		
	comp=E,9690µm,0.2s							
T1241					AML	AML		
	comp=N,10995µm,0.2s							
T1241					AML	AML		
	comp=N,11645µm,0.7s							
T1241					AML	AML		
	comp=E,9705µm,0.2s							
T1241					AML	AML		
	comp=N,10960µm,0.2s							
T1241					AML	AML		
	comp=E,8415µm,0.2s							
FDMO	**Fiordimonte**	**0.21**	**344**		⇑P	Pg	01 13 05.3	+0.5
FDMO					S	Sg	01 13 08.8	+1.0
FDMO					AML	AML		
	comp=E,2390µm,0.2s							
FDMO					AML	AML		
	comp=N,2530µm,0.3s							
FDMO					AML	AML		
	comp=E,2385µm,0.2s							
T1217	**Poggiodomo (PG**	**0.21**	**234**		⇑P	Pg	01 13 05.5	+0.6
T1217					S	Sg	01 13 09.2	+1.2
T1217					AML	AML		
	comp=E,1935µm,0.5s							
T1217					AML	AML		
	comp=N,1710µm,0.6s							
T1217					AML	AML		
	comp=E,1905µm,0.5s							
T1217					AML	AML		
	comp=N,1780µm,0.6s							
T1217					AML	AML		
	comp=E,1940µm,0.5s							
T1217					AML	AML		
	comp=N,1705µm,0.6s							
T1217					AML	AML		
	comp=E,1900µm,0.5s							
T1217					AML	AML		
	comp=N,1776µm,0.6s							
T1217					AML	AML		
	comp=N,1780µm,0.6s							
T1215	**Vallo di Nera,**	**0.22**	**261**		⇑P	Pg	01 13 05.6	+0.6
T1215					S	Sg	01 13 09.2	+1.0
T1215					AML	AML		
	comp=E,1500µm,0.7s							
T1215					AML	AML		
	comp=N,1705µm,0.8s							
T1215					AML	AML		
	comp=E,1528µm,0.3s							
T1215					AML	AML		
	comp=N,1710µm,0.8s							
T1215					AML	AML		
	comp=E,1500µm,0.7s							
T1215					AML	AML		
	comp=N,1700µm,0.8s							
SMA1	**SAN MARTINO**	**0.24**	**148**		⇑P	Pg	01 13 05.8	+0.4
SMA1					S	Sg	01 13 09.8	+1.0
SMA1					AML	AML		
	comp=E,2955µm,0.4s							
SMA1					AML	AML		
	comp=N,2620µm,0.6s							
SMA1					AML	AML		
	comp=E,2960µm,0.4s							
SMA1					AML	AML		
	comp=N,2615µm,0.6s							
LNSS	**Leonessa**	**0.25**	**202**		P	Pg	01 13 06.1	+0.5
LNSS					S	Sb	01 13 10.6	-0.8
LNSS					AML	AML		
	comp=N,7175µm,0.3s							
LNSS					AML	AML		
	comp=E,3880µm,0.2s							
T1243	**Rocca Santa Ma**	**0.25**	**124**		⇑P	Pg	01 13 06.0	+0.4
T1243					S	Sg	01 13 10.2	+1.1
CESI	**CESI - Serrava**	**0.26**	**312**		⇑P	Pg	01 13 06.1	+0.5
CESI					S	Sg	01 13 10.3	+1.1
CESI					AML	AML		
	comp=N,3815µm,0.9s							
CESI					AML	AML		
	comp=E,3835µm,0.6s							
CSP1	**Cessapalombo**	**0.26**	**7**		⇑P	Pg	01 13 06.2	+0.5
CSP1					S	Sg	01 13 10.5	+1.1
CSP1					AML	AML		
	comp=E,2890µm,1.1s							
CSP1					AML	AML		
	comp=N,3106µm,0.3s							
CSP1					AML	AML		
	comp=E,2885µm,1.1s							
CSP1					AML	AML		
	comp=N,3100µm,0.3s							
CSP1					AML	AML		
	comp=N,3104µm,0.3s							
CSP1					AML	AML		
	comp=E,2895µm,1.1s							
GUMA	**Gualdo di Mace**	**0.26**	**29**		⇑P	Pb	01 13 06.5	-0.6
GUMA					S	Sb	01 13 11.1	-0.5
GUMA					AML	AML		
	comp=E,5225µm,0.3s							
GUMA					AML	AML		
	comp=N,5160µm,0.3s							
GUMA					AML	AML		
	comp=N,5155µm,0.3s							
GUMA					AML	AML		
	comp=E,5820µm,0.3s							
GUMA					AML	AML		
	comp=E,5230µm,0.3s							
GUMA					AML	AML		
	comp=N,5495µm,0.5s							
RM33	**Pellescritta (**	**0.33**	**174**		P	Pg	01 13 07.4	+0.4
RM33					S	Sb	01 13 12.8	-0.9
RM33					AML	AML		
	comp=E,1595µm,1.3s							
RM33					AML	AML		
	comp=E,1565µm,1.3s							
RM33					AML	AML		
	comp=N,1430µm,0.3s							
RM33					AML	AML		
	comp=E,1600µm,1.3s							
RM33					AML	AML		
	comp=N,1445µm,0.3s							
SEF1	**Sefro**	**0.35**	**333**		P	Pg	01 13 07.8	+0.4
CAMP	**Campotosto**	**0.35**	**149**		⇑P	Pg	01 13 07.6	+0.3
CAMP					S	Sg	01 13 13.1	+1.1
CAMP					AML	AML		
	comp=N,438µm,0.5s							
CAMP					AML	AML		
	comp=E,552µm,0.2s							
MDAR	**Monte D'Aria**	**0.36**	**357**		⇑P	Pg	01 13 08.0	+0.4
MDAR					AML	AML		
	comp=E,844µm,1.2s							
MDAR					AML	AML		
	comp=N,1149µm,1.3s							
MDAR					AML	AML		
	comp=E,844µm,1.2s							
MDAR					AML	AML		
	comp=N,1146µm,1.3s							
MNTP	**Montappone**	**0.38**	**36**		⇓P	Pb	01 13 08.9	-0.1
MNTP					AML	AML		
	comp=E,2335µm,1.5s							
MNTP					AML	AML		
	comp=N,1810µm,0.1s							
TERO	**Teramo**	**0.39**	**123**		⇑P	Pg	01 13 08.2	+0.2
TERO					AML	AML		
	comp=E,890µm,1.1s							
TERO					AML	AML		
	comp=N,1068µm,1.3s							
TERO					AML	AML		
	comp=E,976µm,1.1s							
TERO					AML	AML		
	comp=N,1205µm,1.3s							
ARRO	**Arrone**	**0.39**	**229**		⇑P	Pg	01 13 08.5	+0.4
ARRO					AML	AML		
	comp=N,707µm,0.2s							
ARRO					AML	AML		
	comp=E,523µm,0.2s							
OFFI	**Offida**	**0.40**	**75**		⇑P	Pb	01 13 09.4	0.0
OFFI					AML	AML		
	comp=N,1195µm,0.5s							
OFFI					AML	AML		
	comp=E,970µm,0.3s							
T1247	**Pizzolo (AQ)**	**0.41**	**166**		⇑P	Pg	01 13 08.7	+0.3
T1247					AML	AML		
	comp=E,1240µm,0.3s							
T1247					AML	AML		
	comp=N,1755µm,0.9s							
GAG1	**Gagliole**	**0.41**	**350**		⇑P	Pg	01 13 09.0	+0.5
ASSB	**Assisi San Ben**	**0.42**	**299**		⇑P	Pg	01 13 09.0	+0.2
ASSB					AML	AML		
	comp=E,827µm,0.8s							
ASSB					AML	AML		
	comp=N,1000µm,0.7s							
SNTG	**Esanatoglia**	**0.45**	**339**		⇑P	Pg	01 13 09.4	+0.2
SNTG					AML	AML		
	comp=N,746µm,0.2s							
SNTG					AML	AML		
	comp=E,514µm,0.1s							
SNTG					AML	AML		
	comp=N,831µm,0.2s							
SNTG					AML	AML		
	comp=N,746µm,0.2s							
SNTG					AML	AML		
	comp=E,548µm,1.0s							
CESX	**Cesi**	**0.49**	**243**		⇑P	Pg	01 13 10.0	+0.1
CESX					AML	AML		
	comp=E,555µm,0.5s							
CESX					AML	AML		
	comp=N,616µm,0.3s							
GIGS	**Gran Sasso**	**0.49**	**142**		⇓P	Pg	01 13 09.8	-0.1
GIGS					AML	AML		
	comp=N,142µm,1.2s							
GIGS					AML	AML		
	comp=E,150µm,0.6s							
EL6	**Elcito**	**0.50**	**355**		⇑P	Pg	01 13 10.3	+0.2
EL6					S	Sb	01 13 19.0	+0.5
EL6					AML	AML		
	comp=E,2250µm,1.6s							
EL6					AML	AML		
	comp=N,1135µm,0.2s							
AQU	**L'Aquila**	**0.51**	**160**		⇑P	Pg	01 13 10.4	+0.1
AQU					AML	AML		
	comp=E,336µm,1.5s							
AQU					AML	AML		
	comp=N,360µm,0.3s							
ATCC	**AVT- Casa Cast**	**0.52**	**312**		⇑P	Pg	01 13 10.8	+0.3
ATCC					AML	AML		
	comp=N,493µm,0.9s							
ATCC					AML	AML		
	comp=E,638µm,1.2s							
CING	**Cingoli**	**0.54**	**2**		⇑P	Pg	01 13 11.1	+0.1

CING				AML	AML		
	comp=E,566µm,0.6s						
CING				AML	AML		
	comp=N,708µm,0.1s						
FOSV	**Fossato di Vic**	**0.55**	**327**	⇑P	Pg	01 13 11.2	+0.2
FOSV				AML	AML		
	comp=N,645µm,0.2s						
FOSV				AML	AML		
	comp=E,644µm,0.2s						
FOSV				AML	AML		
	comp=N,644µm,0.2s						
FIAM	**Fiamignano**	**0.57**	**184**	⇑P	Pg	01 13 11.4	-0.1
FIAM				S	Sb	01 13 21.0	+0.5
PP3	**Marolino**	**0.63**	**31**	⇑P	Pb	01 13 13.7	+0.3
PP3				AML	AML		
	comp=E,1655µm,0.4s						
PP3				AML	AML		
	comp=N,1520µm,1.0s						
PP3				AML	AML		
	comp=E,1535µm,0.4s						
PP3				AML	AML		
	comp=E,1530µm,0.4s						
PP3				AML	AML		
	comp=N,1615µm,0.9s						
MURB	**Monte Urbino**	**0.64**	**313**	P	Pg	01 13 13.1	+0.3
MURB				AML	AML		
	comp=E,910µm,0.2s						
MURB				AML	AML		
	comp=E,958µm,0.3s						
MURB				AML	AML		
	comp=N,822µm,1.5s						
MURB				AML	AML		
	comp=N,864µm,1.5s						
MURB				AML	AML		
	comp=E,910µm,0.2s						
MURB				AML	AML		
	comp=E,957µm,0.3s						
SSFR	**Montelago di S**	**0.66**	**335**	⇓P	Pg	01 13 13.3	0.0
SSFR				AML	AML		
	comp=E,1195µm,0.7s						
SSFR				AML	AML		
	comp=N,1178µm,0.2s						
SSFR				AML	AML		
	comp=E,1130µm,0.7s						
SSFR				AML	AML		
	comp=N,1158µm,0.2s						
VCEL	**Villa Celiera**	**0.67**	**131**	⇑P	Pg	01 13 13.5	+0.2
VCEL				AML	AML		
	comp=E,390µm,0.4s						
VCEL				AML	AML		
	comp=N,450µm,0.3s						
VCEL				AML	AML		
	comp=E,390µm,0.4s						
VCEL				AML	AML		
	comp=N,450µm,0.3s						
ARVD	**Arcevia**	**0.68**	**346**	⇑P	Pg	01 13 13.6	0.0
ARVD				S	Sb	01 13 25.0	+1.2
ARVD				AML	AML		
	comp=E,267µm,0.1s						
ARVD				AML	AML		
	comp=N,244µm,0.1s						
ATFO	**Monte Foce - G**	**0.69**	**321**	⇑P	Pg	01 13 13.7	0.0
ATFO				AML	AML		
	comp=E,199µm,1.1s						
ATFO				AML	AML		
	comp=N,238µm,0.4s						
ATTE	**AVT- Monte Tez**	**0.70**	**302**	⇑P	Pb	01 13 14.9	+0.3
ATTE				AML	AML		
	comp=E,150µm,0.4s						
ATTE				AML	AML		
	comp=N,142µm,0.2s						
FRON	**Frontone**	**0.75**	**335**	⇓P	Pg	01 13 14.8	-0.2
FRON				AML	AML		
	comp=E,366µm,0.2s						
FRON				AML	AML		
	comp=N,355µm,0.2s						
T0110	**Collepietro**	**0.76**	**143**	⇓P	Pg	01 13 14.7	-0.3
T0110				AML	AML		
	comp=E,343µm,0.5s						
T0110				AML	AML		
	comp=N,400µm,0.4s						
SRES	**S.Oreste - Sor**	**0.77**	**219**	⇓P	Pg	01 13 15.3	+0.1
SRES				AML	AML		
	comp=E,154µm,0.7s						
SRES				AML	AML		
	comp=N,132µm,1.3s						
MGAB	**Montegabbione**	**0.78**	**276**	P	Pb	01 13 15.9	0.0
MGAB				AML	AML		
	comp=N,492µm,0.7s						
MGAB				AML	AML		
	comp=E,472µm,0.5s						
MGAB				AML	AML		
	comp=N,498µm,0.2s						
MGAB				AML	AML		
	comp=E,425µm,0.5s						
ATVO	**AVT- Monte Val**	**0.78**	**315**	⇓P	Pg	01 13 15.4	-0.1
ATVO				AML	AML		
	comp=E,148µm,0.2s						
ATVO				AML	AML		
	comp=N,154µm,0.7s						
ATVO				AML	AML		
	comp=N,154µm,0.7s						
AOI	**Ancona**	**0.78**	**24**	⇓P	Pb	01 13 16.0	0.0
AOI				AML	AML		
	comp=E,294µm,0.4s						
AOI				AML	AML		
	comp=N,245µm,1.2s						
AOI				AML	AML		
	comp=E,295µm,0.4s						
ATPI	**Pietralunga -**	**0.83**	**318**	⇓P	Pb	01 13 16.6	-0.2
ATPI				AML	AML		
	comp=N,124µm,0.4s						
ATPI				AML	AML		
	comp=N,124µm,0.4s						
ATPI				AML	AML		
	comp=E,153µm,0.8s						
PTQR	**Pietraquaria**	**0.83**	**168**	⇓P	Pg	01 13 16.1	-0.3
PTQR				AML	AML		
	comp=N,66µm,0.6s						
PTQR				AML	AML		
	comp=E,93µm,1.1s						
PTQR				AML	AML		
	comp=N,66µm,0.6s						
MPAG	**Monte Paganucc**	**0.85**	**340**	⇓P	Pg	01 13 16.7	0.0
MPAG				S	Sn	01 13 31.0	+0.2
MPAG				AML	AML		
	comp=E,356µm,0.3s						
MPAG				AML	AML		
	comp=N,170µm,1.1s						
MPAG				AML	AML		
	comp=E,357µm,0.3s						
MTCE	**Montecelio**	**0.87**	**201**	⇓P	Pg	01 13 16.5	-0.6
MTCE				AML	AML		
	comp=E,156µm,0.5s						
MTCE				AML	AML		
	comp=N,99µm,1.3s						
MTCE				AML	AML		
	comp=E,156µm,0.5s						
MTCE				AML	AML		
	comp=N,99µm,1.3s						
CERT	**Cerreto**	**0.90**	**189**	⇑P	Pg	01 13 16.9	-0.7
CERT				AML	AML		
	comp=E,226µm,0.8s						
CERT				AML	AML		
	comp=N,200µm,0.4s						
FSSB	**Fossombrone**	**0.90**	**342**	⇓P	Pg	01 13 17.8	0.0
FSSB				S	Sn	01 13 33.0	+0.9
FSSB				AML	AML		
	comp=E,684µm,0.3s						
FSSB				AML	AML		
	comp=N,808µm,0.3s						
FSSB				AML	AML		
	comp=E,684µm,0.3s						
SACS	**San Casciano d**	**0.92**	**271**	⇓P	Pn	01 13 20.6	+1.3
BADI	**Badiali**	**0.95**	**315**	⇓P	Pb	01 13 19.0	+0.1
PE3	**Peglio**	**0.99**	**331**	⇓P	Pn	01 13 20.1	-0.1
CAFI	**Castiglion Fio**	**1.01**	**300**	⇑P	Pb	01 13 20.1	+0.2
CAFI				AML	AML		
	comp=N,130µm,1.1s						
CAFI				AML	AML		
	comp=E,122µm,1.5s						
MTCR	**Monte La Croce**	**1.98**	**308**	S	Sg	01 14 04.0	+0.1
PII	**Pisa**	**2.12**	**296**	S	Sn	01 14 03.0	+0.9
ZCCA	**Zocca**	**2.20**	**314**	S	Sg	01 14 13.0	+2.1
BDI	**Bagni Di Lucca**	**2.24**	**304**	S	Sn	01 14 06.0	+0.9
VLC	**Villacollemand**	**2.42**	**304**	S	Sn	01 14 09.0	-0.4

IDC 08 01:18:31.9±3.9**,57°.86S**×**150°.35E,h0**km**,mb3.6**/3**, mbtmp3.7**/3**,Error ellipse: s-maj=275.0km s-min=29.3km az=76.0,West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.14**	**173**	P	P	01 23 07.2	+0.1
	2.0nm,1.1s,baz=352,slow=12,SNR=5.1						
	2.0nm,1.1s						
H01W1	**Cape Leeuwin H**	**33.30**	**298**	T	T	02 00 48.7	
	baz=144,SNR=2.6						
H01W2	**Cape Leeuwin H**	**33.30**	**298**	T	T	02 00 52.8	
	baz=144						
H01W3	**Cape Leeuwin H**	**33.31**	**298**	T	T	02 00 53.9	
	baz=144						
ASAR	**Alice Springs**	**36.16**	**334**	P	P	01 25 34.6	-1.2
	0.8nm,1.0s,baz=162,slow=9.5,SNR=3.5						
	0.8nm,1.0s						
WRA	**Warramunga Arr**	**39.66**	**336**	P	P	01 26 06.2	+0.9
	1.9nm,1.1s,baz=164,slow=7.5,SNR=6.2						
	1.9nm,1.1s						
H03S2	**Juan Fernandez**	**79.73**	**140**	T	T	02 59 45.2	
	baz=201,slow=74,SNR=4.3						
H03S1	**Juan Fernandez**	**79.74**	**140**	T	T	02 59 46.4	
	baz=201,slow=74,SNR=3.3						
H03S3	**Juan Fernandez**	**79.75**	**140**	T	T	02 59 44.1	
	baz=201,slow=74,SNR=3.9						
AKASG	**Malin Array Be**	**145.89**	**284**	PKPbc	PKPdf	01 38 10.9	-0.4
	0.9nm,0.6s,baz=105,slow=2.7,SNR=7.1						

IDC 08 01:20:56.8±3.2**,58°.12S**×**148°.03E,h0**km**,mb3.5**/3**, mbtmp3.6**/3**,Error ellipse: s-maj=282.9km s-min=29.2km az=77.0,West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.05**	**171**	P	P	01 25 31.7	+0.6
	1.3nm,0.9s,baz=349,slow=14,SNR=3.1						
	1.3nm,0.9s						
H01W1	**Cape Leeuwin H**	**32.35**	**301**	T	T	02 01 59.8	
	baz=144,slow=75,SNR=3.0						
H01W2	**Cape Leeuwin H**	**32.35**	**301**	T	T	02 02 00.5	
	baz=144,slow=75,SNR=4.4						
H01W3	**Cape Leeuwin H**	**32.36**	**301**	T	T	02 02 01.0	
	baz=144,slow=75,SNR=4.0						
ASAR	**Alice Springs**	**35.89**	**338**	P	P	01 27 58.6	+0.2
	0.7nm,0.9s,baz=168,slow=10,SNR=4.8						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**39.42**	**339**	P	P	01 28 28.3	0.0
	1.5nm,0.9s,baz=166,slow=7.2,SNR=6.4						
	1.5nm,0.9s						
AKASG	**Malin Array Be**	**144.76**	**285**	PKP	PKPdf	01 40 34.0	-0.3
	1.7nm,0.7s,baz=93,slow=2.9,SNR=5.1						
GERES	**GERESS Array B**	**151.80**	**271**	PKPbc	PKPbc	01 40 51.3	-1.1
	0.1nm,0.3s,baz=90,slow=2.3,SNR=2.2						

*DNK **08** 01:23:18.9±1.5,51°.66N×16°.35E,h0km±45km,ML2.0*
*IPEC **08** 01:23:20.4±0.3,51°.55N×16°.23E,h0km±1km,ML2.6/4, Error ellipse: s-maj=2.1km s-min=1.5km az=34.0*
*PRU **08** 01:23:20.3±0.0,51°.54N×16°.14E,h0km*
*VIE **08** 01:23:21.1±0.9,51°.47N×16°.05E,h0km,mb2.6/5,ml2.8/4, Error ellipse: s-maj=9.6km s-min=4.0km az=60.0 79 km WNW of Wroclaw Suspected Mining induced.*
*IDC **08** 01:23:21.5±1.2,51°.48N×16°.04E,h0km,mbtmp3.3/5, ML2.8/5,Error ellipse: s-maj=15.5km s-min=9.9km az=124.0*
ISC 08 01:23:18.8±0.7**,51°.63N**±0°.03×**16°.07E**±0°.02**,h0**km**,n50,** σ**1.19**/101**,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**170**	*i* Pg	**Pg**	**01 23 34.4**	**+0.4**
KSP				*e*Sg	**Sg**	**01 23 44.0**	**-0.3**
CHVC	**Chvalec**	**1.04**	**181**	*e*SG	**Sg**	**01 23 51.1**	**-1.0**
OSTC	**Ostas**	**1.07**	**175**	*e*PG	**Pg**	**01 23 39.1**	**-0.3**
OSTC				*e*SG	**Sg**	**01 23 51.7**	**-1.6**
	comp=Z,94nm,0.8s						
UPC	**Upice**	**1.12**	**182**	*e*PG	**Pg**	**01 23 40.1**	**-0.2**
UPC				*e*SG	**Sg**	**01 23 53.8**	**-0.9**
	comp=Z,106nm,0.6s						
DPC	**Dobruska-Polom**	**1.29**	**173**	*e*PG	**Pg**	**01 23 42.9**	**-0.5**
DPC				*e*SG	**Sg**	**01 23 58.2**	**-1.9**
	comp=Z,35nm,0.5s						
PVCC	**Panska Ves**	**1.45**	**221**	*e*PG	**Pb**	**01 23 47.1**	**+0.4**
PVCC				*e*SG	**Sg**	**01 24 05.7**	**+0.3**
	comp=Z,134nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**241**	Pg	**Pg**	**01 23 49.2**	**+0.9**
BRG				Sg	**Sg**	**01 24 09.8**	**+1.7**
BRG				Amp		01 24 11.6	
	comp=Z,78nm,0.4s						
KRLC	**Kraliky**	**1.61**	**164**	*e*PG	**Pn**	**01 23 48.3**	**-0.3**
KRLC				*e*SG	**Sn**	**01 24 09.4**	**-0.8**
	comp=Z,41nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.90**	**206**	*e*PG	**Pn**	**01 23 52.7**	**+0.2**
GOPC				*e*SG	**Sb**	**01 24 18.5**	**-0.1**
	comp=Z,37nm,0.7s						
PRU	**Pruhonice**	**1.91**	**211**	*e*PG	**Pn**	**01 23 53.4**	**+0.9**
PRU				*e*SG	**Sb**	**01 24 19.5**	**+0.8**
	comp=Z,38nm,0.6s						
CLL	**Collm**	**1.95**	**262**	*e*Pn	**Pn**	**01 23 54.0**	**+0.9**
CLL				*e*Pg	**Pg**	**01 23 57.0**	**+0.9**
CLL				*e*x	x	01 23 57.0	
CLL				*i* x	x	01 24 00.6	
CLL				*e*Sg	**Sg**	**01 24 23.0**	**+1.7**
	comp=Z,47nm,0.4s						
MORC	**Moravsky Berou**	**2.07**	**153**	*e*PN	**Pn**	**01 23 54.5**	**-0.4**
MORC				*e*SG	**Sn**	**01 24 21.9**	**+0.5**
MORC	**Moravsky Berou**	**2.07**	**153**	*e*Pn	**Pn**	**01 23 54.5**	**-0.4**
	baz=335						
MORC				*e*Sg	**Sn**	**01 24 21.8**	**+0.4**
	comp=Z,35nm,0.8s,baz=335						
OKC	**Ostrava-Krasne**	**2.22**	**143**	*e*PG	**Pb**	**01 24 00.1**	**+0.3**
OKC				*e*SG	**Sb**	**01 24 28.1**	**+0.2**
	comp=Z,32nm,0.7s						
VRAC	**Vranov**	**2.34**	**172**	Pn	**Pn**	**01 23 58.4**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=346,slow=14,SNR=17						
VRAC				Pg	**Pb**	**01 24 02.7**	**+0.8**
	comp=Z,3.3nm,0.3s,baz=353,slow=15,SNR=16						
VRAC				Lg	Lg	01 24 32.6	
	comp=Z,5.1nm,0.3s,baz=66,slow=18,SNR=8.9						
	comp=Z,4.0nm,0.3s						
VRAC	**Vranov**	**2.34**	**172**	*e*PN	**Pn**	**01 23 59.0**	**+0.4**
VRAC				*e*SG	**Sb**	**01 24 31.0**	**-0.4**
VRAC	**Vranov**	**2.34**	**172**	*e*Pn	**Pn**	**01 23 59.0**	**+0.4**
	baz=354						
VRAC				*e*Sg	**Sb**	**01 24 30.9**	**-0.4**
	comp=Z,24nm,0.5s,baz=354						
TREC	**Trest**	**2.36**	**189**	*e*PN	**Pn**	**01 23 59.2**	**+0.3**
TREC				*e*PG	**Pb**	**01 24 02.4**	**+0.1**
TREC				*e*SG	**Sb**	**01 24 32.6**	**+0.7**
	comp=Z,29nm,0.6s						
MAUC	**Maruska**	**2.52**	**153**	*e*PN	**Pn**	**01 24 01.1**	**0.0**
MAUC				*e*PG	**Pb**	**01 24 04.4**	**-0.6**
MAUC				*e*SG	**Sb**	**01 24 38.0**	**+1.4**
	comp=Z,55nm,0.6s						
KRUC	**Moravsky**	**2.57**	**175**	*e*PN	**Pn**	**01 24 02.2**	**+0.4**
KRUC				*e*PG	**Pb**	**01 24 06.2**	**+0.4**
KRUC				*e*SG	**Sb**	**01 24 38.5**	**+0.4**
KRUC	**Moravsky**	**2.57**	**175**	*e*Pn	**Pn**	**01 24 02.2**	**+0.4**
	baz=358						
KRUC	**Moravsky**	**2.57**	**175**	*e*Pg	**Pb**	**01 24 06.2**	**+0.4**
	baz=358						
KRUC				*e*Sg	**Sb**	**01 24 38.4**	**+0.4**
	comp=Z,20nm,0.6s,baz=358						
NKC	**Novy Kostel**	**2.68**	**240**	*e*PN	**Pn**	**01 24 04.5**	**+1.2**
NKC				*e*PG	**Pg**	**01 24 09.4**	**-0.8**
NKC				*e*SG	**Sg**	**01 24 45.8**	**+0.8**
	comp=Z,72nm,0.6s						
OJC	**Ojcow**	**2.75**	**119**	*e*Pg	**Pb**	**01 24 08.7**	**-0.1**
OJC				*e*Sg	**Sb**	**01 24 44.1**	**+1.2**
JAVC	**Velka Javorina**	**2.95**	**159**	*e*Pn	**Pn**	**01 24 07.3**	**+0.3**
	baz=342						
KHC	**Kasperske Hory**	**2.96**	**214**	*e*PN	**Pn**	**01 24 07.5**	**+0.4**
KHC				*e*PG	**Pb**	**01 24 13.5**	**+1.0**
KHC				*e*SN	**Sn**	**01 24 43.2**	**-0.2**
KHC				*e*SG	**Sg**	**01 24 52.1**	**-1.9**
	comp=Z,16nm,0.5s						
CKRC	**Cesky Krumlov**	**3.03**	**203**	*e*PN	**Pn**	**01 24 08.7**	**+0.7**
CKRC				*e*PG	**Pb**	**01 24 14.7**	**+1.1**
CKRC				*e*SG	**Sg**	**01 24 54.7**	**-1.3**
GERES	**GERESS Array B**	**3.17**	**210**	Pn	**Pn**	**01 24 10.2**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=30,slow=12,SNR=40						
GERES				Pg	**Pb**	**01 24 17.6**	**+1.5**
	comp=Z,2.9nm,0.3s,baz=33,slow=17,SNR=20						
GERES				Lg	Lg	01 24 59.2	
	comp=Z,3.8nm,0.3s,baz=38,slow=28,SNR=12						
	comp=Z,2.6nm,0.3s						
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PN	**Pn**	**01 24 13.7**	**+1.3**
MODS				*e*PG	**Pg**	**01 24 23.1**	**+0.2**
MODS				*e*SG	**Sg**	**01 25 04.5**	**-1.8**
MODS				*e*		01 48 02.0	
ZST	**Bratislava**	**3.50**	**169**	*e*SG	**Sg**	**01 25 08.4**	**-2.7**
BSD	**Bornholm Skovb**	**3.56**	**349**	*i* P	**Pn**	**01 24 15.5**	**+0.2**
BSD				*i* S	**Sn**	**01 24 56.1**	**-2.0**
BSD				IAML		01 25 21.6	
	comp=Z,0.7nm,0.1s						
VYHS	**Vyhne**	**3.60**	**149**	*e*PN	**Pn**	**01 24 15.4**	**-0.5**
VYHS				*e*PG	**Pg**	**01 24 28.9**	**+1.0**
VYHS				*e*SG	**Sg**	**01 25 14.3**	**-0.3**
VYHS				*e*		01 47 58.5	
CONA	**Conrad Observa**	**3.70**	**182**	*e*Pn	**Pn**	**01 24 17.9**	**+0.5**
	comp=Z,1.6nm,0.3s,SNR=5.7						
CONA				*e*Sg	**Sg**	**01 25 17.5**	**-0.2**
	comp=Z,11nm,0.5s						
RONA	**Rosalia, Austr**	**3.93**	**178**	*i* Pn	**Pn**	**01 24 20.9**	**+0.5**
	comp=Z,1.2nm,0.4s						
RONA				Sg	**Sg**	**01 25 21.9**	**-3.2**
	comp=Z,9.1nm,0.7s						
MOA	**Molln**	**3.96**	**198**	*e*Pn	**Pn**	**01 24 21.5**	**+0.7**
	comp=Z,5.6nm,0.3s,SNR=20						
MOA				Sg	**Sg**	**01 25 25.1**	**-0.7**
	comp=Z,16nm,0.5s						
STHS	**Stebnicka Huta**	**3.97**	**122**	*e*PN	**Pn**	**01 24 20.8**	**-0.2**
STHS				*e*PG	**Pg**	**01 24 35.8**	**+0.9**
STHS				*e*SG	**Sg**	**01 25 29.1**	**+2.8**
LUNU	**Lund**	**4.31**	**340**	*i* P	**Pn**	**01 24 26.6**	**+1.1**
LUNU				*i* S	**Sn**	**01 25 16.0**	**-0.4**
ARSA	**Arzberg**	**4.39**	**185**	*i* Pn	**Pn**	**01 24 26.6**	**-0.2**
	comp=Z,2.1nm,0.3s						
ARSA				Sg	**Sg**	**01 25 37.1**	**-2.8**
	comp=Z,18nm,1.1s						
CRVS	**Cervenica-Dubn**	**4.40**	**126**	*e*PG	**Pg**	**01 24 44.6**	**+1.5**
COP	**Copenhagen**	**4.61**	**333**	IAML		01 25 34.5	
	comp=Z,8.2nm,0.1s						
BLEU	**Blekinge**	**4.69**	**358**	*i* P	**Pn**	**01 24 31.9**	**+1.2**
BLEU				*i* S	**Sn**	**01 25 23.3**	**-2.6**
BLEU				*i* S	**Sn**	**01 25 23.6**	**-2.3**
KOLS	**Kolonicke sedl**	**4.80**	**122**	*e*PN	**Pn**	**01 24 32.6**	**+0.2**
KOLS				*e*PG	**Pg**	**01 24 53.3**	**+2.5**
KOLS				*e*SG	**Sg**	**01 25 54.0**	**+1.0**
KOLS				*e*		01 48 03.8	
BJUU	**Bjuv**	**4.81**	**339**	*i* P	**Pn**	**01 24 32.9**	**+0.5**
BJUU				*i* S	**Sn**	**01 25 27.1**	**-1.6**
DEL	**Delary**	**5.03**	**346**	*i* P	**Pn**	**01 24 35.9**	**+0.5**
DEL				*i* S	**Sn**	**01 25 32.3**	**-1.8**
DEL				IAML		01 25 34.5	
	comp=Z,0.3nm,0.2s						
FABU	**Falkenberg**	**5.73**	**341**	*i* P	**Pn**	**01 24 45.2**	**+0.1**
FABU				*i* S	**Sn**	**01 25 49.6**	**-1.9**
ONAU	**Onsala**	**6.27**	**339**	*i* S	**Sn**	**01 26 01.5**	**-3.1**
BORU	**Boraas**	**6.32**	**344**	*i* S	**Sn**	**01 26 03.0**	**-2.9**
DAVOX	**Davos/Dischmat**	**6.32**	**222**	Pn	**Pn**	**01 24 54.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=351,slow=16,SNR=1.9						
DAVOX				Lg	Lg	01 26 39.1	
	comp=Z,0.4nm,0.3s,baz=219,slow=20,SNR=5.3						
	comp=Z,0.7nm,0.3s						
AKASG	**Malin Array Be**	**8.32**	**91**	Pn	**Pn**	**01 25 20.9**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=281,slow=13,SNR=3.1						
	comp=Z,0.8nm,0.6s						
FINES	**FINESS Array B**	**11.27**	**25**	Pn	**Pn**	**01 26 00.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=201,slow=11,SNR=3.5						
	comp=Z,5.0nm,0.9s						

IDC 08 01:27:46.2±3.5**,4°.15S**×**143°.78E,h0**km**,mb3.7**/2**, mbtmp4.0**/3**,ML4.4**/1**,Error ellipse: s-maj=108.5km s-min=30.6km az=97.0,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.20**	**210**	P	P	01 32 01.7	+0.8
	1.2nm,0.3s,baz=30,slow=12,SNR=67						
	5.2nm,0.5s						
ASAR	**Alice Springs**	**21.62**	**205**	P	P	01 32 37.2	-1.0
	1.6nm,0.5s,baz=30,slow=12,SNR=17						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**74.04**	**321**	P	P	01 39 24.3	+0.2
	0.5nm,0.5s,baz=105,slow=7.3,SNR=5.1						
	0.5nm,0.5s						

*IDC **08** 01:28:10.1±1.5,58°.00S×148°.71E,h0km,mb4.3/5, mbtmp4.3/5,MS4.1/14,Error ellipse: s-maj=106.6km s-min=19.0km az=81.0*
*NEIC **08** 01:28:10.5±1.9,58°.1S±0°.1×148°.8E±0°.3,h10km±2km, mb4.5/20,Error ellipse: s-maj=23.7km s-min=17.9km az=289.0*
ISC 08 01:28:10.5±0.6**,58°.08S**±0°.08×**148°.9E**±0°.1**,h10**km**,n59,** σ**1.46**/39**,mb4.4**/10**,MS4.0**/14**,West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.67**	**62**	Pn	**Pn**	**01 29 47.7**	**-0.7**
PYZ	**Puysegur Point**	**16.13**	**50**	Pn	**Pn**	**01 31 56.4**	**-0.6**
CASY	**Casey**	**19.36**	**229**	P	**P**	**01 32 35.2**	**-0.7**
RPZ	**Rata Peaks**	**19.94**	**53**	P	**Pn**	**01 32 43.8**	**-0.2**
RPZ				IAmb	IAmb	01 32 47.2	
	comp=Z,40nm,1.3s						
VNDA	**Vanda**	**20.03**	**172**	P	**P**	**01 32 44.2**	**+1.2**
	comp=Z,20nm,1.2s,baz=339,slow=12,SNR=19						
	comp=Z,20nm,1.2s						
VNDA	**Vanda**	**20.03**	**172**	P	**P**	**01 32 42.9**	**-0.1**
VNDA				IAmb	IAmb	01 32 49.4	
	comp=Z,36nm,1.2s						
TOO	**Toolangi**	**20.64**	**352**	P	Pn	01 32 51.3	-1.0
TOO				IAmb	IAmb	01 33 02.9	
	comp=Z,38nm,1.3s						
SBA	**Scott Base**	**20.76**	**169**	P	**P**	**01 32 49.8**	**-1.1**
SBA				IAmb	IAmb	01 32 58.6	
	comp=Z,37nm,1.4s						
STKA	**Stephens Creek**	**26.67**	**346**	P	**P**	**01 33 53.2**	**+3.8**
	comp=Z,4.9nm,0.8s,baz=152,slow=14,SNR=6.2						
STKA				LR	LR	01 43 11.3	
	comp=Z,245nm,19.6s,baz=191,slow=34						
STKA	**Stephens Creek**	**26.67**	**346**	P	**P**	**01 33 50.6**	**+1.2**
BBOO	**Buckleboo**	**26.73**	**336**	P	**P**	**01 33 49.7**	**-0.2**
URZ	**Urewera**	**27.03**	**55**	LR	LR	01 43 00.1	
	comp=Z,283nm,20.8s,baz=306,slow=33						
FORT	**Forrest**	**30.81**	**323**	P	**P**	**01 34 26.4**	**+0.1**
QSPA	**South Pole Qui**	**32.02**	**180**	P	**P**	**01 34 37.9**	**+1.1**
	comp=Z,4.4nm,0.9s,baz=343,slow=3.8,SNR=6.6						
	comp=Z,4.4nm,0.9s						
QSPA	**South Pole Qui**	**32.02**	**180**	P	**P**	**01 34 37.4**	**+0.6**
H01W1	**Cape Leeuwin H**	**32.70**	**300**	T	T	02 09 08.3	
	baz=144,slow=74,SNR=11						
H01W2	**Cape Leeuwin H**	**32.71**	**300**	T	T	02 09 08.7	
	baz=144,slow=74,SNR=6.6						
H01W3	**Cape Leeuwin H**	**32.72**	**300**	T	T	02 09 09.8	
	baz=144,slow=74,SNR=9.4						
EIDS	**Eidsvold**	**32.73**	**4**	P	**P**	**01 34 43.6**	**+0.4**
EIDS				IAmb	IAmb	01 34 54.7	
	comp=Z,17nm,1.4s						
NWAO	**Narrogin (SRO)**	**32.98**	**306**	LR	LR	01 45 17.4	
	comp=Z,277nm,20.7s,baz=9.0,slow=31						
ASAR	**Alice Springs**	**36.02**	**336**	P	**P**	**01 35 11.9**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=163,slow=9.2,SNR=11						
ASAR				LR	LR	01 47 36.1	
	comp=Z,269nm,21.2s,baz=169,slow=32						
	comp=Z,2.7nm,0.9s						
ASAR	**Alice Springs**	**36.02**	**336**	P	**P**	**01 35 11.3**	**-0.4**
AS31	**Alice Springs**	**36.02**	**336**	P	**P**	**01 35 11.8**	**0.0**
CTA	**Charters Tower**	**37.99**	**356**	P	**P**	**01 35 28.9**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=188,slow=7.9,SNR=4.6						
CTA				LR	LR	01 48 59.2	
	comp=Z,530nm,20.8s,baz=202,slow=33						
	comp=Z,3.7nm,0.8s						
CTAO	**Charters Tower**	**37.99**	**356**	P	**P**	**01 35 29.5**	**+1.1**
CTAO				IAmb	IAmb	01 35 31.4	
	comp=Z,10nm,1.2s						
DZM	**Mont Dzumac**	**38.16**	**27**	LR	LR	01 47 11.3	
	comp=Z,286nm,20.4s,baz=214,slow=30						
WR0	**Warramunga Arr**	**39.49**	**339**	P	**P**	**01 35 40.0**	**-1.0**
WB2	**Warramunga Arr**	**39.55**	**338**	P	**P**	**01 35 40.6**	**-0.9**
WB2				IAmb	IAmb	01 35 43.3	
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**39.55**	**338**	P	**P**	**01 35 40.9**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=165,slow=7.3,SNR=18						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA				LR	LR	01 50 08.2	
	comp=Z,255nm,19.9s,baz=186,slow=33						
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**39.55**	**338**	P	**P**	**01 35 40.4**	**-1.2**
WB0	**Warramunga Arr**	**39.71**	**338**	P	**P**	**01 35 41.8**	**-1.0**
WB0				IAmb	IAmb	01 35 43.6	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**42.09**	**318**	P	**P**	**01 36 01.4**	**-1.0**
PSA00				IAmb	IAmb	01 36 03.5	
	comp=Z,13nm,1.3s						
MBWA	**Marble Bar**	**42.51**	**318**	P	**P**	**01 36 05.5**	**-0.3**
BELA	**Belgrano 2**	**44.28**	**179**	P	**P**	**01 36 18.9**	**-0.6**
BELA				IAmb	IAmb	01 36 25.5	
	comp=Z,5.2nm,1.0s						
MSVF	**Nonsavu**	**45.70**	**41**	LR	LR	01 51 25.5	
	comp=Z,200nm,20.6s,baz=141,slow=31						
PMG	**Port Moresby**	**48.59**	**358**	LR	LR	01 55 55.0	
	comp=Z,244nm,18.2s,baz=190,slow=34						
HNR	**Honiara**	**49.29**	**15**	LR	LR	01 52 57.8	
	comp=Z,2μm,21.0s,baz=212,slow=30						
KAPI	**Kappang**	**57.59**	**325**	LR	LR	02 02 12.5	
	comp=Z,156nm,19.1s,baz=186,slow=36						
DAV	**Davao City (W)**	**67.62**	**335**	LR	LR	02 08 35.3	
	comp=Z,95nm,18.8s,baz=342,slow=36						
H08S2	**Diego Garcia H**	**76.34**	**278**	T	T	03 03 41.0	
	baz=148,slow=74,SNR=3.0						
H08S1	**Diego Carcia H**	**76.35**	**278**	T	T	03 03 47.4	
	baz=148,slow=74,SNR=2.9						
H08S3	**Diego Garcia H**	**76.36**	**278**	T	T	03 03 40.3	
	baz=148						
H03S2	**Juan Fernandez**	**80.07**	**141**	T	T	03 09 17.2	
	baz=201,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**80.07**	**141**	T	T	03 09 21.0	
	baz=201,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**80.09**	**141**	T	T	03 09 17.9	
	baz=201,slow=74,SNR=13						
JOW	**Kunigami**	**86.33**	**342**	LR	LR	02 17 10.5	
	comp=Z,74nm,21.3s,baz=18,slow=34						
KSRS	**Korea Array**	**96.79**	**343**	LR	LR	02 22 09.9	
	comp=Z,33nm,21.9s,baz=195,slow=34						
TORD	**Torodi Ar. Bea**	**128.77**	**223**	PKP	**PKiKP**	**01 47 21.1**	**+2.5**
	comp=Z,0.7nm,0.9s,baz=151,slow=3.3,SNR=4.3						
BRTR	**Keskin Array B**	**135.55**	**275**	PKP	**PKiKP**	**01 47 32.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=149,slow=3.0,SNR=2.3						
AKASG	**Malin Array Be**	**145.17**	**285**	PKPbc	**PKPbc**	**01 47 46.4**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=104,slow=2.5,SNR=11						
KEST	**Kesra**	**145.21**	**248**	PKPbc	**PKPdf**	**01 47 48.2**	**+0.5**
	comp=Z,25nm,1.3s,baz=235,slow=9.9,SNR=3.2						
KRLC	**Kraliky**	**151.31**	**275**	*e*PKP	**PKiKP**	**01 48 04.8**	**+1.1**
TREC	**Trest**	**151.55**	**272**	*e*PKP	**PKiKP**	**01 48 05.6**	**+1.5**
DPC	**Dobruska-Polom**	**151.71**	**275**	*e*PKP	**PKPbc**	**01 48 03.3**	**-0.8**
FINES	**FINESS Array B**	**151.79**	**301**	PKPbc	**PKPbc**	**01 48 03.9**	**+0.1**
	comp=Z,6.7nm,0.9s,baz=147,slow=18,SNR=3.3						
OSTC	**Ostas**	**151.88**	**275**	*e*PKP	**PKPab**	**01 48 10.2**	**-3.5**
CKRC	**Cesky Krumlov**	**151.89**	**271**	*e*PKP	**PKiKP**	**01 48 08.7**	**+3.8**
GERES	**GERESS Array B**	**152.23**	**270**	PKPbc	**PKiKP**	**01 48 06.2**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=132,slow=2.0,SNR=11						
KHC	**Kasperske Hory**	**152.47**	**271**	*e*PKP	**PKPbc**	**01 48 02.9**	**-2.9**

---

*TIF **08** 01:30:02.8, 41°.56N×46°.91E, h13km±1km*
*MOS **08** 01:30:04.6±0.0, 41°.54N×46°.79E, h23km, MPVA3.8*
*DRS **08** 01:30:05.2±0.0, 41°.47N×46°.67E, h15km*
ISC 08 01:30:03.6±1.5**, 41°.46N**±0°.04×**46°.79E**±0°.02**, h1**km±11km**,**
n32, σ**0s74**/60**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.50**	**269**	P	**Pn**	**01 30 16.8**	**-1.2**
LGD	**Lagodekhi**	**0.56**	**313**	P	**Pg**	**01 30 14.5**	**+0.3**
LGD				S	**Sb**	**01 30 22.9**	**-1.8**
AKT	**Akhty**	**0.71**	**88**	*i* Pg	**Pb**	**01 30 19.1**	**+0.2**
AKT				*e*Sg	**Sb**	**01 30 29.1**	**-0.1**
KMKR	**Kumukh**	**0.71**	**19**	*e*Pg	**Pb**	**01 30 18.6**	**-0.4**
KMKR				*e*Sg	**Sb**	**01 30 28.1**	**-1.2**
GNBR	**Gunib**	**0.94**	**8**	*i* Pg	**Pb**	**01 30 22.5**	**-0.3**
GNBR				*e*Sg	**Sb**	**01 30 35.1**	**-0.7**
URKR	**Urkarakh**	**0.95**	**42**	*i* Pg	**Pb**	**01 30 23.2**	**+0.3**
URKR				*e*Sg	**Sb**	**01 30 36.1**	**0.0**
KSMR	**Kasumkent**	**1.02**	**81**	*e*Pg	**Pn**	**01 30 25.0**	**-0.1**
KSMR				*e*Sg	**Sn**	**01 30 39.4**	**-0.7**
ARKR	**Arakani**	**1.16**	**8**	*e*Pg	**Pb**	**01 30 26.3**	**-0.1**
ARKR				*e*Sg	**Sb**	**01 30 41.5**	**-0.4**
UNCR	**Uncukul**	**1.25**	**0**	*e*Pg	**Pb**	**01 30 27.9**	**-0.2**
UNCR				*e*Sg	**Sb**	**01 30 44.7**	**-0.1**
BTLR	**Botlikh**	**1.28**	**341**	*e*Pg	**Pg**	**01 30 28.0**	**-0.1**
BTLR				*e*Sg	**Sb**	**01 30 45.1**	**-0.4**
DRN	**Derbent**	**1.29**	**63**	*e*Pg	**Pn**	**01 30 29.1**	**+0.3**
DRN				*e*Sg	**Sn**	**01 30 46.6**	**-0.1**
BUJR	**Buynaksk**	**1.39**	**10**	*e*Pg	**Pn**	**01 30 30.0**	**-0.1**
BUJR				*e*Sg	**Sb**	**01 30 48.5**	**-0.1**
SEAG	**Tbilisi Sea**	**1.52**	**282**	P	**Pn**	**01 30 31.9**	**0.0**
SEAG				S	**Sg**	**01 30 53.3**	**+0.9**
DBC	**Dubki**	**1.56**	**1**	*e*Pg	**Pn**	**01 30 32.8**	**+0.1**
DBC				*e*Sg	**Sg**	**01 30 53.5**	**-0.3**
DVE	**Vedeno**	**1.58**	**342**	*e*Pg	**Pn**	**01 30 32.8**	**0.0**
DVE				*e*Sg	**Sn**	**01 30 53.5**	**-0.4**
MAK	**Makhachkala**	**1.59**	**19**	*e*Pg	**Pn**	**01 30 33.2**	**+0.3**
MAK				*e*Sg	**Sb**	**01 30 54.1**	**-0.4**
DLMR	**Dylym**	**1.61**	**356**	*e*Pg	**Pn**	**01 30 33.6**	**+0.3**
DLMR				*e*Sg	**Sg**	**01 30 55.1**	**-0.4**
SHTL	**Shatili**	**1.71**	**315**	P	**Pn**	**01 30 34.1**	**-0.6**
GROC	**Groznyy**	**1.89**	**338**	*e*Pg	**Pn**	**01 30 37.6**	**+0.6**
GROC				*e*Sg	**Sb**	**01 31 02.3**	**-0.8**
DMNI	**Dmanisi**	**1.96**	**267**	P	**Pn**	**01 30 37.6**	**-0.5**
DMNI				S	**Sn**	**01 31 03.0**	**-0.4**
GUDG	**Gudauri**	**1.99**	**301**	P	**Pn**	**01 30 39.3**	**+0.6**
GUDG				S	**Sb**	**01 31 06.0**	**-0.3**
PNSH	**Pansheti**	**2.00**	**307**	P	**Pn**	**01 30 39.4**	**+0.7**
KMGR	**Komgaron**	**2.14**	**319**	*e*Pg	**Pn**	**01 30 41.3**	**+0.8**
KMGR				*e*Sg	**Sb**	**01 31 08.8**	**-1.5**
LACR	**Lac**	**2.30**	**307**	*e*Pn	**Pn**	**01 30 43.4**	**+0.6**
LACR				*e*Sn	**Sn**	**01 31 12.9**	**+1.1**
ALIG	**Mtskhetisjvari**	**2.43**	**286**	P	**Pn**	**01 30 45.2**	**+0.6**
ALIG				S	**Sb**	**01 31 17.4**	**-1.4**
AKH	**Akhalkalaki**	**2.48**	**270**	P	**Pn**	**01 30 47.0**	**+1.7**
AKH				S	**Sb**	**01 31 18.7**	**-1.4**
ZEI	**Tsey**	**2.52**	**303**	*e*Pn	**Pn**	**01 30 46.5**	**+0.6**
ZEI				*e*Sn	**Sn**	**01 31 18.4**	**+0.9**
ARNR	**Ardon**	**2.53**	**314**	*e*Pn	**Pn**	**01 30 46.6**	**+0.7**
ARNR				*e*Sn	**Sn**	**01 31 18.5**	**+1.1**
ONI	**Oni**	**2.73**	**296**	P	**Pn**	**01 30 49.9**	**+1.2**
DIGR	**Digorskoe uzhe**	**2.78**	**302**	*e*Pn	**Pn**	**01 30 50.0**	**+0.5**
DIGR				*e*Sn	**Sn**	**01 31 24.8**	**+0.9**
LSNR	**Lesken**	**2.85**	**311**	*e*Pn	**Pn**	**01 30 50.7**	**+0.4**
LSNR				*e*Sn	**Sn**	**01 31 26.1**	**+0.9**
NEY	**Neytrino**	**3.50**	**302**	*e*Pn	**Pn**	**01 30 59.7**	**+0.3**
NEY				*e*Sn	**Sn**	**01 31 42.4**	**+0.8**

---

*IDC **08** 01:36:34.9±3.0, 57°.73S×151°.11E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=157.5km s-min=25.1km az=80.0*
ISC 08 01:36:36.1±2.4**, 57°.7S**±0°.3×**151°.4E**±0°.9**, h10**km**, n13,**
σ**0s80**/7**, mb3.9**/3**, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.25**	**173**	P	**P**	**01 41 11.7**	**+0.5**
	1.7nm,1.1s,baz=336,slow=10,SNR=4.4						
	1.7nm,1.1s						
H01W1	**Cape Leeuwin H**	**33.70**	**296**	T	T	02 17 48.4	
	baz=144,slow=75,SNR=6.9						
H01W2	**Cape Leeuwin H**	**33.70**	**296**	T	T	02 17 48.9	
	baz=144,slow=75,SNR=8.0						
H01W3	**Cape Leeuwin H**	**33.72**	**296**	T	T	02 17 51.4	
	baz=144,slow=75,SNR=7.3						
ASAR	**Alice Springs**	**36.24**	**332**	P	**P**	**01 43 39.7**	**+0.5**
	1.3nm,0.8s,baz=171,slow=9.7,SNR=10						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**39.72**	**334**	P	**P**	**01 44 09.0**	**+0.4**
	3.2nm,1.1s,baz=166,slow=7.4,SNR=12						
	3.2nm,1.1s						
H03S2	**Juan Fernandez**	**79.52**	**139**	T	T	03 17 48.2	
	baz=201,slow=74,SNR=6.2						
H03S1	**Juan Fernandez**	**79.52**	**139**	T	T	03 17 47.7	
	baz=201,slow=74,SNR=5.9						
H03S3	**Juan Fernandez**	**79.54**	**139**	T	T	03 17 49.5	
	baz=201,slow=74,SNR=7.5						
BOSA	**Boshof**	**82.91**	**226**	P	**P**	**01 49 01.1**	**+0.1**
	3.3nm,0.9s,baz=197,slow=11,SNR=3.8						
	3.3nm,0.9s						
AKASG	**Malin Array Be**	**146.38**	**283**	PKPbc	**PKPdf**	**01 56 14.1**	**-0.5**
	0.2nm,0.3s,baz=100,slow=2.4,SNR=6.2						
KEST	**Kesra**	**146.61**	**245**	PKPbc	**PKPbc**	**01 56 17.5**	**+0.2**
	7.5nm,1.1s,baz=7.2,slow=20,SNR=2.8						
GERES	**GERESS Array B**	**153.58**	**269**	PKPbc	**PKPbc**	**01 56 32.7**	**-1.2**
	0.3nm,0.7s,baz=88,slow=3.0,SNR=2.4						

IDC 08 01:43:08.0±1.6**, 5°.38S**×**146°.40E, h0**km**, mb3.3**/2**,**
mbtmp3.5/4**, ML3.1**/2**, Error ellipse: s-maj=69.3km**
s-min=28.1km az=112.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.07**	**169**	Pn	Pn	01 44 11.6	0.0
	18nm,0.3s,baz=33,slow=5.3,SNR=13						
PMG				Sn	Sn	01 44 54.5	-5.5
	7.7nm,0.3s,baz=114,slow=23,SNR=2.4						
	49nm,0.3s						
WRA	**Warramunga Arr**	**18.63**	**218**	P	P	01 47 26.8	-0.6
	0.2nm,0.3s,baz=40,slow=11,SNR=8.5						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**21.81**	**212**	P	P	01 48 02.2	+0.3
	0.4nm,0.5s,baz=45,slow=9.5,SNR=11						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**85.15**	**23**	P	P	01 55 46.2	+0.4
	0.3nm,0.5s,baz=257,slow=5.5,SNR=5.0						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**144.35**	**285**	PKP	PKPbc	02 02 45.6	0.0
	0.4nm,0.7s,baz=79,slow=2.3,SNR=2.7						

IDC 08 01:49:22.6±4.0**, 58°.06S**×**150°.10E, h0**km**, mb3.7**/2**,**
mbtmp3.6/3**, ML2.7**/1**, MS3.5**/1**, Error ellipse:**
s-maj=303.1km s-min=29.6km az=76.0, West of
Macquarie Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.96**	**173**	P	P	01 53 55.9	0.0
	baz=340,slow=10.0,SNR=4.0						
VNDA				LR	LR	02 01 02.5	
	comp=Z,118nm,18.3s,baz=328,slow=35						
	1.0nm,0.9s						
H01W1	**Cape Leeuwin H**	**33.27**	**298**	T	T	02 30 29.6	
	baz=145,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**33.27**	**298**	T	T	02 30 30.5	
	baz=145,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**33.29**	**298**	T	T	02 30 28.7	
	baz=145,slow=75,SNR=13						
ASAR	**Alice Springs**	**36.28**	**334**	P	P	01 56 27.8	+0.2
	0.7nm,0.8s,baz=162,slow=8.2,SNR=6.9						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**39.78**	**336**	P	P	01 56 56.8	-0.4
	1.2nm,0.8s,baz=166,slow=9.6,SNR=6.2						
	1.2nm,0.8s						
H08S2	**Diego Garcia H**	**77.00**	**276**	T	T	03 25 04.8	
	baz=148,slow=76,SNR=5.6						
H08S1	**Diego Carcia H**	**77.00**	**276**	T	T	03 25 07.5	
	baz=148,slow=76,SNR=3.6						
H08S3	**Diego Garcia H**	**77.02**	**276**	T	T	03 25 10.8	
	baz=148,slow=76,SNR=6.9						
H03S1	**Juan Fernandez**	**79.67**	**140**	T	T	03 30 27.4	
	baz=201,slow=74,SNR=7.2						
H03S2	**Juan Fernandez**	**79.67**	**140**	T	T	03 30 31.5	
	baz=201,slow=74,SNR=7.1						
H03S3	**Juan Fernandez**	**79.69**	**140**	T	T	03 30 34.5	
	baz=201,slow=74,SNR=5.7						
AKASG	**Malin Array Be**	**145.81**	**284**	PKPbc	PKPdf	02 09 01.6	-0.3
	0.3nm,0.3s,baz=112,slow=2.1,SNR=1.8						

---

*IDC **08** 02:02:55.0±0.8, 58°.00S×148°.47E, h0km, mb4.4/8, mbtmp4.4/8, MS4.2/28, Error ellipse: s-maj=39.1km s-min=17.4km az=87.0*
*NEIC **08** 02:02:57.3±1.1, 58°.06S±0°.09×148°.4E±0°.2, h10km±1km, mb4.8/26, Error ellipse: s-maj=22.1km s-min=13.5km az=106.0*
*GCMT **08** 02:02:59.3±0.3, 57°.95S±0°.01×148°.16E±0°.04, h12km, MW4.9/87, Moment Tensor Solution. s18,c19; s87,c119; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.36±.10; Mθθ1.51±.08; Mφφ-1.14±.10; Mrθ-0.11±.24; Mθφ-2.10±.07; Mφr-0.42±.28; Best double couple: Mo2.52800×10^16 NP1:φs343.00000°,δ83.00000°,λ-10.00000°. NP2: φs74.00000°,δ80.00000°,λ-173.00000°. Principal axes: T 2.6720, Plg2.0000°, Azm29.0000°; N -0.2800, Plg78.0000°, Azm128.0000°; P -2.3850, Plg12.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 02:02:57.1±0.5**, 58°.06S**±0°.07×**148°.32E**±0°.10**, h10**km**, n103,**
σ**0s90**/72**, mb4.8**/18**, MS4.2**/31**, 12C-2D, West of**
Macquarie Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.91**	**63**	Pn	**Pn**	**02 04 38.1**	**-0.2**
CASY	**Casey**	**19.17**	**229**	P	**P**	**02 07 20.6**	**+0.3**
VNDA	**Vanda**	**20.09**	**171**	P	**P**	**02 07 29.7**	**-0.6**
	28nm,1.2s,baz=340,slow=13,SNR=34						
VNDA				LR	LR	02 14 37.0	
	comp=Z,742nm,18.3s,baz=349,slow=35						
	28nm,1.2s						
VNDA	**Vanda**	**20.09**	**171**	P	**P**	**02 07 30.0**	**-0.4**
VNDA				IAmb	IAmb	02 07 33.1	
	comp=Z,53nm,1.4s						
RPZ	**Rata Peaks**	**20.15**	**54**	P	**P**	**02 07 30.4**	**-0.8**
	comp=Z,8.7nm,0.9s,baz=128,slow=4.4,SNR=4.0						
RPZ				LR	LR	02 14 03.0	
	comp=Z,755nm,18.9s,baz=216,slow=33						
	comp=Z,8.7nm,0.9s						
TOO	**Toolangi**	**20.58**	**354**		**P**	**02 07 35.9**	**-0.1**
TOO				IAmb	IAmb	02 07 45.8	
	comp=Z,57nm,1.2s						
SBA	**Scott Base**	**20.84**	**169**	P	**P**	**02 07 39.0**	**+0.6**
OXZ	**Oxford**	**20.89**	**55**	P	**P**	**02 07 39.5**	**+0.3**
OXZ				IAmb	IAmb	02 07 52.0	
	comp=Z,53nm,1.3s						
CAN	**Canberra**	**22.75**	**1**	P	**P**	**02 07 60.0**	**+0.7**
CAN				IAmb	IAmb	02 08 06.3	
	comp=Z,47nm,1.2s						
STKA	**Stephens Creek**	**26.58**	**347**	P	**P**	**02 08 33.1**	**-2.1**
	comp=Z,4.7nm,0.9s,baz=153,slow=15,SNR=6.0						
STKA				LR	LR	02 17 54.9	
	comp=Z,262nm,18.1s,baz=182,slow=34						
	comp=Z,4.7nm,0.9s						
STKA	**Stephens Creek**	**26.58**	**347**	P	**P**	**02 08 35.3**	**+0.1**
BBOO	**Buckleboo**	**26.59**	**336**	P	**P**	**02 08 35.1**	**-0.1**
BBOO				IAmb	IAmb	02 08 45.2	
	comp=Z,23nm,0.9s						
URZ	**Urewera**	**27.24**	**56**	LR	LR	02 18 52.9	
	comp=Z,962nm,18.3s,baz=297,slow=35						
FORT	**Forrest**	**30.63**	**324**	P	**P**	**02 09 11.5**	**+0.3**
QSPA	**South Pole Qui**	**32.04**	**180**	P	**P**	**02 09 22.5**	**-1.0**
	comp=Z,3.7nm,0.9s,baz=356,slow=3.6,SNR=6.0						
QSPA				LR	LR	02 21 52.3	
	comp=Z,563nm,20.6s,baz=8.5,slow=35						
	comp=Z,3.7nm,0.9s						
QSPA	**South Pole Qui**	**32.04**	**180**	P	**P**	**02 09 23.4**	**-0.1**
QSPA				IAmb	IAmb	02 09 26.0	
	comp=Z,16nm,1.2s						
H01W1	**Cape Leeuwin H**	**32.45**	**301**	T	T	02 43 43.6	
	baz=144,slow=75						
H01W2	**Cape Leeuwin H**	**32.45**	**301**	T	T	02 43 45.6	
	baz=144,slow=75						
H01W3	**Cape Leeuwin H**	**32.46**	**301**	T	T	02 43 44.1	
	baz=144,slow=75						
EIDS	**Eidsvold**	**32.72**	**5**	P	**P**	**02 09 29.8**	**+0.2**
NWAO	**Narrogin (SRO)**	**32.74**	**307**	LR	LR	02 20 31.4	
	comp=Z,252nm,19.1s,baz=9.5,slow=32						
ASAR	**Alice Springs**	**35.89**	**337**	P	**P**	**02 09 56.1**	**-1.1**
	comp=Z,4.2nm,0.8s,baz=165,slow=9.4,SNR=34						
ASAR				PcP	**PcP**	**02 12 24.2**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=144,slow=3.3,SNR=3.5						
ASAR				LR	LR	02 22 40.7	
	comp=Z,118nm,18.2s,baz=156,slow=33						
	comp=Z,4.2nm,0.8s						
ASAR	**Alice Springs**	**35.89**	**337**	P	**P**	**02 09 57.9**	**+0.8**
AS31	**Alice Springs**	**35.89**	**337**	P	**P**	**02 09 56.4**	**-0.8**
MAW	**Mawson**	**37.01**	**219**	P	**P**	**02 10 06.7**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=112,slow=11,SNR=2.3						
MAW				LR	LR	02 25 06.8	
	comp=Z,757nm,18.9s,baz=101,slow=36						
	comp=Z,1.4nm,0.6s						
CTA	**Charters Tower**	**37.95**	**357**	LR	LR	02 24 21.7	
	comp=Z,722nm,18.6s,baz=175,slow=34						
CTAO	**Charters Tower**	**37.95**	**357**	P	**P**	**02 10 14.3**	**-0.4**
CTAO				IAmb	IAmb	02 10 20.8	
	comp=Z,14nm,1.0s						
DZM	**Mont Dzumac**	**38.27**	**28**	*e*S	**S**	**02 16 13.2**	**+1.8**
	comp=Z,153nm,24.6s						
DZM				*e*LR	LR	02 20 41.4	
	comp=Z,1μm,25.6s						
DZM	**Mont Dzumac**	**38.27**	**28**	LR	LR	02 21 54.0	
	comp=Z,653nm,20.2s,baz=218,slow=30						
KOUNC	**Koumac, New Ca**	**39.24**	**24**	P	**P**	**02 10 25.2**	**-0.3**
KOUNC				IAmb	IAmb	02 10 36.2	
	comp=Z,30nm,0.9s						
WR0	**Warramunga Arr**	**39.37**	**339**	P	**P**	**02 10 25.6**	**-1.0**
WR0				IAmb	IAmb	02 10 31.5	
	comp=Z,22nm,1.0s						
WB2	**Warramunga Arr**	**39.42**	**339**	P	**P**	**02 10 25.7**	**-1.3**
WRA	**Warramunga Arr**	**39.42**	**339**	P	**P**	**02 10 25.9**	**-1.2**
	comp=Z,24nm,1.1s,baz=168,slow=6.7,SNR=54						
WRA				PcP	**PcP**	**02 12 34.5**	**-0.5**
	comp=Z,1.4nm,1.0s,baz=164,slow=2.6,SNR=3.0						
WRA				LR	LR	02 24 46.2	
	comp=Z,255nm,20.5s,baz=188,slow=33						
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**39.42**	**339**	P	**P**	**02 10 26.4**	**-0.6**
WB0	**Warramunga Arr**	**39.58**	**339**	P	**P**	**02 10 27.0**	**-1.4**
WB0				IAmb	IAmb	02 10 33.0	
	comp=Z,26nm,0.9s						
PSA00	**Pilbara Seismi**	**41.88**	**318**	P	**P**	**02 10 47.6**	**+0.3**
PSA00				IAmb	IAmb	02 10 49.1	
	comp=Z,28nm,0.9s						
PSA00	**Pilbara Seismi**	**41.88**	**318**	P	**P**	**02 10 47.1**	**-0.2**
PSA00				IAmb	IAmb	02 10 49.1	
	comp=Z,16nm,1.1s						
MBWA	**Marble Bar**	**42.30**	**318**	P	**P**	**02 10 50.3**	**-0.4**
COEN	**Coen**	**44.19**	**353**	P	**P**	**02 11 06.0**	**0.0**
BELA	**Belgrano 2**	**44.31**	**179**	P	**P**	**02 11 06.9**	**+0.5**
BELA				IAmb	IAmb	02 11 08.3	
	comp=Z,18nm,1.8s						
KNRA	**Kununurra**	**44.77**	**333**	P	**P**	**02 11 11.1**	**+0.5**
MSVF	**Nonsavu**	**45.86**	**41**	LR	LR	02 26 10.6	
	comp=Z,430nm,21.8s,baz=172,slow=30						
PMG	**Port Moresby**	**48.55**	**358**	LR	LR	02 30 36.9	
	comp=Z,325nm,18.1s,baz=179,slow=34						
SNAA	**Sanae**	**48.99**	**192**	LR	LR	02 32 16.4	
	comp=Z,284nm,18.5s,baz=188,slow=36						
SNAA	**Sanae**	**48.99**	**192**	P	**P**	**02 11 43.4**	**+0.2**
SNAA				IAmb	IAmb	02 11 45.5	
	comp=Z,17nm,1.4s						
HNR	**Honiara**	**49.33**	**15**	LR	LR	02 28 02.9	
	comp=Z,3μm,21.6s,baz=164,slow=31						
PMSA	**Palmer Station**	**55.05**	**164**	LR	LR	02 33 53.2	
	comp=Z,78nm,18.2s,baz=240,slow=34						
TBI	**Tubuai**	**55.84**	**79**	*e*LR	LR	02 28 49.3	
	comp=Z,919nm,29.2s						
FAKI	**Fak Fak**	**56.42**	**341**	P	**P**	**02 12 38.7**	**0.0**
	comp=Z,3μmcomp=Z,18nm,1.0s						
KAPI	**Kappang**	**57.41**	**326**	LR	LR	02 36 25.9	
	comp=Z,219nm,18.3s,baz=164,slow=35						
KAPI	**Kappang**	**57.41**	**326**	P	**P**	**02 12 44.5**	**-1.1**
	comp=Z,17nm,1.2s						
SPSI	**Sidrap Palu**	**58.40**	**326**	P	**P**	**02 12 54.2**	**+1.6**
	comp=Z,20nm,1.2s						
PPT2	**Papeete2**	**60.55**	**75**	*e*LR	LR	02 31 00.6	
	comp=Z,155nm,22.8s						
PPT2				*e*LR	LR	02 31 00.7	
	comp=Z,170nm,27.8s						
MPSI	**Mapaga**	**62.45**	**328**	P	**P**	**02 13 20.5**	**+0.3**
MNAI	**Manna**	**64.12**	**308**	P	**P**	**02 13 31.5**	**0.0**
GUMO	**Guam**	**71.44**	**356**	LR	LR	02 46 26.5	
	comp=Z,71nm,18.2s,baz=157,slow=37						
TAOE	**Nuku Hiva Isla**	**72.79**	**79**	*e*LR	LR	02 36 40.7	
	comp=Z,103nm,23.0s						
H08S2	**Diego Garcia H**	**76.06**	**278**	T	T	03 38 14.5	
	baz=147,slow=76						
H08S1	**Diego Carcia H**	**76.07**	**278**	T	T	03 38 13.0	
	baz=147,slow=76						
H08S3	**Diego Garcia H**	**76.08**	**278**	T	T	03 38 16.1	
	baz=147,slow=76						
SUR	**Sutherland**	**79.77**	**223**	LR	LR	02 45 42.0	
	comp=Z,94nm,20.4s,baz=248,slow=32						
H03S1	**Juan Fernandez**	**80.27**	**142**	T	T	03 44 13.6	
	baz=201,slow=74						
H03S2	**Juan Fernandez**	**80.27**	**142**	T	T	03 44 12.3	
	baz=201,slow=74						
H03S3	**Juan Fernandez**	**80.28**	**142**	T	T	03 44 15.2	
	baz=201,slow=74						
BOSA	**Boshof**	**81.46**	**228**	LR	LR	02 46 03.5	
	comp=Z,117nm,19.1s,baz=232,slow=32						
LBTB	**Lobatse**	**84.52**	**230**	LR	LR	02 49 15.3	
	comp=Z,100nm,18.6s,baz=210,slow=33						
PALK	**Pallekele**	**84.59**	**293**	LR	LR	02 44 32.4	
	comp=Z,51nm,21.0s,baz=227,slow=30						
JOW	**Kunigami**	**86.22**	**342**	LR	LR	02 52 23.6	
	comp=Z,92nm,20.9s,baz=82,slow=34						
CMAR	**Chiang Mai Arr**	**86.45**	**314**	P	**P**	**02 15 40.5**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=186,slow=4.5,SNR=8.9						
CMAR				LR	LR	02 53 26.3	
	comp=Z,86nm,19.2s,baz=175,slow=35						
	comp=Z,1.2nm,0.3s						
JHJ	**Hachijo jima 2**	**91.11**	**353**	LR	LR	02 57 29.2	
	comp=Z,59nm,18.0s,baz=155,slow=36						
LSZ	**Lusaka**	**92.05**	**237**	LR	LR	02 51 31.3	
	comp=Z,198nm,20.1s,baz=200,slow=32						
TSUM	**Tsumeb**	**92.92**	**226**	LR	LR	02 55 16.1	
	comp=Z,141nm,18.0s,baz=226,slow=34						
KSRS	**Korea Array**	**96.68**	**344**	LR	LR	03 00 18.7	
	comp=Z,24nm,19.2s,baz=215,slow=36						
TORD	**Torodi Ar. Bea**	**128.60**	**223**	PKP	**PKPdf**	**02 22 04.3**	**0.0**
	comp=Z,0.4nm,0.8s,baz=205,slow=3.0,SNR=2.2						
MLR	**Muntele Rosu**	**143.35**	**276**	⇑P	PKPbc	02 22 29.3	+1.4
BLKB	**Belogradchik**	**143.83**	**271**	⇑P	**PKiKP**	**02 22 34.5**	**-0.5**
DOPR	**Dopca**	**143.95**	**276**	⇑P	**PKPdf**	**02 22 31.5**	**-0.2**
LOT	**Lotru**	**144.47**	**274**	⇑P	**PKPdf**	**02 22 32.8**	**+0.1**
HERR	**Herculane**	**144.81**	**272**	⇑P	**PKPab**	**02 22 29.6**	**-2.5**
AKASG	**Malin Array Be**	**144.89**	**285**	PKP	**PKPab**	**02 22 31.9**	**-0.4**
	comp=Z,6.3nm,1.0s,baz=98,slow=3.2,SNR=15						
KEST	**Kesra**	**144.96**	**248**	PKPbc	**PKPab**	**02 22 33.8**	**+0.7**
	comp=Z,10nm,1.0s,baz=270,slow=3.8,SNR=5.5						
GZR	**Gura Zlata**	**144.96**	**273**	⇑P	PKPbc	02 22 32.6	-0.2
BURAR	**Bucovina Array**	**145.10**	**278**	⇑P	**PKPbc**	**02 22 32.3**	**-0.9**
MDVR	**Moldovita**	**145.12**	**271**	⇑P	**PKPdf**	**02 22 34.7**	**+1.0**
ARCR	**ARCALIA**	**145.22**	**277**	⇑P	**PKPbc**	**02 22 31.6**	**-1.9**
BZS	**Buzias**	**145.72**	**272**	⇓P	**PKPbc**	**02 22 35.2**	**+0.1**
SIRR	**Siria**	**146.12**	**273**	⇑P	**PKPbc**	**02 22 36.4**	**0.0**
TRPA	**Tarpa**	**146.83**	**277**	⇑P	**PKPbc**	**02 22 38.9**	**+0.6**
MORH	**Mrgy, Hungar**	**147.69**	**271**	⇑P	**PKiKP**	**02 22 42.2**	**-0.6**
VYHS	**Vyhne**	**149.01**	**274**	*e*PKP	**PKiKP**	**02 22 45.7**	**+0.2**
MODS	**Modra-Piesok**	**149.77**	**273**	*e*PKP	**PKiKP**	**02 22 47.7**	**+0.7**
MORC	**Moravsky Berou**	**150.46**	**275**	*e*PKP	**PKiKP**	**02 22 49.5**	**+1.0**
KRUC	**Moravsky**	**150.65**	**273**	*e*PKP	**PKiKP**	**02 22 49.5**	**+0.7**
VRAC	**Vranov**	**150.69**	**274**	⇓P	**PKiKP**	**02 22 49.3**	**+0.4**
VRAC	**Vranov**	**150.69**	**274**	*e*PKP	**PKiKP**	**02 22 49.8**	**+0.9**
KRLC	**Kraliky**	**151.03**	**275**	*e*PKP	**PKiKP**	**02 22 50.3**	**+0.7**
TREC	**Trest**	**151.27**	**273**	*e*PKP	**PKiKP**	**02 22 50.7**	**+0.6**
DPC	**Dobruska-Polom**	**151.43**	**275**	*e*PKP	**PKiKP**	**02 22 51.5**	**+1.0**
FINES	**FINESS Array B**	**151.53**	**302**	PKPbc	**PKPbc**	**02 22 48.4**	**-1.3**
	comp=Z,3.6nm,0.9s,baz=126,slow=1.9,SNR=1.5						
CKRC	**Cesky Krumlov**	**151.61**	**271**	*e*PKP	**PKiKP**	**02 22 51.0**	**+0.2**
GERES	**GERESS Array B**	**151.95**	**271**	PKPbc	**PKPbc**	**02 22 50.1**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=159,slow=4.0,SNR=10						
KHC	**Kasperske Hory**	**152.18**	**271**	*e*PKP	**PKPdf**	**02 22 46.9**	**+1.9**
CLL	**Collm**	**153.72**	**275**	*e*PKPbc	**PKiKP**	**02 22 57.0**	**+1.9**
CLL				*e*PKPab	**pPKPab**	**02 23 10.0**	**-0.4**
CLL				*e*x	x	02 23 14.0	
	comp=Z,9.0nm,1.4s						
CLL				*e*SS	SS	02 46 18.0	-1.3
CLL				*e*SSS	SSS	02 52 12.0	

---

*MEX **08** 02:12:42.2±0.6, 13°.69N×92°.41W, h8km±144km, MD3.9*
*GCG **08** 02:12:59.0±0.5, 14°.57N×91°.42W, h12km±516km, MD3.8*
ISC 08 02:12:43.8±3.3**, 14°.07N**±0°.10×**92°.40W**±0°.06**, h3**km±19km**,**
n14, σ**1s52**/22**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.85**	**74**	*e*P	**Pn**	**02 13 05.4**	**+2.8**
STG3	**Santiaguito 3,**	**1.03**	**51**	*e*P	**Pn**	**02 13 04.4**	**-0.9**
PATR	**El Naranjo**	**1.06**	**9**	*e*P	**Pn**	**02 13 04.9**	**-0.8**
PATR				*e*S	**Sn**	**02 13 22.1**	**+1.0**
CHUJ	**Union Juarez**	**1.06**	**16**	*e*P	**Pn**	**02 13 05.0**	**-0.9**
CHUJ				*e*S	**Sn**	**02 13 22.8**	**+1.5**
PAVE	**Pavencul**	**1.14**	**11**	*e*P	**Pb**	**02 13 06.1**	**-0.2**
PAVE				*e*S	**Sn**	**02 13 25.3**	**+2.0**
FUG	**Fuego 3**	**1.56**	**76**	*e*P	**Pn**	**02 13 10.2**	**-2.4**
PCG	**Pacaya**	**1.77**	**79**	*e*P	**Pn**	**02 13 14.8**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		**1.81**	**334**	*e*P	**Pn**	**02 13 15.5**	**-0.4**
PCIG				*e*S	**Sb**	**02 13 39.6**	**-1.1**
NBG	**Las Nubes**	**2.06**	**75**	*e*P	**Pn**	**02 13 18.5**	**-1.1**
CCIG	**Comitan**	**2.22**	**7**	*e*P	**Pb**	**02 13 24.9**	**+0.3**
CCIG				*e*S	**Sg**	**02 13 56.3**	**+1.1**
TGIG		**2.79**	**346**	*e*P	**Pn**	**02 13 28.2**	**-1.2**
TGIG				*e*S	**Sb**	**02 14 06.4**	**-2.4**
UXUV	**UXUV**	**3.64**	**333**	*e*	**Pn**	**02 13 43.0**	**+1.9**
UXUV				*e*		02 14 29.7	
CMIG	**Matias Romero**	**3.84**	**322**	*e*P	**Pn**	**02 13 42.9**	**-1.0**
CMIG				*e*S	**Sn**	**02 14 30.5**	**+0.9**
NEUV	**Arroyo Zacate**	**4.88**	**318**	*e*P	**Pn**	**02 13 59.1**	**+1.0**
NEUV				*e*S	**Sn**	**02 14 55.0**	**-0.2**

ROM 08 02:16:53.5±0.1**, 42.°730N**±0.°003×**13.°171E**±0.°005**, h11**km**, ML1.8**/22**, 9C-14D, Error ellipse: s-maj=0.4km s-min=0.2km az=251.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.12**	**117**	⇓P	Pg	02 16 57.0	+0.4
T1204				S	Sg	02 16 59.3	+0.5
T1245	**Castelsantange**	**0.13**	**6**	P	Pg	02 16 56.9	+0.2
T1245				S	Sg	02 16 59.3	+0.3
T1245				AML	AML		
	comp=E,1790μm,0.4s						
T1245				AML	AML		
	comp=E,1760μm,0.3s						
T1245				AML	AML		
	comp=E,1790μm,0.3s						
T1245				AML	AML		
	comp=N,2315μm,1.1s						
T1245				AML	AML		
	comp=N,2180μm,1.1s						
SMA1	**SAN MARTINO**	**0.16**	**129**	⇑P	Pg	02 16 57.6	+0.6
SMA1				S	Sg	02 17 01.0	+1.4
SMA1				AML	AML		
	comp=N,1187μm,0.4s						
SMA1				AML	AML		
	comp=N,1188μm,0.4s						
SMA1				AML	AML		
	comp=E,1555μm,0.4s						
LNSS	**Leonessa**	**0.16**	**217**	P	Pg	02 16 57.5	+0.5
LNSS				S	Sg	02 17 00.6	+1.0
LNSS				AML	AML		
	comp=E,495μm,0.7s						
LNSS				AML	AML		
	comp=N,862μm,1.0s						
LNSS				AML	AML		
	comp=N,863μm,1.0s						
LNSS				AML	AML		
	comp=E,496μm,0.7s						
T1216	**Preci, Frazion**	**0.20**	**325**	P	Pg	02 16 58.2	+0.6
T1216				S	Sg	02 17 02.1	+1.5
T1216				AML	AML		
	comp=N,1046μm,0.3s						
T1216				AML	AML		
	comp=E,415μm,0.3s						
MMO1	**Montemonaco**	**0.20**	**34**	P	Pg	02 16 58.2	+0.4
MMO1				S	Sg	02 17 01.9	+1.1
T1243	**Rocca Santa Ma**	**0.21**	**99**	⇑P	Pg	02 16 58.3	+0.4
RM33	**Pellescritta (**	**0.22**	**172**	⇓P	Pg	02 16 58.6	+0.5
RM33				S	Sg	02 17 02.4	+1.0
RM33				AML	AML		
	comp=N,398μm,0.2s						
RM33				AML	AML		
	comp=E,319μm,0.6s						
RM33				AML	AML		
	comp=N,415μm,0.2s						
RM33				AML	AML		
	comp=N,398μm,0.2s						
RM33				AML	AML		
	comp=E,318μm,0.6s						
RM33				AML	AML		
	comp=E,302μm,0.6s						
T1241	**Roccafluvione,**	**0.23**	**57**	⇑P	Pg	02 16 58.7	+0.5
T1241				S	Sg	02 17 02.9	+1.4
T1241				AML	AML		
	comp=E,284μm,0.4s						
T1241				AML	AML		
	comp=N,296μm,0.6s						
T1241				AML	AML		
	comp=E,284μm,0.4s						
T1241				AML	AML		
	comp=N,296μm,0.6s						
T1241				AML	AML		
	comp=E,322μm,0.2s						
T1241				AML	AML		
	comp=N,308μm,0.2s						
CAMP	**Campotosto**	**0.26**	**138**	⇓P	Pg	02 16 59.3	+0.5
CAMP				S	Sg	02 17 03.7	+1.2
CAMP				AML	AML		
	comp=N,149μm,0.5s						
CAMP				AML	AML		
	comp=N,149μm,0.5s						
CAMP				AML	AML		
	comp=E,118μm,0.5s						
T1256	**Bolognola (MC)**	**0.28**	**8**	P	Pg	02 16 59.6	+0.4
T1256				S	Sb	02 17 04.5	-0.9
T1256				AML	AML		
	comp=N,158μm,0.4s						
T1256				AML	AML		
	comp=E,218μm,0.5s						
T1256				AML	AML		
	comp=N,159μm,0.4s						
T1256				AML	AML		
	comp=E,338μm,1.3s						
T1256				AML	AML		
	comp=N,394μm,0.7s						
T1256				AML	AML		
	comp=N,338μm,0.1s						
T1256				AML	AML		
	comp=E,336μm,1.5s						
T1247	**Pizzolo (AQ)**	**0.30**	**162**	P	Pg	02 17 00.2	+0.6
T1247				AML	AML		
	comp=N,250μm,0.3s						
T1247				AML	AML		
	comp=E,260μm,0.4s						
FDMO	**Fiordimonte**	**0.31**	**349**	⇓P	Pg	02 17 00.3	+0.6
FDMO				AML	AML		
	comp=E,146μm,0.2s						
FDMO				AML	AML		
	comp=N,139μm,1.1s						
FDMO				AML	AML		
	comp=N,442μm,0.2s						
FDMO				AML	AML		
	comp=E,296μm,0.2s						
ARRO	**Arrone**	**0.34**	**243**	⇓P	Pb	02 17 00.9	-0.6
ARRO				AML	AML		
	comp=E,129μm,1.1s						
ARRO				AML	AML		
	comp=E,129μm,1.1s						
ARRO				AML	AML		
	comp=N,158μm,1.6s						
CESI	**CESI - Serrava**	**0.34**	**325**	⇑P	Pg	02 17 00.6	+0.4
CESI				S	Sb	02 17 06.2	-0.8
CESI				AML	AML		
	comp=E,117μm,0.6s						
CESI				AML	AML		
	comp=N,190μm,0.5s						
CESI				AML	AML		
	comp=E,368μm,0.2s						
CESI				AML	AML		
	comp=N,632μm,0.3s						
TERO	**Teramo**	**0.34**	**108**	⇑P	Pg	02 17 00.5	+0.3
TERO				AML	AML		
	comp=E,215μm,0.5s						
TERO				AML	AML		
	comp=N,299μm,1.4s						
TERO				AML	AML		
	comp=N,300μm,1.4s						
GUMA	**Gualdo di Mace**	**0.35**	**20**	⇓P	Pb	02 17 01.4	-0.4
GUMA				AML	AML		
	comp=N,563μm,0.5s						
GUMA				AML	AML		
	comp=N,562μm,0.5s						
GUMA				AML	AML		
	comp=E,804μm,0.3s						
CSP1	**Cessapalombo**	**0.36**	**4**	P	Pg	02 17 01.2	+0.4
GIGS	**Gran Sasso**	**0.41**	**133**	⇑P	Pg	02 17 02.0	+0.5
GIGS				AML	AML		
	comp=N,48μm,1.5s						
GIGS				AML	AML		
	comp=E,37μm,1.3s						
OFFI	**Offida**	**0.43**	**61**	⇑P	Pb	02 17 03.3	+0.2
CESX	**Cesi**	**0.45**	**255**	⇓P	Pb	02 17 03.4	0.0
CESX				AML	AML		
	comp=E,84μm,0.6s						
CESX				AML	AML		
	comp=E,85μm,0.6s						
CESX				AML	AML		
	comp=N,85μm,1.3s						
FIAM	**Fiamignano**	**0.46**	**185**	⇓P	Pg	02 17 02.8	+0.2
FIAM				AML	AML		
	comp=E,111μm,0.8s						
FIAM				AML	AML		
	comp=N,80μm,0.8s						
FIAM				AML	AML		
	comp=E,111μm,0.8s						
FIAM				AML	AML		
	comp=N,80μm,0.9s						
ASSB	**Assisi San Ben**	**0.49**	**310**	⇓P	Pg	02 17 03.5	+0.4
ASSB				S	Sb	02 17 12.0	+0.6
ASSB				AML	AML		
	comp=N,70μm,0.2s						
ASSB				AML	AML		
	comp=N,82μm,1.0s						
ASSB				AML	AML		
	comp=E,84μm,1.0s						
SNTG	**Esanatoglia**	**0.55**	**342**	P	Pg	02 17 04.6	+0.4
SNTG				S	Sb	02 17 14.0	+0.9
SNTG				AML	AML		
	comp=E,48μm,1.2s						
SNTG				AML	AML		
	comp=N,53μm,1.1s						
SNTG				AML	AML		
	comp=E,70μm,1.5s						
SNTG				AML	AML		
	comp=N,56μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.60**	**320**	⇓P	Pg	02 17 05.4	+0.3
ATCC				S	Sb	02 17 16.0	+1.5
EL6	**Elcito**	**0.60**	**355**	⇓P	Pb	02 17 05.7	-0.4
CING	**Cingoli**	**0.65**	**2**	⇓P	Pg	02 17 06.3	+0.3
CING				AML	AML		
	comp=E,58μm,1.6s						
CING				AML	AML		
	comp=N,47μm,1.5s						
T0110	**Collepietro**	**0.68**	**138**	⇑P	Pg	02 17 06.5	0.0
SSFR	**Montelago di S**	**0.76**	**338**	⇓P	Pb	02 17 08.7	-0.1
SSFR				AML	AML		
	comp=E,88μm,0.2s						
SSFR				AML	AML		
	comp=N,74μm,1.1s						
SSFR				AML	AML		
	comp=E,88μm,0.2s						
ARVD	**Arcevia**	**0.79**	**348**	⇑P	Pb	02 17 09.1	-0.1
ARVD				S	Sn	02 17 22.0	-0.3
ARVD				AML	AML		
	comp=N,33μm,1.5s						
ARVD				AML	AML		
	comp=E,36μm,1.5s						
MGAB	**Montegabbione**	**0.80**	**284**	⇓P	Pn	02 17 11.9	+1.1

*IDC **08** 02:18:29.8±2.2, 16.°39S×177.°76W, h440km±20km, mb2.8/5, mbtmp3.6/6, Error ellipse: s-maj=88.2km s-min=24.1km az=151.0*

ISC 08 02:18:29.9±1.9**, 16.°7S**±0.°7×**177.°7W**±0.°4**, h450**km**, n6, σ0.°90**/7**, mb3.2**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.19**	**255**	P	**P**	**02 19 45.5**	**-1.3**
	41nm,0.7s,baz=74,slow=12,SNR=30						
MSVF				S	**S**	**02 20 49.9**	**+0.5**
	3.6nm,0.7s,baz=91,slow=22,SNR=1.3						
WRA	**Warramunga Arr**	**45.53**	**258**	P	**P**	**02 26 09.1**	**+1.0**
	0.2nm,0.8s,baz=84,slow=8.3,SNR=1.4						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**45.78**	**253**	P	**P**	**02 26 10.5**	**+0.5**
	0.4nm,0.4s,baz=86,slow=9.0,SNR=6.5						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**78.08**	**44**	P	**P**	**02 29 41.5**	**0.0**
	0.3nm,0.7s,baz=234,slow=7.7,SNR=2.4						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**84.56**	**13**	P	**P**	**02 30 13.8**	**-0.2**
	0.8nm,0.9s,baz=222,slow=5.4,SNR=6.8						
	0.8nm,0.9s						
TXAR	**Lajitas Array**	**84.78**	**57**	P	**P**	**02 30 16.2**	**+0.2**
	0.6nm,0.9s,baz=215,slow=6.1,SNR=4.3						
	0.6nm,0.9s						

IDC 08 02:22:35.2±4.2**, 57.°83S**×**149.°15E, h0**km**, mb3.6**/4**, mbtmp3.7**/4**, MS3.9**/1**, Error ellipse: s-maj=365.8km s-min=23.1km az=77.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.26**	**172**	P	P	02 27 11.5	-0.1
	2.8nm,0.9s,baz=341,slow=13,SNR=10						
	2.8nm,0.9s						
QSPA	**South Pole Qui**	**32.27**	**180**	P	P	02 29 05.4	+0.1
	2.6nm,0.8s,baz=357,slow=3.7,SNR=5.8						
	2.6nm,0.8s						
H01W1	**Cape Leeuwin H**	**32.72**	**299**	T	T	03 03 43.1	
	baz=145,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**32.72**	**299**	T	T	03 03 44.7	
	baz=145,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**32.73**	**299**	T	T	03 03 44.8	
	baz=145,slow=75,SNR=12						
ASAR	**Alice Springs**	**35.86**	**336**	P	P	02 29 36.5	-0.1
	0.5nm,0.8s,baz=166,slow=8.3,SNR=2.4						
	0.5nm,0.8s						
MAW	**Mawson**	**37.47**	**219**	LR	LR	02 44 42.3	
	comp=Z,161nm,18.4s,baz=87,slow=35						
WRA	**Warramunga Arr**	**39.37**	**338**	P	P	02 30 06.1	-0.2
	0.4nm,0.9s,baz=166,slow=7.5,SNR=1.8						
	0.4nm,0.9s						
H08S2	**Diego Garcia H**	**76.47**	**277**	T	T	03 58 13.7	
	baz=148,slow=76,SNR=6.3						
H08S1	**Diego Carcia H**	**76.47**	**277**	T	T	03 58 19.8	
	baz=148,slow=76,SNR=5.8						
H08S3	**Diego Garcia H**	**76.48**	**277**	T	T	03 58 15.0	
	baz=148,slow=76,SNR=7.1						

IDC 08 02:32:26.6±2.9**, 58.°22S**×**147.°59E, h0**km**, mb3.7**/3**, mbtmp3.7**/4**, MS3.8**/3**, Error ellipse: s-maj=287.7km s-min=22.2km az=78.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.99**	**171**	P	P	02 37 00.2	0.0
	1.7nm,0.9s,baz=342,slow=11,SNR=6.5						
URZ	**Urewera**	**27.66**	**57**	LR	LR	02 47 39.8	
	comp=Z,210nm,18.9s,baz=71,slow=33						
QSPA	**South Pole Qui**	**31.88**	**180**	P	P	02 38 53.3	0.0
	1.2nm,0.4s,baz=337,slow=3.5,SNR=4.7						
	1.2nm,0.4s						
H01W1	**Cape Leeuwin H**	**32.20**	**302**	T	T	03 13 32.3	
	baz=145,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**32.20**	**302**	T	T	03 13 33.5	
	baz=145,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**32.21**	**302**	T	T	03 13 32.6	
	baz=145,slow=75,SNR=12						
ASAR	**Alice Springs**	**35.89**	**338**	P	P	02 39 29.1	+0.9
	0.6nm,0.9s,baz=165,slow=9.4,SNR=6.0						
	0.6nm,0.9s						
MAW	**Mawson**	**36.64**	**220**	LR	LR	02 54 49.7	
	comp=Z,133nm,18.9s,baz=89,slow=37						
WRA	**Warramunga Arr**	**39.44**	**340**	P	P	02 39 57.2	-1.1
	0.8nm,0.9s,baz=168,slow=7.5,SNR=6.0						
	0.8nm,0.9s						
KAPI	**Kappang**	**57.32**	**326**	LR	LR	03 08 34.5	
	comp=Z,89nm,18.0s,baz=185,slow=38						

*IDC **08** 02:33:04.0±0.6, 18.°96S×173.°55W, h0km, mb4.5/17, mbtmp4.5/19, ML4.1/2, MS4.1/7, Error ellipse: s-maj=22.6km s-min=14.8km az=143.0*

*NEIC **08** 02:33:06.2±1.7, 20.°1S±0.°2×172.°8W±0.°1, h35km±8km, mb4.6/16, Error ellipse: s-maj=27.8km s-min=12.5km az=160.0*

ISC 08 02:33:08.2±0.5**, 18.°92S**±0.°09×**173.°5W**±0.°1**, h28**km**, n97, σ1.°36**/84**, mb4.5**/21**, MS4.0**/9**, 16C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.36**	**93**	Pn	Pn	02 33 48.1	-11
NIUE				Sn	Sn	02 34 19.5	-18
AFI	**Afiamalu**	**5.24**	**18**	Pn	**Pn**	**02 34 23.0**	**-1.8**
	6.5nm,0.3s,baz=264,slow=19,SNR=1.6						
AFI				Sn	**Sn**	**02 35 23.2**	**-1.1**
	22nm,0.3s,baz=26,slow=19,SNR=4.9						
	29nm,0.5s						
MSVF	**Nonsavu**	**8.14**	**277**	Pn	Pn	02 35 12.8	+8.1
	baz=120,slow=16						
MSVF				LR	LR	02 37 58.7	
	comp=Z,722nm,20.4s,baz=128,slow=36						
RAR	**Rarotonga**	**13.07**	**102**	Pn	Pn	02 36 01.0	-11
	6.1nm,0.3s,baz=254,slow=7.1,SNR=12						
RAR				Sn	Sn	02 38 11.4	-25
	0.7nm,0.3s,baz=113,slow=23,SNR=2.3						
RAR	**Rarotonga**	**13.07**	**102**	Pn	Pn	02 35 59.0	-13
DZM	**Mont Dzumac**	**19.07**	**257**	*e*Pn	**Pn**	**02 37 30.5**	**+0.9**
	56nm,1.1s						
DZM				*e*LR	LR	02 42 00.6	
	comp=Z,849nm,28.1s						
DZM	**Mont Dzumac**	**19.07**	**257**	P	**P**	**02 37 27.8**	**-0.9**
	0.5nm,0.3s,baz=83,slow=19,SNR=7.7						
	11nm,0.9s						
DZM	**Mont Dzumac**	**19.07**	**257**		**P**	**02 37 28.9**	**+0.2**
DZM				IAmb	IAmb	02 37 37.3	
	comp=Z,27nm,1.1s						
URZ	**Urewera**	**20.95**	**201**	P	**P**	**02 37 47.4**	**-1.4**
	comp=Z,11nm,0.6s,baz=74,slow=13,SNR=1.9						
	comp=Z,11nm,0.6s						
PPT2	**Papeete2**	**22.73**	**90**	*e*LR	LR	02 43 22.0	
	comp=Z,247nm,21.2s						
PPT	**Papeete**	**22.73**	**90**	LR	LR	02 45 12.1	
	comp=Z,330nm,18.7s,baz=252,slow=32						
TBI	**Tubuai**	**22.82**	**105**	*e*LR	LR	02 43 15.3	
	comp=Z,2μm,34.8s						
HNR	**Honiara**	**27.41**	**286**	LR	LR	02 48 14.5	
	comp=Z,1μm,20.3s,baz=123,slow=33						
RPZ	**Rata Peaks**	**27.94**	**204**	P	**P**	**02 38 55.9**	**-0.2**
	comp=Z,6.7nm,0.6s,baz=336,slow=4.7,SNR=1.6						
	comp=Z,6.7nm,0.6s						
TAOE	**Nuku Hiva Isla**	**33.80**	**77**	*e*LR	LR	02 48 37.6	
	comp=Z,190nm,20.9s						
CTA	**Charters Tower**	**37.92**	**261**	P	**P**	**02 40 23.1**	**-0.3**
	comp=Z,9.7nm,0.6s,baz=103,slow=10.0,SNR=19						
CTA				LR	LR	02 56 19.2	
	comp=Z,288nm,18.1s,baz=82,slow=37						
	comp=Z,9.7nm,0.6s						
CTAO	**Charters Tower**	**37.92**	**261**	P	**P**	**02 40 23.3**	**-0.1**
CTAO				IAmb	IAmb	02 40 25.0	
	comp=Z,9.5nm,0.7s						
PMG	**Port Moresby**	**39.25**	**278**	P	**P**	**02 40 33.7**	**-0.9**
	comp=Z,5.4nm,0.5s,baz=307,slow=5.1,SNR=1.9						
	comp=Z,5.4nm,0.5s						
COEN	**Coen**	**41.80**	**270**	IAmb	IAmb	02 40 57.7	
	comp=Z,6.1nm,0.8s						
COEN				P	**P**	**02 40 57.8**	**+2.1**
STKA	**Stephens Creek**	**42.31**	**243**	P	**P**	**02 40 58.1**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=63,slow=9.6,SNR=5.2						
STKA				LR	LR	02 57 13.7	
	comp=Z,169nm,18.7s,baz=33,slow=34						
	comp=Z,2.8nm,0.8s						
WB0	**Warramunga Arr**	**49.04**	**260**	P	**P**	**02 41 52.5**	**-0.5**
WB0				IAmb	IAmb	02 41 57.0	
	comp=Z,5.4nm,0.6s						
AS31	**Alice Springs**	**49.04**	**255**	P	**P**	**02 41 52.1**	**-1.0**
ASAR	**Alice Springs**	**49.04**	**255**	P	**P**	**02 41 51.9**	**-1.2**
	comp=Z,8.4nm,0.8s,baz=88,slow=8.4,SNR=67						
	comp=Z,8.4nm,0.8s						
ASAR	**Alice Springs**	**49.04**	**255**	P	**P**	**02 41 50.4**	**-2.7**
WB2	**Warramunga Arr**	**49.05**	**260**	P	**P**	**02 41 52.4**	**-0.8**
WB2				IAmb	IAmb	02 41 56.8	
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**49.06**	**260**	P	**P**	**02 41 51.8**	**-1.5**
	comp=Z,2.8nm,0.5s,baz=97,slow=7.1,SNR=44						
WRA				PcP	**PcP**	**02 43 17.4**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=92,slow=3.2,SNR=1.6						
	comp=Z,2.8nm,0.5s						
WRA	**Warramunga Arr**	**49.06**	**260**	P	**P**	**02 41 52.5**	**-0.8**
SIJI	**Sorong**	**57.03**	**282**	P	**P**	**02 42 52.0**	**-0.1**
	comp=Z,8.6nm,0.5s,baz=37,slow=13,SNR=3.8						
	comp=Z,8.6nm,0.5s						
RPN	**Rapa Nui**	**59.06**	**111**	LR	LR	03 04 01.8	
	comp=Z,159nm,18.6s,baz=252,slow=31						
MBWA	**Marble Bar**	**62.37**	**256**	P	**P**	**02 43 28.6**	**-0.2**
QSPA	**South Pole Qui**	**71.14**	**180**	P	**P**	**02 44 24.6**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=26,slow=0.5,SNR=4.8						
	comp=Z,0.9nm,0.3s						
QSPA	**South Pole Qui**	**71.14**	**180**	P	P	02 44 13.8	-10
QSPA				IAmb	IAmb	02 44 42.3	
	comp=Z,12nm,1.5s						
MJAR	**Matsushiro Arr**	**71.59**	**321**	P	**P**	**02 44 27.7**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=160,slow=8.4,SNR=1.5						
	comp=Z,3.6nm,0.9s						
GMN	**Gold Mountain**	**76.98**	**43**	P	**P**	**02 44 57.4**	**-1.4**
NVAR	**Mina Array Bea**	**76.99**	**41**	P	**P**	**02 45 00.0**	**+1.3**
	comp=Z,2.2nm,1.0s,baz=224,slow=8.9,SNR=10						
	comp=Z,2.2nm,1.0s						
TPH	**Tonopah**	**77.46**	**42**	P	**P**	**02 45 02.3**	**+1.0**
TX32	**Lajitas Array**	**82.63**	**56**	P	**P**	**02 45 25.9**	**-3.4**
TX32				IAmb	IAmb	02 45 33.0	
	comp=Z,5.4nm,1.3s						
TXAR	**Lajitas Array**	**82.63**	**56**	P	**P**	**02 45 30.0**	**+0.6**
	comp=Z,2.6nm,1.1s,baz=205,slow=5.5,SNR=11						
	comp=Z,2.6nm,1.1s						
MAW	**Mawson**	**84.45**	**199**	P	**P**	**02 45 38.0**	**0.0**
	comp=Z,2.5nm,0.9s,baz=88,slow=16,SNR=3.6						
	comp=Z,2.5nm,0.9s						
MCK	**McKinley**	**84.57**	**11**	P	**P**	**02 45 41.5**	**+3.1**
PDAR	**Pinedale Array**	**84.92**	**42**	P	**P**	**02 45 41.5**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=235,slow=4.3,SNR=3.6						
	comp=Z,1.0nm,1.0s						
WRH	**Wood River Hil**	**85.40**	**11**	P	**P**	**02 45 44.7**	**+2.2**
CCB	**Clear Creek Bu**	**85.61**	**11**	P	**P**	**02 45 46.0**	**+2.4**
CCB				IAmb	IAmb	02 45 48.3	
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**85.89**	**11**	P	**P**	**02 45 45.2**	**+0.2**
	comp=Z,3.6nm,1.1s,baz=218,slow=5.5,SNR=8.6						
	comp=Z,3.6nm,1.1s						
PLCA	**Paso Flores**	**87.21**	**132**	P	**P**	**02 45 52.3**	**0.0**
	comp=Z,4.2nm,1.1s,baz=277,slow=6.2,SNR=4.0						
	comp=Z,4.2nm,1.1s						
BMAR	**Burnt Mountain**	**88.70**	**11**	P	**P**	**02 46 00.5**	**+2.0**
YAK	**Yakutsk**	**92.30**	**337**	LR	LR	03 24 31.6	
	comp=Z,54nm,20.7s,baz=96,slow=33						
CMAR	**Chiang Mai Arr**	**93.64**	**288**	P	**P**	**02 46 23.1**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=110,slow=2.5,SNR=5.0						
	comp=Z,1.2nm,0.3s						
AKASG	**Malin Array Be**	**143.52**	**336**	PKP	**PKPdf**	**02 52 39.4**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=37,slow=2.9,SNR=5.5						
CLL	**Collm**	**147.28**	**352**	*e*PKiKP	**PKPab**	**02 52 51.0**	**+0.4**
CLL				*i* x	x	02 52 53.2	
	comp=Z,13nm,1.1s						
CLL				*e*pPKPbc	**sPKPbc**	**02 52 59.0**	**-0.1**
OSTC	**Ostas**	**147.50**	**348**	*e*PKP	**PKiKP**	**02 52 53.8**	**+2.1**
BUR01	**Bucovina Ar. S**	**147.57**	**336**	⇑P	**PKPab**	**02 52 54.0**	**+1.9**
BRG	**Berggiesshubel**	**147.58**	**351**	Amp		02 53 07.6	
	comp=Z,6.0nm,1.2s						
BRG	**Berggiesshubel**	**147.58**	**351**	*e*PKP	**PKPab**	**02 52 53.0**	**+1.2**
BRG	**Berggiesshubel**	**147.58**	**351**	*e*x	pPKPab	02 53 04.6	+5.3
BRG	**Berggiesshubel**	**147.58**	**351**	Amp		02 52 54.6	
	comp=Z,5.9nm,0.9s						
DPC	**Dobruska-Polom**	**147.68**	**348**	*e*PKP	**PKPab**	**02 52 52.7**	**+0.4**
KRLC	**Kraliky**	**147.85**	**348**	*e*PKP	**PKPab**	**02 52 54.4**	**+1.4**
TESR	**Tescani**	**147.88**	**333**	⇑P	**PKPbc**	**02 52 50.4**	**-0.3**
MORC	**Moravsky Berou**	**147.97**	**346**	⇑P	**PKPab**	**02 52 53.8**	**+0.2**
MORC	**Moravsky Berou**	**147.97**	**346**	*e*PKP	**PKPab**	**02 52 54.9**	**+1.4**
TRPA	**Tarpa**	**148.09**	**340**	⇑P	**PKiKP**	**02 52 52.4**	**-0.5**
CFR	**Carcaliu**	**148.25**	**330**	⇑P	**PKPab**	**02 52 56.1**	**+1.4**
VRAC	**Vranov**	**148.62**	**347**	*e*PKP	**PKPab**	**02 52 55.6**	**-0.5**
BR131	**Keskin Array S**	**148.76**	**317**	IAmb	IAmb	02 52 57.9	
	comp=Z,13nm,1.1s						
BR131	**Keskin Array S**	**148.76**	**317**	P	**PKPbc**	**02 52 52.7**	**-0.7**
BRTR	**Keskin Array B**	**148.76**	**317**	PKPbc	**PKPbc**	**02 52 53.6**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=151,slow=2.8,SNR=14						
BRTR	**Keskin Array B**	**148.76**	**317**	P	**PKPbc**	**02 52 52.4**	**-1.0**
DOPR	**Dopca**	**148.84**	**334**	⇑P	**PKPab**	**02 52 58.1**	**+1.0**
VYHS	**Vyhne**	**148.86**	**344**	*e*PKP	**PKPab**	**02 52 56.3**	**-0.8**
KRUC	**Moravsky**	**148.89**	**347**	*e*PKP	**PKPab**	**02 52 56.3**	**-0.9**
MLR	**Muntele Rosu**	**148.99**	**333**	⇓P	**PKPab**	**02 52 56.8**	**-1.1**
MLR	**Muntele Rosu**	**148.99**	**333**	P	**PKPab**	**02 53 02.0**	**+4.1**
KHC	**Kasperske Hory**	**149.33**	**351**	*e*PKP	**PKPbc**	**02 52 54.6**	**+0.2**
KHC	**Kasperske Hory**	**149.33**	**351**	P	**PKPab**	**02 52 58.4**	**-0.6**
MODS	**Modra-Piesok**	**149.35**	**346**	*e*PKP	**PKPab**	**02 52 58.1**	**-1.0**
VOIR		**149.41**	**334**	⇑P	**PKiKP**	**02 52 57.5**	**+1.6**
CKRC	**Cesky Krumlov**	**149.51**	**350**	*e*PKP	**PKiKP**	**02 52 56.8**	**+0.9**
GEC2	**GERESS Array S**	**149.59**	**351**	P	**PKiKP**	**02 52 56.5**	**+0.3**
GERES	**GERESS Array B**	**149.59**	**351**	PKPbc	**PKPbc**	**02 52 55.6**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=222,slow=1.8,SNR=8.8						
GERES	**GERESS Array B**	**149.59**	**351**	P	**PKiKP**	**02 52 57.4**	**+1.2**
ARR	**Arges**	**149.64**	**334**	⇑P	**PKPab**	**02 52 59.0**	**-1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIRR	Siria	150.00	339	⇑P	PKiKP	02 52 58.9	+1.9
CONA	Conrad Observa	150.08	347	eP	PKiKP	02 52 57.4	+0.2
	comp=Z,8.3nm,1.2s						
GZR	Gura Zlata	150.35	337	⇑P	PKiKP	02 52 58.8	+0.9
BZS	Buzias	150.58	338	⇑P	PKiKP	02 52 59.2	+1.1
HERR	Herculane	150.92	336	⇑P	PKiKP	02 52 59.8	+0.9
MORH	Mrgy, Hungar	151.00	343	⇑P	PKPdf	02 52 54.5	+1.8
PLVB	Pleven	151.24	332	⇑P	PKiKP	02 53 02.4	+2.8
MDVR	Moldovita	151.27	337	⇑P	PKPdf	02 52 53.1	-0.2
RETA	Reutte	151.30	354	eP	PKiKP	02 53 00.2	+0.5
	comp=Z,8.8nm,1.4s						
SOKA	Soboth	151.44	348	eP	PKiKP	02 53 01.2	+1.1
	comp=Z,4.5nm,0.8s						
DAVA	Damuels	151.57	355	eP	PKiKP	02 53 01.0	+0.6
	comp=Z,8.0nm,1.2s						
FETA	Feichten	151.76	354	eP	PKiKP	02 53 01.9	+1.1
	comp=Z,5.9nm,1.0s						
ABTA	Abfaltersbach	151.81	351	eP	PKiKP	02 53 02.0	+1.2
	comp=Z,9.1nm,1.2s						
BLKB	Belogradchik	151.87	335	⇑P	PKPbc	02 52 57.7	-2.9
TORD	Torodi Ar. Bea	172.62	140	PKP	PKPdf	02 53 15.4	-0.1
	comp=Z,0.4nm,0.8s,baz=270,slow=2.2,SNR=1.9						

*NEIC **08** 02:40:46.9±1.6, 28°.2S±0°.2×11°.7W±0°.2, h10km±2km, mb4.8/23, Error ellipse: s-maj=33.4km s-min=24.6km az=151.0*

*IDC **08** 02:40:52.4±0.7, 28°.18S×12°.96W, h0km, mb4.2/13, mbtmp4.2/13, MS3.9/18, Error ellipse: s-maj=23.2km s-min=15.1km az=168.0*

ISC 08 02:40:54.0±0.6, **28°.2S**±0°.1×**12°.96W**±0°.10, **h10km, n46,** σ**0s.84**/36, **mb4.7**/25, **MS3.8**/18, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	Sutherland	29.40	107	LR	LR	02 55 39.8	
	comp=Z,200nm,21.8s,baz=262,slow=30						
RCBR	Riachuelo	31.10	311	LR	LR	02 56 22.4	
	comp=Z,156nm,21.2s,baz=300,slow=30						
BOSA	Boshof	33.53	100	P	P	02 47 32.6	-1.6
	2.6nm,0.9s,baz=263,slow=11,SNR=4.7						
BOSA				LR	LR	02 59 41.2	
	comp=Z,187nm,18.0s,baz=264,slow=34						
	2.6nm,0.9s						
LBTB	Lobatse	34.53	94	P	P	02 47 42.5	-0.3
	7.0nm,0.8s,baz=242,slow=8.0,SNR=7.2						
LBTB				LR	LR	02 59 21.3	
	comp=Z,128nm,18.4s,baz=252,slow=32						
	7.0nm,0.8s						
BDFB	Brasilia	34.70	284	P	P	02 47 44.4	0.0
	3.4nm,0.7s,baz=131,slow=8.4,SNR=5.4						
BDFB				LR	LR	02 59 09.9	
	comp=Z,148nm,21.6s,baz=125,slow=32						
	3.4nm,0.7s						
CPUP	Villa Florida	39.32	262	P	P	02 48 23.2	-0.3
	3.7nm,1.0s,baz=102,slow=7.9,SNR=4.3						
CPUP				LR	LR	03 02 31.2	
	comp=Z,168nm,18.4s,baz=96,slow=33						
	3.7nm,1.0s						
AQDB	Aquidauana	39.53	271	P	P	02 48 26.3	+1.0
AQDB				IAmb	IAmb	02 48 34.4	
	comp=Z,23nm,1.6s						
LSZ	Lusaka	40.13	80	P	P	02 48 31.6	+1.1
	comp=Z,1.8nm,0.2s,baz=242,slow=7.2,SNR=8.2						
LSZ				LR	LR	03 03 55.1	
	comp=Z,113nm,18.4s,baz=279,slow=34						
	comp=Z,1.8nm,0.2s						
TRQA	Tornquist	41.81	243	P	P	02 48 44.2	+0.2
TRQA				IAmb	IAmb	02 48 53.6	
	comp=Z,49nm,1.7s						
VNA2	Neumayer--Watz	42.91	177	P	P	02 48 52.8	+0.4
	baz=345,slow=9.8						
VNA3	Neumayer Olymp	43.15	178	P	P	02 48 54.4	-0.1
TORD	Torodi Ar. Bea	43.46	21	P	P	02 48 57.5	0.0
	comp=Z,1.6nm,1.0s,baz=193,slow=7.0,SNR=6.5						
TORD				LR	LR	03 03 19.4	
	comp=Z,321nm,20.4s,baz=214,slow=31						
	comp=Z,1.6nm,1.0s						
SNAA	Sanae	43.90	175	P	P	02 49 01.2	+0.7
PTLB	Pontes e Lacer	44.45	277	P	P	02 49 05.8	+0.3
PTLB				IAmb	IAmb	02 49 10.3	
	comp=Z,5.2nm,1.0s						
TROLL	Troll, Antarti	44.70	173	P	P	02 49 08.2	+1.2
SIV	San Ignacio	45.93	275	P	P	02 49 18.7	+1.3
	comp=Z,2.3nm,0.9s,baz=114,slow=9.4,SNR=8.8						
SIV				LR	LR	03 05 42.6	
	comp=Z,113nm,19.9s,baz=104,slow=32						
	comp=Z,2.3nm,0.9s						
VILB	Vilhena	46.45	279	P	P	02 49 23.0	+1.5
VILB				IAmb	IAmb	02 49 30.1	
	comp=Z,8.2nm,0.9s						
PLCA	Paso Flores	48.33	239	P	P	02 49 35.6	-0.2
	comp=Z,3.6nm,0.8s,baz=84,slow=4.8,SNR=7.0						
PLCA				LR	LR	03 08 58.6	
	comp=Z,66nm,18.6s,baz=100,slow=35						
	comp=Z,3.6nm,0.8s						
PMSA	Palmer Station	48.55	206	P	P	02 49 36.4	-0.6
	comp=Z,5.4nm,0.7s,baz=3.4,slow=19,SNR=1.7						
	comp=Z,5.4nm,0.7s						
BO02	Sierra Bellavi	49.17	247	P	P	02 49 42.5	0.0
AY01	Puyuhuapi	49.69	234	P	P	02 49 45.0	-1.1
AY01				IAmb	IAmb	02 49 47.2	
	comp=Z,9.2nm,0.8s						
MBAR	Mbarara	49.98	64	LR	LR	03 09 26.3	
	comp=Z,68nm,19.3s,baz=224,slow=34						
GO02	Mina Guanaco	50.30	260	P	P	02 49 51.2	-0.3
GO02				IAmb	IAmb	02 49 53.0	
	comp=Z,14nm,0.9s						
MDP	Montagnes des	50.55	305	LR	LR	03 09 03.1	
	comp=Z,115nm,21.7s,baz=161,slow=33						
PB15	IPOC Station P	50.78	262	P	P	02 49 55.4	+0.4
PB15				IAmb	IAmb	02 49 55.7	
	comp=Z,13nm,0.6s						
PB03	IPOC Station P	51.40	263	P	P	02 49 60.0	+0.4
PB01	IPOC Station P	51.50	265	P	P	02 49 58.4	-1.9
PB01				IAmb	IAmb	02 50 01.3	
	comp=Z,10.0nm,0.9s						
PB07	IPOC Station P	51.62	264	P	P	02 50 01.8	+0.5
GO01	Chusmiza	51.71	266	P	P	02 50 02.8	+0.5
GO01				IAmb	IAmb	02 50 10.4	
	comp=Z,10.0nm,0.9s						
PB02	IPOC Station P	51.76	264	P	P	02 50 02.7	+0.5
PB02				IAmb	IAmb	02 50 03.5	
	comp=Z,22nm,1.0s						
MACA	Manacapuru-AM	51.77	290	P	P	02 50 02.9	+0.6
MACA				IAmb	IAmb	02 50 11.9	
	comp=Z,7.8nm,0.7s						
LPAZ	La Paz	52.03	271	P	P	02 50 03.6	-1.3
	comp=Z,3.2nm,0.9s,baz=92,slow=6.2,SNR=11						
	comp=Z,3.2nm,0.9s						
LPAZ	La Paz	52.03	271	P	P	02 50 04.7	-0.2
PB16	IPOC Station P	52.47	268	P	P	02 50 08.3	+0.2
PB16				IAmb	IAmb	02 50 09.6	
	comp=Z,15nm,1.2s						
ETMB	Extrema	53.12	279	P	P	02 50 13.1	+0.9
ETMB				IAmb	IAmb	02 50 16.2	
	comp=Z,6.4nm,1.3s						
BOAV	Boa Vista	54.85	296	P	P	02 50 24.9	0.0
BOAV				IAmb	IAmb	02 51 43.3	
	comp=Z,18nm,1.9s						
CZSB	Cruzeiro do Su	59.76	278	P	P	02 50 58.8	-0.8
CZSB				IAmb	IAmb	02 51 07.7	
	comp=Z,22nm,1.3s						
MDT	Midelt	61.17	8	LR	LR	03 14 53.2	
	comp=Z,114nm,18.4s,baz=167,slow=33						
QSPA	South Pole Qui	62.05	180	P	P	02 51 14.9	+0.3
	comp=Z,4.7nm,0.7s,baz=219,slow=4.0,SNR=12						
	comp=Z,4.7nm,0.7s						
SDV	Santo Domingo	66.77	295	LR	LR	03 18 24.4	
	comp=Z,100nm,21.5s,baz=110,slow=34						
KEST	Kesra	66.95	20	LR	LR	03 18 31.4	
	comp=Z,281nm,20.8s,baz=180,slow=34						
ESDC	Sonseca Array	68.02	7	P	P	02 51 52.2	-1.3
	comp=Z,0.4nm,0.9s,baz=177,slow=6.4,SNR=1.9						
	comp=Z,0.4nm,0.9s						
IDI	Anoyia	72.53	32	LR	LR	03 24 01.1	
	comp=Z,33nm,19.3s,baz=97,slow=36						
EIL	Elat	73.52	42	LR	LR	03 23 11.7	
	comp=Z,75nm,18.3s,baz=240,slow=34						
DAVOX	Davos/Dischmat	77.41	16	LR	LR	03 25 27.8	
	comp=Z,84nm,19.3s,baz=124,slow=35						
AKASG	Malin Array Be	86.93	25	P	P	02 53 39.8	+0.9
	comp=Z,0.2nm,0.3s,baz=223,slow=5.3,SNR=1.8						
	comp=Z,0.2nm,0.3s						

*IDC **08** 02:42:18.6±1.0, 18°.34N×146°.47E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=50.7km s-min=22.8km az=108.0*

*NEIC **08** 02:42:37.6±2.3, 18°.9N±0°.1×144°.8E±0°.2, h174km±8km, mb4.2/29, Error ellipse: s-maj=22.7km s-min=13.9km az=104.0*

ISC 08 02:42:34.1±0.7, **18°.8N**±0°.1×**144°.9E**±0°.2, **h150km, n36,** σ**1s.26**/34, **mb4.2**/19, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	17.25	301		P	02 46 22.1	-3.1
JMN	Monobe	17.83	329	P	P	02 46 23.0	-8.5
WB0	Warramunga Arr	39.65	196	P	P	02 49 52.9	+1.4
WB0				IAmb	IAmb	02 49 53.0	
	comp=Z,3.8nm,0.8s						
WR0	Warramunga Arr	39.80	195	P	P	02 49 52.2	-0.5
WR0				IAmb	IAmb	02 49 55.2	
	comp=Z,4.4nm,0.9s						
WB2	Warramunga Arr	39.83	196	P	P	02 49 54.5	+1.5
WB2				IAmb	IAmb	02 49 55.0	
	comp=Z,5.0nm,0.8s						
WRA	Warramunga Arr	39.84	196	P	P	02 49 53.7	+0.7
	comp=Z,1.6nm,0.3s,baz=15,slow=8.2,SNR=40						
	comp=Z,1.6nm,0.3s						
WRA	Warramunga Arr	39.84	196	P	P	02 49 54.3	+1.3
SONM	Songino Array	42.59	322	P	P	02 50 28.0	+13
	comp=Z,0.2nm,0.4s,baz=110,slow=7.6,SNR=1.4						
	comp=Z,0.2nm,0.4s						
ASAR	Alice Springs	43.52	195	P	P	02 50 24.1	+1.3
	comp=Z,0.3nm,0.5s,baz=11,slow=6.7,SNR=4.8						
	comp=Z,0.3nm,0.5s						
MBWA	Marble Bar	46.70	213	P	P	02 50 48.0	+0.1
MBWA				IAmb	IAmb	02 51 19.6	
	comp=Z,19nm,1.2s						
PSA00	Pilbara Seismi	46.98	213	P	P	02 50 52.1	+1.9
PSA00				IAmb	IAmb	02 50 58.1	
	comp=Z,3.9nm,1.1s						
PSA00	Pilbara Seismi	46.98	213	P	P	02 50 50.1	-0.1
PSA00				IAmb	IAmb	02 51 12.5	
	comp=Z,20nm,1.1s						
STKA	Stephens Creek	50.46	184	P	P	02 51 14.4	-2.2
J20K	Nowinta River	60.74	26	P	P	02 52 31.2	+1.7
PPLA	Purkeypile	61.20	28	P	P	02 52 33.7	+0.8
SKT	Skwentna	61.26	29	P	P	02 52 33.2	0.0
CAST	Castle Rocks	61.39	27	P	P	02 52 35.0	+1.0
CAST				IAmb	IAmb	02 53 13.2	
	comp=Z,6.0nm,1.4s						
H21K	Melozitna Rive	61.74	25	P	P	02 52 37.2	+0.9
H21K				IAmb	IAmb	02 53 08.8	
	comp=Z,2.9nm,1.1s						
SEW	Seward	61.82	31	P	P	02 52 35.2	-1.6
RC01	Rabbit Creek A	61.89	30	P	P	02 52 36.9	-0.4
I21K	Tanana	61.93	25	P	P	02 52 37.7	+0.2
MLY	Manley	62.39	26	P	P	02 52 40.6	-0.1
MDM	Murphy Dome	63.41	26	P	P	02 52 48.8	+1.4
MDM				IAmb	IAmb	02 53 23.8	
	comp=Z,5.9nm,1.3s						
ILAR	Eielson Array	63.93	26	P	P	02 52 49.9	-0.9
	comp=Z,0.2nm,0.4s,baz=260,slow=5.4,SNR=5.4						
	comp=Z,0.2nm,0.4s						
J25K	Salcha River,	64.54	27	P	P	02 52 54.4	-0.4
J26L	Joseph Creek	65.29	27	P	P	02 52 59.9	+0.2
J26L				IAmb	IAmb	02 53 42.0	
	comp=Z,2.2nm,1.2s						
BMAR	Burnt Mountain	65.37	24	P	P	02 53 01.6	+1.5
L27K	Beaver Creek,	65.88	29	P	P	02 53 03.8	+0.3
L27K				IAmb	IAmb	02 53 16.2	
	comp=Z,5.7nm,1.4s						
BCAR	Beaver Creek A	65.90	29	P	P	02 53 03.9	+0.3
M30M	Minto, Yukon	68.15	29	P	P	02 53 18.3	+0.4
M30M				IAmb	IAmb	02 53 21.4	
	comp=Z,6.6nm,1.3s						
A36M	Sachs Harbour	72.27	19	P	P	02 53 43.0	+0.5
A36M				IAmb	IAmb	02 54 08.5	
	comp=Z,5.0nm,1.2s						
ABKAR	Akbulak array	72.74	317	P	P	02 53 48.1	+2.3
K05A	Summer Lake	80.53	48	P	P	02 54 29.0	-1.0
K05A				IAmb	IAmb	02 55 07.8	
	comp=Z,12nm,1.4s						
BEKR	Beckworth	81.75	51	P	P	02 54 35.2	-1.3
NVAR	Mina Array Bea	83.72	52	P	P	02 54 46.1	-0.6
	comp=Z,0.8nm,0.6s,baz=262,slow=6.0,SNR=8.8						
	comp=Z,0.8nm,0.6s						
TPNV	Topopah Spring	85.75	53	P	P	02 54 56.0	-0.9
TPNV				IAmb	IAmb	02 55 24.4	
	comp=Z,4.1nm,1.4s						

*IDC **08** 02:52:40.3±1.7, 58°.02S×148°.88E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=128.8km s-min=18.6km az=82.0*

ISC 08 02:52:41.7±1.4, **58°.0S**±0°.2×**149°.0E**±0°.8, **h10km, n9,** σ**0s.51**/6, **mb3.8**/5, **West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	20.10	172	P	P	02 57 15.2	+0.2
	2.2nm,1.0s,baz=336,slow=9.5,SNR=9.5						
	2.2nm,1.0s						
QSPA	South Pole Qui	32.10	180	P	P	02 59 08.1	-0.5
	2.3nm,0.7s,baz=353,slow=8.2,SNR=4.9						
	2.3nm,0.7s						
H01W1	Cape Leeuwin H	32.73	300	T	T	03 33 47.6	
	baz=144,slow=75,SNR=27						
H01W2	Cape Leeuwin H	32.74	300	T	T	03 33 47.8	
	baz=144,slow=75,SNR=27						
H01W3	Cape Leeuwin H	32.75	300	T	T	03 33 50.1	
	baz=144,slow=75,SNR=24						
ASAR	Alice Springs	35.98	336	P	P	02 59 42.1	-0.4
	0.6nm,0.8s,baz=164,slow=8.7,SNR=5.7						
	0.6nm,0.8s						
CTA	Charters Tower	37.92	356	P	P	02 59 59.0	0.0
	0.7nm,0.4s,baz=146,slow=7.3,SNR=2.5						
	0.7nm,0.4s						
WRA	Warramunga Arr	39.50	338	P	P	03 00 12.7	+0.4
	0.8nm,0.7s,baz=167,slow=7.5,SNR=7.7						
	0.8nm,0.7s						
SNAA	Sanae	49.12	191	P	P	03 01 29.1	+0.4
	2.0nm,1.0s,baz=170,slow=11,SNR=3.7						
	2.0nm,1.0s						

*IDC **08** 03:09:22.8±0.5, 58°.18S×148°.49E, h0km, mb4.8/16, mbtmp4.8/17, ML3.7/1, MS5.3/40, Error ellipse: s-maj=21.6km s-min=12.7km az=92.0*

*NEIC **08** 03:09:25.4±2.0, 58°.11S±0°.09×148°.2E±0°.2, h10km±1km, mb5.4/66, Ms_20 5.5/174, Mww5.7, Error ellipse: s-maj=17.6km s-min=15.0km az=110.0*

*NEIC **08** 03:09:28, 58°.03S×148°.15E, h12km, Moment Tensor Solution. Duration: 6s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.05; $M_{\theta\theta}$2.78; $M_{\phi\phi}$-2.73; $M_{r\theta}$-1.44; $M_{\theta\phi}$-3.52; $M_{\phi r}$1.58; Fault plane solution: $M_0$4.96000×10^{17} NP1: ϕ_s249.00000°, δ67.00000°, λ173.00000°. NP2: ϕ_s342.00000°, δ83.00000°, λ23.00000°. Principal axes: T 5.2500, Plg21.0000°, Azm208.0000°; N -0.6544, Plg66.0000°, Azm358.0000°; P -4.5956, Plg11.0000°, Azm114.0000°;*

*GCMT **08** 03:09:28.4±0.1, 57°.99S×148°.13E, h12km, MW5.7/161, Moment Tensor Solution. s141,c272; s161,c321; Duration: 1s.8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.95±.04; $M_{\theta\theta}$3.34±.04; $M_{\phi\phi}$-2.39±.04; $M_{r\theta}$-0.71±.11; $M_{\theta\phi}$-4.28±.04; $M_{\phi r}$-0.04±.11; Best double couple: $M_0$5.19700×10^{17} NP1: ϕ_s73.00000°, δ90.00000°, λ-172.00000°. NP2: ϕ_s343.00000°, δ82.00000°, λ0.00000°. Principal axes: T 5.6820, Plg5.0000°, Azm208.0000°; N -0.9750, Plg82.0000°, Azm75.0000°; P -4.7120, Plg6.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 03:09:25.7±0.5, **58°.21S**±0°.05×**148°.34E**±0°.06, **h11km**±3km, **h11km:pP-P, n511,** σ**1s.55**/399, **mb5.4**/79, **MS5.5**/138, **30C-4D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	6.97	62	P	Pn	03 11 06.8	-0.8
	baz=6.9						
MCQ				S	Sn	03 12 11.2	-16
	baz=6.9						
MCQ	Macquarie Isla	6.97	62	Pn	Pn	03 11 07.2	-0.5
TAU	Tasmania Unive	15.34	357		Pn	03 13 03.3	+1.5
TAU				IAmb	IAmb	03 13 06.8	
	comp=Z,416nm,1.7s						
TAU	Tasmania Unive	15.34	357	P	Pn	03 13 02.3	+0.4
MOO	Moorlands	15.81	357	P	Pn	03 13 06.8	-1.2
	baz=16,SNR=4.2						
MOO	Moorlands	15.81	357	P	Pn	03 13 08.4	+0.4
CORO	Coronation Par	16.80	357	P	Pn	03 13 20.9	+0.3
AULHS	Lilydale High	17.00	357	P	Pn	03 13 23.0	-0.2
WHZ	Wether Hill Ro	17.17	53	P	P	03 13 26.5	-0.4
WHZ				IAmb	IAmb	03 13 32.6	
	comp=Z,544nm,1.8s						
SYZ	Scrubby Hill	17.17	56	P	P	03 13 27.9	+1.0
DCZ	Deep Cove	17.18	50	P	P	03 13 26.2	-0.8
GLAD	Gladstone	17.25	359	P	Pn	03 13 26.8	+0.5
MLZ	Mavora Lakes	17.66	52		Pn	03 13 31.4	-0.1
WKZ	Wanaka	18.47	52	P	Pn	03 13 41.6	+0.2
WKZ				IAmb	IAmb	03 13 46.8	
	comp=Z,452nm,1.6s						
CASY	Casey	19.07	229	P	P	03 13 47.9	+0.2
LBZ	Lake Benmore	19.32	54	P	P	03 13 50.2	-0.5
LBZ				IAmb	IAmb	03 13 54.9	
	comp=Z,311nm,1.9s						
VNDA	Vanda	19.94	171	P	P	03 13 56.4	-0.7
	comp=Z,0.2nm,0.3s,baz=339,slow=11,SNR=46						
VNDA				LR	LR	03 20 55.8	
	comp=Z,16µm,18.1s,baz=348,slow=35						
	comp=Z,28nm,1.1s						
VNDA	Vanda	19.94	171	P	P	03 13 56.7	-0.4
RPZ	Rata Peaks	20.23	54	P	P	03 13 57.9	-2.7
	comp=Z,3.4nm,0.4s,baz=176,slow=14,SNR=3.0						
RPZ				LR	LR	03 20 32.7	
	comp=Z,18µm,18.8s,baz=214,slow=33						
	comp=Z,3.4nm,0.4s						
RPZ	Rata Peaks	20.23	54	P	P	03 14 00.2	-0.3
RPZ				IAmb	IAmb	03 14 12.5	
	comp=Z,271nm,1.6s						
AUHPC	Hawkesdale P12	20.50	346	P	Pn	03 14 06.0	+0.4
SBA	Scott Base	20.68	169	P	P	03 14 05.7	+0.5
TOO	Toolangi	20.74	354	P	P	03 14 04.7	-1.4
	baz=21,SNR=24						
TOO	Toolangi	20.74	354	P	P	03 14 03.9	-2.3
TOO				IAmb	IAmb	03 14 15.3	
	comp=Z,480nm,1.5s						
TOO	Toolangi	20.74	354	P	P	03 14 04.6	-1.5
BRAT	Ballarat	20.88	350	P	Pn	03 14 08.7	-1.3
MQZ	McQueen's Vall	20.94	57	P	P	03 14 08.3	+0.1
MQZ				IAMs_20	IAMs_20	03 20 07.2	
	comp=Z,17µm,20.0s						
OXZ	Oxford	20.97	55	P	P	03 14 08.2	-0.4
OXZ				IAmb	IAmb	03 14 14.6	
	comp=Z,182nm,1.4s						
OXZ				IAMs_20	IAMs_20	03 20 38.1	
	comp=Z,22µm,21.0s						
MILA	Mila	21.18	2	P	P	03 14 13.0	+2.1
	baz=21,SNR=5.3						
MILA	Mila	21.18	2	P	P	03 14 13.3	+2.4
LTZ	Lake Taylor	21.51	55	P	P	03 14 15.3	+0.9
LTZ				IAmb	IAmb	03 14 22.2	
	comp=Z,431nm,2.0s						
LTZ				IAMs_20	IAMs_20	03 20 47.3	
	comp=Z,21µm,20.0s						
ARPS	Mount Arapiles	21.88	346	P	P	03 14 17.9	-0.4
	baz=22,SNR=14						
ARPS	Mount Arapiles	21.88	346	P	P	03 14 19.2	+0.9
THZ	Tophouse	22.61	54	P	P	03 14 27.6	+1.3
THZ				IAmb	IAmb	03 14 40.1	
	comp=Z,389nm,1.6s						
THZ				IAMs_20	IAMs_20	03 21 14.5	
	comp=Z,26µm,21.0s						
CAN	Canberra	22.91	1	P	P	03 14 27.0	-2.4
CAN				IAmb	IAmb	03 14 35.6	
	comp=Z,182nm,1.4s						
CAN				IAMs_20	IAMs_20	03 21 02.4	
	comp=Z,20µm,20.0s						
CAN	Canberra	22.91	1	P	P	03 14 29.4	+0.1
CNB	Canberra Magne	22.92	2	P	P	03 14 27.2	-2.2
	baz=23,SNR=14						
CNB	Canberra Magne	22.92	2	P	P	03 14 28.6	-0.9
BSWZ	Blackbirch Sta	23.07	55	P	P	03 14 31.2	+0.2
QRZ	Quartz Range	23.23	52	P	P	03 14 33.0	+0.5
QRZ				IAMs_20	IAMs_20	03 21 59.7	
	comp=Z,13µm,19.0s						
NNZ	Nelson	23.27	54	P	P	03 14 32.1	-0.8
NNZ				IAMs_20	IAMs_20	03 21 33.7	
	comp=Z,24µm,21.0s						
TUWZ	Tuamarina	23.33	55	P	P	03 14 34.9	+1.3
PLWZ	Palliser	23.80	57	P	P	03 14 38.8	+0.5
MSWZ	Moikau Station	23.92	57	P	P	03 14 40.4	+1.1
SYDH	Sydney Hard Ro	24.51	5	P	P	03 14 46.9	+2.1
BFZ	Birch Farm	24.96	58	IAMs_20	IAMs_20	03 22 59.7	
	comp=Z,21µm,21.0s						
MGCD	Mangrove Creek	25.08	5	P	P	03 14 49.8	-0.2
NTLH	Newcastle Hard	25.42	7	P	P	03 14 49.7	-3.3
HTT	Hallett	25.59	342	P	P	03 14 53.5	-1.2
	baz=25,SNR=10						
HTT	Hallett	25.59	342	P	P	03 14 53.7	-1.0
AUDCS	Dubbo College	25.98	1	P	P	03 15 00.8	+2.6
HIZ	Hauiti	26.14	53	IAMs_20	IAMs_20	03 24 02.8	
	comp=Z,13µm,20.0s						
WHYH	Whyalla	26.22	339	P	P	03 14 59.9	-0.4
BKZ	Black Stump Fm	26.30	56	P	P	03 14 59.7	-1.4
BKZ	Black Stump Fm	26.30	56	P	P	03 15 04.5	+3.4
BBOO	Buckleboo	26.73	337	P	P	03 15 03.7	-1.3
	baz=27,SNR=13						
BBOO	Buckleboo	26.73	337	P	P	03 15 02.8	-2.2
BBOO				IAmb	IAmb	03 15 10.3	
	comp=Z,173nm,1.4s						
BBOO	Buckleboo	26.73	337	P	P	03 15 03.9	-1.1
CMSA	Cobar Meteorol	26.73	355	P	P	03 15 03.5	-1.5
	baz=27,SNR=37						
CMSA	Cobar Meteorol	26.73	355	P	P	03 15 03.6	-1.4
STKA	Stephens Creek	26.73	347	P	P	03 15 03.0	-2.0
	comp=Z,14nm,0.8s,baz=156,slow=14,SNR=26						
STKA				LR	LR	03 23 03.0	
	comp=Z,5µm,18.1s,baz=174,slow=31						
	comp=Z,14nm,0.8s						
STKA	Stephens Creek	26.73	347	P	P	03 15 04.2	-0.8
	baz=27,SNR=19						
STKA	Stephens Creek	26.73	347	P	P	03 15 03.0	-2.0
STKA	Stephens Creek	26.73	347	P	P	03 15 03.9	-1.1
AUPHS	Peel High Scho	27.17	5	P	P	03 15 11.4	+2.5
URZ	Urewera	27.32	56	P	P	03 15 08.1	-2.1
	comp=Z,37nm,1.0s,baz=297,slow=6.3,SNR=5.4						
URZ				LR	LR	03 25 31.6	
	comp=Z,21µm,18.3s,baz=296,slow=36						
	comp=Z,37nm,1.0s						
URZ	Urewera	27.32	56	P	P	03 15 09.9	-0.4
ARMA	Armidale	27.88	6	P	P	03 15 14.6	-0.8
	baz=28,SNR=4.7						
ARMA	Armidale	27.88	6	P	P	03 15 13.4	-2.1
ARMA				IAmb	IAmb	03 15 44.0	
	comp=Z,102nm,2.0s						
ARMA	Armidale	27.88	6	P	P	03 15 14.4	-1.0
MXZ	Matakaoa Point	28.43	57	IAMs_20	IAMs_20	03 25 47.5	
	comp=Z,16µm,20.0s						
OUZ	Omahuta	28.47	47	IAMs_20	IAMs_20	03 24 05.2	
	comp=Z,10µm,18.0s						
LCRK	Leigh Creek	28.62	342	P	P	03 15 19.8	-2.1
MULG	Mulgathing	29.61	334	P	P	03 15 30.2	-0.4
FORT	Forrest	30.76	324	P	P	03 15 39.4	-1.4
	baz=31,SNR=45						
FORT	Forrest	30.76	324	P	P	03 15 38.2	-2.6
FORT	Forrest	30.76	324	P	P	03 15 39.7	-1.1
INKA	Innaminka	30.92	347	P	P	03 15 43.8	+1.6
	comp=Z,108nm,0.7s						
OOD	Oodnadatta	31.67	338	P	P	03 15 46.7	-2.1
RMQ	Roma	31.71	1	P	P	03 15 48.5	-0.7
	baz=32,SNR=19						
RMQ	Roma	31.71	1	P	P	03 15 48.7	-0.5
QLP	Quilpie	31.74	353	P	P	03 15 48.9	-0.6
	baz=32,SNR=13						
QLP	Quilpie	31.74	353	P	P	03 15 48.5	-1.0
QSPA	South Pole Qui	31.89	180	P	P	03 15 50.3	-0.4
	comp=Z,9.1nm,0.9s,baz=1.7,slow=3.7,SNR=22						
QSPA				LR	LR	03 28 20.2	
	comp=Z,11µm,20.4s,baz=10,slow=36						
	comp=Z,9.1nm,0.9s						
QSPA	South Pole Qui	31.89	180	P	P	03 15 51.1	+0.4
QSPA				IAmb	IAmb	03 16 00.2	
	comp=Z,34nm,0.9s						
H01W1	Cape Leeuwin H	32.53	301	T	T	03 50 13.8	
	baz=145,slow=75,SNR=441						
H01W2	Cape Leeuwin H	32.54	301	T	T	03 50 14.3	

baz=145,slow=75,SNR=421
H01W3 Cape Leeuwin H 32.55 301 T T 03 50 14.9
baz=145,slow=75,SNR=554
NWAO Narrogin (SRO) 32.84 307 P **P** **03 15 57.8 -1.3**
comp=Z,7.2nm,0.8s,baz=22,slow=5.7,SNR=2.2
NWAO LR LR 03 26 18.4
comp=Z,4µm,18.3s,baz=4.0,slow=31
comp=Z,7.2nm,0.8s
EIDS Eidsvold 32.88 5 P **P** **03 15 58.0 -1.4**
baz=33,SNR=8.4
EIDS Eidsvold 32.88 5 P **P** **03 15 57.5 -2.0**
EIDS Eidsvold 32.88 5 P **P** **03 15 58.0 -1.4**
AUHAR St Anne's Scho 33.28 305 P **P** **03 16 05.4 +2.5**
KLBR Kellerberrin 33.78 309 P **P** **03 16 06.0 -1.3**
baz=34,SNR=7.2
KLBR Kellerberrin 33.78 309 P **P** **03 16 08.8 +1.5**
MUN Mundaring 34.09 306 P **P** **03 16 11.3 +1.3**
BLDU Ballidu 35.07 308 P **P** **03 16 17.8 -0.6**
baz=35,SNR=3.8
BLDU Ballidu 35.07 308 P **P** **03 16 19.2 +0.7**
AS01 Alice Springs 36.03 337 P **P** **03 16 24.8 -2.0**
ASAR Alice Springs 36.03 337 P **P** **03 16 24.9 -2.0**
comp=Z,25nm,0.9s,baz=166,slow=8.8,SNR=62
ASAR PcP **PcP** **03 18 52.3 -0.7**
comp=Z,4.2nm,1.1s,baz=161,slow=2.8,SNR=3.2
ASAR LR LR 03 29 01.5
comp=Z,1µm,19.3s,baz=169,slow=33
comp=Z,25nm,0.9s
ASAR Alice Springs 36.03 337 P **P** **03 16 23.9 -3.0**
AS31 Alice Springs 36.03 337 P **P** **03 16 24.7 -2.2**
WRKA Warakurna 36.08 328 P **P** **03 16 25.4 -1.9**
baz=36,SNR=35
WRKA Warakurna 36.08 328 P **P** **03 16 25.5 -1.8**
MORW Morawa 36.70 308 P **P** **03 16 31.5 -1.0**
MORW IAmb IAmb 03 16 38.6
comp=Z,122nm,1.9s
MORW Morawa 36.70 308 P **P** **03 16 33.9 +1.4**
MAW Mawson 36.90 220 P **P** **03 16 34.6 +0.9**
comp=Z,6.1nm,0.7s,baz=122,slow=9.4,SNR=12
MAW LR LR 03 31 35.3
comp=Z,17µm,18.9s,baz=100,slow=36
comp=Z,6.1nm,0.7s
MAW Mawson 36.90 220 P **P** **03 16 35.5 +1.8**
baz=37,SNR=5.8
MAW Mawson 36.90 220 P **P** **03 16 32.9 -0.8**
RAO Raoul Island 37.15 54 LR LR 03 30 46.8
comp=Z,6µm,18.2s,baz=188,slow=35
RAO Raoul Island 37.15 54 IAMs_20 IAMs_20 03 29 25.3
comp=Z,7µm,19.0s
MEEK Meekatharra 37.83 314 P **P** **03 16 40.6 -1.5**
baz=38,SNR=25
MEEK Meekatharra 37.83 314 P **P** **03 16 40.4 -1.7**
CTA Charters Tower 38.11 357 P **P** **03 16 43.2 -1.2**
comp=Z,37nm,0.9s,baz=176,slow=10,SNR=37
CTA LR LR 03 30 51.5
comp=Z,15µm,18.6s,baz=180,slow=34
comp=Z,37nm,0.9s
CTA Charters Tower 38.11 357 P **P** **03 16 43.3 -1.2**
CTAO Charters Tower 38.11 357 P **P** **03 16 42.6 -1.8**
CTAO IAmb IAmb 03 16 50.2
comp=Z,155nm,1.2s
CTAO Charters Tower 38.11 357 P **P** **03 16 43.5 -0.9**
QIS Mount Isa 38.15 347 P **P** **03 16 43.1 -1.6**
baz=38,SNR=28
QIS Mount Isa 38.15 347 P **P** **03 16 43.3 -1.5**
DZM Mont Dzumac 38.41 28 eP **P** **03 16 46.2 -0.8**
comp=Z,104nm,1.6s
DZM eS **S** **03 22 43.5 +1.8**
comp=Z,2µm,26.2s
DZM eLR LR 03 27 12.3
comp=Z,27µm,25.6s
DZM Mont Dzumac 38.41 28 P **P** **03 16 46.3 -0.7**
comp=Z,13nm,0.9s,baz=198,slow=13,SNR=5.4
DZM LR LR 03 29 45.9
comp=Z,11µm,18.8s,baz=204,slow=32
comp=Z,13nm,0.9s
DZM Mont Dzumac 38.41 28 P **P** **03 16 46.2 -0.7**
DZM IAmb IAmb 03 16 52.1
comp=Z,191nm,1.9s
DZM Mont Dzumac 38.41 28 P **P** **03 16 46.4 -0.7**
TV1H Townsville Har 38.91 358 P **P** **03 16 50.6 -0.6**
KOUNC Koumac, New Ca 39.37 24 P **P** **03 16 54.0 -1.0**
WR0 Warramunga Arr 39.52 339 P **P** **03 16 53.4 -2.9**
WR0 IAmb IAmb 03 17 01.0
comp=Z,140nm,1.2s
WB2 Warramunga Arr 39.57 339 P **P** **03 16 54.0 -2.7**
WB2 IAmb IAmb 03 17 01.4
comp=Z,168nm,1.2s
WRA Warramunga Arr 39.57 339 P **P** **03 16 54.6 -2.2**
comp=Z,41nm,0.8s,baz=166,slow=7.4,SNR=71
WRA LR LR 03 31 16.2
comp=Z,4µm,21.3s,baz=164,slow=33
comp=Z,41nm,0.8s
WRA Warramunga Arr 39.57 339 P **P** **03 16 54.2 -2.5**
WRAB Tennant Creek 39.58 339 P **P** **03 16 54.3 -2.5**
WRAB IAmb IAmb 03 17 01.4
comp=Z,163nm,1.2s
WRAB Tennant Creek 39.58 339 IAMs_20 IAMs_20 03 31 03.9
comp=Z,5µm,20.0s
WRAB Tennant Creek 39.58 339 P **P** **03 16 54.5 -2.3**
WB0 Warramunga Arr 39.73 339 P **P** **03 16 55.3 -2.8**
WB0 IAmb IAmb 03 17 02.5
comp=Z,108nm,1.1s
MTSU Mount Surprise 40.13 354 P **P** **03 17 00.5 -0.9**
baz=40,SNR=81
MTSU Mount Surprise 40.13 354 P **P** **03 17 00.4 -1.0**
PSA00 Pilbara Seismi 42.00 318 P **P** **03 17 14.8 -1.9**
PSA00 IAmb IAmb 03 17 18.4
comp=Z,51nm,1.1s
PSA00 Pilbara Seismi 42.00 318 P **P** **03 17 15.1 -1.6**
PSA00 IAmb IAmb 03 17 18.5
comp=Z,86nm,0.9s
PSA00 Pilbara Seismi 42.00 318 P **P** **03 17 16.3 -0.4**
MBWA Marble Bar 42.42 319 P **P** **03 17 18.8 -1.3**
MBWA IAmb IAmb 03 17 21.8
comp=Z,63nm,0.8s
MBWA Marble Bar 42.42 319 P **P** **03 17 19.5 -0.7**
BELA Belgrano 2 44.15 179 P **P** **03 17 33.7 +0.2**
COEN Coen 44.34 353 P **P** **03 17 34.5 -1.2**
baz=44,SNR=13
COEN Coen 44.34 353 P **P** **03 17 33.9 -1.8**
COEN IAmb IAmb 03 17 41.3
comp=Z,101nm,1.2s
COEN Coen 44.34 353 P **P** **03 17 34.5 -1.2**
KNRA Kununurra 44.91 333 P **P** **03 17 39.1 -1.0**
baz=45,SNR=21
KNRA Kununurra 44.91 333 P **P** **03 17 38.6 -1.6**
KNRA IAmb IAmb 03 17 42.3
comp=Z,78nm,0.9s
KNRA Kununurra 44.91 333 P **P** **03 17 39.0 -1.2**
MSVF Nonsavu 45.97 41 LR LR 03 32 51.1
comp=Z,8µm,20.7s,baz=233,slow=31
KDU Kakadu 47.00 339 P **P** **03 17 54.8 -1.9**
baz=47,SNR=6.5
KDU Kakadu 47.00 339 P **P** **03 17 55.1 -1.6**
MTN Manton Dam 47.11 337 P **P** **03 17 55.6 -2.0**
baz=47,SNR=7.2
MTN Manton Dam 47.11 337 P **P** **03 17 56.9 -0.7**
MTN Manton Dam 47.11 337 P **P** **03 17 56.7 -0.9**
TROLL Troll, Antarti 47.91 194 P **P** **03 18 03.5 +0.2**
PMG Port Moresby 48.70 358 P **P** **03 18 08.7 -1.2**
comp=Z,35nm,0.8s,baz=224,slow=4.8,SNR=12
PMG LR LR 03 37 07.2
comp=Z,7µm,18.1s,baz=184,slow=34
comp=Z,35nm,0.8s
PMG Port Moresby 48.70 358 P **P** **03 18 08.9 -1.0**
PMG Port Moresby 48.70 358 P **P** **03 18 08.9 -1.0**
comp=Z,1µmcomp=Z,72nm,1.3s
PMG Port Moresby 48.70 358 P **P** **03 18 09.4 -0.5**
SNAA Sanae 48.84 192 P **P** **03 18 10.8 +0.3**
SNAA Sanae 48.84 192 LR LR 03 38 44.6
comp=Z,4µm,18.6s,baz=156,slow=36
SNAA Sanae 48.84 192 P **P** **03 18 10.0 -0.5**
SNAA IAMs_20 IAMs_20 03 38 34.5
comp=Z,5µm,18.0s
SNAA Sanae 48.84 192 eP **P** **03 18 10.4 -0.1**
HNR Honiara 49.48 15 LR LR 03 34 32.6
comp=Z,56µm,21.9s,baz=165,slow=30
VNA3 Neumayer Olymp 49.91 189 P **P** **03 18 18.2 -0.3**
VNA2 Neumayer--Watz 50.01 190 P **P** **03 18 19.0 -0.4**
baz=156,slow=4.9
VNA1 Neumayer--Stat 50.36 190 P **P** **03 18 22.5 +0.6**
SMAI San Martin Ant 51.31 164 P **P** **03 18 30.2 +1.1**
SOEI Soe 51.74 329 P **P** **03 18 31.2 -1.9**
SOEI IAmb IAmb 03 18 46.2
comp=Z,54nm,0.8s
SOEI Soe 51.74 329 P **P** **03 18 32.5 -0.6**
comp=Z,73nm,1.2s
RAR Rarotonga 52.41 68 LR LR 03 36 24.3
comp=Z,2µm,22.0s,baz=216,slow=31
AFI Afiamalu 53.34 51 LR LR 03 40 49.9
comp=Z,1µm,18.8s,baz=206,slow=35
MMRI Maumere 53.37 327 P **P** **03 18 43.7 -1.3**
MMRI Maumere 53.37 327 P **P** **03 18 46.5 +1.5**
comp=Z,119nm,1.1s
MMRI Maumere 53.37 327 P **P** **03 18 47.1 +2.1**
comp=Z,117nm,0.9s
KRVT Keravat (AS076 53.84 5 LR LR 03 38 34.7
comp=Z,2µm,20.6s,baz=310,slow=33
PMSA Palmer Station 54.90 164 LR LR 03 39 41.9
comp=Z,2µm,18.9s,baz=204,slow=33
PMSA Palmer Station 54.90 164 IAMs_20 IAMs_20 03 38 58.8
comp=Z,3µm,18.0s
TWSI Taliwang, Sumb 54.94 321 P **P** **03 18 58.2 +1.7**
comp=Z,2µmcomp=Z,46nm,2.3s
CRZF Crozet Islands 55.15 237 IAMs_20 IAMs_20 03 39 59.4
comp=Z,5µm,19.0s
BNDI Bandanaira 55.45 338 P **P** **03 18 58.8 -1.3**
comp=Z,131nm,1.5s
BNDI Bandanaira 55.45 338 P **P** **03 19 00.1 0.0**
KLNI Mataram 55.50 320 P **P** **03 19 01.7 +1.2**
TBI Tubuai 55.86 79 eS **S** **03 26 51.8 +1.6**
comp=Z,2µm,26.5s
TBI eLR LR 03 35 18.6
TBI comp=Z,9µm,25.0s eLR LR 03 35 18.9
comp=Z,35µm,25.5s
SRBI Singaraja 56.12 319 P **P** **03 19 06.9 +2.0**
comp=Z,73nm,1.3s
BSSI Bau Bau, Buton 56.25 326 P **P** **03 19 05.0 -0.9**
comp=Z,2µmcomp=Z,98nm,2.3s
BBSI Bau Bau 56.28 329 P **P** **03 19 06.6 +0.5**
comp=Z,13µmcomp=Z,55nm,1.3s
FAKI Fak Fak 56.57 341 P **P** **03 19 06.5 -1.7**
FAKI IAMs_20 IAMs_20 03 46 09.5
comp=Z,3µm,20.0s
FAKI Fak Fak 56.57 341 P **P** **03 19 06.5 -1.7**
comp=Z,0.5nmcomp=Z,2µmcomp=Z,86nm,1.1s
FAKI Fak Fak 56.57 341 P **P** **03 19 06.9 -1.3**
comp=Z,2µmcomp=Z,86nm,1.1s
FAKI Fak Fak 56.57 341 P **P** **03 19 07.4 -0.8**
BKSI Bulukumba 57.14 326 P **P** **03 19 12.7 +0.5**
comp=Z,1µmcomp=Z,27nm,1.2s
PCJI Pantan, Jawa 57.47 315 P **P** **03 19 15.6 +1.1**
comp=Z,86nm,1.4s
KMMI Kalianget 57.51 318 P **P** **03 19 14.9 +0.1**
comp=Z,3µmcomp=Z,92nm,1.5s
KAPI Kappang 57.54 326 LR LR 03 42 37.4
comp=Z,4µm,19.4s,baz=172,slow=35
KAPI Kappang 57.54 326 P **P** **03 19 14.0 -1.0**
KAPI Kappang 57.54 326 IAMs_20 IAMs_20 03 42 05.6
comp=Z,4µm,19.0s
KAPI Kappang 57.54 326 P **P** **03 19 16.1 +1.1**
comp=Z,852nmcomp=Z,48nm,1.2s
KAPI Kappang 57.54 326 P **P** **03 19 17.1 +2.1**
BNSI Bone 58.02 326 P **P** **03 19 17.4 -1.0**
comp=Z,14nm,0.9s
SPSI Sidrap Palu 58.53 326 P **P** **03 19 22.6 +0.7**
comp=Z,1µmcomp=Z,36nm,0.6s
PMSI Majene 59.22 325 P **P** **03 19 27.5 +0.7**
comp=Z,30nm,0.7s
BBKI Banjar Baru 60.56 321 P **P** **03 19 37.9 +1.9**
comp=Z,100nm,0.9s
PPT2 Papeete2 60.58 75 eP **P** **03 19 39.0 +2.8**
comp=Z,48nm,21.8s
PPT2 eS **S** **03 27 53.5 +1.4**
comp=Z,327nm,25.8s
PPT2 eSS **SS** **03 31 53.0 +2.9**
comp=Z,348nm,26.8s
PPT2 eLR LR 03 37 30.0
comp=Z,3µm,22.2s
PPT2 eLR LR 03 37 30.0
comp=Z,3µm,23.5s
PPT Papeete 60.60 75 LR LR 03 40 08.2
comp=Z,2µm,21.1s,baz=219,slow=30
APSI Ampana 60.90 329 P **P** **03 19 39.9 +1.6**
comp=Z,62nm,1.1s
GTOI Gorontalo 62.03 331 P **P** **03 19 47.2 +1.3**
comp=Z,378nmcomp=Z,13nm,0.9s
MRSI Marisa 62.15 330 P **P** **03 19 48.3 +1.6**
comp=Z,950nmcomp=Z,20nm,0.6s
TARA Tarawa 62.53 28 IAMs_20 IAMs_20 03 42 34.6
comp=Z,3µm,20.0s
TOLI2 Tolitoli 63.07 329 P **P** **03 19 51.4 -1.4**
TOLI2 Tolitoli 63.07 329 P **P** **03 19 53.5 +0.6**
LWLI Liwa 63.17 309 P **P** **03 19 49.0 -4.7**
VAH Vaihoa 63.56 76 eT T 04 29 28.0
comp=Z,6.7nm,0.3s
PMBI Palembang 64.78 310 IAMs_20 IAMs_20 03 43 46.4
comp=Z,2µm,21.0s
PATS Pohnpei 65.33 11 P **P** **03 20 09.2 +1.6**
baz=65,SNR=4.1
KSM Kuching 66.72 318 **P** **03 20 15.3 -1.3**
KSM Kuching 66.72 318 P **P** **03 20 18.6 +2.0**
comp=Z,731nmcomp=Z,60nm,1.4s
KSM Kuching 66.72 318 P **P** **03 20 19.4 +2.8**
SBUM Sibu 66.97 320 P **P** **03 20 17.8 -0.4**
SBUM IAmb IAmb 03 20 25.1
comp=Z,42nm,1.7s
SBUM Sibu 66.97 320 P **P** **03 20 19.9 +1.7**
comp=Z,380nmcomp=Z,12nm,1.3s
DSRI Dabo 67.08 311 P **P** **03 20 20.2 +1.2**
comp=Z,15nm,1.1s
DAV Davao City (W) 67.62 335 LR LR 03 50 11.8
comp=Z,677nm,19.4s,baz=119,slow=36
KKM Kota Kinabalu 69.08 326 P **P** **03 20 30.2 -1.4**
KKM IAMs_20 IAMs_20 03 49 36.4
comp=Z,3µm,21.0s
KKM Kota Kinabalu 69.08 326 P **P** **03 20 33.2 +1.7**
comp=Z,827nmcomp=Z,38nm,2.1s
MYKOM Kota Tinggi 69.44 312 P **P** **03 20 36.1 +2.4**
comp=Z,36nm,1.6s
COYC Coyhaique 71.29 151 IAMs_20 IAMs_20 03 46 04.8
comp=Z,2µm,20.0s
GUMO Guam 71.60 356 LR LR 03 53 04.8
comp=Z,1µm,18.4s,baz=182,slow=37
RPSI Rantau Prapat 72.28 307 P **P** **03 20 49.8 -1.2**
RPSI IAmb IAmb 03 21 00.7
comp=Z,22nm,1.1s
RPSI IAMs_20 IAMs_20 03 52 32.7
comp=Z,3µm,18.0s
PSI Prapat 72.37 307 P **P** **03 20 52.5 +0.8**
comp=Z,21nm,1.6s
PSI Prapat 72.37 307 P **P** **03 20 53.5 +1.8**
TAOE Nuku Hiva Isla 72.81 79 eLR LR 03 43 09.9
comp=Z,2µm,23.5s
IPM Ipoh 73.02 310 P **P** **03 20 54.8 -0.6**
IPM IAmb IAmb 03 21 02.4
comp=Z,32nm,1.2s
IPM Ipoh 73.02 310 P **P** **03 20 57.5 +2.1**
comp=Z,22nm,1.2s
IPM Ipoh 73.02 310 P **P** **03 20 57.8 +2.4**
RPN Rapa Nui 73.50 115 LR LR 03 45 04.2
comp=Z,1µm,21.5s,baz=208,slow=29
KCSI Kotacane, Aceh 73.51 306 P **P** **03 21 00.8 +2.5**
comp=Z,22nm,1.0s
MLSI Meulaboh, Aceh 74.76 306 P **P** **03 21 08.2 +2.6**
comp=Z,52nm,0.8s
SKLT Songkhla 75.63 311 P **P** **03 21 12.3 +1.8**
comp=Z,950nmcomp=Z,28nm,1.5s
SKLT Songkhla 75.63 311 P **P** **03 21 12.3 +1.8**
H08S2 Diego Garcia H 76.09 278 T T 04 44 50.3
baz=148,slow=76,SNR=136
H08S1 Diego Garcia H 76.10 278 T T 04 44 50.1
baz=148,slow=76,SNR=113
H08S3 Diego Garcia H 76.11 278 T T 04 44 51.8
baz=148,slow=76,SNR=206
PLCA Paso Flores 76.21 151 P **P** **03 21 12.6 -1.1**
comp=Z,2.0nm,0.8s,baz=185,slow=5.6,SNR=3.9
PLCA LR LR 03 48 05.4
comp=Z,2µm,20.3s,baz=190,slow=30
comp=Z,2.0nm,0.8s
PLCA Paso Flores 76.21 151 P **P** **03 21 13.7 -0.1**
GO06 Curarrehue 77.04 149 P **P** **03 21 19.8 +1.2**
DLV T Lat 77.10 320 P **P** **03 21 21.3 +2.2**
VOI Vohitsoka 77.50 249 IAMs_20 IAMs_20 03 49 07.6
comp=Z,3µm,21.0s
SURA Surathani 77.84 311 P **P** **03 21 25.3 +2.3**
KSTD Kokstad 77.96 230 eP **P** **03 21 25.1 +1.2**
KSTD IAmb IAmb 03 21 31.2
comp=Z,25nm,1.0s
GRAF Camdeboo Natio 78.39 226 eP **P** **03 21 26.9 +0.8**
ROOI Rooidraai Farm 78.56 225 eP **P** **03 21 26.1 -0.9**
ROOI IAmb IAmb 03 21 48.5
comp=Z,512nm,2.7s
BFON Badsfontein, M 79.12 226 eP **P** **03 21 34.5 +4.3**
GRAN Grantham 79.24 224 eP **P** **03 21 31.1 +0.3**
GRAN IAmb IAmb 03 21 34.7
comp=Z,9.6nm,0.8s
CER Ceres 79.32 221 eP **P** **03 21 30.0 -1.2**
BRAK Brakfontein 79.44 225 eP **P** **03 21 34.5 +2.6**
SUR Sutherland 79.67 223 LR LR 03 52 00.4
comp=Z,2µm,19.9s,baz=156,slow=32
SUR Sutherland 79.67 223 IAMs_20 IAMs_20 03 50 41.7
comp=Z,2µm,20.0s
ABPO Ambohimpanom 79.73 251 IAMs_20 IAMs_20 03 50 49.0
comp=Z,2µm,20.0s
POGA Pongola 79.83 234 eP **P** **03 21 34.1 +0.2**
POGA IAmb IAmb 03 21 38.2
comp=Z,27nm,1.4s
FRAZ Fraserburg 79.86 224 eP **P** **03 21 32.4 -1.8**
H03S1 Juan Fernandez 80.14 142 T T 04 50 41.2
baz=201,slow=74,SNR=341
H03S2 Juan Fernandez 80.14 142 T T 04 50 44.5
baz=201,slow=74,SNR=249
H03S3 Juan Fernandez 80.16 142 T T 04 50 40.6
baz=201,slow=74,SNR=53
H03N3 Juan Fernandez 80.49 141 T T 04 51 05.3
baz=207,slow=72,SNR=7.1
H03N2 Juan Fernandez 80.50 141 T T 04 51 04.7
baz=207,slow=72,SNR=15
H03N1 Juan Fernandez 80.51 142 T T 04 51 07.6
baz=207,slow=72,SNR=5.2
TRQA Tornquist 80.79 156 P **P** **03 21 40.3 +1.3**
CVNA Calvinia 80.86 223 eP **P** **03 21 42.5 +2.9**
UBPT Khong Chiam 81.24 318 P **P** **03 21 42.2 +0.8**
comp=Z,28nm,0.8s
UBPT Khong Chiam 81.24 318 P **P** **03 21 46.0 +4.6**
comp=Z,29nm,0.8s
BOSA Boshof 81.36 228 P **P** **03 21 41.0 -1.3**
comp=Z,5.8nm,0.8s,baz=140,slow=4.4,SNR=7.8
BOSA LR LR 03 53 02.7
comp=Z,3µm,19.8s,baz=157,slow=32
comp=Z,5.8nm,0.8s
BOSA Boshof 81.36 228 P **P** **03 21 41.6 -0.7**
BOSA IAmb IAmb 03 22 10.8
comp=Z,76nm,2.0s
BOSA Boshof 81.36 228 eP **P** **03 21 41.3 -1.0**
BOSA IAmb IAmb 03 21 49.9
comp=Z,21nm,1.2s
BO02 Sierra Bellavi 81.72 148 P **P** **03 21 43.5 -0.6**
BO02 IAmb IAmb 03 21 59.6
comp=Z,46nm,1.4s
CRLN Carolina, Mapu 81.73 233 eP **P** **03 21 42.3 -2.0**
CRLN IAmb IAmb 03 21 48.5
comp=Z,101nm,2.6s
NAYO Nakonayok 81.87 314 P P 03 21 50.1 +5.3
PRYS Parys 82.02 231 eP **P** **03 21 45.9 +0.1**
PRYS IAmb IAmb 03 21 52.4
comp=Z,13nm,1.0s
SWZ Schweizer 82.61 229 eP **P** **03 21 49.4 +0.4**
SWZ IAmb IAmb 03 22 15.2
comp=Z,67nm,2.0s
SLR Silverton 82.69 232 eP **P** **03 21 49.2 -0.2**
SLR IAmb IAmb 03 22 14.1
comp=Z,5.1nm,0.9s
HRAO HartRAO 82.80 231 eP **P** **03 21 49.9 0.0**
MT02 Curacav 83.06 148 P **P** **03 21 51.6 +0.5**
AUGR Augrabies 83.26 224 eP P 03 21 57.6 +5.4
AUGR IAmb IAmb 03 22 03.3
comp=Z,53nm,1.5s
QIZ Qiongzhong 83.28 324 P **P** **03 21 53.2 +1.1**
QIZ S **S** **03 32 17.4 +5.1**
QIZ SS **SS** **03 37 42.9 +5.1**
QIZ LR LR
comp=Z,640nm,21.7s
QIZ LR LR
comp=Z,560nm,19.9s
QIZ LR LR
comp=Z,960nm,23.5s
MOPA Mopani 83.31 235 eP **P** **03 21 52.4 0.0**
MOPA IAmb IAmb 03 22 00.2
comp=Z,1.5nm,1.0s
TPUB Ta-pu 84.42 335 IAMs_20 IAMs_20 03 58 25.3
comp=Z,1µm,21.0s
LBTB Lobatse 84.43 230 LR LR 03 55 54.6
comp=Z,2µm,19.7s,baz=154,slow=33
LBTB Lobatse 84.43 230 P **P** **03 21 56.7 -1.6**
LBTB IAmb IAmb 03 22 06.1
comp=Z,17nm,1.1s
LBTB Lobatse 84.43 230 eP **P** **03 21 57.8 -0.4**
LBTB IAmb IAmb 03 22 08.3
comp=Z,15nm,1.1s
LEPH Lephalale, Lim 84.55 232 eP **P** **03 21 56.7 -2.2**
LEPH IAmb IAmb 03 22 02.9
comp=Z,59nm,2.0s
NONG Nongkai 84.64 317 P **P** **03 22 03.3 +4.3**
PALK Pallekele 84.66 293 LR LR 03 51 01.6
comp=Z,998nm,21.6s,baz=253,slow=30
PALK Pallekele 84.66 293 IAMs_20 IAMs_20 03 50 27.7
comp=Z,2µm,22.0s
MUSN Musina, Limpop 85.06 235 eP **P** **03 22 00.9 -0.5**
JCJ Chichijima 85.14 354 LR LR 03 56 49.6
comp=Z,791nm,21.8s,baz=135,slow=34
YHNB Yeheng 85.58 336 IAMs_20 IAMs_20 03 59 39.9
comp=Z,1µm,20.0s
PHRA Phrae 86.11 315 P **P** **03 22 05.6 -0.8**
JOW Kunigami 86.37 342 LR LR 03 59 03.8
comp=Z,2µm,20.4s,baz=138,slow=34
CO01 Juntas del Tor 86.45 147 P **P** **03 22 08.4 0.0**
CO01 IAmb IAmb 03 22 15.2
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 86.56 314 P **P** **03 22 07.7 -0.9**
comp=Z,2.9nm,0.8s,baz=180,slow=4.7,SNR=17
CMAR PP **PP** **03 25 29.6 -1.1**
comp=Z,1.1nm,0.3s,baz=153,slow=6.1,SNR=1.4
CMAR LR LR 03 59 46.9
comp=Z,2µm,19.3s,baz=165,slow=35
comp=Z,2.9nm,0.8s
CHTO Chiang Mai 86.88 314 P **P** **03 22 08.7 -1.4**
CHTO IAmb IAmb 03 22 17.2
comp=Z,47nm,1.4s
CHTO IAMs_20 IAMs_20 03 57 03.9
comp=Z,2µm,21.0s
PCHI Peechi 89.61 291 eP P 03 22 14.8 -8.4
PCHI eS SKSac 03 32 37.2 -16
MND Mandalay 90.88 313 IAMs_20 IAMs_20 04 03 41.7
comp=Z,781nm,20.0s
JHJ Hachijo jima 2 91.27 353 LR LR 04 02 02.2
comp=Z,1µm,19.5s,baz=171,slow=35
KMI Kunming 91.29 320 ⇑P **P** **03 22 34.4 +3.3**
KMI SKS **SKSac** **03 33 04.6 +1.5**
KMI S **ScS** **03 33 35.1 +2.6**
KMI SS **SS** **03 39 37.8 +2.5**
KMI pmax pmax
comp=Z,17nm,1.2s
KMI pmax pmax
comp=Z,300nm,3.5s
KMI LR LR
comp=Z,940nm,24.4s
KMI LR LR
comp=Z,500nm,24.9s
KMI LR LR
comp=Z,2µm,26.5s
LSZ Lusaka 91.97 237 LR LR 03 58 20.1
comp=Z,4µm,20.0s,baz=151,slow=32
TNCH TengChong 92.70 316 ⇑P **P** **03 22 35.1 -2.5**
TNCH pP PcP 03 22 38.3 0.0
TNCH TengChong 92.70 316 S **S** **03 33 38.0 -4.2**
TNCH TengChong 92.70 316 sS S 03 33 43.4 +1.2
TNCH TengChong 92.70 316 SS SS 03 39 55.8 +0.3
TNCH pmax pmax
comp=Z,17nm,0.7s
TNCH pmax pmax
comp=Z,190nm,4.5s
TNCH LR LR
comp=N,710nm,22.4s
TNCH LR LR
comp=E,370nm,17.4s
TNCH LR LR
comp=Z,2µm,24.6s
TSUM Tsumeb 92.82 226 LR LR 04 01 35.6
comp=Z,3µm,18.3s,baz=152,slow=34
CPUP Villa Florida 93.09 157 P **P** **03 22 38.3 -1.1**
comp=Z,2.2nm,0.8s,baz=210,slow=7.5,SNR=4.1
CPUP LR LR 04 00 46.2
comp=Z,692nm,20.1s,baz=198,slow=33
comp=Z,2.2nm,0.8s
NJ2 Nanjing 93.25 335 eP P 03 22 46.1 +6.4

NJ2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NJ2				LR	LR		
	comp=Z,990nm,18.9s						
NJ2				LR	LR		
	comp=Z,930nm,20.8s						
NJ2				LR	LR		
	comp=Z,2µm,18.5s						
INU	Inuyama	93.69	351	IAMs_20	IAMs_20	03 59 27.3	
	comp=Z,2µm,22.0s						
LVC	Limon Verde	93.73	146	LR	LR	03 56 54.1	
	comp=Z,321nm,20.5s,baz=188,slow=30						
MJAR	Matsushiro Arr	94.78	352	LR	LR	04 02 56.4	
	comp=Z,361nm,19.9s,baz=167,slow=34						
KSRS	Korea Array	96.83	344	LR	LR	04 06 39.4	
	comp=Z,524nm,19.5s,baz=175,slow=36						
INCN	Inchon	97.06	343	IAMs_20	IAMs_20	04 04 43.0	
	comp=Z,1µm,20.0s						
XAN	Xi'an	97.65	328	P	Pdif	03 23 00.8	+0.9
XAN				pP	pwP	03 23 08.5	+2.2
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LPAZ	La Paz	99.92	145	P	Pdif	03 23 10.7	-0.5
	comp=Z,1.5nm,1.0s,baz=249,slow=8.1,SNR=3.6						
LPAZ				LR	LR	04 01 27.4	
	comp=Z,412nm,19.9s,baz=160,slow=31						
	comp=Z,1.5nm,1.0s						
NNA	Nana	100.95	135	IAMs_20	IAMs_20	03 58 09.7	
	comp=Z,1µm,22.0s						
BJT	Baijiatuau	101.50	335	IAMs_20	IAMs_20	04 09 30.4	
	comp=Z,2µm,20.0s						
MBAR	Mbarara	103.67	246	IAMs_20	IAMs_20	04 05 39.5	
	comp=Z,1µm,20.0s						
YSS	Yuzh-Sakhalins	104.90	356	IAMs_20	IAMs_20	04 08 53.4	
	comp=Z,2µm,21.0s						
HIA	Hailar	109.67	341	IAMs_20	IAMs_20	04 11 12.9	
	comp=Z,1µm,22.0s						
NIL	Nilore	110.75	300	IAMs_20	IAMs_20	04 08 16.8	
	comp=Z,938nm,19.0s						
SONM	Songino Array	111.20	331	PKiKP	PKiKP	03 27 57.7	-0.7
	comp=Z,0.1nm,0.4s,baz=151,slow=3.3,SNR=1.6						
SONM				PP	PP	03 28 37.3	-1.5
	comp=Z,1.0nm,0.9s,baz=145,slow=5.4,SNR=4.2						
H06S1	SOCORRO T	111.35	89	T	T	05 28 37.7	
UOSS	Minazif	111.94	282	IAMs_20	IAMs_20	04 04 47.8	
	comp=Z,1µm,22.0s						
RCBR	Riachuelo	116.08	175	IAMs_20	IAMs_20	04 17 35.8	
	comp=Z,1µm,18.0s						
MKAR	Makanchi Array	117.96	315	PKP	PKPdf	03 28 10.8	-0.4
	comp=Z,0.9nm,0.8s,baz=82,slow=2.7,SNR=4.9						
MKAR				PP	PP	03 29 26.4	0.0
	comp=Z,0.7nm,0.9s,baz=133,slow=6.3,SNR=1.5						
SNET	Serv Nac Est T	118.39	111	IAMs_20	IAMs_20	04 09 59.8	
	comp=Z,750nm,19.0s						
BOAB	BOACO BROADBAN	119.05	115	IAMs_20	IAMs_20	04 10 46.3	
	comp=Z,1µm,22.0s						
KKAR	Karatay Array	119.73	304	PKPdf	PKPdf	03 28 14.5	-0.3
KKAR	Karatay Array	119.73	304	PKPdf	PKPdf	03 28 14.2	-0.6
PFO	Pinyon Flats O	120.50	75	IAMs_20	IAMs_20	04 09 14.5	
	comp=Z,2µm,20.0s						
GEYT	Alibeck	121.39	292	PKP	PKPdf	03 28 16.2	-2.0
	comp=Z,2.6nm,0.8s,baz=257,slow=5.9,SNR=4.2						
GEYT	Alibeck	121.39	292		PKPdf	03 28 16.8	-1.5
TUC	Tucson	122.41	80	IAMs_20	IAMs_20	04 08 38.1	
	comp=Z,1µm,20.0s						
SDV	Santo Domingo	122.47	133	IAMs_20	IAMs_20	04 12 23.0	
	comp=Z,1µm,20.0s						
KURK	Kurchatov	122.56	315	IAMs_20	IAMs_20	04 19 51.6	
	comp=Z,1µm,21.0s						
ZALV	Zalesovo Beam	123.01	321	PKP	PKPdf	03 28 18.8	-1.9
	comp=Z,0.4nm,0.3s,baz=151,slow=3.3,SNR=2.4						
NVAR	Mina Array Bea	123.33	70	PKP	PKPdf	03 28 20.8	-1.4
	comp=Z,0.2nm,0.6s,baz=212,slow=3.2,SNR=2.2						
TXAR	Lajitas Array	123.80	88	PKKPbc	PKKPbc	03 38 08.3	+0.3
	comp=Z,0.1nm,0.6s,baz=64,slow=4.2,SNR=1.5						
TEIG	Tepich	124.41	108	IAMs_20	IAMs_20	04 13 30.3	
	comp=Z,818nm,19.0s						
KVTX	Kingsville	125.43	94	IAMs_20	IAMs_20	04 26 16.5	
	comp=Z,1µm,19.0s						
HATO	Hato, Curacao	126.13	133	IAMs_20	IAMs_20	04 15 00.0	
	comp=Z,1µm,21.0s						
BRVK	Borovoye	127.61	312	IAMs_20	IAMs_20	04 21 56.1	
	comp=Z,944nm,20.0s						
GHAJ	Ghor Haditha	127.88	269	IAMs_20	IAMs_20	04 20 24.9	
	comp=Z,1µm,18.0s						
MTDJ	Mount Denham	127.88	120	IAMs_20	IAMs_20	04 13 26.1	
	comp=Z,1µm,20.0s						
HKT	Hockley	128.43	94	IAMs_20	IAMs_20	04 28 03.1	
	comp=Z,1µm,20.0s						
TORD	Torodi Ar. Bea	128.49	223	PKP	PKPdf	03 28 31.3	-1.1
	comp=Z,2.7nm,1.0s,baz=148,slow=1.2,SNR=7.7						
GRGR	Grenville	128.72	141	IAMs_20	IAMs_20	04 18 16.9	
	comp=Z,688nm,19.0s						
HWUT	Hardware Ranch	129.11	72	IAMs_20	IAMs_20	04 19 15.4	
	comp=Z,1µm,20.0s						
SDCO	Great Sand Dun	129.35	80	IAMs_20	IAMs_20	04 20 25.8	
	comp=Z,980nm,21.0s						
GNI	Garni	129.81	284	IAMs_20	IAMs_20	04 19 05.8	
	comp=Z,944nm,22.0s						
FDF	Fort de France	131.32	141	IAMs_20	IAMs_20	04 18 52.8	
	comp=Z,753nm,21.0s						
FLWY	Flagg Ranch	131.36	70	IAMs_20	IAMs_20	04 21 12.6	
	comp=Z,1µm,18.0s						
OK025	Westminster Rd	132.01	88	IAMs_20	IAMs_20	04 17 51.5	
	comp=Z,1µm,22.0s						
ILAR	Eielson Array	132.06	31	PKP	PKPdf	03 28 36.2	-1.4
	comp=Z,0.9nm,1.0s,baz=258,slow=2.1,SNR=3.1						
CBE	Ff, Capester	132.41	139	IAMs_20	IAMs_20	04 16 09.6	
	comp=Z,751nm,22.0s						
OK031	S. Brethren Rd	132.55	88	IAMs_20	IAMs_20	04 18 19.9	
	comp=Z,1µm,18.0s						
OK030	Cody Creek RV	132.56	88	IAMs_20	IAMs_20	04 15 57.2	
	comp=Z,1µm,21.0s						
OK049	E0420 Rd and N	132.65	88	IAMs_20	IAMs_20	04 17 22.5	
	comp=Z,1µm,20.0s						
OK046	Pawnee Station	132.85	88	IAMs_20	IAMs_20	04 17 10.8	
	comp=Z,2µm,22.0s						
OK047	Pawnee, Statio	133.00	88	IAMs_20	IAMs_20	04 17 13.8	
	comp=Z,1µm,21.0s						
KBZ	Khabaz	133.36	286	PKP	PKPdf	03 28 39.9	-0.9
	comp=Z,3.7nm,0.9s,baz=120,slow=2.3,SNR=5.3						
KBZ				PP	PP	03 31 09.2	+0.1
	comp=Z,4.6nm,1.1s,baz=181,slow=3.3,SNR=3.6						
OGNE	Ogallala	133.52	80	IAMs_20	IAMs_20	04 22 14.3	
	comp=Z,959nm,19.0s						
SMRT	St. Maarten	133.72	137	IAMs_20	IAMs_20	04 17 17.9	
	comp=Z,701nm,21.0s						
NRIK	Noril'sk	134.55	334	PKP	PKPdf	03 28 41.0	-1.2
	comp=Z,3.2nm,0.5s,baz=134,slow=2.7,SNR=2.2						
KSU1	Kansas State U	135.02	86	IAMs_20	IAMs_20	04 17 30.2	
	comp=Z,1µm,20.0s						
BR131	Keskin Array S	135.29	275		PKPdf	03 28 43.0	-1.7
BRTR	Keskin Array B	135.29	275	PKP	PKPdf	03 28 42.9	-1.9
	comp=Z,2.3nm,0.9s,baz=179,slow=2.1,SNR=6.3						
TIRR	Tirgusor	141.38	276	IAMs_20	IAMs_20	04 37 54.1	
	comp=Z,916nm,21.0s						
CFR	Carcaliu	142.01	277	⇑P	PKPdf	03 28 52.2	-4.4
A36M	Sachs Harbour	142.75	31	IAMs_20	IAMs_20	04 24 18.0	
	comp=Z,1µm,22.0s						
MILM	Milestii Mici	142.80	279	⇓P	PKPdf	03 28 55.6	-2.4
ULM	Lac du Bonnet	142.97	74	PKP	PKPdf	03 28 56.8	-1.4
	comp=Z,1.6nm,0.6s,baz=311,slow=22,SNR=1.2						
VRI	Vrincioaia	143.20	277	⇑P	PKPab	03 28 54.9	+0.4
MLR	Muntele Rosu	143.37	275	⇑P	PKPbc	03 28 56.3	-0.2
MLR	Muntele Rosu	143.37	275	IAMs_20	IAMs_20	04 36 01.8	
	comp=Z,646nm,21.0s						
COVR	Voineasa-Covas	143.47	276	⇑P	PKPbc	03 28 57.6	+1.1
CEL	Celeste	143.55	258	IAMs_20	IAMs_20	04 45 53.0	
	comp=Z,755nm,20.0s						
TESR	Tescani	143.67	277	⇑P	PKPbc	03 28 56.8	-0.3
TIP	Timpagrande	143.79	260	IAMs_20	IAMs_20	04 42 01.3	
	comp=Z,1µm,19.0s						
VOIR		143.81	275	⇑P	PKPbc	03 28 58.4	+0.7
SORM	Soroca	143.82	281	⇑P	PKPbc	03 28 57.1	-0.3
BLKB	Belogradchik	143.84	270	⇓P	PKPab	03 28 56.2	-0.8
OZUR		143.85	276	⇑P	PKPab	03 28 56.8	-0.2
DOPR	Dopca	143.98	276	⇑P	PKPbc	03 28 58.1	0.0
ARR	Arges	143.98	274	⇑P	PKPbc	03 28 58.3	+0.1
GIRR	Girov	144.03	278	⇑P	PKPab	03 28 57.8	+0.2
BIZ	Bicaz	144.23	277	⇑P	PKPbc	03 28 59.0	+0.2
BOVS	Bovan	144.36	270	⇓P	PKPab	03 28 57.5	-1.5
DRBR	Darabani	144.77	279	⇑P	PKPdf	03 29 01.8	+0.4
HERR	Herculane	144.83	272	⇑P	PKPab	03 28 59.9	-0.7
MATE	Matera	144.90	261	⇑P	PKPab	03 28 58.8	-2.2
KEST	Kesra	144.91	248	PKPbc	PKPdf	03 29 02.1	0.0
	comp=Z,26nm,1.0s,baz=205,slow=2.3,SNR=11						
KEST	Kesra	144.91	248	PKPdf	PKPdf	03 29 02.5	+0.3
AKASG	Malin Array Be	144.94	285	PKPbc	PKPab	03 28 59.3	-1.6
	comp=Z,12nm,0.8s,baz=97,slow=3.2,SNR=28						
AKBB	Malin Array Si	144.94	285	PKPdf	PKPab	03 28 59.6	-1.3
GZR	Gura Zlata	144.98	273	⇑P	PKPab	03 29 01.4	+0.1
BURAR	Bucovina Array	145.13	278	⇑P	PKPdf	03 29 02.1	-0.1
BURAR	Bucovina Array	145.13	278		PKPbc	03 29 01.3	-0.5
MDVR	Moldovita	145.13	271	⇑P	PKPbc	03 29 00.6	-1.2
BUR08	Bucovina Ar. S	145.15	278		PKPbc	03 29 01.8	-0.1
ARCR	ARCALIA	145.24	276	⇑P	PKPdf	03 29 02.9	+0.6
CJR	Cluj-Napoca	145.40	275	⇑P	PKPbc	03 29 00.4	-2.2
KLMR	Klimovskoe	145.43	305	e	PKPdf	03 29 01.4	-0.7
KLMR				AMP		03 29 13.1	
	comp=Z,212nm,1.5s						
KLMR				LR	LR	04 22 57.4	
KLMR				AMP		04 39 37.8	
	comp=Z,535nm,17.5s						
DIVS	Divibare	145.58	269	PKPdf	PKPdf	03 29 02.1	-1.0
SDMD	Soldier's Deli	145.64	103	PKPdf	PKPdf	03 29 02.9	-0.3
BZS	Buzias	145.74	272	⇑P	PKPdf	03 29 03.1	0.0
MESR	Meseseni	146.03	275	⇑P	PKPab	03 29 05.0	-0.1
SIRR	Siria	146.14	273	⇑P	PKPab	03 29 05.6	0.0
FRGS	Fruska Gora	146.39	270	⇑P	PKPbc	03 29 05.9	+0.3
WUPA	West Chester U	146.67	104	PKPdf	PKPdf	03 29 05.5	+0.6
TRPA	Tarpa	146.86	276	⇑P	PKPab	03 29 07.6	-0.7
TRPA	Tarpa	146.86	276	PKP	PKPab	03 29 07.9	-0.3
KOLS	Kolonicke sedl	147.49	277	ePKP	PKPbc	03 29 09.4	+0.8
KOLS				e		03 29 13.4	
MMNY	Mt. Morris Dam	147.50	98		PKPbc	03 29 09.8	+0.9
ABAH	Abaujker	147.64	276	PKP	PKPbc	03 29 09.8	+0.8
MORH	Mrgy, Hungar	147.70	270	⇑P	PKPbc	03 29 08.7	-0.5
MORH	Mrgy, Hungar	147.70	270	PKP	PKPbc	03 29 09.6	+0.3
MNK	Minsk	147.74	290	i PKP	PKPbc	03 29 09.4	+0.3
	comp=E,4.0nm,1.1s						
MNK				i PKP	PKPbc	03 29 09.4	+0.3
	comp=N,42nm,1.0s						
MNK				i PKP	PKPbc	03 29 09.4	+0.3
	comp=Z,41nm,1.1s,baz=121						
MNK				i PP	PP	03 32 39.7	+2.7
MNK				i PPP	PPP	03 35 56.9	
MNK				i SKKS		03 45 18.3	
MNK				i PPS	PPS	03 49 14.6	
MNK				i SS	SS	03 51 46.0	+4.7
MNK				i SSS	SSS	03 57 19.3	
MNK				i LQ	LQ	04 26 06.0	
MNK				i LR	LR	04 29 52.2	
MNK				i LRM	MLR	04 35 36.2	
	comp=N,299nm,19.8s						
MNK				i LRM	MLR	04 35 47.7	
	comp=Z,523nm,20.4s						
MNK				i LRM	MLR	04 35 52.2	
	comp=E,34nm,17.2s						
AQU	L'Aquila	147.84	260	IAMs_20	IAMs_20	04 44 22.5	
	comp=Z,757nm,18.0s						
CRVS	Cervenica-Dubn	147.90	277	ePKP	PKPab	03 29 13.1	+0.7
KOVH	Kovagotottos	147.91	270	PKP	PKPbc	03 29 10.6	+0.8
PSZ	Piszkesteto	148.12	274	PKPbc	PKPbc	03 29 09.9	-0.5
PSZ	Piszkesteto	148.12	274	PKP	PKiKP	03 29 11.9	-0.3
SADO	Sadowa	148.25	94	PKPdf	PKPdf	03 29 08.0	+0.6
BUD	Budapest	148.31	273	PKP	PKiKP	03 29 12.3	-0.2
NACGM	Naroch	148.49	290	ePKP	PKPbc	03 29 11.5	+0.4
	comp=Z,399nm,22.1s,baz=120						
CSKK	Cskako	148.64	272	PKP	PKPbc	03 29 11.5	-0.2
BEHE	Becsehely	148.85	269	PKP	PKPab	03 29 15.6	-0.6
MPLH	Magyarpolny	148.90	271	PKP	PKiKP	03 29 13.0	-0.6
J57A	Williamstown	148.97	99	PKPbc	PKPbc	03 29 12.7	+0.1
IIGN	Ignalina	149.00	290	eP	PKiKP	03 29 13.1	-0.5
VYHS	Vyhne	149.03	274	ePKP	PKPbc	03 29 12.6	-0.1
VYHS				e		03 29 17.7	
ISAL	Salakas	149.15	290	eP	PKiKP	03 29 13.5	-0.4
OJC	Ojcow	149.55	277	ePKPdf	PKPdf	03 29 11.0	+1.7
OJC	Ojcow	149.55	277		PKPdf	03 29 09.9	+0.6
SOP	Sopron	149.74	271	PKP	PKiKP	03 29 15.8	+0.4
ZST	Bratislava	149.77	272	ePKP	PKPab	03 29 18.8	-1.2
MODS	Modra-Piesok	149.78	273	ePKP	PKPbc	03 29 14.1	-0.4
MODS				e		03 29 20.3	
RONA	Rosalia, Austr	149.89	271	i P	PKPbc	03 29 14.1	-0.8
	comp=Z,18nm,0.9s						
SOKA	Soboth	149.91	268	i P	PKPbc	03 29 14.8	-0.2
	comp=Z,39nm,1.0s						
ARSA	Arzberg	150.01	269	i P	PKPbc	03 29 15.0	-0.1
	comp=Z,29nm,1.0s						
MAUC	Maruska	150.09	275	ePKP	PKiKP	03 29 18.3	+2.2
VSU	Vasula	150.18	296	eP	PKPbc	03 29 15.0	-0.1
OKC	Ostrava-Krasne	150.19	276	ePKP	PKPbc	03 29 15.5	0.0
OKC				AMS	AMS	04 53 10.0	
	comp=Z,600nm,16.9s						
PABE	Paberze	150.20	289	PKPdf	PKPdf	03 29 10.3	+0.2
PABE				IAMs_20	IAMs_20	04 50 44.0	
	comp=Z,1µm,21.0s						
PABE	Paberze	150.20	289	eP	PKPbc	03 29 14.8	-0.5
CONA	Conrad Observa	150.26	271	i P	PKPbc	03 29 14.9	-0.9
	comp=Z,17nm,1.0s						
MORC	Moravsky Berou	150.48	275	⇑P	PKPbc	03 29 16.1	-0.1
MORC	Moravsky Berou	150.48	275	PKPdf	PKPdf	03 29 10.4	-0.5
MORC	Moravsky Berou	150.48	275	ePKP	PKPbc	03 29 15.4	-0.8
PRED	Cave del Predi	150.53	266	PKPdf	PKPdf	03 29 11.5	+0.4
MYKA	Terra Mystica	150.62	267	i P	PKPbc	03 29 16.5	-0.2
	comp=Z,12nm,1.0s						
KRUC	Moravsky	150.66	273	ePKP	PKiKP	03 29 17.0	-0.3
VLC	Villacollemand	150.68	260	IAMs_20	IAMs_20	04 42 26.6	
	comp=Z,869nm,20.0s						
VRAC	Vranov	150.70	274	⇑P	PKPbc	03 29 16.7	-0.1
VRAC	Vranov	150.70	274	ePKP	PKPbc	03 29 16.3	-0.4
TEOL	Teolo	150.82	263	PKPdf	PKPdf	03 29 11.8	+0.3
CIMO	Cimolais	151.04	265	PKPdf	PKPdf	03 29 12.1	+0.3
KRLC	Kraliky	151.05	275	ePKP	PKPbc	03 29 16.7	-0.9
KRLC				epPKP	sPKPbc	03 29 22.7	+1.4
KRLC				AMS	AMS	04 54 10.0	
	comp=Z,700nm,18.3s						
MOA	Molln	151.05	269	i P	PKPbc	03 29 17.3	-0.4
	comp=Z,9.0nm,1.1s						
KBA	Koelnbreinsper	151.06	267	i P	PKPbc	03 29 16.8	-1.1
	comp=Z,13nm,0.8s						
TREC	Trest	151.28	273	ePKP	PKPbc	03 29 17.6	-0.5
TREC				epPKP	sPKPbc	03 29 21.7	-0.2
TREC				AMS	AMS	04 47 50.0	
	comp=Z,700nm,21.0s						
ABTA	Abfaltersbach	151.29	266	i P	PKPbc	03 29 17.6	-0.7
	comp=Z,14nm,0.8s						
BIOA	Bad Ischl, Aus	151.29	268	i P	PKPbc	03 29 17.3	-0.9
	comp=Z,11nm,0.9s						
DPC	Dobruska-Polom	151.45	275	ePKP	PKPbc	03 29 17.4	-1.1
DPC				ex	x	03 29 22.3	
DPC				AMS	AMS	04 45 20.0	
	comp=Z,800nm,27.1s						
PBUR	Paburge	151.46	289	eP	PKPbc	03 29 16.5	-1.7
FIA1	FINESS Array S	151.62	301	PKPdf	PKPdf	03 29 12.5	+0.4
FINES	FINESS Array B	151.62	301	PKPbc	PKPbc	03 29 17.1	-1.3
	comp=Z,17nm,0.8s,baz=100,slow=4.6,SNR=13						
CKRC	Cesky Krumlov	151.62	271	ePKP	PKPbc	03 29 19.0	+0.1
CKRC				ex	x	03 29 21.8	
OSTC	Ostas	151.62	275	ePKP	PKPbc	03 29 16.0	-2.8
OSTC				ex	x	03 29 22.4	
OSTC				AMS	AMS	04 47 00.0	
	comp=Z,1µm,21.1s						
MTSE	Matsula	151.68	295	eP	PKPdf	03 29 14.3	+2.1
UPC	Upice	151.71	275	ePKP	PKiKP	03 29 20.0	+0.6
UPC				AMS	AMS	04 48 40.0	
	comp=Z,800nm,20.5s						
GEC2	GERESS Array S	151.96	270	PKPdf	PKPdf	03 29 13.4	+0.2
GERES	GERESS Array B	151.96	270	PKPbc	PKPbc	03 29 17.6	-2.1
	comp=Z,3.9nm,0.8s,baz=147,slow=2.7,SNR=28						
GERES	GERESS Array B	151.96	270	PKPdf	PKPdf	03 29 13.7	+0.5
GOPC	GO Pecny, Ondr	152.01	273	AMS	AMS	04 49 30.0	
	comp=Z,1µm,21.6s						
WTTA	Wattenberg	152.08	266	i P	PKPbc	03 29 19.4	-0.8
	comp=Z,16nm,0.9s						
WATA	Walderalm	152.16	266	eP	PKPbc	03 29 17.8	-2.5
	comp=Z,8.5nm,0.8s						
PRU	Pruhonice	152.19	273	ePKP	PKiKP	03 29 20.6	+0.2
PRU				AMS	AMS	04 49 20.0	
	comp=Z,1µm,19.9s						
KHC	Kasperske Hory	152.19	271	ePKP	PKiKP	03 29 22.1	+1.6
KHC				AMS	AMS	04 50 40.0	
	comp=Z,1µm,19.8s						
SQTA	Sankt Quirin	152.28	265	i P	PKPbc	03 29 19.0	-1.6
	comp=Z,17nm,1.1s						
FUORN	Ofenpass-Fuorn	152.39	264	PKPdf	PKPdf	03 29 14.1	0.0
FUORN				IAMs_20	IAMs_20	04 43 14.8	
	comp=Z,765nm,20.0s						
FETA	Feichten	152.40	265	i P	PKPbc	03 29 19.3	-1.6
	comp=Z,15nm,1.0s						
MOTA	Moosalm	152.41	266	i P	PKPbc	03 29 19.2	-1.7
	comp=Z,16nm,1.0s						
PVCC	Panska Ves	152.48	274	ePKP	PKiKP	03 29 21.4	+0.4
PVCC				epPKP	sPKPbc	03 29 25.0	+0.5
PVCC				AMS	AMS	04 46 40.0	
	comp=Z,900nm,19.8s						
GKP	Gorka Klasztor	152.54	281	eP	PKiKP	03 29 21.8	+0.8
RETA	Reutte	152.68	266	i P	PKPbc	03 29 19.3	-2.1
	comp=Z,7.9nm,0.8s						
TUE	Stuetta	152.78	262	IAMs_20	IAMs_20	04 47 27.0	
	comp=Z,919nm,20.0s						
PMOZ	Porto Moniz, M	152.78	207	eLQ	LQ	04 20 50.2	
BRG	Berggiesshubel	153.00	274	ePKP	PKiKP	03 29 21.9	-0.1
BRG				Amp		03 29 23.5	
	comp=Z,4.1nm,0.9s						
BRG				ex	x	03 29 27.6	
BRG				Amp		03 29 28.5	
	comp=Z,8.8nm,1.0s						
BRG				ex	x	03 29 49.5	
BRG				Amp		03 29 52.5	
	comp=Z,15nm,1.3s						
DAVA	Damuels	153.02	264	i P	PKPbc	03 29 20.1	-2.2
	comp=Z,11nm,1.2s						
NKC	Novy Kostel	153.43	272	ePKP	PKiKP	03 29 28.4	+5.4
NKC				epPKP	sPKPab	03 29 41.4	+2.4
NKC				AMS	AMS	04 51 00.0	
	comp=Z,1µm,19.8s						
ARCES	ARCESS Array B	153.53	318	PKPbc	PKPbc	03 29 21.7	-0.7
	comp=Z,4.1nm,0.9s,baz=100,slow=2.7,SNR=2.2						
CLL	Collm	153.74	274	IAMs_20	IAMs_20	04 54 42.1	
	comp=Z,929nm,19.0s						
CLL	Collm	153.74	274	ePKPdf	PKPdf	03 29 18.0	+2.4
	comp=Z,70nm,2.9s						
CLL				i x	x	03 29 23.4	
CLL				i PKPbc	pPKPbc	03 29 26.5	+0.2
	comp=Z,8.0nm,0.9s						
CLL				i x	x	03 29 31.3	
CLL				i PKPab	pPKPab	03 29 38.2	-1.1
	comp=Z,14nm,1.0s						
CLL				i pPKPab	sPKPab	03 29 42.9	+2.7
CLL				eSKPdf	SKPdf	03 32 51.0	+2.8
CLL				ex	x	03 34 18.0	
CLL				ePPP	PPP	03 36 42.0	
CLL				ex	x	03 37 42.0	
CLL				ePSKS		03 43 36.0	
CLL				ex	x	03 48 12.0	
CLL				eSS	SS	03 52 47.0	-0.9
CLL				ePSS	PSS	03 53 48.0	
CLL				ex	x	03 54 46.0	
CLL				eSSS	SSS	03 58 18.0	
CLL				ex	x	03 59 35.0	
CLL				eSSSS		04 02 24.0	
CLL				LmH		04 41 00.0	
	comp=Z,800nm,21.4s						
CLL				LmV		04 54 00.0	
	comp=Z,900nm,19.0s						
GRA1	Grafenberg Arr	153.77	270	IAMs_20	IAMs_20	04 52 11.2	
	comp=Z,824nm,21.0s						
GRFO	Grafenberg	153.77	270	IAMs_20	IAMs_20	04 52 11.2	
	comp=Z,842nm,21.0s						
PVAQ	Vaqueiros	153.95	227	i LQ	LQ	04 22 05.0	
ESDC	Sonseca Array	154.31	236	PKP	PKPdf	03 29 15.3	-1.6
	comp=Z,0.7nm,0.8s,baz=51,slow=0.5,SNR=3.1						
ESDC				PKPbc	sPKPdf	03 29 22.0	+1.3
	comp=Z,5.2nm,1.1s,baz=122,slow=0.7,SNR=12						
SSB	Saint Sauveur	154.47	255	IAMs_20	IAMs_20	04 42 06.1	
	comp=Z,889nm,20.0s						
BFO	Black Forest	154.49	265	IAMs_20	IAMs_20	04 47 15.2	
	comp=Z,959nm,20.0s						
PMRV	Marv??o	155.56	230	eLQ	LQ	04 22 19.0	
MTE	Manteigas	156.44	231	i LQ	LQ	04 24 15.1	
MVO	Moncorvo	156.87	233	i LQ	LQ	04 24 07.3	
MEM	Membach	157.05	267	dPKP	PKPab	03 29 49.6	-1.1
PGAV	Gavieira, Arco	158.05	232	eLQ	LQ	04 24 22.8	
KONO	Kongsberg	158.90	292	IAMs_20	IAMs_20	04 50 20.0	
	comp=Z,899nm,19.0s						

DJA 08 03:17:45.4±0.7, 1°S±5°×12°7E±°, h29km±11km, M4.2/6, mb4.5/4, mB5.1/3, MLv4.0/6, Mw(mB)4.5/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.61	45	P	Pb	03 17 57.8	+0.2
LBMI				S	Sn	03 18 07.9	+0.9
NLAI	Namlea	2.15	179	P	Pn	03 18 19.3	-0.1
NLAI				S	Sn	03 18 44.3	-0.9
KRAI	Karang Ratu	2.60	149	P	Pn	03 18 25.3	-0.2
APSI	Ampana	5.42	272	P	Pn	03 19 03.2	-1.2
MPSI	Mapaga	7.31	281	P	Pb	03 19 51.0	-0.5
	1µm26nm,2.0s						
SPSI	Sidrap Palu	7.84	248	P	Pn	03 19 37.9	+0.3
	0.2nm36nm,0.6s						
BKSI	Bulukumba	8.12	239	P	Pn	03 19 42.9	+1.5

SSNC 08 03:39:19.6±0.8, 19.77N×74.53W, h32km±10km, MD2.3, ML1.1, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.49	34	eP	Pb	03 39 28.8	-1.3
MASC				eS	Sb	03 39 36.1	-1.2
MASC				IAML		03 39 38.5	
	comp=E,11nm,0.2s						
MASC				IAML		03 39 38.7	
	comp=N,13nm,0.1s						
MASC	Masc	0.49	34	eP	Pn	03 39 31.3	+0.9
MASC				eS	Sn	03 39 38.3	+0.4
MASC				IAML		03 39 39.0	
	comp=E,46nm,0.2s						
MASC				IAML		03 39 39.2	
	comp=N,39nm,0.3s						
GTBY	Guantanamo Bay	0.57	286	eP	Pb	03 39 29.7	-1.6
GTBY				eS	Sb	03 39 37.6	-1.7
GTBY	Guantanamo Bay	0.57	286	eP	Pn	03 39 32.4	+0.9
GTBY				eS	Sn	03 39 40.1	+0.2
RCC	Rio Carpintero	1.12	282	eP	Pn	03 39 38.1	-1.0
RCC	Rio Carpintero	1.12	282	eP	Pb	03 39 40.6	+0.2
RCC				eS	Sn	03 39 54.0	+0.6
LMGC	Las Mercedes	2.35	278	eP	Pn	03 39 57.8	+1.9
LMGC				eS	Sn	03 40 25.9	+2.2

IDC 08 03:39:58.1±2.4, 58.20S×148.31E, h0km, mb3.9/4, mbtmp3.8/5, ML2.6/1, Error ellipse: s-maj=234.1km s-min=21.4km az=79.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	19.95	171	P	P	03 44 31.9	+0.6
	baz=320,slow=11,SNR=3.7						
	1.7nm,1.1s						
STKA	Stephens Creek	26.72	347	P	P	03 45 39.1	+0.1
	3.0nm,0.8s,baz=45,slow=6.1,SNR=4.2						
	3.0nm,0.8s						
QSPA	South Pole Qui	31.90	180	P	P	03 46 24.6	-0.4
	0.6nm,0.3s,baz=27,slow=6.7,SNR=3.5						
	0.6nm,0.3s						
H01W1	Cape Leeuwin H	32.51	301	T	T	04 20 30.3	
	baz=145,slow=76,SNR=3.5						
H01W2	Cape Leeuwin H	32.52	301	T	T	04 20 33.1	
	baz=145,slow=76,SNR=6.0						
H01W3	Cape Leeuwin H	32.53	301	T	T	04 20 57.1	
	baz=145,slow=76,SNR=4.2						
ASAR	Alice Springs	36.02	337	P	P	03 47 00.6	-0.2
	0.7nm,0.8s,baz=169,slow=10,SNR=5.4						
	0.7nm,0.8s						
WRA	Warramunga Arr	39.55	339	P	P	03 47 30.7	0.0
	1.2nm,0.8s,baz=165,slow=7.4,SNR=8.0						
	1.2nm,0.8s						
H08S2	Diego Garcia H	76.07	278	T	T	05 15 21.2	
	baz=148						
H08S1	Diego Carcia H	76.08	278	T	T	05 15 27.5	
	baz=148						
H08S3	Diego Garcia H	76.09	278	T	T	05 15 23.4	
	baz=148						

NNC 08 03:40:12.3±12.0, 44.28N×84.43E, h7km±54km, mb3.5, mpv3.2, Error ellipse: s-maj=105.5km s-min=56.9km az=109.0

SOME 08 03:40:16.9, 44.22N×84.03E, h15km

ISC 08 03:40:15.5±2.2, 44.29N±0.09×84.3E±0.1, h10km, n15, σ2.78/23, 10C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.88	331	Pn	Pn	03 41 00.3	-1.1
	0.1nm,0.1s,baz=149,slow=14,SNR=98						
MK31				⇑Pg	Pb	03 41 05.8	-1.0
	1.5nm,0.3s,baz=148,slow=14,SNR=16						
MK31				⇑Lg	Lg	03 41 44.3	
	2.5nm,0.2s						
MAKZ	Makanchi	3.00	328	⇑Pn	Pn	03 41 01.9	-1.2
	4.7nm,1.4s						
MAKZ				⇑Pg	Pb	03 41 10.8	+1.7
	2.1nm,0.4s						
MAKZ				⇓Lg	Lg	03 41 48.8	
	8.7nm,0.5s						
ZSN	Zaisan	3.19	7	*e*P	Pb	03 41 14.4	+2.2
	7.7nm,0.3s						
ZSN				*e*S	Sb	03 41 56.1	+5.0
	20nm,0.5s						
DJR	Jarkent	3.24	272	*e*P	Pg	03 41 14.4	-3.1
	2.6nm,0.1s						
DJR				*e*S	Sb	03 41 56.0	+3.4
	15nm,0.3s						
DJR	Jarkent	3.24	272	Pg	Pb	03 41 14.0	+1.0
	2.6nm,0.1s						
DJR				Lg	Lg	03 41 55.9	
	15nm,0.3s						
PDGK	Podgornoye	3.61	256	Pg	Pb	03 41 17.5	-2.0
	1.0nm,0.2s						
PDGK				Lg	Lg	03 42 01.6	
	6.9nm,0.3s						
PDGK	Podgornoye	3.61	256	⇑Lg	Lg	03 42 02.4	
	15nm,0.7s						
SHLS	Shalkode	3.68	254	*e*P	Pn	03 41 13.2	+0.6
	6.0nm,0.2s						
SHLS				*e*S	Sn	03 41 53.5	-2.7
	27nm,0.3s						
SHLS	Shalkode	3.68	254	Pg	Pn	03 41 13.2	+0.6
	6.0nm,0.2s						
SHLS				Lg	Lg	03 41 53.5	
	27nm,0.3s						
BLB	Baldybastay	4.19	269	*e*P	Pb	03 41 30.6	+1.3
	8.4nm,0.3s						
BLB				*e*S	Sb	03 42 23.6	+3.5
	15nm,0.3s						
BLB	Baldybastay	4.19	269	Pg	Pb	03 41 30.6	+1.3
	8.4nm,0.3s						
BLB				Lg	Lg	03 42 23.6	
	15nm,0.3s						
ARXS	Arharly	4.65	271	*e*P	Pb	03 41 39.6	+2.5
	3.9nm,0.3s						
ARXS				*e*S	Sb	03 42 39.3	+6.0
	8.0nm,0.2s						
ARXS	Arharly	4.65	271	Pg	Pb	03 41 39.6	+2.5
	3.9nm,0.3s						
ARXS				Lg	Lg	03 42 39.3	
	8.0nm,0.2s						
KURBB	Kurchatov Arra	7.45	330	⇑Pn	Pn	03 42 01.8	-2.3
	1.2nm,0.4s,baz=91,slow=16						
KURBB				⇑Sn	Sn	03 43 26.0	-2.5
	4.0nm,0.6s						
KURBB				⇑Lg	Lg	03 44 08.4	
	11nm,0.7s						
KURK	Kurchatov	7.49	331	⇓Pn	Pn	03 42 04.0	-0.7
	1.0nm,0.7s						
KURK				⇑Sn	Sn	03 43 26.8	-2.8
	1.2nm,0.5s						
KURK				⇑Lg	Lg	03 44 10.0	
	5.6nm,0.8s						

*IDC **08** 03:49:32.5±1.3, 58°.11S×147°.81E, h0^{km}, mb3.8/5, mbtmp3.9/5, Error ellipse: s-maj=122.2km s-min=20.5km az=74.0*

ISC 08 03:49:34.0±1.2**, 58°.1S**±0°.2×**147°.7E**±0°.7**, h10^{km}, n14, σ0^s.62**/8**, mb3.9**/4**, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	20.08	171	P	P	03 54 06.3	-0.9
	1.6nm,0.8s,baz=323,slow=11,SNR=5.4						
	1.6nm,0.8s						
QSPA	South Pole Qui	31.98	180	P	P	03 56 00.6	+0.6
	0.7nm,0.3s,baz=21,slow=2.1,SNR=2.2						
	0.7nm,0.3s						
H01W1	Cape Leeuwin H	32.20	301	T	T	04 30 23.0	
	baz=145,slow=75,SNR=7.4						
H01W2	Cape Leeuwin H	32.20	301	T	T	04 30 23.3	
	baz=145,slow=75,SNR=10						
H01W3	Cape Leeuwin H	32.21	301	T	T	04 30 24.8	
	baz=145,slow=75,SNR=9.5						
ASAR	Alice Springs	35.82	338	P	P	03 56 33.5	-0.1
	0.6nm,0.6s,baz=170,slow=9.0,SNR=7.5						
	0.6nm,0.6s						
WRA	Warramunga Arr	39.36	340	P	P	03 57 03.5	-0.1
	1.5nm,0.7s,baz=166,slow=7.4,SNR=15						
	1.5nm,0.7s						
PLCA	Paso Flores	76.45	151	P	P	04 01 23.8	+0.1
	2.1nm,1.1s,baz=341,slow=3.8,SNR=2.9						
	2.1nm,1.1s						
H03S2	Juan Fernandez	80.42	142	T	T	05 30 43.2	
	baz=201						
H03S1	Juan Fernandez	80.42	142	T	T	05 30 44.3	
	baz=201						
H03S3	Juan Fernandez	80.44	142	T	T	05 30 46.2	
	baz=201						
AKASG	Malin Array Be	144.59	285	PKP	PKPdf	04 09 09.8	+0.2
	0.7nm,0.5s,baz=95,slow=3.5,SNR=5.5						
FINES	FINESS Array B	151.29	302	PKPbc	PKiKP	04 09 27.1	+0.4
	6.1nm,1.0s,baz=141,slow=4.6,SNR=2.3						
GERES	GERESS Array B	151.62	271	PKPbc	PKPbc	04 09 26.8	-0.7
	0.2nm,0.6s,baz=159,slow=3.8,SNR=1.9						

*IDC **08** 03:52:35.7±0.8, 58°.06S×148°.53E, h0^{km}, mb4.3/9, mbtmp4.4/9, MS4.3/17, Error ellipse: s-maj=38.5km s-min=16.5km az=88.0*

*NEIC **08** 03:52:37.7±1.3, 58°.08S±0°.08×148°.7E±0°.2, h10^{km}±1^{km}, mb4.8/22, Error ellipse: s-maj=19.7km s-min=8.8km az=53.0*

*GCMT **08** 03:52:39.7±0.3, 58°.05S±0°.01×148°.22E±0°.04, h12^{km}, MW5.0/92, Moment Tensor Solution. s14,c16; s92,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43±.18; $M_{\theta\theta}$2.19±.13; $M_{\phi\phi}$-1.76±.17; $M_{r\theta}$-1.11±.41; $M_{\theta\phi}$-3.42±.12; $M_{\phi r}$0.04±.50; Best double couple: $M_0$4.09200×10^{16} NP1:ϕ_s255.00000°, δ88.00000°, λ165.00000°. NP2: ϕ_s345.00000°, δ75.00000°, λ2.00000°. Principal axes: T 4.3670, Plg12.0000°, Azm209.0000°; N -0.5540, Plg75.0000°, Azm68.0000°; P -3.8160, Plg9.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 03:52:37.4±0.5**, 58°.12S**±0°.06×**148°.6E**±0°.1**, h10^{km}, n126, σ1^s.07**/103**, mb4.7**/18**, MS4.3**/20**, 6C-2D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	6.79	62	Pn	Pn	03 54 16.4	-0.6
TAU	Tasmania Unive	15.25	356	Pn	Pn	03 56 12.2	-0.4
TAU				IAmb	IAmb	03 56 19.1	
	comp=Z,66nm,1.0s						
TAU	Tasmania Unive	15.25	356	P	P	03 56 18.7	+1.2
MLZ	Mavora Lakes	17.48	52		P	03 56 42.1	-0.2
MLZ				IAmb	IAmb	03 56 45.1	
	comp=Z,82nm,1.5s						
CASY	Casey	19.25	229	P	P	03 57 01.2	-0.4
VNDA	Vanda	20.01	172	P	P	03 57 09.7	0.0
	comp=Z,16nm,1.1s,baz=341,slow=14,SNR=24						
VNDA				LR	LR	04 03 31.9	
	comp=Z,727nm,19.7s,baz=308,slow=33						
	comp=Z,16nm,1.1s						
VNDA	Vanda	20.01	172		P	03 57 10.1	+0.3
VNDA				IAmb	IAmb	03 57 12.9	
	comp=Z,42nm,1.4s						
RPZ	Rata Peaks	20.05	54	P	P	03 57 09.9	-0.6
	comp=Z,7.5nm,0.9s,baz=285,slow=9.6,SNR=3.1						
RPZ				LR	LR	04 03 23.7	
	comp=Z,1μm,19.7s,baz=226,slow=32						
	comp=Z,7.5nm,0.9s						
TOO	Toolangi	20.66	353	P	P	03 57 17.9	+0.7
TOO				IAmb	IAmb	03 57 20.2	
	comp=Z,71nm,1.4s						
TOO	Toolangi	20.66	353	P	P	03 57 18.0	+0.8
SBA	Scott Base	20.75	169		Pn	03 57 20.0	-0.1
MILA	Mila	21.08	1	P	P	03 57 25.1	+3.4
ARPS	Mount Arapiles	21.83	345	P	P	03 57 30.8	+1.2
CNB	Canberra Magne	22.82	2	P	P	03 57 44.2	+3.9
HTT	Hallett	25.55	341	P	P	03 58 08.7	+2.5
CMSA	Cobar Meteorol	26.66	354	P	P	03 58 17.0	+0.9
STKA	Stephens Creek	26.68	347	P	P	03 58 15.8	-0.6
	comp=Z,4.1nm,0.8s,baz=180,slow=12,SNR=7.5						
	comp=Z,4.1nm,0.8s						
STKA	Stephens Creek	26.68	347	P	P	03 58 16.5	+0.1
STKA	Stephens Creek	26.68	347	P	P	03 58 18.4	+2.0
URZ	Urewera	27.14	55	LR	LR	04 08 43.4	
	comp=Z,1μm,18.1s,baz=305,slow=36						
MULG	Mulgathing	29.59	334	P	P	03 58 42.1	-0.3
FORT	Forrest	30.77	324	P	P	03 58 52.5	-0.3
FORT	Forrest	30.77	324	P	P	03 58 53.0	+0.2
QLP	Quilpie	31.67	352	P	P	03 59 02.1	+1.4
	comp=Z,25nm,0.8s						
QSPA	South Pole Qui	31.98	180	P	P	03 59 04.2	+0.9
	comp=Z,13nm,1.1s,baz=351,slow=5.2,SNR=11						
QSPA				LR	LR	04 12 27.1	
	comp=Z,486nm,20.2s,baz=348,slow=37						
	comp=Z,13nm,1.1s						
QSPA	South Pole Qui	31.98	180	P	P	03 59 02.8	-0.6
QSPA				IAmb	IAmb	03 59 07.0	
	comp=Z,14nm,1.1s						
H01W1	Cape Leeuwin H	32.62	300	T	T	04 33 31.3	
	baz=145,slow=75,SNR=66						
H01W2	Cape Leeuwin H	32.62	300	T	T	04 33 28.7	
	baz=145,slow=75,SNR=88						
H01W3	Cape Leeuwin H	32.63	300	T	T	04 33 32.5	
	baz=145,slow=75,SNR=64						
EIDS	Eidsvold	32.77	4	P	P	03 59 08.4	-2.0
NWAO	Narrogin (SRO)	32.91	306	LR	LR	04 10 07.3	
	comp=Z,762nm,18.3s,baz=282,slow=32						
AS01	Alice Springs	36.00	337	P	P	03 59 37.9	-0.5
ASAR	Alice Springs	36.01	337	P	P	03 59 37.5	-1.1
	comp=Z,2.0nm,0.6s,baz=165,slow=9.1,SNR=18						
ASAR				PcP	PcP	04 02 04.2	-0.6
	comp=Z,0.3nm,0.4s,baz=164,slow=3.7,SNR=2.0						
	comp=Z,2.0nm,0.6s						
ASAR	Alice Springs	36.01	337	P	P	03 59 38.3	-0.2
AS31	Alice Springs	36.01	337	P	P	03 59 38.2	-0.3
WRKA	Warakurna	36.09	328	P	P	03 59 38.4	-0.8
MAW	Mawson	37.07	219	P	P	03 59 46.6	-0.4
	comp=Z,3.6nm,1.0s,baz=89,slow=13,SNR=4.2						
MAW				LR	LR	04 14 36.2	
	comp=Z,1μm,18.7s,baz=98,slow=36						
	comp=Z,3.6nm,1.0s						
MEEK	Meekatharra	37.88	313	P	P	03 59 53.9	-0.5
CTA	Charters Tower	38.02	356	LR	LR	04 13 54.0	
	comp=Z,1μm,18.5s,baz=182,slow=34						
CTA	Charters Tower	38.02	356	P	P	03 59 56.0	+0.5
CTAO	Charters Tower	38.02	356	P	P	03 59 55.0	-0.5
CTAO				IAmb	IAmb	04 00 03.8	
	comp=Z,13nm,1.1s						
CTAO	Charters Tower	38.02	356	P	P	03 59 56.1	+0.5
QIS	Mount Isa	38.09	346	P	P	03 59 55.5	-0.7
DZM	Mont Dzumac	38.25	27	*e*LR	LR	04 10 26.3	
	comp=Z,2μm,25.3s						
DZM	Mont Dzumac	38.25	27	LR	LR	04 12 28.9	
	comp=Z,827nm,18.1s,baz=212,slow=31						
WR0	Warramunga Arr	39.48	339	P	P	04 00 07.8	-0.1
WR0				IAmb	IAmb	04 00 09.5	
	comp=Z,22nm,1.3s						
WB1	Warramunga Ar.	39.52	339	P	P	04 00 07.2	-1.0
WB2	Warramunga Arr	39.54	339	P	P	04 00 07.4	-0.9
WB2				IAmb	IAmb	04 00 09.1	
	comp=Z,44nm,1.6s						
WRA	Warramunga Arr	39.54	339	P	P	04 00 07.1	-1.2
	comp=Z,8.7nm,0.9s,baz=167,slow=7.6,SNR=50						
WRA				PcP	PcP	04 02 14.3	-1.4
	comp=Z,0.5nm,0.8s,baz=162,slow=2.6,SNR=1.5						
WRA				LR	LR	04 15 37.8	
	comp=Z,329nm,18.8s,baz=172,slow=35						
	comp=Z,8.7nm,0.9s						
WRA	Warramunga Arr	39.54	339	P	P	04 00 07.5	-0.8
WB0	Warramunga Arr	39.70	339	P	P	04 00 08.2	-1.4
WB0				IAmb	IAmb	04 00 10.9	
	comp=Z,20nm,1.2s						
MTSU	Mount Surprise	40.05	354	P	P	04 00 13.5	+0.9
PSA00	Pilbara Seismi	42.03	318	P	P	04 00 28.6	-0.3
PSA00	Pilbara Seismi	42.03	318	P	P	04 00 27.3	-1.6
PSA00				IAmb	IAmb	04 00 34.6	
	comp=Z,24nm,1.0s						
PSA00	Pilbara Seismi	42.03	318	P	P	04 00 29.7	+0.8
MBWA	Marble Bar	42.45	318	P	P	04 00 32.7	+0.4
MBWA				IAmb	IAmb	04 00 38.0	
	comp=Z,30nm,0.9s						
MBWA	Marble Bar	42.45	318	P	P	04 00 32.7	+0.4
BELA	Belgrano 2	44.24	179	P	P	04 00 46.3	+0.2
BELA				IAmb	IAmb	04 00 57.9	
	comp=Z,28nm,2.0s						
COEN	Coen	44.27	352	P	P	04 00 47.5	+0.5
KNRA	Kununurra	44.90	332	P	P	04 00 52.2	+0.2
KNRA	Kununurra	44.90	332	P	P	04 00 51.8	-0.2
MSVF	Nonsavu	45.80	41	LR	LR	04 15 41.7	
	comp=Z,674nm,22.0s,baz=174,slow=30						
KDU	Kakadu	46.97	338	P	P	04 01 07.6	-0.7
TROLL	Troll, Antarti	48.03	193	P	P	04 01 16.7	+0.5
PMG	Port Moresby	48.62	358	LR	LR	04 20 10.8	
	comp=Z,598nm,18.1s,baz=179,slow=34						
SNAA	Sanae	48.97	192	P	P	04 01 26.0	+2.7
HNR	Honiara	49.35	15	LR	LR	04 17 54.7	
	comp=Z,4μm,19.5s,baz=210,slow=31						
VNA3	Neumayer Olymp	50.02	189	P	P	04 01 30.9	-0.4
VNA2	Neumayer--Watz	50.13	190	P	P	04 01 32.4	+0.3
	baz=154,slow=3.7						
VNA1	Neumayer--Stat	50.48	190	P	P	04 01 35.4	+0.7
RAR	Rarotonga	52.23	68	LR	LR	04 21 27.2	
	comp=Z,92nm,19.1s,baz=240,slow=33						
KRVT	Keravat (AS076	53.73	4	LR	LR	04 22 05.7	
	comp=Z,142nm,18.5s,baz=304,slow=33						
PMSA	Palmer Station	54.95	164	LR	LR	04 23 10.3	
	comp=Z,160nm,18.9s,baz=228,slow=33						
TBI	Tubuai	55.69	79	*e*LR	LR	04 18 34.6	
	comp=Z,1μm,28.0s						
TBI				*e*LR	LR	04 18 35.0	
	comp=Z,4μm,24.2s						
KMMI	Kalianget	57.55	318	P	P	04 02 27.0	+0.1
	comp=Z,24nm,1.2s						
KAPI	Kappang	57.55	325	LR	LR	04 25 39.9	
	comp=Z,282nm,20.0s,baz=166,slow=34						
KAPI	Kappang	57.55	325	P	P	04 02 27.8	+0.8
KAPI	Kappang	57.55	325	P	P	04 02 26.8	-0.2
	comp=Z,17nm,1.2s						
SPSI	Sidrap Palu	58.54	326	P	P	04 02 33.0	-0.9
	comp=Z,26nm,1.1s						
SANI	Sanana	58.69	333	P	P	04 02 34.6	-0.4
PPT2	Papeete2	60.41	75	*e*LR	LR	04 20 46.0	
	comp=Z,267nm,22.5s						
PPT2				*e*LR	LR	04 20 46.0	
	comp=Z,219nm,24.2s						
PPT	Papeete	60.43	75	LR	LR	04 23 31.5	
	comp=Z,152nm,21.9s,baz=242,slow=31						
VAH	Vaihoa	63.38	76	*e*T	T	05 12 58.5	
	comp=Z,3.0nm,0.3s						
GUMO	Guam	71.52	356	LR	LR	04 33 44.9	
	comp=Z,95nm,20.1s,baz=158,slow=35						
H08S2	Diego Garcia H	76.23	278	T	T	05 28 09.2	
	baz=148,slow=76,SNR=30						
H08S1	Diego Carcia H	76.24	278	T	T	05 28 09.8	
	baz=148,slow=76,SNR=23						
H08S3	Diego Garcia H	76.25	278	T	T	05 28 04.3	
	baz=148,slow=76,SNR=36						
H03S2	Juan Fernandez	80.12	141	T	T	05 33 49.8	
	baz=201,slow=74,SNR=54						
H03S1	Juan Fernandez	80.12	141	T	T	05 33 51.7	
	baz=201,slow=74,SNR=63						
H03S3	Juan Fernandez	80.13	141	T	T	05 33 48.9	
	baz=201,slow=74,SNR=58						
BOSA	Boshof	81.54	228	P	P	04 04 54.5	-0.6
	comp=Z,2.0nm,0.9s,baz=266,slow=2.7,SNR=1.7						
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	86.61	314	P	P	04 05 20.4	-0.3
	comp=Z,1.7nm,0.3s,baz=179,slow=3.8,SNR=7.6						
	comp=Z,1.7nm,0.3s						
CMAR	Chiang Mai Arr	86.61	314	P	P	04 05 20.8	+0.1
TORD	Torodi Ar. Bea	128.67	223	PKP	PKPdf	04 11 44.0	-0.7
	comp=Z,0.9nm,0.9s,baz=144,slow=3.2,SNR=3.9						
BRTR	Keskin Array B	135.43	275	PKP	PKPdf	04 11 56.9	0.0
	comp=Z,0.3nm,0.6s,baz=134,slow=4.2,SNR=1.7						
DOPR	Dopca	144.12	276	⇑P	PKiKP	04 12 16.6	+0.8
AKASG	Malin Array Be	145.07	285	PKP	PKPbc	04 12 12.2	-1.0
	comp=Z,3.3nm,0.7s,baz=94,slow=3.1,SNR=12						
KEST	Kesra	145.09	248	PKPbc	PKPbc	04 12 13.8	-0.1
	comp=Z,6.7nm,1.0s,baz=259,slow=10,SNR=3.4						
GZR	Gura Zlata	145.13	273	⇑P	PKPdf	04 12 14.8	+0.7
BURAR	Bucovina Array	145.27	278	⇓P	PKPdf	04 12 14.9	+0.5
MDVR	Moldovita	145.29	271	⇑P	PKPdf	04 12 16.4	+2.0
BZS	Buzias	145.89	272	⇓P	PKPdf	04 12 15.2	-0.1
SIRR	Siria	146.29	273	⇑P	PKPab	04 12 18.1	+0.1
TRPA	Tarpa	147.00	276	⇑P	PKPbc	04 12 19.5	+0.4
VYHS	Vyhne	149.18	274	*e*PKP	PKPbc	04 12 25.0	+0.1
VYHS				*e*		04 12 30.7	
MODS	Modra-Piesok	149.93	273	*e*PKP	PKPab	04 12 33.6	+1.0
RONA	Rosalia, Austr	150.04	271	*e*P	PKPab	04 12 32.6	-0.4
	comp=Z,9.7nm,1.0s						
ARSA	Arzberg	150.17	269	*e*P	PKPab	04 12 33.3	-0.3
	comp=Z,9.8nm,1.0s						
CONA	Conrad Observa	150.41	271	*e*P	PKPab	04 12 33.2	-1.4
	comp=Z,5.7nm,1.2s						
MORC	Moravsky Berou	150.63	275	⇑P	PKPbc	04 12 27.9	-0.6
MORC	Moravsky Berou	150.63	275	*e*PKP	PKPbc	04 12 28.3	-0.2
MORC				*e*		04 12 34.4	
KRUC	Moravsky	150.81	273	*e*PKP	PKPbc	04 12 28.7	-0.2
KRUC				*e*		04 12 34.6	
VRAC	Vranov	150.85	274	*e*PKP	PKPbc	04 12 29.0	0.0
VRAC				*e*		04 12 34.8	
KRLC	Kraliky	151.20	275	*e*PKP	PKPbc	04 12 29.4	-0.4
TREC	Trest	151.43	273	*e*PKP	PKPbc	04 12 30.4	+0.1
DPC	Dobruska-Polom	151.60	275	*e*PKP	PKPbc	04 12 30.5	-0.2
FINES	FINESS Array B	151.70	301	PKPbc	PKPbc	04 12 30.5	0.0
	comp=Z,4.2nm,0.7s,baz=96,slow=3.8,SNR=9.0						
OSTC	Ostas	151.77	275	*e*PKP	PKPbc	04 12 31.5	+0.4
CKRC	Cesky Krumlov	151.78	271	*e*PKP	PKPab	04 12 36.3	-3.9
GERES	GERESS Array B	152.11	270	PKPbc	PKPbc	04 12 31.3	-0.7
	comp=Z,0.7nm,0.5s,baz=151,slow=3.0,SNR=8.1						
KHC	Kasperske Hory	152.35	271	*e*PKP	PKPbc	04 12 31.7	-0.7
SQTA	Sankt Quirin	152.44	265	*i* P	PKPbc	04 12 32.8	0.0
	comp=Z,4.0nm,0.6s						
FETA	Feichten	152.57	265	*e*P	PKPbc	04 12 32.5	-0.6
	comp=Z,6.6nm,1.4s						
ARCES	ARCESS Array B	153.56	319	PKPbc	PKiKP	04 12 35.7	+1.1
	comp=Z,2.3nm,0.8s,baz=74,slow=6.7,SNR=1.2						
CLL	Collm	153.88	274	*e*(PKP)	PKPbc	04 12 33.0	-2.7
CLL				*e*(PKPbc)	sPKPbc	04 12 40.0	+1.1
	comp=Z,4.0nm,1.0s						
CLL				*i* PKPab	PKPab	04 12 49.3	+0.3
	comp=Z,24nm,1.8s						
CLL				*e*x	x	04 15 46.0	
ESDC	Sonseca Array	154.50	236	PKPbc	PKPbc	04 12 37.6	+0.1
	comp=Z,0.6nm,0.7s,baz=185,slow=1.5,SNR=2.8						

*IDC **08** 03:57:30.2±1.7, 58°.18S×148°.47E, h0^{km}, mb4.4/6, mbtmp4.3/7, ML2.9/1, Error ellipse: s-maj=128.0km s-min=19.1km az=79.0*

*NEIC **08** 03:57:31.8±1.0, 58°.16S±0°.08×148°.5E±0°.3, h10^{km}±1^{km}, mb4.3/12, Error ellipse: s-maj=26.7km s-min=13.9km az=268.0*

ISC 08 03:57:31.8±0.7**, 58°.16S**±0°.09×**148°.5E**±0°.1**, h10^{km}, n34, σ0^s.73**/27**, mb4.4**/10**, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	6.89	62	Pn	Pn	03 59 12.3	-0.3
CASY	Casey	19.16	229	P	P	04 01 54.5	-0.4
VNDA	Vanda	19.98	172	P	P	04 02 02.6	-1.1
	baz=338,slow=13,SNR=8.0						
	4.5nm,1.1s						
VNDA	Vanda	19.98	172	P	P	04 02 03.6	-0.2
VNDA				IAmb	IAmb	04 02 07.4	
	comp=Z,18nm,1.4s						
SBA	Scott Base	20.72	169	P	P	04 02 12.7	+1.0
SBA				IAmb	IAmb	04 02 26.7	
	comp=Z,11nm,1.4s						
STKA	Stephens Creek	26.70	347	P	P	04 03 11.7	+0.8
	comp=Z,3.1nm,0.9s,baz=190,slow=5.8,SNR=4.7						
	comp=Z,3.1nm,0.9s						
FORT	Forrest	30.76	324	P	P	04 03 46.9	-0.2
QSPA	South Pole Qui	31.94	180	P	P	04 03 57.8	+0.4
	comp=Z,3.4nm,1.0s,baz=8.5,slow=5.2,SNR=5.5						
	comp=Z,3.4nm,1.0s						
QSPA	South Pole Qui	31.94	180	P	P	04 03 57.4	+0.1
H01W1	Cape Leeuwin H	32.57	301	T	T	04 38 21.9	
	baz=144,slow=75,SNR=65						
H01W2	Cape Leeuwin H	32.57	301	T	T	04 38 22.3	
	baz=144,slow=75,SNR=104						
H01W3	Cape Leeuwin H	32.59	301	T	T	04 38 23.2	
	baz=144,slow=75,SNR=72						
ASAR	Alice Springs	36.02	337	P	P	04 04 32.7	-0.2
	comp=Z,2.5nm,0.6s,baz=161,slow=9.1,SNR=32						
ASAR				PcP	PcP	04 07 00.1	+0.9
	comp=Z,0.8nm,1.0s,baz=155,slow=4.8,SNR=3.1						
	comp=Z,2.5nm,0.6s						
ASAR	Alice Springs	36.02	337	P	P	04 04 31.7	-1.2
AS31	Alice Springs	36.02	337	P	P	04 04 32.4	-0.5
CTAO	Charters Tower	38.06	357	P	P	04 04 50.8	+0.6
CTAO				IAmb	IAmb	04 05 01.3	
	comp=Z,9.1nm,1.1s						
WR0	Warramunga Arr	39.49	339	P	P	04 05 01.1	-1.3
WR0				IAmb	IAmb	04 05 03.6	
	comp=Z,6.2nm,0.9s						
WB2	Warramunga Arr	39.55	339	P	P	04 05 02.6	-0.2
WB2				IAmb	IAmb	04 05 05.3	
	comp=Z,9.1nm,0.8s						
WRA	Warramunga Arr	39.55	339	P	P	04 05 02.3	-0.5
	comp=Z,5.1nm,0.8s,baz=166,slow=7.3,SNR=55						
WRA				PcP	PcP	04 07 09.7	-0.4
	comp=Z,0.5nm,1.0s,baz=176,slow=4.5,SNR=1.8						
	comp=Z,5.1nm,0.8s						
WRA	Warramunga Arr	39.55	339	P	P	04 05 02.5	-0.3
WRAB	Tennant Creek	39.56	339	P	P	04 05 02.7	-0.2
WRAB				IAmb	IAmb	04 05 08.3	
	comp=Z,8.2nm,0.7s						
WB0	Warramunga Arr	39.71	339	P	P	04 05 03.2	-0.9
KAPI	Kappang	57.54	325	P	P	04 07 20.9	-0.4
	comp=Z,3.4nm,0.4s,baz=324,slow=21,SNR=1.9						
	comp=Z,3.4nm,0.4s						
H08S2	Diego Garcia H	76.15	278	T	T	05 32 54.8	
	baz=148,slow=76,SNR=15						
H08S1	Diego Carcia H	76.16	278	T	T	05 32 59.5	
	baz=148,slow=76,SNR=13						
H08S3	Diego Garcia H	76.17	278	T	T	05 32 58.6	
	baz=148,slow=76,SNR=16						
H03S2	Juan Fernandez	80.13	142	T	T	05 38 45.9	
	baz=201,slow=74,SNR=26						
H03S1	Juan Fernandez	80.14	142	T	T	05 38 48.4	
	baz=201,slow=74,SNR=30						
H03S3	Juan Fernandez	80.15	142	T	T	05 38 47.6	
	baz=201,slow=74,SNR=19						
CMAR	Chiang Mai Arr	86.58	314	P	P	04 10 15.6	+0.7
	comp=Z,1.2nm,0.3s,baz=170,slow=5.5,SNR=1.2						
	comp=Z,1.2nm,0.3s						
AKASG	Malin Array Be	145.00	285	PKPbc	PKPbc	04 17 06.2	-1.1
	comp=Z,0.5nm,0.5s,baz=95,slow=3.5,SNR=2.3						
KEST	Kesra	145.00	248	PKP	PKPbc	04 17 08.9	+1.0
	comp=Z,2.1nm,0.8s,baz=250,slow=19,SNR=1.4						
FINES	FINESS Array B	151.66	301	PKPbc	PKPbc	04 17 24.9	+0.2
	comp=Z,5.5nm,0.9s,baz=254,slow=14,SNR=4.0						
GERES	GERESS Array B	152.03	270	PKPbc	PKPbc	04 17 25.5	-0.7
	comp=Z,0.3nm,0.6s,baz=132,slow=5.6,SNR=3.5						

*TUL **08** 04:03:55.7±0.4, 36°.004N±0°.007×96°.78W±0°.01, h4^{km}±2^{km}, ML2.5, mb_Lg2.0/8(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=92.0*

NEIC 08 04:03:56.4±0.3**, 35°.999N**±0°.009×**96°.78W**±0°.01**, h3^{km}**±2^{km}**, Error ellipse: s-maj=1.5km s-min=1.4km az=71.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK034	N. Norfolk Rd.	0.06	78	Pg	Pg	04 03 57.5	0.0
OK034				Sg	Sg	04 03 58.7	+0.3
OK031	S. Brethren Rd	0.07	227	Pg	Pg	04 03 57.7	-0.1
OK031				Sg	Sg	04 03 58.9	+0.2
OK030	Cody Creek RV	0.07	183		Pg	04 03 57.8	-0.1
OK030				Sg	Sg	04 03 59.1	+0.3
OK033	Mehan	0.14	289		Pg	04 03 59.0	-0.1
OK033				Sg	Sg	04 04 00.8	-0.1
QUOK	Quay	0.18	18	Pg	Pg	04 03 59.9	-0.1
QUOK				Sg	Sg	04 04 02.6	+0.3
DEOK	Depew	0.28	124	Pg	Pg	04 04 01.7	-0.1
DEOK				Sg	Sg	04 04 05.6	+0.2
OK044	Pawnee Station	0.37	358		Pg	04 04 03.3	-0.3
OK044				Sg	Sg	04 04 08.5	0.0
OK046	Pawnee Station	0.41	345		Pg	04 04 04.0	-0.3
OK046				Sg	Sg	04 04 09.7	+0.1
OK050	Pawnee Station	0.43	337	Pg	Pg	04 04 04.4	-0.3
OK050				Sg	Sg	04 04 10.0	-0.2

OK048	**Pawnee Station**	**0.44**	**342**		Pg	04 04 04.5	-0.3
OK048				Sg	Sg	04 04 10.4	-0.1
OK045	**Pawnee Station**	**0.46**	**345**		Pg	04 04 05.0	-0.3
OK045				Sg	Sg	04 04 11.3	0.0
OK047	**Pawnee, Statio**	**0.47**	**5**	Pg	Pg	04 04 05.1	-0.4
OK047				Sg	Sg	04 04 11.6	0.0
OK051	**E0350 and S346**	**0.51**	**355**		Pg	04 04 05.8	-0.3
OK049	**E0420 Rd and N**	**0.59**	**314**	Pg	Pg	04 04 07.3	-0.4
OK049				Sg	Sg	04 04 15.2	-0.2
OK025	**Westminster Rd**	**0.62**	**228**	Pg	Pg	04 04 07.8	-0.4
OK025				Sg	Sg	04 04 16.3	0.0
BCOK	**Bluff Creek, N**	**0.76**	**243**	Pg	Pg	04 04 10.3	-0.6
BCOK				Sg	Sg	04 04 20.6	-0.1
TUL1	**Leonard**	**0.81**	**96**	Pg	Pg	04 04 11.0	-0.9
TUL1				Sg	Sg	04 04 21.9	-0.4
BLOK	**Blackwell**	**0.84**	**335**		Pg	04 04 11.8	-0.7
BLOK				Sg	Sg	04 04 22.9	-0.5
FNO	**Franklin**	**0.90**	**215**	Pg	Pg	04 04 12.9	-0.7
FNO				Sg	Sg	04 04 25.0	-0.3
T35A	**Sooner Cattle**	**0.94**	**13**		Pg	04 04 13.5	-0.9
T35A				Sg	Sg	04 04 26.0	-0.7
CROK	**Carrier**	**1.10**	**298**	Pg	Pg	04 04 16.4	-1.0
KAN13	**South Haven SW**	**1.16**	**331**		Pg	04 04 17.6	-1.0
GC02	**Grant County #**	**1.22**	**315**		Pg	04 04 18.6	-1.2
KAN17	**Caldwell West**	**1.31**	**323**	Pg	Pg	04 04 19.9	-1.6
KAN09	**Caldwell North**	**1.32**	**329**	Pg	Pg	04 04 20.4	-1.3
KAN14	**Manchester OK**	**1.35**	**315**	Pg	Pn	04 04 20.9	-1.3
KS20	**Mayfield South**	**1.38**	**333**		Pn	04 04 20.9	-1.7
KAN01	**Argonia South**	**1.40**	**326**		Pn	04 04 21.5	-1.3
OK032	**Salt Plains WL**	**1.41**	**305**		Pn	04 04 21.6	-1.4
RLO	**Rose Lookout**	**1.43**	**83**		Pn	04 04 22.0	-1.3
KAN06	**Argonia West S**	**1.52**	**325**		Pn	04 04 23.6	-0.9
KAN08	**Anthony NE Sta**	**1.56**	**322**		Pn	04 04 24.4	-0.7
CSTR	**Hydro, Custer**	**1.59**	**258**		Pn	04 04 24.8	-0.7
KAN12	**Harper NE Stat**	**1.62**	**323**		Pn	04 04 25.5	-0.5
KAN12				IAmb_Lg		04 04 47.2	
	comp=Z,4.1nm,0.9s						
X34A	**Smith Ranch, M**	**1.64**	**212**		Pn	04 04 25.7	-0.5
X37A	**Clayton**	**1.82**	**140**	Pn	Pn	04 04 28.4	-0.2
X37A				IAmb_Lg		04 04 56.1	
	comp=Z,9.6nm,0.8s						
U32A	**Winter Ranch,**	**1.84**	**283**	Pn	Pn	04 04 28.2	-0.7
NOKA	**Waynoka**	**1.85**	**291**	Pn	Pn	04 04 28.3	-0.8
U38A	**Gravette**	**1.98**	**77**	Pn	Pn	04 04 30.8	-0.1
LOOK	**Love County**	**2.03**	**189**	Pn	Pn	04 04 31.2	-0.3
WMOK	**Wichita Mounta**	**2.06**	**233**	Pn	Pn	04 04 31.8	-0.2
WMOK				IAmb_Lg		04 05 06.8	
	comp=Z,4.4nm,0.8s						
HHAR	**Hobbs**	**2.31**	**82**	Pn	Pn	04 04 35.5	0.0
MIAR	**Mount Ida**	**3.00**	**118**	Pn	Pn	04 04 43.6	-1.2
MIAR					Sb	04 05 28.8	+1.4
S39A	**Bolivar**	**3.25**	**58**	IAmb_Lg		04 05 43.3	
	comp=Z,9.9nm,1.2s						
CBKS	**Cedar Bluff**	**3.67**	**321**	Pn	Pn	04 04 53.9	-0.2
WHAR	**Wooly Hollow**	**3.73**	**100**	Pn	Pn	04 04 54.6	-0.3
FCAR	**Ozark Folk Cen**	**3.78**	**90**	Pn	Pn	04 04 54.7	-0.9
AMTX	**Amarillo**	**4.15**	**256**	Pn	Pn	04 04 59.9	-0.9

IDC 08 04:05:37.7±3.1**, 58°.44S×148°.61E, h0km, mb3.4**/2**, mbtmp3.4**/3**, ML3.7**/1**, Error ellipse: s-maj=332.9km s-min=28.5km az=76.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.70**	**171**	P	P	04 10 08.1	0.0
	0.2nm,0.3s,baz=11,slow=17,SNR=14						
	0.6nm,0.5s						
H01W1	**Cape Leeuwin H**	**32.77**	**301**	T	T	04 46 33.5	
	baz=137,slow=75,SNR=3.5						
H01W2	**Cape Leeuwin H**	**32.77**	**301**	T	T	04 46 27.3	
	baz=137,slow=75,SNR=3.9						
H01W3	**Cape Leeuwin H**	**32.78**	**301**	T	T	04 46 15.6	
	baz=137,slow=75,SNR=9.7						
ASAR	**Alice Springs**	**36.30**	**337**	P	P	04 12 42.8	-0.1
	0.4nm,0.8s,baz=165,slow=9.7,SNR=4.2						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**39.83**	**339**	P	P	04 13 12.5	-0.1
	0.5nm,0.7s,baz=166,slow=7.5,SNR=8.7						
	0.5nm,0.7s						

IDC 08 04:10:28.8±2.2**, 1°.68N×127°.18E, h0km, mb3.6**/4**, mbtmp3.6**/4**, Error ellipse: s-maj=183.6km s-min=27.3km az=65.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.61**	**162**	P	P	04 15 31.6	+0.3
	0.7nm,0.3s,baz=341,slow=11,SNR=15						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**26.03**	**166**	P	P	04 16 03.8	0.0
	0.2nm,0.3s,baz=342,slow=11,SNR=1.6						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**36.07**	**159**	P	P	04 17 31.8	-0.5
	1.0nm,0.4s,baz=333,slow=9.0,SNR=3.1						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**59.49**	**326**	P	P	04 20 33.8	+0.1
	0.4nm,0.8s,baz=127,slow=7.4,SNR=1.8						
	0.4nm,0.8s						

IDC 08 04:10:47.8±3.7**, 57°.92S×149°.30E, h0km, mb3.3**/3**, mbtmp3.4**/3**, Error ellipse: s-maj=363.3km s-min=30.3km az=75.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.16**	**172**	P	P	04 15 23.2	0.0
	0.8nm,0.9s,baz=338,slow=13,SNR=3.7						
	0.8nm,0.9s						
H01W1	**Cape Leeuwin H**	**32.83**	**299**	T	T	04 51 41.3	
	baz=147,slow=74						
H01W2	**Cape Leeuwin H**	**32.83**	**299**	T	T	04 51 44.4	
	baz=147						
H01W3	**Cape Leeuwin H**	**32.85**	**299**	T	T	04 51 45.8	
	baz=147,slow=74						
ASAR	**Alice Springs**	**35.97**	**336**	P	P	04 17 49.5	-0.6
	0.3nm,0.6s,baz=163,slow=9.7,SNR=1.9						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**39.49**	**338**	P	P	04 18 20.1	+0.2
	0.7nm,0.7s,baz=166,slow=7.5,SNR=9.9						
	0.7nm,0.7s						

*IDC **08** 04:27:11.2±0.5, 57°.97S×148°.62E, h0km, mb4.7/13, mbtmp4.7/14, ML3.8/1, MS4.7/20, Error ellipse: s-maj=23.1km s-min=10.9km az=89.0*

*BJI **08** 04:27:12.6±0.0, 57°.91S×149°.01E, h8km, mb5.4/5, mB5.7/2, Ms5.5/2, Ms7 5.3/2*

*NEIC **08** 04:27:13.2±1.8, 58°.16S±0°.09×148°.5E±0°.2, h10km±1km, mb5.0/40, Error ellipse: s-maj=17.8km s-min=15.0km az=73.0*

*GCMT **08** 04:27:15.2±0.2, 58°.05S±0°.01×148°.25E±0°.03, h12km, MW5.3/107, Moment Tensor Solution. s61,c87; s107,c177; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.11±.02; $M_{\theta\theta}$0.48±.02; $M_{\phi\phi}$-0.37±.03; $M_{r\theta}$-0.38±.06; $M_{\theta\phi}$-0.90±.02; $M_{\phi r}$-0.15±.06; Best double couple: $M_0$1.08000×10^{17} NP1:ϕ_s79.00000°, δ84.00000°, λ-158.00000°. NP2:ϕ_s346.00000°, δ68.00000°, λ-6.00000°. Principal axes: T 1.1000, Plg12.0000°, Azm210.0000°; N -0.0420, Plg67.0000°, Azm92.0000°; P -1.0590, Plg20.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 04:27:13.1±0.3**, 58°.12S**±0°.05×**148°.74E**±0°.07**, h10km, n195, σ1s31**/178**, mb5.0**/33**, MS4.7**/23**, 4C-1D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.74**	**62**	P	**Pn**	**04 28 51.7**	**-0.3**
	baz=6.8						
MCQ				S	**Sn**	**04 30 02.8**	**-5.9**
	baz=6.8						
MCQ	**Macquarie Isla**	**6.74**	**62**	Pn	**Pn**	**04 28 53.8**	**+1.8**
TAU	**Tasmania Unive**	**15.25**	**356**	Pn	**Pn**	**04 30 49.6**	**+1.3**
TAU	**Tasmania Unive**	**15.25**	**356**	P	**P**	**04 30 54.0**	**+0.8**
MOO	**Moorlands**	**15.73**	**356**	P	**P**	**04 30 56.8**	**-1.7**
	baz=16						
WHZ	**Wether Hill Ro**	**16.94**	**52**	Pn	**Pn**	**04 31 11.0**	**+1.1**
WHZ				IAmb	IAmb	04 31 17.4	
	comp=Z,178nm,1.5s						
GLAD	**Gladstone**	**17.16**	**358**	P	**P**	**04 31 15.9**	**+1.6**
WKZ	**Wanaka**	**18.24**	**52**	P	**P**	**04 31 27.5**	**+1.1**
WKZ				IAmb	IAmb	04 31 31.0	
	comp=Z,213nm,1.6s						
LBZ	**Lake Benmore**	**19.09**	**53**	P	**Pn**	**04 31 37.2**	**+0.8**
CASY	**Casey**	**19.30**	**229**	P	**P**	**04 31 36.6**	**-1.2**
CASY				IAmb	IAmb	04 31 44.3	
	comp=Z,164nm,1.9s						
VNDA	**Vanda**	**20.00**	**172**	P	**P**	**04 31 45.0**	**-0.3**
	comp=Z,43nm,1.1s,baz=338,slow=12,SNR=64						
VNDA				S	Sn	04 35 35.7	+4.1
	comp=Z,1.3nm,0.8s,baz=342,slow=19,SNR=1.9						
VNDA				LR	LR	04 38 18.9	
	comp=Z,1µm,20.7s,baz=344,slow=33						
	comp=Z,43nm,1.1s						
VNDA	**Vanda**	**20.00**	**172**	P	**P**	**04 31 45.2**	**-0.1**
VNDA				IAmb	IAmb	04 31 48.8	
	comp=Z,123nm,1.4s						
RPZ	**Rata Peaks**	**20.00**	**54**	P	**P**	**04 31 45.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=259,slow=10,SNR=5.2						
RPZ				LR	LR	04 38 20.3	
	comp=Z,3µm,18.8s,baz=214,slow=34						
	comp=Z,36nm,1.3s						
RPZ	**Rata Peaks**	**20.00**	**54**	P	**P**	**04 31 47.2**	**+1.6**
RPZ				IAmb	IAmb	04 31 56.5	
	comp=Z,139nm,1.6s						
TOO	**Toolangi**	**20.67**	**353**	P	**P**	**04 31 53.5**	**+0.6**
	baz=21,SNR=4.3						
TOO	**Toolangi**	**20.67**	**353**	P	**P**	**04 31 53.1**	**+0.2**
TOO				IAmb	IAmb	04 32 03.3	
	comp=Z,94nm,1.4s						
TOO	**Toolangi**	**20.67**	**353**	P	**P**	**04 31 53.6**	**+0.7**
MQZ	**McQueen's Vall**	**20.70**	**56**	P	**P**	**04 31 55.2**	**+2.1**
SBA	**Scott Base**	**20.74**	**169**		**P**	**04 31 54.5**	**+1.2**
SBA				IAmb	IAmb	04 32 10.6	
	comp=Z,82nm,1.4s						
OXZ	**Oxford**	**20.74**	**55**	P	**P**	**04 31 54.5**	**+0.9**
BRAT	**Ballarat**	**20.82**	**349**	P	**P**	**04 31 55.8**	**+1.3**
MILA	**Mila**	**21.08**	**1**	P	**P**	**04 32 01.6**	**+4.3**
LTZ	**Lake Taylor**	**21.28**	**54**	P	**P**	**04 32 01.0**	**+1.6**
LTZ				IAmb	IAmb	04 32 09.1	
	comp=Z,161nm,1.6s						
ARPS	**Mount Arapiles**	**21.84**	**345**	P	**P**	**04 32 06.3**	**+0.9**
	baz=22						
ARPS	**Mount Arapiles**	**21.84**	**345**	P	**P**	**04 32 06.7**	**+1.3**
THZ	**Tophouse**	**22.38**	**54**	P	**P**	**04 32 10.4**	**-0.9**
THZ				IAmb	IAmb	04 32 26.3	
	comp=Z,78nm,1.1s						
CAN	**Canberra**	**22.81**	**1**	P	**P**	**04 32 15.7**	**-0.1**
CAN				IAmb	IAmb	04 32 26.2	
	comp=Z,56nm,1.3s						
CAN	**Canberra**	**22.81**	**1**	P	**P**	**04 32 17.2**	**+1.4**
CNB	**Canberra Magne**	**22.82**	**1**	P	**P**	**04 32 16.0**	**+0.1**
	baz=23,SNR=4.7						
CNB	**Canberra Magne**	**22.82**	**1**	P	**P**	**04 32 16.6**	**+0.6**
HTT	**Hallett**	**25.57**	**341**	P	**P**	**04 32 42.5**	**+0.5**
	baz=26,SNR=4.6						
HTT	**Hallett**	**25.57**	**341**	P	**P**	**04 32 42.4**	**+0.4**
CMSA	**Cobar Meteorol**	**26.66**	**354**	P	**P**	**04 32 51.9**	**+0.1**
	baz=27,SNR=12						
CMSA	**Cobar Meteorol**	**26.66**	**354**	P	**P**	**04 32 52.4**	**+0.5**
STKA	**Stephens Creek**	**26.69**	**346**	P	**P**	**04 32 50.6**	**-1.6**
	comp=Z,8.2nm,1.0s,baz=153,slow=10,SNR=7.7						
STKA				S	**S**	**04 37 23.0**	**-4.3**
	comp=Z,1.0nm,0.4s,baz=204,slow=18,SNR=1.6						
STKA				LR	LR	04 42 23.2	
	comp=Z,885nm,18.6s,baz=177,slow=34						
	comp=Z,8.2nm,1.0s						
STKA	**Stephens Creek**	**26.69**	**346**	P	**P**	**04 32 52.6**	**+0.4**
	baz=27,SNR=6.7						
STKA	**Stephens Creek**	**26.69**	**346**	P	**P**	**04 32 51.9**	**-0.3**
STKA	**Stephens Creek**	**26.69**	**346**	P	**P**	**04 32 53.0**	**+0.9**
BBOO	**Buckleboo**	**26.73**	**336**	P	**P**	**04 32 52.6**	**+0.1**
	baz=27						
BBOO	**Buckleboo**	**26.73**	**336**	P	**P**	**04 32 51.4**	**-1.1**
BBOO				IAmb	IAmb	04 32 54.6	
	comp=Z,66nm,1.5s						
BBOO	**Buckleboo**	**26.73**	**336**	P	**P**	**04 32 53.1**	**+0.6**
URZ	**Urewera**	**27.09**	**55**	P	**P**	**04 32 54.6**	**-1.1**
	comp=Z,24nm,0.9s,baz=359,slow=4.9,SNR=6.1						
URZ				LR	LR	04 43 19.3	
	comp=Z,4µm,18.3s,baz=296,slow=36						
	comp=Z,24nm,0.9s						
MULG	**Mulgathing**	**29.62**	**334**	P	**P**	**04 33 18.1**	**-0.2**
FORT	**Forrest**	**30.81**	**324**	P	**P**	**04 33 27.5**	**-1.3**
	baz=31,SNR=17						
FORT	**Forrest**	**30.81**	**324**	P	**P**	**04 33 27.3**	**-1.5**
FORT	**Forrest**	**30.81**	**324**	P	**P**	**04 33 27.5**	**-1.3**
RMQ	**Roma**	**31.61**	**0**	P	**P**	**04 33 37.2**	**+1.3**
	baz=32,SNR=5.3						
RMQ	**Roma**	**31.61**	**0**	P	**P**	**04 33 37.2**	**+1.3**
QLP	**Quilpie**	**31.68**	**352**	P	**P**	**04 33 37.5**	**+1.0**
	baz=32,SNR=4.4						
QLP	**Quilpie**	**31.68**	**352**	P	**P**	**04 33 37.7**	**+1.2**
QSPA	**South Pole Qui**	**31.98**	**180**	P	**P**	**04 33 39.2**	**+0.2**
	comp=Z,23nm,1.0s,baz=353,slow=5.4,SNR=31						
QSPA				LR	LR	04 47 02.7	
	comp=Z,2µm,19.1s,baz=8.0,slow=37						
	comp=Z,23nm,1.0s						
QSPA	**South Pole Qui**	**31.98**	**180**	P	**P**	**04 33 37.7**	**-1.3**
H01W1	**Cape Leeuwin H**	**32.67**	**300**	T	T	05 07 59.7	
	baz=145,slow=75,SNR=182						
H01W2	**Cape Leeuwin H**	**32.67**	**300**	T	T	05 08 01.3	
	baz=145,slow=75,SNR=224						
H01W3	**Cape Leeuwin H**	**32.69**	**300**	T	T	05 08 05.3	
	baz=145,slow=75,SNR=187						
EIDS	**Eidsvold**	**32.77**	**4**	P	**P**	**04 33 44.0**	**-2.1**
EIDS				IAmb	IAmb	04 33 47.9	
	comp=Z,32nm,1.2s						
EIDS	**Eidsvold**	**32.77**	**4**	P	**P**	**04 33 47.0**	**+1.0**
NWAO	**Narrogin (SRO)**	**32.96**	**306**	LR	LR	04 44 06.7	
	comp=Z,826nm,19.5s,baz=35,slow=31						
AS01	**Alice Springs**	**36.02**	**337**	P	**P**	**04 34 12.8**	**-1.5**
ASAR	**Alice Springs**	**36.03**	**336**	P	**P**	**04 34 12.8**	**-1.6**
	comp=Z,8.6nm,0.9s,baz=162,slow=9.3,SNR=41						
ASAR				PcP	**PcP**	**04 36 39.1**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=167,slow=3.2,SNR=2.9						
ASAR				LR	LR	04 46 58.8	
	comp=Z,226nm,18.2s,baz=166,slow=33						
	comp=Z,8.6nm,0.9s						
ASAR	**Alice Springs**	**36.03**	**336**	P	**P**	**04 34 12.3**	**-2.0**
AS31	**Alice Springs**	**36.03**	**336**	P	**P**	**04 34 13.2**	**-1.2**
WRKA	**Warakurna**	**36.12**	**327**	P	**P**	**04 34 13.4**	**-1.7**
	baz=36,SNR=19						
WRKA	**Warakurna**	**36.12**	**327**	P	**P**	**04 34 13.8**	**-1.3**
MAW	**Mawson**	**37.11**	**219**	P	**P**	**04 34 23.9**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=110,slow=5.6,SNR=8.4						
MAW				LR	LR	04 49 22.1	
	comp=Z,3µm,18.9s,baz=101,slow=36						
	comp=Z,2.8nm,0.7s						
MEEK	**Meekatharra**	**37.92**	**313**	P	**P**	**04 34 28.7**	**-1.7**
	baz=38,SNR=10						
MEEK	**Meekatharra**	**37.92**	**313**	P	**P**	**04 34 29.4**	**-1.0**
CTA	**Charters Tower**	**38.02**	**356**	LR	LR	04 48 39.5	
	comp=Z,2µm,18.6s,baz=180,slow=34						
CTA	**Charters Tower**	**38.02**	**356**	P	**P**	**04 34 31.7**	**+0.4**
CTAO	**Charters Tower**	**38.02**	**356**	P	**P**	**04 34 31.6**	**+0.3**
CTAO				IAmb	IAmb	04 34 32.9	
	comp=Z,36nm,1.3s						
CTAO	**Charters Tower**	**38.02**	**356**	P	**P**	**04 34 31.7**	**+0.4**
QIS	**Mount Isa**	**38.10**	**346**	P	**P**	**04 34 31.7**	**-0.3**
	baz=38,SNR=6.7						
QIS	**Mount Isa**	**38.10**	**346**	P	**P**	**04 34 31.9**	**-0.1**
DZM	**Mont Dzumac**	**38.22**	**27**	*e*S	**S**	**04 40 30.0**	**+3.4**
	comp=Z,406nm,25.1s						
DZM				*e*LR	LR	04 44 58.5	
	comp=Z,5µm,25.7s						
DZM	**Mont Dzumac**	**38.22**	**27**	P	**P**	**04 34 32.0**	**-1.0**
	comp=Z,5.5nm,0.7s,baz=192,slow=9.3,SNR=5.7						
DZM				LR	LR	04 47 14.5	
	comp=Z,2µm,18.7s,baz=208,slow=32						
	comp=Z,5.5nm,0.7s						
TV1H	**Townsville Har**	**38.83**	**357**	P	**P**	**04 34 40.4**	**+2.4**
	comp=Z,14nm,1.1s						
KOUNC	**Koumac, New Ca**	**39.20**	**23**	P	**P**	**04 34 42.7**	**+1.6**
WR0	**Warramunga Arr**	**39.50**	**339**	P	**P**	**04 34 42.1**	**-1.6**
WR0				IAmb	IAmb	04 34 47.9	
	comp=Z,26nm,1.0s						
WB2	**Warramunga Arr**	**39.56**	**338**	P	**P**	**04 34 42.6**	**-1.6**
WB2				IAmb	IAmb	04 34 48.8	
	comp=Z,35nm,0.8s						
WRA	**Warramunga Arr**	**39.56**	**338**	P	**P**	**04 34 42.2**	**-2.0**
	comp=Z,15nm,0.9s,baz=165,slow=7.3,SNR=84						
WRA				PcP	**PcP**	**04 36 50.5**	**-0.9**
	comp=Z,2.1nm,1.1s,baz=172,slow=3.0,SNR=1.7						
WRA				LR	LR	04 49 04.2	
	comp=Z,746nm,21.4s,baz=167,slow=33						
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**39.56**	**338**	P	**P**	**04 34 41.9**	**-2.3**
WRAB	**Tennant Creek**	**39.57**	**338**	P	**P**	**04 34 42.6**	**-1.6**
WB0	**Warramunga Arr**	**39.72**	**339**	P	**P**	**04 34 43.5**	**-2.1**
WB0				IAmb	IAmb	04 34 50.0	
	comp=Z,27nm,0.9s						
MTSU	**Mount Surprise**	**40.06**	**353**	P	**P**	**04 34 48.4**	**+0.1**
	baz=40,SNR=4.7						
MTSU	**Mount Surprise**	**40.06**	**353**	P	**P**	**04 34 48.7**	**+0.4**
PSA00	**Pilbara Seismi**	**42.07**	**318**	P	**P**	**04 35 04.2**	**-0.6**
PSA00	**Pilbara Seismi**	**42.07**	**318**	P	**P**	**04 35 04.3**	**-0.6**
MBWA	**Marble Bar**	**42.49**	**318**	P	**P**	**04 35 07.2**	**-1.1**
BELA	**Belgrano 2**	**44.24**	**179**	P	**P**	**04 35 21.2**	**-0.6**
COEN	**Coen**	**44.28**	**352**	P	**P**	**04 35 22.6**	**-0.1**
	baz=44,SNR=7.1						
COEN	**Coen**	**44.28**	**352**	P	**P**	**04 35 22.7**	**-0.1**
COEN	**Coen**	**44.28**	**352**	P	**P**	**04 35 23.0**	**+0.3**
KNRA	**Kununurra**	**44.92**	**332**	P	**P**	**04 35 27.7**	**-0.2**
	baz=45,SNR=7.1						
KNRA	**Kununurra**	**44.92**	**332**	P	**P**	**04 35 27.6**	**-0.3**
KNRA	**Kununurra**	**44.92**	**332**	P	**P**	**04 35 27.7**	**-0.2**
MSVF	**Nonsavu**	**45.76**	**41**	LR	LR	04 50 49.2	
	comp=Z,1µm,19.9s,baz=210,slow=31						
KDU	**Kakadu**	**46.99**	**338**	P	**P**	**04 35 43.1**	**-1.0**
MTN	**Manton Dam**	**47.11**	**336**	P	**P**	**04 35 44.6**	**-0.5**
MTN				IAmb	IAmb	04 35 49.6	
	comp=Z,17nm,0.8s						
MTN	**Manton Dam**	**47.11**	**336**	P	**P**	**04 35 45.4**	**+0.3**
TROLL	**Troll, Antarti**	**48.05**	**193**	P	**P**	**04 35 51.6**	**-0.4**
PMG	**Port Moresby**	**48.62**	**358**	P	**P**	**04 35 54.1**	**-2.7**
	comp=Z,9.4nm,0.5s,baz=140,slow=3.6,SNR=7.0						
PMG				LR	LR	04 54 46.3	
	comp=Z,1µm,18.9s,baz=186,slow=34						
	comp=Z,9.4nm,0.5s						
PMG	**Port Moresby**	**48.62**	**358**	P	**P**	**04 35 57.4**	**+0.6**
	comp=Z,26nm,1.2s						
PMG	**Port Moresby**	**48.62**	**358**	P	**P**	**04 35 58.1**	**+1.3**
PMG	**Port Moresby**	**48.62**	**358**	P	**P**	**04 35 58.0**	**+1.3**
SNAA	**Sanae**	**48.98**	**192**	P	**P**	**04 35 58.7**	**-0.3**
SNAA	**Sanae**	**48.98**	**192**	P	**P**	**04 35 58.5**	**-0.5**
	comp=Z,16nm,1.0s,baz=170,slow=7.6,SNR=17						
SNAA				LR	LR	04 56 31.0	
	comp=Z,807nm,18.6s,baz=188,slow=36						
	comp=Z,16nm,1.0s						
SNAA	**Sanae**	**48.98**	**192**	P	**P**	**04 35 57.9**	**-1.1**
HNR	**Honiara**	**49.33**	**15**	LR	LR	04 51 36.0	
	comp=Z,9µm,21.4s,baz=165,slow=30						
VNA3	**Neumayer Olymp**	**50.03**	**189**	P	**P**	**04 36 07.0**	**0.0**
VNA2	**Neumayer--Watz**	**50.14**	**190**	P	**P**	**04 36 08.2**	**+0.3**
	baz=155,slow=4.6						
VNA1	**Neumayer--Stat**	**50.49**	**190**	P	**P**	**04 36 11.1**	**+0.6**
SMAI	**San Martin Ant**	**51.34**	**164**	P	**P**	**04 36 17.8**	**+0.9**
SMAI				IAmb	IAmb	04 36 20.9	
	comp=Z,18nm,1.1s						
RAR	**Rarotonga**	**52.17**	**68**	LR	LR	04 54 11.7	
	comp=Z,387nm,22.0s,baz=218,slow=31						
AFI	**Afiamalu**	**53.11**	**51**	LR	LR	04 58 37.8	
	comp=Z,264nm,18.2s,baz=180,slow=36						
KRVT	**Keravat (AS076**	**53.73**	**4**	LR	LR	04 56 12.3	
	comp=Z,423nm,22.0s,baz=305,slow=32						
TBI	**Tubuai**	**55.63**	**79**	*e*LR	LR	04 53 03.0	
	comp=Z,2µm,25.2s						
TBI				*e*LR	LR	04 53 03.5	
	comp=Z,7µm,23.8s						
FAKI	**Fak Fak**	**56.56**	**340**	P	**P**	**04 36 55.2**	**-0.4**
FAKI	**Fak Fak**	**56.56**	**340**	P	**P**	**04 36 54.9**	**-0.7**
	comp=Z,4µmcomp=Z,40nm,1.4s						
FAKI	**Fak Fak**	**56.56**	**340**	P	**P**	**04 36 56.7**	**+1.1**
BKSI	**Bulukumba**	**57.18**	**325**	P	**P**	**04 36 59.1**	**-0.9**
	comp=Z,9.1nm,0.5s						
KAPI	**Kappang**	**57.58**	**325**	LR	LR	05 00 25.8	
	comp=Z,682nm,19.2s,baz=174,slow=35						
KAPI	**Kappang**	**57.58**	**325**	P	**P**	**04 37 02.5**	**-0.4**
KAPI				IAmb	IAmb	04 37 05.6	
	comp=Z,29nm,1.2s						
KAPI	**Kappang**	**57.58**	**325**	P	**P**	**04 37 01.7**	**-1.2**
	comp=Z,14nm,1.2s						
KAPI	**Kappang**	**57.58**	**325**	P	**P**	**04 37 03.8**	**+0.9**
SPSI	**Sidrap Palu**	**58.57**	**326**	P	**P**	**04 37 09.2**	**-0.6**
	comp=Z,26nm,2.1s						
SANI	**Sanana**	**58.72**	**333**	P	**P**	**04 37 08.9**	**-1.9**
	comp=Z,18nm,1.1s						
SANI	**Sanana**	**58.72**	**333**	P	**P**	**04 37 10.1**	**-0.7**
PPT2	**Papeete2**	**60.35**	**75**	*e*LR	LR	04 55 15.0	
	comp=Z,630nm,22.2s						
PPT2				*e*LR	LR	04 55 15.2	
	comp=Z,538nm,23.0s						
KSM	**Kuching**	**66.80**	**317**	P	**P**	**04 38 04.4**	**-0.3**
	comp=Z,19nm,1.3s						
KSM	**Kuching**	**66.80**	**317**	P	**P**	**04 38 06.6**	**+1.9**
	comp=Z,19nm,1.3s						
SKLT	**Songkhla**	**75.73**	**310**	P	**P**	**04 38 59.4**	**+0.7**
SKLT	**Songkhla**	**75.73**	**310**	P	**P**	**04 38 59.2**	**+0.5**
PLCA	**Paso Flores**	**76.19**	**150**	P	**P**	**04 39 02.4**	**+1.2**
	comp=Z,4.0nm,1.2s,baz=208,slow=12,SNR=3.5						
	comp=Z,4.0nm,1.2s						
H08S2	**Diego Garcia H**	**76.29**	**278**	T	T	06 02 30.5	
	baz=148,slow=76,SNR=51						
H08S1	**Diego Carcia H**	**76.30**	**278**	T	T	06 02 35.2	
	baz=148,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**76.31**	**278**	T	T	06 02 33.4	
	baz=148,slow=76,SNR=57						
GO06	**Curarrehue**	**77.02**	**149**	P	**P**	**04 39 06.0**	**+0.1**
GO06				IAmb	IAmb	04 39 14.9	
	comp=Z,13nm,1.2s						
SURA	**Surathani**	**77.94**	**310**	P	**P**	**04 39 11.8**	**+0.7**
H03S2	**Juan Fernandez**	**80.08**	**141**	T	T	06 08 17.6	
	baz=201,slow=74,SNR=132						
H03S1	**Juan Fernandez**	**80.08**	**141**	T	T	06 08 18.5	
	baz=201,slow=74,SNR=155						
H03S3	**Juan Fernandez**	**80.10**	**141**	T	T	06 08 23.5	
	baz=201,slow=74,SNR=138						
BOSA	**Boshof**	**81.58**	**228**	P	**P**	**04 39 30.8**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=145,slow=7.2,SNR=3.1						
	comp=Z,3.6nm,1.0s						
BO02	**Sierra Bellavi**	**81.69**	**148**	P	**P**	**04 39 30.7**	**-0.8**
BO01	**Tunca**	**81.98**	**148**	P	**P**	**04 39 32.4**	**-0.5**
LMEL	**Las Melosas**	**82.74**	**148**	P	**P**	**04 39 36.9**	**-0.2**
NONG	**Nongkai**	**84.72**	**317**	P	**P**	**04 39 50.6**	**+3.7**
	comp=Z,19nm,1.2s						
CMAR	**Chiang Mai Arr**	**86.65**	**313**	P	**P**	**04 39 55.7**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=186,slow=4.8,SNR=12						
CMAR				LR	LR	05 15 04.8	
	comp=Z,367nm,21.9s,baz=155,slow=33						
	comp=Z,0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**86.65**	**313**	P	**P**	**04 39 56.9**	**+0.3**
CHTO	**Chiang Mai**	**86.97**	**314**	P	**P**	**04 39 58.2**	**0.0**
TNCH	**TengChong**	**92.78**	**316**	*e*P	**P**	**04 40 27.7**	**+2.2**
TNCH				pP	pwP	04 40 31.0	-0.7
PZH	**PanZhiHua**	**92.97**	**319**	P	**P**	**04 40 27.9**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,200nm,6.5s						
WMQ	**Urumqi**	**113.50**	**316**	*e*PKP	**PKiKP**	**04 45 51.3**	**+0.9**
WMQ				LR	LR		
	comp=Z,530nm,16.5s						
WMQ				LR	LR		
	comp=Z,1µm,18.7s						
KSH	**Kashi**	**114.55**	**306**	PKP	**PKiKP**	**04 45 55.4**	**+2.7**
MKAR	**Makanchi Array**	**118.04**	**314**	PKP	**PKiKP**	**04 46 00.1**	**+1.1**
	comp=Z,1.5nm,1.1s,baz=262,slow=27,SNR=3.4						
GEYT	**Alibeck**	**121.56**	**292**	PKP	**PKiKP**	**04 46 06.5**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=80,slow=9.2,SNR=1.7						
TORD	**Torodi Ar. Bea**	**128.71**	**223**	PKP	**PKPdf**	**04 46 19.4**	**-1.0**
	comp=Z,1.8nm,1.1s,baz=138,slow=1.8,SNR=4.7						
ILAR	**Eielson Array**	**131.87**	**31**	PKP	**PKPdf**	**04 46 24.6**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=251,slow=2.8,SNR=2.0						
BRTR	**Keskin Array B**	**135.49**	**275**	PKP	**PKPdf**	**04 46 31.8**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=160,slow=3.9,SNR=3.6						
INK	**Inuvik**	**138.15**	**33**	PKP	**PKPdf**	**04 46 36.9**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=177,slow=2.2,SNR=3.1						
MLR	**Muntele Rosu**	**143.57**	**275**	⇑P	PKPbc	04 46 44.1	-0.4
MLR	**Muntele Rosu**	**143.57**	**275**		**PKPdf**	**04 46 47.9**	**+0.8**
COWI	**Conover**	**143.62**	**83**		PKPbc	04 46 45.3	+0.7
HERR	**Herculane**	**145.04**	**272**	⇓P	**PKPab**	**04 46 47.1**	**-1.9**
AKASG	**Malin Array Be**	**145.12**	**285**	PKPbc	**PKPbc**	**04 46 47.1**	**-1.9**
	comp=Z,5.0nm,0.8s,baz=95,slow=2.9,SNR=16						
KEST	**Kesra**	**145.15**	**248**	PKPbc	**PKPbc**	**04 46 49.6**	**-0.1**
	comp=Z,10nm,1.0s,baz=186,slow=5.7,SNR=5.7						
GZR	**Gura Zlata**	**145.19**	**273**	⇑P	**PKPdf**	**04 46 50.0**	**+0.1**
BURAR	**Bucovina Array**	**145.33**	**277**	⇑P	**PKPdf**	**04 46 50.1**	**+0.1**
BURAR	**Bucovina Array**	**145.33**	**277**		**PKPbc**	**04 46 50.0**	**0.0**
BUR08	**Bucovina Ar. S**	**145.35**	**278**		**PKPab**	**04 46 50.2**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLMR	**Klimovskoe**	**145.55**	**305**	*e*	**PKPdf**	**04 46 48.5**	**-1.4**
KLMR				AMP		04 47 00.5	
	comp=Z,60nm,1.2s						
DIVS	**Divibare**	**145.80**	**269**		**PKPbc**	**04 46 51.7**	**+0.1**
TRPA	**Tarpa**	**147.06**	**276**	⇑P	**PKPbc**	**04 46 54.4**	**-0.6**
CRVS	**Cervenica-Dubn**	**148.10**	**277**	*e*PKP	**PKPab**	**04 47 00.4**	**-0.3**
NACGM	**Naroch**	**148.66**	**290**	*e*PKP	**PKPbc**	**04 46 57.7**	**-1.3**
	comp=Z,36nm,1.2s,baz=120						
RONA	**Rosalia, Austr**	**150.10**	**271**	*e*P	**PKPbc**	**04 47 02.8**	**-0.1**
	comp=Z,13nm,1.3s						
SOKA	**Soboth**	**150.13**	**268**	*e*P	**PKiKP**	**04 47 03.7**	**-0.3**
	comp=Z,18nm,1.1s						
ARSA	**Arzberg**	**150.23**	**269**	*i* P	**PKPbc**	**04 47 02.5**	**-0.8**
	comp=Z,12nm,0.9s						
CONA	**Conrad Observa**	**150.47**	**271**	*e*P	**PKPbc**	**04 47 03.6**	**-0.3**
	comp=Z,6.9nm,1.3s						
KRLC	**Kraliky**	**151.26**	**275**	*e*PKP	**PKPbc**	**04 47 05.3**	**-0.3**
MOA	**Molln**	**151.27**	**269**	*e*P	**PKPbc**	**04 47 05.7**	**0.0**
	comp=Z,9.1nm,1.4s						
TREC	**Trest**	**151.49**	**273**	*e*PKP	**PKPbc**	**04 47 06.3**	**+0.2**
ABTA	**Abfaltersbach**	**151.51**	**266**	*e*P	**PKPbc**	**04 47 06.5**	**+0.2**
	comp=Z,7.3nm,0.7s						
DPC	**Dobruska-Polom**	**151.66**	**275**	*e*PKP	**PKPdf**	**04 47 02.5**	**+2.3**
FINES	**FINESS Array B**	**151.75**	**301**	PKPbc	**PKPbc**	**04 47 04.7**	**-1.6**
	comp=Z,7.3nm,0.8s,baz=104,slow=6.1,SNR=9.1						
OSTC	**Ostas**	**151.83**	**275**	*e*PKP	**PKiKP**	**04 47 08.3**	**+1.1**
CKRC	**Cesky Krumlov**	**151.84**	**271**	*e*PKP	**PKPbc**	**04 47 05.1**	**-1.8**
GEC2	**GERESS Array S**	**152.17**	**270**	PKPdf	**PKPdf**	**04 47 02.3**	**+1.3**
GERES	**GERESS Array B**	**152.17**	**270**	PKPbc	**PKPbc**	**04 47 06.9**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=132,slow=3.8,SNR=11						
GERES	**GERESS Array B**	**152.17**	**270**	PKPdf	**PKPdf**	**04 47 02.4**	**+1.3**
WTTA	**Wattenberg**	**152.30**	**266**	*i* P	**PKPbc**	**04 47 06.7**	**-1.5**
	comp=Z,12nm,1.3s						
KHC	**Kasperske Hory**	**152.41**	**271**	*e*PKP	**PKiKP**	**04 47 09.0**	**+0.5**
SQTA	**Sankt Quirin**	**152.50**	**265**	*e*P	**PKPbc**	**04 47 06.9**	**-1.7**
	comp=Z,7.2nm,0.6s						
RETA	**Reutte**	**152.90**	**265**	*e*P	**PKiKP**	**04 47 09.7**	**+0.1**
	comp=Z,10nm,1.6s						
ARCES	**ARCESS Array B**	**153.60**	**319**	PKPbc	**PKiKP**	**04 47 11.0**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=93,slow=3.1,SNR=1.8						
ESDC	**Sonseca Array**	**154.55**	**235**	PKPbc	**PKiKP**	**04 47 13.4**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=120,slow=3.0,SNR=4.7						

---

*IDC **08** 04:30:33.2±0.7, 30°.66N×142°.04E, h0^{km}, mb3.9/13, mbtmp4.0/16, ML3.9/3, Error ellipse: s-maj=23.2km s-min=16.0km az=80.0*

*JMA **08** 04:30:36.7±0.7, 31°N±4°×14°2E±°, h0^{km}, MV4.2/14, NEAR TORISHIMA IS*

*NEIC **08** 04:30:37.5±1.2, 30°.7N±0°.1×142°.2E±0°.2, h31^{km}±7^{km}, mb4.5/10, Error ellipse: s-maj=23.5km s-min=16.7km az=79.0*

ISC 08 04:30:36.4±0.7**, 30°.70N**±0°.07×**142°.1E**±0°.1**, h23^{km}, n36,** σ**1^{s}07**/39**, mb4.0**/17**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.59**	**179**	Pn	**Pn**	**04 31 30.6**	**-0.1**
	25nm,0.3s,baz=343,slow=19,SNR=1.0						
	74nm,0.4s						
BSO1	**Boso 1**	**4.06**	**346**	*e*P	**Pn**	**04 31 36.0**	**-0.6**
BSO3	**Boso 3**	**4.31**	**342**	P	**Pn**	**04 31 39.5**	**-0.9**
JHU	**Hanno**	**5.67**	**336**	P	**Pn**	**04 31 59.9**	**+0.7**
JRY	**Ryogami san**	**5.95**	**334**	P	**Pn**	**04 32 03.8**	**+0.6**
JRY				S	**Sn**	**04 33 10.0**	**-0.6**
JAG	**Ashikaga**	**6.13**	**339**	P	**Pn**	**04 32 05.1**	**-0.4**
JAG				S	**Sn**	**04 33 11.9**	**-3.1**
JGF	**Kuroka**	**6.32**	**322**	Pn	**Pn**	**04 32 10.0**	**+1.8**
MJAR	**Matsushiro Arr**	**6.68**	**332**	Pn	**Pn**	**04 32 13.5**	**+0.4**
	0.3nm,0.3s,baz=151,slow=11,SNR=23						
MJAR				Sn	**Sn**	**04 33 30.8**	**+2.2**
	0.1nm,0.3s,baz=167,slow=30,SNR=1.9						
	9.7nm,0.6s						
MAJO	**Matsushiro**	**6.68**	**332**		**Pn**	**04 32 13.8**	**+0.6**
MJB9	**Matsu-Tunnel**	**6.69**	**332**		**Pn**	**04 32 14.7**	**+1.4**
JMM	**Marumori**	**7.23**	**352**	Pn	**Pn**	**04 32 19.2**	**-1.4**
JOW	**Kunigami**	**12.76**	**256**	Pn	**Pn**	**04 33 35.7**	**-0.7**
	1.9nm,0.3s,baz=86,slow=19,SNR=2.6						
	14nm,0.7s						
YULB	**Yu-li**	**19.92**	**254**	P	**P**	**04 35 06.2**	**-0.4**
YULB				IAmb	IAmb	04 35 31.9	
	comp=Z,30nm,1.5s						
KLR	**Kul'dur**	**20.11**	**340**	P	**P**	**04 35 08.0**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=135,slow=14,SNR=2.8						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**32.17**	**312**	P	**P**	**04 37 02.5**	**0.0**
	comp=Z,1.7nm,1.0s,baz=111,slow=8.6,SNR=4.2						
	comp=Z,1.7nm,1.0s						
ZALV	**Zalesovo Beam**	**46.79**	**317**	P	**P**	**04 39 04.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=106,slow=9.1,SNR=1.9						
	comp=Z,0.4nm,0.3s						
MK31	**Makanchi Array**	**48.21**	**307**	P	**P**	**04 39 14.5**	**-0.6**
MK31				IAmb	IAmb	04 39 57.2	
	comp=Z,4.4nm,1.4s						
MKAR	**Makanchi Array**	**48.21**	**307**	P	**P**	**04 39 14.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=96,slow=10.0,SNR=7.9						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**48.21**	**307**	P	**P**	**04 39 15.0**	**-0.2**
KURK	**Kurchatov**	**50.48**	**312**	P	**P**	**04 39 32.2**	**-0.2**
WB0	**Warramunga Arr**	**50.73**	**189**	P	**P**	**04 39 34.2**	**-0.3**
WB0				IAmb	IAmb	04 40 07.2	
	comp=Z,6.1nm,1.1s						
WR0	**Warramunga Arr**	**50.90**	**189**	P	**P**	**04 39 35.2**	**-0.6**
WR0				IAmb	IAmb	04 39 36.9	
	comp=Z,7.3nm,1.2s						
WB2	**Warramunga Arr**	**50.91**	**189**	P	**P**	**04 39 35.6**	**-0.3**
WB2				IAmb	IAmb	04 39 36.1	
	comp=Z,5.1nm,0.9s						
WRA	**Warramunga Arr**	**50.91**	**189**	P	**P**	**04 39 35.6**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=5.3,slow=7.6,SNR=26						
	comp=Z,2.9nm,0.6s						
WRA	**Warramunga Arr**	**50.91**	**189**	P	**P**	**04 39 34.6**	**-1.2**
ILAR	**Eielson Array**	**54.60**	**30**	P	**P**	**04 40 03.0**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=253,slow=7.0,SNR=7.2						
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**54.63**	**189**	P	**P**	**04 40 03.1**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=3.3,slow=5.4,SNR=11						
	comp=Z,1.1nm,0.8s						
CHGR	**Chuyangaron**	**59.11**	**299**	P	**P**	**04 40 34.9**	**-0.3**
CHGR				IAmb	IAmb	04 40 37.8	
	comp=Z,10nm,1.0s						
FINES	**FINESS Array B**	**74.71**	**333**	P	**P**	**04 42 14.4**	**+0.5**
	comp=Z,5.4nm,1.0s,baz=57,slow=7.0,SNR=8.6						
	comp=Z,5.4nm,1.0s						
NVAR	**Mina Array Bea**	**78.34**	**52**	P	**P**	**04 42 36.7**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=296,slow=5.6,SNR=7.5						
	comp=Z,0.5nm,0.5s						
NOA	**NORSAR Array B**	**80.26**	**338**	P	**P**	**04 42 45.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.2,SNR=3.4						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**81.69**	**45**	P	**P**	**04 42 54.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=230,slow=0.2,SNR=4.2						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**83.53**	**313**	P	**P**	**04 43 02.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=57,slow=4.6,SNR=4.1						
	comp=Z,0.5nm,0.6s						
SDCO	**Great Sand Dun**	**87.14**	**47**	P	**P**	**04 43 19.0**	**-2.1**
TXAR	**Lajitas Array**	**93.48**	**53**	P	**P**	**04 43 52.7**	**+2.0**
	comp=Z,0.9nm,1.0s,baz=296,slow=2.4,SNR=5.4						
	comp=Z,0.9nm,1.0s						
CCM	**Cathedral Cave**	**95.38**	**40**	P	**P**	**04 43 58.8**	**-0.2**

IDC 08 04:32:29.1±1.8**, 57°.95S**×**149°.73E, h0^{km}, mb3.6**/3**, mbtmp3.8**/4**, ML4.3**/1**, Error ellipse: s-maj=51.3km s-min=30.7km az=73.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**19.48**	**52**	P	P	04 36 57.4	+0.1
	0.9nm,0.3s,baz=243,slow=4.5,SNR=1.3						
	4.5nm,0.7s						
VNDA	**Vanda**	**20.10**	**172**	P	P	04 37 03.9	0.0
	1.3nm,0.7s,baz=335,slow=12,SNR=2.9						
	1.3nm,0.7s						
H01W1	**Cape Leeuwin H**	**33.04**	**299**	T	T	05 13 22.8	
	baz=143,slow=74						
H01W2	**Cape Leeuwin H**	**33.05**	**299**	T	T	05 13 18.9	
	baz=143						
H01W3	**Cape Leeuwin H**	**33.06**	**299**	T	T	05 13 22.6	
	baz=143,slow=74						
ASAR	**Alice Springs**	**36.09**	**335**	P	P	04 39 32.5	+0.1
	0.8nm,0.7s,baz=161,slow=9.3,SNR=7.7						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**39.60**	**337**	P	P	04 40 01.8	-0.3
	1.2nm,0.6s,baz=166,slow=7.4,SNR=6.2						
	1.2nm,0.6s						
H03S1	**Juan Fernandez**	**79.89**	**141**	T	T	06 13 44.3	
	baz=200						
H03S2	**Juan Fernandez**	**79.89**	**141**	T	T	06 13 44.1	
	baz=200						
H03S3	**Juan Fernandez**	**79.90**	**141**	T	T	06 13 45.7	
	baz=200						

---

*IDC **08** 04:43:52.3±2.5, 58°.06S×148°.53E, h0^{km}, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=171.1km s-min=20.1km az=79.0*

ISC 08 04:43:54.5±2.4**, 58°.2S**±0°.3×**14°8E**±°**, h10^{km}, n15,** σ**0^{s}61**/6**, mb3.9**/4**, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.06**	**171**	P	**P**	**04 48 26.8**	**-0.6**
	1.3nm,0.8s,baz=329,slow=12,SNR=5.9						
	1.3nm,0.8s						
QSPA	**South Pole Qui**	**31.95**	**180**	P	**P**	**04 50 21.0**	**+0.7**
	1.6nm,0.9s,baz=11,slow=10,SNR=2.3						
	1.6nm,0.9s						
H01W1	**Cape Leeuwin H**	**32.20**	**302**	T	T	05 24 43.3	
	baz=145,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**32.20**	**302**	T	T	05 24 43.0	
	baz=145,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**32.22**	**302**	T	T	05 24 44.4	
	baz=145,slow=75,SNR=13						
ASAR	**Alice Springs**	**35.84**	**338**	P	**P**	**04 50 54.5**	**+0.3**
	0.9nm,0.8s,baz=165,slow=9.5,SNR=7.8						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**39.39**	**340**	P	**P**	**04 51 24.1**	**-0.1**
	2.3nm,0.8s,baz=166,slow=7.5,SNR=14						
	2.3nm,0.8s						
SNAA	**Sanae**	**48.84**	**192**	P	**P**	**04 52 39.3**	**-0.2**
	1.1nm,0.9s,baz=151,slow=6.6,SNR=2.1						
	1.1nm,0.9s						
H08S2	**Diego Garcia H**	**75.73**	**279**	T	T	06 19 13.2	
	baz=145,slow=76						
H08S1	**Diego Carcia H**	**75.74**	**279**	T	T	06 19 15.0	
	baz=145						
H08S3	**Diego Garcia H**	**75.75**	**279**	T	T	06 19 21.8	
	baz=145,slow=76						
H03S2	**Juan Fernandez**	**80.41**	**142**	T	T	06 24 58.1	
	baz=201,slow=74,SNR=17						
H03S1	**Juan Fernandez**	**80.41**	**142**	T	T	06 25 01.5	
	baz=201,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**80.42**	**142**	T	T	06 25 00.6	
	baz=201,slow=74,SNR=15						
AKASG	**Malin Array Be**	**144.59**	**285**	PKPbc	**PKPbc**	**05 03 28.4**	**-0.4**
	2.6nm,0.9s,baz=120,slow=2.2,SNR=4.1						

---

*SJA **08** 04:55:29.4±2.0, 36°.49S×74°.95W, h0^{km}±50^{km}, ML6.0, MW6.1*

*IDC **08** 04:55:42.8±0.4, 36°.48S×73°.20W, h0^{km}, mb5.1/20, mbtmp5.0/24, ML4.7/4, MS5.8/43, Error ellipse: s-maj=18.6km s-min=10.9km az=92.0*

*NEIC **08** 04:55:43.6, 36°.58S×73°.66W, h21^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.15; $M_{\theta\theta}$-1.71; $M_{\phi\phi}$-2.43; $M_{r\theta}$-0.79; $M_{\theta\phi}$-0.58; $M_{\phi r}$-6.58; Fault plane solution: $M_0$7.57000×10^{17} NP1:ϕ_s189.09000°, δ76.49000°, λ86.27000°. NP2:ϕ_s24.69000°, δ14.01000°, λ105.16000°. Principal axes: T 8.2296, Plg58.0000°, Azm94.0000°; N -1.5629, Plg4.0000°, Azm190.0000°; P -6.6667, Plg31.0000°, Azm282.0000°;*

*GUC **08** 04:55:43.8±0.7, 36°.62S×73°.73W, h15^{km}±8^{km}, ML5.9*

*VAO **08** 04:55:45.9±0.3, 36°.53S×73°.30W, h17^{km}, mb5.7*

*NEIC **08** 04:55:45.9±1.7, 36°.58S±0°.04×73°.56W±0°.07, h20^{km}±1^{km}, mb5.6/467, Ms_20 5.9/292, Mwr5.9/53, Mww6.0, Mwr5.9(GUC), Error ellipse: s-maj=10.2km s-min=3.8km az=298.0*

*MOS **08** 04:55:46.3±1.5, 36°.50S×73°.28W, h25^{km}, mb5.9/30, MS5.9/27, Error ellipse: s-maj=12.1km s-min=7.2km az=94.0*

*GCMT **08** 04:55:49.9±0.1, 36°.66S±0°.01×73°.71W±0°.01, h20^{km}, MW6.0/163, Moment Tensor Solution. s155,c309; s163,c498; Duration: 2^{s}4 Moment tensor: Scale 10^{18} Nm; M_{rr}0.63±.01; $M_{\theta\theta}$0.02±.00; $M_{\phi\phi}$-0.65±.01; $M_{r\theta}$-0.03±.01; $M_{\theta\phi}$-0.06±.00; $M_{\phi r}$-0.95±.02; Best double couple: $M_0$1.15100×10^{18} NP1:ϕ_s182.00000°, δ73.00000°, λ88.00000°. NP2:ϕ_s8.00000°, δ17.00000°, λ95.00000°. Principal axes: T 1.1380, Plg62.0000°, Azm90.0000°; N 0.0270, Plg1.0000°, Azm183.0000°; P -1.1640, Plg28.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 04:55:51, 36°.58S×73°.64W, h20^{km}, Moment Tensor Solution. Duration: 14^{s}0 Moment tensor: Scale 10^{18}Nm; M_{rr}0.64; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-0.66; $M_{r\theta}$-0.16; $M_{\theta\phi}$-0.14; $M_{\phi r}$-1.30; Fault plane solution: $M_0$1.47000×10^{18} NP1:ϕ_s15.00000°, δ13.00000°, λ97.00000°. NP2:ϕ_s188.00000°, δ77.00000°, λ88.00000°. Principal axes: T 1.4472, Plg58.0000°, Azm95.0000°; N 0.0421, Plg2.0000°, Azm188.0000°; P -1.4893, Plg32.0000°, Azm279.0000°;*

ISC 08 04:55:44.4±0.5**, 36°.55S**±0°.02×**73°.48W**±0°.03**, h11^{km}**±2^{km}**, h12^{km}:pP-P, n1418,** σ**1^{s}75**/1299**, mb5.6**/292**, MS5.9**/211**, 88C-31D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.31**	**131**		**Pb**	**04 55 52.5**	**+0.6**
BI05	**Punta Hualpn**	**0.31**	**131**	⇓*i*P	**Pb**	**04 55 52.5**	**+0.6**
BI05				*e*S	**Sb**	**04 55 58.2**	**+1.2**
BI05				IAML		04 55 59.6	
	comp=E,2629μm,0.3s						
CCSP	**San Pedro de C**	**0.42**	**135**	*e*P	**Pb**	**04 55 54.2**	**+0.3**
CCSP				*e*S	**Sb**	**04 56 01.2**	**+0.9**
CCSP				IAML		04 56 02.7	
	comp=N,2680μm,0.7s						
ML02	**Panimavida**	**1.84**	**66**		**Pn**	**04 56 17.1**	**+1.1**
ML02				Sn	**Sb**	**04 56 41.0**	**-0.2**
ML02	**Panimavida**	**1.84**	**66**	⇑*i*P	**Pn**	**04 56 17.1**	**+1.1**
ML02				*e*S	**Sg**	**04 56 43.4**	**-0.3**
ML02				IAML		04 56 52.5	
	comp=N,248μm,0.8s						
BI04	**Isla Mocha**	**1.89**	**190**	*e*P	**Pn**	**04 56 13.7**	**-2.9**
GO05	**Huala**	**1.98**	**40**	Pn	**Pn**	**04 56 17.5**	**-0.4**
GO05	**Huala**	**1.98**	**40**	⇑*i*P	**Pn**	**04 56 17.5**	**-0.4**
GO05				*e*S	**Sg**	**04 56 47.1**	**-1.1**
GO05				IAML		04 57 03.0	
	comp=E,27μm,0.5s						
GO05	**Huala**	**1.98**	**40**	*i* P	**Pn**	**04 56 18.0**	**+0.1**
GO05				⇓*e*S	**Sg**	**04 56 52.8**	**+4.6**
LC02	**Puerto Saavedr**	**2.24**	**178**	Pn	**Pn**	**04 56 19.3**	**-2.2**
LC02	**Puerto Saavedr**	**2.24**	**178**	*e*P	**Pn**	**04 56 19.3**	**-2.2**
LC02				IAML		04 57 15.6	
	comp=N,249μm,0.9s						
BO03	**Pichilemu**	**2.39**	**32**	⇑*i*P	**Pn**	**04 56 23.1**	**-0.4**
BO03				*e*S	**Sg**	**04 57 02.4**	**+1.2**
BO02	**Sierra Bellavi**	**2.81**	**52**		**Pn**	**04 56 29.8**	**+0.5**
BO02	**Sierra Bellavi**	**2.81**	**52**	*e*P	**Pn**	**04 56 29.7**	**+0.4**
BO02				*e*S	**Sb**	**04 57 10.6**	**+1.6**
BO02	**Sierra Bellavi**	**2.81**	**52**	*i* P	**Pn**	**04 56 30.0**	**+0.7**
BO02				*e*S	**Sg**	**04 57 18.1**	**+3.5**
BO02				IAML		04 57 29.5	
	comp=Z,31μm,1.6s						
BO01	**Tunca**	**2.91**	**43**		**Pn**	**04 56 31.0**	**+0.4**
BO01	**Tunca**	**2.91**	**43**	*i* P	**Pn**	**04 56 31.1**	**+0.6**
BO01				*e*S	**Sg**	**04 57 15.9**	**-1.8**
BO01				IAML		04 57 27.6	
	comp=E,14μm,0.3s						
BO01	**Tunca**	**2.91**	**43**	*i* P	**Pn**	**04 56 31.0**	**+0.4**
BO01				*e*S	**Sg**	**04 57 19.7**	**+2.0**
BO01				IAML		04 57 23.0	
	comp=Z,21μm,0.9s						
LR03	**Panguipulli**	**3.21**	**164**		**Pn**	**04 56 34.2**	**-0.6**
LR03	**Panguipulli**	**3.21**	**164**	*e*P	**Pn**	**04 56 34.1**	**-0.6**
LR03				*e*S	**Sb**	**04 57 20.6**	**+0.1**
MT01	**Popeta**	**3.24**	**35**		**Pn**	**04 56 35.2**	**+0.1**
MT01	**Popeta**	**3.24**	**35**	*e*P	**Pn**	**04 56 34.6**	**-0.5**
MT01	**Popeta**	**3.24**	**35**	*i* P	**Pn**	**04 56 35.0**	**-0.2**
MT01				*e*S	**Sg**	**04 57 30.3**	**+1.8**
MT01				IAML		04 57 34.5	
	comp=Z,16μm,1.7s						
LR02	**Universidad Au**	**3.26**	**177**	*e*P	**Pn**	**04 56 33.7**	**-1.7**
VA05	**Santo Domingo**	**3.26**	**29**		**Pn**	**04 56 35.0**	**-0.4**
VA05	**Santo Domingo**	**3.26**	**29**	*e*P	**Pn**	**04 56 34.9**	**-0.6**
LR04	**Corral**	**3.33**	**179**		**Pn**	**04 56 34.2**	**-2.2**
LR04	**Corral**	**3.33**	**179**	*e*P	**Pn**	**04 56 34.0**	**-2.4**
GO06	**Curarrehue**	**3.42**	**153**	Pn	**Pn**	**04 56 37.9**	**+0.1**
GO06	**Curarrehue**	**3.42**	**153**	*e*P	**Pn**	**04 56 37.9**	**+0.1**
GO06				*e*S	**Sn**	**04 57 22.5**	**+4.1**
GO06	**Curarrehue**	**3.42**	**153**	*i* P	**Pn**	**04 56 38.0**	**+0.2**
GO06				*e*S	**Sb**	**04 57 27.6**	**+0.9**
MT09	**Talagante**	**3.44**	**37**		**Pn**	**04 56 38.3**	**+0.3**
MT09	**Talagante**	**3.44**	**37**	*e*P	**Pn**	**04 56 38.2**	**+0.3**
LMEL	**Las Melosas**	**3.80**	**46**		**Pn**	**04 56 44.1**	**+1.0**
LMEL	**Las Melosas**	**3.80**	**46**	*e*P	**Pn**	**04 56 44.9**	**+1.8**
MT02	**Curacav**	**3.80**	**31**		**Pn**	**04 56 42.7**	**-0.2**
MT02	**Curacav**	**3.80**	**31**	*e*P	**Pn**	**04 56 42.4**	**-0.5**
MT02	**Curacav**	**3.80**	**31**	*i* P	**Pn**	**04 56 42.0**	**-0.9**
MT02				*e*S	**Sb**	**04 57 39.7**	**+2.1**
MT02				IAML		04 58 02.6	
	comp=Z,8μm,2.5s						
VA01	**Torpederas**	**3.82**	**24**		**Pn**	**04 56 42.6**	**-0.5**
VA01	**Torpederas**	**3.82**	**24**	*e*P	**Pn**	**04 56 42.7**	**-0.5**
VA01	**Torpederas**	**3.82**	**24**	*i* P	**Pn**	**04 56 43.0**	**-0.2**
VA01				*e*S	**Sb**	**04 57 38.3**	**+0.1**
VA01				IAML		04 58 16.6	
	comp=Z,7μm,2.6s						
MT05	**Renca**	**3.87**	**36**	Pn	**Pn**	**04 56 43.9**	**0.0**
MT05	**Renca**	**3.87**	**36**	*e*P	**Pn**	**04 56 44.5**	**+0.6**
MT05	**Renca**	**3.87**	**36**	*i* P	**Pn**	**04 56 44.7**	**+0.8**
MT05				*e*S	**Sg**	**04 57 45.7**	**-3.0**
MT05				IAML		04 58 23.6	
	comp=Z,23μm,1.6s						
MT03	**Universidad Ad**	**3.90**	**40**	Pn	**Pn**	**04 56 44.9**	**+0.5**
MT03	**Universidad Ad**	**3.90**	**40**	⇑*i*P	**Pn**	**04 56 44.8**	**+0.5**
MT03	**Universidad Ad**	**3.90**	**40**	*i* P	**Pn**	**04 56 45.0**	**+0.7**
MT03				*e*S	**Sg**	**04 57 46.1**	**-3.6**
MT03				IAML		04 57 56.2	
	comp=Z,23μm,0.8s						
ROC1	**El Roble**	**4.10**	**30**		**Pn**	**04 56 47.2**	**0.0**
ROC1	**El Roble**	**4.10**	**30**	*i* P	**Pn**	**04 56 47.0**	**-0.2**
PEL	**Peldehue**	**4.10**	**35**	⇑*i*P	**Pn**	**04 56 47.5**	**+0.5**
PEL	**Peldehue**	**4.10**	**35**	*i* P	**Pn**	**04 56 48.0**	**+1.0**
PEL				*e*S	**Sg**	**04 57 54.6**	**-1.4**
ROCH	**El Roble**	**4.10**	**30**	⇑*e*P	**Pn**	**04 56 47.5**	**+0.2**
FCH	**Farellones**	**4.14**	**40**	⇑*i*P	**Pn**	**04 56 48.7**	**+0.8**
VA06	**Catapilco**	**4.36**	**25**	Pn	**Pn**	**04 56 50.1**	**-0.5**
VA06	**Catapilco**	**4.36**	**25**	*e*P	**Pn**	**04 56 49.9**	**-0.8**
LL04	**Puerto Octay**	**4.44**	**169**		**Pn**	**04 56 50.0**	**-1.6**
LL04	**Puerto Octay**	**4.44**	**169**	*e*P	**Pn**	**04 56 49.9**	**-1.7**
VA03	**San Esteban**	**4.48**	**33**		**Pn**	**04 56 52.7**	**+0.4**
VA03	**San Esteban**	**4.48**	**33**	*e*P	**Pn**	**04 56 52.4**	**+0.1**
VA03	**San Esteban**	**4.48**	**33**	*i* P	**Pn**	**04 56 53.0**	**+0.7**
VA03				*e*S	**Sb**	**04 58 01.5**	**+4.3**
VA03				IAML		04 58 25.4	
	comp=Z,12μm,1.0s						
LL03	**Petrohue**	**4.66**	**170**		**Pn**	**04 56 53.7**	**-1.1**
LL03	**Petrohue**	**4.66**	**170**	*e*P	**Pn**	**04 56 53.6**	**-1.1**
PLCA	**Paso Flores**	**4.77**	**152**	Pn	**Pn**	**04 56 56.6**	**+0.3**
	comp=Z,17nm,0.3s,baz=324,slow=13,SNR=205						
PLCA				Sn	**Sn**	**04 57 49.4**	**-2.1**
	comp=Z,89nm,0.3s,baz=277,slow=17,SNR=6.2						
	comp=Z,63nm,0.4s						
PLCA	**Paso Flores**	**4.77**	**152**	⇑P	**Pn**	**04 56 56.5**	**+0.3**
PLCA	**Paso Flores**	**4.77**	**152**	*e*P	**Pn**	**04 56 56.7**	**+0.4**
LL05	**Los Muermos**	**4.85**	**180**		**Pn**	**04 56 55.4**	**-1.9**
LL05	**Los Muermos**	**4.85**	**180**	*e*P	**Pn**	**04 56 55.4**	**-1.9**
H03S1	**Juan Fernandez**	**5.20**	**300**	T	T	05 02 24.1	
	baz=122,slow=75,SNR=1066						
H03S3	**Juan Fernandez**	**5.21**	**300**	T	T	05 02 25.1	
	baz=122,slow=75,SNR=1354						
H03S2	**Juan Fernandez**	**5.21**	**300**	T	T	05 02 23.9	
	baz=122,slow=75,SNR=1219						
I14CL	**ROBINSON CRUSO**	**5.22**	**302**	I	I	05 31 10.0	
	comp=Z,0.1nm,0.6s,baz=127,slow=318,SNR=1.4						
VA04	**Juan Fernndez**	**5.25**	**302**	Pn	**Pn**	**04 57 00.7**	**-2.1**
VA04	**Juan Fernndez**	**5.25**	**302**	*e*P	**Pn**	**04 57 00.8**	**-2.1**
H03N1	**Juan Fernandez**	**5.43**	**303**	T	T	05 02 44.3	
	baz=139,slow=72,SNR=63						
H03N3	**Juan Fernandez**	**5.43**	**303**	T	T	05 02 50.0	
	baz=139,slow=72,SNR=70						
H03N2	**Juan Fernandez**	**5.44**	**303**	T	T	05 02 48.7	
	baz=139,slow=72,SNR=72						
LL06	**Loncomilla**	**5.66**	**181**		**Pn**	**04 57 06.7**	**-1.7**
CO02	**Combarbal**	**5.71**	**22**	Pn	**Pn**	**04 57 08.7**	**-0.6**
LL01	**San Ignacio de**	**5.88**	**172**		**Pn**	**04 57 10.5**	**-1.0**
CO06	**Fray Jorge**	**6.05**	**15**		**Pn**	**04 57 12.4**	**-1.5**
CO03	**El Pedregal**	**6.15**	**23**		**Pn**	**04 57 15.2**	**-0.1**
LL07	**Hotel Espejo d**	**6.28**	**180**	Pn	**Pn**	**04 57 15.0**	**-1.9**
GO07	**Milladeo Hill,**	**6.56**	**181**		**Pn**	**04 57 18.4**	**-2.4**
GO04	**Tololo Observa**	**6.74**	**20**		**Pn**	**04 57 22.7**	**-0.8**
LL02	**Futaleuf**	**6.75**	**170**	Pn	**Pn**	**04 57 22.9**	**-0.6**
CO05	**La Serena**	**6.87**	**16**	Pn	**Pn**	**04 57 24.1**	**-0.9**
CO01	**Juntas del Tor**	**7.14**	**24**		**Pn**	**04 57 29.1**	**+0.2**
LCO	**Las Campanas**	**7.87**	**18**		**Pn**	**04 57 38.1**	**-0.9**
LCO	**Las Campanas**	**7.87**	**18**	⇓P	**Pn**	**04 57 38.2**	**-0.9**
LCO	**Las Campanas**	**7.87**	**18**	P	**Pn**	**04 57 38.1**	**-0.9**
AY01	**Puyuhuapi**	**7.89**	**176**		**Pn**	**04 57 38.8**	**-0.2**
AC05	**El Transito**	**8.15**	**20**		**Pn**	**04 57 42.3**	**-0.4**
AC04	**Llanos de Chal**	**8.56**	**14**	Pn	**Pn**	**04 57 47.3**	**-1.0**
COYC	**Coyhaique**	**9.08**	**174**	Pn	**Pn**	**04 57 54.9**	**-0.4**
COYC	**Coyhaique**	**9.08**	**174**	⇑P	**Pn**	**04 57 55.5**	**+0.2**
TRQA	**Tornquist**	**9.29**	**103**		**Pn**	**04 57 59.7**	**+1.4**
TRQA	**Tornquist**	**9.29**	**103**	P	**Pn**	**04 57 59.7**	**+1.4**
GO03	**Copiap**	**9.34**	**18**		**Pn**	**04 57 58.1**	**-0.9**
GO03	**Copiap**	**9.34**	**18**	⇑P	**Pn**	**04 57 58.3**	**-0.7**
AC06	**Mina Casimiro**	**9.54**	**17**	Pn	**Pn**	**04 58 00.3**	**-1.4**
AC02	**Maricunga**	**10.36**	**22**	Pn	**Pn**	**04 58 11.9**	**-1.5**
AC01	**Pan de Azucar**	**10.65**	**14**	Pn	**Pn**	**04 58 15.4**	**-1.5**
GO02	**Mina Guanaco**	**11.83**	**17**	Pn	**Pn**	**04 58 31.0**	**-2.3**
PB14	**IPOC Station P**	**12.17**	**13**	Pn	**Pn**	**04 58 36.8**	**-1.2**
PB10	**IPOC Station P**	**13.23**	**12**		**Pn**	**04 58 51.4**	**-0.9**
LVC	**Limon Verde**	**14.44**	**17**	Pn	**Pn**	**04 59 05.0**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=217,slow=6.2,SNR=7.4						
LVC				Sn	**Sn**	**05 01 49.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=256,slow=12,SNR=1.5						
LVC				LR	LR	05 04 25.9	
	comp=Z,22μm,21.7s,baz=196,slow=37						
	comp=Z,4.0nm,0.4s						
LVC	**Limon Verde**	**14.44**	**17**		**Pn**	**04 59 05.2**	**-3.9**
LVC	**Limon Verde**	**14.44**	**17**	*e*P	**Pn**	**04 59 08.9**	**-0.2**
LVC	**Limon Verde**	**14.44**	**17**	P	**Pn**	**04 59 05.2**	**-3.9**
GO09	**Cerro Castillo**	**14.74**	**177**	P	**Pn**	**04 59 08.3**	**-4.5**
PB07	**IPOC Station P**	**15.09**	**13**		**Pn**	**04 59 16.9**	**-0.9**
MG05	**Puerto Natales**	**15.15**	**178**	P	**Pn**	**04 59 15.6**	**-2.6**
PB09	**IPOC Station P**	**15.15**	**15**		**Pn**	**04 59 18.5**	**0.0**
PB02	**IPOC Station P**	**15.49**	**13**		**Pn**	**04 59 21.8**	**-1.1**
ITQB	**Itaqui**	**15.69**	**69**	Pn	**Pn**	**04 59 23.4**	**-1.9**
ITQB	**Itaqui**	**15.69**	**69**	*e*P	**Pn**	**04 59 23.8**	**-1.6**
TA01	**Diego Aracena**	**16.18**	**11**	P	**Pn**	**04 59 31.3**	**-0.5**
RODS	**Rosario do Sul**	**16.45**	**73**	*e*P	**Pn**	**04 59 33.6**	**-1.6**
TA02	**Huaiquique**	**16.48**	**11**	P	**Pn**	**04 59 37.0**	**+1.4**
PB08	**IPOC Station P**	**16.78**	**14**		**Pn**	**04 59 39.6**	**-0.2**
AZCA	**Azaras, Argent**	**17.01**	**65**	*e*P	**Pn**	**04 59 39.8**	**-2.5**
PB11	**IPOC Station P**	**17.06**	**12**	P	**Pn**	**04 59 43.3**	**+0.3**
PB11				IAmb	IAmb	04 59 50.6	
	comp=Z,531nm,1.0s						
CPUP	**Villa Florida**	**17.11**	**58**	Pn	**Pn**	**04 59 39.1**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=231,slow=11,SNR=13						
CPUP				Sn	**Sn**	**05 02 48.8**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=204,slow=20,SNR=1.3						
CPUP				LR	LR	05 06 20.3	
	comp=Z,32μm,21.4s,baz=236,slow=38						
	comp=Z,7.9nm,1.0s						
CPUP	**Villa Florida**	**17.11**	**58**	P	**Pn**	**04 59 40.8**	**-2.8**
CPUP	**Villa Florida**	**17.11**	**58**	⇓P	**Pn**	**04 59 40.5**	**-3.1**
CPUP	**Villa Florida**	**17.11**	**58**	*e*P	**Pn**	**04 59 40.9**	**-2.6**
CPUP	**Villa Florida**	**17.11**	**58**	P	**Pn**	**04 59 40.8**	**-2.8**
CPUP				pmax	pmax		
	comp=Z,199nm,1.2s						
PLTB	**Pedras Altas**	**17.12**	**80**	P	**Pn**	**04 59 40.8**	**-2.9**
PLTB	**Pedras Altas**	**17.12**	**80**	*e*P	**Pn**	**04 59 41.1**	**-2.6**
UNIS	**Unistalda (Bra**	**17.16**	**70**	*e*P	**Pn**	**04 59 41.7**	**-2.5**
GO01	**Chusmiza**	**17.23**	**14**		**Pn**	**04 59 44.7**	**-0.8**
CPSB	**Cacapava Do Su**	**17.79**	**76**	*e*P	**Pn**	**04 59 50.2**	**-1.8**
PB12	**IPOC Station P**	**18.08**	**10**	P	**P**	**04 59 56.0**	**-0.1**
PB16	**IPOC Station P**	**18.48**	**12**	P	**Pn**	**05 00 02.3**	**+1.3**
USHA	**Ushuaia**	**18.62**	**171**	P	**Pn**	**05 00 01.9**	**+0.1**
	comp=Z,3.8nm,0.3s,baz=349,slow=9.1,SNR=2.3						
USHA				S	**Sn**	**05 03 30.0**	**+0.2**
	comp=Z,24nm,0.7s,baz=295,slow=16,SNR=1.3						
USHA				LR	LR	05 08 36.2	
	comp=Z,50μm,18.3s,baz=348,slow=42						
	comp=Z,41nm,0.7s						
EFI	**East Falkland**	**18.68**	**149**	P	**P**	**05 00 01.2**	**-1.2**
EFI	**East Falkland**	**18.68**	**149**	⇑P	**P**	**05 00 01.4**	**-1.0**

EFI East Falkland 18.68 149 *c iP* **P** **05 00 01.4 -1.0**
EFI pmax pmax
comp=Z,404nm,1.2s
EFI MLR MLR
comp=Z,57µm,16.0s
CRSM Crissiumal (Br 18.77 67 *eP* **P** **05 00 02.3 -1.2**
MG01 Puerto William 18.82 169 P **P** **05 00 03.0 -0.9**
MG01 IAmb IAmb 05 00 14.9
comp=Z,822nm,1.7s
ALGR Alto Alegre (B 18.85 72 *eP* **P** **05 00 01.8 -2.7**
MURT Porto Murtinho 20.26 47 *eP* **P** **05 00 20.5 +0.6**
CNLB Canela 20.29 76 *eP* **P** **05 00 19.5 -0.7**
ITAB Concordia 20.33 69 **P** **05 00 20.6 0.0**
ITAB Concordia 20.33 69 *eP* **P** **05 00 20.1 -0.5**
FRBT Francisco Belt 20.35 65 *eP* **P** **05 00 20.3 -0.6**
MCR1 Marechal Candi 20.59 60 *eP* **P** **05 00 23.5 +0.1**
LPAZ La Paz 20.73 15 P **P** **05 00 26.1 +0.5**
comp=Z,29nm,0.8s,baz=181,slow=7.3,SNR=74
LPAZ S **S** **05 04 17.9 +0.6**
comp=Z,13nm,1.0s,baz=196,slow=20,SNR=1.8
comp=Z,29nm,0.8s
LPAZ La Paz 20.73 15 **P** **05 00 26.6 +1.0**
LPAZ IAmb IAmb 05 00 37.9
comp=Z,371nm,1.5s
LPAZ La Paz 20.73 15 ⇑P Pn 05 00 27.6 -0.3
LPAZ La Paz 20.73 15 *eP* **P** **05 00 26.4 +0.8**
LPAZ La Paz 20.73 15 *eP* Pn 05 00 27.6 -0.3
LPAZ pmax pmax
comp=Z,29nm,0.8s
ANTJ Antonio Joao (20.98 51 *eP* **P** **05 00 28.3 +0.5**
PTGB Pitanga 21.82 63 *eP* **P** **05 00 35.7 -1.1**
BBRB Robore, Bolivi 21.83 37 *eP* **P** **05 00 36.9 +0.1**
TER01 Tubaro-SC 21.99 76 *eP* **P** **05 00 37.3 -1.2**
AQDB Aquidauana 22.31 49 P **P** **05 00 41.7 -0.3**
AQDB IAmb IAmb 05 00 55.5
comp=Z,287nm,0.9s
AQDB Aquidauana 22.31 49 *eP* **P** **05 00 42.1 +0.1**
BBSD Serra de San D 22.40 34 *eP* **P** **05 00 42.7 -0.3**
PANT Pantanal (Braz 22.93 45 *eP* **P** **05 00 48.0 -0.5**
SIV San Ignacio 23.26 32 P **P** **05 00 50.7 -1.2**
comp=Z,173nm,1.0s,baz=215,slow=9.9,SNR=168
SIV S **S** **05 05 02.6 -1.5**
comp=Z,6.1nm,0.9s,baz=207,slow=18,SNR=1.1
SIV LR LR 05 11 47.2
comp=Z,55µm,19.1s,baz=226,slow=42
comp=Z,173nm,1.0s
TIJ01 Guaruva-PR 23.72 69 *eP* **P** **05 00 53.6 -3.0**
PCMB Pacaembu 24.39 58 *eP* **P** **05 01 02.6 -0.1**
FRTB Fartura 24.47 64 *eP* **P** **05 01 02.8 -0.7**
PTLB Pontes e Lacer 24.59 35 P **P** **05 01 04.6 0.0**
PTLB IAmb IAmb 05 01 18.2
comp=Z,397nm,1.2s
PTLB Pontes e Lacer 24.59 35 *eP* **P** **05 01 04.6 0.0**
NNA Nana 24.64 352 P **P** **05 01 05.3 +0.2**
comp=Z,14nm,0.8s,baz=191,slow=10,SNR=7.7
NNA S **S** **05 05 26.7 +0.3**
comp=Z,4.0nm,0.6s,baz=167,slow=14,SNR=1.3
NNA LR LR 05 08 51.3
comp=Z,11µm,19.8s,baz=178,slow=32
comp=Z,14nm,0.8s
NNA Nana 24.64 352 P **P** **05 01 05.8 +0.7**
NNA Nana 24.64 352 ⇑P **P** **05 01 04.8 -0.2**
NNA Nana 24.64 352 *eP* **P** **05 01 04.9 -0.2**
NNA pmax pmax
comp=Z,116nm,0.9s
NNA MLR MLR
comp=Z,23µm,16.0s
PET01 Itanhaem-SP 25.60 69 *eP* **P** **05 01 13.8 +0.1**
SALV Santo Antonio 25.94 42 *eP* **P** **05 01 16.6 -0.2**
ITRB Iturama 26.30 57 *eP* **P** **05 01 20.6 +0.5**
VILB Vilhena 26.35 30 P **P** **05 01 19.9 -0.6**
VILB IAmb IAmb 05 01 57.0
comp=Z,262nm,1.1s
VILB Vilhena 26.35 30 *eP* **P** **05 01 19.6 -0.9**
RCLB Rio Claro- Sao 26.51 65 *eP* **P** **05 01 21.2 -0.9**
VAO Valinhos 26.58 67 *eP* **P** **05 01 22.6 -0.1**
BB19B Bebedouro 26.65 61 *eP* **P** **05 01 23.4 +0.1**
PARB Paraibuna 27.39 69 *eP* **P** **05 01 28.8 -1.1**
ETMB Extrema 27.41 16 P **P** **05 01 31.1 +1.0**
ETMB IAmb IAmb 05 01 33.9
comp=Z,265nm,0.9s
ETMB Extrema 27.41 16 *eP* **P** **05 01 31.2 +1.0**
ARAG Araguaiana, MT 28.32 49 *eP* **P** **05 01 37.5 -0.7**
CZSB Cruzeiro do Su 28.69 2 P **P** **05 01 41.8 +0.3**
CZSB IAmb IAmb 05 01 53.9
comp=Z,86nm,0.8s
CZSB Cruzeiro do Su 28.69 2 *eP* **P** **05 01 40.9 -0.6**
PMSA Palmer Station 28.82 172 P **P** **05 01 42.5 +0.3**
comp=Z,4.0nm,0.3s,baz=280,slow=9.4,SNR=16
PMSA S **S** **05 06 33.7 +2.1**
comp=Z,8.7nm,0.8s,baz=297,slow=16,SNR=2.2
PMSA LR LR 05 12 10.5
comp=Z,9µm,20.7s,baz=342,slow=34
PMSA P3KPbc 05 33 50.5
comp=Z,6.4nm,0.6s,baz=158,slow=5.4,SNR=6.4
comp=Z,4.0nm,0.3s
PMSA Palmer Station 28.82 172 ⇓P **P** **05 01 45.2 +3.0**
PMSA Palmer Station 28.82 172 *eP* **P** **05 01 42.3 +0.1**
MAN01 Angra dos Reis 28.91 70 *eP* **P** **05 01 45.6 +2.2**
IPMB Ipameri, GO 28.95 57 *eP* **P** **05 01 44.1 +0.2**
PDRB Porto dos Gac 29.06 36 *eP* **P** **05 01 44.4 -0.4**
BSCB Bom Sucesso 29.40 66 *eP* **P** **05 01 47.6 -0.3**
ATAH Atahualpa 29.62 350 P **P** **05 01 50.1 -0.1**
comp=Z,2.5nm,0.8s,baz=154,slow=12,SNR=2.2
ATAH S **S** **05 06 47.8 +2.1**
comp=Z,2.1nm,0.7s,baz=18,slow=16,SNR=1.0
ATAH LR LR 05 11 24.2
comp=Z,8µm,21.3s,baz=180,slow=32
comp=Z,2.5nm,0.8s
VAS01 Vassouras-RJ 29.63 70 *eP* **P** **05 01 50.4 +0.5**
PMNB Patos De Minas 29.79 60 ⇑P **P** **05 01 51.2 -0.2**
PMNB Patos De Minas 29.79 60 *eP* **P** **05 01 52.0 +0.6**
CLDB Colider 30.14 36 *eP* **P** **05 01 54.4 0.0**
DUB01 Friburgo-RJ 30.56 70 *eP* **P** **05 01 58.2 +0.1**
BDFB Brasilia 30.76 54 P **P** **05 01 58.8 -1.2**
comp=Z,60nm,0.9s,baz=224,slow=6.8,SNR=32
BDFB S **S** **05 07 00.9 -2.3**
comp=Z,9.0nm,0.9s,baz=180,slow=20,SNR=1.0
BDFB LR LR 05 15 31.1
comp=Z,40µm,21.1s,baz=229,slow=39
comp=Z,60nm,0.9s
BDFB Brasilia 30.76 54 P **P** **05 01 60.0 0.0**
BDFB IAmb IAmb 05 02 27.5
comp=Z,79nm,1.0s
BDFB Brasilia 30.76 54 *eP* **P** **05 01 59.6 -0.4**
BDFB Brasilia 30.76 54 P **P** **05 02 00.0 0.0**
BDFB pmax pmax
comp=Z,79nm,1.0s
HOPE Hope Point 30.97 137 P **P** **05 02 01.8 +0.4**
HOPE Hope Point 30.97 137 IAMs_20 IAMs_20 05 16 10.1
comp=Z,16µm,18.0s
HOPE Hope Point 30.97 137 ⇑P **P** **05 02 03.8 +2.5**
HOPE Hope Point 30.97 137 P **P** **05 02 01.8 +0.4**
HOPE pmax pmax
comp=Z,138nm,1.0s
HOPE MLR MLR
comp=Z,16µm,18.0s
CAM01 Campos-RJ 31.25 71 *eP* **P** **05 02 03.6 -0.5**
SNDB Serra Nova Dou 31.58 45 *eP* **P** **05 02 06.8 -0.3**
RPN Rapa Nui 31.72 277 LR LR 05 11 22.0
comp=Z,25µm,20.4s,baz=126,slow=29
RPN Rapa Nui 31.72 277 IAMs_20 IAMs_20 05 11 09.1
comp=Z,23µm,19.0s
SMAI San Martin Ant 31.84 175 P **P** **05 02 08.8 0.0**
TBTG Tabatinga, AM 32.37 7 P **P** **05 02 14.8 +0.8**
TBTG IAmb IAmb 05 02 18.3
comp=Z,954nm,1.1s
TBTG Tabatinga, AM 32.37 7 *eP* **P** **05 02 14.4 +0.4**
MCRA Macar, Loja 32.57 348 P **P** **05 02 16.5 +0.7**
ALF01 Guarapari-ES 32.66 70 *eP* **P** **05 02 15.0 -1.5**
MC01 Montes Claros 32.77 61 *eP* **P** **05 02 18.0 +0.3**
SJMB Sao Joao De Ma 33.47 67 *eP* **P** **05 02 22.8 -0.9**
BOSC San Juan Bosco 33.55 351 P **P** **05 02 25.1 +0.6**
JANB Januaria 33.66 58 *eP* **P** **05 02 24.8 -0.6**
RIB01 Linhares ES 33.68 68 *eP* **P** **05 02 25.6 0.0**
NPGB Novo Progresso 33.71 34 *eP* **P** **05 02 24.8 -1.0**
COHC Cochancay 34.33 350 P **P** **05 02 32.5 +1.4**
NAN01 Guarapari, ES 34.79 67 *eP* **P** **05 02 34.0 -1.1**
SDBA SAO DESIDERIO 35.17 54 *eP* **P** **05 02 37.9 -0.5**
CHSH Refugio Sur-Vo 35.23 351 P **P** **05 02 39.1 -0.5**
CHSH IAmb IAmb 05 03 16.1
comp=Z,110nm,1.0s
MACA Manacapuru-AM 35.26 23 P **P** **05 02 39.2 +0.1**
MACA IAmb IAmb 05 02 41.8
comp=Z,140nm,0.8s
MACA Manacapuru-AM 35.26 23 *eP* **P** **05 02 38.7 -0.4**
GUA01 Guaratinga, BA 35.83 65 *eP* **P** **05 02 44.3 +0.3**
ITTB Itaituba 35.94 31 *eP* **P** **05 02 43.9 -1.1**
SMTB Santa Maria do 36.23 47 *eP* **P** **05 02 47.5 0.0**
SGCB SÉo Gabriel d 36.73 11 *eP* **P** **05 02 50.3 -1.4**
CMC01 Camacan, BA 36.83 64 *eP* **P** **05 02 50.7 -1.9**
PRPB Parauapebas 37.19 41 *eP* **P** **05 02 55.9 +0.2**
GDU01 Guandu, BA 37.88 62 *eP* **P** **05 03 00.7 -0.9**
MALB Monte Alegre 38.82 32 *eP* **P** **05 03 09.1 -0.4**
PAYG Puerto Ayora 38.94 333 IAMs_20 IAMs_20 05 15 52.4
comp=Z,17µm,18.0s
BOAV Boa Vista 40.58 20 P **P** **05 03 23.8 -0.3**
BOAV IAmb IAmb 05 03 26.7
comp=Z,101nm,1.0s
BOAV Boa Vista 40.58 20 *eP* **P** **05 03 22.2 -1.8**
MCPB Macapa, AP 41.12 34 *eP* **P** **05 03 28.1 -0.5**
ROSC El Rosal 41.18 359 P **P** **05 03 32.4 +3.0**
comp=Z,39nm,0.9s,baz=168,slow=8.5,SNR=28
ROSC S **S** **05 09 44.8 +1.8**
comp=Z,1.8nm,0.4s,baz=180,slow=20,SNR=1.3
TMAB Tom-Au,PA,Br 41.30 40 *eP* **P** **05 03 30.2 +0.2**
ROSB Rosrio 43.05 46 *eP* **P** **05 03 43.0 -1.3**
BELA Belgrano 2 44.60 169 P **P** **05 03 56.4 +0.3**
SDV Santo Domingo 45.27 4 P **P** **05 04 02.0 -0.3**
SDV IAmb IAmb 05 04 05.1
comp=Z,63nm,0.9s
SDV Santo Domingo 45.27 4 IAMs_20 IAMs_20 05 25 11.0
comp=Z,14µm,20.0s
SDV Santo Domingo 45.27 4 *eP* **P** **05 04 02.1 -0.1**
BAUV El Baul 45.53 8 P **P** **05 04 04.2 +0.1**
BAUV El Baul 45.53 8 *eP* P 05 04 09.9 +5.8
MDP Montagnes des 45.79 30 LR LR 05 25 11.7
comp=Z,21µm,19.8s,baz=199,slow=39
MPGF Montagnes des 45.80 30 ⇑P **P** **05 04 05.9 -0.3**
RCBR Riachuelo 45.99 58 LR LR 05 25 02.1
comp=Z,40µm,18.6s,baz=358,slow=38
RCBR Riachuelo 45.99 58 P **P** **05 04 08.1 +0.2**
RCBR Riachuelo 45.99 58 ⇑P **P** **05 04 09.0 +1.1**
RCBR Riachuelo 45.99 58 *eP* **P** **05 04 07.8 -0.1**
RCBR Riachuelo 45.99 58 P **P** **05 04 08.1 +0.2**
RCBR pmax pmax
comp=Z,322nm,1.8s
RCBR MLR MLR
comp=Z,38µm,18.0s
VNA3 Neumayer Olymp 47.47 157 P **P** **05 04 18.8 0.0**
VNA1 Neumayer--Stat 47.82 156 P **P** **05 04 21.5 +0.1**
VNA1 Neumayer--Stat 47.82 156 S **S** **05 11 22.1 +4.4**
JTS Las Juntas de 47.82 345 ⇓*eP* **P** **05 04 20.3 -1.8**
JTS pmax pmax
comp=Z,80nm,1.7s
JTS MLR MLR
comp=Z,5µm,18.0s
ORTG Ortega, Santa 48.00 344 P **P** **05 04 22.8 -0.7**
ORTG IAmb IAmb 05 04 55.6
comp=Z,72nm,1.1s
URIC Uribia, Colomb 48.01 2 P **P** **05 04 21.5 -2.0**
VNA2 Neumayer--Watz 48.15 156 P **P** **05 04 24.0 0.0**
baz=285,slow=9.9
VNA2 S **S** **05 11 23.3 +0.9**
TRIS Tristan da Cun 48.20 110 IAMs_20 IAMs_20 05 24 08.9
comp=Z,11µm,19.0s
TRN Trinidad (W) 48.30 16 *eP* **P** **05 04 27.4 +1.7**
TOSP Speyside 49.12 17 P **P** **05 04 31.8 -0.2**
TOSP Speyside 49.12 17 *eP* P 05 04 22.8 -9.3
GRGR Grenville 49.68 15 P **P** **05 04 36.6 +0.2**
GRGR IAmb IAmb 05 29 13.4
comp=Z,13µm,19.0s
GRGR Grenville 49.68 15 *eP* **P** **05 04 35.0 -1.4**
GRGR Grenville 49.68 15 ⇑P **P** **05 04 36.5 +0.2**
SNAA Sanae 49.69 157 P **P** **05 04 36.0 0.0**
SNAA S **S** **05 11 43.6 -0.7**
SNAA Sanae 49.69 157 P **P** **05 04 36.0 0.0**
comp=Z,47nm,0.9s,baz=297,slow=7.5,SNR=44
SNAA S **S** **05 11 43.0 -1.3**
comp=Z,2.1nm,0.9s,baz=234,slow=19,SNR=1.2
SNAA LR LR 05 24 51.5
comp=Z,7µm,18.9s,baz=283,slow=35
comp=Z,47nm,0.9s
SNAA Sanae 49.69 157 P **P** **05 04 36.4 +0.4**
SNAA Sanae 49.69 157 *eP* **P** **05 04 35.0 -0.9**
SNAA Sanae 49.69 157 *c iP* **P** **05 04 35.8 -0.2**
SNAA pmax pmax
comp=Z,226nm,1.3s
SNAA MLR MLR
comp=Z,8µm,16.0s
BOAB BOACO BROADBAN 50.07 344 P **P** **05 04 39.0 -0.3**
BOAB IAmb IAmb 05 21 01.6
comp=Z,8µm,19.0s
GCMP Grenada, Carri 50.08 15 *eP* **P** **05 04 36.9 -2.4**
SVB Belmont 50.87 15 P **P** **05 04 45.3 -0.1**
SVB Belmont 50.87 15 *eP* **P** **05 04 41.4 -4.0**
BBSP Saint Philip 51.12 18 *eP* P 05 04 52.2 +4.9
BBGH Gun Hill 51.14 18 IAMs_20 IAMs_20 05 27 20.0
comp=Z,13µm,22.0s
BBGH Gun Hill 51.14 18 *eP* **P** **05 04 43.7 -3.6**
MCLT Moule a Chique 51.37 16 P **P** **05 04 51.0 +2.0**
MCLT Moule a Chique 51.37 16 *eP* P 05 04 41.4 -7.7
TROLL Troll, Antarti 51.39 157 P **P** **05 04 49.0 +0.2**
TROLL S **S** **05 12 08.4 +0.5**
TGUH Tegucigalpa,Un 51.98 343 P **P** **05 04 54.1 +0.3**
MPOM Morne Pois Mar 52.09 16 P **P** **05 04 54.4 -0.1**
MPOM Morne Pois Mar 52.09 16 *eP* P 05 04 47.3 -7.2
BIM Bigot 52.12 15 P **P** **05 04 55.0 +0.3**
BIM Bigot 52.12 15 *eP* **P** **05 04 55.4 +0.6**
FDF Fort de France 52.31 15 P **P** **05 04 56.3 +0.1**
FDF IAmb IAmb 05 30 46.2
comp=Z,9µm,19.0s
FDF Fort de France 52.31 15 *eP* P 05 04 50.7 -5.5
FDF Fort de France 52.31 15 ⇑P **P** **05 04 55.3 -0.9**
FDF Fort de France 52.31 15 P **P** **05 04 56.3 +0.1**
FDF pmax pmax
comp=Z,167nm,1.1s
FDF MLR MLR
comp=Z,9µm,19.0s
ILAM Ilet Lapin Mar 52.41 15 *eP* P 05 05 04.7 +7.8
MTO3 Montecristo 52.84 341 P **P** **05 04 59.9 -0.4**
DLPL La Plaine 52.88 15 *eP* P 05 05 10.7 +10
DSLB Salisbury 52.94 15 *eP* **P** **05 04 58.8 -2.0**
TDBA Terre de Bas, 53.30 14 IAMs_20 IAMs_20 05 30 54.3
comp=Z,7µm,21.0s
TDBA Terre de Bas, 53.30 14 *eP* P 05 04 58.1 -5.3
MAGL Barre de l'ile 53.47 15 IAMs_20 IAMs_20 05 30 48.6
comp=Z,8µm,20.0s
MAGL Barre de l'ile 53.47 15 *eP* **P** **05 05 02.8 -1.8**
CBE Ff, Capester 53.52 14 IAMs_20 IAMs_20 05 31 01.9
comp=Z,7µm,20.0s
CBE Ff, Capester 53.52 14 *eP* P 05 04 58.1 -6.9
GDHS Morne Mazeau, 53.69 14 P **P** **05 05 06.2 0.0**
GDHS IAMs_20 IAMs_20 05 31 07.4
comp=Z,8µm,18.0s
QSPA South Pole Qui 53.70 180 P **P** **05 05 06.3 +0.3**
comp=Z,74nm,0.9s,baz=144,slow=2.3,SNR=74
QSPA S **S** **05 12 40.7 +1.0**
comp=Z,3.2nm,1.1s,baz=156,slow=20,SNR=2.1
comp=Z,74nm,0.9s
QSPA South Pole Qui 53.70 180 P **P** **05 05 06.3 +0.3**
QSPA IAmb IAmb 05 05 10.8
comp=Z,72nm,0.8s
GDSD La Dsirade Is 53.86 15 P **P** **05 05 07.1 -0.4**
GDSD IAmb IAmb 05 05 08.8
comp=Z,72nm,1.0s
GDSD IAMs_20 IAMs_20 05 30 59.2
comp=Z,7µm,21.0s
ABD La Joyeuse, An 53.94 14 IAMs_20 IAMs_20 05 31 33.1
comp=Z,8µm,19.0s
ABD La Joyeuse, An 53.94 14 *eP* **P** **05 05 03.6 -4.4**
NVL N'lazarevskaya 54.47 156 *eP* **P** **05 05 10.1 -1.3**
NVL *eS* **S** **05 12 43.1 -6.5**
NVL pmax pmax
comp=Z,112nm,1.1s
MLPR Magueyes Islan 54.56 8 P **P** **05 05 12.2 -0.4**
CRPR Cabo Rojo, PR 54.59 7 P **P** **05 05 11.7 -1.1**
SEUS St. Eustatius 54.65 12 IAMs_20 IAMs_20 05 32 03.0
comp=Z,12µm,18.0s
SEUS St. Eustatius 54.65 12 *eP* **P** **05 05 09.3 -4.0**
CELP Cerrillos 54.71 8 P **P** **05 05 13.3 -0.4**
PRSN Puerto Rico Se 54.79 7 P **P** **05 05 14.4 +0.1**
PRSN IAmb IAmb 05 05 16.1
comp=Z,93nm,1.1s
SJG San Juan 54.80 9 IAMs_20 IAMs_20 05 32 54.7
comp=Z,10µm,19.0s
SJG San Juan 54.80 9 *eP* P 05 05 04.7 -10
SDD Santo Domingo 54.81 4 P **P** **05 05 13.8 -0.5**
HUMP Col San Antoni 54.87 9 P **P** **05 05 14.1 -0.7**
AOPR Arecibo Observ 54.96 8 P **P** **05 05 14.3 -1.2**
CBYP Canovanas 54.99 9 P **P** **05 05 14.8 -1.0**
GCPR Guaynabo City 55.00 9 P **P** **05 05 14.5 -1.3**
GCPR IAmb IAmb 05 05 16.9
comp=Z,66nm,1.1s
ANWB Willy Bob 55.04 14 IAMs_20 IAMs_20 05 31 39.3
comp=Z,9µm,19.0s
ANWB Willy Bob 55.04 14 *eP* **P** **05 05 14.7 -1.4**
CUPR Culebra, Puert 55.10 10 P **P** **05 05 15.8 -0.6**
SMRT St. Maarten 55.18 12 P **P** **05 05 17.1 -0.1**
SMRT IAmb IAmb 05 05 28.6
comp=Z,101nm,1.4s
SMRT IAMs_20 IAMs_20 05 32 38.1
comp=Z,9µm,19.0s
SMRT St. Maarten 55.18 12 *eP* **P** **05 05 13.9 -3.2**
SDDR Presa de Saban 55.26 3 P **P** **05 05 15.9 -1.8**
SDDR IAmb IAmb 05 06 06.1
comp=Z,53nm,0.9s
SDDR IAMs_20 IAMs_20 05 32 18.9
comp=Z,6µm,18.0s
PETF Flores 55.38 341 P **P** **05 05 18.6 0.0**
PETF IAmb IAmb 05 05 53.6
comp=Z,63nm,1.0s
CMIG Matias Romero 57.05 335 LR LR 05 25 59.1
comp=Z,3µm,18.1s,baz=154,slow=32
TEIG Tepich 58.17 344 P **P** **05 05 38.0 -0.3**
TEIG IAmb IAmb 05 05 53.5
comp=Z,64nm,0.9s
TEIG Tepich 58.17 344 ⇓P **P** **05 05 38.8 +0.5**
SOR Soroa 59.70 350 P **P** **05 05 48.8 -0.1**
SOR Soroa 59.70 350 P **P** **05 05 48.8 -0.1**
SOR pmax pmax
comp=Z,125nm,1.3s
SBA Scott Base 60.35 192 P **P** **05 05 53.3 +0.6**
SBA IAmb IAmb 05 06 12.7
comp=Z,75nm,1.6s
SBA Scott Base 60.35 192 P **P** **05 05 53.3 +0.6**
SBA pmax pmax
comp=Z,75nm,1.6s
ASCN Ascension 60.61 77 P **P** **05 05 55.2 -0.3**
ASCN IAMs_20 IAMs_20 05 29 44.7
comp=Z,11µm,20.0s
UNM Universidad Na 60.65 332 IAMs_20 IAMs_20 05 26 09.6
comp=Z,9µm,20.0s
VNDA Vanda 61.38 192 P **P** **05 06 00.9 +1.1**
comp=Z,8.7nm,1.1s,baz=158,slow=5.6,SNR=18
VNDA S **S** **05 14 24.7 +4.8**
comp=Z,0.5nm,0.9s,baz=69,slow=17,SNR=1.1
VNDA LR LR 05 29 17.1
comp=Z,4µm,18.8s,baz=126,slow=33
VNDA PKPPKP **P'P'df** **05 35 14.3 -7.2**
comp=Z,0.8nm,0.9s,baz=331,slow=2.9,SNR=3.2
comp=Z,8.7nm,1.1s
VNDA Vanda 61.38 192 P **P** **05 05 59.5 -0.3**
VNDA IAmb IAmb 05 06 28.5
comp=Z,65nm,1.5s
VNDA Vanda 61.38 192 P **P** **05 05 59.5 -0.3**
VNDA pmax pmax
comp=Z,65nm,1.5s
SHEL Horse Pasture 62.90 90 IAMs_20 IAMs_20 05 28 51.0
comp=Z,11µm,21.0s
DWPF Disney Wildern 64.75 352 P **P** **05 06 23.3 +0.7**
baz=173
TBI Tubuai 65.61 258 *eP* **P** **05 06 28.4 -0.2**
comp=Z,3µm,27.8s
TBI *eS* **S** **05 15 10.9 -3.2**
comp=Z,15µm,25.2s
TBI Tubuai 65.61 258 *e*LR LR 05 26 04.0
comp=Z,63µm,26.2s
TBI *e*LR LR 05 26 04.2
comp=Z,228µm,24.5s
TBI Tubuai 65.61 258 *e*T T 06 17 35.5
comp=Z,5.5nm,0.3s
TAOE Nuku Hiva Isla 66.06 277 *eP* **P** **05 06 31.4 -0.3**
comp=Z,863nm,24.3s
TAOE *eS* **S** **05 15 16.4 -3.6**
comp=Z,2µm,22.7s
TAOE *eSS* **SS** **05 19 32.6 -2.8**
comp=Z,1µm,25.9s
TAOE *e*LR LR 05 26 16.8
comp=Z,12µm,27.0s
MEH Mehetia 67.37 264 *e*T T 06 19 45.8
comp=Z,173nm,0.2s
TIGA Tifton 68.29 351 P **P** **05 06 44.5 -0.8**
TIGA Tifton 68.29 351 P **P** **05 06 45.7 +0.5**
baz=171
TIGA S **S** **05 15 43.2 -2.6**
baz=171
352A Blakely 68.52 350 P **P** **05 06 47.0 +0.3**
352A Blakely 68.52 350 P **P** **05 06 48.3 +1.6**
baz=170
BRAL Brewton 68.55 348 P **P** **05 06 46.4 -0.5**
baz=168
TIAR Tiarei 68.57 264 *eP* **P** **05 06 48.8 +1.3**
comp=Z,13nm,1.0s
TIAR Tiarei 68.57 264 *e*T T 06 21 18.4
comp=Z,11nm,0.3s
PAE Paea 68.70 263 *eP* **P** **05 06 48.9 +0.6**
comp=Z,22nm,1.2s
PAE Paea 68.70 263 *e*T T 06 21 25.3
comp=Z,1.5nm,0.3s
PPT2 Papeete2 68.74 263 *eP* **P** **05 06 48.9 +0.3**
comp=Z,128nm,1.2s
PPT2 *eS* **S** **05 15 48.7 -3.4**
comp=Z,6µm,23.0s
PPT2 Papeete2 68.74 263 *e*LR LR 05 27 30.9
comp=Z,19µm,24.2s
PPT2 *e*LR LR 05 27 31.0
comp=Z,14µm,26.0s
PPT Papeete 68.75 263 P **P** **05 06 50.5 +1.9**
comp=Z,36nm,0.8s,baz=90,slow=3.1,SNR=5.8
PPT LR LR 05 29 10.2
comp=Z,11µm,19.4s,baz=108,slow=29
comp=Z,36nm,0.8s
833A Chaparral WMA, 68.98 336 P **P** **05 06 49.5 -0.1**
833A IAmb IAmb 05 07 42.2
comp=Z,58nm,1.0s
833A Chaparral WMA, 68.98 336 P **P** **05 06 50.4 +0.8**
baz=158
833A S **S** **05 15 54.3 +0.2**
baz=158
SLBS Sierra La Lagu 69.09 324 IAMs_20 IAMs_20 05 30 36.0
comp=Z,7µm,20.0s
346A Big Creek Wild 69.22 345 P **P** **05 06 51.4 +0.4**
154A Montrose 69.39 351 P **P** **05 06 51.5 -0.5**
154A Montrose 69.39 351 P **P** **05 06 51.8 -0.3**
baz=172
HKT Hockley 69.40 339 P **P** **05 06 52.7 +0.6**
HKT Hockley 69.40 339 P **P** **05 06 54.3 +2.3**
baz=161
HKT Hockley 69.40 339 P **P** **05 06 52.7 +0.6**
HKT pmax pmax
comp=Z,26nm,1.2s
344A Westbrook Farm 69.55 344 P **P** **05 06 53.3 +0.3**
344A IAmb IAmb 05 07 26.4
comp=Z,49nm,1.1s
NHSC New Hope 69.57 354 P **P** **05 06 53.7 +0.5**
NHSC New Hope 69.57 354 P **P** **05 06 54.3 +1.1**
baz=174
LPIG La Paz 69.62 324 LR LR 05 31 02.2
comp=Z,8µm,18.0s,baz=150,slow=30
152A Waverly Hall 69.65 350 P **P** **05 06 53.7 0.0**
152A IAmb IAmb 05 07 17.7
comp=Z,44nm,1.2s
152A Waverly Hall 69.65 350 P **P** **05 06 53.2 -0.5**
baz=171
342B Flagon Creek P 69.84 343 P **P** **05 06 55.7 +0.8**
baz=164,SNR=12
HAW Hawthorne Fire 69.96 353 P **P** **05 06 55.9 +0.4**
baz=173,SNR=5.6
HPIG 70.04 330 P **P** **05 06 56.0 -0.5**
HPIG IAmb IAmb 05 07 09.2
comp=Z,39nm,1.1s
HPIG 70.04 330 ⇑P P 05 07 02.5 +6.0
GOGA Godfrey 70.22 351 P **P** **05 06 57.4 +0.3**
GOGA Godfrey 70.22 351 P **P** **05 06 58.1 +1.0**
baz=172,SNR=6.7
GOGA Godfrey 70.22 351 P **P** **05 06 57.6 +0.4**
baz=172,SNR=6.7
GOGA S **S** **05 16 05.0 -3.5**
baz=172
GOGA Godfrey 70.22 351 P **P** **05 06 57.4 +0.3**
GOGA pmax pmax
comp=Z,176nm,1.9s
VBMS Vicksburg 70.24 345 P **P** **05 06 57.1 -0.1**
VBMS Vicksburg 70.24 345 P **P** **05 06 58.5 +1.2**

baz=166
VBMS Vicksburg 70.24 345 P **P** **05 06 58.8 +1.5**
baz=166
VBMS S **S** **05 16 09.1 +0.3**
baz=166
146A Union 70.35 346 P **P** **05 06 57.7 -0.3**
Z51A Franklin 70.36 350 P **P** **05 06 58.1 +0.1**
LRAL Lakeview Retre 70.36 348 P **P** **05 06 57.7 -0.4**
LRAL IAmb IAmb 05 07 22.8
comp=Z,51nm,1.2s
LRAL Lakeview Retre 70.36 348 P **P** **05 06 58.1 +0.1**
baz=169,SNR=7.0
LRAL Lakeview Retre 70.36 348 P **P** **05 06 59.3 +1.3**
baz=169
LRAL S **S** **05 16 08.4 -1.8**
baz=169
Y57A Sumter 70.50 354 P **P** **05 06 58.9 0.0**
Y57A IAmb IAmb 05 07 01.7
comp=Z,84nm,1.4s
435B Jarrell 70.69 338 P **P** **05 07 01.5 +1.4**
baz=160
435B S **S** **05 16 14.2 +0.1**
baz=160
Z47A Carrollton 70.71 347 P **P** **05 07 00.0 -0.1**
Z47A Carrollton 70.71 347 P **P** **05 07 00.3 +0.1**
baz=168,SNR=18
Y52A Lilburn 70.74 351 P **P** **05 06 60.0 -0.3**
Y52A IAmb IAmb 05 07 44.0
comp=Z,61nm,1.1s
Y52A Lilburn 70.74 351 P **P** **05 07 00.0 -0.3**
baz=171,SNR=6.7
Y52A P **P** **05 07 00.0 -0.3**
baz=171,SNR=6.7
NATX Nacogdoches 70.79 341 P **P** **05 07 02.0 +1.4**
baz=162
NATX S **S** **05 16 18.5 +3.3**
baz=162
JSC Jenkinsville 70.84 353 P **P** **05 07 00.5 -0.4**
JSC IAmb IAmb 05 07 03.7
comp=Z,65nm,1.3s
JSC Jenkinsville 70.84 353 P **P** **05 07 00.4 -0.4**
baz=174,SNR=5.3
JSC Jenkinsville 70.84 353 P **P** **05 07 00.5 -0.4**
JSC pmax pmax
comp=Z,65nm,1.3s
HODGE Hodges 70.89 352 P **P** **05 07 01.0 -0.2**
HODGE Hodges 70.89 352 P **P** **05 06 59.8 -1.5**
baz=173,SNR=5.7
143A Socs Landing, 70.90 344 P **P** **05 07 02.8 +1.5**
baz=165,SNR=12
Y49A Blount Mountai 71.07 349 P **P** **05 07 02.4 0.0**
Y49A IAmb IAmb 05 07 05.5
comp=Z,62nm,1.4s
MAW Mawson 71.08 164 P **P** **05 07 01.9 -0.1**
comp=Z,24nm,0.9s,baz=227,slow=6.6,SNR=19
MAW S **S** **05 16 18.0 +0.1**
comp=Z,1.2nm,0.8s,baz=262,slow=15,SNR=1.6
MAW LR LR 05 38 08.6
comp=Z,7µm,20.4s,baz=228,slow=36
comp=Z,24nm,0.9s
MAW Mawson 71.08 164 P **P** **05 07 02.5 +0.4**
MAW Mawson 71.08 164 ⇓P **P** **05 07 02.8 +0.7**
MAW Mawson 71.08 164 P **P** **05 07 02.5 +0.4**
JCT Junction City 71.10 336 P **P** **05 07 02.6 -0.1**
JCT IAmb IAmb 05 07 34.5
comp=Z,62nm,1.1s
JCT Junction City 71.10 336 P **P** **05 07 03.2 +0.5**
baz=158,SNR=19
JCT Junction City 71.10 336 P **P** **05 07 04.0 +1.3**
baz=158
JCT S **S** **05 16 21.3 +2.3**
baz=158
JCT Junction City 71.10 336 ⇑P **P** **05 07 05.2 +2.6**
JCT Junction City 71.10 336 P **P** **05 07 02.6 -0.1**
JCT pmax pmax
comp=Z,62nm,1.1s
BIRD Birdtown, Kers 71.12 354 IAmb IAmb 05 07 44.6
comp=Z,47nm,1.3s
237A Washetta, Mont 71.32 340 P **P** **05 07 04.4 +0.5**
baz=161
TX31 Lajitas Ar. Si 71.41 332 P **P** **05 07 05.0 +0.4**
baz=155,SNR=34
TX32 Lajitas Array 71.41 332 IAmb IAmb 05 07 17.2
comp=Z,149nm,1.9s
TXAR Lajitas Array 71.41 332 P **P** **05 07 05.4 +0.8**
comp=Z,5.4nm,0.7s,baz=153,slow=8.4,SNR=40
TXAR LR LR 05 34 07.9
comp=Z,8µm,18.1s,baz=142,slow=32
comp=Z,5.4nm,0.7s
PAULI Pauline 71.42 353 IAmb IAmb 05 07 07.5
comp=Z,85nm,1.2s
PAULI Pauline 71.42 353 P **P** **05 07 04.8 +0.3**
baz=173,SNR=6.4
CNNC Cliffs of the 71.54 356 IAmb IAmb 05 07 37.0
comp=Z,43nm,0.9s
CNNC Cliffs of the 71.54 356 P **P** **05 07 05.4 +0.3**
baz=176
CNNC Cliffs of the 71.54 356 P **P** **05 07 06.1 +1.0**
baz=176
CNNC S **S** **05 16 24.5 +0.7**
baz=176
X51A Calhoun 71.54 350 IAmb IAmb 05 07 26.1
comp=Z,74nm,0.9s
X51A Calhoun 71.54 350 P **P** **05 07 05.5 +0.3**
baz=170,SNR=7.0
X51A P **P** **05 07 05.5 +0.3**
baz=170,SNR=7.0
W57A Gilead 71.59 354 IAmb IAmb 05 07 30.1
comp=Z,55nm,1.1s
FPAL Fort Paine 71.62 349 IAmb IAmb 05 07 08.7
comp=Z,134nm,1.7s
Y45A Yeager Farm, C 71.64 346 P **P** **05 07 05.9 +0.1**
baz=167,SNR=10
KMSC Kings Mountain 71.70 353 IAmb IAmb 05 07 08.9
comp=Z,49nm,1.1s
KMSC Kings Mountain 71.70 353 P **P** **05 07 04.0 -2.1**
baz=174,SNR=5.2
KMSC Kings Mountain 71.70 353 P **P** **05 07 06.3 +0.2**
baz=174,SNR=5.2
KMSC S **S** **05 16 23.3 -2.3**
baz=174
BG3 Lake Jocassee 71.72 352 IAmb IAmb 05 07 21.7
comp=Z,40nm,0.8s
CASEE Lake Jocassee 71.72 352 P **P** **05 07 05.9 -0.3**
baz=172,SNR=9.4
X48A Hartselle 71.76 348 P **P** **05 07 06.1 -0.4**
baz=169,SNR=22
WHTX Lake Whitney, 71.78 339 IAmb IAmb 05 07 18.7
comp=Z,60nm,0.9s
WHTX Lake Whitney, 71.78 339 P **P** **05 07 06.9 +0.2**
baz=160,SNR=19
WHTX Lake Whitney, 71.78 339 P **P** **05 07 06.5 -0.2**
baz=160
WHTX S **S** **05 16 27.1 +0.3**
baz=160
W52A Murphy 71.94 351 P **P** **05 07 07.9 +0.3**
baz=171,SNR=5.4
V58A Windy Hill, Pi 72.16 355 P **P** **05 07 08.4 -0.5**
baz=175
V58A P **P** **05 07 08.4 -0.5**
baz=175
W50A Signal Mountai 72.22 350 P **P** **05 07 09.8 +0.4**
baz=170,SNR=16
Z38A Mt. Pleasant 72.29 341 P **P** **05 07 10.8 +1.1**
baz=162
CPCT Cooper Cave 72.36 351 IAmb IAmb 05 07 25.4
comp=Z,53nm,0.9s
V53A Saluda 72.37 352 P **P** **05 07 10.4 +0.2**
baz=172,SNR=8.4
V53A P **P** **05 07 10.4 +0.2**
baz=172,SNR=8.4
V55A Taylorsville 72.39 353 IAmb IAmb 05 07 35.2
comp=Z,76nm,1.2s
V55A Taylorsville 72.39 353 P **P** **05 07 10.4 +0.2**
baz=174,SNR=10.0
V55A P **P** **05 07 10.4 +0.2**
baz=174,SNR=10.0
TKL Tuckaleechee C 72.47 351 IAmb IAmb 05 07 13.4
comp=Z,58nm,1.2s
TKL Tuckaleechee C 72.47 351 P **P** **05 07 10.5 -0.3**
baz=172,SNR=6.4
V52A Sevierville 72.63 351 IAmb IAmb 05 07 14.2
comp=Z,100nm,1.4s
V52A Sevierville 72.63 351 P **P** **05 07 11.4 -0.3**
baz=172,SNR=11
U59A Littleton 72.64 356 IAmb IAmb 05 07 15.1
comp=Z,84nm,1.4s
U59A Littleton 72.64 356 P **P** **05 07 12.2 +0.5**
baz=176,SNR=5.1
U59A P **P** **05 07 12.2 +0.5**
baz=176,SNR=5.1
ELIM Elim 72.68 120 *e*P **P** **05 07 12.0 -0.4**
ELIM IAmb IAmb 05 07 15.2
comp=Z,597nm,2.8s
V51A Loudon 72.69 351 IAmb IAmb 05 07 37.9
comp=Z,41nm,0.9s
V51A Loudon 72.69 351 P **P** **05 07 11.8 -0.3**
baz=171,SNR=7.9
U56A King 72.81 354 IAmb IAmb 05 07 15.8
comp=Z,64nm,1.1s
U56A King 72.81 354 P **P** **05 07 13.2 +0.4**
baz=174,SNR=7.0
U56A P **P** **05 07 13.2 +0.4**
baz=174,SNR=7.0
W45A Hickory Valley 72.82 347 P **P** **05 07 13.2 +0.4**
baz=167,SNR=8.4
Z35A Perchaven, San 72.98 339 P **P** **05 07 14.7 +0.9**
baz=160,SNR=30
V48A Smith Brothers 72.98 349 P **P** **05 07 14.1 +0.3**
baz=169,SNR=43
CER Ceres 73.03 119 *e*P **P** **05 07 15.1 +0.7**
CER IAmb IAmb 05 07 17.6
comp=Z,162nm,1.0s
ABTX Abilene, Hawle 73.03 337 IAmb IAmb 05 07 22.5
comp=Z,70nm,1.2s
ABTX Abilene, Hawle 73.03 337 P **P** **05 07 14.7 +0.5**
baz=158,SNR=30
ABTX Abilene, Hawle 73.03 337 P **P** **05 07 14.2 0.0**
baz=158
ABTX S **S** **05 16 40.2 -1.0**
baz=158
U54A Nelsons Funny 73.11 353 IAmb IAmb 05 07 22.1
comp=Z,48nm,0.8s
U54A Nelsons Funny 73.11 353 P **P** **05 07 14.3 -0.3**
baz=173
U54A P **P** **05 07 14.3 -0.3**
baz=173
MIAR Mount Ida 73.17 343 P **P** **05 07 14.9 0.0**
baz=163,SNR=6.9
MIAR Mount Ida 73.17 343 P **P** **05 07 14.6 -0.3**
baz=163
MIAR S **S** **05 16 42.7 +0.2**
baz=163
MIAR Mount Ida 73.17 343 ⇓P **P** **05 07 16.0 +1.1**
T59A Double "B" Far 73.25 357 IAmb IAmb 05 07 18.6
comp=Z,88nm,1.2s
T59A Double "B" Far 73.25 357 P **P** **05 07 15.6 +0.3**
baz=177
T59A P **P** **05 07 15.6 +0.3**
baz=177
CLTN Cedars of Leba 73.25 349 IAmb IAmb 05 07 30.9
comp=Z,70nm,1.0s
TZTN Tazewell 73.32 352 IAmb IAmb 05 07 18.4
comp=Z,140nm,1.6s
TZTN Tazewell 73.32 352 P **P** **05 07 15.7 0.0**
baz=172,SNR=5.3
TZTN Tazewell 73.32 352 P **P** **05 07 15.8 +0.1**
baz=172,SNR=5.3
TZTN S **S** **05 16 41.7 -2.5**
baz=172
T57A Hurt 73.37 355 IAmb IAmb 05 07 18.9
comp=Z,56nm,1.2s
T57A Hurt 73.37 355 P **P** **05 07 15.9 -0.1**
baz=175
T57A P **P** **05 07 15.9 -0.1**
baz=175
MBO M'Bour 73.50 57 P **P** **05 07 16.8 -0.4**
WVT Waverly 73.53 348 P **P** **05 07 17.0 0.0**
WVT Waverly 73.53 348 P **P** **05 07 16.8 -0.2**
baz=168,SNR=30
WVT Waverly 73.53 348 P **P** **05 07 18.1 +1.2**
baz=168
WVT S **S** **05 16 44.4 -2.1**
baz=168
WVT Waverly 73.53 348 ⇑P **P** **05 07 16.7 -0.2**
WVT Waverly 73.53 348 P **P** **05 07 17.0 0.0**
WVT pmax pmax
comp=Z,149nm,1.3s
U49A Red Boiling Sp 73.58 350 P **P** **05 07 17.0 -0.2**
baz=170,SNR=7.3
WHAR Wooly Hollow 73.58 344 IAmb IAmb 05 07 48.5
comp=Z,68nm,1.0s
X37A Clayton 73.65 341 P **P** **05 07 19.4 +1.6**
baz=162
KOMG Komaggas 73.66 115 *e*P **P** **05 07 18.6 +0.4**
KOMG IAmb IAmb 05 07 21.6
comp=Z,434nm,1.8s
BLA Blacksburg 73.67 354 P **P** **05 07 18.1 +0.2**
baz=174
BLA S **SKiKP** **05 16 45.9 -1.8**
baz=174
T50A Nancy 73.95 351 IAmb IAmb 05 07 22.0
comp=Z,111nm,1.8s
T50A Nancy 73.95 351 P **P** **05 07 18.7 -0.8**
baz=171
T50A P **P** **05 07 18.7 -0.8**
baz=171
BBTS Babate 73.98 58 LR LR 05 39 27.0
comp=Z,23µm,18.4s,baz=233,slow=36
MATJ Matjiesfontein 73.99 120 *e*P **P** **05 07 20.9 +0.7**
MATJ IAmb IAmb 05 07 23.4
comp=Z,107nm,0.9s
LCAR Lake Charles 74.09 345 IAmb IAmb 05 07 50.4
comp=Z,63nm,0.8s
LCAR Lake Charles 74.09 345 P **P** **05 07 20.2 -0.1**
baz=166,SNR=10.0
S57A Dark Hollow, R 74.11 355 IAmb IAmb 05 07 23.4
comp=Z,62nm,1.2s
S57A Dark Hollow, R 74.11 355 P **P** **05 07 20.4 +0.1**
baz=176,SNR=7.2
S57A P **P** **05 07 20.4 +0.1**
baz=176,SNR=7.2
HSIG 74.12 326 IAmb IAmb 05 07 33.6
comp=Z,157nm,2.0s
FCAR Ozark Folk Cen 74.12 344 IAmb IAmb 05 07 50.6
comp=Z,47nm,0.9s
T47A Sharon Grove 74.25 349 IAmb IAmb 05 07 23.7
comp=Z,70nm,1.1s
T47A Sharon Grove 74.25 349 P **P** **05 07 21.0 -0.1**
baz=169,SNR=12
R58B Mineral 74.25 356 IAmb IAmb 05 07 24.8
comp=Z,90nm,1.3s
R58B Mineral 74.25 356 P **P** **05 07 23.7 +2.5**
baz=176,SNR=9.8
R58B P **P** **05 07 23.7 +2.5**
baz=176,SNR=9.8
S54A Dingess, Beckl 74.33 354 IAmb IAmb 05 07 24.1
comp=Z,54nm,1.1s
X34A Smith Ranch, M 74.33 339 IAmb IAmb 05 07 33.7
comp=Z,69nm,1.1s
CVNA Calvinia 74.38 118 *e*P **P** **05 07 23.4 +0.9**
CVNA IAmb IAmb 05 07 26.0
comp=Z,234nm,1.4s
S51A Beattyville 74.41 352 IAmb IAmb 05 07 37.7
comp=Z,46nm,0.8s
S51A Beattyville 74.41 352 P **P** **05 07 22.2 +0.1**
baz=172,SNR=14
S51A P **P** **05 07 22.2 +0.1**
baz=172,SNR=14
CBN Corbin Frederi 74.47 357 P **P** **05 07 23.3 +0.9**
baz=177
CBN S **S** **05 16 56.8 -0.2**
baz=177
SUR Sutherland 74.63 119 LR LR 05 39 20.1
comp=Z,8µm,18.0s,baz=232,slow=35
SUR Sutherland 74.63 119 P **P** **05 07 23.7 -0.4**
SUR Sutherland 74.63 119 P **P** **05 07 25.0 +0.9**
SUR Sutherland 74.63 119 ⇓P **P** **05 07 25.3 +1.2**
EPT El Paso 74.67 331 IAMs_20 IAMs_20 05 35 05.9
comp=Z,6µm,20.0s
R55A Marlinton 74.71 355 IAmb IAmb 05 07 27.2
comp=Z,64nm,1.1s
R55A Marlinton 74.71 355 P **P** **05 07 24.4 +0.5**
baz=175,SNR=6.5
R55A P **P** **05 07 24.4 +0.5**
baz=175,SNR=6.5
WMOK Wichita Mounta 74.73 339 IAmb IAmb 05 07 35.6
comp=Z,64nm,1.4s
WMOK Wichita Mounta 74.73 339 P **P** **05 07 23.9 -0.2**
baz=159,SNR=14
WMOK Wichita Mounta 74.73 339 P **P** **05 07 24.5 +0.3**
baz=159
WMOK S **S** **05 16 57.4 -2.8**
baz=159
WMOK Wichita Mounta 74.73 339 ⇓P **P** **05 07 24.2 +0.1**
RAR Rarotonga 74.82 255 LR LR 05 32 47.2
comp=Z,4µm,18.1s,baz=169,slow=30
RAR Rarotonga 74.82 255 IAMs_20 IAMs_20 05 33 19.7
comp=Z,6µm,18.0s
FNO Franklin 74.83 340 IAmb IAmb 05 07 55.5
comp=Z,60nm,1.0s
HHAR Hobbs 74.91 343 P **P** **05 07 25.1 +0.1**
baz=163
R53A Hurricane 74.92 353 IAmb IAmb 05 07 27.7
comp=Z,71nm,1.4s
R53A Hurricane 74.92 353 P **P** **05 07 24.6 -0.5**
baz=173
R53A P **P** **05 07 24.6 -0.5**
baz=173
MERW Merweville 74.97 120 *e*P **P** **05 07 26.6 +0.6**
MERW IAmb IAmb 05 07 28.8
comp=Z,96nm,0.9s
TUL1 Leonard 75.01 341 IAmb IAmb 05 07 56.1
comp=Z,72nm,0.9s
TUL1 Leonard 75.01 341 P **P** **05 07 25.9 +0.2**
baz=162,SNR=15
TUL1 Leonard 75.01 341 P **P** **05 07 25.7 0.0**
baz=162
TUL1 S **S** **05 17 01.2 -2.1**
baz=162
RLO Rose Lookout 75.06 342 IAmb IAmb 05 09 00.9
comp=Z,164nm,0.2s
R50A Paris 75.13 351 IAmb IAmb 05 07 28.8
comp=Z,80nm,1.5s
R50A Paris 75.13 351 P **P** **05 07 25.5 -0.8**
baz=171,SNR=7.3
R50A P **P** **05 07 25.5 -0.8**
baz=171,SNR=7.3
DEOK Depew 75.13 341 IAmb IAmb 05 07 57.0
comp=Z,108nm,1.0s
U38A Gravette 75.17 343 IAmb IAmb 05 07 38.0
comp=Z,90nm,1.9s
U38A Gravette 75.17 343 P **P** **05 07 27.6 +1.1**
baz=163
R49A Shelbyville 75.25 351 P **P** **05 07 26.6 -0.4**
baz=170,SNR=7.9
R49A P **P** **05 07 26.6 -0.4**
baz=170,SNR=7.9
BCOK Bluff Creek, N 75.26 340 IAmb IAmb 05 07 57.8
comp=Z,63nm,1.1s
MSTX Muleshoe 75.29 335 IAmb IAmb 05 07 35.6
comp=Z,57nm,1.2s
MSTX Muleshoe 75.29 335 P **P** **05 07 27.9 +0.4**
baz=156,SNR=14
MSTX Muleshoe 75.29 335 P **P** **05 07 27.9 +0.4**
baz=156
MSTX S **S** **05 17 06.2 -0.5**
baz=156
FRAZ Fraserburg 75.31 119 *e*P **P** **05 07 28.9 +1.0**
FRAZ IAmb IAmb 05 07 31.2
comp=Z,512nm,1.8s
OK031 S. Brethren Rd 75.33 341 IAmb IAmb 05 07 58.1
comp=Z,80nm,0.9s
WCI Wyandotte Cave 75.34 350 P **P** **05 07 27.5 0.0**
WCI Wyandotte Cave 75.34 350 P **P** **05 07 28.0 +0.5**
baz=170
WCI S **S** **05 17 04.3 -2.5**
baz=170
WCI Wyandotte Cave 75.34 350 P **P** **05 07 27.5 0.0**
WCI pmax pmax
comp=Z,16nm,0.8s
Q56A Snyder Ridge, 75.40 355 P **P** **05 07 28.1 +0.3**
Q56A IAmb IAmb 05 07 31.3
comp=Z,124nm,1.8s
OK033 Mehan 75.44 341 IAmb IAmb 05 07 59.0
comp=Z,88nm,1.1s
QUOK Quay 75.50 341 IAmb IAmb 05 08 25.2
comp=Z,113nm,0.8s
Q52A Bidwell 75.57 353 IAmb IAmb 05 07 31.4
comp=Z,103nm,1.2s
Q52A Bidwell 75.57 353 P **P** **05 07 29.2 +0.4**
baz=173,SNR=11
Q52A P **P** **05 07 29.2 +0.4**
baz=173,SNR=11
GRAN Grantham 75.63 120 *e*P **P** **05 07 30.1 +0.3**
GRAN IAmb IAmb 05 07 32.8
comp=Z,48nm,0.7s
SDMD Soldier's Deli 75.65 357 P **P** **05 07 30.3 +1.1**
baz=177
Q51A Peebles 75.75 352 IAmb IAmb 05 07 32.5
comp=Z,52nm,1.1s
Q51A Peebles 75.75 352 P **P** **05 07 29.2 -0.6**
baz=172,SNR=6.7
Q51A P **P** **05 07 29.2 -0.6**
baz=172,SNR=6.7
AMTX Amarillo 75.76 336 IAmb IAmb 05 07 42.3
comp=Z,85nm,1.2s
AMTX Amarillo 75.76 336 P **P** **05 07 30.6 +0.5**
baz=157,SNR=20
AMTX Amarillo 75.76 336 P **P** **05 07 30.8 +0.6**
baz=157
AMTX S **S** **05 17 11.5 -0.3**
baz=157
P57A Homestead Farm 75.77 356 IAmb IAmb 05 07 33.5
comp=Z,76nm,1.3s
P57A Homestead Farm 75.77 356 P **P** **05 07 31.5 +1.5**
baz=176,SNR=6.8
P57A P **P** **05 07 31.5 +1.5**
baz=176,SNR=6.8
121A Cookes Peak, D 75.84 331 P **P** **05 07 30.6 -0.2**
121A IAmb IAmb 05 08 03.1
comp=Z,49nm,1.1s
121A Cookes Peak, D 75.84 331 P **P** **05 07 32.5 +1.8**
baz=152,SNR=12
121A Cookes Peak, D 75.84 331 P **P** **05 07 31.0 +0.3**
baz=152
121A S **S** **05 17 15.4 +2.4**
baz=152
GEDE Greenville 76.01 358 P **P** **05 07 31.6 +0.4**
baz=178,SNR=6.0
P53A Whipple 76.01 354 IAmb IAmb 05 07 43.6
comp=Z,67nm,1.2s
CCM Cathedral Cave 76.03 346 P **P** **05 07 31.6 +0.2**
CCM Cathedral Cave 76.03 346 P **P** **05 07 31.6 +0.2**
baz=166,SNR=31
CCM Cathedral Cave 76.03 346 P **P** **05 07 31.6 +0.2**
baz=166
CCM S **S** **05 17 12.8 -1.6**
baz=166
CCM Cathedral Cave 76.03 346 ⇑P **P** **05 07 31.4 0.0**
CCM Cathedral Cave 76.03 346 P **P** **05 07 31.6 +0.2**
CCM pmax pmax
comp=Z,93nm,0.9s
MCWV Mont Chateau 76.06 355 IAmb IAmb 05 07 42.7
comp=Z,145nm,1.8s
MCWV Mont Chateau 76.06 355 P **P** **05 07 31.8 +0.3**
baz=175
MCWV S **S** **05 17 13.1 -1.5**
baz=175
S39A Bolivar 76.12 344 P **P** **05 07 31.6 -0.3**
baz=164,SNR=7.7
PSUB Penn St. - Bra 76.12 358 P **P** **05 07 31.8 -0.1**
baz=178
T35A Sooner Cattle 76.15 341 IAmb IAmb 05 08 03.2
comp=Z,61nm,0.9s
T35B Sooner Cattle 76.15 341 P **P** **05 07 32.4 +0.2**
baz=161,SNR=17
CROK Carrier 76.16 340 IAmb IAmb 05 08 03.0
comp=Z,52nm,0.8s
ELIS Ellis County 76.16 339 IAmb IAmb 05 08 03.9
comp=Z,56nm,1.0s
P51A Williamsport 76.17 352 IAmb IAmb 05 07 34.7
comp=Z,84nm,1.1s
P51A Williamsport 76.17 352 P **P** **05 07 32.0 -0.1**
baz=172,SNR=7.3
P51A P **P** **05 07 32.0 -0.1**
baz=172,SNR=7.3
BLOK Blackwell 76.19 341 IAmb IAmb 05 08 31.4
comp=Z,72nm,0.7s
MVL Millersville 76.22 358 IAmb IAmb 05 08 21.7
comp=Z,87nm,1.6s
P52A Corning 76.22 353 IAmb IAmb 05 07 35.0
comp=Z,82nm,1.1s
P52A Corning 76.22 353 P **P** **05 07 33.2 +0.7**
baz=173
P52A S **S** **05 17 14.0 -2.4**
baz=173
AUGR Augrabies 76.40 115 *e*P **P** **05 07 34.6 +0.5**
AUGR IAmb IAmb 05 07 37.1
comp=Z,317nm,1.6s
P49A Miami Univ. Ec 76.41 351 IAmb IAmb 05 07 35.8
comp=Z,68nm,1.2s
P49A Miami Univ. Ec 76.41 351 P **P** **05 07 32.9 -0.6**
baz=171,SNR=7.5

P49A Miami Univ. Ec 76.41 351 P P 05 07 33.9 +0.3
baz=171,SNR=7.5
P49A S S 05 17 16.6 -1.9
baz=171
P48A Milroy 76.43 351 IAmb IAmb 05 07 35.7
comp=Z,88nm,1.1s
P48A Milroy 76.43 351 P P 05 07 32.9 -0.8
baz=170,SNR=15
P48A P P 05 07 32.9 -0.8
baz=170,SNR=15
BRAK Brakfontein 76.43 119 *e*P P 05 07 34.6 +0.3
BRAK IAmb IAmb 05 07 37.1
comp=Z,706nm,2.4s
PAGS Pennsylvania G 76.46 357 IAmb IAmb 05 07 37.0
comp=Z,85nm,1.3s
R40A Maddies Statio 76.46 345 IAmb IAmb 05 08 04.1
comp=Z,70nm,0.9s
R40A Maddies Statio 76.46 345 P P 05 07 33.8 -0.1
baz=165,SNR=14
ROOI Rooidraai Farm 76.49 120 *e*P P 05 07 34.7 +0.2
ROOI IAmb IAmb 05 07 37.1
comp=Z,69nm,0.7s
KAN13 South Haven SW 76.50 340 IAmb IAmb 05 08 42.9
comp=Z,99nm,1.2s
KAN14 Manchester OK 76.58 340 IAmb IAmb 05 08 05.5
comp=Z,54nm,1.0s
KAN17 Caldwell West 76.60 340 IAmb IAmb 05 08 05.8
comp=Z,66nm,1.1s
KAN09 Caldwell North 76.65 340 IAmb IAmb 05 08 06.0
comp=Z,56nm,1.0s
O52A Adamsville 76.67 353 IAmb IAmb 05 07 37.6
comp=Z,56nm,1.1s
O52A Adamsville 76.67 353 P P 05 07 34.6 -0.5
baz=173,SNR=7.8
O52A P P 05 07 34.6 -0.5
baz=173,SNR=7.8
LIC Lamto 76.69 72⇑ *e*P P 05 07 35.9 +0.1
comp=Z,320nm,1.0s
KAN01 Argonia South 76.70 340 IAmb IAmb 05 08 06.4
comp=Z,64nm,0.9s
KS20 Mayfield South 76.72 340 IAmb IAmb 05 07 51.2
comp=Z,63nm,1.1s
O53A New Philadelph 76.75 354 IAmb IAmb 05 07 38.1
comp=Z,117nm,1.6s
O53A New Philadelph 76.75 354 P P 05 07 35.6 +0.2
baz=174
O53A S S 05 17 20.1 -2.1
baz=174
Y22A Socorro 76.77 332 P P 05 07 37.9 +1.9
baz=153,SNR=13
LUPA Lehigh Univers 76.79 359 IAmb IAmb 05 07 47.6
comp=Z,118nm,1.7s
KEIM Keimoes 76.80 116 *e*P P 05 07 35.6 -0.8
KEIM IAmb IAmb 05 07 39.4
comp=Z,65nm,0.9s
KAN06 Argonia West S 76.82 340 IAmb IAmb 05 07 44.4
comp=Z,46nm,1.1s
KAN08 Anthony NE Sta 76.83 340 IAmb IAmb 05 07 44.5
comp=Z,62nm,0.9s
P46A Rosedale 76.84 349 IAmb IAmb 05 07 37.9
comp=Z,92nm,1.4s
P46A Rosedale 76.84 349 P P 05 07 35.5 -0.5
baz=169,SNR=6.4
Y22D IRIS PASSCAL I 76.87 332 P P 05 07 35.8 -0.7
baz=153
Y22D S S 05 17 26.5 +2.3
baz=153
TUC Tucson 76.88 328 P P 05 07 36.3 -0.2
TUC Tucson 76.88 328 P P 05 07 37.7 +1.2
baz=150
TUC S S 05 17 26.9 +2.7
baz=150
TUC Tucson 76.88 328 ⇑P P 05 07 39.1 +2.6
TUC Tucson 76.88 328 P P 05 07 36.3 -0.2
TUC pmax pmax
comp=Z,48nm,1.5s
ACSO Alum Creek Sta 76.90 353 IAmb IAmb 05 07 38.9
comp=Z,66nm,0.9s
ACSO Alum Creek Sta 76.90 353 P P 05 07 36.3 0.0
baz=172,SNR=8.0
ACSO Alum Creek Sta 76.90 353 P P 05 07 36.7 +0.4
baz=172,SNR=8.0
ACSO S S 05 17 20.4 -3.4
baz=172
SSPA Standing Stone 76.91 357 P P 05 07 36.8 +0.5
SSPA Standing Stone 76.91 357 P P 05 07 36.5 +0.1
baz=176
SSPA Standing Stone 76.91 357 P P 05 07 36.8 +0.5
baz=176
SSPA S S 05 17 20.6 -3.4
baz=176
SSPA Standing Stone 76.91 357 ⇑P P 05 07 36.9 +0.5
TIC Toumodi 76.97 72⇑ *e*P P 05 07 37.4 0.0
comp=Z,251nm,1.0s
BFON Badsfontein, M 76.98 120 *e*P P 05 07 37.5 +0.1
BFON IAmb IAmb 05 07 40.2
comp=Z,1µm,2.8s
KIC Kosan Boka 77.00 72⇑ *e*P P 05 07 37.7 +0.2
comp=Z,87nm,0.8s
O49A Covington 77.01 351 P P 05 07 37.0 +0.1
baz=171,SNR=7.8
O49A P P 05 07 37.0 +0.1
baz=171,SNR=7.8
N58A Sunbury 77.07 357 IAmb IAmb 05 07 40.6
comp=Z,70nm,1.5s
PAL Palisades 77.18 360 P P 05 07 38.6 +0.8
baz=180
PAL S S 05 17 29.8 +3.1
baz=180
O48B Farmland 77.18 351 P P 05 07 36.8 -1.1
baz=171
O48B Farmland 77.18 351 P P 05 07 38.2 +0.3
baz=171
O48B S S 05 17 23.5 -3.4
baz=171
UPI Upington 77.20 116 *e*P P 05 07 38.8 +0.1
UPI IAmb IAmb 05 07 41.4
comp=Z,26nm,0.7s
P43A Skaggs, Pawnee 77.24 347 IAmb IAmb 05 07 59.0
comp=Z,76nm,0.9s
P43A Skaggs, Pawnee 77.24 347 P P 05 07 38.2 0.0
baz=167,SNR=11
ODNJ Ogdensburg 77.26 359 IAmb IAmb 05 08 38.7
comp=Z,95nm,1.7s
ODNJ Ogdensburg 77.26 359 P P 05 07 40.6 +2.3
baz=179
GRAF Camdeboo Natio 77.26 121 *e*P P 05 07 39.0 +0.1
N53A Lisbon 77.27 354 IAmb IAmb 05 07 41.3
comp=Z,70nm,1.4s
N53A Lisbon 77.27 354 P P 05 07 39.4 +1.0
baz=174,SNR=5.5
N53A P P 05 07 39.4 +1.0
baz=174,SNR=5.5
TRNY Table Rock, Ra 77.32 359 IAmb IAmb 05 07 42.4
comp=Z,72nm,1.4s
214A Organ Pipe Nat 77.45 326 P P 05 07 39.4 -0.3
214A Organ Pipe Nat 77.45 326 P P 05 07 40.4 +0.7
baz=149
214A S S 05 17 33.2 +2.8
baz=149
CASY Casey 77.45 182 P P 05 07 39.5 +0.1
CASY IAmb IAmb 05 07 57.8
comp=Z,99nm,1.4s
CASY Casey 77.45 182 IAMs_20 IAMs_20 05 41 20.5
comp=Z,7µm,18.0s
CASY Casey 77.45 182 ⇑P P 05 07 39.4 +0.1
ANMO Albuquerque 77.47 333 S S 05 17 32.8 +2.0
comp=Z,0.2nm,0.3s,baz=158,slow=11,SNR=1.3
ANMO LR LR 05 37 26.3
comp=Z,5µm,18.5s,baz=157,slow=32
ANMO Albuquerque 77.47 333 IAMs_20 IAMs_20 05 37 25.2
comp=Z,5µm,19.0s
ANMO Albuquerque 77.47 333 P P 05 07 40.6 +0.7
baz=154,SNR=38
ANMO Albuquerque 77.47 333 P P 05 07 41.5 +1.6
baz=154
ANMO S S 05 17 31.9 +1.2
baz=154
ANMO Albuquerque 77.47 333 ⇓P P 05 07 41.6 +1.6
ANMO Albuquerque 77.47 333 *ce*P P 05 07 40.6 +0.7
ANMO pmax pmax
comp=Z,66nm,1.5s
YLE Yale 77.49 0 IAmb IAmb 05 07 43.6
comp=Z,87nm,1.2s
N51A Ashland 77.52 353 IAmb IAmb 05 07 42.3
comp=Z,83nm,1.1s
N51A Ashland 77.52 353 P P 05 07 39.6 -0.2
baz=173,SNR=7.0
N51A P P 05 07 39.6 -0.2
baz=173,SNR=7.0
PKA Prieska 77.53 118 *e*P P 05 07 40.3 -0.2
PKA IAmb IAmb 05 07 41.7
comp=Z,252nm,2.8s
SFIN Lafayette 77.57 349 IAmb IAmb 05 07 41.9
comp=Z,86nm,1.8s
SFIN Lafayette 77.57 349 P P 05 07 39.9 -0.1
baz=169
SFIN S S 05 17 26.2 -4.9
baz=169
M57A Sunshine Farm, 77.58 357 IAmb IAmb 05 07 43.5
comp=Z,90nm,1.5s
P40A Paris 77.61 345 P P 05 07 40.5 +0.2
baz=165,SNR=28
N49A Columbus Grove 77.72 352 IAmb IAmb 05 07 43.3
comp=Z,75nm,1.1s
N49A Columbus Grove 77.72 352 P P 05 07 40.6 -0.3
baz=171,SNR=13
N49A P P 05 07 40.6 -0.3
baz=171,SNR=13
SOE Somerset East 77.75 122 *e*P P 05 07 40.9 -0.8
SOE IAmb IAmb 05 07 44.4
comp=Z,62nm,0.8s
SOE Somerset East 77.75 122 ⇑P P 05 07 41.9 +0.2
SOE ⇑P pP 05 07 42.1 -3.2
KSPA Keystone Colle 77.76 358 P P 05 07 42.7 +1.6
baz=178
M55A Ridgway 77.79 356 IAmb IAmb 05 07 44.2
comp=Z,110nm,1.6s
M55A Ridgway 77.79 356 P P 05 07 41.7 +0.4
baz=176
M55A P P 05 07 41.7 +0.4
baz=176
N47A Urbana 77.86 351 IAmb IAmb 05 07 43.5
comp=Z,77nm,1.1s
N47A Urbana 77.86 351 P P 05 07 40.9 -0.8
baz=170,SNR=16
N47A P P 05 07 40.9 -0.8
baz=170,SNR=16
M53A WI Miller and 77.89 354 IAMs_20 IAMs_20 05 46 14.8
comp=Z,4µm,20.0s
M53A WI Miller and 77.89 354 P P 05 07 42.9 +1.1
baz=174
M53A S S 05 17 31.7 -2.9
baz=174
GRHM Grahamstown, E 77.98 122 *e*P P 05 07 42.6 -0.3
GRHM IAmb IAmb 05 07 45.5
comp=Z,88nm,0.9s
GRHM Grahamstown, E 77.98 122 ⇑P P 05 07 43.1 +0.2
P38A Dawn 78.02 344 P P 05 07 41.9 -0.7
baz=164,SNR=14
M52A Chesterland 78.05 354 P P 05 07 44.1 +1.4
baz=174,SNR=6.2
M52A P P 05 07 44.1 +1.4
baz=174,SNR=6.2
ALLY Alegheny Colle 78.06 355 P P 05 07 42.4 -0.4
baz=175
M50A Fremont 78.07 353 IAmb IAmb 05 07 45.3
comp=Z,107nm,1.4s
M50A Fremont 78.07 353 P P 05 07 44.3 +1.5
baz=172
M50A P P 05 07 44.3 +1.5
baz=172
HDIL Hopedale 78.09 348 IAmb IAmb 05 07 58.0
comp=Z,73nm,0.9s
HDIL Hopedale 78.09 348 P P 05 07 42.6 -0.4
baz=167,SNR=6.6
HDIL Hopedale 78.09 348 P P 05 07 43.2 +0.3
baz=167,SNR=6.6
HDIL S S 05 17 34.2 -2.5
baz=167
BRYW Bryant College 78.11 1 IAmb IAmb 05 07 47.0
comp=Z,95nm,1.2s
R32A Long Quarter, 78.16 340 IAmb IAmb 05 08 14.6
comp=Z,66nm,1.0s
R32A Long Quarter, 78.16 340 P P 05 07 43.9 +0.4
baz=160,SNR=13
KSU1 Kansas State U 78.24 342 P P 05 07 44.0 +0.2
baz=161
KSU1 Kansas State U 78.24 342 P P 05 07 44.9 +1.1
baz=161
KSU1 S S 05 17 37.5 -1.0
baz=161
L56A Greenwood 78.39 357 IAmb IAmb 05 07 47.9
comp=Z,116nm,1.4s
L56A Greenwood 78.39 357 P P 05 07 44.6 0.0
baz=177,SNR=7.6
L56A P P 05 07 44.6 0.0
baz=177,SNR=7.6
BINY Binghamton 78.40 358 IAMs_20 IAMs_20 05 48 32.5
comp=Z,4µm,19.0s
BINY Binghamton 78.40 358 P P 05 07 45.9 +1.2
baz=178
BINY S S 05 17 38.7 -1.4
baz=178
QUA2 Belchertown 78.45 1 IAmb IAmb 05 07 48.6
comp=Z,52nm,1.1s
QUA2 IAMs_20 IAMs_20 05 48 05.0
comp=Z,4µm,19.0s
QUA2 Belchertown 78.45 1 P P 05 07 44.4 -0.5
baz=181,SNR=5.9
ERPA Erie 78.51 355 P P 05 07 45.9 +0.6
baz=175
N41A Harden Midland 78.52 347 IAmb IAmb 05 08 00.8
comp=Z,54nm,0.9s
N41A Harden Midland 78.52 347 P P 05 07 44.4 -0.9
baz=166,SNR=12
WES Weston 78.58 2 IAmb IAmb 05 07 48.5
comp=Z,116nm,1.5s
L61B Northampton 78.62 1 P P 05 07 46.4 +0.5
baz=181
L61B Northampton 78.62 1 P P 05 07 46.1 +0.3
baz=181
L61B S S 05 17 43.0 +0.7
baz=181
HRV Adam Dziewonsk 78.70 1 P P 05 07 48.0 +1.8
baz=182
HRV S S 05 17 45.0 +1.9
baz=182
M44A Midewin, Midew 78.70 349 IAmb IAmb 05 08 06.3
comp=Z,77nm,0.9s
M44A Midewin, Midew 78.70 349 P P 05 07 45.6 -0.7
baz=168,SNR=15
WVNY West Valley, N 78.72 356 IAmb IAmb 05 07 49.7
comp=Z,80nm,1.4s
T25A Trinidad 78.72 335 IAmb IAmb 05 07 56.2
comp=Z,104nm,1.2s
T25A Trinidad 78.72 335 P P 05 07 47.5 +0.7
baz=155
T25A S S 05 17 45.6 +1.5
baz=155
L48A N Adams 78.75 352 IAmb IAmb 05 07 48.7
comp=Z,46nm,1.1s
L48A N Adams 78.75 352 P P 05 07 46.4 -0.2
baz=171,SNR=7.1
L48A P P 05 07 46.4 -0.2
baz=171,SNR=7.1
CBKS Cedar Bluff 78.81 339 IAmb IAmb 05 08 18.3
comp=Z,73nm,1.0s
CBKS Cedar Bluff 78.81 339 P P 05 07 47.4 +0.4
baz=159
CBKS S S 05 17 44.1 -0.5
baz=159
CBKS Cedar Bluff 78.81 339 ⇓P P 05 07 48.1 +1.1
K62A Royalston 78.84 1 P P 05 07 48.5 +1.5
baz=181,SNR=6.2
K62A P P 05 07 48.5 +1.5
baz=181,SNR=6.2
W18A Petrified Fore 78.88 330 P P 05 07 48.5 +0.7
baz=151
W18A S S 05 17 48.4 +2.5
baz=151
HVD Gariep Dam 78.93 120 *e*P P 05 07 47.3 -1.0
HVD IAmb IAmb 05 07 51.2
comp=Z,83nm,0.9s
MMNY Mt. Morris Dam 79.00 357 IAmb IAmb 05 07 51.0
comp=Z,111nm,1.4s
AAM Ann Arbor 79.02 352 IAmb IAmb 05 07 50.4
comp=Z,51nm,1.1s
AAM IAMs_20 IAMs_20 05 39 12.7
comp=Z,4µm,22.0s
AAM Ann Arbor 79.02 352 P P 05 07 48.2 +0.1
baz=172
AAM S S 05 17 42.0 -4.6
baz=172
L46A Eue Claire 79.06 350 IAmb IAmb 05 07 50.2
comp=Z,61nm,1.2s
HQIL Hanson Quary C 79.07 349 IAmb IAmb 05 07 50.8
comp=Z,109nm,1.2s
HQIL IAMs_20 IAMs_20 05 43 49.0
comp=Z,1µm,19.0s
N38A Joes South For 79.07 345 P P 05 07 48.3 -0.1
baz=164,SNR=9.9
GLA Glamis 79.28 326 P P 05 07 51.6 +1.8
baz=148
GLA S S 05 17 55.6 +5.7
baz=148
K50A Casco 79.38 353 IAmb IAmb 05 07 52.2
comp=Z,78nm,1.0s
L44A Lake County Fo 79.45 349 IAmb IAmb 05 07 52.9
comp=Z,99nm,1.3s
L44A Lake County Fo 79.45 349 P P 05 07 50.5 +0.1
baz=168
L44A S S 05 17 47.9 -3.3
baz=168
J56A Wolcott 79.50 357 IAmb IAmb 05 08 01.6
comp=Z,122nm,1.7s
J55A Hilton 79.53 357 IAmb IAmb 05 07 53.7
comp=Z,87nm,1.6s
IKP In-Ko-Pah, Jac 79.54 324 P P 05 07 51.8 +0.6
baz=147
IKP S S 05 17 58.5 +5.7
baz=147
ACCN Adirondack Com 79.55 360 IAmb IAmb 05 07 54.5
comp=Z,112nm,1.4s
ACCN Adirondack Com 79.55 360 P P 05 07 51.7 +0.7
baz=180,SNR=7.2
L42A Oliver, Polo 79.56 348 IAmb IAmb 05 08 26.8
comp=Z,42nm,0.9s
L42A Oliver, Polo 79.56 348 P P 05 07 50.6 -0.4
baz=167
J57A Williamstown 79.61 358 IAmb IAmb 05 07 54.4
comp=Z,60nm,1.4s
J57A Williamstown 79.61 358 P P 05 07 51.7 +0.5
baz=178,SNR=7.1
J57A P P 05 07 51.7 +0.5
baz=178,SNR=7.1
J59A Piesco 79.64 359 P P 05 07 53.6 +2.1
baz=179,SNR=5.9
J59A P P 05 07 53.6 +2.1
baz=179,SNR=5.9
SDCO Great Sand Dun 79.64 335 IAMs_20 IAMs_20 05 39 26.6
comp=Z,4µm,18.0s
SDCO Great Sand Dun 79.64 335 P P 05 07 53.0 +1.1
baz=154
SDCO Great Sand Dun 79.64 335 P P 05 07 53.2 +1.2
baz=154
SDCO S S 05 17 55.3 +1.2
baz=154
SWSC Sam W. Stewart 79.64 325 P P 05 07 52.2 +0.5
baz=147
TSUM Tsumeb 79.65 106 LR LR 05 41 35.4
comp=Z,8µm,18.1s,baz=236,slow=35
TSUM Tsumeb 79.65 106 P P 05 07 52.4 0.0
TSUM IAmb IAmb 05 08 17.4
comp=Z,84nm,1.3s
TSUM Tsumeb 79.65 106 ⇑*i*P P 05 07 53.3 +0.9
TSUM Tsumeb 79.65 106 ⇑P P 05 07 52.8 +0.4
FFD Franklin Falls 79.66 1 IAmb IAmb 05 07 55.8
comp=Z,75nm,1.1s
FFD Franklin Falls 79.66 1 P P 05 07 53.2 +1.7
baz=182,SNR=5.1
N35A Tabor 79.67 343 IAmb IAmb 05 08 21.6
comp=Z,70nm,0.8s
N35A Tabor 79.67 343 P P 05 07 51.9 +0.2
baz=162,SNR=8.4
KSCO Kaye Shedlock' 79.85 337 P P 05 07 52.9 +0.1
KSCO IAmb IAmb 05 07 57.0
comp=Z,162nm,1.8s
KSCO Kaye Shedlock' 79.85 337 P P 05 07 53.9 +1.1
baz=157
KSCO S S 05 17 56.5 +0.6
baz=157
HNH Hanover 79.88 1 IAmb IAmb 05 07 56.7
comp=Z,56nm,1.2s
MONP2 Monument Peak 79.89 324 P P 05 07 54.1 +0.8
baz=146
WUAZ Wupatki 79.89 329 P P 05 07 53.9 +0.7
baz=150
WUAZ S S 05 18 01.1 +4.6
baz=150
WUAZ Wupatki 79.89 329 ⇓P P 05 07 55.8 +2.6
L40A Anamosa 79.90 347 P P 05 07 52.4 -0.4
baz=166,SNR=8.6
BOSA Boshof 79.93 118 P P 05 07 53.5 -0.3
comp=Z,50nm,1.0s,baz=228,slow=5.2,SNR=30
BOSA S S 05 17 54.3 -3.2
comp=Z,2.4nm,1.0s,baz=150,slow=12,SNR=2.0
BOSA LR LR 05 41 31.9
comp=Z,4µm,18.9s,baz=231,slow=34
comp=Z,50nm,1.0s
BOSA Boshof 79.93 118 P P 05 07 53.6 -0.1
BOSA Boshof 79.93 118 *e*P P 05 07 53.0 -0.7
BOSA IAmb IAmb 05 07 56.1
comp=Z,124nm,1.2s
BOSA Boshof 79.93 118 *i* P P 05 07 53.9 +0.2
BOSA Boshof 79.93 118 *i* P P 05 07 53.9 +0.2
BOSA Boshof 79.93 118 ⇑P P 05 07 53.4 -0.3
BOSA Boshof 79.93 118 P P 05 07 53.6 -0.3
BOSA pmax pmax
comp=Z,168nm,1.4s
K43A Burlington 80.03 349 IAmb IAmb 05 07 56.1
comp=Z,63nm,1.1s
K43A Burlington 80.03 349 P P 05 07 52.9 -0.7
baz=168,SNR=6.0
PDMCI Parker Dam,Lak 80.03 327 P P 05 07 55.3 +1.6
baz=148
PDMCI S S 05 18 02.3 +4.6
baz=148
BFZ Birch Farm 80.05 226 IAMs_20 IAMs_20 05 36 05.6
comp=Z,4µm,19.0s
BC3 Big Chuckawall 80.08 326 P P 05 07 55.0 +0.8
baz=147
BC3 S S 05 18 05.1 +6.6
baz=147
J47A Sunmer 80.08 352 P P 05 07 53.1 -0.6
baz=171
J47A P P 05 07 53.1 -0.6
baz=171
MQZ McQueen's Vall 80.10 222 IAMs_20 IAMs_20 05 35 55.6
comp=Z,5µm,19.0s
S22A 4UR Ranch, Cre 80.11 334 P P 05 07 55.0 +0.5
baz=154
S22A S S 05 18 01.4 +2.4
baz=154
MCVT Middlebury Col 80.12 0 P P 05 07 55.5 +1.5
baz=180,SNR=6.5
SCIA State Center 80.14 345 IAmb IAmb 05 07 57.1
comp=Z,122nm,1.6s
SCIA State Center 80.14 345 P P 05 07 55.6 +1.4
baz=164
SCIA S S 05 17 56.1 -2.3
baz=164
PECO Prince Edward 80.17 357 IAmb IAmb 05 07 57.3
comp=Z,67nm,1.3s
WCNY West Carthage 80.17 358 P P 05 07 54.6 +0.3
baz=178,SNR=7.6
109C Camp Elliot, M 80.21 324 IAMs_20 IAMs_20 05 37 08.4
comp=Z,5µm,19.0s
109C Camp Elliot, M 80.21 324 S S 05 18 05.7 +6.1
baz=146
MVCO Mesa Verde 80.24 332 P P 05 07 55.9 +0.8
baz=152
MVCO S S 05 18 04.0 +3.7
baz=152
I63A Otisfield 80.26 2 IAmb IAmb 05 07 59.1
comp=Z,112nm,1.2s
I63A Otisfield 80.26 2 P P 05 07 56.7 +2.0
baz=182,SNR=6.0
I63A P P 05 07 56.7 +2.0
baz=182,SNR=6.0
IRM Iron Mountain 80.36 326 P P 05 07 57.8 +2.2
baz=147
IRM S S 05 18 04.5 +3.3
baz=147
LBNH Lisbon 80.42 1 IAmb IAmb 05 07 59.3
comp=Z,55nm,1.1s
LBNH Lisbon 80.42 1 P P 05 07 56.6 +1.0
baz=181
PMD Palm Desert 80.50 325 P P 05 07 56.2 -0.1
PMD IAmb IAmb 05 08 31.0
comp=Z,42nm,1.3s
TPFO Pinon Flats 80.50 325 P P 05 07 57.9 +1.4
baz=146,SNR=18
PFO Pinyon Flats O 80.50 325 S S 05 18 06.3 +3.3

comp=Z,0.3nm,0.4s,baz=236,slow=14,SNR=1.1
PFO LR LR 05 37 10.9
comp=Z,4µm,18.2s,baz=142,slow=31
PFO Pinyon Flats O 80.50 325 P **P** **05 07 56.0 -0.5**
PFO Pinyon Flats O 80.50 325 IAMs_20 IAMs_20 05 37 50.2
comp=Z,5µm,18.0s
PFO Pinyon Flats O 80.50 325 P **P** **05 07 57.9 +1.4**
baz=146,SNR=19
PFO S **S** **05 18 07.9 +4.9**
baz=146
PFO Pinyon Flats O 80.50 325⇑ *e*P **P** **05 07 57.7 +1.2**
PFO pmax pmax
comp=Z,71nm,1.3s
SNZO South Karori 80.53 225 IAMs_20 IAMs_20 05 37 48.3
comp=Z,5µm,18.0s
JFWS Jewell Farm 80.55 348 IAmb IAmb 05 07 59.1
comp=Z,62nm,1.2s
JFWS Jewell Farm 80.55 348 P **P** **05 07 55.9 -0.4**
baz=167,SNR=6.8
JFWS Jewell Farm 80.55 348 P **P** **05 07 55.9 -0.4**
baz=167,SNR=6.8
JFWS S **S** **05 18 01.0 -1.8**
baz=167
BELC Belle Mtn. Jos 80.61 325 P **P** **05 07 57.8 +0.7**
baz=147
BELC S **S** **05 18 10.0 +5.9**
baz=147
Q24A Divide 80.62 335 P **P** **05 07 58.4 +1.2**
baz=155
Q24A S **S** **05 18 07.3 +2.9**
baz=155
NEE2 Needles Airpor 80.63 327 P **P** **05 07 57.3 +0.3**
baz=148
NEE2 S **S** **05 18 10.2 +6.1**
baz=148
OXZ Oxford 80.69 222 IAMs_20 IAMs_20 05 36 33.2
comp=Z,6µm,18.0s
H62A Milan 80.77 2 P **P** **05 08 00.1 +2.6**
baz=182
H62A P **P** **05 08 00.1 +2.6**
baz=182
LONY Lake Ozonia 80.80 359 IAmb IAmb 05 08 00.9
comp=Z,54nm,1.2s
LONY Lake Ozonia 80.80 359 P **P** **05 07 57.7 +0.1**
baz=179
LONY S **S** **05 18 06.6 +1.3**
baz=179
MXZ Matakaoa Point 80.80 230 IAMs_20 IAMs_20 05 36 36.6
comp=Z,7µm,19.0s
BGNE Belgrade 80.80 341 P **P** **05 07 58.2 +0.5**
BGNE IAmb IAmb 05 08 13.7
comp=Z,85nm,1.1s
BGNE Belgrade 80.80 341 P **P** **05 07 58.5 +0.7**
baz=160
BGNE S **S** **05 18 03.2 -2.3**
baz=160
WVL Waterville 80.81 3 IAmb IAmb 05 08 10.0
comp=Z,126nm,1.7s
WVL IAMs_20 IAMs_20 05 49 30.3
comp=Z,3µm,19.0s
SWZ Schweizer 80.82 117 *e*P **P** **05 07 57.0 -1.6**
MURC Murrieta 80.84 324 P **P** **05 07 59.5 +1.4**
baz=146
MURC S **S** **05 18 11.7 +5.4**
baz=146
BKZ Black Stump Fm 80.88 228 IAMs_20 IAMs_20 05 37 56.5
comp=Z,6µm,18.0s
L34A Svendsen Farm, 80.89 343 IAmb IAmb 05 08 28.9
comp=Z,33nm,0.8s
LTZ Lake Taylor 80.92 223 IAMs_20 IAMs_20 05 36 43.5
comp=Z,4µm,19.0s
RPZ Rata Peaks 80.95 222 P **P** **05 08 01.8 +3.0**
comp=Z,12nm,0.9s,baz=110,slow=4.4,SNR=4.2
RPZ S **S** **05 18 06.9 -0.8**
comp=Z,2.9nm,0.6s,baz=153,slow=11,SNR=1.2
RPZ LR LR 05 36 52.6
comp=Z,6µm,18.3s,baz=128,slow=30
comp=Z,12nm,0.9s
RPZ Rata Peaks 80.95 222 IAMs_20 IAMs_20 05 34 35.2
comp=Z,7µm,22.0s
SCI2 San Clemente I 80.97 323 P **P** **05 08 00.3 +1.5**
baz=145
ELS Elsinore Mount 80.99 324 P **P** **05 07 58.9 -0.1**
BMNY Brushton-Moira 81.01 359 P **P** **05 07 59.0 +0.3**
baz=179,SNR=7.7
EMMW East Machias 81.06 4 P **P** **05 07 59.1 +0.1**
WHZ Wether Hill Ro 81.06 218 IAMs_20 IAMs_20 05 38 06.0
comp=Z,4µm,18.0s
URZ Urewera 81.09 229 P **P** **05 08 02.8 +3.2**
comp=Z,12nm,0.9s,baz=66,slow=17,SNR=1.3
URZ S **S** **05 18 10.9 +1.8**
comp=Z,30nm,1.2s,baz=38,slow=1.2,SNR=3.9
URZ LR LR 05 36 18.7
comp=Z,7µm,19.0s,baz=218,slow=30
comp=Z,12nm,0.9s
URZ Urewera 81.09 229 IAMs_20 IAMs_20 05 36 07.1
comp=Z,7µm,19.0s
SADO Sadowa 81.10 356 S **S** **05 18 07.0 -1.5**
comp=Z,6.1nm,1.1s,baz=225,slow=5.3,SNR=1.8
SADO LR LR 05 47 11.3
comp=Z,2µm,19.4s,baz=179,slow=38
GMRC Granite Mounta 81.11 326 P **P** **05 08 00.9 +1.2**
baz=147,SNR=14
GMRC S **S** **05 18 13.7 +4.4**
baz=147
PV13 Radium Mtn., P 81.19 333 IAmb IAmb 05 08 09.1
comp=Z,69nm,1.5s
BBRC Big Bear Solar 81.25 325 P **P** **05 08 02.3 +1.6**
baz=146
BBRC S **S** **05 18 15.0 +3.9**
baz=146
CIS Catalina Islan 81.25 323 P **P** **05 08 01.0 +0.6**
baz=145
WKZ Wanaka 81.26 220 IAMs_20 IAMs_20 05 40 03.3
comp=Z,4µm,18.0s
PV11 David Mesa, Pa 81.34 333 IAmb IAmb 05 08 05.1
comp=Z,139nm,2.0s
MLZ Mavora Lakes 81.34 219 IAMs_20 IAMs_20 05 36 49.4
comp=Z,6µm,18.0s
PV07 Paradox Valley 81.38 333 P **P** **05 08 01.1 0.0**
G62A West of Eustis 81.43 2 P **P** **05 08 01.4 +0.5**
G62A IAmb IAmb 05 08 04.8
comp=Z,70nm,1.1s
G62A West of Eustis 81.43 2 P **P** **05 08 02.0 +1.0**
baz=182,SNR=6.6
G62A P **P** **05 08 02.0 +1.0**
baz=182,SNR=6.6
SMCO Snowmass 81.43 334 IAmb IAmb 05 08 11.7
comp=Z,70nm,1.2s
SMCO IAMs_20 IAMs_20 05 41 09.1
comp=Z,7µm,18.0s
SMCO Snowmass 81.43 334⇓P **P** **05 08 03.4 +1.8**
OGNE Ogallala 81.44 339 IAmb IAmb 05 08 33.8
comp=Z,45nm,1.0s
OGNE Ogallala 81.44 339 P **P** **05 08 02.6 +1.4**
baz=157
FMP Fort Macarthur 81.45 324 P **P** **05 08 00.1 -1.2**
baz=145
HEC Hector,Ludlow 81.46 326 P **P** **05 08 02.6 +1.1**
baz=147
HEC S **S** **05 18 18.1 +5.3**
baz=147
PV10 Paradox Valley 81.47 332 IAmb IAmb 05 08 17.8
comp=Z,38nm,0.9s
PYZ Puysegur Point 81.50 218 IAMs_20 IAMs_20 05 35 26.4
comp=Z,4µm,20.0s
PKME Peaks-Kenny Pk 81.52 3 P **P** **05 08 02.8 +1.4**
baz=184
PKME S **S** **05 18 14.1 +1.4**
baz=184
ISCO Idaho Springs 81.53 336 IAMs_20 IAMs_20 05 34 31.6
comp=Z,3µm,19.0s
ISCO Idaho Springs 81.53 336 S **S** **05 18 16.7 +3.0**
baz=155
KSTD Kokstad 81.56 122 *e*P **P** **05 08 01.6 -0.9**
KSTD IAmb IAmb 05 08 05.5
comp=Z,6.6nm,0.8s
BFSC Mount Baldy Ra 81.58 324 P **P** **05 08 03.0 +0.7**
baz=146
BFSC S **S** **05 18 18.7 +4.5**
baz=146
GLMI Grayling 81.62 352 P **P** **05 08 01.7 -0.3**
baz=171
SNCC San Nicolas Is 81.67 322 P **P** **05 08 04.0 +1.4**
baz=144
SNCC S **S** **05 18 22.8 +7.9**
baz=144
DCZ Deep Cove 81.76 218 IAMs_20 IAMs_20 05 38 19.4
comp=Z,3µm,19.0s
KNB Kanab 81.77 329 IAmb IAmb 05 09 24.1
comp=Z,68nm,1.3s
PASC Pasadena Art C 81.77 324 IAMs_20 IAMs_20 05 37 54.9
comp=Z,5µm,19.0s
TUQ Turquoise Moun 81.78 326 P **P** **05 08 04.5 +1.2**
baz=147
TUQ S **S** **05 18 22.9 +6.8**
baz=147
RRX Edison Barstow 81.80 325 P **P** **05 08 04.0 +0.7**
baz=146
SNKL Senekal, Frees 81.91 119 *e*P **P** **05 08 03.7 -0.7**
SNKL IAmb IAmb 05 08 06.7
comp=Z,104nm,1.1s
DECC Green Verdugo 81.91 324 P **P** **05 08 05.7 +1.8**
baz=145
DECC S **S** **05 18 21.5 +4.1**
baz=145
PKCU Pink Cliffs 81.93 330 P **P** **05 08 04.0 -0.2**
GSC Goldstone, Bar 82.06 325 P **P** **05 08 04.3 -0.4**
baz=146
GSC S **S** **05 18 21.8 +2.8**
baz=146
K31A O'Neill 82.10 341 P **P** **05 08 05.5 +0.9**
baz=160,SNR=6.7
F62A Pittston Farm, 82.13 2 IAmb IAmb 05 08 08.5
comp=Z,72nm,1.1s
F62A Pittston Farm, 82.13 2 P **P** **05 08 05.7 +1.1**
baz=183,SNR=7.4
F62A P **P** **05 08 05.7 +1.1**
baz=183,SNR=7.4
I37A Lemond, Waseca 82.20 346 IAmb IAmb 05 08 12.8
comp=Z,64nm,1.1s
I37B Waseca 82.20 346 P **P** **05 08 05.3 +0.2**
baz=164,SNR=10.0
EDW2 Edwards Air Fo 82.27 324 P **P** **05 08 07.0 +1.2**
baz=146,SNR=11
EDW2 S **S** **05 18 23.4 +2.3**
baz=146
HIZ Hauiti 82.27 227 IAMs_20 IAMs_20 05 37 52.4
comp=Z,5µm,19.0s
LBTB Lobatse 82.30 115 LR LR 05 43 13.1
comp=Z,9µm,18.6s,baz=234,slow=35
LBTB Lobatse 82.30 115 P **P** **05 08 06.3 -0.1**
LBTB Lobatse 82.30 115 *e*P **P** **05 08 05.0 -1.4**
LBTB IAmb IAmb 05 08 08.7
comp=Z,249nm,1.6s
LBTB Lobatse 82.30 115 *i*P **P** **05 08 06.5 +0.1**
LBTB Lobatse 82.30 115 *i*P **P** **05 08 06.5 +0.1**
LBTB Lobatse 82.30 115⇑P **P** **05 08 06.0 -0.4**
LBTB ⇑P **P** **05 08 06.2 -0.1**
LBTB Lobatse 82.30 115 P **P** **05 08 06.3 -0.1**
LBTB pmax pmax
comp=Z,98nm,0.9s
SHOC Shoshone, Teco 82.32 326 P **P** **05 08 07.5 +1.6**
baz=147
SHOC S **S** **05 18 27.3 +5.8**
baz=147
SCZ2 Santa Cruz Isl 82.33 323 P **P** **05 08 04.4 -1.6**
baz=144
SCZ2 S **S** **05 18 26.7 +5.1**
baz=144
SZCU Shurtz Canyon 82.38 329 IAmb IAmb 05 08 17.2
comp=Z,111nm,1.8s
OSI Osito Audit: C 82.39 324 P **P** **05 08 06.2 -0.2**
baz=145
OSI S **S** **05 18 25.0 +2.7**
baz=145
TRQ Mont Tremblant 82.40 359 IAmb IAmb 05 08 09.0
comp=Z,59nm,1.1s
PRYS Parys 82.43 118 *e*P **P** **05 08 05.6 -1.5**
PRYS IAmb IAmb 05 08 09.0
comp=Z,831nm,3.0s
CCUT Cedar City 82.45 329 IAmb IAmb 05 08 12.1
comp=Z,78nm,1.7s
LRMC Laurel Mtn Rad 82.61 325 P **P** **05 08 09.9 +2.3**
baz=146,SNR=11
LRMC S **S** **05 18 28.8 +4.0**
baz=146
N23A Red Feather La 82.62 336 IAmb IAmb 05 08 39.4
comp=Z,39nm,1.1s
N23A Red Feather La 82.62 336 P **P** **05 08 08.0 +0.3**
baz=154
N23A S **S** **05 18 25.6 +0.7**
baz=154
ECSD EROS Data Cent 82.62 343 P **P** **05 08 07.6 +0.3**
baz=162,SNR=32
ECSD EROS Data Cent 82.62 343 P **P** **05 08 07.4 +0.1**
baz=162,SNR=32
ECSD S **S** **05 18 24.2 0.0**
baz=162
SBC Santa Barbara 82.73 323 P **P** **05 08 08.3 +0.3**
baz=144
SBC S **S** **05 18 28.8 +3.2**
baz=144
O20A White River Ci 82.73 334 P **P** **05 08 07.4 -0.8**
baz=153,SNR=7.9
O20A S **S** **05 18 27.6 +1.7**
baz=153
KSR Koster 82.74 117 *e*P **P** **05 08 09.6 +0.8**
KSR IAmb IAmb 05 08 11.1
comp=Z,100nm,1.2s
Q16A Castle Valley 82.75 331 IAmb IAmb 05 08 40.6
comp=Z,42nm,1.0s
ARVC Arvin 82.86 324 P **P** **05 08 07.5 -1.2**
baz=145
E62A Clayton Lake 82.87 3 P **P** **05 08 08.9 +0.5**
E62A IAmb IAmb 05 08 12.2
comp=Z,54nm,1.1s
E62A Clayton Lake 82.87 3 P **P** **05 08 09.4 +0.9**
baz=183,SNR=5.1
E62A P **P** **05 08 09.4 +0.9**
baz=183,SNR=5.1
PQI Presque Isle 82.99 4 IAmb IAmb 05 08 12.5
comp=Z,1nm,1.2s
MPMC Manual Prospec 83.00 325 P **P** **05 08 08.0 -1.7**
baz=146
MPMC S **S** **05 18 31.3 +2.5**
baz=146
P18A Preston Nutter 83.02 332 IAmb IAmb 05 08 19.0
comp=Z,57nm,1.0s
PRN Pahroc Range 83.04 328 IAmb IAmb 05 08 43.9
comp=Z,42nm,1.0s
PRN Pahroc Range 83.04 328⇓P **P** **05 08 12.1 +2.3**
PRN ⇓P **pP** **05 08 12.9 -0.7**
FURC Furnace Creek, 83.05 326 P **P** **05 08 08.9 -0.8**
baz=146
FURC S **S** **05 18 32.7 +3.8**
baz=146
P17A Butcher Ranch, 83.07 332 IAmb IAmb 05 08 18.7
comp=Z,54nm,1.3s
TMUT Trail Mountain 83.09 331 IAmb IAmb 05 08 35.0
comp=Z,37nm,1.1s
E46A Sault Ste Mari 83.11 352 P **P** **05 08 09.6 -0.2**
baz=171,SNR=7.5
ISA Isabella, Lake 83.13 325 P **P** **05 08 08.4 -1.9**
baz=145
ISA S **S** **05 18 35.6 +5.7**
baz=145
PKM Mcpherson Peak 83.14 323 P **P** **05 08 08.9 -1.5**
baz=144,SNR=6.2
TPNV Topopah Spring 83.18 327 IAMs_20 IAMs_20 05 38 30.2
comp=Z,5µm,19.0s
TPNV Topopah Spring 83.18 327 P **P** **05 08 09.2 -1.3**
baz=147
TPNV S **S** **05 18 34.4 +3.8**
baz=147
TPNV Topopah Spring 83.18 327⇑P **P** **05 08 12.8 +2.2**
SPMN Marine on St. 83.25 346 P **P** **05 08 10.1 -0.4**
baz=165
SPMN Marine on St. 83.25 346 P **P** **05 08 08.7 -1.8**
baz=165
HRAO HartRAO 83.28 117⇑*i*P **P** **05 08 10.0 -1.6**
D62A Allapoint, All 83.35 3 P **P** **05 08 10.7 -0.2**
D62A IAmb IAmb 05 08 14.2
comp=Z,57nm,1.0s
D62A Allapoint, All 83.35 3 P **P** **05 08 11.7 +0.8**
baz=184,SNR=11
D62A P **P** **05 08 11.7 +0.8**
baz=184,SNR=11
E43A Lone Tree Farm 83.44 351 IAmb IAmb 05 08 14.4
comp=Z,66nm,1.2s
COWI Conover 83.47 349 IAmb IAmb 05 08 40.7
comp=Z,33nm,1.1s
PSUT Pine Spring 83.49 329 IAmb IAmb 05 08 46.0
comp=Z,31nm,0.9s
RAO Raoul Island 83.53 238 LR LR 05 36 11.8
comp=Z,2µm,20.6s,baz=189,slow=29
VES Vestal, Richgr 83.56 324 P **P** **05 08 14.0 +1.7**
baz=145
SMMC Simmler 83.57 323 P **P** **05 08 12.5 +0.1**
baz=144
SMMC S **S** **05 18 39.9 +5.6**
baz=144
CWC Cottonwood Cre 83.58 325 P **P** **05 08 11.5 -1.1**
baz=146
CWC S **S** **05 18 36.9 +2.3**
baz=146
RDMU Red Mountain 83.59 333 IAmb IAmb 05 08 55.5
comp=Z,64nm,1.2s
BATG Bathurst New B 83.71 5 IAmb IAmb 05 08 16.4
comp=Z,47nm,1.2s
GRAC Grapevine Rang 83.72 326 IAmb IAmb 05 09 19.9
comp=Z,66nm,1.4s
GRAC Grapevine Rang 83.72 326 P **P** **05 08 13.9 +0.7**
baz=146,SNR=12
GRAC S **S** **05 18 39.2 +3.4**
baz=146
RWWY Rawlins 83.75 335 IAmb IAmb 05 08 44.8
comp=Z,44nm,1.1s
RWWY IAMs_20 IAMs_20 05 42 17.6
comp=Z,5µm,18.0s
SLR Silverton 83.80 117 *e*P **P** **05 08 13.8 -0.5**
SLR IAmb IAmb 05 08 16.2
comp=Z,161nm,1.5s
SUSD Miller 83.86 342 P **P** **05 08 13.9 +0.3**
baz=160
SUSD S **S** **05 18 36.7 0.0**
baz=160
MPU Maple Canyon 83.88 332 IAmb IAmb 05 08 29.7
comp=Z,40nm,1.0s
NLU North Lily Min 84.00 331 IAmb IAmb 05 08 46.9
comp=Z,41nm,1.2s
F36A Milaca 84.00 346 IAmb IAmb 05 08 16.8
comp=Z,33nm,1.1s
F36A Milaca 84.00 346 P **P** **05 08 14.1 -0.2**
baz=164,SNR=9.8
R11A Troy Canyon, C 84.06 328 P **P** **05 08 14.6 -0.5**
baz=147,SNR=22
R11A S **S** **05 18 41.0 +1.6**
baz=147
SPR3 Spring Creek 3 84.08 329 IAmb IAmb 05 08 40.1
comp=Z,27nm,1.0s
VOG Valley Oaks Go 84.09 324 P **P** **05 08 15.8 +0.7**
baz=145
TIN Tinemaha, Big 84.16 326 P **P** **05 08 14.5 -1.0**
baz=146
TIN S **S** **05 18 41.9 +1.6**
baz=146
JLU Jordanelle 84.32 332 IAmb IAmb 05 08 40.9
comp=Z,26nm,1.0s
E38A The Farm, Brul 84.35 348 IAmb IAmb 05 08 18.6
comp=Z,46nm,1.2s
K22A Casper 84.39 336 P **P** **05 08 17.5 +0.9**
baz=154,SNR=18
K22A Casper 84.39 336 P **P** **05 08 16.8 +0.2**
baz=154,SNR=18
K22A S **S** **05 18 44.9 +2.5**
baz=154
DUG Dugway, Tooele 84.49 331 IAmb IAmb 05 08 26.4
comp=Z,69nm,1.3s
DUG IAMs_20 IAMs_20 05 42 51.0
comp=Z,6µm,18.0s
DUG Dugway, Tooele 84.49 331 P **P** **05 08 17.2 0.0**
baz=149,SNR=36
DUG S **S** **05 18 47.4 +3.8**
baz=149
F33A 5 Mile Ranch, 84.55 344 P **P** **05 08 16.7 -0.4**
baz=162,SNR=5.6
LEPH Lephalale, Lim 84.59 116 *e*P **P** **05 08 16.1 -2.1**
LEPH IAmb IAmb 05 08 20.3
comp=Z,91nm,1.3s
TCUT Toone Canyon 84.75 332 IAmb IAmb 05 08 53.6
comp=Z,51nm,1.0s
MLAC Mammoth, Mammo 84.90 325 S **S** **05 18 47.7 -0.3**
baz=145
RSSD Black Hills 84.94 338 P **P** **05 08 19.6 +0.2**
RSSD IAmb IAmb 05 08 50.0
comp=Z,28nm,0.9s
RSSD Black Hills 84.94 338 P **P** **05 08 19.9 +0.5**
baz=156,SNR=14
RSSD Black Hills 84.94 338 P **P** **05 08 18.8 -0.7**
baz=156
RSSD S **S** **05 18 48.3 +0.2**
baz=156
RSSD Black Hills 84.94 338⇓P **P** **05 08 20.0 +0.6**
RSSD Black Hills 84.94 338 P **P** **05 08 19.6 +0.2**
RSSD pmax pmax
comp=Z,28nm,1.0s
OMMB Old Mammoth Mi 84.97 325 IAmb IAmb 05 08 53.8
comp=Z,43nm,1.4s
BGU Big Grassy Mou 85.20 331 IAmb IAmb 05 08 37.1
comp=Z,103nm,2.0s
OUZ Omahuta 85.21 229 IAMs_20 IAMs_20 05 37 48.2
comp=Z,7µm,20.0s
POGA Pongola 85.22 121 P **P** **05 08 21.2 -0.1**
POGA IAmb IAmb 05 08 45.0
comp=Z,45nm,1.0s
POGA Pongola 85.22 121 *e*P **P** **05 08 20.1 -1.1**
POGA IAmb IAmb 05 08 23.7
comp=Z,156nm,1.8s
HWUT Hardware Ranch 85.23 332 IAMs_20 IAMs_20 05 42 28.6
comp=Z,4µm,19.0s
LHV Little Huntoon 85.26 326 IAmb IAmb 05 09 34.9
comp=Z,46nm,1.3s
SPUT South Promonto 85.31 332 IAmb IAmb 05 08 45.6
comp=Z,46nm,1.1s
NVAR Mina Array Bea 85.32 326 P **P** **05 08 21.2 -0.3**
comp=Z,2.6nm,0.7s,baz=154,slow=6.0,SNR=27
NVAR S **S** **05 18 47.9 -4.1**
comp=Z,0.1nm,0.4s,baz=143,slow=3.2,SNR=2.3
NVAR PKKPbc **PKKPbc** **05 26 27.0 -0.4**
comp=Z,0.8nm,0.8s,baz=288,slow=1.8,SNR=6.2
NVAR LR LR 05 40 28.6
comp=Z,2µm,18.8s,baz=139,slow=32
comp=Z,2.6nm,0.7s
SAO San Andreas Ge 85.43 323 IAMs_20 IAMs_20 05 39 02.7
comp=Z,5µm,18.0s
BW06 Boulder Array 85.52 334 IAmb IAmb 05 08 34.0
comp=Z,101nm,1.9s
BW06 Boulder Array 85.52 334 P **P** **05 08 22.6 +0.3**
baz=152,SNR=16
BW06 S **S** **05 18 54.6 +0.8**
baz=152
PDAR Pinedale Array 85.52 334 P **P** **05 08 22.6 +0.2**
comp=Z,9.6nm,1.1s,baz=134,slow=4.3,SNR=31
PDAR S **S** **05 18 49.4 -4.4**
comp=Z,0.3nm,0.8s,baz=242,slow=6.8,SNR=1.4
PDAR PKKPbc **PKKPbc** **05 26 25.4 -1.8**
comp=Z,0.8nm,0.8s,baz=114,slow=2.0,SNR=5.4
comp=Z,9.6nm,1.1s
RYN Ryan 85.58 326 IAmb IAmb 05 09 28.9
comp=Z,49nm,1.4s
EYMN Ely 85.64 348 P **P** **05 08 22.2 -0.4**
baz=166
WAKR Walker 85.89 326 IAmb IAmb 05 08 58.9
comp=Z,38nm,1.2s
ELK Elko 85.93 330 LR LR 05 42 08.1
comp=Z,2µm,19.0s,baz=135,slow=32
CMB Columbia Colle 85.95 325 IAMs_20 IAMs_20 05 40 28.4
comp=Z,3µm,18.0s
AHID Auburn Hatcher 86.06 333 IAmb IAmb 05 08 58.7
comp=Z,44nm,1.0s
AHID IAMs_20 IAMs_20 05 42 55.7
comp=Z,7µm,19.0s
TOA0 Torodi Ar. Sit 86.17 71 P **P** **05 08 24.7 -1.3**
SNR=28
TORD Torodi Ar. Bea 86.17 71 P **P** **05 08 24.6 -1.4**
comp=Z,50nm,1.1s,baz=227,slow=4.2,SNR=54
TORD S **SKSac** **05 18 49.1 -3.2**
comp=Z,0.5nm,0.9s,baz=225,slow=8.0,SNR=1.7
TORD LR LR 05 45 59.8
comp=Z,7µm,18.0s,baz=217,slow=35
comp=Z,50nm,1.1s
CMLA Cha da Macela 86.22 36 IAMs_20 IAMs_20 05 47 38.8
comp=Z,5µm,19.0s
E28A Huff 86.28 342 P **P** **05 08 26.2 +0.4**
baz=158,SNR=7.9
B35A Bob, Littlefor 86.44 347 IAmb IAmb 05 08 29.1
comp=Z,87nm,1.5s
B35A Bob, Littlefor 86.44 347 P **P** **05 08 26.3 -0.2**
baz=164,SNR=5.6
PNTR Pine Nut 86.44 326 P **P** **05 08 26.7 -0.3**
REDW Red Top Meadow 86.50 334 IAmb IAmb 05 09 19.0
comp=Z,40nm,1.1s
REDW IAMs_20 IAMs_20 05 42 45.1

comp=Z,5µm,20.0s
SNOW Snow King Moun 86.55 334 IAmb IAmb 05 08 38.4
comp=Z,29nm,1.1s
SNOW IAMs_20 IAMs_20 05 42 48.4
comp=Z,6µm,20.0s
LOHW Long Hollow 86.62 334 IAmb IAmb 05 09 01.4
comp=Z,45nm,1.4s
TPAW Teton Pass 86.64 334 IAmb IAmb 05 08 59.1
comp=Z,42nm,1.1s
TPAW IAMs_20 IAMs_20 05 42 50.0
comp=Z,4µm,20.0s
PMOZ Porto Moniz, M 86.76 45 *e*P **P 05 08 32.2 +3.6**
comp=Z,175nm,1.5s
PMOZ Porto Moniz, M 86.76 45 *e*PP PP 05 12 01.7 +10
PMOZ *e*S **S 05 19 13.7 +7.6**
PMOZ Porto Moniz, M 86.76 45 *e*LQ LQ 05 34 18.9
PMOZ *e*LR LR 05 38 19.3
comp=Z,5µm,20.0s
MOOW Moose Ponds 86.79 334 IAMs_20 IAMs_20 05 43 17.0
comp=Z,6µm,20.0s
AGMN Agassiz Nation 86.80 345 IAmb IAmb 05 08 57.6
comp=Z,29nm,0.9s
AGMN Agassiz Nation 86.80 345 P **P 05 08 27.8 -0.4**
baz=162,SNR=8.4
AGMN Agassiz Nation 86.80 345 P **P 05 08 27.5 -0.8**
baz=162
FXWY Fox Creek 86.80 334 IAMs_20 IAMs_20 05 42 56.1
comp=Z,4µm,20.0s
PAHR Pah Rah Range 86.84 326 IAmb IAmb 05 09 13.0
comp=Z,75nm,1.7s
PMAR Madeira 86.85 45 *e*P P 05 08 35.1 +6.0
comp=Z,170nm,2.0s
PMAR Madeira 86.85 45 *e*PP PP 05 12 02.2 +10
AFDM Forest Hills D 86.95 325 IAmb IAmb 05 09 36.6
comp=Z,46nm,1.7s
IMW Indian Meadow 86.99 334 IAmb IAmb 05 09 03.4
comp=Z,41nm,1.1s
IMW IAMs_20 IAMs_20 05 43 41.2
comp=Z,6µm,18.0s
MUSN Musina, Limpop 87.05 116 *e*P **P 05 08 30.7 +0.3**
MUSN Musina, Limpop 87.05 116 *i* P **P 05 08 31.1 +0.7**
MUSN Musina, Limpop 87.05 116 *i* P **P 05 08 31.1 +0.7**
FLWY Flagg Ranch 87.07 334 IAmb IAmb 05 09 01.5
comp=Z,56nm,1.1s
MDND Maddock 87.20 343 P **P 05 08 30.6 +0.4**
baz=159,SNR=6.9
MDND Maddock 87.20 343 P **P 05 08 28.8 -1.4**
baz=159
MDND S **S 05 19 08.7 -0.8**
baz=159
MCCM Marconi Confer 87.22 323 IAMs_20 IAMs_20 05 38 27.0
comp=Z,3µm,20.0s
H17A Grant Village 87.30 334 P **P 05 08 29.4 -1.8**
baz=151
H17A S **S 05 19 14.2 +3.0**
baz=151
LKWY Lake 87.39 335 IAmb IAmb 05 09 27.6
comp=Z,54nm,1.7s
MOPA Mopani 87.40 117 *e*P **P 05 08 31.9 -0.1**
MOPA IAmb IAmb 05 08 35.0
comp=Z,5.0nm,1.0s
MOPA Mopani 87.40 117 *i* P **P 05 08 33.3 +1.3**
MOPA Mopani 87.40 117 *i* P **P 05 08 33.3 +1.3**
PMPST Porto Santo, M 87.44 45 *e*P **P 05 08 35.5 +3.8**
comp=Z,232nm,1.5s
PMPST Porto Santo, M 87.44 45 *e*PP PP 05 12 06.4 +10
RLMT Red Lodge 87.49 336 IAmb IAmb 05 08 48.0
comp=Z,51nm,1.4s
RLMT IAMs_20 IAMs_20 05 43 44.4
comp=Z,3µm,19.0s
RLMT Red Lodge 87.49 336 P **P 05 08 30.0 -2.0**
baz=152
RLMT S **S 05 19 11.0 -1.9**
baz=152
YMR Madison River 87.67 334 IAmb IAmb 05 09 07.2
comp=Z,63nm,1.4s
ORV Oroville 87.69 325 IAmb IAmb 05 10 04.4
comp=Z,51nm,1.6s
ORV IAMs_20 IAMs_20 05 41 30.4
comp=Z,5µm,18.0s
YHH Holmes Hill 87.74 334 IAmb IAmb 05 08 50.0
comp=Z,28nm,1.1s
YHL Hebgen Lake 87.91 334 IAmb IAmb 05 09 07.8
comp=Z,27nm,1.3s
LAO LASA Array 87.92 338 IAmb IAmb 05 09 03.4
comp=Z,37nm,1.2s
LAO LASA Array 87.92 338 P **P 05 08 34.1 +0.3**
baz=154
LAO LASA Array 87.92 338 P **P 05 08 32.4 -1.4**
baz=154
LAO S **S 05 19 10.5 -6.1**
baz=154
HOPS Hopland Field 87.98 324 IAMs_20 IAMs_20 05 40 00.2
comp=Z,5µm,18.0s
HLID Hailey 87.99 332 IAmb IAmb 05 09 21.5
comp=Z,25nm,1.1s
HLID IAMs_20 IAMs_20 05 44 11.5
comp=Z,3µm,18.0s
HLID Hailey 87.99 332 P **P 05 08 34.5 +0.2**
baz=148
HLID S **S 05 19 11.7 -5.9**
baz=148
AFI Afiamalu 88.35 254 LR LR 05 40 07.5
comp=Z,4µm,18.3s,baz=133,slow=30
AFI Afiamalu 88.35 254 IAMs_20 IAMs_20 05 39 57.2
comp=Z,4µm,19.0s
MFID Camas Ranch 88.41 331 IAmb IAmb 05 08 48.8
comp=Z,63nm,1.6s
MFID IAMs_20 IAMs_20 05 45 14.8
comp=Z,4µm,18.0s
ULM Lac du Bonnet 88.66 346 P **P 05 08 36.4 -0.7**
comp=Z,15nm,1.0s,baz=178,slow=4.0,SNR=9.6
comp=Z,15nm,1.0s
ULM Lac du Bonnet 88.66 346 *e*P **P 05 08 38.8 +1.7**
ULM pmax pmax
comp=Z,15nm,1.0s
BOZ Bozeman (W) 88.71 334 IAMs_20 IAMs_20 05 44 02.8
comp=Z,5µm,19.0s
BOZ Bozeman (W) 88.71 334 P **P 05 08 35.5 -2.2**
baz=150
BOZ S **S 05 19 25.0 +0.7**
baz=150
WVOR Wild Horse Val 88.75 328 IAMs_20 IAMs_20 05 44 45.6
comp=Z,4µm,18.0s
WVOR Wild Horse Val 88.75 328 ⇑P **P 05 08 40.4 +2.5**
WVOR ⇑P **sP 05 08 45.0 +2.0**
DLMT Dillon 88.85 334 IAmb IAmb 05 09 13.3
comp=Z,50nm,1.4s
DLMT IAMs_20 IAMs_20 05 44 58.4
comp=Z,6µm,18.0s
DGMT Dagmar 88.96 340 P **P 05 08 39.4 +0.8**
baz=156
DGMT Dagmar 88.96 340 P **P 05 08 38.1 -0.5**
baz=156
MOD Modoc Plateau 89.03 327 IAMs_20 IAMs_20 05 42 49.1
comp=Z,4µm,19.0s
PLID Pearl Lake 89.89 331 IAmb IAmb 05 09 14.9
comp=Z,48nm,1.2s
PLID IAMs_20 IAMs_20 05 45 39.7
comp=Z,4µm,18.0s
YBH Yreka Blue Hor 89.97 325 LR LR 05 43 27.0
comp=Z,1µm,18.2s,baz=150,slow=32
YBH Yreka Blue Hor 89.97 325 IAMs_20 IAMs_20 05 46 32.0
comp=Z,3µm,19.0s
LSZ Lusaka 90.11 109 LR LR 05 48 04.1
comp=Z,12µm,18.2s,baz=237,slow=35
LSZ Lusaka 90.11 109 P **P 05 08 44.7 -0.4**
LSZ pmax pmax
comp=Z,126nm,1.6s
LSZ MLR MLR
comp=Z,16µm,19.0s
BMO Blue Mountains 90.20 330 IAMs_20 IAMs_20 05 46 22.0
comp=Z,3µm,18.0s
EGMT Eagleton 90.21 337 P **P 05 08 43.6 -0.9**
baz=152
MSO Missoula 90.59 334 P **P 05 08 46.6 +0.3**
MSO IAMs_20 IAMs_20 05 45 35.5
comp=Z,5µm,18.0s
MSO Missoula 90.59 334 P **P 05 08 46.7 +0.3**
baz=149
MSO S **S 05 19 43.6 +1.9**
baz=149
HUMO Hull Mountain 90.78 326 IAMs_20 IAMs_20 05 41 35.3
comp=Z,3µm,20.0s
SCHQ Schefferville 91.19 4 LR LR 05 49 16.5
comp=Z,2µm,21.7s,baz=174,slow=35
E08A Dider Farm, El 92.25 330 IAmb IAmb 05 09 26.4
comp=Z,32nm,1.3s
HAWA Hanford 92.36 330 IAmb IAmb 05 09 29.4
comp=Z,23nm,1.1s
WALA Waterton Lakes 92.48 335 IAmb IAmb 05 09 25.1
comp=Z,38nm,1.4s
AVE Averroes 92.89 50 P **P 05 09 01.8 +4.6**
AVE S **SKSac 05 19 35.7 +4.8**
NEW Newport 92.96 332 LR LR 05 46 50.3
comp=Z,2µm,20.4s,baz=140,slow=33
NEW Newport 92.96 332 IAMs_20 IAMs_20 05 47 55.2
comp=Z,4µm,18.0s
NEW Newport 92.96 332 P **P 05 08 55.8 -1.5**
baz=146
MSVF Nonsavu 93.65 245 LR LR 05 43 57.5
comp=Z,2µm,19.5s,baz=117,slow=31
MSVF Nonsavu 93.65 245 IAMs_20 IAMs_20 05 46 57.7
comp=Z,4µm,18.0s
MDT Midelt 94.32 52 LR LR 05 52 52.3
comp=Z,14µm,18.1s,baz=242,slow=36
IFR Ifrane 94.45 51 P **P 05 09 08.6 +3.9**
IFR S **SKKSac 05 19 59.0 -2.3**
PFVI Vila Bisbo 94.64 46 *e*P P 05 09 10.2 +5.0
comp=Z,145nm,1.5s
MORF Marmelete 94.86 46 *e*PP **PP 05 12 54.6 -1.0**
MORF IAMs_20 IAMs_20 05 52 53.5
comp=Z,14µm,32.6s
TAM Tamanrasset 94.97 65 P **P 05 09 07.3 0.0**
TAM Tamanrasset 94.97 65 P **P 05 09 07.3 0.0**
TAM pmax pmax
comp=Z,45nm,1.2s
TAM MLR MLR
comp=Z,8µm,20.0s
PTEO Sao Teotonio 94.98 46 *e*PP **PP 05 12 53.3 -3.2**
PVAQ Vaqueiros 95.47 47 *e*PP **PP 05 12 59.5 -0.8**
PVAQ *e*SKS **SKSac 05 19 53.0 +8.2**
PVAQ Vaqueiros 95.47 47 *e*LQ LQ 05 39 10.7
PVAQ *e*LR LR 05 45 10.2
comp=Z,5µm,18.0s
MESJ Messejana 95.47 46 *e*PP **PP 05 12 59.4 -1.0**
MESJ *e*SKSac **SKSac 05 19 43.5 -1.3**
MESJ IAMs_20 IAMs_20 05 53 18.4
comp=Z,9µm,14.9s
PNCL Nicolau / Gran 95.48 46 *e*PP **PP 05 12 57.5 -2.8**
LIS Lisbon 95.53 45 *e*PP **PP 05 12 59.9 -0.9**
LIS IAMs_20 IAMs_20 05 53 38.5
comp=Z,6µm,18.7s
PMAFR Mafra 95.62 45 *e*P P 05 09 14.9 +5.2
comp=Z,115nm,1.5s
PMAFR Mafra 95.62 45 *e*PP PP 05 12 37.6 -24
PBEJ Beja 95.80 46 *e*PP PP 05 12 46.9 -16
ARNO Arenosillo 95.85 48 P **P 05 09 14.4 +3.7**
ARNO S **SKKSac 05 20 11.2 +0.3**
CEU Ceuta 95.87 49 P **P 05 09 15.5 +4.7**
CEU S **SKKSac 05 20 10.2 -1.0**
PVLZ Peæn de 96.06 50 P **P 05 09 15.7 +4.0**
EVO Evora 96.06 46 *e*PP **PP 05 13 05.4 +0.5**
PSBE So Bento 96.28 45 *e*PP **PP 05 13 05.1 -1.5**
PMTG Montargil 96.30 45 *e*P P 05 09 18.8 +6.1
comp=Z,21nm,2.7s
PMTG Montargil 96.30 45 *e*PP **PP 05 13 07.4 +0.7**
PBAR Barrancos 96.39 47 *e*PP **PP 05 13 08.4 +1.0**
PESTR Estremoz 96.53 46 *e*PP **PP 05 13 10.2 +1.7**
PCAS Casmilo, Conde 96.81 44 *e*PP **PP 05 13 12.4 +1.7**
COI Coimbra 96.97 44 *e*PP **PP 05 13 11.8 0.0**
WMELI Melilla 96.99 51 P **P 05 09 15.8 -0.2**
PMRV Marv??o 97.02 46 *e*PP **PP 05 13 13.8 +1.5**
PMRV *e*SKS SKKSac 05 20 07.3 -12
PMRV Marv??o 97.02 46 *e*LQ LQ 05 40 53.9
PMRV *e*LR LR 05 44 35.0
comp=Z,5µm,18.0s
PCBR Castelo Branco 97.25 45 *e*PP **PP 05 13 12.8 -1.2**
MTE Manteigas 97.58 45 *e*PP PP 05 13 06.3 -10
MTE *e*SKS **SKSac 05 20 05.2 +9.4**
MTE Manteigas 97.58 45 *e*LQ LQ 05 40 45.7
MTE *e*LR LR 05 42 38.9
comp=Z,5µm,20.0s
MTE Manteigas 97.58 45 IAMs_20 IAMs_20 05 51 30.8
comp=Z,6µm,20.0s
POLO Lamas de Olo 98.10 44 *e*P Pdif 05 09 26.9 +5.9
comp=Z,16nm,1.9s
POLO Lamas de Olo 98.10 44 *e*PP **PP 05 13 15.6 -5.0**
PGAV Gavieira, Arco 98.23 43 *e*PP **PP 05 13 14.4 -7.3**
PGAV *e*SKS 05 22 33.5
PGAV Gavieira, Arco 98.23 43 *e*LQ LQ 05 41 54.0
PGAV *e*LR LR 05 45 05.4
comp=Z,5µm,20.0s
CAN Canberra 98.31 214 IAMs_20 IAMs_20 05 44 13.7
comp=Z,4µm,20.0s
MVO Moncorvo 98.39 44 *e*SKS SKKSac 05 20 11.2 -18
MVO Moncorvo 98.39 44 *e*LQ LQ 05 40 21.4
MVO *e*LR LR 05 42 46.1
comp=Z,6µm,18.0s
DZM Mont Dzumac 98.79 234 *e*PP **PP 05 13 22.9 -2.5**
comp=Z,344nm,25.0s
DZM Mont Dzumac 98.79 234 *e*SS SS 05 27 38.0 -2.0
comp=Z,2µm,24.6s
DZM Mont Dzumac 98.79 234 *e*LR LR 05 41 27.0
comp=Z,8µm,26.1s
DZM Mont Dzumac 98.79 234 LR LR 05 44 18.7
comp=Z,3µm,19.8s,baz=165,slow=29
VOI Vohitsoka 99.04 126 IAMs_20 IAMs_20 05 54 07.2
comp=Z,4µm,18.0s
ESDC Sonseca Array 99.18 47 P **Pdif 05 09 25.4 -0.4**
comp=Z,2.8nm,1.0s,baz=269,slow=3.9,SNR=8.8
ESDC PP **PP 05 13 24.7 -4.2**
comp=Z,2.1nm,1.0s,baz=244,slow=5.8,SNR=4.5
ESDC LR LR 05 52 55.1
comp=Z,5µm,19.8s,baz=210,slow=35
comp=Z,2.8nm,1.0s
ESDC Sonseca Array 99.18 47 P **Pdif 05 09 26.2 +0.4**
CART Cartagena 99.64 50 P **Pdif 05 09 29.4 +1.6**
CART Cartagena 99.64 50 IAMs_20 IAMs_20 05 56 09.4
comp=Z,4µm,19.0s
FRB Frobisher Bay 100.03 2 LR LR 05 55 05.5
comp=Z,901nm,20.9s,baz=170,slow=36
KOUNC Koumac, New Ca 101.28 234 IAMs_20 IAMs_20 05 46 15.3
comp=Z,3µm,20.0s
ABPO Ambohimpanom 101.36 124 IAMs_20 IAMs_20 05 48 46.7
comp=Z,4µm,21.0s
MAHO Mahon 104.32 51 P **Pdif 05 09 52.5 +4.0**
MAHO Mahon 104.32 51 IAMs_20 IAMs_20 05 59 41.1
comp=Z,5µm,18.0s
RER Riere de l'E 105.22 131 IAMs_20 IAMs_20 05 51 26.8
comp=Z,4µm,20.0s
ANGG Ammassalik, Gr 105.57 15 IAMs_20 IAMs_20 05 57 07.5
comp=Z,4µm,19.0s
S34M Telegraph Cree 105.75 332 P **PKiKP 05 14 08.4 +1.3**
baz=135
KMBO Kilima Mbogo 105.87 104 *e*P **PKiKP 05 14 08.6 -0.5**
ILULI Ilulissat 106.74 8 IAMs_20 IAMs_20 06 00 01.1
comp=Z,4µm,20.0s
LODK Lodwar 107.14 99 *e*P **PKiKP 05 14 17.8 +6.6**
P33M Teslin, Yukon 107.97 333 IAMs_20 IAMs_20 05 56 57.2
comp=Z,3µm,19.0s
P29M Windy Craggy 109.45 331 IAMs_20 IAMs_20 05 57 24.1
comp=Z,3µm,20.0s
FARO Faro, Yukon 109.54 335 P **PKiKP 05 14 11.4 -2.7**
baz=132
TARA Tarawa 109.64 257 IAMs_20 IAMs_20 05 48 30.0
comp=Z,4µm,21.0s
M31M Drury Creek, Y 109.89 334 IAMs_20 IAMs_20 05 56 30.7
comp=Z,4µm,21.0s
NWAO Narrogin (SRO) 110.17 190 IAMs_20 IAMs_20 05 57 08.5
comp=Z,2µm,19.0s
VLC Villacollemand 110.47 50 IAMs_20 IAMs_20 06 03 27.1
comp=Z,3µm,18.0s
ROCAM Rodrigues Isla 110.74 136 IAMs_20 IAMs_20 05 54 32.8
comp=Z,2µm,20.0s
C36M Paulatuk 111.90 343 IAMs_20 IAMs_20 06 05 33.9
comp=Z,3µm,19.0s
HNR Honiara 112.14 239 IAMs_20 IAMs_20 05 59 37.3
comp=Z,3µm,18.0s
CTA Charters Tower 112.31 220 Pdiff **Pdif 05 10 25.7 +1.0**
comp=Z,0.6nm,0.3s,baz=149,slow=5.9,SNR=1.2
CTAO Charters Tower 112.31 220 IAMs_20 IAMs_20 05 55 24.4
comp=Z,3µm,20.0s
TULEG Thule 112.85 1 IAMs_20 IAMs_20 06 03 54.4
comp=Z,3µm,20.0s
SCO Scoresbysund 112.96 17 IAMs_20 IAMs_20 06 00 40.9
comp=Z,2µm,20.0s
L27K Beaver Creek, 113.11 333 IAMs_20 IAMs_20 05 59 39.1
comp=Z,3µm,18.0s
EPYK Eagle Plains 113.35 337 IAMs_20 IAMs_20 05 59 06.4
comp=Z,3µm,21.0s
K27K Chicken 113.76 333 IAMs_20 IAMs_20 05 59 32.1
comp=Z,2µm,20.0s
A36M Sachs Harbour 114.10 344 IAMs_20 IAMs_20 06 07 23.2
comp=Z,3µm,21.0s
NKC Novy Kostel 114.69 45 *e*SP SP 05 24 47.8 -11
NKC AMS AMS 06 06 30.0
comp=Z,6µm,16.8s
GERES GERESS Array B 114.77 47 PKP PKPdf 05 14 23.4 -1.2
comp=Z,2.2nm,0.8s,baz=132,slow=2.0,SNR=12
GERES GERESS Array B 114.77 47 *e*PKIKP PKPdf 05 14 24.0 -0.6
GERES pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 114.77 208 PKP **PKiKP 05 14 23.9 -1.6**
comp=Z,0.7nm,0.8s,baz=169,slow=2.6,SNR=6.0
ASAR PKKPbc **PKKPbc 05 25 00.5 -1.4**
comp=Z,0.5nm,0.5s,baz=344,slow=3.2,SNR=6.0
ASAR PKKP **PKKPdf 05 25 21.1 -3.0**
comp=Z,0.9nm,0.6s,baz=336,slow=3.5,SNR=5.3
KHC Kasperske Hory 114.83 46 *e*PKPDF PKPdf 05 14 23.6 -1.0
KHC *ex* x 05 14 43.0
KHC *e*SP SP 05 25 01.8 +1.4
KHC AMS AMS 06 05 40.0
comp=Z,6µm,17.5s
KHC Kasperske Hory 114.83 46 *e*PKIKP PKPdf 05 14 23.6 -1.0
KHC *e*SP SP 05 25 01.8 +1.4
KHC MLR MLR
comp=Z,6µm,17.5s
CKRC Cesky Krumlov 115.11 47 *e*SP SP 05 24 54.2 -8.8
CLL Collm 115.50 44 IAMs_20 IAMs_20 06 00 42.8
comp=Z,4µm,20.0s
CLL Collm 115.50 44 *e*PKiKP **PKiKP 05 14 26.0 +0.2**
CLL *ex* x 05 14 40.0
CLL *e*PP **PP 05 15 25.0 -3.3**
CLL *e*PPP PPP 05 17 54.0
CLL *e*SKSac **SKSac 05 21 12.0 -2.4**
CLL *e*SKKSac **SKKSac 05 22 30.0 +1.4**
CLL *e*Sdif **Sdif 05 23 19.0 +6.5**
CLL *e*PS **PS 05 25 09.0 +0.8**
CLL *e*PPS PPS 05 26 26.0
CLL *e*SS **SS 05 31 25.0 -2.2**
CLL *ex* x 05 32 12.0
CLL *ex* x 05 34 06.0
CLL *e*SSS SSS 05 35 54.0
CLL *e*SSSS 05 38 54.0
CLL *ex* x 05 42 24.0
CLL Lm MLR 06 01 00.0
comp=N,1µm,21.5s
CLL Lm MLR 06 01 00.0
comp=E,3µm,19.7s
CLL Lm MLR 06 01 00.0
comp=Z,4µm,20.5s
CLL Lmax 06 06 00.0
CLL LmV 06 06 00.0
comp=Z,4µm,18.0s
CLL Collm 115.50 44 *e*PKIKP **PKiKP 05 14 26.0 +0.2**
CLL MLR MLR
comp=Z,4µm,18.0s
PRU Pruhonice 115.78 46 *e*SP SP 05 25 10.3 +1.3
PRU AMS AMS 06 06 20.0
comp=Z,6µm,18.0s
PRP Porcupine Dome 115.82 334 IAMs_20 IAMs_20 06 14 56.5
comp=Z,2µm,19.0s
BRG Berggiesshubel 115.83 45 *e*PKP **PKPdf 05 14 24.7 -1.8**
BRG Amp 05 14 29.5
comp=Z,4.6nm,1.1s
BRG Berggiesshubel 115.83 45 Amp 06 07 53.0
comp=E,3.1nm,17.1s
BRG Berggiesshubel 115.83 45 *e*PKIKP **PKPdf 05 14 24.6 -1.8**
BRG *e* 05 31 31.0
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 115.83 45 *ex* x 05 31 31.0
BRG Berggiesshubel 115.83 45 Amp 06 07 41.0
comp=Z,5.8nm,17.2s
BRG Berggiesshubel 115.83 45 Amp 06 07 46.0
comp=N,2.9nm,17.1s
GOPC GO Pecny, Ondr 115.89 46 *e*SP SP 05 25 01.7 -8.3
GOPC AMS AMS 06 06 40.0
comp=N,6µm,17.1s
ILAR Eielson Array 115.92 333 PKP **PKiKP 05 14 27.1 +0.9**
comp=N,0.2nm,0.8s,baz=50,slow=49,SNR=2.6
TREC Trest 116.02 47 *e*PKKP 05 24 56.6
TREC AMS AMS 06 08 20.0
comp=N,3µm,17.5s
PVCC Panska Ves 116.03 45 *e*SP SP 05 25 03.1 -8.2
PVCC AMS AMS 06 01 30.0
comp=N,4µm,21.4s
FYU Fort Yukon 116.27 335 IAMs_20 IAMs_20 06 01 51.4
comp=Z,2µm,20.0s
POKR Poker Plat Res 116.30 333 IAMs_20 IAMs_20 06 15 20.2
comp=Z,3µm,18.0s
KRUC Moravsky 116.45 47 *e*PKP **PKiKP 05 14 28.8 +1.1**
MORH Mrgy, Hungar 116.58 51 ⇑P **PKiKP 05 14 28.1 +0.1**
NEA2 Nenana 116.64 332 IAMs_20 IAMs_20 06 02 46.3
comp=Z,3µm,18.0s
VRAC Vranov 116.67 47 *e*PKP **PKiKP 05 14 29.4 +1.3**
SANT Santorini 116.81 63 IAMs_20 IAMs_20 06 11 46.3
comp=Z,3µm,18.0s
UPC Upice 116.86 46 *e*PKKP 05 25 12.3
UPC AMS AMS 06 07 00.0
comp=Z,5µm,18.5s
DPC Dobruska-Polom 116.97 46 *e*PKPDF **PKiKP 05 14 29.0 +0.3**
DPC *e*SP SP 05 25 22.5 +2.7
DPC AMS AMS 06 07 20.0
comp=Z,5µm,17.6s
DPC Dobruska-Polom 116.97 46 *e*PKIKP **PKiKP 05 14 29.0 +0.3**
DPC *e*SP SP 05 25 22.5 +2.7
DPC MLR MLR
comp=Z,5µm,17.6s
OSTC Ostas 116.99 46 *e*PKPDF **PKPdf 05 14 27.7 -1.0**
OSTC *e*SP SP 05 25 16.1 -4.0
OSTC AMS AMS 06 07 10.0
comp=Z,5µm,17.9s
KRLC Kraliky 117.11 46 *e*PKPDF **PKPdf 05 14 28.9 -0.1**
KRLC *ex* x 05 14 41.2
KRLC *ex* x 05 25 05.8
KRLC AMS AMS 06 10 30.0
comp=Z,3µm,17.1s
KRLC Kraliky 117.11 46 *e*PKIKP **PKPdf 05 14 28.9 -0.1**
KRLC *e* 05 14 41.2
KRLC MLR MLR
comp=Z,3µm,17.1s
MAUC Maruska 117.43 47 *e*PKPDF **PKiKP 05 14 30.6 +1.0**
MAUC *e*SP SP 05 25 30.0 +5.9
MAUC AMS AMS 06 06 40.0
comp=Z,4µm,17.9s
MORC Moravsky Berou 117.43 47 ⇑P **PKPdf 05 14 28.5 -1.1**
MORC Moravsky Berou 117.43 47 ⇑PKIKP **PKPdf 05 14 28.5 -1.1**
MLY Manley 117.48 332 IAMs_20 IAMs_20 06 03 12.1
comp=Z,3µm,19.0s
VYHS Vyhne 117.67 49 *e*PKP **PKPdf 05 14 30.1 0.0**
VYHS Vyhne 117.67 49 *e*PKIKP **PKPdf 05 14 30.1 0.0**
OKC Ostrava-Krasne 117.82 47 *e*PKPDF **PKiKP 05 14 32.6 +2.3**
OKC *e*PKKP **PKKPdf 05 25 20.1 -0.4**
OKC AMS AMS 06 09 30.0
comp=Z,2µm,16.4s
OKC Ostrava-Krasne 117.82 47 *e*PKIKP **PKiKP 05 14 32.6 +2.3**
OKC *e*SP SP 05 25 20.1 -7.4
OKC MLR MLR
comp=Z,2µm,16.4s
WRA Warramunga Arr 117.97 210 PKP **PKPdf 05 14 30.6 -1.1**
comp=Z,1.1nm,0.7s,baz=169,slow=1.6,SNR=7.2
WRA PKKPab **PKKPab 05 24 54.4 -2.7**
comp=Z,2.4nm,1.1s,baz=339,slow=3.5,SNR=6.9
WRA PKKP **PKKPdf 05 25 19.4 +1.3**
comp=Z,0.9nm,0.8s,baz=338,slow=4.0,SNR=4.7
WRA Warramunga Arr 117.97 210 **PKPdf 05 14 30.9 -0.8**
WRA Warramunga Arr 117.97 210 PKIKP **PKPdf 05 14 30.9 -0.8**
WRAB Tennant Creek 117.97 210 i/PKIKP **PKPdf 05 14 29.8 -1.9**
WRAB MLR MLR
comp=Z,4µm,16.0s
BLKB Belogradchik 118.05 55 ⇓P **PKPdf 05 14 30.3 -0.7**
PSZ Piszkesteto 118.07 50 IAMs_20 IAMs_20 06 09 55.2
comp=Z,3µm,18.0s
BZS Buzias 118.20 52 ⇓P **PKPdf 05 14 29.9 -1.3**
BZS Buzias 118.20 52 ⇓PKIKP **PKPdf 05 14 29.9 -1.3**
SIRR Siria 118.49 52 ⇑P **PKPdf 05 14 31.3 -0.4**
NOA NORSAR Array B 118.80 34 PKP **PKPdf 05 14 31.5 -0.3**
comp=Z,0.7nm,0.9s,baz=52,slow=16,SNR=3.1
GZR Gura Zlata 118.85 53 ⇑P **PKPdf 05 14 32.1 -0.4**
GZR Gura Zlata 118.85 53 ⇑PKIKP **PKPdf 05 14 32.1 -0.4**
TRPA Tarpa 119.78 50 ⇑P **PKPdf 05 14 34.0 -0.1**
UZH Uzhgorod 119.83 50 *i* PKIKP **PKiKP 05 14 36.0 +1.8**
UZH *e* 05 15 58.0
UZH *i* PPP PPP 05 18 40.0
UZH *i* 05 25 53.0
UZH *i* 05 32 17.0

ARR Arges 120.04 54 ⇑P PKPdf 05 14 32.9 -1.9
VOIR 120.34 54 ⇑P PKPdf 05 14 34.2 -1.2
VOIR 120.34 54 ⇑PKIKP PKPdf 05 14 34.2 -1.2
PMG Port Moresby 120.44 228 IAMs_20 IAMs_20 05 55 42.6
comp=Z,4μm,21.0s
ARCR ARCALIA 120.52 52 ⇑P PKPdf 05 14 34.9 -0.7
DOPR Dopca 120.76 53 ⇑P PKPdf 05 14 34.5 -1.7
MLR Muntele Rosu 120.94 54 ⇑P PKPdf 05 14 35.6 -1.0
MLR Muntele Rosu 120.94 54 PKPdf PKPdf 05 14 36.4 -0.2
MLR Muntele Rosu 120.94 54 ⇑PKIKP PKPdf 05 14 35.6 -1.0
NEHR Nehoiu 121.15 54 ⇑P PKPdf 05 14 35.6 -1.3
BURAR Bucovina Array 121.26 51 ⇑P PKPdf 05 14 36.9 -0.2
BURAR Bucovina Array 121.26 51 ⇑PKIKP PKPdf 05 14 36.9 -0.2
MBWA Marble Bar 121.27 194 IAMs_20 IAMs_20 06 04 44.6
comp=Z,3μm,19.0s
PLOR Plostina 121.53 54 ⇑P PKPdf 05 14 36.7 -0.9
PLOR Plostina 121.53 54 ⇑PKIKP PKPdf 05 14 36.7 -0.9
VRI Vrincioaia 121.59 54 ⇑P PKPdf 05 14 36.2 -1.5
VRI Vrincioaia 121.59 54 ⇑PKIKP PKPdf 05 14 36.2 -1.5
HARR Harsova 121.95 55 ⇑P PKPdf 05 14 35.8 -2.6
HARR Harsova 121.95 55 ⇑PKIKP PKPdf 05 14 35.8 -2.6
CSS Mathiatis 121.97 68 PKPdf 05 14 38.9 +0.1
CSS IAMs_20 IAMs_20 06 12 40.0
comp=Z,3μm,19.0s
A21K Barrow 122.02 338 IAMs_20 IAMs_20 06 07 06.5
comp=Z,2μm,21.0s
TIRR Tirgusor 122.19 56 ⇑P PKPdf 05 14 37.9 -0.9
TIRR Tirgusor 122.19 56 ⇑PKIKP PKPdf 05 14 37.9 -0.9
CFR Carcaliu 122.26 55 ⇑P PKPdf 05 14 38.4 -0.6
CFR Carcaliu 122.26 55 ⇑PKIKP PKPdf 05 14 38.4 -0.6
RDOG Red Dog Mine 123.12 333 IAMs_20 IAMs_20 06 15 18.5
comp=Z,2μm,20.0s
MILM Milestii Mici 123.31 53 ⇑P PKPdf 05 14 38.6 -2.3
MILM Milestii Mici 123.31 53 ⇑PKIKP PKPdf 05 14 38.6 -2.3
SORM Soroca 123.42 52 ⇑P PKPdf 05 14 40.0 -1.1
SORM Soroca 123.42 52 ⇑PKIKP PKPdf 05 14 40.0 -1.1
ANTO Ankara 123.52 62 IAMs_20 IAMs_20 06 15 06.8
comp=Z,3μm,19.0s
BR131 Keskin Array S 124.07 63 P PKiKP 05 14 44.1 +1.0
BR131 Keskin Array S 124.07 63⇓iPKIKP PKPdf 05 14 42.1 -0.7
BRTR Keskin Array B 124.07 63 PKP PKPdf 05 14 42.4 -0.4
comp=Z,4.7nm,0.8s,baz=198,slow=2.8,SNR=19
NACGM Naroch 124.53 44 ePKP PKiKP 05 14 43.6 +0.3
comp=Z,26nm,1.3s,baz=254
AKASG Malin Array Be 124.76 49 PKP PKPdf 05 14 42.0 -1.5
comp=Z,5.2nm,0.8s,baz=268,slow=1.9,SNR=18
AKASG PP PP 05 16 30.1 -1.7
comp=Z,0.7nm,0.5s,baz=256,slow=6.8,SNR=12
AKBB Malin Array Si 124.76 49⇓iPKIKP PKPdf 05 14 42.3 -1.3
MNK Minsk 125.04 44 i PKP PKPdf 05 14 40.4 -3.6
comp=N,55nm,0.9s
MNK i PKP PKiKP 05 14 42.8 -1.5
comp=E,2.0nm,0.7s
MNK i PKP PKiKP 05 14 42.8 -1.5
comp=Z,22nm,1.0s,baz=75
MNK i PP PP 05 16 22.2 -11
MNK i PPP PPP 05 19 18.3
MNK i SKS SKSdf 05 21 54.8 -0.6
MNK i PS PS 05 26 36.6 +3.0
MNK i SS SS 05 33 08.3 -21
MNK i SSS SSS 05 37 50.3
MNK i LQ LQ 06 00 56.2
MNK i LR LR 06 04 23.6
MNK i LRM MLR 06 07 06.5
comp=E,580nm,24.3s
MNK i LRM MLR 06 07 23.1
comp=N,1μm,17.9s
MNK i LRM MLR 06 07 25.7
comp=Z,3μm,21.1s
MNK Minsk 125.04 44 i PKIKP PKPdf 05 14 40.4 -3.6
MNK i PPP PPP 05 19 18.3
MNK i 05 21 54.7
MNK i PS PS 05 26 36.6 +3.0
MNK pmax pmax
comp=N,55nm,0.9s
MNK pmax pmax
comp=Z,22nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=E,580nm,24.0s
MNK MLR MLR
comp=N,1μm,18.0s
MNK MLR MLR
comp=Z,3μm,21.0s
SIM Simferopol' 126.18 57 i PKIKP PKPdf 05 14 44.2 -2.3
SIM e 05 16 43.8
SIM ePPS PPS 05 28 08.0
SIM eSS SS 05 33 40.0 -4.5
SIM pmax pmax
comp=Z,42nm,1.2s
SIM pmax pmax
comp=Z,400nm,6.4s
SIM pmax pmax
comp=Z,230nm,15.8s
SIM pmax pmax
comp=E,540nm,19.8s
SIM pmax pmax
comp=N,1μm,18.6s
RAYN Ar Rayn 126.40 86 PKPdf PKiKP 05 14 48.0 -0.1
RAYN Ar Rayn 126.40 86 P PKiKP 05 14 48.0 -0.1
RAYN Ar Rayn 126.40 86 PKiKP PKPdf 05 14 47.7 +0.1
RAYN Ar Rayn 126.40 86 ⇑PKIKP PKPdf 05 14 47.2 -0.5
ARCES ARCESS Array B 126.81 26 PKP PKPdf 05 14 46.1 -0.9
comp=N,4.5nm,0.9s,baz=248,slow=1.0,SNR=1.6
KEV Kevo 127.36 26 IAMs_20 IAMs_20 06 05 56.0
comp=Z,4μm,21.0s
ANN Anapa 128.39 58 i PKIKP PKPdf 05 14 48.7 -2.0
ANN e 05 16 51.7
ANN e 05 21 56.6
ANN eSS SS 05 34 08.1 -3.8
ANN pmax pmax
comp=Z,145nm,1.7s
ANN MLR MLR
comp=Z,2μm,21.0s
ABTO Aybut 129.51 97 P PKPdf 05 14 53.8 +0.1
SNR=5.5
APA Apatity 129.59 28⇓iPKIKP PKiKP 05 14 53.2 +0.2
APA pmax pmax
comp=Z,7.0nm,0.9s
SOC Sochi 129.63 60 i PKIKP PKPdf 05 14 53.0 -0.1
SOC i 05 17 01.6
SOC ePPP PPP 05 27 10.0
SOC eSS SS 05 34 23.2 -4.1
SOC eSSS SSS 05 39 08.3
SOC pmax pmax
comp=Z,20nm,0.8s
SAUI Saumlaki 129.97 213 IAMs_20 IAMs_20 06 09 03.3
comp=Z,3μm,18.0s
OBN Obninsk 130.08 45⇑iPKIKP PKiKP 05 14 55.6 +1.2
OBN e 05 15 09.1
OBN SSS SSS 05 39 26.0
OBN pmax pmax
comp=Z,54nm,1.5s
OBN MLR MLR
comp=Z,4μm,19.0s
WHFO Wadi Hawf 130.20 97 P PKiKP 05 14 55.8 0.0
COCO West Island 130.68 167 IAMs_20 IAMs_20 06 03 56.2
comp=Z,4μm,21.0s
MOS Moscow 130.76 44 ePKIKP PKPdf 05 14 55.2 +0.3
MOS e 05 15 07.3
MOS e 05 17 09.4
MOS ePPP PPP 05 20 05.5
MOS e 05 28 53.8
MOS pmax pmax
comp=Z,35nm,0.9s
MOS MLR MLR
comp=Z,6μm,21.0s
MOS MLR MLR
comp=N,2μm,19.0s
MOS MLR MLR
comp=E,5μm,21.0s
DOK Doka 130.86 97 P PKiKP 05 14 58.0 +0.9
SNR=5.5
VSR Storozhevoye 130.99 50 ePKIKP PKPdf 05 14 55.1 -0.3
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR MLR MLR
comp=Z,2μm,20.0s
DMTO DMTO 131.03 98 P PKPdf 05 14 56.8 +0.3
LPSR Galich'ya Gora 131.08 48 ePKIKP PKiKP 05 14 56.1 -0.4
LPSR pmax pmax
comp=Z,30nm,1.2s
LPSR MLR MLR

comp=Z,2μm,19.0s
VORR Voronezh 131.10 50 ePKIKP PKiKP 05 14 57.9 +1.4
VORR pmax pmax
comp=Z,100nm,0.5s
KIV Kislovodsk 131.80 60 IAMs_20 IAMs_20 06 16 28.9
comp=Z,2μm,20.0s
KIV Kislovodsk 131.80 60 i PKIKP PKiKP 05 14 58.1 -0.3
KIV e 05 17 17.0
KIV ePS PS 05 27 30.8 -2.4
KIV eSS SS 05 34 53.0 -1.2
KIV eSSS SSS 05 39 45.0
KIV pmax pmax
comp=Z,24nm,1.1s
KBZ Khabaz 131.89 61 PKP PKPdf 05 14 55.2 -2.2
comp=Z,2.1nm,0.7s,baz=156,slow=3.1,SNR=3.0
KBZ Khabaz 131.89 61⇑iPKIKP PKiKP 05 14 58.9 +0.5
KBZ MLR MLR
comp=Z,2μm,20.0s
KLMR Klimovskoe 132.15 37 ePKPdf PKPdf 05 14 57.5 +0.2
KLMR AMP 05 15 01.3
comp=Z,65nm,1.6s
KLMR eSKPbc SKPbc 05 18 22.7 -0.8
KLMR LR LR 06 06 12.6
KLMR AMP 06 13 04.1
comp=Z,3μm,20.9s
KLMR Klimovskoe 132.15 37 ePKIKP PKPdf 05 14 57.5 +0.2
KLMR pmax pmax
comp=Z,65nm,1.6s
KLMR MLR MLR
comp=Z,3μm,21.0s
GNI Garni 132.27 66 IAMs_20 IAMs_20 06 16 27.6
comp=Z,2μm,20.0s
GNI Garni 132.27 66d iPKIKP PKiKP 05 15 00.6 +1.0
GOF Gofitskoye 132.31 59⇑ePKIKP PKiKP 05 14 59.2 0.0
ZEI Tsey 132.37 62 i PKIKP PKiKP 05 15 00.4 +0.7
ZEI pmax pmax
comp=Z,10.0nm,1.3s
MZR Muzera 132.57 91 PKPdf PKPdf 05 14 58.8 -0.5
VRH Novokhopyorsk 132.58 51 ePKIKP PKiKP 05 15 01.1 +1.6
VRH pmax pmax
comp=Z,10.0nm,0.9s
VRH MLR MLR
comp=Z,2μm,23.0s
MMRI Maumere 132.69 201 IAMs_20 IAMs_20 06 16 13.0
comp=Z,3μm,18.0s
GROC Groznyy 133.82 62 ePKIKP PKPdf 05 15 01.6 +0.5
GROC pmax pmax
comp=Z,58nm,0.5s
FAKI Fak Fak 133.99 217 IAMs_20 IAMs_20 06 17 22.7
comp=Z,1μm,18.0s
DQM DQM 134.28 97 P PKPdf 05 15 03.0 +0.4
SNR=6.9
ALNE Al Ain 134.90 91 PKPdf PKPdf 05 15 03.3 -0.4
MAK Makhachkala 134.99 63 i P Pdif 05 11 59.6 -5.2
MAK i 05 15 00.2
MAK e 05 22 09.9
MAK pmax pmax
comp=Z,379nm,1.3s
PRGR Permogore 135.07 36 ePKIKP PKiKP 05 15 03.7 -0.6
PRGR e 05 17 35.6
PRGR pmax pmax
comp=Z,23nm,1.0s
FAQ Al Faqa, Dubai 135.10 90 P PKiKP 05 15 05.0 -0.6
MHTO MHTO 135.17 97 P PKPdf 05 15 03.8 -0.4
NAZ Nazwa, Dubai 135.27 90 P PKiKP 05 15 07.5 +1.7
ASHO Ashiyiah 135.44 91 PKiKP PKPdf 05 15 05.5 +0.8
HATD Hatta, Dubai 135.57 91 PKPdf PKPdf 05 15 04.3 -0.6
MSFE Esma-Masafi 135.84 90 PKiKP PKPdf 05 15 05.9 +0.5
SHME Shamm 136.13 89 P PKiKP 05 15 06.9 -0.7
SHME Shamm 136.13 89 PKPdf PKPdf 05 15 04.4 -1.5
BANOM Banah 136.20 89 P PKPdf 05 15 06.8 +0.7
BANOM Banah 136.20 89 PKPdf PKPdf 05 15 05.7 -0.4
SMDO Samad 136.28 94 P PKPdf 05 15 07.2 +0.8
BELG Belogornoye 136.34 49d iPKIKP PKiKP 05 15 06.5 -0.6
BELG MLR MLR
comp=Z,498nm,22.0s
WBK Wadi Bani Khal 136.79 95 P PKiKP 05 15 08.3 -0.8
SNR=7.2
KAPI Kappang 136.84 199 PKP PKPdf 05 15 07.2 -0.5
comp=Z,2.3nm,0.4s,baz=203,slow=5.6,SNR=3.8
KAPI Kappang 136.84 199 IAMs_20 IAMs_20 06 17 01.8
comp=Z,2μm,18.0s
KAPI Kappang 136.84 199d iPKIKP PKiKP 05 15 09.4 0.0
KIRV Kirov 137.23 40⇑iPKIKP PKiKP 05 15 08.3 -0.4
HMDM Hanimaadhoo 137.53 126 IAMs_20 IAMs_20 06 10 46.9
comp=Z,3μm,18.0s
LUWI Luwuk 139.67 206 IAMs_20 IAMs_20 06 13 22.0
comp=Z,1μm,19.0s
PMBI Palembang 140.70 177 IAMs_20 IAMs_20 06 19 42.3
comp=Z,2μm,19.0s
PETK Petropavlovsk- 141.02 312 PKP PKPdf 05 15 13.6 -0.4
comp=Z,5.9nm,0.9s,baz=116,slow=10,SNR=3.8
BKB Balikpapan 141.17 197 IAMs_20 IAMs_20 06 16 37.2
comp=Z,2μm,19.0s
SEY Seymchan 141.60 328 PKP PKPdf 05 15 14.4 -0.3
comp=Z,13nm,1.2s,baz=88,slow=2.4,SNR=4.6
SEY Seymchan 141.60 328⇑iPKIKP PKiKP 05 15 17.7 +0.1
SEY MLR MLR
comp=Z,2μm,19.0s
GEYT Alibeck 141.78 73 PKhKP PKPpre 05 15 09.4
comp=Z,6.6nm,0.7s,baz=276,slow=7.3,SNR=12
PCHI Peechi 142.40 126 ex x 05 25 26.5
ARU Arti 142.43 43 i PKIKP PKiKP 05 15 18.3 -1.2
ARU 05 18 21.6
ARU MLR MLR
comp=Z,5μm,21.0s
PALK Pallekele 142.53 135 PKP PKPdf 05 15 17.5 -0.6
comp=Z,5.5nm,0.7s,baz=225,slow=4.3,SNR=2.7
PALK Pallekele 142.53 135 P PKPdf 05 15 18.7 +0.7
AKTO Aktyubinsk 142.85 52 PKHKP PKPpre 05 15 11.4
TIXI Tiksi 142.97 348 PKhKP PKPpre 05 15 11.1
comp=Z,5.5nm,0.8s,baz=27,slow=0.1,SNR=12
TIXI PKP PKPdf 05 15 16.6 -0.4
comp=Z,9.9nm,0.8s,baz=65,slow=0.0,SNR=7.1
TIXI Tiksi 142.97 348dePKIKP PKPdf 05 15 13.6 -3.3
SVE Sverdlovsk 143.46 42 i PKIKP PKPdf 05 15 17.9 -0.3
SVE MLR MLR
comp=Z,4μm,22.0s
SVE MLR MLR
comp=E,3μm,22.0s
MA2 Magadan 143.51 323 PKP PKPdf 05 15 17.4 -0.8
comp=E,11nm,0.8s,baz=146,slow=14,SNR=2.6
BKNI Bangkinang 143.61 171 IAMs_20 IAMs_20 06 13 10.7
comp=Z,2μm,20.0s
AB31 Akbulak array 144.15 54 i PKHKP PKPpre 05 15 13.4
GOA Goa 144.17 117 eP PKPab 05 15 18.4 0.0
KSM Kuching 144.93 187 PKPab 05 15 21.2 -0.1
KSM IAMs_20 IAMs_20 06 19 16.7
comp=Z,2μm,19.0s
MYKOM Kota Tinggi 145.33 175 IAMs_20 IAMs_20 06 12 33.6
comp=Z,2μm,21.0s
NRIK Noril'sk 145.54 12 PKPbc PKPdf 05 15 20.2 -1.3
comp=Z,42nm,1.1s,baz=352,slow=1.6,SNR=29
NRIK Noril'sk 145.54 12 ePKIKP PKPab 05 15 23.7 +1.7
NRIK pmax pmax
comp=Z,42nm,1.1s
RPSI Rantau Prapat 145.59 166 PKPdf PKPdf 05 15 22.6 -0.7
BHUJ Bhuj 145.62 102 eP PKPab 05 15 23.9 +0.3
BHUJ IAmb IAmb 05 15 27.7
comp=Z,421nm,1.1s
PSI Prapat 145.70 166 PKIKP PKPdf 05 15 22.6 -1.1
DAV Davao City (W) 145.89 215 PKPbc PKPab 05 15 25.2 +0.4
comp=Z,254nm,0.4s,baz=15,slow=5.5,SNR=1.9
POO Poona 146.15 113 eP PKPdf 05 15 24.2 +0.1
POO IAmb IAmb 05 15 50.3
comp=Z,290nm,1.4s
MDRS Chennai 146.81 128 eP PKPdf 05 15 24.9 -0.3
MDRS IAmb IAmb 05 15 52.5
comp=Z,58nm,0.9s
IPM Ipoh 147.69 170 IAMs_20 IAMs_20 06 19 45.0
comp=Z,2μm,20.0s
KKM Kota Kinabalu 148.37 199 IAMs_20 IAMs_20 06 26 47.3
comp=Z,1μm,18.0s
HYB Hyderabad 148.81 120 eP PKPdf 05 15 30.4 +1.8
HYB IAmb IAmb 05 15 42.4
comp=Z,103nm,1.0s
HYBB Hyderabad (bro 148.81 120 ePKPbc PKPbc 05 15 32.1 -0.4
KBL Kabul 149.56 83 PKPdf PKPdf 05 15 29.4 -0.2
KBL Kabul 149.56 83 P PKPdf 05 15 31.3 +1.7
SNR=15
KBL Kabul 149.56 83 PKHKP PKPpre 05 15 29.4
BRVK Borovoye 149.85 45 PKPdf PKPdf 05 15 29.9 +0.8
BRVK Borovoye 149.85 45 P PKPdf 05 15 31.0 +1.9
BRVK Borovoye 149.85 45 PKHKP PKPpre 05 15 30.6
BVA0 Borovoye Array 149.93 45 PKHKP PKPpre 05 15 29.3

YAK Yakutsk 150.68 338 PKPdf PKPdf 05 15 31.1 +1.0
YAK IAMs_20 IAMs_20 06 28 23.8
comp=Z,2μm,20.0s
YAK Yakutsk 150.68 338 ePKIKP PKPbc 05 15 35.6 0.0
YAK e 05 19 18.5
YAK e 05 22 41.5
YAK pmax pmax
comp=Z,95nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=Z,511nm,4.1s
YAK pmax pmax
comp=N,293nm,4.6s
YAK pmax pmax
comp=E,462nm,4.1s
YSS Yuzh-Sakhalins 151.27 303 IAMs_20 IAMs_20 06 08 37.7
comp=Z,2μm,22.0s
YSS Yuzh-Sakhalins 151.27 303 i PKIKP PKPdf 05 15 32.1 +0.6
YSS e 05 19 21.7
YSS pmax pmax
comp=Z,1μm,4.4s
YSS pmax pmax
comp=Z,40nm,1.1s
IUG Iuzhnay 151.38 67 ePKP PKPdf 05 15 33.4 +1.3
baz=67
IUG ePP PP 05 19 17.1 -0.6
baz=67
IUG Iuzhnay 151.38 67 ePKIKP PKPdf 05 15 33.3 +1.3
IUG e 05 19 17.0
SRIT Nakonsritamara 151.47 166 PKPdf PKPdf 05 15 32.1 -0.7
BHPL Bhopal 151.63 110 eP PKPdf 05 15 30.9 -2.0
BHPL IAmb IAmb 05 15 47.6
comp=Z,29nm,0.9s
KK31 Karatay Array 151.74 65 i PKIKP PKPdf 05 15 32.4 0.0
BRZS Berezniki 152.20 50 ePKP PKPdf 05 15 33.0 +0.1
baz=50
BRZS ePP PP 05 19 19.7 -2.2
baz=50
BRZS Berezniki 152.20 50 ePKIKP PKPdf 05 15 33.0 +0.1
BRZS e 05 19 19.6
DZA Taraz 152.34 66 ePKP PKPdf 05 15 34.8 +1.4
baz=66
DZA Taraz 152.34 66 ePKIKP PKPdf 05 15 34.7 +1.4
OTUK Ortayu 152.41 54 PKIKP PKPdf 05 15 31.9 -1.4
AML Almayashu 154.11 67 P PKPdf 05 15 38.8 +2.4
SNR=5.2
BTLS Baital 154.13 61 i PKP PKPdf 05 15 37.4 +1.5
baz=61
BTLS i PP PP 05 19 31.9 -1.1
baz=61
BTLS Baital 154.13 61 i PKIKP PKPdf 05 15 37.3 +1.5
BTLS i 05 19 31.8
EKS2 Erkin-Say 154.15 66 P PKPdf 05 15 38.6 +2.5
SNR=5.1
USP Ospenovka 154.64 65 P PKPdf 05 15 38.9 +2.3
SNR=5.4
AAK Ala-Archa 154.68 66 P PKPab 05 16 03.0 +2.7
SNR=6.6
AAK Ala-Archa 154.68 66 PKPdf PKPdf 05 15 37.1 +0.2
AAK Ala-Archa 154.68 66 PKPdf PKPdf 05 15 36.8 -0.1
AAK Ala-Archa 154.68 66 PKIKP PKPdf 05 15 37.1 +0.2
UCH Uchtor 154.71 67 P PKPdf 05 15 38.3 +0.9
SNR=8.2
SGDS Sogindy 154.72 64 ePKP PKPdf 05 15 36.9 +0.1
baz=64
SGDS i PP PP 05 19 35.6 -0.9
baz=64
SGDS Sogindy 154.72 64 ePKIKP PKPdf 05 15 36.9 +0.1
SGDS i 05 19 35.6
CHMS Chumysh 154.85 65 P PKPab 05 15 59.7 -1.1
SNR=6.1
KBK Karagaybulak 155.01 66 P PKPab 05 16 03.9 +2.2
SNR=5.4
SMLA Simla 155.08 94 eP PKPdf 05 15 39.4 +1.9
SMLA IAmb IAmb 05 16 04.5
comp=Z,91nm,1.1s
TKM2 Tokmak 2 155.47 65 P PKPdf 05 15 37.6 -0.4
SNR=8.5
TKM2 Tokmak 2 155.47 65 PKIKP PKPdf 05 15 38.4 +0.4
KURK Kurchatov 155.52 46 PKPdf PKPdf 05 15 38.3 +0.8
KURK Kurchatov 155.52 46 PKIKP PKPdf 05 15 38.3 +0.8
KSH Kashi 155.81 74 PKP PKPdf 05 15 40.9 +2.4
KSH PP PP 05 19 42.2 -0.7
KSH AMB AMB
comp=Z,2μm,4.4s
KSH LR LR
comp=Z,3μm,22.2s
KSH LR LR
comp=Z,2μm,19.6s
KSH LR LR
comp=Z,4μm,20.4s
KUU Kurty 155.91 63 ePKP PKPdf 05 15 37.2 -1.1
baz=63
KUU i PP PP 05 19 43.5 +0.5
baz=63
KUU Kurty 155.91 63 ePKIKP PKPdf 05 15 37.2 -1.1
KUU i 05 19 43.5
ULHL Ulahol 155.99 67 P PKPab 05 16 07.8 +1.7
SNR=7.0
TNSS Tian-Shan 156.45 65 ePKP PKPdf 05 15 40.2 +0.7
baz=65
TNSS Tian-Shan 156.45 65 ePKIKP PKPdf 05 15 40.2 +0.7
MDOK Medeo 156.51 65 PKIKP PKPdf 05 15 39.9 +0.6
ZALV Zalesovo Beam 157.00 34 PKP PKPdf 05 15 38.6 -0.8
comp=Z,14nm,0.9s,baz=270,slow=1.5,SNR=31
ZALV PKPab PKPab 05 16 09.5 -0.1
comp=Z,26nm,0.9s,baz=300,slow=3.3,SNR=4.7
ZEA Zeya 157.57 327 i PKIKP PKPdf 05 15 43.7 +3.6
ZEA 05 16 12.5
ZEA e 05 19 59.2
ZEA pmax pmax
comp=Z,400nm,10.0s
ZEA pmax pmax
comp=Z,500nm,8.8s
UZB Uzynbulak 157.94 64 ePKP PKPdf 05 15 40.1 -1.0
baz=64
UZB ePP PP 05 19 52.4 -2.0
baz=64
UZB Uzynbulak 157.94 64 ePKIKP PKPdf 05 15 40.1 -1.0
UZB e 05 19 52.4
BOD Bodaibo 158.14 349 ePKP2 PKPab 05 16 15.5 +1.1
BOD pmax pmax
comp=Z,40nm,2.1s
SHLS Shalkode 158.26 64 ePKP PKPdf 05 15 42.8 +1.3
baz=64
SHLS ePP PP 05 19 55.3 -0.8
baz=64
SHLS Shalkode 158.26 64 ePKIKP PKPdf 05 15 42.7 +1.3
SHLS e 05 19 55.3
MAKZ Makanchi 159.08 53 PKPdf 05 15 42.1 -0.1
MAKZ Makanchi 159.08 53 PKIKP PKPdf 05 15 42.1 -0.1
MK31 Makanchi Array 159.28 53 i PKIKP PKPdf 05 15 41.2 -1.2
MKAR Makanchi Array 159.28 53 PKP PKPdf 05 15 41.6 -0.8
comp=Z,9.2nm,1.0s,baz=282,slow=2.2,SNR=25
MKAR PKPab PKPab 05 16 19.3 -0.6
comp=Z,11nm,0.8s,baz=263,slow=3.8,SNR=8.4
MKAR PP PP 05 20 01.7 +0.3
comp=Z,11nm,1.0s,baz=289,slow=3.7,SNR=7.4
HEH HeiHe 159.64 319 PKP PKPdf 05 15 42.3 -0.4
HEH PP PP 05 20 03.1 +0.2
HEH SS SS 05 40 09.3 -0.6
HEH AMB AMB
comp=Z,320nm,5.7s
HEH LR LR
comp=Z,1μm,17.3s
HEH LR LR
comp=Z,2μm,17.6s
HEH LR LR
comp=Z,3μm,19.7s
PKIN Phulchoki 160.02 111 eP PKPab 05 16 23.4 -0.5
PKI Pulchoki 160.03 111 eP PKPab 05 16 23.5 -0.5
KKN Kakani 160.04 110 eP PKPab 05 16 23.9 -0.1
GUN Gumba 160.56 110 eP PKPab 05 16 26.5 +0.1
RAMN Ramite 160.58 114 eP PKPab 05 16 26.0 -0.3
comp=Z,87nm,1.0s
ZSN Zaisan 160.63 49 ePKP PKPdf 05 15 44.1 +0.1
baz=49
ZSN ePP PP 05 20 06.8 -1.7
baz=49
ZSN Zaisan 160.63 49 ePKIKP PKPdf 05 15 44.0 +0.1
ZSN e 05 20 06.8
JIRN Jiri 160.66 111 eP PKPab 05 16 26.2 -0.6

	comp=Z,195nm,1.3s						
CMAR	**Chiang Mai Arr**	**160.78**	**158**	PKP	**PKPdf**	**05 15 45.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=235,slow=2.9,SNR=9.6						
ODAN	**Odare**	**161.10**	**115**	*e*P	**PKPab**	**05 16 27.4**	**-1.2**
SAIH	**SAIHA**	**161.73**	**136**	*e*P	**PKPdf**	**05 15 44.6**	**-1.3**
GTK	**Tadong**	**162.25**	**116**	*e*P	**PKPdf**	**05 15 45.3**	**-1.1**
QIZ	**Qiongzhong**	**162.31**	**190**	PKP	**PKPdf**	**05 15 45.2**	**-1.3**
QIZ				PP	**PP**	**05 20 16.9**	**+0.4**
QIZ				SS	SS	05 40 38.2	+1.6
QIZ				LR	LR		
	comp=Z,1µm,20.6s						
QIZ				LR	LR		
	comp=Z,1µm,18.8s						
QIZ				LR	LR		
	comp=Z,2µm,18.6s						
DHUB	**DHUBRI**	**162.43**	**122**	*e*P	**PKPdf**	**05 15 44.6**	**-1.8**
SHL	**Shillong**	**163.38**	**127**		**PKPab**	**05 16 38.2**	**-0.2**
SHL	**Shillong**	**163.38**	**127**	P	**PKPdf**	**05 15 49.8**	**+2.1**
	SNR=5.6						
SHL	**Shillong**	**163.38**	**127**	*e*P	**PKPdf**	**05 15 45.4**	**-2.2**
SHL	**Shillong**	**163.38**	**127**	PKP2	**PKPab**	**05 16 38.3**	**-0.2**
SILR	**SILCHAR**	**163.39**	**131**	*e*P	**PKPdf**	**05 15 44.6**	**-2.7**
GUWA	**GUWAHATI**	**163.68**	**125**	*e*P	**PKPdf**	**05 15 46.0**	**-1.6**
CN2	**Changchun**	**163.84**	**302**	*e*PKP	**PKPdf**	**05 15 44.7**	**-2.5**
CN2				PP	**PP**	**05 20 23.8**	**-2.0**
CN2				AMB	AMB		
	comp=Z,500nm,8.2s						
CN2				LR	LR		
	comp=Z,1µm,18.0s						
CN2				LR	LR		
	comp=Z,1µm,18.0s						
CN2				LR	LR		
	comp=Z,2µm,21.3s						
WMQ	**Urumqi**	**163.90**	**57**	*e*PKP	**PKPdf**	**05 15 46.2**	**-1.2**
WMQ				pPKP	sPKPdf	05 15 57.4	+4.9
WMQ				PKPab	**PKPab**	**05 16 41.9**	**+1.7**
WMQ				SKKS		05 27 07.1	
WMQ				SS	**SS**	**05 40 51.2**	**-4.2**
WMQ				AMB	AMB		
	comp=Z,1µm,9.5s						
WMQ				LR	LR		
	comp=Z,2µm,18.7s						
WMQ				LR	LR		
	comp=Z,2µm,19.9s						
WMQ				LR	LR		
	comp=Z,2µm,21.1s						
IMP	**Imphal**	**164.10**	**134**	*e*P	**PKPdf**	**05 15 47.4**	**-0.7**
MOY	**Mondy**	**164.38**	**13**	*e*PKIKP	**PKPdf**	**05 15 48.8**	**+1.2**
MOY				pmax	pmax		
	comp=Z,67nm,2.7s						
QZH	**Quanzhou**	**164.48**	**225**	*i* PKPbc	**PKPdf**	**05 15 53.8**	**+5.4**
QZH				PKPab	**sPKPab**	**05 16 53.4**	**+5.3**
QZH				PP	**PP**	**05 20 34.9**	**+6.2**
TEZP	**TEZPUR**	**164.70**	**126**	*e*P	**PKPdf**	**05 15 45.3**	**-3.2**
KOHI	**KOHIMA**	**164.87**	**132**	*e*P	**PKPdf**	**05 15 48.8**	**-0.1**
LSA	**Lhasa**	**165.43**	**114**	PKPdf	**PKPdf**	**05 15 49.5**	**-0.2**
MOKO	**MOKOCHONG**	**165.56**	**132**	*e*P	**PKPdf**	**05 15 48.1**	**-1.4**
ITAN	**ITANAGAR**	**165.66**	**127**	*e*P	**PKPdf**	**05 15 48.1**	**-1.2**
SNY	**Shenyang**	**165.76**	**297**	⇑PKP	**PKPdf**	**05 15 48.4**	**-0.5**
SNY				PP	**PP**	**05 20 42.4**	**+6.4**
SNY				AMB	AMB		
	comp=Z,1µm,11.9s						
SNY				LR	LR		
	comp=Z,2µm,16.9s						
SNY				LR	LR		
	comp=Z,2µm,18.5s						
SNY				LR	LR		
	comp=Z,4µm,17.8s						
ZAK	**Zakamensk**	**165.97**	**9**	*e*PKP2	**PKPab**	**05 16 49.6**	**+0.6**
ZAK				*e*		05 20 38.9	
ZAK				pmax	pmax		
	comp=Z,19nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,10.0nm,2.7s						
TNCH	**TengChong**	**166.63**	**147**	⇑PKP	**PKPdf**	**05 15 51.4**	**+1.0**
TNCH				pPKP	sPKPdf	05 15 58.2	+2.6
TNCH				PKPab	**PKPab**	**05 16 53.8**	**+1.1**
TNCH				PP	**PP**	**05 20 38.4**	**-1.4**
TNCH				SS	SS	05 41 22.4	+0.2
TNCH				AMB	AMB		
	comp=Z,700nm,5.6s						
TNCH				LR	LR		
	comp=Z,1µm,18.6s						
TNCH				LR	LR		
	comp=Z,1µm,20.0s						
TNCH				LR	LR		
	comp=Z,2µm,19.4s						
LKP	**Lekhapani**	**167.11**	**132**	*e*P	**PKPdf**	**05 15 49.5**	**-1.0**
DL2	**Dalian**	**167.81**	**286**	PKP	**PKPdf**	**05 15 51.6**	**+1.0**
DL2				PP	**PP**	**05 20 52.2**	**+5.5**
DL2				AMB	AMB		
	comp=Z,530nm,6.5s						
DL2				LR	LR		
	comp=Z,1µm,23.2s						
DL2				LR	LR		
	comp=Z,2µm,16.7s						
DL2				LR	LR		
	comp=Z,2µm,22.4s						
KMI	**Kunming**	**168.16**	**163**	⇑PKP	**PKPdf**	**05 15 48.0**	**-3.6**
ULN	**Ulaanbaatar**	**168.68**	**358**		**PKPdf**	**05 15 51.0**	**-0.1**
ULN	**Ulaanbaatar**	**168.68**	**358**	PKIKP	**PKPdf**	**05 15 51.0**	**-0.1**
SONM	**Songino Array**	**168.72**	**0**	PKP	**PKPdf**	**05 15 51.5**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=214,slow=1.1,SNR=10						
SONM				PKPab	**PKPab**	**05 17 01.6**	**+0.3**
	comp=Z,6.1nm,0.9s,baz=341,slow=4.0,SNR=9.4						
SONM				PP	PP	05 21 05.6	+16
	comp=Z,0.5nm,0.4s,baz=352,slow=3.3,SNR=3.8						
NJ2	**Nanjing**	**168.86**	**250**	*e*P	**PKPdf**	**05 15 56.4**	**+4.9**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
PZH	**PanZhiHua**	**169.19**	**157**	PKP	**PKPdf**	**05 15 51.5**	**-0.6**
PZH				sPKP		05 16 00.9	
PZH				PKPab	**PKPab**	**05 17 01.3**	**-2.6**
PZH				PP	**PP**	**05 20 57.2**	**+4.6**
PZH				SS	SS	05 41 43.3	-4.1
PZH				AMB	AMB		
	comp=Z,1µm,10.8s						
PZH				LR	LR		
	comp=Z,1µm,18.6s						
PZH				LR	LR		
	comp=Z,1µm,18.8s						
PZH				LR	LR		
	comp=Z,2µm,20.6s						
XLT	**XiLinHaoTe**	**169.64**	**318**	*e*PKP	**PKPdf**	**05 15 50.8**	**-1.0**
XLT				PKPab	**pPKPab**	**05 17 07.6**	**-1.7**
XLT				PP	**PP**	**05 20 58.9**	**+3.6**
XLT				SKKS		05 27 39.6	
XLT				SS	**SS**	**05 41 55.2**	**+2.5**
XLT				AMB	AMB		
	comp=Z,810nm,8.9s						
XLT				LR	LR		
	comp=Z,2µm,20.2s						
XLT				LR	LR		
	comp=Z,2µm,21.9s						
GYA	**Guiyang**	**169.94**	**181**	⇓PKP	**PKPdf**	**05 15 53.8**	**+1.3**
GYA				PKPab	**PKPab**	**05 17 07.5**	**+0.4**
GYA				PP	**PP**	**05 20 53.4**	**-2.7**
GYA				SS	SS	05 41 52.0	-2.3
GYA				AMB	AMB		
	comp=Z,620nm,8.0s						
GYA				LR	LR		
	comp=Z,1µm,20.0s						
GYA				LR	LR		
	comp=Z,620nm,13.6s						
GYA				LR	LR		
	comp=Z,1µm,16.0s						
GOMU	**GeErMu**	**170.55**	**89**	PKP	**PKPdf**	**05 15 54.2**	**+1.3**
GOMU				SKKS		05 27 46.3	
GOMU				AMB	AMB		
	comp=Z,370nm,9.3s						
GOMU				LR	LR		
	comp=Z,1µm,16.7s						
GOMU				LR	LR		
	comp=Z,930nm,17.8s						
GOMU				LR	LR		
	comp=Z,870nm,15.3s						
WHN	**Wuhan**	**171.14**	**230**	⇓PKP	**PKPdf**	**05 15 55.4**	**+2.5**
WHN				PP	**PP**	**05 21 03.8**	**+0.9**
WHN				LR	LR		
	comp=Z,4µm,15.9s						
WHN				LR	LR		
	comp=Z,3µm,18.2s						
WHN				LR	LR		
	comp=Z,5µm,19.8s						
TIA	**Tai'an**	**171.44**	**271**	PKP	**PKPdf**	**05 15 52.9**	**0.0**
TIA				SKKS		05 27 49.7	
TIA				AMB	AMB		
	comp=Z,780nm,11.3s						
TIA				LR	LR		
	comp=Z,630nm,20.1s						
TIA				LR	LR		
	comp=Z,1µm,20.6s						
TIA				LR	LR		
	comp=Z,2µm,14.5s						
HNS	**HongShan**	**173.39**	**280**	⇑PKP	**PKPdf**	**05 15 54.3**	**+0.7**
HNS				PKS	**PKSdf**	**05 19 24.8**	**-1.0**
HNS				PP	**PP**	**05 21 18.5**	**+3.8**
HNS				SKKS		05 28 01.1	
HNS				SS	**SS**	**05 42 27.4**	**-3.6**
HNS				AMB	AMB		
	comp=Z,570nm,6.8s						
HNS				LR	LR		
	comp=Z,1µm,17.6s						
HNS				LR	LR		
	comp=Z,2µm,17.8s						
HNS				LR	LR		
	comp=Z,2µm,22.4s						
CD2	**Chengdu**	**173.93**	**157**	PKP	**PKPdf**	**05 15 52.0**	**-2.1**
CD2				pPKP	pPKPdf	05 15 57.9	-0.1
CD2				PP	**PP**	**05 21 13.5**	**-2.5**
CD2				SS	SS	05 42 29.6	-4.1
CD2				AMB	AMB		
	comp=Z,1µm,11.9s						
CD2				LR	LR		
	comp=Z,2µm,19.8s						
CD2				LR	LR		
	comp=Z,2µm,19.8s						
CD2				LR	LR		
	comp=Z,3µm,19.2s						
GTA	**Gaotai**	**173.98**	**60**	*e*PKP	**PKPdf**	**05 15 55.7**	**+1.7**
GTA				PKPab	**pPKPab**	**05 17 27.7**	**-1.1**
GTA				PP	**PP**	**05 21 18.0**	**+0.6**
GTA				SKKS		05 28 03.1	
GTA				SS	**SS**	**05 42 36.9**	**+0.6**
GTA				AMB	AMB		
	comp=Z,2µm,5.5s						
GTA				LR	LR		
	comp=Z,2µm,20.0s						
GTA				LR	LR		
	comp=Z,3µm,20.0s						
GTA				LR	LR		
	comp=Z,3µm,19.6s						
HHC	**Hu-ho-hao-te**	**174.17**	**319**	*e*PKP	**PKPdf**	**05 15 54.3**	**+0.3**
HHC				PP	**PP**	**05 21 18.7**	**+1.0**
HHC				SS	SS	05 42 37.4	+0.4
HHC				AMB	AMB		
	comp=Z,1µm,9.2s						
HHC				LR	LR		
	comp=Z,6µm,18.6s						
HHC				LR	LR		
	comp=Z,2µm,20.6s						
HHC				LR	LR		
	comp=Z,5µm,20.2s						
LYN	**LuoYang**	**174.76**	**249**	⇓PKP	**PKPdf**	**05 15 55.9**	**+1.7**
LYN				PP	**PP**	**05 21 25.1**	**+3.9**
LYN				SKKS		05 28 08.7	
LYN				AMB	AMB		
	comp=Z,980nm,11.8s						
LYN				LR	LR		
	comp=Z,2µm,15.9s						
LYN				LR	LR		
	comp=Z,1µm,16.7s						
LYN				LR	LR		
	comp=Z,2µm,17.6s						
XAN	**Xi'an**	**176.82**	**219**	PKP	**PKPdf**	**05 15 55.3**	**+0.5**
XAN				pPKP	sPKPdf	05 16 04.2	+4.2
XAN				PKPab	**sPKPab**	**05 17 43.9**	**+1.3**
XAN				PP	**PP**	**05 21 31.0**	**+0.7**
XAN				SKKS		05 28 20.4	
XAN				LR	LR		
	comp=Z,2µm,20.9s						
XAN				LR	LR		
	comp=Z,2µm,20.3s						
XAN				LR	LR		
	comp=Z,3µm,20.0s						
LZH	**Lanzhou**	**177.79**	**101**	PKP	**PKPdf**	**05 15 56.3**	**+1.2**
LZH				PP	**PP**	**05 21 38.6**	**+2.5**
LZH				SKKS		05 28 19.8	
LZH				AMB	AMB		
	comp=Z,4µm,11.2s						
LZH				LR	LR		
	comp=Z,2µm,20.6s						
LZH				LR	LR		
	comp=Z,2µm,19.6s						
LZH				LR	LR		
	comp=Z,4µm,21.6s						

*IDC **08** 05:16:14.8±0.7, 36°.54S×73°.38W, h0km, mb4.1/11, mbtmp4.1/14, ML4.0/3, Error ellipse: s-maj=28.5km s-min=14.5km az=74.0*

*NEIC **08** 05:16:16.9±1.6, 36°.60S±0°.05×73°.55W±0°.08, h17km±5km, mb4.9/63, Mwr4.9(GUC), Error ellipse: s-maj=9.0km s-min=7.2km az=79.0*

*GUC **08** 05:16:18.3±0.6, 36°.70S×73°.52W, h21km±2km, ML4.6*

ISC 08 05:16:14.9±2.3**, 36°.61S**±0°.03×**73°.61W**±0°.06**, h6**km±14km**, n112,** σ1§**22**/98**, mb4.8**/43**, 9C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.36**	**112**	Pg	**Pb**	**05 16 23.8**	**0.0**
BI05				Sg	**Sb**	**05 16 28.3**	**-1.5**
BI05	**Punta Hualpn**	**0.36**	**112**	⇓*i*P	**Pb**	**05 16 24.0**	**+0.2**
BI05				*i* S	**Sb**	**05 16 28.3**	**-1.5**
BI05				IAML		05 16 29.6	
	comp=E,92µm,0.6s						
CCSP	**San Pedro de C**	**0.47**	**120**	⇓*i*P	**Pb**	**05 16 25.7**	**+0.2**
CCSP				*i* S	**Sg**	**05 16 30.8**	**+0.8**
CCSP				IAML		05 16 33.5	
	comp=N,154µm,0.3s						
ML02	**Panimavida**	**1.97**	**65**		**Pn**	**05 16 49.5**	**+0.7**
ML02	**Panimavida**	**1.97**	**65**	*e*P	**Pn**	**05 16 49.4**	**+0.6**
ML02				*i* S	**Sb**	**05 17 14.2**	**-1.7**
ML02				IAML		05 17 15.5	
	comp=N,12µm,0.3s						
GO05	**Huala**	**2.10**	**41**	Pn	**Pn**	**05 16 49.6**	**-1.1**
GO05	**Huala**	**2.10**	**41**	*e*P	**Pb**	**05 16 53.0**	**-0.4**
GO05				*i* S	**Sb**	**05 17 19.8**	**-0.1**
GO05				IAML		05 17 29.6	
	comp=N,2µm,0.5s						
LC02	**Puerto Saavedr**	**2.18**	**175**	Pn	**Pn**	**05 16 51.3**	**-0.4**
LC02	**Puerto Saavedr**	**2.18**	**175**	*e*P	**Pn**	**05 16 51.5**	**-0.2**
LC02				IAML		05 17 36.0	
	comp=N,7µm,0.5s						
BO03	**Pichilemu**	**2.50**	**33**	⇑*i*P	**Pn**	**05 16 55.8**	**-0.4**
BO03				*i* S	**Sb**	**05 17 29.8**	**-1.5**
BO02	**Sierra Bellavi**	**2.93**	**53**		**Pn**	**05 17 02.7**	**+0.5**
BO02	**Sierra Bellavi**	**2.93**	**53**	*e*P	**Pn**	**05 17 03.2**	**+1.0**
BO02				*e*S	**Sb**	**05 17 39.8**	**-4.0**
BO02				IAML		05 17 53.8	
	comp=E,3µm,0.4s						
BO01	**Tunca**	**3.03**	**44**		**Pn**	**05 17 03.6**	**+0.3**
BO01	**Tunca**	**3.03**	**44**	*e*P	**Pn**	**05 17 04.0**	**+0.7**
BO01				*i* S	**Sb**	**05 17 42.1**	**-4.3**
BO01				IAML		05 17 59.9	
	comp=N,917nm,0.3s						
LR03	**Panguipulli**	**3.18**	**162**		**Pn**	**05 17 06.2**	**+0.8**
LR03	**Panguipulli**	**3.18**	**162**	*e*P	**Pn**	**05 17 05.8**	**+0.4**
LR03				*i* S	**Sn**	**05 17 41.5**	**-2.0**
LR03				IAML		05 18 06.1	
	comp=N,3µm,0.7s						
LR04	**Corral**	**3.27**	**177**		**Pn**	**05 17 06.3**	**-0.3**
LR04	**Corral**	**3.27**	**177**	⇑*i*P	**Pn**	**05 17 06.3**	**-0.3**
LR04				IAML		05 18 04.9	
	comp=E,983nm,0.5s						
MT01	**Popeta**	**3.35**	**36**		**Pn**	**05 17 07.3**	**-0.6**
MT01	**Popeta**	**3.35**	**36**	⇑*i*P	**Pn**	**05 17 07.2**	**-0.6**
MT01				*i* S	**Sn**	**05 17 50.3**	**+2.3**
MT01				IAML		05 18 10.2	
	comp=E,798nm,0.3s						
VA05	**Santo Domingo**	**3.37**	**30**		**Pn**	**05 17 07.1**	**-1.0**
GO06	**Curarrehue**	**3.41**	**151**	Pn	**Pn**	**05 17 09.8**	**+1.0**
GO06	**Curarrehue**	**3.41**	**151**	⇑*i*P	**Pn**	**05 17 10.0**	**+1.3**
GO06				*i* S	**Sn**	**05 17 48.7**	**-0.9**
GO06				IAML		05 18 06.5	
	comp=E,285nm,0.5s						
MT09	**Talagante**	**3.55**	**38**		**Pn**	**05 17 10.5**	**-0.2**
MT09	**Talagante**	**3.55**	**38**	⇑*i*P	**Pn**	**05 17 10.8**	**+0.1**
MT09				*i* S	**Sn**	**05 17 55.1**	**+2.0**
MT09				IAML		05 18 14.4	
	comp=N,2µm,0.8s						
MT02	**Curacav**	**3.92**	**32**		**Pn**	**05 17 14.5**	**-1.0**
MT02	**Curacav**	**3.92**	**32**	⇑*i*P	**Pn**	**05 17 14.7**	**-0.9**
MT02				*i* S	**Sn**	**05 18 03.9**	**+2.1**
MT02				IAML		05 18 28.0	
	comp=E,350nm,0.6s						
LMEL	**Las Melosas**	**3.92**	**46**		**Pn**	**05 17 15.7**	**-0.1**
VA01	**Torpederas**	**3.93**	**25**		**Pn**	**05 17 14.2**	**-1.5**
MT05	**Renca**	**3.99**	**37**	Pn	**Pn**	**05 17 16.6**	**0.0**
MT05	**Renca**	**3.99**	**37**	⇑*i*P	**Pn**	**05 17 16.4**	**-0.2**
MT05				*i* S	**Sn**	**05 18 05.3**	**+1.6**
MT05				IAML		05 18 32.8	
	comp=E,1µm,0.4s						
MT03	**Universidad Ad**	**4.02**	**40**	Pn	**Pn**	**05 17 16.6**	**-0.5**
MT03	**Universidad Ad**	**4.02**	**40**	⇑*i*P	**Pn**	**05 17 17.0**	**-0.1**
MT03				*i* S	**Sn**	**05 18 07.1**	**+2.6**
MT03				IAML		05 18 23.7	
	comp=E,998nm,0.3s						
ROC1	**El Roble**	**4.21**	**31**		**Pn**	**05 17 19.3**	**-0.6**
LL04	**Puerto Octay**	**4.39**	**168**	*e*P	**Pn**	**05 17 22.2**	**+0.1**
LL04				*i* S	**Sn**	**05 18 11.9**	**-1.7**
LL04				IAML		05 18 15.4	
	comp=N,160nm,0.1s						
VA06	**Catapilco**	**4.47**	**26**	Pn	**Pn**	**05 17 21.8**	**-1.4**
VA03	**San Esteban**	**4.59**	**34**		**Pn**	**05 17 24.3**	**-0.7**
LL03	**Petrohue**	**4.62**	**169**		**Pn**	**05 17 24.5**	**-0.7**
PLCA	**Paso Flores**	**4.76**	**151**	Pn	**Pn**	**05 17 28.6**	**+1.4**
	comp=N,2.1nm,0.3s,baz=327,slow=13,SNR=73						
PLCA				Pg	**Pb**	**05 17 40.9**	**+2.1**
	comp=N,4.4nm,0.3s,baz=323,slow=14,SNR=15						
PLCA				Lg	Lg	05 18 45.4	
	comp=N,6.8nm,0.3s,baz=223,slow=23,SNR=4.6						
	comp=N,5.1nm,0.3s						
PLCA	**Paso Flores**	**4.76**	**151**		**Pn**	**05 17 28.3**	**+1.0**
LL05	**Los Muermos**	**4.79**	**179**	⇑*i*P	**Pn**	**05 17 27.6**	**+0.1**
LL05				IAML		05 17 58.2	
	comp=N,88nm,0.3s						
H03S1	**Juan Fernandez**	**5.14**	**301**	T	T	05 23 12.0	
	baz=123,slow=75,SNR=1242						
H03S3	**Juan Fernandez**	**5.15**	**301**	T	T	05 23 02.9	
	baz=123,slow=75,SNR=1523						
H03S2	**Juan Fernandez**	**5.16**	**301**	T	T	05 22 60.0	
	baz=123,slow=75,SNR=1639						
ZON	**Zonda**	**6.50**	**40**	Pn	**Pn**	**05 17 51.3**	**+0.1**
AY01	**Puyuhuapi**	**7.83**	**175**		**Pn**	**05 18 10.3**	**+1.0**
LCO	**Las Campanas**	**7.97**	**19**		**Pn**	**05 18 10.0**	**-1.5**
AC02	**Maricunga**	**10.47**	**23**		**Pn**	**05 18 44.0**	**-2.0**
LVC	**Limon Verde**	**14.54**	**18**	Pn	**Pn**	**05 19 42.1**	**+0.5**
	comp=N,0.2nm,0.3s,baz=283,slow=16,SNR=1.9						
	comp=N,2.1nm,0.6s						
PB01	**IPOC Station P**	**15.93**	**14**	Pn	**Pn**	**05 20 00.1**	**+0.4**
CPUP	**Villa Florida**	**17.24**	**58**	P	**Pn**	**05 20 15.7**	**-0.6**
	comp=N,0.1nm,0.3s,baz=236,slow=9.5,SNR=5.4						
	comp=N,1.8nm,0.7s						
CPUP	**Villa Florida**	**17.24**	**58**	Pn	**Pn**	**05 20 15.8**	**-0.5**
ITAB	**Concordia**	**20.45**	**69**	P	**P**	**05 20 52.2**	**-1.0**
LPAZ	**La Paz**	**20.82**	**15**	P	**P**	**05 20 58.5**	**+0.6**
	comp=N,2.4nm,0.8s,baz=200,slow=12,SNR=3.4						
	comp=N,2.4nm,0.8s						
AQDB	**Aquidauana**	**22.43**	**49**	P	**P**	**05 21 13.9**	**-0.6**
SIV	**San Ignacio**	**23.37**	**32**	P	**P**	**05 21 23.5**	**-0.9**
	comp=N,2.7nm,0.8s,baz=215,slow=11,SNR=8.9						
	comp=N,2.7nm,0.8s						
ETMB	**Extrema**	**27.51**	**16**	P	**P**	**05 22 02.6**	**+0.3**
ETMB				IAmb	IAmb	05 22 03.5	
	comp=Z,9.3nm,0.9s						
TBTG	**Tabatinga, AM**	**32.45**	**7**	P	**P**	**05 22 46.5**	**+0.6**
TBTG				IAmb	IAmb	05 22 48.0	
	comp=Z,51nm,1.0s						
SDV	**Santo Domingo**	**45.34**	**4**	P	**P**	**05 24 33.4**	**-0.7**
	comp=Z,6.4nm,0.7s,baz=60,slow=22,SNR=3.0						
	comp=Z,6.4nm,0.7s						
VNA3	**Neumayer Olymp**	**47.45**	**157**	P	**P**	**05 24 48.6**	**-1.3**
URIC	**Uribia, Colomb**	**48.08**	**2**	P	**P**	**05 24 53.4**	**-1.9**
URIC				IAmb	IAmb	05 26 03.4	
	comp=Z,14nm,1.4s						
SNAA	**Sanae**	**49.67**	**157**	P	**P**	**05 25 07.8**	**+0.7**
TROLL	**Troll, Antarti**	**51.37**	**157**	P	**P**	**05 25 20.9**	**+0.9**
QSPA	**South Pole Qui**	**53.63**	**180**	P	**P**	**05 25 38.5**	**+1.6**
	comp=Z,4.4nm,0.8s,baz=166,slow=2.4,SNR=14						
	comp=Z,4.4nm,0.8s						
QSPA	**South Pole Qui**	**53.63**	**180**	P	**P**	**05 25 37.4**	**+0.6**
CELP	**Cerrillos**	**54.80**	**8**	P	**P**	**05 25 45.6**	**0.0**
TBI	**Tubuai**	**65.49**	**258**	*e*LR	LR	05 46 40.5	
	comp=Z,23µm,20.8s						
TBI				*e*LR	LR	05 46 40.6	
	comp=Z,3µm,21.5s						
MEH	**Mehetia**	**67.26**	**264**	*e*T	T	06 40 23.8	
	comp=Z,19nm,0.2s						
PPT2	**Papeete2**	**68.62**	**264**	*e*LR	LR	05 48 07.0	
	comp=Z,1µm,21.5s						
PPT2				*e*LR	LR	05 48 07.2	
	comp=Z,924nm,22.0s						
TXAR	**Lajitas Array**	**71.42**	**333**	P	**P**	**05 27 37.5**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=152,slow=8.4,SNR=17						
	comp=Z,1.7nm,0.7s						
TX31	**Lajitas Ar. Si**	**71.42**	**333**	IAmb	IAmb	05 27 38.2	
	comp=Z,7.4nm,0.9s						
X48A	**Hartselle**	**71.80**	**348**	IAmb	IAmb	05 27 39.6	
	comp=Z,12nm,1.1s						
WHTX	**Lake Whitney,**	**71.81**	**339**	IAmb	IAmb	05 27 39.9	
	comp=Z,12nm,0.9s						
W50A	**Signal Mountai**	**72.27**	**350**	IAmb	IAmb	05 27 42.4	
	comp=Z,15nm,0.9s						
SWET	**Sewanee**	**72.38**	**349**	P	**P**	**05 27 42.1**	**+0.5**
SWET				IAmb	IAmb	05 27 42.9	
	comp=Z,12nm,0.8s						
CPCT	**Cooper Cave**	**72.41**	**351**	P	**P**	**05 27 42.1**	**+0.4**
CPCT				IAmb	IAmb	05 28 42.2	
	comp=Z,21nm,1.5s						
ABTX	**Abilene, Hawle**	**73.05**	**337**	IAmb	IAmb	05 27 47.4	
	comp=Z,9.6nm,1.1s						
WVT	**Waverly**	**73.57**	**348**		**P**	**05 27 48.2**	**-0.3**
WVT				IAmb	IAmb	05 27 49.7	
	comp=Z,12nm,1.1s						
WHAR	**Wooly Hollow**	**73.62**	**344**	IAmb	IAmb	05 27 51.3	
	comp=Z,14nm,1.2s						
LCAR	**Lake Charles**	**74.13**	**345**	IAmb	IAmb	05 27 52.7	
	comp=Z,8.1nm,0.9s						
DEOK	**Depew**	**75.16**	**341**		**P**	**05 27 58.5**	**+0.7**
DEOK				IAmb	IAmb	05 27 59.2	
	comp=Z,16nm,0.9s						
OK031	**S. Brethren Rd**	**75.36**	**341**	IAmb	IAmb	05 28 00.7	
	comp=Z,13nm,1.0s						
OK034	**N. Norfolk Rd.**	**75.38**	**341**	IAmb	IAmb	05 28 00.9	
	comp=Z,13nm,1.1s						
OK044	**Pawnee Station**	**75.74**	**341**	IAmb	IAmb	05 28 02.8	
	comp=Z,13nm,0.9s						
AMTX	**Amarillo**	**75.78**	**336**	IAmb	IAmb	05 28 03.5	
	comp=Z,11nm,1.1s						
OK046	**Pawnee Station**	**75.79**	**341**	IAmb	IAmb	05 28 03.0	
	comp=Z,14nm,1.0s						
OK051	**E0350 and S346**	**75.88**	**341**	IAmb	IAmb	05 28 03.5	
	comp=Z,13nm,0.9s						
CCM	**Cathedral Cave**	**76.07**	**346**		**P**	**05 28 03.2**	**+0.2**
CCM				IAmb	IAmb	05 28 04.3	
	comp=Z,15nm,1.1s						
T35A	**Sooner Cattle**	**76.18**	**341**	IAmb	IAmb	05 28 05.3	
	comp=Z,11nm,0.9s						
ANMO	**Albuquerque**	**77.48**	**333**	P	**P**	**05 28 12.6**	**+1.3**
	comp=Z,4.2nm,1.0s,baz=163,slow=8.2,SNR=9.9						
	comp=Z,4.2nm,1.0s						
P40A	**Paris**	**77.65**	**346**	IAmb	IAmb	05 28 13.1	
	comp=Z,13nm,0.9s						
T25A	**Trinidad**	**78.74**	**335**	IAmb	IAmb	05 28 21.0	
	comp=Z,11nm,1.1s						
PFO	**Pinyon Flats O**	**80.50**	**325**	P	**P**	**05 28 28.5**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=152,slow=4.3,SNR=3.6						
	comp=Z,0.7nm,0.3s						
SMCO	**Snowmass**	**81.45**	**334**	P	**P**	**05 28 31.1**	**-2.0**
SMCO				IAmb	IAmb	05 28 39.8	
	comp=Z,24nm,1.8s						
ECSD	**EROS Data Cent**	**82.66**	**343**	IAmb	IAmb	05 28 40.2	
	comp=Z,13nm,1.0s						
P18A	**Preston Nutter**	**83.03**	**332**	IAmb	IAmb	05 28 43.9	
	comp=Z,9.3nm,1.0s						
PSUT	**Pine Spring**	**83.50**	**329**	IAmb	IAmb	05 28 46.5	
	comp=Z,5.4nm,1.1s						
RDMU	**Red Mountain**	**83.60**	**333**	IAmb	IAmb	05 28 45.8	
	comp=Z,5.1nm,0.8s						
MPU	**Maple Canyon**	**83.89**	**332**	IAmb	IAmb	05 28 48.6	
	comp=Z,6.0nm,1.0s						
SPR3	**Spring Creek 3**	**84.09**	**329**	IAmb	IAmb	05 28 49.2	
	comp=Z,6.0nm,1.1s						

JLU	**Jordanelle**	**84.33**	**332**	IAmb	IAmb	05 28 50.0
	comp=Z,5.0nm,1.0s					
DUG	**Dugway, Tooele**	**84.50**	**331**	P	**P**	**05 28 49.2 +0.6**
DUG				IAmb	IAmb	05 28 50.8
	comp=Z,11nm,1.5s					
HWUT	**Hardware Ranch**	**85.24**	**332**	IAmb	IAmb	05 28 55.0
	comp=Z,7.5nm,0.9s					
NVAR	**Mina Array Bea**	**85.31**	**326**	P	**P**	**05 28 53.9 +1.1**
	comp=Z,0.9nm,0.7s,baz=157,slow=6.6,SNR=6.8					
	comp=Z,0.9nm,0.7s					
SPUT	**South Promonto**	**85.32**	**332**	IAmb	IAmb	05 28 54.9
	comp=Z,4.3nm,0.9s					
PDAR	**Pinedale Array**	**85.53**	**334**	P	**P**	**05 28 54.5 +0.7**
	comp=Z,1.7nm,1.0s,baz=141,slow=7.3,SNR=7.0					
	comp=Z,1.7nm,1.0s					
ELK	**Elko**	**85.94**	**330**	P	**P**	**05 28 56.7 +0.9**
	comp=Z,1.6nm,0.9s,baz=136,slow=0.9,SNR=5.9					
	comp=Z,1.6nm,0.9s					
TORD	**Torodi Ar. Bea**	**86.30**	**71**	P	**P**	**05 28 56.4 -1.5**
	comp=Z,0.8nm,0.8s,baz=230,slow=4.1,SNR=4.9					
	comp=Z,0.8nm,0.8s					
SNOW	**Snow King Moun**	**86.56**	**334**	P	**P**	**05 28 59.6 +0.7**
TPAW	**Teton Pass**	**86.66**	**334**	P	**P**	**05 29 00.3 +0.9**
TPAW				IAmb	IAmb	05 29 01.8
	comp=Z,7.3nm,1.1s					
PZH	**PanZhiHua**	**169.17**	**157**	PKP	**PKPdf**	**05 36 23.9 +0.5**
CD2	**Chengdu**	**173.91**	**158**	PKP	**PKPdf**	**05 36 24.5 -1.0**

ROM 08 05:28:09.1±0.0, 42.798N±0.002×13.142E±0.003, h10km, ML2.9/52, 36C-28D, Error ellipse: s-maj=0.2km s-min=0.1km az=261.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.07**	**30**	P	Pg	05 28 11.9	+0.4
T1245				S	Sg	05 28 13.6	+0.3
T1245				AML	AML		
	comp=N,54350μm,0.3s						
T1245				AML	AML		
	comp=E,86900μm,0.2s						
T1245				AML	AML		
	comp=N,54350μm,0.3s						
T1245				AML	AML		
	comp=N,51050μm,1.4s						
T1245				AML	AML		
	comp=E,86950μm,0.2s						
T1245				AML	AML		
	comp=N,54400μm,0.3s						
T1245				AML	AML		
	comp=E,82250μm,0.2s						
T1245				AML	AML		
	comp=E,86950μm,0.2s						
T1216	**Preci, Frazion**	**0.13**	**316**	⇓P	Pg	05 28 12.8	+0.6
T1216				S	Sg	05 28 15.2	+0.8
T1216				AML	AML		
	comp=E,11980μm,1.6s						
T1216				AML	AML		
	comp=N,18700μm,0.4s						
T1216				AML	AML		
	comp=N,18650μm,0.4s						
T1216				AML	AML		
	comp=E,11900μm,1.6s						
T1216				AML	AML		
	comp=E,11950μm,1.6s						
MMO1	**Montemonaco**	**0.17**	**53**	P	Pg	05 28 13.5	+0.6
MMO1				S	Sg	05 28 16.5	+1.0
FEMA	**Monte Fema**	**0.18**	**338**	⇓P	Pg	05 28 13.7	+0.6
FEMA				S	Sg	05 28 16.7	+1.0
FEMA				AML	AML		
	comp=E,19800μm,0.3s						
FEMA				AML	AML		
	comp=E,19800μm,0.3s						
FEMA				AML	AML		
	comp=N,12300μm,0.2s						
T1215	**Vallo di Nera,**	**0.20**	**271**	⇓P	Pg	05 28 14.0	+0.6
T1215				S	Sg	05 28 17.3	+1.1
T1215				AML	AML		
	comp=E,4150μm,0.2s						
T1215				AML	AML		
	comp=E,4305μm,0.2s						
T1215				AML	AML		
	comp=N,7370μm,0.2s						
T1215				AML	AML		
	comp=N,7385μm,0.2s						
LNSS	**Leonessa**	**0.21**	**201**	⇑P	Pg	05 28 14.2	+0.6
LNSS				S	Sg	05 28 18.0	+1.5
LNSS				AML	AML		
	comp=E,13950μm,0.3s						
LNSS				AML	AML		
	comp=N,27050μm,0.2s						
T1256	**Bolognola (MC)**	**0.22**	**17**	⇑P	Pg	05 28 14.3	+0.6
T1256				S	Sg	05 28 17.9	+1.0
T1256				AML	AML		
	comp=E,8160μm,1.0s						
T1256				AML	AML		
	comp=N,5445μm,0.5s						
T1256				AML	AML		
	comp=E,8320μm,1.0s						
T1256				AML	AML		
	comp=N,5570μm,1.2s						
T1256				AML	AML		
	comp=E,8165μm,1.0s						
T1256				AML	AML		
	comp=N,5570μm,1.2s						
SMA1	**SAN MARTINO**	**0.22**	**139**	⇓P	Pg	05 28 14.3	+0.6
SMA1				S	Sg	05 28 18.1	+1.3
SMA1				AML	AML		
	comp=E,9010μm,0.4s						
SMA1				AML	AML		
	comp=N,7825μm,1.3s						
SMA1				AML	AML		
	comp=N,7820μm,1.3s						
T1241	**Roccafluvione,**	**0.22**	**74**	⇑P	Pg	05 28 14.4	+0.7
T1241				AML	AML		
	comp=E,11550μm,0.9s						
T1241				AML	AML		
	comp=N,16350μm,0.2s						
T1241				AML	AML		
	comp=E,11230μm,0.9s						
T1241				AML	AML		
	comp=N,16550μm,0.2s						
T1241				AML	AML		
	comp=E,11245μm,0.9s						
T1241				AML	AML		
	comp=E,11240μm,0.9s						
T1241				AML	AML		
	comp=N,16600μm,0.2s						
T1241				AML	AML		
	comp=E,11210μm,0.9s						
T1243	**Rocca Santa Ma**	**0.25**	**114**	⇑P	Pg	05 28 14.7	+0.5
CESI	**CESI - Serrava**	**0.27**	**320**	⇓P	Pg	05 28 15.3	+0.6
CESI				S	Sb	05 28 19.8	-1.1
CESI				AML	AML		
	comp=N,11600μm,1.0s						
CESI				AML	AML		
	comp=E,5205μm,0.8s						
CESI				AML	AML		
	comp=E,5200μm,0.8s						
RM33	**Pellescritta (**	**0.29**	**169**	⇓P	Pg	05 28 15.5	+0.4
RM33				AML	AML		
	comp=N,5050μm,0.2s						
RM33				AML	AML		
	comp=E,4585μm,0.8s						
RM33				AML	AML		
	comp=N,5030μm,0.2s						
RM33				AML	AML		
	comp=E,4535μm,0.8s						
RM33				AML	AML		
	comp=N,5035μm,0.2s						
RM33				AML	AML		
	comp=E,4590μm,0.8s						
CSP1	**Cessapalombo**	**0.30**	**9**	P	Pg	05 28 15.7	+0.5
CSP1				S	Sb	05 28 20.7	-1.0
GUMA	**Gualdo di Mace**	**0.30**	**28**	P	Pb	05 28 16.1	-0.5
GUMA				S	Sb	05 28 21.4	-0.3
GUMA				AML	AML		
	comp=E,8060μm,0.2s						
GUMA				AML	AML		
	comp=N,7470μm,0.2s						
GUMA				AML	AML		
	comp=N,6790μm,0.4s						
GUMA				AML	AML		
	comp=E,13050μm,0.2s						
GUMA				AML	AML		
	comp=N,7475μm,0.2s						
CAMP	**Campotosto**	**0.33**	**143**	⇓P	Pg	05 28 16.1	+0.3
CAMP				AML	AML		
	comp=E,2310μm,0.9s						
CAMP				AML	AML		
	comp=N,1605μm,0.2s						
ARRO	**Arrone**	**0.35**	**232**	⇑P	Pg	05 28 16.6	+0.5
ARRO				AML	AML		
	comp=E,1825μm,0.2s						
ARRO				AML	AML		
	comp=N,2375μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.37**	**162**	⇑P	Pg	05 28 17.0	+0.4
T1247				AML	AML		
	comp=E,3235μm,0.8s						
T1247				AML	AML		
	comp=N,3090μm,1.4s						
SEF1	**Sefro**	**0.38**	**338**	⇑P	Pg	05 28 17.1	+0.5
SEF1				AML	AML		
	comp=E,9670μm,0.2s						
SEF1				AML	AML		
	comp=N,8920μm,0.2s						
SEF1				AML	AML		
	comp=E,9670μm,0.2s						
SEF1				AML	AML		
	comp=N,8915μm,0.2s						
TERO	**Teramo**	**0.38**	**117**	P	Pg	05 28 16.8	+0.1
TERO				AML	AML		
	comp=E,1496μm,0.5s						
TERO				AML	AML		
	comp=N,1910μm,0.5s						
TERO				AML	AML		
	comp=N,2125μm,0.5s						
TERO				AML	AML		
	comp=N,1905μm,0.5s						
TERO				AML	AML		
	comp=E,1625μm,0.5s						
TERO				AML	AML		
	comp=E,1495μm,0.5s						
MDAR	**Monte D'Aria**	**0.40**	**0**	P	Pg	05 28 17.5	+0.6
MDAR				AML	AML		
	comp=E,3130μm,1.0s						
MDAR				AML	AML		
	comp=N,3480μm,0.6s						
MDAR				AML	AML		
	comp=E,3130μm,1.0s						
MDAR				AML	AML		
	comp=N,3485μm,0.6s						
OFFI	**Offida**	**0.42**	**71**	⇑P	Pb	05 28 18.8	+0.1
OFFI				AML	AML		
	comp=E,3240μm,1.0s						
OFFI				AML	AML		
	comp=N,4525μm,0.7s						
OFFI				AML	AML		
	comp=E,3245μm,1.0s						
ASSB	**Assisi San Ben**	**0.43**	**305**	⇓P	Pg	05 28 17.9	+0.3
ASSB				AML	AML		
	comp=N,1550μm,0.2s						
ASSB				AML	AML		
	comp=E,1710μm,0.2s						
GAG1	**Gagliole**	**0.44**	**353**	P	Pb	05 28 18.5	-0.6
GAG1				AML	AML		
	comp=E,5475μm,1.1s						
GAG1				AML	AML		
	comp=N,7735μm,0.4s						
CESX	**Cesi**	**0.45**	**246**	⇑P	Pg	05 28 18.3	+0.3
CESX				AML	AML		
	comp=E,1905μm,0.7s						
CESX				AML	AML		
	comp=N,2210μm,0.3s						
GIGS	**Gran Sasso**	**0.47**	**138**	⇓P	Pg	05 28 18.2	-0.1
GIGS				AML	AML		
	comp=E,396μm,0.4s						
GIGS				AML	AML		
	comp=E,396μm,0.4s						
GIGS				AML	AML		
	comp=N,365μm,1.0s						
SNTG	**Esanatoglia**	**0.48**	**342**	⇓P	Pg	05 28 18.8	+0.3
SNTG				S	Sb	05 28 27.0	+0.1
SNTG				AML	AML		
	comp=E,1500μm,1.4s						
SNTG				AML	AML		
	comp=N,1500μm,0.6s						
SNTG				AML	AML		
	comp=E,1570μm,1.4s						
SNTG				AML	AML		
	comp=N,1365μm,0.6s						
SNTG				AML	AML		
	comp=N,1360μm,0.6s						
AQU	**L'Aquila**	**0.48**	**156**	⇓P	Pg	05 28 18.8	+0.2
AQU				AML	AML		
	comp=N,974μm,0.3s						
AQU				AML	AML		
	comp=E,1315μm,0.9s						
AQU				AML	AML		
	comp=E,1280μm,0.9s						
AQU				AML	AML		
	comp=N,909μm,0.3s						
FIAM	**Fiamignano**	**0.53**	**182**	⇑P	Pg	05 28 19.5	+0.1
FIAM				S	Sb	05 28 28.0	-0.3
FIAM				AML	AML		
	comp=E,1505μm,0.8s						
FIAM				AML	AML		
	comp=N,902μm,0.7s						
FIAM				AML	AML		
	comp=N,900μm,0.7s						
FIAM				AML	AML		
	comp=N,900μm,0.7s						
FIAM				AML	AML		
	comp=E,1500μm,0.8s						
EL6	**Elcito**	**0.53**	**357**	⇑P	Pg	05 28 19.8	+0.3
EL6				S	Sb	05 28 29.0	+0.6
EL6				AML	AML		
	comp=N,4970μm,0.2s						
EL6				AML	AML		
	comp=E,3915μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.53**	**317**	⇓P	Pg	05 28 19.9	+0.3
ATCC				S	Sb	05 28 29.0	+0.6
ATCC				AML	AML		
	comp=E,1585μm,0.2s						
ATCC				AML	AML		
	comp=N,1410μm,0.8s						
ATCC				AML	AML		
	comp=N,1405μm,0.8s						
ATCC				AML	AML		
	comp=E,1580μm,0.2s						
TRTR	**Tortoreto Alta**	**0.57**	**89**	⇓P	Pb	05 28 21.6	+0.5
TRTR				AML	AML		
	comp=N,2535μm,0.4s						
TRTR				AML	AML		
	comp=E,2705μm,0.9s						
FOSV	**Fossato di Vic**	**0.57**	**331**	⇓P	Pg	05 28 20.4	+0.2
FOSV				AML	AML		
	comp=E,912μm,0.4s						
FOSV				AML	AML		
	comp=N,1210μm,1.4s						
FOSV				AML	AML		
	comp=E,914μm,0.4s						
CING	**Cingoli**	**0.58**	**4**	⇑P	Pg	05 28 20.6	+0.2
CING				AML	AML		
	comp=N,1235μm,0.1s						
CING				AML	AML		
	comp=E,1295μm,1.3s						
MURB	**Monte Urbino**	**0.65**	**316**	⇑P	Pg	05 28 22.0	+0.3
MURB				S	Sb	05 28 33.0	+1.2
MURB				AML	AML		
	comp=E,2265μm,0.3s						
MURB				AML	AML		
	comp=N,2670μm,0.3s						
MURB				AML	AML		
	comp=E,2625μm,0.3s						
MURB				AML	AML		
	comp=N,2625μm,0.3s						
MURB				AML	AML		
	comp=N,2665μm,0.3s						
MURB				AML	AML		
	comp=E,2260μm,0.3s						
VCEL	**Villa Celiera**	**0.66**	**128**	⇓P	Pg	05 28 22.0	+0.2
VCEL				AML	AML		
	comp=E,836μm,0.5s						
VCEL				AML	AML		
	comp=N,928μm,0.4s						
VCEL				AML	AML		
	comp=N,930μm,0.4s						
VCEL				AML	AML		
	comp=E,836μm,0.5s						
VCEL				AML	AML		
	comp=N,928μm,0.4s						
PP3	**Marolino**	**0.67**	**30**	⇓P	Pb	05 28 23.5	+0.6
PP3				AML	AML		
	comp=E,3055μm,0.4s						
PP3				AML	AML		
	comp=N,2270μm,0.4s						
PP3				AML	AML		
	comp=E,3075μm,0.4s						
PP3				AML	AML		
	comp=N,2370μm,0.3s						
PP3				AML	AML		
	comp=E,3055μm,0.4s						
SSFR	**Montelago di S**	**0.69**	**338**	⇑P	Pg	05 28 22.8	+0.3
SSFR				S	Sb	05 28 34.0	+1.0
SSFR				AML	AML		
	comp=E,2275μm,1.1s						
SSFR				AML	AML		
	comp=N,1620μm,0.2s						
SSFR				AML	AML		
	comp=E,2285μm,1.1s						
SSFR				AML	AML		
	comp=N,1720μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.70**	**305**	⇓P	Pg	05 28 23.0	+0.3
ATTE				AML	AML		
	comp=E,422μm,0.4s						
ATTE				AML	AML		
	comp=N,424μm,0.2s						
ATTE				AML	AML		
	comp=E,422μm,0.4s						
ATFO	**Monte Foce - G**	**0.71**	**324**	⇑P	Pg	05 28 23.0	+0.2
ATFO				S	Sn	05 28 35.0	-1.3
ATFO				AML	AML		
	comp=E,550μm,1.1s						
ATFO				AML	AML		
	comp=N,580μm,0.2s						
ARVD	**Arcevia**	**0.71**	**348**	⇓P	Pg	05 28 23.1	+0.1
ARVD				S	Sb	05 28 35.0	+1.4
ARVD				AML	AML		
	comp=N,496μm,0.1s						
ARVD				AML	AML		
	comp=E,1035μm,1.1s						
SRES	**S.Oreste - Sor**	**0.73**	**220**	⇑P	Pg	05 28 22.5	-0.7
SRES				S	Sn	05 28 36.0	-0.7
SRES				AML	AML		
	comp=E,310μm,0.3s						
SRES				AML	AML		
	comp=N,252μm,0.8s						
T0110	**Collepietro**	**0.74**	**140**	⇓P	Pg	05 28 22.9	-0.6
T0110				AML	AML		
	comp=E,846μm,0.5s						
T0110				AML	AML		
	comp=N,824μm,0.3s						
T0110				AML	AML		
	comp=E,844μm,0.5s						
MGAB	**Montegabbione**	**0.77**	**279**	⇑P	Pg	05 28 24.2	+0.2
MGAB				AML	AML		
	comp=E,966μm,1.3s						
MGAB				AML	AML		
	comp=E,970μm,1.3s						
MGAB				AML	AML		
	comp=N,778μm,1.4s						
MGAB				AML	AML		
	comp=N,790μm,1.3s						
MGAB				AML	AML		
	comp=E,908μm,0.4s						
MGAB				AML	AML		
	comp=E,968μm,1.3s						
FRON	**Frontone**	**0.78**	**337**	⇑P	Pg	05 28 24.2	-0.1
FRON				AML	AML		
	comp=N,1074μm,0.3s						
FRON				AML	AML		
	comp=E,540μm,0.2s						
ATVO	**AVT- Monte Val**	**0.80**	**318**	⇑P	Pg	05 28 24.4	0.0
ATVO				AML	AML		
	comp=E,250μm,0.4s						
ATVO				AML	AML		
	comp=N,284μm,0.4s						
AOI	**Ancona**	**0.82**	**24**	P	Pb	05 28 25.7	+0.1
AOI				AML	AML		
	comp=E,358μm,0.3s						
AOI				AML	AML		
	comp=N,390μm,1.2s						
MTCE	**Montecelio**	**0.83**	**201**	⇓P	Pg	05 28 24.6	-0.5
MTCE				AML	AML		
	comp=N,242μm,0.5s						
MTCE				AML	AML		
	comp=N,242μm,0.5s						
MTCE				AML	AML		
	comp=E,448μm,0.7s						
ATMI	**Monte Miggiano**	**0.83**	**310**	⇑P	Pn	05 28 28.3	+1.3
ATPI	**Pietralunga -**	**0.85**	**321**	⇑P	Pg	05 28 25.3	-0.2
CERT	**Cerreto**	**0.86**	**188**	⇑P	Pg	05 28 25.0	-0.6
CERT				AML	AML		
	comp=E,684μm,0.5s						
CERT				AML	AML		
	comp=N,450μm,0.8s						
MPAG	**Monte Paganucc**	**0.88**	**342**	⇑P	Pg	05 28 26.1	0.0
MPAG				S	Sn	05 28 41.0	+0.5
MPAG				AML	AML		
	comp=E,514μm,0.3s						
MPAG				AML	AML		
	comp=N,490μm,0.3s						
MPAG				AML	AML		
	comp=E,514μm,0.3s						
MPAG				AML	AML		
	comp=N,490μm,0.3s						
SACS	**San Casciano d**	**0.91**	**274**	⇑P	Pn	05 28 28.5	+0.5
SACS				AML	AML		
	comp=N,328μm,0.7s						
SACS				AML	AML		
	comp=E,278μm,1.6s						
APEC	**Apecchio**	**0.93**	**325**	⇑P	Pg	05 28 26.8	-0.1
FSSB	**Fossombrone**	**0.93**	**344**	⇑P	Pg	05 28 27.2	+0.1
FSSB				S	Sn	05 28 43.0	+1.2
FSSB				AML	AML		
	comp=E,1285μm,0.2s						
FSSB				AML	AML		
	comp=N,2040μm,1.3s						
FSSB				AML	AML		
	comp=E,1280μm,0.2s						
BADI	**Badiali**	**0.97**	**318**	⇑P	Pb	05 28 27.9	-0.1
BADI				S	Sn	05 28 44.0	+1.3
VVLD	**Villa Vallelon**	**0.99**	**159**	⇓P	Pg	05 28 28.0	-0.2
VVLD				AML	AML		
	comp=E,236μm,0.4s						
VVLD				AML	AML		
	comp=N,218μm,1.4s						
LATE	**Laterza**	**1.00**	**260**	⇑P	Pn	05 28 30.1	+0.8
CAFI	**Castiglion Fio**	**1.01**	**302**	⇓P	Pb	05 28 28.8	0.0
CAFI				S	Sn	05 28 46.0	+2.2
CAFI				AML	AML		
	comp=E,167μm,0.7s						
CAFI				AML	AML		
	comp=N,147μm,0.9s						
CAFR	**Castel Frentan**	**1.06**	**122**	⇑P	Pn	05 28 31.7	+1.7
LPEL	**Lama dei Pelig**	**1.08**	**134**	⇓P	Pg	05 28 28.8	-1.0
LPEL				AML	AML		
	comp=E,266μm,0.5s						
LPEL				AML	AML		
	comp=N,250μm,1.0s						
MCIV	**Monte Civitell**	**1.08**	**269**	⇑P	Pn	05 28 31.0	+0.7
MCIV				AML	AML		
	comp=N,146μm,0.8s						
MCIV				AML	AML		
	comp=E,180μm,0.6s						
CPGN	**Carpegna, Ital**	**1.17**	**329**	⇓P	Pn	05 28 32.3	+0.6
GIUL	**Giuliano Di Ro**	**1.24**	**176**	⇑P	Pg	05 28 34.7	+1.7
CERA	**Filignano**	**1.36**	**151**	⇑P	Pg	05 28 37.0	+1.7
FRES	**Fresagrandinar**	**1.40**	**126**	⇑P	Pg	05 28 36.8	+0.8
MIDA	**Miranda**	**1.42**	**144**	⇓P	Pg	05 28 37.2	+0.9
TRIV	**Trivento**	**1.47**	**134**	⇑P	Pg	05 28 38.3	+1.0
BSSO	**Busso**	**1.65**	**139**	⇑P	Pg	05 28 41.5	+0.7
MELA	**Melanico ??? S**	**1.83**	**126**	⇓P	Pb	05 28 42.6	-0.2
APRC	**Apricena**	**2.06**	**119**	⇑P	Pn	05 28 45.2	+1.3
PII	**Pisa**	**2.12**	**297**	⇓P	Pn	05 28 43.6	-1.1
SGRT	**San Giovanni R**	**2.19**	**117**	⇓P	Pb	05 28 47.4	-1.6

IDC 08 05:43:26.2±2.3, 6.80S×128.88E, h0km, mb3.5/1, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=143.0km s-min=32.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.11**	**158**	Pn	Pn	05 46 45.5	-1.9
	0.6nm,0.3s,baz=340,slow=13,SNR=26						
WRA				Sn	Sn	05 49 14.3	-11
	0.6nm,0.3s,baz=333,slow=21,SNR=9.3						
	0.8nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	**Alice Springs**	**17.46**	**164**	P	P	05 47 32.6	0.0
	0.4nm,0.3s,baz=346,slow=11,SNR=17						
ASAR				S	Sn	05 50 38.4	-8.0
	0.6nm,0.6s,baz=343,slow=24,SNR=6.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	05 54 23.8	0.0
	0.2nm,0.5s,baz=121,slow=8.2,SNR=2.3						
	0.2nm,0.5s						

*IDC **08** 05:44:40.3±0.7, 36°.60S×73°.41W, h0km, mb4.4/13, mbtmp4.4/16, ML4.2/3, MS4.4/8, Error ellipse: s-maj=24.5km s-min=12.7km az=81.0*

*NEIC **08** 05:44:41.6±1.4, 36°.59S±0°.05×73°.66W±0°.03, h14km±4km, mb4.9/51, Mwr4.6/52, ML4.9(GUC), Mwr4.7(GUC), Error ellipse: s-maj=7.6km s-min=2.1km az=197.0*

*NEIC **08** 05:44:41.7, 36°.59S×73°.65W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.00; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-0.81; $M_{r\theta}$0.03; $M_{\theta\phi}$-0.30; $M_{\phi r}$-0.68; Fault plane solution: $M_0$1.18000×10^{16} NP1:ϕ_s189.03000°, δ62.48000°, λ78.69000°. NP2:ϕ_s32.44000°, δ29.59000°, λ110.63000°. Principal axes: T 1.2347, Plg70.0000°, Azm75.0000°; N -0.1131, Plg10.0000°, Azm194.0000°; P -1.1216, Plg17.0000°, Azm287.0000°;*

*GUC **08** 05:44:43.2±0.6, 36°.70S×73°.59W, h10km±2km, ML4.9*

*VAO **08** 05:44:44.6±0.4, 36°.55S×73°.27W, h22km, mb4.8*

ISC 08 05:44:40.1±2.0**, 36°.62S**±0°.03×**73°.63W**±0°.05**, h3**km±12km**, n194, σ1s17**/191**, mb4.9**/35**, MS4.4**/5**, 9C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.38**	**111**	Pg	**Pb**	**05 44 50.2**	**+0.9**
BI05				Sg	**Sb**	**05 44 55.2**	**-0.4**
BI05	**Punta Hualpn**	**0.38**	**111**	⇓iP	**Pb**	**05 44 50.2**	**+0.9**
BI05				iS	**Sb**	**05 44 55.2**	**-0.4**
BI05				IAML		05 44 56.3	
	comp=N,165μm,0.2s						
CCSP	**San Pedro de C**	**0.47**	**119**	⇑iP	**Pb**	**05 44 52.0**	**+1.0**
CCSP				iS	**Sb**	**05 44 58.1**	**-0.4**
CCSP				IAML		05 44 59.5	
	comp=E,187μm,0.6s						
ML02	**Panimavida**	**1.98**	**65**	Pn	**Pn**	**05 45 15.1**	**+0.6**
ML02	**Panimavida**	**1.98**	**65**	⇓iP	**Pn**	**05 45 15.5**	**+1.1**
ML02				iS	**Sg**	**05 45 43.2**	**-0.5**
ML02				IAML		05 45 49.0	
	comp=E,37μm,0.8s						
GO05	**Huala**	**2.12**	**41**	Pn	**Pn**	**05 45 16.6**	**+0.2**
GO05	**Huala**	**2.12**	**41**	eP	**Pn**	**05 45 17.6**	**+1.2**
GO05				iS	**Sg**	**05 45 48.4**	**+0.3**
GO05				IAML		05 46 03.9	
	comp=N,6μm,0.4s						
LC02	**Puerto Saavedr**	**2.18**	**175**	Pn	**Pn**	**05 45 17.5**	**+0.3**
LC02	**Puerto Saavedr**	**2.18**	**175**	eP	**Pn**	**05 45 18.2**	**+1.0**
LC02				iS	**Sb**	**05 45 46.2**	**-1.3**
LC02				IAML		05 46 10.4	
	comp=E,12μm,0.6s						
BO03	**Pichilemu**	**2.51**	**33**	⇑iP	**Pn**	**05 45 20.8**	**-1.0**
BO03				iS	**Sb**	**05 45 58.6**	**+1.5**
BO03				IAML		05 46 10.5	
	comp=N,4μm,0.5s						
BO02	**Sierra Bellavi**	**2.95**	**53**	Pn	**Pn**	**05 45 27.3**	**-0.5**
BO02	**Sierra Bellavi**	**2.95**	**53**	eP	**Pn**	**05 45 29.7**	**+1.9**
BO02				iS	**Sb**	**05 46 08.9**	**-0.8**
BO02				IAML		05 46 17.7	
	comp=N,8μm,0.4s						
BO01	**Tunca**	**3.04**	**44**	Pn	**Pn**	**05 45 30.3**	**+1.3**
BO01	**Tunca**	**3.04**	**44**	⇓iP	**Pn**	**05 45 30.3**	**+1.3**
BO01				iS	**Sb**	**05 46 11.4**	**-0.8**
BO01				IAML		05 46 20.8	
	comp=N,3μm,0.6s						
LR03	**Panguipulli**	**3.18**	**162**	Pn	**Pn**	**05 45 31.4**	**+0.5**
LR03	**Panguipulli**	**3.18**	**162**	⇑iP	**Pn**	**05 45 31.5**	**+0.6**
LR03				iS	**Sb**	**05 46 19.0**	**+2.8**
LR03				IAML		05 46 28.9	
	comp=E,6μm,0.6s						
LR04	**Corral**	**3.26**	**177**		**Pn**	**05 45 31.2**	**-0.9**
LR04	**Corral**	**3.26**	**177**	eP	**Pn**	**05 45 31.7**	**-0.4**
LR04				IAML		05 46 33.6	
	comp=E,1μm,0.3s						
MT01	**Popeta**	**3.37**	**36**	Pn	**Pn**	**05 45 33.6**	**+0.1**
MT01	**Popeta**	**3.37**	**36**	⇑iP	**Pn**	**05 45 33.5**	**+0.1**
MT01				iS	**Sb**	**05 46 19.1**	**-2.5**
MT01				IAML		05 46 35.9	
	comp=N,4μm,0.9s						
VA05	**Santo Domingo**	**3.38**	**30**		**Pn**	**05 45 32.8**	**-0.9**
GO06	**Curarrehue**	**3.42**	**151**	Pn	**Pn**	**05 45 35.4**	**+1.1**
GO06	**Curarrehue**	**3.42**	**151**	⇑iP	**Pn**	**05 45 35.0**	**+0.7**
GO06				iS	**Sn**	**05 46 17.8**	**+2.5**
MT09	**Talagante**	**3.56**	**38**	Pn	**Pn**	**05 45 36.7**	**+0.3**
MT02	**Curacav**	**3.92**	**32**		**Pn**	**05 45 40.9**	**-0.3**
MT02	**Curacav**	**3.92**	**32**	⇑iP	**Pn**	**05 45 40.9**	**-0.3**
MT02				iS	**Sb**	**05 46 41.4**	**+3.7**
MT02				IAML		05 46 57.6	
	comp=E,959nm,0.2s						
LMEL	**Las Melosas**	**3.94**	**46**		**Pn**	**05 45 42.8**	**+1.3**
VA01	**Torpederas**	**3.94**	**25**		**Pn**	**05 45 40.6**	**-0.8**
MT05	**Renca**	**4.00**	**37**		**Pn**	**05 45 42.7**	**+0.5**
MT03	**Universidad Ad**	**4.03**	**40**		**Pn**	**05 45 43.0**	**+0.3**
ROC1	**El Roble**	**4.22**	**31**		**Pn**	**05 45 45.4**	**0.0**
LL04	**Puerto Octay**	**4.39**	**168**	eP	**Pn**	**05 45 47.0**	**-0.6**
LL04				eS	**Sn**	**05 46 41.4**	**+2.2**
LL04				IAML		05 47 03.1	
	comp=N,174nm,0.6s						
VA06	**Catapilco**	**4.48**	**26**	Pn	**Pn**	**05 45 47.8**	**-1.0**
PLCA	**Paso Flores**	**4.76**	**151**	Pn	**Pn**	**05 45 54.4**	**+1.6**
	comp=N,4.1nm,0.3s,baz=322,slow=12,SNR=28						
PLCA				Pg	**Pb**	**05 46 05.6**	**+1.4**
	comp=N,4.6nm,0.3s,baz=339,slow=16,SNR=12						
PLCA				Lg	Lg	05 47 08.2	
	comp=N,5.1nm,0.3s,baz=246,slow=19,SNR=5.0						
PLCA				LR	LR	05 47 26.0	
	comp=N,549nm,20.8s,baz=214,slow=35						
	comp=N,10nm,0.4s						
PLCA	**Paso Flores**	**4.76**	**151**		**Pn**	**05 45 54.5**	**+1.7**
PLCA	**Paso Flores**	**4.76**	**151**	eP	**Pn**	**05 45 53.8**	**+1.1**
LL05	**Los Muermos**	**4.78**	**179**	⇓iP	**Pn**	**05 45 53.0**	**0.0**
LL05				eS	**Sb**	**05 46 55.9**	**-6.5**
LL05				IAML		05 47 28.4	
	comp=N,876nm,0.9s						
H03S1	**Juan Fernandez**	**5.13**	**301**	T	T	05 46 00.5	
	baz=305,slow=74,SNR=97						
H03S1				T	T	05 51 17.0	
	baz=122,slow=75,SNR=855						
H03S3	**Juan Fernandez**	**5.14**	**301**	T	T	05 51 22.8	
	baz=122,slow=75,SNR=983						
H03S2	**Juan Fernandez**	**5.15**	**301**	T	T	05 45 57.6	
	baz=115,slow=74,SNR=96						
H03S2				T	T	05 51 16.8	
	baz=122,slow=75,SNR=1160						
VA04	**Juan Fernndez**	**5.19**	**303**		**Pn**	**05 45 58.7**	**+0.1**
H03N3	**Juan Fernandez**	**5.37**	**304**	Pn	**Pn**	**05 46 01.5**	**+0.7**
	baz=140,slow=26						
H03N3				T	T	05 51 39.8	
	baz=120,slow=75,SNR=43						
H03N1	**Juan Fernandez**	**5.37**	**305**	Pn	**Pn**	**05 46 01.5**	**+0.7**
	baz=140,slow=26						
H03N1				T	T	05 51 39.9	
	baz=120,slow=75,SNR=23						
H03N2	**Juan Fernandez**	**5.38**	**305**	Pn	**Pn**	**05 46 01.7**	**+0.8**
	baz=140,slow=26						
H03N2				T	T	05 51 40.1	
	baz=120,slow=75,SNR=20						
CO02	**Combarbal**	**5.82**	**23**	Pn	**Pn**	**05 46 06.7**	**-0.7**
CO03	**El Pedregal**	**6.26**	**24**		**Pn**	**05 46 13.1**	**-0.3**
GO07	**Milladeo Hill,**	**6.49**	**180**		**Pn**	**05 46 15.5**	**-0.9**
LL02	**Futaleuf**	**6.71**	**169**	Pn	**Pn**	**05 46 20.0**	**+0.6**
GO04	**Tololo Observa**	**6.85**	**21**		**Pn**	**05 46 20.9**	**-0.6**
CO05	**La Serena**	**6.97**	**17**	Pn	**Pn**	**05 46 22.2**	**-0.8**
CO01	**Juntas del Tor**	**7.25**	**25**		**Pn**	**05 46 27.4**	**+0.3**
LCO	**Las Campanas**	**7.97**	**19**		**Pn**	**05 46 35.7**	**-1.4**
AC05	**El Transito**	**8.26**	**21**		**Pn**	**05 46 40.4**	**-0.4**
AC04	**Llanos de Chal**	**8.66**	**15**	Pn	**Pn**	**05 46 45.1**	**-1.2**
TRQA	**Tornquist**	**9.39**	**102**	Pn	**Pn**	**05 46 57.3**	**+1.1**
AC02	**Maricunga**	**10.47**	**23**	Pn	**Pn**	**05 47 10.2**	**-1.3**
GO02	**Mina Guanaco**	**11.93**	**18**	Pn	**Pn**	**05 47 29.9**	**-1.4**
PB15	**IPOC Station P**	**13.84**	**16**		**Pn**	**05 47 58.7**	**+1.4**
LVC	**Limon Verde**	**14.54**	**18**	Pn	**Pn**	**05 48 06.8**	**-0.3**
	comp=N,0.4nm,0.3s,baz=111,slow=6.6,SNR=1.7						
LVC				Sn	**Sn**	**05 50 49.6**	**+0.5**
	comp=N,0.2nm,0.3s,baz=140,slow=19,SNR=1.7						
LVC				LR	LR	05 54 15.9	
	comp=N,1μm,18.3s,baz=26,slow=40						
	comp=N,2.6nm,0.5s						
LVC	**Limon Verde**	**14.54**	**18**		**Pn**	**05 48 08.1**	**+1.0**
LVC	**Limon Verde**	**14.54**	**18**	eP	**Pn**	**05 48 07.0**	**-0.1**
PB09	**IPOC Station P**	**15.25**	**16**	IAmb	IAmb	05 48 35.0	
	comp=Z,104nm,1.5s						
ITQB	**Itaqui**	**15.83**	**69**	eP	**Pn**	**05 48 22.9**	**-0.9**
PB01	**IPOC Station P**	**15.93**	**14**	IAmb	IAmb	05 48 32.0	
	comp=Z,55nm,0.9s						
TA02	**Huaiquique**	**16.57**	**12**	IAmb	IAmb	05 48 48.9	
	comp=Z,92nm,1.2s						
RODS	**Rosario do Sul**	**16.59**	**73**	eP	**Pn**	**05 48 32.0**	**-1.6**
AZCA	**Azaras, Argent**	**17.15**	**65**	eP	**Pn**	**05 48 38.6**	**-2.1**
PB11	**IPOC Station P**	**17.15**	**13**	IAmb	IAmb	05 48 54.7	
	comp=Z,90nm,1.0s						
CPUP	**Villa Florida**	**17.25**	**58**	P	**Pn**	**05 48 40.4**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=236,slow=11,SNR=11						
CPUP				LR	LR	05 56 20.1	
	comp=Z,2μm,18.6s,baz=5.0,slow=41						
	comp=Z,9.8nm,1.0s						
CPUP	**Villa Florida**	**17.25**	**58**	P	**P**	**05 48 43.0**	**-0.5**
CPUP	**Villa Florida**	**17.25**	**58**	eP	**Pn**	**05 48 41.3**	**-0.6**
PLTB	**Pedras Altas**	**17.25**	**80**	P	**P**	**05 48 43.2**	**-0.4**
PLTB	**Pedras Altas**	**17.25**	**80**	eP	**Pn**	**05 48 40.2**	**-1.8**
UNIS	**Unistalda (Bra**	**17.30**	**70**	eP	**Pn**	**05 48 40.0**	**-2.6**
CPSB	**Cacapava Do Su**	**17.93**	**76**	eP	**Pn**	**05 48 47.9**	**-2.5**
CRSM	**Crissiumal (Br**	**18.90**	**67**	eP	**P**	**05 49 00.2**	**-1.5**
ALGR	**Alto Alegre (B**	**18.98**	**72**	eP	**P**	**05 49 01.1**	**-1.6**
MURT	**Porto Murtinho**	**20.40**	**47**	eP	**P**	**05 49 18.1**	**0.0**
CNLB	**Canela**	**20.42**	**76**	eP	**P**	**05 49 17.0**	**-1.4**
ITAB	**Concordia**	**20.47**	**69**	P	**P**	**05 49 18.5**	**-0.4**
ITAB				IAmb	IAmb	05 49 19.4	
	comp=Z,64nm,0.9s						
ITAB	**Concordia**	**20.47**	**69**	eP	**P**	**05 49 18.1**	**-0.7**
FRBT	**Francisco Belt**	**20.49**	**65**	eP	**P**	**05 49 18.4**	**-0.8**
MCR1	**Marechal Candi**	**20.73**	**60**	eP	**P**	**05 49 21.1**	**-0.6**
LPAZ	**La Paz**	**20.83**	**15**	P	**P**	**05 49 24.5**	**+1.1**
	comp=Z,7.8nm,1.0s,baz=180,slow=7.2,SNR=26						
	comp=Z,7.8nm,1.0s						
LPAZ	**La Paz**	**20.83**	**15**	eP	**P**	**05 49 23.1**	**-0.4**
ANTJ	**Antonio Joao (**	**21.12**	**51**	eP	**P**	**05 49 25.8**	**-0.2**
BBRB	**Robore, Bolivi**	**21.96**	**37**	eP	**P**	**05 49 34.6**	**-0.4**
PTGB	**Pitanga**	**21.96**	**63**	eP	**P**	**05 49 33.8**	**-1.3**
TER01	**Tubaro-SC**	**22.12**	**76**	eP	**P**	**05 49 34.9**	**-1.9**
AQDB	**Aquidauana**	**22.45**	**49**	P	**P**	**05 49 40.1**	**-0.1**
AQDB				IAmb	IAmb	05 49 54.8	
	comp=Z,48nm,1.0s						
AQDB	**Aquidauana**	**22.45**	**49**	eP	**P**	**05 49 39.2**	**-1.0**
BBSD	**Serra de San D**	**22.52**	**34**	eP	**P**	**05 49 40.3**	**-0.7**
PANT	**Pantanal (Braz**	**23.06**	**45**	eP	**P**	**05 49 46.4**	**-0.3**
SIV	**San Ignacio**	**23.38**	**32**	P	**P**	**05 49 49.2**	**-0.7**
	comp=Z,20nm,1.0s,baz=210,slow=9.1,SNR=56						
SIV				LR	LR	06 00 54.3	
	comp=Z,1μm,18.1s,baz=74,slow=42						
	comp=Z,20nm,1.0s						
PCMB	**Pacaembu**	**24.52**	**59**	eP	**P**	**05 49 59.6**	**-1.3**
FRTB	**Fartura**	**24.61**	**64**	eP	**P**	**05 50 00.9**	**-0.7**
NNA	**Nana**	**24.69**	**352**	P	**P**	**05 50 00.0**	**-2.4**
NNA				IAmb	IAmb	05 50 00.6	
	comp=Z,22nm,0.8s						
PTLB	**Pontes e Lacer**	**24.72**	**35**	P	**P**	**05 50 01.7**	**-0.8**
PTLB				IAmb	IAmb	05 50 11.9	
	comp=Z,32nm,1.4s						
PTLB	**Pontes e Lacer**	**24.72**	**35**	eP	**P**	**05 50 02.6**	**0.0**
PET01	**Itanhaem-SP**	**25.74**	**69**	eP	**P**	**05 50 10.8**	**-1.0**
SALV	**Santo Antonio**	**26.07**	**42**	eP	**P**	**05 50 14.7**	**-0.2**
ITRB	**Iturama**	**26.44**	**57**	eP	**P**	**05 50 18.8**	**+0.6**
VILB	**Vilhena**	**26.47**	**31**	P	**P**	**05 50 18.0**	**-0.5**
VILB				IAmb	IAmb	05 50 54.0	
	comp=Z,26nm,1.0s						
VILB	**Vilhena**	**26.47**	**31**	eP	**P**	**05 50 18.2**	**-0.3**
RCLB	**Rio Claro- Sao**	**26.65**	**65**	eP	**P**	**05 50 19.3**	**-0.8**
VAO	**Valinhos**	**26.71**	**67**	eP	**P**	**05 50 20.4**	**-0.3**
BB19B	**Bebedouro**	**26.79**	**62**	eP	**P**	**05 50 20.2**	**-1.1**
ETMB	**Extrema**	**27.51**	**16**	P	**P**	**05 50 29.0**	**+1.2**
ETMB				IAmb	IAmb	05 50 29.8	
	comp=Z,34nm,0.8s						
ETMB	**Extrema**	**27.51**	**16**	eP	**P**	**05 50 28.2**	**+0.4**
ARAG	**Araguaiana, MT**	**28.46**	**49**	eP	**P**	**05 50 35.4**	**-0.9**
CZSB	**Cruzeiro do Su**	**28.77**	**2**	eP	**P**	**05 50 40.3**	**+1.2**
IPMB	**Ipameri, GO**	**29.09**	**57**	eP	**P**	**05 50 40.5**	**-1.4**
PDRB	**Porto dos Gac**	**29.19**	**36**	eP	**P**	**05 50 41.9**	**-0.9**
BSCB	**Bom Sucesso**	**29.54**	**66**	eP	**P**	**05 50 45.2**	**-0.8**
VAS01	**Vassouras-RJ**	**29.77**	**70**	eP	**P**	**05 50 46.4**	**-1.5**
PMNB	**Patos De Minas**	**29.93**	**60**	eP	**P**	**05 50 48.4**	**-1.1**
CLDB	**Colider**	**30.27**	**37**	eP	**P**	**05 50 51.7**	**-0.8**
BDFB	**Brasilia**	**30.90**	**54**	P	**P**	**05 50 58.1**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=219,slow=3.8,SNR=7.3						
BDFB				LR	LR	06 03 46.2	
	comp=Z,864nm,19.4s,baz=275,slow=37						
	comp=Z,5.4nm,0.9s						
BDFB	**Brasilia**	**30.90**	**54**	eP	**P**	**05 50 58.4**	**+0.3**
CAM01	**Campos-RJ**	**31.38**	**71**	eP	**P**	**05 51 02.7**	**+0.5**
RPN	**Rapa Nui**	**31.61**	**277**	LR	LR	06 00 15.3	
	comp=Z,812nm,18.6s,baz=40,slow=29						
SNDB	**Serra Nova Dou**	**31.72**	**45**	eP	**P**	**05 51 04.3**	**-0.9**
TBTG	**Tabatinga, AM**	**32.45**	**7**	IAmb	IAmb	05 51 14.1	
	comp=Z,121nm,1.0s						
TBTG	**Tabatinga, AM**	**32.45**	**7**	eP	**P**	**05 51 12.9**	**+1.3**
MC01	**Montes Claros**	**32.91**	**61**	eP	**P**	**05 51 14.5**	**-1.2**
SJMB	**Sao Joao De Ma**	**33.61**	**67**	eP	**P**	**05 51 20.9**	**-0.8**
JANB	**Januaria**	**33.79**	**58**	eP	**P**	**05 51 22.3**	**-1.1**
RIB01	**Linhares ES**	**33.82**	**68**	eP	**P**	**05 51 22.5**	**-1.0**
NPGB	**Novo Progresso**	**33.83**	**34**	eP	**P**	**05 51 22.6**	**-1.1**
NAN01	**Guarapari, ES**	**34.93**	**67**	eP	**P**	**05 51 31.4**	**-1.8**
SDBA	**SAO DESIDERIO**	**35.31**	**54**	eP	**P**	**05 51 35.8**	**-0.7**
MACA	**Manacapuru-AM**	**35.37**	**23**	IAmb	IAmb	05 51 37.6	
	comp=Z,32nm,1.3s						
MACA	**Manacapuru-AM**	**35.37**	**23**	eP	**P**	**05 51 36.8**	**-0.2**
GUA01	**Guaratinga, BA**	**35.96**	**65**	eP	**P**	**05 51 42.2**	**+0.1**
ITTB	**Itaituba**	**36.06**	**31**	eP	**P**	**05 51 43.0**	**+0.1**
SMTB	**Santa Maria do**	**36.36**	**47**	eP	**P**	**05 51 45.2**	**-0.3**
SGCB	**S£o Gabriel d**	**36.82**	**11**	eP	**P**	**05 51 48.8**	**-0.6**
CMC01	**Camacan, BA**	**36.97**	**64**	eP	**P**	**05 51 50.1**	**-0.5**
PRPB	**Parauapebas**	**37.32**	**41**	eP	**P**	**05 51 52.6**	**-1.0**
GDU01	**Guandu, BA**	**38.02**	**62**	eP	**P**	**05 51 58.7**	**-1.0**
BOAV	**Boa Vista**	**40.69**	**20**	P	**P**	**05 52 21.6**	**-0.3**
BOAV				IAmb	IAmb	05 52 22.6	
	comp=Z,11nm,0.9s						
BOAV	**Boa Vista**	**40.69**	**20**	eP	**P**	**05 52 21.4**	**-0.4**
ROSC	**El Rosal**	**41.24**	**359**	P	**P**	**05 52 30.3**	**+3.4**
	comp=Z,8.7nm,0.8s,baz=66,slow=22,SNR=6.7						
ROSB	**Rosrio**	**43.18**	**46**	eP	**P**	**05 52 41.5**	**-0.8**
SDV	**Santo Domingo**	**45.35**	**4**	P	**P**	**05 53 00.7**	**+0.9**
	comp=Z,11nm,0.8s,baz=282,slow=6.2,SNR=3.6						
	comp=Z,11nm,0.8s						
SDV	**Santo Domingo**	**45.35**	**4**	P	**P**	**05 52 59.4**	**-0.4**
SDV				IAmb	IAmb	05 53 04.2	
	comp=Z,11nm,0.9s						
SDV	**Santo Domingo**	**45.35**	**4**	eP	**P**	**05 53 00.7**	**+0.9**
BAUV	**El Baul**	**45.62**	**8**	P	**P**	**05 53 01.7**	**0.0**
MDP	**Montagnes des**	**45.91**	**30**	P	**P**	**05 53 04.0**	**0.0**
	comp=Z,11nm,0.9s,baz=184,slow=6.7,SNR=3.7						
	comp=Z,11nm,0.9s						
RCBR	**Riachuelo**	**46.13**	**58**	LR	LR	06 13 20.9	
	comp=Z,438nm,21.7s,baz=288,slow=37						
VNA3	**Neumayer Olymp**	**47.45**	**157**	P	**P**	**05 53 16.4**	**+0.8**
VNA1	**Neumayer--Stat**	**47.80**	**156**	P	**P**	**05 53 20.0**	**+1.8**
VNA2	**Neumayer--Watz**	**48.13**	**156**	P	**P**	**05 53 21.4**	**+0.7**
SNAA	**Sanae**	**49.67**	**157**	P	**P**	**05 53 33.6**	**+0.9**
SNAA	**Sanae**	**49.67**	**157**	P	**P**	**05 53 33.2**	**+0.5**
	comp=Z,12nm,1.0s,baz=273,slow=6.8,SNR=17						
	comp=Z,12nm,1.0s						
SNAA	**Sanae**	**49.67**	**157**	P	**P**	**05 53 33.6**	**+0.9**
SNAA				IAmb	IAmb	05 53 34.7	
	comp=Z,19nm,1.1s						
TROLL	**Troll, Antarti**	**51.37**	**157**	P	**P**	**05 53 46.7**	**+1.1**
QSPA	**South Pole Qui**	**53.62**	**180**	P	**P**	**05 54 03.5**	**+1.1**
	comp=Z,11nm,0.9s,baz=148,slow=2.6,SNR=24						
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**53.62**	**180**	P	**P**	**05 54 02.3**	**-0.1**
QSPA				IAmb	IAmb	05 54 04.9	
	comp=Z,14nm,1.1s						
MLPR	**Magueyes Islan**	**54.64**	**8**	P	**P**	**05 54 09.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**54.67**	**8**	P	**P**	**05 54 09.8**	**-0.5**
TX31	**Lajitas Ar. Si**	**71.42**	**333**	IAmb	IAmb	05 56 32.6	
	comp=Z,15nm,1.3s						
TXAR	**Lajitas Array**	**71.42**	**333**	P	**P**	**05 56 02.6**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=151,slow=8.4,SNR=8.5						
	comp=Z,0.5nm,0.5s						
X48A	**Hartselle**	**71.80**	**348**	IAmb	IAmb	05 56 20.2	
	comp=Z,17nm,1.2s						
SWET	**Sewanee**	**72.38**	**349**	P	**P**	**05 56 07.2**	**0.0**
CPCT	**Cooper Cave**	**72.41**	**351**	P	**P**	**05 56 06.8**	**-0.6**
CPCT				IAmb	IAmb	05 56 08.7	
	comp=Z,8.2nm,0.9s						
WVT	**Waverly**	**73.57**	**348**	P	**P**	**05 56 14.8**	**+0.6**
WVT				IAmb	IAmb	05 56 15.6	
	comp=Z,8.4nm,0.9s						
BBTS	**Babate**	**74.12**	**58**	LR	LR	06 26 16.5	
	comp=Z,973nm,21.5s,baz=56,slow=34						
OK050	**Pawnee Station**	**75.81**	**341**	IAmb	IAmb	05 56 33.9	
	comp=Z,16nm,1.1s						
OK047	**Pawnee, Statio**	**75.81**	**341**	IAmb	IAmb	05 56 47.4	
	comp=Z,15nm,1.2s						
OK045	**Pawnee Station**	**75.84**	**341**	IAmb	IAmb	05 56 29.9	
	comp=Z,9.0nm,0.7s						
OK051	**E0350 and S346**	**75.88**	**341**	IAmb	IAmb	05 56 29.3	
	comp=Z,13nm,1.0s						
CCM	**Cathedral Cave**	**76.07**	**346**	P	**P**	**05 56 28.3**	**-0.3**
CCM				IAmb	IAmb	05 56 30.2	
	comp=Z,14nm,1.0s						
LIC	**Lamto**	**76.83**	**72**	⇑eP	**P**	**05 56 33.6**	**+0.1**
	comp=Z,38nm,0.9s						
TIC	**Toumodi**	**77.10**	**72**	⇑eP	**P**	**05 56 35.0**	**-0.1**
	comp=Z,19nm,0.8s						
KIC	**Kosan Boka**	**77.13**	**72**	⇑eP	**P**	**05 56 35.3**	**+0.1**
	comp=Z,14nm,0.7s						
P40A	**Paris**	**77.65**	**346**	IAmb	IAmb	05 56 38.9	
	comp=Z,14nm,0.9s						
BOSA	**Boshof**	**80.00**	**118**	P	**P**	**05 56 50.8**	**-0.3**
	comp=Z,4.8nm,1.0s,baz=213,slow=9.1,SNR=3.9						
	comp=Z,4.8nm,1.0s						
LBTB	**Lobatse**	**82.37**	**115**	P	**P**	**05 57 03.6**	**-0.1**
LBTB				IAmb	IAmb	05 57 04.3	
	comp=Z,8.3nm,0.7s						
ECSD	**EROS Data Cent**	**82.66**	**343**	IAmb	IAmb	05 57 05.7	
	comp=Z,6.4nm,0.8s						
JLU	**Jordanelle**	**84.32**	**332**	IAmb	IAmb	05 57 15.8	
	comp=Z,3.1nm,0.6s						
HWUT	**Hardware Ranch**	**85.24**	**332**	IAmb	IAmb	05 57 35.6	
	comp=Z,12nm,1.1s						
NVAR	**Mina Array Bea**	**85.31**	**326**	P	**P**	**05 57 20.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=155,slow=6.9,SNR=6.2						
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**85.53**	**334**	P	**P**	**05 57 19.8**	**+0.4**
	comp=Z,1.5nm,1.0s,baz=144,slow=5.5,SNR=6.0						
	comp=Z,1.5nm,1.0s						
TOA0	**Torodi Ar. Sit**	**86.31**	**71**	P	**P**	**05 57 22.4**	**-1.2**
TOA0				IAmb	IAmb	05 57 22.7	
	comp=Z,6.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**86.31**	**71**	P	**P**	**05 57 22.2**	**-1.4**
	comp=Z,4.4nm,0.9s,baz=238,slow=4.4,SNR=17						
	comp=Z,4.4nm,0.9s						
ULM	**Lac du Bonnet**	**88.70**	**346**	P	**P**	**05 57 35.0**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=130,slow=5.4,SNR=3.6						
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**117.85**	**210**	PKP	**PKiKP**	**06 03 29.6**	**+1.2**
	comp=Z,0.2nm,0.9s,baz=147,slow=1.9,SNR=1.1						
ZALV	**Zalesovo Beam**	**157.12**	**34**	PKP	**PKPdf**	**06 04 35.6**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=298,slow=3.2,SNR=5.2						
ZALV				PKPab	**PKPab**	**06 05 07.4**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=294,slow=7.3,SNR=7.5						
MKAR	**Makanchi Array**	**159.42**	**53**	PKP	**PKPdf**	**06 04 38.5**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=252,slow=2.9,SNR=4.3						
MKAR				PKPab	**PKPab**	**06 05 17.5**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=292,slow=3.8,SNR=6.4						
WMQ	**Urumqi**	**164.04**	**57**	ePKP	**PKPdf**	**06 04 44.3**	**-0.2**
SONM	**Songino Array**	**168.79**	**360**	PKPab	**PKPab**	**06 05 58.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=7.6,slow=4.5,SNR=3.8						
PZH	**PanZhiHua**	**169.18**	**157**	PKP	**PKPdf**	**06 04 48.7**	**-0.4**
HHC	**Hu-ho-hao-te**	**174.14**	**318**	ePKP	**PKPdf**	**06 04 50.0**	**-1.0**

*NEIC **08** 05:50:28.7±1.1, 36°.52S±0°.01×74°.0W±0°.1, h29km±12km, Error ellipse: s-maj=13.0km s-min=2.0km az=93.0*

*GUC **08** 05:50:29.3±0.7, 36°.59S×73°.68W, h19km±10km, ML3.9*

ISC 08 05:50:28.3±2.1**, 36°.66S**±0°.07×**73°.8W**±0°.1**, h35**km**, n53, σ1s69**/56**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.49**	**101**	Pg	**Pn**	**05 50 37.8**	**-1.0**
BI05	**Punta Hualpn**	**0.49**	**101**	eP	**Pn**	**05 50 37.7**	**-1.0**
BI05				eS	**Sn**	**05 50 43.0**	**-3.1**
BI05				IAML		05 50 44.3	
	comp=E,29μm,0.2s						
CCSP	**San Pedro de C**	**0.58**	**109**	eP	**Pn**	**05 50 38.2**	**-1.8**
CCSP				eS	**Sn**	**05 50 46.0**	**-2.3**
CCSP				IAML		05 50 47.6	
	comp=N,31μm,0.3s						
ML02	**Panimavida**	**2.12**	**66**		**Pn**	**05 51 02.1**	**+0.9**
ML02	**Panimavida**	**2.12**	**66**	eP	**Pn**	**05 51 02.6**	**+1.5**
ML02				eS	**Sn**	**05 51 27.5**	**+1.2**
LC02	**Puerto Saavedr**	**2.15**	**171**	Pn	**Pn**	**05 51 03.7**	**+2.0**
GO05	**Huala**	**2.23**	**43**	Pn	**Pn**	**05 51 03.2**	**+0.3**
GO05	**Huala**	**2.23**	**43**	eP	**Pn**	**05 51 03.4**	**+0.5**
BO03	**Pichilemu**	**2.62**	**35**	eP	**Pn**	**05 51 08.2**	**0.0**
BO02	**Sierra Bellavi**	**3.08**	**54**		**Pn**	**05 51 15.7**	**+1.3**
BO02	**Sierra Bellavi**	**3.08**	**54**	eP	**Pn**	**05 51 15.8**	**+1.3**
BO02				IAML		05 52 10.0	
	comp=N,389nm,0.6s						
BO01	**Tunca**	**3.16**	**45**		**Pn**	**05 51 16.9**	**+1.3**
BO01	**Tunca**	**3.16**	**45**	eP	**Pn**	**05 51 16.9**	**+1.3**
BO01				IAML		05 52 08.9	
	comp=E,114nm,0.4s						
LR03	**Panguipulli**	**3.18**	**159**		**Pn**	**05 51 19.2**	**+3.4**
LR03	**Panguipulli**	**3.18**	**159**	eP	**Pn**	**05 51 19.5**	**+3.7**
LR03				IAML		05 52 18.3	
	comp=N,496nm,0.6s						
LR04	**Corral**	**3.23**	**175**	Pn	**Pn**	**05 51 19.5**	**+3.0**
GO06	**Curarrehue**	**3.45**	**149**	Pn	**Pn**	**05 51 23.3**	**+3.6**
GO06	**Curarrehue**	**3.45**	**149**	eP	**Pn**	**05 51 23.2**	**+3.6**
MT01	**Popeta**	**3.48**	**37**		**Pn**	**05 51 20.6**	**+0.6**
MT01	**Popeta**	**3.48**	**37**	eP	**Pn**	**05 51 20.4**	**+0.4**
MT01				IAML		05 52 29.6	
	comp=E,106nm,0.5s						
VA05	**Santo Domingo**	**3.48**	**31**		**Pn**	**05 51 19.8**	**-0.2**
VA05	**Santo Domingo**	**3.48**	**31**	eP	**Pn**	**05 51 20.0**	**0.0**
VA05				IAML		05 52 19.2	
	comp=N,175nm,0.1s						
MT09	**Talagante**	**3.68**	**39**		**Pn**	**05 51 23.9**	**+1.1**
MT09	**Talagante**	**3.68**	**39**	eP	**Pn**	**05 51 23.6**	**+0.8**
MT09				IAML		05 52 26.6	
	comp=E,177nm,0.5s						
MT02	**Curacav**	**4.03**	**34**		**Pn**	**05 51 27.7**	**+0.1**
MT02	**Curacav**	**4.03**	**34**	eP	**Pn**	**05 51 27.4**	**-0.1**
VA01	**Torpederas**	**4.03**	**27**	Pn	**Pn**	**05 51 27.3**	**-0.2**
LMEL	**Las Melosas**	**4.06**	**47**		**Pn**	**05 51 29.8**	**+1.7**
LMEL	**Las Melosas**	**4.06**	**47**	eP	**Pn**	**05 51 29.7**	**+1.7**
MT05	**Renca**	**4.11**	**38**		**Pn**	**05 51 29.7**	**+1.0**
MT05	**Renca**	**4.11**	**38**	eP	**Pn**	**05 51 29.5**	**+0.8**
MT03	**Universidad Ad**	**4.15**	**41**		**Pn**	**05 51 29.8**	**+0.6**
MT03	**Universidad Ad**	**4.15**	**41**	eP	**Pn**	**05 51 29.8**	**+0.6**
ROC1	**El Roble**	**4.33**	**33**		**Pn**	**05 51 32.4**	**+0.6**
ROCH	**El Roble**	**4.33**	**33**	eP	**Pn**	**05 51 32.1**	**+0.2**
PEL	**Peldehue**	**4.34**	**37**	eP	**Pn**	**05 51 32.7**	**+0.9**
LL04	**Puerto Octay**	**4.38**	**166**	Pn	**Pn**	**05 51 35.0**	**+2.7**
FCH	**Farellones**	**4.39**	**42**	eP	**Pn**	**05 51 33.5**	**+0.7**
VA06	**Catapilco**	**4.58**	**27**	Pn	**Pn**	**05 51 35.0**	**0.0**
VA06	**Catapilco**	**4.58**	**27**	eP	**Pn**	**05 51 34.8**	**-0.2**
VA03	**San Esteban**	**4.71**	**35**		**Pn**	**05 51 37.6**	**+0.6**
VA03	**San Esteban**	**4.71**	**35**	eP	**Pn**	**05 51 37.4**	**+0.4**
LL05	**Los Muermos**	**4.75**	**177**	Pn	**Pn**	**05 51 40.8**	**+3.5**
PLCA	**Paso Flores**	**4.79**	**149**	Pn	**Pn**	**05 51 42.3**	**+4.3**
CO02	**Combarbal**	**5.91**	**24**	Pn	**Pn**	**05 51 53.8**	**+0.3**
CO06	**Fray Jorge**	**6.23**	**17**	Pn	**Pn**	**05 51 56.2**	**-1.6**
CO03	**El Pedregal**	**6.35**	**25**		**Pn**	**05 51 60.0**	**+0.4**
GO04	**Tololo Observa**	**6.94**	**22**	Pn	**Pn**	**05 52 06.6**	**-1.0**
CO05	**La Serena**	**7.05**	**18**	Pn	**Pn**	**05 52 08.9**	**-0.1**
CO01	**Juntas del Tor**	**7.35**	**26**	Pn	**Pn**	**05 52 13.7**	**+0.4**
LCO	**Las Campanas**	**8.06**	**20**	Pn	**Pn**	**05 52 22.8**	**-0.2**
AC05	**El Transito**	**8.34**	**22**	Pn	**Pn**	**05 52 27.0**	**+0.1**
AC02	**Maricunga**	**10.56**	**23**	Pn	**Pn**	**05 52 57.0**	**-0.6**

IDC 08 06:02:17.3±3.8**, 57°.70S**×**150°.83E, h0**km**, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=267.3km s-min=28.9km az=76.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.27**	**173**	P	P	06 06 53.2	-0.7
	1.2nm,1.1s,baz=343,slow=10,SNR=3.7						
	1.2nm,1.1s						
H01W1	**Cape Leeuwin H**	**33.45**	**297**	T	T	06 43 10.0	
	baz=145,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**33.45**	**297**	T	T	06 43 10.5	
	baz=145,slow=75,SNR=14						

H01W3	**Cape Leeuwin H**	**33.46**	**297**	T	T	06 43 11.3		
	baz=145,slow=75,SNR=14							
ASAR	**Alice Springs**	**36.12**	**333**	P	P	06 09 20.6	-0.4	
	0.5nm,0.6s,baz=163,slow=9.3,SNR=9.6							
	0.5nm,0.6s							
WRA	**Warramunga Arr**	**39.61**	**335**	P	P	06 09 50.0	-0.3	
	1.2nm,0.6s,baz=167,slow=7.5,SNR=22							
	1.2nm,0.6s							
H03S2	**Juan Fernandez**	**79.70**	**140**	T	T	07 43 33.3		
	baz=201							
H03S1	**Juan Fernandez**	**79.70**	**140**	T	T	07 43 34.6		
	baz=201							
H03S3	**Juan Fernandez**	**79.72**	**140**	T	T	07 43 34.2		
	baz=201							
AKASG	**Malin Array Be**	**146.10**	**284**	PKPbc	PKPab	06 21 58.5	-0.2	
	0.4nm,0.3s,baz=108,slow=2.7,SNR=2.3							

ROM 08 06:10:22.4±0.0, 42.806N±0.002×13.173E±0.004, h10km, ML1.8/8, 6C-9D, Error ellipse: s-maj=0.2km s-min=0.2km az=306.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.05**	**13**	⇑P	Pg	06 10 25.1	+0.4
T1245				S	Sg	06 10 26.5	+0.2
T1245				AML	AML		
	comp=N,3530μm,0.2s						
T1245				AML	AML		
	comp=N,3720μm,0.2s						
T1245				AML	AML		
	comp=N,3820μm,1.3s						
T1245				AML	AML		
	comp=E,4740μm,0.7s						
T1245				AML	AML		
	comp=E,4360μm,0.7s						
T1245				AML	AML		
	comp=N,3815μm,1.3s						
T1245				AML	AML		
	comp=N,3900μm,1.3s						
T1216	**Preci, Frazion**	**0.14**	**307**	⇓P	Pg	06 10 26.2	+0.5
T1216				S	Sg	06 10 28.7	+0.7
MMO1	**Montemonaco**	**0.15**	**51**	P	Pg	06 10 25.9	+0.1
MMO1				S	Sg	06 10 29.2	+1.0
T1241	**Roccafluvione,**	**0.20**	**75**	⇓P	Pg	06 10 27.3	+0.7
T1241				S	Sg	06 10 30.8	+1.3
T1241				AML	AML		
	comp=E,704μm,0.3s						
T1241				AML	AML		
	comp=E,704μm,0.3s						
T1241				AML	AML		
	comp=N,384μm,0.4s						
T1256	**Bolognola (MC)**	**0.20**	**11**	⇑P	Pg	06 10 27.5	+0.6
T1256				S	Sg	06 10 31.0	+1.2
T1256				AML	AML		
	comp=E,334μm,0.8s						
T1256				AML	AML		
	comp=N,368μm,0.5s						
T1256				AML	AML		
	comp=E,335μm,0.8s						
T1215	**Vallo di Nera,**	**0.22**	**269**	⇑P	Pg	06 10 27.8	+0.7
LNSS	**Leonessa**	**0.23**	**206**	⇓P	Pg	06 10 27.9	+0.7
LNSS				S	Sg	06 10 31.6	+1.2
LNSS				AML	AML		
	comp=E,542μm,0.5s						
LNSS				AML	AML		
	comp=N,1320μm,0.7s						
LNSS				AML	AML		
	comp=N,1318μm,0.7s						
LNSS				AML	AML		
	comp=E,542μm,0.5s						
T1243	**Rocca Santa Ma**	**0.23**	**118**	P	Pg	06 10 27.8	+0.5
FDMO	**Fiordimonte**	**0.24**	**345**	P	Pb	06 10 28.2	-0.7
CESI	**CESI - Serrava**	**0.28**	**315**	⇑P	Pg	06 10 28.8	+0.6
CESI				S	Sb	06 10 33.2	-1.2
CESI				AML	AML		
	comp=N,297μm,0.2s						
CESI				AML	AML		
	comp=E,196μm,0.3s						
CSP1	**Cessapalombo**	**0.29**	**5**	⇓P	Pg	06 10 29.0	+0.7
CSP1				S	Sb	06 10 33.5	-1.1
CSP1				AML	AML		
	comp=E,314μm,0.3s						
CSP1				AML	AML		
	comp=N,335μm,1.2s						
RM33	**Pellescritta (**	**0.30**	**174**	⇓P	Pg	06 10 29.0	+0.6
RM33				S	Sb	06 10 33.9	-1.0
RM33				AML	AML		
	comp=E,358μm,0.1s						
RM33				AML	AML		
	comp=N,390μm,0.1s						
ARRO	**Arrone**	**0.38**	**233**	⇑P	Pg	06 10 30.4	+0.6
ARRO				S	Sb	06 10 36.2	-0.8
ASSB	**Assisi San Ben**	**0.45**	**302**	⇓P	Pb	06 10 31.9	-0.5
ASSB				AML	AML		
	comp=N,84μm,0.2s						
ASSB				AML	AML		
	comp=E,59μm,1.3s						
GIGS	**Gran Sasso**	**0.46**	**140**	⇑P	Pg	06 10 31.8	+0.3
FIAM	**Fiamignano**	**0.54**	**184**	⇓P	Pg	06 10 33.0	+0.1
FIAM				AML	AML		
	comp=E,53μm,0.8s						
FIAM				AML	AML		
	comp=N,54μm,0.9s						
ATCC	**AVT- Casa Cast**	**0.54**	**314**	⇓P	Pg	06 10 33.5	+0.4
CERT	**Cerreto**	**0.87**	**189**	⇓P	Pb	06 10 39.4	-0.2

*KRSZO **08** 06:12:34.5±1.5, 48.30N×22.66E, h4km±14km, ML2.0/3, Error ellipse: s-maj=8.5km s-min=4.9km az=79.0*

SIGU 08 06:12:33.7, 48.34N×22.77E, h5km, mb1.3, 2C, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKU	**Mukachevo**	**0.13**	**334**	⇑*i*P	Pg	06 12 36.7	+0.4
MUKU				Pm		06 12 36.9	
MUKU				*e*Sg	Sg	06 12 38.7	+0.7
MUKU				m		06 12 39.0	
MUKU				Sm		06 12 39.0	
BERU	**Beregovo**	**0.14**	**218**	⇑*i*Pg	Pg	06 12 36.9	+0.5
BERU				Pm		06 12 37.4	
BERU				*e*Sg	Sg	06 12 39.3	+1.1
BERU				Sm		06 12 40.0	
BERU				m		06 12 40.0	
BRIU	**Brid**	**0.17**	**91**	*e*Pg	Pg	06 12 37.8	+0.8
TRPA	**Tarpa**	**0.26**	**216**	Pg	Pg	06 12 38.9	+0.1
	comp=Z,0.1nm,SNR=3.1						
TRPA				Lg	Lg	06 12 42.9	
TRPA	**Tarpa**	**0.26**	**216**	P	Pg	06 12 38.9	+0.1
TRPA				S	Sg	06 12 42.9	+0.7
KORU	**Korolevo**	**0.30**	**127**	*e*Sg	Sg	06 12 43.9	+0.3
HOLU	**Holmets**	**0.32**	**306**	*e*Sg	Sg	06 12 43.8	-0.3
KOLS	**Kolonicke sedl**	**0.68**	**331**	Pg	Pg	06 12 47.3	+0.5
	comp=Z,21nm,SNR=14						
KOLS				Lg	Lg	06 12 58.7	
KOLS	**Kolonicke sedl**	**0.68**	**331**	*e*PG	Pg	06 12 47.2	+0.5
KOLS				*e*SG	Sb	06 12 58.3	+0.5
KOLS				*e*LG	Lg	06 13 01.5	
BMR	**Baia Mare**	**0.83**	**144**	Lg	Lg	06 13 03.3	
ABAH	**Abaujker**	**1.02**	**268**	Pg	Pg	06 12 52.7	-0.5
	comp=Z,0.1nm,SNR=1.6						
ABAH				Lg	Lg	06 13 06.6	
ABAH	**Abaujker**	**1.02**	**268**	P	Pg	06 12 52.7	-0.5
ABAH				S	Sg	06 13 06.6	+0.1
NSLU	**Nyzhne Selyshc**	**1.14**	**97**	*e*Sg	Sg	06 12 50.8	-19
STHS	**Stebnicka Huta**	**1.48**	**317**	*e*SG	Sn	06 13 18.4	-2.2
KECS	**Kecovo**	**1.53**	**276**	Sn	Sg	06 13 22.6	-0.2
KECS	**Kecovo**	**1.53**	**276**	*e*SG	Sb	06 13 22.3	+0.1

ROM 08 06:18:48.0±0.2, 42.79N±0.01×13.10E±0.01, h7km±1km, ML1.6/11, 5C-3D, Error ellipse: s-maj=1.2km s-min=1.1km az=352.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.09**	**43**	⇑P	Pg	06 18 51.6	+1.4
T1245				S	Sg	06 18 52.8	+0.9
T1245				AML	AML		
	comp=E,2875μm,0.9s						
T1245				AML	AML		
	comp=N,3205μm,0.6s						
T1245				AML	AML		
	comp=E,2880μm,0.9s						
T1245				AML	AML		
	comp=N,3205μm,0.6s						
T1245				AML	AML		
	comp=E,2460μm,0.2s						
T1245				AML	AML		
	comp=N,3085μm,0.6s						
T1216	**Preci, Frazion**	**0.12**	**328**	⇓P	Pg	06 18 50.6	-0.1
T1216				S	Sg	06 18 51.7	-0.7
T1215	**Vallo di Nera,**	**0.17**	**274**	⇑P	Pg	06 18 52.3	+0.7
T1215				S	Sg	06 18 55.0	+1.0
MMO1	**Montemonaco**	**0.20**	**56**	⇑P	Pg	06 18 52.7	+0.7
MMO1				S	Sg	06 18 55.0	+0.3
SMA1	**SAN MARTINO**	**0.23**	**133**	P	Pg	06 18 53.7	+1.0
SMA1				AML	AML		
	comp=E,196μm,0.4s						
SMA1				AML	AML		
	comp=N,162μm,0.4s						
T1256	**Bolognola (MC)**	**0.23**	**22**	⇑P	Pg	06 18 54.2	+1.5
T1256				S	Sg	06 18 57.9	+2.0
T1256				AML	AML		
	comp=E,126μm,1.3s						
T1256				AML	AML		
	comp=N,162μm,1.4s						
T1256				AML	AML		
	comp=N,162μm,1.4s						
FDMO	**Fiordimonte**	**0.25**	**357**	AML	AML		
	comp=E,168μm,0.2s						
FDMO				AML	AML		
	comp=N,176μm,0.3s						
T1241	**Roccafluvione,**	**0.25**	**75**	⇓P	Pg	06 18 53.8	+0.8
T1241				S	Sg	06 18 56.6	+0.3
T1241				AML	AML		
	comp=N,218μm,0.4s						
T1241				AML	AML		
	comp=E,398μm,0.3s						
T1241				AML	AML		
	comp=N,218μm,0.4s						
CESI	**CESI - Serrava**	**0.26**	**326**	P	Pg	06 18 52.5	-0.7
CESI				AML	AML		
	comp=E,86μm,0.2s						
CESI				AML	AML		
	comp=N,150μm,0.5s						
T1243	**Rocca Santa Ma**	**0.27**	**110**	P	Pg	06 18 54.2	+0.9
T1243				S	Sg	06 18 57.8	+0.8
RM33	**Pellescritta (**	**0.29**	**164**	⇓P	Pb	06 18 56.1	+0.5
RM33				S	Sb	06 19 00.8	0.0
RM33				AML	AML		
	comp=E,114μm,1.4s						
RM33				AML	AML		
	comp=N,81μm,1.4s						
RM33				AML	AML		
	comp=E,114μm,1.4s						
RM33				AML	AML		
	comp=N,81μm,1.4s						
CSP1	**Cessapalombo**	**0.31**	**14**	⇑P	Pb	06 18 55.8	-0.2
CSP1				S	Sb	06 19 00.6	-0.8
CSP1				AML	AML		
	comp=E,264μm,1.0s						
CSP1				AML	AML		
	comp=N,238μm,0.4s						
CSP1				AML	AML		
	comp=E,266μm,1.0s						
CSP1				AML	AML		
	comp=N,238μm,0.4s						
GUMA	**Gualdo di Mace**	**0.32**	**32**	P	Pg	06 18 54.7	+0.4
GUMA				AML	AML		
	comp=E,434μm,1.2s						
GUMA				AML	AML		
	comp=N,272μm,1.6s						
GUMA				AML	AML		
	comp=E,355μm,0.2s						
GUMA				AML	AML		
	comp=N,285μm,0.6s						
CAMP	**Campotosto**	**0.34**	**138**	P	Pb	06 18 56.1	-0.4
CAMP				S	Sb	06 19 00.7	-1.4
TERO	**Teramo**	**0.40**	**114**	P	Pg	06 18 56.6	+0.7
TERO				S	Sg	06 19 02.0	+0.8
TERO				AML	AML		
	comp=E,116μm,1.3s						
TERO				AML	AML		
	comp=E,116μm,1.3s						
TERO				AML	AML		
	comp=N,148μm,0.1s						
TERO				AML	AML		
	comp=E,116μm,1.3s						
TERO				AML	AML		
	comp=N,148μm,0.1s						
ASSB	**Assisi San Ben**	**0.41**	**308**	S	Sg	06 18 60.0	-1.5
ATCC	**AVT- Casa Cast**	**0.52**	**319**	S	Sg	06 19 01.0	-3.9
EL6	**Elcito**	**0.54**	**360**	S	Sg	06 19 01.0	-4.5
EL6				S	Sn	06 19 10.0	-1.6

JMA 08 06:20:12.1±0.3, 25.N±4.×123.3E±0.8, h140km±4km, MV1.9/9, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.58**	**208**	P	Pn	06 20 32.9	+0.1
IRIF	**Iriomote-Funau**	**0.75**	**149**	*e*P	Pn	06 20 33.7	-0.1
IRIF				*e*S	Sn	06 20 50.2	-0.1
JKRS	**Kuro-shima**	**0.97**	**139**	*e*P	Pn	06 20 36.1	+0.4
JKRS				S	Sn	06 20 54.7	+1.1
JIJ	**Ishigaki jima**	**0.97**	**129**	P	Pn	06 20 35.7	0.0
JIJ				S	Sn	06 20 53.6	0.0
JISG	**Ishigakijimahi**	**0.99**	**113**	*e*S	Sn	06 20 54.3	+0.5
JTJ	**Tarama**	**1.31**	**104**	P	Pn	06 20 39.2	+0.3
JTJ				S	Sn	06 20 59.6	+0.4

TAP 08 06:20:52.3, 24.41N×121.77E, h44km±1km, ML1.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.03**	**312**	*e*P	Pn	06 20 59.6	+0.4
	baz=319						
EWUT	**Wuta**	**0.04**	**12**	*e*P	Pn	06 20 59.1	-0.1
	baz=12						
EWUT				*e*S	Sn	06 21 04.2	+0.1
	baz=12						
TWC	**Suao**	**0.22**	**20**	P	Pn	06 21 00.7	+0.6
	baz=22						
TWC				*i* S	Sn	06 21 06.4	+0.9
	baz=22						
LATG	**Datong**	**0.26**	**300**	P	Pn	06 21 01.0	+0.4
	baz=300						
LATG				S	Sn	06 21 07.0	+0.6
	baz=300						
ETL	**Fush Village**	**0.28**	**209**	S	Sn	06 21 07.3	+0.7
	baz=208						
NACB	**Ninganchiao**	**0.28**	**215**	*i* P	Pn	06 21 01.1	+0.4
	baz=214						
NACB				S	Sn	06 21 07.6	+1.1
	baz=214						
ETLH	**Xiulin Townshi**	**0.33**	**233**	P	Pn	06 21 01.5	+0.2
	baz=232						
ETLH				S	Sn	06 21 08.7	+1.2
	baz=232						
NNSH	**Datong**	**0.35**	**274**	P	Pn	06 21 02.2	+0.7
	baz=273						
NNSH				*i* S	Sn	06 21 08.9	+0.8
	baz=273						
TWD	**Chiawan**	**0.36**	**206**	P	Pn	06 21 01.2	-0.3
	baz=204						
TWD				*e*S	Sn	06 21 07.6	-0.3
	baz=204						
FUSB	**Fushanzhiwuyua**	**0.39**	**335**	*i* P	Pn	06 21 02.3	+0.3
	baz=334						
FUSB				*e*S	Sn	06 21 07.7	-1.0
	baz=334						
NWLT	**Wulai**	**0.44**	**327**	P	Pn	06 21 02.7	+0.1
	baz=326						
NWLT				S	Sn	06 21 10.0	+0.2
	baz=326						
YHNB	**Yeheng**	**0.45**	**306**	P	Pn	06 21 03.8	+1.2
	baz=306						
YHNB				*e*S	Sn	06 21 09.2	-0.7
	baz=306						
NTC	**Toucheng**	**0.45**	**7**	*i* P	Pn	06 21 03.1	+0.5
	baz=7.0						
NTC				S	Sn	06 21 11.3	+1.5
	baz=7.0						
FUSS	**Fushou**	**0.50**	**252**	P	Pn	06 21 03.7	+0.2
	baz=251						
FUSS				S	Sn	06 21 12.3	+0.9
	baz=251						
WHF	**Hehuan Shan**	**0.53**	**241**	P	Pn	06 21 04.5	+0.5
	baz=240						
WHF				S	Sn	06 21 12.8	+0.6
	baz=240						
CHGB	**Renai**	**0.64**	**238**	P	Pn	06 21 05.4	+0.2
	baz=237						
CHGB				S	Sn	06 21 16.2	+1.6
	baz=237						
WUSB	**Renai**	**0.72**	**235**	P	Pn	06 21 06.5	+0.2
	baz=235						
WUSB				S	Sn	06 21 17.2	+0.9
	baz=235						
VWDT	**VWDT**	**0.87**	**222**	*e*P	Pn	06 21 09.5	+1.4
	baz=221						
VWDT				*e*S	Sn	06 21 19.4	-0.1
	baz=221						
YOJ	**Yonaguni jima**	**1.13**	**87**	*e*P	Pn	06 21 12.5	+0.8
	baz=86						

IDC 08 06:21:04.0±2.7, 53.96N×86.59E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=21.2km s-min=12.8km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**270**	I		06 28 30.0	
	baz=88,slow=331,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.04**	**270**	Pg	Pg	06 21 22.7	-1.3
	0.7nm,0.3s,baz=92,slow=16,SNR=6.0						
ZALV				Lg	Lg	06 21 39.0	
	3.4nm,0.3s,baz=90,slow=30,SNR=22						
KURBB	**Kurchatov Arra**	**5.96**	**239**	Pn	Pn	06 22 34.4	+0.9
	0.1nm,0.3s,baz=56,slow=14,SNR=4.1						
KURBB				Lg	Lg	06 24 13.9	
	0.1nm,0.3s,baz=48,slow=33,SNR=1.6						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**7.68**	**203**	Pn	Pn	06 22 58.3	+1.2
	0.2nm,0.3s,baz=25,slow=14,SNR=4.5						
MKAR				Lg	Lg	06 25 07.2	
	baz=30,slow=30,SNR=1.9						
	0.2nm,0.3s						

*WEL **08** 06:25:40.6±0.7, 45.5×16.8±., h39km±7km, M3.5/6, ML3.6/6, MLv3.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=131.3*

*NOU **08** 06:25:50.0, 44.60S×168.88E, h15km, MLv3.6/6, South Island, New Zealand*

ISC 08 06:25:39.8±1.6, 44.89S±0.05×167.63E±0.06, h74km±11km, n37, σ1s05/43, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.31**	**44**	P	**Pn**	**06 25 51.6**	**+0.1**
MSZ				S	**Sn**	**06 26 00.2**	**+0.3**
MLZ	**Mavora Lakes**	**0.59**	**144**	P	**Pn**	**06 25 53.5**	**-0.4**
MLZ				S	**Sn**	**06 26 03.8**	**-0.5**
DCZ	**Deep Cove**	**0.66**	**210**	P	**Pn**	**06 25 53.5**	**-1.1**
DCZ				S	**Sn**	**06 26 04.3**	**-1.2**
WKZ	**Wanaka**	**0.99**	**87**	P	**Pn**	**06 25 59.1**	**+0.7**
WKZ				S	**Sn**	**06 26 13.4**	**+1.1**
WHZ	**Wether Hill Ro**	**1.02**	**167**	P	**Pn**	**06 25 58.2**	**-0.6**
WHZ				S	**Sn**	**06 26 12.4**	**-0.6**
JCZ	**Jackson Bay**	**1.17**	**46**	P	**Pn**	**06 26 01.4**	**+0.7**
JCZ	**Jackson Bay**	**1.17**	**46**	P	**Pn**	**06 26 00.6**	**-0.1**
EAZ	**Earnscleugh**	**1.24**	**106**	P	**Pn**	**06 26 01.9**	**+0.4**
EAZ				S	**Sn**	**06 26 18.0**	**+0.2**
PYZ	**Puysegur Point**	**1.44**	**207**	P	**Pn**	**06 26 26.1**	**+3.8**
PYZ	**Puysegur Point**	**1.44**	**207**	P	**Pn**	**06 26 03.6**	**-0.4**
TUZ	**Tuapeka**	**1.77**	**128**	P	**Pn**	**06 26 08.5**	**+0.1**
LBZ	**Lake Benmore**	**1.90**	**75**	P	**Pn**	**06 26 09.8**	**-0.3**
SYZ	**Scrubby Hill**	**1.96**	**148**	P	**Pn**	**06 26 10.6**	**-0.3**
FOZ	**Fox Glacier**	**2.08**	**50**	P	**Pn**	**06 26 11.5**	**-1.1**
ODZ	**Otahua Downs**	**2.15**	**95**	P	**Pn**	**06 26 13.2**	**-0.3**
ODZ	**Otahua Downs**	**2.15**	**95**	P	**Pn**	**06 26 13.2**	**-0.3**
HHSZ	**Highcliff Hill**	**2.32**	**116**	P	**Pn**	**06 26 16.0**	**+0.2**
TMZ	**Timaru**	**2.47**	**79**	P	**Pn**	**06 26 16.9**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.50**	**52**	P	**Pn**	**06 26 17.3**	**-1.0**
ARCZ	**Arundel**	**2.71**	**71**	P	**Pn**	**06 26 19.9**	**-1.2**
RPZ	**Rata Peaks**	**2.73**	**66**	P	**Pn**	**06 26 20.7**	**-0.7**
RPZ	**Rata Peaks**	**2.73**	**66**	P	**Pn**	**06 26 20.3**	**-1.1**
WVZ	**Waitaha Valley**	**2.89**	**52**	P	**Pn**	**06 26 22.6**	**-0.9**
WACZ	**Wakanui South**	**3.17**	**74**	P	**Pn**	**06 26 25.9**	**-1.3**
INZ	**Inchbonnie**	**3.51**	**53**	P	**Pn**	**06 26 31.4**	**-0.6**
MQZ	**McQueen's Vall**	**3.80**	**74**	P	**Pn**	**06 26 34.2**	**-1.7**
AKCZ	**Akaroa Harbour**	**3.92**	**77**	P	**Pn**	**06 26 36.1**	**-1.5**
OKCZ	**Okains Bay**	**4.07**	**75**	P	**Pn**	**06 26 38.6**	**-1.0**
DSZ	**Denniston Nort**	**4.38**	**46**	P	**Pn**	**06 26 43.0**	**-0.9**
KHZ	**Kahutara**	**4.95**	**62**	P	**Pn**	**06 26 52.2**	**+0.6**
THZ	**Tophouse**	**4.96**	**53**	P	**Pn**	**06 26 50.1**	**-1.7**
MRNZ	**Matariki Terra**	**5.13**	**49**	P	**Pn**	**06 26 53.7**	**-0.3**
QRZ	**Quartz Range**	**5.43**	**43**	P	**Pn**	**06 26 58.0**	**-0.2**
QRZ	**Quartz Range**	**5.43**	**43**	P	**Pn**	**06 26 57.6**	**-0.6**
TKNZ	**Takaka Hill**	**5.50**	**47**	P	**Pn**	**06 26 58.9**	**-0.2**
NNZ	**Nelson**	**5.59**	**51**	P	**Pn**	**06 27 01.0**	**+0.7**
DUWZ	**D'Urville Isla**	**6.17**	**51**	P	**Pn**	**06 27 09.5**	**+1.1**

*IDC **08** 06:25:47.3±0.8, 57.88S×150.58E, h0km, mb4.6/9, mbtmp4.6/9, MS4.5/18, Error ellipse: s-maj=36.1km s-min=12.5km az=81.0*

*NEIC **08** 06:25:51.6±1.9, 58.05S±0.05×148.5E±0.2, h10km±1km, mb4.9/28, Error ellipse: s-maj=20.7km s-min=8.3km az=74.0*

*BJI **08** 06:25:51.4±0.0, 57.85S×148.62E, h10km, mb5.2/4, mB5.4/1*

*GCMT **08** 06:25:53.7±0.3, 58.03S±0.01×148.27E±0.04, h16km±1km, MW5.1/100, Moment Tensor Solution. s21,c26; s100,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.82±.23; $M_{\theta\theta}$1.11±.20; $M_{\phi\phi}$-1.93±.24; $M_{r\theta}$-3.52±.83; $M_{\theta\phi}$-4.97±.17; $M_{\phi r}$-2.32±.73; Best double couple: M_o6.48400×10^{16} NP1:ϕ_s79.00000°, δ89.00000°, λ-143.00000°. NP2:ϕ_s348.00000°, δ53.00000°, λ-1.00000°. Principal axes: T 5.4430, Plg24.0000°, Azm207.0000°; N 2.0790, Plg53.0000°, Azm80.0000°; P -7.5250, Plg26.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 06:25:52.3±0.5, 58.11S±0.06×148.2E±0.1, h10km, n129, σ1s31/106, mb4.8/24, MS4.5/20, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.01**	**64**	Pn	Pn	06 27 30.6	-4.2
TAU	**Tasmania Unive**	**15.23**	**358**	P	**Pn**	**06 29 28.2**	**+1.0**
TAU	**Tasmania Unive**	**15.23**	**358**	P	**P**	**06 29 32.9**	**+0.7**
MOO	**Moorlands**	**15.70**	**357**	P	**P**	**06 29 38.2**	**+0.8**
GLAD	**Gladstone**	**17.14**	**360**	P	**P**	**06 29 55.2**	**+1.8**
WKZ	**Wanaka**	**18.48**	**53**	P	**P**	**06 30 06.1**	**-2.1**
WKZ				IAmb	IAmb	06 30 30.3	
	comp=Z,54nm,1.3s						
CASY	**Casey**	**19.07**	**229**	P	**Pn**	**06 30 15.4**	**+0.1**
VNDA	**Vanda**	**20.05**	**171**	P	**P**	**06 30 23.9**	**-1.2**
	comp=Z,15nm,1.0s,baz=339,slow=11,SNR=50						
VNDA				S	**S**	**06 34 08.7**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=322,slow=13,SNR=1.0						
VNDA				LR	LR	06 36 54.1	
	comp=Z,630nm,18.9s,baz=341,slow=33						
	comp=Z,15nm,1.0s						
VNDA	**Vanda**	**20.05**	**171**		**P**	**06 30 25.4**	**+0.3**
RPZ	**Rata Peaks**	**20.25**	**55**	LR	LR	06 36 58.4	
	comp=Z,1μm,18.6s,baz=222,slow=35						
TOO	**Toolangi**	**20.63**	**354**	P	**P**	**06 30 31.3**	**-0.4**
TOO				IAmb	IAmb	06 30 34.2	
	comp=Z,57nm,1.1s						
TOO	**Toolangi**	**20.63**	**354**	P	**P**	**06 30 31.9**	**+0.2**
SBA	**Scott Base**	**20.80**	**169**		**P**	**06 30 33.9**	**+0.7**
MILA	**Mila**	**21.08**	**2**	P	**P**	**06 30 39.6**	**+3.0**
ARPS	**Mount Arapiles**	**21.76**	**346**	P	**P**	**06 30 44.7**	**+0.9**
CAN	**Canberra**	**22.81**	**2**	P	**P**	**06 30 53.4**	**-1.7**
CAN				IAmb	IAmb	06 31 03.3	
	comp=Z,73nm,1.4s						
CAN	**Canberra**	**22.81**	**2**	P	**P**	**06 30 56.5**	**+1.4**
CNB	**Canberra Magne**	**22.82**	**3**	P	**P**	**06 30 56.7**	**+1.5**
BBOO	**Buckleboo**	**26.61**	**337**	P	**P**	**06 31 30.5**	**-0.1**
BBOO	**Buckleboo**	**26.61**	**337**	P	**P**	**06 31 31.2**	**+0.6**
STKA	**Stephens Creek**	**26.62**	**347**	P	**P**	**06 31 29.9**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,13nm,1.0s,baz=162,slow=11,SNR=12						
	comp=Z,13nm,1.0s						
STKA	Stephens Creek	26.62	347	P	P	06 31 31.3	+0.6
CMSA	Cobar Meteorol	26.63	355	P	P	06 31 30.7	-0.1
URZ	Urewera	27.34	56	LR	LR	06 41 57.4	
	comp=Z,1μm,18.2s,baz=296,slow=37						
MULG	Mulgathing	29.48	335	P	P	06 31 56.3	+0.1
FORT	Forrest	30.62	324	P	P	06 32 06.1	-0.2
FORT	Forrest	30.62	324	P	P	06 32 06.3	0.0
RMQ	Roma	31.61	1	P	P	06 32 16.2	+1.1
QLP	Quilpie	31.63	353	P	P	06 32 15.8	+0.5
QSPA	South Pole Qui	31.99	180	P	P	06 32 17.9	-0.4
	comp=Z,12nm,1.0s,baz=353,slow=8.1,SNR=19						
QSPA				LR	LR	06 44 29.9	
	comp=Z,699nm,19.4s,baz=25,slow=35						
	comp=Z,12nm,1.0s						
QSPA	South Pole Qui	31.99	180	P	P	06 32 18.6	+0.3
QSPA				IAmb	IAmb	06 32 20.7	
	comp=Z,18nm,1.1s						
H01W1	Cape Leeuwin H	32.40	301	T	T	07 06 42.4	
	baz=145,slow=75,SNR=116						
H01W2	Cape Leeuwin H	32.41	301	T	T	07 06 42.8	
	baz=145,slow=75,SNR=144						
H01W3	Cape Leeuwin H	32.42	301	T	T	07 06 41.6	
	baz=145,slow=75,SNR=113						
NWAO	Narrogin (SRO)	32.71	307	LR	LR	06 42 18.0	
	comp=Z,617nm,20.6s,baz=30,slow=30						
EIDS	Eidsvold	32.78	5	P	P	06 32 25.5	+0.1
EIDS				IAmb	IAmb	06 32 28.6	
	comp=Z,22nm,1.2s						
EIDS	Eidsvold	32.78	5	P	P	06 32 26.0	+0.6
AS01	Alice Springs	35.90	337	P	P	06 32 51.8	-0.6
ASAR	Alice Springs	35.91	337	P	P	06 32 51.8	-0.8
	comp=Z,15nm,1.0s,baz=161,slow=9.0,SNR=56						
ASAR				PcP	PcP	06 35 17.2	-2.2
	comp=Z,1.3nm,0.9s,baz=145,slow=3.4,SNR=3.5						
	comp=Z,15nm,1.0s						
ASAR	Alice Springs	35.91	337	P	P	06 32 50.6	-1.9
AS31	Alice Springs	35.91	337	P	P	06 32 51.5	-1.1
WRKA	Warakurna	35.95	328	P	P	06 32 52.5	-0.4
MAW	Mawson	36.92	219	P	P	06 33 05.7	+5.1
	comp=Z,3.8nm,1.0s,baz=124,slow=11,SNR=3.9						
MAW				LR	LR	06 47 50.2	
	comp=Z,1μm,19.0s,baz=84,slow=35						
	comp=Z,3.8nm,1.0s						
MEEK	Meekatharra	37.70	314	P	P	06 33 07.9	+0.2
CTA	Charters Tower	38.00	357	LR	LR	06 47 08.5	
	comp=Z,948nm,18.9s,baz=190,slow=34						
CTA	Charters Tower	38.00	357	P	P	06 33 10.3	0.0
CTAO	Charters Tower	38.00	357	P	P	06 33 10.1	-0.2
CTAO				IAmb	IAmb	06 33 12.1	
	comp=Z,22nm,1.0s						
CTAO	Charters Tower	38.00	357	P	P	06 33 10.6	+0.3
QIS	Mount Isa	38.02	347	P	P	06 33 10.0	-0.5
DZM	Mont Dzumac	38.36	28	eLR	LR	06 43 39.1	
	comp=Z,2μm,26.2s						
DZM	Mont Dzumac	38.36	28	LR	LR	06 46 41.1	
	comp=Z,943nm,18.1s,baz=208,slow=33						
KOUNC	Koumac, New Ca	39.32	24	P	P	06 33 22.5	+1.2
WR0	Warramunga Arr	39.39	340	P	P	06 33 20.2	-1.8
WR0				IAmb	IAmb	06 33 22.7	
	comp=Z,30nm,1.1s						
WB2	Warramunga Arr	39.44	339	P	P	06 33 20.6	-1.8
WB2				IAmb	IAmb	06 33 23.1	
	comp=Z,23nm,0.8s						
WRA	Warramunga Arr	39.44	339	P	P	06 33 21.0	-1.4
	comp=Z,15nm,0.8s,baz=166,slow=7.4,SNR=88						
WRA				LR	LR	06 49 39.7	
	comp=Z,591nm,18.3s,baz=207,slow=36						
	comp=Z,15nm,0.8s						
WRA	Warramunga Arr	39.44	339	P	P	06 33 20.8	-1.7
WRAB	Tennant Creek	39.45	339	P	P	06 33 20.6	-1.8
WRAB				IAmb	IAmb	06 33 23.1	
	comp=Z,21nm,0.8s						
WRAB	Tennant Creek	39.45	339	P	P	06 33 21.0	-1.5
WB0	Warramunga Arr	39.60	339	P	P	06 33 21.9	-1.9
WB0				IAmb	IAmb	06 33 24.3	
	comp=Z,20nm,0.9s						
MTSU	Mount Surprise	40.02	354	P	P	06 33 27.5	+0.3
PSA00	Pilbara Seismi	41.86	319	P	P	06 33 41.7	-0.7
PSA00	Pilbara Seismi	41.86	319	P	P	06 33 42.2	-0.2
MBWA	Marble Bar	42.28	319	P	P	06 33 44.0	-1.8
MBWA				IAmb	IAmb	06 33 51.3	
	comp=Z,37nm,1.0s						
MBWA	Marble Bar	42.28	319	P	P	06 33 46.9	+1.1
COEN	Coen	44.23	353	P	P	06 34 00.5	-1.1
COEN				IAmb	IAmb	06 34 03.6	
	comp=Z,17nm,1.1s						
COEN	Coen	44.23	353	P	P	06 34 01.1	-0.5
BELA	Belgrano 2	44.26	179	P	P	06 34 00.8	-0.4
KNRA	Kununurra	44.78	333	P	P	06 34 04.4	-1.5
KNRA	Kununurra	44.78	333	P	P	06 34 04.9	-1.0
MSVF	Nonsavu	45.96	41	LR	LR	06 49 18.0	
	comp=Z,666nm,20.2s,baz=239,slow=31						
KDU	Kakadu	46.87	339	P	P	06 34 21.4	-1.0
MTN	Manton Dam	46.98	337	P	P	06 34 22.3	-1.0
MTN	Manton Dam	46.98	337	P	P	06 34 22.8	-0.5
TROLL	Troll, Antarti	47.98	194	P	P	06 34 31.0	+0.3
PMG	Port Moresby	48.60	359	LR	LR	06 54 19.1	
	comp=Z,668nm,18.9s,baz=316,slow=35						
PMG	Port Moresby	48.60	359	P	P	06 34 35.0	-0.9
SNAA	Sanae	48.92	192	P	P	06 34 39.2	+1.3
SNAA	Sanae	48.92	192	LR	LR	06 55 08.4	
	comp=Z,351nm,18.4s,baz=134,slow=36						
SNAA	Sanae	48.92	192	P	P	06 34 38.1	+0.2
SNAA				IAmb	IAmb	06 34 40.3	
	comp=Z,12nm,1.2s						
VNA3	Neumayer Olymp	49.99	189	P	P	06 34 46.0	0.0
VNA2	Neumayer--Watz	50.10	190	P	P	06 34 47.0	+0.2
	baz=156,slow=2.7						
VNA1	Neumayer--Stat	50.44	190	P	P	06 34 50.4	+1.1
RAR	Rarotonga	52.46	68	P	P	06 34 51.0	-14
	comp=Z,6.1nm,0.5s,baz=218,slow=23,SNR=2.0						
RAR				LR	LR	06 51 21.0	
	comp=Z,200nm,21.6s,baz=264,slow=30						
	comp=Z,6.1nm,0.5s						
PMSA	Palmer Station	55.02	164	LR	LR	06 56 44.3	
	comp=Z,386nm,19.0s,baz=228,slow=34						
TBI	Tubuai	55.93	79	eLR	LR	06 51 47.1	
	comp=Z,4μm,24.0s						
TBI				eLR	LR	06 51 47.5	
	comp=Z,855nm,23.5s						
FAKI	Fak Fak	56.45	341	P	P	06 35 33.7	-0.3
FAKI	Fak Fak	56.45	341	P	P	06 35 34.6	+0.6
	comp=Z,32nm,0.9s						
FAKI	Fak Fak	56.45	341	P	P	06 35 33.7	-0.3
KAPI	Kappang	57.41	326	LR	LR	06 59 24.4	
	comp=Z,484nm,21.8s,baz=314,slow=35						
KAPI	Kappang	57.41	326	P	P	06 35 41.2	+0.4
KAPI				IAmb	IAmb	06 35 47.6	
	comp=Z,21nm,1.1s						
KAPI	Kappang	57.41	326	P	P	06 35 41.9	+1.1
	comp=Z,17nm,1.1s						
KAPI	Kappang	57.41	326	P	P	06 35 41.7	+0.9
SPSI	Sidrap Palu	58.40	326	P	P	06 35 48.8	+1.0
	comp=Z,22nm,1.2s						
SANI	Sanana	58.58	334	P	P	06 35 46.1	-2.9
BBKI	Banjar Baru	60.42	321	P	P	06 36 03.0	+1.2
PPT2	Papeete2	60.65	76	eLR	LR	06 53 58.6	
	comp=Z,159nm,28.5s						
VAH	Vaihoa	63.62	76	eT	T	07 46 09.6	
	comp=Z,2.9nm,0.3s						
KSM	Kuching	66.59	318	P	P	06 36 43.1	+0.6
	comp=Z,12nm,1.4s						
SBUM	Sibu	66.83	320	P	P	06 36 45.2	+1.1
	comp=Z,5.3nm,1.2s						
SDSI	Sungai Dareh	67.82	308	P	P	06 36 48.8	-1.6
SKLT	Songkhla	75.49	311	P	P	06 37 36.7	+0.2
H08S2	Diego Garcia H	75.98	278	T	T	08 01 10.8	
	baz=148,slow=76,SNR=30						
H08S1	Diego Carcia H	75.99	278	T	T	08 01 19.0	
	baz=148,slow=76,SNR=18						
H08S3	Diego Garcia H	76.00	278	T	T	08 01 13.6	
	baz=148,slow=76,SNR=32						
H03S2	Juan Fernandez	80.28	142	T	T	08 07 03.1	
	baz=201,slow=74,SNR=24						
H03S1	Juan Fernandez	80.28	142	T	T	08 07 04.4	
	baz=201,slow=74,SNR=26						
H03S3	Juan Fernandez	80.29	142	T	T	08 07 06.3	
	baz=201,slow=74,SNR=23						
BOSA	Boshof	81.36	228	P	P	06 38 10.6	+1.5
	comp=Z,2.7nm,1.0s,baz=162,slow=6.4,SNR=1.6						
	comp=Z,2.7nm,1.0s						
CMAR	Chiang Mai Arr	86.42	314	P	P	06 38 33.8	-0.9
	comp=Z,1.4nm,0.3s,baz=184,slow=5.0,SNR=9.4						
CMAR				LR	LR	07 16 24.1	
	comp=Z,176nm,19.0s,baz=180,slow=35						
	comp=Z,1.4nm,0.3s						
CMAR	Chiang Mai Arr	86.42	314	P	P	06 38 33.9	-0.8
LSZ	Lusaka	91.95	237	LR	LR	07 14 15.3	
	comp=Z,351nm,21.3s,baz=98,slow=31						
PZH	PanZhiHua	92.77	319	P	P	06 39 06.4	+1.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
KSRS	Korea Array	96.71	344	LR	LR	07 25 07.4	
	comp=Z,62nm,18.2s,baz=110,slow=37						
CHCP	Chirah Chowk	110.62	301	P	PKiKP	06 44 30.3	+5.8
WMQ	Urumqi	113.29	317	ePKP	PKiKP	06 44 29.3	+0.1
MKAR	Makanchi Array	117.82	315	PKP	PKPdf	06 44 36.3	-1.5
	comp=Z,0.1nm,0.4s,baz=110,slow=3.4,SNR=1.5						
AKASG	Malin Array Be	144.82	285	PKPbc	PKPab	06 45 26.3	-0.9
	comp=Z,11nm,1.0s,baz=101,slow=2.7,SNR=16						
KLMR	Klimovskoe	145.29	305	e	PKPbc	06 45 28.2	-0.3
KLMR				AMP		06 45 35.3	
	comp=Z,64nm,1.6s						
VYHS	Vyhne	148.93	274	ePKP	PKiKP	06 45 40.2	-0.3
MORC	Moravsky Berou	150.38	275	ePKP	PKiKP	06 45 43.6	+0.1
MORC				e		06 45 47.8	
KRUC	Moravsky	150.57	273	ePKP	PKiKP	06 45 43.6	-0.3
KRUC				e		06 45 47.9	
VRAC	Vranov	150.61	274	ePKP	PKiKP	06 45 44.3	+0.3
VRAC				e		06 45 48.5	
KRLC	Kraliky	150.95	275	ePKP	PKPab	06 45 49.2	-2.5
DPC	Dobruska-Polom	151.35	275	ePKP	PKiKP	06 45 45.9	+0.4
DPC				epPKP	sPKPbc	06 45 50.2	+2.0
FINES	FINESS Array B	151.49	301	PKPbc	PKPbc	06 45 43.7	-1.2
	comp=Z,4.4nm,0.7s,baz=120,slow=5.3,SNR=8.6						
OSTC	Ostas	151.53	276	ePKP	PKPab	06 45 50.2	-3.8
GERES	GERESS Array B	151.87	271	PKPbc	PKPbc	06 45 45.6	-0.7
	comp=Z,2.8nm,0.9s,baz=117,slow=1.1,SNR=11						
ARCES	ARCESS Array B	153.39	319	PKPbc	PKPbc	06 45 47.6	-1.4
	comp=Z,8.6nm,1.1s,baz=64,slow=2.1,SNR=4.3						
CLL	Collm	153.64	275	ePKPdf	PKPdf	06 45 44.0	+1.8
CLL				ePKPbc	PKiKP	06 45 51.0	+0.9
CLL				ePKPab	PKPab	06 46 03.0	+0.2
	comp=Z,10.0nm,1.2s						

---

*IDC **08** 06:42:48.1±2.8, 36°.15N×80°.54E, h0km, mb4.1/4, mbtmp3.9/9, ML3.3/4, Error ellipse: s-maj=52.0km s-min=27.9km az=106.0*
*NNC **08** 06:43:04.1±5.3, 37°.21N×80°.42E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=54.1km s-min=39.0km az=111.0*
ISC 08 06:42:49.7±1.5**, 36°.29N**±0°.10×**80°.8E**±0°.1**, h10**km**, n14,** σ**3s76**/19**, mb4.2**/4**, 4C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	4.97	312	Pn	Pn	06 44 07.4	+2.9
KSH				Sn	Sn	06 44 53.4	-8.8
KSH				smax	smax		
	comp=N,310nm,0.8s						
KSH				smax	smax		
	comp=E,270nm,0.9s						
PDGK	Podgornoye	7.10	352	⇓P	Pn	06 44 36.5	+2.8
	comp=E,3.3nm,0.6s						
PDGK				⇑Pg	Pb	06 44 43.9	-9.3
	comp=E,8.9nm,0.7s						
PDGK				⇓S	Sn	06 45 49.8	-4.8
	comp=E,131nm,1.1s						
TKM2	Tokmak 2	7.73	331	⇓P	Pn	06 44 45.1	+2.6
	comp=E,1.2nm,0.6s						
TKM2				⇑Pg	Pb	06 45 07.6	+3.6
	comp=E,4.8nm,0.6s						
TKM2				⇓S	Sb	06 46 36.8	+0.6
	comp=E,13nm,0.7s						
AAK	Ala-Archa	7.98	325	Pn	Pn	06 44 48.4	+2.6
	comp=E,0.2nm,0.3s,baz=142,slow=8.2,SNR=2.2						
AAK				Pg	Pb	06 45 11.0	+2.9
	comp=E,1.4nm,0.3s,baz=149,slow=10,SNR=7.4						
AAK				Sn	Sn	06 46 19.3	+3.0
	comp=E,0.7nm,0.3s,baz=227,slow=19,SNR=1.8						
AAK				Lg	Lg	06 46 47.4	
	comp=E,1.5nm,0.3s,baz=59,slow=18,SNR=2.6						
	comp=E,1.0nm,0.5s						
WMQ	Urumqi	9.21	33	eP	Pn	06 45 16.4	+14
WMQ				smax	smax		
	comp=N,30nm,1.1s						
WMQ				smax	smax		
	comp=E,23nm,1.3s						
MK31	Makanchi Array	10.56	6	P	Pn	06 45 24.2	+3.1
	comp=E,1.9nm,0.6s,baz=190,slow=13,SNR=31						
MK31				⇑Pg		06 45 35.3	
	comp=E,6.4nm,0.8s,baz=190,slow=13,SNR=10						
MK31				⇑S	Sn	06 47 12.4	-7.0
	comp=E,4.9nm,0.4s,baz=190,slow=23						
MKAR	Makanchi Array	10.56	6	Pn	Pn	06 45 24.2	+3.1
	comp=E,0.6nm,0.3s,baz=186,slow=16,SNR=43						
MKAR				Sn	Sn	06 47 12.7	-6.7
	comp=E,3.3nm,0.3s,baz=190,slow=23,SNR=13						
	comp=E,1.3nm,0.2s						
KURBB	Kurchatov Arra	14.42	354	Pn	Pn	06 46 12.0	-1.7
	baz=180,slow=10,SNR=1.2						
	comp=E,0.3nm,0.7s						
GEYT	Alibeck	18.13	282	Pn	P	06 46 59.6	-2.3
	comp=E,0.5nm,0.3s,baz=128,slow=9.6,SNR=3.6						
	comp=E,2.6nm,0.7s						
BVAR	Borovoye Array	18.26	340	P	P	06 47 03.9	+0.7
	comp=E,1.4nm,0.6s,baz=152,slow=11,SNR=5.5						
BRTR	Keskin Array B	36.96	290	P	P	06 49 58.6	-0.6
	comp=E,0.9nm,0.6s,baz=68,slow=8.0,SNR=4.2						
	comp=E,0.9nm,0.6s						
FINES	FINESS Array B	42.17	324	P	P	06 50 41.8	-0.3
	comp=E,2.2nm,0.7s,baz=116,slow=9.7,SNR=4.8						
	comp=E,2.2nm,0.7s						
ARCES	ARCESS Array B	44.48	336	P	P	06 51 01.3	+0.6
	comp=E,4.4nm,1.0s,baz=96,slow=8.3,SNR=4.3						
	comp=E,4.4nm,1.0s						
TORD	Torodi Ar. Bea	73.59	274	P	P	06 54 22.4	-1.0
	comp=E,2.4nm,0.6s,baz=48,slow=5.7,SNR=16						
	comp=E,2.4nm,0.6s						

IDC 08 06:47:41.9±8.8**, 17°.98S**×**175°.23W, h631**km±59km**, mb2.4**/3**, mbtmp3.6**/4**, Error ellipse: s-maj=328.5km s-min=28.7km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.40	271	P	P	06 49 28.1	-0.1
	20nm,0.7s,baz=111,slow=17,SNR=14						
WRA	Warramunga Arr	47.59	259	P	P	06 55 22.6	-0.4
	0.2nm,0.2s,baz=97,slow=6.8,SNR=11						
	0.2nm,0.2s						
ASAR	Alice Springs	47.68	254	P	P	06 55 24.2	+0.6
	0.2nm,0.4s,baz=92,slow=8.0,SNR=5.7						
	0.2nm,0.4s						
NVAR	Mina Array Bea	77.41	42	P	P	06 58 34.1	+0.1
	0.1nm,0.5s,baz=220,slow=5.5,SNR=2.6						
	0.1nm,0.5s						

IDC 08 07:00:38.5±3.2**, 54°.37N**×**87°.22E, h0**km**, mbtmp2.9**/2**, ML2.3**/2**, Error ellipse: s-maj=24.8km s-min=19.4km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.47	254	I		07 09 10.0	
	baz=73,slow=340,SNR=3.2						
ZALV	Zalesovo Beam	1.47	254	Pn	Pn	07 01 04.3	-1.9
	0.9nm,0.3s,baz=74,slow=16,SNR=8.4						
ZALV				Lg	Lg	07 01 25.3	
	1.3nm,0.3s,baz=75,slow=27,SNR=7.1						
KURBB	Kurchatov Arra	6.50	238	Pn	Pn	07 02 16.8	+1.5
	baz=52,slow=14,SNR=3.2						
KURBB				Sn	Sn	07 03 29.1	-0.9
	baz=319,slow=53,SNR=1.4						
KURBB				Lg	Lg	07 04 05.7	
	0.1nm,0.3s,baz=62,slow=32,SNR=2.4						
	0.8nm,0.2s						
MKAR	Makanchi Array	8.21	204	Pn	Pn	07 02 39.9	+1.1
	0.1nm,0.3s,baz=25,slow=16,SNR=1.4						
MKAR				Lg	Lg	07 05 01.6	
	0.1nm,0.3s,baz=70,slow=18,SNR=1.7						
	0.1nm,0.3s						

---

*SJA **08** 07:07:50.5±1.8, 36°.70S×74°.37W, h4km±37km, ML4.6, MW4.4*
*IDC **08** 07:07:59.9±0.5, 36°.60S×73°.29W, h0km, mb4.7/21, mbtmp4.7/24, ML4.5/3, MS4.5/19, Error ellipse: s-maj=21.3km s-min=10.8km az=83.0*
*GUC **08** 07:08:01.9±0.6, 36°.66S×73°.61W, h27km±4km, ML5.1*
*NEIC **08** 07:08:02.6±2.2, 36°.60S±0°.05×73°.55W±0°.06, h18km±3km, mb5.1/83, Mww4.9, Mwr5.1(GUC), Error ellipse: s-maj=7.0km s-min=6.2km az=220.0*
*VAO **08** 07:08:02.5±0.3, 36°.53S×73°.20W, h10km, mb5.1*
*BJI **08** 07:08:03.4±0.0, 36°.36S×73°.14W, h35km, mB5.4/1, Ms5.4/1, Ms7 5.0/1*
*MOS **08** 07:08:03.8±1.0, 36°.55S×73°.16W, h33km, mb5.2/10, Error ellipse: s-maj=14.1km s-min=7.9km az=92.0*
*NEIC **08** 07:08:07, 36°.61S×73°.52W, h26km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^16Nm; Mrr1.26; Mθθ0.12; Mφφ-1.38; Mrθ0.03; Mθφ-0.42; Mφr-2.57; Fault plane solution: M0 2.92000×10^16 NP1:φs31.00000°, δ16.00000°, λ120.00000°. NP2:φs181.00000°, δ76.00000°, λ82.00000°. Principal axes: T 2.8488, Plg58.0000°, Azm80.0000°; N 0.1402, Plg8.0000°, Azm183.0000°; P -2.9890, Plg31.0000°, Azm277.0000°;*
ISC 08 07:08:03.2±0.7**, 36°.63S**±0°.03×**73°.45W**±0°.05**, h25**km±4km**, n340,** σ**1s22**/349**, mb5.0**/59**, MS4.5**/22**, 9C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BI05	Punta Hualpn	0.24	119	Pg	Pb	07 08 09.3	-0.1
BI05				Sg	Sb	07 08 14.3	+0.7
BI05	Punta Hualpn	0.24	119	⇓iP	Pb	07 08 09.4	0.0
BI05				eS	Sb	07 08 14.2	+0.6
BI05				IAML		07 08 15.2	
	comp=E,329μm,0.2s						
CCSP	San Pedro de C	0.35	127	eP	Pb	07 08 10.8	-0.1
CCSP				eS	Sn	07 08 16.8	-2.0
CCSP				IAML		07 08 18.0	
	comp=N,329μm,0.5s						
ML02	Panimavida	1.86	63		Pb	07 08 34.2	-2.3
ML02	Panimavida	1.86	63	eP	Pb	07 08 34.2	-2.3
ML02				eS	Sb	07 08 59.3	0.0
ML02				IAML		07 09 06.6	
	comp=N,32μm,0.5s						
GO05	Huala	2.04	38	Pn	Pn	07 08 35.2	-0.8
GO05	Huala	2.04	38	⇑iP	Pn	07 08 34.5	-1.4
GO05				eS	Sb	07 09 03.7	-0.8
GO05				IAML		07 09 16.1	
	comp=E,8μm,0.5s						
GO05	Huala	2.04	38	iP	Pn	07 08 35.0	-0.9
GO05				eS	Sb	07 09 10.3	+5.8
LC02	Puerto Saavedr	2.16	179	Pn	Pn	07 08 36.7	-0.8
LC02	Puerto Saavedr	2.16	179	eP	Pn	07 08 36.1	-1.4
LC02				IAML		07 09 18.8	
	comp=N,42μm,1.0s						
LC02				IAML		07 09 29.6	
	comp=E,32μm,0.5s						
CANA	Caviahue	2.28	124	iP	Pn	07 08 41.0	+1.6
CANA				⇑iP	Pb	07 08 41.4	-2.4
CANA				eS	Sb	07 09 15.4	+3.8
BO03	Pichilemu	2.46	30	⇑iP	Pn	07 08 40.3	-1.3
BO03				eS	Sn	07 09 11.5	+0.7
BO03				IAML		07 09 25.4	
	comp=E,3μm,0.3s						
BO02	Sierra Bellavi	2.85	51		Pn	07 08 46.7	-0.3
BO02	Sierra Bellavi	2.85	51	eP	Pn	07 08 46.8	-0.3
BO02				eS	Sb	07 09 26.3	-1.4
BO02	Sierra Bellavi	2.85	51	iP	Pn	07 08 48.0	+0.9
BO02				eS	Sb	07 09 32.7	+4.9
BO01	Tunca	2.96	42	eP	Pn	07 08 48.2	-0.3
BO01				eS	Sb	07 09 33.2	+2.4
BO01	Tunca	2.96	42	iP	Pn	07 08 48.6	+0.1
BO01				iS	Sb	07 09 35.7	+4.9
LR03	Panguipulli	3.12	164		Pn	07 08 51.0	+0.2
LR03	Panguipulli	3.12	164	eP	Pn	07 08 50.5	-0.2
LR03				eS	Sn	07 09 25.4	-1.9
LR04	Corral	3.24	180		Pn	07 08 51.2	-1.3
LR04	Corral	3.24	180	eP	Pn	07 08 51.1	-1.4
MT01	Popeta	3.30	34		Pn	07 08 53.1	-0.2
MT01	Popeta	3.30	34	iP	Pn	07 08 52.6	-0.6
MT01				eS	Sb	07 09 42.8	+2.1
MT01	Popeta	3.30	34	iP	Pn	07 08 52.7	-0.6
MT01				eS	Sb	07 09 49.2	+8.5
VA05	Santo Domingo	3.33	27		Pn	07 08 52.5	-1.2
VA05	Santo Domingo	3.33	27	eP	Pn	07 08 52.4	-1.2
GO06	Curarrehue	3.33	153	Pn	Pn	07 08 54.9	+1.0
GO06	Curarrehue	3.33	153	⇑iP	Pn	07 08 54.3	+0.4
GO06				eS	Sb	07 09 42.4	+0.5
GO06	Curarrehue	3.33	153	iP	Pn	07 08 54.0	+0.1
MT09	Talagante	3.49	36	eP	Pn	07 08 55.5	-0.6
MT09				eS	Sn	07 09 38.4	+1.7
LMEL	Las Melosas	3.85	45		Pn	07 09 01.7	+0.8
LMEL	Las Melosas	3.85	45	eP	Pn	07 09 02.0	+1.1
MT02	Curacav	3.87	30	eP	Pn	07 09 00.1	-1.0
MT02	Curacav	3.87	30	iP	Pn	07 09 00.4	-0.7
VA01	Torpederas	3.90	23		Pn	07 08 60.0	-1.4
VA01	Torpederas	3.90	23	eP	Pn	07 08 59.9	-1.6
VA01	Torpederas	3.90	23	iP	Pn	07 09 00.0	-1.4
MT05	Renca	3.93	35	iP	Pn	07 09 01.6	-0.4
MT05	Renca	3.93	35	iP	Pn	07 09 02.0	+0.1
MT03	Universidad Ad	3.95	38	eP	Pn	07 09 02.2	-0.1
MT03	Universidad Ad	3.95	38	iP	Pn	07 09 02.5	+0.2
PEL	Peldehue	4.16	34	eP	Pn	07 09 04.5	-0.6
PEL				eS	Sn	07 09 53.3	+0.3
PEL	Peldehue	4.16	34	iP	Pn	07 09 05.0	-0.1
ROC1	El Roble	4.16	30		Pn	07 09 04.6	-0.8
ROC1	El Roble	4.16	30	iP	Pn	07 09 05.0	-0.4
ROC1				eS	Sb	07 10 19.0	+13
ROCH	El Roble	4.17	30	eP	Pn	07 09 04.7	-0.7
FCH	Farellones	4.20	39	eP	Pn	07 09 05.4	-0.5
LL04	Puerto Octay	4.35	169		Pn	07 09 06.5	-1.2
LL04	Puerto Octay	4.35	169	eP	Pn	07 09 06.7	-1.0
VA06	Catapilco	4.43	24	iP	Pn	07 09 07.4	-1.5
VA03	San Esteban	4.54	33	⇑iP	Pn	07 09 09.8	-0.7
VA03	San Esteban	4.54	33	iP	Pn	07 09 10.0	-0.4
LL03	Petrohue	4.57	170	eP	Pn	07 09 10.3	-0.4
PLCA	Paso Flores	4.68	152	Pn	Pn	07 09 13.3	+1.0
	comp=E,4.6nm,0.3s,baz=322,slow=12,SNR=176						
PLCA				Lg	Lg	07 10 26.6	
	comp=E,28nm,0.3s,baz=84,slow=22,SNR=5.7						
	comp=E,18nm,0.4s						
PLCA	Paso Flores	4.68	152	Pn	Pn	07 09 13.2	+0.9
PLCA	Paso Flores	4.68	152	iP	Pn	07 09 11.2	-1.1
PLCA				IAML		07 10 30.9	
	comp=Z,398nm,0.8s						
PLCA	Paso Flores	4.68	152	eP	Pn	07 09 13.9	+1.6
LL05	Los Muermos	4.77	180	eP	Pn	07 09 12.3	-1.1
H03S1	Juan Fernandez	5.26	300	T	T	07 14 39.9	
	baz=122,slow=75						
H03S3	Juan Fernandez	5.27	300	T	T	07 14 38.6	
	baz=122,slow=75,SNR=2210						
H03S2	Juan Fernandez	5.28	300	T	T	07 14 39.5	
	baz=122,slow=75						
VA04	Juan Fernndez	5.32	303	Pn	Pn	07 09 18.7	-2.3
VA04	Juan Fernndez	5.32	303	eP	Pn	07 09 18.4	-2.6
LL06	Loncomilla	5.58	181		Pn	07 09 23.2	-1.3
CO02	Combarbal	5.79	21	Pn	Pn	07 09 26.2	-1.3
ZON	Zonda	6.44	39		Pn	07 09 36.6	+0.2
ZON	Zonda	6.44	39	P	Pn	07 09 36.6	+0.2
GO04	Tololo Observa	6.81	20		Pn	07 09 40.0	-1.8
LCO	Las Campanas	7.95	18		Pn	07 09 55.0	-2.3
LCO	Las Campanas	7.95	18	P	Pn	07 09 55.0	-2.3
AC05	El Transito	8.22	20		Pn	07 09 59.1	-1.9
TRQA	Tornquist	9.25	102		Pn	07 10 13.8	-1.2
TRQA	Tornquist	9.25	102	P	Pn	07 10 13.8	-1.2
AC02	Maricunga	10.44	22	Pn	Pn	07 10 29.7	-2.0
PB06	IPOC Station P	14.28	15		Pn	07 11 22.5	-1.4
LVC	Limon Verde	14.52	17	Pn	Pn	07 11 21.3	-6.1
	comp=Z,0.5nm,0.3s,baz=221,slow=6.2,SNR=5.8						
LVC				LR	LR	07 17 29.2	
	comp=Z,846nm,18.4s,baz=196,slow=39						
LVC	Limon Verde	14.52	17	eP	Pn	07 11 26.1	-1.3
ITQB	Itaqui	15.70	69		Pn	07 11 42.9	+0.2
ITQB	Itaqui	15.70	69	eP	Pn	07 11 41.6	-1.1
PB01	IPOC Station P	15.91	14	Pn	Pn	07 11 44.3	-1.3
PB01				IAmb	IAmb	07 11 51.5	
	comp=Z,94nm,0.8s						
RODS	Rosario do Sul	16.46	73	eP	Pn	07 11 50.8	-1.6
TA02	Huaiquique	16.56	11		Pn	07 11 52.3	-1.4
AZCA	Azaras, Argent	17.03	65	eP	Pn	07 11 56.9	-2.8
PLTB	Pedras Altas	17.12	79	Pn	Pn	07 11 58.6	-2.1
PLTB	Pedras Altas	17.12	79	eP	Pn	07 11 58.6	-2.1
CPUP	Villa Florida	17.14	58	Pn	Pn	07 11 57.5	-3.5
	comp=Z,0.2nm,0.3s,baz=236,slow=12,SNR=14						

CPUP LR LR 07 19 14.4
comp=Z,3µm,18.1s,baz=238,slow=40
comp=Z,8.2nm,1.1s
CPUP Villa Florida 17.14 58 Pn Pn 07 11 58.6 -2.4
CPUP Villa Florida 17.14 58 P **Pn Pn 07 11 58.6 -2.4**
CPUP pmax pmax
comp=Z,34nm,1.2s
UNIS Unistalda (Bra 17.17 69 *eP* **Pn 07 11 59.0 -2.5**
CPSB Cacapava Do Su 17.79 75 *eP* **Pn 07 12 04.2 -4.9**
USHA Ushuaia 18.53 171 P **Pn 07 12 19.4 +1.5**
comp=Z,4.7nm,0.3s,baz=11,slow=0.4,SNR=2.6
comp=Z,21nm,0.5s
EFI East Falkland 18.60 149 P **P 07 12 18.2 -0.2**
EFI IAmb IAmb 07 12 21.2
comp=Z,221nm,1.8s
EFI East Falkland 18.60 149 *i* P **Pn 07 12 19.7 +1.0**
EFI pmax pmax
comp=Z,41nm,1.0s
CRSM Crissiumal (Br 18.78 66 *eP* **P 07 12 18.9 -1.7**
ALGR Alto Alegre (B 18.86 71 *eP* **P 07 12 19.5 -2.0**
CNLB Canela 20.29 75 *eP* **P 07 12 36.1 -1.1**
MURT Porto Murtinho 20.31 47 *eP* **P 07 12 37.2 -0.1**
ITAB Concordia 20.34 69 P **P 07 12 37.6 -0.1**
ITAB IAmb IAmb 07 12 38.6
comp=Z,123nm,0.8s
ITAB Concordia 20.34 69 *eP* **P 07 12 37.2 -0.5**
FRBT Francisco Belt 20.37 64 *eP* **P 07 12 37.6 -0.5**
MCR1 Marechal Candi 20.62 59 *eP* **P 07 12 40.0 -0.7**
LPAZ La Paz 20.81 15 P Pn 07 12 44.6 -1.3
comp=Z,12nm,0.9s,baz=180,slow=7.9,SNR=55
comp=Z,12nm,0.9s
LPAZ La Paz 20.81 15 *eP* **P 07 12 43.0 -0.4**
ANTJ Antonio Joao (21.02 51 *eP* **P 07 12 44.5 -0.6**
PTGB Pitanga 21.84 63 *eP* **P 07 12 53.0 -0.9**
BBRB Robore, Bolivi 21.89 37 *eP* **P 07 12 53.6 -0.7**
AQDB Aquidauana 22.35 49 P **P 07 12 58.7 -0.6**
AQDB IAmb IAmb 07 13 14.1
comp=Z,88nm,1.1s
AQDB Aquidauana 22.35 49 *eP* **P 07 12 58.6 -0.7**
BBSD Serra de San D 22.46 34 *eP* **P 07 12 59.9 -0.6**
PANT Pantanal (Braz 22.97 45 *eP* **P 07 13 05.4 -0.5**
SIV San Ignacio 23.32 31 P **P 07 13 08.6 -0.9**
comp=Z,32nm,0.9s,baz=213,slow=8.7,SNR=116
SIV LR LR 07 24 03.7
comp=Z,1µm,18.6s,baz=238,slow=42
comp=Z,32nm,0.9s
TIJ01 Guaruva-PR 23.73 69 *eP* **P 07 13 08.3 -5.3**
PCMB Pacaembu 24.41 58 *eP* **P 07 13 18.4 -1.4**
FRTB Fartura 24.49 64 *eP* **P 07 13 19.9 -0.6**
PTLB Pontes e Lacer 24.65 35 P **P 07 13 21.8 -0.1**
PTLB IAmb IAmb 07 13 23.4
comp=Z,37nm,1.1s
PTLB Pontes e Lacer 24.65 35 *eP* **P 07 13 21.5 -0.4**
NNA Nana 24.73 352 P **P 07 13 23.3 +0.6**
comp=Z,8.5nm,0.8s,baz=158,slow=10,SNR=5.1
comp=Z,8.5nm,0.8s
NNA Nana 24.73 352 *i* P **P 07 13 23.4 +0.7**
NNA pmax pmax
comp=Z,21nm,0.9s
PET01 Itanhaem-SP 25.61 69 *eP* **P 07 13 30.1 -0.5**
SALV Santo Antonio 25.99 42 *eP* **P 07 13 34.0 0.0**
ITRB Iturama 26.33 56 *eP* **P 07 13 36.8 -0.3**
VILB Vilhena 26.41 30 P **P 07 13 36.8 -1.1**
VILB IAmb IAmb 07 13 43.0
comp=Z,38nm,0.8s
VILB Vilhena 26.41 30 *eP* **P 07 13 36.5 -1.4**
RCLB Rio Claro- Sao 26.53 65 *eP* **P 07 13 39.4 +0.4**
VAO Valinhos 26.59 67 *eP* **P 07 13 39.0 -0.6**
BB19B Bebedouro 26.67 61 *eP* **P 07 13 39.9 -0.4**
PARB Paraibuna 27.40 69 *eP* **P 07 13 47.4 +0.6**
ETMB Extrema 27.49 16 P **P 07 13 48.3 +0.8**
ETMB IAmb IAmb 07 13 49.2
comp=Z,68nm,0.8s
ETMB Extrema 27.49 16 *eP* **P 07 13 48.4 +0.8**
ARAG Araguaiana, MT 28.36 48 *eP* **P 07 13 54.8 -0.6**
PMSA Palmer Station 28.73 172 P P 07 13 53.2 -5.0
comp=Z,3.0nm,0.3s,baz=334,slow=18,SNR=12
PMSA LR LR 07 24 24.1
comp=Z,455nm,18.2s,baz=348,slow=34
PMSA Palmer Station 28.73 172 *eP* **P 07 14 00.7 +2.5**
CZSB Cruzeiro do Su 28.78 2 *eP* **P 07 13 59.4 +0.4**
MAN01 Angra dos Reis 28.91 70 *eP* **P 07 14 01.1 +0.8**
IPMB Ipameri, GO 28.98 57 *eP* **P 07 14 01.0 0.0**
PDRB Porto dos Gac 29.12 35 *eP* **P 07 14 01.8 -0.3**
BSCB Bom Sucesso 29.42 66 *eP* **P 07 14 04.4 -0.5**
VAS01 Vassouras-RJ 29.64 69 *eP* **P 07 14 06.9 +0.1**
ATAH Atahualpa 29.70 350 P **P 07 14 08.1 +0.3**
comp=Z,3.0nm,0.9s,baz=213,slow=12,SNR=2.0
ATAH LR LR 07 24 21.7
comp=Z,275nm,18.1s,baz=169,slow=33
comp=Z,3.0nm,0.9s
TBTG Tabatinga, AM 32.45 7 P **P 07 14 31.1 -0.5**
TBTG IAmb IAmb 07 14 33.6
comp=Z,254nm,0.9s
TBTG Tabatinga, AM 32.45 7 *eP* **P 07 14 32.2 +0.7**
MCRA Macar, Loja 32.66 348 P **P 07 14 30.6 -2.8**
ALF01 Guarapari-ES 32.66 70 *eP* **P 07 14 33.9 +0.6**
MC01 Montes Claros 32.80 61 *eP* **P 07 14 33.5 -1.1**
ARNL Arenillas 33.48 348 P **P 07 14 41.2 +0.7**
ARNL IAmb IAmb 07 15 01.9
comp=Z,14nm,0.9s
SJMB Sao Joao De Ma 33.48 67 *eP* **P 07 14 40.1 -0.4**
BOSC San Juan Bosco 33.64 351 P **P 07 14 40.7 -1.4**
JANB Januaria 33.68 58 *eP* **P 07 14 41.8 -0.6**
RIB01 Linhares ES 33.69 68 *eP* **P 07 14 41.9 -0.5**
NPGB Novo Progresso 33.77 34 *eP* **P 07 14 42.1 -0.9**
COHC Cochancay 34.42 350 P **P 07 14 50.4 +1.7**
NAN01 Guarapari, ES 34.80 66 *eP* **P 07 14 51.2 -0.8**
SDBA SAO DESIDERIO 35.20 54 *eP* **P 07 14 55.1 -0.4**
MACA Manacapuru-AM 35.33 22 P **P 07 14 55.6 -0.9**
MACA IAmb IAmb 07 14 57.0
comp=Z,60nm,1.3s
MACA Manacapuru-AM 35.33 22 *eP* **P 07 14 56.3 -0.2**
GUA01 Guaratinga, BA 35.84 65 *eP* **P 07 15 01.3 +0.4**
ITTB Itaituba 36.00 31 *eP* **P 07 15 01.4 -0.9**
SMTB Santa Maria do 36.27 47 *eP* **P 07 15 04.5 -0.2**
SGCB S&o Gabriel d 36.81 11 *eP* **P 07 15 08.2 -0.9**
CMC01 Camacan, BA 36.85 64 *eP* **P 07 15 09.5 0.0**
PRPB Parauapebas 37.24 41 *eP* **P 07 15 12.4 -0.4**
GDU01 Guandu, BA 37.91 62 *eP* **P 07 15 17.8 -0.7**
BOAV Boa Vista 40.66 20 P **P 07 15 40.7 -0.7**
BOAV IAmb IAmb 07 15 42.0
comp=Z,17nm,0.9s
BOAV Boa Vista 40.66 20 *eP* **P 07 15 40.9 -0.5**
MCPB Macapa, AP 41.18 34 *eP* **P 07 15 45.5 -0.2**
ROSC El Rosal 41.26 359 P **P 07 15 48.4 +1.5**
comp=Z,14nm,0.6s,baz=358,slow=1.8,SNR=8.8
comp=Z,14nm,0.6s
TMAB Tom-Au,PA,Br 41.35 40 *eP* **P 07 15 48.0 +0.8**
ROSB Rosrio 43.09 46 *eP* **P 07 16 01.5 +0.1**
BELA Belgrano 2 44.51 169 P **P 07 16 12.6 +0.5**
SDV Santo Domingo 45.35 4 P **P 07 16 19.4 -0.2**
comp=Z,23nm,0.8s,baz=326,slow=4.8,SNR=8.6
comp=Z,23nm,0.8s
SDV Santo Domingo 45.35 4 P **P 07 16 19.2 -0.5**
SDV IAmb IAmb 07 16 23.6
comp=Z,25nm,0.8s
SDV Santo Domingo 45.35 4 *eP* **P 07 16 19.6 0.0**
BAUV El Baul 45.62 7 P **P 07 16 20.1 -1.4**
MDP Montagnes des 45.85 30 LR LR 07 37 28.6
comp=Z,486nm,20.4s,baz=201,slow=39
RCBR Riachuelo 46.02 57 P **P 07 16 24.7 -0.2**
comp=Z,16nm,1.1s,baz=175,slow=11,SNR=1.7
RCBR LR LR 07 37 19.1
comp=Z,871nm,19.7s,baz=353,slow=38
comp=Z,16nm,1.1s
PCRV Puerto La Cruz 47.29 12 P **P 07 16 34.7 0.0**
comp=Z,20nm,1.0s,baz=55,slow=8.2,SNR=3.6
comp=Z,20nm,1.0s
VNA3 Neumayer Olymp 47.38 157 P **P 07 16 35.6 +0.8**
VNA1 Neumayer--Stat 47.73 156 P **P 07 16 38.6 +1.2**
VNA1 Neumayer--Stat 47.73 156 ScP **ScP 07 21 57.7 -1.2**
JTS Las Juntas de 47.91 345 *i* P **P 07 16 41.8 +2.3**
VNA2 Neumayer--Watz 48.06 156 P **P 07 16 40.9 +0.8**
baz=283,slow=9.2
SNAA Sanae 49.60 157 P **P 07 16 52.8 +0.8**
SNAA Sanae 49.60 157 ScP **ScP 07 22 06.2 -0.8**
SNAA Sanae 49.60 157 P **P 07 16 52.8 +0.8**
comp=Z,23nm,1.0s,baz=282,slow=6.2,SNR=35
comp=Z,23nm,1.0s
SNAA Sanae 49.60 157 P **P 07 16 51.9 -0.1**
SNAA IAmb IAmb 07 16 54.0
comp=Z,37nm,1.1s
GRGR Grenville 49.76 15 P **P 07 16 54.6 +0.9**
SVB Belmont 50.95 15 P **P 07 17 02.4 -0.2**
TROLL Troll, Antarti 51.30 157 P **P 07 17 05.7 +0.8**
TROLL Troll, Antarti 51.30 157 ScP **ScP 07 22 12.8 -1.6**
QSPA South Pole Qui 53.61 180 P **P 07 17 23.3 +1.2**
comp=Z,20nm,0.9s,baz=162,slow=1.3,SNR=46
comp=Z,20nm,0.9s
QSPA South Pole Qui 53.61 180 P **P 07 17 23.2 +1.2**
QSPA IAmb IAmb 07 17 24.3
comp=Z,28nm,1.0s
NVL N'lazarevskaya 54.38 156 *eP* **P 07 17 27.8 +0.4**
NVL pmax pmax
comp=Z,36nm,1.0s
VNDA Vanda 61.30 192 P **P 07 18 17.4 +1.5**
comp=Z,2.0nm,1.1s,baz=116,slow=4.6,SNR=5.1
comp=Z,2.0nm,1.1s
VNDA Vanda 61.30 192 P **P 07 18 16.4 +0.6**
TBI Tubuai 65.61 258 *e*LR LR 07 38 25.4
comp=Z,5µm,24.5s
TBI *e*LR LR 07 38 25.8
comp=Z,2µm,28.8s
MEH Mehetia 67.39 264 *e*T T 08 32 09.6
comp=Z,36nm,0.2s
TIAR Tiarei 68.58 264 *e*T T 08 33 39.9
comp=Z,2.4nm,0.3s
PPT2 Papete2 68.75 263 *e*LR LR 07 39 52.4
comp=Z,513nm,24.5s
PPT2 *e*LR LR 07 39 52.7
comp=Z,393nm,25.5s
PPT Papeete 68.76 264 LR LR 07 40 43.5
comp=Z,304nm,19.1s,baz=342,slow=28
HPIG 70.13 330 P **P 07 19 12.0 -1.6**
LRAL Lakeview Retre 70.45 348 P **P 07 19 14.9 -0.3**
LRAL IAmb IAmb 07 19 16.6
comp=Z,12nm,1.1s
Z47A Carrollton 70.80 347 P **P 07 19 17.9 +0.5**
Y52A Lilburn 70.83 351 P **P 07 19 16.8 -0.7**
Y52A IAmb IAmb 07 19 18.6
comp=Z,16nm,0.9s
NATX Nacogdoches 70.88 341 P **P 07 19 17.3 -0.5**
MAW Mawson 70.98 164 P **P 07 19 19.1 +0.9**
comp=Z,9.4nm,1.0s,baz=210,slow=5.9,SNR=11
MAW LR LR 07 53 09.4
comp=Z,246nm,18.1s,baz=268,slow=38
comp=Z,9.4nm,1.0s
MAW Mawson 70.98 164 P **P 07 19 19.4 +1.3**
MAW Mawson 70.98 164 P **P 07 19 19.4 +1.3**
MAW pmax pmax
comp=Z,3.0nm,1.1s
JCT Junction City 71.19 336 P **P 07 19 20.8 +1.0**
JCT IAmb IAmb 07 19 36.9
comp=Z,13nm,0.9s
JCT Junction City 71.19 336 P **P 07 19 20.8 +1.0**
JCT pmax pmax
comp=Z,13nm,1.0s
TX32 Lajitas Array 71.49 332 P **P 07 19 22.0 +0.2**
TXAR Lajitas Array 71.49 332 P **P 07 19 23.0 +1.2**
comp=Z,2.2nm,0.7s,baz=150,slow=8.7,SNR=25
comp=Z,2.2nm,0.7s
TXAR Lajitas Array 71.49 332 P **P 07 19 22.5 +0.8**
TX31 Lajitas Ar. Si 71.50 332 P **P 07 19 21.8 0.0**
TX31 IAmb IAmb 07 19 28.9
comp=Z,12nm,0.9s
X51A Calhoun 71.63 350 P **P 07 19 21.6 -0.7**
Y45A Yeager Farm, C 71.73 346 P **P 07 19 23.5 +0.6**
KMSC Kings Mountain 71.78 353 P **P 07 19 23.6 +0.3**
KMSC IAmb IAmb 07 19 24.1
comp=Z,16nm,0.9s
BG3 Lake Jocassee 71.81 352 P **P 07 19 23.2 -0.2**
BG3 IAmb IAmb 07 19 25.4
comp=Z,14nm,0.8s
X48A Hartselle 71.85 348 P **P 07 19 24.2 +0.6**
X48A IAmb IAmb 07 19 35.0
comp=Z,26nm,0.9s
WHTX Lake Whitney, 71.87 339 P **P 07 19 23.4 -0.4**
WHTX IAmb IAmb 07 19 25.9
comp=Z,16nm,0.8s
W50A Signal Mountai 72.31 350 P **P 07 19 26.9 +0.4**
WLAR White Oak Lake 72.33 343 P **P 07 19 27.3 +0.8**
WLAR IAmb IAmb 07 19 39.5
comp=Z,24nm,1.1s
SWET Sewanee 72.42 349 P **P 07 19 27.1 0.0**
CPCT Cooper Cave 72.45 351 P **P 07 19 27.2 0.0**
CPCT IAmb IAmb 07 19 28.3
comp=Z,20nm,0.9s
Z35A Perchaven, San 73.07 339 P **P 07 19 31.9 +1.0**
V48A Smith Brothers 73.07 349 P **P 07 19 31.3 +0.4**
ABTX Abilene, Hawle 73.12 337 P **P 07 19 31.6 +0.3**
WVT Waverly 73.62 348 P **P 07 19 33.3 -0.8**
WVT IAmb IAmb 07 19 45.4
comp=Z,23nm,1.0s
WVT Waverly 73.62 348 P **P 07 19 33.3 -0.8**
WVT pmax pmax
comp=Z,23nm,1.0s
WHAR Wooly Hollow 73.67 344 P **P 07 19 33.6 -0.9**
WHAR IAmb IAmb 07 19 35.7
comp=Z,15nm,0.9s
BBTS Babate 74.01 58 LR LR 07 51 04.5
comp=Z,706nm,19.8s,baz=224,slow=35
LCAR Lake Charles 74.18 345 P **P 07 19 37.6 +0.2**
LCAR IAmb IAmb 07 19 38.6
comp=Z,15nm,0.8s
FCAR Ozark Folk Cen 74.21 344 P **P 07 19 37.6 0.0**
S51A Beattyville 74.50 352 P **P 07 19 38.8 -0.4**
S51A IAmb IAmb 07 19 40.8
comp=Z,20nm,0.8s
SUR Sutherland 74.57 119 LR LR 07 52 10.4
comp=Z,222nm,18.2s,baz=298,slow=36
WMOK Wichita Mounta 74.82 339 P **P 07 19 40.7 -0.6**
WMOK Wichita Mounta 74.82 339 P **P 07 19 40.7 -0.6**
WMOK pmax pmax
comp=Z,6.0nm,1.2s
HHAR Hobbs 75.00 343 P **P 07 19 41.5 -0.7**
HHAR IAmb IAmb 07 19 56.0
comp=Z,21nm,1.6s
TUL1 Leonard 75.10 341 P **P 07 19 42.4 -0.4**
TUL1 IAmb IAmb 07 19 43.8
comp=Z,19nm,0.9s
CCM Cathedral Cave 76.12 346 P **P 07 19 48.8 +0.2**
CCM IAmb IAmb 07 19 50.2
comp=Z,19nm,0.8s
CCM Cathedral Cave 76.12 346 P **P 07 19 48.8 +0.2**
CCM pmax pmax
comp=Z,19nm,0.8s
CROK Carrier 76.25 340 P **P 07 19 49.4 0.0**
CROK IAmb IAmb 07 19 51.4
comp=Z,12nm,0.8s
R40A Maddies Statio 76.55 345 P **P 07 19 51.2 +0.2**
R40A IAmb IAmb 07 20 02.8
comp=Z,19nm,1.1s
LIC Lamto 76.70 72⇩ *eP* **P 07 19 52.7 +0.3**
comp=Z,75nm,0.8s
TIC Toumodi 76.97 71⇩ *eP* **P 07 19 54.7 +0.7**
KIC Kosan Boka 77.00 72⇩ *eP* **P 07 19 54.7 +0.5**
comp=Z,22nm,0.4s
P43A Skaggs, Pawnee 77.33 347 P **P 07 19 55.3 0.0**
P43A IAmb IAmb 07 19 56.5
comp=Z,24nm,0.9s
CASY Casey 77.37 182 P **P 07 19 55.9 +0.5**
ANMO Albuquerque 77.56 333 *i* P **P 07 19 58.7 +1.7**
ANMO pmax pmax
comp=Z,17nm,2.9s
P40A Paris 77.70 345 P **P 07 19 57.5 +0.1**
T25A Trinidad 78.81 335 P **P 07 20 05.3 +1.4**
T25A IAmb IAmb 07 20 19.5
comp=Z,12nm,0.9s
N38A Joes South For 79.16 345 P **P 07 20 04.9 -0.6**
TSUM Tsumeb 79.60 106 LR LR 07 52 56.2
comp=Z,227nm,18.8s,baz=170,slow=34
BOSA Boshof 79.87 118 P **P 07 20 10.3 +0.3**
comp=Z,16nm,1.0s,baz=212,slow=4.3,SNR=13
BOSA LR LR 07 53 58.6
comp=Z,114nm,18.1s,baz=192,slow=35
comp=Z,16nm,1.0s
BOSA Boshof 79.87 118 P **P 07 20 09.9 -0.1**
BOSA IAmb IAmb 07 20 11.5
comp=Z,23nm,1.1s
PFO Pinyon Flats O 80.59 325 *i* P **P 07 20 15.9 +2.4**
PFO pmax pmax
comp=Z,8.0nm,1.1s
URZ Urewera 81.05 229 LR LR 07 48 41.7
comp=Z,207nm,18.1s,baz=346,slow=30
SMCO Snowmass 81.52 334 P **P 07 20 19.6 +0.9**
SMCO IAmb IAmb 07 20 34.2
comp=Z,17nm,1.4s
K31A O'Neill 82.19 341 P **P 07 20 22.5 +0.8**
LBTB Lobatse 82.24 115 LR LR 07 55 28.4
comp=Z,286nm,18.6s,baz=198,slow=35
LBTB Lobatse 82.24 115 P **P 07 20 22.7 0.0**
LBTB Lobatse 82.24 115 P **P 07 20 22.7 0.0**
LBTB pmax pmax
comp=Z,24nm,0.7s
ECSD EROS Data Cent 82.71 343 P **P 07 20 24.4 0.0**
ECSD IAmb IAmb 07 20 25.6
comp=Z,18nm,0.9s
P18A Preston Nutter 83.10 332 P **P 07 20 26.7 -0.2**
P18A IAmb IAmb 07 20 47.3
comp=Z,13nm,1.0s
RDMU Red Mountain 83.68 333 P **P 07 20 30.9 +1.2**
RDMU IAmb IAmb 07 20 38.9
comp=Z,9.1nm,0.8s
RSSD Black Hills 85.03 338 P **P 07 20 36.9 +0.4**
RSSD IAmb IAmb 07 20 38.7
comp=Z,10nm,0.8s
RSSD Black Hills 85.03 338 P **P 07 20 36.9 +0.4**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
HWUT Hardware Ranch 85.32 332 P **P 07 20 38.5 +0.6**
HWUT IAmb IAmb 07 20 57.4
comp=Z,14nm,1.0s
NVAR Mina Aray Bea 85.40 326 P **P 07 20 40.2 +1.7**
comp=Z,0.6nm,0.7s,baz=160,slow=5.7,SNR=5.8
comp=Z,0.6nm,0.7s
BW06 Boulder Array 85.60 334 P **P 07 20 39.5 +0.1**
PD31 Pinedale Array 85.60 334 P **P 07 20 40.0 +0.6**
PDAR Pinedale Array 85.60 334 P **P 07 20 40.5 +1.1**
comp=Z,1.9nm,0.9s,baz=152,slow=4.7,SNR=13
PDAR PKKPbc **PKKPbc 07 38 42.1 -1.4**
comp=Z,0.4nm,0.7s,baz=191,slow=0.8,SNR=4.0
comp=Z,1.9nm,0.9s
PDAR Pinedale Array 85.60 334 P **P 07 20 39.6 +0.2**
TOA0 Torodi Ar. Sit 86.18 71 P **P 07 20 41.2 -1.4**
TOA0 IAmb IAmb 07 20 42.0
comp=Z,10nm,0.8s
TORD Torodi Ar. Bea 86.18 71 P **P 07 20 42.4 -0.2**
comp=Z,9.0nm,0.9s,baz=241,slow=3.5,SNR=30
TORD PP **PP 07 24 05.2 +1.6**
comp=Z,2.6nm,1.1s,baz=183,slow=7.4,SNR=4.2
comp=Z,9.0nm,0.9s
TORD Torodi Ar. Bea 86.18 71 P **P 07 20 43.1 +0.5**
TORD IAmb IAmb 07 21 27.2
comp=Z,14nm,0.9s
ECR Eagle Creek 86.50 333 P **P 07 20 44.7 +0.9**
YMR Madison River 87.76 334 P **P 07 20 50.8 +0.9**
YMR IAmb IAmb 07 20 59.1
comp=Z,12nm,1.1s
MCMT McKenzie Canyo 88.57 333 P **P 07 20 54.6 +0.9**
ULM Lac du Bonnet 88.75 346 P **P 07 20 53.9 -0.2**
comp=Z,6.6nm,0.8s,baz=188,slow=3.8,SNR=7.3
comp=Z,6.6nm,0.8s
LSZ Lusaka 90.06 109 LR LR 08 00 37.3
comp=Z,272nm,18.0s,baz=198,slow=35
MDT Midelt 94.36 52 P **P 07 21 21.8 +1.1**
comp=Z,3.1nm,0.8s,baz=306,slow=2.3,SNR=4.2
MDT LR LR 08 05 17.1
comp=Z,376nm,18.0s,baz=196,slow=36
comp=Z,3.1nm,0.8s
DZM Mont Dzumac 98.76 234 *e*LR LR 07 53 47.4
comp=Z,269nm,24.2s
ESDC Sonseca Array 99.22 47 P **Pdif 07 21 41.1 -1.4**
comp=Z,0.8nm,0.8s,baz=258,slow=3.8,SNR=3.0
comp=Z,0.8nm,0.8s
ASAR Alice Springs 114.70 208 PKP **PKiKP 07 26 40.8 -1.0**
comp=Z,0.2nm,0.7s,baz=170,slow=1.7,SNR=2.1
ASAR PKKPbc **PKKPbc 07 37 18.0 -0.6**
comp=Z,0.4nm,0.6s,baz=328,slow=2.8,SNR=4.7
GERES GERESS Array B 114.81 47 PKP PKPdf 07 26 41.0 -0.2
comp=Z,0.3nm,0.3s,baz=222,slow=1.8,SNR=6.4
GERES GERESS Array B 114.81 47 PKiKP PKPdf 07 26 41.0 -0.2
CLL Collm 115.55 44 *e*PKiKP **PKiKP 07 26 43.0 +0.6**
CLL Lm MLR 08 13 00.0
comp=N,100nm,21.8s
CLL Lm MLR 08 13 00.0
comp=E,100nm,20.4s
CLL Lm MLR 08 13 00.0
comp=Z,100nm,20.5s
CLL Collm 115.55 44 *e*PKiKP **PKiKP 07 26 43.0 +0.6**
MODS Modra-Piesok 116.72 48 *e*PDIFF **Pdif 07 22 59.6 -0.5**
MODS Modra-Piesok 116.72 48 *i* P **Pdif 07 22 59.6 -0.5**
VYHS Vyhne 117.71 49 *e* **PKPdf 07 26 46.8 +0.1**
VYHS Vyhne 117.71 49 *e*PKiKP **PKPdf 07 26 46.8 +0.1**
WRA Warramunga Arr 117.91 210 PKP **PKPdf 07 26 47.3 -0.7**
comp=Z,0.6nm,1.0s,baz=167,slow=1.5,SNR=5.2
BRTR Keskin Array B 124.09 63 PKP **PKPdf 07 26 58.2 -1.2**
comp=Z,1.8nm,0.7s,baz=198,slow=3.5,SNR=6.0
AKASG Malin Array Be 124.80 49 PKP **PKPdf 07 26 59.4 -0.8**
comp=Z,2.3nm,0.8s,baz=260,slow=1.8,SNR=8.9
AKBB Malin Array Si 124.80 49 *c i*PKiKP **PKPdf 07 26 59.1 -1.1**
OBN Obninsk 130.13 45⇩ *i*PKiKP **PKPdf 07 27 06.8 -3.4**
OBN 07 27 16.0
OBN *i* 07 27 19.0
OBN PS **PS 07 39 34.0 -0.8**
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,97nm,17.0s
KIV Kislovodsk 131.83 60 *e*PKiKP **PKiKP 07 27 15.0 +0.1**
KIV pmax pmax
comp=Z,10.0nm,1.1s
ARU Arti 142.48 43 *i* PKiKP **PKPdf 07 27 32.4 -0.6**
TIXI Tiksi 143.06 348 PKP **PKPdf 07 27 32.4 -1.3**
TIXI Tiksi 143.06 348 *i* PKHKP PKPpre 07 27 29.7
ABKAR Akbulak array 144.19 54 PKPdf PKPbc 07 27 34.5 0.0
ABKAR Akbulak array 144.19 54 PKPbc 07 27 34.5 0.0
KSM Kuching 144.84 187 PKPdf PKPbc 07 27 38.0 +0.5
RPSI Rantau Prapat 145.50 166 PKPdf **PKPdf 07 27 39.0 -0.7**
PSI Prapat 145.61 166 PKiKP **PKPdf 07 27 39.0 -1.0**
NRIK Noril'sk 145.63 12 **PKPab 07 27 39.0 +0.3**
NRIK Noril'sk 145.63 12 PKiKP **PKPab 07 27 39.1 +0.3**
HYBB Hyderabad (bro 148.75 120 *e*PKPbc **PKPbc 07 27 48.9 +0.1**
YAK Yakutsk 150.77 338 *e*PKiKP **PKPbc 07 27 52.4 +0.1**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
KK31 Karatay Array 151.75 66 **PKiKP 07 27 55.7 0.0**
KK31 PKPab **sPKPbc 07 28 05.8 -0.6**
KKAR Karatay Array 151.75 66 **PKPbc 07 27 55.3 0.0**
KKAR PKPab **sPKPbc 07 28 05.2 -1.3**
KKAR Karatay Array 151.75 66 **PKPbc 07 27 55.3 0.0**
KKAR PKPab **sPKPbc 07 28 06.0 -0.4**
BTK Batken 151.89 72 **PKPbc 07 27 55.7 -0.1**
BTK PKPab **PKPab 07 28 04.5 -0.6**
NIL Nilore 152.69 86 **PKPbc 07 27 57.9 +0.2**
NIL **pPKPbc 07 28 06.3 +0.3**
AAK Ala-Archa 154.69 66 **PKiKP 07 28 03.0 +1.0**
AAK PKPab **PKPab 07 28 17.3 +0.4**
AAK Ala-Archa 154.69 66 PKP2 **PKPab 07 28 17.3 +0.4**
ZAA0 Zalesovo Array 157.06 34 PKPdf **PKPdf 07 27 55.8 -0.1**
ZAA0 **PKPab 07 28 27.4 +0.9**
ZALV Zalesovo Beam 157.06 34 PKP **PKPdf 07 27 55.6 -0.3**
comp=E,3.7nm,0.8s,baz=283,slow=2.6,SNR=14
ZALV PKPab **PKPab 07 28 26.4 -0.1**
comp=E,5.1nm,0.8s,baz=301,slow=5.3,SNR=8.3
USRK Ussuriysk Ar. 159.26 299 PKP **PKPdf 07 28 01.3 +2.4**
comp=E,2.3nm,0.8s,baz=191,slow=32,SNR=2.3
MK31 Makanchi Array 159.32 53 PKPdf **PKPdf 07 27 59.6 +0.6**
MK31 PKPab **PKPab 07 28 36.5 -0.1**
MK31 Makanchi Array 159.32 53 PKiKP **PKPdf 07 27 59.6 +0.2**
MK31 07 28 36.5
MKAR Makanchi Array 159.32 53 PKP **PKPdf 07 27 59.1 +0.2**
comp=E,2.4nm,0.8s,baz=318,slow=1.6,SNR=12
MKAR PKPab **PKPab 07 28 36.6 +0.1**

	comp=E,3.9nm,0.8s,baz=295,slow=4.1,SNR=11						
MKAR				PP	**PP**	**07 32 16.9**	**-1.3**
	comp=E,2.4nm,1.0s,baz=295,slow=3.5,SNR=6.2						
MKAR	**Makanchi Array**	**159.32**	**53**	PKPdf	**PKPdf**	**07 27 58.8**	**-0.2**
MKAR					**PKPab**	**07 28 36.7**	**+0.1**
MKAR	**Makanchi Array**	**159.32**	**53**	PKIKP	**PKPdf**	**07 27 58.8**	**-0.2**
WMQ	**Urumqi**	**163.93**	**58**	*e*PKP	**PKPdf**	**07 28 04.2**	**+0.3**
TNCH	**TengChong**	**166.54**	**147**	*e*PKP	**PKPdf**	**07 28 05.9**	**-0.9**
TNCH				pPKP	pPKPdf	07 28 13.9	-1.3
SONM	**Songino Array**	**168.81**	**1**	PKP	**PKPdf**	**07 28 05.7**	**-2.0**
	comp=E,0.3nm,0.4s,baz=88,slow=3.4,SNR=4.2						
SONM				PKPab	**PKPab**	**07 29 19.2**	**+1.1**
	comp=E,1.8nm,0.8s,baz=344,slow=4.8,SNR=6.3						
CD2	**Chengdu**	**173.84**	**157**	PKP	**PKPdf**	**07 28 10.2**	**-0.4**
GTA	**Gaotai**	**174.01**	**60**	*e*PKP	**PKPdf**	**07 28 10.3**	**-0.2**
GTA				pPKP	sPKPdf	07 28 20.8	-0.9
HHC	**Hu-ho-hao-te**	**174.25**	**319**	*e*PKP	**PKPdf**	**07 28 13.1**	**+2.6**

---

*IDC **08** 07:12:49.8±1.4, 49.°68N×81.°65E, h0km, mbtmp2.5/2, ML1.6/2, Error ellipse: s-maj=19.7km s-min=9.4km az=63.0*

*NNC **08** 07:12:52.6±1.5, 49.°83N×81.°71E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=18.6km s-min=4.9km az=52.0, Suspected Mining explosion.*

ISC 08 07:12:41.7±1.3**, 49.°95N**±0.°04×**82.°32E**±0.°07**, h0**km**, n8,** σ**0.s87**/11**, 6C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.49**	**289**	⇑Pn	**Pg**	**07 13 29.0**	**-0.3**
	12nm,0.9s						
KURK				⇑Sn	**Sb**	**07 13 59.3**	**+0.9**
	32nm,0.8s						
KURBB	**Kurchatov Arra**	**2.52**	**287**	Pn	**Pb**	**07 13 28.3**	**+0.6**
	0.2nm,0.3s,baz=112,slow=19,SNR=43						
KURBB				Lg	Lg	07 13 58.8	
	0.3nm,0.3s,baz=114,slow=32,SNR=10.0						
	2.2nm,0.5s						
KURBB	**Kurchatov Arra**	**2.52**	**287**	⇑Pn	**Pg**	**07 13 29.5**	**-0.4**
	9.8nm,0.8s,baz=112,slow=18						
KURBB				⇓Sn	**Sb**	**07 13 58.5**	**-0.7**
	38nm,0.6s						
MAKZ	**Makanchi**	**3.15**	**184**	⇓Pn	**Pg**	**07 13 41.9**	**-0.1**
	2.7nm,0.8s						
MAKZ				⇑Sn	**Sb**	**07 14 18.9**	**+1.5**
	11nm,1.0s						
MK31	**Makanchi Array**	**3.16**	**180**	⇑Pn	**Pg**	**07 13 41.9**	**-0.3**
	1.1nm,0.5s,baz=354,slow=14,SNR=20						
MK31				⇑Sn	**Sg**	**07 14 22.0**	**-1.0**
	7.0nm,0.6s,baz=353,slow=30						
MKAR	**Makanchi Array**	**3.16**	**180**	Pg	**Pg**	**07 13 41.3**	**-0.8**
	0.7nm,0.3s,baz=354,slow=14,SNR=24						
MKAR				Lg	Lg	07 14 22.2	
	0.7nm,0.3s,baz=1.1,slow=29,SNR=7.5						
ZALV	**Zalesovo Beam**	**4.29**	**20**	Pn	**Pg**	**07 14 03.6**	**-0.3**
	0.1nm,0.3s,baz=213,slow=15,SNR=1.8						
ZALV				Lg	Lg	07 15 17.5	
	0.3nm,0.3s,baz=199,slow=26,SNR=8.0						
	0.7nm,0.5s						
I46RU	**ZALESOVO INFRA**	**4.29**	**20**	I		07 40 50.0	
	0.1nm,0.9s,baz=205,slow=330,SNR=6.2						

---

*SJA **08** 07:12:58.3±1.4, 36.°66S×74.°37W, h10km, ML4.4, MW4.0*

*IDC **08** 07:13:05.9±1.1, 36.°63S×73.°64W, h0km, mb4.0/6, mbtmp4.1/9, ML4.0/3, Error ellipse: s-maj=38.0km s-min=19.1km az=92.0*

*NEIC **08** 07:13:08.9±1.7, 36.°63S±0.°04×73.°56W±0.°05, h19km±5km, Error ellipse: s-maj=6.6km s-min=5.0km az=49.0*

*GUC **08** 07:13:09.8±0.6, 36.°65S×73.°57W, h10km±3km, ML4.7*

ISC 08 07:13:05.6±2.2**, 36.°66S**±0.°03×**73.°68W**±0.°06**, h1**km±13km**, n90,** σ**1.s54**/104**, mb4.5**/12**, 3C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.41**	**103**		**Pb**	**07 13 15.7**	**+0.2**
BI05				Sg	**Sb**	**07 13 20.0**	**-2.2**
BI05	**Punta Hualpn**	**0.41**	**103**	⇓*i*P	**Pb**	**07 13 16.0**	**+0.4**
BI05				*i* S	**Sb**	**07 13 20.7**	**-1.5**
BI05				IAML		07 13 21.1	
	comp=N,133μm,0.3s						
CCSP	**San Pedro de C**	**0.50**	**112**	⇓*i*P	**Pb**	**07 13 17.5**	**+0.4**
CCSP				*i* S	**Sb**	**07 13 23.1**	**-1.8**
CCSP				IAML		07 13 24.4	
	comp=E,96μm,0.3s						
ML02	**Panimavida**	**2.04**	**65**	Pn	**Pn**	**07 13 41.1**	**+0.1**
ML02	**Panimavida**	**2.04**	**65**	*i* P	**Pn**	**07 13 42.1**	**+1.0**
ML02				*i* S	**Sb**	**07 14 07.0**	**-2.2**
LC02	**Puerto Saavedr**	**2.14**	**174**		**Pn**	**07 13 43.1**	**+0.6**
LC02	**Puerto Saavedr**	**2.14**	**174**	*e*P	**Pn**	**07 13 43.8**	**+1.4**
LC02				*i* S	**Sb**	**07 14 12.4**	**+0.2**
LC02				IAML		07 14 24.1	
	comp=E,10μm,0.4s						
GO05	**Huala**	**2.17**	**41**	⇑*i*P	**Pn**	**07 13 42.8**	**-0.2**
GO05				*i* S	**Sb**	**07 14 12.0**	**-1.2**
GO05	**Huala**	**2.17**	**41**	*i* P	**Pn**	**07 13 43.0**	**0.0**
GO05				⇓*e*S	**Sg**	**07 14 16.8**	**+1.2**
CANA	**Caviahue**	**2.42**	**121**	*i* P	**Pn**	**07 13 48.0**	**+1.5**
CANA				*i* P	**Pb**	**07 13 48.1**	**-2.0**
CANA				*e*S	**Sg**	**07 14 23.0**	**-0.5**
BO03	**Pichilemu**	**2.57**	**34**	⇑*i*P	**Pn**	**07 13 47.2**	**-1.1**
BO03				*i* S	**Sb**	**07 14 22.4**	**-2.3**
BO02	**Sierra Bellavi**	**3.00**	**53**	*e*P	**Pn**	**07 13 54.7**	**+0.3**
BO02				*i* S	**Sn**	**07 14 32.8**	**+1.7**
BO02				IAML		07 14 40.5	
	comp=N,3μm,0.5s						
BO02	**Sierra Bellavi**	**3.00**	**53**	*i* P	**Pn**	**07 13 54.3**	**-0.1**
BO02				*i* S	**Sb**	**07 14 36.8**	**-0.4**
BO02				IAML		07 14 40.8	
	comp=Z,2μm,0.9s						
BO01	**Tunca**	**3.10**	**44**	⇓*i*P	**Pn**	**07 13 56.0**	**+0.4**
BO01				*i* S	**Sn**	**07 14 34.8**	**+1.6**
BO01	**Tunca**	**3.10**	**44**	*i* P	**Pn**	**07 13 56.0**	**+0.4**
BO01				IAML		07 14 44.9	
	comp=Z,780nm,0.6s						
LR03	**Panguipulli**	**3.15**	**161**	*e*P	**Pn**	**07 13 57.6**	**+1.2**
LR03				*i* S	**Sn**	**07 14 37.5**	**+2.9**
LR03				IAML		07 14 48.2	
	comp=E,5μm,0.7s						
LR04	**Corral**	**3.22**	**176**		**Pn**	**07 13 57.8**	**+0.4**
LR04	**Corral**	**3.22**	**176**	*e*P	**Pn**	**07 13 57.7**	**+0.4**
LR04				*i* S	**Sn**	**07 14 30.6**	**-5.7**
LR04				IAML		07 14 36.2	
	comp=E,1μm,0.2s						
GO06	**Curarrehue**	**3.40**	**150**	⇑*i*P	**Pn**	**07 14 01.2**	**+1.3**
GO06				*i* S	**Sn**	**07 14 43.0**	**+2.1**
GO06				IAML		07 15 00.4	
	comp=N,473nm,0.7s						
GO06	**Curarrehue**	**3.40**	**150**	*i* P	**Pn**	**07 14 01.0**	**+1.1**
MT01	**Popeta**	**3.42**	**36**	⇓*i*P	**Pn**	**07 13 59.6**	**-0.5**
MT01				*i* S	**Sb**	**07 14 50.6**	**+1.4**
MT01				IAML		07 15 00.1	
	comp=E,771nm,0.3s						
MT01	**Popeta**	**3.42**	**36**	*i* P	**Pn**	**07 13 59.0**	**-1.1**
MT01				*e*S	**Sg**	**07 14 55.4**	**-0.2**
MT01				IAML		07 15 04.0	
	comp=Z,626nm,0.8s						
VA05	**Santo Domingo**	**3.44**	**30**		**Pn**	**07 13 59.6**	**-0.8**
VA05	**Santo Domingo**	**3.44**	**30**	*e*P	**Pn**	**07 13 59.5**	**-0.8**
VA05				*i* S	**Sn**	**07 14 42.7**	**+1.0**
VA05				IAML		07 15 06.0	
	comp=E,2μm,0.5s						
MT02	**Curacav**	**3.98**	**32**	*i* P	**Pn**	**07 14 07.0**	**-0.8**
MT02				IAML		07 15 19.3	
	comp=Z,543nm,0.8s						
VA01	**Torpederas**	**3.99**	**25**	*i* P	**Pn**	**07 14 07.0**	**-0.9**
VA01				IAML		07 15 19.8	
	comp=Z,249nm,0.8s						
LMEL	**Las Melosas**	**4.00**	**46**	Pn	**Pn**	**07 14 08.4**	**+0.3**
LMEL	**Las Melosas**	**4.00**	**46**	⇓*i*P	**Pn**	**07 14 08.9**	**+0.8**
LMEL				*i* S	**Sb**	**07 15 07.0**	**+1.2**
LMEL				IAML		07 15 16.3	
	comp=E,922nm,0.4s						
MT05	**Renca**	**4.06**	**37**	*i* P	**Pn**	**07 14 09.0**	**+0.1**
MT05				*e*S	**Sg**	**07 15 17.9**	**+2.0**
MT03	**Universidad Ad**	**4.09**	**40**	*i* P	**Pn**	**07 14 09.0**	**-0.4**
MT03				*e*S	**Sg**	**07 15 15.6**	**-1.5**
ROC1	**El Roble**	**4.28**	**32**	Pn	**Pn**	**07 14 11.7**	**-0.3**
ROC1	**El Roble**	**4.28**	**32**	*i* P	**Pn**	**07 14 11.0**	**-1.1**
PEL	**Peldehue**	**4.28**	**36**	*i* P	**Pn**	**07 14 12.0**	**0.0**
VA06	**Catapilco**	**4.54**	**26**		**Pn**	**07 14 14.6**	**-0.8**
VA03	**San Esteban**	**4.66**	**34**	*i* P	**Pn**	**07 14 17.0**	**-0.2**
LL05	**Los Muermos**	**4.74**	**178**	Pn	**Pn**	**07 14 19.4**	**+1.1**
PLCA	**Paso Flores**	**4.75**	**150**	Pn	**Pn**	**07 14 20.3**	**+1.9**
	comp=E,1.9nm,0.3s,baz=191,slow=18,SNR=1.7						
PLCA				Lg	Lg	07 15 28.2	
	comp=E,5.8nm,0.3s,baz=310,slow=11,SNR=1.5						
	comp=E,10nm,0.6s						
PLCA	**Paso Flores**	**4.75**	**150**	Pn	**Pn**	**07 14 19.5**	**+1.1**
H03S1	**Juan Fernandez**	**5.11**	**302**	T	T	07 19 54.6	
	baz=122,slow=75,SNR=2493						
H03S3	**Juan Fernandez**	**5.13**	**302**	T	T	07 19 46.1	
	baz=122,slow=75,SNR=2357						
H03S2	**Juan Fernandez**	**5.13**	**302**	T	T	07 19 54.7	
	baz=122,slow=75,SNR=2511						
AAGR	**Agrelo**	**5.35**	**50**	*i* P	**Pn**	**07 14 28.0**	**+1.3**
AAGR				IAML		07 16 40.6	
	comp=Z,131nm,2.3s						
H03N3	**Juan Fernandez**	**5.36**	**305**	T	T	07 20 19.0	
	baz=123,slow=72,SNR=44						
H03N1	**Juan Fernandez**	**5.36**	**305**	T	T	07 20 13.9	
	baz=123,slow=72,SNR=30						
H03N2	**Juan Fernandez**	**5.37**	**305**	T	T	07 20 17.6	
	baz=123,slow=72,SNR=27						
CO02	**Combarbal**	**5.88**	**23**	Pn	**Pn**	**07 14 33.2**	**-0.7**
CO03	**El Pedregal**	**6.32**	**24**	Pn	**Pn**	**07 14 39.4**	**-0.5**
CO01	**Juntas del Tor**	**7.31**	**25**	Pn	**Pn**	**07 14 53.5**	**-0.2**
LCO	**Las Campanas**	**8.03**	**19**	Pn	**Pn**	**07 15 02.6**	**-1.0**
TRQA	**Tornquist**	**9.42**	**102**	*e*P	**Pn**	**07 15 22.8**	**+0.3**
AC02	**Maricunga**	**10.53**	**23**	Pn	**Pn**	**07 15 36.6**	**-1.5**
LVC	**Limon Verde**	**14.60**	**18**	Pn	**Pn**	**07 16 34.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=170,slow=11,SNR=1.0						
	comp=Z,18nm,1.1s						
CPUP	**Villa Florida**	**17.31**	**58**	P	**P**	**07 17 10.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=222,slow=12,SNR=2.1						
	comp=Z,6.0nm,0.9s						
CPSB	**Cacapava Do Su**	**17.98**	**76**	*e*P	**P**	**07 17 21.6**	**+4.2**
CNLB	**Canela**	**20.47**	**76**	*e*P	**P**	**07 17 43.2**	**-1.6**
ITAB	**Concordia**	**20.52**	**69**	P	**P**	**07 17 44.4**	**-0.9**
ITAB				IAmb	IAmb	07 17 46.1	
	comp=Z,31nm,0.9s						
LPAZ	**La Paz**	**20.88**	**15**	P	**P**	**07 17 51.7**	**+1.8**
	comp=Z,1.5nm,0.5s,baz=358,slow=20,SNR=3.1						
	comp=Z,1.5nm,0.5s						
LPAZ	**La Paz**	**20.88**	**15**	P	**P**	**07 17 51.1**	**+1.3**
LPAZ	**La Paz**	**20.88**	**15**	*e*P	Pn	07 17 54.6	+2.3
PTGB	**Pitanga**	**22.02**	**63**	*e*P	**P**	**07 18 00.5**	**-1.0**
TER01	**Tubaro-SC**	**22.17**	**76**	*e*P	**P**	**07 17 57.7**	**-5.4**
AQDB	**Aquidauana**	**22.51**	**49**	P	**P**	**07 18 06.1**	**-0.6**
AQDB				IAmb	IAmb	07 18 20.7	
	comp=Z,20nm,1.2s						
SIV	**San Ignacio**	**23.44**	**32**	P	**P**	**07 18 15.8**	**-0.6**
	comp=Z,5.3nm,0.9s,baz=230,slow=7.1,SNR=8.2						
	comp=Z,5.3nm,0.9s						
TIJ01	**Guaruva-PR**	**23.91**	**69**	*e*P	**P**	**07 18 16.4**	**-4.7**
PCMB	**Pacaembu**	**24.58**	**59**	*e*P	**P**	**07 18 26.6**	**-0.7**
PTLB	**Pontes e Lacer**	**24.78**	**35**	P	**P**	**07 18 29.3**	**+0.3**
PTLB				IAmb	IAmb	07 18 49.1	
	comp=Z,9.9nm,1.4s						
PTLB	**Pontes e Lacer**	**24.78**	**35**	*e*P	**P**	**07 18 31.9**	**+3.0**
ITRB	**Iturama**	**26.50**	**57**	*e*P	**P**	**07 18 43.4**	**-1.2**
ETMB	**Extrema**	**27.57**	**16**	P	**P**	**07 18 55.0**	**+0.8**
ETMB				IAmb	IAmb	07 18 55.7	
	comp=Z,12nm,0.7s						
ETMB	**Extrema**	**27.57**	**16**	*e*P	**P**	**07 18 54.6**	**+0.4**
ARAG	**Araguaiana, MT**	**28.52**	**49**	*e*P	**P**	**07 19 03.7**	**+1.0**
CZSB	**Cruzeiro do Su**	**28.81**	**2**	*e*P	P	07 18 59.0	-6.3
JANB	**Januaria**	**33.85**	**58**	*e*P	**P**	**07 19 46.9**	**-2.9**
MACA	**Manacapuru-AM**	**35.42**	**23**		**P**	**07 20 02.9**	**-0.4**
MACA				IAmb	IAmb	07 20 04.1	
	comp=Z,7.1nm,0.6s						
SMTB	**Santa Maria do**	**36.42**	**47**	*e*P	**P**	**07 20 10.5**	**-1.5**
BAUV	**El Baul**	**45.67**	**8**	P	**P**	**07 21 28.3**	**+0.3**
URIC	**Uribia, Colomb**	**48.13**	**2**	P	**P**	**07 21 45.8**	**-1.4**
URIC				IAmb	IAmb	07 21 53.8	
	comp=Z,6.0nm,1.1s						
SNAA	**Sanae**	**49.65**	**157**	P	**P**	**07 21 59.1**	**+0.7**
	comp=Z,3.2nm,1.0s,baz=285,slow=6.7,SNR=4.8						
	comp=Z,3.2nm,1.0s						
SNAA	**Sanae**	**49.65**	**157**	P	**P**	**07 21 59.5**	**+1.1**
QSPA	**South Pole Qui**	**53.58**	**180**	P	**P**	**07 22 29.1**	**+1.1**
	baz=152,slow=5.7						
QSPA	**South Pole Qui**	**53.58**	**180**	P	**P**	**07 22 29.8**	**+1.8**
QSPA				IAmb	IAmb	07 22 31.7	
	comp=Z,6.1nm,1.1s						
CELP	**Cerrillos**	**54.85**	**8**	P	**P**	**07 22 37.5**	**+0.1**
GOGA	**Godfrey**	**70.31**	**351**	P	**P**	**07 24 21.0**	**+0.5**
TXAR	**Lajitas Array**	**71.43**	**333**	P	**P**	**07 24 28.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=148,slow=9.5,SNR=5.2						
	comp=Z,0.6nm,0.8s						
TXAR	**Lajitas Array**	**71.43**	**333**	P	**P**	**07 24 28.2**	**+0.6**
SWET	**Sewanee**	**72.41**	**349**	P	**P**	**07 24 33.9**	**+0.7**
SWET				IAmb	IAmb	07 24 51.3	
	comp=Z,7.2nm,1.0s						
BOSA	**Boshof**	**80.02**	**118**	P	**P**	**07 25 17.4**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=287,slow=5.8,SNR=3.1						
	comp=Z,3.3nm,0.9s						
TOA0	**Torodi Ar. Sit**	**86.36**	**71**	P	**P**	**07 25 48.2**	**-1.6**
TOA0				IAmb	IAmb	07 25 48.9	
	comp=Z,4.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**86.36**	**71**	P	**P**	**07 25 49.1**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=218,slow=5.7,SNR=5.5						
	comp=Z,1.4nm,0.7s						
WRA	**Warramunga Arr**	**117.79**	**210**	PKP	**PKPdf**	**07 31 53.5**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=163,slow=1.7,SNR=1.6						

---

*BJI **08** 07:32:11.0±0.0, 51.°80N×179.°40W, h20km, mb5.3/64, mB5.3/30, Ms4.7/7, Ms7 4.5/7*

*AEIC **08** 07:32:19.5±2.4, 51.°7N±0.°1×178.°78W±0.°08, h99km±4km, Error ellipse: s-maj=15.9km s-min=6.4km az=171.0*

*GCMT **08** 07:32:20.5±0.2, 51.°94N±0.°02×178.°74W±0.°03, h99km±4km, MW5.0/117, Moment Tensor Solution. s21,c22; s117,c160; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.35±.16; $M_{\theta\theta}$0.93±.20; $M_{\phi\phi}$-0.57±.17; $M_{r\theta}$-3.12±.09; $M_{\theta\phi}$-2.61±.14; $M_{\phi r}$-1.16±.08; Best double couple: $M_0$4.26800×10^{16} NP1:ϕ_s81.00000°, δ86.00000°, λ-130.00000°. NP2:ϕ_s347.00000°, δ40.00000°, λ-6.00000°. Principal axes: T 3.9380, Plg29.0000°, Azm203.0000°; N 0.6610, Plg40.0000°, Azm84.0000°; P -4.5990, Plg36.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **08** 07:32:20.5±1.0, 52.°05N×178.°86W, h113km, mb4.9/25 Error ellipse: s-maj=9.0km s-min=7.3km az=102.1*

*NEIC **08** 07:32:20.5±2.5, 51.°9N±0.°1×178.°86W±0.°08, h95km±5km, mb5.0/65, ML4.7(AEIC), Error ellipse: s-maj=15.4km s-min=6.5km az=169.0*

*IDC **08** 07:32:20.1±0.4, 51.°96N×178.°85W, h101km±3km, mb4.3/31, mbtmp4.7/36, MS3.8/35, Error ellipse: s-maj=10.5km s-min=7.3km az=172.0*

ISC 08 07:32:19.7±0.4**, 51.°80N**±0.°06×**178.°81W**±0.°03**, h99**km±2km**, h98**km**:pP-P, n606,** σ**1.s36**/628**, mb4.9**/109**, 12C-13D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**1.03**	**86**	Pn	**Pn**	**07 32 40.8**	**+0.4**
AMKA	**Amchitka**	**1.25**	**251**	Pn	**Pn**	**07 32 43.5**	**+0.7**
ADK	**Adak**	**1.32**	**85**	Pn	**Pn**	**07 32 43.9**	**+0.2**
ADK	**Adak**	**1.32**	**85**	P	**Pn**	**07 32 44.0**	**+0.3**
ADK	**Adak**	**1.32**	**85**	P	**Pn**	**07 32 43.9**	**+0.2**
GSTR	**Great Sitkin T**	**1.73**	**79**	Pn	**Pn**	**07 32 49.4**	**+0.6**
SHEM	**Shemya Is, Ala**	**4.45**	**285**	P	**Pn**	**07 33 25.6**	**+0.7**
	926nm,0.6s,baz=49,slow=5.2,SNR=51						
SHEM				S	**Sn**	**07 34 17.3**	**+1.7**
	229nm,0.6s,baz=274,slow=19,SNR=1.7						
SHEM				LR	LR	07 34 24.3	
	comp=Z,340nm,20.1s,baz=113,slow=28						
SMY	**Shemya**	**4.45**	**285**	Pn	**Pn**	**07 33 25.5**	**+0.6**
SMY	**Shemya**	**4.45**	**285**	P	**Pn**	**07 33 25.5**	**+0.6**
NIKH	**Nikolski High**	**6.21**	**75**		**Pn**	**07 33 49.9**	**+1.1**
NIKH	**Nikolski High**	**6.21**	**75**	P	**Pn**	**07 33 50.2**	**+1.5**
	baz=262						
NIKH	**Nikolski High**	**6.21**	**75**	P	**Pn**	**07 33 50.4**	**+1.6**
SPIA	**Saint Paul Isl**	**7.34**	**39**	Pn	**Pn**	**07 34 06.2**	**+2.1**
SPIA	**Saint Paul Isl**	**7.34**	**39**	P	**Pn**	**07 34 05.4**	**+1.3**
	baz=226,SNR=6.5						
SPIA	**Saint Paul Isl**	**7.34**	**39**	P	**Pn**	**07 34 06.2**	**+2.1**
UNV	**Unalaska Valle**	**7.74**	**70**		**Pn**	**07 34 10.9**	**+1.5**
UNV	**Unalaska Valle**	**7.74**	**70**	P	**Pn**	**07 34 11.6**	**+2.1**
	baz=259,SNR=7.4						
UNV	**Unalaska Valle**	**7.74**	**70**	P	**Pn**	**07 34 08.7**	**-0.8**
AKUT	**Akutan**	**8.21**	**68**	Pn	**Pn**	**07 34 18.3**	**+2.3**
FALS	**False Pass**	**9.71**	**66**	Pn	**Pn**	**07 34 38.9**	**+2.7**
FALS	**False Pass**	**9.71**	**66**	P	**Pn**	**07 34 38.3**	**+2.1**
	baz=258						
FALS	**False Pass**	**9.71**	**66**	P	**Pn**	**07 34 39.3**	**+3.1**
SDPT	**Sand Point**	**11.46**	**65**	Pn	**Pn**	**07 34 59.3**	**-0.7**
SDPT	**Sand Point**	**11.46**	**65**	P	**Pn**	**07 34 58.7**	**-1.3**
	baz=259						
CNBA	**Chernabura Isl**	**11.89**	**68**	Pn	**Pn**	**07 35 03.8**	**-1.9**
CHNA	**Chernabura Isl**	**11.89**	**68**	P	**Pn**	**07 35 04.4**	**-1.3**
	baz=263						
CHGN	**Chignik**	**12.79**	**61**	Pn	**Pn**	**07 35 16.6**	**-1.0**
CHGN	**Chignik**	**12.79**	**61**	P	**Pn**	**07 35 15.9**	**-1.7**
	baz=258						
P16K	**Nushagak River**	**13.83**	**50**	P	**Pn**	**07 35 32.1**	**+1.0**
	baz=247						
O16K	**Kokwok River B**	**14.01**	**48**	P	**P**	**07 35 36.6**	**-1.6**
	baz=245						
N16K	**Nishlik Lake**	**14.10**	**44**	P	**Pn**	**07 35 36.9**	**+2.1**
	baz=241						
CHIR	**Chirikof Islan**	**14.26**	**64**	P	**Pn**	**07 35 35.3**	**-1.4**
	baz=263						
Q16K	**King Salmon**	**14.35**	**53**	P	**P**	**07 35 40.6**	**-1.4**
	baz=251						
PEA0B	**Petropavlovsk-**	**14.37**	**284**		**Pn**	**07 35 39.6**	**+1.4**
PEA0B	**Petropavlovsk-**	**14.37**	**284**	P	**Pn**	**07 35 39.6**	**+1.4**
PETK	**Petropavlovsk-**	**14.37**	**284**	P	**Pn**	**07 35 39.2**	**+1.0**
	19nm,0.8s,baz=98,slow=12,SNR=13						
PETK				S	**Sn**	**07 38 15.0**	**-1.3**
	4.9nm,0.8s,baz=90,slow=28,SNR=2.1						
PETK				PcP	**PcP**	**07 40 47.5**	**+0.4**
	6.6nm,0.9s,baz=243,slow=8.2,SNR=4.2						
PETK				LR	LR	07 41 26.4	
	comp=Z,175nm,18.6s,baz=95,slow=38						
O17K	**Koliganek Bris**	**14.54**	**48**	P	**P**	**07 35 44.1**	**0.0**
	baz=246						
Q17K	**Contact Creek**	**14.61**	**55**	P	**Pn**	**07 35 40.3**	**-1.1**
	baz=253						
P17K	**Kvichak River**	**14.63**	**51**	P	**P**	**07 35 45.0**	**-0.1**
	baz=249						
TNA	**Tin City**	**14.88**	**18**	P	**P**	**07 35 48.2**	**+0.3**
	baz=207						
SII	**Sitkinak Islan**	**15.15**	**62**		**Pn**	**07 35 46.9**	**-1.2**
SII	**Sitkinak Islan**	**15.15**	**62**	P	**Pn**	**07 35 47.0**	**-1.2**
	baz=262						
Q18K	**Katmai Hardscr**	**15.16**	**54**	P	**Pn**	**07 35 49.3**	**+1.0**
	baz=253						
P18K	**Big Mountain,**	**15.28**	**51**	P	**P**	**07 35 52.2**	**-0.2**
	baz=250						
O18K	**Koktuh Hills**	**15.45**	**49**	P	**P**	**07 35 56.1**	**+1.8**
O18K	**Koktuh Hills**	**15.45**	**49**	P	**P**	**07 35 55.0**	**+0.7**
	baz=249,SNR=6.0						
N18K	**Kilae Creek**	**15.46**	**46**	P	**P**	**07 35 54.6**	**+0.2**
	baz=245						
OHAK	**Old Harbor**	**15.73**	**60**	P	**Pn**	**07 35 52.9**	**-2.5**
	baz=260						
Q19K	**Cape Douglas,**	**15.92**	**54**	P	**Pn**	**07 35 58.3**	**+0.5**
Q19K	**Cape Douglas,**	**15.92**	**54**	P	**Pn**	**07 35 58.5**	**+0.7**
	baz=254						
O19K	**Port Alsworth**	**15.99**	**49**	P	**Pn**	**07 35 57.5**	**-1.1**
	baz=249						
N19K	**Bonanza Creek**	**16.15**	**47**	P	**P**	**07 36 03.5**	**+1.4**
N19K	**Bonanza Creek**	**16.15**	**47**	P	**Pn**	**07 36 00.7**	**0.0**
	baz=247						
KDAK	**Kodiak Island**	**16.21**	**58**	P	**Pn**	**07 35 59.2**	**-2.1**
	24nm,0.3s,baz=265,slow=7.2,SNR=74						
KDAK				S	**Sn**	**07 38 53.0**	**-7.5**
	17nm,0.9s,baz=343,slow=13,SNR=2.2						
KDAK				LR	LR	07 42 58.1	
	comp=Z,260nm,19.4s,baz=270,slow=40						
KDAK	**Kodiak Island**	**16.21**	**58**	Pn	**Pn**	**07 35 59.8**	**-1.5**
KDAK	**Kodiak Island**	**16.21**	**58**	P	**Pn**	**07 36 00.3**	**-1.0**
	baz=259						
KDAK	**Kodiak Island**	**16.21**	**58**	P	**Pn**	**07 35 59.8**	**-1.5**
Q20K	**Shuyak Island**	**16.47**	**55**	P	**Pn**	**07 36 04.8**	**+0.2**
	baz=257						
TTA	**Tatalina**	**16.49**	**39**	P	**P**	**07 36 06.4**	**+0.5**
	baz=238,SNR=7.7						
L19K	**White Mountain**	**16.58**	**42**	P	**P**	**07 36 08.6**	**+1.8**
	baz=242						
M19K	**Big River Lodg**	**16.65**	**43**	P	**P**	**07 36 09.9**	**+2.4**
M19K	**Big River Lodg**	**16.65**	**43**	P	**P**	**07 36 09.6**	**+2.1**
	baz=243						
O20K	**Slope Mountain**	**16.75**	**50**	P	**P**	**07 36 09.8**	**+1.0**
	baz=252						
RSO	**Redoubt South**	**16.82**	**49**	P	**P**	**07 36 11.2**	**+1.7**
L20K	**Farewell, AK**	**17.12**	**42**	P	**P**	**07 36 14.7**	**+2.0**
	baz=243						
M20K	**Styx River**	**17.18**	**44**	P	**P**	**07 36 15.2**	**+1.8**
M20K	**Styx River**	**17.18**	**44**	P	**P**	**07 36 14.5**	**+1.1**
	baz=245						
GCSA	**Galena City Sc**	**17.23**	**33**	P	**P**	**07 36 16.0**	**+2.2**
	baz=231,SNR=16						
N20K	**Mount Spurr**	**17.32**	**47**	P	**Pn**	**07 36 17.3**	**+2.3**
	baz=249,SNR=12						
SPCR	**Spurr Chakacha**	**17.32**	**47**	P	**Pn**	**07 36 17.3**	**+2.3**
	baz=249,SNR=9.8						
SPU	**Mount Spurr**	**17.39**	**47**	P	**Pn**	**07 36 17.7**	**+1.9**
K20K	**Telida**	**17.47**	**39**	P	**Pn**	**07 36 18.1**	**+1.4**
K20K	**Telida**	**17.47**	**39**	P	**P**	**07 36 16.3**	**-0.2**
	baz=240						
BRLK	**Bradley Lake**	**17.50**	**52**	P	**Pn**	**07 36 18.5**	**+1.2**
BRSE	**Bradley Lake S**	**17.57**	**52**	P	**Pn**	**07 36 18.5**	**+0.5**
	baz=255						
BILL	**Bilibino**	**17.83**	**342***c*	*i*P	**Pn**	**07 36 22.2**	**+1.1**
BILL				pmax	pmax		
	comp=Z,154nm,0.8s						
BILL				MLR	MLR		
	comp=Z,222nm,15.0s						
J20K	**Nowinta River**	**17.86**	**37**		**Pn**	**07 36 22.8**	**+1.3**
J20K	**Nowinta River**	**17.86**	**37**	P	**Pn**	**07 36 22.9**	**+1.4**
	baz=237						
SKT	**Skwentna**	**17.91**	**45**	P	**Pn**	**07 36 23.8**	**+1.7**
SKT	**Skwentna**	**17.91**	**45**	P	**Pn**	**07 36 23.8**	**+1.7**
	baz=248,SNR=18						
PPLA	**Purkeypile**	**18.01**	**42**	P	**Pn**	**07 36 26.0**	**+2.6**
PPLA	**Purkeypile**	**18.01**	**42**	P	**Pn**	**07 36 25.6**	**+2.2**
	baz=244						
SUA	**Susitna One**	**18.07**	**47**	P	**Pn**	**07 36 24.6**	**+0.4**
SUA	**Susitna One**	**18.07**	**47**	P	**Pn**	**07 36 24.0**	**-0.2**
	baz=250						
O22K	**Cooper Landing**	**18.25**	**50**	P	**Pn**	**07 36 27.7**	**+1.6**
O22K	**Cooper Landing**	**18.25**	**50**	P	**Pn**	**07 36 25.8**	**-0.4**
	baz=254						
CAST	**Castle Rocks**	**18.28**	**40**	P	**Pn**	**07 36 27.8**	**+1.2**
CAST	**Castle Rocks**	**18.28**	**40**	P	**Pn**	**07 36 28.6**	**+2.1**
	baz=243,SNR=16						
SEW	**Seward**	**18.29**	**52**	P	**Pn**	**07 36 27.0**	**+0.4**
	baz=256						
CHUM	**Lake Minchumin**	**18.41**	**39**	P	**Pn**	**07 36 29.3**	**+1.3**
	baz=241,SNR=11						
RC01	**Rabbit Creek A**	**18.42**	**48**	P	**Pn**	**07 36 29.7**	**+1.5**
	baz=253						
M22K	**Willow**	**18.45**	**46**	P	**Pn**	**07 36 28.4**	**-0.2**
M22K	**Willow**	**18.45**	**46**	P	**Pn**	**07 36 28.7**	**+0.1**
	baz=250						
CUT	**Chulitna**	**18.62**	**44**	P	**Pn**	**07 36 30.0**	**-0.5**
CUT	**Chulitna**	**18.62**	**44**	P	**Pn**	**07 36 30.1**	**-0.5**
	baz=248						
MA2	**Magadan**	**18.69**	**306**	P	**Pn**	**07 36 30.8**	**-0.6**
	comp=Z,14nm,0.7s,baz=118,slow=10.0,SNR=4.1						
KTH	**Kantishna Hill**	**18.81**	**41**	P	**Pn**	**07 36 33.1**	**+0.2**
PMR	**Palmer**	**18.85**	**47**	P	**Pn**	**07 36 34.2**	**+1.0**
	baz=252						
SEY	**Seymchan**	**18.93**	**317**	P	**P**	**07 36 33.0**	**+0.5**
	comp=Z,140nm,1.0s,baz=114,slow=11,SNR=84						
SEY				PcP	**PcP**	**07 40 52.6**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=223,slow=22,SNR=2.2						
GHO	**Glory Hole Cre**	**19.00**	**47**	P	**P**	**07 36 33.7**	**+0.3**
PWL	**Port Wells**	**19.01**	**50**	P	**Pn**	**07 36 36.2**	**+1.0**
PWL	**Port Wells**	**19.01**	**50**	P	**Pn**	**07 36 35.2**	**0.0**
	baz=255						
TRF	**Thorofare Moun**	**19.02**	**41**	P	**Pn**	**07 36 35.0**	**-0.5**
TRF	**Thorofare Moun**	**19.02**	**41**	P	**Pn**	**07 36 36.5**	**+1.1**
	baz=245,SNR=5.5						
IMAR	**Indian Mountai**	**19.02**	**32**	P	**Pn**	**07 36 34.4**	**-0.9**
BPAW	**Bear Paw Mtn.**	**19.03**	**39**	P	**Pn**	**07 36 35.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**19.03**	**39**	P	**Pn**	**07 36 35.7**	**+0.4**
	baz=243,SNR=7.9						
KNK	**Knik Glacier**	**19.10**	**48**	P	**P**	**07 36 33.5**	**-1.0**
KNK	**Knik Glacier**	**19.10**	**48**	P	**P**	**07 36 34.0**	**-0.4**
	baz=253						
H21K	**Melozitna Rive**	**19.16**	**34**	P	**Pn**	**07 36 36.8**	**0.0**
	baz=236						
I21K	**Tanana**	**19.19**	**35**	P	**Pn**	**07 36 36.7**	**-0.5**
I21K	**Tanana**	**19.19**	**35**	P	**Pn**	**07 36 37.0**	**-0.2**

baz=238
SML Sawmill 19.28 47 P P 07 36 35.8 -0.6
SML Sawmill 19.28 47 P P 07 36 36.5 +0.1
baz=252
G21K Allakaket 19.42 31 P Pn 07 36 39.7 -0.3
baz=233
WAT1 Susitna Watana 19.51 44 P P 07 36 39.4 +0.5
baz=249
M23K Glacier View 19.55 47 P P 07 36 39.6 +0.4
baz=253
MLY Manley 19.57 37 P Pn 07 36 40.9 -0.8
MLY Manley 19.57 37 P Pn 07 36 41.0 -0.7
baz=241,SNR=14
RND Reindeer 19.60 42 P Pn 07 36 41.2 -0.9
RND Reindeer 19.60 42 P Pn 07 36 41.2 -0.9
BWN Browne 19.66 40 P Pn 07 36 42.5 -0.2
MCK McKinley 19.69 41 P P 07 36 41.8 +1.0
MCK McKinley 19.69 41 P P 07 36 40.8 0.0
baz=246
MCK McKinley 19.69 41 P P 07 36 41.8 +1.0
SCM Sheep Creek Mo 19.74 47 P P 07 36 41.5 +0.1
SCM Sheep Creek Mo 19.74 47 P P 07 36 41.4 0.0
baz=254,SNR=6.0
SCM Sheep Creek Mo 19.74 47 P P 07 36 41.5 +0.1
H22K Ishtalitna Cre 19.78 34 P Pn 07 36 44.2 +0.1
baz=238,SNR=18
WAT6 Susitna Watana 19.78 45 P P 07 36 42.0 0.0
baz=251,SNR=27
F21K Alatna River 19.86 29 P P 07 36 43.6 +1.0
baz=231
NEA2 Nenana 20.00 39 P P 07 36 45.1 +1.1
NEA2 Nenana 20.00 39 P P 07 36 45.2 +1.1
baz=244,SNR=78
DHY Denali Highway 20.10 44 P P 07 36 45.9 +0.5
DHY Denali Highway 20.10 44 P P 07 36 46.0 +0.6
baz=250,SNR=24
I23K Minto, Yukon-K 20.13 37 P P 07 36 46.7 +1.2
I23K Minto, Yukon-K 20.13 37 P Pn 07 36 47.7 -0.5
baz=242,SNR=6.0
KLU Klutina 20.30 49 P P 07 36 47.4 0.0
KLU Klutina 20.30 49 P P 07 36 46.8 -0.6
baz=256
G22K Bettles 20.31 31 P P 07 36 47.5 +0.1
baz=235
M24K Tolsona, Glenn 20.34 47 P P 07 36 48.8 +1.0
M24K Tolsona, Glenn 20.34 47 P P 07 36 48.2 +0.3
baz=254
H23K Yukon River 20.39 35 P P 07 36 48.7 +0.4
baz=240
F22K John River 20.44 30 P P 07 36 49.1 +0.2
baz=233,SNR=12
MDM Murphy Dome 20.48 38 P P 07 36 49.8 +0.5
CCB Clear Creek Bu 20.51 39 P P 07 36 49.8 +0.2
TCOL CIGO, UAF Yank 20.59 39 P Pn 07 36 52.3 -1.2
baz=245,SNR=12
COLA College 20.59 39 P Pn 07 36 52.0 -1.5
baz=245
COLA College 20.59 39 P Pn 07 36 52.2 -1.3
COLA College 20.59 39 *i*P P 07 36 48.5 -1.9
G23K Bananza Creek 20.68 33 P Pn 07 36 53.5 -1.1
baz=238
HDA Harding Lake 20.76 40 P P 07 36 53.5 +1.3
HDA Harding Lake 20.76 40 P Pn 07 36 54.0 -1.6
baz=248
BMRM Bremner River 20.81 51 P Pn 07 36 55.9 -0.4
BMRM Bremner River 20.81 51 P Pn 07 36 55.2 -1.1
baz=259,SNR=6.2
POKR Poker Plat Res 20.85 38 P P 07 36 54.8 +1.5
POKR Poker Plat Res 20.85 38 P P 07 36 54.3 +1.0
baz=245,SNR=8.6
HARP HAARP 20.88 46 P P 07 36 55.0 +1.4
baz=255
PAX Paxson 20.90 45 P P 07 36 54.5 +0.7
PAX Paxson 20.90 45 P P 07 36 54.9 +1.1
baz=253,SNR=10
PAX Paxson 20.90 45 P P 07 36 54.5 +0.7
COLD Coldfoot 20.90 32 P P 07 36 54.5 +0.8
COLD Coldfoot 20.90 32 P Pn 07 36 55.7 -1.5
baz=236
IL31 20.93 39 P P 07 36 53.6 -0.4
ILAR Eielson Array 20.93 39 P P 07 36 53.3 -0.7
comp=Z,7.2nm,0.9s,baz=236,slow=8.9,SNR=31
ILAR PcP PcP 07 40 56.0 -1.5
comp=Z,1.6nm,0.8s,baz=292,slow=2.9,SNR=5.5
ILAR pPcP 07 41 25.1
baz=258,slow=3.2,SNR=5.4
ILAR ScP ScP 07 44 22.5 -2.5
comp=Z,5.1nm,1.0s,baz=280,slow=3.3,SNR=14
ILAR LR LR 07 45 53.4
comp=Z,221nm,18.9s,baz=216,slow=39
comp=Z,7.2nm,0.9s
ILAR Eielson Array 20.93 39 P P 07 36 54.9 +0.8
E22K Anaktuvuk Pass 20.93 28 P P 07 36 55.0 +0.8
baz=232
N25K Chitina, Valde 20.95 49 P P 07 36 54.2 -0.2
N25K Chitina, Valde 20.95 49 P P 07 36 55.7 +1.4
baz=258
H24K Noodor Dome 21.00 36 P P 07 36 56.0 +1.0
H24K Noodor Dome 21.00 36 P P 07 36 57.0 +2.1
baz=243,SNR=20
K24K Donnelly Dome 21.02 42 P P 07 36 55.5 +0.3
baz=250,SNR=5.1
GLB Gilahina Butte 21.28 49 P P 07 36 58.2 +0.3
RIDG Independent Ri 21.39 43 P P 07 36 59.1 0.0
RIDG Independent Ri 21.39 43 P P 07 36 58.7 -0.5
baz=252
J25K Salcha River, 21.47 40 P P 07 36 59.3 -0.6
J25K Salcha River, 21.47 40 P P 07 36 60.0 +0.1
baz=249
G24K Hadweenzic Riv 21.55 34 P P 07 37 02.3 +1.6
baz=241
E23K Chandalar 21.55 30 P P 07 37 00.2 -0.6
baz=235
MCARA McCarthy VSAT 21.64 50 P P 07 37 03.5 +1.8
MCARA McCarthy VSAT 21.64 50 P P 07 37 02.2 +0.5
baz=260
MENT Mentasta 21.66 45 P P 07 37 03.0 +1.1
DOT Dot Lake 21.70 43 P P 07 37 02.2 -0.2
PRP Porcupine Dome 21.75 38 P P 07 37 02.1 -0.8
PRP Porcupine Dome 21.75 38 P P 07 37 02.8 -0.2
baz=247,SNR=7.1
D23K Nanushuk River 21.77 27 P P 07 37 04.5 +1.5
baz=232
F24K Squaw Lake 21.82 32 P P 07 37 05.5 +1.9
baz=239
SCRK Sand Creek 21.83 43 P P 07 37 02.9 -1.0
SCRK Sand Creek 21.83 43 P P 07 37 03.0 -0.8
baz=252,SNR=10
L26K Log Cabin Wild 21.84 45 P P 07 37 04.4 +0.5
L26K Log Cabin Wild 21.84 45 P P 07 37 03.9 0.0
baz=255,SNR=10
M26K Nabesna, AK 21.86 47 P P 07 37 02.8 -1.3
M26K Nabesna, AK 21.86 47 P P 07 37 03.3 -0.8
baz=257
TOLK Toolik Lake Re 21.90 29 P P 07 37 05.3 +0.9
TOLK Toolik Lake Re 21.90 29 P P 07 37 04.7 +0.3
baz=234,SNR=9.3
E24K Your Creek 21.92 31 P P 07 37 05.9 +1.3
baz=237
H25K Birch Creek 21.95 36 P P 07 37 05.6 +0.7
baz=245
A21K Barrow 21.99 19 P P 07 37 05.5 +0.2
A21K Barrow 21.99 19 P P 07 37 04.8 -0.4
baz=219
MESA MESA 22.00 53 P P 07 37 06.9 +1.2
baz=264
G25K Bearman Lake 22.06 35 P P 07 37 06.6 +0.5
baz=243
J26L Joseph Creek 22.17 41 P P 07 37 07.1 -0.3
J26L Joseph Creek 22.17 41 P P 07 37 06.5 -0.9
baz=252,SNR=13
FYU Fort Yukon 22.29 36 P P 07 37 08.4 0.0
C23K Itkillik River 22.34 26 P P 07 37 08.9 -0.1
baz=230
M27K Edge Creek, AK 22.36 47 P P 07 37 10.3 +0.9
M27K Edge Creek, AK 22.36 47 P P 07 37 08.2 -1.2
baz=259
L27K Beaver Creek, 22.52 46 P P 07 37 11.0 -0.1
L27K Beaver Creek, 22.52 46 P P 07 37 10.9 -0.1
baz=257
BCAR Beaver Creek A 22.55 46 P P 07 37 11.1 -0.1
I26K Coal Creek Min 22.59 40 P P 07 37 10.2 -1.5
I26K Coal Creek Min 22.59 40 P P 07 37 10.3 -1.3
baz=250
F25K Christian Rive 22.60 33 P P 07 37 11.8 0.0
baz=242
K27K Chicken 22.65 43 P P 07 37 12.5 +0.2
K27K Chicken 22.65 43 P P 07 37 11.6 -0.7
baz=254
C24K Franklin Bluff 22.79 27 P P 07 37 12.9 -0.7
baz=233
BVCY Beaver Creek 22.83 48 P P 07 37 14.4 +0.2
baz=260,SNR=12
PINM Pinnacle 22.84 54 P P 07 37 14.4 +0.1
baz=266
E25K Arctic Village 22.88 32 P P 07 37 15.6 +1.0
baz=241,SNR=20
BMAR Burnt Mountain 22.89 34 P P 07 37 16.5 +1.8
YUK3 Moose Creek 22.92 49 P P 07 37 14.9 -0.3
baz=262,SNR=11
O28M Mount Upton 22.92 52 P P 07 37 15.1 -0.3
baz=264
G26K Porcupine Rive 22.97 35 P P 07 37 16.3 +1.0
baz=266
F26K Sheenjek River 23.16 34 P P 07 37 16.3 -0.9
baz=244
YUK8 Steele Glacier 23.18 51 P P 07 37 17.9 +0.2
baz=263
EGAK Eagle 23.24 42 P P 07 37 18.2 +0.2
EGAK Eagle 23.24 42 P P 07 37 17.9 -0.1
baz=254,SNR=14
D25K Kavik River 23.24 29 P P 07 37 17.7 -0.3
baz=237
PNL Peninsula 23.24 55 P P 07 37 17.2 -0.8
baz=268
I27K Kandik River 23.30 39 P P 07 37 18.1 -0.5
baz=252
H27K Steamboat Moun 23.54 38 P P 07 37 21.0 +0.3
baz=250
O29M Mount Kennedy 23.68 53 P P 07 37 22.7 +0.5
baz=267
G27K Doyon Strip 23.69 37 P P 07 37 23.2 +1.1
baz=249
YUK4 Talbot Arm 23.73 51 P P 07 37 23.9 +1.2
baz=264
DAWY Dawson 23.81 44 P P 07 37 23.0 -0.2
DAWY Dawson 23.81 44 P P 07 37 22.4 -0.8
baz=258
YUK6 Outpost Mounta 23.83 52 P P 07 37 22.6 -1.1
baz=266
TYV Tymovskoe 23.91 283 *e*P P 07 37 25.4 +1.3
TYV pmax pmax
comp=Z,42nm,0.8s
TYV pmax pmax
comp=Z,200nm,2.6s
M29M Somme Creek 23.94 48 P P 07 37 25.7 +1.2
baz=262
C26K Camden Bay 23.99 28 P P 07 37 25.4 +0.7
baz=238
L29M L29M 24.19 46 P P 07 37 27.5 +0.9
baz=261
C27K Jago River 24.20 29 P P 07 37 26.9 +0.3
baz=240
HYT Haines Junctio 24.24 52 P P 07 37 28.1 +0.9
HYT Haines Junctio 24.24 52 P P 07 37 28.5 +1.3
baz=267
E27K Coleen River 24.24 33 P P 07 37 27.8 +0.8
baz=246,SNR=11
N30M Aishikik Lake 24.48 50 P P 07 37 29.7 +0.3
baz=266
I29M Ogilvie Camp, 24.56 41 P P 07 37 29.8 -0.1
baz=256
K29M Barlow Dome 24.58 45 P P 07 37 30.0 -0.2
baz=260
M30M Minto, Yukon 24.72 48 P P 07 37 33.5 +2.0
M30M Minto, Yukon 24.72 48 P P 07 37 32.2 +0.7
baz=264
O30N Mendenhall 24.93 52 P P 07 37 34.5 +1.2
baz=268
MAYO Mayo, Yukon 25.25 46 P P 07 37 37.5 +1.3
baz=262
YSS Yuzh-Sakhalins 25.28 274 *e*P P 07 37 38.2 +1.6
YSS pmax pmax
comp=Z,50nm,0.8s
EPYK Eagle Plains 25.44 39 P P 07 37 37.5 -0.4
baz=256
P32M Atlin 26.13 55 P P 07 37 45.8 +1.6
baz=273
P33M Teslin, Yukon 26.55 53 P P 07 37 49.6 +1.5
baz=272
JKA Kamikawa-asahi 26.70 269 P P 07 37 50.3 +0.9
JKA IAmb IAmb 07 37 51.4
comp=Z,58nm,1.0s
ASAJ Asahikawa 26.70 269 LR LR 07 51 21.3
comp=Z,53nm,18.0s,baz=142,slow=43
ASAJ Asahikawa 26.70 269 P P 07 37 50.3 +0.8
ASAJ pmax pmax
comp=Z,58nm,1.0s
F31M Tsiigehtchic 26.83 37 P P 07 37 51.2 +0.8
baz=257
INK Inuvik 27.12 35 P P 07 37 53.2 +0.3
comp=Z,2.7nm,0.6s,baz=252,slow=9.9,SNR=12
INK LR LR 07 48 22.4
comp=Z,114nm,20.2s,baz=228,slow=36
comp=Z,2.7nm,0.6s
INK Inuvik 27.12 35 P P 07 37 53.5 +0.6
baz=255
MMPY Sheldon Lake, 27.28 48 P P 07 37 54.6 +0.1
baz=269
R33M Jennings River 27.54 55 P P 07 37 57.7 +0.7
baz=275
GRNR Gornyy 27.69 286 ⇓*i*P P 07 37 58.2 0.0
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=N,220nm,17.0s
GRNR MLR MLR
comp=E,290nm,17.0s
GRNR MLR MLR
comp=Z,180nm,19.0s
DLBC Dease Lake 28.14 57 PcP PcP 07 41 12.0 -1.6
comp=Z,3.1nm,1.0s,baz=342,slow=6.4,SNR=1.7
DLBC LR LR 07 49 31.8
comp=Z,356nm,18.2s,baz=236,slow=37
WTLY Watson Lake, Y 28.57 53 P P 07 38 06.9 +1.0
baz=276
TGTN Hyland Airport 28.71 50 P P 07 38 08.5 +1.3
baz=273
YAK Yakutsk 29.14 311 P P 07 38 11.8 +0.9
comp=Z,6.4nm,0.4s,baz=90,slow=6.1,SNR=1.1
YAK PcP PcP 07 41 15.3 -0.6
comp=Z,5.7nm,0.3s,baz=140,slow=1.0,SNR=1.6
comp=Z,6.4nm,0.4s
LIRD Liard River Hi 30.01 54 P P 07 38 18.9 +0.2
baz=279
TIXI Tiksi 30.27 330 P P 07 38 19.9 -0.9
comp=Z,1.5nm,0.3s,baz=115,slow=0.1,SNR=11
TIXI PcP PcP 07 41 17.5 -1.1
comp=Z,2.4nm,0.5s,baz=229,slow=0.2,SNR=4.0
TIXI LR LR 07 49 57.4
comp=Z,129nm,22.0s,baz=315,slow=35
comp=Z,1.5nm,0.3s
TIXI Tiksi 30.27 330 P P 07 38 20.8 0.0
TIXI IAmb IAmb 07 38 21.8
comp=Z,47nm,1.8s
C36M Paulatuk 30.68 35 P P 07 38 24.2 -0.3
baz=264
A36M Sachs Harbour 30.72 29 P P 07 38 25.9 +1.1
A36M IAmb IAmb 07 38 53.8
comp=Z,33nm,0.8s
A36M Sachs Harbour 30.72 29 P P 07 38 26.2 +1.4
baz=258
KOTAN Kotaneelee Air 30.92 53 P P 07 38 28.0 +1.3
baz=279
KLR Kul'dur 31.06 285 P P 07 38 27.7 -0.3
comp=Z,79nm,0.6s,baz=66,slow=8.0,SNR=214
KLR PcP PcP 07 41 20.1 -1.1
comp=Z,1.7nm,0.6s,baz=45,slow=4.3,SNR=2.8
KLR ScP ScP 07 44 53.8 -1.0
comp=Z,2.1nm,0.8s,baz=355,slow=5.5,SNR=4.3
KLR LR LR 07 50 25.3
comp=Z,104nm,19.1s,baz=52,slow=35
JMM Marumori 31.41 260 P P 07 38 32.0 +0.8
ZEA Zeya 32.04 295 *e*P P 07 38 36.3 -0.3
HEH HeiHe 33.22 289 *e*P P 07 38 45.3 -1.6
HEH pmax pmax
comp=Z,69nm,1.0s
USA0B Ussuriysk Arra 33.24 277 P P 07 38 47.0 -0.1
USA0B Ussuriysk Arra 33.24 277 P P 07 38 47.0 -0.1
USA0B pmax pmax
comp=Z,36nm,0.7s
USRK Ussuriysk Ar. 33.24 277 P P 07 38 46.6 -0.5
comp=Z,33nm,0.6s,baz=55,slow=9.2,SNR=39
comp=Z,33nm,0.6s
USRK Ussuriysk Ar. 33.24 277 P P 07 38 46.5 -0.7
MJAR Matsushiro Arr 33.84 260 P P 07 38 53.3 +0.8
comp=Z,11nm,0.7s,baz=51,slow=7.1,SNR=25
MJAR PcP PcP 07 41 29.7 +0.6
comp=Z,2.6nm,0.8s,baz=101,slow=2.9,SNR=3.7
MJAR ScP ScP 07 45 04.6 +0.1
comp=Z,5.7nm,1.1s,baz=132,slow=1.9,SNR=6.3
comp=Z,11nm,0.7s
MAJO Matsushiro 33.84 260 P P 07 38 53.5 +1.0
MAJO Matsushiro 33.84 260 P P 07 38 52.7 +0.2
H11N2 WAKE ISLAND Hy 33.91 205 T T 08 15 22.8
baz=15,slow=74
H11N3 WAKE ISLAND Hy 33.91 205 T T 08 14 48.9
baz=15,slow=74
H11N1 WAKE ISLAND Hy 33.92 205 T T 08 14 57.8
baz=15
MDJ Mudanjiang 34.50 279 P P 07 38 56.8 -1.2
MDJ pP pP 07 39 07.3 -13
MDJ sP pwP 07 39 11.9 -10
MDJ S S 07 44 22.9 +3.7
MDJ sS sS 07 44 39.5 -18
MDJ PcS PcS 07 45 17.4 +0.2
MDJ SS SnSn 07 46 34.2 -6.2
MDJ ScS ScS 07 49 16.4 +6.7
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,450nm,3.8s
MDJ LR LR
comp=Z,500nm,9.3s
MDJ LR LR
comp=Z,610nm,9.9s
MDJ LR LR
comp=Z,510nm,9.4s
YKA Yellowknife Ar 34.95 47 P P 07 39 00.8 -0.8
comp=Z,3.8nm,0.8s,baz=306,slow=12,SNR=7.7
YKA pP pP 07 39 24.7 +1.6
comp=Z,4.0nm,0.8s,baz=287,slow=8.4,SNR=2.5
YKA ScP ScP 07 45 05.8 -2.2
comp=Z,3.9nm,0.8s,baz=294,slow=3.0,SNR=4.3
comp=Z,3.8nm,0.8s
YKA Yellowknife Ar 34.95 47 *ce*P P 07 39 00.9 -0.8
YKA pmax pmax
comp=Z,1.0nm,0.5s
JGF Kuroka 34.98 260 P P 07 39 02.7 +0.4
H11S1 WAKE ISLAND Hy 35.13 204 T T 08 16 23.8
baz=16,slow=76
H11S2 WAKE ISLAND Hy 35.14 204 T T 08 16 19.5
baz=16,slow=76
H11S3 WAKE ISLAND Hy 35.14 204 T T 08 16 28.0
baz=16,slow=76
BNX BinXian 35.27 282 ⇓P P 07 39 03.4 -1.2
BNX pmax pmax
comp=Z,96nm,0.7s
BNX pmax pmax
comp=Z,200nm,5.3s
CN2 Changchun 37.46 280 *e*P P 07 39 22.5 -0.8
CN2 pmax pmax
comp=Z,20nm,1.1s
HOOD Mount Hood Mea 37.53 77 P P 07 39 25.9 +1.9
H04A Detroit Lake 37.53 78 P P 07 39 26.2 +2.2
HIA Hailar 38.12 291 P P 07 39 28.2 -0.7
HAWA Hanford 38.25 74 P P 07 39 31.2 +1.3
NEW Newport 38.75 70 P P 07 39 35.0 +0.8
baz=299
YBH Yreka Blue Hor 38.83 82 LR LR 07 51 56.7
comp=Z,112nm,20.9s,baz=296,slow=30
YBH Yreka Blue Hor 38.83 82 P P 07 39 38.3 +3.3
YBH Yreka Blue Hor 38.83 82 P P 07 39 38.3 +3.3
YBH pmax pmax
comp=Z,43nm,1.0s
RES Resolute Bay 39.37 25 LR LR 07 57 38.5
comp=Z,86nm,20.8s,baz=347,slow=39
K05A Summer Lake 39.38 80 P P 07 39 42.3 +2.6
KSRS Korea Array 39.63 270 P P 07 39 42.5 +1.0
comp=Z,12nm,0.9s,baz=57,slow=8.4,SNR=18
KSRS LR LR 07 58 30.5
comp=Z,36nm,18.2s,baz=185,slow=40
comp=Z,12nm,0.9s
EUNU Eureka 39.88 16 P P 07 39 44.0 +0.8
J08A Circle Bar Ran 40.50 77 P P 07 39 50.7 +1.9
J08A IAmb IAmb 07 40 14.2
comp=Z,21nm,0.8s
MSO Missoula 41.33 70 P P 07 39 55.9 +0.4
baz=302
MPK Martis Peak 41.91 83 P P 07 40 01.1 +0.5
HLID Hailey 42.84 75 P P 07 40 09.6 +1.7
HLID IAmb IAmb 07 40 33.1
comp=Z,16nm,0.8s
HLID Hailey 42.84 75 P P 07 40 09.1 +1.2
baz=304
BCYI Bear Canyon 43.02 73 P P 07 40 09.6 +0.2
MCMT McKenzie Canyo 43.06 72 P P 07 40 10.6 +0.8
XLT XiLinHaoTe 43.07 286 ⇓*i*P P 07 40 10.2 +0.5
XLT pmax pmax
comp=Z,95nm,0.9s
XLT pmax pmax
comp=Z,220nm,5.1s
BOZ Bozeman (W) 43.35 71 P P 07 40 11.7 -0.3
baz=304
NVAR Mina Array Bea 43.51 83 P P 07 40 15.0 +1.6
comp=Z,3.0nm,0.7s,baz=301,slow=7.3,SNR=25
NVAR pP pP 07 40 38.0 +1.6
comp=Z,19nm,0.8s,baz=292,slow=7.9,SNR=30
NVAR PcP PcP 07 42 00.9 +1.3
comp=Z,3.2nm,0.8s,baz=293,slow=2.7,SNR=4.5
NVAR pPcP 07 42 27.2
comp=Z,3.1nm,0.8s,baz=289,slow=2.8,SNR=5.0
NVAR ScP ScP 07 45 41.2 -0.6
comp=Z,12nm,0.9s,baz=280,slow=4.1,SNR=37
comp=Z,3.0nm,0.7s
ELK Elko 43.98 78 LR LR 07 58 21.5
comp=Z,121nm,19.2s,baz=304,slow=36
YHL Hebgen Lake 44.03 71 P P 07 40 18.3 +0.7
YHL IAmb IAmb 07 40 42.9
comp=Z,15nm,0.9s
NRIK Noril'sk 44.05 329 P P 07 40 16.4 -0.7
comp=Z,9.9nm,0.9s,baz=75,slow=8.2,SNR=9.0
comp=Z,9.9nm,0.9s
NRIK Noril'sk 44.05 329 *ce*P P 07 40 16.4 -0.7
NRIK pmax pmax
comp=Z,24nm,1.2s
TIN Tinemaha, Big 44.41 85 P P 07 40 22.7 +2.1
baz=309
H17A Grant Village 44.64 71 P P 07 40 23.7 +1.2
baz=305
VES Vestal, Richgr 44.66 87 P P 07 40 23.9 +1.5
baz=310
PKM Mcpherson Peak 44.83 88 P P 07 40 25.3 +1.3
baz=311
CWC Cottonwood Cre 44.90 85 P P 07 40 25.6 +1.1
baz=310
GRAC Grapevine Rang 44.99 84 P P 07 40 26.4 +1.4
baz=310
RLMT Red Lodge 44.99 70 P P 07 40 25.3 +0.1
baz=305
ISA Isabella, Lake 45.16 86 P P 07 40 26.3 -0.1
baz=310
R11A Troy Canyon, C 45.23 81 P P 07 40 28.4 +1.3
baz=309,SNR=20
BJI Beijing 45.28 282 P P 07 40 27.6 +0.4
BJI pP pP 07 40 37.9 -12
BJI sP pwP 07 40 39.4 -13
BJI PP PP 07 42 13.5 -1.2
BJI pmax pmax
comp=Z,49nm,0.9s
BJI pmax pmax
comp=Z,280nm,5.6s
BJT Baijiatuau 45.30 282 P P 07 40 28.3 +0.9
BJT Baijiatuau 45.30 282 P P 07 40 28.1 +0.7
comp=Z,52nm,1.0s
BJT Baijiatuau 45.30 282 P P 07 40 28.3 +0.9
BJT pmax pmax
comp=Z,37nm,0.8s
BJT Baijiatuau 45.30 282 P P 07 40 25.9 -1.4
MPMC Manual Prospec 45.51 85 P P 07 40 30.4 +1.1
baz=310,SNR=6.3
SPR3 Spring Creek 3 45.60 80 P P 07 40 32.2 +2.1
SPR3 IAmb IAmb 07 40 57.0
comp=Z,14nm,0.7s
FURC Furnace Creek, 45.63 84 P P 07 40 31.8 +1.8
baz=310,SNR=8.9
TPNV Topopah Spring 45.70 83 P P 07 40 32.4 +1.6
baz=310,SNR=17
LRMC Laurel Mtn Rad 45.76 86 P P 07 40 32.5 +1.2

baz=311
DUG Dugway, Tooele 45.78 78 P **P** **07 40 32.9 +1.5**
DUG IAmb IAmb 07 40 57.0
comp=Z,23nm,0.8s
DUG Dugway, Tooele 45.78 78 P **P** **07 40 32.9 +1.5**
baz=308,SNR=18
DUG Dugway, Tooele 45.78 78 P **P** **07 40 32.9 +1.5**
DUG pmax pmax
comp=Z,23nm,0.8s
LAO LASA Array 45.86 66 P **P** **07 40 32.4 +0.6**
baz=304
EDW2 Edwards Air Fo 45.96 87 P **P** **07 40 34.0 +1.3**
baz=311
SNCC San Nicolas Is 46.09 90 P **P** **07 40 36.2 +2.4**
baz=312
PRN Pahroc Range 46.15 82 P **P** **07 40 36.2 +1.9**
PRN IAmb IAmb 07 41 00.5
comp=Z,26nm,0.8s
BW06 Boulder Array 46.19 73 P **P** **07 40 34.4 -0.3**
BW06 IAmb IAmb 07 41 00.0
comp=Z,22nm,0.8s
BW06 Boulder Array 46.19 73 P **P** **07 40 34.9 +0.2**
baz=306,SNR=7.9
PDAR Pinedale Array 46.19 73 P **P** **07 40 34.7 0.0**
comp=Z,3.9nm,0.5s,baz=305,slow=3.4,SNR=56
PDAR pP **pP** **07 40 58.6 +0.9**
comp=Z,20nm,0.8s,baz=305,slow=3.8,SNR=23
PDAR ScP **ScP** **07 45 50.9 -1.9**
comp=Z,7.2nm,1.0s,baz=318,slow=2.0,SNR=19
comp=Z,3.9nm,0.5s
SHOC Shoshone, Teco 46.36 85 P **P** **07 40 37.3 +1.5**
baz=310
GSC Goldstone, Bar 46.42 86 P **P** **07 40 37.4 +1.0**
baz=311,SNR=8.9
SONM Songino Array 46.45 296 P **P** **07 40 36.4 -0.1**
comp=Z,4.2nm,0.6s,baz=58,slow=8.8,SNR=20
SONM PcP **PcP** **07 42 09.4 -0.1**
comp=Z,4.9nm,0.8s,baz=78,slow=2.1,SNR=7.3
SONM ScP **ScP** **07 45 51.9 -1.8**
comp=Z,3.9nm,1.1s,baz=51,slow=2.4,SNR=7.1
SONM LR LR 08 01 59.6
comp=Z,85nm,18.2s,baz=64,slow=38
comp=Z,4.2nm,0.6s
SONM Songino Array 46.45 296 P **P** **07 40 36.5 -0.1**
BFSC Mount Baldy Ra 46.59 87 P **P** **07 40 38.8 +1.0**
baz=312
ZAK Zakamensk 46.73 301 *e*P **P** **07 40 37.5 -1.1**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
TUQ Turquoise Moun 46.88 85 P **P** **07 40 41.2 +1.2**
baz=311
HEC Hector,Ludlow 47.02 86 P **P** **07 40 42.3 +1.3**
baz=311
NEEM North Greenlan 47.03 14 *i* P **P** **07 40 39.2 -1.6**
NEEM IAmb IAmb 07 41 08.6
comp=Z,35nm,0.9s
BBRC Big Bear Solar 47.03 87 P **P** **07 40 43.0 +1.7**
baz=312
TIA Tai'an 47.10 277 ⇓P **P** **07 40 41.6 0.0**
TIA pmax pmax
comp=Z,31nm,0.7s
MURC Murrieta 47.30 88 P **P** **07 40 44.2 +1.0**
baz=312
GMRC Granite Mounta 47.47 85 P **P** **07 40 46.0 +1.4**
baz=311,SNR=5.4
P17A Butcher Ranch, 47.49 77 P **P** **07 40 46.3 +1.6**
P17A IAmb IAmb 07 41 10.3
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 47.57 286 ⇑*i*P **P** **07 40 46.5 +1.2**
HHC pmax pmax
comp=Z,130nm,0.9s
HHC pmax pmax
comp=Z,510nm,6.9s
Q16A Castle Valley 47.57 78 P **P** **07 40 46.7 +1.3**
Q16A IAmb IAmb 07 41 12.0
comp=Z,16nm,0.7s
PFO Pinyon Flats O 47.75 87 P **P** **07 40 49.2 +2.4**
baz=312
PFO Pinyon Flats O 47.75 87 *i* P **P** **07 40 49.8 +3.0**
PFO pmax pmax
comp=Z,22nm,3.5s
TPFO Pinon Flats 47.76 87 P **P** **07 40 49.3 +2.4**
baz=312
BELC Belle Mtn. Jos 47.78 86 P **P** **07 40 47.8 +0.8**
baz=312
HNS HongShan 47.83 280 ⇓P **P** **07 40 47.9 +0.8**
HNS pmax pmax
comp=Z,61nm,0.9s
K22A Casper 48.05 71 P **P** **07 40 49.2 +0.2**
baz=307
NEE2 Needles Airpor 48.13 84 P **P** **07 40 50.7 +1.1**
baz=311
IRM Iron Mountain 48.20 85 P **P** **07 40 50.9 +0.7**
baz=312
MONP2 Monument Peak 48.26 88 P **P** **07 40 52.0 +1.2**
baz=312
U15A North Rim 48.48 81 P **P** **07 40 54.3 +1.8**
U15A IAmb IAmb 07 41 18.4
comp=Z,19nm,0.7s
O20A White River Ci 48.58 75 P **P** **07 40 53.4 +0.3**
O20A White River Ci 48.58 75 P **P** **07 40 53.5 +0.4**
baz=309,SNR=13
IKP In-Ko-Pah, Jac 48.62 88 P **P** **07 40 54.5 +1.1**
baz=313
PDMCI Parker Dam,Lak 48.73 85 P **P** **07 40 55.7 +1.6**
baz=312
NJ2 Nanjing 48.79 271 *e*P **P** **07 40 55.4 +0.8**
NJ2 pmax pmax
comp=Z,16nm,0.6s
TIY Taiyuan 49.01 282 ⇑P **P** **07 40 57.8 +1.5**
TIY pmax pmax
comp=Z,85nm,0.7s
GLA Glamis 49.14 86 P **P** **07 40 58.7 +1.4**
baz=312
PV23 Carpenter Ridg 49.17 77 P **P** **07 40 59.1 +1.3**
PV23 IAmb IAmb 07 41 26.6
comp=Z,23nm,0.7s
ULM Lac du Bonnet 49.46 57 LR LR 08 04 01.9
comp=Z,100nm,19.2s,baz=228,slow=38
N23A Red Feather La 49.47 72 P **P** **07 41 00.6 +0.5**
baz=309
PV15 Paradox Valley 49.57 77 P **P** **07 41 00.8 +0.1**
WUAZ Wupatki 49.63 81 P **P** **07 41 02.9 +1.7**
baz=311,SNR=7.2
SMCO Snowmass 49.94 75 P **P** **07 41 03.6 -0.2**
MVCO Mesa Verde 50.28 78 P **P** **07 41 07.1 +0.9**
baz=311,SNR=5.1
S22A 4UR Ranch, Cre 50.95 76 P **P** **07 41 13.0 +1.8**
S22A IAmb IAmb 07 41 37.4
comp=Z,19nm,1.3s
S22A 4UR Ranch, Cre 50.95 76 P **P** **07 41 13.1 +1.8**
baz=310,SNR=8.8
LYN LuoYang 51.06 279 ⇓P **P** **07 41 12.3 +0.6**
LYN S **S** **07 48 17.7 -3.9**
LYN pmax pmax
comp=Z,40nm,0.9s
LYN pmax pmax
comp=Z,240nm,4.0s
214A Organ Pipe Nat 51.13 86 P **P** **07 41 13.4 +1.0**
baz=313
X18A Snowflake 51.16 81 P **P** **07 41 14.7 +1.9**
X18A IAmb IAmb 07 41 39.6
comp=Z,15nm,0.8s
SDCO Great Sand Dun 51.74 75 P **P** **07 41 18.6 +1.4**
SDCO IAmb IAmb 07 41 42.9
comp=Z,11nm,0.9s
SDCO Great Sand Dun 51.74 75 P **P** **07 41 18.6 +1.4**
baz=311,SNR=9.3
TUC Tucson 52.14 84 P **P** **07 41 21.9 +1.9**
baz=313
TUC Tucson 52.14 84 P **P** **07 41 20.9 +1.0**
TUC x x 07 41 30.5
TUC pP **pP** **07 41 43.6 -0.1**
WHN Wuhan 52.62 273 ⇑P **P** **07 41 23.7 +0.3**
FRB Frobisher Bay 52.67 32 LR LR 08 05 36.8
comp=Z,174nm,18.2s,baz=223,slow=38
T25A Trinidad 52.80 75 P **P** **07 41 25.8 +0.9**
T25A Trinidad 52.80 75 P **P** **07 41 26.5 +1.6**
baz=311,SNR=9.3
SUMG Summit 52.89 14 *i* P **P** **07 41 26.0 +0.7**
SUMG IAmb IAmb 07 41 55.5
comp=Z,30nm,1.0s
ANMO Albuquerque 53.02 79 P **P** **07 41 27.8 +1.3**
baz=312
ANMO Albuquerque 53.02 79 *ce*P **P** **07 41 27.4 +0.9**
ANMO pmax pmax
comp=Z,11nm,1.8s

SSLB Suanglung 53.36 262 P **P** **07 41 29.0 +0.1**
YULB Yu-li 53.44 262 P **P** **07 41 29.2 -0.3**
XAN Xi'an 53.57 281 P **P** **07 41 30.3 -0.1**
XAN pP pP 07 41 43.2 -10
XAN pmax pmax
comp=Z,69nm,0.9s
ZALV Zalesovo Beam 53.74 313 P **P** **07 41 30.9 -0.4**
comp=Z,0.9nm,0.5s,baz=48,slow=8.7,SNR=1.6
ZALV PcP **PcP** **07 42 35.1 -0.9**
comp=Z,4.6nm,0.7s,baz=26,slow=4.9,SNR=8.7
ZALV ScP **ScP** **07 46 21.7 -2.9**
comp=Z,2.1nm,0.8s,baz=46,slow=6.4,SNR=3.8
comp=Z,0.9nm,0.5s
121A Cookes Peak, D 53.84 82 P **P** **07 41 34.7 +2.2**
baz=313
TPUB Ta-pu 53.92 262 P **P** **07 41 33.0 0.0**
CBKS Cedar Bluff 54.46 71 P **P** **07 41 37.1 +0.3**
baz=312
LZH Lanzhou 55.26 286 *e*P **P** **07 41 43.3 +0.6**
LZH pP pP 07 41 52.5 -14
LZH sP pwP 07 41 56.4 -12
LZH PcP **PcP** **07 42 42.6 +0.2**
LZH pmax pmax
comp=Z,80nm,1.1s
DGZ Jazzator, Alta 55.27 308 *i* P **P** **07 41 41.6 -1.0**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
GTA Gaotai 55.41 291 *e*P **P** **07 41 43.6 -0.1**
GTA pmax pmax
comp=Z,17nm,0.7s
ICESG Greenland Ices 55.75 16 *i* P **P** **07 41 43.8 -2.2**
ENH Enshi 55.82 277 P **P** **07 41 46.2 -0.4**
comp=Z,50nm,1.2s
MSTX Muleshoe 55.91 77 P **P** **07 41 48.2 +0.9**
MSTX IAmb IAmb 07 41 49.7
comp=Z,21nm,1.0s
MSTX Muleshoe 55.91 77 P **P** **07 41 48.3 +0.9**
baz=313,SNR=12
AMTX Amarillo 55.95 75 P **P** **07 41 48.2 +0.6**
baz=313
JMIC Jan Mayen 57.33 4 LR LR 08 08 23.6
comp=Z,59nm,18.9s,baz=264,slow=38
ARCES ARCESS Array B 57.68 350 P **P** **07 41 58.1 -1.1**
comp=Z,5.8nm,0.7s,baz=18,slow=6.5,SNR=11
ARCES pP **pP** **07 42 22.1 -0.2**
comp=Z,6.1nm,0.9s,baz=30,slow=11,SNR=2.4
comp=Z,5.8nm,0.7s
WMOK Wichita Mounta 57.78 73 P **P** **07 42 01.3 +0.8**
WMOK IAmb IAmb 07 42 26.0
comp=Z,8.6nm,0.8s
WMOK Wichita Mounta 57.78 73 P **P** **07 42 01.5 +1.1**
baz=314,SNR=5.9
WMOK Wichita Mounta 57.78 73 P **P** **07 42 01.3 +0.8**
WMOK pmax pmax
comp=Z,9.0nm,0.8s
TX31 Lajitas Ar. Si 58.60 81 P **P** **07 42 07.1 +0.8**
TX32 Lajitas Array 58.60 81 P **P** **07 42 07.1 +0.8**
TXAR Lajitas Array 58.60 81 P **P** **07 42 07.7 +1.4**
comp=Z,5.2nm,0.6s,baz=301,slow=4.6,SNR=67
TXAR pP **pP** **07 42 31.0 +0.4**
comp=Z,6.9nm,0.8s,baz=303,slow=5.3,SNR=10.0
TXAR ScP **ScP** **07 46 45.4 -1.2**
comp=Z,5.0nm,0.9s,baz=285,slow=2.8,SNR=16
comp=Z,5.2nm,0.6s
TXAR Lajitas Array 58.60 81 P **P** **07 42 07.9 +1.6**
ABTX Abilene, Hawle 58.73 76 P **P** **07 42 07.1 0.0**
ABTX Abilene, Hawle 58.73 76 P **P** **07 42 08.2 +1.1**
baz=314,SNR=14
TUL1 Leonard 58.74 71 P **P** **07 42 07.1 0.0**
baz=314
WMQ Urumqi 59.11 303 *e*P **P** **07 42 12.5 +2.9**
WMQ pP pP 07 42 23.8 -9.2
WMQ pmax pmax
comp=Z,20nm,0.7s
SCHQ Schefferville 59.68 38 P **P** **07 42 12.4 -0.9**
comp=Z,3.5nm,0.7s,baz=342,slow=6.4,SNR=2.3
comp=Z,3.5nm,0.7s
MK31 Makanchi Array 59.77 308 P **P** **07 42 12.5 -1.5**
MK31 Makanchi Array 59.77 308 P **P** **07 42 12.5 -1.5**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 59.77 308 P **P** **07 42 11.7 -2.3**
comp=Z,4.0nm,0.7s,baz=59,slow=7.2,SNR=24
MKAR pP **pP** **07 42 38.2 +0.7**
comp=Z,0.9nm,0.5s,baz=60,slow=6.2,SNR=2.0
comp=Z,4.0nm,0.7s
JCT Junction City 60.15 78 P **P** **07 42 17.8 +0.9**
baz=315,SNR=6.9
GYA Guiyang 60.27 276 ⇑P **P** **07 42 18.1 +0.2**
GYA pmax pmax
comp=Z,27nm,1.1s
GOMU GeErMu 60.48 292 P **P** **07 42 19.6 +0.1**
GOMU pP pP 07 42 23.7 -19
GOMU pmax pmax
comp=Z,8.0nm,0.9s
GOMU pmax pmax
comp=Z,130nm,5.7s
WHTX Lake Whitney, 60.49 75 P **P** **07 42 19.4 +0.3**
WHTX Lake Whitney, 60.49 75 P **P** **07 42 20.1 +1.0**
baz=315,SNR=5.9
SFIN Lafayette 60.56 61 P **P** **07 42 19.4 -0.1**
SFIN IAmb IAmb 07 42 46.1
comp=Z,18nm,0.9s
SFIN Lafayette 60.56 61 P **P** **07 42 19.1 -0.3**
baz=315
BVAR Borovoye Array 60.56 320 LR LR 08 11 28.9
comp=Z,96nm,18.4s,baz=43,slow=39
FCAR Ozark Folk Cen 60.88 68 P **P** **07 42 21.2 -0.6**
FCAR IAmb IAmb 07 42 52.7
comp=Z,10nm,0.8s
MIAR Mount Ida 60.99 70 P **P** **07 42 23.1 +0.6**
MIAR IAmb IAmb 07 43 33.7
comp=Z,15nm,0.9s
MIAR Mount Ida 60.99 70 P **P** **07 42 22.8 +0.3**
baz=315,SNR=6.6
MIAR Mount Ida 60.99 70 P **P** **07 42 23.1 +0.6**
MIAR pmax pmax
comp=Z,15nm,0.9s
KRVT Keravat (AS076 61.16 214 LR LR 08 08 21.9
comp=Z,54nm,18.1s,baz=254,slow=35
435B Jarrell 61.27 76 P **P** **07 42 25.5 +1.1**
baz=316
PRGR Permogore 61.52 338 *e*P **P** **07 42 24.7 -0.9**
PRGR pmax pmax
comp=Z,12nm,0.6s
833A Chaparral WMA, 61.94 79 P **P** **07 42 30.3 +1.4**
baz=316
ARU Arti 62.24 328 P **P** **07 42 30.1 -0.5**
ARU IAmb IAmb 07 42 30.3
comp=Z,10nm,0.8s
ARU Arti 62.24 328 *d i*P **P** **07 42 29.6 -1.0**
ARU 07 43 04.2
ARU PPP PPP 07 46 14.4
ARU S **S** **07 50 55.5 +7.2**
ARU SS **SS** **07 54 52.5 +0.4**
ARU pmax pmax
comp=Z,33nm,1.9s
ARU Arti 62.24 328 P **P** **07 42 28.8 -1.8**
ARU pP **pP** **07 42 54.2 +0.2**
BORG Borgarnes 62.49 11 LR LR 08 11 39.8
comp=Z,120nm,19.1s,baz=177,slow=38
WCI Wyandotte Cave 62.52 62 P **P** **07 42 33.2 +0.5**
baz=316
HKT Hockley 62.92 75 P **P** **07 42 36.1 +0.7**
HKT pP **pP** **07 43 00.7 +0.7**
ERPA Erie 63.08 56 P **P** **07 42 36.3 0.0**
baz=316
WVT Waverly 63.16 65 P **P** **07 42 36.8 -0.2**
baz=316
KIRV Kirov 63.19 334 LR LR 08 12 08.8
comp=Z,66nm,20.0s,baz=9.9,slow=38
KIRV Kirov 63.19 334 *ce*P **P** **07 42 35.7 -1.1**
KLMR Klimovskoe 63.58 340 *e*P **P** **07 42 36.8 -2.5**
KLMR AMP 07 42 42.3
comp=Z,10.0nm,1.1s
KLMR *e*PP **PP** **07 44 51.9 -7.7**
KLMR Klimovskoe 63.58 340 *e*P **P** **07 42 36.8 -2.5**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
KMI Kunming 63.66 278 ⇓P **P** **07 42 41.0 +0.3**
KMI pmax pmax
comp=Z,37nm,0.9s
KMI Kunming 63.66 278 P **P** **07 42 40.1 -0.6**
HNR Honiara 63.67 204 LR LR 08 09 12.0
comp=Z,1μm,18.6s,baz=72,slow=35
P52A Corning 63.76 59 P **P** **07 42 39.5 -1.3**

baz=317
O53A New Philadelph 63.80 58 P **P** **07 42 39.9 -1.2**
baz=317
CLTN Cedars of Leba 64.03 64 P **P** **07 42 42.8 +0.1**
CLTN IAmb IAmb 07 43 11.9
comp=Z,14nm,0.9s
T50A Nancy 64.19 62 P **P** **07 42 43.5 -0.2**
T50A IAmb IAmb 07 43 13.1
comp=Z,8.9nm,0.8s
VBMS Vicksburg 64.44 70 P **P** **07 42 46.0 +0.6**
baz=317
BINY Binghamton 65.03 53 P **P** **07 42 48.7 -0.5**
baz=318
Z47A Carrollton 65.14 68 P **P** **07 42 49.8 -0.2**
Z47A IAmb IAmb 07 43 18.6
comp=Z,20nm,0.7s
SSPA Standing Stone 65.24 55 P **P** **07 42 50.5 0.0**
baz=318
FINES FINESS Array B 65.38 347 P **P** **07 42 49.4 -1.6**
comp=Z,6.8nm,0.9s,baz=27,slow=6.4,SNR=16
FINES pP **pP** **07 43 15.7 +1.1**
comp=Z,9.6nm,1.0s,baz=49,slow=8.6,SNR=3.3
FINES LR LR 08 12 26.2
comp=Z,86nm,21.9s,baz=196,slow=37
comp=Z,6.8nm,0.9s
FINES FINESS Array B 65.38 347 P **P** **07 42 50.6 -0.4**
FINES FINESS Array B 65.38 347 P **P** **07 42 50.6 -0.4**
LRAL Lakeview Retre 65.87 67 P **P** **07 42 54.8 +0.1**
baz=317
TNCH TengChong 66.32 281 *e*P **P** **07 42 59.1 +1.2**
TNCH pP pP 07 43 09.8 -12
TNCH pmax pmax
comp=Z,49nm,0.9s
BLA Blacksburg 66.45 59 P **P** **07 42 58.4 +0.1**
baz=318
SIJI Sorong 67.17 236 P **P** **07 43 04.0 +0.8**
comp=Z,37nm,0.8s,baz=40,slow=5.3,SNR=10
SIJI pP **pP** **07 43 28.2 +0.6**
comp=Z,21nm,0.7s,baz=15,slow=7.1,SNR=3.5
comp=Z,37nm,0.8s
NB2 NORSAR Subarra 67.23 355 P **P** **07 43 01.8 -1.1**
comp=Z,5.1nm,0.9s,baz=7.5,slow=6.5
NOA NORSAR Array B 67.23 355 P **P** **07 43 02.2 -0.7**
comp=Z,3.5nm,0.8s,baz=5.5,slow=6.4,SNR=10
NOA pP **pP** **07 43 26.0 -0.6**
comp=Z,2.3nm,0.9s,baz=12,slow=6.9,SNR=4.2
comp=Z,3.5nm,0.8s
KMSC Kings Mountain 67.49 62 P **P** **07 43 05.4 +0.4**
baz=318
ABKAR Akbulak array 67.60 323 P **P** **07 43 04.2 -1.2**
ABKAR Akbulak array 67.60 323 P **P** **07 43 04.3 -1.0**
ABKAR IAmb IAmb 07 43 31.4
comp=Z,2.7nm,0.8s
PMG Port Moresby 67.63 217 LR LR 08 07 47.3
comp=Z,118nm,21.5s,baz=102,slow=31
HODGE Hodges 67.66 63 P **P** **07 43 05.8 -0.2**
HODGE IAmb IAmb 07 43 33.7
comp=Z,14nm,1.1s
KKAR Karatay Array 68.10 312 P **P** **07 43 07.5 -1.1**
KKAR Karatay Array 68.10 312 P **P** **07 43 07.5 -1.1**
KSH Kashi 68.24 307 P **P** **07 43 12.6 +2.8**
KSH pP pP 07 43 23.4 -10
KSH sP PcP 07 43 26.1 -8.7
KSH PcP **sP** **07 43 41.2 -2.9**
KSH pmax pmax
comp=Z,9.0nm,0.7s
FAKI Fak Fak 68.42 234 P **P** **07 43 11.8 +0.9**
NONG Nongkai 68.66 272 P **P** **07 43 12.8 +0.4**
BELG Belogornoye 69.08 332 LR LR 08 16 17.6
comp=Z,86nm,19.7s,baz=0.4,slow=38
BELG Belogornoye 69.08 332 *i* P **P** **07 43 13.6 -0.9**
BELG pmax pmax
comp=Z,4.0nm,0.9s
MSVF Nonsavu 69.28 183 LR LR 08 13 29.9
comp=Z,56nm,18.7s,baz=87,slow=36
OBN Obninsk 69.48 339 LR LR 08 15 35.1
comp=Z,30nm,22.0s,baz=0.5,slow=37
OBN Obninsk 69.48 339 ⇑*i*P **P** **07 43 16.4 -0.5**
OBN *i* 07 43 40.4
OBN SS SS 07 56 38.0 -6.0
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,87nm,16.0s
NHSC New Hope 69.65 62 P **P** **07 43 19.1 +0.8**
baz=319
MND Mandalay 70.02 280 P **P** **07 43 20.4 -0.4**
CMAR Chiang Mai Arr 70.96 276 P **P** **07 43 26.7 +0.1**
comp=Z,7.5nm,0.7s,baz=27,slow=6.7,SNR=29
CMAR LR LR 08 16 15.7
comp=Z,25nm,19.8s,baz=210,slow=37
comp=Z,7.5nm,0.7s
TAPN Taplejung 71.05 290 *e*P **P** **07 43 27.3 -0.1**
comp=Z,59nm,0.7s
GUN Gumba 71.69 292 *e*P **P** **07 43 31.1 -0.2**
comp=Z,164nm,0.6s
JIRN Jiri 71.70 291 *e*P **P** **07 43 31.4 0.0**
comp=Z,154nm,0.7s
MNK Minsk 71.76 344 *i* P **P** **07 43 31.6 +0.8**
comp=E,3.0nm,0.8s
MNK *i* P **P** **07 43 31.6 +0.8**
comp=N,40nm,0.8s
MNK *i* P **P** **07 43 31.6 +0.8**
comp=Z,16nm,0.7s,baz=16
MNK *i* PP **PP** **07 46 10.6 +0.1**
MNK *i* PPP PPP 07 47 54.4
MNK *i* S **S** **07 52 49.6 +7.0**
MNK *i* SS **SS** **07 57 26.3 +7.3**
MNK *i* SSS SSS 08 00 46.2
MNK Minsk 71.76 344 *i* P **P** **07 43 31.5 +0.8**
MNK *i* 07 46 10.6
MNK *i* PPP PPP 07 47 54.4
MNK pmax pmax
comp=Z,16nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,40nm,0.9s
RAMN Ramite 72.00 291 *e*P **P** **07 43 32.7 -0.3**
comp=N,93nm,0.6s
KKN Kakani 72.13 292 *e*P **P** **07 43 33.3 -0.4**
PKI Pulchoki 72.22 292 *e*P **P** **07 43 33.8 -0.6**
comp=N,50nm,0.7s
PKIN Phulchoki 72.22 292 *e*P **P** **07 43 33.8 -0.6**
comp=N,57nm,0.7s
DANN Dangsing 72.57 294 *e*P **P** **07 43 36.0 -0.5**
comp=N,73nm,0.8s
NAYO Nakonayok 72.63 271 P **P** **07 43 37.1 +0.5**
AKASG Malin Array Be 75.15 342 P **P** **07 43 49.5 -1.2**
comp=N,3.1nm,0.3s,baz=22,slow=6.0,SNR=21
AKASG pP **pP** **07 44 14.2 -0.9**
comp=N,1.9nm,0.5s,baz=21,slow=6.2,SNR=2.8
AKASG LR LR 08 20 26.2
comp=N,73nm,19.3s,baz=358,slow=38
comp=N,3.1nm,0.3s
AKBB Malin Array Si 75.15 342 P **P** **07 43 50.4 -0.4**
AKBB IAmb IAmb 07 43 51.6
comp=Z,20nm,1.1s
AKBB Malin Array Si 75.15 342 *ce*P **P** **07 43 49.3 -1.4**
AKBB pmax pmax
comp=Z,24nm,1.1s
KDU Kakadu 76.77 229 P **P** **07 44 00.8 +0.5**
CLL Collm 76.79 352 *e*P **P** **07 43 59.0 -1.0**
MTN Manton Dam 77.54 230 P **P** **07 44 04.9 +0.3**
MTN Manton Dam 77.54 230 P **P** **07 44 05.4 +0.8**
SURA Surathani 77.64 269 P **P** **07 44 06.0 +0.7**
STHS Stebnicka Huta 77.73 347 *e*P **P** **07 44 04.9 -0.5**
STHS Stebnicka Huta 77.73 347 *e*P **P** **07 44 04.9 -0.5**
CTA Charters Tower 77.82 213 P **P** **07 44 07.2 +1.1**
comp=Z,2.6nm,0.7s,baz=14,slow=8.9,SNR=3.2
CTA pP **pP** **07 44 31.8 +0.6**
comp=Z,4.5nm,0.9s,baz=36,slow=8.7,SNR=3.8
comp=Z,2.6nm,0.7s
BTNL Ternell 77.91 357 *d*P **P** **07 44 06.4 0.0**
KIV Kislovodsk 78.10 331 *e*P **P** **07 44 06.4 -1.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
BCLA Clavier 78.10 357 *d*P **P** **07 44 07.7 +0.3**
BCLA *d*PcP **PcP** **07 44 17.6 +1.0**
BMRD Maredsous 78.23 358 *d*P **P** **07 44 07.8 -0.3**
KBZ Khabaz 78.24 330 P **P** **07 44 07.2 -1.0**
comp=Z,5.6nm,0.8s,baz=70,slow=5.4,SNR=9.3
KBZ LR LR 08 23 10.0
comp=Z,66nm,18.9s,baz=9.0,slow=39
comp=Z,5.6nm,0.8s
KBZ Khabaz 78.24 330 *ce*P **P** **07 44 07.9 -0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DOU	Dourbes	78.44	358	dP	P	07 44 10.2	+0.9
ZEI	Tsey	78.78	329	eP	P	07 44 09.8	-1.7
ZEI				pmax	pmax		
	comp=Z,11nm,0.6s						
BUR08	Bucovina Ar. S	78.82	344	P	P	07 44 11.1	-0.5
BURAR	Bucovina Array	78.85	344	P	P	07 44 11.3	-0.3
GERES	GERESS Array B	79.17	352	P	P	07 44 12.4	-1.0
	comp=Z,1.3nm,0.6s,baz=285,slow=26,SNR=9.3						
	comp=Z,1.3nm,0.6s						
CONA	Conrad Observa	79.86	350	eP	P	07 44 17.1	-0.1
	comp=Z,8.3nm,1.3s						
RONA	Rosalia, Austr	80.04	350	i P	P	07 44 18.9	+0.8
	comp=Z,2.2nm,0.7s						
MLR	Muntele Rosu	80.77	343	P	P	07 44 22.7	+0.6
MLR				IAmb	IAmb	07 44 24.0	
	comp=Z,27nm,1.5s						
MLR	Muntele Rosu	80.77	343	P	P	07 44 22.7	+0.6
MLR				pmax	pmax		
	comp=Z,27nm,1.5s						
MOTA	Moosalm	80.87	353	i P	P	07 44 22.0	-0.7
	comp=Z,17nm,1.2s						
GNI	Garni	80.89	328	LR	LR	08 25 41.4	
	comp=Z,70nm,19.5s,baz=282,slow=40						
WTTA	Wattenberg	80.91	353	i P	P	07 44 22.1	-0.8
	comp=Z,16nm,1.7s						
KBA	Koelnbreinsper	80.95	352	i P	P	07 44 23.4	+0.3
	comp=Z,12nm,0.7s						
SOKA	Soboth	81.19	350	eP	P	07 44 24.2	-0.1
	comp=Z,16nm,1.5s						
ABTA	Abfaltersbach	81.36	352	eP	P	07 44 25.8	+0.7
	comp=Z,6.4nm,0.8s						
MATN	Matagalpa	81.73	80	P	P	07 44 28.5	+0.9
WB0	Warramunga Arr	82.13	224	P	P	07 44 29.5	+0.2
WR0	Warramunga Arr	82.24	224	P	P	07 44 30.1	+0.3
WRAB	Tennant Creek	82.30	224	P	P	07 44 30.7	+0.5
WRAB	Tennant Creek	82.30	224	P	P	07 44 30.9	+0.7
WRAB	Tennant Creek	82.30	224	P	P	07 44 30.7	+0.5
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WB2	Warramunga Arr	82.30	224	P	P	07 44 30.8	+0.5
WRA	Warramunga Arr	82.31	224	P	P	07 44 30.4	+0.2
	comp=Z,4.9nm,0.7s,baz=32,slow=5.7,SNR=60						
WRA				pP	pP	07 44 55.3	-0.2
	comp=Z,1.8nm,0.7s,baz=33,slow=6.0,SNR=3.3						
	comp=Z,4.9nm,0.7s						
WRA	Warramunga Arr	82.31	224	P	P	07 44 29.9	-0.4
RMQ	Roma	82.98	209	P	P	07 44 35.7	+2.1
PSI	Prapat	83.02	266	P	P	07 44 34.8	+0.5
ORTG	Ortega, Santa	84.01	81	P	P	07 44 40.5	+1.2
ORTG				IAmb	IAmb	07 45 07.7	
	comp=Z,29nm,0.9s						
HYBB	Hyderabad (bro	84.06	291	eP	P	07 44 38.5	-1.0
BR131	Keskin Array S	84.56	335	P	P	07 44 41.4	-0.5
BR131				IAmb	IAmb	07 44 42.1	
	comp=Z,13nm,0.8s						
BR131	Keskin Array S	84.56	335	P	P	07 44 41.4	-0.5
BR131				pmax	pmax		
	comp=Z,13nm,0.9s						
BRTR	Keskin Array B	84.56	335	P	P	07 44 41.3	-0.5
	comp=Z,6.9nm,0.8s,baz=52,slow=2.6,SNR=22						
BRTR				LR	LR	08 26 31.1	
	comp=Z,135nm,18.1s,baz=290,slow=38						
	comp=Z,6.9nm,0.8s						
BRTR	Keskin Array B	84.56	335	P	P	07 44 41.0	-0.9
AS31	Alice Springs	85.79	222	P	P	07 44 49.0	+1.1
ASAR	Alice Springs	85.79	222	P	P	07 44 48.7	+0.8
	comp=Z,6.0nm,0.7s,baz=26,slow=5.1,SNR=40						
ASAR				pP	pP	07 45 14.1	+0.6
	comp=Z,3.7nm,0.7s,baz=28,slow=5.2,SNR=6.3						
	comp=Z,6.0nm,0.7s						
ASAR	Alice Springs	85.79	222	P	P	07 44 48.5	+0.7
SRBA	San Rafael, Bu	86.18	80	P	P	07 44 51.8	+1.5
SRBA				IAmb	IAmb	07 45 19.2	
	comp=Z,9.6nm,0.9s						
OOD	Oodnadatta	88.73	219	P	P	07 45 02.7	+0.8
ESDC	Sonseca Array	88.80	4	P	P	07 45 00.8	-1.6
	comp=Z,2.7nm,1.1s,baz=7.9,slow=4.5,SNR=5.7						
	comp=Z,2.7nm,1.1s						
WRKA	Warakurna	89.43	226	P	P	07 45 06.6	+1.4
LCRK	Leigh Creek	90.16	216	P	P	07 45 10.0	+1.5
STKA	Stephens Creek	90.27	213	P	P	07 45 10.0	+1.0
	comp=Z,5.9nm,0.7s,baz=345,slow=6.1,SNR=13						
STKA				LR	LR	08 24 36.9	
	comp=Z,64nm,18.2s,baz=22,slow=35						
	comp=Z,5.9nm,0.7s						
STKA	Stephens Creek	90.27	213	P	P	07 45 10.5	+1.5
STKA	Stephens Creek	90.27	213	P	P	07 45 10.7	+1.7
STKA	Stephens Creek	90.27	213	P	P	07 45 10.5	+1.5
STKA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MMAI	Mount Meron Ar	90.37	332	LR	LR	08 32 08.9	
	comp=Z,84nm,18.1s,baz=250,slow=40						
PSA00	Pilbara Seismi	90.53	235	P	P	07 45 10.1	-0.3
PSA00				IAmb	IAmb	07 45 18.6	
	comp=Z,22nm,1.7s						
PALK	Pallekele	90.78	283	P	P	07 45 11.6	-0.3
	comp=Z,10nm,1.0s,baz=9.5,slow=6.1						
	comp=Z,10nm,1.0s						
SDV	Santo Domingo	94.08	70	LR	LR	08 28 12.5	
	comp=Z,37nm,21.3s,baz=116,slow=36						
RPZ	Rata Peaks	95.53	187	LR	LR	08 25 31.7	
	comp=Z,74nm,18.3s,baz=338,slow=33						
TORD	Torodi Ar. Bea	115.33	359	PKP	PKiKP	07 50 47.5	-2.3
	comp=Z,1.1nm,1.1s,baz=40,slow=1.7,SNR=3.1						
LPAZ	La Paz	115.41	84	PKP	PKPdf	07 50 50.0	-0.6
	comp=Z,0.9nm,1.0s,baz=5.6,slow=5.9,SNR=4.3						
SIV	San Ignacio	119.51	78	PKP	PKPdf	07 50 56.8	-1.0
	comp=Z,1.7nm,0.6s,baz=26,slow=1.1,SNR=9.6						
SIV				SKP		07 54 22.6	
	comp=Z,2.1nm,0.8s,baz=170,slow=1.1,SNR=8.2						
AQDB	Aquidauana	126.20	77	PKPdf	PKPdf	07 51 10.4	-0.1
CPUP	Villa Florida	129.56	83	PKP	PKPdf	07 51 16.3	-0.4
	comp=Z,3.8nm,0.8s,baz=353,slow=4.4,SNR=11						
CPUP				SKPbc	SKPab	07 54 26.6	-2.3
	comp=Z,7.5nm,0.9s,baz=312,slow=7.4,SNR=13						
VNDA	Vanda	129.61	185	SKPbc	SKPbc	07 54 28.9	+0.7
	comp=Z,1.6nm,1.0s,baz=336,slow=7.0,SNR=6.1						
PLCA	Paso Flores	131.10	107	PKP	PKiKP	07 51 20.8	+0.5
	comp=Z,0.7nm,0.7s,baz=269,slow=5.0,SNR=4.8						
PLCA				SKPbc	SKPbc	07 54 33.5	-1.3
	comp=Z,6.4nm,1.1s,baz=304,slow=3.5,SNR=5.9						
QSPA	South Pole Qui	141.55	180		PKiKP	07 51 40.2	-0.5
TSUM	Tsumeb	145.01	332		PKPbc	07 51 44.4	-0.6
MAW	Mawson	146.81	218	PKPbc	PKPab	07 51 50.0	-0.4
	comp=Z,12nm,0.8s,baz=83,slow=3.2,SNR=24						
MAW				pPKPbc	pPKPab	07 52 16.3	-0.3
	comp=Z,10nm,0.8s,baz=87,slow=4.8,SNR=5.7						
MAW	Mawson	146.81	218		PKPab	07 51 50.1	-0.4
MAW	Mawson	146.81	218	PKP2	PKPab	07 51 50.1	-0.3
LBTB	Lobatse	147.43	316		PKPbc	07 51 51.1	-0.9
LBTB	Lobatse	147.43	316	PKP2	PKPbc	07 51 51.1	-0.9
BOSA	Boshof	150.69	313	PKPbc	PKPbc	07 51 59.6	-0.6
	comp=Z,7.0nm,0.8s,baz=12,slow=2.3,SNR=14						
BOSA				pPKPbc	pPKPbc	07 52 27.3	+0.4
	comp=Z,6.6nm,0.9s,baz=31,slow=2.6,SNR=2.9						
BOSA	Boshof	150.69	313		PKPbc	07 51 59.6	-0.6
BOSA				PKPab	PKPab	07 52 07.0	-0.3
TROLL	Troll, Antarti	159.71	181	PKPab	PKPab	07 52 43.2	-1.6
VNA3	Neumayer Olymp	159.88	170	PKPab	PKPab	07 52 47.5	+2.2
SNAA	Sanae	159.97	176	PKPab	PKPab	07 52 46.5	+0.7
VNA2	Neumayer--Watz	160.41	172	PKPab	PKPab	07 52 48.6	+0.9
	baz=188,slow=3.2						
VNA1	Neumayer--Stat	160.59	171	PKPab	PKPab	07 52 49.2	+0.7

*SOME **08** 07:35:58.6, 39°.87N×70°.35E, h5km*

NNC 08 07:36:31.4±0.6**, 43°.36N×69°.86E, h0km, mpv1.9, 1C-1D, Error ellipse: s-maj=2.9km s-min=2.0km az=117.0, Suspected Mining explosion., Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KK08	Karatay Array	0.52	119	P	Pg	07 36 41.9	+0.4
KK08				S	Sg	07 36 48.8	+0.6
KK09	Karatay Array	0.52	117	P	Pg	07 36 41.9	+0.5
KK09				S	Sg	07 36 49.8	+1.6
KK03	Karatay Array	0.53	118	P	Pg	07 36 42.0	+0.4
KK03				S	Sg	07 36 50.0	+1.4
KK04	Karatay Array	0.53	118	P	Pg	07 36 42.0	+0.4
KK04				S	Sg	07 36 49.6	+1.1
KK01	Karatay Array	0.54	118	P	Pg	07 36 41.8	+0.2
KK01				S	Sg	07 36 49.6	+1.1
KK02	Karatay Array	0.54	118	P	Pg	07 36 42.0	+0.2
KK02				S	Sg	07 36 49.8	+1.1
KK07	Karatay Array	0.54	120	P	Pg	07 36 42.2	+0.4
KK07				S	Sg	07 36 49.3	+0.6
KK31	Karatay Array	0.54	118	⇓P	Pg	07 36 41.9	+0.2
	1.3nm,0.3s,baz=298,slow=17,SNR=22						
KK31				⇑S	Sg	07 36 49.3	+0.6
	11nm,0.6s,baz=299,slow=31						
KK05	Karatay Array	0.54	116	P	Pg	07 36 42.2	+0.4
KK05				S	Sg	07 36 50.5	+1.7
KK06	Karatay Array	0.55	118	P	Pg	07 36 42.3	+0.3
KK06				S	Sg	07 36 50.6	+1.5
IUG	Iuzhnay	1.22	174	eP	Pg	07 36 41.4	-13
	78nm,0.3s						
IUG				eS	Sb	07 37 12.3	+0.6
	23nm,0.3s						
MRKS	Merke	2.54	103	eP	Pn	07 37 05.0	-9.0
	2.6nm,0.4s						
MRKS				eS	Sg	07 37 52.6	-0.4
	5.9nm,0.5s						
DGS	Degeres	4.32	90	eP	Pn	07 37 37.2	-1.2
	0.7nm,0.3s						
DGS				eS	Sg	07 38 47.9	-2.2
	4.8nm,0.4s						
KST	Kastek	4.47	92	eP	Pn	07 37 36.6	-4.0
	0.9nm,0.6s						
KST				eS	Sb	07 38 47.2	+1.8
	6.8nm,0.8s						

*NOU **08** 07:37:38.0, 19°.59S×169°.39E, h31km, MLv4.3/15, Vanuatu Islands*

*IDC **08** 07:37:45.4±2.3, 20°.29S×169°.32E, h85km±23km, mb3.3/4, mbtmp3.7/6, MS3.6/1, Error ellipse: s-maj=50.3km s-min=17.8km az=150.0*

ISC 08 07:37:42.8±1.0**, 19°.8S**±0°.1×**169°.05E**±0°.10**, h35km, n19, σ1s85/15, mb3.5/4, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MARNC	Mare, Loyalty	1.90	210	P	Pn	07 38 12.7	-0.1
LIFNC	LIFOU	1.95	241	P	Pn	07 38 11.7	-1.7
RTV	Rentapao	2.11	344	P	Pn	07 38 09.4	-6.3
DVP	Devils Point	2.25	338	P	Pn	07 38 11.6	-5.9
YATNC	Mamie plateau,	3.00	222	P	Pn	07 38 28.3	+0.4
OUENC	Ouen Island, N	3.30	218	P	Pn	07 38 33.5	+1.5
DZM	Mont Dzumac	3.31	227	P	Pn	07 38 31.9	-0.3
	8.4nm,0.2s,baz=117,slow=12,SNR=96						
DZM				S	Sn	07 39 11.7	+1.4
	26nm,0.4s,baz=141,slow=23,SNR=8.4						
DZM	Mont Dzumac	3.31	227	P	Pn	07 38 32.4	+0.2
NOUC	Port Laguerre	3.42	228	P	Pn	07 38 35.0	+1.3
ONTNC	Ouen Toro	3.46	224	P	Pn	07 38 37.2	+3.0
KOUNC	Koumac, New Ca	4.54	260	P	Pn	07 38 50.9	+1.9
MSVF	Nonsavu	8.77	78	P	Pn	07 39 48.9	+1.6
	13nm,0.8s,baz=241,slow=7.1,SNR=5.1						
HNR	Honiara	13.58	318	P	P	07 41 01.3	-0.2
	842nm,0.4s,baz=184,slow=6.1,SNR=1.7						
CTA	Charters Tower	21.43	265	P	P	07 42 30.7	+2.6
	1.4nm,0.7s,baz=90,slow=13,SNR=1.3						
	1.4nm,0.7s						
STKA	Stephens Creek	27.39	239	P	P	07 43 23.2	-1.9
	1.0nm,0.7s,baz=56,slow=11,SNR=1.5						
	1.0nm,0.7s						
WRA	Warramunga Arr	32.61	264	P	P	07 44 12.0	+0.6
	0.6nm,0.9s,baz=90,slow=8.3,SNR=3.0						
	0.6nm,0.9s						
ASAR	Alice Springs	32.82	257	P	P	07 44 11.5	-1.8
	0.6nm,0.6s,baz=86,slow=8.9,SNR=9.6						
	0.6nm,0.6s						
DAV	Davao City (W)	50.45	298	LR	LR	08 06 36.7	
	comp=Z,69nm,21.9s,baz=6.0,slow=34						
GERES	GERESS Array B	144.93	331	PKPbc	PKPbc	07 57 11.8	-3.8
	0.3nm,0.4s,baz=31,slow=3.1,SNR=5.0						

GUC 08 07:43:43.9±0.8**, 36°.61S×73°.65W, h20km**±13km**, ML3.7, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
BI05	Punta Hualpn	0.39	111	⇓iP	Pb	07 43 51.6	-0.6
BI05				eS	Sb	07 43 56.9	-0.9
BI05				IAML		07 43 58.0	
	comp=N,29μm,0.2s						
CCSP	San Pedro de C	0.49	119	eP	Pb	07 43 53.4	-0.5
CCSP				eS	Sb	07 43 59.7	-1.0
ML02	Panimavida	1.99	66	eP	Pn	07 44 16.1	-0.3
ML02				eS	Sn	07 44 41.9	+1.2
ML02				IAML		07 44 53.1	
	comp=N,2μm,0.8s						
GO05	Huala	2.12	42	⇓eP	Pn	07 44 16.6	-1.6
GO05				IAML		07 44 53.5	
	comp=N,356nm,0.4s						
GO05				IAML		07 44 55.6	
	comp=E,394nm,0.4s						
BO03	Pichilemu	2.51	34	eP	Pn	07 44 22.1	-1.5
BO03				IAML		07 45 11.9	
	comp=E,207nm,0.3s						
BO02	Sierra Bellavi	2.95	53	eP	Pn	07 44 29.7	0.0
BO01	Tunca	3.04	44	eP	Pn	07 44 30.8	-0.1
BO01				IAML		07 45 21.8	
	comp=N,102nm,0.4s						
LR04	Corral	3.27	177	eP	Pn	07 44 33.3	-0.8
LR04				IAML		07 45 14.7	
	comp=E,276nm,0.2s						
MT01	Popeta	3.37	36	eP	Pn	07 44 33.9	-1.5
MT01				IAML		07 45 33.9	
	comp=E,97nm,0.3s						
GO06	Curarrehue	3.43	151	eP	Pn	07 44 37.0	+0.7
MT09	Talagante	3.56	38	eP	Pn	07 44 37.5	-0.7
MT09				IAML		07 45 40.5	
	comp=E,191nm,0.7s						
FCH	Farellones	4.28	41	eP	Pn	07 44 47.4	-0.8

GUC 08 07:56:49.1±0.8**, 36°.56S×73°.46W, h18km**±12km**, ML3.9, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
BI05	Punta Hualpn	0.29	130	⇓iP	Pg	07 56 55.1	-0.2
BI05				eS	Sg	07 56 58.7	-1.0
BI05				IAML		07 57 00.4	
	comp=N,21μm,0.3s						
CCSP	San Pedro de C	0.40	135	eP	Pg	07 56 56.6	-0.8
CCSP				eS	Sg	07 57 02.5	-0.4
CCSP				IAML		07 57 03.7	
	comp=N,25μm,0.2s						
ML02	Panimavida	1.84	65	eP	Pn	07 57 20.0	+0.2
ML02				eS	Sn	07 57 42.6	0.0
ML02				IAML		07 57 52.9	
	comp=N,3μm,0.5s						
GO05	Huala	1.99	39	eP	Pn	07 57 21.6	-0.3
GO05				IAML		07 58 01.9	
	comp=E,1μm,0.8s						
BO03	Pichilemu	2.40	31	eP	Pn	07 57 26.5	-1.0
BO02	Sierra Bellavi	2.81	52	eP	Pn	07 57 32.9	-0.3
BO01	Tunca	2.91	43	eP	Pn	07 57 34.9	+0.3
BO01				IAML		07 58 36.1	
	comp=E,189nm,0.2s						
LR03	Panguipulli	3.19	164	eP	Pn	07 57 36.8	-1.6
LR03				eS	Sn	07 58 10.6	-5.4
MT01	Popeta	3.25	35	eP	Pn	07 57 38.6	-0.5
MT01				IAML		07 58 37.5	
	comp=E,176nm,0.6s						
VA05	Santo Domingo	3.27	28	eP	Pn	07 57 38.5	-1.0
LR04	Corral	3.31	180	eP	Pn	07 57 36.9	-3.2
LR04				IAML		07 58 15.8	
	comp=N,442nm,0.5s						
GO06	Curarrehue	3.40	153	i P	Pn	07 57 40.4	-1.0
GO06				IAML		07 58 35.2	
	comp=E,107nm,0.4s						
MT09	Talagante	3.44	37	eP	Pn	07 57 42.0	0.0
MT09				IAML		07 58 46.4	
	comp=E,252nm,0.3s						
LMEL	Las Melosas	3.80	46	eP	Pn	07 57 47.7	+0.7
MT02	Curacav	3.81	31	eP	Pn	07 57 46.0	-0.9
MT05	Renca	3.88	36	eP	Pn	07 57 47.9	0.0
MT03	Universidad Ad	3.91	39	eP	Pn	07 57 48.2	-0.1
PEL	Peldehue	4.11	35	eP	Pn	07 57 51.0	0.0
ROCH	El Roble	4.11	30	eP	Pn	07 57 50.6	-0.7
FCH	Farellones	4.15	40	eP	Pn	07 57 51.7	-0.2
VA06	Catapilco	4.37	25	eP	Pn	07 57 53.2	-1.4
LL04	Puerto Octay	4.42	170	eP	Pn	07 57 53.2	-2.1
LL05	Los Muermos	4.83	180	eP	Pn	07 57 58.0	-3.0
VA04	Juan Fernndez	5.28	302	eP	Pn	07 58 04.1	-2.9

IDC 08 08:06:14.8±3.6**, 54°.58N×86°.38E, h0km, mbtmp3.0/2, ML2.7/1, Error ellipse: s-maj=28.1km s-min=15.4km az=48.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
I46RU	ZALESOVO INFRA	1.11	236	I		08 13 50.0	
	baz=54,slow=344,SNR=5.1						
ZALV	Zalesovo Beam	1.11	236	Pg	Pg	08 06 35.9	-0.2
	0.6nm,0.3s,baz=56,slow=18,SNR=2.1						
ZALV				Lg	Lg	08 06 51.1	
	4.5nm,0.3s,baz=53,slow=27,SNR=12						
KURBB	Kurchatov Arra	6.21	234	Pn	Pn	08 07 48.8	+1.2
	1.0nm,0.2s,baz=50,slow=15,SNR=4.8						
MKAR	Makanchi Array	8.21	200	Pn	Pn	08 08 15.3	+0.1
	0.1nm,0.3s,baz=15,slow=13,SNR=1.7						
	0.2nm,0.4s						

IDC 08 08:12:35.4±2.3**, 2°.47N×126°.04E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=195.2km s-min=27.8km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	Warramunga Arr	23.72	160	P	P	08 17 47.6	-1.7
	0.5nm,0.8s,baz=339,slow=11,SNR=8.9						
	0.5nm,0.8s						
ASAR	Alice Springs	27.08	164	P	P	08 18 22.0	+2.0
	0.3nm,0.6s,baz=341,slow=11,SNR=8.1						
	0.3nm,0.6s						
MKAR	Makanchi Array	58.20	326	P	P	08 22 30.8	-0.6
	0.3nm,0.5s,baz=131,slow=5.9,SNR=2.7						
	0.3nm,0.5s						

*NIED **08** 08:16:58.5, 35°.42N×133°.82E, h11km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.54; $M_{\theta\theta}$3.26; $M_{\phi\phi}$-2.72; $M_{r\theta}$-0.94; $M_{\theta\phi}$-1.54; $M_{\phi r}$0.02; Fault plane solution: $M_0$3.47000×10^{14} NP1: ϕ_s329.00000°, δ78.00000°, λ5.00000°. NP2:ϕ_s238.00000°, δ85.00000°, λ168.00000°.*

*JMA **08** 08:16:58.5±0.0, 35°.4N±0°.1×133°.8E±0°.1, h11km, MV3.8/20, EASTERN TOTTORI PREF*

JMA Felt III J1 at EASTERN TOTTORI PREF .

ISC 08 08:16:59.7±1.0**, 35°.36N**±0°.06×**133°.80E**±0°.05**, h5km**±8km**, n11, σ1s00/13, 1D, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
JKR	Kurayoshi	0.03	35	P	Pg	08 17 00.4	-0.3
JKR				eS	Sg	08 17 01.8	+0.4
JAD	Aida	0.51	144	P	Pg	08 17 09.2	-0.4
JAD				S	Sg	08 17 16.6	+0.4
JNM	Ikuma	0.64	283	⇓P	Pg	08 17 11.2	-0.9
JHS	Saijyo	0.66	238	P	Pb	08 17 13.8	0.0
JMN	Monobe	1.62	178	P	Pb	08 17 29.5	-0.7
INU	Inuyama	2.63	89	P	Pn	08 17 42.0	-0.8
JGF	Kuroka	2.91	84	P	Pn	08 17 46.2	-0.6
JNU	Nakatsue	3.29	228	P	Pn	08 17 53.8	+1.9
JTU	Tsushima	3.71	258	P	Pn	08 17 59.0	+1.3
MAJO	Matsushiro	3.77	70	P	Pn	08 17 59.2	+0.7
JTM	Tenmabayashi	7.89	44	P	Pn	08 18 55.8	+0.7

IDC 08 08:20:04.5±3.8**, 54°.48N×87°.29E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=33.3km s-min=22.1km az=38.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
I46RU	ZALESOVO INFRA	1.54	251	I		08 28 58.0	
	baz=69,slow=340,SNR=2.8						
ZALV	Zalesovo Beam	1.54	251	Pg	Pn	08 20 31.5	-1.7
	1.1nm,0.3s,baz=71,slow=15,SNR=9.9						
ZALV				Lg	Lg	08 20 53.8	
	1.7nm,0.3s,baz=67,slow=15,SNR=6.6						
KURBB	Kurchatov Arra	6.59	238	Pn	Pn	08 21 43.2	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=4.7						
	0.5nm,0.2s						
MKAR	Makanchi Array	8.32	204	Pn	Pn	08 22 07.4	+1.1
	0.1nm,0.3s,baz=28,slow=14,SNR=1.4						
	0.1nm,0.3s						

DJA 08 08:35:21.0±0.8**, 1°N**±5°×**12°0E**±°**, h11km**±5km**, M3.8/6, mb4.2/1, MLv3.6/6, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MPSI	Mapaga	0.77	197	P	Pg	08 35 28.6	-7.4
MPSI				S	Sg	08 35 34.7	-11
MRSI	Marisa	1.91	108	P	Pn	08 35 53.5	0.0
MRSI				S	Sn	08 36 17.5	0.0
APSI	Ampana	2.49	142	P	Pn	08 36 00.6	-0.9
GTOI	Gorontalo	2.91	99	P	Pn	08 36 05.7	-1.6
LUWI	Luwuk	3.38	129	P	Pn	08 36 14.0	+0.3
MYLDM	Lahad Datu	4.39	338	P	Pn	08 36 27.1	-0.5
SPSI	Sidrap Palu	5.02	184	P	Pn	08 36 36.5	+0.1

*NOU **08** 08:36:31.6, 34°.38S×177°.83W, h92km, MLv4.8/7, South of Kermadec Islands*

*IDC **08** 08:36:37.4±1.5, 34°.23S×179°.18W, h0km, mb3.9/5, mbtmp4.0/7, ML4.1/2, MS3.2/1, Error ellipse: s-maj=39.2km s-min=25.5km az=61.0*

*WEL **08** 08:36:39.6±0.7, 34°S±8°×17°9W±1°6, h33km, M4.2/18, mB4.8/8, ML4.7/24, MLv4.4/18, Mw(mB)4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=116.0*

*NEIC **08** 08:36:43.2±1.0, 34°.6S±0°.1×179°.1W±0°.2, h35km±2km, mb4.2/11, Error ellipse: s-maj=22.2km s-min=17.9km az=74.0*

ISC 08 08:36:41.0±0.9**, 34°.49S**±0°.06×**178°.8W**±0°.1**, h35km, n68, σ1s50/81, mb4.1/11, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MXZ	Matakaoa Point	3.87	217	Pn	Pn	08 37 36.9	-1.1
MXZ	Matakaoa Point	3.87	217	P	Pn	08 37 37.1	-0.9
PKGZ	Pakihiroa	4.24	216	P	Pn	08 37 41.5	-1.7
PKGZ				S	Sn	08 38 30.1	-1.3
HAZ	Te Kaha	4.29	219	P	Pn	08 37 43.6	-0.1
HAZ				S	Sn	08 38 33.3	+0.8
PUZ	Puketiti	4.30	213	P	Pn	08 37 41.5	-2.5
PUZ				S	Sn	08 38 30.6	-2.4
RUGZ	Raukumara Rang	4.50	219	P	Pn	08 37 46.2	-0.5
RUGZ				S	Sn	08 38 38.3	+0.4
TWGZ	Tauwhareparae	4.52	214	P	Pn	08 37 47.3	+0.4
TWGZ				S	Sn	08 38 37.9	-0.4
CNGZ	Carnagh Statio	4.67	210	P	Pn	08 37 48.9	-0.1
TKGZ	Te Karaka	4.79	214	P	Pn	08 37 50.1	-0.5
MWZ	Matawai	4.86	217	P	Pn	08 37 50.8	-0.8
KUZ	Kuaotunu	5.02	242	P	Pn	08 37 54.2	+0.5
URZ	Urewera	5.02	220	Pn	Pn	08 37 52.1	-1.6
	7.8nm,0.3s,baz=339,slow=7.7,SNR=32						
URZ				Sn	Sn	08 38 46.4	-4.1
	baz=352,slow=14						
	18nm,0.3s						
URZ	Urewera	5.02	220		Pn	08 37 53.5	-0.2
URZ	Urewera	5.02	220	P	Pn	08 37 52.8	-0.9
URZ	Urewera	5.02	220	P	Pn	08 37 52.5	-1.2
URZ				S	Sn	08 38 49.0	-1.4
RIGZ	Rimuhau	5.05	212	P	Pn	08 37 53.0	-1.2
RIGZ				S	Sn	08 38 49.8	-1.5
OPRZ	Ohinepanea	5.05	227	P	Pn	08 37 53.4	-0.8
OPRZ				S	Sn	08 38 51.3	+0.1
GLKZ	Green Lake	5.26	8	S	Sn	08 38 52.1	-4.4
SNGZ	Shannon Statio	5.30	215	P	Pn	08 37 56.8	-0.9
SNGZ				S	Sn	08 38 56.2	-1.3
RTZ	Ruatahuna	5.35	218	P	Pn	08 37 57.4	-1.0
RTZ				S	Sn	08 38 57.6	-1.2
MUGZ	Murupara	5.36	221	P	Pn	08 37 57.2	-1.3
MUGZ				S	Sn	08 38 57.5	-1.4
MHGZ	Mahia Peninsul	5.36	209	P	Pn	08 37 59.3	+0.9
RAHZ	Arahi	5.53	216	P	Pn	08 38 00.1	-0.7
HSRZ	Hossack Road	5.54	225	P	Pn	08 38 00.1	-0.8
MTHZ	Maungataniwha	5.60	218	P	Pn	08 38 01.3	-0.5
MTHZ				S	Sn	08 39 04.1	-0.8
NMHZ	Naumai	5.81	216	P	Pn	08 38 04.2	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BKZ	Black Stump Fm	6.01	218		Pn	08 38 06.3	-1.2
BKZ	Black Stump Fm	6.01	218	P	Pn	08 38 06.0	-1.5
BKZ	Black Stump Fm	6.01	218	P	Pn	08 38 06.2	-1.3
HATZ	Hinemaiaia	6.02	222	P	Pn	08 38 06.1	-1.5
MCHZ	McNeill Hill	6.13	215	P	Pn	08 38 07.8	-1.2
RITZ	Rihia Road	6.21	222	P	Pn	08 38 09.8	-0.4
KWHZ	Kaweka Forest	6.25	217	P	Pn	08 38 09.3	-1.4
OUZ	Omahuta	6.31	261	Pn	Pn	08 38 12.1	+0.5
OUZ	Omahuta	6.31	261	P	Pn	08 38 13.0	+1.5
KAHZ	Kahuranaki	6.33	212	P	Pn	08 38 09.3	-2.6
TMVZ	Te Maari	6.40	222	P	Pn	08 38 12.3	-0.5
NTVZ	North Tongarir	6.40	222	P	Pn	08 38 11.6	-1.2
ETVZ	East Tongariro	6.41	222	P	Pn	08 38 12.1	-0.8
BHHZ	Black Hill Sta	6.48	218	P	Pn	08 38 12.3	-1.6
HIZ	Hauiti	6.51	230	P	Pn	08 38 14.4	+0.1
MOVZ	Moawhango	6.58	220	P	Pn	08 38 14.0	-1.3
BFZ	Birch Farm	7.34	211	Pn	Pn	08 38 22.0	-3.6
BFZ	Birch Farm	7.34	211	P	Pn	08 38 22.9	-2.7
MSWZ	Moikau Station	8.37	213	Pn	Pn	08 38 38.2	-1.6
TUWZ	Tuamarina	9.00	218	Pn	Pn	08 38 47.4	-1.0
THZ	Tophouse	9.78	220	Pn	Pn	08 38 58.5	-0.6
RPZ	Rata Peaks	12.13	218	Pn	Pn	08 39 29.9	-1.3
	0.9nm,0.3s,baz=0.0,slow=8.1,SNR=6.4						
RPZ				Sn	Sn	08 41 32.1	-13
	0.6nm,0.3s,baz=40,slow=12,SNR=2.7						
	3.4nm,0.3s						
RPZ	Rata Peaks	12.13	218	Pn	Pn	08 39 31.0	-0.2
DZM	Mont Dzumac	17.93	310	LR	LR	08 46 25.2	
	comp=Z,77nm,19.1s,baz=17,slow=34						
CTA	Charters Tower	34.04	286	P	P	08 43 21.9	0.0
	2.2nm,0.6s,baz=93,slow=14,SNR=4.0						
	2.2nm,0.6s						
CTAO	Charters Tower	34.04	286	P	P	08 43 22.7	+0.8
COEN	Coen	39.95	291	P	P	08 44 11.5	-0.6
COEN				IAmb	IAmb	08 44 13.7	
	comp=Z,4.4nm,0.9s						
AS31	Alice Springs	42.40	272	P	P	08 44 31.8	-0.6
ASAR	Alice Springs	42.40	272	P	P	08 44 31.1	-1.2
	comp=Z,3.0nm,0.7s,baz=115,slow=7.2,SNR=36						
ASAR				PcP	PcP	08 46 24.6	-0.5
	comp=Z,0.2nm,0.3s,baz=118,slow=4.0,SNR=4.9						
	comp=Z,3.0nm,0.7s						
WR0	Warramunga Arr	43.59	277	P	P	08 44 41.3	-0.6
WR0				IAmb	IAmb	08 44 52.8	
	comp=Z,3.7nm,1.1s						
WB2	Warramunga Arr	43.75	277	P	P	08 44 42.2	-1.0
WB2				IAmb	IAmb	08 45 20.1	
	comp=Z,3.6nm,1.0s						
WRAB	Tennant Creek	43.76	277	P	P	08 44 42.0	-1.3
WRAB				IAmb	IAmb	08 44 53.2	
	comp=Z,2.4nm,0.8s						
WRA	Warramunga Arr	43.76	277	P	P	08 44 41.8	-1.5
	comp=Z,0.7nm,0.4s,baz=118,slow=7.6,SNR=24						
WRA				PcP	PcP	08 46 28.9	-0.8
	comp=Z,0.3nm,0.8s,baz=114,slow=2.0,SNR=1.7						
	comp=Z,0.7nm,0.4s						
WRA	Warramunga Arr	43.76	277	P	P	08 44 42.5	-0.8
WB0	Warramunga Arr	43.80	277	P	P	08 44 43.1	-0.5
WB0				IAmb	IAmb	08 44 44.5	
	comp=Z,7.4nm,1.2s						
VNDA	Vanda	43.97	186	P	P	08 44 49.5	+5.2
	comp=Z,0.1nm,0.6s,baz=5.7,slow=6.6,SNR=1.6						
	comp=Z,0.1nm,0.6s						
FORT	Forrest	44.50	259	P	P	08 44 48.2	-0.8
QSPA	South Pole Qui	55.63	180	P	P	08 46 16.2	+3.0
	comp=Z,1.5nm,0.9s,baz=346,slow=2.9,SNR=3.9						
	comp=Z,1.5nm,0.9s						
QSPA	South Pole Qui	55.63	180	P	P	08 46 15.1	+1.9
QSPA				IAmb	IAmb	08 46 49.2	
	comp=Z,5.2nm,1.2s						
SNAA	Sanae	74.10	179	P	P	08 48 15.3	+2.2
SNAA				IAmb	IAmb	08 48 18.0	
	comp=Z,3.1nm,1.1s						
FINES	FINESS Array B	148.70	337	PKPbc	PKPbc	08 56 23.6	0.0
	comp=Z,3.2nm,0.7s,baz=20,slow=4.4,SNR=4.6						
TORD	Torodi Ar. Bea	158.75	181	PKPab	PKPab	08 57 15.0	+4.0
	comp=Z,0.2nm,0.4s,baz=156,slow=4.2,SNR=1.7						

---

*IDC **08** 08:41:18.4±0.9, 20°.06N×121°.64E, h0km, mb3.8/8, mbtmp3.9/8, MS3.4/6, Error ellipse: s-maj=40.6km s-min=17.5km az=63.0*

*JMA **08** 08:41:25.1±0.6, 20°N±3°×12°2E±°, h0km, MV4.4/8, PHILIPPINE ISL REGION*

*NEIC **08** 08:41:25.6±1.5, 20°.02N±0°.10×121°.5E±0°.2, h43km±9km, mb4.4/11, Error ellipse: s-maj=28.5km s-min=14.2km az=86.0*

*MAN **08** 08:41:26.7, 19°.87N×121°.29E, h14km, mb4.7, ML3.6, MS3.5*

ISC 08 08:41:24.6±0.6**, 20°.08N**±0°.04×**121°.60E**±0°.10**, h40km, n46, σ1s11**/43**, mb4.2**/15**, MS3.5**/5**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	2.23	189	⇓iP	Pn	08 41 59.9	+0.8
APYP				iS	Sn	08 42 26.5	+1.1
TWG	Pinlang	2.77	350	Pn	Pn	08 42 08.2	+1.7
YULB	Yu-li	3.31	355	Pn	Pn	08 42 14.8	+0.8
SSLB	Suanglung	3.74	351	Pn	Pn	08 42 20.3	+0.4
NACB	Ninganchiao	4.08	360	Pn	Pn	08 42 26.7	+2.2
HATJ	Hateruma jima	4.46	27	eP	Pn	08 42 30.6	+1.0
HATJ				eS	Sn	08 43 19.4	-0.9
YOJ	Yonaguni jima	4.55	16	Pn	Pn	08 42 32.9	+1.9
YHNB	Yeheng	4.57	357	Pn	Pn	08 42 32.6	+1.2
JKRS	Kuro-shima	4.70	28	eP	Pn	08 42 34.9	+1.8
JKRS				eS	Sn	08 43 26.0	-0.4
JIJ	Ishigaki jima	4.87	28	eP	Pn	08 42 34.8	-0.6
JIJ				S	Sn	08 43 28.6	-1.9
JISG	Ishigakijimahi	5.14	29	P	Pn	08 42 40.5	+1.5
JISG				S	Sn	08 43 36.4	-0.8
JTJ	Tarama	5.37	32	eP	Pn	08 42 44.2	+2.0
JTJ				eS	Sn	08 43 42.8	-0.1
DAV	Davao City (W)	13.49	163	LR	LR	08 50 06.0	
	comp=Z,179nm,20.4s,baz=326,slow=39						
CMAR	Chiang Mai Arr	21.45	270	P	P	08 46 08.6	-1.1
	1.0nm,0.4s,baz=83,slow=7.4,SNR=4.2						
CMAR				LR	LR	08 54 40.5	
	comp=Z,81nm,18.7s,baz=90,slow=37						
	1.0nm,0.4s						
GUMO	Guam	23.17	103	LR	LR	08 53 33.1	
	comp=Z,63nm,21.7s,baz=310,slow=32						
SONM	Songino Array	30.31	340	P	P	08 47 32.7	+0.4
	0.2nm,0.3s,baz=156,slow=14,SNR=2.2						
SONM				LR	LR	09 01 00.9	
	comp=Z,103nm,18.7s,baz=207,slow=39						
	0.2nm,0.3s						
PSA00	Pilbara Seismi	41.43	182	P	P	08 49 07.0	-0.5
WB0	Warramunga Arr	41.54	162	P	P	08 49 07.7	-0.8
WB0				IAmb	IAmb	08 49 08.4	
	comp=Z,4.8nm,0.8s						
MKAR	Makanchi Array	41.61	319	P	P	08 49 08.4	-0.5
	comp=Z,0.9nm,0.6s,baz=116,slow=9.4,SNR=8.0						
	comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	41.61	319	P	P	08 49 08.9	+0.1
WRAB	Tennant Creek	41.68	162	P	P	08 49 08.7	-0.9
WRAB				IAmb	IAmb	08 49 09.3	
	comp=Z,4.9nm,0.8s						
WRA	Warramunga Arr	41.69	162	P	P	08 49 08.4	-1.3
	comp=Z,3.9nm,0.6s,baz=343,slow=9.0,SNR=46						
WRA				PcP	PcP	08 51 06.1	+0.2
	comp=Z,0.2nm,0.6s,baz=344,slow=3.3,SNR=1.5						
	comp=Z,3.9nm,0.6s						
WRA	Warramunga Arr	41.69	162	P	P	08 49 08.9	-0.7
WB2	Warramunga Arr	41.69	162	P	P	08 49 08.5	-1.2
WB2				IAmb	IAmb	08 49 09.4	
	comp=Z,6.6nm,0.7s						
WR0	Warramunga Arr	41.76	162	P	P	08 49 08.8	-1.4
WR0				IAmb	IAmb	08 49 10.3	
	comp=Z,7.0nm,0.7s						
H11N1	WAKE ISLAND Hy	42.49	82	T	T	09 34 54.0	
	baz=278						
H11N2	WAKE ISLAND Hy	42.49	82	T	T	09 34 53.2	
	baz=278						
H11S3	WAKE ISLAND Hy	42.49	84	T	T	09 34 42.4	
	baz=281						
H11S1	WAKE ISLAND Hy	42.50	84	T	T	09 34 50.4	
	baz=281						
H11N3	WAKE ISLAND Hy	42.50	82	T	T	09 34 37.2	
	baz=278						
H11S2	WAKE ISLAND Hy	42.51	84	T	T	09 34 49.3	
	baz=281						
AS31	Alice Springs	45.10	164	P	P	08 49 37.1	0.0
AS31				IAmb	IAmb	08 49 38.2	
	comp=Z,1.8nm,0.6s						
ASAR	Alice Springs	45.10	164	P	P	08 49 36.4	-0.8
	comp=Z,4.4nm,0.6s,baz=345,slow=7.0,SNR=68						
	comp=Z,4.4nm,0.6s						
ASAR	Alice Springs	45.10	164	P	P	08 49 36.9	-0.3
AAK	Ala-Archa	45.38	311	LR	LR	09 11 10.6	
	comp=Z,70nm,19.3s,baz=74,slow=40						
KURBB	Kurchatov Arra	45.54	322	P	P	08 49 39.9	-0.4
	comp=Z,1.0nm,0.6s,baz=130,slow=8.4,SNR=6.3						
	comp=Z,1.0nm,0.6s						
FORT	Forrest	50.95	173	P	P	08 50 22.7	+0.5
BVAR	Borovoye Array	51.12	323	P	P	08 50 22.3	-1.1
	comp=Z,0.4nm,0.4s,baz=90,slow=16,SNR=2.6						
	comp=Z,0.4nm,0.4s						
NWAO	Narrogin (SRO)	52.87	185	P	P	08 50 36.1	-0.4
BBOO	Buckleboo	54.38	165	P	P	08 50 48.3	+0.8
BBOO				IAmb	IAmb	08 51 03.8	
	comp=Z,17nm,1.3s						
IMAR	Indian Mountai	69.68	26	P	P	08 52 30.9	+1.0
H21K	Melozitna Rive	70.09	26	P	P	08 52 34.0	+1.6
H21K				IAmb	IAmb	08 52 55.0	
	comp=Z,8.5nm,1.4s						
ILAR	Eielson Array	72.68	27	P	P	08 52 47.4	-0.7
	comp=Z,0.3nm,0.8s,baz=271,slow=5.3,SNR=1.9						
	comp=Z,0.3nm,0.8s						
BMAR	Burnt Mountain	73.10	24	P	P	08 52 52.2	+1.6
BCAR	Beaver Creek A	75.25	28	P	P	08 53 02.8	-0.5
NOA	NORSAR Array B	82.02	333	LR	LR	09 33 17.7	
	comp=Z,25nm,18.3s,baz=340,slow=38						

---

*NNC **08** 08:49:12.7±2.8, 54°.33N×86°.00E, h0km, mb3.8, mpv2.7, Error ellipse: s-maj=18.9km s-min=15.2km az=155.0, Suspected Mining explosion.*

*IDC **08** 08:49:13.9±2.1, 54°.28N×86°.05E, h0km, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=16.5km s-min=10.4km az=58.0*

ISC 08 08:49:13.7±2.7**, 54°.3N**±0°.1×**86°.1E**±0°.1**, h0km, n8, σ1s41**/13**, 6C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.82	245	I		08 55 00.0	
	baz=66,slow=340,SNR=1.5						
ZAA0	Zalesovo Array	0.82	245	⇑P	Pg	08 49 27.9	-1.5
	0.4nm,0.7s,baz=61,slow=17						
ZAA0				⇓S	Sg	08 49 39.3	-0.7
	2.6nm,0.5s						
ZALV	Zalesovo Beam	0.82	245	Pg	Pg	08 49 27.4	-2.0
	0.9nm,0.3s,baz=64,slow=16,SNR=13						
ZALV				Lg	Lg	08 49 39.8	
	4.2nm,0.3s,baz=63,slow=28,SNR=32						
KURK	Kurchatov	5.80	235	⇑Pn	Pn	08 50 42.0	+1.1
	10nm,1.9s						
KURK				⇑Sn	Sn	08 51 51.0	+3.0
	7.5nm,1.9s						
KURK				⇑Sn	Sg	08 52 20.1	+0.3
	2.4nm,0.6s						
KURBB	Kurchatov Arra	5.90	234	Pn	Pn	08 50 42.6	+0.3
	0.1nm,0.3s,baz=52,slow=14,SNR=11						
KURBB				Sn	Sn	08 51 51.3	+0.7
	0.1nm,0.3s,baz=42,slow=21,SNR=3.0						
KURBB				Lg	Lg	08 52 20.8	
	0.1nm,0.3s,baz=52,slow=32,SNR=3.2						
	1.7nm,0.6s						
KURBB	Kurchatov Arra	5.90	234	⇓Pn	Pn	08 50 42.9	+0.6
	3.2nm,0.8s,baz=51,slow=13						
KURBB				⇑Sn	Sn	08 51 51.0	+0.5
	1.6nm,0.6s						
KURBB				⇑Lg	Lg	08 52 25.4	
	5.6nm,0.6s						
MKAR	Makanchi Array	7.90	199	Pn	Pn	08 51 09.7	0.0
	0.3nm,0.3s,baz=24,slow=13,SNR=13						
MKAR				Sn	Sn	08 52 40.1	+0.4
	0.2nm,0.3s,baz=23,slow=26,SNR=4.3						
MKAR				Lg	Lg	08 53 23.9	
	0.1nm,0.3s,baz=19,slow=31,SNR=3.6						
	1.2nm,0.5s						
BVAR	Borovoye Array	9.40	269	Pn	Pn	08 51 31.2	+1.0
	baz=69,slow=14,SNR=2.3						
	0.5nm,0.4s						

---

*IDC **08** 09:11:06.5±0.8, 57°.78S×150°.65E, h0km, mb4.4/9, mbtmp4.4/9, MS4.0/18, Error ellipse: s-maj=36.7km s-min=16.9km az=87.0*

*NEIC **08** 09:11:08.7±1.1, 58°.19S±0°.05×148°.4E±0°.2, h10km±1km, mb4.6/33, Error ellipse: s-maj=19.6km s-min=8.3km az=97.0*

*GCMT **08** 09:11:12.7±0.3, 58°.05S±0°.02×148°.22E±0°.04, h12km, MW4.9/78, Moment Tensor Solution. s16,c17; s78,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.46±.12; $M_{\theta\theta}$0.36±.10; $M_{\phi\phi}$-0.82±.13; $M_{r\theta}$-1.90±.31; $M_{\theta\phi}$-2.22±.07; $M_{\phi r}$-0.85±.30; Best double couple: $M_0$3.05900×10^{16} NP1:ϕ_s258.00000°, δ87.00000°, λ137.00000°. NP2: ϕ_s351.00000°, δ47.00000°, λ4.00000°. Principal axes: T 2.6860, Plg31.0000°, Azm205.0000°; N 0.7450, Plg47.0000°, Azm74.0000°; P -3.4310, Plg26.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 09:11:09.4±0.5**, 58°.16S**±0°.06×**148°.42E**±0°.09**, h10km, n131, σ1s48**/105**, mb4.6**/24**, MS4.1**/20**, 3C, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	6.91	62	P	Pb	09 13 01.3	-8.1
	baz=7.3						
MCQ	Macquarie Isla	6.91	62	Pn	Pn	09 12 49.8	-0.9
TAU	Tasmania Unive	15.28	357	Pn	Pn	09 14 42.8	-2.2
MOO	Moorlands	15.75	357	P	P	09 14 54.4	-0.7
	baz=16						
PYZ	Puysegur Point	16.35	51	Pn	Pn	09 14 58.0	-0.9
WHZ	Wether Hill Ro	17.10	53	Pn	Pn	09 15 06.5	-1.8
DCZ	Deep Cove	17.11	50	Pn	Pn	09 15 07.8	-0.7
DCZ				IAmb	IAmb	09 15 11.4	
	comp=Z,36nm,1.3s						
CASY	Casey	19.14	229	P	P	09 15 31.0	-1.3
VNDA	Vanda	19.99	171	P	P	09 15 42.4	+0.8
	comp=Z,4.6nm,1.1s,baz=333,slow=12,SNR=15						
VNDA				LR	LR	09 22 22.8	
	comp=Z,289nm,20.9s,baz=346,slow=34						
	comp=Z,4.6nm,1.1s						
VNDA	Vanda	19.99	171	P	P	09 15 40.0	-1.5
RPZ	Rata Peaks	20.17	54	LR	LR	09 22 17.3	
	comp=Z,606nm,18.1s,baz=224,slow=35						
TOO	Toolangi	20.69	353	P	Pn	09 15 50.2	-1.5
	baz=20,SNR=5.1						
TOO	Toolangi	20.69	353	P	P	09 15 46.4	-3.0
TOO				IAmb	IAmb	09 16 04.3	
	comp=Z,56nm,1.4s						
TOO	Toolangi	20.69	353	P	Pn	09 15 50.5	-1.3
SBA	Scott Base	20.73	169	P	P	09 15 47.1	-2.4
MILA	Mila	21.12	2	P	P	09 15 55.4	+1.3
	baz=21						
MILA	Mila	21.12	2	P	P	09 15 56.1	+2.0
LTZ	Lake Taylor	21.44	55	P	P	09 15 58.6	+1.0
LTZ				IAmb	IAmb	09 16 01.0	
	comp=Z,46nm,1.5s						
ARPS	Mount Arapiles	21.83	346	P	P	09 16 02.2	+0.5
	baz=22						
ARPS	Mount Arapiles	21.83	346	P	P	09 16 03.7	+2.0
CAN	Canberra	22.85	1	P	P	09 16 12.1	-0.6
CAN				IAmb	IAmb	09 16 17.2	
	comp=Z,39nm,1.2s						
CAN	Canberra	22.85	1	P	P	09 16 15.7	+3.1
CNB	Canberra Magne	22.86	2	P	P	09 16 14.9	+2.1
	baz=23,SNR=4.3						
CNB	Canberra Magne	22.86	2	P	P	09 16 15.9	+3.1
BSWZ	Blackbirch Sta	23.00	55	P	P	09 16 12.9	-1.2
HTT	Hallett	25.55	341	P	P	09 16 38.8	+0.7
	baz=25,SNR=3.3						
HTT	Hallett	25.55	341	P	P	09 16 40.5	+2.3
CMSA	Cobar Meteorol	26.68	355	P	P	09 16 49.7	+1.4
	baz=26,SNR=9.8						
CMSA	Cobar Meteorol	26.68	355	P	P	09 16 49.5	+1.1
STKA	Stephens Creek	26.69	347	P	P	09 16 46.7	-1.7
	comp=Z,5.8nm,1.0s,baz=168,slow=11,SNR=8.0						
STKA				LR	LR	09 25 21.9	
	comp=Z,337nm,18.4s,baz=185,slow=32						
	comp=Z,5.8nm,1.0s						
STKA	Stephens Creek	26.69	347	P	P	09 16 50.2	+1.8
	baz=26,SNR=5.3						
STKA	Stephens Creek	26.69	347	P	P	09 16 48.0	-0.5
STKA	Stephens Creek	26.69	347	P	P	09 16 50.1	+1.6
BBOO	Buckleboo	26.70	336	P	P	09 16 45.2	-3.3
BBOO				IAmb	IAmb	09 16 55.0	
	comp=Z,16nm,0.9s						
URZ	Urewera	27.26	56	P	P	09 16 42.0	-12
	comp=Z,9.9nm,1.0s,baz=212,slow=13,SNR=2.2						
URZ				LR	LR	09 27 07.1	
	comp=Z,650nm,18.5s,baz=274,slow=37						
	comp=Z,9.9nm,1.0s						
LHI	Lord Howe Isla	27.61	20	P	P	09 16 58.5	+1.7
	baz=28,SNR=4.2						
MULG	Mulgathing	29.58	334	P	P	09 17 14.1	-0.1
FORT	Forrest	30.73	324	P	P	09 17 24.0	-0.5
	baz=30,SNR=9.5						
FORT	Forrest	30.73	324	P	P	09 17 23.5	-1.0
FORT	Forrest	30.73	324	P	P	09 17 24.9	+0.4
INKA	Innaminka	30.87	347	P	P	09 17 27.3	+1.6
RMQ	Roma	31.65	1	P	P	09 17 33.4	+0.8
	baz=32,SNR=5.4						
QSPA	South Pole Qui	31.94	180	P	P	09 17 36.6	+1.5
	comp=Z,6.5nm,1.0s,baz=0.2,slow=6.0,SNR=11						
QSPA				LR	LR	09 29 35.8	
	comp=Z,174nm,20.2s,baz=14,slow=34						
	comp=Z,6.5nm,1.0s						
H01W1	Cape Leeuwin H	32.54	301	T	T	09 52 01.0	
	baz=145,slow=75,SNR=82						
H01W2	Cape Leeuwin H	32.54	301	T	T	09 51 59.8	
	baz=145,slow=75,SNR=145						
H01W3	Cape Leeuwin H	32.55	301	T	T	09 52 02.3	
	baz=145,slow=75,SNR=102						
EIDS	Eidsvold	32.82	4	P	P	09 17 42.0	-0.8
EIDS				IAmb	IAmb	09 18 02.8	
	comp=Z,18nm,1.3s						
NWAO	Narrogin (SRO)	32.84	307	LR	LR	09 28 05.0	
	comp=Z,388nm,18.8s,baz=63,slow=30						
AS01	Alice Springs	35.99	337	P	P	09 18 10.7	+0.3
ASAR	Alice Springs	36.00	337	P	P	09 18 10.4	0.0
	comp=Z,5.1nm,0.6s,baz=161,slow=9.1,SNR=82						
ASAR				PcP	PcP	09 20 36.4	-0.5
	comp=Z,0.8nm,0.9s,baz=168,slow=3.2,SNR=3.4						
ASAR				LR	LR	09 30 35.1	
	comp=Z,223nm,21.8s,baz=148,slow=32						
	comp=Z,5.1nm,0.6s						
AS31	Alice Springs	36.00	337	P	P	09 18 10.5	+0.1
AS31				IAmb	IAmb	09 18 12.3	
	comp=Z,2.9nm,0.6s						
WRKA	Warakurna	36.06	328	P	P	09 18 11.1	+0.2
	baz=36,SNR=14						
WRKA	Warakurna	36.06	328	P	P	09 18 11.5	+0.6
MAW	Mawson	36.97	219	P	P	09 18 26.3	+8.1
	comp=Z,1.6nm,0.6s,baz=119,slow=14,SNR=2.6						
	comp=Z,1.6nm,0.6s						
MAW	Mawson	36.97	219	P	P	09 18 17.6	-0.6
MEEK	Meekatharra	37.83	313	P	P	09 18 26.2	+0.3
	baz=37,SNR=4.5						
MEEK	Meekatharra	37.83	313	P	P	09 18 25.9	0.0
CTA	Charters Tower	38.05	357	LR	LR	09 32 35.9	
	comp=Z,490nm,18.5s,baz=174,slow=34						
CTA	Charters Tower	38.05	357	P	P	09 18 29.3	+1.4
CTAO	Charters Tower	38.05	357	P	P	09 18 29.1	+1.2
CTAO				IAmb	IAmb	09 18 39.1	
	comp=Z,17nm,1.1s						
CTAO	Charters Tower	38.05	357	P	P	09 18 29.3	+1.4
QIS	Mount Isa	38.10	347	P	P	09 18 28.7	+0.4
	baz=38,SNR=5.5						
QIS	Mount Isa	38.10	347	P	P	09 18 28.4	+0.1
OUENC	Ouen Island, N	38.10	28	P	P	09 18 28.4	+0.2
OUENC				IAmb	IAmb	09 18 44.1	
	comp=Z,9.8nm,0.9s						
DZM	Mont Dzumac	38.34	28	eS	S	09 24 27.2	+2.5
	comp=Z,100nm,25.2s						
DZM				eLR	LR	09 28 56.9	
	comp=Z,894nm,24.4s						
WR0	Warramunga Arr	39.48	339	P	P	09 18 39.7	-0.1
WR0				IAmb	IAmb	09 18 42.1	
	comp=Z,28nm,1.4s						
WB2	Warramunga Arr	39.53	339	P	P	09 18 40.1	-0.2
WB2				IAmb	IAmb	09 18 47.7	
	comp=Z,19nm,0.9s						
WRA	Warramunga Arr	39.53	339	P	P	09 18 39.9	-0.4
	comp=Z,8.6nm,0.8s,baz=166,slow=7.4,SNR=90						
WRA				LR	LR	09 32 59.2	
	comp=Z,220nm,21.5s,baz=144,slow=33						
	comp=Z,8.6nm,0.8s						
WRA	Warramunga Arr	39.53	339	P	P	09 18 40.1	-0.2
WRAB	Tennant Creek	39.54	339	P	P	09 18 40.1	-0.3
WRAB				IAmb	IAmb	09 18 46.1	
	comp=Z,14nm,0.8s						
WRAB	Tennant Creek	39.54	339	P	P	09 18 40.0	-0.3
WB0	Warramunga Arr	39.69	339	P	P	09 18 40.9	-0.8
WB0				IAmb	IAmb	09 18 43.1	
	comp=Z,10nm,0.8s						
MTSU	Mount Surprise	40.08	354	P	P	09 18 46.6	+1.8
PSA00	Pilbara Seismi	41.98	318	P	P	09 18 59.5	-1.0
PSA00				IAmb	IAmb	09 19 07.2	
	comp=Z,18nm,1.0s						
PSA00	Pilbara Seismi	41.98	318	P	P	09 19 01.4	+0.9
MBWA	Marble Bar	42.41	318	P	P	09 19 03.4	-0.6
BELA	Belgrano 2	44.21	179	P	P	09 19 16.9	-1.0
BELA				IAmb	IAmb	09 19 21.7	
	comp=Z,12nm,1.5s						
COEN	Coen	44.29	353	P	P	09 19 20.1	+0.9
	baz=44,SNR=7.9						
COEN	Coen	44.29	353	P	P	09 19 19.1	-0.1
COEN				IAmb	IAmb	09 19 22.4	
	comp=Z,9.6nm,1.0s						
COEN	Coen	44.29	353	P	P	09 19 19.6	+0.4
KDU	Kakadu	46.96	338	P	P	09 19 40.6	+0.4
	baz=47,SNR=6.5						
KDU	Kakadu	46.96	338	P	P	09 19 40.5	+0.2
MTN	Manton Dam	47.08	337	P	P	09 19 40.3	-0.9
PMG	Port Moresby	48.65	358	P	P	09 19 51.8	-1.5
SNAA	Sanae	48.91	192	P	P	09 19 58.2	+3.3
SNAA	Sanae	48.91	192	LR	LR	09 41 58.0	
	comp=Z,94nm,18.1s,baz=188,slow=37						
SNAA	Sanae	48.91	192	P	P	09 19 53.1	-1.7
SNAA				IAmb	IAmb	09 20 03.9	
	comp=Z,5.0nm,1.0s						
VNA3	Neumayer Olymp	49.97	189	P	P	09 20 04.4	+1.4
VNA2	Neumayer--Watz	50.08	190	P	P	09 20 06.3	+2.6
	baz=119,slow=3.1						
VNA1	Neumayer--Stat	50.42	190	P	P	09 20 09.1	+2.8
PMSA	Palmer Station	54.94	164	LR	LR	09 41 52.6	
	comp=Z,230nm,19.2s,baz=213,slow=34						
FAKI	Fak Fak	56.53	341	P	P	09 20 51.1	-0.6
FAKI	Fak Fak	56.53	341	P	P	09 20 53.3	+1.5
KAPI	Kappang	57.52	325	P	P	09 20 57.7	-1.0
PPT2	Papeete2	60.53	75	eLR	LR	09 39 13.9	
	comp=Z,650nm,31.2s						
TAOE	Nuku Hiva Isla	72.75	79	eLR	LR	09 44 53.2	
	comp=Z,375nm,26.3s						
H08S2	Diego Garcia H	76.12	278	T	T	10 46 26.3	
	baz=148,slow=76,SNR=18						
H08S1	Diego Carcia H	76.13	278	T	T	10 46 28.8	
	baz=148,slow=76,SNR=11						
H08S3	Diego Garcia H	76.14	278	T	T	10 46 27.9	
	baz=148,slow=76,SNR=19						
SUR	Sutherland	79.74	223	LR	LR	09 54 04.1	
	comp=Z,62nm,20.5s,baz=160,slow=32						
H03S2	Juan Fernandez	80.16	142	T	T	10 52 20.8	
	baz=201,slow=74,SNR=108						
H03S1	Juan Fernandez	80.16	142	T	T	10 52 22.2	
	baz=201,slow=74,SNR=115						
H03S3	Juan Fernandez	80.17	142	T	T	10 52 21.5	
	baz=201,slow=74,SNR=114						
BOSA	Boshof	81.43	228	P	P	09 23 32.4	+5.8
	comp=Z,2.7nm,0.9s,baz=154,slow=13,SNR=2.7						
BOSA				LR	LR	09 57 14.5	
	comp=Z,83nm,19.0s,baz=192,slow=34						
	comp=Z,2.7nm,0.9s						
LBTB	Lobatse	84.50	230	LR	LR	09 57 07.7	
	comp=Z,76nm,18.5s,baz=148,slow=32						
PALK	Pallekele	84.67	293	LR	LR	09 52 44.9	
	comp=Z,51nm,20.1s,baz=239,slow=29						
CMAR	Chiang Mai Arr	86.55	314	P	P	09 23 54.0	+1.5
	comp=Z,1.9nm,0.3s,baz=195,slow=2.8,SNR=4.9						
CMAR				LR	LR	10 01 34.4	
	comp=Z,103nm,19.4s,baz=150,slow=35						
	comp=Z,1.9nm,0.3s						
CMAR	Chiang Mai Arr	86.55	314	P	P	09 23 51.9	-0.5
CHTO	Chiang Mai	86.87	314	P	P	09 23 52.8	-1.2
PZH	PanZhiHua	92.89	319	P	P	09 24 25.0	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						

PZH pmax pmax
comp=Z,90nm,4.8s
TSUM Tsumeb 92.89 226 LR LR 10 03 38.8
comp=Z,101nm,18.6s,baz=149,slow=34
CPUP Villa Florida 93.12 157 LR LR 10 02 28.1
comp=Z,58nm,19.8s,baz=198,slow=33
KURBB Kurchatov Arra 122.51 315 PKP PKPdf 09 30 02.3 -1.4
comp=Z,0.2nm,0.3s,baz=132,slow=1.4,SNR=1.6
AKASG Malin Array Be 144.97 285 PKPbc PKPab 09 30 44.9 +0.1
comp=Z,3.0nm,0.7s,baz=91,slow=3.2,SNR=6.5
KEST Kesra 144.97 248 PKPbc PKPdf 09 30 48.4 +2.2
comp=Z,16nm,1.0s,baz=159,slow=1.9,SNR=6.6
VYHS Vyhne 149.07 274 *e*PKP PKPab 09 31 03.1 +2.1
SOKA Soboth 149.95 268 *i* P PKPab 09 31 05.9 +1.1
comp=Z,14nm,1.1s
ARSA Arzberg 150.06 269 *i* P PKPab 09 31 05.1 -0.1
comp=Z,13nm,1.2s
MAUC Maruska 150.12 275⇑*e*PKP PKPbc 09 30 57.9 -1.4
CONA Conrad Observa 150.30 271 *i* P PKPab 09 31 04.8 -1.4
comp=Z,4.6nm,1.0s
MORC Moravsky Berou 150.52 275 *e*PKP PKPab 09 31 06.9 -0.1
KRUC Moravsky 150.70 273 *e*PKP PKPab 09 31 07.0 -0.7
VRAC Vranov 150.74 274 *e*PKP PKPab 09 31 07.3 -0.6
KRLC Kraliky 151.09 275 *e*PKPAB PKPab 09 31 07.9 -1.5
KBA Koelnbreinsper 151.10 267 *i* P PKPab 09 31 07.9 -1.8
comp=Z,9.2nm,1.1s
ABTA Abfaltersbach 151.33 266 *i* P PKPab 09 31 08.2 -2.3
comp=Z,9.2nm,1.2s
DPC Dobruska-Polom 151.49 275⇑*e*PKP PKPbc 09 31 03.3 +0.8
FINES FINESS Array B 151.63 301 PKPbc PKPbc 09 31 02.9 +0.6
comp=Z,3.3nm,0.7s,baz=101,slow=6.0,SNR=5.9
OSTC Ostas 151.66 275⇑*e*PKP PKPab 09 31 09.6 -2.1
GERES GERESS Array B 152.00 270 PKPbc PKPbc 09 31 03.8 +0.1
comp=Z,0.7nm,0.7s,baz=121,slow=3.8,SNR=2.2
WTTA Wattenberg 152.12 266 *e*P PKPab 09 31 10.5 -3.5
comp=Z,5.4nm,0.7s

IDC 08 09:16:35.8±2.5, 54.°06N×86.°52E, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=20.4km s-min=12.0km az=62.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.01 264 I 09 23 51.3
baz=84,slow=332,SNR=2.6
ZALV Zalesovo Beam 1.01 264 Pg Pg 09 16 53.8 -1.4
2.6nm,0.3s,baz=84,slow=18,SNR=29
ZALV Lg Lg 09 17 09.4
3.5nm,0.3s,baz=83,slow=30,SNR=19
KURBB Kurchatov Arra 5.98 238 Pn Pn 09 18 06.4 +0.9
0.3nm,0.3s,baz=56,slow=14,SNR=24
KURBB Lg Lg 09 19 46.7
0.1nm,0.3s,baz=58,slow=33,SNR=5.9
3.0nm,0.4s
MKAR Makanchi Array 7.76 202 Pn Pn 09 18 30.9 +0.9
0.2nm,0.3s,baz=25,slow=13,SNR=7.1
MKAR Sn Sn 09 19 58.4 0.0
0.2nm,0.3s,baz=24,slow=27,SNR=3.9
MKAR Lg Lg 09 20 42.5
0.1nm,0.3s,baz=15,slow=29,SNR=2.9
0.5nm,0.5s

SSNC 08 09:20:07.1±1.1, 17.°99N×76.°14W, h19km±7km, MD2.9, ML1.8, MW2.4
JSN 08 09:20:08.0±0.6, 18.°33N×75.°89W, h0km±17km, MD3.1
ISC 08 09:20:09.3±2.4, 18.°29N±0.°10×76.°07W±0.°10, h12km±17km, n7, σ1.°68/13, 1D, Jamaica region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STH Stony Hill 0.74 253⇓*i*P Pn 09 20 24.6 -1.1
PCJ Portland Cotta 1.18 242 *i* P Pn 09 20 32.2 +0.6
MTDJ Mount Denham 1.40 267 *e*P Pb 09 20 35.1 -0.4
MTDJ *e*S Sg 09 20 56.7 +2.3
MCJ Malvern 1.59 257 *i* P Pg 09 20 38.5 -1.2
MCJ *i* S Sg 09 21 01.1 +0.8
RCC Rio Carpintero 1.73 12 *e*P Pn 09 20 38.6 -0.6
RCC *e*S Sn 09 21 01.3 +0.1
RCC *e*Sg Sb 09 21 05.8 +3.2
GTBY Guantanamo Bay 1.86 29 *e*P Pn 09 20 39.9 -1.1
GTBY *e*S Sn 09 21 04.7 +0.3
LMGC Las Mercedes 1.97 333 *e*P Pn 09 20 40.5 -2.0
LMGC *e*S Sn 09 21 06.5 -0.7
LMGC IAML 09 21 07.9
comp=E,9.2nm,0.1s
LMGC IAML 09 21 08.0
comp=N,13nm,0.1s

NEIC 08 09:25:45.8±1.8, 19.°5S±0.°2×176.°3E±0.°1, h10km±2km, mb4.1/6, Error ellipse: s-maj=41.5km s-min=6.1km az=157.0
IDC 08 09:25:57.1±0.9, 17.°01S×176.°67E, h0km, mb4.0/7, mbtmp4.0/7, MS4.0/44, Error ellipse: s-maj=28.4km s-min=17.3km az=3.0
ISC 08 09:26:01.9±0.8, 17.°0S±0.°2×176.°7E±0.°1, h35km, n54, σ1.°45/11, mb3.9/7, MS4.1/41, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSVF Nonsavu 1.53 121 Pn Pn 09 26 25.7 -1.1
350nm,0.3s,baz=274,slow=19,SNR=1285
MSVF Sn Sn 09 26 46.9 +1.3
241nm,0.3s,baz=297,slow=14,SNR=18
MSVF LR LR 09 27 00.1
comp=Z,4μm,20.7s,baz=302,slow=42
MSVF Nonsavu 1.53 121 Pn 09 26 25.8 -1.1
DZM Mont Dzumac 10.90 241 LR LR 09 32 16.8
comp=Z,1μm,20.7s,baz=50,slow=35
AFI Afiamalu 11.54 76 LR LR 09 32 04.0
comp=Z,552nm,19.5s,baz=245,slow=32
RAO Raoul Island 13.21 159 LR LR 09 32 57.1
comp=Z,990nm,21.6s,baz=284,slow=32
URZ Urewera 21.23 179 LR LR 09 37 46.0
comp=Z,368nm,18.6s,baz=84,slow=34
RAR Rarotonga 22.65 104 LR LR 09 39 34.8
comp=Z,101nm,19.4s,baz=271,slow=36
RPZ Rata Peaks 27.10 189 LR LR 09 41 45.2
comp=Z,319nm,18.8s,baz=3.5,slow=35
KRVT Keravat (AS076 27.24 295 LR LR 09 41 30.9
comp=Z,373nm,21.2s,baz=260,slow=34
CTA Charters Tower 28.99 259 LR LR 09 42 27.6
comp=Z,197nm,18.9s,baz=86,slow=34
PMG Port Moresby 29.67 281 LR LR 09 41 52.8
comp=Z,312nm,19.6s,baz=108,slow=32
PPT Papeete 32.22 96 LR LR 09 44 05.4
comp=Z,69nm,18.8s,baz=261,slow=34
STKA Stephens Creek 35.05 238 P P 09 32 52.8 +1.2
4.7nm,0.8s,baz=69,slow=10,SNR=9.0
STKA LR LR 09 46 12.0
comp=Z,425nm,19.3s,baz=58,slow=35
4.7nm,0.8s
H11S2 WAKE ISLAND Hy 36.56 344 T T 10 11 32.0
baz=162,slow=76,SNR=13
H11S3 WAKE ISLAND Hy 36.57 344 T T 10 11 38.2
baz=162,slow=76,SNR=10
H11S1 WAKE ISLAND Hy 36.58 344 T T 10 11 31.2
baz=162,slow=76,SNR=8.4
H11N1 WAKE ISLAND Hy 37.68 345 T T 10 12 31.7
baz=165,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 37.68 345 T T 10 12 54.3
baz=165,slow=76,SNR=7.9
H11N2 WAKE ISLAND Hy 37.70 345 T T 10 12 38.4
baz=165,slow=76,SNR=5.7
WRA Warramunga Arr 40.19 259 P P 09 33 34.1 -1.1
1.7nm,0.7s,baz=92,slow=9.0,SNR=19
WRA LR LR 09 49 25.9
comp=Z,211nm,18.5s,baz=88,slow=35
1.7nm,0.7s
ASAR Alice Springs 40.54 253 P P 09 33 37.6 -0.6
2.4nm,0.7s,baz=82,slow=8.7,SNR=18
ASAR LR LR 09 49 43.1
comp=Z,188nm,19.0s,baz=92,slow=35
2.4nm,0.7s
SIJI Sorong 47.45 285 LR LR 09 53 00.1
comp=Z,148nm,18.5s,baz=86,slow=34
JCJ Chichijima 55.11 322 LR LR 09 54 04.3
comp=Z,162nm,21.7s,baz=88,slow=31
NWAO Narrogin (SRO) 55.52 241 LR LR 09 58 10.3
comp=Z,458nm,20.1s,baz=287,slow=35
DAV Davao City (W) 55.86 291 LR LR 09 58 16.2
comp=Z,145nm,19.2s,baz=86,slow=35
JHJ Hachijo jima 2 61.00 325 LR LR 10 00 43.7
comp=Z,34nm,18.0s,baz=108,slow=34
VNDA Vanda 61.04 184 LR LR 09 59 38.5
comp=Z,68nm,19.1s,baz=21,slow=33
ASAJ Asahikawa 68.29 334 LR LR 10 01 15.0
comp=Z,109nm,21.4s,baz=149,slow=31
RPN Rapa Nui 68.49 113 LR LR 10 02 05.5
comp=Z,47nm,18.1s,baz=275,slow=32
QSPA South Pole Qui 73.09 180 P P 09 37 28.9 +0.4
2.4nm,0.9s,baz=18,slow=3.5,SNR=5.8
QSPA LR LR 10 06 18.3
comp=Z,72nm,18.2s,baz=43,slow=33
2.4nm,0.9s
KDAK Kodiak Island 78.70 16 LR LR 10 04 45.1
comp=Z,163nm,21.1s,baz=210,slow=30
MA2 Magadan 79.12 347 LR LR 10 07 37.7
comp=Z,87nm,20.3s,baz=146,slow=32
YBH Yreka Blue Hor 80.84 41 LR LR 10 07 53.4
comp=Z,82nm,18.6s,baz=318,slow=31
PFO Pinyon Flats O 81.14 51 LR LR 10 05 22.5
comp=Z,138nm,21.4s,baz=320,slow=29
NVAR Mina Array Bea 82.07 46 P P 09 38 18.3 -0.8
0.4nm,0.8s,baz=240,slow=6.7,SNR=2.1
0.4nm,0.8s
LPIG La Paz 82.08 62 LR LR 10 09 25.8
comp=Z,141nm,18.2s,baz=264,slow=32
MAW Mawson 83.12 201 LR LR 10 12 06.0
comp=Z,46nm,18.8s,baz=96,slow=33
BBB Bella Bella 83.81 31 LR LR 10 08 53.7
comp=Z,162nm,18.9s,baz=243,slow=31
ELK Elko 85.25 45 LR LR 10 09 12.9
comp=Z,210nm,19.4s,baz=303,slow=30
ILAR Eielson Array 86.09 15 P P 09 38 41.1 +2.3
0.7nm,1.0s,baz=210,slow=5.2,SNR=1.9
ILAR LR LR 10 09 37.0
comp=Z,141nm,19.9s,baz=220,slow=30
0.7nm,1.0s
PMSA Palmer Station 86.49 158 LR LR 10 08 10.5
comp=Z,100nm,20.1s,baz=254,slow=29
DLBC Dease Lake 86.89 25 LR LR 10 13 53.1
comp=Z,128nm,19.2s,baz=170,slow=33
NEW Newport 87.57 38 LR LR 10 17 29.4
comp=Z,99nm,18.0s,baz=271,slow=35
ANMO Albuquerque 89.24 53 LR LR 10 15 45.6
comp=Z,123nm,18.0s,baz=278,slow=34
TXAR Lajitas Array 89.50 59 P P 09 38 55.9 -0.1
0.3nm,0.7s,baz=261,slow=5.4,SNR=2.0
TXAR LR LR 10 11 10.3
comp=Z,154nm,19.5s,baz=270,slow=30
0.3nm,0.7s
SONM Songino Array 89.80 321 LR LR 10 13 18.5
comp=Z,83nm,21.2s,baz=154,slow=32
PDAR Pinedale Array 89.95 45 LR LR 10 14 22.4
comp=Z,76nm,18.0s,baz=291,slow=32
SNAA Sanae 91.60 180 LR LR 10 16 57.5
comp=Z,62nm,19.9s,baz=192,slow=33
CMIG Matias Romero 93.43 73 LR LR 10 12 22.0
comp=Z,99nm,20.8s,baz=250,slow=30
TIXI Tiksi 94.09 346 LR LR 10 17 36.4
comp=Z,63nm,20.2s,baz=90,slow=33
PLCA Paso Flores 95.35 135 LR LR 10 14 22.7
comp=Z,46nm,19.3s,baz=234,slow=30
YKA Yellowknife Ar 95.48 26 LR LR 10 19 47.2
comp=Z,72nm,18.6s,baz=294,slow=34
PALK Pallekele 97.77 275 LR LR 10 26 54.4
comp=Z,56nm,18.2s,baz=216,slow=37
GERES GERESS Array B 145.29 340 PKPbc PKiKP 09 45 38.3 -1.8
0.4nm,0.2s,baz=14,slow=2.0,SNR=4.5

IDC 08 09:26:13.5±18.0, 22.°46S×179.°88W, h650km±207km, mb2.9/6, mbtmp4.0/6, Error ellipse: s-maj=167.4km s-min=43.6km az=48.0
ISC 08 09:26:16.0±3.9, 23.°1S±0.°4×179.°9E±0.°4, h650km, n35, σ1.°98/34, mb3.7/10, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OUZ Omahuta 13.31 203 P P 09 29 05.3 -1.2
WCZ Waipu Caves 13.72 199 P P 09 29 11.8 +1.5
KUZ Kuaotunu 14.11 194 P P 09 29 13.4 -0.5
HAZ Te Kaha 14.76 187 P P 09 29 16.9 -2.9
TGRZ Tauranga 14.95 191 P P 09 29 21.7 +0.1
TOZ Tahuroa Road 15.11 194 P P 09 29 23.1 +0.1
TWGZ Tauwhareparae 15.16 186 P P 09 29 21.9 -1.6
URZ Urewera 15.34 188 P P 09 29 20.4 -4.7
MWZ Matawai 15.36 187 P P 09 29 21.9 -3.5
BKZ Black Stump Fm 16.32 190 P P 09 29 30.3 -3.8
OTVZ Oturere 16.46 192 P P 09 29 33.2 -2.3
VRZ Vera Road 16.61 194 P P 09 29 37.8 +1.2
BFZ Birch Farm 17.84 189 P P 09 29 45.5 -2.4
MRZ Mangatainoka R 17.93 191 P P 09 29 45.8 -2.9
QRZ Quartz Range 18.78 198 P P 09 29 55.6 -0.8
NNZ Nelson 18.92 195 P P 09 29 55.8 -1.9
TUWZ Tuamarina 18.99 194 P P 09 29 55.3 -3.0
THZ Tophouse 19.55 196 P P 09 30 02.6 -0.8
DSZ Denniston Nort 19.83 198 P P 09 30 04.6 -1.4
KHZ Kahutara 20.02 194 P P 09 30 04.4 -3.1
LTZ Lake Taylor 20.67 196 P P 09 30 12.1 -1.3
INZ Inchbonnie 20.84 198 P P 09 30 12.6 -2.2
OXZ Oxford 21.24 196 P P 09 30 14.7 -3.8
CTA Charters Tower 31.42 269 P P 09 31 47.1 -0.3
1.9nm,0.5s,baz=88,slow=11,SNR=7.1
1.9nm,0.5s
STKA Stephens Creek 34.98 247 P P 09 32 17.4 +0.5
2.7nm,0.6s,baz=96,slow=10,SNR=7.7
2.7nm,0.6s
AS31 Alice Springs 42.12 260 P P 09 33 15.0 +0.7
AS31 IAmb IAmb 09 33 47.8
comp=Z,2.1nm,0.7s
ASAR Alice Springs 42.12 260 P P 09 33 14.2 0.0
comp=Z,1.8nm,0.7s,baz=99,slow=6.8,SNR=28
comp=Z,1.8nm,0.7s
ASAR Alice Springs 42.12 260 P P 09 33 14.7 +0.4
WR0 Warramunga Arr 42.22 265 P P 09 33 13.1 -2.0
WR0 IAmb IAmb 09 33 47.7
comp=Z,3.7nm,0.9s
WB0 Warramunga Arr 42.40 266 P P 09 33 14.9 -1.6
WB0 IAmb IAmb 09 33 43.1
comp=Z,5.3nm,0.6s
WB2 Warramunga Arr 42.40 265 P P 09 33 15.8 -0.7
WB2 IAmb IAmb 09 33 42.6
comp=Z,5.3nm,0.8s
WRA Warramunga Arr 42.41 265 P P 09 33 15.8 -0.8
comp=Z,0.9nm,0.8s,baz=96,slow=8.4,SNR=30
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 42.41 265 P P 09 33 16.0 -0.5
VNDA Vanda 55.20 185 P P 09 34 51.4 +2.1
comp=Z,0.9nm,0.7s,baz=354,slow=6.9,SNR=6.4
comp=Z,0.9nm,0.7s
QSPA South Pole Qui 67.02 180 P P 09 36 07.7 +1.3
comp=Z,1.1nm,0.6s,baz=320,slow=7.9,SNR=14
comp=Z,1.1nm,0.6s

IDC 08 09:30:54.2±1.0, 2.°30S×100.°75E, h0km, mb4.4/11, mbtmp4.4/12, ML4.3/1, MS3.1/1, Error ellipse: s-maj=37.4km s-min=11.7km az=65.0
NEIC 08 09:31:02.1±1.9, 2.°33S±0.°06×100.°69E±0.°10, h57km±8km, mb4.6/24, Error ellipse: s-maj=15.9km s-min=3.6km az=58.0
DJA 08 09:31:02.7±0.4, 2°S±2°×10°1E±°, h35km±8km, M4.5/18, mb4.4/9, mB5.3/2, MLv4.5/18, Mw(mB)4.8/2
ISC 08 09:31:01.4±0.5, 2.°34S±0.°05×100.°72E±0.°05, h50km, n85, σ1.°37/88, mb4.7/27, 1D, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PPSI Pulau Pagai 0.82 239 P Pn 09 31 18.8 +2.1
PDSI Padang 1.44 350 P Pn 09 31 25.6 +0.4
PDSI S Sn 09 31 42.4 -0.7
SDSI Sungai Dareh 1.57 27 P Pn 09 31 28.2 +1.2
SDSI S Sn 09 31 47.3 +1.1
MASI Maura Aman, Be 1.72 118 P Pn 09 31 30.3 +1.3
MASI S Sn 09 31 51.2 +1.4
PPI Padang Panjang 1.90 350 P Pn 09 31 32.6 +1.2
SISI Saibi 1.91 302 P Pn 09 31 33.3 +1.7
UBSI University, Be 2.10 132 P Pn 09 31 35.3 +1.2
KSI Kapahiang 2.28 125 P Pn 09 31 37.7 +1.0
BKNI Bangkinang 2.67 7 Pn 09 31 41.2 -0.8
BKNI Bangkinang 2.67 7 P Pn 09 31 42.9 +0.9
MNAI Manna 3.00 132 Pn Pn 09 31 47.3 +0.7
MNAI Manna 3.00 132 P Pn 09 31 48.2 +1.6
PBSI Pulau Batu 3.33 313 P Pn 09 31 52.7 +1.7
LWLI Liwa 4.26 129 P Pn 09 32 05.9 +1.9
DSRI Dabo 4.28 64 P Pn 09 32 05.0 +0.9
GSI Gunungsitoli 4.79 319 Pn Pn 09 32 09.8 -1.4
GSI Gunungsitoli 4.79 319 P Pn 09 32 13.0 +1.9
KASI Kota Agung 4.92 130 P Pn 09 32 14.9 +2.0
TPRI Tanjung Pinang 5.00 50 P Pn 09 32 15.3 +1.3
MYKOM Kota Tinggi 5.17 37 Pn 09 32 17.8 +1.6
MYKOM Kota Tinggi 5.17 37 P Pn 09 32 17.5 +1.3
0.6nm3μm106nm,0.6s
RPSI Rantau Prapat 5.32 340 Pn Pn 09 32 18.5 +0.2
PSI Prapat 5.41 341 P Pn 09 32 19.9 +0.1
0.1nm18nm,0.8s,0.1nm,0.8s,10nm,1.0s
PSI P Pn 09 32 19.9 +0.1
0.1nm18nm,0.8s,0.1nm,0.8s,10nm,1.0s
IPM Ipoh 6.78 3 Pn Pn 09 32 40.2 +1.7
IPM Ipoh 6.78 3 P Pn 09 32 39.9 +1.4
0.1nm25nm,0.6s
MLSI Meulaboh, Aceh 7.85 327 P Pn 09 32 54.5 +1.4
0.2nm3μm51nm,0.6s
SKLT Songkhla 9.45 359 P Pn 09 33 16.6 +1.6
13nm,0.8s
JAGI Jajag, Banyuwa 14.69 115 Pn Pn 09 34 26.5 +0.1
KKM Kota Kinabalu 17.58 62 P P 09 35 04.8 +1.2
22nm,1.3s
KAPI Kappang 19.18 98 P P 09 35 19.2 -1.9
0.9nm,0.3s,baz=270,slow=11,SNR=1.5
4.9nm,0.7s
KAPI Kappang 19.18 98 P P 09 35 19.9 -1.3
KAPI Kappang 19.18 98 P Pn 09 35 23.8 +1.3
12nm,0.9s
BKSI Bulukumba 19.59 99 P Pn 09 35 27.1 -0.2
TOLI2 Tolitoli 20.35 81 P P 09 35 33.4 -0.6
TOLI2 IAmb IAmb 09 35 35.7
comp=Z,15nm,0.7s
PHRA Phrae 20.72 359 P P 09 35 35.7 -2.1
PHRA IAmb IAmb 09 35 40.8
comp=Z,19nm,0.7s
CMAR Chiang Mai Arr 20.74 355 P P 09 35 36.0 -2.1
comp=Z,1.8nm,0.6s,baz=184,slow=9.6,SNR=9.7
CMAR S S 09 39 29.5 +2.4
comp=Z,2.2nm,0.4s,baz=166,slow=31,SNR=9.7
CMAR LR LR 09 45 31.0
comp=Z,44nm,18.2s,baz=190,slow=42
comp=Z,1.8nm,0.6s
TNCH TengChong 27.29 356 *e*P P 09 36 44.4 +2.8
TNCH pP sP 09 36 58.4 -2.0
TNCH pmax pmax
comp=Z,15nm,0.5s
H08S2 Diego Garcia H 28.59 258 T T 10 06 10.9
baz=82,slow=75,SNR=139
H08S3 Diego Garcia H 28.60 258 T T 10 06 18.8
baz=82,slow=75,SNR=118
H08S1 Diego Carcia H 28.61 258 T T 10 06 10.9
baz=82,slow=75,SNR=49
PZH PanZhiHua 28.70 2 P P 09 36 57.0 +2.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,5.5s
H01W3 Cape Leeuwin H 34.70 160 T T 10 14 23.2
baz=336,slow=76,SNR=6.7
H01W2 Cape Leeuwin H 34.72 160 T T 10 14 24.3
baz=336,slow=76,SNR=6.4
H01W1 Cape Leeuwin H 34.72 160 T T 10 14 41.9
baz=336,slow=76,SNR=6.5
WB0 Warramunga Arr 37.18 120 P P 09 38 06.9 -1.1
WRA Warramunga Arr 37.20 121 P P 09 38 07.0 -1.3
comp=Z,2.3nm,0.5s,baz=308,slow=9.6,SNR=48
WRA PcP PcP 09 40 27.2 -0.3
comp=Z,0.3nm,0.5s,baz=307,slow=2.2,SNR=2.7
comp=Z,2.3nm,0.5s
WRA Warramunga Arr 37.20 121 P P 09 38 07.4 -0.9
WRAB Tennant Creek 37.21 120 P P 09 38 08.0 -0.3
WRAB IAmb IAmb 09 38 08.5
comp=Z,5.7nm,1.0s
WB2 Warramunga Arr 37.22 121 P P 09 38 07.8 -0.6
WR0 Warramunga Arr 37.38 120 P P 09 38 08.3 -1.5
WR0 IAmb IAmb 09 38 10.3
comp=Z,4.5nm,0.9s
FORT Forrest 38.32 140 P P 09 38 15.7 -1.8
FORT IAmb IAmb 09 38 33.2
comp=Z,11nm,0.8s
LZH Lanzhou 38.34 4 *e*P P 09 38 15.3 -2.5
LZH pP pP 09 38 22.7 -8.2
LZH sP sP 09 38 26.6 -10
LZH pmax pmax
comp=Z,16nm,0.9s
ASAR Alice Springs 38.47 126 P P 09 38 18.8 -0.2
comp=Z,4.6nm,0.6s,baz=302,slow=8.0,SNR=84
ASAR PcP PcP 09 40 31.0 -0.4
comp=Z,0.7nm,0.4s,baz=305,slow=2.7,SNR=6.0
comp=Z,4.6nm,0.6s
ASAR Alice Springs 38.47 126 P P 09 38 18.3 -0.7
AS31 Alice Springs 38.48 126 P P 09 38 18.6 -0.3
JOW Kunigami 39.35 41 P P 09 38 26.1 -0.1
HHC Hu-ho-hao-te 44.11 12 *e*P P 09 39 07.5 +2.5
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,420nm,6.1s
NIL Nilore 44.18 326 P P 09 39 05.9 +0.2
NIL IAmb IAmb 09 39 06.4
comp=Z,10nm,0.7s
BBOO Buckleboo 44.91 136 P P 09 39 12.0 +0.5
BBOO IAmb IAmb 09 39 25.2
comp=Z,30nm,1.5s
WMQ Urumqi 47.42 347 *e*P P 09 39 32.3 +1.3
WMQ pmax pmax
comp=Z,15nm,0.9s
KSH Kashi 47.45 334 P P 09 39 31.1 -0.3
KSH pP sP 09 39 50.0 -0.5
KSH sP pP 09 39 56.6 +12
KSH pmax pmax
comp=Z,5.0nm,0.6s
CTA Charters Tower 47.80 115 P P 09 39 33.5 -0.9
comp=Z,1.9nm,0.6s,baz=280,slow=6.1,SNR=3.6
comp=Z,1.9nm,0.6s
XLT XiLinHaoTe 48.06 15⇓*i*P P 09 39 38.7 +2.7
XLT pP pP 09 39 50.8 +1.3
XLT sP sP 09 40 02.7 +7.4
XLT PcS PcS 09 45 02.9 +3.9
XLT S S 09 46 21.1 -10
XLT sS sS 09 47 06.0 +13
XLT ScS ScS 09 49 23.2 -1.7
XLT pmax pmax
comp=Z,9.0nm,1.1s
XLT pmax pmax
comp=Z,93nm,3.6s
STKA Stephens Creek 48.39 132 P P 09 39 38.8 +0.1
comp=Z,1.6nm,0.4s,baz=318,slow=8.4,SNR=10
comp=Z,1.6nm,0.4s
STKA Stephens Creek 48.39 132 P P 09 39 38.5 -0.2
SONM Songino Array 50.22 5 P P 09 39 52.1 -0.4
comp=Z,2.4nm,0.6s,baz=184,slow=9.2,SNR=13
comp=Z,2.4nm,0.6s
MK31 Makanchi Array 51.55 344 P P 09 40 02.3 -0.1
MK31 IAmb IAmb 09 40 02.8
comp=Z,6.9nm,0.6s
MKAR Makanchi Array 51.55 344 P P 09 40 02.1 -0.3
comp=Z,10.0nm,0.6s,baz=148,slow=8.2,SNR=87
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 51.55 344 P P 09 40 02.4 0.0
MAKZ Makanchi 51.65 344 P P 09 40 02.8 -0.4
MAKZ IAmb IAmb 09 40 03.4
comp=Z,4.8nm,0.8s
KKAR Karatay Array 52.78 332 P P 09 40 10.6 -1.0
EIDS Eidsvold 53.57 120 P P 09 40 16.2 -1.5
EIDS IAmb IAmb 09 40 53.5
comp=Z,7.4nm,1.1s
USRK Ussuriysk Ar. 54.12 27 P P 09 40 20.5 -0.9
comp=Z,3.7nm,0.7s,baz=222,slow=4.4,SNR=7.7
comp=Z,3.7nm,0.7s
USRK Ussuriysk Ar. 54.12 27 P P 09 40 19.6 -1.8
JMM Marumori 54.53 39 P P 09 40 22.8 -1.7
KURK Kurchatov 56.14 343 P P 09 40 35.5 -0.3
KURK IAmb IAmb 09 40 36.2
comp=Z,5.6nm,0.6s
ZAA0 Zalesovo Array 57.64 349 P P 09 40 45.8 -0.5
ZALV Zalesovo Beam 57.64 349 P P 09 40 45.7 -0.7
comp=Z,4.2nm,0.3s,baz=175,slow=5.6,SNR=44
comp=Z,4.2nm,0.3s
BRVK Borovoye 60.82 340 P P 09 41 07.4 -0.9
BRVK IAmb IAmb 09 41 09.4
comp=Z,3.3nm,1.1s
ABKAR Akbulak array 62.28 331 P P 09 41 17.6 -0.7
BKZ Black Stump Fm 77.50 129 P P 09 42 52.2 +0.1
FINES FINESS Array B 84.75 332 P P 09 43 30.1 +0.1
comp=Z,2.9nm,0.8s,baz=116,slow=4.4,SNR=5.0
comp=Z,2.9nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARCES	ARCESS Array B	87.04	340	P	P	09 43 40.7	-0.5
	comp=Z,9.7nm,1.1s,baz=93,slow=2.7,SNR=9.4						
	comp=Z,9.7nm,1.1s						
CPUP	Villa Florida	144.46	215	PKP	PKPdf	09 50 32.8	-0.3
	comp=Z,2.3nm,0.9s,baz=127,slow=2.7,SNR=3.9						
TXAR	Lajitas Array	144.53	38	PKP	PKPab	09 50 32.0	+0.3
	comp=Z,2.8nm,0.6s,baz=300,slow=1.0,SNR=30						

IDC ***08*** *09:56:45.0±1.0, 39°.43N×68°.29E, h0km, mb3.8/7, mbtmp3.9/14, ML3.3/8, MS3.5/3, Error ellipse: s-maj=20.1km s-min=10.6km az=153.0*
SOME ***08*** *09:56:48.9, 39°.40N×69°.65E, h10km*
ISU ***08*** *09:56:48, 39°.74N×68°.28E, h11km*
NNC ***08*** *09:56:49.4±3.5, 39°.80N×68°.00E, h22km±15km, mb4.2, mpv3.9, Error ellipse: s-maj=27.0km s-min=13.9km az=0.0*
NEIC ***08*** *09:56:49.2±1.4, 39°.80N±0°.04×68°.13E±0°.07, h13km±5km, mb4.6/6, Error ellipse: s-maj=8.3km s-min=6.5km az=85.0*
ISC 08 09:56:50.6±1.0**, 39°.76N**±0°.03×**68°.03E**±0°.03**, h29**km±8km**, n77, σ1ˢ99**/89**, mb4.1**/11**, 15C-10D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZI	Dzhizak	0.40	336	P	Pb	09 56 57.6	-1.8
DZI				S	Sb	09 57 04.8	-0.6
SAM	Samarkand	0.83	264	S	Sb	09 57 18.6	+2.0
AGL	Agalyk	0.92	255	P	Pn	09 57 06.9	-0.7
AGL				S	Sb	09 57 21.5	+1.6
CHGR	Chuyangaron	1.41	141		Pn	09 57 11.6	-2.8
CHGR				Sn	Sb	09 57 35.6	+1.7
BAYS	Baysun	1.67	203	P	Pb	09 57 19.4	-1.4
BAYS				S	Sb	09 57 42.4	+0.9
PKMR	Pachkamar	1.76	227	P	Pb	09 57 21.8	-0.4
PKMR				S	Sb	09 57 46.4	+2.6
TAS	Tashkent	1.84	31		Pn	09 57 19.1	-1.1
TAS	Tashkent	1.84	31	S	Sb	09 57 45.9	-0.4
GAR	Garm	1.93	112		Pn	09 57 20.5	-1.0
YBZ	Yangibazar	1.95	37	P	Pb	09 57 24.5	-0.9
YBZ				S	Sb	09 57 48.8	-0.6
ZRB	Zarabog	2.14	220	S	Sb	09 57 57.0	+2.1
BTK	Batken	2.17	81		Pn	09 57 23.7	-1.1
CHMG	Chimgan	2.34	39	S	Sb	09 58 03.4	+2.6
CHRV	Charvak	2.38	37	S	Sb	09 58 04.3	+2.4
CHM	Chimkent	2.83	24	eP	Pb	09 57 41.8	+1.4
	184nm,0.2s						
CHM				eS	Sb	09 58 20.2	+5.7
	2μm,0.6s						
IUG	Iuzhnay	2.83	32	eP	Pb	09 57 41.1	+0.6
	1μm,0.4s						
IUG				eS	Sb	09 58 18.6	+3.9
	611nm,0.4s						
DRK	Karamyk	2.93	94		Pn	09 57 37.0	+1.5
KK31	Karatay Array	3.83	28		Pn	09 57 47.6	+0.1
KK31	Karatay Array	3.83	28	Pn	Pn	09 57 47.7	+0.1
	3.1nm,0.3s,baz=161,slow=6.9,SNR=138						
KK31				⇑Pg	Pb	09 57 59.0	+1.5
	19nm,0.4s,baz=215,slow=18,SNR=18						
KK31				⇑Lg	Lg	09 58 49.2	
	85nm,0.4s,baz=215,slow=31,SNR=18						
KKAR	Karatay Array	3.83	28		Pn	09 57 47.9	+0.3
KKAR	Karatay Array	3.83	28	Pn	Pn	09 57 47.7	+0.1
MRKS	Merke	4.93	51	eP	Pn	09 58 07.6	+4.9
	29nm,0.5s						
MRKS				eS	Sn	09 59 04.2	+5.5
	35nm,0.5s						
KBL	Kabul	5.27	171	Pn	Pn	09 58 08.2	+0.7
AAK	Ala-Archa	5.66	57	Pn	Pn	09 58 12.4	-0.5
	1.3nm,0.3s,baz=240,slow=14,SNR=13						
AAK				Sn	Sn	09 59 18.0	+1.0
	3.6nm,0.3s,baz=123,slow=14,SNR=1.8						
AAK				Lg	Lg	09 59 43.2	
	2.8nm,0.3s,baz=255,slow=16,SNR=6.6						
	11nm,0.5s						
AAK	Ala-Archa	5.66	57	Pn	Pn	09 58 12.9	0.0
CHMS	Chumysh	6.01	55	⇓Pn	Pn	09 58 16.4	-1.0
	7.2nm,1.0s						
CHMS				⇓Pg	Pb	09 58 42.4	+8.0
	12nm,0.6s						
CHMS				⇓Sn	Sn	09 59 25.4	+0.1
	48nm,1.3s						
CHMS				⇑Lg	Lg	09 59 50.0	
	36nm,0.7s						
KSH	Kashi	6.14	90	P	Pn	09 58 16.0	-3.4
KSH				S	Sn	09 59 18.4	-10
KSH				pmax	pmax		
	comp=Z,42nm,0.5s						
KSH				smax	smax		
	comp=N,100nm,0.7s						
KSH				smax	smax		
	comp=E,79nm,0.9s						
NRN	Naryn	6.30	72		Pn	09 58 19.9	-1.8
TKM2	Tokmak 2	6.51	59	⇑Pn	Pn	09 58 23.6	-1.0
	comp=E,3.4nm,0.4s						
TKM2				⇓Sn	Sn	09 59 38.8	+0.8
	comp=E,12nm,0.6s						
TKM2				⇑Lg	Lg	10 00 06.6	
	comp=E,42nm,0.8s						
CEP	Cherat	6.69	151	P	Pn	09 58 27.3	+0.3
HRA	Herat	7.08	223	Pn	Pn	09 58 33.2	+0.8
NIL	Nilore	7.40	144		Pn	09 58 36.3	-0.3
THW	Thamme Wali	7.57	156	P	Pn	09 58 37.7	-1.2
MDOK	Medeo	7.58	60	⇓Pn	Pn	09 58 37.7	-1.5
	comp=E,13nm,0.8s						
MDOK				⇓Lg	Lg	10 00 47.1	
	comp=E,27nm,0.7s						
GEYT	Alibeck	7.95	260	Pn	Pn	09 58 45.5	+1.3
	comp=E,1.1nm,0.3s,baz=79,slow=7.7,SNR=3.7						
GEYT				Sn	Sn	10 00 13.3	+0.2
	comp=E,5.2nm,0.3s,baz=162,slow=29,SNR=7.5						
GEYT				Lg	Lg	10 01 01.2	
	comp=E,2.1nm,0.3s,baz=106,slow=32,SNR=3.5						
	comp=E,2.0nm,0.3s						
GEYT	Alibeck	7.95	260	Pn	Pn	09 58 47.0	+2.9
GYA0B	ALIBECK ARRAY	7.95	260	Pn	Pn	09 58 45.8	+1.7
OTUK	Ortayu	9.04	19	⇑Pn	Pn	09 58 58.9	-0.1
	comp=E,2.6nm,0.5s						
OTUK				⇑Lg	Lg	10 01 33.6	
	comp=E,32nm,0.9s						
AB31	Akbulak array	11.11	331	⇑Pn	Pn	09 59 25.2	-2.1
	comp=E,2.1nm,0.3s,baz=156,slow=12,SNR=148						
AB31				⇓Sn	Sn	10 01 24.1	-6.3
	comp=E,2.8nm,0.4s						
ABKAR	Akbulak array	11.11	331	Pn	Pn	09 59 25.8	-1.5
MAKZ	Makanchi	12.36	51	Pn	Pn	09 59 44.7	+0.2
MK31	Makanchi Array	12.54	51	Pn	Pn	09 59 46.1	-0.9
MKAR	Makanchi Array	12.54	51	Pn	Pn	09 59 43.4	-3.6
	comp=E,0.1nm,0.3s,baz=244,slow=14,SNR=3.0						
MKAR				Lg	Lg	10 03 26.5	
	comp=E,0.2nm,0.3s,baz=239,slow=30,SNR=2.7						
MKAR	Makanchi Array	12.54	51	Pn	Pn	09 59 45.8	-1.2
AKTO	Aktyubinsk	12.79	330	⇑Pn	Pn	09 59 49.1	-1.3
	comp=E,4.5nm,0.8s						
AKTO				⇓Sn	Sn	10 02 10.0	-1.6
	comp=E,4.5nm,0.8s						
AKTO				⇑Lg	Lg	10 03 40.8	
	comp=E,8.1nm,0.9s						
KURBB	Kurchatov Arra	13.13	31	Pn	Pn	09 59 53.2	-1.8
	comp=E,0.1nm,0.3s,baz=220,slow=13,SNR=6.7						
KURBB				Sn	Sn	10 02 13.7	-6.2
	baz=128,slow=40,SNR=1.4						
KURBB				Lg	Lg	10 03 41.6	
	comp=E,0.1nm,0.3s,baz=215,slow=26,SNR=8.5						
	comp=E,0.3nm,0.3s						
KURBB	Kurchatov Arra	13.13	31	⇑Lg	Lg	10 03 42.2	
	comp=E,44nm,1.0s						
KURK	Kurchatov	13.24	31	Pn	Pn	09 59 56.0	-0.4
KURK	Kurchatov	13.24	31	⇑Lg	Lg	10 03 42.5	
	comp=E,25nm,1.0s						
BVA0	Borovoye Array	13.37	6	⇑Pn	Pn	10 00 01.9	+3.7
BVA0				⇓Lg	Lg	10 04 01.5	
BVAR	Borovoye Array	13.37	6	Pn	Pn	09 59 57.7	-0.6
	comp=E,0.1nm,0.3s,baz=184,slow=12,SNR=5.5						
	comp=E,0.8nm,0.4s						
BRVK	Borovoye	13.40	6	Pn	Pn	09 59 58.1	-0.4
BRVK	Borovoye	13.40	6	⇑Pn	Pn	10 00 00.2	+1.6
	comp=E,3.3nm,0.8s						
BRVK				⇑Sn	Sn	10 02 18.3	-8.1
	comp=E,1.5nm,0.4s						
BRVK				⇓Lg	Lg	10 03 52.4	
	comp=E,18nm,1.3s						
ARU	Arti	17.81	343	P	P	10 00 58.3	+1.7
	baz=113,slow=15,SNR=1.5						
	comp=E,9.1nm,0.2s						
ZAA0	Zalesovo Array	18.19	33	P	Pn	10 01 00.0	-0.7
ZALV	Zalesovo Beam	18.19	33	P	Pn	10 01 00.5	-0.3
	comp=E,0.2nm,0.3s,baz=228,slow=9.8,SNR=3.9						
	comp=E,1.4nm,0.6s						
ZALV	Zalesovo Beam	18.19	33	P	Pn	10 01 00.2	-0.6
KBZ	Khabaz	19.14	290	P	P	10 01 12.5	+1.2
	comp=E,0.3nm,0.3s,baz=77,slow=13,SNR=2.0						
KBZ				LR	LR	10 11 01.7	
	comp=E,43nm,19.2s,baz=287,slow=44						
	comp=E,1.3nm,0.7s						
FIA0	FINESS Array S	33.48	324	P	P	10 03 28.1	+1.2
FINES	FINESS Array B	33.48	324	P	P	10 03 28.1	+1.2
	comp=E,2.1nm,0.8s,baz=116,slow=9.4,SNR=1.8						
	comp=E,2.1nm,0.8s						
CMAR	Chiang Mai Arr	34.08	120	P	P	10 03 31.1	-1.5
ARCES	ARCESS Array B	37.24	337	P	P	10 03 59.5	+0.4
	comp=E,3.7nm,1.0s,baz=112,slow=8.9,SNR=5.1						
	comp=E,3.7nm,1.0s						
NOA	NORSAR Array B	40.38	321	P	P	10 04 25.8	+0.3
	comp=E,0.3nm,0.5s,baz=94,slow=7.6,SNR=1.9						
	comp=E,0.3nm,0.5s						
USRK	Ussuriysk Ar.	46.69	63	LR	LR	10 24 41.5	
	comp=E,79nm,20.7s,baz=254,slow=36						
TORD	Torodi Ar. Bea	63.55	265	P	P	10 07 20.6	+2.0
	comp=E,0.4nm,0.6s,baz=39,slow=5.9,SNR=2.2						
	comp=E,0.4nm,0.6s						
LSZ	Lusaka	66.14	223	LR	LR	10 37 07.6	
	comp=E,62nm,19.7s,baz=178,slow=37						
A36M	Sachs Harbour	68.17	4	P	P	10 07 48.2	+0.8
A36M				IAmb	IAmb	10 08 06.3	
	comp=Z,6.4nm,1.4s						
TOLK	Toolik Lake Re	68.35	14	P	P	10 07 49.4	+0.7
TOLK				IAmb	IAmb	10 07 59.2	
	comp=Z,6.5nm,1.4s						
COLD	Coldfoot	69.45	15	P	P	10 07 55.9	+0.4
COLD				IAmb	IAmb	10 08 06.7	
	comp=Z,6.7nm,1.4s						
IMAR	Indian Mountai	69.77	17	P	P	10 07 57.3	-0.2
BMAR	Burnt Mountain	70.31	13	P	P	10 08 02.1	+1.3
INK	Inuvik	71.05	8	P	P	10 08 05.0	-0.3
	comp=Z,0.9nm,0.5s,baz=338,slow=7.8,SNR=9.6						
	comp=Z,0.9nm,0.5s						
INK	Inuvik	71.05	8	P	P	10 08 05.7	+0.4
NEA2	Nenana	71.98	16	P	P	10 08 11.2	+0.2
BPAW	Bear Paw Mtn.	71.99	17	P	P	10 08 13.2	+2.1
BPAW				IAmb	IAmb	10 08 41.7	
	comp=Z,6.7nm,1.2s						
WRA	Warramunga Arr	85.68	120	P	P	10 09 23.6	-3.1
	comp=Z,0.5nm,0.8s,baz=321,slow=5.0,SNR=6.2						
	comp=Z,0.5nm,0.8s						
ASAR	Alice Springs	88.02	123	P	P	10 09 36.1	-1.9
	comp=Z,0.4nm,0.8s,baz=310,slow=4.3,SNR=4.3						
	comp=Z,0.4nm,0.8s						

RSNC ***08*** *09:57:28.1±1.2, 3°.84N×76°.44W, h132km±5km, ML3.1, Mw3.6*
IDC ***08*** *09:57:29.4±6.2, 5°.38N×72°.83W, h245km±36km, mb2.8/1, mbtmp3.4/1, Error ellipse: s-maj=121.6km s-min=49.1km az=71.0*
ISC 08 09:57:27.5±0.9**, 3°.82N**±0°.04×**76°.47W**±0°.04**, h136**km±7km**, n23, σ1ˢ25**/42**, 4C, Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOTC	Yotoco, Valle	0.21	36	⇑iP	Pn	09 57 45.8	-0.4
YOTC				eS	Sn	09 57 59.6	-0.8
YOTC				IAML		09 58 02.5	
	comp=Z,358nm,0.4s						
MALC	Bahia Malaga	0.89	283	eP	Pn	09 57 51.4	+1.5
MALC				eS	Sn	09 58 10.2	+3.2
MALC				IAML		09 58 14.9	
	comp=Z,160nm,0.4s						
PLMC	San Jos del P	1.10	10	eP	Pn	09 57 51.2	-0.7
PLMC				eS	Sn	09 58 10.0	-0.6
PLMC				IAML		09 58 13.1	
	comp=Z,503nm,0.4s						
ORTC	Ortega, Tolima	1.22	86	eP	Pn	09 57 52.9	-0.2
ORTC				eS	Sn	09 58 12.3	-0.2
ORTC				IAML		09 58 13.4	
	comp=Z,465nm,0.6s						
ANIL	Santa Ana	1.25	58	eP	Pn	09 57 52.6	-1.1
ANIL				eS	Sn	09 58 12.1	-1.5
ANIL				IAML		09 58 19.0	
	comp=Z,646nm,0.3s						
BETC	Betania	1.52	138	⇑iP	Pn	09 57 56.5	+0.1
BETC				eS	Sn	09 58 18.5	+0.2
BETC				IAML		09 58 21.9	
	comp=Z,105nm,0.5s						
PRAC	Prado	1.58	94	⇑iP	Pn	09 57 57.0	0.0
PRAC				eS	Sn	09 58 19.0	-0.4
PRAC				IAML		09 58 20.2	
	comp=Z,584nm,0.3s						
GR1C	Gorgona, Isla	1.88	245	eP	Pn	09 57 59.4	-0.9
GR1C				eS	Sn	09 58 23.9	-1.6
GARC	Garzon, Huila	1.89	149	⇑iP	Pn	09 58 00.5	-0.2
GARC				eS	Sn	09 58 25.1	-1.0
GARC				IAML		09 58 26.1	
	comp=Z,124nm,0.3s						
BBAC	Balboa, Cauca	1.95	204	eP	Pn	09 58 01.1	-0.3
BBAC				eS	Sn	09 58 26.5	-0.8
BBAC				IAML		09 58 28.6	
	comp=Z,214nm,0.4s						
CBOC	Ciudad Bolivar	2.08	13	eP	Pn	09 58 02.8	-0.2
CBOC				eS	Sn	09 58 30.5	+0.3
CBOC				IAML		09 58 39.8	
	comp=Z,51nm,1.2s						
CRUC	La Cruz	2.29	192	eP	Pn	09 58 05.8	+0.1
CRUC				eS	Sn	09 58 34.7	-0.2
NORC	Norcasia	2.35	42	eP	Pn	09 58 05.7	-0.5
NORC				eS	Sn	09 58 34.6	-1.3
FLOC	Florencia	2.36	160	eP	Pn	09 58 06.4	+0.1
FLOC				eS	Sn	09 58 34.4	-1.7
FLOC				IAML		09 58 36.3	
	comp=Z,18nm,0.4s						
ROSC	El Rosal	2.37	65	P	Pn	09 58 08.1	+1.3
	comp=Z,23nm,0.3s,baz=22,slow=16,SNR=8.7						
ROSC				S	Sn	09 58 39.1	+2.3
	comp=Z,43nm,0.3s,baz=53,slow=20,SNR=22						
ROSC	El Rosal	2.37	65	eP	Pn	09 58 07.8	+1.1
ROSC				eS	Sn	09 58 38.8	+2.0
ROSC				IAML		09 58 43.2	
	comp=Z,50nm,0.5s						
ROSC				IAML		09 58 43.6	
	comp=Z,40nm,0.4s						
CHIC	Chingaza	2.84	73	eP	Pn	09 58 13.3	+0.6
CHIC				eS	Sn	09 58 47.6	+0.1
CHIC				IAML		09 58 50.7	
	comp=Z,28nm,0.6s						
SPBC	San Pablo de B	3.00	53	eP	Pn	09 58 14.6	+0.1
SPBC				IAML		09 58 53.4	
	comp=Z,16nm,0.7s						
PTBC	PUERTO BERRIO,	3.37	36	eP	Pn	09 58 18.8	-0.4
PTBC				eS	Sn	09 58 57.5	-1.6
PTBC				IAML		09 59 00.1	
	comp=Z,18nm,0.5s						
ZARC	Zaragoza, Cauc	3.99	24	eP	Pn	09 58 26.9	-0.3
ZARC				eS	Sn	09 59 10.7	-3.0
ZARC				IAML		09 59 15.7	
	comp=Z,20nm,0.9s						
NVAR	Mina Array Bea	51.33	318	P	P	10 06 19.2	+0.8
	comp=Z,0.4nm,0.6s,baz=108,slow=5.8,SNR=2.7						
	comp=Z,0.4nm,0.6s						
ASAR	Alice Springs	144.66	233	PKPbc	PKPab	10 16 46.4	-1.7
	comp=Z,0.3nm,0.5s,baz=119,slow=3.9,SNR=6.5						
WRA	Warramunga Arr	145.96	239	PKPbc	PKPdf	10 16 53.0	+1.6
	comp=Z,0.1nm,0.4s,baz=114,slow=3.0,SNR=1.3						

IDC ***08*** *09:59:44.9±7.2, 21°.42S×173°.48E, h0km, mb3.6/4, mbtmp3.7/5, ML3.8/1, MS3.3/8, Error ellipse: s-maj=175.9km s-min=34.6km az=31.0*
ISC 08 09:59:54.7±3.4**, 22°.1S**±0°.6×**173°.0E**±0°.2**, h35**km**, n16, σ0ˢ96**/10**, mb3.5**/4**, MS3.1**/6**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.04	269	Pn	Pn	10 01 22.1	+0.5
	1.8nm,0.3s,baz=132,slow=10,SNR=30						
DZM				Sn	Sn	10 02 28.7	-0.8
	0.7nm,0.3s,baz=144,slow=18,SNR=1.1						
DZM				LR	LR	10 03 30.3	
	comp=Z,270nm,20.6s,baz=138,slow=34						
	4.3nm,0.3s						
AFI	Afiamalu	16.65	63	LR	LR	10 08 44.5	
	comp=Z,94nm,21.2s,baz=97,slow=34						
HNR	Honiara	17.75	313	LR	LR	10 09 37.4	
	comp=Z,1μm,19.8s,baz=113,slow=34						
CTA	Charters Tower	24.98	270	LR	LR	10 14 46.1	
	comp=Z,65nm,18.6s,baz=81,slow=35						
RAR	Rarotonga	25.35	93	LR	LR	10 15 02.2	
	comp=Z,30nm,18.4s,baz=228,slow=37						
STKA	Stephens Creek	29.49	244	LR	LR	10 17 41.4	
	comp=Z,39nm,19.4s,baz=29,slow=36						
PPT	Papeete	35.48	89	LR	LR	10 20 07.0	
	comp=Z,23nm,18.4s,baz=262,slow=35						
ASAR	Alice Springs	35.93	260	P	P	10 06 53.1	+1.0
	0.4nm,0.9s,baz=88,slow=9.4,SNR=4.8						
ASAR				LR	LR	10 21 02.0	
	comp=Z,60nm,18.8s,baz=104,slow=35						
	0.4nm,0.9s						
WRA	Warramunga Arr	36.04	266	P	P	10 06 52.5	-0.5
	0.3nm,0.8s,baz=96,slow=8.6,SNR=5.6						
	0.3nm,0.8s						
BATI	Baumata	48.60	276	LR	LR	10 31 23.7	
	comp=Z,229nm,18.4s,baz=340,slow=39						
VNDA	Vanda	55.71	183	P	P	10 09 27.2	0.0
	0.4nm,0.5s,baz=0.1,slow=7.1,SNR=5.1						
	0.4nm,0.5s						
MAW	Mawson	77.07	202	P	P	10 11 44.7	+0.8
	2.1nm,0.8s,baz=143,slow=3.8,SNR=4.8						
	2.1nm,0.8s						
TROLL	Troll, Antarti	85.89	183	P	P	10 12 29.9	-0.8
SNAA	Sanae	86.41	181	P	P	10 12 32.1	-1.1
VNA3	Neumayer Olymp	86.87	179	P	P	10 12 34.2	-1.3
VNA2	Neumayer--Watz	87.21	180	P	P	10 12 37.2	+0.2
	baz=156,slow=3.1						

IDC ***08*** *10:06:10.9±3.0, 25°.84S×179°.51W, h487km±44km, mb3.1/4, mbtmp4.1/7, Error ellipse: s-maj=91.2km s-min=27.8km az=81.0*
ISC 08 10:06:12.7±1.2**, 25°.9S**±0°.1×**180°.0E**±0°.2**, h450**km**, n8, σ1ˢ38**/9**, mb3.6**/4**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.83	151	P	P	10 07 27.5	+1.2
	169nm,0.2s,baz=72,slow=20,SNR=1.7						
RAO				S	S	10 08 26.6	+0.3
	147nm,0.4s,baz=117,slow=18,SNR=1.4						
MSVF	Nonsavu	8.31	347	P	P	10 08 11.0	-0.7
	3.6nm,0.5s,baz=193,slow=20,SNR=1.1						
URZ	Urewera	12.57	190	P	P	10 08 56.5	-1.1
	3.3nm,0.3s,baz=354,slow=3.8,SNR=12						
DZM	Mont Dzumac	12.95	284	P	P	10 09 04.4	+2.3
	5.3nm,0.8s,baz=119,slow=19,SNR=2.2						
CTA	Charters Tower	31.53	273	P	P	10 11 56.4	-0.2
	2.5nm,0.5s,baz=95,slow=10,SNR=7.6						
	2.5nm,0.5s						
STKA	Stephens Creek	34.02	251	P	P	10 12 17.6	0.0
	0.9nm,0.6s,baz=90,slow=9.1,SNR=2.9						
	0.9nm,0.6s						
ASAR	Alice Springs	41.74	263	P	P	10 13 20.2	-1.0
	1.0nm,0.4s,baz=91,slow=7.5,SNR=55						
	1.0nm,0.4s						
WRA	Warramunga Arr	42.30	268	P	P	10 13 24.4	-1.3
	1.1nm,0.4s,baz=108,slow=7.3,SNR=27						
	1.1nm,0.4s						

IDC ***08*** *10:10:39.5±1.8, 34°.52N×138°.84E, h0km, mb3.6/3, mbtmp3.6/4, ML2.6/1, Error ellipse: s-maj=70.7km s-min=19.6km az=77.0*
JMA ***08*** *10:10:44.1±0.2, 35°.2N±0°.7×140°.0E±0°.8, h82km±1km, MV3.1/34, SOUTHERN BOSO PENINSULA*
ISC 08 10:10:44.7±1.0**, 35°.14N**±0°.05×**140°.02E**±0°.05**, h80**km±7km**, n23, σ0ˢ52**/30**, mb3.5**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKUC	kamogawauchiur	0.14	83	i P	Pn	10 10 55.9	-0.4
JKUC				eS	Sn	10 11 04.5	-0.4
TATJ	Tateyama 2	0.15	225	P	Pn	10 10 56.6	+0.2
TATJ				eS	Sn	10 11 05.0	+0.1
KTR	Katsuura	0.24	89	P	Pn	10 10 56.1	-0.5
KTR				eS	Sn	10 11 05.4	-0.1
JCN	Nagara	0.31	28	P	Pn	10 10 57.4	+0.3
JCN				eS	Sn	10 11 07.3	+1.1
BSO3	Boso 3	0.53	130	i P	Pn	10 10 58.1	-0.2
BSO3				X		10 11 09.5	
JIM2	Oshima 3	0.65	229	P	Pn	10 10 59.6	-0.3
JIM2				S	Sn	10 11 10.6	-0.4
JOD2	Odawara 2	0.78	279	P	Pn	10 11 00.6	-0.6
JOD2				S	Sn	10 11 12.7	-0.7
BSO1	Boso 1	0.92	122	P	Pn	10 11 01.8	-0.4
BSO1				S	Sn	10 11 15.8	+0.3
JIZS	Izushimoda	1.03	246	P	Pn	10 11 04.3	+0.2
JIZS				S	Sn	10 11 19.0	+0.3
JFNN	Fujinakano	1.10	273	P	Pn	10 11 05.2	+0.3
JFNN				S	Sn	10 11 20.4	+0.4
JYN	Shimob	1.26	287	P	Pn	10 11 06.9	-0.1
JYN				S	Sn	10 11 23.6	-0.2
JRY	Ryogami san	1.26	314	P	Pn	10 11 06.9	-0.1
JRY				S	Sn	10 11 23.7	-0.1
JMKN	Mikurajimanish	1.30	196	P	Pn	10 11 07.5	+0.1
JMKN				S	Sn	10 11 24.4	0.0
MJAR	Matsushiro Arr	2.03	314	Pn	Pn	10 11 15.8	-1.1
	1.9nm,0.3s,baz=161,slow=12,SNR=165						
MJAR				Sn	Sn	10 11 42.3	+0.7
	3.4nm,0.3s,baz=154,slow=20,SNR=7.0						
	14nm,0.3s						
H11N2	WAKE ISLAND Hy	28.24	116	T	T	10 46 20.2	
	baz=308,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	28.25	116	T	T	10 46 20.1	
	baz=308,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	28.26	116	T	T	10 46 20.9	
	baz=308,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	28.87	118	T	T	10 46 43.9	
	baz=311,slow=76,SNR=8.7						
H11S3	WAKE ISLAND Hy	28.87	118	T	T	10 46 43.7	
	baz=311,slow=76,SNR=6.1						
H11S2	WAKE ISLAND Hy	28.89	118	T	T	10 46 33.4	
	baz=311,slow=76,SNR=5.3						
MKAR	Makanchi Array	44.20	304	P	P	10 18 46.2	+0.6
	0.6nm,0.7s,baz=91,slow=12,SNR=5.6						
	0.6nm,0.7s						
WRA	Warramunga Arr	55.05	187	P	P	10 20 07.2	-0.9
	0.7nm,0.4s,baz=1.7,slow=7.5,SNR=45						
	0.7nm,0.4s						
ASAR	Alice Springs	58.77	187	P	P	10 20 34.8	+0.3
	0.1nm,0.3s,baz=16,slow=12,SNR=9.9						
	0.1nm,0.3s						

IDC ***08*** *10:47:06.5±1.5, 30°.58S×179°.40W, h402km±17km, mb2.7/2, mbtmp3.9/4, Error ellipse: s-maj=35.6km s-min=22.9km az=113.0*
ISC 08 10:46:58.6±1.0**, 30°.19S**±0°.08×**178°.8W**±0°.2**, h350**km**, n20, σ2ˢ04**/30**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.21	40	P	Pn	10 47 45.9	+0.5
GLKZ				S	S	10 48 17.5	-5.3
RIZ	Raoul Island	1.22	39	S	S	10 48 20.1	-2.8
RAO	Raoul Island	1.22	40	P	Pn	10 48 01.7	+16
	202nm,0.4s,baz=270,slow=20,SNR=1.7						
MXZ	Matakaoa Point	7.73	197	P	Pn	10 48 52.8	+3.3
MXZ				S	S	10 50 18.8	-1.0
WMGZ	Waiomatatini S	7.95	196	P	Pn	10 48 58.1	+6.0
WMGZ				S	S	10 50 25.1	+0.6
HAZ	Te Kaha	8.05	200	P	Pn	10 48 53.9	+0.6
HAZ				S	S	10 50 26.4	-0.4
PUZ	Puketiti	8.22	196	P	P	10 49 01.1	+2.8
PUZ				S	S	10 50 28.9	-1.7
RUGZ	Raukumara Rang	8.28	200	P	P	10 48 59.9	+0.9
RUGZ				S	S	10 50 28.3	-3.7
TWGZ	Tauwhareparae	8.39	198	P	P	10 49 02.5	+2.3
TWGZ				S	S	10 50 34.2	-0.1
MWZ	Matawai	8.67	199	P	P	10 49 04.7	+1.5
MWZ				S	S	10 50 38.2	-2.0
URZ	Urewera	8.72	202	P	P	10 49 04.6	+0.8
	8.1nm,0.3s,baz=349,slow=3.7,SNR=22						
URZ				S	S	10 50 38.2	-3.2
	11nm,0.4s,baz=298,slow=22,SNR=13						
URZ	Urewera	8.72	202	P	P	10 49 04.1	+0.4
URZ				S	S	10 50 41.6	+0.2
RIGZ	Rimuhau	8.95	197	P	P	10 49 07.1	+0.8
RIGZ				S	S	10 50 42.8	-3.7
MUGZ	Murupara	9.03	203	P	P	10 49 07.8	+0.6

MUGZ				S	**S**	**10 50 47.1**	**-1.2**
SNGZ	**Shannon Statio**	**9.14**	**199**	P	**P**	**10 49 10.2**	**+1.9**
SNGZ				S	**S**	**10 50 49.0**	**-1.5**
DZM	**Mont Dzumac**	**15.50**	**298**	P	**Pn**	**10 50 21.6**	**+0.1**
	4.4nm,0.5s,baz=193,slow=16,SNR=8.6						
ASAR	**Alice Springs**	**42.42**	**267**	P	**P**	**10 54 19.8**	**-0.6**
	0.3nm,0.6s,baz=104,slow=7.0,SNR=6.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**43.39**	**272**	P	**P**	**10 54 27.7**	**-0.4**
	0.6nm,0.6s,baz=112,slow=7.2,SNR=12						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**144.71**	**340**	PKP	**PKPdf**	**11 05 54.9**	**+1.6**
	5.0nm,0.8s,baz=33,slow=3.3,SNR=3.6						
AKASG	**Malin Array Be**	**150.71**	**322**	PKPbc	**PKiKP**	**11 06 11.3**	**+1.4**
	0.4nm,0.4s,baz=50,slow=2.0,SNR=1.6						

OMAN 08 10:57:01.7±0.3**, 20°.84N×61°.19E, h2**^{km}±7^{km}**, mb5.0**/3**, ml3.2**/10**, Error ellipse: s-maj=13.8km s-min=1.4km az=279.0, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBK	**Wadi Bani Khal**	**2.72**	**311**	P	Pn	10 57 45.2	-1.2
WBK				S	Sn	10 58 20.3	+0.4
	SNR=7.0						
MHTO	**MHTO**	**3.02**	**273**	P	Pn	10 57 49.8	-0.7
	SNR=36						
MHTO				S	Sn	10 58 29.1	+1.9
JMDO	**Jabal Madar**	**3.25**	**299**	P	Pn	10 57 54.1	+0.3
	SNR=28						
JMDO				S	Sn	10 58 35.3	+2.2
WSAR	**Wadi Sarin**	**3.37**	**316**	P	Pn	10 57 53.7	-1.8
WSAR				S	Sn	10 58 35.6	-0.5
DQM	**DQM**	**3.54**	**256**	P	Pn	10 57 57.4	-0.3
	SNR=19						
DQM				S	Sn	10 58 41.7	+1.4
SMDO	**Samad**	**3.66**	**308**	P	Pn	10 57 59.5	+0.1
SMDO				S	Sn	10 58 44.5	+1.2
BIDO	**Bidbid**	**3.90**	**314**	P	Pn	10 58 02.5	-0.2
BIDO				S	Sn	10 58 48.5	-0.5
BSY	**Bisya**	**4.17**	**298**	P	Pn	10 58 07.3	+0.9
	SNR=6.9						
BSY				S	Sn	10 58 58.5	+2.7
HOQ	**Hoqain**	**4.52**	**308**	P	Pn	10 58 11.4	+0.2
HOQ				S	Sn	10 59 05.0	+0.7
ARQ	**Araqi**	**5.00**	**301**	P	Pn	10 58 18.1	+0.3
	SNR=8.0						
ARQ				S	Sn	10 59 17.3	+1.1
DMTO	**DMTO**	**6.67**	**243**	P	Pn	10 58 40.3	-0.4
DOK	**Doka**	**7.01**	**253**	P	Pn	10 58 46.0	+0.6
WHFO	**Wadi Hawf**	**7.58**	**249**	P	Pn	10 58 53.0	-0.3

IDC 08 11:16:28.4±14.0**, 5°.21S×127°.48E, h0**^{km}**, mb4.0**/1**, mbtmp3.2**/3**, ML2.4**/2**, Error ellipse: s-maj=211.6km s-min=158.1km az=142.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.09**	**156**	Pn	Pn	11 20 17.6	+1.4
	baz=335,slow=12,SNR=1.6						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**19.36**	**162**	P	P	11 20 54.6	-1.2
	0.1nm,0.3s,baz=344,slow=11,SNR=4.8						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**29.64**	**155**	P	P	11 22 36.1	+0.4
	1.6nm,0.8s,baz=311,slow=11,SNR=2.9						
	1.6nm,0.8s						

*IDC **08** 11:17:34.1±3.1, 50°.67S×168°.26E, h0^{km}, mb3.8/2, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=65.7km s-min=38.1km az=138.0*

*NEIC **08** 11:17:34.1±2.7, 50°.65S±0°.09×168°.29E±0°.10, h10^{km}±1^{km}, mb4.2/12, Error ellipse: s-maj=17.8km s-min=3.2km az=145.0*

ISC 08 11:17:37.5±0.7**, 50°.61S**±0°.08×**168°.2E**±0°.1**, h35**^{km}**, n44,** σ**1.51**/40**, mb4.2**/8**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**4.55**	**347**	Pn	**Pn**	**11 18 42.9**	**-1.0**
WHZ	**Wether Hill Ro**	**4.72**	**358**		**Pn**	**11 18 44.4**	**-1.8**
DCZ	**Deep Cove**	**5.19**	**352**		**Pn**	**11 18 51.4**	**-1.2**
MLZ	**Mavora Lakes**	**5.24**	**360**	Pn	**Pn**	**11 18 55.2**	**+1.9**
ODZ	**Otahua Downs**	**5.81**	**18**	Pn	**Pn**	**11 19 01.4**	**+0.3**
WKZ	**Wanaka**	**5.81**	**6**	Pn	**Pn**	**11 19 01.5**	**+0.3**
LBZ	**Lake Benmore**	**6.37**	**13**	Pn	**Pn**	**11 19 09.3**	**+0.5**
MCQ	**Macquarie Isla**	**6.84**	**232**	Pn	**Pn**	**11 19 14.0**	**-1.2**
FOZ	**Fox Glacier**	**7.17**	**10**	Pn	**Pn**	**11 19 16.4**	**-3.3**
RPZ	**Rata Peaks**	**7.17**	**17**	Pn	**Pn**	**11 19 19.7**	**-0.1**
	4.0nm,0.3s,baz=201,slow=3.7,SNR=17						
RPZ				Sn	**Sn**	**11 20 39.0**	**-0.9**
	1.2nm,0.3s,baz=7.2,slow=23,SNR=1.4						
	12nm,0.4s						
RPZ	**Rata Peaks**	**7.17**	**17**		**Pn**	**11 19 18.1**	**-1.7**
MQZ	**McQueen's Vall**	**7.55**	**26**	Pn	**Pn**	**11 19 22.8**	**-2.1**
OXZ	**Oxford**	**7.75**	**21**		**Pn**	**11 19 25.9**	**-1.8**
LTZ	**Lake Taylor**	**8.32**	**21**	Pn	**Pn**	**11 19 34.7**	**-0.9**
KHZ	**Kahutara**	**8.98**	**26**	Pn	**Pn**	**11 19 45.1**	**+0.4**
THZ	**Tophouse**	**9.43**	**22**	Pn	**Pn**	**11 19 48.6**	**-2.3**
NNZ	**Nelson**	**10.06**	**23**	Pn	**Pn**	**11 19 58.7**	**-0.7**
QRZ	**Quartz Range**	**10.24**	**19**	Pn	**Pn**	**11 20 01.9**	**0.0**
PLWZ	**Palliser**	**10.28**	**31**	Pn	**Pn**	**11 20 02.8**	**+0.3**
SNZO	**South Karori**	**10.34**	**28**	Pn	**Pn**	**11 20 02.0**	**-1.3**
MSWZ	**Moikau Station**	**10.42**	**31**	Pn	**Pn**	**11 20 01.9**	**-2.4**
URZ	**Urewera**	**13.88**	**31**	Pn	**Pn**	**11 20 54.4**	**+2.8**
	0.4nm,0.3s,baz=271,slow=22,SNR=1.4						
URZ				Sn	**Sn**	**11 23 26.1**	**+1.7**
	0.3nm,0.3s,baz=252,slow=18,SNR=1.8						
	2.9nm,0.5s						
TAU	**Tasmania Unive**	**16.20**	**290**		**P**	**11 21 26.6**	**+1.5**
FORT	**Forrest**	**35.73**	**288**	P	**P**	**11 24 32.6**	**-0.1**
AS31	**Alice Springs**	**37.78**	**303**	P	**P**	**11 24 50.6**	**+0.3**
ASAR	**Alice Springs**	**37.78**	**303**	P	**P**	**11 24 52.9**	**+2.7**
	1.8nm,0.8s,baz=141,slow=8.5,SNR=15						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**37.78**	**303**	P	**P**	**11 24 50.7**	**+0.5**
QSPA	**South Pole Qui**	**39.52**	**180**	P	**P**	**11 25 04.6**	**+0.1**
QSPA				IAmb	IAmb	11 25 08.2	
	comp=Z,7.6nm,1.4s						
AFI	**Afiamalu**	**40.06**	**31**	P	**P**	**11 25 08.0**	**-1.4**
WR0	**Warramunga Arr**	**40.49**	**307**	P	**P**	**11 25 14.7**	**+1.9**
WR0				IAmb	IAmb	11 25 34.3	
	comp=Z,5.8nm,1.4s						
WB2	**Warramunga Arr**	**40.60**	**306**	P	**P**	**11 25 16.1**	**+2.3**
WB2				IAmb	IAmb	11 25 34.8	
	comp=Z,7.1nm,1.4s						
WRA	**Warramunga Arr**	**40.60**	**306**	P	**P**	**11 25 15.8**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=147,slow=7.4,SNR=7.1						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**40.60**	**306**	P	**P**	**11 25 14.0**	**+0.2**
WRAB	**Tennant Creek**	**40.61**	**306**	P	**P**	**11 25 13.8**	**-0.1**
WRAB				IAmb	IAmb	11 25 46.0	
	comp=Z,5.2nm,1.2s						
WB0	**Warramunga Arr**	**40.72**	**307**	P	**P**	**11 25 15.4**	**+0.6**
WB0				IAmb	IAmb	11 25 31.1	
	comp=Z,6.4nm,1.4s						
H01W1	**Cape Leeuwin H**	**41.71**	**271**	T	T	12 08 32.1	
	baz=130,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**41.72**	**271**	T	T	12 08 38.9	
	baz=130,slow=75,SNR=27						
H01W3	**Cape Leeuwin H**	**41.72**	**271**	T	T	12 08 33.5	
	baz=130,slow=75,SNR=18						
BELA	**Belgrano 2**	**51.02**	**174**	P	**P**	**11 26 36.3**	**+1.1**
SNAA	**Sanae**	**57.86**	**183**	P	**P**	**11 27 24.4**	**-0.7**
SNAA				IAmb	IAmb	11 27 26.8	
	comp=Z,3.1nm,1.0s						
H08S2	**Diego Garcia H**	**87.75**	**261**	T	T	13 06 28.6	
	baz=140,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**87.76**	**261**	T	T	13 06 28.6	
	baz=140,slow=76,SNR=4.7						
H08S3	**Diego Garcia H**	**87.77**	**261**	T	T	13 06 28.6	
	baz=140,slow=76,SNR=13						
BRTR	**Keskin Array B**	**146.65**	**269**	PKPbc	**PKPab**	**11 37 16.5**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=142,slow=5.1,SNR=8.6						

ROM 08 11:30:23.8±0.0**, 42°.828N**±0°.003×**13°.041E**±0°.004**, h10**^{km}**, ML1.9**/16**, 4C-3D, Error ellipse: s-maj=0.3km s-min=0.2km az=304.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1216	**Preci, Frazion**	**0.07**	**345**	P	Pg	11 30 26.5	+0.4
T1216				AML	AML		
	comp=E,1820µm,1.5s						
T1216				AML	AML		
	comp=N,2375µm,0.1s						
T1216				AML	AML		
	comp=E,1815µm,1.5s						
T1216				AML	AML		
	comp=N,2370µm,0.1s						
T1245	**Castelsantange**	**0.11**	**75**	P	Pg	11 30 27.3	+0.5
T1245				S	Sg	11 30 29.5	+0.7
T1245				AML	AML		
	comp=E,3075µm,1.1s						
T1245				AML	AML		
	comp=N,3380µm,1.3s						
T1245				AML	AML		
	comp=N,3270µm,1.3s						
T1245				AML	AML		
	comp=N,3380µm,1.3s						
T1245				AML	AML		
	comp=E,2965µm,0.1s						
T1215	**Vallo di Nera,**	**0.13**	**259**	P	Pg	11 30 27.5	+0.6
T1215				S	Sg	11 30 29.9	+0.8
T1215				AML	AML		
	comp=E,571µm,0.1s						
T1215				AML	AML		
	comp=N,1680µm,0.1s						
T1215				AML	AML		
	comp=E,642µm,0.8s						
T1215				AML	AML		
	comp=N,1800µm,0.1s						
CESI	**CESI - Serrava**	**0.20**	**331**	⇓P	Pg	11 30 28.8	+0.6
CESI				S	Sg	11 30 32.2	+1.0
CESI				AML	AML		
	comp=E,286µm,0.6s						
CESI				AML	AML		
	comp=N,744µm,0.3s						
CESI				AML	AML		
	comp=E,285µm,0.6s						
FDMO	**Fiordimonte**	**0.21**	**9**	P	Pg	11 30 29.0	+0.7
FDMO				S	Sg	11 30 32.4	+1.1
FDMO				AML	AML		
	comp=E,1260µm,0.1s						
FDMO				AML	AML		
	comp=N,589µm,0.3s						
MMO1	**Montemonaco**	**0.22**	**71**	P	Pg	11 30 29.0	+0.5
MMO1				S	Sg	11 30 32.7	+1.1
LNSS	**Leonessa**	**0.22**	**180**	⇓P	Pg	11 30 29.3	+0.7
LNSS				S	Sg	11 30 33.1	+1.4
LNSS				AML	AML		
	comp=E,346µm,0.2s						
LNSS				AML	AML		
	comp=N,579µm,0.1s						
LNSS				AML	AML		
	comp=N,578µm,0.1s						
T1256	**Bolognola (MC)**	**0.22**	**37**	AML	AML		
	comp=N,592µm,0.1s						
T1256				AML	AML		
	comp=E,616µm,0.2s						
T1256				AML	AML		
	comp=E,616µm,0.2s						
T1241	**Roccafluvione,**	**0.29**	**84**	⇑P	Pg	11 30 30.2	+0.6
T1241				S	Sb	11 30 34.9	-1.1
T1241				AML	AML		
	comp=N,254µm,0.5s						
T1241				AML	AML		
	comp=E,318µm,0.2s						
CSP1	**Cessapalombo**	**0.29**	**24**	⇑P	Pg	11 30 30.3	+0.5
CSP1				S	Sb	11 30 35.1	-1.1
CSP1				AML	AML		
	comp=E,510µm,0.3s						
CSP1				AML	AML		
	comp=N,421µm,1.8s						
GUMA	**Gualdo di Mace**	**0.32**	**42**	⇑P	Pb	11 30 31.1	-0.6
GUMA				S	Sb	11 30 36.5	-0.5
ARRO	**Arrone**	**0.32**	**219**	⇑P	Pg	11 30 30.9	+0.6
ARRO				S	Sb	11 30 36.0	-0.9
ARRO				AML	AML		
	comp=E,194µm,0.1s						
ARRO				AML	AML		
	comp=E,194µm,0.1s						
ARRO				AML	AML		
	comp=N,186µm,0.2s						
T1243	**Rocca Santa Ma**	**0.33**	**113**	⇓P	Pg	11 30 30.9	+0.5
T1243				S	Sb	11 30 36.1	-1.1
RM33	**Pellescritta (**	**0.34**	**158**	AML	AML		
	comp=N,101µm,0.3s						
RM33				AML	AML		
	comp=E,111µm,0.9s						
RM33				AML	AML		
	comp=N,183µm,0.2s						
RM33				AML	AML		
	comp=E,121µm,2.0s						
CESX	**Cesi**	**0.40**	**238**	AML	AML		
	comp=E,136µm,0.3s						
CESX				AML	AML		
	comp=N,146µm,0.2s						
SNTG	**Esanatoglia**	**0.43**	**350**	AML	AML		
	comp=E,73µm,0.2s						
SNTG				AML	AML		
	comp=E,73µm,0.2s						
SNTG				AML	AML		
	comp=N,75µm,0.7s						
EL6	**Elcito**	**0.50**	**5**	AML	AML		
	comp=N,180µm,1.0s						
EL6				AML	AML		
	comp=E,180µm,1.5s						
CING	**Cingoli**	**0.56**	**12**	AML	AML		
	comp=E,91µm,1.5s						
CING				AML	AML		
	comp=N,90µm,0.1s						
FIAM	**Fiamignano**	**0.56**	**174**	AML	AML		
	comp=E,63µm,1.5s						
FIAM				AML	AML		
	comp=N,52µm,1.5s						

*ECX **08** 12:02:02.3±0.5, 32°.21N×115°.30W, h1^{km}±2^{km}, MD2.5, ML2.7*

*MEX **08** 12:02:03.6±0.7, 32°.33N×115°.14W, h28^{km}±8^{km}, MD3.8*

ISC 08 12:02:00.4±0.9**, 32°.19N**±0°.02×**115°.32W**±0°.02**, h18**^{km}±3^{km}**, n32,** σ**0.82**/49**, 9C-6D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.07**	**154**	⇓*i*P	**Pg**	**12 02 03.8**	**0.0**
RHX				*e*S	**Sg**	**12 02 05.0**	**-1.1**
CPBX	**Cerro Prieto**	**0.23**	**3**	⇓*e*P	**Pg**	**12 02 06.4**	**+0.6**
CPBX				*e*S	**Sg**	**12 02 09.5**	**+0.1**
CPBX				⇑*e*		12 02 12.8	
CPBX				IAML		12 02 12.8	
	comp=N,3µm,0.2s						
CPBX				IAML		12 02 15.4	
	comp=E,4µm,0.2s						
CPBX				⇑*e*		12 02 15.4	
MBIG	**Mexicali**	**0.23**	**26**	*e*P	**Pb**	**12 02 06.7**	**+0.7**
MBIG	**Mexicali**	**0.23**	**26**	*e*P	**Pb**	**12 02 06.1**	**0.0**
MBIG				*i* P	**Pb**	**12 02 06.7**	**+0.7**
MBIG				*i* S	**Sb**	**12 02 10.3**	**+0.6**
MBIG				*e*S	**Sg**	**12 02 10.9**	**+1.2**
CTLX	**Tlaxcala, TLX**	**0.31**	**28**	⇑*i*P	**Pb**	**12 02 08.1**	**+0.5**
CTLX				*e*S	**Sb**	**12 02 13.4**	**+1.1**
YUCAX	**Ej. Yucat¡n**	**0.45**	**25**	*e*P	**Pb**	**12 02 10.7**	**+0.8**
SGL	**Mount Signal**	**0.57**	**323**	⇓*i*P	**Pn**	**12 02 12.9**	**-0.8**
EMSC	**East Mesa**	**0.61**	**27**	*e*P	**Pg**	**12 02 13.0**	**+0.4**
DREC	**Desert Rsrch C**	**0.62**	**350**	⇓*e*P	**Pn**	**12 02 14.0**	**-0.3**
WESC	**Westside Schoo**	**0.66**	**328**	*e*P	**Pn**	**12 02 14.8**	**-0.2**
YUH2	**Yuha Desert**	**0.68**	**312**	*e*P	**Pn**	**12 02 14.8**	**-0.5**
YUH2				*e*S	**Sn**	**12 02 24.4**	**-1.0**
COA	**Coachella**	**0.69**	**14**	*e*P	**Pg**	**12 02 14.2**	**+0.2**
SJX	**San Joaquin**	**0.69**	**232**	⇑*i*P	**Pb**	**12 02 13.6**	**-0.3**
SJX				*e*S	**Sb**	**12 02 21.9**	**-1.3**
SJX				IAML		12 02 23.1	
	comp=E,563nm,0.1s						
SJX				⇑*e*		12 02 23.1	
SJX				IAML		12 02 23.2	
	comp=N,440nm,0.1s						
SJX				⇑*e*		12 02 23.2	
COK2	**Cook Ranch 2**	**0.74**	**332**	⇓*i*P	**Pn**	**12 02 15.8**	**-0.2**
ECBX	**El Chinero**	**0.76**	**162**	⇓*e*P	**Pg**	**12 02 15.9**	**+0.7**
ECBX				*e*S	**Sn**	**12 02 26.8**	**-0.3**
RMX	**La Rumorosa**	**0.76**	**303**	⇑*e*P	**Pg**	**12 02 15.3**	**-0.1**
RMX				*e*S	**Sg**	**12 02 24.9**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.81**	**304**	⇑*e*P	**Pn**	**12 02 17.2**	**+0.2**
IKP				*e*S	**Sn**	**12 02 28.1**	**-0.5**
SWSC	**Sam W. Stewart**	**0.85**	**332**	*e*P	**Pn**	**12 02 17.3**	**-0.2**
VTX	**Valle De La Tr**	**0.89**	**206**	*e*P	**Pn**	**12 02 19.4**	**+1.2**
GLA	**Glamis**	**0.95**	**26**	⇑*e*P	**Pg**	**12 02 18.7**	**-0.3**
CBX	**Cerro Bola**	**1.15**	**276**	*e*P	**Pg**	**12 02 23.7**	**+1.0**
CBX	**Cerro Bola**	**1.15**	**276**	*e*P	**Pg**	**12 02 23.5**	**+0.8**
CBX				*i* S	**Sg**	**12 02 39.2**	**+1.5**
SPIG	**San Pedro Mart**	**1.15**	**186**	*e*P	**Pg**	**12 02 22.9**	**+0.1**
SPIG				*e*S	**Sg**	**12 02 39.5**	**+1.6**
MONP2	**Monument Peak**	**1.16**	**307**	*e*P	**Pg**	**12 02 23.7**	**+0.6**
TJIG	**Tijuana**	**1.17**	**282**	*e*P	**Pg**	**12 02 23.4**	**+0.2**
TJIG	**Tijuana**	**1.17**	**282**	*e*P	**Pg**	**12 02 23.4**	**+0.2**
TJIG				*i* S	**Sg**	**12 02 39.3**	**+0.8**
SFX	**San Felipe**	**1.22**	**161**	*e*P	**Pg**	**12 02 24.3**	**+0.3**
SFX	**San Felipe**	**1.22**	**161**	*e*P	**Pg**	**12 02 24.1**	**+0.1**
SFX				*e*S	**Sg**	**12 02 40.3**	**+0.3**
BAR	**Barrett**	**1.24**	**293**	*e*P	**Pg**	**12 02 24.4**	**-0.1**
BAR				*e*S	**Sg**	**12 02 41.2**	**+0.5**
EML	**El Monte Cty P**	**1.47**	**299**	*e*P	**Pg**	**12 02 27.6**	**-1.1**
SDRC	**San Diego Road**	**1.48**	**292**	*e*P	**Pg**	**12 02 28.8**	**-0.1**
214A	**Organ Pipe Nat**	**2.14**	**96**	*e*P	**Pn**	**12 02 34.6**	**-0.7**
214A				*e*S	**Sn**	**12 02 58.8**	**-2.6**

*HVO **08** 12:13:00.8±2.1, 19°.67N±0°.01×156°.10W±0°.03, h11^{km}±4^{km}, ML2.5/9, ML2.7/32(NEIC), Error ellipse: s-maj=4.0km s-min=1.9km az=85.0*

NEIC 08 12:12:56.5±1.7**, 19°.72N**±0°.02×**156°.25W**±0°.07**, h27**^{km}±10^{km}**, Error ellipse: s-maj=9.6km s-min=2.7km az=94.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLU	**Kahalu`u**	**0.35**	**111**		Pb	12 13 04.9	+0.4
KHLU					Sb	12 13 08.3	-1.7
KHLU	**Kahalu`u**	**0.35**	**111**	IAML		12 13 11.6	
	comp=E,397nm,0.2s						
KHLU				IAML		12 13 13.2	
	comp=N,452nm,0.3s						
CPH	**Captain Cook**	**0.38**	**126**		Pn	12 13 06.0	-0.3
CPH					Sb	12 13 10.9	+0.2
HUH	**Hualalai**	**0.39**	**95**		Pb	12 13 05.5	+0.3
HUH					Sb	12 13 09.2	-1.8
HUH	**Hualalai**	**0.39**	**95**	IAML		12 13 10.4	
	comp=N,2µm,0.1s						
HUH				IAML		12 13 11.5	
	comp=E,2µm,0.1s						
ALEP	**Alea Permanent**	**0.59**	**107**		Pn	12 13 09.6	+0.1
ALEP					Sb	12 13 16.9	+0.2
HPAH	**Hawaii Prepara**	**0.60**	**59**		Pn	12 13 09.9	+0.6
HPAH					Sb	12 13 17.1	+0.4
HPAH	**Hawaii Prepara**	**0.60**	**59**	IAML		12 13 17.3	
	comp=E,268nm,0.2s						
HPAH				IAML		12 13 17.7	
	comp=N,214nm,0.1s						
MWH	**Moku'aweowe**	**0.65**	**111**		Pn	12 13 10.3	-0.1
MWH					Sb	12 13 18.3	-0.3
MWH	**Moku'aweowe**	**0.65**	**111**	IAML		12 13 18.8	
	comp=N,406nm,0.6s						
MWH				IAML		12 13 25.0	
	comp=E,529nm,1.2s						
MLOA	**Mauna Loa Obse**	**0.66**	**106**		Pn	12 13 10.3	-0.1
MLOA					Sb	12 13 18.0	-0.6
MLOA				IAML		12 13 18.5	
	comp=E,869nm,2.5s						
MLOA				IAML		12 13 19.0	
	comp=N,440nm,0.6s						
POHA	**Pohakuloa**	**0.67**	**86**		Pn	12 13 10.4	0.0
POHA					Sb	12 13 18.2	-0.7
POHA	**Pohakuloa**	**0.67**	**86**	IAML		12 13 18.5	
	comp=N,293nm,1.0s						
POHA				IAML		12 13 27.7	
	comp=N,254nm,0.5s						
HMH	**Humu'ula Sheep**	**0.73**	**99**		Pn	12 13 11.7	+0.4
HMH					Sb	12 13 20.7	+0.2
HMH				IAML		12 13 21.4	
	comp=N,338nm,0.8s						
HMH				IAML		12 13 26.2	
	comp=E,403nm,4.2s						
KHU	**Kahuku**	**0.76**	**128**		Pn	12 13 11.6	-0.1
KHU	**Kahuku**	**0.76**	**128**	IAML		12 13 15.4	
	comp=N,301nm,4.3s						
KHU				IAML		12 13 25.9	
	comp=E,479nm,4.2s						
AIN	**Ainahou**	**0.82**	**115**		Pn	12 13 12.3	-0.1
AIN	**Ainahou**	**0.82**	**115**	IAML		12 13 16.2	
	comp=E,216nm,3.7s						
AIN				IAML		12 13 17.3	
	comp=N,363nm,4.3s						
MLH	**Mauna Loa**	**0.84**	**105**		Sb	12 13 23.2	-0.5
MLH	**Mauna Loa**	**0.84**	**105**		Pb	12 13 12.6	0.0
MLH				IAML		12 13 24.1	
	comp=N,381nm,1.1s						
MLH	**Mauna Loa**	**0.84**	**105**	IAML		12 13 22.3	
	comp=E,304nm,3.3s						
HTC	**Hot Caves**	**0.93**	**121**		Pn	12 13 13.8	-0.1
WRMHI	**West Rim**	**0.94**	**109**		Pb	12 13 14.8	+0.5
UWE	**Uwekahuna**	**0.94**	**108**		Pb	12 13 14.8	+0.5
UWE					Sb	12 13 26.3	-0.2
RSD	**Rainshed**	**0.95**	**105**		Pn	12 13 14.0	-0.1
RSD	**Rainshed**	**0.95**	**105**		Sb	12 13 26.6	+0.1
OBL	**Observatory Le**	**0.95**	**108**		Pb	12 13 15.0	+0.5
SDHHI	**Sand Hill**	**0.95**	**110**	Pg	Pb	12 13 14.9	+0.5
UWB	**Uwekahuna B**	**0.96**	**108**		Pb	12 13 15.3	+0.8
UWB				IAML		12 13 35.5	
	comp=N,441nm,4.5s						
RIM	**Rim**	**0.97**	**109**	Pg	Pb	12 13 16.7	+2.0
HLP	**Hilina Pali**	**0.98**	**115**	Pg	Pb	12 13 16.4	+1.6
HLP				IAML		12 13 24.4	
	comp=N,377nm,4.2s						
HLP					Sb	12 13 26.7	-0.7
HLP				IAML		12 13 28.4	
	comp=E,484nm,3.7s						
KNHH	**Kane Nui o Ham**	**1.07**	**108**		Pb	12 13 16.5	+0.1
JOKA	**Jonika Flow**	**1.20**	**103**		Pn	12 13 17.1	-0.5

*CNRM **08** 12:13:58.1, 34°.41N×16°.60W, h30^{km}*

INMG 08 12:14:01.8±2.7**, 32°.21N×14°.93W, h10**^{km}**, ML2.5, 2D, Error ellipse: s-maj=30.2km s-min=8.4km az=166.0, Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**1.46**	**306**	⇓*e*P	Pn	12 14 22.7	-5.5
PMPS				*e*S	Sn	12 14 38.0	-9.3
PMPS				A	A	12 14 41.2	
	20nm,0.2s						
PMPST	**Porto Santo, M**	**1.47**	**307**	⇓*i*P	Pn	12 14 22.5	-5.9
PMPST				*e*S	Sn	12 14 38.0	-10
PMPST				A	A	12 14 39.8	
	26nm,0.3s						
FUL	**Funchal**	**1.72**	**285**	*e*S	Sn	12 14 46.8	-7.0
PMAR	**Madeira**	**1.75**	**288**	*e*P	Pn	12 14 26.6	-5.9
PMAR				*e*S	Sn	12 14 45.5	-9.5
PMAR				A	A	12 14 48.0	
	58nm,0.4s						
PMAR	**Madeira**	**1.75**	**288**	P	Pn	12 14 25.4	-7.0
PMAR				S	Sn	12 14 46.0	-8.9
PMOZ	**Porto Moniz, M**	**2.01**	**288**	*e*P	Pn	12 14 26.0	-10
PMOZ				*e*S	Sn	12 14 43.2	-18
PMOZ				A	A	12 14 47.1	
	61nm,0.4s						
OUK	**Oukaimeden**	**6.10**	**98**	P	Pg	12 15 54.5	-4.2
PFVI	**Vila Bisbo**	**7.03**	**44**	*e*P	Pn	12 15 40.1	-4.7
PFVI				*e*S	Sn	12 16 51.5	-13
PFVI				A	A	12 17 01.9	
	5.1nm,0.5s						
PFVI	**Vila Bisbo**	**7.03**	**44**	P	Pn	12 15 38.1	-6.7
PFVI				S	Sn	12 16 51.0	-14
ZHG	**ZHG**	**7.08**	**78**	P	Pn	12 15 54.0	+8.4
PCVE	**Castro Verde**	**7.83**	**44**	*e*P	Pn	12 15 51.3	-4.4
PCVE				*e*S	Sn	12 17 09.7	-15
PCVE				A	A	12 17 12.1	
	1.9nm,0.8s						
PVAQ	**Vaqueiros**	**7.88**	**47**	*e*P	Pn	12 15 53.4	-3.0
PVAQ				*e*S	Sn	12 17 15.4	-10
PVAQ				A	A	12 17 25.6	
	1.3nm,0.3s						
PVAQ	**Vaqueiros**	**7.88**	**47**	P	Pn	12 15 49.5	-6.9
PNCL	**Nicolau / Gran**	**7.88**	**40**	*e*P	Pn	12 15 47.8	-8.7
PNCL				*e*S	Sn	12 17 03.9	-22
PNCL				A	A	12 17 18.8	

1.6nm,0.3s
MD31 MD31 8.61 83 P Pn 12 16 21.4 +15
MDT Midelt 8.74 83 P Pn 12 16 23.9 +16
PBAR Barrancos 8.78 45 eP Pn 12 16 04.8 -4.0
PBAR A A 12 17 27.4
2.2nm,0.4s

IDC 08 12:21:07.5±74.0, 14.49S×166.33E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1237.0km s-min=123.6km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.46**	**228**	P	P	12 27 03.9	-0.5
	0.7nm,0.4s,baz=56,slow=11,SNR=2.6						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**31.00**	**255**	P	P	12 27 26.7	-0.3
	0.4nm,1.0s,baz=85,slow=9.5,SNR=2.7						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**31.91**	**248**	P	P	12 27 35.5	+0.5
	0.4nm,0.5s,baz=76,slow=9.2,SNR=10.0						
	0.4nm,0.5s						

JMA 08 12:43:13.7±0.4, 36.1N±0.6×14.1E±, h48km±3km, E OFF IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.45**	**204**	P	Pn	12 43 24.3	0.0
JHYU	**Hitachinakayam**	**0.46**	**300**	P	Pn	12 43 24.4	+0.1
JIHU	**Itakohorinouch**	**0.47**	**252**	P	Pn	12 43 25.1	+0.5
JHO	**Hitachi**	**0.65**	**320**	P	Pn	12 43 26.7	-0.1
JYT	**Yasato**	**0.73**	**279**	P	Pn	12 43 27.8	0.0
JAG	**Ashikaga**	**1.35**	**284**	P	Pn	12 43 36.8	+0.6

*MOS **08** 12:43:15.1±1.0, 36.29N×141.18E, h25km, mb4.9/24, Error ellipse: s-maj=9.3km s-min=5.5km az=122.7*
*BJI **08** 12:43:17.0±0.0, 36.40N×141.10E, h30km, mb4.6/33, mB4.9/18, Ms4.0/5, Ms7 3.8/6*
*NIED **08** 12:43:18.8, 36.31N×141.07E, h47km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.88; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-2.57; $M_{r\theta}$0.98; $M_{\theta\phi}$-1.28; $M_{\phi r}$3.26; Fault plane solution: $M_0$4.55000×10^{15} NP1: ϕ_s211.00000°, δ21.00000°, λ102.00000°. NP2: ϕ_s18.00000°, δ69.00000°, λ86.00000°.*
*JMA **08** 12:43:18.8±0.1, 36.3N±0.3×141.1E±1.0, h47km±1km, MD4.2/35, MV4.0/35, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
*NEIC **08** 12:43:19.7±1.8, 36.39N±0.02×141.21E±0.09, h35km±1km, mb4.6/57, Mwr4.2/17, Error ellipse: s-maj=12.4km s-min=3.0km az=100.0*
*NEIC **08** 12:43:20.4, 36.44N×141.11E, h36km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.85; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-1.05; $M_{r\theta}$1.09; $M_{\theta\phi}$-0.43; $M_{\phi r}$1.66; Fault plane solution: $M_0$2.25000×10^{15} NP1: ϕ_s32.43000°, δ77.07000°, λ99.57000°. NP2: ϕ_s175.44000°, δ16.03000°, λ54.10000°. Principal axes: T 2.1218, Plg57.0000°, Azm315.0000°; N 0.2379, Plg9.0000°, Azm210.0000°; P -2.3597, Plg31.0000°, Azm115.0000°;*
*IDC **08** 12:43:20.2±0.6, 36.22N×141.15E, h52km±5km, mb4.0/20, mbtmp4.2/25, MS3.7/36 Error ellipse: s-maj=9.6km s-min=8.5km az=176.0*
ISC 08 12:43:18.4±0.5, 36.34N±0.03×141.16E±0.05, h33km±2km, h33km:pP-P, n264, σ1.39/247, mb4.6/71, MS3.8/38, 9C-16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.46**	**271**	⇓P	**Pn**	**12 43 28.8**	**0.0**
JHYU				⇓eS	**Sn**	**12 43 35.7**	**-0.2**
JHYU	**Hitachinakayam**	**0.46**	**271**	A	A	12 43 28.8	
	comp=E,21nm,0.9s,comp=E,33nm,0.5s						
JHO	**Hitachi**	**0.55**	**300**	⇓P	**Pb**	**12 43 29.7**	**-0.1**
JHO	**Hitachi**	**0.55**	**300**	A	A	12 43 29.7	
	comp=Z,8.0nm,1.9s,comp=Z,10.0nm,3.7s,comp=Z,8.0nm,1.8s						
JIHU	**Itakohorinouch**	**0.63**	**234**	⇓P	**Pb**	**12 43 31.3**	**+0.2**
JIHU				⇓eS	**Sn**	**12 43 39.9**	**-0.1**
JIHU	**Itakohorinouch**	**0.63**	**234**	A	A	12 43 31.3	
	comp=E,45nm,2.1s,comp=E,62nm,1.0s						
CHOJ	**Chosi**	**0.68**	**201**	P	**Pn**	**12 43 31.3**	**-0.4**
CHOJ				S	**Sb**	**12 43 40.2**	**-0.8**
CHOJ	**Chosi**	**0.68**	**201**	A	A	12 43 31.3	
	comp=E,17nm,1.0s,comp=E,7.0nm,5.1s						
JYT	**Yasato**	**0.79**	**262**	⇓P	**Pn**	**12 43 32.6**	**-0.6**
JYT				⇓S	**Sn**	**12 43 42.2**	**-1.6**
JYT	**Yasato**	**0.79**	**262**	A	A	12 43 32.6	
	comp=E,11nm,0.4s,comp=E,11nm,0.3s						
JFFD	**Fukushimafurud**	**0.89**	**328**	A	A	12 43 35.0	
	comp=E,8.0nm,2.9s,comp=E,7.0nm,1.1s						
JFK	**Kawauchi**	**1.05**	**348**	⇓P	**Pn**	**12 43 37.0**	**0.0**
JFK	**Kawauchi**	**1.05**	**348**	A	A	12 43 37.0	
	comp=E,8.0nm,4.8s,comp=E,3.0nm,1.7s						
JSB	**Shiboa**	**1.18**	**303**	A	A	12 43 38.7	
	comp=E,13nm,2.1s,comp=E,15nm,1.2s						
JAG	**Ashikaga**	**1.38**	**274**	⇓P	**Pn**	**12 43 41.1**	**-0.3**
JAG	**Ashikaga**	**1.38**	**274**	A	A	12 43 41.1	
	comp=E,3.0nm,1.3s,comp=E,4.0nm,2.1s						
JOTO	**OTAMA OYAMA**	**1.39**	**332**	P	**Pb**	**12 43 42.8**	**-1.0**
JOTO				S	**Sn**	**12 43 60.0**	**+1.2**
JOTO	**OTAMA OYAMA**	**1.39**	**332**	A	A	12 43 42.8	
	comp=E,30nm,1.0s,comp=E,44nm,1.1s						
JMST	**Minamisoumatoc**	**1.40**	**351**	A	A	12 43 42.8	
	comp=E,10.0nm,0.6s,comp=E,6.0nm,0.3s						
JMM	**Marumori**	**1.56**	**349**		**Pn**	**12 43 44.2**	**+0.4**
JMM	**Marumori**	**1.56**	**349**	P	**Pn**	**12 43 44.5**	**+0.7**
JMM	**Marumori**	**1.56**	**349**	P	**Pn**	**12 43 44.3**	**+0.5**
JMM				S	**Sn**	**12 44 03.0**	**+0.2**
JKT	**Katashina**	**1.60**	**286**	⇓P	**Pn**	**12 43 45.0**	**+0.5**
JYAR	**Yonezawaarcadi**	**1.77**	**333**	A	A	12 43 47.7	
	comp=E,11nm,1.0s,comp=E,15nm,1.1s						
JOU	**Okura**	**2.06**	**349**	A	A	12 43 52.2	
	comp=E,10.0nm,1.6s,comp=E,11nm,1.5s						
JYS	**Shirataka**	**2.08**	**335**	A	A	12 43 52.1	
	comp=E,8.0nm,2.0s,comp=E,6.0nm,2.2s						
JOFO	**Osakifurukawao**	**2.27**	**355**	A	A	12 43 55.2	
	comp=E,27nm,1.6s,comp=E,19nm,1.2s						
MJAR	**Matsushiro Arr**	**2.39**	**276**	P	**Pn**	**12 43 55.7**	**+0.5**
	71nm,0.5s,baz=54,slow=26,SNR=361						
MJAR				S	**Sn**	**12 44 26.5**	**+3.1**
	32nm,0.5s,baz=106,slow=9.2,SNR=8.5						
MJAR				LR	LR	12 45 11.4	
	comp=Z,1μm,19.7s,baz=102,slow=46						
MAJO	**Matsushiro**	**2.39**	**276**	Pn	**Pn**	**12 43 56.4**	**+1.1**
MAJO	**Matsushiro**	**2.39**	**276**	P	**Pn**	**12 43 56.6**	**+1.3**
MAJO	**Matsushiro**	**2.39**	**276**	*i* P	**Pn**	**12 43 56.2**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.39**	**276**		**Pn**	**12 43 57.4**	**+2.0**
JYA	**Atsumi**	**2.53**	**333**	A	A	12 43 58.6	
	comp=E,6.0nm,0.9s,comp=E,6.0nm,0.7s						
JSD	**Sado**	**2.87**	**307**		**Pn**	**12 44 02.6**	**+0.7**
JSD	**Sado**	**2.87**	**307**	P	**Pn**	**12 44 03.0**	**+1.1**
JGF	**Kuroka**	**3.17**	**258**	Pn	**Pn**	**12 44 08.3**	**+2.2**
JGF	**Kuroka**	**3.17**	**258**	P	**Pn**	**12 44 08.6**	**+2.6**
JHJ2	**Mitsune**	**3.40**	**199**	Pn	**Pn**	**12 44 10.6**	**+1.4**
JHJ	**Hachijo jima 2**	**3.40**	**200**	P	**Pn**	**12 44 09.8**	**+0.6**
	128nm,0.3s,baz=257,slow=23,SNR=2.0						
JHJ				S	**Sn**	**12 44 48.5**	**+0.1**
	112nm,0.3s,baz=82,slow=22,SNR=1.7						
INU	**Inuyama**	**3.51**	**255**	Pn	**Pn**	**12 44 12.4**	**+1.8**
INU	**Inuyama**	**3.51**	**255**	P	**Pn**	**12 44 13.6**	**+3.0**
JTM	**Tenmabayashi**	**4.45**	**359**	Pn	**Pn**	**12 44 25.8**	**+2.4**
JTM	**Tenmabayashi**	**4.45**	**359**	P	**Pn**	**12 44 25.9**	**+2.4**
ERM	**Erimo**	**5.88**	**15**	Pn	**Pn**	**12 44 43.2**	**0.0**
ERM	**Erimo**	**5.88**	**15**	*i* P	**Pn**	**12 44 42.8**	**-0.4**
JEM	**Erimo**	**5.88**	**15**	P	**Pn**	**12 44 45.6**	**+2.4**
JMN	**Monobe**	**6.51**	**249**	Pn	**Pn**	**12 44 54.2**	**+2.2**
JMN	**Monobe**	**6.51**	**249**	P	**Pn**	**12 44 54.4**	**+2.4**
JHS	**Saijyo**	**6.68**	**261**	Pn	**Pn**	**12 44 56.0**	**+1.7**
ASAJ	**Asahikawa**	**7.85**	**8**	P	**Pn**	**12 45 10.1**	**-0.1**
JKA	**Kamikawa-asahi**	**7.85**	**8**	Pn	**Pn**	**12 45 10.1**	**-0.2**
JNU	**Nakatsue**	**9.05**	**252**	Pn	**Pn**	**12 45 30.6**	**+3.8**
USRK	**Ussuriysk Ar.**	**10.52**	**321**	P	**Pn**	**12 45 49.9**	**+3.1**
	8.5nm,0.6s,baz=137,slow=12,SNR=11						
USRK				LR	LR	12 49 35.1	
	comp=Z,312nm,18.7s,baz=123,slow=35						
USRK	**Ussuriysk Ar.**	**10.52**	**321**	Pn	**Pn**	**12 45 46.8**	**0.0**
USRK	**Ussuriysk Ar.**	**10.52**	**321**	P	**Pn**	**12 45 46.8**	**0.0**
KSRS	**Korea Array**	**10.66**	**280**	P	**Pn**	**12 45 50.4**	**+1.6**
	5.0nm,0.7s,baz=96,slow=14,SNR=8.5						
KSRS				LR	LR	12 49 43.7	
	comp=Z,306nm,19.8s,baz=85,slow=36						
YSS	**Yuzh-Sakhalins**	**10.68**	**6**	Pn	**Pn**	**12 45 49.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**10.68**	**6**	eP	**Pn**	**12 45 50.1**	**+1.2**
YSS				pmax	pmax		
	comp=Z,40nm,1.5s						
KSAR	**Wonju Array Be**	**10.69**	**280**	Pn	**Pn**	**12 45 49.2**	**0.0**
KSAR	**Wonju Array Be**	**10.69**	**280**	P	**Pn**	**12 45 49.2**	**0.0**
JOW	**Kunigami**	**14.49**	**233**	LR	LR	12 51 17.3	
	comp=Z,98nm,20.9s,baz=114,slow=33						
KLR	**Kul'dur**	**14.61**	**335**	P	**Pn**	**12 46 44.7**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=127,slow=22,SNR=3.4						
KLR				LR	LR	12 52 14.9	
	comp=Z,201nm,18.6s,baz=152,slow=36						
NJ2	**Nanjing**	**18.93**	**263**	eP	**Pn**	**12 47 38.0**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
ZEA	**Zeya**	**19.92**	**335**	eP	**P**	**12 47 47.6**	**+0.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PETK	**Petropavlovsk-**	**20.39**	**30**	LR	LR	12 55 06.0	
	comp=Z,51nm,19.9s,baz=244,slow=34						
XLT	**XiLinHaoTe**	**20.56**	**299**	⇓*i*P	**P**	**12 47 52.5**	**-1.9**
XLT				pP	Pn	12 47 58.8	+2.1
XLT				sP	pP	12 48 04.6	+1.6
XLT				S	**S**	**12 51 34.6**	**-8.0**
XLT				sS	Sn	12 51 49.4	+1.8
XLT				SS	**SnSn**	**12 52 04.6**	**+2.3**
XLT				PcS	**PcS**	**12 55 39.6**	**-2.6**
XLT				pmax	pmax		
	comp=Z,24nm,1.0s						
XLT				pmax	pmax		
	comp=Z,250nm,5.6s						
XLT				LR	LR		
	comp=Z,520nm,5.5s						
XLT				LR	LR		
	comp=Z,290nm,19.4s						
HNS	**HongShan**	**21.17**	**281**	⇓P	**P**	**12 47 58.3**	**-2.5**
HNS				S	**S**	**12 51 54.3**	**-0.2**
HNS				pmax	pmax		
	comp=Z,18nm,0.9s						
HNS				LR	LR		
	comp=Z,280nm,20.0s						
HNS				LR	LR		
	comp=Z,370nm,16.2s						
TWG	**Pinlang**	**22.00**	**238**	P	**P**	**12 48 09.7**	**-0.1**
TWG				IAmb	IAmb	12 48 53.0	
	comp=Z,24nm,1.1s						
GUMO	**Guam**	**22.89**	**171**	LR	LR	12 55 52.0	
	comp=Z,43nm,21.7s,baz=358,slow=33						
LYN	**LuoYang**	**23.41**	**274**	⇑P	**P**	**12 48 21.6**	**-2.9**
LYN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LYN				pmax	pmax		
	comp=Z,300nm,8.2s						
LYN				LR	LR		
	comp=Z,240nm,11.8s						
LYN				LR	LR		
	comp=Z,250nm,16.3s						
HHC	**Hu-ho-hao-te**	**23.51**	**290**	eP	**P**	**12 48 26.7**	**+1.2**
HHC				pmax	pmax		
	comp=Z,40nm,0.9s						
HHC				pmax	pmax		
	comp=Z,330nm,4.8s						
MA2	**Magadan**	**24.08**	**12**	LR	LR	13 00 12.3	
	comp=Z,48nm,18.3s,baz=119,slow=42						
XAN	**Xi'an**	**26.38**	**275**	P	**P**	**12 48 52.4**	**+0.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK	**Yakutsk**	**26.71**	**348**	P	**P**	**12 48 54.7**	**+0.4**
	comp=Z,4.1nm,0.4s,baz=340,slow=7.9,SNR=9.3						
YAK				LR	LR	12 59 38.6	
	comp=Z,142nm,18.8s,baz=235,slow=36						
	comp=Z,4.1nm,0.4s						
YAK	**Yakutsk**	**26.71**	**348**	P	**P**	**12 48 54.2**	**-0.1**
YAK				IAmb	IAmb	12 48 55.6	
	comp=Z,22nm,0.9s						
YAK	**Yakutsk**	**26.71**	**348**	eP	**P**	**12 48 54.2**	**-0.1**
YAK				e*PP	**pP**	**12 49 02.5**	**-1.1**
YAK				e		12 49 34.6	
YAK				e		12 52 17.6	
YAK				eS	**S**	**12 53 26.8**	**-0.6**
YAK				e*SS	**sS**	**12 53 42.8**	**-0.2**
YAK				e		12 59 46.6	
YAK				pmax	pmax		
	comp=Z,31nm,1.0s						
YAK				pmax	pmax		
	comp=N,16nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,261nm,5.8s						
YAK				pmax	pmax		
	comp=N,77nm,5.2s						
YAK				pmax	pmax		
	comp=E,161nm,3.3s						
YAK				smax	smax		
	comp=E,189nm,3.8s						
YAK				smax	smax		
	comp=N,150nm,3.2s						
YAK				MLR	MLR		
	comp=Z,143nm,19.0s						
YAK				MLR	MLR		
	comp=N,129nm,18.0s						
ENH	**Enshi**	**27.08**	**266**	P	**P**	**12 48 56.6**	**-1.5**
ENH				IAmb	IAmb	12 48 57.8	
	comp=Z,13nm,0.8s						
SEY	**Seymchan**	**27.51**	**11**	P	**P**	**12 49 02.1**	**+0.6**
	comp=Z,6.5nm,0.9s,baz=200,slow=10,SNR=6.3						
	comp=Z,6.5nm,0.9s						
SEY	**Seymchan**	**27.51**	**11**	*c*eP	**P**	**12 49 04.1**	**+2.5**
SEY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	**Ulaanbaatar**	**27.59**	**305**	P	**P**	**12 49 01.4**	**-1.2**
ULN	**Ulaanbaatar**	**27.59**	**305**	*c*eP	**P**	**12 49 02.0**	**-0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.98**	**119**	T	T	13 18 41.9	
	baz=315,slow=74,SNR=111						
H11N1	**WAKE ISLAND Hy**	**27.98**	**119**	T	T	13 19 10.3	
	baz=315,slow=74,SNR=108						
H11N3	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	13 18 37.9	
	baz=315,SNR=87						
SONM	**Songino Array**	**28.01**	**305**	P	**P**	**12 49 06.2**	**-0.2**
	comp=Z,6.9nm,1.0s,baz=108,slow=9.0,SNR=20						
SONM				LR	LR	13 00 22.0	
	comp=Z,101nm,20.2s,baz=80,slow=36						
	comp=Z,6.9nm,1.0s						
SONM	**Songino Array**	**28.01**	**305**	P	**P**	**12 49 05.9**	**-0.5**
H11S1	**WAKE ISLAND Hy**	**28.66**	**121**	T	T	13 19 28.3	
	baz=314,slow=76,SNR=170						
H11S3	**WAKE ISLAND Hy**	**28.66**	**121**	T	T	13 19 30.0	
	baz=314,slow=76,SNR=137						
H11S2	**WAKE ISLAND Hy**	**28.68**	**121**	T	T	13 19 29.6	
	baz=314,slow=76,SNR=124						
LZH	**Lanzhou**	**29.99**	**281**	eP	**P**	**12 49 26.0**	**+1.9**
LZH				sP	sP	12 49 39.2	+1.9
LZH				pmax	pmax		
	comp=Z,12nm,1.2s						
GTA	**Gaotai**	**32.58**	**288**	eP	**P**	**12 49 47.4**	**+0.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,170nm,4.9s						
GTA				LR	LR		
	comp=Z,150nm,17.1s						
GTA				LR	LR		
	comp=Z,170nm,18.5s						
GTA				LR	LR		
	comp=Z,100nm,18.9s						
BILL	**Bilibino**	**34.75**	**16**	⇓eP	**P**	**12 50 05.3**	**+0.1**
BILL				*PP	**pP**	**12 50 14.0**	**-0.5**
BILL				*SP	**sP**	**12 50 17.0**	**-1.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,97nm,16.0s						
PZH	**PanZhiHua**	**34.83**	**265**	P	**P**	**12 50 09.0**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
TIXI	**Tiksi**	**35.96**	**353**	P	**P**	**12 50 14.7**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=255,slow=0.1,SNR=6.1						
TIXI				LR	LR	13 05 45.2	
	comp=Z,80nm,19.8s,baz=133,slow=37						
	comp=Z,1.1nm,0.3s						
TIXI	**Tiksi**	**35.96**	**353**	P	**P**	**12 50 15.4**	**-0.1**
TIXI	**Tiksi**	**35.96**	**353**	*i* P	**P**	**12 50 14.6**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,12nm,2.3s						
GOMU	**GeErMu**	**37.09**	**284**	P	**P**	**12 50 27.1**	**+1.0**
GOMU				pP	pP	12 50 30.9	-4.7
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,79nm,5.6s						
TNCH	**TengChong**	**38.09**	**265**	eP	**P**	**12 50 34.9**	**+0.5**
TNCH				pP	sP	12 50 46.1	-1.6
TNCH				pmax	pmax		
	comp=Z,11nm,0.5s						
DGZ	**Jazzator, Alta**	**40.64**	**307**	*i* P	**P**	**12 50 56.4**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,27nm,0.8s						
WMQ	**Urumqi**	**40.98**	**298**	eP	**P**	**12 51 01.1**	**+3.0**
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.13**	**256**	P	**P**	**12 50 58.0**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=46,slow=6.4,SNR=6.6						
CMAR				LR	LR	13 09 53.7	
	comp=Z,49nm,18.1s,baz=40,slow=39						
	comp=Z,0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.13**	**256**	P	**P**	**12 51 00.3**	**+0.8**
ZAA0	**Zalesovo Array**	**42.24**	**313**	P	**P**	**12 51 08.6**	**+0.4**
ZAA0				IAmb	IAmb	12 51 09.2	
	comp=Z,9.5nm,0.8s						
ZALV	**Zalesovo Beam**	**42.24**	**313**	P	**P**	**12 51 08.6**	**+0.4**
	comp=Z,7.1nm,0.5s,baz=91,slow=6.7,SNR=25						
ZALV				PcP	**PcP**	**12 53 01.1**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=90,slow=3.0,SNR=3.9						
ZALV				LR	LR	13 09 03.7	
	comp=Z,61nm,18.7s,baz=123,slow=36						
	comp=Z,7.1nm,0.5s						
ZSN	**Zaisan**	**42.49**	**303**	eP	**P**	**12 51 10.9**	**+0.5**
	baz=303						
ZSN	**Zaisan**	**42.49**	**303**	eP	**P**	**12 51 10.9**	**+0.5**
NRIK	**Noril'sk**	**43.82**	**336**	LR	LR	13 10 56.3	
	comp=Z,107nm,18.1s,baz=137,slow=38						
MK31	**Makanchi Array**	**44.32**	**303**	P	**P**	**12 51 25.3**	**+0.1**
MK31	**Makanchi Array**	**44.32**	**303**	⇓eP	**P**	**12 51 24.9**	**-0.3**
MKAR	**Makanchi Array**	**44.32**	**303**	P	**P**	**12 51 24.4**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=88,slow=9.9,SNR=21						
MKAR				LR	LR	13 10 17.5	
	comp=Z,104nm,19.9s,baz=78,slow=36						
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**44.32**	**303**	P	**P**	**12 51 25.4**	**+0.2**
MAKZ	**Makanchi**	**44.53**	**303**	P	**P**	**12 51 27.2**	**+0.3**
MAKZ	**Makanchi**	**44.53**	**303**	P	**P**	**12 51 27.2**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHGN	**Chignik**	**44.61**	**44**	P	**P**	**12 51 24.6**	**-2.7**
BRDH	**Bariadhala**	**44.74**	**266**	LR	LR	13 12 50.4	
	comp=Z,173nm,19.1s,baz=94,slow=40						
KAPI	**Kappang**	**45.76**	**211**	P	**P**	**12 51 36.6**	**-0.2**
KAPI				IAmb	IAmb	12 51 40.1	
	comp=Z,10nm,1.1s						
KAPI	**Kappang**	**45.76**	**211**	P	**P**	**12 51 36.6**	**-0.2**
KAPI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PMG	**Port Moresby**	**45.85**	**172**	P	**P**	**12 51 37.9**	**+0.4**
PMG				IAmb	IAmb	12 52 19.1	
	comp=Z,11nm,1.0s						
PMG	**Port Moresby**	**45.85**	**172**	P	**P**	**12 51 37.9**	**+0.4**
PMG				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**46.20**	**309**	P	**P**	**12 51 39.9**	**-0.1**
KURK	**Kurchatov**	**46.20**	**309**	*c*eP	**P**	**12 51 40.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,24nm,0.8s						
RAMN	**Ramite**	**46.85**	**275**	eP	**P**	**12 51 45.7**	**0.0**
	comp=Z,59nm,1.0s						
JIRN	**Jiri**	**46.88**	**276**	eP	**P**	**12 51 46.4**	**+0.3**
	comp=Z,45nm,0.9s						
SHLS	**Shalkode**	**46.98**	**298**	eP	**P**	**12 51 43.6**	**-2.9**
	baz=298						
SHLS	**Shalkode**	**46.98**	**298**	eP	**P**	**12 51 43.5**	**-2.9**
K20K	**Telida**	**47.02**	**34**	P	**P**	**12 51 48.6**	**+2.4**
GUN	**Gumba**	**47.02**	**276**	eP	**P**	**12 51 47.4**	**+0.2**
	comp=Z,40nm,0.9s						
J20K	**Nowinta River**	**47.04**	**33**	P	**P**	**12 51 49.1**	**+2.8**
J20K				IAmb	IAmb	12 52 31.8	
	comp=Z,10.0nm,1.5s						
UZB	**Uzynbulak**	**47.30**	**298**	eP	**P**	**12 51 47.9**	**-1.0**
	baz=298						
UZB	**Uzynbulak**	**47.30**	**298**	eP	**P**	**12 51 47.9**	**-1.0**
IMAR	**Indian Mountai**	**47.36**	**30**	P	**P**	**12 51 51.0**	**+2.2**
KPKS	**Kokpek**	**47.46**	**299**	eP	**P**	**12 51 49.7**	**-0.4**
	baz=299						
KPKS	**Kokpek**	**47.46**	**299**	eP	**P**	**12 51 49.7**	**-0.4**
PKI	**Pulchoki**	**47.55**	**276**	eP	**P**	**12 51 50.9**	**-0.3**
	comp=Z,29nm,0.9s						
PKIN	**Phulchoki**	**47.55**	**276**	eP	**P**	**12 51 51.0**	**-0.2**
	comp=Z,16nm,0.8s						
KKN	**Kakani**	**47.56**	**276**	eP	**P**	**12 51 51.3**	**+0.1**
	comp=Z,5.3nm,1.1s						
H21K	**Melozitna Rive**	**47.72**	**31**	P	**P**	**12 51 53.6**	**+1.9**
H21K				IAmb	IAmb	12 52 08.4	
	comp=Z,6.6nm,1.5s						
SATY	**Saty**	**47.76**	**298**	eP	**P**	**12 51 51.7**	**-0.7**
	baz=298						
SATY	**Saty**	**47.76**	**298**	eP	**P**	**12 51 51.7**	**-0.7**
PPLA	**Purkeypile**	**47.86**	**35**	P	**P**	**12 51 54.5**	**+1.6**
CAST	**Castle Rocks**	**47.92**	**34**	P	**P**	**12 51 53.9**	**+0.7**
GKN	**Gorkha**	**47.98**	**277**	eP	**P**	**12 51 54.4**	**0.0**
	comp=Z,93nm,1.0s						
DANN	**Dangsing**	**48.54**	**278**	eP	**P**	**12 51 59.2**	**+0.3**
	comp=Z,88nm,0.9s						
MLY	**Manley**	**48.55**	**32**	P	**P**	**12 51 59.9**	**+1.7**
MLY				IAmb	IAmb	12 52 03.6	
	comp=Z,5.8nm,1.2s						
CHKK	**Chushkaly**	**48.56**	**300**	eP	**P**	**12 51 58.3**	**-0.3**
	baz=300						
CHKK	**Chushkaly**	**48.56**	**300**	eP	**P**	**12 51 58.2**	**-0.3**
MDOK	**Medeo**	**48.70**	**299**	eP	**P**	**12 51 59.5**	**-0.3**
	baz=299						
MDOK	**Medeo**	**48.70**	**299**	eP	**P**	**12 51 59.4**	**-0.3**
HNR	**Honiara**	**48.84**	**155**	LR	LR	13 15 08.5	
	comp=Z,336nm,18.3s,baz=24,slow=39						
KUU	**Kurty**	**49.01**	**300**	eP	**P**	**12 52 01.2**	**-0.7**
	baz=300						
KUU	**Kurty**	**49.01**	**300**	eP	**P**	**12 52 01.2**	**-0.7**
H23K	**Yukon River**	**49.07**	**31**	P	**P**	**12 52 05.1**	**+3.0**
H23K				IAmb	IAmb	12 52 05.4	
	comp=Z,6.2nm,1.0s						
TOLK	**Toolik Lake Re**	**49.18**	**27**	P	**P**	**12 52 04.1**	**+1.2**
TOLK				IAmb	IAmb	12 52 06.8	
	comp=Z,15nm,1.4s						
NEA2	**Nenana**	**49.26**	**32**	P	**P**	**12 52 06.0**	**+2.5**
NEA2				IAmb	IAmb	12 52 06.7	
	comp=Z,13nm,1.2s						
GHO	**Glory Hole Cre**	**49.40**	**36**	P	**P**	**12 52 05.6**	**+0.9**
MDM	**Murphy Dome**	**49.62**	**32**	P	**P**	**12 52 07.2**	**+1.0**
MDM				IAmb	IAmb	12 52 09.3	
	comp=Z,8.8nm,0.9s						
KNK	**Knik Glacier**	**49.64**	**36**	P	**P**	**12 52 07.3**	**+0.8**
WRH	**Wood River Hil**	**49.68**	**32**	P	**P**	**12 52 07.7**	**+1.0**
WRH				IAmb	IAmb	12 52 09.5	
	comp=Z,13nm,1.3s						
NRN	**Naryn**	**49.91**	**297**	P	**P**	**12 52 10.4**	**+1.2**
NRN				IAmb	IAmb	12 52 10.9	
	comp=Z,7.8nm,1.2s						
NRN	**Naryn**	**49.91**	**297**	P	**P**	**12 52 10.4**	**+1.2**
NRN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
POKR	**Poker Plat Res**	**49.95**	**32**	P	**P**	**12 52 11.0**	**+2.2**
COEN	**Coen**	**50.06**	**177**	P	**P**	**12 52 10.7**	**+0.7**
COEN				IAmb	IAmb	12 52 23.6	
	comp=Z,8.9nm,1.2s						
BRZS	**Berezniki**	**50.08**	**308**	eP	**P**	**12 52 09.0**	**-1.0**
	baz=308						
BRZS	**Berezniki**	**50.08**	**308**	eP	**P**	**12 52 08.9**	**-1.0**
IL31		**50.19**	**32**	P	**P**	**12 52 12.1**	**+1.6**
ILAR	**Eielson Array**	**50.19**	**32**	P	**P**	**12 52 11.9**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=270,slow=6.7,SNR=26						
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**50.19**	**32**	P	**P**	**12 52 12.1**	**+1.5**
ILAR	**Eielson Array**	**50.19**	**32**	P	**P**	**12 52 12.1**	**+1.5**
BTLS	**Baital**	**50.31**	**302**	eP	**P**	**12 52 11.2**	**-0.6**
	baz=302						
BTLS	**Baital**	**50.31**	**302**	eP	**P**	**12 52 11.2**	**-0.6**
SGDS	**Sogindy**	**50.32**	**300**	eP	**P**	**12 52 11.5**	**-0.5**
	baz=300						

SGDS	**Sogindy**	**50.32**	**300**	*e*P	**P**	**12 52 11.5**	**-0.5**
KSH	**Kashi**	**50.51**	**295**	P	P	12 52 18.6	+5.1
KSH				PcP	**PcP**	**12 53 34.4**	**+3.2**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**50.64**	**299**	LR	LR	13 14 57.4	
	comp=Z,224nm,18.6s,baz=66,slow=37						
AAK	**Ala-Archa**	**50.64**	**299**	P	**P**	**12 52 15.1**	**+0.5**
AAK	**Ala-Archa**	**50.64**	**299**	*ce*P	**P**	**12 52 14.9**	**+0.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
M24K	**Tolsona, Glenn**	**50.67**	**35**	P	**P**	**12 52 14.4**	**+0.1**
BVAR	**Borovoye Array**	**50.89**	**313**	LR	LR	13 14 32.8	
	comp=Z,59nm,19.0s,baz=73,slow=37						
BRVK	**Borovoye**	**50.95**	**313**	P	**P**	**12 52 17.1**	**+0.5**
BRVK				IAmb	IAmb	12 52 17.7	
	comp=Z,7.2nm,0.8s						
BRVK	**Borovoye**	**50.95**	**313**	*ce*P	**P**	**12 52 17.0**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BMAR	**Burnt Mountain**	**51.04**	**29**	P	**P**	**12 52 19.1**	**+2.1**
DOT	**Dot Lake**	**51.50**	**33**	P	**P**	**12 52 20.8**	**+0.3**
DOT				IAmb	IAmb	12 52 26.1	
	comp=Z,6.8nm,0.9s						
SCRK	**Sand Creek**	**51.50**	**33**	P	**P**	**12 52 21.8**	**+1.2**
K27K	**Chicken**	**52.33**	**33**	P	**P**	**12 52 28.9**	**+2.2**
K27K				IAmb	IAmb	12 53 00.8	
	comp=Z,6.4nm,1.1s						
BCAR	**Beaver Creek A**	**52.59**	**34**	P	**P**	**12 52 31.4**	**+2.7**
EGAK	**Eagle**	**52.64**	**32**	P	**P**	**12 52 29.4**	**+0.5**
KK31	**Karatay Array**	**53.30**	**300**	P	**P**	**12 52 34.3**	**+0.1**
KK31				IAmb	IAmb	12 52 36.0	
	comp=Z,10nm,1.0s						
KK31	**Karatay Array**	**53.30**	**300**	P	**P**	**12 52 34.3**	**+0.1**
KK31				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KKAR	**Karatay Array**	**53.30**	**300**	P	**P**	**12 52 34.5**	**+0.3**
KKAR	**Karatay Array**	**53.30**	**300**	P	**P**	**12 52 34.5**	**+0.3**
IUG	**Iuzhnay**	**53.94**	**299**	*e*P	**P**	**12 52 39.1**	**+0.1**
	baz=299						
IUG	**Iuzhnay**	**53.94**	**299**	*e*P	**P**	**12 52 39.0**	**+0.1**
EPYK	**Eagle Plains**	**54.23**	**29**	P	**P**	**12 52 43.3**	**+2.7**
GAR	**Garm**	**54.81**	**296**	P	**P**	**12 52 46.1**	**+0.7**
INK	**Inuvik**	**55.10**	**27**	P	**P**	**12 52 48.2**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=298,slow=5.4,SNR=13						
	comp=Z,3.3nm,0.8s						
INK	**Inuvik**	**55.10**	**27**	P	**P**	**12 52 48.5**	**+1.7**
INK				IAmb	IAmb	12 52 49.4	
	comp=Z,12nm,1.2s						
INK	**Inuvik**	**55.10**	**27**	P	**P**	**12 52 48.5**	**+1.7**
INK				pmax	pmax		
	comp=Z,12nm,1.3s						
SVE	**Sverdlovsk**	**55.54**	**319**	*e*P	**P**	**12 52 50.9**	**+0.8**
SVE				pmax	pmax		
	comp=Z,15nm,1.2s						
CHGR	**Chuyangaron**	**55.78**	**296**	P	**P**	**12 52 53.2**	**+0.9**
CHGR	**Chuyangaron**	**55.78**	**296**	P	**P**	**12 52 53.2**	**+0.9**
CHGR				pmax	pmax		
	comp=Z,35nm,0.9s						
WRA	**Warramunga Arr**	**56.34**	**188**	P	**P**	**12 52 54.7**	**-1.6**
	comp=Z,1.7nm,0.9s,baz=5.4,slow=7.4,SNR=16						
WRA				pP	**sP**	**12 53 07.9**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=3.2,slow=7.3,SNR=6.8						
WRA				LR	LR	13 15 41.0	
	comp=Z,88nm,18.5s,baz=352,slow=34						
	comp=Z,1.7nm,0.9s						
ARU	**Arti**	**56.75**	**319**	P	**P**	**12 52 58.9**	**+0.1**
ARU	**Arti**	**56.75**	**319**	*d i*P	**P**	**12 52 58.6**	**-0.2**
ARU						12 55 04.4	
ARU				PPP	PPP	12 56 20.6	
ARU				S	**S**	**13 00 48.5**	**-0.7**
ARU				SS	**SS**	**13 04 37.1**	**+0.3**
ARU				pmax	pmax		
	comp=Z,15nm,1.1s						
A36M	**Sachs Harbour**	**56.98**	**22**	P	**P**	**12 53 00.5**	**+0.3**
A36M				IAmb	IAmb	12 53 04.1	
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**58.23**	**310**	P	**P**	**12 53 09.6**	**+0.2**
ABKAR				IAmb	IAmb	12 53 10.2	
	comp=Z,7.1nm,0.9s						
ASAR	**Alice Springs**	**60.07**	**188**	P	**P**	**12 53 21.0**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=9.4,slow=6.5,SNR=18						
ASAR				pP	**sP**	**12 53 34.8**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=20,slow=9.0,SNR=8.5						
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**60.07**	**188**	P	**P**	**12 53 22.1**	**-0.2**
KIRV	**Kirov**	**60.68**	**323**	LR	LR	13 21 22.4	
	comp=Z,56nm,18.4s,baz=30,slow=38						
KIRV	**Kirov**	**60.68**	**323**	*ce*P	**P**	**12 53 26.7**	**+0.6**
APA	**Apatity**	**63.24**	**336**	⇓*i*P	**P**	**12 53 43.2**	**+0.1**
APA				pmax	pmax		
	comp=Z,13nm,1.1s						
APA				MLR	MLR		
	comp=Z,800nm,18.0s						
RES	**Resolute Bay**	**63.33**	**14**	P	**P**	**12 53 42.9**	**-0.7**
RES	**Resolute Bay**	**63.33**	**14**	P	**P**	**12 53 42.9**	**-0.7**
RES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GEYT	**Alibeck**	**63.99**	**299**	LR	LR	13 23 40.3	
	comp=Z,52nm,19.5s,baz=26,slow=38						
ARCES	**ARCESS Array B**	**64.58**	**339**	LR	LR	13 25 35.9	
	comp=Z,46nm,18.1s,baz=238,slow=39						
STKA	**Stephens Creek**	**67.86**	**180**	LR	LR	13 25 45.2	
	comp=Z,54nm,18.4s,baz=18,slow=38						
FINES	**FINESS Array B**	**69.34**	**332**	P	**P**	**12 54 21.2**	**-1.0**
	comp=Z,10nm,1.1s,baz=21,slow=8.1,SNR=4.7						
	comp=Z,10nm,1.1s						
WSAR	**Wadi Sarin**	**70.85**	**285**	LR	LR	13 30 47.7	
	comp=Z,40nm,18.1s,baz=94,slow=40						
KBZ	**Khabaz**	**71.20**	**311**	P	**P**	**12 54 33.8**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=105,slow=2.6,SNR=5.2						
	comp=Z,3.1nm,0.9s						
KBZ	**Khabaz**	**71.20**	**311**	*ce*P	**P**	**12 54 34.7**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV	**Kislovodsk**	**71.21**	**311**	*e*P	**P**	**12 54 35.3**	**+1.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,39nm,18.0s						
GNI	**Garni**	**71.96**	**307**	LR	LR	13 28 38.1	
	comp=Z,36nm,19.2s,baz=342,slow=38						
GNI	**Garni**	**71.96**	**307**	*ce*P	**P**	**12 54 40.2**	**+1.3**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MNK	**Minsk**	**72.96**	**326**	*i* P	**P**	**12 54 43.1**	**-1.3**
	comp=E,6.0nm,1.5s						
MNK				*i* P	**P**	**12 54 43.1**	**-1.3**
	comp=N,40nm,0.7s						
MNK				*i* P	**P**	**12 54 43.1**	**-1.3**
	comp=Z,15nm,0.7s,baz=50						
MNK				*i* PP	**PP**	**12 57 25.0**	**-1.4**
MNK				*i* PPP	PPP	12 59 09.7	
MNK				*i* S	**S**	**13 04 09.4**	**+0.8**
MNK				*i* SS	**SS**	**13 08 48.2**	**-0.3**
MNK				*i* SSS	SSS	13 12 09.1	
MNK	**Minsk**	**72.96**	**326**	*i* P	**P**	**12 54 43.0**	**-1.3**
MNK				*i*		12 57 24.9	
MNK				*i* PPP	PPP	12 59 09.6	
MNK				*i* S	**S**	**13 04 09.4**	**+0.8**
MNK				*i* SS	**SS**	**13 08 48.1**	**-0.3**
MNK				*i* SSS	SSS	13 12 09.1	
MNK				pmax	pmax		
	comp=N,40nm,0.7s						
MNK				pmax	pmax		
	comp=Z,15nm,0.7s						
MNK				pmax	pmax		
	comp=E,6.0nm,1.5s						
NACGM	**Naroch**	**73.19**	**327**	*i* P	**P**	**12 54 45.3**	**-0.4**
	comp=Z,26nm,1.1s,baz=50						
SOC	**Sochi**	**73.21**	**312**	*e*P	**P**	**12 54 44.5**	**-1.5**
SOC				*e*		12 57 26.9	
SOC				*e*S	**S**	**13 04 09.2**	**-2.6**
SOC				*e*SSS	SSS	13 12 11.8	
HFS	**Hagfors**	**74.64**	**336**	LR	LR	13 30 21.0	
	comp=Z,84nm,18.9s,baz=76,slow=38						
YERR	**Yerington**	**74.65**	**53**	P	**P**	**12 54 55.0**	**+0.2**
YERR				IAmb	IAmb	12 55 10.3	
	comp=Z,12nm,1.5s						
AKASG	**Malin Array Be**	**74.72**	**322**	P	**P**	**12 54 54.1**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=47,slow=6.0,SNR=17						
AKASG				LR	LR	13 30 55.8	
	comp=Z,82nm,18.7s,baz=17,slow=38						
	comp=Z,4.9nm,0.7s						
NB2	**NORSAR Subarra**	**74.75**	**337**	P	**P**	**12 54 55.2**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**74.75**	**337**	P	**P**	**12 54 54.6**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=39,slow=5.9,SNR=9.2						
NOA				LR	LR	13 30 56.2	
	comp=Z,61nm,19.1s,baz=50,slow=38						
	comp=Z,3.2nm,0.8s						
LRM	**Limekiln Ridge**	**74.79**	**44**	P	**P**	**12 54 56.3**	**+0.7**
NVAR	**Mina Array Bea**	**75.57**	**53**	P	**P**	**12 55 01.4**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=285,slow=6.0,SNR=7.6						
NVAR				pP	**sP**	**12 55 14.8**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=289,slow=4.5,SNR=5.0						
	comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**75.57**	**53**	P	**P**	**12 55 00.5**	**+0.3**
IMW	**Indian Meadow**	**76.81**	**45**	P	**P**	**12 55 08.4**	**+1.2**
HWUT	**Hardware Ranch**	**77.85**	**47**	P	**P**	**12 55 12.7**	**-0.2**
HWUT				IAmb	IAmb	12 55 28.6	
	comp=Z,6.3nm,1.1s						
PDAR	**Pinedale Array**	**78.30**	**45**	P	**P**	**12 55 16.5**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=262,slow=3.2,SNR=6.3						
PDAR				pP	**sP**	**12 55 31.3**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=264,slow=1.1,SNR=5.0						
	comp=Z,0.5nm,0.5s						
BUR08	**Bucovina Ar. S**	**78.72**	**322**	P	**P**	**12 55 17.8**	**+0.3**
BUR08				IAmb	IAmb	12 55 18.9	
	comp=Z,4.5nm,0.9s						
BURAR	**Bucovina Array**	**78.73**	**322**	P	**P**	**12 55 17.6**	**0.0**
BRTR	**Keskin Array B**	**79.16**	**312**	P	**P**	**12 55 21.0**	**+0.9**
	comp=Z,1.9nm,1.0s,baz=106,slow=4.4,SNR=4.6						
	comp=Z,1.9nm,1.0s						
BRTR	**Keskin Array B**	**79.16**	**312**	P	**P**	**12 55 18.5**	**-1.6**
BRTR	**Keskin Array B**	**79.16**	**312**	*i* P	**P**	**12 55 22.3**	**+2.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MLR	**Muntele Rosu**	**79.78**	**320**	LR	LR	13 33 14.5	
	comp=Z,66nm,18.5s,baz=85,slow=38						
RAYN	**Ar Rayn**	**80.73**	**292**	P	**P**	**12 55 28.2**	**-0.6**
RAYN				IAmb	IAmb	12 55 29.9	
	comp=Z,5.7nm,0.9s						
RAYN	**Ar Rayn**	**80.73**	**292**	P	**P**	**12 55 28.2**	**-0.6**
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VRAC	**Vranov**	**81.59**	**327**	LR	LR	13 34 38.4	
	comp=Z,39nm,18.5s,baz=14,slow=38						
CLL	**Collm**	**81.60**	**330**	*e*sP	sP	12 55 51.0	+4.3
CLL	**Collm**	**81.60**	**330**	*i* P	**P**	**12 55 32.8**	**0.0**
CLL				*e**PP	**pP**	**12 55 46.0**	**+3.1**
CLL				pmax	pmax		
	comp=Z,11nm,1.2s						
CLL	**Collm**	**81.60**	**330**	*i* P	**P**	**12 55 32.8**	**0.0**
	comp=Z,11nm,1.2s						
CLL	**Collm**	**81.60**	**330**	*e*pP	pP	12 55 46.0	+3.1
MMAI	**Mount Meron Ar**	**82.20**	**305**	LR	LR	13 35 18.8	
	comp=Z,50nm,19.7s,baz=288,slow=38						
GERES	**GERESS Array B**	**83.20**	**328**	P	**P**	**12 55 41.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=57,slow=4.9,SNR=7.3						
	comp=Z,0.9nm,0.6s						
PPT	**Papeete**	**84.51**	**116**	LR	LR	13 28 40.6	
	comp=Z,42nm,19.6s,baz=290,slow=32						
EIL	**Elat**	**84.58**	**303**	LR	LR	13 35 45.9	
	comp=Z,43nm,18.0s,baz=358,slow=37						
DAVOX	**Davos/Dischmat**	**86.42**	**329**	LR	LR	13 37 51.7	
	comp=Z,44nm,18.5s,baz=90,slow=38						
TXAR	**Lajitas Array**	**90.71**	**52**	P	**P**	**12 56 18.6**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=298,slow=2.7,SNR=5.2						
	comp=Z,0.6nm,0.9s						
ESDC	**Sonseca Array**	**97.82**	**334**	LR	LR	13 44 14.0	
	comp=Z,53nm,18.6s,baz=337,slow=37						
H03N2	**Juan Fernandez**	**147.15**	**97**	T	T	15 47 37.7	
	baz=291,slow=76,SNR=37						
H03N3	**Juan Fernandez**	**147.16**	**97**	T	T	15 47 41.1	
	baz=291,slow=76,SNR=27						
H03N1	**Juan Fernandez**	**147.16**	**97**	T	T	15 47 46.4	
	baz=291,slow=76,SNR=39						
LPAZ	**La Paz**	**147.22**	**60**	PKPbc	**PKPbc**	**13 02 59.5**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=35,slow=3.5,SNR=6.0						
LPAZ	**La Paz**	**147.22**	**60**	PKPdf	**PKPdf**	**13 02 55.2**	**-2.1**
LPAZ	**La Paz**	**147.22**	**60**	PKIKP	**PKPdf**	**13 02 55.2**	**-2.1**
SIV	**San Ignacio**	**151.69**	**50**	PKPbc	**PKiKP**	**13 03 10.5**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=292,slow=3.2,SNR=8.1						

ROM 08 12:53:08.3±0.0**, 42.967N**±0.003×**13.136E**±0.003**, h9km, ML1.6**/10**, 7C-6D, Error ellipse: s-maj=0.2km s-min=0.2km az=28.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.06**	**265**	⇓P	Pg	12 53 10.8	+0.3
T1256	**Bolognola (MC)**	**0.08**	**59**	⇓P	Pg	12 53 10.7	+0.1
T1256				S	Sg	12 53 12.0	-0.2
T1256				AML	AML		
	comp=E,1204µm,0.9s						
T1256				AML	AML		
	comp=N,1250µm,0.1s						
T1256				AML	AML		
	comp=E,1206µm,0.9s						
FDMO	**Fiordimonte**	**0.08**	**333**	P	Pg	12 53 10.7	+0.2
FDMO				S	Sg	12 53 12.2	+0.1
T1216	**Preci, Frazion**	**0.12**	**228**	⇓P	Pg	12 53 11.6	+0.6
T1216				S	Sg	12 53 13.7	+0.8
T1216				AML	AML		
	comp=E,872µm,1.1s						
T1216				AML	AML		
	comp=N,1118µm,0.3s						
T1216				AML	AML		
	comp=N,1126µm,1.0s						
T1216				AML	AML		
	comp=E,886µm,1.1s						
T1245	**Castelsantange**	**0.12**	**161**	⇓P	Pg	12 53 11.6	+0.5
T1245				S	Sg	12 53 13.9	+0.8
T1245				AML	AML		
	comp=E,460µm,0.8s						
T1245				AML	AML		
	comp=E,374µm,0.8s						
T1245				AML	AML		
	comp=N,448µm,0.8s						
T1245				AML	AML		
	comp=E,460µm,0.8s						
T1245				AML	AML		
	comp=N,522µm,0.7s						
T1245				AML	AML		
	comp=N,449µm,0.8s						
CSP1	**Cessapalombo**	**0.13**	**22**	⇑P	Pg	12 53 11.8	+0.5
CSP1				S	Sg	12 53 14.4	+0.9
MMO1	**Montemonaco**	**0.16**	**116**	⇑P	Pg	12 53 12.2	+0.5
MMO1				S	Sg	12 53 15.0	+1.0
CESI	**CESI - Serrava**	**0.17**	**283**	⇑P	Pg	12 53 12.7	+0.7
CESI				S	Sg	12 53 15.6	+1.1
CESI				AML	AML		
	comp=N,605µm,0.2s						
CESI				AML	AML		
	comp=E,342µm,0.5s						
CESI				AML	AML		
	comp=E,341µm,0.5s						
GUMA	**Gualdo di Mace**	**0.17**	**57**	⇑P	Pg	12 53 12.8	+0.9
GUMA				S	Sg	12 53 16.4	+1.9
GUMA				AML	AML		
	comp=N,578µm,1.2s						
GUMA				AML	AML		
	comp=N,375µm,0.4s						
GUMA				AML	AML		
	comp=E,466µm,0.4s						
GUMA				AML	AML		
	comp=E,646µm,1.3s						
T1241	**Roccafluvione,**	**0.24**	**117**	P	Pg	12 53 13.9	+0.7
T1241				S	Sg	12 53 18.2	+1.7
T1241				AML	AML		
	comp=E,142µm,1.4s						
T1241				AML	AML		
	comp=N,167µm,1.0s						
T1241				AML	AML		
	comp=N,166µm,1.0s						
T1215	**Vallo di Nera,**	**0.26**	**230**	P	Pg	12 53 14.2	+0.8
T1215				S	Sb	12 53 18.5	-1.2
T1204	**Amatrice, Fraz**	**0.32**	**155**	⇓P	Pg	12 53 13.5	-1.1
T1243	**Rocca Santa Ma**	**0.35**	**140**	P	Pg	12 53 14.1	-1.2
ASSB	**Assisi San Ben**	**0.36**	**282**	⇓P	Pg	12 53 16.0	+0.6
ASSB				S	Sb	12 53 21.6	-1.0
ASSB				AML	AML		
	comp=N,117µm,0.7s						
ASSB				AML	AML		
	comp=E,143µm,0.3s						
EL6	**Elcito**	**0.36**	**356**	P	Pg	12 53 16.0	+0.6
SMA1	**SAN MARTINO**	**0.37**	**156**	P	Pg	12 53 13.9	-1.6
SMA1				AML	AML		
	comp=E,71µm,0.6s						
SMA1				AML	AML		
	comp=N,87µm,0.6s						
OFFI	**Offida**	**0.41**	**94**	⇑P	Pb	12 53 17.8	+0.2
ATCC	**AVT- Casa Cast**	**0.42**	**301**	P	Pb	12 53 17.4	-0.6
ATCC				S	Sb	12 53 24.1	-0.3
CAMP	**Campotosto**	**0.48**	**155**	P	Pg	12 53 17.8	+0.3
CAMP				S	Sb	12 53 25.3	-0.8
TERO	**Teramo**	**0.49**	**135**	P	Pg	12 53 18.1	+0.4
TERO				S	Sb	12 53 25.9	-0.4
TERO				AML	AML		
	comp=E,68µm,0.9s						
TERO				AML	AML		
	comp=N,70µm,0.3s						
ARVD	**Arcevia**	**0.55**	**345**	S	Sb	12 53 29.0	+0.9
PE3	**Peglio**	**0.86**	**328**	⇑P	Pg	12 53 24.6	-0.3
PE3				S	Sn	12 53 40.0	+0.5
PE3				AML	AML		
	comp=E,14µm,0.1s						
PE3				AML	AML		
	comp=N,19µm,0.1s						
VIVA	**Pratoni del Vi**	**1.25**	**193**	⇑P	Pn	12 53 28.1	-3.8
LAV9	**Lanuvio**	**1.33**	**194**	S	Sb	12 53 49.0	-1.5

*DDA **08** 12:54:34.2±0.0, 35.26N×27.10E, h6km±4km, MW3.9*
*NIC **08** 12:54:35.1±0.0, 35.35N×27.34E, h3km±1km, Ml4.1/7*
*ISK **08** 12:54:35.9, 35.52N×27.22E, h5km, ML3.6/17*
*NEIC **08** 12:54:36.0±0.7, 35.38N±0.04×27.35E±0.04, h9km±5km, Error ellipse: s-maj=6.2km s-min=3.2km az=220.0*
*ATH **08** 12:54:36.4, 35.38N×27.34E, h7km±2km, ML3.7/7, Error ellipse: s-maj=3.5km s-min=1.2km az=322.0*
*THE **08** 12:54:36.8, 35.42N×27.32E, h1km±1km, ML3.6/8, Error ellipse: s-maj=1.9km s-min=0.8km az=141.0*
*IDC **08** 12:54:38.4±3.9, 35.36N×27.38E, h33km±36km, mb3.8/5, mbtmp3.7/11, ML3.7/6, MS2.9/2, Error ellipse: s-maj=23.4km s-min=17.0km az=166.0*
ISC 08 12:54:35.7±1.0**, 35.33N**±0.03×**27.32E**±0.02**, h12km**±6km**, n100, σ1s14**/137**, mb4.1**/7**, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.25**	**329**	Pg	**Pg**	**12 54 40.9**	**0.0**
KARP				Sg	**Sg**	**12 54 44.2**	**-0.2**
KARP	**Karpathos**	**0.25**	**329**	P	**Pg**	**12 54 40.9**	**0.0**
KARP				S	**Sg**	**12 54 44.3**	**-0.2**
	48µm,0.3s						
KARP	**Karpathos**	**0.25**	**329**	⇑P	**Pg**	**12 54 40.9**	**0.0**
KARP				AML	AML	12 54 44.1	
	107nm,0.5s						
KARP				AML	AML	12 54 44.1	
	107nm,0.5s						
KARP				S	**Sg**	**12 54 44.2**	**-0.2**
KARP				AML	AML	12 54 44.2	
	115nm,0.7s						
KARP				AML	AML	12 54 44.2	
	115nm,0.7s						
KARP	**Karpathos**	**0.25**	**329**	P	**Pg**	**12 54 40.9**	**0.0**
KARP				S	**Sg**	**12 54 44.2**	**-0.2**
KARP				AML	AML	12 54 44.5	
KARP				AML	AML	12 54 44.9	
	comp=N,86041µm,0.2s						
ZKR	**Zakros**	**0.93**	**257**	PG	**Pn**	**12 54 54.6**	**0.0**
ZKR				SG	**Sn**	**12 55 08.4**	**+0.5**
ZKR	**Zakros**	**0.93**	**257**	P	**Pb**	**12 54 54.3**	**+0.6**
ZKR				S	**Sn**	**12 55 11.0**	**+3.1**
	comp=N,6µm,0.5s						
ZKR	**Zakros**	**0.93**	**257**	P	**Pg**	**12 54 53.9**	**+0.4**
ZKR				S	**Sn**	**12 55 08.1**	**+0.3**
ZKR				AML	AML	12 55 14.7	
	comp=N,15nm,0.5s						
ZKR				AML	AML	12 55 14.7	
	comp=N,15nm,0.5s						
ZKR				AML	AML	12 55 14.9	
	comp=N,6.4nm,0.5s						
ZKR				AML	AML	12 55 14.9	
	comp=N,6.4nm,0.5s						
ZKR	**Zakros**	**0.93**	**257**	P	**Pg**	**12 54 54.0**	**+0.4**
ZKR				S	**Sn**	**12 55 07.7**	**-0.1**
ZKR				AML	AML	12 55 15.9	
	comp=E,15479µm,0.5s						
ZKR				AML	AML	12 55 16.3	
	comp=N,6619µm,0.5s						
STIA	**Sitia Lasithi**	**1.01**	**263**	P	**Pg**	**12 54 55.6**	**+0.4**
STIA				S	**Sn**	**12 55 12.0**	**+2.1**
STIA	**Sitia Lasithi**	**1.01**	**263**	P	**Pb**	**12 54 55.3**	**+0.1**
STIA				S	**Sn**	**12 55 09.7**	**-0.2**
STIA				AML	AML	12 55 15.6	
	comp=N,10159µm,0.5s						
STIA				AML	AML	12 55 20.2	
	comp=E,8539µm,0.4s						
ARG	**Arkhangelos**	**1.10**	**36**	PG	**Pb**	**12 54 56.3**	**-0.3**
ARG	**Arkhangelos**	**1.10**	**36**		**Pb**	**12 54 56.3**	**-0.3**
ARG				Sg	**Sg**	**12 55 11.3**	**+0.2**
ARG	**Arkhangelos**	**1.10**	**36**	P	**Pb**	**12 54 56.4**	**-0.3**
ARG				S	**Sn**	**12 55 11.8**	**-0.2**
	comp=E,4µm,0.7s						
ARG	**Arkhangelos**	**1.10**	**36**	P	**Pb**	**12 54 55.9**	**-0.7**
ARG				S	**Sn**	**12 55 12.0**	**0.0**
ARG	**Arkhangelos**	**1.10**	**36**	P	**Pb**	**12 54 56.4**	**-0.3**
ARG				S	**Sb**	**12 55 10.2**	**-0.7**
ARG				AML	AML	12 55 17.9	
	comp=N,7415µm,0.8s						
ARG				AML	AML	12 55 20.2	
	comp=E,8470µm,0.5s						
NIS1	**Nisyros Isl.**	**1.27**	**355**	PG	**Pn**	**12 54 57.7**	**-1.6**
NIS1	**Nisyros Isl.**	**1.27**	**355**	P	**Pn**	**12 54 59.0**	**-0.3**
NIS1	**Nisyros Isl.**	**1.27**	**355**	P	**Pn**	**12 54 58.7**	**-0.6**
NIS1				AML	AML	12 55 23.3	
	comp=N,4222µm,0.6s						
NIS1				AML	AML	12 55 23.8	
	comp=E,4527µm,0.5s						
NISR	**Nisiros**	**1.29**	**353**	P	**Pn**	**12 54 58.9**	**-0.6**
NISR	**Nisiros**	**1.29**	**353**	P	**Pn**	**12 54 58.9**	**-0.6**
FRMA	**Ierapetra Chan**	**1.34**	**257**	P	**Pn**	**12 54 59.7**	**-0.5**
FRMA				S	**Sb**	**12 55 17.4**	**-0.4**
	comp=E,1µm,0.4s						
FRMA	**Ierapetra Chan**	**1.34**	**257**	P	**Pn**	**12 54 59.7**	**-0.5**
FRMA				AML	AML	12 55 25.4	
	comp=N,7652µm,0.4s						
FRMA				AML	AML	12 55 29.6	
	comp=E,9636µm,0.4s						
DAT	**Datca**	**1.41**	**8**	PN	**Pn**	**12 55 00.6**	**-0.7**
DAT	**Datca**	**1.41**	**8**	P	**Pn**	**12 55 01.0**	**-0.3**
DAT				S	**Sn**	**12 55 19.1**	**-0.8**
TURN	**Turunc**	**1.62**	**27**	PN	**Pb**	**12 55 04.9**	**-0.7**
TURN				SN	**Sb**	**12 55 26.1**	**+0.1**
TURN	**Turunc**	**1.62**	**27**	P	**Pn**	**12 55 04.7**	**+0.6**
TURN				S	**Sg**	**12 55 29.3**	**+1.4**
BODT	**Bodrum**	**1.73**	**360**	PN	**Pn**	**12 55 05.4**	**-0.2**
BODT	**Bodrum**	**1.73**	**360**	P	**Pn**	**12 55 03.9**	**-1.7**
BODT				S	**Sb**	**12 55 28.8**	**-0.2**
BDRM	**Kayabasi**	**1.73**	**3**	P	**Pn**	**12 55 05.2**	**-0.5**
BDRM				S	**Sn**	**12 55 26.3**	**-1.4**
HRKL	**Herakleio**	**1.81**	**270**	PN	**Pb**	**12 55 08.7**	**-0.1**
DALY	**Dalyan (Mula)**	**1.83**	**36**	PN	**Pb**	**12 55 08.6**	**-0.5**
SANT	**Santorini**	**1.83**	**305**	PN	**Pn**	**12 55 07.3**	**+0.2**
SANT				SN	**Sn**	**12 55 30.4**	**+0.2**
SANT	**Santorini**	**1.83**	**305**		**Pn**	**12 55 07.7**	**+0.7**
SANT				Sn	**Sn**	**12 55 31.0**	**+0.8**
SANT	**Santorini**	**1.83**	**305**	P	**Pn**	**12 55 07.4**	**+0.3**
SANT				S	**Sn**	**12 55 30.4**	**+0.2**
	comp=E,1µm,0.4s						
SANT	**Santorini**	**1.83**	**305**	P	**Pn**	**12 55 07.5**	**+0.5**
SANT				AML	AML	12 55 36.8	
	comp=E,3525µm,0.4s						
SANT				AML	AML	12 55 37.7	
	comp=N,896µm,0.4s						
KSTL	**Kastelli Herak**	**1.84**	**270**	P	**Pn**	**12 55 06.2**	**-0.9**
THR8	**Santorini-Mono**	**1.84**	**306**	P	**Pn**	**12 55 07.6**	**+0.5**
THR6	**Thira Island,**	**1.87**	**304**	P	**Pn**	**12 55 08.1**	**+0.6**
THR3	**Thira Island,**	**1.89**	**305**	P	**Pn**	**12 55 08.5**	**+0.7**
CMBO	**Columbo, Santo**	**1.93**	**307**	P	**Pn**	**12 55 08.7**	**+0.4**
CMBO				S	**Sn**	**12 55 32.9**	**+0.5**
	comp=N,2µm,0.6s						
FETY	**Fethiye**	**1.93**	**47**	PN	**Pb**	**12 55 10.2**	**-0.7**
THR5	**Thira Island,**	**1.93**	**305**	P	**Pn**	**12 55 09.5**	**+1.1**
YER	**Yerkesik**	**1.96**	**23**	PN	**Pn**	**12 55 09.6**	**+0.8**
YER	**Yerkesik**	**1.96**	**23**	P	**Pn**	**12 55 09.6**	**+0.8**
YER				S	**Sn**	**12 55 33.5**	**+0.1**
YER	**Yerkesik**	**1.96**	**23**	P	**Pn**	**12 55 09.7**	**+0.9**
YER				S	**Sb**	**12 55 35.8**	**0.0**
IDI	**Anoyia**	**1.99**	**269**	Pn	**Pn**	**12 55 10.5**	**+1.4**

	comp=N,24nm,0.3s,baz=60,slow=20,SNR=43						
IDI				Sn	Sb	12 55 35.8	-0.8
	comp=N,38nm,0.3s,baz=308,slow=16,SNR=3.3						
	comp=N,146nm,0.5s						
IDI	Anoyia	1.99	269	PN	Pb	12 55 10.9	-0.9
IDI	Anoyia	1.99	269	P	Pn	12 55 10.6	+1.4
IDI				S	Sb	12 55 36.3	-0.3
	comp=N,612nm,0.5s						
KSL	Kastellorizon	2.01	65	P	Pn	12 55 09.7	+0.2
KSL	Kastellorizon	2.01	65	P	Pn	12 55 10.0	+0.6
AKAS	Kas	2.06	64	PN	Pb	12 55 11.8	-1.4
AKAS	Kas	2.06	64		Pn	12 55 10.3	0.0
AKAS	Kas	2.06	64	P	Pn	12 55 10.9	+0.6
AKAS				S	Sb	12 55 40.0	+1.2
MULA	Mugla, Merkez-	2.08	23	P	Pb	12 55 12.0	-1.5
MULA				S	Sg	12 55 45.1	+2.4
DDIM	Aydin, Didim	2.12	358	P	Pb	12 55 13.0	-1.1
DDIM				S	Sg	12 55 42.4	-1.5
APE	Apeiranthos	2.26	321	PN	Pn	12 55 12.9	0.0
APE	Apeiranthos	2.26	321	P	Pn	12 55 12.8	-0.1
APE				S	Sn	12 55 40.1	-0.6
	comp=N,410nm,0.5s						
APE	Apeiranthos	2.26	321	⇑P	Pn	12 55 12.7	-0.2
CAME	Cameli-Denizli	2.27	44	PN	Pn	12 55 14.9	+1.7
GCAM	G?zelcaml?	2.36	358	PN	Pn	12 55 14.8	+0.5
AYDN	Tasoluk	2.37	11	P	Pn	12 55 15.3	+0.9
AYDN				S	Sb	12 55 48.1	+0.6
CAEL	Denizli, Camel	2.41	42	P	Pb	12 55 17.3	-1.8
CAEL				S	Sg	12 55 58.8	+5.6
TAVA	DENIZLI_Tavas	2.49	31	P	Pn	12 55 17.5	+1.5
TAVA				S	Sb	12 55 52.4	+1.4
ELL	Elmali	2.53	55	PN	Pb	12 55 19.2	-1.9
ELL	Elmali	2.53	55	S	Sn	12 55 49.4	+1.9
GOLH	Golhisar	2.62	43	P	Pn	12 55 20.2	+2.2
GOLH				S	Sg	12 56 02.1	+2.1
AYDB	Zeytinkoy-Aydi	2.65	10	PN	Pn	12 55 18.9	+0.5
APMY	Acipayam-Deniz	2.67	36	PN	Pn	12 55 20.2	+1.6
IMMV	Iera Moni Meta	2.73	274	P	Pn	12 55 20.8	+1.4
KORT	Korkueli	2.96	55	PN	Pn	12 55 25.2	+2.5
CHOS	Chios island	3.21	342	PN	Pn	12 55 26.3	+0.2
OSC1	CSNet OBS 1	3.75	118	P	Pn	12 55 33.9	+0.6
AKMS	Akamas	4.12	93	P	Pn	12 55 39.2	+0.7
AKMS				AML	AML	12 56 28.2	
	comp=N,0.9nm,0.4s						
AKMS				AML	AML	12 56 30.6	
	comp=N,0.9nm,0.5s						
SEYD	Seydisehir-KON	4.19	59	PN	Pn	12 55 43.2	+3.7
ALFC	Alefka	4.32	91	P	Pn	12 55 41.2	-0.1
ALFC				AML	AML	12 56 33.3	
	comp=N,1.2nm,0.8s						
ALFC				AML	AML	12 56 34.2	
	comp=N,1.1nm,0.4s						
NATA	Nata	4.34	96	P	Pn	12 55 42.3	+0.8
NATA				AML	AML	12 56 35.4	
	comp=N,3.2nm,0.4s						
NATA				AML	AML	12 56 39.2	
	comp=N,1.9nm,0.5s						
SZAC	Souni	4.60	96	P	Pn	12 55 45.3	+0.2
SZAC				AML	AML	12 56 40.6	
	comp=N,1.1nm,0.4s						
SZAC				AML	AML	12 56 42.9	
	comp=N,1.0nm,0.5s						
CSS	Mathiatis	4.94	93		Pn	12 55 50.0	+0.3
CSS	Mathiatis	4.94	93	P	Pn	12 55 50.6	+0.9
CSS				AML	AML	12 56 57.6	
	comp=N,0.1nm,0.9s						
CSS				AML	AML	12 56 59.5	
	comp=N,0.2nm,0.8s						
MVOU	Mavrovouni	5.18	92	P	Pn	12 55 54.0	+1.0
RDO	Rodhopi	5.97	347	Pn	Pn	12 56 05.0	+1.2
BRTR	Keskin Array B	6.67	47	Pn	Pn	12 56 14.8	+1.2
	comp=N,0.2nm,0.3s,baz=200,slow=17,SNR=2.3						
BRTR				LR	LR	12 59 35.7	
	comp=N,143nm,18.6s,baz=236,slow=45						
	comp=N,0.7nm,0.5s						
MMAI	Mount Meron Ar	7.09	107	Pn	Pn	12 56 18.3	-0.9
	comp=N,2.7nm,0.3s,baz=311,slow=11,SNR=3.6						
MMAI				Sn	Sn	12 57 38.0	-1.8
	comp=N,6.7nm,0.3s,baz=291,slow=23,SNR=7.4						
	comp=N,1.2nm,0.3s						
EIL	Elat	8.56	129	Pn	Pn	12 56 39.9	+0.4
	comp=N,1.0nm,0.3s,baz=288,slow=3.2,SNR=2.0						
EIL				Sn	Sn	12 58 12.3	-3.8
	comp=N,2.7nm,0.3s,baz=327,slow=23,SNR=8.2						
	comp=N,3.5nm,0.4s						
TIP	Timpagrande	9.25	298	Pn	Pn	12 56 49.5	+0.5
CUC	Castrocucco	10.24	300	Pn	Pn	12 57 02.3	-0.1
RAFF	Raffo Rosso	10.63	284	Pn	Pn	12 57 07.9	+0.1
GNI	Garni	14.59	66	LR	LR	13 03 42.6	
	comp=N,30nm,18.9s,baz=314,slow=37						
AKASG	Malin Array Be	15.42	5	Pn	Pn	12 58 13.1	+0.1
	comp=N,0.5nm,0.3s,baz=198,slow=11,SNR=2.1						
	comp=N,0.1nm,0.3s						
GERES	GERESS Array B	16.83	328	Pn	Pn	12 58 32.1	+0.9
	comp=N,0.2nm,0.3s,baz=131,slow=12,SNR=2.0						
	comp=N,0.3nm,0.3s						
ESDC	Sonseca Array	25.12	289	P	P	13 00 00.6	+0.1
	comp=N,1.1nm,0.6s,baz=82,slow=9.2,SNR=10						
	comp=N,1.1nm,0.6s						
TOA0	Torodi Ar. Sit	31.98	233	P	P	13 01 01.6	-0.2
TOA0				IAmb	IAmb	13 01 02.3	
	comp=Z,2.2nm,0.6s						
TORD	Torodi Ar. Bea	31.98	233	P	P	13 01 02.1	+0.3
	comp=Z,1.9nm,0.4s,baz=39,slow=8.7,SNR=15						
	comp=Z,1.9nm,0.4s						
DBIC	Dimbokro	41.07	234	P	P	13 02 19.2	-0.1
	comp=Z,2.2nm,0.6s,baz=53,slow=8.9,SNR=2.0						
	comp=Z,2.2nm,0.6s						
DBIC	Dimbokro	41.07	234	P	P	13 02 20.0	+0.6
DBIC	Dimbokro	41.07	234	PKIKP	P	13 02 19.3	-0.1
MK31	Makanchi Array	42.20	57	P	P	13 02 28.2	-0.1
MK31				IAmb	IAmb	13 02 49.0	
	comp=Z,2.7nm,1.4s						
MKAR	Makanchi Array	42.20	57	P	P	13 02 28.2	-0.1
	comp=Z,0.2nm,0.5s,baz=275,slow=7.1,SNR=2.4						
	comp=Z,0.2nm,0.5s						
MKAR	Makanchi Array	42.20	57	P	P	13 02 27.7	-0.7
SCHQ	Schefferville	64.19	320	P	P	13 05 08.9	-1.2
	comp=Z,3.3nm,0.9s,baz=61,slow=13,SNR=1.8						
	comp=Z,3.3nm,0.9s						

*DNK **08** 13:16:50.3±0.5, 58°.94N×17°.99E, h0^{km}, ML1.8(UPP), Explosion*
*LVSN **08** 13:16:54.7±0.5, 58°.55N×21°.69E, h0^{km}±3^{km}, ML1.8*
UPP 08 13:16:49.9±0.1**, 58°.94N×17°.98E, h0^{km}, ML1.8, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.07	10	P	Pg	13 16 51.4	+0.2
NYNU				S	Sg	13 16 52.4	+0.3
NYNU	Nynaeshamn	0.07	10	P	Pg	13 16 51.4	+0.2
NYNU				S	Sg	13 16 52.4	+0.3
VIKU	Vikbolandet	0.80	237	P	Pg	13 17 05.0	-0.2
VIKU				S	Sg	13 17 15.8	+0.2
VIKU	Vikbolandet	0.80	237	P	Pg	13 17 05.0	-0.2
VIKU				S	Sg	13 17 15.8	+0.2
NRTU	Norrtaelje	0.81	24	P	Pg	13 17 05.3	-0.1
NRTU				S	Sg	13 17 15.7	-0.2
NRTU	Norrtaelje	0.81	24	P	Pg	13 17 05.3	-0.1
NRTU				S	Sg	13 17 15.7	-0.2
ESKU	Eskilstuna	0.87	290	P	Pg	13 17 06.0	-0.6
ESKU				S	Sg	13 17 17.6	-0.3
ESKU	Eskilstuna	0.87	290	P	Pg	13 17 06.0	-0.6
ESKU				S	Sg	13 17 17.6	-0.3
FIBU	Brunna	1.02	342	P	Pg	13 17 09.2	-0.2
FIBU	Brunna	1.02	342	P	Pg	13 17 09.2	-0.2
BACU	Backbrunna	1.02	334	P	Pg	13 17 09.2	-0.2
BACU	Backbrunna	1.02	334	P	Pg	13 17 09.2	-0.2
FLYU	Flymyra	1.19	358	P	Pg	13 17 12.3	-0.5
FLYU	Flymyra	1.19	358	P	Pg	13 17 12.3	-0.5
GOTU	Gotland	1.29	166	P	Pg	13 17 13.6	-1.1
GOTU	Gotland	1.29	166	P	Pg	13 17 13.6	-1.1
OSTU	Oestervaala	1.36	342	P	Pg	13 17 15.2	-0.8
OSTU	Oestervaala	1.36	342	P	Pg	13 17 15.2	-0.8
LNKU	Linkoeping	1.48	242	P	Pn	13 17 17.1	-0.7
LNKU	Linkoeping	1.48	242	P	Pn	13 17 17.1	-0.7
VSTU	Vaestervik	1.49	211	P	Pn	13 17 17.4	-0.5
VSTU	Vaestervik	1.49	211	P	Pn	13 17 17.4	-0.5
AAL	Aland	1.61	39	P	Pn	13 17 19.2	-0.3
ASKU	Askersund	1.64	270	P	Pn	13 17 19.8	-0.1
ASKU	Askersund	1.64	270	P	Pn	13 17 19.8	-0.1
RAF	Rauma	2.83	41	*e*P	Pb	13 17 39.3	-1.8
RAF				AML	AML	13 17 48.7	
	comp=Z,5.2nm,0.8s						
RAF				AML	AML	13 18 05.7	
	comp=E,4.6nm,0.8s						
RAF				AML	AML	13 18 09.8	
	comp=N,4.5nm,0.8s						
RAF				*e*S	Sn	13 18 12.1	+1.2
MTSE	Matsula	3.04	92	*e*S	Pn	13 17 31.4	-7.8
VSU	Vasula	4.59	92	AML	AML	13 18 39.9	
	comp=E,36nm,0.4s						
VSU				*e*S	Pg	13 18 16.1	-1.8
VSU				AML	AML	13 18 48.8	
	comp=Z,13nm,0.6s						
VSU				AML	AML	13 19 44.9	
	comp=N,20nm,0.5s						

*IDC **08** 13:47:55.7±3.4, 6°.28S×147°.76E, h51^{km}±38^{km}, mb3.7/7, mbtmp4.0/11, ML3.7/3, MS3.1/3, Error ellipse: s-maj=51.7km s-min=16.0km az=118.0*
*NEIC **08** 13:47:56.8±1.2, 6°.23S±0°.09×147°.8E±0°.1, h62^{km}±7^{km}, mb4.0/12, Error ellipse: s-maj=15.9km s-min=11.2km az=122.0*
ISC 08 13:47:55.6±0.7**, 6°.22S**±0°.08×**147°.7E**±0°.1**, h50^{km}, n45, σ0^{s}.70**/43**, mb3.9**/10**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.21	190	P	Pn	13 48 43.9	+0.3
	118nm,0.4s,baz=354,slow=8.7,SNR=29						
PMG				S	Sn	13 49 19.7	-1.0
	72nm,0.3s,baz=68,slow=20,SNR=9.6						
PMG				LR	LR	13 49 43.2	
	comp=Z,50nm,18.2s,baz=80,slow=34						
PMG	Port Moresby	3.21	190		Pn	13 48 43.6	-0.1
KRVT	Keravat (AS076	4.67	66	P	Pn	13 49 04.2	+0.6
	2.4nm,0.3s,baz=287,slow=18,SNR=2.1						
	42nm,0.8s						
RABL	Rabaul	4.85	66	Pn	Pn	13 49 04.8	-1.2
COEN	Coen	8.90	210	Pn	Pn	13 50 01.4	-0.2
CTA	Charters Tower	13.86	186	P	Pn	13 51 09.6	+0.2
	0.2nm,0.3s,baz=281,slow=6.4,SNR=2.8						
	4.2nm,0.9s						
CTAO	Charters Tower	13.86	186	Pn	Pn	13 51 08.3	-1.2
WB0	Warramunga Arr	18.70	223	P	P	13 52 10.2	+0.2
WB0				IAmb	IAmb	13 52 12.7	
	comp=Z,3.3nm,0.8s						
WRAB	Tennant Creek	18.84	222	P	P	13 52 11.1	-0.5
WRAB				IAmb	IAmb	13 52 14.5	
	comp=Z,6.5nm,1.2s						
WRAB	Tennant Creek	18.84	222	P	P	13 52 11.4	-0.2
WB2	Warramunga Arr	18.85	222	P	P	13 52 11.2	-0.5
WRA	Warramunga Arr	18.85	222	P	P	13 52 11.4	-0.3
	comp=Z,0.5nm,0.3s,baz=50,slow=11,SNR=30						
	comp=Z,0.9nm,0.6s						
WB1	Warramunga Ar.	18.86	222	P	P	13 52 11.5	-0.3
EIDS	Eidsvold	19.31	171	P	P	13 52 17.0	+0.4
EIDS				IAmb	IAmb	13 52 26.5	
	comp=Z,7.2nm,1.1s						
RMQ	Roma	20.18	177	P	Pn	13 52 27.4	-0.9
TW1H	Toowoomba 1 Ha	21.58	170	P	P	13 52 44.2	+2.9
AS01	Alice Springs	21.83	216	P	P	13 52 44.2	+0.2
AS31	Alice Springs	21.86	216	P	P	13 52 44.0	-0.2
ASAR	Alice Springs	21.86	216	P	P	13 52 44.4	+0.1
	comp=Z,2.1nm,0.5s,baz=53,slow=8.6,SNR=76						
	comp=Z,2.1nm,0.5s						
ASAR	Alice Springs	21.86	216	P	P	13 52 44.1	-0.1
INKA	Innaminka	22.41	196	P	P	13 52 51.0	+0.9
OOD	Oodnadatta	24.32	207	P	P	13 53 08.9	+0.3
ARMA	Armidale	24.35	172	P	P	13 53 08.7	-0.3
ARMA				IAmb	IAmb	13 53 47.9	
	comp=Z,33nm,1.4s						
LUWI	Luwuk	25.43	281	P	P	13 53 18.9	-0.1
LCRK	Leigh Creek	25.71	199	P	P	13 53 21.5	+0.2
STKA	Stephens Creek	26.16	192	P	P	13 53 25.0	-0.4
	comp=Z,2.0nm,0.6s,baz=20,slow=14,SNR=7.1						
	comp=Z,2.0nm,0.6s						
STKA	Stephens Creek	26.16	192	P	P	13 53 24.9	-0.5
STKA	Stephens Creek	26.16	192	P	P	13 53 25.4	0.0
WRKA	Warakurna	26.40	223	P	P	13 53 27.4	-0.2
MULG	Mulgathing	27.17	207	P	P	13 53 34.7	+0.2
HTT	Hallett	28.29	196	P	P	13 53 44.4	-0.1
PSA00	Pilbara Seismi	30.99	238	P	P	13 54 08.5	-0.1
NWAO	Narrogin (SRO)	38.86	223	P	P	13 55 16.5	+0.3
RPZ	Rata Peaks	42.59	155	LR	LR	14 14 17.3	
	comp=Z,57nm,19.1s,baz=283,slow=37						
PETK	Petropavlovsk-	59.71	7	P	P	13 57 55.7	+0.8
	comp=Z,2.8nm,0.8s,baz=173,slow=5.9,SNR=8.4						
	comp=Z,2.8nm,0.8s						
MA2	Magadan	65.63	2	LR	LR	14 29 19.1	
	comp=Z,27nm,18.2s,baz=122,slow=38						
MKAR	Makanchi Array	78.14	320	P	P	13 59 49.1	-0.5
	comp=Z,0.2nm,0.4s,baz=104,slow=7.2,SNR=4.4						
	comp=Z,0.2nm,0.4s						
MKAR	Makanchi Array	78.14	320	P	P	13 59 48.6	-1.0
ZAA0	Zalesovo Array	79.59	328	P	P	13 59 57.2	-0.1
ZAA0				IAmb	IAmb	14 00 07.7	
	comp=Z,1.8nm,0.9s						
ZALV	Zalesovo Beam	79.59	328	P	P	13 59 56.8	-0.5
	comp=Z,0.6nm,0.5s,baz=122,slow=7.4,SNR=2.5						
	comp=Z,0.6nm,0.5s						
ZALV	Zalesovo Beam	79.59	328	P	P	13 59 57.0	-0.3
KURBB	Kurchatov Arra	81.85	323	P	P	14 00 10.6	+1.1
	comp=Z,0.4nm,0.2s,baz=77,slow=4.9,SNR=1.5						
	comp=Z,0.4nm,0.2s						
QSPA	South Pole Qui	83.75	180	P	P	14 00 19.2	-0.1
QSPA				IAmb	IAmb	14 00 21.7	
	comp=Z,7.6nm,1.4s						
ILAR	Eielson Array	85.40	23	P	P	14 00 26.8	-0.6
	comp=Z,0.6nm,0.9s,baz=238,slow=4.3,SNR=4.3						
	comp=Z,0.6nm,0.9s						
TORD	Torodi Ar. Bea	145.86	284	PKPbc	PKPbc	14 07 30.8	+0.3
	comp=Z,2.3nm,0.6s,baz=70,slow=3.8,SNR=14						

*BUL **08** 13:49:17.2±0.8, 16°.85S×28°.58E, h10^{km}, MD4.3*
*EAF **08** 13:49:19.0±0.5, 16°.82S×28°.07E, h10^{km}, MD3.9*
*PRE **08** 13:49:20.2±1.4, 17°.41S×29°.57E, h10^{km}, ML3.2*
ISC 08 13:49:16.8±1.1**, 16°.98S**±0°.05×**28°.3E**±0°.2**, h10^{km}, n33, σ3^{s}.16**/34**, Zambia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	Lusaka	1.69	356	*i* P	Pn	13 49 45.7	-1.0
LSZ				*i* S	Sn	13 50 05.5	-3.0
LSZ	Lusaka	1.69	356	*i* P	Pn	13 49 45.7	-1.0
LSZ				*i* S	Sn	13 50 05.5	-3.0
MUSN	Musina, Limpop	5.48	165	*e*P	Pn	13 50 34.1	-4.6
MUSN				*e*S	Sn	13 51 27.8	-14
MUSN				IAML		13 51 57.1	
	comp=Z,71nm,0.4s						
MUSN	Musina, Limpop	5.48	165	P	Pn	13 50 34.1	-4.6
MUSN				S	Sn	13 51 27.8	-14
MUSN				*i* AML	AML	13 51 57.1	
	comp=Z,71nm,0.4s						
MUSN	Musina, Limpop	5.48	165	*i* P	Pn	13 50 39.3	+0.6
MUSN	Musina, Limpop	5.48	165	*i* P	Pn	13 50 39.3	+0.6
LEPH	Lephalale, Lim	6.86	184	*e*P	Pn	13 50 59.8	+2.1
LEPH				*e*S	Sn	13 52 10.8	-5.2
LEPH				IAML		13 52 50.4	
	comp=Z,53nm,0.5s						
LEPH	Lephalale, Lim	6.86	184	P	Pn	13 50 59.8	+2.1
LEPH				S	Sn	13 52 10.8	-5.2
LEPH				*i* AML	AML	13 52 50.4	
	comp=Z,53nm,0.5s						
MOPA	Mopani	7.13	156	*e*P	Pn	13 50 54.5	-6.7
MOPA				*e*S	Sn	13 52 04.6	-18
MOPA				IAML		13 52 37.4	
	comp=Z,5.7nm,0.5s						
MOPA	Mopani	7.13	156	P	Pn	13 50 54.5	-6.7
MOPA				S	Sn	13 52 04.6	-18
MOPA				*i* AML	AML	13 52 37.4	
	comp=Z,5.7nm,0.5s						
MOPA	Mopani	7.13	156	*i* P	Pn	13 51 05.4	+4.2
MOPA	Mopani	7.13	156	*i* P	Pn	13 51 05.4	+4.2
LBTB	Lobatse	8.39	197	*e*P	Pn	13 51 23.0	+4.4
LBTB				*e*S	Sn	13 52 55.4	+1.9
LBTB				IAML		13 54 00.8	
	comp=Z,10.0nm,0.9s						
LBTB	Lobatse	8.39	197	P	Pn	13 51 23.0	+4.4
LBTB				S	Sn	13 52 55.4	+1.9
LBTB				*i* AML	AML	13 54 00.8	
	comp=Z,10.0nm,0.9s						
LBTB	Lobatse	8.39	197	*i* P	Pn	13 51 20.7	+2.1
LBTB				*i* S	Sn	13 52 48.9	-4.6
LBTB	Lobatse	8.39	197	*i* P	Pn	13 51 20.7	+2.1
LBTB				*i* S	Sn	13 52 48.9	-4.6
SLR	Silverton	8.71	180	*e*S	Sn	13 52 53.2	-8.5
SLR				IAML		13 54 04.8	
	comp=Z,17nm,0.4s						
SLR	Silverton	8.71	180	S	Sn	13 52 53.2	-8.5
SLR				*i* AML	AML	13 54 04.8	
	comp=Z,17nm,0.4s						
KSR	Koster	8.93	188	*e*P	Pn	13 51 29.2	+3.1
KSR				*e*S	Sn	13 53 00.6	-6.3
KSR				IAML		13 54 13.9	
	comp=Z,39nm,0.5s						
KSR	Koster	8.93	188	P	Pn	13 51 29.2	+3.1
KSR				S	Sn	13 53 00.6	-6.3
KSR				*i* AML	AML	13 54 13.9	
	comp=Z,39nm,0.5s						
PRYS	Parys	9.94	185	*e*P	Pn	13 51 42.0	+2.1
PRYS				*e*S	Sn	13 53 25.1	-6.6
PRYS	Parys	9.94	185	P	Pn	13 51 42.0	+2.1
PRYS				S	Sn	13 53 25.1	-6.6
TSUM	Tsumeb	10.43	256	*e*P	Pn	13 52 06.5	+20
TSUM				*e*S	Sn	13 54 08.4	+25
NWCL	Newcastle	10.81	172	*e*P	Pn	13 51 48.5	-3.3
NWCL				*e*S	Sn	13 53 37.6	-15
NWCL	Newcastle	10.81	172	P	Pn	13 51 48.5	-3.3
NWCL				S	Sn	13 53 37.6	-15
SNKL	Senekal, Frees	11.26	182	*e*P	Pn	13 51 58.4	+0.4
SNKL				*e*S	Sn	13 53 55.4	-8.7
SNKL	Senekal, Frees	11.26	182	P	Pn	13 51 58.4	+0.4
SNKL				S	Sn	13 53 55.4	-8.7
BOSA	Boshof	11.92	193	*e*P	Pn	13 52 09.1	+2.1
BOSA				*e*S	Sn	13 54 15.3	-4.9
BOSA	Boshof	11.92	193	P	Pn	13 52 09.1	+2.1
BOSA				S	Sn	13 54 15.3	-4.9
BOSA	Boshof	11.92	193	*i* P	Pn	13 52 06.6	-0.4
BOSA				*i* S	Sn	13 54 09.6	-11
BOSA	Boshof	11.92	193	*i* P	Pn	13 52 06.6	-0.4
BOSA				*i* S	Sn	13 54 09.6	-11
KEIM	Keimoes	13.48	209	*e*P	P	13 52 39.9	+2.2
KEIM	Keimoes	13.48	209	P	P	13 52 39.9	+2.2

*VAO **08** 14:13:55.4±0.3, 25°.08S×70°.05W, h10^{km}, mb4.7*
*SJA **08** 14:13:57.0±1.3, 25°.32S×70°.17W, h65^{km}±6^{km}, ML4.8, MW4.7*
*NEIC **08** 14:13:58.7, 25°.37S×70°.14W, h62^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.27; $M_{\theta\theta}$2.97; $M_{\phi\phi}$0.30; $M_{r\theta}$2.68; $M_{\theta\phi}$-2.04; $M_{\phi r}$-8.29; Fault plane solution: $M_0$9.48000×10^{15} NP1:ϕ_s96.45000°, δ17.60000°, λ-149.00000°. NP2:ϕ_s336.65000°, δ81.04000°, λ-74.79000°. Principal axes: T 8.8311, Plg34.0000°, Azm54.0000°; N 1.1819, Plg15.0000°, Azm154.0000°; P -10.0130, Plg52.0000°, Azm264.0000°;*
*GUC **08** 14:13:58.1±0.7, 25°.43S×70°.04W, h57^{km}±3^{km}, ML4.9*
*NEIC **08** 14:13:58.5±2.2, 25°.38S±0°.04×70°.17W±0°.08, h59^{km}±4^{km}, mb4.7/46, Mwr4.6/83, Mwr4.7(GUC), Error ellipse: s-maj=10.7km s-min=6.4km az=90.0*
*IDC **08** 14:13:59.4±0.5, 25°.54S×69°.90W, h63^{km}±3^{km}, mb4.0/9, mbtmp4.3/13, MS3.5/25, Error ellipse: s-maj=16.7km s-min=9.9km az=102.0*
ISC 08 14:13:58.5±0.4**, 25°.37S**±0°.02×**70°.19W**±0°.04**, h60^{km}**±3^{km}**, h60^{km}:pP-P, n254, σ1^{s}.73**/262**, mb4.6**/29**, 8C-4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO02	Mina Guanaco	0.57	70		Pn	14 14 11.8	+0.2
GO02				Sn	Sn	14 14 20.9	-0.2
GO02	Mina Guanaco	0.57	70	*e*P	Pn	14 14 11.5	-0.1
GO02				*e*S	Sn	14 14 21.4	+0.2
GO02				IAML		14 14 22.2	
	comp=N,129µm,0.1s						
GO02	Mina Guanaco	0.57	70	*i* P	Pn	14 14 11.0	-0.6
GO02				*e*S	Sn	14 14 21.5	+0.4
PB14	IPOC Station P	0.76	345		Pn	14 14 14.9	+1.0
PB14	IPOC Station P	0.76	345	*e*P	Pn	14 14 15.1	+1.3
PB14				*e*S	Sn	14 14 27.2	+2.1
PB14	IPOC Station P	0.76	345	*i* P	Pn	14 14 15.0	+1.2
PB14				*e*S	Sn	14 14 27.6	+2.5
PB14				IAML		14 14 28.9	
	comp=Z,10µm,0.4s						
AC01	Pan de Azucar	0.86	206		Pn	14 14 15.7	+0.9
AC01	Pan de Azucar	0.86	206	⇑*i*P	Pn	14 14 15.8	+0.9
AC01				*e*S	Sn	14 14 28.6	+1.7
AC01				IAML		14 14 29.9	
	comp=E,44µm,0.2s						
AC01	Pan de Azucar	0.86	206	*i* P	Pn	14 14 15.0	+0.2
AC01				*e*S	Sn	14 14 29.0	+2.2
AC01				IAML		14 14 31.3	
	comp=Z,11µm,0.3s						
AC02	Maricunga	1.75	147		Pn	14 14 27.9	+1.0
AC02	Maricunga	1.75	147	⇓*e*P	Pn	14 14 28.1	+1.2
AC02				*e*S	Sn	14 14 49.7	+1.3
AC02				IAML		14 14 51.0	
	comp=E,29µm,0.2s						
AC02	Maricunga	1.75	147	*i* P	Pn	14 14 28.0	+1.0
AC02				*e*S	Sn	14 14 49.9	+1.5
AC02				IAML		14 14 51.7	
	comp=Z,6µm,0.8s						
PB10	IPOC Station P	1.87	350		Pn	14 14 29.1	+0.9
PB10	IPOC Station P	1.87	350	⇓*e*P	Pn	14 14 29.5	+1.2
PB10	IPOC Station P	1.87	350	*i* P	Pn	14 14 29.7	+1.4
PB10				*e*S	Sn	14 14 45.8	-5.1
PB10				IAML		14 15 02.5	
	comp=Z,3µm,0.3s						
AC06	Mina Casimiro	1.99	184		Pn	14 14 30.2	+0.3
AC06	Mina Casimiro	1.99	184	*e*P	Pn	14 14 30.1	+0.2
AC06				*e*S	Sn	14 14 54.8	+1.2
GO03	Copiap	2.22	181		Pn	14 14 33.4	+0.4
GO03	Copiap	2.22	181	*e*P	Pn	14 14 33.2	+0.2
GO03				*e*S	Sn	14 15 01.3	+1.9
GO03				IAML		14 15 07.6	
	comp=N,7µm,0.3s						
GO03	Copiap	2.22	181	*i* P	Pn	14 14 33.7	+0.7
GO03				*e*S	Sn	14 15 01.6	+2.2
PB15	IPOC Station P	2.24	17		Pn	14 14 35.5	+2.0
PB15	IPOC Station P	2.24	17	⇑*e*P	Pn	14 14 35.8	+2.3
PB15				*e*S	Sn	14 15 04.6	+4.4
PB15	IPOC Station P	2.24	17	*i* P	Pn	14 14 36.0	+2.5
PB15				*e*S	Sn	14 15 05.8	+5.6
PB15				IAML		14 15 14.0	
	comp=Z,24µm,0.3s						
PB06	IPOC Station P	2.71	12		Pn	14 14 40.7	+1.0
PB06	IPOC Station P	2.71	12	⇑*i*P	Pn	14 14 40.9	+1.2
PB06				*e*S	Sn	14 15 16.1	+4.7
PB06				IAML		14 15 21.8	
	comp=E,5µm,0.3s						
PB06	IPOC Station P	2.71	12	*i* P	Pn	14 14 41.0	+1.2
PB06				IAML		14 15 24.1	
	comp=Z,4µm,0.3s						
AC04	Llanos de Chal	2.94	196	Pn	Pn	14 14 41.6	-1.2
AC04	Llanos de Chal	2.94	196	*e*P	Pn	14 14 41.5	-1.2
AC04				IAML		14 15 32.3	
	comp=E,5µm,0.5s						
AC04	Llanos de Chal	2.94	196	*i* P	Pn	14 14 42.0	-0.7
AC04				*e*S	Sn	14 15 24.1	+7.2
AC04				IAML		14 15 31.9	
	comp=Z,5µm,0.5s						
LVC	Limon Verde	2.98	23	P	Pn	14 14 45.4	+1.7
	comp=Z,448nm,0.4s,baz=169,slow=11,SNR=359						
LVC				S	Sn	14 15 22.6	+4.2
	comp=Z,4µm,0.6s,baz=51,slow=22,SNR=14						
LVC				LR	LR	14 15 52.1	
	comp=Z,636nm,21.2s,baz=218,slow=37						
LVC	Limon Verde	2.98	23		Pn	14 14 45.1	+1.5
LVC	Limon Verde	2.98	23	⇑*i*P	Pn	14 14 45.4	+1.7
LVC				*e*S	Sn	14 15 21.5	+3.1
LVC	Limon Verde	2.98	23	*i* P	Pn	14 14 45.0	+1.3
LVC				IAML		14 15 31.1	
	comp=Z,1µm,0.3s						
PB04	IPOC Station P	3.02	1	Pn	Pn	14 14 43.7	-0.3
PB04	IPOC Station P	3.02	1	⇓*e*P	Pn	14 14 44.3	+0.3
PB04				*e*S	Sn	14 15 23.8	+4.8
PB04				IAML		14 15 41.7	
	comp=E,4µm,0.4s						
PB04	IPOC Station P	3.02	1	*i* P	Pn	14 14 44.0	0.0
PB04				IAML		14 15 39.5	
	comp=Z,3µm,1.5s						
AF01	San Pedro de A	3.02	38		Pn	14 14 45.7	+1.5

AF01 San Pedro de A 3.02 38 *e*P Pn 14 14 46.8 +2.6
AF01 *e*S Sn 14 15 22.3 +3.0
PB03 IPOC Station P 3.33 7 Pn 14 14 47.9 -0.3
PB03 IPOC Station P 3.33 7 *e*P Pn 14 14 48.4 +0.2
PB03 *e*S Sn 14 15 26.6 0.0
PB03 IAML 14 15 47.8
comp=E,3μm,0.5s
PB03 IPOC Station P 3.33 7 *i* P Pn 14 14 48.0 -0.3
PB03 IAML 14 15 43.1
comp=Z,3μm,0.8s
AC05 El Transito 3.46 181 Pn 14 14 49.5 -0.5
AC05 El Transito 3.46 181⇓*e*P Pn 14 14 50.6 +0.6
AC05 *e*S Sn 14 15 31.8 +2.0
AC05 El Transito 3.46 181 *i* P Pn 14 14 51.0 +1.0
AC05 *e*S Sn 14 15 38.9 +9.1
AC05 IAML 14 15 46.8
comp=Z,5μm,0.5s
PB07 IPOC Station P 3.63 4 Pn 14 14 52.4 -0.1
PB07 IPOC Station P 3.63 4⇑*e*P Pn 14 14 52.6 +0.1
PB07 *e*S Sn 14 15 38.3 +4.2
PB07 IPOC Station P 3.63 4 *i* P Pn 14 14 52.0 -0.4
PB07 IAML 14 15 58.9
comp=Z,3μm,0.6s
PB09 IPOC Station P 3.66 14 Pn 14 14 53.8 +1.0
PB09 IPOC Station P 3.66 14⇑*e*P Pn 14 14 54.4 +1.6
PB09 *e*S Sn 14 15 38.5 +3.7
PB09 IPOC Station P 3.66 14 *i* P Pn 14 14 54.0 +1.2
PB09 IAML 14 15 52.2
comp=Z,3μm,0.5s
LCO Las Campanas 3.66 187 Pn 14 14 51.9 -1.0
LCO Las Campanas 3.66 187 *e*P Pn 14 14 52.2 -0.6
LCO *e*S Sn 14 15 37.2 +2.3
PB02 IPOC Station P 4.04 4 Pn 14 14 57.5 -0.4
PB02 IPOC Station P 4.04 4 *e*P Pn 14 14 57.6 -0.3
PB02 *e*S Sn 14 15 47.2 +3.3
PB02 IPOC Station P 4.04 4 *i* P Pn 14 14 57.8 -0.1
PB02 IAML 14 16 13.3
comp=Z,4μm,0.4s
SLA San Lorenzo 4.29 82 *i* P Pn 14 15 06.0 +4.5
PB01 IPOC Station P 4.35 9 Pn 14 15 01.9 -0.2
PB01 IPOC Station P 4.35 9⇑*i*P Pn 14 15 02.3 +0.1
PB01 *e*S Sn 14 15 51.3 -0.3
PB01 IPOC Station P 4.35 9 *i* P Pn 14 15 02.0 -0.2
PB01 IAML 14 16 09.5
comp=Z,1μm,0.5s
PATCX Punta Patache 4.52 0 Pn 14 15 03.2 -1.4
PATCX Punta Patache 4.52 0⇑*e*P Pn 14 15 03.5 -1.0
PATCX *e*S Sn 14 15 56.9 +1.0
PATCX Punta Patache 4.52 0 *i* P Pn 14 15 03.0 -1.6
PATCX IAML 14 16 14.0
comp=Z,1μm,0.8s
CO01 Juntas del Tor 4.59 179 Pn 14 15 05.8 +0.2
CO01 Juntas del Tor 4.59 179 *e*P Pn 14 15 06.0 +0.3
CO01 Juntas del Tor 4.59 179 *i* P Pn 14 15 06.0 +0.3
CO01 IAML 14 16 23.7
comp=Z,1μm,1.1s
CO05 La Serena 4.63 191 Pn Pn 14 15 04.1 -1.8
CO05 La Serena 4.63 191 *e*P Pn 14 15 04.4 -1.5
TA01 Diego Aracena 4.78 0 Pn Pn 14 15 06.4 -1.5
TA01 Diego Aracena 4.78 0 *i* P Pn 14 15 06.6 -1.3
TA01 IAML 14 16 25.7
comp=Z,1μm,0.8s
AZAP Zapla 4.79 77 *i* P Pn 14 15 11.0 +2.7
AZAP IAML 14 16 17.0
comp=Z,310nm,1.5s
GO04 Tololo Observa 4.82 186 Pn 14 15 07.6 -1.1
AROD Rodeo 4.83 173 *i* P Pn 14 15 11.0 +2.1
ACDV Cuesta del Vie 4.88 169 *i* P Pn 14 15 12.0 +2.5
ACDV IAML 14 16 37.8
comp=Z,629nm,0.8s
ACLC CERRO LA CRUZ 4.96 145 *i* P Pn 14 15 12.0 +1.4
ACLC IAML 14 16 18.1
comp=Z,435nm,0.7s
CYA Choya 4.97 129 *i* P Pn 14 15 12.0 +1.4
CYA IAML 14 16 15.9
comp=Z,143nm,0.6s
PB08 IPOC Station P 5.29 11 Pn Pn 14 15 14.5 -0.8
PB08 IPOC Station P 5.29 11 *i* P Pn 14 15 15.0 -0.3
PB08 IAML 14 16 49.5
comp=Z,601nm,1.8s
ACCO Cerro Coronel 5.30 169 *i* P Pn 14 15 17.0 +1.7
ACCO IAML 14 16 31.8
comp=Z,643nm,1.3s
CO06 Fray Jorge 5.44 193 Pn 14 15 14.7 -2.3
CO03 El Pedregal 5.47 185 Pn 14 15 16.1 -1.4
PB11 IPOC Station P 5.60 5 Pn 14 15 18.0 -1.4
GO01 Chusmiza 5.74 9 Pn Pn 14 15 20.8 -0.8
CO02 Combarbal 5.86 187 Pn Pn 14 15 20.7 -2.2
ZON Zonda 6.30 168 Pn Pn 14 15 29.8 +1.0
PB12 IPOC Station P 6.72 359 Pn 14 15 32.9 -1.8
PB16 IPOC Station P 7.03 5 Pn 14 15 38.2 -1.0
VA03 San Esteban 7.38 182 Pn 14 15 41.8 -1.8
ROC1 El Roble 7.62 185 Pn Pn 14 15 44.6 -2.5
MT09 Talagante 8.41 185 Pn 14 15 53.7 -4.1
MT01 Popeta 8.52 186 Pn 14 15 54.9 -4.3
LPAZ La Paz 9.23 12 P Pn 14 16 10.5 +0.9
comp=Z,22nm,0.6s,baz=232,slow=2.0,SNR=90
LPAZ LR LR 14 20 52.4
comp=Z,54nm,19.0s,baz=180,slow=44
LPAZ La Paz 9.23 12 Pn Pn 14 16 10.0 +0.4
H03N1 Juan Fernandez 11.07 221 T T 14 27 19.5
baz=48,slow=72,SNR=768
H03N2 Juan Fernandez 11.08 221 T T 14 27 04.4
baz=48,slow=72,SNR=771
H03N3 Juan Fernandez 11.09 221 T T 14 27 15.1
baz=48,slow=72,SNR=805
CPUP Villa Florida 11.62 98 P Pn 14 16 38.7 -2.9
comp=Z,11nm,0.9s,baz=281,slow=12,SNR=17
CPUP LR LR 14 21 40.9
comp=Z,405nm,19.0s,baz=270,slow=41
CPUP Villa Florida 11.62 98 Pn 14 16 39.7 -1.9
CPUP Villa Florida 11.62 98 *e*P Pn 14 16 39.9 -1.6
SIV San Ignacio 12.63 44 P Pn 14 16 52.3 -3.1
comp=Z,18nm,0.8s,baz=254,slow=9.5,SNR=33
ITQB Itaqui 12.77 113 *e*P Pn 14 16 57.2 -0.1
GO06 Curarrehue 14.22 184 Pn Pn 14 17 15.5 -1.3
PTLB Pontes e Lacer 14.29 48 Pn Pn 14 17 14.8 -3.0
PTLB Pontes e Lacer 14.29 48 *e*P Pn 14 17 15.1 -2.7
TRQA Tornquist 14.44 153 Pn 14 17 16.8 -2.9
NNA Nana 14.72 333 LR LR 14 23 07.0
comp=Z,57nm,18.7s,baz=172,slow=36
PLCA Paso Flores 15.33 181 P Pn 14 17 29.8 -1.4
comp=Z,2.1nm,0.8s,baz=0.0,slow=15,SNR=10
PLCA LR LR 14 23 29.6
comp=Z,304nm,21.1s,baz=1.0,slow=38
PLCA Paso Flores 15.33 181 Pn Pn 14 17 29.7 -1.4
PLCA Paso Flores 15.33 181 *e*P P 14 17 35.0 +0.3
VILB Vilhena 15.53 39 Pn Pn 14 17 30.6 -3.2
VILB IAmb IAmb 14 17 39.6
comp=Z,43nm,0.8s
LL04 Puerto Octay 15.61 186 P P 14 17 37.6 -0.2
LL04 IAmb IAmb 14 17 59.4
comp=Z,46nm,0.8s
CPSB Cacapava Do Su 15.63 113 *e*P Pn 14 17 35.3 +0.3
PLTB Pedras Altas 15.89 117 Pn Pn 14 17 37.3 -1.0
ETMB Extrema 15.92 14 Pn Pn 14 17 34.9 -3.9
ETMB IAmb IAmb 14 17 44.0
comp=Z,13nm,0.9s
ETMB Extrema 15.92 14 *e*P Pn 14 17 35.0 -3.7
PP1B Ponte de Pedra 16.20 65 *e*P Pn 14 17 39.1 -3.1
ITAB Concordia 16.30 101 Pn 14 17 43.7 +0.3
ITAB Concordia 16.30 101 *e*P Pn 14 17 44.0 +0.6
PTGB Pitanga 16.44 92 *e*P P 14 17 46.4 -0.8
SALV Santo Antonio 16.50 58 *e*P Pn 14 17 43.2 -2.9
CNLB Canela 17.62 107 *e*P P 14 18 00.8 +0.7
SAML Samuel 17.64 23 P P 14 18 00.5 +0.2
PCMB Pacaembu 17.75 82 *e*P P 14 18 01.7 +0.1
PDRB Porto dos Gac 18.68 45 *e*P P 14 18 10.7 -1.2
FRTB Fartura 18.90 88 *e*P P 14 18 13.0 -1.2
ITRB Iturama 19.15 77 *e*P P 14 18 16.8 -0.2
ARAG Araguaiana, MT 19.69 64 *e*P Pn 14 18 23.7 -1.1
ATAH Atahualpa 19.75 335 P Pn 14 18 27.1 +1.2
comp=Z,3.2nm,0.7s,baz=170,slow=11,SNR=3.6
comp=Z,3.2nm,0.7s
CLDB Colider 19.84 46 *e*P P 14 18 23.8 -0.7
BB19B Bebedouro 20.35 82 *e*P P 14 18 30.4 +0.2
PET01 Itanhaem-SP 20.82 92 *e*P Pn 14 18 36.6 -1.5
TBTG Tabatinga, AM 21.06 1 *e*P P 14 18 38.0 +0.3
VAO Valinhos 21.31 89 *e*P P 14 18 38.9 -1.5
IPMB Ipameri, GO 21.68 75 *e*P P 14 18 42.8 -1.6
PARB Paraibuna 22.46 90 *e*P P 14 18 54.8 +2.0
BDFB Brasilia 22.88 69 P P 14 18 54.4 -2.9
comp=Z,9.4nm,0.7s,baz=252,slow=10.0,SNR=9.4

BDFB LR LR 14 29 06.2
comp=Z,127nm,20.9s,baz=325,slow=40
comp=Z,9.4nm,0.7s
BDFB Brasilia 22.88 69 P P 14 18 53.1 -4.1
BDFB IAmb IAmb 14 19 29.4
comp=Z,22nm,1.1s
BDFB Brasilia 22.88 69 *e*P P 14 18 55.6 -1.7
NPGB Novo Progresso 23.08 40 *e*P P 14 18 57.0 -2.1
MACA Manacapuru-AM 23.89 24 *e*P P 14 19 07.2 +0.4
MAN01 Angra dos Reis 24.05 90 *e*P P 14 19 10.2 +2.0
VAS01 Vassouras-RJ 24.64 88 *e*P P 14 19 16.0 +2.5
ITTB Itaituba 25.07 36 *e*P P 14 19 17.0 -0.4
SGCB S£o Gabriel d 25.28 7 *e*P P 14 19 18.8 -0.6
DIAM Diamantina, MG 25.57 79 *e*P P 14 19 24.0 +1.9
CAM01 Campos-RJ 26.36 88 *e*P P 14 19 31.7 +2.6
SMTB Santa Maria do 27.05 57 *e*P P 14 19 34.9 -0.5
SDBA SAO DESIDERIO 27.11 66 *e*P P 14 19 35.1 -0.8
PRPB Parauapebas 27.28 49 *e*P P 14 19 37.0 -0.4
ALF01 Guarapari-ES 27.50 86 *e*P P 14 19 41.7 +2.3
SJMB Sao Joao De Ma 27.65 82 *e*P P 14 19 43.0 +2.2
MALB Monte Alegre 27.96 36 *e*P P 14 19 42.8 -0.7
BOAV Boa Vista 29.14 20 P P 14 19 53.6 -0.4
BOAV IAmb IAmb 14 20 17.4
comp=Z,7.8nm,1.0s
BOAV Boa Vista 29.14 20 *e*P P 14 19 54.6 +0.6
ROSC El Rosal 30.29 352 LR LR 14 31 44.8
comp=Z,68nm,19.5s,baz=170,slow=35
SDV Santo Domingo 34.05 359 LR LR 14 35 20.9
comp=Z,58nm,18.9s,baz=138,slow=38
BAUV El Baul 34.16 4 P P 14 20 36.3 -1.8
MDP Montagnes des 34.75 32 LR LR 14 36 36.8
comp=Z,82nm,20.6s,baz=288,slow=39
RPN Rapa Nui 35.06 258 LR LR 14 31 03.0
comp=Z,185nm,19.0s,baz=112,slow=29
RCBR Riachuelo 38.12 65 LR LR 14 36 33.2
comp=Z,86nm,21.4s,baz=344,slow=36
RCBR Riachuelo 38.12 65 P P 14 21 09.7 -2.3
RCBR Riachuelo 38.12 65 *e*P P 14 21 13.3 +1.3
PMSA Palmer Station 39.61 176 LR LR 14 37 28.6
comp=Z,165nm,18.0s,baz=333,slow=36
SJG San Juan 43.39 6 LR LR 14 42 10.3
comp=Z,37nm,19.3s,baz=144,slow=39
BELA Belgrano 2 55.11 171 P P 14 23 23.5 -0.5
BELA IAmb IAmb 14 23 48.0
comp=Z,5.2nm,0.8s
VNA3 Neumayer Olymp 56.83 160 P P 14 23 36.1 -0.2
VNA3 Neumayer Olymp 56.83 160 pP pP 14 23 54.2 +1.3
VNA3 Neumayer Olymp 56.83 160 sP sP 14 23 59.4 -0.5
VNA1 Neumayer--Stat 57.07 159 P P 14 23 38.8 +0.9
VNA2 Neumayer--Watz 57.43 160 P P 14 23 40.4 -0.2
baz=288,slow=7.7
VNA2 Neumayer--Watz 57.43 160 sP sP 14 24 04.1 -0.1
baz=287,slow=8.1
SNAA Sanae 59.04 160 P P 14 23 51.5 -0.4
SNAA Sanae 59.04 160 sP sP 14 24 15.2 -0.1
SNAA Sanae 59.04 160 LR LR 14 50 06.9
comp=Z,27nm,18.0s,baz=291,slow=37
SNAA Sanae 59.04 160 P P 14 23 51.6 -0.4
SNAA IAmb IAmb 14 23 52.6
comp=Z,11nm,1.1s
TROLL Troll, Antarti 60.76 160 P P 14 24 03.5 -0.2
TROLL Troll, Antarti 60.76 160 sP sP 14 24 27.1 -0.2
TXAR Lajitas Array 63.18 327 P P 14 24 22.4 +2.0
comp=Z,1.5nm,1.0s,baz=139,slow=9.8,SNR=6.4
comp=Z,1.5nm,1.0s
WVT Waverly 63.39 344 P P 14 24 21.3 -0.2
WVT IAmb IAmb 14 24 40.3
comp=Z,5.5nm,0.8s
ABTX Abilene, Hawle 64.14 333 P P 14 24 27.9 +1.3
X37A Clayton 64.23 337 P P 14 24 28.1 +1.0
X37A IAmb IAmb 14 24 30.5
comp=Z,20nm,1.4s
QSPA South Pole Qui 64.84 180 P P 14 24 31.1 +0.1
QSPA IAmb IAmb 14 24 32.8
comp=Z,16nm,1.1s
GDL2 Guadalupe Moun 65.88 329 P P 14 24 39.0 +1.0
CCM Cathedral Cave 66.11 342 P P 14 24 39.6 +0.4
CCM IAmb IAmb 14 24 40.7
comp=Z,17nm,1.4s
S39A Bolivar 66.39 340 P P 14 24 40.6 -0.4
S39A IAmb IAmb 14 25 07.7
comp=Z,11nm,1.0s
R40A Maddies Statio 66.62 341 P P 14 24 42.2 -0.3
R40A pP 14 24 59.2 -0.2
R40A IAmb IAmb 14 25 09.1
comp=Z,12nm,0.9s
N49A Columbus Grove 67.22 349 P P 14 24 47.1 +0.9
P40A Paris 67.71 342 P P 14 24 49.4 +0.1
P40A pP 14 25 05.6 -0.7
T25A Trinidad 70.02 331 P P 14 25 02.9 -1.2
T25A IAmb IAmb 14 25 07.5
comp=Z,5.9nm,1.1s
214A Organ Pipe Nat 70.03 322 P P 14 25 02.9 -1.1
214A IAmb IAmb 14 25 08.5
comp=Z,21nm,1.4s
DBIC Dimbokro 70.98 73 P P 14 25 09.1 -1.0
comp=Z,9.1nm,0.8s,baz=258,slow=5.0,SNR=9.4
DBIC LR LR 14 56 48.2
comp=Z,33nm,18.1s,baz=258,slow=36
comp=Z,9.1nm,0.8s
DBIC Dimbokro 70.98 73 P P 14 25 09.9 -0.3
DBIC pP 14 25 26.6 -0.7
TBI Tubuai 71.18 253 *e*LR LR 14 46 56.4
comp=Z,398nm,33.5s
BGNE Belgrade 71.32 338 P P 14 25 12.1 +0.4
VNDA Vanda 72.86 190 P P 14 25 20.8 +0.4
comp=Z,1.7nm,1.0s,baz=40,slow=4.7,SNR=6.7
comp=Z,1.7nm,1.0s
VNDA Vanda 72.86 190 P P 14 25 20.8 +0.4
ECSD EROS Data Cent 72.92 340 P 14 25 21.3 +0.2
ECSD IAmb IAmb 14 25 23.0
comp=Z,8.1nm,1.1s
PPT2 Papeete2 73.33 258 *e*LR LR 14 47 56.0
comp=Z,221nm,29.5s
PPT2 *e*LR LR 14 47 56.1
comp=Z,178nm,30.0s
ELS Elsinore Mount 73.90 320 P 14 25 27.0 -0.2
ELS IAmb IAmb 14 25 30.3
comp=Z,5.0nm,0.9s
SRU San Rafael Swe 74.41 328 P P 14 25 31.3 +1.1
SRU IAmb IAmb 14 25 33.8
comp=Z,6.3nm,0.9s
P18A Preston Nutter 74.69 329 P P 14 25 32.1 +0.2
P18A IAmb IAmb 14 25 37.3
comp=Z,16nm,1.5s
MSU Marysvale 74.73 327 P 14 25 33.2 +1.1
QSM Queen of Sheba 75.26 322 P P 14 25 35.6 +0.7
GWY Greenwater Val 75.31 323 P P 14 25 35.8 +0.4
GWY IAmb IAmb 14 26 08.2
comp=Z,6.0nm,1.1s
PRN Pahroc Range 75.35 325 P P 14 25 35.6 0.0
PRN IAmb IAmb 14 25 40.3
comp=Z,12nm,1.3s
SPR3 Spring Creek 3 76.18 326 P 14 25 40.0 -0.6
SPR3 IAmb IAmb 14 25 43.8
comp=Z,10nm,1.4s
HWUT Hardware Ranch 76.87 329 P 14 25 43.4 -0.8
HWUT IAmb IAmb 14 25 47.7
comp=Z,5.2nm,0.8s
PD31 Pinedale Array 76.89 331 P P 14 25 45.5 +1.2
PDAR Pinedale Array 76.89 331 P P 14 25 45.9 +1.5
comp=Z,0.5nm,0.5s,baz=136,slow=7.4,SNR=12
PDAR pP pP 14 26 04.0 +2.4
comp=Z,0.4nm,0.5s,baz=138,slow=7.4,SNR=4.1
PDAR sP sP 14 26 10.8 +2.4
comp=Z,0.5nm,0.5s,baz=135,slow=7.7,SNR=4.2
comp=Z,0.5nm,0.5s
PDAR Pinedale Array 76.89 331 P P 14 25 44.8 +0.4
BW06 Boulder Array 76.89 331 P P 14 25 45.2 +0.8
TPH Tonopah 77.00 324 P P 14 25 46.5 +1.4
SUR Sutherland 77.66 120 LR LR 14 58 37.6
comp=Z,34nm,18.1s,baz=238,slow=35
NVAR Mina Array Bea 77.84 323 P P 14 25 51.4 +1.7
comp=Z,1.1nm,0.8s,baz=148,slow=5.6,SNR=8.8
comp=Z,1.1nm,0.8s
LOHW Long Hollow 78.03 331 P P 14 25 50.8 +0.2
LOHW IAmb IAmb 14 25 53.7
comp=Z,11nm,1.5s
LAO LASA Array 78.78 336 P P 14 25 56.1 +1.6
LAO IAmb IAmb 14 25 57.0
comp=Z,14nm,1.3s
YHB Horse Butte 79.19 332 P P 14 25 56.4 -0.7
YHB IAmb IAmb 14 26 07.1
comp=Z,7.4nm,1.1s
TOA0 Torodi Ar. Sit 79.76 70 P P 14 25 59.0 -1.5

TORD Torodi Ar. Bea 79.76 70 P P 14 25 59.9 -0.6
comp=Z,9.1nm,0.7s,baz=248,slow=4.6,SNR=42
TORD pP pP 14 26 17.6 -0.4
comp=Z,11nm,0.8s,baz=251,slow=4.5,SNR=14
TORD sP sP 14 26 24.5 -0.3
comp=Z,14nm,0.6s,baz=248,slow=4.9,SNR=12
TORD LR LR 14 59 22.4
comp=Z,34nm,21.6s,baz=210,slow=34
comp=Z,9.1nm,0.7s
TORD Torodi Ar. Bea 79.76 70 P P 14 25 59.2 -1.3
MCMT McKenzie Canyo 79.98 331 P P 14 26 02.8 +1.5
LRM Limekiln Ridge 80.58 332 P P 14 26 03.7 -0.9
RAR Rarotonga 80.83 251 LR LR 14 52 30.2
comp=Z,53nm,21.6s,baz=149,slow=28
MAW Mawson 80.98 164 P P 14 26 05.8 -0.3
comp=Z,2.0nm,0.6s,baz=209,slow=6.0,SNR=6.0
MAW LR LR 15 04 57.7
comp=Z,43nm,18.0s,baz=230,slow=38
comp=Z,2.0nm,0.6s
MAW Mawson 80.98 164 P P 14 26 06.7 +0.6
LBTB Lobatse 84.46 115 LR LR 15 01 45.2
comp=Z,30nm,19.4s,baz=180,slow=34
MDT Midelt 85.11 50 LR LR 15 02 55.7
comp=Z,15nm,21.7s,baz=102,slow=34
ESDC Sonseca Array 89.39 45 LR LR 15 05 08.4
comp=Z,33nm,19.7s,baz=257,slow=34
LSZ Lusaka 90.89 107 LR LR 15 04 36.5
comp=Z,22nm,18.2s,baz=229,slow=34
AFI Afiamalu 94.29 253 LR LR 15 01 24.8
comp=Z,23nm,18.7s,baz=126,slow=30
MBAR Mbarara 99.61 95 LR LR 15 10 42.5
comp=Z,36nm,18.8s,baz=244,slow=34
ASAR Alice Springs 125.96 208 PKP PKPdf 14 32 54.5 +0.1
comp=Z,2.1nm,0.6s,baz=127,slow=1.7,SNR=23
ASAR pPKP pPKPdf 14 33 12.2 -0.3
comp=Z,0.9nm,0.7s,baz=115,slow=1.5,SNR=3.0
H11S2 WAKE ISLAND Hy127.11 275 T T 16 52 45.9
baz=108,slow=75,SNR=142
H11S1 WAKE ISLAND Hy127.12 275 T T 16 52 46.0
baz=108,slow=75,SNR=91
H11S3 WAKE ISLAND Hy127.12 275 T T 16 52 53.1
baz=108,slow=75,SNR=93
H11N3 WAKE ISLAND Hy127.29 276 T T 16 53 05.4
baz=107,slow=75,SNR=13
H11N1 WAKE ISLAND Hy127.31 276 T T 16 53 06.0
baz=107,slow=75,SNR=8.8
H11N2 WAKE ISLAND Hy127.31 276 T T 16 53 05.8
baz=107,slow=75,SNR=11
WRA Warramunga Arr 129.04 210 PKP PKiKP 14 33 00.8 -0.2
comp=Z,3.9nm,0.8s,baz=155,slow=1.7,SNR=17
WRA pPKP pPKPdf 14 33 19.2 +0.7
comp=Z,1.3nm,0.4s,baz=163,slow=1.8,SNR=4.2
EKS2 Erkin-Say 145.82 51 P PKiKP 14 33 33.3 -1.3
SNR=5.6
ZALV Zalesovo Beam 145.93 26 PKPbc PKPab 14 33 31.2 -0.2
comp=Z,9.0nm,0.7s,baz=306,slow=4.0,SNR=35
ZALV pPKPbc pPKPab 14 33 49.2 -0.1
comp=Z,21nm,0.9s,baz=316,slow=4.1,SNR=21
AML Almayashu 145.93 52 P PKiKP 14 33 33.9 -1.3
SNR=8.3
USP Ospenovka 146.12 49 P PKiKP 14 33 50.9 +16
SNR=6.6
AAK Ala-Archa 146.33 50 P PKPab 14 33 33.9 +0.3
SNR=7.6
UCH Uchtor 146.48 51 P PKPab 14 33 34.4 -0.2
SNR=8.6
SIJI Sorong 146.67 222 PKPbc PKPbc 14 33 34.8 +0.5
comp=Z,13nm,0.9s,baz=91,slow=3.6,SNR=6.6
TKM2 Tokmak 2 146.99 49 P PKPbc 14 33 34.5 -0.1
SNR=6.8
KAPI Kappang 148.30 199 PKPbc PKiKP 14 33 39.7 -0.7
comp=Z,11nm,0.8s,baz=70,slow=4.2,SNR=5.6
KSH Kashi 148.35 55 PKPbc PKPbc 14 33 37.1 -1.2
MKAR Makanchi Array 149.41 39 PKPbc PKiKP 14 33 41.2 -0.5
comp=Z,4.8nm,0.7s,baz=306,slow=2.7,SNR=33
MKAR pPKPbc pPKPbc 14 33 59.0 +0.2
comp=Z,10nm,0.8s,baz=319,slow=2.5,SNR=20
WMQ Urumqi 154.24 39 *e*P PKPdf 14 33 43.1 -0.5
SONM Songino Array 157.41 6 PKP PKPdf 14 33 47.6 -0.1
comp=Z,0.3nm,0.4s,baz=90,slow=1.5,SNR=3.9
SONM PKPab PKPab 14 34 21.0 +1.7
comp=Z,0.8nm,0.8s,baz=339,slow=3.7,SNR=3.7
SONM pPKPab pPKPab 14 34 38.5 +1.5
comp=Z,1.2nm,1.0s,baz=359,slow=5.9,SNR=3.3
GTA Gaotai 163.66 29 *e*P PKPab 14 34 48.5 +1.6
GTA pP pPKPab 14 35 05.4 +0.8
HHC Hu-ho-hao-te 164.49 355 *e*P PKPdf 14 33 57.8 +2.3
CMAR Chiang Mai Arr 167.79 122 PKP PKPdf 14 33 59.9 +1.2
comp=Z,0.3nm,0.3s,baz=242,slow=1.8,SNR=6.2
CMAR PKPab PKPab 14 35 05.3 -0.2
comp=Z,0.3nm,0.3s,baz=244,slow=3.9,SNR=1.6

---

*IDC **08** 14:25:46.8±1.9, 19°.01N×145°.47E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=172.6km s-min=24.5km az=114.0*

*NEIC **08** 14:26:09.2±2.1, 18°.69N±0°.10×145°.5E±0°.2, h195km±10km, mb4.2/16, Error ellipse: s-maj=32.2km s-min=14.3km az=88.0*

ISC 08 14:26:09.2±0.7**, 18°.7N**±0°.1×**145°.6E**±0°.2**, h200**km**, n26, σ1s.14/26, mb4.2/13, Mariana Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MANU Manus Island 20.69 175 P P 14 30 32.0 -2.1
KS19 Wonju Array Si 24.30 324 P P 14 31 06.8 -1.5
JKA Kamikawa-asahi 25.46 355 P P 14 31 16.3 -2.4
COEN Coen 32.54 184 P P 14 32 21.9 +0.3
WB0 Warramunga Arr 39.77 197 P P 14 33 23.0 +0.2
WR0 Warramunga Arr 39.91 196 P P 14 33 24.2 +0.2
WR0 IAmb IAmb 14 33 25.0
comp=Z,9.3nm,1.3s
WB2 Warramunga Arr 39.95 197 P P 14 33 24.4 +0.2
WRA Warramunga Arr 39.95 197 P P 14 33 25.1 +0.8
comp=Z,1.2nm,0.3s,baz=18,slow=8.6,SNR=9.4
comp=Z,1.2nm,0.3s
ASAR Alice Springs 43.62 196 P P 14 33 55.5 +1.6
comp=Z,0.2nm,0.4s,baz=18,slow=12,SNR=4.2
comp=Z,0.2nm,0.4s
ASAR Alice Springs 43.62 196 P P 14 33 53.3 -0.7
TNCH TengChong 43.93 287 *e*P P 14 33 58.2 +1.4
TNCH pP pP 14 34 15.9 -23
TNCH pmax pmax
comp=Z,10.0nm,0.6s
SKT Skwentna 61.01 29 P P 14 36 01.8 +0.5
SKT IAmb IAmb 14 36 31.3
comp=Z,11nm,1.4s
CAST Castle Rocks 61.16 27 P P 14 36 03.3 +1.0
CAST IAmb IAmb 14 36 45.6
comp=Z,6.5nm,1.3s
H21K Melozitna Rive 61.53 25 P P 14 36 05.2 +0.4
H21K IAmb IAmb 14 36 36.8
comp=Z,6.1nm,1.4s
MLY Manley 62.17 25 P P 14 36 10.1 +1.0
I23K Minto, Yukon-K 62.77 26 P P 14 36 14.5 +1.6
I23K IAmb IAmb 14 36 37.1
comp=Z,4.6nm,1.3s
MDM Murphy Dome 63.19 26 P P 14 36 16.1 +0.4
MDM IAmb IAmb 14 36 58.9
comp=Z,6.1nm,1.4s
TOLK Toolik Lake Re 63.64 22 P P 14 36 19.8 +1.1
ILAR Eielson Array 63.70 26 P P 14 36 18.7 -0.4
comp=Z,0.2nm,0.4s,baz=254,slow=6.2,SNR=5.6
comp=Z,0.2nm,0.4s
J26L Joseph Creek 65.06 27 P P 14 36 27.6 -0.5
J26L IAmb IAmb 14 36 44.8
comp=Z,6.5nm,1.4s
BMAR Burnt Mountain 65.17 24 P P 14 36 30.5 +1.9
BCAR Beaver Creek A 65.64 28 P P 14 36 32.7 +1.0
C36M Paulatuk 72.80 22 P P 14 37 15.4 0.0
C36M IAmb IAmb 14 37 47.2
comp=Z,6.6nm,1.3s
ABKAR Akbulak array 73.24 317 P P 14 37 18.2 -0.3
NVAR Mina Array Bea 83.25 52 P P 14 38 14.6 +0.8
comp=Z,0.5nm,0.6s,baz=262,slow=5.4,SNR=5.6
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 83.25 52 P P 14 38 13.8 -0.1

---

*SKHL **08** 15:00:20.5±0.9, 43°.52N×133°.15E, h480km±8km, mb3.9/3, msh3.6/1*

*IDC **08** 15:00:20.3±0.9, 43°.52N×133°.00E, h470km±12km, mb2.7/8, mbtmp3.7/13, Error ellipse: s-maj=19.6km s-min=13.4km az=97.0*

*JMA **08** 15:00:23.0±0.5, 43°N±2°×13°4E±°, h560km, MV4.0/40,*

NEAR VLADIVOSTOK

ISC 08 15:00:20.8±0.6**, 43°.47N**±0°.07×**133°.26E**±0°.07**, h500**km**, n32,**
σ**2s31**/41**, mb3.1**/8**, 1C, Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTR	**Gornotajezhnoj**	**0.84**	**287**	⇑*i*P	**P**	**15 01 20.4**	**-1.2**
GRTR				AMB	AMB	15 01 20.5	
	13nm,0.4s						
GRTR				*i* S	**S**	**15 02 07.0**	**-4.1**
GRTR				A	A	15 02 07.6	
	11nm,0.7s						
GRTR				A	A	15 02 07.6	
	22nm,0.7s						
USRK	**Ussuriysk Ar.**	**1.18**	**309**	P	**P**	**15 01 19.0**	**-3.4**
	2.4nm,0.3s,baz=72,slow=2.1,SNR=39						
TEY	**Ternei**	**2.87**	**56**	*e*P	**P**	**15 01 31.2**	**+0.5**
TEY				AMB	AMB	15 01 32.3	
	20nm,0.6s						
JIW	**Iwasaki**	**5.79**	**117**	*e*P	**P**	**15 01 56.4**	**+1.3**
KLR	**Kul'dur**	**5.86**	**350**	P	**P**	**15 01 54.1**	**-1.4**
	7.9nm,0.4s,baz=180,slow=11,SNR=42						
KLR	**Kul'dur**	**5.86**	**350**	*e*P	**P**	**15 01 54.7**	**-0.8**
KLR				*e*S	**S**	**15 03 09.8**	**-3.4**
JRG	**Rokugo**	**6.87**	**124**	P	**P**	**15 02 07.1**	**+1.4**
JRG				*e*S	**S**	**15 03 31.0**	**-0.6**
KSRS	**Korea Array**	**7.25**	**216**	P	**P**	**15 02 06.2**	**-3.4**
	6.8nm,0.7s,baz=29,slow=9.6,SNR=5.7						
JCH	**Churui**	**7.45**	**93**	P	**P**	**15 02 11.5**	**0.0**
JCH				*e*S	**S**	**15 03 38.0**	**-4.2**
JMK	**Ichinoseki**	**7.51**	**124**	P	**P**	**15 02 12.3**	**+0.2**
JMK				*e*S	**S**	**15 03 39.2**	**-4.1**
JTKR	**Abashiri--Toko**	**7.73**	**83**	*e*P	**P**	**15 02 15.8**	**+1.6**
MJAR	**Matsushiro Arr**	**7.89**	**150**	P	**P**	**15 02 16.3**	**+0.1**
	3.0nm,0.5s,baz=338,slow=11,SNR=8.1						
JNG	**Nsakai**	**7.97**	**151**	*e*P	**P**	**15 02 18.8**	**+1.8**
JMM	**Marumori**	**8.00**	**132**	P	**P**	**15 02 17.1**	**-0.1**
JMM				*e*S	**S**	**15 03 48.6**	**-4.1**
JWT	**Wachi**	**8.34**	**168**	*e*P	**P**	**15 02 23.6**	**+2.8**
JFK	**Kawauchi**	**8.42**	**134**	P	**P**	**15 02 21.1**	**-0.5**
JFK				S	**S**	**15 03 55.9**	**-4.8**
JHS	**Saijyo**	**8.46**	**181**	*e*P	**P**	**15 02 24.3**	**+2.2**
AKK	**Akkeshi**	**8.47**	**89**	*e*P	**P**	**15 02 24.2**	**+2.3**
AKK				*e*S	**S**	**15 04 00.6**	**-0.9**
JRY	**Ryogami san**	**8.62**	**148**	*e*P	**P**	**15 02 24.9**	**+1.2**
NEM2	**Nemuro 2**	**9.09**	**86**	P	**P**	**15 02 29.5**	**+1.1**
NEM2				*e*S	**S**	**15 04 09.7**	**-3.7**
JOD2	**Odawara 2**	**9.35**	**149**	*e*P	**P**	**15 02 31.9**	**+0.6**
BSO1	**Boso 1**	**10.65**	**143**	*e*P	**P**	**15 02 45.3**	**+0.9**
YAK	**Yakutsk**	**18.72**	**355**	P	**P**	**15 04 06.7**	**-0.5**
	2.4nm,0.3s,baz=162,slow=5.1,SNR=6.3						
PETK	**Petropavlovsk-**	**18.82**	**51**	P	**P**	**15 04 10.4**	**+2.0**
	2.4nm,0.9s,baz=224,slow=8.1,SNR=2.4						
TIXI	**Tiksi**	**28.34**	**357**	P	**P**	**15 05 33.2**	**+0.1**
	0.7nm,0.3s,baz=293,slow=0.2,SNR=5.5						
	0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**33.02**	**306**	P	**P**	**15 06 13.4**	**-0.2**
	0.9nm,0.4s,baz=96,slow=7.6,SNR=3.8						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**35.60**	**294**	P	**P**	**15 06 34.7**	**-0.8**
	0.2nm,0.5s,baz=75,slow=13,SNR=2.5						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.14**	**240**	P	**P**	**15 06 57.8**	**+1.1**
	0.7nm,0.7s,baz=33,slow=7.6,SNR=6.8						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**47.60**	**35**	P	**P**	**15 08 12.8**	**+2.7**
	0.2nm,0.5s,baz=278,slow=8.2,SNR=4.0						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**60.14**	**328**	P	**P**	**15 09 39.9**	**+1.0**
	1.5nm,0.5s,baz=74,slow=11,SNR=7.2						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**63.10**	**179**	P	**P**	**15 10 01.3**	**+2.5**
	0.1nm,0.4s,baz=351,slow=7.1,SNR=1.1						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**66.80**	**179**	P	**P**	**15 10 24.6**	**+2.4**
	0.2nm,0.8s,baz=358,slow=7.0,SNR=1.8						
	0.2nm,0.8s						

WEL 08 15:06:58.7±0.7**, 35°S**±10°×**18°0W**±1°6**, h277**km±7km**,**
M3.6/16**, mB4.3**/9**, ML4.3**/33**, MLv3.8**/16**, Mw(mB)3.4**/9**,**
Error ellipse: s-maj=0.0km s-min=0.0km az=118.8,
South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.98**	**207**	P	Pn	15 07 51.8	-0.7
MXZ				S	S	15 08 34.0	-1.4
PKGZ	**Pakihiroa**	**3.35**	**208**	P	Pn	15 07 55.8	-0.8
PKGZ				S	S	15 08 41.7	-1.0
HAZ	**Te Kaha**	**3.36**	**212**	P	Pn	15 07 56.1	-0.5
HAZ				S	S	15 08 41.4	-1.2
PUZ	**Puketiti**	**3.45**	**204**	P	Pn	15 07 57.3	-0.2
PUZ				S	S	15 08 44.9	+0.3
RUGZ	**Raukumara Rang**	**3.58**	**211**	P	Pn	15 07 58.5	-0.6
RUGZ				S	S	15 08 47.5	+0.3
CNGZ	**Carnagh Statio**	**3.84**	**202**	P	Pn	15 08 02.5	+0.7
OPRZ	**Ohinepanea**	**4.04**	**223**	P	Pn	15 08 02.8	-1.3
MARZ	**Manawahe**	**4.08**	**221**	P	Pn	15 08 05.4	+0.8
MUGZ	**Murupara**	**4.41**	**216**	P	Pn	15 08 07.4	-1.0
MUGZ				S	S	15 09 03.4	-0.6
SNGZ	**Shannon Statio**	**4.41**	**209**	P	Pn	15 08 08.2	-0.2
SNGZ				S	S	15 09 05.2	+1.0
RTZ	**Ruatahuna**	**4.42**	**213**	P	Pn	15 08 07.2	-1.4
RTZ				S	S	15 09 04.0	-0.5
RAHZ	**Arahi**	**4.63**	**210**	P	Pn	15 08 10.4	-0.5
RAHZ				S	S	15 09 10.4	+1.7
MTHZ	**Maungataniwha**	**4.68**	**212**	P	Pn	15 08 11.1	-0.4
MTHZ				S	S	15 09 11.1	+1.3
MRHZ	**Matea Rd**	**4.86**	**216**	P	Pn	15 08 14.1	+0.4
MRHZ				S	S	15 09 15.6	+1.9
NMHZ	**Naumai**	**4.90**	**211**	P	Pn	15 08 15.5	+1.4
BKZ	**Black Stump Fm**	**5.09**	**213**	P	Pn	15 08 15.6	-0.9
BKZ				S	S	15 09 18.4	-0.3
MCHZ	**McNeill Hill**	**5.24**	**210**	P	Pn	15 08 18.7	+0.6
MCHZ				S	S	15 09 25.4	+3.7
KWHZ	**Kaweka Forest**	**5.33**	**212**	P	Pn	15 08 19.9	+0.5
KWHZ				S	S	15 09 26.7	+2.7
NTVZ	**North Tongarir**	**5.43**	**219**	P	Pn	15 08 21.5	+0.9
ETVZ	**East Tongariro**	**5.44**	**218**	P	Pn	15 08 21.3	+0.6
KAHZ	**Kahuranaki**	**5.47**	**206**	P	Pn	15 08 20.9	0.0
OTVZ	**Oturere**	**5.48**	**218**	P	Pn	15 08 21.8	+0.6
HIZ	**Hauiti**	**5.48**	**228**	P	Pn	15 08 23.3	+2.2
SNVZ	**South Ngauruho**	**5.51**	**218**	P	Pn	15 08 22.1	+0.5
BHHZ	**Black Hill Sta**	**5.55**	**214**	P	Pn	15 08 21.8	-0.1
PXZ	**Pawanui**	**5.68**	**205**	P	Pn	15 08 22.9	-0.6
PXZ				S	S	15 09 32.6	+1.1
MTVZ	**Mangateitei**	**5.75**	**218**	P	Pn	15 08 25.4	+1.0
PNHZ	**Pukenui**	**5.84**	**210**	P	Pn	15 08 25.3	-0.1
PNHZ				S	S	15 09 36.1	+1.1
WPHZ	**Waipukurau**	**5.87**	**208**	P	Pn	15 08 26.6	+0.9
WPHZ				S	S	15 09 38.8	+3.1
PRHZ	**Porangahau**	**5.97**	**206**	P	Pn	15 08 26.2	-0.8
PRHZ				S	S	15 09 39.5	+1.5
TSZ	**Takapari Road**	**6.06**	**211**	P	Pn	15 08 28.1	0.0
TSZ				S	S	15 09 41.1	+1.2
DVHZ	**Dannevirke**	**6.18**	**209**	P	Pn	15 08 30.0	+0.5
DVHZ				S	S	15 09 43.3	+0.7
BFZ	**Birch Farm**	**6.48**	**206**	P	Pn	15 08 33.3	+0.1
BFZ				S	S	15 09 50.0	+0.8
TIWZ	**Tintock**	**6.70**	**208**	P	Pn	15 08 36.2	+0.3
TIWZ				S	S	15 09 54.9	+0.7
MRZ	**Mangatainoka R**	**6.72**	**210**	P	Pn	15 08 35.9	-0.2
MRZ				S	S	15 09 53.3	-1.3
HOWZ	**Holdsworth Sta**	**6.95**	**210**	P	Pn	15 08 38.7	-0.3
HOWZ				S	S	15 09 58.1	-1.7
OGWZ	**Otaki Gorge**	**7.02**	**212**	P	Pn	15 08 39.6	-0.3
OGWZ				S	S	15 10 00.6	-0.9
MTW	**Mount Morrison**	**7.17**	**209**	P	Pn	15 08 41.6	-0.1
MTW				S	S	15 10 03.9	-0.9
KIW	**Kapiti Island**	**7.17**	**213**	P	Pn	15 08 41.2	-0.6
KIW				S	S	15 10 02.5	-2.4
CAW	**Cannon Point**	**7.31**	**211**	P	Pn	15 08 42.5	-0.9
TRWZ	**Traveller**	**7.31**	**207**	P	Pn	15 08 44.4	+1.0
TRWZ				S	S	15 10 08.1	+0.2
WEL	**Wellington**	**7.58**	**212**	P	Pn	15 08 46.7	-0.1
DUWZ	**D'Urville Isla**	**7.60**	**218**	P	Pn	15 08 46.7	-0.4
DUWZ				S	S	15 10 14.6	+0.1
PLWZ	**Palliser**	**7.62**	**208**	P	Pn	15 08 47.2	-0.1
PLWZ				S	S	15 10 14.5	-0.6
TCW	**Tory Channel**	**7.74**	**214**	P	Pn	15 08 47.7	-1.0
TCW				S	S	15 10 16.2	-1.5

*IDC **08** 15:09:00.6±1.9, 30°.63N×50°.81E, h0km, mb3.8/3, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=52.2km s-min=33.3km az=60.0*
*TEH **08** 15:09:00.5, 30°.76N×50°.98E, h8km, ML3.3*

ISC 08 15:09:02.6±0.8**, 30°.67N**±0°.05×**51°.00E**±0°.04**, h19**km**, n52,**
σ**2s00**/55**, mb4.0**/3**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.61**	**56**	*e*Pg	**Pb**	**15 09 11.9**	**-2.8**
KLNJ				*e*		15 09 22.9	
	comp=Z,26µm,0.4s						
ABEH	**Behbahan**	**0.65**	**264**	*e*Pg	**Pb**	**15 09 14.0**	**-1.2**
ABEH				*e*Sg	**Sb**	**15 09 24.0**	**+0.1**
ABEH				*e*		15 09 32.8	
	comp=Z,59µm,0.7s						
KAZ1	**Kazerun**	**1.18**	**152**	*e*Pg	**Pn**	**15 09 25.5**	**+1.4**
IBRJ	**Brojen**	**1.25**	**10**	*e*Pg	**Pn**	**15 09 23.0**	**-2.4**
IBRJ				*e*Sg	**Sb**	**15 09 42.5**	**+0.8**
IBRJ				*e*		15 09 49.2	
	comp=Z,4µm,0.5s						
IRAM	**Ramesheh**	**1.64**	**46**	*e*Pn	**Pn**	**15 09 30.8**	**+0.2**
IRAM				*e*		15 09 58.4	
	comp=Z,3µm,0.6s						
SHK1	**Shahrekord**	**1.66**	**357**	*e*Pn	**Pn**	**15 09 31.1**	**+0.2**
SHK1				*e*		15 10 01.0	
	comp=Z,3µm,0.8s						
SHI	**Shiraz**	**1.66**	**128**	*e*Pn	**Pn**	**15 09 33.2**	**+2.3**
SHI				*e*		15 10 07.7	
	comp=Z,6µm,0.7s						
AMIS	**Naft Sefid**	**1.77**	**304**	*e*Pn	**Pn**	**15 09 33.2**	**+0.9**
AHBU	**AHRAM**	**1.82**	**172**	*e*Pn	**Pn**	**15 09 35.7**	**+2.9**
AHBU				*e*		15 10 04.8	
	comp=Z,99nm,0.4s						
IGAR	**Gharneh**	**1.94**	**27**	*e*Pn	**Pn**	**15 09 36.2**	**+1.4**
IPIR	**Pirpir**	**2.01**	**357**	*e*Pn	**Pn**	**15 09 37.0**	**+1.2**
IPIR				*e*		15 10 08.1	
	comp=Z,2µm,0.5s						
AHWZ	**Ahwaz**	**2.13**	**289**	*e*Pn	**Pn**	**15 09 38.4**	**+1.3**
IZEF	**Zefreh**	**2.49**	**27**	*e*Pn	**Pn**	**15 09 44.0**	**+1.6**
ISAD	**Sadrabad**	**2.61**	**61**	*e*Pn	**Pn**	**15 09 46.1**	**+2.1**
ISAD				*e*		15 10 29.2	
	comp=Z,1µm,0.9s						
NASN	**Na'in**	**2.62**	**35**	*e*Pn	**Pn**	**15 09 46.6**	**+2.4**
IKLH	**Kolahrood**	**2.69**	**10**	*e*Pn	**Pn**	**15 09 45.9**	**+0.9**
IKLH				*e*		15 10 39.3	
	comp=Z,866nm,0.6s						
QIR1	**Qir**	**2.82**	**140**	*e*Pn	**Pn**	**15 09 48.8**	**+2.1**
QAMS	**Qamsar**	**3.08**	**6**	*e*Pn	**Pn**	**15 09 52.0**	**+1.6**
QAMS				*e*		15 10 50.4	
	comp=Z,832nm,0.4s						
IMEH	**Mehriz**	**3.18**	**76**	*e*Pn	**Pn**	**15 09 54.3**	**+2.5**
IMEH				*e*		15 10 11.8	
	comp=Z,362nm,0.4s						
KHMZ	**Khomeyn**	**3.18**	**344**	*e*Pn	**Pn**	**15 09 54.2**	**+2.3**
ANAR	**Anarak**	**3.42**	**42**	*e*Pn	**Pn**	**15 09 57.2**	**+2.2**
KRSH	**Karshahi**	**3.43**	**16**	*e*Pn	**Pn**	**15 09 56.4**	**+1.3**
YZKH	**Yazd**	**3.51**	**60**	*e*Pn	**Pn**	**15 09 59.2**	**+3.0**
IKMR	**Kamar-syah**	**3.61**	**323**	*e*Pn	**Pn**	**15 09 58.5**	**+1.1**
GHVR	**GHOM**	**3.81**	**4**	*e*Pn	**Pn**	**15 10 02.9**	**+2.6**
ISFB	**Sefidab**	**3.82**	**16**	*e*Pn	**Pn**	**15 10 01.5**	**+1.1**
IKFM	**Kafar-mosalman**	**3.91**	**318**	*e*Pn	**Pn**	**15 10 02.9**	**+1.4**
IDOB	**Doab**	**3.92**	**323**	*e*Pn	**Pn**	**15 10 03.3**	**+1.3**
ASAO	**Ashtian**	**3.95**	**348**	*e*Pn	**Pn**	**15 10 04.5**	**+2.0**
HSAM	**Samen**	**4.07**	**331**	*e*Pn	**Pn**	**15 10 05.0**	**+0.9**
HSAM				*e*		15 11 01.6	
	comp=Z,248nm,0.4s						
IQOM	**Qom**	**4.16**	**1**	*e*Pn	**Pn**	**15 10 06.0**	**+0.7**
IVRN	**Varamin**	**4.36**	**8**	*e*Pn	**Pn**	**15 10 08.9**	**+1.1**
HAGD	**Aghdareh**	**4.43**	**340**	*e*Pn	**Pn**	**15 10 08.4**	**-0.6**
IKOM	**Komasi**	**4.57**	**321**	*e*Pn	**Pn**	**15 10 11.6**	**+0.7**
DAMV	**Damavand**	**5.01**	**9**	*e*Pn	**Pn**	**15 10 18.0**	**+1.0**
ILBA	**Ilam Banvizeh**	**5.02**	**307**	*e*Pn	**Pn**	**15 10 19.4**	**+2.4**
KRBR	**Kerman**	**5.03**	**96**	*e*Pn	**Pn**	**15 10 20.5**	**+3.2**
QABG	**Abgarm-Qazvin**	**5.16**	**347**	*e*Pn	**Pn**	**15 10 20.2**	**+1.1**
CHTH	**Charan**	**5.22**	**1**	*e*Pn	**Pn**	**15 10 23.8**	**+3.9**
IGHG	**Ghaleghazi**	**5.23**	**315**	*e*Pn	**Pn**	**15 10 21.2**	**+1.2**
SNGE	**Sanandaj**	**5.38**	**326**	*e*Pn	**Pn**	**15 10 24.4**	**+2.4**
ILIN	**Lien**	**5.43**	**322**	*e*Pn	**Pn**	**15 10 23.5**	**+0.7**
IDHR	**Dehrash**	**5.59**	**317**	*e*Pn	**Pn**	**15 10 25.0**	**+0.1**
QALM	**Alamut, Qazvin**	**5.75**	**357**	*e*Pn	**Pn**	**15 10 28.5**	**+1.3**
TABS	**Tabas**	**5.98**	**59**	*e*Pn	**Pn**	**15 10 32.4**	**+2.3**
GIDE	**GILAN DEYLAMAN**	**6.30**	**352**	*e*Pn	**Pn**	**15 10 38.2**	**+3.5**
BSRN	**Basiran**	**7.07**	**77**	*e*Pn	**Pn**	**15 10 48.3**	**+3.1**
MRVT	**Maraveh tapeh**	**8.14**	**30**	*e*Pn	**Pn**	**15 11 02.4**	**+2.5**
WSAR	**Wadi Sarin**	**10.05**	**136**	Pn	**Pn**	**15 11 27.5**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=336,slow=10.0,SNR=5.0						
WSAR				Sn	**Sn**	**15 13 13.4**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=105,slow=20,SNR=1.8						
	comp=Z,4.6nm,0.7s						
AKASG	**Malin Array Be**	**25.77**	**327**	P	**P**	**15 14 32.6**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=137,slow=9.4,SNR=3.2						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**34.86**	**339**	P	**P**	**15 15 52.8**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=148,slow=11,SNR=3.9						
	comp=Z,3.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**48.55**	**260**	P	**P**	**15 17 44.5**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=55,slow=8.9,SNR=5.2						
	comp=Z,0.8nm,0.6s						

*NEIC **08** 15:26:04.8±1.0, 17°.5S±0°.2×178°.4W±0°.2, h539km±14km, mb4.3/15, Error ellipse: s-maj=31.7km s-min=21.1km az=158.0*
*IDC **08** 15:26:06.0±3.3, 17°.31S×178°.71W, h549km±20km, mb3.2/4, mbtmp4.1/5, Error ellipse: s-maj=106.2km s-min=31.2km az=140.0*

ISC 08 15:26:04.7±0.8**, 17°.4S**±0°.2×**178°.4W**±0°.1**, h547**km**, n25,**
σ**0s61**/27**, mb4.2**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.36**	**264**	P	**P**	**15 27 22.1**	**+0.1**
	18nm,0.7s,baz=115,slow=13,SNR=11						
MSVF	**Nonsavu**	**3.36**	**264**	P	**P**	**15 27 21.6**	**-0.3**
AFI	**Afiamalu**	**7.31**	**62**	P	**P**	**15 27 54.6**	**-1.1**
NIUE	**Niue**	**8.26**	**103**	P	**P**	**15 28 04.9**	**-0.1**
LTZ	**Lake Taylor**	**26.48**	**195**	P	**P**	**15 30 58.8**	**+0.2**
ARMA	**Armidale**	**30.16**	**239**	P	**P**	**15 31 31.1**	**+0.3**
CTAO	**Charters Tower**	**33.50**	**260**	P	**P**	**15 31 58.4**	**-1.0**
CTAO				IAmb	IAmb	15 32 33.7	
	comp=Z,14nm,1.4s						
COEN	**Coen**	**37.07**	**270**	P	**P**	**15 32 29.5**	**+0.4**
TOO	**Toolangi**	**37.45**	**230**	P	**P**	**15 32 31.5**	**-0.4**
TOO				IAmb	IAmb	15 32 35.4	
	comp=Z,6.7nm,1.1s						
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**15 32 42.4**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=58,slow=7.9,SNR=6.9						
	comp=Z,1.3nm,0.4s						
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**15 32 43.3**	**+0.1**
BBOO	**Buckleboo**	**43.61**	**241**	P	**P**	**15 33 20.9**	**-0.1**
WB0	**Warramunga Arr**	**44.65**	**259**	P	**P**	**15 33 29.4**	**+0.1**
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**15 33 28.4**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=95,slow=8.1,SNR=19						
WRA				PcP	**PcP**	**15 35 00.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=96,slow=2.7,SNR=2.0						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**15 33 29.2**	**-0.4**
AS31	**Alice Springs**	**44.89**	**254**	P	**P**	**15 33 30.8**	**-0.3**
AS31				IAmb	IAmb	15 33 31.6	
	comp=Z,3.9nm,0.6s						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**15 33 31.0**	**-0.1**
	comp=Z,12nm,0.6s,baz=88,slow=8.1,SNR=301						
ASAR				PcP	**PcP**	**15 35 01.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=101,slow=3.4,SNR=4.9						
	comp=Z,12nm,0.6s						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**15 33 30.8**	**-0.3**
MTN	**Manton Dam**	**48.78**	**268**	P	**P**	**15 34 00.3**	**-0.1**
MTN				IAmb	IAmb	15 34 16.6	
	comp=Z,19nm,1.4s						
FORT	**Forrest**	**50.19**	**244**	P	**P**	**15 34 10.1**	**-0.5**
FORT				IAmb	IAmb	15 34 40.4	
	comp=Z,24nm,1.1s						
PSA00	**Pilbara Seismi**	**58.00**	**255**	P	**P**	**15 35 05.5**	**-0.3**
PSA00				IAmb	IAmb	15 35 06.4	
	comp=Z,14nm,0.9s						
GIRL	**Giralia**	**63.00**	**253**	P	**P**	**15 35 39.7**	**+0.9**
UGM	**Wanagama**	**69.63**	**268**	P	**P**	**15 36 20.3**	**+0.3**
ILAR	**Eielson Array**	**85.43**	**13**	P	**P**	**15 37 44.5**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=224,slow=5.5,SNR=1.8						
	comp=Z,0.2nm,0.4s						
BMAR	**Burnt Mountain**	**88.20**	**12**	P	**P**	**15 37 58.6**	**+1.3**

*CNRM **08** 15:28:30.6, 36°.84N×8°.90W, h36km, ml2.5*
*MDD **08** 15:28:30.6±0.6, 36°.97N×8°.92W, h13km±3km, mb_Lg3.1/23, Error ellipse: s-maj=4.6km s-min=2.9km az=58.0*
*INMG **08** 15:28:33.4±2.2, 36°.97N×8°.88W, h29km±3km, ML2.5, Error ellipse: s-maj=6.5km s-min=3.0km az=61.0*

ISC 08 15:28:31.8±1.0**, 37°.01N**±0°.03×**8°.86W**±0°.04**, h31**km**, n70,**
σ**1s41**/132**, 8C-2D, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**0.11**	**276**	⇓*e*Pg	**Pb**	**15 28 37.9**	**+0.6**
PSVI				*e*Sg	**Sb**	**15 28 41.8**	**+0.7**
PSVI				A	A	15 28 42.8	
	748nm,0.4s						
PFVI	**Vila Bisbo**	**0.12**	**11**	⇓*i*Pg	**Pn**	**15 28 39.0**	**+1.4**
PFVI				*e*Sg	**Sn**	**15 28 42.9**	**+1.8**
PFVI				A	A	15 28 44.1	
	593nm,0.3s						
PFVI	**Vila Bisbo**	**0.12**	**11**	P	**Pn**	**15 28 39.0**	**+1.4**
PFVI				S	**Sn**	**15 28 44.2**	**+3.1**
PLAGO	**Lagos**	**0.16**	**58**	*e*Sg	**Sn**	**15 28 44.5**	**+2.5**
PLAGO				A	A	15 28 44.7	
	569nm,0.4s						
PPOR	**Portimao**	**0.28**	**65**	*e*Pg	**Pn**	**15 28 41.0**	**+1.2**
PPOR				*e*Sg	**Sn**	**15 28 46.8**	**+1.7**
PPOR				A	A	15 28 48.7	
	408nm,0.3s						
PALJ	**Aljezur**	**0.31**	**9**	*e*Pg	**Pn**	**15 28 41.3**	**+1.1**
PALJ				*e*Sg	**Sn**	**15 28 45.6**	**-0.1**
PALJ				A	A	15 28 48.3	
	581nm,0.7s						
MORF	**Marmelete**	**0.34**	**29**	*e*P	**Pn**	**15 28 41.6**	**+1.0**
MORF				*e*S	**Sn**	**15 28 47.4**	**+0.9**
MORF				IAML		15 28 48.1	
	comp=N,640nm,0.2s						
PALBU	**Albufeira**	**0.49**	**80**	*e*Sg	**Sn**	**15 28 51.1**	**+0.9**
PALBU				A	A	15 28 54.3	
	comp=N,395nm,0.6s						
PTEO	**Sao Teotonio**	**0.54**	**11**	⇑*e*Pg	**Pn**	**15 28 44.4**	**+1.0**
PTEO				*e*Sg	**Sn**	**15 28 52.8**	**+1.3**
PTEO				A	A	15 28 54.0	
	comp=N,197nm,0.2s						
PFARO	**Faro**	**0.75**	**89**	*e*S	**Sn**	**15 28 57.3**	**+0.8**
PCVE	**Castro Verde**	**0.90**	**46**	⇑*e*P	**Pb**	**15 28 49.5**	**+0.6**
PCVE				*e*S	**Sb**	**15 29 01.6**	**+1.0**
PCVE				A	A	15 29 04.2	
	comp=N,34nm,0.2s						
PSINE	**Sines**	**0.94**	**360**	*e*S	**Sb**	**15 29 02.1**	**+0.2**
PTAV	**Tavira**	**0.97**	**83**	*e*S	**Sn**	**15 29 02.2**	**+0.3**
MESJ	**Messejana**	**0.97**	**31**	*e*P	**Pb**	**15 28 50.4**	**+0.3**
MESJ				*e*S	**Sb**	**15 29 03.2**	**+0.7**
MESJ				IAML		15 29 04.7	
	comp=E,125nm,0.2s						
PVAQ	**Vaqueiros**	**0.99**	**66**	⇑*i*P	**Pb**	**15 28 50.5**	**+0.1**
PVAQ				*e*S	**Sn**	**15 29 02.9**	**+0.4**
PVAQ				A	A	15 29 04.0	
	comp=E,56nm,0.1s						
PVAQ	**Vaqueiros**	**0.99**	**66**	P	**Pb**	**15 28 50.3**	**-0.1**
PVAQ				S	**Sb**	**15 29 03.9**	**+0.7**
PNCL	**Nicolau / Gran**	**1.13**	**13**	⇑*i*P	**Pb**	**15 28 52.1**	**-0.7**
PNCL				*e*S	**Sn**	**15 29 06.4**	**+0.5**
PNCL				A	A	15 29 11.1	
	comp=E,30nm,0.1s						
EGRO	**El Granado**	**1.21**	**64**	Pg	**Pb**	**15 28 53.4**	**-0.7**
EGRO				Sg	**Sn**	**15 29 08.6**	**+0.6**
EGRO				*i* Vmb_Lg		15 29 14.9	
PBEJ	**Beja**	**1.28**	**38**	⇑*i*P	**Pn**	**15 28 54.4**	**+0.8**
PBEJ				*e*S	**Sn**	**15 29 10.7**	**+0.9**
PBEJ				A	A	15 29 11.6	
	comp=E,25nm,0.2s						
EVO	**Evora**	**1.66**	**24**	*e*Pn	**Pn**	**15 28 59.4**	**+0.6**
EVO				*e*Sn	**Sn**	**15 29 19.1**	**+0.1**
EVO				A	A	15 29 20.2	
	comp=E,58nm,0.1s						
PMST	**Lisbon--Monsan**	**1.74**	**352**	*e*Pn	**Pb**	**15 29 01.3**	**-1.8**
PMST				*e*Sn	**Sn**	**15 29 20.6**	**-0.5**
PMST				A	A	15 29 23.7	
	comp=E,40nm,0.2s						
PACT	**Alcochete**	**1.75**	**1**	*e*Pn	**Pn**	**15 29 01.4**	**+1.4**
PACT				*e*Sn	**Sn**	**15 29 22.5**	**+1.2**
PACT				A	A	15 29 36.4	
	comp=E,57nm,0.5s						
PBAR	**Barrancos**	**1.85**	**51**	*e*Pn	**Pn**	**15 29 02.2**	**+0.8**
PBAR				*e*Sn	**Sn**	**15 29 24.0**	**+0.2**
PBAR				A	A	15 29 28.0	
	comp=E,10nm,0.2s						
EMIN	**Mina Concepcio**	**1.90**	**66**	Pg	**Pn**	**15 29 02.4**	**+0.4**
EMIN				Pn	**Pn**	**15 29 02.5**	**+0.4**
EMIN				Sn	**Sn**	**15 29 25.2**	**+0.3**
EMIN				*i* Vmb_Lg		15 29 27.8	
PMAFR	**Mafra**	**1.97**	**350**	*e*Pn	**Pn**	**15 29 04.4**	**+1.3**
PMAFR				*e*Sn	**Sn**	**15 29 26.7**	**0.0**
PMAFR				A	A	15 29 30.9	
	comp=E,59nm,0.2s						
PESTR	**Estremoz**	**2.11**	**28**	*e*Pn	**Pn**	**15 29 05.4**	**+0.5**
PESTR				*e*Sn	**Sn**	**15 29 30.6**	**+0.5**
PESTR				A	A	15 29 32.6	
	comp=E,5.9nm,0.2s						
PESTR	**Estremoz**	**2.11**	**28**	P	**Pn**	**15 29 05.6**	**+0.6**
PESTR				S	**Sn**	**15 29 32.5**	**+2.4**
PMTG	**Montargil**	**2.11**	**13**	⇑*i*Pn	**Pn**	**15 29 05.7**	**+0.7**
PMTG				*e*Sn	**Sn**	**15 29 29.6**	**-0.6**
PMTG				A	A	15 29 32.7	
	comp=E,12nm,0.2s						
EBAD	**Badajoz**	**2.27**	**39**	Pn	**Pn**	**15 29 07.6**	**+0.4**
EBAD				Sn	**Sn**	**15 29 34.7**	**+0.6**
EBAD				*i* Vmb_Lg		15 29 37.8	
ESPR	**Espera**	**2.41**	**92**	Pn	**Pn**	**15 29 09.7**	**+0.7**
ESPR				Pg	**Pn**	**15 29 09.8**	**+0.7**
ESPR				Sn	**Sn**	**15 29 37.9**	**+0.4**
ESPR				*i* Vmb_Lg		15 29 39.2	
PSBE	**So Bento**	**2.50**	**1**	*e*Pn	**Pn**	**15 29 11.7**	**+1.3**
PSBE				*e*Sn	**Sn**	**15 29 40.1**	**+0.3**
PSBE				A	A	15 29 44.0	
	comp=E,18nm,0.7s						
PMRV	**Marv??o**	**2.67**	**25**	⇑*e*Pn	**Pn**	**15 29 13.3**	**+0.5**
PMRV				*e*Sn	**Sn**	**15 29 43.4**	**-0.7**
PMRV				A	A	15 29 45.3	
	comp=E,23nm,0.2s						
EJIF	**Jimena Fronter**	**2.78**	**101**	Pn	**Pn**	**15 29 15.1**	**+1.0**
ECAB	**El Cabril**	**2.93**	**68**	Pn	**Pn**	**15 29 17.1**	**+0.8**
ECAB				Sn	**Sn**	**15 29 49.3**	**-1.2**
ECAB				*i* Vmb_Lg		15 29 51.8	
ECEU	**Ceuta**	**3.02**	**111**	Pn	**Pn**	**15 29 18.1**	**+0.7**
ECEU				*i* Vmb_Lg		15 29 59.2	
PCBR	**Castelo Branco**	**3.02**	**21**	*e*Pn	**Pn**	**15 29 18.3**	**+0.8**
PCBR				*e*Sn	**Sn**	**15 29 51.9**	**-0.8**
PCBR				A	A	15 29 53.9	
	comp=E,10.0nm,0.2s						
PCAS	**Casmilo, Conde**	**3.05**	**5**	*e*Pn	**Pn**	**15 29 18.9**	**+1.0**
PCAS				*e*Sn	**Sn**	**15 29 52.9**	**-0.4**
PCAS				A	A	15 29 53.8	
	comp=E,12nm,0.5s						
EMIJ	**Mijas**	**3.31**	**97**	Pn	**Pn**	**15 29 22.0**	**+0.5**
EMIJ				Sn	**Sn**	**15 29 58.5**	**-1.3**
EMIJ				*i* Vmb_Lg		15 30 09.7	
MTE	**Manteigas**	**3.54**	**16**	*e*Pn	**Pn**	**15 29 25.3**	**+0.7**
MTE				*e*Sn	**Sn**	**15 30 05.0**	**-0.4**
MTE				A	A	15 30 06.1	
	comp=E,13nm,0.2s						
EADA	**Adamuz**	**3.59**	**70**	Pn	**Pn**	**15 29 26.3**	**+1.0**
EADA				Sn	**Sn**	**15 30 05.6**	**-1.1**
EADA				*i* Vmb_Lg		15 30 08.2	
EPLA	**Plasencia**	**3.75**	**35**	Pn	**Pn**	**15 29 27.8**	**+0.3**
EPLA				Sn	**Sn**	**15 30 10.1**	**-0.5**
EPLA				*i* Vmb_Lg		15 30 11.3	
PVIS	**Viseu**	**3.77**	**11**	*e*Pn	**Pn**	**15 29 28.9**	**+1.0**
PVIS				*e*Sn	**Sn**	**15 30 09.9**	**-1.4**
PVIS				A	A	15 30 12.9	
	comp=E,11nm,0.3s						
EGOR	**Sierra Gorda,**	**3.80**	**87**	Pn	**Pn**	**15 29 29.2**	**+0.9**
EGOR				Sn	**Sn**	**15 30 14.8**	**+2.8**
EGOR				*i* Vmb_Lg		15 30 17.1	
ZHG	**ZHG**	**3.99**	**152**	P	**Pn**	**15 29 28.5**	**-2.4**
ZHG				S	**Sn**	**15 30 14.8**	**-1.9**
ELGU	**Los Guajares,**	**4.19**	**90**	Pn	**Pn**	**15 29 35.2**	**+1.5**
ELGU				Sn	**Sn**	**15 30 23.3**	**+1.7**
ELGU				*i* Vmb_Lg		15 30 35.1	
PVRL	**Vila Real**	**4.35**	**11**	*e*Sn	**Sn**	**15 30 23.4**	**-2.0**
PVRL				A	A	15 30 26.4	
	comp=E,8.7nm,0.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAB	San Pablo	4.36	53	Pn	Pn	15 29 36.3	+0.4
PAB				Sn	Sn	15 30 24.0	-1.7
PAB				i Vmb_Lg		15 30 25.8	
MVO	Moncorvo	4.38	18	ePn	Pn	15 29 36.8	+0.5
MVO				eSn	Sn	15 30 24.7	-1.6
MVO				A	A	15 30 26.4	
	comp=E,6.8nm,0.5s						
POLO	Lamas de Olo	4.43	10	ePn	Pn	15 29 37.8	+0.8
POLO				eSn	Sn	15 30 26.0	-1.6
POLO				A	A	15 30 29.0	
	comp=E,2.1nm,0.6s						
SRHM	Skhour des Reh	4.60	170	P	Pn	15 29 38.5	-0.7
SRHM				S	Sn	15 30 30.6	-1.0
EQES	Quesada	4.67	79	Pn	Pn	15 29 40.5	+0.2
EQES				Sn	Sn	15 30 32.0	-1.5
EQES				i Vmb_Lg		15 30 33.5	
ESDC	Sonseca Array	4.68	54	Pn	Pn	15 29 40.4	+0.1
ESDC				Sn	Sn	15 30 32.7	-0.9
ESDC				i Vmb_Lg		15 30 34.2	
PCAB	Cabril	4.74	8⇑	iPn	Pn	15 29 41.9	+0.8
PCAB				eSn	Sn	15 30 33.0	-2.0
PCAB				A	A	15 30 36.2	
	comp=E,6.1nm,0.1s						
EBER	Berja	4.78	90	Pn	Pn	15 29 42.7	+0.9
EBER				i Vmb_Lg		15 30 34.1	
EBER				Sn	Sn	15 30 37.9	+1.7
ELOB	Lobios	4.89	7	Pn	Pn	15 29 43.4	+0.1
ELOB				Sn	Sn	15 30 36.8	-1.9
ELOB				i Vmb_Lg		15 30 39.3	
PGAV	Gavieira, Arco	4.97	5	ePn	Pn	15 29 45.1	+0.8
PGAV				eSn	Sn	15 30 38.0	-2.8
PGAV				A	A	15 30 40.4	
	comp=E,5.1nm,0.6s						
PBRG	Braganca	5.06	18	ePn	Pn	15 29 46.3	+0.8
PBRG				eSn	Sn	15 30 39.9	-3.0
PBRG				A	A	15 30 42.5	
	comp=E,3.7nm,0.3s						
EZAM	Zamans	5.13	1	Sn	Sn	15 30 43.6	-1.1
GUD	Guadarrama	5.16	44	Pn	Pn	15 29 46.9	-0.1
GUD				Sn	Sn	15 30 44.5	-1.0
GUD				i Vmb_Lg		15 30 47.0	
ECAL	Calabor	5.19	18	Pn	Pn	15 29 47.6	+0.3
ECAL				Sn	Sn	15 30 45.2	-1.0
ECAL				i Vmb_Lg		15 30 53.6	
MD31	MD31	5.33	140	P	Pn	15 29 48.1	-1.3
MD31				S	Sn	15 30 45.7	-4.1
MDT	Midelt	5.45	139	P	Pn	15 29 50.0	-1.0
MDT				S	Sn	15 30 48.5	-4.2
JBK	JBK	5.77	116	P	Pn	15 29 51.9	-3.6
JBK				S	Sn	15 30 56.8	-4.0
EAGO	Agolada(Pontev	5.81	6	Pn	Pn	15 29 55.4	-0.5
EAGO				Sn	Sn	15 30 59.2	-2.3
EAGO				i Vmb_Lg		15 31 06.1	
EMAZ	Mazaricos	5.93	359	Pn	Pn	15 29 56.9	-0.6
EMAZ				Sn	Sn	15 31 00.2	-4.1
EMAZ				i Vmb_Lg		15 31 02.4	
ETOB	Tobarra	6.01	72	Pn	Pn	15 29 58.8	+0.2
ETOB				Sn	Sn	15 31 05.1	-1.3
ETOB				i Vmb_Lg		15 31 35.1	
ETOR	Torete	6.53	52	Pn	Pn	15 30 04.6	-1.2
ETOR				Sn	Sn	15 31 17.3	-1.8
ETOR				i Vmb_Lg		15 31 29.3	
EARI	Arriondas	6.88	23	Pn	Pn	15 30 08.7	-1.8
EARI				Sn	Sn	15 31 26.5	-1.2
EMOS	Mosqueruela	7.36	60	Pn	Pn	15 30 19.1	+1.8
EMOS				Sn	Sn	15 31 39.4	-0.4
ELAN	Lanestosa	7.47	32	Sn	Sn	15 31 43.5	+1.2

*MAN **08** 15:31:13.0, 5°18N×127°60E, h36km, mb4.5, ML3.4, MS3.2*
*DJA **08** 15:31:14.3±0.9, 5°N±3°×12°7E±°, h13km±7km, M4.2/12, mB5.2/3, mb4.2/8, MLv4.1/12, Mw(mB)4.5/3*
*NEIC **08** 15:31:15.5±1.3, 5°14N±0°08×127°34E±0°10, h129km±8km, mb4.3/21, Error ellipse: s-maj=15.7km s-min=9.3km az=59.0*
*IDC **08** 15:31:15.3±1.3, 5°09N×127°46E, h127km±13km, mb3.5/9, mbtmp3.9/11, Error ellipse: s-maj=37.6km s-min=9.1km az=60.0*
ISC 08 15:31:13.3±0.5, **5°14N**±0°04×**127°42E**±0°07, **h108**km, **n58**, σ**1s65**/66, **mb4.1**/18, **3C-2D**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.38	233	P	Pn	15 31 51.8	+0.7
SGSI				S	Sn	15 32 19.4	-0.6
GSPH	General Santos	2.63	291⇑	eP	Pn	15 31 53.9	-0.7
GSPH				i S	Sn	15 32 24.9	-1.4
DAV	Davao City (W)	2.65	316	P	Pn	15 31 57.0	+2.3
	191nm,0.5s,baz=16,slow=4.4,SNR=4.7						
DAV				S	Sn	15 32 31.9	+5.3
	192nm,0.4s,baz=87,slow=23,SNR=10						
DAV	Davao City (W)	2.65	316	P	Pn	15 31 57.9	+3.2
DAV				S	Sn	15 32 30.6	+4.1
KCP	Kidapawan	2.97	309⇑	eP	Pn	15 32 00.1	+1.1
BIPH	Bislig	3.21	341⇓	eP	Pn	15 32 02.3	+0.3
BIPH				i S	Sn	15 32 36.5	-3.0
GAMI	Galela, Maluku	3.30	174	P	Pn	15 32 05.3	+2.0
GAMI				S	Sn	15 32 44.8	+3.0
BUKP	Musuan	3.59	319⇑	iP	Pn	15 32 09.2	+1.9
CGP	Cagayan de Oro	4.27	321⇓	eP	Pn	15 32 18.5	+2.3
CGP				eS	Sn	15 33 05.7	+0.6
TNTI	Ternate	4.34	181	Pn	Pn	15 32 20.0	+2.8
TNTI	Ternate	4.34	181	P	Pn	15 32 20.0	+2.8
LBMI	Labuha	5.74	179	P	Pn	15 32 36.6	+0.4
	0.1nm22nm,0.7s						
GTOI	Gorontalo	6.28	225	P	Pn	15 32 44.1	+0.7
	0.0nm8.5nm,0.6s						
SIJI	Sorong	7.10	147	P	Pn	15 32 56.9	+2.3
	40nm,0.5s,baz=326,slow=16,SNR=44						
SIJI				S	Sn	15 34 12.9	-0.9
	8.9nm,0.4s,baz=166,slow=23,SNR=7.4						
SIJI	Sorong	7.10	147	P	Pn	15 32 56.8	+2.2
	0.2nm2µm36nm,0.5s						
MRSI	Marisa	7.17	230	P	Pn	15 32 55.8	+0.2
	0.2nm499nm40nm,0.5s						
SANI	Sanana	7.28	191	P	Pn	15 32 56.5	-0.6
	0.0nm5.7nm,0.8s						
TOLI2	Tolitoli	7.74	239	Pn	Pn	15 33 03.2	-0.2
NLAI	Namlea	8.33	182	P	Pn	15 33 11.5	+0.2
	3µm5.6nm,0.6s						
MYLDM	Lahad Datu	8.89	271	Pn	Pn	15 33 21.2	+2.3
FAKI	Fak Fak	9.34	149	Pn	Pn	15 33 27.2	+2.1
FAKI	Fak Fak	9.34	149	P	Pn	15 33 27.5	+2.4
SOEI	Soe	15.12	192	P	P	15 34 43.6	-0.5
SOEI				IAmb	IAmb	15 34 59.3	
	comp=Z,12nm,0.7s						
MTN	Manton Dam	18.24	168		P	15 35 18.5	+0.2
MTN				IAmb	IAmb	15 35 51.4	
	comp=Z,24nm,1.4s						
TPUB	Ta-pu	19.21	341	P	P	15 35 28.7	-0.2
WB0	Warramunga Arr	25.68	165	P	P	15 36 32.8	-0.6
WB0				IAmb	IAmb	15 36 39.8	
	comp=Z,6.3nm,1.2s						
WRA	Warramunga Arr	25.84	165	P	P	15 36 35.5	+0.6
	comp=Z,0.4nm,0.4s,baz=343,slow=10,SNR=22						
	comp=Z,0.4nm,0.4s						
WRA	Warramunga Arr	25.84	165	P	P	15 36 34.5	-0.4
ASAR	Alice Springs	29.32	168	P	P	15 37 04.8	-1.2
	comp=Z,0.2nm,0.5s,baz=352,slow=6.9,SNR=8.0						
	comp=Z,0.2nm,0.5s						
ASAR	Alice Springs	29.32	168	P	P	15 37 03.5	-2.4
JGF	Kuroka	31.67	16	P	P	15 37 25.2	-1.3
BBOO	Buckleboo	38.62	168	P	P	15 38 25.7	-0.4
BBOO				IAmb	IAmb	15 38 36.1	
	comp=Z,21nm,1.4s						
STKA	Stephens Creek	39.21	161	P	P	15 38 31.2	+0.2
	comp=Z,0.9nm,0.7s,baz=330,slow=11,SNR=3.9						
	comp=Z,0.9nm,0.7s						
STKA	Stephens Creek	39.21	161	P	P	15 38 30.9	-0.2
PEA0B	Petropavlovsk-	53.88	22	P	P	15 40 25.9	+0.7
PETK	Petropavlovsk-	53.88	22	P	P	15 40 26.3	+1.1
	comp=Z,1.6nm,0.7s,baz=216,slow=6.8,SNR=2.0						
	comp=Z,1.6nm,0.7s						
PETK	Petropavlovsk-	53.88	22	P	P	15 40 25.8	+0.5
MK31	Makanchi Array	56.81	324	P	P	15 40 47.0	+0.6
MK31				IAmb	IAmb	15 40 49.4	
	comp=Z,2.7nm,1.4s						
MKAR	Makanchi Array	56.81	324	P	P	15 40 47.0	+0.6
	comp=Z,1.4nm,0.5s,baz=119,slow=7.8,SNR=22						
	comp=Z,1.4nm,0.5s						
MKAR	Makanchi Array	56.81	324	P	P	15 40 46.8	+0.3
ZALV	Zalesovo Beam	59.66	332	P	P	15 41 05.9	-0.2
	comp=Z,0.4nm,0.4s,baz=114,slow=9.6,SNR=2.2						
	comp=Z,0.4nm,0.4s						
KURK	Kurchatov	60.94	327	P	P	15 41 15.5	+0.7
KURK				IAmb	IAmb	15 41 40.1	
	comp=Z,2.5nm,1.1s						
KURBB	Kurchatov Arra	60.94	327	P	P	15 41 14.7	-0.2
	comp=Z,1.7nm,0.2s,baz=126,slow=6.3,SNR=7.8						
	comp=Z,1.7nm,0.2s						
TIXI	Tiksi	66.44	0	P	P	15 41 50.3	-0.3
BVAR	Borovoye Array	66.53	326	P	P	15 41 51.9	+0.3
	comp=Z,0.4nm,0.4s,baz=95,slow=9.3,SNR=3.5						
	comp=Z,0.4nm,0.4s						
BRVK	Borovoye	66.60	326	P	P	15 41 51.5	-0.5
BRVK				IAmb	IAmb	15 41 54.0	
	comp=Z,3.3nm,1.2s						
NRIK	Noril'sk	69.24	346	P	P	15 42 07.9	-0.3
NRIK				IAmb	IAmb	15 42 45.8	
	comp=Z,5.1nm,1.1s						
ABKAR	Akbulak array	71.51	320	P	P	15 42 19.5	-2.9
K20K	Telida	80.28	27	P	P	15 43 12.3	+0.3
K20K				IAmb	IAmb	15 43 36.3	
	comp=Z,18nm,1.5s						
ILSW	Iliamna Southw	80.29	30	P	P	15 43 12.5	+0.2
ILSW				IAmb	IAmb	15 43 39.8	
	comp=Z,33nm,1.4s						
RAYN	Ar Rayn	80.57	293	P	P	15 43 13.8	-0.7
RAYN				IAmb	IAmb	15 43 15.0	
	comp=Z,3.1nm,0.8s						
MLY	Manley	81.92	25	P	P	15 43 20.5	-0.3
GHO	Glory Hole Cre	82.50	28	P	P	15 43 22.3	-1.6
NEA2	Nenana	82.60	26	P	P	15 43 22.9	-1.4
H24K	Noodor Dome	83.17	24	P	P	15 43 27.4	+0.2
H24K				IAmb	IAmb	15 43 45.5	
	comp=Z,5.7nm,1.4s						
ILAR	Eielson Array	83.54	25	P	P	15 43 28.6	-0.5
	comp=Z,0.3nm,0.7s,baz=240,slow=5.0,SNR=4.5						
	comp=Z,0.3nm,0.7s						
BMAR	Burnt Mountain	84.52	23	P	P	15 43 35.2	+1.2
BCAR	Beaver Creek A	85.82	27	P	P	15 43 39.3	-1.3

*DDA **08** 15:48:51.7±0.0, 35°93N×30°89E, h30km±2km, ML3.3*
*ISK **08** 15:48:53.6, 36°01N×30°81E, h66km, ML3.1/20*
*NIC **08** 15:48:54.2±0.0, 36°06N×30°86E, h25km±3km, Ml3.5/5*
ISC 08 15:48:54.3±1.0, **36°02N**±0°03×**30°85E**±0°02, **h23**km±7km, **n84**, σ**1s44**/114, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKUM	Antalya-Kumluc	0.51	307	P	Pb	15 49 03.9	-0.8
AKUM				S	Sb	15 49 13.1	+1.4
ANTB	Antalya	0.90	350	PG	Pb	15 49 10.8	-0.4
AKAS	Kas	1.03	283	PG	Pb	15 49 11.2	-2.4
AKAS	Kas	1.03	283	P	Pb	15 49 11.1	-2.5
AKAS				S	Sn	15 49 27.7	+0.5
AKAS				i AML	AML	15 49 33.0	
	comp=E,722nm,0.5s						
AKAS				i AML	AML	15 49 35.0	
	comp=N,556nm,0.7s						
KSL	Kastellorizon	1.04	278	P	Pb	15 49 12.4	-1.1
KSL				S	Sb	15 49 27.0	+0.3
KSL				AML	AML	15 49 33.6	
	0.5nm,0.5s						
KSL				AML	AML	15 49 33.6	
	0.5nm,0.5s						
KSL				AML	AML	15 49 39.2	
	1.0nm,0.5s						
KSL				AML	AML	15 49 39.2	
	1.0nm,0.5s						
ELL	Elmali	1.06	314	PG	Pb	15 49 12.9	-1.1
ELL				SG	Sb	15 49 27.3	-0.1
ELL	Elmali	1.06	314	P	Pb	15 49 13.3	-0.6
ELL				S	Sb	15 49 27.8	+0.4
KORT	Korkueli	1.06	338	PG	Pn	15 49 12.9	-1.0
KORT				SG	Sn	15 49 28.1	0.0
KORT	Korkueli	1.06	338	P	Pn	15 49 13.5	-0.4
KORT				S	Sn	15 49 29.5	+1.5
KEPZ	Antalya-Kepez	1.07	34	P	Pn	15 49 12.2	-1.7
KEPZ				S	Sb	15 49 24.7	-3.2
GAZI	Gazipasa	1.21	79	PN	Pn	15 49 14.5	-1.3
GAZI				SN	Sn	15 49 32.1	+0.7
GAZI	Gazipasa	1.21	79	P	Pn	15 49 14.4	-1.3
GAZI				S	Sb	15 49 29.8	-1.8
GAZI				i AML	AML	15 49 33.0	
	comp=Z,575nm,0.5s						
GAZI				i AML	AML	15 49 33.0	
	comp=N,2µm,0.5s						
GAZI				i AML	AML	15 49 33.0	
	comp=E,1µm,0.7s						
BUCA	Burdur, Bucak-	1.33	350	P	Pn	15 49 18.0	+0.5
BUCA				S	Sb	15 49 37.6	+2.3
BCK	Bucak	1.46	352	PN	Pn	15 49 18.7	-0.6
SUTC	Sutluce-Ispart	1.46	5	PN	Pn	15 49 19.1	-0.3
CAME	Cameli-Denizli	1.56	307	PN	Pn	15 49 19.9	-0.8
FETY	Fethiye	1.56	294	PN	Pn	15 49 19.7	-0.9
AKMS	Akamas	1.57	129	P	Pn	15 49 20.7	0.0
AKMS				AML	AML	15 49 52.6	
	1.4nm,0.7s						
AKMS				AML	AML	15 49 56.5	
	2.2nm,0.9s						
SEYD	Seydisehir-KON	1.60	29	PN	Pn	15 49 20.8	-0.4
GOLH	Golhisar	1.60	320	P	Pn	15 49 21.7	+0.4
GOLH				S	Sb	15 49 51.0	+7.9
SEDI	Konya, Seydise	1.61	27	P	Pn	15 49 20.8	-0.6
SEDI				S	Sn	15 49 41.8	+0.4
HDMB	Hadim	1.62	54	PN	Pn	15 49 21.3	-0.4
CAEL	Denizli, Camel	1.66	312	P	Pb	15 49 24.7	+0.4
CAEL				S	Sb	15 49 52.5	+7.7
CAEL				i AML	AML	15 49 55.0	
	comp=E,248nm,0.7s						
ALFC	Alefka	1.66	121	P	Pn	15 49 21.2	-0.8
ALFC				S	Sn	15 49 42.8	+0.1
ALFC				AML	AML	15 49 53.5	
	1.7nm,0.2s						
ALFC				AML	AML	15 49 53.5	
	1.7nm,0.2s						
ALFC				AML	AML	15 49 55.0	
	1.4nm,0.4s						
ALFC				AML	AML	15 49 55.0	
	1.4nm,0.4s						
ERMK	Ermenek	1.78	69	P	Pn	15 49 23.8	0.0
ERMK				S	Sb	15 49 50.5	+2.2
ERMK				i AML	AML	15 49 54.0	
	comp=N,290nm,0.6s						
ERMK				i AML	AML	15 49 55.0	
	comp=Z,293nm,0.6s						
ERMK				i AML	AML	15 49 59.0	
	comp=E,233nm,0.5s						
BRDR	BURDUR-Merkez	1.79	340	P	Pn	15 49 24.5	+0.6
BRDR				S	Sb	15 49 48.1	-0.5
ISP	Isparta	1.82	352	PN	Pn	15 49 24.0	-0.3
TEKE	Tekeli-Mersin	1.84	85	PN	Pn	15 49 24.5	+0.1
TEKE				SN	Sn	15 49 47.3	+0.4
NATA	Nata	1.87	131	S	Sn	15 49 48.8	+1.1
LEF	Lefka	1.89	118	PN	Pn	15 49 24.1	-1.0
APMY	Acipayam-Deniz	1.91	320	PN	Pn	15 49 25.0	-0.6
DALY	Dalyan (Mula)	1.94	295	PN	Pn	15 49 25.4	-0.5
BERE	Bereket-Mersin	1.95	79	PN	Pn	15 49 26.2	+0.1
TROD	Troodos	1.96	122	S	Sn	15 49 50.5	+0.3
BAGO	Egridir - ISPA	1.97	359	P	Pn	15 49 25.9	-0.4
BAGO				S	Sn	15 49 49.4	-1.0
BASM	Basmaki-Afyon	2.01	342	PN	Pn	15 49 26.5	-0.3
KKBE	Karaman, Kazim	2.07	54	P	Pn	15 49 28.8	+1.1
KKBE				S	Sn	15 49 54.6	+1.9
SZAC	Souni	2.08	127	P	Pn	15 49 28.3	+0.5
SZAC				AML	AML	15 50 10.3	
	1.2nm,0.7s						
SZAC				AML	AML	15 50 10.6	
	0.8nm,0.7s						
TAVA	DENIZLI_Tavas	2.13	313	P	Pn	15 49 28.0	-0.4
TAVA				S	Sn	15 49 53.0	-1.3
KMER	Konya-Meram	2.13	34	P	Pn	15 49 29.2	+0.6
KMER				S	Sn	15 49 54.7	+0.4
TEVE	Tevekalti-Mers	2.14	78	PN	Pn	15 49 28.9	+0.3
AKK1	Akkuyu-Mersin	2.18	86	PN	Pn	15 49 29.6	+0.5
DOGA	KONYA_Doganhis	2.19	17	P	Pn	15 49 30.1	+0.7
DOGA				S	Sn	15 49 55.8	0.0
GULN	MERSIN_Gulnar	2.19	85	P	Pn	15 49 29.9	+0.6
GULN				S	Sb	15 49 58.1	-1.7
AKK2	Akkuyu-Mersin	2.19	86	PN	Pn	15 49 29.6	+0.4
AKKU	Akkuyu-Mersin	2.19	85	PN	Pn	15 49 29.6	+0.3
TEPK	Tepekoy-MERSIN	2.19	84	PN	Pn	15 49 29.6	+0.3
ARG	Arkhangelos	2.22	276	PN	Pn	15 49 29.0	-0.6
TURN	Turunc	2.24	291	PN	Pn	15 49 29.4	-0.5
TURN	Turunc	2.24	291	P	Pn	15 49 29.0	-0.9
TURN				S	Sn	15 49 54.0	-2.8
ATHAL	Athalassa	2.25	112	S	Sn	15 49 58.2	+1.1
KRMN	Karaman	2.26	59	PN	Pn	15 49 30.5	+0.2
YESI	Yesilovacik-Me	2.27	85	PN	Pn	15 49 30.8	+0.5
YVAC	Isparta, Yalva	2.27	8	P	Pn	15 49 30.6	+0.1
YVAC				S	Sn	15 49 58.0	+0.2
KONT	Konya--Tatoy	2.27	32	PN	Pn	15 49 30.8	+0.3
CSS	Mathiatis	2.28	117	PN	Pn	15 49 30.9	+0.4
CSS	Mathiatis	2.28	117	P	Pn	15 49 29.7	-0.8
CSS				S	Sn	15 49 59.0	+1.2
TISA	Tisan-Mersin	2.29	86	PN	Pn	15 49 31.3	+0.6
LFK	Lefkose	2.30	108	PN	Pn	15 49 31.1	+0.2
IKL	Isikli	2.31	84	PN	Pn	15 49 31.4	+0.6
KZIL	AFYON_Kizioren	2.31	346	P	Pn	15 49 30.9	-0.2
KZIL				S	Sn	15 49 59.1	+0.3
ASGA	Asgata	2.31	121	P	Pn	15 49 31.3	+0.4
ASGA				AML	AML	15 50 17.1	
	0.7nm,0.6s						
ASGA				AML	AML	15 50 19.0	
	0.8nm,0.8s						
KARG	Kargicak-Mersi	2.32	85	PN	Pn	15 49 31.6	+0.5
YER	Yerkesik	2.35	299	PN	Pn	15 49 31.2	-0.3
KEBE	Keben-Mersin	2.35	79	PN	Pn	15 49 32.2	+0.6
MULA	Mugla, Merkez-	2.38	302	P	Pn	15 49 32.6	+0.6
LADK	Ladik-KONYA	2.49	29	PN	Pn	15 49 33.6	0.0
SILI	Silifke-Mersin	2.51	81	PN	Pn	15 49 34.5	+0.8
OSC1	CSNet OBS 1	2.53	172	P	Pn	15 49 34.9	+0.9
OSC1				S	Sn	15 50 06.2	+2.1
PASA	Karahalli, USA	2.57	335	P	Pn	15 49 34.2	-0.4
PASA				S	Sn	15 50 04.3	-0.9
KIZK	Mersin	2.70	79	PN	Pn	15 49 36.9	+0.6
EREN	Erenkoy	2.74	99	PN	Pn	15 49 37.7	+0.9
AYDN	Tasoluk	2.90	305	P	Pn	15 49 38.1	-1.0
YESY	Yesilyurt	2.91	52	PN	Pn	15 49 39.8	+0.5
BODT	Bodrum	3.04	291	PN	Pn	15 49 39.8	-1.1
KARP	Karpathos	3.04	262	PN	Pn	15 49 40.9	0.0
AYDB	Zeytinkoy-Aydi	3.06	310	PN	Pn	15 49 41.2	-0.1
MERS	Mersin	3.08	73	PN	Pn	15 49 42.7	+1.1
GULA	Gulagac	3.56	48	PN	Pn	15 49 49.1	+0.8
KARA	Karaisali	3.60	69	PN	Pn	15 49 49.5	+0.8
CMRD	Camardi-Nigde	3.71	62	PN	Pn	15 49 51.1	+0.9
KOZT	Kozan	4.25	68	PN	Pn	15 49 58.8	+1.1
YAYL	Yayladag	4.26	88	PN	Pn	15 49 58.7	+0.9
TAHT	Tahtakopru-Hat	4.33	84	PN	Pn	15 49 59.8	+1.1

*ISK **08** 15:55:08.4, 40°50N×37°17E, h3km, ML3.6/27*
*DDA **08** 15:55:08.7±0.0, 40°50N×37°20E, h11km±1km, MW3.6*
ISC 08 15:55:08.9±1.0, **40°51N**±0°02×**37°19E**±0°02, **h8**km±8km, **n53**, σ**0s98**/77, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSDY	Resadiye-TOKAT	0.15	137	PG	Pg	15 55 12.6	+0.5
RSDY				SG	Sg	15 55 15.0	+0.7
TOKT	Tokat	0.53	249	PG	Pg	15 55 19.1	0.0
TOKT				SG	Sb	15 55 26.9	-1.4
TOKA	Tokat	0.57	251	P	Pg	15 55 19.9	-0.1
TOKA				S	Sb	15 55 29.4	-0.2
SVSK	Karacayir	0.61	194	PG	Pg	15 55 20.4	-0.2
SVSK				SG	Sb	15 55 29.9	-0.6
ORDU	Ordu-Boztepe	0.70	46	P	Pb	15 55 22.8	-0.6
ORDU				S	Sg	15 55 32.2	+0.7
CUZAR	Zara_SIVAS	0.76	144	P	Pg	15 55 23.5	-0.1
CUZAR				S	Sb	15 55 34.1	-1.0
SUSE	Susehri	0.83	111	P	Pg	15 55 23.7	-1.2
SUSE				S	Sg	15 55 34.9	-0.8
KIZO	Buyukkizoglu-L	1.03	293	PG	Pb	15 55 28.7	-0.4
KVT	Kavak	1.04	304	PG	Pb	15 55 28.9	-0.3
KVT				SG	Sn	15 55 43.9	-0.7
AMSY	Amasya-Merkez	1.04	278	P	Pn	15 55 29.4	-0.5
AMSY				S	Sb	15 55 43.2	+0.1
YARM	Yarimca-Ladik(	1.12	292	PN	Pg	15 55 30.1	-0.2
YARM				SN	Sn	15 55 46.4	-0.1
SAMS	Samsun-Alacam	1.14	319	P	Pb	15 55 30.6	-0.3
SAMS				S	Sb	15 55 46.2	+0.3
CUKAN	kangal_SIVAS	1.21	170	P	Pg	15 55 31.6	-0.5
CUKAN				S	Sn	15 55 49.7	+0.8
ALUC	Giresun/Alucra	1.22	97	P	Pg	15 55 31.1	-1.1
ALUC				S	Sg	15 55 47.6	-0.5
ESPY	Espiye-Giresun	1.24	70	PN	Pb	15 55 31.5	-1.0
CUAYA	Sivas-Altinyay	1.29	196	P	Pg	15 55 33.9	+0.3
CUAYA				S	Sn	15 55 53.0	+2.2
CUSAR	Sarkisla-SIVAS	1.31	214	P	Pn	15 55 33.3	-0.3
CUSAR				S	Sn	15 55 51.0	-0.4
CKRK	Yozgat, Cekere	1.36	252	P	Pn	15 55 34.1	-0.2
CKRK				S	Sn	15 55 54.1	+1.5
HACI	Hacifakili, Ak	1.38	235	P	Pb	15 55 34.4	-0.6
HACI				S	Sn	15 55 54.2	+1.2
KEMA	Kemaliye	1.59	141	P	Pb	15 55 38.2	-0.4
KEMA				S	Sg	15 56 00.8	+0.7
KELT	Kelkit	1.62	102	P	Pn	15 55 38.1	+0.1
KELT				S	Sn	15 55 58.6	-0.6
ARPR	Arapgir-MALATY	1.67	148	PN	Pb	15 55 39.3	-0.6
YOZ	Yozgat	1.68	239	PN	Pb	15 55 39.6	-0.5
YOZ				SN	Sg	15 56 02.2	-0.6
COAL	Corum-Alaca	1.70	262	P	Pn	15 55 39.2	+0.2
GUMT	Gumushane	1.75	91	PN	Pb	15 55 40.6	-0.7
CUGUR	Gurin_SVAS	1.78	178	P	Pg	15 55 43.0	0.0
CUGUR				S	Sg	15 56 08.0	+1.8
CTAK	Corum_Osmancik	1.83	275	P	Pb	15 55 41.8	-1.0
DIKM	Dikmen	1.85	309	PN	Pn	15 55 41.5	+0.5
DIKM				SN	Sb	15 56 06.7	+0.3
DARE	Darende-Malaty	1.95	173	PN	Pb	15 55 43.5	-1.2
BNN	Bunyan	1.95	213	PN	Pb	15 55 43.5	-1.3
SIRC	Yozgat	1.96	234	P	Pb	15 55 43.8	-1.1
SIRC				S	Sg	15 56 10.3	-1.5
CORM	Corum	1.98	261	PN	Pn	15 55 43.3	+0.4
GUNE	Kayseri	2.01	217	P	Pg	15 55 46.5	-0.9
MACK	Trabzon	2.01	77	P	Pb	15 55 45.1	-0.6
KTUT	Trabzon	2.02	75	PN	Pb	15 55 44.6	-1.2
EUZM	Uzumlu	2.08	112	P	Pb	15 55 47.0	0.0
ERZN	Erzincan	2.15	115	PN	Pn	15 55 46.1	+0.9
ELBS	KAHRAMANMARAS	2.18	181	P	Pb	15 55 49.1	+0.4
SARI	SarD1z-Kayseri	2.18	196	PN	Pb	15 55 46.8	-1.9
KOZK	Kozakli-Nevseh	2.21	235	PN	Pn	15 55 46.8	+0.8
BAYT	Aydıntepe-Bayb	2.25	92	PN	Pb	15 55 48.1	-1.9
AKCD	Akcadag	2.28	165	P	Pn	15 55 47.9	+0.9
TNCL	Tunceli-Merkez	2.28	127	P	Pb	15 55 48.5	-2.0
PTK	Pertek	2.34	133	PN	Pn	15 55 48.3	+0.4
BAYB	BAYBURT	2.36	95	P	Pb	15 55 51.5	-0.2
BAYB				S	Sb	15 56 21.0	-0.1
CHOM	Cayeli-Rize	2.77	77	PN	Pn	15 55 55.8	+2.1
YEDI	Yedisu-Bingol	2.79	111	PN	Pn	15 55 54.7	+0.7
BZK	Bozkurt	2.81	302	PN	Pn	15 55 56.0	+1.9
KAMT	Kaman	2.91	248	PN	Pn	15 55 56.8	+1.2
KMRS	Kahramanmaras	3.01	184	PN	Pn	15 55 58.5	+1.6
YAYX	Yaylak	3.04	240	PN	Pn	15 55 58.3	+0.9
BNGB	Bingl	3.09	118	PN	Pn	15 55 59.8	+1.8
KOZT	Kozan	3.21	200	PN	Pn	15 56 01.2	+1.6

*IDC **08** 15:57:34.3±1.2, 55°00S×30°50W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=52.4km s-min=32.6km az=88.0*
*NEIC **08** 15:57:34.9±1.4, 54°9S±0°2×30°6W±0°2, h15km±5km, mb4.3/7, Error ellipse: s-maj=29.2km s-min=14.9km az=207.0*
ISC 08 15:57:34.7±0.8, **55°0S**±0°1×**30°6W**±0°1, **h10**km, **n12**, σ**0s97**/12, **mb4.1**/5, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.51	279	Pn	Pn	15 58 28.2	-1.1
PMSA	Palmer Station	19.20	226	P	P	16 01 58.1	-0.2
PMSA				IAmb	IAmb	16 02 35.7	
	comp=Z,24nm,1.2s						
SNAA	Sanae	20.50	155	P	P	16 02 11.9	-0.7
BELA	Belgrano 2	23.03	182	P	P	16 02 40.2	+0.7
BELA				IAmb	IAmb	16 03 15.5	
	comp=Z,9.1nm,1.5s						
QSPA	South Pole Qui	35.26	180	P	P	16 04 29.7	+0.5
QSPA				IAmb	IAmb	16 04 36.8	
	comp=Z,6.4nm,1.2s						
SUR	Sutherland	42.27	79	P	P	16 05 27.1	-1.3
VNDA	Vanda	47.53	184	P	P	16 06 10.3	+0.8
	comp=Z,1.1nm,0.7s,baz=188,slow=4.5,SNR=8.1						
	comp=Z,1.1nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNDA	**Vanda**	**47.53**	**184**	P	**P**	**16 06 09.2**	**-0.2**
VNDA				IAmb	IAmb	16 06 12.6	
	comp=Z,1.6nm,0.8s						
LPAZ	**La Paz**	**48.20**	**308**	P	**P**	**16 06 17.1**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=137,slow=18,SNR=4.2						
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**48.20**	**308**	P	**P**	**16 06 17.1**	**+1.0**
LPAZ				IAmb	IAmb	16 06 19.7	
	comp=Z,4.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**73.14**	**33**	P	**P**	**16 09 06.3**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=208,slow=6.2,SNR=5.1						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**147.98**	**314**	PKPbc	**PKiKP**	**16 17 19.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=111,slow=1.6,SNR=16						

*IDC **08** 16:26:30.4±1.6, 5°.20N×126°.20E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=196.8km s-min=24.5km az=72.0*

*MAN **08** 16:26:37.5, 5°.78N×126°.08E, h126km, mb4.2, ML3.0, MS2.7*

ISC 08 16:26:37.5±1.1**, 5°.72N**±0°.08×**126°.28E**±0°.09**, h100**km**, n10,** σ**1s.01**/14**, mb3.5**/3**, 4C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.37**	**285**	⇑eP	**Pn**	**16 27 02.5**	**+0.2**
GSPH				i S	**Sn**	**16 27 20.6**	**-0.6**
DAV	**Davao City (W)**	**1.51**	**333**	Pn	**Pn**	**16 27 04.9**	**+1.0**
	baz=139,slow=2.4						
DAV				Sn	**Sn**	**16 27 26.1**	**+2.1**
	32nm,0.3s,baz=150,slow=12,SNR=1.3						
KCP	**Kidapawan**	**1.74**	**317**	⇑iP	**Pn**	**16 27 07.7**	**+0.7**
KCP				i S	**Sn**	**16 27 28.9**	**-0.4**
BIPH	**Bislig**	**2.45**	**2**	⇓iP	**Pn**	**16 27 16.0**	**0.0**
BIPH				i S	**Sn**	**16 27 43.8**	**-1.7**
BUKP	**Musuan**	**2.46**	**331**	⇑iP	**Pn**	**16 27 16.6**	**+0.4**
CTBH	**Cotabato--PC H**	**2.51**	**307**	⇑iP	**Pn**	**16 27 16.0**	**-0.8**
CGP	**Cagayan de Oro**	**3.14**	**330**	⇓eP	**Pn**	**16 27 24.3**	**-0.9**
WRA	**Warramunga Arr**	**26.70**	**163**	P	**P**	**16 32 07.4**	**-0.2**
	0.2nm,0.5s,baz=344,slow=9.6,SNR=10						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**30.14**	**166**	P	**P**	**16 32 38.0**	**-0.1**
	0.6nm,0.6s,baz=340,slow=6.8,SNR=28						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**40.14**	**160**	P	**P**	**16 34 04.0**	**+0.3**
	0.8nm,0.5s,baz=344,slow=15,SNR=3.5						
	0.8nm,0.5s						

MAN 08 16:43:57.7, 6°.67N×124°.86E, h1km**, mb4.0, ML2.7, MS2.3, Mindanao**

*NEIC **08** 16:58:53.5±1.6, 19°.01N±0°.08×145°.6E±0°.1, h232km±7km, mb4.6/51, Error ellipse: s-maj=14.3km s-min=11.6km az=69.0*

*IDC **08** 16:58:54.8±2.2, 18°.97N×145°.30E, h246km±22km, mb3.5/12, mbtmp4.2/15, Error ellipse: s-maj=21.7km s-min=10.5km az=86.0*

ISC 08 16:58:51.6±0.4**, 19°.01N**±0°.05×**145°.56E**±0°.08**, h214**km**, n80,** σ**1s.26**/77**, mb4.5**/34**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.43**	**187**	P	**Pn**	**17 00 14.7**	**+2.9**
	47nm,0.3s,baz=30,slow=20,SNR=2.5						
GUMO				S	**S**	**17 01 17.0**	**+1.9**
	49nm,0.4s,baz=113,slow=24,SNR=2.2						
GUMO	**Guam**	**5.43**	**187**	Pn	**Pn**	**17 00 13.9**	**+2.1**
JCJ	**Chichijima**	**8.63**	**340**	P	**Pn**	**17 00 55.2**	**+2.3**
	41nm,0.5s,baz=295,slow=18,SNR=1.1						
PATS	**Pohnpei**	**17.33**	**133**	Pn	**Pn**	**17 02 41.1**	**0.0**
INU	**Inuyama**	**17.95**	**337**	P	**Pn**	**17 02 47.4**	**-0.8**
INU				IAmb	IAmb	17 03 20.2	
	comp=Z,48nm,1.5s						
JGF	**Kuroka**	**18.05**	**338**	P	**P**	**17 02 47.5**	**+0.5**
JGF				IAmb	IAmb	17 03 15.2	
	comp=Z,40nm,1.5s						
JSU	**Suzuyama**	**18.45**	**315**	P	**P**	**17 02 51.1**	**-0.3**
JSU				IAmb	IAmb	17 03 03.3	
	comp=Z,19nm,1.0s						
MJAR	**Matsushiro Arr**	**18.63**	**341**	P	**P**	**17 02 54.0**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=157,slow=11,SNR=8.8						
JMM	**Marumori**	**19.25**	**348**	P	**P**	**17 02 59.9**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**20.02**	**88**	T	T	17 24 34.3	
	baz=278,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**20.03**	**88**	T	T	17 24 43.6	
	baz=278						
H11S2	**WAKE ISLAND Hy**	**20.03**	**88**	T	T	17 24 41.4	
	baz=278,slow=74,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**20.14**	**84**	T	T	17 25 02.4	
	baz=273						
H11N2	**WAKE ISLAND Hy**	**20.14**	**84**	T	T	17 24 58.2	
	baz=273						
H11N3	**WAKE ISLAND Hy**	**20.16**	**84**	T	T	17 24 55.1	
	baz=273						
MANU	**Manus Island**	**20.99**	**175**	P	**P**	**17 03 18.7**	**0.0**
YULB	**Yu-li**	**23.03**	**285**	P	**P**	**17 03 37.5**	**-0.6**
SSLB	**Suanglung**	**23.39**	**286**	P	**P**	**17 03 40.6**	**-0.8**
SSLB				IAmb	IAmb	17 04 16.9	
	comp=Z,58nm,1.4s						
RABL	**Rabaul**	**23.95**	**164**	P	**P**	**17 03 45.6**	**-0.9**
FAKI	**Fak Fak**	**25.42**	**212**	P	**P**	**17 03 58.6**	**-1.2**
FAKI				IAmb	IAmb	17 04 04.0	
	comp=Z,7.1nm,0.8s						
PMG	**Port Moresby**	**28.28**	**177**	P	**P**	**17 04 24.0**	**-1.2**
	comp=Z,4.4nm,0.6s,baz=296,slow=7.4,SNR=3.6						
	comp=Z,4.4nm,0.6s						
PMG	**Port Moresby**	**28.28**	**177**	P	**P**	**17 04 24.1**	**-1.1**
PMG				IAmb	IAmb	17 04 31.9	
	comp=Z,7.7nm,0.7s						
LUWI	**Luwuk**	**29.97**	**231**	P	**P**	**17 04 39.1**	**-1.1**
LUWI				IAmb	IAmb	17 04 45.2	
	comp=Z,13nm,1.0s						
TOLI2	**Tolitoli**	**30.10**	**237**	P	**P**	**17 04 41.1**	**-0.4**
TOLI2				IAmb	IAmb	17 04 51.0	
	comp=Z,8.5nm,1.1s						
COEN	**Coen**	**32.84**	**184**	P	**P**	**17 05 04.9**	**-0.4**
MTN	**Manton Dam**	**34.70**	**205**	P	**P**	**17 05 22.1**	**+0.8**
MTN				IAmb	IAmb	17 05 24.2	
	comp=Z,15nm,0.9s						
SBUM	**Sibu**	**36.54**	**247**	P	**P**	**17 05 37.9**	**+0.8**
CTA	**Charters Tower**	**38.86**	**179**	P	**P**	**17 05 55.0**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=4.6,slow=10,SNR=6.4						
	comp=Z,3.4nm,0.9s						
CTAO	**Charters Tower**	**38.86**	**179**	P	**P**	**17 05 55.9**	**-0.4**
CTAO				IAmb	IAmb	17 06 28.6	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**40.06**	**196**	P	**P**	**17 06 06.0**	**-0.3**
WB0				IAmb	IAmb	17 06 07.0	
	comp=Z,8.1nm,0.6s						
WR0	**Warramunga Arr**	**40.20**	**196**	P	**P**	**17 06 07.0**	**-0.4**
WB2	**Warramunga Arr**	**40.24**	**196**	P	**P**	**17 06 07.6**	**-0.1**
WB2				IAmb	IAmb	17 06 08.6	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**40.24**	**196**	P	**P**	**17 06 07.7**	**0.0**
	comp=Z,5.1nm,0.4s,baz=18,slow=8.4,SNR=39						
	comp=Z,5.1nm,0.4s						
AS31	**Alice Springs**	**43.91**	**195**	P	**P**	**17 06 37.0**	**-0.3**
ASAR	**Alice Springs**	**43.91**	**195**	P	**P**	**17 06 37.0**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=17,slow=7.7,SNR=86						
	comp=Z,3.2nm,0.6s						
ASAR	**Alice Springs**	**43.91**	**195**	P	**P**	**17 06 36.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**44.05**	**277**	P	**P**	**17 06 38.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=71,slow=7.2,SNR=5.8						
	comp=Z,0.4nm,0.7s						
DZM	**Mont Dzumac**	**45.65**	**152**	P	**P**	**17 06 53.4**	**+2.3**
	comp=Z,5.5nm,0.5s,baz=94,slow=23,SNR=14						
	comp=Z,5.5nm,0.5s						
DZM	**Mont Dzumac**	**45.65**	**152**	P	**P**	**17 06 51.8**	**+0.7**
OUENC	**Ouen Island, N**	**46.13**	**152**	P	**P**	**17 06 54.3**	**-0.4**
OUENC				IAmb	IAmb	17 07 04.1	
	comp=Z,32nm,1.2s						
MSVF	**Nonsavu**	**48.50**	**137**	P	**P**	**17 07 13.7**	**+0.5**
MSVF				IAmb	IAmb	17 07 16.5	
	comp=Z,28nm,1.2s						
LHMI	**Lhok Sumawe**	**49.29**	**260**	P	**P**	**17 07 19.3**	**+0.1**
GSI	**Gunungsitoli**	**50.17**	**255**	P	**P**	**17 07 26.0**	**+0.1**
GSI				IAmb	IAmb	17 07 51.9	
	comp=Z,33nm,1.1s						
UNV	**Unalaska Valle**	**50.48**	**35**	P	**P**	**17 07 28.6**	**+1.0**
UNV				IAmb	IAmb	17 07 59.0	
	comp=Z,56nm,1.3s						
STKA	**Stephens Creek**	**50.74**	**184**	P	**P**	**17 07 28.2**	**-1.5**
	comp=Z,1.2nm,0.4s,baz=7.2,slow=7.3,SNR=9.2						
	comp=Z,1.2nm,0.4s						
STKA	**Stephens Creek**	**50.74**	**184**	P	**P**	**17 07 28.8**	**-0.9**
KEKH	**Kekaha**	**51.13**	**77**	P	**P**	**17 07 28.9**	**-4.0**
FORT	**Forrest**	**52.28**	**199**	P	**P**	**17 07 40.9**	**-0.3**
FORT				IAmb	IAmb	17 08 01.0	
	comp=Z,20nm,1.1s						
BBOO	**Buckleboo**	**52.32**	**190**	P	**P**	**17 07 40.5**	**-0.9**
BBOO				IAmb	IAmb	17 08 14.7	
	comp=Z,43nm,1.5s						
CAN	**Canberra**	**54.13**	**177**	P	**P**	**17 07 54.9**	**+0.3**
CAN				IAmb	IAmb	17 08 01.7	
	comp=Z,35nm,1.5s						
MORW	**Morawa**	**55.65**	**211**	P	**P**	**17 08 04.1**	**-1.4**
MORW				IAmb	IAmb	17 08 13.8	
	comp=Z,13nm,1.2s						
CHGN	**Chignik**	**55.70**	**34**	P	**P**	**17 08 06.2**	**+0.7**
CHGN				IAmb	IAmb	17 08 16.2	
	comp=Z,21nm,1.1s						
TOO	**Toolangi**	**56.27**	**180**	P	**P**	**17 08 09.0**	**-0.9**
TOO				IAmb	IAmb	17 08 32.7	
	comp=Z,12nm,1.4s						
MKAR	**Makanchi Array**	**58.16**	**314**	P	**P**	**17 08 22.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=84,slow=7.5,SNR=3.0						
MKAR				pP	**pwP**	**17 09 17.5**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=86,slow=8.8,SNR=3.8						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.16**	**314**	P	**P**	**17 08 22.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**58.31**	**208**	P	**P**	**17 08 23.5**	**-0.7**
NWAO				IAmb	IAmb	17 08 59.0	
	comp=Z,21nm,1.1s						
CAST	**Castle Rocks**	**60.88**	**27**	P	**P**	**17 08 40.9**	**-0.4**
MLY	**Manley**	**61.90**	**26**	P	**P**	**17 08 49.7**	**+1.5**
I23K	**Minto, Yukon-K**	**62.49**	**26**	P	**P**	**17 08 53.5**	**+1.5**
I23K				IAmb	IAmb	17 09 02.8	
	comp=Z,8.6nm,1.4s						
H24K	**Noodor Dome**	**63.26**	**25**	P	**P**	**17 08 58.5**	**+1.4**
TOLK	**Toolik Lake Re**	**63.36**	**22**	P	**P**	**17 08 57.7**	**-0.1**
TOLK				IAmb	IAmb	17 09 28.2	
	comp=Z,9.2nm,1.1s						
IL31		**63.43**	**26**	P	**P**	**17 08 58.1**	**0.0**
ILAR	**Eielson Array**	**63.43**	**26**	P	**P**	**17 08 58.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=254,slow=5.8,SNR=7.3						
	comp=Z,0.2nm,0.4s						
HMT	**Hamilton**	**63.87**	**31**	P	**P**	**17 08 58.7**	**-2.5**
J25K	**Salcha River,**	**64.04**	**27**	P	**P**	**17 09 01.6**	**-0.6**
QRZ	**Quartz Range**	**64.59**	**158**	P	**P**	**17 09 05.8**	**-0.1**
BKZ	**Black Stump Fm**	**64.70**	**154**	P	**P**	**17 09 06.2**	**-0.6**
BKZ				IAmb	IAmb	17 09 07.4	
	comp=Z,22nm,1.3s						
BMAR	**Burnt Mountain**	**64.89**	**24**	P	**P**	**17 09 09.0**	**+1.3**
NNZ	**Nelson**	**65.24**	**157**	P	**P**	**17 09 09.1**	**-1.0**
EGAK	**Eagle**	**65.85**	**27**	P	**P**	**17 09 14.4**	**+0.6**
BFZ	**Birch Farm**	**65.88**	**155**	P	**P**	**17 09 13.9**	**-0.4**
PLWZ	**Palliser**	**66.25**	**156**	P	**P**	**17 09 15.2**	**-1.5**
KKAR	**Karatay Array**	**66.47**	**309**	P	**P**	**17 09 17.9**	**-0.3**
ABKAR	**Akbulak array**	**73.03**	**317**	P	**P**	**17 09 56.9**	**-1.1**
MCQ	**Macquarie Isla**	**74.10**	**172**	P	**P**	**17 10 05.7**	**+1.8**
EUNU	**Eureka**	**77.44**	**8**	P	**P**	**17 10 23.4**	**+0.7**
NVAR	**Mina Array Bea**	**83.05**	**52**	P	**P**	**17 10 55.2**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=268,slow=5.8,SNR=9.5						
	comp=Z,0.9nm,0.6s						
FIA1	**FINESS Array S**	**86.55**	**335**	P	**P**	**17 11 08.0**	**-2.2**
FIA1				IAmb	IAmb	17 11 18.1	
	comp=Z,29nm,1.3s						
FINES	**FINESS Array B**	**86.55**	**335**	P	**P**	**17 11 07.7**	**-2.5**
	comp=Z,5.4nm,1.0s,baz=69,slow=4.4,SNR=15						
FINES				pP	**pwP**	**17 12 07.0**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=90,slow=6.3,SNR=3.8						
	comp=Z,5.4nm,1.0s						
PDAR	**Pinedale Array**	**87.70**	**45**	P	**P**	**17 11 18.6**	**+2.1**
	comp=Z,0.1nm,0.4s,baz=262,slow=1.4,SNR=1.7						
	comp=Z,0.1nm,0.4s						

DJA 08 17:03:01.7±0.5**, 9°S**±4°×**12°4E**±°**, h64**km±9km**, M3.7**/7**, mb3.9**/3**, MLv3.6**/7**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.79**	**179**	P	Pn	17 03 17.8	+0.4
BATI	**Baumata**	**1.37**	**205**	P	Pn	17 03 24.6	-0.2
BATI				S	Sn	17 03 43.7	+1.5
MMRI	**Maumere**	**2.02**	**279**	P	Pn	17 03 34.0	+0.4
MMRI				S	Sn	17 03 57.2	-0.7
BSSI	**Bau Bau, Buton**	**4.67**	**307**	P	Pn	17 04 10.8	+1.1
BKSI	**Bulukumba**	**5.47**	**311**	P	Pn	17 04 21.8	+1.1
	0.0nm8.4nm,0.8s						
PLAI	**Plampang**	**6.41**	**271**	P	Pn	17 04 33.1	-0.4
	0.1nm24nm,1.9s						
TWSI	**Taliwang, Sumb**	**7.29**	**271**	P	Pn	17 04 45.2	-0.5

TRN 08 17:04:59.9, 15°.12N×61°.02W, h109km**, MD4.0, 4C-3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.30**	**315**	⇓iP	Pn	17 05 16.9	+1.3
DLPL				eS	Sn	17 05 29.1	+1.7
SVN	**Savane Anatole**	**0.31**	**207**	eP	Pn	17 05 17.1	+1.4
BAMF	**Morne Balai**	**0.32**	**202**	eP	Pn	17 05 17.2	+1.4
GBMF	**Grand Be**	**0.35**	**203**	eP	Pn	17 05 17.3	+1.4
PCM	**Pelee Case Pet**	**0.35**	**211**	eP	Pn	17 05 17.3	+1.4
PCM	**Pelee Case Pet**	**0.35**	**211**	eP	Pn	17 05 17.5	+1.7
ILAM	**Ilet Lapin Mar**	**0.37**	**157**	eP	Pn	17 05 16.9	+1.0
ILAM				eS	Sn	17 05 28.6	+0.7
PML	**Morne Lenard**	**0.37**	**205**	eP	Pn	17 05 17.4	+1.4
FDF	**Fort de France**	**0.40**	**198**	⇑iP	Pn	17 05 17.6	+1.4
FDF				eS	Sn	17 05 29.7	+1.4
DSLB	**Salisbury**	**0.50**	**310**	⇓iP	Pn	17 05 18.6	+1.9
DSLB				eS	Sn	17 05 31.9	+2.6
ZAM	**Aeronautique**	**0.54**	**181**	eP	Pn	17 05 17.7	+0.8
LPMF	**Morne Lapointe**	**0.54**	**174**	eP	Pn	17 05 17.7	+0.7
MVM	**Montagne Vaucl**	**0.57**	**168**	⇓eP	Pn	17 05 18.3	+1.1
TRMF	**Trois Ilets**	**0.58**	**183**	eP	Pn	17 05 18.3	+1.0
BIM	**Bigot**	**0.60**	**185**	eP	Pn	17 05 18.9	+1.5
BIM				eS	Sn	17 05 32.4	+1.8
MDVC	**Dominica, Viel**	**0.62**	**323**	eP	Pn	17 05 18.9	+1.4
MDVC				eS	Sn	17 05 32.6	+1.9
MDCT	**Cottage Hill,**	**0.65**	**320**	eP	Pn	17 05 19.8	+2.0
MDCT				eS	Sn	17 05 33.6	+2.3
MPOM	**Morne Pois Mar**	**0.69**	**167**	⇑iP	Pn	17 05 19.1	+1.0
MPOM				eS	Sn	17 05 32.2	+0.5
MAGL	**Barre de l'ile**	**0.86**	**343**	eP	Pn	17 05 20.9	+1.2
MAGL				eS	Sn	17 05 35.7	+1.1
TDBA	**Terre de Bas,**	**0.94**	**321**	eP	Pn	17 05 22.2	+1.8
TDBA				eS	Sn	17 05 38.0	+2.1
TBG	**Guadaloupe-3**	**0.95**	**321**	eP	Pn	17 05 22.4	+1.9
SLBI	**Saint Lucia, B**	**1.09**	**178**	⇑iP	Pn	17 05 22.8	+0.8
SLBI				eS	Sn	17 05 39.4	+0.7
CBE	**Ff, Capester**	**1.10**	**329**	eP	Pn	17 05 23.6	+1.5
CBE				eS	Sn	17 05 40.7	+1.7
SLCP	**Castries, St.**	**1.10**	**178**	eP	Pn	17 05 23.1	+1.0
SLCP				eS	Sn	17 05 39.6	+0.7
SLB	**Belfond**	**1.28**	**181**	eP	Pn	17 05 26.3	+2.1
SLB				eS	Sn	17 05 44.2	+1.6
MCLT	**Moule a Chique**	**1.40**	**177**	eP	Pn	17 05 26.4	+0.8
MCLT				eS	Sn	17 05 45.9	+1.0
ABD	**La Joyeuse, An**	**1.42**	**342**	⇑iP	Pn	17 05 27.0	+1.3
ABD				eS	Sn	17 05 46.5	+1.1
SFAN	**Fancy Village**	**1.73**	**185**	eP	Pn	17 05 31.3	+1.8
SSV	**Crater Summit**	**1.79**	**185**	eP	Pn	17 05 32.5	+2.2
SVB	**Belmont**	**1.85**	**187**	eP	Pn	17 05 32.2	+1.3
SVB				eS	Sn	17 05 55.4	+0.7
MBFL	**Flemmings, Mon**	**1.99**	**325**	eP	Pn	17 05 34.1	+1.4
MBFL				eS	Sn	17 05 59.8	+2.1
ANBD	**Bethesda, Anti**	**2.05**	**340**	i P	Pn	17 05 34.4	+0.9
ANBD				eS	Sn	17 05 59.7	+0.5
BCHC	**Barbados, Cave**	**2.39**	**145**	eP	Pn	17 05 39.9	+2.0
BBGH	**Gun Hill**	**2.42**	**144**	eP	Pn	17 05 39.9	+1.6
BBGH				eS	Sn	17 06 09.4	+1.6
BBSP	**Saint Philip**	**2.51**	**143**	eP	Pn	17 05 41.7	+2.2
BBSP				eS	Sn	17 06 11.8	+2.0
ANWB	**Willy Bob**	**2.64**	**344**	eP	Pn	17 05 41.1	-0.1
ANWB				eS	Sn	17 06 13.3	+0.5
GCMP	**Grenada, Carri**	**2.65**	**189**	eP	Pn	17 05 42.5	+1.3
GCMP				eS	Sn	17 06 13.0	0.0
GRGR	**Grenville**	**3.03**	**192**	eP	Pn	17 05 47.8	+1.5
GRFF	**Grenada Fort F**	**3.13**	**193**	eP	Pn	17 05 49.1	+1.5
SMRT	**St. Maarten**	**3.52**	**326**	eP	Pn	17 05 53.8	+1.0
SMRT				eS	Sn	17 06 33.6	-0.1
TOSP	**Speyside**	**3.83**	**173**	eP	Pn	17 05 58.0	+1.1
TOSP				eS	Sn	17 06 41.1	+0.1
TPR	**Prospect**	**3.92**	**176**	eP	Pn	17 05 58.5	+0.4
BOT	**Bacolet**	**3.94**	**176**	eP	Pn	17 06 00.3	+1.9
TRN	**Trinidad (W)**	**4.46**	**185**	eP	Pn	17 06 07.0	+1.6
TRN	**Trinidad (W)**	**4.46**	**185**	eS	Sn	17 06 54.9	-1.4
AOPR	**Arecibo Observ**	**6.36**	**301**	eP	Pn	17 06 32.6	+1.5
AOPR	**Arecibo Observ**	**6.36**	**301**	eS	Sn	17 07 39.9	-2.6

*ISK **08** 17:05:45.2, 36°.38N×28°.52E, h24km, ML2.6/8*

*DDA **08** 17:05:45.3±0.0, 36°.37N×28°.55E, h7km±3km, ML2.1*

ISC 08 17:05:45.2±1.3**, 36°.37N**±0°.04×**28°.51E**±0°.03**, h17**km±8km**, n16,** σ**0s.70**/29**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.35**	**244**	PG	**Pb**	**17 05 53.6**	**+0.7**
ARG				SG	**Sb**	**17 05 59.5**	**+1.3**
TURN	**Turunc**	**0.46**	**332**	PG	**Pb**	**17 05 55.1**	**+0.2**
TURN				SG	**Sb**	**17 06 02.3**	**+0.9**
TURN	**Turunc**	**0.46**	**332**	P	**Pb**	**17 05 55.0**	**+0.2**
TURN				S	**Sb**	**17 06 01.7**	**+0.3**
TURN				i AML	AML	17 06 02.0	
	comp=N,286nm,0.6s						
TURN				i AML	AML	17 06 02.0	
	comp=E,271nm,0.3s						
TURN				i AML	AML	17 06 03.0	
	comp=Z,179nm,0.3s						
DALY	**Dalyan (Mula)**	**0.46**	**14**	PG	**Pb**	**17 05 55.3**	**+0.4**
DALY				SG	**Sb**	**17 06 01.9**	**+0.5**
FETY	**Fethiye**	**0.53**	**60**	PG	**Pg**	**17 05 55.6**	**-0.2**
FETY				SG	**Sb**	**17 06 04.7**	**+1.2**
YER	**Yerkesik**	**0.79**	**346**	PG	**Pn**	**17 06 01.2**	**-0.4**
YER				SG	**Sn**	**17 06 12.4**	**-0.6**
AKAS	**Kas**	**0.89**	**98**	P	**Pb**	**17 06 01.4**	**-0.9**
AKAS				S	**Sg**	**17 06 14.4**	**0.0**
MULA	**Mugla, Merkez-**	**0.90**	**350**	P	**Pb**	**17 06 02.5**	**+0.1**
MULA				S	**Sg**	**17 06 15.0**	**+0.4**
CAEL	**Denizli, Camel**	**0.99**	**41**	P	**Pn**	**17 06 04.7**	**+0.1**
CAEL				S	**Sg**	**17 06 17.5**	**-0.1**
CAEL				i AML	AML	17 06 25.0	
	comp=Z,68nm,0.5s						
CAEL				i AML	AML	17 06 26.0	
	comp=E,74nm,0.9s						
CAEL				i AML	AML	17 06 31.0	
	comp=N,72nm,0.8s						
BDRM	**Kayabasi**	**1.10**	**309**	P	**Pb**	**17 06 05.1**	**-0.8**
BDRM				S	**Sb**	**17 06 19.1**	**-0.9**
BDRM				i AML	AML	17 06 22.0	
	comp=E,47nm,0.3s						
TAVA	**DENIZLI_Tavas**	**1.14**	**16**	P	**Pb**	**17 06 06.5**	**-0.1**
TAVA				S	**Sg**	**17 06 22.9**	**+0.7**
TAVA				i AML	AML	17 06 24.0	
	comp=Z,48nm,0.3s						
TAVA				i AML	AML	17 06 24.0	
	comp=N,50nm,0.3s						
TAVA				i AML	AML	17 06 24.0	
	comp=E,47nm,0.2s						
BODT	**Bodrum**	**1.19**	**306**	PN	**Pn**	**17 06 05.8**	**-1.3**
GOLH	**Golhisar**	**1.21**	**44**	P	**Pg**	**17 06 08.3**	**-0.3**
GOLH				S	**Sg**	**17 06 25.5**	**+1.1**
GOLH				i AML	AML	17 06 27.0	
	comp=N,40nm,0.8s						
KARP	**Karpathos**	**1.37**	**234**	PN	**Pn**	**17 06 09.7**	**+0.1**
AYDN	**Tasoluk**	**1.39**	**339**	P	**Pb**	**17 06 10.6**	**-0.1**
AYDN				S	**Sb**	**17 06 28.9**	**+0.7**
AYDN				i AML	AML	17 06 30.0	
	comp=Z,32nm,0.6s						
AYDN				i AML	AML	17 06 30.0	
	comp=N,33nm,0.5s						
AYDN				i AML	AML	17 06 30.0	
	comp=E,48nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**1.65**	**343**	PN	**Pn**	**17 06 13.9**	**+0.3**

*NEIC **08** 17:09:50.8±2.5, 38°.19S±0°.04×74°.10W±0°.04, h5km±5km, mb4.6/43, Mwr4.5/35, Error ellipse: s-maj=7.0km s-min=3.9km az=203.0*

*NEIC **08** 17:09:52.1, 38°.20S×74°.03W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.57; $M_{\theta\theta}$1.96; $M_{\phi\phi}$-5.52; $M_{r\theta}$1.48; $M_{\theta\phi}$-2.68; $M_{\phi r}$-5.56; Fault plane solution: $M_0$7.99000×10^{15} NP1:ϕ_s52.11000°, δ32.84000°, λ148.63000°. NP2:ϕ_s169.23000°, δ73.60000°, λ61.14000°. Principal axes: T 7.3830, Plg53.0000°, Azm45.0000°; N 1.0957, Plg28.0000°, Azm178.0000°; P -8.4787, Plg23.0000°, Azm281.0000°;*

*VAO **08** 17:09:55.7±0.4, 38°.07S×73°.57W, h10km, mb4.7*

*GUC **08** 17:09:55.4±0.5, 38°.45S×74°.17W, h15km±7km, ML5.0*

*IDC **08** 17:09:57.3±4.4, 38°.22S×73°.69W, h34km±32km, mb4.1/10, mbtmp4.4/14, ML4.3/4, MS3.8/20, Error ellipse: s-maj=28.4km s-min=14.0km az=86.0*

ISC 08 17:09:53.5±1.0**, 38°.21S**±0°.03×**73°.94W**±0°.07**, h17**km±6km**, n215,** σ**1s.63**/199**, mb4.5**/19**, MS3.9**/20**, 7C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.20**	**167**	⇓iP	**Pg**	**17 09 58.4**	**0.0**
BI04				eS	**Sg**	**17 10 01.8**	**+0.2**
BI04				IAML		17 10 05.4	
	comp=N,405µm,0.3s						
LC02	**Puerto Saavedr**	**0.72**	**143**		**Pg**	**17 10 07.7**	**0.0**
LC02					**Sn**	**17 10 19.0**	**-0.7**
LC02	**Puerto Saavedr**	**0.72**	**143**	eP	**Pg**	**17 10 08.0**	**+0.3**
LC02				eS	**Sn**	**17 10 19.1**	**-0.6**
LC02				IAML		17 10 25.7	
	comp=N,199µm,0.5s						
CCSP	**San Pedro de C**	**1.52**	**26**	eP	**Pg**	**17 10 25.2**	**+2.5**
CCSP				eS	**Sg**	**17 10 48.1**	**+5.5**
CCSP				IAML		17 10 53.4	
	comp=E,27µm,0.7s						
BI05	**Punta Hualpn**	**1.58**	**22**	Pn	**Pn**	**17 10 20.4**	**-0.4**
BI05	**Punta Hualpn**	**1.58**	**22**	⇑iP	**Pn**	**17 10 20.4**	**-0.4**
BI05				eS	**Sg**	**17 10 47.5**	**+3.0**
BI05				IAML		17 10 54.8	
	comp=E,10µm,0.4s						
LR04	**Corral**	**1.71**	**167**		**Pn**	**17 10 20.9**	**-1.7**
LR04	**Corral**	**1.71**	**167**	⇑iP	**Pn**	**17 10 21.1**	**-1.5**
LR04				eS	**Sn**	**17 10 40.2**	**-3.9**
LR03	**Panguipulli**	**1.89**	**139**		**Pn**	**17 10 25.7**	**+0.7**
LR03	**Panguipulli**	**1.89**	**139**	⇑iP	**Pn**	**17 10 25.7**	**+0.7**
LR03				eS	**Sn**	**17 10 49.1**	**+0.7**
LR03				IAML		17 11 02.1	
	comp=E,20µm,0.6s						
GO06	**Curarrehue**	**2.36**	**126**		**Pn**	**17 10 32.7**	**+1.0**
GO06	**Curarrehue**	**2.36**	**126**	⇑iP	**Pn**	**17 10 32.8**	**+1.2**
LL04	**Puerto Octay**	**2.94**	**157**		**Pn**	**17 10 38.6**	**-0.9**
LL03	**Petrohue**	**3.15**	**158**		**Pn**	**17 10 41.0**	**-1.4**
ML02	**Panimavida**	**3.17**	**40**		**Pn**	**17 10 43.0**	**+0.4**
ML02	**Panimavida**	**3.17**	**40**	⇑iP	**Pn**	**17 10 43.1**	**+0.4**
ML02				eS	**Sg**	**17 11 36.1**	**+0.6**
LL05	**Los Muermos**	**3.21**	**174**		**Pn**	**17 10 41.9**	**-1.2**
LL05	**Los Muermos**	**3.21**	**174**	eP	**Pn**	**17 10 42.8**	**-0.3**
GO05	**Huala**	**3.58**	**27**	Pn	**Pn**	**17 10 48.2**	**-0.2**
PLCA	**Paso Flores**	**3.64**	**135**	Pn	**Pn**	**17 10 50.0**	**+0.9**
	comp=E,3.2nm,0.3s,baz=292,slow=9.2,SNR=106						
PLCA				Lg	Lg	17 11 48.1	
	comp=E,20nm,0.3s,baz=15,slow=16,SNR=7.9						
	comp=E,41nm,0.5s						
PLCA	**Paso Flores**	**3.64**	**135**	eP	**Pn**	**17 10 50.1**	**+1.0**
LL06	**Loncomilla**	**4.00**	**177**		**Pn**	**17 10 52.6**	**-1.5**
BO02	**Sierra Bellavi**	**4.26**	**38**		**Pn**	**17 10 57.7**	**0.0**
LL01	**San Ignacio de**	**4.32**	**165**		**Pn**	**17 10 57.9**	**-0.6**
BO01	**Tunca**	**4.46**	**32**		**Pn**	**17 10 59.8**	**-0.6**
BO01	**Tunca**	**4.46**	**32**	⇓iP	**Pn**	**17 11 00.1**	**-0.2**
BO01				eS	**Sb**	**17 12 02.3**	**-2.6**
LL07	**Hotel Espejo d**	**4.63**	**176**	Pn	**Pn**	**17 11 01.0**	**-1.6**
MT01	**Popeta**	**4.86**	**27**		**Pn**	**17 11 04.9**	**-1.0**
MT01	**Popeta**	**4.86**	**27**	⇑iP	**Pn**	**17 11 04.8**	**-1.0**
MT01				eS	**Sg**	**17 12 24.5**	**-5.0**
GO07	**Milladeo Hill,**	**4.90**	**178**	Pn	Pn	17 11 03.0	-3.4
VA05	**Santo Domingo**	**4.92**	**23**		**Pn**	**17 11 05.2**	**-1.5**
BO04	**La Punta**	**5.01**	**34**		**Pn**	**17 11 07.0**	**-0.9**
MT09	**Talagante**	**5.04**	**29**		**Pn**	**17 11 07.8**	**-0.6**
LL02	**Futaleuf**	**5.22**	**163**	Pn	**Pn**	**17 11 10.5**	**-0.3**
LMEL	**Las Melosas**	**5.31**	**36**		**Pn**	**17 11 12.3**	**+0.1**
MT02	**Curacav**	**5.45**	**26**		**Pn**	**17 11 12.7**	**-1.2**
MT02	**Curacav**	**5.45**	**26**	⇑iP	**Pn**	**17 11 12.2**	**-1.8**
MT02				eS	**Sg**	**17 12 48.1**	**-0.1**
MT05	**Renca**	**5.47**	**29**	Pn	**Pn**	**17 11 13.9**	**-0.4**

MT03 Universidad Ad 5.47 32 Pn Pn 17 11 13.7 -0.7
VA01 Torpederas 5.51 21 Pn 17 11 13.2 -1.5
ROC1 El Roble 5.75 25 Pn 17 11 17.6 -0.7
H03S1 Juan Fernandez 5.93 316 T T 17 17 16.9
baz=134,slow=75,SNR=2513
H03S3 Juan Fernandez 5.95 316 T T 17 17 28.9
baz=134,slow=75,SNR=1749
H03S2 Juan Fernandez 5.95 316 T T 17 17 27.4
baz=134,slow=75,SNR=1147
VA06 Catapilco 6.04 22 Pn 17 11 20.9 -1.2
VA04 Juan Fernndez 6.04 318 Pn 17 11 20.9 -1.2
VA03 San Esteban 6.10 28 Pn 17 11 22.1 -1.0
AY01 Puyuhuapi 6.28 171 Pn 17 11 25.7 +0.4
CO02 Combarbal 7.40 20 Pn 17 11 39.8 -1.1
COYC Coyhaique 7.48 170 Pn 17 11 42.8 +1.0
CO06 Fray Jorge 7.76 15 Pn 17 11 43.4 -2.3
CO03 El Pedregal 7.83 21 Pn 17 11 46.0 -0.8
ZON Zonda 7.93 35 Pn 17 11 46.9 -1.3
GO04 Tololo Observa 8.43 19 Pn 17 11 53.9 -1.3
CO05 La Serena 8.57 16 Pn 17 11 55.4 -1.4
CO01 Juntas del Tor 8.81 22 Pn 17 11 59.5 -0.9
TRQA Tornquist 9.43 93 Pn 17 12 09.5 +0.9
TRQA Tornquist 9.43 93 eP Pn 17 12 07.0 -1.6
LCO Las Campanas 9.57 17 Pn 17 12 09.1 -1.6
AC05 El Transito 9.84 19 Pn 17 12 12.9 -1.4
AC04 Llanos de Chal 10.27 14 Pn Pn 17 12 17.6 -2.4
GO03 Copiap 11.04 17 Pn 17 12 28.3 -2.4
AC06 Mina Casimiro 11.24 17 Pn 17 12 31.1 -2.4
AC02 Maricunga 12.05 21 Pn 17 12 42.4 -2.5
AC01 Pan de Azucar 12.36 14 Pn Pn 17 12 44.5 -4.2
GO02 Mina Guanaco 13.53 17 Pn 17 13 01.5 -3.5
PB15 IPOC Station P 15.44 16 Pn 17 13 28.1 -2.7
PB15 IAmb IAmb 17 13 56.3
comp=Z,32nm,0.6s
AF01 San Pedro de A 15.99 20 Pn 17 13 35.1 -2.9
AF01 IAmb IAmb 17 14 02.6
comp=Z,120nm,1.2s
LVC Limon Verde 16.14 17 Pn Pn 17 13 42.2 +2.2
comp=Z,0.6nm,0.3s,baz=191,slow=12,SNR=4.2
LVC LR LR 17 19 51.7
comp=Z,328nm,20.1s,baz=194,slow=37
comp=Z,4.3nm,0.7s
LVC Limon Verde 16.14 17 Pn 17 13 39.0 -0.9
LVC Limon Verde 16.14 17 eP Pn 17 13 40.4 +0.4
PB04 IPOC Station P 16.16 13 Pn 17 13 38.1 -2.0
PB04 IAmb IAmb 17 13 46.0
comp=Z,44nm,0.9s
PB03 IPOC Station P 16.51 14 Pn 17 13 40.4 -4.1
ITQB Itaqui 16.69 64 eP Pn 17 13 47.0 +0.4
PB07 IPOC Station P 16.80 13 Pn 17 13 42.9 -5.3
PB09 IPOC Station P 16.86 15 Pn 17 13 45.0 -3.9
PB09 IAmb IAmb 17 14 04.7
comp=Z,22nm,0.9s
USHA Ushuaia 17.04 169 Pn Pn 17 13 52.4 +1.6
comp=Z,3.0nm,0.3s,baz=284,slow=4.1,SNR=2.0
comp=Z,15nm,0.4s
PB02 IPOC Station P 17.20 13 Pn 17 13 50.7 -2.4
PB02 IAmb IAmb 17 14 04.3
comp=Z,38nm,1.0s
RODS Rosario do Sul 17.35 69 eP Pn 17 13 54.8 0.0
EFI East Falkland 17.48 145 Pn Pn 17 13 54.4 -2.0
EFI IAmb IAmb 17 14 28.0
comp=Z,132nm,1.4s
PB01 IPOC Station P 17.54 14 Pn 17 13 54.0 -3.4
PATCX Punta Patache 17.64 12 Pn Pn 17 13 55.0 -3.6
PATCX IAmb IAmb 17 14 03.6
comp=Z,22nm,0.9s
PLTB Pedras Altas 17.85 75 Pn Pn 17 13 59.1 -2.0
PLTB Pedras Altas 17.85 75 eP Pn 17 13 59.7 -1.4
TA01 Diego Aracena 17.89 12 Pn Pn 17 13 58.6 -2.9
AZCA Azaras, Argent 18.09 61 eP Pn 17 14 02.2 -1.8
UNIS Unistalda (Bra 18.14 65 eP Pn 17 14 02.1 -2.6
CPUP Villa Florida 18.34 55 P Pn 17 14 06.6 -0.5
comp=Z,0.5nm,0.3s,baz=241,slow=4,SNR=14
CPUP LR LR 17 21 07.2
comp=Z,154nm,18.7s,baz=229,slow=37
comp=Z,5.4nm,0.6s
CPUP Villa Florida 18.34 55 P Pn 17 14 04.1 -3.0
CPUP Villa Florida 18.34 55 eP Pn 17 14 05.7 -1.5
PB08 IPOC Station P 18.48 14 P P 17 14 04.4 -4.7
CPSB Cacapava Do Su 18.62 71 eP P 17 14 08.8 -1.4
PB11 IPOC Station P 18.76 13 P P 17 14 07.3 -4.7
PB11 IAmb IAmb 17 14 22.6
comp=Z,67nm,0.9s
GO01 Chusmiza 18.94 14 P P 17 14 12.6 -1.6
GO01 IAmb IAmb 17 14 29.2
comp=Z,34nm,1.4s
ALGR Alto Alegre (B 19.77 68 eP P 17 14 23.3 +0.4
PB12 IPOC Station P 19.78 10 P P 17 14 19.6 -3.4
PB12 IAmb IAmb 17 14 33.0
comp=Z,12nm,0.7s
CRSM Crissiumal (Br 19.80 63 eP P 17 14 21.8 -1.3
PB16 IPOC Station P 20.18 12 P P 17 14 25.3 -2.6
PB16 IAmb IAmb 17 14 50.8
comp=Z,23nm,0.9s
CNLB Canela 21.11 72 eP P 17 14 36.2 -1.1
ITAB Concordia 21.32 66 P P 17 14 38.3 -1.2
ITAB IAmb IAmb 17 14 43.6
comp=Z,29nm,1.0s
ITAB Concordia 21.32 66 eP P 17 14 38.8 -0.8
FRBT Francisco Belt 21.43 61 eP P 17 14 39.9 -1.0
MURT Porto Murtinho 21.68 45 eP P 17 14 43.7 +0.3
MCR1 Marechal Candi 21.78 57 eP P 17 14 44.4 -0.1
ANTJ Antonio Joao (22.34 49 eP P 17 14 50.5 -0.1
LPAZ La Paz 22.43 15 P P 17 14 54.0 +1.7
comp=Z,12nm,0.9s,baz=176,slow=7.4,SNR=29
comp=Z,12nm,0.9s
LPAZ La Paz 22.43 15 P P 17 14 51.0 -1.2
LPAZ IAmb IAmb 17 14 58.3
comp=Z,13nm,0.8s
LPAZ La Paz 22.43 15 eP P 17 14 53.4 +1.2
TER01 Tubaro-SC 22.80 72 eP P 17 14 56.3 +0.8
PTGB Pitanga 22.93 60 eP P 17 14 55.5 -1.4
BBRB Robore, Bolivi 23.39 36 eP P 17 15 00.9 -0.5
AQDB Aquidauana 23.70 47 P P 17 15 02.8 -1.7
AQDB IAmb IAmb 17 15 06.5
comp=Z,29nm,1.3s
BBSD Serra de San D 23.99 33 eP P 17 15 07.3 0.0
PANT Pantanal (Braz 24.38 43 eP P 17 15 11.1 +0.2
SIV San Ignacio 24.87 31 P P 17 15 14.9 -0.5
comp=Z,2.5nm,0.4s,baz=236,slow=14,SNR=11
SIV LR LR 17 27 03.1
comp=Z,478nm,18.9s,baz=222,slow=41
comp=Z,2.5nm,0.4s
FRTB Fartura 25.56 62 eP P 17 15 21.9 +0.3
PCMB Pacaembu 25.59 56 eP P 17 15 21.9 0.0
PTLB Pontes e Lacer 26.17 34 P P 17 15 27.0 -0.1
PTLB IAmb IAmb 17 15 35.5
comp=Z,11nm,1.0s
PTLB Pontes e Lacer 26.17 34 eP P 17 15 28.1 +1.0
PET01 Itanhaem-SP 26.58 66 eP P 17 15 31.7 +0.9
PMSA Palmer Station 27.23 171 eP P 17 15 40.6 +4.4
SALV Santo Antonio 27.43 41 eP P 17 15 39.1 +0.6
ITRB Iturama 27.55 55 eP P 17 15 40.6 +1.1
RCLB Rio Claro- Sao 27.58 63 eP P 17 15 40.3 +0.4
VAO Valinhos 27.60 64 eP P 17 15 41.4 +1.3
BB19B Bebedouro 27.79 59 eP P 17 15 43.2 +1.4
VILB Vilhena 27.98 30 P P 17 15 42.1 -1.3
VILB IAmb IAmb 17 15 48.0
comp=Z,14nm,1.0s
PARB Paraibuna 28.36 67 eP P 17 15 48.4 +1.6
ETMB Extrema 29.12 16 P P 17 15 54.0 +0.5
ETMB IAmb IAmb 17 15 55.7
comp=Z,26nm,0.7s
ETMB Extrema 29.12 16 eP P 17 15 54.6 +1.1
ARAG Araguaiana, MT 29.71 47 eP P 17 16 00.3 +1.5
VASO1 Vassouras-RJ 30.59 68 eP P 17 16 08.0 +1.5
PDRB Porto dos Gac 30.63 35 eP P 17 16 07.5 +0.5
SAML Samuel 30.71 21 P P 17 16 06.7 -0.9
SAML IAmb IAmb 17 16 07.8
comp=Z,3.2nm,0.7s
PMNB Patos De Minas 30.96 58 eP P 17 16 10.2 +0.3
RPN Rapa Nui 31.60 280 LR LR 17 26 10.7
comp=Z,77nm,19.5s,baz=114,slow=31
CLDB Colider 31.71 36 eP P 17 16 16.8 +0.4
BDFB Brasilia 32.05 53 P P 17 16 19.4 -0.2
comp=Z,2.6nm,0.7s,baz=192,slow=5.4,SNR=3.8
BDFB LR LR 17 31 21.9
comp=Z,194nm,19.7s,baz=138,slow=40
comp=Z,2.6nm,0.7s
BDFB Brasilia 32.05 53 P P 17 16 18.7 -0.9
BDFB IAmb IAmb 17 16 20.6
comp=Z,9.9nm,1.1s

BDFB Brasilia 32.05 53 eP P 17 16 20.5 +0.9
DIAM Diamantina, MG 33.01 62 eP P 17 16 28.6 +0.6
SNDB Serra Nova Dou 33.03 44 eP P 17 16 28.9 +0.9
MC01 Montes Claros 33.93 59 eP P 17 16 37.3 +1.3
TBTG Tabatinga, AM 34.07 7 P P 17 16 37.8 +0.7
TBTG IAmb IAmb 17 16 40.2
comp=Z,93nm,1.3s
SJMB Sao Joao De Ma 34.49 65 eP P 17 16 41.6 +0.9
RIB01 Linhares ES 34.66 67 eP P 17 16 42.6 +0.3
JANB Januaria 34.86 57 eP P 17 16 43.6 -0.4
BOSC San Juan Bosco 35.15 352 P P 17 16 43.5 -3.1
BOSC IAmb IAmb 17 16 56.3
comp=Z,5.3nm,0.8s
NPGB Novo Progresso 35.30 33 eP P 17 16 47.9 +0.1
NAN01 Guarapari, ES 35.81 65 eP P 17 16 53.0 +0.8
COHC Cochancay 35.91 351 P P 17 16 50.6 -2.3
SDBA SAO DESIDERIO 36.45 53 eP P 17 16 58.0 +0.3
CHSH Refugio Sur-Vo 36.82 352 P P 17 16 58.5 -2.9
CHSH IAmb IAmb 17 17 17.5
comp=Z,19nm,0.7s
GUA01 Guaratinga, BA 36.88 64 eP P 17 17 01.8 +0.6
ITTB Itaituba 37.56 31 eP P 17 17 06.6 -0.4
SMTB Santa Maria do 37.65 46 eP P 17 17 08.5 +0.7
CMC01 Camacan, BA 37.91 63 eP P 17 17 10.5 +0.5
BOAV Boa Vista 42.27 20 P P 17 17 45.3 -0.8
BOAV IAmb IAmb 17 17 46.7
comp=Z,3.7nm,0.7s
BOAV Boa Vista 42.27 20 eP P 17 17 46.1 0.0
MCPB Macapa, AP 42.71 33 eP P 17 17 50.7 +0.9
BELA Belgrano 2 43.03 169 P P 17 17 52.2 +0.5
BELA IAmb IAmb 17 17 54.3
comp=Z,12nm,1.3s
VNA3 Neumayer Olymp 46.09 156 P P 17 18 16.8 +0.6
VNA3 Neumayer Olymp 46.09 156 PcP PcP 17 19 52.9 +0.7
VNA1 Neumayer--Stat 46.45 155 P P 17 18 19.8 +0.8
VNA2 Neumayer--Watz 46.78 156 P P 17 18 22.6 +1.0
baz=278,slow=9.4
SDV Santo Domingo 46.96 4 P P 17 18 23.2 -0.6
SDV IAmb IAmb 17 18 27.7
comp=Z,8.5nm,1.1s
RCBR Riachuelo 47.21 57 LR LR 17 38 23.3
comp=Z,109nm,18.3s,baz=2.5,slow=36
BAUV El Baul 47.23 8 P P 17 18 26.1 +0.5
MDP Montagnes des 47.42 29 LR LR 17 40 06.0
comp=Z,210nm,18.8s,baz=168,slow=38
SNAA Sanae 48.31 156 P P 17 18 34.6 +1.0
SNAA Sanae 48.31 156 LR LR 17 39 15.9
comp=Z,42nm,18.6s,baz=22,slow=36
SNAA Sanae 48.31 156 P P 17 18 34.3 +0.7
SNAA PcP PcP 17 20 00.8 +0.7
JACO JACO, Garabito 48.67 346 P P 17 18 35.1 -1.7
TROLL Troll, Antarti 50.00 157 P P 17 18 47.7 +1.1
QSPA South Pole Qui 52.03 180 P P 17 19 03.2 +1.3
comp=Z,8.7nm,0.9s,baz=148,slow=1.8,SNR=22
comp=Z,8.7nm,0.9s
QSPA South Pole Qui 52.03 180 P P 17 19 03.0 +1.1
QSPA IAmb IAmb 17 19 05.7
comp=Z,12nm,1.0s
CELP Cerrillos 56.41 8 P P 17 19 33.3 -0.8
CELP IAmb IAmb 17 19 48.5
comp=Z,15nm,1.2s
VNDA Vanda 59.67 192 LR LR 17 41 36.5
comp=Z,48nm,19.4s,baz=116,slow=32
TBI Tubuai 64.92 259 eT T 18 30 55.9
comp=Z,4.0nm,0.2s
TAOE Nuku Hiva Isla 65.90 278 eLR LR 17 40 20.3
comp=Z,184nm,24.9s
MEH Mehetia 66.85 265 eT T 18 33 21.9
comp=Z,9.3nm,0.2s
PPT2 Papeete2 68.19 264 eLR LR 17 41 24.1
comp=Z,128nm,27.0s
PPT Papeete 68.21 264 LR LR 17 42 31.2
comp=Z,58nm,18.1s,baz=61,slow=29
MAW Mawson 69.58 164 P P 17 21 01.9 +0.8
comp=Z,3.5nm,1.0s,baz=218,slow=8.4,SNR=5.2
MAW LR LR 17 52 59.2
comp=Z,102nm,18.1s,baz=236,slow=37
comp=Z,3.5nm,1.0s
LPIG La Paz 70.76 325 LR LR 17 45 04.2
comp=Z,68nm,18.8s,baz=8.5,slow=30
TXAR Lajitas Array 72.72 333 P P 17 21 22.4 +1.8
comp=Z,1.8nm,0.7s,baz=150,slow=8.2,SNR=14
comp=Z,1.8nm,0.7s
W50A Signal Mountai 73.80 350 P P 17 21 25.7 -1.2
SWET Sewanee 73.90 350 P P 17 21 27.5 +0.1
SUR Sutherland 74.15 119 LR LR 17 49 20.7
comp=Z,69nm,21.6s,baz=234,slow=32
V48A Smith Brothers 74.55 349 P P 17 21 30.3 -0.8
BBTS Batate 75.19 58 LR LR 17 54 57.1
comp=Z,86nm,18.4s,baz=234,slow=36
TUL1 Leonard 76.48 342 P P 17 21 42.2 +0.1
BOSA Boshof 79.47 118 P P 17 21 59.8 +0.4
comp=Z,8.5nm,0.8s,baz=234,slow=5.0,SNR=11
BOSA LR LR 17 52 57.3
comp=Z,51nm,18.6s,baz=198,slow=32
comp=Z,8.5nm,0.8s
TSUM Tsumeb 79.54 106 LR LR 17 53 28.6
comp=Z,71nm,18.7s,baz=163,slow=33
NVAR Mina Array Bea 86.50 327 P P 17 22 37.6 +2.1
comp=Z,0.3nm,0.3s,baz=158,slow=4.3,SNR=4.0
comp=Z,0.3nm,0.3s
PDAR Pinedale Array 86.86 335 P P 17 22 38.1 +1.0
comp=Z,0.7nm,0.8s,baz=145,slow=5.4,SNR=6.8
comp=Z,0.7nm,0.8s
TORD Torodi Ar. Bea 87.07 71 P P 17 22 38.6 +0.1
comp=Z,2.1nm,0.6s,baz=226,slow=5.6,SNR=9.2
comp=Z,2.1nm,0.6s
AFI Afiamalu 87.54 254 LR LR 17 53 34.8
comp=Z,44nm,20.3s,baz=119,slow=30
LSZ Lusaka 89.91 109 LR LR 18 01 43.3
comp=Z,35nm,18.5s,baz=226,slow=35
MDT Midelt 95.64 52 LR LR 18 06 32.5
comp=Z,83nm,18.3s,baz=242,slow=36
DZM Mont Dzumac 97.52 234 eLR LR 17 54 59.9
comp=Z,87nm,22.9s
DZM Mont Dzumac 97.52 234 LR LR 17 56 30.0
comp=Z,57nm,20.2s,baz=24,slow=29
GERES GERESS Array B 116.17 47 PKP PKPdf 17 28 36.0 +0.6
comp=Z,0.4nm,0.6s,baz=86,slow=1.9,SNR=4.7
H11S2 WAKE ISLAND Hyt 24.10 267 T T 19 44 59.7
baz=126,slow=75,SNR=6.0
H11S1 WAKE ISLAND Hyt 24.11 267 T T 19 45 00.2
baz=126,slow=75,SNR=7.6
H11S3 WAKE ISLAND Hyt 24.11 267 T T 19 45 01.8
baz=126,slow=75,SNR=4.9
AKASG Malin Array Be 126.12 50 PKP PKPdf 17 28 54.2 0.0
comp=Z,0.5nm,0.6s,baz=261,slow=1.7,SNR=4.4
GEYT Alibeck 142.60 75 PKhKP PKPpre 17 29 22.5
comp=Z,2.1nm,0.7s,baz=199,slow=3.1,SNR=4.6
TIXI Tiksi 144.52 348 PKP PKPab 17 29 26.3 +0.1
comp=Z,6.9nm,0.8s,baz=151,slow=0.3,SNR=33
KURBB Kurchatov Arra 156.90 49 PKP PKPdf 17 29 47.5 +0.1
comp=Z,0.4nm,0.6s,baz=298,slow=2.0,SNR=3.5
KURBB PKPab PKPab 17 30 18.2 +0.7
comp=Z,2.0nm,0.7s,baz=289,slow=4.8,SNR=12
ZALV Zalesovo Beam 158.57 36 PKP PKPdf 17 29 48.7 -0.7
comp=Z,0.8nm,0.7s,baz=318,slow=2.0,SNR=4.2
ZALV PKPab PKPab 17 30 25.8 +1.2
comp=Z,3.7nm,0.9s,baz=298,slow=6.2,SNR=8.2
CMAR Chiang Mai Arr 159.36 161 PKP PKPdf 17 29 52.7 +1.3
comp=Z,0.5nm,0.9s,baz=242,slow=1.7,SNR=4.6
CMAR PKPab PKPab 17 30 28.9 +0.1
comp=Z,1.1nm,1.0s,baz=218,slow=5.0,SNR=5.3
MKAR Makanchi Array 160.55 56 PKP PKPdf 17 29 52.0 +0.1
comp=Z,1.2nm,1.0s,baz=338,slow=1.3,SNR=5.0
MKAR PKPab PKPab 17 30 34.1 +0.7
comp=Z,2.9nm,0.7s,baz=287,slow=4.3,SNR=13
PZH PanZhiHua 167.77 161 PKP PKPdf 17 29 57.0 -2.2
SONM Songino Array 170.38 359 PKPab PKPab 17 31 18.1 +1.4
comp=Z,1.3nm,1.0s,baz=340,slow=5.7,SNR=4.8

NEIC ***08*** *17:21:22.6±1.6,5°.59S±0°.07×109°.93E±0°.07,h546km±7km, mb4.2/37, Error ellipse: s-maj=12.9km s-min=7.0km az=130.0*
DJA ***08*** *17:21:23.3±0.3,6°S±4°×11°0E±°, h541km±5km, M4.2/17, mb4.1/16, mB4.6/2, MLv4.3/17, Mw(mB)3.8/2*
IDC ***08*** *17:21:23.2±1.1,5°.53S×110°.08E, h556km±14km, mb3.3/15, mbtmp4.3/17, Error ellipse: s-maj=21.1km s-min=8.9km az=59.0*
ISC 08 17:21:22.5±0.5,5°.66S±0°.06×109°.98E±0°.06, h551km±6km, n109,σ1§22/126, mb4.1/29, Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

SMRI Semarang 1.46 162 P P 17 22 28.4 -1.8
SMRI Semarang 1.46 162 P P 17 22 30.2 0.0
CTJI Waduk Cacaban 1.56 211 P P 17 22 31.7 +1.2
SCJI Gunung Srandil 2.17 202 P P 17 22 33.3 +0.2
SCJI S S 17 23 28.6 -1.8
YOGI Yogyakarta 2.17 172 S S 17 23 29.3 -1.1
UGM Wanagama 2.30 167 P P 17 22 32.1 -1.6
UGM S S 17 23 30.8 -0.9
UGM Wanagama 2.30 167 P P 17 22 34.1 +0.3
UGM S S 17 23 30.1 -1.6
LEM Lembang 2.62 244 P P 17 22 37.1 +1.5
223nm,0.6s,baz=38,slow=5.1,SNR=76
LEM S S 17 23 35.6 +0.6
70nm,0.9s,baz=193,slow=22,SNR=5.6
LEM Lembang 2.62 244 P P 17 22 36.7 +1.1
PCJI Pacitan 2.79 155 P P 17 22 36.1 -0.2
PCJI S S 17 23 34.4 -2.0
CBJI Citeko 3.21 256 P P 17 22 39.7 +0.8
CNJI Cibinong 3.28 240 P P 17 22 39.0 -0.4
CNJI S S 17 23 39.4 -2.5
KRKI Karangkates 3.49 136 S S 17 23 44.5 0.0
SKJI Sukabumi 3.66 248 P P 17 22 41.7 -0.3
TPI Tanjungpandan 3.70 321 P P 17 22 43.8 +1.5
KMMI Kalianget 4.19 109 P P 17 22 46.4 +0.5
KMMI S S 17 23 53.3 -0.6
JAGI Jajag, Banyuwa 4.99 124 P P 17 22 52.3 -0.1
JAGI S S 17 24 03.7 -2.0
JAGI Jajag, Banyuwa 4.99 124 P P 17 22 52.3 -0.1
JAGI S S 17 24 03.6 -2.0
PPBI Pangkal Pinang 5.17 312 P P 17 22 55.8 +1.9
0.2nm61nm,0.8s
KASI Kota Agung 5.46 271 P P 17 22 56.7 +0.3
0.4nm51nm,0.6s
RTBI Rangdo, Negare 5.65 120 P P 17 22 58.3 +0.2
0.4nm60nm,0.6s
SRBI Singaraja 5.72 115 P P 17 22 59.6 +0.9
0.4nm111nm,0.7s
LWLI Liwa 5.93 276 P P 17 23 01.8 +1.1
0.6nm78nm,0.6s
KLNI Mataram 6.66 115 P P 17 23 07.6 +0.3
0.1nm13nm,1.0s
MTKI Muara Teweh, K 6.78 46 P P 17 23 09.9 +1.4
0.3nm72nm,1.0s
KSM Kuching 7.09 3 P P 17 23 09.3 -2.2
KSM Kuching 7.09 3 P P 17 23 12.7 +1.2
0.1nm22nm,0.8s
MNAI Manna 7.12 280 P P 17 23 10.3 -1.4
MNAI S S 17 24 37.1 -4.0
MNAI Manna 7.12 280 P P 17 23 12.7 +1.0
1.6nm269nm,2.6s
TWSI Taliwang, Sumb 7.50 114 P P 17 23 15.1 -0.3
0.1nm19nm,1.3s
BKB Balikpapan 8.16 58 P P 17 23 25.1 +3.1
PLAI Plampang 8.35 113 P P 17 23 22.7 -1.1
19nm,1.5s
SBUM Sibu 8.36 16 P P 17 23 25.6 +1.7
SBUM Sibu 8.36 16 P P 17 23 25.3 +1.4
324nm36nm,0.9s
MPSI Mapaga 11.55 59 P P 17 23 57.8 +1.3
19nm,1.1s
TOLI2 Tolitoli 12.71 58 P P 17 24 09.4 +0.9
KKM Kota Kinabalu 13.18 28 P P 17 24 13.2 -0.3
LUWI Luwuk 13.56 71 P P 17 24 16.3 -1.0
LUWI Luwuk 13.56 71 P P 17 24 18.2 +0.9
2µm17nm,0.8s
MYLDM Lahad Datu 13.72 38 P P 17 24 21.3 +2.5
MYLDM Lahad Datu 13.72 38 P P 17 24 21.4 +2.5
28nm,0.8s
BATI Baumata 14.28 109 P P 17 24 23.1 -1.6
9.6nm,0.4s,baz=9.5,slow=8.0,SNR=4.0
BATI S S 17 26 55.2 +0.4
11nm,0.4s,baz=72,slow=20,SNR=5.5
BATI Baumata 14.28 109 P P 17 24 22.8 -1.9
12nm,0.8s
GTOI Gorontalo 14.43 65 P P 17 24 23.5 -2.8
4.9nm,0.5s
SOEI Soe 14.73 107 P P 17 24 31.4 +2.0
12nm,1.5s
GIRL Giralia 17.38 167 P P 17 24 56.7 +2.1
MBWA Marble Bar 18.08 149 P P 17 25 01.7 +0.5
PSA00 Pilbara Seismi 18.48 150 P P 17 25 04.9 +0.1
PSA00 IAmb IAmb 17 25 35.5
comp=Z,10nm,1.5s
PSA00 Pilbara Seismi 18.48 150 P P 17 25 05.2 +0.4
PSA00 IAmb IAmb 17 25 10.5
comp=Z,30nm,1.4s
TNTI Ternate 18.50 70 P P 17 25 05.2 +0.1
TNTI IAmb IAmb 17 25 46.6
comp=Z,13nm,1.1s
MTN Manton Dam 22.05 110 P P 17 25 36.8 -0.4
MORW Morawa 23.98 167 P P 17 25 55.3 +1.1
CMAR Chiang Mai Arr 26.32 336 P P 17 26 15.9 +0.9
comp=Z,1.1nm,0.7s,baz=168,slow=8.0,SNR=12
CMAR PcP PcP 17 29 22.9 +0.3
comp=Z,0.6nm,0.8s,baz=204,slow=3.0,SNR=5.6
comp=Z,1.1nm,0.7s
WB0 Warramunga Arr 27.57 123 P P 17 26 26.0 -0.1
WB0 IAmb IAmb 17 26 26.6
comp=Z,3.4nm,0.5s
WRA Warramunga Arr 27.61 123 P P 17 26 26.6 +0.2
comp=Z,2.0nm,0.6s,baz=314,slow=9.3,SNR=82
WRA PcP PcP 17 29 25.9 0.0
comp=Z,0.6nm,0.3s,baz=323,slow=2.1,SNR=9.9
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 27.61 123 P P 17 26 25.7 -0.6
WB2 Warramunga Arr 27.62 123 P P 17 26 26.1 -0.4
WB2 IAmb IAmb 17 26 29.8
comp=Z,7.6nm,1.4s
WR0 Warramunga Arr 27.79 123 P P 17 26 28.1 +0.2
WR0 IAmb IAmb 17 26 28.6
comp=Z,4.2nm,0.8s
AS31 Alice Springs 29.17 130 P P 17 26 40.3 +0.4
ASAR Alice Springs 29.17 130 P P 17 26 40.1 +0.2
comp=Z,1.3nm,0.3s,baz=304,slow=7.7,SNR=37
ASAR PcP PcP 17 29 30.1 +0.3
comp=Z,0.7nm,0.4s,baz=316,slow=2.2,SNR=10
ASAR S S 17 30 50.6 -3.4
comp=Z,1.1nm,0.7s,baz=295,slow=15,SNR=10
comp=Z,1.3nm,0.3s
ASAR Alice Springs 29.17 130 P P 17 26 39.6 -0.3
YHNB Yeheng 32.12 20 P P 17 27 05.5 +0.2
PZH PanZhiHua 32.95 346 P P 17 27 14.4 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.1s
COEN Coen 33.69 107 P P 17 27 18.4 -0.2
COEN IAmb IAmb 17 27 21.5
comp=Z,8.0nm,1.4s
SHL Shillong 35.67 331 P P 17 27 35.2 0.0
BBOO Buckleboo 36.33 141 P P 17 27 40.5 +0.2
BBOO PcP PcP 17 29 50.2 +0.2
CTA Charters Tower 38.04 116 P P 17 27 55.0 +0.5
comp=Z,2.0nm,0.6s,baz=350,slow=6.1,SNR=2.6
comp=Z,2.0nm,0.6s
CTAO Charters Tower 38.04 116 P P 17 27 55.2 +0.7
CTAO IAmb IAmb 17 28 03.4
comp=Z,12nm,1.4s
STKA Stephens Creek 39.42 135 P P 17 28 06.3 +0.9
comp=Z,5.4nm,0.4s,baz=319,slow=8.6,SNR=28
STKA PcP PcP 17 29 59.8 +0.1
comp=Z,1.4nm,0.5s,baz=278,slow=1.8,SNR=3.3
STKA S S 17 33 26.1 -1.9
comp=Z,0.9nm,0.5s,baz=322,slow=14,SNR=3.8
comp=Z,5.4nm,0.4s
STKA Stephens Creek 39.42 135 P P 17 28 06.1 +0.6
STKA IAmb IAmb 17 28 06.8
comp=Z,1.1nm,0.5s
STKA PcP PcP 17 29 59.2 -0.5
EIDS Eidsvold 43.93 121 P P 17 28 41.8 +0.7
EIDS IAmb IAmb 17 28 50.7
comp=Z,9.4nm,1.3s
TOO Toolangi 45.32 140 P P 17 28 54.0 +2.3
TOO IAmb IAmb 17 29 20.8
comp=Z,8.4nm,1.1s
ARMA Armidale 46.23 127 P P 17 29 00.6 +1.7
ARMA IAmb IAmb 17 29 41.7
comp=Z,24nm,1.4s
HHC Hu-ho-hao-te 46.30 2 eP P 17 29 00.5 +1.4
CAN Canberra 46.48 135 P P 17 29 01.9 +1.4
WMQ Urumqi 53.20 340 eP P 17 29 49.3 -0.4
WMQ Urumqi 53.20 340 eP P 17 29 55.1 +5.4
WMQ pmax pmax
comp=Z,15nm,0.7s
SONM Songino Array 53.36 357 P P 17 29 50.5 -0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.9nm,0.5s,baz=176,slow=8.3,SNR=7.9						
SONM				PcP	PcP	17 30 48.7	-0.5
	comp=Z,0.5nm,0.4s,baz=174,slow=4.0,SNR=4.8						
	comp=Z,0.9nm,0.5s						
SONM	Songino Array	53.36	357	P	P	17 29 51.2	+0.4
SONM				PcP	PcP	17 30 48.9	-0.3
KSH	Kashi	54.83	328	P	P	17 30 00.3	-1.0
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	Makanchi Array	57.70	338	P	P	17 30 21.1	+0.3
MKAR	Makanchi Array	57.70	338	P	P	17 30 21.0	+0.2
	comp=Z,4.1nm,0.4s,baz=151,slow=7.5,SNR=76						
	comp=Z,4.1nm,0.4s						
MKAR	Makanchi Array	57.70	338	P	P	17 30 20.8	0.0
KLR	Kul'dur	57.86	17	P	P	17 30 20.4	-1.4
	comp=Z,1.4nm,0.5s,baz=167,slow=8.5,SNR=6.8						
	comp=Z,1.4nm,0.5s						
KURBB	Kurchatov Arra	62.27	338	P	P	17 30 50.6	-0.4
	comp=Z,0.8nm,0.4s,baz=152,slow=6.1,SNR=5.3						
	comp=Z,0.8nm,0.4s						
KURK	Kurchatov	62.31	338	P	P	17 30 51.1	-0.1
ZAA0	Zalesovo Array	63.03	344	P	P	17 30 55.4	-0.4
ZAA0				IAmb	IAmb	17 30 56.0	
	comp=Z,3.8nm,0.9s						
ZALV	Zalesovo Beam	63.03	344	P	P	17 30 55.2	-0.6
	comp=Z,1.8nm,0.4s,baz=157,slow=5.7,SNR=12						
	comp=Z,1.8nm,0.4s						
ZALV	Zalesovo Beam	63.03	344	P	P	17 30 55.4	-0.4
MAW	Mawson	69.51	197	P	P	17 31 37.0	+1.3
ABKAR	Akbulak array	69.83	328	P	P	17 31 37.9	0.0
ABKAR	Akbulak array	69.83	328	P	P	17 31 38.1	+0.1
ABKAR				IAmb	IAmb	17 31 38.5	
	comp=Z,6.3nm,0.7s						
PEA0B	Petropavlovsk-	71.00	28	P	P	17 31 44.8	0.0
PETK	Petropavlovsk-	71.00	28	P	P	17 31 43.9	-1.0
	comp=Z,3.0nm,1.0s,baz=172,slow=3.0,SNR=6.0						
	comp=Z,3.0nm,1.0s						
PETK	Petropavlovsk-	71.00	28	P	P	17 31 44.4	-0.5
VNDA	Vanda	76.75	170	P	P	17 32 17.8	+0.8
	comp=Z,0.8nm,0.5s,baz=317,slow=6.7,SNR=9.8						
	comp=Z,0.8nm,0.5s						
VNDA	Vanda	76.75	170	P	P	17 32 17.9	+0.9
SBA	Scott Base	77.81	170	P	P	17 32 24.2	+1.5
TIXI	Tiksi	78.15	6	P	P	17 32 23.3	-1.3
	comp=Z,2.6nm,0.6s,baz=277,slow=0.4,SNR=12						
	comp=Z,2.6nm,0.6s						
TIXI	Tiksi	78.15	6	P	P	17 32 23.6	-0.9
TIXI				IAmb	IAmb	17 32 24.6	
	comp=Z,2.8nm,0.6s						
BOSA	Boshof	82.70	242	P	P	17 32 49.5	+0.2
BOSA				IAmb	IAmb	17 33 03.7	
	comp=Z,13nm,1.5s						
BRTR	Keskin Array B	83.17	311	P	P	17 32 51.2	-0.3
	comp=Z,2.4nm,0.9s,baz=108,slow=4.0,SNR=5.1						
	comp=Z,2.4nm,0.9s						
QSPA	South Pole Qui	84.32	180	P	P	17 32 57.0	+0.3
QSPA				IAmb	IAmb	17 32 57.6	
	comp=Z,9.4nm,1.5s						
AKASG	Malin Array Be	88.51	321	P	P	17 33 15.6	-1.0
	comp=Z,0.8nm,0.4s,baz=84,slow=4.9,SNR=14						
	comp=Z,0.8nm,0.4s						
TXAR	Lajitas Array	140.45	49	PKhKP	PKPpre	17 39 45.0	
	comp=Z,0.2nm,0.4s,baz=12,slow=2.9,SNR=3.7						
MIAR	Mount Ida	143.93	34		PKPab	17 39 55.5	+0.1
LCAR	Lake Charles	144.04	30		PKPbc	17 39 55.5	-0.1
CPUP	Villa Florida	145.91	201	PKPbc	PKPbc	17 40 01.6	+0.2
	comp=Z,1.3nm,0.5s,baz=185,slow=3.5,SNR=4.5						
BDFB	Brasilia	149.63	226	PKPbc	PKPbc	17 40 10.6	-0.8
	comp=Z,2.1nm,0.5s,baz=144,slow=4.6,SNR=4.1						

IDC 08 17:37:10.8±6.4**, 2°.73N×128°.62E, h70**km±75km**, mb2.9**/3**, mbtmp3.3**/4**, ML3.3**/1**, Error ellipse: s-maj=124.5km s-min=28.5km az=70.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.45	143	P	Pn	17 38 15.6	-0.1
	1.6nm,0.3s,baz=262,slow=23,SNR=19						
SIJI				S	Sn	17 39 06.5	+0.2
	1.7nm,0.4s,baz=220,slow=23,SNR=1.7						
	3.5nm,0.3s						
WRA	Warramunga Arr	23.22	166	P	P	17 42 12.3	+0.3
	0.3nm,0.4s,baz=344,slow=10,SNR=8.9						
	0.3nm,0.4s						
ASAR	Alice Springs	26.74	169	P	P	17 42 43.9	-0.1
	0.2nm,0.7s,baz=343,slow=12,SNR=1.6						
	0.2nm,0.7s						
MKAR	Makanchi Array	59.45	325	P	P	17 47 06.4	0.0
	0.6nm,1.0s,baz=116,slow=8.5,SNR=1.8						
	0.6nm,1.0s						

IDC 08 17:49:33.9±4.2**, 2°.07S×140°.80E, h0**km**, mb3.3**/2**, mbtmp3.4**/3**, ML3.4**/1**, Error ellipse: s-maj=149.7km s-min=31.7km az=88.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.85	199	P	P	17 53 55.2	-0.4
	0.1nm,0.3s,baz=20,slow=12,SNR=8.6						
	1.3nm,0.9s						
ASAR	Alice Springs	22.48	197	P	P	17 54 35.0	-0.1
	1.2nm,0.7s,baz=26,slow=10.0,SNR=27						
	1.2nm,0.7s						
MKAR	Makanchi Array	70.58	322	P	P	18 00 51.3	+0.3
	0.1nm,0.4s,baz=128,slow=8.8,SNR=1.5						
	0.1nm,0.4s						

*MAN **08** 18:00:55.4, 5°.42N×126°.81E, h104km, mb4.5, ML3.4, MS3.2*
*DJA **08** 18:00:58.0±0.6, 6°N±4°×12°7E±°, h77km±6km, M4.4/19, mB5.1/3, mb4.4/19, MLv4.5/12, Mw(mB)4.4/3*
*NEIC **08** 18:00:58.5±1.3, 5°.77N±0°.08×127°.02E±0°.06, h83km±11km, mb4.1/14, Error ellipse: s-maj=12.3km s-min=7.7km az=204.0*
*IDC **08** 18:00:58.5±1.9, 5°.79N×127°.18E, h90km±18km, mb3.4/7, mbtmp3.8/9, MS3.0/2, Error ellipse: s-maj=46.8km s-min=10.2km az=58.0*
ISC 08 18:00:57.4±1.0**, 5°.78N**±0°.05×**127°.03E**±0°.07**, h78**km±11km**, n67, σ1§70**/74**, mb4.0**/12**, 5C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.94	312	P	Pn	18 01 30.1	+1.7
	636nm,0.5s,baz=63,slow=1.2,SNR=28						
DAV				S	Sn	18 01 56.9	+4.9
	459nm,0.6s,baz=253,slow=22,SNR=7.5						
DAV				LR	LR	18 02 32.8	
	comp=Z,90nm,18.1s,baz=114,slow=46						
DAV	Davao City (W)	1.94	312		Pn	18 01 29.4	+1.0
DAV	Davao City (W)	1.94	312	P	Pn	18 01 29.8	+1.4
GSPH	General Santos	2.10	279⇑	eP	Pn	18 01 28.1	-2.5
GSPH				eS	Sn	18 01 51.2	-4.8
KCP	Kidapawan	2.29	303⇑	eP	Pn	18 01 33.4	+0.2
KCP				iS	Sn	18 02 00.5	0.0
BIPH	Bislig	2.48	344⇑	iP	Pn	18 01 36.1	+0.3
BIPH				iS	Sn	18 02 00.2	-4.9
SGSI	Sangihe	2.56	216	P	Pn	18 01 38.0	+1.2
SGSI				S	Sn	18 02 08.6	+1.6
BUKP	Musuan	2.86	317⇑	iP	Pn	18 01 42.0	+1.1
BUKP				iS	Sn	18 02 16.7	+2.3
CTBH	Cotabato--PC H	3.12	298⇓	eP	Pn	18 01 45.0	+0.6
CTBH				iS	Sn	18 02 22.4	+1.8
CGP	Cagayan de Oro	3.53	319⇑	eP	Pn	18 01 51.4	+1.5
CGP				eS	Sn	18 02 32.7	+2.1
GAMI	Galela, Maluku	3.98	169	P	Pn	18 01 56.6	+0.5
TNTI	Ternate	4.98	176		Pn	18 02 10.7	+0.9
TNTI	Ternate	4.98	176	P	Pn	18 02 11.3	+1.6
TNTI	Ternate	4.98	176	P	Pn	18 02 12.2	+2.5
ZCP	Zamboanga City	5.06	283⇓	eP	Pn	18 02 06.9	-4.0
ZCP				eS	Sn	18 03 05.7	-2.3
LBMI	Labuha	6.39	176	P	Pn	18 02 30.4	+1.4
	0.3nm103nm,0.8s						
GTOI	Gorontalo	6.50	218	P	Pn	18 02 30.7	+0.3
	0.1nm13nm,1.1s						
MRSI	Marisa	7.32	224	P	Pn	18 02 42.3	+0.7
	0.2nm586nm63nm,0.6s						
TOLI2	Tolitoli	7.77	234		Pn	18 02 46.9	-1.0
TOLI2	Tolitoli	7.77	234	P	Pn	18 02 47.5	-0.4
SIJI	Sorong	7.84	147	P	Pn	18 02 49.8	+1.0
	5.1nm,0.4s,baz=340,slow=18,SNR=8.8						
SIJI				S	Sn	18 04 14.4	-1.6
	2.9nm,0.3s,baz=186,slow=23,SNR=2.3						
SIJI	Sorong	7.84	147	P	Pn	18 02 49.2	+0.4
	0.0nm7.7nm,1.2s						
SANI	Sanana	7.84	188	P	Pn	18 02 46.8	-2.0
	0.1nm965nm21nm,0.8s						
SANI	Sanana	7.84	188	P	Pn	18 02 46.8	-2.0
LUWI	Luwuk	8.00	212		Pn	18 02 51.5	+0.6
LUWI	Luwuk	8.00	212	P	Pn	18 02 52.7	+1.8
	0.2nm59nm,1.0s						
MYLDM	Lahad Datu	8.52	266	Pn	Pn	18 02 58.3	+0.3
MYLDM	Lahad Datu	8.52	266	P	Pn	18 02 58.8	+0.8
	21nm,0.8s						
APSI	Ampana	8.54	219	P	Pn	18 02 59.2	+0.8
	37nm,1.4s						
MPSI	Mapaga	8.94	233	P	Pn	18 03 05.4	+1.6
	3.3nm,0.6s						
NLAI	Namlea	8.95	180	P	Pn	18 03 02.9	-1.1
	4μm14nm,0.6s						
AAI	Ambon	9.47	173	P	Pn	18 03 11.5	+0.4
	19nm,0.6s						
FAKI	Fak Fak	10.09	149	P	Pn	18 03 24.9	+5.4
KKSI	Kolaka, Sulawe	11.25	209	P	Pn	18 03 54.7	+19
MTKI	Muara Teweh, K	13.84	242	P	Pn	18 03 58.4	-12
SBUM	Sibu	15.14	258	P	P	18 04 30.8	+0.4
SBUM	Sibu	15.14	258	P	P	18 04 30.3	-0.1
	21nm,0.8s						
SOEI	Soe	15.67	190	P	P	18 04 36.7	+0.3
SOEI	Soe	15.67	190	P	P	18 04 36.4	0.0
	26nm,1.0s						
BATI	Baumata	16.23	192	P	Pn	18 04 37.0	-3.8
	26nm,0.7s						
KSM	Kuching	17.23	256	P	P	18 04 54.5	+0.9
KSM				IAmb	IAmb	18 04 55.1	
	comp=Z,16nm,0.8s						
KSM	Kuching	17.23	256	P	P	18 04 54.5	+0.9
	comp=Z,23nm,1.6s						
MTN	Manton Dam	18.94	168	P	P	18 05 12.1	-0.2
MTN				IAmb	IAmb	18 05 14.7	
	comp=Z,10nm,0.8s						
PMG	Port Moresby	25.09	127	P	P	18 06 14.4	-0.6
PMG				IAmb	IAmb	18 06 16.0	
	comp=Z,4.6nm,0.7s						
COEN	Coen	25.32	141	P	P	18 06 18.1	+1.0
WB0	Warramunga Arr	26.39	164	P	P	18 06 27.4	+0.7
WB0				IAmb	IAmb	18 07 04.0	
	comp=Z,5.6nm,1.1s						
WRAB	Tennant Creek	26.54	164	P	P	18 06 31.9	+3.8
WRA	Warramunga Arr	26.55	164	P	P	18 06 27.9	-0.2
	comp=Z,1.0nm,0.7s,baz=343,slow=10,SNR=12						
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	26.55	164	P	P	18 06 28.3	+0.2
WB2	Warramunga Arr	26.55	164	P	P	18 06 28.4	+0.2
WB2				IAmb	IAmb	18 06 31.4	
	comp=Z,4.0nm,1.0s						
ASAR	Alice Springs	30.02	167	P	P	18 06 58.5	-0.5
	comp=Z,0.3nm,0.6s,baz=340,slow=6.6,SNR=9.7						
ASAR				PcP	PcP	18 09 59.4	-0.3
	comp=Z,0.3nm,0.6s,baz=347,slow=2.1,SNR=5.6						
	comp=Z,0.3nm,0.6s						
WRKA	Warakurna	30.65	178	P	P	18 07 06.1	+1.5
FORT	Forrest	36.36	179	P	P	18 07 53.4	-0.6
FORT	Forrest	36.36	179	P	P	18 07 55.6	+1.6
BBOO	Buckleboo	39.32	168	P	P	18 08 20.5	+1.5
NWAO	Narrogin (SRO)	39.60	193	P	P	18 08 21.4	+0.1
NWAO	Narrogin (SRO)	39.60	193	P	P	18 08 22.2	+0.9
STKA	Stephens Creek	39.93	161	P	P	18 08 24.6	+0.5
	comp=Z,1.1nm,0.5s,baz=326,slow=15,SNR=3.9						
	comp=Z,1.1nm,0.5s						
SONM	Songino Array	45.48	341	P	P	18 09 09.2	+0.3
	comp=Z,0.2nm,0.5s,baz=152,slow=6.5,SNR=1.9						
	comp=Z,0.2nm,0.5s						
MK31	Makanchi Array	56.07	324	P	P	18 10 28.0	-0.5
MK31				IAmb	IAmb	18 11 00.6	
	comp=Z,1.4nm,1.1s						
MKAR	Makanchi Array	56.07	324	P	P	18 10 27.4	-1.0
	comp=Z,0.8nm,0.4s,baz=120,slow=7.3,SNR=10						
	comp=Z,0.8nm,0.4s						
MKAR	Makanchi Array	56.07	324	P	P	18 10 27.9	-0.6
ZALV	Zalesovo Beam	58.92	332	P	P	18 10 48.9	+0.6
	comp=Z,0.6nm,0.3s,baz=125,slow=6.4,SNR=4.3						
	comp=Z,0.6nm,0.3s						
AFI	Afiamalu	63.78	108	LR	LR	18 33 26.7	
	comp=Z,36nm,21.6s,baz=282,slow=31						
ABKAR	Akbulak array	70.77	320	P	P	18 12 04.8	-0.6
ABKAR	Akbulak array	70.77	320	P	P	18 12 04.5	-0.9
ABKAR				IAmb	IAmb	18 12 24.0	
	comp=Z,4.1nm,1.4s						
ILAR	Eielson Array	83.14	26	P	P	18 13 14.3	-0.2
	comp=Z,0.3nm,0.6s,baz=258,slow=5.1,SNR=4.1						
	comp=Z,0.3nm,0.6s						

*IDC **08** 18:02:23.3±1.1, 67°.05N×20°.95E, h0km, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=13.0km s-min=5.2km az=151.0*
*UPP **08** 18:02:23.6±0.1, 67°.04N×20°.97E, h0km, ML2.4, Explosion*
*HEL **08** 18:02:24.2±0.1, 67°.05N×20°.99E, h0km, ML2.3, ML2.4(UPP), Explosion*
*BER **08** 18:02:26.0±2.0, 66°.91N×21°.17E, h0km, ML1.7, Suspected explosion*
ISC 08 18:02:23.5±0.7**, 67°.04N**±0°.02×**21°.01E**±0°.02**, h0**km**, n56, σ1§31**/81**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.19	296	P	Pg	18 02 27.2	+0.1
DUNU				S	Sg	18 02 29.6	-0.1
DUNU	Dundret	0.19	296	iP	Pg	18 02 27.2	+0.1
DUNU				iS	Sg	18 02 29.6	-0.1
MASU	Masugnsbyn	0.57	42	P	Pg	18 02 34.6	+0.3
MASU				S	Sb	18 02 43.7	-1.3
MASU	Masugnsbyn	0.57	42	iP	Pg	18 02 34.6	+0.3
MASU				iS	Sb	18 02 43.7	-1.3
ERTU	Ertsjaerv	0.67	136	P	Pg	18 02 36.5	+0.2
ERTU				S	Sg	18 02 46.0	+0.9
ERTU	Ertsjaerv	0.67	136	eP	Pg	18 02 36.3	0.0
PAJU	Pajala	0.82	90	P	Pg	18 02 39.3	0.0
PAJU	Pajala	0.82	90	eP	Pg	18 02 39.1	-0.1
PAJU				eSB	Sg	18 02 50.9	+1.0
HARU	Harads	0.88	181	P	Pg	18 02 40.2	-0.1
HARU	Harads	0.88	181	iP	Pg	18 02 40.2	-0.1
RATU	Laukkuluspa	0.96	326	P	Pg	18 02 41.0	-0.9
RATU	Laukkuluspa	0.96	326	eP	Pg	18 02 41.0	-0.9
SALU	Saltoluokta	1.03	290	P	Pg	18 02 42.5	-0.8
SALU	Saltoluokta	1.03	290	eP	Pg	18 02 42.5	-0.8
LANU	Lannavaara	1.08	20	eP	Pg	18 02 42.8	-1.4
LANU				eSB	Sg	18 02 58.5	+0.4
KLF	Kolari	1.17	79	ePB	Pg	18 02 45.5	-0.4
KLF				eSN	Sn	18 03 03.8	+0.1
KALU	Kalix	1.51	140	eS	Sb	18 03 09.4	-2.6
SJUU	Sjulsmark	1.56	171	P	Pn	18 02 52.3	-0.1
SJUU	Sjulsmark	1.56	171	eP	Pn	18 02 52.3	-0.1
TOF	Tornio	1.64	125	ePG	Pn	18 02 53.8	+0.3
	baz=304						
TOF				MSG		18 03 13.1	
	comp=Z,22nm,0.2s						
TOF				eSN	Sn	18 03 15.9	+0.7
HEF	Hetta	1.71	35	eP	Pn	18 02 54.4	0.0
	baz=217						
HEF				MSG		18 03 14.6	
	comp=Z,16nm,0.2s						
HEF				eSN	Sg	18 03 18.5	+0.3
HEF	Hetta	1.71	35	eP	Pn	18 02 54.5	0.0
HEF				eS	Sg	18 03 18.4	+0.2
KIF	Kilpisjarvi	1.98	358	ePG	Pb	18 02 59.9	-0.4
KIF				MSG		18 03 23.4	
	comp=Z,33nm,0.2s						
KIF	Kilpisjarvi	1.98	358	eP	Pb	18 02 59.8	-0.4
KIF				eS	Sg	18 03 26.7	-0.2
RNF	Rovaniemi	2.02	100	ePB	Pn	18 03 00.2	+1.3
KTK1	Kautokeino	2.15	22	ePG	Pb	18 03 02.6	-0.7
KTK1				eSG	Sb	18 03 31.6	+1.1
KTK1	Kautokeino	2.15	22	eP	Pb	18 03 02.5	-0.7
KTK1				eS	Sb	18 03 31.0	+0.6
KTK1				IAML		18 03 36.4	
	comp=Z,8.3nm,0.2s						
SGF	Sodankyl	2.18	77	ePB	Pn	18 03 02.5	+1.5
	baz=261						
I37NO	I37NO	2.23	337	I		18 16 13.8	
	baz=156,slow=329,SNR=2.4						
FAUS	Fauske	2.26	281	eP	Pn	18 03 03.4	+1.4
FAUS				eS	Sn	18 03 31.6	+1.2
FAUS				IAML		18 03 37.9	
	comp=Z,20nm,0.2s						
STEI	Steigen	2.40	295	eP	Pn	18 03 05.7	+1.8
STEI				eS	Sb	18 03 35.7	-1.7
STEI				IAML		18 03 44.0	
	comp=Z,3.8nm,0.3s						
BURU	Burvik	2.47	176	eP	Pn	18 03 06.5	+1.5
	baz=1.0						
JETT	Jettan, Norway	2.54	355	eP	Pb	18 03 09.8	-0.1
JETT				e		18 03 42.1	
TRO	Tromso	2.72	344	eSB	Sn	18 03 44.0	+2.2
TRO	Tromso	2.72	344	eP	Pb	18 03 10.8	-2.1
TRO				eS	Sn	18 03 43.6	+1.8
TRO				IAML		18 03 53.2	
	comp=Z,7.3nm,0.2s						
OBF4	Vikkela, Lumij	2.79	141	eP	Pn	18 03 11.2	+1.9
OUL	Oulu	2.79	132	eP	Pn	18 03 11.1	+1.7
OBF0	Syolatti, Pyha	2.88	151	eP	Pn	18 03 12.0	+1.5
ARA0	ARCESS Array S	3.01	32	eP	Pn	18 03 12.8	+0.4
ARA0				eSB	Sb	18 03 53.8	-1.4
ARA0	ARCESS Array S	3.01	32	eP	Pn	18 03 13.4	+1.0
ARA0				eS	Sn	18 03 49.8	+0.6
ARA0				IAML		18 04 03.1	
	comp=Z,3.9nm,0.2s						
ARCES	ARCESS Array B	3.01	32	Pn	Pn	18 03 11.6	-0.8
	comp=Z,0.2nm,0.3s,baz=209,slow=14,SNR=2.3						
ARCES				Sn	Sn	18 03 50.4	+1.2
	comp=Z,0.4nm,0.3s,baz=220,slow=20,SNR=10						
	comp=Z,1.2nm,0.5s						
LOF	Lofoten	3.07	294	eP	Pn	18 03 13.5	+0.4
LOF				eS	Sn	18 03 52.5	+2.1
LOF				IAML		18 04 05.6	
	comp=Z,7.2nm,0.2s						
UMAU	Umeaa	3.17	183	eP	Pn	18 03 15.8	+1.3
UMAU				eSG	Sb	18 04 02.7	+2.9
KONS	Konsvik	3.18	264	eP	Pn	18 03 16.4	+1.8
STOK	Stokkvaagen	3.26	261	eP	Pn	18 03 18.4	+2.6
VRF	Varrio	3.40	74	eP	Pn	18 03 19.0	+1.4
MSF	Maaselka	3.41	106	eP	Pn	18 03 19.3	+1.4
MSF				eSG	Sg	18 04 11.3	-1.7
OLKF	Oulanka, Finla	3.41	98	eP	Pn	18 03 19.1	+1.2
KEV	Kevo	3.52	36	eP	Pn	18 03 21.2	+1.9
	baz=218						
KEV	Kevo	3.52	36	eP	Pn	18 03 21.1	+1.9
KEV				eS	Sn	18 04 01.9	+0.4
KU6	Riekki	3.69	102	eP	Pn	18 03 22.7	+0.9
	baz=289						
HUSU	Husum	3.79	192	eP	Pn	18 03 24.3	+1.3
VAF	Ylistaro	4.08	169	eP	Pn	18 03 28.4	+1.5
NSS	Namsos	4.50	240	eP	Pn	18 03 33.5	+0.8
FINES	FINESS Array B	6.03	156	Pn	Pn	18 03 54.4	+0.6
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=15						
FINES				Sn	Sn	18 05 03.2	-0.3
	comp=Z,0.2nm,0.3s,baz=344,slow=22,SNR=1.0						
	comp=Z,4.8nm,1.0s						
NOA	NORSAR Array B	7.39	220	Pn	Pn	18 04 11.3	-1.2
	baz=33,slow=11,SNR=4.3						
NOA				Sn	Sn	18 05 32.1	-4.9
	baz=102,slow=16,SNR=1.5						
	comp=Z,0.5nm,0.8s						

*NOU **08** 18:08:08.2, 37°.16S×179°.79E, h0km, MLv4.2/8, Off E. Coast of N. Island, N.Z.*
*WEL **08** 18:08:18.2±1.3, 37°S±7°×17°9E±1°0, h5km, M3.5/10, ML3.9/10, MLv3.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3*
*IDC **08** 18:08:20.4±5.3, 34°.80S×178°.41E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=220.3km s-min=64.5km az=166.0*
ISC 08 18:08:15.4±1.5**, 37°.15S**±0°.06×**179°.07E**±0°.08**, h10**km**, n77, σ1§26**/81**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.73	236	P	Pg	18 08 30.5	+1.0
MXZ	Matakaoa Point	0.73	236	P	Pg	18 08 30.6	+1.0
MXZ				S	Sg	18 08 37.7	-1.5
WMGZ	Waiomatatini S	0.84	218	P	Pb	18 08 34.4	+2.2
WMGZ				S	Sb	18 08 45.3	+1.8
PKGZ	Pakihiroa	1.08	227	P	Pg	18 08 36.9	+0.7
PKGZ				S	Sb	18 08 50.5	+0.2
PUZ	Puketiti	1.12	215	P	Pg	18 08 38.2	+1.3
HAZ	Te Kaha	1.19	239	P	Pg	18 08 37.5	-0.8
HAZ				S	Sn	18 08 53.6	-0.7
TWGZ	Tauwhareparae	1.34	220	P	Pn	18 08 41.6	+1.4
RUGZ	Raukumara Rang	1.37	233	P	Pn	18 08 41.5	+0.8
CNGZ	Carnagh Statio	1.49	207	P	Pn	18 08 43.9	+1.7
WIZ	White Island	1.55	256	P	Pn	18 08 42.3	-0.7
TKGZ	Te Karaka	1.61	217	P	Pn	18 08 41.6	-2.2
MWZ	Matawai	1.70	226	P	Pn	18 08 46.1	+0.9
WHRZ	Whale Island	1.81	247	P	Pn	18 08 47.8	+1.1
RIGZ	Rimuhau	1.86	213	P	Pn	18 08 48.3	+0.9
RAGZ	Rawiri	1.88	224	P	Pn	18 08 48.6	+1.1
MARZ	Manawahe	2.08	246	P	Pn	18 08 52.0	+1.7
OPRZ	Ohinepanea	2.12	250	P	Pn	18 08 51.6	+0.7
SNGZ	Shannon Statio	2.12	220	P	Pn	18 08 51.7	+0.7
KNZ	Kokohu	2.17	210	P	Pn	18 08 51.6	+0.1
MHGZ	Mahia Peninsul	2.20	204	P	Pn	18 08 52.6	+0.7
RTZ	Ruatahuna	2.21	228	P	Pn	18 08 53.1	+0.9
MUGZ	Murupara	2.25	233	P	Pn	18 08 53.5	+0.8
MYRZ	Mayor Island	2.26	266	P	Pb	18 08 54.6	-1.7
RAHZ	Arahi	2.36	221	P	Pn	18 08 54.9	+0.7
WHHZ	Waihua	2.41	217	P	Pn	18 08 55.4	+0.6
KARZ	Kaharoa	2.41	248	P	Pb	18 08 57.2	-1.6
MTHZ	Maungataniwha	2.44	225	P	Pn	18 08 56.2	+0.8
ALRZ	Allen Road	2.58	236	P	Pn	18 08 58.0	+0.8
ARHZ	Aropaoanui	2.67	217	P	Pn	18 08 58.8	+0.4
MRHZ	Matea Rd	2.69	231	P	Pn	18 08 59.5	+0.8
KUZ	Kuaotunu	2.72	278	P	Pn	18 08 59.8	+0.7
KUZ	Kuaotunu	2.72	278	P	Pn	18 08 58.5	-0.5
BKZ	Black Stump Fm	2.86	225	P	Pn	18 09 01.7	+0.6
BKZ	Black Stump Fm	2.86	225	P	Pn	18 09 01.5	+0.4
TOZ	Tahuroa Road	2.90	257	P	Pn	18 09 01.4	-0.1
CKHZ	Cape Kidnapper	2.95	211	P	Pn	18 09 01.9	-0.4
MCHZ	McNeill Hill	2.95	219	P	Pn	18 09 02.5	+0.1
GRZ	Great Barrier	3.04	286	P	Pn	18 09 04.4	+0.9
KWHZ	Kaweka Forest	3.08	222	P	Pn	18 09 04.1	0.0
MKAZ	Moumakai	3.13	270	P	Pn	18 09 04.6	-0.1
KAHZ	Kahuranaki	3.15	213	P	Pn	18 09 04.5	-0.6
TMVZ	Te Maari	3.30	233	P	Pn	18 09 07.4	+0.2
ETVZ	East Tongariro	3.31	232	P	Pn	18 09 07.6	+0.2
NTVZ	North Tongarir	3.31	233	P	Pn	18 09 07.7	+0.3
BHHZ	Black Hill Sta	3.32	225	P	Pn	18 09 07.5	0.0
OTVZ	Oturere	3.35	232	P	Pn	18 09 08.3	+0.3
PXZ	Pawanui	3.35	210	P	Pn	18 09 06.4	-1.5
NNVZ	North Ngauruho	3.37	233	P	Pn	18 09 08.9	+0.8
MBAZ	Motutapu North	3.37	275	P	Pn	18 09 08.8	+0.8
SNVZ	South Ngauruho	3.38	232	P	Pn	18 09 08.8	+0.4
ABAZ	Army Bay	3.44	278	P	Pn	18 09 09.9	+0.9
TWVZ	Taurewa	3.45	235	P	Pn	18 09 10.5	+1.2
MOVZ	Moawhango	3.45	228	P	Pn	18 09 09.1	-0.1
WNVZ	Wahianoa	3.49	231	P	Pn	18 09 10.5	+0.6
AWAZ	Awhitu Peninsu	3.54	270	P	Pn	18 09 11.3	+0.8
PNHZ	Pukenui	3.56	218	P	Pn	18 09 09.7	-1.0
HIZ	Hauiti	3.60	247	P	Pn	18 09 13.3	+2.0
HIZ	Hauiti	3.60	247	P	Pn	18 09 13.4	+2.1
MTVZ	Mangateitei	3.60	231	P	Pn	18 09 11.3	-0.1
PRHZ	Porangahau	3.65	211	P	Pn	18 09 10.1	-1.8
TSZ	Takapari Road	3.79	219	P	Pn	18 09 12.3	-1.6
VRZ	Vera Road	3.93	239	P	Pn	18 09 17.2	+1.5
WCZ	Waipu Caves	4.00	286	P	Pn	18 09 17.8	+1.1
WAZ	Wanganui	4.13	230	P	Pn	18 09 19.2	+0.7
BFZ	Birch Farm	4.16	211	P	Pn	18 09 16.4	-2.5
NEZ	North Egmont	4.45	240	P	Pn	18 09 25.4	+2.4
KHEZ	Kahui Hut	4.52	240	P	Pn	18 09 26.2	+2.3
	289nm,1.5s						
KHEZ	Kahui Hut	4.52	240	P	Pn	18 09 27.0	+3.1
OUZ	Omahuta	4.83	292	P	Pn	18 09 29.8	+1.6
	22nm,1.6s						
OUZ	Omahuta	4.83	292	P	Pn	18 09 30.1	+2.0
QRZ	Quartz Range	6.28	232	P	Pn	18 09 46.1	-1.9
KHZ	Kahutara	6.76	217	P	Pn	18 09 53.0	-1.7
	17nm,2.1s						
KHZ	Kahutara	6.76	217	P	Pn	18 09 52.8	-1.9
CTZ	Chatham Island	7.35	155	P	Pn	18 10 05.4	+2.7
ASAR	Alice Springs	40.84	276	P	P	18 15 57.1	-0.4
	0.2nm,0.4s,baz=121,slow=8.0,SNR=5.3						
	0.2nm,0.4s						
WRA	Warramunga Arr	42.45	281	P	P	18 16 10.0	-0.7
	0.4nm,0.4s,baz=120,slow=8.3,SNR=12						
	0.4nm,0.4s						
FINES	FINESS Array B	150.40	334	PKPbc	PKPbc	18 28 06.2	+0.1

7.5nm,1.0s,baz=23,slow=4.5,SNR=2.8

*UUSS **08** 18:13:43.1±2.3, 38.°66N±0.°03×112.°53W±0.°03, h5km±6km, ML2.6/8, ML2.4/96(NEIC), Error ellipse: s-maj=4.6km s-min=2.2km az=150.0*

NEIC 08 18:13:43.1±1.8, 38.°68N±0.°02×112.°53W±0.°02, h6km±8km, Error ellipse: s-maj=2.7km s-min=2.4km az=138.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCRU	Three Creeks R	0.09	138		Pg	18 13 45.5	0.0
TCRU				Sg	Sg	18 13 46.8	-0.2
MVU	Marysvale	0.30	125		Pg	18 13 49.3	+0.2
MVU				Sg	Sg	18 13 54.1	+0.9
NMUT	North Mineral	0.30	238		Pg	18 13 49.0	-0.2
MSU	Marysvale	0.32	121		Pg	18 13 49.6	+0.1
WCU	Willow Creek	0.44	50		Pg	18 13 51.9	+0.1
IMU	Iron Mountain	0.50	265		Pg	18 13 53.0	+0.3
DWU	Dry Willow Pea	0.68	213		Pg	18 13 56.2	-0.1
MTPU	Mount Pierson	0.69	157		Pg	18 13 56.6	+0.1
FLU	Fool Peak	0.75	21		Pg	18 13 56.9	-0.8
LEVU	Levan	0.99	34		Pb	18 14 02.7	-0.2
PSUT	Pine Spring	1.05	263		Pg	18 14 03.0	-0.3
BTU	Barney Top	1.05	151		Pb	18 14 04.0	0.0
MMU	Miners Mountai	1.08	116		Pg	18 14 03.4	-0.5
Q16A	Castle Valley	1.08	77		Pg	18 14 03.9	-0.1
Q16A				Sg	Sg	18 14 17.6	-0.5
Q16A				IAML		18 14 22.3	
	comp=E,64nm,0.8s						
SZCU	Shurtz Canyon	1.17	202		Pg	18 14 05.3	-0.3
SZCU	Shurtz Canyon	1.17	202	IAML		18 14 11.7	
	comp=N,44nm,0.3s						
SZCU				IAML		18 14 23.5	
	comp=E,54nm,0.3s						
TMUT	Trail Mountain	1.20	59		Pb	18 14 06.5	+0.1
TMUT				IAML		18 14 31.3	
	comp=E,150nm,0.5s						
FSU	Fish Springs	1.24	327		Pg	18 14 06.9	-0.1
NLU	North Lily Min	1.32	15	Pn	Pg	18 14 08.7	+0.2
NLU				IAML		18 14 31.1	
	comp=N,46nm,0.5s						
SPR3	Spring Creek 3	1.45	283		Pn	18 14 09.8	-0.4
SPR3				IAML		18 14 30.8	
	comp=E,38nm,0.3s						
SPR3				IAML		18 14 31.2	
	comp=N,35nm,0.3s						
MPU	Maple Canyon	1.50	27		Pg	18 14 12.1	0.0
DUG	Dugway, Tooele	1.53	352		Pn	18 14 10.6	-0.6
DUG				IAML		18 14 38.0	
	comp=N,50nm,0.9s						
DUG				IAML		18 14 38.0	
	comp=N,31nm,0.5s						
EKU	East Kanab	1.60	179		Pb	18 14 13.3	+0.1
SRU	San Rafael Swe	1.62	74		Pb	18 14 13.1	-0.4
SRU				IAML		18 14 37.5	
	comp=E,87nm,0.7s						
SRU				IAML		18 14 40.4	
	comp=N,47nm,0.4s						
KNB	Kanab	1.68	188		Pb	18 14 14.1	-0.4
LCMT	Little Creek M	1.76	199		Pb	18 14 15.3	-0.6
LCMT				IAML		18 14 42.4	
	comp=E,28nm,0.3s						
P18A	Preston Nutter	2.01	61		Pb	18 14 19.6	-0.7
P18A				IAML		18 14 50.5	
	comp=N,38nm,1.0s						
P18A				IAML		18 14 50.6	
	comp=E,59nm,0.5s						
JLU	Jordanelle	2.09	23		Pn	18 14 18.1	-0.8
CTU	Camp Tracy	2.10	16	Pn	Pn	18 14 19.9	+0.9
U15A	North Rim	2.25	175		Pn	18 14 22.2	+1.0
U15A				IAML		18 14 59.8	
	comp=E,20nm,0.5s						
U15A				IAML		18 15 00.7	
	comp=N,15nm,0.9s						
BGU	Big Grassy Mou	2.28	350		Pn	18 14 22.7	+1.3
BGU				IAML		18 15 03.7	
	comp=E,16nm,1.1s						
PRN	Pahroc Range	2.36	238		Pb	18 14 24.7	-1.5
PRN				IAML		18 14 38.4	
	comp=N,30nm,0.5s						
PRN				IAML		18 15 06.0	
	comp=E,29nm,0.5s						
R11A	Troy Canyon, C	2.42	263		Pn	18 14 25.1	+1.7
R11A				IAML		18 15 02.2	
	comp=E,19nm,0.5s						
R11A				IAML		18 15 03.8	
	comp=N,12nm,0.6s						
SPUT	South Promonto	2.63	1	Pn	Pn	18 14 26.6	+0.4
SPUT				IAML		18 15 12.0	
	comp=E,9.3nm,0.7s						
SPUT				IAML		18 15 14.2	
	comp=N,12nm,0.7s						
PV10	Paradox Valley	2.75	95	Pn	Pn	18 14 27.0	-1.0
PV23	Carpenter Ridg	2.76	94		Pn	18 14 27.5	-0.7
PV11	David Mesa, Pa	2.89	96		Pn	18 14 29.4	-0.4
ELK	Elko	2.94	315		Pn	18 14 30.3	-0.2
PV13	Radium Mtn., P	2.96	99		Pn	18 14 29.1	-1.7
RDMU	Red Mountain	2.96	49		Pn	18 14 29.1	-1.8
RDMU				IAML		18 15 06.6	
	comp=E,8.4nm,4.1s						
RDMU				IAML		18 16 03.6	
	comp=N,9.0nm,4.6s						
SHPR	Sheep Range	3.01	225	Pn	Pn	18 14 30.6	-0.9
HWUT	Hardware Ranch	3.02	14	Pn	Pn	18 14 32.1	+0.5
HWUT				IAML		18 15 24.6	
	comp=N,8.5nm,4.1s						
HWUT				IAML		18 15 44.3	
	comp=N,13nm,4.8s						
PV07	Paradox Valley	3.05	93		Pn	18 14 29.2	-2.9
PV07				IAML		18 15 26.5	
	comp=E,18nm,1.2s						
PV07				IAML		18 15 27.6	
	comp=N,22nm,0.8s						
HVU	Hansel Valley	3.10	357		Pn	18 14 32.2	-0.6
HVU				IAML		18 15 27.4	
	comp=N,14nm,0.5s						
HVU				IAML		18 15 39.4	
	comp=E,16nm,5.0s						
PV15	Paradox Valley	3.19	95		Pn	18 14 33.2	-0.8
PV15				IAML		18 15 29.0	
	comp=N,20nm,0.8s						
WUAZ	Wupatki	3.29	163		Pn	18 14 35.0	-0.3
TPNV	Topopah Spring	3.42	241		Pn	18 14 37.6	+0.5
TPNV				IAML		18 15 38.7	
	comp=N,9.7nm,3.3s						
TPNV				IAML		18 15 54.6	
	comp=N,8.4nm,3.5s						
MVCO	Mesa Verde	3.50	113	Pn	Pn	18 14 37.7	-0.6
W13A	Hualapai Mount	3.73	197		Pn	18 14 40.9	-0.6
W13A				IAML		18 15 12.3	
	comp=E,6.6nm,5.0s						
W13A				IAML		18 16 11.6	
	comp=N,5.3nm,2.6s						
GMN	Gold Mountain	3.98	251		Pn	18 14 45.5	+0.6
GMN				IAML		18 15 53.9	
	comp=E,5.2nm,3.8s						
GMN				IAML		18 16 03.4	
	comp=N,5.8nm,2.7s						
BMN	Battle Mountai	4.03	297		Pn	18 14 46.8	+1.3
BMN				IAML		18 15 15.5	
	comp=E,9.9nm,4.7s						
BMN				IAML		18 16 31.9	
	comp=N,5.2nm,3.8s						
GWY	Greenwater Val	4.13	234		Pn	18 14 47.0	+0.1
GWY				IAML		18 15 59.7	
	comp=E,9.6nm,3.8s						
LCH	Last Change Ra	4.30	252		Pn	18 14 47.9	-1.2
LCH				IAML		18 15 46.2	
	comp=E,5.8nm,4.7s						
SMCO	Snowmass	4.36	82		Pn	18 14 47.5	-2.8
KVN	Kaiserville	4.37	277		Pn	18 14 48.7	-1.5
KVN				IAML		18 15 43.6	
	comp=N,6.6nm,4.8s						
KVN				IAML		18 16 06.7	
	comp=E,5.8nm,2.2s						
QSM	Queen of Sheba	4.39	233		Pn	18 14 48.7	-1.7
QSM				IAML		18 17 03.5	
	comp=E,4.9nm,4.2s						
LHV	Little Huntoon	4.71	267		Pn	18 14 53.4	-1.3

*ISK **08** 18:15:17.5, 35.°83N×31.°84E, h28km, ML3.0/28*
*NIC **08** 18:15:19.9±0.0, 35.°85N×32.°04E, h62km±12km, Ml2.9/7*
*DDA **08** 18:15:19.6±0.0, 35.°97N×31.°98E, h52km, MW3.2*

ISC 08 18:15:18.6±1.2, 35.°86N±0.°02×31.°91E±0.°03, h63km±10km, n67, σ1.s20/104, 5C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.50	42	PG	Pn	18 15 29.8	-1.0
GAZI				SG	Sn	18 15 38.8	-0.8
GAZI	Gazipasa	0.50	42	P	Pn	18 15 30.4	-0.4
GAZI				S	Sn	18 15 38.4	-1.3
GAZI				i AML	AML	18 15 39.0	
	comp=N,539nm,0.9s						
GAZI				i AML	AML	18 15 39.0	
	comp=E,657nm,0.6s						
ALFC	Alefka	0.90	141⇑	iP	Pn	18 15 35.8	+0.2
ALFC				S	Sn	18 15 47.9	-0.1
ALFC				AML	AML	18 15 49.6	
	1.5nm,0.1s						
ALFC				AML	AML	18 15 49.6	
	1.5nm,0.1s						
ALFC				AML	AML	18 15 50.0	
	2.2nm,0.2s						
ALFC				AML	AML	18 15 50.0	
	2.2nm,0.2s						
AKMS	Akamas	0.91	157⇑	iP	Pn	18 15 36.7	+1.1
AKMS				S	Sn	18 15 49.7	+1.5
AKMS				AML	AML	18 15 50.7	
	1.1nm,0.1s						
AKMS				AML	AML	18 15 50.7	
	1.1nm,0.1s						
AKMS				AML	AML	18 15 57.0	
	0.9nm,0.2s						
AKMS				AML	AML	18 15 57.0	
	0.9nm,0.2s						
TEKE	Tekeli-Mersin	1.02	74	PG	Pn	18 15 37.1	+0.2
TEKE				SG	Sn	18 15 51.3	+0.8
KEPZ	Antalya-Kepez	1.06	347	P	Pn	18 15 37.9	+0.3
KEPZ				S	Sn	18 15 52.5	+0.7
KEPZ				i AML	AML	18 15 55.0	
	comp=E,160nm,0.3s						
LEF	Lefka	1.09	133	PN	Pn	18 15 37.5	-0.4
LEF				SN	Sn	18 15 51.8	-0.5
ERMK	Ermenek	1.12	46	P	Pn	18 15 38.7	+0.2
ERMK				S	Sn	18 15 54.3	+1.0
ERMK				i AML	AML	18 15 59.0	
	comp=N,126nm,0.5s						
BERE	Bereket-Mersin	1.17	65	PN	Pn	18 15 39.2	+0.1
BERE				SN	Sn	18 15 55.6	+1.3
HDMB	Hadim	1.19	23	PN	Pn	18 15 39.6	+0.1
HDMB				SN	Sn	18 15 55.4	+0.4
TROD	Troodos	1.20	139⇑	iP	Pn	18 15 39.8	+0.2
TROD				S	Sn	18 15 55.6	+0.4
TROD				AML	AML	18 15 58.4	
	0.3nm,0.2s						
TROD				AML	AML	18 15 58.4	
	0.3nm,0.2s						
TROD				AML	AML	18 16 08.1	
	0.4nm,0.5s						
TROD				AML	AML	18 16 08.1	
	0.4nm,0.5s						
NATA	Nata	1.21	153⇑	iP	Pn	18 15 41.1	+1.7
YORU	Yoruktepe-Mers	1.25	76	PN	Pn	18 15 40.1	+0.1
OREN	Orenkoy-Mersin	1.30	74	PN	Pn	18 15 41.2	+0.6
AKUM	Antalya-Kumluc	1.35	290	P	Pn	18 15 43.0	+1.8
AKUM				S	Sn	18 16 01.1	+2.8
AKUM				i AML	AML	18 16 10.0	
	comp=Z,96nm,0.4s						
AKUM				i AML	AML	18 16 10.0	
	comp=N,126nm,0.4s						
AKUM				i AML	AML	18 16 11.0	
	comp=E,107nm,0.5s						
AKK2	Akkuyu-Mersin	1.36	78	PN	Pn	18 15 41.9	+0.5
AKK2				SN	Sn	18 15 59.1	+0.6
AKKU	Akkuyu-Mersin	1.36	77	PN	Pn	18 15 41.8	+0.3
AKKU				SN	Sn	18 15 59.5	+0.8
GULN	MERSIN_Gulnar	1.36	76	P	Pn	18 15 41.7	+0.2
GULN				S	Sn	18 15 58.3	-0.3
GULN				i AML	AML	18 16 00.0	
	comp=N,106nm,0.6s						
SZAC	Souni	1.36	144	P	Pn	18 15 43.2	+1.7
TEVE	Tevekalti-Mers	1.37	65	PN	Pn	18 15 41.7	+0.1
TEPK	Tepekoy-MERSIN	1.37	74	PN	Pn	18 15 42.5	+0.8
ATHAL	Athalassa	1.41	120	P	Pn	18 15 42.8	+0.7
ATHAL				S	Sn	18 15 59.5	-0.3
ATHAL				AML	AML	18 16 05.3	
	1.3nm,0.6s						
ATHAL				AML	AML	18 16 05.3	
	1.3nm,0.6s						
ATHAL				AML	AML	18 16 18.2	
	1.1nm,0.7s						
ATHAL				AML	AML	18 16 18.2	
	1.1nm,0.7s						
YESI	Yesilovacik-Me	1.44	76	PN	Pn	18 15 43.2	+0.7
LFK	Lefkose	1.45	113	PN	Pn	18 15 42.8	+0.1
ANTB	Antalya	1.45	316	PN	Pn	18 15 42.3	-0.3
TISA	Tisan-Mersin	1.47	78	PN	Pn	18 15 43.4	+0.6
CSS	Mathiatis	1.47	127	PN	Pn	18 15 42.8	-0.1
CSS	Mathiatis	1.47	127	P	Pn	18 15 42.5	-0.4
CSS				S	Sn	18 16 00.2	-1.1
CSS				AML	AML	18 16 14.1	
	0.2nm,0.7s						
CSS				AML	AML	18 16 14.1	
	0.2nm,0.7s						
IKL	Isikli	1.49	75	PN	Pn	18 15 43.4	+0.3
KARG	Kargicak-Mersi	1.50	76	PN	Pn	18 15 43.9	+0.6
AKIN	Akıncılar- Kıb	1.53	123	PN	Pn	18 15 43.8	+0.1
ASGA	Asgata	1.53	134	P	Pn	18 15 45.5	+1.7
ASGA				S	Sn	18 16 04.2	+1.4
ASGA				AML	AML	18 16 14.3	
	0.6nm,0.6s						
ASGA				AML	AML	18 16 14.3	
	0.6nm,0.6s						
ASGA				AML	AML	18 16 15.3	
	0.6nm,0.6s						
ASGA				AML	AML	18 16 15.3	
	0.6nm,0.6s						
SEYD	Seydisehir-KON	1.54	358	PN	Pn	18 15 44.1	+0.1
KEBE	Keben-Mersin	1.57	68	PN	Pn	18 15 45.0	+0.7
KKBE	Karaman, Kazim	1.59	31	P	Pn	18 15 44.8	+0.2
KKBE				S	Sn	18 16 04.0	-0.3
KKBE				i AML	AML	18 16 06.0	
	comp=E,84nm,0.5s						
SEDI	Konya, Seydise	1.59	356	P	Pn	18 15 45.7	+1.0
SEDI				S	Sn	18 16 05.9	+1.6
SEDI				i AML	AML	18 16 08.0	
	comp=Z,97nm,0.7s						
SEDI				i AML	AML	18 16 08.0	
	comp=N,179nm,0.6s						
SEDI				i AML	AML	18 16 08.0	
	comp=E,109nm,0.5s						
MVOU	Mavrovouni	1.64	121⇑	eP	Pn	18 15 44.6	-0.6
MVOU				S	Sn	18 16 03.2	-2.1
MVOU				AML	AML	18 16 08.1	
	0.4nm,0.3s						
MVOU				AML	AML	18 16 08.1	
	0.4nm,0.3s						
MVOU				AML	AML	18 16 14.9	
	0.5nm,0.6s						
MVOU				AML	AML	18 16 14.9	
	0.5nm,0.6s						
KORT	Korkueli	1.69	313	PN	Pn	18 15 45.6	-0.5
KORT	Korkueli	1.69	313	P	Pn	18 15 45.4	-0.6
KORT				S	Sn	18 16 05.3	-1.6
KRMN	Karaman	1.70	39	PN	Pn	18 15 46.3	+0.1
SILI	Silifke-Mersin	1.71	72	PN	Pn	18 15 47.1	+1.0
SUTC	Sutluce-Ispart	1.77	336	PN	Pn	18 15 46.9	-0.2
BUCA	Burdur, Bucak-	1.82	324	P	Pn	18 15 49.1	+1.4
BUCA				S	Sn	18 16 09.4	-0.4
ELL	Elmali	1.84	299	PN	Pn	18 15 47.4	-0.6
EREN	Erenkoy	1.87	100	PN	Pn	18 15 49.5	+1.2
AKAS	Kas	1.90	282	PN	Pn	18 15 47.9	-1.0
AKAS	Kas	1.90	282	P	Pn	18 15 47.6	-1.3
AKAS				S	Sn	18 16 07.7	-4.2
KIZK	Mersin	1.91	71	PN	Pn	18 15 50.1	+1.3
KIZK	Mersin	1.91	71	P	Pn	18 15 49.2	+0.4
KIZK				S	Sn	18 16 11.3	-0.6
KMER	Konya-Meram	1.94	11	P	Pn	18 15 49.6	+0.2
KMER				S	Sn	18 16 11.5	-1.2
KMER				i AML	AML	18 16 14.0	
	comp=E,51nm,0.5s						
KONT	Konya--Tatoy	2.11	10	PN	Pn	18 15 52.6	+1.0
DOGA	KONYA_Doganhis	2.25	355	P	Pn	18 15 54.2	+0.7
DOGA				S	Sn	18 16 21.3	+1.0
DOGA				i AML	AML	18 16 27.0	
	comp=N,56nm,0.5s						
DOGA				i AML	AML	18 16 29.0	
	comp=Z,39nm,0.4s						
DOGA				i AML	AML	18 16 29.0	
	comp=E,42nm,0.6s						
ISP	Isparta	2.25	331	PN	Pn	18 15 54.1	+0.5
BAGO	Egridir - ISPA	2.31	337	P	Pn	18 15 55.3	+1.0
BAGO				S	Sn	18 16 24.5	+2.9
MERS	Mersin	2.33	64	PN	Pn	18 15 56.2	+1.5
BRDR	BURDUR-Merkez	2.35	322	P	Pn	18 15 56.4	+1.4
BRDR				S	Sn	18 16 23.5	+0.6
KERG	Konya-Eregli	2.36	48	P	Pn	18 15 54.9	-0.2
KERG				S	Sn	18 16 21.5	-1.5
KERG				i AML	AML	18 16 25.0	
	comp=N,47nm,0.3s						
LADK	Ladik-KONYA	2.36	9	PN	Pn	18 15 55.7	+0.6
OSC1	CSNet OBS 1	2.42	193	P	Pn	18 15 56.8	+1.1
OSC1				S	Sn	18 16 26.6	+2.5
YESY	Yesilyurt	2.42	37	PN	Pn	18 15 57.0	+1.2
YVAC	Isparta, Yalva	2.46	348	P	Pn	18 15 56.9	+0.5
YVAC				S	Sn	18 16 26.0	+0.6
KDHN	Kadinhani	2.66	4	P	Pn	18 15 58.6	-0.5
KDHN				S	Sn	18 16 28.2	-2.0
GULE	Gulek	2.71	58	P	Pn	18 16 00.9	+1.1
GULE				S	Sn	18 16 28.8	-2.8
GULE				i AML	AML	18 16 39.0	
	comp=N,28nm,0.3s						
GULE				i AML	AML	18 16 43.0	
	comp=E,37nm,0.7s						
OSC2	CSNet OBS 4	2.80	174	P	Pn	18 15 57.4	-3.5
OSC2				S	Sn	18 16 32.2	-1.3
TAVA	DENIZLI_Tavas	2.89	304	P	Pn	18 16 08.4	+6.1
TAVA				S	Sn	18 16 35.4	-0.5
PASA	Karahalli, USA	3.15	323	P	Pn	18 16 06.2	+0.4
PASA				S	Sn	18 16 41.7	-0.5
YURE	YUREGIR	3.15	71	P	Pn	18 16 06.1	+0.3
YURE				S	Sn	18 16 39.6	-2.7

IDC 08 18:29:35.1±5.5, 19.°04S×177.°94W, h590km±46km, mb2.6/4, mbtmp3.6/5, Error ellipse: s-maj=226.9km s-min=28.2km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.03	288	P	P	18 31 00.2	0.0
	4.5nm,0.4s,baz=261,slow=22,SNR=11						
CTA	Charters Tower	33.72	262	P	P	18 35 28.9	-0.3
	1.4nm,0.5s,baz=73,slow=11						
	1.4nm,0.5s						
WRA	Warramunga Arr	44.88	261	P	P	18 36 58.8	+0.2
	0.2nm,0.4s,baz=97,slow=7.6,SNR=10						
	0.2nm,0.4s						
ASAR	Alice Springs	44.93	255	P	P	18 36 58.6	-0.3
	0.4nm,0.7s,baz=88,slow=8.5,SNR=12						
	0.4nm,0.7s						
TXAR	Lajitas Array	86.22	57	P	P	18 41 15.4	-0.1
	0.3nm,0.6s,baz=232,slow=6.2,SNR=3.6						
	0.3nm,0.6s						

*NOU **08** 18:29:46.4, 19.°01S×176.°72W, h524km, mb4.4/15, Fiji Islands Region*
*IDC **08** 18:29:55.9±1.5, 19.°12S×177.°68W, h574km±16km, mb3.6/14, mbtmp4.5/16, Error ellipse: s-maj=15.8km s-min=13.1km az=127.0*
*NEIC **08** 18:29:55.3±1.9, 19.°3S±0.°1×177.°5W±0.°1, h568km±7km, mb4.3/81, Error ellipse: s-maj=15.5km s-min=14.1km az=136.0*

ISC 08 18:29:56.2±0.9, 19.°22S±0.°07×177.°65W±0.°08, h582km±8km, n190, σ0.s91/207, mb4.3/54, 18C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.34	289	P	P	18 31 22.4	-0.5
	35nm,0.4s,baz=159,slow=7.5,SNR=48						
MSVF				S	S	18 32 34.2	+0.6
	21nm,0.9s,baz=128,slow=16,SNR=6.1						
MSVF	Nonsavu	4.34	289		P	18 31 22.2	-0.7
NIUE	Niue	7.30	90	P	P	18 31 45.2	-3.0
AFI	Afiamalu	7.72	48	P	P	18 31 48.0	-4.4
	110nm,0.5s,baz=157,slow=0.8,SNR=30						
AFI				S	S	18 33 18.3	-9.2
	55nm,0.5s,baz=1.6,slow=23,SNR=4.4						
FUNA	Funafuti	11.07	344	P	P	18 32 24.8	-0.7
MARNC	Mare, Loyalty	13.62	258	P	P	18 32 50.2	-1.3
OUENC	Ouen Island, N	14.85	255	P	P	18 33 02.9	-0.6
DZM	Mont Dzumac	15.16	256	P	P	18 33 05.1	-1.5
	8.7nm,0.7s,baz=85,slow=16,SNR=6.8						
DZM	Mont Dzumac	15.16	256	P	P	18 33 06.7	+0.2
DZM				IAmb	IAmb	18 33 09.7	
	comp=Z,18nm,1.0s						
KOUNC	Koumac, New Ca	17.05	263	P	P	18 33 26.2	+2.3
	comp=Z,32nm,1.2s						
OUZ	Omahuta	17.72	204	P	P	18 33 30.2	+0.4
BKZ	Black Stump Fm	20.51	193	P	P	18 33 52.5	-2.7
BKZ				IAmb	IAmb	18 34 17.4	
	comp=Z,18nm,1.2s						
BFZ	Birch Farm	22.02	192	P	P	18 34 06.4	-2.3
PLWZ	Palliser	23.08	194	P	P	18 34 15.9	-2.2
QRZ	Quartz Range	23.12	199	P	P	18 34 17.6	-0.8
LTZ	Lake Taylor	24.98	198	P	P	18 34 32.1	-2.9
MLZ	Mavora Lakes	28.62	201	P	P	18 35 05.3	-1.5
WHZ	Wether Hill Ro	29.14	201	P	P	18 35 11.7	+0.5
ARMA	Armidale	29.94	242	P	P	18 35 18.9	+0.4
RMQ	Roma	31.72	251	P	P	18 35 34.4	+0.7
CTAO	Charters Tower	33.97	262	P	P	18 35 52.8	+0.1
CTAO				IAmb	IAmb	18 35 53.6	
	comp=Z,7.5nm,0.8s						
PATS	Pohnpei	35.09	315	P	P	18 36 02.6	+0.5
CMSA	Cobar Meteorol	35.16	242	P	P	18 36 02.8	+0.4
PMG	Port Moresby	35.40	281	P	P	18 36 05.2	+0.5
	comp=Z,24nm,0.8s,baz=79,slow=5.5,SNR=15						
	comp=Z,24nm,0.8s						
PMG	Port Moresby	35.40	281	P	P	18 36 04.7	0.0
PMG	Port Moresby	35.40	281	P	P	18 36 05.3	+0.6
QLP	Quilpie	35.77	251	P	P	18 36 08.6	+1.0
TOO	Toolangi	36.92	233	P	P	18 36 17.3	+0.4
TOO				IAmb	IAmb	18 36 17.7	
	comp=Z,8.3nm,0.8s						
COEN	Coen	37.85	272	P	P	18 36 24.9	+0.1
COEN				IAmb	IAmb	18 36 25.9	
	comp=Z,8.6nm,0.7s						
COEN	Coen	37.85	272	P	P	18 36 25.3	+0.5
BRAT	Ballarat	38.09	233	P	P	18 36 28.6	+2.2
	comp=Z,8.0nm,0.9s						
STKA	Stephens Creek	38.65	243	P	P	18 36 31.4	+0.5
	comp=Z,9.7nm,0.9s,baz=77,slow=9.3,SNR=14						
STKA				PcP	PcP	18 38 28.4	+0.5
	comp=Z,2.1nm,0.6s,baz=80,slow=6.1,SNR=3.6						
	comp=Z,9.7nm,0.9s						
STKA	Stephens Creek	38.65	243	P	P	18 36 31.5	+0.5
STKA	Stephens Creek	38.65	243	P	P	18 36 31.7	+0.7
HTT	Hallett	41.12	241	P	P	18 36 51.0	+0.2
LCRK	Leigh Creek	41.35	246	P	P	18 36 52.8	+0.2
BBOO	Buckleboo	43.42	242	P	P	18 37 08.6	-0.2
BBOO				IAmb	IAmb	18 37 09.1	
	comp=Z,13nm,0.7s						
OOD	Oodnadatta	43.42	250	P	P	18 37 09.4	+0.6
MULG	Mulgathing	44.93	246	P	P	18 37 20.1	-0.2
WB0	Warramunga Arr	45.09	261	P	P	18 37 21.0	-0.8
WB0				IAmb	IAmb	18 37 21.6	
	comp=Z,4.0nm,0.6s						
WB0				PcP	PcP	18 38 48.9	-1.0
WB2	Warramunga Arr	45.11	261	P	P	18 37 21.2	-0.6
WB2				PcP	PcP	18 38 48.7	-1.2
WRAB	Tennant Creek	45.11	261	P	P	18 37 21.0	-0.9
WRAB				PcP	PcP	18 38 49.5	-0.4
WRA	Warramunga Arr	45.12	261	P	P	18 37 21.2	-0.7
	comp=Z,1.6nm,0.3s,baz=97,slow=7.6,SNR=79						
WRA				PcP	PcP	18 38 50.0	0.0
	comp=Z,1.6nm,0.4s,baz=93,slow=3.6,SNR=8.3						
WRA				S	S	18 43 18.3	-1.7
	comp=Z,1.1nm,0.9s,baz=93,slow=14,SNR=7.6						
WRA				PKiKP	PKiKP	18 45 44.2	-1.8
	comp=Z,0.1nm,0.6s,baz=88,slow=0.5,SNR=6.2						
	comp=Z,1.6nm,0.3s						
WRA	Warramunga Arr	45.12	261	P	P	18 37 20.6	-1.3
WRA				PcP	PcP	18 38 49.9	0.0
AS31	Alice Springs	45.15	255	P	P	18 37 21.8	-0.4
AS31					PcP	18 38 49.8	-0.2
AS31					S	18 43 19.7	-0.5

ASAR	**Alice Springs**	**45.15**	**255**	P	**P**	**18 37 21.9**	**-0.3**
	comp=Z,4.4nm,0.6s,baz=88,slow=7.6,SNR=130						
ASAR				PcP	**PcP**	**18 38 50.0**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=102,slow=3.8,SNR=15						
ASAR				S	**S**	**18 43 19.4**	**-0.9**
	comp=Z,4.0nm,0.8s,baz=91,slow=16,SNR=29						
	comp=Z,4.4nm,0.6s						
ASAR	**Alice Springs**	**45.15**	**255**	P	**P**	**18 37 21.3**	**-0.9**
ASAR				PcP	**PcP**	**18 38 49.4**	**-0.7**
FORT	**Forrest**	**50.11**	**246**	P	**P**	**18 37 58.4**	**-0.7**
SOEI	**Soe**	**56.80**	**271**	P	**P**	**18 38 48.2**	**+1.5**
SOEI				IAmb	IAmb	18 39 22.9	
	comp=Z,38nm,1.5s						
PSA00	**Pilbara Seismi**	**58.29**	**256**		**P**	**18 38 56.1**	**-0.5**
PSA00				PcP	**PcP**	**18 39 39.5**	**-0.3**
PSA00	**Pilbara Seismi**	**58.29**	**256**	P	**P**	**18 38 56.0**	**-0.5**
PSA00				IAmb	IAmb	18 39 07.2	
	comp=Z,36nm,1.4s						
PSA00				PcP	**PcP**	**18 39 38.5**	**-1.3**
MBWA	**Marble Bar**	**58.46**	**257**	P	**P**	**18 38 56.9**	**-0.8**
MBWA				IAmb	IAmb	18 39 34.9	
	comp=Z,22nm,1.2s						
MMRI	**Maumere**	**59.05**	**271**	P	**P**	**18 39 00.8**	**-0.9**
MMRI				IAmb	IAmb	18 39 29.7	
	comp=Z,15nm,0.9s						
SBA	**Scott Base**	**59.16**	**184**	P	**P**	**18 39 03.2**	**+1.9**
SBA				IAmb	IAmb	18 39 04.7	
	comp=Z,18nm,0.9s						
SBA				PcP	**PcP**	**18 39 41.1**	**-1.1**
VNDA	**Vanda**	**59.20**	**185**	P	**P**	**18 39 03.0**	**+1.3**
	comp=Z,4.6nm,0.8s,baz=359,slow=7.7,SNR=29						
	comp=Z,4.6nm,0.8s						
VNDA	**Vanda**	**59.20**	**185**	P	**P**	**18 39 02.7**	**+1.1**
NWAO	**Narrogin (SRO)**	**59.24**	**243**	P	**P**	**18 39 02.3**	**-0.4**
NWAO				IAmb	IAmb	18 39 21.9	
	comp=Z,37nm,1.4s						
JCJ	**Chichijima**	**60.30**	**319**	P	**P**	**18 39 11.6**	**+1.9**
JCJ				PcP	**PcP**	**18 39 50.0**	**+2.4**
MORW	**Morawa**	**60.62**	**247**	P	**P**	**18 39 11.4**	**-0.6**
MORW				IAmb	IAmb	18 39 39.9	
	comp=Z,19nm,1.2s						
GIRL	**Giralia**	**63.22**	**254**	P	**P**	**18 39 29.9**	**+1.0**
CASY	**Casey**	**65.25**	**205**	P	**P**	**18 39 42.9**	**+2.0**
CASY				IAmb	IAmb	18 39 45.4	
	comp=Z,8.8nm,0.9s						
JMM	**Marumori**	**68.93**	**326**	P	**P**	**18 40 03.6**	**-0.2**
MJAR	**Matsushiro Arr**	**69.39**	**323**	P	**P**	**18 40 06.1**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=159,slow=6.5,SNR=5.2						
	comp=Z,2.3nm,0.6s						
MAJO	**Matsushiro**	**69.39**	**323**	P	**P**	**18 40 06.2**	**-0.5**
MAJO				IAmb	IAmb	18 40 21.1	
	comp=Z,28nm,1.5s						
MJB9	**Matsu-Tunnel**	**69.39**	**323**	P	**P**	**18 40 07.0**	**+0.4**
MJB9				IAmb	IAmb	18 40 22.1	
	comp=Z,26nm,1.5s						
UGM	**Wanagama**	**70.33**	**268**	P	**P**	**18 40 12.7**	**-0.1**
QSPA	**South Pole Qui**	**70.84**	**180**	P	**P**	**18 40 15.5**	**+0.6**
JKA	**Kamikawa-asahi**	**72.77**	**331**	P	**P**	**18 40 27.5**	**+1.3**
PEA0B	**Petropavlovsk-**	**75.13**	**345**	P	**P**	**18 40 39.1**	**-0.2**
PETK	**Petropavlovsk-**	**75.13**	**345**	P	**P**	**18 40 38.9**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=121,slow=7.2,SNR=5.2						
	comp=Z,2.2nm,0.8s						
PETK	**Petropavlovsk-**	**75.13**	**345**	P	**P**	**18 40 39.6**	**+0.3**
ISA	**Isabella, Lake**	**78.21**	**46**	P	**P**	**18 40 57.0**	**+0.4**
CMB	**Columbia Colle**	**78.30**	**43**	P	**P**	**18 40 57.2**	**+0.1**
YUH	**Yuha Desert**	**78.35**	**49**	P	**P**	**18 40 58.0**	**+0.7**
OHAK	**Old Harbor**	**78.84**	**13**	P	**P**	**18 40 59.1**	**-0.2**
OHAK				IAmb	IAmb	18 41 27.1	
	comp=Z,34nm,1.2s						
YBH	**Yreka Blue Hor**	**79.09**	**39**	P	**P**	**18 41 02.2**	**+1.0**
YBH				IAmb	IAmb	18 41 20.4	
	comp=Z,14nm,1.5s						
WAKR	**Walker**	**79.19**	**43**	P	**P**	**18 41 02.8**	**+0.9**
BEKR	**Beckworth**	**79.39**	**41**	P	**P**	**18 41 03.2**	**+0.3**
PNTR	**Pine Nut**	**79.42**	**42**	P	**P**	**18 41 03.8**	**+0.6**
PNTR				IAmb	IAmb	18 41 04.7	
	comp=Z,10nm,0.8s						
YERR	**Yerington**	**79.59**	**42**	P	**P**	**18 41 04.7**	**+0.7**
YERR				IAmb	IAmb	18 41 05.3	
	comp=Z,6.8nm,0.6s						
LCH	**Last Change Ra**	**79.64**	**45**	P	**P**	**18 41 05.0**	**+0.7**
SMAI	**San Martin Ant**	**79.67**	**159**	P	**P**	**18 41 04.9**	**+1.2**
NVAR	**Mina Array Bea**	**79.87**	**43**	P	**P**	**18 41 06.0**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=222,slow=9.1,SNR=12						
	comp=Z,1.6nm,0.6s						
NVAR	**Mina Array Bea**	**79.87**	**43**	P	**P**	**18 41 06.4**	**+0.8**
KVN	**Kaiserville**	**80.36**	**43**	P	**P**	**18 41 08.2**	**+0.2**
KVN				IAmb	IAmb	18 41 09.2	
	comp=Z,6.8nm,1.2s						
K05A	**Summer Lake**	**80.77**	**39**	P	**P**	**18 41 11.1**	**+1.1**
K05A				IAmb	IAmb	18 41 11.8	
	comp=Z,14nm,1.0s						
BELA	**Belgrano 2**	**80.77**	**173**	P	**P**	**18 41 09.2**	**-0.1**
BELA				IAmb	IAmb	18 41 10.1	
	comp=Z,25nm,1.2s						
H04A	**Detroit Lake**	**81.21**	**36**	P	**P**	**18 41 12.4**	**+0.3**
H04A				IAmb	IAmb	18 41 34.0	
	comp=Z,4.9nm,1.0s						
PINE	**Pine Mountain**	**81.38**	**38**	P	**P**	**18 41 13.4**	**+0.2**
PRN	**Pahroc Range**	**81.47**	**46**	P	**P**	**18 41 14.3**	**+0.6**
PRN				IAmb	IAmb	18 41 15.5	
	comp=Z,6.2nm,1.0s						
R11A	**Troy Canyon, C**	**81.61**	**45**	P	**P**	**18 41 14.3**	**-0.1**
BMN	**Battle Mountai**	**81.69**	**42**	P	**P**	**18 41 15.0**	**+0.2**
BMN				IAmb	IAmb	18 41 16.2	
	comp=Z,6.8nm,1.0s						
TUC	**Tucson**	**81.93**	**52**	P	**P**	**18 41 16.6**	**+0.4**
TUC				IAmb	IAmb	18 41 18.6	
	comp=Z,8.9nm,1.0s						
WVOR	**Wild Horse Val**	**81.94**	**40**	P	**P**	**18 41 15.8**	**-0.2**
I07A	**Izee**	**82.39**	**38**	P	**P**	**18 41 18.6**	**+0.4**
I07A				IAmb	IAmb	18 41 19.8	
	comp=Z,8.8nm,0.9s						
U15A	**North Rim**	**82.86**	**48**	P	**P**	**18 41 20.9**	**-0.1**
U15A				IAmb	IAmb	18 41 22.9	
	comp=Z,8.4nm,0.8s						
MAW	**Mawson**	**82.87**	**200**	P	**P**	**18 41 21.1**	**+1.0**
	comp=Z,4.7nm,0.6s,baz=138,slow=6.9,SNR=19						
	comp=Z,4.7nm,0.6s						
MAW	**Mawson**	**82.87**	**200**	P	**P**	**18 41 20.8**	**+0.7**
ELK	**Elko**	**83.12**	**43**	P	**P**	**18 41 22.0**	**-0.1**
G08A	**Pilot Rock**	**83.41**	**37**	P	**P**	**18 41 22.8**	**-0.5**
G08A				IAmb	IAmb	18 41 24.6	
	comp=Z,6.7nm,1.1s						
MTPU	**Mount Pierson**	**83.74**	**46**	P	**P**	**18 41 26.1**	**+0.7**
121A	**Cookes Peak, D**	**84.28**	**53**	P	**P**	**18 41 27.2**	**-0.7**
121A				IAmb	IAmb	18 41 30.3	
	comp=Z,6.0nm,0.8s						
TMUT	**Trail Mountain**	**85.03**	**46**	P	**P**	**18 41 31.0**	**-0.6**
SRU	**San Rafael Swe**	**85.40**	**46**	P	**P**	**18 41 32.8**	**-0.5**
SRU				IAmb	IAmb	18 41 55.7	
	comp=Z,6.5nm,0.7s						
TX31	**Lajitas Ar. Si**	**86.09**	**57**	P	**P**	**18 41 36.7**	**0.0**
TX32	**Lajitas Array**	**86.09**	**57**	P	**P**	**18 41 36.4**	**-0.2**
TX32				IAmb	IAmb	18 41 38.8	
	comp=Z,7.3nm,0.9s						
TXAR	**Lajitas Array**	**86.09**	**57**	P	**P**	**18 41 37.8**	**+1.2**
	comp=Z,4.3nm,0.7s,baz=214,slow=6.8,SNR=35						
	comp=Z,4.3nm,0.7s						
TXAR	**Lajitas Array**	**86.09**	**57**	P	**P**	**18 41 37.0**	**+0.4**
ANMO	**Albuquerque**	**86.35**	**51**	P	**P**	**18 41 37.6**	**-0.2**
ANMO				IAmb	IAmb	18 41 39.2	
	comp=Z,4.0nm,0.9s						
MCMT	**McKenzie Canyo**	**86.77**	**40**	P	**P**	**18 41 39.7**	**+0.1**
ILAR	**Eielson Array**	**87.00**	**13**	P	**P**	**18 41 39.0**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=233,slow=5.2,SNR=14						
	comp=Z,1.1nm,0.7s						
DLMT	**Dillon**	**87.20**	**40**	P	**P**	**18 41 40.8**	**-0.7**
DLMT				IAmb	IAmb	18 41 42.5	
	comp=Z,4.8nm,0.8s						
IMW	**Indian Meadow**	**87.48**	**42**	P	**P**	**18 41 42.9**	**-0.1**
IMW				IAmb	IAmb	18 41 44.8	
	comp=Z,3.0nm,0.8s						
QLMT	**Earthquake Lak**	**87.64**	**41**	P	**P**	**18 41 44.5**	**+0.8**
YHL	**Hebgen Lake**	**87.80**	**41**	P	**P**	**18 41 45.4**	**+0.8**
YHL				IAmb	IAmb	18 41 46.8	
	comp=Z,7.8nm,1.0s						
PDAR	**Pinedale Array**	**87.81**	**43**	P	**P**	**18 41 44.6**	**0.0**
	comp=Z,1.4nm,0.7s,baz=204,slow=3.1,SNR=14						
	comp=Z,1.4nm,0.7s						
BOZ	**Bozeman (W)**	**87.90**	**40**	P	**P**	**18 41 45.2**	**+0.3**
BOZ				IAmb	IAmb	18 41 46.5	
	comp=Z,4.6nm,0.9s						
YHH	**Holmes Hill**	**87.98**	**41**	P	**P**	**18 41 44.8**	**-0.6**
YHH				IAmb	IAmb	18 41 48.6	
	comp=Z,6.1nm,1.2s						
MSTX	**Muleshoe**	**88.69**	**53**	P	**P**	**18 41 47.8**	**-1.0**
HHC	**Hu-ho-hao-te**	**88.70**	**314**	*e*P	**P**	**18 41 52.3**	**+3.7**
HHC				pmax	pmax		
	comp=Z,37nm,0.8s						
HHC				pmax	pmax		
	comp=Z,410nm,4.7s						
TROLL	**Troll, Antarti**	**89.00**	**180**	P	**P**	**18 41 49.2**	**-0.3**
SNAA	**Sanae**	**89.27**	**178**	P	**P**	**18 41 50.0**	**-0.7**
VNA3	**Neumayer Olymp**	**89.39**	**176**	P	**P**	**18 41 50.8**	**-0.4**
VNA2	**Neumayer--Watz**	**89.83**	**177**	P	**P**	**18 41 53.0**	**-0.2**
	baz=181,slow=4.6						
PLCA	**Paso Flores**	**89.91**	**133**	P	**P**	**18 41 55.0**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=246,slow=5.7,SNR=4.8						
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**90.00**	**289**	P	**P**	**18 41 56.7**	**+1.7**
	comp=Z,0.7nm,0.4s,baz=127,slow=3.0,SNR=12						
	comp=Z,0.7nm,0.4s						
VNA1	**Neumayer--Stat**	**90.06**	**176**	P	**P**	**18 41 54.1**	**-0.1**
ZALV	**Zalesovo Beam**	**109.71**	**322**	PKiKP	**PKiKP**	**18 47 20.1**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=23,slow=1.3,SNR=5.8						
MKAR	**Makanchi Array**	**110.56**	**314**	PKiKP	**PKiKP**	**18 47 22.1**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=186,slow=0.6,SNR=29						
MKAR				PKKPbc	**PKKPbc**	**18 58 23.7**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=339,slow=3.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**113.33**	**318**	PKKPbc	PKKPbc	18 58 15.4	-0.9
	comp=Z,0.2nm,0.2s,baz=277,slow=4.5,SNR=5.0						
KK31	**Karatay Array**	**118.71**	**309**		**PKPdf**	**18 47 37.7**	**-1.3**
GAR	**Garm**	**118.78**	**305**		**PKPdf**	**18 47 38.5**	**-1.0**
BOSA	**Boshof**	**127.54**	**206**	PKP	**PKPdf**	**18 47 57.0**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=183,slow=1.6,SNR=6.6						
ARCES	**ARCESS Array B**	**127.73**	**350**	PKP	**PKPdf**	**18 47 55.3**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=19,slow=1.3,SNR=20						
GEYT	**Alibeck**	**128.37**	**304**	PKP	**PKPdf**	**18 47 56.8**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=250,slow=4.3,SNR=4.9						
FINES	**FINESS Array B**	**134.65**	**344**	PKP	**PKPdf**	**18 48 08.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=35,slow=7.0,SNR=3.9						
FINES				SKPbc	**SKPab**	**18 50 47.1**	**-2.3**
	comp=Z,4.8nm,0.9s,baz=151,slow=3.2,SNR=3.4						
NB2	**NORSAR Subarra**	**137.76**	**354**	PKP	**PKPdf**	**18 48 15.6**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=14,slow=2.5						
NOA	**NORSAR Array B**	**137.76**	**354**	PKP	**PKPdf**	**18 48 14.2**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=13,slow=4.1,SNR=4.2						
AKASG	**Malin Array Be**	**142.06**	**332**	PKhKP	PKPpre	18 48 18.0	
	comp=Z,1.0nm,0.3s,baz=42,slow=4.2,SNR=14						
SORM	**Soroca**	**144.28**	**330**	⇑P	PKPbc	18 48 25.8	-0.7
VASR	**Vaslui**	**145.60**	**328**	⇑P	**PKPbc**	**18 48 30.4**	**0.0**
VLDR	**Vladesti**	**146.00**	**327**	⇑P	**PKPbc**	**18 48 31.8**	**+0.2**
VARL	**Varlezi**	**146.09**	**327**	⇑P	**PKPbc**	**18 48 31.6**	**-0.2**
BURAR	**Bucovina Array**	**146.11**	**332**	⇑P	**PKPab**	**18 48 33.2**	**-1.0**
GHRR		**146.20**	**328**	⇑P	**PKPab**	**18 48 33.1**	**-1.3**
BRTR	**Keskin Array B**	**146.21**	**314**	PKPbc	**PKPdf**	**18 48 30.8**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=130,slow=5.0,SNR=9.2						
TESR	**Tescani**	**146.25**	**329**	⇓P	**PKPbc**	**18 48 32.1**	**-0.2**
STHS	**Stebnicka Huta**	**146.28**	**338**	*e*PKP	**PKPbc**	**18 48 32.0**	**-0.3**
KOLS	**Kolonicke sedl**	**146.29**	**336**	*e*PKP	**PKPbc**	**18 48 33.3**	**+1.0**
CFR	**Carcaliu**	**146.43**	**326**	⇑P	**PKPbc**	**18 48 32.9**	**+0.1**
PANC	**Panciu**	**146.46**	**328**	⇑P	**PKPbc**	**18 48 33.3**	**+0.4**
TPGR	**Topolog**	**146.49**	**326**	⇑P	**PKPdf**	**18 48 29.6**	**-0.9**
VRI	**Vrincioaia**	**146.67**	**328**	⇑P	**PKPbc**	**18 48 33.3**	**-0.2**
ANTO	**Ankara**	**146.72**	**315**	⇑P	**PKPbc**	**18 48 32.7**	**-1.2**
OSTC	**Ostas**	**146.85**	**344**	*e*PKP	**PKPbc**	**18 48 34.2**	**+0.4**
HARR	**Harsova**	**146.86**	**326**	⇑P	**PKPbc**	**18 48 34.4**	**+0.5**
ARCR	**ARCALIA**	**146.89**	**332**	⇑P	**PKPbc**	**18 48 33.5**	**-0.5**
COVR	**Voineasa-Covas**	**146.94**	**329**	⇑P	**PKPbc**	**18 48 33.8**	**-0.4**
UPC	**Upice**	**146.95**	**344**	*e*PKP	**PKPbc**	**18 48 33.6**	**-0.4**
DPC	**Dobruska-Polom**	**147.01**	**344**	*e*PKP	**PKPbc**	**18 48 34.8**	**+0.5**
KRLC	**Kraliky**	**147.13**	**343**	*e*PKP	**PKPbc**	**18 48 34.6**	**0.0**
DOPR	**Dopca**	**147.25**	**330**	⇑P	**PKPbc**	**18 48 35.2**	**+0.2**
MLR	**Muntele Rosu**	**147.33**	**329**	⇑P	**PKPbc**	**18 48 35.1**	**-0.2**
MAUC	**Maruska**	**147.46**	**341**	*e*PKP	**PKiKP**	**18 48 36.2**	**-0.8**
SECR		**147.59**	**328**	⇑P	**PKPbc**	**18 48 36.1**	**+0.2**
PRU	**Pruhonice**	**147.80**	**345**	*e*PKP	**PKPbc**	**18 48 36.4**	**+0.2**
VOIR		**147.80**	**329**	⇓P	**PKPbc**	**18 48 36.2**	**-0.3**
GOPC	**GO Pecny, Ondr**	**147.81**	**345**	*e*PKP	**PKPbc**	**18 48 36.5**	**+0.2**
TREC	**Trest**	**148.19**	**344**	*e*PKP	**PKPbc**	**18 48 37.2**	**-0.1**
KHC	**Kasperske Hory**	**148.82**	**346**	*e*PKP	**PKPbc**	**18 48 38.7**	**-0.2**
CKRC	**Cesky Krumlov**	**148.94**	**345**	*e*PKP	**PKPbc**	**18 48 38.5**	**-0.6**
GERES	**GERESS Array B**	**149.06**	**345**	PKPbc	**PKPbc**	**18 48 39.4**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=42,slow=2.2,SNR=26						
CONA	**Conrad Observa**	**149.33**	**342**	*i*P	**PKPbc**	**18 48 40.3**	**+0.1**
	comp=Z,9.8nm,0.8s						
RONA	**Rosalia, Austr**	**149.41**	**341**	*e*P	**PKPbc**	**18 48 40.4**	**+0.1**
	comp=Z,13nm,0.6s,SNR=9.0						
MOA	**Molln**	**149.84**	**344**	*e*P	**PKPbc**	**18 48 41.0**	**-0.3**
	comp=Z,4.3nm,0.6s						
MORH	**Mrgy, Hungar**	**149.92**	**337**	⇓P	**PKPbc**	**18 48 40.9**	**-0.6**
BIOA	**Bad Ischl, Aus**	**150.15**	**345**	*e*P	**PKPbc**	**18 48 41.5**	**-0.6**
	comp=Z,10.0nm,1.0s						
FRGS	**Fruska Gora**	**150.35**	**335**	⇑P	**PKPbc**	**18 48 42.2**	**-0.4**
SOKA	**Soboth**	**150.70**	**342**	*i*P	**PKPbc**	**18 48 42.6**	**-0.8**
	comp=Z,6.6nm,0.8s,SNR=5.9						
KBA	**Koelnbreinsper**	**150.80**	**345**	*i*P	**PKPbc**	**18 48 42.6**	**-1.1**
	comp=Z,6.1nm,0.5s						
WATA	**Walderalm**	**150.96**	**347**	*i*P	**PKPbc**	**18 48 43.5**	**-0.6**
	comp=Z,8.2nm,0.5s,SNR=8.0						
RETA	**Reutte**	**150.99**	**348**	*i*P	**PKPbc**	**18 48 43.7**	**-0.4**
	comp=Z,2.6nm,0.6s						
WTTA	**Wattenberg**	**151.02**	**347**	*e*P	**PKPbc**	**18 48 43.9**	**-0.4**
	comp=Z,16nm,0.5s,SNR=16						
MOTA	**Moosalm**	**151.05**	**348**	*i*P	**PKPbc**	**18 48 43.5**	**-0.8**
	comp=Z,11nm,0.9s						
MYKA	**Terra Mystica**	**151.13**	**344**	*i*P	**PKPbc**	**18 48 43.3**	**-1.1**
	comp=Z,7.6nm,0.5s						
SQTA	**Sankt Quirin**	**151.15**	**347**	*i*P	**PKPbc**	**18 48 44.1**	**-0.4**
	comp=Z,10nm,0.6s,SNR=6.3						
ABTA	**Abfaltersbach**	**151.31**	**345**	*i*P	**PKPbc**	**18 48 43.8**	**-1.0**
	comp=Z,15nm,0.5s,SNR=5.8						
FETA	**Feichten**	**151.44**	**348**	*i*P	**PKPbc**	**18 48 44.9**	**-0.3**
	comp=Z,4.8nm,0.6s,SNR=5.8						
FUORN	**Ofenpass-Fuorn**	**151.91**	**348**	PKPdf	**PKPdf**	**18 48 38.4**	**-0.9**
FUORN					**PKPbc**	**18 48 46.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**173.93**	**174**	PKP	**PKPdf**	**18 48 59.1**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=272,slow=2.7,SNR=7.3						
TORD				PKPab	**PKPab**	**18 50 34.6**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=163,slow=3.7,SNR=4.5						

---

*IDC **08** 19:08:20.9±1.6, 43.°61N×105.°39W, h0^{km}, mb3.7/1, mbtmp3.6/5, ML3.4/4, MS3.3/3, Error ellipse: s-maj=44.5km s-min=8.8km az=150.0*

*NEIC **08** 19:08:21.4±1.8, 43.°81N±0.°05×105.°33W±0.°05, h0^{km}±2^{km}, ML3.6/80, Error ellipse: s-maj=9.2km s-min=4.9km az=331.0*

ISC 08 19:08:21.2±1.0**, 43.°79N**±0.°06×**105.°36W**±0.°06**, h0**^{km}**, n76, σ0.^{s}93**/73**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**71**	Pg	**Pg**	**19 08 40.1**	**-0.5**
K22A	**Casper**	**1.43**	**217**		**Pn**	**19 08 47.0**	**-1.5**
K22A				IAML		19 09 12.7	
	comp=N,843nm,0.3s						
K22A				IAML		19 09 12.8	
	comp=E,549nm,0.3s						
PHWY	**Pilot Hill**	**2.49**	**182**		**Pn**	**19 09 03.2**	**-0.1**
RWWY	**Rawlins**	**2.51**	**214**		**Pn**	**19 09 04.6**	**+1.2**
RWWY				IAML		19 09 41.5	
	comp=E,327nm,1.0s						
N23A	**Red Feather La**	**2.93**	**189**	Pn	**Pn**	**19 09 09.8**	**+0.6**
N23A				IAML		19 09 56.0	
	comp=N,148nm,0.4s						
N23A				IAML		19 10 00.5	
	comp=E,157nm,1.2s						
LAO	**LASA Array**	**2.96**	**348**		**Pn**	**19 09 10.1**	**+0.6**
LAO				IAML		19 10 45.0	
	comp=E,197nm,2.5s						
RLMT	**Red Lodge**	**3.10**	**297**		**Pn**	**19 09 12.4**	**+0.9**
RLMT				IAML		19 10 06.5	
	comp=E,142nm,1.0s						
RLMT				IAML		19 10 07.0	
	comp=E,155nm,0.8s						
BW06	**Boulder Array**	**3.23**	**253**		**Pn**	**19 09 14.0**	**+0.6**
BW06				IAML		19 10 14.3	
	comp=E,92nm,1.1s						
PD31	**Pinedale Array**	**3.23**	**253**		**Pn**	**19 09 13.9**	**+0.5**
PDAR	**Pinedale Array**	**3.23**	**253**	Pn	**Pn**	**19 09 14.1**	**+0.7**
	comp=E,3.5nm,0.3s,baz=78,slow=16,SNR=80						
PDAR				Lg	Lg	19 10 00.4	
	comp=E,21nm,0.3s,baz=76,slow=31,SNR=7.7						
	comp=E,5.5nm,0.3s						
PDAR	**Pinedale Array**	**3.23**	**253**	Pn	**Pn**	**19 09 13.9**	**+0.5**
BRIGG	**Briggsdale**	**3.30**	**166**		**Pn**	**19 09 16.0**	**+1.7**
BRIGG				IAML		19 10 09.7	
	comp=E,115nm,0.7s						
BRIGG				IAML		19 10 13.5	
	comp=N,117nm,1.3s						
YMP	**Mirror Lake Pl**	**3.58**	**287**		**Pn**	**19 09 17.5**	**-0.6**
GCMT	**Greycliff**	**3.66**	**305**		**Pn**	**19 09 20.3**	**+1.1**
LKWY	**Lake**	**3.71**	**284**		**Pn**	**19 09 20.0**	**0.0**
LKWY				IAML		19 10 35.2	
	comp=N,92nm,1.2s						
LKWY				IAML		19 10 51.2	
	comp=N,61nm,1.1s						
OGNE	**Ogallala**	**3.76**	**138**	Pn	**Pn**	**19 09 21.4**	**+0.9**
H17A	**Grant Village**	**3.81**	**281**		**Pn**	**19 09 21.8**	**+0.4**
H17A				IAML		19 10 27.5	
	comp=N,59nm,0.9s						
LOHW	**Long Hollow**	**3.81**	**269**		**Pn**	**19 09 20.7**	**-0.6**
YUF	**Upper Falls**	**3.82**	**286**	Pn	**Pn**	**19 09 21.3**	**-0.2**
FLWY	**Flagg Ranch**	**3.87**	**276**		**Pn**	**19 09 22.3**	**+0.1**
FLWY				IAML		19 10 36.5	
	comp=N,103nm,1.4s						
MOOW	**Moose Ponds**	**3.90**	**271**	Pn	**Pn**	**19 09 23.9**	**+1.3**
SNOW	**Snow King Moun**	**3.93**	**267**		**Pn**	**19 09 23.7**	**+0.7**
SNOW				IAML		19 10 43.4	
	comp=N,77nm,1.1s						
SNOW				IAML		19 10 50.1	
	comp=N,101nm,1.1s						
YNR	**Norris Junctio**	**3.93**	**285**		**Pn**	**19 09 21.8**	**-1.3**
REDW	**Red Top Meadow**	**4.02**	**266**		**Pn**	**19 09 25.6**	**+1.4**
REDW				IAML		19 10 37.0	
	comp=N,92nm,1.2s						
REDW				IAML		19 10 45.8	
	comp=N,94nm,1.3s						
IMW	**Indian Meadow**	**4.04**	**273**	Pn	**Pn**	**19 09 23.6**	**-0.9**
IMW				IAML		19 10 33.6	
	comp=N,47nm,1.1s						
IMW				IAML		19 11 12.2	
	comp=N,82nm,0.2s						
YHH	**Holmes Hill**	**4.07**	**286**	Pn	**Pn**	**19 09 24.1**	**-0.8**
TPAW	**Teton Pass**	**4.07**	**268**		**Pn**	**19 09 26.3**	**+1.3**
TPAW				IAML		19 10 42.6	
	comp=N,70nm,1.0s						
TPAW				IAML		19 10 51.2	
	comp=N,97nm,1.0s						
FXWY	**Fox Creek**	**4.11**	**270**		**Pn**	**19 09 25.8**	**+0.3**
YMR	**Madison River**	**4.12**	**284**		**Pn**	**19 09 23.8**	**-1.9**
O20A	**White River Ci**	**4.24**	**211**		**Pn**	**19 09 26.2**	**-1.0**
O20A				IAML		19 10 38.6	
	comp=E,75nm,1.5s						
O20A				IAML		19 10 50.1	
	comp=N,88nm,1.8s						
YHB	**Horse Butte**	**4.30**	**285**		**Pn**	**19 09 26.7**	**-1.4**
YHB				IAML		19 10 48.9	
	comp=N,40nm,1.1s						
YHL	**Hebgen Lake**	**4.31**	**286**		**Pn**	**19 09 28.6**	**+0.3**
YHL				IAML		19 10 45.0	
	comp=N,83nm,1.1s						
YHL				IAML		19 10 47.3	
	comp=E,76nm,1.0s						
E28A	**Huff**	**4.31**	**48**		**Pn**	**19 09 29.2**	**+1.1**
QLMT	**Earthquake Lak**	**4.48**	**285**		**Pn**	**19 09 30.1**	**-0.5**
RDMU	**Red Mountain**	**4.49**	**226**		**Pn**	**19 09 30.4**	**-0.3**
RDMU				IAML		19 10 48.3	
	comp=E,67nm,1.1s						
RDMU				IAML		19 10 49.3	
	comp=N,67nm,0.9s						
DGMT	**Dagmar**	**4.75**	**9**	Pn	**Pn**	**19 09 34.1**	**+0.1**
SMCO	**Snowmass**	**4.77**	**195**		**Pn**	**19 09 33.9**	**-0.7**
SMCO				IAML		19 10 56.4	
	comp=N,56nm,0.9s						
SMCO				IAML		19 11 01.8	
	comp=N,51nm,1.2s						
BOZ	**Bozeman (W)**	**4.82**	**294**		**Pn**	**19 09 34.5**	**-0.6**
BOZ				IAML		19 10 54.8	
	comp=N,44nm,1.3s						
BOZ				IAML		19 10 54.8	
	comp=N,39nm,1.2s						
Q24A	**Divide**	**4.83**	**178**		**Pn**	**19 09 33.9**	**-1.5**
Q24A				IAML		19 11 00.5	
	comp=E,41nm,1.0s						
HWUT	**Hardware Ranch**	**5.07**	**247**	Pn	**Pn**	**19 09 38.3**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.20**	**156**	Pn	**Pn**	**19 09 38.6**	**-1.7**
TCUT	**Toone Canyon**	**5.21**	**241**		**Pn**	**19 09 39.0**	**-1.6**
EGMT	**Eagleton**	**5.23**	**326**		**Pn**	**19 09 40.2**	**-0.5**
DLMT	**Dillon**	**5.40**	**289**		**Pn**	**19 09 41.9**	**-1.3**
HRY	**Holter Researc**	**5.42**	**305**		**Pn**	**19 09 43.4**	**0.0**
LRM	**Limekiln Ridge**	**5.44**	**294**		**Pn**	**19 09 43.1**	**-0.7**
MCMT	**McKenzie Canyo**	**5.47**	**283**		**Pn**	**19 09 43.8**	**-0.5**
JLU	**Jordanelle**	**5.54**	**237**		**Pn**	**19 09 45.2**	**+0.1**
P18A	**Preston Nutter**	**5.54**	**223**		**Pn**	**19 09 45.5**	**+0.3**
MDND	**Maddock**	**5.71**	**43**		**Pn**	**19 09 46.6**	**-0.7**
SPUT	**South Promonto**	**5.80**	**247**		**Pn**	**19 09 49.6**	**+1.1**
HVU	**Hansel Valley**	**5.82**	**252**		**Pn**	**19 09 49.5**	**+0.7**
PV07	**Paradox Valley**	**5.90**	**206**		**Pn**	**19 09 50.7**	**+0.7**
P17A	**Butcher Ranch,**	**5.91**	**225**		**Pn**	**19 09 51.4**	**+1.3**
PV15	**Paradox Valley**	**5.94**	**204**		**Pn**	**19 09 51.3**	**+0.7**
PV23	**Carpenter Ridg**	**6.01**	**209**	Pn	**Pn**	**19 09 51.7**	**+0.2**
SDCO	**Great Sand Dun**	**6.04**	**181**		**Pn**	**19 09 51.6**	**-0.4**
SRU	**San Rafael Swe**	**6.08**	**221**		**Pn**	**19 09 52.4**	**0.0**
PV10	**Paradox Valley**	**6.08**	**208**		**Pn**	**19 09 54.6**	**+2.0**
PV11	**David Mesa, Pa**	**6.10**	**207**		**Pn**	**19 09 52.8**	**0.0**
S22A	**4UR Ranch, Cre**	**6.14**	**191**	Pn	**Pn**	**19 09 53.8**	**+0.3**
PV13	**Radium Mtn., P**	**6.21**	**206**		**Pn**	**19 09 54.4**	**+0.1**
TMUT	**Trail Mountain**	**6.28**	**226**		**Pn**	**19 09 55.9**	**+0.5**
NLU	**North Lily Min**	**6.31**	**235**		**Pn**	**19 09 55.2**	**-0.5**
ECSD	**EROS Data Cent**	**6.33**	**88**	Pn	**Pn**	**19 09 55.4**	**-0.4**
BGU	**Big Grassy Mou**	**6.36**	**246**		**Pn**	**19 09 57.2**	**+0.9**
F33A	**5 Mile Ranch,**	**6.76**	**69**		**Pn**	**19 10 01.3**	**-0.4**
MSU	**Marysvale**	**7.37**	**227**	Pn	**Pn**	**19 10 10.6**	**+0.4**
MTPU	**Mount Pierson**	**7.73**	**224**		**Pn**	**19 10 13.8**	**-1.4**
ELK	**Elko**	**7.94**	**251**	Pn	**Pn**	**19 10 19.3**	**+1.3**
	comp=E,0.6nm,0.3s,baz=68,slow=11,SNR=9.8						
	comp=E,1.3nm,0.3s						
I10CA	**LAC DU BONNET**	**9.04**	**42**	I		20 06 10.0	
	comp=E,0.1nm,1.6s,baz=221,slow=312,SNR=3.8						
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**Pn**	**19 10 34.5**	**+0.2**
	comp=E,1.6nm,0.3s,baz=235,slow=12,SNR=8.4						
ULM				Pg		19 11 10.0	
	comp=E,1.3nm,0.3s,baz=225,slow=15,SNR=5.6						
ULM				Lg	Lg	19 13 05.7	
	comp=E,0.3nm,0.3s,baz=129,slow=20,SNR=2.4						
ULM				LR	LR	19 13 23.8	
	comp=E,84nm,20.8s,baz=58,slow=33						
	comp=E,3.8nm,0.4s						
NVAR	**Mina Array Bea**	**11.13**	**246**	Pn	**Pn**	**19 11 03.8**	**+2.0**
	comp=E,0.1nm,0.3s,baz=53,slow=13,SNR=4.3						
	comp=E,0.6nm,0.7s						
FRB	**Frobisher Bay**	**28.89**	**33**	LR	LR	19 26 56.5	
	comp=E,38nm,19.9s,baz=160,slow=38						
ILAR	**Eielson Array**	**31.19**	**327**	LR	LR	19 28 53.5	
	comp=E,124nm,18.9s,baz=181,slow=39						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**19 21 20.2**	**-0.1**
	comp=E,0.3nm,0.7s,baz=10,slow=4.0,SNR=2.5						
	comp=E,0.3nm,0.7s						

---

*RSNC **08** 19:31:37.5±0.9, 6.°78N×73.°15W, h151^{km}±4^{km}, ML3.4, Mw3.8*

*IDC **08** 19:31:37.7±6.7, 6.°65N×73.°09W, h178^{km}±47^{km}, mbtmp4.3/1, Error ellipse: s-maj=284.7km s-min=88.3km az=127.0*

ISC 08 19:31:36.9±1.1**, 6.°82N**±0.°03×**73.°12W**±0.°04**, h152**^{km}±7^{km}**, n27, σ1.^{s}82**/52**, 2C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**195**	*e*P	**Pn**	**19 31 57.7**	**-0.1**
BARC				*e*S	**Sn**	**19 32 13.2**	**-0.5**
BARC				IAML		19 32 14.2	
	comp=Z,1µm,0.2s						
BRRC	**Barranca, Sant**	**0.65**	**296**	*i*P	**Pn**	**19 31 59.5**	**+0.3**
BRRC				*e*S	**Sn**	**19 32 16.5**	**+0.2**
BRRC				IAML		19 32 20.8	
	comp=Z,531nm,0.5s						
PAMC	**Pamplona, Colo**	**0.66**	**39**	⇑*i*P	**Pn**	**19 32 00.5**	**+0.5**
PAMC				*e*S	**Sn**	**19 32 17.9**	**+0.5**
PAMC				IAML		19 32 20.0	
	comp=Z,174nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P	**Pn**	**19 32 04.4**	**-0.7**
PTBC				*e*S	**Sn**	**19 32 25.5**	**-1.2**
PTBC				IAML		19 32 32.7	
	comp=Z,430nm,0.4s						
TAMC	**Tame, Arauca**	**1.38**	**106**	⇑*i*P	**Pn**	**19 32 05.8**	**+0.5**
TAMC				*e*S	**Sn**	**19 32 27.6**	**+0.4**
TAMC				IAML		19 32 28.9	
	comp=Z,151nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**	**19 32 10.2**	**-0.2**

ZARC				eS	Sn	19 32 37.0	+0.9
ZARC				IAML		19 32 41.9	
	comp=Z,305nm,0.6s						
NORC	Norcasia	2.14	234	eP	Pn	19 32 13.4	-0.4
NORC				eS	Sn	19 32 41.0	-1.3
NORC				IAML		19 32 49.1	
	comp=Z,182nm,0.2s						
CHIC	Chingaza	2.26	196	eP	Pn	19 32 15.5	-0.2
CHIC				eS	Sn	19 32 44.7	-0.7
CHIC				IAML		19 32 54.6	
	comp=Z,126nm,0.6s						
ROSC	El Rosal	2.30	211	P	Pn	19 32 17.1	+0.9
	comp=Z,125nm,0.3s,baz=49,slow=20,SNR=82						
ROSC				S	Sn	19 32 47.8	+1.5
	comp=Z,292nm,0.4s,baz=132,slow=21,SNR=6.7						
ROSC	El Rosal	2.30	211	eP	Pn	19 32 17.2	+1.1
ROSC				eS	Sn	19 32 48.1	+1.8
ROSC				IAML		19 32 53.1	
	comp=Z,292nm,0.4s						
UREC	San Jos de Ur	2.56	291	eP	Pn	19 32 18.4	-0.5
UREC				eS	Sn	19 32 49.0	-2.3
UREC				IAML		19 33 00.1	
	comp=Z,128nm,0.2s						
LL1C	La Loma 1 Cana	2.74	351	eP	Pn	19 32 22.0	+0.9
LL1C				eS	Sn	19 32 57.7	+2.5
LL1C				IAML		19 33 02.7	
	comp=Z,453nm,0.3s						
VILC	Villavicencio,	2.75	192	eP	Pn	19 32 21.1	-0.3
VILC				eS	Sn	19 32 55.2	-0.5
VILC				IAML		19 32 59.2	
	comp=Z,163nm,0.4s						
PTGC	Puerto Gaitan,	2.79	159	⇓iP	Pn	19 32 20.5	-1.2
PTGC				eS	Sn	19 32 53.6	-2.7
PTGC				IAML		19 32 56.0	
	comp=Z,58nm,0.2s						
CBOC	Ciudad Bolivar	3.03	252	eP	Pn	19 32 25.8	+0.9
CBOC				eS	Sn	19 33 01.5	-0.4
CBOC				IAML		19 33 07.8	
	comp=Z,34nm,0.3s						
ARGC	Ariguani, Magd	3.21	340	eP	Pn	19 32 28.2	+1.1
ARGC				eS	Sn	19 33 07.2	+1.2
ARGC				IAML		19 33 19.9	
	comp=Z,46nm,0.4s						
ANIL	Santa Ana	3.24	225	eP	Pn	19 32 28.7	+1.0
ANIL				eS	Sn	19 33 09.1	+2.0
ANIL				IAML		19 33 19.7	
	comp=Z,267nm,0.5s						
PRAC	Prado	3.55	210	eP	Pn	19 32 28.3	-3.2
PRAC				eS	Sn	19 33 10.4	-3.4
PRAC				IAML		19 33 16.8	
	comp=Z,151nm,0.3s						
ORTC	Ortega, Tolima	3.58	216	eP	Pn	19 32 31.6	-0.3
ORTC				eS	Sn	19 33 15.2	+0.6
ORTC				IAML		19 33 20.9	
	comp=Z,150nm,0.4s						
SJCC	San Jacinto, C	3.67	326	eP	Pn	19 32 32.0	-1.0
SJCC				eS	Sn	19 33 12.9	-3.7
SJCC				IAML		19 33 29.9	
	comp=Z,43nm,0.5s						
PLMC	San Jos del P	3.68	239	eP	Pn	19 32 33.2	+0.2
PLMC				eS	Sn	19 33 14.7	-2.0
PLMC				IAML		19 33 27.9	
	comp=Z,34nm,0.5s						
CRJC	Cerrejon, Guaj	4.18	3	eP	Pn	19 32 37.9	-1.7
CRJC				eS	Sn	19 33 24.2	-4.3
CRJC				IAML		19 33 29.4	
	comp=Z,72nm,0.4s						
YOTC	Yotoco, Valle	4.27	229	eP	Pn	19 32 41.0	+0.1
YOTC				eS	Sn	19 33 32.8	+2.1
YOTC				IAML		19 33 36.6	
	comp=Z,5.7nm,0.4s						
URIC	Uribia, Colomb	4.97	13	eP	Pn	19 32 48.1	-2.0
URIC				eS	Sn	19 33 42.0	-5.2
URIC				IAML		19 33 52.8	
	comp=Z,11nm,0.3s						
GARC	Garzon, Huila	5.17	207	eP	Pn	19 32 51.5	-1.4
GARC				eS	Sn	19 33 49.5	-2.8
GARC				IAML		19 33 50.6	
	comp=Z,33nm,0.2s						
ASAR	Alice Springs	149.11	234	PKPbc	PKPdf	19 51 05.8	+1.9
	comp=Z,0.4nm,0.7s,baz=118,slow=3.5,SNR=7.0						
WRA	Warramunga Arr	150.34	241	PKPbc	PKPdf	19 51 07.9	+2.0
	comp=Z,0.2nm,0.6s,baz=106,slow=2.7,SNR=7.6						

NNC 08 19:37:09.1±1.7, 53°.35N×87°.25E, h0km, mb3.8, mpv3.5, 12C-2D, Error ellipse: s-maj=13.0km s-min=6.1km az=67.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.57	293	⇓P	Pn	19 37 36.9	-1.3
	1.9nm,0.5s,baz=112,slow=15						
ZAA0				⇑S	Sb	19 37 59.3	0.0
	3.2nm,0.5s						
KURK	Kurchatov	5.95	247	⇑Pn	Pn	19 38 39.4	+1.1
	4.0nm,0.6s						
KURK				⇑Sn	Sn	19 39 47.6	+0.6
	1.5nm,0.5s						
KURK				⇑Lg	Lg	19 40 18.2	
	8.6nm,0.8s						
KURBB	Kurchatov Arra	6.04	247	⇑Pn	Pn	19 38 41.0	+1.4
	9.2nm,0.6s,baz=61,slow=14						
KURBB				⇑Sn	Sn	19 39 49.6	+0.3
	7.7nm,0.7s						
KURBB				⇑Lg	Lg	19 40 23.4	
	16nm,0.7s						
MK31	Makanchi Array	7.30	208	⇑Pn	Pn	19 38 58.6	+1.7
	2.9nm,0.5s,baz=28,slow=13,SNR=82						
MK31				⇓Sn	Sn	19 40 20.0	-0.4
	0.9nm,0.6s						
MK31				⇑Lg	Lg	19 40 59.3	
	2.0nm,0.6s						
MAKZ	Makanchi	7.38	209	⇑Pn	Pn	19 38 59.2	+1.3
	3.3nm,0.5s						
MAKZ				⇑Sn	Sn	19 40 24.2	+1.9
	1.0nm,0.6s						
MAKZ				⇑Lg	Lg	19 41 01.0	
	3.6nm,0.8s						

*DJA **08** 20:03:59.4±0.5, 1°N±4°×12°4E±°, h283km±5km, M3.8/12, mb3.7/5, mB5.2/1, MLv3.8/12, Mw(mB)4.6/1*
*IDC **08** 20:04:27.1±8.9, 1°.06S×125°.84E, h337km±35km, mb2.9/3, mbtmp3.8/5, Error ellipse: s-maj=159.0km s-min=37.3km az=141.0*
ISC 08 20:03:59.4±1.5, 1°.3N±0°.1×123°.91E±0°.06, h276km, n19, σ2s.29/24, mb3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.12	233	P	Pn	20 04 40.5	+2.7
MRSI	Marisa	2.14	247	P	Pn	20 04 46.7	+1.5
MRSI				S	S	20 05 24.6	+3.0
LUWI	Luwuk	2.61	206	P	Pn	20 04 51.0	+1.4
LUWI				S	S	20 05 31.3	+1.8
APSI	Ampana	3.16	226	P	Pn	20 04 56.6	+1.4
APSI				S	S	20 05 42.4	+2.7
TNTI	Ternate	3.50	99	P	Pn	20 05 01.1	+2.3
GAMI	Galela, Maluku	3.91	82	P	Pn	20 05 04.1	+0.7
GAMI				S	S	20 05 56.3	+1.7
SANI	Sanana	3.94	148	P	Pn	20 05 05.1	+1.4
LBMI	Labuha	4.09	118	P	Pn	20 05 07.6	+2.2
LBMI				S	S	20 06 01.3	+3.2
MPSI	Mapaga	4.13	256	P	Pn	20 05 06.0	+0.2
NLAI	Namlea	5.54	145	P	Pn	20 05 25.8	+3.3
	0.1nm5μm9.6nm,1.1s						
BNSI	Bone	6.83	214	P	Pn	20 05 39.5	+1.1
	0.0nm5.2nm,0.7s						
SIJI	Sorong	7.67	106	P	Pn	20 05 51.2	+2.4
	4.5nm,0.6s,baz=128,slow=20,SNR=4.8						
SIJI	Sorong	7.67	106	P	Pn	20 05 50.2	+1.4
	0.0nm7.8nm,0.7s						
SOEI	Soe	11.01	178	P	Pn	20 06 30.4	0.0
	15nm,1.3s						
BATI	Baumata	11.45	181	P	Pn	20 06 36.9	+1.1
	16nm,0.4s,baz=63,slow=2.6,SNR=8.9						
BATI	Baumata	11.45	181	P	P	20 06 38.2	-0.4
WRA	Warramunga Arr	23.48	155	P	P	20 08 41.4	-3.5
	1.7nm,0.4s,baz=336,slow=10,SNR=27						
	1.7nm,0.4s						
ASAR	Alice Springs	26.67	159	P	P	20 09 10.6	-3.0
	0.2nm,0.5s,baz=345,slow=7.1,SNR=7.4						
	0.2nm,0.5s						
STKA	Stephens Creek	37.03	155	P	P	20 10 40.0	-3.2
	0.8nm,0.4s,baz=325,slow=6.7,SNR=3.3						
	0.8nm,0.4s						

*SOME **08** 20:22:55.8, 41°.40N×72°.92E, h5km*
*KRNET **08** 20:22:56.2±0.1, 41°.44N×72°.91E, h16km, mb2.5*
*NNC **08** 20:22:57.6±2.2, 41°.24N×72°.88E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=21.1km s-min=7.1km az=174.0*
*KNET **08** 20:22:58.5±0.5, 41°.55N×72°.98E, h1km±2km, ml1.8, Error ellipse: s-maj=5.9km s-min=3.0km az=148.0*
*ISU **08** 20:23:00, 41°.39N×72°.97E, h23km*
ISC 08 20:22:57.7±1.2, 41°.54N±0°.03×72°.94E±0°.02, h1km±10km, n43, σ1s.30/74, 22C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARK	Arkit	0.78	290	⇑iP	Pg	20 23 11.4	-1.1
	baz=98						
ARK				⇑iS	Sg	20 23 22.4	-0.2
	baz=98						
AML	Almayashu	0.82	43	⇑P	Pg	20 23 13.9	+0.5
	3.9nm,0.1s						
AML				⇓S	Sb	20 23 26.5	-0.4
	8.6nm,0.2s						
ANR	Andizhan	0.89	209	P	Pn	20 23 19.5	+2.1
ANR				S	Sn	20 23 30.7	-0.3
TSTA	Tashata	1.02	200	S	Sg	20 23 28.3	-2.0
ARLS	Aral	1.09	72	⇓iP	Pg	20 23 17.7	-0.8
	baz=68						
ARLS				⇓iS	Sb	20 23 33.4	-0.9
	baz=68						
MRKS	Merke	1.23	10	eP	Pg	20 23 21.0	-0.2
	1.5nm,0.2s						
MRKS				eS	Sn	20 23 39.2	-0.2
	10nm,0.3s						
MRKS	Merke	1.23	10	P	Pg	20 23 21.0	-0.2
	1.5nm,0.2s						
EKS2	Erkin-Say	1.29	29	⇓P	Pg	20 23 22.5	+0.1
	1.8nm,0.1s						
EKS2	Erkin-Say	1.29	29	⇑eP	Pg	20 23 22.1	-0.3
	baz=28						
EKS2				⇑iS	Sn	20 23 40.9	-0.1
	baz=28						
TRKS	Terek-Say	1.35	270	⇓iP	Pn	20 23 20.8	-3.0
	baz=72						
TRKS				⇓iS	Sg	20 23 38.6	-2.4
	baz=72						
UCH	Uchtor	1.37	59	⇑P	Pn	20 23 23.8	-0.5
	5.0nm,0.2s,SNR=11						
UCH				⇓S	Sn	20 23 43.9	+0.5
	6.6nm,0.2s						
UCH	Uchtor	1.37	59	⇓iP	Pg	20 23 23.0	-0.9
	baz=56						
UCH				⇓iS	Sn	20 23 42.8	-0.6
	baz=56						
FRG	Fergana	1.45	217	P	Pg	20 23 26.3	+0.8
FRG				S	Sg	20 23 45.8	+1.5
AAK	Ala-Archa	1.60	46	⇑P	Pg	20 23 28.9	+0.6
	2.7nm,0.2s,SNR=6.6						
AAK				⇑S	Sg	20 23 51.8	+2.7
	7.5nm,0.4s						
AAK	Ala-Archa	1.60	46	⇑eP	Pn	20 23 27.4	+0.1
	baz=44						
AAK				⇑iS	Sg	20 23 50.2	+1.1
	baz=44						
MINT	Mingtut	1.83	235	P	Pn	20 23 31.4	+1.1
MINT				S	Sb	20 23 55.7	+0.3
KBK	Karagaybulak	1.87	53	⇓P	Pb	20 23 32.5	-0.3
	3.2nm,0.1s,SNR=6.3						
KBK				⇑S	Sg	20 24 00.1	+2.3
	8.4nm,0.2s						
KBK	Karagaybulak	1.87	53	⇑iP	Pb	20 23 31.9	-0.9
	baz=51						
KBK				⇑iS	Sg	20 23 58.2	+0.4
	baz=51						
CHMS	Chumysh	1.99	42	⇓P	Pg	20 23 35.3	-0.5
	3.2nm,0.2s						
CHMS	Chumysh	1.99	42	⇑iP	Pb	20 23 33.7	-1.0
	baz=41						
CHMS				⇑iS	Sg	20 24 00.9	-0.7
	baz=41						
CHMS	Chumysh	1.99	42	⇓Pn	Pg	20 23 35.9	+0.1
	2.9nm,0.4s						
CHMS				⇑Sn	Sg	20 24 05.7	+4.2
	2.7nm,0.4s						
USP	Ospenovka	2.08	33	⇑P	Pb	20 23 36.9	+0.6
	6.0nm,0.2s,SNR=13						
USP				⇑S	Sg	20 24 06.0	+1.4
	14nm,0.4s						
USP	Ospenovka	2.08	33	⇓iP	Pb	20 23 35.0	-1.3
	baz=32						
USP				⇓iS	Sg	20 24 03.4	-1.2
	baz=32						
BTK	Batken	2.18	228	⇓eP	Pn	20 23 34.1	-1.1
	baz=30						
BTK				⇓iS	Sn	20 24 01.7	-1.3
	baz=30						
CHMG	Chimgan	2.20	271	P	Pb	20 23 39.8	+1.5
CHMG				S	Sg	20 24 10.1	+1.9
IUG	Iuzhnay	2.25	287	eP	Pb	20 23 39.0	-0.3
	51nm,0.2s						
IUG				eS	Sb	20 24 10.1	+2.4
	23nm,0.6s						
IUG	Iuzhnay	2.25	287	Pg	Pb	20 23 39.0	-0.3
	51nm,0.2s						
IUG				Lg	Lg	20 24 10.1	
	23nm,0.6s						
SGDS	Sogindy	2.29	33	eP	Pb	20 23 40.2	+0.4
	4.9nm,0.3s						
SGDS				eS	Sg	20 24 12.4	+1.2
	12nm,0.7s						
SGDS	Sogindy	2.29	33	Pg	Pb	20 23 40.2	+0.4
	4.9nm,0.3s						
SGDS				Lg	Lg	20 24 12.4	
	12nm,0.7s						
KK31	Karatay Array	2.38	312	Pn	Pb	20 23 41.1	-0.3
	1.1nm,0.4s,baz=133,slow=15,SNR=10						
KK31				⇓Sn	Sb	20 24 13.3	+1.9
	2.5nm,0.3s,baz=133,slow=26						
TKM2	Tokmak 2	2.41	54	⇑P	Pb	20 23 42.2	+0.1
	10nm,0.4s,SNR=16						
TKM2	Tokmak 2	2.41	54	⇑iP	Pn	20 23 39.5	+1.0
	baz=52						
TKM2				⇑iS	Sb	20 24 11.2	-1.2
	baz=52						
TKM2	Tokmak 2	2.41	54	⇓Pn	Pb	20 23 42.2	+0.1
	4.4nm,0.4s						
TKM2				⇑Sn	Sg	20 24 15.8	+0.6
	4.7nm,0.5s						
KST	Kastek	2.71	55	eP	Pg	20 23 48.2	-1.3
	5.2nm,0.4s						
KST				eS	Sg	20 24 25.9	+1.3
	10nm,0.5s						
KST	Kastek	2.71	55	Pg	Pg	20 23 48.2	-1.3
	5.2nm,0.4s						
DGS	Degeres	2.71	50	eP	Pb	20 23 47.7	+0.7
	3.9nm,0.5s						
DGS				eS	Sg	20 24 24.9	+0.3
	9.5nm,0.6s						
DGS	Degeres	2.71	50	Pg	Pb	20 23 47.7	+0.7
	3.9nm,0.5s						
DGS				Lg	Lg	20 24 24.9	
	9.5nm,0.6s						
KRBS	Karabastau	2.96	42	eP	Pb	20 23 51.3	0.0
	1.9nm,0.7s						
KRBS				eS	Sg	20 24 32.0	-0.7
	4.9nm,0.8s						
KRBS	Karabastau	2.96	42	Pg	Pb	20 23 51.3	0.0
	1.9nm,0.7s						
KRBS				Lg	Lg	20 24 32.0	
	4.9nm,0.8s						
KOTS	Kotyrbulak	3.53	60	eP	Pg	20 24 03.1	-2.2
	1.9nm,0.8s						
KOTS				eS	Sg	20 24 51.5	+0.4
	6.5nm,0.7s						
KOTS	Kotyrbulak	3.53	60	Pg	Pg	20 24 03.2	-2.2
	1.9nm,0.8s						
CHKK	Chushkaly	3.78	51	eP	Pb	20 24 06.8	+1.5
	1.4nm,0.1s						
CHKK				eS	Sg	20 24 57.6	-1.5
	2.3nm,0.3s						
CHKK	Chushkaly	3.78	51	Pg	Pb	20 24 06.8	+1.5
	1.4nm,0.1s						
CHKK				Lg	Lg	20 24 57.6	
	2.3nm,0.3s						

*NEIC **08** 20:27:05.2±0.2, 36°.412N±0°.009×97°.359W±0°.007, h3km±2km, Error ellipse: s-maj=1.6km s-min=0.2km az=212.0*
*TUL **08** 20:27:05.5±0.3, 36°.416N±0°.010×97°.353W±0°.007, h7km±4km, ML3.3, mb_Lg3.3/79(NEIC), Error ellipse: s-maj=1.3km s-min=0.8km az=182.0*
*ANF **08** 20:27:05.8±0.6, 36°.42N×97°.36W, h7km, ML3.7/8, Error ellipse: s-maj=6.5km s-min=4.8km az=179.0*
ISC 08 20:27:05.5±1.0, 36°.41N±0°.02×97°.38W±0°.02, h6km±10km, n103, σ0s.72/95, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK050	Pawnee Station	0.32	93		Pg	20 27 11.8	0.0
OK050				Sg	Sg	20 27 16.4	+0.5
OK048	Pawnee Station	0.35	89		Pg	20 27 12.3	0.0
OK045	Pawnee Station	0.37	84		Pg	20 27 12.6	0.0
BLOK	Blackwell	0.37	20		Pg	20 27 12.9	+0.1
BLOK				Sg	Sg	20 27 18.3	+0.6
OK046	Pawnee Station	0.38	92		Pg	20 27 12.9	0.0
OK051	E0350 and S346	0.45	78		Pg	20 27 14.1	-0.1
OK044	Pawnee Station	0.47	94	Pg	Pg	20 27 14.5	-0.1
CROK	Carrier	0.50	281		Pg	20 27 15.5	+0.4
OK033	Mehan	0.51	136		Pg	20 27 15.4	+0.1
OK047	Pawnee, Statio	0.53	83		Pg	20 27 15.6	-0.2
GC02	Grant County #	0.59	319		Pg	20 27 17.0	+0.2
GC02				Sg	Sg	20 27 25.1	+0.7
QUOK	Quay	0.59	114		Pg	20 27 16.8	-0.1
QUOK				Sg	Sg	20 27 24.4	-0.2
KAN13	South Haven SW	0.61	352		Pg	20 27 17.3	+0.1
OK029	Liberty Lake	0.61	186		Pg	20 27 17.5	+0.2
OK029				Sg	Sg	20 27 26.0	+0.7
OK031	S. Brethren Rd	0.63	136		Pg	20 27 17.6	-0.1
OK031				Sg	Sg	20 27 26.1	+0.3
OK034	N. Norfolk Rd.	0.67	126		Pg	20 27 18.2	-0.2
OK034				Sg	Sg	20 27 27.1	0.0
OK030	Cody Creek RV	0.68	135		Pg	20 27 18.5	-0.1
OK030				Sg	Sg	20 27 27.6	+0.2
KAN17	Caldwell West	0.70	334		Pg	20 27 19.2	+0.1
KAN14	Manchester OK	0.72	319		Pg	20 27 19.4	0.0
KAN09	Caldwell North	0.75	345		Pg	20 27 19.8	-0.1
BCOK	Bluff Creek, N	0.78	194		Pg	20 27 20.3	0.0
OK032	Salt Plains WL	0.78	301		Pg	20 27 20.4	0.0
OK025	Westminster Rd	0.83	178	Pg	Pg	20 27 21.4	+0.1
KS20	Mayfield South	0.83	350	Pg	Pg	20 27 21.2	-0.2
T35A	Sooner Cattle	0.86	54		Pg	20 27 21.6	-0.5
T35B	Sooner Cattle	0.86	54	P	Pg	20 27 21.6	-0.5
	baz=234						
T35B				S	Sg	20 27 32.8	-0.4
	baz=234						
KS21	Milan North St	0.90	345	Pg	Pg	20 27 22.5	-0.4
DEOK	Depew	0.91	128		Pg	20 27 22.5	-0.5
KAN06	Argonia West S	0.92	335		Pg	20 27 23.0	-0.2
KAN08	Anthony NE Sta	0.94	330	Pg	Pg	20 27 23.5	-0.2
KAN12	Harper NE Stat	1.02	331		Pg	20 27 24.7	-0.3
OK038	West end E0370	1.10	274		Pg	20 27 26.3	-0.3
OK035	E0210 Rd and N	1.11	286		Pg	20 27 26.5	-0.3
FNO	Franklin	1.15	181		Pg	20 27 26.9	-0.7
NOKA	Waynoka	1.27	281		Pn	20 27 29.2	-0.6
CSTR	Hydro, Custer	1.31	235		Pn	20 27 29.9	-0.5
U32A	Winter Ranch,	1.31	269		Pn	20 27 29.9	-0.5
U32A	Winter Ranch,	1.31	269	P	Pn	20 27 29.9	-0.5
	baz=88						
U32A				S	Sn	20 27 48.3	+0.1
	baz=88						
TUL1	Leonard	1.38	111	Pg	Pn	20 27 30.3	-0.9
TUL1	Leonard	1.38	111	P	Pn	20 27 30.4	-0.9
	baz=292						
TUL1				S	Sb	20 27 48.7	-0.8
	baz=292						
ELIS	Ellis County	1.69	259		Pn	20 27 36.0	+0.5
X34A	Smith Ranch, M	1.84	192		Pb	20 27 38.9	-0.7
RLO	Rose Lookout	1.92	97		Pn	20 27 39.2	+0.5
WMOK	Wichita Mounta	2.02	215		Pn	20 27 41.1	+1.0
WMOK				IAmb_Lg		20 28 11.8	
	comp=Z,101nm,0.9s						
WMOK	Wichita Mounta	2.02	215	P	Pn	20 27 41.2	+1.0
	baz=34						
WMOK				S	Sb	20 28 08.3	+0.1
	baz=34						
R32A	Long Quarter,	2.27	333		Pn	20 27 44.8	+1.2
R32A	Long Quarter,	2.27	333	P	Pb	20 27 45.9	-1.1
	baz=151						
R32A				S	Sn	20 28 13.2	+1.2
	baz=151						
U38A	Gravette	2.41	88	IAmb_Lg		20 28 22.4	
	comp=Z,112nm,1.0s						
U38A	Gravette	2.41	88	S	Sb	20 28 19.6	+0.2
	baz=270						
LOOK	Love County	2.42	176	Pn	Pn	20 27 46.6	+1.0
LOOK				IAmb_Lg		20 28 24.5	
	comp=Z,85nm,0.9s						
X37A	Clayton	2.44	137		Pn	20 27 46.8	+0.8
X37A				IAmb_Lg		20 28 26.3	
	comp=Z,161nm,0.7s						
X37A	Clayton	2.44	137	Sb	Sb	20 28 21.9	+1.6
	baz=319						
KSU1	Kansas State U	2.75	13		Pn	20 27 51.1	+0.9
HHAR	Hobbs	2.78	92		Pn	20 27 50.9	+0.3
CBKS	Cedar Bluff	3.04	323		Pn	20 27 54.7	+0.4
Z35A	Perchaven, San	3.07	178		Pn	20 27 55.1	+0.5
S39A	Bolivar	3.49	67		Pn	20 28 00.9	+0.6
S39A				IAmb_Lg		20 28 59.4	
	comp=Z,77nm,0.8s						
MIAR	Mount Ida	3.62	120		Pn	20 28 02.8	+0.8
MIAR				IAmb_Lg		20 29 00.9	
	comp=Z,55nm,0.8s						
MIAR	Mount Ida	3.62	120	P	Pn	20 28 02.9	+0.8
	baz=302						
Z38A	Mt. Pleasant	3.71	147		Pn	20 28 03.3	-0.1
Z38A				IAmb_Lg		20 29 10.2	
	comp=Z,98nm,0.8s						
AMTX	Amarillo	3.82	248		Pn	20 28 04.3	-0.6
AMTX				IAmb_Lg		20 29 14.8	
	comp=Z,51nm,0.8s						
MGMO	Mountain Grove	4.17	78		Pn	20 28 10.4	+0.7
ABTX	Abilene, Hawle	4.21	207		Pn	20 28 11.7	+1.4
ABTX				IAmb_Lg		20 29 20.9	
	comp=Z,57nm,0.7s						
WHAR	Wooly Hollow	4.28	104		Pn	20 28 12.5	+1.3
WHAR				IAmb_Lg		20 29 27.2	
	comp=Z,95nm,1.1s						
FCAR	Ozark Folk Cen	4.28	95		Pn	20 28 12.5	+1.3
WHTX	Lake Whitney,	4.41	181	Pn	Pn	20 28 14.5	+1.5
UALR	University of	4.42	110	Pn	Pn	20 28 14.8	+1.7
UALR				IAmb_Lg		20 29 33.5	
	comp=Z,46nm,0.8s						
P38A	Dawn	4.42	42	IAmb_Lg		20 29 30.2	
	comp=Z,61nm,0.7s						
WLAR	White Oak Lake	4.43	127	Pn	Pn	20 28 13.9	+0.6
WLAR				IAmb_Lg		20 29 34.0	
	comp=Z,60nm,0.8s						
R40A	Maddies Statio	4.48	64		Pn	20 28 14.0	+0.1
R40A				IAmb_Lg		20 29 26.7	
	comp=Z,49nm,0.8s						
N35A	Tabor	4.65	16	Pn	Pn	20 28 16.3	0.0
KSCO	Kaye Shedlock'	4.91	304		Pn	20 28 19.3	-0.6
KSCO				IAmb_Lg		20 29 42.7	
	comp=Z,40nm,0.9s						
BGNE	Belgrade	5.03	353	Pn	Pn	20 28 21.2	-0.3
BGNE				IAmb_Lg		20 29 52.7	
	comp=Z,60nm,0.7s						
LCAR	Lake Charles	5.04	92	Pn	Pn	20 28 22.1	+0.4
LCAR				IAmb_Lg		20 29 43.0	
	comp=Z,48nm,0.8s						
MSTX	Muleshoe	5.04	243	Pn	Pn	20 28 21.9	0.0
CCM	Cathedral Cave	5.16	70		Pn	20 28 22.6	-0.8
CCAR	Cane Creek	5.22	117	Pn	Pn	20 28 23.1	-1.1
CCAR				IAmb_Lg		20 30 00.1	
	comp=Z,54nm,1.1s						
P40A	Paris	5.24	52		Pn	20 28 24.5	+0.2
P40A				IAmb_Lg		20 30 02.9	
	comp=Z,41nm,0.7s						
N38A	Joes South For	5.45	35	Pn	Pn	20 28 27.2	-0.1
L34A	Svendsen Farm,	5.60	8	Pn	Pn	20 28 30.1	+0.8
T25A	Trinidad	5.69	279		Pn	20 28 30.9	+0.1
T25A				IAmb_Lg		20 30 12.8	
	comp=Z,54nm,0.9s						
FVM	French Village	5.77	72	IAmb_Lg		20 30 09.9	
	comp=Z,58nm,1.1s						
OGNE	Ogallala	5.81	323		Pn	20 28 31.7	-0.6
OGNE				IAmb_Lg		20 30 16.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,53nm,0.7s						
SLM	Saint Louis	6.09	66	IAmb_Lg		20 30 16.3	
	comp=Z,52nm,0.8s						
JCT	Junction City	6.25	200		Pn	20 28 37.3	-1.1
CGM3	Cape Girardeau	6.25	80	IAmb_Lg		20 30 19.8	
	comp=Z,30nm,0.8s						
K31A	O'Neill	6.29	351	IAmb_Lg		20 30 31.4	
	comp=Z,53nm,0.8s						
CPRX	Cap Rock	6.32	240		Pn	20 28 36.2	-3.1
Q24A	Divide	6.67	295	IAmb_Lg		20 30 38.8	
	comp=Z,49nm,1.1s						
N41A	Harden Midland	6.67	48	IAmb_Lg		20 30 34.8	
	comp=Z,53nm,0.8s						
OXF	Oxford	6.77	104	IAmb_Lg		20 30 44.6	
	comp=Z,33nm,0.9s						
W45A	Hickory Valley	6.78	98	IAmb_Lg		20 30 51.5	
	comp=Z,40nm,0.8s						
BRIGG	Briggsdale	6.85	310	IAmb_Lg		20 30 58.9	
	comp=Z,30nm,0.7s						
VBMS	Vicksburg	7.05	124	IAmb_Lg		20 30 53.4	
	comp=Z,39nm,0.9s						
HDIL	Hopedale	7.57	54	IAmb_Lg		20 31 16.3	
	comp=Z,44nm,0.7s						
N23A	Red Feather La	8.06	306	IAmb_Lg		20 31 33.7	
	comp=Z,34nm,0.8s						
SUSD	Miller	8.11	352	IAmb_Lg		20 31 29.7	
	comp=Z,26nm,0.8s						
Y22D	IRIS PASSCAL I	8.15	256	IAmb_Lg		20 31 46.9	
	comp=Z,21nm,0.9s						
I37A	Lemond, Waseca	8.18	21	IAmb_Lg		20 31 35.8	
	comp=Z,39nm,0.9s						
JFWS	Jewell Farm	8.51	38	IAmb_Lg		20 31 35.6	
	comp=Z,34nm,0.8s						
I40A	Norwalk	9.09	33	IAmb_Lg		20 31 55.6	
	comp=Z,19nm,0.7s						
K22A	Casper	9.42	314	IAmb_Lg		20 32 29.1	
	comp=Z,31nm,1.0s						
I42A	Draeger Farm,	9.88	38	IAmb_Lg		20 32 20.0	
	comp=Z,22nm,0.8s						

---

*IDC **08** 20:42:30.2±1.5, 6°.52S×129°.83E, h147^{km}±18^{km}, mb3.7/3, mbtmp4.0/8, Error ellipse: s-maj=18.0km s-min=12.9km az=101.0*

*NEIC **08** 20:42:30.6±2.7, 6°.57S±0°.06×129°.85E±0°.10, h161^{km}±6^{km}, mb4.1/8, Error ellipse: s-maj=13.8km s-min=8.6km az=79.0*

ISC 08 20:42:29.3±0.7**, 6°.58S**±0°.06×**129°.88E**±0°.07**, h146**^{km}**, n27, σ1^{s}86**/31**, mb4.1**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.98	135		Pn	20 43 07.9	+3.9
FAKI	Fak Fak	4.34	33		Pn	20 43 35.3	+1.2
FAKI					Sn	20 44 21.1	-3.2
SIJI	Sorong	5.84	14	P	Pn	20 43 56.2	+2.2
	1.6nm,0.3s,baz=275,slow=23,SNR=15						
SIJI				S	Sn	20 44 58.8	-1.3
	9.3nm,0.5s,baz=124,slow=23,SNR=11						
MTN	Manton Dam	6.34	169	Pn	Pn	20 44 02.4	+1.8
SOEI	Soe	6.38	240	Pn	Pn	20 44 02.4	+1.1
BATI	Baumata	7.12	239	P	Pn	20 44 12.3	+1.2
	11nm,0.3s,baz=121,slow=6.1,SNR=5.9						
BATI				S	Sn	20 45 31.1	+0.3
	32nm,0.4s,baz=248,slow=23,SNR=13						
WB0	Warramunga Arr	13.82	162	Pn	Pn	20 45 37.2	-2.0
WRA	Warramunga Arr	13.97	162	P	Pn	20 45 42.6	+1.5
	1.1nm,0.5s,baz=345,slow=10,SNR=18						
WRA				S	Sn	20 48 06.7	-9.2
	0.9nm,0.3s,baz=345,slow=23,SNR=8.1						
WRA	Warramunga Arr	13.97	162	Pn	Pn	20 45 37.7	-3.4
WB2	Warramunga Arr	13.97	162	Pn	Pn	20 45 38.2	-2.9
WR0	Warramunga Arr	14.05	162	Pn	Pn	20 45 41.0	-1.1
COEN	Coen	14.99	120	P	P	20 45 55.8	0.0
COEN				IAmb	IAmb	20 45 58.1	
	comp=Z,8.5nm,0.8s						
JAGI	Jajag, Banyuwa	15.70	262	Pn	Pn	20 46 00.9	-1.9
PMG	Port Moresby	17.34	100	P	Pn	20 46 23.8	+1.1
	comp=Z,7.1nm,0.8s,baz=280,slow=11,SNR=4.8						
AS31	Alice Springs	17.42	168	P	Pn	20 46 23.9	+0.4
ASAR	Alice Springs	17.42	168	P	Pn	20 46 24.1	+0.5
	comp=Z,0.6nm,0.3s,baz=356,slow=14,SNR=13						
ASAR				S	S	20 49 33.0	-3.8
	comp=Z,0.7nm,0.6s,baz=357,slow=27,SNR=5.1						
ASAR	Alice Springs	17.42	168	P	P	20 46 23.5	+0.8
MBWA	Marble Bar	17.50	213		P	20 46 23.4	-0.1
MBWA				IAmb	IAmb	20 46 31.6	
	comp=Z,19nm,1.2s						
PSA00	Pilbara Seismi	17.78	212	P	P	20 46 25.7	-0.8
PSA00	Pilbara Seismi	17.78	212	P	P	20 46 25.3	-1.3
PSA00				IAmb	IAmb	20 46 29.1	
	comp=Z,6.9nm,1.2s						
CTA	Charters Tower	20.81	132	P	P	20 47 01.9	+2.5
	comp=Z,2.5nm,0.6s,baz=322,slow=12,SNR=3.9						
	comp=Z,2.5nm,0.6s						
STKA	Stephens Creek	27.44	158	P	P	20 48 02.0	+0.4
	comp=Z,0.8nm,0.3s,baz=333,slow=7.7,SNR=5.0						
	comp=Z,0.8nm,0.3s						
STKA	Stephens Creek	27.44	158	P	P	20 48 01.1	-0.5
MKAR	Makanchi Array	67.81	327	P	P	20 53 11.9	+0.3
	comp=Z,2.4nm,0.6s,baz=122,slow=8.1,SNR=35						
	comp=Z,2.4nm,0.6s						
MKAR	Makanchi Array	67.81	327	P	P	20 53 11.4	-0.2
MAKZ	Makanchi	67.99	327	P	P	20 53 12.9	+0.1
MAKZ				IAmb	IAmb	20 53 13.7	
	comp=Z,2.4nm,0.8s						
ABKAR	Akbulak array	82.11	322	P	P	20 54 32.7	-0.9

---

*UCR **08** 20:57:44.5±1.7, 10°.56N×86°.50W, h13^{km}±10^{km}, MW4.3, mb4.3(NEIC)*

*NEIC **08** 20:57:44.5±1.2, 10°.58N±0°.07×86°.49W±0°.08, h25^{km}±11^{km}, mb4.3/19, Error ellipse: s-maj=14.2km s-min=6.5km az=47.0*

*INET **08** 20:57:46.5±0.6, 10°.70N×86°.50W, h14^{km}, MW3.9*

*IDC **08** 20:57:53.2±4.9, 11°.55N×86°.12W, h60^{km}±37^{km}, mb3.5/4, mbtmp3.9/6, ML3.2/2, MS3.4/1, Error ellipse: s-maj=59.4km s-min=31.2km az=23.0*

ISC 08 20:57:44.6±0.7**, 10°.60N**±0°.05×**86°.50W**±0°.05**, h23**^{km}**, n102, σ1^{s}02**/107**, mb4.3**/15**, 18C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAJU	San Juanillo,	0.94	124	eP	Pb	20 58 00.9	-1.3
GBS3	Finca Las Img	1.04	80	⇑iP	Pn	20 58 03.5	-0.3
ORTG	Ortega, Santa	1.05	103		Pn	20 58 03.2	-0.8
ORTG	Ortega, Santa	1.05	103	⇑iP	Pn	20 58 03.3	-0.7
ORTG	Ortega, Santa	1.05	103	eP	Pn	20 58 03.4	-0.7
LAPC	Finca la Perla	1.06	81	⇑iP	Pb	20 58 03.7	-0.6
BUEV	Buena Vista	1.09	80	⇑iP	Pb	20 58 04.3	-0.5
GB1A	Borinquen Arri	1.10	79	⇑iP	Pb	20 58 04.7	-0.4
GB1A				eS	Sn	20 58 20.5	+1.2
DUNO	Dulce Nombre,	1.12	118		Pn	20 58 03.7	-1.1
DUNO	Dulce Nombre,	1.12	118	eP	Pn	20 58 03.5	-1.3
GPS3	Bodega del ICE	1.13	82	eP	Pb	20 58 04.8	-0.6
VRLE	La Escondida,	1.13	81	⇑eP	Pb	20 58 04.9	-0.7
NICO	Nicoya	1.14	114	eP	Pn	20 58 04.7	-0.4
GPS2	Hotel Rincn d	1.14	82	⇑eP	Pb	20 58 05.0	-0.7
GPS1	Guardaparques	1.14	81	⇑iP	Pn	20 58 04.9	-0.3
BUAI	Buenos Aires	1.18	77	⇑eP	Pb	20 58 06.2	-0.1
INDI	Punta indio, G	1.23	127	eP	Pn	20 58 05.1	-1.2
LIM1	Limonal	1.23	86	⇑iP	Pn	20 58 06.4	0.0
LIM1				eS	Sb	20 58 23.1	+0.4
GUAB	Guayabo de Bag	1.25	85	eP	Pb	20 58 06.8	-0.8
COLC	Colonia	1.28	87	⇑iP	Pn	20 58 07.1	0.0
COLC				eS	Sb	20 58 24.8	+0.8
CONN	Concepcion	1.28	42	eP	Pb	20 58 07.3	-0.8
MESS	Mesas	1.29	84	⇑iP	Pn	20 58 07.3	0.0
HORNC	Hornillas	1.30	85	⇑iP	Pn	20 58 07.4	-0.1
HORNC				eS	Sb	20 58 24.9	0.0
CUI	Cuipilapa	1.32	88	⇑iP	Pn	20 58 07.7	+0.1
POPE	POPE, Guanacas	1.33	114	⇑eP	Pn	20 58 06.9	-0.8
VMAR	Armenia, Volca	1.37	81	eP	Pb	20 58 09.1	-0.5
ACAL	Aguas Claras	1.44	89	eP	Pn	20 58 09.6	+0.3
PTEN	Parque Tenorio	1.49	86	eP	Pb	20 58 10.5	-1.2
MGAN	Managua	1.55	9	eP	Pb	20 58 11.2	-1.5
JTS	Las Juntas de	1.56	101		Pn	20 58 10.5	-0.3
JTS	Las Juntas de	1.56	101	⇑iP	Pn	20 58 10.6	-0.3
JTS	Las Juntas de	1.56	101	eP	Pn	20 58 10.6	-0.3
WILN	Americas 2	1.58	11	eP	Pn	20 58 11.1	0.0
VERA	Finca Concepci	1.62	81	eP	Pb	20 58 12.6	-1.2
HUEN		1.75	11	eP	Pn	20 58 13.8	+0.2
CEDE	Laguna Cedeo	1.77	94	eP	Pn	20 58 14.5	+0.7
MOMN	Momotombo	1.79	359	eP	Pn	20 58 14.0	-0.2
VACR	Volcan Arenal	1.80	94	eP	Pn	20 58 14.9	+0.7
ACON	Acoyapa	1.88	44		Pn	20 58 15.2	0.0
ACON	Acoyapa	1.88	44	⇑iP	Pn	20 58 15.3	0.0
CNGN	Cerro Negro	1.90	354		Pn	20 58 14.3	-1.2
BOAB	BOACO BROADBAN	2.01	24		Pn	20 58 17.0	0.0
BOAB	BOACO BROADBAN	2.01	24	eP	Pn	20 58 17.2	+0.1
JACO	JACO, Garabito	2.04	117		Pn	20 58 17.7	+0.2
JACO	JACO, Garabito	2.04	117	eP	Pn	20 58 18.4	+0.9
COVE	Coope Vega, Sa	2.07	87		Pn	20 58 17.0	-0.9
COVE	Coope Vega, Sa	2.07	87	eP	Pb	20 58 20.3	-1.1
CRIN	San Cristobal	2.15	346		Pn	20 58 18.8	-0.3
CRIN	San Cristobal	2.15	346	eP	Pn	20 58 19.3	+0.2
CRIN	San Cristobal	2.15	346	eP	Pn	20 58 19.3	+0.2
MATN	Matagalpa	2.38	14		Pn	20 58 22.0	-0.3
MATN	Matagalpa	2.38	14	eP	Pn	20 58 22.5	+0.2
HDC	Heredia	2.42	104	Pn	Pn	20 58 22.8	-0.1
HDC	Heredia	2.42	104	eP	Pn	20 58 22.1	-0.8
OCM	Ochomogo	2.60	106	eP	Pn	20 58 27.8	+2.4
ESPN	Las Esperanzas	2.67	54		Pn	20 58 26.8	+0.5
ESPN	Las Esperanzas	2.67	54	⇑iP	Pn	20 58 27.0	+0.8
ESPN	Las Esperanzas	2.67	54	eP	Pn	20 58 27.1	+0.8
HAYA	Volcan Irazu	2.69	103	eP	Pn	20 58 27.9	+1.1
RIMA	Rio Macho	2.73	108		Pn	20 58 26.9	-0.2
RIMA	Rio Macho	2.73	108	eP	Pn	20 58 29.0	+1.9
CDM	Cerro de Muert	2.89	111	eP	Pn	20 58 30.8	+1.2
PEZE	Perez Zeledon,	3.04	113		Pn	20 58 30.4	-0.9
MRVA	Moravia de Chi	3.11	104	eP	Pn	20 58 34.0	+1.6
BATAN	Batan	3.12	99	Pn	Pn	20 58 31.6	-0.7
SRBA	San Rafael, Bu	3.38	113		Pn	20 58 35.0	-1.0
SRBA	San Rafael, Bu	3.38	113	eP	Pn	20 58 37.2	+1.1
TGUH	Tegucigalpa,Un	3.51	348	Pn	Pn	20 58 36.4	-1.5
PIRO	Carate, Puerto	3.81	125	eP	Pn	20 58 43.1	+1.2
BRU2	Volcan	4.17	115		Pn	20 58 46.1	-0.8
MTO3	Montecristo	4.69	324	Pn	Pn	20 58 53.9	-0.4
PETF	Flores	7.08	333	Pn	Pn	20 59 26.7	-0.1
CMIG	Matias Romero	10.38	309	P	Pn	21 00 14.2	+2.0
	0.4nm,0.3s,baz=124,slow=9.4,SNR=7.3						
	2.8nm,0.6s						
SDV	Santo Domingo	15.73	95	P	P	21 01 29.2	+0.3
	0.5nm,0.3s,baz=360,slow=8.2,SNR=4.1						
	4.5nm,0.6s						
BAUV	El Baul	18.27	94		Pn	21 01 55.1	-1.7
Y49A	Blount Mountai	23.15	0	P	P	21 02 49.3	-0.1
Y49A				IAmb	IAmb	21 02 50.4	
	comp=Z,12nm,0.9s						
Y52A	Lilburn	23.26	5	P	P	21 02 49.4	-1.0
Y52A				IAmb	IAmb	21 02 58.0	
	comp=Z,15nm,1.1s						
HODGE	Hodges	23.84	9	P	P	21 02 54.6	-1.4
HODGE				IAmb	IAmb	21 02 56.9	
	comp=Z,7.6nm,0.8s						
JSC	Jenkinsville	24.05	11	P	P	21 02 58.4	+0.3
JSC				IAmb	IAmb	21 02 59.2	
	comp=Z,9.6nm,0.9s						
BG3	Lake Jocassee	24.50	7	P	P	21 03 01.1	-1.1
BG3				IAmb	IAmb	21 03 02.6	
	comp=Z,9.0nm,0.9s						
W50A	Signal Mountai	24.51	2	P	P	21 03 01.7	-0.7
W50A				IAmb	IAmb	21 03 14.3	
	comp=Z,5.0nm,0.7s						
BIRD	Birdtown, Kers	24.56	12	P	P	21 03 02.1	-0.7
BIRD				IAmb	IAmb	21 03 24.1	
	comp=Z,11nm,1.1s						
TXAR	Lajitas Array	24.59	322	P	P	21 03 04.3	+1.1
	comp=Z,1.9nm,0.7s,baz=138,slow=10.0,SNR=16						
TXAR				PcP	PcP	21 06 43.4	+2.5
	comp=Z,0.3nm,0.7s,baz=116,slow=2.9,SNR=3.9						
	comp=Z,1.9nm,0.7s						
TXAR	Lajitas Array	24.59	322	P	P	21 03 02.9	-0.3
TX31	Lajitas Ar. Si	24.59	322	P	P	21 03 03.1	0.0
TX31				IAmb	IAmb	21 03 17.3	
	comp=Z,7.5nm,0.8s						
TX32	Lajitas Array	24.59	322	P	P	21 03 03.8	+0.6
CPCT	Cooper Cave	24.80	4	P	P	21 03 04.6	-0.3
CPCT				IAmb	IAmb	21 03 07.1	
	comp=Z,7.1nm,0.8s						
V53A	Saluda	25.18	7	P	P	21 03 07.4	-1.0
V53A				IAmb	IAmb	21 03 40.0	
	comp=Z,9.6nm,1.1s						
X37A	Clayton	25.21	343	P	P	21 03 07.9	-0.7
X37A				IAmb	IAmb	21 03 19.7	
	comp=Z,5.2nm,0.8s						
TZTN	Tazewell	25.96	5	P	P	21 03 15.6	+0.1
WMOK	Wichita Mounta	26.51	337	P	P	21 03 20.2	-0.3
T42A	Van Buren	26.64	352	P	P	21 03 19.8	-1.7
Q54A	Coxs Mills	28.71	9	P	P	21 03 40.0	0.0
P52A	Corning	29.17	7	P	P	21 03 43.4	-0.8
SSPA	Standing Stone	30.87	13	P	P	21 03 58.8	-0.3
NVAR	Mina Array Bea	39.70	320	P	P	21 05 16.8	+1.3
	comp=Z,1.0nm,0.7s,baz=136,slow=6.5,SNR=6.6						
NVAR				PcP	PcP	21 07 24.4	+2.4
	comp=Z,1.4nm,0.7s,baz=143,slow=4.5,SNR=9.6						
	comp=Z,1.0nm,0.7s						
SCHQ	Schefferville	46.78	15	P	P	21 06 08.6	-3.6
	comp=Z,2.6nm,0.7s,baz=217,slow=15,SNR=1.7						
	comp=Z,2.6nm,0.7s						
RCBR	Riachuelo	52.96	106	LR	LR	21 31 56.0	
	comp=Z,38nm,20.3s,baz=101,slow=39						
ILAR	Eielson Array	68.08	336	P	P	21 08 40.8	-1.4
	comp=Z,0.3nm,0.8s,baz=134,slow=3.7,SNR=5.3						
	comp=Z,0.3nm,0.8s						
ASAR	Alice Springs	139.41	246	PKP	PKiKP	21 17 15.7	+2.5
	comp=Z,0.3nm,0.6s,baz=90,slow=1.7,SNR=2.4						
WRA	Warramunga Arr	139.62	252	PKP	PKiKP	21 17 15.7	+2.0
	comp=Z,0.4nm,1.0s,baz=94,slow=1.8,SNR=6.4						
CMAR	Chiang Mai Arr	150.63	349	PKPbc	PKPbc	21 17 35.9	+0.2
	comp=Z,0.4nm,0.3s,baz=351,slow=3.2,SNR=6.7						

---

*UCR **08** 21:01:50.2±1.4, 10°.55N×86°.53W, h13^{km}±6^{km}, MW4.2*

*IDC **08** 21:01:51.8±17.0, 11°.72N×85°.94W, h0^{km}, mb3.4/3, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=362.9km s-min=109.1km az=2.0*

*INET **08** 21:01:51.7±0.6, 10°.54N×86°.51W, h30^{km}±24^{km}, MW3.7*

ISC 08 21:01:50.4±1.0**, 10°.56N**±0°.06×**86°.51W**±0°.08**, h23**^{km}**, n42, σ0^{s}78**/44**, mb3.3**/3**, 8C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAJU	San Juanillo,	0.93	122	eP	Pb	21 02 06.9	-1.0
SAJU				eS	Sb	21 02 19.0	-0.8
ORTG	Ortega, Santa	1.05	101	eP	Pn	21 02 09.1	-0.7
ORTG	Ortega, Santa	1.05	101	eP	Pn	21 02 09.3	-0.5
ORTG				eS	Sb	21 02 23.4	-0.1
GBS3	Finca Las Img	1.06	78	⇑iP	Pn	21 02 09.6	-0.4
LAPC	Finca la Perla	1.08	79	⇑iP	Pn	21 02 09.8	-0.4
BUEV	Buena Vista	1.11	78	⇑eP	Pn	21 02 10.3	-0.4
GB1A	Borinquen Arri	1.12	77	⇑iP	Pn	21 02 10.6	-0.2
NICO	Nicoya	1.13	112	eP	Pn	21 02 10.7	-0.2
GPS3	Bodega del ICE	1.14	80	eP	Pn	21 02 11.0	-0.1
GPS2	Hotel Rincn d	1.16	80	eP	Pn	21 02 10.9	-0.4
GPS1	Guardaparques	1.16	79	eP	Pn	21 02 11.3	-0.1
BUAI	Buenos Aires	1.20	75	eP	Pn	21 02 12.0	+0.2
INDI	Punta indio, G	1.21	125	eP	Pn	21 02 11.1	-0.8
LIM1	Limonal	1.25	84	eP	Pn	21 02 12.5	0.0
GUAB	Guayabo de Bag	1.27	83	eP	Pn	21 02 12.3	-0.5
COLC	Colonia	1.29	85	⇑iP	Pn	21 02 13.1	0.0
MESS	Mesas	1.31	82	⇑eP	Pn	21 02 13.2	-0.1
HORNC	Hornillas	1.32	83	eP	Pn	21 02 13.5	-0.1
CONN	Concepcion	1.32	41	eP	Pn	21 02 13.5	-0.1
CUI	Cuipilapa	1.33	86	⇑iP	Pn	21 02 13.8	+0.1
VMAR	Armenia, Volca	1.40	80	eP	Pn	21 02 15.1	+0.6
ACAL	Aguas Claras	1.46	87	⇑iP	Pn	21 02 15.8	+0.4
PTEN	Parque Tenorio	1.51	84	eP	Pn	21 02 16.7	+0.6
JTS	Las Juntas de	1.56	100	eP	Pn	21 02 16.7	-0.1
JTS	Las Juntas de	1.56	100	eP	Pn	21 02 16.6	-0.1
COPN	Copaltepe	1.61	357	eP	Pn	21 02 17.2	-0.2
WILN	Americas 2	1.62	11	eP	Pb	21 02 19.8	+0.1
VERA	Finca Concepci	1.64	80	eP	Pn	21 02 18.6	+0.8
CEDE	Laguna Cedeo	1.78	92	eP	Pn	21 02 21.2	+1.4
HUEN		1.80	11	eP	Pn	21 02 19.8	-0.2
FORC	Fortuna	1.81	93	eP	Pn	21 02 21.8	+1.5
MOMN	Momotombo	1.84	359	eP	Pn	21 02 20.5	-0.1
ACON	Acoyapa	1.92	43	eP	Pn	21 02 21.5	-0.2
CRIN	San Cristobal	2.19	346	eP	Pn	21 02 25.2	-0.3
HAYA	Volcan Irazu	2.69	102	eP	Pn	21 02 34.1	+1.5
ESPN	Las Esperanzas	2.71	53	eP	Pn	21 02 33.2	+0.6
CDM	Cerro de Muert	2.89	110	eP	Pn	21 02 37.0	+1.5
SRBA	San Rafael, Bu	3.38	113	eP	Pn	21 02 43.6	+1.8
CMIG	Matias Romero	10.40	310	Pn	Pn	21 04 19.8	+1.6
	0.2nm,0.3s,baz=138,slow=12,SNR=1.7						
	0.9nm,0.4s						
TXAR	Lajitas Array	24.61	322	P	P	21 07 08.0	-1.3
	0.5nm,0.6s,baz=141,slow=10,SNR=5.6						
	0.5nm,0.6s						
PDAR	Pinedale Array	37.86	332	P	P	21 09 04.9	-1.0
	0.3nm,0.7s,baz=121,slow=8.8,SNR=2.9						
	0.3nm,0.7s						
NVAR	Mina Array Bea	39.72	320	P	P	21 09 22.8	+1.3
	0.7nm,0.8s,baz=128,slow=5.8,SNR=3.4						
	0.7nm,0.8s						

IDC 08 21:04:28.3±1.8**, 3°.98S**×**153°.12E, h0**^{km}**, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=50.4km s-min=26.2km az=145.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.14	253	Pn	Pn	21 04 52.9	+1.4
	195nm,0.3s,baz=234,slow=2.1,SNR=94						
KRVT				Sn	Sb	21 05 06.8	+0.7
	202nm,0.3s,baz=205,slow=18,SNR=7.9						
KRVT				LR	LR	21 05 15.3	
	comp=Z,137nm,21.0s,baz=295,slow=41						
WRA	Warramunga Arr	24.23	228	P	P	21 09 46.5	-0.5
	2.1nm,0.5s,baz=54,slow=9.8,SNR=30						
	2.1nm,0.5s						
H11S3	WAKE ISLAND Hy	26.03	30	T	T	21 37 34.6	
	baz=212,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	26.03	31	T	T	21 37 42.8	
	baz=212,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	26.05	31	T	T	21 37 46.1	
	baz=212,slow=75,SNR=7.7						
ASAR	Alice Springs	26.97	222	P	P	21 10 11.8	-0.1
	0.2nm,0.5s,baz=52,slow=8.2,SNR=4.8						
	0.2nm,0.5s						
MKAR	Makanchi Array	79.92	319	P	P	21 16 37.9	-1.4
	0.4nm,0.9s,baz=108,slow=4.7,SNR=2.2						
	0.4nm,0.9s						
TORD	Torodi Ar. Bea	150.34	290	PKPbc	PKiKP	21 24 23.1	-0.4
	1.9nm,0.5s,baz=64,slow=2.7,SNR=30						

---

*IDC **08** 21:28:23.9±1.1, 31°.38N×138°.65E, h394^{km}±25^{km}, mb2.9/4, mbtmp3.9/9, Error ellipse: s-maj=61.6km s-min=13.2km az=68.0*

*JMA **08** 21:28:23.7±0.3, 31°N±2°×13°9E±°, h392^{km}, MV3.8/57, NEAR TORISHIMA IS*

ISC 08 21:28:23.1±0.8**, 31°.29N**±0°.08×**138°.62E**±0°.09**, h381**^{km}**, n25, σ1^{s}50**/26**, mb3.0**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.07	28	P	Pn	21 29 20.3	+2.6
	299nm,1.1s,baz=57,slow=18,SNR=1.7						
JKN2	Miekihoku	3.54	327	eP	Pn	21 29 31.6	+2.1
HMMJ	Hamamatsu 2	3.63	348	eP	Pn	21 29 33.2	+2.8
BSO3	Boso 3	3.84	24	eP	Pn	21 29 33.5	+1.5
BSO1	Boso 1	3.89	30	P	Pn	21 29 34.3	+2.1
BSO4	Boso 4	3.96	21	eP	Pn	21 29 35.4	+2.1
JOD2	Odawara 2	3.98	5	eP	Pn	21 29 35.4	+1.7
JAO	Obara	4.12	344	P	Pn	21 29 37.8	+2.7
JHU	Hanno	4.58	7	P	Pn	21 29 40.8	+1.1
JRY	Ryogami san	4.72	3	P	Pn	21 29 42.9	+1.8
JYT	Yasato	5.09	14	P	Pn	21 29 45.2	+0.2
JAG	Ashikaga	5.17	7	P	Pn	21 29 46.1	+0.3
JTO	Tosashimizu	5.18	289	P	Pn	21 29 46.9	+0.8
CBIJ	Chichi jima	5.21	142	P	Pn	21 29 47.2	+0.7
JCJ	Chichijima	5.21	142	P	Pn	21 29 47.2	+0.7
	46nm,0.6s,baz=5.8,slow=21,SNR=10						
JCJ				S	S	21 30 52.9	-1.3
	94nm,0.3s,baz=289,slow=22,SNR=11						
MJAR	Matsushiro Arr	5.25	356	P	Pn	21 29 47.2	+0.5
	16nm,0.4s,baz=169,slow=11,SNR=53						
JHO	Hitachi	5.55	16	P	Pn	21 29 50.3	+0.4
JMK	Ichinoseki	7.93	15	eP	P	21 30 17.8	+0.3
KSRS	Korea Array	10.76	308	P	P	21 30 48.9	-0.7
	2.0nm,0.6s,baz=122,slow=9.9,SNR=5.5						
USRK	Ussuriysk Ar.	13.91	340	P	P	21 31 24.2	0.0
	1.8nm,0.7s,baz=139,slow=8.1,SNR=1.6						
KLR	Kul'dur	18.65	346	P	P	21 32 13.9	-1.3
	1.7nm,0.3s,baz=166,slow=12,SNR=11						
SONM	Songino Array	29.56	313	P	P	21 33 53.9	-0.4
	0.3nm,0.4s,baz=122,slow=9.6,SNR=2.6						
	0.3nm,0.4s						
MKAR	Makanchi Array	45.44	307	P	P	21 36 04.9	-0.7
	0.6nm,0.8s,baz=99,slow=7.7,SNR=4.6						
	0.6nm,0.8s						
WRA	Warramunga Arr	51.11	185	P	P	21 36 48.8	+0.2
	0.9nm,0.4s,baz=0.4,slow=7.7,SNR=31						
	0.9nm,0.4s						
ASAR	Alice Springs	54.83	185	P	P	21 37 15.9	+0.5
	0.3nm,0.4s,baz=15,slow=10,SNR=10						
	0.3nm,0.4s						

---

*IDC **08** 21:38:25.4±0.8, 53°.49N×87°.52E, h0^{km}, mb3.9/10, mbtmp4.0/16, ML2.9/5, Error ellipse: s-maj=10.7km s-min=9.7km az=155.0*

*ASRS **08** 21:38:25.4, 53°.4N±0°.5×87°.4E±0°.5, h2^{km}, MLh4.1/21, confirmed*

*NNC **08** 21:38:26.9±1.8, 53°.35N×87°.36E, h0^{km}, mb4.6, mpv4.5, Error ellipse: s-maj=16.1km s-min=6.4km az=61.0, Suspected Mining explosion.*

*NEIC **08** 21:38:26.9±2.4, 53°.49N±0°.07×87°.3E±0°.1, h10^{km}±2^{km}, mb4.1/16, Error ellipse: s-maj=16.7km s-min=4.7km az=46.0*

*MOS **08** 21:38:26.3±1.2, 53°.40N×87°.26E, h13^{km}, mb4.5/6, Error ellipse: s-maj=8.2km s-min=5.9km az=90.9*

ISC 08 21:38:25.2±0.4**, 53°.43N**±0°.02×**87°.44E**±0°.02**, h0**^{km}**, n123, σ1^{s}70**/165**, mb4.0**/17**, 19C-37D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MALIN	Malinovka, Kuz	0.10	266	⇓Pg	Pg	21 38 27.8	+0.8
MALIN				Sg	Sg	21 38 30.0	+1.7
TAIL	Tailep, Kuzbas	0.14	278	⇓Pg	Pg	21 38 28.8	+0.9
TAIL				Sg	Sg	21 38 31.4	+1.5
ERU	Erunakovo, Kuz	0.71	357	⇓Pg	Pb	21 38 40.1	-0.4
ERU				Sg	Sb	21 38 50.7	-0.2
TASR	Tashtagol	0.72	158	⇓Pg	Pg	21 38 39.3	+0.4
TASR				Sg	Sg	21 38 49.1	+0.9
TASR	Tashtagol	0.72	158	PG	Pg	21 38 39.3	+0.4
TASR				SG	Sg	21 38 46.9	-1.3
ELT	Eltsovka	0.74	257	⇓Pg	Pg	21 38 39.5	+0.3
ELT				Sg	Sg	21 38 49.6	+0.7
ELT	Eltsovka	0.74	257	PG	Pg	21 38 39.4	+0.1
ELT				SG	Sg	21 38 48.4	-0.4
VCHU	Verkh-Chumysh,	0.79	312	⇓Pg	Pg	21 38 40.8	+0.5
VCHU				Sg	Sb	21 38 52.6	-0.6
VCHU	Verkh-Chumysh,	0.79	312	PG	Pg	21 38 41.0	+0.6
VCHU				SG	Sg	21 38 52.0	+1.3
KOTO	Kotino, Kuzbas	0.82	338	⇓Pg	Pb	21 38 42.2	-0.1
KOTO				Sg	Sb	21 38 54.7	+0.8
LUZB	Luzhba, Kemero	0.90	74	⇓Pg	Pg	21 38 42.7	+0.2
LUZB				Sg	Sb	21 38 55.2	-1.1
LUZB	Luzhba, Kemero	0.90	74	PG	Pg	21 38 42.7	+0.2
LUZB				SG	Sb	21 38 55.2	-1.1
POMOR	Pomortsevo, Ku	1.12	332	⇓Pg	Pn	21 38 48.7	+0.6
POMOR				Sg	Sn	21 39 05.5	+1.3
BJR2	Bachatsky-2, K	1.16	318	⇓Pg	Pn	21 38 48.8	+0.2
BJR2				Sg	Sn	21 39 05.7	+0.6
BJR2	Bachatsky-2, K	1.16	318	PG	Pb	21 38 48.5	+0.5
BJR2				SG	Sn	21 39 05.7	+0.6
BJR1	Bachatsky 1, K	1.16	315	⇓Pg	Pg	21 38 47.6	+0.2
BJR1				Sg	Sb	21 39 03.8	+0.1
BJR1	Bachatsky 1, K	1.16	315	PG	Pg	21 38 47.5	+0.1
BJR1				SG	Sg	21 39 03.3	+0.9
SALR	Pechorkino, Sa	1.43	315	⇓Pg	Pn	21 38 51.8	-0.5
SALR				Sg	Sn	21 39 12.1	+0.3
SALR	Pechorkino, Sa	1.43	315	PG	Pn	21 38 51.8	-0.5
SALR				SG	Sn	21 39 14.0	+2.2
ARTR	Artybash	1.64	183	⇓Pg	Pn	21 38 55.3	+0.2
ARTR				Sg	Sn	21 39 16.8	-0.1
ARTR	Artybash	1.64	183	PN	Pn	21 38 55.7	+0.5
ARTR				SG	Sb	21 39 17.9	+0.6
I46RU	ZALESOVO INFRA	1.64	290	I		21 49 20.0	
	baz=107,slow=343,SNR=4.2						
ZAA0	Zalesovo Array	1.64	290		Pn	21 38 55.6	+0.4
ZAA0	Zalesovo Array	1.64	290	⇓P	Pn	21 38 55.7	+0.4
	18nm,0.7s						
ZAA0				⇑S	Sg	21 39 18.9	+1.0
	46nm,0.7s						
ZALV	Zalesovo Beam	1.64	290	Pg	Pn	21 38 55.7	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	34nm,0.3s,baz=109,slow=16,SNR=235						
ZALV				Lg	Lg	21 39 18.3	
	27nm,0.3s,baz=113,slow=28,SNR=12						
GALT	**Gorno-Altaysk,**	**1.73**	**212**	Pg	**Pn**	**21 38 57.3**	**+0.8**
GALT				Sg	**Sn**	**21 39 19.6**	**+0.4**
KEM	**Kemerovo**	**2.08**	**338**	⇓Pg	**Pb**	**21 39 02.8**	**-0.8**
KEM				Sg	**Sg**	**21 39 31.0**	**-0.8**
DJO	**Djoy, Khakassi**	**2.37**	**104**	⇑Pg	**Pb**	**21 39 07.6**	**-1.2**
DJO				Sg	**Sg**	**21 39 40.5**	**-0.7**
DJO	**Djoy, Khakassi**	**2.37**	**104**	PN	**Pb**	**21 39 07.5**	**-1.2**
DJO				SG	**Sg**	**21 39 40.8**	**-0.4**
ABNR	**Abakan**	**2.40**	**81**	*i* PN	**Pb**	**21 39 09.4**	**+0.2**
CERR	**Cheremushki**	**2.46**	**102**	⇑P	**Pb**	**21 39 10.0**	**-0.3**
CERR				Sg	**Sg**	**21 39 43.0**	**-1.3**
CERR	**Cheremushki**	**2.46**	**102**	PN	**Pb**	**21 39 10.2**	**-0.1**
CERR				SG	**Sg**	**21 39 43.5**	**-0.8**
KHAR	**Kharino, NSO,**	**2.56**	**299**	P	**Pn**	**21 39 09.3**	**+1.4**
KHAR				S	**Sn**	**21 39 40.4**	**+0.7**
ULGR	**Ulagan, Altay**	**2.83**	**173**	⇓P	**Pb**	**21 39 15.4**	**-1.1**
ULGR				S	**Sb**	**21 39 51.7**	**0.0**
NVSII	**Novosibirsk**	**2.85**	**302**	⇓P	**Pn**	**21 39 13.1**	**+1.3**
NVSII				S	**Sb**	**21 39 50.9**	**-1.3**
NVS	**Novosibirsk**	**2.85**	**301**	⇓P	**Pn**	**21 39 13.1**	**+1.2**
NVS				S	**Sb**	**21 39 50.9**	**-1.3**
UKR	**Ust'-Kan**	**2.98**	**214**	⇓P	**Pn**	**21 39 15.9**	**+2.0**
UKR				S	**Sb**	**21 39 56.2**	**-0.1**
CHBI	**Chibit, Altay**	**3.12**	**179**	⇓P	**Pb**	**21 39 19.5**	**-2.0**
CHBI				S	**Sb**	**21 40 02.4**	**+2.3**
CUR	**Chagan-Uzun**	**3.38**	**170**	⇓P	**Pn**	**21 39 22.5**	**+3.2**
DGZ	**Jazzator, Alta**	**3.73**	**180**	P	**Pn**	**21 39 27.4**	**+3.3**
DGZ	**Jazzator, Alta**	**3.73**	**180**	*i* PN	**Pn**	**21 39 28.1**	**+3.9**
KRAR	**Krasnoyarsk**	**4.08**	**48**	*i* PN	**Pn**	**21 39 31.4**	**+2.7**
MINR	**Mina**	**4.24**	**67**	⇓P	**Pn**	**21 39 34.0**	**+3.0**
HVS	**Khovu-Aksy**	**4.48**	**118**	PN	**Pb**	**21 39 44.7**	**0.0**
HVS				SG	**Sg**	**21 40 45.3**	**-3.7**
SHTK	**Zheleznogorsk-**	**4.60**	**48**	Pn	**Pn**	**21 39 36.1**	**+0.2**
KZLR	**Kyzyl**	**4.62**	**109**	P	**Pn**	**21 39 37.1**	**+1.0**
GZLN	**Zheleznogorsk**	**4.70**	**48**	Pn	**Pn**	**21 39 39.5**	**+2.2**
ORY	**Orie**	**4.77**	**68**	PN	**Pb**	**21 39 51.3**	**+1.7**
ORY				SG	**Sg**	**21 40 57.1**	**-1.2**
KURK	**Kurchatov**	**6.08**	**247**	Pn	**Pn**	**21 39 57.5**	**+1.4**
KURK	**Kurchatov**	**6.08**	**247**	⇑Pn	**Pn**	**21 39 58.0**	**+1.8**
	40nm,0.7s						
KURK				⇑Sn	**Sn**	**21 41 01.9**	**-4.4**
	14nm,0.6s						
KURK				⇑Lg	Lg	21 41 36.5	
	91nm,0.9s						
KURK	**Kurchatov**	**6.08**	**247**	⇓P	**Pn**	**21 39 58.1**	**+2.0**
KURK	**Kurchatov**	**6.08**	**247**	*ce*PN	**Pn**	**21 39 58.3**	**+2.1**
KURK				pmax	pmax		
	comp=Z,46nm,0.7s						
KURBB	**Kurchatov Arra**	**6.17**	**247**	Pn	**Pn**	**21 39 59.6**	**+2.1**
	comp=Z,2.5nm,0.3s,baz=62,slow=14,SNR=174						
KURBB				Sn	**Sn**	**21 41 09.4**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=68,slow=35,SNR=5.7						
KURBB				Lg	Lg	21 41 41.6	
	comp=Z,0.8nm,0.3s,baz=68,slow=36,SNR=11						
	comp=Z,64nm,0.6s						
KURBB	**Kurchatov Arra**	**6.17**	**247**	⇑Pn	**Pn**	**21 39 59.7**	**+2.1**
	comp=Z,86nm,0.7s						
KURBB				⇓Sn	**Sn**	**21 41 08.4**	**-0.4**
	comp=Z,60nm,0.6s						
KURBB				⇓Lg	Lg	21 41 46.4	
	comp=Z,145nm,0.7s						
MK31	**Makanchi Array**	**7.42**	**209**		**Pn**	**21 40 17.2**	**+2.6**
MK31	**Makanchi Array**	**7.42**	**209**	⇓Pn	**Pn**	**21 40 17.1**	**+2.6**
	comp=Z,22nm,0.5s,baz=28,slow=12,SNR=504						
MK31				⇓Sn	**Sn**	**21 41 38.7**	**-0.7**
	comp=Z,16nm,0.8s						
MK31				⇑Lg	Lg	21 42 18.8	
	comp=Z,30nm,0.7s						
MK31	**Makanchi Array**	**7.42**	**209**	*d i*P	**Pn**	**21 40 17.0**	**+2.4**
MKAR	**Makanchi Array**	**7.42**	**209**	Pn	**Pn**	**21 40 17.1**	**+2.5**
	comp=Z,39nm,0.5s,baz=28,slow=13,SNR=606						
MKAR				Sn	**Sn**	**21 41 41.2**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=34,slow=28,SNR=5.9						
MKAR				Lg	Lg	21 42 18.5	
	comp=Z,2.7nm,0.3s,baz=26,slow=29,SNR=6.8						
MKAR	**Makanchi Array**	**7.42**	**209**	Pn	**Pn**	**21 40 17.3**	**+2.7**
MKAR	**Makanchi Array**	**7.42**	**209**	⇓P	**Pn**	**21 40 17.3**	**+2.7**
MKAR	**Makanchi Array**	**7.42**	**209**	*i* P	**Pn**	**21 40 17.1**	**+2.5**
MKAR				pmax	pmax		
	comp=Z,40nm,0.5s						
MAKZ	**Makanchi**	**7.50**	**210**	Pn	**Pn**	**21 40 18.2**	**+2.5**
MAKZ	**Makanchi**	**7.50**	**210**	⇓Pn	**Pn**	**21 40 18.1**	**+2.5**
	comp=Z,37nm,0.7s						
MAKZ				⇑Sn	**Sn**	**21 41 42.7**	**+1.3**
	comp=Z,6.9nm,0.6s						
MAKZ				⇓Lg	Lg	21 42 23.3	
	comp=Z,28nm,0.8s						
MAKZ	**Makanchi**	**7.50**	**210**	⇓P	**Pn**	**21 40 18.1**	**+2.5**
MAKZ	**Makanchi**	**7.50**	**210**	P	**Pn**	**21 40 18.2**	**+2.5**
BVA0	**Borovoye Array**	**10.23**	**275**	⇑Pn	**Pn**	**21 40 53.4**	**+0.2**
	comp=Z,5.4nm,0.8s						
BVA0				⇓Lg	Lg	21 42 42.2	
	comp=Z,17nm,0.7s						
BVAR	**Borovoye Array**	**10.23**	**275**	Pn	**Pn**	**21 40 54.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=76,slow=14,SNR=17						
BVAR				Sn	**Sn**	**21 42 42.3**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=77,slow=22,SNR=3.9						
	comp=Z,8.9nm,0.8s						
BRVK	**Borovoye**	**10.29**	**275**	Pn	**Pn**	**21 40 53.8**	**-0.1**
BRVK	**Borovoye**	**10.29**	**275**	⇑Pn	**Pn**	**21 40 54.4**	**+0.4**
	comp=Z,7.4nm,0.8s						
BRVK				⇑Lg	Lg	21 42 48.4	
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**10.29**	**275**	*i* P	**Pn**	**21 40 54.1**	**+0.1**
OTUK	**Ortayu**	**10.86**	**248**	⇓Pn	**Pn**	**21 41 00.4**	**-1.4**
	comp=Z,5.2nm,0.6s						
OTUK				⇑Pg		21 41 11.8	
	comp=Z,6.7nm,0.6s						
OTUK				⇓Lg	Lg	21 44 09.9	
	comp=Z,14nm,0.9s						
PDGK	**Podgornoye**	**11.39**	**211**	⇑Pn	**Pn**	**21 41 09.2**	**-0.1**
	comp=Z,2.6nm,0.6s						
PDGK				⇑Lg	Lg	21 44 26.8	
	comp=Z,13nm,0.8s						
MDOK	**Medeo**	**12.37**	**218**	⇓Lg	Lg	21 44 54.0	
	comp=Z,22nm,1.2s						
SONM	**Songino Array**	**13.26**	**107**	Pn	**Pn**	**21 41 34.3**	**-0.3**
	baz=288,slow=14,SNR=9.0						
SONM				Lg	Lg	21 45 31.9	
	comp=Z,0.1nm,0.3s,baz=297,slow=27,SNR=6.5						
	comp=Z,1.4nm,0.9s						
ULN	**Ulaanbaatar**	**13.62**	**106**	*ce*P	**Pn**	**21 41 42.7**	**+3.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AAK	**Ala-Archa**	**13.81**	**224**	Pn	**Pn**	**21 41 42.1**	**-0.1**
	baz=94,slow=5.9,SNR=4.0						
	comp=Z,0.6nm,0.5s						
KK31	**Karatay Array**	**15.25**	**234**	Pn	**Pn**	**21 41 59.0**	**-2.6**
KK31	**Karatay Array**	**15.25**	**234**	P	**Pn**	**21 41 59.0**	**-2.6**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**15.25**	**234**	Pn	**Pn**	**21 41 58.9**	**-2.7**
KKAR	**Karatay Array**	**15.25**	**234**	P	**Pn**	**21 41 58.9**	**-2.7**
ARU	**Arti**	**16.81**	**292**	Pn	**Pn**	**21 42 20.9**	**-0.7**
	baz=92,slow=24,SNR=2.2						
ARU				Sn	**Sn**	**21 45 20.8**	**-7.9**
	baz=50,slow=12,SNR=4.0						
	comp=Z,0.5nm,0.3s						
ARU	**Arti**	**16.81**	**292**	P	**Pn**	**21 42 20.3**	**-1.3**
ARU				S	**Sn**	**21 45 26.5**	**-2.3**
BTK	**Batken**	**17.50**	**227**		**Pn**	**21 42 29.2**	**-1.4**
BTK	**Batken**	**17.50**	**227**	P	**Pn**	**21 42 29.2**	**-1.4**
BTK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**17.62**	**267**		**Pn**	**21 42 29.8**	**-2.1**
ABKAR	**Akbulak array**	**17.62**	**267**	Pn	**Pn**	**21 42 29.9**	**-2.1**
GAR	**Garm**	**18.60**	**226**	P	**P**	**21 42 43.0**	**-0.9**
GAR				IAmb	IAmb	21 42 46.2	
	comp=Z,17nm,1.0s						
CHGR	**Chuyangaron**	**19.39**	**228**	P	**P**	**21 42 52.5**	**-0.1**
CHGR				IAmb	IAmb	21 42 59.9	
	comp=Z,11nm,1.0s						
CHGR	**Chuyangaron**	**19.39**	**228**	P	**P**	**21 42 52.5**	**-0.1**
CHGR				pmax	pmax		
	comp=Z,11nm,1.0s						
KIRV	**Kirov**	**21.66**	**299**	P	**P**	**21 43 16.5**	**-0.4**
	comp=Z,13nm,0.7s,baz=128,slow=4.3,SNR=4.3						
	comp=Z,13nm,0.7s						
KIRV	**Kirov**	**21.66**	**299**	*ce*P	**P**	**21 43 16.8**	**-0.1**
NIL	**Nilore**	**22.20**	**213**	P	**P**	**21 43 22.6**	**-0.4**
NIL				IAmb	IAmb	21 43 24.2	
	comp=Z,6.6nm,1.0s						
NIL	**Nilore**	**22.20**	**213**	P	**P**	**21 43 22.6**	**-0.4**
NIL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GEYT	**Alibeck**	**25.44**	**244**	P	**P**	**21 43 54.1**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=23,slow=5.0,SNR=5.3						
	comp=Z,1.3nm,0.5s						
TIXI	**Tiksi**	**25.57**	**29**	P	**P**	**21 43 53.3**	**-2.0**
	comp=Z,6.2nm,0.7s,baz=323,slow=0.7,SNR=9.1						
	comp=Z,6.2nm,0.7s						
TIXI	**Tiksi**	**25.57**	**29**	P	**P**	**21 43 53.4**	**-2.0**
TIXI	**Tiksi**	**25.57**	**29**	*ce*P	**P**	**21 43 57.3**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
APA	**Apatity**	**28.99**	**320**	⇓*i*P	P	21 44 18.7	-7.3
APA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
APA				MLR	MLR		
	comp=Z,300nm,12.0s						
FINES	**FINESS Array B**	**32.81**	**309**	P	**P**	**21 44 59.0**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=74,slow=14,SNR=4.2						
	comp=Z,4.6nm,0.9s						
FINES	**FINESS Array B**	**32.81**	**309**	*i* P	**P**	**21 45 00.8**	**+1.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**35.04**	**290**	P	**P**	**21 45 20.0**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=284,slow=24,SNR=2.6						
	comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**35.04**	**290**	P	**P**	**21 45 20.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**36.03**	**161**	P	**P**	**21 45 29.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=332,slow=8.8,SNR=4.8						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**36.03**	**161**	*e*P	**P**	**21 45 31.4**	**+3.4**
BUR08	**Bucovina Ar. S**	**38.85**	**287**	P	**P**	**21 45 51.8**	**-0.1**
BUR08				IAmb	IAmb	21 46 00.7	
	comp=Z,8.8nm,1.5s						
BURAR	**Bucovina Array**	**38.86**	**287**	P	**P**	**21 45 51.8**	**-0.1**
BURAR				IAmb	IAmb	21 45 54.0	
	comp=Z,1.9nm,1.1s						
NB2	**NORSAR Subarra**	**39.71**	**312**	P	**P**	**21 46 01.2**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=65,slow=7.9						
NOA	**NORSAR Array B**	**39.71**	**312**	P	**P**	**21 45 59.1**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=63,slow=8.1,SNR=6.0						
	comp=Z,1.4nm,0.8s						
NOA	**NORSAR Array B**	**39.71**	**312**	*e*P	**P**	**21 46 01.0**	**+2.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RAYN	**Ar Rayn**	**43.40**	**243**	P	**P**	**21 46 29.0**	**-0.5**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**43.58**	**299**	P	**P**	**21 46 29.4**	**-1.1**
CLL	**Collm**	**43.58**	**299**	P	**P**	**21 46 29.4**	**-1.1**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GERES	**GERESS Array B**	**44.59**	**295**	P	**P**	**21 46 39.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=70,slow=5.8,SNR=4.3						
	comp=Z,0.4nm,0.7s						
GERES	**GERESS Array B**	**44.59**	**295**	*e*P	**P**	**21 46 40.7**	**+1.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**47.78**	**295**	P	**P**	**21 47 04.1**	**0.0**
TOLK	**Toolik Lake Re**	**51.24**	**23**	P	**P**	**21 47 29.4**	**-0.5**
COLD	**Coldfoot**	**52.17**	**25**	P	**P**	**21 47 36.7**	**-0.2**
COLD				IAmb	IAmb	21 47 40.0	
	comp=Z,3.2nm,1.0s						
IMAR	**Indian Mountai**	**52.20**	**27**	P	**P**	**21 47 36.9**	**-0.2**
BMAR	**Burnt Mountain**	**53.35**	**22**	P	**P**	**21 47 46.5**	**+0.8**
ILAR	**Eielson Array**	**54.95**	**25**	P	**P**	**21 47 57.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=318,slow=4.5,SNR=11						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**54.95**	**25**	P	**P**	**21 47 57.2**	**-0.1**
BCAR	**Beaver Creek A**	**57.64**	**24**	P	**P**	**21 48 17.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**77.03**	**275**	P	**P**	**21 50 18.9**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=56,slow=4.9,SNR=1.7						
	comp=Z,0.2nm,0.5s						

---

*IDC **08** 22:08:56.4±3.4, 35°.96N×140°.82E, h0km, mb3.2/2, mbtmp3.1/3, ML2.2/1, MS2.6/1, Error ellipse: s-maj=89.0km s-min=30.3km az=42.0*
*JMA **08** 22:09:01.9±0.1, 35°.9N±0°.3×140°.5E±0°.4, h36km±1km, MV3.1/39, SOUTHERN IBARAKI PREF*
JMA Felt I J1 at SOUTHERN IBARAKI PREF .
ISC 08 22:09:02.1±1.1**, 35°.90N**±0°.05×**140°.63E**±0°.07**, h35**km**, n16, σ1s.12**/15**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.11**	**310**	*i* P	**Pn**	**22 09 08.7**	**+0.4**
CHOJ	**Chosi**	**0.27**	**136**	*i* P	**Pn**	**22 09 09.7**	**0.0**
CHOJ				S	**Sn**	**22 09 15.0**	**+0.2**
JSMT	**Sammumatsuo**	**0.29**	**210**	*e*P	**Pn**	**22 09 09.4**	**-0.6**
JSMT				S	**Sn**	**22 09 15.0**	**-0.2**
JYT	**Yasato**	**0.48**	**313**	*i* P	**Pn**	**22 09 12.0**	**-0.6**
JYT				S	**Sn**	**22 09 18.8**	**-1.0**
JHO	**Hitachi**	**0.72**	**356**	*i* P	**Pn**	**22 09 15.8**	**0.0**
JHO				S	**Sn**	**22 09 25.5**	**-0.1**
JAG	**Ashikaga**	**1.09**	**299**	*i* P	**Pn**	**22 09 19.8**	**-1.1**
BSO3	**Boso 3**	**1.09**	**185**	P	**Pn**	**22 09 20.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.06**	**289**	Pn	**Pn**	**22 09 34.0**	**-0.3**
	0.7nm,0.3s,baz=96,slow=9.2,SNR=25						
MJAR				Sn	**Sn**	**22 10 02.1**	**+3.4**
	0.7nm,0.3s,baz=134,slow=15,SNR=5.2						
MJAR				LR	LR	22 10 37.6	
	comp=Z,121nm,19.2s,baz=192,slow=46						
	10nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.14**	**118**	T	T	22 43 59.5	
	baz=310,slow=75,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**28.15**	**118**	T	T	22 44 00.1	
	baz=310,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**28.16**	**118**	T	T	22 44 00.9	
	baz=310,slow=75,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**28.80**	**120**	T	T	22 44 51.5	
	baz=312,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.80**	**120**	T	T	22 44 50.4	
	baz=312,slow=76,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**28.82**	**120**	T	T	22 44 53.7	
	baz=312,slow=76,SNR=5.3						
MKAR	**Makanchi Array**	**44.20**	**303**	P	**P**	**22 17 07.5**	**-0.1**
	0.1nm,0.4s,baz=92,slow=8.7,SNR=1.8						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**55.85**	**187**	P	**P**	**22 18 36.2**	**0.0**
	0.2nm,0.6s,baz=1.5,slow=7.4,SNR=2.0						
	0.2nm,0.6s						

---

*SOME **08** 22:42:39.5, 46°.75N×69°.37E, h0km*
*NNC **08** 22:42:40.5±2.0, 46°.71N×69°.28E, h16km±16km, mb3.5, mpv3.2, Error ellipse: s-maj=16.0km s-min=9.0km az=163.0*
ISC 08 22:42:41.3±1.7**, 46°.69N**±0°.07×**69°.43E**±0°.08**, h10**km**, n18, σ2s.46**/23**, 2C-2D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.51**	**51**	⇑Pn	**Pn**	**22 43 20.8**	**-1.3**
	0.6nm,0.5s						
OTUK				⇓Sn	**Sn**	**22 43 53.8**	**+1.0**
	3.9nm,0.3s						
BTLS	**Baital**	**3.62**	**115**	*e*P	**Pg**	**22 43 49.5**	**-1.1**
	2.7nm,0.3s						
BTLS				*e*S	**Sg**	**22 44 39.5**	**+2.1**
	4.0nm,0.6s						
BTLS	**Baital**	**3.62**	**115**	Pg	**Pg**	**22 43 49.5**	**-1.1**
	2.7nm,0.3s						
BTLS				Lg	Lg	22 44 39.6	
	4.0nm,0.6s						
KK31	**Karatay Array**	**3.67**	**168**	⇓Pg	**Pb**	**22 43 47.6**	**+1.4**
	0.5nm,0.3s,baz=346,slow=18						
KK31				⇑Lg	Lg	22 44 36.1	
	5.1nm,0.6s,baz=347,slow=33						
IUG	**Iuzhnay**	**4.56**	**174**	*e*P	**Pg**	**22 44 06.7**	**-1.9**
	64nm,0.4s						
IUG				*e*S	**Sg**	**22 45 09.3**	**+1.5**
	11nm,0.8s						
IUG	**Iuzhnay**	**4.56**	**174**	Pg	**Pg**	**22 44 06.7**	**-1.9**
	64nm,0.4s						
IUG				Lg	Lg	22 45 09.3	
	11nm,0.8s						
MRKS	**Merke**	**4.78**	**144**	*e*P	**Pb**	**22 44 08.6**	**+3.4**
	1.5nm,0.3s						
MRKS				*e*S	**Sg**	**22 45 13.2**	**-1.6**
	5.0nm,0.6s						
MRKS	**Merke**	**4.78**	**144**	Pg	**Pb**	**22 44 08.6**	**+3.4**
	1.5nm,0.3s						
SGDS	**Sogindy**	**4.90**	**129**	*e*P	**Pb**	**22 44 10.9**	**+3.7**
	1.1nm,0.3s						
SGDS				*e*S	**Sg**	**22 45 17.3**	**-1.3**
	1.8nm,0.6s						
SGDS	**Sogindy**	**4.90**	**129**	Pg	**Pb**	**22 44 10.9**	**+3.7**
	1.1nm,0.3s						
SGDS				Lg	Lg	22 45 17.3	
	1.8nm,0.6s						
KRBS	**Karabastau**	**5.33**	**122**	*e*P	**Pg**	**22 44 20.2**	**-3.1**
	0.5nm,0.3s						
KRBS				*e*S	**Sg**	**22 45 32.9**	**+0.5**
	3.4nm,0.6s						
KRBS	**Karabastau**	**5.33**	**122**	Pg	**Pg**	**22 44 20.2**	**-3.1**
	0.5nm,0.3s						
KRBS				Lg	Lg	22 45 32.8	
	3.4nm,0.6s						
KST	**Kastek**	**5.90**	**126**	*e*P	**Pg**	**22 44 30.7**	**-3.5**
	0.9nm,0.3s						
KST				*e*S	**Sg**	**22 45 50.8**	**+0.1**
	4.2nm,0.6s						
KST	**Kastek**	**5.90**	**126**	Pg	**Pg**	**22 44 30.7**	**-3.5**
	0.9nm,0.3s						
KST				Lg	Lg	22 45 50.7	
	4.2nm,0.6s						
KTBS	**Karatobe**	**5.92**	**118**	*e*P	Pg	22 44 30.8	-3.9
	0.6nm,0.6s						
KTBS				*e*S	**Sg**	**22 45 51.1**	**-0.3**
	11nm,0.7s						
KTBS	**Karatobe**	**5.92**	**118**	Pg	Pg	22 44 30.8	-3.9
	0.6nm,0.6s						
KTBS				Lg	Lg	22 45 51.1	
	11nm,0.7s						
CHKK	**Chushkaly**	**6.04**	**115**	*e*P	Pg	22 44 32.9	-4.0
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**22 45 54.3**	**-0.7**
	7.2nm,0.4s						
CHKK	**Chushkaly**	**6.04**	**115**	Pg	Pg	22 44 32.9	-4.0
	0.8nm,0.1s						
CHKK				Lg	Lg	22 45 54.3	
	7.2nm,0.4s						

---

*NEIC **08** 23:11:58.7±2.2, 17°.16S±0°.07×70°.4W±0°.2, h128km±7km, mb4.5/16, Error ellipse: s-maj=22.6km s-min=8.9km az=103.0*
*VAO **08** 23:11:58.6±0.7, 17°.02S×70°.37W, h118km±7km, mb4.4*
*IDC **08** 23:12:02.0±1.6, 17°.32S×70°.04W, h145km±13km, mb3.8/7, mbtmp4.3/10, MS2.9/2, Error ellipse: s-maj=24.6km s-min=11.1km az=106.0*
ISC 08 23:11:58.4±0.8**, 17°.20S**±0°.05×**70°.40W**±0°.07**, h131**km±7km**, n91, σ1s.54**/99**, mb4.4**/14**, 6C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.17**	**177**		**Pn**	**23 12 24.3**	**+1.3**
AP01				Sn	**Sn**	**23 12 42.2**	**+0.4**
AP01	**Chacalluta**	**1.17**	**177**	⇑*i*P	**Pn**	**23 12 24.4**	**+1.3**
AP01				*e*S	**Sn**	**23 12 42.6**	**+0.7**
AP01				IAML		23 12 43.8	
	comp=E,5μm,0.3s						
PB12	**IPOC Station P**	**1.41**	**177**	Pn	**Pn**	**23 12 26.8**	**+1.1**
PB12				Sn	**Sn**	**23 12 46.6**	**0.0**
PB12	**IPOC Station P**	**1.41**	**177**	⇑*i*P	**Pn**	**23 12 26.8**	**+1.1**
PB12				*e*S	**Sn**	**23 12 46.9**	**+0.3**
PB12				IAML		23 12 51.4	
	comp=E,2μm,0.3s						
PB16	**IPOC Station P**	**1.42**	**143**	Pn	**Pn**	**23 12 28.1**	**+1.7**
PB16	**IPOC Station P**	**1.42**	**143**	*e*P	**Pn**	**23 12 28.3**	**+2.0**
PB16				*e*S	**Sn**	**23 12 49.1**	**+1.6**
LPAZ	**La Paz**	**2.36**	**68**	P	**Pn**	**23 12 39.0**	**+1.4**
	comp=E,205nm,0.6s,baz=252,slow=9.2,SNR=745						
LPAZ				S	**Sn**	**23 13 07.2**	**-0.2**
	comp=E,100nm,0.6s,baz=342,slow=24,SNR=22						
LPAZ				LR	LR	23 13 17.5	
	comp=E,52nm,19.8s,baz=22,slow=36						
LPAZ	**La Paz**	**2.36**	**68**	⇑*i*P	**Pn**	**23 12 38.9**	**+1.4**
LPAZ				*e*S	**Sn**	**23 13 06.9**	**-0.5**
PB11	**IPOC Station P**	**2.65**	**165**	Pn	**Pn**	**23 12 42.0**	**+1.3**
PB11	**IPOC Station P**	**2.65**	**165**	⇑*e*P	**Pn**	**23 12 42.0**	**+1.3**
PB11				*e*S	**Sn**	**23 13 13.1**	**-0.2**
GO01	**Chusmiza**	**2.71**	**155**	Pn	**Pn**	**23 12 44.3**	**+2.5**
GO01	**Chusmiza**	**2.71**	**155**	*e*P	**Pn**	**23 12 44.8**	**+2.9**
GO01				*e*S	**Sn**	**23 13 16.8**	**+1.6**
GO01				IAML		23 13 21.2	
	comp=E,481nm,0.1s						
TA02	**Huaiquique**	**3.07**	**175**	Pn	**Pn**	**23 12 46.6**	**+0.7**
TA02	**Huaiquique**	**3.07**	**175**	*e*P	**Pn**	**23 12 46.9**	**+0.9**
TA02				*e*S	**Sn**	**23 13 20.5**	**-2.2**
HMBC	**Humberstone**	**3.10**	**171**	⇑*e*P	**Pn**	**23 12 47.2**	**+0.6**
HMBC				*e*S	**Sn**	**23 13 18.2**	**-5.6**
PB08	**IPOC Station P**	**3.16**	**158**	Pn	**Pn**	**23 12 49.4**	**+1.9**
PB08	**IPOC Station P**	**3.16**	**158**	*e*P	**Pn**	**23 12 49.7**	**+2.2**
PB08				*e*S	**Sn**	**23 13 25.7**	**+0.3**
PB08				IAML		23 13 30.4	
	comp=E,300nm,0.2s						
TA01	**Diego Aracena**	**3.36**	**176**	Pn	**Pn**	**23 12 50.7**	**+0.9**
TA01	**Diego Aracena**	**3.36**	**176**	⇑*e*P	**Pn**	**23 12 50.8**	**+1.0**
TA01				*e*S	**Sn**	**23 13 27.2**	**-2.3**
PATCX	**Punta Patache**	**3.61**	**176**	Pn	**Pn**	**23 12 53.6**	**+0.4**
PB01	**IPOC Station P**	**3.92**	**167**	Pn	**Pn**	**23 12 58.0**	**+0.7**
PB07	**IPOC Station P**	**4.53**	**174**	Pn	**Pn**	**23 13 05.9**	**+0.4**
PB09	**IPOC Station P**	**4.71**	**167**	Pn	**Pn**	**23 13 09.2**	**+1.4**
PB03	**IPOC Station P**	**4.87**	**173**	Pn	**Pn**	**23 13 10.6**	**+0.7**
PB04	**IPOC Station P**	**5.12**	**177**	Pn	**Pn**	**23 13 13.8**	**+0.5**
PB06	**IPOC Station P**	**5.54**	**172**	Pn	**Pn**	**23 13 19.3**	**+0.4**
LVC	**Limon Verde**	**5.56**	**166**	P	**Pn**	**23 13 21.5**	**+2.0**
	comp=E,8.5nm,0.3s,baz=5.3,slow=8.4,SNR=31						
LVC				S	**Sn**	**23 14 20.6**	**-2.0**
	comp=E,48nm,0.3s,baz=63,slow=19,SNR=32						
LVC	**Limon Verde**	**5.56**	**166**	Pn	**Pn**	**23 13 21.2**	**+1.7**
LVC	**Limon Verde**	**5.56**	**166**	*e*P	**Pn**	**23 13 21.0**	**+1.6**
PB15	**IPOC Station P**	**6.04**	**172**	Pn	**Pn**	**23 13 26.2**	**+0.4**
PB10	**IPOC Station P**	**6.29**	**181**	Pn	**Pn**	**23 13 28.9**	**+0.1**
PB14	**IPOC Station P**	**7.39**	**180**	Pn	**Pn**	**23 13 43.4**	**-0.7**
GO02	**Mina Guanaco**	**7.96**	**175**	Pn	**Pn**	**23 13 51.6**	**-0.1**
ETMB	**Extrema**	**8.39**	**30**	Pn	**Pn**	**23 13 55.4**	**-1.9**
ETMB	**Extrema**	**8.39**	**30**	*e*P	**Pn**	**23 13 55.6**	**-1.6**
AC01	**Pan de Azucar**	**8.91**	**181**	Pn	**Pn**	**23 14 02.8**	**-1.3**
SIV	**San Ignacio**	**9.03**	**84**	P	**Pn**	**23 14 04.8**	**-0.9**
	comp=E,67nm,0.7s,baz=262,slow=12,SNR=146						
SIV				LR	LR	23 18 22.9	
	comp=E,27nm,19.6s,baz=286,slow=44						
AC02	**Maricunga**	**9.66**	**173**	Pn	**Pn**	**23 14 14.7**	**-0.1**
AC06	**Mina Casimiro**	**10.11**	**180**	Pn	**Pn**	**23 14 18.5**	**-1.8**
VILB	**Vilhena**	**10.72**	**68**	Pn	**Pn**	**23 14 25.5**	**-3.0**
VILB	**Vilhena**	**10.72**	**68**	*e*P	**Pn**	**23 14 25.9**	**-2.6**
PTLB	**Pontes e Lacer**	**10.95**	**82**	Pn	**Pn**	**23 14 28.4**	**-3.1**
LCO	**Las Campanas**	**11.76**	**181**	Pn	**Pn**	**23 14 43.0**	**+0.5**
TBTG	**Tabatinga, AM**	**12.94**	**2**	*e*P	**Pn**	**23 14 55.9**	**-1.7**
CO06	**Fray Jorge**	**13.46**	**185**	P	**P**	**23 15 07.3**	**-1.6**
CO03	**El Pedregal**	**13.58**	**181**	P	**P**	**23 15 12.1**	**+1.8**
SALV	**Santo Antonio**	**14.16**	**87**	*e*P	**Pn**	**23 15 13.8**	**+0.5**
CPUP	**Villa Florida**	**15.16**	**129**	*e*P	**P**	**23 15 28.1**	**+0.3**
CLDB	**Colider**	**15.50**	**68**	*e*P	**Pn**	**23 15 29.2**	**-0.9**
MACA	**Manacapuru-AM**	**16.90**	**35**	P	**P**	**23 15 44.1**	**-3.0**
MACA				IAmb	IAmb	23 15 49.4	
	comp=Z,26nm,0.6s						
MACA	**Manacapuru-AM**	**16.90**	**35**	*e*P	**P**	**23 15 46.5**	**-0.6**
SGCB	**S£o Gabriel d**	**17.29**	**11**	*e*P	**P**	**23 15 50.8**	**-0.6**
NPGB	**Novo Progresso**	**17.82**	**57**	*e*P	**Pn**	**23 15 57.5**	**-0.9**
ARAG	**Araguaiana, MT**	**17.89**	**88**	*e*P	**Pn**	**23 15 59.3**	**+0.1**
H03N1	**Juan Fernandez**	**17.90**	**204**	T	T	23 33 53.5	
	baz=27,slow=73,SNR=13						
H03N2	**Juan Fernandez**	**17.90**	**204**	T	T	23 33 53.1	
	baz=27,slow=73,SNR=13						
H03N3	**Juan Fernandez**	**17.91**	**204**	T	T	23 33 52.2	
	baz=27,slow=73,SNR=13						
PCMB	**Pacaembu**	**18.58**	**107**	*e*P	**Pn**	**23 16 06.8**	**-0.5**
PTGB	**Pitanga**	**18.68**	**117**	*e*P	**Pn**	**23 16 08.1**	**-0.4**
ITRB	**Iturama**	**19.18**	**101**	*e*P	**Pn**	**23 16 13.8**	**-0.6**
SNDB	**Serra Nova Dou**	**19.20**	**77**	*e*P	**P**	**23 16 12.1**	**-0.3**
ITTB	**Itaituba**	**19.22**	**50**	*e*P	**P**	**23 16 12.1**	**-0.4**
FRTB	**Fartura**	**20.47**	**111**	*e*P	Pn	23 16 28.5	-1.0
PLTB	**Pedras Altas**	**21.03**	**137**	P	**P**	**23 16 32.4**	**+0.5**
BDFB	**Brasilia**	**21.53**	**89**	P	**P**	**23 16 37.2**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=231,slow=18,SNR=3.5						
	comp=Z,2.5nm,0.6s						
BOAV	**Boa Vista**	**21.77**	**28**	P	**P**	**23 16 40.2**	**+0.2**
BOAV				IAmb	IAmb	23 16 42.3	
	comp=Z,16nm,1.2s						
GO06	**Curarrehue**	**22.33**	**182**	P	**P**	**23 16 45.9**	**+0.4**
PLCA	**Paso Flores**	**23.45**	**180**	P	**P**	**23 16 58.2**	**+2.0**
	comp=Z,1.4nm,0.4s,baz=7.7,slow=9.0,SNR=5.4						
	comp=Z,1.4nm,0.4s						
PLCA	**Paso Flores**	**23.45**	**180**	P	**P**	**23 16 55.7**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMTB	**Santa Maria do**	**23.70**	**72**	*e*P	**P**	**23 16 58.8**	**+0.3**
MCPB	**Macapa, AP**	**24.62**	**49**	*e*P	**P**	**23 17 06.0**	**-0.9**
BAUV	**El Baul**	**26.08**	**5**	P	**P**	**23 17 19.4**	**-0.6**
BAUV				IAmb	IAmb	23 17 21.2	
	comp=Z,17nm,1.1s						
MDP	**Montagnes des**	**28.26**	**40**	P	**P**	**23 17 39.5**	**0.0**
	comp=Z,6.7nm,0.9s,baz=200,slow=11,SNR=6.5						
	comp=Z,6.7nm,0.9s						
CBYP	**Canovanas**	**35.53**	**7**	P	**P**	**23 18 41.4**	**-1.6**
CBYP				IAmb	IAmb	23 19 07.4	
	comp=Z,13nm,1.1s						
GCPR	**Guaynabo City**	**35.54**	**7**	P	**P**	**23 18 41.2**	**-1.8**
CUPR	**Culebra, Puert**	**35.64**	**8**	P	**P**	**23 18 41.4**	**-2.5**
CUPR				IAmb	IAmb	23 18 42.3	
	comp=Z,7.6nm,0.8s						
U49A	**Red Boiling Sp**	**55.36**	**345**	P	**P**	**23 21 18.9**	**+0.1**
U49A				IAmb	IAmb	23 21 41.4	
	comp=Z,8.6nm,1.5s						
WVT	**Waverly**	**55.54**	**343**	P	**P**	**23 21 18.9**	**-1.2**
WVT				IAmb	IAmb	23 21 21.5	
	comp=Z,1.9nm,0.7s						
E62A	**Clayton Lake**	**63.52**	**1**	P	**P**	**23 22 15.3**	**+0.7**
E62A				IAmb	IAmb	23 22 20.3	
	comp=Z,13nm,1.4s						
D62A	**Allapoint, All**	**63.99**	**1**	P	**P**	**23 22 18.3**	**+0.6**
SNAA	**Sanae**	**66.79**	**161**	P	**P**	**23 22 37.0**	**+1.4**
PDAR	**Pinedale Array**	**69.69**	**330**	P	**P**	**23 22 58.6**	**+4.3**
	comp=Z,0.2nm,0.4s,baz=113,slow=8.8,SNR=5.8						
	comp=Z,0.2nm,0.4s						
ULM	**Lac du Bonnet**	**70.81**	**343**	P	**P**	**23 23 02.6**	**+2.1**
	comp=Z,4.4nm,0.3s,baz=159,slow=6.8,SNR=9.2						
	comp=Z,4.4nm,0.3s						
ULM	**Lac du Bonnet**	**70.81**	**343**	P	**P**	**23 23 02.3**	**+1.8**
ULM				IAmb	IAmb	23 23 03.4	
	comp=Z,5.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.30**	**72**	P	**P**	**23 23 39.0**	**0.0**
	comp=Z,5.2nm,0.6s,baz=254,slow=5.6,SNR=30						
	comp=Z,5.2nm,0.6s						
ESDC	**Sonseca Array**	**83.80**	**45**	P	**P**	**23 24 14.8**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=253,slow=5.6,SNR=6.3						
	comp=Z,0.7nm,0.6s						
BORG	**Borgarnes**	**89.82**	**19**	LR	LR	00 01 07.8	
	comp=Z,18nm,21.9s,baz=322,slow=33						
RPZ	**Rata Peaks**	**97.40**	**220**	LR	LR	23 57 27.3	
	comp=Z,133nm,20.0s,baz=262,slow=28						
MKAR	**Makanchi Array**	**142.85**	**31**	PKP	**PKPdf**	**23 31 17.3**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=315,slow=2.7,SNR=3.1						
SONM	**Songino Array**	**149.33**	**4**	PKPbc	**PKPab**	**23 31 35.4**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=327,slow=2.1,SNR=8.7						
PZH	**PanZhiHua**	**168.22**	**37**	PKP	**PKPdf**	**23 31 49.6**	**-0.7**

*IDC **08** 23:12:55.4±7.6, 20°.07N×122°.42E, h171km±78km, mb3.4/12, mbtmp3.9/13, Error ellipse: s-maj=23.3km s-min=12.3km az=73.0*

ISC 08 23:12:53.3±0.8**, 20°.1N**±0°.1×**122°.4E**±0°.2**, h150**km**, n13, σ0^{s}79**/13**, mb3.7**/12**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**17.96**	**14**	P	**Pn**	**23 16 54.4**	**+0.9**
	0.8nm,0.4s,baz=194,slow=10,SNR=2.1						
CMAR	**Chiang Mai Arr**	**22.21**	**270**	P	**P**	**23 17 38.4**	**+0.6**
	0.5nm,0.2s,baz=73,slow=8.9,SNR=4.6						
	0.5nm,0.2s						
KLR	**Kul'dur**	**30.03**	**12**	P	**P**	**23 18 47.7**	**-0.2**
	1.1nm,0.5s,baz=118,slow=15,SNR=3.6						
	1.1nm,0.5s						
SONM	**Songino Array**	**30.58**	**339**	P	**P**	**23 18 52.0**	**-0.9**
	0.6nm,0.5s,baz=158,slow=10,SNR=5.7						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**41.46**	**163**	P	**P**	**23 20 24.4**	**-1.2**
	1.4nm,0.7s,baz=344,slow=9.0,SNR=15						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**42.11**	**319**	P	**P**	**23 20 31.4**	**+0.8**
	0.9nm,0.4s,baz=110,slow=8.5,SNR=19						
	0.9nm,0.4s						
PETK	**Petropavlovsk-**	**42.70**	**31**	P	**P**	**23 20 36.1**	**+0.9**
	1.7nm,0.7s,baz=217,slow=11,SNR=2.7						
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**44.31**	**329**	P	**P**	**23 20 47.6**	**-0.5**
	0.5nm,0.4s,baz=109,slow=8.0,SNR=2.0						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.91**	**165**	P	**P**	**23 20 53.4**	**+0.2**
	0.4nm,0.4s,baz=335,slow=5.5,SNR=4.1						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**46.00**	**322**	P	**P**	**23 21 01.5**	**0.0**
	0.8nm,0.2s,baz=122,slow=7.6,SNR=5.1						
	0.8nm,0.2s						
STKA	**Stephens Creek**	**54.84**	**160**	P	**P**	**23 22 08.7**	**+0.7**
	1.3nm,0.6s,baz=345,slow=8.3,SNR=5.9						
	1.3nm,0.6s						
ARU	**Arti**	**59.07**	**324**	P	**P**	**23 22 37.3**	**-0.2**
	1.9nm,0.3s,baz=75,slow=5.1,SNR=4.0						
	1.9nm,0.3s						
ILAR	**Eielson Array**	**72.33**	**27**	P	**P**	**23 24 01.6**	**-0.7**
	0.3nm,0.6s,baz=281,slow=3.8,SNR=5.4						
	0.3nm,0.6s						

*INMG **08** 23:14:13.0±2.3, 37°.75N×17°.73W, h10km, ML3.0, Error ellipse: s-maj=12.2km s-min=5.7km az=120.0*

*CNRM **08** 23:14:13.6, 37°.37N×17°.21W, h20km, ml4.2*

ISC 08 23:14:07.7±2.2**, 37°.68N**±0°.08×**17°.3W**±0°.1**, h10**km**, n39, σ2^{s}93**/69**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**4.66**	**170**	*e*Pn	**Pn**	**23 15 20.1**	**+1.9**
PMPS	**Porto Santo**	**4.69**	**170**	*e*Pn	**Pn**	**23 15 21.1**	**+2.7**
PMPS				*e*Sn	**Sn**	**23 16 10.7**	**-2.2**
PMOZ	**Porto Moniz, M**	**4.85**	**179**	*e*Pn	**Pn**	**23 15 23.4**	**+2.6**
PMOZ				*e*Sn	**Sn**	**23 16 11.8**	**-5.2**
PMOZ	**Porto Moniz, M**	**4.85**	**179**	P	**Pn**	**23 15 22.7**	**+1.9**
PMOZ				S	**Sn**	**23 16 14.1**	**-2.9**
PMAR	**Madeira**	**4.96**	**176**	*e*Pn	**Pn**	**23 15 24.8**	**+2.4**
PMAR				*e*Sn	**Sn**	**23 16 12.7**	**-7.2**
PMAR				A	A	23 16 22.7	
	24nm,0.9s						
PMAR	**Madeira**	**4.96**	**176**	P	**Pn**	**23 15 24.5**	**+2.1**
PMAR				S	**Sn**	**23 16 17.5**	**-2.3**
PMAFR	**Mafra**	**6.46**	**76**	*e*Pn	**Pn**	**23 15 47.2**	**+4.3**
PMAFR				*e*Sn	**Sn**	**23 16 56.3**	**-0.3**
PMAFR				A	A	23 17 03.0	
	12nm,0.8s						
PMST	**Lisbon--Monsan**	**6.51**	**78**	*e*Sn	**Sn**	**23 16 52.2**	**-5.6**
PACT	**Alcochete**	**6.78**	**78**	*e*Pn	**Pn**	**23 15 50.8**	**+3.5**
PACT				*e*Sn	**Sn**	**23 17 05.3**	**+0.8**
PFVI	**Vila Bisbo**	**6.80**	**92**	*e*Pn	**Pn**	**23 15 49.4**	**+1.9**
PFVI				*e*Sn	**Sn**	**23 17 01.8**	**-3.1**
PFVI				A	A	23 17 04.7	
	4.0nm,0.3s						
PFVI	**Vila Bisbo**	**6.80**	**92**	P	**Pn**	**23 15 49.5**	**+2.0**
PFVI				S	**Sn**	**23 17 06.2**	**+1.2**
PTEO	**Sao Teotonio**	**6.84**	**89**	*e*Pn	**Pn**	**23 15 50.6**	**+2.6**
PTEO				*e*Sn	**Sn**	**23 17 02.1**	**-3.8**
PTEO				A	A	23 17 13.5	
	5.2nm,0.5s						
MORF	**Marmelete**	**6.92**	**90**	*e*P	**Pn**	**23 15 51.0**	**+1.9**
PSBE	**So Bento**	**6.94**	**72**	*e*Pn	**Pn**	**23 15 51.8**	**+2.4**
PSBE				*e*Sn	**Sn**	**23 17 08.4**	**0.0**
PSBE				A	A	23 17 14.0	
	7.5nm,0.7s						
PNCL	**Nicolau / Gran**	**6.98**	**84**	*e*Pn	**Pn**	**23 15 52.6**	**+2.6**
PNCL				*e*Sn	**Sn**	**23 17 06.9**	**-2.5**
MESJ	**Messejana**	**7.23**	**86**	*e*P	**Pn**	**23 15 55.6**	**+2.3**
MESJ				*e*S	**Sn**	**23 17 14.3**	**-1.1**
MESJ				IAML		23 17 16.3	
	comp=N,3.1nm,0.1s						
PCAS	**Casmilo, Conde**	**7.29**	**68**	*e*Pn	**Pn**	**23 15 57.0**	**+2.7**
PCAS				*e*Sn	**Sn**	**23 17 14.4**	**-2.7**
PMTG	**Montargil**	**7.29**	**76**	*e*Pn	**Pn**	**23 15 57.2**	**+2.9**
PMTG				*e*Sn	**Sn**	**23 17 14.8**	**-2.3**
PCVE	**Castro Verde**	**7.38**	**88**	*e*Pn	**Pn**	**23 15 56.5**	**+1.1**
PCVE				*e*Sn	**Sn**	**23 17 16.1**	**-3.1**
EVO	**Evora**	**7.40**	**81**	*e*Pn	**Pn**	**23 15 58.6**	**+2.8**
EVO				*e*Sn	**Sn**	**23 17 18.4**	**-1.4**
PBEJ	**Beja**	**7.50**	**84**	*e*Sn	**Sn**	**23 17 21.4**	**-0.9**
PVAQ	**Vaqueiros**	**7.65**	**89**	*e*Pn	**Pn**	**23 16 02.4**	**+3.2**
PVAQ				*e*Sn	**Sn**	**23 17 23.5**	**-2.4**
PVAQ	**Vaqueiros**	**7.65**	**89**	P	**Pn**	**23 16 01.9**	**+2.7**
PVAQ				S	**Sn**	**23 17 30.0**	**+4.2**
PESTR	**Estremoz**	**7.76**	**78**	*e*Sn	**Sn**	**23 17 26.7**	**-1.9**
PESTR	**Estremoz**	**7.76**	**78**	P	**Pn**	**23 16 03.5**	**+2.8**
PESTR				S	**Sn**	**23 17 32.7**	**+4.1**
PVIS	**Viseu**	**7.93**	**65**	*e*Pn	**Pn**	**23 16 05.2**	**+2.1**
PVIS				*e*Sn	**Sn**	**23 17 28.5**	**-4.5**
PMRV	**Marv??o**	**7.99**	**74**	*e*Pn	**Pn**	**23 16 05.9**	**+2.1**
PMRV				*e*Sn	**Sn**	**23 17 32.0**	**-2.2**
PCBR	**Castelo Branco**	**8.00**	**71**	*e*Pn	**Pn**	**23 16 05.9**	**+1.9**
PCBR				*e*Sn	**Sn**	**23 17 32.3**	**-2.2**
MTE	**Manteigas**	**8.09**	**67**	*e*Sn	**Sn**	**23 17 35.9**	**-0.9**
PBAR	**Barrancos**	**8.16**	**83**	*e*Pn	**Pn**	**23 16 09.4**	**+3.3**
PBAR				*e*Sn	**Sn**	**23 17 35.8**	**-2.5**
PGAV	**Gavieira, Arco**	**8.18**	**56**	*e*Pn	**Pn**	**23 16 09.2**	**+2.6**
PGAV				*e*Sn	**Sn**	**23 17 34.4**	**-4.8**
PCAB	**Cabril**	**8.23**	**58**	*e*Pn	**Pn**	**23 16 09.8**	**+2.7**
PCAB				*e*Sn	**Sn**	**23 17 36.8**	**-3.4**
POLO	**Lamas de Olo**	**8.25**	**60**	*e*Sn	**Sn**	**23 17 37.2**	**-3.5**
PVRL	**Vila Real**	**8.26**	**61**	*e*Sn	**Sn**	**23 17 38.0**	**-3.0**
MVO	**Moncorvo**	**8.70**	**63**	*e*Pn	**Pn**	**23 16 15.5**	**+1.8**
MVO				*e*Sn	**Sn**	**23 17 47.9**	**-4.0**
PBRG	**Braganca**	**9.14**	**60**	*e*S	**Sn**	**23 17 57.9**	**-4.7**
OUK	**Oukaimeden**	**10.14**	**127**	P	**Pn**	**23 16 34.3**	**+0.7**
OUK				S	**Sn**	**23 18 25.5**	**-2.0**
MD31	**MD31**	**11.35**	**111**	P	**Pn**	**23 16 50.7**	**+0.7**
MD31				S	**Sn**	**23 18 57.2**	**+0.4**
MDT	**Midelt**	**11.48**	**111**	P	**Pn**	**23 16 55.1**	**+3.3**
MDT				S	**Sn**	**23 18 59.8**	**-0.4**

*SSNC **08** 23:25:07.7±1.2, 19°.79N×76°.86W, h15km±5km, MD2.7, ML2.4, MW2.6*

ISC 08 23:25:05.9±1.2**, 19°.84N**±0°.05×**76°.92W**±0°.05**, h30**km±11km**, n10, σ1^{s}62**/14**, Cuba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.23**	**339**	*i* P	**Pb**	**23 25 13.4**	**+0.8**
RCC	**Rio Carpintero**	**1.16**	**82**	*e*P	**Pn**	**23 25 26.0**	**-0.1**
RCC				*e*S	**Sb**	**23 25 39.4**	**-2.6**
RCC				IAML		23 25 42.5	
	comp=E,47nm,0.1s						
RCC				IAML		23 25 42.8	
	comp=N,66nm,0.1s						
HLGC	**Holguin**	**1.32**	**38**	*e*S	**Sn**	**23 25 46.9**	**+2.1**
HLGC				IAML		23 25 49.3	
	comp=E,393nm,0.3s						
HLGC				IAML		23 25 50.0	
	comp=N,221nm,0.4s						
CCCC	**Cccc**	**1.57**	**330**	*e*P	**Pn**	**23 25 32.1**	**+0.4**
CCCC				*e*S	**Sn**	**23 25 48.6**	**-2.4**
CCCC				IAML		23 25 54.4	
	comp=N,14nm,0.1s						
CCCC				IAML		23 25 57.0	
	comp=E,28nm,0.5s						
GTBY	**Guantanamo Bay**	**1.70**	**87**	*e*P	**Pn**	**23 25 34.3**	**+0.8**
GTBY				*e*S	**Sn**	**23 25 53.0**	**-1.3**
MTDJ	**Mount Denham**	**1.71**	**200**	*e*P	**Pn**	**23 25 35.0**	**+1.2**
MTDJ				*e*S	**Sn**	**23 25 53.6**	**-1.1**
STH	**Stony Hill**	**1.76**	**177**	*i* P	**Pn**	**23 25 34.9**	**+0.5**
GWJ	**Greenwich**	**1.77**	**174**	*i* P	**Pn**	**23 25 34.9**	**+0.3**
PCJ	**Portland Cotta**	**2.10**	**186**	*i* P	**Pn**	**23 25 39.9**	**+0.8**
MASC	**Masc**	**2.55**	**82**	*e*P	Pn	23 25 48.5	+3.3
MASC				*e*S	**Sn**	**23 26 16.6**	**+1.5**

*SJA **08** 23:30:15.8±0.9, 27°.28S×63°.79W, h604km±13km, ML4.7, MW4.8*

*BJI **08** 23:30:19.7±0.0, 27°.63S×63°.39W, h555km, mB5.2/4*

*VAO **08** 23:30:20.6±0.2, 27°.26S×63°.39W, h563km, mb4.9*

*NEIC **08** 23:30:20.9±1.8, 27°.25S±0°.08×63°.3W±0°.1, h559km±5km, mb5.1/518, Md4.7(SJA), Error ellipse: s-maj=14.6km s-min=11.6km az=86.0*

*MOS **08** 23:30:20.5±1.2, 27°.22S×63°.33W, h564km, mb4.9/20, Error ellipse: s-maj=12.4km s-min=8.2km az=98.8*

*IDC **08** 23:30:21.3±0.4, 27°.18S×63°.26W, h560km±4km, mb4.3/23, mbtmp5.2/29, Error ellipse: s-maj=11.2km s-min=7.2km az=76.0*

*GCMT **08** 23:30:22.9±0.6, 26°.95S±0°.06×63°.10W±0°.06, h558km±4km, MW5.2/42, Moment Tensor Solution. s42,c45; Duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.49±.04; $M_{\theta\theta}$-0.20±.06; $M_{\phi\phi}$0.69±.07; $M_{r\theta}$-0.48±.08; $M_{\theta\phi}$-0.16±.06; $M_{\phi r}$0.38±.09; Best double couple: $M_0$0.88300×10^{17} NP1:ϕ_s141.00000°, δ70.00000°, λ-119.00000°. NP2: ϕ_s20.00000°, δ34.00000°, λ-37.00000°. Principal axes: T 0.8910, Plg20.0000°, Azm253.0000°; N -0.0150, Plg27.0000°, Azm152.0000°; P -0.8750, Plg55.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 08 23:30:20.6±0.3**, 27°.24S**±0°.04×**63°.35W**±0°.05**, h558**km±3km**, h559**km**:pP-P, n1038, σ1^{s}03**/952**, mb5.0**/303**, 17C-9D, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**2.48**	**241**	⇓*i*P	**P**	**23 31 33.4**	**0.0**
CYA				*e*S	**S**	**23 32 30.0**	**-2.7**
CYA	**Choya**	**2.48**	**241**	*i* P	**P**	**23 31 33.4**	**0.0**
CYA				*i* S	**S**	**23 32 30.2**	**-2.5**
CYA				IAML		23 32 38.0	
	comp=Z,98nm,1.1s						
SLA	**San Lorenzo**	**3.17**	**322**	*i* P	**P**	**23 31 38.6**	**+0.9**
SLA				*i* S	**S**	**23 32 39.8**	**-0.5**
AZAP	**Zapla**	**3.38**	**332**	*i* P	**P**	**23 31 39.7**	**+0.6**
AZAP				*i* S	**S**	**23 32 42.6**	**-0.3**
AZAP				IAML		23 33 36.0	
	comp=Z,218nm,1.6s						
ASTB	**Santa Barbara**	**3.43**	**343**	*i* P	**P**	**23 31 41.2**	**+1.8**
ASTB				IAML		23 32 52.9	
	comp=Z,13nm,1.3s						
ALOL	**LOMAS DE OLMED**	**3.46**	**350**	*i* P	**P**	**23 31 41.6**	**+2.2**
ACLC	**CERRO LA CRUZ**	**3.85**	**235**	*i* P	**P**	**23 31 41.6**	**-0.5**
ACLC				*i* S	**S**	**23 32 45.7**	**-2.9**
ACLC				IAML		23 32 49.1	
	comp=Z,532nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.20**	**221**	*i* P	**P**	**23 31 43.8**	**-0.7**
APLL				IAML		23 32 54.5	
	comp=Z,10μm,3.0s						
HJA	**Humahuaca**	**4.43**	**335**	*i* P	**P**	**23 31 48.5**	**+1.6**
HJA				IAML		23 33 06.4	
	comp=Z,35nm,0.6s						
AC02	**Maricunga**	**5.17**	**273**	P	**P**	**23 31 54.8**	**+1.9**
AC02	**Maricunga**	**5.17**	**273**	⇓*i*P	**P**	**23 31 55.0**	**+2.1**
AC02				*e*S	**S**	**23 33 10.0**	**+1.8**
AC02				IAML		23 33 12.1	
	comp=N,99nm,0.7s						
CPUP	**Villa Florida**	**5.46**	**82**	P	**P**	**23 31 56.0**	**+1.1**
	comp=N,250nm,0.6s,baz=250,slow=8.6,SNR=1062						
CPUP	**Villa Florida**	**5.46**	**82**	⇑*i*P	**P**	**23 31 55.9**	**+1.1**
CPUP				*e*S	**S**	**23 33 13.4**	**+1.6**
CPUP	**Villa Florida**	**5.46**	**82**	*e*P	**P**	**23 31 55.9**	**+1.1**
MRA	**San Martin**	**5.55**	**201**	*i* P	**P**	**23 31 54.6**	**-1.0**
MRA				IAML		23 33 17.2	
	comp=Z,83nm,1.4s						
GO02	**Mina Guanaco**	**5.97**	**289**	P	**P**	**23 32 01.1**	**+1.4**
AF01	**San Pedro de A**	**6.12**	**313**	P	**P**	**23 32 00.3**	**-0.7**
GO03	**Copiap**	**6.13**	**265**	P	**P**	**23 32 01.5**	**+0.7**
GO03	**Copiap**	**6.13**	**265**	⇓*i*P	**P**	**23 32 01.8**	**+0.9**
GO03				*e*S	**S**	**23 33 22.6**	**-0.2**
GO03				IAML		23 33 30.1	
	comp=E,326nm,0.8s						
AC06	**Mina Casimiro**	**6.23**	**267**	P	**P**	**23 32 02.2**	**+0.4**
AC06	**Mina Casimiro**	**6.23**	**267**	*i* P	**P**	**23 32 02.6**	**+0.9**
AC06				⇑*i*P	P	23 32 02.6	+0.9
AC06				*e*S	**S**	**23 33 24.4**	**0.0**
AC06				IAML		23 33 25.6	
	comp=N,219nm,0.4s						
AC05	**El Transito**	**6.32**	**254**	P	**P**	**23 32 03.7**	**+1.1**
AC05	**El Transito**	**6.32**	**254**	⇓*i*P	**P**	**23 32 04.2**	**+1.5**
AC05				*e*S	**S**	**23 33 27.0**	**+0.8**
AC05				IAML		23 33 35.2	
	comp=N,476nm,0.8s						
ZON	**Zonda**	**6.32**	**226**	P	**P**	**23 32 03.3**	**+0.8**
ZON	**Zonda**	**6.32**	**226**	P	**P**	**23 32 03.3**	**+0.8**
ITQB	**Itaqui**	**6.40**	**114**	P	**P**	**23 32 04.2**	**+1.0**
ITQB	**Itaqui**	**6.40**	**114**	*e*P	**P**	**23 32 04.2**	**+1.0**
ITQB				*e*S	**S**	**23 33 27.9**	**+0.7**
CO01	**Juntas del Tor**	**6.52**	**244**	P	**P**	**23 32 05.4**	**+0.8**
CO01	**Juntas del Tor**	**6.52**	**244**	⇓*i*P	**P**	**23 32 06.9**	**+2.3**
CO01				*e*S	**S**	**23 33 32.0**	**+2.3**
CO01				IAML		23 33 34.0	
	comp=E,102nm,0.8s						
AC01	**Pan de Azucar**	**6.57**	**278**	P	**P**	**23 32 05.6**	**+0.7**
AC01	**Pan de Azucar**	**6.57**	**278**	⇑*i*P	**P**	**23 32 05.6**	**+0.7**
AC01				*e*S	**S**	**23 33 30.0**	**-0.3**
AZCA	**Azaras, Argent**	**6.59**	**99**	*e*P	**P**	**23 32 05.8**	**+0.8**
AZCA				*e*S	**S**	**23 33 32.4**	**+1.9**
LCO	**Las Campanas**	**6.72**	**253**	P	**P**	**23 32 07.2**	**+0.7**
LCO	**Las Campanas**	**6.72**	**253**	P	**P**	**23 32 07.2**	**+0.7**
LVC	**Limon Verde**	**6.83**	**311**	P	**P**	**23 32 08.5**	**+0.6**
	comp=E,159nm,0.3s,baz=128,slow=7.9,SNR=495						
LVC				S	**S**	**23 33 31.7**	**-3.8**
	comp=E,129nm,0.5s,baz=134,slow=12,SNR=4.6						
LVC	**Limon Verde**	**6.83**	**311**	P	**P**	**23 32 08.2**	**+0.4**
LVC	**Limon Verde**	**6.83**	**311**	*e*P	**P**	**23 32 08.4**	**+0.6**
LVC	**Limon Verde**	**6.83**	**311**	P	**P**	**23 32 08.2**	**+0.4**
PB15	**IPOC Station P**	**6.84**	**305**	P	**P**	**23 32 08.7**	**+0.9**
PB14	**IPOC Station P**	**6.86**	**291**	P	**P**	**23 32 08.6**	**+0.7**
PB14	**IPOC Station P**	**6.86**	**291**	⇑*i*P	**P**	**23 32 08.7**	**+0.7**
PB14				*e*S	**S**	**23 33 35.3**	**-0.5**
AC04	**Llanos de Chal**	**6.91**	**260**	P	**P**	**23 32 08.1**	**+0.1**
GO04	**Tololo Observa**	**7.16**	**244**	P	**P**	**23 32 11.1**	**+0.5**
GO04	**Tololo Observa**	**7.16**	**244**	⇑*i*P	**P**	**23 32 11.2**	**+0.5**
GO04				*e*S	**S**	**23 33 40.7**	**-0.1**
PB06	**IPOC Station P**	**7.23**	**307**	P	**P**	**23 32 11.9**	**+0.6**
CO03	**El Pedregal**	**7.35**	**239**	P	**P**	**23 32 12.8**	**+0.5**
CO05	**La Serena**	**7.43**	**247**	P	**P**	**23 32 12.8**	**-0.1**
PB10	**IPOC Station P**	**7.50**	**298**	P	**P**	**23 32 14.5**	**+0.7**
UNIS	**Unistalda (Bra**	**7.53**	**106**	*e*P	**P**	**23 32 14.9**	**+0.9**
PB09	**IPOC Station P**	**7.63**	**314**	P	**P**	**23 32 15.8**	**+0.6**
MURT	**Porto Murtinho**	**7.63**	**44**	*e*P	**P**	**23 32 16.1**	**+1.1**
CO02	**Combarbal**	**7.76**	**238**	P	**P**	**23 32 16.4**	**+0.2**
RODS	**Rosario do Sul**	**7.79**	**115**	*e*P	**P**	**23 32 17.7**	**+1.2**
PB04	**IPOC Station P**	**7.88**	**307**	P	**P**	**23 32 17.5**	**-0.1**
CO06	**Fray Jorge**	**8.02**	**243**	P	**P**	**23 32 18.7**	**0.0**
CRSM	**Crissiumal (Br**	**8.28**	**94**	*e*P	**P**	**23 32 22.0**	**+0.6**
ANTJ	**Antonio Joao (**	**8.48**	**54**	*e*P	**P**	**23 32 24.3**	**+0.8**
MT03	**Universidad Ad**	**8.77**	**223**	P	**P**	**23 32 26.4**	**+0.1**
MCR1	**Marechal Candi**	**8.84**	**74**	*e*P	**P**	**23 32 27.8**	**+0.8**
PB08	**IPOC Station P**	**8.84**	**322**	P	**P**	**23 32 28.5**	**+1.0**
CPSB	**Cacapava Do Su**	**9.25**	**112**	*e*P	**P**	**23 32 31.0**	**+0.1**
GO01	**Chusmiza**	**9.25**	**323**	P	**P**	**23 32 32.4**	**+0.7**
ALGR	**Alto Alegre (B**	**9.26**	**102**	*e*P	**P**	**23 32 31.7**	**+0.6**
FRBT	**Francisco Belt**	**9.30**	**85**	*e*P	**P**	**23 32 32.0**	**+0.4**
PB11	**IPOC Station P**	**9.43**	**321**	P	**P**	**23 32 33.2**	**+0.1**
BBRB	**Robore, Bolivi**	**9.50**	**21**	*e*P	**P**	**23 32 34.6**	**+0.9**
PLTB	**Pedras Altas**	**9.61**	**120**	P	**P**	**23 32 34.4**	**-0.3**
PLTB	**Pedras Altas**	**9.61**	**120**	*e*P	**P**	**23 32 34.6**	**0.0**
ITAB	**Concordia**	**9.99**	**93**	*e*P	**P**	**23 32 38.4**	**-0.1**
PANT	**Pantanal (Braz**	**10.29**	**38**	*e*P	**P**	**23 32 42.7**	**+1.0**
BBSD	**Serra de San D**	**10.32**	**15**	*e*P	**P**	**23 32 43.0**	**+0.9**
PTGB	**Pitanga**	**10.46**	**79**	*e*P	**P**	**23 32 44.1**	**+0.6**
GO05	**Huala**	**10.67**	**221**	P	**P**	**23 32 44.1**	**-1.2**
PB12	**IPOC Station P**	**10.72**	**322**	P	**P**	**23 32 45.8**	**-0.5**
TRQA	**Tornquist**	**10.84**	**174**	P	**P**	**23 32 45.2**	**-1.9**
TRQA	**Tornquist**	**10.84**	**174**	*e*P	**P**	**23 32 45.7**	**-1.4**
TRQA	**Tornquist**	**10.84**	**174**	P	**P**	**23 32 45.2**	**-1.9**
CNLB	**Canela**	**11.21**	**104**	*e*P	**P**	**23 32 50.7**	**-0.4**
SIV	**San Ignacio**	**11.40**	**11**	P	**P**	**23 32 53.5**	**+0.4**
	comp=E,245nm,0.9s,baz=198,slow=9.2,SNR=613						
SIV				ScP	**ScP**	**23 40 34.5**	**+0.9**
	comp=E,3.0nm,0.8s,baz=162,slow=5.2,SNR=3.1						
LPAZ	**La Paz**	**11.77**	**337**	P	**P**	**23 32 57.7**	**+0.1**
	comp=E,29nm,0.4s,baz=147,slow=7.4,SNR=164						
LPAZ				S	**S**	**23 35 02.3**	**-4.3**
	comp=E,64nm,0.7s,baz=330,slow=13,SNR=8.0						
LPAZ				ScP	**ScP**	**23 40 35.8**	**+1.0**
	comp=E,7.3nm,1.0s,baz=81,slow=2.8,SNR=6.6						
LPAZ	**La Paz**	**11.77**	**337**	P	**P**	**23 32 56.6**	**-1.0**
LPAZ	**La Paz**	**11.77**	**337**	*e*P	**P**	**23 32 57.4**	**-0.2**
LPAZ	**La Paz**	**11.77**	**337**	P	**P**	**23 32 56.6**	**-1.0**
PCMB	**Pacaembu**	**12.36**	**66**	*e*P	**P**	**23 33 03.0**	**+0.1**
PTLB	**Pontes e Lacer**	**12.37**	**19**	P	**P**	**23 33 02.3**	**-0.8**
PTLB	**Pontes e Lacer**	**12.37**	**19**	*e*P	**P**	**23 33 03.5**	**+0.4**
TER01	**Tubaro-SC**	**12.65**	**99**	*e*P	**P**	**23 33 05.5**	**-0.3**
TIJ01	**Guaruva-PR**	**13.02**	**85**	*e*P	**P**	**23 33 07.9**	**-1.9**
FRTB	**Fartura**	**13.06**	**76**	*e*P	**P**	**23 33 09.8**	**-0.4**
SALV	**Santo Antonio**	**13.34**	**34**	*e*P	**P**	**23 33 13.2**	**+0.1**
GO06	**Curarrehue**	**14.04**	**207**	P	**P**	**23 33 18.2**	**-1.9**
ITRB	**Iturama**	**14.08**	**61**	*e*P	**P**	**23 33 20.3**	**-0.4**
VILB	**Vilhena**	**14.52**	**12**	P	**P**	**23 33 23.3**	**-2.0**
VILB	**Vilhena**	**14.52**	**12**	*e*P	**P**	**23 33 24.5**	**-0.7**
PLCA	**Paso Flores**	**14.71**	**202**	P	**P**	**23 33 25.5**	**-1.3**
	comp=E,48nm,0.8s,baz=26,slow=12,SNR=68						
PLCA				ScP	**ScP**	**23 40 39.3**	**+0.7**
	comp=E,5.9nm,0.8s,baz=14,slow=2.4,SNR=8.2						
PLCA	**Paso Flores**	**14.71**	**202**	P	**P**	**23 33 24.9**	**-1.9**
PLCA				PcP	**PcP**	**23 37 56.9**	**-0.3**
PLCA	**Paso Flores**	**14.71**	**202**	*e*P	**P**	**23 33 26.1**	**-0.8**
PLCA	**Paso Flores**	**14.71**	**202**	P	**P**	**23 33 24.9**	**-1.9**
PET01	**Itanhaem-SP**	**14.78**	**82**	*e*P	**P**	**23 33 26.7**	**-1.0**
VA04	**Juan Fernndez**	**14.79**	**241**	P	**P**	**23 33 26.5**	**-1.1**
BB19B	**Bebedouro**	**14.86**	**69**	*e*P	**P**	**23 33 27.8**	**-0.8**
RCLB	**Rio Claro- Sao**	**15.14**	**75**	*e*P	**P**	**23 33 30.6**	**-0.9**
VAO	**Valinhos**	**15.43**	**78**	*e*P	**P**	**23 33 33.8**	**-0.6**
ARAG	**Araguaiana, MT**	**15.71**	**45**	*e*P	**P**	**23 33 37.3**	**+0.2**
LL05	**Los Muermos**	**16.40**	**208**	P	**P**	**23 33 42.3**	**-1.0**
PARB	**Paraibuna**	**16.50**	**80**	*e*P	**P**	**23 33 43.7**	**-0.9**
IPMB	**Ipameri, GO**	**16.73**	**60**	*e*P	**P**	**23 33 46.4**	**-0.3**
PDRB	**Porto dos Gac**	**16.75**	**23**	*e*P	**P**	**23 33 46.0**	**-0.9**
ETMB	**Extrema**	**17.54**	**351**	P	**P**	**23 33 53.5**	**-0.5**
ETMB	**Extrema**	**17.54**	**351**	*e*P	**P**	**23 33 53.2**	**-0.9**
CLDB	**Colider**	**17.77**	**25**	*e*P	**P**	**23 33 56.2**	**+0.1**
PMNB	**Patos De Minas**	**17.82**	**64**	*e*P	**P**	**23 33 57.1**	**+0.5**
BSCB	**Bom Sucesso**	**18.05**	**74**	*e*P	**P**	**23 33 59.6**	**+0.8**
MAN01	**Angra dos Reis**	**18.10**	**80**	*e*P	**P**	**23 33 59.6**	**+0.5**
BDFB	**Brasilia**	**18.34**	**54**	P	**P**	**23 34 01.8**	**+0.4**
	comp=E,42nm,0.3s,baz=227,slow=8.8,SNR=90						
BDFB				S	**S**	**23 37 00.7**	**-0.3**
	comp=E,36nm,1.1s,baz=58,slow=22,SNR=5.2						
BDFB				ScP	**ScP**	**23 40 46.9**	**+0.5**
	comp=E,7.9nm,0.7s,baz=343,slow=5.0,SNR=4.9						
BDFB	**Brasilia**	**18.34**	**54**	P	**P**	**23 34 01.6**	**+0.2**
BDFB	**Brasilia**	**18.34**	**54**	*e*P	**P**	**23 34 01.9**	**+0.4**
BDFB	**Brasilia**	**18.34**	**54**	P	**P**	**23 34 01.6**	**+0.2**
VAS01	**Vassouras-RJ**	**18.74**	**79**	*e*P	**P**	**23 34 04.7**	**-0.2**
SNDB	**Serra Nova Dou**	**18.94**	**39**	*e*P	**P**	**23 34 06.7**	**-0.1**
COYC	**Coyhaique**	**19.57**	**199**		**P**	**23 34 11.5**	**-0.6**
DUB01	**Friburgo-RJ**	**19.74**	**79**	*e*P	**P**	**23 34 13.7**	**-0.3**
NNA	**Nana**	**19.77**	**318**	P	**P**	**23 34 14.3**	**0.0**
	comp=E,19nm,0.7s,baz=154,slow=5.9,SNR=10.0						
NNA				PcP	**PcP**	**23 38 05.3**	**-0.6**
	comp=E,5.5nm,0.4s,baz=63,slow=2.3,SNR=3.7						
NNA				ScP	**ScP**	**23 40 50.3**	**+0.7**
	comp=E,15nm,1.0s,baz=225,slow=1.4,SNR=3.7						
NNA	**Nana**	**19.77**	**318**	P	**P**	**23 34 14.1**	**-0.3**
NNA	**Nana**	**19.77**	**318**	*ce*P	**P**	**23 34 15.2**	**+0.9**
NNA				pmax	pmax		
	comp=Z,45nm,0.9s						
DIAM	**Diamantina, MG**	**20.19**	**68**	*e*P	**P**	**23 34 19.4**	**+1.1**
CAM01	**Campos-RJ**	**20.45**	**79**	*e*P	**P**	**23 34 20.6**	**+0.2**
MC01	**Montes Claros**	**20.80**	**64**	*e*P	**P**	**23 34 23.9**	**+0.2**
CZSB	**Cruzeiro do Su**	**21.34**	**334**	P	**P**	**23 34 27.4**	**-1.1**
CZSB	**Cruzeiro do Su**	**21.34**	**334**	*e*P	**P**	**23 34 27.9**	**-0.6**
JANB	**Januaria**	**21.47**	**59**	*e*P	**P**	**23 34 29.9**	**+0.2**
NPGB	**Novo Progresso**	**21.48**	**22**	*e*P	**P**	**23 34 28.9**	**-0.8**
ALF01	**Guarapari-ES**	**21.69**	**77**	*e*P	**P**	**23 34 32.6**	**+1.0**
SJMB	**Sao Joao De Ma**	**22.08**	**72**	*e*P	**P**	**23 34 35.6**	**+0.5**
RIB01	**Linhares ES**	**22.49**	**74**	*e*P	**P**	**23 34 39.3**	**+0.5**
SDBA	**SAO DESIDERIO**	**22.73**	**53**	*e*P	**P**	**23 34 41.1**	**0.0**
NAN01	**Guarapari, ES**	**23.37**	**71**	*e*P	**P**	**23 34 46.6**	**0.0**
SMTB	**Santa Maria do**	**23.59**	**42**	*e*P	**P**	**23 34 48.8**	**+0.2**
TBTG	**Tabatinga, AM**	**23.77**	**344**	P	**P**	**23 34 49.6**	**-0.5**
TBTG	**Tabatinga, AM**	**23.77**	**344**	*e*P	**P**	**23 34 50.4**	**+0.2**
ITTB	**Itaituba**	**23.88**	**19**	*e*P	**P**	**23 34 50.6**	**-0.5**
MACA	**Manacapuru-AM**	**24.08**	**7**	P	**P**	**23 34 51.4**	**-1.5**
MACA	**Manacapuru-AM**	**24.08**	**7**	*e*P	**P**	**23 34 52.2**	**-0.7**
GUA01	**Guaratinga, BA**	**24.24**	**69**	*e*P	**P**	**23 34 55.2**	**+0.8**
ATAH	**Atahualpa**	**24.57**	**322**	P	**P**	**23 34 58.4**	**+0.7**
	comp=Z,14nm,0.8s,baz=158,slow=8.2,SNR=14						
ATAH				ScP	**ScP**	**23 41 02.9**	**+0.3**
	comp=Z,17nm,0.8s,baz=172,slow=4.2,SNR=8.5						
	comp=Z,14nm,0.8s						
PRPB	**Parauapebas**	**24.60**	**34**	*e*P	**P**	**23 34 56.9**	**-0.7**
CMC01	**Camacan, BA**	**25.11**	**67**	*e*P	**P**	**23 35 02.9**	**+0.9**
MG05	**Puerto Natales**	**25.36**	**193**	P	**P**	**23 35 04.0**	**+0.3**
GDU01	**Guandu, BA**	**25.96**	**64**	*e*P	**P**	**23 35 09.4**	**-0.1**
MALB	**Monte Alegre**	**26.71**	**21**	*e*P	**P**	**23 35 15.9**	**-0.2**
SGCB	**S£o Gabriel d**	**27.20**	**352**	*e*P	**P**	**23 35 19.7**	**-0.7**
USHA	**Ushuaia**	**27.81**	**186**	P	**P**	**23 35 26.2**	**+1.0**
	comp=Z,16nm,0.5s,baz=31,slow=7.0,SNR=3.7						
	comp=Z,16nm,0.5s						
ARNL	**Arenillas**	**28.47**	**323**	P	**P**	**23 35 32.4**	**+1.0**
TMAB	**Tom-Au,PA,Br**	**28.73**	**33**	*e*P	**P**	**23 35 34.5**	**+0.8**

MCPB **Macapa, AP** 28.85 24 *e*P P 23 35 35.0 +0.2
BOAV **Boa Vista** 29.59 6 P P 23 35 40.3 -0.9
BOAV IAmb IAmb 23 35 42.2
comp=Z,142nm,0.9s
BOAV **Boa Vista** 29.59 6 *e*P P 23 35 41.0 -0.2
SLOR **San Lorenzo -** 30.11 329 P P 23 35 47.4 +1.2
SLOR IAmb IAmb 23 36 11.9
comp=Z,26nm,0.8s
ROSB **Rosrio** 30.41 41 *e*P P 23 35 48.0 -0.2
PULU **Pululahua** 30.77 329 P P 23 35 53.0 +1.1
TULM **Tulcn-Chalpat** 31.07 331 IAmb IAmb 23 35 57.5
comp=Z,45nm,0.8s
ROSC **El Rosal** 33.61 340 P P 23 36 16.4 +0.6
comp=Z,52nm,0.6s,baz=117,slow=4.8,SNR=19
comp=Z,52nm,0.6s
RCBR **Riachuelo** 33.70 56 P P 23 36 15.8 -0.5
comp=Z,72nm,1.2s,baz=8.6,slow=11,SNR=9.3
comp=Z,72nm,1.2s
RCBR **Riachuelo** 33.70 56 P P 23 36 16.0 -0.2
RCBR IAmb IAmb 23 36 18.0
comp=Z,78nm,1.2s
RCBR **Riachuelo** 33.70 56 *e*P P 23 36 17.2 +1.0
RCBR **Riachuelo** 33.70 56 P P 23 36 16.0 -0.2
RCBR pmax pmax
comp=Z,78nm,1.2s
MDP **Montagnes des** 33.78 19 P P 23 36 16.6 -0.3
comp=Z,49nm,0.7s,baz=191,slow=10,SNR=58
comp=Z,49nm,0.7s
MPGF **Montagnes des** 33.79 19 P P 23 36 14.7 -2.3
MPGF pP pP 23 37 54.2 +3.5
BAUV **El Baul** 36.26 352 P P 23 36 36.1 -1.3
BAUV PcP PcP 23 38 47.2 +0.1
SDV **Santo Domingo** 36.60 348 P P 23 36 39.1 -1.4
comp=Z,41nm,0.6s,baz=186,slow=6.8,SNR=42
SDV ScP ScP 23 41 41.5 -0.8
comp=Z,5.3nm,0.4s,baz=182,slow=5.9,SNR=6.9
comp=Z,41nm,0.6s
SDV **Santo Domingo** 36.60 348 P P 23 36 38.2 -2.3
SDV **Santo Domingo** 36.60 348 *e*P P 23 36 39.1 -1.4
SDV **Santo Domingo** 36.60 348 P P 23 36 38.0 -2.5
PCRV **Puerto La Cruz** 37.22 358 P P 23 36 45.4 +0.1
comp=Z,79nm,0.8s,baz=174,slow=5.3,SNR=36
comp=Z,79nm,0.8s
PMSA **Palmer Station** 37.54 180 P P 23 36 47.9 +0.7
comp=Z,15nm,1.0s,baz=35,slow=6.5,SNR=6.7
comp=Z,15nm,1.0s
PMSA **Palmer Station** 37.54 180 *e*P P 23 36 48.2 +1.0
TOSP **Speyside** 38.41 4 IAmb IAmb 23 36 55.9
comp=Z,55nm,0.8s
GRGR **Grenville** 39.18 3 P P 23 37 00.1 -1.1
URIC **Uribia, Colomb** 39.61 347 IAmb IAmb 23 37 01.7
comp=Z,36nm,0.9s
CDITO **Canoas** 40.32 329 IAmb IAmb 23 37 13.6
comp=Z,84nm,1.0s
MCLT **Moule a Chique** 40.78 4 P P 23 37 12.8 -1.2
SMAI **San Martin Ant** 40.97 182 P P 23 37 14.6 -0.1
SRBA **San Rafael, Bu** 41.12 329 IAmb IAmb 23 37 19.8
comp=Z,48nm,0.9s
BIM **Bigot** 41.57 3 P P 23 37 18.3 -1.9
FDF **Fort de France** 41.78 3 P P 23 37 20.0 -1.9
FDF **Fort de France** 41.78 3 P P 23 37 20.0 -1.9
FDF pmax pmax
comp=Z,227nm,1.2s
FDF **Fort de France** 41.78 3 P P 23 37 19.7 -2.3
FDF pP PcP 23 39 04.5 -0.4
RIMA **Rio Macho** 41.82 329 IAmb IAmb 23 37 25.3
comp=Z,29nm,0.7s
HDC **Heredia** 42.15 329 P P 23 37 25.4 +0.5
JTS **Las Juntas de** 42.79 328 P P 23 37 31.3 +1.4
JTS IAmb IAmb 23 37 32.8
comp=Z,50nm,0.9s
JTS **Las Juntas de** 42.79 328 *i* P P 23 37 31.4 +1.5
JTS pmax pmax
comp=Z,44nm,1.0s
JTS **Las Juntas de** 42.79 328 P P 23 37 30.1 +0.2
JTS pP PcP 23 39 08.0 -0.3
DUNO **Dulce Nombre,** 42.87 327 IAmb IAmb 23 37 33.2
comp=Z,66nm,1.1s
COVE **Coope Vega, Sa** 42.91 329 P P 23 37 31.9 +1.2
COVE IAmb IAmb 23 37 34.7
comp=Z,63nm,1.0s
ORTG **Ortega, Santa** 43.10 327 IAmb IAmb 23 37 35.1
comp=Z,68nm,0.8s
GDHS **Morne Mazeau,** 43.28 2 IAmb IAmb 23 37 33.7
comp=Z,85nm,0.9s
ACON **Acoyapa** 44.36 329 IAmb IAmb 23 37 43.6
comp=Z,46nm,0.9s
SMRT **St. Maarten** 45.03 0 IAmb IAmb 23 37 45.1
comp=Z,47nm,0.9s
MLPR **Magueyes Islan** 45.09 355 P P 23 37 45.5 -1.9
SJG **San Juan** 45.17 356 P P 23 37 45.7 -2.4
SJG IAmb IAmb 23 37 47.2
comp=Z,51nm,0.8s
SJG **San Juan** 45.17 356 P P 23 37 45.7 -2.4
SJG pmax pmax
comp=Z,51nm,0.8s
HUMP **Col San Antoni** 45.18 357 P P 23 37 46.3 -1.9
HUMP IAmb IAmb 23 37 49.1
comp=Z,26nm,0.7s
HUMP PcP 23 39 17.5 +1.0
CBYP **Canovanas** 45.31 357 IAmb IAmb 23 37 48.2
comp=Z,54nm,0.7s
CUPR **Culebra, Puert** 45.32 357 IAmb IAmb 23 37 48.7
comp=Z,36nm,0.8s
STVI **Saint Thomas** 45.35 358 IAmb IAmb 23 37 49.7
comp=Z,21nm,0.7s
GCPR **Guaynabo City** 45.36 356 IAmb IAmb 23 37 49.1
comp=Z,49nm,0.6s
AOPR **Arecibo Observ** 45.44 355 IAmb IAmb 23 37 53.7
comp=Z,43nm,0.7s
MATN **Matagalpa** 45.55 328 P P 23 37 51.2 0.0
MATN IAmb IAmb 23 37 52.7
comp=Z,72nm,1.0s
SDDR **Presa de Saban** 46.59 350 P P 23 37 58.2 -0.8
SDDR IAmb IAmb 23 38 02.1
comp=Z,41nm,0.7s
TGUH **Tegucigalpa,Un** 47.16 328 IAmb IAmb 23 38 04.4
comp=Z,55nm,1.0s
MTO3 **Montecristo** 48.48 325 P P 23 38 12.7 -0.7
MTO3 IAmb IAmb 23 38 14.6
comp=Z,49nm,0.7s
ESQI **Esquipulas** 48.61 326 IAmb IAmb 23 38 15.8
comp=Z,69nm,0.9s
PETF **Flores** 50.88 327 P P 23 38 29.9 -0.7
PETF IAmb IAmb 23 38 31.9
comp=Z,42nm,0.9s
BELA **Belgrano 2** 52.40 173 P P 23 38 41.2 +0.4
BELA pP pP 23 40 26.1 -0.1
TEIG **Tepich** 53.01 330 P P 23 38 44.6 -1.3
TEIG IAmb IAmb 23 38 46.0
comp=Z,149nm,1.2s
TEIG **Tepich** 53.01 330 P P 23 38 44.2 -1.7
VNA3 **Neumayer Olymp** 53.03 161 P P 23 38 45.6 +0.3
VNA3 **Neumayer Olymp** 53.03 161 PcP PcP 23 39 44.9 +0.2
VNA3 **Neumayer Olymp** 53.03 161 ScP ScP 23 42 49.6 +0.7
VNA3 **Neumayer Olymp** 53.03 161 pP pP 23 40 31.8 +0.7
VNA1 **Neumayer--Stat** 53.19 160 P P 23 38 47.4 +0.9
VNA1 **Neumayer--Stat** 53.19 160 PcP PcP 23 39 45.0 -0.3
VNA1 **Neumayer--Stat** 53.19 160 ScP ScP 23 42 50.9 +1.3
VNA1 **Neumayer--Stat** 53.19 160 pP pP 23 40 33.2 +0.9
SOR **Soroa** 53.25 337 IAmb IAmb 23 38 49.1
comp=Z,72nm,0.9s
VNA2 **Neumayer--Watz** 53.57 160 P P 23 38 49.5 +0.3
baz=290,slow=8.2
VNA2 **Neumayer--Watz** 53.57 160 PcP PcP 23 39 46.8 0.0
baz=304,slow=4.6
VNA2 S S 23 45 41.5 +1.2
VNA2 **Neumayer--Watz** 53.57 160 pP pP 23 40 36.1 +0.9
baz=290,slow=9.4
SNAA **Sanae** 55.21 160 P P 23 39 00.9 +0.1
SNAA **Sanae** 55.21 160 PcP PcP 23 39 53.3 +0.1
SNAA **Sanae** 55.21 160 ScP ScP 23 42 56.5 -2.1
SNAA **Sanae** 55.21 160 pP pP 23 40 48.3 +0.6
SNAA **Sanae** 55.21 160 P P 23 39 00.9 +0.1
comp=Z,9.5nm,0.8s,baz=282,slow=7.6,SNR=36
SNAA PcP PcP 23 39 53.4 +0.1
comp=Z,3.4nm,0.8s,baz=212,slow=4.6,SNR=3.6
comp=Z,9.5nm,0.8s
SNAA **Sanae** 55.21 160 P P 23 39 00.1 -0.7
SNAA PcP PcP 23 39 53.4 +0.1
SNAA pP 23 40 48.4 +0.6
SNAA IAmb IAmb 23 40 50.9
comp=Z,83nm,1.3s
SNAA **Sanae** 55.21 160 *i* P P 23 39 00.7 -0.1
SNAA pmax pmax
comp=Z,12nm,0.8s
TLIG **Tlapa** 56.13 319 P P 23 39 07.4 -0.6
TROLL **Troll, Antarti** 56.92 160 P P 23 39 13.1 +0.5
TROLL **Troll, Antarti** 56.92 160 PcP PcP 23 40 00.1 0.0
TROLL **Troll, Antarti** 56.92 160 ScP ScP 23 43 07.3 +1.1
TROLL **Troll, Antarti** 56.92 160 pP pP 23 41 01.2 +0.6
DWPF **Disney Wildern** 57.71 341 P P 23 39 18.5 +0.1
baz=161
656A **Willston** 59.22 340 P P 23 39 29.0 +0.4
baz=160
NVL **N'lazarevskaya** 59.66 158⇑ *i* P P 23 39 31.4 +0.4
NVL *i* *PP pP 23 41 22.3 +1.9
NVL pmax pmax
comp=Z,24nm,0.8s
456A **Hilliard** 60.34 342 P P 23 39 36.6 +0.6
baz=161,SNR=5.7
TIGA **Tifton** 61.47 340 P P 23 39 43.5 +0.2
baz=160
TIGA **Tifton** 61.47 340 P P 23 39 43.0 -0.4
baz=160
255A **Hazlehurst** 61.60 342 IAmb IAmb 23 39 45.0
comp=Z,37nm,0.6s
255A **Hazlehurst** 61.60 342 P P 23 39 44.6 +0.5
baz=161,SNR=5.4
352A **Blakely** 61.92 339 IAmb IAmb 23 39 47.2
comp=Z,90nm,0.9s
352A **Blakely** 61.92 339 P P 23 39 46.3 0.0
baz=158,SNR=7.4
NHSC **New Hope** 62.11 344 P P 23 39 48.7 +1.2
baz=163,SNR=9.2
NHSC **New Hope** 62.11 344 P P 23 39 48.3 +0.8
baz=163,SNR=9.2
BRAL **Brewton** 62.34 337 P P 23 39 49.1 +0.1
baz=156
BRAL **Brewton** 62.34 337 P P 23 39 49.0 +0.1
baz=156
154A **Montrose** 62.42 341 P P 23 39 49.3 -0.2
baz=160,SNR=9.9
Y60A **Bolivia** 62.52 346 P P 23 39 49.5 -0.7
Y60A **Bolivia** 62.52 346 P P 23 39 50.6 +0.5
baz=165,SNR=12
Y60A P P 23 39 50.6 +0.5
baz=165,SNR=12
Y59A **Loris** 62.65 346 IAmb IAmb 23 39 52.3
comp=Z,78nm,1.1s
Y59A **Loris** 62.65 346 P P 23 39 51.6 +0.6
baz=164
Y59A P P 23 39 51.6 +0.6
baz=164
HAW **Hawthorne Fire** 62.72 343 P P 23 39 52.0 +0.6
baz=162,SNR=14
Y58A **Scranton** 62.75 345 P P 23 39 52.8 +1.2
baz=164,SNR=11
Y58A P P 23 39 52.8 +1.2
baz=164,SNR=11
250A **Grady** 62.81 338 IAmb IAmb 23 39 52.8
comp=Z,81nm,1.1s
250A **Grady** 62.81 338 P P 23 39 52.2 +0.2
baz=157,SNR=7.9
152A **Waverly Hall** 62.95 340 P P 23 39 51.9 -1.0
152A IAmb IAmb 23 39 53.2
comp=Z,27nm,0.7s
152A **Waverly Hall** 62.95 340 P P 23 39 52.7 -0.2
baz=159,SNR=11
QSPA **South Pole Qui** 62.98 180 P P 23 39 52.4 -0.5
QSPA pP pP 23 41 43.2 -0.8
QSPA PP PP 23 42 15.9 -4.5
QSPA sP sP 23 42 41.5 -1.8
Y57A **Sumter** 63.03 344 IAmb IAmb 23 39 55.0
comp=Z,56nm,0.7s
Y57A **Sumter** 63.03 344 P P 23 39 54.4 +0.9
baz=163
Y57A P P 23 39 54.4 +0.9
baz=163
GOGA **Godfrey** 63.27 341 P P 23 39 55.0 0.0
baz=160,SNR=7.2
GOGA **Godfrey** 63.27 341 P P 23 39 54.9 -0.1
baz=160,SNR=7.2
X58A **Rowland** 63.30 345 P P 23 39 56.0 +0.8
baz=164,SNR=9.0
X58A P P 23 39 56.0 +0.8
baz=164,SNR=9.0
346A **Big Creek Wild** 63.40 335 IAmb IAmb 23 39 56.8
comp=Z,62nm,0.8s
346A **Big Creek Wild** 63.40 335 P P 23 39 56.1 +0.2
baz=154
JSC **Jenkinsville** 63.50 343 IAmb IAmb 23 39 58.0
comp=Z,59nm,0.8s
JSC **Jenkinsville** 63.50 343 P P 23 39 57.1 +0.7
baz=162,SNR=23
CNNC **Cliffs of the** 63.65 347 P P 23 39 57.5 +0.2
baz=166
BIRD **Birdtown, Kers** 63.65 344 IAmb IAmb 23 39 58.6
comp=Z,50nm,0.7s
BIRD **Birdtown, Kers** 63.65 344 P P 23 39 58.2 +0.9
baz=163,SNR=16
Z51A **Franklin** 63.70 340 IAmb IAmb 23 39 58.8
comp=Z,67nm,1.2s
Z51A **Franklin** 63.70 340 P P 23 39 57.8 +0.1
baz=158,SNR=8.4
HODGE **Hodges** 63.71 343 P P 23 39 57.9 +0.1
HODGE PcP PcP 23 40 28.6 +0.7
HODGE **Hodges** 63.71 343 P P 23 39 58.1 +0.3
baz=161,SNR=9.4
Y52A **Lilburn** 63.87 341 IAmb IAmb 23 39 59.7
comp=Z,39nm,1.1s
Y52A **Lilburn** 63.87 341 P P 23 39 58.9 +0.1
baz=160,SNR=8.9
Y52A P P 23 39 58.9 +0.1
baz=160,SNR=8.9
344A **Westbrook Farm** 63.95 334 IAmb IAmb 23 40 00.8
comp=Z,58nm,1.1s
344A **Westbrook Farm** 63.95 334 P P 23 40 00.1 +0.8
baz=153,SNR=5.1
LRAL **Lakeview Retre** 64.02 338 IAmb IAmb 23 40 00.6
comp=Z,50nm,0.8s
LRAL **Lakeview Retre** 64.02 338 P P 23 39 59.5 -0.3
baz=157
W57A **Gilead** 64.02 345 P P 23 40 00.5 +0.7
baz=164,SNR=26
W57A P P 23 40 00.5 +0.7
baz=164,SNR=26
PAULI **Pauline** 64.15 343 IAmb IAmb 23 40 02.3
comp=Z,77nm,1.1s
PAULI **Paine** 64.15 343 P P 23 40 01.3 +0.8
baz=162,SNR=15
KMSC **Kings Mountain** 64.34 344 IAmb IAmb 23 40 03.4
comp=Z,80nm,0.9s
KMSC **Kings Mountain** 64.34 344 P P 23 40 02.4 +0.7
baz=162,SNR=26
KMSC **Kings Mountain** 64.34 344 P P 23 40 02.4 +0.7
baz=162,SNR=26
146A **Union** 64.38 336 P P 23 40 02.5 +0.4
baz=155,SNR=7.4
V58A **Windy Hill, Pi** 64.44 346 IAmb IAmb 23 40 03.8
comp=Z,34nm,0.8s
V58A **Windy Hill, Pi** 64.44 346 P P 23 40 02.9 +0.5
baz=164,SNR=16
V58A P P 23 40 02.9 +0.5
baz=164,SNR=16
342B **Flagon Creek P** 64.51 333 P P 23 40 03.9 +1.0
baz=152,SNR=9.9
Z47A **Carrollton** 64.54 337 P P 23 40 03.0 0.0
baz=156,SNR=18
VBMS **Vicksburg** 64.54 335 P P 23 40 03.4 +0.3
baz=153
Y49A **Blount Mountai** 64.59 339 P P 23 40 03.5 +0.2
baz=157,SNR=31
BG3 **Lake Jocassee** 64.61 342 IAmb IAmb 23 40 04.9
comp=Z,38nm,0.8s
CASEE **Lake Jocassee** 64.61 342 P P 23 40 04.1 +0.6
baz=161,SNR=15
U59A **Littleton** 64.70 347 IAmb IAmb 23 40 05.2
comp=Z,34nm,0.7s
U59A **Littleton** 64.70 347 P P 23 40 04.8 +0.8
baz=166,SNR=9.5
U59A P P 23 40 04.8 +0.8
baz=166,SNR=9.5
X51A **Calhoun** 64.76 340 P P 23 40 03.7 -0.7
X51A IAmb IAmb 23 40 05.4
comp=Z,76nm,0.8s
X51A **Calhoun** 64.76 340 P P 23 40 04.5 +0.1
baz=159,SNR=20
X51A P P 23 40 04.5 +0.1
baz=159,SNR=20
HKT **Hockley** 64.81 329 P P 23 40 03.9 -0.8
735A **Kenedy** 64.83 327 IAmb IAmb 23 40 07.1
comp=Z,98nm,1.0s
735A **Kenedy** 64.83 327 P P 23 40 06.5 +1.6
baz=146
FPAL **Fort Paine** 64.96 340 IAmb IAmb 23 40 06.5
comp=Z,47nm,0.9s
V55A **Taylorsville** 64.98 344 P P 23 40 06.8 +1.1
baz=162,SNR=65
V55A P P 23 40 06.8 +1.1
baz=162,SNR=65
W52A **Murphy** 64.98 341 IAmb IAmb 23 40 07.0
comp=Z,48nm,0.9s
W52A **Murphy** 64.98 341 P P 23 40 06.2 +0.3
baz=160,SNR=17
833A **Chaparral WMA,** 65.18 325 P P 23 40 08.3 +1.1
baz=145,SNR=42
833A **Chaparral WMA,** 65.18 325 P P 23 40 08.1 +1.0
baz=145,SNR=42
V53A **Saluda** 65.22 343 P P 23 40 07.8 +0.5
baz=161,SNR=22
V53A P P 23 40 07.8 +0.5
baz=161,SNR=22
U56A **King** 65.26 345 IAmb IAmb 23 40 09.7
comp=Z,103nm,1.2s
U56A **King** 65.26 345 P P 23 40 08.8 +1.2
baz=163,SNR=15
U56A P P 23 40 08.8 +1.2
baz=163,SNR=15
T59A **Double "B" Far** 65.26 348 IAmb IAmb 23 40 09.3
comp=Z,53nm,1.2s
T59A **Double "B" Far** 65.26 348 P P 23 40 08.5 +1.1
baz=166,SNR=8.1
T59A P P 23 40 08.5 +1.1
baz=166,SNR=8.1
T60A **Surry** 65.27 348 P P 23 40 07.7 +0.2
T60A **Surry** 65.27 348 P P 23 40 08.8 +1.3
baz=167,SNR=7.9
T60A P P 23 40 08.8 +1.3
baz=167,SNR=7.9
143A **Socs Landing,** 65.32 334 P P 23 40 08.9 +1.0
baz=153,SNR=14
X48A **Hartselle** 65.34 339 P P 23 40 08.3 +0.2
baz=157,SNR=33
LIC **Lamto** 65.43 68⇓ *i* P P 23 40 08.5 -0.6
comp=Z,56nm,0.9s
TKL **Tuckaleechee C** 65.47 342 IAmb IAmb 23 40 09.6
comp=Z,53nm,0.9s
TKL **Tuckaleechee C** 65.47 342 P P 23 40 08.8 0.0
baz=160,SNR=18
CPCT **Cooper Cave** 65.48 341 IAmb IAmb 23 40 09.8
comp=Z,58nm,0.7s
W50A **Signal Mountai** 65.48 340 P P 23 40 09.2 +0.1
baz=159,SNR=28
V52A **Sevierville** 65.59 342 IAmb IAmb 23 40 10.4
comp=Z,56nm,0.8s
V52A **Sevierville** 65.59 342 P P 23 40 09.6 -0.1
baz=160,SNR=17
T57A **Hurt** 65.63 346 IAmb IAmb 23 40 11.5
comp=Z,47nm,1.1s
T57A **Hurt** 65.63 346 P P 23 40 10.7 +0.9
baz=164,SNR=10
T57A P P 23 40 10.7 +0.9
baz=164,SNR=10
Y45A **Yeager Farm, C** 65.66 336 P P 23 40 10.6 +0.6
baz=154,SNR=16
TIC **Toumodi** 65.67 68⇑ *i* P P 23 40 10.5 -0.1
comp=Z,45nm,0.9s
SWET **Sewanee** 65.69 340 IAmb IAmb 23 40 10.6
comp=Z,58nm,0.6s
KIC **Kosan Boka** 65.75 69⇑ *e*P P 23 40 10.5 -0.6
comp=Z,28nm,0.6s
V51A **Loudon** 65.77 341 IAmb IAmb 23 40 11.4
comp=Z,34nm,0.8s
V51A **Loudon** 65.77 341 P P 23 40 10.6 -0.1
baz=160,SNR=12
U54A **Nelsons Funny** 65.77 344 P P 23 40 10.8 0.0
U54A **Nelsons Funny** 65.77 344 P P 23 40 11.5 +0.7
baz=162,SNR=54
U54A P P 23 40 11.5 +0.7
baz=162,SNR=54
NATX **Nacogdoches** 65.83 331 P P 23 40 12.7 +1.5
baz=150,SNR=8.6
NATX **Nacogdoches** 65.83 331 P P 23 40 12.3 +1.1
baz=150,SNR=8.6
BLA **Blacksburg** 66.09 345 IAmb IAmb 23 40 14.8
comp=Z,116nm,1.4s
BLA **Blacksburg** 66.09 345 P P 23 40 13.9 +1.2
baz=163,SNR=9.3
BLA **Blacksburg** 66.09 345 P P 23 40 13.6 +0.9
baz=163,SNR=9.3
PLAL **Pickwick Lake** 66.16 338 IAmb IAmb 23 40 13.8
comp=Z,76nm,0.9s
OXF **Oxford** 66.19 337 P P 23 40 12.7 -0.6
baz=155
OXF **Oxford** 66.19 337 P P 23 40 12.7 -0.6
baz=155
TZTN **Tazewell** 66.24 342 IAmb IAmb 23 40 14.4
comp=Z,82nm,1.5s
TZTN **Tazewell** 66.24 342 P P 23 40 13.7 0.0
baz=160,SNR=7.2
TZTN **Tazewell** 66.24 342 P P 23 40 13.6 0.0
baz=160,SNR=7.2
R58B **Mineral** 66.28 347 IAmb IAmb 23 40 15.9
comp=Z,45nm,0.8s
R58B **Mineral** 66.28 347 P P 23 40 15.0 +1.2
baz=166,SNR=15
R58B P P 23 40 15.0 +1.2
baz=166,SNR=15
S57A **Dark Hollow, R** 66.30 347 IAmb IAmb 23 40 16.0
comp=Z,40nm,1.0s
S57A **Dark Hollow, R** 66.30 347 P P 23 40 15.0 +1.0
baz=165,SNR=13
S57A P P 23 40 15.0 +1.0
baz=165,SNR=13
435B **Jarrell** 66.32 328 IAmb IAmb 23 40 16.1
comp=Z,50nm,0.7s
435B **Jarrell** 66.32 328 P P 23 40 15.6 +1.3
baz=147,SNR=6.1
435B **Jarrell** 66.32 328 P P 23 40 14.8 +0.6
baz=147
CBN **Corbin Frederi** 66.42 348 IAmb IAmb 23 40 16.6
comp=Z,45nm,0.8s
CBN **Corbin Frederi** 66.42 348 P P 23 40 15.7 +1.0
baz=166
CBN **Corbin Frederi** 66.42 348 P P 23 40 15.5 +0.8
baz=166
V48A **Smith Brothers** 66.45 339 P P 23 40 14.8 -0.2
baz=157,SNR=35
CCAR **Cane Creek** 66.53 334 P P 23 40 15.9 +0.4
CCAR IAmb IAmb 23 40 17.3
comp=Z,75nm,1.1s
237A **Washetta, Mont** 66.54 330 P P 23 40 16.9 +1.4
baz=149
W45A **Hickory Valley** 66.70 337 P P 23 40 16.5 0.0
baz=155,SNR=17
U49A **Red Boiling Sp** 66.84 340 IAmb IAmb 23 40 17.8
comp=Z,43nm,0.7s
U49A **Red Boiling Sp** 66.84 340 P P 23 40 17.0 -0.3
baz=158,SNR=22
WLAR **White Oak Lake** 66.86 333 P P 23 40 18.5 +1.0
S54A **Dingess, Beckl** 66.86 345 P P 23 40 18.2 +0.7
baz=163,SNR=22
S54A P P 23 40 18.2 +0.7
baz=163,SNR=22
T50A **Nancy** 67.04 341 IAmb IAmb 23 40 19.2
comp=Z,44nm,0.8s
R55A **Marlinton** 67.05 346 P P 23 40 20.1 +1.5
baz=164,SNR=23
R55A P P 23 40 20.1 +1.5
baz=164,SNR=23
WVT **Waverly** 67.13 339 P P 23 40 17.9 -1.2
WVT **Waverly** 67.13 339 P P 23 40 18.6 -0.4
baz=156,SNR=42
WVT **Waverly** 67.13 339 P P 23 40 18.5 -0.6
baz=156
WVT **Waverly** 67.13 339 P P 23 40 17.9 -1.2
WVT pmax pmax
comp=Z,76nm,0.8s
JCT **Junction City** 67.14 326 P P 23 40 19.3 -0.1
JCT **Junction City** 67.14 326 P P 23 40 20.2 +0.8
baz=145,SNR=19
JCT **Junction City** 67.14 326 P P 23 40 20.0 +0.6
baz=145,SNR=19
JCT **Junction City** 67.14 326 P P 23 40 19.3 -0.1
JCT pmax pmax
comp=Z,63nm,0.7s
Z38A **Mt. Pleasant** 67.26 332 P P 23 40 20.6 +0.6
baz=150
WHTX **Lake Whitney,** 67.27 329 IAmb IAmb 23 40 21.5
comp=Z,32nm,0.8s

WHTX Lake Whitney, 67.27 329 P **P** **23 40 20.7 +0.6**
baz=147,SNR=5.9
WHTX Lake Whitney, 67.27 329 P **P** **23 40 20.5 +0.4**
baz=147,SNR=5.9
S51A Beattyville 67.28 343 IAmb IAmb 23 40 21.0
comp=Z,68nm,1.1s
S51A Beattyville 67.28 343 P **P** **23 40 20.1 +0.1**
baz=160,SNR=16
S51A P **P** **23 40 20.1 +0.1**
baz=160,SNR=16
SDMD Soldier's Deli 67.49 349 P **P** **23 40 21.7 +0.5**
SDMD Soldier's Deli 67.49 349 P **P** **23 40 22.5 +1.3**
baz=167,SNR=11
UALR University of 67.51 334 IAmb IAmb 23 40 22.6
comp=Z,55nm,0.9s
R53A Hurricane 67.52 344 IAmb IAmb 23 40 22.8
comp=Z,62nm,0.8s
R53A Hurricane 67.52 344 P **P** **23 40 22.0 +0.6**
baz=162,SNR=14
R53A P **P** **23 40 22.0 +0.6**
baz=162,SNR=14
Q56A Snyder Ridge, 67.58 347 IAmb IAmb 23 40 24.2
comp=Z,43nm,0.9s
Q56A Snyder Ridge, 67.58 347 P **P** **23 40 23.2 +1.4**
baz=165,SNR=8.5
Q56A P **P** **23 40 23.2 +1.4**
baz=165,SNR=8.5
LNXT Lenox 67.66 337 P **P** **23 40 22.9 +0.6**
baz=155,SNR=6.9
GEDE Greenville 67.69 350 P **P** **23 40 23.2 +0.9**
baz=168,SNR=5.9
T47A Sharon Grove 67.69 340 P **P** **23 40 22.0 -0.5**
baz=157,SNR=29
GLAT Glass 67.74 338 P **P** **23 40 22.5 -0.3**
P57A Homestead Farm 67.78 348 P **P** **23 40 24.6 +1.6**
baz=166,SNR=27
P57A P **P** **23 40 24.6 +1.6**
baz=166,SNR=27
MIAR Mount Ida 67.79 333 IAmb IAmb 23 40 24.7
comp=Z,84nm,1.4s
MIAR Mount Ida 67.79 333 P **P** **23 40 23.5 +0.3**
baz=151,SNR=24
MIAR Mount Ida 67.79 333 P **P** **23 40 23.5 +0.3**
baz=151,SNR=24
PEBM Pemiscott Bayo 67.80 337 P **P** **23 40 23.5 +0.3**
WUPA West Chester U 67.80 350 IAmb IAmb 23 40 25.3
comp=Z,42nm,1.3s
Q54A Coxs Mills 67.88 345 IAmb IAmb 23 40 24.6
comp=Z,21nm,0.7s
Q54A Coxs Mills 67.88 345 P **P** **23 40 24.1 +0.5**
baz=163,SNR=7.8
Q54A P **P** **23 40 24.1 +0.5**
baz=163,SNR=7.8
WHAR Wooly Hollow 67.94 335 IAmb IAmb 23 40 25.3
comp=Z,51nm,1.1s
TUPA Temple Univers 67.96 350 P **P** **23 40 25.1 +1.1**
baz=169,SNR=16
MVL Millersville 67.98 349 IAmb IAmb 23 40 26.4
comp=Z,39nm,0.8s
R50A Paris 68.08 342 P **P** **23 40 23.8 -1.0**
R50A IAmb IAmb 23 40 25.7
comp=Z,41nm,0.8s
R50A Paris 68.08 342 P **P** **23 40 24.9 0.0**
baz=160,SNR=19
R50A P **P** **23 40 24.9 0.0**
baz=160,SNR=19
PANJ Princeton 68.10 351 P **P** **23 40 26.4 +1.5**
baz=169,SNR=5.2
Q52A Bidwell 68.19 344 P **P** **23 40 25.9 +0.4**
baz=162,SNR=16
Q52A P **P** **23 40 25.9 +0.4**
baz=162,SNR=16
T45B Paducah 68.20 338 P **P** **23 40 25.5 -0.1**
baz=156,SNR=7.7
LCAR Lake Charles 68.21 336 IAmb IAmb 23 40 26.7
comp=Z,90nm,1.1s
LCAR Lake Charles 68.21 336 P **P** **23 40 25.8 +0.1**
baz=154,SNR=37
TX31 Lajitas Ar. Si 68.23 323 IAmb IAmb 23 40 27.2
comp=Z,30nm,0.6s
TX31 Lajitas Ar. Si 68.23 323 P **P** **23 40 26.8 +0.7**
baz=142,SNR=36
TXAR Lajitas Array 68.23 323 P **P** **23 40 26.7 +0.6**
comp=Z,8.3nm,0.6s,baz=148,slow=7.4,SNR=69
comp=Z,8.3nm,0.6s
TXAR Lajitas Array 68.23 323 P **P** **23 40 26.1 0.0**
TXAR Lajitas Array 68.23 323 P **P** **23 40 26.1 0.0**
Z35A Perchaven, San 68.31 330 P **P** **23 40 27.5 +1.1**
baz=148,SNR=10
MCWV Mont Chateau 68.31 346 IAmb IAmb 23 40 28.2
comp=Z,68nm,0.8s
MCWV Mont Chateau 68.31 346 P **P** **23 40 27.4 +1.2**
baz=164,SNR=5.5
MCWV Mont Chateau 68.31 346 P **P** **23 40 27.2 +1.0**
baz=164,SNR=5.5
R49A Shelbyville 68.32 342 IAmb IAmb 23 40 27.0
comp=Z,59nm,1.2s
R49A Shelbyville 68.32 342 P **P** **23 40 26.1 -0.2**
baz=159,SNR=11
R49A P **P** **23 40 26.1 -0.2**
baz=159,SNR=11
LUPA Lehigh Univers 68.42 350 IAmb IAmb 23 40 28.8
comp=Z,72nm,1.4s
FOR Fordham 68.46 351 P **P** **23 40 27.8 +0.7**
baz=170
P53A Whipple 68.49 345 IAmb IAmb 23 40 28.9
comp=Z,84nm,0.9s
P53A Whipple 68.49 345 P **P** **23 40 28.0 +0.7**
baz=163,SNR=20
P53A P **P** **23 40 28.0 +0.7**
baz=163,SNR=20
Q51A Peebles 68.52 343 IAmb IAmb 23 40 28.5
comp=Z,48nm,0.9s
Q51A Peebles 68.52 343 P **P** **23 40 27.7 +0.2**
baz=161,SNR=11
Q51A P **P** **23 40 27.7 +0.2**
baz=161,SNR=11
X37A Clayton 68.56 332 IAmb IAmb 23 40 29.6
comp=Z,36nm,1.0s
X37A Clayton 68.56 332 P **P** **23 40 28.7 +0.8**
baz=150,SNR=15
WCI Wyandotte Cave 68.59 341 P **P** **23 40 26.9 -1.0**
WCI IAmb IAmb 23 40 28.3
comp=Z,60nm,0.8s
WCI Wyandotte Cave 68.59 341 P **P** **23 40 27.4 -0.5**
baz=158,SNR=19
WCI Wyandotte Cave 68.59 341 P **P** **23 40 27.3 -0.7**
baz=158
WCI Wyandotte Cave 68.59 341 P **P** **23 40 26.9 -1.0**
WCI pmax pmax
comp=Z,60nm,0.8s
WCI Wyandotte Cave 68.59 341 P **P** **23 40 25.0 -2.9**
WCI pP **pP** **23 42 17.1 -5.2**
PBMO Poplar Bluff 68.59 337 P **P** **23 40 27.1 -0.9**
baz=154,SNR=5.7
PAL Palisades 68.61 351 P **P** **23 40 29.0 +1.1**
baz=170,SNR=6.0
PAL Palisades 68.61 351 P **P** **23 40 28.3 +0.4**
baz=170,SNR=6.0
WSPT Westport, CT 68.69 352 IAmb IAmb 23 40 30.4
comp=Z,52nm,1.1s
USIN University of 68.76 340 IAmb IAmb 23 40 28.9
comp=Z,57nm,0.8s
ODNJ Ogdensburg 68.78 351 IAmb IAmb 23 40 30.5
comp=Z,28nm,0.7s
ODNJ Ogdensburg 68.78 351 P **P** **23 40 30.0 +1.0**
baz=169,SNR=8.5
CGM3 Cape Girardeau 68.80 338 IAmb IAmb 23 40 29.4
comp=Z,53nm,0.6s
P52A Corning 68.80 345 P **P** **23 40 29.4 +0.2**
baz=162,SNR=26
ABTX Abilene, Hawle 68.82 328 IAmb IAmb 23 40 30.9
comp=Z,48nm,0.9s
ABTX Abilene, Hawle 68.82 328 P **P** **23 40 30.0 +0.5**
baz=146,SNR=9.2
ABTX Abilene, Hawle 68.82 328 P **P** **23 40 29.9 +0.3**
baz=146,SNR=9.2
LOOK Love County 68.83 330 IAmb IAmb 23 40 31.6
comp=Z,57nm,0.9s
N58A Sunbury 68.86 349 IAmb IAmb 23 40 31.8
comp=Z,86nm,1.0s
N58A Sunbury 68.86 349 P **P** **23 40 30.8 +1.3**
baz=167,SNR=21
N58A P **P** **23 40 30.8 +1.3**
baz=167,SNR=21
SSPA Standing Stone 68.87 348 P **P** **23 40 30.1 +0.5**
SSPA IAmb IAmb 23 40 31.6
comp=Z,46nm,0.9s
SSPA Standing Stone 68.87 348 P **P** **23 40 30.7 +1.1**
baz=166,SNR=16
SSPA Standing Stone 68.87 348 P **P** **23 40 30.3 +0.7**
baz=166
SSPA Standing Stone 68.87 348 P **P** **23 40 29.0 -0.6**
P51A Williamsport 68.88 344 IAmb IAmb 23 40 30.5
comp=Z,51nm,1.0s
P51A Williamsport 68.88 344 P **P** **23 40 29.7 +0.1**
baz=161
P51A P **P** **23 40 29.7 +0.1**
baz=161
O54A Avella 68.93 346 IAmb IAmb 23 40 31.3
comp=Z,30nm,0.8s
O54A Avella 68.93 346 P **P** **23 40 30.6 +0.6**
baz=164,SNR=10
O54A P **P** **23 40 30.6 +0.6**
baz=164,SNR=10
S44A Carbondale 69.02 338 P **P** **23 40 30.0 -0.5**
baz=155,SNR=20
BRNY Black Rk. Fore 69.02 351 P **P** **23 40 31.7 +1.2**
baz=170,SNR=5.2
O53A New Philadelph 69.17 345 IAmb IAmb 23 40 32.3
comp=Z,33nm,0.8s
O53A New Philadelph 69.17 345 P **P** **23 40 31.5 +0.1**
baz=163,SNR=9.7
L64A Middleborough 69.18 354 IAmb IAmb 23 40 33.4
comp=Z,45nm,1.0s
UCCT U. Connecticut 69.18 353 IAmb IAmb 23 40 32.0
comp=Z,24nm,0.8s
O52A Adamsville 69.19 345 IAmb IAmb 23 40 32.7
comp=Z,51nm,0.8s
O52A Adamsville 69.19 345 P **P** **23 40 31.9 +0.4**
baz=162,SNR=12
O52A P **P** **23 40 31.9 +0.4**
baz=162,SNR=12
BRYW Bryant College 69.23 353 IAmb IAmb 23 40 33.9
comp=Z,54nm,0.9s
P49A Miami Univ. Ec 69.36 342 P **P** **23 40 31.1 -1.4**
P49A IAmb IAmb 23 40 33.1
comp=Z,53nm,0.9s
P49A Miami Univ. Ec 69.36 342 P **P** **23 40 32.3 -0.3**
baz=160,SNR=11
P49A Miami Univ. Ec 69.36 342 P **P** **23 40 32.1 -0.5**
baz=160,SNR=11
NPNY Mohonk Preserv 69.37 351 P **P** **23 40 34.0 +1.4**
baz=170,SNR=5.2
KSPA Keystone Colle 69.41 350 IAmb IAmb 23 40 35.0
comp=Z,60nm,0.9s
KSPA Keystone Colle 69.41 350 P **P** **23 40 34.1 +1.2**
baz=168,SNR=14
M57A Sunshine Farm, 69.42 349 IAmb IAmb 23 40 35.0
comp=Z,40nm,0.8s
M57A Sunshine Farm, 69.42 349 P **P** **23 40 34.1 +1.2**
baz=167,SNR=13
M57A P **P** **23 40 34.1 +1.2**
baz=167,SNR=13
HHAR Hobbs 69.45 334 IAmb IAmb 23 40 34.5
comp=Z,54nm,0.7s
HHAR Hobbs 69.45 334 P **P** **23 40 33.4 +0.2**
baz=151
P48A Milroy 69.48 342 IAmb IAmb 23 40 33.7
comp=Z,173nm,1.9s
P48A Milroy 69.48 342 P **P** **23 40 32.8 -0.5**
baz=159,SNR=9.3
P48A P **P** **23 40 32.8 -0.5**
baz=159,SNR=9.3
PSDB Penn State Uni 69.51 348 P **P** **23 40 34.3 +0.8**
baz=165
BLO Bloomington 69.53 341 IAmb IAmb 23 40 34.1
comp=Z,61nm,0.8s
ACSO Alum Creek Sta 69.57 344 IAmb IAmb 23 40 34.7
comp=Z,62nm,0.8s
ACSO Alum Creek Sta 69.57 344 P **P** **23 40 34.0 +0.2**
baz=161,SNR=9.1
ACSO Alum Creek Sta 69.57 344 P **P** **23 40 33.6 -0.2**
baz=161,SNR=9.1
OLIL Olney 69.60 340 IAmb IAmb 23 40 34.1
comp=Z,60nm,0.8s
OLIL Olney 69.60 340 P **P** **23 40 33.3 -0.7**
baz=157,SNR=11
X34A Smith Ranch, M 69.64 330 IAmb IAmb 23 40 35.9
comp=Z,51nm,0.7s
QUA2 Belchertown 69.67 353 P **P** **23 40 35.5 +1.2**
baz=171
FVM French Village 69.67 337 P **P** **23 40 33.8 -0.7**
FVM French Village 69.67 337 P **P** **23 40 34.3 -0.1**
baz=154,SNR=23
FVM French Village 69.67 337 P **P** **23 40 33.8 -0.7**
U38A Gravette 69.76 334 IAmb IAmb 23 40 36.2
comp=Z,37nm,0.8s
U38A Gravette 69.76 334 P **P** **23 40 35.4 +0.3**
baz=151,SNR=28
RLO Rockout 69.78 333 IAmb IAmb 23 40 36.6
comp=Z,224nm,1.7s
HRV Adam Dziewonsk 69.81 354 P **P** **23 40 34.7 -0.5**
HRV IAmb IAmb 23 40 37.3
comp=Z,38nm,0.9s
HRV Adam Dziewonsk 69.81 354 P **P** **23 40 35.3 +0.1**
baz=172,SNR=5.9
HRV Adam Dziewonsk 69.81 354 P **P** **23 40 36.4 +1.2**
baz=172
HRV Adam Dziewonsk 69.81 354 P **P** **23 40 34.7 -0.5**
HRV pmax pmax
comp=Z,38nm,1.0s
HRV Adam Dziewonsk 69.81 354 P **P** **23 40 32.9 -2.3**
M55A Ridgway 69.84 348 IAmb IAmb 23 40 37.2
comp=Z,73nm,0.8s
M55A Ridgway 69.84 348 P **P** **23 40 36.2 +0.8**
baz=165,SNR=18
M55A P **P** **23 40 36.2 +0.8**
baz=165,SNR=18
O49A Covington 69.87 343 IAmb IAmb 23 40 36.3
comp=Z,45nm,0.8s
O49A Covington 69.87 343 P **P** **23 40 35.7 +0.1**
baz=160,SNR=7.4
O49A P **P** **23 40 35.7 +0.1**
baz=160,SNR=7.4
TUL1 Leonard 69.87 332 IAmb IAmb 23 40 36.9
comp=Z,42nm,0.7s
TUL1 Leonard 69.87 332 P **P** **23 40 36.1 +0.4**
baz=150,SNR=16
TUL1 Leonard 69.87 332 P **P** **23 40 35.9 +0.2**
baz=150,SNR=16
L61B Northampton 69.88 353 IAmb IAmb 23 40 37.5
comp=Z,39nm,0.9s
L61B Northampton 69.88 353 P **P** **23 40 36.6 +1.1**
baz=171,SNR=6.5
L61B Northampton 69.88 353 P **P** **23 40 36.4 +0.9**
baz=171,SNR=6.5
L59A Walton 69.93 351 IAmb IAmb 23 40 38.2
comp=Z,73nm,0.8s
L59A Walton 69.93 351 P **P** **23 40 37.3 +1.4**
baz=169,SNR=18
L59A P **P** **23 40 37.3 +1.4**
baz=169,SNR=18
CCM Cathedral Cave 70.02 337 P **P** **23 40 35.6 -0.8**
CCM Cathedral Cave 70.02 337 P **P** **23 40 36.4 -0.1**
baz=154,SNR=35
CCM Cathedral Cave 70.02 337 P **P** **23 40 36.3 -0.2**
baz=154
CCM Cathedral Cave 70.02 337 P **P** **23 40 35.7 -0.8**
CCM pmax pmax
comp=Z,76nm,0.7s
CCM Cathedral Cave 70.02 337 P **P** **23 40 36.0 -0.5**
CCM pP pP 23 42 41.9 +11
K62A Royalston 70.04 353 P **P** **23 40 37.5 +1.0**
baz=172
K62A P **P** **23 40 37.5 +1.0**
baz=172
Q44A Meyer Farm, Va 70.04 339 IAmb IAmb 23 40 36.6
comp=Z,88nm,1.2s
Q44A Meyer Farm, Va 70.04 339 P **P** **23 40 35.6 -1.0**
baz=156,SNR=8.3
BINY Binghamton 70.07 350 IAmb IAmb 23 40 38.8
comp=Z,62nm,0.9s
BINY Binghamton 70.07 350 P **P** **23 40 37.8 +1.0**
baz=168,SNR=15
BINY Binghamton 70.07 350 P **P** **23 40 37.8 +1.0**
baz=168,SNR=15
N51A Ashland 70.08 345 IAmb IAmb 23 40 37.8
comp=Z,63nm,0.8s
N51A Ashland 70.08 345 P **P** **23 40 36.8 0.0**
baz=162,SNR=7.6
N51A P **P** **23 40 36.8 0.0**
baz=162,SNR=7.6
DEOK Depew 70.11 332 IAmb IAmb 23 40 38.5
comp=Z,143nm,0.7s
P46A Rosedale 70.14 341 IAmb IAmb 23 40 37.5
comp=Z,71nm,1.1s
P46A Rosedale 70.14 341 P **P** **23 40 36.6 -0.6**
baz=158,SNR=10
O48B Farmland 70.15 342 P **P** **23 40 37.0 -0.2**
baz=160,SNR=16
O48B Farmland 70.15 342 P **P** **23 40 36.7 -0.6**
baz=160,SNR=16
WMOK Wichita Mounta 70.17 330 P **P** **23 40 37.4 -0.1**
baz=147,SNR=14
WMOK Wichita Mounta 70.17 330 P **P** **23 40 37.6 +0.1**
baz=147,SNR=14
M53A WI Miller and 70.20 346 IAmb IAmb 23 40 39.0
comp=Z,66nm,0.8s
M53A WI Miller and 70.20 346 P **P** **23 40 37.8 +0.3**
baz=164,SNR=7.8
SLM Saint Louis 70.20 338 IAmb IAmb 23 40 37.9
comp=Z,61nm,1.1s
OK025 Westminster Rd 70.25 331 P **P** **23 40 37.8 -0.1**
L56A Greenwood 70.27 349 P **P** **23 40 39.0 +1.0**
baz=167,SNR=20
L56A P **P** **23 40 39.0 +1.0**
baz=167,SNR=20
TRY Troy 70.27 352 IAmb IAmb 23 40 40.3
comp=Z,66nm,0.9s
TRY Troy 70.27 352 P **P** **23 40 39.2 +1.4**
baz=170,SNR=9.5
ALLY Alegheny Colle 70.29 347 P **P** **23 40 38.8 +0.8**
baz=164,SNR=7.5
OK030 Cody Creek RV 70.30 332 IAmb IAmb 23 40 39.5
comp=Z,99nm,1.1s
HCNY Howe Caverns 70.33 351 P **P** **23 40 39.5 +1.2**
baz=170,SNR=16
OK034 N. Norfolk Rd. 70.34 332 P **P** **23 40 38.0 -0.5**
OK031 S. Brethren Rd 70.35 332 IAmb IAmb 23 40 39.8
comp=Z,104nm,1.1s
BCOK Bluff Creek, N 70.43 331 IAmb IAmb 23 40 40.2
comp=Z,41nm,0.7s
M52A Chesterland 70.44 346 IAmb IAmb 23 40 40.2
comp=Z,54nm,0.7s
M52A Chesterland 70.44 346 P **P** **23 40 39.4 +0.4**
baz=163
M52A P **P** **23 40 39.4 +0.4**
baz=163
S39A Bolivar 70.45 335 P **P** **23 40 39.5 +0.4**
baz=152,SNR=44
OK033 Mehan 70.47 332 IAmb IAmb 23 40 40.7
comp=Z,84nm,1.0s
OK029 Liberty Lake 70.48 331 P **P** **23 40 39.2 -0.1**
OK029 IAmb IAmb 23 40 40.7
comp=Z,88nm,1.2s
QUOK Quay 70.48 332 IAmb IAmb 23 40 40.7
comp=Z,100nm,1.2s
N49A Columbus Grove 70.52 343 P **P** **23 40 39.3 -0.1**
baz=160,SNR=15
N49A P **P** **23 40 39.3 -0.1**
baz=160,SNR=15
R40A Maddies Statio 70.59 336 IAmb IAmb 23 40 40.5
comp=Z,54nm,0.8s
R40A Maddies Statio 70.59 336 P **P** **23 40 39.6 -0.3**
baz=153,SNR=32
K57A Scipio Center 70.68 350 IAmb IAmb 23 40 41.8
comp=Z,48nm,1.1s
K57A Scipio Center 70.68 350 P **P** **23 40 40.9 +0.5**
baz=168,SNR=5.3
M50A Fremont 70.70 344 P **P** **23 40 39.7 -0.7**
M50A IAmb IAmb 23 40 41.3
comp=Z,51nm,0.8s
M50A Fremont 70.70 344 P **P** **23 40 40.4 0.0**
baz=162,SNR=5.3
M50A P **P** **23 40 40.4 0.0**
baz=162,SNR=5.3
ERPA Erie 70.71 347 P **P** **23 40 41.4 +1.0**
baz=164,SNR=12
ERPA Erie 70.71 347 P **P** **23 40 41.2 +0.7**
baz=164,SNR=12
WVNY West Valley, N 70.72 348 P **P** **23 40 41.5 +1.0**
baz=166,SNR=16
J61A Chester 70.75 353 IAmb IAmb 23 40 43.4
comp=Z,37nm,1.0s
J61A Chester 70.75 353 P **P** **23 40 42.1 +1.4**
baz=171,SNR=7.0
J61A P **P** **23 40 42.1 +1.4**
baz=171,SNR=7.0
OK046 Pawnee Station 70.75 332 P **P** **23 40 40.4 -0.5**
OK046 IAmb IAmb 23 40 42.5
comp=Z,82nm,1.0s
FFD Franklin Falls 70.78 354 IAmb IAmb 23 40 43.5
comp=Z,41nm,1.0s
FFD Franklin Falls 70.78 354 P **P** **23 40 42.6 +1.8**
baz=172
SFIN Lafayette 70.81 341 IAmb IAmb 23 40 41.2
comp=Z,52nm,0.7s
SFIN Lafayette 70.81 341 P **P** **23 40 40.2 -1.0**
baz=158,SNR=8.7
SFIN Lafayette 70.81 341 P **P** **23 40 40.1 -1.0**
baz=158,SNR=8.7
OK051 E0350 and S346 70.82 332 IAmb IAmb 23 40 42.8
comp=Z,83nm,0.9s
P43A Skaggs, Pawnee 70.87 339 P **P** **23 40 40.9 -0.6**
baz=156,SNR=19
N47A Urbana 70.88 342 P **P** **23 40 41.0 -0.5**
baz=159,SNR=14
N47A P **P** **23 40 41.0 -0.5**
baz=159,SNR=14
CSTR Hydro, Custer 70.89 330 IAmb IAmb 23 40 43.5
comp=Z,9.6nm,1.3s
O44A Mansfield 71.01 340 P **P** **23 40 41.5 -0.8**
baz=156,SNR=13
T35A Sooner Cattle 71.03 332 IAmb IAmb 23 40 44.1
comp=Z,82nm,0.9s
T35B Sooner Cattle 71.03 332 P **P** **23 40 43.0 +0.5**
baz=149,SNR=22
HNH Hanover 71.08 353 IAmb IAmb 23 40 45.4
comp=Z,67nm,1.0s
HNH Hanover 71.08 353 P **P** **23 40 44.3 +1.7**
baz=172,SNR=11
SBA Scott Base 71.09 190 P **P** **23 40 43.3 +1.0**
SBA **pP** **23 42 38.0 +0.7**
SBA Scott Base 71.09 190 P **P** **23 40 43.3 +1.0**
SBA *PP **pP** **23 42 38.0 +0.7**
SBA pmax pmax
comp=Z,7.0nm,0.9s
J59A Piesco 71.10 351 P **P** **23 40 43.8 +0.9**
baz=170,SNR=24
J59A P **P** **23 40 43.8 +0.9**
baz=170,SNR=24
J58A Remsen 71.11 351 P **P** **23 40 43.6 +0.8**
baz=169,SNR=7.9
J58A P **P** **23 40 43.6 +0.8**
baz=169,SNR=7.9
BLOK Blackwell 71.19 332 IAmb IAmb 23 40 45.1
comp=Z,59nm,0.9s
I63A Otisfield 71.25 355 P **P** **23 40 44.4 +0.8**
I63A IAmb IAmb 23 40 46.4
comp=Z,57nm,0.9s
I63A Otisfield 71.25 355 P **P** **23 40 45.4 +1.8**
baz=173,SNR=15
I63A P **P** **23 40 45.4 +1.8**
baz=173,SNR=15
J57A Williamstown 71.26 350 IAmb IAmb 23 40 45.5
comp=Z,49nm,0.9s
J57A Williamstown 71.26 350 P **P** **23 40 44.6 +0.9**
baz=168,SNR=14
J57A P **P** **23 40 44.6 +0.9**
baz=168,SNR=14
J56A Wolcott 71.26 350 IAmb IAmb 23 40 45.1
comp=Z,67nm,0.8s
J56A Wolcott 71.26 350 P **P** **23 40 44.3 +0.6**
baz=167,SNR=13
J56A P **P** **23 40 44.3 +0.6**
baz=167,SNR=13
CROK Carrier 71.30 331 **P** **23 40 44.2 +0.1**
CROK IAmb IAmb 23 40 45.6
comp=Z,101nm,0.7s
MCVT Middlebury Col 71.40 353 P **P** **23 40 45.7 +1.2**
baz=171,SNR=7.9
J55A Hilton 71.41 349 IAmb IAmb 23 40 45.8
comp=Z,27nm,0.7s
J55A Hilton 71.41 349 P **P** **23 40 45.1 +0.6**
baz=166
J55A P **P** **23 40 45.1 +0.6**
baz=166
MEDO Medina 71.42 348 IAmb IAmb 23 40 46.0
comp=Z,30nm,0.7s
MSTX Muleshoe 71.44 326 P **P** **23 40 45.7 +0.6**
baz=144,SNR=49
MSTX Muleshoe 71.44 326 P **P** **23 40 45.5 +0.4**
baz=144,SNR=49

HAL **Halifax** 71.53 360 IAmb IAmb 23 40 47.5
comp=Z,66nm,0.9s
L48A **N Adams** 71.55 344 IAmb IAmb 23 40 45.9
comp=Z,65nm,0.8s
L48A **N Adams** 71.55 344 P **P** **23 40 45.0 -0.4**
baz=160,SNR=9.3
L48A P **P** **23 40 45.0 -0.4**
baz=160,SNR=9.3
J54A **Appleton** 71.56 348 IAmb IAmb 23 40 46.4
comp=Z,25nm,0.7s
NCB **Newcomb** 71.56 352 IAmb IAmb 23 40 47.4
comp=Z,38nm,0.8s
NCB **Newcomb** 71.56 352 P **P** **23 40 46.4 +0.9**
baz=170,SNR=10
ELIS **Ellis County** 71.57 330 P **P** **23 40 45.9 +0.1**
ELIS IAmb IAmb 23 40 47.6
comp=Z,69nm,0.8s
LBNH **Lisbon** 71.57 354 IAmb IAmb 23 40 47.9
comp=Z,40nm,0.8s
LBNH **Lisbon** 71.57 354 P **P** **23 40 46.9 +1.4**
baz=172,SNR=8.7
LBNH **Lisbon** 71.57 354 P **P** **23 40 46.9 +1.4**
baz=172,SNR=8.7
OK038 **West end E0370** 71.61 331 IAmb IAmb 23 40 47.6
comp=Z,69nm,0.9s
P40A **Paris** 71.62 337 IAmb IAmb 23 40 46.7
comp=Z,59nm,0.8s
P40A **Paris** 71.62 337 P **P** **23 40 45.8 -0.1**
baz=153,SNR=26
HDIL **Hopedale** 71.63 339 P **P** **23 40 45.7 -0.2**
baz=156,SNR=14
HDIL **Hopedale** 71.63 339 P **P** **23 40 45.7 -0.2**
baz=156,SNR=14
AMTX **Amarillo** 71.64 328 IAmb IAmb 23 40 47.6
comp=Z,42nm,0.8s
AMTX **Amarillo** 71.64 328 P **P** **23 40 46.8 +0.5**
baz=144,SNR=17
AMTX **Amarillo** 71.64 328 P **P** **23 40 46.6 +0.3**
baz=144
U32A **Winter Ranch,** 71.64 330 IAmb IAmb 23 40 47.9
comp=Z,67nm,0.8s
WVL **Waterville** 71.69 355 P **P** **23 40 46.5 +0.4**
WVL IAmb IAmb 23 40 48.5
comp=Z,46nm,0.8s
WVL **Waterville** 71.69 355 P **P** **23 40 47.7 +1.6**
baz=174,SNR=11
AAM **Ann Arbor** 71.69 344 P **P** **23 40 46.0 -0.2**
baz=161
EMMW **East Machias** 71.70 357 IAmb IAmb 23 40 48.6
comp=Z,71nm,0.8s
EMMW **East Machias** 71.70 357 P **P** **23 40 47.8 +1.6**
baz=176,SNR=16
KS20 **Mayfield South** 71.73 332 IAmb IAmb 23 40 48.3
comp=Z,106nm,1.1s
WCNY **West Carthage** 71.77 351 P **P** **23 40 47.7 +1.1**
baz=168,SNR=14
H62A **Milan** 71.83 354 IAmb IAmb 23 40 49.1
comp=Z,24nm,0.7s
H62A **Milan** 71.83 354 P **P** **23 40 48.8 +1.8**
baz=173,SNR=7.4
H62A P **P** **23 40 48.8 +1.8**
baz=173,SNR=7.4
K50A **Casco** 71.90 345 P **P** **23 40 47.6 +0.2**
baz=162,SNR=6.9
K50A P **P** **23 40 47.6 +0.2**
baz=162,SNR=6.9
PECO **Prince Edward** 71.93 350 IAmb IAmb 23 40 49.2
comp=Z,50nm,0.9s
KAN12 **Harper NE Stat** 71.98 332 IAmb IAmb 23 40 49.8
comp=Z,69nm,0.9s
VNDA **Vanda** 72.06 189 P **P** **23 40 49.8 +1.8**
comp=Z,9.7nm,0.9s,baz=136,slow=5.4,SNR=41
VNDA pP **pP** **23 42 44.7 +1.2**
comp=Z,1.7nm,0.9s,baz=135,slow=3.2,SNR=3.3
comp=Z,9.7nm,0.9s
VNDA **Vanda** 72.06 189 P **P** **23 40 49.3 +1.3**
VNDA pP **pP** **23 42 43.9 +0.4**
VNDA **Vanda** 72.06 189 P **P** **23 40 49.3 +1.3**
VNDA *PP **pP** **23 42 43.9 +0.4**
VNDA pmax pmax
comp=Z,13nm,1.0s
VNDA **Vanda** 72.06 189 P **P** **23 40 47.6 -0.4**
VNDA pP **pP** **23 42 42.9 -0.6**
L46A **Eue Claire** 72.10 342 IAmb IAmb 23 40 48.8
comp=Z,82nm,0.9s
HSIG 72.18 317 IAmb IAmb 23 40 51.4
comp=Z,28nm,0.8s
G65A **Princeton** 72.20 357 IAmb IAmb 23 40 51.6
comp=Z,34nm,0.8s
G65A **Princeton** 72.20 357 P **P** **23 40 50.3 +1.2**
baz=176,SNR=6.7
G65A P **P** **23 40 50.3 +1.2**
baz=176,SNR=6.7
P38A **Dawn** 72.23 336 P **P** **23 40 49.4 0.0**
baz=152,SNR=44
LONY **Lake Ozonia** 72.25 352 IAmb IAmb 23 40 51.5
comp=Z,64nm,1.1s
LONY **Lake Ozonia** 72.25 352 P **P** **23 40 50.5 +1.1**
baz=170,SNR=15
N41A **Harden Midland** 72.27 338 IAmb IAmb 23 40 50.1
comp=Z,77nm,0.9s
PKME **Peaks-Kenny Pk** 72.36 356 P **P** **23 40 51.5 +1.4**
baz=174,SNR=14
PKME **Peaks-Kenny Pk** 72.36 356 P **P** **23 40 51.4 +1.4**
baz=174,SNR=14
G62A **West of Eustis** 72.41 355 IAmb IAmb 23 40 52.4
comp=Z,48nm,0.7s
G62A **West of Eustis** 72.41 355 P **P** **23 40 51.9 +1.6**
baz=173,SNR=16
G62A P **P** **23 40 51.9 +1.6**
baz=173,SNR=16
BMNY **Brushton-Moira** 72.45 352 P **P** **23 40 51.9 +1.3**
baz=170,SNR=19
DELO **Deloro Mine** 72.60 349 P **P** **23 40 51.4 0.0**
DELO IAmb IAmb 23 40 53.0
comp=Z,36nm,1.0s
L44A **Lake County Fo** 72.70 341 P **P** **23 40 51.6 -0.4**
baz=157
F63A **Nahmakanta, Br** 72.79 356 IAmb IAmb 23 40 55.0
comp=Z,51nm,0.9s
F63A **Nahmakanta, Br** 72.79 356 P **P** **23 40 54.1 +1.6**
baz=175,SNR=12
F63A P **P** **23 40 54.1 +1.6**
baz=175,SNR=12
J47A **Sunmer** 72.86 344 IAmb IAmb 23 40 53.7
comp=Z,48nm,0.8s
J47A **Sunmer** 72.86 344 P **P** **23 40 52.9 -0.1**
baz=160
J47A P **P** **23 40 52.9 -0.1**
baz=160
F64A **Sherman** 72.90 356 P **P** **23 40 54.6 +1.5**
baz=175,SNR=21
F64A P **P** **23 40 54.6 +1.5**
baz=175,SNR=21
319A **Douglas** 72.92 320 IAmb IAmb 23 40 56.2
comp=Z,57nm,0.9s
121A **Cookes Peak, D** 72.94 322 P **P** **23 40 55.7 +1.8**
baz=139,SNR=15
121A **Cookes Peak, D** 72.94 322 P **P** **23 40 55.5 +1.6**
baz=139,SNR=15
KSU1 **Kansas State U** 72.95 333 IAmb IAmb 23 40 54.5
comp=Z,84nm,0.9s
KSU1 **Kansas State U** 72.95 333 P **P** **23 40 53.8 +0.2**
baz=149,SNR=10
KSU1 **Kansas State U** 72.95 333 P **P** **23 40 53.4 -0.1**
baz=149,SNR=10
F62A **Pittston Farm,** 73.04 355 P **P** **23 40 54.6 +0.7**
F62A IAmb IAmb 23 40 56.4
comp=Z,59nm,0.9s
F62A **Pittston Farm,** 73.04 355 P **P** **23 40 55.5 +1.6**
baz=174,SNR=16
F62A P **P** **23 40 55.5 +1.6**
baz=174,SNR=16
I49A **Point Hope** 73.05 345 P **P** **23 40 54.4 +0.3**
baz=162
I49A P **P** **23 40 54.4 +0.3**
baz=162
L42A **Oliver, Polo** 73.07 340 IAmb IAmb 23 40 54.4
comp=Z,32nm,0.6s
L42A **Oliver, Polo** 73.07 340 P **P** **23 40 54.1 -0.1**
baz=156
SADO **Sadowa** 73.10 348 IAmb IAmb 23 40 55.6
comp=Z,48nm,0.9s
R32A **Long Quarter,** 73.23 332 P **P** **23 40 56.2 +1.0**
baz=148,SNR=20
K43A **Burlington** 73.31 341 P **P** **23 40 54.4 -1.1**
K43A **Burlington** 73.31 341 P **P** **23 40 55.7 +0.2**
baz=157,SNR=5.1

L40A **Anamosa** 73.61 339 P **P** **23 40 57.2 -0.1**
baz=154,SNR=28
TSUM **Tsumeb** 73.66 103 P **P** **23 40 57.9 -0.4**
PQI **Presque Isle** 73.69 357 IAmb IAmb 23 40 59.8
comp=Z,44nm,0.9s
E62A **Clayton Lake** 73.73 356 IAmb IAmb 23 41 00.3
comp=Z,70nm,0.8s
E62A **Clayton Lake** 73.73 356 P **P** **23 40 59.4 +1.6**
E62A P **P** **23 40 59.4 +1.6**
baz=174,SNR=16
CBKS **Cedar Bluff** 74.00 331 P **P** **23 41 00.9 +1.3**
baz=147,SNR=36
CBKS **Cedar Bluff** 74.00 331 P **P** **23 41 00.7 +1.1**
baz=147,SNR=36
JFWS **Jewell Farm** 74.07 340 P **P** **23 41 00.1 +0.2**
baz=155,SNR=27
JFWS **Jewell Farm** 74.07 340 P **P** **23 40 59.9 +0.1**
baz=155,SNR=27
ANMO **Albuquerque** 74.08 324 P **P** **23 41 01.7 +1.4**
baz=141,SNR=31
ANMO **Albuquerque** 74.08 324 P **P** **23 41 01.6 +1.2**
baz=141
ANMO **Albuquerque** 74.08 324 *ce* P **P** **23 41 01.6 +1.2**
ANMO pmax pmax
comp=Z,24nm,0.8s
N35A **Tabor** 74.09 335 P **P** **23 41 00.1 +0.1**
baz=150,SNR=9.4
SCIA **State Center** 74.14 337 IAmb IAmb 23 41 01.2
comp=Z,50nm,0.8s
SCIA **State Center** 74.14 337 P **P** **23 41 00.0 -0.2**
baz=153
D62A **Allapoint, All** 74.16 356 IAmb IAmb 23 41 02.4
comp=Z,81nm,0.9s
D62A **Allapoint, All** 74.16 356 P **P** **23 41 01.6 +1.3**
baz=175,SNR=22
D62A P **P** **23 41 01.6 +1.3**
baz=175,SNR=22
BATG **Bathurst New B** 74.21 358 IAmb IAmb 23 41 02.8
comp=Z,30nm,0.9s
GLMI **Grayling** 74.30 344 P **P** **23 41 01.5 +0.3**
baz=160,SNR=5.2
GLMI **Grayling** 74.30 344 P **P** **23 41 01.2 0.0**
baz=160,SNR=5.2
TUC **Tucson** 74.47 320 P **P** **23 41 02.7 +0.3**
TUC **Tucson** 74.47 320 P **P** **23 41 03.5 +1.1**
baz=137
TUC **Tucson** 74.47 320 P **P** **23 41 02.7 +0.3**
TUC pmax pmax
comp=Z,19nm,1.2s
I42A **Draeger Farm,** 74.57 341 IAmb IAmb 23 41 03.6
comp=Z,73nm,0.7s
I42A **Draeger Farm,** 74.57 341 P **P** **23 41 03.0 +0.4**
baz=157,SNR=12
TOA0 **Torodi Ar. Sit** 74.75 66 IAmb IAmb 23 41 03.7
comp=Z,70nm,1.0s
TORD **Torodi Ar. Bea** 74.75 66 P **P** **23 41 03.0 -1.3**
comp=Z,40nm,0.8s,baz=255,slow=5.8,SNR=124
TORD pP **pP** **23 43 03.0 +2.1**
comp=Z,3.7nm,0.9s,baz=238,slow=6.4,SNR=4.1
comp=Z,40nm,0.8s
TORD **Torodi Ar. Bea** 74.75 66 P **P** **23 41 02.7 -1.6**
TORD IAmb IAmb 23 41 05.0
comp=Z,51nm,1.0s
T25A **Trinidad** 74.77 327 IAmb IAmb 23 41 06.8
comp=Z,52nm,0.8s
T25A **Trinidad** 74.77 327 P **P** **23 41 05.9 +1.7**
baz=143,SNR=30
H43A **Windswept, Lux** 74.78 342 IAmb IAmb 23 41 04.7
comp=Z,81nm,0.8s
H43A **Windswept, Lux** 74.78 342 P **P** **23 41 04.2 +0.4**
baz=158,SNR=5.5
I40A **Norwalk** 75.07 340 IAmb IAmb 23 41 05.8
comp=Z,52nm,0.6s
I40A **Norwalk** 75.07 340 P **P** **23 41 05.5 0.0**
baz=155,SNR=6.5
L34A **Svendsen Farm,** 75.33 335 P **P** **23 41 07.2 +0.3**
baz=150
214A **Organ Pipe Nat** 75.40 318 P **P** **23 41 09.1 +1.5**
baz=136,SNR=30
KSCO **Kaye Shedlock'** 75.43 329 P **P** **23 41 08.2 +0.5**
KSCO **Kaye Shedlock'** 75.43 329 P **P** **23 41 09.1 +1.3**
baz=144
BGNE **Belgrade** 75.53 334 P **P** **23 41 08.7 +0.6**
baz=148,SNR=14
BGNE **Belgrade** 75.53 334 P **P** **23 41 08.3 +0.3**
baz=148,SNR=14
SDCO **Great Sand Dun** 75.78 327 P **P** **23 41 10.3 +0.4**
SDCO IAmb IAmb 23 41 12.4
comp=Z,64nm,1.4s
SDCO **Great Sand Dun** 75.78 327 P **P** **23 41 11.3 +1.4**
baz=142,SNR=49
SDCO **Great Sand Dun** 75.78 327 P **P** **23 41 11.4 +1.5**
baz=142,SNR=49
W18A **Petrified Fore** 75.95 322 IAmb IAmb 23 41 13.3
comp=Z,44nm,1.1s
W18A **Petrified Fore** 75.95 322 P **P** **23 41 12.2 +1.4**
baz=138
F42A **Maple Grove Fa** 76.07 342 P **P** **23 41 11.2 +0.2**
baz=157
I37B **Waseca** 76.07 338 P **P** **23 41 11.3 +0.3**
baz=153,SNR=13
G40A **Rifle Lake** 76.20 341 P **P** **23 41 12.3 +0.6**
baz=156
DRLN **Deer Lake** 76.33 4 P **P** **23 41 12.3 0.0**
DRLN IAmb IAmb 23 41 14.2
comp=Z,85nm,0.8s
E43A **Lone Tree Farm** 76.34 343 P **P** **23 41 13.5 +1.1**
baz=158,SNR=8.4
BOSA **Boshof** 76.35 115 P **P** **23 41 13.0 -0.2**
comp=Z,6.0nm,0.4s,baz=246,slow=4.2,SNR=37
comp=Z,6.0nm,0.4s
BOSA **Boshof** 76.35 115 P **P** **23 41 12.4 -0.8**
BOSA **Boshof** 76.35 115 P **P** **23 41 12.4 -0.8**
BOSA pmax pmax
comp=Z,25nm,1.3s
TBI **Tubuai** 76.41 251 *e*LR LR 00 05 45.0
comp=Z,371nm,26.5s
TBI *e*LR LR 00 05 45.0
comp=Z,2μm,26.2s
S22A **4UR Ranch, Cre** 76.43 326 P **P** **23 41 14.7 +1.2**
baz=141,SNR=33
Q24A **Divide** 76.57 328 IAmb IAmb 23 41 16.7
comp=Z,55nm,0.8s
Q24A **Divide** 76.57 328 P **P** **23 41 15.4 +1.2**
baz=142,SNR=15
COWI **Conover** 76.66 342 P **P** **23 41 14.3 +0.1**
COWI IAmb IAmb 23 41 15.7
comp=Z,75nm,1.3s
OGNE **Ogallala** 76.75 331 IAmb IAmb 23 41 17.0
comp=Z,49nm,0.8s
OGNE **Ogallala** 76.75 331 P **P** **23 41 16.4 +1.5**
baz=145,SNR=5.1
OGNE **Ogallala** 76.75 331 P **P** **23 41 16.0 +1.1**
baz=145,SNR=5.1
K31A **O'Neill** 76.80 334 P **P** **23 41 15.3 +0.3**
MVCO **Mesa Verde** 76.87 324 IAmb IAmb 23 41 18.3
comp=Z,32nm,0.8s
MVCO **Mesa Verde** 76.87 324 P **P** **23 41 17.0 +1.2**
baz=140,SNR=19
ECSD **EROS Data Cent** 76.94 336 IAmb IAmb 23 41 16.8
comp=Z,60nm,0.8s
ECSD **EROS Data Cent** 76.94 336 P **P** **23 41 16.0 +0.2**
baz=150,SNR=37
ECSD **EROS Data Cent** 76.94 336 P **P** **23 41 15.7 -0.1**
baz=150,SNR=37
SPMN **Marine on St.** 76.95 339 IAmb IAmb 23 41 16.6
comp=Z,26nm,0.7s
SPMN **Marine on St.** 76.95 339 P **P** **23 41 15.8 0.0**
baz=153,SNR=6.4
SPMN **Marine on St.** 76.95 339 P **P** **23 41 15.5 -0.3**
baz=153,SNR=6.4
WUAZ **Wupatki** 77.15 322 P **P** **23 41 18.9 +1.6**
baz=137,SNR=11
MAW **Mawson** 77.35 162 P **P** **23 41 18.8 +1.1**
comp=Z,8.7nm,0.7s,baz=217,slow=7.2,SNR=19
MAW pP **pP** **23 43 17.7 +2.4**
comp=Z,5.8nm,1.0s,baz=219,slow=8.0,SNR=5.2
comp=Z,8.7nm,0.7s
MAW **Mawson** 77.35 162 P **P** **23 41 17.9 +0.2**
MAW **Mawson** 77.35 162 P **P** **23 41 17.9 +0.2**
MAW pmax pmax
comp=Z,3.0nm,0.9s
GLA **Glamis** 77.38 318 P **P** **23 41 19.4 +0.9**
baz=135
D41A **Chassel** 77.39 343 P **P** **23 41 19.2 +1.1**
baz=157,SNR=12
SMCO **Snowmass** 77.62 327 IAmb IAmb 23 41 22.9
comp=Z,41nm,0.8s
PV15 **Paradox Valley** 77.72 325 IAmb IAmb 23 41 23.3
comp=Z,70nm,1.1s
F36A **Milaca** 77.75 339 P **P** **23 41 20.1 0.0**
baz=153,SNR=16
E38A **The Farm, Brul** 77.81 341 P **P** **23 41 20.4 0.0**
baz=154,SNR=11
PDMCI **Parker Dam,Lak** 77.85 319 P **P** **23 41 22.2 +1.3**
baz=135,SNR=5.1
IKP **In-Ko-Pah, Jac** 77.87 317 P **P** **23 41 22.5 +1.3**
baz=134
PV07 **Paradox Valley** 77.88 325 IAmb IAmb 23 41 23.9
comp=Z,44nm,0.9s
SWSC **Sam W. Stewart** 77.89 317 P **P** **23 41 22.4 +1.2**
baz=134
PV10 **Paradox Valley** 78.03 325 P **P** **23 41 22.2 0.0**
LBTB **Lobatse** 78.09 112 P **P** **23 41 21.9 -0.8**
LBTB **Lobatse** 78.09 112 P **P** **23 41 21.9 -0.8**
LBTB pmax pmax
comp=Z,32nm,1.2s
BC3 **Big Chuckawall** 78.17 318 P **P** **23 41 23.8 +1.0**
baz=134,SNR=14
MONP2 **Monument Peak** 78.23 317 P **P** **23 41 24.6 +1.3**
baz=134,SNR=5.3
IRM **Iron Mountain** 78.34 318 P **P** **23 41 24.7 +1.2**
baz=134,SNR=13
N23A **Red Feather La** 78.47 328 P **P** **23 41 25.8 +1.4**
baz=142,SNR=17
F33A **5 Mile Ranch,** 78.65 337 P **P** **23 41 25.0 +0.1**
baz=150,SNR=5.6
PMD **Palm Desert** 78.72 317 IAmb IAmb 23 41 27.9
comp=Z,9.1nm,1.1s
BELC **Belle Mtn. Jos** 78.74 318 P **P** **23 41 27.0 +1.1**
baz=134,SNR=12
TPFO **Pinon Flats** 78.74 317 P **P** **23 41 27.1 +1.2**
baz=134,SNR=8.4
PFO **Pinyon Flats O** 78.75 317 P **P** **23 41 26.6 +0.7**
PFO **Pinyon Flats O** 78.75 317 P **P** **23 41 27.2 +1.3**
baz=134,SNR=8.4
PFO **Pinyon Flats O** 78.75 317 *i* P **P** **23 41 27.0 +1.1**
PFO pmax pmax
comp=Z,21nm,1.0s
PPT2 **Papeete2** 78.89 256 *e*LR LR 00 06 53.7
comp=Z,95nm,28.8s
PPT2 *e*LR LR 00 06 53.8
comp=Z,61nm,24.2s
PPT **Papeete** 78.90 256 P **P** **23 41 28.6 +1.6**
comp=Z,28nm,0.8s,baz=179,slow=16,SNR=4.0
comp=Z,28nm,0.8s
O20A **White River Ci** 78.98 327 IAmb IAmb 23 41 30.2
comp=Z,58nm,1.1s
O20A **White River Ci** 78.98 327 P **P** **23 41 28.2 +1.2**
baz=140,SNR=20
EYMN **Ely** 79.00 341 IAmb IAmb 23 41 27.8
comp=Z,42nm,0.8s
EYMN **Ely** 79.00 341 P **P** **23 41 26.9 +0.1**
baz=155,SNR=12
EYMN **Ely** 79.00 341 P **P** **23 41 26.8 +0.1**
baz=155,SNR=12
KNB **Kanab** 79.04 322 P **P** **23 41 28.9 +1.4**
KNB IAmb IAmb 23 41 30.3
comp=Z,84nm,0.9s
KNB **Kanab** 79.04 322 P **P** **23 41 28.9 +1.4**
KNB pmax pmax
comp=Z,84nm,0.9s
GMRC **Granite Mounta** 79.08 318 P **P** **23 41 29.1 +1.4**
baz=134,SNR=26
MURC **Murrieta** 79.19 317 P **P** **23 41 29.3 +1.1**
baz=133
SRU **San Rafael Swe** 79.35 325 IAmb IAmb 23 41 31.2
comp=Z,52nm,1.0s
HEC **Hector,Ludlow** 79.51 318 P **P** **23 41 31.2 +1.4**
baz=134,SNR=8.9
P18A **Preston Nutter** 79.59 325 IAmb IAmb 23 41 33.0
comp=Z,34nm,0.8s
SCI2 **San Clemente I** 79.60 315 P **P** **23 41 31.3 +1.1**
baz=132
RWWY **Rawlins** 79.68 328 P **P** **23 41 31.2 +0.4**
RWWY IAmb IAmb 23 41 33.1
comp=Z,66nm,0.8s
TUQ **Turquoise Moun** 79.69 319 P **P** **23 41 32.0 +1.2**
baz=134,SNR=12
CCUT **Cedar City** 79.72 322 IAmb IAmb 23 41 34.1
comp=Z,40nm,0.8s
CIS **Catalina Islan** 79.80 316 P **P** **23 41 32.5 +1.1**
baz=132
BFSC **Mount Baldy Ra** 79.90 317 P **P** **23 41 32.6 +0.6**
baz=133
RRX **Edison Barstow** 79.94 318 P **P** **23 41 33.5 +1.5**
baz=133
RDMU **Red Mountain** 79.96 326 IAmb IAmb 23 41 34.4
comp=Z,66nm,0.8s
D32A **Dogwood Acres,** 80.03 337 IAmb IAmb 23 41 33.1
comp=Z,52nm,0.6s
D32B **Dogwood Acres,** 80.03 337 P **P** **23 41 32.8 +0.7**
baz=150
B35A **Bob, Littlefor** 80.04 340 P **P** **23 41 32.0 -0.2**
B35A **Bob, Littlefor** 80.04 340 P **P** **23 41 32.6 +0.4**
baz=153,SNR=44
GSC **Goldstone, Bar** 80.11 318 P **P** **23 41 34.1 +1.1**
baz=134,SNR=5.6
K22A **Casper** 80.12 329 IAmb IAmb 23 41 36.0
comp=Z,51nm,1.2s
K22A **Casper** 80.12 329 P **P** **23 41 33.9 +1.0**
baz=142,SNR=11
K22A **Casper** 80.12 329 P **P** **23 41 34.0 +1.0**
baz=142,SNR=11
RSSD **Black Hills** 80.19 332 P **P** **23 41 32.6 -0.7**
RSSD **Black Hills** 80.19 332 P **P** **23 41 34.0 +0.6**
baz=144,SNR=15
RSSD **Black Hills** 80.19 332 P **P** **23 41 33.8 +0.4**
baz=144
RSSD **Black Hills** 80.19 332 P **P** **23 41 32.7 -0.7**
RSSD pmax pmax
comp=Z,24nm,0.9s
SHOC **Shoshone, Teco** 80.21 319 P **P** **23 41 34.3 +0.9**
baz=134
DECC **Green Verdugo** 80.33 317 P **P** **23 41 35.0 +0.9**
baz=132
SNCC **San Nicolas Is** 80.39 315 P **P** **23 41 35.0 +0.6**
baz=132
EDW2 **Edwards Air Fo** 80.54 317 P **P** **23 41 36.0 +0.8**
baz=133,SNR=5.4
PRN **Pahroc Range** 80.56 321 IAmb IAmb 23 41 38.2
comp=Z,35nm,1.0s
AGMN **Agassiz Nation** 80.65 339 IAmb IAmb 23 41 36.8
comp=Z,68nm,0.8s
AGMN **Agassiz Nation** 80.65 339 P **P** **23 41 36.0 +0.6**
baz=151,SNR=29
AGMN **Agassiz Nation** 80.65 339 P **P** **23 41 35.8 +0.4**
baz=151,SNR=29
CCAC **Calif City Air** 80.74 317 P **P** **23 41 36.5 +0.3**
LRMC **Laurel Mtn Rad** 80.76 318 P **P** **23 41 37.2 +0.8**
baz=133,SNR=5.2
NLU **North Lily Min** 80.78 324 IAmb IAmb 23 41 38.8
comp=Z,58nm,1.8s
TPNV **Topopah Spring** 80.92 320 P **P** **23 41 38.5 +1.2**
baz=134,SNR=16
JLU **Jordanelle** 80.94 325 IAmb IAmb 23 41 39.5
comp=Z,43nm,1.2s
FURC **Furnace Creek,** 80.95 319 P **P** **23 41 38.4 +1.3**
baz=134
SCZ2 **Santa Cruz Isl** 80.96 316 P **P** **23 41 38.5 +1.2**
baz=132
MPMC **Manual Prospec** 81.04 318 P **P** **23 41 38.8 +0.8**
baz=133,SNR=9.8
ARVC **Arvin** 81.21 317 P **P** **23 41 39.7 +1.1**
baz=132
SPR3 **Spring Creek 3** 81.29 322 IAmb IAmb 23 41 41.4
comp=Z,24nm,0.9s
TCUT **Toone Canyon** 81.30 325 IAmb IAmb 23 41 41.5
comp=Z,42nm,0.9s
DUG **Dugway, Tooele** 81.34 324 P **P** **23 41 40.4 +1.0**
baz=137,SNR=17
ISA **Isabella, Lake** 81.36 317 P **P** **23 41 40.8 +1.4**
baz=132,SNR=6.3
R11A **Troy Canyon, C** 81.53 321 P **P** **23 41 41.2 +0.9**
R11A **Troy Canyon, C** 81.53 321 P **P** **23 41 41.7 +1.4**
baz=135,SNR=28
MDND **Maddock** 81.54 336 P **P** **23 41 41.2 +1.2**
baz=148,SNR=14
MDND **Maddock** 81.54 336 P **P** **23 41 41.0 +1.0**
baz=148,SNR=14
GRAC **Grapevine Rang** 81.61 319 P **P** **23 41 41.6 +1.0**
baz=133
BW06 **Boulder Array** 81.62 328 P **P** **23 41 41.5 +0.7**
baz=140,SNR=22
PDAR **Pinedale Array** 81.62 328 P **P** **23 41 41.3 +0.5**

comp=Z,13nm,0.6s,baz=131,slow=8.3,SNR=130
comp=Z,13nm,0.6s
CWC Cottonwood Cre 81.65 318 P P 23 41 42.0 +1.0
baz=133
PKM Mcpherson Peak 81.66 316 P P 23 41 42.5 +1.4
baz=132,SNR=12
HWUT Hardware Ranch 81.74 326 IAmb IAmb 23 41 43.3
comp=Z,124nm,1.6s
SCHQ Schefferville 81.79 358 P P 23 41 41.6 +0.6
comp=Z,40nm,0.8s,baz=162,slow=4.1,SNR=28
comp=Z,40nm,0.8s
SCHQ Schefferville 81.79 358 IAmb IAmb 23 41 42.5
comp=Z,58nm,0.9s
VES Vestal, Richgr 81.84 317 P P 23 41 42.7 +0.9
baz=132,SNR=6.1
SPUT South Promonto 81.97 325 IAmb IAmb 23 41 44.5
comp=Z,34nm,0.9s
BGU Big Grassy Mou 81.99 324 P P 23 41 42.9 +0.3
SMMC Simmler 82.05 316 P P 23 41 44.3 +1.4
baz=131
TIN Tinemaha, Big 82.15 319 P P 23 41 44.5 +1.1
baz=133
TPH Tonopah 82.26 320 IAmb IAmb 23 41 46.3
comp=Z,102nm,1.2s
ULM Lac du Bonnet 82.37 340 P P 23 41 44.2 +0.2
comp=Z,37nm,0.8s,baz=153,slow=5.9,SNR=38
comp=Z,37nm,0.8s
ULM Lac du Bonnet 82.37 340 IAmb IAmb 23 41 45.2
comp=Z,50nm,0.9s
AHID Auburn Hatcher 82.37 327 IAmb IAmb 23 41 46.4
comp=Z,28nm,0.8s
Q09A Carvers 82.76 321 IAmb IAmb 23 43 50.7
comp=Z,34nm,0.8s
PCVE Castro Verde 82.80 41 *e*P P 23 41 47.0 +0.5
comp=Z,24nm,1.7s
MESJ Messejana 82.83 41 *e*P P 23 41 47.0 +0.2
MESJ IAmb IAmb 23 41 48.2
comp=Z,30nm,1.1s
MESJ Messejana 82.83 41 *e*P P 23 41 46.9 +0.2
MESJ pmax pmax
comp=Z,30nm,1.1s
PVAQ Vaqueiros 82.83 41 *e*P P 23 41 47.5 +0.8
comp=Z,44nm,1.7s
PVAQ Vaqueiros 82.83 41 P P 23 41 46.8 +0.1
PNCL Nicolau / Gran 82.84 41 *e*P P 23 41 47.1 +0.4
comp=Z,33nm,1.7s
MLAC Mammoth, Mammo 82.89 319 P P 23 41 48.7 +1.3
baz=132
TAM Tamanrasset 83.07 60 P P 23 41 48.0 -0.4
TAM Tamanrasset 83.07 60 P P 23 41 48.0 -0.4
TAM pmax pmax
comp=Z,28nm,1.0s
NVAR Mina Array Bea 83.12 320 P P 23 41 49.5 +1.0
comp=Z,5.5nm,0.8s,baz=143,slow=5.2,SNR=39
comp=Z,5.5nm,0.8s
IMW Indian Meadow 83.14 327 IAmb IAmb 23 41 50.4
comp=Z,32nm,0.9s
PBEJ Beja 83.16 41 *e*P P 23 41 49.0 +0.6
comp=Z,28nm,1.3s
LAO LASA Array 83.17 332 IAmb IAmb 23 41 49.7
comp=Z,32nm,0.8s
LAO LASA Array 83.17 332 P P 23 41 48.9 +0.6
baz=142,SNR=18
LAO LASA Array 83.17 332 P P 23 41 48.6 +0.3
baz=142,SNR=18
RLMT Red Lodge 83.28 329 P P 23 41 49.7 +0.6
baz=140,SNR=11
H17A Grant Village 83.34 328 P P 23 41 51.1 +1.6
baz=139
LKWY Lake 83.39 328 IAmb IAmb 23 41 53.5
comp=Z,14nm,0.5s
EVO Evora 83.42 40 *e*P P 23 41 48.4 -1.2
comp=Z,24nm,2.6s
BBGB Big Mountain B 83.52 317 IAmb IAmb 23 41 54.6
comp=Z,31nm,0.9s
PSBE So Bento 83.64 39 *e*P P 23 41 51.4 +0.7
comp=Z,107nm,1.5s
YMR Madison River 83.73 328 P P 23 41 52.0 +0.7
YMR IAmb IAmb 23 41 53.7
comp=Z,26nm,1.0s
PBAR Barrancos 83.75 41 *e*P P 23 41 51.6 +0.3
comp=Z,33nm,1.6s
YHH Holmes Hill 83.76 328 IAmb IAmb 23 41 53.8
comp=Z,21nm,0.8s
DGMT Dagmar 83.78 334 IAmb IAmb 23 41 53.3
comp=Z,52nm,0.8s
DGMT Dagmar 83.78 334 P P 23 41 52.5 +1.3
baz=144,SNR=6.7
DGMT Dagmar 83.78 334 P P 23 41 52.0 +0.8
baz=144,SNR=6.7
PESTR Estremoz 83.89 40 *e*P P 23 41 52.6 +0.6
comp=Z,31nm,1.2s
PCAS Casmilo, Conde 84.17 39 *e*P P 23 41 54.1 +0.8
comp=Z,94nm,1.6s
PNTR Pine Nut 84.32 319 P P 23 41 55.2 +0.8
PNTR IAmb IAmb 23 41 56.8
comp=Z,38nm,0.9s
PMRV Marv??o 84.38 40 *e*P P 23 41 54.4 0.0
comp=Z,19nm,1.2s
HLID Hailey 84.60 325 IAmb IAmb 23 41 58.1
comp=Z,46nm,0.9s
HLID Hailey 84.60 325 P P 23 41 57.0 +1.4
baz=136,SNR=62
PAHR Pah Rah Range 84.61 320 IAmb IAmb 23 41 58.0
comp=Z,30nm,1.0s
PCBR Castelo Branco 84.61 40 *e*P P 23 41 55.6 +0.2
BOZ Bozeman (W) 84.73 328 P P 23 41 56.6 +0.4
baz=138,SNR=7.2
MTE Manteigas 84.94 39 *e*P P 23 41 57.5 +0.3
comp=Z,54nm,1.1s
MTE Manteigas 84.94 39 P P 23 41 56.6 -0.6
MTE IAmb IAmb 23 41 58.4
comp=Z,38nm,0.9s
PVIS Viseu 84.96 39 *e*P P 23 41 57.3 +0.1
comp=Z,53nm,1.6s
DLMT Dillon 85.02 328 IAmb IAmb 23 41 59.7
comp=Z,44nm,1.1s
PLTX Planet X, Gerl 85.32 321 IAmb IAmb 23 42 01.0
comp=Z,38nm,0.7s
PVRL Vila Real 85.44 39 *e*P P 23 41 59.0 -0.5
comp=Z,67nm,1.8s
POLO Lamas de Olo 85.46 39 *e*P P 23 42 00.5 +0.8
comp=Z,38nm,1.3s
PCAB Cabril 85.56 38 *e*P P 23 42 00.9 +0.8
comp=Z,65nm,1.9s
EGMT Eagleton 85.72 331 IAmb IAmb 23 42 02.0
comp=Z,24nm,1.1s
EGMT Eagleton 85.72 331 P P 23 42 00.9 +0.2
baz=140,SNR=6.6
ORV Oroville 85.73 319 IAmb IAmb 23 42 03.2
comp=Z,30nm,1.2s
MVO Moncorvo 85.75 39 *e*P P 23 42 01.6 +0.6
comp=Z,73nm,1.3s
PAB San Pablo 86.23 42 P P 23 42 02.8 -0.6
PAB San Pablo 86.23 42 P P 23 42 02.8 -0.6
PAB pmax pmax
comp=Z,21nm,1.2s
PBRG Braganca 86.34 39 *e*P P 23 42 05.2 +1.4
comp=Z,52nm,1.7s
PLID Pearl Lake 86.49 326 IAmb IAmb 23 42 06.6
comp=Z,45nm,1.0s
ESDC Sonseca Array 86.54 42 P P 23 42 04.9 +0.1
comp=Z,6.8nm,1.0s,baz=244,slow=4.4,SNR=24
comp=Z,6.8nm,1.0s
ESBB Sonseca Array 86.54 42 IAmb IAmb 23 42 14.9
comp=Z,41nm,1.8s
J08A Circle Bar Ran 86.57 323 IAmb IAmb 23 42 07.3
comp=Z,37nm,0.8s
MSO Missoula 86.73 328 P P 23 42 06.6 +1.0
baz=136,SNR=7.9
K05A Summer Lake 87.46 322 IAmb IAmb 23 42 11.7
comp=Z,68nm,1.3s
FFC Flin Flon 88.13 339 P P 23 42 11.4 -0.3
FFC IAmb IAmb 23 42 13.4
comp=Z,22nm,0.9s
FFC Flin Flon 88.13 339 P P 23 42 11.5 -0.3
FFC pmax pmax
comp=Z,22nm,1.0s
PINE Pine Mountain 88.19 322 IAmb IAmb 23 42 14.9
comp=Z,14nm,0.8s
WALA Waterton Lakes 88.33 329 IAmb IAmb 23 42 14.7
comp=Z,23nm,0.8s
DBO Dodson Butte 89.03 321 IAmb IAmb 23 42 18.6
comp=Z,22nm,0.8s
NEW Newport 89.27 327 P P 23 42 17.3 0.0
baz=134
H04A Detroit Lake 89.45 322 IAmb IAmb 23 42 19.3
comp=Z,15nm,0.8s

C09A Chrisman Ranch 89.50 327 P P 23 42 18.6 +0.2
C09A IAmb IAmb 23 42 19.7
comp=Z,16nm,0.8s
HOOD Mount Hood Mea 89.58 323 IAmb IAmb 23 42 20.7
comp=Z,16nm,0.9s
EKA Eskdalemuir Ar 96.94 30 P P 23 42 51.0 -1.0
comp=Z,3.5nm,0.8s,baz=237,slow=5.9,SNR=5.7
comp=Z,3.5nm,0.8s
BMRD Maredsous 97.85 37 *d*Pdif P 23 42 56.4 +0.1
YKA Yellowknife Ar 98.31 339 P P 23 42 58.4 +0.3
comp=Z,4.0nm,0.6s,baz=127,slow=4.5,SNR=13
comp=Z,4.0nm,0.6s
MEM Membach 98.68 37 *d*Pdif P 23 43 00.5 +0.5
DAVOX Davos/Dischmat 98.87 42 P P 23 43 01.4 +0.1
comp=Z,3.7nm,0.8s,baz=227,slow=4.7,SNR=6.9
comp=Z,3.7nm,0.8s
CLL Collm 102.86 39 *i* Pdif Pdif 23 43 17.0 -1.5
comp=Z,22nm,1.7s
CLL *e*PKiKP **PKiKP 23 47 35.0 -0.2**
CLL Collm 102.86 39 *i* P Pdif 23 43 17.0 -1.5
CLL pmax pmax
comp=Z,22nm,1.7s
BRG Berggiesshubel 103.19 39 *e*PKP PKiKP 23 47 39.1 +3.2
BRG Amp 23 47 41.9
comp=Z,17nm,1.7s
ILAR Eielson Array 111.62 333 PKiKP PKiKP 23 47 51.2 0.0
comp=Z,0.6nm,0.9s,baz=158,slow=0.8,SNR=5.9
ILAR PP **PP 23 48 49.5 +5.0**
comp=Z,0.6nm,0.8s,baz=86,slow=8.0,SNR=4.2
AKASG Malin Array Be 112.14 43 PKiKP PKiKP 23 47 51.8 -0.8
comp=Z,2.1nm,0.8s,baz=267,slow=1.8,SNR=7.5
BPAW Bear Paw Mtn. 113.14 331 P PKiKP 23 47 54.9 +0.7
baz=105
G23K Bananza Creek 113.41 334 P PKiKP 23 47 55.4 +0.7
baz=104
CAST Castle Rocks 113.44 331 P PKiKP 23 47 55.0 +0.2
baz=104
M20K Styx River 113.54 329 P PKiKP 23 47 55.4 +0.3
baz=104
D24K Happy Valley 113.58 337 P PKiKP 23 47 55.4 +0.5
baz=104
COLD Coldfoot 113.60 335 P PKiKP 23 47 56.2 +1.2
baz=104
C24K Franklin Bluff 113.68 338 P PKiKP 23 47 55.8 +0.9
baz=104
TOLK Toolik Lake Re 113.72 336 P PKiKP 23 47 55.6 +0.4
baz=104
G22K Bettles 114.03 334 P PKiKP 23 47 56.4 +0.7
baz=103
O18K Koktuh Hills 114.06 326 P PKiKP 23 47 56.3 +0.3
baz=103
H21K Melozitna Rive 114.26 333 P PKiKP 23 47 57.3 +1.0
baz=102
C23K Itkillik River 114.35 338 P PKiKP 23 47 57.5 +1.2
baz=102
F22K John River 114.41 335 P PKiKP 23 47 57.4 +0.9
baz=102
G21K Allakaket 114.72 334 P PKiKP 23 47 58.0 +0.9
baz=101
ARCES ARCESS Array B 114.84 23 PKP PKPdf 23 47 57.0 -0.3
comp=Z,3.6nm,0.9s,baz=228,slow=3.1,SNR=5.7
ARCES PKKPbc **PKKPbc 23 58 35.6 -2.1**
comp=Z,2.6nm,0.8s,baz=19,slow=4.1,SNR=3.5
ARCES ARCESS Array B 114.84 23 PKiKP PKPdf 23 47 57.0 -0.3
F21K Alatna River 114.85 335 P PKiKP 23 47 58.3 +0.9
baz=101
VORR Voronezh 118.48 44 *e*PKiKP PKPdf 23 48 02.9 -1.8
VORR pmax pmax
comp=Z,40nm,0.4s
KIV Kislovodsk 119.51 53 PKPdf 23 48 06.0 -1.1
KIV Kislovodsk 119.51 53 *e*PKiKP PKPdf 23 48 06.6 -0.5
KIV pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 119.61 33 *e*PKPdf PKPdf 23 48 05.8 -0.9
KLMR AMP 23 48 08.1
comp=Z,25nm,1.4s
KLMR Klimovskoe 119.61 33 *e*PKiKP PKPdf 23 48 05.7 -0.9
KLMR pmax pmax
comp=Z,25nm,1.4s
KBZ Khabaz 119.62 53 PKP PKPdf 23 48 06.9 -0.2
comp=Z,4.2nm,1.0s,baz=12,slow=3.4,SNR=6.4
KBZ Khabaz 119.62 53 *i* PKiKP PKiKP 23 48 07.9 +0.6
ZEI Tsey 120.17 54 *i* PKiKP PKPdf 23 48 08.6 0.0
ZEI pmax pmax
comp=Z,3.0nm,1.0s
GNI Garni 120.29 58 *i* PKiKP PKiKP 23 48 09.7 +0.7
PRGR Permogore 122.57 32 *e*PKiKP PKPdf 23 48 12.4 +0.1
PRGR pmax pmax
comp=Z,18nm,0.9s
BELG Belogornoye 123.72 43 PKP PKPdf 23 48 14.6 -0.2
comp=Z,22nm,0.8s,baz=75,slow=3.1,SNR=6.4
BELG Belogornoye 123.72 43 *i* PKiKP PKPdf 23 48 14.9 +0.1
KIRV Kirov 124.64 36 PKP PKPdf 23 48 16.5 +0.2
comp=Z,9.3nm,0.6s,baz=245,slow=3.4,SNR=4.7
KIRV Kirov 124.64 36 *c* PKiKP PKiKP 23 48 17.0 +0.3
ASAR Alice Springs 126.71 200 PKP PKPdf 23 48 21.1 -0.6
comp=Z,3.9nm,0.6s,baz=146,slow=2.1,SNR=38
ASAR pPKP **pPKPdf 23 50 31.1 -0.9**
comp=Z,0.8nm,0.8s,baz=164,slow=1.9,SNR=4.1
ASAR SKPbc SKiKP 23 50 46.5 -19
comp=Z,3.0nm,0.9s,baz=157,slow=3.7,SNR=9.5
ASAR SKP 23 51 04.7
comp=Z,1.4nm,0.6s,baz=141,slow=2.5,SNR=5.4
ASAR PKKPbc **PKKPbc 23 57 53.4 -0.8**
comp=Z,0.9nm,0.8s,baz=327,slow=3.5,SNR=6.4
ASAR Alice Springs 126.71 200 PKPdf PKPdf 23 48 20.3 -1.3
ASAR Alice Springs 126.71 200 PKiKP PKPdf 23 48 20.3 -1.3
WSAR Wadi Sarin 127.76 81 PKP PKPdf 23 48 23.3 -0.1
comp=Z,7.3nm,0.9s,baz=242,slow=3.1,SNR=6.1
BILL Bilibino 129.71 338 *i* PKiKP PKiKP 23 48 27.4 +0.8
BILL SP SP 23 59 54.0 -6.3
BILL PS **PS 00 01 07.0 +2.0**
BILL pmax pmax
comp=Z,11nm,1.1s
ARU Arti 129.80 38 PKP PKPdf 23 48 26.7 +0.4
comp=Z,6.1nm,0.6s,baz=235,slow=2.1,SNR=12
ARU SKPbc SKPab 23 50 57.9 +0.9
comp=Z,17nm,0.7s,baz=294,slow=3.0,SNR=28
ARU Arti 129.80 38 PKPdf PKPdf 23 48 24.9 -1.3
ARU SKPbc SKPbc 23 50 56.4 -0.5
ARU Arti 129.80 38 *i* PKiKP PKiKP 23 48 27.6 +0.5
ARU 23 50 45.9
ARU SS SS 00 07 22.3 -5.1
WB2 Warramunga Arr 130.06 202 PKPdf PKPdf 23 48 27.6 -0.4
WB2 SKPbc **SKPbc 23 50 58.0 -1.1**
WRA Warramunga Arr 130.06 202 PKP PKPdf 23 48 27.7 -0.3
comp=Z,2.3nm,0.6s,baz=166,slow=1.7,SNR=20
WRA pPKP **pPKPdf 23 50 38.3 0.0**
comp=Z,2.4nm,1.0s,baz=166,slow=1.9,SNR=11
WRA SKPbc **SKPbc 23 50 57.9 -1.2**
comp=Z,13nm,0.8s,baz=160,slow=3.4,SNR=58
WRA SKKPbc **SKKPbc 00 00 38.1 +0.8**
comp=Z,0.8nm,1.1s,baz=348,slow=3.8,SNR=5.8
WRAB Tennant Creek 130.06 202 *i* PKiKP PKiKP 23 48 28.6 -0.3
WB0 Warramunga Arr 130.20 202 PKPdf 23 48 27.1 -1.2
WB0 SKPbc **SKPbc 23 50 57.7 -2.0**
GEYT Alibeck 130.26 62 SKPbc SKPbc 23 50 59.0 -0.2
comp=Z,3.6nm,0.7s,baz=242,slow=3.2,SNR=7.0
NRIK Noril'sk 134.57 14 SKPbc SKPbc 23 51 13.1 +0.3
comp=Z,2.3nm,0.7s,baz=156,slow=3.4,SNR=3.7
NRIK Noril'sk 134.57 14 *c* PKiKP PKiKP 23 48 36.1 -0.3
TIXI Tiksi 135.03 355 SKPbc SKPbc 23 51 14.6 +0.3
comp=Z,8.5nm,0.8s,baz=293,slow=0.0,SNR=3.8
TIXI Tiksi 135.03 355 *c* PKiKP PKPdf 23 48 35.9 +0.2
TIXI pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 137.21 40 PKPdf PKPdf 23 48 40.0 -0.2
BRVK Borovoye 137.21 40 *c* PKiKP PKiKP 23 48 41.6 -0.7
BRVK pmax pmax
comp=Z,11nm,1.7s
BVAR Borovoye Array 137.28 40 PKhKP PKPpre 23 48 34.3
comp=Z,1.1nm,0.7s,baz=294,slow=1.5,SNR=5.1
BVAR PKP **PKiKP 23 48 41.8 -0.7**
comp=Z,6.5nm,0.7s,baz=298,slow=3.2,SNR=24
BVAR SKPbc **SKPbc 23 51 22.3 +0.8**
comp=Z,2.8nm,0.7s,baz=289,slow=4.5,SNR=9.6
SEY Seymchan 137.35 337 PKhKP PKPpre 23 48 33.6
comp=Z,2.4nm,0.6s,baz=85,slow=5.4,SNR=4.1
SEY PKP **PKiKP 23 48 41.9 -0.4**
comp=Z,14nm,0.9s,baz=143,slow=2.0,SNR=11
SEY SKPbc **SKPbc 23 51 21.9 +0.5**
comp=Z,6.8nm,0.8s,baz=71,slow=2.6,SNR=8.7
SEY Seymchan 137.35 337 *c* PKiKP PKiKP 23 48 42.2 -0.1
SEY pmax pmax
comp=Z,45nm,2.5s
PETK Petropavlovsk- 140.18 322 SKPbc SKPbc 23 51 29.4 0.0
comp=Z,14nm,1.1s,baz=102,slow=6.2,SNR=7.7
PALK Pallekele 140.56 114 PKP PKPdf 23 48 47.5 -0.1
comp=Z,4.2nm,0.9s,baz=230,slow=8.8,SNR=3.8
EKS2 Erkin-Say 142.07 55 P PKPdf 23 48 46.5 -3.1
SNR=5.9
USP Ospenovka 142.48 54 P PKPdf 23 48 47.5 -2.7
SNR=8.5
AAK Ala-Archa 142.59 55 P PKPdf 23 48 48.9 -1.7
SNR=7.2
AAK Ala-Archa 142.59 55 PKP PKPdf 23 48 48.9 -1.7
comp=Z,14nm,0.8s,baz=247,slow=2.0,SNR=23
AAK SKPbc **SKiKP 23 51 37.8 +0.6**
comp=Z,15nm,0.9s,baz=208,slow=2.3,SNR=14
AAK SKKPbc **SKKPab 23 59 50.9 -2.4**
comp=Z,5.5nm,0.8s,baz=73,slow=2.4,SNR=21
AAK Ala-Archa 142.59 55 PKPdf PKPdf 23 48 48.1 -2.5
AAK SKPbc **SKiKP 23 51 37.4 +0.1**
UCH Uchtor 142.68 55 P PKPdf 23 48 49.1 -2.0
SNR=18
CHMS Chumysh 142.71 54 P PKPdf 23 48 48.5 -2.1
SNR=12
KURBB Kurchatov Arra 142.86 41 PKP PKPdf 23 48 48.8 -1.7
comp=Z,35nm,0.9s,baz=294,slow=3.9,SNR=202
KURBB SKPbc **SKiKP 23 51 37.9 +0.5**
comp=Z,5.7nm,0.7s,baz=297,slow=3.1,SNR=11
KURBB SKKPbc **SKKPab 23 59 49.1 -2.6**
comp=Z,0.2nm,0.2s,baz=114,slow=3.7,SNR=6.7
KURK Kurchatov 142.88 40 PKPdf PKPdf 23 48 48.3 -2.2
KURK Kurchatov 142.88 40 *i* PKiKP PKPdf 23 48 48.7 -1.8
KBK Karagaybulak 142.92 54 P PKPdf 23 48 49.6 -1.5
SNR=24
TKM2 Tokmak 2 143.34 54 P PKPbc 23 48 50.7 +0.2
SNR=59
HYBB Hyderabad (bro 143.55 97 *e*PKPdf PKPbc 23 48 51.9 +0.3
ULHL Ulahol 143.94 55 P PKPdf 23 48 53.3 +0.3
SNR=17
YAK Yakutsk 144.14 350 PKP PKPdf 23 48 52.8 +0.4
comp=Z,86nm,0.8s,baz=53,slow=0.5,SNR=38
YAK Yakutsk 144.14 350 PKPbc 23 48 51.6 -0.4
YAK Yakutsk 144.14 350 *e*PKiKP PKPab 23 48 52.3 -0.1
YAK *e* 23 52 12.2
YAK pmax pmax
comp=Z,207nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=Z,7.0nm,0.6s
KSH Kashi 144.18 59 PKP PKPbc 23 48 53.2 +0.1
KSH PP **PP 23 52 18.6 +2.8**
KSH AMB AMB
comp=Z,280nm,7.0s
ZAA0 Zalesovo Array 144.53 32 PKPdf PKPdf 23 48 53.1 -0.2
ZALV Zalesovo Beam 144.53 32 PKP PKPbc 23 48 53.8 +0.3
comp=Z,72nm,0.9s,baz=298,slow=3.2,SNR=208
ZALV SKPbc **SKiKP 23 51 41.0 +0.4**
comp=Z,6.3nm,0.8s,baz=299,slow=3.8,SNR=5.0
MAKZ Makanchi 146.50 45 PKPdf PKPdf 23 48 56.9 -0.1
MAKZ Makanchi 146.50 45 PKiKP PKPdf 23 48 56.9 -0.1
MK31 Makanchi Array 146.70 45 *i* PKiKP PKPdf 23 48 57.9 +0.6
MK31 *i* 23 49 03.3
MKAR Makanchi Array 146.70 45 PKPdf PKPdf 23 48 58.2 +0.9
comp=Z,41nm,0.8s,baz=310,slow=1.4,SNR=88
MKAR pPKPbc pPKPbc 23 51 09.1 +0.7
comp=Z,6.0nm,0.7s,baz=298,slow=3.9,SNR=11
MKAR SKPbc **SKPbc 23 51 44.8 -0.5**
comp=Z,4.7nm,0.9s,baz=298,slow=2.6,SNR=3.9
MKAR SKKPbc **SKKPab 23 59 31.5 -3.4**
comp=Z,1.0nm,0.8s,baz=105,slow=4.1,SNR=5.3
MKAR Makanchi Array 146.70 45 PKPdf PKPdf 23 48 57.0 -0.3
MKAR SKPbc **SKiKP 23 51 46.3 +0.9**
MKAR Makanchi Array 146.70 45 PKiKP PKPdf 23 48 57.0 -0.3
KAPI Kappang 147.79 186 PKPdf 23 49 00.6 +0.5
KAPI Kappang 147.79 186 PKHKP PKPpre 23 49 00.6
BOD Bodaibo 149.38 3 *e*PKHKP PKPpre 23 49 01.2
BOD pmax pmax
comp=Z,59nm,0.9s
DANN Dangsing 150.93 80 *e*P PKPdf 23 49 05.6 +0.6
comp=Z,53nm,0.9s
WMQ Urumqi 151.41 47 *e*PKPbc PKPdf 23 49 04.1 -0.8
GKN Gorkha 151.67 81 *e*P PKPdf 23 49 06.0 +0.1
KKN Kakani 152.21 82 *e*P PKPdf 23 49 07.0 +0.2
PKIN Phulchoki 152.29 82 *e*P PKPdf 23 49 06.8 -0.2
PKI Pulchoki 152.30 82 *e*P PKPdf 23 49 06.6 -0.5
GUN Gumba 152.75 81 *e*P PKPdf 23 49 07.3 -0.4
MOY Mondy 152.90 22 *e*PKiKP PKiKP 23 49 15.4 +0.6
MOY pmax pmax
comp=Z,28nm,2.0s
JIRN Jiri 153.00 82 *e*P PKPdf 23 49 08.0 -0.1
RAMN Ramite 153.28 84 *e*P PKPdf 23 49 08.5 +0.1
TAPN Taplejung 154.31 83 *e*P PKPdf 23 49 10.0 +0.1
ZAK Zakamensk 154.74 20 *e*PKiKP PKPdf 23 49 11.7 +2.2
ZAK pmax pmax
comp=Z,4.0nm,1.1s
KLR Kul'dur 155.14 336 PKP PKPdf 23 49 10.3 +0.4
comp=Z,5.9nm,1.0s,baz=8.1,slow=4.1,SNR=8.5
KLR PKPab **PKPab 23 49 38.2 0.0**
comp=Z,3.8nm,0.7s,baz=47,slow=6.0,SNR=6.6
KLR PP **PP 23 53 17.5 +0.6**
comp=Z,2.5nm,0.9s,baz=82,slow=4.1,SNR=3.8
HEH HeiHe 155.59 343 *e*P PKPab 23 49 39.9 -0.2
HEH pmax pmax
comp=Z,50nm,0.9s
HEH pmax pmax
comp=Z,370nm,3.6s
SONM Songino Array 157.93 19 PKP PKPdf 23 49 14.1 +0.4
comp=Z,5.8nm,1.1s,baz=223,slow=1.8,SNR=25
SONM PKPab **PKPab 23 49 51.3 +0.8**
comp=Z,6.4nm,0.9s,baz=334,slow=5.2,SNR=17
SONM PP **PP 23 53 31.6 -0.5**
comp=Z,1.1nm,0.8s,baz=345,slow=4.6,SNR=4.3
SONM Songino Array 157.93 19 PKPdf PKPdf 23 49 13.3 -0.4
SONM PKPab **PKPab 23 49 50.8 +0.3**
SONM Songino Array 157.93 19 PKP2 PKPab 23 49 50.8 +0.3
SONM 00 49 13.3
ULN Ulaanbaatar 158.09 18 PKPdf PKPdf 23 49 13.5 -0.4
ULN PKPab **PKPab 23 49 51.6 +0.5**
ULN Ulaanbaatar 158.09 18 PKP2 PKPab 23 49 51.7 +0.5
ULN 00 49 13.5
GOMU GeErMu 159.43 59 PKP PKPdf 23 49 17.0 +0.9
GOMU AMB AMB
comp=Z,97nm,7.5s
MJAR Matsushiro Arr 159.51 302 PKPab PKPab 23 49 58.2 +0.5
comp=Z,4.3nm,0.8s,baz=113,slow=1.5,SNR=5.1
GTA Gaotai 161.46 45 *e*PKP PKPdf 23 49 19.0 +1.1
GTA PKPab **PKPab 23 50 07.2 +0.9**
CMAR Chiang Mai Arr 161.50 115 PKP PKPdf 23 49 18.2 -0.1
comp=Z,0.8nm,0.3s,baz=268,slow=4.0,SNR=6.7
CMAR PP **PP 23 53 52.7 +0.4**
comp=Z,0.8nm,0.4s,baz=268,slow=6.3,SNR=5.2
CHTO Chiang Mai 161.69 114 PKPdf PKPdf 23 49 16.9 -1.7
CHTO PKPab **PKPab 23 50 06.5 -1.1**
CHTO Chiang Mai 161.69 114 PKiKP PKPdf 23 49 16.9 -1.7
CHTO 23 50 06.5
TNCH TengChong 163.57 94 *e*PKP PKPdf 23 49 18.8 -1.7
HHC Hu-ho-hao-te 165.79 16 *e*PKP PKPdf 23 49 23.0 +1.2
LZH Lanzhou 165.99 48 *e*P PKPab 23 50 13.4 -13
LZH *s*P 23 50 26.8
LZH pmax pmax
comp=Z,19nm,1.1s
LZH Lanzhou 165.99 48 *e*PKP PKPdf 23 49 20.3 -1.9
PZH PanZhiHua 166.67 90 PKP PKPdf 23 49 18.0 -4.9
KMI Kunming 167.33 96 ⇑PKP PKPdf 23 49 24.3 +0.7
CD2 Chengdu 168.15 69 PKP PKPdf 23 49 22.7 -1.0
GYA Guiyang 171.05 93 ⇓*i*PKP PKPdf 23 49 26.7 +1.0

IDC 08 23:35:06.1±4.7,6°50S×132°39E,h0km,mb3.8/1,
mbtmp3.6/3,ML3.7/2,Error ellipse: s-maj=310.3km
s-min=31.9km az=75.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.49**	**172**	Pn	Pn	23 38 19.2	+0.3
	0.4nm,0.3s,baz=353,slow=13,SNR=24						
WRA				Sn	Sn	23 40 38.0	-12
	2.5nm,0.3s,baz=351,slow=22,SNR=12						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**17.13**	**175**	P	Pn	23 39 06.8	-0.3
	0.3nm,0.3s,baz=347,slow=9.9,SNR=12						
ASAR				S	Sn	23 42 04.9	-13
	1.5nm,0.6s,baz=355,slow=26,SNR=9.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**69.14**	**326**	P	P	23 46 14.3	0.0

0.5nm,0.5s,baz=116,slow=7.8,SNR=7.6
0.5nm,0.5s

*NNC **08** 23:36:48.7±5.2,44°.13N×85°.08E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=48.3km s-min=29.9km az=94.0*
*SOME **08** 23:36:50.6,40°.95N×83°.02E,h0km*
ISC 08 23:36:47.4±3.1,44°.07N±0°.09×85°.1E±0°.2,h10km,n22, σ2s85/25,9C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.37**	**325**	⇑Pn		**Pn**	**23 37 41.7**	**+1.5**
	baz=146,slow=14,SNR=103							
MK31				⇑Pg		**Pb**	**23 37 46.3**	**-1.0**
	0.8nm,0.2s,baz=149,slow=14,SNR=17							
MK31				⇑Sn		**Sb**	**23 38 24.0**	**-4.4**
	3.0nm,0.3s,baz=145,slow=29							
MAKZ	**Makanchi**	**3.52**	**322**	⇑Pn		**Pn**	**23 37 43.1**	**+0.9**
	3.6nm,1.5s							
MAKZ				⇑Pg		**Pb**	**23 37 49.0**	**-0.8**
	2.0nm,0.6s							
MAKZ				⇑Sn		**Sn**	**23 38 27.3**	**+3.4**
	6.6nm,0.7s							
PDGK	**Podgornoye**	**4.15**	**262**	⇑Pn		**Pn**	**23 37 55.2**	**+4.3**
	1.7nm,0.7s							
PDGK				⇑Lg		Lg	23 38 46.7	
	7.3nm,0.6s							
SHLS	**Shalkode**	**4.21**	**259**	*eP*		**Pn**	**23 37 51.2**	**-0.5**
	1.4nm,0.2s							
SHLS				*eS*		**Sn**	**23 38 35.5**	**-5.5**
	16nm,0.8s							
SHLS	**Shalkode**	**4.21**	**259**	Pg		**Pn**	**23 37 51.2**	**-0.5**
	1.4nm,0.2s							
SHLS				Lg		Lg	23 38 35.5	
	16nm,0.8s							
UZB	**Uzynbulak**	**4.52**	**260**	*eP*		**Pn**	**23 37 59.1**	**+3.0**
	1.7nm,0.4s							
UZB				*eS*		**Sn**	**23 38 48.3**	**-0.5**
	3.5nm,0.5s							
UZB	**Uzynbulak**	**4.52**	**260**	Pg		**Pn**	**23 37 59.1**	**+3.0**
	1.7nm,0.4s							
UZB				Lg		Lg	23 38 48.3	
	3.5nm,0.5s							
CHKK	**Chushkaly**	**5.87**	**271**	*eP*		**Pb**	**23 38 30.3**	**+0.4**
	0.9nm,0.1s							
CHKK				*eS*		**Sb**	**23 39 41.8**	**+1.5**
	6.4nm,0.2s							
CHKK	**Chushkaly**	**5.87**	**271**	Pg		**Pb**	**23 38 30.3**	**+0.4**
	0.9nm,0.1s							
CHKK				Lg		Lg	23 39 41.8	
	6.4nm,0.2s							
MDOK	**Medeo**	**5.93**	**264**	*eP*		Pn	23 38 23.6	+8.2
	1.1nm,0.6s							
MDOK				*eS*		**Sn**	**23 39 30.7**	**+7.2**
	2.9nm,0.9s							
MDOK	**Medeo**	**5.93**	**264**	Pg		Pn	23 38 23.6	+8.2
	1.1nm,0.6s							
MDOK				Lg		Lg	23 39 30.7	
	2.9nm,0.9s							
KTBS	**Karatobe**	**6.11**	**270**	*eP*		**Pb**	**23 38 32.3**	**-1.6**
	0.5nm,0.3s							
KTBS				*eS*		**Sb**	**23 39 45.5**	**-1.5**
	0.5nm,0.7s							
KTBS	**Karatobe**	**6.11**	**270**	Pg		**Pb**	**23 38 32.3**	**-1.6**
	0.5nm,0.3s							
KTBS				Lg		Lg	23 39 45.5	
	0.5nm,0.7s							
KUU	**Kurty**	**6.33**	**271**	*eP*		**Pb**	**23 38 36.8**	**-1.0**
	0.9nm,0.4s							
KUU				*eS*		**Sb**	**23 39 52.8**	**-0.8**
	2.6nm,0.5s							
KUU	**Kurty**	**6.33**	**271**	Pg		**Pb**	**23 38 36.8**	**-1.0**
	0.9nm,0.4s							
KUU				Lg		Lg	23 39 52.8	
	2.6nm,0.5s							
CHMS	**Chumysh**	**7.61**	**266**	P		Pb	23 39 06.4	+7.0
	SNR=6.8							
USP	**Ospenovka**	**7.74**	**268**	P		Pb	23 39 08.4	+6.7
	SNR=6.5							
AAK	**Ala-Archa**	**7.87**	**263**	P		**Pb**	**23 39 01.0**	**-3.0**
	SNR=8.4							
KURBB	**Kurchatov Arra**	**7.93**	**328**	⇑Lg		Lg	23 40 54.2	
	9.1nm,0.8s							
KURK	**Kurchatov**	**7.97**	**329**	⇓Lg		Lg	23 40 57.2	
	2.5nm,0.7s							
EKS2	**Erkin-Say**	**8.38**	**264**	P		Pn	23 38 59.0	+10
	SNR=10							
AML	**Almayashu**	**8.58**	**261**	P		**Pn**	**23 38 51.4**	**-0.6**
	SNR=13							

NNC 08 23:37:23.3±12.0,36°.75N×69°.61E,h0km,mb3.9,mpv3.5, 1C-3D,Error ellipse: s-maj=116.4km s-min=49.5km az=144.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.38**	**6**	P		Pn	23 38 57.5	-1.1
	1.5nm,0.3s,baz=180,slow=12,SNR=19							
KK31				⇓S		Sn	23 40 12.0	-0.1
	6.5nm,0.4s,baz=189,slow=26							
GYA0B	**ALIBECK ARRAY**	**9.22**	**281**	⇑P		Pn	23 39 38.1	+0.5
GYA0B				⇓S		Sn	23 41 25.2	+3.1
AB31	**Akbulak array**	**14.34**	**334**	P		Pn	23 40 46.9	-0.5
	0.7nm,0.3s,baz=158,slow=12,SNR=40							
AB31				⇓S		Sn	23 43 30.0	+2.8
	2.3nm,0.8s,baz=156,slow=25							

*IDC **08** 23:38:24.0±4.3,22°.47S×14°.07W,h0km,mb4.1/5, mbtmp4.1/5,MS3.6/27,Error ellipse: s-maj=172.6km s-min=34.9km az=147.0*
ISC 08 23:38:23.5±0.9,23°.0S±0°.2×13°.8W±0°.3,h10km,n32, σ1s01/7,mb4.0/5,MS3.6/27,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**27.34**	**305**	LR		LR	23 52 04.1	
	comp=Z,107nm,20.2s,baz=310,slow=31							
TSUM	**Tsumeb**	**29.44**	**89**	LR		LR	23 54 17.5	
	comp=Z,127nm,19.7s,baz=310,slow=32							
BDFB	**Brasilia**	**33.10**	**277**	LR		LR	23 56 18.3	
	comp=Z,194nm,21.5s,baz=141,slow=33							
TORD	**Torodi Ar. Bea**	**38.98**	**24**	P		**P**	**23 45 48.9**	**-1.1**
	6.6nm,0.7s,baz=200,slow=8.5,SNR=31							
TORD				LR		LR	23 58 45.0	
	comp=Z,76nm,21.4s,baz=228,slow=32							
	6.6nm,0.7s							
CPUP	**Villa Florida**	**39.61**	**256**	LR		LR	23 59 26.7	
	comp=Z,100nm,19.1s,baz=101,slow=32							
LSZ	**Lusaka**	**40.25**	**87**	LR		LR	00 01 08.0	
	comp=Z,164nm,19.2s,baz=234,slow=34							
SIV	**San Ignacio**	**45.00**	**270**	LR		LR	00 03 34.3	
	comp=Z,113nm,20.2s,baz=107,slow=34							
MDP	**Montagnes des**	**47.15**	**301**	LR		LR	00 05 11.4	
	comp=Z,29nm,20.2s,baz=92,slow=34							
VNA2	**Neumayer--Watz**	**48.09**	**177**	P		**P**	**23 47 02.8**	**-0.2**
	baz=343,slow=9.4							
VNA3	**Neumayer Olymp**	**48.32**	**178**	P		**P**	**23 47 04.5**	**-0.2**
MBAR	**Mbarara**	**48.59**	**69**	LR		LR	00 03 52.6	
	comp=Z,45nm,22.0s,baz=231,slow=31							
SNAA	**Sanae**	**49.10**	**175**	LR		LR	00 03 04.3	
	comp=Z,29nm,18.1s,baz=3.5,slow=30							
PLCA	**Paso Flores**	**50.51**	**235**	LR		LR	00 05 21.8	
	comp=Z,51nm,21.6s,baz=69,slow=32							
LVC	**Limon Verde**	**50.59**	**259**	LR		LR	00 09 45.4	
	comp=Z,36nm,18.3s,baz=128,slow=37							
LPAZ	**La Paz**	**51.42**	**267**	P		**P**	**23 47 29.8**	**0.0**
	1.0nm,0.8s,baz=90,slow=9.1,SNR=2.7							
LPAZ				LR		LR	00 08 49.3	
	comp=Z,46nm,18.6s,baz=112,slow=36							
	1.0nm,0.8s							
PMSA	**Palmer Station**	**52.90**	**204**	LR		LR	00 06 43.2	
	comp=Z,73nm,18.0s,baz=109,slow=32							
KMBO	**Kilima Mbogo**	**54.03**	**74**	LR		LR	00 10 36.0	
	comp=Z,56nm,18.2s,baz=91,slow=36							
NNA	**Nana**	**60.78**	**269**	LR		LR	00 14 05.5	
	comp=Z,35nm,20.0s,baz=100,slow=35							
ATAH	**Atahualpa**	**63.93**	**273**	LR		LR	00 16 12.7	
	comp=Z,166nm,19.2s,baz=96,slow=36							
SDV	**Santo Domingo**	**64.04**	**293**	LR		LR	00 15 08.6	
	comp=Z,43nm,19.3s,baz=120,slow=35							
ATD	**Arta Tunnel**	**65.16**	**64**	LR		LR	00 16 27.0	
	comp=Z,46nm,18.4s,baz=5.0,slow=35							
ROSC	**El Rosal**	**65.26**	**287**	LR		LR	00 16 44.5	
	comp=Z,80nm,18.5s,baz=89,slow=36							
IDI	**Anoyia**	**68.57**	**33**	LR		LR	00 17 33.1	
	comp=Z,24nm,21.3s,baz=86,slow=34							
EIL	**Elat**	**70.25**	**44**	LR		LR	00 17 04.8	
	comp=Z,31nm,19.6s,baz=249,slow=33							
DAVOX	**Davos/Dischmat**	**72.66**	**17**	P		**P**	**23 49 51.9**	**+0.5**
	1.3nm,0.8s,baz=198,slow=11,SNR=2.0							
	1.3nm,0.8s							
BRTR	**Keskin Array B**	**76.47**	**36**	P		**P**	**23 50 15.2**	**+1.5**
	1.6nm,0.8s,baz=205,slow=6.4,SNR=4.1							
	1.6nm,0.9s							
AKASG	**Malin Array Be**	**82.59**	**26**	P		**P**	**23 50 45.9**	**-0.6**
	0.4nm,0.3s,baz=223,slow=4.7,SNR=4.6							
	0.4nm,0.3s							
GNI	**Garni**	**83.13**	**41**	LR		LR	00 26 54.2	
	comp=Z,18nm,18.9s,baz=324,slow=35							
WSAR	**Wadi Sarin**	**84.02**	**62**	LR		LR	00 29 10.3	
	comp=Z,21nm,18.1s,baz=232,slow=36							
CMIG	**Matias Romero**	**88.72**	**289**	LR		LR	00 31 00.4	
	comp=Z,46nm,20.3s,baz=264,slow=36							
BELG	**Belogornoye**	**92.09**	**33**	LR		LR	00 36 00.3	
	comp=Z,26nm,18.1s,baz=347,slow=38							
PALK	**Pallekele**	**96.88**	**85**	LR		LR	00 29 46.6	
	comp=Z,52nm,19.9s,baz=337,slow=32							

*NEIC **09** 00:03:12.5±1.6,23°.56S±0°.07×179°.6W±0°.2,h531km±9km, mb4.4/29,Error ellipse: s-maj=21.9km s-min=7.2km az=67.0*
*IDC **09** 00:03:13.4±1.5,23°.52S×179°.78W,h532km±16km, mb3.6/10,mbtmp4.5/12,Error ellipse: s-maj=19.5km s-min=16.8km az=149.0*
ISC 09 00:03:13.9±0.6,23°.45S±0°.09×179°.7W±0°.1,h550km,n50, σ0s95/51,mb4.4/25,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.06**	**340**	P		**P**	**00 04 53.7**	**+0.5**
	18nm,0.5s,baz=237,slow=22,SNR=19							
MSVF	**Nonsavu**	**6.06**	**340**	P		**P**	**00 04 53.5**	**+0.3**
AFI	**Afiamalu**	**12.11**	**40**	P		**P**	**00 05 52.5**	**-1.3**
	21nm,0.5s,baz=68,slow=11,SNR=4.6							
AFI	**Afiamalu**	**12.11**	**40**	P		**P**	**00 05 52.3**	**-1.5**
NNZ	**Nelson**	**18.64**	**196**	P		**P**	**00 06 56.5**	**-0.8**
KHZ	**Kahutara**	**19.73**	**195**	P		**P**	**00 07 05.4**	**-1.8**
OXZ	**Oxford**	**20.96**	**197**	P		**P**	**00 07 18.1**	**-0.3**
RPZ	**Rata Peaks**	**21.59**	**198**	P		**P**	**00 07 24.9**	**+0.8**
	21nm,1.1s,baz=34,slow=10,SNR=2.1							
	21nm,1.1s							
ARMA	**Armidale**	**26.41**	**249**	P		**P**	**00 08 07.7**	**+0.5**
ARMA				IAmb		IAmb	00 08 19.1	
	comp=Z,26nm,1.4s							
EIDS	**Eidsvold**	**26.62**	**260**	P		**P**	**00 08 08.9**	**-0.1**
EIDS				IAmb		IAmb	00 08 09.8	
	comp=Z,5.5nm,0.8s							
CAN	**Canberra**	**29.58**	**239**	P		**P**	**00 08 34.6**	**-0.1**
CAN				IAmb		IAmb	00 08 38.0	
	comp=Z,28nm,1.5s							
CTAO	**Charters Tower**	**31.72**	**269**	P		**P**	**00 08 53.8**	**+0.5**
TOO	**Toolangi**	**32.90**	**237**	P		**P**	**00 09 03.2**	**+0.2**
TOO				IAmb		IAmb	00 09 22.8	
	comp=Z,5.4nm,1.0s							
PMG	**Port Moresby**	**34.58**	**288**	P		**P**	**00 09 17.7**	**+0.2**
	comp=Z,19nm,0.5s,baz=84,slow=4.7,SNR=8.5							
	comp=Z,19nm,0.5s							
STKA	**Stephens Creek**	**35.12**	**248**	P		**P**	**00 09 21.9**	**+0.2**
	comp=Z,3.0nm,0.4s,baz=96,slow=12,SNR=12							
	comp=Z,3.0nm,0.4s							
STKA	**Stephens Creek**	**35.12**	**248**	P		**P**	**00 09 22.0**	**+0.3**
COEN	**Coen**	**36.29**	**278**	P		**P**	**00 09 31.7**	**+0.1**
COEN				IAmb		IAmb	00 09 53.7	
	comp=Z,7.8nm,1.1s							
BBOO	**Buckleboo**	**39.85**	**246**	P		**P**	**00 09 59.6**	**-0.7**
BBOO				IAmb		IAmb	00 10 00.8	
	comp=Z,20nm,1.3s							
AS31	**Alice Springs**	**42.35**	**260**	P		**P**	**00 10 20.0**	**-0.3**
AS31				IAmb		IAmb	00 10 21.1	
	comp=Z,3.4nm,0.6s							
ASAR	**Alice Springs**	**42.35**	**260**	P		**P**	**00 10 20.1**	**-0.3**
	comp=Z,6.2nm,0.4s,baz=96,slow=7.3,SNR=90							
ASAR				ScP		**ScP**	**00 15 02.0**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=128,slow=3.1,SNR=4.1							
	comp=Z,6.2nm,0.4s							
ASAR	**Alice Springs**	**42.35**	**260**	P		**P**	**00 10 19.7**	**-0.6**
WR0	**Warramunga Arr**	**42.50**	**266**	P		**P**	**00 10 20.6**	**-0.8**
WR0				IAmb		IAmb	00 10 21.0	
	comp=Z,6.6nm,0.5s							
WB2	**Warramunga Arr**	**42.67**	**266**	P		**P**	**00 10 22.2**	**-0.6**
WB2				IAmb		IAmb	00 10 22.8	
	comp=Z,13nm,0.6s							
WB0	**Warramunga Arr**	**42.67**	**266**	P		**P**	**00 10 22.0**	**-0.8**
WRAB	**Tennant Creek**	**42.68**	**266**	P		**P**	**00 10 22.3**	**-0.6**
WRA	**Warramunga Arr**	**42.68**	**266**	P		**P**	**00 10 22.2**	**-0.7**
	comp=Z,12nm,0.5s,baz=92,slow=8.4,SNR=323							
WRA				ScP		**ScP**	**00 15 03.2**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=100,slow=3.7,SNR=5.3							
	comp=Z,12nm,0.5s							
WRA	**Warramunga Arr**	**42.68**	**266**	P		**P**	**00 10 22.3**	**-0.7**
FORT	**Forrest**	**46.70**	**249**	P		**P**	**00 10 52.7**	**-0.9**
MTN	**Manton Dam**	**47.67**	**274**	P		**P**	**00 11 00.4**	**-0.7**
MTN				IAmb		IAmb	00 11 04.4	
	comp=Z,14nm,1.1s							
VNDA	**Vanda**	**54.85**	**185**	P		**P**	**00 11 52.5**	**+0.5**
PSA00	**Pilbara Seismi**	**55.49**	**259**	P		**P**	**00 11 56.8**	**-0.7**
PSA00				IAmb		IAmb	00 12 30.2	
	comp=Z,32nm,1.4s							
NWAO	**Narrogin (SRO)**	**55.65**	**245**	P		**P**	**00 11 57.8**	**-0.5**
NWAO				IAmb		IAmb	00 11 58.4	
	comp=Z,17nm,1.2s							
MBWA	**Marble Bar**	**55.69**	**260**	P		**P**	**00 11 58.2**	**-0.6**
MBWA				IAmb		IAmb	00 11 58.8	
	comp=Z,18nm,0.8s							
MORW	**Morawa**	**57.26**	**250**	P		**P**	**00 12 09.1**	**-0.4**
MORW				IAmb		IAmb	00 12 09.7	
	comp=Z,12nm,0.7s							
CASY	**Casey**	**60.62**	**206**	P		**P**	**00 12 30.6**	**-0.7**
TOLI2	**Tolitoli**	**62.70**	**284**	P		**P**	**00 12 46.6**	**+0.8**
TOLI2				IAmb		IAmb	00 12 47.6	
	comp=Z,5.6nm,0.5s							
QSPA	**South Pole Qui**	**66.63**	**180**	P		**P**	**00 13 10.1**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=56,slow=0.8,SNR=7.6							
	comp=Z,3.2nm,0.6s							
QSPA	**South Pole Qui**	**66.63**	**180**	P		**P**	**00 13 10.7**	**+0.8**
BELA	**Belgrano 2**	**76.85**	**173**	P		**P**	**00 14 08.5**	**-0.5**
MAW	**Mawson**	**78.25**	**200**	P		**P**	**00 14 17.2**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=97,slow=8.1,SNR=2.5							
	comp=Z,1.2nm,0.4s							
MAW	**Mawson**	**78.25**	**200**	P		**P**	**00 14 17.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**89.60**	**290**	P		**P**	**00 15 15.6**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=126,slow=3.7,SNR=7.9							
	comp=Z,0.6nm,0.3s							
TXAR	**Lajitas Array**	**89.99**	**58**	P		**P**	**00 15 17.1**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=202,slow=6.5,SNR=5.4							
	comp=Z,0.7nm,0.7s							
PDAR	**Pinedale Array**	**92.20**	**44**	P		**P**	**00 15 25.7**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=174,slow=1.5,SNR=3.8							
	comp=Z,0.3nm,0.6s							
KKAR	**Karatay Array**	**119.79**	**307**	PKPdf		**PKiKP**	**00 21 01.2**	**-0.7**
AKASG	**Malin Array Be**	**144.72**	**328**	PKP		PKPbc	00 21 47.2	-1.2
	comp=Z,0.6nm,0.4s,baz=48,slow=2.9,SNR=4.4							
BRTR	**Keskin Array B**	**147.50**	**308**	PKPbc		**PKPab**	**00 21 59.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=132,slow=2.1,SNR=2.2							
BRTR	**Keskin Array B**	**147.50**	**308**	PKPbc		**PKiKP**	**00 21 56.9**	**-1.4**
BURAR	**Bucovina Array**	**148.73**	**327**	PKPbc		**PKiKP**	**00 22 00.7**	**+0.1**
CSS	**Mathiatis**	**149.08**	**299**	PKPbc		**PKPbc**	**00 21 59.5**	**-1.2**

*NCEDC **09** 00:55:46.9±2.3,36°.46N±0°.01×121°.01W±0°.02,h6km±5km, Mwr3.6/7,ML3.3/87(NEIC),Error ellipse: s-maj=2.3km s-min=1.8km az=225.0*
*NEIC **09** 00:55:46.9,36°.47N×121°.01W,h8km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=0.30; Mθθ=1.18; Mφφ 1.48; Mrθ=-1.50; Mθφ0.58; Mφr2.30; Fault plane solution: M0 3.12000×10^14^ NP1:φs53.39000°, δ27.82000°,λ-6.41000°. NP2:φs149.07000°,δ87.01000°, λ-117.67000°. Principal axes: T 3.0917, Plg36.0000°, Azm263.0000°; N 0.0505, Plg28.0000°, Azm151.0000°; P -3.1422, Plg41.0000°, Azm33.0000°;*
*NEIC **09** 00:55:46.9±1.2,36°.43N±0°.02×121°.06W±0°.02,h17km±1km Error ellipse: s-maj=3.3km s-min=2.1km az=223.0*
*ANF **09** 00:55:47.5±0.7,36°.34N×120°.87W,h0km±2km,ML3.4/21, Error ellipse: s-maj=5.2km s-min=3.0km az=114.0*
ISC 09 00:55:46.5±0.9,36°.45N±0°.02×121°.03W±0°.02,h12km±6km, n236,σ0s67/249,Central California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.03**	**161**			**Pg**	**00 55 48.8**	**0.0**
BBNM	**San Benito**	**0.07**	**327**			Pg	**00 55 49.4**	**+0.2**
BBGB	**Big Mountain B**	**0.13**	**356**			Pg	**00 55 50.2**	**+0.3**
BVL	**Bear Valley**	**0.18**	**314**			Pg	**00 55 51.0**	**+0.4**
BMSM	**Mercy Hot Spri**	**0.28**	**43**			Pb	**00 55 53.3**	**-0.2**
BJOM	**Mount Johnson**	**0.29**	**308**			Pg	**00 55 52.6**	**+0.1**
BLRM	**Lewis Ranch**	**0.29**	**318**			Pg	**00 55 53.0**	**+0.6**
PMPB	**Monarch Peak**	**0.30**	**142**			Pb	**00 55 53.4**	**-0.4**
BJCM	**Johnson Can.**	**0.31**	**288**			Pg	**00 55 53.1**	**+0.3**
BSMM	**Soledad Missio**	**0.33**	**258**			Pg	**00 55 53.8**	**+0.6**
SCZ	**Santa Cruz**	**0.33**	**296**			Pg	**00 55 53.5**	**+0.2**
SCZ						**Sg**	**00 55 58.5**	**+0.7**
PCCM	**Crazy Canyon**	**0.38**	**197**			Pb	**00 55 54.9**	**-0.2**
BSLM	**Silva Ranch**	**0.41**	**322**			Pb	**00 55 56.1**	**+0.4**
PJUM	**Juniper Ridge**	**0.42**	**122**			Pb	**00 55 55.6**	**-0.2**
HAST	**Hastings Reser**	**0.42**	**262**			Pg	**00 55 55.4**	**+0.4**
HAST						**Sg**	**00 56 01.3**	**+0.7**
SAO	**San Andreas Ge**	**0.46**	**313**	Pg		Pg	**00 55 55.7**	**+0.1**
FRP	**Fremont Peak**	**0.48**	**309**			Pg	**00 55 55.9**	**0.0**
HLTM	**Lone Tree Road**	**0.49**	**333**			Pn	**00 55 58.3**	**-1.0**
BPCNC	**Pine Canyon**	**0.50**	**284**			Pg	**00 55 56.8**	**+0.5**
PSMM	**Smith Mountain**	**0.52**	**137**			Pb	**00 55 57.6**	**+0.1**
HSFM	**Saint Francis**	**0.52**	**314**			Pg	**00 55 57.2**	**+0.5**
PDRM	**Domengine Ranc**	**0.55**	**102**			Pb	**00 55 58.2**	**+0.2**
HJGM	**San Juan Grade**	**0.56**	**308**			Pg	**00 55 57.5**	**+0.1**
BAPM	**Anderson Peak**	**0.57**	**241**			Pb	**00 55 58.2**	**-0.2**
HBTM	**San Juan Bauti**	**0.58**	**314**			Pg	**00 55 58.1**	**+0.3**
PARM	**Anticline Ridg**	**0.59**	**110**			Pb	**00 55 59.1**	**+0.3**
PACP	**Pacheco Peak**	**0.59**	**340**			Pb	**00 55 58.8**	**0.0**
OCCR	**O'Connell Ranc**	**0.60**	**321**			Pg	**00 55 58.3**	**0.0**
HFEM	**San Felipe**	**0.61**	**331**			Pb	**00 55 59.0**	**-0.1**
HTUM	**Tustin Road**	**0.62**	**307**			Pg	**00 55 58.5**	**0.0**
ANZ	**Anzar Road**	**0.62**	**314**			Pg	**00 55 58.8**	**+0.1**
PHSB	**Hesperia Broad**	**0.63**	**182**			Pb	**00 55 59.1**	**-0.3**
BPOM	**Post Ranch**	**0.64**	**250**			Pb	**00 55 59.3**	**-0.2**
HPCM	**Pacheco Lake**	**0.64**	**342**			Pb	**00 55 59.6**	**0.0**
SLD	**San Luis Dam**	**0.64**	**346**			Pg	**00 55 59.5**	**+0.5**
PKD	**Bear Valley Ra**	**0.64**	**142**			Pg	**00 55 59.1**	**+0.1**
PWMM	**Westland Maint**	**0.66**	**91**			Pb	**00 56 00.3**	**+0.4**
PVCM	**Vineyard Canyo**	**0.66**	**143**			Pg	**00 55 59.7**	**+0.3**
PSTM	**Stockdale Moun**	**0.67**	**141**			Pg	**00 55 59.7**	**+0.1**
PPO	**Portuguese Can**	**0.67**	**150**			Pb	**00 56 00.3**	**+0.1**
PANM	**San Antonio Re**	**0.68**	**172**			Pb	**00 56 00.2**	**-0.1**
CDC	**Canada Road**	**0.68**	**328**			Pb	**00 56 00.7**	**+0.4**
GHS	**Gilroy Hot Spr**	**0.72**	**333**			Pb	**00 56 01.1**	**0.0**
SCKWR	**San Luis Creek**	**0.73**	**357**			Pn	**00 56 02.2**	**-0.4**
PWKM	**Work Ranch**	**0.76**	**146**			Pb	**00 56 01.8**	**+0.1**
PHFM	**Heflinger Ranc**	**0.76**	**138**			Pb	**00 56 01.9**	**+0.2**
CTM	**Castle Mountai**	**0.76**	**133**			Pb	**00 56 02.2**	**+0.5**
PHCM	**Hearst Castle**	**0.77**	**187**			Pb	**00 56 01.9**	**0.0**
JELB	**Ellicott, Sant**	**0.80**	**307**			Pg	**00 56 02.0**	**+0.1**
PHAM	**Harlan Ranch**	**0.80**	**140**			Pb	**00 56 02.2**	**-0.1**
PCMM	**Cholame Hills**	**0.82**	**142**			Pb	**00 56 02.8**	**+0.1**
RAMR	**Ramage Ranch**	**0.82**	**171**			Pb	**00 56 02.8**	**0.0**
GHC	**Gold Hill**	**0.83**	**138**			Pb	**00 56 02.8**	**0.0**
PSRM	**Scobie Ranch**	**0.85**	**134**			Pb	**00 56 03.2**	**0.0**
CADM	**Anderson Res.**	**0.86**	**326**			Pg	**00 56 03.3**	**+0.2**
PKLM	**Kerr Lake**	**0.88**	**140**			Pb	**00 56 03.8**	**+0.2**
PSNM	**Stone Corral**	**0.89**	**138**			Pb	**00 56 03.8**	**0.0**
JTGM	**Trout Gulch Ro**	**0.89**	**310**			Pg	**00 56 04.4**	**+0.6**
JLAB	**Laurel Hill**	**0.90**	**321**			Pb	**00 56 03.9**	**-0.2**
TCHL	**Shandon**	**0.92**	**146**			Pg	**00 56 04.6**	**+0.4**
BLDC	**Black Mountain**	**0.92**	**174**			Pg	**00 56 04.7**	**+0.4**
BLDC	**Black Mountain**	**0.92**	**174**			Pg	**00 56 04.6**	**+0.4**
TCAS	**Cass Winery, P**	**0.92**	**155**			Pg	**00 56 04.5**	**+0.2**
PMRM	**Maxey Ranch**	**0.93**	**136**			Pg	**00 56 04.2**	**+0.3**
PCBM	**Cambria**	**0.93**	**182**			Pg	**00 56 04.8**	**+0.3**
CMPM	**Mikes Peak**	**0.93**	**346**			Pn	**00 56 05.2**	**-0.3**
JRGM	**Rodeo Gulch Ro**	**0.95**	**308**			Pb	**00 56 04.3**	**-0.6**
CCOB	**Coe Ranch Numb**	**0.96**	**328**			Pg	**00 56 05.4**	**+0.4**
AMC	**Almaden**	**0.96**	**317**			Pb	**00 56 04.5**	**-0.6**
THIS	**South End of C**	**0.97**	**138**			Pg	**00 56 05.5**	**+0.2**
ARN	**Arnold Ranch**	**0

	comp=N,377nm,0.6s						
BCW				IAML		00 57 11.6	
	comp=E,363nm,0.8s						
MDYM	**Dry Creek**	**2.01**	**53**		**Pb**	**00 56 22.4**	**-0.8**
MDCM	**Deadman Creek**	**2.03**	**51**		**Pb**	**00 56 22.4**	**-1.0**
MMLB	**Mammoth Lakes**	**2.04**	**53**		**Pb**	**00 56 23.4**	**-0.2**
MLCM	**Laurel Creek C**	**2.05**	**55**		**Pb**	**00 56 22.9**	**-1.0**
MEMM	**East Mammoth H**	**2.06**	**53**		**Pb**	**00 56 23.2**	**-0.9**
MGPM	**Gravel Pit**	**2.07**	**55**		**Pb**	**00 56 23.2**	**-0.8**
MCBM	**Casa Benchmark**	**2.08**	**54**		**Pb**	**00 56 23.5**	**-0.8**
MCSM	**Casa Diablo Ho**	**2.08**	**54**		**Pb**	**00 56 23.6**	**-0.7**
SCHCA	**Scheelite**	**2.08**	**64**		**Pn**	**00 56 22.9**	**+1.4**
WOFM	**Oak Flat**	**2.09**	**115**		**Pn**	**00 56 21.2**	**-0.2**
MCVM	**Convict Lake**	**2.10**	**57**		**Pb**	**00 56 23.6**	**-1.0**
SYP	**Santa Ynez Pea**	**2.10**	**156**		**Pn**	**00 56 21.4**	**-0.2**
MLAC	**Mammoth, Mammo**	**2.11**	**56**		**Pb**	**00 56 24.7**	**-0.2**
MLAC	**Mammoth, Mammo**	**2.11**	**56**	P	**Pb**	**00 56 23.7**	**-1.2**
	baz=237						
MLAC				S	**Sb**	**00 56 51.7**	**+0.6**
	baz=237						
MDRNC	**Doe Ridge**	**2.12**	**55**		**Pb**	**00 56 24.4**	**-0.5**
RCCR	**Rock Creek Can**	**2.12**	**60**		**Pb**	**00 56 23.8**	**-1.2**
WASM	**Alta Sierra Ca**	**2.13**	**109**		**Pn**	**00 56 22.1**	**+0.1**
MTUM	**Tungsten Hills**	**2.17**	**65**		**Pb**	**00 56 24.2**	**-1.6**
LUL	**Lundy Lake**	**2.17**	**42**		**Pb**	**00 56 24.7**	**-1.2**
NBRB	**Beebe Ranch Br**	**2.17**	**327**		**Pn**	**00 56 22.6**	**+0.1**
CVS	**Carmenet Viney**	**2.21**	**329**		**Pn**	**00 56 22.6**	**-0.3**
NAPC	**Atlas Peak**	**2.21**	**334**		**Pn**	**00 56 23.0**	**0.0**
ISA	**Isabella, Lake**	**2.21**	**110**	Pn	**Pn**	**00 56 23.1**	**0.0**
ISA				IAML		00 56 52.7	
	comp=N,183nm,0.4s						
ISA				IAML		00 56 56.5	
	comp=E,156nm,0.6s						
ISA	**Isabella, Lake**	**2.21**	**110**	P	**Pn**	**00 56 23.1**	**0.0**
	baz=292,SNR=129						
ISA				S	**Sn**	**00 56 50.7**	**+0.2**
	baz=292						
WLHM	**Little Horse**	**2.21**	**97**		**Pn**	**00 56 24.1**	**+0.8**
ARVC	**Arvin**	**2.22**	**126**		**Pn**	**00 56 23.6**	**+0.4**
ARVC	**Arvin**	**2.22**	**126**	P	**Pn**	**00 56 23.2**	**0.0**
	baz=308						
ARVC				Sb	**Sb**	**00 56 53.3**	**-0.8**
	baz=308						
ORC	**Owens River**	**2.24**	**57**		**Pb**	**00 56 26.1**	**-0.9**
MCCM	**Marconi Confer**	**2.24**	**319**	Pn	**Pn**	**00 56 22.6**	**-0.7**
MCCM				IAML		00 57 07.3	
	comp=N,133nm,1.0s						
TEJ	**El Tejon**	**2.26**	**122**		**Pn**	**00 56 23.1**	**-0.5**
TIN	**Tinemaha, Big**	**2.33**	**74**	P	**Pn**	**00 56 26.1**	**+1.4**
	baz=256						
TIN				Sb	**Sb**	**00 56 57.3**	**+0.2**
	baz=256						
NTYM	**Taylor**	**2.33**	**327**		**Pn**	**00 56 24.4**	**-0.2**
BENR	**Benton**	**2.33**	**57**		**Pb**	**00 56 27.1**	**-1.5**
TJR	**Tejon Ranch**	**2.34**	**127**		**Pn**	**00 56 24.4**	**-0.3**
MCDM	**Chidago Canyon**	**2.34**	**61**		**Pb**	**00 56 27.9**	**-0.8**
MRCM	**Red Rock Canyo**	**2.36**	**58**		**Pb**	**00 56 28.1**	**-0.9**
CWC	**Cottonwood Cre**	**2.38**	**89**		**Pn**	**00 56 26.9**	**+1.5**
CWC	**Cottonwood Cre**	**2.38**	**89**	P	**Pn**	**00 56 26.4**	**+1.0**
	baz=271						
CWC				Sb	**Sb**	**00 56 58.7**	**0.0**
	baz=271						
WORM	**Onyx Ranch**	**2.38**	**108**		**Pn**	**00 56 26.5**	**+1.2**
NBPM	**Berryessa Peak**	**2.40**	**338**		**Pn**	**00 56 26.1**	**+0.6**
WAKR	**Walker**	**2.41**	**31**	Pn	**Pn**	**00 56 27.2**	**+1.3**
WAKR				IAML		00 57 04.8	
	comp=N,218nm,0.8s						
MLNR	**Milner Canyon**	**2.43**	**61**		**Pb**	**00 56 28.8**	**-1.5**
AFDM	**Forest Hills D**	**2.49**	**1**	Pn	**Pn**	**00 56 28.3**	**+1.4**
WNMM	**Nine Mile Cany**	**2.60**	**103**		**Pn**	**00 56 30.0**	**+1.7**
CGO	**Cerro Gordo**	**2.60**	**87**		**Pb**	**00 56 31.2**	**-2.1**
NMTM	**Middletown**	**2.60**	**335**		**Pn**	**00 56 29.1**	**+0.7**
EMB	**Emerald Bay**	**2.62**	**16**	Pn	**Pn**	**00 56 29.2**	**+0.4**
EMB				IAML		00 57 18.9	
	comp=N,204nm,0.6s						
EMB				IAML		00 57 26.4	
	comp=E,137nm,0.7s						
GCRM	**Castle Rock Sp**	**2.68**	**331**		**Pn**	**00 56 27.6**	**-1.8**
GCRM					**Pb**	**00 56 33.1**	**-1.2**
GBGM	**Boggs Mountain**	**2.70**	**331**		**Pn**	**00 56 28.5**	**-1.2**
LHV	**Little Huntoon**	**2.70**	**47**	Pn	**Pn**	**00 56 30.2**	**+0.6**
LHV				IAML		00 57 15.5	
	comp=N,182nm,0.9s						
LHV				IAML		00 57 18.2	
	comp=E,173nm,0.8s						
GDXM	**Geysers**	**2.74**	**330**	Pn	**Pn**	**00 56 29.1**	**-1.2**
CCAC	**Calif City Air**	**2.77**	**117**	Pn	**Pn**	**00 56 31.8**	**+1.1**
CCAC				IAML		00 57 25.4	
	comp=E,165nm,1.2s						
GACM	**Adobe Creek**	**2.82**	**330**		**Pn**	**00 56 31.6**	**+0.2**
LCH	**Last Change Ra**	**2.83**	**73**	Pn	**Pn**	**00 56 32.5**	**+0.9**
LCH				IAML		00 57 19.1	
	comp=N,73nm,0.9s						
LCH				IAML		00 57 25.4	
	comp=E,77nm,0.4s						
PNTR	**Pine Nut**	**2.87**	**23**	Pn	**Pn**	**00 56 31.9**	**-0.3**
PNTR				IAML		00 57 24.5	
	comp=E,120nm,1.0s						
LRMC	**Laurel Mtn Rad**	**2.88**	**109**	P	**Pn**	**00 56 32.8**	**+0.5**
	baz=291,SNR=24						
LRMC				Sb	**Sb**	**00 57 13.0**	**-0.2**
	baz=291						
MPMC	**Manual Prospec**	**2.89**	**97**	P	**Pn**	**00 56 33.3**	**+0.8**
	baz=279,SNR=66						
YERR	**Yerington**	**2.90**	**29**	Pn	**Pn**	**00 56 33.4**	**+0.8**
YERR				IAML		00 57 28.8	
	comp=N,106nm,0.8s						
EDW2	**Edwards Air Fo**	**2.93**	**121**	P	**Pn**	**00 56 33.3**	**+0.5**
	baz=304,SNR=28						
EDW2				S	**Sn**	**00 57 09.6**	**+1.6**
	baz=304						
NVAR	**Mina Array Bea**	**2.93**	**47**	Pn	**Pn**	**00 56 33.6**	**+0.5**
MPK	**Martis Peak**	**2.95**	**15**	Pn	**Pn**	**00 56 33.8**	**+0.4**
MPK				IAML		00 57 26.5	
	comp=E,140nm,1.2s						
RYN	**Ryan**	**2.95**	**42**	Pn	**Pn**	**00 56 34.0**	**+0.8**
RYN				IAML		00 57 19.1	
	comp=N,87nm,0.4s						
RYN				IAML		00 57 20.3	
	comp=E,99nm,0.4s						
GRAC	**Grapevine Rang**	**2.99**	**78**	Pn	**Pn**	**00 56 35.4**	**+1.6**
GRAC				IAML		00 57 30.6	
	comp=N,122nm,0.6s						
GRAC	**Grapevine Rang**	**2.99**	**78**	Pb	**Pb**	**00 56 39.3**	**-0.4**
	baz=261						
NV11	**Mina Array Sit**	**3.02**	**48**	Pn	**Pn**	**00 56 35.4**	**+1.1**
NV11				IAML		00 57 30.9	
	comp=E,50nm,0.9s						
VCNR	**Virginia City**	**3.04**	**21**	Pn	**Pn**	**00 56 34.4**	**-0.2**
VCNR				IAML		00 57 27.5	
	comp=E,92nm,0.7s						
VCNR				IAML		00 57 30.7	
	comp=N,84nm,0.9s						
ORV	**Oroville**	**3.12**	**353**	Pn	**Pn**	**00 56 36.4**	**+1.0**
GMN	**Gold Mountain**	**3.14**	**73**	Pn	**Pn**	**00 56 37.1**	**+1.1**
GMN				IAML		00 57 30.4	
	comp=N,60nm,0.7s						
PASC	**Pasadena Art C**	**3.25**	**134**	Pn	**Pn**	**00 56 36.4**	**-0.9**
QSM	**Queen of Sheba**	**3.40**	**97**	Pn	**Pn**	**00 56 40.3**	**+1.0**
QSM				IAML		00 57 38.5	
	comp=N,41nm,0.9s						
QSM				IAML		00 57 41.7	
	comp=E,37nm,0.8s						
TPH	**Tonopah**	**3.44**	**61**	Pn	**Pn**	**00 56 41.0**	**+0.9**
BEKR	**Beckworth**	**3.45**	**9**	Pn	**Pn**	**00 56 42.1**	**+2.0**
BEKR				IAML		00 57 37.8	
	comp=E,72nm,0.6s						
BEKR				IAML		00 57 42.0	
	comp=N,39nm,1.1s						
KVN	**Kaiserville**	**3.48**	**41**	Pn	**Pn**	**00 56 40.9**	**+0.3**
KVN				IAML		00 57 40.1	
	comp=E,38nm,0.9s						
KVN				IAML		00 57 41.6	
	comp=N,38nm,1.1s						
PAHR	**Pah Rah Range**	**3.50**	**21**	Pn	**Pn**	**00 56 41.4**	**+0.6**
PAHR				IAML		00 57 44.8	
	comp=E,42nm,1.2s						
BFSC	**Mount Baldy Ra**	**3.53**	**128**	P	**Pn**	**00 56 41.6**	**+0.4**
	baz=310,SNR=19						
GWY	**Greenwater Val**	**3.53**	**93**	Pn	**Pn**	**00 56 40.3**	**-0.9**
GWY				IAML		00 57 42.1	
	comp=E,40nm,0.6s						
GWY				IAML		00 57 59.7	
	comp=N,38nm,1.4s						
WCT	**Wildcat Mounta**	**3.56**	**83**	Pn	**Pn**	**00 56 41.2**	**-0.4**
WCT				IAML		00 57 39.2	
	comp=N,29nm,1.3s						
WCT				IAML		00 57 41.4	
	comp=E,35nm,1.3s						
GSC	**Goldstone, Bar**	**3.62**	**107**	Pn	**Pn**	**00 56 41.9**	**-0.5**
GSC				IAML		00 57 47.5	
	comp=E,72nm,1.0s						
GSC				IAML		00 57 51.8	
	comp=N,37nm,1.2s						
GSC	**Goldstone, Bar**	**3.62**	**107**	P	**Pn**	**00 56 42.9**	**+0.5**
	baz=290						
Q09A	**Carvers**	**3.87**	**51**	Pn	**Pn**	**00 56 46.3**	**+0.4**
TPNV	**Topopah Spring**	**3.87**	**81**	Pn	**Pn**	**00 56 45.1**	**-0.8**
TPNV				IAML		00 57 59.9	
	comp=N,45nm,0.7s						
TPNV				IAML		00 58 05.9	
	comp=N,56nm,1.2s						
TPNV	**Topopah Spring**	**3.87**	**81**	P	**Pn**	**00 56 47.6**	**+1.7**
	baz=264,SNR=13						
SHOC	**Shoshone, Teco**	**3.89**	**97**	Sg	**Sg**	**00 57 49.6**	**-1.7**
	baz=280						
ELS	**Elsinore Mount**	**4.07**	**132**	Pn	**Pn**	**00 56 49.5**	**+1.0**
HEC	**Hector,Ludlow**	**4.15**	**112**	P	**Pn**	**00 56 50.1**	**+0.3**
	baz=295,SNR=19						
TUQ	**Turquoise Moun**	**4.26**	**102**	P	**Pn**	**00 56 52.2**	**+0.8**
	baz=286,SNR=12						
PLTX	**Planet X, Gerl**	**4.42**	**16**	Pn	**Pn**	**00 56 53.8**	**+0.3**
PLTX				IAML		00 58 16.6	
	comp=E,122nm,1.1s						
PLTX				IAML		00 58 37.7	
	comp=N,83nm,1.3s						
GMRC	**Granite Mounta**	**4.68**	**109**	P	**Pn**	**00 56 57.0**	**0.0**
	baz=293,SNR=6.5						
PFO	**Pinyon Flats O**	**4.70**	**126**	Pn	**Pn**	**00 56 57.5**	**+0.2**
PFO				IAML		00 58 13.8	
	comp=N,12nm,3.5s						
PFO	**Pinyon Flats O**	**4.70**	**126**	P	**Pn**	**00 56 58.1**	**+0.8**
	baz=309,SNR=6.9						
R11A	**Troy Canyon, C**	**4.73**	**65**	Pn	**Pn**	**00 56 57.9**	**+0.1**
SHPR	**Sheep Range**	**4.73**	**88**	Pn	**Pn**	**00 56 58.6**	**+0.9**
BELC	**Belle Mtn. Jos**	**4.79**	**119**	P	**Pn**	**00 56 58.5**	**0.0**
	baz=302						
IRM	**Iron Mountain**	**5.33**	**114**	P	**Pn**	**00 57 05.9**	**+0.1**
	baz=297						
PDMCI	**Parker Dam,Lak**	**6.02**	**109**	P	**Pn**	**00 57 15.9**	**+0.5**
	baz=293						

---

*IDC **09** 01:05:26.0±1.7, 28°.12N×57°.27E, h0^{km}, mb3.6/5, mbtmp3.6/5, MS4.0/2, Error ellipse: s-maj=45.5km s-min=28.6km az=167.0*
*TEH **09** 01:05:29.7, 28°.26N×57°.46E, h15^{km}, ML3.6*
*NEIC **09** 01:05:30.7±2.9, 28°.19N±0°.05×57°.31E±0°.07, h10^{km}±2^{km}, mb4.0/2, mb_Lg3.6(TEH), Error ellipse: s-maj=11.1km s-min=8.2km az=259.0*
*OMAN **09** 01:05:33.6±0.4, 27°.98N×57°.59E, h28^{km}, mb5.0/6, ml3.8/12, Error ellipse: s-maj=8.2km s-min=4.5km az=235.0*
ISC 09 01:05:31.0±0.6**, 28°.19N**±0°.04×**57°.44E**±0°.05**, h30^{km}, n107,** σ**1^{s}88**/117**, mb3.7**/6**, 1C, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.33**	**135**	Pg	**Pb**	**01 05 38.1**	**-0.9**
KHNJ	**Kahnooj**	**0.33**	**135**	*e*Pg	**Pb**	**01 05 38.1**	**-0.9**
IBND	**Bandar-abas**	**1.08**	**228**	*e*Pg	**Pn**	**01 05 51.6**	**+1.4**
IBND				*e*		01 06 15.9	
	comp=Z,27μm,0.3s						
KBAM	**BAM**	**1.30**	**43**	*e*Pg	**Pn**	**01 05 52.8**	**-0.4**
NGRK	**Negar Kerman**	**1.58**	**337**	Pn	**Pn**	**01 05 57.0**	**-0.4**
NGRK	**Negar Kerman**	**1.58**	**337**	*e*Pn	**Pn**	**01 05 57.0**	**-0.4**
NGRK				*e*		01 06 01.9	
	comp=Z,7μm,0.3s						
CHMN	**Cheshme madani**	**1.67**	**3**		**Pn**	**01 05 59.3**	**+0.7**
CHMN	**Cheshme madani**	**1.67**	**3**	*e*Pg	**Pn**	**01 05 59.3**	**+0.7**
CHMN				*e*		01 06 23.9	
	comp=Z,4μm,0.4s						
KRBR	**Kerman**	**1.89**	**342**	Pn	**Pn**	**01 06 02.6**	**+1.0**
KRBR	**Kerman**	**1.89**	**342**	*e*Pn	**Pn**	**01 06 02.7**	**+1.1**
TVBK	**TV Kerman**	**1.89**	**342**	Pn	**Pn**	**01 06 02.5**	**+0.9**
TVBK	**TV Kerman**	**1.89**	**342**	*e*Pn	**Pn**	**01 06 02.5**	**+0.9**
TVBK				*e*		01 06 39.9	
	comp=Z,8μm,0.4s						
JASK	**Jask - Hormozg**	**2.34**	**171**	*e*		01 06 59.5	
	comp=Z,3μm,0.4s						
JASK				*e*Pn	**Pn**	**01 06 09.6**	**+2.1**
KHGB	**Koh Gabri**	**2.34**	**339**	Pn	**Pn**	**01 06 09.3**	**+1.6**
KHGB	**Koh Gabri**	**2.34**	**339**	*e*		01 06 13.7	
	comp=Z,5μm,0.4s						
KHGB				*e*Pn	**Pn**	**01 06 09.4**	**+1.7**
SHME	**Shamm**	**2.42**	**209**	P	**Pn**	**01 06 09.8**	**+1.2**
	SNR=14						
SHME				S	**Sn**	**01 06 40.2**	**+2.9**
BANOM	**Banah**	**2.47**	**205**	P	**Pn**	**01 06 10.8**	**+1.5**
	SNR=28						
BANOM				S	**Sn**	**01 06 42.9**	**+4.3**
MASF	**Masafi**	**3.03**	**203**	P	**Pn**	**01 06 19.7**	**+2.7**
ZHDN	**Zahedan**	**3.19**	**67**	Pn	**Pn**	**01 06 20.8**	**+1.4**
ZHDN	**Zahedan**	**3.19**	**67**	*e*Pn	**Pn**	**01 06 20.8**	**+1.4**
ZHSF	**Zahedan**	**3.25**	**63**	Pn	**Pn**	**01 06 24.4**	**+4.3**
ZHSF	**Zahedan**	**3.25**	**63**	*e*Pn	**Pn**	**01 06 24.4**	**+4.3**
UOSS	**Minazif**	**3.41**	**199**	Pn	**Pn**	**01 06 22.3**	**0.0**
HATD	**Hatta, Dubai**	**3.55**	**200**	P	**Pn**	**01 06 24.6**	**+0.5**
CHBR	**Chabahar**	**3.74**	**133**	Pn	**Pn**	**01 06 29.1**	**+2.3**
CHBR	**Chabahar**	**3.74**	**133**	*e*Pn	**Pn**	**01 06 29.1**	**+2.3**
IBAF	**Bafgh**	**3.76**	**335**	Pn	**Pn**	**01 06 29.1**	**+1.9**
IBAF	**Bafgh**	**3.76**	**335**	*e*Pn	**Pn**	**01 06 29.2**	**+2.0**
IBAF				*e*		01 06 47.9	
	comp=Z,556nm,0.3s						
FAQ	**Al Faqa, Dubai**	**3.81**	**206**	P	**Pn**	**01 06 29.8**	**+2.1**
FAQ				S	**Sn**	**01 07 13.5**	**+2.1**
NHDN	**Nehbandan**	**3.92**	**35**	Pn	**Pn**	**01 06 31.0**	**+1.7**
NHDN	**Nehbandan**	**3.92**	**35**	*e*Pn	**Pn**	**01 06 31.0**	**+1.7**
NHDN				*e*		01 07 39.1	
	comp=Z,1μm,0.7s						
ASUD	**Al Ashush, Dub**	**4.02**	**209**	P	**Pn**	**01 06 32.7**	**+2.1**
	SNR=19						
ASUD				S	**Sn**	**01 07 13.4**	**-3.3**
IMEH	**Mehriz**	**4.03**	**323**	Pn	**Pn**	**01 06 32.4**	**+1.5**
IMEH	**Mehriz**	**4.03**	**323**	*e*Pn	**Pn**	**01 06 32.5**	**+1.5**
IMEH				*e*		01 06 49.8	
	comp=Z,342nm,0.3s						
BSRN	**Basiran**	**4.04**	**21**	Pn	**Pn**	**01 06 33.8**	**+2.8**
BSRN	**Basiran**	**4.04**	**21**	*e*Pn	**Pn**	**01 06 33.8**	**+2.8**
NGCH	**Negor - Chabah**	**4.34**	**130**	Pn	**Pn**	**01 06 37.1**	**+2.1**
NGCH	**Negor - Chabah**	**4.34**	**130**	*e*Pn	**Pn**	**01 06 37.2**	**+2.2**
IKOO	**Kooshah**	**4.44**	**17**	Pn	**Pn**	**01 06 38.2**	**+1.7**
IKOO	**Kooshah**	**4.44**	**17**	*e*Pn	**Pn**	**01 06 38.3**	**+1.7**
IKOO				*e*		01 06 49.9	
	comp=Z,803nm,0.3s						
HOQ	**Hoqain**	**4.58**	**182**	P	**Pn**	**01 06 38.5**	**+0.1**
HOQ				S	**Sn**	**01 07 28.6**	**-2.1**
ICHK	**Chekchek**	**4.82**	**328**	Pn	**Pn**	**01 06 43.4**	**+1.5**
ICHK	**Chekchek**	**4.82**	**328**	*e*Pn	**Pn**	**01 06 43.4**	**+1.5**
ICHK				*e*		01 07 04.1	
	comp=Z,250nm,0.4s						
ITEG	**Tejag**	**4.83**	**13**	Pn	**Pn**	**01 06 43.3**	**+1.4**
ITEG	**Tejag**	**4.83**	**13**	*e*Pn	**Pn**	**01 06 43.4**	**+1.5**
YZKH	**Yazd**	**4.86**	**330**	Pn	**Pn**	**01 06 44.3**	**+2.0**
YZKH	**Yazd**	**4.86**	**330**	*e*Pn	**Pn**	**01 06 44.4**	**+2.1**
TPRV	**Parvadeh(Tabas**	**4.87**	**352**	Pn	**Pn**	**01 06 44.9**	**+2.5**
TPRV	**Parvadeh(Tabas**	**4.87**	**352**	*e*Pn	**Pn**	**01 06 44.9**	**+2.5**
ARQ	**Araqi**	**4.90**	**190**	P	**Pn**	**01 06 45.4**	**+2.7**
	SNR=7.1						
ARQ				S	**Sn**	**01 07 41.8**	**+3.4**
ISAD	**Sadrabad**	**4.94**	**320**	Pn	**Pn**	**01 06 45.3**	**+1.8**
ISAD	**Sadrabad**	**4.94**	**320**	*e*Pn	**Pn**	**01 06 45.4**	**+1.9**
WSAR	**Wadi Sarin**	**5.04**	**167**	P	**Pn**	**01 06 45.3**	**+0.7**
	SNR=66						
WSAR				S	**Sn**	**01 07 39.6**	**-2.3**
SMDO	**Samad**	**5.13**	**174**	P	**Pn**	**01 06 46.9**	**+0.9**
	SNR=14						
SMDO				S	**Sn**	**01 07 43.0**	**-1.3**
AFRZ	**Afriz**	**5.40**	**14**	Pn	**Pn**	**01 06 50.1**	**+0.5**
AFRZ	**Afriz**	**5.40**	**14**	*e*Pn	**Pn**	**01 06 50.2**	**+0.6**
TKDS	**Koohdasht(Taba**	**5.42**	**357**	Pn	**Pn**	**01 06 51.6**	**+1.7**
TKDS	**Koohdasht(Taba**	**5.42**	**357**	*e*Pn	**Pn**	**01 06 51.7**	**+1.8**
BSY	**Bisya**	**5.42**	**182**	P	**Pn**	**01 06 52.7**	**+2.8**
	SNR=18						
BSY				S	**Sn**	**01 07 52.8**	**+1.5**
MZWR	**Madinat Zayed**	**5.45**	**217**	P	**Pn**	**01 06 50.9**	**+0.7**
MZWR				S	**Sn**	**01 07 50.1**	**-1.9**
AHBU	**AHRAM**	**5.45**	**279**	*e*Pn	**Pn**	**01 06 51.2**	**+0.9**
TABS	**Tabas**	**5.45**	**357**	Pn	**Pn**	**01 06 52.6**	**+2.2**
TABS	**Tabas**	**5.45**	**357**	*e*Pn	**Pn**	**01 06 52.7**	**+2.3**
IRAM	**Ramesheh**	**5.68**	**311**	Pn	**Pn**	**01 06 54.7**	**+1.1**
IRAM	**Ramesheh**	**5.68**	**311**	*e*Pn	**Pn**	**01 06 54.8**	**+1.1**
WBK	**Wadi Bani Khal**	**5.72**	**166**	P	**Pn**	**01 06 54.3**	**+0.3**
	SNR=36						
WBK				S	**Sn**	**01 07 55.7**	**-3.0**
TNSJ	**Nastanj**	**5.80**	**353**	Pn	**Pn**	**01 06 57.2**	**+2.0**
TNSJ	**Nastanj**	**5.80**	**353**	*e*Pn	**Pn**	**01 06 57.3**	**+2.0**
KLNJ	**Kolanjah**	**5.82**	**300**	Pn	**Pn**	**01 06 57.6**	**+1.9**
KLNJ	**Kolanjah**	**5.82**	**300**	*e*Pn	**Pn**	**01 06 57.7**	**+2.0**
JMDO	**Jabal Madar**	**5.82**	**174**	P	**Pn**	**01 06 57.3**	**+1.9**
	SNR=9.3						
ANAR	**Anarak**	**5.93**	**328**	Pn	**Pn**	**01 06 58.2**	**+1.3**
ANAR	**Anarak**	**5.93**	**328**	*e*Pn	**Pn**	**01 06 58.3**	**+1.3**
SHRT	**Shahrakht**	**5.97**	**23**	Pn	**Pn**	**01 06 59.9**	**+2.5**
SHRT	**Shahrakht**	**5.97**	**23**	*e*Pn	**Pn**	**01 06 59.9**	**+2.5**
NASN	**Na'in**	**6.09**	**320**	Pn	**Pn**	**01 07 01.1**	**+1.7**
NASN	**Na'in**	**6.09**	**320**	*e*Pn	**Pn**	**01 07 01.2**	**+1.8**
MZR	**Muzera**	**6.28**	**216**	P	**Pn**	**01 07 01.5**	**-0.2**
MZR				S	**Sn**	**01 08 09.5**	**-2.9**
IZEF	**Zefreh**	**6.44**	**318**	Pn	**Pn**	**01 07 05.3**	**+1.2**
IZEF	**Zefreh**	**6.44**	**318**	*e*Pn	**Pn**	**01 07 05.3**	**+1.2**
IBRJ	**Brojen**	**6.52**	**306**	Pn	**Pn**	**01 07 07.5**	**+2.3**
IBRJ	**Brojen**	**6.52**	**306**	*e*Pn	**Pn**	**01 07 07.5**	**+2.3**
IBRJ				*e*		01 08 20.7	
	comp=Z,155nm,0.8s						
MHTO	**MHTO**	**7.18**	**176**	P	**Pn**	**01 07 16.1**	**+2.0**
	SNR=22						
MHTO				S	**Sn**	**01 08 32.7**	**-1.9**
IPIR	**Pirpir**	**7.22**	**310**	Pn	**Pn**	**01 07 16.6**	**+1.8**
IPIR	**Pirpir**	**7.22**	**310**	*e*Pn	**Pn**	**01 07 16.7**	**+1.9**
HRA	**Herat**	**7.42**	**32**	Pn	**Pn**	**01 07 19.3**	**+1.8**
ISFB	**Sefidab**	**7.59**	**325**	Pn	**Pn**	**01 07 21.2**	**+1.5**
ISFB	**Sefidab**	**7.59**	**325**	*e*Pn	**Pn**	**01 07 21.2**	**+1.5**
KHMZ	**Khomeyn**	**8.48**	**313**	Pn	**Pn**	**01 07 33.0**	**+1.0**
KHMZ	**Khomeyn**	**8.48**	**313**	*e*Pn	**Pn**	**01 07 33.1**	**+1.0**
WHFO	**Wadi Hawf**	**10.76**	**199**	P	**Pn**	**01 08 01.8**	**-1.4**
	SNR=10						
ABTO	**Aybut**	**11.44**	**200**	P	**Pn**	**01 08 10.8**	**-1.6**
	SNR=11						
RAYN	**Ar Rayn**	**11.71**	**249**	Pn	Pn	01 08 12.5	-3.7
MARD	**Mardin**	**16.70**	**307**	P	**Pn**	**01 09 23.7**	**+0.8**
MARD				IAmb	IAmb	01 09 26.5	
	comp=Z,6.8nm,0.6s						
ABKAR	**Akbulak array**	**21.13**	**5**	P	**P**	**01 10 13.9**	**+0.6**
BRTR	**Keskin Array B**	**22.78**	**307**	P	**P**	**01 10 29.5**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=127,slow=7.9,SNR=5.4						
	comp=Z,1.8nm,0.8s						
BRTR	**Keskin Array B**	**22.78**	**307**	P	**P**	**01 10 30.1**	**-1.3**
MKAR	**Makanchi Array**	**26.91**	**40**	P	**P**	**01 11 10.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=226,slow=11,SNR=1.9						
	comp=Z,0.2nm,0.6s						
BURAR	**Bucovina Array**	**31.66**	**317**	P	**P**	**01 11 49.8**	**-1.9**
GZR	**Gura Zlata**	**32.33**	**311**	⇑P	**PKiKP**	**01 22 14.7**	**+2.2**
ZAA0	**Zalesovo Array**	**32.61**	**30**	P	**P**	**01 12 00.1**	**+0.3**
ZAA0				IAmb	IAmb	01 12 00.6	
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**32.61**	**30**	P	**P**	**01 12 00.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=240,slow=9.1,SNR=6.9						
	comp=Z,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**32.61**	**30**	P	**P**	**01 11 59.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**53.83**	**266**	P	**P**	**01 14 49.9**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=60,slow=7.4,SNR=3.0						
	comp=Z,0.3nm,0.5s						
LEM	**Lembang**	**59.61**	**118**	LR	LR	01 41 15.5	
	comp=Z,51nm,18.3s,baz=189,slow=36						
JHJ	**Hachijo jima 2**	**69.25**	**63**	LR	LR	01 51 28.6	
	comp=Z,254nm,18.4s,baz=114,slow=40						
WRA	**Warramunga Arr**	**88.34**	**114**	P	**P**	**01 18 20.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=321,slow=4.1,SNR=2.0						
	comp=Z,0.3nm,0.6s						

---

*DSN **09** 01:15:18.9±1.6, 28°.54N×57°.34E, h10^{km}, ML4.2/11, Error ellipse: s-maj=22.9km s-min=12.6km az=88.0*
*NEIC **09** 01:15:21.6±2.9, 28°.22N±0°.04×57°.36E±0°.05, h10^{km}±1^{km}, mb4.5/59, mb_Lg4.2(TEH), Error ellipse: s-maj=8.5km s-min=4.5km az=126.0*
*TEH **09** 01:15:22.3, 28°.24N×57°.48E, h17^{km}, ML4.2*
*MOS **09** 01:15:22.3±1.1, 28°.20N×57°.39E, h33^{km}, mb4.6/19, Error ellipse: s-maj=8.4km s-min=5.4km az=110.1*
*IDC **09** 01:15:25.1±1.7, 28°.13N×57°.38E, h49^{km}±20^{km}, mb3.9/21, mbtmp4.1/28, ML3.8/6, MS3.3/19, Error ellipse: s-maj=12.6km s-min=11.9km az=57.0*
*OMAN **09** 01:15:28.9±0.6, 27°.83N×57°.43E, h23^{km}, mb5.5/5, ml4.0/15, Error ellipse: s-maj=11.4km s-min=4.4km az=35.0*
ISC 09 01:15:23.2±0.4**, 28°.13N**±0°.03×**57°.45E**±0°.03**, h30^{km}, n363,** σ**1^{s}81**/367**, mb4.4**/66**, MS3.2**/18**, 20C-7D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.29**	**128**	Pg	**Pb**	**01 15 29.0**	**-1.5**
KHNJ	**Kahnooj**	**0.29**	**128**	*e*Pg	**Pb**	**01 15 29.0**	**-1.5**
IBND	**Bandar-abas**	**1.05**	**230**	*e*Pg	**Pb**	**01 15 44.4**	**+1.6**
IBND				*e*Sg	**Sb**	**01 16 01.3**	**+5.1**
IBND				*e*		01 16 17.5	
	comp=Z,81μm,0.7s						
KBAM	**BAM**	**1.34**	**41**	*e*Pg	**Pn**	**01 15 45.8**	**-0.1**
KBAM				*e*Sg	**Sn**	**01 16 03.1**	**+0.4**
NGRK	**Negar Kerman**	**1.64**	**338**	Pn	**Pn**	**01 15 49.7**	**-0.5**
NGRK	**Negar Kerman**	**1.64**	**338**	*e*Pn	**Pn**	**01 15 49.8**	**-0.5**
NGRK				*e*		01 16 15.1	
	comp=Z,24μm,0.8s						
CHMN	**Cheshme madani**	**1.73**	**3**	Pn	**Pn**	**01 15 51.8**	**+0.3**
CHMN	**Cheshme madani**	**1.73**	**3**	*e*Pn	**Pn**	**01 15 51.8**	**+0.3**
CHMN				*e*		01 16 15.0	
	comp=Z,17μm,0.5s						
KRBR	**Kerman**	**1.94**	**342**	Pn	**Pn**	**01 15 55.0**	**+0.6**
KRBR	**Kerman**	**1.94**	**342**	*e*Pn	**Pn**	**01 15 55.0**	**+0.6**
TVBK	**TV Kerman**	**1.94**	**342**	Pn	**Pn**	**01 15 55.2**	**+0.7**
TVBK	**TV Kerman**	**1.94**	**342**	*e*Pn	**Pn**	**01 15 55.2**	**+0.7**
TVBK				*e*		01 16 00.6	
	comp=Z,28μm,0.4s						
JASK	**Jask - Hormozg**	**2.28**	**170**	Pn	**Pb**	**01 16 02.3**	**-1.4**
JASK	**Jask - Hormozg**	**2.28**	**170**	*e*Pn	**Pb**	**01 16 02.3**	**-1.4**
JASK				*e*		01 17 20.2	
	comp=Z,10μm,1.0s						
SHME	**Shamm**	**2.38**	**210**	Pn	**Pn**	**01 16 02.7**	**+2.6**
SHME	**Shamm**	**2.38**	**210**	*e*Pn	**Pn**	**01 16 02.7**	**+2.6**
SHME	**Shamm**	**2.38**	**210**	P	**Pn**	**01 16 02.9**	**+2.8**
	SNR=30						
SHME	**Shamm**	**2.38**	**210**	*e*P	**Pn**	**01 16 02.7**	**+2.6**
	SNR=31						
KHGB	**Koh Gabri**	**2.39**	**339**	Pn	**Pn**	**01 16 01.9**	**+1.3**
KHGB	**Koh Gabri**	**2.39**	**339**	*e*		01 16 06.8	
	comp=Z,20μm,0.4s						
KHGB				*e*Pn	**Pn**	**01 16 01.9**	**+1.3**
BANOM	**Banah**	**2.42**	**205**	*e*Pn	**Pb**	**01 16 04.0**	**-2.1**
BANOM	**Banah**	**2.42**	**205**	P	**Pn**	**01 16 03.7**	**+2.9**
	SNR=152						
BANOM	**Banah**	**2.42**	**205**	*e*P	**Pn**	**01 16 03.8**	**+3.0**
	SNR=152						
BANOM				S	**Sb**	**01 16 37.7**	**+2.1**
LAR1	**LAR**	**2.76**	**261**	Pn	**Pn**	**01 16 07.5**	**+2.1**
LAR1	**LAR**	**2.76**	**261**	*e*Pn	**Pn**	**01 16 07.6**	**+2.1**
LAR1				*e*		01 17 06.9	
	comp=Z,16μm,0.6s						
ZRDN	**Zarand Kerman**	**2.94**	**345**	*e*	**Pb**	**01 16 16.4**	**+1.4**
	comp=Z,8μm,0.4s						
MASF	**Masafi**	**2.98**	**203**	P	**Pn**	**01 16 11.3**	**+2.9**
	SNR=22						
MSFE	**Esma-Masafi**	**2.99**	**203**	Pn	**Pn**	**01 16 11.5**	**+2.9**
MSFE	**Esma-Masafi**	**2.99**	**203**	*e*Pn	**Pn**	**01 16 11.5**	**+2.9**
MSFE	**Esma-Masafi**	**2.99**	**203**	*i* P	**Pn**	**01 16 10.9**	**+2.4**
	SNR=20						
UMQ	**Umm Al-Quwin**	**3.04**	**212**	*e*Pn	**Pn**	**01 16 12.8**	**+3.5**
UMQ	**Umm Al-Quwin**	**3.04**	**212**	P	**Pb**	**01 16 13.7**	**-2.9**
	SNR=9.5						
UMQ	**Umm Al-Quwin**	**3.04**	**212**	*i* P	**Pn**	**01 16 12.2**	**+2.9**
	SNR=9.5						
ZHDN	**Zahedan**	**3.21**	**66**	Pn	**Pn**	**01 16 13.9**	**+2.2**
ZHDN	**Zahedan**	**3.21**	**66**	*e*Pn	**Pn**	**01 16 14.0**	**+2.2**
ZHSF	**Zahedan**	**3.27**	**62**	Pn	**Pn**	**01 16 16.0**	**+3.4**
ZHSF	**Zahedan**	**3.27**	**62**	*e*Pn	**Pn**	**01 16 16.0**	**+3.4**
UOSS	**Minazif**	**3.36**	**200**	Pn	**Pn**	**01 16 14.4**	**+0.8**
UOSS	**Minazif**	**3.36**	**200**	P	**Pn**	**01 16 15.4**	**+1.7**
JHRM	**Jahrom**	**3.43**	**277**	Pn	**Pn**	**01 16 16.3**	**+1.6**
JHRM	**Jahrom**	**3.43**	**277**	*e*Pn	**Pn**	**01 16 16.4**	**+1.7**
HATD	**Hatta, Dubai**	**3.50**	**200**	Pn	**Pn**	**01 16 17.9**	**+2.4**
HATD	**Hatta, Dubai**	**3.50**	**200**	*e*Pn	**Pn**	**01 16 18.0**	**+2.4**

HATD Hatta, Dubai 3.50 200 P Pn 01 16 17.8 +2.4
SNR=7.0
HATD Hatta, Dubai 3.50 200 *i* P Pn 01 16 17.0 +1.5
SNR=7.0
NAZ Nazwa, Dubai 3.51 207 *e*Pn Pn 01 16 20.3 +4.6
NAZ Nazwa, Dubai 3.51 207 P Pn 01 16 19.8 +4.1
SNR=6.1
NAZ Nazwa, Dubai 3.51 207 P Pn 01 16 18.4 +2.6
CHBR Chabahar 3.70 132 Pn Pn 01 16 21.4 +3.1
CHBR Chabahar 3.70 132 *e*Pn Pn 01 16 21.4 +3.1
FAQ Al Faqa, Dubai 3.76 207 *e*Pn Pn 01 16 22.4 +3.3
FAQ Al Faqa, Dubai 3.76 207 P Pn 01 16 22.3 +3.3
SNR=13
FAQ Al Faqa, Dubai 3.76 207 *i* P Pn 01 16 22.4 +3.3
SNR=13
IBAF Bafgh 3.82 335 Pn Pn 01 16 21.8 +1.8
IBAF Bafgh 3.82 335 *e*Pn Pn 01 16 21.9 +1.9
IBAF *e* 01 16 36.8
comp=Z,2µm,0.4s
LMD1 Lamerd 3.88 259 Pn Pn 01 16 23.9 +3.2
LMD1 Lamerd 3.88 259 *e*Pn Pn 01 16 24.0 +3.2
LMD1 *e* 01 17 28.8
comp=Z,4µm,0.6s
QIR1 Qir 3.90 276 *e*Pn Pn 01 16 23.7 +2.6
QIR1 *e* 01 17 38.2
comp=Z,5µm,0.7s
NHDN Nehbandan 3.96 34 Pn Pn 01 16 23.7 +1.7
NHDN Nehbandan 3.96 34 *e*Pn Pn 01 16 23.7 +1.7
NHDN *e* 01 17 29.2
comp=Z,6µm,0.7s
ASUD Al Ashush, Dub 3.97 209 Pn Pn 01 16 26.0 +4.0
ASUD Al Ashush, Dub 3.97 209 *e*Pn Pn 01 16 26.1 +4.0
ASUD Al Ashush, Dub 3.97 209 P Pn 01 16 26.0 +4.0
SNR=57
ASUD Al Ashush, Dub 3.97 209 *i* P Pn 01 16 25.7 +3.6
SNR=57
IMEH Mehriz 4.08 324 Pn Pn 01 16 25.5 +1.8
IMEH Mehriz 4.08 324 *e*Pn Pn 01 16 25.5 +1.8
IMEH *e* 01 17 34.9
comp=Z,2µm,0.7s
ESRB Sir Abu 4.08 226 *e*Pn Pn 01 16 25.9 +2.4
BSRN Basiran 4.09 20 Pn Pn 01 16 26.0 +2.2
BSRN Basiran 4.09 20 *e*Pn Pn 01 16 26.1 +2.2
NGCH Negor - Chabah 4.30 129 Pn Pn 01 16 30.0 +3.5
NGCH Negor - Chabah 4.30 129 *e*Pn Pn 01 16 30.0 +3.5
ALNE Al Ain 4.33 201 *e*Pn Pn 01 16 30.9 +3.9
ALNE Al Ain 4.33 201 *e*Pn Pn 01 16 31.0 +3.9
ALNE Al Ain 4.33 201 P Pn 01 16 31.0 +3.9
SNR=7.0
ALNE Al Ain 4.33 201 *i* P Pn 01 16 31.0 +3.9
SNR=6.8
IKOO Kooshah 4.49 17 Pn Pn 01 16 30.9 +1.5
IKOO Kooshah 4.49 17 *e*Pn Pn 01 16 30.9 +1.5
IKOO *e* 01 16 34.9
comp=Z,2µm,0.2s
HOQ Hoqain 4.53 182 P Pn 01 16 31.5 +1.8
SNR=116
SHI Shiraz 4.58 290 *e*Pn Pn 01 16 32.8 +2.2
SHI *e* 01 17 31.6
comp=Z,2µm,0.6s
BIDO Bidbid 4.63 172 Pn Pn 01 16 33.3 +2.2
BIDO Bidbid 4.63 172 *e*Pn Pn 01 16 33.3 +2.2
BIDO Bidbid 4.63 172 P Pn 01 16 32.6 +1.5
SNR=27
ARQ Araqi 4.84 190 P Pn 01 16 38.6 +4.5
SNR=292
ICHK Chekchek 4.87 328 *e*Pn Pn 01 16 36.7 +2.1
ICHK *e* 01 16 57.2
comp=Z,1µm,0.6s
BAGH Bagheran - Bir 4.88 18 Pn Pn 01 16 36.4 +1.7
BAGH Bagheran - Bir 4.88 18 *e*Pn Pn 01 16 36.5 +1.7
ITEG Tejag 4.88 13 Pn Pn 01 16 36.1 +1.4
ITEG Tejag 4.88 13 *e*Pn Pn 01 16 36.2 +1.5
ITEG *e* 01 16 48.2
comp=Z,2µm,0.5s
YZKH Yazd 4.91 331 Pn Pn 01 16 36.7 +1.7
YZKH Yazd 4.91 331 *e*Pn Pn 01 16 36.8 +1.7
TPRV Parvadeh(Tabas 4.93 353 Pn Pn 01 16 36.9 +1.6
TPRV Parvadeh(Tabas 4.93 353 *e*Pn Pn 01 16 36.9 +1.6
WSAR Wadi Sarin 4.99 167 P Pn 01 16 38.5 +2.5
comp=Z,7.9nm,0.3s,baz=339,slow=4.5,SNR=114
WSAR S Sn 01 17 33.6 +0.9
comp=Z,52nm,0.3s,baz=174,slow=16,SNR=14
WSAR LR LR 01 19 26.9
comp=Z,138nm,21.0s,baz=3.0,slow=48
comp=Z,21nm,0.4s
WSAR Wadi Sarin 4.99 167 P Pn 01 16 38.5 +2.5
SNR=198
WSAR S Sn 01 17 32.6 -0.1
ISAD Sadrabad 4.99 320 *e*Pn Pn 01 16 38.4 +2.2
ISAD *e* 01 18 14.0
comp=Z,1µm,1.0s
IDAH Dahanechah 5.05 24 Pn Pn 01 16 39.0 +1.9
IDAH Dahanechah 5.05 24 *e*Pn Pn 01 16 39.0 +1.9
SMDO Samad 5.08 174 P Pn 01 16 39.9 +2.6
SNR=30
SMDO S Sn 01 17 35.8 +0.8
KAZ1 Kazerun 5.31 288 *e*Pn Pn 01 16 42.7 +2.2
BSY Bisya 5.37 182 P Pn 01 16 45.9 +4.7
SNR=61
IMON Monand 5.40 20 Pn Pn 01 16 43.4 +1.6
IMON Monand 5.40 20 *e*Pn Pn 01 16 43.4 +1.6
MZWR Madinat Zayed 5.41 217 *e*Pn Pn 01 16 43.9 +2.1
AFRZ Afriz 5.45 14 Pn Pn 01 16 44.2 +1.8
AFRZ Afriz 5.45 14 *e*Pn Pn 01 16 44.3 +1.8
AHBU AHRAM 5.46 279 *e*Pn Pn 01 16 45.6 +3.1
TKDS Koohdasht(Taba 5.47 357 Pn Pn 01 16 44.0 +1.2
TKDS Koohdasht(Taba 5.47 357 *e*Pn Pn 01 16 44.0 +1.2
TABS Tabas 5.51 357 Pn Pn 01 16 46.8 +3.5
TABS Tabas 5.51 357 *e*Pn Pn 01 16 46.8 +3.5
WBK Wadi Bani Khal 5.67 166 P Pn 01 16 47.5 +2.1
SNR=59
WBK S Sn 01 17 50.3 +0.8
IRAM Ramesheh 5.72 311 Pn Pn 01 16 47.8 +1.5
IRAM Ramesheh 5.72 311 *e*Pn Pn 01 16 47.9 +1.6
IRAM *e* 01 17 56.9
comp=Z,611nm,0.4s
JMDO Jabal Madar 5.76 174 P Pn 01 16 50.1 +3.4
SNR=27
UMZA Um Al Zommool 5.77 201 *e*Pn Pn 01 16 49.3 +2.5
GHWR Ruwais 5.84 226 *e*Pn Pn 01 16 48.9 +1.2
KLNJ Kolanjah 5.85 301 Pn Pn 01 16 49.7 +1.6
KLNJ Kolanjah 5.85 301 *e*Pn Pn 01 16 49.8 +1.6
TNSJ Nastanj 5.86 353 *e*Pn Pn 01 16 50.3 +2.2
ANAR Anarak 5.97 329 Pn Pn 01 16 51.2 +1.6
ANAR Anarak 5.97 329 *e*Pn Pn 01 16 51.3 +1.6
SHRT Shahrakht 6.02 23 *e*Pn Pn 01 16 53.0 +2.8
NASN Na'in 6.14 320 Pn Pn 01 16 53.5 +1.4
NASN Na'in 6.14 320 *e*Pn Pn 01 16 53.5 +1.4
MZR Muzera 6.24 216 *e*Pn Pn 01 16 55.3 +2.1
MZR Muzera 6.24 216 P Pn 01 16 55.2 +2.0
SNR=6.3
MZR Muzera 6.24 216 *i* P Pn 01 16 56.2 +3.1
SNR=6.2
IGAR Gharneh 6.32 314 Pn Pn 01 16 56.0 +1.4
IGAR Gharneh 6.32 314 *e*Pn Pn 01 16 56.0 +1.4
IZEF Zefreh 6.49 318 Pn Pn 01 16 58.1 +1.3
IZEF Zefreh 6.49 318 *e*Pn Pn 01 16 58.2 +1.4
SAKB Bahrain 6.52 252 *e*Pn Pn 01 16 58.9 +1.8
IBRJ Brojen 6.55 307 *e*Pn Pn 01 16 59.8 +2.0
SMRA Abu-Samra 6.83 242 P Pn 01 17 03.0 +1.8
SMRA S Sn 01 18 17.9 0.0
SHK1 Shahrekord 7.05 308 *e*Pn Pn 01 17 05.7 +1.1
MHTO MHTO 7.13 176 P Pn 01 17 08.9 +3.4
SNR=75
MHTO S Sn 01 18 26.3 +0.9
IKLH Kolahrood 7.23 317 Pn Pn 01 17 08.2 +1.2
IKLH Kolahrood 7.23 317 *e*Pn Pn 01 17 08.2 +1.2
IPIR Pirpir 7.26 310 *e*Pn Pn 01 17 09.3 +1.9
IPIR *e* 01 18 30.9
comp=Z,459nm,0.7s
KRSH Karshahi 7.39 323 Pn Pn 01 17 11.8 +2.6
KRSH Karshahi 7.39 323 *e*Pn Pn 01 17 11.9 +2.7
HRA Herat 7.47 32 Pn Pn 01 17 10.7 +0.5
TBJM Torbat-e-JAM 7.53 18 Pn Pn 01 17 13.5 +2.4
TBJM Torbat-e-JAM 7.53 18 *e*Pn Pn 01 17 13.5 +2.4
QAMS Qamsar 7.63 319 Pn Pn 01 17 14.2 +1.7
QAMS Qamsar 7.63 319 *e*Pn Pn 01 17 14.2 +1.7
ISFB Sefidab 7.64 326 Pn Pn 01 17 13.9 +1.4
ISFB Sefidab 7.64 326 *e*Pn Pn 01 17 13.9 +1.4
AMIS Naft Sefid 7.91 298 *e*Pn Pn 01 17 17.3 +1.1
JRKH Jarkhoshk 8.14 17 Pn Pn 01 17 22.3 +3.0
JRKH Jarkhoshk 8.14 17 *e*Pn Pn 01 17 22.3 +3.0

GHVR GHOM 8.23 322 Pn Pn 01 17 23.8 +3.2
GHVR GHOM 8.23 322 *e*Pn Pn 01 17 23.9 +3.3
IVRN Varamin 8.40 326 Pn Pn 01 17 24.7 +1.7
IVRN Varamin 8.40 326 *e*Pn Pn 01 17 24.7 +1.7
KHMZ Khomeyn 8.52 313 Pn Pn 01 17 25.9 +1.2
KHMZ Khomeyn 8.52 313 *e*Pn Pn 01 17 26.0 +1.2
DAMV Damavand 8.81 329 Pn Pn 01 17 31.3 +2.6
DAMV Damavand 8.81 329 *e*Pn Pn 01 17 31.4 +2.7
ASAO Ashtian 9.01 317 Pn Pn 01 17 33.1 +1.7
ASAO Ashtian 9.01 317 *e*Pn Pn 01 17 33.2 +1.8
MRVT Maraveh tapeh 9.57 354 Pn Pn 01 17 40.7 +1.7
MRVT Maraveh tapeh 9.57 354 *e*Pn Pn 01 17 40.7 +1.7
GEYT Alibeck 9.79 3 P Pn 01 17 42.8 +0.9
comp=Z,0.2nm,0.3s,baz=188,slow=9.6,SNR=2.8
GEYT LR LR 01 22 05.1
comp=Z,206nm,19.9s,baz=183,slow=41
comp=Z,3.4nm,0.9s
GEYT Alibeck 9.79 3 Pn Pn 01 17 41.8 -0.1
GYA0B ALIBECK ARRAY 9.79 3 Pn Pn 01 17 42.5 +0.6
QALM Alamut, Qazvin 10.08 327 *e*Pn Pn 01 17 48.1 +2.0
ILBA Ilam Banvizeh 11.10 302 Pn Pn 01 17 58.2 -1.6
ILBA Ilam Banvizeh 11.10 302 *e*Pn Pn 01 17 58.3 -1.6
RAYN Ar Rayn 11.69 250 Pn Pn 01 18 04.5 -3.6
RAYN Ar Rayn 11.69 250 *i* P Pn 01 18 05.6 -2.5
SNR=23
RAYN Ar Rayn 11.69 250 P Pn 01 18 04.5 -3.6
NAX Nakhchivan 14.83 321 P P 01 18 56.7 +0.4
GAR Garm 15.23 41 P P 01 19 00.3 -0.6
GAR lAmb lAmb 01 19 17.3
comp=Z,22nm,1.5s
GANJ Ganja 15.48 327 P P 01 19 05.7 +2.2
AKT Akhty 15.51 332 *e*P P 01 19 04.9 +1.0
AKT pmax pmax
comp=Z,22nm,0.5s
SEKA Sheki 15.52 330 P P 01 19 05.9 +1.9
GEVA Gevas 15.73 314 P P 01 19 06.2 -0.3
GNI Garni 15.93 322 P Pn 01 19 05.9 +0.7
comp=Z,12nm,0.9s,baz=277,slow=0.7,SNR=25
GNI LR LR 01 24 58.2
comp=Z,32nm,19.5s,baz=121,slow=36
GNI Garni 15.93 322 P P 01 19 07.5 -1.1
GNI lAmb lAmb 01 19 11.3
comp=Z,19nm,0.8s
TAS Tashkent 16.35 33 Pn Pn 01 19 09.7 -0.8
TAS Tashkent 16.35 33 P Pn 01 19 09.7 -0.8
TAS pmax pmax
comp=Z,60nm,0.3s
GURO Guroymak-BITLI 16.53 313 Pn Pn 01 19 11.2 -1.7
MARD Mardin 16.73 307 Pn Pn 01 19 13.8 -1.7
MARD lAmb lAmb 01 19 19.6
comp=Z,38nm,0.7s
KARS Kars 17.18 320 P 01 19 23.1 +0.7
KARS lAmb lAmb 01 19 25.4
comp=Z,28nm,0.9s
KARS Kars 17.18 320 P P 01 19 23.1 +0.7
KARS pmax pmax
comp=Z,28nm,0.9s
ASF Jabal al Asfar 18.22 288 P Pn 01 19 30.6 -3.3
comp=Z,1.3nm,0.3s,baz=313,slow=13,SNR=2.9
ASF S Sn 01 22 45.2 -11
comp=Z,3.4nm,0.6s,baz=276,slow=18,SNR=5.4
ZEI Tsey 18.29 327 *e*P Pn 01 19 35.6 +0.9
ZEI pmax pmax
comp=Z,11nm,1.0s
KK31 Karatay Array 18.30 32 Pn 01 19 35.2 +0.5
KK31 Karatay Array 18.30 32 P Pn 01 19 35.2 +0.5
KK31 pmax pmax
comp=Z,7.0nm,1.3s
KKAR Karatay Array 18.30 32 Pn 01 19 35.1 +0.4
KKAR Karatay Array 18.30 32 Pn 01 19 34.8 +0.1
KKAR lAmb lAmb 01 19 39.6
comp=Z,6.9nm,1.2s
KKAR Karatay Array 18.30 32 P Pn 01 19 35.1 +0.4
KKAR pmax pmax
comp=Z,7.0nm,1.3s
KOPT Kop Dagi 18.34 315 P 01 19 33.9 -1.5
ONI Oni 18.36 325 P 01 19 33.7 -1.7
ONI Oni 18.36 325 P P 01 19 33.7 -1.7
ONI pmax pmax
comp=Z,7.0nm,1.0s
NEY Neytrino 19.21 326 *i* P P 01 19 44.4 -0.4
NEY pmax pmax
comp=Z,2.0nm,0.8s
GAZ Gaziantep 19.25 303 P P 01 19 44.9 -0.3
GAZ lAmb lAmb 01 19 48.0
comp=Z,13nm,0.8s
GHAJ Ghor Haditha 19.26 285 P P 01 19 45.3 +0.1
GHAJ lAmb lAmb 01 19 46.8
comp=Z,9.1nm,0.7s
KBZ Khabaz 19.48 327 P Pn 01 19 49.4 +0.5
comp=Z,0.3nm,0.3s,baz=189,slow=9.1,SNR=8.1
comp=Z,4.5nm,0.9s
MMAI Mont Meron Ar 19.59 290 P P 01 19 48.7 -0.2
comp=Z,0.4nm,0.3s,baz=94,slow=14,SNR=6.2
comp=Z,2.3nm,0.6s
SHA1 Shidzhatmaz 19.60 327 *i* P P 01 19 48.8 -0.3
KVAR Kislovodsk Arr 19.74 327 P Pn 01 19 51.9 -0.2
baz=145,slow=18
comp=Z,2.2nm,0.7s
KIV Kislovodsk 19.75 327 P P 01 19 49.8 -0.8
KIV lAmb lAmb 01 19 57.5
comp=Z,13nm,0.6s
KIV Kislovodsk 19.75 327 *e*P Pn 01 19 52.0 -0.2
KIV pmax pmax
comp=Z,16nm,1.1s
EIL Elat 19.75 280 P P 01 19 51.6 +0.9
comp=Z,0.5nm,0.3s,baz=161,slow=1.9,SNR=5.0
comp=Z,4.4nm,0.7s
AAK Ala-Archa 20.01 39 P Pn 01 19 55.2 -0.2
comp=Z,2.1nm,0.6s,baz=220,slow=10.0,SNR=8.0
AAK LR LR 01 28 39.9
comp=Z,86nm,21.2s,baz=254,slow=40
comp=Z,2.1nm,0.6s
AAK Ala-Archa 20.01 39 P P 01 19 52.5 -1.1
AAK Ala-Archa 20.01 39 *ce*P Pn 01 19 55.7 +0.2
AAK pmax pmax
comp=Z,4.0nm,0.8s
NRN Naryn 20.15 44 P P 01 19 54.2 -1.1
NRN Naryn 20.15 44 P P 01 19 54.2 -1.1
NRN pmax pmax
comp=Z,4.0nm,0.8s
BNN Bunyan 20.90 306 P P 01 20 03.3 0.0
SOC Sochi 21.01 322 *e*P P 01 20 01.2 -3.0
SOC *e* 01 20 20.2
SOC *e*PPP PPP 01 20 40.3
SOC *e*S S 01 23 54.3 -2.3
SOC *e*SS SnSn 01 24 19.2 +0.6
SOC *e*SSS SSS 01 24 33.2
SOC pmax pmax
comp=Z,28nm,0.8s
SOC MLR MLR
comp=Z,48nm,15.0s
ABKAR Akbulak array 21.18 5 P P 01 20 06.8 +0.8
ATD Arta Tunnel 21.44 223 LR LR 01 30 03.6
comp=Z,62nm,18.9s,baz=359,slow=41
BR131 Keskin Array S 22.82 307 P P 01 20 22.4 -1.4
BR131 lAmb lAmb 01 20 26.4
comp=Z,24nm,1.1s
BR131 Keskin Array S 22.82 307 *i* P P 01 20 23.9 +0.1
BRTR Keskin Array B 22.82 307 P P 01 20 23.2 -0.5
comp=Z,11nm,0.9s,baz=123,slow=9.0,SNR=26
BRTR LR LR 01 30 53.3
comp=Z,99nm,20.6s,baz=123,slow=41
comp=Z,11nm,0.9s
BRTR Keskin Array B 22.82 307 P P 01 20 23.1 -0.7
BRTR Keskin Array B 22.82 307 *ce*P P 01 20 24.1 +0.3
BRTR pmax pmax
comp=Z,12nm,0.9s
ANTO Ankara 23.48 306 P P 01 20 30.2 -0.1
ANTO lAmb lAmb 01 20 32.2
comp=Z,9.8nm,0.8s
ANTO Ankara 23.48 306 P P 01 20 30.2 -0.1
ANTO pmax pmax
comp=Z,10.0nm,0.8s
BR231 Keskin MP Arra 23.48 306 P P 01 20 30.3 -0.1
BR231 lAmb lAmb 01 20 33.9
comp=Z,8.9nm,0.7s
ISP Isparta 24.50 300 P P 01 20 38.4 -1.5
ISP lAmb lAmb 01 20 42.4
comp=Z,11nm,0.7s
ISP Isparta 24.50 300 P P 01 20 38.4 -1.5
ISP pmax pmax
comp=Z,11nm,0.7s
ELL Elmali 24.71 297 P P 01 20 41.8 -0.1
ELL Elmali 24.71 297 P P 01 20 41.8 -0.1

ELL pmax pmax
comp=Z,26nm,0.7s
MDUB Mudurnu 24.84 307 P P 01 20 41.6 -1.3
BORA Eskisehir 25.16 305 P P 01 20 45.5 -0.4
BELG Belogornoye 25.32 346 P P 01 20 46.3 -0.7
comp=Z,6.9nm,0.5s,baz=356,slow=2.0,SNR=12
comp=Z,6.9nm,0.5s
BELG Belogornoye 25.32 346 *i* P P 01 20 46.4 -0.6
BELG pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 26.66 18 P P 01 20 59.3 +0.1
comp=Z,4.4nm,0.6s,baz=199,slow=8.1,SNR=27
BVAR LR LR 01 32 59.2
comp=Z,145nm,18.5s,baz=206,slow=40
comp=Z,4.4nm,0.6s
BRVK Borovoye 26.66 17 P P 01 20 59.1 0.0
BRVK Borovoye 26.66 17 *i* P P 01 21 00.1 +0.9
BRVK pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 26.95 40 P P 01 21 02.2 +0.3
MK31 Makanchi Array 26.95 40 P P 01 21 02.2 +0.3
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 26.95 40 P P 01 21 02.9 +1.0
comp=Z,1.0nm,0.7s,baz=224,slow=8.1,SNR=10.0
MKAR LR LR 01 33 02.4
comp=Z,42nm,20.5s,baz=316,slow=39
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 26.95 40 P P 01 21 01.6 -0.3
KURBB Kurchatov Arra 27.57 30 P P 01 21 07.8 +0.4
comp=Z,2.0nm,0.7s,baz=228,slow=8.6,SNR=17
comp=Z,2.0nm,0.7s
KURK Kurchatov 27.68 30 P P 01 21 07.1 -1.2
KURK Kurchatov 27.68 30 *i* P P 01 21 09.1 +0.8
KURK pmax pmax
comp=Z,8.0nm,2.0s
ARU Arti 28.29 1 LR LR 01 33 15.0
comp=Z,44nm,20.4s,baz=300,slow=38
TPGR Topolog 28.48 314 ⇑P P 01 21 15.5 -0.2
IDI Anoyia 28.51 293 P P 01 21 16.3 +0.2
comp=Z,8.7nm,0.9s,baz=168,slow=14,SNR=1.8
comp=Z,8.7nm,0.9s
WMQ Urumqi 28.86 49 *e*P P 01 21 22.0 +3.0
VASR Vaslui 29.69 317 ⇑P P 01 21 25.8 -0.5
PLOR Plostina 30.04 314 ⇑P P 01 21 29.6 +0.1
PLOR Plostina 30.04 314 ⇑P P 01 21 29.6 +0.1
SORM Soroca 30.10 319 ⇓P P 01 21 28.4 -1.4
SORM Soroca 30.10 319 ⇓P P 01 21 28.4 -1.4
PALK Pallekele 30.23 129 LR LR 01 33 46.4
comp=Z,43nm,18.6s,baz=70,slow=36
COVR Voineasa-Covas 30.32 314 ⇓P P 01 21 32.7 +0.7
TESR Tescani 30.33 316 ⇑P P 01 21 31.5 -0.5
MLR Muntele Rosu 30.34 313 ⇓P P 01 21 32.7 +0.5
MLR Muntele Rosu 30.34 313 LR LR 01 36 55.7
comp=Z,28nm,19.8s,baz=88,slow=43
MLR Muntele Rosu 30.34 313 ⇓P P 01 21 32.7 +0.5
DOPR Dopca 30.89 314 ⇑P P 01 21 37.3 +0.4
OBN Obninsk 30.91 337 *e*P P 01 21 34.6 -2.3
OBN *e**PP pP 01 21 40.7 -5.3
OBN *e*PPP PPP 01 22 49.3
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,36nm,15.0s
KIRV Kirov 30.95 352 LR LR 01 36 37.3
comp=Z,62nm,20.6s,baz=151,slow=41
AKASG Malin Array Be 31.04 324 P P 01 21 37.0 -1.1
comp=Z,2.9nm,0.7s,baz=126,slow=8.5,SNR=13
comp=Z,2.9nm,0.7s
ITM Ithomi 31.09 296 P P 01 21 37.8 -1.0
ARR Arges 31.14 312 ⇑P P 01 21 37.8 -1.5
VTS Vitosha 31.18 307 ⇑P P 01 21 40.1 +0.4
VTS Vitosha 31.18 307 P P 01 21 40.0 +0.3
VTS lAmb lAmb 01 22 14.9
comp=Z,7.4nm,1.2s
VTS Vitosha 31.18 307 ⇑P P 01 21 40.1 +0.4
BURAR Bucovina Array 31.70 317 ⇑P P 01 21 43.8 -0.3
BURAR Bucovina Array 31.70 317 P P 01 21 42.9 -1.3
BURAR lAmb lAmb 01 21 44.8
comp=Z,6.0nm,1.4s
BURAR Bucovina Array 31.70 317 ⇑P P 01 21 43.8 -0.3
BUR08 Bucovina Ar. S 31.72 317 P P 01 21 43.8 -0.5
BUR08 lAmb lAmb 01 21 45.8
comp=Z,3.8nm,1.1s
BLKB Belogradchik 31.87 308 ⇑P P 01 21 45.1 -0.6
BOVS Bovan 32.54 308 ⇑P P 01 21 50.7 -0.8
ZAA0 Zalesovo Array 32.66 30 P P 01 21 51.9 -0.5
ZAA0 lAmb lAmb 01 21 53.6
comp=Z,5.7nm,0.7s
ZALV Zalesovo Beam 32.66 30 P P 01 21 52.8 +0.4
comp=Z,6.4nm,0.6s,baz=247,slow=9.4,SNR=26
comp=Z,6.4nm,0.6s
MDVR Moldovita 32.88 310 ⇓P P 01 21 54.6 +0.1
SIRR Siria 33.41 313 ⇑P P 01 21 59.2 +0.2
PDG Podgorica 33.98 305 ⇓P P 01 22 02.6 -1.4
KOLS Kolonicke sedl 34.04 317 *e*P P 01 22 05.2 +0.7
KOLS Kolonicke sedl 34.04 317 *e*P P 01 22 05.2 +0.7
KOLS pmax pmax
comp=Z,27nm,0.7s
TIP Timpagrande 35.35 299 P P 01 22 15.2 -0.8
MORH Mrgy, Hungar 35.37 311 ⇑P P 01 22 15.6 -0.4
VYHS Vyhne 35.98 315 *e*P P 01 22 21.1 -0.1
VYHS Vyhne 35.98 315 *e*P P 01 22 21.1 -0.1
VYHS pmax pmax
comp=Z,4.0nm,0.7s
MODS Modra-Piesok 36.92 314 *e*P P 01 22 29.1 -0.1
MODS Modra-Piesok 36.92 314 *e*P P 01 22 29.1 -0.1
MORC Moravsky Berou 37.22 317 ⇑P P 01 22 31.0 -0.8
MORC Moravsky Berou 37.22 317 P P 01 22 31.4 -0.4
MORC lAmb lAmb 01 22 50.0
comp=Z,5.8nm,1.4s
MORC Moravsky Berou 37.22 317 ⇑P P 01 22 31.0 -0.8
RONA Rosalia, Austr 37.34 313 *e*P P 01 22 32.5 -0.4
comp=Z,3.4nm,0.5s
CONA Conrad Observa 37.69 313 *e*P P 01 22 35.3 -0.5
comp=Z,0.4nm,0.4s
KRLC Kraliky 37.78 317 *e*P P 01 22 35.7 -0.9
KRLC Kraliky 37.78 317 *e*P P 01 22 35.7 -0.9
MBAR Mbarara 38.37 226 LR LR 01 39 33.7
comp=Z,81nm,19.1s,baz=30,slow=38
MOA Molln 38.70 313 *i* P P 01 22 44.0 -0.3
comp=Z,2.4nm,0.6s
CESX Cesi 38.88 304 P P 01 22 46.1 +0.2
CESX lAmb lAmb 01 23 18.8
comp=Z,13nm,0.9s
CKRC Cesky Krumlov 38.93 314 *e*P P 01 22 45.9 -0.3
CKRC *ex* pP 01 22 56.4 +1.1
MURB Monte Urbino 39.00 305 P P 01 22 48.1 +1.1
CMAR Chiang Mai Arr 39.15 95 P P 01 22 51.1 +2.7
CMAR Chiang Mai Arr 39.15 95 P P 01 22 51.1 +2.7
PZH PanZhiHua 39.23 82 P P 01 22 47.5 -1.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.2s
FINES FINESS Array B 39.32 337 P P 01 22 48.2 -1.0
comp=Z,2.3nm,0.7s,baz=125,slow=12,SNR=11
comp=Z,2.3nm,0.7s
FINES FINESS Array B 39.32 337 P P 01 22 49.5 +0.3
GEC2 GERESS Array S 39.32 314 P P 01 22 49.3 -0.3
GERES GERESS Array B 39.32 314 P P 01 22 48.8 -0.8
comp=Z,0.7nm,0.5s,baz=118,slow=7.7,SNR=10.0
comp=Z,0.7nm,0.5s
GERES GERESS Array B 39.32 314 P P 01 22 48.4 -1.2
GERES GERESS Array B 39.32 314 P P 01 22 48.4 -1.2
LATE Laterza 39.45 304 P P 01 22 49.8 -0.8
LATE lAmb lAmb 01 22 50.6
comp=Z,20nm,1.0s
KHC Kasperske Hory 39.48 314 P P 01 22 49.8 -1.0
KHC lAmb lAmb 01 22 58.3
comp=Z,13nm,1.5s
KHC Kasperske Hory 39.48 314 *e*P P 01 22 50.3 -0.5
KHC *ex* pP 01 23 00.8 +0.9
KHC Kasperske Hory 39.48 314 P P 01 22 49.8 -1.0
KHC pmax pmax
comp=Z,13nm,1.5s
CIMO Cimolais 39.57 310 P P 01 22 51.0 -0.6
CIMO lAmb lAmb 01 23 08.6
comp=Z,15nm,1.5s
WTTA Wattenberg 40.30 311 *e*P P 01 22 56.9 -0.9
comp=Z,2.2nm,0.5s
CLL Collm 40.46 317 *e*P P 01 22 58.0 -0.8
comp=Z,8.0nm,1.4s
CLL *ex* pP 01 23 08.0 0.0
CLL Collm 40.46 317 *e*P P 01 22 58.0 -0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLL				*e*		01 23 08.0	
CLL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SQTA	**Sankt Quirin**	**40.58**	**311**	*i* P	**P**	**01 22 59.1**	**-1.0**
	comp=Z,5.6nm,0.8s						
VLC	**Villacollemand**	**40.66**	**306**	P	**P**	**01 23 00.1**	**-0.5**
FETA	**Feichten**	**40.86**	**310**	*e*P	**P**	**01 23 01.5**	**-0.9**
	comp=Z,2.4nm,0.5s						
RETA	**Reutte**	**40.92**	**311**	*i* P	**P**	**01 23 01.5**	**-1.4**
	comp=Z,2.0nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**41.10**	**310**	P	**P**	**01 23 04.3**	**-0.3**
MSSA	**Maissana**	**41.30**	**306**	P	**P**	**01 23 04.7**	**-1.2**
DAVA	**Damuels**	**41.48**	**311**	*i* P	**P**	**01 23 06.4**	**-1.1**
	comp=Z,3.1nm,0.5s						
SONM	**Songino Array**	**42.49**	**49**	P	**P**	**01 23 16.6**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=268,slow=8.9,SNR=5.6						
	comp=Z,1.1nm,0.8s						
ULN	**Ulaanbaatar**	**42.93**	**49**	*ce*P	**P**	**01 23 21.2**	**+1.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
NC405	**NORSAR Array S**	**44.82**	**330**	P	**P**	**01 23 33.5**	**-0.7**
NB2	**NORSAR Subarra**	**45.01**	**330**	P	**P**	**01 23 34.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=110,slow=7.9						
NOA	**NORSAR Array B**	**45.01**	**330**	P	**P**	**01 23 34.6**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=115,slow=7.9,SNR=5.7						
	comp=Z,0.6nm,0.6s						
ARCES	**ARCESS Array B**	**45.36**	**345**	P	**P**	**01 23 37.7**	**-0.6**
	comp=Z,5.8nm,1.0s,baz=144,slow=8.6,SNR=7.4						
	comp=Z,5.8nm,1.0s						
HHC	**Hu-ho-hao-te**	**45.71**	**59**	*e*P	**P**	**01 23 42.3**	**+0.7**
HHC				pmax	pmax		
	comp=Z,31nm,0.9s						
HHC				pmax	pmax		
	comp=Z,280nm,5.3s						
PSI	**Prapat**	**46.87**	**115**	LR	LR	01 43 31.2	
	comp=Z,76nm,19.7s,baz=262,slow=36						
ESDC	**Sonseca Array**	**51.36**	**300**	P	**P**	**01 24 24.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=69,slow=7.3,SNR=12						
	comp=Z,0.8nm,0.7s						
ESDC	**Sonseca Array**	**51.36**	**300**	P	**P**	**01 24 24.4**	**-0.7**
PAB	**San Pablo**	**51.67**	**300**	P	**P**	**01 24 27.3**	**-0.1**
PAB				IAmb	IAmb	01 25 04.0	
	comp=Z,11nm,1.4s						
PAB	**San Pablo**	**51.67**	**300**	P	**P**	**01 24 27.3**	**-0.1**
PAB				pmax	pmax		
	comp=Z,11nm,1.5s						
TOA0	**Torodi Ar. Sit**	**53.83**	**266**	P	**P**	**01 24 41.6**	**-2.0**
TOA0				IAmb	IAmb	01 24 58.8	
	comp=Z,2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.83**	**266**	P	**P**	**01 24 42.5**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=59,slow=7.2,SNR=17						
	comp=Z,1.9nm,0.6s						
KBS	**Kingsbay**	**54.56**	**350**	P	**P**	**01 24 47.7**	**-0.3**
KBS	**Kingsbay**	**54.56**	**350**	P	**P**	**01 24 47.7**	**-0.3**
KBS				pmax	pmax		
	comp=Z,29nm,1.2s						
YAK	**Yakutsk**	**57.27**	**32**	LR	LR	01 52 05.1	
	comp=Z,72nm,18.8s,baz=184,slow=38						
KSRS	**Korea Array**	**58.74**	**61**	P	**P**	**01 25 17.9**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=280,slow=6.9,SNR=2.5						
	comp=Z,1.7nm,0.6s						
KLR	**Kul'dur**	**59.28**	**47**	P	**P**	**01 25 20.9**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=292,slow=7.7,SNR=3.7						
	comp=Z,1.6nm,0.6s						
TSUM	**Tsumeb**	**60.83**	**224**	LR	LR	01 53 35.8	
	comp=Z,38nm,18.1s,baz=329,slow=38						
LBTB	**Lobatse**	**61.09**	**213**	LR	LR	01 53 55.8	
	comp=Z,42nm,19.3s,baz=23,slow=38						
LBTB	**Lobatse**	**61.09**	**213**	P	**P**	**01 25 36.0**	**+1.4**
LBTB	**Lobatse**	**61.09**	**213**	P	**P**	**01 25 36.0**	**+1.4**
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOSA	**Boshof**	**64.30**	**211**	P	**P**	**01 25 57.0**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=18,slow=4.4,SNR=3.6						
BOSA				LR	LR	01 54 07.5	
	comp=Z,25nm,18.2s,baz=20,slow=36						
	comp=Z,2.3nm,0.9s						
BOSA	**Boshof**	**64.30**	**211**	P	**P**	**01 25 57.1**	**+1.1**
BOSA				IAmb	IAmb	01 26 06.9	
	comp=Z,9.4nm,1.4s						
BOSA	**Boshof**	**64.30**	**211**	P	**P**	**01 25 57.1**	**+1.1**
BOSA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MAJO	**Matsushiro**	**66.91**	**60**	P	**P**	**01 26 12.8**	**0.0**
MAJO	**Matsushiro**	**66.91**	**60**	P	**P**	**01 26 12.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL	**Bilibino**	**70.89**	**22**	*e*P	**P**	**01 26 38.3**	**+1.3**
BILL				*e*		01 26 58.9	
BILL				*e*		01 29 17.3	
BILL				*e*PPP	PPP	01 30 58.2	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
A36M	**Sachs Harbour**	**80.14**	**1**	P	**P**	**01 27 29.8**	**-0.1**
A36M				IAmb	IAmb	01 27 40.2	
	comp=Z,8.3nm,0.9s						
TOLK	**Toolik Lake Re**	**81.48**	**10**	P	**P**	**01 27 37.7**	**+0.5**
TOLK				IAmb	IAmb	01 27 47.1	
	comp=Z,11nm,1.4s						
C36M	**Paulatuk**	**82.80**	**1**	P	**P**	**01 27 43.3**	**-0.7**
C36M				IAmb	IAmb	01 27 52.6	
	comp=Z,3.5nm,0.8s						
IMAR	**Indian Mountai**	**83.18**	**12**	P	**P**	**01 27 45.5**	**-0.6**
BMAR	**Burnt Mountain**	**83.31**	**8**	P	**P**	**01 27 47.4**	**+0.6**
INK	**Inuvik**	**83.51**	**4**	P	**P**	**01 27 47.3**	**-0.4**
INK				IAmb	IAmb	01 28 10.3	
	comp=Z,7.2nm,1.4s						
INK	**Inuvik**	**83.51**	**4**	P	**P**	**01 27 47.3**	**-0.4**
INK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
H21K	**Melozitna Rive**	**83.65**	**12**	P	**P**	**01 27 48.1**	**-0.5**
H21K				IAmb	IAmb	01 27 57.2	
	comp=Z,7.7nm,1.3s						
H23K	**Yukon River**	**84.07**	**11**	P	**P**	**01 27 50.6**	**-0.1**
H23K				IAmb	IAmb	01 28 01.8	
	comp=Z,5.1nm,1.1s						
MLY	**Manley**	**84.59**	**12**	P	**P**	**01 27 53.5**	**+0.2**
MLY				IAmb	IAmb	01 28 02.2	
	comp=Z,1.3nm,0.9s						
J20K	**Nowinta River**	**84.71**	**13**	P	**P**	**01 27 54.0**	**+0.1**
J20K				IAmb	IAmb	01 28 31.2	
	comp=Z,8.1nm,1.4s						
ILAR	**Eielson Array**	**85.48**	**10**	P	**P**	**01 27 57.2**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=318,slow=4.8,SNR=7.8						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**88.31**	**114**	P	**P**	**01 28 12.4**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=319,slow=4.0,SNR=2.9						
	comp=Z,1.3nm,0.8s						
STKA	**Stephens Creek**	**99.78**	**121**	LR	LR	02 16 22.8	
	comp=Z,23nm,18.6s,baz=24,slow=37						

---

*IDC **09** 01:17:15.8±0.9, 2°.75S×139°.36E, h0^{km}, mb3.9/8, mbtmp4.1/12, ML4.0/4, MS3.6/12, Error ellipse: s-maj=34.4km s-min=18.0km az=83.0*

*NEIC **09** 01:17:23.6±2.6, 3°.0S±0°.1×139°.00E±0°.05, h67^{km}±10^{km}, mb4.2/9, Error ellipse: s-maj=17.2km s-min=5.0km az=197.0*

*DJA **09** 01:17:23.0±0.4, 3°S±5°×13°9E±°, h62^{km}±7^{km}, M4.6/12, mB5.7/3, mb4.5/12, MLv4.6/7, Mw(mB)5.3/3*

ISC 09 01:17:22.2±0.7**, 2°.94S**±0°.07×**139°.05E**±0°.07**, h46**^{km}**, n46,** σ1^s**60**/41**, mb4.0**/9**, MS3.6**/7**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.17**	**73**	P	**Pn**	**01 17 41.8**	**-0.4**
SRPI	**Serui, Papua**	**3.00**	**291**	P	**Pn**	**01 18 07.0**	**-0.4**
SRPI				S	**Sn**	**01 18 42.1**	**-0.1**
RKPI	**Ransiki, Papua**	**5.07**	**286**	P	**Pn**	**01 18 38.1**	**+2.3**
	0.9nm9μm86nm,0.7s						
MWPI	**Manokwari, Pap**	**5.39**	**292**	P	**Pn**	**01 18 40.7**	**+0.5**
	0.5nm72nm,0.5s						
FAKI	**Fak Fak**	**6.79**	**270**		**Pn**	**01 19 00.2**	**+0.7**
FAKI	**Fak Fak**	**6.79**	**270**	P	**Pn**	**01 19 01.0**	**+1.5**
	0.2nm6μm23nm,1.0s						
SIJI	**Sorong**	**8.05**	**285**	Pn	**Pn**	**01 19 17.4**	**+0.8**
	2.8nm,0.3s,baz=124,slow=23,SNR=7.0						
SIJI				LR	LR	01 23 00.7	
	comp=Z,163nm,20.9s,baz=79,slow=42						
	8.4nm,0.4s						
SIJI	**Sorong**	**8.05**	**285**	P	Pn	01 19 06.4	-10
MANU	**Manus Island**	**8.35**	**84**	Pn	**Pn**	**01 19 23.3**	**+2.4**
SAUI	**Saumlaki**	**9.20**	**237**	Pn	**Pn**	**01 19 36.2**	**+3.8**
BNDI	**Bandanaira**	**9.26**	**260**	P	**Pn**	**01 19 36.0**	**+2.7**
	4μm58nm,0.8s						
PMG	**Port Moresby**	**10.30**	**129**	Pn	**Pn**	**01 19 49.4**	**+1.8**
COEN	**Coen**	**11.68**	**160**	Pn	**Pn**	**01 20 07.1**	**+0.7**
LBMI	**Labuha**	**11.77**	**281**	P	**Pn**	**01 20 09.6**	**+2.0**
	25nm,0.8s						
NLAI	**Namlea**	**11.94**	**268**	P	**Pn**	**01 20 10.3**	**+0.4**
	12nm,0.6s						
MTN	**Manton Dam**	**12.58**	**218**	Pn	**Pn**	**01 20 16.3**	**-2.4**
SOEI	**Soe**	**16.17**	**245**		**Pn**	**01 21 06.4**	**-0.2**
SOEI	**Soe**	**16.17**	**245**	P	**P**	**01 21 08.2**	**-1.0**
	54nm,1.1s						
BATI	**Baumata**	**16.90**	**244**	P	**P**	**01 21 20.4**	**+3.2**
	4.2nm,0.3s,baz=197,slow=3.6,SNR=4.6						
BATI				LR	LR	01 28 02.9	
	comp=Z,202nm,19.7s,baz=296,slow=38						
	19nm,0.3s						
WB0	**Warramunga Arr**	**17.33**	**195**		**Pn**	**01 21 19.4**	**-1.6**
GUMO	**Guam**	**17.41**	**19**	LR	LR	01 26 41.0	
	comp=Z,157nm,20.7s,baz=212,slow=33						
WR0	**Warramunga Arr**	**17.48**	**194**	P	**Pn**	**01 21 21.7**	**-1.1**
WR0				IAmb	IAmb	01 21 30.0	
	comp=Z,24nm,1.2s						
WRAB	**Tennant Creek**	**17.50**	**195**		**Pn**	**01 21 21.4**	**-1.7**
WRAB				IAmb	IAmb	01 21 30.2	
	comp=Z,22nm,1.1s						
WB2	**Warramunga Arr**	**17.51**	**195**		**Pn**	**01 21 21.4**	**-1.8**
WB2				IAmb	IAmb	01 21 30.4	
	comp=Z,23nm,1.1s						
WRA	**Warramunga Arr**	**17.52**	**195**	P	**Pn**	**01 21 22.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=17,slow=13,SNR=16						
WRA				S	**Sn**	**01 24 36.3**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=0.7,slow=23,SNR=7.0						
WRA				LR	LR	01 28 58.1	
	comp=Z,314nm,19.2s,baz=346,slow=40						
	comp=Z,2.9nm,0.9s						
WRA	**Warramunga Arr**	**17.52**	**195**		**Pn**	**01 21 21.0**	**-2.2**
CTA	**Charters Tower**	**18.44**	**158**	P	**P**	**01 21 33.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=1.0						
CTA				LR	LR	01 29 13.1	
	comp=Z,280nm,18.2s,baz=48,slow=39						
	comp=Z,0.7nm,0.2s						
AS31	**Alice Springs**	**21.20**	**193**	P	**P**	**01 22 02.2**	**-1.9**
ASAR	**Alice Springs**	**21.20**	**193**	P	**P**	**01 22 05.8**	**+1.6**
	comp=Z,7.2nm,0.9s,baz=23,slow=9.6,SNR=17						
ASAR				S	Sn	01 26 05.2	-1.1
	comp=Z,1.2nm,0.8s,baz=8.9,slow=15,SNR=5.7						
ASAR				LR	LR	01 31 11.5	
	comp=Z,253nm,18.2s,baz=358,slow=39						
	comp=Z,7.2nm,0.9s						
ASAR	**Alice Springs**	**21.20**	**193**	P	**P**	**01 22 04.0**	**-0.1**
KLNI	**Mataram**	**23.48**	**256**	P	**P**	**01 22 27.8**	**-0.3**
STKA	**Stephens Creek**	**28.89**	**176**	LR	LR	01 36 08.5	
	comp=Z,224nm,19.6s,baz=17,slow=39						
JCJ	**Chichijima**	**30.01**	**6**	LR	LR	01 32 51.3	
	comp=Z,44nm,21.4s,baz=136,slow=31						
NWAO	**Narrogin (SRO)**	**36.17**	**212**	LR	LR	01 40 35.2	
	comp=Z,296nm,18.4s,baz=259,slow=38						
RPZ	**Rata Peaks**	**49.52**	**150**	LR	LR	01 45 27.3	
	comp=Z,67nm,20.0s,baz=294,slow=34						
KLR	**Kul'dur**	**52.34**	**354**	P	**P**	**01 26 28.6**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=195,slow=3.4,SNR=4.8						
KLR				LR	LR	01 46 41.1	
	comp=Z,56nm,18.2s,baz=250,slow=34						
	comp=Z,2.2nm,0.8s						
PETK	**Petropavlovsk-**	**58.00**	**13**	LR	LR	01 48 14.6	
	comp=Z,25nm,21.7s,baz=169,slow=32						
MK31	**Makanchi Array**	**70.18**	**322**	P	**P**	**01 28 29.0**	**-1.3**
MK31				IAmb	IAmb	01 28 50.4	
	comp=Z,3.1nm,1.2s						
MKAR	**Makanchi Array**	**70.18**	**322**	P	**P**	**01 28 30.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=99,slow=8.6,SNR=9.9						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**70.18**	**322**	P	**P**	**01 28 28.5**	**-1.8**
ZALV	**Zalesovo Beam**	**72.30**	**330**	P	**P**	**01 28 43.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=92,slow=6.3,SNR=2.0						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**74.11**	**325**	P	**P**	**01 28 53.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=113,slow=5.8,SNR=1.3						
	comp=Z,0.2nm,0.3s						
VNDA	**Vanda**	**75.52**	**175**	P	**P**	**01 29 03.0**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=340,slow=3.8,SNR=9.0						
	comp=Z,1.7nm,0.8s						
VNDA	**Vanda**	**75.52**	**175**	P	**P**	**01 28 59.9**	**-1.5**
VNDA				IAmb	IAmb	01 29 04.5	
	comp=Z,1.7nm,0.8s						
BVAR	**Borovoye Array**	**79.69**	**325**	P	**P**	**01 29 24.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=107,slow=5.0,SNR=3.7						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**01 29 55.8**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=258,slow=5.5,SNR=6.4						
	comp=Z,1.0nm,0.9s						

IDC 09 01:39:46.2±2.2**, 1°.76N**×**125°.59E, h0**^{km}**, mb3.2**/3**, mbtmp3.2**/3**, Error ellipse: s-maj=193.5km s-min=28.7km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.21**	**159**	P	P	01 44 54.5	-0.6
	0.2nm,0.3s,baz=337,slow=11,SNR=6.3						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**26.54**	**163**	P	P	01 45 26.6	+0.7
	0.2nm,0.4s,baz=343,slow=11,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.53**	**326**	P	P	01 49 44.4	-0.2
	0.1nm,0.4s,baz=119,slow=6.6,SNR=1.4						
	0.1nm,0.4s						

---

*ARE **09** 02:15:20±4.0, 11°.51S±0°.07×76°.20W±0°.09, h137^{km}±5^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=186.0*

*NEIC **09** 02:15:20.5±2.9, 11°.44S±0°.07×76°.04W±0°.06, h110^{km}±8^{km}, mb4.4/18, ML4.6(ARE), Error ellipse: s-maj=10.6km s-min=9.0km az=179.0*

*IDC **09** 02:15:21.7±1.2, 11°.48S×76°.10W, h113^{km}±18^{km}, mb3.4/3, mbtmp3.8/6, Error ellipse: s-maj=35.3km s-min=23.6km az=69.0*

*VAO **09** 02:15:29.3±1.6, 11°.26S×75°.24W, h104^{km}, mb4.1*

ISC 09 02:15:20.3±0.6**, 11°.34S**±0°.06×**76°.05W**±0°.07**, h100**^{km}**, n59,** σ1^s**56**/61**, mb4.2**/7**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**1.00**	**230**	P	**Pn**	**02 15 42.5**	**+1.6**
	1μm,0.3s,baz=51,slow=11,SNR=1241						
NNA				S	**Sn**	**02 15 58.1**	**+1.7**
	4μm,0.4s,baz=188,slow=19,SNR=44						
NNA				LR	LR	02 16 17.0	
	comp=Z,152nm,20.9s,baz=276,slow=63						
ATAH	**Atahualpa**	**4.78**	**331**	P	**Pn**	**02 16 33.3**	**+2.8**
	30nm,0.4s,baz=160,slow=4.3,SNR=129						
CZSB	**Cruzeiro do Su**	**4.88**	**43**	Pn	**Pn**	**02 16 33.3**	**+1.9**
CZSB	**Cruzeiro do Su**	**4.88**	**43**	*e*P	**Pn**	**02 16 33.4**	**+1.9**
MCRA	**Macar, Loja**	**7.94**	**331**	Pn	**Pn**	**02 17 13.1**	**0.0**
BOSC	**San Juan Bosco**	**8.49**	**343**	Pn	**Pn**	**02 17 18.8**	**-2.0**
ARNL	**Arenillas**	**8.71**	**332**	Pn	**Pn**	**02 17 24.5**	**+0.9**
LPAZ	**La Paz**	**9.13**	**123**	P	**Pn**	**02 17 31.1**	**+1.4**
	3.4nm,0.6s,baz=315,slow=11,SNR=10						
LPAZ	**La Paz**	**9.13**	**123**	Pn	**Pn**	**02 17 28.7**	**-1.1**
LPAZ	**La Paz**	**9.13**	**123**	*e*P	**Pn**	**02 17 30.6**	**+0.9**
TBTG	**Tabatinga, AM**	**9.36**	**41**	Pn	**Pn**	**02 17 33.0**	**+0.6**
TBTG	**Tabatinga, AM**	**9.36**	**41**	*e*P	**Pn**	**02 17 33.4**	**+1.0**
COHC	**Cochancay**	**9.38**	**340**	Pn	**Pn**	**02 17 32.6**	**0.0**
PB16	**IPOC Station P**	**9.39**	**138**	Pn	**Pn**	**02 17 32.1**	**-1.2**
ETMB	**Extrema**	**9.79**	**82**	Pn	**Pn**	**02 17 37.6**	**-0.6**
ETMB	**Extrema**	**9.79**	**82**	*e*P	**Pn**	**02 17 37.7**	**-0.5**
CHSH	**Refugio Sur-Vo**	**10.18**	**344**	Pn	**Pn**	**02 17 45.1**	**+1.1**
PORT	**Chimborazo Vol**	**10.18**	**344**	Pn	**Pn**	**02 17 45.9**	**+1.7**
SLOR	**San Lorenzo -**	**10.82**	**347**	Pn	**Pn**	**02 17 52.6**	**-0.2**
PB08	**IPOC Station P**	**10.98**	**144**	Pn	**Pn**	**02 17 52.2**	**-2.5**
TULM	**Tulcn-Chalpat**	**12.11**	**352**	Pn	**Pn**	**02 18 10.7**	**+0.7**
SIV	**San Ignacio**	**15.27**	**109**	P	**Pn**	**02 18 51.1**	**+0.5**
	0.6nm,0.4s,baz=281,slow=12,SNR=6.2						
VILB	**Vilhena**	**15.58**	**98**		**Pn**	**02 18 54.0**	**-0.6**
VILB				IAmb	IAmb	02 19 13.8	
	comp=Z,10.0nm,0.9s						
VILB	**Vilhena**	**15.58**	**98**	*e*P	**Pn**	**02 18 54.3**	**-0.3**
AC01	**Pan de Azucar**	**15.60**	**161**		**Pn**	**02 18 54.1**	**-0.6**
AC01				IAmb	IAmb	02 19 08.1	
	comp=Z,22nm,1.1s						
BBSD	**Serra de San D**	**16.05**	**113**	*e*P	**Pn**	**02 18 59.3**	**-1.1**
PTLB	**Pontes e Lacer**	**16.95**	**106**		**Pn**	**02 19 10.0**	**-1.5**
PTLB				IAmb	IAmb	02 19 27.4	
	comp=Z,2.7nm,0.7s						
PTLB	**Pontes e Lacer**	**16.95**	**106**	*e*P	**Pn**	**02 19 10.4**	**-1.1**
MACA	**Manacapuru-AM**	**17.27**	**63**	P	**P**	**02 19 12.8**	**-2.5**
MACA				IAmb	IAmb	02 19 18.5	
	comp=Z,29nm,0.5s						
MACA	**Manacapuru-AM**	**17.27**	**63**	*e*P	**P**	**02 19 13.4**	**-1.9**
PDRB	**Porto dos Gac**	**18.94**	**93**	*e*P	**P**	**02 19 33.5**	**-0.2**
CO06	**Fray Jorge**	**19.67**	**169**	P	**P**	**02 19 40.4**	**-1.0**
CO06				IAmb	IAmb	02 19 54.7	
	comp=Z,44nm,1.4s						
CLDB	**Colider**	**19.88**	**91**	*e*P	**P**	**02 19 44.1**	**+0.1**
CO03	**El Pedregal**	**20.03**	**166**	P	**P**	**02 19 44.6**	**-0.8**
CO03				IAmb	IAmb	02 19 47.1	
	comp=Z,10nm,0.8s						
CO02	**Combarbal**	**20.31**	**167**	P	**P**	**02 19 45.7**	**-2.8**
CO02				IAmb	IAmb	02 19 52.5	
	comp=Z,20nm,0.9s						
MURT	**Porto Murtinho**	**20.42**	**122**	*e*P	**P**	**02 19 50.2**	**+0.6**
BOAV	**Boa Vista**	**20.61**	**49**	P	**P**	**02 19 52.5**	**+0.8**
BOAV				IAmb	IAmb	02 19 57.8	
	comp=Z,12nm,0.6s						
BOAV	**Boa Vista**	**20.61**	**49**	*e*P	**P**	**02 19 53.4**	**+1.6**
BCIP	**Isla Barro Col**	**20.72**	**349**	P	**P**	**02 19 54.0**	**+1.1**
SDV	**Santo Domingo**	**20.81**	**15**	P	**P**	**02 19 52.7**	**-1.4**
NPGB	**Novo Progresso**	**20.86**	**80**	*e*P	**P**	**02 19 54.0**	**-0.6**
BRU2	**Volcan**	**21.07**	**341**	P	**P**	**02 19 55.1**	**-1.8**
BRU2				IAmb	IAmb	02 20 01.1	
	comp=Z,19nm,0.8s						
ITTB	**Itaituba**	**21.27**	**73**	*e*P	**P**	**02 19 59.5**	**+0.6**
MT02	**Curacav**	**22.27**	**169**	P	**P**	**02 20 09.3**	**0.0**
MT02				IAmb	IAmb	02 20 30.7	
	comp=Z,15nm,1.2s						
BO04	**La Punta**	**23.08**	**168**	P	**P**	**02 20 16.9**	**-0.6**
BO04				IAmb	IAmb	02 20 42.2	
	comp=Z,22nm,1.4s						
CPUP	**Villa Florida**	**23.11**	**133**	P	**P**	**02 20 17.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=316,slow=12,SNR=3.1						
	comp=Z,1.3nm,0.7s						
CPUP	**Villa Florida**	**23.11**	**133**	P	**P**	**02 20 16.5**	**-1.3**
MALB	**Monte Alegre**	**23.58**	**68**	*e*P	**P**	**02 20 22.9**	**+0.6**
SNDB	**Serra Nova Dou**	**24.25**	**94**	*e*P	**P**	**02 20 29.3**	**+1.0**
MCPB	**Macapa, AP**	**26.21**	**67**	*e*P	**P**	**02 20 48.1**	**+2.0**
PTGB	**Pitanga**	**26.34**	**124**	*e*P	**P**	**02 20 52.1**	**+4.9**
PLCA	**Paso Flores**	**29.67**	**172**	P	**P**	**02 21 15.8**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=3.5,slow=7.8,SNR=3.1						
	comp=Z,1.5nm,0.9s						
PLCA	**Paso Flores**	**29.67**	**172**	P	**P**	**02 21 13.9**	**-2.8**
PLCA				IAmb	IAmb	02 21 17.6	
	comp=Z,6.9nm,1.4s						
TX31	**Lajitas Ar. Si**	**48.43**	**327**	P	**P**	**02 23 51.8**	**-1.0**
TX32	**Lajitas Array**	**48.43**	**327**	P	**P**	**02 23 51.8**	**-1.0**
TX32				IAmb	IAmb	02 24 15.5	
	comp=Z,5.9nm,0.9s						
P40A	**Paris**	**52.76**	**344**	P	**P**	**02 24 23.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**80.87**	**75**	P	**P**	**02 27 24.5**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=241,slow=4.8,SNR=2.4						
TORD				pP	**pP**	**02 27 55.5**	**+4.3**
	comp=Z,1.3nm,0.9s,baz=260,slow=3.6,SNR=4.3						
	comp=Z,0.6nm,0.9s						
KSH	**Kashi**	**142.54**	**37**	PKP	**PKPdf**	**02 34 42.2**	**0.0**
PZH	**PanZhiHua**	**164.78**	**8**	PKP	**PKPdf**	**02 35 13.8**	**+0.3**

---

*IDC **09** 02:15:36.2±0.6, 37°.00N×97°.84W, h0^{km}, mb4.1/8, mbtmp4.0/15, ML3.6/8, MS3.4/3, Error ellipse: s-maj=11.8km s-min=9.3km az=163.0*

*TUL **09** 02:15:37±0.4, 36°.945N±0°.008×97°.90W±0°.01, h6^{km}±2^{km}, ML4.0, mb4.2/19(NEIC), mb_Lg4.0/110(NEIC), Mwr3.7/42(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=120.0*

*ANF **09** 02:15:37.4±0.7, 36°.87N×97°.90W, h6^{km}, ML4.8/26, Error ellipse: s-maj=8.0km s-min=7.1km az=89.0*

*NEIC **09** 02:15:37, 36°.95N×97°.90W, h3^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-4.17; $M_{\theta\theta}$4.45; $M_{\phi\phi}$-0.28; $M_{r\theta}$-0.01; $M_{\theta\phi}$1.98; $M_{\phi r}$0.03; Fault plane solution: $M_0$4.75000×10^{14} NP1:ϕ_s249.45000°, δ44.99000°, λ-90.81000°. NP2:ϕ_s70.60000°, δ45.02000°, λ-89.19000°. Principal axes: T 5.1695, Plg0.0000°, Azm160.0000°; N -1.0024, Plg1.0000°, Azm250.0000°; P -4.1671, Plg90.0000°, Azm69.0000°;*

*NEIC **09** 02:15:37.6±0.4, 36°.940N±0°.008×97°.89W±0°.01, h1^{km}±4^{km} Error ellipse: s-maj=1.4km s-min=1.0km az=120.0*

ISC 09 02:15:36.5±0.7**, 36°.92N**±0°.02×**97°.88W**±0°.02**, h10**^{km}±4^{km}**, n337,** σ1^s**33**/372**, mb4.1**/10**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.07**	**167**	Pg	**Pg**	**02 15 39.2**	**+0.5**
GC02				Sg	**Sg**	**02 15 40.9**	**+0.5**
KAN14	**Manchester OK**	**0.08**	**301**		**Pg**	**02 15 38.7**	**-0.2**
KAN14				Sg	**Sg**	**02 15 39.7**	**-0.9**
KAN17	**Caldwell West**	**0.16**	**35**	Pg	**Pg**	**02 15 40.5**	**+0.4**
KAN17				Sg	**Sg**	**02 15 42.7**	**+0.2**
KAN01	**Argonia South**	**0.26**	**22**	Pg	**Pg**	**02 15 42.1**	**+0.4**
KAN01				Sg	**Sg**	**02 15 45.3**	**0.0**
OK032	**Salt Plains WL**	**0.29**	**247**	Pg	**Pb**	**02 15 42.9**	**-0.9**
OK032				Sg	**Sg**	**02 15 47.0**	**+0.8**
KAN09	**Caldwell North**	**0.30**	**43**		**Pg**	**02 15 43.2**	**+0.5**
KAN09				Sg	**Sg**	**02 15 47.1**	**+0.4**
KAN08	**Anthony NE Sta**	**0.32**	**347**	Pg	**Pg**	**02 15 43.2**	**+0.3**
KAN08				Sg	**Sg**	**02 15 47.3**	**+0.1**
KAN06	**Argonia West S**	**0.33**	**3**		**Pg**	**02 15 43.5**	**+0.3**
KAN06				Sg	**Sg**	**02 15 47.2**	**-0.4**
KAN13	**South Haven SW**	**0.34**	**73**	Pg	**Pg**	**02 15 43.8**	**+0.6**
KAN16	**Harper SW Stat**	**0.34**	**334**	Pg	**Pg**	**02 15 43.0**	**-0.4**
KAN16				Sg	**Sg**	**02 15 48.0**	**0.0**
KAN12	**Harper NE Stat**	**0.39**	**346**	Pg	**Pg**	**02 15 44.6**	**+0.3**
KAN12				Sg	**Sg**	**02 15 49.2**	**-0.3**
KS20	**Mayfield South**	**0.41**	**40**		**Pg**	**02 15 45.0**	**+0.4**
KS20				Sg	**Sg**	**02 15 50.4**	**+0.4**
KS21	**Milan North St**	**0.41**	**25**	Pg	**Pg**	**02 15 45.0**	**+0.4**
KS21				Sg	**Sg**	**02 15 50.4**	**+0.4**
CROK	**Carrier**	**0.42**	**192**	Pg	**Pb**	**02 15 45.7**	**-0.3**
BLOK	**Blackwell**	**0.55**	**106**	Pg	**Pb**	**02 15 48.2**	**-0.1**
BLOK				Sg	**Sb**	**02 15 55.7**	**-0.6**
OK035	**E0210 Rd and N**	**0.70**	**253**	Pg	**Pb**	**02 15 50.4**	**-0.4**
OK035				Sg	**Sb**	**02 15 59.8**	**-0.7**
OK038	**West end E0370**	**0.82**	**238**	Pg	**Pb**	**02 15 52.7**	**-0.2**
OK038				Sg	**Sb**	**02 16 03.8**	**-0.2**
OK050	**Pawnee Station**	**0.89**	**126**	Pg	**Pb**	**02 15 54.2**	**+0.1**
NOKA	**Waynoka**	**0.89**	**252**	Pg	**Pg**	**02 15 53.6**	**-0.1**
OK048	**Pawnee Station**	**0.90**	**123**	Pg	**Pb**	**02 15 54.5**	**+0.3**
OK051	**E0350 and S346**	**0.93**	**116**	Pg	**Pb**	**02 15 54.9**	**+0.1**
OK046	**Pawnee Station**	**0.94**	**123**	Pg	**Pb**	**02 15 55.1**	**+0.2**
OK044	**Pawnee Station**	**1.02**	**122**	Pg	**Pn**	**02 15 56.7**	**-0.2**
OK047	**Pawnee, Statio**	**1.03**	**115**	Pg	**Pn**	**02 15 56.8**	**-0.2**
U32A	**Winter Ranch,**	**1.05**	**240**	Pg	**Pb**	**02 15 56.6**	**-0.1**
U32A	**Winter Ranch,**	**1.05**	**240**	P	**Pb**	**02 15 56.9**	**+0.1**
	baz=57,SNR=140						
T35A	**Sooner Cattle**	**1.09**	**90**	Pg	**Pg**	**02 15 57.6**	**+0.1**
T35B	**Sooner Cattle**	**1.09**	**90**	P	**Pb**	**02 15 57.8**	**+0.2**
	baz=272,SNR=1000						
T35B				S	**Sb**	**02 16 12.3**	**+0.4**
	baz=272						
OK033	**Mehan**	**1.15**	**139**	Pg	**Pn**	**02 15 59.2**	**+0.5**
QUOK	**Quay**	**1.20**	**128**	Pg	**Pg**	**02 16 00.0**	**+0.5**
BCOK	**Bluff Creek, N**	**1.27**	**170**	Pg	**Pg**	**02 16 01.0**	**0.0**
OK031	**S. Brethren Rd**	**1.27**	**139**		**Pg**	**02 16 01.0**	**0.0**
OK034	**N. Norfolk Rd.**	**1.30**	**134**	Pg	**Pg**	**02 16 01.7**	**+0.2**
OK030	**Cody Creek RV**	**1.32**	**138**		**Pg**	**02 16 01.9**	**-0.1**
OK005	**Luther M Schoo**	**1.38**	**156**		**Pg**	**02 16 03.0**	**+0.1**
OK009	**Oakdale Elemen**	**1.38**	**164**		**Pg**	**02 16 03.2**	**+0.2**
OK025	**Westminster Rd**	**1.40**	**162**		**Pg**	**02 16 03.5**	**0.0**
OK025				IAmb_Lg		02 16 24.8	
	comp=Z,774nm,0.7s						
CSTR	**Hydro, Custer**	**1.43**	**208**		**Pg**	**02 16 03.7**	**-0.2**
ELIS	**Ellis County**	**1.50**	**236**		**Pg**	**02 16 04.8**	**-0.5**
DEOK	**Depew**	**1.54**	**133**		**Pb**	**02 16 05.5**	**+0.3**
DEOK				IAmb_Lg		02 16 26.6	
	comp=Z,264nm,0.7s						
R32A	**Long Quarter,**	**1.64**	**337**		**Pb**	**02 16 06.6**	**-0.3**
R32A				IAmb_Lg		02 16 32.1	
	comp=Z,798nm,0.8s						
R32A	**Long Quarter,**	**1.64**	**337**	P	**Pb**	**02 16 06.9**	**0.0**
	baz=156,SNR=121						
R32A				S	**Sb**	**02 16 28.3**	**+0.6**
	baz=156						
FNO	**Franklin**	**1.70**	**167**	Pn	**Pb**	**02 16 08.0**	**+0.1**
TUL1	**Leonard**	**1.96**	**120**	Pn	**Pb**	**02 16 11.4**	**-0.8**
TUL1	**Leonard**	**1.96**	**120**	P	**Pb**	**02 16 11.5**	**-0.8**
	baz=302,SNR=254						
TUL1				S	**Sg**	**02 16 39.1**	**-0.4**
	baz=302						

TUL1 **Leonard** 1.96 120 P Pb 02 16 11.6 -0.7
baz=302,SNR=272
TUL1 S Sg 02 16 38.9 -0.6
baz=302
WMOK **Wichita Mounta** 2.29 199 Pn Pn 02 16 15.8 +1.5
WMOK **Wichita Mounta** 2.29 199 P Pb 02 16 16.1 -1.8
baz=18,SNR=272
WMOK **Wichita Mounta** 2.29 199 P Pn 02 16 15.9 +1.5
baz=18,SNR=106
WMOK S Sb 02 16 45.5 -0.9
baz=18
X34A **Smith Ranch, M** 2.31 179 Pn Pb 02 16 16.8 -1.5
X34A IAmb_Lg 02 16 50.3
comp=Z,548nm,0.9s
CBKS **Cedar Bluff** 2.40 323 Pn Pn 02 16 16.9 +1.0
CBKS IAmb_Lg 02 16 57.3
comp=Z,582nm,0.8s
CBKS **Cedar Bluff** 2.40 323 P Pn 02 16 17.4 +1.4
baz=142,SNR=96
CBKS S Sb 02 16 50.2 +0.7
baz=142
CBKS **Cedar Bluff** 2.40 323 P Pn 02 16 17.3 +1.4
baz=142,SNR=80
CBKS S Sb 02 16 48.4 -1.0
baz=142
KSU1 **Kansas State U** 2.40 24 Pn Pn 02 16 16.8 +0.9
KSU1 **Kansas State U** 2.40 24 P Pn 02 16 17.6 +1.6
baz=206,SNR=37
KSU1 S Sb 02 16 50.3 +0.8
baz=206
KSU1 **Kansas State U** 2.40 24 P Pn 02 16 17.5 +1.6
baz=206,SNR=141
KSU1 S Sb 02 16 50.2 +0.7
baz=206
RLO **Rose Lookout** 2.42 107 Pn Pn 02 16 17.8 +1.7
U38A **Gravette** 2.85 99 Pn Pn 02 16 23.9 +1.8
U38A IAmb_Lg 02 17 14.7
comp=Z,463nm,0.8s
U38A **Gravette** 2.85 99 P Pn 02 16 24.0 +2.0
baz=281,SNR=213
LOOK **Love County** 2.97 169 Pn Pn 02 16 25.5 +1.8
LOOK IAmb_Lg 02 17 18.3
comp=Z,350nm,0.8s
X37A **Clayton** 3.09 138 Pn Pn 02 16 27.1 +1.8
X37A **Clayton** 3.09 138 P Pn 02 16 27.3 +1.9
baz=320,SNR=256
HHAR **Hobbs** 3.23 100 Pn Pn 02 16 29.0 +1.7
HHAR IAmb_Lg 02 17 27.3
comp=Z,533nm,0.7s
Z35A **Perchaven, San** 3.61 172 Pn Pn 02 16 34.3 +1.7
Z35A **Perchaven, San** 3.61 172 P Pn 02 16 34.6 +2.0
baz=352,SNR=25
Z35A S Sn 02 17 18.0 +2.8
baz=352
AMTX **Amarillo** 3.69 238 Pn Pn 02 16 35.8 +2.0
AMTX IAmb_Lg 02 17 41.4
comp=Z,460nm,0.8s
AMTX **Amarillo** 3.69 238 P Pn 02 16 36.1 +2.4
baz=55,SNR=34
AMTX **Amarillo** 3.69 238 P Pn 02 16 34.9 +1.2
baz=55
AMTX S Sn 02 17 19.1 +1.7
baz=55
S39A **Bolivar** 3.71 77 Pn Pn 02 16 35.1 +1.1
S39A **Bolivar** 3.71 77 P Pn 02 16 35.2 +1.3
baz=260,SNR=19
N33B **J Bar K, Exete** 3.83 5 P Pn 02 16 36.3 +0.7
baz=185,SNR=15
N33B S Sn 02 17 21.9 +1.2
baz=185
N33A **J Bar K, Exete** 3.83 5 Pn Pn 02 16 35.8 +0.2
MIAR **Mount Ida** 4.22 123 Pn Pn 02 16 42.8 +1.9
MIAR IAmb_Lg 02 18 01.3
comp=Z,355nm,0.8s
MIAR **Mount Ida** 4.22 123 P Pn 02 16 42.6 +1.6
baz=306
MIAR **Mount Ida** 4.22 123 P Pn 02 16 42.4 +1.4
baz=306,SNR=27
MIAR S Sn 02 17 32.2 +1.9
baz=306
KSCO **Kaye Shedlock'** 4.30 301 Pn Pn 02 16 43.5 +1.5
KSCO IAmb_Lg 02 17 56.2
comp=Z,298nm,0.8s
KSCO **Kaye Shedlock'** 4.30 301 P Pn 02 16 43.5 +1.5
baz=118,SNR=19
KSCO **Kaye Shedlock'** 4.30 301 P Pn 02 16 43.4 +1.3
baz=118
KSCO S Sn 02 17 33.1 +0.8
baz=118
N35A **Tabor** 4.31 23 Pn Pn 02 16 42.9 +0.8
N35A **Tabor** 4.31 23 P Pn 02 16 43.2 +1.1
baz=205
N35A S Sg 02 17 52.2 -2.6
baz=205
Z38A **Mt. Pleasant** 4.35 146 Pn Pn 02 16 44.2 +1.6
Z38A IAmb_Lg 02 18 00.7
comp=Z,436nm,0.9s
Z38A **Mt. Pleasant** 4.35 146 P Pn 02 16 44.3 +1.6
baz=328
P38A **Dawn** 4.36 50 Pn Pn 02 16 44.2 +1.4
P38A IAmb_Lg 02 17 55.9
comp=Z,410nm,0.9s
P38A **Dawn** 4.36 50 P Pn 02 16 44.5 +1.7
baz=233,SNR=65
P38A S Sg 02 17 53.0 -3.5
baz=233
BGNE **Belgrade** 4.49 357 Pn Pn 02 16 45.6 +1.0
BGNE IAmb_Lg 02 18 04.4
comp=Z,521nm,0.7s
BGNE **Belgrade** 4.49 357 P Pn 02 16 45.9 +1.2
baz=177,SNR=42
BGNE **Belgrade** 4.49 357 P Pn 02 16 45.8 +1.2
baz=177,SNR=11
BGNE S Sn 02 17 38.1 +1.2
baz=177
MGMO **Mountain Grove** 4.50 85 Pn Pn 02 16 46.2 +1.6
MGMO IAmb_Lg 02 18 07.7
comp=Z,282nm,0.7s
ABTX **Abilene, Hawle** 4.52 199 Pn Pn 02 16 46.3 +1.2
ABTX **Abilene, Hawle** 4.52 199 P Pn 02 16 45.9 +0.8
baz=18,SNR=17
ABTX **Abilene, Hawle** 4.52 199 P Pn 02 16 45.8 +0.8
baz=18,SNR=8.4
ABTX S Sn 02 17 39.6 +1.9
baz=18
R40A **Maddies Statio** 4.66 71 Pn Pn 02 16 48.1 +1.1
R40A IAmb_Lg 02 18 09.0
comp=Z,269nm,0.9s
R40A **Maddies Statio** 4.66 71 P Pn 02 16 48.0 +1.1
baz=255,SNR=74
FCAR **Ozark Folk Cen** 4.75 101 Pn Pn 02 16 49.2 +1.0
FCAR IAmb_Lg 02 18 10.1
comp=Z,244nm,0.9s
WHAR **Wooly Hollow** 4.81 108 Pn Pn 02 16 50.0 +1.0
WHTX **Lake Whitney,** 4.92 176 Pn Pn 02 16 51.5 +1.0
WHTX **Lake Whitney,** 4.92 176 P Pn 02 16 51.9 +1.3
baz=356,SNR=62
WHTX S Sn 02 17 48.9 +1.3
baz=356
WHTX **Lake Whitney,** 4.92 176 P Pn 02 16 51.9 +1.3
baz=356,SNR=14
WHTX S Sn 02 17 47.7 +0.1
baz=356
MSTX **Muleshoe** 4.96 235 Pn Pn 02 16 52.9 +1.7
MSTX **Muleshoe** 4.96 235 P Pn 02 16 52.8 +1.7
baz=52,SNR=8.6
MSTX **Muleshoe** 4.96 235 P Pn 02 16 52.5 +1.3
baz=52,SNR=11
MSTX S Sn 02 17 50.3 +1.7
baz=52
UALR **University of** 4.98 114 Pn Pn 02 16 53.3 +2.0
UALR IAmb_Lg 02 18 17.6
comp=Z,234nm,0.9s
OGNE **Ogallala** 5.17 322 Pn Pn 02 16 55.9 +2.0
OGNE IAmb_Lg 02 18 27.4
comp=Z,419nm,0.8s
OGNE **Ogallala** 5.17 322 P Pn 02 16 56.3 +2.4
baz=140,SNR=16
OGNE S Sn 02 17 55.0 +1.3
baz=140
OGNE **Ogallala** 5.17 322 P Pn 02 16 55.7 +1.8
baz=140,SNR=8.7
OGNE S Sn 02 17 55.2 +1.5
baz=140
237A **Washetta, Mont** 5.19 160 Pn Pn 02 16 54.8 +0.6
237A IAmb_Lg 02 18 32.1
comp=Z,201nm,0.8s
237A **Washetta, Mont** 5.19 160 P Pn 02 16 54.9 +0.7
baz=341,SNR=16
237A S Sn 02 17 54.4 +0.2
baz=341
T25A **Trinidad** 5.23 274 Pn Pn 02 16 55.8 +0.8
T25A IAmb_Lg 02 18 31.1
comp=Z,186nm,0.9s
T25A **Trinidad** 5.23 274 P Pn 02 16 56.1 +1.1
baz=90,SNR=6.0
T25A S Sn 02 17 56.2 +0.7
baz=90
P40A **Paris** 5.28 59 Pn Pn 02 16 55.8 +0.4
P40A IAmb_Lg 02 18 27.7
comp=Z,295nm,0.8s
N38A **Joes South For** 5.30 42 Pn Pn 02 16 56.7 +0.9
N38A IAmb_Lg 02 18 34.7
comp=Z,376nm,0.7s
N38A **Joes South For** 5.30 42 P Pn 02 16 56.9 +1.1
baz=225,SNR=27
N38A S Sn 02 17 57.9 +1.0
baz=225
CCM **Cathedral Cave** 5.40 76 Pn Pn 02 16 57.6 +0.6
CCM IAmb_Lg 02 18 39.4
comp=Z,205nm,0.8s
CCM **Cathedral Cave** 5.40 76 P Pn 02 16 57.9 +0.8
baz=260,SNR=20
CCM **Cathedral Cave** 5.40 76 P Pn 02 16 57.9 +0.8
baz=260
CCM S Sn 02 17 59.3 +0.1
baz=260
LCAR **Lake Charles** 5.48 97 Pn Pn 02 16 59.0 +0.8
LCAR IAmb_Lg 02 18 41.3
comp=Z,159nm,0.7s
LCAR **Lake Charles** 5.48 97 P Pn 02 16 59.6 +1.4
baz=281,SNR=25
K31A **O'Neill** 5.74 354 Pn Pn 02 17 02.5 +0.7
NATX **Nacogdoches** 5.79 152 IAmb_Lg 02 18 54.2
comp=Z,153nm,0.9s
NATX **Nacogdoches** 5.79 152 P Pn 02 17 03.4 +0.9
baz=334
NATX S Sn 02 18 08.3 -0.7
baz=334
CCAR **Cane Creek** 5.81 119 Pn Pn 02 17 03.9 +1.1
CCAR IAmb_Lg 02 18 49.2
comp=Z,250nm,0.8s
PBMO **Poplar Bluff** 5.97 89 IAmb_Lg 02 18 47.4
comp=Z,254nm,0.7s
FVM **French Village** 6.03 78 Pn Pn 02 17 06.6 +0.9
Q24A **Divide** 6.10 292 Pn Pn 02 17 07.6 +0.6
Q24A **Divide** 6.10 292 P Pn 02 17 07.6 +0.6
baz=107,SNR=17
Q24A S Sn 02 18 16.5 -0.5
baz=107
435B **Jarrell** 6.12 178 Pn Pn 02 17 07.5 +0.4
435B IAmb_Lg 02 19 03.9
comp=Z,260nm,0.8s
435B **Jarrell** 6.12 178 P Pn 02 17 08.2 +1.2
baz=358,SNR=5.7
435B S Sn 02 18 16.3 -0.9
baz=358
435B **Jarrell** 6.12 178 P Pn 02 17 07.9 +0.9
baz=358
435B S Sn 02 18 16.5 -0.7
baz=358
SDCO **Great Sand Dun** 6.13 280 Pn Pn 02 17 09.2 +1.8
SDCO **Great Sand Dun** 6.13 280 P Pn 02 17 09.5 +2.1
baz=95,SNR=18
SDCO S Sn 02 18 20.3 +2.5
baz=95
SDCO **Great Sand Dun** 6.13 280 P Pn 02 17 08.8 +1.4
baz=95
SCIA **State Center** 6.15 34 Pn Pn 02 17 07.0 -0.4
SCIA **State Center** 6.15 34 P Pn 02 17 08.8 +1.3
baz=218
SCIA S Sn 02 18 18.5 +0.6
baz=218
BRIGG **Briggsdale** 6.22 308 IAmb_Lg 02 18 58.4
comp=Z,246nm,0.9s
CPRX **Cap Rock** 6.26 233 Pn Pn 02 17 10.5 +1.4
SLM **Saint Louis** 6.29 72 Pn Pn 02 17 09.7 +0.3
SLM IAmb_Lg 02 19 01.3
comp=Z,212nm,0.8s
HTMS **Hat Mesa** 6.49 229 Pn Pn 02 17 12.3 +0.1
PEBM **Pemiscott Bayo** 6.51 95 Pn Pn 02 17 13.9 +1.6
PARMO **Parma** 6.53 90 Pn Pn 02 17 14.7 +2.1
CGM3 **Cape Girardeau** 6.58 84 Pn Pn 02 17 14.9 +1.6
CGM3 IAmb_Lg 02 19 07.7
comp=Z,225nm,0.9s
PVMO **Portageville** 6.59 92 IAmb_Lg 02 19 07.4
comp=Z,287nm,0.8s
JCT **Junction City** 6.62 195 Pn Pn 02 17 14.0 +0.1
JCT IAmb_Lg 02 19 10.8
comp=Z,225nm,0.9s
JCT **Junction City** 6.62 195 P Pn 02 17 14.6 +0.8
baz=13
CLN7 **Carlsbad 7** 6.63 229 Pn Pn 02 17 15.0 +0.8
N41A **Harden Midland** 6.66 53 Pn Pn 02 17 14.0 -0.4
N41A IAmb_Lg 02 19 14.0
comp=Z,285nm,0.7s
N41A **Harden Midland** 6.66 53 P Pn 02 17 16.1 +1.6
baz=238
MET **Memphis--Engin** 6.68 103 IAmb_Lg 02 19 15.7
comp=Z,263nm,0.7s
CLNB **Carlsbad** 6.78 229 Pn Pn 02 17 17.4 +1.2
LNXT **Lenox** 6.80 94 Pn Pn 02 17 17.0 +0.7
ECSD **EROS Data Cent** 6.88 8 Pn Pn 02 17 16.9 -0.5
ECSD **EROS Data Cent** 6.88 8 P Pn 02 17 17.6 +0.2
baz=189
ECSD **EROS Data Cent** 6.88 8 P Pn 02 17 17.3 -0.1
baz=189,SNR=16
S44A **Carbondale** 6.92 81 P Pn 02 17 19.4 +1.5
baz=266
GLAT **Glass** 6.94 93 IAmb_Lg 02 19 35.2
comp=Z,306nm,0.8s
K38A **Parkersburg** 6.94 33 Pn Pn 02 17 17.1 -1.2
K38A **Parkersburg** 6.94 33 P Pn 02 17 19.5 +1.2
baz=216
HALT **Halls** 6.96 96 IAmb_Lg 02 19 32.5
comp=Z,249nm,1.0s
P43A **Skaggs, Pawnee** 7.11 65 Pn Pn 02 17 20.7 0.0
P43A **Skaggs, Pawnee** 7.11 65 P Pn 02 17 21.1 +0.5
baz=250,SNR=11
GDL2 **Guadalupe Moun** 7.12 231 Pn Pn 02 17 20.3 -0.6
S22A **4UR Ranch, Cre** 7.18 279 P Pn 02 17 24.0 +2.2
baz=94
ANMO **Albuquerque** 7.23 257 Pn Pn 02 17 23.8 +1.3
comp=Z,0.2nm,0.3s,baz=72,slow=18,SNR=2.4
ANMO Lg Lg 02 19 25.2
comp=Z,2.8nm,0.3s,baz=329,slow=21,SNR=7.8
ANMO **Albuquerque** 7.23 257 P Pn 02 17 24.0 +1.5
baz=72
W45A **Hickory Valley** 7.26 101 IAmb_Lg 02 19 37.4
comp=Z,263nm,0.7s
L40A **Anamosa** 7.27 43 Pn Pn 02 17 22.8 0.0
L40A IAmb_Lg 02 19 28.4
comp=Z,219nm,0.8s
Q44A **Meyer Farm, Va** 7.28 72 P Pn 02 17 23.9 +1.0
baz=257,SNR=9.2
OXF **Oxford** 7.29 107 Pn Pn 02 17 22.6 -0.5
OXF **Oxford** 7.29 107 P Pn 02 17 23.8 +0.7
baz=292
PHWY **Pilot Hill** 7.34 309 Pn Pn 02 17 23.6 -0.4
PHWY IAmb_Lg 02 19 38.4
comp=Z,166nm,1.1s
N23A **Red Feather La** 7.44 305 Pn Pn 02 17 25.2 -0.1
N23A **Red Feather La** 7.44 305 P Pn 02 17 27.0 +1.7
baz=120
Y45A **Yeager Farm, C** 7.46 112 Pn Pn 02 17 27.6 +2.3
Y45A IAmb_Lg 02 19 54.4
comp=Z,218nm,0.8s
SMCO **Snowmass** 7.52 290 Pn Pn 02 17 27.9 +1.2
HDIL **Hopedale** 7.63 59 Pn Pn 02 17 28.4 +0.7
HDIL **Hopedale** 7.63 59 P Pn 02 17 28.4 +0.7
baz=244,SNR=16
I37A **Lemond, Waseca** 7.87 24 IAmb_Lg 02 19 59.4
comp=Z,192nm,0.8s
Y22D **IRIS PASSCAL I** 7.90 252 IAmb_Lg 02 20 09.2
comp=Z,171nm,0.9s
OLIL **Olney** 7.95 74 Pn Pn 02 17 32.2 +0.1
OLIL IAmb_Lg 02 19 55.5
comp=Z,222nm,1.1s
735A **Kenedy** 8.04 180 Pn Pn 02 17 35.0 +1.6
O44A **Mansfield** 8.05 63 Pn Pn 02 17 34.3 +0.8
O44A IAmb_Lg 02 20 06.2
comp=Z,223nm,0.7s
WVT **Waverly** 8.13 93 Pn Pn 02 17 34.4 -0.2
WVT **Waverly** 8.13 93 P Pn 02 17 34.2 -0.4
baz=279
L42A **Oliver, Polo** 8.13 49 Pn Pn 02 17 35.3 +0.7
L42A **Oliver, Polo** 8.13 49 P Pn 02 17 35.5 +1.0
baz=234,SNR=8.8
PLAL **Pickwick Lake** 8.18 101 Pn Pn 02 17 35.5 +0.3
JFWS **Jewell Farm** 8.38 42 Pn Pn 02 17 37.1 -0.8
JFWS **Jewell Farm** 8.38 42 P Pn 02 17 37.6 -0.4
baz=227,SNR=13
146A **Union** 8.42 118 IAmb_Lg 02 20 19.7
comp=Z,91nm,0.8s
RSSD **Black Hills** 8.59 329 Pn Pn 02 17 42.2 +1.1
RSSD IAmb_Lg 02 20 15.1
comp=Z,103nm,0.8s
RSSD **Black Hills** 8.59 329 P Pn 02 17 42.4 +1.3
baz=145
T47A **Sharon Grove** 8.63 86 Pn Pn 02 17 42.4 +1.0
RWWY **Rawlins** 8.66 306 Pn Pn 02 17 42.8 +0.7
RWWY IAmb_Lg 02 20 18.8
comp=Z,120nm,1.1s
833A **Chaparral WMA,** 8.66 189 Pn Pn 02 17 41.1 -0.8
833A **Chaparral WMA,** 8.66 189 P Pn 02 17 42.3 +0.4
baz=7.9
O20A **White River Ci** 8.73 295 P Pn 02 17 44.4 +1.4
baz=108
K22A **Casper** 8.78 313 Pn Pn 02 17 43.9 +0.2
K22A IAmb_Lg 02 20 32.4
comp=Z,125nm,1.0s
K22A **Casper** 8.78 313 P Pn 02 17 44.7 +1.1
baz=128
P46A **Rosedale** 8.82 69 Pn Pn 02 17 44.2 +0.2
M44A **Midewin, Midew** 8.85 57 Pn Pn 02 17 44.6 +0.2
Z47A **Carrollton** 8.85 112 IAmb_Lg 02 20 36.2
comp=Z,88nm,0.9s
I40A **Norwalk** 8.90 36 Pn Pn 02 17 44.2 -0.9
I40A IAmb_Lg 02 20 42.9
comp=Z,86nm,0.8s
TX31 **Lajitas Ar. Si** 8.98 214 Pn Pn 02 17 46.5 +0.1
TX31 **Lajitas Ar. Si** 8.98 214 P Pn 02 17 47.1 +0.7
baz=31,SNR=16
TX32 **Lajitas Array** 8.98 214 Pn Pn 02 17 45.4 -1.0
TXAR **Lajitas Array** 8.98 214 Pn Pn 02 17 46.6 +0.3
comp=Z,0.8nm,0.3s,baz=32,slow=10,SNR=30
TXAR Pg Pg 02 18 22.2 -6.3
comp=Z,1.4nm,0.3s,baz=16,slow=14,SNR=6.1
TXAR Lg Lg 02 20 16.9
comp=Z,2.3nm,0.3s,baz=28,slow=28,SNR=5.8
comp=Z,1.6nm,0.4s
TXAR **Lajitas Array** 8.98 214 Pn Pn 02 17 46.3 -0.1
F33A **5 Mile Ranch,** 8.99 7 Pn Pn 02 17 44.3 -2.1
SFIN **Lafayette** 9.12 64 Pn Pn 02 17 48.1 +0.1
SFIN **Lafayette** 9.12 64 P Pn 02 17 48.2 +0.1
baz=251
SPMN **Marine on St.** 9.14 23 Pn Pn 02 17 47.9 -0.5
SPMN IAmb_Lg 02 20 25.3
comp=Z,100nm,1.0s
SPMN **Marine on St.** 9.14 23 P Pn 02 17 48.0 -0.4
baz=207,SNR=8.6
BLO **Bloomington** 9.24 72 Pn Pn 02 17 48.7 -1.0
121A **Cookes Peak, D** 9.25 245 Pn Pn 02 17 50.6 +0.5
121A **Cookes Peak, D** 9.25 245 P Pn 02 17 50.1 0.0
baz=59
WCI **Wyandotte Cave** 9.29 78 Pn Pn 02 17 49.0 -1.5
WCI **Wyandotte Cave** 9.29 78 P Pn 02 17 50.7 +0.2
baz=266
L44A **Lake County Fo** 9.32 53 Pn Pn 02 17 50.4 -0.5
L44A IAmb_Lg 02 20 48.2
comp=Z,196nm,0.9s
L44A **Lake County Fo** 9.32 53 S Sn 02 19 32.1 -3.6
baz=239
L44A **Lake County Fo** 9.32 53 P Pn 02 17 51.3 +0.5
baz=239
K43A **Burlington** 9.34 49 Pn Pn 02 17 51.1 -0.1
K43A IAmb_Lg 02 20 51.7
comp=Z,150nm,0.9s
F36A **Milaca** 9.52 19 Pn Pn 02 17 51.9 -1.7
U49A **Red Boiling Sp** 9.72 89 Pn Pn 02 17 57.6 +1.1
LRAL **Lakeview Retre** 9.73 110 Pn Pn 02 17 56.5 0.0
LRAL **Lakeview Retre** 9.73 110 P Pn 02 17 57.3 +0.8
baz=297
I42A **Draeger Farm,** 9.76 42 Pn Pn 02 17 56.6 -0.3
I42A IAmb_Lg 02 20 56.5
comp=Z,88nm,0.7s
SWET **Sewanee** 9.82 96 Pn Pn 02 17 57.4 -0.4
Y49A **Blount Mountai** 9.85 105 Pn Pn 02 17 57.4 -0.7
E28A **Huff** 9.88 349 IAmb_Lg 02 20 57.0
comp=Z,159nm,1.0s
P18A **Preston Nutter** 10.09 289 Pn Pn 02 18 02.7 +0.9
P48A **Milroy** 10.13 72 Pn Pn 02 18 00.8 -1.2
G40A **Rib Lake** 10.15 32 Pn Pn 02 18 00.2 -2.1
R49A **Shelbyville** 10.18 78 Pn Pn 02 18 01.5 -1.1
L46A **Eue Claire** 10.30 57 Pn Pn 02 18 04.0 -0.3
W50A **Signal Mountai** 10.32 96 Pn Pn 02 18 05.8 +1.1
T50A **Nancy** 10.44 86 Pn Pn 02 18 07.2 +1.0
O48B **Farmland** 10.50 68 P Pn 02 18 06.0 -1.1
baz=256
P49A **Miami Univ. Ec** 10.68 72 Pn Pn 02 18 07.9 -1.6
P49A **Miami Univ. Ec** 10.68 72 P Pn 02 18 08.4 -1.1
baz=260
BW06 **Boulder Array** 10.71 307 Pn Pn 02 18 09.5 -0.6
BW06 **Boulder Array** 10.71 307 P Pn 02 18 10.4 +0.2
baz=119
PDAR **Pinedale Array** 10.71 307 Pn Pn 02 18 09.9 -0.2
comp=Z,0.3nm,0.3s,baz=118,slow=15,SNR=10
PDAR Lg Lg 02 21 10.7
comp=Z,1.0nm,0.3s,baz=120,slow=27,SNR=4.3
comp=Z,0.6nm,0.5s
PDAR **Pinedale Array** 10.71 307 Pn Pn 02 18 09.0 -1.2
H43A **Windswept, Lux** 10.76 42 Pn Pn 02 18 09.8 -0.7
H43A **Windswept, Lux** 10.76 42 P Pn 02 18 09.8 -0.7
baz=229
E38A **The Farm, Brul** 10.77 24 Pn Pn 02 18 08.9 -1.8
250A **Grady** 10.78 114 Pn Pn 02 18 10.9 0.0
X51A **Calhoun** 10.84 99 Pn Pn 02 18 12.9 +1.2
CPCT **Cooper Cave** 10.89 94 Pn Pn 02 18 13.1 +0.6
V51A **Loudon** 10.97 92 Pn Pn 02 18 13.8 +0.3
V51A **Loudon** 10.97 92 P Pn 02 18 15.2 +1.7
baz=280,SNR=6.1
O49A **Covington** 11.10 69 Pn Pn 02 18 14.0 -1.2
N49A **Columbus Grove** 11.39 65 Pn Pn 02 18 18.2 -1.1
S51A **Beattyville** 11.41 82 Pn Pn 02 18 19.7 +0.3
TKL **Tuckaleechee C** 11.45 92 Pn Pn 02 18 20.0 -0.1
comp=Z,1.5nm,0.3s,baz=233,slow=7.0,SNR=24
TKL Lg Lg 02 21 32.3
comp=Z,3.1nm,0.3s,baz=150,slow=4.1,SNR=15
comp=Z,6.4nm,0.5s
TKL **Tuckaleechee C** 11.45 92 Pn Pn 02 18 21.0 +0.9
TKL **Tuckaleechee C** 11.45 92 P Pn 02 18 21.0 +0.9
baz=281
AGMN **Agassiz Nation** 11.47 7 Pn Pn 02 18 17.8 -2.5
AGMN **Agassiz Nation** 11.47 7 P Pn 02 18 18.3 -2.0
baz=188
TZTN **Tazewell** 11.51 88 Pn Pn 02 18 21.3 +0.4
TZTN **Tazewell** 11.51 88 P Pn 02 18 22.1 +1.2
baz=276
TZTN **Tazewell** 11.51 88 P Pn 02 18 21.3 +0.4
baz=276
L48A **N Adams** 11.54 60 Pn Pn 02 18 19.2 -2.1
V52A **Sevierville** 11.56 91 Pn Pn 02 18 21.3 -0.4
LAO **LASA Array** 11.57 330 Pn Pn 02 18 20.6 -1.2
LAO **LASA Array** 11.57 330 P Pn 02 18 22.0 +0.3
baz=145,SNR=5.9
HWUT **Hardware Ranch** 11.60 298 Pn Pn 02 18 22.6 +0.4
Q51A **Peebles** 11.66 75 Pn Pn 02 18 21.7 -1.3
J47A **Sunmer** 11.82 54 Pn Pn 02 18 25.1 -0.1
B35A **Bob, Littlefor** 11.84 14 Pn Pn 02 18 22.7 -2.6
RLMT **Red Lodge** 11.87 317 P Pn 02 18 25.5 -0.5
baz=130
TPAW **Teton Pass** 11.95 307 Pn Pn 02 18 26.3 -0.9
EYMN **Ely** 11.98 21 Pn Pn 02 18 24.0 -3.3
EYMN **Ely** 11.98 21 P Pn 02 18 23.9 -3.5
baz=206
ACSO **Alum Creek Sta** 12.12 70 Pn Pn 02 18 28.3 -0.9
ACSO **Alum Creek Sta** 12.12 70 P Pn 02 18 28.1 -1.1
baz=259
AAM **Ann Arbor** 12.21 60 Pn Pn 02 18 29.5 -1.0
AAM **Ann Arbor** 12.21 60 P Pn 02 18 29.4 -1.0
baz=249,SNR=5.8
V53A **Saluda** 12.22 91 Pn Pn 02 18 31.2 +0.5
D41A **Chassel** 12.27 31 Pn Pn 02 18 28.2 -2.9
M50A **Fremont** 12.35 64 Pn Pn 02 18 31.1 -1.3
DGMT **Dagmar** 12.44 340 P Pn 02 18 32.4 -1.2
baz=156
E43A **Lone Tree Farm** 12.46 37 Pn Pn 02 18 30.7 -3.2
Q52A **Bidwell** 12.50 76 Pn Pn 02 18 32.9 -1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
P52A	**Corning**	**12.67**	**73**	Pn	**Pn**	**02 18 35.7**	**-1.0**
P52A	**Corning**	**12.67**	**73**	P	**Pn**	**02 18 35.7**	**-1.0**
	baz=263						
N51A	**Ashland**	**12.72**	**67**	Pn	**Pn**	**02 18 37.7**	**+0.3**
GLMI	**Grayling**	**12.76**	**48**	Pn	**Pn**	**02 18 35.4**	**-2.6**
GLMI	**Grayling**	**12.76**	**48**	P	**Pn**	**02 18 35.3**	**-2.6**
	baz=236,SNR=8.6						
HODGE	**Hodges**	**13.00**	**97**	Pn	**Pn**	**02 18 41.0**	**-0.2**
S54A	**Dingess, Beckl**	**13.21**	**81**	Pn	**Pn**	**02 18 43.9**	**-0.3**
P53A	**Whipple**	**13.22**	**74**	Pn	**Pn**	**02 18 41.8**	**-2.5**
ULM	**Lac du Bonnet**	**13.41**	**6**	Pn	**Pn**	**02 18 42.6**	**-4.1**
	comp=Z,0.8nm,0.3s,baz=183,slow=13,SNR=6.2						
ULM				Sn	Sn	02 21 05.0	-11
	comp=Z,1.0nm,0.3s,baz=100,slow=16,SNR=4.8						
ULM				Lg	Lg	02 22 30.2	
	comp=Z,0.4nm,0.3s,baz=279,slow=14,SNR=3.6						
	comp=Z,2.6nm,0.4s						
ULM	**Lac du Bonnet**	**13.41**	**6**	Pn	**Pn**	**02 18 42.5**	**-4.3**
O53A	**New Philadelph**	**13.46**	**71**	Pn	**Pn**	**02 18 44.5**	**-3.0**
O53A	**New Philadelph**	**13.46**	**71**	P	**Pn**	**02 18 45.5**	**-2.0**
	baz=261						
V55A	**Taylorsville**	**13.47**	**90**	Pn	**Pn**	**02 18 45.8**	**-1.9**
KMSC	**Kings Mountain**	**13.51**	**93**	P	**Pn**	**02 18 47.9**	**-0.3**
	baz=282						
M52A	**Chesterland**	**13.61**	**65**	Pn	**Pn**	**02 18 47.5**	**-2.0**
N53A	**Lisbon**	**13.83**	**68**	Pn	**Pn**	**02 18 49.8**	**-2.8**
E46A	**Sault Ste Mari**	**13.84**	**43**	Pn	**Pn**	**02 18 49.3**	**-3.4**
BLA	**Blacksburg**	**13.95**	**84**	P	**Pn**	**02 18 53.4**	**-0.8**
	baz=274						
O54A	**Avella**	**14.08**	**71**	Pn	**Pn**	**02 18 53.2**	**-2.7**
M53A	**WI Miller and**	**14.09**	**66**	Pn	**Pn**	**02 18 53.4**	**-2.6**
EGMT	**Eagleton**	**14.12**	**326**	P	**Pn**	**02 18 56.4**	**-0.2**
	baz=138						
R55A	**Marlinton**	**14.15**	**79**	Pn	**Pn**	**02 18 55.5**	**-1.6**
T57A	**Hurt**	**14.89**	**84**	Pn	**Pn**	**02 19 05.5**	**-1.6**
M55A	**Ridgway**	**15.50**	**67**	Pn	**Pn**	**02 19 12.9**	**-2.1**
SSPA	**Standing Stone**	**16.02**	**70**	Pn	**Pn**	**02 19 19.1**	**-2.8**
SADO	**Sadowa**	**16.18**	**55**	Pn	**Pn**	**02 19 19.4**	**-4.5**
	comp=Z,0.4nm,0.3s,baz=281,slow=10,SNR=1.8						
	comp=Z,4.2nm,0.7s						
NVAR	**Mina Array Bea**	**16.24**	**282**	Pn	**P**	**02 19 28.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=7.2						
	comp=Z,0.7nm,0.7s						
L56A	**Greenwood**	**16.51**	**65**	Pn	**Pn**	**02 19 27.1**	**-1.1**
L56A				IAmb	IAmb	02 19 29.6	
	comp=Z,20nm,1.2s						
M57A	**Sunshine Farm,**	**16.69**	**68**	Pn	**Pn**	**02 19 28.1**	**-2.3**
M57A				IAmb	IAmb	02 19 58.1	
	comp=Z,21nm,1.4s						
KSPA	**Keystone Colle**	**17.73**	**68**	Pn	**Pn**	**02 19 41.0**	**-2.5**
KSPA				IAmb	IAmb	02 19 43.7	
	comp=Z,21nm,1.4s						
J57A	**Williamstown**	**17.91**	**62**	Pn	**Pn**	**02 19 43.8**	**-1.9**
J57A				IAmb	IAmb	02 20 17.1	
	comp=Z,19nm,1.3s						
L59A	**Walton**	**18.36**	**66**		**Pn**	**02 19 50.1**	**-1.1**
L59A				IAmb	IAmb	02 19 56.1	
	comp=Z,24nm,1.3s						
J58A	**Remsen**	**18.41**	**63**	Pn	**P**	**02 19 49.3**	**-2.5**
ODNJ	**Ogdensburg**	**18.55**	**70**	P	**P**	**02 19 51.0**	**-2.3**
ODNJ				IAmb	IAmb	02 20 07.4	
	comp=Z,18nm,1.3s						
J59A	**Piesco**	**18.99**	**63**	P	**P**	**02 19 56.4**	**-1.7**
NCB	**Newcomb**	**19.30**	**61**	P	**P**	**02 20 02.0**	**+0.5**
KSCT	**Kent School, K**	**19.45**	**68**	P	**P**	**02 20 03.2**	**0.0**
KSCT				IAmb	IAmb	02 20 33.7	
	comp=Z,28nm,1.4s						
ACCN	**Adirondack Com**	**19.57**	**63**	P	**P**	**02 20 03.1**	**-1.3**
ACCN				IAmb	IAmb	02 20 04.5	
	comp=Z,8.4nm,0.7s						
TRQ	**Mont Tremblant**	**19.71**	**55**	P	**P**	**02 20 06.1**	**0.0**
TRQ				IAmb	IAmb	02 20 28.8	
	comp=Z,24nm,1.4s						
YBH	**Yreka Blue Hor**	**19.78**	**292**	P	**Pn**	**02 20 09.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=96,slow=10,SNR=5.0						
	comp=Z,2.6nm,0.7s						
CMIG	**Matias Romero**	**19.93**	**172**	P	**Pn**	**02 20 13.8**	**+3.6**
	comp=Z,1.9nm,0.6s,baz=342,slow=11,SNR=6.1						
CMIG				LR	LR	02 30 20.5	
	comp=Z,35nm,18.2s,baz=282,slow=44						
E62A	**Clayton Lake**	**23.16**	**56**	P	**P**	**02 20 43.6**	**+0.6**
F63A	**Nahmakanta, Br**	**23.23**	**59**	P	**P**	**02 20 44.6**	**+0.9**
F63A				IAmb	IAmb	02 21 01.9	
	comp=Z,18nm,1.4s						
F64A	**Sherman**	**23.78**	**59**	P	**P**	**02 20 50.5**	**+1.4**
BATG	**Bathurst New B**	**25.62**	**56**	P	**P**	**02 21 06.2**	**+0.2**
BATG				IAmb	IAmb	02 21 16.8	
	comp=Z,12nm,1.2s						
YKA	**Yellowknife Ar**	**27.62**	**343**	P	**P**	**02 21 24.4**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=150,slow=9.4,SNR=4.0						
	comp=Z,1.8nm,0.7s						
FRB	**Frobisher Bay**	**32.18**	**24**	LR	LR	02 34 58.8	
	comp=Z,77nm,18.4s,baz=29,slow=36						
INK	**Inuvik**	**37.12**	**339**	P	**P**	**02 22 47.9**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=88,slow=4.0,SNR=3.9						
INK				LR	LR	02 39 38.0	
	comp=Z,100nm,18.1s,baz=198,slow=39						
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**40.03**	**330**	P	**P**	**02 23 13.1**	**+1.7**
	comp=Z,2.0nm,0.8s,baz=105,slow=7.1,SNR=18						
ILAR				PcP	**PcP**	**02 25 18.2**	**+2.1**
	comp=Z,0.5nm,1.0s,baz=129,slow=3.6,SNR=4.6						
	comp=Z,2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**63.05**	**40**	P	**P**	**02 26 03.2**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=290,slow=5.0,SNR=5.7						
	comp=Z,2.1nm,0.8s						
ARCES	**ARCESS Array B**	**66.12**	**19**	P	**P**	**02 26 22.6**	**-0.8**
	comp=Z,6.7nm,1.0s,baz=318,slow=6.5,SNR=5.5						
	comp=Z,6.7nm,1.0s						
ESDC	**Sonseca Array**	**70.24**	**55**	P	**P**	**02 26 49.6**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=309,slow=6.4,SNR=1.7						
	comp=Z,0.4nm,0.9s						
AKASG	**Malin Array Be**	**81.14**	**31**	P	**P**	**02 27 52.9**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=313,slow=4.2,SNR=5.5						
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**89.47**	**358**	P	**P**	**02 28 34.9**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=354,slow=6.0,SNR=5.2						
	comp=Z,0.9nm,0.5s						

---

*NEIC **09** 02:19:34.0±1.9, 17°.5S±0°.2×178°.50W±0°.09, h543km±14km, mb4.4/20, Error ellipse: s-maj=24.3km s-min=11.5km az=168.0*

*IDC **09** 02:19:34.3±1.4, 17°.37S×178°.56W, h543km±20km, mb3.6/7, mbtmp4.6/10, Error ellipse: s-maj=38.2km s-min=20.9km az=11.0*

ISC 09 02:19:34.1±0.7**, 17°.5S**±0°.1×**178°.55W**±0°.09**, h547**km**, n37,** σ1s.**14**/38**, mb4.3**/16**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.26**	**265**	P	**P**	**02 20 51.4**	**+0.8**
	28nm,0.6s,baz=126,slow=23,SNR=16						
MSVF	**Nonsavu**	**3.26**	**265**	P	**P**	**02 20 52.7**	**+2.1**
AFI	**Afiamalu**	**7.41**	**63**	P	**P**	**02 21 25.1**	**-1.0**
	40nm,0.5s,baz=35,slow=3.3,SNR=9.3						
AFI	**Afiamalu**	**7.41**	**63**	P	**P**	**02 21 24.8**	**-1.3**
NIUE	**Niue**	**8.35**	**102**	P	**P**	**02 21 33.4**	**-1.8**
FUNA	**Funafuti**	**9.14**	**346**	P	**P**	**02 21 43.4**	**+0.1**
MARNC	**Mare, Loyalty**	**13.27**	**250**	P	**P**	**02 22 24.4**	**-1.4**
DZM	**Mont Dzumac**	**14.85**	**250**	P	**P**	**02 22 40.6**	**-1.7**
	7.8nm,0.7s,baz=82,slow=22,SNR=3.7						
DZM	**Mont Dzumac**	**14.85**	**250**	P	**P**	**02 22 40.9**	**-1.3**
KOUNC	**Koumac, New Ca**	**16.52**	**257**	P	**P**	**02 22 58.2**	**-0.5**
QRZ	**Quartz Range**	**24.53**	**196**	P	**P**	**02 24 09.0**	**-1.7**
THZ	**Tophouse**	**25.31**	**195**	P	**P**	**02 24 16.7**	**-0.9**
FOZ	**Fox Glacier**	**27.80**	**198**	P	**P**	**02 24 37.8**	**-1.6**
EIDS	**Eidsvold**	**29.30**	**249**	P	**P**	**02 24 52.3**	**-0.5**
EIDS				IAmb	IAmb	02 24 53.6	
	comp=Z,6.2nm,0.7s						
MLZ	**Mavora Lakes**	**29.98**	**199**	P	**P**	**02 24 58.2**	**-0.1**
ARMA	**Armidale**	**30.05**	**239**	P	**P**	**02 25 00.4**	**+1.0**
ARMA				IAmb	IAmb	02 25 01.2	
	comp=Z,8.1nm,0.8s						
CTA	**Charters Tower**	**33.39**	**260**	P	**P**	**02 25 27.5**	**-0.3**
	comp=Z,5.2nm,0.7s,baz=109,slow=11,SNR=7.3						
	comp=Z,5.2nm,0.7s						
CTAO	**Charters Tower**	**33.39**	**260**	P	**P**	**02 25 26.7**	**-1.1**
CTAO				IAmb	IAmb	02 25 29.0	
	comp=Z,5.1nm,0.8s						
PMG	**Port Moresby**	**34.26**	**279**	P	**P**	**02 25 36.6**	**+1.5**
	comp=Z,20nm,0.9s,baz=77,slow=8.6,SNR=6.6						
	comp=Z,20nm,0.9s						
COEN	**Coen**	**36.97**	**270**	P	**P**	**02 25 58.2**	**+0.6**
COEN				IAmb	IAmb	02 25 59.6	
	comp=Z,8.1nm,0.7s						
STKA	**Stephens Creek**	**38.73**	**241**	P	**P**	**02 26 12.8**	**+1.1**
	comp=Z,3.5nm,0.4s,baz=92,slow=9.9,SNR=10						
	comp=Z,3.5nm,0.4s						
STKA	**Stephens Creek**	**38.73**	**241**	P	**P**	**02 26 12.6**	**+0.8**
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**02 26 49.8**	**+0.1**
BBOO				IAmb	IAmb	02 26 50.9	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**44.55**	**259**	P	**P**	**02 26 57.4**	**-0.4**
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**02 26 57.6**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=96,slow=7.0,SNR=21						
	comp=Z,2.5nm,0.6s						
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**02 26 57.7**	**-0.5**
AS31	**Alice Springs**	**44.78**	**254**	P	**P**	**02 27 00.0**	**+0.3**
AS31				IAmb	IAmb	02 27 00.6	
	comp=Z,7.6nm,0.6s						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**02 27 00.1**	**+0.3**
	comp=Z,26nm,0.6s,baz=87,slow=8.3,SNR=202						
ASAR				S	**S**	**02 32 55.1**	**-2.3**
	comp=Z,1.0nm,1.0s,baz=86,slow=14,SNR=6.8						
	comp=Z,26nm,0.6s						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**02 26 60.0**	**+0.3**
FORT	**Forrest**	**50.08**	**244**	P	**P**	**02 27 39.1**	**-0.1**
FORT				IAmb	IAmb	02 27 39.3	
	comp=Z,45nm,1.4s						
PSA00	**Pilbara Seismi**	**57.89**	**255**	P	**P**	**02 28 33.8**	**-0.6**
MBWA	**Marble Bar**	**58.05**	**256**	P	**P**	**02 28 34.5**	**-1.0**
MBWA				IAmb	IAmb	02 28 49.2	
	comp=Z,13nm,1.0s						
VNDA	**Vanda**	**60.88**	**185**	P	**P**	**02 28 54.9**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=5.6,slow=6.4,SNR=5.8						
	comp=Z,1.2nm,0.7s						
VNDA	**Vanda**	**60.88**	**185**	P	**P**	**02 28 54.8**	**+1.5**
QSPA	**South Pole Qui**	**72.59**	**180**	P	**P**	**02 30 06.8**	**+0.9**
QSPA				IAmb	IAmb	02 30 08.0	
	comp=Z,7.7nm,0.9s						
BELA	**Belgrano 2**	**82.63**	**173**	P	**P**	**02 31 00.2**	**+0.4**
BELA				IAmb	IAmb	02 31 00.9	
	comp=Z,9.1nm,0.9s						
MAW	**Mawson**	**84.24**	**200**	P	**P**	**02 31 09.0**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=142,slow=5.5,SNR=5.6						
	comp=Z,3.3nm,0.8s						

---

*NEIC **09** 02:21:34.8±1.6, 6°.88S±0°.10×126°.9E±0°.2, h423km±10km, mb4.2/9, Error ellipse: s-maj=26.6km s-min=8.4km az=116.0*

*IDC **09** 02:21:35.0±1.2, 6°.95S×126°.86E, h428km±15km, mb3.4/6, mbtmp4.1/9, Error ellipse: s-maj=23.4km s-min=12.0km az=75.0*

*DJA **09** 02:21:36.3±0.7, 7°S±4°×12°7E±°, h398km±10km, M4.3/12, mb4.3/4, mB4.6/3, MLv4.4/12, Mw(mB)3.8/3*

ISC 09 02:21:33.8±0.6**, 6°.92S**±0°.06×**127°.05E**±0°.09**, h407**km**, n44,** σ1s.**77**/48**, mb3.9**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.40**	**20**	P	**P**	**02 22 44.4**	**+3.5**
NLAI	**Namlea**	**3.65**	**1**	P	**P**	**02 22 46.3**	**+3.3**
NLAI				S	**S**	**02 23 41.6**	**+2.2**
BNDI	**Bandanaira**	**3.70**	**50**	P	**P**	**02 22 47.0**	**+3.5**
KRAI	**Karang Ratu**	**3.81**	**21**	P	**P**	**02 22 47.1**	**+2.6**
SOEI	**Soe**	**3.94**	**224**	P	**P**	**02 22 47.6**	**+1.8**
SOEI	**Soe**	**3.94**	**224**	P	**P**	**02 22 48.1**	**+2.3**
MSAI	**Masohi**	**4.01**	**28**	P	**P**	**02 22 48.0**	**+1.7**
BATI	**Baumata**	**4.68**	**225**	P	**P**	**02 22 55.5**	**+2.7**
	347nm,0.4s,baz=114,slow=1.2,SNR=39						
BATI				S	**S**	**02 23 57.0**	**-0.2**
	128nm,0.4s,baz=302,slow=23,SNR=5.8						
BATI	**Baumata**	**4.68**	**225**	P	**P**	**02 22 55.4**	**+2.7**
SANI	**Sanana**	**4.95**	**348**	P	**P**	**02 22 56.7**	**+1.2**
FAKI	**Fak Fak**	**6.52**	**53**	P	**P**	**02 23 13.0**	**+0.1**
FAKI	**Fak Fak**	**6.52**	**53**	P	**P**	**02 23 12.6**	**-0.3**
	0.4nm1µm80nm,0.5s						
MTN	**Manton Dam**	**7.13**	**146**	P	**P**	**02 23 22.2**	**+2.6**
SIJI	**Sorong**	**7.33**	**35**	P	**P**	**02 23 24.2**	**+2.4**
	21nm,0.3s,baz=206,slow=3.1,SNR=15						
SIJI	**Sorong**	**7.33**	**35**	P	**P**	**02 23 24.6**	**+2.8**
SRPI	**Serui, Papua**	**10.44**	**62**	P	**P**	**02 23 52.4**	**-3.8**
WB0	**Warramunga Arr**	**14.63**	**152**	P	**P**	**02 24 43.2**	**+1.1**
WRA	**Warramunga Arr**	**14.76**	**152**	P	**P**	**02 24 44.5**	**+1.0**
	0.7nm,0.5s,baz=328,slow=11,SNR=18						
WRA				S	**S**	**02 27 19.9**	**-0.6**
	1.6nm,0.9s,baz=314,slow=21,SNR=5.4						
WRA	**Warramunga Arr**	**14.76**	**152**	P	**P**	**02 24 44.0**	**+0.5**
WB2	**Warramunga Arr**	**14.76**	**152**	P	**P**	**02 24 44.6**	**+1.0**
WR0	**Warramunga Arr**	**14.87**	**151**	P	**P**	**02 24 46.4**	**+1.7**
MBWA	**Marble Bar**	**15.83**	**206**	P	**P**	**02 24 55.4**	**+0.3**
PSA00	**Pilbara Seismi**	**16.15**	**205**	P	**P**	**02 24 57.9**	**-0.6**
PSA00				IAmb	IAmb	02 25 38.2	
	comp=Z,22nm,1.1s						
PSA00	**Pilbara Seismi**	**16.15**	**205**	P	**P**	**02 24 58.3**	**-0.2**
PSA00				IAmb	IAmb	02 25 38.1	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**17.91**	**159**	P	**P**	**02 25 17.4**	**+0.2**
AS31				IAmb	IAmb	02 25 22.0	
	comp=Z,2.1nm,0.2s						
ASAR	**Alice Springs**	**17.91**	**159**	P	**P**	**02 25 17.9**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=335,slow=9.6,SNR=19						
ASAR				S	**S**	**02 28 22.8**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=342,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**17.91**	**159**	P	**P**	**02 25 16.7**	**-0.5**
USA0B	**Ussuriysk Arra**	**51.07**	**5**	P	**P**	**02 29 56.5**	**0.0**
USA0B				IAmb	IAmb	02 30 05.5	
	comp=Z,7.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.07**	**5**	P	**P**	**02 29 56.8**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=174,slow=5.7,SNR=3.2						
	comp=Z,3.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.07**	**5**	P	**P**	**02 29 56.1**	**-0.5**
SONM	**Songino Array**	**57.48**	**344**	P	**P**	**02 30 41.4**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=165,slow=5.2,SNR=4.0						
	comp=Z,0.5nm,0.4s						
PEA0B	**Petropavlovsk-**	**65.19**	**20**	P	**P**	**02 31 33.7**	**+0.7**
PETK	**Petropavlovsk-**	**65.19**	**20**	P	**P**	**02 31 33.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=174,slow=3.0,SNR=6.4						
	comp=Z,1.8nm,0.6s						
PETK	**Petropavlovsk-**	**65.19**	**20**	P	**P**	**02 31 32.1**	**-0.9**
KSH	**Kashi**	**66.00**	**319**	P	**P**	**02 31 39.4**	**+0.8**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	**Makanchi Array**	**66.58**	**328**	P	**P**	**02 31 40.2**	**-1.7**
MKAR	**Makanchi Array**	**66.58**	**328**	P	**P**	**02 31 41.0**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=145,slow=4.9,SNR=8.5						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**66.58**	**328**	P	**P**	**02 31 40.5**	**-1.4**
ZALV	**Zalesovo Beam**	**70.24**	**335**	P	**P**	**02 32 02.9**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=142,slow=4.4,SNR=8.5						
	comp=Z,2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**70.24**	**335**	P	**P**	**02 32 01.7**	**-2.4**
KURK	**Kurchatov**	**70.94**	**330**	P	**P**	**02 32 07.1**	**-1.2**
TIXI	**Tiksi**	**78.41**	**1**	P	**P**	**02 32 49.4**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=133,slow=0.2,SNR=6.8						
	comp=Z,1.9nm,0.4s						
TIXI	**Tiksi**	**78.41**	**1**	P	**P**	**02 32 49.7**	**-0.5**
TIXI				IAmb	IAmb	02 32 57.8	
	comp=Z,6.4nm,1.4s						
ABKAR	**Akbulak array**	**80.64**	**322**	P	**P**	**02 33 00.7**	**-1.9**

---

*IDC **09** 02:56:31.8±5.5, 23°.37S×179°.02W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=257.4km s-min=52.6km az=152.0*

ISC 09 02:57:16.3±3.9**, 25°S**±1°×**179°.6W**±0°.6**, h400**km**, n7,** σ**0s.56**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.24**	**261**	P	**P**	**03 04 32.5**	**0.0**
	0.5nm,0.3s,baz=91,slow=7.1,SNR=14						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**42.70**	**267**	P	**P**	**03 04 36.2**	**0.0**
	1.3nm,0.4s,baz=100,slow=6.8,SNR=31						
	1.3nm,0.4s						
FINES	**FINESS Array B**	**139.36**	**341**	PKhKP	PKPpre	03 15 51.6	
	3.9nm,1.1s,baz=49,slow=8.6,SNR=3.7						
NB2	**NORSAR Subarra**	**142.97**	**351**	PKP	**PKPdf**	**03 16 02.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=14,slow=3.3						
NOA	**NORSAR Array B**	**142.97**	**351**	PKP	**PKPdf**	**03 16 01.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=14,slow=4.0,SNR=3.9						
HFS	**Hagfors**	**143.44**	**349**	PKP	**PKPdf**	**03 16 04.0**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=33,slow=5.5,SNR=14						
AKASG	**Malin Array Be**	**145.87**	**327**	PKPbc	**PKPab**	**03 16 10.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=48,slow=4.4,SNR=4.0						

---

*TEH **09** 02:59:55.6, 28°.34N×57°.41E, h8km, ML3.2*

*OMAN **09** 02:59:59.4±1.6, 28°.05N×57°.44E, h184km±16km, mb4.1/2, ml3.1/11, Error ellipse: s-maj=15.7km s-min=11.0km az=39.0*

ISC 09 02:59:58.1±1.1**, 28°.20N**±0°.04×**57°.47E**±0°.05**, h30**km±9km**, n29,** σ1s.**91**/46**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.33**	**140**	*e*Sg	**Sb**	**03 00 12.2**	**+0.8**
KHNJ				*e*Pg	**Pb**	**03 00 05.0**	**-1.0**
IBND	**Bandar-abas**	**1.11**	**228**	*e*Pg	**Pn**	**03 00 18.2**	**+0.6**
IBND				*e*Sg	**Sb**	**03 00 35.3**	**+2.4**
IBND				*e*		03 00 44.9	
	comp=Z,9µm,0.3s						
KBAM	**BAM**	**1.27**	**43**	*e*Pg	**Pn**	**03 00 19.2**	**-0.7**
KBAM				*e*Sg	**Sn**	**03 00 36.1**	**+0.1**
NGRK	**Negar Kerman**	**1.58**	**336**	*e*Pn	**Pn**	**03 00 22.9**	**-1.5**
NGRK				*e*		03 00 44.9	
	comp=Z,2µm,0.2s						
CHMN	**Cheshme madani**	**1.66**	**2**	*e*Pg	**Pn**	**03 00 24.9**	**-0.6**
CHMN				*e*		03 00 48.0	
	comp=Z,2µm,0.4s						
TVBK	**TV Kerman**	**1.89**	**341**	*e*Pn	**Pn**	**03 00 28.4**	**-0.2**
TVBK				*e*		03 01 03.6	
	comp=Z,3µm,0.3s						
KHGB	**Koh Gabri**	**2.34**	**338**	*e*	**Pb**	**03 00 40.1**	**+0.4**
	comp=Z,2µm,0.4s						
SHME	**Shamm**	**2.45**	**209**	P	**Pn**	**03 00 36.4**	**+0.4**
	SNR=10						
SHME				S	**Sb**	**03 01 11.0**	**-0.2**
BANOM	**Banah**	**2.50**	**205**	P	**Pn**	**03 00 37.5**	**+0.8**
	SNR=9.0						
BANOM				S	**Sb**	**03 01 12.8**	**+0.2**
MASF	**Masafi**	**3.05**	**203**	P	**Pn**	**03 00 47.0**	**+2.7**
MASF				S	**Sb**	**03 01 27.4**	**-1.1**
UOSS	**Minazif**	**3.43**	**200**	P	**Pn**	**03 00 50.4**	**+0.8**
HATD	**Hatta, Dubai**	**3.57**	**200**	P	**Pn**	**03 00 53.6**	**+2.2**
HATD				S	**Sn**	**03 01 35.0**	**+2.4**
ASHO	**Ashiyiah**	**3.72**	**200**	P	**Pn**	**03 00 55.1**	**+1.5**
	SNR=11						
ASHO				S	**Sn**	**03 01 41.3**	**+4.9**
NHDN	**Nehbandan**	**3.89**	**35**	*e*Pn	**Pn**	**03 00 57.1**	**+1.1**
NHDN				*e*		03 02 02.8	
	comp=Z,501nm,0.6s						
ASUD	**Al Ashush, Dub**	**4.04**	**209**	P	**Pn**	**03 00 56.6**	**-1.4**
ASUD				S	**Sn**	**03 01 47.6**	**+3.3**
HOQ	**Hoqain**	**4.60**	**182**	P	**Pn**	**03 01 05.2**	**-0.4**
	SNR=10						
BIDO	**Bidbid**	**4.70**	**173**	P	**Pn**	**03 01 06.2**	**-0.7**
ARQ	**Araqi**	**4.92**	**190**	P	**Pn**	**03 01 11.9**	**+1.9**
	SNR=30						
WSAR	**Wadi Sarin**	**5.05**	**168**	P	**Pn**	**03 01 12.1**	**+0.3**
	SNR=12						
WSAR				S	**Sn**	**03 02 08.9**	**-0.3**
SMDO	**Samad**	**5.14**	**174**	P	**Pn**	**03 01 14.3**	**+1.1**
SMDO				S	**Sn**	**03 02 12.6**	**+0.9**
BSY	**Bisya**	**5.44**	**183**	P	**Pn**	**03 01 19.6**	**+2.4**
BSY				S	**Sn**	**03 02 20.3**	**+1.6**
IRAM	**Ramesheh**	**5.69**	**310**	*e*Pn	**Pn**	**03 01 20.3**	**-0.5**
WBK	**Wadi Bani Khal**	**5.73**	**166**	P	**Pn**	**03 01 21.0**	**-0.1**
	SNR=7.0						
WBK				S	**Sn**	**03 02 26.5**	**+0.6**
KLNJ	**Kolanjah**	**5.83**	**300**	*e*Pn	**Pn**	**03 01 23.6**	**+0.7**
SMRA	**Abu-Samra**	**6.88**	**242**	P	**Pn**	**03 01 36.6**	**-0.2**
SMRA				S	**Sn**	**03 02 51.6**	**-2.5**
MHTO	**MHTO**	**7.20**	**176**	P	**Pn**	**03 01 43.0**	**+1.7**
	SNR=5.3						
MHTO				S	**Sn**	**03 03 00.1**	**-1.9**
DOK	**Doka**	**10.02**	**199**	P	**Pn**	**03 02 19.1**	**-0.9**
DOK				S	**Sn**	**03 04 06.1**	**-5.3**
DMTO	**DMTO**	**10.69**	**193**	P	**Pn**	**03 02 27.2**	**-2.0**
WHFO	**Wadi Hawf**	**10.78**	**199**	P	**Pn**	**03 02 29.6**	**-0.9**
WHFO				S	**Sn**	**03 04 25.9**	**-4.3**

RSNC 09 03:05:18.2±1.1**, 6°.78N**×**73°.15W, h144**km±4km**, ML3.2, Mw3.6, 3C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**190**	⇓*i*P	Pn	03 05 37.5	-0.6
BARC				*e*S	Sn	03 05 52.3	-0.9
BARC				IAML		03 05 55.4	
	comp=Z,479nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**300**	⇑*i*P	Pn	03 05 39.4	-0.4
BRRC				*e*S	Sn	03 05 56.5	+0.3
BRRC				IAML		03 06 00.2	
	comp=Z,220nm,0.2s						
PAMC	**Pamplona, Colo**	**0.71**	**39**	*e*P	Pn	03 05 40.4	-0.4
PAMC				*e*S	Sn	03 05 57.7	-0.2
PAMC				IAML		03 06 00.7	
	comp=Z,224nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.32**	**260**	*e*P	Pn	03 05 44.1	-1.4
PTBC				*e*S	Sn	03 06 05.3	-1.0
PTBC				IAML		03 06 12.3	
	comp=Z,147nm,0.2s						
TAMC	**Tame, Arauca**	**1.39**	**104**	⇑*i*P	Pn	03 05 46.0	-0.3
TAMC				IAML		03 06 07.1	
	comp=Z,112nm,0.3s						
TAMC				*e*S	Sn	03 06 07.5	-0.1
ZARC	**Zaragoza, Cauc**	**1.84**	**293**	*e*P	Pn	03 05 50.2	-0.9
ZARC				*e*S	Sn	03 06 15.4	-0.9
ZARC				IAML		03 06 20.4	
	comp=Z,228nm,0.4s						
NORC	**Norcasia**	**2.09**	**235**	*e*P	Pn	03 05 53.7	-0.5
NORC				*e*S	Sn	03 06 21.5	-0.3
NORC				IAML		03 06 24.3	
	comp=Z,92nm,0.2s						
CHIC	**Chingaza**	**2.21**	**195**	*e*P	Pn	03 05 55.8	-0.2
CHIC				*e*S	Sn	03 06 25.1	0.0
CHIC				IAML		03 06 30.1	
	comp=Z,104nm,0.3s						
ROSC	**El Rosal**	**2.25**	**211**	*e*P	Pn	03 05 57.2	+0.8
ROSC				*e*S	Sn	03 06 27.7	+2.0
ROSC				IAML		03 06 32.0	
	comp=Z,331nm,0.4s						
VILC	**Villavicencio,**	**2.71**	**192**	*e*P	Pn	03 06 01.0	-0.8
VILC				*e*S	Sn	03 06 35.2	-0.2
VILC				IAML		03 06 38.5	
	comp=Z,125nm,0.4s						
VILC				IAML		03 06 40.9	
	comp=Z,138nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.76**	**158**	⇓*i*P	Pn	03 06 00.7	-1.6
PTGC				*e*S	Sn	03 06 34.1	-2.3
PTGC				IAML		03 06 38.8	
	comp=Z,50nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.77**	**352**	*e*P	Pn	03 06 02.9	+0.4
LL1C				*e*S	Sn	03 06 38.4	+1.7
LL1C				IAML		03 06 51.8	
	comp=Z,331nm,0.5s						
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*e*P	Pn	03 06 05.2	-0.2
CBOC				*e*S	Sn	03 06 43.0	+1.2
CBOC				IAML		03 06 49.9	
	comp=Z,29nm,0.7s						
DBBC	**Dabeiba**	**3.05**	**275**	*e*P	Pn	03 06 05.1	-1.0
DBBC				*e*S	Sn	03 06 41.0	-2.0
ANIL	**Santa Ana**	**3.19**	**225**	*e*P	Pn	03 06 09.0	+0.9
ANIL				*e*S	Sn	03 06 47.9	+1.1
ANIL				IAML		03 06 57.5	
	comp=Z,248nm,0.3s						
ARGC	**Ariguani, Magd**	**3.24**	**341**	*e*P	Pn	03 06 07.7	-0.9
ARGC				*e*S	Sn	03 06 47.5	0.0
ARGC				IAML		03 06 56.6	
	comp=Z,27nm,0.5s						
ORTC	**Ortega, Tolima**	**3.54**	**216**	⇑*i*P	Pn	03 06 11.8	-0.5
ORTC				*e*S	Sn	03 06 55.1	+0.9
ORTC				IAML		03 06 58.7	
	comp=Z,52nm,0.3s						
PLMC	**San Jos del P**	**3.63**	**239**	*e*P	Pn	03 06 13.1	-0.5
PLMC				*e*S	Sn	03 06 55.5	-1.0
PLMC				*i* S	Sn	03 06 55.5	-1.0
PLMC				IAML		03 07 01.0	
	comp=Z,28nm,0.2s						
SJCC	**San Jacinto, C**	**3.69**	**327**	*e*P	Pn	03 06 11.2	-3.2
SJCC				*e*S	Sn	03 06 52.7	-5.2
SJCC				IAML		03 07 06.7	
	comp=Z,32nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.22**	**4**	*e*P	Pn	03 06 17.9	-3.4
CRJC				*e*S	Sn	03 07 05.5	-4.9
CRJC				IAML		03 07 12.2	
	comp=Z,39nm,0.4s						
YOTC	**Yotoco, Valle**	**4.22**	**229**	*e*P	Pn	03 06 20.1	-1.3
YOTC				*e*S	Sn	03 07 10.7	+0.2

YOTC IAML 03 07 21.5
comp=Z,8.8nm,2.4s
GUVC San Jose del G 4.24 173 *e*P Pn 03 06 20.3 -1.2
GUVC *e*S Sn 03 07 10.4 -0.4
GUVC IAML 03 07 15.1
comp=Z,42nm,0.3s
GUVC IAML 03 07 15.3
comp=Z,43nm,0.3s
MALC Bahia Malaga 4.99 237 *e*P Pn 03 06 32.3 +0.9
MALC *e*S Sn 03 07 16.5 -12
URIC Uribia, Colomb 5.02 13 *e*P Pn 03 06 28.2 -3.7
URIC *e*S Sn 03 07 23.7 -5.6
URIC IAML 03 07 30.8
comp=Z,8.8nm,0.5s
GARC Garzon, Huila 5.13 207 *e*P Pn 03 06 32.2 -1.3
GARC *e*S Sn 03 07 28.8 -3.4
GARC IAML 03 07 57.8
comp=Z,27nm,0.1s
FLOC Florencia 5.74 206 *e*P Pn 03 06 40.7 -0.7
FLOC *e*S Sn 03 07 46.9 +0.5
FLOC IAML 03 07 59.6
comp=Z,5.1nm,1.2s
BBAC Balboa, Cauca 6.25 221 *e*P Pn 03 06 48.4 0.0
BBAC *e*S Sn 03 07 55.2 -3.8
BBAC IAML 03 08 03.7
comp=Z,2.4nm,0.7s

---

*KOLA **09** 03:05:23.0, 67.22N×20.76E, h0km, ML2.3*
HEL 09 03:05:27.8, 67.80N×20.15E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
RATU	**Laukkuluspa**	**0.21**	**276**	*i* P		Pg	03 05 32.4	+0.6
RATU				*i* S		Sg	03 05 35.8	+1.1
NIKU	**Nikkaluokta**	**0.43**	**279**	*i* P		Pg	03 05 36.3	+0.3
DUNU	**Dundret**	**0.70**	**167**	*i* P		Pg	03 05 41.0	-0.2
LANU	**Lannavaara**	**0.74**	**70**	*e*P		Pg	03 05 41.1	-0.8
LANU				*e*S		Sg	03 05 50.3	-1.1
SALU	**Saltoluokta**	**0.76**	**237**	*i* P		Pg	03 05 42.5	+0.2
MASU	**Masugnsbyn**	**0.79**	**115**	*i* P		Pg	03 05 42.2	-0.6
KIF	**Kilpisjarvi**	**1.23**	**11**	*e*P		Pg	03 05 50.7	-0.6
KIF				MSG			03 06 06.2	
	comp=Z,21nm,0.2s							
KIF				*e*S		Sg	03 06 07.0	-0.3
KIF	**Kilpisjarvi**	**1.23**	**11**	*e*P		Pg	03 05 50.9	-0.5
PAJU	**Pajala** baz=302	**1.39**	**123**	*e*P		Pg	03 05 52.6	-1.7
PAJU				*e*SB		Sg	03 06 11.3	-0.9
HEF	**Hetta**	**1.45**	**64**	*e*PG		Pn	03 05 53.9	-1.4
HEF				MSG			03 06 11.3	
	comp=Z,13nm,0.2s							
HEF				*e*SB		Sg	03 06 12.9	-1.4
HEF	**Hetta**	**1.45**	**64**	*e*P		Pn	03 05 54.0	-1.3
ERTU	**Ertsjaerv**	**1.49**	**147**	*e*P		Pn	03 05 54.6	-1.2
ERTU				*e*SN		Sn	03 06 15.9	0.0
KLF	**Kolari**	**1.57**	**110**	*e*P		Pn	03 05 55.8	-1.1
KLF				*e*SN		Sn	03 06 17.3	-0.6
KTK1	**Kautokeino**	**1.67**	**42**	*e*P		Pn	03 05 57.7	-0.5
KTK1				*e*SN		Sn	03 06 20.5	+0.2
HARU	**Harads**	**1.68**	**168**	*e*P		Pn	03 05 58.5	+0.1
TRO	**Tromso**	**1.89**	**347**	*e*P		Pn	03 06 01.5	+0.2
TRO				*e*SG		Sb	03 06 26.9	-0.3
KALU	**Kalix**	**2.33**	**146**	*e*S		Sn	03 06 35.0	-1.5
TOF	**Tornio**	**2.39**	**135**	*e*PB		Pn	03 06 09.2	+1.2
TOF				MSG			03 06 38.5	
	comp=Z,5.8nm,0.2s							
TOF				*e*SG		Sb	03 06 41.4	-0.1
SGF	**Sodankyl**	**2.47**	**96**	*e*P		Pn	03 06 09.9	+0.7
SGF				*e*SG		Sb	03 06 43.0	-0.9
RNF	**Rovaniemi**	**2.58**	**115**	*e*PB		Pn	03 06 12.2	+1.5
RNF				*e*SG		Sb	03 06 46.4	-0.7
ARA0	**ARCESS Array S** baz=231	**2.62**	**46**	*e*P		Pn	03 06 11.5	+0.2
ARA0				*e*SG		Sb	03 06 48.3	+0.1
ARCES	**ARCESS Array B**	**2.62**	**46**	P		Pn	03 06 11.1	-0.2
ARCES				S		Sn	03 06 44.9	+1.2
KEV	**Kevo**	**3.17**	**49**	*e*P		Pn	03 06 19.4	+0.6
KEV				*e*S		Sn	03 06 57.8	+0.5
KEV				MSG			03 07 00.8	
	comp=Z,4.7nm,0.2s							
BURU	**Burvik**	**3.27**	**171**	*e*P		Pn	03 06 21.8	+1.6
BURU				*e*SB		Sb	03 07 03.4	-3.5
OUL	**Oulu** baz=321	**3.57**	**137**	*e*PG		Pb	03 06 32.4	+0.6
VRF	**Varrio**	**3.59**	**87**	*e*PB		Pn	03 06 27.8	+3.1
VRF				*e*SB		Sb	03 07 14.6	-1.7
OLKF	**Oulanka, Finla**	**3.92**	**108**	*e*P		Pn	03 06 30.0	+1.0
OLKF				*e*SG		Sg	03 07 30.2	-3.2
MSF	**Maaselka**	**3.99**	**114**	*e*P		Pn	03 06 31.3	+1.2
MSF				*e*SG		Sb	03 07 29.5	+1.9
KU6	**Riekki** baz=296	**4.23**	**110**	*e*P		Pn	03 06 33.8	+0.4
KU6				*e*SG		Sg	03 07 39.4	-4.1
APA0	**Apatity Array**	**4.89**	**86**	P		Pn	03 06 34.1	-8.4
APA0				S		Sn	03 07 28.8	-11
TERR	**Teriberka**	**5.67**	**69**	P		Pn	03 06 46.5	-6.7
TERR				S		Sn	03 07 50.3	-8.6

---

*IDC **09** 03:06:55.1±2.4, 2.57S×128.67E, h0km, mb3.1/2, mbtmp3.2/3, ML3.2/1, MS3.4/1, Error ellipse: s-maj=152.7km s-min=29.1km az=68.0*
*DJA **09** 03:07:00.0±0.5, 3.3S±4.4×12.8E±.4, h23km±7km, M3.1/6, MLv3.1/6*
ISC 09 03:07:00.3±1.6, 3.03S±0.06×127.85E±0.06, h24km±15km, n11, σ1°22/15, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
KRAI	**Karang Ratu**	**0.61**	**118**	P		**Pb**	**03 07 12.3**	**-0.1**
KRAI				S		**Sb**	**03 07 20.6**	**0.0**
AAI	**Ambon**	**0.74**	**152**	P		**Pn**	**03 07 15.1**	**-0.1**
AAI				S		**Sn**	**03 07 25.6**	**-0.1**
NLAI	**Namlea**	**0.78**	**254**	P		**Pn**	**03 07 16.4**	**+0.6**
NLAI				S		**Sn**	**03 07 29.3**	**+2.5**
MSAI	**Masohi**	**1.12**	**106**	P		**Pb**	**03 07 21.1**	**+0.1**
MSAI				S		**Sn**	**03 07 35.9**	**+0.7**
SANI	**Sanana**	**2.10**	**298**	P		**Pn**	**03 07 33.3**	**-0.7**
SANI				S		**Sn**	**03 07 57.2**	**-2.2**
LBMI	**Labuha**	**2.40**	**352**	P		**Pn**	**03 07 38.5**	**+0.4**
LBMI				S		**Sn**	**03 08 08.5**	**+1.7**
BNDI	**Bandanaira**	**2.53**	**126**	P		Pn	03 07 30.3	-10
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=341,slow=12,SNR=3.6 0.2nm,0.3s	**17.96**	**160**	P		**Pn**	**03 11 08.1**	**-0.6**
ASAR	**Alice Springs** 0.7nm,0.9s,baz=343,slow=12,SNR=5.7 0.7nm,0.9s	**21.34**	**165**	P		**P**	**03 11 46.1**	**+0.3**
PSI	**Prapat** comp=Z,68nm,19.5s,baz=174,slow=40	**29.49**	**281**	LR		LR	03 27 08.4	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=123,slow=5.0,SNR=1.9 0.2nm,0.5s	**63.75**	**327**	P		**P**	**03 17 29.7**	**-0.5**

---

*LDG **09** 03:15:07.7±0.1, 43.00N×13.16E, h9km, Ml3.0/29, Error ellipse: s-maj=2.0km s-min=1.2km az=47.0*
*ROM **09** 03:15:08.4±0.0, 42.996N±0.001×13.144E±0.003, h9km, ML3.5/55, Error ellipse: s-maj=0.2km s-min=0.1km az=66.0*
*IDC **09** 03:15:10.2±1.4, 43.18N×13.50E, h0km, mb3.3/2, mbtmp3.6/6, ML3.3/4, MS2.8/5, Error ellipse: s-maj=35.8km s-min=15.3km az=95.0*
*PRU **09** 03:15:11.5±0.0, 43.05N×13.41E, h10km*
ISC 09 03:15:08.5±0.7, 42.99N±0.01×13.08E±0.02, h15km±3km, n195, σ2°63/251, 10C-12D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
FEMA	**Monte Fema**	**0.04**	**219**	⇑P		**Pg**	**03 15 10.9**	**-0.5**
FEMA				S		**Sg**	**03 15 13.1**	**-0.3**
FEMA				AML		AML		
FEMA				AML		AML		
FEMA				AML		AML		
FEMA				AML		AML		
FDMO	**Fiordimonte**	**0.05**	**5**	⇑P		**Pg**	**03 15 10.2**	**-1.2**
FDMO				S		**Sg**	**03 15 11.4**	**-1.9**
T1219	**Muccia, Frazio**	**0.09**	**320**	⇑P		**Pg**	**03 15 11.5**	**-0.2**
T1219				S		**Sg**	**03 15 14.0**	**+0.2**
T1219				AML		AML		
	comp=N,88600μm,0.3s							
T1219				AML		AML		
	comp=E,84150μm,0.7s							
T1219				AML		AML		
	comp=N,88650μm,0.3s							
T1219				AML		AML		
	comp=E,84000μm,0.7s							
T1219				AML		AML		
	comp=N,88600μm,0.3s							
T1219				AML		AML		
	comp=E,83800μm,0.7s							
T1256	**Bolognola (MC)**	**0.11**	**82**	⇑P		**Pg**	**03 15 10.5**	**-1.6**
T1256				S		**Sg**	**03 15 11.9**	**-2.5**
T1256				AML		AML		
	comp=E,91000μm,0.9s							
T1256				AML		AML		
T1256				AML		AML		
T1256				AML		AML		
T1256				AML		AML		
T1256				AML		AML		
	comp=E,93400μm,1.6s							
T1216	**Preci, Frazion**	**0.11**	**205**	⇑P		**Pg**	**03 15 12.1**	**+0.2**
T1216				S		**Sg**	**03 15 15.0**	**+0.8**
T1216				AML		AML		
	comp=N,76600μm,0.4s							
T1216				AML		AML		
	comp=E,55700μm,1.3s							
T1216				AML		AML		
	comp=N,76650μm,0.4s							
T1216				AML		AML		
	comp=E,55650μm,1.3s							
T1220	**Camerino, Fraz**	**0.12**	**2**	P		**Pg**	**03 15 11.4**	**-0.6**
T1220				S		**Sg**	**03 15 14.0**	**-0.4**
CESI	**CESI - Serrava**	**0.13**	**276**	⇑P		**Pg**	**03 15 12.8**	**+0.5**
CESI				S		**Sg**	**03 15 16.1**	**+1.4**
CESI				AML		AML		
	comp=N,39950μm,1.3s							
CESI				AML		AML		
	comp=E,42050μm,1.6s							
CSP1	**Cessapalombo**	**0.14**	**42**	⇑P		**Pg**	**03 15 11.3**	**-1.1**
CSP1				S		**Sg**	**03 15 13.3**	**-1.6**
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
T1245	**Castelsantange**	**0.15**	**150**	⇓P		**Pg**	**03 15 12.1**	**-0.5**
T1245				S		**Sg**	**03 15 14.6**	**-0.8**
T1245				AML		AML		
	comp=E,31550μm,0.7s							
T1245				AML		AML		
	comp=N,49550μm,0.4s							
T1245				AML		AML		
	comp=N,47350μm,0.4s							
T1245				AML		AML		
	comp=E,31500μm,0.7s							
T1245				AML		AML		
	comp=E,32350μm,0.3s							
SEF1	**Sefro**	**0.18**	**328**	P		**Pg**	**03 15 13.3**	**+0.4**
SEF1				S		**Sg**	**03 15 17.1**	**+1.2**
SEF1				AML		AML		
	comp=E,65250μm,0.3s							
SEF1				AML		AML		
	comp=N,44350μm,1.2s							
SEF1				AML		AML		
	comp=E,65200μm,0.3s							
SEF1				AML		AML		
	comp=N,44400μm,1.1s							
GUMA	**Gualdo di Mace**	**0.20**	**69**	⇑P		**Pg**	**03 15 12.6**	**-0.6**
GUMA				S		**Sg**	**03 15 15.8**	**-0.5**
GUMA				AML		AML		
	comp=N,97850μm,0.4s							
GUMA				AML		AML		
	comp=E,81600μm,1.2s							
GUMA				AML		AML		
	comp=E,93250μm,0.5s							
GUMA				AML		AML		
	comp=N,79000μm,0.4s							
PIO1	**Pioraco**	**0.20**	**339**	P		**Pg**	**03 15 13.6**	**+0.3**
PIO1				S		**Sg**	**03 15 17.4**	**+1.0**
MMO1	**Montemonaco**	**0.20**	**117**	⇑P		**Pg**	**03 15 12.5**	**-0.8**
MMO1				S		**Sg**	**03 15 15.4**	**-1.0**
MDAR	**Monte D'Aria**	**0.21**	**12**	P		**Pg**	**03 15 13.1**	**-0.3**
MDAR				S		**Sg**	**03 15 16.3**	**-0.3**
MDAR				AML		AML		
	comp=N,27650μm,1.5s							
MDAR				AML		AML		
	comp=E,21600μm,0.3s							
MDAR				AML		AML		
	comp=N,27700μm,1.5s							
MDAR				AML		AML		
	comp=E,21650μm,0.3s							
FIU1	**Fiuminata**	**0.23**	**331**	P		**Pg**	**03 15 14.1**	**+0.5**
FIU1				S		**Sg**	**03 15 18.2**	**+1.1**
FIU1				AML		AML		
	comp=E,9875μm,0.9s							
FIU1				AML		AML		
	comp=N,11030μm,0.4s							
FIU1				AML		AML		
	comp=N,11050μm,0.4s							
FIU1				AML		AML		
	comp=E,9870μm,0.9s							
T1212	**Cascia, Frazio**	**0.24**	**187**	⇓P		**Pg**	**03 15 14.3**	**+0.4**
T1212				S		**Sg**	**03 15 18.8**	**+1.3**
T1215	**Vallo di Nera,**	**0.24**	**220**	P		**Pb**	**03 15 14.8**	**+0.1**
T1215				S		**Sb**	**03 15 19.7**	**+0.9**
GAG1	**Gagliole**	**0.25**	**358**	P		**Pg**	**03 15 14.3**	**+0.3**
GAG1				S		**Sg**	**03 15 18.5**	**+0.8**
GAG1				AML		AML		
	comp=E,47500μm,0.4s							
GAG1				AML		AML		
	comp=N,48550μm,0.3s							
GAG1				AML		AML		
	comp=E,47550μm,0.4s							
SSM1	**San Severino M**	**0.25**	**16**	P		**Pg**	**03 15 13.8**	**-0.1**
SSM1				S		**Sg**	**03 15 17.9**	**+0.3**
T1213	**Norcia, Frazio**	**0.27**	**173**	P		**Pg**	**03 15 14.4**	**+0.1**
T1213				S		**Sg**	**03 15 19.1**	**+0.9**
T1244	**Arquata del Tr**	**0.28**	**146**	⇓P		**Pg**	**03 15 14.5**	**-0.1**
T1244				S		**Sg**	**03 15 19.3**	**+0.6**
SNTG	**Esanatoglia**	**0.28**	**339**	P		**Pb**	**03 15 14.7**	**-0.7**
SNTG				S		**Sb**	**03 15 20.1**	**+0.1**
SNTG				AML		AML		
	comp=E,6820μm,1.2s							
SNTG				AML		AML		
	comp=N,7620μm,1.3s							
SNTG				AML		AML		
	comp=N,7625μm,1.3s							
SNTG				AML		AML		
	comp=E,6760μm,1.1s							
SNTG				AML		AML		
	comp=N,8150μm,0.3s							
SNTG				AML		AML		
	comp=E,6825μm,1.2s							
T1241	**Roccafluvione,**	**0.29**	**118**	P		**Pg**	**03 15 14.2**	**-0.5**
T1241				S		**Sg**	**03 15 18.7**	**-0.2**
T1241				AML		AML		
	comp=N,12230μm,0.4s							
T1241				AML		AML		
	comp=E,12800μm,0.6s							
T1241				AML		AML		
	comp=N,12225μm,0.4s							
T1241				AML		AML		
	comp=E,12350μm,0.6s							
T1241				AML		AML		
	comp=N,12250μm,0.4s							
ASSB	**Assisi San Ben**	**0.32**	**280**	P		**Pb**	**03 15 16.0**	**+0.1**
ASSB				S		**Sb**	**03 15 22.0**	**+1.1**
ASSB				AML		AML		
	comp=E,21950μm,0.3s							
ASSB				AML		AML		
	comp=N,14700μm,0.7s							
T1218	**Civita (PG)**	**0.32**	**176**	P		**Pg**	**03 15 15.3**	**+0.1**
EL6	**Elcito**	**0.34**	**2**	P		**Pb**	**03 15 15.4**	**-0.9**
EL6				AML		AML		
	comp=E,18100μm,0.3s							
EL6				AML		AML		
	comp=N,27050μm,0.5s							
ATCC	**AVT- Casa Cast**	**0.38**	**301**	P		**Pb**	**03 15 17.2**	**+0.2**
ATCC				AML		AML		
	comp=E,20850μm,0.2s							
ATCC				AML		AML		
	comp=N,17900μm,0.8s							
FOSV	**Fossato di Vic**	**0.38**	**322**	⇓P		**Pb**	**03 15 16.8**	**-0.3**
FOSV				AML		AML		
	comp=N,14950μm,0.3s							
FOSV				AML		AML		
	comp=E,9015μm,0.5s							
LNSS	**Leonessa**	**0.39**	**185**	P		**Pg**	**03 15 16.8**	**+0.4**
LNSS				AML		AML		
	comp=N,6135μm,0.4s							
LNSS				AML		AML		
	comp=E,3325μm,1.5s							
CING	**Cingoli**	**0.39**	**12**	P		**Pb**	**03 15 16.3**	**-0.9**
T1243	**Rocca Santa Ma**	**0.40**	**137**	P		**Pg**	**03 15 16.1**	**-0.5**
SMA1	**SAN MARTINO**	**0.41**	**153**	⇓P		**Pg**	**03 15 16.5**	**-0.2**
SMA1				AML		AML		
	comp=E,6240μm,0.6s							
SMA1				AML		AML		
	comp=N,6755μm,1.1s							
SMA1				AML		AML		
	comp=E,6245μm,0.6s							
OFFI	**Offida**	**0.45**	**97**	P		**Pb**	**03 15 17.8**	**-0.3**
OFFI				AML		AML		
	comp=E,8930μm,0.5s							
OFFI				AML		AML		
	comp=N,11985μm,0.6s							
MMUR	**Monte Murano**	**0.46**	**352**	P		**Pb**	**03 15 17.8**	**-0.5**
ARRO	**Arrone**	**0.47**	**210**	⇑P		**Pb**	**03 15 18.7**	**+0.1**
MURB	**Monte Urbino**	**0.49**	**304**	P		**Pb**	**03 15 19.1**	**+0.2**
MURB				AML		AML		
	comp=N,13700μm,1.1s							
MURB				AML		AML		
	comp=E,19350μm,0.2s							
MURB				AML		AML		
	comp=N,13950μm,1.1s							
MURB				AML		AML		
	comp=E,16900μm,0.2s							
SSFR	**Montelago di S**	**0.50**	**334**	P		**Pb**	**03 15 18.7**	**-0.3**
SSFR				AML		AML		
	comp=E,15300μm,0.3s							
SSFR				AML		AML		
	comp=N,12130μm,0.2s							
SSFR				AML		AML		
	comp=N,9480μm,0.2s							
SSFR				AML		AML		
	comp=E,13150μm,0.3s							
T1246	**Crognaleto (TE**	**0.51**	**143**	P		**Pg**	**03 15 18.1**	**-0.5**
CAMP	**Campotosto**	**0.52**	**152**	⇓P		**Pg**	**03 15 18.3**	**-0.4**
CAMP				AML		AML		
	comp=N,3000μm,0.5s							
CAMP				AML		AML		
	comp=E,2760μm,0.6s							
ARVD	**Arcevia**	**0.52**	**349**	⇓P		**Pb**	**03 15 18.8**	**-0.6**
ARVD				AML		AML		
	comp=E,8590μm,0.2s							
ARVD				AML		AML		
	comp=N,3940μm,0.3s							
ATFO	**Monte Foce - G**	**0.53**	**315**	⇓P		**Pb**	**03 15 19.6**	**0.0**
ATFO				AML		AML		
	comp=N,4780μm,0.9s							
ATFO				AML		AML		
	comp=E,4345μm,1.1s							
CESX	**Cesi**	**0.53**	**224**	⇓P		**Pg**	**03 15 19.6**	**+0.6**
CESX				AML		AML		
	comp=E,7235μm,0.4s							
CESX				AML		AML		
	comp=N,5045μm,0.6s							
TERO	**Teramo**	**0.53**	**134**	P		**Pg**	**03 15 18.5**	**-0.6**
TERO				S		**Sg**	**03 15 26.4**	**+0.2**
TERO				AML		AML		
	comp=E,5275μm,0.6s							
TERO				AML		AML		
	comp=N,3505μm,0.4s							
TERO				AML		AML		
	comp=E,5410μm,0.6s							
TERO				AML		AML		
	comp=N,3685μm,0.6s							
CIMA	**Civitanova Mar**	**0.53**	**54**	P		**Pb**	**03 15 19.8**	**+0.2**
PP3	**Marolino**	**0.55**	**45**	P		**Pb**	**03 15 19.0**	**-0.8**
PP3				AML		AML		
	comp=E,11720μm,0.3s							
PP3				AML		AML		
	comp=E,11640μm,1.6s							
PP3				AML		AML		
	comp=N,22000μm,0.3s							
PP3				AML		AML		
	comp=E,11730μm,0.3s							
PP3				AML		AML		
	comp=E,11690μm,1.6s							
PP3				AML		AML		
	comp=N,20650μm,0.3s							
T1247	**Pizzolo (AQ)**	**0.57**	**164**	⇓P		**Pg**	**03 15 19.5**	**-0.3**
T1247				AML		AML		
	comp=E,4730μm,0.6s							
T1247				AML		AML		
	comp=N,3365μm,0.5s							
T1247				AML		AML		
	comp=E,4725μm,0.6s							
FRON	**Frontone**	**0.59**	**334**	P		**Pb**	**03 15 20.2**	**-0.4**
FRON				AML		AML		
	comp=E,4475μm,0.8s							
FRON				AML		AML		
	comp=N,7440μm,0.5s							
FRON				AML		AML		
	comp=N,7435μm,0.5s							
FRON				AML		AML		
	comp=E,4470μm,0.8s							
ATLO	**AVT- Montelove**	**0.59**	**304**	⇓P		**Pb**	**03 15 20.7**	**+0.1**
TB01	**Gubbio**	**0.61**	**310**	P		**Pb**	**03 15 21.2**	**+0.2**
TB02	**Pietralunga**	**0.62**	**308**	P		**Pb**	**03 15 21.2**	**+0.1**
ATVO	**AVT- Monte Val**	**0.63**	**309**	P		**Pb**	**03 15 21.3**	**+0.1**
ATVO				AML		AML		
	comp=E,2690μm,0.4s							
ATVO				AML		AML		
	comp=E,2685μm,0.4s							
ATVO				AML		AML		
	comp=N,3110μm,0.6s							
TRTR	**Tortoreto Alta**	**0.64**	**106**	P		**Pb**	**03 15 21.7**	**+0.3**
TRTR				AML		AML		
	comp=N,9045μm,0.5s							
TRTR				AML		AML		
	comp=E,9380μm,0.6s							
TB03	**Pietralunga**	**0.64**	**310**	P		**Pb**	**03 15 21.6**	**+0.1**
COR1	**Corinaldo**	**0.64**	**355**	P		**Pb**	**03 15 21.6**	**+0.1**
COR1				AML		AML		
	comp=N,11160μm,0.7s							
COR1				AML		AML		
	comp=E,5605μm,0.4s							
COR1				AML		AML		
	comp=N,9355μm,0.4s							
COR1				AML		AML		
	comp=E,10550μm,0.4s							
COR1				AML		AML		
	comp=E,5610μm,0.4s							
COR1				AML		AML		
	comp=N,9360μm,0.4s							
COR1				AML		AML		
	comp=N,11150μm,0.7s							
GIGS	**Gran Sasso**	**0.65**	**146**	P		**Pg**	**03 15 20.7**	**-0.6**
GIGS				AML		AML		
	comp=N,764μm,0.6s							
GIGS				AML		AML		
	comp=E,872μm,0.6s							
GIGS				AML		AML		
	comp=N,764μm,0.6s							
ATVA	**AVT- Monte Val**	**0.65**	**297**	P		**Pb**	**03 15 21.9**	**+0.3**
ATPC	**Poggio Castell**	**0.67**	**317**	P		**Pb**	**03 15 21.9**	**-0.1**
AOI	**Ancona**	**0.68**	**34**	P		**Pb**	**03 15 21.6**	**-0.5**
AOI				AML		AML		
	comp=E,3230μm,0.6s							
AOI				AML		AML		
	comp=N,2735μm,0.3s							
ATPI	**Pietralunga -**	**0.68**	**313**	P		**Pb**	**03 15 22.4**	**+0.4**
ATPI				AML		AML		
	comp=E,3675μm,0.8s							
ATPI				AML		AML		
	comp=N,2760μm,1.2s							
AQU	**L'Aquila**	**0.68**	**160**	P		**Pg**	**03 15 21.3**	**-0.5**
AQU				AML		AML		
	comp=E,1990μm,1.3s							
AQU				AML		AML		
	comp=E,1945μm,1.4s							
AQU				AML		AML		
	comp=N,1830μm,1.2s							
AQU				AML		AML		
	comp=E,1985μm,1.3s							
AQU				AML		AML		
	comp=N,1975μm,1.2s							
MPAG	**Monte Paganucc**	**0.68**	**340**	P		**Pb**	**03 15 22.2**	**0.0**
MPAG				AML		AML		
	comp=E,4560μm,1.4s							

MPAG AML AML
comp=N,3940μm,1.5s
MPAG AML AML
comp=E,4335μm,1.1s
MPAG AML AML
comp=E,4565μm,1.4s
MPAG AML AML
comp=E,4340μm,1.1s
MPAG AML AML
comp=N,3935μm,1.5s
MPAG AML AML
comp=N,4100μm,1.5s
ATMI Monte Miggiano 0.69 300 P **Pb 03 15 23.0 +0.8**
ATMI AML AML
comp=N,6150μm,0.5s
ATMI AML AML
comp=E,4875μm,0.5s
PCRO Pietralacroce 0.70 28 P **Pb 03 15 22.5 +0.1**
MGAB Montegabbione 0.72 264 P **Pb 03 15 23.4 +0.6**
MGAB AML AML
comp=E,3830μm,0.6s
MGAB AML AML
comp=N,4785μm,0.7s
MGAB AML AML
comp=N,4800μm,0.7s
MGAB AML AML
comp=E,4515μm,0.6s
NARO Abbazia di Nar 0.72 330 P **Pb 03 15 22.7 -0.1**
NARO AML AML
comp=E,2240μm,0.7s
NARO AML AML
comp=N,1780μm,0.8s
FIAM Fiamignano 0.72 178 ⇓P **Pg 03 15 22.2 -0.4**
FIAM AML AML
comp=N,1270μm,0.6s
FIAM AML AML
comp=E,1665μm,1.2s
SENI Senigallia 0.72 9 P **Pb 03 15 23.0 +0.2**
FSSB Fossombrone 0.73 343 P **Pb 03 15 23.1 0.0**
FSSB AML AML
comp=N,42050μm,0.4s
FSSB AML AML
comp=E,15100μm,0.5s
ATMC Monte Cedrone 0.79 305 P **Pb 03 15 24.7 +0.6**
BADI Badiali 0.80 311 AML AML
comp=E,144μm,1.1s
BADI AML AML
comp=N,1845μm,0.6s
BADI AML AML
comp=E,147μm,1.1s
BADI AML AML
comp=N,1850μm,0.6s
VCEL Villa Celiera 0.82 137 AML AML
comp=E,3205μm,0.5s
VCEL AML AML
comp=N,2945μm,0.5s
VCEL AML AML
comp=E,3200μm,0.5s
PE3 Peglio 0.82 329 P **Pb 03 15 24.8 +0.2**
PE3 AML AML
comp=N,22μm,0.4s
PE3 AML AML
comp=E,24μm,0.4s
SRES S.Oreste - Sor 0.86 209 P **Pg 03 15 25.3 +0.1**
SRES AML AML
comp=N,1345μm,0.6s
SRES AML AML
comp=E,1785μm,1.3s
SACS San Casciano d 0.87 261 P **Pn 03 15 27.0 +0.7**
SACS AML AML
comp=N,1665μm,0.6s
SACS AML AML
comp=E,1865μm,0.7s
CAFI Castiglion Fio 0.88 293 P **Pb 03 15 26.0 +0.4**
CAFI AML AML
comp=E,1715μm,0.8s
CAFI AML AML
comp=N,1780μm,0.8s
CAFI AML AML
comp=N,1715μm,0.8s
CAFI AML AML
comp=E,1685μm,0.8s
SSP9 Sansepolcro 0.91 310 P **Pb 03 15 26.0 0.0**
SSP9 AML AML
comp=E,1586μm,1.5s
SSP9 AML AML
comp=N,1895μm,1.4s
T0110 Collepietro 0.92 146 P **Pg 03 15 25.3 -1.1**
T0110 AML AML
comp=E,2945μm,0.4s
T0110 AML AML
comp=E,2940μm,0.4s
T0110 AML AML
comp=N,2465μm,0.4s
CPGN Carpegna, Ital 0.98 326 P **Pn 03 15 28.7 +0.8**
CPGN AML AML
comp=N,2870μm,0.6s
CPGN AML AML
comp=N,2310μm,0.6s
CPGN AML AML
comp=E,3065μm,0.5s
CPGN AML AML
comp=E,3495μm,1.6s
PTQR Pietraquaria 1.00 166 P **Pg 03 15 26.7 -1.1**
MTCE Montecelio 1.00 195 P **Pg 03 15 27.2 -0.6**
LATE Laterza 1.01 249 P **Pn 03 15 29.6 +1.4**
SF11 Podere del Sol 1.04 264 P **Pn 03 15 30.1 +1.5**
CERT Cerreto 1.04 184 P **Pg 03 15 28.1 -0.6**
CERT AML AML
comp=N,792μm,0.5s
CERT AML AML
comp=E,1210μm,0.6s
RSM Repubblica di 1.05 334 P **Pn 03 15 29.3 +0.6**
MCIV Monte Civitell 1.05 259 P **Pn 03 15 30.3 +1.4**
MCIV AML AML
comp=N,564μm,1.6s
MCIV AML AML
comp=E,722μm,1.5s
SF13 Bagnolo 1.09 261 P **Pn 03 15 31.0 +1.7**
SF14 Selvena 1.10 258 P **Pn 03 15 31.0 +1.5**
RCAV Rocca di Cave 1.15 185 P **Pg 03 15 30.2 -0.4**
ARCI Arcidosso 1.19 264 P **Pn 03 15 32.8 +2.1**
VVLD Villa Vallelon 1.19 160 P **Pg 03 15 31.3 -0.2**
CAFR Castel Frentan 1.21 129 P **Pn 03 15 32.0 +1.2**
RMP Rome, Mte Porz 1.21 194 P **Pg 03 15 31.3 -0.6**
ASQU Asqua 1.24 311 P **Pn 03 15 33.0 +1.6**
LPEL Lama dei Pelig 1.25 139 P **Pg 03 15 30.8 -1.7**
SFI Santa Sofia 1.28 316 P **Pn 03 15 33.6 +1.6**
SFI AML AML
comp=N,1060μm,1.4s
SFI AML AML
comp=N,1064μm,1.4s
SFI AML AML
comp=E,666μm,1.3s
SFI AML AML
comp=E,662μm,1.3s
A309A Martorano (FC) 1.33 333 P **Pn 03 15 32.8 +0.3**
LAV9 Lanuvio 1.34 192 P **Pn 03 15 33.9 +1.2**
LRP Arpino 1.39 164 P **Pg 03 15 36.1 +0.7**
RUFI Rufina 1.43 307 P **Pg 03 15 35.5 -0.4**
FROS Frosini 1.43 279 P **Pn 03 15 34.9 +1.0**
OSSC Osservatorio P 1.44 292 P **Pg 03 15 36.0 -0.3**
LMD Lutirano 1.48 318 P **Pg 03 15 37.7 +0.8**
LATB Latina 1.50 183 P **Pn 03 15 35.5 +0.7**
MAON Monte Argentar 1.54 249 P **Pb 03 15 37.4 +0.6**
FRES Fresagrandinar 1.55 130 P **Pg 03 15 37.9 -0.5**
CERA Filignano 1.56 153 P **Pg 03 15 38.2 -0.2**
MIDA Miranda 1.60 147 P **Pn 03 15 37.0 +0.6**
BRIS BRISIGHELLA 1.63 316 P **Pg 03 15 39.8 0.0**
MPPT Montemurlo 1.74 304 P **Pb 03 15 40.4 +0.2**
VAGA Valle Agricola 1.79 151 P **Pn 03 15 39.6 +0.6**
BSSO Busso 1.83 142 P **Pb 03 15 42.4 +0.6**
MTCR Monte La Croce 1.84 305 P **Pb 03 15 41.9 +0.1**
PTRJ Pietraroja 1.95 146 P **Pb 03 15 44.1 +0.3**
POPM Popiglio 1.99 303 P **Pn 03 15 43.0 +1.4**
SACR S. Croce Del S 2.00 142 P **Pb 03 15 45.3 +0.7**
VITU Vitulano (BN) 2.14 147 P **Pb 03 15 46.6 -0.5**
CAFE Carife 2.54 140 P **Pn 03 15 52.2 +3.0**
PGF Pioggiola 3.04 263 *e*P **Pn 03 15 58.2 +2.1**
PGF *e*Sn **Sn 03 16 30.0 -2.3**
comp=E,3.9nm,0.3s
MYKA Terra Mystica 3.66 6 *i* Pn **Pn 03 16 06.9 +2.2**
comp=E,3.5nm,0.2s
OBKA Obir 3.67 16 *e*Pn **Pn 03 16 06.4 +1.6**
comp=E,1.5nm,0.2s
OBKA Obir 3.67 16 *e*Pn **Pn 03 16 07.3 +2.5**
SNR=4.2
ABTA Abfaltersbach 3.78 354 *i* Pn **Pn 03 16 08.8 +2.5**
comp=E,41nm,0.5s,SNR=66
SOKA Soboth 3.94 20 *e*Pn **Pn 03 16 10.0 +1.5**
comp=E,0.9nm,0.5s
KBA Koelnbreinsper 4.09 3 *e*Pn **Pn 03 16 12.8 +2.1**
comp=E,3.5nm,0.2s,SNR=13
KBA Koelnbreinsper 4.09 3 *e*Pn **Pn 03 16 13.4 +2.7**
SNR=11
KBA *e*Sn **Sn 03 17 00.4 +2.0**
SBF Sospel 4.20 284 *e*P **Pn 03 16 14.7 +2.6**
SBF *e*Sn **Sn 03 16 57.8 -3.2**
comp=E,8.3nm,0.4s
FETA Feichten 4.36 338 *e*Pn **Pn 03 16 17.8 +3.4**
comp=E,4.2nm,0.3s,SNR=17
WTTA Wattenberg 4.39 347 *e*Pn **Pn 03 16 18.4 +3.6**
comp=E,4.5nm,0.3s,SNR=12
WTTA Wattenberg 4.39 347 *e*Pn **Pn 03 16 18.7 +3.8**
SNR=10
WTTA *e*Sn **Sn 03 17 10.6 +4.8**
DAVOX Davos/Dischmat 4.42 330 Pn **Pn 03 16 19.4 +4.2**
comp=E,2.9nm,0.3s,baz=92,slow=16,SNR=40
DAVOX Sn **Sb 03 17 13.5 -5.6**
comp=E,1.6nm,0.3s,baz=208,slow=22,SNR=2.4
DAVOX LR LR 03 18 44.3
comp=E,76nm,18.2s,baz=150,slow=48
comp=E,10nm,0.4s
SQTA Sankt Quirin 4.43 343 *i* Pn **Pn 03 16 19.1 +3.8**
comp=E,12nm,0.3s,SNR=40
WATA Walderalm 4.47 347 *e*Pn **Pn 03 16 19.7 +3.8**
comp=E,16nm,0.4s,SNR=21
MOTA Moosalm 4.57 343 *e*Pn **Pn 03 16 20.9 +3.6**
comp=E,1.8nm,0.2s,SNR=14
ARSA Arzberg 4.60 21 *i* Pn **Pn 03 16 18.8 +1.3**
comp=E,1.7nm,0.2s
ARSA Arzberg 4.60 21 *e*Pn **Pn 03 16 19.1 +1.6**
SNR=4.2
ARSA *e*Sn **Sn 03 17 11.2 +0.6**
BIOA Bad Ischl, Aus 4.72 5 *e*Pn **Pn 03 16 21.4 +2.2**
comp=E,4.6nm,0.2s,SNR=8.7
RETA Reutte 4.79 341 *i* Pn **Pn 03 16 24.0 +3.8**
comp=E,6.9nm,0.3s,SNR=17
LMR La Mourre 4.82 276 *e*P **Pn 03 16 23.2 +2.7**
LMR *e*Sn **Sn 03 17 12.2 -3.9**
comp=E,1.6nm,0.3s
PLONS Plons/SG 4.83 328 *e*Pn Pn 03 16 25.8 +5.0
SNR=8.0
PLONS *e*Sn **Sn 03 17 22.9 +6.5**
DAVA Damuels 4.86 333 *e*Pn **Pn 03 16 25.3 +4.1**
comp=E,8.7nm,0.5s,SNR=8.6
DAVA Damuels 4.86 333 *e*Pn **Pn 03 16 25.4 +4.2**
SNR=8.4
DAVA *e*Sn **Sn 03 17 22.7 +5.6**
MBDF Montbardon 4.88 293 *e*P **Pn 03 16 24.4 +2.9**
MBDF *e*Sn **Sn 03 17 14.0 -3.8**
comp=E,2.5nm,0.4s
MOA Molln 4.93 9 *i* Pn **Pn 03 16 24.2 +2.1**
comp=E,2.1nm,0.2s,SNR=12
MOA Molln 4.93 9 *e*Pn **Pn 03 16 24.6 +2.6**
SNR=10
MOA *e*Sn **Sn 03 17 21.0 +2.2**
UBR Ueberruh 5.14 337 *e*Pn **Pn 03 16 29.3 +4.4**
SNR=5.2
UBR *e*Sn **Sn 03 17 27.6 +3.7**
LPG La Plagne 5.19 301 *e*P **Pn 03 16 28.6 +2.7**
LPG *e*Sn **Sn 03 17 21.3 -4.4**
comp=E,3.7nm,0.4s
LPL La Plagne 5.21 301 *e*P **Pn 03 16 28.9 +2.8**
LPL *e*Sn **Sn 03 17 21.9 -4.2**
comp=E,4.9nm,0.4s
RONA Rosalia, Austr 5.22 25 *i* Pn **Pn 03 16 27.3 +1.2**
comp=E,0.7nm,0.2s
CONA Conrad Observa 5.31 21 *i* Pn **Pn 03 16 28.9 +1.6**
comp=E,1.1nm,0.2s,SNR=8.8
WILA Wila 5.32 328 *e*Sn **Sn 03 17 34.2 +5.8**
FUR Furstenfeldbru 5.33 347 *e*Pn **Pn 03 16 29.9 +2.4**
SNR=1.9
ORIF Oris-en-Rattie 5.54 293 *e*P **Pn 03 16 33.6 +3.0**
ORIF *e*Sn **Sn 03 17 29.7 -4.4**
comp=E,1.9nm,0.4s
SMRF Simiane la Rot 5.55 283 *e*P **Pn 03 16 33.5 +2.9**
SMRF *e*Sn **Sn 03 17 29.4 -4.7**
comp=E,1.3nm,0.4s
SULZ Cheisacher 5.73 324 *e*Sn **Sn 03 17 44.2 +5.6**
SLE Schleitheim 5.76 327 *e*Pn **Pn 03 16 37.4 +3.8**
SNR=3.2
BALST Balsthal 5.78 321 *e*Pn **Pn 03 16 37.1 +3.4**
SNR=2.5
BALST *e*Sn **Sn 03 17 44.9 +5.1**
GEC2 GERESS Array S 5.87 4 *e*Pn **Pn 03 16 37.1 +2.1**
SNR=3.3
GEC2 *e*Sn **Sn 03 17 41.7 -0.4**
GERES GERESS Array B 5.87 4 Pn **Pn 03 16 36.2 +1.2**
comp=E,1.1nm,0.3s,baz=173,slow=13,SNR=22
GERES Sn **Sn 03 17 39.7 -2.4**
comp=E,1.2nm,0.3s,baz=180,slow=17,SNR=1.9
GERES LR LR 03 19 24.2
comp=E,74nm,18.0s,baz=274,slow=45
comp=E,1.0nm,0.3s
CKRC Cesky Krumlov 5.89 8 *e*PN **Pn 03 16 36.0 +0.7**
CKRC *e*SN **Sn 03 17 40.5 -2.0**
MODS Modra-Piesok 6.13 27 *e*PN **Pn 03 16 41.2 +2.6**
KHC Kasperske Hory 6.15 3 *e*PN **Pn 03 16 40.0 +1.2**
KHC *e*SN **Sn 03 17 47.7 -1.2**
CABF La Chapelle 6.15 308 *e*P **Pn 03 16 42.2 +3.3**
CABF *e*Sn **Sn 03 17 44.1 -4.9**
comp=E,1.7nm,0.3s
WET Wettzell 6.16 359 *e*Pn **Pn 03 16 39.5 +0.6**
SNR=3.4
WET *e*Sn **Sn 03 17 47.6 -1.4**
BFO Black Forest 6.29 330 *e*Sn **Sn 03 17 55.3 +3.0**
VIVF Saint-Julien-l 6.35 290 *e*P **Pn 03 16 44.8 +3.2**
VIVF *e*Sn **Sn 03 17 49.3 -4.6**
comp=E,0.8nm,0.4s
HINF Hinteralfeld 6.52 320 *e*P **Pn 03 16 46.9 +3.0**
HINF *e*Sn **Sn 03 17 52.3 -5.7**
comp=E,7.7nm,0.4s
VRAC Vranov 6.77 20 LR LR 03 19 43.4
comp=E,50nm,19.9s,baz=58,slow=42
CDF Champ du Feu 6.78 325 *e*P **Pn 03 16 50.1 +2.7**
CDF *e*Sn **Sn 03 17 58.8 -5.5**
comp=E,3.4nm,0.4s
LASF Ste Croix 6.79 282 *e*P **Pn 03 16 51.2 +3.6**
LASF *e*Sn **Sn 03 17 59.5 -5.2**
comp=E,0.7nm,0.4s
VYHS Vyhne 6.82 34 *e*PN **Pn 03 16 52.3 +4.3**
HAU Haudompre 6.89 319 *e*P **Pn 03 16 51.5 +2.5**
HAU *e*Sn **Sn 03 18 02.0 -5.1**
comp=E,5.6nm,0.2s
SMF Signal de Mont 7.52 302 *e*P **Pn 03 17 01.3 +3.7**
SMF *e*Sn **Sn 03 18 16.6 -5.9**
comp=E,2.3nm,0.4s
PAGF Fort de Pagny 7.58 320 *e*P **Pn 03 17 01.8 +3.5**
PAGF *e*Sn **Sn 03 18 17.8 -6.1**
comp=E,3.7nm,0.4s
SFTF Sexfontaines 7.68 316 *e*P **Pn 03 17 03.2 +3.4**
baz=135
SFTF *e*Sn **Sn 03 18 20.0 -6.5**
comp=E,2.6nm,0.3s
LOR Lormes 7.80 306 *e*P **Pn 03 17 04.8 +3.4**
baz=126
LOR *e*Sn **Sn 03 18 23.2 -6.2**
comp=E,3.4nm,0.3s
KEST Kesra 7.80 203 Pn Pn 03 17 08.1 +6.5
comp=E,0.2nm,0.3s,baz=13,slow=18,SNR=1.0
comp=E,7.2nm,0.9s
MEZF Maizieres J'vi 7.87 317 *e*P **Pn 03 17 05.9 +3.6**
baz=137
MEZF *e*Sn **Sn 03 18 24.5 -6.5**
comp=E,3.0nm,0.3s
AVF Avril sur Loir 7.88 302 *e*P **Pn 03 17 05.9 +3.4**
AVF *e*Sn **Sn 03 18 25.3 -6.1**
comp=E,1.0nm,0.4s
SAVF Savonnieres en 7.91 318 *e*P **Pn 03 17 05.5 +2.6**
SAVF *e*Sn **Sn 03 18 25.7 -6.3**
comp=E,3.9nm,0.4s
BRG Berggiesshubel 7.91 4 *e*P **Pb 03 17 22.6 -2.6**
BRG Amp 03 17 24.6
comp=Z,1.5nm,0.3s
BRG *e*x x 03 18 29.0
BRG *e*x x 03 19 37.6
BRG Amp 03 19 56.7
comp=Z,25nm,1.6s
SSF Saint Saulge 7.91 304 *e*P **Pn 03 17 06.1 +3.2**
SSF *e*Sn **Sn 03 18 25.8 -6.3**
comp=Z,1.6nm,0.4s
MTLF Montolieu 7.95 276 *e*P **Pn 03 17 07.5 +4.0**
MTLF *e*Sn **Sn 03 18 28.0 -5.2**
comp=Z,0.6nm,0.3s
BGF Bois d'Agland 8.11 300 *e*P **Pn 03 17 08.9 +3.3**
BGF *e*Sn **Sn 03 18 30.7 -6.3**
comp=Z,10nm,0.3s
CAF Calviac 8.18 287 *e*P **Pn 03 17 10.6 +3.9**
CLL Collm 8.32 360 *e*Pn **Pn 03 17 10.0 +1.5**
CLL *e*x x 03 18 40.0
CLL *e*x x 03 19 08.0
CLL *e*Sg **Sg 03 19 29.0 -6.3**
CLL *e*x x 03 19 45.0
comp=Z,24nm,1.6s
TCF Toulx Ste Croi 8.42 297 *e*P **Pn 03 17 13.8 +3.8**
TCF *e*Sn **Sn 03 18 38.3 -6.5**
comp=Z,0.8nm,0.2s
GIVF Givet 9.10 324 *e*P **Pn 03 17 22.5 +3.2**
MLR Muntele Rosu 9.57 70 LR LR 03 21 33.0
comp=Z,88nm,19.2s,baz=248,slow=42
ETSF Etsaut 10.01 274 *e*P **Pn 03 17 32.1 +0.4**
FLN La Foliniere 11.07 306 *e*P **Pn 03 17 49.9 +3.7**
QUIF Quistinic 12.42 299 *e*P **Pn 03 18 09.0 +4.3**
ESDC Sonseca Array 13.23 261 LR LR 03 23 20.7
comp=Z,59nm,18.4s,baz=342,slow=36
FINES FINESS Array B 20.05 18 P Pn 03 19 43.1 +0.5
comp=Z,0.1nm,0.3s,baz=205,slow=6.2,SNR=1.7
comp=Z,2.2nm,0.8s
TORD Torodi Ar. Bea 31.32 202 P P 03 21 34.8 +6.5
comp=Z,0.2nm,0.4s,baz=18,slow=8.8,SNR=2.5
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 47.73 60 P **P 03 23 45.4 +0.8**
comp=Z,0.3nm,0.6s,baz=301,slow=9.9,SNR=2.2
comp=Z,0.3nm,0.6s

IDC 09 03:15:11.3±1.9**,35°.14S**×**179°.47W,h0**km**,mb4.4**/2**,**
mbtmp4.4/2**,MS3.3**/1**,Error ellipse: s-maj=76.1km**
s-min=44.9km az=13.0,East of North Island

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
STKA Stephens Creek 32.49 264 LR LR 03 33 33.2
comp=Z,50nm,18.1s,baz=22,slow=34
ASAR Alice Springs 41.86 273 P P 03 23 03.7 +0.4
3.8nm,0.5s,baz=114,slow=7.8,SNR=43
3.8nm,0.5s
WRA Warramunga Arr 43.28 278 P P 03 23 14.1 -0.7
1.9nm,0.5s,baz=120,slow=7.6,SNR=18
1.9nm,0.5s
FINES FINESS Array B 149.07 336 PKPbc PKPbc 03 35 00.3 -0.3
2.5nm,0.7s,baz=29,slow=3.2,SNR=10
TORD Torodi Ar. Bea 158.08 183 PKPab PKPab 03 35 43.1 -0.8
0.4nm,0.7s,baz=172,slow=2.4,SNR=2.3

---

*IDC **09** 03:47:36.2±1.3,5°.53S×151°.51E,h90km±11km,mb3.7/5,*
mbtmp4.1/7,MS2.9/1,Error ellipse: s-maj=49.8km
s-min=10.4km az=123.0
ISC 09 03:47:36.5±1.1**,5°.6S**±0°.2×**151°.6E**±0°.2**,h100**km**,n9,**
σ**1ˢ27**/11**,mb3.6**/5**,New Britain region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KRVT Keravat (AS076 1.32 19 P **Pn 03 48 00.0 -0.7**
698nm,0.3s,baz=204,slow=0.9,SNR=154
KRVT S **Sn 03 48 17.4 -1.6**
1μm,0.6s,baz=295,slow=20,SNR=6.1
PMG Port Moresby 5.82 229 P **Pn 03 48 59.5 -0.8**
42nm,0.4s,baz=29,slow=6.3,SNR=15
PMG S **Sn 03 50 05.0 -0.7**
112nm,0.4s,baz=109,slow=18,SNR=13
CTA Charters Tower 15.34 199 P **P 03 51 09.2 -1.0**
0.9nm,0.2s,baz=0.8,slow=14,SNR=1.8
CTA LR LR 03 55 47.0
comp=Z,44nm,20.0s,baz=78,slow=32
WRA Warramunga Arr 22.04 228 P **P 03 52 22.4 -0.8**
6.8nm,0.6s,baz=52,slow=9.9,SNR=56
6.8nm,0.6s
ASAR Alice Springs 24.77 222 P **P 03 52 49.8 +0.6**
7.5nm,0.6s,baz=55,slow=8.9,SNR=67
7.5nm,0.6s
STKA Stephens Creek 27.80 198 P **P 03 53 17.8 +1.5**
1.1nm,0.7s,baz=18,slow=13,SNR=3.4
1.1nm,0.7s
SONM Songino Array 66.33 329 P **P 03 58 16.6 +2.0**
0.3nm,0.4s,baz=132,slow=6.0,SNR=2.5
0.3nm,0.4s
ILAR Eielson Array 83.32 22 P **P 03 59 52.4 +0.3**
0.4nm,0.7s,baz=251,slow=5.7,SNR=4.7
0.4nm,0.7s
TORD Torodi Ar. Bea 149.38 286 PKPbc **PKPbc 04 07 14.2 -0.8**
0.4nm,0.4s,baz=109,slow=2.7,SNR=6.3

KRSC 09 03:53:52.8±1.0**,51°.37N**×**155°.06E,h570**km±12km**,ML4.1,**
Northwest of Kuril Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KDTR Khodutka, Kamc 1.94 76 S S 03 56 02.5 +0.4
ASAK Asacha 2.04 59 P P 03 55 06.2 +1.8
MTVR Mutnovka 2.24 59 P P 03 55 07.7 +2.3
MTVR S S 03 56 04.1 -0.8
RUS Russkaya 2.39 62 P P 03 55 07.4 +1.4
RUS S S 03 56 06.2 +0.3
KRMR Karymshinskiy 2.40 51 P P 03 55 06.7 +0.7
KOK Koryaka 2.92 47 P P 03 55 10.5 +1.5
UGLR Uglovaya 2.96 50 P P 03 55 11.3 +2.1
SMAR Somma 2.98 49 P P 03 55 11.4 +2.0
SDLR Sedlovina 3.03 49 P P 03 55 11.3 +1.7
SPN Mys Shipunski 3.51 58 P P 03 55 14.3 +1.8
SPN S S 03 56 17.2 -0.6
TUMR Tumrok 4.97 36 P P 03 55 25.5 +2.0
MKZ Mys Kozlova 5.14 49 P P 03 55 26.9 +2.1
MKZ S S 03 56 40.1 -0.1

---

*MOS **09** 03:56:04.7±0.0,43°.07N×47°.03E,h17km,MPVA3.4*
*NORS **09** 03:56:09.6±0.0,42°.77N×46°.89E,h2km,MPVA3.6*
ISC 09 03:56:05.0±1.6**,43°.12N**±0°.06×**47°.16E**±0°.04**,h8**km±9km**,**
n20,σ**0ˢ71**/40**,Eastern Caucasus**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DBC Dubki 0.26 248 *e*Pg **Pg 03 56 10.2 0.0**
DBC *e*Sg **Sg 03 56 13.0 -0.6**
BUJR Buynaksk 0.30 187 *e*Pg **Pb 03 56 12.3 -0.3**
BUJR *e*Sg **Sb 03 56 16.4 -1.3**
MAK Makhachkala 0.30 122 *e*Pg **Pn 03 56 13.8 -1.9**
MAK *e*Sg **Sb 03 56 19.3 +1.6**
DLMR Dylym 0.39 263 *e*Pg **Pg 03 56 13.2 +0.6**
DLMR *e*Sg **Sg 03 56 17.9 +0.2**
UNCR Uncukul 0.48 213 *e*Pg **Pg 03 56 14.8 +0.4**
UNCR *e*Sg **Sg 03 56 21.0 +0.3**
ARKR Arakani 0.53 193 *e*Pg **Pb 03 56 16.1 -0.4**
ARKR *e*Sg **Sb 03 56 23.3 -1.1**
GNBR Gunib 0.74 191 *e*Pg **Pb 03 56 20.0 -0.3**
GNBR *e*Sg **Sb 03 56 30.0 -0.6**
DVE Vedeno 0.77 258 *e*Pg **Pg 03 56 19.4 -0.5**
DVE *e*Sg **Sg 03 56 28.9 -1.0**
BTLR Botlikh 0.82 237 *e*Pg **Pg 03 56 20.5 -0.3**
BTLR *e*Sg **Sg 03 56 31.1 -0.4**
KMKR Kumukh 0.99 182 *e*Pg **Pn 03 56 26.5 +1.1**
KMKR *e*Sg **Sn 03 56 39.8 +0.1**
URKR Urkarakh 1.02 160 *e*Pg **Pn 03 56 25.7 0.0**
URKR *e*Sg **Sn 03 56 39.7 -0.5**
LGD Lagodekhi 1.45 208 P **Pg 03 56 33.2 +0.4**
LGD S **Sg 03 56 51.9 +0.3**
SHTL Shatili 1.54 253 P **Pg 03 56 34.2 -0.4**
SHTL S **Sg 03 56 55.0 +0.4**
AKT Akhty 1.69 165 *e*Pg **Pg 03 56 38.0 +0.5**
AKT *e*Sg **Sg 03 57 00.6 +1.2**
PNSH Pansheti 1.93 256 P **Pb 03 56 40.7 +0.2**
PNSH S **Sb 03 57 04.6 -0.2**
LACR Lac 2.12 263 *e*Pg **Pn 03 56 41.1 +0.3**
LACR *e*Sg **Sn 03 57 07.6 +0.1**
KORR Kora 2.26 270 *e*Pg **Pn 03 56 43.2 +0.5**
KORR *e*Sg **Sn 03 57 11.4 +0.5**
ZEI Tsey 2.41 263 *e*Pn **Pn 03 56 45.2 +0.2**
ZEI *e*Sn **Sn 03 57 15.3 +0.5**
LSNR Lesken 2.44 275 *e*Pn **Pn 03 56 45.6 +0.5**
LSNR *e*Sn **Sn 03 57 15.9 +0.7**
DIGR Digorskoe uzhe 2.63 266 *e*Pn **Pn 03 56 47.9 -0.1**
DIGR *e*Sn **Sn 03 57 20.5 +0.3**

*DRS **09** 04:00:53.6±0.0, 40°.54N×47°.98E, h22km*
*MOS **09** 04:00:54.7±0.0, 40°.96N×47°.71E, h10km, MPVA3.8*
ISC 09 04:00:53.8±3.1**, 40°.8N**±0°.1×**47°.86E**±0°.09**, h15**km±11km**, n9,**
σ**0s.83**/17**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**0.71**	**352**	*e*Pg	**Pg**	**04 01 08.2**	**+0.4**
AKT				*e*Sg	**Sg**	**04 01 16.8**	**-0.5**
KSMR	**Kasumkent**	**0.85**	**14**	*e*Pg	**Pb**	**04 01 10.0**	**-0.4**
KSMR				*e*Sg	**Sb**	**04 01 20.9**	**-0.8**
DRN	**Derbent**	**1.30**	**16**	*e*Pg	**Pb**	**04 01 18.4**	**+0.4**
DRN				*e*Sg	**Sn**	**04 01 35.1**	**+0.5**
URKR	**Urkarakh**	**1.40**	**353**	*e*Pg	**Pn**	**04 01 19.3**	**+0.4**
URKR				*e*Sg	**Sn**	**04 01 36.6**	**-0.6**
KMKR	**Kumukh**	**1.47**	**337**	*e*Pg	**Pn**	**04 01 20.1**	**+0.1**
KMKR				*e*Sg	**Sn**	**04 01 38.2**	**-0.9**
DDFL	**Dedoflistskaro**	**1.48**	**298**	P	**Pb**	**04 01 20.8**	**-0.2**
LGD	**Lagodekhi**	**1.61**	**312**	P	**Pn**	**04 01 21.5**	**-0.3**
LGD				S	**Sn**	**04 01 42.9**	**+0.5**
DGRG	**David-gareji**	**1.99**	**291**	P	**Pn**	**04 01 25.6**	**-1.4**
DGRG				S	**Sn**	**04 01 52.3**	**+0.5**
LACR	**Lac**	**3.36**	**309**	*e*Pn	**Pn**	**04 01 46.9**	**+1.0**
LACR				*e*Sn	**Sn**	**04 02 27.0**	**+1.5**

---

*DJA **09** 04:05:38.4±1.2, 7°S±7°×10°6E±°, h23km±7km, M4.5/13, mb4.6/1, MLv4.4/13*
*NEIC **09** 04:05:41.1±1.7, 6°.7S±0°.1×106°.4E±0°.1, h64km±3km, mb4.5/17, Error ellipse: s-maj=22.8km s-min=8.6km az=215.0*
*IDC **09** 04:05:45.9±1.6, 6°.77S×106°.51E, h112km±12km, mb3.9/18, mbtmp4.3/18, MS3.6/4, Error ellipse: s-maj=33.1km s-min=14.1km az=50.0*
ISC 09 04:05:37.9±0.5**, 7°.33S**±0°.07×**106°.04E**±0°.06**, h50**km**, n69,**
σ**1s.75**/62**, mb4.3**/26**, MS3.5**/3**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.60**	**58**	P	**Pn**	**04 05 50.6**	**+0.2**
SKJI				S	**Sn**	**04 05 59.0**	**-0.4**
CNJI	**Cibinong**	**1.08**	**89**	P	**Pn**	**04 05 56.3**	**-0.4**
CNJI				S	**Sn**	**04 06 09.1**	**-1.5**
SBJI	**Serang**	**1.20**	**4**	P	**Pn**	**04 05 59.7**	**+1.3**
TNG	**Tangerang**	**1.29**	**28**	P	**Pn**	**04 06 04.4**	**+4.8**
TNG				P	**Pn**	**04 06 01.0**	**+1.4**
LEM	**Lembang**	**1.64**	**72**	P	**Pn**	**04 06 06.6**	**+2.1**
	631nm,0.6s,baz=236,slow=4.1,SNR=102						
LEM				S	**Sn**	**04 06 26.4**	**+1.8**
	1μm,0.5s,baz=350,slow=20,SNR=8.2						
LEM				LR	LR	04 06 53.1	
	comp=Z,292nm,19.4s,baz=46,slow=61						
LEM	**Lembang**	**1.64**	**72**	P	**Pn**	**04 06 05.9**	**+1.4**
BLSI	**Bandar Lampung**	**2.10**	**338**	P	**Pn**	**04 06 11.7**	**+1.0**
KASI	**Kota Agung**	**2.36**	**319**	P	**Pn**	**04 06 16.7**	**+2.5**
KLI	**Kotabumi**	**2.72**	**334**	P	**Pn**	**04 06 22.8**	**+3.7**
LWLI	**Liwa**	**3.02**	**319**	P	**Pn**	**04 06 26.2**	**+2.8**
CTJI	**Waduk Cacaban**	**3.13**	**84**	P	**Pn**	**04 06 24.6**	**-0.2**
MNAI	**Manna**	**4.25**	**314**	Pn	**Pn**	**04 06 42.5**	**+2.2**
MNAI				Sn	**Sn**	**04 07 27.7**	**-0.9**
MNAI	**Manna**	**4.25**	**314**	P	**Pn**	**04 06 43.2**	**+3.0**
SMRI	**Semarang**	**4.37**	**87**	P	**Pn**	**04 06 42.7**	**+0.9**
UGM	**Wanagama**	**4.48**	**98**	Pn	**Pn**	**04 06 43.9**	**+0.6**
UGM	**Wanagama**	**4.48**	**98**	P	**Pn**	**04 06 44.1**	**+0.8**
PPBI	**Pangkal Pinang**	**5.13**	**1**	P	**Pn**	**04 06 55.4**	**+3.1**
PCJI	**Pacitan**	**5.16**	**100**	P	**Pn**	**04 06 53.3**	**+0.7**
JAGI	**Jajag, Banyuwa**	**8.11**	**99**	Pn	**Pn**	**04 07 35.8**	**+2.6**
KAPI	**Kappang**	**13.82**	**81**	LR	LR	04 15 00.4	
	comp=Z,76nm,18.1s,baz=235,slow=42						
GIRL	**Giralia**	**17.15**	**153**	Pn	**P**	**04 09 35.6**	**+0.4**
MBWA	**Marble Bar**	**19.09**	**138**	P	**Pn**	**04 10 00.2**	**+2.4**
MBWA				IAmb	IAmb	04 10 26.2	
	comp=Z,24nm,1.3s						
MTN	**Manton Dam**	**25.29**	**105**		**P**	**04 10 59.5**	**-0.5**
MTN				IAmb	IAmb	04 11 17.0	
	comp=Z,28nm,1.4s						
NWAO	**Narrogin (SRO)**	**27.51**	**159**	LR	LR	04 22 44.2	
	comp=Z,50nm,19.6s,baz=271,slow=36						
H01W3	**Cape Leeuwin H**	**28.42**	**166**	T	T	04 42 03.4	
	baz=345,slow=76,SNR=8.0						
H01W1	**Cape Leeuwin H**	**28.43**	**166**	T	T	04 42 01.9	
	baz=345,slow=76,SNR=6.8						
H01W2	**Cape Leeuwin H**	**28.43**	**166**	T	T	04 42 04.7	
	baz=345,slow=76,SNR=9.5						
WB0	**Warramunga Arr**	**30.15**	**117**	P	**P**	**04 11 43.4**	**0.0**
WB0				IAmb	IAmb	04 11 45.6	
	comp=Z,7.4nm,1.2s						
WRA	**Warramunga Arr**	**30.16**	**117**	P	**P**	**04 11 44.2**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=300,slow=9.7,SNR=18						
	comp=Z,0.6nm,0.4s						
WRA	**Warramunga Arr**	**30.16**	**117**	P	**P**	**04 11 43.7**	**+0.2**
WB2	**Warramunga Arr**	**30.17**	**117**	P	**P**	**04 11 43.3**	**-0.4**
WB2				IAmb	IAmb	04 12 24.2	
	comp=Z,8.0nm,1.4s						
FORT	**Forrest**	**31.13**	**141**	P	P	04 11 57.4	+5.5
FORT				IAmb	IAmb	04 12 35.1	
	comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**31.28**	**124**	P	**P**	**04 11 54.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=303,slow=7.6,SNR=5.4						
	comp=Z,0.3nm,0.5s						
H08S2	**Diego Garcia H**	**33.26**	**267**	T	T	04 47 30.7	
	baz=91,slow=75,SNR=128						
H08S3	**Diego Garcia H**	**33.27**	**267**	T	T	04 47 49.1	
	baz=91,slow=75,SNR=450						
H08S1	**Diego Carcia H**	**33.28**	**267**	T	T	04 47 29.8	
	baz=91,slow=75,SNR=132						
STKA	**Stephens Creek**	**41.13**	**131**	P	**P**	**04 13 18.9**	**+1.5**
	comp=Z,0.9nm,0.4s,baz=313,slow=8.5,SNR=5.5						
	comp=Z,0.9nm,0.4s						
STKA	**Stephens Creek**	**41.13**	**131**	P	**P**	**04 13 18.7**	**+1.3**
NIL	**Nilore**	**51.27**	**325**	P	**P**	**04 14 35.6**	**-1.3**
KBL	**Kabul**	**54.38**	**322**	P	**P**	**04 14 59.3**	**-0.8**
KBL				IAmb	IAmb	04 14 60.0	
	comp=Z,10.0nm,1.3s						
SONM	**Songino Array**	**54.92**	**0**	P	**P**	**04 15 02.2**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=176,slow=9.0,SNR=6.2						
SONM				PcP	**PcP**	**04 16 05.0**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=174,slow=4.0,SNR=16						
	comp=Z,0.5nm,0.4s						
SONM	**Songino Array**	**54.92**	**0**	P	**P**	**04 15 00.8**	**-3.0**
USA0B	**Ussuriysk Arra**	**56.39**	**22**	P	P	04 15 08.5	-5.6
USA0B				IAmb	IAmb	04 15 15.5	
	comp=Z,12nm,1.2s						
USRK	**Ussuriysk Ar.**	**56.39**	**22**	P	P	04 15 08.7	-5.5
	comp=Z,0.9nm,0.3s,baz=318,slow=24,SNR=2.2						
	comp=Z,0.9nm,0.3s						
AAK	**Ala-Archa**	**57.43**	**333**	LR	LR	04 43 31.9	
	comp=Z,36nm,19.4s,baz=60,slow=40						
MK31	**Makanchi Array**	**57.88**	**341**	P	**P**	**04 15 22.1**	**-2.5**
MK31				IAmb	IAmb	04 15 23.5	
	comp=Z,3.9nm,1.4s						
MKAR	**Makanchi Array**	**57.88**	**341**	P	**P**	**04 15 22.6**	**-2.0**
	comp=Z,0.9nm,0.4s,baz=146,slow=8.3,SNR=12						
	comp=Z,0.9nm,0.4s						
MKAR	**Makanchi Array**	**57.88**	**341**	P	**P**	**04 15 22.4**	**-2.2**
KURBB	**Kurchatov Arra**	**62.44**	**341**	P	**P**	**04 15 55.0**	**-0.8**
	comp=Z,1.0nm,0.2s,baz=153,slow=6.2,SNR=2.3						
KURBB				PcP	**PcP**	**04 16 34.3**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=160,slow=3.8,SNR=5.2						
	comp=Z,1.0nm,0.2s						
KURK	**Kurchatov**	**62.49**	**341**	P	**P**	**04 15 55.1**	**-0.9**
GEYT	**Alibeck**	**63.38**	**319**	P	**P**	**04 16 02.8**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=149,slow=3.1,SNR=4.4						
	comp=Z,2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**63.62**	**346**	P	**P**	**04 16 01.3**	**-2.2**
	comp=Z,1.0nm,0.4s,baz=149,slow=6.0,SNR=4.4						
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**63.62**	**346**	P	**P**	**04 16 01.7**	**-1.8**
RPZ	**Rata Peaks**	**66.98**	**134**	LR	LR	04 43 03.4	
	comp=Z,411nm,21.6s,baz=44,slow=33						
BVAR	**Borovoye Array**	**67.30**	**338**	P	**P**	**04 16 25.8**	**-1.6**
	comp=Z,4.2nm,0.6s,baz=139,slow=8.4,SNR=16						
	comp=Z,4.2nm,0.6s						
BRVK	**Borovoye**	**67.37**	**338**	P	**P**	**04 16 25.9**	**-1.8**
BRVK				IAmb	IAmb	04 16 27.6	
	comp=Z,2.5nm,0.6s						
ABKAR	**Akbulak array**	**69.21**	**330**	P	**P**	**04 16 38.8**	**-0.5**
BKZ	**Black Stump Fm**	**70.26**	**129**	P	**P**	**04 16 47.4**	**+1.2**
KBZ	**Khabaz**	**76.26**	**318**	P	**P**	**04 17 21.7**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=186,slow=6.3,SNR=7.2						
	comp=Z,4.0nm,0.9s						
ASF	**Jabal al Asfar**	**76.56**	**305**	P	**P**	**04 17 25.6**	**+2.2**
	comp=Z,2.6nm,0.8s,baz=78,slow=4.2,SNR=3.8						
	comp=Z,2.6nm,0.8s						
MMAI	**Mount Meron Ar**	**78.02**	**306**	P	**P**	**04 17 33.1**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=82,slow=12,SNR=1.9						
	comp=Z,1.7nm,0.5s						
KIRV	**Kirov**	**79.75**	**334**	P	**P**	**04 17 40.5**	**+0.1**
	comp=Z,10.0nm,0.7s,baz=50,slow=3.5,SNR=3.6						
	comp=Z,10.0nm,0.7s						
TIXI	**Tiksi**	**80.25**	**7**	P	**P**	**04 17 40.1**	**-2.6**
	comp=Z,1.5nm,0.5s,baz=99,slow=0.5,SNR=2.3						
	comp=Z,1.5nm,0.5s						
BRTR	**Keskin Array B**	**81.34**	**312**	P	**P**	**04 17 49.7**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=142,slow=6.3,SNR=6.1						
	comp=Z,2.2nm,0.7s						
FINES	**FINESS Array B**	**91.61**	**332**	P	**P**	**04 18 39.2**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=204,slow=3.8,SNR=4.5						
	comp=Z,3.5nm,0.8s						
ARCES	**ARCESS Array B**	**93.51**	**340**	P	**P**	**04 18 46.8**	**-1.2**
	comp=Z,2.8nm,1.0s,baz=98,slow=5.0,SNR=5.6						
	comp=Z,2.8nm,1.0s						
PDAR	**Pinedale Array**	**132.82**	**36**	PKP	**PKPdf**	**04 24 48.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=80,slow=1.8,SNR=2.1						
TXAR	**Lajitas Array**	**144.49**	**48**	PKP	PKPbc	04 25 09.0	+0.7
	comp=Z,0.8nm,0.5s,baz=269,slow=1.0,SNR=26						
BDFB	**Brasilia**	**145.63**	**228**	PKPbc	**PKPab**	**04 25 14.8**	**+2.3**
	comp=Z,1.3nm,0.4s,baz=120,slow=3.5,SNR=3.9						

---

*IDC **09** 04:11:17.9±1.0, 22°.00S×63°.78W, h528km±13km, mb2.6/3, mbtmp3.6/8, Error ellipse: s-maj=30.5km s-min=17.9km az=7.0*
*VAO **09** 04:11:19.6±0.5, 21°.92S×63°.57W, h533km±8km, mb3.5*
ISC 09 04:11:18.5±0.7**, 22°.0S**±0°.1×**63°.82W**±0°.09**, h550**km**, n31,**
σ**1s.45**/32**, mb2.8**/3**, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.75**	**262**	P	**P**	**04 12 45.0**	**-1.7**
	6.6nm,0.4s,baz=77,slow=3.3,SNR=34						
LVC				S	**S**	**04 13 55.5**	**-3.0**
	11nm,0.3s,baz=222,slow=22,SNR=23						
SIV	**San Ignacio**	**6.55**	**24**	P	**P**	**04 13 00.2**	**-2.2**
	0.5nm,0.4s,baz=196,slow=11,SNR=4.5						
LPAZ	**La Paz**	**7.02**	**324**	P	**P**	**04 13 07.1**	**-0.4**
	4.0nm,0.3s,baz=87,slow=5.5,SNR=40						
LPAZ	**La Paz**	**7.02**	**324**	*e*P	**P**	**04 13 07.2**	**-0.2**
CPUP	**Villa Florida**	**7.30**	**127**	P	**P**	**04 13 08.8**	**-0.5**
	3.2nm,0.5s,baz=310,slow=8.4,SNR=11						
CPUP	**Villa Florida**	**7.30**	**127**	*e*P	**P**	**04 13 09.2**	**-0.1**
PTLB	**Pontes e Lacer**	**7.91**	**35**	*e*P	**P**	**04 13 14.7**	**-0.7**
SALV	**Santo Antonio**	**9.81**	**53**	*e*P	**P**	**04 13 33.4**	**-1.2**
ITQB	**Itaqui**	**9.98**	**141**	*e*P	**P**	**04 13 36.4**	**+0.3**
PTGB	**Pitanga**	**11.12**	**106**	*e*P	**P**	**04 13 47.7**	**-0.3**
PCMB	**Pacaembu**	**11.67**	**90**	*e*P	**P**	**04 13 52.8**	**-0.8**
ITAB	**Concordia**	**11.82**	**118**	*e*P	**P**	**04 13 54.2**	**-0.8**
PDRB	**Porto dos Gac**	**12.38**	**34**	*e*P	**P**	**04 14 00.2**	**-0.9**
ITRB	**Iturama**	**12.79**	**82**	*e*P	**P**	**04 14 03.7**	**-1.6**
ARAG	**Araguaiana, MT**	**12.98**	**63**	*e*P	**P**	**04 14 06.0**	**-1.3**
FRTB	**Fartura**	**13.22**	**98**	*e*P	**P**	**04 14 08.4**	**-1.2**
CLDB	**Colider**	**13.50**	**36**	*e*P	**P**	**04 14 10.7**	**-1.9**
IPMB	**Ipameri, GO**	**15.21**	**77**	*e*P	**P**	**04 14 28.4**	**-1.9**
SNDB	**Serra Nova Dou**	**15.59**	**52**	*e*P	**P**	**04 14 31.8**	**-2.3**
VAO	**Valinhos**	**15.60**	**97**	*e*P	**P**	**04 14 32.1**	**-2.1**
BDFB	**Brasilia**	**16.25**	**70**	P	**P**	**04 14 39.0**	**-1.6**
	3.4nm,0.7s,baz=225,slow=13,SNR=6.9						
BDFB	**Brasilia**	**16.25**	**70**	*e*P	**P**	**04 14 39.0**	**-1.6**
CZSB	**Cruzeiro do Su**	**16.61**	**328**	*e*P	**P**	**04 14 45.9**	**+2.1**
BSCB	**Bom Sucesso**	**17.75**	**90**	*e*P	**P**	**04 14 54.5**	**+0.3**
JANB	**Januaria**	**19.74**	**73**	*e*P	**P**	**04 15 12.4**	**0.0**
RIB01	**Linhares ES**	**22.07**	**87**	*e*P	**P**	**04 15 33.8**	**+0.4**
TXAR	**Lajitas Array**	**63.89**	**321**	P	**P**	**04 20 58.8**	**+1.0**
	0.2nm,0.9s,baz=130,slow=8.4,SNR=1.2						
	0.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**73.12**	**68**	P	**P**	**04 21 54.5**	**+0.8**
	0.4nm,0.4s,baz=249,slow=5.8,SNR=9.8						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**77.03**	**327**	P	**P**	**04 22 16.9**	**+1.7**
	0.2nm,0.5s,baz=122,slow=8.0,SNR=3.9						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**134.66**	**204**	PKP	**PKiKP**	**04 29 38.4**	**+1.3**
	0.3nm,0.7s,baz=147,slow=1.8,SNR=1.4						
MKAR	**Makanchi Array**	**143.15**	**40**	PKP	**PKPdf**	**04 29 50.4**	**+0.3**
	0.3nm,0.7s,baz=342,slow=2.4,SNR=2.7						

---

*TEH **09** 04:17:00.6, 39°.18N×55°.73E, h9km, ML3.3*
*IDC **09** 04:17:02.4±1.8, 39°.08N×55°.65E, h0km, mb3.2/2, mbtmp3.5/5, ML3.2/3, MS3.0/1, Error ellipse: s-maj=41.5km s-min=17.7km az=24.0*
*AZER **09** 04:17:12.5±0.9, 39°.27N×54°.99E, h10km, Error ellipse: s-maj=9.6km s-min=6.3km az=176.0*
ISC 09 04:17:01.7±0.8**, 39°.14N**±0°.06×**55°.74E**±0°.05**, h10**km**, n53,**
σ**2s.37**/69**, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**1.50**	**169**	*e*Pg	**Pg**	**04 17 30.2**	**-0.3**
MRVT				*e*		04 17 54.1	
	comp=Z,99nm,0.3s						
IMND	**Minoodasht**	**1.89**	**188**	*e*Pn	**Pb**	**04 17 35.7**	**-0.7**
IMND				*e*		04 18 06.0	
	comp=Z,2μm,0.3s						
BJRD	**Bojnurd**	**1.94**	**137**	*e*Pn	**Pb**	**04 17 36.2**	**-1.1**
GEYT	**Alibeck**	**2.22**	**122**	Pn	**Pb**	**04 17 40.2**	**-1.8**
	comp=Z,6.3nm,0.3s,baz=304,slow=14,SNR=19						
GEYT				Sn	**Sg**	**04 18 11.3**	**-1.8**
	comp=Z,20nm,0.3s,baz=291,slow=32,SNR=6.4						
	comp=Z,16nm,0.4s						
IEMG	**Emamgholi**	**2.87**	**126**	*e*Pn	**Pn**	**04 17 49.0**	**+1.2**
IEMG				*e*		04 18 48.8	
	comp=Z,1μm,0.3s						
IGLO	**Ghaloghah**	**3.03**	**210**	*e*Pn	**Pn**	**04 17 50.0**	**0.0**
IGLO				*e*		04 19 01.3	
	comp=Z,918nm,0.8s						
IAKL	**Akhelmad**	**3.48**	**136**	*e*Pn	**Pn**	**04 17 58.0**	**+1.8**
IAKL				*e*		04 18 20.0	
	comp=Z,462nm,0.5s						
IKRD	**Kardeh**	**3.80**	**127**	*e*Pn	**Pn**	**04 18 02.3**	**+1.7**
IKRD				*e*		04 19 13.8	
	comp=Z,704nm,0.4s						
ISHM	**Shahmirzad**	**3.85**	**211**	*e*Pn	**Pn**	**04 18 03.4**	**+2.1**
IANJ	**Anjilo**	**3.94**	**202**	*e*Pn	**Pn**	**04 18 04.8**	**+2.3**
IANJ				*e*		04 18 54.2	
	comp=Z,498nm,0.6s						
IMOG	**Moghan**	**4.16**	**135**	*e*Pn	**Pn**	**04 18 07.3**	**+1.7**
IMOG				*e*		04 19 29.5	
	comp=Z,266nm,0.7s						
IFIR	**Firoozkooh**	**4.22**	**215**	*e*Pn	**Pn**	**04 18 08.5**	**+2.1**
ILAS	**Lasjerd**	**4.35**	**211**	*e*Pn	**Pn**	**04 18 10.0**	**+1.8**
IMYA	**Miami**	**4.44**	**128**	*e*Pn	**Pn**	**04 18 11.0**	**+1.6**
IMYA				*e*		04 19 57.0	
	comp=Z,153nm,0.8s						
KLST	**Kelardasht - M**	**4.53**	**236**	*e*Pn	**Pn**	**04 18 11.3**	**+0.6**
KLST				*e*		04 19 16.4	
	comp=Z,316nm,0.3s						
DAMV	**Damavand**	**4.61**	**222**	*e*Pn	**Pn**	**04 18 12.0**	**+0.3**
QALM	**Alamut, Qazvin**	**4.85**	**238**	*e*Pn	**Pn**	**04 18 15.8**	**+0.8**
JRKH	**Jarkhoshk**	**4.88**	**130**	*e*Pn	**Pn**	**04 18 16.4**	**+1.1**
IGZV	**Ghazvin**	**5.16**	**240**	*e*Pn	**Pn**	**04 18 20.7**	**+1.4**
TNSJ	**Nastanj**	**5.21**	**172**	*e*Pn	**Pn**	**04 18 22.1**	**+2.3**
TNSJ				*e*		04 18 22.5	
	comp=Z,241nm,0.4s						
IVRN	**Varamin**	**5.23**	**219**	*e*Pn	**Pn**	**04 18 22.1**	**+2.0**
JIR1	**Jirandeh**	**5.28**	**245**	*e*Pn	**Pn**	**04 18 22.7**	**+1.9**
TBJM	**Torbat-e-JAM**	**5.32**	**135**	*e*Pn	**Pn**	**04 18 23.6**	**+2.1**
TBJM				*e*		04 18 58.6	
	comp=Z,209nm,0.4s						
ASTR	**Astara**	**5.45**	**266**	P	**Pn**	**04 18 26.1**	**+3.0**
ASTR				S	**Sn**	**04 19 22.4**	**-3.4**
ATGJ	**Altiaghaj**	**5.50**	**290**	P	**Pn**	**04 18 25.9**	**+2.2**
ATGJ				S	**Sn**	**04 19 25.3**	**-1.8**
TABS	**Tabas**	**5.59**	**168**	*e*Pn	**Pn**	**04 18 26.6**	**+1.6**
SIZA	**Siyzn**	**5.59**	**292**	P	**Pn**	**04 18 27.9**	**+2.9**
SIZA				S	**Sn**	**04 19 26.5**	**-2.8**
TKDS	**Koohdasht(Taba**	**5.62**	**168**	*e*Pn	**Pn**	**04 18 27.5**	**+2.0**
TKDS				*e*		04 18 28.2	
	comp=Z,287nm,0.3s						
GLBA	**Clilabad**	**5.71**	**273**	P	**Pn**	**04 18 29.7**	**+3.2**
GLBA				S	**Sn**	**04 19 29.9**	**-2.2**
LRK	**Lerik**	**5.79**	**267**	P	**Pn**	**04 18 30.2**	**+2.4**
LRK				S	**Sn**	**04 19 32.5**	**-1.9**
YRD	**Yardimli**	**5.84**	**270**	P	**Pn**	**04 18 31.0**	**+2.4**
YRD				S	**Sn**	**04 19 32.9**	**-2.8**
QUBA	**Quba, Azerbaij**	**5.97**	**294**	P	**Pn**	**04 18 33.2**	**+3.0**
QUBA				S	**Sn**	**04 19 35.7**	**-2.9**
TPRV	**Parvadeh(Tabas**	**6.14**	**173**	*e*Pn	**Pn**	**04 18 34.5**	**+1.9**
ANAR	**Anarak**	**6.15**	**196**	*e*Pn	**Pn**	**04 18 33.6**	**+0.8**
XNQ	**Khinaliq**	**6.16**	**292**	P	**Pn**	**04 18 35.9**	**+2.8**
XNQ				S	**Sn**	**04 19 41.8**	**-1.8**
QSAR	**Qusar**	**6.18**	**295**	S	**Sn**	**04 19 42.1**	**-1.9**
AFRZ	**Afriz**	**6.28**	**154**	*e*Pn	**Pn**	**04 18 37.3**	**+2.7**
ZRD	**Zardab**	**6.31**	**283**	P	**Pn**	**04 18 37.9**	**+3.1**
ZRD				S	**Sn**	**04 19 44.5**	**-2.5**
BLQ	**Beylaqan**	**6.36**	**278**	P	**Pn**	**04 18 38.3**	**+2.8**
BLQ				S	**Sn**	**04 19 44.9**	**-3.2**
QRD	**Qoradiz**	**6.54**	**276**	S	**Sn**	**04 19 51.3**	**-1.2**
AGDM	**Agdam**	**6.73**	**281**	S	**Sn**	**04 19 52.7**	**-4.7**
YZKH	**Yazd**	**6.79**	**188**	*e*Pn	**Pn**	**04 18 42.9**	**+1.3**
SEKA	**Sheki**	**6.86**	**290**	P	**Pn**	**04 18 45.1**	**+2.6**
SEKA				S	**Sn**	**04 19 58.4**	**-2.1**
ZKTA	**Zakatala**	**7.39**	**293**	S	**Sn**	**04 20 10.3**	**-3.3**
GANJ	**Ganja**	**7.39**	**285**	P	**Pn**	**04 18 51.4**	**+1.6**
GANJ				S	**Sn**	**04 20 09.5**	**-4.2**
ORD	**Ordubad**	**7.59**	**272**	P	**Pn**	**04 18 55.7**	**+3.2**
ORD				S	**Sn**	**04 20 16.3**	**-2.2**
GDB	**GEDABAY**	**7.83**	**285**	P	**Pn**	**04 18 57.7**	**+1.8**
GDB				S	**Sn**	**04 20 20.7**	**-3.9**
SBZ	**Shahbuz**	**7.91**	**275**	P	**Pn**	**04 18 60.0**	**+3.1**
SBZ				S	**Sn**	**04 20 24.7**	**-1.7**
QZX	**Qazax, Azerbai**	**8.17**	**287**	P	**Pn**	**04 19 02.4**	**+1.9**
QZX				S	**Sn**	**04 20 29.2**	**-3.6**
KBZ	**Khabaz**	**10.67**	**300**	Pn	**Pn**	**04 19 35.6**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=101,slow=5.2,SNR=2.0						
	comp=Z,0.5nm,0.3s						
BVAR	**Borovoye Array**	**17.16**	**31**	P	**P**	**04 21 03.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=231,slow=9.3,SNR=4.5						
	comp=Z,0.8nm,0.4s						
MKAR	**Makanchi Array**	**20.82**	**60**	P	Pn	04 21 47.2	+1.5
	comp=Z,0.2nm,0.3s,baz=244,slow=11,SNR=1.9						
MKAR				LR	LR	04 30 13.9	
	comp=Z,45nm,20.2s,baz=341,slow=38						
	comp=Z,0.2nm,0.3s						
AKASG	**Malin Array Be**	**21.92**	**311**	P	**P**	**04 21 57.9**	**+2.8**
	comp=Z,1.5nm,0.6s,baz=106,slow=9.5,SNR=6.6						
	comp=Z,1.5nm,0.6s						

---

*IDC **09** 04:18:43.8±4.3, 36°.25N×70°.92E, h186km±39km, mb3.3/8, mbtmp3.9/10, MS2.7/1, Error ellipse: s-maj=29.8km s-min=25.4km az=10.0*
ISC 09 04:18:46.4±1.1**, 36°.6N**±0°.1×**71°.0E**±0°.1**, h200**km**, n19,**
σ**2s.01**/21**, mb3.5**/7**, 1C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.95**	**20**	P	**Pn**	**04 20 15.0**	**+1.7**
	SNR=72						
UCH	**Uchtor**	**6.29**	**25**	P	**Pn**	**04 20 19.6**	**+1.9**
	SNR=18						
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**04 20 22.1**	**+2.4**
	SNR=17						
KK31	**Karatay Array**	**6.54**	**357**	⇓P	**Pn**	**04 20 21.7**	**+1.2**
	2.3nm,0.3s,baz=172,slow=12,SNR=19						
KK31				S	**Sn**	**04 21 31.7**	**-3.6**
	5.6nm,0.5s,baz=180,slow=22,SNR=5.3						
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**04 20 24.1**	**+1.9**
	SNR=17						
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**04 20 23.9**	**+1.8**
	12nm,0.3s,baz=206,slow=6.2,SNR=36						
AAK				S	**Sn**	**04 21 37.4**	**-0.7**
	10nm,0.6s,baz=332,slow=23,SNR=20						
USP	**Ospenovka**	**7.22**	**21**	P	**Pn**	**04 20 31.3**	**+1.8**
	SNR=11						
TKM2	**Tokmak 2**	**7.28**	**28**	P	**Pn**	**04 20 32.3**	**+1.9**
	SNR=8.8						
TKM2	**Tokmak 2**	**7.28**	**28**	⇑P	**Pn**	**04 20 31.9**	**+1.5**
	2.6nm,0.4s						
TKM2				⇓S	**Sn**	**04 21 48.6**	**-4.5**
	7.3nm,0.9s						
GEYT	**Alibeck**	**10.33**	**281**	LR	LR	04 26 02.1	
	comp=Z,38nm,18.9s,baz=140,slow=42						
BVAR	**Borovoye Array**	**16.46**	**359**	P	**Pn**	**04 22 27.3**	**+1.3**
	0.7nm,0.3s,baz=160,slow=14,SNR=3.0						
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**04 23 02.2**	**+0.1**
	0.7nm,0.4s,baz=220,slow=11,SNR=2.9						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**04 25 40.6**	**+0.9**
	2.3nm,0.6s,baz=125,slow=8.9,SNR=7.1						
	2.3nm,0.6s						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**04 26 11.0**	**+1.0**
	3.2nm,0.9s,baz=110,slow=6.6,SNR=7.6						
	3.2nm,0.9s						
HFS	**Hagfors**	**42.99**	**322**	P	**P**	**04 26 26.1**	**+0.5**
	1.5nm,0.7s,baz=104,slow=12,SNR=4.4						
	1.5nm,0.7s						
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**04 26 35.8**	**-0.3**
	0.5nm,0.6s,baz=96,slow=7.7,SNR=2.3						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P	**P**	**04 29 08.2**	**-1.5**
	0.4nm,0.4s,baz=50,slow=6.5,SNR=16						
	0.4nm,0.4s						
INK	**Inuvik**	**73.85**	**9**	P	**P**	**04 29 59.7**	**+1.1**
	0.4nm,0.4s,baz=329,slow=6.6,SNR=5.7						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**04 30 42.8**	**-1.7**
	0.3nm,0.6s,baz=328,slow=4.5,SNR=2.3						
	0.3nm,0.6s						

---

*IDC **09** 04:20:19.2±7.4, 22°.61S×148°.66E, h0km, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=79.4km s-min=45.1km az=33.0*
*AUST **09** 04:20:22.0±1.4, 22°.88S×148°.61E, h0km, Error ellipse: s-maj=34.4km s-min=10.8km az=30.0*
ISC 09 04:20:22.1±1.1**, 22°.76S**±0°.09×**148°.63E**±0°.06**, h10**km**, n8,**
σ**1s.13**/12**, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUNRC	**North Rockhamp**	**1.85**	**109**	P	**Pb**	**04 20 55.3**	**-0.7**
	baz=1.8						
AUNRC				S	**Sb**	**04 21 19.0**	**-0.2**
	baz=1.8						
EIDS	**Eidsvold**	**3.43**	**140**	P	**Pn**	**04 21 15.8**	**+0.1**
	baz=3.4,SNR=131						
EIDS				S	**Sb**	**04 22 06.1**	**+1.2**
	baz=3.4						
RMQ	**Roma**	**3.71**	**178**	P	**Pn**	**04 21 18.6**	**-1.0**
	baz=3.6,SNR=6.4						
RMQ				S	**Sb**	**04 22 14.3**	**+1.3**
	baz=3.6						
MTSU	**Mount Surprise**	**6.12**	**318**	P	**Pn**	**04 21 54.5**	**+1.8**
	baz=6.2,SNR=11						
QIS	**Mount Isa**	**8.67**	**283**	P	**Pn**	**04 22 28.5**	**+0.8**
	baz=8.7,SNR=4.5						
STKA	**Stephens Creek**	**11.02**	**213**	Pn	**Pn**	**04 22 59.4**	**-0.6**
	0.1nm,0.3s,baz=24,slow=12,SNR=2.5						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**13.57**	**263**	Pn	**Pn**	**04 23 34.8**	**0.0**
	0.1nm,0.3s,baz=82,slow=13,SNR=4.1						
ASAR				Sn	**Sn**	**04 26 05.0**	**-0.8**
	0.2nm,0.3s,baz=86,slow=21,SNR=6.9						
ASAR				Lg	Lg	04 27 31.8	
	0.1nm,0.3s,baz=73,slow=27,SNR=6.2						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**13.61**	**279**	Pn	**Pn**	**04 23 33.8**	**-1.5**
	0.2nm,0.3s,baz=110,slow=12,SNR=10						
WRA				Lg	Lg	04 27 31.5	
	0.1nm,0.3s,baz=102,slow=27,SNR=5.5						
	0.1nm,0.3s						

WEL 09 04:22:18.6±1.4**, 47°S**±8°×**16°6E**±°**, h5**km**, M3.3**/4**, ML3.6**/10**,**
MLv3.3/4**, Error ellipse: s-maj=0.0km s-min=0.0km**
az=47.1, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.84**	**40**	P	Pb	04 22 35.2	-0.4
PYZ				S	Sb	04 22 47.0	-0.1
APZ	**The Paps**	**1.44**	**92**	P	Pn	04 22 44.9	-0.4
APZ				S	Sb	04 23 03.7	-0.7
DCZ	**Deep Cove**	**1.60**	**33**	P	Pn	04 22 45.2	-2.2
WHZ	**Wether Hill Ro**	**1.69**	**58**	P	Pn	04 22 48.3	-0.4
MLZ	**Mavora Lakes**	**2.11**	**48**	P	Pn	04 22 54.9	+0.3
SYZ	**Scrubby Hill**	**2.25**	**84**	P	Pn	04 22 57.6	+1.2
SYZ				S	Sn	04 23 25.4	+1.0
TUZ	**Tuapeka**	**2.72**	**73**	P	Pn	04 23 03.4	+0.5
TUZ				S	Sn	04 23 36.8	+0.7
EAZ	**Earnscleugh**	**2.85**	**58**	P	Pn	04 23 03.6	-1.1
WKZ	**Wanaka**	**2.95**	**49**	P	Pn	04 23 07.3	+1.3
JCZ	**Jackson Bay**	**3.41**	**38**	P	Pn	04 23 13.6	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ODZ	**Otahua Downs**	**3.75**	**64**	P	Pn	04 23 15.5	-1.6
LBZ	**Lake Benmore**	**3.86**	**53**	P	Pn	04 23 17.5	-1.1
ANWZ	**Angora Road**	**9.95**	**54**	P	Pn	04 24 44.4	+2.4

*JSN **09** 04:26:25.3±0.5, 18°.44N×76°.65W, h15km±18km, MD2.4*
*SSNC **09** 04:26:26.5±1.6, 18°.52N×76°.63W, h7km±13km, MD2.5, ML2.5, MW2.4*
ISC 09 04:26:21.4±1.4**, 18°.58N**±0°.04×**76°.61W**±0°.06**, h11**km±12km**, n10,** σ**1s.07**/16**, 2C-1D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.51**	**192**	*i* P	**Pb**	**04 26 32.6**	**0.0**
STH	**Stony Hill**	**0.53**	**200**	⇓*i*P	**Pb**	**04 26 33.0**	**+0.2**
HOJ	**Hope**	**0.59**	**193**	*i* P	**Pb**	**04 26 33.6**	**-0.1**
MTDJ	**Mount Denham**	**0.94**	**248**	*e*P	**Pn**	**04 26 40.4**	**-0.3**
MTDJ				*e*S	**Sg**	**04 26 52.5**	**+0.6**
PCJ	**Portland Cotta**	**0.98**	**212**	⇑*i*P	**Pg**	**04 26 40.1**	**-0.2**
MCJ	**Malvern**	**1.21**	**238**	⇑*i*P	**Pg**	**04 26 44.8**	**+0.1**
MCJ				*i* S	**Sb**	**04 26 59.4**	**-0.7**
LMGC	**Las Mercedes**	**1.52**	**346**	*e*P	**Pg**	**04 26 51.4**	**+0.7**
LMGC				*e*S	**Sn**	**04 27 08.4**	**0.0**
LMGC				IAML		04 27 11.9	
	comp=N,61nm,0.1s						
LMGC				IAML		04 27 12.0	
	comp=E,48nm,0.1s						
RCC	**Rio Carpintero**	**1.65**	**31**	*e*P	**Pg**	**04 26 53.4**	**+0.2**
RCC				*e*S	**Sn**	**04 27 11.6**	**-0.1**
GTBY	**Guantanamo Bay**	**1.95**	**46**	*e*P	**Pb**	**04 26 57.1**	**0.0**
GTBY				*e*S	**Sn**	**04 27 18.7**	**-0.3**
CCCC	**Cccc**	**2.82**	**338**	*e*P	**Pb**	**04 27 10.1**	**-1.8**
CCCC				*e*S	**Sn**	**04 27 43.6**	**+3.0**

*NOU **09** 04:32:58.1, 33°.32S×178°.02W, h214km, mb4.9/11, South of Kermadec Islands*
*WEL **09** 04:33:00.7±0.6, 33°S±4°×17°8W±°, h33km, M5.4/15, mB5.8/12, ML5.9/15, MLv5.5/15, Mw(mB)5.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=109.5*
*NEIC **09** 04:33:00.1±2.0, 33°.26S±0°.06×179°.0W±0°.1, h10km±1km, mb5.0/32, Error ellipse: s-maj=19.6km s-min=10.7km az=97.0*
*MOS **09** 04:33:03.0±1.0, 33°.05S×179°.08W, h37km, mb5.2/13, Error ellipse: s-maj=13.9km s-min=11.3km az=95.9*
*IDC **09** 04:33:06.3±2.0, 32°.96S×179°.10W, h54km±17km, mb4.4/13, mbtmp4.6/15, ML5.4/2, MS4.0/42, Error ellipse: s-maj=17.2km s-min=12.8km az=113.0*
*GCMT **09** 04:33:07.1±0.3, 33°.15S±0°.03×178°.78W±0°.03, h39km, MW5.1/55, Moment Tensor Solution. s37,c44; s55,c69; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.19±.24; Mθθ-1.01±.16; Mϕϕ-4.19±.16; Mrθ0.04±.15; Mθϕ-0.30±.13; Mϕr1.31±.14; Best double couple: M0 4.88300×10^16 NP1:ϕs5.00000°, δ53.00000°, λ89.00000°. NP2: ϕs186.00000°, δ37.00000°, λ91.00000°. Principal axes: T 5.3700, Plg82.0000°, Azm270.0000°; N -0.9830, Plg1.0000°, Azm5.0000°; P -4.3970, Plg8.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 04:32:59.7±0.3**, 33°.23S**±0°.04×**178°.98W**±0°.06**, h10**km**, n304,** σ**2s.25**/296**, mb5.1**/42**, MS4.1**/44**, 7C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.06**	**13**	P	**Pn**	**04 34 00.5**	**-1.3**
GLKZ				S	**Sn**	**04 34 46.2**	**-3.2**
RAO	**Raoul Island**	**4.07**	**13**	P	**Pn**	**04 34 01.5**	**-0.5**
	217nm,0.3s,baz=250,slow=23,SNR=5.6						
RAO				S	**Sn**	**04 34 47.1**	**-2.5**
	586nm,0.3s,baz=194,slow=22,SNR=2.3						
RAO	**Raoul Island**	**4.07**	**13**	Pn	**Pn**	**04 34 03.1**	**+1.1**
RIZ	**Raoul Island**	**4.07**	**13**	P	**Pn**	**04 34 01.7**	**-0.4**
MXZ	**Matakaoa Point**	**4.86**	**206**	Pn	**Pn**	**04 34 13.1**	**+0.2**
MXZ	**Matakaoa Point**	**4.86**	**206**	P	**Pn**	**04 34 14.8**	**+2.0**
MXZ	**Matakaoa Point**	**4.86**	**206**	P	**Pn**	**04 34 14.8**	**+2.0**
MXZ				S	**Sn**	**04 35 11.6**	**+2.5**
WMGZ	**Waiomatatini S**	**5.05**	**204**	P	**Pn**	**04 34 18.7**	**+3.2**
WMGZ				S	**Sn**	**04 35 16.9**	**+3.1**
PKGZ	**Pakihiroa**	**5.23**	**206**	P	**Pn**	**04 34 19.2**	**+1.2**
PKGZ				S	**Sn**	**04 35 19.4**	**+1.0**
HAZ	**Te Kaha**	**5.23**	**209**	P	**Pn**	**04 34 20.1**	**+2.1**
HAZ				S	**Sn**	**04 35 23.6**	**+5.3**
PUZ	**Puketiti**	**5.33**	**204**	P	**Pn**	**04 34 20.6**	**+1.3**
PUZ				S	**Sn**	**04 35 21.9**	**+1.1**
RUGZ	**Raukumara Rang**	**5.45**	**209**	P	**Pn**	**04 34 22.8**	**+1.7**
RUGZ				S	**Sn**	**04 35 28.6**	**+4.6**
GRZ	**Great Barrier**	**5.48**	**235**	P	Pn	04 34 26.7	+5.3
TWGZ	**Tauwhareparae**	**5.52**	**206**	P	**Pn**	**04 34 22.8**	**+0.9**
TWGZ				S	**Sn**	**04 35 27.5**	**+1.9**
KUZ	**Kuaotunu**	**5.59**	**230**	P	Pn	04 34 27.6	+4.8
KUZ	**Kuaotunu**	**5.59**	**230**	P	Pn	04 34 28.1	+5.3
CNGZ	**Carnagh Statio**	**5.72**	**203**	P	**Pn**	**04 34 26.2**	**+1.5**
CNGZ				S	**Sn**	**04 35 32.2**	**+1.9**
TKGZ	**Te Karaka**	**5.80**	**205**	P	**Pn**	**04 34 27.0**	**+1.2**
TKGZ				S	**Sn**	**04 35 32.8**	**+0.4**
MWZ	**Matawai**	**5.83**	**208**	P	**Pn**	**04 34 27.6**	**+1.3**
MWZ				S	**Sn**	**04 35 35.6**	**+2.4**
RAGZ	**Rawiri**	**6.01**	**208**	P	**Pn**	**04 34 30.1**	**+1.3**
RAGZ				S	**Sn**	**04 35 39.5**	**+1.7**
RIGZ	**Rimuhau**	**6.07**	**205**	P	**Pn**	**04 34 30.6**	**+1.1**
RIGZ				S	**Sn**	**04 35 39.2**	**+0.1**
SNGZ	**Shannon Statio**	**6.29**	**207**	P	**Pn**	**04 34 34.5**	**+2.0**
RTZ	**Ruatahuna**	**6.29**	**210**	P	**Pn**	**04 34 34.3**	**+1.6**
RTZ				S	**Sn**	**04 35 45.9**	**+1.2**
KNZ	**Kokohu**	**6.38**	**204**	P	**Pn**	**04 34 33.4**	**-0.3**
KNZ				S	**Sn**	**04 35 46.2**	**-0.5**
OUZ	**Omahuta**	**6.46**	**250**	Pn	**Pn**	**04 34 38.9**	**+4.0**
OUZ	**Omahuta**	**6.46**	**250**	P	Pn	04 34 40.6	+5.7
BKZ	**Black Stump Fm**	**6.96**	**210**	Pn	**Pn**	**04 34 40.5**	**-1.3**
BKZ	**Black Stump Fm**	**6.96**	**210**	P	**Pn**	**04 34 43.3**	**+1.5**
HIZ	**Hauiti**	**7.27**	**222**		**Pn**	**04 34 49.2**	**+3.3**
HIZ	**Hauiti**	**7.27**	**222**	P	**Pn**	**04 34 49.7**	**+3.8**
VRZ	**Vera Road**	**7.76**	**219**	P	**Pn**	**04 34 55.4**	**+2.7**
WAZ	**Wanganui**	**8.12**	**215**	P	**Pn**	**04 34 58.7**	**+1.0**
WAZ				S	**Sn**	**04 36 32.9**	**+3.3**
NEZ	**North Egmont**	**8.22**	**221**	P	Pn	04 35 04.0	+4.9
PKE	**Pukeiti**	**8.23**	**222**	P	**Pn**	**04 35 02.4**	**+3.2**
KHEZ	**Kahui Hut**	**8.28**	**221**	P	**Pn**	**04 35 04.1**	**+4.2**
POWZ	**Post Office Ro**	**8.29**	**209**	P	**Pn**	**04 35 00.6**	**+0.5**
POWZ				S	**Sn**	**04 36 30.0**	**-3.7**
BFZ	**Birch Farm**	**8.36**	**206**		**Pn**	**04 35 00.0**	**-0.9**
BFZ	**Birch Farm**	**8.36**	**206**	P	**Pn**	**04 35 00.3**	**-0.6**
OGWZ	**Otaki Gorge**	**8.90**	**210**	P	**Pn**	**04 35 06.6**	**-1.7**
OGWZ				S	**Sn**	**04 36 43.6**	**-5.0**
KIW	**Kapiti Island**	**9.05**	**211**	P	**Pn**	**04 35 08.4**	**-2.0**
KIW				S	**Sn**	**04 36 46.5**	**-5.8**
MTW	**Mount Morrison**	**9.05**	**207**	P	**Pn**	**04 35 08.3**	**-2.1**
MTW				S	**Sn**	**04 36 45.0**	**-7.4**
CAW	**Cannon Point**	**9.18**	**209**	P	**Pn**	**04 35 09.9**	**-2.3**
CAW				S	**Sn**	**04 36 49.1**	**-6.5**
TRWZ	**Traveller**	**9.19**	**206**	P	**Pn**	**04 35 10.4**	**-1.9**
TRWZ				S	**Sn**	**04 36 48.8**	**-7.0**
PAWZ	**Paruwai Farm**	**9.27**	**207**	P	**Pn**	**04 35 11.6**	**-1.9**
PAWZ				S	**Sn**	**04 36 50.6**	**-7.3**
MSWZ	**Moikau Station**	**9.37**	**208**		**Pn**	**04 35 12.1**	**-2.7**
MSWZ	**Moikau Station**	**9.37**	**208**	P	**Pn**	**04 35 12.2**	**-2.6**
MSWZ				S	**Sn**	**04 36 52.8**	**-7.4**
DUWZ	**D'Urville Isla**	**9.45**	**215**	P	**Pn**	**04 35 15.4**	**-0.5**
DUWZ				S	**Sn**	**04 36 58.2**	**-3.9**
PLWZ	**Palliser**	**9.50**	**207**	Pn	**Pn**	**04 35 13.8**	**-2.8**
PLWZ	**Palliser**	**9.50**	**207**	P	**Pn**	**04 35 14.0**	**-2.6**
PLWZ				S	**Sn**	**04 36 56.0**	**-7.5**
SNZO	**South Karori**	**9.50**	**210**	Pn	**Pn**	**04 35 15.1**	**-1.4**
SNZO	**South Karori**	**9.50**	**210**	P	**Pn**	**04 35 13.6**	**-3.0**
TCW	**Tory Channel**	**9.61**	**212**	P	**Pn**	**04 35 15.2**	**-2.8**
TCW				S	**Sn**	**04 36 59.1**	**-6.9**
TUWZ	**Tuamarina**	**9.93**	**212**		**Pn**	**04 35 19.7**	**-2.8**
TUWZ	**Tuamarina**	**9.93**	**212**	P	**Pn**	**04 35 19.8**	**-2.7**
TUWZ				S	**Sn**	**04 37 07.6**	**-6.3**
NNZ	**Nelson**	**10.03**	**215**	P	**Pn**	**04 35 21.5**	**-2.3**
TKNZ	**Takaka Hill**	**10.10**	**217**	P	**Pn**	**04 35 22.0**	**-2.8**
TKNZ				S	**Sn**	**04 37 13.1**	**-4.9**
QRZ	**Quartz Range**	**10.17**	**219**	P	**Pn**	**04 35 24.1**	**-1.6**
QRZ	**Quartz Range**	**10.17**	**219**	P	**Pn**	**04 35 23.4**	**-2.3**
QRZ				S	**Sn**	**04 37 14.6**	**-5.3**
BSWZ	**Blackbirch Sta**	**10.19**	**212**	Pn	**Pn**	**04 35 24.0**	**-2.1**
BSWZ	**Blackbirch Sta**	**10.19**	**212**	P	**Pn**	**04 35 24.1**	**-1.9**
BSWZ				S	**Sn**	**04 37 11.9**	**-8.4**
MRNZ	**Matariki Terra**	**10.47**	**217**	P	**Pn**	**04 35 26.9**	**-3.0**
MRNZ				S	**Sn**	**04 37 22.5**	**-4.7**
CTZ	**Chatham Island**	**10.65**	**171**	P	**Pn**	**04 35 33.3**	**+1.1**
CTZ				S	Sn	04 37 19.8	-12
THZ	**Tophouse**	**10.68**	**215**	Pn	**Pn**	**04 35 29.9**	**-2.8**
KHZ	**Kahutara**	**10.91**	**211**	Pn	**Pn**	**04 35 32.3**	**-3.5**
KHZ	**Kahutara**	**10.91**	**211**	P	**Pn**	**04 35 32.1**	**-3.7**
KHZ	**Kahutara**	**10.91**	**211**	P	**Pn**	**04 35 34.0**	**-1.7**
KHZ				S	Sn	04 37 27.7	-10
LTZ	**Lake Taylor**	**11.76**	**213**	P	Pn	04 35 42.2	-5.4
LTZ				S	Sn	04 37 47.6	-11
OXZ	**Oxford**	**12.30**	**212**		Pn	04 35 49.9	-4.9
OXZ	**Oxford**	**12.30**	**212**	P	**Pn**	**04 35 50.3**	**-4.5**
OXZ				S	Sn	04 38 00.1	-12
MQZ	**McQueen's Vall**	**12.34**	**210**	P	**Pn**	**04 35 51.4**	**-3.9**
MQZ				S	Sn	04 37 59.6	-13
RPZ	**Rata Peaks**	**13.05**	**214**	P	Pn	04 36 00.1	-5.0
	8.0nm,0.4s,baz=93,slow=2.2,SNR=9.4						
RPZ				S	Sn	04 38 17.6	-13
	10nm,0.5s,baz=136,slow=23,SNR=6.9						
RPZ	**Rata Peaks**	**13.05**	**214**	Pn	Pn	04 35 59.8	-5.3
RPZ	**Rata Peaks**	**13.05**	**214**	P	Pn	04 36 00.2	-4.9
RPZ	**Rata Peaks**	**13.05**	**214**	P	Pn	04 36 00.1	-4.9
ODZ	**Otahua Downs**	**14.27**	**211**	P	Pn	04 36 16.0	-5.7
MSVF	**Nonsavu**	**15.66**	**349**	P	**Pn**	**04 36 41.4**	**+0.8**
	0.8nm,0.3s,baz=119,slow=16,SNR=6.7						
MSVF				LR	LR	04 41 36.2	
	comp=Z,885nm,18.9s,baz=191,slow=33						
	9.4nm,0.7s						
MSVF	**Nonsavu**	**15.66**	**349**	Pn	**Pn**	**04 36 39.1**	**-1.5**
MSVF	**Nonsavu**	**15.66**	**349**	P	**Pn**	**04 36 39.1**	**-1.5**
MSVF				pmax	pmax		
	comp=Z,15nm,0.8s						
WHZ	**Wether Hill Ro**	**16.14**	**215**	P	**Pn**	**04 36 45.5**	**-1.1**
WHZ				IAmb	IAmb	04 36 52.4	
	comp=Z,211nm,2.0s						
DZM	**Mont Dzumac**	**17.02**	**307**	*e*P	P	04 37 13.5	+14
	comp=Z,123nm,1.3s						
DZM				*e*LR	LR	04 41 03.7	
	comp=Z,1μm,23.5s						
DZM	**Mont Dzumac**	**17.02**	**307**	P	**Pn**	**04 36 58.8**	**+0.9**
	comp=Z,15nm,1.0s,baz=123,slow=9.4,SNR=7.1						
DZM				LR	LR	04 42 15.5	
	comp=Z,1000nm,19.7s,baz=200,slow=33						
DZM	**Mont Dzumac**	**17.02**	**307**	P	**P**	**04 37 01.5**	**+1.7**
AFI	**Afiamalu**	**20.32**	**21**	LR	LR	04 45 41.5	
	comp=Z,59nm,18.4s,baz=200,slow=38						
RAR	**Rarotonga**	**20.82**	**60**	LR	LR	04 46 43.1	
	comp=Z,173nm,18.0s,baz=257,slow=39						
EIDS	**Eidsvold**	**27.19**	**279**	P	**P**	**04 38 43.4**	**-0.2**
EIDS				IAmb	IAmb	04 38 46.9	
	comp=Z,14nm,0.8s						
TBI	**Tubuai**	**27.71**	**77**	*e*LR	LR	04 45 41.8	
	comp=Z,3μm,27.2s						
TBI	**Tubuai**	**27.71**	**77**	*e*T	T	05 07 38.7	
	comp=Z,55nm,0.4s						
PAE	**Paea**	**30.60**	**67**	*e*T	T	05 11 09.8	
	comp=Z,16nm,0.2s						
PPT2	**Papeete2**	**30.65**	**67**	*e*S	**S**	**04 44 17.9**	**+0.9**
	comp=Z,108nm,24.0s						
PPT2				*e*LR	LR	04 46 58.2	
	comp=Z,595nm,26.0s						
PPT2	**Papeete2**	**30.65**	**67**	*e*T	T	05 11 28.2	
	comp=Z,26nm,0.4s						
PPT	**Papeete**	**30.66**	**67**	LR	LR	04 48 07.3	
	comp=Z,217nm,21.2s,baz=264,slow=29						
TIAR	**Tiarei**	**30.84**	**67**	*e*T	T	05 11 34.7	
	comp=Z,3.1nm,0.4s						
MEH	**Mehetia**	**31.66**	**69**	*e*T	T	05 12 42.3	
	comp=Z,25nm,0.3s						
STKA	**Stephens Creek**	**33.13**	**261**	P	**P**	**04 39 37.4**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=89,slow=12,SNR=8.3						
STKA				PcP	**PcP**	**04 42 17.8**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=54,slow=3.2,SNR=4.4						
STKA				LR	LR	04 52 21.6	
	comp=Z,427nm,18.1s,baz=48,slow=35						
	comp=Z,2.1nm,0.6s						
CTA	**Charters Tower**	**33.55**	**284**	P	**P**	**04 39 40.8**	**+0.8**
	comp=Z,21nm,0.6s,baz=116,slow=9.8,SNR=55						
CTA				LR	LR	04 51 40.8	
	comp=Z,174nm,19.0s,baz=85,slow=33						
	comp=Z,21nm,0.6s						
CTAO	**Charters Tower**	**33.55**	**284**	P	**P**	**04 39 41.1**	**+1.2**
CTAO				IAmb	IAmb	04 39 43.0	
	comp=Z,25nm,0.6s						
CTAO	**Charters Tower**	**33.55**	**284**	P	**P**	**04 39 41.1**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,25nm,0.6s						
PMG	**Port Moresby**	**39.17**	**299**	LR	LR	04 53 54.0	
	comp=Z,278nm,21.3s,baz=127,slow=32						
PMG	**Port Moresby**	**39.17**	**299**	P	**P**	**04 40 28.8**	**+0.9**
PMG				IAmb	IAmb	04 40 30.1	
	comp=Z,37nm,0.8s						
PMG	**Port Moresby**	**39.17**	**299**	P	**P**	**04 40 29.0**	**+1.1**
	comp=Z,50nm,1.1s						
PMG	**Port Moresby**	**39.17**	**299**	*i* P	**P**	**04 40 28.7**	**+0.9**
PMG				pmax	pmax		
	comp=Z,33nm,0.8s						
COEN	**Coen**	**39.35**	**290**	P	**P**	**04 40 30.3**	**+0.8**
COEN				IAmb	IAmb	04 40 31.9	
	comp=Z,21nm,0.6s						
AS31	**Alice Springs**	**42.21**	**270**	P	**P**	**04 40 53.1**	**0.0**
ASAR	**Alice Springs**	**42.21**	**270**	P	**P**	**04 40 53.5**	**+0.4**
	comp=Z,20nm,0.7s,baz=111,slow=7.5,SNR=174						
ASAR				PcP	**PcP**	**04 42 45.5**	**-1.7**
	comp=Z,2.8nm,0.7s,baz=124,slow=4.5,SNR=4.1						
ASAR				S	**S**	**04 47 15.8**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=121,slow=15,SNR=4.6						
ASAR				PKiKP	**PKiKP**	**04 49 51.0**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=136,slow=1.3,SNR=4.2						
ASAR				LR	LR	04 58 56.0	
	comp=Z,138nm,18.1s,baz=148,slow=37						
	comp=Z,20nm,0.7s						
ASAR	**Alice Springs**	**42.21**	**270**	P	**P**	**04 40 53.6**	**+0.6**
TAOE	**Nuku Hiva Isla**	**43.23**	**65**	*e*S	**S**	**04 47 30.0**	**+1.4**
	comp=Z,128nm,25.4s						
TAOE				*e*LR	LR	04 52 47.3	
	comp=Z,307nm,26.1s						
WR0	**Warramunga Arr**	**43.28**	**276**	P	**P**	**04 41 00.7**	**-1.1**
WR0				IAmb	IAmb	04 41 02.8	
	comp=Z,34nm,0.9s						
WB2	**Warramunga Arr**	**43.45**	**276**	P	**P**	**04 41 02.1**	**-1.0**
WB2				IAmb	IAmb	04 41 04.1	
	comp=Z,44nm,0.8s						
WRAB	**Tennant Creek**	**43.45**	**276**	*ce*P	**P**	**04 41 02.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,54nm,1.0s						
WRA	**Warramunga Arr**	**43.46**	**276**	P	**P**	**04 41 03.2**	**+0.1**
	comp=Z,38nm,0.7s,baz=117,slow=7.6,SNR=210						
WRA				PKiKP	**PKiKP**	**04 49 52.2**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=95,slow=0.3,SNR=6.4						
WRA				LR	LR	04 57 27.2	
	comp=Z,198nm,21.8s,baz=138,slow=34						
	comp=Z,38nm,0.7s						
WRA	**Warramunga Arr**	**43.46**	**276**	P	**P**	**04 41 01.7**	**-1.5**
WRA	**Warramunga Arr**	**43.46**	**276**	P	**P**	**04 41 01.7**	**-1.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WB0	**Warramunga Arr**	**43.49**	**276**	P	**P**	**04 41 03.0**	**-0.4**
WB0				IAmb	IAmb	04 41 04.4	
	comp=Z,52nm,0.8s						
MANU	**Manus Island**	**44.23**	**307**	P	**P**	**04 41 09.6**	**+0.2**
FORT	**Forrest**	**44.58**	**258**	P	**P**	**04 41 11.1**	**-1.0**
SBA	**Scott Base**	**45.16**	**184**	P	**P**	**04 41 15.1**	**-0.9**
SBA	**Scott Base**	**45.16**	**184**	P	**P**	**04 41 15.1**	**-0.9**
SBA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VNDA	**Vanda**	**45.20**	**186**	P	**P**	**04 41 20.7**	**+4.3**
	comp=Z,1.7nm,0.8s,baz=27,slow=6.0,SNR=9.9						
VNDA				LR	LR	04 56 29.2	
	comp=Z,64nm,19.1s,baz=18,slow=31						
	comp=Z,1.7nm,0.8s						
VNDA	**Vanda**	**45.20**	**186**	P	**P**	**04 41 17.1**	**+0.7**
VNDA	**Vanda**	**45.20**	**186**	P	**P**	**04 41 17.1**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,13nm,1.7s						
GENI	**Genyem**	**48.87**	**300**	P	**P**	**04 41 46.5**	**+0.8**
	comp=Z,3μmcomp=Z,137nm,0.5s						
MTN	**Manton Dam**	**49.67**	**282**	P	**P**	**04 41 51.3**	**-0.6**
MTN				IAmb	IAmb	04 41 52.5	
	comp=Z,28nm,1.1s						
CASY	**Casey**	**52.26**	**209**	P	**P**	**04 42 10.2**	**-0.5**
FAKI	**Fak Fak**	**54.60**	**293**	P	**P**	**04 42 27.9**	**-0.8**
FAKI	**Fak Fak**	**54.60**	**293**	P	**P**	**04 42 28.1**	**-0.5**
SIJI	**Sorong**	**56.66**	**294**	LR	LR	05 07 57.3	
	comp=Z,176nm,18.1s,baz=334,slow=37						
QSPA	**South Pole Qui**	**56.89**	**180**	P	**P**	**04 42 47.5**	**+2.9**
	comp=Z,25nm,0.6s,baz=33,slow=1.8,SNR=98						
QSPA				LR	LR	05 03 33.0	
	comp=Z,79nm,20.5s,baz=43,slow=32						
	comp=Z,25nm,0.6s						
QSPA	**South Pole Qui**	**56.89**	**180**	P	**P**	**04 42 47.0**	**+2.5**
SOEI	**Soe**	**56.99**	**281**	P	**P**	**04 42 45.9**	**-0.1**
SOEI	**Soe**	**56.99**	**281**	P	**P**	**04 42 44.7**	**-1.3**
	comp=Z,92nm,0.9s						
BATI	**Baumata**	**57.24**	**280**	LR	LR	05 06 57.5	
	comp=Z,257nm,18.4s,baz=359,slow=36						
RPN	**Rapa Nui**	**59.52**	**104**	LR	LR	05 01 56.2	
	comp=Z,113nm,19.7s,baz=236,slow=29						
SANI	**Sanana**	**60.04**	**289**	P	**P**	**04 43 05.9**	**-1.2**
	comp=Z,34nm,1.1s						
BKSI	**Bulukumba**	**62.86**	**282**	P	**P**	**04 43 25.4**	**-0.8**
	comp=Z,23nm,1.0s						
KAPI	**Kappang**	**63.34**	**282**	LR	LR	05 11 40.2	
	comp=Z,104nm,18.2s,baz=120,slow=37						
KAPI	**Kappang**	**63.34**	**282**	*i* P	**P**	**04 43 29.3**	**0.0**
KAPI				pmax	pmax		
	comp=Z,13nm,0.9s						
BNSI	**Bone**	**63.40**	**283**	P	**P**	**04 43 29.5**	**-0.2**
	comp=Z,14nm,1.3s						
TWSI	**Taliwang, Sumb**	**63.66**	**277**	P	**P**	**04 43 30.9**	**-0.6**
	comp=Z,44nm,0.9s						
SPSI	**Sidrap Palu**	**63.92**	**283**	P	**P**	**04 43 31.5**	**-1.7**
	comp=Z,21nm,1.0s						
GTOI	**Gorontalo**	**64.03**	**289**	P	**P**	**04 43 33.5**	**-0.3**
	comp=Z,8.9nm,1.1s						
MPSI	**Mapaga**	**66.32**	**287**	P	**P**	**04 43 47.6**	**-1.2**
BELA	**Belgrano 2**	**67.10**	**172**	P	**P**	**04 43 53.2**	**+0.4**
BELA				IAmb	IAmb	04 44 08.8	
	comp=Z,9.9nm,0.8s						
SMAI	**San Martin Ant**	**67.13**	**158**	P	**P**	**04 43 54.7**	**+1.7**
SMAI				IAmb	IAmb	04 44 11.9	
	comp=Z,7.4nm,0.9s						
PCJI	**Pacitan**	**68.71**	**274**	P	**P**	**04 44 03.1**	**-0.8**
	comp=Z,84nm,0.6s						
MAW	**Mawson**	**69.37**	**201**	P	**P**	**04 44 08.8**	**+1.6**
	comp=Z,11nm,0.7s,baz=136,slow=8.6,SNR=19						
MAW				LR	LR	05 13 43.8	
	comp=Z,115nm,19.4s,baz=102,slow=35						
	comp=Z,11nm,0.7s						
MAW	**Mawson**	**69.37**	**201**	P	**P**	**04 44 09.1**	**+1.9**
MAW	**Mawson**	**69.37**	**201**	P	**P**	**04 44 09.1**	**+1.9**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PMSA	**Palmer Station**	**70.04**	**156**	LR	LR	05 11 06.0	
	comp=Z,110nm,18.1s,baz=274,slow=32						
LEM	**Lembang**	**72.42**	**273**	LR	LR	05 17 58.3	
	comp=Z,135nm,18.9s,baz=213,slow=37						
TROLL	**Troll, Antarti**	**75.05**	**180**	P	**P**	**04 44 42.4**	**+1.1**
SNAA	**Sanae**	**75.36**	**179**	P	**P**	**04 44 43.8**	**+0.9**
SNAA	**Sanae**	**75.36**	**179**	LR	LR	05 14 07.3	
	comp=Z,93nm,21.9s,baz=192,slow=32						
SNAA	**Sanae**	**75.36**	**179**	P	**P**	**04 44 44.0**	**+1.0**
SNAA				IAmb	IAmb	04 44 50.4	
	comp=Z,13nm,1.0s						
SNAA	**Sanae**	**75.36**	**179**	P	**P**	**04 44 44.0**	**+1.0**
SNAA				pmax	pmax		
	comp=Z,13nm,1.0s						
VNA3	**Neumayer Olymp**	**75.54**	**176**	P	**P**	**04 44 44.9**	**+0.9**
VNA2	**Neumayer--Watz**	**75.97**	**177**	P	**P**	**04 44 47.4**	**+1.1**
	baz=172,slow=4.9						
VNA1	**Neumayer--Stat**	**76.20**	**177**	P	**P**	**04 44 49.0**	**+1.4**
H03S2	**Juan Fernandez**	**79.60**	**124**	T	T	06 13 36.8	
	baz=235,slow=74,SNR=100						
H03S1	**Juan Fernandez**	**79.61**	**124**	T	T	06 13 43.2	
	baz=235,slow=74,SNR=80						
H03S3	**Juan Fernandez**	**79.62**	**124**	T	T	06 13 33.9	
	baz=235,slow=74,SNR=131						
H03N3	**Juan Fernandez**	**79.81**	**123**	T	T	06 13 48.5	
	baz=240,slow=72,SNR=28						
H03N2	**Juan Fernandez**	**79.81**	**123**	T	T	06 13 43.6	
	baz=240,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**79.82**	**123**	T	T	06 13 55.2	
	baz=240,slow=72,SNR=33						
PLCA	**Paso Flores**	**81.19**	**133**	P	**P**	**04 45 18.2**	**+2.4**
	comp=Z,2.1nm,0.8s,baz=268,slow=3.6,SNR=6.0						
PLCA				LR	LR	05 18 32.9	
	comp=Z,39nm,18.0s,baz=220,slow=34						
	comp=Z,2.1nm,0.8s						
ASAJ	**Asahikawa**	**84.57**	**333**	LR	LR	05 15 53.1	
	comp=Z,98nm,21.3s,baz=126,slow=30						
PSI	**Prapat**	**84.92**	**277**	LR	LR	05 24 33.5	
	comp=Z,111nm,18.2s,baz=106,slow=36						
GSI	**Gunungsitoli**	**85.22**	**275**	P	**P**	**04 45 35.7**	**-1.2**
SHEM	**Shemya Is, Ala**	**85.81**	**356**	LR	LR	05 18 03.7	
	comp=Z,212nm,20.0s,baz=352,slow=32						
KSRS	**Korea Array**	**85.97**	**320**	P	**P**	**04 45 39.6**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=146,slow=5.3,SNR=6.9						
KSRS				LR	LR	05 23 16.5	
	comp=Z,23nm,18.1s,baz=140,slow=35						
	comp=Z,2.1nm,0.5s						
LPIG	**La Paz**	**86.73**	**58**	LR	LR	05 15 17.2	
	comp=Z,65nm,21.1s,baz=249,slow=29						
PETK	**Petropavlovsk-**	**88.35**	**346**	P	**P**	**04 45 51.5**	**+0.4**
	comp=Z,4.3nm,0.7s,baz=142,slow=7.5,SNR=7.3						
PETK				LR	LR	05 19 03.1	
	comp=Z,73nm,22.0s,baz=148,slow=31						
	comp=Z,4.3nm,0.7s						
PFO	**Pinyon Flats O**	**88.72**	**48**	LR	LR	05 19 33.4	
	comp=Z,62nm,18.2s,baz=305,slow=31						
ISA	**Isabella, Lake**	**88.89**	**45**	P	**P**	**04 45 53.9**	**-0.3**
ISA				IAmb	IAmb	04 46 11.4	
	comp=Z,7.8nm,1.0s						
ISA	**Isabella, Lake**	**88.89**	**45**	P	**P**	**04 45 53.9**	**-0.3**
ISA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMB	**Columbia Colle**	**89.41**	**42**	P	**P**	**04 45 57.2**	**+0.6**
CMB	**Columbia Colle**	**89.41**	**42**	P	**P**	**04 45 57.2**	**+0.6**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GSC	**Goldstone, Bar**	**89.64**	**46**	P	**P**	**04 45 56.0**	**-1.8**
GSC				IAmb	IAmb	04 46 15.5	
	comp=Z,5.1nm,0.9s						
GSC	**Goldstone, Bar**	**89.64**	**46**	P	**P**	**04 45 56.0**	**-1.8**
GSC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NVAR	**Mina Array Bea**	**90.87**	**43**	P	**P**	**04 46 05.2**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=223,slow=6.7,SNR=11						
	comp=Z,1.2nm,0.7s						
NV11	**Mina Array Sit**	**90.96**	**43**	P	**P**	**04 46 05.1**	**+1.1**
NV11				IAmb	IAmb	04 46 06.2	
	comp=Z,5.6nm,1.2s						
TPH	**Tonopah**	**91.26**	**44**	P	**P**	**04 46 04.3**	**-1.1**
TPH	**Tonopah**	**91.26**	**44**	P	**P**	**04 46 04.3**	**-1.1**
TPH				pmax	pmax		
	comp=Z,20nm,0.8s						
KVN	**Kaiserville**	**91.41**	**43**	P	**P**	**04 46 06.0**	**-0.1**
KVN				IAmb	IAmb	04 46 08.1	
	comp=Z,15nm,1.9s						
KVN	**Kaiserville**	**91.41**	**43**	P	**P**	**04 46 06.0**	**-0.1**
KVN				pmax	pmax		
	comp=Z,15nm,1.9s						
CN2	**Changchun**	**91.90**	**323**	*e*P	**P**	**04 46 09.6**	**+1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**93.06**	**330**	LR	LR	05 24 18.1	
	comp=Z,77nm,19.0s,baz=270,slow=33						
LVC	**Limon Verde**	**93.28**	**120**	LR	LR	05 19 29.5	
	comp=Z,97nm,21.3s,baz=248,slow=30						
KDAK	**Kodiak Island**	**93.35**	**14**	LR	LR	05 19 12.9	
	comp=Z,75nm,20.9s,baz=203,slow=30						
NNA	**Nana**	**93.43**	**107**	LR	LR	05 18 46.4	
	comp=Z,120nm,21.6s,baz=238,slow=29						
ELK	**Elko**	**94.18**	**43**	LR	LR	05 25 04.4	
	comp=Z,55nm,18.5s,baz=282,slow=33						
CMIG	**Matias Romero**	**94.41**	**73**	LR	LR	05 22 21.6	
	comp=Z,45nm,18.4s,baz=240,slow=31						
TXAR	**Lajitas Array**	**94.60**	**58**	P	**P**	**04 46 21.4**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=198,slow=3.6,SNR=4.0						
TXAR				LR	LR	05 23 52.0	
	comp=Z,70nm,18.3s,baz=295,slow=32						
	comp=Z,0.6nm,1.0s						
ATAH	**Atahualpa**	**94.90**	**102**	LR	LR	05 20 33.5	
	comp=Z,45nm,19.7s,baz=314,slow=30						
MA2	**Magadan**	**95.80**	**345**	LR	LR	05 23 58.3	
	comp=Z,40nm,21.5s,baz=126,slow=32						
ANMO	**Albuquerque**	**95.98**	**52**	LR	LR	05 25 54.2	
	comp=Z,42nm,18.1s,baz=275,slow=33						
TNCH	**TengChong**	**97.48**	**295**	*e*P	Pdif	04 46 35.7	+1.3
TNCH				pP	sP	04 46 38.9	+1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TNCH				pmax	pmax		
	comp=Z,27nm,0.7s						
LPAZ	La Paz	97.73	115	LR	LR	05 23 16.0	
	comp=Z,34nm,20.0s,baz=258,slow=31						
NEW	Newport	98.14	37	LR	LR	05 26 37.9	
	comp=Z,95nm,18.2s,baz=237,slow=33						
PDAR	Pinedale Array	98.75	44	P	Pdif	04 46 41.1	+1.5
	comp=Z,0.2nm,0.7s,baz=119,slow=1.1,SNR=2.2						
PDAR				LR	LR	05 25 12.5	
	comp=Z,51nm,19.3s,baz=281,slow=32						
	comp=Z,0.2nm,0.7s						
CPUP	Villa Florida	98.86	129	LR	LR	05 23 02.2	
	comp=Z,91nm,22.0s,baz=234,slow=30						
ILAR	Eielson Array	100.86	13	P	Pdif	04 46 48.4	+0.2
	comp=Z,0.8nm,1.0s,baz=212,slow=6.2,SNR=5.4						
BILL	Bilibino	101.57	354	*e*P	Pdif	04 46 51.6	+0.4
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,88nm,17.0s						
BOSA	Boshof	114.34	203	PKP	PKiKP	04 51 40.0	-0.2
	comp=Z,2.5nm,0.8s,baz=198,slow=6.8,SNR=4.2						
MK31	Makanchi Array	118.93	309	*i* PKIKP	PKPdf	04 51 46.6	-1.6
MKAR	Makanchi Array	118.93	309	PKP	PKPdf	04 51 46.9	-1.3
	comp=Z,1.4nm,0.8s,baz=187,slow=1.0,SNR=7.0						
ZALV	Zalesovo Beam	119.57	317	PKP	PKPdf	04 51 47.4	-1.7
	comp=Z,1.8nm,0.6s,baz=138,slow=1.8,SNR=8.3						
NRIK	Noril'sk	121.86	335	PKP	PKPdf	04 51 52.5	-0.6
	comp=Z,5.3nm,0.6s,baz=59,slow=3.9,SNR=6.7						
NRIK	Noril'sk	121.86	335*c*	*i* PKIKP	PKPdf	04 51 52.1	-1.0
KURK	Kurchatov	122.38	313		PKPdf	04 51 53.4	-1.2
KURK	Kurchatov	122.38	313*c*	*i* PKIKP	PKPdf	04 51 53.2	-1.4
KURK				pmax	pmax		
	comp=Z,17nm,2.5s						
AAK	Ala-Archa	122.96	303	*i* PKIKP	PKPdf	04 51 56.1	-0.1
LSZ	Lusaka	125.23	213	PKIKP	PKPdf	04 52 00.7	-0.7
KK31	Karatay Array	125.91	302		PKPdf	04 52 00.6	-1.1
KK31	Karatay Array	125.91	302	PKIKP	PKPdf	04 52 00.6	-1.1
KKAR	Karatay Array	125.91	302		PKPdf	04 52 00.5	-1.2
KKAR	Karatay Array	125.91	302		PKPdf	04 52 00.8	-0.9
KKAR	Karatay Array	125.91	302	PKIKP	PKPdf	04 52 00.8	-0.9
BRVK	Borovoye	127.88	314		PKPdf	04 52 02.8	-2.3
BRVK	Borovoye	127.88	314*c*	*i* PKIKP	PKPdf	04 52 03.9	-1.2
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KMBO	Kilima Mbogo	131.71	232	PKP	PKPdf	04 52 14.4	+0.5
	comp=Z,2.3nm,0.8s,baz=58,slow=6.0,SNR=6.2						
KMBO				SKPbc	SKPbc	04 55 35.9	-3.7
	comp=Z,0.9nm,0.4s,baz=53,slow=5.1,SNR=4.2						
SPA0	Spitsbergen Ar	134.46	356	*e*	PKPdf	04 52 14.0	-2.9
ARU	Arti	134.70	319	*i* PKIKP	PKPdf	04 52 17.2	-0.7
ARU						04 54 50.0	
ARCES	ARCESS Array B	141.16	347	PKhKP	PKPpre	04 52 21.4	
	comp=Z,6.8nm,1.0s,baz=54,slow=2.5,SNR=11						
ARCES				PKP	PKPdf	04 52 29.6	+0.2
	comp=Z,3.9nm,0.7s,baz=57,slow=4.5,SNR=6.8						
KTK1	Kautokeino	142.03	347	*e*	PKPdf	04 52 26.6	-4.4
KTK1				*e*pPKPdf	sPKPdf	04 52 35.4	+1.5
KLMR	Klimovskoe	142.82	330	*e*PKPdf	PKPdf	04 52 30.6	-2.0
KLMR				AMP		04 52 34.2	
	comp=Z,23nm,1.4s						
KLMR	Klimovskoe	142.82	330	*e*PKIKP	PKPdf	04 52 30.5	-2.0
KLMR				pmax	pmax		
	comp=Z,23nm,1.4s						
STEI	Steigen	144.29	351	*e*PKPdf	PKPab	04 52 32.8	-0.2
GNI	Garni	144.55	294*c*	*i* PKIKP	PKPdf	04 52 37.8	+1.3
GNI				pmax	pmax		
	comp=Z,12nm,1.3s						
FAUS	Fauske	144.80	350	*e*PKPbc	PKPab	04 52 34.4	-0.4
ZEI	Tsey	145.21	299	*i* PKP2	PKPbc	04 52 36.0	-1.3
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
VRH	Novokhopyorsk	145.46	314	*e*PKP2	PKPdf	04 52 35.7	-1.8
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ONI	Oni	145.55	298		PKPdf	04 52 36.7	-1.3
ONI	Oni	145.55	298	PKP2	PKPdf	04 52 36.7	-1.3
KBZ	Khabaz	145.91	300	PKPbc	PKPdf	04 52 37.2	-1.3
	comp=Z,1.5nm,0.5s,baz=105,slow=5.2,SNR=4.9						
KBZ	Khabaz	145.91	300	*i* PKIKP	PKPdf	04 52 36.5	-2.0
KONS	Konsvik	145.93	351	*e*PKPdf	PKPdf	04 52 37.7	-0.1
KIV	Kislovodsk	146.04	301	*i* PKP2	PKiKP	04 52 42.5	-0.6
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MOR8	Moi Rana	146.06	350	*e*PKPdf	PKPdf	04 52 36.9	-1.3
STOK	Stokkvaagen	146.10	351	*e*PKPdf	PKPdf	04 52 37.9	-0.2
MOS	Moscow	146.14	323	*e*PKIKP	PKPdf	04 52 37.3	-1.2
MOS				pmax	pmax		
	comp=Z,43nm,1.1s						
GURO	Guroymak-BITLI	146.56	291		PKPdf	04 52 40.3	+0.3
LPSR	Galich'ya Gora	146.68	317	*e*PKP2	PKPbc	04 52 40.9	-0.3
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VORR	Voronezh	146.83	315	*e*PKP2	PKPdf	04 52 40.0	+0.2
VORR				pmax	pmax		
	comp=Z,20nm,0.3s						
OBN	Obninsk	146.95	322	*e*PKP2	PKPdf	04 52 40.0	+0.1
OBN				*e*		04 56 03.3	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VSR	Storozhevoye	147.00	315	*e*PKIKP	PKPdf	04 52 40.2	+0.1
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PUL	Pulkovo	147.17	333	*i* PKP2	PKPbc	04 52 41.8	-0.5
MARD	Mardin	147.45	289		PKPdf	04 52 41.1	-0.4
FIA1	FINESS Array S	147.47	338		PKPdf	04 52 41.1	+0.5
FINES	FINESS Array B	147.48	338	PKPbc	PKPdf	04 52 42.3	+1.8
	comp=Z,42nm,0.6s,baz=44,slow=3.4,SNR=207						
FINES	FINESS Array B	147.48	338		PKPdf	04 52 40.7	+0.1
FINES	FINESS Array B	147.48	338	PKIKP	PKPdf	04 52 40.7	+0.1
NSS	Namsos	147.95	351	*e*PKPbc	PKPbc	04 52 43.5	-0.8
MEF	Metsahovi	148.95	337	*e*P	PKPbc	04 52 46.8	-0.2
RAF	Rauma	149.10	340	*e*P	PKPbc	04 52 46.4	-1.0
TBLU	Trondheim	149.40	352	*e*pPKPdf	pPKPdf	04 52 46.3	+0.5
VSU	Vasula	149.42	333	*e*P	PKPbc	04 52 47.9	-0.4
MTSE	Matsula	150.29	336	*e*P	PKPbc	04 52 49.9	-0.4
AAL	Aland	150.29	341	*e*P	PKPbc	04 52 48.9	-1.5
MOL	Molde	150.35	354	*e*PKPdf	PKPdf	04 52 45.6	+0.4
DOMB	Dombas	150.71	352	*e*PKPbc	PKPbc	04 52 51.0	-0.4
DOMB				IAmb	IAmb	04 52 52.1	
	comp=Z,25nm,1.1s						
AKN	Aaknes	150.78	354	*e*PKPbc	PKPbc	04 52 51.2	-0.3
AKN				IAmb	IAmb	04 52 52.7	
	comp=Z,38nm,0.9s						
NC303	NORSAR Array S	151.20	350		PKPbc	04 52 52.1	-0.4
NB201	NORSAR Array S	151.38	350		PKPbc	04 52 51.8	-1.2
NB2	NORSAR Subarra	151.40	350	PKP	PKPbc	04 52 52.0	-1.0
	comp=Z,7.9nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.40	350	PKPbc	PKPbc	04 52 52.2	-0.8
	comp=Z,4.1nm,0.7s,baz=21,slow=4.8,SNR=49						
BNN	Bunyan	151.40	291		PKPbc	04 52 51.7	-2.2
FOO	Floro	151.50	356	*e*PKPbc	PKPbc	04 52 53.1	0.0
FOO				IAmb	IAmb	04 52 54.0	
	comp=Z,28nm,0.7s						
MNK	Minsk	151.54	326	*i* PKP	PKPbc	04 52 51.0	-2.4
	comp=E,2.0nm,0.9s						
MNK				*i* PKP	PKPbc	04 52 51.0	-2.4
	comp=N,34nm,0.9s						
MNK				*i* PKP	PKPbc	04 52 51.0	-2.4
	comp=Z,44nm,0.9s,baz=53						
MNK				*i* SKP		04 56 24.5	
MNK				*i* PKS	PKSdf	04 56 26.3	+4.6
MNK				*i* PP	PP	04 56 37.2	+4.2
MNK				*i* SKS	SKSdf	04 59 58.2	+3.6
MNK				*i* PPP	PPP	04 59 59.8	
MNK				*i* SKKS	SKKSdf	05 08 46.5	+2.8
MNK				*i* SS	SS	05 16 00.6	+2.9
MNK				*i* SSS	SSS	05 21 44.6	
MNK				*i* LQ	LQ	05 53 02.0	
MNK				*i* LR	LR	06 04 43.4	
MNK	Minsk	151.54	326	*i* PKIKP	PKPbc	04 52 51.0	-2.4
MNK				*i*		04 56 37.2	
MNK				*i* PPP	PPP	04 59 59.8	
MNK				*i* SSS	SSS	05 21 44.6	
MNK				pmax	pmax		
	comp=N,34nm,0.9s						
MNK				pmax	pmax		
	comp=Z,44nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
NC602	NORSAR Array S	151.64	349		PKPbc	04 52 53.1	-0.4
NC602	NORSAR Array S	151.64	349	*e*PKPbc	PKPbc	04 52 52.8	-0.8
NC602				IAmb	IAmb	04 52 53.8	
	comp=Z,30nm,0.8s						
SLIT	Slitere, Latvi	151.64	336	*e*P	PKPbc	04 52 51.7	-1.8
ISAL	Salakas	151.64	330	*e*P	PKPbc	04 52 53.8	+0.1
IIGN	Ignalina	151.75	329	*e*P	PKPbc	04 52 54.0	+0.1
NACGM	Naroch	151.79	328⇑	*i*PKP	PKPdf	04 52 51.3	+3.6
	comp=Z,94nm,0.9s,baz=48						
HYA	Hoyanger	151.85	355	*e*PKPbc	PKiKP	04 52 54.6	+0.3
SUE	Sulen	152.05	356	*e*PKPbc	PKPbc	04 52 54.7	+0.3
SKAR	Skarslia	152.13	352	*e*PKPbc	PKPbc	04 52 55.3	+0.6
SKAR				IAmb	IAmb	04 52 55.8	
	comp=Z,22nm,0.8s						
VSVD	Vaisvydziai	152.26	332	*e*P	PKPbc	04 52 54.4	-0.6
PABE	Paberze	152.58	331		PKPbc	04 52 55.5	-0.2
PABE	Paberze	152.58	331	*e*P	PKPbc	04 52 55.6	-0.1
ASK	Askoy	152.60	356	*e*PKPbc	PKPbc	04 52 55.6	0.0
ASK				IAmb	IAmb	04 52 56.5	
	comp=Z,24nm,0.7s						
VIKU	Vikbolandet	152.61	342	*e*P	PKPbc	04 52 55.0	-0.7
AKASG	Malin Array Be	152.96	319	PKPbc	PKPbc	04 52 55.6	-1.1
	comp=Z,3.2nm,0.6s,baz=59,slow=2.6,SNR=12						
AKASG	Malin Array Be	152.96	319		PKPbc	04 52 55.4	-1.4
AKASG	Malin Array Be	152.96	319	PKIKP	PKPbc	04 52 55.4	-1.4
AKBB	Malin Array Si	152.96	319*c*	*i*PKIKP	PKPbc	04 52 56.7	-0.1
KONO	Kongsberg	152.97	350	*e*PKPbc	PKPbc	04 52 55.9	-0.6
ODD1	Odda	153.05	354	*e*PKPbc	PKPbc	04 52 55.8	-1.0
BR131	Keskin Array S	153.08	293		PKPbc	04 52 56.2	-1.4
BR131	Keskin Array S	153.08	293	PKIKP	PKPbc	04 52 56.2	-1.4
BRTR	Keskin Array B	153.08	293	PKPbc	PKPbc	04 52 56.0	-1.6
	comp=Z,3.9nm,0.6s,baz=175,slow=2.8,SNR=9.9						
BRTR	Keskin Array B	153.08	293		PKPbc	04 52 55.2	-2.4
BRTR	Keskin Array B	153.08	293	PKIKP	PKPbc	04 52 55.2	-2.4
BLS5	Blasjo	153.55	354	*e*PKPbc	PKPbc	04 52 57.5	-0.4
SNART	Snartemo	154.54	352	*e*PKPbc	PKiKP	04 53 01.3	+1.3
CRVS	Cervenica-Dubn	158.14	322	*e*PKP2	PKPab	04 53 32.4	+2.1
VYHS	Vyhne	159.73	324	*e*PKP2	PKPab	04 53 38.8	+1.6
CLL	Collm	159.92	338	*i* PKPab	PKPab	04 53 39.4	+1.5
	comp=Z,8.0nm,1.0s						
CLL	Collm	159.92	338	*i* PKP2	PKPab	04 53 39.4	+1.5
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TORD	Torodi Ar. Bea	160.00	182	PKP	PKPdf	04 53 01.1	+1.3
	comp=Z,2.6nm,1.0s,baz=326,slow=0.4,SNR=7.7						
TORD				PKPab	PKPab	04 53 39.3	+0.2
	comp=Z,4.3nm,0.7s,baz=170,slow=3.5,SNR=4.3						
TORD	Torodi Ar. Bea	160.00	182		PKPab	04 53 37.2	-1.8
GERES	GERESS Array B	161.74	332	PKPab	PKPab	04 53 44.4	-1.7
	comp=Z,3.2nm,1.3s,baz=63,slow=6.1,SNR=4.3						
ESDC	Sonseca Array	172.42	31	PKPab	PKPab	04 54 32.1	-1.3
	comp=Z,0.9nm,0.9s,baz=326,slow=3.5,SNR=2.6						

IDC 09 04:56:40.0±2.7, 3.°19N×93.°40E, h0km, mb3.8/3, mbtmp3.8/5, ML4.2/2, Error ellipse: s-maj=76.3km s-min=26.7km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.53	94	Pn	Pn	04 58 03.6	-0.2
	1.7nm,0.3s,baz=305,slow=7.4,SNR=7.4						
	6.4nm,0.5s						
CMAR	Chiang Mai Arr	16.11	19	Pn	Pn	05 00 29.3	+1.3
	0.9nm,0.3s,baz=212,slow=13,SNR=1.9						
	1.0nm,0.3s						
MKAR	Makanchi Array	44.49	349	P	P	05 04 53.0	-0.1
	0.6nm,0.6s,baz=172,slow=8.6,SNR=4.8						
	0.6nm,0.6s						
WRA	Warramunga Arr	46.31	122	P	P	05 05 07.9	-0.1
	0.3nm,0.5s,baz=300,slow=8.6,SNR=6.1						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	51.08	353	P	P	05 05 43.8	-0.3
	1.4nm,0.4s,baz=174,slow=6.8,SNR=5.6						
	1.4nm,0.4s						

IDC 09 04:57:15.5±4.9, 36.°31N×70.°82E, h136km±43km, mb3.3/7, mbtmp3.7/10, Error ellipse: s-maj=33.3km s-min=22.6km az=25.0

NNC 09 04:57:23.4±10.0, 36.°99N×70.°41E, h136km±150km, mb3.4, mpv4.1, Error ellipse: s-maj=88.5km s-min=52.3km az=4.0

ISC 09 04:57:23.2±1.1, 36.°88N±0.°09×70.°8E±0.°1, h200km, n20, σ1.s74/24, mb3.4/6, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.71	23	P	Pn	04 58 46.6	-0.5
	SNR=67						
UCH	Uchtor	6.08	27	P	Pn	04 58 51.4	-0.4
	SNR=16						
KK31	Karatay Array	6.22	358	⇓P	Pn	04 58 53.1	0.0
	6.3nm,0.3s,baz=179,slow=12,SNR=90						
KK31				⇑S	Sn	05 00 02.7	-1.8
	4.5nm,0.6s,baz=186,slow=22,SNR=5.5						
EKS2	Erkin-Say	6.22	21	P	Pn	04 58 53.6	+0.3
	SNR=7.3						
AAK	Ala-Archa	6.43	25	P	Pn	04 58 56.0	-0.1
	SNR=6.8						
AAK	Ala-Archa	6.43	25	P	Pn	04 58 56.4	+0.4
	5.0nm,0.4s,baz=206,slow=6.8,SNR=14						
AAK				S	Sn	05 00 09.9	+0.3
	6.6nm,0.8s,baz=20,slow=21,SNR=13						
CHMS	Chumysh	6.83	25	P	Pn	04 59 01.6	+0.4
	SNR=6.2						
TKM2	Tokmak 2	7.08	30	P	Pn	04 59 04.4	-0.3
	SNR=12						
TKM2	Tokmak 2	7.08	30	⇑P	Pn	04 59 03.9	-0.8
	7.8nm,0.6s						
TKM2				⇓S	Sn	05 00 24.4	-0.8
	3.6nm,0.8s						
MKAR	Makanchi Array	13.10	37	P	Pn	05 00 23.1	+1.2
	0.2nm,0.5s,baz=224,slow=10,SNR=1.9						
AB31	Akbulak array	14.65	331	P	Pn	05 00 41.3	+0.3
	1.7nm,0.6s,baz=148,slow=12,SNR=38						
AB31				S	S	05 03 20.4	-3.3
	0.8nm,0.7s,baz=150,slow=24,SNR=5.5						
BVAR	Borovoye Array	16.14	359	P	Pn	05 01 00.9	+1.8
	0.6nm,0.4s,baz=172,slow=12,SNR=4.6						
AKTO	Aktyubinsk	16.35	330	⇓P	Pn	05 01 02.8	+1.3
	1.6nm,0.6s						
ZALV	Zalesovo Beam	19.65	25	P	Pn	05 01 38.9	-1.6
	2.2nm,0.4s,baz=215,slow=11,SNR=8.4						
	2.2nm,0.4s						
FINES	FINESS Array B	37.06	326	P	P	05 04 17.1	+3.4
	2.4nm,0.9s,baz=125,slow=12,SNR=4.4						
	2.4nm,0.9s						
NOA	NORSAR Array B	43.96	323	P	P	05 05 12.9	+2.8
	0.5nm,0.7s,baz=98,slow=7.7,SNR=1.7						
	0.5nm,0.7s						
TORD	Torodi Ar. Bea	65.53	268	P	P	05 07 44.1	-1.4
	0.4nm,0.5s,baz=48,slow=5.4,SNR=7.8						
	0.4nm,0.5s						
INK	Inuvik	73.56	9	P	P	05 08 36.4	+2.7
	0.9nm,0.7s,baz=23,slow=6.5,SNR=4.6						
	0.9nm,0.7s						
WRA	Warramunga Arr	82.36	122	P	P	05 09 20.4	-2.4
	0.4nm,0.6s,baz=328,slow=5.3,SNR=5.7						
	0.4nm,0.6s						
ASAR	Alice Springs	84.63	125	P	P	05 09 32.4	-2.1
	0.4nm,0.7s,baz=308,slow=4.7,SNR=4.6						
	0.4nm,0.7s						

IDC 09 05:35:54.0±9.3, 32.°02S×179.°28E, h507km±93km, mb3.2/6, mbtmp4.1/6, Error ellipse: s-maj=54.0km s-min=42.1km az=108.0

ISC 09 05:35:47.3±0.9, 32.°0S±0.°2×179.°6E±0.°2, h439km, n17, σ0.s76/17, mb3.7/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.08	284	P	P	05 41 37.0	+0.5
	3.6nm,0.5s,baz=110,slow=9.5,SNR=12						
	3.6nm,0.5s						
STKA	Stephens Creek	32.12	260	P	P	05 41 37.4	+0.6
	0.5nm,0.3s,baz=86,slow=12,SNR=3.0						
	0.5nm,0.3s						
ASAR	Alice Springs	40.99	270	P	P	05 42 49.9	-0.7
	0.6nm,0.5s,baz=110,slow=7.1,SNR=6.8						
	0.6nm,0.5s						
WRA	Warramunga Arr	42.13	275	P	P	05 42 59.3	-0.3
	1.5nm,0.3s,baz=114,slow=7.5,SNR=10						
	1.5nm,0.3s						
TROLL	Troll, Antarti	76.25	181	P	P	05 46 49.9	+0.8
SNAA	Sanae	76.59	179	P	P	05 46 49.9	-1.1
VNA3	Neumayer Olymp	76.83	177	P	P	05 46 52.5	+0.3
VNA2	Neumayer--Watz	77.24	178	P	P	05 46 54.4	0.0
	baz=168,slow=4.6						
VNA1	Neumayer--Stat	77.48	177	P	P	05 46 56.3	+0.7
PETK	Petropavlovsk-	86.88	347	P	P	05 47 44.2	+0.6
	1.6nm,0.5s,baz=131,slow=4.4,SNR=2.7						
	1.6nm,0.5s						
NVAR	Mina Array Bea	90.83	44	P	P	05 48 03.5	+0.8
	0.4nm,0.6s,baz=224,slow=8.4,SNR=5.5						
	0.4nm,0.6s						
MKAR	Makanchi Array	117.21	310	PKP	PKPdf	05 53 40.6	-0.7
	0.3nm,0.5s,baz=86,slow=2.2,SNR=2.4						
FINES	FINESS Array B	145.89	338	PKPbc	PKPbc	05 54 35.0	-0.8
	7.7nm,0.7s,baz=48,slow=4.0,SNR=20						
NB2	NORSAR Subarra	149.97	349	PKP	PKPbc	05 54 45.7	-0.7
	comp=Z,0.9nm,0.6s,baz=19,slow=2.6						
NOA	NORSAR Array B	149.97	349	PKPbc	PKPbc	05 54 45.5	-0.9
	comp=Z,2.1nm,0.8s,baz=16,slow=4.2,SNR=5.8						
AKASG	Malin Array Be	151.24	319	PKPbc	PKPbc	05 54 48.5	-1.1
	comp=Z,1.6nm,0.8s,baz=62,slow=2.1,SNR=5.2						
TORD	Torodi Ar. Bea	161.13	186	PKPab	PKPab	05 55 42.8	-0.1
	comp=Z,1.1nm,1.1s,baz=195,slow=4.4,SNR=2.4						

IDC 09 05:37:01.3±1.9, 1.°56N×127.°18E, h0km, mb4.1/4, mbtmp4.2/4, Error ellipse: s-maj=163.9km s-min=22.9km az=65.0

DJA 09 05:37:15.6±0.7, 2.°N±3.°×12.°7E±.°, h92km±9km, M3.9/7, mb4.1/2, MLv3.8/7

ISC 09 05:37:14.4±1.0, 1.°62N±0.°06×127.°47E±0.°09, h128km, n11, σ1.s64/14, mb4.1/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	Galela, Maluku	0.39	56	P	Pn	05 37 32.7	+0.1
GAMI				S	Sn	05 37 44.5	-1.9
TNTI	Ternate	0.85	187	P	Pn	05 37 35.1	-0.7
TNTI				S	Sn	05 37 48.6	-3.4
SGSI	Sangihe	2.82	317	P	Pn	05 37 57.8	-0.8
SGSI				S	Sn	05 38 30.0	-2.7
SANI	Sanana	3.94	202	P	Pn	05 38 12.3	-1.0
GTOI	Gorontalo	4.56	258	P	Pn	05 38 22.7	+1.1
NLAI	Namlea	4.84	184	P	Pn	05 38 25.7	+0.3
APSI	Ampana	6.34	247	P	Pn	05 38 45.8	+0.4
WRA	Warramunga Arr	22.47	163	P	P	05 42 03.2	0.0
	5.7nm,0.4s,baz=341,slow=11,SNR=81						
	5.7nm,0.4s						
ASAR	Alice Springs	25.91	166	P	P	05 42 35.1	+0.4
	1.0nm,0.5s,baz=346,slow=6.8,SNR=14						
	1.0nm,0.5s						
STKA	Stephens Creek	35.91	159	P	P	05 44 03.5	+1.1
	3.9nm,0.4s,baz=332,slow=9.7,SNR=18						
	3.9nm,0.4s						
MKAR	Makanchi Array	59.70	326	P	P	05 47 07.0	+1.5
	0.3nm,0.3s,baz=114,slow=7.9,SNR=7.8						
	0.3nm,0.3s						

IDC 09 05:38:18.5±1.9, 2.°71S×142.°65E, h0km, mb3.4/2, mbtmp3.5/3, ML3.4/1, MS3.1/1, Error ellipse: s-maj=349.8km s-min=31.3km az=113.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.96	205	P	P	05 42 41.3	-0.1
	0.1nm,0.3s,baz=27,slow=12,SNR=4.7						
	1.4nm,0.8s						
ASAR	Alice Springs	22.49	201	P	P	05 43 20.0	+0.2
	0.7nm,0.7s,baz=30,slow=9.7,SNR=3.5						
	0.7nm,0.7s						
PETK	Petropavlovsk-	57.03	11	LR	LR	06 10 38.2	
	comp=Z,17nm,20.6s,baz=123,slow=34						
ILAR	Eielson Array	84.22	24	P	P	05 50 51.5	-0.1
	0.2nm,0.5s,baz=238,slow=4.2,SNR=4.4						
	0.2nm,0.5s						

UCR 09 05:43:50.9±1.4, 10.°71N×86.°17W, h7km±10km, MW4.0

INET 09 05:43:51.0±0.8, 10.°66N×86.°16W, h10km±7km, MW3.8

IDC 09 05:43:52.6±1.9, 11.°09N×86.°49W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=253.6km s-min=26.6km az=50.0

ISC 09 05:43:51.3±1.3, 10.°85N±0.°03×86.°10W±0.°04, h13km±10km, n56, σ1.s51/74, mb3.4/4, 2C-7D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	Finca Las Img	0.64	96	⇓*i*P	Pb	05 44 04.7	+0.4
GBS3				*e*S	Sn	05 44 14.8	-1.2
LAPC	Finca la Perla	0.66	97	⇓*i*P	Pb	05 44 04.8	+0.1
LAPC				*e*S	Sn	05 44 15.3	-1.3
BUEV	Buena Vista	0.68	94	⇓*e*P	Pb	05 44 05.4	+0.3
BUEV				*e*S	Sn	05 44 16.5	-0.7
GB1A	Borinquen Arri	0.69	93	*e*P	Pb	05 44 05.7	+0.5
GB1A				*e*S	Sn	05 44 17.2	-0.2
GPS3	Bodega del ICE	0.73	97	*e*P	Pb	05 44 06.0	+0.1
GPS3				*e*S	Sn	05 44 17.7	-0.7
GPS1	Guardaparques	0.74	96	⇓*e*P	Pb	05 44 06.3	+0.2
GPS1				*e*S	Sn	05 44 18.0	-0.7
GPS2	Hotel Rincn d	0.74	97	*e*P	Pb	05 44 06.3	+0.2
GPS2				*e*S	Sn	05 44 18.2	-0.5
BUAI	Buenos Aires	0.76	88	⇓*i*P	Pn	05 44 07.1	-0.6
BUAI				*e*S	Sn	05 44 19.2	+0.3
ORTG	Ortega, Santa	0.80	128	*e*P	Pg	05 44 05.8	-1.0
ORTG	Ortega, Santa	0.80	128	*e*P	Pg	05 44 05.7	-1.0
LIM1	Limonal	0.85	100	*e*P	Pg	05 44 07.8	0.0
LIM1				*e*S	Sn	05 44 20.9	-0.4
CONN	Concepcion	0.85	33	*e*P	Pn	05 44 09.7	+0.8
GUAB	Guayabo de Bag	0.87	99	*e*P	Pb	05 44 08.1	-0.2
GUAB				*e*S	Sn	05 44 21.4	-0.4
SAJU	San Juanillo,	0.87	154	*e*P	Pb	05 44 04.9	-3.3
SAJU				⇓*e*P	Pn	05 44 12.9	+3.7
SAJU				*e*S	Sn	05 44 30.5	+8.9
MESS	Mesas	0.90	97	⇓*e*P	Pb	05 44 08.6	-0.1
MESS				*e*S	Sn	05 44 22.2	-0.3
MICM	Guayabo	0.90	99	*e*P	Pg	05 44 09.2	+0.5
MICM				*e*S	Sn	05 44 22.6	0.0
COLC	Colonia	0.90	102	*e*P	Pg	05 44 08.9	+0.1
COLC				*e*S	Sn	05 44 21.9	-0.6
HORNC	Hornillas	0.92	99	*e*P	Pb	05 44 08.9	-0.2
CUI	Cuipilapa	0.94	102	*e*P	Pb	05 44 09.3	-0.1
CUI				*e*S	Sn	05 44 23.1	-0.4
NICO	Nicoya	0.96	138	*e*P	Pb	05 44 08.1	-1.7
VMAR	Armenia, Volca	0.96	92	*e*P	Pn	05 44 10.4	-0.1
DUNO	Dulce Nombre,	0.97	142	*e*P	Pb	05 44 07.8	-2.2
DUNO	Dulce Nombre,	0.97	142	*e*P	Pb	05 44 07.1	-2.9
ACAL	Aguas Claras	1.07	102	⇑*e*P	Pb	05 44 11.5	-0.2
ACAL				*e*S	Sn	05 44 27.0	+0.2
PTEN	Parque Tenorio	1.10	97	⇑*e*P	Pn	05 44 12.3	-0.1
PTEN				*e*S	Sn	05 44 29.3	+1.7
VERA	Finca Concepci	1.21	90	*e*P	Pb	05 44 13.9	-0.1
VERA				*e*S	Sg	05 44 32.3	+1.9
JTS	Las Juntas de	1.26	116	*e*P	Pn	05 44 12.9	-1.7
JTS	Las Juntas de	1.26	116	*e*P	Pn	05 44 13.0	-1.6
MGAN	Managua	1.30	354	*e*P	Pg	05 44 16.1	-0.2
WILN	Americas 2	1.30	356	*e*P	Pg	05 44 16.8	+0.3
PACM	Arenal	1.36	105	*e*P	Pn	05 44 06.5	-10
PACM				*e*S	Pg	05 44 18.0	+0.5
CASO	Castillo	1.41	107	*e*P	Pn	05 44 15.9	-0.7
COPN	Copaltepe	1.41	340	*e*P	Pb	05 44 17.2	-0.2
CEDE	Laguna Cedeo	1.42	105	*e*P	Pn	05 44 16.4	-0.5
ACON	Acoyapa	1.44	39	*e*P	Pg	05 44 17.9	-1.0
VACR	Volcan Arenal	1.45	105	*e*P	Pn	05 44 17.1	-0.1
FORC	Fortuna	1.46	105	*e*P	Pn	05 44 17.8	+0.5
HUEN		1.48	357	*e*P	Pb	05 44 18.6	-0.1
MOMN	Momotombo	1.61	344	*e*P	Pb	05 44 20.3	-0.6
BOAB	BOACO BROADBAN	1.64	15	*e*P	Pb	05 44 21.0	-0.5
JACO	JACO, Garabito	1.84	130	*e*P	Pn	05 44 22.6	0.0
CRIN	San Cristobal	2.06	333	*e*P	Pb	05 44 27.2	-1.4
MATN	Matagalpa	2.07	5	*e*P	Pb	05 44 26.9	-1.9
RIFO	Rio Frio, Sara	2.21	104	*e*P	Pn	05 44 27.8	+0.2
ESPN	Las Esperanzas	2.21	53	*e*P	Pn	05 44 28.9	+1.2
ESPN	Las Esperanzas	2.21	53	*e*P	Pn	05 44 28.8	+1.1
HAYA	Volcan Irazu	2.38	111	*e*P	Pn	05 44 31.4	+1.0
RIMA	Rio Macho	2.45	116	*e*P	Pn	05 44 30.5	-0.7
RIMA	Rio Macho	2.45	116	*e*P	Pn	05 44 30.6	-0.5
VTCV	VTCV, Calle Va	2.49	110	*e*P	Pn	05 44 33.5	+1.8
CDM	Cerro de Muert	2.64	119	*e*P	Pn	05 44 33.8	-0.1
MRVA	Moravia de Chi	2.81	111	*e*P	Pn	05 44 37.2	+1.2
TXAR	Lajitas Array	24.64	321	P	P	05 49 11.0	-0.8
	1.4nm,0.6s,baz=145,slow=9.6,SNR=18						
	1.4nm,0.6s						
SIV	San Ignacio	36.40	137	P	P	05 51 02.9	+7.1
	0.7nm,0.8s,baz=299,slow=13,SNR=2.8						
	0.7nm,0.8s						

PDAR	**Pinedale Array**	**37.80**	**331**	P		**P**	**05 51 06.9**	**-0.7**
	0.3nm,0.7s,baz=135,slow=10,SNR=2.5							
	0.3nm,0.7s							
NVAR	**Mina Array Bea**	**39.77**	**319**	P		**P**	**05 51 24.6**	**+0.4**
	0.3nm,0.5s,baz=124,slow=11,SNR=3.6							
	0.3nm,0.5s							

*IDC **09** 05:52:19.6±1.2,21˚.31S×68˚.12W,h104km±14km,mb3.6/2, mbtmp3.9/5,Error ellipse: s-maj=43.8km s-min=14.8km az=112.0*

*GUC **09** 05:52:19.3±0.8,21˚.18S×68˚.69W,h114km±5km,ML3.7*

*VAO **09** 05:52:19.0±0.7,21˚.29S×68˚.59W,h138km±10km,mb3.9*

ISC 09 05:52:18.1±0.7,21˚.16S±0˚.03×68˚.67W±0˚.07,h117km±8km, n35,σ1°09/52,1C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.78**	**279**	*e*P		**Pn**	**05 52 37.9**	**0.0**
PB01				*e*S		**Sn**	**05 52 52.4**	**-0.5**
PB01				IAML			05 52 55.1	
	comp=E,2μm,0.2s							
PB09	**IPOC Station P**	**0.83**	**220**	*e*P		**Pn**	**05 52 39.2**	**+0.8**
PB09				*e*S		**Sn**	**05 52 54.5**	**+0.6**
PB09				IAML			05 52 58.0	
	comp=E,1μm,0.5s							
PB08	**IPOC Station P**	**1.11**	**336**	*e*P		**Pn**	**05 52 42.3**	**+0.8**
PB08				*e*S		**Sn**	**05 52 59.7**	**+0.5**
PB08				IAML			05 53 01.7	
	comp=N,1μm,0.5s							
PB07	**IPOC Station P**	**1.27**	**244**	⇑*e*P		**Pn**	**05 52 43.0**	**+0.1**
PB07				*e*S		**Sn**	**05 53 01.9**	**+0.2**
PB07				IAML			05 53 03.7	
	comp=E,1μm,0.6s							
PB03	**IPOC Station P**	**1.34**	**229**	*e*P		**Pn**	**05 52 43.9**	**+0.2**
PB03				*e*S		**Sn**	**05 53 02.9**	**-0.3**
PB03				IAML			05 53 04.8	
	comp=E,1μm,0.4s							
PATCX	**Punta Patache**	**1.43**	**284**	*e*P		**Pn**	**05 52 44.9**	**+0.3**
PATCX				*e*S		**Sn**	**05 53 04.8**	**0.0**
PATCX				IAML			05 53 06.7	
	comp=N,2μm,0.3s							
HMBC	**Humberstone**	**1.44**	**307**	*e*P		**Pn**	**05 52 44.9**	**+0.1**
HMBC				*i* S		**Sn**	**05 53 04.6**	**-0.5**
HMBC				IAML			05 53 07.2	
	comp=E,1μm,0.8s							
LVC	**Limon Verde**	**1.46**	**189**	P		**Pn**	**05 52 46.3**	**+1.0**
	comp=E,148nm,0.4s,baz=33,slow=12,SNR=611							
LVC				S		**Sn**	**05 53 06.3**	**+0.5**
	comp=E,222nm,0.5s,baz=270,slow=22,SNR=5.9							
LVC	**Limon Verde**	**1.46**	**189**	*e*P		**Pn**	**05 52 46.1**	**+0.8**
LVC				*e*S		**Sn**	**05 53 06.3**	**+0.5**
LVC	**Limon Verde**	**1.46**	**189**	*e*P		**Pn**	**05 52 46.2**	**+1.0**
TA01	**Diego Aracena**	**1.54**	**293**	*e*P		**Pn**	**05 52 46.0**	**+0.3**
TA01				*e*S		**Sn**	**05 53 05.9**	**-0.9**
TA01				IAML			05 53 07.7	
	comp=N,1μm,0.7s							
GO01	**Chusmiza**	**1.57**	**342**	*e*P		**Pn**	**05 52 47.5**	**+0.9**
GO01				*i* S		**Sn**	**05 53 09.5**	**+1.2**
GO01				IAML			05 53 12.2	
	comp=E,1μm,0.5s							
TA02	**Huaiquique**	**1.63**	**303**	*e*P		**Pn**	**05 52 47.0**	**+0.1**
TA02				*e*S		**Sn**	**05 53 08.4**	**-0.4**
TA02				IAML			05 53 13.4	
	comp=N,1μm,0.3s							
PB11	**IPOC Station P**	**1.68**	**326**	*e*P		**Pn**	**05 52 47.9**	**+0.3**
PB11				*e*S		**Sn**	**05 53 09.9**	**-0.1**
PB11				IAML			05 53 12.2	
	comp=E,1μm,0.2s							
PB06	**IPOC Station P**	**1.75**	**209**	*e*P		**Pn**	**05 52 49.1**	**+0.6**
PB06				*e*S		**Sn**	**05 53 11.8**	**+0.1**
PB06				IAML			05 53 15.0	
	comp=E,758nm,0.1s							
PB04	**IPOC Station P**	**1.81**	**230**	*e*P		**Pn**	**05 52 49.1**	**0.0**
PB04				*e*S		**Sn**	**05 53 11.9**	**-1.0**
PB04				IAML			05 53 18.5	
	comp=N,937nm,0.7s							
PB15	**IPOC Station P**	**2.17**	**200**	*e*P		**Pn**	**05 52 54.3**	**+0.6**
PB15				*e*S		**Sn**	**05 53 21.5**	**+0.4**
GO02	**Mina Guanaco**	**4.07**	**192**	*e*P		**Pn**	**05 53 18.6**	**-0.2**
GO02				*e*S		**Sn**	**05 54 04.7**	**-1.1**
LPAZ	**La Paz**	**4.88**	**6**	P		**Pn**	**05 53 33.4**	**+3.4**
	comp=N,3.4nm,0.4s,baz=205,slow=8.0,SNR=33							
LPAZ	**La Paz**	**4.88**	**6**	P		**Pn**	**05 53 33.1**	**+3.1**
SIV	**San Ignacio**	**8.85**	**56**	P		**Pn**	**05 54 20.6**	**-2.5**
	comp=N,11nm,0.5s,baz=239,slow=13,SNR=61							
VILB	**Vilhena**	**11.49**	**46**	*e*P		**Pn**	**05 54 57.7**	**-1.1**
CPUP	**Villa Florida**	**11.59**	**119**	*e*P		**Pn**	**05 54 58.0**	**-1.9**
SALV	**Santo Antonio**	**13.37**	**69**	*e*P		**Pn**	**05 55 24.1**	**+0.8**
PDRB	**Porto dos Gac**	**14.87**	**52**	*e*P		**Pn**	**05 55 43.5**	**+1.0**
SNDB	**Serra Nova Dou**	**18.98**	**64**	*e*P		**P**	**05 56 30.1**	**-0.5**
NPGB	**Novo Progresso**	**19.04**	**44**	*e*P		**P**	**05 56 31.1**	**-0.2**
IPMB	**Ipameri, GO**	**19.53**	**84**	*e*P		**P**	**05 56 36.3**	**-0.3**
PLCA	**Paso Flores**	**19.57**	**184**	P		**Pn**	**05 56 39.4**	**0.0**
	comp=N,1.8nm,0.7s,baz=0.3,slow=7.8,SNR=4.5							
ITTB	**Itaituba**	**20.89**	**39**	*e*P		**P**	**05 56 49.9**	**-1.4**
JANB	**Januaria**	**23.92**	**79**	*e*P		**P**	**05 57 20.0**	**-1.4**
SNAA	**Sanae**	**62.52**	**161**	P		**P**	**06 02 30.1**	**+1.1**
	comp=N,0.8nm,0.7s,baz=256,slow=8.3,SNR=5.8							
	comp=N,0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P		**P**	**06 03 58.5**	**-0.1**
	comp=N,0.6nm,0.5s,baz=254,slow=5.5,SNR=7.4							
	comp=N,0.6nm,0.5s							
WRA	**Warramunga Arr**	**133.36**	**210**	PKP		**PKiKP**	**06 11 23.6**	**+1.2**
	comp=N,0.2nm,0.5s,baz=146,slow=1.8,SNR=2.4							
MKAR	**Makanchi Array**	**145.23**	**36**	PKPbc		**PKPab**	**06 11 43.8**	**+1.8**
	comp=N,1.0nm,0.6s,baz=315,slow=3.2,SNR=9.0							

IDC 09 06:05:11.7±65.0,19˚.96S×179˚.80W,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=1178.0km s-min=156.2km az=81.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.51**	**243**	P		P	06 12 18.4	-0.5
	1.7nm,0.5s,baz=88,slow=7.5,SNR=4.3							
	1.7nm,0.5s							
ASAR	**Alice Springs**	**43.00**	**256**	P		P	06 13 12.8	-0.3
	0.2nm,0.3s,baz=97,slow=7.6,SNR=5.6							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**43.00**	**262**	P		P	06 13 13.4	+0.3
	0.2nm,0.3s,baz=95,slow=7.7,SNR=12							
	0.2nm,0.3s							

*IDC **09** 06:13:10.7±1.1,42˚.70N×13˚.09E,h0km,mb3.8/6, mbtmp3.7/12,ML3.3/6,Error ellipse: s-maj=18.6km s-min=13.5km az=92.0*

*ROM **09** 06:13:10.7±0.0,42˚.663N±0˚.002×13˚.191E±0˚.002, h11km,ML3.7/113,Error ellipse: s-maj=0.2km s-min=0.1km az=227.0*

*STR **09** 06:13:10.8±1.7,43˚.N±11˚×1˚.3E±1˚.2,h10km,MLv3.7/17, Error ellipse: s-maj=0.0km s-min=0.0km az=126.2, preliminary*

*LDG **09** 06:13:10.8±0.1,42˚.60N×13˚.21E,h10km,Ml3.2/23,Error ellipse: s-maj=5.0km s-min=3.1km az=38.0*

*PDG **09** 06:13:11.1±0.6,42˚.64N×13˚.18E,h13km,ML3.9/13,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*

*BEO **09** 06:13:12.1±0.8,42˚.67N×13˚.20E,h8km±3km,ML3.8/12*

*PRU **09** 06:13:13.9±0.0,42˚.76N×13˚.40E,h10km*

ISC 09 06:13:11.5±0.7,42˚.66N±0˚.01×13˚.17E±0˚.01,h12km±4km, n305,σ1°76/383,mb3.9/5,36C-7D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
T1218	**Civita (PG)**	**0.04**	**282**	⇑P		**Pg**	**06 13 13.3**	**-0.5**
T1218				S		**Sg**	**06 13 14.8**	**-0.7**
T1213	**Norcia, Frazio**	**0.07**	**332**	⇓P		**Pg**	**06 13 13.5**	**-0.6**
T1213				S		**Sg**	**06 13 15.2**	**-0.7**
LNSS	**Leonessa**	**0.11**	**239**	⇑P		**Pg**	**06 13 14.4**	**-0.1**
LNSS				S		**Sg**	**06 13 17.0**	**+0.2**
SMA1	**SAN MARTINO**	**0.12**	**104**	⇑P		**Pg**	**06 13 14.2**	**-0.5**
SMA1				S		**Sg**	**06 13 16.6**	**-0.4**
SMA1				AML	AML			
SMA1				AML	AML			
T1212	**Cascia, Frazio**	**0.13**	**314**	P		**Pg**	**06 13 14.4**	**-0.4**
T1212				S		**Sg**	**06 13 16.8**	**-0.3**
T1244	**Arquata del Tr**	**0.13**	**44**	⇑P		**Pg**	**06 13 14.3**	**-0.6**
T1244				S		**Sg**	**06 13 16.7**	**-0.5**
T1245	**Castelsantange**	**0.20**	**4**	P		**Pg**	**06 13 15.3**	**-0.5**
T1245				S		**Sg**	**06 13 18.7**	**-0.2**
T1245				AML	AML			
T1245				AML	AML			
T1245				AML	AML			
T1245				AML	AML			
T1245				AML	AML			
T1245				AML	AML			
T1243	**Rocca Santa Ma**	**0.21**	**80**	⇑P		**Pg**	**06 13 15.2**	**-0.8**
T1243				S		**Sg**	**06 13 18.5**	**-0.6**
CAMP	**Campotosto**	**0.22**	**125**	⇑P		**Pg**	**06 13 15.6**	**-0.5**
CAMP				S		**Sg**	**06 13 19.0**	**-0.3**
CAMP				AML	AML			
	comp=E,41150μm,0.5s							
CAMP				AML	AML			
	comp=N,28700μm,0.7s							
T1247	**Pizzolo (AQ)**	**0.24**	**157**	P		**Pg**	**06 13 16.2**	**-0.3**
T1247				S		**Sg**	**06 13 20.2**	**+0.3**
T1247				AML	AML			
	comp=E,36400μm,0.2s							
T1247				AML	AML			
	comp=N,43900μm,0.7s							
T1246	**Crognaleto (TE**	**0.25**	**108**	⇑P		**Pg**	**06 13 16.1**	**-0.7**
T1246				S		**Sg**	**06 13 19.8**	**-0.5**
T1216	**Preci, Frazion**	**0.26**	**334**	P		**Pb**	**06 13 17.0**	**-1.1**
T1216				S		**Sg**	**06 13 20.5**	**+0.1**
T1216				AML	AML			
	comp=N,39150μm,1.4s							
T1216				AML	AML			
	comp=N,39150μm,1.4s							
T1216				AML	AML			
	comp=E,54600μm,1.6s							
MMO1	**Montemonaco**	**0.26**	**26**	P		**Pg**	**06 13 16.3**	**-0.7**
MMO1				S		**Sg**	**06 13 20.5**	**-0.2**
T1215	**Vallo di Nera,**	**0.26**	**302**	P		**Pg**	**06 13 16.6**	**-0.4**
T1215				S		**Sg**	**06 13 21.1**	**+0.4**
T1215				AML	AML			
	comp=E,28500μm,0.9s							
T1215				AML	AML			
	comp=N,25850μm,0.6s							
T1215				AML	AML			
	comp=E,28550μm,0.9s							
T1215				AML	AML			
	comp=N,24450μm,0.6s							
T1215				AML	AML			
	comp=N,24400μm,0.6s							
T1215				AML	AML			
	comp=E,29450μm,0.9s							
T1241	**Roccafluvione,**	**0.27**	**44**	⇑P		**Pg**	**06 13 16.3**	**-0.8**
T1241				S		**Sg**	**06 13 20.5**	**-0.4**
T1241				AML	AML			
	comp=E,37350μm,1.1s							
T1241				AML	AML			
	comp=N,30500μm,0.7s							
T1241				AML	AML			
	comp=N,30450μm,0.7s							
T1241				AML	AML			
	comp=N,29900μm,0.7s							
T1241				AML	AML			
	comp=E,37300μm,1.1s							
T1241				AML	AML			
	comp=E,37800μm,1.1s							
ARRO	**Arrone**	**0.31**	**255**	⇑P		**Pg**	**06 13 17.6**	**-0.2**
ARRO				S		**Sb**	**06 13 23.1**	**-0.9**
ARRO				AML	AML			
	comp=N,28550μm,1.6s							
ARRO				AML	AML			
	comp=E,20250μm,1.5s							
FEMA	**Monte Fema**	**0.31**	**343**	P		**Pg**	**06 13 17.7**	**-0.2**
FEMA				S		**Sg**	**06 13 22.5**	**+0.3**
FEMA				AML	AML			
	comp=E,30750μm,0.6s							
FEMA				AML	AML			
	comp=E,30800μm,0.6s							
FEMA				AML	AML			
	comp=N,28400μm,1.0s							
TERO	**Teramo**	**0.32**	**97**	⇑P		**Pg**	**06 13 17.1**	**-0.9**
TERO				S		**Sg**	**06 13 21.7**	**-0.6**
TERO				AML	AML			
	comp=E,24900μm,0.4s							
TERO				AML	AML			
	comp=E,26100μm,0.4s							
TERO				AML	AML			
	comp=N,34200μm,0.6s							
TERO				AML	AML			
	comp=N,35650μm,0.6s							
TERO				AML	AML			
	comp=E,24850μm,0.4s							
T1256	**Bolognola (MC)**	**0.35**	**7**	P		**Pg**	**06 13 17.9**	**-0.6**
T1256				S		**Sg**	**06 13 23.3**	**+0.1**
T1256				AML	AML			
	comp=E,24900μm,0.6s							
T1256				AML	AML			
	comp=N,22800μm,0.5s							
T1256				AML	AML			
	comp=E,24800μm,0.6s							
T1256				AML	AML			
	comp=E,24850μm,0.6s							
T1256				AML	AML			
	comp=N,21500μm,0.6s							
AQU	**L'Aquila**	**0.35**	**151**	P		**Pg**	**06 13 18.2**	**-0.4**
AQU				S		**Sb**	**06 13 23.7**	**-1.5**
AQU				AML	AML			
	comp=E,12435μm,1.1s							
AQU				AML	AML			
	comp=E,12440μm,1.1s							
AQU				AML	AML			
	comp=N,10800μm,0.6s							
AQU				AML	AML			
	comp=E,12855μm,1.0s							
AQU				AML	AML			
	comp=N,10980μm,0.6s							
GIGS	**Gran Sasso**	**0.36**	**126**	P		**Pg**	**06 13 17.8**	**-0.9**
GIGS				S		**Sg**	**06 13 23.1**	**-0.5**
GIGS				AML	AML			
	comp=N,5455μm,1.4s							
GIGS				AML	AML			
	comp=E,11140μm,0.3s							
FDMO	**Fiordimonte**	**0.38**	**351**	P		**Pg**	**06 13 18.6**	**-0.5**
FDMO				AML	AML			
	comp=E,11150μm,0.7s							
FDMO				AML	AML			
	comp=N,8385μm,0.6s							
FIAM	**Fiamignano**	**0.40**	**186**	P		**Pg**	**06 13 18.9**	**-0.4**
FIAM				S		**Sg**	**06 13 25.0**	**+0.4**
FIAM				AML	AML			
	comp=E,27850μm,0.8s							
FIAM				AML	AML			
	comp=N,15650μm,1.3s							
CESI	**CESI - Serrava**	**0.40**	**330**	P		**Pg**	**06 13 18.8**	**-0.5**
CESI				S		**Sg**	**06 13 25.0**	**+0.3**
CESI				AML	AML			
	comp=E,10675μm,0.2s							
CESI				AML	AML			
	comp=E,10670μm,0.2s							
CESI				AML	AML			
	comp=N,23000μm,0.4s							
T1219	**Muccia, Frazio**	**0.41**	**343**	P		**Pb**	**06 13 20.0**	**-0.7**
T1219				S		**Sg**	**06 13 25.4**	**+0.2**
T1219				AML	AML			
	comp=E,1453μm,1.4s							
T1219				AML	AML			
	comp=N,24315μm,1.6s							
T1219				AML	AML			
	comp=E,9370μm,0.2s							
T1219				AML	AML			
	comp=N,12020μm,0.6s							
T1219				AML	AML			
	comp=N,24285μm,1.6s							
T1219				AML	AML			
	comp=E,9375μm,0.2s							
T1219				AML	AML			
	comp=N,12060μm,0.6s							
T1219				AML	AML			
	comp=E,1453μm,1.4s							
T1219				AML	AML			
	comp=N,12030μm,0.6s							
GUMA	**Gualdo di Mace**	**0.42**	**17**	P		**Pg**	**06 13 19.4**	**-0.4**
GUMA				S		**Sb**	**06 13 26.1**	**-1.1**
GUMA				AML	AML			
	comp=E,91200μm,0.3s							
GUMA				AML	AML			
	comp=E,50500μm,0.9s							
GUMA				AML	AML			
	comp=N,71250μm,0.4s							
GUMA				AML	AML			
	comp=N,85150μm,0.5s							
CSP1	**Cessapalombo**	**0.43**	**3**	P		**Pg**	**06 13 19.5**	**-0.5**
CSP1				S		**Sb**	**06 13 26.1**	**-1.6**
CSP1				AML	AML			
	comp=N,21100μm,0.5s							
CSP1				AML	AML			
	comp=E,15850μm,0.6s							
CSP1				AML	AML			
	comp=N,21050μm,0.5s							
CESX	**Cesi**	**0.44**	**264**	⇑P		**Pg**	**06 13 19.6**	**-0.5**
CESX				S		**Sb**	**06 13 27.2**	**-0.6**
CESX				AML	AML			
	comp=E,13600μm,0.5s							
CESX				AML	AML			
	comp=N,16100μm,0.4s							
OFFI	**Offida**	**0.47**	**54**	⇑P		**Pb**	**06 13 20.6**	**-1.1**
OFFI				AML	AML			
	comp=E,19950μm,0.6s							
OFFI				AML	AML			
	comp=N,37400μm,0.6s							
SEF1	**Sefro**	**0.51**	**341**	P		**Pg**	**06 13 20.8**	**-0.7**
SEF1				AML	AML			
	comp=E,15700μm,0.3s							
SEF1				AML	AML			
	comp=N,15550μm,0.2s							
SEF1				AML	AML			
	comp=E,15750μm,0.3s							
SEF1				AML	AML			
	comp=N,15600μm,0.2s							
MNTP	**Montappone**	**0.52**	**25**	P		**Pg**	**06 13 21.4**	**-0.4**
MNTP				S		**Sb**	**06 13 30.4**	**+0.2**
MDAR	**Monte D'Aria**	**0.53**	**358**	P		**Pg**	**06 13 21.0**	**-0.9**
MDAR				AML	AML			
	comp=N,9580μm,0.6s							
MDAR				AML	AML			
	comp=E,7555μm,0.7s							
ASSB	**Assisi San Ben**	**0.54**	**315**	P		**Pg**	**06 13 21.2**	**-0.8**
ASSB				S		**Sg**	**06 13 29.7**	**+0.6**
ASSB				AML	AML			
	comp=E,13250μm,0.4s							
ASSB				AML	AML			
	comp=N,13750μm,0.5s							
VCEL	**Villa Celiera**	**0.56**	**118**	AML	AML			
	comp=E,19900μm,0.4s							
VCEL				AML	AML			
	comp=N,20750μm,1.0s							
TRTR	**Tortoreto Alta**	**0.57**	**75**	P		**Pb**	**06 13 22.6**	**-0.7**
TRTR				AML	AML			
	comp=N,22100μm,0.5s							
TRTR				AML	AML			
	comp=E,25250μm,0.7s							
SSM1	**San Severino M**	**0.57**	**0**	P		**Pg**	**06 13 21.6**	**-1.0**
SNTG	**Esanatoglia**	**0.62**	**344**	P		**Pg**	**06 13 22.8**	**-0.8**
SNTG				AML	AML			
	comp=E,4440μm,0.6s							
SNTG				AML	AML			
	comp=E,4115μm,0.4s							
SNTG				AML	AML			
	comp=E,4445μm,0.6s							
SNTG				AML	AML			
	comp=N,4205μm,0.6s							
SNTG				AML	AML			
	comp=N,4735μm,0.6s							
T0110	**Collepietro**	**0.62**	**134**	P		**Pg**	**06 13 22.5**	**-1.2**
T0110				S		**Sb**	**06 13 32.4**	**-0.8**
T0110				AML	AML			
	comp=N,14900μm,1.4s							
T0110				AML	AML			
	comp=E,16050μm,0.7s							
SRES	**S.Oreste - Sor**	**0.65**	**229**	P		**Pg**	**06 13 23.1**	**-0.9**
SRES				AML	AML			
	comp=N,7525μm,0.4s							
SRES				AML	AML			
	comp=E,6565μm,0.6s							
ATCC	**AVT- Casa Cast**	**0.65**	**323**	P		**Pg**	**06 13 23.6**	**-0.6**
ATCC				AML	AML			
	comp=E,9365μm,0.7s							
ATCC				AML	AML			
	comp=N,9765μm,1.5s							
ATCC				AML	AML			
	comp=E,9355μm,0.7s							
ATCC				AML	AML			
	comp=N,9785μm,1.5s							
PTQR	**Pietraquaria**	**0.66**	**165**	P		**Pg**	**06 13 23.3**	**-1.0**
PTQR				AML	AML			
	comp=N,2660μm,1.3s							
PTQR				AML	AML			
	comp=E,2795μm,0.5s							
EL6	**Elcito**	**0.67**	**356**	P		**Pg**	**06 13 23.5**	**-1.0**
EL6				AML	AML			
	comp=N,10795μm,0.4s							
EL6				AML	AML			
	comp=E,7825μm,0.4s							
EL6				AML	AML			
	comp=N,10805μm,0.4s							
CADA	**Capodarco di F**	**0.69**	**39**	P		**Pb**	**06 13 25.1**	**-0.3**
FOSV	**Fossato di Vic**	**0.70**	**335**	P		**Pg**	**06 13 24.2**	**-0.9**
FOSV				AML	AML			
	comp=N,4975μm,0.4s							
FOSV				AML	AML			
	comp=E,3870μm,0.8s							
FOSV				AML	AML			
	comp=N,4980μm,0.4s							
MTCE	**Montecelio**	**0.71**	**207**	P		**Pg**	**06 13 24.1**	**-1.2**
MTCE				AML	AML			
	comp=E,6840μm,0.4s							
MTCE				AML	AML			
	comp=N,3750μm,1.3s							
CING	**Cingoli**	**0.71**	**1**	P		**Pb**	**06 13 25.0**	**-0.9**
CING				AML	AML			
	comp=N,4550μm,0.5s							
CING				AML	AML			
	comp=E,6950μm,0.5s							
CERT	**Cerreto**	**0.72**	**191**	P		**Pb**	**06 13 25.7**	**-0.4**
CERT				AML	AML			
	comp=N,7390μm,0.5s							
CERT				AML	AML			
	comp=E,13650μm,0.4s							
MURB	**Monte Urbino**	**0.77**	**322**	P		**Pg**	**06 13 25.6**	**-0.7**
MURB				AML	AML			
	comp=E,19700μm,0.4s							
MURB				AML	AML			
	comp=N,19500μm,0.9s							
MURB				AML	AML			
	comp=E,19750μm,0.4s							
MURB				AML	AML			
	comp=N,19550μm,0.9s							
MURB				AML	AML			
	comp=E,21650μm,0.3s							
MURB				AML	AML			
	comp=N,19550μm,0.9s							
PP3	**Marolino**	**0.79**	**24**	P		**Pb**	**06 13 26.3**	**-0.8**
PP3				AML	AML			
	comp=E,32300μm,0.5s							
PP3				AML	AML			
	comp=N,16800μm,0.8s							
PP3				AML	AML			
	comp=E,33400μm,0.5s							
PP3				AML	AML			
	comp=E,32350μm,0.5s							
PP3				AML	AML			
	comp=N,16850μm,0.8s							
PP3				AML	AML			
	comp=E,33350μm,0.5s							
PP3				AML	AML			
	comp=N,14400μm,0.8s							
MGAB	**Montegabbione**	**0.82**	**288**	⇑P		**Pg**	**06 13 26.4**	**-0.9**
MGAB				AML	AML			
	comp=E,11350μm,0.4s							
MGAB				AML	AML			
	comp=E,12050μm,0.4s							
MGAB				AML	AML			
	comp=E,11400μm,0.4s							
MGAB				AML	AML			
	comp=N,10020μm,0.6s							
MGAB				AML	AML			
	comp=N,9240μm,0.6s							
SSFR	**Montelago di S**	**0.83**	**340**	P		**Pg**	**06 13 26.6**	**-0.9**
SSFR				AML	AML			
	comp=N,8055μm,1.1s							
SSFR				AML	AML			
	comp=E,9050μm,0.3s							
SSFR				AML	AML			
	comp=E,8375μm,0.8s							
SSFR				AML	AML			
	comp=N,7295μm,1.1s							
RCAV	**Rocca di Cave**	**0.83**	**192**	P		**Pg**	**06 13 26.1**	**-1.4**
RCAV				AML	AML			
	comp=N,13100μm,1.1s							

RCAV AML AML
comp=E,8920µm,0.4s
ATFO Monte Foce - G 0.83 328 P Pg 06 13 26.7 -0.8
ATFO AML AML
comp=E,3490µm,1.1s
ATFO AML AML
comp=N,3830µm,0.9s
ARVD Arcevia 0.85 349 P Pg 06 13 26.7 -1.2
VVLD Villa Vallelon 0.86 157 P Pg 06 13 27.3 -0.7
VVLD AML AML
comp=E,4745µm,0.6s
VVLD AML AML
comp=N,4035µm,0.5s
ATLO AVT- Montelove 0.86 320 P Pg 06 13 27.0 -1.1
GUAR Guarcino 0.87 173 P Pb 06 13 27.9 -0.7
GUAR AML AML
comp=E,5255µm,1.1s
GUAR AML AML
comp=N,6670µm,0.4s
ATVA AVT- Monte Val 0.90 314 P Pg 06 13 27.6 -1.2
ATVO AVT- Monte Val 0.91 322 P Pg 06 13 27.8 -1.3
ATVO AML AML
comp=E,4655µm,0.7s
ATVO AML AML
comp=N,3250µm,0.9s
FRON Frontone 0.92 339 P Pg 06 13 27.9 -1.2
FRON AML AML
comp=E,3865µm,0.4s
FRON AML AML
comp=N,5600µm,0.8s
RMP Rome, Mte Porz 0.92 202 P Pg 06 13 27.7 -1.4
RMP AML AML
comp=E,7810µm,0.8s
RMP AML AML
comp=N,8175µm,0.4s
AOI Ancona 0.94 19 P Pg 06 13 28.2 -1.4
AOI AML AML
comp=N,3290µm,0.5s
AOI AML AML
comp=E,3100µm,1.4s
ATMI Monte Miggiano 0.94 316 P Pg 06 13 29.2 -0.5
ATMI AML AML
comp=E,14250µm,0.7s
ATMI AML AML
comp=N,13600µm,0.9s
SACS San Casciano d 0.95 282 P Pg 06 13 28.8 -1.0
SACS AML AML
comp=N,4945µm,0.6s
SACS AML AML
comp=E,3890µm,1.5s
SACS AML AML
comp=N,5335µm,0.6s
SACS AML AML
comp=E,4095µm,1.6s
VIVA Pratoni del Vi 0.96 198 P Pg 06 13 28.7 -1.2
VIVA AML AML
comp=N,20350µm,0.4s
VIVA AML AML
comp=E,14800µm,1.3s
LPEL Lama dei Pelig 0.97 129 P Pg 06 13 28.0 -2.1
LPEL AML AML
comp=E,4630µm,0.8s
LPEL AML AML
comp=N,3960µm,0.9s
ATPI Pietralunga - 0.97 325 P Pg 06 13 29.0 -1.2
ATPI AML AML
comp=E,3935µm,0.6s
ATPI AML AML
comp=N,2605µm,0.6s
ATPI AML AML
comp=N,2600µm,0.6s
ATPI AML AML
comp=E,3930µm,0.6s
ATPC Poggio Castell 0.97 328 P Pg 06 13 29.2 -1.0
CAFR Castel Frentan 0.97 116 P Pg 06 13 28.8 -1.4
CAFR AML AML
comp=E,3665µm,0.5s
CAFR AML AML
comp=N,4490µm,0.5s
COR1 Corinaldo 0.98 353 P Pb 06 13 29.9 -0.5
COR1 AML AML
comp=E,4285µm,0.6s
COR1 AML AML
comp=N,7355µm,1.0s
COR1 AML AML
comp=E,8015µm,0.6s
COR1 AML AML
comp=N,8285µm,1.0s
LATE Laterza 1.01 268 P Pg 06 13 30.0 -1.0
MPAG Monte Paganucc 1.01 343 P Pg 06 13 29.8 -1.2
MPAG AML AML
comp=E,2430µm,1.2s
MPAG AML AML
comp=E,2250µm,0.5s
MPAG AML AML
comp=N,3380µm,0.4s
MPAG AML AML
comp=N,3335µm,0.4s
NARO Abbazia di Nar 1.04 336 P Pg 06 13 30.2 -1.4
NARO AML AML
comp=N,3060µm,0.9s
NARO AML AML
comp=E,1900µm,1.1s
LAV9 Lanuvio 1.04 200 P Pg 06 13 30.9 -0.6
LAV9 AML AML
comp=E,11005µm,0.4s
LAV9 AML AML
comp=N,15500µm,0.3s
LAV9 AML AML
comp=N,15850µm,0.4s
LAV9 AML AML
comp=E,12100µm,0.4s
LAV9 AML AML
comp=N,15500µm,0.3s
LAV9 AML AML
comp=E,11015µm,0.4s
LRP Arpino 1.06 163 P Pn 06 13 32.2 +0.1
LRP AML AML
comp=E,2090µm,1.2s
LRP AML AML
comp=N,2615µm,0.8s
ATMC Monte Cedrone 1.06 318 P Pg 06 13 31.3 -0.7
FSSB Fossombrone 1.07 345 P Pg 06 13 30.1 -1.9
FSSB AML AML
comp=N,12000µm,0.4s
FSSB AML AML
comp=E,6780µm,0.5s
GIUL Giuliano Di Ro 1.10 177 P Pb 06 13 31.3 -1.2
GIUL AML AML
comp=N,4675µm,0.7s
GIUL AML AML
comp=E,3415µm,0.7s
CAFI Castiglion Fio 1.11 307 P Pb 06 13 31.0 -1.6
CAFI AML AML
comp=E,3660µm,0.5s
CAFI AML AML
comp=E,3635µm,0.5s
CAFI AML AML
comp=N,3010µm,0.7s
CAFI AML AML
comp=N,3030µm,0.7s
MCIV Monte Civitell 1.11 277 P Pb 06 13 31.4 -1.3
MCIV AML AML
comp=E,2425µm,0.4s
MCIV AML AML
comp=N,1445µm,0.9s
SF11 Podere del Sol 1.12 281 P Pb 06 13 31.9 -0.9
PE3 Peglio 1.15 335 P Pb 06 13 32.6 -0.7
SF14 Selvena 1.15 275 P Pb 06 13 32.2 -1.1
SF13 Bagnolo 1.15 278 P Pb 06 13 32.5 -0.9
LATB Latina 1.18 188 P Pb 06 13 31.6 -2.1
LATB AML AML
comp=E,1221µm,0.7s
LATB AML AML
comp=N,1060µm,0.8s
SF01 Poggio Pratacc 1.19 278 AML AML
comp=E,3490µm,0.5s
SF01 AML AML
comp=N,3635µm,0.6s
CERA Filignano 1.23 149 P Pn 06 13 33.4 -1.2
CERA AML AML
comp=N,3220µm,0.7s
CERA AML AML
comp=E,2715µm,0.6s
CERA AML AML
comp=N,3145µm,0.7s
CERA AML AML
comp=E,2765µm,0.9s
ARCI Arcidosso 1.26 279 P Pn 06 13 34.8 -0.3
ARCI AML AML
comp=N,838µm,0.8s
ARCI AML AML
comp=E,814µm,0.7s
CPGN Carpegna, Ital 1.30 332 P Pg 06 13 35.9 -0.5
MIDA Miranda 1.30 141 P Pn 06 13 33.8 -1.7
MIDA AML AML
comp=E,1890µm,1.5s
MIDA AML AML
comp=E,2090µm,1.5s
MIDA AML AML
comp=N,1765µm,0.8s
MIDA AML AML
comp=N,1630µm,1.6s
FRES Fresagrandinar 1.31 121 AML AML
comp=N,1450µm,0.9s
FRES AML AML
comp=E,1715µm,1.4s
TRIV Trivento 1.36 131 AML AML
comp=E,2270µm,1.4s
TRIV AML AML
comp=N,1640µm,1.2s
ASQU Asqua 1.52 319 P Pn 06 13 38.1 -0.5
ASQU AML AML
comp=E,932µm,0.8s
ASQU AML AML
comp=N,1340µm,0.5s
MAON Monte Argentar 1.53 262 P Pn 06 13 38.0 -0.6
MAON AML AML
comp=E,953µm,0.9s
MAON AML AML
comp=N,584µm,1.1s
BSSO Busso 1.54 136 P Pg 06 13 40.3 -0.7
FROS Frosini 1.58 291 P Pn 06 13 39.3 -0.1
FROS AML AML
comp=E,1320µm,1.6s
FROS AML AML
comp=N,1104µm,0.7s
CIGN Sant'Elia a Pi 1.64 127 P Pg 06 13 41.5 -1.3
OSSC Osservatorio P 1.65 302 P Pn 06 13 40.6 +0.2
OSSC AML AML
comp=N,770µm,1.0s
OSSC AML AML
comp=E,767µm,1.0s
OSSC AML AML
comp=E,736µm,0.8s
OSSC AML AML
comp=N,758µm,0.9s
RUFI Rufina 1.69 315 P Pn 06 13 40.6 -0.2
SACR S. Croce Del S 1.70 137 P Pg 06 13 43.2 -0.9
CASP Castiglione de 1.70 275 P Pn 06 13 40.6 -0.5
CASP AML AML
comp=N,456µm,0.8s
CASP AML AML
comp=E,378µm,0.9s
TRIF Trifonti 1.73 286 AML AML
comp=E,535µm,0.4s
TRIF AML AML
comp=N,590µm,0.6s
MELA Melanico ??? S 1.74 123 P Pb 06 13 41.9 -1.4
MELA AML AML
comp=N,2830µm,0.8s
MELA AML AML
comp=E,2690µm,0.7s
MELA AML AML
comp=E,2830µm,0.7s
MELA AML AML
comp=N,2790µm,0.8s
LMD Lutirano 1.77 323 P Pn 06 13 42.1 +0.1
LMD AML AML
comp=N,652µm,1.2s
LMD AML AML
comp=E,830µm,1.2s
TREM Isole Tremiti 1.81 106 P Pn 06 13 42.7 +0.2
TREM AML AML
comp=N,3040µm,0.6s
TREM AML AML
comp=E,3660µm,0.6s
BRIS BRISIGHELLA 1.92 321 AML AML
comp=E,1385µm,1.0s
BRIS AML AML
comp=N,1120µm,0.8s
SEI Scarperia 1.92 317 P Pn 06 13 44.8 +0.8
SEI AML AML
comp=N,1505µm,0.5s
SEI AML AML
comp=E,1046µm,0.5s
APRC Apricena 1.98 116 P Pb 06 13 45.5 -2.0
APRC AML AML
comp=N,1380µm,0.5s
APRC AML AML
comp=E,1170µm,0.5s
MPPT Montemurlo 2.00 311 P Pn 06 13 45.3 +0.1
MPPT AML AML
comp=E,616µm,0.7s
MPPT AML AML
comp=N,542µm,0.4s
MTCR Monte La Croce 2.09 311 P Pn 06 13 46.3 -0.2
SGRT San Giovanni R 2.12 114 P Pn 06 13 47.5 +0.7
CELB S.Piero in Cam 2.18 273 AML AML
comp=N,173µm,0.5s
CELB AML AML
comp=E,176µm,0.7s
POPM Popiglio 2.24 309 P Pn 06 13 48.2 -0.2
MAIM Mastiano 2.32 304 P Pn 06 13 49.7 +0.1
BDI Bagni Di Lucca 2.34 308 P Pn 06 13 49.6 -0.3
BDI AML AML
comp=N,175µm,0.4s
BDI AML AML
comp=E,175µm,1.2s
EQUI Equi 2.66 305 P Pn 06 13 54.6 +0.4
EQUI AML AML
comp=N,270µm,0.9s
EQUI AML AML
comp=E,186µm,1.1s
MORSI Morsiglia 2.82 277 P Pn 06 13 56.7 +0.4
PZUN Potenza 2.82 135 AML AML
comp=N,267µm,1.6s
PZUN AML AML
comp=E,294µm,1.2s
RIY Rijeka 2.83 19 ePn Pn 06 13 56.4 -0.1
RIY eSn **Sn 06 14 31.5 +1.1**
SBPO S.Benedetto Po 2.89 326 AML AML
comp=N,4460µm,0.2s
SBPO AML AML
comp=E,20850µm,0.1s
GRAM Graiana 2.91 310 P Pn 06 13 58.7 +1.1
GRAM AML AML
comp=N,534µm,0.9s
GRAM AML AML
comp=E,454µm,0.8s
SMPL Sampolo 2.94 260 P Pn 06 13 57.6 -0.4
SMPL AML AML
comp=N,89µm,1.2s
SMPL AML AML
comp=E,90µm,1.4s
SMPL Sampolo 2.94 260 P Pn 06 13 57.9 -0.1
SMPL S **Sn 06 14 35.1 +2.0**
CORF Corte 3.00 264 P Pn 06 13 59.5 +0.7
PGF Pioggiola 3.08 269 eP Pn 06 14 00.8 +0.7
PGF eSn **Sn 06 14 33.6 -3.3**
comp=E,6.2nm,0.3s
PGF Pioggiola 3.08 269 P Pn 06 14 00.7 +0.7
CEY Cerknica 3.21 16 ePn Pn 06 14 01.1 -0.6
MATE Matera 3.32 126 ⇑P Pn 06 14 05.2 +1.9
MATE ⇓S **Sn 06 14 45.7 +3.0**
SABO M.te Sabotino 3.33 5 P Pn 06 14 03.0 -0.4
SABO AML AML
comp=N,1775µm,0.6s
SABO AML AML
comp=E,516µm,0.7s
SABO AML AML
comp=N,476µm,1.0s
SABO AML AML
comp=E,2305µm,0.7s
STON Ston 3.34 85 ePn Pn 06 14 02.2 -1.3
STON Ston 3.34 85 ePn Pn 06 14 02.6 -0.9
STON eSn **Sn 06 14 42.8 -0.3**
STON Ston 3.34 85 AML AML
comp=N,182µm,1.2s
STON AML AML
comp=E,167µm,0.4s
MGRS Mrkonjic Grad 3.34 57 ePn Pn 06 14 04.8 +1.2
AJAC Base Areonaval 3.35 259 P Pn 06 14 04.7 +1.0
AJAC AML AML
comp=E,400µm,0.3s
AJAC AML AML
comp=N,176µm,1.4s
AJAC Base Areonaval 3.35 259 P Pn 06 14 04.7 +1.0
CGRP Cima Grappa 3.37 343 P Pn 06 14 04.8 +0.7
CGRP AML AML
comp=E,399µm,0.5s
CGRP AML AML
comp=N,426µm,0.6s
SALO Salr 3.52 328 P Pn 06 14 07.2 +1.2
SALO AML AML
comp=E,336µm,0.7s
SALO AML AML
comp=N,449µm,0.8s
LJU Ljubljana 3.52 16 AML AML
comp=E,1455µm,0.8s
LJU AML AML
comp=N,1995µm,0.3s
DOSS Dosso del Somm 3.52 337 P Pn 06 14 07.0 +0.8
DOSS AML AML
comp=E,261µm,0.4s
DOSS AML AML
comp=E,276µm,0.6s
DOSS AML AML
comp=N,268µm,0.3s
DOSS AML AML
comp=N,264µm,0.7s
CTI Castel Tesino 3.56 343 P Pn 06 14 07.5 +0.9
CTI AML AML
comp=N,348µm,0.4s
CTI AML AML
comp=E,336µm,0.9s
RNCA Ronca, Sant'Ol 3.56 302 AML AML
comp=E,45µm,0.1s
RNCA AML AML
comp=N,47µm,1.2s
BLY Banja Luka 3.58 53 ePn Pn 06 14 08.5 +1.7
BLY Banja Luka 3.58 53 ePn Pn 06 14 08.2 +1.4
BLY eSn **Sn 06 14 49.7 +0.7**
A051A Mrakovica 3.58 48 ePn Pn 06 14 07.2 +0.3
STAL STALIGIAL 3.61 355 P Pn 06 14 07.3 0.0
STAL AML AML
comp=E,364µm,0.3s
STAL AML AML
comp=N,357µm,0.3s
LUSI Trento, Gardas 3.67 335 P Pn 06 14 09.0 +0.9
LUSI AML AML
comp=E,232µm,0.7s
LUSI AML AML
comp=N,454µm,0.3s
CIMO Cimolais 3.69 352 P Pn 06 14 08.4 0.0
CIMO AML AML
comp=N,84µm,1.5s
CIMO AML AML
comp=N,82µm,1.5s
CIMO AML AML
comp=E,95µm,0.7s
CIMO AML AML
comp=E,98µm,0.7s
PTCC Patocco-Chiusa 3.75 2 P Pn 06 14 08.6 -0.5
PTCC AML AML
comp=E,165µm,0.7s
PTCC AML AML
comp=N,144µm,1.6s
GAGG Gaggia 3.77 336 P Pn 06 14 10.6 +1.0
GAGG AML AML
comp=N,226µm,0.8s
GAGG AML AML
comp=E,290µm,0.7s
ZONE Zone 3.80 326 P Pn 06 14 10.9 +1.1
ZONE AML AML
comp=E,284µm,0.7s
ZONE AML AML
comp=N,422µm,1.2s
CLUD Cludinico 3.80 357 P Pn 06 14 10.3 +0.4
CLUD AML AML
comp=N,193µm,0.7s
CLUD AML AML
comp=E,170µm,0.8s
TREB Trebinje 3.82 87 ePn Pn 06 14 10.6 +0.5
TREB Trebinje 3.82 87 ePn Pn 06 14 10.5 +0.5
TREB eSn **Sn 06 14 54.0 -0.9**
MABI Malga Bissina 3.89 332 P Pn 06 14 12.3 +1.0
MABI AML AML
comp=E,134µm,0.6s
MABI AML AML
comp=N,103µm,1.0s
ACOM Acomizza, Ital 3.89 3 P Pn 06 14 11.8 +0.5
ACOM AML AML
comp=N,200µm,0.9s
ACOM AML AML
comp=E,252µm,0.6s
ZOU Zoufplan 3.90 358 P Pn 06 14 11.3 -0.1
ZOU AML AML
comp=E,212µm,1.1s
ZOU AML AML
comp=N,185µm,1.3s
HCY Herceg Novi 3.94 91 ePn Pn 06 14 11.7 0.0
HCY Herceg Novi 3.94 91 ⇑iPn Pn 06 14 12.3 +0.6
HCY iSn **Sn 06 14 58.7 +0.8**
FVI Forni Avoltri 3.94 356 P Pn 06 14 12.6 +0.7
FVI AML AML
comp=E,132µm,0.2s
FVI AML AML
comp=N,168µm,0.5s
BRY Bratogost 3.96 85 ePn Pn 06 14 12.6 +0.4
BRY Bratogost 3.96 85 ⇑iPn Pn 06 14 12.7 +0.5
BRY iSn **Sn 06 15 00.0 +1.4**
OBKA Obir 3.97 14 ePn Pn 06 14 12.4 +0.1
OBKA Obir 3.97 14 ePn Pn 06 14 12.5 +0.2
comp=N,1.2nm,0.2s
MYKA Terra Mystica 3.98 5 ePn Pn 06 14 12.8 +0.4
comp=N,11nm,0.5s,SNR=6.8
KOSI Kohlern 4.01 342 P Pn 06 14 14.4 +1.5
APPI Appiano 4.06 341 P Pn 06 14 14.9 +1.4
APPI AML AML
comp=N,192µm,0.4s
APPI AML AML
comp=E,252µm,1.3s
ABTA Abfaltersbach 4.11 354 ePn Pn 06 14 15.0 +0.7
comp=E,12nm,0.2s,SNR=24
SOKA Soboth 4.23 18 ePn Pn 06 14 17.6 +1.8
comp=E,2.0nm,0.3s
CEME Cevo 4.24 90 ⇑iPn Pn 06 14 16.6 +0.6
CEME iSn **Sn 06 15 06.8 +1.3**
UPM Unac-Piva 4.25 81 ePn Pn 06 14 17.4 +1.3
UPM Unac-Piva 4.25 81 ⇓iPn Pn 06 14 16.7 +0.6
UPM iSn **Sn 06 15 07.0 +1.3**
BUM Brajici-Budva 4.25 93 ⇓iPn Pn 06 14 16.7 +0.6
BUM iSn **Sn 06 15 06.9 +1.3**
NKME Niksic 4.26 87 ⇑iPn Pn 06 14 16.9 +0.7
NKME iSn **Sn 06 15 07.3 +1.4**
BRMO Bormio 4.31 333 P Pn 06 14 18.9 +2.0
BRMO AML AML
comp=E,66µm,1.2s
BRMO AML AML
comp=N,80µm,0.6s
SAOF Saorge 4.31 290 P Pn 06 14 17.6 +0.8
RISI Rein 4.36 350 P Pn 06 14 18.8 +1.2
RISI AML AML
comp=E,436µm,0.5s
RISI AML AML
comp=N,546µm,0.4s
SBF Sospel 4.36 288 eP Pn 06 14 17.9 +0.3
SBF eSn **Sn 06 15 05.0 -3.3**
comp=N,24nm,0.5s
KOGS Kog 4.38 29 P Pn 06 14 19.9 +2.1
KOGS AML AML
comp=E,981µm,1.1s
KOGS AML AML
comp=N,726µm,1.1s
TURF col de Turini 4.42 289 P Pn 06 14 19.2 +0.7
KBA Koelnbreinsper 4.42 2 ePn Pn 06 14 18.7 +0.2
comp=N,8.2nm,0.5s,SNR=14
KBA Koelnbreinsper 4.42 2 ePn Pn 06 14 19.2 +0.7
KBA eSn **Sn 06 15 10.4 +0.4**
ROSI Rosskopf 4.45 344 AML AML
comp=E,279µm,0.8s
ROSI AML AML
comp=N,300µm,0.5s
HAPS Han Pijesak,Bl 4.45 69 ePn Pn 06 14 20.0 +1.2
DRME Dracevica, Mon 4.48 94 ePn Pn 06 14 20.3 +1.2
DRME Dracevica, Mon 4.48 94 ePn Pn 06 14 19.8 +0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DRME				i Sn	Sn	06 15 12.3	+1.1
PDG	Podgorica	4.50	91	⇑P	Pn	06 14 20.2	+0.7
PDG				⇓S	Sn	06 15 10.0	-1.7
PDG	Podgorica	4.50	91	ePn	Pn	06 14 20.3	+0.8
PDG				eSn	Sn	06 15 11.1	-0.6
TTG	Podgorica	4.50	91	⇓iPn	Pn	06 14 20.2	+0.7
TTG				i Sn	Sn	06 15 13.0	+1.3
SPIF	crte de Spivo	4.55	290	P	Pn	06 14 22.8	+2.5
ULC	Ulcinj	4.56	97	⇑iPn	Pn	06 14 20.9	+0.6
ULC				i Sn	Sn	06 15 14.1	+0.9
PLE	Pljevlja	4.61	80	⇓iPn	Pn	06 14 21.8	+0.7
PLE				i Sn	Sn	06 15 15.8	+1.2
RUDO	Rudo	4.64	76	ePn	Pn	06 14 21.4	+0.1
KOME	Kolasin	4.67	86	⇑iPn	Pn	06 14 22.7	+0.7
KOME				i Sn	Sn	06 15 17.3	+1.1
FETA	Feichten	4.69	339	ePn	Pn	06 14 24.0	+1.7
	comp=N,12nm,0.7s,SNR=12						
CALF	Calern	4.70	286	P	Pn	06 14 23.0	+0.7
BBLS	Lazići	4.71	73	ePn	Pn	06 14 20.8	-1.6
WTTA	Wattenberg	4.73	347	ePn	Pn	06 14 24.5	+1.7
	comp=N,3.9nm,0.3s,SNR=7.1						
WTTA	Wattenberg	4.73	347	ePn	Pn	06 14 24.8	+2.0
WTTA				eSn	Sn	06 15 21.1	+3.4
DAVOX	Davos/Dischmat	4.74	331	Pn	Pn	06 14 24.8	+1.9
	comp=N,3.3nm,0.3s,baz=152,slow=17,SNR=23						
DAVOX				Sn	Sn	06 15 19.8	+1.9
	comp=N,3.8nm,0.3s,baz=121,slow=22,SNR=6.9						
	comp=N,8.9nm,0.3s						
SQTA	Sankt Quirin	4.77	344	ePn	Pn	06 14 25.3	+2.1
	comp=N,4.3nm,0.2s,SNR=6.4						
WATA	Walderalm	4.81	347	ePn	Pn	06 14 26.6	+2.8
	comp=N,2.8nm,0.2s,SNR=4.5						
ARSA	Arzberg	4.88	19	ePn	Pn	06 14 24.7	0.0
	comp=N,4.7nm,0.3s,SNR=4.4						
ARSA	Arzberg	4.88	19	ePn	Pn	06 14 24.9	+0.1
ARSA				eSn	Sn	06 15 19.3	-1.9
MOTA	Moosalm	4.91	343	ePn	Pn	06 14 27.1	+1.9
	comp=N,2.4nm,0.3s,SNR=4.2						
LMR	La Mourre	4.93	280	eP	Pn	06 14 25.5	+0.1
IVA	Berane	4.95	85	ePn	Pn	06 14 26.5	+0.7
IVA				i Sn	Sn	06 15 24.1	+1.1
JAUF	Jausiers	4.99	293	P	Pn	06 14 28.8	+2.4
PVY	Plav	5.01	88	⇑iPn	Pn	06 14 27.2	+0.6
PVY				i Sn	Sn	06 15 25.4	+0.9
SJES	Sjenica	5.03	81	ePn	Pn	06 14 28.0	+1.2
BIOA	Bad Ischl, Aus	5.04	4	ePn	Pn	06 14 28.0	+1.1
	comp=N,8.1nm,0.3s						
TRIGF	Trigance	5.06	285	P	Pn	06 14 28.5	+1.2
MBDF	Montbardon	5.08	296	eP	Pn	06 14 28.9	+1.3
MBDF				eSn	Sn	06 15 22.1	-4.1
	comp=N,1.7nm,0.2s						
CREF	Crivoux	5.12	294	P	Pn	06 14 30.6	+2.5
RETA	Reutte	5.12	341	ePn	Pn	06 14 29.7	+1.7
	comp=N,4.5nm,0.4s						
PLONS	Plons/SG	5.15	330	ePn	Pn	06 14 31.8	+3.3
PLONS				eSn	Sn	06 15 30.8	+3.0
TIR	Tirane	5.16	102	⇑P	Pn	06 14 29.5	+1.0
TIR	Tirane	5.16	102	ePn	Pn	06 14 28.9	+0.4
TIR				eSn	Sn	06 15 27.0	-0.9
DIVS	Divibare	5.17	72	ePn	Pn	06 14 26.1	-2.7
DIVS	Divibare	5.17	72	ePn	Pn	06 14 28.9	+0.1
DIVS				eSn	Sn	06 15 27.1	-1.4
DAVA	Damuels	5.18	334	ePn	Pn	06 14 30.8	+1.8
	comp=N,3.6nm,0.3s,SNR=7.0						
DAVA	Damuels	5.18	334	ePn	Pn	06 14 31.4	+2.5
DAVA				eSn	Sn	06 15 32.4	+3.7
IVAS	Ivanjica	5.19	77	ePn	Pn	06 14 29.4	+0.4
IVAS				eSn	Sn	06 15 27.2	-1.7
MOA	Molln	5.25	8	ePn	Pn	06 14 29.7	0.0
MOA				eSn	Sn	06 15 29.3	-0.8
MOA	Molln	5.25	8	ePn	Pn	06 14 29.9	+0.2
	comp=N,3.8nm,0.3s,SNR=5.5						
MOA	Molln	5.25	8	ePn	Pn	06 14 32.0	+2.3
FRGS	Fruska Gora	5.41	60	⇑P	Pn	06 14 32.2	+0.3
FRGS	Fruska Gora	5.41	60	ePn	Pn	06 14 31.6	-0.3
LPG	La Plagne	5.42	304	eP	Pn	06 14 35.3	+2.9
LPG				eSn	Sn	06 15 31.1	-3.8
	comp=N,3.8nm,0.3s						
LPL	La Plagne	5.45	304	eP	Pn	06 14 35.7	+3.0
LPL				eSn	Sn	06 15 31.4	-3.9
	comp=N,6.3nm,0.4s						
UBR	Ueberruh	5.47	338	ePn	Pb	06 14 40.5	-6.4
ARTF	Artigues	5.47	282	P	Pn	06 14 33.9	+1.0
TRUS	Trudelj	5.49	71	ePn	Pn	06 14 33.5	+0.4
RONA	Rosalia, Austr	5.50	23	i Pn	Pn	06 14 33.8	+0.6
	comp=N,8.6nm,0.4s,SNR=5.4						
RSL	Roselend	5.60	305	P	Pn	06 14 37.9	+3.2
CONA	Conrad Observa	5.60	19	i Pn	Pn	06 14 34.7	+0.1
	comp=N,5.4nm,0.4s,SNR=13						
BSTF	la Bastide-des	5.63	285	P	Pn	06 14 36.0	+1.0
WILA	Wila	5.63	329	eSn	Sn	06 15 39.2	-0.5
GRUS	Gruza	5.64	75	ePn	Pn	06 14 35.6	+0.4
SMRF	Simiane la Rot	5.70	286	eP	Pn	06 14 37.5	+1.6
SMRF				eSn	Sn	06 15 36.8	-4.5
	comp=N,2.5nm,0.5s						
ORIF	Oris-en-Rattie	5.74	296	eP	Pn	06 14 40.1	+3.5
ORIF	Oris-en-Rattie	5.74	296	P	Pn	06 14 39.6	+3.0
ORIF	Oris-en-Rattie	5.74	296	S	Sn	06 15 45.7	+3.3
SELS	Selova	5.86	82	ePn	Pn	06 14 38.3	+0.1
SULZ	Cheisacher	6.04	325	eSn	Sn	06 15 49.2	-0.5
BALST	Balsthal	6.08	322	ePn	Pn	06 14 42.3	+1.1
BALST				eSn	Sn	06 15 50.4	-0.3
SLE	Schleitheim	6.08	329	ePn	Pn	06 14 43.2	+2.0
SLE				eSn	Sn	06 15 49.7	-1.0
OGSM	Saint Maurice	6.13	301	P	Pn	06 14 45.2	+3.3
GEC2	GERESS Array S	6.20	3	eSn	Sn	06 15 53.2	-0.5
GERES	GERESS Array B	6.20	3	Pn	Pn	06 14 42.7	-0.1
	comp=N,0.7nm,0.3s,baz=174,slow=13,SNR=9.0						
GERES				Sn	Sn	06 15 53.1	-0.6
	comp=N,3.7nm,0.3s,baz=185,slow=28,SNR=10						
	comp=N,0.9nm,0.3s						
CKRC	Cesky Krumlov	6.21	7	ePN	Pn	06 14 42.4	-0.6
CKRC				eSN	Sn	06 15 51.3	-2.6
BOVS	Bovan	6.32	78	⇑P	Pn	06 14 44.6	+0.1
BOVS				⇑S	Sn	06 15 55.6	-0.9
BARS	Barje	6.37	86	ePn	Pn	06 14 45.5	+0.4
BARS				eSn	Sn	06 15 55.1	-2.7
MODS	Modra-Piesok	6.40	25	ePN	Pn	06 14 47.9	+2.4
MODS				eSN	Sn	06 16 00.9	+2.4
CABF	La Chapelle	6.41	310	eP	Pn	06 14 47.4	+1.6
CABF				eSn	Sn	06 15 55.8	-3.2
	comp=N,6.2nm,0.4s						
KIZ	Kirchzarten	6.46	327	P	Pn	06 14 47.1	+0.7
KHC	Kasperske Hory	6.48	2	ePN	Pn	06 14 46.7	+0.1
KHC				eSN	Sn	06 15 57.4	-3.1
WET	Wettzell	6.49	358	ePn	Pn	06 14 48.0	+1.2
WET				eSn	Sn	06 15 58.1	-2.6
VIVF	Saint-Julien-l	6.53	293	eP	Pn	06 14 49.7	+2.3
VIVF				eSn	Sn	06 15 57.4	-4.5
	comp=N,1.3nm,0.3s						
BFO	Black Forest	6.61	331	eSn	Sn	06 16 01.7	-2.0
MOF	Molkenrain	6.71	323	P	Pn	06 14 50.7	+0.8
BZS	Buzias	6.76	61	⇑P	Pn	06 14 51.8	+1.4
STIP	Stip	6.77	95	i Pn	Pn	06 14 53.6	+3.0
HINF	Hinteralfeld	6.81	321	ePn	Pn	06 14 50.9	-0.4
HINF				eSn	Sn	06 16 04.6	-4.2
	comp=N,4.5nm,0.2s						
LASF	Ste Croix	6.93	285	eP	Pn	06 14 54.0	+1.1
LASF				eSn	Sn	06 16 06.7	-5.0
	comp=N,0.7nm,0.2s						
ZAPS	Zavoj	6.97	82	ePn	Pn	06 14 53.7	+0.3
BLKB	Belogradchik	7.02	79	⇑P	Pn	06 14 54.9	+0.8
BLKB				⇑S	Sn	06 16 12.5	-1.3
HERR	Herculane	7.05	69	⇑P	Pn	06 14 55.4	+0.9
VYHS	Vyhne	7.06	32	ePN	Pn	06 14 56.2	+1.6
VYHS				eSN	Sn	06 16 12.1	-2.6
CDF	Champ du Feu	7.08	326	ePn	Pn	06 14 54.9	-0.1
CDF				eSn	Sn	06 16 10.3	-5.2
	comp=N,5.2nm,0.2s						
HAU	Haudompre	7.19	320	ePn	Pn	06 14 55.9	-0.5
HAU				eSn	Sn	06 16 12.9	-5.0
	comp=N,14nm,0.3s						
VTS	Vitosha	7.42	87	⇑P	Pn	06 15 00.1	+0.4
VTS				⇑S	Sn	06 16 23.5	-0.4
GZR	Gura Zlata	7.44	65	⇑P	Pn	06 15 00.7	+0.7
KEST	Kesra	7.53	204	Pn	Pn	06 15 02.2	+1.1
	comp=N,0.2nm,0.3s,baz=197,slow=8.2,SNR=2.8						
	comp=N,7.4nm,1.0s						
NKC	Novy Kostel	7.59	356	eSN	Sn	06 16 24.4	-3.4
MORC	Moravsky Berou	7.73	22	⇑P	Pn	06 15 06.1	+2.2
SMF	Signal de Mont	7.75	304	eP	Pn	06 15 05.6	+1.5
SMF				eSn	Sn	06 16 26.1	-5.7
	comp=N,3.4nm,0.3s						
PAGF	Fort de Pagny	7.87	321	ePn	Pn	06 15 04.4	-1.3
SFTF	Sexfontaines	7.96	317	eP	Pn	06 15 10.3	+3.3
SFTF				eSn	Sn	06 16 31.5	-5.5
	comp=N,4.1nm,0.3s						
LOR	Lormes	8.05	308	ePn	Pn	06 15 07.2	-1.0
LOR				eSn	Sn	06 16 32.2	-6.9
	comp=N,3.6nm,0.4s						
MOX	Moxa	8.06	353	ePn	Pn	06 15 10.2	+1.9
MTLF	Montolieu	8.06	279	eP	Pn	06 15 10.4	+2.1
AVF	Avril sur Loir	8.12	304	ePn	Pn	06 15 07.9	-1.2
AVF	Avril sur Loir	8.12	304	eP	Pn	06 15 11.6	+2.5
AVF				eSn	Sn	06 16 34.8	-6.0
	comp=N,0.4nm,0.2s						
SSF	Saint Saulge	8.15	306	ePn	Pn	06 15 08.6	-1.0
SSF				eSn	Sn	06 16 35.7	-5.9
	comp=N,0.3nm,0.1s						
SAVF	Savonnieres en	8.20	319	eP	Pn	06 15 13.6	+3.4
SAVF				eSn	Sn	06 16 38.1	-4.6
	comp=N,6.0nm,0.3s						
BRG	Berggiesshubel	8.23	3	eP	Pn	06 15 08.2	-2.5
BRG				Amp		06 15 12.8	
	comp=Z,2.7nm,0.7s						
BRG				ex	x	06 16 37.7	
BRG				ex	x	06 17 49.9	
BRG				Amp		06 17 52.9	
	comp=Z,17nm,1.5s						
BGF	Bois d'Agland	8.33	301	eP	Pn	06 15 14.9	+2.8
BGF				eSn	Sn	06 16 40.6	-5.5
	comp=Z,0.9nm,0.2s						
CAF	Calviac	8.35	290	eP	Pn	06 15 13.6	+1.3
TCF	Toulx Ste Croi	8.63	299	ePn	Pn	06 15 12.0	-4.2
TCF				eSn	Sn	06 16 47.5	-6.0
	comp=Z,0.6nm,0.2s						
CLL	Collm	8.65	359	eSn	Sn	06 16 40.0	-14
CLL				ex	x	06 16 53.0	
CLL				ex	x	06 17 21.0	
CLL				eSg	Sg	06 17 44.0	-4.9
	comp=Z,21nm,1.4s						
HYF	Humbligny	8.77	305	eP	Pn	06 15 22.4	+4.3
RJF	Les Rejaudoux	8.81	291	eP	Pn	06 15 22.1	+3.5
VOIR		8.99	68	⇑P	Pn	06 15 20.9	-0.3
LFF	La Frestale	9.28	288	eP	Pn	06 15 28.1	+3.1
MLR	Muntele Rosu	9.62	69	⇑P	Pn	06 15 29.1	-0.7
MLR	Muntele Rosu	9.62	69	Pn	Pn	06 15 31.7	+1.9
	comp=Z,0.2nm,0.3s,baz=226,slow=5.4,SNR=5.0						
	comp=Z,4.2nm,0.8s						
BAIF	Baives	9.64	323	ePn	Pn	06 15 28.7	-1.3
ESDC	Sonseca Array	13.25	263	Pn	Pn	06 16 19.4	0.0
	comp=Z,0.1nm,0.3s,baz=67,slow=13,SNR=5.7						
	comp=Z,0.7nm,0.6s						
NOA	NORSAR Array B	18.45	357	P	Pn	06 17 28.3	+1.5
	baz=175,slow=11,SNR=3.3						
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	20.34	18	P	Pn	06 17 48.5	-0.9
	comp=Z,1.5nm,0.7s,baz=224,slow=7.8,SNR=1.2						
	comp=Z,1.5nm,0.7s						
KBZ	Khabaz	21.65	77	P	P	06 18 03.8	+2.2
	comp=Z,3.4nm,0.8s,baz=297,slow=5.0,SNR=5.5						
	comp=Z,3.4nm,0.8s						
TORD	Torodi Ar. Bea	31.04	202	P	P	06 19 29.3	0.0
	comp=Z,1.0nm,0.8s,baz=22,slow=9.0,SNR=6.3						
	comp=Z,1.0nm,0.8s						
BVAR	Borovoye Array	38.80	54	P	P	06 20 37.4	+1.5
	comp=Z,2.3nm,0.9s,baz=272,slow=6.8,SNR=6.7						
	comp=Z,2.3nm,0.9s						
MKAR	Makanchi Array	47.84	60	P	P	06 21 49.9	+1.0
	comp=Z,0.9nm,0.7s,baz=292,slow=6.4,SNR=7.4						
	comp=Z,0.9nm,0.7s						
SONM	Songino Array	61.90	50	P	P	06 23 33.3	+2.5
	comp=Z,1.0nm,0.8s,baz=288,slow=9.6,SNR=5.4						
	comp=Z,1.0nm,0.8s						

*ISK **09** 06:17:06.9, 38.99N×27.69E, h4km, ML2.6/6*
*DDA **09** 06:17:07.0±0.0, 39.02N×27.67E, h7km±3km, ML2.0*
ISC 09 06:17:07.1±0.9, 39.01N±0.02×27.68E±0.02, h13km±6km, n20, σ0.51/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKHS	Akhisar	0.17	142	P	Pg	06 17 11.1	0.0
AKHS				i AML	AML	06 17 14.0	
	comp=E,761nm,0.2s						
AKHS				S	Sg	06 17 14.1	+0.3
AKS	Akhisar	0.17	142	PG	Pg	06 17 10.6	-0.5
AKS				SG	Sg	06 17 13.4	-0.4
GOMA	Golmarmara-Man	0.36	149	PG	Pg	06 17 14.1	-0.2
GOMA				SG	Sg	06 17 19.9	+0.8
STEP	BALIKESIR_Sava	0.36	5	P	Pg	06 17 14.4	-0.1
STEP				S	Sg	06 17 20.0	+0.5
STEP				i AML	AML	06 17 20.0	
	comp=E,141nm,0.6s						
ZEDA	zmir-Bergama	0.47	265	P	Pg	06 17 16.2	-0.2
ZEDA				i AML	AML	06 17 23.0	
	comp=E,70nm,0.2s						
ZEDA				S	Sg	06 17 23.3	+0.6
ZEDA				i AML	AML	06 17 24.0	
	comp=N,167nm,0.5s						
BUHA	Balikesir, Bur	0.68	316	P	Pb	06 17 20.6	-0.1
BALY	Balya	0.73	356	P	Pg	06 17 20.1	-1.1
BALY				S	Sg	06 17 30.5	-0.3
BALY				i AML	AML	06 17 32.0	
	comp=E,48nm,0.5s						
BALY				i AML	AML	06 17 34.0	
	comp=N,52nm,0.3s						
DEMI	Demirci	0.81	88	P	Pn	06 17 24.0	-0.2
DEMI				S	Sb	06 17 34.4	+0.6
DEMI				i AML	AML	06 17 37.0	
	comp=N,112nm,0.6s						
DEMI				i AML	AML	06 17 38.0	
	comp=E,99nm,0.3s						
DURS	Dursunbey	0.85	46	P	Pb	06 17 23.9	+0.2
DURS				i AML	AML	06 17 39.0	
	comp=N,129nm,0.2s						
DURS				i AML	AML	06 17 39.0	
	comp=E,114nm,0.7s						
MANT	Manisa	0.86	127	P	Pb	06 17 24.0	0.0
MANT				i AML	AML	06 17 38.0	
	comp=E,94nm,0.5s						
MANT				i AML	AML	06 17 38.0	
	comp=N,109nm,0.7s						
DST	Dursunbey	0.94	51	PG	Pn	06 17 25.8	-0.2
DST				SG	Sn	06 17 39.1	-0.2
GONE	Gonen-Balikesi	1.03	0	PG	Pn	06 17 27.9	+0.7
AYDB	Zeytinkoy-Aydi	1.08	171	PG	Pb	06 17 27.6	0.0
AYDB				SG	Sn	06 17 42.4	-0.4
USAK	Uak-Merkez	1.09	106	P	Pg	06 17 28.2	+0.2
USAK				i AML	AML	06 17 41.0	
	comp=N,35nm,1.5s						
USAK				S	Sn	06 17 42.8	-0.1
USAK				i AML	AML	06 17 55.0	
	comp=E,21nm,0.7s						
BAYC	CANAKKALE_Bayr	1.14	310	P	Pg	06 17 29.2	+0.2
BAYC				S	Sg	06 17 44.0	0.0
BAYC				i AML	AML	06 17 46.0	
	comp=E,79nm,0.4s						
BAYC				i AML	AML	06 17 47.0	
	comp=N,40nm,0.3s						
GEDZ	Gediz	1.35	88	PN	Pg	06 17 33.2	+0.2
AYDN	Tasoluk	1.36	173	P	Pb	06 17 32.1	-0.3
AYDN				S	Sn	06 17 48.3	-1.3
AYDN				i AML	AML	06 17 52.0	
	comp=N,23nm,1.0s						
AYDN				i AML	AML	06 17 54.0	
	comp=E,40nm,0.3s						
GDZ	Gediz	1.40	86	P	Pb	06 17 33.2	+0.1
GDZ				S	Sg	06 17 52.5	+0.1
GDZ				i AML	AML	06 17 54.0	
	comp=E,26nm,0.7s						
GDZ				i AML	AML	06 17 55.0	
	comp=N,24nm,1.0s						
CHOS	Chios island	1.42	244	PN	Pg	06 17 33.9	-0.4
CHOS				SN	Sg	06 17 54.0	+1.2
TVSB	Tavsanli	1.45	72	PN	Pg	06 17 34.7	-0.3

*PRU **09** 06:19:20.8±0.0, 50.06N×18.47E, h0km*
*IPEC **09** 06:19:21.3±0.3, 50.06N×18.46E, h1km, ML1.8/4, Error ellipse: s-maj=1.9km s-min=1.9km az=1.0*
ISC 09 06:19:20.3±1.0, 50.10N±0.04×18.47E±0.03, h0km, n17, σ0.77/27, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.33	219	ePG	Pg	06 19 27.5	+0.9
OKC				eSG	Sg	06 19 31.0	+0.1
	comp=Z,49nm,0.6s						
MORC	Moravsky Berou	0.68	242	ePG	Pg	06 19 34.0	+0.7
MORC				eSG	Sg	06 19 42.3	+0.2
MORC	Moravsky Berou	0.68	242	ePg	Pg	06 19 33.9	+0.7
	baz=65						
MORC				eSg	Sg	06 19 42.2	+0.2
	19nm,0.3s,baz=65						
MAUC	Maruska	0.84	210	ePG	Pb	06 19 37.2	-0.6
MAUC				eSG	Sg	06 19 47.8	+0.5
OJC	Ojcow	0.86	81	ePg	Pg	06 19 36.1	-0.6
OJC				eSg	Sg	06 19 48.2	+0.3
KRLC	Kraliky	1.09	270	ePG	Pg	06 19 40.9	-0.2
KRLC				eSG	Sg	06 19 54.3	-0.9
	comp=Z,15nm,0.3s						
JAVC	Velka Javorina	1.34	203	ePg	Pb	06 19 46.2	-0.1
	baz=23						
DPC	Dobruska-Polom	1.41	281	ePG	Pn	06 19 47.5	+0.3
DPC				eSG	Sg	06 20 05.6	+0.2
	comp=Z,16nm,0.3s						
VRAC	Vranov	1.45	238	ePG	Pn	06 19 47.7	-0.1
VRAC				eSG	Sg	06 20 05.9	-1.0
VRAC	Vranov	1.45	238	ePg	Pn	06 19 47.7	-0.1
	baz=58						
VRAC				eSg	Sg	06 20 05.8	-1.1
	9.6nm,0.2s,baz=58						
OSTC	Ostas	1.52	289	ePG	Pb	06 19 50.0	+0.7
OSTC				eSG	Sg	06 20 09.5	+0.5
	comp=Z,4.4nm,0.3s						
VYHS	Vyhne	1.62	171	eSG	Sg	06 20 12.6	+0.3
VYHS	Vyhne	1.62	171	ePG	Pb	06 19 50.6	-0.4
KRUC	Moravsky	1.70	233	eSG	Sn	06 20 13.7	0.0
KRUC	Moravsky	1.70	233	eSg	Sn	06 20 13.7	0.0
	5.9nm,0.3s,baz=53						
STHS	Stebnicka Huta	1.92	110	ePG	Pg	06 19 57.7	+0.7
KHC	Kasperske Hory	3.33	255	eSG	Sg	06 21 04.5	-2.6

PRU 09 06:29:35.5±0.0, 50.18N×19.22E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.37	84	ePg	Pg	06 29 42.9	+0.2
OJC				eSg	Sg	06 29 48.6	+1.1
MORC	Moravsky Berou	1.16	250	ePG	Pb	06 29 58.6	+0.2
MORC				eSG	Sg	06 30 12.5	-0.1
MAUC	Maruska	1.22	228	ePG	Pg	06 29 58.8	0.0
MAUC				eSG	Sg	06 30 14.6	+0.1
VYHS	Vyhne	1.71	189	ePN	Pn	06 30 06.2	-0.3
VYHS				eSN	Sn	06 30 27.8	-1.2
DPC	Dobruska-Polom	1.87	276	ePG	Pb	06 30 10.3	-0.2
DPC				eSG	Sg	06 30 35.1	-0.4

*IDC **09** 06:29:55.2±1.6, 42.81N×13.04E, h0km, mb3.5/4, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=47.3km s-min=17.0km az=94.0*
*LDG **09** 06:29:55.3±0.1, 42.69N×13.21E, h10km, Ml2.8/17, Error ellipse: s-maj=4.6km s-min=2.7km az=43.0*
*ROM **09** 06:29:55.7±0.0, 42.719N±0.002×13.173E±0.002, h12km, ML3.5/73, Error ellipse: s-maj=0.2km s-min=0.1km az=63.0*
*PRU **09** 06:29:57.5±0.0, 42.70N×13.70E, h10km*
ISC 09 06:29:56.0±0.7, 42.71N±0.01×13.15E±0.02, h15km±3km, n177, σ1.69/225, mb3.6/3, 17C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1213	Norcia, Frazio	0.02	316	⇓P	Pg	06 29 58.2	-0.5
T1213				S	Sg	06 29 59.9	-0.7
T1218	Civita (PG)	0.04	213	⇓P	Pg	06 29 58.6	-0.2
T1218				S	Sg	06 30 00.6	-0.2
T1212	Cascia, Frazio	0.09	300	⇓P	Pg	06 29 59.0	-0.2
T1212				S	Sg	06 30 01.0	-0.3
T1244	Arquata del Tr	0.12	66	⇑P	Pg	06 29 59.1	-0.5
T1244				S	Sg	06 30 01.4	-0.5
LNSS	Leonessa	0.13	217	⇓P	Pb	06 29 59.9	-0.4
LNSS				S	Sb	06 30 02.9	-0.2
T1245	Castelsantange	0.15	11	⇓P	Pg	06 29 59.5	-0.6
T1245				S	Sg	06 30 02.1	-0.6
T1245				AML	AML		
T1245				AML	AML		
	comp=E,89800µm,0.4s						
T1245				AML	AML		
	comp=E,98800µm,0.4s						
T1245				AML	AML		
T1245				AML	AML		
	comp=E,98850µm,0.4s						
SMA1	SAN MARTINO	0.16	119	⇑P	Pg	06 29 59.8	-0.3
SMA1				S	Sg	06 30 02.6	-0.2
SMA1				AML	AML		
SMA1				AML	AML		
	comp=N,77450µm,0.5s						
SMA1				AML	AML		
	comp=N,77500µm,0.5s						
RM33	Pellescritta (	0.20	166	⇓P	Pb	06 30 00.8	-0.7
RM33				S	Sb	06 30 04.6	-0.6
RM33				AML	AML		
	comp=E,53750µm,0.6s						
RM33				AML	AML		
	comp=E,53700µm,0.6s						
RM33				AML	AML		
	comp=N,77500µm,0.2s						
RM33				AML	AML		
	comp=E,53750µm,0.6s						
RM33				AML	AML		
	comp=E,53750µm,0.6s						
RM33				AML	AML		
	comp=E,53800µm,0.6s						
RM33				AML	AML		
	comp=N,77450µm,0.2s						
RM33				AML	AML		
	comp=N,75600µm,0.2s						
T1216	Preci, Frazion	0.21	333	⇓P	Pg	06 30 00.5	-0.3
T1216				S	Sg	06 30 03.9	-0.1
T1216				AML	AML		
	comp=E,42650µm,0.4s						
T1216				AML	AML		
	comp=N,47650µm,0.4s						
T1216				AML	AML		
	comp=E,42600µm,0.4s						
T1216				AML	AML		
	comp=N,47650µm,0.5s						
T1243	Rocca Santa Ma	0.22	93	⇑P	Pg	06 30 00.4	-0.6
T1243				S	Sg	06 30 03.9	-0.5
T1215	Vallo di Nera,	0.23	295	⇑P	Pg	06 30 01.1	0.0
T1215				S	Sg	06 30 05.0	+0.5
T1215				AML	AML		
	comp=E,10260µm,0.5s						
T1215				AML	AML		
	comp=N,12275µm,1.3s						
T1215				AML	AML		
	comp=E,10070µm,0.5s						
T1215				AML	AML		
	comp=N,13225µm,1.3s						
T1215				AML	AML		
	comp=E,10255µm,0.5s						
T1215				AML	AML		
	comp=N,12250µm,1.3s						
T1215				AML	AML		
	comp=E,10075µm,0.5s						
T1215				AML	AML		
	comp=N,13210µm,1.3s						
T1215				AML	AML		
	comp=N,12290µm,1.3s						
T1215				AML	AML		
	comp=N,13200µm,1.3s						
T1215				AML	AML		
	comp=E,10225µm,0.5s						
T1215				AML	AML		
	comp=E,10040µm,0.5s						
MMO1	Montemonaco	0.23	34	⇑P	Pg	06 30 00.6	-0.6
MMO1				S	Sg	06 30 04.2	-0.5
T1241	Roccafluvione,	0.26	54	⇑P	Pg	06 30 01.0	-0.6
T1241				S	Sg	06 30 04.8	-0.5
T1241				AML	AML		
	comp=E,25800µm,1.1s						
T1241				AML	AML		
	comp=N,16650µm,0.3s						
T1241				AML	AML		
	comp=N,16400µm,0.3s						
T1241				AML	AML		
	comp=N,16350µm,0.3s						
T1241				AML	AML		

comp=E,24800µm,1.1s
CAMP Campotosto 0.26 132 ⇑P **Pg 06 30 01.4 -0.3**
CAMP S **Sg 06 30 05.5 +0.1**
CAMP AML AML
comp=E,20600µm,0.5s
CAMP AML AML
comp=N,23150µm,0.3s
FEMA Monte Fema 0.26 344 P **Pg 06 30 01.4 -0.4**
FEMA S **Sg 06 30 05.6 -0.1**
FEMA AML AML
comp=E,27350µm,0.6s
FEMA AML AML
comp=N,26900µm,1.3s
T1246 Crognaleto (TE 0.28 116 ⇑P **Pg 06 30 01.7 -0.4**
T1246 S **Sg 06 30 06.0 -0.2**
T1247 Pizzolo (AQ) 0.29 157 ⇓P **Pb 06 30 02.2 -0.8**
T1247 S **Sb 06 30 07.2 -0.4**
T1247 AML AML
comp=N,43900µm,0.4s
T1247 AML AML
comp=E,30350µm,0.2s
T1256 Bolognola (MC) 0.30 11 P **Pg 06 30 01.9 -0.5**
T1256 S **Sg 06 30 06.5 -0.3**
T1256 AML AML
comp=E,9165µm,0.7s
T1256 AML AML
comp=N,9570µm,0.6s
T1256 AML AML
comp=E,9360µm,0.7s
T1256 AML AML
comp=N,9565µm,0.6s
T1256 AML AML
comp=N,9095µm,0.6s
T1256 AML AML
comp=E,9155µm,0.7s
ARRO Arrone 0.31 246 ⇑P **Pg 06 30 02.8 +0.3**
ARRO S **Sb 06 30 08.1 0.0**
ARRO AML AML
comp=N,12400µm,0.2s
ARRO AML AML
comp=E,12900µm,0.2s
FDMO Fiordimonte 0.33 352 ⇓P **Pg 06 30 02.5 -0.4**
FDMO S **Sg 06 30 07.6 0.0**
FDMO AML AML
comp=N,9370µm,0.3s
FDMO AML AML
comp=E,6890µm,0.9s
FDMO AML AML
comp=N,9365µm,0.3s
CESI CESI - Serrava 0.35 329 ⇑P **Pg 06 30 02.9 -0.2**
CESI S **Sg 06 30 08.4 +0.4**
CESI AML AML
comp=N,17100µm,0.3s
CESI AML AML
comp=E,10510µm,0.3s
TERO Teramo 0.35 104 ⇑P **Pg 06 30 02.5 -0.6**
TERO S **Sg 06 30 07.6 -0.4**
TERO AML AML
comp=E,17550µm,0.3s
TERO AML AML
comp=N,19000µm,1.6s
TERO AML AML
comp=E,18500µm,0.3s
TERO AML AML
comp=N,19750µm,1.6s
T1219 Muccia, Frazio 0.36 343 P **Pg 06 30 03.1 -0.4**
T1219 S **Sg 06 30 08.7 +0.2**
T1219 AML AML
comp=E,8960µm,0.4s
T1219 AML AML
comp=N,8830µm,0.5s
T1219 AML AML
comp=E,8960µm,0.4s
T1219 AML AML
comp=N,8805µm,0.5s
GUMA Gualdo di Mace 0.38 21 ⇑P **Pg 06 30 03.6 -0.2**
GUMA S **Sb 06 30 09.7 -0.6**
GUMA AML AML
comp=E,31050µm,0.3s
GUMA AML AML
comp=E,47300µm,0.3s
GUMA AML AML
comp=N,24400µm,0.4s
GUMA AML AML
comp=N,33900µm,0.4s
CSP1 Cessapalombo 0.39 6 P **Pg 06 30 03.4 -0.5**
CSP1 S **Sg 06 30 09.3 0.0**
CSP1 AML AML
comp=E,7535µm,1.0s
CSP1 AML AML
comp=N,10235µm,0.5s
CSP1 AML AML
comp=N,10215µm,0.5s
CSP1 AML AML
comp=E,7530µm,1.0s
AQU L'Aquila 0.40 152 P **Pg 06 30 04.0 -0.1**
AQU S **Sb 06 30 10.8 0.0**
AQU AML AML
comp=E,12050µm,0.3s
AQU AML AML
comp=E,12000µm,0.3s
AQU AML AML
comp=E,12750µm,0.3s
AQU AML AML
comp=N,14800µm,0.3s
AQU AML AML
comp=N,13800µm,0.3s
GIGS Gran Sasso 0.40 130 ⇑P **Pg 06 30 03.5 -0.6**
GIGS S **Sg 06 30 09.6 -0.1**
GIGS AML AML
comp=E,4135µm,0.6s
GIGS AML AML
comp=N,4720µm,0.3s
T1220 Camerino, Fraz 0.41 354 P **Pg 06 30 03.7 -0.5**
T1220 S **Sg 06 30 10.1 +0.4**
CESX Cesi 0.43 257 ⇑P **Pg 06 30 04.7 +0.1**
CESX S **Sb 06 30 11.7 0.0**
CESX AML AML
comp=N,7505µm,0.3s
CESX AML AML
comp=E,8565µm,1.0s
FIAM Fiamignano 0.44 183 ⇓P **Pg 06 30 04.8 0.0**
FIAM S **Sb 06 30 12.0 0.0**
FIAM AML AML
comp=N,6265µm,0.8s
FIAM AML AML
comp=E,7185µm,0.7s
OFFI Offida 0.46 60 ⇑P **Pb 06 30 05.3 -0.5**
OFFI AML AML
comp=E,17300µm,0.3s
OFFI AML AML
comp=N,35500µm,0.6s
SEF1 Sefro 0.46 342 P **Pg 06 30 04.4 -0.8**
SEF1 AML AML
comp=N,9780µm,0.9s
SEF1 AML AML
comp=E,10400µm,1.2s
SEF1 AML AML
comp=N,9772µm,0.9s
SEF1 AML AML
comp=E,10450µm,1.2s
MDAR Monte D'Aria 0.48 360 P **Pg 06 30 05.2 -0.5**
MDAR S **Sg 06 30 12.5 +0.3**
MDAR AML AML
comp=E,3095µm,0.4s
MDAR AML AML
comp=N,4280µm,0.6s
MNTP Montappone 0.49 29 P **Pg 06 30 05.6 -0.1**
ASSB Assisi San Ben 0.49 313 ⇑P **Pg 06 30 05.5 -0.3**
ASSB S **Sb 06 30 13.3 -0.1**
FIU1 Fiuminata 0.51 342 P **Pg 06 30 05.7 -0.4**
FIU1 S **Sg 06 30 13.5 +0.7**
FIU1 AML AML
comp=E,4185µm,0.3s
FIU1 AML AML
comp=N,4015µm,0.2s
SSM1 San Severino M 0.52 2 P **Pg 06 30 05.8 -0.5**
GAG1 Gagliole 0.53 354 P **Pg 06 30 06.3 -0.3**
GAG1 AML AML
comp=E,9380µm,0.5s
GAG1 AML AML
comp=N,9895µm,0.5s
GAG1 AML AML
comp=N,9900µm,0.4s
GAG1 AML AML
comp=E,9375µm,0.5s
SNTG Esanatoglia 0.57 345 P **Pg 06 30 06.6 -0.6**
SNTG S **Sb 06 30 15.5 -0.2**
SNTG AML AML
comp=E,1875µm,0.7s
SNTG AML AML
comp=N,2235µm,1.0s
SNTG AML AML
comp=E,1870µm,0.7s
SNTG AML AML
comp=N,2200µm,1.0s
SNTG AML AML
comp=E,1985µm,0.6s
TRTR Tortoreto Alta 0.57 80 ⇑P **Pb 06 30 07.7 -0.1**
TRTR AML AML
comp=E,11650µm,0.9s
TRTR AML AML
comp=N,11070µm,0.6s
VCEL Villa Celiera 0.60 121 AML AML
comp=N,10635µm,1.4s
VCEL AML AML
comp=E,9475µm,1.1s
VCEL AML AML
comp=N,10660µm,1.4s
VCEL AML AML
comp=E,9460µm,1.1s
ATCC AVT- Casa Cast 0.61 322 P **Pg 06 30 07.5 -0.4**
ATCC AML AML
comp=E,5670µm,1.1s
ATCC AML AML
comp=N,6565µm,0.4s
ATCC AML AML
comp=N,6560µm,0.4s
EL6 Elcito 0.62 357 P **Pg 06 30 07.5 -0.8**
EL6 S **Sg 06 30 16.6 +0.1**
EL6 AML AML
comp=E,4495µm,0.4s
EL6 AML AML
comp=N,4785µm,0.5s
FOSV Fossato di Vic 0.65 334 P **Pg 06 30 08.2 -0.6**
FOSV S **Sb 06 30 18.0 -0.1**
FOSV AML AML
comp=N,2395µm,0.7s
FOSV AML AML
comp=E,3025µm,0.4s
CADA Capodarco di F 0.66 43 P **Pb 06 30 09.6 +0.3**
SRES S.Oreste - Sor 0.67 225 P **Pg 06 30 08.9 -0.1**
SRES S **Sn 06 30 20.1 -1.1**
SRES AML AML
comp=E,2185µm,0.3s
SRES AML AML
comp=N,3185µm,0.4s
CING Cingoli 0.67 3 P **Pg 06 30 08.4 -0.7**
CING S **Sb 06 30 18.9 +0.4**
CING AML AML
comp=N,2050µm,1.2s
CING AML AML
comp=E,2280µm,0.4s
T0110 Collepietro 0.67 136 P **Pg 06 30 08.3 -0.8**
T0110 AML AML
comp=E,9925µm,0.3s
T0110 AML AML
comp=N,9325µm,0.4s
PTQR Pietraquaria 0.71 165 P **Pg 06 30 09.0 -0.9**
PTQR AML AML
comp=E,1214µm,1.6s
PTQR AML AML
comp=N,1115µm,0.3s
MURB Monte Urbino 0.72 321 P **Pg 06 30 09.4 -0.6**
MURB AML AML
comp=E,10610µm,0.4s
MURB AML AML
comp=N,7645µm,1.6s
MURB AML AML
comp=N,7650µm,1.6s
MURB AML AML
comp=E,11320µm,0.4s
MURB AML AML
comp=N,8490µm,1.0s
MURB AML AML
comp=E,10630µm,0.4s
MTCE Montecelio 0.75 204 P **Pg 06 30 09.9 -0.7**
MTCE AML AML
comp=E,2775µm,0.7s
MTCE AML AML
comp=N,1440µm,0.5s
PP3 Marolino 0.75 27 P **Pb 06 30 10.7 -0.1**
PP3 AML AML
comp=E,18050µm,0.4s
PP3 AML AML
comp=N,6310µm,0.6s
PP3 AML AML
comp=E,18750µm,0.4s
PP3 AML AML
comp=N,4875µm,0.6s
PP3 AML AML
comp=N,6305µm,0.6s
PP3 AML AML
comp=E,18800µm,0.4s
PP3 AML AML
comp=N,4870µm,0.6s
PP3 AML AML
comp=E,18000µm,0.4s
CERT Cerreto 0.77 189 P **Pg 06 30 10.2 -0.8**
CERT AML AML
comp=N,2845µm,1.3s
CERT AML AML
comp=E,4280µm,0.3s
SSFR Montelago di S 0.78 340 P **Pg 06 30 10.7 -0.4**
SSFR AML AML
comp=N,4590µm,0.2s
SSFR AML AML
comp=E,3160µm,0.3s
SSFR AML AML
comp=N,3250µm,0.2s
SSFR AML AML
comp=E,3245µm,0.2s
ATFO Monte Foce - G 0.78 327 P **Pg 06 30 10.8 -0.4**
ATFO AML AML
comp=E,2435µm,0.6s
ATFO AML AML
comp=N,2210µm,0.9s
MGAB Montegabbione 0.79 285 P **Pg 06 30 11.1 -0.3**
MGAB AML AML
comp=N,5655µm,0.4s
MGAB AML AML
comp=E,7105µm,0.6s
ARVD Arcevia 0.80 349 P **Pg 06 30 11.1 -0.6**
ARVD AML AML
comp=E,1760µm,0.5s
ARVD AML AML
comp=N,1057µm,0.8s
ATVO AVT- Monte Val 0.87 321 P **Pb 06 30 11.9 -0.9**
ATVO AML AML
comp=E,1950µm,1.4s
ATVO AML AML
comp=N,1780µm,0.6s
FRON Frontone 0.87 339 P **Pb 06 30 11.9 -0.9**
RCAV Rocca di Cave 0.87 190 P **Pb 06 30 12.1 -0.8**
RCAV AML AML
comp=N,4980µm,0.6s
RCAV AML AML
comp=E,3070µm,1.0s
INTR Introdacqua 0.89 141 AML AML
comp=N,5250µm,0.4s
INTR AML AML
comp=E,3µm,0.9s
INTR AML AML
comp=N,4µm,0.4s
INTR AML AML
comp=E,2825µm,0.9s
ATMI Monte Miggiano 0.90 314 P **Pb 06 30 13.2 -0.1**
ATMI AML AML
comp=E,7025µm,0.4s
ATMI AML AML
comp=N,6770µm,0.8s
AOI Ancona 0.91 21 P **Pb 06 30 12.7 -0.7**
AOI AML AML
comp=E,1575µm,0.4s
AOI AML AML
comp=N,1860µm,1.0s
VVLD Villa Vallelon 0.91 157 P **Pb 06 30 12.6 -1.0**
VVLD AML AML
comp=N,2210µm,0.7s
VVLD AML AML
comp=E,1755µm,0.7s
GUAR Guarcino 0.92 172 P **Pb 06 30 13.2 -0.5**
GUAR AML AML
comp=N,3265µm,0.5s
GUAR AML AML
comp=E,2790µm,0.7s
ATPI Pietralunga - 0.92 324 P **Pb 06 30 12.8 -1.0**
ATPI AML AML
comp=N,1413µm,0.5s
ATPI AML AML
comp=E,1870µm,0.6s
ATPI AML AML
comp=N,1416µm,0.5s
SACS San Casciano d 0.92 279 P **Pb 06 30 13.7 -0.1**
SACS AML AML
comp=E,2135µm,1.3s
SACS AML AML
comp=N,1720µm,1.1s
SACS AML AML
comp=E,2110µm,1.3s
SACS AML AML
comp=N,1725µm,1.6s
COR1 Corinaldo 0.93 353 P **Pb 06 30 12.8 -1.0**
MPAG Monte Paganucc 0.96 343 P **Pb 06 30 13.8 -0.7**
MPAG AML AML
comp=N,1410µm,0.9s
MPAG AML AML
comp=E,1645µm,0.6s
NARO Abbazia di Nar 0.99 335 P **Pb 06 30 14.3 -0.7**
NARO AML AML
comp=E,1022µm,1.1s
NARO AML AML
comp=N,805µm,0.6s
LATE Laterza 1.00 265 P **Pb 06 30 15.0 0.0**
SENI Senigallia 1.00 4 P **Pb 06 30 14.8 -0.3**
CAFR Castel Frentan 1.01 118 P **Pb 06 30 14.7 -0.5**
LPEL Lama dei Pelig 1.01 130 P **Pb 06 30 14.0 -1.3**
SAMA S.Maria delle 1.01 204 P **Pb 06 30 14.9 -0.4**
FSSB Fossombrone 1.02 345 P **Pb 06 30 14.9 -0.5**
FSSB AML AML
comp=N,4290µm,0.5s
FSSB AML AML
comp=E,3140µm,0.4s
BADI Badiali 1.04 321 AML AML
comp=E,82µm,0.4s
BADI AML AML
comp=N,1006µm,0.7s
CAFI Castiglion Fio 1.07 306 P **Pb 06 30 15.9 -0.3**
TOLF Tolfa 1.07 233 P **Pb 06 30 16.1 -0.1**
TOLF AML AML
comp=N,1485µm,0.9s
TOLF AML AML
comp=E,1805µm,0.6s
POFI Posta Fibreno 1.07 157 P **Pb 06 30 15.6 -0.8**
MCIV Monte Civitell 1.09 274 P **Pn 06 30 16.7 -0.1**
MCIV AML AML
comp=E,840µm,0.7s
MCIV AML AML
comp=N,711µm,0.4s
PE3 Peglio 1.10 334 P **Pb 06 30 16.6 -0.1**
LRP Arpino 1.11 163 P **Pb 06 30 16.1 -0.8**
SSP9 Sansepolcro 1.14 320 P **Pg 06 30 18.1 +0.1**
GIUL Giuliano Di Ro 1.15 176 P **Pb 06 30 16.7 -0.9**
GIUL AML AML
comp=N,1290µm,0.7s
GIUL AML AML
comp=E,792µm,0.6s
ARCI Arcidosso 1.24 277 P **Pb 06 30 19.1 0.0**
CERA Filignano 1.28 149 P **Pn 06 30 18.7 -0.8**
CERA AML AML
comp=E,1249µm,1.4s
CERA AML AML
comp=N,1150µm,0.6s
CERA AML AML
comp=E,1275µm,1.4s
CERA AML AML
comp=N,1175µm,0.6s
MIDA Miranda 1.34 142 P **Pn 06 30 19.5 -0.9**
MIDA AML AML
comp=E,926µm,0.5s
MIDA AML AML
comp=N,770µm,1.1s
ASQU Asqua 1.47 318 P **Pb 06 30 22.9 -0.2**
SFI Santa Sofia 1.53 322 P **Pn 06 30 23.4 +0.6**
FROS Frosini 1.55 290 P **Pn 06 30 23.7 +0.6**
BSSO Busso 1.58 137 P **Pg 06 30 25.6 -0.8**
OSSC Osservatorio P 1.61 301 P **Pb 06 30 25.0 -0.5**
RUFI Rufina 1.65 314 P **Pn 06 30 24.7 +0.3**
CASP Castiglione de 1.68 274 P **Pn 06 30 25.2 +0.2**
CASP AML AML
comp=E,132µm,1.6s
CASP AML AML
comp=N,131µm,0.9s
TRIF Trifonti 1.70 285 AML AML
comp=E,326µm,0.6s
TRIF AML AML
comp=N,270µm,0.5s
LMD Lutirano 1.73 323 P **Pn 06 30 26.1 +0.5**
SACR S. Croce Del S 1.75 138 P **Pg 06 30 28.5 -1.1**
MELA Melanico ??? S 1.78 124 P **Pn 06 30 26.4 +0.2**
MELA AML AML
comp=E,1290µm,0.4s
MELA AML AML
comp=N,1270µm,0.5s
MELA AML AML
comp=E,1252µm,0.4s
MELA AML AML
comp=N,1225µm,0.5s
TREM Isole Tremiti 1.84 108 AML AML
comp=E,1018µm,0.5s
TREM AML AML
comp=N,967µm,1.3s
VITU Vitulano (BN) 1.88 144 P **Pb 06 30 30.5 +0.4**
MPPT Montemurlo 1.95 310 P **Pn 06 30 29.9 +1.2**
MPPT AML AML
comp=N,226µm,1.1s
MPPT AML AML
comp=E,294µm,0.9s
SGRT San Giovanni R 2.15 115 P **Pb 06 30 32.9 -1.8**
SGRT AML AML
comp=N,650µm,0.6s
SGRT AML AML
comp=E,534µm,0.7s
POPM Popiglio 2.20 308 P **Pn 06 30 32.8 +0.8**
MSAG Monte S. Angel 2.28 115 P **Pn 06 30 34.6 +1.4**
MSAG AML AML
comp=E,644µm,0.6s
MSAG AML AML
comp=N,1305µm,0.4s
MSAG AML AML
comp=E,656µm,0.6s
MSAG AML AML
comp=N,1265µm,0.3s
EQUI Equi 2.62 305 P **Pn 06 30 38.5 +0.6**
TEOL Teolo 2.86 339 P **Pn 06 30 42.5 +1.5**
PGF Pioggiola 3.07 268 *e*P **Pn 06 30 45.6 +1.6**
CEY Cerknica 3.17 16 *e*Pn **Pn 06 30 46.3 +0.9**
SABO M.te Sabotino 3.29 6 P **Pn 06 30 47.1 +0.1**
SABO AML AML
comp=N,966µm,0.5s
SABO AML AML
comp=E,1267µm,0.6s
SABO AML AML
comp=E,316µm,0.6s
SABO AML AML
comp=N,254µm,0.6s
ROVR Rover Verones 3.30 334 P **Pn 06 30 48.8 +1.6**
CGRP Cima Grappa 3.32 343 P **Pn 06 30 48.9 +1.4**
CGRP AML AML
comp=N,354µm,0.6s
CGRP AML AML
comp=E,267µm,0.5s
MGRS Mrkonjic Grad 3.33 58 *e*Pn **Pn 06 30 49.9 +2.3**
STON Ston 3.35 86 *e*Pn **Pn 06 30 47.3 -0.6**
DOSS Dosso del Somm 3.47 337 P **Pn 06 30 51.5 +1.8**
LJU Ljubljana 3.48 16 AML AML
comp=N,750µm,0.5s
LJU AML AML
comp=E,680µm,1.0s
A051A Mrakovica 3.56 48 *e*Pn **Pn 06 30 51.6 +0.8**
BLY Banja Luka 3.57 54 *e*Pn **Pb 06 30 57.1 -1.7**
LUSI Trento, Gardas 3.62 335 P **Pn 06 30 53.0 +1.4**
CIMO Cimolais 3.64 352 P **Pn 06 30 52.2 +0.3**
CIMO AML AML
comp=N,39µm,0.7s
CIMO AML AML
comp=E,49µm,1.5s
TREB Trebinje 3.83 88 *e*Pn **Pn 06 30 55.2 +0.7**

ACOM	Acomizza, Ital	3.85	4	P	Pn	06 30 55.9	+1.0
ACOM				AML	AML		
	comp=N,136µm,0.5s						
ACOM				AML	AML		
	comp=E,141µm,0.8s						
ZOU	Zoufplan	3.85	358	P	Pn	06 30 55.5	+0.6
ZOU				AML	AML		
	comp=N,89µm,1.4s						
ZOU				AML	AML		
	comp=E,108µm,0.8s						
OBKA	Obir	3.93	14	ePn	Pn	06 30 54.4	-1.5
MYKA	Terra Mystica	3.94	5	ePn	Pn	06 30 56.7	+0.7
	comp=E,3.1nm,0.3s						
HCY	Herceg Novi	3.96	92	ePn	Pn	06 30 56.7	+0.5
KOSI	Kohlern	3.96	342	P	Pn	06 30 58.3	+1.9
BRY	Bratogost	3.97	85	ePn	Pn	06 30 57.6	+1.1
APPI	Appiano	4.01	341	P	Pn	06 30 58.9	+1.9
ABTA	Abfaltersbach	4.07	354	i Pn	Pn	06 30 59.1	+1.3
	comp=E,5.3nm,0.3s,SNR=14						
UPM	Unac-Piva	4.25	81	ePn	Pn	06 31 02.6	+2.1
VSL	Villasalto	4.29	223	P	Pn	06 31 02.9	+2.1
RISI	Rein	4.31	350	P	Pn	06 31 03.0	+1.8
SBF	Sospel	4.33	287	eP	Pn	06 31 02.5	+1.2
KBA	Koelnbreinsper	4.37	2	ePn	Pn	06 31 03.4	+1.3
	comp=E,4.5nm,0.3s						
HAPS	Han Pijesak,Bl	4.45	70	ePn	Pn	06 31 04.4	+1.4
DRME	Dracevica, Mon	4.50	95	ePn	Pn	06 31 05.4	+1.8
FETA	Feichten	4.64	339	ePn	Pn	06 31 08.4	+2.6
	comp=E,2.9nm,0.4s						
WTTA	Wattenberg	4.68	347	ePn	Pn	06 31 08.8	+2.5
	comp=E,1.8nm,0.2s						
WTTA	Wattenberg	4.68	347	P	Pn	06 31 08.9	+2.6
SQTA	Sankt Quirin	4.72	344	i Pn	Pn	06 31 09.9	+3.2
	comp=E,5.0nm,0.3s						
WATA	Walderalm	4.76	347	ePn	Pn	06 31 10.2	+2.8
	comp=E,2.3nm,0.2s						
LMR	La Mourre	4.91	280	eP	Pn	06 31 09.8	+0.6
MBDF	Montbardon	5.04	296	eP	Pn	06 31 13.7	+2.4
MBDF				eSn	Sn	06 32 06.9	-2.4
	comp=E,1.6nm,0.4s						
DAVA	Damuels	5.13	334	i Pn	Pn	06 31 15.8	+3.3
	comp=E,2.0nm,0.4s						
DIVS	Divibare	5.18	72	ePn	Pn	06 31 14.8	+1.8
LPG	La Plagne	5.38	303	eP	Pn	06 31 19.3	+3.2
LPG				eSn	Sn	06 32 13.4	-4.5
	comp=E,1.1nm,0.2s						
LPL	La Plagne	5.41	303	eP	Pn	06 31 19.7	+3.4
LPL				eSn	Sn	06 32 12.9	-5.5
	comp=E,2.3nm,0.3s						
CONA	Conrad Observa	5.56	19	ePn	Pn	06 31 20.9	+2.6
	comp=E,4.6nm,0.4s						
SMRF	Simiane la Rot	5.67	285	eP	Pn	06 31 22.4	+2.7
SMRF				eSn	Sn	06 32 20.6	-3.9
	comp=E,0.4nm,0.3s						
ORIF	Oris-en-Rattie	5.70	295	eP	Pn	06 31 23.8	+3.5
ORIF				eSn	Sn	06 32 21.7	-3.8
	comp=E,1.5nm,0.4s						
GERES	GERESS Array B	6.15	3	Pn	Pn	06 31 26.0	-0.4
	comp=E,0.4nm,0.3s,baz=175,slow=13,SNR=5.5						
GERES				Sn	Sn	06 32 35.8	-0.7
	comp=E,1.6nm,0.3s,baz=177,slow=32,SNR=7.3						
	comp=E,0.5nm,0.3s						
CKRC	Cesky Krumlov	6.17	7	eSN	Sn	06 32 34.9	-1.9
MODS	Modra-Piesok	6.36	26	ePN	Pn	06 31 33.8	+4.5
CABF	La Chapelle	6.37	310	eP	Pn	06 31 32.0	+2.6
KHC	Kasperske Hory	6.43	3	ePN	Pn	06 31 31.6	+1.4
KHC				eSN	Sn	06 32 42.7	-0.6
VIVF	Saint-Julien-l	6.50	292	eP	Pn	06 31 33.6	+2.5
VIVF				eSn	Sn	06 32 40.6	-4.4
	comp=E,0.3nm,0.2s						
HINF	Hinteralfeld	6.77	321	ePn	Pn	06 31 34.5	-0.3
HINF				eSn	Sn	06 32 46.9	-4.7
	comp=E,3.8nm,0.3s						
LASF	Ste Croix	6.91	285	ePn	Pn	06 31 38.4	+1.7
LASF				eSn	Sn	06 32 49.3	-5.7
	comp=E,0.5nm,0.2s						
CDF	Champ du Feu	7.04	326	ePn	Pn	06 31 37.8	-0.7
CDF				eSn	Sn	06 32 53.9	-4.4
	comp=E,1.3nm,0.2s						
HAU	Haudompre	7.14	320	ePn	Pn	06 31 38.9	-1.0
HAU				eSn	Sn	06 32 56.7	-4.1
	comp=E,4.3nm,0.2s						
SMF	Signal de Mont	7.71	304	eP	Pn	06 31 49.8	+2.0
SMF				eSn	Sn	06 33 10.8	-4.0
	comp=E,0.8nm,0.2s						
LOR	Lormes	8.01	308	eP	Pn	06 31 55.3	+3.5
	baz=129						
LOR				eSn	Sn	06 33 17.4	-4.7
	comp=E,0.6nm,0.2s						
AVF	Avril sur Loir	8.08	304	eP	Pn	06 31 56.3	+3.6
AVF				eSn	Sn	06 33 18.3	-5.5
	comp=E,0.2nm,0.1s						
SAVF	Savonnieres en	8.15	319	ePn	Pn	06 31 52.2	-1.5
BGF	Bois d'Agland	8.29	301	eP	Pn	06 31 57.8	+2.1
BGF				eSn	Sn	06 33 23.7	-5.4
	comp=E,1.2nm,0.2s						
CAF	Calviac	8.32	289	ePn	Pn	06 31 55.0	-1.1
CLL	Collm	8.60	359	ex	x	06 33 42.0	
CLL				eSg	Sg	06 34 29.0	-2.8
CLL				ex	x	06 34 37.0	
RJF	Les Rejaudoux	8.78	291	ePn	Pn	06 32 01.1	-1.2
GIVF	Givet	9.36	325	ePn	Pn	06 32 09.2	-1.1
EPF	Esparros	9.41	276	ePn	Pn	06 32 08.6	-2.5
EPF	Esparros	9.41	276	eP	Pn	06 32 15.1	+4.0
ETSF	Etsaut	10.08	276	eP	Pn	06 32 21.3	+1.0
FINES	FINESS Array B	20.30	18	P	P	06 34 31.8	+0.7
	comp=E,2.9nm,1.0s,baz=198,slow=12,SNR=1.0						
	comp=E,2.9nm,1.0s						
TORD	Torodi Ar. Bea	31.08	202	P	P	06 36 15.1	+1.4
	comp=E,0.3nm,0.6s,baz=23,slow=7.8,SNR=2.6						
	comp=E,0.3nm,0.6s						
MKAR	Makanchi Array	47.83	60	P	P	06 38 34.6	+1.7
	comp=E,0.5nm,0.8s,baz=273,slow=11,SNR=3.2						
	comp=E,0.5nm,0.8s						
SONM	Songino Array	61.88	50	P	P	06 40 17.2	+2.4
	comp=E,0.6nm,0.7s,baz=297,slow=6.3,SNR=4.3						
	comp=E,0.6nm,0.7s						

*OSPL **09** 06:42:00.1±3.1, 17°.94N×71°.98W, h20km±11km, ML2.1*
*SSNC **09** 06:42:00.8±3.1, 17°.86N×71°.98W, h120km±621km, MD3.8, ML2.1*
ISC 09 06:42:00.8±1.0**, 18°.15N**±0°.08×**71°.92W**±0°.05**, h10**km**, n6,** σ**1s.71**/12**, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOPE2	Hotel El Peder	0.20	124	i P	Pg	06 42 05.8	+0.8
LOPE2				eS	Sg	06 42 09.5	+1.5
LOPE2				IAML		06 42 10.4	
	comp=Z,530nm,0.5s						
PAPH	Port-au-Prince	0.52	316	i P	Pg	06 42 11.7	+0.8
PAPH				eS	Sg	06 42 20.1	+2.5
PAPH				IAML		06 42 21.4	
	comp=Z,146nm,0.2s						
LGNH	Logne	0.74	299	i P	Pg	06 42 15.8	+0.6
LGNH				eS	Sg	06 42 26.9	+2.1
LGNH				IAML		06 42 30.9	
	comp=Z,23nm,0.2s						
SDDR	Presa de Saban	1.03	36	i P	Pn	06 42 19.8	-1.5
SDDR				eS	Sb	06 42 35.0	+0.7
GTBY	Guantanamo Bay	3.50	301	eP	Pb	06 43 02.5	-0.3
GTBY				eS	Sb	06 43 44.8	-0.6
RCC	Rio Carpintero	4.01	298	eP	Pn	06 43 02.0	-0.3
RCC				eS	Sn	06 43 46.5	-2.9
RCC				IAML		06 43 59.2	
	comp=N,1.1nm,0.4s						

*JMA **09** 07:11:32.1±0.6, 46°N±4°×15°2E±°, h30km, MV4.5/11, KURILE ISLANDS REGION*
*IDC **09** 07:11:38.9±9.2, 45°.83N×151°.78E, h49km±63km, mb3.6/9, mbtmp3.8/10, ML2.4/1, MS3.4/2, Error ellipse: s-maj=96.5km s-min=29.5km az=5.0*
ISC 09 07:11:33.3±1.6**, 45°.0N**±0°.2×**152°.0E**±0°.2**, h35**km**, n26,** σ**1s.82**/18**, mb3.9**/9**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	4.81	252	eP	Pn	07 12 44.3	+1.1
NEM2				eS	Sn	07 13 37.8	+0.2
JNK	Nakash	5.44	258	eP	Pn	07 12 54.1	+2.3
JAK	Akkeshi	5.66	252	eS	Sn	07 13 58.6	0.0
JTKR	Abashiri--Toko	5.91	263	eP	Pn	07 13 00.9	+2.7
JCH	Churui	6.71	252	eP	Pn	07 13 10.7	+1.4
JCH				eS	Sn	07 14 23.9	-0.6
JKK2	Kamakawa 2	6.74	264	eP	Pn	07 13 12.9	+3.1
JNBK	Urakawa-nobuka	7.26	251	eP	Pn	07 13 17.9	+1.0
PETK	Petropavlovsk-	8.92	23	P	Pn	07 13 35.7	-3.9
	0.2nm,0.3s,baz=187,slow=10,SNR=1.5						
	1.3nm,0.6s						
JANG	Nango	9.02	243	eS	Sn	07 15 17.9	-3.4
KLR	Kul'dur	14.44	294	LR	LR	07 20 46.5	
	comp=Z,80nm,19.6s,slow=39						
H11N2	WAKE ISLAND Hy	28.06	149	T	T	07 48 06.3	
	baz=336						
H11N1	WAKE ISLAND Hy	28.07	149	T	T	07 48 07.1	
	baz=336,slow=74,SNR=13						
H11N3	WAKE ISLAND Hy	28.07	149	T	T	07 48 02.8	
	baz=336,slow=74,SNR=11						
H11S1	WAKE ISLAND Hy	29.11	150	T	T	07 49 31.1	
	baz=338,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	29.12	150	T	T	07 49 24.1	
	baz=338,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	29.13	150	T	T	07 49 25.1	
	baz=338,slow=76,SNR=12						
MKAR	Makanchi Array	47.09	298	P	P	07 20 01.3	-0.3
	0.2nm,0.3s,baz=60,slow=5.3,SNR=4.9						
	0.2nm,0.3s						
ARCES	ARCESS Array B	59.26	341	P	P	07 21 29.0	-1.7
	5.0nm,1.0s,baz=36,slow=6.3,SNR=5.6						
	5.0nm,1.0s						
FINES	FINESS Array B	65.30	335	P	P	07 22 09.4	-1.8
	1.4nm,0.4s,baz=39,slow=8.2,SNR=16						
	1.4nm,0.4s						
PDAR	Pinedale Array	66.40	53	P	P	07 22 21.1	+2.2
	0.1nm,0.5s,baz=318,slow=1.2,SNR=1.5						
	0.1nm,0.5s						
NOA	NORSAR Array B	69.64	341	P	P	07 22 37.3	-1.3
	0.3nm,0.4s,baz=29,slow=6.6,SNR=2.9						
	0.3nm,0.4s						
KBZ	Khabaz	71.53	314	P	P	07 22 50.5	+0.1
	1.5nm,0.4s,baz=29,slow=1.6,SNR=4.4						
	1.5nm,0.4s						
AKASG	Malin Array Be	72.58	326	P	P	07 22 56.0	-0.6
	1.0nm,0.5s,baz=35,slow=5.7,SNR=4.1						
	1.0nm,0.5s						
WSAR	Wadi Sarin	76.25	289	LR	LR	08 01 06.3	
	comp=Z,40nm,18.1s,baz=124,slow=39						
TXAR	Lajitas Array	79.02	60	P	P	07 23 35.8	+2.0
	0.2nm,0.5s,baz=305,slow=3.2,SNR=1.9						
	0.2nm,0.5s						
GERES	GERESS Array B	79.69	333	P	P	07 23 37.3	+0.1
	0.3nm,0.2s,baz=30,slow=13,SNR=3.4						
	0.3nm,0.2s						

*INET **09** 07:30:29.3±0.3, 12°.59N×89°.06W, h15km, MW3.5*
*SNET **09** 07:30:35.3±1.1, 12°.78N×88°.71W, h54km±20km, ML2.8*
ISC 09 07:30:30.6±2.3**, 12°.6N**±0°.1×**88°.80W**±0°.05**, h6**km±13km**, n12,** σ**0s.60**/21**, 1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.72	18⇓	iP	Pn	07 30 47.4	+0.1
ALJI				IAML		07 30 56.8	
	comp=Z,316nm,0.1s						
ALJI				eS	Sn	07 30 57.4	-1.2
COEB	Comit de Eme	0.89	17	eP	Pn	07 30 49.8	0.0
COEB				eS	Sb	07 31 01.1	+0.3
COEB				IAML		07 31 05.1	
	comp=Z,304nm,0.3s						
COEG	Centro de Oper	0.97	356	eP	Pn	07 30 51.1	+0.2
COEG				eS	Sb	07 31 03.8	+0.7
COEG				IAML		07 31 08.5	
	comp=Z,286nm,0.3s						
SJTE	Alcalda de S	0.99	348	eP	Pn	07 30 51.2	+0.2
SJTE				eS	Sb	07 31 03.6	+0.1
PQSS	Presa 15 de Se	1.00	14	eP	Pn	07 30 51.6	+0.4
PQSS				eS	Sb	07 31 04.4	+0.5
SCLA	Alcaldia de Sa	1.05	4	eP	Pn	07 30 52.6	+0.6
SCLA				eS	Sb	07 31 05.6	+0.2
PAVA	Las Pavas	1.07	353	eP	Pn	07 30 52.9	+0.6
PAVA				eS	Sn	07 31 06.7	-0.8
PAVA				IAML		07 31 10.8	
	comp=Z,230nm,0.3s						
LCND	La Caada	1.11	53	eP	Pg	07 30 52.2	+0.3
LCND				eS	Sg	07 31 06.0	-0.4
LCND				IAML		07 31 07.0	
	comp=Z,327nm,0.3s						
UEES	Universidad Ev	1.15	338	eS	Sn	07 31 08.7	-0.7
UEES				IAML		07 31 11.4	
	comp=Z,148nm,0.1s						
CEVE	Cerro Verde	1.42	326	eS	Sn	07 31 17.5	+1.1
CEVE				IAML		07 31 24.4	
	comp=Z,372nm,0.2s						
NUBE	Las Nubes	1.57	323	eP	Pg	07 31 00.5	-0.3
NUBE				eS	Sb	07 31 19.9	-0.5
NUBE				IAML		07 31 21.7	
	comp=Z,79nm,0.2s						
CRIN	San Cristobal	1.71	88	eP	Pn	07 31 01.1	0.0

IDC 09 08:07:05.7±2.9**, 54°.05N**×**86°.56E, h0**km**, mbtmp3.0**/2**, ML2.6**/2**, Error ellipse: s-maj=23.4km s-min=13.7km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	265	I	I	08 14 44.1	
	baz=84,slow=334,SNR=5.6						
ZALV	Zalesovo Beam	1.03	265	Pg	Pg	08 07 23.9	-1.5
	0.6nm,0.3s,baz=82,slow=16,SNR=4.8						
ZALV				Lg	Lg	08 07 40.1	
	1.5nm,0.3s,baz=88,slow=27,SNR=7.1						
ZALV				Rg	Rg	08 07 44.8	
	17nm,1.1s,baz=78,slow=29,SNR=13						
KURBB	Kurchatov Arra	6.00	238	Pn	Pn	08 08 36.6	+1.0
	0.1nm,0.3s,baz=56,slow=14,SNR=4.4						
	2.0nm,0.6s						
MKAR	Makanchi Array	7.76	202	Pn	Pn	08 09 00.9	+1.1
	0.1nm,0.3s,baz=23,slow=11,SNR=4.8						
MKAR				Lg	Lg	08 11 14.3	
	baz=24,slow=32,SNR=3.8						
	0.3nm,0.4s						

*BJI **09** 08:15:27.9±0.0, 14°.62S×167°.03E, h100km, mb4.9/54, mB5.1/27*
*IDC **09** 08:15:28.0±0.5, 14°.78S×167°.07E, h87km±4km, mb4.7/30, mbtmp5.0/32, MS4.1/47, Error ellipse: s-maj=11.3km s-min=10.1km az=86.0*
*NOU **09** 08:15:28.7, 14°.80S×167°.12E, h90km, mb5.4/80, Vanuatu Islands*
*GCMT **09** 08:15:30.4±0.1, 14°.82S±0°.01×166°.89E±0°.01, h95km±1km, MW5.4/134, Moment Tensor Solution. s115,c185; s134,c226; Duration: 1s.2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.12±.02; $M_{\theta\theta}$1.18±.02; $M_{\phi\phi}$-1.05±.02; $M_{r\theta}$-0.77±.01; $M_{\theta\phi}$0.48±.02; $M_{\phi r}$-0.41±.01; Best double couple: $M_0$1.45000×10^{17} NP1:ϕ_s214.00000°, δ84.00000°, λ149.00000°. NP2:ϕ_s307.00000°, δ60.00000°, λ7.00000°. Principal axes: T 1.6760, Plg25.0000°, Azm166.0000°; N -0.4440, Plg59.0000°, Azm24.0000°; P -1.2230, Plg17.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 08:15:30.4±2.3, 14°.93S±0°.06×167°.05E±0°.08, h105km±4km, mb5.0/114 Error ellipse: s-maj=12.0km s-min=8.0km az=84.0*
*MOS **09** 08:15:30.7±1.0, 14°.80S×166°.96E, h125km, mb5.1/24, Error ellipse: s-maj=9.4km s-min=7.8km az=30.5*
ISC 09 08:15:28.9±0.3**, 14°.85S**±0°.04×**167°.04E**±0°.04**, h97**km±2km**, h97**km**:pP-P, n414,** σ**1s.32**/384**, mb5.1**/148**, 8C-17D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	3.07	159	P	Pn	08 16 15.2	-0.3
RTV	Rentapao	3.22	156	P	Pn	08 16 17.1	-0.4
LIFNC	LIFOU	5.90	178		Pn	08 16 51.9	-1.9
LIFNC	LIFOU	5.90	178	P	Pn	08 16 52.5	-1.4
KOUNC	Koumac, New Ca	6.25	204	Pn	Pn	08 16 59.8	+1.2
KOUNC	Koumac, New Ca	6.25	204	P	Pn	08 16 59.4	+0.8
MARNC	Mare, Loyalty	6.67	172	Pn	Pn	08 17 02.4	-1.8
MARNC	Mare, Loyalty	6.67	172	P	Pn	08 17 02.6	-1.7
YATNC	Mamie plateau,	7.18	181	P	Pn	08 17 09.8	-1.4
DZM	Mont Dzumac	7.21	184	ePn	Pn	08 17 11.6	-0.2
	2µm,0.8s						
DZM				eSn	Sn	08 18 31.7	-0.5
	2µm,0.7s						
DZM				eLR	LR	08 18 49.6	
	comp=Z,8µm,27.1s						
DZM	Mont Dzumac	7.21	184	P	Pn	08 17 12.2	+0.5
	1µm,0.5s,baz=20,slow=14,SNR=1918						
DZM				S	Sn	08 18 32.3	+0.1
	351nm,0.4s,baz=166,slow=23,SNR=8.5						
DZM				LR	LR	08 19 57.7	
	comp=Z,6µm,18.7s,baz=14,slow=37						
DZM	Mont Dzumac	7.21	184	Pn	Pn	08 17 11.6	-0.2
DZM	Mont Dzumac	7.21	184	P	Pn	08 17 11.7	-0.1
NOUC	Port Laguerre	7.25	185	P	Pn	08 17 12.8	+0.6
ONTNC	Ouen Toro	7.44	184	Pn	Pn	08 17 15.3	+0.4
ONTNC	Ouen Toro	7.44	184	P	Pn	08 17 15.4	+0.6
OUENC	Ouen Island, N	7.54	181	Pn	Pn	08 17 16.6	+0.5
OUENC	Ouen Island, N	7.54	181	P	Pn	08 17 16.8	+0.7
HNR	Honiara	8.78	307	P	Pn	08 17 33.3	+0.3
	5µm,0.3s,baz=244,slow=8.7,SNR=18						
HNR				S	Sn	08 19 08.5	-1.8
	13µm,0.5s,baz=142,slow=19,SNR=7.0						
HNR				LR	LR	08 20 53.0	
	comp=Z,16µm,21.7s,baz=138,slow=37						
HNR	Honiara	8.78	307		Pn	08 17 34.4	+1.3
HNR	Honiara	8.78	307	P	Pn	08 17 34.1	+1.0
HNR	Honiara	8.78	307	P	Pn	08 17 34.4	+1.3
MSVF	Nonsavu	10.95	107	P	Pn	08 18 03.6	+0.9
	19nm,1.0s,baz=283,slow=11,SNR=5.0						
MSVF				LR	LR	08 20 54.2	
	comp=Z,620nm,19.2s,baz=287,slow=30						
MSVF	Nonsavu	10.95	107	Pn	Pn	08 18 07.1	+4.4
MSVF	Nonsavu	10.95	107	P	Pn	08 18 07.1	+4.4
FUNA	Funafuti	13.45	64	Pn	Pn	08 18 36.6	+0.6
FUNA	Funafuti	13.45	64	P	Pn	08 18 36.6	+0.6
NFK	Norfolk Island	14.15	177	P	P	08 18 47.6	-2.0
	baz=14,SNR=19						
NFK	Norfolk Island	14.15	177	P	P	08 18 48.0	-1.5
TARA	Tarawa	17.11	20	P	P	08 19 23.6	+1.2
RK1H	Rockhampton Ha	17.79	239	P	Pn	08 19 32.3	+2.0
KRVT	Keravat (AS076	18.12	304	P	Pn	08 19 34.7	+0.3
	63nm,0.8s,baz=82,slow=9.8,SNR=5.0						
LHI	Lord Howe Isla	18.14	202	P	Pn	08 19 35.0	+0.6
	baz=18						
EIDS	Eidsvold	18.27	233	P	Pn	08 19 36.4	+0.4
	baz=18,SNR=10						
EIDS	Eidsvold	18.27	233		Pn	08 19 37.3	+1.2
EIDS	Eidsvold	18.27	233	P	Pn	08 19 38.4	+2.3
TV1H	Townsville Har	19.85	254	P	Pn	08 19 55.1	+0.3
PMG	Port Moresby	20.17	283	P	Pn	08 19 57.6	-1.0
	208nm,1.0s,baz=92,slow=6.4,SNR=79						
	208nm,1.0s						
PMG	Port Moresby	20.17	283	P	P	08 19 57.2	+1.3
PMG	Port Moresby	20.17	283	P	Pn	08 19 57.4	-1.2
	2µm4µm340nm,1.3s						
PMG	Port Moresby	20.17	283d	iP	Pn	08 19 57.5	-1.1
PMG				pmax	pmax		
	comp=Z,452nm,1.2s						
CTA	Charters Tower	20.50	252	P	Pn	08 20 01.2	-1.2
	comp=Z,60nm,0.5s,baz=75,slow=11,SNR=74						
CTA				LR	LR	08 26 30.9	
	comp=Z,512nm,21.7s,baz=72,slow=32						
	comp=Z,60nm,0.5s						
CTA	Charters Tower	20.50	252	P	Pn	08 20 01.6	-0.8
	comp=Z,166nm,1.3s						
CTAO	Charters Tower	20.50	252	P	P	08 20 00.5	+1.1
CTAO	Charters Tower	20.50	252	P	Pn	08 20 01.5	-0.9
	comp=Z,143nm,1.3s						
CTAO	Charters Tower	20.50	252	P	P	08 20 00.5	+1.1
AFI	Afiamalu	20.54	90	P	P	08 20 01.3	+1.4
	comp=Z,16nm,0.6s,baz=234,slow=3.7,SNR=5.9						
	comp=Z,16nm,0.6s						
RMQ	Roma	20.63	233	P	P	08 20 02.1	+1.4
	baz=21,SNR=70						
RMQ	Roma	20.63	233	P	Pn	08 20 03.4	-0.5
ARMA	Armidale	21.00	220	P	P	08 20 06.4	+1.7
	baz=21,SNR=11						
ARMA	Armidale	21.00	220	P	P	08 20 05.0	+0.2
ARMA	Armidale	21.00	220	P	P	08 20 07.1	+2.3
OUZ	Omahuta	21.13	165	P	P	08 20 05.5	-0.4
OUZ	Omahuta	21.13	165	P	P	08 20 07.9	+2.0
NIUE	Niue	22.42	104	P	P	08 20 20.1	+0.3
	baz=22,SNR=4.0						
NIUE	Niue	22.42	104	P	P	08 20 18.7	-1.2
NIUE	Niue	22.42	104	P	P	08 20 20.1	+0.3
COEN	Coen	23.13	269	P	P	08 20 27.7	+0.7
	baz=23,SNR=52						
COEN	Coen	23.13	269	P	P	08 20 27.3	+0.2
COEN	Coen	23.13	269	P	P	08 20 28.0	+1.0
KUZ	Kuaotunu	23.14	162	P	P	08 20 27.7	+0.8
PATS	Pohnpei	23.22	338	P	P	08 20 28.2	+0.4
MANU	Manus Island	23.22	301	P	P	08 20 28.0	+0.2
RIV	Riverview	23.75	214	P	P	08 20 34.8	+2.4
	baz=24,SNR=4.6						
RIV	Riverview	23.75	214	P	P	08 20 35.4	+3.0
	comp=Z,160nm,0.7s						
QLP	Quilpie	24.28	238	P	P	08 20 38.9	+1.6
	baz=24,SNR=10						
QLP	Quilpie	24.28	238	P	P	08 20 38.5	+1.2
HIZ	Hauiti	24.57	165	P	P	08 20 40.0	+0.3
HIZ	Hauiti	24.57	165	P	P	08 20 41.6	+1.9
MXZ	Matakaoa Point	24.74	158	P	P	08 20 41.1	-0.3
MXZ	Matakaoa Point	24.74	158	P	P	08 20 41.9	+0.6
KHEZ	Kahui Hut	25.12	167	P	P	08 20 45.7	+0.8
BKZ	Black Stump Fm	25.61	163	P	P	08 20 49.7	+0.3
BKZ	Black Stump Fm	25.61	163	P	P	08 20 49.4	+0.1
CMSA	Cobar Meteorol	25.64	226	P	P	08 20 50.4	+0.8
	baz=26,SNR=27						
CMSA	Cobar Meteorol	25.64	226	P	P	08 20 50.4	+0.8
CNB	Canberra Magne	25.84	215	P	P	08 20 53.6	+2.2
	baz=26,SNR=15						
CNB	Canberra Magne	25.84	215	P	P	08 20 53.8	+2.3
QRZ	Quartz Range	26.32	171	P	P	08 20 57.0	+1.3
QIS	Mount Isa	26.73	254	P	P	08 20 59.9	+0.3
	baz=27,SNR=73						
QIS	Mount Isa	26.73	254	P	P	08 20 59.9	+0.3
BFZ	Birch Farm	26.96	164	IAmb	IAmb	08 21 02.8	
	comp=Z,43nm,0.8s						
BFZ	Birch Farm	26.96	164	P	P	08 20 59.9	-1.5
SNZO	South Karori	27.20	167	P	P	08 21 04.5	+1.0
THZ	Tophouse	27.30	170	P	P	08 21 04.6	+0.1
THZ				IAmb	IAmb	08 21 05.9	
	comp=Z,40nm,0.7s						
PLWZ	Palliser	27.56	167	P	P	08 21 06.6	-0.2
INKA	Innaminka	27.59	238	P	P	08 21 08.6	+1.5
KHZ	Kahutara	28.04	170	P	P	08 21 10.6	-0.4
STKA	Stephens Creek	28.75	229	P	P	08 21 18.6	+1.1
	comp=Z,36nm,0.8s,baz=47,slow=8.6,SNR=75						
STKA				ScP	ScP	08 28 00.8	+2.5
	comp=Z,22nm,1.0s,baz=54,slow=2.8,SNR=17						
STKA				LR	LR	08 32 06.8	
	comp=Z,448nm,18.3s,baz=56,slow=35						
	comp=Z,36nm,0.8s						
STKA	Stephens Creek	28.75	229	P	P	08 21 18.9	+1.4
	baz=29,SNR=64						
STKA	Stephens Creek	28.75	229	P	P	08 21 18.4	+0.9
STKA	Stephens Creek	28.75	229	P	P	08 21 18.9	+1.4
RPZ	Rata Peaks	28.98	174	P	P	08 21 19.4	+0.1
	comp=Z,46nm,0.5s,baz=321,slow=2.6,SNR=49						
RPZ				LR	LR	08 32 36.4	
	comp=Z,959nm,18.5s,baz=351,slow=35						
	comp=Z,46nm,0.5s						
RPZ	Rata Peaks	28.98	174	P	P	08 21 19.8	+0.5
JCZ	Jackson Bay	29.17	177	P	P	08 21 22.6	+1.5
TOO	Toolangi	29.63	216	P	P	08 21 26.9	+1.7
	baz=30,SNR=11						
TOO	Toolangi	29.63	216	P	P	08 21 25.9	+0.7
TOO				IAmb	IAmb	08 21 28.2	
	comp=Z,21nm,0.9s						
TOO	Toolangi	29.63	216	P	P	08 21 25.9	+0.7
TOO				pmax	pmax		
	comp=Z,21nm,1.0s						
ODZ	Otahua Downs	30.26	175	P	P	08 21 30.4	-0.2
LCRK	Leigh Creek	30.68	235	P	P	08 21 35.7	+1.1
GLAD	Gladstone	30.86	209	P	P	08 21 37.0	+1.0
ARPS	Mount Arapiles	31.32	221	P	P	08 21 40.8	+0.7
HTT	Hallett	31.48	229	P	P	08 21 42.9	+1.3
	baz=32,SNR=21						
HTT	Hallett	31.48	229	P	P	08 21 42.9	+1.3
WB0	Warramunga Arr	31.52	256	P	P	08 21 40.9	-1.2
WB2	Warramunga Arr	31.57	256	P	P	08 21 41.4	-1.2
WRAB	Tennant Creek	31.57	256	P	P	08 21 41.5	-1.0
WRAB	Tennant Creek	31.57	256	P	P	08 21 41.7	-0.9
WRAB	Tennant Creek	31.57	256d	iP	P	08 21 41.4	-1.2
WRAB				pmax	pmax		

comp=Z,133nm,1.7s
WRA Warramunga Arr 31.59 256 P **P** **08 21 41.8 -0.9**
comp=Z,62nm,1.0s,baz=86,slow=8.5,SNR=235
WRA ScP **ScP** **08 28 09.8 +2.1**
comp=Z,7.6nm,1.1s,baz=79,slow=3.3,SNR=15
WRA LR LR 08 33 28.0
comp=Z,314nm,19.9s,baz=78,slow=34
comp=Z,62nm,1.0s
SYZ Scrubby Hill 31.64 177 P **P** **08 21 43.6 +0.8**
OOD Oodnadatta 31.82 241 P **P** **08 21 45.6 +1.0**
RAR Rarotonga 32.14 106 LR LR 08 32 39.8
comp=Z,198nm,21.3s,baz=278,slow=32
AS01 Alice Springs 32.38 249 P **P** **08 21 49.2 -0.5**
MOO Moorlands 32.39 208 P **P** **08 21 51.0 +1.7**
baz=32,SNR=4.7
MOO Moorlands 32.39 208 P **P** **08 21 50.9 +1.5**
AS31 Alice Springs 32.43 249 IAmb IAmb 08 21 51.1
comp=Z,32nm,1.2s
ASAR Alice Springs 32.43 249 P **P** **08 21 49.5 -0.5**
comp=Z,73nm,1.0s,baz=78,slow=9.2,SNR=302
ASAR ScP **ScP** **08 28 12.8 +2.2**
comp=Z,11nm,1.1s,baz=80,slow=3.2,SNR=20
ASAR LR LR 08 34 51.1
comp=Z,574nm,18.5s,baz=81,slow=36
comp=Z,73nm,1.0s
ASAR Alice Springs 32.43 249 P **P** **08 21 49.1 -0.9**
TAU Tasmania Unive 32.70 207 P **P** **08 21 53.0 +0.9**
BBOO Buckleboo 33.34 232 P **P** **08 21 59.2 +1.4**
baz=33,SNR=20
BBOO Buckleboo 33.34 232 P **P** **08 21 58.3 +0.5**
BBOO Buckleboo 33.34 232 P **P** **08 21 59.0 +1.2**
KDU Kakadu 33.63 269 P **P** **08 22 00.2 -0.2**
baz=34,SNR=18
KDU Kakadu 33.63 269 P **P** **08 22 00.3 -0.2**
MULG Mulgathing 33.96 237 P **P** **08 22 03.8 +0.5**
MTN Manton Dam 34.90 269 IAmb IAmb 08 22 12.6
comp=Z,41nm,1.0s
RKPI Ransiki, Papua 35.05 289 P P 08 22 07.3 -5.5
comp=Z,46μmcomp=Z,362nm,1.0s
GUMO Guam 35.77 321 LR LR 08 36 56.2
comp=Z,162nm,19.9s,baz=138,slow=36
FAKI Fak Fak 36.29 286 P **P** **08 22 23.6 +0.2**
FAKI Fak Fak 36.29 286 P **P** **08 22 20.3 -3.2**
comp=Z,1μmcomp=Z,90nm,1.1s
WRKA Warakurna 37.69 248 P **P** **08 22 35.2 -0.1**
BNDI Bandanaira 37.96 282 P **P** **08 22 36.0 -1.5**
comp=Z,5μmcomp=Z,263nm,1.5s
SIJI Sorong 37.97 288 LR LR 08 38 06.2
comp=Z,406nm,21.7s,baz=56,slow=36
SIJI Sorong 37.97 288 P **P** **08 22 36.3 -1.4**
comp=Z,1μmcomp=Z,106nm,1.4s
SWI Sorong 37.98 288 P **P** **08 22 36.8 -0.9**
comp=Z,3μmcomp=Z,160nm,1.3s
FORT Forrest 39.05 239 P **P** **08 22 46.5 0.0**
FORT Forrest 39.05 239 P **P** **08 22 47.0 +0.5**
KRAI Karang Ratu 39.77 283 P **P** **08 22 52.6 -0.1**
comp=Z,44nm,1.0s
NLAI Namlea 41.02 282 P **P** **08 23 02.6 -0.4**
comp=Z,98nm,1.5s
PAE Paea 41.67 100 *e*pP pP 08 23 31.5 +1.6
comp=Z,16nm,1.2s
PPT2 Papeete2 41.68 100 *e*P **P** **08 23 10.2 +1.8**
comp=Z,97nm,26.8s
PPT2 *e*pP **pP** **08 23 32.0 +2.0**
comp=Z,78nm,1.2s
PPT2 *e*S **S** **08 29 18.9 +0.5**
comp=Z,200nm,29.5s
PPT2 *e*LR LR 08 34 47.4
comp=Z,1μm,29.2s
PPT2 *e*LR LR 08 34 47.5
comp=Z,769nm,31.5s
PPT Papeete 41.68 100 P **P** **08 23 09.1 +0.7**
comp=Z,27nm,0.8s,baz=64,slow=12,SNR=4.4
PPT LR LR 08 36 17.0
comp=Z,324nm,20.5s,baz=264,slow=30
comp=Z,27nm,0.8s
TBI Tubuai 41.83 108 *e*LR LR 08 34 51.0
comp=Z,5μm,31.5s
TBI *e*LR LR 08 34 51.1
comp=Z,11μm,26.8s
TIAR Tiarei 41.90 100 *e*pP pP 08 23 33.3 +1.5
comp=Z,14nm,1.1s
SOEI Soe 42.05 272 P **P** **08 23 10.3 -1.3**
comp=Z,2μmcomp=Z,143nm,1.2s
SANI Sanana 42.45 283 P **P** **08 23 14.6 -0.1**
comp=Z,1μmcomp=Z,107nm,1.1s
BATI Baumata 42.55 271 P **P** **08 23 14.9 -0.6**
comp=Z,2μmcomp=Z,242nm,1.1s
MEH Mehetia 43.10 100 *e*pP pP 08 23 42.6 +1.0
comp=Z,36nm,1.1s
VAH Vaihoa 43.72 97 *e*pP pP 08 23 46.4 -0.2
comp=Z,52nm,1.1s
MMRI Maumere 44.24 273 P **P** **08 23 27.5 -1.6**
comp=Z,3μmcomp=Z,219nm,1.1s
KMBL Kambalda 44.34 245 P **P** **08 23 29.7 0.0**
PSA00 Pilbara Seismi 45.20 254 P **P** **08 23 36.7 +0.1**
PSA00 Pilbara Seismi 45.20 254 IAmb IAmb 08 23 38.3
comp=Z,67nm,1.1s
PSA00 Pilbara Seismi 45.20 254 P **P** **08 23 37.5 +0.9**
MBWA Marble Bar 45.30 255 P **P** **08 23 37.8 +0.4**
MBWA Marble Bar 45.30 255 P **P** **08 23 37.9 +0.4**
MBWA Marble Bar 45.30 255 P **P** **08 23 36.6 -0.9**
MBWA sP **sP** **08 24 13.3 +3.4**
LUWI Luwuk 45.82 283 P **P** **08 23 41.9 +0.3**
LUWI Luwuk 45.82 283 P **P** **08 23 40.3 -1.3**
comp=Z,5μmcomp=Z,156nm,1.3s
KKSI Kolaka, Sulawe 45.91 279 P **P** **08 23 42.6 +0.2**
comp=Z,3μmcomp=Z,41nm,0.5s
GTOI Gorontalo 46.18 286 P **P** **08 23 44.1 -0.3**
comp=Z,376nmcomp=Z,24nm,1.4s
BSSI Bau Bau, Buton 46.50 276 P **P** **08 23 44.1 -2.9**
comp=Z,1μmcomp=Z,105nm,1.4s
DAV Davao City (W) 46.52 295 LR LR 08 41 28.7
comp=Z,128nm,19.5s,baz=101,slow=34
MEEK Meekatharra 46.54 247 P **P** **08 23 47.6 +0.5**
APSI Ampana 46.92 283 P **P** **08 23 49.5 -0.7**
comp=Z,2μmcomp=Z,176nm,1.2s
BKSI Bulukumba 47.07 277 P **P** **08 23 50.6 -0.8**
comp=Z,773nmcomp=Z,69nm,1.3s
MRSI Marisa 47.12 285 P **P** **08 23 50.6 -1.2**
comp=Z,48nm,1.2s
BNSI Bone 47.33 278 P **P** **08 23 53.5 +0.1**
comp=Z,1μmcomp=Z,124nm,1.2s
KAPI Kappang 47.50 277 P **P** **08 23 55.5 +0.8**
KAPI Kappang 47.50 277 P **P** **08 23 54.6 -0.1**
comp=Z,2μmcomp=Z,158nm,1.4s
KAPI Kappang 47.50 277 P **P** **08 23 55.5 +0.8**
KAPI pmax pmax
comp=Z,196nm,1.1s
KAPI Kappang 47.50 277 P **P** **08 23 53.9 -0.9**
SPSI Sidrap Palu 47.77 278 P **P** **08 23 55.8 -1.0**
comp=Z,785nmcomp=Z,67nm,1.1s
KLBR Kellerberrin 47.86 241 P **P** **08 23 57.4 +0.1**
JCJ Chichijima 48.17 330 LR LR 08 43 07.3
comp=Z,44nm,21.4s,baz=143,slow=34
TOLI2 Tolitoli 48.43 285 P **P** **08 24 01.7 -0.2**
TOLI2 Tolitoli 48.43 285 P **P** **08 24 02.3 +0.4**
NWAO Narrogin (SRO) 48.50 239 P **P** **08 24 02.1 -0.1**
comp=Z,72nm,1.0s,baz=299,slow=7.3,SNR=18
NWAO LR LR 08 43 24.0
comp=Z,361nm,19.3s,baz=82,slow=34
comp=Z,72nm,1.0s
NWAO Narrogin (SRO) 48.50 239 P **P** **08 24 01.7 -0.5**
NWAO Narrogin (SRO) 48.50 239 P **P** **08 24 02.1 -0.1**
NWAO Narrogin (SRO) 48.50 239 P **P** **08 24 01.3 -0.9**
NWAO pP **pP** **08 24 24.3 -0.4**
PLAI Plampang 48.51 271 P **P** **08 24 01.5 -1.0**
comp=Z,2μmcomp=Z,242nm,1.0s
PLAI Plampang 48.51 271 P **P** **08 24 02.9 +0.4**
BLDU Balidu 48.61 242 P **P** **08 24 02.9 -0.2**
PMSI Majene 48.72 278 P **P** **08 24 02.1 -2.1**
comp=Z,2μmcomp=Z,140nm,1.1s
MPSI Mapaga 48.99 284 P **P** **08 24 04.9 -1.3**
comp=Z,1μmcomp=Z,133nm,1.2s
MORW Morawa 49.02 244 P **P** **08 24 06.1 -0.2**
MORW Morawa 49.02 244 P **P** **08 24 07.1 +0.8**
MUN Mundaring 49.22 240 P **P** **08 24 08.6 +0.9**
TWSI Taliwang, Sumb 49.40 271 P **P** **08 24 08.6 -0.7**
comp=Z,4μmcomp=Z,545nm,1.1s
KLNI Mataram 50.22 271 P **P** **08 24 14.4 -1.1**
comp=Z,120nm,1.2s
GIRL Giralia 50.40 253 P **P** **08 24 18.4 +1.7**
DNP Denpasar 51.02 271 P **P** **08 24 19.2 -2.4**
comp=Z,673nm,0.9s
IGBI Denpasar 51.06 271 P **P** **08 24 21.8 0.0**
comp=Z,4μmcomp=Z,555nm,1.0s

SRBI Singaraja 51.15 272 P **P** **08 24 21.2 -1.3**
comp=Z,140nm,0.9s
TAOE Nuku Hiva Isla 51.93 90 *e*S **S** **08 31 44.4 -0.2**
comp=Z,228nm,25.6s
TAOE *e*LR LR 08 39 32.5
comp=Z,486nm,28.6s
MYLDM Lahad Datu 52.06 289 P **P** **08 24 27.9 -1.4**
MYLDM Lahad Datu 52.06 289 P **P** **08 24 29.5 +0.2**
comp=Z,1μmcomp=Z,83nm,1.2s
JAGI Jajag, Banyuwa 52.09 271 P **P** **08 24 28.7 -0.8**
comp=Z,103nm,1.1s
KMMI Kalianget 52.58 272 P **P** **08 24 32.4 -0.7**
comp=Z,3μmcomp=Z,90nm,1.2s
BBKI Banjar Baru 52.63 277 P **P** **08 24 32.1 -1.5**
comp=Z,7μmcomp=Z,134nm,1.4s
JHJ Hachijo jima 2 54.34 332 LR LR 08 48 53.0
comp=Z,72nm,18.3s,baz=106,slow=37
KKM Kota Kinabalu 54.49 289 P **P** **08 24 47.9 +0.6**
DRV Dumont d'Urvil 54.78 193 P **P** **08 24 46.8 -1.5**
DRV pP **pP** **08 25 10.5 -1.6**
PCJI Pacitan 55.02 270 P **P** **08 24 50.7 -0.3**
comp=Z,217nm,1.2s
UGM Wanagama 55.72 270 P **P** **08 24 54.1 -1.9**
comp=Z,193nm,1.4s
SBUM Sibu 56.92 283 IAmb IAmb 08 25 07.0
comp=Z,16nm,1.0s
SBUM Sibu 56.92 283 P **P** **08 25 04.7 +0.2**
comp=Z,314nmcomp=Z,20nm,1.2s
CTJI Waduk Cacaban 57.21 271 P **P** **08 25 04.4 -2.2**
comp=Z,148nm,1.2s
JGF Kuroka 57.51 331 P **P** **08 25 07.9 -0.4**
JMN Monobe 57.73 327 P **P** **08 25 09.3 -0.5**
JMN Monobe 57.73 327 P **P** **08 25 10.4 +0.6**
MJAR Matsushiro Arr 57.91 333 P **P** **08 25 09.4 -1.5**
comp=Z,7.5nm,0.6s,baz=167,slow=6.5,SNR=20
MJAR LR LR 08 49 29.1
comp=Z,33nm,20.4s,baz=140,slow=35
comp=Z,7.5nm,0.6s
MAJO Matsushiro 57.91 333 P **P** **08 25 10.7 -0.3**
MAJO Matsushiro 57.91 333 P **P** **08 25 10.4 -0.6**
MAJO Matsushiro 57.91 333⇑ *e*P **P** **08 25 10.0 -1.0**
MAJO pmax pmax
comp=Z,69nm,1.9s
MJB9 Matsu-Tunnel 57.91 333 P **P** **08 25 11.5 +0.4**
KSM Kuching 58.41 281 P **P** **08 25 14.7 -0.3**
comp=Z,862nmcomp=Z,68nm,1.2s
LEM Lembang 58.77 271 LR LR 08 50 33.9
comp=Z,118nm,21.3s,baz=76,slow=36
JNU Nakatsue 58.89 325 P **P** **08 25 18.0 +0.1**
JHS Saijyo 59.11 328 P **P** **08 25 19.6 +0.2**
JTM Tenmabayashi 60.37 338 P **P** **08 25 28.0 +0.2**
KASI Kota Agung 62.09 272 P **P** **08 25 38.7 -1.4**
comp=Z,122nm,1.1s
LWLI Liwa 62.63 272 P **P** **08 25 41.0 -2.8**
comp=Z,156nm,0.5s
VNDA Vanda 62.74 181 P **P** **08 25 44.0 +0.6**
comp=Z,5.1nm,0.8s,baz=356,slow=7.9,SNR=26
VNDA LR LR 08 50 23.0
comp=Z,76nm,20.8s,baz=7.5,slow=33
comp=Z,5.1nm,0.8s
VNDA Vanda 62.74 181 P **P** **08 25 43.9 +0.5**
VNDA Vanda 62.74 181 P **P** **08 25 43.9 +0.6**
VNDA pmax pmax
comp=Z,62nm,1.7s
VNDA Vanda 62.74 181 P **P** **08 25 41.6 -1.8**
VNDA pP **pP** **08 26 06.9 -0.7**
ASAJ Asahikawa 62.78 340 LR LR 08 48 53.8
comp=Z,156nm,21.9s,baz=151,slow=32
SBA Scott Base 63.02 180 P **P** **08 25 46.5 +1.3**
SBA Scott Base 63.02 180 P **P** **08 25 46.5 +1.3**
SBA pmax pmax
comp=Z,106nm,1.6s
SBA Scott Base 63.02 180 P **P** **08 25 44.1 -1.1**
SBA pP **pP** **08 26 08.3 -1.2**
DSRI Dabo 63.31 277 P **P** **08 25 49.5 +1.3**
CASY Casey 63.34 202 P **P** **08 25 47.9 +0.5**
CASY Casey 63.34 202 P **P** **08 25 47.5 0.0**
CASY pP **sP** **08 26 19.8 -2.5**
KSRS Korea Array 63.71 326 P **P** **08 25 49.6 -0.7**
comp=Z,2.0nm,0.7s,baz=140,slow=6.5,SNR=7.4
KSRS LR LR 08 53 51.5
comp=Z,30nm,18.3s,baz=140,slow=36
comp=Z,2.0nm,0.7s
MYKOM Kota Tinggi 64.66 279 P **P** **08 25 54.5 -2.5**
CCD Concordia, Ant 64.75 191 P **P** **08 25 57.0 -0.1**
CCD pP **pP** **08 26 20.8 -0.6**
YSS Yuzh-Sakhalins 65.27 342⇓ *e*P **P** **08 26 02.4 +2.2**
YSS pmax pmax
comp=Z,189nm,2.5s
NJ2 Nanjing 65.61 316 *e*P **P** **08 26 05.9 +3.2**
NJ2 pmax pmax
comp=Z,12nm,0.6s
SDSI Sungai Dareh 66.21 276 P **P** **08 26 05.9 -1.2**
comp=Z,24nm,1.4s
USA0B Ussuriysk Arra 66.89 333 P **P** **08 26 11.0 +0.3**
USA0B Ussuriysk Arra 66.89 333⇓ *e*P **P** **08 26 11.3 +0.6**
USRK Ussuriysk Ar. 66.89 333 P **P** **08 26 10.5 -0.2**
comp=Z,30nm,1.1s,baz=134,slow=5.5,SNR=16
USRK LR LR 08 55 44.0
comp=Z,40nm,19.1s,baz=145,slow=36
comp=Z,30nm,1.1s
USRK Ussuriysk Ar. 66.89 333 P **P** **08 26 11.0 +0.3**
USRK Ussuriysk Ar. 66.89 333 P **P** **08 26 11.0 +0.3**
SHEM Shemya Is, Ala 67.57 5 LR LR 08 49 02.9
comp=Z,379nm,22.0s,baz=131,slow=30
PET Petropavlovsk 67.97 355⇓ *e*P **P** **08 26 16.1 -1.2**
PET pmax pmax
comp=Z,49nm,1.2s
GULI GuiLin 68.11 305⇑ P **P** **08 26 17.1 -1.7**
PEA0B Petropavlovsk- 68.15 354⇓ *e*P **P** **08 26 19.0 +0.5**
PETK Petropavlovsk- 68.15 354 P **P** **08 26 18.2 -0.2**
comp=Z,19nm,1.1s,baz=142,slow=5.8,SNR=11
PETK LR LR 08 50 38.3
comp=Z,160nm,20.2s,baz=162,slow=31
comp=Z,19nm,1.1s
IPM Ipoh 68.15 281 P **P** **08 26 18.2 -1.2**
comp=Z,777nmcomp=Z,57nm,1.2s
MDJ Mudanjiang 68.28 332 IAmb IAmb 08 26 22.0
comp=Z,40nm,1.2s
MNSI Mandailing Nat 68.46 277 P **P** **08 26 21.5 +0.2**
comp=Z,6μmcomp=Z,76nm,1.0s
SKLT Songkhla 69.38 284 P **P** **08 26 27.4 +0.5**
comp=Z,46nm,1.2s
RPSI Rantau Prapat 69.63 279 P **P** **08 26 29.3 +0.8**
RPSI Rantau Prapat 69.63 279 P **P** **08 26 27.5 -1.0**
RPSI IAmb IAmb 08 26 29.5
comp=Z,38nm,1.0s
CN2 Changchun 69.63 329 *e*P **P** **08 26 31.2 +3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
PSI Prapat 69.66 279 P **P** **08 26 29.3 +0.4**
comp=Z,18nm,0.8s
PSI LR LR 08 59 20.2
comp=Z,118nm,18.7s,baz=115,slow=38
comp=Z,18nm,0.8s
PSI Prapat 69.66 279 P **P** **08 26 25.4 -3.4**
comp=Z,46nm,1.2s
PSI Prapat 69.66 279 P **P** **08 26 27.5 -1.3**
PSI pmax pmax
comp=Z,38nm,1.0s
BNX BinXian 70.14 332⇑ P **P** **08 26 30.8 -0.1**
BNX pmax pmax
comp=Z,16nm,0.5s
BNX pmax pmax
comp=Z,370nm,4.7s
GSI Gunungsitoli 70.53 277 P **P** **08 26 34.0 0.0**
GSI Gunungsitoli 70.53 277 P **P** **08 26 31.6 -2.4**
KLR Kul'dur 71.03 336 P **P** **08 26 36.7 +0.5**
comp=Z,13nm,1.0s,baz=130,slow=3.8,SNR=12
KLR LR LR 08 54 57.0
comp=Z,47nm,21.5s,baz=150,slow=33
comp=Z,13nm,1.0s
KLR Kul'dur 71.03 336 *de*P **P** **08 26 36.5 +0.3**
KLR pmax pmax
comp=Z,52nm,1.7s
ENH Enshi 71.27 310 P **P** **08 26 36.5 -1.6**
LYN LuoYang 71.40 315⇓ *i*P **P** **08 26 39.4 +0.6**
LYN pP pP 08 27 03.5 +0.6
LYN sP sP 08 27 12.4 -0.8
LYN pmax pmax
comp=Z,20nm,1.0s
HNS HongShan 71.54 318⇓ P **P** **08 26 40.2 +0.6**
HNS pmax pmax
comp=Z,23nm,1.4s
GYA Guiyang 71.60 305⇓ *i*P **P** **08 26 41.0 +0.7**
GYA pmax pmax

comp=Z,35nm,1.0s
BJT Baijiatuau 72.21 321 IAmb IAmb 08 26 45.3
comp=Z,16nm,0.9s
BJI Beijing 72.22 321 P **P** **08 26 43.9 +0.3**
BJI pP **pP** **08 27 07.9 +0.2**
BJI sP **sP** **08 27 20.0 +2.1**
BJI pmax pmax
comp=Z,18nm,1.2s
BJI pmax pmax
comp=Z,170nm,5.5s
MLSI Meulaboh, Aceh 72.49 279 P **P** **08 26 44.2 -1.6**
comp=Z,62nm,1.0s
TIY Taiyuan 73.20 318 *e*P **P** **08 26 51.3 +1.8**
HEH HeiHe 73.57 335 *e*P **P** **08 26 50.6 -0.7**
HEH pmax pmax
comp=Z,12nm,0.9s
XAN Xi'an 73.61 313 P **P** **08 26 52.3 +0.3**
XAN pP pP 08 27 16.9 +0.6
XAN pmax pmax
comp=Z,28nm,1.8s
KMI Kunming 74.18 302⇓ P **P** **08 26 57.3 +1.5**
KMI pP pP 08 27 21.4 +1.3
KMI sP sP 08 27 32.7 +2.3
KMI pmax pmax
comp=Z,53nm,1.2s
XLT XiLinHaoTe 74.67 324 *e*P **P** **08 26 58.8 +0.8**
XLT pmax pmax
comp=Z,27nm,1.5s
XLT pmax pmax
comp=Z,300nm,5.0s
CMAR Chiang Mai Arr 74.80 294 P **P** **08 26 59.8 +0.6**
comp=Z,16nm,0.9s,baz=116,slow=4.2,SNR=61
comp=Z,16nm,0.9s
CHTO Chiang Mai 74.93 294 P **P** **08 27 00.4 +0.5**
CHTO Chiang Mai 74.93 294 P **P** **08 27 00.4 +0.5**
CHTO pmax pmax
comp=Z,2.0nm,1.3s
QSPA South Pole Qui 75.18 180 P **P** **08 27 00.7 -0.1**
comp=Z,19nm,1.0s,baz=343,slow=0.4,SNR=31
QSPA LR LR 08 57 24.2
comp=Z,163nm,19.2s,baz=24,slow=33
comp=Z,19nm,1.0s
QSPA South Pole Qui 75.18 180 P **P** **08 27 00.1 -0.6**
QSPA IAmb IAmb 08 27 02.3
comp=Z,48nm,1.2s
MA2 Magadan 75.33 352 LR LR 08 55 04.1
comp=Z,271nm,21.9s,baz=157,slow=32
HHC Hu-ho-hao-te 75.53 320 *e*P **P** **08 27 07.8 +4.7**
HHC pmax pmax
comp=Z,34nm,0.9s
HHC pmax pmax
comp=Z,490nm,5.7s
PZH PanZhiHua 75.58 303 P **P** **08 27 04.4 +0.8**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,110nm,4.4s
HIA Hailar 76.28 330 IAmb IAmb 08 27 08.3
comp=Z,20nm,1.2s
ZEA Zeya 76.31 337 *e*P **P** **08 27 07.6 +0.6**
ZEA *e* 08 27 39.7
ZEA pmax pmax
comp=Z,20nm,1.0s
TNCH TengChong 77.64 300 *e*P **P** **08 27 16.9 +1.5**
TNCH pmax pmax
comp=Z,40nm,1.0s
RPN Rapa Nui 77.81 115 LR LR 08 54 37.1
comp=Z,37nm,18.6s,baz=252,slow=30
LZH Lanzhou 78.24 312 *e*P **P** **08 27 19.7 +1.3**
LZH pP pP 08 27 44.3 +1.3
LZH sP sP 08 27 57.0 +3.8
LZH sS sS 08 37 46.5 +0.7
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.6s
SEY Seymchan 78.37 353 *ce*P **P** **08 27 18.8 +0.5**
SEY pmax pmax
comp=Z,35nm,1.4s
KDAK Kodiak Island 79.65 21 LR LR 08 57 54.2
comp=Z,274nm,19.3s,baz=238,slow=32
MAW Mawson 81.70 202 P **P** **08 27 37.3 +1.0**
comp=Z,3.0nm,0.7s,baz=40,slow=3.5,SNR=4.3
MAW LR LR 08 59 36.3
comp=Z,174nm,19.2s,baz=96,slow=32
comp=Z,3.0nm,0.7s
YAK Yakutsk 82.08 343 P **P** **08 27 38.6 +0.4**
comp=Z,18nm,0.7s,baz=295,slow=1.5,SNR=7.7
YAK LR LR 09 04 54.3
comp=Z,78nm,18.1s,baz=90,slow=36
comp=Z,18nm,0.7s
YAK Yakutsk 82.08 343 *ci*P **P** **08 27 38.4 +0.2**
YAK pmax pmax
comp=Z,67nm,1.3s
ULN Ulaanbaatar 82.10 324 P **P** **08 27 39.1 +0.1**
ULN IAmb IAmb 08 27 40.8
comp=Z,29nm,1.2s
ULN Ulaanbaatar 82.10 324 P **P** **08 27 39.5 +0.6**
comp=Z,79nm,2.1s
ULN Ulaanbaatar 82.10 324⇓ *e*P **P** **08 27 39.5 +0.6**
ULN pmax pmax
comp=Z,38nm,1.7s
SONM Songino Array 82.46 324 P **P** **08 27 41.3 +0.5**
comp=Z,1.7nm,0.3s,baz=138,slow=5.1,SNR=29
SONM LR LR 09 03 17.9
comp=Z,49nm,21.1s,baz=129,slow=35
comp=Z,1.7nm,0.3s
SONM Songino Array 82.46 324 P **P** **08 27 41.0 +0.2**
SONM IAmb IAmb 08 27 42.5
comp=Z,36nm,1.5s
SONM Songino Array 82.46 324 P **P** **08 27 41.0 +0.2**
SONM pmax pmax
comp=Z,36nm,1.5s
GTA Gaotai 82.59 314 *e*P **P** **08 27 42.3 +0.7**
GTA pP pP 08 28 07.1 +0.7
GTA sP sP 08 28 17.3 +0.7
GTA pmax pmax
comp=Z,21nm,1.6s
BILL Bilibino 82.66 360 P **P** **08 27 41.2 0.0**
BILL Bilibino 82.66 360 *ce*P **P** **08 27 41.2 0.0**
BILL pmax pmax
comp=Z,84nm,1.7s
K20K Telida 83.56 17 IAmb IAmb 08 27 47.5
comp=Z,34nm,1.7s
CAST Castle Rocks 84.17 17 IAmb IAmb 08 27 49.9
comp=Z,25nm,0.8s
J20K Nowinta River 84.19 16 IAmb IAmb 08 27 49.9
comp=Z,24nm,1.4s
BOD Bodaibo 84.48 335 *e*P **P** **08 27 49.9 -0.8**
BOD pmax pmax
comp=Z,22nm,1.5s
KTH Kantishna Hill 84.61 18 IAmb IAmb 08 27 52.4
comp=Z,14nm,0.8s
TRF Thorofare Moun 84.72 18 P **P** **08 27 50.7 -1.3**
TRF IAmb IAmb 08 27 52.8
comp=Z,15nm,0.8s
RND Reindeer 85.11 18 IAmb IAmb 08 29 04.8
comp=Z,37nm,1.7s
MCK McKinley 85.33 18 P **P** **08 27 54.4 -0.5**
MCK IAmb IAmb 08 27 57.2
comp=Z,15nm,0.9s
MCK McKinley 85.33 18 P **P** **08 27 54.4 -0.5**
MCK pmax pmax
comp=Z,15nm,0.9s
ZAK Zakamensk 85.52 325 *e*P **P** **08 27 55.3 -0.9**
ZAK pmax pmax
comp=Z,21nm,1.3s
ZAK pmax pmax
comp=Z,12nm,1.3s
I21K Tanana 85.56 16 IAmb IAmb 08 27 58.6
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 85.65 45 LR LR 09 05 43.5
comp=Z,77nm,18.1s,baz=276,slow=35
H21K Melozitna Rive 85.72 16 IAmb IAmb 08 27 59.1
comp=Z,8.5nm,0.9s
WRH Wood River Hil 86.13 18 IAmb IAmb 08 28 37.4
comp=Z,18nm,1.2s
CCB Clear Creek Bu 86.34 18 IAmb IAmb 08 28 00.3
comp=Z,8.2nm,0.8s
HDA Harding Lake 86.42 18 P **P** **08 27 59.4 -0.8**
HDA IAmb IAmb 08 28 01.7
comp=Z,23nm,0.8s
MDM Murphy Dome 86.44 17 IAmb IAmb 08 28 28.8
comp=Z,12nm,1.0s
TCOL CIGO, UAF Yank 86.49 18 IAmb IAmb 08 28 01.6
comp=Z,14nm,0.8s

COLA	**College**	**86.49**	**18**	P	**P**	**08 27 58.9**	**-1.6**
COLA				IAmb	IAmb	08 28 01.6	
	comp=Z,14nm,0.8s						
COLA	**College**	**86.49**	**18⇑**	*e*P	**P**	**08 27 59.9**	**-0.6**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s						
BELA	**Belgrano 2**	**86.63**	**176**	IAmb	IAmb	08 28 01.3	
	comp=Z,16nm,0.9s						
MDPB	**Devils Postpil**	**86.65**	**50**	IAmb	IAmb	08 28 51.6	
	comp=Z,33nm,2.0s						
IL31		**86.70**	**18**	P	**P**	**08 28 00.0**	**-1.5**
IL31				IAmb	IAmb	08 28 02.6	
	comp=Z,13nm,0.8s						
ILAR	**Eielson Array**	**86.70**	**18**	P	**P**	**08 27 60.0**	**-1.6**
	comp=Z,10nm,0.8s,baz=236,slow=5.4,SNR=50						
ILAR				pP	**pP**	**08 28 25.1**	**-1.4**
	comp=Z,5.6nm,0.7s,baz=234,slow=4.5,SNR=3.3						
ILAR				LR	LR	09 02 08.0	
	comp=Z,224nm,19.0s,baz=220,slow=32						
	comp=Z,10nm,0.8s						
ILAR	**Eielson Array**	**86.70**	**18**	P	**P**	**08 28 00.3**	**-1.3**
ILAR	**Eielson Array**	**86.70**	**18**	P	**P**	**08 28 00.0**	**-1.6**
BBB	**Bella Bella**	**86.99**	**34**	LR	LR	08 58 37.5	
	comp=Z,96nm,19.8s,baz=266,slow=30						
SCRK	**Sand Creek**	**87.05**	**19**	P	**P**	**08 28 02.2**	**-1.2**
J25K	**Salcha River,**	**87.05**	**19**	IAmb	IAmb	08 28 05.9	
	comp=Z,12nm,0.9s						
PAHR	**Pah Rah Range**	**87.19**	**48**	IAmb	IAmb	08 28 47.0	
	comp=Z,14nm,1.5s						
PFO	**Pinyon Flats O**	**87.24**	**54**	LR	LR	08 59 37.5	
	comp=Z,173nm,19.7s,baz=285,slow=30						
PFO	**Pinyon Flats O**	**87.24**	**54⇓**	*e*P	**P**	**08 28 04.5**	**-0.6**
PFO				pmax	pmax		
	comp=Z,25nm,3.5s						
NVAR	**Mina Array Bea**	**87.51**	**49**	P	**P**	**08 28 05.5**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=228,slow=7.6,SNR=13						
NVAR				pP	**pP**	**08 28 30.6**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=232,slow=6.8,SNR=3.8						
	comp=Z,1.9nm,0.8s						
NV11	**Mina Array Sit**	**87.62**	**49**	P	**P**	**08 28 06.2**	**-0.7**
PALK	**Pallekele**	**88.33**	**278**	P	**P**	**08 28 09.9**	**-0.7**
	comp=Z,12nm,0.9s,baz=180,slow=4.6,SNR=5.8						
	comp=Z,12nm,0.9s						
RAMN	**Ramite**	**88.36**	**298**	*e*P	**P**	**08 28 10.3**	**-0.4**
WVOR	**Wild Horse Val**	**88.72**	**45**	IAmb	IAmb	08 29 04.7	
	comp=Z,27nm,1.8s						
JIRN	**Jiri**	**88.92**	**299**	*e*P	**P**	**08 28 13.5**	**0.0**
DLBC	**Dease Lake**	**89.14**	**28**	LR	LR	09 06 22.9	
	comp=Z,110nm,18.1s,baz=314,slow=34						
J08A	**Circle Bar Ran**	**89.17**	**45**	IAmb	IAmb	08 29 35.0	
	comp=Z,33nm,1.9s						
SHPR	**Sheep Range**	**89.20**	**52**	P	**P**	**08 28 11.9**	**-2.5**
GUN	**Gumba**	**89.26**	**299**	*e*P	**P**	**08 28 15.2**	**+0.2**
	comp=Z,48nm,1.0s						
LPIG	**La Paz**	**89.44**	**65**	LR	LR	09 02 09.8	
	comp=Z,96nm,18.2s,baz=302,slow=31						
G08A	**Pilot Rock**	**89.55**	**43**	P	**P**	**08 28 16.2**	**+0.5**
G08A				IAmb	IAmb	08 28 16.9	
	comp=Z,7.3nm,0.9s						
PKI	**Pulchoki**	**89.56**	**299**	*e*P	**P**	**08 28 16.0**	**-0.4**
	comp=Z,94nm,1.4s						
PKIN	**Phulchoki**	**89.57**	**299**	*e*P	**P**	**08 28 16.0**	**-0.4**
PRN	**Pahroc Range**	**89.58**	**51**	IAmb	IAmb	08 28 49.9	
	comp=Z,15nm,1.3s						
DMN	**Daman**	**89.83**	**299**	*e*P	**P**	**08 28 17.5**	**-0.1**
	comp=Z,95nm,1.1s						
TIXI	**Tiksi**	**90.04**	**349**	LR	LR	09 06 33.4	
	comp=Z,60nm,19.2s,baz=120,slow=34						
TIXI	**Tiksi**	**90.04**	**349**	P	**P**	**08 28 16.3**	**-0.9**
TIXI				IAmb	IAmb	08 28 18.2	
	comp=Z,9.4nm,1.1s						
TIXI	**Tiksi**	**90.04**	**349⇑**	*e*P	**P**	**08 28 16.8**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
B08A	**Colville Reser**	**90.45**	**40**	P	**P**	**08 28 19.3**	**-0.5**
B08A				IAmb	IAmb	08 28 50.5	
	comp=Z,18nm,1.6s						
ELK	**Elko**	**90.53**	**48**	LR	LR	09 04 06.9	
	comp=Z,60nm,19.2s,baz=257,slow=32						
SPR3	**Spring Creek 3**	**90.63**	**50**	P	**P**	**08 28 20.0**	**-1.1**
SPR3				IAmb	IAmb	08 28 22.2	
	comp=Z,3.8nm,0.9s						
LCMT	**Little Creek M**	**90.82**	**52**	P	**P**	**08 28 21.8**	**-0.1**
LCMT				IAmb	IAmb	08 28 55.5	
	comp=Z,14nm,1.4s						
F10A	**Beach Ranch, E**	**90.93**	**43**	IAmb	IAmb	08 28 22.9	
	comp=Z,7.6nm,0.9s						
U15A	**North Rim**	**91.38**	**53**	IAmb	IAmb	08 28 58.4	
	comp=Z,19nm,1.5s						
PMSA	**Palmer Station**	**91.73**	**161**	P	**P**	**08 28 26.2**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=354,slow=10,SNR=2.1						
PMSA				LR	LR	09 04 12.8	
	comp=Z,79nm,19.6s,baz=246,slow=32						
	comp=Z,4.6nm,0.8s						
NEW	**Newport**	**91.79**	**40**	LR	LR	09 05 11.8	
	comp=Z,72nm,19.7s,baz=240,slow=32						
WMQ	**Urumqi**	**92.65**	**315**	*e*P	**P**	**08 28 31.3**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,14nm,1.3s						
WMQ				LR	LR		
	comp=Z,160nm,19.5s						
TROLL	**Troll, Antarti**	**92.73**	**185**	P	**P**	**08 28 30.2**	**+0.1**
TROLL	**Troll, Antarti**	**92.73**	**185**	pP	pP	08 28 53.4	-2.3
INK	**Inuvik**	**93.07**	**19**	LR	LR	09 04 25.1	
	comp=Z,136nm,19.6s,baz=214,slow=32						
SNAA	**Sanae**	**93.42**	**183**	P	**P**	**08 28 32.3**	**-0.9**
SNAA	**Sanae**	**93.42**	**183**	pP	pP	08 28 56.0	-2.8
SNAA	**Sanae**	**93.42**	**183**	P	**P**	**08 28 32.1**	**-1.1**
	comp=Z,4.6nm,0.7s,baz=206,slow=10,SNR=18						
SNAA				pP	**pP**	**08 28 56.8**	**-2.0**
	comp=Z,3.8nm,0.6s,baz=199,slow=9.8,SNR=4.3						
SNAA				LR	LR	09 09 16.0	
	comp=Z,100nm,19.2s,baz=190,slow=34						
	comp=Z,4.6nm,0.7s						
SNAA	**Sanae**	**93.42**	**183**	P	**P**	**08 28 31.7**	**-1.5**
SNAA				IAmb	IAmb	08 28 33.7	
	comp=Z,15nm,1.3s						
VNA3	**Neumayer Olymp**	**94.10**	**181**	P	**P**	**08 28 35.2**	**-1.0**
VNA3	**Neumayer Olymp**	**94.10**	**181**	pP	pP	08 28 58.7	-3.1
VNA2	**Neumayer--Watz**	**94.36**	**182**	P	**P**	**08 28 36.6**	**-0.8**
	baz=177,slow=4.8						
VNA2	**Neumayer--Watz**	**94.36**	**182**	pP	pP	08 29 00.5	-2.5
	baz=179,slow=5.2						
DGZ	**Jazzator, Alta**	**94.61**	**320⇓**	*e*P	**P**	**08 28 38.6**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,10.0nm,1.5s						
VNA1	**Neumayer--Stat**	**94.66**	**182**	P	**P**	**08 28 37.9**	**-0.9**
VNA1	**Neumayer--Stat**	**94.66**	**182**	pP	pP	08 29 01.0	-3.4
PDAR	**Pinedale Array**	**95.19**	**47**	LR	LR	09 07 37.2	
	comp=Z,33nm,19.0s,baz=273,slow=33						
ANMO	**Albuquerque**	**95.55**	**55**	LR	LR	09 04 48.6	
	comp=Z,96nm,19.5s,baz=266,slow=31						
TXAR	**Lajitas Array**	**96.52**	**61**	P	**P**	**08 28 48.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=220,slow=5.3,SNR=5.3						
TXAR				pP	**pP**	**08 29 11.8**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=230,slow=4.9,SNR=6.6						
	comp=Z,0.3nm,0.7s						
MK31	**Makanchi Array**	**97.14**	**316**	P	**P**	**08 28 49.4**	**-1.1**
MK31				IAmb	IAmb	08 28 51.6	
	comp=Z,9.7nm,1.2s						
MK31	**Makanchi Array**	**97.14**	**316*d***	*i*P	**P**	**08 28 50.4**	**-0.1**
MKAR	**Makanchi Array**	**97.14**	**316**	P	**P**	**08 28 50.1**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=96,slow=6.1,SNR=14						
MKAR				pP	**pP**	**08 29 15.3**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=98,slow=6.4,SNR=4.1						
MKAR				PP	**PP**	**08 32 52.2**	**+4.2**
	comp=Z,1.2nm,1.0s,baz=99,slow=7.5,SNR=4.3						
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**97.14**	**316**	P	**P**	**08 28 49.5**	**-1.0**
MAKZ	**Makanchi**	**97.35**	**316**	P	**P**	**08 28 51.1**	**-0.3**
MAKZ	**Makanchi**	**97.35**	**316**	P	**P**	**08 28 51.1**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,15nm,1.5s						
ZAA0	**Zalesovo Array**	**97.36**	**324**	P	**P**	**08 28 49.3**	**-1.9**
ZALV	**Zalesovo Beam**	**97.36**	**324**	P	**P**	**08 28 49.7**	**-1.5**
	comp=Z,3.7nm,0.8s,baz=100,slow=3.8,SNR=14						
ZALV				pP	**pP**	**08 29 13.4**	**-3.0**
	comp=Z,3.0nm,0.9s,baz=90,slow=5.9,SNR=3.3						
ZALV				LR	LR	09 11 21.2	
	comp=Z,56nm,21.9s,baz=62,slow=34						
	comp=Z,3.7nm,0.8s						
ZALV	**Zalesovo Beam**	**97.36**	**324**	P	**P**	**08 28 49.4**	**-1.8**
YKA	**Yellowknife Ar**	**97.75**	**27**	P	**P**	**08 28 51.5**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=246,slow=4.5,SNR=4.9						
	comp=Z,2.0nm,0.8s						
NRIK	**Noril'sk**	**100.10**	**339⇓**	*e*P	**Pdif**	**08 29 03.2**	**+0.1**
NRIK				pmax	pmax		
	comp=Z,15nm,1.8s						
KURK	**Kurchatov**	**100.35**	**320⇓**	*e*P	**Pdif**	**08 29 05.9**	**+1.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ARCES	**ARCESS Array B**	**120.31**	**345**	PKP	**PKPdf**	**08 34 06.5**	**-1.7**
	comp=Z,4.6nm,0.7s,baz=45,slow=1.2,SNR=13						
ARCES				pPKP	**pPKPdf**	**08 34 32.1**	**-2.5**
	comp=Z,4.5nm,0.8s,baz=92,slow=1.2,SNR=2.6						
KLMR	**Klimovskoe**	**120.69**	**333**	*e*PP	PP	08 35 26.9	-11
KLMR				AMP		08 35 35.5	
	comp=Z,29nm,2.1s						
KLMR				*e*PPP	PPP	08 37 58.8	
MAK	**Makhachkala**	**121.53**	**311**	*i* P	**Pdif**	**08 30 40.0**	**+1.0**
MAK				*i*		08 34 12.0	
MAK				*e*		08 35 43.9	
MAK				pmax	pmax		
	comp=Z,219nm,1.1s						
OBN	**Obninsk**	**124.68**	**328**	*e*PKIKP	**PKiKP**	**08 34 17.5**	**+0.2**
OBN				*e*		08 34 49.8	
OBN				*e*		08 36 01.3	
OBN				*e*PPP	PPP	08 38 44.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**125.75**	**338**	PKP	**PKPdf**	**08 34 18.1**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=119,slow=2.4,SNR=4.2						
FINES				pPKP	**pPKPdf**	**08 34 42.7**	**-2.5**
	comp=Z,2.4nm,0.8s,baz=270,slow=0.8,SNR=1.6						
SOC	**Sochi**	**126.94**	**314**	*i* PKIKP	**PKPdf**	**08 34 17.6**	**-4.1**
SOC				*e*PPP	PPP	08 39 01.0	
SOC				*e*PS	**PS**	**08 46 26.3**	**-0.2**
SOC				*e*SS	SS	08 53 21.1	+0.4
SOC				*e*SSS	SSS	08 58 04.5	
MNK	**Minsk**	**129.31**	**330**	*i* PKP	**PKPdf**	**08 34 23.6**	**-2.3**
	comp=E,4.0nm,0.8s						
MNK				*i* PKP	**PKPdf**	**08 34 23.6**	**-2.3**
	comp=N,42nm,0.7s						
MNK				*i* PKP	**PKPdf**	**08 34 23.6**	**-2.3**
	comp=Z,18nm,0.7s,baz=55						
MNK				*i* pPKP	**pPKPdf**	**08 34 56.0**	**+3.7**
MNK				*i* PP	**PP**	**08 36 33.8**	**-1.8**
MNK				*i* PPP	PPP	08 39 20.2	
MNK				*i* SKS	**SKSdf**	**08 41 24.3**	**-4.3**
MNK				*i* SSS	SSS	08 58 33.1	
MNK				*i* LRM	MLR	09 30 36.3	
	comp=Z,58nm,8.6s						
MNK				*i* LRM	MLR	09 30 44.0	
	comp=E,12nm,8.6s						
MNK				*i* LRM	MLR	09 31 30.6	
	comp=N,296nm,18.5s						
MNK	**Minsk**	**129.31**	**330**	*i* PKIKP	**PKPdf**	**08 34 23.6**	**-2.3**
MNK				*i*		08 34 55.9	
MNK				*i*		08 36 33.8	
MNK				*i* PPP	PPP	08 39 20.2	
MNK				*i*		08 41 24.3	
MNK				*i* SSS	SSS	08 58 33.1	
MNK				pmax	pmax		
	comp=N,42nm,0.6s						
MNK				pmax	pmax		
	comp=Z,18nm,0.6s						
MNK				pmax	pmax		
	comp=E,4.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,58nm,9.0s						
MNK				MLR	MLR		
	comp=E,12nm,9.0s						
MNK				MLR	MLR		
	comp=N,296nm,19.0s						
NB2	**NORSAR Subarra**	**130.68**	**345**	PKPdf	**PKiKP**	**08 34 29.1**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=30,slow=1.9						
NB2				pPKP	**SKPbc**	**08 37 44.8**	**+1.2**
	comp=Z,84nm,1.4s,baz=38,slow=4.8						
NOA	**NORSAR Array B**	**130.68**	**345**	PKP	**PKPdf**	**08 34 28.0**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=29,slow=1.9,SNR=4.0						
NOA				SKPbc	**SKPbc**	**08 37 45.3**	**+1.7**
	comp=Z,30nm,1.1s,baz=31,slow=3.1,SNR=18						
AKASG	**Malin Array Be**	**130.71**	**326**	SKPbc	**SKPab**	**08 37 45.6**	**+1.5**
	comp=Z,4.6nm,0.7s,baz=48,slow=4.8,SNR=20						
BRTR	**Keskin Array B**	**132.42**	**311**	SKPbc	**SKPab**	**08 37 52.0**	**0.0**
	comp=Z,4.1nm,0.9s,baz=101,slow=2.5,SNR=8.6						
BDFB	**Brasilia**	**133.98**	**130**	SKPbc	**SKPbc**	**08 37 57.6**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=180,slow=5.1,SNR=3.4						
CLL	**Collm**	**138.07**	**336**	*e*PKPdf	**PKPdf**	**08 34 43.0**	**+0.6**
CLL				*e*pPKPdf	**pPKPdf**	**08 35 13.0**	**+4.2**
CLL				*e*PP	**PP**	**08 37 33.0**	**+1.9**
CLL				*e*SKPdf	**SKPbc**	**08 38 08.0**	**+0.1**
CLL				*e*PPPP		08 42 30.0	
CLL				*e*PSKS		08 47 36.0	
CLL				*e*PPS	PPS	08 50 06.0	
CLL				*e*x	x	08 51 24.0	
CLL				*e*SSSS		09 04 54.0	
CLL	**Collm**	**138.07**	**336**	*e*PKIKP	**PKPdf**	**08 34 43.0**	**+0.6**
CLL				*e*		08 35 13.0	
GERES	**GERESS Array B**	**139.65**	**333**	PKP	**PKPdf**	**08 34 46.6**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=70,slow=4.4,SNR=4.9						
GERES				SKPbc	**SKiKP**	**08 38 14.3**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=82,slow=2.8,SNR=6.3						
KEST	**Kesra**	**151.16**	**320**	PKPbc	**PKiKP**	**08 35 11.9**	**-0.1**
	comp=Z,5.2nm,0.7s,baz=307,slow=8.8,SNR=3.8						
ESDC	**Sonseca Array**	**154.04**	**344**	PKPbc	**PKiKP**	**08 35 17.8**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=21,slow=4.2,SNR=4.5						
ESDC				PKPab	**PKPab**	**08 35 31.3**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=7.9,slow=4.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**165.68**	**265**	PKP	**PKPdf**	**08 35 23.2**	**0.0**
	comp=Z,0.6nm,0.8s,baz=29,slow=1.8,SNR=3.4						
TORD				PKPab	**PKPab**	**08 36 23.3**	**+0.5**
	comp=Z,6.2nm,1.0s,baz=110,slow=2.6,SNR=14						

---

*YARS **09** 08:20:57.5±0.0, 67°.31N×142°.21E, h10km*
*NERS **09** 08:20:58.1±0.0, 66°.55N×147°.41E, h0km*
*IDC **09** 08:20:59.3±1.2, 66°.47N×147°.66E, h0km, mb3.8/4, mbtmp3.9/6, ML3.1/1, MS4.0/2, Error ellipse: s-maj=27.9km s-min=18.7km az=34.0*
ISC 09 08:21:00.6±0.7**, 66°.55N**±0°.04×**147°.68E**±0°.05**, h10km, n19, σ2.51**/22**, mb3.6**/4**, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBGR	**Belaya Gora**	**2.07**	**345**	*e*Pg	**Pn**	**08 21 33.5**	**-1.8**
	26nm,0.2s						
YBGR				*e*Sg	**Sn**	**08 22 01.0**	**-0.1**
	69nm,0.1s						
ATKR	**Artyk**	**2.61**	**205**	*e*Pn	**Pb**	**08 21 49.5**	**+2.0**
ATKR				*e*Pg	Pg	08 21 58.6	+8.0
	2.2nm,0.4s						
ATKR				*e*Sg	Sg	08 22 49.6	+25
	52nm,0.3s						
UNR	**Ust'-Nera**	**2.72**	**225**	*e*Pg	**Pb**	**08 21 48.5**	**-0.8**
	3.9nm,0.2s						
UNR				*e*Sg	**Sg**	**08 22 29.6**	**+1.8**
	61nm,0.4s						
SUUS	**Susuman**	**3.80**	**177**	*e*P	**Pn**	**08 22 00.4**	**+1.3**
SUUS				*e*		08 22 03.7	
SUUS				*e*		08 22 09.6	
SUUS				Pgmax		08 22 12.7	
	10.0nm,0.3s						
SUUS				*e*Sg	**Sg**	**08 22 59.8**	**-2.6**
SUUS				Sgmax		08 23 02.6	
	70nm,0.4s						
SUUS				Sgmax		08 23 02.6	
	250nm,0.3s						
SEY	**Seymchan**	**4.16**	**149**	Pn	**Pn**	**08 22 03.0**	**-0.9**
	1.1nm,0.3s,baz=329,slow=8.9,SNR=21						
SEY				Lg	Lg	08 23 08.9	
	25nm,0.3s,baz=37,slow=21,SNR=16						
	3.1nm,0.3s						
SEY	**Seymchan**	**4.16**	**149**	*e*P	**Pn**	**08 22 04.8**	**+0.8**
SEY				*e*Pg	**Pb**	**08 22 16.6**	**+2.9**
SEY				Pgmax		08 22 19.0	
	20nm,0.4s						
SEY				*e*Sg	**Sg**	**08 23 09.4**	**-4.5**
SEY				Sgmax		08 23 17.6	
	180nm,0.4s						
SEY				Sgmax		08 23 17.6	
	80nm,0.3s						
TLAR	**Talaya**	**5.83**	**157**	*e*Pg	**Pb**	**08 22 45.2**	**+2.9**
TLAR				*e*Sg	**Sg**	**08 24 02.4**	**-5.1**
TLAR				Sgmax		08 24 07.8	
	230nm,0.5s						
MGD	**Magadan 1**	**6.68**	**167**	*e*Sg	**Sg**	**08 24 30.5**	**-4.1**
MGD				Sgmax		08 24 35.3	
	160nm,0.8s						
EVEN	**Evensk**	**6.85**	**127**	*e*Sg	**Sg**	**08 24 40.1**	**-0.1**
EVEN				Sgmax		08 24 49.1	
	90nm,0.5s						
MA2	**Magadan**	**7.14**	**167**	Lg	Lg	08 24 45.8	
	4.5nm,0.3s,baz=8.5,slow=16,SNR=4.0						
MA2	**Magadan**	**7.14**	**167**	*e*P	**Pn**	**08 22 45.9**	**+0.9**
MA2				*e*Sg	**Sg**	**08 24 46.3**	**-3.3**
MA2				Sgmax		08 24 53.3	
	10.0nm,0.6s						
MA2				Sgmax		08 24 53.3	
	60nm,0.6s						
TIXI	**Tiksi**	**8.41**	**316**	Pn	**Pn**	**08 23 02.4**	**+0.1**
	16nm,0.3s,baz=284,slow=0.1,SNR=18						
CGD	**Chagda**	**11.04**	**233**	*e*P	Pn	08 23 21.9	-16
	1.6nm,0.2s						
CGD				*e*Lg	Lg	08 26 17.0	
	8.8nm,0.2s						
ILAR	**Eielson Array**	**25.93**	**63**	P	**P**	**08 26 31.4**	**-1.1**
	1.3nm,1.0s,baz=298,slow=8.1,SNR=6.7						
	1.3nm,1.0s						
KURBB	**Kurchatov Arra**	**37.14**	**280**	P	**P**	**08 28 10.5**	**-0.4**
	1.3nm,0.2s,baz=41,slow=8.3,SNR=1.5						
	1.3nm,0.2s						
MKAR	**Makanchi Array**	**38.70**	**273**	P	**P**	**08 28 24.6**	**+0.3**
	0.2nm,0.5s,baz=36,slow=7.5,SNR=2.5						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**56.29**	**60**	P	**P**	**08 30 43.5**	**+2.3**
	0.6nm,0.7s,baz=356,slow=3.6,SNR=4.3						
	0.6nm,0.7s						
VRAC	**Vranov**	**58.62**	**325**	LR	LR	08 59 34.0	
	comp=Z,60nm,18.0s,baz=350,slow=39						
KMBO	**Kilima Mbogo**	**99.06**	**288**	LR	LR	09 22 56.5	
	comp=Z,96nm,19.5s,baz=91,slow=38						

---

*IDC **09** 08:48:57.1±1.3, 28°.43N×142°.23E, h0km, mb3.8/6, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=50.0km s-min=15.6km az=83.0*
ISC 09 08:49:02.2±1.0**, 28°.46N**±0°.08×**142°.2E**±0°.3**, h36km, n8, σ1.17**/9**, mb3.9**/6**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.35**	**179**	Pn	**Pn**	**08 49 24.1**	**-0.5**
	10nm,0.3s,baz=85,slow=23,SNR=8.1						
JCJ				Sn	**Sn**	**08 49 41.9**	**+0.6**
	54nm,0.3s,baz=300,slow=22,SNR=17						
MJAR	**Matsushiro Arr**	**8.73**	**338**	Pn	**Pn**	**08 51 04.0**	**-1.8**
	0.2nm,0.3s,baz=157,slow=12,SNR=6.8						
	1.1nm,0.3s						
KLR	**Kul'dur**	**22.23**	**342**	P	**P**	**08 53 57.0**	**+1.5**
	1.9nm,0.7s,baz=162,slow=11,SNR=2.7						
	1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**48.46**	**318**	P	**P**	**08 57 41.8**	**+0.9**
	0.8nm,0.4s,baz=106,slow=7.8,SNR=2.6						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**48.71**	**190**	P	**P**	**08 57 42.3**	**-0.8**
	1.3nm,0.6s,baz=13,slow=8.5,SNR=12						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**49.61**	**309**	P	**P**	**08 57 50.5**	**+0.6**
	0.7nm,0.8s,baz=96,slow=9.4,SNR=5.9						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**56.53**	**29**	P	**P**	**08 58 40.8**	**+0.2**
	0.5nm,1.0s,baz=277,slow=6.8,SNR=2.3						
	0.5nm,1.0s						
BRTR	**Keskin Array B**	**85.07**	**313**	P	**P**	**09 01 35.1**	**+0.5**
	0.7nm,0.7s,baz=103,slow=5.0,SNR=3.6						
	0.7nm,0.7s						

---

*ISK **09** 08:54:22.2, 38°.74N×27°.82E, h6km, ML3.5/27*
*DDA **09** 08:54:22.0±0.0, 38°.74N×27°.83E, h8km±3km, MW3.4*
ISC 09 08:54:22.4±0.8**, 38°.75N**±0°.02×**27°.83E**±0°.02**, h9km**±6km**, n46, σ0.73**/66**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMA	**Golmarmara-Man**	**0.08**	**120**	PG	**Pg**	**08 54 24.6**	**0.0**
GOMA				SG	**Sg**	**08 54 26.2**	**0.0**
AKS	**Akhisar**	**0.13**	**356**	PG	**Pg**	**08 54 25.2**	**-0.2**
AKS				SG	**Sg**	**08 54 27.6**	**+0.2**
ZEDA	**zmir-Bergama**	**0.62**	**291**	P	**Pb**	**08 54 35.0**	**-0.5**
ZEDA				S	**Sb**	**08 54 44.1**	**-0.2**
MANT	**Manisa**	**0.63**	**114**	P	**Pg**	**08 54 34.7**	**+0.1**
MANT				S	**Sg**	**08 54 42.9**	**+0.1**
STEP	**BALIKESIR_Sava**	**0.63**	**352**	P	**Pg**	**08 54 34.4**	**-0.2**
STEP				S	**Sg**	**08 54 43.3**	**+0.4**
DKL	**Dikili**	**0.79**	**294**	PG	**Pb**	**08 54 38.3**	**+0.1**
DKL				SG	**Sb**	**08 54 49.3**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**176**	PG	**Pg**	**08 54 37.6**	**-0.2**
AYDB				SG	**Sb**	**08 54 49.1**	**-0.5**
FOCM	**Foa**	**0.86**	**268**	PG	**Pg**	**08 54 38.8**	**-0.1**
USAK	**Uak-Merkez**	**0.93**	**92**	P	**Pg**	**08 54 40.0**	**-0.3**
USAK				S	**Sg**	**08 54 51.4**	**-1.0**
BUHA	**Balikesir, Bur**	**0.95**	**322**	P	**Pb**	**08 54 40.8**	**-0.2**
BUHA				S	**Sb**	**08 54 54.2**	**+0.4**
SMAA	**Simav-Kutahya**	**0.97**	**68**	PG	**Pb**	**08 54 41.2**	**-0.2**
DGB	**zmir**	**1.02**	**227**	P	**Pb**	**08 54 42.2**	**+0.1**
DGB				S	**Sb**	**08 54 55.6**	**0.0**
URLA	**Izmir**	**1.04**	**248**	PG	**Pg**	**08 54 41.9**	**-0.5**
URLA	**Izmir**	**1.04**	**248**	P	**Pg**	**08 54 40.8**	**-1.6**
DST	**Dursunbey**	**1.05**	**36**	PG	**Pn**	**08 54 43.2**	**-0.2**
GCAM	**G?zelcaml?**	**1.15**	**204**	PN	**Pn**	**08 54 44.5**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**1.16**	**244**	P	**Pn**	**08 54 44.6**	**-0.1**
ZEYE				S	**Sn**	**08 55 00.8**	**+0.2**
GEDZ	**Gediz**	**1.27**	**76**	PN	**Pg**	**08 54 47.5**	**+0.7**
GONE	**Gonen-Balikesi**	**1.30**	**355**	PN	**Pg**	**08 54 47.5**	**+0.1**
GDZ	**Gediz**	**1.33**	**75**	P	**Pn**	**08 54 46.4**	**-0.9**
GDZ				S	**Sb**	**08 55 03.6**	**-1.3**
DDIM	**Aydin, Didim**	**1.37**	**200**	P	**Pg**	**08 54 48.4**	**-0.2**
DDIM				S	**Sg**	**08 55 07.8**	**+1.4**
KHL	**Karahalli**	**1.40**	**107**	PN	**Pg**	**08 54 49.0**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.40**	**315**	P	**Pn**	**08 54 48.3**	**+0.1**
BAYC				S	**Sb**	**08 55 06.5**	**-0.3**
CHOS	**Chios island**	**1.43**	**256**	PN	**Pb**	**08 54 49.2**	**-0.1**
TVSB	**Tavsanli**	**1.45**	**61**	PN	**Pn**	**08 54 49.1**	**+0.2**
ORLT	**Orhaneli**	**1.54**	**32**	PN	**Pb**	**08 54 51.2**	**+0.1**
MULA	**Mugla, Merkez-**	**1.54**	**165**	P	**Pn**	**08 54 49.8**	**-0.4**
MULA				S	**Sb**	**08 55 10.3**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.54**	**146**	P	**Pn**	**08 54 50.3**	**+0.1**
TAVA				S	**Sg**	**08 55 11.3**	**-0.7**
EZN	**Ezine**	**1.58**	**313**	PN	**Pb**	**08 54 51.6**	**-0.2**
YER	**Yerkesik**	**1.65**	**167**	PN	**Pb**	**08 54 52.2**	**-0.8**
APMY	**Acipayam-Deniz**	**1.73**	**137**	PN	**Pn**	**08 54 53.2**	**+0.5**
BODT	**Bodrum**	**1.73**	**194**	PN	**Pb**	**08 54 53.4**	**-1.0**
ANDZ	**Kutahya, Merke**	**1.78**	**64**	P	**Pg**	**08 54 56.1**	**-0.5**
ANDZ				S	**Sg**	**08 55 18.8**	**-0.9**
IGD	**Bursa**	**1.85**	**35**	P	**Pb**	**08 54 56.7**	**+0.3**
IGD				S	**Sg**	**08 55 21.9**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.88**	**104**	P	**Pn**	**08 54 55.3**	**+0.5**
KZIL				S	**Sg**	**08 55 25.8**	**+2.9**
BASM	**Basmaki-Afyon**	**1.94**	**115**	PN	**Pn**	**08 54 56.5**	**+1.0**
TURN	**Turunc**	**2.00**	**170**	PN	**Pn**	**08 54 57.1**	**+0.8**
DAT	**Datca**	**2.03**	**186**	PN	**Pn**	**08 54 57.8**	**+1.0**
DALY	**Dalyan (Mula)**	**2.04**	**161**	PN	**Pn**	**08 54 57.4**	**+0.6**
BILE	**Bilecik/Merkez**	**2.12**	**48**	P	**Pb**	**08 55 00.9**	**-0.2**
BILE				S	**Sg**	**08 55 29.9**	**-0.8**
SHUT	**Suhut-Afyon**	**2.14**	**94**	PN	**Pn**	**08 54 59.8**	**+1.4**
CAME	**Cameli-Denizli**	**2.15**	**147**	PN	**Pn**	**08 54 59.2**	**+0.7**
FETY	**Fethiye**	**2.33**	**154**	PN	**Pn**	**08 55 00.9**	**-0.1**
APE	**Apeiranthos**	**2.47**	**228**	PN	**Pn**	**08 55 04.2**	**+1.3**
ARG	**Arkhangelos**	**2.54**	**175**	PN	**Pn**	**08 55 04.7**	**+0.9**
KORT	**Korkueli**	**2.65**	**130**	PN	**Pn**	**08 55 06.5**	**+1.0**

---

*SNET **09** 08:58:46.8±1.1, 12°.94N×88°.87W, h53km, ML3.7*
*INET **09** 08:58:47.3±0.5, 12°.97N×88°.85W, h24km±8km, MW3.4*
ISC 09 08:58:47.1±1.7**, 12°.9N**±0°.1×**88°.87W**±0°.05**, h52km**±20km**, n30, σ0.46**/44**, 5D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.49**	**36**	*i* P	**Pn**	**08 58 58.4**	**-0.1**
ALJI				*e*S	**Sn**	**08 59 07.2**	**+0.6**
COEB	**Comit de Eme**	**0.66**	**30**	*e*P	**Pn**	**08 59 00.3**	**-0.3**
COEB				*e*S	**Sn**	**08 59 10.3**	**0.0**
SNVI	**San Vicente**	**0.68**	**2**	*e*P	**Pn**	**08 59 00.7**	**-0.3**
COEG	**Centro de Oper**	**0.69**	**359**	*e*P	**Pn**	**08 59 00.5**	**-0.5**
COEG				*e*S	**Sn**	**08 59 10.6**	**-0.4**
SJTE	**Alcalda de S**	**0.70**	**349**	*e*P	**Pn**	**08 59 00.6**	**-0.4**
SJTE				*e*S	**Sn**	**08 59 11.0**	**-0.2**
LFRS	**El Faro**	**0.72**	**345**	*e*P	**Pn**	**08 59 01.1**	**-0.2**
PQSS	**Presa 15 de Se**	**0.76**	**23**	*e*P	**Pn**	**08 59 02.0**	**+0.2**
PQSS				*e*S	**Sn**	**08 59 13.2**	**+0.8**
VSM	**San Miguel**	**0.77**	**49**	*e*P	**Pn**	**08 59 02.1**	**0.0**
SCLA	**Alcaldia de Sa**	**0.78**	**10**	*e*P	**Pn**	**08 59 02.2**	**0.0**
SCLA				*e*S	**Sn**	**08 59 14.4**	**+1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAVA	**Las Pavas**	**0.79**	**355**	*e*P	**Pn**	**08 59 02.1**	**-0.2**
PAVA				*e*S	**Sn**	**08 59 13.2**	**-0.1**
LBRS	**Las Brisas**	**0.83**	**348**	*e*P	**Pn**	**08 59 01.7**	**-1.0**
SNET	**Serv Nac Est T**	**0.83**	**335**	*e*P	**Pn**	**08 59 02.5**	**-0.4**
SNET				*e*S	**Sn**	**08 59 14.0**	**-0.4**
SNET	**Serv Nac Est T**	**0.83**	**335**	*e*P	**Pn**	**08 59 02.5**	**-0.4**
SNET				*e*S	**Sn**	**08 59 13.9**	**-0.4**
LFU	**La Fuente**	**0.85**	**344**	*e*P	**Pn**	**08 59 02.9**	**-0.2**
UEES	**Universidad Ev**	**0.86**	**335**	*e*P	**Pn**	**08 59 03.1**	**-0.1**
UEES				*e*S	**Sn**	**08 59 15.2**	**+0.1**
BOQS	**Boqueron**	**0.90**	**334**	*e*P	**Pn**	**08 59 03.2**	**-0.6**
LCND	**La Caada**	**1.03**	**68**	*e*P	**Pn**	**08 59 05.1**	**-0.2**
LCND				*e*S	**Sn**	**08 59 19.1**	**+0.4**
P5NO	**Presa 5 de nov**	**1.06**	**6**	⇓*i*P	**Pn**	**08 59 05.4**	**-0.3**
P5NO				*e*S	**Sn**	**08 59 19.5**	**0.0**
CNCH	**Conchagua**	**1.07**	**71**	*e*P	**Pn**	**08 59 05.4**	**-0.5**
CNCH				*e*S	**Sn**	**08 59 20.2**	**+0.3**
CEVE	**Cerro Verde**	**1.16**	**321**	*e*S	**Sn**	**08 59 23.2**	**+1.0**
SBLS	**San Blas**	**1.17**	**321**	*e*P	**Pn**	**08 59 08.2**	**+0.8**
NUBE	**Las Nubes**	**1.31**	**318**	*e*P	**Pn**	**08 59 09.6**	**+0.2**
NUBE				*e*S	**Sn**	**08 59 25.9**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.41**	**321**	*e*P	**Pn**	**08 59 10.3**	**-0.2**
MTO3	**Montecristo**	**1.54**	**342**	*e*P	**Pn**	**08 59 12.4**	**-0.1**
MTO3	**Montecristo**	**1.54**	**342**	⇓*e*P	**Pn**	**08 59 12.4**	**-0.1**
CRIN	**San Cristobal**	**1.79**	**97**	⇓*e*P	**Pn**	**08 59 15.8**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.92**	**54**	*e*P	**Pn**	**08 59 17.3**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.92**	**54**	⇓*e*P	**Pn**	**08 59 17.3**	**-0.2**
MOMN	**Momotombo**	**2.33**	**102**	*e*P	**Pn**	**08 59 22.7**	**-0.4**
MATN	**Matagalpa**	**2.87**	**90**	⇓*e*P	**Pn**	**08 59 30.0**	**-0.5**

IDC 09 09:13:22.5±4.2**, 3°.64S**×**12°.05W, h0**km**, mb3.8**/4**, mbtmp3.9**/4**, MS3.4**/1**, Error ellipse: s-maj=257.2km s-min=30.0km az=134.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.81**	**210**	T	T	09 19 15.9	
	baz=29,slow=75,SNR=312						
H10N1	**ASCENSION HYDR**	**4.82**	**210**	T	T	09 19 14.9	
	baz=29,slow=75,SNR=345						
H10N3	**ASCENSION HYDR**	**4.83**	**210**	T	T	09 19 15.8	
	baz=29,slow=75,SNR=250						
H10S2	**ASCENSION HYDR**	**5.88**	**206**	T	T	09 20 36.7	
	baz=193,slow=74,SNR=25						
H10S3	**ASCENSION HYDR**	**5.88**	**206**	T	T	09 20 36.9	
	baz=27,slow=74,SNR=52						
TORD	**Torodi Ar. Bea**	**21.55**	**39**	P	P	09 18 13.8	0.0
	1.9nm,0.7s,baz=226,slow=10,SNR=10						
	1.9nm,0.7s						
BDFB	**Brasilia**	**37.33**	**249**	LR	LR	09 34 46.2	
	comp=Z,56nm,19.3s,baz=312,slow=34						
CPUP	**Villa Florida**	**48.85**	**238**	P	P	09 22 10.0	-0.1
	0.9nm,0.6s,baz=89,slow=11,SNR=3.0						
	0.9nm,0.6s						
GERES	**GERESS Array B**	**56.88**	**20**	P	P	09 23 08.9	-0.3
	0.7nm,0.7s,baz=192,slow=9.0,SNR=4.3						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**71.22**	**18**	P	P	09 24 43.5	+0.3
	1.8nm,0.7s,baz=218,slow=8.8,SNR=3.6						
	1.8nm,0.7s						

ROM 09 09:32:53.4±0.0**, 42°.672N**±0°.003×**13°.197E**±0°.002**, h11**km**, ML1.8**/11**, 8C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=24.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1218	**Civita (PG)**	**0.06**	**268**	⇑P	Pg	09 32 56.1	+0.2
T1218				S	Sg	09 32 57.6	0.0
T1218				AML	AML		
	comp=N,3678μm,0.3s						
T1218				AML	AML		
	comp=N,3540μm,0.3s						
T1218				AML	AML		
	comp=N,3677μm,0.3s						
T1218				AML	AML		
	comp=E,3200μm,0.6s						
T1218				AML	AML		
	comp=E,3055μm,0.6s						
T1213	**Norcia, Frazio**	**0.07**	**315**	⇑P	Pg	09 32 56.3	+0.3
SMA1	**SAN MARTINO**	**0.11**	**112**	⇑P	Pg	09 32 57.0	+0.6
SMA1				S	Sg	09 32 59.2	+0.7
SMA1				AML	AML		
	comp=E,2865μm,0.3s						
SMA1				AML	AML		
	comp=N,1700μm,0.2s						
LNSS	**Leonessa**	**0.14**	**239**	⇑P	Pg	09 32 57.2	+0.5
LNSS				AML	AML		
	comp=E,252μm,0.2s						
LNSS				AML	AML		
	comp=N,872μm,0.2s						
LNSS				AML	AML		
	comp=N,872μm,0.2s						
LNSS				AML	AML		
	comp=E,253μm,0.2s						
T1212	**Cascia, Frazio**	**0.14**	**305**	⇑P	Pg	09 32 57.2	+0.4
T1212				S	Sg	09 32 59.6	+0.5
RM33	**Pellescritta (**	**0.16**	**175**	P	Pg	09 32 57.6	+0.5
RM33				S	Sg	09 33 00.6	+0.8
RM33				AML	AML		
	comp=E,206μm,0.9s						
RM33				AML	AML		
	comp=N,473μm,0.2s						
RM33				AML	AML		
	comp=E,206μm,0.9s						
RM33				AML	AML		
	comp=N,472μm,0.2s						
T1245	**Castelsantange**	**0.18**	**358**	⇓P	Pg	09 32 58.2	+0.7
T1245				S	Sg	09 33 01.5	+1.1
T1245				AML	AML		
	comp=N,1170μm,0.2s						
T1245				AML	AML		
	comp=E,1145μm,0.3s						
T1243	**Rocca Santa Ma**	**0.19**	**82**	⇑P	Pg	09 32 58.0	+0.4
T1243				S	Sg	09 33 01.2	+0.7
CAMP	**Campotosto**	**0.21**	**131**	⇑P	Pg	09 32 58.3	+0.5
CAMP				S	Sg	09 33 01.8	+0.8
CAMP				AML	AML		
	comp=N,130μm,0.6s						
CAMP				AML	AML		
	comp=E,160μm,1.3s						
CAMP				AML	AML		
	comp=N,130μm,0.6s						
T1241	**Roccafluvione,**	**0.25**	**43**	⇑P	Pg	09 32 59.1	+0.5
T1241				S	Sb	09 33 03.3	-1.1
T1241				AML	AML		
	comp=E,408μm,0.2s						
T1241				AML	AML		
	comp=N,180μm,1.1s						
T1241				AML	AML		
	comp=N,180μm,1.1s						
T1215	**Vallo di Nera,**	**0.28**	**298**	⇓P	Pg	09 32 59.4	+0.3
T1215				S	Sg	09 33 03.8	+1.0
TERO	**Teramo**	**0.30**	**99**	P	Pg	09 32 59.8	+0.3
TERO				S	Sg	09 33 04.5	+0.8
TERO				AML	AML		
	comp=E,196μm,0.8s						
TERO				AML	AML		
	comp=N,219μm,0.8s						
TERO				AML	AML		
	comp=N,220μm,0.8s						
TERO				AML	AML		
	comp=E,196μm,0.8s						
ARRO	**Arrone**	**0.33**	**254**	AML	AML		
	comp=E,130μm,0.8s						
ARRO				AML	AML		
	comp=N,164μm,1.6s						
ARRO				AML	AML		
	comp=E,130μm,0.8s						
ARRO				AML	AML		
	comp=N,164μm,1.6s						
ATTE	**AVT- Monte Tez**	**0.81**	**311**	AML	AML		
	comp=E,10μm,0.6s						
ATTE				AML	AML		
	comp=N,9μm,0.6s						
PE3	**Peglio**	**1.15**	**334**	AML	AML		
	comp=E,42μm,0.1s						
PE3				AML	AML		
	comp=N,65μm,0.1s						

KRSZO 09 09:35:26.8±1.8**, 47°.35N**×**18°.40E, h0**km**, Error ellipse: s-maj=12.8km s-min=7.3km az=117.0, Explosion., Hungary**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSKK	**Cskako**	**0.09**	**277**	Pg	Pg	09 35 29.1	+0.5
	comp=Z,16nm,SNR=41						
CSKK				Lg	Lg	09 35 31.1	
CSKK	**Cskako**	**0.09**	**277**	P	Pg	09 35 29.1	+0.5
CSKK				S	Sg	09 35 31.1	+1.3
A269A	**Baj**	**0.29**	**358**	Lg	Lg	09 35 38.5	
MPLH	**Magyarpolny**	**0.61**	**253**	Lg	Lg	09 35 49.8	
MPLH	**Magyarpolny**	**0.61**	**253**	S	Sb	09 35 49.8	+0.3
MORH	**Mrgy, Hungar**	**1.15**	**171**	Sn	Sn	09 36 06.5	-0.1
MORH	**Mrgy, Hungar**	**1.15**	**171**	S	Sn	09 36 06.5	-0.1
VYHS	**Vyhne**	**1.18**	**14**	Sn	Sn	09 36 07.0	-0.4
VYHS	**Vyhne**	**1.18**	**14**	*e*SG	Sg	09 36 05.3	+0.6

*FUNV **09** 09:35:53.2, 10°.84N×72°.13W, h1km, MW3.0*
*RSNC **09** 09:35:55.0±1.3, 10°.88N×72°.19W, h1km±8km, ML2.4*
ISC 09 09:35:54.5±1.2**, 10°.89N**±0°.04×**72°.15W**±0°.03**, h26**km±14km**, n14, σ1s.59**/25**, 1C-1D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.73**	**280**	⇓*i*P	**Pb**	**09 36 07.5**	**-1.2**
CRJC				*e*S	**Sb**	**09 36 17.7**	**-0.7**
CRJC				IAML		09 36 18.4	
	comp=Z,334nm,0.2s						
URIC	**Uribia, Colomb**	**0.82**	**11**	⇑*i*P	**Pb**	**09 36 10.0**	**-0.1**
URIC				*e*S	**Sn**	**09 36 21.9**	**+0.2**
URIC				IAML		09 36 24.5	
	comp=Z,147nm,0.1s						
DABV	**Dabajuro**	**1.48**	**89**	*e*P	**Pb**	**09 36 20.7**	**-0.7**
DABV				*e*S	**Sb**	**09 36 41.4**	**+1.6**
SIQV	**Siquisique**	**2.31**	**96**	*e*P	**Pn**	**09 36 30.9**	**-0.1**
SIQV				*e*S	**Sn**	**09 36 59.6**	**+1.0**
CURV	**Curarigua**	**2.32**	**112**	*e*P	**Pn**	**09 36 31.9**	**+0.8**
CURV				*e*S	**Sn**	**09 36 59.6**	**+0.7**
SOCV	**Socops**	**2.88**	**154**	*e*P	**Pn**	**09 36 37.8**	**-1.0**
SOCV				*e*S	**Sn**	**09 37 13.1**	**+0.3**
CAPV	**Capacho**	**3.01**	**183**	*e*P	**Pn**	**09 36 40.7**	**-0.1**
CAPV				*e*S	**Sn**	**09 37 15.9**	**-0.2**
SJCC	**San Jacinto, C**	**3.14**	**252**	*e*P	**Pn**	**09 36 43.6**	**+1.2**
SJCC				*e*S	**Sn**	**09 37 22.8**	**+3.6**
SJCC				IAML		09 37 26.9	
	comp=Z,6.7nm,0.6s						
PAMC	**Pamplona, Colo**	**3.57**	**189**	*e*P	**Pb**	**09 36 57.5**	**+0.3**
PAMC				*e*S	**Sb**	**09 37 43.2**	**+2.9**
PAMC				IAML		09 37 44.9	
	comp=Z,8.3nm,0.2s						
MAPV	**Macapo**	**3.78**	**106**	*e*P	**Pn**	**09 36 51.0**	**-0.2**
ZARC	**Zaragoza, Cauc**	**4.31**	**219**	*e*P	**Pn**	**09 36 55.9**	**-2.5**
ZARC				*e*S	**Sn**	**09 37 45.8**	**-2.1**
ZARC				IAML		09 38 05.9	
	comp=Z,4.3nm,0.5s						
BAUV	**El Baul**	**4.48**	**115**	*e*P	**Pn**	**09 37 00.3**	**-0.5**
BAUV				*e*S	**Sn**	**09 37 50.0**	**-2.1**
BENV	**Beln**	**4.57**	**101**	*e*P	**Pn**	**09 37 02.1**	**+0.1**
BENV				*e*S	**Sn**	**09 37 51.9**	**-2.5**
CACV	**CAICARA DEL OR**	**6.44**	**120**	*e*P	Pn	09 37 33.7	+5.9

VIE 09 10:11:15.0±0.3**, 47°.85N**×**14°.15E, h0**km**, mb1.8**/6**, ml1.9**/9**, Error ellipse: s-maj=3.1km s-min=1.6km az=44.0 3 km N of Klaus Mining explosion., Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOA	**Molln**	**0.08**	**91**	*e*Pg	Pg	10 11 16.2	-0.3
	7.3nm,0.1s						
BIOA	**Bad Ischl, Aus**	**0.38**	**245**	Pg	Pg	10 11 23.0	+0.7
	4.5nm,0.3s						
KBA	**Koelnbreinsper**	**0.95**	**216**	Pg	Pb	10 11 33.8	-0.6
	0.8nm,0.2s						
ARSA	**Arzberg**	**1.11**	**122**	*e*Pg	Pb	10 11 36.9	-0.1
	0.9nm,0.2s						
ARSA				*e*Sg	Sb	10 11 52.2	+0.2
	1.6nm,0.2s						
CONA	**Conrad Observa**	**1.16**	**86**	*e*Pg	Pg	10 11 37.2	+0.1
	2.1nm,0.2s						
CONA				Sg	Sb	10 11 53.6	+0.1
	7.3nm,0.3s						
RONA	**Rosalia, Austr**	**1.46**	**95**	*e*Pg	Pn	10 11 42.6	0.0
	1.3nm,0.3s						
RONA				Sg	Sn	10 12 03.2	+0.7
	5.4nm,0.3s						
WTTA	**Wattenberg**	**1.80**	**252**	Pg	Pg	10 11 50.0	+0.5
	0.9nm,0.1s						
MOTA	**Moosalm**	**2.12**	**257**	*e*Pg	Pg	10 11 55.7	0.0
	0.7nm,0.2s						

PRU 09 10:11:40.2±0.0**, 51°.45N**×**16°.23E, h0**km**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**176**	*e*Pg	Pg	10 11 51.9	0.0
KSP				*e*Sg	Sg	10 11 59.5	-0.2
CHVC	**Chvalec**	**0.87**	**187**	*e*PG	Pb	10 11 57.8	-0.4
CHVC				*e*SG	Sg	10 12 08.4	+0.3
	comp=Z,11nm,0.6s						
OSTC	**Ostas**	**0.90**	**181**	*e*PG	Pg	10 11 57.6	+0.3
OSTC				*e*SG	Sg	10 12 09.0	+0.1
	comp=Z,6.9nm,0.3s						
UPC	**Upice**	**0.95**	**188**	*e*PG	Pg	10 11 58.5	0.0
UPC				*e*SG	Sg	10 12 10.9	+0.1
	comp=Z,24nm,0.6s						
DPC	**Dobruska-Polom**	**1.10**	**177**	*e*PG	Pg	10 12 01.1	-0.2
PVCC	**Panska Ves**	**1.40**	**229**	*e*PG	Pn	10 12 06.5	-0.4
PVCC				*e*SG	Sn	10 12 26.0	-0.1
	comp=Z,27nm,0.4s						
KRLC	**Kraliky**	**1.42**	**166**	*e*SG	Sg	10 12 25.3	-0.5
BRG	**Berggiesshubel**	**1.55**	**249**	Pg	Pb	10 12 09.8	0.0
BRG				Sg	Sg	10 12 30.1	+0.1
BRG				Amp		10 12 32.6	
	comp=Z,5.4nm,0.5s						
MORC	**Moravsky Berou**	**1.87**	**153**	*e*PG	Pn	10 12 13.0	-0.5
MORC				*e*SG	Sb	10 12 38.9	-0.3
CLL	**Collm**	**2.03**	**267**	*e*Pg	Pg	10 12 19.0	0.0
CLL				*e*x	x	10 12 22.0	
CLL				*e*Sg	Sg	10 12 45.0	-0.3
KHC	**Kasperske Hory**	**2.88**	**217**	*e*PG	Pb	10 12 32.9	+0.5
KHC				*e*SG	Sg	10 13 10.9	-1.7
CKRC	**Cesky Krumlov**	**2.91**	**206**	*e*SG	Sg	10 13 12.7	-0.9

*IDC **09** 10:12:00.2±3.9, 22°.75N×144°.17E, h106km±28km, mb3.3/7, mbtmp3.9/9, Error ellipse: s-maj=76.4km s-min=18.9km az=79.0*
ISC 09 10:11:59.7±1.6**, 22°.7N**±0°.1×**144°.2E**±0°.3**, h100**km**, n9, σ1s.09**/10**, mb3.9**/6**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.74**	**338**	P	**Pn**	**10 13 10.3**	**+1.4**
	20nm,0.3s,baz=258,slow=16,SNR=1.9						
JCJ				S	**Sn**	**10 14 01.6**	**-1.3**
	52nm,0.3s,baz=281,slow=22,SNR=10						
JOW	**Kunigami**	**15.01**	**289**	P	**Pn**	**10 15 26.9**	**+0.3**
	21nm,0.4s,baz=128,slow=19,SNR=2.1						
KSRS	**Korea Array**	**20.30**	**320**	P	**P**	**10 16 28.7**	**+1.1**
	1.4nm,0.4s,baz=146,slow=9.2,SNR=15						
	1.4nm,0.4s						
SONM	**Songino Array**	**39.17**	**319**	P	**P**	**10 19 17.0**	**-0.9**
	0.6nm,0.4s,baz=135,slow=9.9,SNR=5.0						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**43.44**	**193**	P	**P**	**10 19 52.8**	**-0.1**
	0.2nm,0.5s,baz=17,slow=8.9,SNR=4.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**47.14**	**193**	P	**P**	**10 20 22.4**	**+0.3**
	0.2nm,0.8s,baz=14,slow=14,SNR=4.2						
	0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**54.01**	**321**	P	**P**	**10 21 14.2**	**+0.8**
	0.5nm,0.3s,baz=113,slow=3.3,SNR=2.0						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**54.70**	**312**	P	**P**	**10 21 17.3**	**-1.3**
	0.5nm,0.4s,baz=90,slow=8.9,SNR=4.6						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**82.68**	**335**	P	**P**	**10 24 11.3**	**-0.6**
	2.4nm,0.8s,baz=55,slow=5.3,SNR=5.7						
	2.4nm,0.8s						

IDC 09 10:21:04.8±16.0**, 4°.07S**×**131°.14E, h0**km**, mb3.9**/1**, mbtmp3.3**/3**, ML3.3**/2**, Error ellipse: s-maj=319.9km s-min=177.4km az=114.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.08**	**169**	Pn	Pn	10 24 52.7	+0.2
	0.2nm,0.3s,baz=351,slow=15,SNR=8.5						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**19.66**	**172**	P	P	10 25 35.2	-0.3
	0.1nm,0.3s,baz=344,slow=9.6,SNR=8.2						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**29.35**	**162**	P	P	10 27 09.8	+0.2
	0.5nm,0.3s,baz=333,slow=11,SNR=2.1						
	0.5nm,0.3s						

*IDC **09** 10:28:19.2±5.8, 6°.88S×146°.71E, h104km±52km, mb3.4/2, mbtmp3.7/3, Error ellipse: s-maj=61.0km s-min=23.3km az=126.0*
ISC 09 10:28:19.7±1.9**, 6°.9S**±0°.2×**146°.8E**±0°.1**, h100**km**, n20, σ1s.54**/21**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.52**	**171**	P	**Pn**	**10 28 56.9**	**-2.2**
COEN	**Coen**	**7.85**	**206**	P	**Pn**	**10 30 11.4**	**+0.2**
MTSU	**Mount Surprise**	**11.42**	**192**	P	**Pn**	**10 30 59.9**	**+0.2**
CTA	**Charters Tower**	**13.12**	**182**	P	**Pn**	**10 31 24.0**	**+1.7**
CTAO	**Charters Tower**	**13.12**	**182**	P	**Pn**	**10 31 23.9**	**+1.7**
KDU	**Kakadu**	**15.20**	**247**	P	**P**	**10 31 52.5**	**+0.7**
QIS	**Mount Isa**	**15.24**	**206**	P	**P**	**10 31 53.2**	**+1.0**
WRAB	**Tennant Creek**	**17.69**	**222**	P	**Pn**	**10 32 19.8**	**0.0**
WRA	**Warramunga Arr**	**17.70**	**222**	P	**Pn**	**10 32 19.2**	**-0.7**
	0.7nm,0.5s,baz=46,slow=11,SNR=14						
WRA				S	**Sn**	**10 35 35.4**	**-2.0**
	0.7nm,1.0s,baz=46,slow=23,SNR=3.9						
QLP	**Quilpie**	**19.72**	**187**	P	**P**	**10 32 41.9**	**+0.5**
AS01	**Alice Springs**	**20.72**	**215**	P	Pn	10 32 53.7	-1.8
ASAR	**Alice Springs**	**20.75**	**215**	P	**P**	**10 32 52.5**	**-0.1**
	1.3nm,0.5s,baz=48,slow=8.7,SNR=30						
ASAR				S	**S**	**10 36 39.0**	**+0.2**
	0.2nm,0.7s,baz=38,slow=21,SNR=2.4						
	1.3nm,0.5s						
OOD	**Oodnadatta**	**23.28**	**205**	P	**P**	**10 33 18.2**	**-0.5**
CMSA	**Cobar Meteorol**	**24.53**	**182**	P	**P**	**10 33 32.5**	**+2.5**
LCRK	**Leigh Creek**	**24.76**	**198**	P	**P**	**10 33 33.0**	**+0.9**
STKA	**Stephens Creek**	**25.31**	**190**	P	**P**	**10 33 35.7**	**-1.4**
	0.7nm,0.4s,baz=9.5,slow=12,SNR=3.5						
	0.7nm,0.4s						
MULG	**Mulgathing**	**26.14**	**206**	P	**P**	**10 33 44.7**	**+0.1**
HTT	**Hallett**	**27.38**	**194**	P	**P**	**10 33 58.5**	**+2.7**
MILA	**Mila**	**30.09**	**176**	P	**P**	**10 34 21.7**	**+1.9**
	18nm,1.5s						
TORD	**Torodi Ar. Bea**	**145.07**	**283**	PKPbc	**PKPbc**	**10 47 43.8**	**-2.3**
	0.3nm,0.5s,baz=80,slow=2.4,SNR=2.5						

*HEL **09** 10:29:43.0±0.3, 67°.62N×34°.27E, h0km, ML2.5, Explosion*
*BER **09** 10:29:44.7±1.1, 67°.70N×34°.47E, h0km, ML2.4, Suspected explosion*
*KOLA **09** 10:29:44.6, 67°.68N×34°.12E, h0km, ML2.5*
ISC 09 10:29:43.5±1.1**, 67°.69N**±0°.04×**34°.19E**±0°.04**, h0**km**, n32, σ1s.67**/58**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.28**	**40**	PG	**Pg**	**10 29 48.5**	**-0.3**
LVZ				SG	**Sg**	**10 29 53.1**	**+0.7**
APA	**Apatity**	**0.32**	**249**	P	**Pg**	**10 29 49.9**	**+0.2**
APA				S	**Sg**	**10 29 54.5**	**+0.7**
APA0	**Apatity Array**	**0.46**	**260**	P	**Pg**	**10 29 51.7**	**-0.7**
APA0				S	**Sg**	**10 29 59.0**	**+0.6**
TERR	**Teriberka**	**1.56**	**12**	P	**Pn**	**10 30 12.3**	**-0.1**
TERR				S	**Sn**	**10 30 33.6**	**+0.3**
VRF	**Varrio**	**1.75**	**274**	PG	**Pn**	**10 30 15.0**	**-0.1**
VRF				MSG		10 30 36.1	
	comp=Z,55nm,0.2s						
VRF				SG	**Sn**	**10 30 37.4**	**-0.6**
OLKF	**Oulanka, Finla**	**2.33**	**236**	PG	**Pn**	**10 30 24.1**	**+1.1**
OLKF				SG	**Sb**	**10 30 55.0**	**-0.5**
KU6	**Riekki**	**2.38**	**227**	PG	**Pn**	**10 30 24.3**	**+0.6**
	baz=47						
KU6				MSG		10 30 52.7	
	comp=Z,19nm,0.2s						
KU6				SG	**Sb**	**10 30 55.9**	**-1.2**
MSF	**Maaselka**	**2.71**	**231**	PG	**Pn**	**10 30 30.0**	**+1.7**
	baz=51						
MSF				SG	**Sb**	**10 31 05.0**	**-1.5**
SGF	**Sodankyl**	**2.95**	**269**	PB	**Pn**	**10 30 32.0**	**+0.4**
SGF				SB	**Sn**	**10 31 09.2**	**+1.6**
KEV	**Kevo**	**3.34**	**312**	PN	**Pn**	**10 30 37.4**	**+0.5**
KEV				SN	**Sn**	**10 31 17.2**	**-0.1**
KEV	**Kevo**	**3.34**	**312**	*e*P	**Pn**	**10 30 37.8**	**+0.9**
KEV				*e*S	**Sn**	**10 31 16.5**	**-0.7**
RNF	**Rovaniemi**	**3.37**	**255**	PN	**Pn**	**10 30 37.5**	**+0.2**
	baz=70						
RNF				SN	**Sn**	**10 31 18.1**	**+0.2**
ARA0	**ARCESS Array S**	**3.68**	**304**	PN	**Pn**	**10 30 41.6**	**0.0**
	baz=121						
ARA0				SN	**Sn**	**10 31 24.5**	**-1.2**
ARA0	**ARCESS Array S**	**3.68**	**304**	*e*P	**Pn**	**10 30 41.9**	**+0.2**
ARA0				*e*S	**Sn**	**10 31 24.1**	**-1.5**
ARA0				IAML		10 31 39.9	
	comp=Z,15nm,0.3s						
ARCES	**ARCESS Array B**	**3.68**	**304**	P	**Pn**	**10 30 41.6**	**0.0**
ARCES				S	**Sn**	**10 31 24.3**	**-1.4**
RMF	**Romuvaara**	**3.90**	**209**	PB	**Pn**	**10 30 44.7**	**+0.2**
KLF	**Kolari**	**3.96**	**268**	PN	**Pn**	**10 30 45.6**	**+0.1**
KLF				SG	**Sb**	**10 31 46.0**	**+3.5**
HEF	**Hetta**	**4.02**	**285**	PN	**Pn**	**10 30 46.1**	**-0.2**
HEF				SG	**Sb**	**10 31 47.0**	**+2.8**
HEF	**Hetta**	**4.02**	**285**	*e*P	**Pn**	**10 30 46.3**	**0.0**
HEF				*e*S	**Sn**	**10 31 33.3**	**-0.7**
TOF	**Tornio**	**4.21**	**252**	PN	**Pn**	**10 30 49.4**	**+0.5**
TOF				SN	**Sn**	**10 31 37.0**	**-1.6**
OUL	**Oulu**	**4.24**	**236**	PB	**Pn**	**10 30 52.0**	**+2.8**
KTK1	**Kautokeino**	**4.27**	**293**	PN	**Pn**	**10 30 50.3**	**+0.6**
KTK1				SG	**Sb**	**10 31 54.0**	**+2.6**
KTK1	**Kautokeino**	**4.27**	**293**	*e*P	**Pn**	**10 30 50.3**	**+0.6**
KTK1				*e*S	**Sn**	**10 31 39.1**	**-1.0**
KTK1				IAML		10 31 56.4	
	comp=Z,20nm,0.4s						
PAJU	**Pajala**	**4.33**	**266**	PN	**Pn**	**10 30 51.1**	**+0.5**
	baz=73						
PAJU				SN	**Sn**	**10 31 40.2**	**-1.6**
LANU	**Lannavaara**	**4.63**	**280**	PN	**Pn**	**10 30 53.7**	**-0.9**
LANU				SG	**Sb**	**10 32 05.9**	**+4.2**
HAMF	**Hammerfest**	**4.78**	**313**	*e*	**Pn**	**10 30 56.4**	**-0.2**
HAMF				*e*S	**Sn**	**10 31 49.8**	**-2.9**
KIF	**Kilpisjarvi**	**5.13**	**291**	*e*P	**Pn**	**10 31 01.5**	**+0.1**
KIF				*e*S	**Sn**	**10 31 58.1**	**-3.2**
JETT	**Jettan, Norway**	**5.38**	**297**	*e*	**Pn**	**10 31 04.9**	**0.0**
JETT				*e*S	**Sn**	**10 32 03.7**	**-3.7**
TRO	**Tromso**	**5.90**	**296**	*e*S	**Sn**	**10 32 16.7**	**-3.5**
STEI	**Steigen**	**7.17**	**281**	*e*	**Pn**	**10 31 28.0**	**-1.5**
FAUS	**Fauske**	**7.24**	**276**	*e*	**Pn**	**10 31 28.8**	**-1.6**
FAUS				*e*S	**Sn**	**10 32 48.5**	**-4.8**
MOR8	**Moi Rana**	**7.89**	**268**	*e*S	Sn	10 32 59.0	-10

IDC 09 10:47:07.1±15.0**, 0°.17S**×**128°.43E, h0**km**, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=239.0km s-min=185.0km az=146.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.48**	**164**	P	P	10 51 47.0	+0.3
	0.6nm,0.7s,baz=342,slow=12,SNR=12						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**23.95**	**168**	P	P	10 52 24.1	+0.9
	2.2nm,0.6s,baz=347,slow=11,SNR=50						
	2.2nm,0.6s						
STKA	**Stephens Creek**	**33.91**	**160**	P	P	10 53 50.4	-1.5
	0.4nm,0.3s,baz=0.0,slow=13,SNR=3.0						
	0.4nm,0.3s						

*JSN **09** 10:56:41.4±0.4, 18°.41N×76°.44W, h0km±8km, MD2.9*
*SSNC **09** 10:56:42.2±0.8, 18°.54N×76°.43W, h6km±7km, MD2.6, ML1.7, MW2.7*
ISC 09 10:56:38.6±1.5**, 18°.53N**±0°.05×**76°.41W**±0°.06**, h13**km±13km**, n10, σ0s.36**/15**, 3C-4D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMJ	Castle Mountai	0.39	175	⇑iP	Pb	10 56 47.3	-0.2
GWJ	Greenwich	0.55	214	⇓iP	Pb	10 56 50.0	-0.1
STH	Stony Hill	0.59	220	i S	Sg	10 56 57.8	-0.2
HOJ	Hope	0.61	212	⇑iP	Pb	10 56 51.3	+0.1
PCJ	Portland Cotta	1.06	222	⇑iP	Pb	10 56 58.8	0.0
MTDJ	Mount Denham	1.11	254	eP	Pg	10 57 00.4	+0.3
MTDJ				⇓eS	Sn	10 57 15.0	-0.2
MCJ	Malvern	1.36	244	i P	Pb	10 57 04.3	+0.4
MCJ				i S	Sg	10 57 21.9	-0.4
RCC	Rio Carpintero	1.60	25	eP	Pb	10 57 08.6	+0.5
RCC				eS	Sn	10 57 27.1	-0.1
RCC				IAML		10 57 28.1	
	comp=E,3.3nm,0.2s						
RCC				IAML		10 57 28.2	
	comp=N,3.5nm,0.0s						
LMGC	Las Mercedes	1.63	340	⇓eP	Pb	10 57 08.1	-0.4
LMGC				eS	Sn	10 57 27.8	-0.1
LMGC				IAML		10 57 28.2	
	comp=E,16nm,0.1s						
LMGC				IAML		10 57 28.3	
	comp=N,22nm,0.1s						
GTBY	Guantanamo Bay	1.85	41	⇓eP	Pb	10 57 12.0	-0.4
GTBY				eS	Sn	10 57 33.9	+0.5

---

*NEIC **09** 11:04:07.9±1.3, 36°.48S±0°.05×73°.71W±0°.08, h10km±1km, mb4.5/25, Mwr4.0/70, Mwr4.6(GUC), Error ellipse: s-maj=11.8km s-min=6.7km az=299.0*
*NEIC **09** 11:04:07.9, 36°.48S×73°.71W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.15; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-1.00; $M_{r\theta}$0.25; $M_{\theta\phi}$-0.26; $M_{\phi r}$0.60; Fault plane solution: $M_0$1.29000×10^{15} NP1:ϕ_s193.21000°, δ29.92000°, λ84.73000°. NP2:ϕ_s19.29000°, δ60.22000°, λ93.03000°. Principal axes: T 1.3327, Plg75.0000°, Azm297.0000°; N -0.0852, Plg3.0000°, Azm198.0000°; P -1.2475, Plg15.0000°, Azm107.0000°;*
*IDC **09** 11:04:08.0±1.1, 36°.56S×73°.34W, h0km, mb3.9/6, mbtmp3.8/9, ML3.8/3, MS3.3/4 Error ellipse: s-maj=34.1km s-min=19.3km az=69.0*
*VAO **09** 11:04:08.4±0.8, 36°.50S×73°.68W, h10km, mb4.3*
*GUC **09** 11:04:10.4±0.7, 36°.57S×73°.58W, h20km±7km, ML4.5*
ISC 09 11:04:07.8±2.1**, 36°.49S**±0°.03×**73°.60W**±0°.06**, h5**km±13km**, n129, σ1°.02**/131**, mb4.5**/15**, MS3.5**/3**, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	Punta Hualpn	0.42	128	Pg	Pb	11 04 17.4	-0.3
BI05	Punta Hualpn	0.42	128	⇓iP	Pb	11 04 17.5	-0.2
BI05				eS	Sg	11 04 22.2	+0.9
BI05				IAML		11 04 23.0	
	comp=E,221μm,0.2s						
CCSP	San Pedro de C	0.53	132	⇓iP	Pb	11 04 19.4	-0.3
CCSP				eS	Sg	11 04 25.5	+0.5
CCSP				IAML		11 04 27.2	
	comp=E,78μm,0.2s						
ML02	Panimavida	1.91	68	Pn	Pn	11 04 41.3	+0.3
ML02				Sn	Sb	11 05 06.5	-0.7
ML02	Panimavida	1.91	68	eP	Pb	11 04 42.2	-0.9
ML02				eS	Sb	11 05 06.5	-0.7
ML02				IAML		11 05 14.1	
	comp=E,8μm,0.4s						
BI04	Isla Mocha	1.93	187	eP	Pn	11 04 41.0	-0.4
BI04				eS	Sn	11 05 01.9	-4.1
BI04				IAML		11 05 21.1	
	comp=E,3μm,0.3s						
GO05	Huala	2.00	43	Pn	Pn	11 04 42.3	-0.1
GO05	Huala	2.00	43	eP	Pb	11 04 44.4	-0.4
GO05				eS	Sg	11 05 12.3	+0.1
GO05				IAML		11 05 28.1	
	comp=E,2μm,0.6s						
LC02	Puerto Saavedr	2.31	176		Pn	11 04 46.0	-0.4
LC02	Puerto Saavedr	2.31	176	eP	Pb	11 04 49.9	0.0
LC02				IAML		11 05 36.4	
	comp=E,7μm,0.3s						
BO03	Pichilemu	2.40	34	eP	Pn	11 04 47.4	-0.3
BO03				IAML		11 05 32.6	
	comp=N,1μm,0.4s						
BO02	Sierra Bellavi	2.85	54		Pn	11 04 54.2	+0.2
BO02	Sierra Bellavi	2.85	54	eP	Pn	11 04 54.2	+0.2
BO02				eS	Sb	11 05 33.5	-0.9
BO02				IAML		11 05 44.4	
	comp=N,3μm,0.4s						
BO01	Tunca	2.93	45	Pn	Pn	11 04 55.7	+0.7
BO01	Tunca	2.93	45	eP	Pn	11 04 56.4	+1.3
BO01				eS	Sb	11 05 37.6	+0.9
BO01				IAML		11 05 48.7	
	comp=N,598nm,0.5s						
MT01	Popeta	3.25	37		Pn	11 04 59.7	+0.3
MT01	Popeta	3.25	37	i		11 04 42.2	
MT01				eP	Pn	11 04 59.9	+0.4
VA05	Santo Domingo	3.26	31		Pn	11 04 59.1	-0.5
VA05	Santo Domingo	3.26	31	eP	Pn	11 04 59.5	-0.1
LR03	Panguipulli	3.29	163		Pn	11 05 00.3	+0.3
LR03	Panguipulli	3.29	163	eP	Pn	11 05 00.2	+0.2
LR04	Corral	3.39	178	Pn	Pn	11 05 00.4	-1.0
LR04	Corral	3.39	178	eP	Pn	11 05 00.2	-1.1
MT09	Talagante	3.45	39		Pn	11 05 03.1	+0.8
MT09	Talagante	3.45	39	eP	Pn	11 05 02.9	+0.6
BO04	La Punta	3.49	45		Pn	11 05 03.3	+0.4
BO04	La Punta	3.49	45	eP	Pn	11 05 03.8	+0.9
GO06	Curarrehue	3.52	152	Pn	Pn	11 05 03.6	+0.3
GO06	Curarrehue	3.52	152	eP	Pn	11 05 03.8	+0.6
MT02	Curacav	3.80	33		Pn	11 05 07.0	-0.1
MT02	Curacav	3.80	33	eP	Pn	11 05 07.0	-0.1
VA01	Torpederas	3.81	25		Pn	11 05 07.0	-0.1
LMEL	Las Melosas	3.83	48		Pn	11 05 09.0	+1.4
LMEL	Las Melosas	3.83	48	eP	Pn	11 05 09.0	+1.4
MT05	Renca	3.88	38	Pn	Pn	11 05 09.1	+0.9
MT05	Renca	3.88	38	eP	Pn	11 05 08.8	+0.6
MT03	Universidad Ad	3.92	41	Pn	Pn	11 05 09.6	+0.8
MT03	Universidad Ad	3.92	41	eP	Pn	11 05 09.2	+0.4
ROC1	El Roble	4.10	32		Pn	11 05 12.2	+0.8
ROCH	El Roble	4.10	32	eP	Pn	11 05 11.6	+0.1
PEL	Peldehue	4.11	37	eP	Pn	11 05 12.0	+0.7
FCH	Farellones	4.16	42	eP	Pn	11 05 12.9	+0.6
VA06	Catapilco	4.35	27	Pn	Pn	11 05 14.3	-0.3
VA03	San Esteban	4.49	35		Pn	11 05 16.8	+0.3
VA03	San Esteban	4.49	35	i P	Pn	11 05 16.9	+0.3
LL04	Puerto Octay	4.51	168	Pn	Pn	11 05 16.1	-0.7
PLCA	Paso Flores	4.86	152	Pn	Pn	11 05 20.8	-0.9
	comp=N,1.6nm,0.3s,baz=324,slow=13,SNR=59						
PLCA				Lg	Lg	11 06 37.6	
	comp=N,5.8nm,0.3s,baz=297,slow=12,SNR=4.4						
	comp=N,3.9nm,0.4s						
PLCA	Paso Flores	4.86	152		Pn	11 05 22.8	+1.1
PLCA	Paso Flores	4.86	152	eP	Pn	11 05 21.8	+0.1
LL05	Los Muermos	4.91	179		Pn	11 05 21.6	-0.6
H03S1	Juan Fernandez	5.08	300	Pn	Pn	11 05 25.2	+0.8
	baz=83,slow=12						
H03S1				T	T	11 11 03.6	
	baz=121,slow=75,SNR=865						
H03S3	Juan Fernandez	5.10	300	Pn	Pn	11 05 25.1	+0.5
	baz=83,slow=12						
H03S3				T	T	11 10 43.5	
	baz=121,slow=75,SNR=895						
H03S2	Juan Fernandez	5.10	300	Pn	Pn	11 05 25.0	+0.3
	baz=83,slow=12						
H03S2				T	T	11 10 42.2	
	baz=121,slow=75,SNR=1245						
VA04	Juan Fernndez	5.14	302		Pn	11 05 22.9	-2.5
VA04	Juan Fernndez	5.14	302	eP	Pn	11 05 26.2	+0.7
H03N1	Juan Fernandez	5.32	303	Pn	Pn	11 05 27.8	+0.2
	baz=139,slow=26						
H03N3	Juan Fernandez	5.32	303	Pn	Pn	11 05 27.8	+0.2
	baz=139,slow=26						
H03N2	Juan Fernandez	5.33	303	Pn	Pn	11 05 27.4	-0.4
	baz=139,slow=26						
CO02	Combarbal	5.70	23		Pn	11 05 32.6	-0.6
CO06	Fray Jorge	6.03	16		Pn	11 05 36.6	-1.1
CO03	El Pedregal	6.13	24		Pn	11 05 39.7	+0.5
ZON	Zonda	6.40	41		Pn	11 05 43.4	+0.5
GO04	Tololo Observa	6.72	21		Pn	11 05 46.9	-0.5
CO05	La Serena	6.84	17	Pn	Pn	11 05 48.3	-0.6
LCO	Las Campanas	7.84	19		Pn	11 06 02.3	-0.5
AC05	El Transito	8.13	21		Pn	11 06 06.1	-0.5
AC04	Llanos de Chal	8.53	15	Pn	Pn	11 06 10.7	-1.3
GO03	Copiap	9.32	19		Pn	11 06 21.5	-1.3
TRQA	Tornquist	9.39	103	Pn	Pn	11 06 23.7	-0.1
AC06	Mina Casimiro	9.51	18	Pn	Pn	11 06 24.9	-0.6
AC02	Maricunga	10.35	23		Pn	11 06 36.6	-0.8
AC01	Pan de Azucar	10.62	15	Pn	Pn	11 06 38.0	-2.7
GO02	Mina Guanaco	11.80	18	Pn	Pn	11 06 55.5	-1.7
LVC	Limon Verde	14.42	18	Pn	Pn	11 07 33.8	+0.9
	comp=N,0.2nm,0.3s,baz=238,slow=9.5,SNR=1.2						
LVC				LR	LR	11 12 08.6	
	comp=N,56nm,21.6s,baz=198,slow=33						
	comp=N,1.2nm,0.6s						
LVC	Limon Verde	14.42	18	eP	Pn	11 07 32.3	-0.7
PB07	IPOC Station P	15.06	13	Pn	Pn	11 07 40.1	-1.4
PB07				IAmb	IAmb	11 07 55.7	
	comp=Z,31nm,1.5s						
PB09	IPOC Station P	15.12	16	Pn	Pn	11 07 39.9	-2.5
PB01	IPOC Station P	15.80	14		Pn	11 07 51.4	+0.2
PB11	IPOC Station P	17.02	13	P	P	11 08 12.1	+3.4
PB11				IAmb	IAmb	11 08 12.8	
	comp=Z,24nm,1.0s						
AZCA	Azaras, Argent	17.07	66	eP	P	11 08 08.4	-0.7
CPUP	Villa Florida	17.16	58	P	Pn	11 08 08.5	0.0
	comp=Z,0.1nm,0.3s,baz=207,slow=16,SNR=1.8						
	comp=Z,0.8nm,0.5s						
UNIS	Unistalda (Bra	17.23	70	eP	P	11 08 10.7	-0.2
PB16	IPOC Station P	18.44	12	P	Pn	11 08 23.2	-1.6
CRSM	Crissiumal (Br	18.83	67	eP	P	11 08 28.4	-0.1
MURT	Porto Murtinho	20.29	48	eP	P	11 08 44.9	+0.3
CNLB	Canela	20.37	76	eP	P	11 08 45.8	+0.4
ITAB	Concordia	20.40	69	P	P	11 08 45.1	-0.6
ITAB				IAmb	IAmb	11 08 54.9	
	comp=Z,13nm,1.0s						
ITAB	Concordia	20.40	69	eP	P	11 08 45.5	-0.1
FRBT	Francisco Belt	20.41	65	eP	P	11 08 45.6	-0.3
LPAZ	La Paz	20.70	15	P	Pn	11 08 51.4	-0.5
	comp=Z,1.5nm,0.5s,baz=189,slow=8.4,SNR=7.8						
	comp=Z,1.5nm,0.5s						
LPAZ	La Paz	20.70	15	P	P	11 08 48.2	-1.4
ANTJ	Antonio Joao (	21.02	51	eP	P	11 08 54.2	+1.8
PTGB	Pitanga	21.88	64	eP	P	11 09 02.2	+0.4
BBSD	Serra de San D	22.40	34	eP	P	11 09 07.9	+0.6
SIV	San Ignacio	23.26	32	P	P	11 09 16.1	-0.2
	comp=Z,4.8nm,1.0s,baz=227,slow=11,SNR=12						
	comp=Z,4.8nm,1.0s						
PCMB	Pacaembu	24.44	59	eP	P	11 09 29.2	+1.7
NNA	Nana	24.57	352	P	P	11 09 27.0	-1.8
NNA				IAmb	IAmb	11 09 32.1	
	comp=Z,26nm,1.4s						
PTLB	Pontes e Lacer	24.60	35	P	P	11 09 28.1	-0.9
PTLB				IAmb	IAmb	11 09 38.1	
	comp=Z,5.8nm,1.2s						
PTLB	Pontes e Lacer	24.60	35	eP	P	11 09 28.9	-0.1
SALV	Santo Antonio	25.96	43	eP	P	11 09 40.8	-0.6
ETMB	Extrema	27.39	16	P	P	11 09 52.6	-1.5
ETMB				IAmb	IAmb	11 09 56.3	
	comp=Z,7.9nm,0.7s						
ETMB	Extrema	27.39	16	eP	P	11 09 55.8	+1.6
MACA	Manacapuru-AM	35.24	23	P	P	11 11 02.9	-0.4
MACA				IAmb	IAmb	11 11 04.6	
	comp=Z,8.6nm,0.5s						
ITTB	Itaituba	35.94	31	eP	P	11 11 08.8	-0.6
SMTB	Santa Maria do	36.26	47	eP	P	11 11 12.8	+0.6
SGCB	S£o Gabriel d	36.69	11	eP	P	11 11 15.3	-0.5
BOAV	Boa Vista	40.56	20	P	P	11 11 48.1	-0.1
BOAV				IAmb	IAmb	11 11 48.7	
	comp=Z,2.4nm,0.7s						
BOAV	Boa Vista	40.56	20	eP	P	11 11 48.2	-0.1
SDV	Santo Domingo	45.22	4	P	P	11 12 24.8	-1.4
SDV				IAmb	IAmb	11 12 27.7	
	comp=Z,5.4nm,0.8s						
BAUV	El Baul	45.49	8	P	P	11 12 27.1	-1.0
MDP	Montagnes des	45.79	30	LR	LR	11 33 31.8	
	comp=Z,57nm,18.1s,baz=312,slow=39						
RCBR	Riachuelo	46.04	58	LR	LR	11 32 52.1	
	comp=Z,57nm,20.3s,baz=338,slow=38						
SNAA	Sanae	49.78	157	P	P	11 13 01.6	+0.5
SNAA				IAmb	IAmb	11 13 11.7	
	comp=Z,5.2nm,1.2s						
QSPA	South Pole Qui	53.75	180	P	P	11 13 30.1	-0.7
QSPA				IAmb	IAmb	11 13 40.5	
	comp=Z,6.2nm,1.0s						
MLPR	Magueyes Islan	54.52	8	P	P	11 13 36.7	+0.1
GOGA	Godfrey	70.15	351	P	P	11 15 21.8	+0.6
GOGA				IAmb	IAmb	11 15 49.1	
	comp=Z,9.8nm,1.2s						
TXAR	Lajitas Array	71.31	332	P	P	11 15 30.2	+1.7
	comp=Z,0.7nm,0.6s,baz=154,slow=9.1,SNR=14						
	comp=Z,0.7nm,0.6s						
W50A	Signal Mountai	72.15	350	IAmb	IAmb	11 15 35.2	
	comp=Z,7.8nm,0.8s						
SWET	Sewanee	72.26	349	P	P	11 15 33.8	-0.2
CASY	Casey	77.51	182	P	P	11 16 05.0	+1.0
CASY				IAmb	IAmb	11 16 12.8	
	comp=Z,2.6nm,0.9s						
TSUM	Tsumeb	79.75	106	LR	LR	11 43 44.9	
	comp=Z,21nm,21.5s,baz=327,slow=30						
ECSD	EROS Data Cent	82.54	343	P	P	11 16 32.3	+1.0
ECSD				IAmb	IAmb	11 16 32.8	
	comp=Z,5.3nm,0.8s						
SRU	San Rafael Swe	82.58	332	IAmb	IAmb	11 16 35.3	
	comp=Z,3.5nm,0.7s						
NVAR	Mina Array Bea	85.22	326	P	P	11 16 47.8	+2.4
	comp=Z,0.5nm,0.6s,baz=136,slow=7.1,SNR=4.7						
	comp=Z,0.5nm,0.6s						
PDAR	Pinedale Array	85.42	334	P	P	11 16 48.2	+1.9
	comp=Z,0.5nm,0.6s,baz=138,slow=6.9,SNR=5.2						
	comp=Z,0.5nm,0.6s						
TORD	Torodi Ar. Bea	86.25	71	P	P	11 16 50.7	-0.1
	comp=Z,0.8nm,0.6s,baz=221,slow=5.3,SNR=5.1						
	comp=Z,0.8nm,0.6s						
KSH	Kashi	155.89	74	PKP	PKPdf	11 24 04.4	+1.3
ZALV	Zalesovo Beam	157.00	34	PKP	PKPdf	11 24 03.4	-0.5
	comp=Z,0.5nm,0.3s,baz=320,slow=5.6,SNR=3.5						
PZH	PanZhiHua	169.28	157	PKP	PKPdf	11 24 15.2	-1.4

---

*NEIC **09** 11:20:43.3±1.6, 34°.10S±0°.05×178°.0W±0°.1, h10km±1km, mb4.5/28, Error ellipse: s-maj=16.7km s-min=7.2km az=70.0*
*IDC **09** 11:20:47.2±0.6, 33°.74S×179°.26W, h0km, mb4.3/8, mbtmp4.2/10, ML5.0/1, MS3.7/17, Error ellipse: s-maj=19.1km s-min=17.0km az=24.0*
*WEL **09** 11:20:51.5±1.0, 34°S±13°×17°8W±1°7, h33km, M4.6/24, mB5.2/15, ML5.1/18, MLv4.8/24, Mw(mB)4.5/15, Error ellipse: s-maj=0.0km s-min=0.0km az=126.4*
*NOU **09** 11:20:55.9, 34°.53S×178°.77W, h134km, mb4.6/9, South of Kermadec Islands*
ISC 09 11:20:49.3±0.6**, 34°.09S**±0°.05×**178°.43W**±0°.08**, h37**km**, n130, σ1°.50**/131**, mb4.5**/20**, MS3.8**/15**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.37	217	Pn	Pn	11 21 52.6	-0.4
MXZ	Matakaoa Point	4.37	217	P	Pn	11 21 53.1	+0.1
HAZ	Te Kaha	4.78	219	P	Pn	11 21 59.5	+0.8
HAZ				S	Sn	11 22 54.5	+1.7
RAO	Raoul Island	4.84	5	Sn	Sn	11 22 51.8	-2.6
	66nm,0.3s,baz=78,slow=23,SNR=1.7						
RUGZ	Raukumara Rang	4.99	218	P	Pn	11 22 02.3	+0.5
RUGZ				S	Sn	11 22 59.2	+0.9
TWGZ	Tauwhareparae	5.01	214	P	Pn	11 22 03.0	+1.1
TWGZ				S	Sn	11 22 57.9	-0.7
CNGZ	Carnagh Statio	5.16	211	P	Pn	11 22 04.7	+0.8
CNGZ				S	Sn	11 23 02.4	+0.2
TKGZ	Te Karaka	5.28	214	P	Pn	11 22 07.1	+1.5
TKGZ				S	Sn	11 23 05.0	-0.2
WHRZ	Whale Island	5.29	223	P	Pn	11 22 08.0	+2.1
WHRZ				S	Sn	11 23 06.1	+0.5
MWZ	Matawai	5.35	217	P	Pn	11 22 06.4	-0.2
MWZ				S	Sn	11 23 08.0	+1.0
KUZ	Kuaotunu	5.46	239	P	Pn	11 22 09.2	+1.1
	67nm,0.8s						
OPRZ	Ohinepanea	5.53	226	P	Pn	11 22 09.8	+0.7
OPRZ				S	Sn	11 23 12.1	+0.7
RAGZ	Rawiri	5.53	216	P	Pn	11 22 10.5	+1.4
RAGZ				S	Sn	11 23 11.7	+0.2
RIGZ	Rimuhau	5.54	213	P	Pn	11 22 09.1	-0.1
RIGZ				S	Sn	11 23 11.3	-0.3
MARZ	Manawahe	5.56	224	P	Pn	11 22 10.5	+1.1
TGRZ	Tauranga	5.64	228	P	Pn	11 22 11.5	+0.9
TGRZ				S	Sn	11 23 27.2	+13
SNGZ	Shannon Statio	5.79	215	P	Pn	11 22 14.4	+1.7
SNGZ				S	Sn	11 23 19.0	+1.1
OMRZ	Omania	5.81	225	P	Pn	11 22 14.7	+1.7
TARZ	Mount Tarawera	5.82	223	P	Pn	11 22 15.1	+1.9
KARZ	Kaharoa	5.83	226	P	Pn	11 22 14.4	+1.2
KNZ	Kokohu	5.84	211	P	Pn	11 22 12.7	-0.6
RTZ	Ruatahuna	5.84	218	P	Pn	11 22 14.0	+0.6
MHGZ	Mahia Peninsul	5.85	209	P	Pn	11 22 14.3	+0.9
MUGZ	Murupara	5.85	220	P	Pn	11 22 13.3	-0.1
RRRZ	Republican Roa	5.89	223	P	Pn	11 22 14.7	+0.7
RAHZ	Arahi	6.02	216	P	Pn	11 22 17.0	+1.2
WHHZ	Waihua	6.08	214	P	Pn	11 22 18.1	+1.5
MTHZ	Maungataniwha	6.09	217	P	Pn	11 22 18.2	+1.3
TOZ	Tahuroa Road	6.12	232	P	Pn	11 22 18.6	+1.4
ETAZ	East Tamaki Re	6.13	240	P	Pn	11 22 21.8	+4.5
MRHZ	Matea Rd	6.30	220	P	Pn	11 22 19.8	+0.1
NMHZ	Naumai	6.30	216	P	Pn	11 22 20.2	+0.6
ARHZ	Aropaoanui	6.34	214	P	Pn	11 22 20.9	+0.8
BKZ	Black Stump Fm	6.51	217	Pn	Pn	11 22 21.4	-1.1
BKZ	Black Stump Fm	6.51	217	P	Pn	11 22 22.7	+0.2
BKZ	Black Stump Fm	6.51	217	P	Pn	11 22 21.7	-0.8
CKHZ	Cape Kidnapper	6.62	212	P	Pn	11 22 22.6	-1.4
MCHZ	McNeill Hill	6.62	215	P	Pn	11 22 24.5	+0.4
OUZ	Omahuta	6.67	258	Pn	Pn	11 22 25.2	+0.5
OUZ	Omahuta	6.67	258	P	Pn	11 22 26.4	+1.7
RATZ	Rangitukua	6.68	223	P	Pn	11 22 25.2	+0.3
KWHZ	Kaweka Forest	6.74	216	P	Pn	11 22 26.0	+0.2
KAHZ	Kahuranaki	6.82	212	P	Pn	11 22 25.3	-1.5
TMVZ	Te Maari	6.89	222	P	Pn	11 22 27.5	-0.3
NTVZ	North Tongarir	6.89	222	P	Pn	11 22 27.8	0.0
ETVZ	East Tongariro	6.90	221	P	Pn	11 22 27.8	-0.2
OTVZ	Oturere	6.94	221	P	Pn	11 22 30.1	+1.5
NNVZ	North Ngauruho	6.95	222	P	Pn	11 22 28.7	0.0
WTVZ	West Tongariro	6.95	222	P	Pn	11 22 29.4	+0.7
BHHZ	Black Hill Sta	6.97	218	P	Pn	11 22 28.6	-0.3
NGZ	Ngauruhoe	6.99	222	P	Pn	11 22 29.4	+0.2
HIZ	Hauiti	6.99	229	P	Pn	11 22 29.9	+0.8
MOVZ	Moawhango	7.07	220	P	Pn	11 22 30.4	+0.2
WNVZ	Wahianoa	7.09	221	P	Pn	11 22 31.4	+0.7
PNHZ	Pukenui	7.23	215	P	Pn	11 22 31.2	-1.2
WPHZ	Waipukurau	7.24	213	P	Pn	11 22 32.6	+0.1
BFZ	Birch Farm	7.83	211	Pn	Pn	11 22 38.9	-1.7
MSWZ	Moikau Station	8.86	213	Pn	Pn	11 22 52.8	-2.0
SNZO	South Karori	9.03	215	Pn	Pn	11 22 54.3	-2.7
CTZ	Chatham Island	9.73	172	P	Pn	11 23 07.3	+0.6
KHZ	Kahutara	10.44	215	P	Pn	11 23 13.7	-2.6
RPZ	Rata Peaks	12.62	217	Pn	Pn	11 23 44.0	-2.1
	1.4nm,0.3s,baz=17,slow=14,SNR=7.4						
RPZ				Sn	Sn	11 25 52.7	-13
	1.8nm,0.3s,baz=25,slow=19,SNR=8.4						
RPZ	Rata Peaks	12.62	217	P	Pn	11 23 44.1	-2.1
ODZ	Otahua Downs	13.80	214	P	Pn	11 23 59.0	-3.2
MSVF	Nonsavu	16.59	348	Pn	Pn	11 24 34.4	-4.8
	0.2nm,0.3s,baz=146,slow=11,SNR=1.1						
MSVF				LR	LR	11 29 48.2	
	comp=Z,247nm,19.4s,baz=165,slow=34						
	2.5nm,0.6s						
MSVF	Nonsavu	16.59	348	Pn	Pn	11 24 35.7	-3.5
DZM	Mont Dzumac	17.91	308	P	Pn	11 24 48.1	-7.5
	4.1nm,0.8s,baz=138,slow=15,SNR=1.4						
DZM				LR	LR	11 30 36.9	
	comp=Z,343nm,18.9s,baz=213,slow=34						
KOUNC	Koumac, New Ca	20.40	307	P	P	11 25 24.4	+1.3
KOUNC				IAmb	IAmb	11 25 48.4	
	comp=Z,19nm,1.1s						
RAR	Rarotonga	20.87	57	LR	LR	11 31 31.8	
	comp=Z,57nm,21.3s,baz=208,slow=30						
RAR	Rarotonga	20.87	57	P	P	11 25 21.9	-6.3
AFI	Afiamalu	20.98	18	P	P	11 25 30.2	+0.8
	comp=Z,20nm,0.8s,baz=198,slow=20,SNR=2.4						
AFI				S	S	11 29 20.3	-0.9
	comp=Z,21nm,1.0s,baz=180,slow=20,SNR=2.1						
	comp=Z,20nm,0.8s						
ARMA	Armidale	25.54	270	P	P	11 26 15.1	+0.4
ARMA				IAmb	IAmb	11 26 37.7	
	comp=Z,9.2nm,1.1s						
CAN	Canberra	26.75	258	P	P	11 26 26.0	+0.5
EIDS	Eidsvold	27.79	280	P	P	11 26 35.7	+0.8
EIDS				IAmb	IAmb	11 26 48.2	
	comp=Z,11nm,1.1s						
TOO	Toolangi	29.35	253	P	P	11 26 49.4	+0.7
STKA	Stephens Creek	33.46	262	P	P	11 27 23.3	-1.6
	comp=Z,3.0nm,1.0s,baz=108,slow=12,SNR=2.3						
STKA				LR	LR	11 40 17.1	
	comp=Z,310nm,18.1s,baz=34,slow=36						
	comp=Z,3.0nm,1.0s						
STKA	Stephens Creek	33.46	262	P	P	11 27 24.7	-0.2
CTA	Charters Tower	34.21	285	LR	LR	11 40 29.2	
	comp=Z,81nm,18.6s,baz=84,slow=35						
CTAO	Charters Tower	34.21	285	P	P	11 27 32.1	+0.6
CTAO				IAmb	IAmb	11 27 47.4	
	comp=Z,6.1nm,0.6s						
BBOO	Buckleboo	37.76	259	P	P	11 28 01.3	-0.5
BBOO				IAmb	IAmb	11 28 25.6	
	comp=Z,8.1nm,1.1s						
PMG	Port Moresby	39.99	300	LR	LR	11 42 43.7	
	comp=Z,174nm,20.0s,baz=114,slow=34						
COEN	Coen	40.08	291	P	P	11 28 22.0	+0.7
COEN				IAmb	IAmb	11 28 25.0	
	comp=Z,7.6nm,1.1s						
KRVT	Keravat (AS076	40.40	311	P	P	11 28 21.7	-2.3
	comp=Z,50nm,0.9s,baz=179,slow=12,SNR=4.4						
KRVT				LR	LR	11 42 38.1	
	comp=Z,98nm,18.1s,baz=253,slow=33						
RABL	Rabaul	40.40	311	P	P	11 28 23.4	-0.6
AS31	Alice Springs	42.68	271	P	P	11 28 43.0	+0.3
ASAR	Alice Springs	42.69	271	P	P	11 28 39.6	-3.1
	comp=Z,6.1nm,0.8s,baz=109,slow=7.0,SNR=41						
ASAR				PcP	PcP	11 30 35.1	+1.0
	comp=Z,0.9nm,0.5s,baz=117,slow=4.0,SNR=5.0						
ASAR				S	S	11 34 59.9	-3.9
	comp=Z,0.6nm,0.9s,baz=120,slow=15,SNR=5.2						
ASAR				LR	LR	11 46 06.8	
	comp=Z,161nm,18.1s,baz=136,slow=36						
	comp=Z,6.1nm,0.8s						
ASAR	Alice Springs	42.69	271	P	P	11 28 42.4	-0.4
WR0	Warramunga Arr	43.83	276	P	P	11 28 52.0	0.0
WR0				IAmb	IAmb	11 28 53.2	
	comp=Z,6.7nm,0.8s						
WB2	Warramunga Arr	43.99	276	P	P	11 28 53.4	+0.1
WB2				IAmb	IAmb	11 28 53.9	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	44.01	276	P	P	11 28 50.4	-3.0
	comp=Z,5.6nm,0.6s,baz=118,slow=7.5,SNR=49						
WRA				PcP	PcP	11 30 39.7	+1.1
	comp=Z,0.4nm,0.7s,baz=143,slow=3.9,SNR=1.7						
WRA				S	S	11 35 21.2	-1.9
	comp=Z,0.4nm,0.8s,baz=118,slow=14,SNR=2.4						
WRA				LR	LR	11 45 49.0	
	comp=Z,117nm,19.6s,baz=98,slow=35						
	comp=Z,5.6nm,0.6s						
WRA	Warramunga Arr	44.01	276	P	P	11 28 53.4	0.0
WB0	Warramunga Arr	44.04	276	P	P	11 28 53.7	0.0
VNDA	Vanda	44.40	186	P	P	11 29 01.2	+5.5
	comp=Z,0.4nm,0.6s,baz=27,slow=6.1,SNR=2.2						
	comp=Z,0.4nm,0.6s						
FORT	Forrest	44.86	259	P	P	11 28 59.2	-0.9
MTN	Manton Dam	50.30	282	P	P	11 29 42.2	-0.3
MTN				IAmb	IAmb	11 29 42.4	
	comp=Z,9.2nm,1.0s						
CASY	Casey	51.73	209	P	P	11 29 51.8	-0.7
CASY				IAmb	IAmb	11 30 08.1	
	comp=Z,5.5nm,0.9s						
FITZ	Fitzroy Crossi	52.09	273	P	P	11 29 54.9	-0.9
NWAO	Narrogin (SRO)	52.84	252	P	P	11 30 01.1	-0.1
NWAO				IAmb	IAmb	11 30 09.3	
	comp=Z,6.7nm,1.0s						
MORW	Morawa	55.21	256	P	P	11 30 18.9	+0.3
FAKI	Fak Fak	55.36	293	P	P	11 30 18.5	-1.3
FAKI				IAmb	IAmb	11 30 20.0	
	comp=Z,6.4nm,0.8s						
MBWA	Marble Bar	55.55	266	P	P	11 30 20.1	-1.0
QSPA	South Pole Qui	56.03	180	P	P	11 30 30.3	+6.2
	comp=Z,2.4nm,0.9s,baz=42,slow=14,SNR=12						
	comp=Z,2.4nm,0.9s						
QSPA	South Pole Qui	56.03	180	P	P	11 30 22.0	-2.1
QSPA				IAmb	IAmb	11 30 47.9	
	comp=Z,5.9nm,1.0s						
SIJI	Sorong	57.43	294	LR	LR	11 55 21.2	
	comp=Z,66nm,18.0s,baz=94,slow=37						
BATI	Baumata	57.84	280	LR	LR	11 54 06.7	
	comp=Z,195nm,18.1s,baz=270,slow=35						
RPN	Rapa Nui	58.87	103	LR	LR	11 52 52.5	
	comp=Z,54nm,18.3s,baz=240,slow=32						
TNTI	Ternate	61.45	293	P	P	11 31 01.0	-1.4
LUWI	Luwuk	63.90	288	P	P	11 31 18.2	-0.4
KAPI	Kappang	63.97	282	LR	LR	11 57 50.5	
	comp=Z,27nm,18.4s,baz=89,slow=35						
SMAI	San Martin Ant	66.16	158	P	P	11 31 29.0	-3.5
SMAI				IAmb	IAmb	11 31 42.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,4.4nm,1.1s						
MAW	Mawson	68.74	201	P	P	11 31 54.0	+5.2
	comp=Z,2.1nm,0.7s,baz=90,slow=7.1,SNR=2.7						
	comp=Z,2.1nm,0.7s						
LEM	Lembang	72.92	273	LR	LR	12 06 23.5	
	comp=Z,79nm,18.0s,baz=170,slow=38						
SNAA	Sanae	74.49	179	LR	LR	12 02 56.8	
	comp=Z,37nm,18.1s,baz=191,slow=34						
PETK	Petropavlovsk-	89.29	346	P	P	11 33 43.6	+2.5
	comp=Z,2.5nm,0.9s,baz=128,slow=6.4,SNR=7.1						
	comp=Z,2.5nm,0.9s						
NNA	Nana	92.75	106	LR	LR	12 09 09.5	
	comp=Z,56nm,18.4s,baz=220,slow=31						
CMAR	Chiang Mai Arr	94.28	289	LR	LR	12 17 21.2	
	comp=Z,11nm,20.5s,baz=165,slow=36						
MKAR	Makanchi Array	119.83	309	PKP	PKiKP	11 39 37.3	+2.0
	comp=Z,0.7nm,0.5s,baz=109,slow=0.7,SNR=7.7						
KURBB	Kurchatov Arra	123.33	312	PKP	PKiKP	11 39 43.9	+1.9
	comp=Z,1.3nm,0.4s,baz=116,slow=2.0,SNR=7.8						
BVAR	Borovoye Array	128.74	314	PKP	PKiKP	11 39 54.6	+1.9
	comp=Z,1.1nm,0.4s,baz=122,slow=2.5,SNR=6.4						
ARCES	ARCESS Array B	142.10	347	PKP	PKPdf	11 40 18.2	+1.8
	comp=Z,4.0nm,0.9s,baz=34,slow=4.8,SNR=4.4						
FINES	FINESS Array B	148.44	338	PKPbc	PKPbc	11 40 31.8	+0.7
	comp=Z,7.1nm,0.6s,baz=49,slow=5.8,SNR=16						
ASF	Jabal al Asfar	150.44	276	PKPbc	PKPbc	11 40 37.8	+0.6
	comp=Z,1.5nm,0.4s,baz=117,slow=2.3,SNR=3.9						
EIL	Elat	151.39	270	PKPbc	PKiKP	11 40 41.7	+1.9
	comp=Z,2.5nm,0.5s,baz=138,slow=1.4,SNR=4.6						
MMAI	Mount Meron Ar	151.86	277	PKPbc	PKiKP	11 40 43.2	+2.5
	comp=Z,16nm,1.1s,baz=108,slow=5.5,SNR=5.5						
NB2	NORSAR Subarra	152.32	350	PKP	PKiKP	11 40 43.1	+2.4
	comp=Z,1.9nm,0.7s,baz=37,slow=2.6						
NOA	NORSAR Array B	152.32	350	PKPbc	PKiKP	11 40 43.1	+2.4
	comp=Z,1.5nm,0.9s,baz=47,slow=2.4,SNR=1.5						
BRTR	Keskin Array B	153.84	292	PKPbc	PKiKP	11 40 46.0	+1.3
	comp=Z,2.3nm,0.7s,baz=112,slow=4.8,SNR=5.7						
BRTR				PKPab	PKPab	11 40 57.3	-0.5
	comp=Z,3.5nm,1.0s,baz=108,slow=4.7,SNR=5.4						
AKASG	Malin Array Be	153.90	318	PKPbc	PKiKP	11 40 46.5	+2.3
	comp=Z,1.3nm,0.5s,baz=53,slow=2.6,SNR=6.9						
AKASG				PKPab	PKPab	11 40 58.2	+0.8
	comp=Z,0.3nm,0.3s,baz=55,slow=2.7,SNR=5.6						
TORD	Torodi Ar. Bea	159.15	180	PKPab	PKPab	11 41 24.5	+3.7
	comp=Z,2µm,0.3s,baz=170,slow=3.6,SNR=49						
DAVOX	Davos/Dischmat	165.84	336	PKPab	PKPab	11 41 51.2	+1.5
	comp=Z,1.1nm,0.6s,baz=0.0,slow=3.0,SNR=3.7						

NAO ***09*** *11:43:37.8±1.9, 79°.18N×2°.06E, ML3.2*
BER ***09*** *11:43:39.9±1.8, 79°.16N×2°.26E, h10km, ML2.8, ML3.2(NAO), Confirmed Earthquake*
DNK ***09*** *11:43:41.4±4.3, 79°.01N×2°.59E, h36km±35km, ML2.3*
ISC 09 11:43:39.4±0.8**, 79°.17N**±0°.05×**2°.00E**±0°.04**, h35**km**, n25, σ2s.58**/46**, 2C, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	1.92	93	Pn	Pn	11 44 09.7	+0.2
KBS				Lg	Lg	11 44 29.1	
KBS	Kingsbay	1.92	93	⇑*i*P	Pn	11 44 09.7	+0.2
KBS				*i* S	Sn	11 44 28.9	-3.3
KBS	Kingsbay	1.92	93	*e*P	Pn	11 44 09.7	+0.2
KBS				*e*		11 44 27.8	
KBS				IAML		11 44 30.0	
	comp=Z,168nm,0.3s						
BRBB	Barentsburg B	2.65	108	Pn	Pn	11 44 20.7	+1.1
BRBB				Sn	Sn	11 44 49.1	-1.2
BRBB	Barentsburg B	2.65	108	*e*P	Pn	11 44 21.0	+1.5
BRBA	Barentsburg A	2.67	109	Pn	Pn	11 44 21.3	+1.5
BRBA				Sn	Sn	11 44 49.9	-0.9
BRBA	Barentsburg A	2.67	109	*e*P	Pn	11 44 21.3	+1.5
BRBA				*e*S	Sn	11 44 49.9	-0.9
BRBA				IAML		11 44 52.5	
	comp=Z,82nm,0.5s						
SPA0	Spitsbergen Ar	3.00	102	Pn	Pn	11 44 25.5	+1.1
	baz=295,slow=11						
SPA0				Sn	Sn	11 44 56.8	-2.3
	baz=279,slow=22						
SPA0	Spitsbergen Ar	3.00	102	⇑*i*P	Pn	11 44 25.5	+1.1
SPA0				*i* S	Sn	11 44 56.8	-2.3
SPA0	Spitsbergen Ar	3.00	102	Pn	Pn	11 44 25.5	+1.1
	baz=295,slow=11						
SPA0				*e*S	Sn	11 44 57.1	-2.0
NOR	Nord	3.95	317	Pn	Pn	11 44 40.0	+2.6
NOR				Sn	Sn	11 45 24.7	+2.4
NOR	Nord	3.95	317	*e*	Pn	11 44 39.2	+1.9
	baz=100,slow=18						
NOR				*i* P	Pn	11 44 40.0	+2.6
NOR				*i* S	Sn	11 45 22.7	+0.4
NOR				IAML		11 45 27.4	
	comp=Z,6.3nm,0.3s						
NOR	Nord	3.95	317	*e*P	Pn	11 44 39.9	+2.6
NOR				*e*S	Sn	11 45 22.2	-0.1
DAG	Danmarks Havn	4.92	251	*i* P	Pn	11 44 52.9	+2.2
DAG				*i* S	Sn	11 45 43.4	-2.9
DAG				IAML		11 45 54.3	
	comp=Z,29nm,0.3s						
DAG	Danmarks Havn	4.92	251	*e*P	Pn	11 44 53.1	+2.4
DAG				*e*S	Sn	11 45 45.5	-0.8
HOPEN	Hopen	5.51	107	*e*P	Pn	11 44 59.3	+0.5
HOPEN				IAML		11 45 53.6	
	comp=Z,33nm,0.7s						
HOPEN				*e*S	Sn	11 45 56.9	-3.9
DBG	Daneborg	7.01	238	Pn	Pn	11 45 20.9	+1.6
DBG				Sn	Sn	11 46 32.5	-5.1
DBG	Daneborg	7.01	238	*i* P	Pn	11 45 20.7	+1.4
DBG				*e*S	Sn	11 46 29.6	-8.0
DBG				IAML		11 46 40.0	
	comp=Z,20nm,0.3s						
DBG	Daneborg	7.01	238	*e*P	Pn	11 45 20.9	+1.6
DBG				*e*S	Sn	11 46 32.8	-4.8
ZFI	Zemlya Franca-	7.93	56	*e*P	Pn	11 45 34.3	+2.4
ZFI				*e*S	Sn	11 46 55.4	-4.9
OMEGA	Omega	7.95	57	*e*P	Pn	11 45 34.3	+2.1
OMEGA				*e*S	Sn	11 46 55.8	-4.8
	comp=Z,84nm,1.5s						
NEEM	North Greenlan	10.57	288	*i* P	Pn	11 46 08.3	-0.1
NEEM				*i*		11 46 10.0	
NEEM				*e*S	Sn	11 48 00.2	-5.1
NEEM				IAML		11 48 04.9	
	comp=Z,6.9nm,0.3s						
ARA0	ARCESS Array S	11.42	135	Pn	Pn	11 46 22.0	+2.3
	baz=342,slow=12						
ARA0				Sn	Sn	11 48 25.7	-0.1
ARA0	ARCESS Array S	11.42	135	Pn	Pn	11 46 22.0	+2.3
	baz=342,slow=12						
SUMG	Summit	11.57	257	*i* P	Pn	11 46 24.3	+2.2
SUMG				*i* S	Sn	11 48 24.8	-5.2
SUMG				IAML		11 48 27.8	
	comp=Z,4.0nm,0.4s						

IDC 09 12:04:53.5±4.3**, 7°.47S**×**155°.51E, h0**km**, mb3.7**/3**, mbtmp4.1**/4**, ML4.9**/1**, Error ellipse: s-maj=90.3km s-min=27.5km az=1.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	4.80	114	Pn	Pn	12 06 08.5	+1.3
	46nm,0.3s,baz=284,slow=8.3,SNR=2.5						
HNR				Sn	Sn	12 07 03.5	-0.2
	77nm,0.3s,baz=288,slow=20,SNR=1.7						
	616nm,0.5s						
WRA	Warramunga Arr	23.97	237	P	P	12 10 11.0	+1.0
	1.9nm,0.5s,baz=61,slow=9.5,SNR=19						
	1.9nm,0.5s						
ASAR	Alice Springs	26.25	230	P	P	12 10 30.5	-0.1
	0.3nm,0.4s,baz=60,slow=9.3,SNR=2.1						
	0.3nm,0.4s						
STKA	Stephens Creek	27.53	206	P	P	12 10 40.4	-1.7
	0.8nm,0.5s,baz=8.3,slow=19,SNR=2.0						
	0.8nm,0.5s						
H11S3	WAKE ISLAND Hy	28.06	23	T	T	12 39 01.9	
	baz=202,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy	28.06	23	T	T	12 39 03.6	
	baz=202,slow=75,SNR=24						
H11S1	WAKE ISLAND Hy	28.08	23	T	T	12 39 01.0	
	baz=202,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	29.25	22	T	T	12 40 43.0	
	baz=201						
H11N3	WAKE ISLAND Hy	29.26	22	T	T	12 40 37.6	
	baz=201						
H11N2	WAKE ISLAND Hy	29.27	22	T	T	12 40 36.2	
	baz=201						

INET ***09*** *12:09:04.3±0.5, 12°.24N×87°.82W, h15km±16km, MW2.9*
SNET ***09*** *12:09:06.3±1.2, 12°.36N×87°.97W, h22km±17km, ML3.0*
ISC 09 12:09:04.9±2.3**, 12°.2N**±0°.1×**87°.82W**±0°.07**, h35**km**, n11, σ0s.56**/15**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.88	59	*e*P	Pn	12 09 21.3	+0.4
CNCH	Conchagua	1.03	359	*e*P	Pn	12 09 22.9	-0.1
CNCH				*e*S	Sn	12 09 36.1	-0.2
LCND	La Caada	1.06	356	*e*P	Pn	12 09 23.3	-0.1
LCND				*e*S	Sn	12 09 37.6	+0.6
LCND				IAML		12 09 38.9	
	comp=Z,398nm,0.3s						
MOMN	Momotombo	1.26	82	*e*P	Pn	12 09 26.0	0.0
PQSS	Presa 15 de Se	1.56	332	*e*P	Pn	12 09 30.5	+0.3
PQSS				*e*S	Sn	12 09 49.1	0.0
SCLA	Alcaldia de Sa	1.70	329	*e*P	Pn	12 09 32.7	+0.5
SCLA				*e*S	Sn	12 09 53.4	+0.5
COEG	Centro de Oper	1.72	323	*e*S	Sn	12 09 52.3	-1.0
LFRS	El Faro	1.83	319	*e*P	Pn	12 09 34.7	+0.6
TGUH	Tegucigalpa,Un	1.88	16	*e*P	Pn	12 09 34.5	-0.2
P5NO	Presa 5 de nov	1.96	332	*e*S	Sn	12 09 58.9	-0.3
NUBE	Las Nubes	2.53	311	*e*S	Sn	12 10 12.3	-1.0

IDC ***09*** *12:21:28.8±0.9, 36°.58S×73°.33W, h0km, mb4.0/7, mbtmp3.9/9, ML3.9/2, MS3.5/6, Error ellipse: s-maj=27.9km s-min=15.8km az=78.0*
NEIC ***09*** *12:21:29.8, 36°.49S×73°.61W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr1.91; Mθθ-0.38; Mφφ-1.53; Mrθ0.08; Mθφ-0.77; Mφr0.19; Fault plane solution: M0 1.93000×10^15 NP1:φs206.97000°, δ41.92000°, λ90.53000°. NP2:φs26.26000°, δ48.08000°, λ89.52000°. Principal axes: T 1.9203, Plg87.0000°, Azm290.0000°; N 0.0112, Plg0.0000°, Azm27.0000°; P -1.9315, Plg3.0000°, Azm117.0000°;*
NEIC ***09*** *12:21:29.8±1.5, 36°.49S±0°.05×73°.60W±0°.05, h10km±1km, mb4.7/43, Mwr4.1/46, Mwr4.8(GUC) Error ellipse: s-maj=8.3km s-min=6.8km az=216.0*
GUC ***09*** *12:21:31.3±0.7, 36°.58S×73°.55W, h28km±4km, ML4.9*
VAO ***09*** *12:21:31.9±0.6, 36°.48S×73°.33W, h13km, mb4.2*
ISC 09 12:21:28.5±1.6**, 36°.47S**±0°.04×**73°.65W**±0°.04**, h3**km±10km**, n151, σ1s.02**/150**, mb4.6**/28**, MS3.7**/4**, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BI05	Punta Hualpn	0.46	127		Pg	12 21 38.2	+0.8
BI05				Sg	Sg	12 21 43.3	0.0
BI05	Punta Hualpn	0.46	127	⇓*i*P	Pb	12 21 38.4	-0.8
BI05				*i* S	Sg	12 21 43.4	0.0
BI05				IAML		12 21 44.1	
	comp=E,130µm,0.3s						
CCSP	San Pedro de C	0.57	131	*e*P	Pb	12 21 40.4	-0.7
CCSP				*i* S	Sg	12 21 46.5	-0.5
ML02	Panimavida	1.94	69	Pn	Pn	12 22 02.5	+0.2
ML02					Pb	12 22 03.1	-1.4
ML02				Sn	Sn	12 22 27.2	0.0
ML02	Panimavida	1.94	69	*e*P	Pn	12 22 02.6	+0.2
ML02				*i* S	Sn	12 22 26.5	-0.7
ML02				IAML		12 22 40.7	
	comp=E,17µm,0.7s						
BI04	Isla Mocha	1.95	185	*e*P	Pn	12 22 00.3	-2.0
GO05	Huala	2.02	44	Pn	Pn	12 22 04.0	+0.5
GO05	Huala	2.02	44	*e*P	Pn	12 22 03.5	+0.1
GO05				*i* S	Sg	12 22 32.8	-0.6
LC02	Puerto Saavedr	2.33	175	*e*P	Pn	12 22 06.7	-0.9
BO03	Pichilemu	2.41	36	*e*P	Pn	12 22 08.3	-0.4
BO03				IAML		12 22 53.5	
	comp=N,4µm,0.4s						
BO02	Sierra Bellavi	2.88	55		Pn	12 22 16.4	+1.1
BO02	Sierra Bellavi	2.88	55	*e*P	Pn	12 22 16.2	+0.9
BO02				IAML		12 23 05.4	
	comp=N,5µm,0.3s						
BO01	Tunca	2.95	46	Pn	Pn	12 22 17.4	+1.2
BO01	Tunca	2.95	46	*e*P	Pn	12 22 16.8	+0.6
BO01				IAML		12 23 08.4	
	comp=E,5µm,0.4s						
MT01	Popeta	3.26	38		Pn	12 22 20.9	+0.4
MT01	Popeta	3.26	38	*e*P	Pn	12 22 20.5	0.0
VA05	Santo Domingo	3.27	31		Pn	12 22 20.5	0.0
VA05	Santo Domingo	3.27	31	*e*P	Pn	12 22 20.3	-0.2
LR03	Panguipulli	3.32	162		Pn	12 22 21.3	0.0
LR03	Panguipulli	3.32	162	*e*P	Pn	12 22 21.4	0.0
LR03				IAML		12 23 18.3	
	comp=N,2µm,0.5s						
LR04	Corral	3.41	177		Pn	12 22 21.2	-1.3
LR04	Corral	3.41	177	*e*P	Pn	12 22 21.5	-1.0
MT09	Talagante	3.46	40		Pn	12 22 23.9	+0.5
MT09	Talagante	3.46	40	*e*P	Pn	12 22 23.8	+0.4
BO04	La Punta	3.51	46		Pn	12 22 24.7	+0.7
BO04	La Punta	3.51	46	*e*P	Pn	12 22 24.7	+0.7
GO06	Curarrehue	3.55	152	Pn	Pn	12 22 24.6	+0.1
GO06	Curarrehue	3.55	152	*e*P	Pn	12 22 24.0	-0.6
MT02	Curacav	3.81	34		Pn	12 22 28.0	-0.1
MT02	Curacav	3.81	34	*e*P	Pn	12 22 27.9	-0.1
VA01	Torpederas	3.82	26		Pn	12 22 27.9	-0.1
VA01	Torpederas	3.82	26	*e*P	Pn	12 22 27.8	-0.2
LMEL	Las Melosas	3.85	48		Pn	12 22 29.3	+0.6
LMEL	Las Melosas	3.85	48	*e*P	Pn	12 22 30.2	+1.5
MT05	Renca	3.90	39	Pn	Pn	12 22 29.7	+0.5
MT05	Renca	3.90	39	*e*P	Pn	12 22 30.0	+0.7
MT03	Universidad Ad	3.93	42	Pn	Pn	12 22 30.3	+0.5
MT03	Universidad Ad	3.93	42	*e*P	Pn	12 22 30.2	+0.4
ROC1	El Roble	4.11	33		Pn	12 22 32.6	+0.3
ROCH	El Roble	4.11	33	*e*P	Pn	12 22 32.7	+0.4
ROCH				*e*P	Pn	12 22 32.7	+0.4
PEL	Peldehue	4.12	37	*e*P	Pn	12 22 32.4	+0.1
FCH	Farellones	4.18	42	⇑*i*P	Pn	12 22 33.8	+0.4
VA06	Catapilco	4.36	27	Pn	Pn	12 22 35.1	-0.5
VA03	San Esteban	4.50	36		Pn	12 22 38.0	+0.5
LL04	Puerto Octay	4.54	168		Pn	12 22 37.2	-0.8
LL04	Puerto Octay	4.54	168	*e*P	Pn	12 22 36.8	-1.2
PLCA	Paso Flores	4.90	151	Pn	Pn	12 22 42.7	-0.3
	comp=N,1.0nm,0.3s,baz=323,slow=12,SNR=28						
PLCA				Sn	Sn	12 23 36.7	-3.5
	comp=N,2.2nm,0.3s,baz=337,slow=15,SNR=1.8						
PLCA				Lg	Lg	12 23 58.0	
	comp=N,2.5nm,0.3s,baz=244,slow=22,SNR=3.3						
PLCA				LR	LR	12 24 07.7	
	comp=N,37nm,20.8s,baz=324,slow=34						
	comp=N,3.1nm,0.4s						
PLCA	Paso Flores	4.90	151		Pn	12 22 43.7	+0.7
PLCA	Paso Flores	4.90	151	*e*P	Pn	12 22 43.0	-0.1
LL05	Los Muermos	4.93	178		Pn	12 22 42.8	-0.6
H03S1	Juan Fernandez	5.04	300	Pn	Pn	12 22 46.1	+1.4
	baz=85,slow=13						
H03S1				Sn	Sn	12 23 41.7	-1.5
	baz=90,slow=76						
H03S1				T	T	12 28 08.1	
	baz=121,slow=75,SNR=1119						
H03S3	Juan Fernandez	5.05	300	Pn	Pn	12 22 46.4	+1.6
	baz=85,slow=13						
H03S3				Sn	Sn	12 23 41.9	-1.6
	baz=90,slow=76						
H03S3				T	T	12 28 09.3	
	baz=121,slow=75,SNR=873						
H03S2	Juan Fernandez	5.06	300	Pn	Pn	12 22 45.9	+1.0
	baz=85,slow=13						
H03S2				Sn	Sn	12 23 41.7	-1.9
	baz=90,slow=76						
H03S2				T	T	12 28 08.2	
	baz=121,slow=75,SNR=1226						
VA04	Juan Fernndez	5.10	302		Pn	12 22 46.7	+1.0
VA04	Juan Fernndez	5.10	302	*e*P	Pn	12 22 46.8	+1.0
H03N1	Juan Fernandez	5.27	303	Pn	Pn	12 22 50.1	+2.3
	baz=201,slow=74						
H03N1				Sn	Sn	12 23 47.0	-2.0
	baz=259,slow=74						
H03N1				T	T	12 28 26.2	
	baz=123,slow=71,SNR=13						
H03N3	Juan Fernandez	5.27	303	Pn	Pn	12 22 50.3	+2.4
H03N3				Sn	Sn	12 23 47.0	-2.0
	baz=130,slow=74						
H03N3				T	T	12 28 27.1	
	baz=123,slow=71,SNR=26						
H03N2	Juan Fernandez	5.29	303	Pn	Pn	12 22 50.6	+2.6
	baz=61,slow=74						
H03N2				Sn	Sn	12 23 47.3	-2.0
H03N2				T	T	12 28 29.7	
	baz=123,slow=71,SNR=14						
CO02	Combarbal	5.70	24		Pn	12 22 54.0	-0.1
LL06	Loncomilla	5.74	180	Pn	Pn	12 22 55.0	+0.5
CO06	Fray Jorge	6.02	17		Pn	12 22 58.2	-0.3
CO03	El Pedregal	6.14	25		Pn	12 23 00.2	+0.2
ZON	Zonda	6.42	41		Pn	12 23 04.5	+0.6
GO04	Tololo Observa	6.72	22		Pn	12 23 08.2	-0.1
LL02	Futaleuf	6.85	169		Pn	12 23 09.7	-0.1
CO01	Juntas del Tor	7.13	26		Pn	12 23 14.2	+0.4
LCO	Las Campanas	7.84	19		Pn	12 23 23.0	-0.7
AC05	El Transito	8.13	21		Pn	12 23 27.6	+0.2
AC04	Llanos de Chal	8.53	16	Pn	Pn	12 23 31.7	-1.1
GO03	Copiap	9.31	19		Pn	12 23 43.1	-0.5
AC02	Maricunga	10.35	23		Pn	12 23 57.2	-1.0
AC01	Pan de Azucar	10.62	15	Pn	Pn	12 23 59.2	-2.3
LVC	Limon Verde	14.41	18	LR	LR	12 30 48.3	
	comp=N,92nm,21.3s,baz=192,slow=39						
PB07	IPOC Station P	15.05	14	Pn	Pn	12 25 02.1	-0.1
PB09	IPOC Station P	15.12	16	Pn	Pn	12 25 02.7	-0.4
PB01	IPOC Station P	15.80	14		Pn	12 25 12.5	+0.6
MG04	Isla Riesco	16.45	176	Pn	Pn	12 25 20.5	+0.5
RODS	Rosario do Sul	16.57	74	*e*P	Pn	12 25 20.4	-1.4
PB11	IPOC Station P	17.01	13	P	Pn	12 25 26.9	-0.7
AZCA	Azaras, Argent	17.11	66	*e*P	Pn	12 25 28.5	-0.1
CPUP	Villa Florida	17.19	59	Pn	Pn	12 25 27.8	-1.8
	comp=N,0.1nm,0.3s,baz=252,slow=9.7,SNR=2.2						
CPUP				Lg	Lg	12 30 32.0	
	comp=N,0.1nm,0.3s,baz=139,slow=20,SNR=1.5						
CPUP				LR	LR	12 31 42.7	
	comp=N,67nm,18.1s,baz=236,slow=36						
	comp=N,1.9nm,0.9s						
CPUP	Villa Florida	17.19	59	P	Pn	12 25 29.5	-0.1
PLTB	Pedras Altas	17.25	80	*e*P	Pn	12 25 29.1	-1.3
PB12	IPOC Station P	18.03	10	P	Pn	12 25 39.6	-0.5
PB16	IPOC Station P	18.43	13	P	Pn	12 25 43.4	-2.2
CRSM	Crissiumal (Br	18.86	67	*e*P	P	12 25 49.4	-0.3
ALGR	Alto Alegre (B	18.96	72	*e*P	P	12 25 50.5	-0.4
MURT	Porto Murtinho	20.32	48	*e*P	P	12 26 05.8	+0.2
CNLB	Canela	20.41	76	*e*P	P	12 26 06.0	-0.6
ITAB	Concordia	20.43	69	*e*P	P	12 26 06.4	-0.5
FRBT	Francisco Belt	20.44	65	*e*P	P	12 26 06.4	-0.7
LPAZ	La Paz	20.69	15	P	Pn	12 26 12.4	-0.3
	comp=N,2.0nm,0.6s,baz=209,slow=6.4,SNR=8.7						
	comp=N,2.0nm,0.6s						
LPAZ	La Paz	20.69	15	P	P	12 26 10.6	+0.2
LPAZ	La Paz	20.69	15	*e*P	Pn	12 26 11.9	-0.8
ANTJ	Antonio Joao (	21.05	52	*e*P	P	12 26 13.8	+0.2
PTGB	Pitanga	21.91	64	*e*P	P	12 26 23.2	+0.2
BBSD	Serra de San D	22.41	34	*e*P	P	12 26 28.2	0.0
PANT	Pantanal (Braz	22.97	45	*e*P	P	12 26 34.0	-0.1
SIV	San Ignacio	23.27	32	P	P	12 26 37.0	-0.3
	comp=N,3.2nm,0.8s,baz=218,slow=12,SNR=11						
SIV				LR	LR	12 37 18.5	
	comp=N,129nm,18.3s,baz=282,slow=41						
	comp=N,3.2nm,0.8s						
PCMB	Pacaembu	24.46	59	*e*P	P	12 26 49.6	+0.9
PTLB	Pontes e Lacer	24.61	35	P	P	12 26 49.7	-0.3
PTLB				IAmb	IAmb	12 26 58.4	
	comp=Z,10nm,1.3s						
PTLB	Pontes e Lacer	24.61	35	*e*P	P	12 26 51.3	+1.3
SALV	Santo Antonio	25.98	43	*e*P	P	12 27 02.9	+0.5
ETMB	Extrema	27.38	16	P	P	12 27 15.4	+0.3
ETMB				IAmb	IAmb	12 27 17.3	
	comp=Z,7.4nm,0.8s						
ETMB	Extrema	27.38	16	*e*P	P	12 27 16.4	+1.4
ARAG	Araguaiana, MT	28.38	49	*e*P	P	12 27 24.1	+0.2
PMSA	Palmer Station	28.92	171	P	P	12 27 27.9	-0.4
PMSA	Palmer Station	28.92	171	*e*P	P	12 27 30.5	+2.2
BDFB	Brasilia	30.83	54	P	P	12 27 45.1	-0.7
BDFB				IAmb	IAmb	12 27 52.9	
	comp=Z,7.3nm,1.2s						
SMTB	Santa Maria do	36.28	47	*e*P	P	12 28 33.7	+0.5
SGCB	S£o Gabriel d	36.69	11	*e*P	P	12 28 37.0	+0.4
BAUV	El Baul	45.48	8	P	P	12 29 49.6	+0.6
MDP	Montagnes des	45.79	30	LR	LR	12 49 32.9	
	comp=Z,58nm,18.2s,baz=334,slow=37						
RCBR	Riachuelo	46.07	58	LR	LR	12 50 50.5	
	comp=Z,96nm,18.5s,baz=320,slow=38						
RCBR	Riachuelo	46.07	58	P	P	12 29 53.3	-0.5
VNA3	Neumayer Olymp	47.59	157	P	P	12 30 06.4	+1.4
URIC	Uribia, Colomb	47.94	2	P	P	12 30 07.0	-1.2
URIC				IAmb	IAmb	12 30 20.3	
	comp=Z,8.5nm,1.1s						
SNAA	Sanae	49.82	157	P	P	12 30 22.8	+0.6
SNAA	Sanae	49.82	157	P	P	12 30 21.4	-0.7
SNAA				IAmb	IAmb	12 30 23.6	
	comp=Z,5.6nm,1.1s						
TROLL	Troll, Antarti	51.51	157	P	P	12 30 35.8	+0.8
QSPA	South Pole Qui	53.77	180	P	P	12 30 51.4	-0.4
	comp=Z,3.9nm,0.8s,baz=140,slow=2.0,SNR=17						
	comp=Z,3.9nm,0.8s						
QSPA	South Pole Qui	53.77	180	P	P	12 30 52.9	+1.0
QSPA				IAmb	IAmb	12 31 02.1	
	comp=Z,6.9nm,1.0s						
MLPR	Magueyes Islan	54.50	8	P	P	12 30 56.5	-1.0
CELP	Cerrillos	54.66	8	P	P	12 30 59.1	+0.5
060A	Indiantown	63.48	353	P	P	12 31 59.9	+0.2
GOGA	Godfrey	70.12	351	P	P	12 32 42.3	+0.4
GOGA				IAmb	IAmb	12 32 47.7	
	comp=Z,12nm,1.3s						
Z47A	Carrollton	70.61	347	P	P	12 32 46.5	+1.7
TXAR	Lajitas Array	71.28	333	P	P	12 32 51.2	+2.0
	comp=Z,1.0nm,0.7s,baz=148,slow=8.6,SNR=13						
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	71.28	333	P	P	12 32 49.5	+0.4
TX31	Lajitas Ar. Si	71.28	333	P	P	12 32 48.7	-0.5
TX31				IAmb	IAmb	12 33 09.2	
	comp=Z,6.9nm,1.2s						
TX32	Lajitas Array	71.28	333	IAmb	IAmb	12 33 18.1	
	comp=Z,5.9nm,1.4s						
X48A	Hartselle	71.66	348	P	P	12 32 51.4	+0.2
X48A				IAmb	IAmb	12 32 53.5	
	comp=Z,8.3nm,0.8s						
W50A	Signal Mountai	72.13	350	IAmb	IAmb	12 32 56.2	
	comp=Z,8.1nm,0.8s						
SWET	Sewanee	72.23	349	P	P	12 32 54.3	-0.4
SWET				IAmb	IAmb	12 32 56.8	
	comp=Z,10.0nm,0.7s						
V48A	Smith Brothers	72.88	349	P	P	12 32 59.9	+1.4
WVT	Waverly	73.43	348	P	P	12 33 02.6	+0.9
WVT				IAmb	IAmb	12 33 03.6	
	comp=Z,12nm,1.2s						
LCAR	Lake Charles	73.98	345	P	P	12 33 05.8	+0.8
LCAR				IAmb	IAmb	12 33 07.0	
	comp=Z,6.1nm,0.9s						
FCAR	Ozark Folk Cen	74.02	344	P	P	12 33 05.7	+0.5
FCAR				IAmb	IAmb	12 33 06.8	
	comp=Z,6.1nm,0.9s						
BBTS	Babate	74.06	58	LR	LR	13 04 57.5	
	comp=Z,58nm,18.2s,baz=132,slow=35						
CCM	Cathedral Cave	75.92	346	P	P	12 33 16.5	+0.3
CCM				IAmb	IAmb	12 33 17.8	
	comp=Z,5.7nm,0.6s						
P40A	Paris	77.50	346	IAmb	IAmb	12 33 27.0	
	comp=Z,8.2nm,0.8s						
ECSD	EROS Data Cent	82.51	343	IAmb	IAmb	12 33 54.2	
	comp=Z,5.9nm,0.8s						
SRU	San Rafael Swe	82.54	332	IAmb	IAmb	12 33 55.5	
	comp=Z,3.1nm,0.7s						
P18A	Preston Nutter	82.89	332	IAmb	IAmb	12 34 11.6	
	comp=Z,4.7nm,1.1s						
HWUT	Hardware Ranch	85.10	332	IAmb	IAmb	12 34 08.4	
	comp=Z,9.8nm,1.2s						
NVAR	Mina Array Bea	85.18	326	P	P	12 34 08.8	+2.7
	comp=Z,0.6nm,0.7s,baz=163,slow=6.1,SNR=6.5						
	comp=Z,0.6nm,0.7s						
PDAR	Pinedale Array	85.39	334	P	P	12 34 09.2	+2.1
	comp=Z,0.7nm,0.7s,baz=143,slow=5.2,SNR=6.2						
	comp=Z,0.7nm,0.7s						
TORD	Torodi Ar. Bea	86.28	71	P	P	12 34 11.1	-0.8
	comp=Z,1.1nm,0.8s,baz=235,slow=4.6,SNR=5.0						
	comp=Z,1.1nm,0.8s						
TPAW	Teton Pass	86.51	334	IAmb	IAmb	12 34 15.4	
	comp=Z,3.3nm,0.9s						
IMW	Indian Meadow	86.86	334	IAmb	IAmb	12 34 17.2	
	comp=Z,3.5nm,1.1s						
FLWY	Flagg Ranch	86.94	334	IAmb	IAmb	12 34 17.7	
	comp=Z,5.8nm,0.8s						

TAP 09 12:29:20.0, 24°.13N×121°.68E, h9km**, ML2.4, 2D, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.06**	**297**	⇓P	Pg	12 29 22.3	+0.3
	baz=296						
NACB	**Ninganchiao**	**0.09**	**298**	⇓P	Pg	12 29 22.7	+0.3
NACB	baz=297			S	Sg	12 29 24.6	+0.5
TWD	**Chiawan**	**0.09**	**236**	*i* P	Pg	12 29 22.5	+0.1
TWD	baz=232			*i* S	Sg	12 29 24.4	+0.3
HWA	**Hwalien**	**0.17**	**204**	P	Pg	12 29 24.0	+0.4
HWA	baz=201			*i* S	Sg	12 29 28.2	+2.1
ETLH	**Xiulin Townshi**	**0.20**	**292**	P	Pg	12 29 24.6	+0.5
ETLH	baz=292			S	Sg	12 29 28.3	+1.3
ETM	**Tongmen**	**0.24**	**226**	P	Pg	12 29 25.0	+0.2
ETM	baz=216			S	Sg	12 29 29.1	+1.0
ENA	**Nanau**	**0.30**	**11**	*i* P	Pg	12 29 26.4	+0.4
ENA	baz=12			*i* S	Sg	12 29 30.8	+0.7
WHF	**Hehuan Shan**	**0.38**	**272**	*i* P	Pg	12 29 27.9	+0.3
WHF	baz=271			*i* S	Sg	12 29 33.1	+0.4
ESL	**Shilin**	**0.39**	**216**	*i* P	Pg	12 29 27.5	-0.2
NNSB	baz=215 **Datong**	**0.40**	**317**	P	Pb	12 29 28.7	-0.6
NNSB	baz=317			S	Sb	12 29 34.4	-1.2
NNSH	**Datong**	**0.40**	**317**	*i* P	Pg	12 29 27.8	-0.1
NNSH	baz=317			*i* S	Sg	12 29 33.6	+0.3
FUSS	baz=317 **Fushou**	**0.41**	**286**	*i* P	Pb	12 29 29.0	-0.6
FUSS	baz=286			*i* S	Sb	12 29 35.2	-0.9
NNS	**Nan Shan**	**0.41**	**318**	*i* P	Pg	12 29 28.0	-0.2
NNS	baz=318			*i* S	Sg	12 29 33.8	+0.1
LATG	**Datong**	**0.42**	**341**	P	Pg	12 29 29.0	+0.6
LATG	baz=341			S	Sb	12 29 36.5	+0.2
CHGB	**Renai**	**0.47**	**261**	P	Pg	12 29 29.6	+0.5
CHGB	baz=252			S	Sg	12 29 36.4	+1.0
TWT	baz=252 **Tachien**	**0.48**	**285**	*i* P	Pb	12 29 30.7	+0.1
TWT	baz=283			*i* S	Sb	12 29 38.4	+0.6
TDCB	**Techi**	**0.49**	**284**	P	Pg	12 29 30.0	+0.4
TDCB	baz=284			S	Sb	12 29 37.5	-0.7
TWC	baz=284 **Suao**	**0.50**	**18**	*i* P	Pb	12 29 30.4	-0.5
TWC	baz=10.0			*i* S	Sb	12 29 37.4	-0.9
EGFH	**Guangfu**	**0.52**	**207**	*e*P	Pg	12 29 30.2	+0.2
EGFH	baz=214			S	Sb	12 29 38.6	-0.2
ENTT	baz=214 **Nioudou**	**0.52**	**348**	*i* P	Pg	12 29 29.7	-0.3
ENTT	baz=349			*i* S	Sg	12 29 37.4	+0.6
WUSB	**Renai**	**0.53**	**255**	P	Pb	12 29 31.2	-0.3
WUSB	baz=246			S	Sg	12 29 38.3	+0.9
TWE	baz=246 **Neicheng**	**0.59**	**359**	*i* P	Pb	12 29 32.0	-0.4
TWE				*i* S	Sb	12 29 40.8	0.0
NSK	**Sanguang**	**0.62**	**332**	*i* P	Pg	12 29 31.9	-0.1
NSK	baz=332			*i* S	Sb	12 29 40.9	-0.8
VWDT	baz=332 **VWDT**	**0.62**	**233**	P	Pb	12 29 32.8	-0.1
VWDT	baz=232			*e*S	Sg	12 29 40.5	+0.4
FUSB	**Fushanzhiwuyua**	**0.63**	**352**	P	Pb	12 29 32.7	-0.5
FUSB	baz=352			S	Sb	12 29 42.3	+0.2
NWLT	baz=352 **Wulai**	**0.66**	**346**	P	Pb	12 29 33.8	0.0
NWLT	baz=332			S	Sg	12 29 41.8	+0.2
HGSD	baz=332 **Ruisui**	**0.68**	**200**	P	Pb	12 29 34.1	+0.1
WHP	baz=216 **Taichung City**	**0.69**	**282**	P	Pb	12 29 34.5	+0.4
WHP	baz=282			S	Sb	12 29 45.0	+1.2
EHY	**Hungye**	**0.70**	**208**	*i* P	Pg	12 29 33.5	-0.1
EHY	baz=213			S	Sb	12 29 44.5	+0.3
WCS	**Beigang Elemen**	**0.71**	**264**	*e*P	Pg	12 29 33.7	+0.1
WCS	baz=255			*e*S	Sb	12 29 44.0	-0.2
NFF	baz=255 **Wufeng Townshi**	**0.71**	**314**	P	Pb	12 29 34.4	-0.2
NFF	baz=314			*e*S	Sb	12 29 44.0	-0.5
SSLB	**Suanglung**	**0.75**	**243**	P	Pb	12 29 34.8	-0.4
SSLB	baz=252			S	Sg	12 29 44.2	0.0
SMLT	baz=252 **Sun Moon Lake**	**0.76**	**251**	*i* P	Pb	12 29 35.1	-0.2
LIOB	baz=251 **Emei**	**0.79**	**310**	P	Pn	12 29 36.9	-0.5
LIOB	baz=310			S	Sn	12 29 48.6	-0.7
NSTT	**Nanjuang**	**0.79**	**309**	P	Pn	12 29 37.1	-0.3
NSTT	baz=309			S	Sb	12 29 47.8	+1.0
YULB	baz=309 **Yu-li**	**0.81**	**206**	P	Pg	12 29 34.8	-0.9
YULB	baz=216			S	Sb	12 29 48.4	+1.0
NHDH	baz=216 **Xindian Distri**	**0.84**	**350**	P	Pn	12 29 37.5	-0.4
NHDH	baz=341			*e*S	Sb	12 29 48.8	+0.7
TIPB	baz=341 **Shuangxi**	**0.85**	**9**	P	Pb	12 29 37.2	+0.3
TIPB	baz=360			S	Sb	12 29 49.0	+0.7
EYUL	**Yuli**	**0.85**	**203**	*e*P	Pn	12 29 38.0	-0.1
TWQ1	baz=216 **Liyutan**	**0.85**	**285**	*e*P	Pn	12 29 37.6	-0.5
TWQ1	baz=297			*e*S	Sb	12 29 48.7	+0.2
WHYT	baz=297 **Xinyi Township**	**0.87**	**240**	*e*P	Pb	12 29 37.6	+0.3
WHYT	baz=247			*e*S	Sb	12 29 49.7	+0.6
YUS	baz=247 **Yu-Shan**	**0.92**	**226**	*e*P	Pg	12 29 37.6	-0.2
YUS	baz=214			*e*S	Sb	12 29 51.2	+0.2
WDJ	baz=214 **Dajia District**	**0.97**	**283**	*e*P	Pg	12 29 38.8	0.0
SXI1	baz=283 **Grass Mountain**	**0.97**	**10**	*e*P	Pn	12 29 39.5	-0.4
FULB	baz=356 **Fuli**	**0.99**	**201**	*e*P	Pb	12 29 39.4	0.0
ALS	baz=215 **Alishan**	**1.01**	**233**	P	Pn	12 29 40.5	-0.1
YM01	baz=233 **YM01**	**1.01**	**354**	*e*P	Pb	12 29 39.7	0.0
	baz=3.0						
YM01				*e*S	Sn	12 29 55.0	+0.2
	baz=3.0						
ELDTW	**Lidau**	**1.12**	**213**	*e*P	Pg	12 29 41.0	-0.5
ELDTW	baz=222			*e*S	Sn	12 29 57.2	-0.2
WCKO	baz=222 **Fanlu**	**1.20**	**235**	*e*P	Pg	12 29 43.4	+0.3
EDH	baz=236 **Donghe**	**1.21**	**197**	*e*P	Pg	12 29 43.5	+0.3
STYH	baz=187 **Taoyuan**	**1.27**	**221**	*e*P	Pn	12 29 43.1	-0.7
TPUB	baz=222 **Ta-pu**	**1.27**	**230**	*e*P	Pg	12 29 44.5	+0.1
WTP	baz=217 **Ta-pu**	**1.32**	**228**	*e*P	Pb	12 29 44.9	0.0
TWK	baz=216 **Hsinying**	**1.39**	**232**	*e*P	Pb	12 29 46.3	+0.1
CHN1	baz=233 **Nanshi**	**1.42**	**228**	*e*P	Pb	12 29 46.5	-0.1
TWG	baz=230 **Pinlang**	**1.42**	**203**	*e*P	Pn	12 29 45.9	0.0
TWGBT	baz=204 **Beinan**	**1.42**	**203**	*e*P	Pn	12 29 45.8	-0.1
	baz=204						

*KRNET **09** 12:51:00.9±0.1, 41°.77N×75°.68E, h14km, mb2.6*
*NNC **09** 12:51:01.9±4.6, 41°.82N×75°.75E, h0km, mb2.3, mpv2.3, Error ellipse: s-maj=36.0km s-min=20.6km az=4.0*
*SOME **09** 12:51:01.2, 41°.75N×75°.73E, h15km*
*KNET **09** 12:51:02.2±0.8, 41°.83N×75°.73E, h10km±5km, ml1.7, Error ellipse: s-maj=5.9km s-min=3.4km az=165.0*

ISC 09 12:51:01.2±1.5, 41°.76N±0°.06×75°.73E±0°.02, h12km±9km, n40, σ1§04/74, 31C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.62**	**38**	⇑P	Pg	12 51 12.8	-0.6
ULHL	SNR=5.0			⇑S	Sg	12 51 20.9	-0.7
ULHL	47nm,0.1s **Ulahol**	**0.62**	**38**	⇓*e*P	Pg	12 51 13.1	-0.2
ULHL	baz=41			⇓*e*S	Sb	12 51 22.4	-0.5
UCH	**Uchtor**	**1.02**	**298**	⇑P	Pn	12 51 21.8	0.0
UCH	2.0nm,0.1s,SNR=5.5			⇑S	Sn	12 51 35.7	-0.7
UCH	7.4nm,0.2s **Uchtor**	**1.02**	**298**	⇑*e*P	Pb	12 51 20.0	-1.1
UCH	baz=98			⇑*e*S	Sg	12 51 34.0	-0.4
ARLS	baz=98 **Aral**	**1.06**	**276**	⇑*e*P	Pb	12 51 20.5	-1.1
ARLS	baz=75			⇑*e*S	Sb	12 51 34.9	-0.5
KBK	baz=75 **Karagaybulak**	**1.07**	**327**	⇓P	Pn	12 51 22.7	+0.5
KBK	44nm,0.1s,SNR=101			⇓S	Sn	12 51 37.7	+0.5
KBK	58nm,0.2s **Karagaybulak**	**1.07**	**327**	⇑*e*P	Pb	12 51 20.8	-1.0
KBK	baz=29			⇑*e*S	Sn	12 51 35.8	-1.3
TKM2	baz=29 **Tokmak 2**	**1.17**	**355**	⇓P	Pg	12 51 23.8	+0.1
TKM2	4.1nm,0.1s,SNR=26			⇑S	Sn	12 51 39.9	+0.3
TKM2	14nm,0.1s **Tokmak 2**	**1.17**	**355**	⇑*e*P	Pb	12 51 22.6	-0.9
TKM2	baz=57			⇑*e*S	Sn	12 51 38.6	-1.0
TKM2	baz=57 **Tokmak 2**	**1.17**	**355**	⇓Pn	Pg	12 51 23.9	+0.1
TKM2	0.9nm,0.2s			⇑Sn	Sn	12 51 40.6	+1.0
AAK	0.9nm,0.1s **Ala-Archa**	**1.27**	**314**	⇓P	Pg	12 51 26.3	+0.6
AAK	5.2nm,0.1s,SNR=8.4			⇑S	Sg	12 51 43.6	+1.3
AAK	12nm,0.2s **Ala-Archa**	**1.27**	**314**	⇑*e*P	Pn	12 51 24.4	-0.6
AAK	baz=15			⇑*e*S	Sg	12 51 42.0	-0.3
KST	baz=15 **Kastek**	**1.30**	**8**	*e*P	Pg	12 51 26.2	0.0
KST	baz=9.0			*e*S	Sg	12 51 44.2	+1.1
KST	baz=9.0 **Kastek**	**1.30**	**8**	*e*P	Pg	12 51 26.2	0.0
KST	2.6nm,0.2s			*e*S	Sg	12 51 44.1	+1.1
TNSS	15nm,0.3s **Tian-Shan**	**1.56**	**35**	*e*P	Pb	12 51 30.4	+0.1
TNSS	1.7nm,0.2s			*e*S	Sg	12 51 51.2	-0.4
AML	7.8nm,0.2s **Almayashu**	**1.57**	**285**	⇑P	Pb	12 51 31.2	+0.9
AML	4.3nm,0.2s,SNR=8.0			⇑S	Sg	12 51 53.1	+1.4
MDOK	19nm,0.2s **Medeo**	**1.71**	**34**	*e*P	Pb	12 51 32.9	+0.2
MDOK	0.7nm,0.2s			*e*S	Sg	12 51 55.5	-0.7
MDOK	6.3nm,0.1s **Medeo**	**1.71**	**34**	⇓Pg	Pg	12 51 34.9	+0.8
MDOK	0.9nm,0.4s			⇑Lg	Lg	12 51 55.6	
EKS2	2.8nm,0.4s **Erkin-Say**	**1.71**	**303**	⇑P	Pg	12 51 34.3	+0.2
EKS2	2.3nm,0.2s,SNR=8.0 **Erkin-Say**	**1.71**	**303**	⇑*e*P	Pb	12 51 32.0	-0.7
EKS2	baz=3.0			⇑*e*S	Sg	12 51 55.1	-1.2
USP	baz=3.0 **Ospenovka**	**1.76**	**329**	⇓P	Pg	12 51 34.7	-0.3
USP	1.9nm,0.1s,SNR=12			⇑S	Sg	12 51 58.5	+0.6
USP	7.3nm,0.2s **Ospenovka**	**1.76**	**329**	⇑*e*P	Pb	12 51 33.0	-0.5
USP	baz=30			⇑*e*S	Sg	12 51 56.8	-1.1
KOTS	baz=30 **Kotyrbulak**	**1.79**	**34**	*e*P	Pg	12 51 35.2	-0.5
KOTS	baz=35			*e*S	Sg	12 51 59.1	+0.1
KOTS	baz=35 **Kotyrbulak**	**1.79**	**34**	*e*P	Pg	12 51 35.2	-0.5
KOTS	1.2nm,0.1s			*e*S	Sg	12 51 59.1	+0.1
SGDS	24nm,0.3s **Sogindy**	**1.88**	**335**	*e*P	Pg	12 51 37.1	-0.1
SGDS	5.1nm,0.2s			*e*S	Sg	12 52 02.3	+0.6
KRBS	6.8nm,0.2s **Karabastau**	**1.94**	**359**	*e*P	Pg	12 51 37.7	-0.7
KRBS	7.7nm,0.2s			*e*S	Sg	12 52 04.1	+0.6
MRKS	3.0nm,0.2s **Merke**	**2.11**	**299**	*e*P	Pg	12 51 41.7	+0.1
MRKS	3.6nm,0.3s			*e*S	Sg	12 52 10.8	+1.9
CHKK	9.3nm,0.3s **Chushkaly**	**2.29**	**23**	*e*P	Pg	12 51 43.7	-1.4
CHKK	2.2nm,0.2s			*e*S	Sg	12 52 13.7	-1.1
ZHN	20nm,0.2s **Zhinishke**	**2.45**	**54**	*e*P	Pb	12 51 45.7	+0.4
ZHN	9.5nm,0.2s			*e*S	Sb	12 52 17.1	+1.8
KURS	31nm,0.2s **Kuram**	**2.50**	**45**	*e*P	Pb	12 51 45.9	-0.1
KURS	3.4nm,1.0s			*e*S	Sb	12 52 17.5	+0.8
KPKS	4.8nm,0.5s **Kokpek**	**2.77**	**51**	*e*P	Pb	12 51 50.6	-0.1
KPKS	5.0nm,0.3s			*e*S	Sb	12 52 25.5	+0.9
BLB	13nm,0.5s **Baldybastay**	**3.09**	**40**	*e*P	Pb	12 51 57.0	+0.9
BLB	1.6nm,0.2s			*e*S	Sg	12 52 36.6	-3.8
PDGK	12nm,0.3s **Podgornoye**	**3.19**	**59**	⇑Pg	Pb	12 51 57.7	-0.2
PDGK	0.6nm,0.4s			⇑Lg	Lg	12 52 38.7	
BTLS	3.2nm,0.5s **Baital**	**3.51**	**340**	*e*P	Pb	12 52 04.9	+1.8
BTLS	1.7nm,0.4s			*e*S	Sg	12 52 50.1	-3.6
DJR	2.8nm,0.4s **Jarkent**	**3.93**	**48**	*e*P	Pb	12 52 10.8	+0.3
DJR	0.7nm,0.2s			*e*S	Sb	12 53 00.2	+2.2
KK31	3.0nm,0.1s **Karatay Array**	**4.09**	**291**	⇑Lg	Lg	12 53 12.8	
	0.3nm,0.3s,baz=107,slow=27,SNR=4.4						

WEL 09 12:52:12.8±0.5, 32°S±4°×17°9E±°, h33km, M4.4/24, mB5.1/19, ML4.7/33, MLv4.5/24, Mw(mB)4.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=109.5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.14**	**47**	P	Pn	12 53 13.7	0.0
GLKZ				S	Sn	12 54 03.7	+2.6
GRZ	**Great Barrier**	**4.87**	**211**	P	Pn	12 53 17.4	-6.3
KUTZ	**Kuaotunu**	**5.18**	**206**	P	Pn	12 53 34.6	+6.6
MXZ	**Matakaoa Point**	**5.43**	**182**	P	Pn	12 53 31.9	+0.4
MXZ				S	Sn	12 54 36.3	+3.5
HAZ	**Te Kaha**	**5.66**	**187**	P	Pn	12 53 36.2	+1.7
HAZ				S	Sn	12 54 43.0	+4.7
PKGZ	**Pakihiroa**	**5.77**	**184**	P	Pn	12 53 36.6	+0.5
PKGZ				S	Sn	12 54 44.2	+3.1
RUGZ	**Raukumara Rang**	**5.88**	**187**	P	Pn	12 53 37.6	-0.1
RUGZ				S	Sn	12 54 45.0	+1.1
PUZ	**Puketiti**	**5.94**	**183**	P	Pn	12 53 38.4	-0.1
PUZ				S	Sn	12 54 46.9	+1.6
OPRZ	**Ohinepanea**	**5.95**	**196**	P	Pn	12 53 42.7	+4.2
OPRZ				S	Sn	12 54 44.1	-1.4
MARZ	**Manawahe**	**6.05**	**195**	P	Pn	12 53 43.4	+3.4
TWGZ	**Tauwhareparae**	**6.06**	**185**	P	Pn	12 53 42.0	+1.9
TWGZ				S	Sn	12 54 51.9	+3.6
TOZ	**Tahuroa Road**	**6.14**	**204**	P	Pn	12 53 48.4	+7.2
MWZ	**Matawai**	**6.26**	**188**	P	Pn	12 53 42.4	-0.4
MWZ				S	Sn	12 54 55.0	+1.8
TKGZ	**Te Karaka**	**6.33**	**185**	P	Pn	12 53 42.5	-1.2
TKGZ				S	Sn	12 54 55.3	+0.4
CNGZ	**Carnagh Statio**	**6.35**	**183**	P	Pn	12 53 43.3	-0.7
MUGZ	**Murupara**	**6.51**	**193**	P	Pn	12 53 46.3	0.0
MUGZ				S	Sn	12 55 00.4	+1.0
HRRZ	**Handcock Road**	**6.53**	**196**	P	Pn	12 53 49.6	+3.1
RIGZ	**Rimuhau**	**6.60**	**186**	P	Pn	12 53 45.1	-2.4
RIGZ				S	Sn	12 55 00.9	-0.8
TLZ	**Tolley Road**	**6.68**	**201**	P	Pn	12 53 53.6	+5.0
MTHZ	**Maungataniwha**	**6.86**	**192**	P	Pn	12 53 50.9	-0.2
MTHZ				S	Sn	12 55 09.2	+1.0
RAHZ	**Arahi**	**6.89**	**190**	P	Pn	12 53 49.7	-1.7
RAHZ				S	Sn	12 55 08.6	-0.1
KNZ	**Kokohu**	**6.92**	**186**	P	Pn	12 53 49.3	-2.6
KNZ				S	Sn	12 55 06.9	-2.6
MRHZ	**Matea Rd**	**6.92**	**194**	P	Pn	12 53 51.8	-0.2
MRHZ				S	Sn	12 55 12.3	+2.6
WHHZ	**Waihua**	**7.03**	**189**	P	Pn	12 53 52.5	-0.8
WHHZ				S	Sn	12 55 13.0	+1.0
MHGZ	**Mahia Peninsul**	**7.04**	**184**	P	Pn	12 53 52.7	-0.8
MHGZ				S	Sn	12 55 12.4	+0.1
HIZ	**Hauiti**	**7.07**	**205**	P	Pn	12 53 58.8	+4.9
NMHZ	**Naumai**	**7.11**	**191**	P	Pn	12 53 53.1	-1.4
NMHZ				S	Sn	12 55 15.4	+1.2
BKZ	**Black Stump Fm**	**7.23**	**193**	P	Pn	12 53 54.5	-1.7
BKZ				S	Sn	12 55 17.3	+0.1
NTVZ	**North Tongarir**	**7.35**	**198**	P	Pn	12 53 58.0	+0.1
TMVZ	**Te Maari**	**7.36**	**198**	P	Pn	12 53 57.8	-0.2
NNVZ	**North Ngauruho**	**7.40**	**198**	P	Pn	12 53 58.7	+0.1
OTVZ	**Oturere**	**7.42**	**198**	P	Pn	12 53 58.5	-0.3
NGZ	**Ngauruhoe**	**7.45**	**198**	P	Pn	12 53 59.1	-0.1
KWHZ	**Kaweka Forest**	**7.49**	**193**	P	Pn	12 53 57.7	-2.1
KWHZ				S	Sn	12 55 23.1	-0.5
CKHZ	**Cape Kidnapper**	**7.62**	**189**	P	Pn	12 53 57.6	-3.8
PKVZ	**Pokaka**	**7.62**	**199**	P	Pn	12 54 00.7	-0.8
MOVZ	**Moawhango**	**7.62**	**197**	P	Pn	12 53 59.6	-2.0
VRZ	**Vera Road**	**7.65**	**203**	P	Pn	12 54 03.5	+1.6
KAHZ	**Kahuranaki**	**7.78**	**190**	P	Pn	12 54 01.1	-2.6
PNHZ	**Pukenui**	**8.01**	**193**	P	Pn	12 54 02.6	-4.2
PXZ	**Pawanui**	**8.01**	**190**	P	Pn	12 54 02.1	-4.7
WPHZ	**Waipukurau**	**8.11**	**192**	P	Pn	12 54 04.0	-4.2
WAZ	**Wanganui**	**8.16**	**200**	P	Pn	12 54 06.6	-2.2

*ASRS **09** 12:56:52.3±0.2, 54°N±1°×8°6E±°, h10km, MLh3.8/12, Error ellipse: s-maj=3.2km s-min=2.4km az=43.1, confirmed*
*NNC **09** 12:56:53.6±3.3, 54°.07N×86°.44E, h0km, mb4.6, mpv3.8, Error ellipse: s-maj=25.1km s-min=13.2km az=30.0, Suspected Mining explosion.*

ISC 09 12:56:53.2±0.8, 54°.08N±0°.03×86°.50E±0°.02, h0km, n18, σ1§12/36, 12C-14D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCHU	**Verkh-Chumysh,**	**0.13**	**196**	⇓Pg	Pg	12 56 55.5	-0.2
VCHU				Sg	Sg	12 56 59.0	+1.6
KOTO	**Kotino, Kuzbas**	**0.27**	**67**	⇑Pg	Pg	12 56 58.5	+0.2
KOTO				Sg	Sb	12 57 04.5	-1.5
BJR2	**Bachatsky-2, K**	**0.30**	**312**	⇓Pg	Pg	12 56 59.0	+0.1
BJR2				Sg	Sg	12 57 03.8	+1.0
BJR1	**Bachatsky 1, K**	**0.31**	**300**	⇓Pg	Pg	12 56 58.4	-0.8
BJR1				Sg	Sg	12 57 03.4	+0.2
POMOR	**Pomortsevo, Ku**	**0.33**	**2**	⇓Pg	Pg	12 57 00.4	+1.0
POMOR				Sg	Sb	12 57 06.1	-1.5
ERU	**Erunakovo, Kuz**	**0.52**	**83**	⇑Pg	Pg	12 57 03.3	+0.1
ERU				Sg	Sb	12 57 13.5	+0.2
SALR	**Pechorkino, Sa**	**0.58**	**306**	⇓Pg	Pg	12 57 02.7	-1.5
SALR				Sg	Sg	12 57 11.8	+0.1
ELT	**Eltsovka**	**0.84**	**191**	⇓Pg	Pg	12 57 08.5	-0.7
ELT				Sg	Sg	12 57 19.9	-0.2
ZAA0	**Zalesovo Array**	**1.00**	**263**	⇓P	Pg	12 57 10.8	-1.6
ZAA0	1.2nm,0.3s			⇑S	Sg	12 57 25.9	+0.5
LUZB	180nm,1.2s **Luzhba, Kemero**	**1.48**	**106**	⇑Pg	Pn	12 57 19.6	-1.5
LUZB				Sg	Sn	12 57 42.9	+1.8
TASR	**Tashtagol**	**1.56**	**148**	Pg	Pn	12 57 20.6	-1.6
TASR				Sg	Sn	12 57 42.3	-0.8
BRCR	**Berchikul'**	**1.88**	**33**	⇑Pg	Pn	12 57 25.1	-1.4
BRCR				Sg	Sb	12 57 52.3	-0.1
NVSII	**Novosibirsk**	**2.05**	**293**	⇓Pg	Pn	12 57 28.9	0.0
NVSII				Sg	Sb	12 57 56.7	-0.6
NVS	**Novosibirsk**	**2.05**	**293**	⇓Pg	Pn	12 57 29.4	+0.5
NVS				Sg	Sb	12 57 57.1	-0.3
KURK	**Kurchatov**	**5.89**	**238**	⇑Pn	Pn	12 58 23.1	+1.5
KURK	15nm,0.7s			⇑Sn	Sn	12 59 30.7	+1.0
KURK	12nm,0.6s			⇓Lg	Lg	13 00 00.3	
KURBB	145nm,1.0s **Kurchatov Arra**	**5.99**	**238**	⇓Pn	Pn	12 58 24.2	+1.2
KURBB	34nm,0.6s			⇑Sn	Sn	12 59 31.8	-0.4
KURBB	34nm,0.6s			⇓Lg	Lg	13 00 03.7	
MK31	187nm,0.9s **Makanchi Array**	**7.78**	**202**	⇑Pn	Pn	12 58 49.4	+1.8
MK31	5.9nm,0.7s,baz=24,slow=13,SNR=105			⇑Sn	Sn	13 00 15.6	-0.7
MK31	9.7nm,0.7s,baz=22,slow=25			⇓Lg	Lg	13 00 56.8	
MAKZ	43nm,1.0s **Makanchi**	**7.83**	**203**	⇑Pn	Pn	12 58 50.6	+2.2
MAKZ	12nm,0.9s			⇓Sn	Sn	13 00 18.7	+1.1
	21nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAKZ				⇑Lg	Lg	13 00 59.9	
	42nm,1.0s						

JMA ***09*** *13:01:42.5±0.2, 32°N±2°×13°8E±°, h412km, MV3.2/17, FAR S OFF TOKAI DISTRICT*
IDC ***09*** *13:01:44.6±0.8, 32°.39N×137°.77E, h407km±11km, mb2.9/6, mbtmp3.7/9, Error ellipse: s-maj=24.0km s-min=14.0km az=73.0*
ISC 09 13:01:43.3±0.7**, 32°.19N**±0°.06×**137°.92E**±0°.10**, h400km, n20,** σ**1^{s}59**/27**, mb3.0**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.82**	**59**	P	**Pn**	**13 02 41.0**	**+2.8**
	72nm,0.3s,baz=289,slow=1.6,SNR=8.4						
JHJ				S	**S**	**13 03 26.0**	**+3.5**
	182nm,0.6s,baz=272,slow=22,SNR=2.0						
JWY	**Kouya**	**2.81**	**317**	*e*P	**Pn**	**13 02 45.4**	**+0.4**
JOD2	**Odawara 2**	**3.22**	**17**	P	**Pn**	**13 02 48.7**	**+0.5**
JOD2				*e*S	**S**	**13 03 40.5**	**-0.4**
JYN	**Shimob**	**3.34**	**9**	P	**Pn**	**13 02 50.4**	**+1.0**
JYTA	**Yamagatataniai**	**3.54**	**344**	P	**Pn**	**13 02 51.3**	**+0.3**
BSO1	**Boso 1**	**3.55**	**45**	P	**Pn**	**13 02 50.5**	**+0.1**
BSO1				*e*S	**S**	**13 03 43.8**	**-1.2**
JWT	**Wachi**	**3.73**	**326**	P	**Pn**	**13 02 52.6**	**-0.2**
JRY	**Ryogami san**	**3.90**	**12**	P	**Pn**	**13 02 54.9**	**+0.5**
MJAR	**Matsushiro Arr**	**4.35**	**3**	P	**Pn**	**13 02 58.1**	**-0.6**
	10nm,0.6s,baz=162,slow=9.2,SNR=37						
MJAR				S	**S**	**13 03 57.4**	**-2.4**
	2.2nm,0.5s,baz=221,slow=25,SNR=1.4						
CBIJ	**Chichi jima**	**6.29**	**143**	P	**Pn**	**13 03 19.3**	**+0.2**
CBIJ				S	**S**	**13 04 34.4**	**-2.9**
JCJ	**Chichijima**	**6.29**	**143**	P	**Pn**	**13 03 19.3**	**+0.2**
	52nm,0.6s,baz=238,slow=13,SNR=2.2						
JCJ				S	**S**	**13 04 34.3**	**-3.0**
	75nm,0.4s,baz=272,slow=22,SNR=15						
KSRS	**Korea Array**	**9.75**	**305**	P	**Pn**	**13 03 58.5**	**+0.2**
	1.0nm,0.5s,baz=121,slow=9.8,SNR=6.0						
USRK	**Ussuriysk Ar.**	**12.86**	**340**	P	**Pn**	**13 04 35.2**	**+0.9**
	2.3nm,0.5s,baz=149,slow=11,SNR=9.0						
KLR	**Kul'dur**	**17.64**	**347**	P	**P**	**13 05 22.3**	**-1.4**
	1.1nm,0.4s,baz=156,slow=15,SNR=4.9						
CMAR	**Chiang Mai Arr**	**37.58**	**258**	P	**P**	**13 08 21.1**	**-0.5**
	0.5nm,0.5s,baz=49,slow=8.4,SNR=5.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.43**	**306**	P	**P**	**13 09 15.4**	**-1.0**
	0.5nm,0.5s,baz=82,slow=11,SNR=7.8						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**51.95**	**184**	P	**P**	**13 10 14.5**	**+1.2**
	0.2nm,0.3s,baz=360,slow=7.7,SNR=6.2						
WRA				PcP	**PcP**	**13 11 20.7**	**+1.2**
	0.3nm,0.9s,baz=354,slow=4.1,SNR=2.0						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**55.12**	**30**	P	**P**	**13 10 35.1**	**-0.3**
	0.7nm,1.1s,baz=274,slow=7.2,SNR=2.1						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**55.67**	**184**	P	**P**	**13 10 42.5**	**+2.6**
	0.2nm,0.5s,baz=14,slow=9.5,SNR=4.8						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**71.74**	**332**	P	**P**	**13 12 22.8**	**-0.1**
	3.8nm,1.0s,baz=73,slow=6.2,SNR=4.7						
	3.8nm,1.0s						

MAN 09 13:18:52.2, 8°.76N×126°.04E, h19km, mb3.8, ML2.5, MS2.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.65**	**151**	⇑*i*P	Pb	13 19 04.3	-0.6
BIPH				*i* S	Sn	13 19 15.0	-1.1
CGP	**Cagayan de Oro**	**1.36**	**257**	⇑*e*P	Pn	13 19 15.2	-1.0
CGP				*e*S	Sb	13 19 34.8	+0.6

IDC ***09*** *14:12:03.2±4.2, 22°.07N×144°.09E, h77km±39km, mb3.6/9, mbtmp3.9/10, ML4.0/1, Error ellipse: s-maj=37.9km s-min=15.6km az=96.0*
NEIC ***09*** *14:12:03.8±0.9, 22°.04N±0°.06×144°.0E±0°.2, h79km±10km, mb4.5/18, Error ellipse: s-maj=22.8km s-min=3.8km az=71.0*
ISC 09 14:12:06.2±0.7**, 22°.13N**±0°.07×**143°.9E**±0°.1**, h105km, n41,** σ**1^{s}18**/36**, mb4.2**/17**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.18**	**343**	P	**Pn**	**14 13 20.2**	**-1.2**
	4.9nm,0.3s,baz=78,slow=23,SNR=6.3						
JCJ				S	**Sn**	**14 14 16.0**	**-3.9**
	48nm,0.4s,baz=252,slow=22,SNR=12						
	30nm,0.6s						
JCJ	**Chichijima**	**5.18**	**343**	Pn	**Pn**	**14 13 20.5**	**-0.9**
INU	**Inuyama**	**14.47**	**337**	Pn	**Pn**	**14 15 27.1**	**+1.1**
JSU	**Suzuyama**	**15.17**	**311**	P	**P**	**14 15 36.6**	**-0.9**
JSU				IAmb	IAmb	14 16 02.1	
	comp=Z,26nm,1.0s						
NACB	**Ninganchiao**	**20.57**	**280**	P	**P**	**14 16 37.8**	**+1.0**
NACB				IAmb	IAmb	14 16 39.1	
	comp=Z,28nm,1.1s						
KSAR	**Wonju Array Be**	**20.57**	**321**	P	**P**	**14 16 36.3**	**-0.3**
TWG	**Pinlang**	**21.07**	**276**	P	**P**	**14 16 42.4**	**+0.3**
INCN	**Inchon**	**21.34**	**320**	P	**P**	**14 16 44.5**	**-0.3**
INCN				IAmb	IAmb	14 16 45.9	
	comp=Z,8.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**21.65**	**92**	T	T	14 39 23.6	
	baz=272						
H11N2	**WAKE ISLAND Hy**	**21.65**	**92**	T	T	14 39 22.4	
	baz=272						
H11N3	**WAKE ISLAND Hy**	**21.66**	**92**	T	T	14 39 32.8	
	baz=272						
H11S3	**WAKE ISLAND Hy**	**21.71**	**95**	T	T	14 39 34.9	
	baz=283,slow=74						
H11S1	**WAKE ISLAND Hy**	**21.72**	**95**	T	T	14 39 41.1	
	baz=283,slow=74						
H11S2	**WAKE ISLAND Hy**	**21.73**	**95**	T	T	14 39 42.6	
	baz=283						
HKPS	**Hong Kong Po S**	**27.50**	**276**	P	**P**	**14 17 44.2**	**+1.3**
KLR	**Kul'dur**	**28.70**	**343**	P	**P**	**14 17 54.2**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=161,slow=13,SNR=4.2						
	comp=Z,1.2nm,0.4s						
MYLDM	**Lahad Datu**	**29.76**	**239**	P	**P**	**14 18 03.1**	**+0.1**
MYLDM				IAmb	IAmb	14 18 16.1	
	comp=Z,16nm,1.0s						
COEN	**Coen**	**35.87**	**181**	P	**P**	**14 18 54.4**	**-1.8**
COEN				IAmb	IAmb	14 18 57.9	
	comp=Z,5.3nm,1.1s						
SOEI	**Soe**	**37.06**	**213**	P	**P**	**14 19 06.0**	**-0.4**
WB2	**Warramunga Arr**	**42.83**	**193**	P	**P**	**14 19 52.9**	**-1.1**
WRA	**Warramunga Arr**	**42.83**	**193**	P	**P**	**14 19 53.7**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=13,slow=8.7,SNR=22						
	comp=Z,0.7nm,0.3s						
WRA	**Warramunga Arr**	**42.83**	**193**	P	**P**	**14 19 52.8**	**-1.2**
AS31	**Alice Springs**	**46.53**	**193**	P	**P**	**14 20 22.4**	**-1.0**
ASAR	**Alice Springs**	**46.54**	**193**	P	**P**	**14 20 22.5**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=11,slow=7.2,SNR=17						
	comp=Z,0.6nm,0.5s						
STKA	**Stephens Creek**	**53.74**	**182**	P	**P**	**14 21 17.8**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=328,slow=9.5,SNR=3.1						
	comp=Z,1.2nm,0.3s						
MK31	**Makanchi Array**	**54.87**	**312**	P	**P**	**14 21 27.1**	**+1.2**
MK31				IAmb	IAmb	14 21 32.6	
	comp=Z,2.8nm,1.0s						
MKAR	**Makanchi Array**	**54.87**	**312**	P	**P**	**14 21 26.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=84,slow=7.9,SNR=6.3						
	comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.87**	**312**	P	**P**	**14 21 27.4**	**+1.5**
PMR	**Palmer**	**59.86**	**31**	P	**P**	**14 22 00.3**	**-0.3**
PMR				IAmb	IAmb	14 22 06.2	
	comp=Z,6.1nm,1.0s						
SML	**Sawmill**	**60.27**	**30**	P	**P**	**14 22 03.2**	**-0.2**
TOLK	**Toolik Lake Re**	**61.09**	**23**	P	**P**	**14 22 09.3**	**+0.5**
TOLK				IAmb	IAmb	14 22 14.6	
	comp=Z,2.9nm,1.1s						
ILAR	**Eielson Array**	**61.37**	**27**	P	**P**	**14 22 09.5**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=259,slow=5.2,SNR=2.3						
	comp=Z,0.6nm,0.6s						
N25K	**Chitina, Valde**	**62.02**	**31**	P	**P**	**14 22 16.0**	**+0.7**
N25K				IAmb	IAmb	14 22 45.4	
	comp=Z,7.9nm,1.1s						
BMAR	**Burnt Mountain**	**62.70**	**24**	P	**P**	**14 22 20.4**	**+0.8**
M27K	**Edge Creek, AK**	**63.35**	**30**	P	**P**	**14 22 24.4**	**+0.2**
M27K				IAmb	IAmb	14 22 24.4	
	comp=Z,5.1nm,1.1s						
K27K	**Chicken**	**63.37**	**28**	P	**P**	**14 22 25.8**	**+1.7**
L27K	**Beaver Creek,**	**63.41**	**29**	P	**P**	**14 22 24.6**	**+0.1**
BCAR	**Beaver Creek A**	**63.43**	**29**	P	**P**	**14 22 24.8**	**+0.1**
INK	**Inuvik**	**66.92**	**24**	P	**P**	**14 22 46.5**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=304,slow=3.8,SNR=4.6						
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**82.39**	**52**	P	**P**	**14 24 17.4**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=289,slow=5.5,SNR=6.3						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**83.06**	**335**	P	**P**	**14 24 21.7**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=79,slow=5.1,SNR=1.4						
	comp=Z,1.3nm,0.7s						

DJA 09 14:39:28.7±1.3**, 9°S**±4°×**11°4E**±°**, h16km**±12km**, M4.0**/10**, mb4.7**/1**, MLv3.6**/10**, South of Bali**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.96**	**48**	P	Pb	14 39 46.8	-0.2
IGBI				S	Sg	14 39 59.7	-0.2
JAGI	**Jajag, Banyuwa**	**1.03**	**345**	P	Pb	14 39 48.2	0.0
JAGI				S	Sg	14 40 01.9	-0.3
DNP	**Denpasar**	**1.10**	**44**	P	Pg	14 39 49.9	-0.1
RTBI	**Rangdo, Negare**	**1.12**	**27**	P	Pb	14 39 49.6	-0.2
RTBI				S	Sn	14 40 04.7	-0.3
SRBI	**Singaraja**	**1.58**	**29**	P	Pn	14 39 56.0	-0.1
SRBI				S	Sb	14 40 16.9	-0.4
KLNI	**Mataram**	**1.95**	**58**	P	Pn	14 40 00.8	-0.3
KMMI	**Kalianget**	**2.45**	**349**	P	Pn	14 40 08.5	+0.5
TWSI	**Taliwang, Sumb**	**2.53**	**73**	P	Pn	14 40 08.8	-0.3
PLAI	**Plampang**	**3.37**	**79**	P	Pn	14 40 20.8	+0.1
PCJI	**Pacitan**	**3.46**	**291**	P	Pn	14 40 21.4	-0.5
UGM	**Wanagama**	**4.16**	**292**	P	Pn	14 40 32.0	+0.4
BSSI	**Bau Bau, Buton**	**6.85**	**62**	P	Pn	14 41 08.3	-0.3

GUC ***09*** *14:41:54.9±0.8, 21°.87S×68°.56W, h118km±6km, ML3.8*
VAO ***09*** *14:41:54.7±0.5, 21°.82S×68°.16W, h100km±5km, mb4.2*
ISC 09 14:41:52.4±0.9**, 21°.86S**±0°.05×**68°.55W**±0°.08**, h134km**±11km**, n25,** σ**1^{s}18**/37**, 3C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.64**	**276**	*e*P	**Pn**	**14 42 13.9**	**+0.9**
PB09				*i* S	**Sn**	**14 42 28.0**	**-0.5**
PB09				IAML		14 42 31.8	
	comp=E,2μm,0.2s						
LVC	**Limon Verde**	**0.81**	**204**	*e*P	**Pn**	**14 42 15.0**	**+0.6**
LVC				*i* S	**Sn**	**14 42 30.9**	**-0.3**
LVC	**Limon Verde**	**0.81**	**204**	*e*P	**Pn**	**14 42 15.2**	**+0.8**
PB03	**IPOC Station P**	**1.13**	**260**	⇑*i*P	**Pn**	**14 42 17.6**	**+0.6**
PB03				*i* S	**Sn**	**14 42 35.2**	**-0.5**
PB03				IAML		14 42 35.7	
	comp=N,3μm,0.1s						
PB01	**IPOC Station P**	**1.19**	**313**	*i* P	**Pn**	**14 42 17.9**	**+0.3**
PB01				*i* S	**Sn**	**14 42 35.9**	**-0.8**
PB01				IAML		14 42 38.2	
	comp=N,3μm,0.1s						
PB07	**IPOC Station P**	**1.25**	**276**	*e*P	**Pn**	**14 42 18.8**	**+0.5**
PB07				*i* S	**Sn**	**14 42 37.2**	**-0.6**
PB07				IAML		14 42 38.6	
	comp=N,3μm,0.4s						
PB06	**IPOC Station P**	**1.26**	**228**	⇑*i*P	**Pn**	**14 42 19.4**	**+1.0**
PB06				*i* S	**Sn**	**14 42 38.7**	**+0.6**
PB06				IAML		14 42 39.8	
	comp=E,3μm,0.3s						
PB04	**IPOC Station P**	**1.55**	**252**	⇑*i*P	**Pn**	**14 42 22.2**	**+0.7**
PB04				*i* S	**Sn**	**14 42 42.9**	**-0.8**
PB04				IAML		14 42 45.6	
	comp=N,1μm,0.3s						
PB15	**IPOC Station P**	**1.58**	**212**	*e*P	**Pn**	**14 42 23.3**	**+1.4**
PB15				*i* S	**Sn**	**14 42 45.6**	**+1.2**
PB08	**IPOC Station P**	**1.80**	**342**	⇓*i*P	**Pn**	**14 42 26.0**	**+1.3**
PB08				*i* S	**Sn**	**14 42 50.0**	**+0.8**
PB08				IAML		14 42 51.5	
	comp=N,404nm,0.3s						
GO01	**Chusmiza**	**2.27**	**345**	⇓*i*P	**Pn**	**14 42 31.1**	**+0.8**
GO01				*i* S	**Sn**	**14 43 00.5**	**+1.1**
PB11	**IPOC Station P**	**2.33**	**334**	*i* P	**Pn**	**14 42 30.8**	**0.0**
PB11				*i* S	**Sn**	**14 42 59.4**	**-0.9**
PB11				IAML		14 43 01.1	
	comp=E,787nm,0.3s						
PB10	**IPOC Station P**	**2.47**	**228**	*e*P	**Pn**	**14 42 32.6**	**+0.2**
PB10				*i* S	**Sn**	**14 43 01.4**	**-1.7**
PB10				IAML		14 43 04.1	
	comp=E,445nm,0.6s						
PB16	**IPOC Station P**	**3.62**	**345**	*e*P	**Pn**	**14 42 48.6**	**+0.7**
LPAZ	**La Paz**	**5.56**	**4**	*e*P	**Pn**	**14 43 15.3**	**+1.7**
BBSD	**Serra de San D**	**8.81**	**60**	*e*P	**Pn**	**14 43 54.6**	**-2.3**
BBRB	**Robore, Bolivi**	**8.96**	**68**	*e*P	**Pn**	**14 43 55.3**	**-3.4**
MURT	**Porto Murtinho**	**10.17**	**91**	*e*P	**Pn**	**14 44 13.6**	**-1.4**
PTLB	**Pontes e Lacer**	**10.97**	**56**	*e*P	**Pn**	**14 44 24.7**	**-0.9**
PANT	**Pantanal (Braz**	**11.55**	**78**	*e*P	**Pn**	**14 44 32.2**	**-1.1**
SALV	**Santo Antonio**	**13.53**	**66**	*e*P	**Pn**	**14 44 58.3**	**-0.8**
CLDB	**Colider**	**16.39**	**50**	*e*P	**P**	**14 45 36.0**	**+0.7**
SNDB	**Serra Nova Dou**	**19.20**	**62**	*e*P	**P**	**14 46 06.9**	**+0.9**
ITTB	**Itaituba**	**21.38**	**37**	*e*P	**P**	**14 46 29.5**	**+0.1**
JANB	**Januaria**	**23.95**	**78**	*e*P	**P**	**14 46 56.0**	**+1.5**

LJU 09 14:45:27.5, 45°.80N×14°.32E, h0km, ML0.7, 3C, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEY	**Cerknica**	**0.09**	**129**	⇑*i*Pg	Pg	14 45 29.2	0.0
CEY				IAML		14 45 34.0	
	comp=Z,140nm,0.3s						
GBAS	**Gorenja Brezov**	**0.16**	**31**	⇑*i*Pg	Pg	14 45 30.6	+0.1
GBAS				IAML		14 45 34.9	
	comp=Z,5.5nm,0.1s						
JAVS	**Javornik**	**0.21**	**298**	⇑*e*Pg	Pg	14 45 31.8	+0.4
JAVS				IAML		14 45 39.5	
	comp=Z,17nm,0.3s						
KNDS	**Knezji Dol**	**0.27**	**172**	*e*Pg	Pg	14 45 33.0	+0.3
KNDS				IAML		14 45 40.6	
	comp=Z,10nm,0.2s						
VISS	**Visnje**	**0.36**	**89**	*i* Pg	Pg	14 45 35.0	+0.6
VISS				IAML		14 45 43.2	
	comp=Z,1.2nm,0.1s						

VIE 09 14:45:57.2±0.6**, 46°.50N**×**15°.16E, h0km, mb0.3**/1**, ml0.8**/1**, Error ellipse: s-maj=5.9km s-min=1.2km az=40.0 18 km S of Sankt Lorenzen ob Eibiswald Suspected Mining explosion., Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.20**	**335**	*i* Pg	Pg	14 46 01.2	+0.1
SOKA				*i* Sg	Sg	14 46 03.8	+0.1

MOS ***09*** *14:50:58.6±0.9, 4°.72S×149°.84E, h450km, mb5.2/39, Error ellipse: s-maj=7.4km s-min=5.3km az=114.5*
IDC ***09*** *14:50:58.8±0.4, 4°.81S×149°.84E, h440km±4km, mb4.7/40, mbtmp5.5/44, Error ellipse: s-maj=5.8km s-min=4.9km az=88.0*
BJI ***09*** *14:50:58.9±0.0, 4°.63S×149°.87E, h450km, mb4.9/77, mB4.9/53*
DJA ***09*** *14:50:59.9±0.2, 5°S±2°×15°0E±°, h455km±3km, M5.4/112, mb5.6/112, mB5.8/91, MLv5.7/3, Mw5.8/60, Mw(mB)5.3/91, MwMwp5.4/30, Mwp5.5/30*
NEIC ***09*** *14:50:59.7±1.6, 4°.74S±0°.07×149°.87E±0°.09, h449km±3km, mb5.4/129, Mwb5.9/15, Mww5.9, Error ellipse: s-maj=12.6km s-min=10.4km az=74.0*
NEIC ***09*** *14:50:59.4, 4°.72S×149°.86E, h455km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.26; $M_{\theta\theta}$5.08; $M_{\phi\phi}$-6.34; $M_{r\theta}$-3.89; $M_{\theta\phi}$6.43; $M_{\phi r}$-2.24; Fault plane solution: $M_0$9.76000×10^{17} NP1:ϕ_s197.75000°, δ73.62000°, λ158.59000°. NP2:ϕ_s294.06000°, δ69.49000°, λ17.52000°. Principal axes: T 10.2047, Plg27.0000°, Azm155.0000°; N -0.9537, Plg63.0000°, Azm342.0000°; P -9.2510, Plg3.0000°, Azm247.0000°;*
KLM ***09*** *14:51:01, 4°.76S×149°.87E, h453km, mb5.6*
NEIC ***09*** *14:51:01, 4°.73S×149°.65E, h470km, Moment Tensor Solution. Duration: 4^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.77; $M_{\theta\theta}$2.79; $M_{\phi\phi}$-4.55; $M_{r\theta}$-2.97; $M_{\theta\phi}$7.31; $M_{\phi r}$-1.85; Fault plane solution: $M_0$9.03000×10^{17} NP1: ϕ_s286.00000°, δ72.00000°, λ19.00000°. NP2: ϕ_s190.00000°, δ72.00000°, λ161.00000°. Principal axes: T 8.9915, Plg26.0000°, Azm148.0000°; N 0.0704, Plg64.0000°, Azm329.0000°; P -9.0619, Plg0.0000°, Azm238.0000°;*
GCMT ***09*** *14:51:02.7±0.1, 4°.62S±0°.01×149°.84E±0°.01, h463km, MW6.0/156, Moment Tensor Solution. s156,c316; s106,c121; Duration: 2^{s}3 Moment tensor: Scale 10^{18} Nm; M_{rr}0.20±.01; $M_{\theta\theta}$0.35±.01; $M_{\phi\phi}$-0.55±.01; $M_{r\theta}$-0.37±.01; $M_{\theta\phi}$0.80±.01; $M_{\phi r}$-0.29±.01; Best double couple: $M_0$1.04500×10^{18} NP1:ϕ_s191.00000°, δ73.00000°, λ157.00000°. NP2:ϕ_s288.00000°, δ68.00000°, λ18.00000°. Principal axes: T 1.0690, Plg28.0000°, Azm149.0000°; N -0.0490, Plg62.0000°, Azm337.0000°; P -1.0210, Plg3.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
ISC 09 14:50:59.5±0.2**, 4°.79S**±0°.03×**149°.89E**±0°.03**, h451km**±2km**, h453km:pP-P, n1104,** σ**1^{s}19**/1233**, mb5.4**/241**, 21C-30D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.19**	**77**	P	**P**	**14 51 59.7**	**-1.5**
	2μm,0.6s,baz=0.3,slow=0.6,SNR=269						
KRVT				S	**S**	**14 52 47.4**	**-3.8**
	1μm,0.4s,baz=29,slow=22,SNR=12						
RABL	**Rabaul**	**2.35**	**75**	P	**P**	**14 52 00.6**	**-1.6**
RABL	**Rabaul**	**2.35**	**75**	P	**P**	**14 52 01.1**	**-1.2**
MANU	**Manus Island**	**3.71**	**317**	P	**P**	**14 52 12.6**	**+0.2**
MANU	**Manus Island**	**3.71**	**317**	P	**P**	**14 52 12.9**	**+0.6**
PMG	**Port Moresby**	**5.33**	**210**	P	**P**	**14 52 28.2**	**+1.1**
	858nm,0.7s,baz=48,slow=5.2,SNR=251						
PMG				S	**S**	**14 53 37.5**	**-1.1**
	583nm,0.7s,baz=257,slow=3.5,SNR=1.6						
PMG	**Port Moresby**	**5.33**	**210**	P	**P**	**14 52 27.8**	**+0.7**
	8.7nm36μm22μm1μm,0.8s						
PMG	**Port Moresby**	**5.33**	**210**	P	**P**	**14 52 28.4**	**+1.3**
PMG	**Port Moresby**	**5.33**	**210**	*d i*P	**P**	**14 52 27.9**	**+0.8**
PMG				pmax	pmax		
	comp=Z,2μm,1.3s						
GENI	**Genyem**	**9.94**	**282**	P	**P**	**14 53 15.9**	**-0.2**
	comp=Z,9μmcomp=Z,20μmcomp=Z,2μm,0.8s						
GENI	**Genyem**	**9.94**	**282**	P	**P**	**14 53 16.2**	**+0.1**
HNR	**Honiara**	**11.00**	**115**	P	**P**	**14 53 28.1**	**+0.6**
	comp=Z,13μm,0.5s,baz=231,slow=2.3,SNR=102						
HNR				S	**S**	**14 55 29.7**	**+0.2**
	comp=Z,32μm,1.1s,baz=35,slow=22,SNR=11						
HNR	**Honiara**	**11.00**	**115**	P	**P**	**14 53 27.7**	**+0.1**
HNR	**Honiara**	**11.00**	**115**	P	**P**	**14 53 28.5**	**+1.0**
COEN	**Coen**	**11.26**	**216**	P	**P**	**14 53 32.8**	**+2.5**
	baz=11,SNR=475						
COEN	**Coen**	**11.26**	**216**	P	**P**	**14 53 32.5**	**+2.1**
COEN	**Coen**	**11.26**	**216**	P	**P**	**14 53 32.9**	**+2.5**
AUCSH	**Cairns State H**	**12.71**	**198**	P	**P**	**14 53 48.8**	**+2.7**
SRPI	**Serui, Papua**	**13.93**	**282**	P	**P**	**14 53 59.7**	**+0.4**
	comp=Z,3μmcomp=Z,5μmcomp=Z,384nm,0.6s						
PATS	**Pohnpei**	**14.29**	**36**	P	**P**	**14 54 03.0**	**-0.1**
	baz=14,SNR=84						
PATS	**Pohnpei**	**14.29**	**36**	P	**P**	**14 54 02.6**	**-0.5**
PATS	**Pohnpei**	**14.29**	**36**	P	**P**	**14 54 03.3**	**+0.2**
MTSU	**Mount Surprise**	**14.34**	**202**	P	**P**	**14 54 05.9**	**+2.2**
	baz=14,SNR=488						
MTSU	**Mount Surprise**	**14.34**	**202**	P	**P**	**14 54 06.0**	**+2.4**
TV1H	**Townsville Har**	**14.70**	**192**	P	**P**	**14 54 09.2**	**+1.8**
CTA	**Charters Tower**	**15.61**	**193**	P	**P**	**14 54 18.0**	**+0.8**
	comp=Z,179nm,0.8s,baz=10,slow=11,SNR=194						
CTA				S	**S**	**14 57 03.5**	**+3.0**
	comp=Z,96nm,1.1s,baz=179,slow=22,SNR=9.4						
CTA	**Charters Tower**	**15.61**	**193**	P	**P**	**14 54 18.8**	**+1.6**
CTAO	**Charters Tower**	**15.61**	**193**	P	**P**	**14 54 18.5**	**+1.3**
CTAO	**Charters Tower**	**15.61**	**193**	P	**P**	**14 54 18.8**	**+1.6**
CTAO	**Charters Tower**	**15.61**	**193**	P	**P**	**14 54 18.5**	**+1.3**
RKPI	**Ransiki, Papua**	**16.02**	**281**	P	**P**	**14 54 22.0**	**+0.4**
	comp=Z,5μmcomp=Z,13μmcomp=Z,779nm,0.6s						
MWPI	**Manokwari, Pap**	**16.28**	**283**	P	**P**	**14 54 23.6**	**-0.8**
	comp=Z,5μmcomp=Z,602nm,0.9s						
FAKI	**Fak Fak**	**17.69**	**275**	P	**P**	**14 54 38.4**	**-0.8**
FAKI	**Fak Fak**	**17.69**	**275**	P	**P**	**14 54 38.4**	**-0.8**
	comp=Z,9μmcomp=Z,11μmcomp=Z,720nm,1.3s						
FAKI	**Fak Fak**	**17.69**	**275**	P	**P**	**14 54 38.4**	**-0.8**
QIS	**Mount Isa**	**18.59**	**212**	P	**P**	**14 54 48.3**	**+0.4**
	baz=19,SNR=563						
QIS	**Mount Isa**	**18.59**	**212**	P	**P**	**14 54 48.7**	**+0.7**
SAUI	**Saumlaki**	**18.74**	**259**	P	**P**	**14 54 49.5**	**+0.1**
SAUI	**Saumlaki**	**18.74**	**259**	P	**P**	**14 54 49.7**	**+0.3**
	comp=Z,16μmcomp=Z,86μmcomp=Z,6μm,1.4s						
SAUI	**Saumlaki**	**18.74**	**259**	P	**P**	**14 54 50.2**	**+0.8**
KDU	**Kakadu**	**18.90**	**244**	P	**P**	**14 54 50.1**	**-0.8**
	baz=19,SNR=1000						
KDU	**Kakadu**	**18.90**	**244**	P	**P**	**14 54 50.8**	**-0.1**
GUMO	**Guam**	**18.93**	**345**	P	**P**	**14 54 49.9**	**-1.2**
	comp=Z,469nm,1.0s,baz=180,slow=6.2,SNR=14						
GUMO				S	**S**	**14 58 00.3**	**+0.1**
	comp=Z,25nm,0.3s,baz=29,slow=23,SNR=6.9						
GUMO	**Guam**	**18.93**	**345**	P	**P**	**14 54 49.2**	**-1.9**
GUMO	**Guam**	**18.93**	**345**	P	**P**	**14 54 50.8**	**-0.3**
GD1S	**Gladstone Soft**	**18.98**	**176**	P	**P**	**14 54 53.4**	**+1.9**
SIJI	**Sorong**	**19.00**	**281**	P	**P**	**14 54 51.0**	**-0.8**
	comp=Z,289nm,0.3s,baz=149,slow=7.5,SNR=168						
SIJI				S	**S**	**14 58 02.8**	**+1.2**
	comp=Z,180nm,1.0s,baz=125,slow=12,SNR=9.3						
SIJI				ScP	**ScP**	**15 01 47.4**	**+0.2**
	comp=Z,40nm,0.9s,baz=82,slow=3.6,SNR=7.4						
SIJI	**Sorong**	**19.00**	**281**	P	**P**	**14 54 51.4**	**-0.4**
	comp=Z,4μmcomp=Z,7μmcomp=Z,495nm,0.8s						
BNDI	**Bandanaira**	**19.92**	**270**	P	**P**	**14 54 59.7**	**-0.5**
	comp=Z,7μmcomp=Z,37μmcomp=Z,3μm,0.5s						
BNDI	**Bandanaira**	**19.92**	**270**	P	**P**	**14 55 00.2**	**0.0**
MTN	**Manton Dam**	**20.17**	**245**	P	**P**	**14 55 01.8**	**-0.7**
	baz=20,SNR=279						
MTN	**Manton Dam**	**20.17**	**245**	P	**P**	**14 55 01.5**	**-1.0**
MTN	**Manton Dam**	**20.17**	**245**	P	**P**	**14 55 02.9**	**+0.4**
EIDS	**Eidsvold**	**20.50**	**177**	P	**P**	**14 55 06.0**	**+0.7**
	baz=21,SNR=203						
EIDS	**Eidsvold**	**20.50**	**177**	P	**P**	**14 55 05.8**	**+0.5**
EIDS	**Eidsvold**	**20.50**	**177**	P	**P**	**14 55 06.2**	**+0.8**
MSAI	**Masohi**	**20.95**	**273**	P	**P**	**14 55 09.3**	**-0.4**
	comp=Z,956nmcomp=Z,111nm,0.9s						
KOUNC	**Koumac, New Ca**	**21.01**	**139**	P	**P**	**14 55 11.3**	**+1.2**
WB0	**Warramunga Arr**	**21.20**	**224**	P	**P**	**14 55 12.2**	**+0.4**
WR0	**Warramunga Arr**	**21.23**	**223**	P	**P**	**14 55 12.7**	**+0.5**
WRAB	**Tennant Creek**	**21.34**	**224**	P	**P**	**14 55 13.7**	**+0.5**
WRAB	**Tennant Creek**	**21.34**	**224**	P	**P**	**14 55 14.3**	**+1.1**
WRAB	**Tennant Creek**	**21.34**	**224**	*d i*P	**P**	**14 55 13.9**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,830nm,1.3s						
WB2	**Warramunga Arr**	**21.35**	**224**	P	**P**	**14 55 13.3**	**+0.1**
WRA	**Warramunga Arr**	**21.36**	**224**	P	**P**	**14 55 14.1**	**+0.9**
	comp=Z,292nm,0.3s,baz=46,slow=9.6,SNR=1101						
WRA				S	**S**	**14 58 38.5**	**-1.0**
	comp=Z,135nm,0.8s,baz=50,slow=15,SNR=11						
WRA				ScP	**ScP**	**15 01 53.3**	**+0.6**
	comp=Z,37nm,0.7s,baz=47,slow=2.7,SNR=6.1						
KRAI	**Karang Ratu**	**21.49**	**273**	P	**P**	**14 55 14.5**	**-0.1**
	comp=Z,5μmcomp=Z,357nm,0.9s						
RMQ	**Roma**	**21.60**	**183**	P	**P**	**14 55 16.3**	**+0.9**
	baz=22,SNR=114						
RMQ	**Roma**	**21.60**	**183**	P	**P**	**14 55 16.4**	**+0.9**
AAI	**Ambon**	**21.66**	**272**	P	**P**	**14 55 15.3**	**-0.8**
	comp=Z,7μmcomp=Z,868nm,0.9s						
DVP	**Devils Point**	**22.05**	**127**	P	**P**	**14 55 21.3**	**+1.8**
AUBSH	**Beerwah State**	**22.14**	**173**	P	**P**	**14 55 21.8**	**+1.5**
KWAJ	**Kwajalein Atol**	**22.24**	**53**	P	**P**	**14 55 20.0**	**-1.3**
KWAJ	**Kwajalein Atol**	**22.24**	**53**	P	**P**	**14 55 21.7**	**+0.4**
	comp=Z,730nm,1.0s						
KWAJ	**Kwajalein Atol**	**22.24**	**53**	P	**P**	**14 55 20.0**	**-1.3**
QLP	**Quilpie**	**22.34**	**193**	P	**P**	**14 55 22.4**	**+0.4**
	baz=22,SNR=150						
QLP	**Quilpie**	**22.34**	**193**	P	**P**	**14 55 23.1**	**+1.1**
AUWSH	**Wavell State H**	**22.69**	**173**	P	**P**	**14 55 27.1**	**+1.9**
LBMI	**Labuha**	**22.73**	**280**	P	**P**	**14 55 26.3**	**+0.5**
	comp=Z,9μmcomp=Z,675nm,0.9s						
NLAI	**Namlea**	**22.78**	**273**	P	**P**	**14 55 27.3**	**+1.1**
GAMI	**Galela, Maluku**	**23.04**	**286**	P	**P**	**14 55 27.2**	**-1.4**
	comp=Z,124nm,1.0s						
TNTI	**Ternate**	**23.16**	**283**	P	**P**	**14 55 28.1**	**-1.6**
TNTI	**Ternate**	**23.16**	**283**	P	**P**	**14 55 29.9**	**+0.3**
	comp=Z,1μmcomp=Z,1μmcomp=Z,86nm,1.0s						
TNTI	**Ternate**	**23.16**	**283**	P	**P**	**14 55 30.0**	**+0.3**
	comp=Z,104nm,1.1s						
LIFNC	**LIFOU**	**23.17**	**135**	P	**P**	**14 55 29.8**	**+0.2**
LIFNC	**LIFOU**	**23.17**	**135**	P	**P**	**14 55 30.3**	**+0.7**
NOUC	**Port Laguerre**	**23.43**	**139**	P	**P**	**14 55 32.2**	**+0.3**

GC1S **Gold Coast 1 S** 23.50 172 P P 14 55 34.4 +1.9
comp=Z,259nm,0.9s
DZM **Mont Dzumac** 23.50 138 *e*P P 14 55 33.0 +0.3
comp=Z,836nm,1.5s
DZM *e*LR LR 15 01 54.3
comp=Z,3µm,26.6s
DZM **Mont Dzumac** 23.50 138 P P 14 55 33.3 +0.6
comp=Z,190nm,0.8s,baz=266,slow=8.5,SNR=296
DZM ScP **ScP** 15 02 02.1 +3.7
comp=Z,77nm,0.9s,baz=57,slow=12,SNR=18
comp=Z,190nm,0.8s
DZM **Mont Dzumac** 23.50 138 P P 14 55 32.5 -0.2
DZM **Mont Dzumac** 23.50 138 P P 14 55 33.3 +0.6
ONTNC **Ouen Toro** 23.67 139 P P 14 55 34.0 -0.2
ONTNC **Ouen Toro** 23.67 139 P P 14 55 34.5 +0.4
YATNC **Mamie plateau,** 23.79 138 P P 14 55 36.2 +1.0
TARA **Tarawa** 23.81 76 P P 14 55 34.6 -0.9
TARA **Tarawa** 23.81 76 P P 14 55 36.3 +0.8
OUENC **Ouen Island, N** 24.01 138 P P 14 55 37.2 +0.1
OUENC **Ouen Island, N** 24.01 138 P P 14 55 37.9 +0.8
SANI **Sanana** 24.01 276 P P 14 55 36.3 -0.9
comp=Z,4µmcomp=Z,3µmcomp=Z,182nm,0.8s
SANI **Sanana** 24.01 276 P P 14 55 36.9 -0.3
MARNC **Mare, Loyalty** 24.19 135 P P 14 55 38.7 -0.1
MARNC **Mare, Loyalty** 24.19 135 P P 14 55 40.0 +1.3
AS01 **Alice Springs** 24.25 218 P P 14 55 39.8 +0.4
AS31 **Alice Springs** 24.28 218 P P 14 55 39.5 -0.1
ASAR **Alice Springs** 24.29 218 P P 14 55 39.8 +0.2
comp=Z,47nm,0.4s,baz=50,slow=8.4,SNR=2916
ASAR S **S** 14 59 24.9 -0.8
comp=Z,60nm,0.7s,baz=38,slow=15,SNR=9.6
ASAR ScP **ScP** 15 02 01.0 +0.5
comp=Z,100nm,0.8s,baz=48,slow=3.7,SNR=15
ASAR ScS **ScS** 15 05 51.3 +2.4
comp=Z,2.8nm,0.7s,baz=255,slow=4.7,SNR=4.3
comp=Z,47nm,0.4s
ASAR **Alice Springs** 24.29 218 P P 14 55 39.6 0.0
INKA **Innaminka** 24.43 200 P P 14 55 41.3 +0.5
AULRC **Lightning Ridg** 24.57 184 P P 14 55 42.9 +0.8
ARMA **Armidale** 25.55 177 P P 14 55 52.7 +1.9
baz=26,SNR=333
ARMA **Armidale** 25.55 177 P P 14 55 52.1 +1.3
ARMA **Armidale** 25.55 177 P P 14 55 52.7 +1.9
SOEI **Soe** 25.88 258 P P 14 55 52.4 +0.2
comp=Z,5µmcomp=Z,4µmcomp=Z,544nm,1.0s
SOEI **Soe** 25.88 258 P P 14 55 54.5 +0.5
AUPHS **Peel High Scho** 26.19 178 P P 14 55 58.2 +1.8
BATI **Baumata** 26.54 257 P P 14 56 00.8 +1.0
comp=Z,219nm,0.7s,baz=98,slow=1.7,SNR=25
BATI S **S** 15 00 01.2 -0.2
comp=Z,158nm,1.1s,baz=186,slow=22,SNR=2.5
comp=Z,219nm,0.7s
BATI **Baumata** 26.54 257 P P 14 56 00.5 +0.8
comp=Z,4µmcomp=Z,5µmcomp=Z,282nm,1.1s
OOD **Oodnadatta** 26.57 209 P P 14 56 00.0 +0.2
CMSA **Cobar Meteorol** 26.90 188 P P 14 56 03.3 +0.7
baz=27,SNR=264
CMSA **Cobar Meteorol** 26.90 188 P P 14 56 03.4 +0.7
BBSI **Bau Bau** 27.21 267 P P 14 56 06.1 +0.4
comp=Z,4µmcomp=Z,330nm,1.0s
AUDCS **Dubbo College** 27.32 182 P P 14 56 07.4 +1.0
LUWI **Luwuk** 27.33 277 P P 14 56 06.5 -0.2
LUWI **Luwuk** 27.33 277 P P 14 56 06.8 +0.1
comp=Z,5µmcomp=Z,578nm,1.4s
LUWI **Luwuk** 27.33 277 P P 14 56 07.3 +0.6
GTOI **Gorontalo** 27.38 281 P P 14 56 08.0 +0.8
comp=Z,1µmcomp=Z,110nm,0.6s
MMRI **Maumere** 27.72 261 P P 14 56 08.8 -1.3
MMRI **Maumere** 27.72 261 P P 14 56 08.5 -1.6
comp=Z,7µmcomp=Z,543nm,1.2s
MMRI **Maumere** 27.72 261 P P 14 56 09.8 -0.3
LCRK **Leigh Creek** 27.79 202 P P 14 56 11.1 +0.5
NTLH **Newcastle Hard** 28.02 177 P P 14 56 15.5 +3.0
STKA **Stephens Creek** 28.05 195 P P 14 56 11.8 -0.9
comp=Z,33nm,0.5s,baz=12,slow=8.9,SNR=94
STKA S **S** 15 00 22.3 -2.3
comp=Z,20nm,1.0s,baz=74,slow=23,SNR=1.9
STKA ScP **ScP** 15 02 13.2 +1.7
comp=Z,29nm,0.8s,baz=37,slow=7.1,SNR=5.8
STKA ScS **ScS** 15 06 04.6 -0.4
comp=Z,8.6nm,1.1s,baz=125,slow=22,SNR=1.8
comp=Z,33nm,0.5s
STKA **Stephens Creek** 28.05 195 P P 14 56 12.7 -0.1
baz=28,SNR=140
STKA **Stephens Creek** 28.05 195 P P 14 56 12.3 -0.4
STKA **Stephens Creek** 28.05 195 P P 14 56 13.1 +0.3
KKSI **Kolaka, Sulawe** 28.15 270 P P 14 56 14.5 +0.5
comp=Z,5µmcomp=Z,517nm,0.8s
MRSI **Marisa** 28.40 280 P P 14 56 13.5 -2.6
comp=Z,1µmcomp=Z,142nm,0.6s
APSI **Ampana** 28.46 277 P P 14 56 16.8 +0.2
comp=Z,8µmcomp=Z,714nm,1.0s
SYDH **Sydney Hard Ro** 28.84 179 P P 14 56 21.3 +1.7
WRKA **Warakurna** 28.90 224 P P 14 56 20.1 -0.3
baz=29,SNR=157
WRKA **Warakurna** 28.90 224 P P 14 56 20.3 -0.1
RIV **Riverview** 28.92 178 P P 14 56 22.0 +1.6
baz=29,SNR=21
RIV **Riverview** 28.92 178 P P 14 56 22.2 +1.9
BSSI **Bau Bau, Buton** 29.29 266 P P 14 56 23.6 -0.3
comp=Z,6µmcomp=Z,7µmcomp=Z,578nm,1.0s
FUNA **Funafuti** 29.34 99 P P 14 56 24.2 -0.1
FUNA **Funafuti** 29.34 99 P P 14 56 25.6 +1.2
MULG **Mulgathing** 29.43 209 P P 14 56 24.6 -0.3
NFK **Norfolk Island** 29.57 147 P P 14 56 26.6 +0.4
baz=30,SNR=5.5
NFK **Norfolk Island** 29.57 147 P P 14 56 27.8 +1.6
BKSI **Bulukumba** 29.65 268 P P 14 56 26.5 -0.6
comp=Z,4µmcomp=Z,3µmcomp=Z,268nm,1.0s
BKSI pP **PP** 14 57 48.1 +0.5
comp=Z,4µmcomp=Z,3µmcomp=Z,268nm,1.0s
TOLI2 **Tolitoli** 29.66 281 P P 14 56 25.4 -1.7
TOLI2 **Tolitoli** 29.66 281 P P 14 56 27.0 -0.2
BNSI **Bone** 29.68 270 P P 14 56 27.6 +0.2
comp=Z,2µmcomp=Z,3µmcomp=Z,377nm,1.0s
KAPI **Kappang** 30.02 268 P P 14 56 30.4 +0.1
comp=Z,290nm,0.9s,baz=91,slow=4.7,SNR=60
KAPI S **S** 15 00 54.3 -1.5
comp=Z,32nm,1.1s,baz=2.4,slow=22,SNR=8.1
comp=Z,290nm,0.9s
KAPI **Kappang** 30.02 268 P P 14 56 30.6 +0.3
KAPI **Kappang** 30.02 268 P P 14 56 30.3 0.0
comp=Z,4µmcomp=Z,422nm,1.1s
KAPI **Kappang** 30.02 268 P P 14 56 30.7 +0.4
KAPI **Kappang** 30.02 268 *d*/P P 14 56 30.3 0.0
KAPI pmax pmax
comp=Z,534nm,1.2s
KAPI **Kappang** 30.02 268 P P 14 56 28.9 -1.4
KAPI pP **PP** 14 57 52.1 +0.4
SPSI **Sidrap Palu** 30.04 270 P P 14 56 29.8 -0.6
comp=Z,4µmcomp=Z,364nm,1.0s
HTT **Hallett** 30.27 198 P P 14 56 32.5 +0.2
baz=30,SNR=49
HTT **Hallett** 30.27 198 P P 14 56 32.7 +0.4
WHYH **Whyalla** 30.36 201 P P 14 56 33.1 +0.2
CNB **Canberra Magne** 30.38 181 P P 14 56 34.7 +1.6
baz=31,SNR=152
CNB **Canberra Magne** 30.38 181 P P 14 56 35.1 +1.9
MPSI **Mapaga** 30.39 279 P P 14 56 31.6 -1.8
comp=Z,3µmcomp=Z,287nm,0.9s
CAN **Canberra** 30.39 181 P P 14 56 34.0 +0.7
CAN **Canberra** 30.39 181 P P 14 56 34.8 +1.5
CAN **Canberra** 30.39 181 P P 14 56 34.0 +0.7
CAN pmax pmax
comp=Z,1µm,2.0s
MSVF **Nonsavu** 30.41 117 P P 14 56 34.6 +0.9
comp=Z,33nm,0.5s,baz=272,slow=10,SNR=73
MSVF ScP **ScP** 15 02 23.5 +4.1
comp=Z,61nm,0.9s,baz=217,slow=4.6,SNR=16
comp=Z,33nm,0.5s
MSVF **Nonsavu** 30.41 117 P P 14 56 34.7 +1.1
MSVF IAmb IAmb 14 56 37.7
comp=Z,99nm,1.1s
MSVF **Nonsavu** 30.41 117 P P 14 56 35.3 +1.6
MSVF **Nonsavu** 30.41 117 ⇑*i*/P P 14 56 35.0 +1.3
MSVF pmax pmax
comp=Z,102nm,1.0s
AUUHS **Ulladulla High** 30.43 179 P P 14 56 35.7 +2.2
BBOO **Buckleboo** 30.73 203 P P 14 56 35.8 -0.3
baz=31,SNR=37
BBOO **Buckleboo** 30.73 203 P P 14 56 35.6 -0.5
BBOO **Buckleboo** 30.73 203 P P 14 56 36.1 0.0
PMSI **Majene** 30.91 271 P P 14 56 38.6 +0.5
comp=Z,4µmcomp=Z,2µmcomp=Z,104nm,1.1s
AUSMG **Snowy Mountain** 31.50 182 P P 14 56 44.1 +1.2

AUMAG **Moama Anglican** 31.52 188 P P 14 56 44.0 +1.1
GHSS **Government Hou** 31.75 198 P P 14 56 45.9 +1.0
comp=Z,143nm,0.7s
MILA **Mila** 32.12 181 P P 14 56 49.5 +1.3
baz=32,SNR=46
MILA **Mila** 32.12 181 P P 14 56 49.6 +1.4
PLAI **Plampang** 32.12 261 P P 14 56 45.9 -2.6
comp=Z,5µmcomp=Z,5µmcomp=Z,600nm,1.0s
PLAI **Plampang** 32.12 261 P P 14 56 46.6 -1.9
SGKI **Sangatta, Kali** 32.52 277 P P 14 56 53.8 +2.0
comp=Z,3µmcomp=Z,249nm,0.9s
ARPS **Mount Arapiles** 32.67 192 P P 14 56 53.6 +0.8
baz=33,SNR=60
ARPS **Mount Arapiles** 32.67 192 P P 14 56 53.8 +1.0
MYLDM **Lahad Datu** 32.87 287 P P 14 56 54.7 -0.2
MYLDM IAmb IAmb 14 56 57.7
comp=Z,291nm,1.6s
MYLDM **Lahad Datu** 32.87 287 P P 14 56 56.2 +1.3
comp=Z,2µmcomp=Z,82nm,1.1s
TOO **Toolangi** 32.88 186 P P 14 56 56.0 +1.4
baz=33,SNR=151
TOO **Toolangi** 32.88 186 P P 14 56 55.6 +1.0
TOO IAmb IAmb 14 56 59.0
comp=Z,185nm,0.9s
TOO **Toolangi** 32.88 186 P P 14 56 55.6 +1.0
TOO **Toolangi** 32.88 186 P P 14 56 55.6 +1.0
TOO pmax pmax
comp=Z,185nm,0.9s
FUTU **Fugatoga** 32.89 109 P P 14 56 56.5 +1.5
TWSI **Taliwang, Sumb** 33.00 261 P P 14 56 53.4 -2.5
comp=Z,4µmcomp=Z,582nm,0.8s
FORT **Forrest** 33.03 216 P P 14 56 56.0 +0.1
baz=33,SNR=118
FORT **Forrest** 33.03 216 P P 14 56 55.6 -0.3
FORT **Forrest** 33.03 216 P P 14 56 56.1 +0.2
BRAT **Ballarat** 33.06 189 P P 14 56 57.6 +1.5
BKB **Balikpapan** 33.12 275 P P 14 56 59.0 +2.0
comp=Z,4µmcomp=Z,288nm,1.1s
BKB **Balikpapan** 33.12 275 P P 14 56 59.1 +2.0
comp=Z,4µmcomp=Z,582nm,0.8s
AUSSC **Sale College,** 33.26 184 P P 14 56 59.8 +2.1
MBWA **Marble Bar** 33.48 238 P P 14 56 59.3 -0.6
MBWA **Marble Bar** 33.48 238 P P 14 56 59.4 -0.5
PSA00 **Pilbara Seismi** 33.56 237 P P 14 56 59.5 -1.1
PSA00 **Pilbara Seismi** 33.56 237 P P 14 56 59.4 -1.2
PSA00 IAmb IAmb 14 57 01.1
comp=Z,310nm,0.9s
PSA00 **Pilbara Seismi** 33.56 237 P P 14 56 59.9 -0.7
GEXS **Deakin Univers** 33.65 188 P P 14 57 03.1 +2.1
KLNI **Mataram** 33.75 262 P P 14 57 00.2 -2.1
comp=Z,8µmcomp=Z,983nm,1.0s
AUHPC **Hawkesdale P12** 33.88 191 P P 14 57 04.8 +1.8
SRBI **Singaraja** 34.60 263 P P 14 57 08.2 -1.3
comp=Z,4µmcomp=Z,254nm,1.0s
DNP **Denpasar** 34.64 262 P P 14 57 08.7 -1.1
comp=Z,629nm,0.8s
SPMM **Sampit** 34.69 285 P P 14 57 10.0 -0.3
IGBI **Denpasar** 34.72 261 P P 14 57 08.5 -2.0
comp=Z,5µmcomp=Z,463nm,1.0s
RTBI **Rangdo, Negare** 34.89 262 P P 14 57 10.1 -1.9
comp=Z,5µmcomp=Z,492nm,1.2s
BBKI **Banjar Baru** 34.98 271 P P 14 57 13.2 +0.5
comp=Z,9µmcomp=Z,500nm,1.0s
MTKI **Muara Teweh, K** 35.15 275 P P 14 57 14.5 +0.4
comp=Z,6µmcomp=Z,213nm,1.2s
KKM **Kota Kinabalu** 35.30 287 P P 14 57 14.4 -1.1
KKM **Kota Kinabalu** 35.30 287 P P 14 57 14.9 -0.6
comp=Z,1µmcomp=Z,81nm,0.8s
KKM **Kota Kinabalu** 35.30 287 P P 14 57 15.1 -0.4
JAGI **Jajag, Banyuwa** 35.67 262 P P 14 57 16.6 -2.0
JAGI **Jajag, Banyuwa** 35.67 262 P P 14 57 15.9 -2.6
comp=Z,4µmcomp=Z,472nm,1.0s
KMMI **Kalianget** 35.79 265 P P 14 57 18.5 -1.0
comp=Z,196nm,1.1s
GLAD **Gladstone** 36.08 182 P P 14 57 23.0 +1.6
AULHS **Lilydale High** 36.38 183 P P 14 57 25.7 +1.7
CORO **Coronation Par** 36.59 183 P P 14 57 27.6 +1.9
MEEK **Meekatharra** 36.93 231 P P 14 57 28.6 -0.2
baz=37,SNR=585
MEEK **Meekatharra** 36.93 231 P P 14 57 28.6 -0.2
KMBL **Kambalda** 37.29 222 P P 14 57 31.3 -0.4
baz=37,SNR=40
KMBL **Kambalda** 37.29 222 P P 14 57 31.2 -0.5
OUZ **Omahuta** 37.38 147 P P 14 57 33.9 +1.6
OUZ IAmb IAmb 14 57 35.0
comp=Z,154nm,0.8s
MOO **Moorlands** 37.57 183 P P 14 57 35.6 +1.8
baz=38,SNR=21
MOO **Moorlands** 37.57 183 P P 14 57 35.9 +2.1
JOW **Kunigami** 37.75 327 P P 14 57 36.9 +1.3
comp=Z,48nm,0.5s,baz=137,slow=11,SNR=6.8
comp=Z,48nm,0.5s
TAU **Tasmania Unive** 38.03 183 P P 14 57 39.1 +1.5
TAU IAmb IAmb 14 57 40.7
comp=Z,235nm,1.4s
TAU **Tasmania Unive** 38.03 183 P P 14 57 39.5 +1.9
TAU **Tasmania Unive** 38.03 183 P P 14 57 39.1 +1.5
TAU pmax pmax
comp=Z,235nm,1.4s
TAU **Tasmania Unive** 38.03 183 P P 14 57 37.2 -0.4
PBKI **Pangkalan Bun** 38.19 272 P P 14 57 40.5 +1.2
comp=Z,15µmcomp=Z,2µm,1.0s
SBUM **Sibu** 38.31 280 P P 14 57 40.9 +0.5
SBUM IAmb IAmb 14 57 42.9
comp=Z,119nm,1.2s
SBUM **Sibu** 38.31 280 P P 14 57 41.2 +0.8
comp=Z,1µmcomp=Z,93nm,1.7s
SBUM **Sibu** 38.31 280 P P 14 57 41.0 +0.6
PCJI **Pacitan** 38.35 263 P P 14 57 41.7 -1.0
comp=Z,9µmcomp=Z,932nm,1.2s
GIRL **Giralia** 38.75 239 P P 14 57 44.3 +0.5
baz=39,SNR=16
GIRL **Giralia** 38.75 239 P P 14 57 43.8 -0.1
GIRL **Giralia** 38.75 239 P P 14 57 44.1 +0.3
AFI **Afiamalu** 38.84 106 P P 14 57 45.7 +0.9
comp=Z,42nm,0.5s,baz=118,slow=1.4,SNR=18
comp=Z,42nm,0.5s
AFI **Afiamalu** 38.84 106 P P 14 57 44.9 +0.1
AFI IAmb IAmb 14 57 46.9
comp=Z,107nm,1.0s
AFI **Afiamalu** 38.84 106 P P 14 57 45.8 +1.0
AFI **Afiamalu** 38.84 106 P P 14 57 44.9 +0.1
AFI pmax pmax
comp=Z,107nm,1.0s
RAO **Raoul Island** 38.99 132 P P 14 57 45.5 -0.1
comp=Z,174nm,0.4s,baz=280,slow=23,SNR=1.5
comp=Z,174nm,0.4s
UGM **Wanagama** 39.23 263 P P 14 57 48.2 +0.2
UGM **Wanagama** 39.23 263 P P 14 57 47.1 -0.8
comp=Z,6µmcomp=Z,348nm,1.1s
UGM **Wanagama** 39.23 263 P P 14 57 47.3 -0.6
SMRI **Semarang** 39.29 265 P P 14 57 47.1 -1.2
SMRI **Semarang** 39.29 265 P P 14 57 48.6 +0.2
comp=Z,345nm,1.1s
SMRI **Semarang** 39.29 265 P P 14 57 48.9 +0.5
YOGI **Yogyakarta** 39.45 264 P P 14 57 49.3 -0.4
comp=Z,4µmcomp=Z,393nm,0.9s
YULB **Yu-li** 39.53 316 P P 14 57 49.6 -0.6
YULB **Yu-li** 39.53 316 P P 14 57 50.2 0.0
KUZ **Kuaotunu** 39.66 147 P P 14 57 52.5 +1.5
NACB **Ninganchiao** 39.85 318 P P 14 57 51.9 -0.9
KSM **Kuching** 40.03 278 P P 14 57 54.1 -0.3
KSM **Kuching** 40.03 278 P P 14 57 54.5 +0.2
comp=Z,4µmcomp=Z,392nm,1.1s
KSM **Kuching** 40.03 278 P P 14 57 55.0 +0.7
KSM **Kuching** 40.03 278 P P 14 57 54.6 +0.2
SSLB **Suanglung** 40.03 316 P P 14 57 54.3 +0.1
MORW **Morawa** 40.12 229 P P 14 57 54.4 -0.6
baz=40,SNR=53
MORW **Morawa** 40.12 229 P P 14 57 54.1 -0.8
MORW **Morawa** 40.12 229 P P 14 57 54.3 -0.6
KLBR **Kellerberrin** 40.23 225 P P 14 57 54.8 -0.9
baz=40,SNR=150
KLBR **Kellerberrin** 40.23 225 P P 14 57 54.7 -1.0
BLDU **Ballidu** 40.44 227 P P 14 57 56.7 -0.7
baz=40,SNR=127
BLDU **Ballidu** 40.44 227 P P 14 57 56.5 -0.9
HIZ **Hauiti** 40.52 149 P P 14 57 59.8 +1.9
CTJI **Waduk Cacaban** 40.54 265 P P 14 57 58.2 -0.2
comp=Z,3µmcomp=Z,165nm,0.8s
SCJI **Gunung Srandil** 40.57 264 P P 14 57 58.1 -0.6
comp=Z,3µmcomp=Z,428nm,1.0s
KHEZ **Kahui Hut** 40.71 151 P P 14 58 00.9 +1.4
QRZ **Quartz Range** 41.24 154 P P 14 58 05.4 +1.8
NWAO **Narrogin (SRO)** 41.36 223 P P 14 58 04.0 -0.8
comp=Z,18nm,0.7s,baz=285,slow=8.9,SNR=17

NWAO S **S** 15 03 45.9 +0.1
comp=Z,25nm,0.7s,baz=277,slow=15,SNR=4.3
comp=Z,18nm,0.7s
NWAO **Narrogin (SRO)** 41.36 223 P P 14 58 04.1 -0.7
baz=42,SNR=7.0
NWAO P P 14 58 04.1 -0.7
baz=42,SNR=7.0
NWAO **Narrogin (SRO)** 41.36 223 P P 14 58 03.5 -1.3
NWAO **Narrogin (SRO)** 41.36 223 P P 14 58 04.2 -0.6
NWAO **Narrogin (SRO)** 41.36 223 P P 14 58 03.5 -1.3
NWAO pmax pmax
comp=Z,41nm,0.8s
JCJI **Jatiwangi** 41.44 266 P P 14 58 05.7 0.0
comp=Z,9µmcomp=Z,838nm,1.1s
MUN **Mundaring** 41.54 225 P P 14 58 05.6 -0.6
baz=42,SNR=26
MUN **Mundaring** 41.54 225 P P 14 58 06.3 +0.1
NIUE **Niue** 41.67 113 P P 14 58 09.7 +2.3
baz=42,SNR=7.4
NIUE **Niue** 41.67 113 P P 14 58 09.0 +1.6
MXZ **Matakaoa Point** 41.68 145 P P 14 58 07.5 +0.3
MXZ IAmb IAmb 14 58 31.2
comp=Z,260nm,1.4s
INU **Inuyama** 41.72 344 P P 14 58 06.9 -0.6
INU **Inuyama** 41.72 344 P P 14 58 07.8 +0.3
JNU **Nakatsue** 41.79 336 P P 14 58 08.1 -0.1
JNU IAmb IAmb 14 58 09.8
comp=Z,116nm,0.8s
BKZ **Black Stump Fm** 41.85 149 P P 14 58 09.9 +1.3
JGF **Kuroka** 41.86 345 P P 14 58 09.1 +0.4
JGF **Kuroka** 41.86 345 P P 14 58 09.3 +0.6
BBJI **Bungbulang** 42.07 264 P P 14 58 09.6 -1.1
THZ **Tophouse** 42.16 154 P P 14 58 11.2 +0.2
TUWZ **Tuamarina** 42.36 153 P P 14 58 12.5 0.0
FOZ **Fox Glacier** 42.41 158 P P 14 58 13.1 +0.2
FOZ IAmb IAmb 14 58 15.9
comp=Z,112nm,1.0s
QZH **Quanzhou** 42.41 316 ⇑*i*P P 14 58 13.6 +0.4
QZH S **S** 15 04 01.8 +0.6
QZH pmax pmax
comp=Z,60nm,0.6s
JCZ **Jackson Bay** 42.52 160 P P 14 58 15.3 +1.4
RKGY **Rocky Gully** 42.53 222 P P 14 58 13.7 -0.3
baz=43,SNR=3.9
RKGY **Rocky Gully** 42.53 222 P P 14 58 14.4 +0.4
MJAR **Matsushiro Arr** 42.54 346 P P 14 58 13.5 -0.5
comp=Z,23nm,0.7s,baz=162,slow=8.5,SNR=31
MJAR PcP **PcP** 14 59 57.0 +0.4
comp=Z,7.9nm,0.7s,baz=154,slow=4.9,SNR=4.5
MJAR ScP **ScP** 15 03 04.5 +0.5
comp=Z,60nm,0.9s,baz=172,slow=4.7,SNR=30
comp=Z,23nm,0.7s
MAJO **Matsushiro** 42.54 346 P P 14 58 12.2 -1.8
MAJO **Matsushiro** 42.54 346 P P 14 58 14.4 +0.4
MAJO **Matsushiro** 42.54 346 *ce*P P 14 58 13.4 -0.6
MAJO pmax pmax
comp=Z,60nm,0.8s
MJB9 **Matsu-Tunnel** 42.55 346 P P 14 58 12.5 -1.6
BSWZ **Blackbirch Sta** 42.55 153 P P 14 58 14.1 0.0
CNJI **Cibinong** 42.58 264 P P 14 58 13.4 -1.3
comp=Z,6µmcomp=Z,770nm,1.0s
SNZO **South Karori** 42.61 152 P P 14 58 14.2 -0.2
SNZO **South Karori** 42.61 152 P P 14 58 15.0 +0.5
LTZ **Lake Taylor** 42.73 156 P P 14 58 15.7 +0.2
LTZ IAmb IAmb 14 58 16.7
comp=Z,207nm,1.4s
CBJI **Citeko** 42.85 266 P P 14 58 15.6 -1.2
comp=Z,3µmcomp=Z,253nm,0.9s
BFZ **Birch Farm** 42.87 150 P P 14 58 16.9 +0.3
MSWZ **Moikau Station** 42.95 152 P P 14 58 16.9 -0.4
KHZ **Kahutara** 42.97 154 P P 14 58 16.8 -0.5
RPZ **Rata Peaks** 43.03 157 P P 14 58 18.3 +0.5
comp=Z,119nm,0.6s,baz=283,slow=2.1,SNR=87
comp=Z,119nm,0.6s
RPZ **Rata Peaks** 43.03 157 P P 14 58 18.2 +0.4
PLWZ **Palliser** 43.07 152 P P 14 58 18.1 -0.1
OXZ **Oxford** 43.09 156 P P 14 58 17.5 -0.7
OXZ IAmb IAmb 14 58 20.6
comp=Z,92nm,0.6s
SKJI **Sukabumi** 43.15 265 P P 14 58 17.7 -1.5
comp=Z,3µmcomp=Z,359nm,0.8s
DCZ **Deep Cove** 43.23 162 P P 14 58 20.0 +0.7
DCZ IAmb IAmb 14 58 24.0
comp=Z,221nm,1.2s
LBZ **Lake Benmore** 43.28 159 P P 14 58 19.6 -0.2
LBZ IAmb IAmb 14 58 20.6
comp=Z,141nm,1.1s
MLZ **Mavora Lakes** 43.44 161 P P 14 58 21.6 +0.5
MLZ IAmb IAmb 14 58 23.1
comp=Z,178nm,0.9s
PYZ **Puysegur Point** 43.72 163 P P 14 58 24.3 +1.1
PPBI **Pangkal Pinang** 43.74 272 P P 14 58 24.1 +0.3
comp=Z,224nm,1.0s
ODZ **Otahua Downs** 44.02 159 P P 14 58 25.0 -0.5
ODZ IAmb IAmb 14 58 26.6
comp=Z,180nm,1.7s
HKPS **Hong Kong Po S** 44.12 309 P P 14 58 27.4 +0.8
HKPS IAmb IAmb 14 58 29.2
comp=Z,134nm,1.1s
XMI **Christmas Isla** 44.13 260 P P 14 58 27.3 +0.4
DLV **T Lat** 44.40 292 P P 14 58 29.5 +0.4
KLI **Kotabumi** 44.86 268 P P 14 58 32.5 -0.1
comp=Z,296nm,1.0s
PMBI **Palembang** 45.04 271 P P 14 58 35.6 +1.6
comp=Z,624nm,1.1s
PMBI **Palembang** 45.04 271 P P 14 58 35.6 +1.6
comp=Z,623nm,1.1s
KASI **Kota Agung** 45.20 267 P P 14 58 32.9 -2.3
comp=Z,4µmcomp=Z,592nm,1.1s
DSRI **Dabo** 45.45 274 P P 14 58 37.3 +0.2
comp=Z,4µmcomp=Z,305nm,1.1s
MIDW **Midway** 45.52 42 P P 14 58 37.0 -0.4
MIDW IAmb IAmb 14 58 38.5
comp=Z,131nm,1.1s
LWLI **Liwa** 45.65 268 P P 14 58 37.2 -1.6
comp=Z,7µmcomp=Z,786nm,1.0s
TPRI **Tanjung Pinang** 45.67 276 P P 14 58 39.2 +0.4
comp=Z,361nm,1.0s
QIZ **Qiongzhong** 45.98 302 P P 14 58 40.9 -0.2
QIZ pP **pP** 15 00 07.0 -0.6
QIZ S **S** 15 04 54.3 +2.1
QIZ sS **sS** 15 07 29.3 +1.2
QIZ pmax pmax
comp=Z,36nm,1.3s
QIZ pmax pmax
comp=Z,830nm,2.9s
QIZ **Qiongzhong** 45.98 302 P P 14 58 42.0 +0.9
JMBI **JAMBI** 46.27 272 P P 14 58 45.2 +1.8
comp=Z,247nm,1.1s
MYKOM **Kota Tinggi** 46.46 277 P P 14 58 44.7 -0.1
MYKOM IAmb IAmb 14 58 46.6
comp=Z,259nm,1.1s
MYKOM **Kota Tinggi** 46.46 277 P P 14 58 44.8 -0.1
comp=Z,2µmcomp=Z,242nm,1.1s
BTDF **Bukit Timah Da** 46.47 276 P P 14 58 45.0 0.0
comp=Z,1µmcomp=Z,104nm,1.0s
KSRS **Korea Array** 46.74 336 P P 14 58 47.4 +0.9
comp=Z,21nm,0.6s,baz=154,slow=8.1,SNR=88
KSRS PcP **PcP** 15 00 11.6 +0.4
comp=Z,6.5nm,0.8s,baz=156,slow=7.4,SNR=5.6
KSRS ScP **ScP** 15 03 22.2 +0.9
comp=Z,18nm,0.8s,baz=145,slow=5.4,SNR=15
comp=Z,21nm,0.6s
KSAR **Wonju Array Be** 46.75 336 P P 14 58 47.1 +0.5
KSAR PcP **PcP** 15 00 11.2 0.0
KSAR **Wonju Array Be** 46.75 336 P P 14 58 47.1 +0.5
KSAR 15 00 11.2
KS19 **Wonju Array Si** 46.80 336 P P 14 58 46.5 -0.5
NJ2 **Nanjing** 47.05 323 ⇓P P 14 58 51.1 +2.1
NJ2 PcP **pP** 15 00 16.8 +0.7
NJ2 ScP **ScP** 15 03 23.4 +0.6
NJ2 S **S** 15 05 08.6 +1.9
NJ2 pmax pmax
comp=Z,31nm,0.7s
KSI **Kapahiang** 47.17 269 P P 14 58 48.3 -2.1
comp=Z,6µmcomp=Z,157nm,0.9s
MASI **Maura Aman, Be** 47.55 270 P P 14 58 52.0 -1.2
comp=Z,156nm,0.9s
JRMM **Jerantut** 48.14 280 P P 14 58 58.0 +0.4
CNSH **ChangSha** 48.39 315 ⇓P P 14 59 00.2 +1.0
CNSH S **S** 15 05 27.8 +2.3
CNSH pmax pmax
comp=Z,34nm,1.8s
SDSI **Sungai Dareh** 48.54 273 P P 14 58 59.6 -1.0
comp=Z,4µmcomp=Z,351nm,1.0s

GULI	GuiLin	48.65 310	P	P	14 58 59.8	-1.4
GULI			S	S	15 05 28.4	-0.7
GULI			pmax	pmax		
	comp=Z,100nm,1.2s					
CTZ	Chatham Island	48.74 148	P	P	14 59 02.6	+1.1
WHN	Wuhan	48.88 318	⇑P	P	14 59 04.3	+1.5
WHN			pP	pP	15 00 33.2	+2.4
WHN			ScP	ScP	15 03 31.1	+0.5
WHN			S	S	15 05 36.3	+4.3
WHN			pmax	pmax		
	comp=Z,140nm,1.3s					
BKNI	Bangkinang	49.05 275	P	P	14 59 03.7	-0.7
BKNI	Bangkinang	49.05 275	P	P	14 59 03.8	-0.7
	comp=Z,4μmcomp=Z,416nm,0.9s					
BKNI	Bangkinang	49.05 275	P	P	14 59 04.2	-0.2
PDSI	Padang	49.50 273	P	P	14 59 05.7	-2.1
	comp=Z,2μmcomp=Z,236nm,0.7s					
IPM	Ipoh	49.67 280	P	P	14 59 08.1	-0.9
IPM			IAmb	IAmb	14 59 10.0	
	comp=Z,165nm,1.1s					
IPM	Ipoh	49.67 280	P	P	14 59 08.6	-0.4
	comp=Z,2μmcomp=Z,141nm,1.1s					
IPM	Ipoh	49.67 280	P	P	14 59 09.0	0.0
MNSI	Mandailing Nat	50.56 275	P	P	14 59 14.4	-1.2
	comp=Z,3μmcomp=Z,241nm,1.2s					
SKLT	Songkhla	50.58 283	P	P	14 59 15.7	0.0
	comp=Z,1μmcomp=Z,109nm,1.2s					
SKLT	Songkhla	50.58 283	P	P	14 59 16.2	+0.5
SISI	Saibi	50.83 272	P	P	14 59 16.5	-1.0
	comp=Z,4μmcomp=Z,332nm,1.0s					
TIA	Tai'an	51.03 326	⇑P	P	14 59 18.7	+0.1
TIA			pmax	pmax		
	comp=Z,7.0nm,0.5s					
USA0B	Ussuriysk Arra	51.36 344	⇓eP	P	14 59 22.1	+1.3
USRK	Ussuriysk Ar.	51.36 344	P	P	14 59 22.1	+1.3
	comp=Z,8.0nm,0.7s,baz=171,slow=6.9,SNR=12					
USRK			ScP	ScP	15 03 41.3	+0.4
	comp=Z,41nm,0.9s,baz=198,slow=4.0,SNR=18					
USRK			ScS	ScS	15 08 24.7	+1.9
	comp=Z,3.7nm,0.8s,baz=142,slow=35,SNR=2.5					
	comp=Z,8.0nm,0.7s					
NONG	Nongkai	51.38 298	P	P	14 59 22.1	+0.6
RAR	Rarotonga	51.45 113	P	P	14 59 22.8	+0.9
	comp=Z,69nm,1.1s,baz=204,slow=6.5,SNR=6.1					
	comp=Z,69nm,1.1s					
RAR	Rarotonga	51.45 113	P	P	14 59 22.6	+0.6
RAR	Rarotonga	51.45 113	P	P	14 59 23.5	+1.6
RAR	Rarotonga	51.45 113	P	P	14 59 20.9	-1.1
RPSI	Rantau Prapat	51.46 277	P	P	14 59 20.6	-1.6
PSI	Prapat	51.47 277	P	P	14 59 20.8	-1.6
	comp=Z,1μmcomp=Z,96nm,1.1s					
PSI	Prapat	51.47 277	P	P	14 59 21.2	-1.2
PSI	Prapat	51.47 277	P	P	14 59 20.6	-1.8
PSI			pmax	pmax		
	comp=Z,76nm,0.9s					
NAYO	Nakonayok	51.76 292	P	P	14 59 25.1	+0.8
SRIT	Nakonsritamara	51.87 285	P	P	14 59 25.2	+0.1
YSS	Yuzh-Sakhalins	51.90 354	⇓iP	P	14 59 25.1	+0.4
YSS			pmax	pmax		
	comp=Z,124nm,1.7s					
TSI	Tuntungan	51.93 278	P	P	14 59 25.7	+0.1
	comp=Z,9μmcomp=Z,161nm,0.5s					
SURA	Surathani	51.98 285	P	P	14 59 26.2	+0.3
ENH	Enshi	52.05 315	P	P	14 59 26.3	+0.1
GYA	Guiyang	52.10 309	⇑iP	P	14 59 27.9	+1.1
GYA			PcP	PcP	15 00 32.4	+0.9
GYA			sP	sP	15 01 44.6	-1.1
GYA			ScP	ScP	15 03 44.2	-0.6
GYA			S	S	15 06 17.9	+1.6
GYA			sS	sS	15 08 56.5	0.0
GYA			SS	SS	15 10 03.2	+1.8
GYA			pmax	pmax		
	comp=Z,39nm,1.1s					
GYA			pmax	pmax		
	comp=Z,210nm,3.5s					
MDJ	Mudanjiang	52.45 342	P	P	14 59 29.3	+0.6
MDJ			pmax	pmax		
	comp=Z,600nm,8.0s					
MDJ	Mudanjiang	52.45 342	P	P	14 59 29.9	+1.2
GSI	Gunungsitoli	52.61 275	P	P	14 59 29.2	-1.3
GSI	Gunungsitoli	52.61 275	P	P	14 59 29.1	-1.4
	comp=Z,9μmcomp=Z,345nm,1.1s					
GSI	Gunungsitoli	52.61 275	P	P	14 59 29.1	-1.4
	comp=Z,344nm,1.1s					
LYN	LuoYang	52.66 321	⇑P	P	14 59 31.2	+0.7
LYN			pP	pP	15 01 01.6	+1.3
LYN			sP	sP	15 01 47.9	-1.5
LYN			S	S	15 06 21.2	-2.1
LYN			pmax	pmax		
	comp=Z,30nm,1.5s					
LYN			pmax	pmax		
	comp=Z,230nm,4.5s					
LASI	Langsa, Aceh	52.67 279	P	P	14 59 31.6	+0.7
	comp=Z,476nm,0.9s					
KCSI	Kotacane, Aceh	52.72 278	P	P	14 59 29.2	-2.1
	comp=Z,2μmcomp=Z,143nm,0.7s					
CN2	Changchun	53.15 338	eP	P	14 59 37.1	+3.3
CN2			pP	pP	15 01 08.1	+4.5
CN2			S	S	15 06 33.4	+3.9
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,100nm,3.0s					
HNS	HongShan	53.23 325	⇑P	P	14 59 35.1	+0.6
HNS			PcP	PcP	15 00 30.7	-4.7
HNS			pP	pP	15 01 04.9	+0.5
HNS			sP	sP	15 01 52.1	-1.5
HNS			ScP	ScP	15 03 50.1	+0.8
HNS			S	S	15 06 30.0	-0.8
HNS			ScS	ScS	15 08 38.5	+2.2
HNS			sS	sS	15 09 15.6	+3.9
HNS			pmax	pmax		
	comp=Z,35nm,1.3s					
LHMI	Lhok Sumawe	53.80 280	P	P	14 59 38.2	-0.8
LHMI	Lhok Sumawe	53.80 280	P	P	14 59 38.8	-0.2
	comp=Z,452nm,0.9s					
LHMI	Lhok Sumawe	53.80 280	P	P	14 59 38.9	-0.1
MLSI	Meulaboh, Aceh	54.18 279	P	P	14 59 40.0	-1.7
	comp=Z,3μmcomp=Z,372nm,0.8s					
BJI	Beijing	54.32 328	P	P	14 59 43.2	+1.0
BJI			PcP	PcP	15 00 39.2	-0.3
BJI			pP	pP	15 01 12.6	+0.2
BJI			sP	sP	15 01 58.3	-3.6
BJI			ScP	ScP	15 03 54.1	+0.1
BJI			S	S	15 06 44.6	-0.4
BJI			sS	sS	15 09 28.9	+2.3
BJI			pmax	pmax		
	comp=Z,7.0nm,0.6s					
BJI			pmax	pmax		
	comp=Z,200nm,4.6s					
KMI	Kunming	54.59 305	⇓P	P	14 59 46.1	+1.4
KMI			pP	pwP	15 01 16.3	+1.3
KMI			sP	sP	15 02 03.7	-0.5
KMI			S	S	15 06 51.2	+1.5
KMI			SS	SS	15 10 44.3	+3.4
KMI			pmax	pmax		
	comp=Z,58nm,1.0s					
KMI			pmax	pmax		
	comp=Z,160nm,3.5s					
XAN	Xi'an	54.64 318	P	P	14 59 44.8	+0.1
XAN			pP	pP	15 01 14.0	-0.8
XAN			S	S	15 06 48.9	-0.8
XAN			SS	SS	15 10 36.4	-4.6
XAN			pmax	pmax		
	comp=Z,37nm,1.0s					
CMAR	Chiang Mai Arr	55.26 296	P	P	14 59 50.4	+1.2
	comp=Z,28nm,0.8s,baz=111,slow=5.3,SNR=184					
CMAR			S	S	15 07 01.8	+3.6
	comp=Z,0.3nm,0.4s,baz=13,slow=13,SNR=1.3					
CMAR			ScS	ScS	15 08 54.3	+2.6
	comp=Z,0.2nm,0.3s,baz=360,slow=37,SNR=1.7					
CMAR			PKP2bc	P'P'bc	15 30 02.9	-0.1
	comp=Z,3.9nm,0.9s,baz=285,slow=4.4,SNR=10					
	comp=Z,28nm,0.8s					
CHTO	Chiang Mai	55.37 297	P	P	14 59 50.2	+0.2
CHTO	Chiang Mai	55.37 297	P	P	14 59 50.3	+0.2
CHTO			pmax	pmax		
	comp=Z,3.0nm,1.2s					
PZH	PanZhiHua	56.01 306	P	P	14 59 54.5	0.0
PZH			pP	pP	15 01 27.3	+1.8
PZH			sP	sP	15 02 12.5	-2.0
PZH			ScP	ScP	15 04 01.4	-0.5
PZH			S	S	15 07 09.1	+1.1
PZH			ScS	ScS	15 08 53.4	-3.7
PZH			sS	sS	15 09 49.9	-0.7
PZH			pmax	pmax		
	comp=Z,20nm,0.9s					
PZH			pmax	pmax		
	comp=Z,130nm,3.6s					
KLR	Kul'dur	56.07 346	P	P	14 59 54.9	+0.6
	comp=Z,7.1nm,0.7s,baz=165,slow=7.5,SNR=15					
KLR			ScP	ScP	15 04 02.0	+0.6
	comp=Z,61nm,1.0s,baz=196,slow=2.4,SNR=18					
	comp=Z,7.1nm,0.7s					
KLR	Kul'dur	56.07 346	⇓iP	P	14 59 53.5	-0.8
KLR			pmax	pmax		
	comp=Z,89nm,3.8s					
CD2	Chengdu	56.55 312	P	P	14 59 58.6	+0.5
CD2			sP	sP	15 02 18.2	+0.1
CD2			S	S	15 07 15.4	+0.7
CD2			sS	sS	15 10 00.1	+2.4
CD2			pmax	pmax		
	comp=Z,60nm,0.6s					
XLT	XiLinHaoTe	57.23 331	eP	P	15 00 03.8	+1.2
XLT			pP	pP	15 01 34.3	+0.4
XLT			ScP	ScP	15 04 06.6	-0.3
XLT			S	S	15 07 21.7	-1.4
XLT			SS	SS	15 11 19.4	-2.0
XLT			pmax	pmax		
	comp=Z,14nm,1.7s					
XLT			pmax	pmax		
	comp=Z,340nm,5.5s					
KIP	Kipapa	57.30 61	⇓eP	P	15 00 04.0	+0.7
KIP			pmax	pmax		
	comp=Z,495nm,2.9s					
HHC	Hu-ho-hao-te	57.38 326	eP	P	15 00 05.5	+1.8
HHC			pP	pP	15 01 34.4	-0.6
HHC			S	S	15 07 25.4	+0.2
HHC			sS	sS	15 10 11.6	+2.9
HHC			pmax	pmax		
	comp=Z,59nm,0.7s					
HHC			pmax	pmax		
	comp=Z,390nm,5.5s					
TNCH	TengChong	58.02 303	⇓P	P	15 00 09.2	+0.7
TNCH			pP	pP	15 01 41.3	+1.0
TNCH			sP	sP	15 02 28.7	-0.5
TNCH			ScP	ScP	15 04 11.7	+0.7
TNCH			S	S	15 07 34.1	0.0
TNCH			ScS	ScS	15 09 10.5	-1.6
TNCH			sS	sS	15 10 16.0	-2.1
TNCH			pmax	pmax		
	comp=Z,53nm,1.1s					
TNCH			pmax	pmax		
	comp=Z,180nm,4.1s					
PEA0B	Petropavlovsk-	58.06 6	P	P	15 00 08.2	+0.3
PEA0B			IAmb	IAmb	15 00 11.0	
	comp=Z,242nm,1.3s					
PEA0B	Petropavlovsk-	58.06 6c	iP	P	15 00 09.0	+1.1
PETK	Petropavlovsk-	58.06 6	P	P	15 00 08.6	+0.7
	comp=Z,86nm,1.0s,baz=190,slow=9.3,SNR=53					
PETK			ScP	ScP	15 04 10.3	+0.1
	comp=Z,12nm,0.9s,baz=224,slow=4.0,SNR=3.9					
	comp=Z,86nm,1.0s					
PETK	Petropavlovsk-	58.06 6	P	P	15 00 07.8	-0.2
PET	Petropavlovsk	58.07 6	P	P	15 00 08.7	+0.7
PET	Petropavlovsk	58.07 6	eP	P	15 00 06.8	-1.2
PET			e		15 00 53.7	
PET			e*PP	pP	15 01 40.5	+0.7
PET			eS	S	15 07 31.5	-1.8
PET			eSS	SS	15 11 36.4	+2.4
PET			pmax	pmax		
	comp=Z,110nm,1.0s					
PET			pmax	pmax		
	comp=Z,100nm,16.2s					
HEH	HeiHe	58.16 343	eP	P	15 00 08.2	-0.5
HEH			ScP	ScP	15 04 10.0	-0.7
HEH			S	S	15 07 35.6	+1.1
HEH			ScS	ScS	15 09 09.1	-2.5
HEH			pmax	pmax		
	comp=Z,12nm,0.7s					
MND	Mandalay	58.96 299	P	P	15 00 14.9	+0.2
LZH	Lanzhou	59.22 317	⇓P	P	15 00 17.6	+1.2
LZH			pP	pP	15 01 45.1	-3.3
LZH			sP	sP	15 02 37.1	+0.1
LZH			ScP	ScP	15 04 16.5	+0.5
LZH			S	S	15 07 50.5	+1.5
LZH			sS	sS	15 10 35.9	+2.2
LZH			SS	SS	15 11 47.6	-5.5
LZH			pmax	pmax		
	comp=Z,82nm,1.2s					
LZH			pmax	pmax		
	comp=Z,280nm,5.2s					
DGPR	DIGLIPUR	59.30 288	eP	P	15 00 16.3	-0.8
DGPR			IAmb	IAmb	15 00 19.3	
	comp=Z,87nm,1.0s					
HIA	Hailar	59.88 338	P	P	15 00 21.6	+1.2
HIA	Hailar	59.88 338	P	P	15 00 19.5	-0.8
HIA			pP	pP	15 01 54.2	+1.3
PPT	Papeete	60.50 107	P	P	15 00 27.2	+2.1
	comp=Z,48nm,0.7s,baz=49,slow=5.0,SNR=9.8					
	comp=Z,48nm,0.7s					
PPT2	Papeete2	60.50 107	eP	P	15 00 26.3	+1.1
	comp=Z,89nm,1.2s					
PPT2	Papeete2	60.50 107	eLR	LR	15 19 02.2	
	comp=Z,343nm,23.2s					
PAE	Paea	60.50 107	eP	P	15 00 26.0	+0.9
	comp=Z,27nm,1.2s					
PAE			epP	pwP	15 02 00.5	-3.8
	comp=Z,27nm,1.4s					
PPTF	Pamatai, Papee	60.51 107	P	P	15 00 26.7	+1.4
PPTF			IAmb	IAmb	15 00 45.0	
	comp=Z,116nm,1.1s					
PPTF	Pamatai, Papee	60.51 107	P	P	15 00 27.0	+1.8
PPTF	Pamatai, Papee	60.51 107	P	P	15 00 26.3	+1.0
TIAR	Tiarei	60.72 107	eP	P	15 00 28.0	+1.4
	comp=Z,30nm,0.9s					
TIAR			epP	pP	15 01 58.3	+0.5
SHEM	Shemya Is, Ala	60.86 17	P	P	15 00 28.2	+1.4
	comp=Z,110nm,0.5s,baz=23,slow=4.1,SNR=8.0					
	comp=Z,110nm,0.5s					
TBI	Tubuai	61.21 114	eP	P	15 00 29.3	-0.4
	comp=Z,307nm,1.2s					
ZEA	Zeya	61.33 345	eP	P	15 00 31.4	+1.5
ZEA			e*PP	pP	15 02 06.7	+3.7
ZEA			e		15 02 55.7	
ZEA			eS	S	15 08 17.6	+3.2
ZEA			pmax	pmax		
	comp=N,20nm,1.2s					
ZEA			pmax	pmax		
	comp=Z,30nm,1.4s					
ZEA			smax	smax		
	comp=N,600nm,5.2s					
AMKA	Amchitka	61.35 21	P	P	15 00 30.2	+0.2
IMP	Imphal	61.80 301	eP	P	15 00 33.0	-0.7
SAIH	SAIHA	61.85 299	eP	P	15 00 34.6	+0.5
MOKO	MOKOCHONG	61.86 303	eP	P	15 00 33.8	-0.3
MOKO			IAmb	IAmb	15 00 35.1	
	comp=Z,105nm,1.1s					
MEH	Mehetia	61.96 108	eP	P	15 00 35.9	+1.2
	comp=Z,46nm,1.1s					
KOHI	KOHIMA	61.98 302	eP	P	15 00 34.3	-0.6
KOHI			IAmb	IAmb	15 00 35.6	
	comp=Z,236nm,1.2s					
DRV	Dumont d'Urvil	62.15 184	P	P	15 00 33.2	-1.8
VAH	Vaihoa	62.22 105	eP	P	15 00 36.5	0.0
	comp=Z,85nm,1.0s					
ZIRO	ZIRO	62.85 304	eP	P	15 00 41.3	+0.7
KIWB	Kanaga Island	63.03 22	P	P	15 00 41.8	+0.8
ADK	Adak	63.23 22	P	P	15 00 43.1	+0.8
ADK	Adak	63.23 22	P	P	15 00 43.3	+1.0
ADK	Adak	63.23 22	P	P	15 00 43.1	+0.8
ADK			pmax	pmax		
	comp=Z,176nm,0.8s					
TEZP	TEZPUR	63.40 303	eP	P	15 00 43.9	0.0
TEZP			IAmb	IAmb	15 00 45.4	
	comp=Z,48nm,0.8s					
GTA	Gaotai	63.70 318	eP	P	15 00 46.8	+1.0
GTA			pP	pwP	15 02 23.6	+1.3
GTA			sP	sP	15 03 03.9	-3.7
GTA			S	S	15 08 45.2	+0.9
GTA			ScS	ScS	15 09 55.3	+0.9
GTA			SS	SS	15 13 04.6	+2.0
GTA			pmax	pmax		
	comp=Z,22nm,1.2s					
GTA			pmax	pmax		
	comp=Z,240nm,5.5s					
SHL	Shillong	63.81 301	P	P	15 00 46.4	-0.4
SHL			IAmb	IAmb	15 00 48.1	
	comp=Z,100nm,1.0s					
SHL	Shillong	63.81 301	eP	P	15 00 47.0	+0.1
SHL			IAmb	IAmb	15 00 48.5	
	comp=Z,106nm,1.1s					
SHL	Shillong	63.81 301	P	P	15 00 46.4	-0.4
SHL			pmax	pmax		
	comp=Z,100nm,1.0s					
MA2	Magadan	64.17 0	P	P	15 00 49.6	+1.4
	comp=Z,33nm,1.0s,baz=176,slow=7.7,SNR=5.5					
	comp=Z,33nm,1.0s					
MA2	Magadan	64.17 0	⇑eP	P	15 00 49.4	+1.2
MA2			pmax	pmax		
	comp=Z,78nm,1.1s					
GUWA	GUWAHATI	64.18 302	eP	P	15 00 48.7	-0.2
ULN	Ulaanbaatar	64.48 330	P	P	15 00 51.8	+1.1
ULN	Ulaanbaatar	64.48 330	P	P	15 00 50.6	0.0
	comp=Z,110nm,1.0s					
ULN	Ulaanbaatar	64.48 330c	iP	P	15 00 52.2	+1.6
ULN			pmax	pmax		
	comp=Z,25nm,1.0s					
ULN	Ulaanbaatar	64.48 330	P	P	15 00 51.7	+1.1
ULN			pP	pP	15 02 25.9	+1.3
TAWA	Tawang	64.52 303	eP	P	15 00 52.6	+1.0
TAWA			IAmb	IAmb	15 00 55.4	
	comp=Z,77nm,0.8s					
SONM	Songino Array	64.80 329	P	P	15 00 54.1	+1.5
	comp=Z,19nm,0.8s,baz=146,slow=4.4,SNR=50					
SONM			PcP	PcP	15 01 21.4	-0.3
	comp=Z,6.9nm,0.7s,baz=139,slow=5.7,SNR=3.8					
SONM			ScP		15 04 40.8	
	comp=Z,11nm,0.9s,baz=142,slow=4.3,SNR=5.3					
SONM			ScS	SKSac	15 10 01.1	-1.1
	comp=Z,0.3nm,0.3s,baz=163,slow=30,SNR=1.4					
SONM			PKP2bc	P'P'df	15 29 35.6	+2.6
	comp=Z,2.9nm,0.9s,baz=287,slow=2.4,SNR=10					
SONM			PKP2ab	P'P'ab	15 29 44.1	-0.8
	comp=Z,0.8nm,0.7s,baz=261,slow=3.5,SNR=3.7					
	comp=Z,19nm,0.8s					
DHUB	DHUBRI	65.57 301	eP	P	15 00 57.6	-0.2
DHUB			IAmb	IAmb	15 00 59.2	
	comp=Z,109nm,1.2s					
GOMU	GeErMu	65.62 313	P	P	15 00 59.1	+0.7
GOMU			S	S	15 09 05.3	-2.8
GOMU			pmax	pmax		
	comp=Z,10.0nm,1.2s					
GOMU			pmax	pmax		
	comp=Z,140nm,5.2s					
LSA	Lhasa	65.85 305	P	P	15 01 00.5	+0.4
LSA	Lhasa	65.85 305	P	P	15 01 00.5	+0.4
LSA			pmax	pmax		
	comp=Z,44nm,0.9s					
LSA	Lhasa	65.85 305	P	P	15 01 00.5	+0.4
CASY	Casey	67.19 196	P	P	15 01 07.1	-0.1
CASY			IAmb	IAmb	15 01 10.2	
	comp=Z,83nm,1.1s					
CASY	Casey	67.19 196	P	P	15 01 01.7	-5.4
NIKH	Nikolski High	67.23 26	P	P	15 01 07.2	-0.3
	baz=225					
SEY	Seymchan	67.56 1	P	P	15 01 10.9	+1.5
	comp=Z,34nm,1.0s,baz=173,slow=3.9,SNR=19					
SEY			PcP	PcP	15 01 31.1	-1.6
	comp=Z,21nm,0.8s,baz=161,slow=6.6,SNR=21					
	comp=Z,34nm,1.0s					
SEY	Seymchan	67.56 1	⇑iP	P	15 01 10.7	+1.3
SEY			pmax	pmax		
	comp=Z,79nm,1.3s					
ZAK	Zakamensk	68.00 330	eP	P	15 01 13.5	+1.0
ZAK			pmax	pmax		
	comp=Z,37nm,1.0s					
YAK	Yakutsk	68.42 350	P	P	15 01 15.2	+0.5
	comp=Z,4.4nm,0.3s,baz=176,slow=4.7,SNR=15					
YAK			PcP	PcP	15 01 37.2	+0.9
	comp=Z,10nm,0.5s,baz=286,slow=3.4,SNR=7.5					
YAK			ScS	SKSac	15 10 27.0	-1.7
	comp=Z,4.4nm,0.3s,baz=143,slow=21,SNR=7.2					
YAK	Yakutsk	68.42 350	P	P	15 01 15.1	+0.5
YAK	Yakutsk	68.42 350	eP	P	15 01 16.1	+1.5
YAK			e		15 01 37.2	
YAK			e*PP	pwP	15 02 53.2	+0.6
YAK			e		15 03 50.8	
YAK			eS	S	15 09 39.2	-0.1
YAK			e		15 10 26.2	
YAK			pmax	pmax		
	comp=Z,54nm,1.3s					
YAK			pmax	pmax		
	comp=E,6.0nm,1.2s					
YAK			pmax	pmax		
	comp=N,21nm,1.3s					
YAK			pmax	pmax		
	comp=Z,24nm,1.1s					
YAK			pmax	pmax		
	comp=N,75nm,2.8s					
YAK			pmax	pmax		
	comp=E,75nm,2.1s					
YAK			smax	smax		
	comp=N,264nm,2.7s					
YAK			smax	smax		
	comp=E,610nm,2.9s					
BOD	Bodaibo	68.77 340	eP	P	15 01 17.3	+0.4
BOD			pmax	pmax		
	comp=Z,20nm,0.7s					
UNV	Unalaska Valle	68.85 26	P	P	15 01 17.4	0.0
UNV	Unalaska Valle	68.85 26	P	P	15 01 17.8	+0.3
	baz=227					
JIRN	Jiri	69.30 302	eP	P	15 01 21.5	+0.2
	comp=Z,61nm,0.7s					
VIS	Vishakhapatnam	69.34 291	eP	P	15 01 21.8	+0.6
AKUT	Akutan	69.37 26	P	P	15 01 20.7	+0.1
TAOE	Nuku Hiva Isla	69.51 98	eP	P	15 01 23.2	+0.8
	comp=Z,320nm,26.2s					
TAOE	Nuku Hiva Isla	69.51 98	eLR	LR	15 23 12.3	
	comp=Z,204nm,22.7s					
GUN	Gumba	69.64 302	eP	P	15 01 23.6	+0.4
	comp=Z,170nm,0.8s					
SPIA	Saint Paul Isl	69.69 22	P	P	15 01 22.2	-0.3
	baz=223					
MOY	Mondy	69.93 330	eP	P	15 01 29.6	+5.4
MOY			pmax	pmax		
	comp=Z,56nm,3.3s					
PKI	Pulchoki	69.94 301	eP	P	15 01 25.0	0.0
	comp=Z,232nm,1.3s					
PKIN	Phulchoki	69.95 301	eP	P	15 01 24.9	-0.1
	comp=Z,225nm,1.3s					
PALK	Pallekele	70.07 279	P	P	15 01 25.6	-0.1
PALK			IAmb	IAmb	15 01 27.1	
	comp=Z,101nm,1.4s					
PALK	Pallekele	70.07 279	P	P	15 01 26.0	+0.3
	comp=Z,55nm,1.5s					
PALK	Pallekele	70.07 279	P	P	15 01 25.6	-0.1
PALK			pmax	pmax		
	comp=Z,101nm,1.4s					
PALK	Pallekele	70.07 279	P	P	15 01 24.9	-0.8
DMN	Daman	70.21 301	eP	P	15 01 26.8	+0.2
	comp=Z,329nm,1.0s					
GKN	Gorkha	70.72 302	eP	P	15 01 29.6	+0.1
	comp=Z,80nm,0.7s					
FALS	False Pass	70.88 26	P	P	15 01 29.7	+0.1
	baz=230					
BLSP	Bilaspur	71.41 295	eP	P	15 01 33.1	-0.4
BLSP			IAmb	IAmb	15 01 35.4	
	comp=Z,90nm,0.6s					
DANN	Dangsing	71.56 302	eP	P	15 01 34.5	-0.1
	comp=Z,96nm,0.8s					
CCD	Concordia, Ant	71.90 187	P	P	15 01 34.4	-1.4
SDPT	Sand Point	72.51 27	P	P	15 01 39.2	+0.1
	baz=233					
CHNA	Chernabura Isl	72.61 28	P	P	15 01 39.6	-0.1
	baz=234					
VNDA	Vanda	72.96 177	P	P	15 01 42.3	+0.9
	comp=Z,61nm,0.8s,baz=331,slow=6.5,SNR=179					
VNDA			S	S	15 10 33.4	+2.8
	comp=Z,1.2nm,1.0s,baz=203,slow=22,SNR=14					
	comp=Z,61nm,0.8s					
VNDA	Vanda	72.96 177	P	P	15 01 42.2	+0.7
VNDA			IAmb	IAmb	15 01 45.3	
	comp=Z,94nm,1.1s					
SBA	Scott Base	73.56 176	P	P	15 01 46.1	+1.3
SBA			IAmb	IAmb	15 01 49.5	
	comp=Z,78nm,1.1s					
SBA	Scott Base	73.56 176	P	P	15 01 46.1	+1.3
SBA			pmax	pmax		
	comp=Z,78nm,1.1s					
BILL	Bilibino	73.57 6	P	P	15 01 46.1	+1.1
BILL			IAmb	IAmb	15 01 48.2	
	comp=Z,111nm,1.0s					
BILL	Bilibino	73.57 6c	iP	P	15 01 45.9	+0.9

BILL e 15 02 01.9
BILL e*PP **pP** **15 03 21.0 -1.9**
BILL e*SP **sP** **15 04 10.6 +0.2**
BILL e 15 04 32.8
BILL ePPP PPP 15 06 28.8
BILL pmax pmax
comp=Z,126nm,1.0s
KOD Kodaikanal 73.64 282 eP **P** **15 01 47.6 +0.7**
HYBB Hyderabad (bro 73.75 290 eP **P** **15 01 46.7 -0.4**
HYBB epP **pP** **15 03 24.6 +0.2**
HYBB esP **sP** **15 04 10.0 -1.7**
HYBB eS **S** **15 10 39.1 -2.4**
WMQ Urumqi 73.78 318 eP **P** **15 01 48.1 +1.2**
WMQ PcP **PcP** **15 01 57.5 -2.3**
WMQ pP pP 15 03 22.1 -2.1
WMQ sP sP 15 04 13.0 +1.6
WMQ S **S** **15 10 43.9 +2.9**
WMQ ScS **SKSac** **15 11 10.2 +0.1**
WMQ sS sS 15 13 30.0 -4.6
WMQ pmax pmax
comp=Z,38nm,1.3s
WMQ pmax pmax
comp=Z,190nm,4.9s
CHGN Chignik 74.01 27 P **P** **15 01 47.8 +0.1**
CHGN IAmb IAmb 15 01 52.6
comp=Z,120nm,0.9s
CHGN Chignik 74.01 27 P **P** **15 01 47.6 -0.2**
baz=234
GAMB Gambell 74.18 17 P **P** **15 01 49.4 +0.9**
baz=220
LGTI Lohaghat 74.82 302 eP **P** **15 01 53.6 +0.7**
LGTI IAmb IAmb 15 01 55.1
comp=Z,230nm,1.1s
PTH Pithoragarh 74.87 302 eP **P** **15 01 53.5 0.0**
CHIR Chirikof Islan 75.04 28 P **P** **15 01 54.2 +0.6**
baz=237
R16K Pilot Point 75.12 26 P **P** **15 01 54.4 +0.4**
baz=235
AKL Akola 75.78 293 eP **P** **15 01 58.2 -0.4**
AKL IAmb IAmb 15 02 00.4
comp=Z,145nm,0.7s
P16K Nushagak River 75.79 25 P **P** **15 01 57.6 -0.1**
baz=234,SNR=6.2
BHPL Bhopal 75.89 295 eP **P** **15 01 57.8 -1.4**
BHPL IAmb IAmb 15 01 59.9
comp=Z,59nm,0.6s
O16K Kokwok River B 76.08 24 P **P** **15 01 59.5 +0.2**
baz=234
SII Sitkinak Islan 76.11 28 P **P** **15 01 59.2 -0.4**
baz=238
SII Sitkinak Islan 76.11 28 P **P** **15 02 01.5 +1.9**
Q16K King Salmon 76.16 26 P **P** **15 01 59.3 -0.4**
baz=236,SNR=5.2
Q17K Contact Creek 76.26 26 P **P** **15 02 00.6 +0.1**
baz=236
N16K Nishlik Lake 76.33 23 P **P** **15 02 02.4 +1.6**
baz=233
DGZ Jazzator, Alta 76.34 324*d* iP **P** **15 02 01.5 +0.3**
DGZ pmax pmax
comp=Z,36nm,1.0s
P17K Kvichak River 76.54 25 P **P** **15 02 01.7 -0.1**
baz=236
TNA Tin City 76.60 17 P **P** **15 02 03.1 +1.0**
baz=224
O17K Koliganek Bris 76.60 25 P **P** **15 02 03.0 +0.8**
baz=235,SNR=34
ANM Nome 76.65 18 P **P** **15 02 03.8 +1.4**
baz=226
Q18K Katmai Hardscr 76.86 26 P **P** **15 02 03.9 +0.1**
baz=237,SNR=23
DDI Dehra Dun 76.88 302 eP **P** **15 02 05.1 +0.6**
DDI IAmb IAmb 15 02 06.2
comp=Z,65nm,0.8s
OHAK Old Harbor 76.88 28 P **P** **15 02 04.4 +0.7**
baz=239
ZSN Zaisan 77.01 321 eP **P** **15 02 04.6 -0.3**
baz=321
ZSN Zaisan 77.01 321 eP **P** **15 02 04.5 -0.3**
P18K Big Mountain, 77.17 25 P **P** **15 02 05.1 -0.3**
baz=237
O18K Koktuh Hills 77.43 25 P **P** **15 02 07.0 +0.2**
baz=237,SNR=6.3
KDAK Kodiak Island 77.49 28 P **P** **15 02 07.8 +0.7**
comp=Z,55nm,1.0s,baz=227,slow=1.3,SNR=9.3
comp=Z,55nm,1.0s
KDAK Kodiak Island 77.49 28 P **P** **15 02 07.8 +0.7**
baz=239
TIXI Tiksi 77.53 353 P **P** **15 02 06.9 -0.2**
comp=Z,17nm,1.0s,baz=221,slow=0.1,SNR=37
comp=Z,17nm,1.0s
TIXI Tiksi 77.53 353 P **P** **15 02 06.8 -0.2**
TIXI Tiksi 77.53 353|| eP **P** **15 02 06.7 -0.3**
TIXI pmax pmax
comp=Z,29nm,1.1s
Q19K Cape Douglas, 77.61 26 P **P** **15 02 07.8 -0.1**
Q19K Cape Douglas, 77.61 26 P **P** **15 02 07.6 -0.2**
baz=238
N18K Kilae Creek 77.61 24 P **P** **15 02 09.3 +1.5**
baz=236
KAD Karad 77.84 289 eP **P** **15 02 09.4 -0.6**
KAD IAmb IAmb 15 02 11.8
comp=Z,97nm,0.7s
O19K Port Alsworth 77.99 25 P **P** **15 02 10.0 +0.2**
O19K Port Alsworth 77.99 25 P **P** **15 02 09.7 -0.1**
baz=237,SNR=6.6
Q20K Shuyak Island 78.00 27 P **P** **15 02 10.5 +0.6**
baz=240
P19K Oil Pt 78.17 26 P **P** **15 02 11.4 +0.6**
baz=238
N19K Bonanza Creek 78.26 24 P **P** **15 02 12.2 +0.8**
N19K IAmb IAmb 15 02 13.6
comp=Z,64nm,1.0s
N19K Bonanza Creek 78.26 24 P **P** **15 02 12.1 +0.7**
baz=237
MK31 Makanchi Array 78.42 320 P **P** **15 02 12.5 0.0**
MK31 Makanchi Array 78.42 320*d* iP **P** **15 02 12.7 +0.2**
MKAR Makanchi Array 78.42 320 P **P** **15 02 12.7 +0.2**
comp=Z,13nm,0.7s,baz=100,slow=5.9,SNR=64
MKAR S **S** **15 11 32.1 +1.5**
comp=Z,2.9nm,1.0s,baz=111,slow=6.6,SNR=5.2
MKAR PKKPbc **PKKPbc** **15 21 05.5 -2.3**
comp=Z,0.4nm,0.5s,baz=297,slow=6.3,SNR=4.1
comp=Z,13nm,0.7s
MKAR Makanchi Array 78.42 320 P **P** **15 02 12.4 -0.1**
MAKZ Makanchi 78.63 320 P **P** **15 02 13.6 -0.1**
MAKZ Makanchi 78.63 320 P **P** **15 02 13.7 +0.1**
O20K Slope Mountain 78.65 26 P **P** **15 02 13.3 -0.2**
baz=239
TTA Tatalina 78.84 22 P **P** **15 02 14.7 +0.3**
TTA IAmb IAmb 15 02 16.8
comp=Z,107nm,1.2s
TTA Tatalina 78.84 22 P **P** **15 02 15.3 +0.9**
baz=235
TTA Tatalina 78.84 22 P **P** **15 02 14.7 +0.3**
TTA pmax pmax
comp=Z,107nm,1.2s
L19K White Mountain 78.86 23 P **P** **15 02 15.1 +0.6**
L19K IAmb IAmb 15 02 17.1
comp=Z,148nm,0.9s
L19K White Mountain 78.86 23 P **P** **15 02 15.9 +1.4**
baz=237
HOM Homer 78.86 26 P **P** **15 02 14.9 +0.4**
baz=240
M19K Big River Lodg 78.89 23 P **P** **15 02 15.9 +1.2**
baz=237
CNPM China Poot 78.98 26 P **P** **15 02 16.3 +1.1**
AJM Ajmer 79.00 298 eP **P** **15 02 15.3 -0.7**
AJM IAmb IAmb 15 02 17.0
comp=Z,43nm,0.8s
SHLS Shalkode 79.17 315 eP **P** **15 02 14.8 -2.0**
baz=316
SHLS Shalkode 79.17 315 eP **P** **15 02 14.7 -2.0**
PDGK Podgornoye 79.20 316 *i* P **P** **15 02 17.1 +0.2**
PDGK pmax pmax
comp=Z,28nm,1.0s
THN Thein Dam 79.30 304 eP **P** **15 02 17.1 -0.3**
THN IAmb IAmb 15 02 18.6
comp=Z,121nm,1.1s
BRSE Bradley Lake S 79.30 26 P **P** **15 02 17.5 +0.6**
baz=241
M20K Styx River 79.38 24 P **P** **15 02 18.2 +0.8**
baz=238
L20K Farewell, AK 79.41 23 P **P** **15 02 18.3 +0.9**
baz=237
N20K Mount Spurr 79.41 25 P **P** **15 02 17.3 -0.2**
baz=239,SNR=6.0

SPCR Spurr Chakacha 79.41 25 P **P** **15 02 17.0 -0.5**
baz=239,SNR=5.4
ZALV Zalesovo Beam 79.55 327 P **P** **15 02 17.5 -0.8**
comp=Z,16nm,0.7s,baz=108,slow=5.5,SNR=51
ZALV S **S** **15 11 41.3 -0.7**
comp=Z,12nm,0.9s,baz=110,slow=8.2,SNR=18
ZALV PKPPKP **P'P'df** **15 29 07.8 +0.6**
comp=Z,1.9nm,0.9s,baz=270,slow=2.9,SNR=3.4
comp=Z,16nm,0.7s
GCSA Galena City Sc 79.57 20 P **P** **15 02 19.0 +0.8**
baz=234,SNR=26
CAPN Captain Cook N 79.63 25 P **P** **15 02 19.2 +0.7**
baz=240
KPKS Kokpek 79.81 316 eP **P** **15 02 19.3 -0.7**
baz=316
KPKS Kokpek 79.81 316 eP **P** **15 02 19.3 -0.7**
K20K Telida 79.81 22 P **P** **15 02 20.4 +0.9**
K20K IAmb IAmb 15 02 22.1
comp=Z,134nm,0.9s
K20K Telida 79.81 22 P **P** **15 02 20.6 +1.1**
baz=237
ZHN Zhinishke 79.90 315 eP **P** **15 02 21.5 +0.9**
baz=315
ZHN Zhinishke 79.90 315 eP **P** **15 02 21.4 +0.9**
DORU Doru 79.94 305 eP **P** **15 02 20.9 -0.2**
SEW Seward 80.05 26 P **P** **15 02 20.7 -0.1**
baz=242,SNR=11
SKT Skwentna 80.08 24 P **P** **15 02 20.1 -0.9**
baz=235,SNR=8.3
O22K Cooper Landing 80.11 26 P **P** **15 02 21.5 +0.4**
baz=242,SNR=11
SUA Susitna One 80.15 25 P **P** **15 02 20.8 -0.6**
baz=240,SNR=8.3
J20K Nowinta River 80.23 22 P **P** **15 02 21.9 +0.3**
J20K IAmb IAmb 15 02 24.3
comp=Z,114nm,1.0s
J20K Nowinta River 80.23 22 P **P** **15 02 23.0 +1.3**
baz=237,SNR=46
PPLA Purkeypile 80.29 23 P **P** **15 02 22.1 -0.1**
PPLA IAmb IAmb 15 02 24.5
comp=Z,255nm,1.8s
PPLA Purkeypile 80.29 23 P **P** **15 02 22.3 +0.1**
baz=239
RC01 Rabbit Creek A 80.39 25 P **P** **15 02 22.6 0.0**
baz=242,SNR=13
TDK Taldyqorghan 80.44 317 eP **P** **15 02 22.3 -1.0**
baz=317
TDK Taldyqorghan 80.44 317 eP **P** **15 02 22.2 -1.0**
M22K Willow 80.55 25 P **P** **15 02 22.7 -0.6**
baz=241,SNR=19
CAST Castle Rocks 80.60 23 P **P** **15 02 24.0 +0.4**
CAST IAmb IAmb 15 02 25.6
comp=Z,174nm,1.1s
CAST Castle Rocks 80.60 23 P **P** **15 02 23.6 0.0**
baz=239,SNR=82
CHUM Lake Minchumin 80.75 22 P **P** **15 02 25.4 +1.0**
baz=239,SNR=94
CUT Chulitna 80.81 24 P **P** **15 02 24.0 -0.7**
baz=241,SNR=24
MDOK Medeo 80.87 315 eP **P** **15 02 24.7 -1.0**
baz=315
MDOK Medeo 80.87 315 P **P** **15 02 26.6 +0.9**
PMR Palmer 80.89 25 P **P** **15 02 25.2 0.0**
baz=242,SNR=21
PWL Port Wells 80.89 26 P **P** **15 02 24.9 -0.4**
PWL Port Wells 80.89 26 P **P** **15 02 25.5 +0.3**
baz=243,SNR=36
TNSS Tian-Shan 80.91 315 eP **P** **15 02 25.8 -0.4**
baz=315
TNSS Tian-Shan 80.91 315 eP **P** **15 02 25.8 -0.4**
P23K Montague Islan 80.91 27 P **P** **15 02 25.4 +0.1**
baz=244
KNK Knik Glacier 81.09 25 P **P** **15 02 26.6 +0.3**
KNK IAmb IAmb 15 02 28.2
comp=Z,175nm,1.2s
KNK Knik Glacier 81.09 25 P **P** **15 02 26.7 +0.4**
baz=243,SNR=13
CHKK Chushkaly 81.10 316 eP **P** **15 02 26.1 -0.7**
baz=316
CHKK Chushkaly 81.10 316 eP **P** **15 02 26.0 -0.7**
NRN Naryn 81.18 313 P **P** **15 02 27.7 +0.1**
NRN IAmb IAmb 15 03 20.8
comp=Z,47nm,0.7s
NRN Naryn 81.18 313 P **P** **15 02 27.7 +0.1**
NRN pmax pmax
comp=Z,47nm,0.7s
ULHL Ulahol 81.21 314 P **P** **15 02 28.4 +0.8**
SNR=13
TRF Thorofare Moun 81.31 23 P **P** **15 02 27.0 -0.6**
baz=241,SNR=29
SML Sawmill 81.33 25 P **P** **15 02 27.8 +0.3**
baz=243,SNR=33
IMAR Indian Mountai 81.36 20 P **P** **15 02 28.4 +0.9**
BPAW Bear Paw Mtn. 81.37 22 P **P** **15 02 27.2 -0.4**
baz=240,SNR=28
H21K Melozitna Rive 81.51 21 P **P** **15 02 28.9 +0.6**
H21K Melozitna Rive 81.51 21 P **P** **15 02 28.8 +0.4**
baz=238,SNR=25
I21K Tanana 81.55 21 P **P** **15 02 29.7 +1.2**
baz=239
KUU Kurty 81.56 315 eP **P** **15 02 28.7 -0.4**
comp=Z,66nm,1.1s,baz=316
KUU Kurty 81.56 315 eP **P** **15 02 28.7 -0.4**
KUU pmax pmax
comp=Z,66nm,1.1s
M23K Glacier View 81.58 25 P **P** **15 02 28.9 +0.1**
baz=243,SNR=14
NIL Nilore 81.58 305 P **P** **15 02 29.2 -0.3**
NIL IAmb IAmb 15 02 31.8
comp=Z,97nm,0.7s
NIL Nilore 81.58 305 P **P** **15 02 29.2 -0.3**
NIL pmax pmax
comp=Z,97nm,0.7s
WAT1 Susitna Watana 81.71 24 P **P** **15 02 29.5 +0.1**
baz=242
G21K Allakaket 81.73 20 P **P** **15 02 30.2 +0.7**
baz=237
SCM Sheep Creek Mo 81.76 25 P **P** **15 02 30.3 +0.5**
baz=244,SNR=23
TKM2 Tokmak 2 81.84 314 P **P** **15 02 31.4 +0.6**
SNR=23
RND Reindeer 81.86 23 P **P** **15 02 29.7 -0.6**
RND IAmb IAmb 15 02 31.7
comp=Z,164nm,1.0s
RND Reindeer 81.86 23 P **P** **15 02 29.7 -0.6**
RND pmax pmax
comp=Z,164nm,1.0s
EYAK Cordova Ski Ar 81.89 27 P **P** **15 02 30.6 +0.3**
baz=245
EYAK Cordova Ski Ar 81.89 27 P **P** **15 02 31.5 +1.1**
WAT6 Susitna Watana 81.93 24 P **P** **15 02 30.6 -0.1**
baz=243,SNR=32
MLY Manley 81.93 22 P **P** **15 02 30.8 +0.2**
MLY IAmb IAmb 15 02 32.3
comp=Z,100nm,0.8s
MLY Manley 81.93 22 P **P** **15 02 30.8 +0.2**
baz=240,SNR=79
MCK McKinley 81.98 23 P **P** **15 02 30.6 -0.2**
baz=242,SNR=97
KURK Kurchatov 81.98 323 P **P** **15 02 30.8 -0.3**
KURK IAmb IAmb 15 02 33.3
comp=Z,68nm,1.1s
KURK Kurchatov 81.98 323 P **P** **15 02 30.8 -0.3**
KURK pmax pmax
comp=Z,69nm,1.1s
KURBB Kurchatov Arra 82.01 322 S **S** **15 12 03.6 -3.7**
comp=Z,1.4nm,0.2s,baz=90,slow=18,SNR=8.7
KURBB PKKPbc PKKPbc 15 20 57.0 -2.7
comp=Z,2.1nm,0.9s,baz=291,slow=2.9,SNR=11
KURBB PKPPKP **P'P'df** **15 29 02.4 -0.4**
comp=Z,0.4nm,0.5s,baz=283,slow=3.6,SNR=6.0
KURBB Kurchatov Arra 82.01 322 P **P** **15 02 31.0 -0.2**
F21K Alatna River 82.12 19 P **P** **15 02 31.8 +0.3**
baz=237
DIV Divide 82.13 26 P **P** **15 02 32.5 +0.8**
DIV IAmb IAmb 15 02 33.8
comp=Z,112nm,0.9s
H22K Ishtalitna Cre 82.14 21 P **P** **15 02 32.2 +0.7**
baz=239,SNR=36
VJP Vajepar 82.21 294 eP **P** **15 02 32.8 0.0**
KLU Klutina 82.22 26 P **P** **15 02 33.1 +0.9**
baz=245,SNR=49
KBK Karagaybulak 82.24 314 P **P** **15 02 33.6 +0.8**
SNR=14
DHY Denali Highway 82.30 24 P **P** **15 02 32.4 -0.2**
DHY IAmb IAmb 15 02 34.4
comp=Z,151nm,1.0s

DHY Denali Highway 82.30 24 P **P** **15 02 32.7 +0.1**
baz=243,SNR=48
JUMK Jumkunaria 82.33 294 eP **P** **15 02 36.0 +2.6**
NEA2 Nenana 82.34 22 P **P** **15 02 32.2 -0.4**
NEA2 IAmb IAmb 15 02 33.5
comp=Z,93nm,0.8s
NEA2 Nenana 82.34 22 P **P** **15 02 32.3 -0.3**
baz=242,SNR=54
M24K Tolsona, Glenn 82.37 25 P **P** **15 02 33.7 +0.8**
baz=245,SNR=22
UCH Uchtor 82.45 314 P **P** **15 02 35.5 +1.3**
SNR=51
CHMS Chumysh 82.46 314 P **P** **15 02 34.3 +0.6**
SNR=26
I23K Minto, Yukon-K 82.50 22 P **P** **15 02 33.6 +0.3**
baz=241,SNR=6.0
AAK Ala-Archa 82.56 314 P **P** **15 02 35.3 +0.9**
SNR=25
AAK Ala-Archa 82.56 314 P **P** **15 02 34.8 +0.4**
AAK IAmb IAmb 15 03 37.4
comp=Z,28nm,0.6s
AAK Ala-Archa 82.56 314*d* iP **P** **15 02 35.0 +0.6**
AAK pmax pmax
comp=Z,46nm,1.3s
BMRM Bremner River 82.58 27 P **P** **15 02 34.6 +0.7**
baz=246,SNR=17
G22K Bettles 82.62 20 P **P** **15 02 34.8 +0.9**
baz=239
SGDS Sogindy 82.65 315 eP **P** **15 02 34.5 -0.3**
comp=Z,19nm,1.2s,baz=315
SGDS Sogindy 82.65 315 eP **P** **15 02 34.4 -0.3**
SGDS pmax pmax
comp=Z,19nm,1.2s
WRH Wood River Hil 82.66 23 P **P** **15 02 34.0 -0.1**
WRH IAmb IAmb 15 02 35.6
comp=Z,146nm,1.0s
USP Ospenovka 82.70 315 P **P** **15 02 35.6 +0.7**
SNR=73
F22K John River 82.70 19 P **P** **15 02 35.5 +1.1**
baz=238
H23K Yukon River 82.76 21 P **P** **15 02 35.5 +0.8**
baz=241,SNR=39
MDM Murphy Dome 82.83 22 P **P** **15 02 34.6 -0.5**
MDM IAmb IAmb 15 02 35.9
comp=Z,90nm,1.3s
N25K Chitina, Valde 82.84 26 P **P** **15 02 35.9 +0.6**
baz=246,SNR=10
TCOL CIGO, UAF Yank 82.93 22 P **P** **15 02 34.7 -0.8**
TCOL CIGO, UAF Yank 82.93 22 P **P** **15 02 34.9 -0.6**
baz=243,SNR=28
HARP HAARP 82.93 25 P **P** **15 02 36.0 +0.3**
baz=246,SNR=15
COLA College 82.93 22 P **P** **15 02 34.1 -1.5**
COLA College 82.93 22 P **P** **15 02 34.8 -0.8**
baz=243
COLA College 82.93 22 P **P** **15 02 35.1 -0.4**
COLA College 82.93 22*d* iP **P** **15 02 34.6 -0.9**
COLA pmax pmax
comp=Z,148nm,0.9s
AML Almayashu 83.02 313 P P 15 02 30.9 -6.2
SNR=51
G23K Bananza Creek 83.02 20 P **P** **15 02 37.1 +1.0**
baz=240,SNR=48
PAX Paxson 83.04 25 P **P** **15 02 35.7 -0.5**
baz=245,SNR=18
HDA Harding Lake 83.07 23 P **P** **15 02 35.9 -0.4**
baz=244,SNR=30
EKS2 Erkin-Say 83.08 314 P **P** **15 02 38.1 +1.1**
SNR=75
GLB Gilahina Butte 83.12 26 P **P** **15 02 36.7 0.0**
GLB IAmb IAmb 15 02 38.7
comp=Z,82nm,0.9s
POKR Poker Plat Res 83.20 22 P **P** **15 02 36.5 -0.4**
POKR IAmb IAmb 15 02 38.1
comp=Z,49nm,1.1s
POKR Poker Plat Res 83.20 22 P **P** **15 02 36.1 -0.9**
baz=243,SNR=11
COLD Coldfoot 83.22 20 P **P** **15 02 37.6 +0.6**
COLD IAmb IAmb 15 02 39.5
comp=Z,108nm,1.2s
COLD Coldfoot 83.22 20 P **P** **15 02 37.8 +0.8**
baz=240,SNR=53
ILAR Eielson Array 83.25 23 P **P** **15 02 36.4 -0.9**
comp=Z,87nm,0.8s,baz=252,slow=4.6,SNR=331
ILAR S **S** **15 12 16.4 -2.8**
comp=Z,1.5nm,1.0s,baz=273,slow=31,SNR=9.2
comp=Z,87nm,0.8s
ILAR Eielson Array 83.25 23 P **P** **15 02 36.2 -1.0**
K24K Donnelly Dome 83.27 24 P **P** **15 02 37.5 +0.1**
baz=245,SNR=24
H24K Noodor Dome 83.37 22 P **P** **15 02 37.9 +0.1**
baz=243,SNR=32
BTLS Baital 83.43 316 eP **P** **15 02 38.6 0.0**
comp=Z,66nm,1.2s,baz=316
BTLS Baital 83.43 316 eP **P** **15 02 38.5 0.0**
BTLS pmax pmax
comp=Z,66nm,1.2s
MCARA McCarthy VSAT 83.45 27 P **P** **15 02 38.6 +0.4**
baz=248,SNR=9.1
MESA MESA 83.49 28 P **P** **15 02 39.6 +0.9**
baz=249
A21K Barrow 83.54 15 P **P** **15 02 39.2 +0.8**
baz=234
RIDG Independent Ri 83.62 24 P **P** **15 02 39.3 +0.2**
RIDG Independent Ri 83.62 24 P **P** **15 02 39.5 +0.3**
baz=246,SNR=25
MENT Mentasta 83.75 25 P **P** **15 02 40.2 +0.4**
MENT IAmb IAmb 15 02 41.9
comp=Z,46nm,0.8s
J25K Salcha River, 83.77 23 P **P** **15 02 39.4 -0.5**
J25K Salcha River, 83.77 23 P **P** **15 02 40.0 +0.1**
baz=245
E23K Chandalar 83.82 19 P **P** **15 02 41.2 +1.0**
baz=241
M26K Nabesna, AK 83.85 26 P **P** **15 02 41.0 +0.7**
baz=247
DOT Dot Lake 83.90 24 P **P** **15 02 40.9 +0.4**
G24K Hadweenzic Riv 83.91 21 P **P** **15 02 41.2 +0.8**
baz=243
D23K Nanushuk River 83.94 18 P **P** **15 02 41.9 +1.3**
baz=240
L26K Log Cabin Wild 83.95 25 P **P** **15 02 41.5 +0.7**
baz=247,SNR=35
TABL Table Mountain 83.96 28 P **P** **15 02 41.4 +0.4**
TABL IAmb IAmb 15 02 43.3
comp=Z,62nm,0.9s
SCRK Sand Creek 84.06 24 P **P** **15 02 41.2 -0.2**
SCRK IAmb IAmb 15 02 43.2
comp=Z,74nm,1.0s
SCRK Sand Creek 84.06 24 P **P** **15 02 41.7 +0.3**
baz=246,SNR=37
PRP Porcupine Dome 84.10 22 P **P** **15 02 40.1 -1.5**
baz=245,SNR=13
TOLK Toolik Lake Re 84.12 19 P **P** **15 02 42.0 +0.4**
TOLK IAmb IAmb 15 02 43.8
comp=Z,73nm,1.0s
TOLK Toolik Lake Re 84.12 19 P **P** **15 02 42.5 +1.0**
baz=241
F24K Squaw Lake 84.14 20 P **P** **15 02 42.8 +1.2**
baz=242
E24K Your Creek 84.20 19 P **P** **15 02 42.4 +0.4**
baz=242
PINM Pinnacle 84.25 28 P **P** **15 02 43.5 +1.1**
baz=250,SNR=5.8
H25K Birch Creek 84.31 22 P **P** **15 02 43.4 +1.0**
baz=244
M27K Edge Creek, AK 84.32 26 P **P** **15 02 43.5 +0.8**
M27K Edge Creek, AK 84.32 26 P **P** **15 02 44.1 +1.3**
baz=248
C23K Itkillik River 84.40 17 P **P** **15 02 44.0 +1.2**
baz=240
G25K Bearman Lake 84.43 21 P **P** **15 02 44.2 +1.2**
baz=244,SNR=34
J26L Joseph Creek 84.44 24 P **P** **15 02 43.1 -0.1**
J26L IAmb IAmb 15 02 45.3
comp=Z,72nm,0.9s
J26L Joseph Creek 84.44 24 P **P** **15 02 43.9 +0.7**
baz=247
MAW Mawson 84.46 203 P **P** **15 02 43.9 +0.7**
comp=Z,27nm,0.8s,baz=102,slow=4.3,SNR=32
comp=Z,27nm,0.8s
MAW Mawson 84.46 203 P **P** **15 02 43.9 +0.7**
baz=84,SNR=21
MAW Mawson 84.46 203 P **P** **15 02 43.5 +0.4**
O28M Mount Upton 84.51 28 P **P** **15 02 45.0 +1.0**
baz=250
PNL Peninsula 84.52 29 P **P** **15 02 44.6 +1.0**

L27K **Beaver Creek, 84.60 25** P **P** 15 02 44.6 +0.6
baz=251
L27K IAmb IAmb 15 02 46.5
comp=Z,136nm,1.1s
L27K **Beaver Creek, 84.60 25** P **P** 15 02 45.0 +1.0
baz=248
D24K **Happy Valley 84.61 18** P **P** 15 02 45.1 +1.2
baz=241
YUK3 **Moose Creek 84.73 27** P **P** 15 02 45.8 +0.9
baz=250,SNR=40
BVCY **Beaver Creek 84.78 26** P **P** 15 02 45.9 +1.0
baz=249,SNR=32
K27K **Chicken 84.86 24** P **P** 15 02 46.7 +1.5
baz=248
YUK8 **Steele Glacier 84.88 27** P **P** 15 02 46.8 +1.2
baz=250,SNR=22
DZA **Taraz 84.89 314** *e*P **P** 15 02 45.3 -0.6
baz=314
DZA **Taraz 84.89 314** *e*P **P** 15 02 45.3 -0.6
I26K **Coal Creek Min 84.92 23** P **P** 15 02 45.3 -0.1
baz=247
C24K **Franklin Bluff 84.92 18** P **P** 15 02 46.5 +1.2
baz=242
F25K **Christian Rive 84.95 20** P **P** 15 02 46.7 +1.0
baz=244
NRIK **Noril'sk 85.03 342** P **P** 15 02 46.0 +0.1
comp=Z,22nm,1.0s,baz=117,slow=5.7,SNR=12
NRIK S **SKSac** 15 12 25.4 -1.0
comp=Z,2.7nm,0.4s,baz=350,slow=23,SNR=18
comp=Z,22nm,1.0s
NRIK **Noril'sk 85.03 342***ce*P **P** 15 02 45.6 -0.3
NRIK pmax pmax
comp=Z,14nm,0.8s
O29M **Mount Kennedy 85.11 28** P **P** 15 02 47.9 +1.2
baz=252
QSPA **South Pole Qui 85.17 180** P **P** 15 02 46.9 0.0
comp=Z,82nm,0.7s,baz=350,slow=1.5,SNR=424
QSPA S **SKSac** 15 12 24.9 -2.8
comp=Z,2.4nm,0.8s,baz=129,slow=22,SNR=16
comp=Z,82nm,0.7s
KBL **Kabul 85.17 305** P **P** 15 02 45.4 -2.3
KBL **Kabul 85.17 305** P **P** 15 02 45.4 -2.3
KBL pmax pmax
comp=Z,17nm,0.8s
E25K **Arctic Village 85.20 20** P **P** 15 02 47.9 +1.1
baz=245,SNR=14
OTUK **Ortayu 85.30 319** P **P** 15 02 48.1 +0.4
P29M **Windy Craggy 85.30 29** P **P** 15 02 48.1 +0.6
baz=252
G26K **Porcupine Rive 85.34 21** P **P** 15 02 48.6 +1.1
baz=246,SNR=92
YUK4 **Talbot Arm 85.41 27** P **P** 15 02 49.7 +1.5
baz=252,SNR=27
YUK6 **Outpost Mounta 85.41 28** P **P** 15 02 49.1 +0.8
baz=252,SNR=8.5
BRZS **Berezniki 85.46 321** *e*P **P** 15 02 47.5 -1.0
baz=321
BRZS **Berezniki 85.46 321** *e*P **P** 15 02 47.4 -1.0
D25K **Kavik River 85.46 19** P **P** 15 02 48.7 +0.6
baz=244
EGAK **Eagle 85.50 24** P **P** 15 02 49.0 +0.7
baz=249,SNR=75
F26K **Sheenjek River 85.51 20** P **P** 15 02 49.6 +1.3
baz=246
KK31 **Karatay Array 85.52 314** *i* P **P** 15 02 49.0 +0.1
KKAR **Karatay Array 85.52 314** P **P** 15 02 49.0 +0.1
KKAR **Karatay Array 85.52 314** P **P** 15 02 49.0 +0.1
I27K **Kandik River 85.62 23** P **P** 15 02 49.8 +0.8
baz=248
IUG **luzhnay 85.69 313** *e*P **P** 15 02 48.2 -1.8
baz=313
IUG **luzhnay 85.69 313** *e*P **P** 15 02 48.1 -1.8
HYT **Haines Junctio 85.78 28** P **P** 15 02 51.2 +1.3
baz=252,SNR=81
SIT **Sitka 85.79 32** P **P** 15 02 49.7 -0.1
baz=255
P30M **Million Dollar 85.83 29** P **P** 15 02 51.1 +1.1
baz=253
M29M **Somme Creek 85.84 26** P **P** 15 02 51.2 +1.1
baz=252
H27K **Steamboat Moun 85.89 22** P **P** 15 02 51.4 +1.1
baz=248
PLBC **Pleasant Camp 85.92 29** P **P** 15 02 51.4 +1.0
baz=254,SNR=15
DAWY **Dawson 85.97 25** P **P** 15 02 50.9 +0.2
DAWY **Dawson 85.97 25** P **P** 15 02 51.7 +1.0
baz=251,SNR=118
G27K **Doyon Strip 86.06 22** P **P** 15 02 51.8 +0.8
baz=248
N30M **Aishikik Lake 86.16 27** P **P** 15 02 52.4 +0.8
baz=253
C26K **Camden Bay 86.18 18** P **P** 15 02 52.8 +1.4
baz=245
L29M **L29M 86.20 26** P **P** 15 02 53.0 +1.2
baz=252
S32K **Killisnoo 86.29 32** P **P** 15 02 53.3 +1.1
baz=255
O30N **Mendenhall 86.42 28** P **P** 15 02 53.8 +0.9
baz=254,SNR=45
SKAG **Skagway 86.43 30** P **P** 15 02 54.3 +1.5
baz=254,SNR=19
C27K **Jago River 86.44 19** P **P** 15 02 53.7 +1.0
baz=246
R32K **Eaglecrest 86.53 31** P **P** 15 02 54.6 +1.3
baz=255
CRAG **Craig 86.58 34** P **P** 15 02 54.2 +0.6
baz=257
J29M **Klondike Camp 86.59 24** P **P** 15 02 55.0 +1.4
baz=252,SNR=15
E27K **Coleen River 86.59 20** P **P** 15 02 54.8 +1.2
baz=248
JIS **Juneau Island 86.60 31** P **P** 15 02 54.5 +0.9
M30M **Minto, Yukon 86.62 26** P **P** 15 02 55.0 +1.2
baz=253
K29M **Barlow Dome 86.69 25** P **P** 15 02 55.4 +1.2
baz=252,SNR=135
U33K **Whale Pass 86.74 33** P **P** 15 02 56.0 +1.7
baz=257
N31M **Braeburn, Yuko 86.77 28** P **P** 15 02 55.8 +1.3
baz=254,SNR=34
I29M **Ogilvie Camp, 86.84 24** P **P** 15 02 55.2 +0.5
baz=252,SNR=57
WHY **Whitehorse 86.97 28** P **P** 15 02 56.7 +1.2
baz=255,SNR=20
WRAK **Wrangell Islan 87.23 33** P **P** 15 02 57.8 +1.2
baz=257
P32M **Atlin 87.26 30** P **P** 15 02 57.8 +1.0
baz=256,SNR=11
MAYO **Mayo, Yukon 87.31 26** P **P** 15 02 57.9 +1.0
MAYO **Mayo, Yukon 87.31 26** P **P** 15 02 58.2 +1.3
baz=254,SNR=24
V35K **Ketchikan 87.39 34** P **P** 15 02 58.8 +1.3
baz=258
BVA0 **Borovoye Array 87.50 324** P **P** 15 02 57.3 -0.8
BRVK **Borovoye 87.57 324** P **P** 15 02 57.3 -1.1
BRVK IAmb IAmb 15 04 43.8
comp=Z,86nm,1.9s
BRVK **Borovoye 87.57 324***de*P **P** 15 02 57.1 -1.3
BRVK pmax pmax
comp=Z,16nm,1.0s
M31M **Drury Creek, Y 87.59 27** P **P** 15 02 58.0 -0.4
M31M IAmb IAmb 15 03 00.4
comp=Z,47nm,1.1s
M31M **Drury Creek, Y 87.59 27** P **P** 15 02 59.0 +0.7
baz=255,SNR=17
EPYK **Eagle Plains 87.77 23** P **P** 15 02 59.7 +0.6
baz=253,SNR=43
Q32M **Nakina River 87.83 30** P **P** 15 03 00.2 +0.4
baz=257
P33M **Teslin, Yukon 87.85 29** P **P** 15 03 00.5 +0.8
baz=257,SNR=9.2
N32M **Quiet Lake 87.94 28** P **P** 15 03 01.0 +1.0
baz=256
FARO **Faro, Yukon 88.08 27** P **P** 15 03 01.1 +0.5
baz=256,SNR=16
G30M **tAoh Zraii Nji 88.14 22** P **P** 15 03 00.9 +0.1
baz=253
T35M **Bob Quinn 88.47 33** P **P** 15 03 04.3 +1.7
baz=259,SNR=5.2
R33M **Jennings River 88.58 30** P **P** 15 03 04.5 +1.3
baz=258
DLBC **Dease Lake 88.87 31** P **P** 15 03 05.8 +1.4
comp=Z,36nm,1.3s,baz=267,slow=6.4,SNR=9.4
comp=Z,36nm,1.3s
DLBC **Dease Lake 88.87 31** P **P** 15 03 05.8 +1.4
baz=259,SNR=9.0
MMPY **Sheldon Lake, 89.11 27** P **P** 15 03 06.3 +0.9
baz=258,SNR=14

F31M **Tsiigehtchic 89.19 22** P **P** 15 03 05.6 0.0
baz=256
INK **Inuvik 89.49 21** P **P** 15 03 06.9 0.0
comp=Z,70nm,1.1s,baz=239,slow=5.4,SNR=64
comp=Z,70nm,1.1s
INK **Inuvik 89.49 21** P **P** 15 03 07.1 +0.2
baz=256
WTLY **Watson Lake, Y 89.80 30** P **P** 15 03 09.6 +0.9
WTLY IAmb IAmb 15 03 11.2
comp=Z,68nm,1.0s
WTLY **Watson Lake, Y 89.80 30** P **P** 15 03 10.0 +1.3
baz=260,SNR=26
TGTN **Hyland Airport 90.29 28** P **P** 15 03 11.8 +0.9
baz=261,SNR=21
HRA **Herat 90.73 304** P **P** 15 03 13.0 -0.8
HRA IAmb IAmb 15 03 14.7
comp=Z,39nm,1.2s
LIRD **Liard River Hi 91.04 31** P **P** 15 03 15.0 +0.6
baz=262,SNR=14
YBH **Yreka Blue Hor 91.22 48** P **P** 15 03 16.1 +0.3
comp=Z,12nm,1.0s,baz=212,slow=2.6,SNR=9.0
comp=Z,12nm,1.0s
KOTAN **Kotaneelee Air 92.15 30** P **P** 15 03 19.8 +0.3
baz=264,SNR=9.0
AFDM **Forest Hills D 92.31 51** P **P** 15 03 20.4 -0.4
WRGLY **Wrigley 92.73 27** P **P** 15 03 22.7 +0.7
baz=265
A36M **Sachs Harbour 92.93 18** P **P** 15 03 22.3 -0.5
A36M IAmb IAmb 15 03 24.0
comp=Z,60nm,0.9s
A36M **Sachs Harbour 92.93 18** P **P** 15 03 22.8 0.0
baz=264
PKM **Mcpherson Peak 92.95 55** P **P** 15 03 25.4 +1.3
baz=266,SNR=5.5
C36M **Paulatuk 93.05 21** P **P** 15 03 23.0 -0.4
C36M IAmb IAmb 15 03 24.3
comp=Z,40nm,1.1s
C36M **Paulatuk 93.05 21** P **P** 15 03 23.0 -0.4
baz=265
PNTR **Pine Nut 93.39 51** P **P** 15 03 25.6 -0.4
AB31 **Akbulak array 93.55 319** *i* P **P** 15 03 24.2 -2.0
SVE **Sverdlovsk 93.56 327** *e*P **P** 15 03 25.4 -0.6
VES **Vestal, Richgr 93.61 54** P **P** 15 03 26.5 -0.3
baz=267
PNT **Penticton 93.92 41** P **P** 15 03 25.6 -2.3
PNT pmax pmax
comp=Z,25nm,1.3s
CIS **Catalina Islan 94.02 57** P **P** 15 03 29.5 +0.8
baz=267
ISA **Isabella, Lake 94.09 55** P **P** 15 03 29.4 +0.3
baz=267,SNR=6.3
GEYT **Alibeck 94.31 308** P **P** 15 03 29.2 -0.8
comp=Z,5.8nm,0.8s,baz=158,slow=1.6,SNR=14
GEYT S **SKSac** 15 13 21.5 +0.2
comp=Z,0.6nm,0.4s,baz=215,slow=35,SNR=1.1
comp=Z,5.8nm,0.8s
GEYT **Alibeck 94.31 308** P **P** 15 03 28.9 -1.1
GYA0B **ALIBECK ARRAY 94.31 308** P **P** 15 03 28.7 -1.2
NVAR **Mina Array Bea 94.36 52** P **P** 15 03 31.0 +0.6
comp=Z,7.3nm,1.0s,baz=258,slow=6.0,SNR=30
comp=Z,7.3nm,1.0s
NVAR **Mina Array Bea 94.36 52** P **P** 15 03 30.1 -0.4
EDW2 **Edwards Air Fo 94.45 55** P **P** 15 03 31.1 +0.4
baz=267,SNR=8.1
CWC **Cottonwood Cre 94.45 54** P **P** 15 03 30.8 0.0
baz=267
ARU **Arti 94.69 326** PKKP **PKKPdf** 15 20 27.1 -0.5
comp=Z,2.2nm,0.4s,baz=7.9,slow=2.3,SNR=4.4
ARU **Arti 94.69 326** P **P** 15 03 29.1 -2.1
ARU **Arti 94.69 326***de*P **P** 15 03 29.8 -1.4
ARU pmax pmax
comp=Z,17nm,1.4s
BFSC **Mount Baldy Ra 94.69 56** P **P** 15 03 32.0 +0.1
baz=268
LRMC **Laurel Mtn Rad 94.73 55** P **P** 15 03 32.7 +0.7
baz=268,SNR=16
AKTO **Aktyubinsk 94.85 320** P **P** 15 03 30.4 -1.7
MPMC **Manual Prospec 94.91 54** P **P** 15 03 33.2 +0.2
baz=268,SNR=12
UOSS **Minazif 95.33 295** P **P** 15 03 33.3 -1.6
GSC **Goldstone, Bar 95.44 55** P **P** 15 03 35.3 +0.1
baz=268
NEW **Newport 95.53 42** P **P** 15 03 35.4 +0.1
comp=Z,6.1nm,0.9s,baz=254,slow=6.2,SNR=7.6
comp=Z,6.1nm,0.9s
NEW **Newport 95.53 42** P **P** 15 03 35.6 +0.3
baz=269
PFO **Pinyon Flats O 95.67 57** P **P** 15 03 36.7 +0.3
baz=268
TPFO **Pinon Flats 95.67 57** P **P** 15 03 36.9 +0.5
baz=268
MONP2 **Monument Peak 95.67 58** P **P** 15 03 37.0 +0.5
baz=268
HEC **Hector,Ludlow 95.81 56** P **P** 15 03 37.5 +0.6
baz=268
SHOC **Shoshone, Teco 95.89 55** P **P** 15 03 37.7 +0.5
baz=268,SNR=5.2
IKP **In-Ko-Pah, Jac 95.93 58** P **P** 15 03 38.1 +0.6
baz=268
TPNV **Topopah Spring 95.94 53** P **P** 15 03 38.0 +0.4
baz=268,SNR=6.5
BELC **Belle Mtn. Jos 96.06 56** P **P** 15 03 39.0 +0.9
baz=268,SNR=6.4
TUQ **Turquoise Moun 96.16 55** P **P** 15 03 39.6 +1.0
baz=268,SNR=5.6
SWSC **Sam W. Stewart 96.20 58** P **P** 15 03 38.7 +0.1
baz=268
GMRC **Granite Mounta 96.36 56** P **P** 15 03 40.1 +0.6
baz=269
R11A **Troy Canyon, C 96.50 52** P **P** 15 03 40.6 +0.6
baz=269
BC3 **Big Chuckawall 96.50 57** P **P** 15 03 40.7 +0.6
baz=269
YKA **Yellowknife Ar 96.77 28** P **P** 15 03 40.7 +0.3
comp=Z,8.7nm,1.0s,baz=271,slow=4.8,SNR=15
comp=Z,8.7nm,1.0s
IRM **Iron Mountain 96.77 56** P **P** 15 03 41.3 +0.2
baz=269
ELK **Elko 96.79 50** P **P** 15 03 41.8 +0.4
comp=Z,2.3nm,1.0s,baz=267,slow=4.0,SNR=9.3
ELK S **SKSac** 15 13 34.5 -0.1
comp=Z,0.4nm,0.7s,baz=50,slow=16,SNR=1.2
comp=Z,2.3nm,1.0s
HLID **Hailey 97.41 47** P **P** 15 03 43.8 -0.2
baz=270
BELA **Belgrano 2 97.41 179** P **P** 15 03 42.3 -0.8
BELA IAmb IAmb 15 03 44.8
comp=Z,25nm,1.1s
PDMCI **Parker Dam,Lak 97.61 56** P **P** 15 03 44.8 -0.1
baz=269
MSO **Missoula 97.69 44** P **P** 15 03 44.7 -0.4
baz=271
DUG **Dugway, Tooele 98.64 50** P Pdif 15 03 49.3 -0.3
baz=271
214A **Organ Pipe Nat 98.71 59** P Pdif 15 03 49.7 -0.2
baz=270
BOZ **Bozeman (W) 99.34 45** P **Pdif** 15 03 52.7 +0.2
baz=273
KIRV **Kirov 99.53 329** ⇓ *e*P **Pdif** 15 03 52.0 -0.8
H17A **Grant Village 100.15 46** P **Pdif** 15 03 56.5 +0.2
baz=273
TUC **Tucson 100.42 58** P **Pdif** 15 03 58.1 +0.6
baz=271
EGMT **Eagleton 100.47 42** P **Pdif** 15 03 57.8 +0.4
baz=275
TROLL **Troll, Antarti 100.48 190** Pdiff **Pdif** 15 03 56.7 -0.3
BW06 **Boulder Array 100.98 48** P **Pdif** 15 03 59.7 -0.3
baz=274
PDAR **Pinedale Array 100.98 48** P **Pdif** 15 04 00.0 0.0
comp=Z,3.4nm,0.9s,baz=240,slow=1.8,SNR=20
RES **Resolute Bay 101.11 14** P **Pdif** 15 03 59.4 -0.2
comp=Z,6.0nm,0.9s,baz=299,slow=5.3,SNR=7.1
BELG **Belogornoye 101.26 322** PKKPbc PKKPbc 15 20 08.7 -2.0
comp=Z,9.8nm,1.0s,baz=281,slow=5.8,SNR=3.8
SNAA **Sanae 101.63 189** Pdiff **Pdif** 15 04 01.5 -0.6
MVCO **Mesa Verde 102.13 53** P **Pdif** 15 04 05.2 -0.1
baz=273
O20A **White River Ci 102.15 50** P **Pdif** 15 04 04.9 -0.3
baz=274
VNA3 **Neumayer Olymp 102.92 187** Pdiff **Pdif** 15 04 07.2 -0.5
VNA2 **Neumayer--Watz 102.94 187** Pdiff **Pdif** 15 04 07.8 0.0
baz=158,slow=4.0
LAO **LASA Array 102.99 43** P **Pdif** 15 04 09.0 +0.3
baz=277
K22A **Casper 103.22 47** P **Pdif** 15 04 10.0 +0.1
baz=276
VNA1 **Neumayer--Stat 103.30 187** Pdiff **Pdif** 15 04 09.5 +0.1
S22A **4UR Ranch, Cre 103.42 52** P **Pdif** 15 04 10.8 -0.2
baz=274
N23A **Red Feather La 103.83 49** P **Pdif** 15 04 13.1 +0.3
baz=276
APA **Apatity 104.31 339** ⇓ *i*P **Pdif** 15 04 21.4 +7.5
APA pmax pmax
comp=Z,10.0nm,1.1s
ARCES **ARCESS Array B 105.99 342** PKiKP **PKiKP** 15 08 31.0 +0.2
comp=Z,3.3nm,0.8s,baz=65,slow=1.4,SNR=6.3
TXAR **Lajitas Array 106.67 61** PKiKP **PKiKP** 15 08 34.0 +0.8
comp=Z,1.4nm,1.0s,baz=45,slow=1.3,SNR=4.9
TXAR PP **PP** 15 08 57.8 +0.7
comp=Z,1.7nm,1.0s,baz=251,slow=7.8,SNR=5.1
FINES **FINESS Array B 109.83 335** Pdiff **Pdif** 15 04 38.6 +0.1
comp=Z,0.7nm,0.4s,baz=61,slow=5.7,SNR=5.9
FINES PKKPbc **PKKPbc** 15 19 41.6 -3.5
comp=Z,1.7nm,1.0s,baz=219,slow=3.6,SNR=5.0
ECSD **EROS Data Cent 110.19 45** P **PKiKP** 15 08 39.1 -0.2
baz=283
WMOK **Wichita Mounta 110.22 55** P **PKiKP** 15 08 39.2 -0.5
baz=278
EYMN **Ely 112.48 40** P **PKiKP** 15 08 43.3 -0.3
baz=289
AKASG **Malin Array Be 112.78 324** PKiKP **PKiKP** 15 08 42.8 -1.2
comp=Z,1.1nm,0.5s,baz=58,slow=2.5,SNR=5.6
AKASG SKP **SKPdf** 15 11 34.6 -1.6
comp=Z,4.5nm,0.8s,baz=62,slow=2.4,SNR=7.6
AKASG PKKPbc **PKKPbc** 15 19 32.5 -2.7
comp=Z,1.3nm,0.5s,baz=264,slow=3.8,SNR=8.6
AKASG SKKPbc **SKKPbc** 15 22 35.7 -0.7
comp=Z,2.5nm,0.8s,baz=264,slow=2.4,SNR=8.4
AKBB **Malin Array Si 112.78 324** ⇑ *i*PKiKP **PKiKP** 15 08 43.6 -0.4
MMAI **Mount Meron Ar 113.08 304** SKP **SKPdf** 15 11 36.9 -0.6
comp=Z,4.9nm,0.7s,baz=109,slow=4.5,SNR=6.7
BRTR **Keskin Array B 113.12 311** SKP **SKPdf** 15 11 34.5 -2.9
comp=Z,2.6nm,0.8s,baz=157,slow=3.5,SNR=3.7
EIL **Elat 113.98 300** SKP **SKPdf** 15 11 38.5 -0.7
comp=Z,1.1nm,0.7s,baz=338,slow=2.5,SNR=9.7
SORM **Soroca 114.25 321** ⇓ P **SKPdf** 15 11 37.6 -1.4
MIAR **Mount Ida 114.48 54** P PKPdf 15 08 47.3 -0.5
baz=282
JFWS **Jewell Farm 114.89 45** P PKPdf 15 08 48.0 -0.4
baz=288
CCM **Cathedral Cave 115.51 50** P **PKPdf** 15 08 49.4 -0.3
baz=285
NB2 **NORSAR Subarra1 115.89 339** PKPdf **PKPdf** 15 08 47.8 -2.0
comp=Z,2.1nm,1.2s,baz=44,slow=1.9
NB2 PKKP **PKKPbc** 15 19 22.5 -2.6
comp=Z,0.6nm,0.5s,baz=212,slow=3.4
NB2 **NORSAR Subarra1 115.89 339** PKPdf **SKPdf** 15 11 40.0 -2.0
comp=Z,2.9nm,0.8s,baz=44,slow=1.9
NOA **NORSAR Array B 115.89 339** PKP **PKPdf** 15 08 49.3 -0.5
comp=Z,1.6nm,0.8s,baz=50,slow=1.9,SNR=4.6
NOA SKP **SKPdf** 15 11 40.7 -1.3
comp=Z,3.4nm,0.8s,baz=47,slow=2.0,SNR=6.5
NOA PKPbc **PKKPbc** 15 19 22.1 -3.0
comp=Z,2.2nm,0.9s,baz=52,slow=3.7,SNR=5.3
VRI **Vrincioaia 116.12 319** ⇑ P **SKPdf** 15 11 42.0 -0.8
HDIL **Hopedale 116.28 47** P **PKPdf** 15 08 50.8 -0.3
baz=288
BURAR **Bucovina Array 116.40 322** ⇓ P **SKPdf** 15 11 43.9 +0.5
NEHR **Nehoiu 116.56 319** ⇑ P **SKPdf** 15 11 42.9 -0.8
L44A **Lake County Fo 116.76 45** P **PKPdf** 15 08 51.4 -0.6
baz=289
MLR **Muntele Rosu 116.77 319** SKP **SKPdf** 15 11 42.6 -1.6
comp=Z,5.4nm,0.8s,baz=117,slow=3.6,SNR=4.9
MLR PKKPbc PKKPbc 15 19 18.8 -2.8
comp=Z,2.0nm,0.5s,baz=265,slow=5.8,SNR=4.1
DOPR **Dopca 116.94 320** ⇓ P **SKPdf** 15 11 44.1 -0.3
BOSA **Boshof 117.28 234** SKP **SKPdf** 15 11 45.7 0.0
comp=Z,3.8nm,0.8s,baz=168,slow=5.9,SNR=4.5
KOLS **Kolonicke sedl 117.61 324** *e*PKP **PKiKP** 15 08 54.2 +0.8
KOLS **Kolonicke sedl 117.61 324** *e*PKiKP **PKiKP** 15 08 54.3 +0.8
OXF **Oxford 117.84 53** P **PKPdf** 15 08 54.1 -0.2
baz=284
LBTB **Lobatse 118.33 238** SKP **SKPdf** 15 11 48.0 +0.1
comp=Z,7.8nm,1.1s,baz=90,slow=1.6,SNR=4.6
WVT **Waverly 118.66 51** P **PKPdf** 15 08 55.1 -0.7
baz=286
LSZ **Lusaka 118.92 250** SKP **SKPdf** 15 11 49.5 +0.3
comp=Z,2.5nm,0.4s,baz=110,slow=3.6,SNR=4.1
SIRR **Siria 119.18 321** ⇑ P **SKPdf** 15 11 41.9 -6.8
WCI **Wyandotte Cave 119.20 49** P **PKPdf** 15 08 55.8 -1.0
baz=289
O48B **Farmland 119.36 46** P **PKPdf** 15 08 55.6 -1.4
baz=291
BZS **Buziias 119.49 321** ⇓ P **SKPdf** 15 11 48.6 -0.6
VTS **Vitosha 119.67 317** ⇓ P **SKPdf** 15 11 49.3 -0.6
VYHS **Vyhne 119.82 325** *e*PKP **PKPdf** 15 08 57.7 0.0
VYHS **Vyhne 119.82 325** *e*PKiKP **PKPdf** 15 08 57.7 0.0
MORC **Moravsky Berou 119.89 326** *e*PKP **SKPdf** 15 11 49.1 -0.9
P49A **Miami Univ. Ec 119.93 47** P **PKPdf** 15 08 57.2 -0.9
baz=290
MAUC **Maruska 119.95 326** *e*SKP **SKPdf** 15 11 50.0 -0.1
KRLC **Kraliky 120.14 327** *e*PKPDF **PKPdf** 15 08 58.3 0.0
KRLC *e*SKP **SKPdf** 15 11 50.5 0.0
KRLC *e*PKiKP **PKPdf** 15 08 58.3 0.0
LRAL **Lakeview Retre 120.16 54** P **PKPdf** 15 08 57.6 -1.2
baz=285
VRAC **Vranov 120.66 326** *e*PKP **SKPdf** 15 11 49.5 -1.9
KRUC **Moravsky 120.90 326** *e*PKP **SKPdf** 15 11 51.2 -0.7
ACSO **Alum Creek Sta 120.92 45** P **PKPdf** 15 08 59.4 -0.6
baz=292
IDI **Anoyia 121.02 309** PKP **PKiKP** 15 09 03.8 +3.2
comp=Z,6.7nm,0.5s,baz=46,slow=6.9,SNR=5.8
MORH **Mrgy, Hungar 121.06 322** ⇓ P **SKPdf** 15 11 45.3 -7.0
BRG **Berggiesshubel 121.19 329** Amp 15 11 53.0
comp=Z,13nm,1.1s
BRG **Berggiesshubel 121.19 329** *i* PKiKP **PKPdf** 15 09 00.1 -0.1
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,13nm,1.1s
BRG **Berggiesshubel 121.19 329** *i* PKP **PKPdf** 15 09 00.2 -0.1
BRG **Berggiesshubel 121.19 329** Amp 15 09 02.1
comp=Z,9.7nm,0.9s
BRG **Berggiesshubel 121.19 329** *i* x x 15 11 52.1
GOPC **GO Pecny, Ondr 121.31 328** *e*PKPDF **PKiKP** 15 09 00.9 +0.2
GOPC **GO Pecny, Ondr 121.31 328** *e*PKiKP **PKiKP** 15 09 00.9 +0.2
PRU **Pruhonice 121.39 328** *e*PKPDF **PKiKP** 15 09 00.9 +0.1
PRU **Pruhonice 121.39 328** *e*PKiKP **PKiKP** 15 09 00.9 +0.1
CLL **Collm 121.41 330** *e*Pdif **Pdif** 15 05 28.0 -2.3
CLL *i* PKPdf **PKPdf** 15 09 00.2 -0.4
comp=Z,9.0nm,0.9s
CLL *i* x x 15 09 03.0
comp=Z,6.0nm,0.7s
CLL *e*PP **PP** 15 10 41.0 +2.1
CLL *ep*PKPdf **pPKPdf** 15 10 50.0 +1.4
CLL *es*PKPdf **sPKPdf** 15 11 36.0 +2.9
CLL *e*SKPdf **SKPdf** 15 11 52.0 -0.8
comp=Z,9.0nm,1.0s
CLL *ep*PP 15 12 12.0
CLL *ex* x 15 12 21.0
CLL *es*PP 15 13 00.0
CLL *e*SKSdf **SKSdf** 15 15 30.0 +0.9
CLL *ex* x 15 15 48.0
CLL *e*SKKSac **SKKSac** 15 16 49.0 -2.4
CLL *e*Sdif **Sdif** 15 17 48.0 -0.3
CLL *e*PS **PS** 15 20 36.0 -2.9
CLL *ep*PS 15 21 58.0
CLL *es*PS 15 22 51.0
CLL *es*PPS 15 24 01.0
CLL *e*SS **SS** 15 26 42.0 +4.6
CLL *es*SS 15 29 30.0
CLL *e*SSS SSS 15 31 12.0
CLL *ex* x 15 32 18.0
CLL *es*SSS 15 34 12.0
CLL *e*(SSSS) 15 35 36.0
CLL LmV 16 01 00.0
comp=Z,300nm,20.9s
CLL **Collm 121.41 330** *i* PKiKP **PKPdf** 15 09 00.2 -0.4
CLL pmax pmax
comp=Z,9.0nm,0.9s
PLCA **Paso Flores 121.50 145** PKP **PKiKP** 15 09 01.8 +0.3
comp=Z,4.7nm,0.4s,baz=235,slow=1.3,SNR=37
PLCA SKP **SKPdf** 15 11 55.2 +1.8
comp=Z,12nm,0.9s,baz=200,slow=2.7,SNR=9.9
PLCA **Paso Flores 121.50 145** *e*P **PKPdf** 15 09 01.3 0.0
P52A **Corning 121.75 46** P **PKPdf** 15 09 00.6 -1.1
baz=293
TZTN **Tazewell 121.82 50** P **PKPdf** 15 09 00.7 -1.2
baz=290
M53A **WI Miller and 122.05 43** P **PKPdf** 15 09 00.9 -1.3
baz=295
O53A **New Philadelph 122.17 45** P **PKPdf** 15 09 01.1 -1.3
baz=294

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CKRC	**Cesky Krumlov**	**122.18**	**327**	*e*PKPDF	**PKiKP**	**15 09 02.5**	**+0.1**
CKRC				*e*SKP	**SKPdf**	**15 11 54.6**	**+0.2**
KHC	**Kasperske Hory**	**122.40**	**327**	*e*PKPDF	**PKiKP**	**15 09 02.8**	**-0.1**
KHC				*e*SKP	**SKPdf**	**15 11 54.9**	**+0.1**
KHC	**Kasperske Hory**	**122.40**	**327**	*e*PKIKP	**PKiKP**	**15 09 02.8**	**-0.1**
GERES	**GERESS Array B**	**122.50**	**327**	PKP	**PKPdf**	**15 09 02.9**	**0.0**
	comp=Z,4.2nm,0.7s,baz=64,slow=3.1,SNR=28						
GERES				SKP	**SKPdf**	**15 11 54.5**	**-0.6**
	comp=Z,3.8nm,0.6s,baz=72,slow=2.1,SNR=8.7						
GERES				PKKPbc	**PKKPab**	**15 18 59.3**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=205,slow=2.8,SNR=5.4						
GERES				SKKPbc	**SKKPbc**	**15 22 05.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=237,slow=4.6,SNR=4.1						
GOGA	**Godfrey**	**122.89**	**53**	P	**PKPdf**	**15 09 03.2**	**-0.8**
	baz=288						
MCWV	**Mont Chateau**	**123.36**	**45**	P	**PKPdf**	**15 09 04.2**	**-0.6**
	baz=295						
TIGA	**Tifton**	**123.37**	**55**	P	**PKPdf**	**15 09 04.2**	**-0.7**
	baz=287						
BLA	**Blacksburg**	**123.92**	**48**	P	**PKPdf**	**15 09 05.3**	**-0.6**
	baz=293						
KMSC	**Kings Mountain**	**123.99**	**50**	P	**PKPdf**	**15 09 05.5**	**-0.6**
	baz=291						
SSPA	**Standing Stone**	**124.30**	**43**	P	**PKPdf**	**15 09 06.1**	**-0.4**
	baz=297						
ABTA	**Abfaltersbach**	**124.36**	**326**	*e*P	**PKPdf**	**15 09 05.5**	**-1.1**
	comp=Z,4.1nm,0.7s						
LONY	**Lake Ozonia**	**124.47**	**37**	P	**PKPdf**	**15 09 06.5**	**-0.2**
	baz=302,SNR=5.0						
WTTA	**Wattenberg**	**124.55**	**327**	*i* P	**PKPdf**	**15 09 06.9**	**-0.1**
	comp=Z,7.6nm,0.6s,SNR=5.1						
MOTA	**Moosalm**	**124.79**	**327**	*e*P	**PKPdf**	**15 09 07.3**	**-0.1**
	comp=Z,7.4nm,0.7s						
BINY	**Binghamton**	**124.83**	**41**	P	**PKPdf**	**15 09 07.1**	**-0.4**
	baz=300						
BTNL	**Ternell**	**125.19**	**333**	*d*PKP	**PKPdf**	**15 09 07.6**	**-0.3**
FETA	**Feichten**	**125.19**	**327**	*e*P	**PKPdf**	**15 09 08.2**	**0.0**
	comp=Z,4.2nm,0.7s						
MEM	**Membach**	**125.23**	**333**	*d*PKP	**PKPdf**	**15 09 07.8**	**-0.2**
DAVA	**Damuels**	**125.49**	**327**	*e*P	**PKiKP**	**15 09 09.0**	**-0.2**
	comp=Z,6.6nm,0.7s						
DAVOX	**Davos/Dischmat**	**125.80**	**327**	PKP	**PKiKP**	**15 09 09.9**	**0.0**
	comp=Z,5.8nm,0.6s,baz=121,slow=2.8,SNR=3.6						
BMRD	**Maredsous**	**126.01**	**333**	*d*PKP	**PKiKP**	**15 09 09.8**	**-0.1**
DWPF	**Disney Wildern**	**126.09**	**59**	P	**PKPdf**	**15 09 09.8**	**-0.5**
	baz=286						
LBNH	**Lisbon**	**126.27**	**36**	P	**PKPdf**	**15 09 09.5**	**-0.7**
	baz=305						
PAL	**Palisades**	**126.77**	**41**	P	**PKPdf**	**15 09 11.1**	**-0.1**
	baz=301						
L61B	**Northampton**	**126.80**	**39**	P	**PKPdf**	**15 09 10.8**	**-0.4**
	baz=303						
PKME	**Peaks-Kenny Pk**	**127.18**	**34**	P	**PKPdf**	**15 09 11.6**	**-0.2**
	baz=308						
HRV	**Adam Dziewonsk**	**127.46**	**38**	P	**PKPdf**	**15 09 11.9**	**-0.6**
	baz=304						
ATAH	**Atahualpa**	**130.38**	**103**	PKP	**PKiKP**	**15 09 21.3**	**+1.0**
ATAH				SKPbc	**SKPab**	**15 12 05.3**	**+4.8**
	comp=Z,127nm,0.8s,baz=258,slow=2.3,SNR=42						
NNA	**Nana**	**130.64**	**110**	PKP	**PKiKP**	**15 09 20.6**	**+0.3**
NNA				SKPbc	**SKPab**	**15 12 03.9**	**+2.8**
	comp=Z,58nm,0.9s,baz=255,slow=5.3,SNR=12						
KEST	**Kesra**	**132.39**	**316**	SKPbc	**SKPbc**	**15 12 06.2**	**-0.1**
	comp=Z,20nm,0.9s,baz=346,slow=1.8,SNR=7.4						
LVC	**Limon Verde**	**133.31**	**127**	SKPbc	**SKPab**	**15 12 13.8**	**+1.0**
	comp=Z,27nm,0.7s,baz=262,slow=4.1,SNR=19						
LVC	**Limon Verde**	**133.31**	**127**	*e*P	**PKPdf**	**15 09 22.0**	**-2.6**
ROSC	**El Rosal**	**135.96**	**88**	PKhKP	PKPpre	15 09 25.6	
	comp=Z,20nm,0.5s,baz=108,slow=15,SNR=5.3						
ROSC				SKP	**SKPdf**	**15 12 21.8**	**+0.2**
	comp=Z,30nm,0.7s,baz=147,slow=6.6,SNR=5.5						
LPAZ	**La Paz**	**136.96**	**120**	PKhKP	PKPpre	15 09 21.1	
	comp=Z,2.7nm,0.4s,baz=295,slow=2.2,SNR=15						
LPAZ				SKP	**SKPdf**	**15 12 25.2**	**+1.6**
	comp=Z,65nm,1.0s,baz=298,slow=1.2,SNR=26						
LPAZ	**La Paz**	**136.96**	**120**	*e*P	PKPpre	15 09 24.9	
PLTB	**Pedras Altas**	**137.31**	**150**	*e*P	**PKPdf**	**15 09 30.8**	**-0.6**
PBRG	**Braganca**	**137.65**	**334**	*e*LQ	LQ	15 12 22.3	
ESDC	**Sonseca Array**	**138.00**	**329**	SKPbc	**SKPbc**	**15 12 23.4**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=20,slow=3.2,SNR=8.4						
ESDC				SKPab	**SKPab**	**15 12 32.8**	**+0.3**
	comp=Z,17nm,1.0s,baz=30,slow=4.2,SNR=17						
ESDC				SKKPbc	**SKKPbc**	**15 21 12.2**	**+1.2**
	comp=Z,6.3nm,1.0s,baz=232,slow=4.5,SNR=14						
PGAV	**Gavieira, Arco**	**138.17**	**335**	*e*LQ	LQ	15 12 23.6	
PCAB	**Cabril**	**138.28**	**335**	*e*LQ	LQ	15 12 24.4	
MVO	**Moncorvo**	**138.29**	**334**	*e*LQ	LQ	15 12 24.5	
POLO	**Lamas de Olo**	**138.45**	**334**	*e*LQ	LQ	15 12 25.1	
PVRL	**Vila Real**	**138.50**	**334**	*e*LQ	LQ	15 12 25.1	
PVIS	**Viseu**	**139.04**	**334**	*e*LQ	LQ	15 12 26.4	
MTE	**Manteigas**	**139.14**	**333**	*e*LQ	LQ	15 12 27.1	
TBTG	**Tabatinga, AM**	**139.26**	**102**	*e*P	**PKPdf**	**15 09 35.0**	**-0.4**
CPUP	**Villa Florida**	**139.35**	**141**	PKhKP	PKPpre	15 09 27.4	
	comp=Z,5.7nm,0.8s,baz=304,slow=2.9,SNR=8.2						
CPUP				PKP	**PKPdf**	**15 09 36.0**	**+0.7**
	comp=Z,20nm,1.1s,baz=240,slow=1.6,SNR=8.2						
CPUP				SKPbc	**SKiKP**	**15 12 29.1**	**-1.4**
	comp=Z,44nm,1.1s,baz=247,slow=2.9,SNR=14						
CPUP	**Villa Florida**	**139.35**	**141**	PKIKP	**PKPdf**	**15 09 36.0**	**+0.7**
PCBR	**Castelo Branco**	**139.56**	**333**	*e*LQ	LQ	15 12 27.8	
SDV	**Santo Domingo**	**139.58**	**82**	SKPbc	**SKiKP**	**15 12 30.7**	**-0.8**
	comp=Z,36nm,0.8s,baz=228,slow=1.8,SNR=8.1						
SDV	**Santo Domingo**	**139.58**	**82**	*e*P	**PKPdf**	**15 09 33.9**	**-2.3**
SDV	**Santo Domingo**	**139.58**	**82**	*e*P	PKPpre	15 09 30.3	
PCAS	**Casmilo, Conde**	**139.84**	**334**	*e*LQ	LQ	15 12 28.4	
PMRV	**Marv??o**	**139.85**	**332**	*e*LQ	LQ	15 12 28.7	
PMTG	**Montargil**	**140.53**	**333**	*e*LQ	LQ	15 12 30.2	
CNLB	**Canela**	**140.67**	**151**	*e*P	**PKPdf**	**15 09 37.3**	**-0.4**
PBAR	**Barrancos**	**140.68**	**331**	*e*LQ	LQ	15 12 30.3	
PMAFR	**Mafra**	**141.09**	**334**	*e*LQ	LQ	15 12 47.0	
PBEJ	**Beja**	**141.20**	**332**	*e*LQ	LQ	15 12 32.4	
ETMB	**Extrema**	**141.22**	**112**	*e*P	**PKPdf**	**15 09 38.3**	**-0.6**
PNCL	**Nicolau / Gran**	**141.44**	**332**	*e*LQ	LQ	15 12 32.9	
PCVE	**Castro Verde**	**141.59**	**331**	*e*LQ	LQ	15 12 33.4	
PVAQ	**Vaqueiros**	**141.62**	**331**	*e*LQ	LQ	15 12 33.4	
ITAB	**Concordia**	**141.71**	**147**	*e*P	**PKPdf**	**15 09 39.0**	**-0.5**
TER01	**Tubaro-SC**	**142.15**	**152**	*e*P	**PKPdf**	**15 09 39.4**	**-0.8**
SGCB	**S£o Gabriel d**	**142.81**	**96**	*e*P	**PKPdf**	**15 09 40.8**	**-0.9**
SIV	**San Ignacio**	**143.06**	**125**	PKhKP	PKPpre	15 09 39.4	
	comp=Z,31nm,0.8s,baz=227,slow=3.4,SNR=96						
SIV				SKPbc	**SKiKP**	**15 12 39.6**	**+1.2**
	comp=Z,40nm,0.7s,baz=234,slow=1.4,SNR=12						
MDT	**Midelt**	**143.33**	**323**	PKP	PKPbc	15 09 41.0	+0.7
MDT				SKPbc	**SKPbc**	**15 12 37.7**	**0.0**
	comp=Z,18nm,1.1s,baz=24,slow=3.1,SNR=7.3						
PTGB	**Pitanga**	**143.72**	**145**	*e*P	PKPab	15 09 41.5	-0.1
PTGB	**Pitanga**	**143.72**	**145**	*e*P	PKPbc	15 09 42.0	+0.2
AQDB	**Aquidauana**	**144.48**	**136**	*e*P	PKPbc	15 09 42.7	-1.5
TIJ01	**Guaruva-PR**	**144.89**	**149**	*e*P	**PKPdf**	**15 09 44.1**	**-1.1**
PTLB	**Pontes e Lacer**	**144.92**	**126**	*e*P	**PKPab**	**15 09 46.1**	**-0.1**
VILB	**Vilhena**	**145.30**	**121**	*e*P	**PKPdf**	**15 09 46.8**	**+0.8**
VILB	**Vilhena**	**145.30**	**121**	*e*P	**PKPdf**	**15 09 45.1**	**-1.0**
PCRV	**Puerto La Cruz**	**145.37**	**79**	PKPbc	**PKPdf**	**15 09 46.1**	**-0.1**
	comp=Z,35nm,0.4s,baz=344,slow=3.3,SNR=6.6						
FRTB	**Fartura**	**146.20**	**147**	*e*P	**PKPdf**	**15 09 46.8**	**-0.6**
FRTB	**Fartura**	**146.20**	**147**	*e*P	**PKPbc**	**15 09 49.5**	**+0.2**
PCMB	**Pacaembu**	**146.57**	**142**	*e*P	**PKPdf**	**15 09 47.2**	**-0.8**
PCMB	**Pacaembu**	**146.57**	**142**	*e*P	**PKPbc**	**15 09 49.4**	**-1.0**
PET01	**Itanhaem-SP**	**146.61**	**151**	*e*P	**PKPdf**	**15 09 46.9**	**-1.1**
SALV	**Santo Antonio**	**147.39**	**130**	*e*P	**PKPdf**	**15 09 48.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**147.53**	**287**	PKPbc	**PKPbc**	**15 09 52.0**	**-1.1**
	comp=Z,15nm,0.6s,baz=44,slow=3.7,SNR=62						
TORD				SKPbc	**SKPbc**	**15 12 46.3**	**-1.2**
	comp=Z,23nm,0.8s,baz=48,slow=3.3,SNR=9.1						
VAO	**Valinhos**	**147.84**	**150**	*e*P	**PKPdf**	**15 09 49.4**	**-0.8**
RCLB	**Rio Claro- Sao**	**148.04**	**148**	*e*P	**PKPdf**	**15 09 49.6**	**-0.9**
PARB	**Paraibuna**	**148.21**	**152**	*e*P	**PKPdf**	**15 09 51.1**	**+0.3**
MACA	**Manacapuru-AM**	**148.45**	**104**	*e*P	**PKPdf**	**15 09 50.8**	**-0.6**
ITRB	**Iturama**	**148.55**	**141**	*e*P	**PKPdf**	**15 09 50.5**	**-0.9**
ITRB	**Iturama**	**148.55**	**141**	*e*P	**PKPdf**	**15 09 52.6**	**+1.3**
BB19B	**Bebedouro**	**148.59**	**146**	*e*P	**PKPdf**	**15 09 50.5**	**-0.9**
PDRB	**Porto dos Gac**	**148.91**	**122**	*e*P	**PKPdf**	**15 09 52.9**	**+0.8**
PDRB	**Porto dos Gac**	**148.91**	**122**	*e*P	**PKPdf**	**15 09 51.5**	**-0.6**
MAN01	**Angra dos Reis**	**149.36**	**154**	*e*P	**PKPdf**	**15 09 51.6**	**-1.0**
BOAV	**Boa Vista**	**149.56**	**93**	*e*P	**PKPdf**	**15 09 52.3**	**-0.8**
BOAV	**Boa Vista**	**149.56**	**93**	*e*P	**PKPdf**	**15 09 53.5**	**+0.4**
CLDB	**Colider**	**150.07**	**121**	*e*P	**PKPdf**	**15 09 53.2**	**-0.7**
VAS01	**Vassouras-RJ**	**150.10**	**155**	*e*P	**PKPdf**	**15 09 52.9**	**-0.9**
ARAG	**Araguaiana, MT**	**150.40**	**134**	*e*P	**PKPdf**	**15 09 53.2**	**-1.1**
DUB01	**Friburgo-RJ**	**150.72**	**156**	*e*P	**PKPdf**	**15 09 53.6**	**-1.1**
IPMB	**Ipameri, GO**	**151.18**	**142**	*e*P	**PKPdf**	**15 09 54.8**	**-0.8**
CAM01	**Campos-RJ**	**151.23**	**157**	*e*P	**PKPdf**	**15 09 55.0**	**-0.4**
PMNB	**Patos De Minas**	**151.78**	**146**	*e*P	**PKPdf**	**15 09 55.3**	**-1.2**
NPGB	**Novo Progresso**	**152.20**	**115**	*e*P	**PKPdf**	**15 09 56.5**	**-0.7**
NPGB	**Novo Progresso**	**152.20**	**115**	*e*P	**PKPdf**	**15 09 57.6**	**+0.5**
ALF01	**Guarapari-ES**	**152.69**	**158**	*e*P	**PKPdf**	**15 09 56.6**	**-1.0**
ITTB	**Itaituba**	**152.84**	**109**	*e*P	**PKPdf**	**15 09 57.0**	**-1.0**
BDFB	**Brasilia**	**153.05**	**139**	PKP	**PKPdf**	**15 09 59.4**	**+1.0**
	comp=Z,10nm,0.9s,baz=48,slow=2.1,SNR=7.1						
BDFB				PKPbc	**PKiKP**	**15 10 06.2**	**0.0**
	comp=Z,23nm,0.5s,baz=80,slow=0.3,SNR=20						
BDFB				PKPab	**PKPab**	**15 10 19.9**	**+0.3**
	comp=Z,56nm,1.0s,baz=239,slow=2.3,SNR=13						
BDFB	**Brasilia**	**153.05**	**139**	*e*P	**PKPdf**	**15 09 57.0**	**-1.4**
SNDB	**Serra Nova Dou**	**153.15**	**128**	*e*P	**PKPdf**	**15 09 57.6**	**-0.9**
SNDB	**Serra Nova Dou**	**153.15**	**128**	*e*P	**PKPdf**	**15 09 59.6**	**+1.2**
DIAM	**Diamantina, MG**	**153.45**	**150**	*e*P	**PKPdf**	**15 09 57.7**	**-1.2**
RIB01	**Linhares ES**	**154.00**	**157**	*e*P	**PKPdf**	**15 09 59.1**	**-0.4**
SJMB	**Sao Joao De Ma**	**154.23**	**155**	*e*P	**PKPdf**	**15 09 59.3**	**-0.6**
KIC	**Kosan Boka**	**154.70**	**275**	⇑*i*P	**PKPab**	**15 10 26.4**	**-0.4**
	comp=Z,7.6nm,0.5s						
TIC	**Toumodi**	**154.96**	**275**	⇑*i*P	**PKPab**	**15 10 27.7**	**-0.2**
	comp=Z,19nm,0.6s						
MALB	**Monte Alegre**	**154.99**	**105**	*e*P	**PKPdf**	**15 10 00.4**	**-0.6**
LIC	**Lamto**	**154.99**	**274**	⇑*i*P	**PKPab**	**15 10 27.7**	**-0.3**
	comp=Z,38nm,1.0s						
NAN01	**Guarapari, ES**	**155.44**	**157**	*e*P	**PKPdf**	**15 10 00.7**	**-0.8**
JANB	**Januaria**	**155.78**	**145**	*e*P	**PKPdf**	**15 10 01.0**	**-1.1**
GUA01	**Guaratinga, BA**	**156.70**	**156**	*e*P	**PKPdf**	**15 10 01.8**	**-1.3**
SDBA	**SAO DESIDERIO**	**157.46**	**139**	*e*P	**PKPdf**	**15 10 02.7**	**-1.6**
MCPB	**Macapa, AP**	**157.49**	**103**	*e*P	**PKPdf**	**15 10 03.8**	**-0.5**
PRPB	**Parauapebas**	**157.52**	**119**	*e*P	**PKPdf**	**15 10 03.3**	**-1.1**
MDP	**Montagnes des**	**157.55**	**88**	PKP	**PKPdf**	**15 10 04.6**	**+0.3**
	comp=Z,12nm,0.9s,baz=2.2,slow=3.5,SNR=4.8						
MDP				PKPab	**PKPab**	**15 10 38.3**	**-0.9**
	comp=Z,29nm,1.0s,baz=261,slow=6.9,SNR=7.7						
SMTB	**Santa Maria do**	**157.92**	**128**	*e*P	**PKPab**	**15 10 39.2**	**-1.4**
SMTB	**Santa Maria do**	**157.92**	**128**	*e*P	**PKPdf**	**15 10 03.8**	**-1.0**
TMAB	**Tom-Au,PA,Br**	**160.68**	**111**	*e*P	**PKPdf**	**15 10 09.1**	**+1.1**
TMAB	**Tom-Au,PA,Br**	**160.68**	**111**	*e*P	**PKPdf**	**15 10 06.5**	**-1.4**
ROSB	**Rosrio**	**164.06**	**118**	*e*P	**PKPdf**	**15 10 10.5**	**-0.8**
RCBR	**Riachuelo**	**167.97**	**151**	PKPab	**PKPab**	**15 11 24.7**	**+0.1**
	comp=Z,19nm,0.9s,baz=15,slow=3.7,SNR=4.9						
RCBR	**Riachuelo**	**167.97**	**151**	*e*P	**PKPdf**	**15 10 13.2**	**-1.2**

NEIC ***09*** *14:51:25.0±1.3, 4°.68S±0°.09×150°.5E±0°.1, h488km±8km, mb5.0/40, Error ellipse: s-maj=15.4km s-min=13.6km az=103.0*

IDC ***09*** *14:51:27.8±4.3, 5°.02S×149°.97E, h545km±46km, mb4.3/10, mbtmp5.2/10, Error ellipse: s-maj=42.9km s-min=18.0km az=112.0*

ISC 09 14:51:25.1±0.4**, 4°.74S**±0°.06×**150°.39E**±0°.08**, h500**km**, n67,** σ**1.52**/67**, mb5.0**/28**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.85**	**73**	P	**P**	**14 52 25.9**	**-3.7**
PMG	**Port Moresby**	**5.63**	**214**	S	**S**	**14 54 08.0**	**-5.7**
	756nm,0.8s,baz=245,slow=21,SNR=1.7						
HNR	**Honiara**	**10.57**	**117**	P	**P**	**14 53 48.5**	**0.0**
COEN	**Coen**	**11.59**	**217**	P	**P**	**14 53 59.4**	**0.0**
PATS	**Pohnpei**	**13.96**	**35**	P	**P**	**14 54 26.2**	**+1.7**
CTAO	**Charters Tower**	**15.77**	**194**	P	**P**	**14 54 47.2**	**+3.8**
WB0	**Warramunga Arr**	**21.58**	**225**	P	**P**	**14 55 38.8**	**+0.6**
WR0	**Warramunga Arr**	**21.61**	**224**	P	**P**	**14 55 39.0**	**+0.6**
WRAB	**Tennant Creek**	**21.72**	**225**	P	**P**	**14 55 40.1**	**+0.7**
WB2	**Warramunga Arr**	**21.73**	**225**	P	**P**	**14 55 40.2**	**+0.7**
WRA	**Warramunga Arr**	**21.74**	**225**	P	**P**	**14 55 35.2**	**-4.3**
	62nm,0.4s,baz=48,slow=8.9,SNR=5.8						
	62nm,0.4s						
WRA	**Warramunga Arr**	**21.74**	**225**	P	**P**	**14 55 40.0**	**+0.4**
WRA				IAmb	IAmb	14 55 43.2	
	comp=Z,49nm,1.1s						
AS31	**Alice Springs**	**24.63**	**219**	P	**P**	**14 56 05.9**	**+0.5**
STKA	**Stephens Creek**	**28.22**	**196**	P	**P**	**14 56 37.9**	**+1.0**
FUNA	**Funafuti**	**28.86**	**99**	P	**P**	**14 56 41.5**	**-1.2**
FUNA				IAmb	IAmb	14 56 58.1	
	comp=Z,58nm,0.8s						
BBOO	**Buckleboo**	**30.97**	**204**	P	**P**	**14 57 01.7**	**+0.9**
BBOO				IAmb	IAmb	14 57 07.5	
	comp=Z,53nm,1.0s						
KSM	**Kuching**	**40.52**	**278**	P	**P**	**14 58 22.8**	**+2.3**
KSM				IAmb	IAmb	14 58 33.9	
	comp=Z,56nm,0.8s						
MORW	**Morawa**	**40.53**	**229**	P	**P**	**14 58 22.6**	**+2.2**
MORW				IAmb	IAmb	14 58 26.6	
	comp=Z,52nm,0.9s						
JMN	**Monobe**	**41.33**	**339**	P	**P**	**14 58 26.9**	**+0.3**
JMN				IAmb	IAmb	14 58 28.6	
	comp=Z,57nm,1.0s						
JGF	**Kuroka**	**41.96**	**344**	P	**P**	**14 58 32.6**	**+1.0**
TUWZ	**Tuamarina**	**42.17**	**153**	P	**P**	**14 58 34.9**	**+1.7**
FOZ	**Fox Glacier**	**42.27**	**159**	P	**P**	**14 58 35.3**	**+1.4**
FOZ				IAmb	IAmb	14 58 36.8	
	comp=Z,97nm,1.2s						
BSWZ	**Blackbirch Sta**	**42.37**	**154**	P	**P**	**14 58 35.9**	**+1.1**
MJAR	**Matsushiro Arr**	**42.62**	**345**	P	**P**	**14 58 37.2**	**+0.4**
	comp=Z,26nm,0.8s,baz=164,slow=8.5,SNR=9.7						
	comp=Z,26nm,0.8s						
MAJO	**Matsushiro**	**42.62**	**345**	P	**P**	**14 58 37.2**	**+0.4**
MAJO				IAmb	IAmb	14 58 39.7	
	comp=Z,38nm,0.7s						
PLWZ	**Palliser**	**42.88**	**152**	P	**P**	**14 58 39.2**	**+0.4**
DCZ	**Deep Cove**	**43.12**	**163**	P	**P**	**14 58 41.2**	**+0.7**
WKZ	**Wanaka**	**43.13**	**161**	P	**P**	**14 58 41.8**	**+1.1**
WKZ				IAmb	IAmb	14 58 52.1	
	comp=Z,39nm,0.7s						
MLZ	**Mavora Lakes**	**43.33**	**162**	P	**P**	**14 58 42.2**	**0.0**
MLZ				IAmb	IAmb	14 58 49.5	
	comp=Z,72nm,0.8s						
MQZ	**McQueen's Vall**	**43.49**	**156**	P	**P**	**14 58 44.1**	**+0.6**
MQZ				IAmb	IAmb	14 58 52.0	
	comp=Z,45nm,0.9s						
KSRS	**Korea Array**	**46.91**	**335**	P	**P**	**14 59 10.2**	**+0.4**
	comp=Z,22nm,0.9s,baz=151,slow=8.3,SNR=12						
	comp=Z,22nm,0.9s						
KSAR	**Wonju Array Be**	**46.91**	**335**	P	**P**	**14 59 09.8**	**0.0**
BKNI	**Bangkinang**	**49.55**	**274**	P	**P**	**14 59 30.8**	**+0.7**
USA0B	**Ussuriysk Arra**	**51.46**	**343**	P	**P**	**14 59 44.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**51.46**	**343**	P	**P**	**14 59 43.9**	**+0.5**
	comp=Z,18nm,0.7s,baz=180,slow=8.0,SNR=12						
	comp=Z,18nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.46**	**343**	P	**P**	**14 59 43.5**	**+0.1**
YSS	**Yuzh-Sakhalins**	**51.92**	**353**	P	**P**	**14 59 46.5**	**-0.2**
MDJ	**Mudanjiang**	**52.56**	**341**	P	**P**	**14 59 51.4**	**0.0**
KEKH	**Kekaha**	**55.58**	**59**	P	**P**	**15 00 12.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**55.69**	**296**	P	**P**	**15 00 12.1**	**-1.9**
	comp=Z,7.2nm,0.6s,baz=118,slow=5.8,SNR=5.4						
	comp=Z,7.2nm,0.6s						
KLR	**Kul'dur**	**56.15**	**345**	P	**P**	**15 00 16.5**	**-0.1**
	comp=Z,22nm,0.7s,baz=233,slow=8.3,SNR=3.7						
	comp=Z,22nm,0.7s						
PEA0B	**Petropavlovsk-**	**57.97**	**5**	P	**P**	**15 00 29.4**	**+0.4**
PEA0B				IAmb	IAmb	15 00 30.9	
	comp=Z,60nm,0.7s						
PETK	**Petropavlovsk-**	**57.97**	**5**	P	**P**	**15 00 30.6**	**+1.6**
	comp=Z,43nm,0.6s,baz=174,slow=8.7,SNR=16						
	comp=Z,43nm,0.6s						
PETK	**Petropavlovsk-**	**57.97**	**5**	P	**P**	**15 00 29.4**	**+0.4**
HIA	**Hailar**	**60.03**	**337**	P	**P**	**15 00 42.1**	**-0.9**
HIA				IAmb	IAmb	15 00 43.5	
	comp=Z,54nm,1.0s						
HIA	**Hailar**	**60.03**	**337**	x	**P**	**15 00 42.2**	**-0.8**
KIWB	**Kanaga Island**	**62.80**	**22**	P	**P**	**15 01 03.3**	**+2.2**
MA2	**Magadan**	**64.12**	**0**	P	**P**	**15 01 09.7**	**+0.3**
	comp=Z,59nm,0.7s,baz=173,slow=7.6,SNR=22						
	comp=Z,59nm,0.7s						
MA2	**Magadan**	**64.12**	**0**	P	**P**	**15 01 09.9**	**+0.5**
ULN	**Ulaanbaatar**	**64.70**	**329**	P	**P**	**15 01 13.1**	**-0.5**
SONM	**Songino Array**	**65.02**	**329**	P	**P**	**15 01 14.0**	**-1.5**
	comp=Z,12nm,0.6s,baz=143,slow=4.8,SNR=11						
	comp=Z,12nm,0.6s						
SONM	**Songino Array**	**65.02**	**329**	P	**P**	**15 01 14.8**	**-0.7**
SONM				IAmb	IAmb	15 01 15.4	
	comp=Z,41nm,1.2s						
YAK	**Yakutsk**	**68.47**	**350**	P	**P**	**15 01 36.3**	**0.0**
YAK				IAmb	IAmb	15 01 39.8	
	comp=Z,33nm,0.7s						
TAOE	**Nuku Hiva Isla**	**69.02**	**98**	P	**P**	**15 01 39.7**	**-1.1**
TAOE				IAmb	IAmb	15 01 44.7	
	comp=Z,41nm,0.8s						
VNDA	**Vanda**	**72.98**	**177**	P	**P**	**15 02 03.9**	**+1.1**
BILL	**Bilibino**	**73.47**	**6**	P	**P**	**15 02 06.5**	**+0.7**
BILL				IAmb	IAmb	15 02 08.3	
	comp=Z,37nm,0.7s						
SBA	**Scott Base**	**73.57**	**176**	P	**P**	**15 02 07.8**	**+1.6**
OHAK	**Old Harbor**	**76.61**	**28**	P	**P**	**15 02 23.8**	**+0.3**
OHAK				IAmb	IAmb	15 02 25.6	
	comp=Z,52nm,1.2s						
MKAR	**Makanchi Array**	**78.71**	**319**	P	**P**	**15 02 33.0**	**-2.2**
	comp=Z,11nm,0.8s,baz=99,slow=7.5,SNR=8.1						
	comp=Z,11nm,0.8s						
GHO	**Glory Hole Cre**	**80.81**	**25**	P	**P**	**15 02 46.0**	**0.0**
GHO				IAmb	IAmb	15 02 47.4	
	comp=Z,31nm,1.0s						
KTH	**Kantishna Hill**	**80.88**	**23**	P	**P**	**15 02 46.4**	**0.0**
KTH				IAmb	IAmb	15 02 48.3	
	comp=Z,40nm,1.0s						
IMAR	**Indian Mountai**	**81.14**	**20**	P	**P**	**15 02 48.8**	**+1.2**
H21K	**Melozitna Rive**	**81.29**	**21**	P	**P**	**15 02 48.8**	**+0.4**
AKASG	**Malin Array Be**	**113.04**	**324**	PKiKP	**PKiKP**	**15 09 03.2**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=51,slow=2.4,SNR=4.6						
CLL	**Collm**	**121.62**	**330**	*e*(PKPdf)	**PKiKP**	**15 09 22.0**	**+0.2**
GERES	**GERESS Array B**	**122.73**	**327**	PKP	**PKPdf**	**15 09 21.7**	**-2.3**
	comp=Z,3.1nm,0.6s,baz=80,slow=1.5,SNR=7.3						
DAVOX	**Davos/Dischmat**	**126.03**	**327**	PKP	**PKPdf**	**15 09 29.5**	**-1.0**
	comp=Z,6.7nm,0.6s,baz=255,slow=5.8,SNR=3.4						

NOU ***09*** *14:54:46.1, 33°.15S×176°.45W, h137km, mb4.3/6, South of Kermadec Islands*

WEL ***09*** *14:55:10.3±1.5, 34°S±25°×17°8W±3°7, h33km, M4.3/8, mB4.9/6, ML4.6/12, MLv4.3/8, Mw(mB)4.2/6, Error ellipse: s-maj=0.1km s-min=0.0km az=122.6*

ISC 09 14:55:08.8±4.5**, 34°.2S**±0°.2×**178°.1W**±0°.2**, h35**km**, n38,** σ**1.03**/42**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.40**	**220**	P	**Pn**	**14 56 15.1**	**+2.0**
PKGZ	**Pakihiroa**	**4.77**	**219**	P	**Pn**	**14 56 18.2**	**0.0**
PKGZ				S	**Sn**	**14 57 11.2**	**-1.0**
PUZ	**Puketiti**	**4.82**	**216**	P	**Pn**	**14 56 18.8**	**0.0**
PUZ				S	**Sn**	**14 57 12.8**	**-0.6**
HAZ	**Te Kaha**	**4.83**	**222**	P	**Pn**	**14 56 19.3**	**+0.4**
TWGZ	**Tauwhareparae**	**5.04**	**217**	P	**Pn**	**14 56 22.7**	**+0.9**
TWGZ				S	**Sn**	**14 57 19.0**	**+0.2**
RUGZ	**Raukumara Rang**	**5.04**	**221**	P	**Pn**	**14 56 22.0**	**+0.1**
CNGZ	**Carnagh Statio**	**5.17**	**214**	P	**Pn**	**14 56 24.1**	**+0.5**
TKGZ	**Te Karaka**	**5.31**	**216**	P	**Pn**	**14 56 26.9**	**+1.4**
TKGZ				S	**Sn**	**14 57 24.9**	**-0.5**
WHRZ	**Whale Island**	**5.37**	**226**	P	**Pn**	**14 56 28.6**	**+2.3**
MWZ	**Matawai**	**5.39**	**219**	P	Pn	14 56 21.6	-5.1
RIGZ	**Rimuhau**	**5.56**	**215**	P	**Pn**	**14 56 30.1**	**+1.1**
RIGZ				S	**Sn**	**14 57 31.8**	**+0.1**
RAGZ	**Rawiri**	**5.57**	**219**	P	**Pn**	**14 56 30.2**	**+1.0**
KUZ	**Kuaotunu**	**5.60**	**242**	P	**Pn**	**14 56 29.9**	**+0.3**
OPRZ	**Ohinepanea**	**5.61**	**228**	P	**Pn**	**14 56 29.8**	**+0.1**
MARZ	**Manawahe**	**5.63**	**227**	P	**Pn**	**14 56 30.3**	**+0.4**
MUGZ	**Murupara**	**5.90**	**223**	P	**Pn**	**14 56 33.0**	**-0.7**
WHHZ	**Waihua**	**6.10**	**216**	P	**Pn**	**14 56 38.1**	**+1.7**
MTHZ	**Maungataniwha**	**6.13**	**220**	P	**Pn**	**14 56 38.5**	**+1.6**
NMHZ	**Naumai**	**6.33**	**218**	P	**Pn**	**14 56 40.6**	**+0.9**
MRHZ	**Matea Rd**	**6.35**	**222**	P	**Pn**	**14 56 39.6**	**-0.3**
ARHZ	**Aropaoanui**	**6.36**	**216**	P	**Pn**	**14 56 41.1**	**+1.1**
BKZ	**Black Stump Fm**	**6.55**	**220**	P	**Pn**	**14 56 42.9**	**+0.3**
BKZ	**Black Stump Fm**	**6.55**	**220**	P	**Pn**	**14 56 42.1**	**-0.6**
CKHZ	**Cape Kidnapper**	**6.64**	**214**	P	**Pn**	**14 56 42.9**	**-0.9**
MCHZ	**McNeill Hill**	**6.65**	**217**	P	**Pn**	**14 56 42.3**	**-1.7**
KAHZ	**Kahuranaki**	**6.84**	**214**	P	**Pn**	**14 56 46.4**	**-0.2**
OUZ	**Omahuta**	**6.88**	**259**	P	**Pn**	**14 56 46.5**	**-0.6**
	28nm,0.8s						
TMVZ	**Te Maari**	**6.95**	**224**	P	**Pn**	**14 56 47.4**	**-0.7**
NTVZ	**North Tongarir**	**6.95**	**224**	P	**Pn**	**14 56 48.5**	**+0.2**
OTVZ	**Oturere**	**7.00**	**224**	P	**Pn**	**14 56 49.1**	**+0.2**
NNVZ	**North Ngauruho**	**7.01**	**224**	P	**Pn**	**14 56 49.5**	**+0.4**
BHHZ	**Black Hill Sta**	**7.01**	**220**	P	**Pn**	**14 56 48.8**	**-0.2**
TWVZ	**Taurewa**	**7.07**	**225**	P	**Pn**	**14 56 48.1**	**-1.7**
HIZ	**Hauiti**	**7.09**	**231**	P	**Pn**	**14 56 51.9**	**+2.0**
HIZ	**Hauiti**	**7.09**	**231**	P	**Pn**	**14 56 52.0**	**+2.0**
MOVZ	**Moawhango**	**7.12**	**222**	P	**Pn**	**14 56 50.2**	**-0.3**
WPHZ	**Waipukurau**	**7.26**	**215**	P	**Pn**	**14 56 51.5**	**-0.8**
BFZ	**Birch Farm**	**7.84**	**213**	P	**Pn**	**14 56 59.5**	**-0.8**

TEH ***09*** *14:59:26.5, 38°.81N×44°.72E, h8km, ML3.1*

NSSP ***09*** *14:59:27.2, 38°.82N×44°.73E, h10km, Ms2.9*

AZER ***09*** *14:59:27.2±0.4, 38°.96N×44°.77E, h3km, Error ellipse: s-maj=6.4km s-min=3.7km az=229.0*

ISC 09 14:59:27.4±1.3**, 38°.83N**±0°.03×**44°.76E**±0°.04**, h1**km±11km**, n36,** σ**1.66**/64**, 5C-3D, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.53**	**354**	*e*Pg	**Pg**	**14 59 36.9**	**-0.7**
MAKU				*e*Sg	**Sg**	**14 59 45.0**	**+0.5**
MAKU				*e*		14 59 49.3	
	comp=Z,99nm,0.4s						
NAX	**Nakhchivan**	**0.67**	**58**	P	**Pg**	**14 59 41.1**	**+0.8**
	SNR=83						
NAX				S	**Sb**	**14 59 51.7**	**-0.1**
IMRD	**Marand**	**0.75**	**98**	*e*Pg	**Pg**	**14 59 41.7**	**0.0**
IMRD				*e*Sg	**Sg**	**14 59 52.5**	**+1.1**
IMRD				*e*		14 59 55.5	
	comp=Z,32μm,0.1s						
SBZ	**Shahbuz**	**0.84**	**47**	P	**Pg**	**14 59 44.0**	**+0.4**
	SNR=169						
SBZ				S	**Sb**	**14 59 56.7**	**-0.1**
ISHB	**Shabestar**	**0.86**	**129**	*e*Pg	**Pg**	**14 59 42.9**	**-1.0**
ISHB				*e*Sg	**Sg**	**14 59 55.6**	**+0.5**
ISHB				*e*		14 59 57.1	
	comp=Z,21μm,0.5s						
HYR	**Heyderabad**	**0.90**	**5**	P	**Pg**	**14 59 44.2**	**-0.4**
	SNR=26						
HYR				S	**Sb**	**14 59 57.7**	**-0.6**
ORD	**Ordubad**	**0.97**	**84**	P	**Pg**	**14 59 46.4**	**+0.4**
	SNR=6.5						
ORD				S	**Sn**	**15 00 00.9**	**-1.8**
NRKZ	**NAREK**	**1.18**	**356**	⇑*i*P	**Pg**	**14 59 48.0**	**-2.0**
NRKZ				⇓*i*S	**Sg**	**15 00 04.6**	**-0.6**
ITBZ	**Tabriz**	**1.24**	**118**	*e*Pg	**Pn**	**14 59 49.5**	**-2.5**
ITBZ				*e*		14 59 54.5	
	comp=Z,3μm,0.3s						
GNI	**Garni**	**1.32**	**359**	⇓*i*P	**Pn**	**14 59 51.6**	**-1.6**
GNI				⇓*i*S	**Sn**	**15 00 10.3**	**-1.2**
VNNZ	**Vanand**	**1.47**	**331**	⇑*i*P	**Pg**	**14 59 56.2**	**+0.6**
VNNZ				⇑*i*S	**Sg**	**15 00 17.8**	**+3.3**
IAZR	**Azarshahr**	**1.50**	**140**	*e*Pg	**Pn**	**14 59 54.9**	**-0.7**
IAZR				*e*		14 59 57.1	
	comp=Z,8μm,0.3s						
TVRZ	**Varzaqan**	**1.53**	**102**	*e*Pg	**Pn**	**14 59 55.6**	**-0.4**
TVRZ				*e*		15 00 34.5	
	comp=Z,4μm,0.6s						
ARUZ	**Aruch**	**1.54**	**341**	⇑*i*P	**Pg**	**14 59 57.6**	**+0.6**
ARUZ				⇑*i*S	**Sg**	**15 00 21.2**	**+4.1**
IHRS	**Heris**	**1.86**	**105**	*e*		15 00 06.6	
	comp=Z,4μm,0.4s						
IHRS				*e*Pn	**Pb**	**15 00 01.1**	**-1.2**
IHRS				*e*Sg	**Sg**	**15 00 27.3**	**+0.2**
IBST	**Bostanabad**	**2.02**	**123**	*e*Pn	**Pb**	**15 00 03.5**	**-1.5**
IBST				*e*		15 00 35.1	
	comp=Z,962nm,0.6s						
GDB	**GEDABAY**	**2.04**	**22**	P	**Pb**	**15 00 04.7**	**-0.7**
	SNR=14						
GDB				S	**Sg**	**15 00 32.8**	**-0.2**
QRD	**Qoradiz**	**2.09**	**72**	P	**Pb**	**15 00 05.6**	**-0.5**
	SNR=5.8						
QRD				S	**Sg**	**15 00 34.9**	**+0.3**
GANJ	**Ganja**	**2.18**	**33**	P	**Pb**	**15 00 07.1**	**-0.6**
	SNR=18						
GANJ				S	**Sb**	**15 00 36.3**	**+1.0**
AGDM	**Agdam**	**2.22**	**54**	P	**Pb**	**15 00 08.0**	**-0.5**
	SNR=8.5						
AGDM				S	**Sg**	**15 00 39.0**	**+0.1**
QZX	**Qazax, Azerbai**	**2.28**	**12**	P	**Pb**	**15 00 08.9**	**-0.4**
	SNR=20						
QZX				S	**Sg**	**15 00 39.2**	**-1.4**
BLQ	**Beylaqan**	**2.35**	**67**	S	**Sb**	**15 00 40.4**	**+0.3**
IHSH	**Hashtrud**	**2.49**	**127**	*e*Pn	**Pn**	**15 00 10.1**	**+0.7**
IHSH				*e*		15 00 19.8	
	comp=Z,648nm,0.3s						
ISRB	**Sarab**	**2.50**	**113**	*e*	**Pg**	**15 00 19.2**	**+4.0**
	comp=Z,1μm,0.4s						
DGRG	**David-gareji**	**2.66**	**10**	P	**Pb**	**15 00 16.3**	**+0.3**
DGRG				S	**Sg**	**15 00 53.7**	**+0.7**
YRD	**Yardimli**	**2.72**	**87**	P	**Pb**	**15 00 14.4**	**-2.5**
	SNR=16						
YRD				S	**Sb**	**15 00 52.4**	**+1.5**
LRK	**Lerik**	**2.81**	**93**	P	**Pb**	**15 00 16.7**	**-1.7**
	SNR=21						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LRK				S	Sb	15 00 55.3	+1.9
GLBA	Clilabad	2.86	80	P	Pn	15 00 16.1	+1.9
GLBA				S	Sb	15 00 56.0	+1.2
SEKA	Sheki	3.03	37	P	Pb	15 00 21.2	-1.0
	SNR=6.9						
SEKA				S	Sb	15 00 59.8	+0.2
ASTR	Astara	3.17	94	P	Pb	15 00 21.4	-3.1
	SNR=4.7						
ASTR				S	Sb	15 01 02.3	-1.2
QBL	Gabala	3.18	47	P	Pb	15 00 22.1	-2.6
QBL				S	Sb	15 01 03.8	-0.1
LGD	Lagodekhi	3.21	20	P	Pg	15 00 28.0	-0.9
XNQ	Khinaliq	3.50	47	P	Pn	15 00 24.6	+1.5
XNQ				S	Sn	15 01 07.7	+2.4
PQL	Pirkuli	3.54	55	P	Pn	15 00 25.9	+2.2
PQL				S	Sn	15 01 08.2	+1.9
SHTL	Shatili	3.84	4	P	Pb	15 00 36.4	+0.4
SHTL				S	Sg	15 01 28.2	-2.5
SIZA	Siyzn	3.90	53	P	Pn	15 00 30.3	+1.9
SIZA				S	Sb	15 01 19.9	-4.7

*KRNET **09** 15:01:42.8±0.1, 39°.49N×73°.68E, mb4.0*
*SOME **09** 15:01:42.9, 39°.67N×73°.65E, h0km*
ISC 09 15:01:39.3±1.4**, 39°.36N**±0°.05×**73°.65E**±0°.03**, h6km**±13km**,**
n15, σ1.68/30**, 14C-4D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OHH	Osh	1.34	331	⇑eP	Pg	15 02 06.6	+1.5
	baz=27						
OHH				⇑eS	Sg	15 02 23.7	+1.2
	baz=27						
KSH	Kashi	1.81	84	Pg	Pb	15 02 12.9	+0.1
KSH				Sg	Sg	15 02 38.3	+1.0
KSH				pmax	pmax		
	comp=Z,68nm,0.8s						
KSH				smax	smax		
	comp=N,260nm,0.6s						
KSH				smax	smax		
	comp=E,180nm,0.9s						
BTK	Batken	2.29	289	⇑eP	Pg	15 02 23.6	+0.3
	baz=85						
BTK				⇑eS	Sg	15 02 53.7	+0.7
	baz=85						
ARLS	Aral	2.56	11	⇑eP	Pb	15 02 25.6	0.0
	baz=12						
ARLS				⇑eS	Sb	15 02 56.8	-0.5
	baz=12						
GAR	Garm	2.62	263	⇑eP	Pg	15 02 29.1	-0.3
	baz=61						
GAR				⇑iS	Sg	15 03 02.8	-0.5
	baz=61						
TRKS	Terek-Say	2.90	319	⇑eP	Pb	15 02 30.4	-1.0
	baz=17						
TRKS				⇑eS	Sb	15 03 04.9	-2.2
	baz=17						
UCH	Uchtor	2.94	13	⇑eP	Pb	15 02 31.4	-1.0
	baz=13						
UCH				⇑eS	Sb	15 03 06.6	-2.2
	baz=13						
EKS2	Erkin-Say	3.30	2	⇓eP	Pb	15 02 36.1	-2.2
	baz=1.0						
EKS2				⇓eS	Sb	15 03 15.0	-3.8
	baz=1.0						
MRKS	Merke	3.40	355	eP	Pb	15 02 39.1	-0.9
	comp=E,40nm,1.1s						
MRKS				eS	Sb	15 03 20.7	-0.9
	comp=E,30nm,0.7s						
KBK	Karagaybulak	3.44	16	⇑eP	Pb	15 02 38.1	-2.6
	baz=16						
KBK				⇑eS	Sn	15 03 18.2	+3.5
	baz=16						
CHGR	Chuyangaron	3.57	260	⇓eP	Pb	15 02 41.9	-0.9
	baz=58						
CHGR				⇓eS	Sb	15 03 25.5	-0.9
	baz=58						
IUG	Iuzhnay	3.92	317	eP	Pb	15 02 49.6	+0.8
	comp=E,110nm,0.8s						
IUG				eS	Sb	15 03 38.4	+2.0
	comp=E,70nm,0.6s						
KST	Kastek	4.08	25	eP	Pg	15 02 56.8	-0.6
	comp=E,7.3nm,0.8s						
KST				eS	Sg	15 03 51.9	+1.7
	comp=E,43nm,0.7s						
SGDS	Sogindy	4.16	10	eP	Pg	15 02 57.8	-1.2
	comp=E,6.5nm,0.7s						
SGDS				eS	Sg	15 03 52.6	-0.3
	comp=E,10nm,0.5s						
MTBS	Maitube	4.31	28	eP	Pg	15 03 02.0	+0.1
	comp=E,9.4nm,0.6s						
MTBS				eS	Sg	15 03 59.9	+2.1
	comp=E,14nm,0.5s						

*DNK **09** 15:06:47.3±0.3, 58°.34N×11°.87E, h0km, ML2.6(UPP), Explosion*
UPP 09 15:06:47.0±0.1**, 58°.34N**×**11°.87E, h0km, ML2.6, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANU	Vaenersborg	0.18	35	P	Pg	15 06 50.8	+0.3
VANU				S	Sg	15 06 53.4	+0.5
VANU	Vaenersborg	0.18	35	P	Pg	15 06 50.8	+0.3
VANU				S	Sg	15 06 53.4	+0.5
TJOU	Tjoern	0.34	203	P	Pg	15 06 53.6	+0.2
TJOU				S	Sg	15 06 57.9	+0.2
TJOU	Tjoern	0.34	203	P	Pg	15 06 53.6	+0.2
TJOU				S	Sg	15 06 57.9	+0.2
STRU	Stroemstad	0.78	333	P	Pg	15 07 01.6	-0.4
STRU	Stroemstad	0.78	333	P	Pg	15 07 01.6	-0.4
BORU	Boraas	0.86	146	P	Pg	15 07 02.9	-0.5
BORU	Boraas	0.86	146	P	Pg	15 07 02.9	-0.5
NASU	Vaermlandsnaes	0.91	49	P	Pg	15 07 04.0	-0.3
NASU	Vaermlandsnaes	0.91	49	P	Pg	15 07 04.0	-0.3
ONAU	Onsala	0.95	178	P	Pg	15 07 04.7	-0.4
ONAU	Onsala	0.95	178	P	Pg	15 07 04.7	-0.4
FKPU	Falk	1.00	100	P	Pg	15 07 05.4	-0.7
FKPU	Falk	1.00	100	P	Pg	15 07 05.4	-0.7
FINU	Finntorp	1.11	16	P	Pg	15 07 07.6	-0.7
FINU	Finntorp	1.11	16	P	Pg	15 07 07.6	-0.7

TRN 09 15:34:05.0, 13°.23N×60°.95W, h89km, MD3.9, 1C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSV	Crater Summit	0.26	292	eP	Pn	15 34 20.4	+2.2
SVB	Belmont	0.30	278	⇑iP	Pn	15 34 19.6	+1.3
SVB				eS	Sn	15 34 30.3	+2.1
MCLT	Moule a Chique	0.48	1	⇓eP	Pn	15 34 20.4	+0.9
MCLT				eS	Sn	15 34 31.5	+1.2
SLB	Belfond	0.60	351	eP	Pn	15 34 22.4	+1.9
SLCP	Castries, St.	0.78	357	eP	Pn	15 34 23.3	+1.1
SLCP				eS	Sn	15 34 36.1	+1.1
SLBI	Saint Lucia, B	0.79	358	⇓iP	Pn	15 34 23.3	+1.0
SLBI				eS	Sn	15 34 36.1	+0.8
GCMP	Grenada, Carri	0.87	212	eP	Pn	15 34 24.3	+1.1
GCMP				eS	Sn	15 34 38.5	+1.7
MPOM	Morne Pois Mar	1.21	4	⇓iP	Pn	15 34 27.8	+0.7
MPOM				eS	Sn	15 34 44.3	+0.6
BCHC	Barbados, Cave	1.29	94	eP	Pn	15 34 29.2	+1.2
BCHC				eS	Sn	15 34 47.4	+2.1
BIM	Bigot	1.29	355	eP	Pn	15 34 29.0	+1.0
BIM				eS	Sn	15 34 46.6	+1.2
GRGR	Grenville	1.29	212	eP	Pn	15 34 29.1	+1.1
GRGR				eS	Sn	15 34 47.3	+1.9
TRMF	Trois Ilets	1.30	356	eP	Pn	15 34 29.2	+0.9
MVM	Montagne Vaucl	1.32	2	eP	Pn	15 34 29.5	+1.0
LPMF	Morne Lapointe	1.34	359	eP	Pn	15 34 29.8	+1.1
ZAM	Aeronautique	1.34	357	eP	Pn	15 34 29.9	+1.2
BBGH	Gun Hill	1.35	93	eP	Pn	15 34 29.7	+0.9
BBGH				eS	Sn	15 34 48.9	+2.0
GRFF	Grenada Fort F	1.40	213	eP	Pn	15 34 30.4	+0.9
GRFF				eS	Sn	15 34 49.6	+1.6
BBSP	Saint Philip	1.46	95	eP	Pn	15 34 31.5	+1.5
BBSP				eS	Sn	15 34 50.8	+1.7
FDF	Fort de France	1.51	353	eP	Pn	15 34 31.8	+1.0
FDF				eS	Sn	15 34 51.1	+0.7
ILAM	Ilet Lapin Mar	1.54	3	eP	Pn	15 34 31.9	+0.7
ILAM				eS	Sn	15 34 51.8	+0.8
PML	Morne Lenard	1.56	352	eP	Pn	15 34 32.9	+1.4
GBMF	Grand Be	1.57	352	eP	Pn	15 34 33.8	+2.0
BAMF	Morne Balai	1.59	353	eP	Pn	15 34 33.4	+1.5
PCM	Pelee Case Pet	1.60	351	eP	Pn	15 34 33.1	+1.1
SVN	Savane Anatole	1.62	352	eP	Pn	15 34 34.8	+2.6
TOSP	Speyside	1.96	168	eP	Pn	15 34 37.1	+0.5
TOSP				eS	Sn	15 35 01.4	+0.7
TPR	Prospect	2.04	175	eP	Pn	15 34 38.0	+0.3
BOT	Bacolet	2.06	174	eP	Pn	15 34 39.2	+1.2
DLPL	La Plaine	2.11	352	eP	Pn	15 34 40.2	+1.5
DLPL				eS	Sn	15 35 05.2	+0.8
DSLB	Salisbury	2.25	348	eP	Pn	15 34 41.6	+1.2
DSLB				eS	Sn	15 35 07.9	+0.4
MDCT	Cottage Hill,	2.43	348	eP	Pn	15 34 44.8	+2.0
MDCT				eS	Sn	15 35 13.3	+1.5
TRN	Trinidad (W)	2.60	190	eP	Pn	15 34 46.7	+1.5
TRN				eS	Sn	15 35 15.9	-0.1
TDBA	Terre de Bas,	2.69	346	eP	Pn	15 34 48.3	+2.0
TDBA				eS	Sn	15 35 19.6	+1.5
MAGL	Barre de l'ile	2.73	353	eP	Pn	15 34 48.0	+1.2
MAGL				eS	Sn	15 35 19.9	+1.0
CBE	Ff, Capester	2.90	347	eP	Pn	15 34 51.0	+1.9
CBE				eS	Sn	15 35 23.4	+0.2
ABD	La Joyeuse, An	3.27	351	eP	Pn	15 34 55.5	+1.3
ABD				eS	Sn	15 35 32.2	+0.2
ANBD	Bethesda, Anti	3.88	348	eP	Pn	15 35 03.0	+0.6
ANBD				eS	Sn	15 35 47.1	+0.3
ANWB	Willy Bob	4.49	350	eP	Pn	15 35 12.9	+2.2
ANWB	Willy Bob	4.49	350	eS	Sn	15 36 00.6	-1.0
BAUV	El Baul	8.16	239	eP	Pn	15 36 02.8	+2.1
BAUV	El Baul	8.16	239	eS	Sn	15 37 26.2	-5.1

*GEN **09** 15:35:10.8, 44°.29N×6°.19E, h7km±2km, Ml3.4*
*PRU **09** 15:35:11.2±0.0, 44°.59N×5°.78E, h1km*
*STR **09** 15:35:11.7±0.2, 44°N±1°×°±°, h15km±2km, MLv3.8/62, Error ellipse: s-maj=0.0km s-min=0.0km az=101.3, preliminary*
*ROM **09** 15:35:12.4±0.3, 44°.307N±0°.010×6°.17E±0°.02, h10km, ML3.4/28, Error ellipse: s-maj=1.7km s-min=0.9km az=245.0*
*LDG **09** 15:35:12.0±0.0, 44°.28N×6°.17E, h2km, Md3.7/2, Ml3.8/46, Error ellipse: s-maj=0.9km s-min=0.8km az=71.0*
*BGR **09** 15:35:13.3±0.7, 44°.32N×6°.21E, h10km, ML3.8/5, Error ellipse: s-maj=27.8km s-min=7.8km az=99.0*
ISC 09 15:35:11.1±0.9**, 44°.31N**±0°.01×**6°.12E**±0°.01**, h13km**±7km**,**
n243, σ1.65/355**, 13C-2D, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OGDI	Digne	0.23	147	P	Pg	15 35 15.4	-0.8
OGDI				S	Sg	15 35 18.9	-0.7
OGDI	Digne	0.23	147	Pg	Pg	15 35 15.4	-0.8
OGDI				Sg	Sg	15 35 18.6	-1.0
OGAG	Argentiere	0.34	64	P	Pn	15 35 22.8	+0.9
OGAG				S	Sn	15 35 30.8	+2.3
OGAG	Argentiere	0.34	64	Pg	Pn	15 35 22.7	+0.9
OGAG				Sg	Sn	15 35 30.8	+2.3
BLAF	les Blancs	0.36	189	Pg	Pg	15 35 18.2	-0.2
BLAF				Sg	Sg	15 35 22.8	-0.5
MLYF	Mely	0.41	219	Pg	Pg	15 35 19.9	+0.6
MLYF				Sg	Sg	15 35 26.0	+1.2
CREF	Crivoux	0.43	56	Pg	Pg	15 35 19.8	0.0
JAUF	Jausiers	0.47	75	Pg	Pg	15 35 20.1	-0.3
SMRF	Simiane la Rot	0.51	230	ePg	Pg	15 35 22.0	+0.8
SMRF				eSg	Sg	15 35 28.6	+0.5
	995nm,0.3s						
SURF	Saint Ours	0.53	70	P	Pg	15 35 21.3	-0.2
SURF				S	Sg	15 35 28.6	0.0
SURF	Saint Ours	0.53	70	Pg	Pg	15 35 21.3	-0.2
BSTF	la Bastide-des	0.55	219	Pg	Pb	15 35 23.4	+0.8
RUSF	Rustrel	0.59	232	Pg	Pg	15 35 23.7	+1.1
TRIGF	Trigance	0.60	160	Pg	Pg	15 35 22.5	-0.3
TRIGF				Sg	Sg	15 35 30.8	+0.1
MBDF	Montbardon	0.63	48	ePg	Pg	15 35 23.4	0.0
MBDF				eSg	Sg	15 35 31.9	+0.2
	616nm,0.3s						
ORIF	Oris-en-Rattie	0.64	344	ePg	Pg	15 35 24.0	+0.4
ORIF				eSg	Sg	15 35 33.0	+1.0
	997nm,0.2s						
ORIF	Oris-en-Rattie	0.64	344	AML	AML		
	comp=N,2100µm,0.4s						
ORIF				AML	AML		
	comp=E,2900µm,0.4s						
ORIF				AML	AML		
	comp=N,2100µm,1.6s						
ORIF	Oris-en-Rattie	0.64	344	Pg	Pg	15 35 24.0	+0.4
ISO	Isola	0.68	100	P	Pg	15 35 24.5	+0.2
ISO				S	Sg	15 35 33.5	+0.2
ISO	Isola	0.68	100	Pg	Pg	15 35 24.0	-0.4
ISO				Sg	Sg	15 35 33.6	+0.2
PZZ	Stroppo	0.74	74	P	Pg	15 35 25.2	-0.4
PZZ				S	Sg	15 35 35.0	-0.3
PZZ	Stroppo	0.74	74	⇑P	Pg	15 35 25.2	-0.4
PZZ				S	Sg	15 35 35.0	-0.3
PZZ				AML	AML		
	comp=E,3360µm,0.2s						
PZZ				AML	AML		
	comp=N,3770µm,0.4s						
ARTF	Artigues	0.75	198	Pg	Pg	15 35 25.2	-0.6
ARTF				Pn	Pb	15 35 27.0	+0.9
RRL	Rocca Remolon	0.78	38	P	Pg	15 35 26.4	+0.1
RRL				S	Sg	15 35 37.1	+0.5
RRL	Rocca Remolon	0.78	38	P	Pg	15 35 26.4	+0.1
RRL				S	Sg	15 35 37.2	+0.7
RRL				AML	AML		
	comp=E,2640µm,0.5s						
RRL				AML	AML		
	comp=N,3255µm,0.4s						
RRL				AML	AML		
	comp=N,3253µm,0.4s						
CALF	Calern	0.80	134	Pg	Pg	15 35 26.3	-0.3
SAUF	chteau de Sau	0.82	244	Pg	Pb	15 35 28.7	+1.6
LEPF	PUYLOUBIER	0.84	201	Pg	Pg	15 35 27.0	-0.4
LEPF				Sg	Sg	15 35 39.0	+0.7
SPIF	crte de Spivo	0.84	107	Pg	Pg	15 35 26.9	-0.5
BNI	Bardonecchia	0.84	28	P	Pg	15 35 27.9	+0.3
BNI				S	Sg	15 35 39.3	+0.6
BNI	Bardonecchia	0.84	28	⇑P	Pg	15 35 28.2	+0.6
BNI				S	Sg	15 35 39.2	+0.6
MVIF	Mont Vial	0.85	119	P	Pb	15 35 28.1	+0.4
MVIF				S	Sn	15 35 43.3	+2.0
MVIF	Mont Vial	0.85	119	Pg	Pg	15 35 27.5	-0.1
STV	Sant Anna di V	0.87	94	P	Pg	15 35 27.4	-0.5
STV	Sant Anna di V	0.87	94	⇑P	Pg	15 35 27.4	-0.5
STV				S	Sb	15 35 39.7	+0.1
STV				AML	AML		
	comp=N,2305µm,0.5s						
STV				AML	AML		
	comp=E,1695µm,1.3s						
STV				AML	AML		
	comp=E,1695µm,0.7s						
GDM	Grand'Maison	0.90	360	Pg	Pg	15 35 28.9	+0.4
FLAF	Flassans-sur-I	0.93	174	Pg	Pg	15 35 28.5	-0.6
ENR	Entracque	0.94	94	P	Pg	15 35 28.7	-0.5
ENR				S	Sg	15 35 41.0	-0.4
ENR	Entracque	0.94	94	⇑P	Pg	15 35 28.7	-0.5
ENR				S	Sb	15 35 42.1	+0.5
ENR				AML	AML		
	comp=E,3400µm,0.4s						
ENR				AML	AML		
	comp=N,4805µm,0.3s						
TURF	col de Turini	0.97	109	P	Pg	15 35 29.4	-0.5
TURF				S	Sb	15 35 43.1	+0.4
TURF	col de Turini	0.97	109	Pg	Pg	15 35 29.5	-0.4
GRN	Grenoble	0.97	344	Pg	Pb	15 35 30.5	+0.6
BHB	Bricherasio	0.98	56	P	Pb	15 35 29.6	-0.3
BHB				S	Sb	15 35 42.4	-0.3
BHB	Bricherasio	0.98	56	⇑P	Pb	15 35 29.6	-0.3
BHB				S	Sb	15 35 42.3	-0.4
OGMO	Fort Saint-Gob	0.99	24	P	Pb	15 35 30.8	+0.6
OGMO				S	Sb	15 35 43.9	+0.8
OGMO	Fort Saint-Gob	0.99	24	Pg	Pb	15 35 30.8	+0.6
ARBF	Arbois	0.99	215	Pg	Pb	15 35 31.2	+1.0
LMR	La Mourre	1.01	164	ePg	Pb	15 35 29.5	-1.0
LMR				eSg	Sb	15 35 43.1	-0.5
	comp=N,1µm,0.2s						
ESCA	l'Escarene	1.02	117	P	Pn	15 35 31.4	+0.3
ESCA				S	Sn	15 35 45.4	+0.1
ESCA	l'Escarene	1.02	117	Pg	Pb	15 35 30.8	+0.1
SBF	Sospel	1.04	115	ePg	Pb	15 35 31.0	-0.1
SBF				eSg	Sg	15 35 44.9	0.0
	comp=N,3µm,0.3s						
EILF	Villa Eilenroc	1.05	136	P	Pn	15 35 31.9	+0.4
EILF				S	Sn	15 35 45.9	-0.1
EILF	Villa Eilenroc	1.05	136	Pg	Pb	15 35 31.4	+0.2
SAOF	Saorge	1.08	107	P	Pb	15 35 31.4	-0.3
SAOF				S	Sn	15 35 47.5	+0.7
SAOF	Saorge	1.08	107	⇑P	Pb	15 35 31.4	-0.3
SAOF				AML	AML		
	comp=E,4230µm,0.3s						
SAOF				AML	AML		
	comp=N,5575µm,1.0s						
SAOF				AML	AML		
	comp=N,5575µm,1.0s						
SAOF	Saorge	1.08	107	Pg	Pb	15 35 31.4	-0.3
MENA	Menton	1.12	117	P	Pg	15 35 33.3	+0.7
MENA				S	Sn	15 35 49.0	+1.4
BURY	Giardini Botan	1.16	116	P	Pb	15 35 33.4	+0.4
BURY				S	Sn	15 35 49.0	+0.4
BURY	Giardini Botan	1.16	116	P	Pb	15 35 33.3	+0.4
BURY				S	Sn	15 35 49.0	+0.4
VIVF	Saint-Julien-l	1.17	298	ePg	Pn	15 35 34.0	+0.8
VIVF				eSg	Sb	15 35 50.3	+2.0
	comp=N,402nm,0.3s						
MGRO	Montegrosso	1.24	102	P	Pn	15 35 34.3	0.0
MGRO	Montegrosso	1.24	102	⇑P	Pn	15 35 34.3	0.0
MGRO				S	Sg	15 35 51.9	+0.7
MGRO				AML	AML		
	comp=E,3530µm,0.8s						
MGRO				AML	AML		
	comp=N,4765µm,1.0s						
LPG	La Plagne	1.27	20	ePg	Pn	15 35 35.9	+1.0
LPG				eSg	Sb	15 35 52.3	+0.8
	comp=N,790nm,0.4s						
LPL	La Plagne	1.29	20	ePg	Pn	15 35 36.1	+1.1
LPL				eSg	Sb	15 35 52.6	+0.8
	comp=N,776nm,0.4s						
IMI	Imperia	1.34	107	P	Pn	15 35 36.0	+0.5
IMI	Imperia	1.34	107	P	Pn	15 35 36.0	+0.5
IMI				S	Sg	15 35 54.5	+0.3
IMI				AML	AML		
	comp=E,3610µm,0.4s						
IMI				AML	AML		
	comp=N,8080µm,0.4s						
IMI				AML	AML		
	comp=E,3615µm,0.4s						
IMI				AML	AML		
	comp=N,8080µm,1.6s						
IMI				AML	AML		
	comp=E,3613µm,0.4s						
IMI				AML	AML		
	comp=E,3615µm,1.6s						
OGSM	Saint Maurice	1.34	347	Pn	Pb	15 35 37.2	+1.1
LSD	Lago del Serru	1.36	32	P	Pn	15 35 37.0	+1.0
LSD	Lago del Serru	1.36	32	P	Pn	15 35 37.0	+1.0
LSD				S	Sb	15 35 54.8	+0.8
RORO	Rocca Rossa	1.41	97	P	Pn	15 35 37.2	+0.8
RORO	Rocca Rossa	1.41	97	⇓P	Pn	15 35 37.3	+0.8
RORO				AML	AML		
	comp=E,2200µm,1.5s						
RORO				AML	AML		
	comp=N,3730µm,0.4s						
RORO				AML	AML		
	comp=E,2200µm,0.5s						
RORO				AML	AML		
	comp=N,3734µm,0.4s						
RSL	Roselend	1.43	14	P	Pb	15 35 38.9	+1.3
RSL	Roselend	1.43	14	Pn	Pb	15 35 38.9	+1.3
SSB	Saint Sauveur	1.49	311	Pn	Pn	15 35 38.5	+1.0
MONC	Moncucco Torin	1.50	59	P	Pb	15 35 39.7	+0.9
MONC	Moncucco Torin	1.50	59	⇑P	Pb	15 35 39.6	+0.8
ASEAF	Site Antares,	1.51	179	P	Pb	15 35 39.5	+0.8
ASEAF	Site Antares,	1.51	179	Pn	Pb	15 35 39.3	+0.5
CANO	Canova, Maglio	1.52	93	P	Pb	15 35 39.2	0.0
CANO	Canova, Maglio	1.52	93	⇑P	Pb	15 35 39.2	0.0
CANO				S	Sg	15 35 59.8	-0.4
CANO				AML	AML		
	comp=N,7495µm,0.3s						
CANO				AML	AML		
	comp=E,9360µm,0.8s						
CANO				AML	AML		
	comp=N,7493µm,0.3s						
CANO				AML	AML		
	comp=N,7495µm,1.7s						
QLNO	Quiliano	1.60	89	⇑P	Pb	15 35 40.4	-0.1
QLNO				AML	AML		
	comp=E,1350µm,1.0s						
QLNO				AML	AML		
	comp=N,1120µm,0.9s						
QLNO				AML	AML		
	comp=N,1079µm,0.6s						
QLNO				AML	AML		
	comp=E,1218µm,0.3s						
QLNO				AML	AML		
	comp=N,1120µm,1.1s						
MRGE	Morge	1.61	24	P	Pb	15 35 41.8	+1.0
LASF	Ste Croix	1.65	263	ePn	Pn	15 35 39.9	+0.2
LASF				eSn	Sn	15 36 00.8	+0.1
LASF				eSg	Sb	15 36 04.4	+2.5
	comp=N,261nm,0.5s						
CIRO	Champorcher	1.65	38	⇑P	Pb	15 35 42.1	+0.5
TRAV	Traversella	1.67	43	P	Pb	15 35 41.9	+0.2
ROTM	Rocchetta Tana	1.69	70	P	Pb	15 35 42.9	+0.9
PCP	Piancastagn	1.75	81	P	Pb	15 35 42.9	-0.3
PCP				AML	AML		
	comp=E,944µm,1.4s						
PCP				AML	AML		
	comp=N,858µm,0.9s						
OG35	Corcelles	1.78	348	Pn	Pn	15 35 43.0	+1.4
OG35				Pg	Pg	15 35 46.2	+0.9
OGSI	Sixt	1.82	14	Pn	Pn	15 35 44.2	+2.1
OGSI				Sg	Sg	15 36 12.0	+2.4
DIX	Grande Dixence	1.99	27	Pn	Pb	15 35 47.7	+0.3
RNCA	Ronca, Sant'Ol	2.04	84	P	Pn	15 35 46.6	+1.6
RNCA				AML	AML		
	comp=E,304µm,0.5s						
RNCA				AML	AML		
	comp=E,304µm,1.5s						
RNCA				AML	AML		
	comp=N,231µm,1.0s						
RNCA				AML	AML		
	comp=E,303µm,0.5s						
AIGLE	Aigle	2.12	16	Pg	Pg	15 35 52.8	+1.0
AIGLE	Aigle	2.12	16	Sg	Sg	15 36 22.5	+3.2
MMK	Mattmark	2.18	36	⇑P	Pb	15 35 50.7	+0.2
GIMEL	St. Georges /	2.23	3	P	Pn	15 35 49.2	+1.3
GIMEL	St. Georges /	2.23	3	Pg	Pg	15 35 54.5	+0.6
GIMEL	St. Georges /	2.23	3	Pn	Pn	15 35 49.3	+1.5
EMBD	Embd, Matterta	2.26	32	Pn	Pb	15 35 51.3	-0.5
GORR	Gorreto	2.29	81	P	Pn	15 35 50.8	+2.1
GORR				AML	AML		
	comp=E,518µm,0.6s						
GORR				AML	AML		
	comp=N,390µm,0.8s						
CABF	La Chapelle	2.31	359	ePn	Pn	15 35 50.1	+1.2
CABF	La Chapelle	2.31	359	ePg	Pg	15 35 55.9	+0.6
CABF				eSg	Sg	15 36 26.7	+1.5
	comp=N,397nm,0.6s						
RIVEL	MONT RIVEL	2.46	357	Pn	Pn	15 35 52.6	+1.7
RIVEL				Pg	Pg	15 35 58.3	+0.1
CLAF	Gruissan	2.49	243	eS	Pn	15 35 52.5	+1.2
CLAF	Gruissan	2.49	243	Pn	Pn	15 35 52.5	+1.2
BRANT	Les Verrieres	2.64	5	Pn	Pn	15 35 55.1	+1.6
MORSI	Morsiglia	2.71	119	Pn	Pn	15 35 54.1	-0.3
PGF	Pioggiola	2.74	129	ePn	Pn	15 35 54.2	-0.6
PGF				eSn	Sn	15 36 25.4	-2.3
	comp=N,131nm,0.2s						
PGF	Pioggiola	2.74	129	AML	AML		
	comp=N,220µm,1.4s						
PGF				AML	AML		
	comp=E,318µm,1.3s						
PGF	Pioggiola	2.74	129	Pn	Pn	15 35 54.3	-0.6
FUSIO	Fusio	2.80	39	P	Pn	15 35 59.1	+3.4
FUSIO				AML	AML		
	comp=E,153µm,1.6s						
FUSIO				AML	AML		
	comp=N,183µm,0.5s						
FUSIO				AML	AML		
	comp=E,153µm,0.4s						
PLYF	Puligny Montra	2.82	340	Pn	Pn	15 35 57.3	+1.4
GRAM	Graiana	2.83	85	P	Pn	15 35 58.1	+2.0
GRAM				AML	AML		
	comp=E,620µm,1.5s						
GRAM				AML	AML		

comp=E,620µm,0.5s
GRAM AML AML
comp=N,416µm,0.8s
SMF Signal de Mont 2.84 326 *e*Pn **Pn 15 35 57.1 +1.0**
SMF *e*Sn **Sn 15 36 30.3 +0.2**
comp=N,73nm,0.2s
SMF *e*Sg **Sg 15 36 41.7 -0.5**
comp=N,67nm,0.3s
EQUI Equi 2.90 91 P **Pn 15 35 58.2 +1.3**
EQUI AML AML
comp=E,152µm,0.5s
EQUI AML AML
comp=N,227µm,1.6s
EQUI AML AML
comp=N,227µm,0.4s
EQUI AML AML
comp=E,152µm,1.5s
EQUI AML AML
comp=E,151µm,0.5s
CAF Calviac 2.96 283 *e*Pn **Pn 15 35 58.9 +1.1**
CAF *e*Sn **Sn 15 36 32.6 -0.6**
CAF *e*Sg **Sg 15 36 45.4 -0.9**
comp=E,199nm,0.9s
CHMF Charmoille 2.97 7 Pn **Pn 15 35 58.8 +0.9**
CHMF Pg **Pg 15 36 07.7 -0.2**
SJAF Saint Jean de 2.98 233 Pn **Pn 15 35 58.9 +0.8**
MTLF Montolieu 2.98 253 *e*Pn **Pn 15 35 58.7 +0.6**
MTLF *e*Sn **Sn 15 36 32.9 -0.9**
comp=E,88nm,0.4s
MTLF *e*Sg **Sg 15 36 45.8 -1.2**
comp=E,48nm,0.3s
MTLF Montolieu 2.98 253 Pn **Pn 15 35 59.0 +0.9**
CORF Corte 2.99 131 P **Pn 15 35 58.0 -0.2**
CORF Corte 2.99 131 AML AML
comp=N,284µm,0.6s
CORF AML AML
comp=N,284µm,1.4s
CORF AML AML
comp=E,346µm,0.3s
CORF Corte 2.99 131 Pn **Pn 15 35 58.2 0.0**
BNALP Bannalp 3.03 31 ⇑P **Pn 15 36 01.1 +2.2**
BNALP AML AML
comp=N,272µm,0.7s
BNALP AML AML
comp=E,244µm,0.6s
BNALP AML AML
comp=N,272µm,1.3s
AJAC Base Areonaval 3.06 140 P **Pn 15 35 58.9 -0.3**
AJAC Base Areonaval 3.06 140 AML AML
comp=E,307µm,0.9s
AJAC AML AML
comp=N,592µm,0.2s
AJAC Base Areonaval 3.06 140 Pn **Pn 15 35 58.9 -0.3**
VLC Villacollemand 3.07 91 P **Pn 15 36 00.6 +1.3**
VLC AML AML
comp=N,178µm,0.5s
VLC AML AML
comp=N,178µm,0.5s
VLC AML AML
comp=E,142µm,1.2s
VLC AML AML
comp=E,137µm,1.2s
VLC AML AML
comp=N,178µm,1.5s
VLC AML AML
comp=N,178µm,1.5s
SARO Sassorosso 3.08 91 AML AML
comp=E,338µm,1.6s
SARO AML AML
comp=N,489µm,0.5s
FILF Fillols 3.13 237 Pn **Pn 15 36 02.4 +2.3**
AVF Avril sur Loir 3.15 323 *e*Pn **Pn 15 36 01.4 +1.0**
AVF *e*Sn **Sn 15 36 37.7 -0.2**
AVF *e*Sg **Sg 15 36 52.0 -0.4**
comp=N,66nm,0.4s
ZONE Zone 3.19 61 AML AML
comp=N,121µm,1.4s
ZONE AML AML
comp=E,99µm,1.5s
SMPL Sampolo 3.20 133 AML AML
comp=E,171µm,0.5s
SMPL AML AML
comp=N,154µm,0.5s
BGF Bois d'Agland 3.22 315 *e*Pn **Pn 15 36 02.7 +1.3**
BGF *e*Sn **Sn 15 36 39.1 -0.5**
BGF *e*Sg **Sg 15 36 54.5 -0.1**
comp=N,136nm,0.3s
BALST Balsthal 3.22 19 *e*Pn **Pn 15 36 02.5 +1.0**
SNR=4.1
BALST *e*Pg **Pg 15 36 13.3 +0.4**
SNR=6.5
BALST *e*Sg **Sg 15 36 53.5 -1.1**
SNR=2.9
BALST Balsthal 3.22 19 Pn **Pn 15 36 02.4 +1.0**
PII Pisa 3.23 99 P **Pn 15 36 03.5 +2.1**
PII AML AML
comp=E,175µm,1.6s
PII AML AML
comp=N,182µm,0.5s
PII AML AML
comp=E,175µm,0.4s
FNEB Nbias 3.23 246 Pn **Pn 15 36 02.9 +1.4**
SSF Saint Saulge 3.31 327 *e*Pn **Pn 15 36 03.7 +1.1**
SSF Saint Saulge 3.31 327 *e*Pg **Pg 15 36 13.9 -0.6**
SSF *e*Sn **Sn 15 36 41.3 -0.4**
SSF *e*Sg **Sg 15 36 56.8 -0.6**
comp=E,52nm,0.3s
POPM Popiglio 3.34 93 P **Pn 15 36 04.4 +1.3**
POPM AML AML
comp=E,203µm,1.2s
POPM AML AML
comp=N,164µm,1.5s
POPM AML AML
comp=N,164µm,0.5s
CELB S.Piero in Cam 3.36 116 AML AML
comp=E,101µm,0.8s
CELB AML AML
comp=N,98µm,1.6s
LOR Lormes 3.36 333 *e*Pn **Pn 15 36 04.2 +0.9**
baz=152
LOR Lormes 3.36 333 *e*Pg **Pg 15 36 15.1 -0.3**
baz=152
LOR *e*Sn **Sn 15 36 43.7 +0.7**
LOR *e*Sg **Sg 15 36 58.8 -0.1**
comp=N,100nm,0.4s,baz=152
LOR Lormes 3.36 333 Pn **Pn 15 36 04.4 +1.1**
SALO Salr 3.39 66 P **Pn 15 36 05.9 +2.2**
SALO AML AML
comp=E,214µm,1.0s
SALO AML AML
comp=N,330µm,0.7s
TCF Toulx Ste Croi 3.40 307 *e*Pn **Pn 15 36 05.3 +1.5**
TCF *e*Sn **Sn 15 36 44.1 +0.1**
TCF *e*Sg **Sg 15 36 58.9 -1.3**
comp=N,28nm,0.4s
RJF Les Rejaudoux 3.43 289 *e*Pn **Pn 15 36 05.4 +1.2**
RJF *e*Sn **Sn 15 36 44.2 -0.4**
RJF *e*Sg **Sg 15 37 00.1 -1.0**
comp=N,77nm,0.6s
SULZ Cheisacher 3.51 23 *e*Pn **Pn 15 36 06.1 +0.8**
SNR=5.5
SULZ *e*Sg **Sg 15 37 02.4 -1.3**
SNR=1.6
SULZ Cheisacher 3.51 23 Pn **Pn 15 36 06.0 +0.6**
HINF Hinteralfeld 3.55 8 *e*Pn **Pn 15 36 06.3 +0.4**
HINF Hinteralfeld 3.55 8 *e*Pg **Pg 15 36 17.8 -1.3**
HINF *e*Sn **Sn 15 36 47.1 -0.6**
HINF *e*Sg **Sg 15 37 03.9 -1.1**
comp=N,57nm,0.3s
DAVOX Davos/Dischmat 3.62 46 P **Pn 15 36 09.9 +2.9**
DAVOX AML AML
comp=N,125µm,0.7s
DAVOX AML AML
comp=E,73µm,0.7s
DAVOX AML AML
comp=E,73µm,1.3s
WILA Wila 3.67 31 *e*Pg **Pg 15 36 21.0 -0.4**
SNR=2.6
BRMO Bormio 3.70 53 AML AML
comp=N,45µm,0.4s
BRMO AML AML
comp=E,63µm,0.7s
HAU Haudompre 3.70 2 *e*Pn **Pn 15 36 08.5 +0.5**
HAU Haudompre 3.70 2 *e*Pg **Pg 15 36 20.9 -1.1**
HAU *e*Sn **Sn 15 36 50.6 -0.9**
HAU *e*Sg **Sg 15 37 08.7 -1.3**
comp=E,130nm,0.4s
METMA Mettma DE 3.72 23 *e*Pn **Pn 15 36 08.5 +0.3**
SNR=4.3
METMA *e*Pg **Pg 15 36 22.0 -0.3**
SNR=2.8
LUSI Trento, Gardas 3.79 62 P **Pn 15 36 10.9 +1.6**
LUSI AML AML
comp=N,226µm,0.4s
LUSI AML AML
comp=E,130µm,0.3s
LUSI AML AML
comp=N,226µm,1.6s
SLE Schleitheim 3.83 25 *e*Pn **Pn 15 36 10.0 +0.2**
SNR=14
SLE *e*Pg **Pg 15 36 23.5 -1.0**
SNR=1.8
HYF Humbligny 3.83 322 *e*Pn **Pn 15 36 10.9 +1.1**
HYF Humbligny 3.83 322 *e*Pg **Pg 15 36 24.2 -0.4**
HYF *e*Sn **Sn 15 36 53.3 -1.4**
HYF *e*Sg **Sg 15 37 13.4 -0.8**
BERGE Lenzkirch (DE) 3.84 21 *e*Pn **Pn 15 36 09.9 -0.1**
SNR=12
BERGE *e*Pg **Pg 15 36 23.9 -0.8**
SNR=2.8
BERGE *e*Sn **Sn 15 36 55.2 +0.2**
BERGE *e*Sg **Sg 15 37 13.8 -0.7**
SNR=1.8
GAGG Gaggia 3.85 61 ⇓P **Pn 15 36 13.0 +2.8**
GAGG AML AML
comp=N,94µm,1.2s
GAGG AML AML
comp=N,94µm,0.8s
GAGG AML AML
comp=E,113µm,0.9s
KIZ Kirchzarten 3.86 18 Pn **Pn 15 36 10.4 +0.3**
MOSI Grossmontoni 3.88 52 AML AML
comp=N,326µm,1.3s
MOSI AML AML
comp=E,296µm,1.1s
MLS Moulis 3.89 251 Pn **Pn 15 36 11.7 +1.1**
LFF La Frestale 3.89 281 *e*Pn **Pn 15 36 11.6 +1.0**
LFF La Frestale 3.89 281 *e*Pg **Pg 15 36 24.3 -1.4**
LFF *e*Sn **Sn 15 36 55.9 -0.2**
LFF *e*Sg **Sg 15 37 14.3 -1.8**
comp=E,99nm,0.6s
DOSS Dosso del Somm 3.92 65 P **Pn 15 36 12.3 +1.3**
DOSS AML AML
comp=N,165µm,0.4s
DOSS AML AML
comp=E,162µm,0.8s
DOSS AML AML
comp=E,162µm,1.2s
SFTF Sexfontaines 3.97 349 *e*Pn **Pn 15 36 12.8 +1.1**
SFTF *e*Sn **Sn 15 36 56.9 -1.2**
SFTF *e*Sg **Sg 15 37 17.6 -1.0**
comp=E,131nm,0.5s
DAVA Damuels 3.97 40 Pn **Pn 15 36 14.5 +2.7**
comp=E,4.0nm,0.2s,SNR=9.1
DAVA *e*Sn **Sb 15 37 08.9 -0.2**
comp=E,43nm,0.3s
ECH Echery 3.98 10 *e*Pn **Pn 15 36 11.7 -0.1**
SNR=10
ECH *e*Sn **Sn 15 36 57.9 -0.4**
ECH *e*Sg **Sg 15 37 18.0 -0.8**
SNR=2.1
LMD Lutirano 4.02 91 AML AML
comp=E,48µm,1.4s
LMD AML AML
comp=N,60µm,0.5s
WALHA Walhausen, DE 4.03 30 *e*Pn **Pn 15 36 13.2 +0.7**
SNR=4.3
EMING Emmingen-Lipti 4.06 27 *e*Pn **Pn 15 36 13.0 +0.2**
SNR=3.7
TEOL Teolo 4.08 73 P **Pn 15 36 14.2 +1.0**
TEOL AML AML
comp=E,336µm,0.9s
TEOL AML AML
comp=N,242µm,1.2s
CDF Champ du Feu 4.18 11 *e*Pn **Pn 15 36 14.7 0.0**
CDF Champ du Feu 4.18 11 *e*Pg **Pg 15 36 29.7 -1.5**
CDF *e*Sn **Sn 15 37 01.4 -2.0**
CDF *e*Sg **Sg 15 37 23.2 -2.2**
comp=N,82nm,0.6s
FETA Feichten 4.22 48 Pn **Pn 15 36 19.5 +4.3**
comp=N,18nm,0.6s,SNR=23
FETA *e*Sn **Sb 15 37 12.2 -4.0**
comp=N,31nm,0.8s
PAGF Fort de Pagny 4.26 356 *e*Pn **Pn 15 36 16.7 +1.1**
PAGF Fort de Pagny 4.26 356 *e*Pg **Pg 15 36 31.2 -1.5**
PAGF *e*Sn **Sn 15 37 03.9 -1.2**
PAGF *e*Sg **Sg 15 37 25.8 -2.0**
comp=N,130nm,0.7s
MEZF Maizieres J'vi 4.26 350 *e*Pn **Pn 15 36 16.1 +0.5**
MEZF Maizieres J'vi 4.26 350 *e*Pg **Pg 15 36 32.5 -0.2**
MEZF *e*Sn **Sn 15 37 04.8 -0.4**
MEZF *e*Sg **Sg 15 37 26.8 -1.1**
comp=N,86nm,0.4s
CTI Castel Tesino 4.28 64 P **Pn 15 36 18.0 +2.0**
CTI AML AML
comp=E,176µm,0.3s
CTI AML AML
comp=N,189µm,0.4s
KOSI Kohlern 4.29 58 AML AML
comp=E,106µm,1.3s
KOSI AML AML
comp=N,85µm,1.5s
BFO Black Forest 4.31 20 *e*Pn **Pn 15 36 16.5 +0.2**
SNR=7.9
BFO *e*Sn **Sn 15 37 05.8 -0.6**
BFO *e*Sg **Sg 15 37 29.3 0.0**
SNR=1.8
CGRP Cima Grappa 4.32 67 P **Pn 15 36 18.1 +1.5**
CGRP AML AML
comp=N,127µm,1.4s
CGRP AML AML
comp=E,152µm,1.1s
SAVF Savonnieres en 4.37 351 *e*Pn **Pn 15 36 18.5 +1.4**
SAVF Savonnieres en 4.37 351 *e*Pg **Pg 15 36 33.4 -1.3**
SAVF *e*Sn **Sn 15 37 06.1 -1.6**
SAVF *e*Sg **Sg 15 37 30.7 -0.5**
comp=E,64nm,0.5s
UBR Ueberruh 4.37 38 *e*Pn **Pn 15 36 18.8 +1.6**
SNR=7.5
EPF Esparros 4.38 255 *e*Pn **Pn 15 36 17.7 +0.3**
EPF Esparros 4.38 255 *e*Pg **Pg 15 36 33.1 -2.0**
EPF *e*Sn **Sn 15 37 06.7 -1.6**
EPF *e*Sg **Sg 15 37 30.1 -1.7**
comp=E,35nm,0.4s
RETA Reutte 4.54 44 *e*Pn **Pn 15 36 22.4 +2.8**
comp=E,7.8nm,0.4s
ROSI Rosskopf 4.54 53 AML AML
comp=N,201µm,0.5s
ROSI AML AML
comp=E,141µm,1.0s
VARN Col Varnada, M 4.56 66 P **Pn 15 36 21.8 +2.0**
VARN AML AML
comp=N,179µm,0.5s
VARN AML AML
comp=E,224µm,0.4s
SQTA Sankt Quirin 4.60 49 Pn **Pn 15 36 24.3 +3.9**
comp=E,18nm,0.3s,SNR=6.7
SQTA *e*Sn **Sb 15 37 22.8 -4.2**
comp=E,20nm,0.4s
MOTA Moosalm 4.62 47 Pn **Pn 15 36 23.5 +2.8**
comp=E,8.3nm,0.3s,SNR=13
MOTA *e*Sn **Sn 15 37 21.0 +6.7**
comp=E,14nm,0.4s
DGI Dorgali Grotta 4.75 146 P **Pn 15 36 22.4 +0.1**
WTTA Wattenberg 4.86 51 Pn **Pn 15 36 27.9 +3.9**
comp=E,9.3nm,0.2s,SNR=12
WTTA *e*Sn **Sb 15 37 29.6 -5.0**
comp=E,19nm,0.5s
WTTA Wattenberg 4.86 51 P **Pn 15 36 27.7 +3.6**
WTTA AML AML
comp=E,91µm,0.7s
WTTA AML AML
comp=N,80µm,1.1s
WATA Walderalm 4.87 50 *e*Pn **Pn 15 36 27.8 +3.7**
comp=N,3.0nm,0.2s
CIMO Cimolais 4.89 64 P **Pn 15 36 26.8 +2.5**
MFF Saint Martin d 4.97 300 *e*Pn **Pn 15 36 26.1 +0.7**
MFF *e*Sn **Sn 15 37 21.3 -1.4**
MFF *e*Sg **Sg 15 37 48.0 -2.6**
comp=N,12nm,0.4s
STAL STALIGIAL 5.04 65 AML AML
comp=E,191µm,0.4s
STAL AML AML
comp=N,144µm,1.1s
ETSF Etsaut 5.05 256 *e*P **Pn 15 36 30.4 +3.8**
ETSF *e*Sn **Sn 15 37 22.9 -1.9**
comp=N,36nm,0.3s
ABTA Abfaltersbach 5.11 59 Pn **Pn 15 36 31.6 +4.2**
comp=N,13nm,0.3s,SNR=9.7
ABTA *e*Sn **Sn 15 37 32.5 +6.2**
comp=N,4.7nm,0.3s
CLUD Cludinico 5.22 63 AML AML
comp=N,44µm,0.9s
CLUD AML AML
comp=E,40µm,0.8s
SJPF Ste Jean 5.46 260 *e*Pn **Pn 15 36 32.3 +0.2**
SJPF *e*Sn **Sn 15 37 32.1 -2.6**
comp=E,7.6nm,0.4s
SJPF *e*Sg **Sg 15 38 03.5 -2.7**
comp=E,7.6nm,0.5s
KBA Koelnbreinsper 5.77 59 *i* Pn **Pn 15 36 41.3 +4.7**
comp=E,4.5nm,0.4s,SNR=5.3
KBA *e*Sn **Sn 15 37 50.6 +8.0**
comp=E,6.7nm,0.6s
MYKA Terra Mystica 5.78 64 *e*Pn Pn 15 36 43.2 +6.6
comp=E,3.8nm,0.3s
GIVF Givet 5.87 352 *e*Pn **Pn 15 36 38.6 +0.9**
GIVF *e*Sn **Sn 15 37 41.6 -3.1**
comp=E,16nm,0.3s
DOU Dourbes 5.88 350 Pn **Pn 15 36 39.3 +1.3**
BAIF Baives 5.90 348 *e*Pn **Pn 15 36 39.1 +1.0**
BAIF *e*Sn **Sn 15 37 42.4 -3.2**
comp=E,18nm,0.4s
LDF La Druitiere 6.08 317 *e*Pn **Pn 15 36 42.4 +1.8**
LDF *e*Sg **Sg 15 38 23.8 -2.4**
comp=E,58nm,0.8s
BIOA Bad Ischl, Aus 6.23 54 *e*Pn **Pn 15 36 47.3 +4.5**
comp=E,4.6nm,0.3s
GRR Gorron 6.32 313 *e*Pn **Pn 15 36 45.7 +1.7**
GRR *e*Sn **Sn 15 37 53.4 -2.6**
GRR *e*Sg **Sg 15 38 31.1 -2.9**
comp=E,11nm,0.5s
OBKA Obir 6.33 67 Pn **Pn 15 36 46.6 +2.5**
comp=E,4.6nm,0.3s,SNR=8.3
OBKA *e*Sn **Sn 15 38 00.2 +3.9**
comp=E,10nm,0.6s
FLN La Foliniere 6.37 317 *e*Pn **Pn 15 36 46.4 +1.8**
baz=134
FLN *e*Sn **Sn 15 37 54.8 -2.4**
comp=E,6.3nm,0.3s
FLN *e*Sg **Sg 15 38 32.6 -2.9**
comp=E,16nm,0.6s
MOA Molln 6.68 55 *i* Pn **Pn 15 36 50.8 +1.9**
comp=E,3.8nm,0.5s,SNR=5.0
MOA *e*Sn **Sn 15 38 05.8 +0.9**
comp=E,9.4nm,0.5s
SOKA Soboth 6.70 66 *e*Pn **Pn 15 36 52.2 +3.0**
comp=E,4.1nm,0.3s
WET Wettzell 6.71 41 *e*Pn **Pn 15 36 49.3 +0.1**
SNR=4.1
ROTZ Rotzenmuhle 6.86 35 *e*Pn **Pn 15 36 50.2 -1.2**
SNR=2.8
GEC2 GERESS Array S 6.92 46 *e*Pn **Pn 15 36 52.7 +0.5**
SNR=10
KHC Kasperske Hory 7.04 44 *e*PN **Pn 15 36 54.1 +0.3**
KHC *e*SN **Sn 15 38 11.2 -2.4**
SGMF Saint Gilles 7.19 306 *e*Pn **Pn 15 36 57.0 +1.1**
SGMF *e*Sg **Sg 15 38 58.0 -3.8**
comp=E,2.0nm,0.3s
ARSA Arzberg 7.20 63 *i* Pn **Pn 15 36 58.5 +2.4**
comp=E,5.5nm,0.3s,SNR=5.4
CKRC Cesky Krumlov 7.22 48 *e*PN **Pn 15 36 56.8 +0.4**
CKRC *e*SN **Sn 15 38 16.5 -1.7**
QUIF Quistinic 7.39 302 *e*Pn **Pn 15 36 59.8 +1.2**
QUIF *e*Sg **Sg 15 39 03.7 -4.6**
comp=E,3.5nm,0.3s
ROSF Rostrenen 7.65 305 *e*Pn **Pn 15 37 04.0 +1.9**
ROSF *e*Sg **Sg 15 39 12.8 -3.6**
comp=E,6.9nm,0.5s
CONA Conrad Observa 7.67 58 *e*Pn **Pn 15 37 06.3 +3.7**
comp=E,0.7nm,0.2s
RONA Rosalia, Austr 7.85 61 *i* Pn **Pn 15 37 05.4 +0.4**
comp=E,3.8nm,0.4s
CLL Collm 8.39 31 *e*Sg **Sg 15 39 37.0 -3.3**
comp=Z,69nm,2.1s
CLL Collm 8.39 31 *e*Pn Pn 15 37 18.0 +5.7
CLL Collm 8.39 31 *e*(Pg) **Pg 15 37 56.0 +4.3**
CLL Collm 8.39 31 *ex* **Sn 15 38 49.0 +2.1**
CLL Collm 8.39 31 *ex* Sb 15 39 14.0 -1.9
BRG Berggiesshubel 8.43 36 *e*(P) **Pg 15 37 52.9 +0.6**
BRG Amp 15 37 60.0
comp=Z,3.3nm,0.7s
BRG *ex* **Sg 15 39 42.8 +1.4**
BRG Amp 15 39 59.1
comp=Z,11nm,1.4s
KRUC Moravsky 8.51 52 *e*PN **Pn 15 37 14.6 +0.6**
KRUC *e*SN **Sn 15 38 47.5 -2.3**
MODS Modra-Piesok 8.72 58 *e*PN **Pn 15 37 20.2 +3.3**
VRAC Vranov 8.75 51 *e*PN **Pn 15 37 17.9 +0.6**
KRLC Kraliky 9.27 48 *e*PN **Pn 15 37 24.7 +0.3**
MORC Moravsky Berou 9.52 51 *e*PN **Pn 15 37 27.8 -0.1**
VYHS Vyhne 9.73 60 *e*PN **Pn 15 37 30.0 -0.7**

ROM 09 15:35:13.4±0.0, 42°754N±0'002×13°185E±0'002, h11km, ML2.3/13, 6C-3D, Error ellipse: s-maj=0.2km s-min=0.2km az=301.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1213	**Norcia, Frazio**	**0.05**	**236**	P	Pg	15 35 16.0	+0.3
T1213				S	Sg	15 35 17.5	+0.1
T1213				AML	AML		
	comp=N,20600µm,0.3s						
T1213				AML	AML		
	comp=E,12560µm,0.1s						
T1213				AML	AML		
	comp=N,20350µm,0.3s						
T1213				AML	AML		
	comp=E,13650µm,0.1s						
T1213				AML	AML		
	comp=E,13665µm,0.1s						
T1213				AML	AML		
	comp=E,12570µm,0.1s						
T1213				AML	AML		
	comp=E,12550µm,0.1s						
T1213				AML	AML		
	comp=N,20600µm,0.3s						
T1213				AML	AML		
	comp=N,20350µm,0.3s						
T1218	**Civita (PG)**	**0.10**	**211**	P	Pg	15 35 16.7	+0.4
T1218				S	Sg	15 35 18.8	+0.5
T1245	**Castelsantange**	**0.10**	**1**	P	Pg	15 35 16.8	+0.4
T1245				S	Sg	15 35 18.8	+0.3
T1212	**Cascia, Frazio**	**0.10**	**269**	P	Pg	15 35 16.7	+0.4
T1212				S	Sg	15 35 18.8	+0.4
T1212				AML	AML		
	comp=E,3300µm,0.3s						
T1212				AML	AML		
	comp=E,3320µm,0.3s						
T1212				AML	AML		
	comp=N,3280µm,0.1s						
T1212				AML	AML		
	comp=E,3305µm,0.3s						
T1212				AML	AML		
	comp=N,3260µm,0.1s						
T1212				AML	AML		
	comp=E,3325µm,0.3s						
T1212				AML	AML		
	comp=N,3285µm,0.1s						
T1212				AML	AML		
	comp=N,3260µm,0.2s						
T1212				AML	AML		
	comp=N,3280µm,0.2s						
T1212				AML	AML		
	comp=E,3305µm,0.3s						
T1204	**Amatrice, Fraz**	**0.12**	**129**	P	Pg	15 35 17.2	+0.5
T1204				S	Sg	15 35 19.6	+0.7
T1204				AML	AML		
	comp=E,3585µm,0.2s						
T1204				AML	AML		
	comp=N,2375µm,0.2s						
T1204				AML	AML		
	comp=E,3580µm,0.2s						
T1204				AML	AML		
	comp=N,2370µm,0.2s						
T1204				AML	AML		
	comp=E,3575µm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.17**	**138**	P	Pg	15 35 17.7	+0.5
SMA1				S	Sg	15 35 20.7	+0.8
SMA1				AML	AML		
	comp=E,1470µm,0.4s						
SMA1				AML	AML		
	comp=N,936µm,0.6s						
SMA1				AML	AML		
	comp=E,1275µm,0.3s						
SMA1				AML	AML		
	comp=N,937µm,0.6s						
SMA1				AML	AML		
	comp=E,1465µm,0.4s						
SMA1				AML	AML		
	comp=N,936µm,0.6s						
MMO1	**Montemonaco**	**0.18**	**36**	P	Pg	15 35 17.9	+0.5
MMO1				S	Sg	15 35 21.1	+0.9
T1216	**Preci, Frazion**	**0.18**	**318**	AML	AML		
	comp=E,1690µm,0.2s						
T1216				AML	AML		
	comp=N,1805µm,0.6s						
LNSS	**Leonessa**	**0.18**	**215**	P	Pg	15 35 18.1	+0.5
LNSS				S	Sg	15 35 21.2	+0.9
LNSS				AML	AML		
	comp=E,914µm,1.0s						
LNSS				AML	AML		
	comp=N,2360µm,0.1s						
T1243	**Rocca Santa Ma**	**0.20**	**106**	P	Pg	15 35 18.2	+0.4
T1243				S	Sg	15 35 21.5	+0.7
T1241	**Roccafluvione,**	**0.21**	**61**	P	Pg	15 35 18.4	+0.5
T1241				S	Sg	15 35 21.9	+1.0
T1215	**Vallo di Nera,**	**0.24**	**282**	P	Pg	15 35 19.0	+0.6
T1215				S	Sg	15 35 22.8	+1.0
T1215				AML	AML		
	comp=E,920µm,0.3s						
T1215				AML	AML		
	comp=N,876µm,1.1s						
T1215				AML	AML		
	comp=N,874µm,1.1s						
T1215				AML	AML		
	comp=E,922µm,0.3s						
RM33	**Pellescritta (**	**0.25**	**175**	P	Pg	15 35 19.2	+0.6
RM33				S	Sg	15 35 23.2	+1.2
T1256	**Bolognola (MC)**	**0.25**	**7**	P	Pb	15 35 19.8	-0.4
T1256				S	Sg	15 35 23.4	+1.0
CAMP	**Campotosto**	**0.27**	**143**	P	Pg	15 35 19.5	+0.4
CAMP				S	Sg	15 35 23.9	+1.0
CAMP				AML	AML		
	comp=N,418µm,0.3s						
CAMP				AML	AML		
	comp=E,496µm,0.3s						
FDMO	**Fiordimonte**	**0.29**	**346**	P	Pb	15 35 20.3	-0.4
FDMO				S	Sb	15 35 24.5	-1.1
T1247	**Pizzolo (AQ)**	**0.32**	**165**	⇑P	Pg	15 35 20.6	+0.6
CESI	**CESI - Serrava**	**0.32**	**321**	P	Pg	15 35 20.4	+0.4
CESI				S	Sb	15 35 25.7	-0.9
T1219	**Muccia, Frazio**	**0.33**	**337**	P	Pg	15 35 20.4	+0.3
T1219				S	Sb	15 35 25.7	-1.0
T1219				AML	AML		
	comp=N,632µm,0.4s						
T1219				AML	AML		
	comp=E,745µm,0.2s						
T1219				AML	AML		
	comp=N,634µm,0.4s						
TERO	**Teramo**	**0.34**	**113**	P	Pg	15 35 20.4	+0.2
TERO				AML	AML		
	comp=E,748µm,0.8s						
TERO				AML	AML		
	comp=N,974µm,0.5s						
TERO				AML	AML		
	comp=E,749µm,0.8s						
CSP1	**Cessapalombo**	**0.34**	**2**	P	Pb	15 35 21.0	-0.6
CSP1				S	Sb	15 35 26.1	-0.9
ARRO	**Arrone**	**0.35**	**241**	⇓P	Pg	15 35 21.0	+0.5
OFFI	**Offida**	**0.41**	**64**	⇓P	Pb	15 35 22.9	+0.2
GIGS	**Gran Sasso**	**0.42**	**137**	P	Pg	15 35 21.8	+0.1
GIGS				S	Sg	15 35 27.9	+0.7
GIGS				AML	AML		
	comp=E,79µm,1.5s						
GIGS				AML	AML		
	comp=E,79µm,1.5s						
GIGS				AML	AML		
	comp=N,73µm,1.1s						
ASSB	**Assisi San Ben**	**0.48**	**307**	⇑P	Pg	15 35 23.2	+0.3
SNTG	**Esanatoglia**	**0.53**	**340**	⇑P	Pg	15 35 24.0	+0.2
ATCC	**AVT- Casa Cast**	**0.59**	**317**	P	Pg	15 35 25.1	+0.2
ATCC				AML	AML		
	comp=E,147µm,1.4s						
ATCC				AML	AML		
	comp=N,148µm,0.2s						
ATCC				AML	AML		
	comp=N,147µm,0.2s						
VCEL	**Villa Celiera**	**0.60**	**126**	⇑P	Pb	15 35 25.8	-0.3
VCEL				AML	AML		
	comp=E,222µm,1.0s						
VCEL				AML	AML		
	comp=N,335µm,1.5s						
VCEL				AML	AML		
	comp=E,222µm,1.0s						
ATFO	**Monte Foce - G**	**0.76**	**324**	⇓P	Pb	15 35 28.5	-0.2
ARVD	**Arcevia**	**0.77**	**347**	⇑P	Pg	15 35 23.5	-4.7
ARVD				AML	AML		
	comp=E,60µm,1.0s						
ARVD				AML	AML		
	comp=N,65µm,1.5s						
SAMA	**S.Maria delle**	**1.07**	**205**	⇑P	Pn	15 35 34.4	0.0

*IDC **09** 15:41:05.4±1.4, 26°.51N×129°.61E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=41.6km s-min=18.9km az=46.0*

*JMA **09** 15:41:07.0±0.1, 26°.5N±0°.5×129°.8E±0°.4, h46km, MV3.4/20, NEAR OKINAWAJIMA ISLAND*

ISC 09 15:41:04.5±1.8**, 26°.55N**±0°.04×**129°.77E**±0°.04**, h5**km±12km**, n21,** σ1§**44**/34**, mb3.6**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.27**	**292**	P	**Pg**	**15 41 28.9**	**0.0**
JYRO				*e*S	**Sg**	**15 41 44.9**	**-0.5**
JOKE	**Okinoerabujima**	**1.34**	**307**	P	**Pn**	**15 41 30.4**	**+0.4**
JOKE				S	**Sb**	**15 41 46.6**	**-1.1**
JOW	**Kunigami**	**1.37**	**282**	Pn	**Pn**	**15 41 30.6**	**+0.2**
	66nm,0.3s,baz=118,slow=18,SNR=63						
JOW				Sn	**Sb**	**15 41 46.4**	**-2.0**
	56nm,0.3s,baz=281,slow=25,SNR=16						
JOW	**Kunigami**	**1.37**	**282**	P	**Pn**	**15 41 30.5**	**+0.2**
JOW				S	**Sb**	**15 41 47.5**	**-1.0**
JTK	**Tokunoshima**	**1.43**	**330**	P	**Pn**	**15 41 31.8**	**+0.5**
JTK				*e*S	**Sb**	**15 41 49.0**	**-1.4**
JMZ	**Minamidaito 2**	**1.49**	**119**	P	**Pn**	**15 41 31.5**	**-0.6**
JMZ				S	**Sn**	**15 41 49.3**	**-2.6**
JKDJ	**Kitadaitoujima**	**1.50**	**113**	*e*P	**Pn**	**15 41 32.1**	**0.0**
JKDJ				*e*S	**Sn**	**15 41 50.1**	**-1.9**
JNTH	**Nagotoyohara**	**1.56**	**269**	P	**Pn**	**15 41 33.0**	**-0.1**
JNTH				*e*S	**Sn**	**15 41 50.5**	**-3.2**
JIH	**Iheya**	**1.68**	**287**	P	**Pn**	**15 41 35.1**	**+0.4**
JIH				S	**Sn**	**15 41 55.5**	**-1.2**
JAMN	**Amaminishikomi**	**1.77**	**343**	P	**Pn**	**15 41 36.3**	**+0.4**
JAMN				*e*S	**Sn**	**15 41 57.9**	**-0.9**
JZK	**Kikaishima**	**1.77**	**6**	*e*P	**Pn**	**15 41 36.6**	**+0.7**
JZK				S	**Sn**	**15 41 58.7**	**-0.1**
JJT3	**Tamagusuku3**	**1.82**	**258**	*e*P	**Pn**	**15 41 37.4**	**+0.8**
JJT3				*e*S	**Sn**	**15 41 58.9**	**-1.2**
JAM	**Amami Oshima**	**1.86**	**356**	P	**Pn**	**15 41 37.5**	**+0.3**
JAM				*e*S	**Sn**	**15 41 58.8**	**-2.4**
JAGN	**Aguni-jima**	**2.26**	**272**	P	**Pn**	**15 41 43.6**	**+0.9**
JTAJ	**Takarajima**	**2.65**	**349**	S	**Sn**	**15 42 17.4**	**-3.0**
JKE	**Kume jima 2**	**2.68**	**266**	P	**Pn**	**15 41 48.2**	**-0.2**
JNN	**Nakanoshima**	**3.28**	**2**	S	**Sn**	**15 42 34.0**	**-2.2**
MKAR	**Makanchi Array**	**42.36**	**311**	P	**P**	**15 49 01.4**	**+1.6**
	0.3nm,0.6s,baz=101,slow=9.8,SNR=2.1						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**46.42**	**174**	P	**P**	**15 49 33.2**	**+0.8**
	0.5nm,0.4s,baz=354,slow=8.3,SNR=6.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**50.08**	**175**	P	**P**	**15 50 02.3**	**+1.6**
	0.2nm,0.5s,baz=4.9,slow=14,SNR=10						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**73.26**	**331**	P	**P**	**15 52 37.6**	**+1.0**
	3.3nm,0.8s,baz=54,slow=7.1,SNR=7.6						
	3.3nm,0.8s						

GUC 09 15:48:23.3±0.7**, 37°.61S**×**72°.33W, h89**km±12km**, ML3.7, 1C, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.98**	**321**	*e*P	Pn	15 48 42.4	-0.3
CCSP				IAML		15 49 06.4	
	comp=E,3µm,0.2s						
BI05	**Punta Hualpn**	**1.10**	**321**	*e*P	Pn	15 48 44.3	+0.2
BI05				*i* S	Sn	15 48 59.2	-0.4
BI05				IAML		15 49 00.7	
	comp=E,2µm,0.4s						
LC02	**Puerto Saavedr**	**1.44**	**215**	*e*P	Pn	15 48 47.8	-0.5
LC02				*i* S	Sn	15 49 06.6	-0.5
LC02				IAML		15 49 15.5	
	comp=N,3µm,0.7s						
ML02	**Panimavida**	**1.98**	**22**	*e*P	Pn	15 48 54.6	-0.7
ML02				*i* S	Sn	15 49 19.1	-0.6
ML02				IAML		15 49 22.3	
	comp=E,412nm,0.1s						
LR03	**Panguipulli**	**2.02**	**180**	⇑*i*P	Pn	15 48 55.5	-0.2
GO06	**Curarrehue**	**2.08**	**161**	*e*P	Pn	15 48 56.8	+0.1
GO06				*i* S	Sn	15 49 22.2	0.0
LR04	**Corral**	**2.42**	**200**	*e*P	Pn	15 48 60.0	-1.1
LR04				*i* S	Sn	15 49 27.0	-3.0
GO05	**Huala**	**2.61**	**7**	*e*P	Pn	15 49 03.5	-0.2
GO05				IAML		15 49 40.4	
	comp=N,189nm,0.3s						
BO02	**Sierra Bellavi**	**3.08**	**25**	*e*P	Pn	15 49 10.3	+0.4
BO02				*i* S	Sn	15 49 45.4	-0.5
BO02				IAML		15 49 49.1	
	comp=N,275nm,0.1s						
BO03	**Pichilemu**	**3.12**	**6**	*e*P	Pn	15 49 09.4	-1.0
BO03				*i* S	Sn	15 49 44.2	-2.6
BO03				IAML		15 49 48.2	
	comp=N,82nm,0.3s						
LL04	**Puerto Octay**	**3.30**	**181**	*e*P	Pn	15 49 11.8	-0.9
LL04				IAML		15 49 53.6	
	comp=N,178nm,0.2s						
BO01	**Tunca**	**3.37**	**18**	*e*P	Pn	15 49 13.1	-0.7
BO01				IAML		15 49 53.1	
	comp=E,93nm,0.3s						
MT01	**Popeta**	**3.84**	**14**	*e*P	Pn	15 49 19.2	-0.9
LMEL	**Las Melosas**	**4.13**	**25**	*e*P	Pn	15 49 24.9	+0.6
LMEL				*i* S	Sn	15 50 13.0	+1.4
FCH	**Farellones**	**4.58**	**22**	*e*P	Pn	15 49 29.8	-0.8
FCH				*i* S	Sn	15 50 20.5	-2.4

*LDG **09** 15:56:39.3±0.1, 44°.30N×6°.16E, h2km, Md2.0/2, Ml2.2/8, Error ellipse: s-maj=1.5km s-min=1.2km az=89.0*

*STR **09** 15:56:39.2±0.3, 44°N±2°×°±°, h6km±3km, MLv1.7/25, Error ellipse: s-maj=0.0km s-min=0.0km az=115.3, preliminary*

ISC 09 15:56:39.2±1.0**, 44°.29N**±0°.02×**6°.15E**±0°.02**, h5**km±9km**, n35,** σ1§**05**/58**, 2C-3D, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OGDI	**Digne**	**0.21**	**150**	⇓Pg	**Pg**	**15 56 42.9**	**-0.6**
OGDI				Sg	**Sg**	**15 56 46.1**	**-0.1**
OGAG	**Argentiere**	**0.32**	**60**	Pg	**Pn**	**15 56 50.2**	**-0.5**
OGAG				Sg	**Sb**	**15 56 58.2**	**+5.1**
BLAF	**les Blancs**	**0.35**	**193**	⇓Pg	**Pg**	**15 56 45.6**	**-0.5**
BLAF				Sg	**Sg**	**15 56 50.3**	**-0.4**
CREF	**Crivoux**	**0.42**	**53**	⇑Pg	**Pg**	**15 56 47.4**	**-0.1**
CREF				Sg	**Sg**	**15 56 53.1**	**+0.1**
JAUF	**Jausiers**	**0.45**	**72**	Pg	**Pg**	**15 56 47.6**	**-0.3**
JAUF				Sg	**Sg**	**15 56 53.8**	**0.0**
SURF	**Saint Ours**	**0.51**	**68**	Pg	**Pg**	**15 56 48.9**	**-0.1**
SURF				Sg	**Sg**	**15 56 55.9**	**+0.2**
SMRF	**Simiane la Rot**	**0.52**	**233**	*e*Pg	**Pg**	**15 56 49.4**	**+0.1**
SMRF				*e*Sg	**Sg**	**15 56 56.0**	**-0.1**
	12nm,0.3s						
BSTF	**la Bastide-des**	**0.55**	**222**	Pg	**Pb**	**15 56 51.5**	**+0.1**
TRIGF	**Trigance**	**0.58**	**161**	⇑Pg	**Pg**	**15 56 50.1**	**-0.2**
TRIGF				Sg	**Sg**	**15 56 58.3**	**+0.5**
RUSF	**Rustrel**	**0.60**	**234**	Pg	**Pg**	**15 56 51.4**	**+0.7**
MBDF	**Montbardon**	**0.62**	**45**	*e*Pg	**Pg**	**15 56 51.2**	**+0.1**
MBDF				*e*Sg	**Sg**	**15 56 59.3**	**+0.1**
	3.9nm,0.3s						
ISO	**Isola**	**0.65**	**99**	Pg	**Pg**	**15 56 51.3**	**-0.5**
ORIF	**Oris-en-Rattie**	**0.65**	**343**	*e*Pg	**Pg**	**15 56 51.6**	**-0.2**
ORIF				*e*Sg	**Sg**	**15 57 00.3**	**0.0**
	8.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.65**	**343**	Pg	**Pg**	**15 56 51.4**	**-0.4**
ARTF	**Artigues**	**0.75**	**200**	Pg	**Pg**	**15 56 54.2**	**+0.6**
CALF	**Calern**	**0.78**	**134**	Pg	**Pg**	**15 56 54.7**	**+0.6**
SPIF	**crte de Spivo**	**0.81**	**107**	⇓Pg	**Pg**	**15 56 54.8**	**-0.1**
MVIF	**Mont Vial**	**0.82**	**119**	Pg	**Pb**	**15 56 55.9**	**-0.2**
MVIF				Sn	**Sn**	**15 57 10.9**	**+0.7**
SAUF	**chteau de Sau**	**0.83**	**245**	Pn	**Pb**	**15 56 57.0**	**+0.9**
LEPF	**PUYLOUBIER**	**0.84**	**203**	Pg	**Pg**	**15 56 55.5**	**+0.2**
LEPF				Sg	**Sg**	**15 57 06.6**	**+0.4**
GDM	**Grand'Maison**	**0.91**	**358**	Pg	**Pg**	**15 56 56.3**	**-0.4**
FLAF	**Flassans-sur-l**	**0.91**	**175**	Pg	**Pg**	**15 56 55.9**	**-0.9**
TURF	**col de Turini**	**0.95**	**109**	Pg	**Pg**	**15 56 57.3**	**-0.1**
TURF				Sg	**Sb**	**15 57 10.8**	**-0.2**
TURF				Sn	**Sn**	**15 57 14.1**	**+0.8**
LMR	**La Mourre**	**0.99**	**165**	*e*Pg	**Pg**	**15 56 57.6**	**-0.7**
LMR				*e*Sg	**Sg**	**15 57 10.5**	**-0.7**
	18nm,0.2s						
SBF	**Sospel**	**1.02**	**115**	*e*Pg	**Pg**	**15 56 59.1**	**+0.3**
SBF				*e*Sg	**Sg**	**15 57 12.5**	**+0.5**
	12nm,0.3s						
SAOF	**Saorge**	**1.05**	**106**	Pg	**Pg**	**15 56 59.7**	**+0.3**
SAOF				Sg	**Sb**	**15 57 15.1**	**+1.0**
VIVF	**Saint-Julien-l**	**1.20**	**298**	*e*Pg	**Pg**	**15 57 01.5**	**-0.7**
VIVF				*e*Sg	**Sg**	**15 57 17.8**	**+0.1**
	2.3nm,0.2s						
LPG	**La Plagne**	**1.28**	**19**	*e*Pg	**Pg**	**15 57 03.4**	**-0.3**
LPG				*e*Sg	**Sg**	**15 57 19.8**	**-0.5**
	5.1nm,0.3s						
LPL	**La Plagne**	**1.29**	**18**	*e*Pg	**Pg**	**15 57 03.6**	**-0.4**
LPL				*e*Sg	**Sg**	**15 57 20.0**	**-0.7**
	3.3nm,0.3s						
RSL	**Roselend**	**1.43**	**13**	Pn	**Pb**	**15 57 06.4**	**-0.1**
ASEAF	**Site Antares,**	**1.50**	**180**	Pn	**Pn**	**15 57 06.5**	**+0.1**
ASEAF				Sn	**Sg**	**15 57 28.0**	**+0.6**
SSB	**Saint Sauveur**	**1.51**	**311**	Pn	**Pn**	**15 57 06.1**	**-0.8**
OGSI	**Sixt**	**1.82**	**13**	Pg	**Pg**	**15 57 14.4**	**+0.3**
CABF	**La Chapelle**	**2.32**	**359**	*e*Pg	**Pb**	**15 57 22.3**	**+0.8**
CABF				*e*Sg	**Sg**	**15 57 52.2**	**-1.5**
	1.5nm,0.3s						
PGF	**Pioggiola**	**2.71**	**129**	*e*Pn	**Pn**	**15 57 21.8**	**-1.7**
PGF				*e*Sn	**Sn**	**15 57 52.6**	**-4.1**
	0.4nm,0.2s						

*TIR **09** 15:58:40.1, 43°.66N×18°.89E, h18km, Md3.9*

*MOS **09** 15:58:40.9±1.1, 42°.86N×18°.45E, h10km, mb4.5/5, Error ellipse: s-maj=7.2km s-min=4.0km az=93.6*

*PDG **09** 15:58:42.6±0.1, 42°.91N×18°.48E, h16km, MD3.9/13, ML3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*BGR **09** 15:58:42.5±0.9, 42°.81N×19°.20E, h10km, ML4.1/5, Error ellipse: s-maj=23.3km s-min=13.3km az=62.0*

*BEO **09** 15:58:43.3±0.2, 42°.91N×18°.48E, h16km±1km, ML3.8/21*

*RHSSO **09** 15:58:43.8±0.2, 42°.93N×18°.47E, h8km±1km, ML4.1/18*

*NEIC **09** 15:58:44±1.5, 42°.84N±0°.05×18°.47E±0°.07, h20km±5km, mb4.4/12, ML3.9(PDG), Error ellipse: s-maj=7.5km s-min=6.4km az=62.0*

*LDG **09** 15:58:45.4±0.1, 42°.98N×18°.52E, h10km, Ml4.0/22, Error ellipse: s-maj=3.7km s-min=1.8km az=7.0*

*PRU **09** 15:58:45.9±0.0, 42°.99N×18°.65E, h10km, M4.4*

*IDC **09** 15:58:47.5±2.3, 42°.97N×18°.51E, h52km±21km, mb3.5/8, mbtmp3.8/17, ML3.7/9, MS3.6/2, Error ellipse: s-maj=18.8km s-min=12.9km az=15.0*

ISC 09 15:58:43.3±0.7**, 42°.91N**±0°.02×**18°.48E**±0°.01**, h20**km±3km**, n331,** σ1§**87**/461**, mb4.2**/20**, 20C-31D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.04**	**97**	⇑*i*Pg	**Pg**	**15 58 46.8**	**-0.3**
BRY				*e*Sg	**Sg**	**15 58 48.3**	**-1.3**
BRY	**Bratogost**	**0.04**	**97**	⇑*i*Pg	**Pg**	**15 58 47.0**	**-0.1**
BRY				*i* Sg	**Sg**	**15 58 50.0**	**+0.4**
TREB	**Trebinje**	**0.21**	**207**	⇓*i*Pg	**Pb**	**15 58 48.6**	**+0.2**
TREB				*e*Sg	**Sg**	**15 58 53.0**	**+0.7**
TREB	**Trebinje**	**0.21**	**207**	*e*Pg	**Pb**	**15 58 48.7**	**+0.3**
TREB				*e*Sg	**Sg**	**15 58 53.4**	**+1.1**
DBRK	**Dubrovnik**	**0.34**	**226**	*i* Pg	**Pg**	**15 58 49.5**	**-1.2**
DBRK				Sg	**Sg**	**15 58 55.9**	**+0.2**
NKME	**Niksic**	**0.38**	**112**	⇑*i*Pg	**Pg**	**15 58 50.1**	**-1.2**
NKME				*i* Sg	**Sg**	**15 58 55.4**	**-1.4**
UPM	**Unac-Piva**	**0.43**	**46**	⇓*i*Pg	**Pg**	**15 58 51.7**	**-0.7**
UPM				*e*Sg	**Sg**	**15 58 58.4**	**-0.1**
UPM	**Unac-Piva**	**0.43**	**46**	*e*Pg	**Pg**	**15 58 51.0**	**-1.4**
UPM				*i* Sg	**Sg**	**15 58 58.1**	**-0.4**
HCY	**Herceg Novi**	**0.46**	**179**	⇓*i*Pg	**Pb**	**15 58 52.2**	**-0.6**
HCY				*e*Sg	**Sb**	**15 59 00.3**	**+1.1**
HCY	**Herceg Novi**	**0.46**	**179**	*e*Pg	**Pb**	**15 58 51.6**	**-1.2**
HCY				*i* Sg	**Sg**	**15 58 59.1**	**0.0**
CEME	**Cevo**	**0.48**	**138**	⇓*i*Pg	**Pb**	**15 58 52.0**	**-1.2**
CEME				*i* Sg	**Sg**	**15 58 59.9**	**0.0**
STON	**Ston**	**0.57**	**267**	⇓*i*Pg	**Pb**	**15 58 53.1**	**-1.6**
STON				*e*Sg	**Sb**	**15 59 02.5**	**+0.1**
STON	**Ston**	**0.57**	**267**	*i* Pg	**Pb**	**15 58 53.3**	**-1.4**
STON				Sg	**Sg**	**15 59 03.0**	**+0.4**
STON	**Ston**	**0.57**	**267**	*e*Pg	**Pb**	**15 58 53.1**	**-1.6**
STON				*e*Sg	**Sg**	**15 59 02.9**	**+0.4**
BUM	**Brajici-Budva**	**0.68**	**153**	⇓*i*Pg	**Pb**	**15 58 55.5**	**-1.0**
BUM				*i* Sg	**Sg**	**15 59 06.4**	**+0.5**
PDG	**Podgorica**	**0.74**	**130**	Pg	**Pb**	**15 58 56.2**	**-1.4**
PDG	**Podgorica**	**0.74**	**130**	*e*Pg	**Pb**	**15 58 56.6**	**-1.0**
PDG				*e*Sg	**Sg**	**15 59 08.7**	**+0.8**
TTG	**Podgorica**	**0.74**	**130**	⇓*i*Pg	**Pb**	**15 58 56.6**	**-1.0**
TTG				*i* Sg	**Sg**	**15 59 08.5**	**+0.6**
KOME	**Kolasin**	**0.76**	**94**	⇓*i*Pg	**Pb**	**15 58 57.0**	**-1.0**
KOME				*i* Sg	**Sg**	**15 59 09.2**	**+0.6**
PLE	**Pljevlja**	**0.79**	**57**	*e*Pg	**Pb**	**15 58 57.4**	**-1.1**
PLE				*i* Sg	**Sg**	**15 59 09.9**	**+0.5**
DRME	**Dracevica, Mon**	**0.89**	**144**	⇑*i*Pg	**Pb**	**15 59 00.0**	**-0.1**
DRME				*e*Sg	**Sn**	**15 59 13.3**	**+0.2**
DRME	**Dracevica, Mon**	**0.89**	**144**	*e*Pg	**Pb**	**15 58 59.3**	**-0.8**
DRME				*i* Sg	**Sn**	**15 59 13.4**	**+0.3**
RUDO	**Rudo**	**0.96**	**42**	⇑*i*Pg	**Pb**	**15 59 00.2**	**-1.2**
RUDO				*e*Sg	**Sg**	**15 59 14.5**	**-0.3**
RUDO	**Rudo**	**0.96**	**42**	*e*Pg	**Pb**	**15 59 00.7**	**-0.7**
RUDO				*e*Sg	**Sg**	**15 59 14.6**	**-0.3**
IVA	**Berane**	**1.04**	**91**	⇓*i*Pg	**Pb**	**15 59 02.1**	**-0.6**
IVA				*i* Sg	**Sg**	**15 59 18.5**	**+1.2**
ULC	**Ulcinj**	**1.10**	**149**	⇑*i*Pg	**Pn**	**15 59 03.1**	**-0.6**
ULC				*i* Sg	**Sg**	**15 59 20.5**	**+1.3**
PVY	**Plav**	**1.13**	**106**	⇓*i*Pg	**Pn**	**15 59 03.7**	**-0.5**
PVY				*i* Sg	**Sg**	**15 59 21.7**	**+1.4**
MAKA	**Makarska**	**1.14**	**290**	*i* Pg	**Pb**	**15 59 04.5**	**+0.2**
MAKA				Sg	**Sg**	**15 59 21.2**	**+0.9**
RICI	**Ricice**	**1.15**	**301**	*e*Pg	**Pg**	**15 59 05.4**	**-0.2**
RICI				Sg	**Sg**	**15 59 22.1**	**+1.4**
SJES	**Sjenica**	**1.15**	**72**	*e*Pg	**Pn**	**15 59 04.4**	**-0.1**
SJES				*e*Sg	**Sn**	**15 59 19.9**	**+0.3**
SJES	**Sjenica**	**1.15**	**72**	*e*Pg	**Pb**	**15 59 04.7**	**+0.1**
SJES				*e*Sg	**Sn**	**15 59 20.0**	**+0.3**
BBLS	**Lazići**	**1.17**	**35**	*e*Pg	**Pn**	**15 59 04.9**	**+0.2**
BBLS				*e*Sg	**Sn**	**15 59 20.7**	**+0.5**
BBLS	**Lazići**	**1.17**	**35**	*e*Pg	**Pb**	**15 59 05.2**	**+0.2**
BBLS				*e*Sg	**Sg**	**15 59 21.4**	**-0.1**
LSTV	**Lastovo**	**1.18**	**264**	*i* Pg	**Pn**	**15 59 04.9**	**+0.3**
LSTV				Sg	**Sg**	**15 59 21.5**	**0.0**
HAPS	**Han Pijesak,Bl**	**1.23**	**16**	*e*Pg	**Pn**	**15 59 05.8**	**+0.3**
HAPS				*e*Sg	**Sn**	**15 59 21.9**	**+0.3**
BCI	**Bajram Curri**	**1.29**	**114**	P	**Pb**	**15 59 07.5**	**+0.5**
	baz=145						
BCI				S	**Sg**	**15 59 27.5**	**+2.2**
	baz=145						
IVAS	**Ivanjica**	**1.39**	**61**	*e*Pg	**Pn**	**15 59 08.3**	**+0.5**
IVAS				*e*Sg	**Sb**	**15 59 26.9**	**+0.8**
SRKY	**Kupres RS**	**1.50**	**321**	*e*Pg	**Pb**	**15 59 11.2**	**+0.5**
SRKY				*e*Sg	**Sg**	**15 59 31.0**	**-1.0**
HVAR	**Hvar**	**1.51**	**281**	*e*Pn	**Pb**	**15 59 11.0**	**+0.2**
HVAR				Sn	**Sg**	**15 59 31.9**	**-0.4**
DIVS	**Divibare**	**1.62**	**42**	Pn	**Pn**	**15 59 11.3**	**+0.4**
DIVS	**Divibare**	**1.62**	**42**	⇓*i*Pn	**Pn**	**15 59 11.6**	**+0.7**
DIVS				*e*Sn	**Sb**	**15 59 33.7**	**+1.0**
DIVS	**Divibare**	**1.62**	**42**	*e*Pg	**Pn**	**15 59 11.6**	**+0.7**
DIVS				*e*Sg	**Sb**	**15 59 34.0**	**+1.3**
TEKS	**Tekeris**	**1.81**	**25**	*e*Pn	**Pn**	**15 59 13.0**	**-0.4**
TEKS				*e*Sn	**Sb**	**15 59 37.1**	**-1.0**
MGRS	**Mrkonjic Grad**	**1.82**	**327**	*e*Pn	**Pn**	**15 59 14.8**	**+1.3**
MGRS				*e*Sn	**Sb**	**15 59 38.3**	**0.0**
DOB	**Doboj**	**1.85**	**352**	*e*Pn	**Pn**	**15 59 14.8**	**+0.9**
DOB				*e*Sn	**Sb**	**15 59 38.8**	**-0.3**
KIJV	**Kijevo**	**1.87**	**307**	*e*Pn	**Pb**	**15 59 17.4**	**+0.6**
KIJV				Sn	**Sg**	**15 59 43.2**	**-0.4**
TIR	**Tirane**	**1.87**	**146**	⇓P	**Pb**	**15 59 16.0**	**-0.8**
TIR	**Tirane**	**1.87**	**146**	Pn	**Pn**	**15 59 13.7**	**-0.5**
TIR	**Tirane**	**1.87**	**146**	*e*Pn	**Pn**	**15 59 15.5**	**+1.3**
TIR				*e*Sn	**Sn**	**15 59 37.8**	**+0.6**
TIR	**Tirane**	**1.87**	**146**	P	**Pb**	**15 59 18.2**	**+1.4**
	baz=162						
TIR				S	**Sg**	**15 59 48.3**	**+4.7**
	baz=162						
TIR	**Tirane**	**1.87**	**146**	P	**Pn**	**15 59 13.7**	**-0.5**
GRUS	**Gruza**	**1.90**	**58**	*e*Pn	**Pn**	**15 59 15.3**	**+0.6**
GRUS				*e*Sn	**Sn**	**15 59 39.4**	**+1.3**
TRUS	**Trudelj**	**1.92**	**46**	*e*Pn	**Pn**	**15 59 15.5**	**+0.5**
TRUS				*e*Sn	**Sb**	**15 59 40.0**	**-1.3**
BLJ	**Bijeljina**	**1.96**	**17**	*e*Pn	**Pn**	**15 59 15.7**	**+0.2**
BLJ				*e*Sn	**Sn**	**15 59 40.4**	**+0.9**
SELS	**Selova**	**1.96**	**80**	*e*Pn	**Pn**	**15 59 16.4**	**+0.9**
SELS				*e*Sn	**Sn**	**15 59 39.5**	**0.0**
BLY	**Banja Luka**	**2.07**	**333**	⇓*i*Pn	**Pn**	**15 59 17.9**	**+1.0**
BLY				*e*Sn	**Sn**	**15 59 43.7**	**+1.6**
BLY	**Banja Luka**	**2.07**	**333**	*e*Pn	**Pb**	**15 59 18.9**	**-1.3**
BLY				*e*Sn	**Sb**	**15 59 44.1**	**-1.3**
ZIRJ	**Zirje**	**2.20**	**291**	*e*Pn	**Pb**	**15 59 21.2**	**-1.3**
ZIRJ				Sn	**Sb**	**15 59 48.1**	**-1.2**
MORI	**Morici**	**2.24**	**296**	*e*Pn	**Pb**	**15 59 22.9**	**-0.1**
MORI				Sn	**Sb**	**15 59 51.9**	**+1.6**
SGRT	**San Giovanni R**	**2.33**	**241**	Pn	**Pn**	**15 59 19.8**	**-0.9**
SKO	**Skopje**	**2.38**	**112**	*i* Pn	**Pb**	**15 59 23.9**	**-1.6**
A051A	**Mrakovica**	**2.39**	**332**	*e*Pn	**Pn**	**15 59 23.5**	**+2.0**
A051A				*e*Sn	**Sb**	**15 59 53.1**	**-1.8**
PRIJ	**Prijedor**	**2.43**	**329**	*e*Pn	**Pn**	**15 59 23.4**	**+1.5**
PRIJ				*e*Sn	**Sn**	**15 59 53.3**	**+2.3**
FRGS	**Fruska Gora**	**2.45**	**23**	*e*Sn	**Sb**	**15 59 54.2**	**-2.2**
FRGS	**Fruska Gora**	**2.45**	**23**	*e*Pn	**Pn**	**15 59 22.2**	**0.0**
FRGS				*e*Sn	**Sn**	**15 59 51.3**	**-0.2**
BARS	**Barje**	**2.46**	**91**	*e*Pn	**Pn**	**15 59 23.6**	**+1.3**
BOVS	**Bovan**	**2.47**	**72**	*e*Pn	**Pn**	**15 59 22.4**	**0.0**
BOVS				*e*Sn	**Sn**	**15 59 52.0**	**0.0**
OHR	**Ohrid**	**2.49**	**135**	*i* Pn	**Pb**	**15 59 26.4**	**-1.1**
UDBI	**Udbina**	**2.55**	**310**	*e*Pn	**Pb**	**15 59 27.6**	**-0.8**
UDBI				Sn	**Sb**	**16 00 00.6**	**+1.2**
MATE	**Matera**	**2.62**	**211**	⇑P	**Pn**	**15 59 24.2**	**-0.3**
DUGI	**Dugi Otok**	**2.72**	**295**	*e*Pn	**Pn**	**15 59 28.1**	**+2.2**
DUGI				Sn	**Sb**	**16 00 02.4**	**-1.7**
KUBS	**Kucevo**	**2.76**	**56**	*e*Pn	**Pn**	**15 59 26.5**	**0.0**
KUBS				*e*Sn	**Sn**	**15 59 59.2**	**-0.1**
SCTE	**Santa Cesarea**	**2.83**	**180**	Pn	**Pn**	**15 59 26.5**	**-0.9**
VIRC	**Vir**	**2.85**	**300**	*e*Pn	**Pn**	**15 59 30.1**	**+2.5**
VIRC				Sn	**Sb**	**16 00 05.5**	**-2.4**
KBN	**Korca**	**2.86**	**142**		**Pn**	**15 59 28.1**	**+0.1**
KBN	**Korca**	**2.86**	**142**	P	**Pn**	**15 59 30.7**	**+2.8**
	baz=154						
KBN				S	**Sb**	**16 00 10.4**	**+2.0**
	baz=154						
KBN	**Korca**	**2.86**	**142**	P	**Pn**	**15 59 28.1**	**+0.1**
ZAGS	**Zajecar**	**2.88**	**70**	*e*Pn	**Pn**	**15 59 28.5**	**+0.3**
ZAGS				*e*Sn	**Sn**	**16 00 02.4**	**+0.2**
BOSS	**Bosilegrad**	**2.98**	**97**	*e*Pn	**Pn**	**15 59 30.7**	**+1.2**
BOSS				*e*Sn	**Sn**	**16 00 04.3**	**-0.3**
MDVR	**Moldovita**	**3.00**	**50**	⇑P	**Pn**	**15 59 30.2**	**+0.4**
STIP	**Stip**	**3.00**	**113**	*i* Pn	**Pb**	**15 59 33.7**	**-2.5**
FNA	**Florina**	**3.03**	**133**	Pn	**Pn**	**15 59 31.3**	**+1.0**
FNA	**Florina**	**3.03**	**133**	P	**Pn**	**15 59 32.6**	**+2.4**
	baz=146						
FNA				S	**Sb**	**16 00 11.7**	**-1.6**
	baz=146						
FNA	**Florina**	**3.03**	**133**	P	**Pn**	**15 59 31.3**	**+1.0**
ZAPS	**Zavoj**	**3.06**	**82**	*e*Pn	**Pn**	**15 59 32.0**	**+1.3**
ZAPS				*e*Sn	**Sn**	**16 00 06.7**	**-0.1**
NVLJ	**Novalja**	**3.10**	**304**	*e*Pn	**Pn**	**15 59 33.4**	**+2.3**
BANR	**Banloc**	**3.13**	**37**	⇑P	**Pn**	**15 59 31.7**	**+0.3**
BLKB	**Belogradchik**	**3.15**	**75**	⇑P	**Pn**	**15 59 33.1**	**+1.3**
LSK	**Leskovik**	**3.18**	**149**	P	**Pb**	**15 59 36.9**	**-2.3**
	baz=159						
KOVH	**Kovagotottos**	**3.19**	**355**	P	**Pn**	**15 59 33.0**	**+0.6**
KOVH				S	**Sn**	**16 00 10.7**	**+0.9**
RABC	**Rab**	**3.25**	**306**	*i* Pn	**Pn**	**15 59 35.6**	**+2.5**
MORH	**Mrgy, Hungar**	**3.31**	**2**	⇓P	**Pn**	**15 59 34.5**	**+0.5**
MORH	**Mrgy, Hungar**	**3.31**	**2**	⇓*i*Pn	**Pn**	**15 59 34.5**	**+0.5**

MORH eSn Sn 16 00 13.9 +1.2
MORH Mrgy, Hungar 3.31 2 P Pn 15 59 34.5 +0.5
MORH S Sn 16 00 12.6 -0.2
KEK Kerkira 3.34 162 Pn Pn 15 59 33.4 -1.1
VAY Valandovo 3.43 116 *i* Pn Pn 15 59 37.5 +1.9
PAOL Paolisi 3.47 239 Pn Pn 15 59 37.1 +0.9
BOJS Bojanci 3.48 319 *i* Pn Pn 15 59 39.3 +2.9
BOJS *i* Sn Sn 16 00 20.5 +3.5
BOJS IAML 16 00 52.4
comp=Z,219nm,0.5s
VTS Vitosha 3.51 93 ⇓P Pn 15 59 38.3 +1.4
VTS Vitosha 3.51 93 P Pn 15 59 38.4 +1.4
VTS Vitosha 3.51 93 *eP* Pn 15 59 38.5 +1.5
VTS Vitosha 3.51 93 P Pn 15 59 38.4 +1.4
RMGR Halanga-Turnu 3.52 59 ⇓P Pn 15 59 38.8 +1.9
BZS Buzias 3.52 39 ⇑P Pn 15 59 36.8 -0.1
BZS Buzias 3.52 39 P Pn 15 59 36.8 -0.1
CUC Castrocucco 3.53 215 Pn Pn 15 59 37.3 +0.1
CAMP Campotosto 3.75 266 Pn Pn 15 59 41.6 +1.3
BEHE Becsehely 3.76 342 ⇓ *i* Pn Pn 15 59 41.9 +1.7
BEHE *eSn* Sn 16 00 25.0 +1.0
BEHE Becsehely 3.76 342 P Pn 15 59 42.0 +1.7
BEHE S Sn 16 00 25.2 +1.2
SMRN Sveta Marina 3.78 306 *eP* Pn 15 59 42.0 +1.6
AQU L'Aquila 3.79 263 Pn Pn 15 59 41.0 +0.4
AQU L'Aquila 3.79 263 P Pn 15 59 41.0 +0.4
MPEP Malo Peshtene 3.88 82 *eP* Pn 15 59 44.2 +2.4
TIP Timpagrande 3.95 200 Pn Pn 15 59 42.9 +0.1
BRJN Brijuni 3.96 302 *ePn* Pn 15 59 44.2 +1.3
FDMO Fiordimonte 3.96 274 Pn Pn 15 59 44.6 +1.6
TIH Tihany 4.01 354 P Pn 15 59 44.9 +1.2
SIRR Siria 4.05 33 ⇓P Pn 15 59 44.1 -0.2
CEY Cerknica 4.06 316 *ePn* Pn 15 59 45.1 +0.8
CEY *eSn* Sn 16 00 32.1 +0.8
MMB Musomiste 4.11 107 *eP* Pn 15 59 47.7 +2.6
PGB Panagyurishte 4.21 93 *eP* Pn 15 59 48.8 +2.4
SRS Serrai 4.21 113 P Pn 15 59 51.3 +4.9
MPLH Magyarpolny 4.31 351 P Pn 15 59 49.2 +1.3
MPLH S Sn 16 00 37.8 +0.3
DEV Deva 4.35 45 ⇓P Pn 15 59 50.3 +2.0
CESX Cesi 4.35 268 Pn Pn 15 59 49.6 +1.3
MURB Monte Urbino 4.38 277 Pn Pn 15 59 50.5 +1.8
CSKK Cskako 4.46 358 P Pn 15 59 51.1 +1.3
CSKK S Sn 16 00 43.3 +2.2
SOKA Soboth 4.50 328 *i* Pn Pn 15 59 53.2 +2.8
comp=Z,20nm,0.2s,SNR=26
SOKA *eSn* Sn 16 00 43.3 +1.1
comp=Z,68nm,0.6s
PLVB Pleven 4.52 82 ⇓P Pn 15 59 52.7 +2.1
OBKA Obir 4.56 323 *ePn* Pn 15 59 53.1 +1.8
OBKA *eSn* Sn 16 00 44.8 +1.0
OBKA Obir 4.56 323 Pn Pn 15 59 54.3 +3.0
comp=Z,8.5nm,0.2s,SNR=16
BUD Budapest 4.59 5 P Pn 15 59 52.2 +0.6
BUD S Sn 16 00 44.0 -0.4
SABO M.te Sabotino 4.65 313 Pn Pn 15 59 53.8 +1.3
ARSA Arzberg 4.82 335 ⇓ *i* Pn Pn 15 59 56.5 +1.7
ARSA *eSn* Sn 16 00 50.3 +0.2
ARSA Arzberg 4.82 335 Pn Pn 15 59 57.0 +2.2
comp=Z,36nm,0.3s,SNR=39
ARSA *eSn* Sn 16 00 51.0 +0.9
comp=Z,45nm,0.7s
ARSA Arzberg 4.82 335 *ePn* Pn 15 59 57.4 +2.6
SNR=32
ARSA *eSn* Sn 16 00 50.6 +0.5
SNR=1.7
SRO Srobarova 4.91 359 *ePN* Pn 15 59 59.6 +3.6
SRO *eSN* Sn 16 00 56.4 +4.3
SRO Srobarova 4.91 359 *eP* Pn 15 59 59.6 +3.6
SRO *e* 16 00 56.4
LATE Laterza 4.92 269 Pn Pn 15 59 57.0 +0.8
SOP Sopron 4.96 345 P Pn 15 59 58.2 +1.5
SOP S Sn 16 00 54.1 +0.6
PRED Cave del Predi 4.98 317 Pn Pn 15 59 58.5 +1.5
HUMR Humele 4.98 69 ⇑P Pn 15 59 58.4 +1.4
RONA Rosalia, Austr 5.03 343 Pn 15 59 59.1 +1.4
RONA Sn 16 00 55.7 +0.4
RONA Rosalia, Austr 5.03 343 Pn Pn 15 59 59.1 +1.4
comp=Z,16nm,0.3s,SNR=12
RONA *eSn* Sn 16 00 55.7 +0.4
comp=Z,28nm,0.5s
CEL Celeste 5.04 204 Pn Pn 15 59 57.3 -0.6
COPA Copaceanca 5.05 74 ⇓P Pn 15 59 58.9 +0.9
MYKA Terra Mystica 5.07 319 *ePn* Pn 16 00 01.2 +2.9
comp=Z,8.2nm,0.3s
PSZ Piszkesteto 5.11 11 ⇑P Pn 15 59 58.8 0.0
PSZ Piszkesteto 5.11 11 Pn Pn 15 59 58.8 0.0
PSZ Piszkesteto 5.11 11 P Pn 15 59 59.1 +0.2
PSZ S Sn 16 00 55.3 -1.9
PSZ Piszkesteto 5.11 11 P Pn 15 59 58.8 0.0
STAL STALIGIAL 5.31 311 Pn Pn 16 00 02.1 +0.6
OSSC Osservatorio P 5.32 279 Pn Pn 16 00 01.7 0.0
CLUD Cludinico 5.34 314 Pn Pn 16 00 03.5 +1.5
CONA Conrad Observa 5.35 341 Pn Pn 16 00 04.5 +2.4
comp=Z,5.4nm,0.3s,SNR=15
CONA *eSn* Sn 16 01 03.8 +0.6
comp=Z,34nm,0.6s
VOIR 5.36 60 ⇓P Pn 16 00 04.7 +2.4
ZST Bratislava 5.38 350 *ePN* Pn 16 00 04.2 +1.8
ZST *eSN* Sn 16 01 02.3 -1.4
ZST Bratislava 5.38 350 *eP* Pn 16 00 04.2 +1.8
ZST *e* 16 01 02.3
TEOL Teolo 5.48 299 Pn Pn 16 00 04.8 +1.0
CIMO Cimolais 5.49 310 Pn Pn 16 00 04.9 +0.8
MODS Modra-Piesok 5.53 352 *ePN* Pn 16 00 06.6 +2.0
MODS *eSN* Sn 16 01 06.5 -1.1
MODS Modra-Piesok 5.53 352 *eP* Pn 16 00 06.6 +2.0
MODS *e* 16 01 06.5
KBA Koelnbreinsper 5.54 321 *i* Pn Pn 16 00 08.1 +3.4
comp=Z,26nm,0.5s,SNR=7.5
KBA Koelnbreinsper 5.54 321 *ePn* Pn 16 00 08.0 +3.2
SNR=7.6
RDO Rodhopi 5.54 106 Pn Pn 16 00 06.0 +1.3
VYHS Vyhne 5.59 2 *ePN* Pn 16 00 06.2 +0.8
VYHS *eSN* Sn 16 01 07.6 -1.5
VYHS Vyhne 5.59 2 *eP* Pn 16 00 06.2 +0.8
VYHS *e* 16 01 07.6
CASP Castiglione de 5.60 271 Pn Pn 16 00 05.5 0.0
SGRR Singureni 5.60 74 ⇑P Pn 16 00 07.2 +1.7
ZCCA Zocca 5.63 287 Pn 16 00 07.3 +1.3
SMOL Smolenice 5.66 353 *eP* Pn 16 00 08.3 +2.1
ABTA Abfaltersbach 5.72 314 Pn Pn 16 00 09.2 +2.0
comp=Z,2.5nm,0.2s,SNR=15
ABAH Abaujker 5.73 19 P Pn 16 00 07.8 +0.6
ABAH S Sn 16 01 09.8 -2.5
MOA Molln 5.76 330 *i* Pn Pn 16 00 11.0 +3.2
comp=Z,17nm,0.3s,SNR=11
MOA *eSn* Sn 16 01 15.9 +2.6
comp=Z,54nm,0.6s
MOA Molln 5.76 330 *ePn* Pn 16 00 11.3 +3.6
SNR=16
MOA *eSn* Sn 16 01 15.7 +2.5
SNR=3.5
CTI Castel Tesino 5.81 305 Pn Pn 16 00 09.1 +0.7
CTI Castel Tesino 5.81 305 P Pn 16 00 09.1 +0.7
DOPR Dopca 5.82 56 ⇓P Pn 16 00 11.0 +2.5
BIOA Bad Ischl, Aus 5.88 326 Pn 16 00 13.0 +3.7
BIOA Bad Ischl, Aus 5.88 326 Pn Pn 16 00 13.0 +3.7
comp=Z,20nm,0.3s,SNR=7.5
ARCR ARCALIA 5.90 43 ⇑P Pn 16 00 10.5 +0.9
TRPA Tarpa 5.95 27 P Pn 16 00 10.9 +0.6
TRPA S Sn 16 01 14.6 -3.2
MLR Muntele Rosu 5.96 62 ⇑P Pn 16 00 13.0 +2.5
MLR Muntele Rosu 5.96 62 P Pn 16 00 13.4 +2.9
comp=Z,1.0nm,0.3s,baz=207,slow=7.4,SNR=19
MLR S Sn 16 01 19.2 +1.0
comp=Z,11nm,0.6s,baz=28,slow=23,SNR=4.6
comp=Z,14nm,0.7s
MLR Muntele Rosu 5.96 62 Pn Pn 16 00 11.3 +0.8
VLC Villacollemand 6.01 285 Pn Pn 16 00 12.6 +1.3
RJOB Jochberg 6.27 322 *ePn* Pn 16 00 18.5 +3.7
SNR=22
RJOB *eSn* Sn 16 01 31.2 +5.3
SNR=2.4
ITM Ithomi 6.30 154 Pn Pn 16 00 14.7 -0.5
UZH Uzhgorod 6.31 24 *eP* Pn 16 00 18.7 +3.4
UZH *eS* Sn 16 01 32.9 +6.1
UZH MLR MLR
comp=N,95nm,12.0s
UZH MLR MLR
comp=E,70nm,12.0s
UZH MLR MLR
comp=Z,68nm,12.0s
SALO Salr 6.32 298 Pn Pn 16 00 15.8 +0.4
KRUC Moravsky 6.32 347 *ePN* Pn 16 00 14.6 -0.8
KRUC *eSN* Sn 16 01 27.9 +0.9
CRVS Cervenica-Dubn 6.35 18 *ePN* Pn 16 00 16.9 +1.2
CRVS *eSN* Sn 16 01 27.2 -0.4
CRVS Cervenica-Dubn 6.35 18 *eP* Pn 16 00 16.9 +1.2
CRVS *e* 16 01 27.2
RAFF Raffo Rosso 6.50 210 Pn Pn 16 00 17.5 -0.3
WTTA Wattenberg 6.51 314 *ePn* Pn 16 00 21.3 +3.1
comp=Z,6.9nm,0.2s
WTTA *eSn* Sn 16 01 32.9 +0.9
comp=Z,9.0nm,0.3s
WTTA Wattenberg 6.51 314 *ePn* Pn 16 00 22.6 +4.4
SNR=16
PLOR Plostina 6.55 61 ⇓P Pn 16 00 19.7 +1.1
KOLS Kolonicke sedl 6.58 22 *ePN* Pn 16 00 20.7 +1.7
KOLS *eSN* Sn 16 01 31.3 -2.1
KOLS Kolonicke sedl 6.58 22 *eP* Pn 16 00 20.7 +1.7
KOLS *e* 16 01 31.3
WATA Walderalm 6.59 315 Pn 16 00 23.3 +4.1
WATA Sn 16 01 34.9 +1.1
WATA Walderalm 6.59 315 *ePn* Pn 16 00 23.3 +4.1
comp=Z,8.4nm,0.2s
WATA *eSn* Sn 16 01 34.9 +1.1
comp=Z,15nm,0.2s
WATA Walderalm 6.59 315 P Pn 16 00 23.3 +4.1
WATA 16 01 34.9
MSSA Maissana 6.66 285 Pn Pn 16 00 21.2 +1.2
BURAR Bucovina Array 6.69 43 ⇓P Pn 16 00 22.4 +1.9
BURAR Bucovina Array 6.69 43 Pn Pn 16 00 21.2 +0.7
BUR08 Bucovina Ar. S 6.70 43 Pn Pn 16 00 22.1 +1.4
SQTA Sankt Quirin 6.71 312 Pn 16 00 24.7 +3.8
SQTA Sn 16 01 38.3 +1.5
SQTA Sankt Quirin 6.71 312 *ePn* Pn 16 00 24.7 +3.8
comp=Z,7.9nm,0.3s
SQTA *eSn* Sn 16 01 38.3 +1.5
comp=Z,19nm,0.6s
STHS Stebnicka Huta 6.79 15 *ePN* Pn 16 00 24.3 +2.5
STHS *eSN* Sn 16 01 37.4 -1.1
STHS Stebnicka Huta 6.79 15 *eP* Pn 16 00 24.3 +2.5
STHS *e* 16 01 37.4
GEC2 GERESS Array S 6.81 332 Pn Pn 16 00 23.6 +1.4
GEC2 GERESS Array S 6.81 332 *ePn* Pn 16 00 25.3 +3.1
SNR=8.2
GEC2 *eSn* Sn 16 01 39.1 0.0
SNR=2.5
GERES GERESS Array B 6.81 332 P Pn 16 00 25.3 +3.1
comp=Z,3.2nm,0.3s,baz=157,slow=14,SNR=60
GERES S Sn 16 01 40.1 +1.0
comp=Z,5.7nm,0.4s,baz=142,slow=24,SNR=7.1
comp=Z,5.2nm,0.4s
GERES GERESS Array B 6.81 332 Pn Pn 16 00 24.0 +1.9
MOTA Moosalm 6.85 313 Pn 16 00 25.9 +3.1
MOTA Sn 16 01 40.2 0.0
MOTA Moosalm 6.85 313 *ePn* Pn 16 00 25.9 +3.1
comp=Z,13nm,0.4s
MOTA *eSn* Sn 16 01 40.2 0.0
comp=Z,30nm,0.5s
FETA Feichten 6.86 309 *ePn* Pn 16 00 25.6 +2.6
comp=Z,2.8nm,0.3s
ICOR Ion Corvin 6.88 77 ⇑P Pn 16 00 24.9 +1.8
MORC Moravsky Berou 6.90 355 Pn Pn 16 00 24.6 +1.2
MORC Moravsky Berou 6.90 355 *ePN* Pn 16 00 24.8 +1.4
MORC *eSN* Sn 16 01 40.5 -0.8
MORC Moravsky Berou 6.90 355 P Pn 16 00 24.6 +1.2
FUORN Ofenpass-Fuorn 6.92 305 Pn Pn 16 00 25.7 +1.8
PGF Pioggiola 6.99 270 *ePn* Pn 16 00 26.6 +1.9
PGF *eSn* Sn 16 01 41.6 -2.0
comp=Z,11nm,0.7s
KHC Kasperske Hory 7.10 333 Pn Pn 16 00 26.9 +0.8
KHC Kasperske Hory 7.10 333 *ePN* Pn 16 00 29.2 +3.1
KHC *eSN* Sn 16 01 45.8 -0.3
KHC Kasperske Hory 7.10 333 *eP* Pn 16 00 29.2 +3.1
KHC *e* 16 01 45.8
DAVOX Davos/Dischmat 7.23 305 P Pn 16 00 30.2 +2.1
comp=Z,2.3nm,0.3s,baz=284,slow=20,SNR=9.1
DAVOX S Sn 16 01 51.2 +1.5
comp=Z,22nm,0.5s,baz=147,slow=20,SNR=7.1
comp=Z,4.0nm,0.3s
KRLC Kraliky 7.26 351 *ePN* Pn 16 00 30.0 +1.6
KRLC Kraliky 7.26 351 *eP* Pn 16 00 30.0 +1.6
CFR Carcaliu 7.32 69 ⇓P Pn 16 00 31.7 +2.6
WET Wettzell 7.35 330 *eSn* Sn 16 01 52.2 -0.3
SNR=1.6
TIRR Tirgusor 7.37 74 Pn 16 00 29.6 -0.1
TIRR Tirgusor 7.37 74 P Pn 16 00 29.6 -0.1
DAVA Damuels 7.49 309 *ePn* Pn 16 00 35.2 +3.6
comp=Z,3.9nm,0.3s
DAVA *eSn* Sn 16 01 57.0 +1.0
comp=Z,41nm,0.5s
DAVA Damuels 7.49 309 *ePn* Pn 16 00 35.5 +3.9
SNR=4.7
DPC Dobruska-Polom 7.59 349 *ePN* Pn 16 00 34.6 +1.8
DPC Dobruska-Polom 7.59 349 *eP* Pn 16 00 34.6 +1.8
PLONS Plons/SG 7.66 306 *ePn* Pn 16 00 37.2 +3.3
SNR=4.9
PLONS *eSn* Sn 16 02 02.2 +2.1
SNR=4.1
SBF Sospel 8.10 281 *ePn* Pn 16 00 40.9 +1.0
SBF *eSn* Sn 16 02 07.9 -3.0
comp=Z,30nm,0.5s
ROTZ Rotzenmuhle 8.12 330 *eSn* Sn 16 02 09.2 -1.9
SNR=2.1
BRG Berggiesshubel 8.55 340 *eP* Pn 16 00 59.4 +13
BRG Amp 16 01 02.6
comp=Z,3.1nm,0.5s
BRG *ex* x 16 02 39.8
BRG Amp 16 03 41.4
comp=Z,25nm,1.4s
BRG Berggiesshubel 8.55 340 *eP* Pn 16 00 59.3 +13
BRG pmax pmax
comp=Z,3.0nm,0.5s
BRG pmax pmax
comp=Z,25nm,1.4s
TANN Tannenbergstha 8.57 333 *ePn* Pn 16 00 49.2 +3.0
SNR=4.4
MBDF Montbardon 8.66 286 *ePn* Pn 16 00 47.3 -0.3
MBDF *eSn* Sn 16 02 21.2 -3.5
comp=Z,6.5nm,0.3s
LMR La Mourre 8.77 277 *ePn* Pn 16 00 49.4 +0.5
LMR *eSn* Sn 16 02 24.2 -2.9
comp=Z,3.4nm,0.3s
BNI Bardonecchia 8.78 288 Pn Pn 16 00 48.3 -0.9
BNI Bardonecchia 8.78 288 P Pn 16 00 48.3 -0.9
LPG La Plagne 8.81 291 *ePn* Pn 16 00 50.5 +0.6
LPG *eSn* Sn 16 02 24.7 -4.0
comp=Z,13nm,0.3s
LPL La Plagne 8.83 291 *ePn* Pn 16 00 50.7 +0.7
LPL *eSn* Sn 16 02 24.4 -4.6
comp=Z,17nm,0.4s
BFO Black Forest 8.94 311 Pn Pn 16 00 52.7 +1.4
BFO Black Forest 8.94 311 P Pn 16 00 52.7 +1.4
MOX Moxa 9.06 331 *ePn* Pn 16 00 55.8 +3.0
SNR=3.8
MOX Moxa 9.06 331 P Pn 16 00 56.9 +4.0
IDI Anoyia 9.09 145 P Pn 16 00 52.3 -1.2
comp=Z,5.9nm,0.8s,baz=4.7,slow=14,SNR=1.3
IDI S Sn 16 02 29.3 -5.9
comp=Z,2.4nm,0.3s,baz=64,slow=11,SNR=1.3
CLL Collm 9.19 338 *ePn* Pn 16 00 49.0 -5.7
CLL *ePg* 16 01 38.0
CLL *eSn* Sn 16 02 22.0 -16
CLL *ex* x 16 02 39.0
CLL *ex* x 16 03 09.0
CLL *eSb* 16 03 14.0
CLL *eSg* 16 03 37.0
comp=Z,18nm,1.1s
ORIF Oris-en-Rattie 9.31 287 *ePn* Pn 16 00 57.2 +0.7
ORIF *eSn* Sn 16 02 36.7 -4.0
comp=Z,7.4nm,0.3s
SMRF Simiane la Rot 9.45 281 *ePn* Pn 16 00 59.2 +0.9
SMRF *eSn* Sn 16 02 40.0 -4.0
comp=Z,7.0nm,0.6s
HINF Hinteralfeld 9.54 305 *ePn* Pn 16 01 00.5 +0.9
HINF *eSn* Sn 16 02 41.6 -4.6
comp=Z,6.1nm,0.3s
CABF La Chapelle 9.56 297 *ePn* Pn 16 01 00.2 +0.3
CABF *eSn* Sn 16 02 42.5 -4.2
comp=Z,3.3nm,0.3s
CDF Champ du Feu 9.58 309 *ePn* Pn 16 01 00.4 +0.3
CDF *eSn* Sn 16 02 42.3 -4.9
comp=Z,3.7nm,0.4s
HAU Haudompre 9.93 305 *ePn* Pn 16 01 05.3 +0.4
HAU *eSn* Sn 16 02 51.0 -4.7
comp=Z,12nm,0.4s
KEST Kesra 10.06 228 LR LR 16 05 29.1
comp=Z,98nm,21.1s,baz=252,slow=40
VIVF Saint-Julien-l 10.16 286 *ePn* Pn 16 01 08.8 +0.8
VIVF *eSn* Sn 16 02 56.9 -4.5
comp=Z,2.5nm,0.3s
SSB Saint Sauveur 10.30 288 Pn Pn 16 01 09.6 -0.4
SSB Saint Sauveur 10.30 288 P Pn 16 01 09.6 -0.4
LASF Ste Croix 10.69 281 *ePn* Pn 16 01 16.5 +1.2
AKASG Malin Array Be 10.71 40 P Pn 16 01 17.2 +1.7
comp=Z,0.1nm,0.3s,baz=107,slow=19,SNR=2.0
comp=Z,0.4nm,0.5s
AKBB Malin Array Si 10.71 40 ⇓ *eP* Pn 16 01 17.0 +1.4
AKBB pmax pmax
comp=Z,9.0nm,1.5s
SMF Signal de Mont 11.05 295 *ePn* Pn 16 01 19.8 -0.5
SMF *eSn* Sn 16 03 18.1 -5.2
comp=Z,9.7nm,0.3s
LOR Lormes 11.21 298 *ePn* Pn 16 01 22.9 +0.4
LOR *eSn* Sn 16 03 22.0 -5.2
comp=Z,7.9nm,0.3s
SSF Saint Saulge 11.39 297 *ePn* Pn 16 01 24.9 +0.1
SSF *eSn* Sn 16 03 25.7 -5.7
comp=Z,2.7nm,0.3s
AVF Avril sur Loir 11.42 295 *ePn* Pn 16 01 25.6 +0.4
AVF *eSn* Sn 16 03 26.7 -5.4
comp=Z,2.5nm,0.4s
BGF Bois d'Agland 11.70 294 *ePn* Pn 16 01 28.7 -0.4
BGF *eSn* Sn 16 03 33.5 -5.6
comp=Z,8.6nm,0.3s
CAF Calviac 12.01 285 *ePn* Pn 16 01 33.7 +0.3
TCF Toulx Ste Croi 12.08 292 *ePn* Pn 16 01 34.7 +0.4
TCF *eSn* Sn 16 03 42.1 -6.3
comp=Z,3.6nm,0.3s
RJF Les Rejaudoux 12.43 287 *ePn* Pn 16 01 39.7 +0.7
LFF La Frestale 12.95 285 *ePn* Pn 16 01 46.6 +0.4
ANN Anapa 13.81 76 *eP* Pn 16 01 52.3 -5.6
ANN *eS* Sn 16 04 23.5 -7.0
ANN pmax pmax
comp=Z,61nm,1.3s
VSU Vasula 16.41 15 ⇑ *eP* Pn 16 02 33.3 +1.1
MMAI Mount Meron Ar 16.57 121 P P 16 02 36.4 -0.6
comp=Z,0.6nm,0.3s,baz=333,slow=14,SNR=2.8
comp=Z,1.3nm,0.5s
OBN Obninsk 16.96 38 *eP* Pn 16 02 38.6 -0.7
OBN pmax pmax
comp=Z,28nm,1.4s
OBN MLR MLR
comp=Z,80nm,16.0s
HFS Hagfors 17.50 352 P Pn 16 02 46.2 +0.3
comp=Z,0.3nm,0.3s,baz=174,slow=16,SNR=2.3
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 18.68 349 P Pn 16 03 02.1 +1.6
comp=Z,11nm,1.7s,baz=163,slow=11
NOA NORSAR Array B 18.68 349 P Pn 16 03 01.4 +0.9
baz=280,slow=14,SNR=3.1
comp=Z,1.2nm,0.8s
EKA Eskdalemuir Ar 18.75 319 P Pn 16 03 01.6 +0.3
baz=116,slow=9.4
comp=Z,0.3nm,0.3s
ESK Eskdalemuir 18.76 319 P Pn 16 03 01.7 +0.3
ESK Eskdalemuir 18.76 319 P Pn 16 03 01.7 +0.3
ESK pmax pmax
comp=Z,40nm,1.4s
NC204 NORSAR Array S 18.97 348 P Pn 16 03 05.0 +1.0
FINES FINESS Array B 19.12 11 P P 16 03 05.1 +0.3
comp=Z,0.3nm,0.3s,baz=181,slow=11,SNR=9.9
comp=Z,2.1nm,0.7s
FINES FINESS Array B 19.12 11 P Pn 16 03 05.5 -0.2
FINES FINESS Array B 19.12 11 *eP* Pn 16 03 06.4 +0.8
FIA1 FINESS Array S 19.12 11 P Pn 16 03 06.0 +0.4
BELG Belogornoye 21.67 54 ⇑ *eP* P 16 03 35.5 +3.0
BELG pmax pmax
comp=Z,3.0nm,1.0s
PRGR Permogore 24.74 31 *eP* P 16 04 04.5 +1.4
KIRV Kirov 24.78 40 ⇓ *eP* P 16 04 05.4 +1.9
ARCES ARCESS Array B 26.94 5 P P 16 04 22.0 -1.0
comp=Z,1.9nm,0.8s,baz=189,slow=10.0,SNR=1.2
comp=Z,1.9nm,0.8s
ARU Arti 28.80 48 ⇓ *eP* P 16 04 39.5 -0.2
ARU pmax pmax
comp=Z,27nm,5.1s
TOA0 Torodi Ar. Sit 33.01 211 P P 16 05 15.6 -1.6
TORD Torodi Ar. Bea 33.01 211 P P 16 05 18.0 +0.8
comp=Z,1.0nm,0.8s,baz=20,slow=9.0,SNR=4.6
comp=Z,1.0nm,0.8s
BRVK Borovoye 35.41 55 P P 16 05 36.7 -1.0
BRVK IAmb IAmb 16 06 03.5
comp=Z,6.4nm,1.5s
BRVK Borovoye 35.41 55 P P 16 05 36.7 -1.0
BRVK pmax pmax
comp=Z,6.0nm,1.5s
KKAR Karatay Array 37.54 71 P P 16 05 56.7 +0.7
KKAR Karatay Array 37.54 71 P P 16 05 56.7 +0.7
CHGR Chuyangaron 38.14 79 P P 16 06 01.5 +0.3
CHGR IAmb IAmb 16 06 03.3
comp=Z,5.9nm,0.8s
CHGR Chuyangaron 38.14 79 P P 16 06 01.5 +0.3
CHGR pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 40.46 71 ⇑ *eP* P 16 06 20.2 -0.4
AAK pmax pmax
comp=Z,4.0nm,1.4s
MKAR Makanchi Array 44.30 62 P P 16 06 52.0 +0.3
comp=Z,0.8nm,0.9s,baz=289,slow=7.6,SNR=2.4
comp=Z,0.8nm,0.9s
MKAR Makanchi Array 44.30 62 P P 16 06 51.1 -0.5
MKAR Makanchi Array 44.30 62 P P 16 06 52.0 +0.3
WMQ Urumqi 48.95 64 *eP* P 16 07 30.4 +2.2
HHC Hu-ho-hao-te 65.67 56 *eP* P 16 09 26.4 +0.1
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,390nm,5.1s
BILL Bilibino 66.75 13 *eP* P 16 09 34.2 +1.5
BILL *e* 16 10 01.7
BILL *e* 16 12 00.0
BILL pmax pmax
comp=Z,4.0nm,1.1s
PZH PanZhiHua 67.77 74 P P 16 09 43.4 +3.4
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,70nm,3.9s
LBTB Lobatse 67.90 173 P P 16 09 41.0 +0.5
LBTB Lobatse 67.90 173 P P 16 09 41.0 +0.5
LBTB pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 70.79 82 P P 16 09 58.0 -0.6
comp=Z,0.4nm,0.4s,baz=308,slow=7.7,SNR=6.7
comp=Z,0.4nm,0.4s
H23K Yukon River 71.20 355 P P 16 10 01.5 +1.1
H23K IAmb IAmb 16 10 26.5
comp=Z,4.3nm,1.2s
IMAR Indian Mountai 71.28 357 P P 16 10 01.7 +0.9
BOSA Boshof 71.44 174 P P 16 10 02.9 +0.6
comp=Z,1.1nm,0.6s,baz=13,slow=4.3,SNR=3.5
comp=Z,1.1nm,0.6s
H21K Melozitna Rive 71.56 356 P P 16 10 03.7 +1.2
H21K IAmb IAmb 16 10 10.9
comp=Z,3.7nm,0.9s
DAWY Dawson 71.94 350 P P 16 10 05.1 +0.2
DAWY IAmb IAmb 16 10 12.6
comp=Z,4.4nm,1.1s
J26L Joseph Creek 72.00 352 P P 16 10 06.0 +0.7
J26L IAmb IAmb 16 10 17.6
comp=Z,4.2nm,1.1s
ILAR Eielson Array 72.05 353 P P 16 10 06.0 +0.5
comp=Z,0.3nm,0.6s,baz=355,slow=5.8,SNR=4.1
comp=Z,0.3nm,0.6s
ILAR Eielson Array 72.05 353 P P 16 10 06.0 +0.5
BCAR Beaver Creek A 73.20 351 P P 16 10 13.1 +0.7
L27K Beaver Creek, 73.21 351 P P 16 10 13.4 +0.9
PCRV Puerto La Cruz 78.12 273 LR LR 16 43 06.1
comp=Z,117nm,20.1s,slow=34
PDAR Pinedale Array 82.79 324 P P 16 11 06.2 0.0
comp=Z,0.5nm,0.7s,baz=64,slow=6.8,SNR=4.5
comp=Z,0.5nm,0.7s
TXAR Lajitas Array 90.61 312 P P 16 11 45.0 +0.4
comp=Z,0.4nm,0.8s,baz=41,slow=6.0,SNR=4.2
comp=Z,0.4nm,0.8s
TXAR Lajitas Array 90.61 312 P P 16 11 45.0 +0.4
ASAR Alice Springs 124.06 92 PKP PKPdf 16 17 38.8 -1.7
comp=Z,0.5nm,1.0s,baz=9.9,slow=36,SNR=1.8

IDC 09 16:09:16.4±3.9, 10°.30S×159°.86E, h0km, mb3.5/3, mbtmp3.5/3, MS3.8/2, Error ellipse: s-maj=122.9km s-min=19.3km az=113.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	0.86	6	Pn	Pn	16 09 35.8	0.0
	2μm,0.3s,baz=200,slow=12,SNR=215						
HNR				Sn	Sg	16 09 44.1	-0.1
	13μm,0.3s,baz=22,slow=21,SNR=46						
WRA	Warramunga Arr	26.40	246	P	P	16 14 55.3	+0.3
	0.7nm,0.8s,baz=71,slow=9.8,SNR=2.9						
	0.7nm,0.8s						
STKA	Stephens Creek	27.33	216	P	P	16 15 02.8	-0.3
	0.7nm,0.6s,baz=41,slow=9.3,SNR=3.3						
	0.7nm,0.6s						
ASAR	Alice Springs	28.09	238	P	P	16 15 10.1	0.0
	0.1nm,0.5s,baz=64,slow=10,SNR=6.5						
	0.1nm,0.5s						
RAR	Rarotonga	40.23	111	LR	LR	16 31 11.7	
	comp=Z,89nm,19.8s,baz=236,slow=33						
BRDH	Bariadhala	74.38	297	LR	LR	16 54 25.1	
	comp=Z,66nm,18.1s,baz=101,slow=36						

IDC 09 16:21:53.0±2.9, 29°.12S×177°.13W, h57km±16km, mb3.5/4, mbtmp3.8/5, Error ellipse: s-maj=38.3km s-min=29.8km az=61.0

ISC 09 16:21:56.4±1.7, 29°.7S±0°.2×177°.5W±0°.3, h52km, n10, σ1s.30/10, mb3.6/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.54	321	P	Pn	16 22 08.1	-0.2
	945nm,0.2s,baz=91,slow=8.2,SNR=30						
RAO				S	Sn	16 22 18.7	+1.9
	865nm,0.2s,baz=110,slow=22,SNR=6.8						
RPZ	Rata Peaks	16.72	210	P	P	16 25 50.1	+1.5
	2.1nm,0.3s,baz=32,slow=4.6,SNR=2.2						
CTA	Charters Tower	34.10	278	P	P	16 28 36.1	-0.2
	2.7nm,0.8s,baz=90,slow=10,SNR=1.4						
	2.7nm,0.8s						
ASAR	Alice Springs	43.56	266	P	P	16 29 54.5	-1.0
	0.7nm,0.5s,baz=104,slow=7.1,SNR=22						
ASAR				PcP	PcP	16 31 42.0	-0.5
	0.2nm,0.5s,baz=105,slow=4.5,SNR=1.6						
	0.7nm,0.5s						
WRA	Warramunga Arr	44.49	271	P	P	16 30 01.0	-1.9
	0.7nm,0.7s,baz=109,slow=7.9,SNR=8.2						
	0.7nm,0.7s						
VNDA	Vanda	48.86	186	P	P	16 30 36.9	+0.6
	0.5nm,1.0s,baz=2.9,slow=4.5,SNR=1.7						
	0.5nm,1.0s						
H03S2	Juan Fernandez	80.52	123	T	T	18 03 50.1	
	baz=239,slow=74,SNR=2.7						
H03S1	Juan Fernandez	80.54	123	T	T	18 03 52.0	
	baz=239,slow=74,SNR=2.9						
H03S3	Juan Fernandez	80.54	123	T	T	18 03 50.1	
	baz=239,slow=74,SNR=3.3						
AKASG	Malin Array Be	150.96	324	PKPbc	PKPdf	16 41 37.0	-0.3
	0.8nm,0.6s,baz=45,slow=3.2,SNR=1.3						
AKASG				PKPab	PKiKP	16 41 44.0	+0.4
	0.5nm,0.5s,baz=47,slow=4.7,SNR=5.2						

NEIC 09 16:40:33.9±0.7, 18°.0N±0°.2×63°.90W±0°.06, h98km±13km, Error ellipse: s-maj=27.7km s-min=4.1km az=195.0
TRN 09 16:40:33.0, 17°.69N×63°.95W, h29km, MD3.7
RSPR 09 16:40:35.0, 18°.11N×63°.91W, h96km±1km, MD3.3/8

ISC 09 16:40:33.4±1.7, 18°.0N±0°.1×63°.90W±0°.04, h101km±15km, n38, σ0s.52/54, 11C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMRT	St. Maarten	0.79	84⇑	eP	Pn	16 40 52.9	+1.1
SMRT	St. Maarten	0.79	84	Pn	Pn	16 40 52.0	+0.2
SMRT					Sn	16 41 05.8	+0.2
SMRT	St. Maarten	0.79	84	eP	Pn	16 40 52.4	+0.6
SMRT				eS	Sn	16 41 05.8	+0.2
TBVI	Tortola	0.81	303⇑	eP	Pn	16 40 52.1	+0.1
TBVI	Tortola	0.81	303		Pn	16 40 52.1	+0.1
TBVI					Sn	16 41 05.4	-0.6
TBVI	Tortola	0.81	303⇑	eP	Pn	16 40 52.1	+0.1
TBVI				eS	Sn	16 41 05.4	-0.6
CDVI	St. Croix	0.85	255	Pn	Pn	16 40 52.5	0.0
CDVI				IAML		16 41 07.8	
	comp=N,534nm,0.5s						
CDVI				IAML		16 41 09.9	
	comp=E,554nm,0.5s						
SJVI	Gifft Hill Sch	0.91	294⇑	eP	Pn	16 40 53.1	+0.1
SJVI	Gifft Hill Sch	0.91	294	eS	Sn	16 41 06.8	-0.8
SJVI	Gifft Hill Sch	0.91	294		Pn	16 40 53.1	+0.1
SJVI					Sn	16 41 06.8	-0.8
SJVI	Gifft Hill Sch	0.91	294	Pn	Pn	16 40 52.9	-0.1
SJVI				IAML		16 41 09.9	
	comp=E,112nm,0.2s						
SJVI				IAML		16 41 12.4	
	comp=N,126nm,0.3s						
STVI	Saint Thomas	1.07	291⇑	eP	Pn	16 40 55.2	+0.5
STVI	Saint Thomas	1.07	291	Pn	Pn	16 40 55.0	+0.3
STVI				Sn	Sn	16 41 10.3	-0.5
STVI				IAML		16 41 11.8	
	comp=N,279nm,0.2s						
STVI				IAML		16 41 12.0	
	comp=E,281nm,0.1s						
STVI	Saint Thomas	1.07	291⇑	eP	Pn	16 40 55.2	+0.5
STVI				eS	Sn	16 41 10.5	-0.3
CUPR	Culebra, Puert	1.36	285⇑	eP	Pn	16 40 58.3	+0.3
CUPR	Culebra, Puert	1.36	285	eS	Sn	16 41 16.6	0.0
CUPR	Culebra, Puert	1.36	285	Pn	Pn	16 40 58.1	+0.1
CUPR				Sn	Sn	16 41 15.9	-0.7
HUMP	Col San Antoni	1.86	276⇑	eP	Pn	16 41 04.6	+0.3
HUMP	Col San Antoni	1.86	276	Pn	Pn	16 41 04.2	-0.2
HUMP				Sn	Sn	16 41 28.6	+0.7
HUMP				IAML		16 41 30.7	
	comp=E,80nm,0.2s						
HUMP				IAML		16 41 30.9	
	comp=N,64nm,0.2s						
HUMP	Col San Antoni	1.86	276⇑	eP	Pn	16 41 04.6	+0.3
HUMP				eS	Sn	16 41 28.9	+1.0
CBYP	Canovanas	1.89	279⇓	eP	Pn	16 41 05.0	+0.4
CBYP	Canovanas	1.89	279	Pn	Pn	16 41 04.8	+0.2
CBYP				Sn	Sn	16 41 28.2	-0.3
CBYP				IAML		16 41 32.7	
	comp=N,206nm,0.2s						
CBYP	Canovanas	1.89	279⇓	eP	Pn	16 41 05.0	+0.4
CBYP				eS	Sn	16 41 28.8	+0.4
ANWB	Willy Bob	2.04	98	Pn	Pn	16 41 06.0	-0.5
ANWB				IAML		16 41 36.7	
	comp=N,96nm,1.3s						
ANWB				IAML		16 42 23.1	
	comp=N,79nm,3.2s						
ANWB	Willy Bob	2.04	98	eP	Pn	16 41 06.2	-0.3
ANWB				eS	Sn	16 41 31.4	-0.4
GCPR	Guaynabo City	2.10	280	Pn	Pn	16 41 07.0	-0.5
SJG	San Juan	2.15	274	Pn	Pn	16 41 08.2	+0.3
SJG				IAML		16 42 01.9	
	comp=N,47nm,0.2s						
SJG				IAML		16 42 02.0	
	comp=N,61nm,0.2s						
ANBD	Bethesda, Anti	2.23	114	eP	Pn	16 41 09.2	+0.1
ANBD				eS	Sn	16 41 35.9	-0.5
CELP	Cerrillos	2.55	273	Pn	Pn	16 41 13.5	+0.2
CELP				IAML		16 42 14.0	
	comp=N,20nm,2.2s						
GDHS	Morne Mazeau,	2.65	129	Pn	Pn	16 41 14.4	-0.3
AOPR	Arecibo Observ	2.74	278⇑	eP	Pn	16 41 16.3	+0.5
AOPR	Arecibo Observ	2.74	278	Pn	Pn	16 41 16.0	+0.2
AOPR				Sn	Sn	16 41 47.8	-0.6
AOPR				IAML		16 41 55.2	
	comp=E,80nm,0.3s						
AOPR				IAML		16 42 00.8	
	comp=N,36nm,0.3s						
AOPR	Arecibo Observ	2.74	278⇑	eP	Pn	16 41 16.3	+0.5
AOPR				eS	Sn	16 41 49.4	+1.0
ABD	La Joyeuse, An	2.74	122	eP	Pn	16 41 16.6	+0.8
CBE	Ff, Capester	2.89	130	Pn	Pn	16 41 18.9	+1.0
CBE	Ff, Capester	2.89	130	eP	Pn	16 41 17.2	-0.7
MLPR	Magueyes Islan	2.99	270	Pn	Pn	16 41 18.3	-0.8
MLPR				IAML		16 42 08.2	
	comp=N,25nm,2.5s						
MLPR				IAML		16 42 49.1	
	comp=E,26nm,3.0s						
MAGL	Barre de l'ile	3.21	128	eP	Pn	16 41 21.9	-0.1

MAN 09 16:41:51.6, 12°.72N×123°.12E, h17km, mb4.3, ML3.1, MS2.8, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.61	126⇑	iP	Pn	16 42 06.2	+0.7
MMPH				i S	Sb	16 42 12.8	+0.7
RCP	Roxas	1.21	198⇑	eP	Pn	16 42 12.9	-0.8
LQP	Lukban	2.07	312⇑	eP	Pn	16 42 26.8	+1.1
LQP				eS	Sg	16 42 56.4	-1.8

IDC 09 17:09:02.5±0.8, 28°.42S×177°.09W, h0km, mb4.1/11, mbtmp4.0/11, MS3.8/28, Error ellipse: s-maj=28.0km s-min=16.0km az=131.0
NEIC 09 17:09:10.5±0.8, 29°.5S±0°.3×177°.17W±0°.09, h48km±15km, mb4.4/21, Error ellipse: s-maj=39.7km s-min=5.9km az=194.0

ISC 09 17:09:05.5±0.5, 29°.21S±0°.09×176°.71W±0°.08, h36km, n84, σ1s.88/57, mb4.4/17, MS3.9/28, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.05	267	Pn	Pn	17 09 25.2	+1.5
	486nm,0.3s,baz=70,slow=8.9,SNR=41						
RAO				Sn	Sn	17 09 40.1	+2.9
	945nm,0.3s,baz=89,slow=20,SNR=8.0						
RAO				LR	LR	17 09 52.5	
	comp=Z,2μm,21.3s,baz=88,slow=45						
RAO	Raoul Island	1.05	267		Pn	17 09 24.1	+0.3
OUZ	Omahuta	10.16	231	Pn	Pn	17 11 33.1	+4.4
BKZ	Black Stump Fm	11.41	208	Pn	Pn	17 11 44.1	-1.8
MSVF	Nonsavu	12.39	336	LR	LR	17 16 00.4	
	comp=Z,483nm,18.5s,baz=162,slow=36						
BFZ	Birch Farm	12.81	205	Pn	Pn	17 12 02.7	-2.4
MSWZ	Moikau Station	13.83	206		Pn	17 12 17.0	-1.9
SNZO	South Karori	13.95	208	Pn	Pn	17 12 17.7	-2.9
PLWZ	Palliser	13.96	206	Pn	Pn	17 12 18.6	-2.1
TUWZ	Tuamarina	14.37	209	Pn	Pn	17 12 22.5	-3.8
NNZ	Nelson	14.45	211	Pn	Pn	17 12 23.4	-3.9
QRZ	Quartz Range	14.55	214	Pn	Pn	17 12 25.7	-2.9
BSWZ	Blackbirch Sta	14.63	209	Pn	Pn	17 12 27.7	-2.1
THZ	Tophouse	15.10	211	Pn	Pn	17 12 34.0	-2.2
KHZ	Kahutara	15.35	208	Pn	Pn	17 12 34.8	-4.5
LTZ	Lake Taylor	16.19	210	Pn	Pn	17 12 47.5	-2.7
LTZ				IAmb	IAmb	17 13 13.6	
	comp=Z,12nm,0.8s						
OXZ	Oxford	16.73	210		Pn	17 12 55.4	-1.6
OXZ				IAmb	IAmb	17 13 18.0	
	comp=Z,26nm,0.7s						
DZM	Mont Dzumac	16.76	291	eP	P	17 13 06.5	+7.0
	comp=Z,113nm,29.3s						
DZM				eLR	LR	17 16 52.6	
	comp=Z,920nm,23.4s						
DZM	Mont Dzumac	16.76	291	Pn	P	17 12 59.5	0.0
	comp=Z,0.4nm,0.3s,baz=108,slow=15,SNR=3.7						
DZM				LR	LR	17 18 10.4	
	comp=Z,838nm,18.6s,baz=129,slow=34						
RAR	Rarotonga	17.26	66	P	Pn	17 13 02.0	-1.7
	comp=Z,22nm,0.9s,baz=126,slow=7.1,SNR=5.0						
RAR				LR	LR	17 18 37.5	
	comp=Z,132nm,20.2s,baz=282,slow=33						
RPZ	Rata Peaks	17.48	211	P	P	17 13 06.7	-0.5
	comp=Z,7.1nm,0.6s,baz=114,slow=20,SNR=2.9						
RPZ	Rata Peaks	17.48	211	Pn	Pn	17 13 04.1	-2.2
RPZ				IAmb	IAmb	17 13 24.4	
	comp=Z,9.4nm,0.7s						
LBZ	Lake Benmore	18.39	211	P	Pn	17 13 17.5	0.0
ODZ	Otahua Downs	18.71	209	P	Pn	17 13 19.4	-2.0
MLZ	Mavora Lakes	20.09	212	P	P	17 13 34.6	-1.3
TBI	Tubuai	25.09	83	eLR	LR	17 20 37.8	
	comp=Z,1μm,25.5s						
TBI				eLR	LR	17 20 38.1	
	comp=Z,6μm,26.0s						
PPT2	Papeete2	27.39	71	eLR	LR	17 21 33.3	
	comp=Z,223nm,26.8s						
PPT2				eLR	LR	17 21 33.5	
	comp=Z,410nm,27.0s						
PPT	Papeete	27.40	71	LR	LR	17 22 50.7	
	comp=Z,123nm,20.7s,baz=212,slow=30						
EIDS	Eidsvold	28.82	270	P	P	17 14 59.6	-0.8
EIDS				IAmb	IAmb	17 15 29.5	
	comp=Z,21nm,1.5s						
HNR	Honiara	29.42	307	LR	LR	17 25 13.1	
	comp=Z,1μm,19.6s,baz=174,slow=34						
CTA	Charters Tower	34.74	277	P	P	17 15 51.1	-1.3
	comp=Z,3.6nm,0.8s,baz=93,slow=8.0,SNR=11						
CTA				LR	LR	17 28 19.8	
	comp=Z,448nm,19.1s,baz=84,slow=34						
	comp=Z,3.6nm,0.8s						
CTAO	Charters Tower	34.74	277	P	P	17 15 51.4	-1.0
CTAO				IAmb	IAmb	17 16 05.8	
	comp=Z,6.5nm,0.8s						
STKA	Stephens Creek	35.85	255	P	P	17 16 03.1	+1.3
	comp=Z,2.0nm,0.8s,baz=73,slow=9.5,SNR=4.3						
STKA				LR	LR	17 29 19.7	
	comp=Z,183nm,19.0s,baz=45,slow=34						
	comp=Z,2.0nm,0.8s						
STKA	Stephens Creek	35.85	255	P	P	17 16 02.8	+0.9
PMG	Port Moresby	39.14	293	LR	LR	17 30 32.3	
	comp=Z,225nm,19.1s,baz=110,slow=34						
TAOE	Nuku Hiva Isla	39.81	67	eLR	LR	17 27 15.4	
	comp=Z,294nm,25.7s						
BBOO	Buckleboo	40.38	253	P	P	17 16 37.0	-3.1
AS31	Alice Springs	44.30	265	P	P	17 17 12.3	+0.1
ASAR	Alice Springs	44.31	265	P	P	17 17 12.0	-0.1
	comp=Z,3.0nm,0.7s,baz=116,slow=8.4,SNR=20						
ASAR				PcP	PcP	17 18 59.5	+3.5
	comp=Z,0.3nm,0.6s,baz=113,slow=4.4,SNR=4.2						
ASAR				LR	LR	17 34 34.2	
	comp=Z,372nm,19.6s,baz=110,slow=35						
	comp=Z,3.0nm,0.7s						
ASAR	Alice Springs	44.31	265	P	P	17 17 11.9	-0.3
WR0	Warramunga Arr	45.01	270	P	P	17 17 17.3	-0.4
WR0				IAmb	IAmb	17 17 18.0	
	comp=Z,5.3nm,1.0s						
WB2	Warramunga Arr	45.18	270	P	P	17 17 18.9	-0.2
WB2				IAmb	IAmb	17 17 19.2	
	comp=Z,9.3nm,0.9s						
WRAB	Tennant Creek	45.18	270	P	P	17 17 18.8	-0.3
WRAB				IAmb	IAmb	17 17 19.2	
	comp=Z,10nm,1.1s						
WRA	Warramunga Arr	45.19	270	P	P	17 17 18.8	-0.4
	comp=Z,4.1nm,0.8s,baz=107,slow=7.9,SNR=18						
WRA				PcP	PcP	17 19 00.5	+1.4
	comp=Z,8.2nm,1.4s,baz=116,slow=3.2,SNR=5.2						
WRA				LR	LR	17 34 57.6	
	comp=Z,150nm,18.1s,baz=104,slow=35						
	comp=Z,4.1nm,0.8s						
WRA	Warramunga Arr	45.19	270	P	P	17 17 19.0	-0.2
WB0	Warramunga Arr	45.21	271	P	P	17 17 19.0	-0.3
WB0				IAmb	IAmb	17 17 20.0	
	comp=Z,6.7nm,1.0s						
SBA	Scott Base	49.31	185	P	P	17 17 51.1	+0.7
VNDA	Vanda	49.39	186	P	P	17 17 59.5	+8.4
	comp=Z,0.7nm,0.8s,baz=354,slow=7.2,SNR=3.8						
VNDA				LR	LR	17 36 01.7	
	comp=Z,42nm,20.2s,baz=24,slow=32						
	comp=Z,0.7nm,0.8s						
VNDA	Vanda	49.39	186	P	P	17 17 50.4	-0.7
VNDA				IAmb	IAmb	17 18 16.9	
	comp=Z,1.5nm,0.8s						
GUMO	Guam	56.45	314	LR	LR	17 40 35.7	
	comp=Z,62nm,20.1s,baz=140,slow=34						
CASY	Casey	56.71	208	P	P	17 18 45.5	+0.4
SIJI	Sorong	56.96	290	LR	LR	17 41 15.1	
	comp=Z,73nm,21.5s,baz=102,slow=34						
BATI	Baumata	58.62	276	LR	LR	17 43 38.8	
	comp=Z,499nm,18.2s,baz=124,slow=36						
RPN	Rapa Nui	58.68	106	LR	LR	17 38 48.8	
	comp=Z,38nm,18.9s,baz=6.5,slow=30						
QSPA	South Pole Qui	60.90	180	P	P	17 19 18.0	+3.6
KAPI	Kappang	64.51	279	LR	LR	17 46 40.1	
	comp=Z,57nm,20.8s,baz=126,slow=35						
JCJ	Chichijima	68.45	321	LR	LR	17 42 05.8	
	comp=Z,57nm,22.0s,baz=124,slow=29						
BELA	Belgrano 2	70.81	172	P	P	17 20 20.4	+2.5
BELA				IAmb	IAmb	17 20 33.5	
	comp=Z,4.0nm,0.8s						
MAW	Mawson	73.81	200	LR	LR	17 53 37.7	
	comp=Z,87nm,18.6s,baz=126,slow=36						
JOW	Kunigami	76.70	311	LR	LR	17 52 14.2	
	comp=Z,45nm,18.0s,baz=175,slow=34						
MJAR	Matsushiro Arr	77.92	324	P	P	17 20 57.9	-1.8
	comp=Z,2.2nm,1.0s,baz=152,slow=5.3,SNR=2.8						
	comp=Z,2.2nm,1.0s						
SNAA	Sanae	79.31	178	P	P	17 21 09.8	+2.8
SNAA	Sanae	79.31	178	LR	LR	17 53 43.6	
	comp=Z,26nm,20.2s,baz=189,slow=34						
VNA3	Neumayer Olymp	79.41	176	P	P	17 21 10.3	+2.8
H03S2	Juan Fernandez	80.19	123	T	T	18 51 09.0	
	baz=239,slow=74						
H03S1	Juan Fernandez	80.20	123	T	T	18 51 10.7	
	baz=239						
H03S3	Juan Fernandez	80.20	123	T	T	18 51 11.6	
	baz=239,slow=74						
ASAJ	Asahikawa	81.91	332	LR	LR	17 51 31.5	
	comp=Z,64nm,22.0s,baz=120,slow=31						
PLCA	Paso Flores	82.49	133	LR	LR	17 49 45.5	
	comp=Z,33nm,20.0s,baz=188,slow=29						
KSRS	Korea Array	84.18	319	P	P	17 21 32.7	-0.2
	comp=Z,1.0nm,0.8s,baz=106,slow=7.7,SNR=2.3						
	comp=Z,1.0nm,0.8s						
PETK	Petropavlovsk-	84.95	345	P	P	17 21 35.2	-1.2
	comp=Z,1.9nm,0.6s,baz=101,slow=6.0,SNR=2.2						
	comp=Z,1.9nm,0.6s						
PSI	Prapat	86.43	275	LR	LR	18 01 29.9	
	comp=Z,48nm,18.2s,baz=140,slow=37						
NVAR	Mina Array Bea	86.61	42	P	P	17 21 46.2	+0.9
	comp=Z,0.3nm,0.5s,baz=224,slow=9.6,SNR=4.8						
	comp=Z,0.3nm,0.5s						
ELK	Elko	89.91	42	LR	LR	17 57 29.8	
	comp=Z,83nm,18.3s,baz=204,slow=32						
TXAR	Lajitas Array	90.80	57	P	P	17 22 06.4	+1.1
	comp=Z,0.3nm,0.7s,baz=227,slow=2.2,SNR=2.7						
TXAR				LR	LR	17 53 55.7	
	comp=Z,38nm,20.8s,baz=288,slow=30						
	comp=Z,0.3nm,0.7s						
LVC	Limon Verde	93.52	118	LR	LR	17 54 28.9	
	comp=Z,38nm,21.2s,baz=256,slow=29						
ATAH	Atahualpa	93.76	100	LR	LR	17 54 47.5	
	comp=Z,45nm,20.3s,baz=269,slow=29						
ILAR	Eielson Array	96.52	12	P	P	17 22 30.0	-0.6
	comp=Z,0.4nm,1.0s,baz=212,slow=6.4,SNR=1.3						
	comp=Z,0.4nm,1.0s						
LPAZ	La Paz	97.60	113	LR	LR	17 59 57.6	
	comp=Z,19nm,19.4s,baz=326,slow=31						
NB2	NORSAR Subarra	147.73	353	PKP	PKPbc	17 28 45.1	-0.6
	comp=Z,3.1nm,0.8s,baz=32,slow=3.7						
NOA	NORSAR Array B	147.73	353	PKPbc	PKPbc	17 28 45.1	-0.6
	comp=Z,1.3nm,0.8s,baz=18,slow=2.5,SNR=1.6						
AKASG	Malin Array Be	151.00	325	PKPbc	PKPbc	17 28 53.3	-0.8
	comp=Z,5.0nm,0.8s,baz=42,slow=2.8,SNR=16						
BRTR	Keskin Array B	152.98	301	PKPbc	PKiKP	17 28 59.9	+0.5
	comp=Z,0.6nm,0.5s,baz=96,slow=1.4,SNR=1.9						
BRTR				PKPab	PKPab	17 29 09.5	-1.2
	comp=Z,2.0nm,0.9s,baz=79,slow=3.1,SNR=3.9						
TORD	Torodi Ar. Bea	163.95	174	PKPab	PKPab	17 30 05.0	+6.8
	comp=Z,0.6nm,0.7s,baz=187,slow=3.0,SNR=2.5						

IDC 09 17:12:39.6±5.4, 5°.98S×134°.10E, h0km, mb3.6/1, mbtmp3.5/4, ML3.3/3, MS3.5/1, Error ellipse: s-maj=265.2km s-min=28.3km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.82	331	Pn	Pn	17 14 07.3	+0.1
	1.0nm,0.3s,baz=76,slow=6.0,SNR=33						
SIJI				Sn	Sn	17 15 05.2	-9.5
	2.8nm,0.3s,baz=5.2,slow=23,SNR=9.7						
	2.6nm,0.2s						
WRA	Warramunga Arr	13.88	179	Pn	Pn	17 15 57.4	-0.3
	0.1nm,0.3s,baz=358,slow=13,SNR=11						
WRA				Sn	Sn	17 18 21.2	-11
	0.1nm,0.3s,baz=358,slow=24,SNR=1.5						
	0.2nm,0.5s						
ASAR	Alice Springs	17.58	181	P	Pn	17 16 46.5	+0.2
	0.1nm,0.3s,baz=1.4,slow=11,SNR=14						
ASAR				S	Sn	17 19 56.0	-6.8
	0.3nm,0.5s,baz=360,slow=28,SNR=2.4						
	0.7nm,0.7s						
RAO	Raoul Island	50.79	123	LR	LR	17 41 50.5	
	comp=Z,47nm,21.7s,baz=176,slow=34						
MKAR	Makanchi Array	69.68	325	P	P	17 23 51.2	0.0
	0.7nm,1.0s,baz=115,slow=6.8,SNR=2.5						
	0.7nm,1.0s						

ISU 09 17:15:28, 39°.62N×73°.36E, h30km
KRNET 09 17:15:28.2±0.1, 39°.49N×73°.10E, h15km, mb3.0
SOME 09 17:15:29.9, 39°.77N×72°.67E, h0km
NNC 09 17:15:33.4±3.8, 39°.77N×72°.84E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=29.8km s-min=15.7km az=173.0

ISC 09 17:15:30.7±1.3, 39°.73N±0°.04×73°.10E±0°.03, h15km±10km, n46, σ2s.75/83, 15C-27D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHH	Osh	0.83	343⇑	iP	Pn	17 15 48.2	+0.2
	baz=47						
OHH			⇑	iS	Sn	17 16 03.2	+3.2
	baz=47						
OHH	Osh	0.83	343	P	Pn	17 15 48.2	+0.2
OHH				S	Sn	17 16 03.4	+3.4
TSTA	Tashata	0.97	331	P	Pn	17 15 51.3	+1.4
TSTA				S	Sn	17 16 08.5	+5.0
DRK	Karamyk	1.04	256⇑	iP	Pb	17 15 47.5	-3.1
	baz=70						
DRK			⇑	iS	Sb	17 16 01.4	-2.8
	baz=70						
ANR	Andizhan	1.17	331	S	Sg	17 16 12.6	+4.1
FRG	Fergana	1.20	303	P	Pg	17 15 53.8	0.0
FRG				S	Sg	17 16 14.6	+5.2
BTK	Batken	1.79	281⇑	iP	Pb	17 16 02.6	-0.7
	baz=89						
BTK			⇑	iS	Sg	17 16 27.8	-0.5
	baz=89						
BTK	Batken	1.79	281	P	Pb	17 16 02.4	-0.9
BTK				S	Sg	17 16 30.5	+2.2
MINT	Mingtut	1.79	295	P	Pg	17 16 06.4	+1.3
MINT				S	Sg	17 16 33.8	+5.5
ARK	Arkit	2.24	338⇑	iP	Pg	17 16 11.5	-2.1
	baz=40						
ARK			⇑	iS	Sg	17 16 43.3	+0.6
	baz=40						
GAR	Garm	2.28	252⇓	iP	Pn	17 16 08.1	+0.1
	baz=58						
GAR			⇓	iS	Sb	17 16 37.3	-2.5
	baz=58						
ARLS	Aral	2.32	23⇑	iP	Pg	17 16 12.6	-2.6
	baz=21						
ARLS			⇑	iS	Sg	17 16 44.9	-0.4
	baz=21						
TRKS	Terek-Say	2.33	321⇓	iP	Pb	17 16 11.4	-1.2
	baz=24						
TRKS			⇓	iS	Sg	17 16 43.1	-2.7
	baz=24						
UCH	Uchtor	2.71	23⇓	iP	Pb	17 16 18.4	-0.8
	baz=21						
UCH			⇓	iS	Sg	17 16 54.9	-3.0
	baz=21						
NRN	Naryn	2.78	51⇓	iP	Pb	17 16 18.0	-2.4
	baz=48						
NRN			⇓	iS	Sb	17 16 54.3	-0.1
	baz=48						
EKS2	Erkin-Say	2.97	10⇑	iP	Pb	17 16 21.9	-1.5
	baz=9.0						
EKS2			⇑	iS	Sg	17 17 01.2	-4.9
	baz=9.0						
CHMG	Chimgan	2.97	309	S	Sg	17 17 08.5	+2.3
MRKS	Merke	3.01	2	eP	Pg	17 16 25.7	-2.7
	1.6nm,0.2s						
MRKS				eS	Sg	17 17 05.9	-1.6
	11nm,0.9s						
MRKS	Merke	3.01	2	Pg	Pg	17 16 25.7	-2.7
	1.6nm,0.2s						
MRKS				Lg	Lg	17 17 07.2	
	11nm,0.9s						
AAK	Ala-Archa	3.08	19⇓	iP	Pb	17 16 23.4	-2.0
	baz=18						
AAK			⇓	iS	Sb	17 17 03.7	+0.7
	baz=18						
KBK	Karagaybulak	3.23	25⇓	iP	Pb	17 16 25.4	-2.6
	baz=23						
KBK			⇓	iS	Sb	17 17 06.8	-0.5
	baz=23						
CHGR	Chuyangaron	3.25	252⇓	iP	Pn	17 16 21.4	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=56						
CHGR				⇓iS	Sn	17 17 00.2	+0.5
	baz=56						
IUG	Iuzhnay	3.35	317	eP	Pb	17 16 28.2	-1.7
	37nm,0.5s						
IUG				eS	Sb	17 17 10.3	-0.2
	19nm,0.6s						
IUG	Iuzhnay	3.35	317	Pg	Pb	17 16 28.2	-1.7
	37nm,0.5s						
IUG				Lg	Lg	17 17 10.3	
	19nm,0.6s						
ULHL	Ulahol	3.46	42	⇓iP	Pb	17 16 28.0	-3.8
	baz=40						
ULHL				⇓iS	Sb	17 17 11.4	-2.3
	baz=40						
CHMS	Chumysh	3.49	20	⇑iP	Pb	17 16 28.8	-3.4
	baz=19						
CHMS				⇑iS	Sb	17 17 13.2	-1.3
	baz=19						
USP	Ospenovka	3.68	16	⇓iP	Pb	17 16 31.7	-3.8
	baz=15						
USP				⇓iS	Sb	17 17 18.0	-2.0
	baz=15						
TKM2	Tokmak 2	3.70	30	⇓iP	Pb	17 16 31.5	-4.4
	baz=28						
TKM2				⇓iS	Sb	17 17 17.7	-2.9
	baz=28						
TKM2	Tokmak 2	3.70	30	⇓Pn	Pb	17 16 33.7	-2.2
	1.8nm,0.5s						
TKM2				⇓Lg	Lg	17 17 35.0	
	7.5nm,0.8s						
SGDS	Sogindy	3.89	17	eP	Pg	17 16 45.2	+0.1
	1.2nm,0.3s						
SGDS				eS	Sg	17 17 39.4	+3.9
	3.8nm,0.7s						
KK31	Karatay Array	3.89	331	⇓Pn	Pb	17 16 35.5	-3.5
	0.5nm,0.4s,baz=123,slow=13,SNR=20						
KK31				⇑Pg	Pg	17 16 45.1	-0.1
	0.9nm,0.3s,baz=154,slow=12,SNR=9.0						
KK31				⇓Sn	Sb	17 17 25.8	-0.2
	4.0nm,0.7s,baz=156,slow=23,SNR=5.3						
KK31				⇓Lg	Lg	17 17 39.3	
	11nm,0.8s,baz=157,slow=26,SNR=4.5						
KKAR	Karatay Array	3.89	331	⇓iP	Pb	17 16 34.4	-4.6
	baz=32						
KKAR				⇓iS	Sb	17 17 22.6	-3.4
	baz=32						
KST	Kastek	3.94	32	eP	Pg	17 16 47.1	+0.9
	2.3nm,0.4s						
KST				eS	Sg	17 17 43.0	+5.7
	10nm,0.9s						
KST	Kastek	3.94	32	Pg	Pg	17 16 47.1	+0.9
	2.3nm,0.4s						
KST				Lg	Lg	17 17 43.0	
	10nm,0.9s						
DGS	Degeres	4.04	29	eP	Pg	17 16 48.1	+0.1
	2.5nm,0.7s						
DGS				eS	Sg	17 17 44.6	+4.3
	10nm,0.7s						
DGS	Degeres	4.04	29	Pg	Pg	17 16 48.1	+0.1
	2.5nm,0.7s						
DGS				Lg	Lg	17 17 44.6	
	10nm,0.7s						
MTBS	Maitube	4.21	35	eP	Pg	17 16 52.8	+1.4
	1.0nm,0.1s						
MTBS				eS	Sg	17 17 52.7	+6.6
	4.8nm,0.4s						
TNSS	Tian-Shan	4.39	40	eP	Pg	17 16 54.4	-0.4
	2.1nm,0.4s						
TNSS				eS	Sg	17 17 55.2	+3.6
	5.3nm,0.9s						
TNSS	Tian-Shan	4.39	40	Pg	Pg	17 16 54.4	-0.4
	2.1nm,0.4s						
TNSS				Lg	Lg	17 17 55.2	
	5.3nm,0.9s						
KRBS	Karabastau	4.40	25	eP	Pg	17 16 54.9	-0.1
	1.8nm,0.3s						
KRBS				eS	Sg	17 17 56.3	+4.3
	3.5nm,0.7s						
KRBS	Karabastau	4.40	25	Pg	Pg	17 16 54.9	-0.1
	1.8nm,0.3s						
KRBS				Lg	Lg	17 17 56.3	
	3.5nm,0.7s						
MDOK	Medeo	4.53	40	eP	Pg	17 16 56.9	-0.5
	1.7nm,0.5s						
MDOK				eS	Sg	17 17 59.2	+3.1
	13nm,1.0s						
KUU	Kurty	4.81	29	eP	Pg	17 17 01.2	-1.5
	1.0nm,0.1s						
KUU				eS	Sg	17 18 07.1	+2.1
	5.7nm,0.5s						
KUU	Kurty	4.81	29	Pg	Pg	17 17 01.2	-1.5
KUU				Lg	Lg	17 18 07.7	
CHKK	Chushkaly	5.04	34	eP	Pg	17 17 08.2	+1.1
	0.7nm,0.0s						
CHKK				eS	Sg	17 18 18.7	+6.3
	4.2nm,0.5s						
BTLS	Baital	5.35	7	eP	Pg	17 17 11.7	-1.5
	0.8nm,0.3s						
BTLS				eS	Sg	17 18 24.6	+2.2
	4.3nm,0.9s						

IDC ***09*** *17:33:16.9±1.9, 6°.12N×126°.47E, h0^{km}, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=114.3km s-min=17.5km az=58.0*

MAN ***09*** *17:33:21.2, 6°.21N×126°.31E, h1^{km}, mb4.4, ML3.2, MS3.0*

ISC 09 17:33:18.5±1.1**, 6°.02N**±0°.07×**126°.29E**±0°.07**, h10^{km}, n13, σ1^{s}.99**/16**, mb3.3**/3**, 1C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.26	326	Pn	Pb	17 33 42.3	0.0
	47nm,0.3s,baz=212,slow=15,SNR=1.4						
DAV				Sn	Sn	17 34 00.7	+1.5
	74nm,0.3s,baz=301,slow=22,SNR=10.0						
GSPH	General Santos	1.34	273	⇓iP	Pn	17 33 42.6	-0.8
GSPH				eS	Sb	17 33 59.5	-1.5
KCP	Kidapawan	1.54	310	⇑eP	Pn	17 33 45.9	-0.2
KCP				i S	Sg	17 34 08.1	-0.1
BIPH	Bislig	2.15	2	⇓iP	Pn	17 33 53.0	-1.5
BIPH				eS	Sn	17 34 20.4	-0.8
CTBH	Cotabato--PC H	2.36	301	⇓iP	Pn	17 34 00.0	+2.8
CGP	Cagayan de Oro	2.89	327	⇓iP	Pn	17 34 07.8	+3.2
CGP				i S	Sb	17 34 42.1	-3.6
SCPH	Surigao	3.82	348	⇓eP	Pn	17 34 20.4	+3.0
WRA	Warramunga Arr	26.99	163	P	P	17 39 02.2	+1.5
	0.4nm,0.8s,baz=344,slow=10,SNR=8.4						
	0.4nm,0.8s						
ASAR	Alice Springs	30.43	166	P	P	17 39 31.0	-0.4
	0.3nm,0.6s,baz=342,slow=6.7,SNR=9.4						
ASAR				PcP	PcP	17 42 29.9	-1.1
	0.4nm,0.7s,baz=343,slow=2.3,SNR=4.9						
	0.3nm,0.6s						
H11S3	WAKE ISLAND Hy	41.27	69	T	T	18 24 47.6	
	baz=258,slow=76,SNR=7.4						
H11S1	WAKE ISLAND Hy	41.28	69	T	T	18 24 49.1	
	baz=258,slow=76,SNR=5.5						
H11S2	WAKE ISLAND Hy	41.28	69	T	T	18 24 49.9	
	baz=258,slow=76,SNR=16						
MKAR	Makanchi Array	55.44	325	P	P	17 42 53.9	+0.6
	0.2nm,0.6s,baz=115,slow=6.0,SNR=1.2						
	0.2nm,0.6s						

KRSC ***09*** *17:37:26.0±0.7, 54°.72N×162°.01E, h54^{km}±12^{km}, ML4.7*

MOS ***09*** *17:37:26.9±0.8, 54°.74N×162°.02E, h60^{km}, mb4.3/8, Error ellipse: s-maj=7.5km s-min=4.2km az=77.2*

IDC ***09*** *17:37:28.3±0.7, 54°.94N×161°.64E, h54^{km}±6^{km}, mb3.6/17, mbtmp3.9/20, MS3.1/7, Error ellipse: s-maj=17.2km s-min=11.5km az=151.0*

NEIC ***09*** *17:37:28.6±1.7, 54°.9N±0°.2×161°.7E±0°.2, h59^{km}±10^{km}, mb4.3/38, Error ellipse: s-maj=25.6km s-min=13.5km az=152.0*

ISC 09 17:37:26.6±0.5**, 54°.75N**±0°.02×**162°.01E**±0°.03**, h45^{km}**±4^{km}**, n186, σ1^{s}.94**/228**, mb4.2**/43**, 1C-4D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.25	219	eP	Pn	17 37 36.3	+1.5
MKZ	Mys Kozlova	0.25	219	PN	Pn	17 37 36.3	+1.5
TUMD	Tumrok D	1.03	297	eP	Pn	17 37 45.1	+0.4
TUMD				eS	Sn	17 37 58.4	+0.4
TUMR	Tumrok	1.20	297	eP	Pn	17 37 48.0	+1.0
TUMR				eS	Sn	17 38 03.4	+1.3
TUMR	Tumrok	1.20	297	PN	Pn	17 37 48.0	+1.0
TUMR				S	Sn	17 38 03.4	+1.3
BZGR	Bezymyannyi-Gr	1.41	328	P	Pn	17 37 51.4	+1.5
BZGR	Bezymyannyi-Gr	1.41	328	PN	Pn	17 37 51.4	+1.5
KMNR	Kamenistaya	1.43	316	eP	Pn	17 37 51.9	+1.7
KMNR				eS	Sn	17 38 10.5	+2.7
KMNR	Kamenistaya	1.43	316	PN	Pn	17 37 51.9	+1.7
KMNR				S	Sn	17 38 10.5	+2.7
ZLN	Zelenaya	1.44	332	P	Pn	17 37 52.2	+1.8
ZLN	Zelenaya	1.44	332	PN	Pn	17 37 52.2	+1.8
BZMR	Bezymyannaya	1.47	324	P	Pn	17 37 52.5	+1.7
BZMR	Bezymyannaya	1.47	324	PN	Pn	17 37 52.5	+1.7
LGNR	Loginova	1.53	331	P	Pn	17 37 54.0	+2.3
LGNR				S	Sn	17 38 12.7	+2.1
LGNR	Loginova	1.53	331	PN	Pn	17 37 54.0	+2.3
LGNR				S	Sn	17 38 12.7	+2.1
KBTR	Krutoberegovo	1.53	17	P	Pn	17 37 53.2	+1.7
KBTR				S	Sn	17 38 12.7	+2.6
KBTR	Krutoberegovo	1.53	17	PN	Pn	17 37 53.2	+1.7
KBTR				S	Sn	17 38 12.7	+2.6
KIRR	Kirishev	1.53	322	P	Pn	17 37 53.9	+2.2
KIRR	Kirishev	1.53	322	PN	Pn	17 37 53.9	+2.2
CIRR	Tsirk	1.54	333	P	Pn	17 37 54.0	+2.2
CIRR	Tsirk	1.54	333	PN	Pn	17 37 54.0	+2.2
KBG	Krutoberegovo	1.56	15	P	Pn	17 37 53.5	+1.7
KBG				S	Sn	17 38 13.3	+2.5
KBG	Krutoberegovo	1.56	15	PN	Pn	17 37 53.5	+1.7
KBG				S	Sn	17 38 13.3	+2.5
KPT	Kopyto	1.59	321	P	Pn	17 37 54.4	+2.1
KPT	Kopyto	1.59	321	PN	Pn	17 37 54.4	+2.1
KII	Karymskiy	1.66	245	P	Pn	17 37 54.5	+1.2
KII	Karymskiy	1.66	245	PN	Pn	17 37 54.5	+1.2
KRSR	Krestovskiy	1.68	331	P	Pn	17 37 55.0	+1.4
KRSR	Krestovskiy	1.68	331	PN	Pn	17 37 55.0	+1.4
KLY	Klyuchi	1.74	334	P	Pn	17 37 55.5	+1.1
KLY				S	Sn	17 38 16.5	+1.1
KLY	Klyuchi	1.74	334	PN	Pn	17 37 55.5	+1.1
KLY				S	Sn	17 38 16.5	+1.1
KOZ	Kozyrevsk	1.79	318	P	Pn	17 37 57.0	+2.0
KOZ				S	Sn	17 38 19.8	+3.3
KOZ	Kozyrevsk	1.79	318	PN	Pn	17 37 57.0	+2.0
KOZ				S	Sn	17 38 19.8	+3.3
SMKR	Semkarok	1.86	351	P	Pn	17 37 58.3	+2.3
SMKR	Semkarok	1.86	351	PN	Pn	17 37 58.3	+2.3
BDR	Baidarnaya	1.88	346	P	Pn	17 37 59.1	+2.8
BDR	Baidarnaya	1.88	346	PN	Pn	17 37 59.1	+2.8
SRKR	Sorokina	1.96	346	P	Pn	17 38 00.0	+2.5
SRKR	Sorokina	1.96	346	PN	Pn	17 38 00.0	+2.5
SPN	Mys Shipunski	2.03	216	P	Pn	17 37 58.8	+0.5
SPN				S	Sn	17 38 22.0	-0.4
SPN	Mys Shipunski	2.03	216	PN	Pn	17 37 58.8	+0.5
SPN				S	Sn	17 38 22.0	-0.4
SRDR	Sredinnyy	2.04	321	P	Pn	17 37 59.6	+1.1
SRDR				S	Sn	17 38 24.7	+2.0
SRDR	Sredinnyy	2.04	321	PN	Pn	17 37 59.6	+1.1
SRDR				S	Sn	17 38 24.7	+2.0
ESO	Esso	2.22	303	P	Pn	17 38 02.1	+1.1
ESO				S	Sn	17 38 28.3	+1.1
ESO	Esso	2.22	303	PN	Pn	17 38 02.1	+1.1
ESO				S	Sn	17 38 28.3	+1.1
NLC	Nalytchevo	2.23	226	P	Pn	17 38 02.5	+1.4
NLC				S	Sn	17 38 28.9	+1.5
NLC	Nalytchevo	2.23	226	PN	Pn	17 38 02.5	+1.4
NLC				S	Sn	17 38 28.9	+1.5
BKI	Bering	2.33	77	P	Pn	17 38 03.8	+1.4
BKI				S	Sn	17 38 31.1	+1.3
BKI	Bering	2.33	77	PN	Pn	17 38 03.8	+1.4
BKI				S	Sn	17 38 31.1	+1.3
SDLR	Sedlovina	2.36	233	P	Pn	17 38 04.8	+1.8
SDLR	Sedlovina	2.36	233	PN	Pn	17 38 04.8	+1.8
KRER	Koryakskii	2.41	234	P	Pn	17 38 05.8	+2.1
KRER	Koryakskii	2.41	234	PN	Pn	17 38 05.8	+2.1
SMAR	Somma	2.41	233	P	Pn	17 38 05.5	+1.8
SMAR				S	Sn	17 38 33.9	+1.8
SMAR	Somma	2.41	233	PN	Pn	17 38 05.5	+1.8
SMAR				S	Sn	17 38 33.9	+1.8
KRX	Arik	2.42	236	P	Pn	17 38 05.5	+1.7
KRX	Arik	2.42	236	PN	Pn	17 38 05.5	+1.7
UGLR	Uglovaya	2.43	232	P	Pn	17 38 06.2	+2.2
UGLR	Uglovaya	2.43	232	PN	Pn	17 38 06.2	+2.2
AVH	Avacha	2.44	234	eP	Pn	17 38 06.3	+2.3
AVH	Avacha	2.44	234	PN	Pn	17 38 06.3	+2.3
KOK	Koryaka	2.47	235	P	Pn	17 38 05.9	+1.5
KOK	Koryaka	2.47	235	PN	Pn	17 38 05.9	+1.5
DALK	Dalny	2.58	229	P	Pn	17 38 07.8	+1.9
DALK				S	Sn	17 38 38.1	+2.1
DALK	Dalny	2.58	229	PN	Pn	17 38 07.8	+1.9
DALK				S	Sn	17 38 38.1	+2.1
GNL	Ganaly	2.61	248	P	Pn	17 38 08.4	+2.0
GNL	Ganaly	2.61	248	PN	Pn	17 38 08.4	+2.0
PET	Petropavlovsk	2.63	230		Pn	17 38 08.0	+1.4
PET	Petropavlovsk	2.63	230	P	Pn	17 38 08.7	+2.1
PET				S	Sn	17 38 40.1	+2.9
PET	Petropavlovsk	2.63	230	ePN	Pn	17 38 08.7	+2.1
PET				eS	Sn	17 38 39.8	+2.6
PET				pmax	pmax		
	comp=Z,670nm,0.4s						
PET				smax	smax		
	comp=E,1µm,0.4s						
PET				smax	smax		
	comp=N,1µm,0.4s						
KRMR	Karymshinskiy	3.00	232	P	Pn	17 38 13.6	+2.0
KRMR				S	Sn	17 38 49.9	+3.7
KRMR	Karymshinskiy	3.00	232	PN	Pn	17 38 13.6	+2.0
KRMR				S	Sn	17 38 49.9	+3.7
PEA0B	Petropavlovsk-	3.03	239		Pn	17 38 13.9	+1.8
PEA0B	Petropavlovsk-	3.03	239	PN	Pn	17 38 13.9	+1.8
PETK	Petropavlovsk-	3.03	239	P	Pn	17 38 13.2	+1.1
	comp=N,43nm,0.3s,baz=73,slow=16,SNR=114						
PETK				S	Sn	17 38 54.1	+7.0
	comp=N,120nm,0.4s,baz=278,slow=15,SNR=6.0						
PETK				LR	LR	17 39 33.3	
	comp=N,192nm,21.4s,baz=59,slow=42						
RUS	Russkaya	3.12	223	P	Pn	17 38 14.8	+1.6
RUS				S	Sn	17 38 50.1	+0.9
RUS	Russkaya	3.12	223	PN	Pn	17 38 14.8	+1.6
RUS				S	Sn	17 38 50.1	+0.9
GRL	Gorelyy	3.21	228	P	Pn	17 38 17.4	+2.7
GRL				S	Sn	17 38 56.2	+4.4
GRL	Gorelyy	3.21	228	PN	Pn	17 38 17.4	+2.7
GRL				S	Sn	17 38 56.2	+4.4
MTVR	Mutnovka	3.22	227	P	Pn	17 38 16.8	+2.1
MTVR				S	Sn	17 38 54.1	+2.2
MTVR	Mutnovka	3.22	227	PN	Pn	17 38 16.8	+2.1
MTVR				S	Sn	17 38 54.1	+2.2
APC	Apacha	3.41	239	eP	Pn	17 38 19.8	+2.6
APC				eS	Sn	17 39 01.0	+4.7
APC	Apacha	3.41	239	PN	Pn	17 38 19.8	+2.6
APC				S	Sn	17 39 01.0	+4.7
ASAK	Asacha	3.41	228	eP	Pn	17 38 20.1	+2.8
ASAK				S	Sn	17 39 00.2	+3.7
ASAK	Asacha	3.41	228	PN	Pn	17 38 20.1	+2.8
ASAK				S	Sn	17 39 00.2	+3.7
KDTR	Khodutka, Kamc	3.77	220	P	Pn	17 38 23.3	+1.1
KDTR				S	Sn	17 39 07.7	+2.4
KDTR	Khodutka, Kamc	3.77	220	PN	Pn	17 38 23.3	+1.1
KDTR				S	Sn	17 39 07.7	+2.4
SKR	Severo-Kuril's	5.42	224	P	Pn	17 38 47.2	+2.4
SKR	Severo-Kuril's	5.42	224	ePN	Pn	17 38 46.0	+1.2
SKR				eS	Sn	17 39 50.2	+4.3
SKR				pmax	pmax		
	comp=Z,47nm,0.9s						
SKR				smax	smax		
	comp=N,89nm,0.9s						
SKR				smax	smax		
	comp=E,44nm,0.8s						
SHEM	Shemya Is, Ala	7.45	101	LR	LR	17 42 30.1	
	comp=E,83nm,18.0s,baz=163,slow=39						
MA2	Magadan	7.79	313	LR	LR	17 41 58.1	
	comp=E,24nm,20.0s,baz=111,slow=36						
JKA	Kamikawa-asahi	16.45	238	Pn	Pn	17 41 14.8	+0.8
ASAJ	Asahikawa	16.45	238	P	Pn	17 41 14.8	+0.7
ASAJ				pmax	pmax		
	comp=Z,109nm,1.5s						
ERM	Erimo	17.79	232	Pn	Pn	17 41 28.8	-1.8
ERM	Erimo	17.79	232	⇓eP	Pn	17 41 29.2	-1.5
YAK	Yakutsk	18.28	307	P	P	17 41 34.5	-1.8
	comp=Z,1.1nm,0.3s,baz=122,slow=2.7,SNR=1.3						
YAK				LR	LR	17 49 35.3	
	comp=Z,58nm,18.5s,baz=90,slow=40						
YAK	Yakutsk	18.28	307	⇓eP	Pn	17 41 37.3	+0.8
YAK				pmax	pmax		
	comp=Z,30nm,1.8s						
KLR	Kul'dur	19.34	266	P	P	17 41 47.9	0.0
	comp=Z,2.1nm,0.7s,baz=79,slow=7.5,SNR=5.3						
KLR				LR	LR	17 49 13.7	
	comp=Z,49nm,20.8s,baz=108,slow=37						
KLR	Kul'dur	19.34	266	⇓eP	Pn	17 41 49.5	+0.2
KLR				pmax	pmax		
	comp=Z,58nm,4.7s						
JTM	Tenmabayashi	19.72	234	P	P	17 41 47.4	-4.8
USRK	Ussuriysk Ar.	22.01	254	P	P	17 42 16.7	-0.1
	comp=Z,3.0nm,0.8s,baz=55,slow=10.0,SNR=2.1						
	comp=Z,3.0nm,0.8s						
TIXI	Tiksi	22.09	333	P	P	17 42 16.1	-1.3
	comp=Z,0.8nm,0.4s,baz=356,slow=0.4,SNR=7.9						
TIXI				PcP	PcP	17 46 13.1	0.0
	comp=Z,0.3nm,0.3s,baz=33,slow=0.1,SNR=1.7						
	comp=Z,0.8nm,0.4s						
TIXI	Tiksi	22.09	333	⇓eP	P	17 42 16.3	-1.1
TIXI				pmax	pmax		
	comp=Z,11nm,3.0s						
JMM	Marumori	22.21	229	P	P	17 42 19.5	+0.5
JSD	Sado	23.22	234	P	P	17 42 29.0	-0.6
J20K	Nowinta River	23.70	49	P	P	17 42 35.1	+1.2
J20K				IAmb	IAmb	17 42 56.7	
	comp=Z,11nm,1.3s						
IMAR	Indian Mountai	24.02	45	P	P	17 42 36.7	-0.1
MAJO	Matsushiro	24.47	232	⇑eP	P	17 42 41.8	+0.6
MAJO				pmax	pmax		
	comp=Z,33nm,2.0s						
MJAR	Matsushiro Arr	24.47	232	P	P	17 42 41.5	+0.3
	comp=Z,1.9nm,0.6s,baz=49,slow=6.7,SNR=6.1						
	comp=Z,1.9nm,0.6s						
CAST	Castle Rocks	24.61	51	P	P	17 42 42.2	-0.1
I21K	Tanana	24.68	47	P	P	17 42 43.7	+0.9
KTH	Kantishna Hill	25.13	51	P	P	17 42 48.2	+1.2
KTH				IAmb	IAmb	17 43 31.1	
	comp=Z,19nm,1.5s						
MLY	Manley	25.20	47	P	P	17 42 49.0	+1.3
CNPM	China Poot	25.38	60	P	P	17 42 50.0	+0.7
TRF	Thorofare Moun	25.41	51	P	P	17 42 50.1	+0.4
TRF				IAmb	IAmb	17 43 12.4	
	comp=Z,14nm,1.2s						
COLD	Coldfoot	25.56	42	P	P	17 42 51.3	+0.5
JGF	Kuroka	25.63	232	P	P	17 42 52.3	+0.6
JGF				IAmb	IAmb	17 43 08.8	
	comp=Z,31nm,1.5s						
H23K	Yukon River	25.73	45	P	P	17 42 53.2	+0.8
H23K				IAmb	IAmb	17 43 17.1	
	comp=Z,14nm,1.4s						
TOLK	Toolik Lake Re	25.96	39	P	P	17 42 55.2	+0.7
TOLK				IAmb	IAmb	17 43 35.4	
	comp=Z,14nm,1.5s						
WRH	Wood River Hil	26.34	48	P	P	17 42 57.5	-0.4
WRH				IAmb	IAmb	17 42 60.0	
	comp=Z,12nm,1.4s						
H24K	Noodor Dome	26.41	45	P	P	17 42 58.3	-0.3
CCB	Clear Creek Bu	26.46	48	P	P	17 42 59.9	+0.9
CCB				IAmb	IAmb	17 43 13.2	
	comp=Z,9.4nm,1.5s						
HDA	Harding Lake	26.84	48	P	P	17 43 02.5	+0.1
ILAR	Eielson Array	26.85	48	P	P	17 43 02.5	0.0
	comp=Z,0.9nm,0.8s,baz=246,slow=6.6,SNR=12						
	comp=Z,0.9nm,0.8s						
ILAR	Eielson Array	26.85	48	eP	P	17 43 03.3	+0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SCM	Sheep Creek Mo	26.92	54	P	P	17 43 03.6	+0.4
SCM	Sheep Creek Mo	26.92	54	P	P	17 43 03.7	+0.4
SCM				pmax	pmax		
	comp=Z,53nm,1.5s						
M24K	Tolsona, Glenn	27.42	53	P	P	17 43 09.2	+1.4
J25K	Salcha River,	27.51	48	P	P	17 43 07.8	-0.7
BMAR	Burnt Mountain	27.74	42	P	P	17 43 10.7	+0.2
KS19	Wonju Array Si	28.89	247	P	P	17 43 19.7	-1.2
KS19				IAmb	IAmb	17 43 22.6	
	comp=Z,13nm,0.9s						
KSAR	Wonju Array Be	28.93	247	P	P	17 43 19.6	-1.6
KSAR	Wonju Array Be	28.93	247	P	P	17 43 19.6	-1.6
K27K	Chicken	29.00	49	P	P	17 43 22.2	+0.5
K27K				IAmb	IAmb	17 43 29.6	
	comp=Z,9.9nm,1.4s						
EGAK	Eagle	29.29	47	P	P	17 43 23.4	-0.9
EGAK				IAmb	IAmb	17 43 40.6	
	comp=Z,10nm,1.5s						
INK	Inuvik	31.86	39	P	P	17 43 47.3	+0.5
	comp=Z,0.6nm,0.3s,baz=275,slow=13,SNR=2.2						
	comp=Z,0.6nm,0.3s						
SONM	Songino Array	34.64	282	PcP	PcP	17 46 42.6	-2.1
	comp=Z,0.2nm,0.4s,baz=50,slow=2.3,SNR=2.3						
C36M	Paulatuk	35.04	36	P	P	17 44 15.2	+0.8
C36M				IAmb	IAmb	17 44 20.2	
	comp=Z,6.0nm,1.1s						
H11N2	WAKE ISLAND Hy	35.16	172	T	T	18 21 29.3	
	baz=355,slow=76,SNR=410						
H11N3	WAKE ISLAND Hy	35.17	172	T	T	18 21 31.8	
	baz=355,slow=76,SNR=424						
H11N1	WAKE ISLAND Hy	35.18	172	T	T	18 21 31.2	
	baz=355,slow=76,SNR=545						
DLBC	Dease Lake	36.16	56	LR	LR	17 59 01.3	
	comp=Z,94nm,18.2s,baz=16,slow=36						
DLBC	Dease Lake	36.16	56	P	P	17 44 27.2	+2.9
DLBC				IAmb	IAmb	17 44 35.6	
	comp=Z,11nm,1.3s						
H11S1	WAKE ISLAND Hy	36.36	172	T	T	18 23 05.3	
	baz=352,slow=75						
H11S3	WAKE ISLAND Hy	36.37	172	T	T	18 22 59.7	
	baz=352,slow=75						
H11S2	WAKE ISLAND Hy	36.38	172	T	T	18 23 00.4	
	baz=352,slow=75						
EUNU	Eureka	40.06	15	P	P	17 44 57.9	+1.1
EUNU				IAmb	IAmb	17 44 58.7	
	comp=Z,3.1nm,0.7s						
YKA	Yellowknife Ar	41.18	44	P	P	17 45 06.1	-0.1
	comp=Z,1.6nm,0.8s,baz=301,slow=8.3,SNR=2.4						
	comp=Z,1.6nm,0.8s						
LZH	Lanzhou	43.49	269	eP	P	17 45 24.7	-0.8
LZH				pP	pP	17 45 38.5	+0.5
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
MK31	Makanchi Array	48.46	295	P	P	17 46 02.0	-2.3
MK31				IAmb	IAmb	17 46 19.9	
	comp=Z,4.1nm,1.2s						
MK31	Makanchi Array	48.46	295	P	P	17 46 02.0	-2.3
MK31				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MKAR	Makanchi Array	48.46	295	P	P	17 46 01.9	-2.5
	comp=Z,0.5nm,0.7s,baz=45,slow=6.2,SNR=4.9						
	comp=Z,0.5nm,0.7s						
MKAR	Makanchi Array	48.46	295	i P	P	17 46 05.4	+1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BMO	Blue Mountains	50.25	66	P	P	17 46 19.6	+1.5
BMO	Blue Mountains	50.25	66	P	P	17 46 19.6	+1.5
BMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRVK	Borovoye	50.27	308	P	P	17 46 18.1	+0.1
BRVK	Borovoye	50.27	308	P	P	17 46 18.1	+0.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLID	Pearl Lake	50.78	65	P	P	17 46 22.1	-0.2
PLID				IAmb	IAmb	17 46 25.3	
	comp=Z,2.4nm,0.8s						
NVAR	Mina Array Bea	54.14	72	P	P	17 46 49.6	+2.4
	comp=Z,2.2nm,0.8s,baz=298,slow=7.7,SNR=15						
NVAR				pP	sP	17 47 03.8	-1.2
	comp=Z,0.3nm,0.6s,baz=322,slow=7.2,SNR=1.4						
	comp=Z,2.2nm,0.8s						
NVAR	Mina Array Bea	54.14	72	P	P	17 46 49.7	+2.5
ELK	Elko	54.17	68	P	P	17 46 48.1	+0.7
ELK				IAmb	IAmb	17 47 05.5	
	comp=Z,2.8nm,1.1s						
ELK	Elko	54.17	68	P	P	17 46 48.1	+0.7
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
RLMT	Red Lodge	54.23	61	P	P	17 46 50.0	+2.2
RLMT				IAmb	IAmb	17 46 51.2	
	comp=Z,2.9nm,0.8s						
PDAR	Pinedale Array	55.74	63	P	P	17 47 00.1	+1.3
	comp=Z,0.7nm,0.8s,baz=0.3,slow=1.4,SNR=5.2						
PDAR				pP	sP	17 47 15.2	-1.2
	comp=Z,0.5nm,0.8s,baz=256,slow=2.7,SNR=4.0						
	comp=Z,0.7nm,0.8s						
PDAR	Pinedale Array	55.74	63	P	P	17 47 00.8	+2.0
QSM	Queen of Sheba	56.70	74	P	P	17 47 05.5	+0.1
QSM				IAmb	IAmb	17 47 12.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5.7nm,1.5s						
KKAR	Karatay Array	57.06	299	P	P	17 47 06.5	-1.3
KKAR	Karatay Array	57.06	299	P	P	17 47 06.5	-1.3
ABKAR	Akbulak array	57.58	311	P	P	17 47 09.0	-2.3
ABKAR	Akbulak array	57.58	311	P	P	17 47 09.4	-1.9
ABKAR				IAmb	IAmb	17 47 27.0	
	comp=Z,3.1nm,1.5s						
FIA1	FINESS Array S	59.04	337	P	P	17 47 20.6	-0.7
FINES	FINESS Array B	59.04	337	P	P	17 47 19.9	-1.4
	comp=Z,3.0nm,0.7s,baz=26,slow=7.3,SNR=15						
FINES				sP	sP	17 47 41.6	+2.2
	comp=Z,3.4nm,1.0s,baz=37,slow=7.1,SNR=1.7						
	comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	59.04	337	P	P	17 47 20.6	-0.7
FINES	FINESS Array B	59.04	337	*i* P	P	17 47 20.2	-1.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	Chiang Mai Arr	59.62	259	P	P	17 47 26.0	0.0
	comp=Z,0.3nm,0.3s,baz=29,slow=8.2,SNR=1.3						
	comp=Z,0.3nm,0.3s						
CMAR	Chiang Mai Arr	59.62	259	P	P	17 47 26.0	0.0
NOA	NORSAR Array B	62.25	344	P	P	17 47 42.1	-1.1
	comp=Z,0.6nm,0.7s,baz=20,slow=7.0,SNR=1.9						
	comp=Z,0.6nm,0.7s						
NACGM	Naroch	64.69	333	*e*P	P	17 47 57.3	-2.1
	comp=Z,11nm,1.1s,baz=27						
AKASG	Malin Array Be	67.76	330	P	P	17 48 17.2	-1.9
	comp=Z,0.5nm,0.3s,baz=28,slow=7.0,SNR=4.8						
	comp=Z,0.5nm,0.3s						
AKASG	Malin Array Be	67.76	330	*e*P	P	17 48 18.1	-1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TXAR	Lajitas Array	68.96	69	P	P	17 48 29.0	+1.9
	comp=Z,1.0nm,0.5s,baz=299,slow=5.0,SNR=14						
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	68.96	69	P	P	17 48 29.0	+1.9
KBZ	Khabaz	69.09	317	P	P	17 48 27.1	-0.5
	comp=Z,0.7nm,0.5s,baz=11,slow=5.2,SNR=1.8						
	comp=Z,0.7nm,0.5s						
WRA	Warramunga Arr	78.07	207	P	P	17 49 20.9	+0.5
	comp=Z,1.3nm,0.8s,baz=21,slow=5.9,SNR=8.9						
	comp=Z,1.3nm,0.8s						
ASAR	Alice Springs	81.74	206	P	P	17 49 41.3	+1.1
	comp=Z,1.6nm,0.7s,baz=16,slow=4.9,SNR=43						
ASAR				pP	sP	17 49 55.2	-3.5
	comp=Z,0.6nm,0.8s,baz=20,slow=5.2,SNR=2.4						
	comp=Z,1.6nm,0.7s						
EIL	Elat	84.42	316	LR	LR	18 32 07.5	
	comp=Z,39nm,18.2s,baz=98,slow=39						

*IDC **09** 17:47:36.5±2.4, 40.̊07N×77.̊26E, h0km, mb3.5/3, mbtmp3.5/5, ML2.9/2, MS2.4/1, Error ellipse: s-maj=53.4km s-min=23.5km az=142.0*
*KRNET **09** 17:47:37.2±0.1, 40.̊07N×77.̊08E, mb3.8*
*SOME **09** 17:47:40.0, 40.̊35N×77.̊18E, h0km*
*NNC **09** 17:47:42.5±1.4, 40.̊36N×77.̊21E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=10.5km s-min=8.3km az=160.0*
ISC 09 17:47:37.4±0.7**, 39.̊98N**±0.̊04×**77.̊18E**±0.̊03**, h10km, n90, σ1.̊76**/129**, mb3.6**/3**, 23C-23D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.70	329	⇓*i*P	Pn	17 48 07.1	-0.4
	baz=29						
NRN				⇓*i*S	Sn	17 48 29.2	-0.3
	baz=29						
ULHL	Ulahol	2.37	343	P	Pb	17 48 18.9	-1.4
	SNR=94						
ULHL	Ulahol	2.37	343	⇑*i*P	Pb	17 48 18.1	-2.2
	baz=44						
ULHL				⇑*i*S	Sb	17 48 47.9	-1.8
	baz=44						
ANVS	Anan'yevo	2.82	7	⇓*i*P	Pb	17 48 24.8	-3.2
	baz=9.0						
ANVS				⇓*i*S	Sb	17 48 59.6	-3.1
	baz=9.0						
ARLS	Aral	2.86	312	⇓*e*P	Pn	17 48 24.7	+1.4
	baz=12						
ARLS				⇓*i*S	Sn	17 48 59.1	+1.2
	baz=12						
UCH	Uchtor	3.01	319	P	Pb	17 48 29.5	-1.9
	SNR=9.1						
UCH	Uchtor	3.01	319	⇑*i*P	Pn	17 48 27.0	+1.3
	baz=19						
UCH				⇑*i*S	Sn	17 49 03.4	+1.4
	baz=19						
TNSS	Tian-Shan	3.06	357	*e*P	Pb	17 48 31.7	-0.5
	71nm,0.5s						
TNSS				*e*S	Sb	17 49 08.7	-0.9
	149nm,0.8s						
TNSS	Tian-Shan	3.06	357	Pg	Pb	17 48 31.7	-0.5
	71nm,0.5s						
TNSS				Lg	Lg	17 49 08.7	
	149nm,0.8s						
KBK	Karagaybulak	3.15	329	P	Pb	17 48 30.9	-2.9
	SNR=73						
KBK	Karagaybulak	3.15	329	⇑*i*P	Pn	17 48 28.8	+1.5
	baz=29						
KBK				⇑*i*S	Sn	17 49 06.5	+1.4
	baz=29						
TKM2	Tokmak 2	3.17	338	P	Pb	17 48 30.5	-3.4
	SNR=33						
TKM2	Tokmak 2	3.17	338	⇓*i*P	Pn	17 48 29.2	+1.7
	baz=39						
TKM2				⇓*i*S	Sn	17 49 07.2	+1.7
	baz=39						
TKM2	Tokmak 2	3.17	338	⇓Pn	Pn	17 48 29.6	+2.1
	5.0nm,0.3s						
TKM2				⇑Pg	Pb	17 48 33.5	-0.4
	11nm,0.4s						
TKM2				⇑Lg	Lg	17 49 13.8	
	82nm,0.7s						
MDOK	Medeo	3.18	358	*e*P	Pb	17 48 33.9	-0.2
	41nm,0.7s						
MDOK				*e*S	Sb	17 49 12.4	-0.5
	276nm,0.9s						
MDOK	Medeo	3.18	358	⇑Pn	Pn	17 48 29.5	+1.8
	54nm,0.5s						
MDOK				Pg	Pb	17 48 33.9	-0.2
	41nm,0.7s						
MDOK				⇑Lg	Lg	17 49 11.8	
	367nm,0.8s						
MDOK				Lg	Lg	17 49 12.4	
	276nm,0.9s						
KST	Kastek	3.19	344	*e*P	Pb	17 48 33.9	-0.4
	29nm,0.8s						
KST				*e*S	Sb	17 49 12.1	-1.1
	160nm,0.8s						
KST	Kastek	3.19	344	Pg	Pb	17 48 33.8	-0.4
	29nm,0.8s						
KST				Lg	Lg	17 49 13.0	
	160nm,0.8s						
MTBS	Maitube	3.19	350	*e*P	Pb	17 48 33.9	-0.4
	19nm,0.6s						
MTBS				*e*S	Sb	17 49 12.7	-0.7
	81nm,0.5s						
MTBS	Maitube	3.19	350	Pg	Pb	17 48 33.9	-0.4
	19nm,0.6s						
MTBS				Lg	Lg	17 49 12.7	
	81nm,0.5s						
SATY	Saty	3.21	16	*e*P	Pb	17 48 33.9	-0.7
	80nm,0.7s						
SATY				*e*S	Sb	17 49 12.2	-1.6
	144nm,0.5s						
SATY	Saty	3.21	16	Pg	Pb	17 48 33.9	-0.7
	80nm,0.7s						
SATY				Lg	Lg	17 49 12.2	
	144nm,0.5s						
AAA	Alma-Ata	3.23	357	*e*P	Pb	17 48 35.6	+0.7
	50nm,0.2s						
AAA				*e*S	Sb	17 49 15.1	+0.8
	473nm,0.6s						
AAA	Alma-Ata	3.23	357	Pg	Pb	17 48 35.6	+0.7
	50nm,0.2s						
AAA				Lg	Lg	17 49 15.1	
	473nm,0.6s						
KNDC	Almaty	3.23	357	⇓Pn	Pb	17 48 34.3	-0.7
	112nm,0.6s						
KNDC				⇓Lg	Lg	17 49 14.8	
	1μm,0.7s						
KOTS	Kotyrbulak	3.25	359	*e*P	Pb	17 48 36.0	+0.7
	69nm,0.6s						
KOTS				*e*S	Sb	17 49 15.6	+0.7
	600nm,0.8s						
ZHN	Zhinishke	3.32	16	*e*P	Pb	17 48 35.7	-0.7
	21nm,0.3s						
ZHN				*e*S	Sb	17 49 15.6	-1.3
	192nm,0.7s						
ZHN	Zhinishke	3.32	16	Pg	Pb	17 48 35.7	-0.7
	21nm,0.3s						
ZHN				Lg	Lg	17 49 15.6	
	192nm,0.7s						
AAK	Ala-Archa	3.33	324	P	Pb	17 48 33.6	-3.1
	SNR=11						
AAK	Ala-Archa	3.33	324	LR	LR	17 49 38.8	
	comp=Z,52nm,18.9s,baz=172,slow=37						
AAK	Ala-Archa	3.33	324	⇑*i*P	Pn	17 48 31.2	+1.4
	baz=24						
AAK				⇑*i*S	Sn	17 49 10.7	+1.1
	baz=24						
AML	Almayashu	3.40	310	P	Pb	17 48 35.1	-2.9
	SNR=53						
DGS	Degeres	3.42	343	*e*P	Pb	17 48 38.7	+0.5
	33nm,0.6s						
DGS				*e*S	Sb	17 49 20.9	+0.9
	115nm,0.6s						
DGS	Degeres	3.42	343	Pg	Pb	17 48 38.7	+0.5
	33nm,0.6s						
DGS				Lg	Lg	17 49 20.9	
	115nm,0.6s						
CHMS	Chumysh	3.52	330	P	Pb	17 48 35.9	-3.9
	SNR=6.9						
CHMS	Chumysh	3.52	330	⇓*i*P	Pn	17 48 33.7	+1.5
	baz=30						
CHMS				⇓*i*S	Sn	17 49 15.1	+1.1
	baz=30						
KURS	Kuram	3.58	12	*e*P	Pb	17 48 39.9	-0.9
	45nm,0.5s						
KURS				*e*S	Sb	17 49 22.9	-1.4
	72nm,0.6s						
KURS	Kuram	3.58	12	Pg	Pb	17 48 39.9	-0.9
	45nm,0.5s						
KURS				Lg	Lg	17 49 22.9	
	72nm,0.6s						
SHLS	Shalkode	3.60	28	*e*P	Pg	17 48 44.8	-1.7
	25nm,0.3s						
SHLS				*e*S	Sg	17 49 31.4	-1.8
	111nm,0.7s						
SHLS	Shalkode	3.60	28	Pg	Pg	17 48 44.8	-1.7
	25nm,0.3s						
SHLS				Lg	Lg	17 49 31.4	
	111nm,0.7s						
KPKS	Kokpek	3.66	17	*e*P	Pb	17 48 42.2	0.0
	40nm,0.5s						
KPKS				*e*S	Sb	17 49 27.0	+0.3
	112nm,0.5s						
KPKS	Kokpek	3.66	17	Pg	Pb	17 48 42.2	0.0
	40nm,0.5s						
KPKS				Lg	Lg	17 49 27.0	
	112nm,0.5s						
EKS2	Erkin-Say	3.70	317	P	Pb	17 48 39.1	-4.0
	SNR=16						
EKS2	Erkin-Say	3.70	317	⇑*i*P	Pn	17 48 36.6	+1.8
	baz=17						
EKS2				⇑*i*S	Sn	17 49 19.7	+1.1
	baz=17						
PDGK	Podgornoye	3.76	27	Pg	Pb	17 48 44.3	+0.3
	8.3nm,0.6s						
PDGK				Lg	Lg	17 49 30.2	
	73nm,0.6s						
PDGK	Podgornoye	3.76	27	⇑Pn	Pn	17 48 36.6	+1.0
	5.9nm,0.4s						
PDGK				⇓Pg	Pb	17 48 43.2	-0.9
	22nm,0.5s						
PDGK				⇓Lg	Lg	17 49 29.6	
	129nm,0.6s						
USP	Ospenovka	3.85	329	P	Pb	17 48 40.7	-4.7
	SNR=22						
USP	Ospenovka	3.85	329	⇑*i*P	Pn	17 48 38.3	+1.6
	baz=30						
USP				⇑*i*S	Sn	17 49 22.9	+0.9
	baz=30						
CHKK	Chushkaly	3.87	358	*e*P	Pb	17 48 46.1	+0.3
	28nm,0.4s						
CHKK				*e*S	Sb	17 49 33.4	+0.7
	149nm,0.5s						
CHKK	Chushkaly	3.87	358	Pg	Pb	17 48 46.1	+0.3
	28nm,0.4s						
CHKK				Lg	Lg	17 49 33.4	
	149nm,0.5s						
KRBS	Karabastau	3.88	344	*e*P	Pb	17 48 45.4	-0.5
	26nm,0.6s						
KRBS				*e*S	Sb	17 49 32.2	-0.8
	60nm,0.9s						
KRBS	Karabastau	3.88	344	Pg	Pb	17 48 45.4	-0.5
	26nm,0.6s						
KRBS				Lg	Lg	17 49 32.2	
	60nm,0.9s						
SGDS	Sogindy	3.96	332	*e*P	Pb	17 48 47.8	+0.5
	19nm,0.5s						
SGDS				*e*S	Sb	17 49 36.3	+1.1
	40nm,0.8s						
SGDS	Sogindy	3.96	332	Pg	Pb	17 48 47.8	+0.5
	19nm,0.5s						
SGDS				Lg	Lg	17 49 36.3	
	40nm,0.8s						
KUU	Kurty	3.96	351	*e*P	Pb	17 48 47.5	+0.3
	9.4nm,0.8s						
KUU				*e*S	Sb	17 49 35.8	+0.6
	149nm,0.8s						
KUU	Kurty	3.96	351	Pg	Pb	17 48 47.6	+0.3
	9.4nm,0.8s						
KUU				Lg	Lg	17 49 35.8	
	149nm,0.8s						
MRKS	Merke	4.06	314	*e*P	Pb	17 48 51.1	+2.1
	4.5nm,0.3s						
MRKS				*e*S	Sb	17 49 42.0	+3.8
	33nm,0.6s						
MRKS	Merke	4.06	314	Pg	Pb	17 48 51.1	+2.1
	4.5nm,0.3s						
MRKS				Lg	Lg	17 49 42.0	
	33nm,0.6s						
DRK	Karamyk	4.18	265	⇓*i*P	Pn	17 48 43.9	+2.4
	baz=64						
DRK				⇓*i*S	Sn	17 49 32.4	+1.9
	baz=64						
BLB	Baldybastay	4.22	13	*e*P	Pb	17 48 52.2	+0.4
	48nm,0.3s						
BLB				*e*S	Sb	17 49 43.5	+0.6
	127nm,0.4s						
ARK	Arkit	4.35	296	⇑*i*P	Pn	17 48 45.4	+1.7
	baz=96						
ARK				⇑*i*S	Sn	17 49 35.1	+0.6
	baz=96						
DJR	Jarkent	4.76	23	*e*P	Pb	17 49 01.6	+0.6
	6.1nm,0.4s						
DJR				*e*S	Sb	17 49 59.7	+1.3
	33nm,0.5s						
DJR	Jarkent	4.76	23	Pg	Pb	17 49 01.6	+0.6
	6.1nm,0.4s						
DJR				Lg	Lg	17 49 59.7	
	33nm,0.5s						
TRKS	Terek-Say	4.84	291	⇓*i*P	Pn	17 48 51.6	+1.1
	baz=89						
TRKS				⇓*i*S	Sn	17 49 46.3	-0.4
	baz=89						
BTK	Batken	4.88	273	⇓*i*P	Pn	17 48 53.1	+2.1
	baz=72						
BTK				⇓*i*S	Sn	17 49 48.6	+0.9
	baz=72						
TDK	Taldyqorghan	5.10	10	*e*P	Pb	17 49 08.2	+1.5
	20nm,0.2s						
TDK				*e*S	Sb	17 50 10.9	+2.9
	102nm,0.5s						
TDK	Taldyqorghan	5.10	10	Pg	Pb	17 49 08.2	+1.5
	20nm,0.2s						
TDK				Lg	Lg	17 50 10.9	
	102nm,0.5s						
GAR	Garm	5.40	262	⇑*i*P	Pn	17 49 00.6	+2.5
	baz=61						
GAR				⇑*i*S	Sn	17 50 01.4	+1.0
	baz=61						
BTLS	Baital	5.56	336	*e*P	Pb	17 49 17.4	+2.8
	6.9nm,0.6s						
BTLS				*e*S	Sb	17 50 27.2	+5.9
	18nm,0.7s						
BTLS	Baital	5.56	336	Pg	Pb	17 49 17.4	+2.8
	6.9nm,0.6s						
BTLS				Lg	Lg	17 50 27.2	
	18nm,0.7s						
IUG	Iuzhnay	5.82	294	*e*P	Pg	17 49 26.6	-2.3
	64nm,0.4s						
IUG				*e*S	Sg	17 50 43.0	-1.2
	30nm,0.6s						
IUG	Iuzhnay	5.82	294	Pg	Pg	17 49 26.6	-2.3
	64nm,0.4s						
IUG				Lg	Lg	17 50 43.0	
	30nm,0.6s						
KK31	Karatay Array	5.89	304	⇑Pn	Pn	17 49 08.6	+3.8
	0.5nm,0.4s,baz=142,slow=14,SNR=18						
KK31				Pg	Pg	17 49 25.6	-4.7
	5.0nm,0.8s,baz=99,slow=16,SNR=5.1						
KK31				⇑Lg	Lg	17 50 41.4	
	10nm,0.8s,baz=123,slow=30						
CHGR	Chuyangaron	6.36	261	⇓*i*P	Pn	17 49 13.7	+2.4
	baz=60						
CHGR				⇓*i*S	Sn	17 50 24.0	0.0
	baz=60						
CHCP	Chirah Chowk	7.05	208	P	Pn	17 49 26.7	+6.0
CEP	Cherat	7.46	216	P	Pn	17 49 32.9	+6.5
MKAR	Makanchi Array	7.76	27	Pn	Pn	17 49 29.9	-0.5
	0.2nm,0.3s,baz=205,slow=16,SNR=12						
MKAR				Lg	Lg	17 51 36.9	
	0.2nm,0.3s,baz=162,slow=25,SNR=2.3						
	0.3nm,0.3s						
THW	Thamme Wali	8.40	213	P	Pn	17 49 46.4	+7.1
DANN	Dangsing	12.81	153	*e*P	Pn	17 50 40.3	+0.4
	3.1nm,0.3s						
GKN	Gorkha	13.45	150	*e*P	Pn	17 50 48.3	-0.2
	5.5nm,0.3s						
DMN	Daman	13.98	150	*e*P	Pn	17 50 55.1	-0.8
	2.9nm,0.3s						
GUN	Gumba	14.03	146	*e*P	Pn	17 50 56.2	-0.4
	4.3nm,0.4s						
PKIN	Phulchoki	14.12	149	*e*P	Pn	17 50 56.8	-1.0
	3.8nm,0.5s						
PKI	Pulchoki	14.14	149	*e*P	Pn	17 50 56.9	-1.1
	3.4nm,0.6s						
JIRN	Jiri	14.38	146	*e*P	Pn	17 51 00.6	-0.8
	3.4nm,0.3s						
ZALV	Zalesovo Beam	14.90	18	Pn	Pn	17 51 08.2	+0.3
	0.2nm,0.3s,baz=206,slow=9.6,SNR=2.2						
	0.5nm,0.3s						
RAMN	Ramite	15.18	146	*e*P	Pn	17 51 08.1	-4.0
SONM	Songino Array	22.36	60	P	P	17 52 35.7	0.0
	0.3nm,0.6s,baz=256,slow=10,SNR=2.4						
	0.3nm,0.6s						
FINES	FINESS Array B	37.52	322	P	P	17 54 52.0	+0.8
	5.1nm,1.1s,baz=111,slow=11,SNR=4.1						
	5.1nm,1.1s						
TORD	Torodi Ar. Bea	70.59	271	P	P	17 58 53.5	+0.3
	0.2nm,0.4s,baz=59,slow=5.6,SNR=1.8						
	0.2nm,0.4s						

IDC 09 17:52:45.5±18.0**, 19.̊96S×178.̊12W, h536km**±44km**, mb2.6**/3**, mbtmp3.5**/4**, Error ellipse: s-maj=335.6km s-min=108.1km az=93.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.25	301	P	P	17 54 08.5	0.0
	1.6nm,0.4s,baz=118,slow=22,SNR=4.4						
STKA	Stephens Creek	37.92	244	P	P	17 59 16.6	-0.7
	0.4nm,0.5s,baz=70,slow=12,SNR=1.6						
	0.4nm,0.5s						
ASAR	Alice Springs	44.53	256	P	P	18 00 10.0	+0.1
	0.8nm,0.5s,baz=93,slow=7.6,SNR=32						
	0.8nm,0.5s						
WRA	Warramunga Arr	44.56	262	P	P	18 00 09.9	-0.2
	0.2nm,0.3s,baz=97,slow=7.5,SNR=22						
	0.2nm,0.3s						

WEL 09 18:21:35.1, 39.̊S±1.̊×**17.̊6E**±.̊**, h10km**±2km**, M3.3**/54**, ML3.6**/54**, MLv3.3**/54**, Error ellipse: s-maj=0.0km s-min=0.0km az=82.7, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RATZ	Rangitukua	0.03	206	P	Pg	18 21 37.5	+0.5
WATZ	Wairara	0.14	341	P	Pg	18 21 38.4	+0.2
KATZ	Kakaramea	0.16	208	P	Pg	18 21 39.5	+0.9
WHTZ	Whakaora	0.22	37	P	Pg	18 21 40.4	+0.8
HATZ	Hinemaiaia	0.24	103	P	Pg	18 21 40.1	+0.1
NTVZ	North Tongarir	0.28	199	P	Pb	18 21 41.8	-0.5
KRVZ	Karewarewa	0.28	204	P	Pb	18 21 41.8	-0.6
TMVZ	Te Maari	0.28	194	P	Pb	18 21 42.0	-0.4
ETVZ	East Tongariro	0.30	192	P	Pb	18 21 42.3	-0.5
WTVZ	West Tongariro	0.32	209	P	Pb	18 21 42.4	-0.6
NNVZ	North Ngauruho	0.32	205	P	Pb	18 21 42.6	-0.5
OTVZ	Oturere	0.34	197	P	Pb	18 21 43.0	-0.4
TWVZ	Taurewa	0.36	230	P	Pg	18 21 42.9	+0.6
SNVZ	South Ngauruho	0.37	198	P	Pb	18 21 43.5	-0.3
NGZ	Ngauruhoe	0.37	204	P	Pb	18 21 43.3	-0.6
TUVZ	Tukino	0.44	194	P	Pb	18 21 44.9	-0.2
FWVZ	Far West T-bar	0.46	204	P	Pb	18 21 44.8	-0.6
DRZ	Dome Shelter	0.47	202	P	Pb	18 21 45.7	0.0
WHVZ	Whangaehu Hut	0.47	199	P	Pb	18 21 45.3	-0.4
MRHZ	Matea Rd	0.49	90	P	Pg	18 21 44.8	+0.2
TRVZ	Turoa	0.50	202	P	Pb	18 21 45.6	-0.5
WNVZ	Wahianoa	0.51	197	P	Pb	18 21 46.1	-0.2
ALRZ	Allen Road	0.51	58	P	Pb	18 21 47.1	+0.8
TLZ	Tolley Road	0.55	339	P	Pg	18 21 45.4	-0.3
GRRZ	Galatos Road	0.55	27	P	Pb	18 21 46.7	-0.1
PKVZ	Pokaka	0.57	217	P	Pg	18 21 46.7	+0.5
MOVZ	Moawhango	0.57	183	P	Pg	18 21 46.7	+0.5
HRRZ	Handcock Road	0.59	41	P	Pb	18 21 48.3	+0.8
MTVZ	Mangateitei	0.60	204	P	Pb	18 21 47.3	-0.5
BKZ	Black Stump Fm	0.64	121	P	Pb	18 21 48.0	-0.4
BHHZ	Black Hill Sta	0.68	162	P	Pb	18 21 49.0	-0.2
UTU	Utuhina	0.73	26	P	Pn	18 21 55.9	+4.4
KWHZ	Kaweka Forest	0.77	140	P	Pb	18 21 50.8	+0.2
HIZ	Hauiti	0.80	294	P	Pb	18 21 50.9	-0.2
MTHZ	Maungataniwha	0.82	91	P	Pb	18 21 51.2	-0.3
NMHZ	Naumai	0.83	108	P	Pn	18 21 52.4	-0.6
MUGZ	Murupara	0.85	65	P	Pb	18 21 52.0	+0.1
VRZ	Vera Road	0.85	250	P	Pb	18 21 51.9	-0.1
OMRZ	Omania	0.86	32	P	Pb	18 21 52.5	+0.3
MCHZ	McNeill Hill	0.93	131	P	Pn	18 21 54.8	+0.5
RTZ	Ruatahuna	0.96	77	P	Pg	18 21 53.6	+0.1
RAHZ	Arahi	1.01	95	P	Pn	18 21 55.6	+0.1
ARHZ	Aropaoanui	1.03	115	P	Pn	18 21 56.7	+1.0
WAZ	Wanganui	1.11	214	P	Pb	18 21 56.5	+0.1
PNHZ	Pukenui	1.12	164	P	Pn	18 21 57.3	+0.4
TOZ	Tahuroa Road	1.13	348	P	Pb	18 21 55.8	-0.9
WHHZ	Waihua	1.15	102	P	Pn	18 21 58.6	+1.3
MHEZ	Mangahewa	1.17	258	P	Pn	18 21 58.7	+1.1
TSZ	Takapari Road	1.23	174	P	Pg	18 21 59.2	+0.6
LREZ	Lake Rotokare	1.25	240	P	Pg	18 21 59.7	+0.8
KAHZ	Kahuranaki	1.27	139	P	Pg	18 22 00.9	+1.4
DREZ	Durham Road	1.29	254	P	Pg	18 22 00.3	+0.5
CKHZ	Cape Kidnapper	1.29	130	P	Pg	18 22 02.1	+2.2
RAGZ	Rawiri	1.32	75	P	Pg	18 22 03.2	+2.8
WPHZ	Waipukurau	1.32	158	P	Pg	18 22 02.2	+1.7
PREZ	Palmer Road	1.37	248	P	Pg	18 22 01.6	+0.3
NEZ	North Egmont	1.39	251	P	Pg	18 22 02.2	+0.5
PKE	Pukeiti	1.45	255	P	Pg	18 22 03.0	+0.1
MWZ	Matawai	1.45	70	P	Pn	18 22 01.2	-0.3
PXZ	Pawanui	1.45	145	P	Pg	18 22 05.7	+2.8
KHEZ	Kahui Hut	1.46	251	P	Pg	18 22 03.3	+0.3
KNZ	Kokohu	1.48	98	P	Pg	18 22 04.7	+1.2
DVHZ	Dannevirke	1.49	169	P	Pg	18 22 03.8	+0.2
RIGZ	Rimuhau	1.55	86	P	Pg	18 22 07.2	+2.4
POWZ	Post Office Ro	1.55	181	P	Pg	18 22 04.8	0.0
NBEZ	Newall Road No	1.56	253	P	Pg	18 22 04.6	-0.3
PRHZ	Porangahau	1.57	156	P	Pg	18 22 07.0	+1.8
NMEZ	Namu Road	1.59	248	P	Pg	18 22 05.2	-0.4
MHGZ	Mahia Peninsul	1.68	101	P	Pg	18 22 10.3	+3.0
ANWZ	Angora Road	1.70	162	P	Pg	18 22 08.4	+0.6
PRWZ	Pori Road	1.72	175	P	Pg	18 22 10.6	+2.5
RUGZ	Raukumara Rang	1.72	60	P	Pn	18 22 05.3	0.0
MKAZ	Moumakai	1.80	344	P	Pb	18 22 07.3	-0.9
MRZ	Mangatainoka R	1.83	185	P	Pn	18 22 07.1	+0.5
TWGZ	Tauwhareparae	1.84	70	P	Pg	18 22 11.3	+0.9
BFZ	Birch Farm	1.88	169	P	Pg	18 22 10.3	-0.8
HAZ	Te Kaha	1.90	56	P	Pg	18 22 12.8	+1.2
TIWZ	Tintock	1.94	178	P	Pb	18 22 10.1	-0.4
AWAZ	Awhitu Peninsu	1.99	333	P	Pb	18 22 11.1	-0.3
PKGZ	Pakihiroa	2.03	63	P	Pb	18 22 11.6	-0.6
OGWZ	Otaki Gorge	2.03	193	P	Pb	18 22 12.5	+0.4
HOWZ	Holdsworth Sta	2.07	186	P	Pn	18 22 11.1	+1.1
KUZ	Kuaotunu	2.09	358	P	Pb	18 22 14.0	+0.9
CPWZ	Castlepoint	2.09	171	P	Pg	18 22 16.4	+1.2
WIAZ	Waiheke Island	2.11	346	P	Pb	18 22 12.0	-1.3
KIW	Kapiti Island	2.13	198	P	Pb	18 22 13.7	-0.1
WTAZ	Waiatarua	2.13	333	P	Pb	18 22 14.2	+0.3
MBAZ	Motutapu North	2.18	341	P	Pn	18 22 12.8	+1.3

TMWZ	**Te Maipa**	**2.27**	**178**	P	Pg	18 22 18.5	-0.1
WMGZ	**Waiomatatini S**	**2.30**	**65**	P	Pg	18 22 18.9	-0.3
MTW	**Mount Morrison**	**2.33**	**185**	P	Pg	18 22 18.5	-1.2
CAW	**Cannon Point**	**2.33**	**194**	P	Pb	18 22 18.0	+0.7
ABAZ	**Army Bay**	**2.36**	**341**	P	Pn	18 22 15.2	+1.3
DUWZ	**D'Urville Isla**	**2.43**	**216**	P	Pb	18 22 17.5	-1.5
TRWZ	**Traveller**	**2.56**	**182**	P	Pb	18 22 22.4	+1.3
MSWZ	**Moikau Station**	**2.61**	**189**	P	Pg	18 22 25.4	+0.3
TCW	**Tory Channel**	**2.64**	**206**	P	Pb	18 22 22.8	+0.3
TUWZ	**Tuamarina**	**2.95**	**208**	P	Pb	18 22 29.1	+1.4
NNZ	**Nelson**	**3.01**	**217**	P	Pb	18 22 29.3	+0.5
QRZ	**Quartz Range**	**3.20**	**231**	P	Pn	18 22 27.3	+1.8
BSWZ	**Blackbirch Sta**	**3.23**	**206**	P	Pb	18 22 33.9	+1.4
MRNZ	**Matariki Terra**	**3.46**	**221**	P	Pn	18 22 31.8	+2.8
THZ	**Tophouse**	**3.66**	**216**	P	Pb	18 22 38.5	-1.5
KHZ	**Kahutara**	**3.96**	**205**	P	Pb	18 22 42.8	-2.3
LTZ	**Lake Taylor**	**4.76**	**213**	P	Pb	18 22 53.1	-5.6
INZ	**Inchbonnie**	**5.09**	**219**	P	Pn	18 22 55.9	+4.4

IDC 09 18:28:18.3±2.8**, 58°.09S**×**149°.09E, h0**km**, mb3.5**/3**, mbtmp3.6**/3**, MS3.4**/2**, Error ellipse: s-maj=204.7km s-min=29.4km az=77.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.01**	**172**	P	P	18 32 52.0	0.0
	0.7nm,0.9s,baz=338,slow=9.2,SNR=2.3						
	0.7nm,0.9s						
H01W1	**Cape Leeuwin H**	**32.81**	**300**	T	T	19 09 12.6	
	baz=145,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**32.82**	**300**	T	T	19 09 05.0	
	baz=145,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**32.83**	**300**	T	T	19 09 13.7	
	baz=145,slow=75,SNR=9.2						
ASAR	**Alice Springs**	**36.08**	**336**	P	P	18 35 21.6	+0.1
	0.7nm,0.7s,baz=162,slow=9.1,SNR=14						
	0.7nm,0.7s						
MAW	**Mawson**	**37.25**	**219**	LR	LR	18 50 28.3	
	comp=Z,55nm,18.5s,baz=155,slow=36						
DZM	**Mont Dzumac**	**38.11**	**27**	LR	LR	18 48 14.2	
	comp=Z,58nm,18.6s,baz=46,slow=31						
WRA	**Warramunga Arr**	**39.60**	**338**	P	P	18 35 50.9	-0.4
	1.6nm,0.7s,baz=166,slow=7.4,SNR=20						
	1.6nm,0.7s						
H08S2	**Diego Garcia H**	**76.47**	**277**	T	T	20 03 40.4	
	baz=148						
H08S1	**Diego Carcia H**	**76.48**	**277**	T	T	20 03 52.7	
	baz=148						
H08S3	**Diego Garcia H**	**76.49**	**277**	T	T	20 03 47.4	
	baz=148						
H03S2	**Juan Fernandez**	**79.99**	**141**	T	T	20 09 34.9	
	baz=201,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**79.99**	**141**	T	T	20 09 35.4	
	baz=201,slow=74,SNR=15						
H03S3	**Juan Fernandez**	**80.00**	**141**	T	T	20 09 35.2	
	baz=201,slow=74,SNR=13						
AKASG	**Malin Array Be**	**145.30**	**284**	PKPbc	PKPbc	18 47 55.8	-0.7
	0.2nm,0.4s,baz=103,slow=2.0,SNR=1.7						

*IDC **09** 18:55:13.6±0.6, 27°.25N×140°.41E, h498km±8km, mb2.8/7, mbtmp3.7/9, Error ellipse: s-maj=28.2km s-min=12.0km az=85.0*
*JMA **09** 18:55:14.9±0.3, 27°N±2°×14°0E±°, h495km±4km, MV4.6/17, W OFF OGASAWARA*
ISC 09 18:55:14.2±0.7**, 27°.26N**±0°.09×**140°.4E**±0°.1**, h500**km**, n17, σ1s.04**/22**, mb3.1**/7**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.61**	**96**	P	**P**	**18 56 18.8**	**+1.3**
CBIJ				*e*S	**S**	**18 57 08.5**	**-0.4**
JCJ	**Chichijima**	**1.61**	**96**	P	**P**	**18 56 18.4**	**+0.9**
	54nm,0.5s,baz=20,slow=13,SNR=34						
JCJ				S	**S**	**18 57 07.7**	**-1.2**
	89nm,0.4s,baz=125,slow=24,SNR=9.0						
JHH2	**Haha-jima-NKT2**	**1.71**	**111**	*e*S	**S**	**18 57 11.4**	**+1.7**
JAG	**Ashikaga**	**9.17**	**355**	*e*P	**P**	**18 57 22.8**	**+0.2**
JHO	**Hitachi**	**9.32**	**1**	*e*P	**P**	**18 57 25.3**	**+1.0**
JHO				*e*S	**S**	**18 59 10.2**	**-1.0**
JAMN	**Amaminishikomi**	**9.98**	**278**	*e*P	**P**	**18 57 32.0**	**+0.6**
JFK	**Kawauchi**	**10.08**	**2**	*e*P	**P**	**18 57 34.0**	**+1.7**
KSRS	**Korea Array**	**14.62**	**317**	P	**P**	**18 58 21.7**	**+1.4**
	0.7nm,0.4s,baz=146,slow=9.0,SNR=8.7						
USRK	**Ussuriysk Ar.**	**18.21**	**340**	P	**P**	**18 58 56.7**	**+0.5**
	2.8nm,0.7s,baz=157,slow=15,SNR=3.8						
SONM	**Songino Array**	**33.49**	**317**	P	**P**	**19 01 10.8**	**-0.6**
	0.5nm,0.6s,baz=128,slow=9.6,SNR=2.2						
	0.5nm,0.6s						
SEY	**Seymchan**	**36.53**	**9**	P	**P**	**19 01 36.7**	**+0.3**
	baz=190,slow=11						
WRA	**Warramunga Arr**	**47.29**	**188**	P	**P**	**19 03 01.2**	**-0.8**
	0.2nm,0.3s,baz=6.3,slow=7.6,SNR=16						
WRA				PcP	**PcP**	**19 04 23.4**	**+0.1**
	0.3nm,0.8s,baz=2.9,slow=4.1,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**49.14**	**310**	P	**P**	**19 03 14.3**	**-1.2**
	0.2nm,0.4s,baz=87,slow=10,SNR=4.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**51.02**	**188**	P	**P**	**19 03 28.8**	**-0.7**
	0.1nm,0.4s,baz=359,slow=4.3,SNR=13						
ASAR				PcP	**PcP**	**19 04 37.7**	**+0.7**
	0.2nm,0.9s,baz=3.8,slow=2.8,SNR=1.4						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**58.34**	**29**	P	**P**	**19 04 19.1**	**-1.3**
	0.6nm,0.8s,baz=250,slow=5.5,SNR=4.9						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**72.86**	**340**	P	**P**	**19 05 50.7**	**-0.6**
	3.7nm,1.0s,baz=76,slow=7.5,SNR=1.2						
	3.7nm,1.0s						
FINES	**FINESS Array B**	**77.09**	**333**	P	**P**	**19 06 14.5**	**-0.6**
	1.9nm,0.9s,baz=74,slow=4.9,SNR=1.5						
	1.9nm,0.9s						

*IDC **09** 18:55:41.2±1.0, 35°.20N×137°.25E, h0km, mb3.5/5, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=25.8km s-min=13.2km az=112.0*
*JMA **09** 18:55:46.0±0.2, 36°.1N±0°.5×139°.8E±0°.6, h77km±1km, MV3.3/38, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .
*NEIC **09** 18:55:45.8±0.8, 36°.02N±0°.06×139°.81E±0°.07, h90km±8km, mb4.6/6, Error ellipse: s-maj=10.1km s-min=6.9km az=137.0*
ISC 09 18:55:45.1±0.8**, 36°.01N**±0°.03×**139°.80E**±0°.05**, h85**km±6km**, n45, σ0s.74**/53**, mb3.9**/9**, 6D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.32**	**186**	P	**Pn**	**18 55 59.8**	**+1.7**
JYT	**Yasato**	**0.39**	**56**	P	**Pn**	**18 55 58.6**	**+0.1**
JYT				S	**Sn**	**18 56 08.0**	**-0.4**
JAG	**Ashikaga**	**0.50**	**326**	P	**Pn**	**18 55 59.4**	**0.0**
JAG				S	**Sn**	**18 56 09.4**	**-0.5**
JRY	**Ryogami san**	**0.73**	**271**	⇓P	**Pn**	**18 56 02.0**	**+0.5**
JRY				⇓S	**Sn**	**18 56 14.0**	**+0.3**
JKT	**Katashina**	**0.88**	**330**	P	**Pn**	**18 56 03.2**	**0.0**
JKT				S	**Sn**	**18 56 16.3**	**-0.3**
JOD2	**Odawara 2**	**0.94**	**218**	⇓P	**Pn**	**18 56 04.0**	**+0.1**
JOD2				⇓S	**Sn**	**18 56 17.2**	**-0.7**
JYN	**Shimob**	**1.14**	**244**	⇓P	**Pn**	**18 56 06.8**	**+0.5**
JYN				⇓S	**Sn**	**18 56 22.1**	**0.0**
JFNN	**Fujinakano**	**1.22**	**229**	P	**Pn**	**18 56 07.6**	**+0.4**
JFNN				S	**Sn**	**18 56 23.7**	**0.0**
JIM2	**Oshima 3**	**1.32**	**193**	P	**Pn**	**18 56 08.3**	**-0.2**
JIM2				S	**Sn**	**18 56 25.4**	**-0.6**
MJAR	**Matsushiro Arr**	**1.39**	**293**	Pg	**Pn**	**18 56 08.4**	**-0.9**
	4.7nm,0.3s,baz=108,slow=18,SNR=236						
MJAR				Lg	Lg	18 56 31.1	
	3.3nm,0.3s,baz=90,slow=30,SNR=3.3						
MAJO	**Matsushiro**	**1.39**	**293**		**Pn**	**18 56 09.5**	**+0.2**
MAJO	**Matsushiro**	**1.39**	**293**	P	**Pn**	**18 56 10.0**	**+0.7**
MAT	**Matsushiro**	**1.39**	**293**	P	**Pn**	**18 56 09.7**	**+0.4**
MJB9	**Matsu-Tunnel**	**1.40**	**293**		**Pn**	**18 56 10.6**	**+1.2**
JOTO	**OTAMA OYAMA**	**1.60**	**15**	P	**Pn**	**18 56 12.6**	**+0.6**
JMM	**Marumori**	**2.02**	**23**	Pn	**Pn**	**18 56 18.4**	**+1.1**
JMM	**Marumori**	**2.02**	**23**	P	**Pn**	**18 56 18.7**	**+1.4**
JGF	**Kuroka**	**2.03**	**259**		**Pn**	**18 56 18.5**	**+0.9**
JGF	**Kuroka**	**2.03**	**259**	P	**Pn**	**18 56 18.8**	**+1.2**
INU	**Inuyama**	**2.36**	**255**		**Pn**	**18 56 22.7**	**+0.7**
INU	**Inuyama**	**2.36**	**255**	P	**Pn**	**18 56 22.6**	**+0.7**
JSD	**Sado**	**2.37**	**329**	Pn	**Pn**	**18 56 21.9**	**-0.1**
JSD	**Sado**	**2.37**	**329**	P	**Pn**	**18 56 22.6**	**+0.5**
JHJ	**Hachijo jima 2**	**2.88**	**180**	Pn	**Pn**	**18 56 29.7**	**+0.7**
	38nm,0.3s,baz=142,slow=23,SNR=9.0						
JHJ				Sn	**Sn**	**18 57 01.7**	**-1.0**
	52nm,0.3s,baz=95,slow=23,SNR=2.4						
	80nm,0.3s						
JHJ	**Hachijo jima 2**	**2.88**	**180**		**Pn**	**18 56 29.7**	**+0.7**
JHJ					**Sn**	**18 57 01.7**	**-1.0**
JHJ2	**Mitsune**	**2.89**	**180**	Pn	**Pn**	**18 56 29.9**	**+0.8**
JHJ2	**Mitsune**	**2.89**	**180**	P	**Pn**	**18 56 30.6**	**+1.5**
JTM	**Tenmabayashi**	**4.87**	**11**	Pn	**Pn**	**18 56 56.2**	**+0.3**
JMN	**Monobe**	**5.37**	**247**	Pn	**Pn**	**18 57 03.6**	**+0.8**
JMN	**Monobe**	**5.37**	**247**	P	**Pn**	**18 57 03.6**	**+0.8**
JHS	**Saijyo**	**5.55**	**261**	Pn	**Pn**	**18 57 05.3**	**+0.2**
JHS	**Saijyo**	**5.55**	**261**	P	**Pn**	**18 57 06.7**	**+1.5**
ZALV	**Zalesovo Beam**	**41.66**	**313**	P	**P**	**19 03 24.4**	**-0.6**
	0.9nm,0.4s,baz=91,slow=8.2,SNR=3.8						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**43.57**	**303**	P	P	19 03 34.9	-5.6
	0.2nm,0.5s,baz=89,slow=9.1,SNR=2.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**43.57**	**303**	P	**P**	**19 03 41.1**	**+0.5**
MTN	**Manton Dam**	**49.27**	**191**	P	**P**	**19 04 24.4**	**-1.0**
ILAR	**Eielson Array**	**51.05**	**32**	P	P	19 04 58.3	+20
	0.3nm,0.7s,baz=282,slow=5.4,SNR=2.1						
	0.3nm,0.7s						
WB0	**Warramunga Arr**	**55.71**	**186**	P	**P**	**19 05 12.9**	**0.0**
WB0				IAmb	IAmb	19 05 50.2	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**55.89**	**186**	P	**P**	**19 05 14.0**	**-0.1**
WB2				IAmb	IAmb	19 05 30.3	
	comp=Z,4.6nm,1.2s						
WR0	**Warramunga Arr**	**55.89**	**186**	P	**P**	**19 05 14.0**	**-0.1**
WR0				IAmb	IAmb	19 05 27.6	
	comp=Z,3.2nm,0.6s						
WRA	**Warramunga Arr**	**55.89**	**186**	P	**P**	**19 05 13.6**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=1.4,slow=7.5,SNR=18						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**55.89**	**186**	P	**P**	**19 05 13.4**	**-0.7**
HYT	**Haines Junctio**	**55.89**	**36**	P	**P**	**19 05 14.0**	**0.0**
HYT				IAmb	IAmb	19 05 48.9	
	comp=Z,12nm,1.5s						
ABKAR	**Akbulak array**	**57.61**	**310**	P	**P**	**19 05 26.0**	**-0.1**
ASAR	**Alice Springs**	**59.61**	**186**	P	**P**	**19 05 40.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=19,slow=12,SNR=7.4						
	comp=Z,0.3nm,0.6s						

*NEIC **09** 19:02:26.5±2.8, 52°.06N±0°.06×169°.13W±0°.06, h10km±2km, mb3.9/23, ML4.1/6, ML3.5(AEIC), Error ellipse: s-maj=10.8km s-min=5.1km az=155.0*
*IDC **09** 19:02:30.8±1.0, 52°.98N×169°.99W, h0km, mb3.8/12, mbtmp3.7/14, ML3.5/1, Error ellipse: s-maj=26.9km s-min=18.3km az=160.0*
*AEIC **09** 19:02:32.2±1.9, 52°.31N±0°.09×169°.31W±0°.10, h37km±8km, Error ellipse: s-maj=13.7km s-min=7.3km az=157.0*
ISC 09 19:02:27.6±1.0**, 52°.2N**±0°.1×**169°.26W**±0°.08**, h10**km**, n73, σ1s.43**/66**, mb3.8**/14**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.73**	**328**		**Pn**	**19 02 44.7**	**+0.8**
CLES				IAML		19 03 00.9	
	comp=N,10μm,0.3s						
CLES				IAML		19 03 01.8	
	comp=E,11μm,0.3s						
NIKH	**Nikolski High**	**0.80**	**18**		**Pn**	**19 02 45.8**	**+0.8**
NIKH					**Sb**	**19 02 56.8**	**+2.3**
UNV	**Unalaska Valle**	**2.33**	**44**		**Pn**	**19 03 07.6**	**+1.6**
UNV					**Sn**	**19 03 36.1**	**+1.5**
AKUT	**Akutan**	**2.85**	**46**	Pn	**Pn**	**19 03 10.8**	**-2.3**
AKUT				IAML		19 03 54.6	
	comp=N,242nm,3.6s						
ADK	**Adak**	**4.60**	**269**	Pn	**Pn**	**19 03 38.2**	**+1.1**
ADK				IAML		19 04 21.7	
	comp=N,149nm,3.6s						
ADK				IAML		19 05 03.1	
	comp=N,153nm,3.6s						
SPIA	**Saint Paul Isl**	**5.01**	**354**	Pn	**Pn**	**19 03 46.3**	**+3.5**
CNBA	**Chernabura Isl**	**6.33**	**62**	Pn	**Pn**	**19 04 02.1**	**+1.2**
AMKA	**Amchitka**	**7.15**	**268**	Pn	**Pn**	**19 04 14.2**	**+2.1**
CHGN	**Chignik**	**7.55**	**53**	Pn	**Pn**	**19 04 18.0**	**+0.4**
OHAK	**Old Harbor**	**10.50**	**55**	Pn	**Pn**	**19 04 57.9**	**-0.1**
O18K	**Koktuh Hills**	**10.95**	**40**	Pn	**Pn**	**19 05 07.3**	**+3.1**
KDAK	**Kodiak Island**	**11.07**	**53**	Pn	**Pn**	**19 05 07.8**	**+2.1**
	comp=N,0.5nm,0.3s,baz=110,slow=19,SNR=1.4						
KDAK	**Kodiak Island**	**11.07**	**53**	Pn	**Pn**	**19 05 05.8**	**0.0**
N19K	**Bonanza Creek**	**11.84**	**38**	Pn	**Pn**	**19 05 16.8**	**+0.4**
M19K	**Big River Lodg**	**12.60**	**34**	Pn	**Pn**	**19 05 27.0**	**+0.2**
L19K	**White Mountain**	**12.64**	**32**	Pn	**Pn**	**19 05 27.8**	**+0.5**
SEW	**Seward**	**13.53**	**47**	Pn	**Pn**	**19 05 41.1**	**+1.7**
SUA	**Susitna One**	**13.68**	**40**	Pn	**Pn**	**19 05 39.8**	**-1.8**
PPLA	**Purkeypile**	**14.03**	**34**	P	**P**	**19 05 53.9**	**-0.5**
J20K	**Nowinta River**	**14.34**	**27**	P	**P**	**19 05 56.1**	**-1.5**
CAST	**Castle Rocks**	**14.42**	**32**	P	**P**	**19 05 56.8**	**-1.7**
GHO	**Glory Hole Cre**	**14.58**	**41**	Pn	**Pn**	**19 05 53.3**	**-0.5**
KNK	**Knik Glacier**	**14.58**	**43**	Pn	**Pn**	**19 05 55.2**	**+1.4**
SML	**Sawmill**	**14.84**	**41**	Pn	**Pn**	**19 05 57.6**	**+0.4**
KTH	**Kantishna Hill**	**14.90**	**33**	Pn	**Pn**	**19 05 58.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**15.25**	**32**	Pn	**Pn**	**19 06 03.7**	**+1.0**
BPAW				IAmb	IAmb	19 06 14.1	
	comp=Z,4.7nm,0.8s						
SCM	**Sheep Creek Mo**	**15.26**	**42**	Pn	**Pn**	**19 06 03.0**	**+0.1**
KLU	**Klutina**	**15.70**	**45**	Pn	**Pn**	**19 06 09.0**	**+0.3**
KLU				IAmb	IAmb	19 06 27.3	
	comp=Z,17nm,1.4s						
I21K	**Tanana**	**15.71**	**28**	P	**P**	**19 06 11.8**	**-1.0**
IMAR	**Indian Mountai**	**15.87**	**24**	Pn	**Pn**	**19 06 09.8**	**-0.9**
M24K	**Tolsona, Glenn**	**15.87**	**42**	Pn	**Pn**	**19 06 09.7**	**-1.2**
MLY	**Manley**	**15.97**	**29**	P	**P**	**19 06 14.3**	**-1.4**
MLY				IAmb	IAmb	19 06 20.5	
	comp=Z,9.3nm,1.3s						
N25K	**Chitina, Valde**	**16.32**	**45**	Pn	**Pn**	**19 06 16.1**	**-0.6**
N25K				IAmb	IAmb	19 06 31.9	
	comp=Z,21nm,1.4s						
CCB	**Clear Creek Bu**	**16.66**	**33**	Pn	**Pn**	**19 06 19.1**	**-1.7**
CCB				IAmb	IAmb	19 06 53.5	
	comp=Z,8.5nm,1.5s						
VRDI	**Verde Repeater**	**16.68**	**47**	Pn	**Pn**	**19 06 19.4**	**-2.0**
VRDI				IAmb	IAmb	19 06 36.1	
	comp=Z,17nm,1.3s						
WAX	**Waxell Ridge**	**16.70**	**50**	Pn	**Pn**	**19 06 17.4**	**-4.1**
ILAR	**Eielson Array**	**17.04**	**34**	Pn	**Pn**	**19 06 24.3**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=231,slow=9.0,SNR=4.3						
M26K	**Nabesna, AK**	**17.34**	**44**		**Pn**	**19 06 29.3**	**-0.2**
M26K				IAmb	IAmb	19 06 42.3	
	comp=Z,7.2nm,1.3s						
H24K	**Noodor Dome**	**17.40**	**30**		**P**	**19 06 30.9**	**-0.6**
J25K	**Salcha River,**	**17.48**	**36**	Pn	**Pn**	**19 06 28.8**	**-2.5**
SCRK	**Sand Creek**	**17.66**	**38**	Pn	**Pn**	**19 06 32.0**	**-1.5**
M27K	**Edge Creek, AK**	**17.80**	**45**		**Pn**	**19 06 34.4**	**-0.9**
M27K				IAmb	IAmb	19 07 11.6	
	comp=Z,16nm,1.4s						
J26L	**Joseph Creek**	**18.08**	**37**	P	**Pn**	**19 06 38.4**	**-0.3**
BCAR	**Beaver Creek A**	**18.12**	**42**	P	**Pn**	**19 06 37.4**	**-1.8**
I26K	**Coal Creek Min**	**18.65**	**35**	P	**P**	**19 06 44.6**	**-0.6**
I26K				IAmb	IAmb	19 06 53.0	
	comp=Z,4.8nm,0.9s						
HYT	**Haines Junctio**	**19.34**	**51**	P	**P**	**19 06 52.8**	**-0.2**
HYT				IAmb	IAmb	19 07 04.4	
	comp=Z,8.5nm,1.1s						
BMAR	**Burnt Mountain**	**19.44**	**29**	Pn	**Pn**	**19 06 55.8**	**+0.7**
PEA0B	**Petropavlovsk-**	**19.97**	**286**		**P**	**19 07 00.6**	**+0.8**
PETK	**Petropavlovsk-**	**19.97**	**286**	P	**P**	**19 06 59.2**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=78,slow=13,SNR=19						
	comp=Z,2.0nm,0.5s						
PETK	**Petropavlovsk-**	**19.97**	**286**	Pn	**P**	**19 07 00.5**	**+0.7**
N31M	**Braeburn, Yuko**	**20.30**	**50**	Pn	Pn	19 07 05.0	-0.4
N31M				IAmb	IAmb	19 07 46.3	
	comp=Z,10nm,1.2s						
EPYK	**Eagle Plains**	**21.49**	**36**	P	**P**	**19 07 14.3**	**-1.8**
EPYK				IAmb	IAmb	19 07 31.6	
	comp=Z,4.8nm,0.8s						
INK	**Inuvik**	**23.44**	**33**	P	**P**	**19 07 36.8**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=239,slow=9.3,SNR=5.7						
	comp=Z,0.7nm,0.4s						
INK	**Inuvik**	**23.44**	**33**	P	**P**	**19 07 36.6**	**+0.1**
INK				IAmb	IAmb	19 07 55.8	
	comp=Z,4.1nm,1.4s						
C36M	**Paulatuk**	**27.02**	**34**	P	**P**	**19 08 08.4**	**-0.9**
YKA	**Yellowknife Ar**	**30.29**	**49**	P	**P**	**19 08 40.4**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=272,slow=8.2,SNR=4.7						
	comp=Z,0.7nm,0.6s						
KLR	**Kul'dur**	**36.58**	**289**	P	**P**	**19 09 31.7**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=30,slow=8.9,SNR=1.7						
	comp=Z,0.8nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.37**	**219**	T	T	19 50 20.1	
	baz=24,slow=75						
H11N3	**WAKE ISLAND Hy**	**37.38**	**219**	T	T	19 50 55.5	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.39**	**219**	T	T	19 50 38.4	
	baz=24,slow=75						
H11S1	**WAKE ISLAND Hy**	**38.56**	**218**	T	T	19 51 07.1	
	baz=23,slow=76,SNR=64						
H11S2	**WAKE ISLAND Hy**	**38.58**	**218**	T	T	19 51 07.9	
	baz=23,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**38.58**	**218**	T	T	19 51 08.5	
	baz=23,slow=76,SNR=39						
SONM	**Songino Array**	**51.44**	**301**	P	**P**	**19 11 31.5**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=56,slow=7.7,SNR=1.2						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**52.68**	**89**	P	P	19 11 50.5	+8.3
	comp=Z,0.4nm,0.7s,baz=290,slow=5.2,SNR=3.9						
	comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**58.09**	**354**	P	**P**	**19 12 19.1**	**-1.4**
	comp=Z,7.8nm,1.0s,baz=19,slow=8.6,SNR=4.5						
	comp=Z,7.8nm,1.0s						
MKAR	**Makanchi Array**	**63.97**	**314**	P	**P**	**19 12 59.7**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=49,slow=5.1,SNR=2.8						
	comp=Z,0.3nm,0.6s						
AFI	**Afiamalu**	**65.88**	**183**	P	P	19 13 23.4	+10
	comp=Z,8.0nm,0.3s,baz=85,slow=22,SNR=2.5						
FINES	**FINESS Array B**	**66.04**	**352**	P	**P**	**19 13 13.8**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=10,slow=6.8,SNR=8.5						
	comp=Z,2.3nm,0.8s						
NOA	**NORSAR Array B**	**67.10**	**360**	P	**P**	**19 13 20.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=332,slow=4.6,SNR=1.3						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**76.28**	**348**	P	**P**	**19 14 15.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=13,slow=6.2,SNR=2.7						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**76.72**	**283**	P	**P**	**19 14 20.2**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=26,slow=5.7,SNR=8.5						
	comp=Z,1.0nm,0.8s						
ESDC	**Sonseca Array**	**87.60**	**11**	P	**P**	**19 15 16.8**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=354,slow=4.2,SNR=2.5						
	comp=Z,0.7nm,0.8s						

IDC 09 19:10:40.4±2.1**, 56°.74S**×**26°.92W, h0**km**, mb4.1**/1**, mbtmp4.1**/1**, Error ellipse: s-maj=116.7km s-min=72.3km az=139.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**73.59**	**29**	P	P	19 22 15.1	0.0
	1.0nm,0.5s,baz=198,slow=6.7,SNR=7.8						
	1.0nm,0.5s						
SONM	**Songino Array**	**150.61**	**87**	PKPbc	PKPbc	19 30 33.0	-0.3
	0.6nm,0.4s,baz=208,slow=5.9,SNR=2.5						
ILAR	**Eielson Array**	**150.69**	**311**	PKPbc	PKPbc	19 30 32.5	-0.3
	0.8nm,0.7s,baz=122,slow=3.1,SNR=9.5						

TAP 09 19:25:02.3, 24°.56N×**121°.58E, h67**km**, ML2.0, B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LATG	**Datong**	**0.05**	**240**	*i* P	Pn	19 25 12.8	+0.5
	baz=239						
LATG				*i* S	Sn	19 25 20.4	+0.9
	baz=239						
NDT	**Datong Townshi**	**0.07**	**305**	*e*P	Pn	19 25 10.6	-1.6
	baz=305						
ENTT	**Nioudou**	**0.08**	**353**	*e*P	Pn	19 25 11.7	-0.5
	baz=10.0						
ENTT				*e*S	Sn	19 25 18.5	-0.9
	baz=10.0						
TWE	**Neicheng**	**0.18**	**28**	*i* P	Pn	19 25 13.0	+0.5
	baz=25						
TWE				*i* S	Sn	19 25 20.5	+0.6
	baz=25						
FUSB	**Fushanzhiwuyua**	**0.20**	**3**	*i* P	Pn	19 25 13.0	+0.3
	baz=350						
FUSB				*i* S	Sn	19 25 20.3	+0.1
	baz=350						
ENA	**Nanau**	**0.20**	**132**	*e*P	Pn	19 25 12.7	0.0
	baz=131						
ENA				*e*S	Sn	19 25 19.4	-0.7
	baz=131						
EWUT	**Wuta**	**0.22**	**122**	*e*P	Pn	19 25 11.5	-1.2
	baz=122						
EWUT				*e*S	Sn	19 25 19.4	-0.8
	baz=122						
NNS	**Nan Shan**	**0.22**	**237**	*e*P	Pn	19 25 12.8	-0.1
	baz=235						
NNS				*e*S	Sn	19 25 20.6	+0.1
	baz=235						
NNSB	**Datong**	**0.22**	**233**	*e*P	Pn	19 25 13.9	+1.0
	baz=233						
NNSB				S	Sn	19 25 21.2	+0.7
	baz=233						
NNSH	**Datong**	**0.22**	**233**	P	Pn	19 25 12.8	-0.1
	baz=234						
NNSH				S	Sn	19 25 20.8	+0.2
	baz=234						
NWLT	**Wulai**	**0.22**	**343**	*e*P	Pn	19 25 12.3	-0.5
	baz=352						
NWLT				*e*S	Sn	19 25 19.8	-0.6
	baz=352						
NSK	**Sanguang**	**0.23**	**300**	P	Pn	19 25 12.5	-0.3
	baz=306						
NSK				S	Sn	19 25 20.2	-0.3
	baz=306						
TWC	**Suao**	**0.25**	**79**	*e*P	Pn	19 25 12.5	-0.4
	baz=80						
ETLH	**Xiulin Townshi**	**0.36**	**194**	*e*P	Pn	19 25 13.7	-0.1
	baz=187						
ETLH				*e*S	Sn	19 25 21.8	-0.4
	baz=187						
NACB	**Ninganchiao**	**0.39**	**177**	*e*P	Pn	19 25 13.6	-0.3
	baz=171						
NACB				*e*S	Sn	19 25 21.3	-1.0
	baz=171						
NHDH	**Xindian Distri**	**0.40**	**353**	*e*P	Pn	19 25 14.4	+0.4
	baz=353						
NHDH				*e*S	Sn	19 25 22.8	+0.3
	baz=353						
FUSS	**Fushou**	**0.44**	**224**	*e*P	Pn	19 25 15.7	+1.2
	baz=221						
FUSS				S	Sn	19 25 24.5	+1.0
	baz=221						
TIPB	**Shuangxi**	**0.47**	**29**	P	Pn	19 25 14.9	+0.3
	baz=22						
TIPB				*e*S	Sn	19 25 23.3	-0.3
	baz=22						
TWT	**Tachien**	**0.48**	**230**	*e*P	Pn	19 25 17.0	+2.1
	baz=227						
TWT				*e*S	Sn	19 25 25.6	+1.5
	baz=227						
TWD	**Chiawan**	**0.48**	**178**	*e*S	Sn	19 25 22.6	-1.2
	baz=169						
TDCB	**Techi**	**0.49**	**231**	P	Pn	19 25 16.4	+1.4
	baz=228						
TDCB				S	Sn	19 25 25.8	+1.6
	baz=228						
WHF	**Hehuan Shan**	**0.50**	**214**	P	Pn	19 25 16.2	+0.8
	baz=208						
WHF				S	Sn	19 25 25.5	+0.6
	baz=208						
TWS1	**Kuangyinshan**	**0.56**	**345**	*e*P	Pn	19 25 16.4	+0.9
	baz=336						
TWS1				*e*S	Sn	19 25 26.3	+1.2
	baz=336						
YM01	**YM01**	**0.58**	**359**	P	Pn	19 25 16.0	+0.2
	baz=355						
YM01				S	Sn	19 25 25.5	-0.2
	baz=355						
NTST	**Danshui**	**0.61**	**349**	*e*S	Sn	19 25 27.1	+1.0
	baz=341						
CHGB	**Renai**	**0.62**	**216**	P	Pn	19 25 17.5	+1.1
	baz=211						
CHGB				S	Sn	19 25 27.8	+1.1
	baz=211						
WUSB	**Renai**	**0.70**	**216**	*e*P	Pn	19 25 17.2	-0.1
	baz=216						
ESL	**Shilin**	**0.76**	**190**	*e*P	Pn	19 25 16.4	-1.3
	baz=182						
WCS	**Beigang Elemen**	**0.79**	**230**	*e*P	Pn	19 25 18.3	+0.3
	baz=237						
WCS				*e*S	Sn	19 25 30.8	+1.2
	baz=237						
VWDT	**VWDT**	**0.90**	**206**	*e*P	Pn	19 25 20.2	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=213						
VWDT				eS	Sn	19 25 33.0	+1.0
	baz=213						
SMLT	Sun Moon Lake	0.92	223	eP	Pn	19 25 21.5	+1.7
	baz=231						
SSLB	Suanglung	0.96	217	eS	Sn	19 25 35.8	+2.4
	baz=226						
HGSD	Ruisui	1.07	187	eP	Pn	19 25 22.2	+0.5
	baz=187						
HGSD				eS	Sn	19 25 36.8	+0.8
	baz=187						
EHY	Hungye	1.08	193	eP	Pn	19 25 21.4	-0.3
	baz=184						
EHY				eS	Sn	19 25 35.8	-0.2
	baz=184						
YULB	Yu-li	1.19	192	eP	Pn	19 25 23.2	0.0
	baz=184						
ALS	Alishan	1.26	214	eP	Pn	19 25 27.5	+3.1
	baz=224						
ALS				eS	Sn	19 25 44.2	+3.4
	baz=224						

JMA 09 19:25:36.2±0.2, 24°.3N±0°.5×123°.7E±0°.5, h17km±1km, MV1.5/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.07	351	i P	Pg	19 25 39.3	-0.1
IRIF				eS	Sg	19 25 41.8	+0.3
HATJ	Hateruma jima	0.22	165	P	Pg	19 25 41.0	-0.3
HATJ				i S	Sb	19 25 45.1	-0.3
JKRS	Kuro-shima	0.25	97	i P	Pg	19 25 41.7	0.0
JKRS				eS	Sb	19 25 46.0	-0.3
JIJ	Ishigaki jima	0.38	75	P	Pg	19 25 43.6	-0.4
JIJ				eS	Sg	19 25 49.4	+0.1
JISG	Ishigakijimahi	0.61	58	P	Pg	19 25 48.0	-0.3
JTJ	Tarama	0.95	67	P	Pb	19 25 54.4	+0.2
JTJ				eS	Sg	19 26 07.3	+0.1

PRU 09 19:43:08.4±0.0, 42°.83N×13°.91E, h10km
ROM 09 19:43:08.0±0.1, 42°.927N±0°.003×13°.151E±0°.004, h10km, ML3.3/6, Error ellipse: s-maj=0.3km s-min=0.3km az=265.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	Castelsantange	0.07	159	P	Pg	19 43 10.5	+0.1
T1245				S	Sg	19 43 12.1	+0.1
T1245				AML	AML		
	comp=E,31600µm,0.6s						
T1245				AML	AML		
	comp=N,37050µm,0.2s						
T1245				AML	AML		
	comp=E,31050µm,0.5s						
T1245				AML	AML		
	comp=N,34550µm,0.2s						
FEMA	Monte Fema	0.08	295	P	Pg	19 43 10.7	+0.3
FEMA				S	Sg	19 43 12.5	+0.3
T1256	Bolognola (MC)	0.10	35	P	Pg	19 43 10.9	+0.3
T1256				S	Sg	19 43 12.8	+0.3
T1256				AML	AML		
	comp=E,29250µm,0.7s						
T1256				AML	AML		
	comp=N,36150µm,0.2s						
T1256				AML	AML		
	comp=E,29900µm,0.7s						
T1256				AML	AML		
	comp=N,34100µm,0.2s						
T1216	Preci, Frazion	0.10	250	P	Pg	19 43 11.0	+0.4
FDMO	Fiordimonte	0.12	337	P	Pg	19 43 11.3	+0.5
FDMO				S	Sg	19 43 13.8	+0.9
FDMO				AML	AML		
	comp=E,19350µm,0.2s						
FDMO				AML	AML		
	comp=N,16700µm,0.2s						
MMO1	Montemonaco	0.13	102	P	Pg	19 43 11.5	+0.5
MMO1				S	Sg	19 43 14.0	+0.8
T1219	Muccia, Frazio	0.17	321	S	Sg	19 43 13.0	-1.1
GUMA	Gualdo di Mace	0.19	45	S	Sg	19 43 14.0	-0.8
T1212	Cascia, Frazio	0.19	204	P	Pg	19 43 12.7	+0.7
T1212				S	Sg	19 43 16.3	+1.5
T1212				AML	AML		
	comp=N,16900µm,0.2s						
T1212				AML	AML		
	comp=E,22900µm,0.3s						
T1212				AML	AML		
	comp=N,17100µm,0.2s						
T1212				AML	AML		
	comp=E,22900µm,0.2s						
T1212				AML	AML		
	comp=N,16900µm,0.2s						
T1212				AML	AML		
	comp=N,17095µm,0.2s						
T1213	Norcia, Frazio	0.20	185	P	Pg	19 43 12.6	+0.4
T1213				S	Sg	19 43 16.5	+1.4
T1213				AML	AML		
	comp=E,25350µm,0.4s						
T1213				AML	AML		
	comp=E,26500µm,0.4s						
T1213				AML	AML		
	comp=N,22600µm,0.4s						
T1213				AML	AML		
	comp=N,22500µm,0.4s						
T1241	Roccafluvione,	0.22	109	P	Pg	19 43 13.1	+0.7
T1241				S	Sg	19 43 17.1	+1.6
T1215	Vallo di Nera,	0.24	239	S	Sg	19 43 14.0	-2.3
T1218	Civita (PG)	0.26	186	P	Pg	19 43 13.8	+0.6
T1218				S	Sb	19 43 18.1	-1.3
T1218				AML	AML		
	comp=E,3810µm,0.8s						
T1218				AML	AML		
	comp=E,3595µm,0.8s						
T1218				AML	AML		
	comp=N,3567µm,0.6s						
T1218				AML	AML		
	comp=N,3505µm,1.4s						
T1204	Amatrice, Fraz	0.28	154	P	Pg	19 43 14.3	+0.6
T1204				S	Sb	19 43 19.2	-0.8
MNTP	Montappone	0.31	48	S	Sg	19 43 16.0	-2.5
GAG1	Gagliole	0.32	349	S	Sg	19 43 16.0	-2.6
T1243	Rocca Santa Ma	0.32	136	P	Pg	19 43 14.7	+0.4
T1243				S	Sb	19 43 20.5	-0.6
SMA1	SAN MARTINO	0.33	155	P	Pg	19 43 15.0	+0.5
LNSS	Leonessa	0.33	194	P	Pg	19 43 15.2	+0.6
LNSS				S	Sb	19 43 21.0	-0.5
LNSS				AML	AML		
	comp=N,3510µm,0.6s						
LNSS				AML	AML		
	comp=E,1136µm,1.3s						
SNTG	Esanatoglia	0.36	335	S	Sg	19 43 16.0	-4.0
ASSB	Assisi San Ben	0.38	288	S	Sg	19 43 16.0	-4.5
OFFI	Offida	0.39	89	S	Sg	19 43 18.0	-2.9
EL6	Elcito	0.40	355	S	Sg	19 43 17.0	-4.3
RM33	Pellescritta (	0.42	174	P	Pg	19 43 16.6	+0.4
RM33				S	Sb	19 43 23.5	-0.5
CAMP	Campotosto	0.43	154	P	Pg	19 43 16.8	+0.3
CAMP				S	Sb	19 43 23.9	-0.5
OBKA	Obir	3.72	15	ePn	Pn	19 44 08.2	+2.6
	comp=E,0.6nm,0.2s						
MYKA	Terra Mystica	3.72	5	ePn	Pn	19 44 07.9	+2.3
	comp=E,3.2nm,0.4s						
ABTA	Abfaltersbach	3.85	353	i Pn	Pn	19 44 09.6	+2.3
	comp=E,11nm,0.4s,SNR=16						
KBA	Koelnbreinsper	4.15	2	i Pn	Pn	19 44 13.7	+2.1
	comp=E,3.5nm,0.5s,SNR=10						
FETA	Feichten	4.44	338	ePn	Pn	19 44 19.2	+3.6
	comp=E,0.7nm,0.3s						
WTTA	Wattenberg	4.47	347	i Pn	Pn	19 44 19.3	+3.3
	comp=E,1.0nm,0.2s						
SQTA	Sankt Quirin	4.51	343	ePn	Pn	19 44 20.3	+3.9
	comp=E,2.0nm,0.2s						
WATA	Walderalm	4.55	346	i Pn	Pn	19 44 20.5	+3.5
	comp=E,1.0nm,0.2s						
BIOA	Bad Ischl, Aus	4.78	4	i Pn	Pn	19 44 22.9	+2.8
	comp=E,2.0nm,0.2s						
RETA	Reutte	4.86	341	i Pn	Pn	19 44 24.8	+3.5
	comp=E,0.6nm,0.2s						
MOA	Molln	4.99	9	ePn	Pn	19 44 25.3	+2.4
	comp=E,0.3nm,0.1s						
CONA	Conrad Observa	5.35	20	i Pn	Pn	19 44 29.1	+1.1
	comp=E,0.7nm,0.2s						
KHC	Kasperske Hory	6.21	3	ePN	Pn	19 44 40.5	+0.7
KHC				eSN	Sn	19 45 49.5	-1.3

VAO 09 20:01:06.9±0.6, 6°.42S×82°.43W, h10km, mb4.6
NEIC 09 20:01:22.8±2.4, 6°.50S±0°.07×80°.67W±0°.09, h10km±1km, mb4.6/83, Error ellipse: s-maj=16.1km s-min=10.4km az=249.0
IDC 09 20:01:33.2±2.4, 6°.24S×80°.12W, h86km±22km, mb3.8/10, mbtmp4.2/13, MS3.9/28, Error ellipse: s-maj=24.8km s-min=16.5km az=69.0
ISC 09 20:01:26.1±0.5, 6°.42S±0°.06×80°.57W±0°.07, h35km, n171, σ1s.65/150, mb4.6/41, MS3.9/23, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	Macar, Loja	2.12	17	Pn	Pn	20 01 59.6	+0.4
ATAH	Atahualpa	2.28	108	P	Pn	20 02 05.0	+3.3
	58nm,0.7s,baz=347,slow=6.3,SNR=17						
ATAH				S	Sn	20 02 34.6	+5.9
	201nm,0.8s,baz=263,slow=13,SNR=6.9						
ARNL	Arenillas	2.89	10	Pn	Pn	20 02 09.3	-0.5
BOSC	San Juan Bosco	3.85	33	Pn	Pn	20 02 25.7	+2.6
COHC	Cochancay	4.14	19		Pn	20 02 27.9	+1.0
CHSH	Refugio Sur-Vo	5.18	19	Pn	Pn	20 02 42.2	+0.5
PORT	Chimborazo Vol	5.24	20	Pn	Pn	20 02 43.5	+1.0
SLOR	San Lorenzo -	6.02	20	Pn	Pn	20 02 53.6	+0.4
NNA	Nana	6.65	147	P	Pn	20 03 07.6	+6.1
	11nm,0.4s,baz=345,slow=15,SNR=3.7						
NNA				LR	LR	20 06 11.3	
	comp=Z,726nm,19.9s,baz=313,slow=42						
NNA	Nana	6.65	147	Pn	Pn	20 02 59.8	-1.7
PULU	Pululahua	6.72	18	Pn	Pn	20 02 58.8	-4.0
IMBA	Imbabura, San	7.06	20	Pn	Pn	20 03 04.9	-2.5
TULM	Tulcn-Chalpat	7.61	22	Pn	Pn	20 03 16.3	+1.2
CZSB	Cruzeiro do Su	7.92	100	Pn	Pn	20 03 21.3	+2.4
TBTG	Tabatinga, AM	10.85	79	eP	Pn	20 04 07.9	+8.9
ROSC	El Rosal	12.81	29	LR	LR	20 09 48.1	
	comp=Z,854nm,19.7s,baz=217,slow=40						
ETMB	Extrema	14.61	104	Pn	Pn	20 04 50.0	-0.5
ETMB	Extrema	14.61	104	eP	P	20 04 57.1	+0.7
SGCB	S£o Gabriel d	14.89	66	eP	P	20 05 00.2	+0.6
CDITO	Canoas	15.06	351	Pn	Pn	20 04 57.2	+0.6
CDITO				IAmb	IAmb	20 05 31.6	
	comp=Z,41nm,1.1s						
BRU2	Volcan	15.26	352	Pn	Pn	20 04 58.0	-1.2
BRU2				IAmb	IAmb	20 05 40.0	
	comp=Z,32nm,1.0s						
LPAZ	La Paz	15.64	130	P	P	20 05 07.0	-1.5
	comp=Z,13nm,0.9s,baz=310,slow=8.6,SNR=29						
LPAZ				LR	LR	20 12 24.5	
	comp=Z,597nm,18.3s,baz=304,slow=42						
LPAZ	La Paz	15.64	130	Pn	Pn	20 05 03.0	-1.7
LPAZ				IAmb	IAmb	20 05 10.4	
	comp=Z,29nm,1.1s						
LPAZ	La Paz	15.64	130	eP	P	20 05 06.8	-1.8
SRBA	San Rafael, Bu	15.79	350	P	Pn	20 05 05.6	-0.5
PEZE	Perez Zeledon,	16.00	349	Pn	Pn	20 05 07.1	-1.6
PEZE				IAmb	IAmb	20 05 11.1	
	comp=Z,18nm,0.7s						
PB16	IPOC Station P	16.02	139	P	P	20 05 11.1	-1.6
RIMA	Rio Macho	16.41	348	P	Pn	20 05 15.1	+1.0
RIMA				IAmb	IAmb	20 05 26.4	
	comp=Z,38nm,1.4s						
JACO	JACO, Garabito	16.48	346		Pn	20 05 16.0	+1.2
PB11	IPOC Station P	16.99	142	Pn	Pn	20 05 18.7	-2.6
TA02	Huaiquique	17.10	145	Pn	Pn	20 05 21.0	-1.6
TA02				IAmb	IAmb	20 05 31.7	
	comp=Z,21nm,0.8s						
DUNO	Dulce Nombre,	17.10	343		Pn	20 05 23.2	+0.6
JTS	Las Juntas de	17.16	345		P	20 05 24.6	-0.2
GO01	Chusmiza	17.20	141	P	Pn	20 05 20.8	-3.5
TA01	Diego Aracena	17.30	145	Pn	Pn	20 05 22.5	-2.6
ORTG	Ortega, Santa	17.36	344		P	20 05 29.2	+2.2
SAML	Samuel	17.42	99	P	P	20 05 27.3	-0.3
SDV	Santo Domingo	18.14	33	P	Pn	20 05 34.7	-1.1
	comp=Z,3.0nm,0.3s,baz=218,slow=9.9,SNR=4.9						
SDV				LR	LR	20 13 08.3	
	comp=Z,734nm,18.8s,baz=219,slow=39						
SDV	Santo Domingo	18.14	33	Pn	Pn	20 05 33.3	-2.5
SDV	Santo Domingo	18.14	33	eP	Pn	20 05 31.5	-4.2
ACON	Acoyapa	18.83	346	P	P	20 05 42.5	-0.6
PB06	IPOC Station P	19.36	148	P	P	20 05 45.6	-3.5
LVC	Limon Verde	19.64	146	LR	LR	20 14 22.5	
	comp=Z,449nm,19.5s,baz=308,slow=39						
LVC	Limon Verde	19.64	146	eP	P	20 05 47.5	-4.8
BAUV	El Baul	19.72	39	P	Pn	20 05 53.6	-0.9
BAUV				IAmb	IAmb	20 06 00.9	
	comp=Z,30nm,0.8s						
CNGN	Cerro Negro	19.75	342	P	P	20 05 53.7	+0.4
CNGN				IAmb	IAmb	20 05 57.5	
	comp=Z,22nm,0.4s						
URIC	Uribia, Colomb	19.92	25	P	P	20 05 55.0	0.0
MATN	Matagalpa	19.94	345	P	P	20 05 56.2	+0.9
CRIN	San Cristobal	20.05	341	P	P	20 05 57.1	+0.5
CRIN				IAmb	IAmb	20 06 10.9	
	comp=Z,34nm,0.8s						
MACA	Manacapuru-AM	20.08	82	P	P	20 05 56.8	0.0
MACA				IAmb	IAmb	20 06 01.5	
	comp=Z,28nm,0.9s						
VILB	Vilhena	21.10	109	P	P	20 06 07.9	0.0
VILB				IAmb	IAmb	20 06 09.8	
	comp=Z,61nm,0.9s						
VILB	Vilhena	21.10	109	eP	P	20 06 08.7	+0.8
SIV	San Ignacio	21.35	118	P	P	20 06 10.3	-0.3
	comp=Z,15nm,0.9s,baz=295,slow=9.8,SNR=55						
SIV				LR	LR	20 14 17.6	
	comp=Z,145nm,20.9s,baz=302,slow=36						
	comp=Z,15nm,0.9s						
TGUH	Tegucigalpa,Un	21.40	342	P	P	20 06 10.0	-1.2
TGUH				IAmb	IAmb	20 06 21.3	
	comp=Z,51nm,1.2s						
GO02	Mina Guanaco	21.40	152	P	P	20 06 09.1	-2.3
GO02				IAmb	IAmb	20 06 18.7	
	comp=Z,15nm,0.9s						
BOAV	Boa Vista	21.85	67	P	P	20 06 17.0	+1.0
BOAV				IAmb	IAmb	20 06 29.5	
	comp=Z,20nm,1.2s						
BOAV	Boa Vista	21.85	67	eP	P	20 06 18.4	+2.4
BBSD	Serra de San D	22.26	120	eP	P	20 06 19.8	-0.5
PTLB	Pontes e Lacer	22.86	115	P	P	20 06 25.9	-0.8
PTLB				IAmb	IAmb	20 06 30.5	
	comp=Z,8.3nm,0.8s						
PTLB	Pontes e Lacer	22.86	115	eP	P	20 06 26.4	-0.3
PCRV	Puerto La Cruz	22.88	44	P	P	20 06 26.2	-0.8
	comp=Z,22nm,0.8s,baz=188,slow=6.2,SNR=6.1						
PCRV				LR	LR	20 16 16.2	
	comp=Z,461nm,18.6s,slow=39						
	comp=Z,22nm,0.8s						
BBRB	Robore, Bolivi	23.43	122	eP	P	20 06 31.2	-1.2
PDRB	Porto dos Gac	24.10	104	eP	P	20 06 39.5	+0.7
ITTB	Itaituba	24.81	87	eP	P	20 06 46.0	+0.7
CLDB	Colider	24.89	102	eP	P	20 06 45.8	-0.2
NPGB	Novo Progresso	25.05	93	eP	P	20 06 47.5	0.0
SALV	Santo Antonio	26.14	113	eP	P	20 06 57.3	0.0
PANT	Pantanal (Braz	26.45	120	eP	P	20 06 59.0	-1.1
MALB	Monte Alegre	26.62	81	eP	P	20 07 02.6	+0.9
MURT	Porto Murtinho	26.88	127	eP	P	20 07 02.1	-1.8
CMIG	Matias Romero	27.31	329	LR	LR	20 15 39.6	
	comp=Z,76nm,18.6s,baz=176,slow=31						
AQDB	Aquidauana	27.88	122	eP	P	20 07 11.5	-1.4
SJG	San Juan	28.23	30	LR	LR	20 21 11.9	
	comp=Z,270nm,18.2s,baz=196,slow=42						
ANTJ	Antonio Joao (	28.34	126	eP	P	20 07 14.9	-2.1
GCPR	Guaynabo City	28.43	30	P	P	20 07 18.9	+1.1
CBYP	Canovanas	28.51	30	P	P	20 07 17.6	-0.9
GDHS	Morne Mazeau,	29.23	39	P	P	20 07 25.7	+0.6
SNDB	Serra Nova Dou	29.41	103	eP	P	20 07 27.1	+0.5
ARAG	Araguaiana, MT	29.66	111	eP	P	20 07 28.0	-0.8
CPUP	Villa Florida	29.72	134	LR	LR	20 21 09.0	
	comp=Z,250nm,18.4s,baz=330,slow=40						
MDP	Montagnes des	30.14	68	LR	LR	20 20 12.7	
	comp=Z,194nm,19.1s,baz=250,slow=38						
AZCA	Azaras, Argent	31.74	136	eP	P	20 07 43.2	-3.8
PTGB	Pitanga	32.82	127	eP	P	20 07 54.5	-2.1
BDFB	Brasilia	33.20	109	LR	LR	20 22 53.2	
	comp=Z,548nm,18.2s,baz=318,slow=39						
RPN	Rapa Nui	34.23	230	LR	LR	20 18 10.7	
	comp=Z,205nm,18.2s,baz=37,slow=29						
PLCA	Paso Flores	35.33	167	P	P	20 08 20.1	+1.9
	comp=Z,2.4nm,0.8s,baz=297,slow=8.5,SNR=5.8						
	comp=Z,2.4nm,0.8s						
GDU01	Guandu, BA	40.97	103	eP	P	20 09 05.2	-0.7
RIB01	Linhares ES	41.10	112	eP	P	20 09 05.4	-1.6
CMC01	Camacan, BA	41.22	106	eP	P	20 09 07.9	-0.1
TXAR	Lajitas Array	41.91	329	P	P	20 09 16.4	+2.8
	comp=Z,0.7nm,0.6s,baz=140,slow=9.9,SNR=5.6						
TXAR				PcP	PcP	20 11 11.3	+2.4
	comp=Z,0.5nm,0.8s,baz=142,slow=4.6,SNR=3.5						
	comp=Z,0.7nm,0.6s						
TXAR	Lajitas Array	41.91	329	P	P	20 09 13.3	-0.3
TX31	Lajitas Ar. Si	41.91	329	P	P	20 09 13.2	-0.4
TX31				IAmb	IAmb	20 09 18.2	
	comp=Z,11nm,1.2s						
TKL	Tuckaleechee C	41.96	356	LR	LR	20 26 22.4	
	comp=Z,157nm,19.0s,baz=175,slow=36						
Z35A	Perchaven, San	42.58	339	P	P	20 09 16.6	-2.3
ABTX	Abilene, Hawle	42.85	336	P	P	20 09 19.5	-1.6
ABTX				IAmb	IAmb	20 09 27.2	
	comp=Z,14nm,0.9s						
X37A	Clayton	43.11	342	P	P	20 09 25.9	+2.8
X37A				IAmb	IAmb	20 09 30.2	
	comp=Z,11nm,0.8s						
LOOK	Love County	43.16	340	P	P	20 09 22.1	-1.4
LOOK				IAmb	IAmb	20 09 25.5	
	comp=Z,14nm,1.0s						
LCAR	Lake Charles	43.41	347	P	P	20 09 25.4	-0.1
LCAR				IAmb	IAmb	20 09 32.8	
	comp=Z,18nm,1.4s						
HHAR	Hobbs	44.29	344	P	P	20 09 32.2	-0.4
HHAR				IAmb	IAmb	20 09 46.8	
	comp=Z,10nm,1.2s						
CGM3	Cape Girardeau	44.31	350	P	P	20 09 32.1	-0.6
CGM3				IAmb	IAmb	20 09 46.5	
	comp=Z,995nm,1.2s						
FNO	Franklin	44.38	340	P	P	20 09 34.1	+0.8
WMOK	Wichita Mounta	44.40	338	P	P	20 09 31.9	-1.6
TUL1	Leonard	44.47	342	P	P	20 09 32.3	-1.7
TUL1				IAmb	IAmb	20 09 40.1	
	comp=Z,9.2nm,0.7s						
HTMS	Hat Mesa	44.47	332	P	P	20 09 33.6	-0.7
RLO	Rose Lookout	44.48	343	P	P	20 09 34.6	+0.5
RLO				IAmb	IAmb	20 09 46.1	
	comp=Z,9.3nm,1.3s						
R49A	Shelbyville	44.68	355	P	P	20 09 35.8	+0.1
MGMO	Mountain Grove	44.70	347	P	P	20 09 34.0	-1.9
MGMO				IAmb	IAmb	20 09 50.2	
	comp=Z,8.4nm,1.1s						
OK031	S. Brethren Rd	44.83	341	P	P	20 09 37.4	+0.5
OK031				IAmb	IAmb	20 09 43.3	
	comp=Z,10nm,0.9s						
OK034	N. Norfolk Rd.	44.84	341	P	P	20 09 35.8	-1.2
OK034				IAmb	IAmb	20 09 49.4	
	comp=Z,8.2nm,0.6s						
OK033	Mehan	44.95	341	P	P	20 09 36.6	-1.2
OK050	Pawnee Station	45.28	341	P	P	20 09 40.7	+0.2
MSTX	Muleshoe	45.33	334	P	P	20 09 42.6	+1.5
MSTX				IAmb	IAmb	20 09 46.7	
	comp=Z,8.9nm,0.9s						
CCM	Cathedral Cave	45.34	348	P	P	20 09 41.9	+0.9
CCM				IAmb	IAmb	20 09 47.2	
	comp=Z,12nm,1.1s						
T35A	Sooner Cattle	45.61	342	P	P	20 09 43.6	+0.4
AMTX	Amarillo	45.65	336	P	P	20 09 42.7	-0.9
AMTX				IAmb	IAmb	20 09 49.0	
	comp=Z,6.2nm,0.8s						
OK035	E0210 Rd and N	46.14	340	P	P	20 09 47.5	+0.2
NOKA	Waynoka	46.15	339	P	P	20 09 46.9	-0.5
NOKA				IAmb	IAmb	20 09 53.5	
	comp=Z,38nm,1.3s						
CRNM	Carthage	47.17	330	P	P	20 09 57.1	+1.5
CBKS	Cedar Bluff	48.39	340	P	P	20 10 06.4	+1.6
CBKS				IAmb	IAmb	20 10 11.0	
	comp=Z,11nm,1.0s						
SDCO	Great Sand Dun	49.70	334	P	P	20 10 15.5	+0.3
SDCO				IAmb	IAmb	20 10 20.5	
	comp=Z,4.3nm,1.1s						
J57A	Williamstown	49.76	4	P	P	20 10 16.5	+1.3
WUAZ	Wupatki	50.79	327	P	P	20 10 24.9	+1.6
WUAZ				IAmb	IAmb	20 10 28.5	
	comp=Z,5.5nm,0.8s						
SADO	Sadowa	50.97	1	LR	LR	20 32 47.0	
	comp=Z,84nm,19.2s,baz=175,slow=37						
PV15	Paradox Valley	51.53	332	P	P	20 10 30.6	+1.7
PV15				IAmb	IAmb	20 10 35.0	
	comp=Z,9.5nm,1.0s						
PV13	Radium Mtn., P	51.55	332	P	P	20 10 29.9	+0.8
PV13				IAmb	IAmb	20 10 42.5	
	comp=Z,8.5nm,1.3s						
BRIGG	Briggsdale	51.62	337	P	P	20 10 31.6	+2.2
W13A	Hualapai Mount	51.87	325	P	P	20 10 31.0	-0.5
W13A				IAmb	IAmb	20 10 36.9	
	comp=Z,6.5nm,1.4s						
CCUT	Cedar City	53.37	328	P	P	20 10 42.4	-0.2
CCUT				IAmb	IAmb	20 10 52.4	
	comp=Z,5.1nm,1.3s						
P18A	Preston Nutter	53.39	332	P	P	20 10 43.2	+0.4
DUG	Dugway, Tooele	55.07	330	P	P	20 10 56.2	+1.4
TCUT	Toone Canyon	55.11	332	P	P	20 10 56.5	+1.2
TCUT				IAmb	IAmb	20 11 11.7	
	comp=Z,8.7nm,1.2s						
HWUT	Hardware Ranch	55.56	332	P	P	20 11 00.2	+1.8
HWUT				IAmb	IAmb	20 11 03.8	
	comp=Z,7.5nm,1.2s						
BW06	Boulder Array	55.59	334	P	P	20 10 56.9	-1.8
PD31	Pinedale Array	55.59	334	P	P	20 10 56.6	-2.1
PDAR	Pinedale Array	55.59	334	P	P	20 10 59.5	+0.8
	comp=Z,1.5nm,1.0s,baz=130,slow=6.4,SNR=7.3						
PDAR				PcP	PcP	20 11 58.6	+0.5
	comp=Z,1.0nm,0.9s,baz=150,slow=4.2,SNR=3.8						
	comp=Z,1.5nm,1.0s						
PDAR	Pinedale Array	55.59	334	P	P	20 10 59.9	+1.3
NVAR	Mina Array Bea	56.73	325	P	P	20 11 08.9	+2.1
	comp=Z,1.1nm,0.9s,baz=155,slow=7.9,SNR=6.2						
NVAR				PcP	PcP	20 12 03.5	+0.9
	comp=Z,1.2nm,0.8s,baz=141,slow=4.6,SNR=6.1						
	comp=Z,1.1nm,0.9s						
NVAR	Mina Array Bea	56.73	325	P	P	20 11 10.2	+3.3
YHL	Hebgen Lake	57.97	335	P	P	20 11 14.5	-1.1
YHL				IAmb	IAmb	20 11 22.2	
	comp=Z,12nm,1.1s						
QLMT	Earthquake Lak	58.06	335	P	P	20 11 18.2	+2.2
HLID	Hailey	58.41	332	P	P	20 11 18.5	0.0
HLID				IAmb	IAmb	20 11 23.9	
	comp=Z,5.0nm,1.1s						
MCMT	McKenzie Canyo	58.67	334	P	P	20 11 21.0	+0.6
BOZ	Bozeman (W)	58.76	335	P	P	20 11 22.3	+1.5
BOZ				IAmb	IAmb	20 11 26.7	
	comp=Z,9.1nm,1.3s						
PMSA	Palmer Station	59.43	172	eP	P	20 11 11.4	-14
BBTS	Babate	66.85	71	LR	LR	20 41 32.6	
	comp=Z,191nm,18.8s,baz=266,slow=36						
PPT	Papeete	68.10	254	LR	LR	20 35 07.5	
	comp=Z,136nm,18.4s,baz=204,slow=29						
BELA	Belgrano 2	75.25	171	P	P	20 13 05.2	+0.2
BELA				IAmb	IAmb	20 13 09.8	
	comp=Z,7.5nm,1.2s						
DBIC	Dimbokro	76.66	82	LR	LR	20 45 46.1	
	comp=Z,125nm,19.4s,baz=268,slow=35						
RES	Resolute Bay	81.44	356	LR	LR	20 50 43.1	
	comp=Z,69nm,19.4s,baz=22,slow=36						
MDT	Midelt	81.78	56	LR	LR	20 47 47.6	
	comp=Z,27nm,20.2s,baz=298,slow=34						
A36M	Sachs Harbour	83.43	347	P	P	20 13 51.3	+1.8
QSPA	South Pole Qui	83.68	180	P	P	20 13 51.8	+0.6
QSPA				IAmb	IAmb	20 13 55.5	
	comp=Z,6.2nm,1.0s						
EGAK	Eagle	83.75	338	P	P	20 13 52.0	+0.7
ESDC	Sonseca Array	83.86	49	P	P	20 13 50.8	-1.7
	comp=Z,3.5nm,1.0s,baz=262,slow=4.5,SNR=12						
ESDC				LR	LR	20 50 42.2	
	comp=Z,35nm,18.2s,baz=206,slow=35						
	comp=Z,3.5nm,1.0s						
ESDC	Sonseca Array	83.86	49	P	P	20 13 51.5	-1.0
ESDC				IAmb	IAmb	20 13 52.8	
	comp=Z,4.4nm,1.1s						
TORD	Torodi Ar. Bea	83.97	76	P	P	20 13 51.8	-1.7
	comp=Z,1.8nm,0.7s,baz=295,slow=5.4,SNR=8.7						
TORD				LR	LR	20 49 21.9	
	comp=Z,120nm,21.2s,baz=212,slow=34						
	comp=Z,1.8nm,0.7s						
ILAR	Eielson Array	85.94	337	P	P	20 14 04.5	+2.1
	comp=Z,0.6nm,1.0s,baz=84,slow=3.7,SNR=3.2						
	comp=Z,0.6nm,1.0s						
CAST	Castle Rocks	87.56	335	P	P	20 14 09.9	-0.4
VNDA	Vanda	89.53	191	P	P	20 14 21.9	+2.5
	comp=Z,1.3nm,0.8s,baz=138,slow=2.6,SNR=7.6						
	comp=Z,1.3nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KEST	**Kesra**	**93.64**	**55**	LR	LR	20 58 52.3	
	comp=Z,24nm,18.0s,baz=304,slow=37						
TSUM	**Tsumeb**	**95.57**	**110**	LR	LR	20 57 25.9	
	comp=Z,111nm,18.0s,baz=46,slow=35						
SUR	**Sutherland**	**96.13**	**123**	LR	LR	20 56 00.8	
	comp=Z,96nm,19.6s,baz=273,slow=34						
NOA	**NORSAR Array B**	**96.44**	**29**	LR	LR	21 00 05.2	
	comp=Z,14nm,18.0s,baz=255,slow=37						
GERES	**GERESS Array B**	**97.60**	**42**	LR	LR	20 59 37.8	
	comp=Z,19nm,18.1s,baz=304,slow=36						
HFS	**Hagfors**	**97.65**	**30**	LR	LR	20 56 06.7	
	comp=Z,24nm,19.4s,baz=264,slow=34						
BVAR	**Borovoye Array**	**127.83**	**22**	PKhKP	PKPpre	20 20 22.2	
	comp=Z,0.4nm,0.6s,baz=332,slow=2.5,SNR=2.0						
ZALV	**Zalesovo Beam**	**131.15**	**11**	PKP	**PKiKP**	**20 20 36.0**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=299,slow=2.9,SNR=4.3						
KURBB	**Kurchatov Arra**	**132.61**	**18**	PKhKP	PKPpre	20 20 31.0	
	comp=Z,0.3nm,0.4s,baz=321,slow=2.5,SNR=2.5						
KURBB				PKP	**PKiKP**	**20 20 40.8**	**+2.5**
	comp=Z,0.7nm,0.5s,baz=322,slow=2.0,SNR=6.9						
ASAR	**Alice Springs**	**134.98**	**227**	PKhKP	PKPpre	20 20 36.0	
	comp=Z,0.3nm,0.8s,baz=273,slow=38,SNR=3.0						
ASAR				PKP	**PKiKP**	**20 20 43.9**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=130,slow=2.1,SNR=9.2						
WRA	**Warramunga Arr**	**136.81**	**232**	PKP	**PKiKP**	**20 20 47.7**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=115,slow=1.8,SNR=11						
MKAR	**Makanchi Array**	**137.15**	**17**	PKP	**PKiKP**	**20 20 47.0**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=329,slow=3.5,SNR=2.2						

HEL 09 20:02:55.1±0.1**, 67°.63N×33°.80E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.42**	**50**	PG	Pg	20 03 02.7	-0.5
LVZ				SG	Sg	20 03 08.3	-0.3
VRF	**Varrio**	**1.60**	**276**	PG	Pn	20 03 24.0	-0.7
OLKF	**Oulanka, Finla**	**2.17**	**235**	SG	Sb	20 04 02.2	-0.5
KU6	**Riekki**	**2.23**	**226**	MSG		20 04 01.2	
	comp=Z,1.6nm,0.2s						
KU6				SG	Sb	20 04 04.4	0.0
MSF	**Maaselka**	**2.56**	**230**	SG	Sb	20 04 14.0	+0.3
SGF	**Sodankyl**	**2.80**	**270**	PG	Pb	20 03 44.9	-1.0
SGF				SN	Sn	20 04 15.9	+0.5
RNF	**Rovaniemi**	**3.21**	**255**	SN	Sn	20 04 25.5	-0.1
KEV	**Kevo**	**3.27**	**314**	PN	Pn	20 03 47.4	-0.1
KEV				SN	Sn	20 04 25.5	-1.6
ARA0	**ARCESS Array S**	**3.59**	**306**	PN	Pn	20 03 51.1	-0.9
	baz=122						
ARA0				SN	Sn	20 04 32.6	-2.5
KLF	**Kolari**	**3.81**	**269**	SG	Sb	20 04 51.9	+2.1
HEF	**Hetta**	**3.89**	**286**	SN	Sn	20 04 40.8	-1.6
KTK1	**Kautokeino**	**4.16**	**294**	SG	Sb	20 05 01.3	+1.6
PAJU	**Pajala**	**4.18**	**267**	SN	Sn	20 04 48.5	-1.0
ERTU	**Ertsjaerv**	**4.66**	**262**	SN	Sn	20 04 58.9	-2.5

NEIC ***09*** *21:06:08.2±2.1, 30°.68S±0°.06×177°.9W±0°.1, h33km±6km, mb4.5/13, Error ellipse: s-maj=18.0km s-min=8.2km az=101.0*
IDC ***09*** *21:06:10.7±2.5, 30°.51S×178°.02W, h54km±22km, mb4.0/5, mbtmp4.3/6, ML4.1/1, MS3.3/4, Error ellipse: s-maj=27.4km s-min=17.4km az=119.0*
ISC 09 21:06:08.4±0.7**, 30°.69S**±0°.06×**177°.9W**±0°.1**, h35km, n43, σ1^{s}25**/35**, mb4.4**/11**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.43**	**1**	P	**Pn**	**21 06 32.2**	**+0.3**
	428nm,0.2s,baz=26,slow=23,SNR=13						
RAO				S	**Sn**	**21 06 47.7**	**-1.7**
	3μm,0.3s,baz=312,slow=23,SNR=23						
RAO	**Raoul Island**	**1.43**	**1**		**Sn**	**21 06 47.3**	**-2.1**
RAO	**Raoul Island**	**1.43**	**1**	Pn	**Pn**	**21 06 31.9**	**+0.1**
MXZ	**Matakaoa Point**	**7.53**	**203**	Pn	**Pn**	**21 07 54.3**	**-1.4**
BFZ	**Birch Farm**	**11.03**	**204**	Pn	**Pn**	**21 08 43.7**	**0.0**
MSVF	**Nonsavu**	**13.40**	**343**	LR	LR	21 13 14.1	
	comp=Z,80nm,21.1s,baz=109,slow=32						
RPZ	**Rata Peaks**	**15.66**	**211**	P	**Pn**	**21 09 48.2**	**+1.8**
	0.8nm,0.3s,baz=34,slow=3.3,SNR=2.4						
RPZ				S	Sn	21 12 24.6	-14
	1.5nm,0.4s,baz=104,slow=23,SNR=1.5						
	4.5nm,0.6s						
DZM	**Mont Dzumac**	**16.40**	**298**	LR	LR	21 14 48.6	
	comp=Z,112nm,20.7s,baz=30,slow=32						
CTAO	**Charters Tower**	**33.89**	**280**	P	**P**	**21 12 49.7**	**+1.6**
CTAO				IAmb	IAmb	21 12 50.6	
	comp=Z,5.6nm,0.7s						
STKA	**Stephens Creek**	**34.46**	**257**	P	**P**	**21 12 54.5**	**+1.5**
	comp=Z,11nm,0.6s,baz=103,slow=11,SNR=29						
STKA				LR	LR	21 24 46.5	
	comp=Z,40nm,18.6s,baz=31,slow=32						
	comp=Z,11nm,0.6s						
STKA	**Stephens Creek**	**34.46**	**257**	P	**P**	**21 12 54.4**	**+1.5**
STKA				IAmb	IAmb	21 12 55.5	
	comp=Z,2.6nm,0.7s						
BBOO	**Buckleboo**	**38.94**	**255**	P	**P**	**21 13 30.6**	**-0.5**
BBOO				IAmb	IAmb	21 13 42.2	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**43.14**	**267**	P	**P**	**21 14 05.4**	**-0.4**
ASAR	**Alice Springs**	**43.14**	**267**	P	**P**	**21 14 05.4**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=104,slow=7.6,SNR=22						
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**43.14**	**267**	P	**P**	**21 14 05.2**	**-0.6**
WRA	**Warramunga Arr**	**44.16**	**272**	P	**P**	**21 14 12.9**	**-1.0**
	comp=Z,3.2nm,0.4s,baz=111,slow=8.0,SNR=69						
	comp=Z,3.2nm,0.4s						
WRA	**Warramunga Arr**	**44.16**	**272**	P	**P**	**21 14 12.4**	**-1.5**
WB0	**Warramunga Arr**	**44.18**	**273**	P	**P**	**21 14 13.2**	**-1.0**
WB0				IAmb	IAmb	21 14 15.5	
	comp=Z,4.2nm,0.6s						
KNRA	**Kununurra**	**50.78**	**275**	P	**P**	**21 15 05.2**	**-0.2**
FAKI	**Fak Fak**	**54.48**	**290**	P	**P**	**21 15 33.2**	**+0.3**
FAKI				IAmb	IAmb	21 15 59.7	
	comp=Z,4.9nm,0.8s						
MORW	**Morawa**	**56.50**	**254**	P	**P**	**21 15 45.6**	**-1.7**
QSPA	**South Pole Qui**	**59.43**	**180**	P	**P**	**21 16 09.1**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=68,slow=2.8,SNR=7.9						
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	**59.43**	**180**	P	**P**	**21 16 08.8**	**+1.4**
JCJ	**Chichijima**	**68.94**	**322**	LR	LR	21 40 32.9	
	comp=Z,56nm,20.2s,baz=130,slow=30						
SMAI	**San Martin Ant**	**69.15**	**158**	P	**P**	**21 17 09.1**	**-1.7**
SMAI				IAmb	IAmb	21 17 14.2	
	comp=Z,6.1nm,0.8s						
MAW	**Mawson**	**72.06**	**201**	P	**P**	**21 17 29.3**	**+0.8**
TROLL	**Troll, Antarti**	**77.59**	**180**	P	**P**	**21 18 02.1**	**+1.5**
SNAA	**Sanae**	**77.87**	**178**	P	**P**	**21 18 02.3**	**+0.1**
SNAA	**Sanae**	**77.87**	**178**	P	**P**	**21 18 02.2**	**+0.1**
SNAA				IAmb	IAmb	21 18 15.7	
	comp=Z,2.2nm,0.9s						
VNA3	**Neumayer Olymp**	**78.02**	**176**	P	**P**	**21 18 03.8**	**+0.9**
VNA2	**Neumayer--Watz**	**78.45**	**177**	P	**P**	**21 18 06.4**	**+1.2**
	baz=179,slow=5.4						
H03S2	**Juan Fernandez**	**80.27**	**123**	T	T	22 47 27.7	
	baz=238,slow=74						
H03S1	**Juan Fernandez**	**80.28**	**123**	T	T	22 47 24.7	
	baz=238,slow=74						
H03S3	**Juan Fernandez**	**80.28**	**123**	T	T	22 47 24.9	
	baz=238,slow=74						
H03N3	**Juan Fernandez**	**80.46**	**123**	T	T	22 47 39.3	
	baz=242,slow=72						
H03N2	**Juan Fernandez**	**80.46**	**123**	T	T	22 47 38.3	
	baz=242,slow=72						
H03N1	**Juan Fernandez**	**80.48**	**123**	T	T	22 47 41.2	
	baz=242,slow=72						
NVAR	**Mina Array Bea**	**88.41**	**43**	P	**P**	**21 18 58.2**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=224,slow=6.3,SNR=3.7						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**145.43**	**340**	PKPbc	**PKPdf**	**21 25 41.0**	**-0.9**
	comp=Z,4.5nm,0.5s,baz=50,slow=3.7,SNR=53						
NB2	**NORSAR Subarra**	**149.04**	**351**	PKP	**PKPbc**	**21 25 51.5**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=26,slow=2.8						
NOA	**NORSAR Array B**	**149.04**	**351**	PKPbc	**PKPbc**	**21 25 50.2**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=14,slow=4.1,SNR=4.6						
AKASG	**Malin Array Be**	**151.56**	**322**	PKPbc	**PKPbc**	**21 25 57.4**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=50,slow=2.9,SNR=9.8						
TORD	**Torodi Ar. Bea**	**162.54**	**179**	PKPab	**PKPab**	**21 26 53.8**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=190,slow=3.4,SNR=5.6						

IDC ***09*** *21:15:33.4±1.1, 36°.86N×143°.93E, h0km, mb3.7/8, mbtmp3.8/13, ML3.6/5, MS2.9/3, Error ellipse: s-maj=30.6km s-min=18.9km az=72.0*
NIED ***09*** *21:15:38.6, 37°.10N×143°.59E, h58km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr-4.26; Mθθ3.17; Mφφ1.09; Mrθ0.52; Mθφ-0.82; Mφr0.05; Fault plane solution: M0 3.89000×10^14 NP1: φs111.00000°, δ42.00000°, λ-86.00000°. NP2: φs287.00000°, δ49.00000°, λ-93.00000°.*
JMA ***09*** *21:15:38.6±0.3, 37°.1N±0°.8×14°4E±°, h58km, MV3.8/30, FAR E OFF FUKUSHIMA PREF*
ISC 09 21:15:39.1±0.9**, 37°.04N**±0°.04×**143°.69E**±0°.08**, h35km, n34, σ2^{s}32**/44**, mb3.7**/8**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.18**	**306**	P	**Pn**	**21 16 12.0**	**-0.8**
JIKH				*e*S	**Sn**	**21 16 36.8**	**-1.7**
JFK	**Kawauchi**	**2.27**	**279**	P	**Pn**	**21 16 13.2**	**-1.0**
JFK				*e*S	**Sn**	**21 16 39.1**	**-1.9**
JIO	**Ouri**	**2.34**	**308**	P	**Pn**	**21 16 14.1**	**-0.9**
JIO				S	**Sn**	**21 16 40.0**	**-2.5**
JMM	**Marumori**	**2.45**	**291**	P	**Pn**	**21 16 15.9**	**-0.6**
JMM				S	**Sn**	**21 16 44.1**	**-1.2**
JOTO	**OTAMA OYAMA**	**2.73**	**282**	P	**Pn**	**21 16 21.0**	**+0.5**
JOTO				S	**Sn**	**21 16 51.9**	**-0.3**
JMK	**Ichinoseki**	**2.73**	**315**	P	**Pn**	**21 16 19.6**	**-0.8**
JMK				*e*S	**Sn**	**21 16 50.3**	**-1.9**
JOM	**Ohasama**	**3.08**	**323**	P	**Pn**	**21 16 24.7**	**-0.6**
JOM				S	**Sn**	**21 16 58.6**	**-2.2**
JYK	**Kaneyama**	**3.24**	**307**	P	**Pn**	**21 16 27.1**	**-0.2**
BSO1	**Boso 1**	**3.24**	**224**	P	**Pn**	**21 16 26.3**	**-0.6**
BSO1				S	**Sn**	**21 17 04.1**	**0.0**
JAG	**Ashikaga**	**3.46**	**261**	*i* P	**Pn**	**21 16 30.2**	**-0.3**
JAG				S	**Sn**	**21 17 08.4**	**-1.8**
JANG	**Nango**	**3.74**	**334**	*e*S	**Sn**	**21 17 13.4**	**-3.8**
JRY	**Ryogami san**	**3.99**	**257**	P	**Pn**	**21 16 37.2**	**-0.5**
JRY				*e*S	**Sn**	**21 17 21.7**	**-1.6**
JOD2	**Odawara 2**	**4.12**	**246**	P	**Pn**	**21 16 39.0**	**-0.6**
JOD2				*e*S	**Sn**	**21 17 24.4**	**-2.3**
MJAR	**Matsushiro Arr**	**4.43**	**265**	Pn	**Pn**	**21 16 44.1**	**+0.3**
	0.7nm,0.3s,baz=89,slow=16,SNR=31						
MJAR				Sn	**Sn**	**21 17 32.7**	**-1.5**
	0.4nm,0.3s,baz=75,slow=12,SNR=5.2						
	5.6nm,0.4s						
JOT	**Ohata**	**4.80**	**335**	P	**Pn**	**21 16 48.7**	**-0.1**
JOT				*e*S	**Sn**	**21 17 39.6**	**-3.6**
JHJ2	**Mitsune**	**5.04**	**220**	P	**Pn**	**21 16 51.0**	**-1.1**
JHJ2				*e*S	**Sn**	**21 17 44.4**	**-4.8**
JHJ	**Hachijo jima 2**	**5.05**	**221**	Pn	**Pn**	**21 16 49.6**	**-2.8**
	17nm,0.3s,baz=99,slow=18,SNR=1.8						
JHJ				Sn	**Sn**	**21 17 42.6**	**-6.9**
	36nm,0.3s,baz=283,slow=22,SNR=6.1						
	168nm,0.8s						
JCH	**Churui**	**5.58**	**357**	P	**Pn**	**21 16 57.1**	**-2.4**
JCH				S	**Sn**	**21 17 56.1**	**-6.2**
JCJ	**Chichijima**	**9.99**	**188**	Pn	Pn	21 17 54.5	-5.7
	3.8nm,0.3s,baz=288,slow=19,SNR=1.7						
JCJ				Sn	Sn	21 19 36.8	-14
	3.9nm,0.3s,baz=195,slow=17,SNR=1.0						
JCJ				LR	LR	21 24 13.8	
	comp=Z,20nm,18.3s,baz=261,slow=53						
	38nm,0.8s						
KSRS	**Korea Array**	**12.58**	**277**	Pn	**Pn**	**21 18 37.0**	**+1.6**
	0.2nm,0.3s,baz=90,slow=14,SNR=2.5						
	2.2nm,1.0s						
KLR	**Kul'dur**	**14.96**	**328**	Pn	**Pn**	**21 19 10.3**	**+2.5**
	0.1nm,0.3s,baz=139,slow=11,SNR=2.4						
	1.0nm,0.5s						
JOW	**Kunigami**	**16.56**	**236**	LR	LR	21 25 11.0	
	comp=Z,45nm,19.9s,baz=120,slow=35						
H11S1	**WAKE ISLAND Hy**	**27.36**	**126**	T	T	21 49 58.8	
	baz=317						
H11S3	**WAKE ISLAND Hy**	**27.36**	**126**	T	T	21 49 56.9	
	baz=317						
H11S2	**WAKE ISLAND Hy**	**27.37**	**126**	T	T	21 50 06.4	
	baz=317						
SONM	**Songino Array**	**29.30**	**303**	P	**P**	**21 21 40.7**	**+2.5**
	1.2nm,0.9s,baz=110,slow=10,SNR=5.4						
	1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**43.26**	**312**	P	**P**	**21 23 37.5**	**+0.6**
	0.4nm,0.3s,baz=116,slow=9.8,SNR=1.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**45.66**	**302**	P	**P**	**21 23 59.0**	**+2.9**
	0.2nm,0.5s,baz=88,slow=8.8,SNR=1.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**47.44**	**308**	P	**P**	**21 24 10.5**	**+0.5**
	1.2nm,0.7s,baz=82,slow=7.8,SNR=9.2						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**57.35**	**190**	P	**P**	**21 25 22.9**	**-0.8**
	0.7nm,0.6s,baz=10,slow=7.2,SNR=15						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**61.08**	**190**	P	**P**	**21 25 47.8**	**-1.7**
	0.5nm,0.8s,baz=4.8,slow=7.7,SNR=4.8						
	0.5nm,0.8s						
STKA	**Stephens Creek**	**68.58**	**182**	LR	LR	22 00 29.1	
	comp=Z,24nm,18.1s,baz=26,slow=39						
NOA	**NORSAR Array B**	**74.88**	**338**	P	**P**	**21 27 16.0**	**+0.2**
	0.4nm,0.6s,baz=56,slow=7.1,SNR=1.8						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**88.66**	**54**	P	**P**	**21 28 29.1**	**+0.1**
	0.5nm,0.8s,baz=299,slow=1.9,SNR=2.7						
	0.5nm,0.8s						

NEIC ***09*** *21:32:39.6±1.0, 5°.77S±0°.06×152°.5E±0°.1, h10km±1km, mb4.0/6, Error ellipse: s-maj=24.9km s-min=10.9km az=92.0*
IDC ***09*** *21:32:49.7±1.7, 5°.12S×151°.65E, h68km±25km, mb3.3/3, mbtmp3.6/3, MS3.8/1, Error ellipse: s-maj=104.9km s-min=23.4km az=112.0*
ISC 09 21:32:42.8±1.3**, 5°.64S**±0°.08×**152°.4E**±0°.2**, h40km, n14, σ1^{s}73**/15**, mb3.7**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.38**	**345**	P	**Pn**	**21 33 06.7**	**+1.1**
	348nm,0.4s,baz=249,slow=1.6,SNR=51						
KRVT				S	**Sn**	**21 33 20.1**	**-2.4**
	2μm,0.3s,baz=165,slow=20,SNR=33						
RABL	**Rabaul**	**1.46**	**351**		**Pn**	**21 33 08.2**	**+1.5**
RABL				Sn	**Sn**	**21 33 25.5**	**+0.8**
MANU	**Manus Island**	**6.16**	**305**		**Pn**	**21 34 12.0**	**+0.7**
MTN	**Manton Dam**	**22.16**	**250**	P	**P**	**21 37 34.6**	**-0.8**
MTN				IAmb	IAmb	21 38 05.3	
	comp=Z,19nm,1.3s						
WB0	**Warramunga Arr**	**22.45**	**230**	P	**P**	**21 37 38.6**	**+0.1**
WB0				IAmb	IAmb	21 37 58.2	
	comp=Z,3.0nm,1.0s						
WR0	**Warramunga Arr**	**22.45**	**229**	P	**P**	**21 37 38.1**	**-0.4**
WR0				IAmb	IAmb	21 37 44.2	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**22.59**	**229**	P	**P**	**21 37 42.8**	**+2.8**
	comp=Z,1.2nm,0.6s,baz=52,slow=9.9,SNR=20						
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**22.59**	**229**	P	**P**	**21 37 39.5**	**-0.5**
ASAR	**Alice Springs**	**25.26**	**223**	P	**P**	**21 38 08.8**	**+3.3**
	comp=Z,1.1nm,0.7s,baz=53,slow=8.5,SNR=10						
	comp=Z,1.1nm,0.7s						
MORW	**Morawa**	**41.51**	**232**	P	**P**	**21 40 26.4**	**+0.1**
PSI	**Prapat**	**54.06**	**278**	LR	LR	22 11 18.9	
	comp=Z,86nm,18.2s,baz=128,slow=43						
SONM	**Songino Array**	**66.82**	**328**	P	**P**	**21 43 29.3**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=144,slow=5.3,SNR=2.1						
	comp=Z,0.3nm,0.5s						
VNDA	**Vanda**	**72.01**	**178**	P	**P**	**21 44 00.3**	**-1.7**
VNDA				IAmb	IAmb	21 44 14.2	
	comp=Z,1.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.17**	**287**	PKPbc	**PKPbc**	**21 52 31.4**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=98,slow=3.5,SNR=2.8						

IDC 09 22:03:34.9±2.6**, 35°.24S**×**178°.81W, h0km, mb4.2**/3**, mbtmp4.2**/4**, ML3.4**/1**, Error ellipse: s-maj=64.8km s-min=46.8km az=146.0, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**11.53**	**220**	Pn	Pn	22 06 20.7	0.0
	0.3nm,0.3s,baz=349,slow=16,SNR=2.2						
RPZ				Sn	Sn	22 08 26.0	-4.2
	0.5nm,0.3s,baz=161,slow=18,SNR=2.7						
	4.0nm,0.8s						
CTA	**Charters Tower**	**34.23**	**287**	P	P	22 10 23.4	+0.8
	1.6nm,0.6s,baz=95,slow=11,SNR=1.7						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**42.41**	**273**	P	P	22 11 31.2	-0.2
	2.4nm,0.5s,baz=116,slow=7.8,SNR=45						
ASAR				PcP	PcP	22 13 24.5	-0.2
	0.3nm,0.6s,baz=108,slow=3.0,SNR=2.3						
	2.4nm,0.5s						
WRA	**Warramunga Arr**	**43.83**	**278**	P	P	22 11 42.4	-0.6
	2.5nm,0.6s,baz=119,slow=7.4,SNR=30						
	2.5nm,0.6s						
FINES	**FINESS Array B**	**149.38**	**337**	PKPbc	PKPbc	22 23 24.5	-0.5
	3.0nm,1.0s,baz=36,slow=5.2,SNR=6.9						

IDC 09 22:07:06.3±5.0**, 35°.12S**×**178°.92W, h0km, mb4.0**/2**, mbtmp4.0**/2**, Error ellipse: s-maj=223.4km s-min=59.9km az=165.0, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.31**	**273**	P	P	22 15 02.5	+0.4
	1.6nm,0.6s,baz=116,slow=7.7,SNR=14						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**43.72**	**278**	P	P	22 15 12.8	-0.7
	1.6nm,0.6s,baz=119,slow=7.5,SNR=15						
	1.6nm,0.6s						
FINES	**FINESS Array B**	**149.24**	**337**	PKPbc	PKPbc	22 26 55.5	-0.5
	1.3nm,0.7s,baz=46,slow=4.0,SNR=4.0						

DNK ***09*** *22:10:01.7±1.3, 51°.38N×16°.17E, h39km±44km, ML1.7*
VIE ***09*** *22:10:07.1±1.3, 51°.30N×15°.97E, h0km, mb2.5/3, ml2.5/7, Error ellipse: s-maj=8.5km s-min=7.8km az=159.0 76 km WNW of Wroclaw Suspected Mining induced.*
ISC 09 22:10:01.6±0.8**, 51°.61N**±0°.02×**16°.10E**±0°.03**, h0km, n39, σ1^{s}51**/71**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**171**	*e*Pg	**Pg**	**22 10 17.0**	**+0.5**
KSP				*e*Sg	**Sg**	**22 10 26.6**	**0.0**
CHVC	**Chvalec**	**1.03**	**181**	*e*PG	**Pg**	**22 10 21.9**	**+0.6**
CHVC				*e*SG	**Sg**	**22 10 34.5**	**-0.1**
	comp=Z,54nm,0.6s						
OSTC	**Ostas**	**1.06**	**176**	*e*PG	**Pg**	**22 10 22.6**	**+0.7**
OSTC				*e*SG	**Sg**	**22 10 35.5**	**-0.2**
	comp=Z,26nm,0.3s						
UPC	**Upice**	**1.11**	**183**	*e*PG	**Pg**	**22 10 23.1**	**+0.3**
UPC				*e*SG	**Sg**	**22 10 37.2**	**0.0**
	comp=Z,54nm,0.3s						
DPC	**Dobruska-Polom**	**1.27**	**173**	*e*PG	**Pg**	**22 10 26.0**	**0.0**
DPC				*e*SG	**Sg**	**22 10 41.8**	**-0.7**
	comp=Z,31nm,0.7s						
PVCC	**Panska Ves**	**1.45**	**222**	*e*PG	**Pb**	**22 10 30.0**	**+0.5**
PVCC				*e*SG	**Sb**	**22 10 49.3**	**+0.8**
	comp=Z,170nm,0.2s						
BRG	**Berggiesshubel**	**1.54**	**242**	Pg	**Pg**	**22 10 31.8**	**+0.6**
BRG				Sg	**Sg**	**22 10 52.3**	**+1.2**
BRG				Amp		22 10 54.3	
	comp=Z,48nm,0.3s						
KRLC	**Kraliky**	**1.60**	**164**	*e*PG	**Pn**	**22 10 31.0**	**-0.2**
KRLC				*e*SG	**Sn**	**22 10 51.9**	**-0.7**
	comp=Z,29nm,0.3s						
RUE	**Ruedersdorf**	**1.67**	**302**	*e*P	**Pn**	**22 10 32.6**	**+0.5**
RUE				IAML		22 11 04.8	
	comp=Z,32nm,0.3s						
GKP	**Gorka Klasztor**	**1.80**	**22**	*e*P	**Pg**	**22 10 40.0**	**+3.9**
GOPC	**GO Pecny, Ondr**	**1.89**	**207**	*e*PG	**Pb**	**22 10 36.9**	**-0.2**
PRU	**Pruhonice**	**1.90**	**212**	*e*PG	**Pb**	**22 10 37.0**	**-0.2**
PRU				*e*SG	**Sb**	**22 11 01.5**	**0.0**
	comp=Z,23nm,0.6s						
CLL	**Collm**	**1.96**	**262**	*e*Pn	**Pn**	**22 10 36.0**	**-0.1**
CLL				*e*Pg	**Pg**	**22 10 40.0**	**+0.8**
CLL				*i* x	x	22 10 43.0	
CLL				*e*x	x	22 10 54.0	
CLL				*e*Sg	**Sg**	**22 11 05.0**	**+0.5**
	comp=Z,26nm,0.4s						
MORC	**Moravsky Berou**	**2.06**	**153**	*e*PN	**Pn**	**22 10 36.3**	**-1.2**
MORC				*e*SG	**Sn**	**22 11 04.6**	**+0.8**
OKC	**Ostrava-Krasne**	**2.21**	**143**	*e*PG	**Pg**	**22 10 43.5**	**-0.3**
OKC				*e*SG	**Sb**	**22 11 10.4**	**+0.2**
VRAC	**Vranov**	**2.33**	**172**	*e*PN	**Pn**	**22 10 41.7**	**+0.5**
VRAC				*e*SG	**Sb**	**22 11 14.4**	**+0.6**
TREC	**Trest**	**2.35**	**190**	*e*PG	**Pb**	**22 10 45.5**	**+0.6**
TREC				*e*SG	**Sb**	**22 11 16.0**	**+1.5**
KRUC	**Moravsky**	**2.56**	**176**	*e*PN	**Pn**	**22 10 45.0**	**+0.6**
KRUC				*e*SG	**Sb**	**22 11 22.4**	**+2.0**
NKC	**Novy Kostel**	**2.69**	**241**	*e*PN	**Pn**	**22 10 47.0**	**+0.8**
NKC				*e*PG	**Pg**	**22 10 52.6**	**-0.6**
NKC				*e*SG	**Sg**	**22 11 28.6**	**+0.6**
	comp=Z,32nm,0.5s						
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pb**	**22 10 51.3**	**0.0**
OJC				*e*Sg	**Sb**	**22 11 26.8**	**+1.5**
KHC	**Kasperske Hory**	**2.96**	**214**	*e*PN	**Pn**	**22 10 50.1**	**+0.2**
KHC				*e*PG	**Pb**	**22 10 55.4**	**+0.1**
KHC				*e*SN	**Sn**	**22 11 24.8**	**-1.4**
KHC				*e*SG	**Sg**	**22 11 35.8**	**-0.9**
	comp=Z,12nm,0.4s						
CKRC	**Cesky Krumlov**	**3.02**	**203**	*e*PN	**Pn**	**22 10 51.7**	**+1.0**
CKRC				*e*PG	**Pb**	**22 10 57.6**	**+1.3**
CKRC				*e*SG	**Sb**	**22 11 35.7**	**+2.0**
	comp=Z,11nm,0.5s						
BSD	**Bornholm Skovb**	**3.58**	**349**	*e*P	**Pn**	**22 10 58.0**	**-0.3**
BSD	**Bornholm Skovb**	**3.58**	**349**	*i* P	**Pn**	**22 10 58.0**	**-0.3**
BSD				*i* S	**Sn**	**22 11 40.0**	**-1.3**
BSD				IAML		22 11 48.2	
	comp=Z,0.7nm,0.2s						
CONA	**Conrad Observa**	**3.69**	**182**	*e*Pn	**Pn**	**22 11 01.1**	**+1.1**
	comp=Z,0.8nm,0.3s						
CONA				*e*Sg	**Sg**	**22 11 58.6**	**-1.6**
	comp=Z,4.3nm,0.2s						
RONA	**Rosalia, Austr**	**3.92**	**178**	*e*Sg	**Sg**	**22 12 05.1**	**-2.4**
	comp=Z,3.3nm,0.3s						
MOA	**Molln**	**3.95**	**198**	*e*Pn	**Pn**	**22 11 04.3**	**+0.8**
	comp=Z,2.3nm,0.2s						
MOA				*e*Sg	**Sg**	**22 12 08.0**	**-0.5**
	comp=Z,8.7nm,0.6s						
LUNU	**Lund**	**4.32**	**340**	*i* P	**Pn**	**22 11 08.0**	**-0.6**
ARSA	**Arzberg**	**4.38**	**185**	*e*Pn	**Pn**	**22 11 13.0**	**+3.6**
	comp=Z,1.7nm,0.3s						
ARSA				Sg	**Sg**	**22 12 19.3**	**-3.0**
	comp=Z,6.8nm,0.6s						
BLEU	**Blekinge**	**4.70**	**358**	*i* P	**Pn**	**22 11 14.8**	**+1.0**
BLEU				*i* S	**Sn**	**22 12 05.5**	**-3.5**
KOLS	**Kolonicke sedl**	**4.78**	**122**	*e*PN	**Pn**	**22 11 15.2**	**+0.3**
BJUU	**Bjuv**	**4.83**	**339**	*i* P	**Pn**	**22 11 15.1**	**-0.3**
BJUU				*i* S	**Sn**	**22 12 09.2**	**-2.8**
KBA	**Koelnbreinsper**	**4.88**	**203**	*e*Pn	**Pn**	**22 11 17.3**	**+0.9**
	comp=Z,2.0nm,0.4s						
KBA				*e*Sg	**Sg**	**22 12 37.4**	**-1.0**
	comp=Z,3.5nm,0.4s						
DEL	**Delary**	**5.04**	**346**	*e*P	**Pn**	**22 11 17.6**	**-0.7**
DEL	**Delary**	**5.04**	**346**	*i* P	**Pn**	**22 11 18.0**	**-0.4**
DEL				*i* S	**Sn**	**22 12 13.6**	**-3.7**
DEL				IAML		22 12 18.6	
	comp=Z,0.4nm,0.1s						
RETA	**Reutte**	**5.39**	**222**	*e*Sg	**Sg**	**22 12 55.8**	**+1.0**
	comp=Z,2.8nm,0.5s						
SQTA	**Sankt Quirin**	**5.43**	**218**	*e*Pn	**Pn**	**22 11 25.9**	**+2.0**
	comp=Z,1.1nm,0.2s						
ONAU	**Onsala**	**6.28**	**339**	*e*S	**Sn**	**22 12 42.0**	**-5.8**
VIKU	**Vikbolandet**	**6.91**	**3**	*e*P	**Pn**	**22 11 44.6**	**+0.5**

IDC ***09*** *22:14:04.5±3.2, 35°.53S×175°.58W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=82.4km s-min=58.9km az=176.0*
NEIC ***09*** *22:14:30.2±1.6, 35°.50S±0°.08×179°.2W±0°.1, h10km±2km, mb4.3/8, Error ellipse: s-maj=23.6km s-min=5.5km az=124.0*
WEL ***09*** *22:14:32.2±1.3, 35°S±11°×17°9W±1°6, h33km, M4.0/10, ML4.2/11, MLv4.0/10, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6*
ISC 09 22:14:31.3±1.7**, 35°.43S**±0°.08×**178°.9W**±0°.2**, h35km, n32, σ1^{s}40**/43**, mb4.3**/6**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.11**	**226**	Pn	**Pn**	**22 15 16.6**	**-1.2**
MXZ				Sn	**Sn**	**22 15 52.2**	**-1.6**
MXZ	**Matakaoa Point**	**3.11**	**226**	P	**Pn**	**22 15 17.7**	**-0.2**
MXZ				S	**Sn**	**22 15 52.6**	**-1.2**
WMGZ	**Waiomatatini S**	**3.23**	**222**	P	**Pn**	**22 15 20.5**	**+1.0**
WMGZ				S	**Sn**	**22 15 59.8**	**+3.0**
PKGZ	**Pakihiroa**	**3.47**	**224**	P	**Pn**	**22 15 23.1**	**+0.3**
PKGZ				S	**Sn**	**22 16 02.8**	**+0.1**
PUZ	**Puketiti**	**3.50**	**220**	P	**Pn**	**22 15 23.6**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PUZ				S	Sn	22 16 02.8	-0.7
HAZ	Te Kaha	3.55	228	P	Pn	22 15 24.9	+1.0
HAZ				S	Sn	22 16 07.2	+2.5
TWGZ	Tauwhareparae	3.73	222	P	Pn	22 15 26.9	+0.6
TWGZ				S	Sn	22 16 10.3	+1.3
RUGZ	Raukumara Rang	3.75	227	P	Pn	22 15 27.4	+0.6
RUGZ				S	Sn	22 16 11.5	+1.7
CNGZ	Carnagh Statio	3.84	217	P	Pn	22 15 29.0	+1.1
CNGZ				S	Sn	22 16 13.8	+2.0
TKGZ	Te Karaka	3.99	220	P	Pn	22 15 31.4	+1.5
TKGZ				S	Sn	22 16 15.8	+0.4
MWZ	Matawai	4.09	224	P	Pn	22 15 31.4	+0.1
MWZ				S	Sn	22 16 17.9	-0.1
KUZ	Kuaotunu	4.57	252	P	Pn	22 15 39.4	+1.5
TOZ	Tahuroa Road	5.07	241	P	Pn	22 15 44.0	-0.8
MKAZ	Moumakai	5.10	249	P	Pn	22 15 45.2	0.0
BKZ	Black Stump Fm	5.25	223		Pn	22 15 45.5	-1.8
BKZ				Sn	Sn	22 16 43.0	-3.6
OUZ	Omahuta	6.16	270	Pn	Pn	22 15 57.6	-2.1
BFZ	Birch Farm	6.50	215	Pn	Pn	22 16 03.0	-1.5
LTZ	Lake Taylor	10.05	220	Pn	Pn	22 16 51.0	-2.2
DZM	Mont Dzumac	18.48	312	P	Pn	22 18 46.1	+1.3
	5.0nm,0.5s,baz=148,slow=19,SNR=5.4						
	5.0nm,0.5s						
DZM	Mont Dzumac	18.48	312		Pn	22 18 45.1	+0.3
KOUNC	Koumac, New Ca	20.95	311	P	P	22 19 12.9	+1.8
KOUNC				IAmb	IAmb	22 19 13.9	
	comp=Z,13nm,0.7s						
CTA	Charters Tower	34.23	287	P	P	22 21 14.8	+1.0
	comp=Z,3.9nm,0.7s,baz=120,slow=8.9,SNR=5.4						
	comp=Z,3.9nm,0.7s						
CTAO	Charters Tower	34.23	287	P	P	22 21 14.8	+1.0
AS31	Alice Springs	42.36	273	P	P	22 22 22.1	-0.2
AS31				IAmb	IAmb	22 22 23.3	
	comp=Z,2.3nm,0.7s						
ASAR	Alice Springs	42.36	273	P	P	22 22 22.6	+0.3
	comp=Z,4.0nm,0.6s,baz=115,slow=7.8,SNR=68						
	comp=Z,4.0nm,0.6s						
ASAR	Alice Springs	42.36	273	P	P	22 22 21.6	-0.7
WB2	Warramunga Arr	43.79	278	P	P	22 22 33.0	-0.9
WB2				IAmb	IAmb	22 22 47.0	
	comp=Z,3.9nm,0.8s						
WRA	Warramunga Arr	43.80	278	P	P	22 22 33.0	-0.9
	comp=Z,2.6nm,0.8s,baz=120,slow=7.6,SNR=21						
	comp=Z,2.6nm,0.8s						
WRA	Warramunga Arr	43.80	278	P	P	22 22 33.1	-0.8
PSA00	Pilbara Seismi	54.81	267	P	P	22 23 57.4	-0.6
FAKI	Fak Fak	55.55	294	P	P	22 24 02.4	-1.0
FAKI				IAmb	IAmb	22 24 06.3	
	comp=Z,4.6nm,0.7s						
FINES	FINESS Array B	149.53	336	PKPbc	PKPdf	22 33 57.2	-14
	comp=Z,2.8nm,0.7s,baz=35,slow=5.1,SNR=2.7						

BJI ***09*** *22:20:36.6±0.0, 38.̊66N×142.̊63E, h49km, mb4.9/77, mB5.1/46, Ms4.5/67, Ms7 4.4/64*

NIED ***09*** *22:20:39.7, 38.̊69N×142.̊28E, h39km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.81; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.84; $M_{r\theta}$1.95; $M_{\theta\phi}$-1.85; $M_{\phi r}$0.61; Fault plane solution: $M_0$3.29000×10^{16} NP1: ϕ_s179.00000°, δ39.00000°, λ35.00000°. NP2:ϕ_s61.00000°, δ69.00000°, λ123.00000°.*

MOS ***09*** *22:20:39.3±0.9, 38.̊82N×142.̊18E, h42km, mb5.3/99, MS4.8/12 Error ellipse: s-maj=5.5km s-min=3.7km az=108.3*

JMA ***09*** *22:20:39.7±0.1, 38.̊7N±0.̊2×142.̊3E±0.̊6, h39km±1km, MD5.1/40, MW5.0/40, E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

IDC ***09*** *22:20:41.8±1.8, 38.̊71N×142.̊24E, h56km±16km, mb4.7/33, mbtmp5.0/38, ML4.1/5, MS4.1/78, Error ellipse: s-maj=12.8km s-min=9.4km az=118.0*

NEIC ***09*** *22:20:41.6±1.1, 38.̊73N±0.̊05×142.̊16E±0.̊09, h48km±6km, mb5.1/237, Mww5.0, Error ellipse: s-maj=10.9km s-min=6.2km az=113.0*

GCMT ***09*** *22:20:42.6±0.3, 38.̊80N±0.̊01×142.̊35E±0.̊02, h43km±1km, MW5.0/119, Moment Tensor Solution. s39,c53; s119,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.80±.20; $M_{\theta\theta}$-0.24±.12; $M_{\phi\phi}$-2.56±.12; $M_{r\theta}$2.93±.11; $M_{\theta\phi}$-2.11±.08; $M_{\phi r}$0.61±.09; Best double couple: $M_0$4.53900×10^{16} NP1:ϕ_s59.00000°, δ68.00000°, λ120.00000°. NP2:ϕ_s183.00000°, δ37.00000°, λ40.00000°. Principal axes: T 4.6330, Plg57.0000°, Azm9.0000°; N -0.1840, Plg27.0000°, Azm227.0000°; P -4.4460, Plg17.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***09*** *22:20:45, 38.̊87N×142.̊38E, h60km, Moment Tensor Solution. Duration: 8.̊0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.41; $M_{\theta\theta}$0.60; $M_{\phi\phi}$-2.01; $M_{r\theta}$1.81; $M_{\theta\phi}$-2.17; $M_{\phi r}$0.34; Fault plane solution: $M_0$3.36000×10^{16} NP1: ϕ_s171.00000°, δ49.00000°, λ23.00000°. NP2:ϕ_s65.00000°, δ72.00000°, λ137.00000°. Principal axes: T 3.1399, Plg43.0000°, Azm20.0000°; N 0.3998, Plg44.0000°, Azm228.0000°; P -3.5397, Plg14.0000°, Azm123.0000°;*

ISC 09 22:20:39.9±0.3**, 38.̊70N**±0.̊03**×142.̊33E**±0.̊03**, h41**km±2km**, h40**km**:pP-P, n1256, σ1.̊36**/1219**, mb5.2**/279**, MS4.3**/113**, 69C-71D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.64	307	⇓iP	Pn	22 20 52.0	-0.5
OFUJ				⇓S	Sn	22 21 00.7	-0.8
OFUJ	Ofunato	0.64	307	A	A	22 20 52.0	
	comp=E,81nm,0.9s,comp=E,49nm,0.7s						
JKMT	Kesennumamotoy	0.68	280	⇓iP	Pn	22 20 52.3	-0.7
JKMT				⇓S	Sn	22 21 01.0	-1.4
JKMT	Kesennumamotoy	0.68	280	A	A	22 20 52.3	
	comp=E,38nm,1.7s,comp=E,104nm,1.5s						
JIKH	Ishinomakikobu	0.78	240	i P	Pn	22 20 53.7	-0.7
JIKH				S	Sn	22 21 03.4	-1.5
JIKH	Ishinomakikobu	0.78	240	A	A	22 20 53.7	
	comp=E,199nm,0.7s,comp=E,196nm,2.4s						
JIO	Ouri	0.80	253	⇓iP	Pn	22 20 54.0	-0.8
JIO				⇓S	Sn	22 21 03.7	-1.8
JIO	Ouri	0.80	253	A	A	22 20 54.0	
	comp=E,65nm,4.2s,comp=E,143nm,2.6s						
JMK	Ichinoseki	0.90	287	⇓iP	Pn	22 20 55.7	-0.4
JMK				⇓S	Sn	22 21 07.1	-0.8
JMK	Ichinoseki	0.90	287	A	A	22 20 55.7	
	comp=E,47nm,0.9s,comp=E,87nm,2.1s						
MIYJ	Miyakonagasawa	0.96	336	A	A	22 20 56.9	
	comp=E,81nm,1.7s,comp=E,105nm,0.5s						
JOFO	Osakifurukawao	1.11	266	A	A	22 20 58.7	
	comp=E,243nm,2.6s,comp=E,358nm,1.5s						
JOM	Ohasama	1.12	314	⇓iP	Pn	22 20 59.1	0.0
JOM				⇓S	Sn	22 21 13.5	+0.2
JOM	Ohasama	1.12	314	A	A	22 20 59.1	
	comp=E,235nm,0.3s,comp=E,217nm,0.5s						
JTH	Tanohata	1.29	344	⇓iP	Pn	22 21 01.1	-0.3
JTH	Tanohata	1.29	344	A	A	22 21 01.1	
	comp=E,33nm,0.8s,comp=E,29nm,0.8s						
JOU	Okura	1.34	256	⇓iP	Pn	22 21 02.0	-0.2
JOU				⇓eS	Sn	22 21 18.5	-0.4
JOU	Okura	1.34	256	A	A	22 21 02.0	
	comp=E,84nm,1.1s,comp=E,114nm,1.4s						
JMM	Marumori	1.46	236		Pn	22 21 03.2	-0.6
JMM				Sn	Sn	22 21 20.1	-1.6
JMM	Marumori	1.46	236	P	Pn	22 21 04.4	+0.6
JMM	Marumori	1.46	236	i P	Pn	22 21 03.2	-0.6
JMM				eS	Sn	22 21 21.0	-0.7
JMM	Marumori	1.46	236	A	A	22 21 03.2	
	comp=E,24nm,1.8s,comp=E,40nm,3.9s						
JRG	Rokugo	1.49	298	⇓iP	Pn	22 21 04.4	+0.2
JRG	Rokugo	1.49	298	A	A	22 21 04.4	
	comp=E,49nm,0.5s,comp=E,45nm,1.8s						
JSZI	Iwateshizukuis	1.49	315	A	A	22 21 04.5	
	comp=E,64nm,2.0s,comp=E,60nm,2.1s						
JMST	Minamisoumatoc	1.49	230	A	A	22 21 04.4	
	comp=E,28nm,1.4s,comp=E,22nm,1.5s						
JKZ	Kuzumaki	1.50	329	A	A	22 21 04.8	
	comp=E,68nm,1.4s,comp=E,75nm,2.1s						
JYK	Kaneyama	1.55	279	⇓iP	Pn	22 21 05.1	0.0
JYK	Kaneyama	1.55	279	A	A	22 21 05.1	
	comp=E,22nm,4.2s,comp=E,32nm,4.9s						
JKEN	Kujiedanarisaw	1.58	343	A	A	22 21 06.0	
	comp=E,89nm,0.5s,comp=E,92nm,0.4s						
JFK	Kawauchi	1.75	221	A	A	22 21 08.2	
	comp=E,13nm,1.3s,comp=E,12nm,1.1s						
JANG	Nango	1.79	340	A	A	22 21 09.0	
	comp=E,46nm,0.8s,comp=E,57nm,0.5s						
JYS	Shirataka	1.84	256	A	A	22 21 09.3	
	comp=E,65nm,1.2s,comp=E,69nm,2.7s						
JYW	Yuwa	1.85	298	A	A	22 21 09.6	
	comp=E,97nm,0.9s,comp=E,80nm,1.6s						
JYAR	Yonezawaarcadi	1.89	246	A	A	22 21 10.0	
	comp=E,109nm,1.1s,comp=E,83nm,0.8s						
JYYZ	Yamagatayuza	1.90	280	A	A	22 21 10.2	
	comp=E,67nm,2.0s,comp=E,71nm,5.7s						
JOTO	OTAMA OYAMA	1.94	235	A	A	22 21 10.8	
	comp=E,44nm,1.0s,comp=E,57nm,1.1s						
JAH	Hinai	1.98	319	A	A	22 21 11.7	
	comp=E,27nm,1.5s,comp=E,21nm,0.9s						
JYA	Atsumi	2.05	268	A	A	22 21 12.3	
	comp=E,39nm,0.9s,comp=E,42nm,0.9s						
JFFD	Fukushimafurud	2.13	222	A	A	22 21 13.5	
	comp=E,12nm,1.0s,comp=E,10.0nm,0.8s						
JTB	Tobi-shima	2.21	284	A	A	22 21 14.8	
	comp=E,30nm,4.6s,comp=E,60nm,2.3s						
JNTW	Noshirotokiwa	2.30	314	A	A	22 21 16.1	
	comp=E,76nm,4.3s,comp=E,88nm,4.2s						
JTM	Tenmabayashi	2.30	335	Pn	Pn	22 21 15.9	+0.6
JTM				Sn	Sn	22 21 43.6	+1.2
JTM	Tenmabayashi	2.30	335	P	Pn	22 21 17.8	+2.5
JTM	Tenmabayashi	2.30	335	A	A	22 21 16.4	
	comp=E,19nm,1.5s,comp=E,17nm,4.0s						
JARK	Aomorirokkasho	2.42	343	A	A	22 21 18.1	
	comp=E,25nm,3.6s,comp=E,17nm,2.8s						
JFY	Yanaizu	2.44	239	A	A	22 21 17.9	
	comp=E,19nm,2.6s,comp=E,18nm,3.9s						
JHHS	Hirosakihyakuz	2.47	323	A	A	22 21 18.7	
	comp=E,35nm,5.7s,comp=E,58nm,3.2s						
JHO	Hitachi	2.51	214	A	A	22 21 19.0	
	comp=E,8.0nm,2.5s,comp=E,9.0nm,5.0s						
JNS	Sasagawa	2.52	251	A	A	22 21 19.2	
	comp=E,21nm,2.8s,comp=E,28nm,4.7s						
JSB	Shiboa	2.57	229	A	A	22 21 19.9	
	comp=E,38nm,2.6s,comp=E,37nm,2.0s						
JIW	Iwasaki	2.60	317	A	A	22 21 20.6	
	comp=E,14nm,2.1s,comp=E,32nm,1.5s						
JAHD	Aomorihigashid	2.67	344	A	A	22 21 21.7	
	comp=E,38nm,1.0s,comp=E,50nm,1.0s						
JHYU	Hitachinakayam	2.73	211	A	A	22 21 22.2	
	comp=E,13nm,2.1s,comp=E,11nm,6.3s						
JSI2	Shiura 2	2.78	329	A	A	22 21 23.1	
	comp=E,30nm,2.7s,comp=E,26nm,2.5s						
JOG3	Oga3	2.80	297	A	A	22 21 16.1	
	comp=E,27nm,1.3s,comp=E,21nm,1.6s						
JOT	Ohata	2.85	340	A	A	22 21 24.3	
	comp=E,14nm,4.8s,comp=E,9.0nm,2.6s						
JUON	Uonuma	2.98	241	A	A	22 21 25.6	
	comp=E,7.0nm,3.9s,comp=E,10.0nm,4.7s						
JYT	Yasato	2.99	215	A	A	22 21 25.9	
	comp=E,18nm,0.4s,comp=E,16nm,0.4s						
JIZZ	Izumozaki	3.08	249	A	A	22 21 27.1	
	comp=E,43nm,4.4s,comp=E,56nm,3.0s						
JIHU	Itakohorinouch	3.08	208	A	A	22 21 27.2	
	comp=E,39nm,1.7s,comp=E,41nm,1.3s						
JSR	Shiriuchi	3.18	333	A	A	22 21 28.9	
	comp=E,16nm,4.3s,comp=E,26nm,2.7s						
CHOJ	Chosi	3.21	202	A	A	22 21 29.1	
	comp=E,10.0nm,1.2s,comp=E,10.0nm,2.7s						
JAG	Ashikaga	3.22	226	A	A	22 21 29.0	
	comp=E,6.0nm,3.0s,comp=E,7.0nm,2.7s						
JSD	Sado	3.26	260	Pn	Pn	22 21 28.2	-0.3
JSD	Sado	3.26	260	A	A	22 21 29.6	
	comp=E,7.0nm,2.4s,comp=E,9.0nm,1.7s						
JKB	Kayabe	3.34	343	A	A	22 21 31.1	
	comp=E,18nm,0.8s,comp=E,10.0nm,1.0s						
JOMM	Oshimamatsumae	3.34	329	A	A	22 21 31.0	
	comp=E,16nm,3.2s,comp=E,27nm,3.3s						
ERM	Erimo	3.37	11		Pn	22 21 29.9	-0.1
ERM	Erimo	3.37	11	P	Pn	22 21 31.0	+0.9
ERM	Erimo	3.37	11c	iP	Pn	22 21 29.8	-0.3
ERM				pmax	pmax		
	comp=Z,604nm,1.0s						
JEM	Erimo	3.38	11	P	Pn	22 21 31.0	+0.9
JEM	Erimo	3.38	11	A	A	22 21 31.9	
	comp=Z,8.0nm,1.5s,comp=Z,12nm,3.7s						
JSMT	Sammumatsuo	3.40	207	A	A	22 21 31.7	
	comp=Z,34nm,2.9s,comp=Z,37nm,3.0s						
JNBK	Urakawa-nobuka	3.59	5	A	A	22 21 35.0	
	comp=Z,18nm,2.5s,comp=Z,25nm,0.8s						
JGK	Kuni	3.62	235	A	A	22 21 34.7	
	comp=Z,9.0nm,2.5s,comp=Z,11nm,3.6s						
TOK	Tokyo	3.64	215	A	A	22 21 35.0	
	comp=Z,28nm,0.8s,comp=Z,28nm,3.6s						
JTHR	Tokachihiroo	3.67	11	A	A	22 21 36.0	
	comp=Z,8.0nm,4.4s,comp=Z,10.0nm,1.9s						
JCN	Nagara	3.69	208	A	A	22 21 35.8	
	comp=Z,27nm,2.0s,comp=Z,31nm,1.3s						
JSHD	Hidakashinhida	3.71	2	A	A	22 21 36.5	
	comp=Z,25nm,1.6s,comp=Z,25nm,6.3s						
JYM2	Yakumo 2	3.73	337	A	A	22 21 36.6	
	comp=Z,11nm,2.5s,comp=Z,9.0nm,1.5s						
JHU	Hanno	3.74	221	A	A	22 21 36.4	
	comp=Z,9.0nm,1.0s,comp=Z,9.0nm,1.1s						
JRY	Ryogami san	3.82	227	A	A	22 21 37.6	
	comp=Z,8.0nm,1.5s,comp=Z,7.0nm,6.7s						
JNB	Noboribetsu	3.89	346	A	A	22 21 39.0	
	comp=Z,4.0nm,1.7s,comp=Z,5.0nm,7.0s						
MJAR	Matsushiro Arr	3.91	238	P	Pn	22 21 39.6	+2.1
	comp=Z,5.5nm,0.3s,baz=32,slow=14,SNR=70						
MJAR				S	Sn	22 22 23.2	+1.0
	comp=Z,69nm,0.6s,baz=69,slow=30,SNR=5.7						
MJAR				LR	LR	22 23 25.5	
	comp=Z,3μm,19.3s,baz=56,slow=42						
	comp=Z,29nm,0.3s						
MAJO	Matsushiro	3.91	238		Pn	22 21 39.1	+1.6
MAJO	Matsushiro	3.91	238	P	Pn	22 21 39.7	+2.2
MAJO	Matsushiro	3.91	238c	iP	Pn	22 21 39.1	+1.6
MJB9	Matsu-Tunnel	3.91	238		Pn	22 21 39.9	+2.3
JKUC	kamogawauchiur	3.92	206	A	A	22 21 39.1	
	comp=Z,10.0nm,4.5s,comp=Z,14nm,1.7s						
JIAM	Iburiatsuma	3.93	356	A	A	22 21 39.6	
	comp=Z,21nm,1.2s,comp=Z,25nm,5.2s						
JSGW	Sagamiharawaka	3.97	220	A	A	22 21 39.7	
	comp=Z,9.0nm,2.4s,comp=Z,8.0nm,1.4s						
JCH	Churui	3.99	11	A	A	22 21 40.6	
	comp=Z,11nm,2.7s,comp=Z,8.0nm,2.6s						
JOSM	Okushiri--Mats	4.02	328	A	A	22 21 40.7	
	comp=Z,8.0nm,6.0s,comp=Z,8.0nm,5.1s						
JNG	Nsakai	4.06	237	A	A	22 21 40.9	
	comp=Z,3.0nm,4.2s,comp=Z,5.0nm,5.5s						
JBT2	Biratori 2	4.08	0	A	A	22 21 41.7	
	comp=Z,8.0nm,3.5s,comp=Z,10.0nm,5.5s						
TATJ	Tateyama 2	4.15	209	A	A	22 21 42.3	
	comp=Z,26nm,2.9s,comp=Z,25nm,2.0s						
JEW	Eniwo	4.19	351	A	A	22 21 43.3	
	comp=Z,15nm,3.5s,comp=Z,13nm,0.9s						
JOD2	Odawara 2	4.30	218	A	A	22 21 44.3	
	comp=Z,12nm,2.3s,comp=Z,11nm,2.3s						
JOB	Onbets	4.36	15	A	A	22 21 45.7	
	comp=Z,16nm,1.7s,comp=Z,19nm,2.1s						
JNT	Takato	4.37	231	A	A	22 21 45.3	
	comp=Z,5.0nm,2.5s,comp=Z,5.0nm,5.0s						
JYN	Shimob	4.40	225	A	A	22 21 45.7	
	comp=Z,10.0nm,1.4s,comp=Z,9.0nm,1.5s						
JFR	Furan	4.47	3	A	A	22 21 47.2	
	comp=Z,6.0nm,1.1s,comp=Z,6.0nm,2.2s						
JFNN	Fujinakano	4.55	221	A	A	22 21 47.9	
	comp=Z,14nm,4.8s,comp=Z,12nm,1.4s						
JHTM	Izuhatsuma	4.58	216	A	A	22 21 48.3	
	comp=Z,16nm,0.8s,comp=Z,14nm,1.5s						
JAB	Ashibetsu	4.80	359	A	A	22 21 51.9	
	comp=Z,11nm,2.2s,comp=Z,15nm,4.3s						
JNY	Yasuok	4.88	228	A	A	22 21 52.5	
	comp=Z,10.0nm,1.4s,comp=Z,12nm,2.6s						
SHZ3	Shizuoka 3	4.90	224	A	A	22 21 52.8	
	comp=Z,8.0nm,1.1s,comp=Z,9.0nm,1.3s						
JGF	Kuroka	5.03	234	Pn	Pn	22 21 55.2	+2.4
JGF	Kuroka	5.03	234	P	Pn	22 21 55.7	+2.8
JAO	Obara	5.31	231	A	A	22 21 58.5	
	comp=Z,4.0nm,1.9s,comp=Z,5.0nm,2.3s						
NMR	Nemuro--Hokkai	5.33	28	⇑iP	Pn	22 21 55.2	-1.7
NMR				eS	Sn	22 22 52.1	-4.9
INU	Inuyama	5.40	233	Pn	Pn	22 21 58.4	+0.4
INU	Inuyama	5.40	233	P	Pn	22 22 01.3	+3.3
ASAJ	Asahikawa	5.42	2	P	Pn	22 21 58.6	+0.5
JKA	Kamikawa-asahi	5.42	2		Pn	22 21 58.6	+0.5
RUSJ	Misakicho	5.83	21	⇑iP	Pn	22 22 03.6	-0.2
RUSJ				S	Sn	22 23 05.5	-3.8
JHJ2	Mitsune	5.93	201	Pn	Pn	22 22 05.7	+0.4
JHJ2	Mitsune	5.93	201	P	Pn	22 22 05.3	+0.1
JHJ	Hachijo jima 2	5.94	201	P	Pn	22 22 05.4	+0.1
	comp=Z,57nm,0.3s,baz=87,slow=19,SNR=9.8						
JHJ				S	Sn	22 23 07.0	-5.0
	comp=Z,258nm,0.4s,baz=253,slow=19,SNR=1.6						
JHJ				LR	LR	22 24 46.5	
	comp=Z,2μm,21.9s,baz=50,slow=41						
	comp=Z,159nm,0.3s						
YUK	Yuzh-Kuril'sk	5.96	25c	iP	Pn	22 22 04.4	-1.1
YUK				eS	Sn	22 23 07.2	-5.3
YUK				pmax	pmax		
	comp=Z,816nm,0.4s						
YUK				pmax	pmax		
	comp=N,722nm,0.2s						
YUK				pmax	pmax		
	comp=E,356nm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
TEY	Ternei	7.64	328	⇑eP	Pn	22 22 33.1	+4.6
TEY				pmax	pmax		
	comp=N,50nm,1.2s						
TEY				pmax	pmax		
	comp=E,40nm,1.2s						
TEY				pmax	pmax		
	comp=Z,50nm,1.2s						
TEY				MLR	MLR		
	comp=E,100nm,18.0s						
TEY				MLR	MLR		
	comp=N,100nm,21.0s						
TEY				MLR	MLR		
	comp=Z,100nm,19.0s						
JHS	Saijyo	8.25	246	Pn	Pn	22 22 38.6	+1.5
JHS	Saijyo	8.25	246	P	Pn	22 22 41.5	+4.4
YSS	Yuzh-Sakhalins	8.26	2	eP	Pn	22 22 38.5	+1.4
YSS				pmax	pmax		
	comp=Z,550nm,0.7s						
JMN	Monobe	8.43	237	Pn	Pn	22 22 40.1	+0.5
JMN	Monobe	8.43	237	P	Pn	22 22 41.6	+2.0
MSHR	Mys Shultsa	9.33	298	⇑eP	Pn	22 22 52.6	+0.8
MSHR				pmax	pmax		
	comp=Z,48nm,0.8s						
USRK	Ussuriysk Ar.	9.51	309	P	Pn	22 22 56.4	+2.2
	comp=Z,9.2nm,0.3s,baz=119,slow=8.4,SNR=97						
USRK				LR	LR	22 26 23.5	
	comp=Z,2μm,19.0s,baz=129,slow=36						
	comp=Z,192nm,0.7s						
USRK	Ussuriysk Ar.	9.51	309	Pn	Pn	22 22 55.0	+0.8
USRK	Ussuriysk Ar.	9.51	309	P	Pn	22 22 55.0	+0.8
USA0B	Ussuriysk Arra	9.51	309		Pn	22 22 55.5	+1.3
USA0B	Ussuriysk Arra	9.51	309	⇑eP	Pn	22 22 56.3	+2.1
JNU	Nakatsue	10.82	243		Pn	22 23 12.9	+0.7
JNU	Nakatsue	10.82	243	P	Pn	22 23 15.0	+2.8
MDJ	Mudanjiang	11.21	306	Pn	Pn	22 23 18.7	+1.2
MDJ	Mudanjiang	11.21	306	P	Pn	22 23 19.8	+2.4
MDJ				pmax	pmax		
	comp=Z,17nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,380nm,4.3s						
MDJ				LR	LR		
	comp=Z,370nm,10.4s						
MDJ				LR	LR		
	comp=Z,2μm,16.7s						
MDJ				LR	LR		
	comp=Z,2μm,17.0s						
KSRS	Korea Array	11.42	268	P	Pn	22 23 23.6	+3.1
	comp=Z,1.1nm,0.3s,baz=80,slow=14,SNR=42						
KSRS				LR	LR	22 27 19.8	
	comp=Z,997nm,21.6s,baz=80,slow=35						
	comp=Z,16nm,0.8s						
KSAR	Wonju Array Be	11.45	268	Pn	Pn	22 23 21.1	+0.2
KSAR	Wonju Array Be	11.45	268	P	Pn	22 23 21.1	+0.2
KS19	Wonju Array Si	11.46	269		Pn	22 23 22.5	+1.6
JCJ	Chichijima	11.57	181	P	Pn	22 23 19.8	-2.8
	comp=Z,41nm,0.3s,baz=274,slow=23,SNR=9.7						
JCJ				S	Sn	22 25 17.6	-13
	comp=Z,35nm,0.4s,baz=270,slow=20,SNR=2.1						
JCJ				LR	LR	22 28 34.7	
	comp=Z,231nm,21.4s,baz=354,slow=41						
JCJ	Chichijima	11.57	181	P	Pn	22 23 20.3	-2.2
JSU	Suzuyama	12.07	237	P	Pn	22 23 32.2	+2.8
TJN	Taejon	12.10	264c	iP	Pn	22 23 30.7	+1.0
GRNR	Gornyy	12.77	343	⇓iP	Pn	22 23 38.9	+0.1
GRNR				eS	Sn	22 26 00.2	+0.7
GRNR				pmax	pmax		
	comp=E,10.0nm,0.9s						
GRNR				pmax	pmax		
	comp=N,20nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.8s						
GRNR				smax	smax		
	comp=N,10.0nm,0.9s						
GRNR				MLR	MLR		
	comp=N,1μm,20.0s						
GRNR				MLR	MLR		
	comp=E,5μm,20.0s						
GRNR				MLR	MLR		
	comp=Z,730nm,20.0s						
KLR	Kul'dur	12.98	328	P	Pn	22 23 41.6	0.0
	comp=Z,1.0nm,0.3s,baz=132,slow=12,SNR=28						
KLR				LR	LR	22 28 36.8	
	comp=Z,2μm,19.6s,baz=140,slow=37						
	comp=Z,12nm,0.6s						
KLR	Kul'dur	12.98	328d	iP	Pn	22 23 41.4	-0.2
KLR				pmax	pmax		
	comp=Z,15nm,0.8s						
BNX	BinXian	13.10	307	⇓P	Pn	22 23 44.7	+1.5
BNX				pmax	pmax		
	comp=Z,14nm,0.5s						
BNX				pmax	pmax		
	comp=Z,450nm,3.6s						
CN2	Changchun	13.68	297	⇑P	Pn	22 23 53.9	+2.7
CN2				esP	P	22 24 12.7	+14
CN2				eS	Sn	22 26 24.0	+2.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=Z,900nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
SNY	Shenyang	14.65	288	⇓P	Pn	22 24 06.2	+1.9
SNY				S	Sn	22 26 44.0	-1.4
SNY				pmax	pmax		
	comp=Z,20nm,0.9s						
SNY				LR	LR		
	comp=Z,510nm,12.8s						
SNY				LR	LR		
	comp=Z,1μm,17.5s						
SNY				LR	LR		
	comp=Z,2μm,18.7s						
OKH	Okha	14.86	1d	eP	Pn	22 24 02.6	-4.5
OKH				MLR	MLR		
	comp=N,2μm,21.0s						
OKH				MLR	MLR		
	comp=E,1μm,17.0s						
OKH				MLR	MLR		
	comp=Z,900nm,21.0s						
HEH	HeiHe	15.67	322	eP	Pn	22 24 14.4	-3.3
HEH				pmax	pmax		
	comp=Z,11nm,0.6s						
HEH				LR	LR		
	comp=Z,2μm,17.5s						
HEH				LR	LR		
	comp=Z,1μm,17.4s						
HEH				LR	LR		
	comp=Z,3μm,16.3s						
DL2	Dalian	16.14	277	P	P	22 24 25.4	-1.1
DL2				S	Sn	22 27 24.4	+2.8
DL2				pmax	pmax		
	comp=Z,100nm,0.9s						
DL2				pmax	pmax		
	comp=Z,340nm,6.9s						
DL2				LR	LR		
	comp=Z,650nm,12.6s						
DL2				LR	LR		
	comp=Z,920nm,14.3s						
DL2				LR	LR		
	comp=Z,1μm,13.5s						
PEA0B	Petropavlovsk-	17.89	31		Pn	22 24 43.3	-2.2
PEA0B				IAmb	IAmb	22 24 45.4	
	comp=Z,377nm,1.9s						
PEA0B	Petropavlovsk-	17.89	31	P	Pn	22 24 43.3	-2.2
PEA0B				pmax	pmax		
	comp=Z,377nm,1.9s						
PETK	Petropavlovsk-	17.89	31	P	Pn	22 24 42.0	-3.4
	comp=Z,7.1nm,0.8s,baz=259,slow=3.0,SNR=4.7						

PETK LR LR 22 32 12.2
comp=Z,328nm,19.9s,baz=221,slow=38
PETK Petropavlovsk- 17.89 31 Pn 22 24 42.6 -2.9
PETK Petropavlovsk- 17.89 31 P **Pn 22 24 42.6 -2.9**
PET Petropavlovsk 18.23 33⇓*eP* **P 22 24 47.9 -1.5**
PET pmax pmax
comp=Z,77nm,1.2s
ZEA Zeya 18.25 330 *eP* **P 22 24 48.1 -1.5**
ZEA pmax pmax
comp=Z,200nm,6.2s
ZEA pmax pmax
comp=E,50nm,0.9s
ZEA pmax pmax
comp=N,80nm,0.8s
ZEA pmax pmax
comp=Z,120nm,0.8s
ZEA MLR MLR
comp=E,700nm,16.0s
ZEA MLR MLR
comp=N,900nm,13.0s
ZEA MLR MLR
comp=Z,900nm,16.0s
HIA Hailar 19.31 310 P **P 22 24 58.8 -2.6**
HIA Hailar 19.31 310 P **P 22 24 58.8 -2.6**
HIA pmax pmax
comp=Z,33nm,0.7s
TIA Tai'an 20.14 271 ⇓P **P 22 25 09.1 -1.5**
TIA pmax pmax
comp=Z,9.0nm,0.9s
TIA pmax pmax
comp=Z,220nm,4.1s
TIA LR LR
comp=Z,540nm,20.4s
TIA LR LR
comp=Z,460nm,23.8s
TIA LR LR
comp=Z,660nm,22.9s
NJ2 Nanjing 20.23 258 *eP* Pn 22 25 13.2 -0.4
NJ2 pmax pmax
comp=Z,45nm,0.9s
NJ2 LR LR
comp=Z,470nm,13.7s
NJ2 LR LR
comp=Z,510nm,10.8s
NJ2 LR LR
comp=Z,1μm,19.6s
BJI Beijing 20.24 282 P **P 22 25 10.3 -1.3**
BJI sP **sP 22 25 26.4 -0.3**
BJI pmax pmax
comp=Z,38nm,0.8s
BJT Baijiatuau 20.25 282 P **P 22 25 09.0 -2.7**
BJT Baijiatuau 20.25 282 P **P 22 25 09.0 -2.7**
BJT pmax pmax
comp=Z,28nm,0.7s
XLT XiLinHaoTe 20.35 293 *eP* **P 22 25 10.7 -2.2**
XLT pP pP 22 25 21.0 -1.9
XLT sP sP 22 25 27.5 -0.5
XLT S **S 22 28 52.7 -6.0**
XLT pmax pmax
comp=Z,64nm,0.8s
XLT pmax pmax
comp=Z,280nm,3.6s
XLT LR LR
comp=Z,540nm,13.2s
XLT LR LR
comp=Z,470nm,17.7s
MA2 Magadan 21.58 12 P **P 22 25 24.8 -1.0**
comp=Z,85nm,0.8s,baz=178,slow=9.2,SNR=12
MA2 LR LR 22 34 32.1
comp=Z,405nm,18.6s,baz=188,slow=38
comp=Z,85nm,0.8s
MA2 Magadan 21.58 12 P **P 22 25 25.5 -0.3**
MA2 IAmb IAmb 22 25 30.0
comp=Z,114nm,0.9s
MA2 Magadan 21.58 12 P **P 22 25 27.0 +1.2**
MA2 Magadan 21.58 12*c iP* **P 22 25 26.3 +0.5**
MA2 pmax pmax
comp=Z,125nm,0.8s
HNS HongShan 21.76 275 ⇑P **P 22 25 25.5 -2.4**
HNS *eS* **S 22 29 22.9 -3.5**
HNS pmax pmax
comp=Z,33nm,0.9s
HNS LR LR
comp=Z,490nm,12.6s
HNS LR LR
comp=Z,870nm,13.7s
HNS LR LR
comp=Z,740nm,15.9s
NACB Ninganchiao 22.79 237 P **P 22 25 36.3 -2.7**
TIY Taiyuan 23.46 277 ⇑P **P 22 25 47.4 +1.6**
TIY LR LR
comp=Z,620nm,13.1s
TIY LR LR
comp=Z,650nm,10.0s
TIY LR LR
comp=Z,960nm,15.3s
SSLB Suanglung 23.47 237 P **P 22 25 43.5 -2.4**
SSLB Suanglung 23.47 237 P **P 22 25 47.8 +1.9**
comp=Z,38nm,0.9s
YULB Yu-li 23.53 236 P **P 22 25 50.5 +4.1**
HHC Hu-ho-hao-te 23.68 285 *eP* **P 22 25 45.7 -2.2**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,600nm,6.0s
HHC LR LR
comp=Z,1μm,13.7s
HHC LR LR
comp=Z,2μm,13.3s
HHC LR LR
comp=Z,3μm,15.2s
CIT Chita 24.02 313 *eP* **P 22 25 50.6 -0.3**
CIT *e* 22 25 56.4
CIT *e* 22 26 06.4
CIT *e* 22 26 21.2
CIT *e* 22 26 36.0
CIT pmax pmax
comp=Z,196nm,1.7s
TPUB Ta-pu 24.02 237 P **P 22 25 48.0 -3.1**
TPUB IAmb IAmb 22 26 03.5
comp=Z,90nm,1.2s
LYN LuoYang 24.26 269⇓*iP* **P 22 25 51.6 -1.6**
LYN sP sP 22 26 08.6 -0.4
LYN PP **PnPn 22 26 25.6 +1.4**
LYN S **S 22 30 07.7 -1.5**
LYN pmax pmax
comp=Z,10.0nm,1.2s
LYN pmax pmax
comp=Z,100nm,9.4s
LYN LR LR
comp=Z,590nm,20.2s
LYN LR LR
comp=Z,580nm,21.6s
WHN Wuhan 24.35 259 ⇓P **P 22 25 53.5 -0.5**
YAK Yakutsk 24.62 346 P **P 22 25 55.9 -0.3**
comp=Z,50nm,0.5s,baz=192,slow=0.3,SNR=24
YAK LR LR 22 37 56.1
comp=Z,142nm,18.1s,baz=262,slow=42
comp=Z,50nm,0.5s
YAK Yakutsk 24.62 346 P **P 22 25 54.0 -2.2**
YAK Yakutsk 24.62 346 *eP* **P 22 25 54.7 -1.4**
YAK *e**PP **sP 22 26 10.5 -1.2**
YAK *e* 22 26 25.6
YAK *e* 22 29 27.4
YAK *eS* **S 22 30 11.5 -2.9**
YAK *e**SS **sS 22 30 30.0 -2.4**
YAK pmax pmax
comp=Z,88nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.6s
YAK pmax pmax
comp=N,31nm,1.0s
YAK pmax pmax
comp=Z,28nm,0.8s
YAK smax smax
comp=E,251nm,2.2s
YAK smax smax
comp=N,171nm,1.9s
SEY Seymchan 25.02 11 P **P 22 26 01.2 +1.4**
comp=N,86nm,0.8s,baz=198,slow=6.8,SNR=76
comp=N,86nm,0.8s
SEY Seymchan 25.02 11*ceP* **P 22 26 01.5 +1.7**
SEY pmax pmax
comp=Z,124nm,1.0s
SHEM Shemya Is, Ala 26.00 47 LR LR 22 34 22.8
comp=Z,100nm,21.4s,baz=152,slow=32

BOD Bodaibo 26.54 325 *eP* **P 22 26 12.6 -1.0**
BOD pmax pmax
comp=Z,46nm,1.5s
ULN Ulaanbaatar 27.06 301 P **P 22 26 17.5 -1.1**
ULN Ulaanbaatar 27.06 301 P **P 22 26 19.0 +0.4**
ULN P **P 22 26 19.0 +0.4**
ULN Ulaanbaatar 27.06 301 P **P 22 26 18.5 -0.1**
comp=Z,78nm,1.2s
ULN Ulaanbaatar 27.06 301⇓*eP* **P 22 26 19.1 +0.5**
ULN pmax pmax
comp=Z,33nm,1.7s
XAN Xi'an 27.20 271 P **P 22 26 19.9 0.0**
XAN pmax pmax
comp=Z,13nm,0.8s
SONM Songino Array 27.50 301 P **P 22 26 22.4 -0.1**
comp=Z,4.6nm,0.4s,baz=97,slow=9.0,SNR=46
SONM PcP **PcP 22 29 40.0 +0.1**
comp=Z,1.2nm,0.6s,baz=129,slow=2.3,SNR=2.6
SONM LR LR 22 37 32.7
comp=Z,468nm,19.0s,baz=101,slow=37
comp=Z,4.6nm,0.4s
SONM Songino Array 27.50 301 P **P 22 26 21.5 -1.0**
ENH Enshi 28.23 263 P **P 22 26 27.6 -1.5**
H11N2 WAKE ISLAND Hy 28.44 125 T T 22 56 54.6
baz=317,slow=75
H11N1 WAKE ISLAND Hy 28.45 125 T T 22 57 00.3
baz=317,slow=75
H11N3 WAKE ISLAND Hy 28.46 125 T T 22 56 59.2
baz=317,slow=75
H11S1 WAKE ISLAND Hy 29.21 127 T T 22 57 51.4
baz=318,slow=76
H11S3 WAKE ISLAND Hy 29.22 127 T T 22 57 51.6
baz=318,slow=76
H11S2 WAKE ISLAND Hy 29.23 127 T T 22 57 52.1
baz=318,slow=76
ZAK Zakamensk 29.84 306 *eP* **P 22 26 43.1 -0.2**
ZAK pmax pmax
comp=Z,28nm,1.2s
LZH Lanzhou 30.54 277 *eP* **P 22 26 50.2 +0.6**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=Z,450nm,13.9s
LZH LR LR
comp=Z,700nm,13.4s
LZH LR LR
comp=Z,910nm,14.9s
MOY Mondy 31.45 308 *eP* **P 22 26 57.0 -0.4**
MOY pmax pmax
comp=Z,41nm,2.5s
BILL Bilibino 32.23 17 P **P 22 27 04.1 +0.1**
BILL IAmb IAmb 22 27 05.6
comp=Z,32nm,0.7s
BILL Bilibino 32.23 17*deP* **P 22 27 04.0 +0.1**
BILL *e**PP **sP 22 27 19.2 -0.4**
BILL *e* 22 28 07.3
BILL *e* 22 29 48.5
BILL pmax pmax
comp=Z,28nm,1.0s
BILL MLR MLR
comp=Z,157nm,21.0s
BILL Bilibino 32.23 17 P **P 22 27 03.8 -0.2**
BILL pP **pP 22 27 16.3 +1.5**
BILL sP **sP 22 27 20.2 +0.6**
GYA Guiyang 32.24 258⇓*iP* **P 22 27 03.9 -0.7**
GYA sP sP 22 27 20.7 +0.3
GYA PP **PP 22 28 15.8 -2.0**
GYA S **S 22 32 13.3 -1.9**
GYA sS sS 22 32 34.3 +0.9
GYA pmax pmax
comp=Z,14nm,0.8s
GYA pmax pmax
comp=Z,160nm,3.5s
GYA LR LR
comp=Z,240nm,10.4s
GYA LR LR
comp=Z,230nm,10.8s
GYA LR LR
comp=Z,370nm,20.8s
CD2 Chengdu 32.42 268 P **P 22 27 04.9 -1.2**
CD2 S **S 22 32 15.9 -2.0**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,410nm,15.7s
CD2 LR LR
comp=Z,440nm,18.1s
GTA Gaotai 32.80 285 *eP* **P 22 27 08.7 -0.7**
GTA pP pP 22 27 19.7 -0.8
GTA PcP **PcP 22 29 54.6 +0.8**
GTA ScP **ScP 22 33 34.6 +0.1**
GTA ScS **ScS 22 37 33.4 -1.1**
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,83nm,4.7s
GTA LR LR
comp=Z,390nm,17.5s
GTA LR LR
comp=Z,910nm,17.8s
GTA LR LR
comp=Z,1μm,17.1s
TIXI Tiksi 33.73 352 P **P 22 27 16.2 -0.8**
comp=Z,19nm,0.7s,baz=248,slow=0.0,SNR=52
TIXI LR LR 22 42 27.0
comp=Z,553nm,19.5s,baz=303,slow=39
comp=Z,19nm,0.7s
TIXI Tiksi 33.73 352 P **P 22 27 16.1 -0.9**
TIXI IAmb IAmb 22 27 21.9
comp=Z,19nm,0.7s
TIXI Tiksi 33.73 352⇑*eP* **P 22 27 16.5 -0.5**
TIXI pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 33.73 352 P **P 22 27 15.5 -1.5**
TIXI x x 22 27 20.7
QIZ Qiongzhong 34.28 244 P **P 22 27 22.8 +0.4**
QIZ S **S 22 32 49.6 +2.8**
QIZ LR LR
comp=Z,470nm,17.7s
QIZ LR LR
comp=Z,520nm,21.0s
QIZ LR LR
comp=Z,480nm,19.2s
PATS Pohnpei 34.86 151 P **P 22 27 27.8 +0.5**
KMI Kunming 35.95 260⇓P **P 22 27 36.8 -0.1**
KMI pP pP 22 27 48.2 +0.2
KMI pmax pmax
comp=Z,20nm,0.8s
KMI LR LR
comp=Z,290nm,21.1s
KMI LR LR
comp=Z,300nm,18.8s
KMI LR LR
comp=Z,430nm,18.1s
PZH PanZhiHua 36.01 263 P **P 22 27 37.0 -0.3**
PZH S **S 22 33 13.0 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,4.4s
PZH LR LR
comp=Z,590nm,16.0s
PZH LR LR
comp=Z,660nm,18.4s
PZH LR LR
comp=Z,1μm,23.1s
GOMU GeErMu 37.47 281 P **P 22 27 49.8 -0.2**
GOMU PP **PnPn 22 29 22.4 +5.6**
GOMU pmax pmax
comp=Z,38nm,0.8s
GOMU pmax pmax
comp=Z,98nm,4.9s
GOMU LR LR
comp=Z,330nm,16.1s
GOMU LR LR
comp=Z,250nm,16.7s
GOMU LR LR
comp=Z,300nm,16.6s
TNA Tin City 39.05 30 P **P 22 28 03.7 +1.3**
TNA IAmb IAmb 22 28 05.7
comp=Z,46nm,0.9s
TNA Tin City 39.05 30 P **P 22 28 03.2 +0.8**
baz=252
TNCH TengChong 39.26 263 ⇑P **P 22 28 05.1 +0.2**
TNCH pP sP 22 28 20.4 -0.5
TNCH sP pP 22 28 27.6 +12

TNCH S **S 22 34 00.2 -2.8**
TNCH sS sS 22 34 26.1 +4.7
TNCH pmax pmax
comp=Z,16nm,0.9s
TNCH pmax pmax
comp=Z,180nm,4.1s
TNCH LR LR
comp=Z,180nm,9.8s
TNCH LR LR
comp=Z,270nm,12.3s
TNCH LR LR
comp=Z,290nm,17.8s
ANM Nome 39.80 32 P **P 22 28 10.1 +1.4**
ANM Nome 39.80 32 P **P 22 28 10.1 +1.4**
ANM pmax pmax
comp=Z,369nm,1.9s
DGZ Jazzator, Alta 40.03 304*c iP* **P 22 28 12.0 +1.0**
DGZ pmax pmax
comp=Z,68nm,0.7s
TNTI Ternate 40.16 204 P **P 22 28 12.2 0.0**
TNTI IAmb IAmb 22 28 25.1
comp=Z,90nm,1.7s
SIJI Sorong 40.67 197 LR LR 22 42 25.4
comp=Z,263nm,20.3s,baz=8.0,slow=32
SIJI Sorong 40.67 197 P **P 22 28 17.0 +0.6**
comp=Z,20nm,0.9s
SIJI pP **pP 22 28 28.0 +0.5**
comp=Z,20nm,0.9s
WMQ Urumqi 40.76 295 *eP* **P 22 28 15.4 -1.6**
WMQ pP pP 22 28 28.3 +0.1
WMQ pmax pmax
comp=Z,56nm,1.1s
WMQ pmax pmax
comp=Z,250nm,4.7s
WMQ LR LR
comp=Z,390nm,21.1s
WMQ LR LR
comp=Z,200nm,17.5s
WMQ LR LR
comp=Z,260nm,21.9s
ZAA0 Zalesovo Array 41.35 311 P **P 22 28 21.4 -0.2**
ZAA0 IAmb IAmb 22 28 23.1
comp=Z,34nm,0.7s
ZALV Zalesovo Beam 41.35 311 P **P 22 28 21.5 -0.1**
comp=Z,44nm,0.7s,baz=85,slow=7.7,SNR=138
ZALV PcP **PcP 22 30 19.2 0.0**
comp=Z,6.7nm,0.6s,baz=72,slow=3.7,SNR=3.6
ZALV LR LR 22 46 14.2
comp=Z,730nm,18.5s,baz=56,slow=37
comp=Z,44nm,0.7s
ZALV Zalesovo Beam 41.35 311 P **P 22 28 21.0 -0.6**
PHRA Phrae 41.64 253 P **P 22 28 23.9 -0.4**
GTOI Gorontalo 41.82 210 P **P 22 28 25.6 -0.2**
comp=Z,17nm,1.3s
ZSN Zaisan 42.02 301 *eP* **P 22 28 27.9 +0.6**
baz=301
ZSN Zaisan 42.02 301 *eP* **P 22 28 27.8 +0.6**
NRIK Noril'sk 42.07 334 P **P 22 28 27.3 0.0**
comp=Z,12nm,0.6s,baz=108,slow=10.0,SNR=17
NRIK LR LR 22 46 51.4
comp=Z,1μm,19.4s,baz=108,slow=37
comp=Z,12nm,0.6s
NRIK Noril'sk 42.07 334 P **P 22 28 26.9 -0.4**
NRIK Noril'sk 42.07 334*c iP* **P 22 28 26.8 -0.5**
NRIK pmax pmax
comp=Z,15nm,0.7s
N16K Nishlik Lake 42.18 39 P **P 22 28 29.8 +1.4**
baz=267,SNR=6.0
MRSI Marisa 42.39 211 P **P 22 28 32.6 +2.2**
comp=Z,43nm,1.1s
MRSI pP **pP 22 28 41.7 +0.1**
comp=Z,43nm,1.1s
CHTO Chiang Mai 42.41 255 P **P 22 28 29.9 -0.8**
CHTO IAmb IAmb 22 28 42.3
comp=Z,19nm,0.7s
CHTO Chiang Mai 42.41 255 P **P 22 28 29.9 -0.8**
CHTO pmax pmax
comp=Z,19nm,0.7s
FAKI Fak Fak 42.44 195 P **P 22 28 31.3 +0.4**
FAKI IAmb IAmb 22 28 45.0
comp=Z,98nm,1.9s
FAKI Fak Fak 42.44 195 P **P 22 28 31.1 +0.2**
comp=Z,18nm,0.8s
O16K Kokwok River B 42.47 41 P **P 22 28 31.9 +1.3**
baz=268
P16K Nushagak River 42.51 41 P **P 22 28 32.8 +1.9**
baz=269
CMAR Chiang Mai Arr 42.63 254 P **P 22 28 31.9 -0.5**
comp=Z,1.3nm,0.4s,baz=43,slow=7.5,SNR=7.6
CMAR PcP **PcP 22 30 23.7 -0.4**
comp=Z,1.5nm,0.5s,baz=9.4,slow=1.9,SNR=4.1
CMAR LR LR 22 47 04.1
comp=Z,110nm,21.1s,baz=50,slow=37
comp=Z,1.3nm,0.4s
CMAR Chiang Mai Arr 42.63 254 P **P 22 28 32.0 -0.5**
CMAR Chiang Mai Arr 42.63 254 *i* P **P 22 28 32.9 +0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
LSA Lhasa 42.80 274 P **P 22 28 33.8 -0.5**
LSA Lhasa 42.80 274 P **P 22 28 35.4 +1.1**
LSA P **P 22 28 35.4 +1.1**
LSA Lhasa 42.80 274 P **P 22 28 35.1 +0.8**
LSA Lhasa 42.80 274 P **P 22 28 33.8 -0.5**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 42.80 274 P **P 22 28 34.6 +0.3**
LSA pP **pP 22 28 41.1 -4.5**
O17K Koliganek Bris 42.98 40 P **P 22 28 36.0 +1.1**
baz=269
SANI Sanana 43.26 204 P **P 22 28 37.1 -0.4**
comp=Z,614nmcomp=Z,45nm,1.2s
SANI pP **pP 22 28 48.5 -0.2**
comp=Z,614nmcomp=Z,45nm,1.2s
P17K Kvichak River 43.31 41 P **P 22 28 38.8 +1.4**
baz=270
GCSA Galena City Sc 43.43 33 P **P 22 28 38.9 +0.6**
baz=264
N18K Kilae Creek 43.61 39 P **P 22 28 40.9 +1.1**
N18K IAmb IAmb 22 28 42.8
comp=Z,23nm,0.8s
N18K Kilae Creek 43.61 39 P **P 22 28 41.8 +2.0**
baz=269
Q17K Contact Creek 43.61 42 P **P 22 28 40.9 +0.9**
baz=272
TTA Tatalina 43.65 36 P **P 22 28 41.0 +0.8**
TTA Tatalina 43.65 36 P **P 22 28 41.9 +1.6**
baz=266
TTA Tatalina 43.65 36 P **P 22 28 41.0 +0.8**
TTA pmax pmax
comp=Z,10.0nm,1.0s
KRVT Keravat (AS076 43.72 166 LR LR 22 42 52.8
comp=Z,141nm,22.0s,baz=136,slow=30
KRAI Karang Ratu 43.74 200 P **P 22 28 44.0 +2.6**
comp=Z,76nm,1.2s
KRAI pP **pP 22 28 51.7 -1.0**
comp=Z,76nm,1.2s
APSI Ampana 43.77 211 P P 22 28 54.2 +13
MK31 Makanchi Array 43.87 301 P **P 22 28 42.3 +0.1**
MK31 Makanchi Array 43.87 301*c iP* **P 22 28 42.1 -0.1**
MKAR Makanchi Array 43.87 301 P **P 22 28 42.1 -0.1**
comp=Z,15nm,0.6s,baz=80,slow=11,SNR=146
MKAR PcP **PcP 22 30 27.5 -0.3**
comp=Z,3.1nm,0.6s,baz=57,slow=2.4,SNR=2.3
MKAR LR LR 22 47 40.2
comp=Z,226nm,18.1s,baz=70,slow=37
comp=Z,15nm,0.6s
O18K Koktuh Hills 43.94 40 P **P 22 28 42.8 +0.3**
O18K IAmb IAmb 22 28 47.7
comp=Z,22nm,0.8s
O18K Koktuh Hills 43.94 40 P **P 22 28 44.4 +1.9**
baz=270
MAKZ Makanchi 44.08 301 P **P 22 28 43.1 -0.8**
MAKZ IAmb IAmb 22 29 00.0
comp=Z,38nm,1.2s
MAKZ Makanchi 44.08 301 P **P 22 28 43.1 -0.8**
MAKZ pmax pmax
comp=Z,38nm,1.2s
MAKZ Makanchi 44.08 301 P **P 22 28 43.1 -0.8**
MAKZ pP **pP 22 28 51.9 -3.2**
L19K White Mountain 44.15 37 P **P 22 28 46.1 +1.9**
baz=268
SHL Shillong 44.16 268 P **P 22 28 44.0 -1.0**
SHL Shillong 44.16 268 P **P 22 28 44.0 -1.0**
SHL pmax pmax
comp=Z,14nm,0.6s
N19K Bonanza Creek 44.30 39 P **P 22 28 47.6 +2.1**

baz=270
M19K Big River Lodg 44.36 37 P **P 22 28 47.2 +1.4**
M19K Big River Lodg 44.36 37 P **P 22 28 48.0 +2.1**
baz=269
O19K Port Alsworth 44.38 40 P **P 22 28 47.9 +1.9**
baz=271
BNDI Bandanaira 44.52 198 P **P 22 28 48.3 +0.7**
comp=Z,15µmcomp=Z,129nm,0.8s
BNDI pP **pP 22 28 59.5 +0.7**
comp=Z,15µmcomp=Z,129nm,0.8s
K20K Telida 44.55 35 P **P 22 28 49.1 +1.7**
K20K IAmb IAmb 22 28 50.5
comp=Z,22nm,0.8s
K20K Telida 44.55 35 P **P 22 28 49.2 +1.8**
baz=268
J20K Nowinta River 44.56 34 P **P 22 28 49.2 +1.8**
baz=267,SNR=13
L20K Farewell, AK 44.61 36 P **P 22 28 49.8 +1.9**
baz=269
SII Sitkinak Islan 44.61 45 P **P 22 28 49.4 +1.5**
baz=275
A21K Barrow 44.65 24 P **P 22 28 49.3 +1.3**
A21K Barrow 44.65 24 P **P 22 28 49.2 +1.3**
baz=257
IMAR Indian Mountai 44.86 31 P **P 22 28 51.0 +1.2**
P19K Oil Pt 44.94 40 P **P 22 28 51.8 +1.2**
baz=272
M20K Styx River 44.95 37 P **P 22 28 52.3 +1.6**
baz=270
G21K Allakaket 45.00 31 P **P 22 28 52.4 +1.5**
baz=265,SNR=12
F21K Alatna River 45.08 30 P **P 22 28 53.0 +1.4**
baz=264
RSO Redoubt South 45.16 39 P **P 22 28 52.6 +0.1**
H21K Melozitna Rive 45.22 32 P **P 22 28 54.2 +1.5**
baz=267,SNR=9.2
O20K Slope Mountain 45.23 40 P **P 22 28 54.5 +1.5**
baz=272
CHUM Lake Minchumin 45.35 34 P **P 22 28 55.9 +2.1**
baz=269
KDAK Kodiak Island 45.39 43 P **P 22 28 54.6 +0.6**
comp=Z,31nm,0.8s,baz=278,slow=6.5,SNR=8.5
KDAK LR LR 22 50 46.2
comp=Z,104nm,18.6s,baz=238,slow=40
comp=Z,31nm,0.8s
KDAK Kodiak Island 45.39 43 P **P 22 28 55.2 +1.1**
baz=275
PPLA Purkeypile 45.40 36 P **P 22 28 56.0 +1.7**
PPLA Purkeypile 45.40 36 P **P 22 28 55.9 +1.6**
baz=270
N20K Mount Spurr 45.40 38 P **P 22 28 56.2 +1.9**
baz=272,SNR=6.9
SPCR Spurr Chakacha 45.40 38 P **P 22 28 56.2 +1.9**
baz=272
Q20K Shuyak Island 45.43 42 P **P 22 28 56.0 +1.7**
baz=274
CAST Castle Rocks 45.45 35 P **P 22 28 56.2 +1.6**
CAST IAmb IAmb 22 28 57.2
comp=Z,14nm,0.7s
CAST Castle Rocks 45.45 35 P **P 22 28 56.5 +2.0**
baz=270,SNR=8.6
SPU Mount Spurr 45.48 38 P **P 22 28 56.0 +1.2**
KURK Kurchatov 45.49 307 P **P 22 28 54.6 -0.4**
KURK Kurchatov 45.49 307 P **P 22 28 54.9 -0.1**
KURK P **P 22 28 54.9 -0.1**
KURK Kurchatov 45.49 307 *c i*P **P 22 28 54.4 -0.6**
KURK pmax pmax
comp=Z,88nm,0.7s
KURK Kurchatov 45.49 307 P **P 22 28 54.0 -1.1**
KURK pP **pP 22 29 03.7 -2.7**
I21K Tanana 45.54 33 P **P 22 28 57.5 +2.3**
baz=268
KURBB Kurchatov Arra 45.56 307 LR LR 22 48 39.2
comp=Z,553nm,18.8s,baz=169,slow=37
F22K John River 45.61 29 P **P 22 28 58.0 +2.2**
baz=265
SKT Skwentna 45.71 37 P **P 22 28 57.9 +1.3**
baz=271
H22K Ishtalitna Cre 45.82 32 P **P 22 28 59.0 +1.6**
baz=268,SNR=8.7
G22K Bettles 45.82 30 P **P 22 28 58.7 +1.3**
baz=267
BRDH Bariadhala 45.84 265 LR LR 22 49 15.3
comp=Z,283nm,18.5s,baz=74,slow=37
BPAW Bear Paw Mtn. 45.94 34 P **P 22 28 59.9 +1.5**
baz=270
MLY Manley 46.06 33 P **P 22 29 00.7 +1.3**
MLY IAmb IAmb 22 29 02.0
comp=Z,19nm,0.8s
MLY Manley 46.06 33 P **P 22 29 01.0 +1.6**
baz=269,SNR=14
SUA Susitna One 46.10 38 P **P 22 29 00.8 +0.9**
SUA IAmb IAmb 22 29 18.5
comp=Z,44nm,1.2s
SUA Susitna One 46.10 38 P **P 22 29 01.9 +2.1**
baz=273
BRSE Bradley Lake S 46.20 40 P **P 22 29 02.7 +2.2**
baz=274
TRF Thorofare Moun 46.26 35 P **P 22 29 02.0 +1.0**
TRF IAmb IAmb 22 29 04.7
comp=Z,13nm,0.8s
TRF Thorofare Moun 46.26 35 P **P 22 29 02.5 +1.4**
baz=271
D23K Nanushuk River 46.29 27 P **P 22 29 03.2 +2.2**
baz=265
COLD Coldfoot 46.35 30 P **P 22 29 02.9 +1.3**
COLD Coldfoot 46.35 30 P **P 22 29 03.2 +1.6**
baz=268,SNR=6.9
C23K Itkillik River 46.39 26 P **P 22 29 04.0 +2.1**
baz=265,SNR=24
G23K Bananza Creek 46.40 31 P **P 22 29 03.4 +1.4**
baz=268
H23K Yukon River 46.57 32 P **P 22 29 05.6 +2.2**
baz=270
RC01 Rabbit Creek A 46.61 38 P **P 22 29 05.2 +1.5**
baz=274
BWN Browne 46.61 34 P **P 22 29 05.4 +1.8**
E23K Chandalar 46.62 29 P **P 22 29 05.5 +1.8**
baz=267
I23K Minto, Yukon-K 46.65 33 P **P 22 29 05.0 +1.1**
I23K IAmb IAmb 22 30 39.6
comp=Z,68nm,1.9s
I23K Minto, Yukon-K 46.65 33 P **P 22 29 05.9 +2.0**
baz=270,SNR=6.9
PDGK Podgornoye 46.65 297 *i* P **P 22 29 03.9 -0.5**
PDGK pmax pmax
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 46.66 28 P **P 22 29 05.7 +1.6**
TOLK IAmb IAmb 22 29 06.5
comp=Z,28nm,1.1s
TOLK Toolik Lake Re 46.66 28 P **P 22 29 05.9 +1.8**
baz=267,SNR=6.7
SHLS Shalkode 46.72 297 *e*P **P 22 29 01.6 -3.4**
baz=296
SHLS Shalkode 46.72 297 *e*P **P 22 29 01.6 -3.4**
NEA2 Nenana 46.77 33 P **P 22 29 06.2 +1.2**
NEA2 Nenana 46.77 33 P **P 22 29 06.3 +1.4**
baz=271,SNR=7.5
MCK McKinley 46.85 35 P **P 22 29 06.4 +0.8**
MCK IAmb IAmb 22 29 07.3
comp=Z,19nm,1.0s
MCK McKinley 46.85 35 P **P 22 29 06.7 +1.1**
baz=272,SNR=6.7
MCK McKinley 46.85 35 P **P 22 29 06.4 +0.8**
MCK pmax pmax
comp=Z,19nm,1.0s
PMR Palmer 46.87 38 P **P 22 29 06.6 +1.0**
baz=274
TDK Taldyqorghan 46.93 299 *e*P **P 22 29 05.8 -0.7**
baz=299
TDK Taldyqorghan 46.93 299 *e*P **P 22 29 05.8 -0.7**
GHO Glory Hole Cre 46.95 37 P **P 22 29 07.4 +1.0**
GHO IAmb IAmb 22 29 08.6
comp=Z,39nm,1.0s
D24K Happy Valley 46.97 27 P **P 22 29 08.1 +1.7**
baz=267,SNR=27
E24K Your Creek 47.04 29 P **P 22 29 09.2 +2.1**
baz=268
C24K Franklin Bluff 47.04 26 P **P 22 29 08.7 +1.8**
baz=267,SNR=16
WAT1 Susitna Watana 47.06 36 P **P 22 29 08.1 +0.9**
baz=273
KPKS Kokpek 47.17 297 *e*P **P 22 29 07.4 -1.1**
baz=297
KPKS Kokpek 47.17 297 *e*P **P 22 29 07.3 -1.1**
KNK Knik Glacier 47.20 38 P **P 22 29 09.6 +1.3**
baz=275

WRH Wood River Hil 47.20 34 P **P 22 29 08.9 +0.7**
WRH IAmb IAmb 22 29 11.2
comp=Z,53nm,1.8s
KSM Kuching 47.22 226 P **P 22 29 08.6 -0.4**
KSM IAmb IAmb 22 29 50.2
comp=Z,27nm,1.5s
KSM Kuching 47.22 226 P **P 22 29 08.7 -0.3**
comp=Z,7.6nm,0.7s
SML Sawmill 47.23 37 P **P 22 29 09.6 +1.0**
SML IAmb IAmb 22 29 30.2
comp=Z,27nm,0.8s
SML Sawmill 47.23 37 P **P 22 29 09.4 +0.8**
baz=274,SNR=6.8
F24K Squaw Lake 47.26 29 P **P 22 29 09.9 +1.2**
baz=269
H24K Noodor Dome 47.26 32 P **P 22 29 10.8 +2.1**
baz=271,SNR=11
TCOL CIGO, UAF Yank 47.29 33 P **P 22 29 10.0 +1.1**
baz=272
COLA College 47.29 33 P **P 22 29 10.6 +1.7**
baz=272
COLA College 47.29 33 *e*P **P 22 29 10.3 +1.4**
COLA pmax pmax
comp=Z,38nm,1.8s
G24K Hadweenzic Riv 47.41 31 P **P 22 29 12.1 +2.2**
baz=271
ZHN Zhinishke 47.44 297 *e*P **P 22 29 09.7 -0.9**
baz=297
ZHN Zhinishke 47.44 297 *e*P **P 22 29 09.6 -0.9**
WAT6 Susitna Watana 47.45 36 P **P 22 29 11.3 +0.8**
baz=274
POKR Poker Plat Res 47.46 33 P **P 22 29 12.2 +1.9**
baz=272,SNR=15
SATY Saty 47.49 297 *e*P **P 22 29 10.2 -0.8**
baz=297
SATY Saty 47.49 297 *e*P **P 22 29 10.1 -0.8**
M23K Glacier View 47.52 37 P **P 22 29 11.6 +0.8**
baz=275
DHY Denali Highway 47.59 35 P **P 22 29 12.5 +1.1**
baz=274
JIRN Jiri 47.60 274 *e*P **P 22 29 12.5 +0.2**
comp=Z,14nm,0.5s
RAMN Ramite 47.62 273 *e*P **P 22 29 12.1 -0.2**
comp=Z,57nm,0.8s
HDA Harding Lake 47.70 34 P **P 22 29 12.7 +0.5**
baz=273,SNR=8.4
SCM Sheep Creek Mo 47.70 37 P **P 22 29 13.5 +1.2**
SCM IAmb IAmb 22 29 14.7
comp=Z,32nm,0.9s
SCM Sheep Creek Mo 47.70 37 P **P 22 29 13.6 +1.2**
baz=275
SCM Sheep Creek Mo 47.70 37 P **P 22 29 13.5 +1.2**
SCM pmax pmax
comp=Z,32nm,0.9s
IL31 47.71 33 P **P 22 29 12.9 +0.8**
IL31 IAmb IAmb 22 29 14.0
comp=Z,22nm,0.7s
ILAR Eielson Array 47.71 33 P **P 22 29 12.9 +0.8**
comp=Z,16nm,0.7s,baz=267,slow=6.2,SNR=138
ILAR LR LR 22 50 32.4
comp=Z,84nm,19.9s,baz=264,slow=38
comp=Z,16nm,0.7s
ILAR Eielson Array 47.71 33 P **P 22 29 13.0 +0.8**
GUN Gumba 47.73 275 *e*P **P 22 29 13.4 +0.2**
comp=Z,51nm,0.7s
D25K Kavik River 47.84 27 P **P 22 29 14.9 +1.6**
baz=269
G25K Bearman Lake 47.96 30 P **P 22 29 16.5 +2.5**
baz=272,SNR=7.4
PMG Port Moresby 48.07 174 LR LR 22 48 29.2
comp=Z,70nm,21.8s,baz=312,slow=35
PMG Port Moresby 48.07 174 P **P 22 29 17.3 +1.9**
PMG Port Moresby 48.07 174 *i*P **P 22 29 19.5 +4.1**
PMG pmax pmax
comp=Z,8.0nm,1.0s
F25K Christian Rive 48.12 29 P **P 22 29 17.6 +2.2**
baz=271
E25K Arctic Village 48.14 29 P **P 22 29 17.6 +2.1**
baz=271,SNR=9.3
M24K Tolsona, Glenn 48.22 37 P **P 22 29 18.5 +2.2**
baz=276
PRP Porcupine Dome 48.24 32 P **P 22 29 17.9 +1.4**
PRP IAmb IAmb 22 29 19.1
comp=Z,18nm,0.8s
PRP Porcupine Dome 48.24 32 P **P 22 29 18.1 +1.6**
baz=273,SNR=11
K24K Donnelly Dome 48.25 34 P **P 22 29 17.2 +0.7**
baz=275
PKI Pulchoki 48.25 275 *e*P **P 22 29 16.9 -0.4**
comp=Z,9.6nm,0.6s
KAPI Kappang 48.26 211 LR LR 22 49 35.6
comp=Z,58nm,21.1s,baz=33,slow=36
PKIN Phulchoki 48.26 275 *e*P **P 22 29 16.9 -0.4**
comp=Z,11nm,0.6s
C26K Camden Bay 48.36 26 P **P 22 29 19.4 +2.3**
baz=270
J25K Sasha River, 48.37 33 P **P 22 29 17.7 +0.3**
baz=274
MDOK Medeo 48.40 297 *e*P **P 22 29 16.7 -1.4**
baz=297
MDOK Medeo 48.40 297 *e*P **P 22 29 16.7 -1.4**
KLU Klutina 48.41 38 P **P 22 29 19.0 +1.3**
KLU IAmb IAmb 22 29 20.3
comp=Z,31nm,1.1s
KLU Klutina 48.41 38 P **P 22 29 19.1 +1.3**
baz=277,SNR=5.5
PAX Paxson 48.46 36 P **P 22 29 19.4 +1.3**
PAX IAmb IAmb 22 29 36.1
comp=Z,53nm,2.0s
PAX Paxson 48.46 36 P **P 22 29 19.4 +1.3**
PAX pmax pmax
comp=Z,53nm,2.0s
DMN Daman 48.47 275 *e*P **P 22 29 18.7 -0.2**
comp=Z,22nm,0.9s
TNSS Tian-Shan 48.51 297 *e*P **P 22 29 18.5 -0.7**
baz=297
TNSS Tian-Shan 48.51 297 *e*P **P 22 29 18.5 -0.7**
BMAR Burnt Mountain 48.53 30 P **P 22 29 20.1 +1.6**
EYAK Cordova Ski Ar 48.60 39 P **P 22 29 21.1 +2.0**
baz=278
SRIT Nakonsritamara 48.63 243 P **P 22 29 20.0 +0.1**
SRIT IAmb IAmb 22 29 21.9
comp=Z,24nm,0.8s
GKN Gorkha 48.65 275 *e*P **P 22 29 20.0 -0.2**
comp=Z,31nm,0.5s
HARP HAARP 48.66 36 P **P 22 29 21.3 +1.7**
baz=276
KUU Kurty 48.67 298 *e*P **P 22 29 18.9 -1.0**
comp=Z,13nm,0.8s,baz=298
KUU Kurty 48.67 298 *e*P **P 22 29 18.9 -1.0**
KUU pmax pmax
comp=Z,13nm,0.8s
F26K Sheenjek River 48.69 29 P **P 22 29 22.0 +2.2**
baz=273
C27K Jago River 48.78 27 P **P 22 29 22.3 +1.9**
baz=271
G26K Porcupine Rive 48.86 30 P **P 22 29 23.4 +2.4**
baz=274,SNR=9.1
N25K Chitina, Valde 49.02 37 P **P 22 29 23.7 +1.2**
baz=278
SCRK Sand Creek 49.02 34 P **P 22 29 23.1 +0.7**
SCRK IAmb IAmb 22 29 40.2
comp=Z,18nm,0.8s
SCRK Sand Creek 49.02 34 P **P 22 29 23.2 +0.7**
baz=276,SNR=16
DOT Dot Lake 49.02 35 P **P 22 29 23.1 +0.7**
DOT IAmb IAmb 22 29 38.0
comp=Z,50nm,1.7s
BMRM Bremner River 49.10 38 P **P 22 29 24.0 +0.9**
baz=278
J26L Joseph Creek 49.15 33 P **P 22 29 24.3 +0.8**
baz=276
DANN Dangsing 49.17 276 *e*P **P 22 29 24.6 +0.3**
comp=Z,82nm,0.6s
I26K Coal Creek Min 49.25 32 P **P 22 29 24.7 +0.7**
baz=276
MENT Mentasta 49.26 35 P **P 22 29 25.5 +1.3**
MENT IAmb IAmb 22 29 42.6
comp=Z,18nm,1.0s
KAIM Kayak Island 49.35 39 P **P 22 29 26.6 +1.7**
baz=279
BRZS Berezniki 49.37 307 *e*P **P 22 29 24.0 -1.2**
comp=Z,7.5nm,0.8s,baz=307
BRZS Berezniki 49.37 307 *e*P **P 22 29 23.9 -1.2**
BRZS pmax pmax
comp=Z,8.0nm,0.8s
L26K Log Cabin Wild 49.42 35 P **P 22 29 26.8 +1.4**

baz=278,SNR=8.1
TKM2 Tokmak 2 49.49 297 P **P 22 29 27.1 +0.6**
SNR=25
TKM2 Tokmak 2 49.49 297 *i* P **P 22 29 26.9 +0.4**
TKM2 pmax pmax
comp=Z,15nm,0.7s
E27K Coleen River 49.62 28 P **P 22 29 28.8 +2.0**
baz=275
M26K Nabesna, AK 49.66 36 P **P 22 29 29.0 +1.8**
M26K IAmb IAmb 22 29 48.6
comp=Z,20nm,0.9s
M26K Nabesna, AK 49.66 36 P **P 22 29 29.1 +1.8**
baz=278
NRN Naryn 49.70 295 P **P 22 29 27.4 -0.9**
NRN Naryn 49.70 295 P **P 22 29 27.4 -0.9**
NRN pmax pmax
comp=Z,6.0nm,0.9s
G27K Doyon Strip 49.71 30 P **P 22 29 29.7 +2.1**
baz=276
MCARA McCarthy VSAT 49.80 37 P **P 22 29 29.0 +0.7**
MCARA IAmb IAmb 22 29 49.7
comp=Z,37nm,1.2s
MCARA McCarthy VSAT 49.80 37 P **P 22 29 30.2 +1.9**
baz=279
H27K Steamboat Moun 49.82 31 P **P 22 29 30.7 +2.2**
baz=276
K27K Chicken 49.85 34 P **P 22 29 30.2 +1.5**
baz=278
I27K Kandik River 49.86 32 P **P 22 29 30.0 +1.3**
baz=277
BTLS Baital 49.88 301 *e*P **P 22 29 27.9 -1.3**
baz=300
BTLS Baital 49.88 301 *e*P **P 22 29 27.8 -1.3**
BGLC Bering Glacier 49.88 39 P **P 22 29 29.9 +1.1**
baz=280
SGDS Sogindy 49.98 298 *e*P **P 22 29 28.3 -1.8**
baz=298
SGDS Sogindy 49.98 298 *e*P **P 22 29 28.2 -1.8**
BVAR Borovoye Array 50.00 311 LR LR 22 51 41.9
comp=Z,517nm,18.5s,baz=75,slow=37
KBK Karagaybulak 50.03 297 P **P 22 29 30.8 +0.3**
SNR=26
BRVK Borovoye 50.05 312 P **P 22 29 29.8 -0.6**
BRVK IAmb IAmb 22 29 32.0
comp=Z,22nm,0.6s
BRVK Borovoye 50.05 312 P **P 22 29 30.5 +0.2**
BRVK P **P 22 29 30.5 +0.2**
BRVK Borovoye 50.05 312 *c i*P **P 22 29 30.2 -0.1**
BRVK pmax pmax
comp=Z,23nm,0.8s
L27K Beaver Creek, 50.10 35 P **P 22 29 32.3 +1.7**
baz=279
BCAR Beaver Creek A 50.12 35 P **P 22 29 32.2 +1.4**
USP Ospenovka 50.13 298 P **P 22 29 31.2 0.0**
SNR=9.0
EGAK Eagle 50.15 33 P **P 22 29 31.7 +0.8**
EGAK IAmb IAmb 22 29 49.3
comp=Z,15nm,0.8s
EGAK Eagle 50.15 33 P **P 22 29 31.7 +0.8**
baz=278,SNR=5.9
M27K Edge Creek, AK 50.18 36 P **P 22 29 32.6 +1.2**
baz=279
AAK Ala-Archa 50.35 297 P **P 22 29 33.0 +0.1**
SNR=7.8
AAK Ala-Archa 50.35 297 LR LR 22 52 50.1
comp=Z,216nm,18.0s,baz=74,slow=38
AAK Ala-Archa 50.35 297 P **P 22 29 32.5 -0.4**
AAK Ala-Archa 50.35 297 *i*P **P 22 29 33.0 +0.1**
SNR=11
AAK Ala-Archa 50.35 297 *i*P **P 22 29 31.6 -1.3**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 50.35 297 P **P 22 29 32.3 -0.7**
AAK pP **pP 22 29 41.5 -2.9**
KSH Kashi 50.40 293 P **P 22 29 37.8 +4.5**
KSH PcP **PcP 22 30 55.6 +4.3**
KSH SS **SS 22 40 22.0 +4.3**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=Z,320nm,18.7s
KSH LR LR
comp=Z,280nm,20.2s
KSH LR LR
comp=Z,250nm,17.6s
HNR Honiara 50.62 157 LR LR 22 49 21.1
comp=Z,5µm,21.4s,baz=332,slow=34
IPM Ipoh 50.62 238 P **P 22 29 34.5 -0.6**
IPM IAmb IAmb 22 29 35.5
comp=Z,19nm,0.6s
IPM Ipoh 50.62 238 P **P 22 29 34.6 -0.5**
comp=Z,32nm,0.9s
BVCY Beaver Creek 50.64 36 P **P 22 29 35.8 +1.1**
baz=280
EKS2 Erkin-Say 50.84 298 P **P 22 29 36.6 0.0**
SNR=9.9
YUK3 Moose Creek 50.94 37 P **P 22 29 38.4 +1.3**
baz=281
DAWY Dawson 51.02 34 P **P 22 29 38.6 +1.1**
DAWY Dawson 51.02 34 P **P 22 29 38.8 +1.3**
baz=280
AML Almayashu 51.08 297 P **P 22 29 39.4 +0.7**
SNR=20
TPRI Tanjung Pinang 51.09 232 P P 22 29 48.7 +10
I29M Ogilvie Camp, 51.26 32 P **P 22 29 40.6 +1.3**
baz=280,SNR=6.9
PBA Port Blair 51.54 252 P **P 22 29 40.9 -1.0**
EPYK Eagle Plains 51.73 30 P **P 22 29 44.4 +1.7**
EPYK Eagle Plains 51.73 30 P **P 22 29 44.5 +1.7**
baz=280,SNR=18
M29M Somme Creek 51.73 36 P **P 22 29 45.0 +2.0**
baz=282
L29M L29M 51.75 35 P **P 22 29 45.1 +2.1**
baz=282
G30M tAoh Zraii Nji 51.81 30 P **P 22 29 44.9 +1.5**
baz=280,SNR=14
K29M Barlow Dome 51.87 34 P **P 22 29 45.6 +1.6**
baz=282
YUK4 Talbot Arm 51.88 37 P **P 22 29 45.9 +1.7**
baz=283
O29M Mount Kennedy 52.15 38 P **P 22 29 47.8 +1.7**
baz=284
MTN Manton Dam 52.33 194 P **P 22 29 48.0 +0.3**
MTN IAmb IAmb 22 30 00.8
comp=Z,28nm,1.0s
COEN Coen 52.38 179 P **P 22 29 48.9 +0.8**
COEN IAmb IAmb 22 30 03.4
comp=Z,18nm,1.1s
M30M Minto, Yukon 52.46 35 P **P 22 29 50.7 +2.4**
baz=283,SNR=7.2
HYT Haines Junctio 52.54 37 P **P 22 29 50.8 +1.8**
HYT IAmb IAmb 22 30 12.3
comp=Z,33nm,1.0s
HYT Haines Junctio 52.54 37 P **P 22 29 51.2 +2.2**
baz=284,SNR=9.0
INK Inuvik 52.58 28 P **P 22 29 50.0 +1.0**
comp=Z,8.5nm,0.5s,baz=295,slow=6.6,SNR=61
INK LR LR 22 54 32.6
comp=Z,155nm,18.5s,baz=246,slow=39
comp=Z,8.5nm,0.5s
INK Inuvik 52.58 28 P **P 22 29 50.3 +1.3**
INK IAmb IAmb 22 29 50.9
comp=Z,14nm,0.6s
INK Inuvik 52.58 28 P **P 22 29 50.5 +1.6**
baz=282,SNR=13
INK Inuvik 52.58 28 P **P 22 29 50.3 +1.3**
INK pmax pmax
comp=Z,14nm,0.6s
F31M Tsiigehtchic 52.67 29 P **P 22 29 51.1 +1.4**
baz=282,SNR=6.3
P29M Windy Craggy 52.72 39 P **P 22 29 52.4 +2.2**
baz=285
KK31 Karatay Array 52.93 299 P **P 22 29 51.8 -0.2**
KK31 IAmb IAmb 22 29 52.7
comp=Z,70nm,1.9s
KK31 Karatay Array 52.93 299 P **P 22 29 51.8 -0.2**
KK31 pmax pmax
comp=Z,69nm,2.0s
KKAR Karatay Array 52.93 299 P **P 22 29 51.8 -0.2**
KKAR Karatay Array 52.93 299 P **P 22 29 51.7 -0.2**
KKAR IAmb IAmb 22 29 52.7
comp=Z,70nm,1.9s
KKAR Karatay Array 52.93 299 P **P 22 29 51.8 -0.2**
P30M Million Dollar 52.97 38 P **P 22 29 54.1 +2.0**
baz=285
N31M Braeburn, Yuko 53.19 36 P **P 22 29 55.3 +1.6**

N31M Braeburn, Yuko 53.19 36 P P 22 29 56.0 +2.3
baz=285
PSI Prapat 53.27 239 P P 22 29 55.0 +0.1
comp=Z,9.2nm,0.7s
PSI Prapat 53.27 239 P P 22 29 54.3 -0.6
PSI pmax pmax
comp=Z,7.0nm,0.8s
RPSI Rantau Prapat 53.34 239 P P 22 29 54.3 -1.0
DRK Karamyk 53.40 295 P P 22 29 54.5 -1.4
DRK IAmb IAmb 22 30 08.8
comp=Z,12nm,0.8s
PLBC Pleasant Camp 53.44 39 P P 22 29 57.6 +2.2
baz=286
IUG luzhnay 53.61 298 *e*P P 22 29 56.6 -0.6
baz=298
IUG luzhnay 53.61 298 *e*P P 22 29 56.5 -0.6
M31M Drury Creek, Y 53.64 35 P P 22 29 58.7 +1.7
baz=285
BKNI Bangkinang 53.74 235 P P 22 29 58.2 +0.1
WHY Whitehorse 53.83 37 P P 22 30 00.5 +2.0
WHY IAmb IAmb 22 30 01.9
comp=Z,30nm,1.7s
WHY Whitehorse 53.83 37 P P 22 29 59.9 +1.4
baz=286
BTK Batken 53.87 296 P P 22 29 58.6 -0.4
BTK Batken 53.87 296 P P 22 29 58.6 -0.4
BTK pmax pmax
comp=Z,10.0nm,1.1s
FARO Faro, Yukon 54.10 35 P P 22 30 01.9 +1.5
FARO IAmb IAmb 22 30 02.6
comp=Z,9.8nm,0.8s
FARO Faro, Yukon 54.10 35 P P 22 30 02.2 +1.8
baz=286,SNR=5.8
SVE Sverdlovsk 54.39 318 *de*P P 22 30 02.7 +0.3
SVE pmax pmax
comp=Z,48nm,0.8s
SVE MLR MLR
comp=Z,829nm,15.0s
A36M Sachs Harbour 54.45 22 P P 22 30 03.5 +0.9
A36M Sachs Harbour 54.45 22 P P 22 30 03.9 +1.3
baz=286,SNR=10
SDSI Sungai Dareh 54.45 234 P P 22 30 04.2 +0.8
comp=Z,16nm,0.9s
GAR Garm 54.65 295 P P 22 30 04.2 -0.6
GAR IAmb IAmb 22 30 27.2
comp=Z,22nm,1.1s
NIL Nilore 54.79 288 P P 22 30 05.8 0.0
NIL Nilore 54.79 288 P P 22 30 06.8 +1.0
NIL P P 22 30 06.8 +1.0
NIL Nilore 54.79 288 P P 22 30 05.8 0.0
NIL pmax pmax
comp=Z,35nm,0.8s
NIL Nilore 54.79 288 P P 22 30 05.2 -0.6
NIL pP pP 22 30 14.5 -2.8
MMPY Sheldon Lake, 54.92 34 P P 22 30 07.8 +1.6
baz=288
GSI Gunungsitoli 55.27 239 P P 22 30 09.4 0.0
KNRA Kunungurra 55.56 196 P P 22 30 11.9 +0.7
LEM Lembang 55.58 223 LR LR 22 54 49.6
comp=Z,57nm,20.7s,baz=350,slow=37
ARU Arti 55.60 318 LR LR 22 56 21.1
comp=Z,894nm,19.2s,baz=66,slow=38
ARU Arti 55.60 318 P P 22 30 11.0 -0.1
ARU Arti 55.60 318 *c* iP P 22 30 11.1 -0.1
ARU pmax pmax
comp=Z,72nm,1.7s
ARU Arti 55.60 318 P P 22 30 09.9 -1.3
ARU pP pP 22 30 19.5 -3.2
CHGR Chuyangaron 55.61 295 P P 22 30 11.3 -0.4
CHGR Chuyangaron 55.61 295 P P 22 30 11.3 -0.4
CHGR pmax pmax
comp=Z,42nm,1.0s
C36M Paulatuk 55.62 25 P P 22 30 12.2 +1.1
C36M Paulatuk 55.62 25 P P 22 30 12.2 +1.1
baz=289,SNR=17
R33M Jennings River 56.09 38 P P 22 30 16.9 +2.1
baz=290
S34M Telegraph Cree 56.52 40 P P 22 30 20.0 +2.3
baz=291
TGTN Hyland Airport 56.60 35 P P 22 30 20.4 +2.0
baz=291
WTLY Watson Lake, Y 56.87 37 P P 22 30 22.2 +2.0
baz=291
DLBC Dease Lake 56.88 39 P P 22 30 22.6 +2.2
DLBC IAmb IAmb 22 32 15.4
comp=Z,36nm,1.8s
DLBC Dease Lake 56.88 39 P P 22 30 22.6 +2.2
baz=291
T35M Bob Quinn 57.30 41 P P 22 30 25.5 +2.2
baz=292
ABKAR Akbulak array 57.43 310 P P 22 30 24.0 -0.3
ABKAR Akbulak array 57.43 310 P P 22 30 24.1 -0.3
KBL Kabul 57.50 290 P P 22 30 24.3 -1.1
KBL IAmb IAmb 22 30 53.4
comp=Z,16nm,1.1s
KBL Kabul 57.50 290 P P 22 30 24.9 -0.4
SNR=8.2
KBL P P 22 30 24.9 -0.4
SNR=8.2
KBL Kabul 57.50 290 P P 22 30 24.3 -1.1
KBL pmax pmax
comp=Z,16nm,1.1s
LIRD Liard River Hi 58.40 37 P P 22 30 33.0 +2.1
baz=294,SNR=7.8
ALE Alert 58.41 4 P P 22 30 30.2 -0.5
ALE sP pP 22 30 45.4 +3.2
EUNU Eureka 58.44 9 P P 22 30 31.3 +0.3
EUNU IAmb IAmb 22 30 32.3
comp=Z,14nm,0.7s
CTA Charters Tower 58.59 176 LR LR 22 54 32.4
comp=Z,60nm,21.9s,baz=22,slow=35
WB0 Warramunga Arr 58.63 189 P P 22 30 32.8 -0.2
WRAB Tennant Creek 58.80 189 *d* iP P 22 30 34.6 +0.5
WRAB pmax pmax
comp=Z,8.0nm,0.8s
WRAB Tennant Creek 58.80 189 P P 22 30 33.9 -0.2
WRAB pP pP 22 30 40.9 -4.8
WRAB sP sP 22 30 45.6 -4.7
WR0 Warramunga Arr 58.80 189 P P 22 30 34.3 +0.2
WR0 IAmb IAmb 22 30 46.4
comp=Z,19nm,0.8s
WRA Warramunga Arr 58.81 189 P P 22 30 34.0 -0.2
comp=Z,7.8nm,0.7s,baz=4.2,slow=7.0,SNR=62
WRA LR LR 22 53 19.7
comp=Z,117nm,21.6s,baz=32,slow=33
comp=Z,7.8nm,0.7s
WRA Warramunga Arr 58.81 189 P P 22 30 33.9 -0.2
WRA Warramunga Arr 58.81 189 *i* P P 22 30 34.5 +0.3
WRA pmax pmax
comp=Z,8.0nm,0.7s
SPB2 Spitsbergen Ar 59.03 349 P P 22 30 35.0 -0.1
SPITS Spitsbergen Ar 59.03 349 LR LR 22 56 40.3
comp=Z,123nm,20.1s,baz=7.0,slow=37
SPITS Spitsbergen Ar 59.03 349 P P 22 30 34.7 -0.4
SPITS pmax pmax
comp=Z,67nm,1.2s
KBS Kingsbay 59.14 350 P P 22 30 36.1 +0.3
KBS Kingsbay 59.14 350 *i* P P 22 30 36.6 +0.7
KBS Kingsbay 59.14 350 P P 22 30 36.1 +0.3
KBS pmax pmax
comp=Z,78nm,1.3s
KBS Kingsbay 59.14 350 *e*P P 22 30 37.0 +1.2
KIRV Kirov 59.36 323 LR LR 23 00 19.8
comp=Z,143nm,20.2s,baz=59,slow=40
KIRV Kirov 59.36 323 *c* iP P 22 30 37.6 0.0
NOR Nord 59.44 356 *i* P P 22 30 38.0 +0.1
NOR IAmb IAmb 22 30 38.4
comp=Z,12nm,0.8s
PRGR Permogore 59.77 327 *e*P P 22 30 40.0 -0.4
RES Resolute Bay 60.81 15 P P 22 30 47.4 +0.1
comp=Z,14nm,0.7s,baz=305,slow=7.4,SNR=23
RES LR LR 23 00 13.2
comp=Z,73nm,19.0s,baz=321,slow=39
comp=Z,14nm,0.7s
RES Resolute Bay 60.81 15 P P 22 30 47.6 +0.3
RES IAmb IAmb 22 30 48.6
comp=Z,18nm,0.8s
RES Resolute Bay 60.81 15 P P 22 30 47.6 +0.3
RES pmax pmax
comp=Z,18nm,0.9s
LVZ Lovozero 60.89 336 P P 22 30 47.7 -0.4
LVZ Lovozero 60.89 336⇓ *e*P P 22 30 48.1 +0.1
LVZ pmax pmax
comp=Z,96nm,2.7s
APA Apatity 61.47 336⇓ *i* iP P 22 30 51.3 -0.6
APA pmax pmax
comp=Z,11nm,0.7s
APA MLR MLR
comp=Z,900nm,14.0s
YKA Yellowknife Ar 62.01 31 P P 22 30 55.6 0.0
comp=Z,4.7nm,0.7s,baz=302,slow=6.8,SNR=12
YKA LR LR 23 00 08.6
comp=Z,62nm,19.0s,baz=5.0,slow=38
comp=Z,4.7nm,0.7s
YKA Yellowknife Ar 62.01 31 *i* P P 22 30 56.2 +0.6
YKA pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 62.15 339 P P 22 30 56.1 -0.3
KEV Kevo 62.15 339 P P 22 30 56.1 -0.3
KEV pmax pmax
comp=Z,149nm,1.8s
HAMF Hammerfest 62.49 341 *e*P P 22 30 58.5 -0.1
HAMF IAmb IAmb 22 31 01.9
comp=Z,196nm,2.0s
HRA Herat 62.52 293 P P 22 30 59.6 -0.1
HRA IAmb IAmb 22 31 01.1
comp=Z,8.9nm,0.8s
AS31 Alice Springs 62.53 189 P P 22 30 59.7 +0.1
ASAR Alice Springs 62.54 189 P P 22 30 59.6 +0.1
comp=Z,3.3nm,0.7s,baz=11,slow=5.9,SNR=37
ASAR LR LR 22 58 07.4
comp=Z,135nm,21.6s,baz=347,slow=36
comp=Z,3.3nm,0.7s
ASAR Alice Springs 62.54 189 P P 22 30 59.5 -0.1
ARA0 ARCESS Array S 62.70 339 *e*P P 22 31 00.4 +0.3
ARA0 IAmb IAmb 22 31 02.7
comp=Z,289nm,2.5s
ARCES ARCESS Array B 62.70 339 P P 22 30 59.9 -0.1
comp=Z,4.3nm,0.5s,baz=49,slow=6.9,SNR=34
ARCES LR LR 23 01 19.2
comp=Z,200nm,20.7s,baz=49,slow=39
comp=Z,4.3nm,0.5s
ARCES ARCESS Array B 62.70 339 P P 22 31 00.0 -0.1
ARCES ARCESS Array B 62.70 339 P P 22 31 00.0 -0.1
ARCES pmax pmax
comp=Z,108nm,2.0s
KLMR Klimovskoe 62.74 328 *e*P P 22 30 57.4 -3.1
KLMR AMP 22 31 00.9
comp=Z,21nm,0.8s
KLMR LR LR 22 55 53.5
KLMR AMP 23 00 36.2
comp=Z,455nm,14.8s
KLMR Klimovskoe 62.74 328 *e*P P 22 30 57.4 -3.1
KLMR pmax pmax
comp=Z,21nm,0.8s
KLMR MLR MLR
comp=Z,455nm,15.0s
BELG Belogornoye 63.08 317 P P 22 31 02.8 -0.1
comp=Z,33nm,0.6s,baz=311,slow=1.4,SNR=30
BELG LR LR 23 00 33.0
comp=Z,578nm,18.6s,baz=99,slow=38
comp=Z,33nm,0.6s
BELG Belogornoye 63.08 317 *c* iP P 22 31 02.7 -0.1
BELG pmax pmax
comp=Z,5.0nm,0.7s
MBWA Marble Bar 63.20 204 P P 22 31 04.0 0.0
TULEG Thule 63.36 8 P P 22 31 04.2 -0.2
TULEG Thule 63.36 8 *i* P P 22 31 03.0 -1.4
TULEG IAmb IAmb 22 31 04.5
comp=Z,23nm,0.6s
PALK Pallekele 63.43 257 LR LR 23 01 02.1
comp=Z,106nm,20.1s,baz=150,slow=38
PALK Pallekele 63.43 257 P P 22 31 04.8 -1.0
PALK IAmb IAmb 22 31 41.1
comp=Z,46nm,1.7s
PALK Pallekele 63.43 257 P P 22 31 04.8 -1.0
PALK pmax pmax
comp=Z,46nm,1.7s
PSA00 Pilbara Seismi 63.55 203 P P 22 31 05.8 -0.5
PSA00 IAmb IAmb 22 32 35.7
comp=Z,25nm,1.6s
KTK1 Kautokeino 63.66 339 *e*P P 22 31 06.7 +0.2
KTK1 IAmb IAmb 22 31 07.7
comp=Z,18nm,0.8s
GEYT Alibeck 63.67 299 P P 22 31 07.0 -0.1
comp=Z,18nm,0.7s,baz=29,slow=3.4,SNR=50
GEYT LR LR 23 00 39.0
comp=Z,301nm,18.5s,baz=71,slow=38
comp=Z,18nm,0.7s
GEYT Alibeck 63.67 299 P P 22 31 06.7 -0.3
GEYT IAmb IAmb 22 31 08.0
comp=Z,20nm,0.8s
GYA0B ALIBECK ARRAY 63.67 299 P P 22 31 06.7 -0.4
GYA0B IAmb IAmb 22 31 07.9
comp=Z,19nm,0.8s
NEEM North Greenlan 63.83 3 *i* P P 22 31 08.1 +0.2
NEEM IAmb IAmb 22 31 08.4
comp=Z,22nm,0.7s
JETT Jettan, Norway 64.05 341 *e*P P 22 31 09.4 +0.4
JETT IAmb IAmb 22 31 13.1
comp=Z,91nm,1.6s
DAG Danmarks Havn 64.18 355 *i* P P 22 31 09.3 -0.4
DAG IAmb IAmb 22 31 10.3
comp=Z,21nm,0.8s
EIDS Eidsvold 64.26 171 P P 22 31 11.0 +0.2
TRO Tromso 64.38 341 *e*P P 22 31 10.9 -0.2
TRO IAmb IAmb 22 31 11.3
comp=Z,26nm,0.9s
DZM Mont Dzumac 64.54 155 *e*S S 22 39 52.3 +2.9
comp=Z,94nm,27.3s
DZM Mont Dzumac 64.54 155 *e*LR LR 22 50 38.8
comp=Z,637nm,22.6s
DZM Mont Dzumac 64.54 155 LR LR 22 56 45.0
comp=Z,278nm,21.8s,baz=23,slow=34
PCHI Peechi 64.77 263⇑ *e*P P 22 31 14.4 -0.1
MSVF Nonsavu 65.36 142 LR LR 22 54 43.2
comp=Z,184nm,20.6s,baz=267,slow=31
MOS Moscow 66.35 323 *e*P P 22 31 22.1 -2.0
MOS *e**PP pP 22 31 36.6 +0.7
MOS *e*S S 22 40 07.8 -2.9
MOS pmax pmax
comp=Z,51nm,1.4s
MOS MLR MLR
comp=Z,500nm,14.0s
STEI Steigen 66.54 341 *e*P P 22 31 25.0 -0.1
STEI IAmb IAmb 22 31 25.3
comp=Z,17nm,0.7s
LON Longmire 66.60 48 P P 22 31 27.1 +1.1
LON IAmb IAmb 22 32 21.1
comp=Z,26nm,1.6s
LON Longmire 66.60 48 P P 22 31 27.1 +1.1
LON pmax pmax
comp=Z,26nm,1.6s
DBG Daneborg 66.67 355 *i* P P 22 31 24.9 -1.0
DBG IAmb IAmb 22 31 27.8
comp=Z,6.9nm,0.8s
LOF Lofoten 66.82 341 *e*P P 22 31 27.4 +0.6
VRH Novokhopyorsk 66.83 318 *e*P P 22 31 25.9 -1.4
VRH pmax pmax
comp=Z,30nm,0.6s
FAUS Fauske 66.93 340 *e*P P 22 31 27.7 +0.1
FAUS IAmb IAmb 22 31 28.0
comp=Z,34nm,0.8s
KEBM Edson Butte 67.13 53 P P 22 31 30.9 +1.4
OBN Obninsk 67.20 323 LR LR 23 03 21.3
comp=Z,111nm,18.3s,baz=15,slow=38
OBN Obninsk 67.20 323 P P 22 31 29.5 -0.1
OBN IAmb IAmb 22 31 29.9
comp=Z,23nm,0.7s
OBN Obninsk 67.20 323 *c* iP P 22 31 29.4 -0.1
OBN *e**PP pP 22 31 44.0 +2.7
OBN *e* 22 32 00.7
OBN *e* 22 33 55.4
OBN *e*PPP PPP 22 35 31.9
OBN pmax pmax
comp=Z,70nm,1.8s
OBN MLR MLR
comp=Z,405nm,16.0s
LPSR Galich'ya Gora 67.49 320 *e*P P 22 31 30.5 -0.9
LPSR pmax pmax
comp=Z,20nm,0.7s
FIA1 FINESS Array S 67.68 332 P P 22 31 32.4 -0.1
FINES FINESS Array B 67.68 332 P P 22 31 32.3 -0.1
comp=Z,30nm,0.7s,baz=38,slow=9.6,SNR=74
FINES LR LR 23 02 56.9
comp=Z,334nm,19.6s,baz=36,slow=38
comp=Z,30nm,0.7s
FINES FINESS Array B 67.68 332 P P 22 31 32.4 0.0
FINES FINESS Array B 67.68 332 *i* P P 22 31 32.2 -0.3
FINES pmax pmax
comp=Z,30nm,0.7s
VORR Voronezh 67.88 319 *e*P P 22 31 33.1 -0.8
VORR pmax pmax
comp=Z,30nm,0.6s
MOR8 Moi Rana 68.05 340 *e*P P 22 31 33.5 -1.3
MOR8 IAmb IAmb 22 31 34.1
comp=Z,32nm,0.7s
HUMO Hull Mountain 68.13 52 P P 22 31 37.3 +1.6
HUMO IAmb IAmb 22 31 37.7
comp=Z,36nm,1.6s
VSR Storozhevoye 68.16 319 *e*P P 22 31 34.7 -1.0
VSR pmax pmax
comp=Z,20nm,0.6s
NEW Newport 68.44 45 P P 22 31 38.3 +0.7
NEW Newport 68.44 45 P P 22 31 38.7 +1.1
baz=304
NEW Newport 68.44 45 P P 22 31 38.3 +0.7
NEW pmax pmax
comp=Z,10.0nm,0.8s
AKT Akhty 68.67 306 *e*P P 22 31 38.7 -0.5
AKT *e* 22 32 04.0
AKT pmax pmax
comp=Z,29nm,0.7s
PINE Pine Mountain 68.72 51 P P 22 31 41.4 +1.8
PINE IAmb IAmb 22 31 42.8
comp=Z,22nm,0.8s
YBH Yreka Blue Hor 68.76 53 P P 22 31 41.3 +1.6
YBH Yreka Blue Hor 68.76 53 P P 22 31 41.3 +1.6
YBH pmax pmax
comp=Z,11nm,0.9s
GROC Groznyy 68.92 309 *e*P P 22 31 39.7 -0.9
GROC *e**PP sP 22 31 57.7 +0.7
GROC *e**SP PcP 22 32 03.0 -1.7
GROC *e**SS sS 22 41 09.3 +7.5
GROC pmax pmax
comp=Z,31nm,0.8s
SUMG Summit 69.02 0 *i* P P 22 31 42.1 +0.9
SUMG IAmb IAmb 22 31 42.8
comp=Z,27nm,0.8s
MEF Metsahovi 69.11 332 *e*P P 22 31 41.7 +0.3
VSU Vasula 69.39 330 *e*P P 22 31 43.7 +0.5
VSU Vasula 69.39 330 *c* iP P 22 31 43.3 +0.1
VSU pmax pmax
comp=Z,110nm,0.8s
RAF Rauma 69.51 333 *e*P P 22 31 44.0 +0.1
GOF Gofitskoye 69.53 312⇑ *e*P P 22 31 44.6 +0.3
NSS Namsos 69.98 339 *e*P P 22 31 47.1 +0.4
MOD Modoc Plateau 70.16 52 P P 22 31 50.0 +1.5
MOD IAmb IAmb 22 31 51.0
comp=Z,11nm,0.7s
STKA Stephens Creek 70.22 181 P P 22 31 48.6 +0.2
comp=Z,1.9nm,0.7s,baz=331,slow=14,SNR=3.9
STKA LR LR 23 05 04.9
comp=Z,18nm,19.8s,baz=20,slow=38
comp=Z,1.9nm,0.7s
STKA Stephens Creek 70.22 181 P P 22 31 49.4 +0.9
STKA Stephens Creek 70.22 181⇓ *e*P P 22 31 52.0 +3.5
BMO Blue Mountains 70.28 48 P P 22 31 50.0 +0.9
BMO Blue Mountains 70.28 48 P P 22 31 50.0 +0.9
BMO pmax pmax
comp=Z,5.0nm,0.8s
ZEI Tsey 70.30 309 *e*P P 22 31 45.8 -3.6
ZEI pmax pmax
comp=Z,9.0nm,0.6s
MTSE Matsula 70.35 331 *e*P P 22 31 50.0 +0.9
KVAR Kislovodsk Arr 70.36 311 LR LR 23 06 07.3
comp=Z,163nm,19.0s,baz=271,slow=39
KIV Kislovodsk 70.36 311 ⇑P P 22 31 50.1 +0.5
KIV Kislovodsk 70.36 311 P P 22 31 50.1 +0.5
KIV Kislovodsk 70.36 311 P P 22 31 50.2 +0.5
KIV P P 22 31 50.2 +0.5
KIV Kislovodsk 70.36 311 *i* P P 22 31 50.2 +0.6
SNR=33
KIV Kislovodsk 70.36 311 *e*P P 22 31 50.0 +0.5
KIV pmax pmax
comp=Z,74nm,1.1s
KIV MLR MLR
comp=Z,126nm,18.0s
KBZ Khabaz 70.37 311 P P 22 31 49.4 0.0
comp=Z,24nm,0.8s,baz=59,slow=3.3,SNR=59
KBZ LR LR 23 07 46.1
comp=Z,215nm,18.1s,baz=38,slow=40
comp=Z,24nm,0.8s
KBZ Khabaz 70.37 311 *c* iP P 22 31 49.8 +0.4
KBZ pmax pmax
comp=Z,30nm,0.8s
J08A Circle Bar Ran 70.44 50 P P 22 31 51.4 +1.3
ONI Oni 70.69 309 P P 22 31 51.9 +0.3
ONI IAmb IAmb 22 31 53.4
comp=Z,15nm,0.9s
ONI Oni 70.69 309 P P 22 31 51.9 +0.3
ONI pmax pmax
comp=Z,15nm,0.9s
AAL Aland 70.72 333 *e*P P 22 31 50.4 -0.9
NEY Neytrino 70.75 310⇑ *e*P P 22 31 52.5 +0.4
NEY pmax pmax
comp=Z,4.0nm,0.8s
WVOR Wild Horse Val 70.88 51 P P 22 31 53.8 +1.0
WVOR Wild Horse Val 70.88 51 P P 22 31 53.8 +1.0
WVOR pmax pmax
comp=Z,7.0nm,0.9s
PLID Pearl Lake 70.89 47 P P 22 31 53.2 +0.2
MSO Missoula 71.03 45 P P 22 31 54.2 +0.6
MSO Missoula 71.03 45 P P 22 31 54.7 +1.1
baz=307
WSAR Wadi Sarin 71.14 285 LR LR 23 05 18.7
comp=Z,62nm,20.2s,baz=112,slow=38
WBK Wadi Bani Khal 71.23 284 P P 22 31 55.8 +0.7
WBK P P 22 31 55.8 +0.7
BEKR Beckworth 71.29 54 P P 22 31 55.5 +0.1
BEKR IAmb IAmb 22 31 57.6
comp=Z,15nm,0.8s
GNI Garni 71.29 307 LR LR 23 06 24.9
comp=Z,251nm,18.8s,baz=56,slow=38
GNI Garni 71.29 307 P P 22 31 54.7 -0.7
GNI IAmb IAmb 22 32 04.8
comp=Z,15nm,0.8s
GNI Garni 71.29 307 P P 22 31 55.9 +0.5
GNI P P 22 31 55.9 +0.5
GNI Garni 71.29 307 P P 22 31 56.0 +0.5
GNI Garni 71.29 307 *c* iP P 22 31 56.0 +0.6
GNI pmax pmax
comp=Z,16nm,0.8s
BIDO Bidbid 71.36 285 P P 22 31 56.8 +1.0
BANOM Banah 71.36 289 P P 22 31 56.3 +0.4
BANOM Banah 71.36 289 *i* P P 22 31 56.0 +0.1
SNR=5.2
BBOO Buckleboo 71.38 186 P P 22 31 55.3 -0.2
BBOO IAmb IAmb 22 32 08.7
comp=Z,79nm,1.9s
SHME Shamm 71.41 289 P P 22 31 56.5 +0.4
SNR=10
SHME P P 22 31 56.5 +0.4
SNR=10
SHME Shamm 71.41 289 *i* P P 22 31 56.5 +0.4
SNR=10
TBLU Trondheim 71.45 339 *e*P P 22 31 54.1 -1.6
MNK Minsk 71.52 326 *i* P P 22 31 56.8 +0.5
comp=E,2.0nm,0.9s
MNK *i* P P 22 31 56.8 +0.5
comp=N,23nm,1.1s
MNK *i* P P 22 31 56.8 +0.5
comp=Z,38nm,0.9s,baz=49
MNK *i* pP pP 22 32 11.0 +2.8
MNK *i* PP PP 22 34 34.2 -0.5
MNK *i* PPP PPP 22 36 19.7
MNK *i* S S 22 41 12.3 +0.4
MNK *i* sS sS 22 41 36.4 +4.4
MNK *i* SS SS 22 45 49.1 +2.7
MNK *i* SSS SSS 22 49 09.6
MNK *i* LQ LQ 22 58 30.1
MNK *i* LR LR 23 03 18.3
MNK *i* LRM MLR 23 05 52.1
comp=E,67nm,15.5s
MNK *i* LRM MLR 23 05 52.1
comp=Z,708nm,18.9s
MNK *i* LRM MLR 23 06 03.3
comp=N,571nm,15.5s
MNK Minsk 71.52 326 *i* P P 22 31 56.8 +0.5
MNK *i* *PP pP 22 32 11.0 +2.8
MNK *i* 22 34 34.1
MNK *i* PPP PPP 22 36 19.7
MNK *i* S S 22 41 12.3 +0.4
MNK *i* *SS sS 22 41 36.3 +4.4
MNK *i* SS SS 22 45 49.1 +2.7

MNK pmax pmax
comp=Z,38nm,0.9s
MNK pmax pmax
comp=N,23nm,1.1s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,67nm,15.0s
MNK MLR MLR
comp=Z,708nm,19.0s
MNK MLR MLR
comp=N,571nm,15.0s
ISAL Salakas 71.56 328 *e*P **P 22 31 57.0 +0.5**
IIGN Ignalina 71.67 327 *e*P **P 22 31 57.7 +0.5**
SMDO Samad 71.68 285 P **P 22 31 58.6 +0.8**
SMDO P **P 22 31 58.6 +0.8**
SLIT Slitere, Latvi 71.69 331 *e*P **P 22 31 57.0 -0.2**
NACGM Naroch 71.73 327 ⇑*i*P **P 22 31 57.8 +0.3**
comp=Z,52nm,0.9s,baz=48
MORW Morawa 71.75 204 P **P 22 31 57.9 +0.1**
MORW IAmb IAmb 22 32 12.0
comp=Z,61nm,1.8s
UPP Uppsala 71.78 334 *e*P **P 22 31 57.7 0.0**
MASF Masafi 71.78 288 P **P 22 31 58.7 +0.3**
MASF P **P 22 31 58.7 +0.3**
MSFE Esma-Masafi 71.79 288 P **P 22 31 58.7 +0.3**
FFC Flin Flon 71.92 33 P **P 22 31 59.0 +0.3**
FFC Flin Flon 71.92 33 P **P 22 31 59.0 +0.3**
FFC pmax pmax
comp=Z,17nm,1.2s
HOQ Hoqain 71.94 286 P **P 22 31 59.2 -0.1**
HOQ P **P 22 31 59.2 -0.1**
ILULI Ilulissat 71.95 5 *e*P **P 22 31 58.2 -0.4**
UOSS Minazif 71.99 288 P **P 22 31 59.4 -0.2**
UOSS IAmb IAmb 22 32 00.3
comp=Z,16nm,0.9s
UOSS Minazif 71.99 288 P **P 22 31 59.6 0.0**
UOSS P **P 22 31 59.6 0.0**
UOSS Minazif 71.99 288 P **P 22 31 59.5 0.0**
PAHR Pah Rah Range 71.99 53 P **P 22 32 00.5 +1.0**
PAHR IAmb IAmb 22 32 01.9
comp=Z,13nm,0.9s
JMDO Jabal Madar 72.03 284 P **P 22 31 59.9 0.0**
JMDO P **P 22 31 59.9 0.0**
KARS Kars 72.05 308 P **P 22 31 59.8 -0.1**
KARS Kars 72.05 308 P **P 22 31 59.8 -0.1**
KARS pmax pmax
comp=Z,47nm,0.7s
HATD Hatta, Dubai 72.11 288 P **P 22 32 00.8 +0.4**
SNR=6.2
HATD P **P 22 32 00.8 +0.4**
SNR=6.2
HATD Hatta, Dubai 72.11 288 *i*P **P 22 32 00.5 +0.2**
SNR=6.1
VSVD Vaisvydziai 72.19 329 *e*P **P 22 32 00.7 +0.4**
ASHO Ashiyiah 72.25 288 P **P 22 32 01.4 +0.2**
ASHO Ashiyiah 72.25 288 P **P 22 32 01.0 -0.2**
CMB Columbia Colle 72.32 55 P **P 22 32 02.4 +0.9**
CMB Columbia Colle 72.32 55 P **P 22 32 02.4 +0.9**
CMB pmax pmax
comp=Z,9.0nm,0.8s
SOC Sochi 72.33 312 *e*P **P 22 31 59.5 -1.8**
SOC *e**PP **pP 22 32 14.1 +0.9**
SOC *e**SP **sP 22 32 19.9 +2.1**
SOC *e* 22 34 38.9
SOC *e*PPP PPP 22 36 24.1
SOC *e*S **S 22 41 18.5 -3.0**
SOC *e*SS **SS 22 46 02.5 +3.2**
SOC pmax pmax
comp=Z,19nm,0.6s
SOC MLR MLR
comp=Z,305nm,21.0s
BSY Bisya 72.50 285 P **P 22 32 02.9 +0.2**
PABE Paberze 72.50 328 P **P 22 32 01.9 -0.3**
PABE Paberze 72.50 328 *e*P **P 22 32 02.8 +0.7**
ICESG Greenland Ices 72.52 1 *i*P **P 22 32 02.8 +0.3**
ICESG IAmb IAmb 22 32 04.0
comp=Z,26nm,0.5s
EGMT Eagleton 72.55 42 P **P 22 32 03.4 +0.7**
EGMT IAmb IAmb 22 32 04.2
comp=Z,16nm,0.8s
EGMT Eagleton 72.55 42 P **P 22 32 03.3 +0.6**
baz=309,SNR=6.0
FAQ Al Faqa, Dubai 72.56 288 P **P 22 32 02.6 -0.4**
FAQ P **P 22 32 02.6 -0.4**
FAQ Al Faqa, Dubai 72.56 288 P **P 22 32 02.5 -0.5**
ARQ Araqi 72.67 286 P **P 22 32 03.4 -0.3**
HLID Hailey 72.72 48 P **P 22 32 04.9 +1.0**
HLID Hailey 72.72 48 P **P 22 32 05.5 +1.6**
baz=307,SNR=8.5
NC405 NORSAR Array S 72.72 337 P **P 22 32 03.6 +0.2**
MOL Molde 72.75 340 *e*P **P 22 32 02.9 -0.5**
DOMB Dombas 72.76 339 *e*P **P 22 32 03.8 +0.2**
ASUD Al Ashush, Dub 72.82 288 P **P 22 32 04.9 +0.3**
ASUD Al Ashush, Dub 72.82 288 P **P 22 32 04.6 +0.1**
ALNE Al Ain 72.83 287 P **P 22 32 04.8 +0.2**
HFS Hagfors 72.87 306 LR LR 23 06 50.7
comp=Z,485nm,18.0s,baz=48,slow=38
ANN Anapa 72.90 314 *e*P **P 22 32 01.6 -3.0**
ANN *e**PP **pP 22 32 17.7 +1.1**
ANN *e*S **S 22 41 22.9 -5.1**
ANN pmax pmax
comp=Z,63nm,1.0s
BMN Battle Mountai 72.91 52 P **P 22 32 06.4 +1.3**
BMN IAmb IAmb 22 32 07.7
comp=Z,14nm,0.7s
BMN Battle Mountai 72.91 52 P **P 22 32 06.4 +1.3**
BMN pmax pmax
comp=Z,14nm,0.7s
MHTO MHTO 72.93 283 P **P 22 32 05.2 0.0**
SNR=24
MHTO P **P 22 32 05.2 0.0**
SNR=24
NB2 NORSAR Subarra 72.93 337 P **P 22 32 04.4 -0.3**
baz=39,slow=6.2
NB2 NORSAR Subarra 72.93 337 P **P 22 32 04.4 -0.3**
comp=Z,19nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 72.93 337 P **P 22 32 03.9 -0.7**
comp=Z,12nm,0.6s,baz=39,slow=6.0,SNR=88
NOA LR LR 23 06 42.6
comp=Z,291nm,21.4s,baz=25,slow=38
comp=Z,12nm,0.6s
PBUR Paburge 72.96 330 *e*P **P 22 32 05.5 +0.7**
BOZ Bozeman (W) 73.05 45 P **P 22 32 06.7 +0.9**
BOZ IAmb IAmb 22 32 08.0
comp=Z,10nm,0.7s
BOZ Bozeman (W) 73.05 45 P **P 22 32 06.9 +1.2**
baz=308,SNR=17
BOZ Bozeman (W) 73.05 45 P **P 22 32 06.7 +0.9**
BOZ pmax pmax
comp=Z,10.0nm,0.7s
NC602 NORSAR Array S 73.07 337 *e*P **P 22 32 05.0 -0.4**
VIKU Vikbolandet 73.11 334 *e*P **P 22 32 06.0 +0.3**
AKN Aaknes 73.22 340 *e*P **P 22 32 06.9 +0.6**
AKN IAmb IAmb 22 32 11.6
comp=Z,199nm,2.2s
NVAR Mina Array Bea 73.42 54 P **P 22 32 08.7 +0.5**
comp=Z,7.3nm,0.8s,baz=286,slow=6.4,SNR=47
comp=Z,7.3nm,0.8s
AKASG Malin Array Be 73.42 322 P **P 22 32 07.4 -0.3**
comp=Z,23nm,0.7s,baz=46,slow=6.1,SNR=93
AKASG LR LR 23 07 17.4
comp=Z,462nm,18.8s,baz=44,slow=38
comp=Z,23nm,0.7s
AKASG Malin Array Be 73.42 322 P **P 22 32 07.2 -0.5**
AKBB Malin Array Si 73.42 322 P **P 22 32 07.2 -0.5**
AKBB Malin Array Si 73.42 322*c i*P **P 22 32 07.4 -0.3**
AKBB pmax pmax
comp=Z,35nm,0.8s
GEVA Gevas 73.42 306 P **P 22 32 07.8 -0.3**
QLMT Earthquake Lak 73.64 45 P **P 22 32 10.0 +0.7**
YHL Hebgen Lake 73.76 45 P **P 22 32 11.1 +0.9**
GURO Guroymak-BITLI 73.93 307 P **P 22 32 11.4 +0.3**
GURO IAmb IAmb 22 32 12.8
comp=Z,18nm,0.7s
ELK Elko 73.93 51 P **P 22 32 12.1 +1.0**
ELK Elko 73.93 51 P **P 22 32 12.1 +1.0**
ELK pmax pmax
comp=Z,5.0nm,0.9s
OSL Oslo 73.95 337 *e*P **P 22 32 11.1 +0.5**
UMZA Um Al Zommool 74.05 286 P **P 22 32 11.1 -0.7**
UMZA P **P 22 32 11.1 -0.7**
SKAR Skarslia 74.08 338 *e*P **P 22 32 11.7 +0.3**
SFJD Kangerlussuaq 74.17 5 LR LR 23 05 38.7
comp=Z,187nm,21.7s,baz=348,slow=36
HYA Hoyanger 74.27 340 *e*P **P 22 32 12.8 +0.4**
TPH Tonopah 74.31 54 P **P 22 32 14.4 +1.0**
TPH Tonopah 74.31 54 P **P 22 32 14.4 +1.0**
TPH pmax pmax
comp=Z,49nm,0.8s
H17A Grant Village 74.39 45 P **P 22 32 16.6 +2.8**
baz=309,SNR=10
MZWR Madinat Zayed 74.40 288 P **P 22 32 13.2 -0.7**
JRN Qarnain Island 74.48 290 P **P 22 32 13.1 -1.1**
KONO Kongsberg 74.53 337 P **P 22 32 14.2 +0.2**
KONO IAmb IAmb 22 32 46.4
comp=Z,61nm,1.6s
KONO Kongsberg 74.53 337 P **P 22 32 14.2 +0.2**
KONO pmax pmax
comp=Z,61nm,1.6s
KONO Kongsberg 74.53 337 *e*P **P 22 32 14.1 +0.2**
KONO IAmb IAmb 22 32 14.5
comp=Z,12nm,0.6s
PKM Mcpherson Peak 74.54 58 P **P 22 32 16.6 +1.9**
baz=307
RLMT Red Lodge 74.64 44 P **P 22 32 16.4 +1.2**
RLMT IAmb IAmb 22 32 18.1
comp=Z,26nm,1.6s
RLMT Red Lodge 74.64 44 P **P 22 32 16.9 +1.7**
baz=310,SNR=5.7
MOOW Moose Ponds 74.70 46 P **P 22 32 17.4 +1.9**
SUE Sulen 74.75 340 *e*P **P 22 32 15.6 +0.5**
CWC Cottonwood Cre 74.75 56 P **P 22 32 17.3 +1.4**
baz=307
GRAC Grapevine Rang 74.87 55 P **P 22 32 18.4 +2.0**
baz=307
DY2G Dye2 74.95 4 *i*P **P 22 32 16.4 -0.2**
DY2G IAmb IAmb 22 32 41.1
comp=Z,13nm,1.1s
ISA Isabella, Lake 74.96 56 P **P 22 32 17.8 +0.8**
baz=307
NWAO Narrogin (SRO) 74.98 202 LR LR 23 03 56.0
comp=Z,37nm,21.7s,baz=302,slow=35
FRB Frobisher Bay 74.99 14 LR LR 23 08 24.2
comp=Z,95nm,20.2s,baz=6.0,slow=38
ASK Askoy 75.11 340 *e*P **P 22 32 17.9 +0.6**
AHID Auburn Hatcher 75.12 47 P **P 22 32 18.8 +0.8**
BER Bergen 75.16 339 *e*P **P 22 32 18.1 +0.6**
BER IAmb IAmb 22 32 18.5
comp=Z,13nm,0.6s
R11A Troy Canyon, C 75.17 53 P **P 22 32 19.5 +1.2**
R11A Troy Canyon, C 75.17 53 P **P 22 32 19.6 +1.3**
baz=308,SNR=18
ODD1 Odda 75.19 339 *e*P **P 22 32 18.3 +0.5**
ODD1 IAmb IAmb 22 32 19.4
comp=Z,17nm,0.7s
LAO LASA Array 75.25 41 P **P 22 32 19.7 +1.2**
LAO IAmb IAmb 22 32 20.9
comp=Z,23nm,0.9s
LAO LASA Array 75.25 41 P **P 22 32 19.7 +1.2**
baz=311
LAO LASA Array 75.25 41 P **P 22 32 19.8 +1.2**
baz=311,SNR=5.6
SHMA Al-Shehemyia 75.33 291 P **P 22 32 18.0 -1.1**
MPMC Manual Prospec 75.36 56 P **P 22 32 20.8 +1.3**
baz=308,SNR=8.2
OSI Osito Audit: C 75.42 57 P **P 22 32 21.4 +1.7**
baz=307
MARD Mardin 75.47 306 P **P 22 32 20.3 +0.3**
FURC Furnace Creek, 75.51 55 P **P 22 32 21.3 +1.3**
baz=308
SORM Soroca 75.56 321 ⇑P **P 22 32 19.7 -0.4**
CCAC Calif City Air 75.56 57 P **P 22 32 21.6 +1.2**
CCAC IAmb IAmb 22 32 23.1
comp=Z,20nm,0.8s
SAKB Bahrain 75.56 292 P **P 22 32 19.0 -1.5**
HWUT Hardware Ranch 75.58 48 P **P 22 32 21.8 +1.2**
LRMC Laurel Mtn Rad 75.58 56 P **P 22 32 21.3 +0.6**
baz=308
TPNV Topopah Spring 75.61 54 P **P 22 32 21.9 +1.0**
TPNV Topopah Spring 75.61 54 P **P 22 32 22.1 +1.2**
baz=308,SNR=10
TPNV Topopah Spring 75.61 54 P **P 22 32 21.9 +1.0**
TPNV pmax pmax
comp=Z,6.0nm,0.9s
BLS5 Blasjo 75.64 338 *e*P **P 22 32 20.9 +0.4**
DUG Dugway, Tooele 75.73 50 P **P 22 32 23.0 +1.5**
DUG IAmb IAmb 22 32 24.1
comp=Z,13nm,0.7s
DUG Dugway, Tooele 75.73 50 P **P 22 32 22.9 +1.5**
baz=309,SNR=13
DUG Dugway, Tooele 75.73 50 P **P 22 32 23.0 +1.5**
DUG pmax pmax
comp=Z,13nm,0.7s
EDW2 Edwards Air Fo 75.74 57 P **P 22 32 22.8 +1.3**
baz=308,SNR=7.2
SLWR Sila 75.84 289 P **P 22 32 21.9 -0.2**
PURM Purcari 75.87 319 ⇓P **P 22 32 22.1 +0.2**
BW06 Boulder Array 75.99 46 P **P 22 32 23.7 +0.7**
baz=310,SNR=16
PD31 Pinedale Array 75.99 46 P **P 22 32 23.9 +0.9**
PD31 IAmb IAmb 22 32 24.8
comp=Z,10nm,0.7s
PDAR Pinedale Array 75.99 46 P **P 22 32 23.9 +0.9**
comp=Z,11nm,0.6s,baz=264,slow=2.1,SNR=143
comp=Z,11nm,0.6s
PDAR Pinedale Array 75.99 46 P **P 22 32 23.6 +0.6**
BORG Borgarnes 76.09 353 P **P 22 32 24.1 +1.3**
comp=Z,32nm,0.8s,baz=9.3,slow=2.4,SNR=6.9
BORG LR LR 23 08 55.7
comp=Z,41nm,18.3s,baz=358,slow=38
comp=Z,32nm,0.8s
BORG Borgarnes 76.09 353 P **P 22 32 24.6 +1.8**
MILM Milestii Mici 76.15 320 ⇓P **P 22 32 23.3 -0.2**
TOKA Tokat 76.23 311 P **P 22 32 24.6 +0.4**
TOKA IAmb IAmb 22 32 26.1
comp=Z,39nm,1.5s
SHOC Shoshone, Teco 76.24 55 P **P 22 32 25.2 +1.0**
baz=308
GSC Goldstone, Bar 76.26 56 P **P 22 32 25.7 +1.2**
baz=308
SNART Snartemo 76.32 337 *e*P **P 22 32 24.7 +0.5**
BSD Bornholm Skovb 76.32 332 *e*P **P 22 32 24.5 +0.2**
BSD Bornholm Skovb 76.32 332 *i*P **P 22 32 23.5 -0.8**
BSD IAmb IAmb 22 32 24.8
comp=Z,37nm,0.8s
BFSC Mount Baldy Ra 76.35 57 P **P 22 32 26.2 +1.1**
baz=308
BEL Belsk 76.45 327 *e*P **P 22 32 25.9 +0.8**
BEL *e*L L 23 07 28.4
comp=Z,297nm,20.6s
LVV L'vov 76.46 324 *e*P **P 22 32 25.1 -0.1**
SCI2 San Clemente I 76.53 59 P **P 22 32 27.7 +1.8**
baz=308
IAS Iasi 76.60 320 ⇑P **P 22 32 26.2 +0.2**
BZK Bozkurt 76.63 313 P **P 22 32 24.9 -1.4**
TUQ Turquoise Moun 76.75 55 P **P 22 32 28.2 +0.9**
baz=308,SNR=11
GOET G??ttrup 76.76 336 *i*P **P 22 32 27.7 +1.0**
COP Copenhagen 76.76 333 *i*P **P 22 32 26.9 +0.1**
COP IAmb IAmb 22 32 28.2
comp=Z,93nm,0.6s
GKP Gorka Klasztor 76.84 330 *e*P **P 22 32 27.6 +0.3**
GKP *e*L L 23 08 55.0
comp=Z,663nm,19.2s
GKP Gorka Klasztor 76.84 330 *e*P **P 22 32 27.8 +0.5**
HEC Hector,Ludlow 76.85 56 P **P 22 32 28.9 +1.0**
baz=308,SNR=8.4
VASR Vaslui 76.86 320 ⇓P **P 22 32 28.5 +1.0**
MURC Murrieta 77.05 57 P **P 22 32 30.2 +1.4**
baz=308
RAO Raoul Island 77.12 145 LR LR 23 05 19.0
comp=Z,85nm,19.5s,baz=120,slow=35
DMTO DMTO 77.15 282 P **P 22 32 29.2 -0.4**
DOK Doka 77.23 284 P **P 22 32 29.6 -0.5**
DOK P **P 22 32 29.6 -0.5**
MUD Monsted U'grnd 77.25 335 *i*P **P 22 32 29.9 +0.4**
MUD IAmb IAmb 22 32 30.8
comp=Z,14nm,0.8s
VLDR Vladesti 77.25 319 ⇑P **P 22 32 30.4 +0.6**
GMRC Granite Mounta 77.32 56 P **P 22 32 31.7 +1.2**
baz=309,SNR=10
VARL Varlezi 77.33 319 ⇓P **P 22 32 31.2 +1.0**
TATR Tatarca 77.44 319 ⇑P **P 22 32 31.3 +0.5**
BUR08 Bucovina Ar. S 77.44 322 P **P 22 32 31.1 +0.2**
BUR08 IAmb IAmb 22 32 32.3
comp=Z,15nm,0.7s
GHRR 77.45 320 ⇓P **P 22 32 32.2 +1.3**
BUR01 Bucovina Ar. S 77.45 322 ⇓P **P 22 32 31.5 +0.5**
BURAR Bucovina Array 77.45 322 P **P 22 32 31.2 +0.2**
BURAR IAmb IAmb 22 32 32.3
comp=Z,21nm,0.7s
TESR Tescani 77.52 320 ⇑P **P 22 32 31.8 +0.5**
PFO Pinyon Flats O 77.52 57 P **P 22 32 32.7 +1.0**
baz=308
TPFO Pinon Flats 77.53 57 P **P 22 32 32.7 +1.0**
baz=308
BNN Bunyan 77.54 310 P **P 22 32 31.4 -0.4**
BELC Belle Mtn. Jos 77.58 56 P **P 22 32 32.9 +0.9**
baz=309
SLCR Slobozia Conac 77.58 319 ⇓P **P 22 32 32.5 +0.9**
IZVR Izvoarele 77.62 319 ⇑P **P 22 32 32.5 +0.7**
TUDR 77.63 319 ⇑P **P 22 32 33.0 +1.1**
CFR Carcaliu 77.68 319 ⇓P **P 22 32 32.4 +0.3**
PANC Panciu 77.71 320 ⇓P **P 22 32 33.5 +1.3**
ULM Lac du Bonnet 77.72 34 P **P 22 32 32.3 0.0**
comp=Z,6.5nm,0.7s,baz=319,slow=12,SNR=8.2
ULM LR LR 23 09 56.9
comp=Z,104nm,18.4s,baz=332,slow=38
comp=Z,6.5nm,0.7s
ULM Lac du Bonnet 77.72 34 P **P 22 32 32.2 -0.1**
ULM Lac du Bonnet 77.72 34 P **P 22 32 32.2 -0.1**
ULM pmax pmax
comp=Z,8.0nm,0.8s
MDND Maddock 77.75 37 P **P 22 32 33.4 +0.8**
baz=315
MDND Maddock 77.75 37 P **P 22 32 33.4 +0.8**
baz=315
TPGR Topolog 77.75 318 ⇓P **P 22 32 33.2 +0.6**
K22A Casper 77.76 45 P **P 22 32 33.6 +0.7**
K22A Casper 77.76 45 P **P 22 32 33.7 +0.8**
baz=312
K22A Casper 77.76 45 P **P 22 32 33.5 +0.7**
baz=312
GAZ Gaziantep 77.78 308 P **P 22 32 33.7 +0.7**
GAZ IAmb IAmb 22 32 35.0
comp=Z,18nm,0.8s
ODBI Odobesti 77.83 320 ⇓P **P 22 32 34.5 +1.5**
RBK Rabkut 77.84 283 P **P 22 32 32.9 -0.7**
KOLS Kolonicke sedl 77.90 324 *e*P **P 22 32 33.4 +0.1**
KOLS Kolonicke sedl 77.90 324 *e*P **P 22 32 33.4 +0.1**
KOLS pmax pmax
comp=Z,11nm,0.8s
WHFO Wadi Hawf 77.92 283 P **P 22 32 32.8 -1.2**
VRI Vrincioaia 77.92 320 ⇑P **P 22 32 34.3 +0.7**
PLOR Plostina 77.97 320 ⇓P **P 22 32 34.7 +0.9**
MONP2 Monument Peak 77.99 58 P **P 22 32 35.2 +0.8**
baz=309
STHS Stebnicka Huta 78.01 325 *e*P **P 22 32 34.3 +0.3**
STHS Stebnicka Huta 78.01 325 *e*P **P 22 32 34.3 +0.3**
STHS pmax pmax
comp=Z,11nm,0.7s
TIRR Tirgusor 78.03 318 P **P 22 32 33.9 -0.2**
TIRR Tirgusor 78.03 318 P **P 22 32 33.9 -0.2**
TIRR pmax pmax
comp=Z,65nm,1.2s
IRM Iron Mountain 78.04 56 P **P 22 32 35.5 +1.1**
baz=309,SNR=8.8
OJC Ojcow 78.06 326 *e*P **P 22 32 32.4 -1.8**
OJC *e*L L 23 09 55.6
comp=Z,642nm,18.0s
OJC Ojcow 78.06 326 P **P 22 32 32.4 -1.8**
OJC IAmb IAmb 22 32 33.5
comp=Z,31nm,1.0s
OJC Ojcow 78.06 326 P **P 22 32 32.4 -1.8**
OJC pmax pmax
comp=Z,31nm,1.0s
UZH Uzhgorod 78.11 324*d i*P **P 22 32 34.3 -0.1**
UZH *e* 22 32 40.7
UZH *i* 22 32 51.3
RSSD Black Hills 78.11 42 P **P 22 32 35.4 +0.5**
RSSD IAmb IAmb 22 32 36.5
comp=Z,11nm,0.8s
RSSD Black Hills 78.11 42 P **P 22 32 35.6 +0.7**
baz=313
RSSD Black Hills 78.11 42 P **P 22 32 35.5 +0.7**
baz=313
RSSD Black Hills 78.11 42 P **P 22 32 35.4 +0.5**
RSSD pmax pmax
comp=Z,11nm,0.8s
HARR Harsova 78.12 318 ⇑P **P 22 32 35.2 +0.6**
E28A Huff 78.12 39 P **P 22 32 35.6 +1.0**
baz=315
BC3 Big Chuckawall 78.15 56 P **P 22 32 35.8 +0.7**
baz=309,SNR=5.6
TLBR Topalu 78.16 318 ⇑P **P 22 32 35.3 +0.5**
COVR Voineasa-Covas 78.20 320 ⇓P **P 22 32 36.1 +1.0**
BMR Baia Mare 78.23 323 ⇑P **P 22 32 36.0 +0.8**
OZUR 78.24 321 ⇓P **P 22 32 36.9 +1.6**
ARCR ARCALIA 78.24 322 ⇑P **P 22 32 36.7 +1.4**
BR131 Keskin Array S 78.29 312 P **P 22 32 35.7 -0.2**
BR131 IAmb IAmb 22 32 36.4
comp=Z,9.3nm,0.7s
BR131 Keskin Array S 78.29 312*c i*P **P 22 32 36.0 +0.2**
BRTR Keskin Array B 78.29 312 P **P 22 32 35.9 0.0**
comp=Z,5.1nm,0.6s,baz=84,slow=3.0,SNR=13
BRTR LR LR 23 12 22.2
comp=Z,127nm,19.4s,baz=68,slow=40
comp=Z,5.1nm,0.6s
BRTR Keskin Array B 78.29 312 P **P 22 32 36.0 +0.2**
BRTR Keskin Array B 78.29 312 P **P 22 32 36.0 +0.2**
CRVS Cervenica-Dubn 78.29 325 *e*P **P 22 32 36.1 +0.6**
CRVS Cervenica-Dubn 78.29 325 *e*P **P 22 32 36.1 +0.6**
CRVS pmax pmax
comp=Z,15nm,0.9s
IKP In-Ko-Pah, Jac 78.35 58 P **P 22 32 37.3 +1.1**
baz=309
TRPA Tarpa 78.35 324 ⇓P **P 22 32 36.3 +0.4**
TRPA Tarpa 78.35 324 P **P 22 32 36.6 +0.7**
U15A North Rim 78.42 53 P **P 22 32 37.6 +0.8**
O20A White River Ci 78.45 48 P **P 22 32 37.3 +0.5**
O20A IAmb IAmb 22 32 38.7
comp=Z,12nm,0.8s
O20A White River Ci 78.45 48 P **P 22 32 37.7 +0.9**
baz=311
PGOR Pogoanele 78.46 319 ⇑P **P 22 32 38.1 +1.6**
DOPR Dopca 78.52 321 ⇑P **P 22 32 38.2 +1.3**
ISR Istrita 78.54 319 ⇓P **P 22 32 38.3 +1.4**
ICOR Ion Corvin 78.58 318 ⇑P **P 22 32 38.1 +1.0**
MLR Muntele Rosu 78.58 320 ⇑P **P 22 32 37.6 +0.3**
MLR Muntele Rosu 78.58 320 LR LR 23 10 08.8
comp=Z,475nm,19.3s,baz=54,slow=38
MLR Muntele Rosu 78.58 320 P **P 22 32 37.5 +0.2**
MLR IAmb IAmb 22 32 39.0
comp=Z,24nm,1.4s
MLR Muntele Rosu 78.58 320 P **P 22 32 37.5 +0.2**
MLR pmax pmax
comp=Z,24nm,1.4s
PDMCI Parker Dam,Lak 78.60 55 P **P 22 32 38.3 +0.9**
baz=309,SNR=6.7
ABTO Aybut 78.62 283 P **P 22 32 37.3 -0.6**
ANTO Ankara 78.68 312 ⇑P **P 22 32 38.4 +0.5**
ANTO Ankara 78.68 312 P **P 22 32 37.8 -0.1**
ANTO IAmb IAmb 22 32 39.3
comp=Z,24nm,0.7s
ANTO Ankara 78.68 312 P **P 22 32 37.0 -1.0**
ANTO P **P 22 32 37.0 -1.0**
ANTO Ankara 78.68 312 P **P 22 32 37.8 -0.1**
ANTO pmax pmax
comp=Z,24nm,0.7s
BR231 Keskin MP Arra 78.71 312 P **P 22 32 38.4 +0.2**
BR231 IAmb IAmb 22 32 39.5
comp=Z,22nm,0.7s
ABAH Abaujker 78.83 324 P **P 22 32 39.2 +0.8**
SECR 78.84 320 ⇑P **P 22 32 40.1 +1.6**
CBBR Cluj-Babes-Bol 78.85 322 ⇓P **P 22 32 39.9 +1.3**
ESJX Sierra Juarez 78.86 58 P **P 22 32 40.1 +0.9**
CJR Cluj-Napoca 78.87 322 ⇓P **P 22 32 39.8 +1.0**
GLA Glamis 78.94 57 P **P 22 32 40.6 +1.2**
baz=309
OKC Ostrava-Krasne 79.05 327 *e*P **P 22 32 40.5 +0.8**
OKC Ostrava-Krasne 79.05 327 *e*P **P 22 32 40.5 +0.8**
KSP Ksiaz 79.06 329 *e*P **P 22 32 40.3 +0.6**
KSP *e*L L 23 10 04.9
comp=Z,394nm,20.5s
VOIR 79.07 320 ⇓P **P 22 32 40.8 +0.9**
PV23 Carpenter Ridg 79.11 49 P **P 22 32 42.0 +1.4**
PV23 IAmb IAmb 22 32 42.5
comp=Z,22nm,0.7s
AGMN Agassiz Nation 79.16 35 P **P 22 32 40.1 -0.2**
baz=318
AGMN Agassiz Nation 79.16 35 P **P 22 32 40.2 -0.2**
baz=318

MDUB Mudurnu 79.20 314 P **P** **22 32 39.8 -1.0**
N23A Red Feather La 79.25 46 P **P** **22 32 42.7 +1.4**
baz=313,SNR=9.3
OSTC Ostas 79.32 328 *e*P **P** **22 32 41.8 +0.7**
ARR Arges 79.32 321 ⇑P **P** **22 32 42.5 +1.2**
MORC Moravsky Berou 79.36 327 ⇑P **P** **22 32 42.1 +0.7**
MORC Moravsky Berou 79.36 327 P **P** **22 32 41.8 +0.5**
MORC IAmb IAmb 22 32 43.1
comp=Z,18nm,0.8s
MORC Moravsky Berou 79.36 327 *e*P **P** **22 32 41.9 +0.5**
MORC Moravsky Berou 79.36 327 P **P** **22 32 41.8 +0.5**
MORC pmax pmax
comp=Z,18nm,0.8s
CHVC Chvalec 79.36 328 *e*P **P** **22 32 42.0 +0.6**
DPC Dobruska-Polom 79.43 328 *e*P **P** **22 32 42.6 +0.8**
DPC Dobruska-Polom 79.43 328 *e*P **P** **22 32 42.6 +0.8**
UPC Upice 79.44 328 *e*P **P** **22 32 42.7 +0.9**
UPC AMS AMS 23 10 20.0
comp=Z,500nm,16.6s
UPC Upice 79.44 328 *e*P **P** **22 32 42.7 +0.9**
UPC MLR MLR
comp=Z,500nm,16.6s
KRLC Kraliky 79.45 328 *e*P **P** **22 32 42.5 +0.6**
KRLC Kraliky 79.45 328 *e*P **P** **22 32 42.5 +0.6**
WUAZ Wupatki 79.58 53 P **P** **22 32 44.3 +1.3**
WUAZ Wupatki 79.58 53 P **P** **22 32 44.6 +1.6**
baz=310
LOT Lotru 79.69 321 ⇑P **P** **22 32 43.9 +0.5**
PSZ Piszkesteto 79.72 325 ⇑P **P** **22 32 44.0 +0.6**
PSZ Piszkesteto 79.72 325 P **P** **22 32 43.5 +0.1**
PSZ IAmb IAmb 22 32 45.3
comp=Z,15nm,0.8s
PSZ Piszkesteto 79.72 325 P **P** **22 32 44.2 +0.8**
PSZ Piszkesteto 79.72 325 P **P** **22 32 43.5 +0.1**
PSZ pmax pmax
comp=Z,15nm,0.8s
VYHS Vyhne 79.76 326 *e*P **P** **22 32 44.4 +0.8**
VYHS Vyhne 79.76 326 *e*P **P** **22 32 44.4 +0.8**
VYHS pmax pmax
comp=Z,12nm,0.9s
DEV Deva 79.80 322 ⇓P **P** **22 32 44.9 +1.1**
113A Mohawk Valley, 79.81 56 P **P** **22 32 44.6 +0.5**
COPA Copaceanca 79.90 319 ⇓P **P** **22 32 44.5 +0.2**
BRG Berggiesshubel 79.99 330 *i* P **P** **22 32 45.0 +0.3**
BRG Amp 22 32 46.1
comp=Z,18nm,0.8s
BRG Amp 23 11 21.0
comp=Z,0.7nm,16.4s
BRG Amp 23 11 24.0
comp=E,0.2nm,15.8s
BRG Amp 23 11 26.0
comp=N,0.5nm,19.2s
BRG Berggiesshubel 79.99 330 *i* P **P** **22 32 45.0 +0.3**
BRG pmax pmax
comp=Z,18nm,0.8s
BRG MLR MLR
comp=Z,663nm,16.4s
BRG MLR MLR
comp=E,212nm,15.8s
BRG MLR MLR
comp=N,456nm,19.2s
PVCC Panska Ves 80.01 329 *e*P **P** **22 32 45.8 +1.0**
PVCC AMS AMS 23 10 50.0
comp=N,500nm,18.3s
PVCC Panska Ves 80.01 329 *e*P **P** **22 32 45.8 +1.0**
PVCC MLR MLR
comp=Z,500nm,18.3s
CLL Collm 80.01 330 P **P** **22 32 44.7 -0.1**
CLL IAmb IAmb 22 32 45.9
comp=Z,33nm,0.8s
CLL Collm 80.01 330 ⇑*i*P **P** **22 32 44.9 +0.1**
comp=Z,34nm,0.8s
CLL *e*pP **pP** **22 32 57.0 +0.1**
CLL *e*sP **sP** **22 33 03.0 +1.6**
CLL *e*PP **PP** **22 35 46.0 -0.3**
CLL *e*PPP PPP 22 37 36.0
CLL Lm MLR 23 11 00.0
comp=Z,300nm,18.1s
CLL Collm 80.01 330 ⇑*i*P **P** **22 32 44.9 +0.1**
CLL *e**PP **pP** **22 32 57.0 +0.1**
CLL pmax pmax
comp=Z,34nm,0.8s
CLL MLR MLR
comp=Z,300nm,18.1s
BORA Eskisehir 80.02 314 P **P** **22 32 45.1 -0.1**
B35A Bob, Littlefor 80.07 34 P **P** **22 32 45.3 0.0**
baz=319
IVI Ivigtut 80.08 5 P **P** **22 32 45.2 +0.2**
VRAC Vranov 80.11 327 ⇑P **P** **22 32 46.2 +0.7**
VRAC Vranov 80.11 327 LR LR 23 11 12.1
comp=Z,400nm,18.4s,baz=32,slow=38
VRAC Vranov 80.11 327 *e*P **P** **22 32 46.2 +0.7**
SIRR Siria 80.12 323 ⇓P **P** **22 32 46.3 +0.8**
GZR Gura Zlata 80.22 322 ⇓P **P** **22 32 46.6 +0.4**
MVCO Mesa Verde 80.23 50 P **P** **22 32 47.9 +1.3**
MVCO Mesa Verde 80.23 50 P **P** **22 32 47.9 +1.3**
baz=312,SNR=5.7
NRS Narsarsuaq 80.29 4 *i* P **P** **22 32 43.5 -2.6**
NRS IAmb IAmb 22 32 47.2
comp=Z,51nm,1.0s
SMOL Smolenice 80.36 326 *e*P **P** **22 32 48.0 +1.2**
SMOL pmax pmax
comp=Z,8.0nm,0.8s
KRUC Moravsky 80.39 327 *e*P **P** **22 32 47.4 +0.5**
GOPC GO Pecny, Ondr 80.40 329 *e*P **P** **22 32 47.7 +0.7**
GOPC AMS AMS 23 10 00.0
comp=Z,500nm,23.3s
GOPC GO Pecny, Ondr 80.40 329 *e*P **P** **22 32 47.7 +0.7**
GOPC MLR MLR
comp=Z,500nm,23.3s
BUD Budapest 80.44 325 P **P** **22 32 48.3 +1.1**
PRU Pruhonice 80.44 329 *e*P **P** **22 32 47.7 +0.5**
PRU AMS AMS 23 10 40.0
comp=Z,500nm,16.7s
PRU Pruhonice 80.44 329 *e*P **P** **22 32 47.7 +0.5**
PRU MLR MLR
comp=Z,500nm,16.7s
SRO Srobarova 80.51 325 *e*P **P** **22 32 48.9 +1.4**
SRO Srobarova 80.51 325 *e*P **P** **22 32 48.9 +1.4**
SRO pmax pmax
comp=Z,26nm,0.8s
MODS Modra-Piesok 80.54 326 *e*P **P** **22 32 48.9 +1.1**
MODS Modra-Piesok 80.54 326 *e*P **P** **22 32 48.9 +1.1**
MODS pmax pmax
comp=Z,36nm,1.0s
RAR Rarotonga 80.56 127 LR LR 23 01 26.1
comp=Z,105nm,20.0s,baz=303,slow=30
BZS Buzias 80.61 322 ⇑P **P** **22 32 48.2 0.0**
RAYN Ar Rayn 80.69 293 P **P** **22 32 49.1 +0.1**
RAYN Ar Rayn 80.69 293 *i* P **P** **22 32 48.8 -0.3**
SNR=14
PLVB Pleven 80.74 319 ⇓P **P** **22 32 49.5 +0.6**
HERR Herculane 80.77 321 ⇑P **P** **22 32 49.1 +0.1**
S22A 4UR Ranch, Cre 80.86 49 P **P** **22 32 51.9 +1.8**
baz=312,SNR=12
CSKK Cskako 80.87 325 P **P** **22 32 50.0 +0.4**
BAIL Bailesti 80.93 320 ⇑P **P** **22 32 51.1 +1.2**
214A Organ Pipe Nat 80.95 56 P **P** **22 32 51.7 +1.4**
baz=310
Q24A Divide 81.01 47 P **P** **22 32 51.6 +0.7**
baz=313,SNR=6.3
NKC Novy Kostel 81.08 330 *e*P **P** **22 32 51.2 +0.6**
NKC Novy Kostel 81.08 330 *e*P **P** **22 32 51.2 +0.6**
MDVR Moldovita 81.18 322 ⇓P **P** **22 32 51.6 +0.3**
EGYH Egyhazaskeszo 81.24 326 P **P** **22 32 52.4 +0.9**
MPLH Magyarpolny 81.34 325 P **P** **22 32 52.3 +0.3**
EYMN Ely 81.35 33 P **P** **22 32 52.2 +0.1**
baz=321
SOP Sopron 81.38 326 P **P** **22 32 53.1 +0.9**
TIH Tihany 81.38 325 P **P** **22 32 52.8 +0.6**
CKRC Cesky Krumlov 81.45 328 AMS AMS 23 11 00.0
comp=Z,400nm,22.8s
RONA Rosalia, Austr 81.48 326 *i* P **P** **22 32 54.0 +1.2**
comp=Z,16nm,0.6s,SNR=11
CONA Conrad Observa 81.49 327 *i* P **P** **22 32 53.9 +0.9**
comp=Z,12nm,0.7s,SNR=8.7
KHC Kasperske Hory 81.50 329 P **P** **22 32 53.4 +0.4**
KHC IAmb IAmb 22 32 54.5
comp=Z,19nm,0.7s
KHC Kasperske Hory 81.50 329 *e*P **P** **22 32 53.2 +0.3**
KHC *ex* x 22 33 13.0
KHC AMS AMS 23 11 20.0
comp=Z,600nm,20.5s
KHC Kasperske Hory 81.50 329*c i*P **P** **22 32 53.3 +0.4**
KHC pmax pmax
comp=Z,46nm,0.8s
MORH Mrgy, Hungar 81.56 324 ⇑P **P** **22 32 53.3 +0.1**
MORH Mrgy, Hungar 81.56 324 P **P** **22 32 52.8 -0.4**
MMAI Mount Meron Ar 81.59 306 LR LR 23 11 42.6
comp=Z,138nm,21.7s,baz=270,slow=38
CSS Mathiatis 81.60 308 P **P** **22 32 53.6 0.0**
CSS IAmb IAmb 22 32 55.4
comp=Z,11nm,0.6s
SDCO Great Sand Dun 81.64 48 P **P** **22 32 55.2 +1.0**
SDCO Great Sand Dun 81.64 48 P **P** **22 32 54.3 +0.1**
baz=313
SDCO Great Sand Dun 81.64 48 P **P** **22 32 55.3 +1.0**
baz=313,SNR=6.2
GEC2 GERESS Array S 81.67 329 P **P** **22 32 54.0 +0.2**
GERES GERESS Array B 81.67 329 P **P** **22 32 54.1 +0.2**
comp=Z,5.8nm,0.7s,baz=228,slow=30,SNR=52
GERES LR LR 23 11 59.7
comp=Z,419nm,20.1s,baz=48,slow=38
comp=Z,5.8nm,0.7s
GERES GERESS Array B 81.67 329 P **P** **22 32 53.9 0.0**
EKA Eskdalemuir Ar 81.80 341 LR LR 23 13 28.1
comp=Z,177nm,18.5s,baz=26,slow=39
ESK Eskdalemuir 81.83 341 P **P** **22 32 55.0 +0.6**
ESK Eskdalemuir 81.83 341 P **P** **22 32 55.0 +0.6**
ESK pmax pmax
comp=Z,144nm,1.9s
RDO Rodhopi 81.85 317 P **P** **22 32 55.5 +0.7**
RDO IAmb IAmb 22 33 30.4
comp=Z,67nm,1.8s
KOVH Kovagotottos 81.91 324 P **P** **22 32 54.5 -0.5**
GRA1 Grafenberg Arr 81.99 330 P **P** **22 32 55.9 +0.5**
GRF Grafenberg Arr 81.99 330 P **P** **22 32 55.9 +0.5**
GRF pmax pmax
comp=Z,31nm,0.8s
VTS Vitosha 82.00 319 ⇓P **P** **22 32 56.5 +0.7**
VTS Vitosha 82.00 319 P **P** **22 32 56.6 +0.8**
VTS IAmb IAmb 22 32 57.5
comp=Z,22nm,0.7s
VTS Vitosha 82.00 319 P **P** **22 32 56.6 +0.8**
VTS pmax pmax
comp=Z,22nm,0.7s
TUC Tucson 82.03 55 P **P** **22 32 57.2 +1.1**
TUC Tucson 82.03 55 P **P** **22 32 57.5 +1.4**
baz=311
TUC Tucson 82.03 55 P **P** **22 32 57.2 +1.1**
TUC pmax pmax
comp=Z,1.0nm,0.8s
ARSA Arzberg 82.16 327 *e*P **P** **22 32 57.0 +0.7**
comp=Z,3.5nm,0.5s
ECSD EROS Data Cent 82.17 39 P **P** **22 32 57.0 +0.5**
ECSD IAmb IAmb 22 32 57.8
comp=Z,12nm,0.7s
ECSD EROS Data Cent 82.17 39 P **P** **22 32 56.8 +0.3**
baz=318
ECSD EROS Data Cent 82.17 39 P **P** **22 32 56.5 0.0**
baz=318,SNR=7.4
MOA Molln 82.22 328 *e*P **P** **22 32 57.3 +0.6**
comp=Z,2.7nm,0.6s
E38A The Farm, Brul 82.36 34 P **P** **22 32 57.1 -0.3**
baz=321
ELL Elmali 82.46 311 P **P** **22 32 58.0 -0.3**
ELL Elmali 82.46 311 P **P** **22 32 58.0 -0.3**
ELL pmax pmax
comp=Z,90nm,1.1s
DIVS Divibare 82.52 322 P **P** **22 32 58.4 0.0**
DIVS IAmb IAmb 22 32 59.4
comp=Z,44nm,1.8s
GHAJ Ghor Haditha 82.60 304 P **P** **22 32 59.2 +0.3**
GHAJ IAmb IAmb 22 33 00.4
comp=Z,12nm,0.8s
BIOA Bad Ischl, Aus 82.61 328 *i* P **P** **22 32 59.4 +0.7**
comp=Z,14nm,0.7s,SNR=7.8
T25A Trinidad 82.68 48 P **P** **22 33 01.0 +1.4**
baz=314,SNR=10
PERS Pernice 82.81 326 *i* P **P** **22 33 00.1 +0.3**
SOKA Soboth 82.81 326 *i* P **P** **22 33 00.2 +0.3**
comp=Z,17nm,0.7s,SNR=12
ANMO Albuquerque 82.97 50 P **P** **22 33 02.7 +1.6**
ANMO Albuquerque 82.97 50 P **P** **22 33 02.1 +1.1**
baz=313
ANMO Albuquerque 82.97 50 P **P** **22 33 02.4 +1.4**
baz=313
ANMO Albuquerque 82.97 50⇑*e*P **P** **22 33 02.2 +1.1**
ANMO pmax pmax
comp=Z,9.0nm,1.1s
BEBN Eben Emael 83.10 334 *d*P **P** **22 33 01.3 +0.2**
comp=Z,32nm,0.7s
BTNL Ternell 83.12 334 *d*P **P** **22 33 01.3 0.0**
MEM Membach 83.15 334 *d*P **P** **22 33 01.4 0.0**
comp=Z,14nm,0.8s
OBKA Obir 83.15 327 *i* P **P** **22 33 01.7 +0.1**
comp=Z,11nm,0.8s,SNR=5.6
LENM Lemitar 83.18 51 P **P** **22 33 03.8 +1.7**
KBA Koelnbreinsper 83.22 328 *i* P **P** **22 33 02.1 +0.1**
comp=Z,14nm,0.7s,SNR=13
BSTI Sart Tilman 83.32 334 *d*P **P** **22 33 02.7 +0.4**
Y22A Socorro 83.34 52 P **P** **22 33 04.7 +1.7**
baz=313
BHOU Houvegnez 83.36 334 *d*P **P** **22 33 02.4 -0.1**
comp=Z,8.1nm,0.9s
MYKA Terra Mystica 83.45 327 *i* P **P** **22 33 02.9 -0.3**
comp=Z,9.8nm,0.4s,SNR=6.5
I37B Waseca 83.50 37 P **P** **22 33 04.1 +0.7**
baz=320
LJU Ljubljana 83.53 326 *i* P **P** **22 33 03.0 -0.4**
SCHQ Schefferville 83.54 16 P **P** **22 33 03.4 0.0**
comp=Z,12nm,0.7s,baz=354,slow=5.2,SNR=9.8
SCHQ LR LR 23 12 02.7
comp=Z,84nm,21.5s,baz=212,slow=37
comp=Z,12nm,0.7s
SCHQ Schefferville 83.54 16 P **P** **22 33 03.1 -0.3**
SCHQ IAmb IAmb 22 33 04.7
comp=Z,14nm,0.8s
BCLA Clavier 83.55 334 *d*P **P** **22 33 03.2 -0.2**
comp=Z,10nm,0.9s
319A Douglas 83.60 55 P **P** **22 33 05.4 +1.1**
319A IAmb IAmb 22 33 06.6
comp=Z,22nm,0.8s
BGES Gesves 83.65 334 *d*P **P** **22 33 04.1 +0.1**
comp=Z,8.2nm,0.9s
WATA Walderalm 83.74 329 *e*P **P** **22 33 04.8 0.0**
comp=Z,6.2nm,0.6s
WTTA Wattenberg 83.77 329 *e*P **P** **22 33 05.0 +0.1**
comp=Z,6.0nm,0.7s
121A Cookes Peak, D 83.78 53 P **P** **22 33 06.2 +1.0**
121A IAmb IAmb 22 33 07.9
comp=Z,12nm,0.8s
121A Cookes Peak, D 83.78 53 P **P** **22 33 06.5 +1.3**
baz=312
121A Cookes Peak, D 83.78 53 P **P** **22 33 06.7 +1.5**
baz=312,SNR=9.7
RCHB Rochefort 83.80 334 *d*P **P** **22 33 04.8 +0.1**
comp=Z,7.6nm,0.0s
SNF Seneffe 83.82 335 *d*P **P** **22 33 05.1 +0.3**
comp=Z,16nm,0.6s
ABTA Abfaltersbach 83.83 328 *e*P **P** **22 33 04.5 -0.6**
comp=Z,3.9nm,0.7s
BMRD Maredsous 83.83 334 *d*P **P** **22 33 04.2 -0.7**
comp=Z,11nm,1.0s
JAVS Javornik 83.84 327 *i* P **P** **22 33 04.3 -0.9**
CLUD Cludinico 83.90 328 P **P** **22 33 04.7 -0.7**
CLUD IAmb IAmb 22 33 05.7
comp=Z,23nm,0.8s
MOTA Moosalm 83.92 329 *e*P **P** **22 33 05.7 +0.1**
comp=Z,10nm,0.9s
RETA Reutte 83.95 329 *i* P **P** **22 33 06.1 +0.5**
comp=Z,15nm,0.9s,SNR=6.2
SQTA Sankt Quirin 83.98 329 *e*P **P** **22 33 05.9 0.0**
comp=Z,7.7nm,0.7s
G40A Rib Lake 83.99 34 P **P** **22 33 05.7 -0.2**
baz=322
DOU Dourbes 84.06 334 *d*P **P** **22 33 06.2 +0.1**
comp=Z,7.3nm,1.2s
EIL Elat 84.07 303 LR LR 23 14 43.6
comp=Z,182nm,18.6s,baz=40,slow=39
CBKS Cedar Bluff 84.13 44 P **P** **22 33 07.4 +0.6**
baz=316
STAL STALIGIAL 84.13 328 P **P** **22 33 05.5 -1.1**
BFO Black Forest 84.20 331 P **P** **22 33 07.2 +0.3**
BFO IAmb IAmb 22 33 08.2
comp=Z,18nm,0.9s
BFO Black Forest 84.20 331 P **P** **22 33 07.2 +0.3**
BFO pmax pmax
comp=Z,19nm,0.9s
FETA Feichten 84.34 329 *i* P **P** **22 33 07.9 +0.1**
comp=Z,9.5nm,0.7s,SNR=6.0
DAVA Damuels 84.46 330 *i* P **P** **22 33 08.5 +0.1**
comp=Z,18nm,0.7s,SNR=6.9
E43A Lone Tree Farm 84.48 32 P **P** **22 33 08.4 0.0**
baz=324
DSB Dublin 84.50 342 P **P** **22 33 07.7 -0.5**
KBN Korca 84.70 319 P **P** **22 33 09.6 0.0**
KBN Korca 84.70 319 P **P** **22 33 09.6 0.0**
KBN pmax pmax
comp=Z,32nm,0.8s
ECH Echery 84.73 332 P **P** **22 33 09.4 -0.2**
ECH IAmb IAmb 22 33 10.2
comp=Z,19nm,0.9s
ECH Echery 84.73 332 P **P** **22 33 09.4 -0.2**
ECH pmax pmax
comp=Z,19nm,0.9s
PPT Papeete 84.74 117 LR LR 23 02 29.8
comp=Z,130nm,21.0s,baz=332,slow=30
PPT2 Papeete2 84.76 117 *e*LR LR 23 00 02.0
comp=Z,347nm,24.8s
PPT2 *e*LR LR 23 00 02.2
comp=Z,263nm,24.8s
N35A Tabor 84.78 40 P **P** **22 33 10.8 +0.9**
baz=318
FUORN Ofenpass-Fuorn 84.85 329 P **P** **22 33 11.0 +0.5**
DAVOX Davos/Dischmat 84.87 329 LR LR 23 14 27.0
comp=Z,450nm,18.4s,baz=40,slow=38
I40A Norwalk 84.88 35 P **P** **22 33 10.5 +0.1**
baz=321
SCIA State Center 85.19 38 P **P** **22 33 12.7 +0.7**
SCIA State Center 85.19 38 P **P** **22 33 13.1 +1.1**
baz=320
KSU1 Kansas State U 85.59 42 P **P** **22 33 14.5 +0.5**
baz=318
I42A Draeger Farm, 85.64 34 P **P** **22 33 13.0 -1.2**
baz=322
H43A Windswept, Lux 85.68 33 P **P** **22 33 14.3 -0.1**
baz=323
JFWS Jewell Farm 85.81 36 P **P** **22 33 14.8 -0.2**
baz=322
AMTX Amarillo 85.84 48 P **P** **22 33 16.0 +0.5**
AMTX IAmb IAmb 22 33 17.2
comp=Z,15nm,0.7s
AMTX Amarillo 85.84 48 P **P** **22 33 16.0 +0.5**
baz=315
AMTX Amarillo 85.84 48 P **P** **22 33 16.4 +1.0**
baz=315
MSTX Muleshoe 85.84 49 P **P** **22 33 16.3 +0.7**
baz=315
TAOE Nuku Hiva Isla 85.88 105 *e*LR LR 23 00 32.8
comp=Z,218nm,22.7s
MEH Mehetia 86.00 117 *e*T T 00 08 43.0
comp=Z,33nm,0.3s
L40A Anamosa 86.02 37 P **P** **22 33 15.4 -0.7**
baz=321
N38A Joes South For 86.03 39 P **P** **22 33 16.7 +0.5**
baz=320
RPZ Rata Peaks 86.06 160 LR LR 23 09 02.4
comp=Z,94nm,19.6s,baz=336,slow=34
IDI Anoyia 86.38 313 LR LR 23 17 37.7
comp=Z,65nm,18.6s,baz=82,slow=40
GLMI Grayling 86.72 31 P **P** **22 33 19.8 +0.3**
baz=325
P38A Dawn 86.77 40 P **P** **22 33 20.4 +0.6**
baz=320
BNI Bardonecchia 87.56 330 P **P** **22 33 23.7 0.0**
BNI IAmb IAmb 22 34 04.5
comp=Z,26nm,1.4s
BNI Bardonecchia 87.56 330 P **P** **22 33 23.7 0.0**
P40A Paris 87.58 39 P **P** **22 33 24.5 +0.8**
baz=321
WMOK Wichita Mounta 87.60 46 P **P** **22 33 24.2 +0.2**
WMOK Wichita Mounta 87.60 46 P **P** **22 33 24.2 +0.2**
WMOK pmax pmax
comp=Z,6.0nm,1.0s
LPIG La Paz 87.74 61 LR LR 23 07 06.7
comp=Z,56nm,18.9s,baz=327,slow=32
HDIL Hopedale 88.10 37 P **P** **22 33 26.4 +0.2**
baz=322
S39A Bolivar 88.35 41 P **P** **22 33 27.5 +0.1**
baz=320
R40A Maddies Statio 88.42 40 P **P** **22 33 28.1 +0.4**
baz=321
TX31 Lajitas Ar. Si 88.54 53 P **P** **22 33 29.6 +1.0**
TX31 Lajitas Ar. Si 88.54 53 P **P** **22 33 29.6 +1.0**
baz=315
TXAR Lajitas Array 88.54 53 P **P** **22 33 29.4 +0.8**
comp=Z,6.0nm,0.6s,baz=298,slow=3.3,SNR=54
comp=Z,6.0nm,0.6s
TXAR Lajitas Array 88.54 53 P **P** **22 33 29.6 +1.0**
ABTX Abilene, Hawle 88.64 48 P **P** **22 33 30.1 +1.2**
baz=317
ABTX Abilene, Hawle 88.64 48 P **P** **22 33 29.5 +0.6**
baz=317
P43A Skaggs, Pawnee 88.72 37 P **P** **22 33 29.6 +0.5**
baz=322
U38A Gravette 88.75 42 P **P** **22 33 30.1 +0.7**
baz=319
TBI Tubuai 88.77 121 *e*LR LR 23 01 53.0
comp=Z,4μm,22.5s
TBI *e*LR LR 23 01 53.3
comp=Z,577nm,22.2s
TBI Tubuai 88.77 121 *e*T T 00 12 10.0
comp=Z,45nm,0.3s
SADO Sadowa 88.89 28 LR LR 23 15 05.3
comp=Z,96nm,19.4s,baz=354,slow=37
HHAR Hobbs 89.10 42 P **P** **22 33 31.1 +0.1**
baz=320
CCM Cathedral Cave 89.12 39 P **P** **22 33 31.1 0.0**
CCM Cathedral Cave 89.12 39 P **P** **22 33 31.2 +0.1**
baz=321
CCM Cathedral Cave 89.12 39 P **P** **22 33 31.4 +0.3**
baz=321
CCM Cathedral Cave 89.12 39 P **P** **22 33 31.1 0.0**
CCM pmax pmax
comp=Z,23nm,0.8s
AAM Ann Arbor 89.19 32 P **P** **22 33 31.6 +0.3**
baz=326
SFIN Lafayette 89.26 35 P **P** **22 33 32.5 +0.9**
baz=324
SFIN Lafayette 89.26 35 P **P** **22 33 32.1 +0.5**
baz=324
MGMO Mountain Grove 89.30 41 P **P** **22 33 32.1 +0.1**
MGMO IAmb IAmb 22 33 33.1
comp=Z,15nm,0.9s
Q44A Meyer Farm, Va 89.54 38 P **P** **22 33 33.7 +0.7**
baz=323
X37A Clayton 89.61 44 P **P** **22 33 33.5 +0.1**
baz=319
P46A Rosedale 89.82 36 P **P** **22 33 35.2 +0.9**
baz=324
JCT Junction City 90.09 50 P **P** **22 33 36.1 +0.3**
JCT IAmb IAmb 22 33 37.2
comp=Z,11nm,0.7s
JCT Junction City 90.09 50 P **P** **22 33 36.0 +0.3**
baz=316
JCT Junction City 90.09 50 P **P** **22 33 36.0 +0.3**
baz=316,SNR=6.3
JCT Junction City 90.09 50 P **P** **22 33 36.1 +0.3**
JCT pmax pmax
comp=Z,11nm,0.7s
OLIL Olney 90.11 37 P **P** **22 33 36.6 +1.0**
baz=323
ATD Arta Tunnel 90.15 285 LR LR 23 18 01.0
comp=Z,41nm,18.9s,baz=0.5,slow=38
O48B Farmland 90.22 34 P **P** **22 33 36.6 +0.4**
baz=325
VAE Valguarnera 90.30 321 LR LR 23 16 59.8
comp=Z,78nm,19.3s,baz=114,slow=37
FCAR Ozark Folk Cen 90.35 41 P **P** **22 33 37.0 +0.2**
FCAR IAmb IAmb 22 33 37.5
comp=Z,9.3nm,0.6s
WHTX Lake Whitney, 90.36 47 P **P** **22 33 37.7 +0.7**
baz=318
S44A Carbondale 90.38 38 P **P** **22 33 37.5 +0.6**
baz=322
BMNY Brushton-Moira 90.46 25 P **P** **22 33 37.4 +0.2**
baz=332
PBMO Poplar Bluff 90.52 40 P **P** **22 33 37.9 +0.3**
baz=322
MIAR Mount Ida 90.61 43 P **P** **22 33 38.9 +0.8**
MIAR Mount Ida 90.61 43 P **P** **22 33 38.9 +0.8**
baz=320
MIAR Mount Ida 90.61 43 P **P** **22 33 38.7 +0.6**
baz=320,SNR=14
MIAR Mount Ida 90.61 43 P **P** **22 33 38.9 +0.8**
MIAR pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,16nm,0.8s						
LONY	**Lake Ozonia**	**90.63**	**25**	P	**P**	**22 33 37.3**	**-0.7**
	baz=332						
ERPA	**Erie**	**90.83**	**30**	P	**P**	**22 33 39.1**	**+0.1**
	baz=328						
P49A	**Miami Univ. Ec**	**91.01**	**34**	P	**P**	**22 33 40.5**	**+0.6**
	baz=325						
P49A	**Miami Univ. Ec**	**91.01**	**34**	P	**P**	**22 33 40.1**	**+0.3**
	baz=325						
M53A	**WI Miller and**	**91.13**	**31**	P	**P**	**22 33 40.8**	**+0.4**
	baz=328						
ACSO	**Alum Creek Sta**	**91.19**	**33**	P	**P**	**22 33 40.6**	**-0.1**
	baz=326						
WCI	**Wyandotte Cave**	**91.36**	**36**	P	**P**	**22 33 42.0**	**+0.6**
WCI				IAmb	IAmb	22 33 43.1	
	comp=Z,12nm,0.8s						
WCI	**Wyandotte Cave**	**91.36**	**36**	P	**P**	**22 33 41.5**	**0.0**
	baz=324						
WCI	**Wyandotte Cave**	**91.36**	**36**	P	**P**	**22 33 42.1**	**+0.6**
WCI				pmax	pmax		
	comp=Z,12nm,0.9s						
PKME	**Peaks-Kenny Pk**	**91.70**	**22**	P	**P**	**22 33 43.1**	**+0.2**
	baz=336						
L56A	**Greenwood**	**91.74**	**28**	P	**P**	**22 33 44.0**	**+0.8**
	baz=330						
L56A				P	**P**	**22 33 44.0**	**+0.8**
	baz=330						
LBNH	**Lisbon**	**91.83**	**24**	P	**P**	**22 33 43.3**	**-0.3**
	baz=334						
P52A	**Corning**	**92.05**	**33**	P	**P**	**22 33 44.8**	**+0.1**
	baz=327						
WVT	**Waverly**	**92.31**	**38**	P	**P**	**22 33 46.2**	**+0.2**
	baz=323						
OXF	**Oxford**	**92.81**	**40**	P	**P**	**22 33 48.7**	**+0.4**
	baz=322						
SSPA	**Standing Stone**	**92.91**	**29**	P	**P**	**22 33 49.1**	**+0.5**
	baz=330						
MCWV	**Mont Chateau**	**92.97**	**31**	P	**P**	**22 33 50.0**	**+1.1**
	baz=328						
TZTN	**Tazewell**	**93.99**	**35**	P	**P**	**22 33 54.4**	**+0.7**
	baz=326						
KEST	**Kesra**	**94.13**	**323**	LR	LR	23 21 05.9	
	comp=Z,402nm,18.1s,baz=307,slow=38						
TKL	**Tuckaleechee C**	**94.62**	**36**	LR	LR	23 19 00.0	
	comp=Z,30nm,20.0s,baz=338,slow=37						
ESDC	**Sonseca Array**	**96.11**	**334**	P	**P**	**22 34 02.9**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=9.9,slow=4.4,SNR=13						
ESDC				LR	LR	23 22 29.1	
	comp=Z,235nm,18.3s,baz=17,slow=39						
	comp=Z,1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**116.65**	**316**	PKP	**PKPdf**	**22 39 19.3**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=46,slow=2.2,SNR=4.8						
DBIC	**Dimbokro**	**125.55**	**319**	PKP	**PKPdf**	**22 39 36.6**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=49,slow=3.1,SNR=7.4						
BOSA	**Boshof**	**127.57**	**261**	PKP	**PKPdf**	**22 39 40.3**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=35,slow=6.8,SNR=4.6						
MACA	**Manacapuru-AM**	**138.88**	**36**	*e*P	**PKiKP**	**22 40 06.7**	**+2.1**
MALB	**Monte Alegre**	**140.31**	**27**	*e*P	**PKiKP**	**22 40 09.4**	**+1.9**
SNAA	**Sanae**	**142.55**	**197**	PKPdf	**PKPdf**	**22 40 02.6**	**-4.7**
VNA2	**Neumayer--Watz**	**144.12**	**196**	PKPdf	**PKPab**	**22 40 08.0**	**+0.4**
	baz=120,slow=4.1						
VNA3	**Neumayer Olymp**	**144.36**	**195**	PKPdf	**PKPab**	**22 40 08.4**	**-0.3**
VNA1	**Neumayer--Stat**	**144.51**	**196**	PKPdf	**PKPdf**	**22 40 10.5**	**-0.2**
LPAZ	**La Paz**	**145.22**	**59**	PKPbc	**PKPbc**	**22 40 14.2**	**+0.2**
	comp=Z,6.2nm,0.5s,baz=315,slow=3.6,SNR=29						
H03N2	**Juan Fernandez**	**146.45**	**94**	T	T	01 24 52.7	
	baz=291,slow=76						
H03N3	**Juan Fernandez**	**146.46**	**94**	T	T	01 24 54.4	
	baz=291,slow=76						
H03N1	**Juan Fernandez**	**146.46**	**94**	T	T	01 24 55.5	
	baz=291,slow=76						
RCBR	**Riachuelo**	**147.24**	**357**	*e*P	**PKPab**	**22 40 21.0**	**-0.1**
VILB	**Vilhena**	**147.49**	**44**	*e*P	**PKPab**	**22 40 21.2**	**-0.9**
CLDB	**Colider**	**147.91**	**35**	*e*P	**PKPbc**	**22 40 21.6**	**+0.4**
PDRB	**Porto dos Gac**	**148.13**	**37**	*e*P	**PKPbc**	**22 40 21.9**	**+0.2**
LVC	**Limon Verde**	**148.90**	**68**	*e*P	**PKPbc**	**22 40 24.8**	**+0.8**
SMTB	**Santa Maria do**	**148.99**	**19**	*e*P	**PKPbc**	**22 40 24.3**	**+0.3**
PMSA	**Palmer Station**	**149.66**	**158**	*e*P	**PKiKP**	**22 40 24.8**	**-0.3**
PTLB	**Pontes e Lacer**	**150.12**	**45**	*e*P	**PKPbc**	**22 40 27.0**	**+0.4**
BBSD	**Serra de San D**	**150.66**	**49**	*e*P	**PKPbc**	**22 40 28.1**	**+0.1**
SNDB	**Serra Nova Dou**	**150.75**	**28**	*e*P	**PKiKP**	**22 40 28.8**	**-0.1**
BBRB	**Robore, Bolivi**	**151.98**	**50**	*e*P	**PKPbc**	**22 40 29.6**	**-1.4**
SALV	**Santo Antonio**	**152.32**	**40**	*e*P	**PKPbc**	**22 40 30.4**	**-1.3**
SDBA	**SAO DESIDERIO**	**153.04**	**16**	*e*P	**PKPbc**	**22 40 31.5**	**-2.0**
GDU01	**Guandu, BA**	**155.06**	**4**	*e*P	**PKPdf**	**22 40 34.3**	**+5.4**
BDFB	**Brasilia**	**155.30**	**24**	*e*P	**PKPdf**	**22 40 34.3**	**+5.0**
RIB01	**Linhares ES**	**160.54**	**8**	*e*P	**PKPdf**	**22 40 40.2**	**+4.7**
PARB	**Paraibuna**	**163.25**	**26**	*e*P	**PKPdf**	**22 40 44.3**	**+5.9**
PET01	**Itanhaem-SP**	**163.48**	**32**	*e*P	**PKPdf**	**22 40 44.1**	**+5.7**

*IDC **09** 22:20:43.6±5.6, 34˚.62S×179˚.39W, h0km, mb3.8/2, mbtmp3.8/2, MS2.9/1, Error ellipse: s-maj=252.9km s-min=60.6km az=164.0*

*WEL **09** 22:21:29.5, 38˚S±32˚×17˚8E±1˚9, h32km±19km, M2.2/10, ML1.9/6, MLv2.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=0.8*

ISC 09 22:20:42.8±2.7**, 35˚.2S**±0˚.2×**178˚.7W**±0˚.4**, h35km, n18, σ0s.96**/16**, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.38**	**224**	P	**Pn**	**22 21 31.0**	**-2.0**
WMGZ	**Waiomatatini S**	**3.50**	**220**	P	**Pn**	**22 21 35.2**	**+0.5**
PKGZ	**Pakihiroa**	**3.73**	**223**	P	**Pn**	**22 21 37.4**	**-0.6**
HAZ	**Te Kaha**	**3.81**	**227**	P	**Pn**	**22 21 39.2**	**+0.2**
TWGZ	**Tauwhareparae**	**4.00**	**221**	P	**Pn**	**22 21 42.0**	**+0.4**
RUGZ	**Raukumara Rang**	**4.02**	**225**	P	**Pn**	**22 21 41.5**	**-0.5**
CNGZ	**Carnagh Statio**	**4.12**	**216**	P	**Pn**	**22 21 43.3**	**+0.2**
RIGZ	**Rimuhau**	**4.51**	**218**	P	**Pn**	**22 21 49.5**	**+0.9**
RAGZ	**Rawiri**	**4.53**	**222**	P	**Pn**	**22 21 48.4**	**-0.6**
SNGZ	**Shannon Statio**	**4.78**	**220**	P	**Pn**	**22 21 52.8**	**+0.4**
MHGZ	**Mahia Peninsul**	**4.79**	**213**	P	**Pn**	**22 21 52.4**	**-0.1**
HLRZ	**Highlands Stat**	**5.00**	**231**	P	**Pn**	**22 21 56.9**	**+1.5**
MTHZ	**Maungataniwha**	**5.10**	**223**	P	**Pn**	**22 21 57.0**	**+0.2**
TMVZ	**Te Maari**	**5.94**	**227**	P	**Pn**	**22 22 06.7**	**-1.6**
RAR	**Rarotonga**	**21.68**	**55**	LR	LR	22 33 53.5	
	comp=Z,26nm,18.3s,baz=102,slow=36						
ASAR	**Alice Springs**	**42.47**	**272**	P	P	22 28 36.1	+1.5
	1.2nm,0.5s,baz=114,slow=7.8,SNR=19						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**43.89**	**278**	P	**P**	**22 28 46.8**	**+0.7**
	0.5nm,0.5s,baz=120,slow=7.6,SNR=7.8						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**149.35**	**337**	PKPbc	**PKPab**	**22 40 31.2**	**-0.7**
	3.1nm,1.0s,baz=60,slow=6.6,SNR=3.9						

*IDC **09** 22:36:14.2±7.2, 38˚.71N×143˚.24E, h0km, mb3.5/3, mbtmp3.5/5, ML2.1/2, Error ellipse: s-maj=118.1km s-min=40.6km az=122.0*

*JMA **09** 22:36:25.5±0.1, 38˚.7N±0˚.2×142˚.3E±0˚.5, h38km±1km, MV3.5/40, E OFF MIYAGI PREF*

ISC 09 22:36:21.6±2.3**, 38˚.63N**±0˚.06×**142˚.4E**±0˚.1**, h17km**±11km**, n22, σ0s.98**/25**, mb3.4**/3**, 12D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.73**	**308**	⇓*i*P	**Pn**	**22 36 37.9**	**+0.7**
OFUJ				⇓S	**Sb**	**22 36 46.6**	**+0.9**
JKMT	**Kesennumamotoy**	**0.76**	**284**	⇓*i*P	**Pn**	**22 36 38.1**	**+0.7**
JKMT				⇓S	**Sb**	**22 36 46.9**	**+0.6**
JIKH	**Ishinomakikobu**	**0.81**	**247**	⇓*i*P	**Pn**	**22 36 39.4**	**+1.2**
JIKH				⇓S	**Sn**	**22 36 49.0**	**-0.8**
JIO	**Ouri**	**0.85**	**258**	⇓P	**Pn**	**22 36 39.7**	**+0.9**
JIO				⇓S	**Sb**	**22 36 49.5**	**+0.4**
JMK	**Ichinoseki**	**0.99**	**289**	⇓*i*P	**Pn**	**22 36 41.5**	**+0.9**
JMK				⇓S	**Sb**	**22 36 52.9**	**0.0**
JOM	**Ohasama**	**1.21**	**314**	⇓*i*P	**Pg**	**22 36 45.0**	**0.0**
JOM				⇓S	**Sb**	**22 36 59.1**	**-0.3**
JTH	**Tanohata**	**1.37**	**342**	P	**Pg**	**22 36 47.7**	**-0.4**
JOU	**Okura**	**1.40**	**259**	P	**Pg**	**22 36 48.0**	**-0.6**
JOU				S	**Sb**	**22 37 04.5**	**-0.3**
JMM	**Marumori**	**1.49**	**240**	P	**Pg**	**22 36 49.9**	**-0.4**
JMM				S	**Sn**	**22 37 06.1**	**-0.5**
JRG	**Rokugo**	**1.58**	**299**	P	**Pb**	**22 36 50.5**	**+0.1**
JYK	**Kaneyama**	**1.63**	**281**	P	**Pb**	**22 36 51.1**	**-0.1**
MJAR	**Matsushiro Arr**	**3.94**	**239**	Pn	**Pn**	**22 37 24.3**	**+3.0**
	0.3nm,0.3s,baz=35,slow=14,SNR=14						
MJAR				Sn	**Sb**	**22 38 18.2**	**+0.2**
	0.1nm,0.3s,baz=331,slow=27,SNR=1.7						
	1.9nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.60**	**309**	Pn	**Pn**	**22 38 40.2**	**+1.3**
	0.1nm,0.3s,baz=119,slow=14,SNR=1.9						
	1.8nm,0.9s						
SONM	**Songino Array**	**27.59**	**301**	P	**P**	**22 42 07.5**	**-0.4**
	0.2nm,0.5s,baz=111,slow=4.8,SNR=1.5						
	0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.34**	**125**	T	T	23 12 43.6	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.35**	**125**	T	T	23 12 44.0	
	baz=317,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.36**	**125**	T	T	23 12 45.0	
	baz=317,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.12**	**127**	T	T	23 13 43.1	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.12**	**127**	T	T	23 13 40.6	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.14**	**127**	T	T	23 13 47.8	
	baz=318						
ZALV	**Zalesovo Beam**	**41.44**	**311**	P	**P**	**22 44 06.1**	**-0.9**
	1.0nm,0.5s,baz=97,slow=7.5,SNR=3.6						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**22 44 26.6**	**-1.0**
	0.4nm,0.6s,baz=86,slow=8.9,SNR=6.9						
	0.4nm,0.6s						

WEL 09 22:45:07.5±0.9**, 36˚S**±11˚×**17˚9E**±1˚7**, h260km**±8km**, M3.4**/13**, ML3.6**/17**, MLv3.4**/13**, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.03**	**202**	P	Pn	22 45 48.8	-2.2
MXZ				S	S	22 46 23.3	-2.2
WMGZ	**Waiomatatini S**	**2.24**	**197**	P	Pn	22 45 52.7	-0.2
WMGZ				S	S	22 46 29.1	+0.1
HAZ	**Te Kaha**	**2.39**	**209**	P	Pn	22 45 52.9	-1.4
HAZ				S	S	22 46 31.2	-0.2
PKGZ	**Pakihiroa**	**2.40**	**203**	P	Pn	22 45 53.9	-0.7
PKGZ				S	S	22 46 31.3	-0.5
PUZ	**Puketiti**	**2.52**	**198**	P	Pn	22 45 55.3	-0.3
PUZ				S	S	22 46 33.9	+0.1
RUGZ	**Raukumara Rang**	**2.61**	**209**	P	Pn	22 45 55.7	-1.0
TWGZ	**Tauwhareparae**	**2.69**	**202**	P	Pn	22 45 57.6	+0.2
TWGZ				S	S	22 46 39.5	+2.4
CNGZ	**Carnagh Statio**	**2.92**	**196**	P	Pn	22 46 00.6	+0.8
TKGZ	**Te Karaka**	**2.98**	**202**	P	Pn	22 46 00.4	+0.2
TKGZ				S	S	22 46 44.0	+1.7
MWZ	**Matawai**	**2.99**	**207**	P	Pn	22 46 00.6	+0.2
MWZ				S	S	22 46 42.2	-0.3
RAGZ	**Rawiri**	**3.17**	**207**	P	Pn	22 46 02.6	+0.1
RAGZ				S	S	22 46 47.8	+1.5
RIGZ	**Rimuhau**	**3.25**	**201**	P	Pn	22 46 03.4	+0.2
RIGZ				S	S	22 46 49.4	+1.8
RTZ	**Ruatahuna**	**3.45**	**211**	P	Pn	22 46 05.1	-0.5
RTZ				S	S	22 46 52.1	+0.5
KNZ	**Kokohu**	**3.57**	**200**	P	Pn	22 46 06.5	-0.2
MHGZ	**Mahia Peninsul**	**3.63**	**197**	P	Pn	22 46 08.4	+1.0
MHGZ				S	S	22 46 55.8	+0.6
RAHZ	**Arahi**	**3.67**	**208**	P	Pn	22 46 08.2	+0.3
RAHZ				S	S	22 46 58.3	+2.3
MTHZ	**Maungataniwha**	**3.71**	**211**	P	Pn	22 46 08.6	+0.2
MTHZ				S	S	22 46 57.8	+1.0
NMHZ	**Naumai**	**3.93**	**209**	P	Pn	22 46 11.8	+0.8
ARHZ	**Aropaoanui**	**4.00**	**206**	P	Pn	22 46 12.1	+0.4
MCHZ	**McNeill Hill**	**4.27**	**208**	P	Pn	22 46 16.1	+1.2
KWHZ	**Kaweka Forest**	**4.36**	**210**	P	Pn	22 46 16.1	+0.1
KWHZ				S	S	22 47 11.7	+1.0
OTVZ	**Oturere**	**4.50**	**218**	P	Pn	22 46 17.5	-0.2
HIZ	**Hauiti**	**4.51**	**230**	P	Pn	22 46 19.6	+1.8
KAHZ	**Kahuranaki**	**4.52**	**204**	P	Pn	22 46 18.5	+0.7
KAHZ				S	S	22 47 14.6	+0.6
PXZ	**Pawanui**	**4.74**	**203**	P	Pn	22 46 20.2	-0.2
PXZ				S	S	22 47 20.6	+2.1
PRHZ	**Porangahau**	**5.03**	**204**	P	Pn	22 46 23.8	0.0
PRHZ				S	S	22 47 25.1	+0.3
TSZ	**Takapari Road**	**5.09**	**210**	P	Pn	22 46 24.3	-0.4
TSZ				S	S	22 47 26.9	+0.6
BFZ	**Birch Farm**	**5.53**	**204**	P	Pn	22 46 30.0	+0.1
BFZ				S	S	22 47 34.9	-1.1
MRZ	**Mangatainoka R**	**5.75**	**209**	P	Pn	22 46 31.1	-1.6
MRZ				S	S	22 47 39.5	-1.5
HOWZ	**Holdsworth Sta**	**5.98**	**208**	P	Pn	22 46 34.9	-0.7
HOWZ				S	S	22 47 45.0	-1.2
TMWZ	**Te Maipa**	**6.03**	**205**	P	Pn	22 46 36.1	0.0
OGWZ	**Otaki Gorge**	**6.05**	**211**	P	Pn	22 46 36.2	-0.2
OGWZ				S	S	22 47 46.5	-1.2
KIW	**Kapiti Island**	**6.20**	**212**	P	Pn	22 46 37.5	-0.7
KIW				S	S	22 47 50.9	-0.2
MTW	**Mount Morrison**	**6.21**	**207**	P	Pn	22 46 37.8	-0.6
PLWZ	**Palliser**	**6.66**	**207**	P	Pn	22 46 43.0	-1.0
PLWZ				S	S	22 48 00.5	-1.1

WEL 09 23:09:38.2±0.4**, 41˚S**±3˚×**17˚6E**±˚**, h22km**±4km**, M3.3**/17**, ML3.6**/17**, MLv3.3**/17**, Error ellipse: s-maj=0.0km s-min=0.0km az=141.3, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIWZ	**Tintock**	**0.13**	**153**	P	Pb	23 09 44.1	+1.1
TIWZ				S	Sb	23 09 48.1	+1.8
PRWZ	**Pori Road**	**0.17**	**48**	P	Pb	23 09 44.6	+1.4
PRWZ				S	Sb	23 09 49.1	+2.4
MRZ	**Mangatainoka R**	**0.18**	**271**	P	Pb	23 09 44.8	+1.4
MRZ				S	Sb	23 09 49.3	+2.3
POWZ	**Post Office Ro**	**0.27**	**353**	P	Pn	23 09 46.0	-0.9
HOWZ	**Holdsworth Sta**	**0.32**	**224**	P	Pn	23 09 46.7	-0.9
HOWZ				S	Sn	23 09 52.3	-1.3
BFZ	**Birch Farm**	**0.33**	**93**	P	Pb	23 09 46.4	+0.9
BFZ				S	Sn	23 09 52.5	-1.3
CPWZ	**Castlepoint**	**0.39**	**130**	P	Pn	23 09 47.8	-0.6
CPWZ				S	Sn	23 09 56.1	+1.0
TMWZ	**Te Maipa**	**0.45**	**172**	P	Pn	23 09 48.4	-0.8
TMWZ				S	Sn	23 09 56.3	-0.4
DVHZ	**Dannevirke**	**0.46**	**37**	P	Pb	23 09 48.4	+0.8
DVHZ				S	Sb	23 09 55.3	+1.4
OGWZ	**Otaki Gorge**	**0.51**	**252**	P	Pn	23 09 49.7	-0.4
OGWZ				S	Sn	23 09 57.4	-0.8
MTW	**Mount Morrison**	**0.55**	**205**	P	Pb	23 09 49.9	+0.8
ANWZ	**Angora Road**	**0.55**	**68**	P	Pn	23 09 49.9	-0.7
ANWZ				S	Sn	23 09 58.8	-0.3
OHWZ	**Ohakea**	**0.59**	**320**	P	Pn	23 09 51.9	+0.6
TSZ	**Takapari Road**	**0.62**	**11**	P	Pn	23 09 51.1	-0.5
KIW	**Kapiti Island**	**0.71**	**254**	P	Pn	23 09 53.1	+0.2
TRWZ	**Traveller**	**0.74**	**187**	P	Pb	23 09 52.5	+0.1
PRHZ	**Porangahau**	**0.74**	**58**	P	Pb	23 09 52.6	+0.1
WPHZ	**Waipukurau**	**0.77**	**39**	P	Pn	23 09 53.8	+0.1
PAWZ	**Paruwai Farm**	**0.77**	**202**	P	Pb	23 09 52.9	-0.1
PNHZ	**Pukenui**	**0.81**	**22**	P	Pn	23 09 54.1	-0.1
MSWZ	**Moikau Station**	**0.86**	**209**	P	Pb	23 09 53.9	-0.6
PLWZ	**Palliser**	**1.00**	**205**	P	Pb	23 09 55.6	-1.2
PXZ	**Pawanui**	**1.02**	**52**	P	Pn	23 09 56.3	-0.9
WAZ	**Wanganui**	**1.11**	**325**	P	Pb	23 10 00.6	+2.0
BHHZ	**Black Hill Sta**	**1.19**	**9**	P	Pb	23 09 59.8	-0.2
KAHZ	**Kahuranaki**	**1.19**	**44**	P	Pn	23 09 59.0	-0.5
MOVZ	**Moawhango**	**1.26**	**358**	P	Pb	23 10 01.0	-0.2
TCW	**Tory Channel**	**1.28**	**244**	P	Pn	23 10 00.4	-0.3
MTVZ	**Mangateitei**	**1.30**	**348**	P	Pb	23 10 02.8	+0.8
KWHZ	**Kaweka Forest**	**1.33**	**21**	P	Pn	23 10 01.3	-0.1
WNVZ	**Wahianoa**	**1.35**	**353**	P	Pb	23 10 03.0	+0.2
TRVZ	**Turoa**	**1.38**	**352**	P	Pb	23 10 03.5	+0.1
WHVZ	**Whangaehu Hut**	**1.39**	**353**	P	Pb	23 10 03.8	+0.2
MCHZ	**McNeill Hill**	**1.40**	**29**	P	Pn	23 10 02.1	-0.2
CKHZ	**Cape Kidnapper**	**1.40**	**44**	P	Pn	23 10 01.1	-1.2
TUVZ	**Tukino**	**1.40**	**355**	P	Pb	23 10 04.0	+0.3
PKVZ	**Pokaka**	**1.42**	**345**	P	Pb	23 10 04.5	+0.6
FWVZ	**Far West T-bar**	**1.42**	**352**	P	Pb	23 10 04.2	+0.1
DUWZ	**D'Urville Isla**	**1.44**	**264**	P	Pn	23 10 03.4	+0.4
SNVZ	**South Ngauruho**	**1.48**	**355**	P	Pb	23 10 05.0	-0.2
NGZ	**Ngauruhoe**	**1.50**	**354**	P	Pb	23 10 05.0	-0.3
OTVZ	**Oturere**	**1.50**	**356**	P	Pb	23 10 05.0	-0.5
ETVZ	**East Tongariro**	**1.53**	**357**	P	Pb	23 10 05.2	-0.7
NNVZ	**North Ngauruho**	**1.54**	**354**	P	Pb	23 10 05.5	-0.5
TMVZ	**Te Maari**	**1.55**	**357**	P	Pb	23 10 05.5	-0.7
WTVZ	**West Tongariro**	**1.56**	**354**	P	Pb	23 10 05.8	-0.6
NTVZ	**North Tongarir**	**1.57**	**356**	P	Pb	23 10 05.8	-0.8
KRVZ	**Karewarewa**	**1.57**	**355**	P	Pb	23 10 06.1	-0.6
BKZ	**Black Stump Fm**	**1.59**	**20**	P	Pn	23 10 04.6	-0.4
TUWZ	**Tuamarina**	**1.60**	**241**	P	Pn	23 10 04.3	-0.9
LREZ	**Lake Rotokare**	**1.62**	**318**	P	Pb	23 10 08.6	+1.3
TWVZ	**Taurewa**	**1.62**	**350**	P	Pb	23 10 06.7	-0.7
CMWZ	**Cape Campbell**	**1.62**	**227**	P	Pb	23 10 12.2	+4.9
ARHZ	**Aropaoanui**	**1.67**	**33**	P	Pn	23 10 06.0	-0.1
RITZ	**Rihia Road**	**1.69**	**1**	P	Pn	23 10 07.3	+1.0
KATZ	**Kakaramea**	**1.69**	**357**	P	Pb	23 10 07.7	-1.0
VRZ	**Vera Road**	**1.74**	**332**	P	Pb	23 10 09.1	-0.3
NMHZ	**Naumai**	**1.74**	**26**	P	Pb	23 10 10.1	+0.5
BSWZ	**Blackbirch Sta**	**1.80**	**234**	P	Pn	23 10 06.8	-1.0
PREZ	**Palmer Road**	**1.83**	**316**	P	Pb	23 10 11.1	+0.1
MRHZ	**Matea Rd**	**1.89**	**15**	P	Pn	23 10 08.8	-0.3
NEZ	**North Egmont**	**1.92**	**316**	P	Pb	23 10 12.9	+0.4
NNZ	**Nelson**	**1.92**	**253**	P	Pb	23 10 11.5	-1.0
NMEZ	**Namu Road**	**1.94**	**310**	P	Pn	23 10 09.9	+0.2
KHEZ	**Kahui Hut**	**1.94**	**314**	P	Pb	23 10 13.3	+0.4
WATZ	**Wairara**	**1.96**	**358**	P	Pn	23 10 10.5	+0.4
MTHZ	**Maungataniwha**	**1.98**	**24**	P	Pn	23 10 10.4	+0.1
PKE	**Pukeiti**	**2.03**	**316**	P	Pb	23 10 14.8	+0.4
NBEZ	**Newall Road No**	**2.04**	**312**	P	Pb	23 10 14.3	-0.3
TKNZ	**Takaka Hill**	**2.19**	**259**	P	Pn	23 10 13.7	+0.4
RTZ	**Ruatahuna**	**2.24**	**24**	P	Pn	23 10 14.2	+0.2
HIZ	**Hauiti**	**2.27**	**341**	P	Pb	23 10 17.3	-1.1
MRNZ	**Matariki Terra**	**2.42**	**251**	P	Pn	23 10 17.7	+1.3
KHZ	**Kahutara**	**2.44**	**223**	P	Pn	23 10 14.6	-2.1
THZ	**Tophouse**	**2.45**	**242**	P	Pn	23 10 16.0	-0.9
MWZ	**Matawai**	**2.68**	**30**	P	Pn	23 10 18.1	-1.9
HAZ	**Te Kaha**	**3.28**	**28**	P	Pn	23 10 27.4	-0.8
LTZ	**Lake Taylor**	**3.39**	**230**	P	Pn	23 10 27.4	-2.3
OKCZ	**Okains Bay**	**3.68**	**213**	P	Pn	23 10 30.7	-2.9
CTZ	**Chatham Island**	**6.41**	**121**	P	Pn	23 11 09.9	-1.2

*IDC **09** 23:22:49.2±1.0, 2˚.43S×140˚.19E, h0km, mb3.9/5, mbtmp4.0/6, ML4.3/1, MS3.2/3, Error ellipse: s-maj=35.9km s-min=21.3km az=81.0*

*NEIC **09** 23:22:55.2±1.9, 2˚.62S±0˚.10×140˚.0E±0˚.1, h29km±4km, mb4.5/13, Error ellipse: s-maj=16.5km s-min=13.4km az=66.0*

ISC 09 23:22:53.7±0.6**, 2˚.55S**±0˚.08×**140˚.0E**±0˚.1**, h25km, n31, σ1s.19**/29**, mb4.2**/11**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**7.76**	**267**	Pn	**Pn**	**23 24 44.5**	**-0.7**
SIJI	**Sorong**	**8.90**	**281**	LR	LR	23 28 48.7	
	comp=Z,96nm,18.3s,baz=128,slow=40						
COEN	**Coen**	**11.76**	**165**	Pn	**Pn**	**23 25 40.1**	**+0.2**
KNRA	**Kununurra**	**17.12**	**220**		**Pn**	**23 26 51.1**	**-0.3**
KNRA				IAmb	IAmb	23 27 15.6	
	comp=Z,34nm,1.4s						
WR0	**Warramunga Arr**	**18.11**	**197**	P	**Pn**	**23 27 02.7**	**-1.0**
WRA	**Warramunga Arr**	**18.15**	**197**	P	**Pn**	**23 27 04.2**	**0.0**
	comp=Z,1.0nm,0.3s,baz=19,slow=11,SNR=40						
	comp=Z,2.7nm,0.4s						
WRA	**Warramunga Arr**	**18.15**	**197**	P	**Pn**	**23 27 02.4**	**-1.9**
CTA	**Charters Tower**	**18.46**	**161**	P	**Pn**	**23 27 10.1**	**+2.0**
	comp=Z,2.1nm,0.6s,baz=336,slow=9.6,SNR=5.5						
HNR	**Honiara**	**20.96**	**110**	P	**P**	**23 27 32.5**	**-2.5**
	comp=Z,3µm,0.4s,baz=270,slow=1.0,SNR=6.9						
HNR	**Honiara**	**20.96**	**110**	P	**P**	**23 27 33.4**	**-1.7**
AS31	**Alice Springs**	**21.81**	**195**	P	**P**	**23 27 43.7**	**-0.4**
ASAR	**Alice Springs**	**21.81**	**195**	P	**P**	**23 27 44.2**	**0.0**
	comp=Z,3.2nm,0.5s,baz=25,slow=11,SNR=37						
ASAR				LR	LR	23 36 20.8	
	comp=Z,62nm,19.4s,baz=333,slow=37						
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**21.81**	**195**	P	**P**	**23 27 43.9**	**-0.3**
EIDS	**Eidsvold**	**25.07**	**156**	P	**P**	**23 28 17.5**	**+1.2**
EIDS				IAmb	IAmb	23 28 20.9	
	comp=Z,6.9nm,0.7s						
STKA	**Stephens Creek**	**29.21**	**177**	P	**P**	**23 28 54.9**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=360,slow=12,SNR=3.1						
	comp=Z,0.8nm,0.5s						
BBOO	**Buckleboo**	**30.33**	**187**	P	**P**	**23 29 03.8**	**+0.4**
BBOO				IAmb	IAmb	23 29 27.2	
	comp=Z,22nm,1.5s						
ONTNC	**Ouen Toro**	**32.32**	**130**	P	**P**	**23 29 21.2**	**+0.2**
MORW	**Morawa**	**34.87**	**218**	P	**P**	**23 29 43.3**	**+0.2**
MORW				IAmb	IAmb	23 29 50.3	
	comp=Z,16nm,1.2s						
USA0B	**Ussuriysk Arra**	**47.09**	**352**	P	**P**	**23 31 25.3**	**+1.7**
USRK	**Ussuriysk Ar.**	**47.09**	**352**	P	**P**	**23 31 25.5**	**+2.0**
PALK	**Pallekele**	**59.98**	**280**	LR	LR	23 59 46.2	
	comp=Z,20nm,18.0s,baz=122,slow=37						
MK31	**Makanchi Array**	**70.46**	**322**	P	**P**	**23 34 06.6**	**+0.4**
MK31				IAmb	IAmb	23 34 20.1	
	comp=Z,2.9nm,1.3s						
MKAR	**Makanchi Array**	**70.46**	**322**	P	**P**	**23 34 06.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=96,slow=9.2,SNR=15						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**70.46**	**322**	P	**P**	**23 34 06.4**	**+0.2**
MAKZ	**Makanchi**	**70.66**	**322**	P	**P**	**23 34 07.6**	**+0.3**
MAKZ				IAmb	IAmb	23 34 11.7	
	comp=Z,3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**72.46**	**329**	P	**P**	**23 34 17.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=110,slow=5.4,SNR=1.8						
	comp=Z,0.6nm,0.4s						
CHGR	**Chuyangaron**	**76.76**	**311**	P	**P**	**23 34 44.1**	**+0.6**
CHGR				IAmb	IAmb	23 34 46.4	
	comp=Z,3.1nm,0.7s						
KKAR	**Karatay Array**	**76.93**	**315**	P	**P**	**23 34 44.0**	**-0.2**
ILAR	**Eielson Array**	**85.15**	**24**	P	**P**	**23 35 25.7**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=246,slow=4.7,SNR=3.3						
	comp=Z,0.6nm,0.8s						
ABKAR	**Akbulak array**	**85.44**	**320**	P	**P**	**23 35 28.1**	**-1.2**
BMAR	**Burnt Mountain**	**86.77**	**22**	P	**P**	**23 35 36.4**	**+0.9**

*IDC **09** 23:44:55.4±2.9, 34˚.24S×178˚.83W, h0km, mb4.6/2, mbtmp4.6/2, MS3.4/4, Error ellipse: s-maj=163.9km s-min=41.3km az=167.0*

*NEIC **09** 23:44:57.6±0.5, 34˚.4S±0˚.1×179˚.0W±0˚.1, h10km±2km, mb4.2/7, Error ellipse: s-maj=25.6km s-min=11.4km az=47.0*

*WEL **09** 23:45:00.6±1.0, 35˚S±9˚×17˚8W±1˚2, h220km±25km, M4.0/18, mB4.6/7, ML4.5/19, MLv4.3/18, Mw(mB)3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=71.1*

ISC 09 23:44:59.7±1.0**, 34˚.28S**±0˚.08×**178˚.7W**±0˚.1**, h35km, n45, σ1s.57**/57**, mb4.5**/6**, MS3.4**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.10**	**216**	Pn	**Pn**	**23 45 57.7**	**-2.1**
MXZ	**Matakaoa Point**	**4.10**	**216**	P	**Pn**	**23 45 59.3**	**-0.4**
MXZ				S	**Sn**	**23 46 48.6**	**+2.2**
WMGZ	**Waiomatatini S**	**4.25**	**213**	P	**Pn**	**23 46 02.7**	**+0.8**
WMGZ				S	**Sn**	**23 46 52.5**	**+2.2**
PKGZ	**Pakihiroa**	**4.46**	**215**	P	**Pn**	**23 46 04.8**	**-0.1**
PKGZ				S	**Sn**	**23 46 56.7**	**+1.1**
HAZ	**Te Kaha**	**4.51**	**219**	P	**Pn**	**23 46 06.2**	**+0.8**
HAZ				S	**Sn**	**23 47 00.0**	**+3.4**
PUZ	**Puketiti**	**4.53**	**213**	P	**Pn**	**23 46 07.5**	**+1.8**
PUZ				S	**Sn**	**23 46 59.2**	**+2.0**
RUGZ	**Raukumara Rang**	**4.72**	**218**	P	**Pn**	**23 46 08.5**	**0.0**
RUGZ				S	**Sn**	**23 47 05.5**	**+3.4**
TWGZ	**Tauwhareparae**	**4.74**	**214**	P	**Pn**	**23 46 09.6**	**+0.9**
TWGZ				S	**Sn**	**23 47 04.2**	**+1.8**
CNGZ	**Carnagh Statio**	**4.90**	**210**	P	**Pn**	**23 46 10.1**	**-0.6**
TKGZ	**Te Karaka**	**5.02**	**213**	P	**Pn**	**23 46 12.4**	**0.0**
TKGZ				S	**Sn**	**23 47 09.7**	**+0.6**
MWZ	**Matawai**	**5.08**	**216**	P	**Pn**	**23 46 12.7**	**-0.6**
MWZ				S	**Sn**	**23 47 11.3**	**+0.5**
KUZ	**Kuaotunu**	**5.20**	**240**	P	**Pn**	**23 46 16.6**	**+1.7**
RAGZ	**Rawiri**	**5.26**	**216**	P	**Pn**	**23 46 16.1**	**+0.2**
RAGZ				S	**Sn**	**23 47 14.4**	**-1.0**
RIGZ	**Rimuhau**	**5.27**	**212**	P	**Pn**	**23 46 16.1**	**+0.2**
RIGZ				S	**Sn**	**23 47 15.8**	**+0.3**
SNGZ	**Shannon Statio**	**5.53**	**214**	P	**Pn**	**23 46 19.6**	**+0.1**
SNGZ				S	**Sn**	**23 47 20.6**	**-1.2**
RTZ	**Ruatahuna**	**5.57**	**218**	P	**Pn**	**23 46 19.8**	**-0.3**
RTZ				S	**Sn**	**23 47 20.8**	**-2.1**
KNZ	**Kokohu**	**5.57**	**211**	P	**Pn**	**23 46 18.3**	**-1.8**
MUGZ	**Murupara**	**5.58**	**220**	P	**Pn**	**23 46 19.8**	**-0.3**
MUGZ				S	**Sn**	**23 47 22.7**	**-0.3**
MHGZ	**Mahia Peninsul**	**5.59**	**209**	P	**Pn**	**23 46 18.7**	**-1.6**
MHGZ				S	**Sn**	**23 47 18.9**	**-4.3**
HLRZ	**Highlands Stat**	**5.65**	**224**	P	**Pn**	**23 46 19.3**	**-1.9**
RAHZ	**Arahi**	**5.75**	**215**	P	**Pn**	**23 46 23.5**	**+1.0**
MTHZ	**Maungataniwha**	**5.82**	**217**	P	**Pn**	**23 46 23.8**	**+0.3**
TOZ	**Tahuroa Road**	**5.85**	**232**	P	**Pn**	**23 46 25.3**	**+1.5**
MRHZ	**Matea Rd**	**6.03**	**220**	P	**Pn**	**23 46 25.7**	**-0.6**
BKZ	**Black Stump Fm**	**6.24**	**217**		**Pn**	**23 46 25.0**	**-4.2**

BKZ Black Stump Fm 6.24 217 P Pn 23 46 28.2 -1.0
BKZ S Sn 23 47 39.1 -0.2
CTZ Chatham Island 9.57 171 S Sn 23 48 48.7 -12
DZM Mont Dzumac 17.87 309 LR LR 23 53 43.4
comp=Z,108nm,18.7s,baz=62,slow=30
DZM Mont Dzumac 17.87 309 Pn 23 49 04.6 -1.1
DZM IAmb IAmb 23 49 16.7
comp=Z,12nm,1.1s
RAR Rarotonga 21.14 57 LR LR 23 57 30.5
comp=Z,76nm,19.6s,baz=233,slow=36
PPT Papeete 30.85 65 LR LR 00 02 22.2
comp=Z,73nm,18.4s,baz=197,slow=34
STKA Stephens Creek 33.25 263 LR LR 00 05 30.3
comp=Z,73nm,18.1s,baz=25,slow=37
CTAO Charters Tower 34.08 285 P P 23 51 39.6 -1.3
CTAO IAmb IAmb 23 51 54.1
comp=Z,11nm,1.4s
AS31 Alice Springs 42.49 271 P P 23 52 50.4 -1.3
AS31 IAmb IAmb 23 52 52.6
comp=Z,2.0nm,0.7s
ASAR Alice Springs 42.49 271 P P 23 52 51.7 0.0
comp=Z,6.1nm,0.7s,baz=113,slow=7.4,SNR=60
ASAR PcP PcP 23 54 43.7 -0.5
comp=Z,0.6nm,0.5s,baz=121,slow=3.6,SNR=2.3
comp=Z,6.1nm,0.7s
ASAR Alice Springs 42.49 271 P P 23 52 50.1 -1.6
WR0 Warramunga Arr 43.66 277 P P 23 52 59.9 -1.3
WR0 IAmb IAmb 23 53 01.9
comp=Z,7.6nm,0.9s
WRA Warramunga Arr 43.83 277 P P 23 53 01.9 -0.6
comp=Z,7.6nm,0.7s,baz=119,slow=7.5,SNR=109
comp=Z,7.6nm,0.7s
WRA Warramunga Arr 43.83 277 P P 23 53 01.3 -1.2
KNRA Kununurra 50.56 278 P P 23 53 54.4 -0.6
SMAI San Martin Ant 66.06 158 P P 23 55 43.9 +1.5
SMAI IAmb IAmb 23 55 56.4
comp=Z,1.4nm,0.8s
FINES FINESS Array B 148.55 337 PKPbc PKPbc 00 04 41.7 -0.2
comp=Z,4.6nm,0.8s,baz=37,slow=4.5,SNR=11
NB2 NORSAR Subarra 152.48 350 PKP PKPbc 00 04 51.4 0.0
comp=Z,1.4nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B 152.48 350 PKPbc PKiKP 00 04 53.4 +1.7
comp=Z,0.7nm,0.8s,baz=17,slow=3.0,SNR=2.5
AKASG Malin Array Be 153.91 317 PKPbc PKiKP 00 04 56.9 +2.0
comp=Z,0.5nm,0.5s,baz=82,slow=1.5,SNR=4.8

---

*IDC **09** 23:45:54.0±5.4, 34°.16S×178°.77W, h0km, mb4.6/2, mbtmp4.6/2, Error ellipse: s-maj=238.9km s-min=59.1km az=163.0*

*NEIC **09** 23:45:56.8±0.8, 34°.2S±0°.1×178°.9W±0°.2, h10km±2km, mb4.1/5, Error ellipse: s-maj=39.5km s-min=5.2km az=127.0*

ISC 09 23:46:01.6±1.9**, 34°.3S**±0°.2×**179°.2W**±0°.3**, h35km, n11, σ0s.62**/11**, mb4.3**/5**, South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BKZ Black Stump Fm 5.99 214 Pn Pn 23 47 27.6 -0.1
THZ Tophouse 9.73 218 Pn Pn 23 48 19.8 +0.7
AS31 Alice Springs 42.09 272 P P 23 53 49.6 -0.7
AS31 IAmb IAmb 23 53 51.5
comp=Z,1.8nm,0.7s
ASAR Alice Springs 42.09 272 P P 23 53 50.4 0.0
comp=Z,4.3nm,0.7s,baz=112,slow=7.3,SNR=9.7
comp=Z,4.3nm,0.7s
ASAR Alice Springs 42.09 272 P P 23 53 49.8 -0.6
WR0 Warramunga Arr 43.26 277 P P 23 53 59.7 -0.2
WR0 IAmb IAmb 23 54 00.9
comp=Z,5.8nm,0.9s
WRA Warramunga Arr 43.43 277 P P 23 54 00.9 -0.3
comp=Z,8.3nm,0.7s,baz=119,slow=7.4,SNR=15
comp=Z,8.3nm,0.7s
WRA Warramunga Arr 43.43 277 P P 23 54 01.0 -0.3
WB0 Warramunga Arr 43.47 277 P P 23 54 01.3 -0.3
SNAA Sanae 74.30 179 P P 23 57 34.3 -0.6
SNAA IAmb IAmb 23 57 39.8
comp=Z,1.9nm,1.0s
FINES FINESS Array B 148.40 337 PKPbc PKPdf 00 05 41.0 +1.1
comp=Z,2.7nm,0.7s,baz=49,slow=4.4,SNR=4.6

IDC 10 00:02:01.8±7.0**, 5°.44S×128°.73E, h75km**±82km**, mb3.3**/1**, mbtmp3.7**/4**, ML3.7**/3**, Error ellipse: s-maj=89.8km s-min=20.3km az=89.0, Banda Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIJI Sorong 5.20 29 P Pn 00 03 16.5 -0.7
1.8nm,0.3s,baz=197,slow=23,SNR=1.8
SIJI S Sn 00 04 16.4 +0.6
12nm,0.2s,baz=63,slow=22,SNR=9.1
5.2nm,0.2s
WRA Warramunga Arr 15.42 160 P Pn 00 05 34.4 -0.7
0.3nm,0.3s,baz=337,slow=12,SNR=21
WRA S Sn 00 08 17.1 -8.1
0.4nm,0.4s,baz=336,slow=22,SNR=2.4
0.7nm,0.4s
ASAR Alice Springs 18.80 165 P P 00 06 15.6 +0.1
0.3nm,0.3s,baz=347,slow=10,SNR=27
1.6nm,0.5s
MKAR Makanchi Array 66.23 327 P P 00 12 42.2 +0.3
0.4nm,0.6s,baz=118,slow=8.2,SNR=6.2
0.4nm,0.6s

---

*NEIC **10** 00:09:19.9±1.8, 12°.78N±0°.05×145°.30E±0°.07, h10km±1km, mb4.5/21, Error ellipse: s-maj=12.1km s-min=9.0km az=253.0*

*IDC **10** 00:09:25.7±1.7, 13°.00N×145°.25E, h52km±11km, mb3.7/12, mbtmp4.0/12, MS3.4/1, Error ellipse: s-maj=28.0km s-min=16.8km az=93.0*

ISC 10 00:09:23.9±0.6**, 12°.82N**±0°.10×**145°.3E**±0°.1**, h43km, n55, σ1s.34**/51**, mb4.3**/23**, 3C, South of Mariana Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 0.86 333 P Pn 00 09 40.1 +0.5
992nm,0.3s,baz=133,slow=4.8,SNR=80
GUMO S Sn 00 09 51.2 +0.1
7μm,0.4s,baz=51,slow=20,SNR=28
GUMO Guam 0.86 333 Pn 00 09 40.1 +0.5
GUMO Sn Sn 00 09 51.5 +0.5
PATS Pohnpei 14.15 114 Pn Pn 00 12 40.9 -0.9
H11S3 WAKE ISLAND Hy 21.37 72 T T 00 36 56.8
baz=259,slow=75,SNR=9.6
H11S1 WAKE ISLAND Hy 21.39 72 T T 00 36 58.8
baz=259,slow=75,SNR=4.1
H11S2 WAKE ISLAND Hy 21.39 72 T T 00 36 57.2
baz=259,slow=75,SNR=3.6
H11N1 WAKE ISLAND Hy 21.84 69 T T 00 37 17.1
baz=257,slow=75,SNR=8.0
H11N2 WAKE ISLAND Hy 21.86 69 T T 00 37 19.2
baz=257,slow=75,SNR=6.5
H11N3 WAKE ISLAND Hy 21.86 69 T T 00 37 17.6
baz=257,slow=75,SNR=7.7
MJAR Matsushiro Arr 24.46 346 LR LR 00 22 51.3
comp=Z,86nm,20.4s,baz=157,slow=33
KSRS Korea Array 29.02 331 P P 00 15 19.4 -0.5
0.9nm,0.7s,baz=141,slow=10,SNR=1.8
0.9nm,0.7s
WB0 Warramunga Arr 34.10 198 P P 00 16 05.6 +0.9
WB0 IAmb IAmb 00 16 08.0
comp=Z,6.4nm,1.4s
WRA Warramunga Arr 34.29 198 P P 00 16 08.4 +2.1
comp=Z,0.9nm,0.8s,baz=22,slow=9.9,SNR=7.6
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 34.29 198 P P 00 16 07.2 +1.0
ASAR Alice Springs 37.93 197 P P 00 16 39.2 +1.9
comp=Z,0.4nm,0.6s,baz=19,slow=12,SNR=7.6
comp=Z,0.4nm,0.6s
CMAR Chiang Mai Arr 44.87 283 P P 00 17 35.0 +0.6
comp=Z,1.7nm,0.5s,baz=81,slow=6.7,SNR=8.7
comp=Z,1.7nm,0.5s
SONM Songino Array 47.58 325 P P 00 17 55.3 -0.2
comp=Z,0.4nm,0.3s,baz=133,slow=7.8,SNR=5.3
SONM PcP PcP 00 19 25.5 +0.6
comp=Z,0.9nm,0.9s,baz=137,slow=3.9,SNR=4.2
comp=Z,0.4nm,0.3s
SONM Songino Array 47.58 325 P P 00 17 55.3 -0.2
MK31 Makanchi Array 62.31 316 P P 00 19 41.8 -0.1
MKAR Makanchi Array 62.31 316 P P 00 19 41.7 -0.2
comp=Z,0.7nm,0.5s,baz=91,slow=8.4,SNR=9.5
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 62.47 325 PcP PcP 00 20 21.4 -0.3
comp=Z,1.9nm,0.5s,baz=128,slow=3.7,SNR=6.4
L19K White Mountain 64.89 27 P P 00 20 00.0 +1.4
L19K IAmb IAmb 00 20 26.7
comp=Z,11nm,1.4s
KURK Kurchatov 65.42 320 P P 00 20 01.4 -0.8
KURK IAmb IAmb 00 20 02.7
comp=Z,4.1nm,1.3s
CNPM China Poot 65.70 30 P P 00 20 04.4 +0.6
J20K Nowinta River 65.92 25 P P 00 20 06.0 +0.8
J20K IAmb IAmb 00 20 09.3
comp=Z,5.0nm,1.3s
SKT Skwentna 66.30 27 P P 00 20 07.5 -0.2
SKT IAmb IAmb 00 20 36.1
comp=Z,6.8nm,1.2s
IMAR Indian Mountai 66.75 23 P P 00 20 10.6 +0.1
NRIK Noril'sk 66.98 341 P P 00 20 11.1 -0.7
comp=Z,1.5nm,0.5s,baz=115,slow=12,SNR=3.8
comp=Z,1.5nm,0.5s
SML Sawmill 67.70 28 P P 00 20 17.3 +0.7
IL31 69.09 25 P P 00 20 24.6 -0.5
IL31 IAmb IAmb 00 20 24.9
comp=Z,3.3nm,1.1s
ILAR Eielson Array 69.09 25 P P 00 20 24.4 -0.8
comp=Z,1.1nm,0.4s,baz=253,slow=5.7,SNR=41
comp=Z,1.1nm,0.4s
ILAR Eielson Array 69.09 25 P P 00 20 25.1 -0.1
KKAR Karatay Array 70.25 311 P P 00 20 33.1 +0.3
GAR Garm 70.40 307 IAmb IAmb 00 20 34.0
comp=Z,7.1nm,1.5s
GAR P P 00 20 34.2 +0.3
BMAR Burnt Mountain 70.66 23 P P 00 20 35.9 +1.0
BRVK Borovoye 70.84 322 P P 00 20 36.6 +0.5
BCAR Beaver Creek A 70.94 27 P P 00 20 37.7 +1.1
CHGR Chuyangaron 71.31 307 P P 00 20 40.1 +0.6
CHGR IAmb IAmb 00 21 03.3
comp=Z,2.5nm,0.8s
EGAK Eagle 71.50 26 P P 00 20 41.4 +1.5
EGAK IAmb IAmb 00 20 43.1
comp=Z,5.7nm,1.4s
DAWY Dawson 72.15 27 P P 00 20 44.5 +0.6
DAWY IAmb IAmb 00 21 04.2
comp=Z,5.7nm,1.4s
HYT Haines Junctio 72.67 30 P P 00 20 48.5 +1.3
ABKAR Akbulak array 77.37 318 P P 00 21 13.9 -0.5
ABKAR Akbulak array 77.37 318 P P 00 21 13.9 -0.5
ABKAR IAmb IAmb 00 21 22.6
comp=Z,2.8nm,1.5s
C36M Paulatuk 78.34 21 P P 00 21 20.4 +1.1
C36M IAmb IAmb 00 21 21.4
comp=Z,4.9nm,1.1s
YKA Yellowknife Ar 83.36 27 P P 00 21 46.4 +0.1
comp=Z,0.5nm,0.6s,baz=285,slow=5.1,SNR=4.1
comp=Z,0.5nm,0.6s
RES Resolute Bay 85.21 13 P P 00 21 55.9 +0.5
NVAR Mina Array Bea 87.09 51 P P 00 22 07.9 +2.2
comp=Z,0.5nm,0.5s,baz=254,slow=6.2,SNR=2.9
comp=Z,0.5nm,0.5s
ARCES ARCESS Array B 87.93 342 P P 00 22 09.1 +0.3
comp=Z,4.2nm,1.1s,baz=60,slow=6.3,SNR=1.7
comp=Z,4.2nm,1.1s
ARCES ARCESS Array B 87.93 342 P P 00 22 08.9 +0.1
FINES FINESS Array B 92.02 335 P P 00 22 26.8 -1.2
comp=Z,1.5nm,0.6s,baz=81,slow=5.6,SNR=13
comp=Z,1.5nm,0.6s
TORD Torodi Ar. Bea 135.62 304 PKP PKiKP 00 28 42.0 -0.1
comp=Z,0.4nm,0.5s,baz=40,slow=2.9,SNR=7.1
DBIC Dimbokro 144.56 301 PKP PKiKP 00 28 56.4 -4.1
comp=Z,2.8nm,0.4s,baz=48,slow=3.4,SNR=9.6
KIC Kosan Boka 144.63 301⇑*e*PKP1 PKPdf 00 28 56.2 -0.7
comp=Z,6.4nm,0.4s
TIC Toumodi 144.71 302⇑*e*PKP1 PKiKP 00 28 56.4 -4.4
comp=Z,9.7nm,0.6s
LIC Lamto 144.94 301⇑*e*PKP1 PKiKP 00 28 57.3 -4.0
comp=Z,22nm,0.6s

---

*LDG **10** 00:53:01.8±0.1, 45°.80N×6°.26E, h2km, Md1.7/3, Ml1.7/11, Error ellipse: s-maj=2.1km s-min=1.9km az=63.0*

*STR **10** 00:53:02.2±0.4, 46°N±4°×°±°, h6km±4km, MLv1.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=165.6, preliminary*

ISC 10 00:53:02.0±1.0**, 45°.80N**±0°.02×**6°.28E**±0°.02**, h9km**±9km**, n29, σ1s.26**/44**, 3D, France**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RSL Roselend 0.27 115 ⇓Pg Pg 00 53 07.0 -0.4
RSL Sg Sg 00 53 11.0 -0.1
OGSI Sixt 0.43 51 Pg Pg 00 53 10.1 -0.2
OGSI Sg Sg 00 53 16.3 +0.3
LPL La Plagne 0.43 132 *e*Pg Pg 00 53 10.1 -0.3
LPL *e*Sg Sg 00 53 16.0 0.0
2.1nm,0.2s
OGSM Saint Maurice 0.45 245 Pg Pg 00 53 11.1 +0.4
OGSM Sg Sg 00 53 17.8 +1.2
LPG La Plagne 0.45 132 *e*Pg Pg 00 53 10.5 -0.3
LPG *e*Sg Sg 00 53 16.5 -0.3
2.0nm,0.2s
OG35 Corcelles 0.55 297 ⇓Pg Pg 00 53 13.0 +0.3
OG35 Sg Sg 00 53 21.1 +1.2
AIGLE Aigle 0.72 41 Pn Pn 00 53 19.2 +0.8
AIGLE Aigle 0.72 41 Sg Sn 00 53 31.5 +1.9
GIMEL St. Georges / 0.73 359 Pg Pn 00 53 19.0 +0.4
GIMEL St. Georges / 0.73 359 Sg Sn 00 53 31.3 +1.2
CABF La Chapelle 0.82 351 *e*Pg Pg 00 53 17.5 -0.3
CABF La Chapelle 0.82 351 *e*Pn Pb 00 53 19.5 +1.0
CABF *e*Sg Sg 00 53 26.6 -1.9
CABF *e*Sn Sb 00 53 30.5 +0.8
2.2nm,0.3s
DIX Grande Dixence 0.84 70 Pn Pn 00 53 21.7 +1.5
ORIF Oris-en-Rattie 0.93 198 *e*Pg Pg 00 53 19.3 -0.5
ORIF *e*Sg Sg 00 53 31.8 0.0
1.2nm,0.2s
MBDF Montbardon 1.13 162 *e*Pg Pg 00 53 23.1 -0.6
MBDF *e*Sg Sg 00 53 38.2 -0.1
0.5nm,0.2s
BRANT Les Verrieres 1.15 7 Pn Pb 00 53 24.5 +0.5
CREF Crivoux 1.27 169 Pn Pg 00 53 18.2 -8.3
CREF Pg Pb 00 53 19.3 -7.0
JAUF Jausiers 1.41 166 ⇓Pn Pn 00 53 19.8 -8.2
JAUF Pg Pb 00 53 21.9 -6.7
VIVF Saint-Julien-l 1.47 231 *e*Pg Pn 00 53 29.2 +0.4
VIVF *e*Sn Sb 00 53 46.3 -2.1
VIVF *e*Sg Sn 00 53 48.5 +0.3
3.6nm,0.2s
SMF Signal de Mont 1.89 297 *e*Pg Pb 00 53 36.4 -0.3
SMF *e*Sg Sb 00 54 00.9 +0.5
1.0nm,0.2s
HINF Hinteralfeld 2.06 11 *e*Pn Pn 00 53 34.5 -2.3
HINF *e*Sn Sn 00 53 58.7 -3.8
HINF *e*Sg Sb 00 54 05.0 -0.2
2.5nm,0.6s
LOR Lormes 2.22 312 *e*Sg Sb 00 54 10.9 +0.9
0.4nm,0.2s
AVF Avril sur Loir 2.26 297 *e*Sg Sb 00 54 11.6 +0.7
0.7nm,0.4s
SSF Saint Saulge 2.29 304 *e*Pn Pn 00 53 38.8 -1.2
SSF Saint Saulge 2.29 304 *e*Pg Pb 00 53 43.1 -0.4
SSF *e*Sg Sb 00 54 13.9 +1.9
0.3nm,0.2s
LASF Ste Croix 2.44 226 *e*P Pn 00 53 42.8 +0.8
LASF Ste Croix 2.44 226 *e*Pg Pb 00 53 46.3 +0.4
LASF *e*Sg Sg 00 54 18.6 -1.6
0.7nm,0.3s
BGF Bois d'Agland 2.50 289 *e*Pn Pn 00 53 40.8 -2.0
TCF Toulx Ste Croi 2.87 281 *e*Sg Sb 00 54 31.2 +2.5
0.6nm,0.2s

---

*IDC **10** 00:53:53.8±1.4, 39°.53N×20°.92E, h0km, mb3.7/7, mbtmp3.7/9, ML3.5/2, Error ellipse: s-maj=25.6km s-min=18.2km az=56.0*

*THE **10** 00:53:54.7, 39°.44N×21°.01E, h2km±37km, ML3.0/11, Error ellipse: s-maj=37.7km s-min=0.5km az=0.0*

*ATH **10** 00:53:54.6, 39°.46N×20°.99E, h4km±1km, ML3.0/16, Error ellipse: s-maj=1.4km s-min=0.6km az=330.0*

*PDG **10** 00:53:54.9±0.2, 39°.45N×21°.01E, h6km, ML3.4/11, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*

ISC 10 00:53:54.7±1.1**, 39°.45N**±0°.02×**20°.99E**±0°.02**, h3km**±8km**, n99, σ1s.32**/149**, mb3.7**/7**, 8C-2D, Greece-Albania border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAN Janina 0.24 332 P Pg 00 53 58.3 -1.0
JAN S Sg 00 54 02.4 -0.1
12μm,0.3s
JAN Janina 0.24 332 P Pg 00 53 58.3 -1.0
JAN S Sg 00 54 02.1 -0.3
JAN AML AML 00 54 04.5
comp=E,23912μm,0.2s
JAN AML AML 00 54 06.4
comp=N,23788μm,0.5s
KPRO Kipourio 0.58 29 P Pg 00 54 05.8 -0.1
KPRO S Sg 00 54 14.5 +1.0
comp=N,3μm,0.6s
KPRO Kipourio 0.58 29 P Pg 00 54 05.6 -0.3
KPRO S Sg 00 54 13.6 +0.2
KPRO AML AML 00 54 24.3
comp=N,4133μm,0.6s
KPRO AML AML 00 54 25.5
comp=E,6935μm,0.7s
TSLK Tsoukalades, L 0.67 203 P Pg 00 54 08.1 +0.5
TSLK S Sg 00 54 17.2 +0.9
comp=E,1μm,0.4s
TSLK Tsoukalades, L 0.67 203 P Pg 00 54 07.6 0.0
TSLK S Sg 00 54 17.0 +0.7
LKD2 Lefkada island 0.71 202 P Pg 00 54 08.3 +0.1
LKD2 S Sg 00 54 17.8 +0.4
comp=E,1μm,0.5s
LKD2 Lefkada island 0.71 202 P Pg 00 54 08.1 -0.2
LKD2 S Sg 00 54 18.1 +0.7
LKD2 AML AML 00 54 25.3
comp=N,2183μm,0.3s
LKD2 AML AML 00 54 25.3
comp=E,3437μm,0.7s
PENT Pentalofos 0.76 8 P Pg 00 54 08.8 -0.5
PENT Pentalofos 0.76 8 P Pg 00 54 08.4 -0.9
PENT S Sg 00 54 19.1 +0.1
LSK Leskovik 0.77 337 P Pg 00 54 09.2 -0.2
LSK S Sb 00 54 20.6 -1.0
comp=E,4μm,0.7s
NYDR Nydri-Lefkada 0.77 198 P Pg 00 54 09.1 -0.3
NYDR S Sb 00 54 20.5 -1.0
comp=E,838nm,0.6s
THL Klokotos Trika 0.80 81 P Pg 00 54 09.5 -0.5
THL Klokotos Trika 0.80 81 P Pg 00 54 09.5 -0.5
THL S Sg 00 54 20.5 +0.1
THL AML AML 00 54 25.9
comp=E,1025μm,0.4s
THL AML AML 00 54 31.3
comp=N,716μm,0.6s
EVR Evrytania 0.82 130 P Pg 00 54 09.5 -1.0
EVR S Sg 00 54 21.7 +0.5
comp=N,512nm,0.5s
EVR Evrytania 0.82 130 P Pg 00 54 10.5 0.0
EVR S Sg 00 54 21.7 +0.5
EVR AML AML 00 54 24.4
comp=N,945μm,0.5s
EVR AML AML 00 54 29.6
comp=E,1097μm,0.4s
EVGI Lefkada island 0.86 198 P Pg 00 54 10.8 -0.5
EVGI S Sb 00 54 24.1 -0.2
comp=E,1μm,0.5s
EVGI Lefkada island 0.86 198 P Pg 00 54 10.8 -0.5
KASA Kassiopi 0.87 290 P Pg 00 54 10.9 -0.5
KASA S Sg 00 54 22.6 -0.1
KASA AML AML 00 54 30.7
comp=E,3240μm,0.4s
KASA AML AML 00 54 30.7
comp=N,1852μm,0.7s
SRN Sarande 0.88 300 P Pg 00 54 11.3 -0.3
SRN S Sb 00 54 24.4 -0.4
comp=N,565nm,0.5s
PVO Paravola 0.93 153 P Pg 00 54 12.3 -0.1
PVO Paravola 0.93 153 P Pg 00 54 12.3 -0.1
KEK Kerkira 0.96 286 P Pg 00 54 12.6 -0.6
KEK S Sb 00 54 27.1 -0.1
comp=N,1μm,0.4s
KEK Kerkira 0.96 286 P Pg 00 54 12.8 -0.4
KEK S Sg 00 54 25.7 +0.1
KEK AML AML 00 54 35.0
comp=N,2219μm,0.5s
KEK AML AML 00 54 36.7
comp=E,2668μm,0.4s
NEST Nestorio 0.97 2 P Pb 00 54 13.6 -0.6
NEST S Sb 00 54 27.5 0.0
NEST Nestorio 0.97 2 P Pg 00 54 12.8 -0.5
NEST S Sg 00 54 25.7 -0.2
NEST AML AML 00 54 38.6
comp=N,1356μm,0.7s
NEST AML AML 00 54 40.7
comp=E,1337μm,0.5s
MAKR Makrakomi, Fth 0.98 116 P Pg 00 54 12.9 -0.7
MAKR Makrakomi, Fth 0.98 116 P Pg 00 54 13.1 -0.4
MAKR S Sb 00 54 27.2 -0.6
MAKR AML AML 00 54 33.9
comp=N,2595μm,0.3s
MAKR AML AML 00 54 34.5
comp=E,2858μm,0.4s
TYRN Tyrnavos 0.99 74 P Pg 00 54 13.3 -0.5
TYRN S Sg 00 54 27.1 +0.5
TYRN AML AML 00 54 32.4
comp=N,1155μm,0.3s
TYRN AML AML 00 54 34.7
comp=E,957μm,0.6s
FSK Fiskardo 1.04 199 P Pg 00 54 14.0 -0.6
FSK S Sg 00 54 28.7 +0.6
FSK AML AML 00 54 35.1
comp=E,2219μm,0.4s
FSK AML AML 00 54 35.6
comp=N,1863μm,0.6s
KZN Kozani 1.05 35 P Pg 00 54 14.4 -0.4
KZN Kozani 1.05 35 P Pg 00 54 14.2 -0.6
LRSO Larissa Observ 1.10 78 P Pg 00 54 15.3 -0.5
LRSO Larissa Observ 1.10 78 P Pg 00 54 15.4 -0.5
ANX Ano Chora 1.12 139 P Pg 00 54 15.5 -0.6
ANX S Sg 00 54 31.0 +0.4
ANX AML AML 00 54 45.8
comp=N,1464μm,0.4s
ANX AML AML 00 54 47.4
comp=E,1159μm,0.5s
AGG Agios Georgios 1.12 112 P Pg 00 54 15.1 -1.1
AGG S Sg 00 54 31.1 +0.4
comp=E,628nm,0.3s
AGG Agios Georgios 1.12 112 P Pg 00 54 15.3 -0.9
AGG S Sb 00 54 31.6 -0.2
EFP Efpalio 1.24 145 P Pg 00 54 18.2 -0.2
EFP S Sb 00 54 35.3 +0.1
EFP AML AML 00 54 44.6
comp=E,692μm,0.4s
EFP AML AML 00 54 47.9
comp=N,802μm,0.6s
KEF4 Livadi, Kephal 1.27 201 P Pg 00 54 18.4 -0.6
VLS Valsamata 1.31 194 P Pg 00 54 18.5 -1.2
VLS S Sn 00 54 37.7 -0.1
VLS AML AML 00 54 44.4
comp=E,931μm,0.4s
VLS AML AML 00 54 44.5
comp=N,1692μm,0.7s
SERG Sergoula 1.32 141 P Pg 00 54 19.2 -0.8
KEF3 Kipouria, Keph 1.34 202 P Pn 00 54 18.7 -1.6
FNA Florina 1.37 12 P Pn 00 54 19.3 -1.5
FNA S Sg 00 54 37.3 -1.4
FNA AML AML 00 54 49.2
comp=E,1094μm,0.6s
FNA AML AML 00 54 52.7
comp=N,796μm,0.5s
LAKA Lakka 1.43 147 P Pn 00 54 20.9 -0.6
RLS Riolos of Patr 1.43 165 P Pn 00 54 21.2 -0.4
OHR Ohrid 1.67 355 *i* Pn Pg 00 54 27.9 +1.1
OHR *i* Sn Sg 00 54 54.7 +6.3
NEO Neokhori 1.73 94 P Pn 00 54 25.0 -0.7
NEO S Sn 00 54 46.7 -1.8
NEO AML AML 00 55 01.4
comp=E,598μm,0.4s
NEO AML AML 00 55 01.6
comp=N,663μm,0.4s
VAY Valandovo 2.23 32 *i* Pn Pn 00 54 33.3 +0.8
VAY *i* Sn Sg 00 55 06.0 -0.2
SKO Skopje 2.55 7 *i* Pn Pb 00 54 41.1 0.0
ULC Ulcinj 2.84 333⇑*i*Pn Pn 00 54 42.1 +1.0
ULC *i* Sn Sb 00 55 18.5 -2.9
NVR Nevrokopi 2.90 48 P Pn 00 54 42.2 +0.3
DRME Dracevica, Mon 3.06 334 *e*Pn Pn 00 54 45.4 +1.4
DRME Dracevica, Mon 3.06 334⇓*i*Pn Pn 00 54 45.2 +1.2
DRME *i* Sn Sn 00 55 23.8 +2.6
PVY Plav 3.24 346 *e*Pn Pn 00 54 47.6 +1.0
PVY *i* Sn Sn 00 55 28.1 +2.3

TTG	**Podgorica**	**3.26**	**337**	⇑*i*Pn	**Pn**	**00 54 47.8**	**+1.1**
TTG				*i* Sn	**Sn**	**00 55 28.6**	**+2.6**
BUM	**Brajici-Budva**	**3.27**	**331**	⇓*i*Pn	**Pn**	**00 54 48.0**	**+1.1**
BUM				*i* Sn	**Sn**	**00 55 28.8**	**+2.5**
CEME	**Cevo**	**3.47**	**334**	⇑*i*Pn	**Pn**	**00 54 50.8**	**+1.1**
CEME				*i* Sn	**Sn**	**00 55 33.7**	**+2.3**
IVA	**Berane**	**3.52**	**347**	⇑*i*Pn	**Pn**	**00 54 51.5**	**+1.1**
IVA				*i* Sn	**Sn**	**00 55 34.9**	**+2.2**
HCY	**Herceg Novi**	**3.55**	**329**	*e*Pn	**Pn**	**00 54 50.3**	**-0.4**
HCY	**Herceg Novi**	**3.55**	**329**	*e*Pn	**Pn**	**00 54 51.8**	**+1.1**
HCY				*i* Sn	**Sn**	**00 55 34.9**	**+1.8**
KOME	**Kolasin**	**3.58**	**342**	⇑*i*Pn	**Pn**	**00 54 52.3**	**+1.1**
KOME				*i* Sn	**Sn**	**00 55 35.9**	**+1.8**
TREB	**Trebinje**	**3.83**	**329**	*e*Pn	**Pn**	**00 54 54.2**	**-0.4**
BRY	**Bratogost**	**3.92**	**333**	*e*Pn	**Pn**	**00 54 56.4**	**+0.5**
BRY	**Bratogost**	**3.92**	**333**	⇑*i*Pn	**Pn**	**00 54 57.0**	**+1.1**
BRY				*i* Sn	**Sn**	**00 55 44.6**	**+2.1**
PLE	**Pljevlja**	**4.06**	**343**	⇑*i*Pn	**Pn**	**00 54 59.0**	**+1.1**
PLE				*i* Sn	**Sn**	**00 55 48.1**	**+2.0**
UPM	**Unac-Piva**	**4.07**	**338**	*e*Pn	**Pn**	**00 54 58.8**	**+0.7**
UPM	**Unac-Piva**	**4.07**	**338**	⇑*i*Pn	**Pn**	**00 54 59.1**	**+1.0**
UPM				*i* Sn	**Sn**	**00 55 48.1**	**+1.8**
STON	**Ston**	**4.23**	**325**	*e*Pn	**Pn**	**00 54 58.5**	**-1.5**
RUDO	**Rudo**	**4.34**	**344**	*e*Pn	**Pb**	**00 55 14.4**	**+2.7**
DIVS	**Divibare**	**4.71**	**351**	*e*Pn	**Pn**	**00 55 07.9**	**+1.2**
HAPS	**Han Pijesak,BI**	**4.88**	**342**	*e*Pn	**Pn**	**00 55 09.7**	**+0.6**
IDI	**Anoyia**	**5.18**	**142**	Sn	**Sn**	**00 56 13.3**	**-0.2**
	comp=N,0.5nm,0.3s,baz=0.5,slow=5.8,SNR=1.7						
SRKY	**Kupres RS**	**5.43**	**329**	*e*Pn	**Pn**	**00 55 17.0**	**+0.3**
MGRS	**Mrkonjic Grad**	**5.76**	**331**	*e*Pn	**Pn**	**00 55 21.8**	**+0.7**
FRGS	**Fruska Gora**	**5.78**	**352**	*e*Pn	**Pn**	**00 55 22.3**	**+1.0**
BLY	**Banja Luka**	**6.01**	**333**	*e*Pn	**Pn**	**00 55 24.8**	**+0.3**
A051A	**Mrakovica**	**6.33**	**333**	*e*Pn	**Pn**	**00 55 28.8**	**-0.2**
MLR	**Muntele Rosu**	**7.06**	**30**	Pn	**Pn**	**00 55 43.4**	**+4.4**
	comp=N,0.5nm,0.3s,baz=276,slow=11,SNR=4.6						
CEY	**Cerknica**	**7.94**	**325**	*e*Pn	**Pn**	**00 55 50.9**	**-0.1**
OBKA	**Obir**	**8.49**	**328**	*e*Pn	**Pn**	**00 55 58.9**	**+0.2**
OBKA	**Obir**	**8.49**	**328**	*e*Pn	**Pn**	**00 55 59.1**	**+0.4**
	comp=N,2.2nm,0.5s						
OBKA				*e*Sn	**Sn**	**00 57 34.6**	**-0.4**
	comp=N,7.0nm,0.6s						
MYKA	**Terra Mystica**	**8.97**	**326**	*e*Sn	**Sn**	**00 57 45.6**	**-1.2**
	comp=N,0.8nm,0.4s						
ABTA	**Abfaltersbach**	**9.57**	**322**	*e*Pn	**Pn**	**00 56 14.8**	**+1.4**
	comp=N,0.9nm,0.4s						
ABTA				*e*Sn	**Sn**	**00 58 00.6**	**-1.0**
	comp=N,3.5nm,0.7s						
MOA	**Molln**	**9.71**	**332**	*e*Pn	**Pn**	**00 56 17.5**	**+2.2**
	comp=N,0.5nm,0.3s						
WTTA	**Wattenberg**	**10.36**	**322**	*i* Pn	**Pn**	**00 56 25.9**	**+1.5**
	comp=N,0.9nm,0.3s						
WTTA				*e*Sn	**Sn**	**00 58 21.0**	**-0.1**
	comp=N,6.5nm,0.7s						
WATA	**Walderalm**	**10.44**	**322**	*e*Pn	**Pn**	**00 56 27.3**	**+1.9**
	comp=N,1.2nm,0.4s						
FETA	**Feichten**	**10.64**	**319**	*e*Sn	**Sn**	**00 58 27.6**	**-0.3**
	comp=N,2.5nm,0.8s						
MOTA	**Moosalm**	**10.68**	**321**	*e*Pn	**Pn**	**00 56 29.5**	**+0.8**
	comp=N,3.4nm,0.7s						
GERES	**GERESS Array B**	**10.75**	**333**	Pn	**Pn**	**00 56 28.1**	**-1.5**
	comp=N,0.2nm,0.3s,baz=160,slow=12,SNR=4.9						
GERES				Sn	**Sn**	**00 58 27.0**	**-3.5**
	comp=N,0.1nm,0.3s,baz=150,slow=24,SNR=2.6						
	comp=N,0.2nm,0.3s						
DAVOX	**Davos/Dischmat**	**10.94**	**316**	Pn	**Pn**	**00 56 31.9**	**-0.3**
	comp=N,0.2nm,0.3s,baz=160,slow=19,SNR=1.8						
DAVOX				Sn	**Sn**	**00 58 31.4**	**-3.8**
	baz=143,slow=15						
	comp=N,0.7nm,0.3s						
DAVA	**Damuels**	**11.25**	**318**	*e*Sn	**Sn**	**00 58 39.5**	**-3.4**
	comp=N,2.9nm,0.6s						
HFS	**Hagfors**	**21.21**	**350**	P	**P**	**00 58 40.5**	**-0.9**
	comp=N,2.1nm,0.6s,baz=165,slow=12,SNR=6.5						
	comp=N,2.1nm,0.6s						
FINES	**FINESS Array B**	**22.25**	**6**	P	**P**	**00 58 50.2**	**-2.2**
	comp=N,2.2nm,0.9s,baz=163,slow=10,SNR=2.1						
	comp=N,2.2nm,0.9s						
NB2	**NORSAR Subarra**	**22.46**	**348**	P	**P**	**00 58 54.3**	**-0.4**
	comp=Z,5.7nm,1.2s,baz=155,slow=10						
NOA	**NORSAR Array B**	**22.46**	**348**	P	**P**	**00 58 52.8**	**-2.0**
	comp=Z,1.2nm,0.8s,baz=164,slow=11,SNR=3.8						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**30.25**	**3**	P	**P**	**01 00 06.4**	**0.0**
	comp=Z,1.5nm,0.9s,baz=205,slow=7.9,SNR=3.5						
	comp=Z,1.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.25**	**218**	P	**P**	**01 00 15.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=36,slow=11,SNR=5.0						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**44.33**	**60**	P	**P**	**01 02 05.4**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=272,slow=7.9,SNR=10						
	comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**44.58**	**49**	P	**P**	**01 02 07.1**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=279,slow=8.5,SNR=7.7						
	comp=Z,1.6nm,0.6s						

*IDC **10** 01:00:39.5±1.4, 15°.04N×147°.21E, h0^{km}, mb3.8/8, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=42.7km s-min=18.0km az=99.0*

*NEIC **10** 01:00:44.3±1.6, 15°.0N±0°.1×147°.27E±0°.04, h34^{km}±6^{km}, mb4.2/9, Error ellipse: s-maj=15.6km s-min=4.3km az=189.0*

ISC 10 01:00:41.6±0.7**, 14°.94N**±0°.10×**147°.27E**±0°.10**, h18**^{km}**, n19,** σ**0^s.91**/20**, mb4.1**/13**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.69**	**240**	Pn	**Pn**	**01 01 23.8**	**-0.2**
	23nm,0.3s,baz=128,slow=21,SNR=2.6						
GUMO				Sn	**Sn**	**01 01 54.3**	**-1.7**
	29nm,0.3s,baz=328,slow=23,SNR=2.3						
	46nm,0.3s						
PATS	**Pohnpei**	**13.50**	**125**	Pn	**Pn**	**01 03 51.3**	**-1.1**
SIJI	**Sorong**	**22.30**	**227**	P	**P**	**01 05 40.0**	**+1.8**
	3.8nm,0.4s,baz=36,slow=17,SNR=8.0						
	3.8nm,0.4s						
KLR	**Kul'dur**	**36.48**	**343**	P	**P**	**01 07 45.3**	**-0.3**
	2.0nm,0.8s,baz=157,slow=7.7,SNR=3.3						
	2.0nm,0.8s						
WB0	**Warramunga Arr**	**36.74**	**201**	P	**P**	**01 07 49.2**	**+1.1**
WB0				IAmb	IAmb	01 08 05.2	
	comp=Z,7.1nm,1.4s						
WB2	**Warramunga Arr**	**36.92**	**200**	P	**P**	**01 07 49.9**	**+0.3**
WB2				IAmb	IAmb	01 08 13.9	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**36.92**	**201**	P	**P**	**01 07 50.8**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=23,slow=9.4,SNR=12						
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**36.92**	**201**	P	**P**	**01 07 50.4**	**+0.8**
ASAR	**Alice Springs**	**40.53**	**199**	P	**P**	**01 08 21.0**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=12,slow=7.8,SNR=6.7						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**47.02**	**323**	P	**P**	**01 09 12.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=131,slow=7.3,SNR=4.2						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**61.91**	**324**	P	**P**	**01 10 59.2**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=110,slow=7.8,SNR=2.0						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**62.16**	**315**	P	**P**	**01 11 01.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=88,slow=8.9,SNR=15						
	comp=Z,0.8nm,0.5s						
ILAR	**Eielson Array**	**66.36**	**25**	P	**P**	**01 11 29.9**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=251,slow=5.5,SNR=1.8						
	comp=Z,0.3nm,0.7s						
J26L	**Joseph Creek**	**67.68**	**26**	P	**P**	**01 11 37.2**	**-0.3**
KK31	**Karatay Array**	**70.33**	**311**	P	**P**	**01 11 54.0**	**-0.4**
KK31				IAmb	IAmb	01 12 07.3	
	comp=Z,2.0nm,1.1s						
KKAR	**Karatay Array**	**70.33**	**311**	P	**P**	**01 11 54.5**	**+0.1**
KKAR				IAmb	IAmb	01 12 07.3	
	comp=Z,2.0nm,1.1s						
KKAR	**Karatay Array**	**70.33**	**311**	P	**P**	**01 11 54.2**	**-0.1**
BRVK	**Borovoye**	**70.39**	**321**	P	**P**	**01 11 54.7**	**+0.2**
BRVK				IAmb	IAmb	01 12 21.5	
	comp=Z,2.8nm,1.2s						
ABKAR	**Akbulak array**	**77.11**	**318**	P	**P**	**01 12 33.3**	**-0.7**

IDC 10 01:53:52.7±1.6**, 29°.95N**×**99°.60E, h0**^{km}**, mb3.7**/4**, mbtmp3.6**/5**, ML3.4**/1**, Error ellipse: s-maj=46.4km s-min=24.9km az=54.0, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.62**	**14**	P	Pn	01 58 11.9	-0.1
	0.1nm,0.3s,baz=210,slow=8.3,SNR=2.4						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**21.53**	**326**	P	P	01 58 44.5	+1.1
	0.6nm,0.7s,baz=141,slow=11,SNR=4.1						
	0.6nm,0.7s						
KSRS	**Korea Array**	**24.66**	**65**	P	P	01 59 14.8	-0.4
	1.2nm,0.5s,baz=258,slow=11,SNR=5.5						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**26.00**	**329**	P	P	01 59 26.3	-0.9
	1.4nm,0.2s,baz=135,slow=10,SNR=4.1						
	1.4nm,0.2s						
WRA	**Warramunga Arr**	**59.83**	**142**	P	P	02 04 00.2	+0.1
	0.6nm,1.0s,baz=331,slow=7.6,SNR=7.3						
	0.6nm,1.0s						

MAN 10 01:56:44.9, 11°.45N×**122°.88E, h1**^{km}**, mb3.5, ML2.2, MS1.6, 1C, Panay**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABP	**Talibon, Bohol**	**1.97**	**133**	⇑*i*P	Pn	01 57 19.8	+0.3
TABP				*i* S	Sn	01 57 23.3	-21
TBP	**Tagbilaran**	**2.00**	**151**	*e*P	Pn	01 57 20.8	+0.9
TBP				*i* S	Sn	01 57 26.1	-20

*NIC **10** 02:01:59.7±0.0, 35°.02N×26°.92E, h20^{km}±5^{km}, Ml3.8/5*

*DDA **10** 02:02:00.0±0.0, 35°.58N×26°.68E, h20^{km}±12^{km}, ML2.4*

*ISK **10** 02:02:00.8, 35°.48N×26°.61E, h29^{km}, ML3.2/19*

*THE **10** 02:02:02.9, 35°.47N×26°.63E, h14^{km}±3^{km}, ML3.0/3, Error ellipse: s-maj=4.6km s-min=0.8km az=161.0*

*ATH **10** 02:02:02.3, 35°.53N×26°.61E, h15^{km}±4^{km}, ML2.8/5, Error ellipse: s-maj=6.1km s-min=1.0km az=154.0*

ISC 10 02:01:59.7±1.3**, 35°.39N**±0°.04×**26°.70E**±0°.02**, h23**^{km}±15^{km}**, n56,** σ**1^s.35**/75**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.41**	**67**	PG	**Pn**	**02 02 11.3**	**+1.1**
KARP				SG	**Sn**	**02 02 18.9**	**+1.7**
KARP	**Karpathos**	**0.41**	**67**	P	**Pn**	**02 02 11.4**	**+1.1**
KARP				S	**Sn**	**02 02 19.5**	**+2.3**
	3µm,0.4s						
KARP	**Karpathos**	**0.41**	**67**	P	**Pn**	**02 02 11.4**	**+1.1**
KARP				AML	AML	02 02 19.4	
	6.1nm,0.4s						
KARP				AML	AML	02 02 19.4	
	6.1nm,0.4s						
KARP				S	**Sn**	**02 02 19.5**	**+2.3**
KARP				AML	AML	02 02 19.6	
	7.6nm,0.4s						
KARP				AML	AML	02 02 19.6	
	7.6nm,0.4s						
KARP	**Karpathos**	**0.41**	**67**	P	**Pn**	**02 02 11.4**	**+1.1**
KARP				S	**Sn**	**02 02 17.4**	**+0.1**
KARP				AML	AML	02 02 19.9	
	comp=E,6123µm,0.4s						
KARP				AML	AML	02 02 20.1	
	comp=N,7634µm,0.4s						
ZKR	**Zakros**	**0.48**	**236**	PG	**Pn**	**02 02 11.6**	**+0.5**
ZKR				SG	**Sn**	**02 02 19.7**	**+0.8**
ZKR	**Zakros**	**0.48**	**236**	P	**Pn**	**02 02 11.7**	**+0.5**
ZKR				S	**Sn**	**02 02 20.4**	**+1.5**
	comp=N,838nm,0.6s						
ZKR	**Zakros**	**0.48**	**236**	P	**Pn**	**02 02 11.7**	**+0.5**
ZKR				S	**Sn**	**02 02 20.2**	**+1.3**
ZKR				AML	AML	02 02 21.8	
	comp=N,2.3nm,0.5s						
ZKR				AML	AML	02 02 21.8	
	comp=N,2.3nm,0.5s						
ZKR				AML	AML	02 02 23.6	
	comp=N,0.9nm,0.8s						
ZKR				AML	AML	02 02 23.6	
	comp=N,0.9nm,0.8s						
ZKR	**Zakros**	**0.48**	**236**	P	**Pn**	**02 02 11.7**	**+0.5**
ZKR				S	**Sn**	**02 02 20.0**	**+1.1**
ZKR				AML	AML	02 02 22.9	
	comp=E,2384µm,0.5s						
ZKR				AML	AML	02 02 24.8	
	comp=N,958µm,0.8s						
STIA	**Sitia Lasithi**	**0.53**	**250**	P	**Pn**	**02 02 12.7**	**+0.8**
STIA				S	**Sn**	**02 02 21.7**	**+1.6**
STIA	**Sitia Lasithi**	**0.53**	**250**	P	**Pn**	**02 02 12.6**	**+0.7**
STIA				S	**Sn**	**02 02 20.7**	**+0.5**
STIA				AML	AML	02 02 24.4	
	comp=E,2666µm,0.5s						
STIA				AML	AML	02 02 28.0	
	comp=N,3075µm,0.6s						
NIS1	**Nisyros Isl.**	**1.27**	**18**	PN	**Pn**	**02 02 22.3**	**+0.1**
NIS1	**Nisyros Isl.**	**1.27**	**18**	P	**Pb**	**02 02 23.7**	**+0.6**
HRKL	**Herakleio**	**1.31**	**267**	PN	**Pn**	**02 02 22.8**	**+0.2**
HRKL	**Herakleio**	**1.31**	**267**	P	**Pb**	**02 02 24.7**	**+1.1**
KOSK	**Kos Island**	**1.38**	**9**	PN	**Pn**	**02 02 23.6**	**0.0**
SANT	**Santorini**	**1.41**	**315**	PN	**Pn**	**02 02 23.5**	**-0.5**
SANT	**Santorini**	**1.41**	**315**	P	**Pn**	**02 02 24.3**	**+0.3**
SANT				S	**Sn**	**02 02 40.0**	**-1.9**
SANT				AML	AML	02 02 45.3	
	comp=E,1082µm,0.3s						
SANT				AML	AML	02 02 48.3	
	comp=N,212µm,0.4s						
ARG	**Arkhangelos**	**1.43**	**54**	PN	**Pb**	**02 02 25.4**	**-0.2**
ARG	**Arkhangelos**	**1.43**	**54**	P	**Pb**	**02 02 26.4**	**+0.8**
ARG				S	**Sb**	**02 02 45.9**	**+2.6**
ARG	**Arkhangelos**	**1.43**	**54**	P	**Pb**	**02 02 26.3**	**+0.7**
ARG	**Arkhangelos**	**1.43**	**54**	P	**Pb**	**02 02 26.4**	**+0.8**
THR6	**Thira Island,**	**1.43**	**313**	S	**Sb**	**02 02 43.4**	**-0.2**
THR3	**Thira Island,**	**1.47**	**314**	P	**Pb**	**02 02 26.4**	**+0.1**
THT2	**Imerovigli**	**1.47**	**316**	PN	**Pn**	**02 02 24.5**	**-0.4**
IDI	**Anoyia**	**1.48**	**267**	PN	**Pn**	**02 02 25.4**	**+0.3**
IDI	**Anoyia**	**1.48**	**267**	P	**Pb**	**02 02 26.8**	**+0.1**
IDI				S	**Sb**	**02 02 45.0**	**0.0**
IDI				AML	AML	02 02 52.4	
	comp=N,365µm,0.6s						
IDI				AML	AML	02 02 55.5	
	comp=E,360µm,0.5s						
DAT	**Datca**	**1.52**	**28**	PN	**Pn**	**02 02 26.0**	**+0.4**
DAT	**Datca**	**1.52**	**28**	P	**Pb**	**02 02 27.1**	**-0.2**
DAT				S	**Sb**	**02 02 46.9**	**+0.8**
BODT	**Bodrum**	**1.75**	**16**	PN	**Pn**	**02 02 28.8**	**+0.2**
BDRM	**Kayabasi**	**1.78**	**20**	P	**Pb**	**02 02 30.6**	**-1.1**
BDRM				S	**Sb**	**02 02 52.7**	**-0.9**
BDRM				*i* AML	AML	02 02 54.0	
	comp=E,30nm,0.5s						
TURN	**Turunc**	**1.87**	**42**	PN	**Pn**	**02 02 31.4**	**+1.1**
TURN	**Turunc**	**1.87**	**42**	P	**Pb**	**02 02 32.0**	**-1.1**
TURN				S	**Sb**	**02 02 57.7**	**+1.6**
TURN				*i* AML	AML	02 02 59.0	
	comp=E,44nm,0.9s						
TURN				*i* AML	AML	02 03 07.0	
	comp=E,43nm,0.4s						
APE	**Apeiranthos**	**1.93**	**331**	PN	**Pn**	**02 02 30.9**	**-0.3**
APE	**Apeiranthos**	**1.93**	**331**	P	**Pb**	**02 02 32.4**	**-1.8**
APE				S	**Sb**	**02 02 55.8**	**-2.1**
	comp=E,308nm,0.7s						
DALY	**Dalyan (Mula)**	**2.13**	**47**	PN	**Pn**	**02 02 35.5**	**+1.6**
YER	**Yerkesik**	**2.16**	**36**	PN	**Pn**	**02 02 35.4**	**+1.0**
IMMV	**Iera Moni Meta**	**2.22**	**273**	PN	**Pn**	**02 02 35.7**	**+0.6**
MULA	**Mugla, Merkez-**	**2.28**	**35**	P	**Pb**	**02 02 40.1**	**-0.1**
MULA				S	**Sb**	**02 03 07.6**	**-0.4**
FETY	**Fethiye**	**2.30**	**56**	PN	**Pn**	**02 02 36.3**	**0.0**
SMG	**Samos**	**2.32**	**3**	P	**Pn**	**02 02 37.5**	**+1.0**
GCAM	**G?zelcaml?**	**2.35**	**10**	PN	**Pn**	**02 02 37.6**	**+0.7**
AYDN	**Tasoluk**	**2.46**	**22**	P	**Pn**	**02 02 40.7**	**+2.2**
AYDN				*i* AML	AML	02 03 16.0	
	comp=E,18nm,0.5s						
AYDN				*i* AML	AML	02 03 18.0	
	comp=E,28nm,0.6s						
AKAS	**Kas**	**2.51**	**69**	PN	**Pn**	**02 02 38.3**	**-0.9**
CAME	**Cameli-Denizli**	**2.62**	**53**	PN	**Pn**	**02 02 42.0**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.73**	**20**	PN	**Pn**	**02 02 43.1**	**+0.8**
TAVA	**DENIZLI_Tavas**	**2.74**	**40**	P	**Pn**	**02 02 44.4**	**+2.0**
TAVA				S	**Sb**	**02 03 19.1**	**-2.2**
TAVA				*i* AML	AML	02 03 28.0	
	comp=E,26nm,0.5s						
TAVA				*i* AML	AML	02 03 28.0	
	comp=E,23nm,0.8s						
APMY	**Acipayam-Deniz**	**2.96**	**44**	PN	**Pn**	**02 02 46.6**	**+1.3**
GOLH	**Golhisar**	**2.96**	**51**	P	**Pn**	**02 02 47.0**	**+1.7**
KTHA	**Kythira Island**	**3.08**	**287**	PN	**Pn**	**02 02 47.6**	**+0.6**
OSC1	**CSNet OBS 1**	**4.22**	**115**	S	**Sn**	**02 03 46.2**	**-5.1**
ITM	**Ithomi**	**4.25**	**296**	PN	**Pn**	**02 03 03.7**	**+0.6**
AKMS	**Akamas**	**4.63**	**93**	P	**Pn**	**02 03 07.0**	**-1.3**
AKMS				AML	AML	02 03 58.7	
	comp=E,0.3nm,0.6s						
AKMS				AML	AML	02 03 59.1	
	comp=E,0.3nm,0.6s						
ALFC	**Alefka**	**4.83**	**91**	P	**Pn**	**02 03 09.3**	**-1.7**
ALFC				AML	AML	02 04 02.5	
	comp=E,0.4nm,0.3s						
ALFC				AML	AML	02 04 03.4	
	comp=E,0.3nm,0.2s						
SZAC	**Souni**	**5.11**	**95**	P	**Pn**	**02 03 12.6**	**-2.3**
SZAC				AML	AML	02 04 09.1	
	comp=E,0.2nm,0.7s						
SZAC				AML	AML	02 04 10.8	
	comp=E,0.2nm,0.3s						
ASGA	**Asgata**	**5.40**	**94**	P	**Pn**	**02 03 17.0**	**-1.9**
MVOU	**Mavrovouni**	**5.69**	**92**	P	**Pn**	**02 03 20.9**	**-1.9**

RSNC 10 02:09:54.4±1.2**, 3°.83N**×**76°.00W, h177**^{km}±5^{km}**, ML2.9, Mw3.5, 2C-4D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.38**	**294**	⇑*i*P	Pn	02 10 17.9	-0.7
YOTC				*e*S	Sn	02 10 35.8	-1.2
YOTC				IAML		02 10 41.8	
	comp=Z,105nm,0.3s						
ORTC	**Ortega, Tolima**	**0.75**	**84**	*e*P	Pn	02 10 19.9	-0.3
ORTC				*e*S	Sn	02 10 39.4	-0.5
ORTC				IAML		02 10 44.0	
	comp=Z,40nm,0.8s						
ANIL	**Santa Ana**	**0.88**	**42**	*e*P	Pn	02 10 21.3	0.0
ANIL				*e*S	Sn	02 10 41.8	-0.3
ANIL				IAML		02 10 46.6	
	comp=Z,311nm,0.3s						
PLMC	**San Jos del P**	**1.10**	**345**	*e*P	Pn	02 10 22.7	-0.1
PLMC				*e*S	Sn	02 10 44.5	-0.2
PLMC				IAML		02 10 48.6	
	comp=Z,514nm,0.3s						
PRAC	**Prado**	**1.11**	**96**	*e*P	Pn	02 10 22.3	-0.4
PRAC				*e*S	Sn	02 10 43.3	-1.2
PRAC				IAML		02 10 44.5	
	comp=Z,45nm,0.9s						
BETC	**Betania**	**1.27**	**154**	*e*P	Pn	02 10 23.7	-0.4
BETC				*e*S	Sn	02 10 46.4	-0.6
BETC				IAML		02 10 49.8	
	comp=Z,49nm,0.3s						
MALC	**Bahia Malaga**	**1.35**	**278**	*e*P	Pn	02 10 26.4	+1.8
MALC				*e*S	Sn	02 10 51.3	+3.3
MALC				IAML		02 10 55.5	
	comp=Z,65nm,0.5s						
GARC	**Garzon, Huila**	**1.71**	**163**	*e*P	Pn	02 10 27.4	-1.1
GARC				*e*S	Sn	02 10 53.6	-1.2
GARC				IAML		02 10 57.6	
	comp=Z,27nm,0.3s						
ROSC	**El Rosal**	**1.95**	**59**	*e*P	Pn	02 10 31.5	+0.4
ROSC				*e*S	Sn	02 10 59.3	-0.2
ROSC				IAML		02 11 12.3	
	comp=Z,16nm,1.0s						
CBOC	**Ciudad Bolivar**	**2.02**	**360**	*e*P	Pn	02 10 31.4	-0.3
CBOC				*e*S	Sn	02 10 59.8	-0.9
CBOC				IAML		02 11 06.9	
	comp=Z,85nm,0.9s						
NORC	**Norcasia**	**2.06**	**33**	⇓*i*P	Pn	02 10 31.5	-0.5
NORC				*e*S	Sn	02 10 59.3	-1.8
NORC				IAML		02 11 01.5	
	comp=Z,20nm,0.4s						
BBAC	**Balboa, Cauca**	**2.19**	**215**	⇓*i*P	Pn	02 10 33.1	-0.5
BBAC				*e*S	Sn	02 11 02.2	-1.8
BBAC				IAML		02 11 06.2	
	comp=Z,71nm,0.4s						
FLOC	**Florencia**	**2.26**	**171**	⇓*i*P	Pn	02 10 33.7	-0.5
FLOC				*e*S	Sn	02 11 04.2	-1.0
FLOC				IAML		02 11 06.6	
	comp=Z,22nm,1.1s						
GR1C	**Gorgona, Isla**	**2.32**	**249**	*e*P	Pn	02 10 34.2	-0.6
GR1C				*e*S	Sn	02 11 05.2	-0.9
CHIC	**Chingaza**	**2.40**	**71**	*e*P	Pn	02 10 35.5	-0.7
CHIC				*e*S	Sn	02 11 08.1	-0.4
CHIC				IAML		02 11 13.3	
	comp=Z,9.2nm,1.0s						
CRUC	**La Cruz**	**2.44**	**203**	*e*P	Pn	02 10 37.1	+0.5
CRUC				*e*S	Sn	02 11 09.6	+0.2
SOLC	**Bahia Solano**	**2.77**	**329**	*e*P	Pn	02 10 40.6	+0.5
SOLC				*e*S	Sn	02 11 15.4	-0.2
GCUF	**Volcan Galeras**	**2.92**	**208**	*e*P	Pn	02 10 42.0	-0.4
GCUF				*e*S	Sn	02 11 17.5	-2.3
GCUF				IAML		02 11 23.5	
	comp=Z,26nm,0.2s						
PTBC	**PUERTO BERRIO,**	**3.10**	**30**	*e*P	Pn	02 10 43.4	-0.7
PTBC				*e*S	Sn	02 11 20.4	-2.6
PTBC				IAML		02 11 21.0	
	comp=Z,15nm,1.1s						
PTAC	**Punta Ardita,**	**3.76**	**331**	⇑*i*P	Pn	02 10 52.4	0.0
PTAC				*e*S	Sn	02 11 35.9	-1.8
PTAC				IAML		02 11 38.1	
	comp=Z,355nm,0.2s						
ZARC	**Zaragoza, Cauc**	**3.81**	**17**	⇓*i*P	Pn	02 10 52.0	-1.1
ZARC				*e*S	Sn	02 11 36.1	-2.9
ZARC				IAML		02 11 37.6	
	comp=Z,70nm,0.4s						
UREC	**San Jos de Ur**	**3.92**	**7**	*e*P	Pn	02 10 53.5	-1.0
UREC				*e*S	Sn	02 11 39.4	-2.1
UREC				IAML		02 11 40.5	
	comp=Z,21nm,0.4s						
PAMC	**Pamplona, Colo**	**4.79**	**43**	*e*P	Pn	02 11 05.6	-0.4
PAMC				*e*S	Sn	02 11 59.3	-2.9
PAMC				IAML		02 12 07.3	
	comp=Z,6.0nm,0.5s						
SJCC	**San Jacinto, C**	**6.08**	**8**	*e*P	Pn	02 11 22.2	-0.4
SJCC				*e*S	Sn	02 12 27.5	-4.4
SJCC				IAML		02 12 32.5	
	comp=Z,6.9nm,1.1s						
URIC	**Uribia, Colomb**	**8.77**	**27**	*e*P	Pn	02 11 55.0	-2.8
URIC				*e*S	Sn	02 13 26.7	-9.2
URIC				IAML		02 13 45.0	
	comp=Z,1.7nm,0.8s						

WEL 10 02:12:01.0±1.2**, 37°S**±8°×**17°9E**±1°1**, h5**^{km}**, M3.3**/11**, ML3.6**/11**, MLv3.3**/11**, Error ellipse: s-maj=0.0km s-min=0.0km az=120.1, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.86**	**222**	P	Pg	02 12 17.1	-0.4
MXZ				S	Sg	02 12 27.8	-0.9
WMGZ	**Waiomatatini S**	**1.02**	**209**	P	Pb	02 12 21.2	0.0
WMGZ				S	Sb	02 12 35.6	+0.7
PKGZ	**Pakihiroa**	**1.23**	**218**	P	Pg	02 12 23.5	-1.0
PKGZ				S	Sb	02 12 40.9	0.0
HAZ	**Te Kaha**	**1.30**	**230**	P	Pn	02 12 24.0	-1.8
HAZ				S	Sn	02 12 43.6	+0.1
PUZ	**Puketiti**	**1.30**	**208**	P	Pn	02 12 25.5	-0.4
PUZ				S	Sg	02 12 42.5	-0.3
RUGZ	**Raukumara Rang**	**1.50**	**226**	P	Pn	02 12 28.2	-0.4
TWGZ	**Tauwhareparae**	**1.50**	**214**	P	Pn	02 12 28.2	-0.4
CNGZ	**Carnagh Statio**	**1.69**	**203**	P	Pn	02 12 31.1	-0.1
TKGZ	**Te Karaka**	**1.78**	**212**	P	Pn	02 12 31.7	-0.7
MWZ	**Matawai**	**1.85**	**220**	P	Pn	02 12 32.8	-0.6
RAGZ	**Rawiri**	**2.03**	**219**	P	Pn	02 12 35.6	-0.3
RIGZ	**Rimuhau**	**2.04**	**209**	P	Pn	02 12 34.7	-1.4
EDRZ	**Edgecumbe**	**2.17**	**236**	P	Pn	02 12 38.8	+0.9
MYRZ	**Mayor Island**	**2.26**	**260**	P	Pn	02 12 39.1	0.0
RTZ	**Ruatahuna**	**2.34**	**223**	P	Pn	02 12 39.9	-0.4
KNZ	**Kokohu**	**2.35**	**207**	P	Pn	02 12 37.7	-2.6
MUGZ	**Murupara**	**2.37**	**229**	P	Pn	02 12 40.1	-0.5
MHGZ	**Mahia Peninsul**	**2.40**	**201**	P	Pn	02 12 39.0	-1.9
TARZ	**Mount Tarawera**	**2.40**	**236**	P	Pn	02 12 41.9	+0.8
RAHZ	**Arahi**	**2.52**	**217**	P	Pn	02 12 42.1	-0.5
MTHZ	**Maungataniwha**	**2.59**	**221**	P	Pn	02 12 43.2	-0.4
KUZ	**Kuaotunu**	**2.66**	**273**	P	Pn	02 12 43.6	-0.9
MRHZ	**Matea Rd**	**2.81**	**227**	P	Pn	02 12 46.7	0.0
ARHZ	**Aropaoanui**	**2.83**	**214**	P	Pn	02 12 45.6	-1.3
TOZ	**Tahuroa Road**	**2.93**	**253**	P	Pn	02 12 47.4	-0.8
GRZ	**Great Barrier**	**2.96**	**282**	P	Pn	02 12 48.5	-0.1
MKAZ	**Moumakai**	**3.10**	**266**	P	Pn	02 12 50.0	-0.6
MCHZ	**McNeill Hill**	**3.12**	**216**	P	Pn	02 12 49.9	-0.9
CKHZ	**Cape Kidnapper**	**3.13**	**209**	P	Pn	02 12 48.3	-2.7
KWHZ	**Kaweka Forest**	**3.23**	**219**	P	Pn	02 12 51.0	-1.5
MBAZ	**Motutapu North**	**3.32**	**271**	P	Pn	02 12 54.5	+0.9
KAHZ	**Kahuranaki**	**3.33**	**210**	P	Pn	02 12 51.0	-2.8
ABAZ	**Army Bay**	**3.39**	**274**	P	Pn	02 12 54.9	+0.3
TMVZ	**Te Maari**	**3.42**	**229**	P	Pn	02 12 54.4	-0.7
NTVZ	**North Tongarir**	**3.43**	**230**	P	Pn	02 12 54.8	-0.4

ETVZ	**East Tongariro**	**3.43**	**229**	P	Pn	02 12 54.3	-0.9
BHHZ	**Black Hill Sta**	**3.47**	**222**	P	Pn	02 12 54.9	-0.8
NNVZ	**North Ngauruho**	**3.48**	**230**	P	Pn	02 12 58.2	+2.2
SNVZ	**South Ngauruho**	**3.50**	**229**	P	Pn	02 12 56.1	-0.1
NGZ	**Ngauruhoe**	**3.52**	**229**	P	Pn	02 12 55.8	-0.7
TWVZ	**Taurewa**	**3.56**	**232**	P	Pn	02 12 58.4	+1.4
MOVZ	**Moawhango**	**3.58**	**225**	P	Pn	02 12 56.4	-0.8
HIZ	**Hauiti**	**3.67**	**243**	P	Pn	02 12 60.0	+1.5
PNHZ	**Pukenui**	**3.72**	**216**	P	Pn	02 12 56.5	-2.6
PRHZ	**Porangahau**	**3.83**	**209**	P	Pn	02 12 57.0	-3.6
WCZ	**Waipu Caves**	**3.91**	**283**	P	Pn	02 13 02.2	+0.6
TSZ	**Takapari Road**	**3.95**	**217**	P	Pn	02 12 59.9	-2.4
DVHZ	**Dannevirke**	**4.05**	**213**	P	Pn	02 13 00.9	-2.7
NEZ	**North Egmont**	**4.54**	**237**	P	Pn	02 13 13.3	+2.7
MRZ	**Mangatainoka R**	**4.60**	**215**	P	Pn	02 13 08.0	-3.3
OUZ	**Omahuta**	**4.72**	**290**	P	Pn	02 13 13.7	+0.8
CTZ	**Chatham Island**	**7.57**	**155**	P	Pn	02 13 48.5	-3.4

*IDC **10** 02:21:32.0±8.3, 0°.02N×123°.27E, h109km±86km, mb3.2/3, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=67.1km s-min=25.3km az=54.0*
*DJA **10** 02:21:35.3±2.0, 0°S±7°×12°3E±1°4, h106km±17km, M3.8/6, MLv3.8/6*
ISC 10 02:21:34.5±1.1, **0°.02S**±0°.08×**123°.1E**±0°.1, **h150km, n8, σ2s.45**/10, **mb3.3**/3, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.66**	**356**	P	**Pn**	**02 21 55.2**	**-1.5**
GTOI				S	**Sn**	**02 22 11.4**	**-2.3**
LUWI	**Luwuk**	**1.05**	**196**	P	**Pn**	**02 21 56.2**	**-3.5**
MRSI	**Marisa**	**1.23**	**294**	P	**Pn**	**02 21 58.5**	**-2.8**
APSI	**Ampana**	**1.66**	**238**	P	**Pn**	**02 22 03.5**	**-2.3**
KAPI	**Kappang**	**5.96**	**214**	P	**Pn**	**02 23 00.5**	**-0.1**
	3.8nm,0.3s,baz=40,slow=12,SNR=4.5						
KAPI				S	**Sn**	**02 24 08.3**	**+0.2**
	12nm,0.3s,baz=196,slow=21,SNR=2.7						
	8.0nm,0.3s						
WRA	**Warramunga Arr**	**22.67**	**151**	P	**P**	**02 26 23.8**	**+0.5**
	0.8nm,0.7s,baz=331,slow=10,SNR=12						
	0.8nm,0.7s						
SONM	**Songino Array**	**49.82**	**345**	P	**P**	**02 30 13.2**	**+1.0**
	0.4nm,0.7s,baz=147,slow=3.4,SNR=2.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**58.66**	**328**	P	**P**	**02 31 18.9**	**+2.8**
	0.5nm,0.4s,baz=121,slow=8.3,SNR=12						
	0.5nm,0.4s						

IDC 10 02:24:53.3±4.5, **7°.05S**×**130°.37E, h150km**±62km, **mb3.3**/1, **mbtmp3.8**/4, **Error ellipse: s-maj=126.4km s-min=19.4km az=82.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.20**	**8**	P	Pn	02 26 24.0	+1.3
	4.1nm,0.2s,baz=189,slow=14,SNR=8.7						
SIJI				S	Sn	02 27 32.2	-0.5
	5.3nm,0.3s,baz=272,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**13.39**	**164**	P	Pn	02 27 56.1	-1.4
	1.2nm,0.7s,baz=346,slow=13,SNR=15						
WRA				S	Sn	02 30 18.0	-7.7
	2.0nm,0.5s,baz=337,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.87**	**169**	P	Pn	02 28 41.3	+0.5
	1.8nm,0.5s,baz=348,slow=10,SNR=18						
ASAR				S	S	02 31 36.3	-12
	0.3nm,0.5s,baz=334,slow=16,SNR=2.5						
MKAR	**Makanchi Array**	**68.46**	**327**	P	P	02 35 39.1	-0.1
	0.3nm,0.4s,baz=119,slow=8.8,SNR=6.1						
	0.3nm,0.4s						

*BGR **10** 02:45:43.8±0.9, 44°.23N×5°.51E, h10km, ML3.5/5, Error ellipse: s-maj=30.0km s-min=18.9km az=115.0*
*STR **10** 02:45:46.5±0.2, 44°N±1°×°±°, h13km±2km, MLv3.5/68, Error ellipse: s-maj=0.0km s-min=0.0km az=92.8, preliminary*
*GEN **10** 02:45:46.5, 44°.35N×6°.28E, h1km±2km, Ml3.1*
*LDG **10** 02:45:46.9±0.1, 44°.29N×6°.16E, h2km, Md3.2/4, Ml3.5/60, Error ellipse: s-maj=1.1km s-min=0.9km az=60.0*
*ROM **10** 02:45:48.1±0.3, 44°.33N±0°.01×6°.23E±0°.02, h8km, ML3.2/8, Error ellipse: s-maj=1.9km s-min=0.9km az=243.0*
*PRU **10** 02:45:48.1±0.0, 44°.46N×6°.04E, h10km*
ISC 10 02:45:45.7±0.9, **44°.32N**±0°.01×**6°.11E**±0°.01, **h11km**±7km, **n250, σ1s.41**/361, **15C-41D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGDI	**Digne**	**0.25**	**147**	P	**Pg**	**02 45 50.4**	**-0.5**
OGDI				S	**Sg**	**02 45 53.5**	**-0.8**
OGDI	**Digne**	**0.25**	**147**	⇓Pg	**Pg**	**02 45 50.3**	**-0.5**
OGDI				Sg	**Sg**	**02 45 53.5**	**-0.8**
OGAG	**Argentiere**	**0.34**	**66**	P	**Pn**	**02 45 57.6**	**+0.9**
OGAG				S	**Sb**	**02 46 05.6**	**+6.3**
OGAG	**Argentiere**	**0.34**	**66**	Pg	**Pn**	**02 45 57.6**	**+0.9**
OGAG				Sg	**Sb**	**02 46 05.8**	**+6.5**
BLAF	**les Blancs**	**0.37**	**187**	⇓Pg	**Pg**	**02 45 53.1**	**+0.1**
BLAF				Sg	**Sg**	**02 45 57.7**	**-0.2**
MLYF	**Mely**	**0.41**	**217**	⇓Pg	**Pg**	**02 45 54.7**	**+0.9**
CREF	**Crivoux**	**0.43**	**57**	Pg	**Pg**	**02 45 54.6**	**+0.3**
CREF				Sg	**Sg**	**02 46 00.4**	**+0.3**
JAUF	**Jausiers**	**0.47**	**76**	⇓Pg	**Pg**	**02 45 54.9**	**-0.1**
SMRF	**Simiane la Rot**	**0.52**	**229**	*e*Pg	**Pg**	**02 45 56.5**	**+0.8**
SMRF				*e*Sg	**Sg**	**02 46 03.4**	**+0.8**
	550nm,0.2s						
SURF	**Saint Ours**	**0.53**	**72**	P	**Pg**	**02 45 56.2**	**+0.1**
SURF				S	**Sg**	**02 46 02.9**	**-0.2**
SURF	**Saint Ours**	**0.53**	**72**	⇓Pg	**Pg**	**02 45 56.3**	**+0.2**
BSTF	**la Bastide-des**	**0.55**	**218**	⇓Pg	**Pb**	**02 45 58.1**	**+0.7**
RUSF	**Rustrel**	**0.59**	**230**	Pg	**Pb**	**02 45 58.6**	**+0.6**
TRIGF	**Trigance**	**0.61**	**159**	⇓Pg	**Pg**	**02 45 57.5**	**0.0**
TRIGF				Sg	**Sg**	**02 46 05.8**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.62**	**345**	*e*Pg	**Pb**	**02 45 59.0**	**+0.3**
ORIF				*e*Sg	**Sb**	**02 46 07.8**	**+0.3**
	2µm,0.6s						
ORIF	**Oris-en-Rattie**	**0.62**	**345**	P	**Pb**	**02 45 59.0**	**+0.3**
ORIF				AML	AML		
	comp=E,1820µm,1.3s						
ORIF				AML	AML		
	comp=N,1375µm,0.6s						
ORIF				AML	AML		
	comp=E,1821µm,1.3s						
ORIF	**Oris-en-Rattie**	**0.62**	**345**	⇓Pg	**Pb**	**02 45 59.0**	**+0.3**
MBDF	**Montbardon**	**0.63**	**49**	*e*Pg	**Pb**	**02 45 58.1**	**-0.7**
MBDF				*e*Sg	**Sg**	**02 46 06.1**	**-0.1**
	comp=E,568nm,0.3s						
ISO	**Isola**	**0.69**	**101**	P	**Pb**	**02 45 59.3**	**-0.4**
ISO				S	**Sb**	**02 46 08.4**	**-0.8**
ISO	**Isola**	**0.69**	**101**	⇑Pg	**Pg**	**02 45 58.8**	**-0.2**
PZZ	**Stroppo**	**0.74**	**75**	P	**Pg**	**02 46 00.0**	**-0.1**
PZZ				S	**Sg**	**02 46 09.2**	**-0.7**
PZZ	**Stroppo**	**0.74**	**75**	P	**Pb**	**02 46 00.8**	**0.0**
PZZ				S	**Sg**	**02 46 09.7**	**-0.2**
PZZ				AML	AML		
	comp=E,2125µm,0.6s						
PZZ				AML	AML		
	comp=N,2605µm,0.5s						
PZZ				AML	AML		
	comp=N,2605µm,1.5s						
PZZ				AML	AML		
	comp=E,2125µm,1.4s						
PZZ				AML	AML		
	comp=N,2604µm,0.5s						
PZZ				AML	AML		
	comp=E,2123µm,0.6s						
ARTF	**Artigues**	**0.76**	**197**	Pg	**Pg**	**02 46 00.2**	**-0.2**
RRL	**Rocca Remolon**	**0.78**	**39**	P	**Pb**	**02 46 01.3**	**0.0**
RRL				S	**Sb**	**02 46 11.3**	**-0.6**
RRL	**Rocca Remolon**	**0.78**	**39**	P	**Pb**	**02 46 01.6**	**+0.3**
RRL				S	**Sb**	**02 46 12.2**	**+0.2**
RRL				AML	AML		
	comp=E,1550µm,0.3s						
RRL				AML	AML		
	comp=N,1725µm,0.5s						
RRL				AML	AML		
	comp=N,1730µm,0.5s						
RRL				AML	AML		
	comp=E,1333µm,6.4s						
RRL				AML	AML		
	comp=N,1728µm,0.5s						
CALF	**Calern**	**0.81**	**134**	Pg	**Pg**	**02 46 01.3**	**-0.1**
SAUF	**chteau de Sau**	**0.82**	**243**	⇓Pg	**Pn**	**02 46 03.3**	**+0.1**
BNI	**Bardonecchia**	**0.84**	**29**	P	**Pb**	**02 46 02.8**	**+0.4**
BNI				S	**Sb**	**02 46 14.2**	**+0.5**
BNI	**Bardonecchia**	**0.84**	**29**	P	**Pn**	**02 46 03.2**	**-0.4**
BNI				S	**Sb**	**02 46 14.3**	**+0.5**
BNI				AML	AML		
	comp=E,1730µm,0.4s						
BNI				AML	AML		
	comp=N,574µm,0.4s						
BNI				AML	AML		
	comp=N,574µm,0.4s						
BNI				AML	AML		
	comp=N,696µm,0.4s						
BNI				AML	AML		
	comp=E,2130µm,0.4s						
BNI				AML	AML		
	comp=E,1731µm,0.4s						
BNI				AML	AML		
	comp=E,2129µm,0.4s						
SPIF	**crte de Spivo**	**0.85**	**107**	Pg	**Pg**	**02 46 01.8**	**-0.3**
MVIF	**Mont Vial**	**0.86**	**119**	P	**Pb**	**02 46 03.1**	**+0.4**
MVIF				S	**Sn**	**02 46 17.2**	**+0.7**
MVIF	**Mont Vial**	**0.86**	**119**	⇑Pg	**Pb**	**02 46 02.5**	**-0.3**
STV	**Sant Anna di V**	**0.88**	**94**	P	**Pg**	**02 46 02.2**	**-0.4**
STV	**Sant Anna di V**	**0.88**	**94**	P	**Pb**	**02 46 03.0**	**+0.1**
STV				S	**Sg**	**02 46 13.7**	**-0.3**
STV				AML	AML		
	comp=N,1034µm,0.7s						
STV				AML	AML		
	comp=E,920µm,0.3s						
STV				AML	AML		
	comp=N,1034µm,0.7s						
STV				AML	AML		
	comp=N,1057µm,4.5s						
STV				AML	AML		
	comp=E,758µm,1.7s						
GDM	**Grand'Maison**	**0.89**	**0**	Pg	**Pn**	**02 46 03.8**	**-0.5**
FLAF	**Flassans-sur-I**	**0.94**	**174**	⇓Pg	**Pg**	**02 46 03.3**	**-0.5**
ENR	**Entracque**	**0.94**	**95**	P	**Pg**	**02 46 03.5**	**-0.4**
ENR	**Entracque**	**0.94**	**95**	P	**Pb**	**02 46 04.0**	**-0.2**
ENR				AML	AML		
	comp=N,2095µm,0.5s						
ENR				AML	AML		
	comp=E,1235µm,0.4s						
GRN	**Grenoble**	**0.96**	**344**	Pg	**Pn**	**02 46 05.8**	**+0.5**
BHB	**Bricherasio**	**0.98**	**57**	P	**Pb**	**02 46 04.6**	**-0.1**
BHB				S	**Sb**	**02 46 17.3**	**-0.3**
OGMO	**Fort Saint-Gob**	**0.98**	**24**	P	**Pn**	**02 46 05.1**	**-0.4**
OGMO				S	**Sn**	**02 46 19.2**	**-0.2**
OGMO	**Fort Saint-Gob**	**0.98**	**24**	Pg	**Pn**	**02 46 05.8**	**+0.2**
TURF	**col de Turini**	**0.98**	**110**	P	**Pb**	**02 46 04.9**	**0.0**
TURF				S	**Sn**	**02 46 18.8**	**-0.8**
TURF	**col de Turini**	**0.98**	**110**	Pg	**Pg**	**02 46 04.4**	**-0.3**
ARBF	**Arbois**	**1.00**	**215**	⇓Pg	**Pn**	**02 46 05.9**	**+0.3**
LMR	**La Mourre**	**1.02**	**164**	*e*Pg	**Pg**	**02 46 04.4**	**-1.0**
LMR				*e*Sg	**Sg**	**02 46 17.3**	**-1.4**
	comp=E,2µm,0.3s						
ESCA	**l'Escarene**	**1.03**	**118**	P	**Pn**	**02 46 06.1**	**0.0**
ESCA	**l'Escarene**	**1.03**	**118**	⇑Pg	**Pb**	**02 46 05.6**	**0.0**
SBF	**Sospel**	**1.06**	**115**	*e*Pn	**Pg**	**02 46 05.8**	**-0.2**
SBF				*e*Sg	**Sg**	**02 46 18.0**	**-1.8**
	comp=E,3µm,0.5s						
EILF	**Villa Eilenroc**	**1.06**	**136**	P	**Pn**	**02 46 07.0**	**+0.5**
EILF				S	**Sn**	**02 46 20.7**	**-0.6**
EILF	**Villa Eilenroc**	**1.06**	**136**	Pg	**Pn**	**02 46 06.4**	**-0.1**
SAOF	**Saorge**	**1.09**	**107**	P	**Pn**	**02 46 07.2**	**+0.3**
SAOF				S	**Sn**	**02 46 22.3**	**+0.2**
SAOF	**Saorge**	**1.09**	**107**	P	**Pn**	**02 46 07.0**	**0.0**
SAOF				S	**Sn**	**02 46 21.8**	**-0.2**
SAOF				AML	AML		
	comp=N,2625µm,1.3s						
SAOF				AML	AML		
	comp=E,2395µm,0.3s						
SAOF				AML	AML		
	comp=E,2392µm,0.3s						
SAOF	**Saorge**	**1.09**	**107**	Pg	**Pn**	**02 46 06.7**	**-0.3**
MENA	**Menton**	**1.13**	**118**	P	**Pn**	**02 46 08.1**	**+0.7**
MENA				S	**Sn**	**02 46 23.4**	**+0.6**
VIVF	**Saint-Julien-l**	**1.16**	**298**	*e*Pg	**Pg**	**02 46 09.1**	**+1.1**
VIVF				*e*Sg	**Sn**	**02 46 25.1**	**+1.3**
	comp=E,219nm,0.2s						
BURY	**Giardini Botan**	**1.17**	**117**	P	**Pg**	**02 46 08.3**	**+0.1**
BURY				S	**Sn**	**02 46 23.7**	**-0.2**
BURY	**Giardini Botan**	**1.17**	**117**	⇑P	**Pg**	**02 46 08.4**	**+0.2**
BURY				S	**Sn**	**02 46 24.2**	**+0.3**
MGRO	**Montegrosso**	**1.25**	**102**	P	**Pb**	**02 46 09.2**	**-0.1**
MGRO	**Montegrosso**	**1.25**	**102**	P	**Pb**	**02 46 09.3**	**-0.1**
MGRO				S	**Sn**	**02 46 26.6**	**+0.4**
MGRO				AML	AML		
	comp=N,2180µm,0.4s						
MGRO				AML	AML		
	comp=E,1455µm,1.1s						
LPG	**La Plagne**	**1.27**	**21**	*e*Pg	**Pg**	**02 46 10.5**	**+0.4**
LPG				*e*Sg	**Sn**	**02 46 27.1**	**+0.3**
	comp=E,414nm,0.4s						
LPL	**La Plagne**	**1.28**	**20**	*e*Pg	**Pg**	**02 46 10.7**	**+0.4**
LPL				*e*Sg	**Sn**	**02 46 27.4**	**+0.4**
	comp=E,267nm,0.4s						
OGSM	**Saint Maurice**	**1.33**	**347**	⇑Pn	**Pg**	**02 46 12.1**	**+0.9**
IMI	**Imperia**	**1.35**	**107**	P	**Pg**	**02 46 11.5**	**0.0**
IMI	**Imperia**	**1.35**	**107**	P	**Pg**	**02 46 11.4**	**-0.2**
IMI				S	**Sg**	**02 46 29.1**	**0.0**
IMI				AML	AML		
	comp=N,3125µm,0.3s						
IMI				AML	AML		
	comp=E,1600µm,0.5s						
IMI				AML	AML		
	comp=E,1781µm,7.4s						
LSD	**Lago del Serru**	**1.35**	**32**	P	**Pg**	**02 46 12.1**	**+0.3**
LSD	**Lago del Serru**	**1.35**	**32**	P	**Pg**	**02 46 12.0**	**+0.3**
LSD				AML	AML		
	comp=E,758µm,0.3s						
LSD				AML	AML		
	comp=N,662µm,0.3s						
LSD				AML	AML		
	comp=E,758µm,0.3s						
RORO	**Rocca Rossa**	**1.42**	**98**	P	**Pb**	**02 46 12.3**	**+0.1**
RORO	**Rocca Rossa**	**1.42**	**98**	P	**Pg**	**02 46 12.5**	**-0.4**
RORO				S	**Sg**	**02 46 31.7**	**+0.3**
RORO				AML	AML		
	comp=E,994µm,0.4s						
RORO				AML	AML		
	comp=N,1182µm,0.4s						
RORO				AML	AML		
	comp=E,994µm,0.4s						
RSL	**Roselend**	**1.42**	**15**	P	**Pg**	**02 46 14.0**	**+1.1**
RSL	**Roselend**	**1.42**	**15**	⇑Pn	**Pg**	**02 46 13.8**	**+0.8**
MONC	**Moncucco Torin**	**1.50**	**59**	P	**Pg**	**02 46 14.7**	**+0.2**
MONC	**Moncucco Torin**	**1.50**	**59**	P	**Pg**	**02 46 14.8**	**+0.3**
MONC				AML	AML		
	comp=E,1745µm,0.5s						
MONC				AML	AML		
	comp=N,1960µm,0.5s						
ASEAF	**Site Antares,**	**1.52**	**179**	Pn	**Pb**	**02 46 13.9**	**+0.2**
CANO	**Canova, Maglio**	**1.53**	**93**	P	**Pb**	**02 46 14.2**	**+0.1**
CANO	**Canova, Maglio**	**1.53**	**93**	P	**Pg**	**02 46 14.7**	**-0.4**
CANO				S	**Sb**	**02 46 33.7**	**+0.1**
CANO				AML	AML		
	comp=N,2345µm,0.5s						
CANO				AML	AML		
	comp=E,3105µm,1.6s						
CANO				AML	AML		
	comp=N,2346µm,0.5s						
MRGE	**Morge**	**1.60**	**25**	P	**Pg**	**02 46 17.1**	**+0.6**
MRGE				AML	AML		
	comp=E,679µm,0.6s						
MRGE				AML	AML		
	comp=N,904µm,1.6s						
QLNO	**Quiliano**	**1.60**	**89**	P	**Pb**	**02 46 15.2**	**-0.1**
QLNO	**Quiliano**	**1.60**	**89**	P	**Pb**	**02 46 15.4**	**0.0**
QLNO				S	**Sg**	**02 46 36.6**	**-0.7**
QLNO				AML	AML		
	comp=E,242µm,1.2s						
QLNO				AML	AML		
	comp=N,202µm,0.4s						
LASF	**Ste Croix**	**1.64**	**262**	*e*Pn	**Pn**	**02 46 14.8**	**+0.3**
LASF				*e*Sn	**Sn**	**02 46 36.0**	**+0.4**
	comp=N,68nm,0.2s						
CIRO	**Champorcher**	**1.65**	**38**	P	**Pg**	**02 46 17.7**	**+0.3**
CIRO				AML	AML		
	comp=E,534µm,0.4s						
CIRO				AML	AML		
	comp=N,478µm,1.0s						
CIRO				AML	AML		
	comp=E,534µm,0.4s						
TRAV	**Traversella**	**1.67**	**44**	P	**Pg**	**02 46 17.3**	**-0.4**
TRAV				S	**Sg**	**02 46 38.3**	**-1.0**
TRAV				AML	AML		
	comp=E,422µm,0.3s						
TRAV				AML	AML		
	comp=N,460µm,1.4s						
ROTM	**Rocchetta Tana**	**1.69**	**71**	P	**Pg**	**02 46 17.9**	**-0.2**
ROTM				AML	AML		
	comp=E,2470µm,1.2s						
ROTM				AML	AML		
	comp=N,3680µm,0.8s						
PCP	**Piancastagn**	**1.76**	**82**	P	**Pb**	**02 46 18.1**	**+0.1**
PCP				AML	AML		
	comp=E,425µm,1.0s						
PCP				AML	AML		
	comp=E,426µm,1.0s						
PCP				AML	AML		
	comp=N,430µm,1.0s						
OG35	**Corcelles**	**1.77**	**348**	⇑Pn	**Pb**	**02 46 17.9**	**-0.3**
OG35				Pg	**Pg**	**02 46 21.1**	**+1.5**
OGSI	**Sixt**	**1.81**	**14**	Pn	**Pb**	**02 46 19.1**	**+0.3**
OGSI				Pg	**Pg**	**02 46 21.8**	**+1.4**
DIX	**Grande Dixence**	**1.99**	**27**	P	**Pg**	**02 46 22.8**	**-1.1**
DIX	**Grande Dixence**	**1.99**	**27**	Pn	**Pb**	**02 46 22.6**	**+0.5**
SATI	**Passo dei Sala**	**2.00**	**38**	P	**Pg**	**02 46 23.2**	**-0.7**
SATI				AML	AML		
	comp=N,210µm,1.0s						
SATI				AML	AML		
	comp=E,231µm,0.8s						
RNCA	**Ronca, Sant'Ol**	**2.04**	**85**	P	**Pb**	**02 46 21.4**	**-1.4**
RNCA				AML	AML		
	comp=E,124µm,1.5s						
RNCA				AML	AML		
	comp=N,120µm,1.1s						
SARZ	**Sarezzano**	**2.07**	**74**	P	**Pg**	**02 46 24.8**	**-0.6**
SARZ				AML	AML		
	comp=E,1171µm,0.7s						
SARZ				AML	AML		
	comp=N,966µm,0.6s						
AIGLE	**Aigle**	**2.11**	**16**	Pn	**Pb**	**02 46 23.1**	**-0.9**
AIGLE	**Aigle**	**2.11**	**16**	Sg	**Sg**	**02 46 56.7**	**+3.2**
MMK	**Mattmark**	**2.17**	**36**	P	**Pb**	**02 46 25.7**	**+0.5**
MMK				AML	AML		
	comp=N,176µm,1.0s						
MMK				AML	AML		
	comp=E,217µm,0.6s						
GIMEL	**St. Georges /**	**2.22**	**3**	P	**Pb**	**02 46 25.9**	**0.0**
GIMEL	**St. Georges /**	**2.22**	**3**	Pn	**Pb**	**02 46 24.2**	**-1.7**
EMBD	**Embd, Matterta**	**2.26**	**32**	⇑Pn	**Pb**	**02 46 26.3**	**-0.2**
CABF	**La Chapelle**	**2.29**	**360**	*e*Pn	**Pn**	**02 46 24.0**	**+0.4**
CABF	**La Chapelle**	**2.29**	**360**	*e*Pg	**Pg**	**02 46 29.6**	**-0.1**
CABF				*e*Sn	**Sn**	**02 46 51.6**	**-0.3**
	comp=E,27nm,0.3s						
CABF				*e*Sg	**Sg**	**02 46 59.6**	**+0.2**
	comp=E,56nm,0.3s						
VARE	**Varese**	**2.44**	**50**	P	**Pb**	**02 46 28.5**	**-1.2**
VARE				AML	AML		
	comp=N,204µm,0.6s						
VARE				AML	AML		
	comp=E,150µm,1.1s						
RIVEL	**MONT RIVEL**	**2.45**	**357**	Pn	**Pn**	**02 46 27.1**	**+1.5**
CLAF	**Gruissan**	**2.49**	**243**	*e*S	**Pn**	**02 46 26.5**	**+0.4**
CLAF	**Gruissan**	**2.49**	**243**	Pn	**Pn**	**02 46 26.5**	**+0.4**
MUGIO	**Muggio**	**2.62**	**51**	P	**Pb**	**02 46 31.5**	**-1.3**
MUGIO				AML	AML		
	comp=E,107µm,1.5s						
MUGIO				AML	AML		
	comp=N,134µm,0.6s						
BRANT	**Les Verrieres**	**2.63**	**5**	Pn	**Pn**	**02 46 29.6**	**+1.4**
BRANT	**Les Verrieres**	**2.63**	**5**	Pg	**Pg**	**02 46 36.6**	**+0.4**
PGF	**Pioggiola**	**2.75**	**129**	*e*Pn	**Pn**	**02 46 29.1**	**-0.7**
PGF				*e*Sn	**Sn**	**02 46 59.8**	**-3.2**
	comp=N,72nm,0.2s						
PGF	**Pioggiola**	**2.75**	**129**	P	**Pn**	**02 46 29.1**	**-0.7**
PGF				AML	AML		
	comp=E,200µm,1.6s						
PGF				AML	AML		
	comp=N,205µm,1.6s						
PGF	**Pioggiola**	**2.75**	**129**	Pn	**Pn**	**02 46 29.2**	**-0.7**
FUSIO	**Fusio**	**2.79**	**39**	⇑P	**Pb**	**02 46 34.5**	**-1.2**
FUSIO				AML	AML		
	comp=N,97µm,0.7s						
FUSIO				AML	AML		
	comp=E,80µm,0.6s						
PLYF	**Puligny Montra**	**2.81**	**341**	Pn	**Pn**	**02 46 32.0**	**+1.4**
PLYF				Pg	**Pg**	**02 46 42.1**	**+2.6**
SMF	**Signal de Mont**	**2.82**	**326**	*e*Pn	**Pn**	**02 46 32.0**	**+1.2**
SMF	**Signal de Mont**	**2.82**	**326**	*e*Pg	**Pg**	**02 46 39.8**	**0.0**
SMF				*e*Sn	**Sn**	**02 47 04.5**	**-0.3**
	comp=E,37nm,0.2s						
SMF				*e*Sg	**Sg**	**02 47 16.5**	**+0.1**
	comp=E,25nm,0.2s						
EQUI	**Equi**	**2.91**	**92**	P	**Pn**	**02 46 33.1**	**+1.2**
EQUI				AML	AML		
	comp=E,75µm,1.1s						
EQUI				AML	AML		
	comp=N,113µm,0.8s						
ORZI	**Orzinuovi**	**2.93**	**67**	⇓P	**Pb**	**02 46 36.6**	**-1.3**
CAF	**Calviac**	**2.95**	**283**	*e*Pn	**Pn**	**02 46 33.9**	**+1.3**
CAF				*e*Sn	**Sn**	**02 47 07.6**	**-0.4**
	comp=N,26nm,0.2s						
CAF				*e*Sg	**Sg**	**02 47 20.8**	**+0.3**
	comp=N,28nm,0.3s						
CHMF	**Charmoille**	**2.96**	**7**	Pn	**Pn**	**02 46 33.7**	**+1.0**
CHMF				Sn	**Sn**	**02 47 09.6**	**+1.5**
MTLF	**Montolieu**	**2.98**	**252**	*e*Pn	**Pn**	**02 46 33.7**	**+0.8**
MTLF	**Montolieu**	**2.98**	**252**	*e*Pg	**Pg**	**02 46 42.4**	**-0.4**
MTLF				*e*Sn	**Sn**	**02 47 07.9**	**-0.8**
	comp=N,33nm,0.2s						
MTLF				*e*Sg	**Sg**	**02 47 21.1**	**-0.3**
	comp=N,26nm,0.4s						
MTLF	**Montolieu**	**2.98**	**252**	⇓P	**Pn**	**02 46 33.9**	**+1.0**
MTLF				S	**Sn**	**02 47 09.0**	**+0.3**
MTLF	**Montolieu**	**2.98**	**252**	Pn	**Pn**	**02 46 33.8**	**+0.9**
SJAF	**Saint Jean de**	**2.98**	**233**	P	**Pn**	**02 46 33.6**	**+0.7**
CORF	**Corte**	**3.00**	**131**	Pn	**Pn**	**02 46 33.1**	**-0.1**
BNALP	**Bannalp**	**3.03**	**32**	⇓P	**Pn**	**02 46 36.2**	**+2.5**
BNALP				AML	AML		
	comp=E,118µm,0.5s						
BNALP				AML	AML		
	comp=N,145µm,1.2s						
AJAC	**Base Areonaval**	**3.08**	**140**	P	**Pn**	**02 46 33.8**	**-0.3**
AJAC				AML	AML		
	comp=N,323µm,0.4s						
AJAC				AML	AML		
	comp=E,246µm,1.6s						
AJAC	**Base Areonaval**	**3.08**	**140**	Pn	**Pn**	**02 46 33.9**	**-0.3**
SARO	**Sassorosso**	**3.08**	**91**	⇓P	**Pn**	**02 46 35.9**	**+1.5**
SARO				AML	AML		
	comp=E,164µm,1.6s						
SARO				AML	AML		
	comp=N,224µm,1.2s						
FILF	**Fillols**	**3.12**	**237**	Pn	**Pn**	**02 46 36.3**	**+1.3**
AVF	**Avril sur Loir**	**3.14**	**323**	*e*Pn	**Pn**	**02 46 35.8**	**+0.7**
AVF	**Avril sur Loir**	**3.14**	**323**	*e*Pg	**Pg**	**02 46 45.4**	**-0.5**
AVF				*e*Sn	**Sn**	**02 47 12.0**	**-0.6**
	comp=N,6.4nm,0.2s						
AVF				*e*Sg	**Sg**	**02 47 26.4**	**-0.2**
	comp=N,27nm,0.4s						
BOURR	**Bourrignon**	**3.18**	**14**	Pn	**Pn**	**02 46 37.4**	**+1.7**
ZONE	**Zone**	**3.19**	**62**	⇑P	**Pb**	**02 46 39.2**	**-3.2**
ZONE				AML	AML		
	comp=E,67µm,1.1s						
ZONE				AML	AML		
	comp=N,74µm,0.5s						
BGF	**Bois d'Agland**	**3.21**	**315**	*e*Pn	**Pn**	**02 46 36.6**	**+0.5**
BGF				*e*Sn	**Sn**	**02 47 14.1**	**-0.2**
BGF				*e*Sg	**Sg**	**02 47 28.8**	**0.0**
	comp=N,66nm,0.3s						
SMPL	**Sampolo**	**3.21**	**133**	P	**Pn**	**02 46 36.3**	**+0.2**
BALST	**Balsthal**	**3.22**	**20**	*e*Pn	**Pn**	**02 46 37.3**	**+1.1**
BALST				*e*Pg	**Pg**	**02 46 47.7**	**+0.4**
	SNR=7.4						
BALST	**Balsthal**	**3.22**	**20**	Pn	**Pn**	**02 46 37.3**	**+1.1**
FNEB	**Nbias**	**3.23**	**245**	Pn	**Pn**	**02 46 37.7**	**+1.3**
SSF	**Saint Saulge**	**3.30**	**327**	*e*Pn	**Pn**	**02 46 37.7**	**+0.4**
SSF	**Saint Saulge**	**3.30**	**327**	*e*Pg	**Pg**	**02 46 48.6**	**-0.2**
SSF				*e*Sn	**Sn**	**02 47 16.1**	**-0.3**
	comp=N,27nm,0.4s						
SSF				*e*Sg	**Sg**	**02 47 31.4**	**-0.1**
	comp=N,44nm,0.4s						
LOR	**Lormes**	**3.35**	**333**	*e*Pn	**Pn**	**02 46 38.8**	**+0.8**
	baz=153						
LOR	**Lormes**	**3.35**	**333**	*e*Pg	**Pg**	**02 46 50.5**	**+0.7**
	baz=149						

LOR				eSn	Sn	02 47 16.8	-0.9
	comp=N,60nm,0.4s						
LOR				eSg	Sg	02 47 32.9	-0.2
	comp=N,48nm,0.4s,baz=152						
LOR	**Lormes**	**3.35**	**333**	Pn	**Pn**	**02 46 39.2**	**+1.3**
TCF	**Toulx Ste Croi**	**3.39**	**307**	ePn	**Pn**	**02 46 39.1**	**+0.6**
TCF	**Toulx Ste Croi**	**3.39**	**307**	ePg	**Pg**	**02 46 50.7**	**+0.2**
TCF				eSn	**Sn**	**02 47 18.1**	**-0.6**
	comp=N,15nm,0.3s						
TCF				eSg	**Sg**	**02 47 34.4**	**0.0**
	comp=N,17nm,0.4s						
SALO	**Salr**	**3.39**	**66**	⇓P	**Pn**	**02 46 41.4**	**+2.8**
SALO				AML	AML		
	comp=E,120μm,1.2s						
SALO				AML	AML		
	comp=N,132μm,0.7s						
RJF	**Les Rejaudoux**	**3.42**	**288**	ePn	**Pn**	**02 46 39.5**	**+0.6**
RJF				eSn	**Sn**	**02 47 18.7**	**-0.7**
	comp=N,20nm,0.3s						
RJF				eSg	**Sg**	**02 47 35.4**	**0.0**
RONF	**Ronchamp**	**3.42**	**6**	Pn	**Pn**	**02 46 39.9**	**+1.0**
SULZ	**Cheisacher**	**3.50**	**23**	ePn	**Pn**	**02 46 41.0**	**+0.9**
SULZ				ePg	**Pg**	**02 46 53.0**	**+0.3**
	SNR=3.0						
SULZ	**Cheisacher**	**3.50**	**23**	Pn	**Pn**	**02 46 40.9**	**+0.7**
MONQ	**Montcuq**	**3.53**	**273**	Pn	**Pn**	**02 46 41.7**	**+1.3**
HINF	**Hinteralfeld**	**3.54**	**8**	ePn	**Pn**	**02 46 40.9**	**+0.3**
HINF	**Hinteralfeld**	**3.54**	**8**	ePg	**Pg**	**02 46 52.4**	**-1.1**
HINF				eSn	**Sn**	**02 47 20.9**	**-1.6**
	comp=N,11nm,0.2s						
HINF				eSg	**Sg**	**02 47 38.0**	**-1.3**
	comp=N,23nm,0.3s						
DAVOX	**Davos/Dischmat**	**3.62**	**46**	⇓P	**Pb**	**02 46 47.0**	**-2.8**
DAVOX				AML	AML		
	comp=E,42μm,1.2s						
DAVOX				AML	AML		
	comp=N,53μm,0.4s						
WILA	**Wila**	**3.66**	**31**	ePn	**Pn**	**02 46 43.9**	**+1.6**
WILA				ePg	**Pg**	**02 46 56.4**	**+0.5**
	SNR=2.9						
HAU	**Haudompre**	**3.69**	**2**	ePn	**Pn**	**02 46 43.2**	**+0.5**
HAU	**Haudompre**	**3.69**	**2**	ePg	**Pg**	**02 46 55.5**	**-0.9**
HAU				eSn	**Sn**	**02 47 24.7**	**-1.6**
	comp=N,26nm,0.2s						
HAU				eSg	**Sg**	**02 47 43.0**	**-1.3**
	comp=N,28nm,0.3s						
METMA	**Mettma DE**	**3.71**	**23**	ePn	**Pn**	**02 46 43.5**	**+0.6**
METMA				ePg	**Pg**	**02 46 56.2**	**-0.6**
	SNR=2.3						
ROVR	**Rover Verones**	**3.76**	**68**	⇓P	**Pn**	**02 46 45.6**	**+1.9**
ROVR				AML	AML		
	comp=N,43μm,0.3s						
ROVR				AML	AML		
	comp=E,28μm,0.3s						
PAND	**Andorre**	**3.78**	**243**	Pn	**Pn**	**02 46 45.9**	**+1.8**
LUSI	**Trento, Gardas**	**3.79**	**63**	⇓P	**Pn**	**02 46 46.7**	**+2.5**
LUSI				AML	AML		
	comp=E,74μm,1.0s						
LUSI				AML	AML		
	comp=N,129μm,0.7s						
HYF	**Humbligny**	**3.82**	**322**	ePn	**Pn**	**02 46 45.0**	**+0.5**
HYF				eSn	**Sn**	**02 47 28.4**	**-1.0**
HYF				eSg	**Sg**	**02 47 47.9**	**-0.5**
SLE	**Schleitheim**	**3.83**	**25**	ePn	**Pn**	**02 46 44.9**	**+0.4**
SLE				ePg	**Pg**	**02 46 58.6**	**-0.3**
	SNR=2.1						
SLE	**Schleitheim**	**3.83**	**25**	Pn	**Pn**	**02 46 45.0**	**+0.4**
BERGE	**Lenzkirch (DE)**	**3.84**	**21**	ePn	**Pn**	**02 46 44.6**	**-0.1**
BERGE				ePg	**Pg**	**02 46 58.7**	**-0.5**
	SNR=3.1						
BERGE				eSn	**Sn**	**02 47 29.8**	**0.0**
	SNR=2.7						
GAGG	**Gaggia**	**3.85**	**61**	⇑P	**Pn**	**02 46 48.2**	**+3.1**
GAGG				AML	AML		
	comp=E,78μm,0.8s						
GAGG				AML	AML		
	comp=N,63μm,0.6s						
LFF	**La Frestale**	**3.88**	**281**	ePn	**Pn**	**02 46 45.9**	**+0.6**
LFF				eSn	**Sn**	**02 47 29.8**	**-1.1**
	comp=N,19nm,0.3s						
LFF				eSg	**Sg**	**02 47 49.8**	**-0.6**
	comp=N,30nm,0.5s						
MLS	**Moulis**	**3.89**	**251**	Pn	**Pn**	**02 46 46.5**	**+1.2**
DOSS	**Dosso del Somm**	**3.92**	**65**	⇓P	**Pn**	**02 46 48.2**	**+2.2**
DOSS				AML	AML		
	comp=N,88μm,1.0s						
DOSS				AML	AML		
	comp=E,88μm,0.5s						
SFTF	**Sexfontaines**	**3.96**	**350**	ePn	**Pn**	**02 46 46.9**	**+0.5**
	baz=169						
SFTF	**Sexfontaines**	**3.96**	**350**	ePg	**Pg**	**02 47 01.4**	**-0.1**
	baz=169						
SFTF				eSn	**Sn**	**02 47 31.3**	**-1.5**
	comp=E,22nm,0.3s,baz=169						
SFTF				eSg	**Sg**	**02 47 51.7**	**-1.1**
	comp=E,31nm,0.4s						
ECH	**Echery**	**3.97**	**10**	ePn	**Pn**	**02 46 46.6**	**+0.1**
ECH				ePg	**Pg**	**02 47 02.5**	**+0.9**
	SNR=1.0						
ECH				eSn	**Sn**	**02 47 32.9**	**-0.1**
	SNR=1.3						
DAVA	**Damuels**	**3.97**	**40**	*i* Pn	**Pn**	**02 46 49.5**	**+2.9**
	comp=E,4.0nm,0.2s,SNR=11						
WALHA	**Wallhausen, DE**	**4.03**	**30**	ePn	**Pn**	**02 46 48.0**	**+0.8**
WALHA				eSn	**Sn**	**02 47 34.2**	**-0.2**
	SNR=1.8						
EMING	**Emmingen-Lipti**	**4.05**	**27**	ePn	**Pn**	**02 46 48.0**	**+0.4**
CDF	**Champ du Feu**	**4.18**	**11**	ePn	**Pn**	**02 46 49.4**	**0.0**
CDF	**Champ du Feu**	**4.18**	**11**	ePg	**Pg**	**02 47 04.0**	**-1.7**
CDF				eSn	**Sn**	**02 47 36.1**	**-2.1**
	comp=E,8.4nm,0.2s						
CDF				eSg	**Sg**	**02 47 58.0**	**-1.7**
	comp=E,15nm,0.3s						
FETA	**Feichten**	**4.22**	**48**	*i* Pn	Pb	02 46 54.9	-5.1
	comp=E,4.2nm,0.2s,SNR=15						
PAGF	**Fort de Pagny**	**4.25**	**357**	ePn	**Pn**	**02 46 50.5**	**+0.2**
	baz=176						
PAGF	**Fort de Pagny**	**4.25**	**357**	ePg	**Pg**	**02 47 05.9**	**-1.1**
	baz=172						
PAGF				eSn	**Sn**	**02 47 38.2**	**-1.7**
	comp=E,16nm,0.3s,baz=176						
PAGF				eSg	**Sg**	**02 48 00.4**	**-1.6**
	comp=E,14nm,0.3s						
MEZF	**Maizieres J'vi**	**4.25**	**350**	ePn	**Pn**	**02 46 50.4**	**+0.1**
MEZF	**Maizieres J'vi**	**4.25**	**350**	ePg	**Pg**	**02 47 06.1**	**-1.0**
	baz=166						
MEZF				eSn	**Sn**	**02 47 38.4**	**-1.5**
	comp=E,16nm,0.3s,baz=164						
MEZF				eSg	**Sg**	**02 48 00.6**	**-1.5**
	comp=E,20nm,0.4s,baz=168						
OBER	**Oberstdorf**	**4.25**	**42**	ePn	**Pn**	**02 46 53.5**	**+3.0**
OBER				eSn	**Sn**	**02 47 44.0**	**+3.9**
	SNR=1.8						
CTI	**Castel Tesino**	**4.28**	**64**	P	**Pn**	**02 46 53.5**	**+2.7**
CTI				AML	AML		
	comp=E,119μm,1.4s						
CTI				AML	AML		
	comp=N,115μm,0.5s						
SF04	**Casetta**	**4.29**	**108**	⇓P	**Pb**	**02 47 03.6**	**+2.4**
BFO	**Black Forest**	**4.30**	**20**	ePn	**Pn**	**02 46 51.3**	**+0.3**
BFO				eSn	**Sn**	**02 47 40.4**	**-0.7**
	SNR=1.7						
CGRP	**Cima Grappa**	**4.32**	**67**	⇑P	**Pn**	**02 46 53.0**	**+1.5**
SAVF	**Savonnieres en**	**4.35**	**351**	ePn	**Pn**	**02 46 52.0**	**+0.2**
	baz=171						
SAVF	**Savonnieres en**	**4.35**	**351**	ePg	**Pg**	**02 47 08.0**	**-1.1**
	baz=174						
SAVF				eSn	**Sn**	**02 47 40.6**	**-1.9**
	comp=N,17nm,0.4s,baz=168						
EPF	**Esparros**	**4.38**	**255**	ePn	**Pn**	**02 46 52.6**	**+0.4**
EPF	**Esparros**	**4.38**	**255**	ePg	**Pg**	**02 47 07.9**	**-1.7**
EPF				eSg	**Sg**	**02 48 04.8**	**-1.5**
	comp=N,12nm,0.3s						
RETA	**Reutte**	**4.54**	**44**	*i* Pn	**Pn**	**02 46 56.6**	**+2.2**
	comp=N,3.0nm,0.2s,SNR=13						
ROSI	**Rosskopf**	**4.54**	**53**	⇓P	Pb	02 47 00.6	-4.9
VARN	**Col Varnada, M**	**4.56**	**66**	⇓P	**Pn**	**02 46 56.9**	**+2.3**
VARN				AML	AML		
	comp=E,196μm,0.4s						
VARN				AML	AML		
	comp=N,114μm,0.5s						
SQTA	**Sankt Quirin**	**4.60**	**49**	*i* Pn	**Pn**	**02 46 59.2**	**+3.9**
	comp=N,9.3nm,0.2s,SNR=11						
MOTA	**Moosalm**	**4.62**	**47**	*i* Pn	**Pn**	**02 46 58.4**	**+2.8**
	comp=N,3.3nm,0.2s,SNR=10						
MPAG	**Monte Paganucc**	**4.85**	**96**	⇑P	**Pb**	**02 47 12.1**	**+1.4**
WTTA	**Wattenberg**	**4.86**	**51**	*i* Pn	**Pn**	**02 47 02.9**	**+4.0**
	comp=N,4.8nm,0.2s,SNR=13						
WTTA	**Wattenberg**	**4.86**	**51**	P	**Pn**	**02 47 02.3**	**+3.4**
WATA	**Walderalm**	**4.87**	**50**	*i* Pn	**Pn**	**02 47 02.8**	**+3.8**
	comp=N,3.3nm,0.1s,SNR=7.6						
RISI	**Rein**	**4.94**	**56**	⇓P	**Pn**	**02 47 01.2**	**+1.1**
MFF	**Saint Martin d**	**4.96**	**300**	ePn	**Pn**	**02 47 00.5**	**+0.4**
MFF				eSn	**Sn**	**02 47 55.8**	**-1.6**
	comp=N,5.4nm,0.3s						
MFF				eSg	**Sg**	**02 48 23.5**	**-1.4**
	comp=N,7.2nm,0.3s						
STAL	**STALIGIAL**	**5.05**	**65**	⇑P	**Pn**	**02 47 03.5**	**+2.2**
ETSF	**Etsaut**	**5.05**	**256**	ePn	**Pn**	**02 47 01.4**	**0.0**
ETSF				eSn	**Sn**	**02 47 57.2**	**-2.5**
	comp=N,20nm,0.4s						
ABTA	**Abfaltersbach**	**5.11**	**59**	*i* Pn	**Pn**	**02 47 06.4**	**+4.2**
	comp=N,5.8nm,0.3s,SNR=17						
T1215	**Vallo di Nera,**	**5.14**	**105**	⇓P	**Pb**	**02 47 13.4**	**-2.2**
MPRI	**Monte Prat**	**5.22**	**66**	⇓P	**Pn**	**02 47 06.3**	**+2.6**
CLUD	**Cludinico**	**5.23**	**63**	⇓P	**Pn**	**02 47 06.7**	**+2.9**
T1212	**Cascia, Frazio**	**5.28**	**105**	⇑P	Pb	02 47 11.6	-6.4
T1218	**Civita (PG)**	**5.35**	**105**	⇓P	Pn	02 47 10.9	+5.2
OSSF	**Osses**	**5.44**	**261**	Pn	**Pn**	**02 47 07.7**	**+1.0**
SJPF	**Ste Jean**	**5.45**	**260**	eSn	**Sn**	**02 48 07.1**	**-2.5**
	comp=N,3.9nm,0.3s						
ACOM	**Acomizza, Ital**	**5.67**	**64**	⇓P	**Pn**	**02 47 13.0**	**+3.0**
KBA	**Koelnbreinsper**	**5.77**	**59**	*i* Pn	Pn	02 47 16.2	+4.8
	comp=N,3.2nm,0.3s						
MYKA	**Terra Mystica**	**5.78**	**64**	ePn	**Pn**	**02 47 15.3**	**+3.9**
	comp=N,1.6nm,0.3s						
GIVF	**Givet**	**5.86**	**352**	ePn	**Pn**	**02 47 12.5**	**+0.1**
GIVF	**Givet**	**5.86**	**352**	ePg	**Pg**	**02 47 35.8**	**-1.9**
GIVF				eSn	**Sn**	**02 48 16.5**	**-2.9**
	comp=N,9.2nm,0.3s						
RCHB	**Rochefort**	**5.87**	**354**	dP	**Pn**	**02 47 14.0**	**+1.5**
RCHB				dS	**Sn**	**02 48 18.3**	**-1.6**
RCHB	**Rochefort**	**5.87**	**354**	Pn	**Pn**	**02 47 14.1**	**+1.5**
DOU	**Dourbes**	**5.87**	**350**	dP	**Pn**	**02 47 14.0**	**+1.4**
DOU				dS	**Sn**	**02 48 19.5**	**-0.4**
DOU	**Dourbes**	**5.87**	**350**	Pn	**Pn**	**02 47 14.2**	**+1.6**
BAIF	**Baives**	**5.89**	**348**	ePn	**Pn**	**02 47 13.3**	**+0.5**
BAIF				eSn	**Sn**	**02 48 17.4**	**-2.9**
	comp=N,15nm,0.5s						
BMRD	**Maredsous**	**6.06**	**352**	dP	**Pn**	**02 47 16.6**	**+1.4**
BMRD				dS	**Sn**	**02 48 25.3**	**+0.9**
LDF	**La Druitiere**	**6.07**	**317**	ePn	**Pn**	**02 47 15.7**	**+0.4**
LDF				eSn	**Sn**	**02 48 22.1**	**-2.6**
	comp=N,2.3nm,0.3s						
LDF				eSg	**Sg**	**02 48 58.4**	**-2.0**
	comp=N,4.7nm,0.4s						
BGES	**Gesves**	**6.11**	**354**	dP	**Pn**	**02 47 17.7**	**+1.8**
BCLA	**Clavier**	**6.13**	**355**	dP	**Pn**	**02 47 17.7**	**+1.5**
BCLA				dS	**Sn**	**02 48 26.2**	**0.0**
BSTI	**Sart Tilman**	**6.28**	**357**	dP	**Pn**	**02 47 19.9**	**+1.7**
MEM	**Membach**	**6.30**	**359**	dPP	Pb	02 47 27.4	-7.8
MEM				dS	**Sn**	**02 48 29.3**	**-1.0**
GRR	**Gorron**	**6.31**	**313**	ePn	**Pn**	**02 47 18.8**	**+0.2**
OBKA	**Obir**	**6.33**	**67**	*i* Pn	**Pn**	**02 47 21.6**	**+2.6**
	comp=N,3.2nm,0.4s,SNR=8.4						
FLN	**La Foliniere**	**6.36**	**317**	ePn	**Pn**	**02 47 19.6**	**+0.3**
	baz=137						
FLN				eSn	**Sn**	**02 48 29.0**	**-2.9**
	comp=N,3.8nm,0.3s						
FLN				eSg	**Sg**	**02 49 06.8**	**-2.9**
	comp=N,1.5nm,0.2s						
MOA	**Molln**	**6.68**	**55**	*i* Pn	**Pn**	**02 47 25.9**	**+2.2**
	comp=N,1.2nm,0.2s,SNR=7.4						
MENF	**Mencas**	**6.80**	**338**	Pn	**Pn**	**02 47 27.9**	**+2.6**
KHC	**Kasperske Hory**	**7.04**	**44**	ePN	**Pn**	**02 47 28.9**	**+0.3**
KHC				eSN	**Sn**	**02 48 46.0**	**-2.6**
SGMF	**Saint Gilles**	**7.18**	**306**	ePn	**Pn**	**02 47 30.7**	**+0.1**
SGMF				eSn	**Sn**	**02 48 48.9**	**-3.2**
ARSA	**Arzberg**	**7.20**	**63**	*i* Pn	**Pn**	**02 47 32.9**	**+2.0**
	comp=N,2.8nm,0.2s,SNR=7.0						
CKRC	**Cesky Krumlov**	**7.22**	**49**	ePN	**Pn**	**02 47 31.8**	**+0.6**
CKRC				eSN	**Sn**	**02 48 50.1**	**-3.1**
QUIF	**Quistinic**	**7.38**	**302**	ePn	**Pn**	**02 47 33.4**	**+0.1**
QUIF				eSn	**Sn**	**02 48 53.9**	**-3.1**
	comp=N,254nm,1.7s						
MCRV	**Calabrutti - M**	**7.56**	**115**	P	**Pn**	**02 47 35.6**	**-0.3**
ELSH	**Elham, Standar**	**7.61**	**336**	Pn	**Pn**	**02 47 39.5**	**+3.0**
ROSF	**Rostrenen**	**7.64**	**305**	ePn	**Pn**	**02 47 37.1**	**+0.3**
ROSF				eSn	**Sn**	**02 49 00.5**	**-2.8**
	comp=N,0.6nm,0.3s						
CONA	**Conrad Observa**	**7.68**	**59**	ePn	**Pn**	**02 47 38.9**	**+1.4**
	comp=N,0.6nm,0.2s						
RONA	**Rosalia, Austr**	**7.86**	**61**	ePn	**Pn**	**02 47 42.5**	**+2.6**
	comp=N,0.7nm,0.1s						
GOPC	**GO Pecny, Ondr**	**8.14**	**44**	ePN	**Pn**	**02 47 43.8**	**0.0**
CLL	**Collm**	**8.39**	**31**	eSg	**Sg**	**02 50 18.0**	**+3.3**
KRUC	**Moravsky**	**8.51**	**52**	ePN	**Pn**	**02 47 48.8**	**0.0**
KRUC				eSN	**Sn**	**02 49 23.2**	**-1.6**
MODS	**Modra-Piesok**	**8.72**	**58**	ePN	**Pn**	**02 47 54.2**	**+2.4**
VRAC	**Vranov**	**8.75**	**52**	ePN	**Pn**	**02 47 52.0**	**-0.1**
KRLC	**Kraliky**	**9.27**	**48**	ePN	**Pn**	**02 48 00.0**	**+0.8**
MORC	**Moravsky Berou**	**9.52**	**51**	ePN	**Pn**	**02 48 01.8**	**-0.9**
VYHS	**Vyhne**	**9.73**	**60**	ePN	**Pn**	**02 48 07.0**	**+1.5**

*GEN **10** 02:48:12.8, 44.30N×6.19E, h6km±1km, Ml3.7*
*IDC **10** 02:48:12.7±1.8, 44.44N×6.06E, h0km, mb3.6/4, mbtmp3.9/8, ML4.6/4, MS3.0/6, Error ellipse: s-maj=36.2km s-min=21.4km az=145.0*
*PRU **10** 02:48:13.0±0.0, 44.74N×5.48E, h10km*
*STR **10** 02:48:13.5±0.2, 44°N±1°×°±°, h13km±1km, MLv4.0/73, Error ellipse: s-maj=0.0km s-min=0.0km az=85.0, preliminary*
*ROM **10** 02:48:13.4±0.4, 44.30N±0.01×6.09E±0.03, h10km, ML3.7/64, Error ellipse: s-maj=2.6km s-min=1.2km az=249.0*
*LDG **10** 02:48:13.9±0.1, 44.29N×6.15E, h2km, Md3.6/4, Ml3.9/75, Error ellipse: s-maj=1.1km s-min=0.9km az=49.0*
*BGR **10** 02:48:14.4±0.5, 44.44N×5.65E, h10km, ML4.1/11, Error ellipse: s-maj=16.7km s-min=10.0km az=118.0*
ISC 10 02:48:12.7±0.9**, 44.31N**±0.01×**6.08E**±0.01**, h10**km±7km**, n345, σ1.60**/495**, MS3.2**/3**, 50C-58D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGDI	**Digne**	**0.26**	**142**	P	**Pg**	**02 48 17.4**	**-0.6**
OGDI				S	**Sg**	**02 48 20.9**	**-0.6**
OGDI	**Digne**	**0.26**	**142**	⇓Pg	**Pg**	**02 48 17.3**	**-0.7**
OGDI				Sg	**Sg**	**02 48 20.6**	**-0.8**
OGAG	**Argentiere**	**0.36**	**67**	P	**Pn**	**02 48 24.6**	**+0.6**
OGAG				S	**Sb**	**02 48 32.6**	**+5.7**
OGAG	**Argentiere**	**0.36**	**67**	⇓Pg	**Pn**	**02 48 24.6**	**+0.6**
OGAG				Sg	**Sb**	**02 48 32.6**	**+5.7**
BLAF	**les Blancs**	**0.36**	**184**	⇓Pg	**Pg**	**02 48 20.2**	**+0.3**
BLAF				Sg	**Sg**	**02 48 25.0**	**+0.2**
MLYF	**Mely**	**0.40**	**215**	⇓Pg	**Pb**	**02 48 21.8**	**0.0**
MLYF				Sg	**Sb**	**02 48 28.5**	**+0.6**
CREF	**Crivoux**	**0.45**	**58**	Pg	**Pg**	**02 48 21.7**	**+0.1**
JAUF	**Jausiers**	**0.49**	**76**	Pg	**Pg**	**02 48 22.1**	**-0.2**
SMRF	**Simiane la Rot**	**0.50**	**227**	ePg	**Pb**	**02 48 23.8**	**+0.3**
SMRF				eSg	**Sb**	**02 48 30.5**	**-0.4**
	2μm,0.2s						
BSTF	**la Bastide-des**	**0.54**	**216**	⇓Pg	**Pb**	**02 48 25.2**	**+1.0**
SURF	**Saint Ours**	**0.55**	**72**	P	**Pg**	**02 48 23.2**	**-0.2**
SURF				S	**Sg**	**02 48 30.5**	**-0.2**
SURF	**Saint Ours**	**0.55**	**72**	⇑Pg	**Pg**	**02 48 23.2**	**-0.2**
SURF				Sg	**Sg**	**02 48 30.4**	**-0.3**
RUSF	**Rustrel**	**0.57**	**229**	Pg	**Pb**	**02 48 25.6**	**+0.9**
TRIGF	**Trigance**	**0.61**	**157**	⇓Pg	**Pg**	**02 48 24.6**	**0.0**
TRIGF				Sg	**Sg**	**02 48 32.8**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.62**	**347**	ePg	**Pb**	**02 48 26.0**	**+0.3**
ORIF				eSg	**Sb**	**02 48 34.7**	**+0.2**
	2μm,0.2s						
ORIF	**Oris-en-Rattie**	**0.62**	**347**	⇓P	**Pb**	**02 48 26.0**	**+0.3**
ORIF				S	**Sb**	**02 48 34.5**	**0.0**
ORIF				AML	AML		
	comp=E,5930μm,1.3s						
ORIF				AML	AML		
	comp=N,3945μm,1.1s						
ORIF	**Oris-en-Rattie**	**0.62**	**347**	⇓Pg	**Pb**	**02 48 26.0**	**+0.3**
MBDF	**Montbardon**	**0.64**	**50**	ePg	**Pg**	**02 48 25.4**	**+0.2**
MBDF				eSg	**Sg**	**02 48 33.4**	**-0.3**
	comp=N,2μm,0.3s						
ISO	**Isola**	**0.71**	**100**	P	**Pg**	**02 48 26.4**	**0.0**
ISO				S	**Sg**	**02 48 35.3**	**-0.4**
ISO	**Isola**	**0.71**	**100**	⇑Pg	**Pg**	**02 48 25.9**	**-0.4**
ARTF	**Artigues**	**0.75**	**196**	Pg	**Pg**	**02 48 27.3**	**+0.1**
ARTF				Pn	**Pn**	**02 48 29.0**	**-0.4**
PZZ	**Stroppo**	**0.77**	**75**	P	**Pg**	**02 48 27.1**	**-0.4**
PZZ				S	**Sg**	**02 48 35.1**	**-2.4**
PZZ	**Stroppo**	**0.77**	**75**	⇑P	**Pg**	**02 48 27.1**	**-0.4**
PZZ				AML	AML		
	comp=N,8290μm,0.5s						
PZZ				AML	AML		
	comp=E,6775μm,0.2s						
RRL	**Rocca Remolon**	**0.79**	**40**	P	**Pg**	**02 48 28.4**	**+0.4**
RRL				S	**Sg**	**02 48 39.1**	**+0.8**
RRL	**Rocca Remolon**	**0.79**	**40**	⇓P	**Pg**	**02 48 28.4**	**+0.4**
RRL				S	**Sg**	**02 48 38.9**	**+0.5**
RRL				AML	AML		
	comp=N,5940μm,0.6s						
RRL				AML	AML		
	comp=E,5080μm,0.4s						
SAUF	**chteau de Sau**	**0.80**	**242**	Pg	**Pn**	**02 48 30.4**	**+0.5**
CALF	**Calern**	**0.83**	**133**	⇓Pg	**Pg**	**02 48 28.4**	**-0.2**
BNI	**Bardonecchia**	**0.85**	**30**	P	**Pg**	**02 48 29.7**	**+0.6**
BNI				S	**Sb**	**02 48 41.2**	**0.0**
BNI	**Bardonecchia**	**0.85**	**30**	⇓P	**Pg**	**02 48 29.7**	**+0.6**
BNI				S	**Sb**	**02 48 41.2**	**0.0**
BNI				AML	AML		
	comp=E,5895μm,0.4s						
BNI				AML	AML		
	comp=N,2075μm,0.4s						
BNI				AML	AML		
	comp=N,2530μm,0.4s						
BNI				AML	AML		
	comp=E,7320μm,0.4s						
BNI				AML	AML		
	comp=N,2075μm,1.6s						
BNI				AML	AML		
	comp=N,2530μm,1.6s						
SPIF	**crte de Spivo**	**0.87**	**107**	Pg	**Pg**	**02 48 28.8**	**-0.6**
MVIF	**Mont Vial**	**0.88**	**118**	P	**Pg**	**02 48 29.9**	**+0.4**
MVIF				S	**Sn**	**02 48 45.5**	**+1.4**
MVIF	**Mont Vial**	**0.88**	**118**	⇑Pg	**Pg**	**02 48 29.4**	**-0.2**
GDM	**Grand'Maison**	**0.89**	**2**	⇓Pg	**Pb**	**02 48 30.8**	**+0.5**
STV	**Sant Anna di V**	**0.90**	**94**	P	**Pg**	**02 48 29.3**	**-0.7**
STV	**Sant Anna di V**	**0.90**	**94**	⇑P	**Pg**	**02 48 29.3**	**-0.7**
STV				AML	AML		
	comp=N,3040μm,0.4s						
STV				AML	AML		
	comp=E,3040μm,0.4s						
STV				AML	AML		
	comp=N,3040μm,1.6s						
FLAF	**Flassans-sur-l**	**0.94**	**172**	Pg	**Pg**	**02 48 30.3**	**-0.5**
GRN	**Grenoble**	**0.96**	**346**	⇓Pg	**Pn**	**02 48 32.4**	**+0.1**
ENR	**Entracque**	**0.96**	**95**	P	**Pg**	**02 48 30.6**	**-0.7**
ENR	**Entracque**	**0.96**	**95**	⇑P	**Pg**	**02 48 30.6**	**-0.7**
ENR				S	**Sb**	**02 48 44.8**	**+0.4**
ENR				AML	AML		
	comp=N,6215μm,0.4s						
ENR				AML	AML		
	comp=E,4370μm,0.4s						
ENR				AML	AML		
	comp=E,4370μm,1.6s						
ARBF	**Arbois**	**0.98**	**214**	⇓Pg	**Pn**	**02 48 33.0**	**+0.5**
OGMO	**Fort Saint-Gob**	**0.99**	**25**	P	**Pn**	**02 48 32.9**	**+0.2**
OGMO				S	**Sb**	**02 48 45.8**	**+0.6**
OGMO	**Fort Saint-Gob**	**0.99**	**25**	⇑Pg	**Pn**	**02 48 32.8**	**0.0**
BHB	**Bricherasio**	**0.99**	**58**	P	**Pb**	**02 48 31.6**	**-0.5**
BHB				S	**Sg**	**02 48 44.1**	**-0.7**
BHB	**Bricherasio**	**0.99**	**58**	⇑P	**Pb**	**02 48 31.5**	**-0.5**
BHB				S	**Sg**	**02 48 44.1**	**-0.7**
BHB				AML	AML		
	comp=E,4325μm,0.5s						
BHB				AML	AML		
	comp=N,2930μm,0.2s						
TURF	**col de Turini**	**1.00**	**109**	P	**Pg**	**02 48 32.2**	**+0.2**
TURF				S	**Sb**	**02 48 45.8**	**+0.3**
TURF	**col de Turini**	**1.00**	**109**	⇑Pg	**Pg**	**02 48 31.3**	**-0.7**
LMR	**La Mourre**	**1.03**	**162**	ePg	**Pb**	**02 48 31.5**	**-1.0**
LMR				eSg	**Sb**	**02 48 44.7**	**-1.3**
	comp=N,3μm,0.3s						
ESCA	**l'Escarene**	**1.05**	**117**	P	**Pg**	**02 48 33.1**	**+0.3**
ESCA				S	**Sg**	**02 48 47.3**	**+0.8**
ESCA	**l'Escarene**	**1.05**	**117**	⇑Pg	**Pb**	**02 48 32.7**	**-0.2**
SBF	**Sospel**	**1.07**	**114**	ePg	**Pb**	**02 48 32.8**	**-0.6**
SBF				eSg	**Sb**	**02 48 45.6**	**-1.9**
	comp=N,4μm,0.3s						
EILF	**Villa Eilenroc**	**1.08**	**135**	P	**Pn**	**02 48 33.9**	**+0.1**
EILF				S	**Sg**	**02 48 47.5**	**+0.1**
EILF	**Villa Eilenroc**	**1.08**	**135**	⇑Pg	**Pb**	**02 48 33.4**	**0.0**
SAOF	**Saorge**	**1.11**	**107**	P	**Pb**	**02 48 33.3**	**-0.7**
SAOF				S	**Sb**	**02 48 48.5**	**0.0**
SAOF	**Saorge**	**1.11**	**107**	⇑P	**Pb**	**02 48 33.3**	**-0.7**
SAOF				S	**Sn**	**02 48 51.0**	**+1.4**
SAOF	**Saorge**	**1.11**	**107**	⇑Pg	**Pb**	**02 48 33.2**	**-0.7**
MENA	**Menton**	**1.14**	**117**	P	**Pg**	**02 48 35.2**	**+0.5**
MENA				S	**Sn**	**02 48 50.4**	**0.0**
VIVF	**Saint-Julien-l**	**1.14**	**299**	ePg	**Pg**	**02 48 36.1**	**+1.4**
VIVF				eSg	**Sn**	**02 48 51.8**	**+1.3**
	comp=N,643nm,0.3s						
BURY	**Giardini Botan**	**1.19**	**116**	P	**Pn**	**02 48 35.2**	**-0.1**
BURY	**Giardini Botan**	**1.19**	**116**	⇑P	**Pn**	**02 48 35.2**	**-0.1**
BURY				S	**Sb**	**02 48 50.6**	**0.0**
MGRO	**Montegrosso**	**1.27**	**102**	P	**Pn**	**02 48 36.2**	**-0.4**
MGRO	**Montegrosso**	**1.27**	**102**	⇑P	**Pn**	**02 48 36.2**	**-0.4**
MGRO				S	**Sg**	**02 48 54.0**	**+0.4**
MGRO				AML	AML		
	comp=E,5235μm,0.4s						
MGRO				AML	AML		
	comp=N,8050μm,0.4s						
MGRO				AML	AML		
	comp=N,8050μm,1.6s						
LPG	**La Plagne**	**1.27**	**22**	ePg	**Pg**	**02 48 37.7**	**+0.5**
LPG				eSg	**Sn**	**02 48 54.3**	**+0.2**
	comp=N,1μm,0.3s						
LPL	**La Plagne**	**1.29**	**21**	ePg	**Pg**	**02 48 37.9**	**+0.5**
LPL				eSg	**Sn**	**02 48 54.5**	**+0.2**
	comp=N,977nm,0.3s						
OGSM	**Saint Maurice**	**1.32**	**348**	⇑Pn	**Pg**	**02 48 39.2**	**+1.1**
IMI	**Imperia**	**1.36**	**107**	P	**Pn**	**02 48 37.9**	**0.0**
IMI	**Imperia**	**1.36**	**107**	P	**Pb**	**02 48 38.3**	**0.0**
IMI				S	**Sg**	**02 48 56.8**	**+0.2**
IMI				AML	AML		
	comp=N,12900μm,0.3s						
IMI				AML	AML		
	comp=E,6475μm,0.4s						
LSD	**Lago del Serru**	**1.37**	**33**	P	**Pb**	**02 48 38.9**	**+0.5**
LSD	**Lago del Serru**	**1.37**	**33**	P	**Pb**	**02 48 39.0**	**+0.5**
LSD				S	**Sn**	**02 48 56.6**	**+0.3**
LSD				AML	AML		
	comp=E,2755μm,0.3s						
LSD				AML	AML		
	comp=N,2215μm,1.4s						
LSD				AML	AML		
	comp=E,2750μm,0.3s						
RSL	**Roselend**	**1.43**	**15**	P	**Pg**	**02 48 40.7**	**+0.6**
RSL	**Roselend**	**1.43**	**15**	⇑Pn	**Pg**	**02 48 40.8**	**+0.7**
RORO	**Rocca Rossa**	**1.44**	**97**	P	**Pn**	**02 48 39.1**	**+0.3**
RORO	**Rocca Rossa**	**1.44**	**97**	P	**Pb**	**02 48 39.4**	**-0.2**
RORO				S	**Sg**	**02 48 59.5**	**+0.5**
RORO				AML	AML		
	comp=E,2835μm,0.2s						
RORO				AML	AML		
	comp=N,5735μm,0.3s						
RORO				AML	AML		
	comp=N,5740μm,0.3s						
SSB	**Saint Sauveur**	**1.46**	**312**	⇑Pn	**Pb**	**02 48 40.5**	**+0.5**
SSB				Sn	**Sg**	**02 49 00.1**	**+0.4**
MONC	**Moncucco Torin**	**1.52**	**59**	P	**Pb**	**02 48 41.5**	**+0.6**
MONC	**Moncucco Torin**	**1.52**	**59**	P	**Pb**	**02 48 41.5**	**+0.6**
MONC				AML	AML		
	comp=E,4135μm,1.3s						
MONC				AML	AML		
	comp=N,6900μm,0.5s						
MONC				AML	AML		
	comp=E,4135μm,0.7s						
ASEAF	**Site Antares,**	**1.52**	**178**	P	**Pb**	**02 48 41.2**	**+0.5**
ASEAF	**Site Antares,**	**1.52**	**178**	Pn	**Pb**	**02 48 40.9**	**+0.2**
CANO	**Canova, Maglio**	**1.55**	**93**	P	**Pb**	**02 48 41.2**	**-0.4**
CANO	**Canova, Maglio**	**1.55**	**93**	⇑P	**Pb**	**02 48 41.1**	**-0.4**
CANO				S	**Sg**	**02 49 03.3**	**+0.7**
CANO				AML	AML		
	comp=N,8170μm,0.3s						
CANO				AML	AML		
	comp=E,12350μm,1.5s						
CANO				AML	AML		
	comp=N,8170μm,1.7s						
CANO				AML	AML		
	comp=E,12350μm,0.5s						

MRGE Morge 1.61 25 P Pg 02 48 43.8 +0.2
MRGE S Sg 02 49 08.2 +3.7
MRGE AML AML
comp=N,3255µm,1.5s
MRGE AML AML
comp=E,2425µm,1.3s
MRGE AML AML
comp=E,2425µm,0.7s
MRGE AML AML
comp=N,3255µm,0.5s
LASF Ste Croix 1.62 262 ePn Pn 02 48 41.9 +0.6
LASF eSn Sb 02 49 03.0 -0.1
LASF eSg Sg 02 49 06.4 +1.7
comp=N,242nm,0.2s
QLNO Quiliano 1.62 89 P Pb 02 48 42.2 -0.5
QLNO S Sg 02 49 04.6 -0.3
QLNO AML AML
comp=N,1730µm,0.9s
QLNO AML AML
comp=E,2195µm,0.5s
QLNO AML AML
comp=E,2195µm,1.5s
CIRO Champorcher 1.66 39 P Pb 02 48 44.2 +0.7
CIRO S Sg 02 49 06.9 +0.7
CIRO AML AML
comp=E,1735µm,1.5s
CIRO AML AML
comp=N,1730µm,0.9s
TRAV Traversella 1.68 44 P Pb 02 48 43.8 0.0
TRAV S Sb 02 49 06.2 +1.1
TRAV AML AML
comp=N,1645µm,1.2s
TRAV AML AML
comp=N,1645µm,0.8s
TRAV AML AML
comp=E,1600µm,0.3s
ROTM Rocchetta Tana 1.71 71 P Pb 02 48 44.4 +0.3
ROTM AML AML
comp=N,11650µm,0.4s
ROTM AML AML
comp=E,7055µm,1.4s
ROTM AML AML
comp=E,7055µm,0.6s
ROTM AML AML
comp=N,11650µm,1.6s
OG35 Corcelles 1.77 348 ⇑Pn Pb 02 48 44.9 -0.3
PCP Piancastagn 1.78 82 P Pb 02 48 44.8 -0.6
PCP AML AML
comp=E,1525µm,0.7s
PCP AML AML
comp=N,1815µm,0.6s
OGSI Sixt 1.82 15 ⇑Pn Pb 02 48 46.1 +0.1
DIX Grande Dixence 2.00 27 Pn Pb 02 48 49.5 +0.2
SATI Passo dei Sala 2.01 38 AML AML
comp=N,668µm,1.0s
SATI AML AML
comp=E,950µm,0.8s
SATI AML AML
comp=E,950µm,1.2s
RNCA Ronca, Sant'Ol 2.06 85 ⇑P Pn 02 48 48.6 +1.2
RNCA AML AML
comp=E,474µm,0.5s
RNCA AML AML
comp=N,394µm,1.1s
SARZ Sarezzano 2.09 74 P Pb 02 48 51.9 +1.2
SARZ AML AML
comp=E,3270µm,0.6s
SARZ AML AML
comp=N,3185µm,1.1s
SARZ AML AML
comp=E,3310µm,0.6s
SARZ AML AML
comp=N,3115µm,1.1s
AIGLE Aigle 2.12 17 Pn Pb 02 48 50.0 -1.2
MMK Mattmark 2.19 37 ⇑P Pb 02 48 52.7 +0.3
MMK AML AML
comp=E,820µm,0.6s
MMK AML AML
comp=E,820µm,1.4s
MMK AML AML
comp=N,568µm,1.0s
LBL Lubilhac 2.22 295 Pn Pn 02 48 51.0 +1.4
GIMEL St. Georges / 2.23 3 Pn Pn 02 48 51.3 +1.6
EMBD Embd, Matterta 2.27 32 ⇑Pn Pb 02 48 53.3 -0.5
CABF La Chapelle 2.30 0 ePn Pn 02 48 51.1 +0.4
CABF La Chapelle 2.30 0 ePg Pg 02 48 56.8 +0.1
CABF eSn Sn 02 49 18.8 -0.2
comp=N,135nm,0.3s
CABF eSg Sg 02 49 26.6 +0.1
comp=N,217nm,0.4s
GORR Gorreto 2.32 82 P Pn 02 48 52.7 +1.8
GORR AML AML
comp=N,718µm,0.6s
GORR AML AML
comp=E,908µm,0.8s
GORR AML AML
comp=E,908µm,1.2s
RIVEL MONT RIVEL 2.45 357 ⇑Pn Pn 02 48 54.0 +1.3
VARE Varese 2.46 50 P Pb 02 48 55.2 -1.8
VARE AML AML
comp=E,554µm,0.6s
VARE AML AML
comp=N,529µm,1.4s
VARE AML AML
comp=E,554µm,1.4s
VARE AML AML
comp=N,529µm,0.6s
MSSA Maissana 2.46 89 P Pn 02 48 53.5 +0.5
MSSA AML AML
comp=N,469µm,0.8s
MSSA AML AML
comp=E,379µm,0.9s
MSSA AML AML
comp=N,469µm,1.2s
CLAF Gruissan 2.47 243 Pn Pn 02 48 53.6 +0.7
TORNY Torny/Romont 2.54 14 Pn Pn 02 48 55.8 +1.9
CFF Clermont-Ferra 2.56 306 ⇑Pn Pn 02 48 56.5 +2.3
BRANT Les Verrieres 2.64 6 Pn Pn 02 48 56.6 +1.2
MUGIO Muggio 2.64 51 P Pb 02 48 58.1 -2.0
MUGIO AML AML
comp=E,332µm,0.5s
MUGIO AML AML
comp=N,370µm,0.5s
PLMA Palmaria, Port 2.72 94 ⇑P Pn 02 48 57.1 +0.7
PLMA AML AML
comp=E,384µm,0.6s
PLMA AML AML
comp=N,529µm,0.5s
MORSI Morsiglia 2.74 119 Pn Pn 02 48 55.8 -0.8
PGF Pioggiola 2.76 129 ePn Pn 02 48 56.2 -0.9
PGF eSn Sn 02 49 27.2 -3.3
comp=N,296nm,0.2s
PGF Pioggiola 2.76 129 ⇓P Pn 02 48 56.2 -0.9
PGF S Sn 02 49 27.0 -3.5
PGF AML AML
comp=E,439µm,0.4s
PGF AML AML
comp=N,484µm,0.5s
PGF AML AML
comp=E,439µm,1.6s
PGF AML AML
comp=N,484µm,1.5s
PGF Pioggiola 2.76 129 ⇑Pn Pn 02 48 56.2 -0.9
PGF Pioggiola 2.76 129 Sn Sn 02 49 26.8 -3.7
PLYF Puligny Montra 2.81 341 Pn Pn 02 48 58.9 +1.3
FUSIO Fusio 2.81 39 P Pb 02 49 01.4 -1.6
FUSIO AML AML
comp=N,322µm,0.7s
FUSIO AML AML
comp=E,305µm,1.5s
FUSIO AML AML
comp=E,305µm,0.5s
SMF Signal de Mont 2.81 327 ePn Pn 02 48 58.4 +0.7
SMF Signal de Mont 2.81 327 ePg Pg 02 49 06.9 +0.3
SMF eSn Sn 02 49 31.4 -0.3
comp=E,115nm,0.2s
SMF eSg Sg 02 49 43.5 +0.4
comp=E,111nm,0.2s
GRAM Graiana 2.86 85 ⇑P Pn 02 49 00.0 +1.6
GRAM AML AML
comp=E,1170µm,0.3s
GRAM AML AML
comp=N,930µm,0.6s
EQUI Equi 2.93 91 ⇑P Pn 02 49 00.1 +0.9
EQUI AML AML
comp=N,450µm,0.8s
EQUI AML AML
comp=E,278µm,0.5s
EQUI AML AML
comp=N,450µm,1.2s
CAF Calviac 2.93 283 ePn Pn 02 49 00.7 +1.3
CAF eSn Sn 02 49 34.5 -0.2
comp=N,78nm,0.3s
CAF eSg Sg 02 49 47.5 +0.6
comp=N,64nm,0.3s
ORZI Orzinuovi 2.95 67 ⇓P Pb 02 49 03.6 -1.6
CHMF Charmoille 2.96 8 Pn Pn 02 49 00.8 +1.0
MTLF Montolieu 2.96 252 ePn Pn 02 49 00.2 +0.5
MTLF eSn Sn 02 49 34.8 -0.5
comp=N,76nm,0.2s
MTLF eSg Sg 02 49 47.9 +0.1
comp=N,64nm,0.2s
MTLF Montolieu 2.96 252 S Sn 02 49 36.0 +0.7
MTLF Montolieu 2.96 252 Pn Pn 02 49 00.8 +1.1
SJAF Saint Jean de 2.96 233 Pn Pn 02 49 00.6 +0.8
CORF Corte 3.01 131 P Pn 02 49 00.1 -0.4
CORF AML AML
comp=E,548µm,0.5s
CORF AML AML
comp=N,444µm,1.2s
CORF Corte 3.01 131 ⇑Pn Pn 02 49 00.0 -0.4
CORF Sn Sn 02 49 33.7 -2.9
BNALP Bannalp 3.04 32 P Pn 02 49 03.2 +2.2
BNALP AML AML
comp=E,432µm,0.6s
BNALP AML AML
comp=N,477µm,1.2s
BNALP AML AML
comp=N,477µm,0.8s
AJAC Base Areonaval 3.09 140 P Pn 02 49 00.9 -0.5
AJAC AML AML
comp=E,602µm,0.3s
AJAC AML AML
comp=N,1080µm,0.3s
AJAC Base Areonaval 3.09 140 ⇓Pn Pn 02 49 00.9 -0.5
VLC Villacollemand 3.10 91 ⇓P Pn 02 49 03.4 +1.8
VLC AML AML
comp=E,295µm,1.1s
VLC AML AML
comp=E,278µm,1.1s
VLC AML AML
comp=N,318µm,1.4s
VLC AML AML
comp=N,334µm,1.4s
VLC AML AML
comp=E,295µm,0.9s
VLC AML AML
comp=E,278µm,0.9s
SARO Sassorosso 3.10 91 ⇑P Pn 02 49 02.9 +1.1
SARO AML AML
comp=E,556µm,0.5s
SARO AML AML
comp=N,836µm,0.5s
FILF Fillols 3.11 237 Pn Pn 02 49 03.5 +1.7
AVF Avril sur Loir 3.13 323 ePn Pn 02 49 02.5 +0.4
AVF eSn Sn 02 49 39.1 -0.4
comp=N,32nm,0.2s
AVF eSg Sg 02 49 53.5 +0.2
comp=N,94nm,0.4s
CARD Cardoso 3.18 94 ⇓P Pn 02 49 03.5 +0.8
CARD AML AML
comp=N,402µm,0.6s
CARD AML AML
comp=E,438µm,0.3s
BOURR Bourrignon 3.18 14 Pn Pn 02 49 03.6 +0.8
BGF Bois d'Agland 3.20 316 ePn Pn 02 49 03.7 +0.7
BGF Bois d'Agland 3.20 316 ePg Pg 02 49 13.5 -0.4
BGF eSn Sn 02 49 40.7 -0.4
comp=E,114nm,0.3s
BGF eSg Sg 02 49 55.6 +0.2
comp=E,206nm,0.3s
MAIM Mastiano 3.20 96 ⇓P Pn 02 49 03.9 +0.9
MAIM AML AML
comp=N,178µm,0.7s
MAIM AML AML
comp=E,330µm,0.8s
ZONE Zone 3.21 62 ⇓P Pn 02 49 05.6 +2.5
ZONE AML AML
comp=E,199µm,1.6s
ZONE AML AML
comp=N,226µm,0.6s
ZONE AML AML
comp=E,199µm,0.4s
FNEB Nbias 3.21 245 Pn Pn 02 49 04.7 +1.5
BALST Balsthal 3.23 20 ePn Pn 02 49 04.3 +0.8
BALST ePg Pg 02 49 14.8 +0.3
BALST eSg Sg 02 49 55.8 -0.5
SNR=2.9
BALST Balsthal 3.23 20 Pn Pn 02 49 04.2 +0.8
SMPL Sampolo 3.23 132 P Pn 02 49 03.3 -0.1
SMPL AML AML
comp=N,279µm,1.1s
SMPL AML AML
comp=E,257µm,0.4s
SMPL AML AML
comp=N,279µm,0.9s
GSCL Gusciola 3.23 88 P Pn 02 49 05.1 +1.6
GSCL AML AML
comp=N,364µm,0.7s
GSCL AML AML
comp=N,364µm,1.3s
GSCL AML AML
comp=E,461µm,0.5s
BDI Bagni Di Lucca 3.26 93 ⇑P Pn 02 49 04.5 +0.7
BDI AML AML
comp=E,153µm,0.5s
BDI AML AML
comp=N,136µm,0.6s
PII Pisa 3.26 99 ⇑P Pn 02 49 05.0 +1.2
PII AML AML
comp=E,249µm,0.5s
PII AML AML
comp=N,308µm,0.8s
PII AML AML
comp=E,249µm,1.5s
SSF Saint Saulge 3.29 328 ePn Pn 02 49 04.8 +0.6
SSF Saint Saulge 3.29 328 ePg Pg 02 49 15.3 -0.4
SSF eSn Sn 02 49 42.7 -0.6
comp=E,47nm,0.3s
SSF eSg Sg 02 49 58.2 0.0
comp=E,103nm,0.3s
LOR Lormes 3.34 333 ePn Pn 02 49 05.5 +0.6
baz=155
LOR Lormes 3.34 333 ePg Pg 02 49 16.2 -0.4
baz=150
LOR eSn Sn 02 49 43.8 -0.8
comp=E,143nm,0.3s
LOR eSg Sg 02 49 59.7 -0.2
comp=E,112nm,0.3s,baz=167
LOR Lormes 3.34 333 Pn Pn 02 49 06.3 +1.4
TCF Toulx Ste Croi 3.37 307 ePn Pn 02 49 06.2 +0.8
TCF Toulx Ste Croi 3.37 307 ePg Pg 02 49 17.3 0.0
TCF eSn Sn 02 49 44.9 -0.5
comp=E,30nm,0.3s
TCF eSg Sg 02 50 01.2 +0.3
comp=E,55nm,0.3s
POPM Popiglio 3.37 93 ⇑P Pn 02 49 06.2 +0.8
POPM AML AML
comp=E,392µm,0.4s
POPM AML AML
comp=E,392µm,1.6s
POPM AML AML
comp=N,224µm,0.7s
RJF Les Rejaudoux 3.40 289 ePn Pn 02 49 06.4 +0.7
RJF eSn Sn 02 49 46.8 +0.7
comp=N,54nm,0.3s
RJF eSg Sg 02 50 01.9 +0.1
comp=N,61nm,0.3s
SALO Salr 3.41 66 ⇑P Pn 02 49 07.6 +1.7
SALO AML AML
comp=N,434µm,0.7s
SALO AML AML
comp=E,356µm,0.7s
SALO AML AML
comp=N,434µm,1.3s
SALO AML AML
comp=E,356µm,1.3s
BERNI Berninapass 3.48 52 ⇑P Pb 02 49 11.3 -3.2
BERNI AML AML
comp=N,216µm,0.5s
BERNI AML AML
comp=E,165µm,0.5s
BERNI AML AML
comp=N,216µm,1.5s
MONQ Montcuq 3.51 273 Pn Pn 02 49 08.9 +1.7
ZCCA Zocca 3.51 88 P Pb 02 49 11.6 -3.3
ZCCA AML AML
comp=E,328µm,0.8s
ZCCA AML AML
comp=N,304µm,0.9s
ZCCA AML AML
comp=E,328µm,1.2s
SULZ Cheisacher 3.51 23 ePn Pn 02 49 08.0 +0.7
SULZ ePg Pg 02 49 19.7 -0.2
SULZ eSg Sg 02 50 03.5 -2.0
SNR=2.3
SULZ Cheisacher 3.51 23 ⇓Pn Pn 02 49 07.9 +0.7
HINF Hinteralfeld 3.54 8 ePn Pn 02 49 07.7 -0.1
HINF Hinteralfeld 3.54 8 ePg Pg 02 49 19.5 -1.1
HINF eSn Sn 02 49 48.0 -1.7
comp=E,39nm,0.2s
HINF eSg Sg 02 50 05.2 -1.3
comp=E,106nm,0.3s
MTCR Monte La Croce 3.55 93 ⇓P Pn 02 49 09.1 +1.2
MABI Malga Bissina 3.58 59 P Pn 02 49 10.3 +1.8
MABI AML AML
comp=N,157µm,0.5s
MABI AML AML
comp=E,179µm,0.6s
MPPT Montemurlo 3.62 94 ⇓P Pn 02 49 10.2 +1.4
MPPT AML AML
comp=E,129µm,0.8s
MPPT AML AML
comp=N,142µm,1.0s
MPPT AML AML
comp=N,142µm,1.0s
DAVOX Davos/Dischmat 3.63 46 Pn Pn 02 49 12.5 +3.4
comp=N,17nm,0.3s,baz=241,slow=5.9,SNR=40
DAVOX Davos/Dischmat 3.63 46 ⇓P Pn 02 49 12.7 +3.6
DAVOX AML AML
comp=N,200µm,0.7s
DAVOX AML AML
comp=E,157µm,0.7s
WILA Wila 3.67 31 ePn Pn 02 49 10.9 +1.3
WILA ePg Pg 02 49 22.0 -1.1
HAU Haudompre 3.70 3 ePn Pn 02 49 10.1 +0.2
HAU Haudompre 3.70 3 ePg Pg 02 49 22.4 -1.1
HAU eSn Sn 02 49 51.7 -1.8
comp=E,136nm,0.3s
HAU eSg Sg 02 50 10.1 -1.3
comp=E,159nm,0.3s
BRMO Bormio 3.72 53 ⇓P Pb 02 49 14.5 -3.9
BRMO AML AML
comp=E,110µm,0.6s
BRMO AML AML
comp=E,110µm,1.4s
BRMO AML AML
comp=N,105µm,0.5s
METMA Mettma DE 3.72 23 ePn Pn 02 49 10.4 +0.2
METMA ePg Pg 02 49 23.0 -0.9
METMA eSg Sg 02 50 10.6 -1.5
SNR=1.3
PAND Andorre 3.76 243 Pn Pn 02 49 12.8 +2.0
ROVR Rover Verones 3.78 68 ⇓P Pn 02 49 12.7 +1.5
ROVR AML AML
comp=E,90µm,0.4s
ROVR AML AML
comp=N,122µm,0.8s
ROVR AML AML
comp=E,90µm,1.6s
CASP Castiglione de 3.79 112 ⇑P Pn 02 49 11.1 -0.1
CASP AML AML
comp=E,188µm,1.3s
CASP AML AML
comp=N,152µm,1.5s
SEI Scarperia 3.80 92 ⇑P Pn 02 49 12.7 +1.4
SEI AML AML
comp=N,385µm,0.5s
SEI AML AML
comp=E,216µm,1.5s
SEI AML AML
comp=N,385µm,1.5s
SEI AML AML
comp=E,216µm,0.5s
HYF Humbligny 3.81 322 ePn Pn 02 49 12.1 +0.7
HYF eSn Sn 02 49 55.3 -1.0
HYF eSg Sg 02 50 14.7 -0.3
LUSI Trento, Gardas 3.81 63 ⇑P Pn 02 49 12.7 +1.2
LUSI AML AML
comp=E,240µm,0.3s
LUSI AML AML
comp=N,430µm,0.2s
OSSC Osservatorio P 3.81 100 ⇓P Pn 02 49 12.5 +1.0
OSSC AML AML
comp=E,156µm,1.2s
OSSC AML AML
comp=N,164µm,1.4s
OSSC AML AML
comp=N,164µm,0.6s
OSSC AML AML
comp=E,156µm,0.8s
SLE Schleitheim 3.84 25 ePn Pn 02 49 12.0 +0.2
SLE ePg Pg 02 49 25.6 -0.6
SLE eSn Sn 02 49 55.9 -1.0
SNR=2.9
BERGE Lenzkirch (DE) 3.84 22 ePn Pn 02 49 11.8 -0.1
BERGE ePg Pg 02 49 26.0 -0.3
BERGE eSn Sn 02 49 56.6 -0.6
SNR=2.9
LFF La Frestale 3.87 281 ePn Pn 02 49 13.0 +0.9
LFF eSn Sn 02 49 56.7 -0.9
comp=E,52nm,0.3s
LFF eSg Sg 02 50 16.5 -0.3
comp=E,69nm,0.4s
MLS Moulis 3.87 251 Pn Pn 02 49 13.6 +1.4
GAGG Gaggia 3.87 61 ⇓P Pn 02 49 15.0 +2.6
GAGG AML AML
comp=E,197µm,0.7s
GAGG AML AML
comp=N,226µm,0.5s
GAGG AML AML
comp=N,226µm,1.5s
MOSI Grossmontoni 3.90 52 ⇓P Pb 02 49 17.6 -3.9
MOSI AML AML
comp=E,536µm,1.0s
MOSI AML AML
comp=N,538µm,0.7s
DOSS Dosso del Somm 3.94 65 ⇓P Pn 02 49 14.3 +0.9
DOSS S Sn 02 50 01.0 +1.3
DOSS AML AML
comp=E,276µm,0.7s
DOSS AML AML
comp=N,284µm,0.5s
DOSS AML AML
comp=E,290µm,0.5s
DOSS AML AML
comp=N,280µm,0.7s
DOSS AML AML
comp=E,276µm,1.3s
SFTF Sexfontaines 3.96 350 ePn Pn 02 49 13.7 +0.3
baz=159
SFTF Sexfontaines 3.96 350 ePg Pg 02 49 27.9 -0.6
baz=162
SFTF eSn Sn 02 49 58.3 -1.6
comp=E,90nm,0.3s
SFTF eSg Sg 02 50 18.7 -1.1
comp=E,111nm,0.4s
ECH Echery 3.97 10 ePg Pg 02 49 30.1 +1.3
DAVA Damuels 3.99 40 ePn Pn 02 49 16.4 +2.4
comp=E,49nm,0.4s
WALHA Wallhausen, DE 4.04 31 ePn Pn 02 49 15.1 +0.6
WALHA ePg Pg 02 49 30.1 +0.1
WALHA eSn Sn 02 50 01.5 -0.3
SNR=1.5
EMING Emmingen-Lipti 4.06 27 ePn Pn 02 49 14.9 +0.1
EMING ePg Pg 02 49 32.5 +2.0
EMING eSn Sn 02 50 01.5 -0.9
SNR=1.8
TEOL Teolo 4.11 73 ⇓P Pn 02 49 17.1 +1.6
TEOL AML AML
comp=N,515µm,0.7s
TEOL AML AML
comp=E,614µm,0.6s
TEOL AML AML
comp=N,515µm,1.3s
MAON Monte Argentar 4.13 115 ⇑P Pn 02 49 14.3 -1.5
CDF Champ du Feu 4.18 11 ePn Pn 02 49 16.3 -0.3
CDF Champ du Feu 4.18 11 eP Pn 02 49 19.8 +3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CDF	Champ du Feu	4.18	11	*e*Pg	Pg	02 49 32.0	-0.8
CDF				*e*Sn	Sn	02 50 03.2	-2.3
	comp=N,38nm,0.3s						
CDF				*e*Sg	Sg	02 50 25.0	-1.9
	comp=N,46nm,0.3s						
APPI	Appiano	4.22	57	P	Pn	02 49 21.0	+3.9
FETA	Feichten	4.24	49	*i* Pn	Pn	02 49 21.0	+3.6
	comp=N,43nm,0.6s,SNR=14						
MEZF	Maizieres J'vi	4.25	351	*e*Pn	Pn	02 49 17.6	+0.2
	baz=172						
MEZF	Maizieres J'vi	4.25	351	*e*Pg	Pg	02 49 32.6	-1.4
	baz=170						
MEZF				*e*Sn	Sn	02 50 05.2	-1.8
	comp=N,59nm,0.4s						
MEZF				*e*Sg	Sg	02 50 27.7	-1.4
	comp=N,98nm,0.4s						
PAGF	Fort de Pagny	4.25	357	*e*Pn	Pn	02 49 17.5	+0.1
PAGF	Fort de Pagny	4.25	357	*e*Pg	Pg	02 49 32.9	-1.2
	baz=174						
PAGF				*e*Sn	Sn	02 50 05.1	-1.9
	comp=N,66nm,0.3s						
PAGF				*e*Sg	Sg	02 50 27.5	-1.6
	comp=N,70nm,0.4s,baz=181						
OBER	Oberstdorf	4.27	42	*e*Pn	Pn	02 49 20.3	+2.5
CTI	Castel Tesino	4.30	64	⇓P	Pn	02 49 20.4	+2.2
CTI				AML	AML		
	comp=E,422µm,0.5s						
CTI				AML	AML		
	comp=N,393µm,0.2s						
KOSI	Kohlern	4.30	58	⇓P	Pn	02 49 21.6	+3.3
BFO	Black Forest	4.31	20	*e*Pn	Pn	02 49 18.0	-0.2
BFO				*e*Pg	Pg	02 49 36.0	+0.8
BFO				*e*Sn	Sn	02 50 07.3	-1.2
	SNR=3.6						
CGRP	Cima Grappa	4.34	67	⇓P	Pn	02 49 19.6	+0.8
CGRP				AML	AML		
	comp=N,266µm,0.4s						
CGRP				AML	AML		
	comp=E,246µm,0.6s						
CGRP				AML	AML		
	comp=N,266µm,1.6s						
SAVF	Savonnieres en	4.35	352	*e*Pn	Pn	02 49 18.9	+0.1
	baz=180						
SAVF	Savonnieres en	4.35	352	*e*P	Pn	02 49 22.8	+4.0
SAVF	Savonnieres en	4.35	352	*e*Pg	Pg	02 49 35.3	-0.7
	baz=171						
SAVF				*e*Sn	Sn	02 50 07.7	-1.9
	comp=N,40nm,0.3s						
SAVF				*e*Sg	Sg	02 50 30.9	-1.5
	comp=N,82nm,0.4s						
EPF	Esparros	4.36	255	*e*Pn	Pn	02 49 19.5	+0.5
EPF				*e*Sn	Sn	02 50 08.3	-1.5
	comp=N,34nm,0.3s						
EPF				*e*Sg	Sg	02 50 31.6	-1.0
	comp=N,23nm,0.2s						
UBR	Ueberruh	4.38	38	*e*Pn	Pn	02 49 20.9	+1.6
UBR				*e*Pg	Pg	02 49 38.6	+2.0
CPGN	Carpegna, Ital	4.53	94	P	Pb	02 49 27.1	-5.1
RETA	Reutte	4.55	44	*i* Pn	Pn	02 49 23.5	+1.8
	comp=N,6.9nm,0.2s,SNR=6.8						
ROSI	Rosskopf	4.56	53	⇓P	Pn	02 49 26.3	+4.4
ROSI				AML	AML		
	comp=N,310µm,0.7s						
ROSI				AML	AML		
	comp=E,235µm,1.1s						
ROSI				AML	AML		
	comp=N,310µm,1.3s						
ROSI				AML	AML		
	comp=E,235µm,0.9s						
VARN	Col Varnada, M	4.58	66	P	Pn	02 49 23.7	+1.7
VARN				AML	AML		
	comp=E,545µm,0.4s						
VARN				AML	AML		
	comp=E,552µm,0.4s						
VARN				AML	AML		
	comp=N,341µm,0.6s						
VARN				AML	AML		
	comp=E,552µm,1.6s						
VARN				AML	AML		
	comp=E,545µm,1.6s						
VARN				AML	AML		
	comp=N,354µm,0.6s						
ECHI	Chisagues Biel	4.59	251	Pn	Pn	02 49 23.9	+1.7
LRVF	chteau la Riv	4.61	280	Pn	Pn	02 49 24.6	+2.2
SQTA	Sankt Quirin	4.62	49	*i* Pn	Pn	02 49 25.7	+3.1
	comp=N,18nm,0.2s,SNR=16						
MOTA	Moosalm	4.64	47	*i* Pn	Pn	02 49 25.3	+2.5
	comp=N,6.6nm,0.2s,SNR=14						
AGOR	Agordo	4.65	63	⇓P	Pn	02 49 26.0	+3.1
AGOR				AML	AML		
	comp=E,358µm,0.4s						
AGOR				AML	AML		
	comp=N,476µm,1.1s						
AGOR				AML	AML		
	comp=N,371µm,0.3s						
AGOR				AML	AML		
	comp=E,288µm,0.5s						
AGOR				AML	AML		
	comp=N,371µm,1.7s						
TOLF	Tolfa	4.88	115	⇑P	Pn	02 49 25.9	-0.1
WTTA	Wattenberg	4.88	51	*i* Pn	Pn	02 49 29.6	+3.3
	comp=N,18nm,0.2s,SNR=14						
WTTA	Wattenberg	4.88	51	⇓P	Pn	02 49 29.5	+3.3
ATCC	AVT- Casa Cast	4.88	101	⇑P	Pn	02 49 27.8	+1.6
WATA	Walderalm	4.89	50	*i* Pn	Pn	02 49 29.5	+3.2
	comp=N,6.9nm,0.1s,SNR=8.5						
CIMO	Cimolais	4.91	64	P	Pn	02 49 28.8	+2.3
MFF	Saint Martin d	4.94	300	*e*Pn	Pn	02 49 27.3	+0.4
MFF				*e*Sn	Sn	02 50 22.5	-1.6
	comp=N,8.2nm,0.2s						
MFF				*e*Sg	Sg	02 50 50.3	-1.0
	comp=N,22nm,0.4s						
RISI	Rein	4.96	56	⇑P	Pn	02 49 30.6	+3.2
ETSF	Etsaut	5.03	256	*e*Pn	Pn	02 49 28.5	+0.3
ETSF	Etsaut	5.03	256	*e*P	Pn	02 49 32.8	+4.6
ETSF				*e*Sn	Sn	02 50 24.3	-2.0
	comp=N,61nm,0.3s						
ETSF				*e*Sg	Sg	02 50 52.5	-1.5
	comp=N,17nm,0.3s						
CANF	Canfranc	5.04	254	Pn	Pn	02 49 31.6	+3.2
STAL	STALIGIAL	5.07	65	⇑P	Pn	02 49 29.9	+1.3
ATE	Arette	5.07	258	Pn	Pn	02 49 29.8	+1.1
ABTA	Abfaltersbach	5.13	59	*i* Pn	Pn	02 49 33.3	+3.7
	comp=N,23nm,0.4s,SNR=14						
SRES	S.Oreste - Sor	5.13	112	⇓P	Pn	02 49 30.3	+0.7
MPRI	Monte Prat	5.24	66	⇑P	Pn	02 49 32.6	+1.5
T1211	Morro Reatino	5.24	107	⇑P	Pn	02 49 31.9	+0.7
CLUD	Cludinico	5.25	64	⇑P	Pn	02 49 33.5	+2.4
FUR	Furstenfeldbru	5.27	41	*e*Pn	Pn	02 49 33.1	+1.6
ZOU	Zoufplan	5.34	63	⇑P	Pn	02 49 35.3	+2.7
VSL	Villasalto	5.41	152	⇑P	Pn	02 49 33.5	+0.2
NORI	Noerdlinger Ri	5.41	34	*e*Pn	Pn	02 49 32.6	-0.7
RIVT	Riveris	5.42	5	*e*Pn	Pn	02 49 35.1	+1.7
OSSF	Osses	5.42	261	Pn	Pn	02 49 34.8	+1.3
SJPF	Ste Jean	5.43	260	*e*Pn	Pn	02 49 33.9	+0.2
SJPF				*e*Sn	Sn	02 50 34.0	-2.2
	comp=N,10.0nm,0.2s						
SJPF				*e*Sg	Sg	02 51 05.3	-1.7
	comp=N,7.4nm,0.3s						
VIVA	Pratoni del Vi	5.53	115	⇓P	Pg	02 49 56.0	-2.5
PTCC	Patocco-Chiusa	5.53	65	⇓P	Pn	02 49 37.0	+1.9
ABH	Alteburg	5.66	10	*e*Pn	Pn	02 49 37.6	+0.8
ABH				*e*Pg	Pg	02 50 00.4	-0.6
ACOM	Acomizza, Ital	5.69	64	⇓P	Pn	02 49 40.0	+2.7
KBA	Koelnbreinsper	5.79	59	*i* Pn	Pn	02 49 43.1	+4.4
	comp=N,17nm,0.5s,SNR=7.8						
RJOB	Jochberg	5.79	51	*e*Pn	Pn	02 49 40.9	+2.3
RJOB				*e*Sn	Sn	02 50 46.9	+1.7
	SNR=2.8						
MYKA	Terra Mystica	5.80	64	*e*Pn	Pn	02 49 41.2	+2.4
	comp=N,5.9nm,0.4s						
GIVF	Givet	5.85	352	*e*Pn	Pn	02 49 39.5	+0.1
GIVF				*e*Sn	Sn	02 50 43.6	-2.9
	comp=N,23nm,0.3s						
GIVF				*e*Sg	Sg	02 51 17.8	-2.7
	comp=N,15nm,0.3s						
DOU	Dourbes	5.87	351	*d*P	Pn	02 49 41.0	+1.4
DOU				*d*S	Sn	02 50 45.8	-1.2
DOU	Dourbes	5.87	351	Pn	Pn	02 49 41.1	+1.4
RCHB	Rochefort	5.87	355	*d*P	Pn	02 49 41.1	+1.4
RCHB				*d*S	Sn	02 50 45.4	-1.6
RCHB	Rochefort	5.87	355	Pn	Pn	02 49 40.8	+1.1
BAIF	Baives	5.89	348	*e*Pn	Pn	02 49 40.1	+0.2
BAIF				*e*Sn	Sn	02 50 44.4	-3.0
	comp=N,29nm,0.4s						
BAIF				*e*Sg	Sg	02 51 18.9	-2.7
	comp=N,11nm,0.4s						
MILB	Miltenberg	5.94	21	*e*Pn	Pn	02 49 39.1	-1.4
BHOU	Houvegnez	6.04	360	*d*P	Pn	02 49 43.5	+1.5
LDF	La Druitiere	6.06	317	*e*Pn	Pn	02 49 42.8	+0.6
LDF	La Druitiere	6.06	317	*e*Pg	Pg	02 50 07.4	-1.2
LDF				*e*Sn	Sn	02 50 49.0	-2.5
	comp=N,7.0nm,0.3s						
LDF				*e*Sg	Sg	02 51 24.9	-2.1
	comp=N,10nm,0.3s						
BMRD	Maredsous	6.06	352	*d*P	Pn	02 49 43.7	+1.5
BMRD				*d*S	Sn	02 50 52.4	+0.8
CEY	Cerknica	6.08	74	*e*Pn	Pn	02 49 42.9	+0.3
BGES	Gesves	6.11	354	*d*P	Pn	02 49 44.4	+1.4
BGES				*d*S	Sn	02 50 51.6	-1.3
TNS	Taunus Mts	6.13	14	*e*Pn	Pn	02 49 43.3	+0.1
TNS				*e*Pg	Pg	02 50 11.1	+1.2
BCLA	Clavier	6.13	355	*d*P	Pn	02 49 44.4	+1.1
BCLA				*d*S	Sn	02 50 53.5	+0.1
BIOA	Bad Ischl, Aus	6.25	55	*i* Pn	Pn	02 49 47.4	+2.4
	comp=N,7.2nm,0.2s,SNR=5.7						
BTNL	Ternell	6.28	0	*d*P	Pn	02 49 46.0	+0.8
BSTI	Sart Tilman	6.28	357	*d*P	Pn	02 49 46.8	+1.5
GRR	Gorron	6.30	313	*e*Pn	Pn	02 49 45.9	+0.4
GRR	Gorron	6.30	313	*e*Pg	Pg	02 50 11.8	-1.4
GRR				*e*Sn	Sn	02 50 54.8	-2.7
	comp=N,5.2nm,0.2s						
GRR				*e*Sg	Sg	02 51 32.4	-2.4
	comp=N,12nm,0.4s						
MEM	Membach	6.30	360	*d*P	Pn	02 49 46.7	+1.2
MEM				*d*S	Sn	02 50 57.2	-0.3
SNF	Seneffe	6.32	349	*d*P	Pn	02 49 47.5	+1.8
FLN	La Foliniere	6.35	317	*e*Pn	Pn	02 49 46.6	+0.4
	baz=135						
FLN				*e*Sn	Sn	02 50 55.9	-2.8
	comp=N,11nm,0.3s						
FLN				*e*Sg	Sg	02 51 34.0	-2.3
	comp=N,12nm,0.4s						
OBKA	Obir	6.35	67	*e*Pn	Pn	02 49 48.2	+1.8
OBKA	Obir	6.35	67	*i* Pn	Pn	02 49 48.4	+2.1
	comp=N,19nm,0.6s,SNR=8.3						
GRF	Grafenberg Arr	6.42	31	*e*Pn	Pn	02 49 46.0	-1.3
GRF				*e*Pg	Pg	02 50 16.6	+1.0
GRF				*e*Sn	Sn	02 50 56.8	-3.8
	SNR=2.7						
MOA	Molln	6.70	55	*e*Pn	Pn	02 49 52.8	+1.7
	comp=N,2.9nm,0.1s						
WET	Wettzell	6.72	42	*e*Pn	Pn	02 49 51.5	+0.2
WET				*e*Sn	Sn	02 51 05.2	-2.7
	SNR=2.3						
SOKA	Soboth	6.72	66	*i* Pn	Pn	02 49 54.0	+2.6
	comp=N,6.2nm,0.2s,SNR=6.3						
MENF	Mencas	6.79	338	Pn	Pn	02 49 54.8	+2.6
ROTZ	Rotzenmuhle	6.87	35	*e*Pn	Pn	02 49 52.0	-1.4
GEC2	GERESS Array S	6.93	47	*e*Pn	Pn	02 49 54.6	+0.2
GEC2				*e*Sn	Sn	02 51 11.3	-2.0
	SNR=5.3						
GERES	GERESS Array B	6.93	47	Pn	Pn	02 49 54.5	+0.2
	comp=N,10.0nm,0.3s,baz=234,slow=13,SNR=48						
GERES				Sn	Sn	02 51 09.1	-4.2
	comp=N,2.9nm,0.3s,baz=241,slow=24,SNR=2.5						
GERES				LR	LR	02 52 33.7	
	comp=N,41nm,18.2s,baz=264,slow=38						
	comp=N,17nm,0.3s						
MANZ	Manzenberg	7.00	34	*e*Sn	Sn	02 51 10.7	-4.2
	SNR=2.3						
KHC	Kasperske Hory	7.05	44	*e*PN	Pn	02 49 55.9	0.0
KHC				*e*SN	Sn	02 51 13.1	-3.0
PAOL	Paolisi	7.06	115	P	Pb	02 50 06.1	-9.2
SGMF	Saint Gilles	7.17	306	*e*Pn	Pn	02 49 57.5	+0.1
SGMF				*e*Sn	Sn	02 51 16.6	-2.2
SGMF				*e*Sg	Sg	02 51 59.6	-2.9
	comp=N,4.7nm,0.3s						
ARSA	Arzberg	7.22	63	*i* Pn	Pn	02 50 00.4	+2.1
	comp=N,10nm,0.2s,SNR=8.7						
CKRC	Cesky Krumlov	7.24	49	*e*PN	Pn	02 49 58.7	+0.2
NKC	Novy Kostel	7.33	34	*e*PN	Pn	02 49 57.7	-2.1
QUIF	Quistinic	7.37	303	*e*Pn	Pn	02 50 00.4	+0.2
QUIF	Quistinic	7.37	303	*e*P	Pn	02 50 04.7	+4.5
QUIF	Quistinic	7.37	303	*e*Pg	Pg	02 50 31.5	-2.2
QUIF				*e*Sn	Sn	02 51 20.4	-3.4
	comp=N,3.8nm,0.3s						
QUIF				*e*Sg	Sg	02 52 05.8	-3.2
	comp=N,7.9nm,0.4s						
ELSH	Elham, Standar	7.61	336	Pn	Pn	02 50 06.3	+2.8
ROSF	Rostrenen	7.62	305	*e*Pn	Pn	02 50 03.8	+0.1
ROSF	Rostrenen	7.62	305	*e*Pg	Pg	02 50 37.4	-1.1
ROSF				*e*Sn	Sn	02 51 26.5	-3.6
	comp=N,2.5nm,0.3s						
ROSF				*e*Sg	Sg	02 52 13.9	-3.3
	comp=N,6.4nm,0.4s						
CONA	Conrad Observa	7.70	59	*e*Pn	Pn	02 50 06.6	+1.9
	comp=N,3.5nm,0.4s						
A051A	Mrakovica	7.75	81	*e*Pn	Pn	02 50 04.7	-0.8
RONA	Rosalia, Austr	7.88	61	*e*Pn	Pn	02 50 09.5	+2.2
	comp=N,6.6nm,0.3s						
MGRS	Mrkonjic Grad	7.88	85	*e*Pn	Pn	02 50 07.9	+0.5
BLY	Banja Luka	7.95	83	*e*Pn	Pn	02 50 09.1	+1.0
SRKY	Kupres RS	7.97	88	*e*Pn	Pn	02 50 08.9	+0.3
SOP	Sopron	8.03	62	P	Pn	02 50 11.1	+1.8
PRU	Pruhonice	8.09	42	*e*PN	Pn	02 50 09.0	-1.1
GOPC	GO Pecny, Ondr	8.16	44	*e*PN	Pn	02 50 10.9	-0.2
CLL	Collm	8.40	31	*i* (Pg)	Pg	02 50 57.5	+4.1
CLL				*e*Sg	Sg	02 52 43.0	+0.9
	comp=Z,49nm,1.5s						
BRG	Berggiesshubel	8.44	36	*e*P	Pn	02 50 14.3	-0.6
BRG				Amp		02 50 17.0	
	comp=Z,2.1nm,0.6s						
BRG				*e*x	Pg	02 50 53.6	-0.5
BRG				*e*x	Sn	02 51 53.3	+3.2
BRG				*e*x	Sg	02 52 45.7	+2.4
BRG				Amp		02 53 00.7	
	comp=Z,19nm,1.3s						
MPLH	Magyarpolny	8.51	66	P	Pn	02 50 16.5	+0.7
MPLH				S	Sn	02 51 52.5	+0.7
KRUC	Moravsky	8.53	53	*e*PN	Pn	02 50 15.7	-0.5
KRUC				*e*SN	Sn	02 51 49.6	-2.8
KOVH	Kovagotottos	8.67	74	P	Pn	02 50 17.6	-0.5
KOVH				S	Sn	02 51 52.0	-3.9
MODS	Modra-Piesok	8.74	58	*e*PN	Pn	02 50 21.1	+2.0
MODS				*e*SN	Sn	02 51 58.4	+0.8
VRAC	Vranov	8.77	52	Pn	Pn	02 50 19.8	+0.4
	comp=Z,1.4nm,0.3s,baz=255,slow=12,SNR=6.3						
VRAC				LR	LR	02 53 51.0	
	comp=Z,47nm,20.4s,baz=240,slow=39						
	comp=Z,2.9nm,0.3s						
VRAC	Vranov	8.77	52	*e*PN	Pn	02 50 19.3	-0.1
ESDC	Sonseca Array	8.80	242	Pn	Pn	02 50 20.9	+1.0
	comp=Z,1.5nm,0.3s,baz=58,slow=14,SNR=32						
	comp=Z,3.0nm,0.3s						
CSKK	Cskako	9.03	66	P	Pn	02 50 24.2	+1.2
MORH	Mrgy, Hungar	9.06	73	P	Pn	02 50 22.2	-1.2
MORH				S	Sn	02 52 00.2	-5.3
SRO	Srobarova	9.19	63	*e*PN	Pn	02 50 26.3	+1.1
DPC	Dobruska-Polom	9.20	45	*e*PN	Pn	02 50 24.4	-1.0
HAPS	Han Pijesak,BI	9.25	87	*e*Pn	Pn	02 50 22.7	-3.4
OSTC	Ostas	9.28	44	*e*PN	Pn	02 50 25.4	-1.0
KRLC	Kraliky	9.28	48	*e*PN	Pn	02 50 26.2	-0.3
UPM	Unac-Piva	9.35	92	*e*Pn	Pn	02 50 29.6	+2.0
MAUC	Maruska	9.50	54	*e*PN	Pn	02 50 30.4	+0.9
MORC	Moravsky Berou	9.54	51	*e*PN	Pn	02 50 28.9	-1.1
VYHS	Vyhne	9.75	60	*e*PN	Pn	02 50 33.6	+0.7
VYHS				*e*SN	Sn	02 52 21.3	-1.1
PSZ	Piszkesteto	10.24	65	P	Pn	02 50 41.8	+2.1
STHS	Stebnicka Huta	11.56	58	*e*PN	Pn	02 50 59.1	+1.4
KOLS	Kolonicke sedl	12.05	62	*e*PN	Pn	02 51 05.9	+1.6
EKA	Eskdalemuir Ar	12.53	335	Pn	Pn	02 51 11.2	+0.4
	baz=140,slow=14						
	comp=Z,0.7nm,0.3s						
NOA	NORSAR Array B	17.03	9	LR	LR	02 58 42.8	
	comp=Z,13nm,19.2s,baz=270,slow=37						
FINES	FINESS Array B	20.82	28	P	P	02 52 54.4	+0.4
	comp=Z,1.8nm,0.8s,baz=208,slow=6.5,SNR=7.6						
	comp=Z,1.8nm,0.8s						
BRTR	Keskin Array B	20.93	93	P	Pn	02 52 57.9	-0.3
	comp=Z,1.3nm,0.6s,baz=276,slow=9.8,SNR=2.4						
	comp=Z,1.3nm,0.6s						
KBZ	Khabaz	26.34	78	P	P	02 53 50.6	+2.0
	comp=Z,2.3nm,0.8s,baz=313,slow=6.2,SNR=3.8						
	comp=Z,2.3nm,0.8s						
ARCES	ARCESS Array B	27.15	15	LR	LR	03 04 08.7	
	comp=Z,50nm,19.0s,baz=326,slow=35						
KIRV	Kirov	29.94	46	LR	LR	03 05 41.5	
	comp=Z,52nm,18.2s,baz=331,slow=35						
MKAR	Makanchi Array	51.43	59	P	P	02 57 17.9	+0.1
	comp=Z,0.2nm,0.3s,baz=298,slow=7.8,SNR=4.7						
	comp=Z,0.2nm,0.3s						
MDP	Montagnes des	64.36	251	LR	LR	03 22 24.2	
	comp=Z,65nm,21.9s,baz=333,slow=32						

IDC **10** *02:55:53.1±0.9, 14°.36N×92°.79W, h0km, mb4.3/14, mbtmp4.3/16, ML4.3/2, MS3.7/42, Error ellipse: s-maj=36.7km s-min=16.9km az=49.0*

UCR **10** *02:55:55.9±0.8, 14°.13N×93°.17W, h19km±83km, ML4.4, mb4.6(NEIC)*

SNET **10** *02:55:55.7±0.9, 14°.12N×93°.15W, h15km±91km, ML4.6*

MEX **10** *02:55:56.4±1.5, 14°.10N×93°.39W, h17km±21km, MD4.6*

NEIC **10** *02:55:59.3±1.4, 14°.32N±0°.07×93°.13W±0°.05, h41km±8km, mb4.6/187, Md4.6/51(MEX), Error ellipse: s-maj=10.2km s-min=5.6km az=202.0*

GCG **10** *02:56:05.4±0.3, 14°.61N×92°.51W, h78km±207km, MD4.5*

ISC 10 02:55:54.7±0.9**, 14°.20N**±0°.04×**93°.29W**±0°.03**, h17**km±5km**, n437, σ1s.61**/400**, mb4.6**/91**, MS3.8**/39**, 1C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.22	54		Pn	02 56 15.9	-1.0
THIG					Sb	02 56 29.8	-3.0
THIG		1.22	54	*i* P	Pn	02 56 16.0	-1.0
THIG				*i* S	Sb	02 56 32.4	-0.4
PCIG		1.50	3		Pn	02 56 19.6	-1.2
PCIG					Sn	02 56 37.8	-2.2
PCIG		1.50	3	*e*P	Pn	02 56 19.6	-1.2
PCIG				*e*S	Sn	02 56 38.5	-1.4
RTAL	Retalhuleu	1.58	78		Pn	02 56 21.2	-0.7
RTAL				Sn	Sn	02 56 40.6	-1.4
RTAL	Retalhuleu	1.58	78	*e*P	Pn	02 56 21.2	-0.7
RTAL				*e*S	Sn	02 56 41.6	-0.4
SULM	Suchitepequez,	1.68	86	*e*P	Pn	02 56 23.9	+0.7
STG3	Santiaguito 3,	1.75	73	⇑*e*P	Pn	02 56 24.1	-0.2
HUEH	Huehuetenango	2.06	57		Pn	02 56 29.6	+0.9
HUEH				Sn	Sn	02 56 51.9	-2.2
HUEH	Huehuetenango	2.06	57	*e*P	Pn	02 56 29.2	+0.5
HUEH				*e*S	Sn	02 56 55.3	+1.2
HUEH				IAML		02 57 08.3	
	comp=Z,5µm,0.5s						
HUEH	Huehuetenango	2.06	57	*e*P	Pn	02 56 29.2	+0.5
HUEH				*e*S	Sn	02 56 55.3	+1.2
HUEH				IAML		02 57 08.3	
	comp=Z,5µm,0.5s						
CCIG	Comitan	2.35	28		Pn	02 56 34.2	+1.5
CCIG				Sn	Sn	02 57 00.3	-1.0
CCIG	Comitan	2.35	28	*e*P	Pn	02 56 34.5	+1.8
CCIG				*e*S	Sb	02 57 03.8	-1.9
FUG	Fuego 3	2.39	84	*e*P	Pn	02 56 33.0	-0.1
TGIG		2.57	4		Pn	02 56 36.9	+1.3
TGIG					Sn	02 57 07.1	+0.5
TGIG		2.57	4	*e*P	Pn	02 56 37.3	+1.7
TGIG				*e*S	Sn	02 57 08.2	+1.7
TGBT	Tuxtla Gutierr	2.57	4		Pn	02 56 36.7	+1.2
TGBT					Sn	02 57 07.2	+0.7
PCG	Pacaya	2.61	85	*e*P	Pn	02 56 36.4	+0.1
NBG	Las Nubes	2.88	82	*e*P	Pn	02 56 41.6	+1.6
HUIG	Huatulco	3.14	300		Pn	02 56 41.8	-1.6
HUIG					Sn	02 57 14.9	-5.5
HUIG	Huatulco	3.14	300	*e*P	Pn	02 56 41.8	-1.6
HUIG				*e*S	Sn	02 57 17.7	-2.7
UXUV	UXUV	3.21	345	*e*P	Pn	02 56 46.3	+2.0
UXUV				*e*S	Sn	02 57 23.4	+1.2
CMIG	Matias Romero	3.26	332	Pn	Pn	02 56 46.0	+1.0
	comp=Z,35nm,0.3s,baz=154,slow=11,SNR=159						
CMIG				LR	LR	02 57 38.9	
	comp=Z,211nm,19.8s,baz=284,slow=31						
	comp=Z,83nm,0.3s						
CMIG	Matias Romero	3.26	332		Pn	02 56 45.5	+0.4
CMIG					Sn	02 57 22.3	-1.1
CMIG	Matias Romero	3.26	332	*e*P	Pn	02 56 45.5	+0.4
CMIG				*e*S	Sn	02 57 22.2	-1.3
SLOZ	Alcaldia de Sa	3.41	92	*e*P	Pn	02 56 46.0	-1.1
NUBE	Las Nubes	3.42	94	*e*P	Pn	02 56 46.5	-0.9
NUBE	Las Nubes	3.42	94	*e*P	Pn	02 56 46.5	-0.9
RTR	El Retiro	3.55	94	*e*P	Pn	02 56 48.9	-0.3
RTR	El Retiro	3.55	94	*e*P	Pn	02 56 48.9	-0.3
SBLS	San Blas	3.58	95	*e*P	Pn	02 56 49.6	0.0
SBLS				*e*S	Sn	02 57 31.3	-0.4
SBLS	San Blas	3.58	95	*e*P	Pn	02 56 49.6	0.0
SBLS				*e*S	Sn	02 57 31.3	-0.4
SNJE	San Jose	3.59	95	*e*P	Pn	02 56 49.2	-0.6
SNJE	San Jose	3.59	95	*e*P	Pn	02 56 49.2	-0.6
MTO3	Montecristo	3.82	86		Pn	02 56 53.1	+0.2
ESQI	Esquipulas	3.85	84	Pn	Pn	02 56 54.7	+1.6
TUIG	Tuzandepetl	3.97	344	*e*P	Pn	02 56 55.3	+0.5
TUIG				*e*S	Sn	02 57 36.5	-4.4
SNET	Serv Nac Est T	3.98	97		Pn	02 56 55.2	+0.3
PEIG	Puerto Escondi	4.13	296		Pn	02 56 56.9	-0.1
PEIG					Sn	02 57 42.8	-2.2
PEIG	Puerto Escondi	4.13	296	*e*P	Pn	02 56 57.1	+0.1
PEIG				*e*S	Sn	02 57 37.5	-7.5
LFRS	El Faro	4.15	97	*e*P	Pn	02 56 57.6	+0.3
LFRS	El Faro	4.15	97	*e*P	Pn	02 56 57.6	+0.3
PETF	Flores	4.27	50	*e*P	Pn	02 56 59.8	+1.0
PETF	Flores	4.27	50	*e*P	Pn	02 56 59.8	+1.0
COEG	Centro de Oper	4.32	97	*e*P	Pn	02 56 59.1	-0.6
COEG	Centro de Oper	4.32	97	*e*P	Pn	02 56 59.1	-0.6
OXIG	Oaxaca	4.38	311		Pn	02 57 02.8	+2.2
OXIG					Sn	02 57 50.9	-0.4
VHO	Vista Hermosa	4.38	311	*e*P	Pn	02 57 01.4	+0.8
VHO				*e*S	Sn	02 57 51.9	+0.6
P5NO	Presa 5 de nov	4.40	92	*e*P	Pn	02 56 59.3	-1.5
PMUV	Sontecomapan	4.67	338	*e*P	Pn	02 57 04.2	-0.2
PMUV				*e*S	Sb	02 58 05.7	-6.4
COEB	Comit de Eme	4.68	98	*e*P	Pn	02 57 04.2	-0.4
COEB	Comit de Eme	4.68	98	*e*P	Pn	02 57 04.2	-0.4
YOIG	Yosondua	4.88	303		Pn	02 57 10.7	+3.2
YOIG					Sn	02 58 05.3	+1.6
YOIG	Yosondua	4.88	303	*e*P	Pn	02 57 10.9	+3.4
YOIG				*e*S	Sn	02 58 02.4	-1.4
PNIG	Pinotepa	5.15	296		Pn	02 57 11.8	+0.8
PNIG					Sn	02 58 08.0	-2.1
PNIG	Pinotepa	5.15	296	*e*P	Pn	02 57 12.4	+1.3
PNIG				*e*S	Sn	02 58 05.6	-4.5
SCIG	Sabancuy	5.16	23	*e*P	Pn	02 57 11.7	+0.6
SCIG				*e*S	Sn	02 58 10.7	+0.6
TXIG	Tlaxiaco	5.27	306	*e*P	Pn	02 57 15.2	+2.3
TXIG				*e*S	Sn	02 58 11.4	-2.1
TOIG	Toxpalan	5.31	317		Pn	02 57 16.6	+3.3
TOIG					Sn	02 58 12.1	-2.0
TOIG	Toxpalan	5.31	317	*e*P	Pn	02 57 16.6	+3.3
TOIG				*e*S	Sn	02 58 22.3	+8.1
LCND	La Caada	5.32	99	*e*P	Pn	02 57 12.9	-0.4
LCND	La Caada	5.32	99	*e*P	Pn	02 57 12.9	-0.4
CNCH	Conchagua	5.38	99	*e*P	Pn	02 57 14.3	0.0
CNCH	Conchagua	5.38	99	*e*P	Pn	02 57 14.3	0.0
HLIG	Huajuapan de L	5.64	310	*e*P	Pn	02 57 18.2	+0.2
HLIG				*e*S	Sn	02 58 22.1	-0.5
TPIG	Tehuac#an	5.74	318		Pn	02 57 22.9	+3.6
TPIG					Sn	02 58 28.9	+4.1
TPIG	Tehuac#an	5.74	318	*e*P	Pn	02 57 23.8	+4.5
TPIG				*e*S	Sn	02 58 26.4	+1.6
TGUH	Tegucigalpa,Un	5.84	91		Pn	02 57 20.6	0.0
FTIG	Fresnillo de T	5.94	309		Pn	02 57 24.8	+2.9
FTIG					Sn	02 58 30.8	+1.1
FTIG	Fresnillo de T	5.94	309	*e*P	Pn	02 57 25.4	+3.4
FTIG				*e*S	Sn	02 58 33.6	+3.9
TLIG	Tlapa	6.08	304		Pn	02 57 27.2	+3.3
TLIG	Tlapa	6.08	304	*e*	Pn	02 57 27.1	+3.2
TLIG				*e*		02 58 40.9	
CRIG	Cruz Grande	6.17	295	*e*	Pn	02 57 25.7	+0.7
CRIG				*e*		02 59 01.0	
CRIN	San Cristobal	6.25	103		Pn	02 57 26.8	+0.5
LVIG	Laguna Verde	6.26	332	*e*	Pn	02 57 21.5	-4.7
LVIG				*e*		02 58 36.9	
CNGN	Cerro Negro	6.63	104		Pn	02 57 33.0	+1.5
DAIG	Los Arroyos	6.74	295	*e*	Pn	02 57 34.8	+2.0
DAIG				*e*		02 59 10.2	
PPM	Popocatepetl	7.04	314	*e*	Pn	02 57 41.8	+4.3
PPM				*e*		02 59 21.1	
MEIG	Mezcala	7.12	302	*e*P	Pn	02 57 42.4	+4.2
MEIG				*e*S	Sn	02 59 00.3	+1.4
YAIG	Yautepec	7.22	311	*e*P	Pn	02 57 44.3	+4.7
YAIG				*e*S	Sn	02 59 00.5	-0.9

MATN Matagalpa 7.27 99 Pn **Pn** 02 57 40.0 -0.3
CAIG El Cayaco 7.29 294 *e* **Pn** 02 57 43.0 +2.6
CAIG *e* 02 59 25.0
BOAB BOACO BROADBAN 7.62 102 **Pn** 02 57 46.7 +1.7
TEIG Tepich 7.68 38 Pn **Pn** 02 57 44.6 -1.1
ARIG Puente Sto Nin 7.90 302 *e* **Pn** 02 57 52.4 +3.6
ARIG *e* 02 59 29.2
DEIG Demacu 8.18 319 *e* **Pn** 02 57 52.3 -0.5
DEIG *e* 02 59 21.1
HZTE Horizontes, Gu 8.28 114 **Pn** 02 57 56.2 +2.2
ORTG Ortega, Santa 8.55 116 Pn **Pn** 02 58 00.0 +2.2
DUNO Dulce Nombre, 8.65 117 **Pn** 02 57 59.6 +0.5
ESPN Las Esperanzas 8.98 102 **Pn** 02 58 03.6 0.0
JTS Las Juntas de 9.03 115 **Pn** 02 58 05.5 +1.2
MOIG Morelia 9.32 307 **Pn** 02 58 12.1 +3.6
RIMA Rio Macho 10.22 114 **Pn** 02 58 22.3 +1.5
PEZE Perez Zeledon, 10.56 116 **Pn** 02 58 26.8 +1.4
SRBA San Rafael, Bu 10.90 116 Pn **Pn** 02 58 31.9 +1.8
BRU2 Volcan 11.69 116 **Pn** 02 58 42.8 +1.8
SOR Soroa 12.96 47 Pn **Pn** 02 58 57.1 -1.1
833A Chaparral WMA, 15.16 339 Pn **Pn** 02 59 29.9 +1.9
833A IAmb IAmb 02 59 40.2
comp=Z,40nm,0.8s
833A Chaparral WMA, 15.16 339 P **P** 02 59 30.8 -2.3
baz=156
HKT Hockley 15.85 352 P **Pn** 02 59 37.8 +0.8
435B Jarrell 16.98 347 P **Pn** 02 59 50.5 -0.9
435B Jarrell 16.98 347 P **P** 02 59 52.7 -0.5
baz=165
HPIG 17.15 320 Pn **P** 02 59 55.0 -0.4
JCT Junction City 17.28 341 P **P** 02 59 56.7 +0.1
JCT Junction City 17.28 341 P **P** 02 59 57.8 +1.2
baz=158
344A Westbrook Farm 17.34 7 P **Pn** 02 59 55.7 -0.2
344A IAmb IAmb 03 00 11.9
comp=Z,25nm,0.7s
H06S1 SOCORRO T 17.53 287 T T 03 18 02.2
SNR=6.7
DWPF Disney Wildern 17.70 37 P **Pn** 02 59 58.8 -1.6
baz=220
BRAL Brewton 17.84 18 P **Pn** 03 00 01.8 -0.3
baz=199
TXAR Lajitas Array 17.86 329 P **P** 03 00 05.5 +2.3
comp=Z,0.2nm,0.3s,baz=148,slow=14,SNR=29
TXAR LR LR 03 07 18.9
comp=Z,83nm,19.0s,baz=156,slow=38
comp=Z,8.1nm,1.0s
TXAR Lajitas Array 17.86 329 P **P** 03 00 04.5 +1.4
TX31 Lajitas Ar. Si 17.86 329 P **P** 03 00 04.5 +1.4
TX31 IAmb IAmb 03 00 15.9
comp=Z,68nm,1.1s
TX32 Lajitas Array 17.86 329 P **P** 03 00 04.6 +1.4
WHTX Lake Whitney, 18.12 349 **Pn** 03 00 05.4 -0.1
WHTX Lake Whitney, 18.12 349 P **P** 03 00 07.9 +2.0
baz=166
143A Socs Landing, 18.50 5 IAmb IAmb 03 00 18.0
comp=Z,28nm,0.8s
LPIG La Paz 18.84 304 LR LR 03 06 45.9
comp=Z,71nm,19.6s,baz=12,slow=34
352A Blakely 18.84 23 P **P** 03 00 13.1 -0.6
352A IAmb IAmb 03 00 19.4
comp=Z,56nm,1.0s
ABTX Abilene, Hawle 19.24 344 P **Pn** 03 00 19.8 +0.6
ABTX Abilene, Hawle 19.24 344 P **Pn** 03 00 19.4 +0.3
baz=160,SNR=6.1
TIGA Tifton 19.33 26 P **Pn** 03 00 20.1 -0.2
TIGA IAmb IAmb 03 00 20.9
comp=Z,36nm,0.9s
TIGA Tifton 19.33 26 P **P** 03 00 18.7 -0.5
baz=209
Z35A Perchaven, San 19.39 350 P **Pn** 03 00 20.6 -0.3
Z35A IAmb IAmb 03 00 27.4
comp=Z,45nm,0.8s
WLAR White Oak Lake 19.41 0 **Pn** 03 00 21.0 -0.2
WLAR IAmb IAmb 03 00 27.8
comp=Z,24nm,0.8s
Z47A Carrollton 19.51 13 **P** 03 00 20.7 -0.4
Z47A IAmb IAmb 03 00 47.7
comp=Z,25nm,1.0s
LRAL Lakeview Retre 19.61 16 P **Pn** 03 00 23.3 -0.3
LRAL Lakeview Retre 19.61 16 P **P** 03 00 22.6 +0.4
baz=198
Y45A Yeager Farm, C 19.88 9 P **P** 03 00 23.9 -1.1
152A Waverly Hall 19.98 22 P **P** 03 00 26.5 +0.2
LOOK Love County 20.02 351 **P** 03 00 27.0 +0.3
LOOK IAmb IAmb 03 00 53.5
comp=Z,35nm,1.1s
MIAR Mount Ida 20.26 359 P **P** 03 00 29.7 +0.4
MIAR IAmb IAmb 03 00 38.6
comp=Z,30nm,0.9s
MIAR Mount Ida 20.26 359 P **P** 03 00 29.2 -0.1
baz=178,SNR=13
TULM Tulcn-Chalpat 20.36 130 P **P** 03 00 31.6 +0.6
X37A Clayton 20.39 355 Pn 03 00 31.9 -0.9
X37A IAmb IAmb 03 00 43.5
comp=Z,34nm,1.2s
CLNB Carlsbad 20.42 334 P **P** 03 00 31.4 +0.3
HTMS Hat Mesa 20.50 334 P Pn 03 00 33.5 -0.7
UALR University of 20.51 2 **P** 03 00 31.8 -0.2
UALR IAmb IAmb 03 00 45.8
comp=Z,17nm,0.8s
CLN7 Carlsbad 7 20.52 334 P **P** 03 00 33.2 +1.0
OXF Oxford 20.53 9 P **P** 03 00 32.2 0.0
baz=190
154A Montrose 20.55 25 P **P** 03 00 32.1 -0.3
154A IAmb IAmb 03 00 47.2
comp=Z,38nm,0.9s
GDL2 Guadalupe Moun 20.58 332 P Pn 03 00 34.8 -0.4
X34A Smith Ranch, M 20.73 349 **P** 03 00 35.6 +1.2
X34A IAmb IAmb 03 01 00.4
comp=Z,16nm,0.8s
X48A Hartselle 20.94 15 P **P** 03 00 36.1 -0.6
WHAR Wooly Hollow 21.02 2 P **P** 03 00 38.6 +1.0
WMOK Wichita Mounta 21.05 347 **P** 03 00 38.0 +0.2
WMOK Wichita Mounta 21.05 347 P **P** 03 00 38.6 +0.8
baz=164,SNR=6.0
CPRX Cap Rock 21.08 335 P **P** 03 00 39.6 +1.3
GOGA Godfrey 21.11 23 P **P** 03 00 38.4 -0.1
GOGA IAmb IAmb 03 00 45.7
comp=Z,27nm,1.1s
GOGA Godfrey 21.11 23 P **P** 03 00 38.0 -0.5
baz=207
PLAL Pickwick Lake 21.23 12 P **P** 03 00 39.5 -0.2
FNO Franklin 21.30 351 **P** 03 00 40.7 +0.3
Y52A Lilburn 21.30 22 P **P** 03 00 39.9 -0.6
Y52A IAmb IAmb 03 00 59.4
comp=Z,33nm,0.9s
MSTX Muleshoe 21.48 338 P **P** 03 00 43.0 +0.5
MSTX IAmb IAmb 03 00 58.9
comp=Z,26nm,1.0s
MSTX Muleshoe 21.48 338 P **P** 03 00 43.6 +1.0
baz=154,SNR=16
OK025 Westminster Rd 21.60 351 **P** 03 00 44.0 +0.3
FCAR Ozark Folk Cen 21.63 3 P **P** 03 00 44.7 +0.7
FCAR IAmb IAmb 03 00 47.6
comp=Z,23nm,0.8s
BCOK Bluff Creek, N 21.72 350 **P** 03 00 45.4 +0.4
BCOK IAmb IAmb 03 00 48.5
comp=Z,59nm,0.8s
TUL1 Leonard 21.74 355 **P** 03 00 45.7 +0.5
TUL1 IAmb IAmb 03 00 59.6
comp=Z,15nm,0.8s
TUL1 Leonard 21.74 355 P **P** 03 00 46.3 +1.1
baz=173
DEOK Depew 21.75 353 **P** 03 00 45.0 -0.3
DEOK IAmb IAmb 03 00 48.2
comp=Z,19nm,0.6s
OK029 Liberty Lake 21.83 351 **P** 03 00 45.7 -0.5
OK029 IAmb IAmb 03 00 49.7
comp=Z,26nm,1.1s
LCAR Lake Charles 21.87 5 P **P** 03 00 46.9 +0.4
OK030 Cody Creek RV 21.87 352 **P** 03 00 46.7 +0.1
OK030 IAmb IAmb 03 00 48.8
comp=Z,24nm,0.7s
OK031 S. Brethren Rd 21.90 352 **P** 03 00 46.5 -0.4
OK031 IAmb IAmb 03 00 49.6
comp=Z,22nm,0.7s
CSTR Hydro, Custer 21.90 348 **P** 03 00 47.6 +0.5
CSTR IAmb IAmb 03 01 02.0
comp=Z,2.0nm,0.8s
RLO Rose Lookout 21.93 356 **P** 03 00 46.5 -0.8
RLO IAmb IAmb 03 01 00.2
comp=Z,13nm,0.8s
OK034 N. Norfolk Rd. 21.94 353 **P** 03 00 47.3 0.0
OK034 IAmb IAmb 03 00 50.0
comp=Z,36nm,0.9s
AMTX Amarillo 21.95 341 P **P** 03 00 47.9 +0.4
AMTX Amarillo 21.95 341 P **P** 03 00 48.8 +1.3
baz=157
HHAR Hobbs 22.00 359 P **P** 03 00 48.1 +0.1
OK033 Mehan 22.00 352 **P** 03 00 48.5 +0.5
OK033 IAmb IAmb 03 00 59.3
comp=Z,22nm,0.9s
QUOK Quay 22.10 353 **P** 03 00 49.0 0.0
QUOK IAmb IAmb 03 00 51.5
comp=Z,32nm,0.7s
NHSC New Hope 22.29 30 P **P** 03 00 47.8 -3.4
baz=215
OK044 Pawnee Station 22.31 353 **P** 03 00 51.1 -0.2
HODGE Hodges 22.31 25 P **P** 03 00 50.7 -0.6
HODGE IAmb IAmb 03 01 04.7
comp=Z,21nm,1.1s
OK046 Pawnee Station 22.34 352 P **P** 03 00 52.1 +0.4
OK050 Pawnee Station 22.35 352 P **P** 03 00 52.2 +0.4
OK050 IAmb IAmb 03 00 54.1
comp=Z,27nm,0.9s
OK048 Pawnee Station 22.37 352 **P** 03 00 52.3 +0.3
OK048 IAmb IAmb 03 00 54.3
comp=Z,30nm,0.8s
WVT Waverly 22.38 12 P **P** 03 00 51.2 -0.9
WVT Waverly 22.38 12 P **P** 03 00 51.5 -0.6
baz=193
OK045 Pawnee Station 22.40 352 P **P** 03 00 52.5 +0.2
OK051 E0350 and S346 22.44 353 **P** 03 00 53.4 +0.6
ELIS Ellis County 22.46 347 P **P** 03 00 54.2 +1.2
ELIS IAmb IAmb 03 00 56.2
comp=Z,33nm,1.0s
319A Douglas 22.53 322 IAmb IAmb 03 01 07.3
comp=Z,18nm,0.8s
121A Cookes Peak, D 22.54 327 IAmb IAmb 03 00 58.7
comp=Z,33nm,0.9s
121A Cookes Peak, D 22.54 327 P **P** 03 00 57.0 +2.9
baz=140,SNR=34
CPCT Cooper Cave 22.59 19 P **P** 03 00 54.5 +0.2
CROK Carrier 22.61 350 **P** 03 00 55.2 +0.6
CROK IAmb IAmb 03 00 56.6
comp=Z,57nm,0.8s
U32A Winter Ranch, 22.68 348 IAmb IAmb 03 01 03.4
comp=Z,17nm,1.0s
OK038 West end E0370 22.72 349 IAmb IAmb 03 01 03.4
comp=Z,19nm,0.5s
BLOK Blackwell 22.74 352 IAmb IAmb 03 00 57.3
T35A Sooner Cattle 22.81 353 **P** 03 00 55.5 -1.1
T35A IAmb IAmb 03 00 59.3
comp=Z,11nm,0.7s
SDV Santo Domingo 22.81 101 P **P** 03 00 56.4 -0.7
SDV IAmb IAmb 03 00 59.6
comp=Z,12nm,0.8s
MGMO Mountain Grove 22.88 2 P **P** 03 00 57.2 -0.2
NOKA Waynoka 22.91 348 IAmb IAmb 03 00 59.8
comp=Z,46nm,1.3s
OK035 E0210 Rd and N 22.94 349 IAmb IAmb 03 01 04.0
comp=Z,18nm,0.8s
OK032 Salt Plains WL 22.94 350 IAmb IAmb 03 00 59.8
comp=Z,25nm,0.9s
PAULI Pauline 23.00 25 IAmb IAmb 03 01 09.2
comp=Z,17nm,0.9s
TKL Tuckaleechee C 23.02 20 LR LR 03 11 16.8
comp=Z,188nm,18.1s,baz=204,slow=41
KAN13 South Haven SW 23.03 351 IAmb IAmb 03 01 00.0
comp=Z,24nm,0.8s
KAN14 Manchester OK 23.05 350 P **P** 03 00 59.4 +0.2
KAN14 IAmb IAmb 03 01 00.1
comp=Z,13nm,0.7s
KAN14 **PcP** 03 04 48.0 -0.3
KAN17 Caldwell West 23.10 351 **P** 03 00 59.0 -0.7
CRNM Carthage 23.14 331 P **P** 03 01 01.4 +1.1
KAN09 Caldwell North 23.17 351 P **P** 03 01 00.0 -0.3
KAN01 Argonia South 23.21 351 **P** 03 01 00.7 0.0
BNM Barren Site 23.25 331 P **P** 03 01 03.4 +1.9
KAN08 Anthony NE Sta 23.31 351 **P** 03 01 02.3 +0.5
KAN06 Argonia West S 23.32 351 P **P** 03 01 01.8 -0.1
T47A Sharon Grove 23.36 13 P **P** 03 01 01.7 -0.6
T47A IAmb IAmb 03 01 38.9
comp=Z,14nm,0.9s
SBM South Baldy 23.37 330 P **P** 03 01 03.6 +0.7
KAN12 Harper NE Stat 23.39 351 **P** 03 01 02.6 +0.1
S39A Bolivar 23.40 360 P **P** 03 01 02.0 -0.6
S39A IAmb IAmb 03 01 03.5
comp=Z,13nm,0.6s
LENM Lemitar 23.43 330 P **P** 03 01 04.2 +1.0
KMSC Kings Mountain 23.48 25 P **P** 03 01 03.0 -0.5
KMSC Kings Mountain 23.48 25 P **P** 03 01 02.5 -1.0
baz=210
ANMO Albuquerque 23.83 332 P **P** 03 01 09.2 +2.1
comp=Z,3.9nm,0.8s,baz=147,slow=11,SNR=15
comp=Z,3.9nm,0.8s
ANMO Albuquerque 23.83 332 P **P** 03 01 09.0 +1.9
baz=146
CCM Cathedral Cave 23.83 4 P **P** 03 01 05.8 -1.0
CCM IAmb IAmb 03 01 07.0
comp=Z,14nm,0.9s
CCM Cathedral Cave 23.83 4 P **P** 03 01 05.9 -1.0
baz=184
R40A Maddies Statio 24.02 2 P **P** 03 01 07.8 -0.8
R40A IAmb IAmb 03 01 10.3
comp=Z,12nm,0.7s
TUC Tucson 24.09 321 P **P** 03 01 12.1 +2.6
TUC IAmb IAmb 03 01 14.3
comp=Z,14nm,1.1s
TUC Tucson 24.09 321 P **P** 03 01 12.4 +2.9
baz=134
R32A Long Quarter, 24.60 350 P **P** 03 01 14.4 +0.4
T25A Trinidad 24.91 339 IAmb IAmb 03 01 29.8
comp=Z,19nm,1.1s
T25A Trinidad 24.91 339 P **P** 03 01 18.5 +1.4
baz=153,SNR=8.3
KSU1 Kansas State U 24.98 354 IAmb IAmb 03 01 22.3
comp=Z,15nm,0.7s
KSU1 Kansas State U 24.98 354 P **P** 03 01 17.3 -0.1
baz=172
V58A Windy Hill, Pi 24.99 28 IAmb IAmb 03 01 34.2
comp=Z,23nm,1.1s
CBKS Cedar Bluff 25.17 348 IAmb IAmb 03 01 22.2
comp=Z,25nm,1.0s
CBKS Cedar Bluff 25.17 348 P **P** 03 01 19.2 0.0
baz=165
P40A Paris 25.26 2 IAmb IAmb 03 01 19.8
comp=Z,20nm,0.8s
BAUV El Baul 25.27 99 P **P** 03 01 18.4 -1.9
BAUV IAmb IAmb 03 01 19.7
comp=Z,21nm,0.8s
ATAH Atahualpa 25.84 144 LR LR 03 10 03.9
comp=Z,81nm,19.6s,baz=306,slow=33
SDCO Great Sand Dun 25.84 337 IAmb IAmb 03 01 35.9
comp=Z,15nm,1.1s
SDCO Great Sand Dun 25.84 337 P **P** 03 01 27.3 +1.7
baz=151,SNR=12
KSCO Kaye Shedlock' 26.06 343 IAmb IAmb 03 01 35.7
comp=Z,27nm,1.1s
KSCO Kaye Shedlock' 26.06 343 P **P** 03 01 28.5 +1.2
baz=158
SJG San Juan 26.35 78 LR LR 03 11 01.0
comp=Z,90nm,21.4s,baz=282,slow=35
S22A 4UR Ranch, Cre 26.36 335 P **P** 03 01 31.3 +1.0
baz=149,SNR=8.2
MVCO Mesa Verde 26.63 332 IAmb IAmb 03 01 47.0
comp=Z,10nm,0.8s
MVCO Mesa Verde 26.63 332 P **P** 03 01 35.0 +2.4
baz=145,SNR=6.2
WUAZ Wupatki 26.74 326 IAmb IAmb 03 01 47.4
comp=Z,10.0nm,0.9s
WUAZ Wupatki 26.74 326 P **P** 03 01 36.4 +2.8
baz=138
Q24A Divide 26.80 339 P **P** 03 01 35.8 +1.5
baz=153
PDMCI Parker Dam,Lak 27.50 320 P **P** 03 01 43.0 +2.7
baz=131
PV13 Radium Mtn., P 27.55 333 IAmb IAmb 03 01 52.9
comp=Z,9.0nm,0.9s
PV15 Paradox Valley 27.56 334 IAmb IAmb 03 01 53.9
comp=Z,11nm,1.0s
PV11 David Mesa, Pa 27.69 333 IAmb IAmb 03 01 48.9
comp=Z,9.9nm,0.9s
PV07 Paradox Valley 27.71 333 IAmb IAmb 03 01 51.8
comp=Z,14nm,1.1s
OGNE Ogallala 27.72 346 P **P** 03 01 43.3 +1.1
baz=161
L40A Anamosa 27.82 3 IAmb IAmb 03 01 49.1
comp=Z,10nm,0.8s
PV23 Carpenter Ridg 27.88 333 IAmb IAmb 03 02 03.9
comp=Z,12nm,0.8s
BC3 Big Chuckawall 27.92 318 P **P** 03 01 45.4 +1.3
baz=128
IRM Iron Mountain 28.04 319 P **P** 03 01 46.9 +1.8
baz=129
BELC Belle Mtn. Jos 28.49 318 P **P** 03 01 51.3 +2.0
baz=128
JFWS Jewell Farm 28.74 5 IAmb IAmb 03 01 52.6
comp=Z,12nm,0.7s
JFWS Jewell Farm 28.74 5 P **P** 03 01 51.9 +0.7
baz=186
GMRC Granite Mounta 28.76 319 P **P** 03 01 53.9 +2.2
baz=130
N23A Red Feather La 28.80 340 P **P** 03 01 53.5 +1.4
baz=153
O20A White River Ci 28.97 336 P **P** 03 01 55.9 +2.3
baz=148
ECSD EROS Data Cent 29.57 355 P **P** 03 01 58.2 -0.4
baz=173
RWWY Rawlins 29.94 339 IAmb IAmb 03 02 11.8
comp=Z,21nm,1.2s
K22A Casper 30.57 341 P **P** 03 02 09.4 +1.8
baz=154
NNA Nana 30.70 147 LR LR 03 11 54.5
comp=Z,74nm,20.6s,baz=322,slow=31
MPMC Manual Prospec 30.72 319 P **P** 03 02 11.6 +2.4
baz=129
SPR3 Spring Creek 3 30.90 327 IAmb IAmb 03 02 14.4
comp=Z,4.6nm,0.9s
SPMN Marine on St. 30.93 1 IAmb IAmb 03 02 13.6
comp=Z,10nm,0.9s
DUG Dugway, Tooele 31.04 330 P **P** 03 02 14.5 +2.8
baz=141
R11A Troy Canyon, C 31.11 325 P **P** 03 02 15.2 +2.7
baz=134
TCUT Toone Canyon 31.12 333 IAmb IAmb 03 02 20.6
comp=Z,14nm,1.1s
RSSD Black Hills 31.21 345 P **P** 03 02 13.5 +0.2
RSSD IAmb IAmb 03 02 15.5
comp=Z,6.0nm,0.8s
RSSD Black Hills 31.21 345 P **P** 03 02 14.9 +1.6
baz=159
VES Vestal, Richgr 31.62 318 P **P** 03 02 18.2 +1.4
baz=126
BINY Binghamton 31.67 25 P **P** 03 02 14.9 -2.2
baz=213
BW06 Boulder Array 31.74 337 P **P** 03 02 19.4 +1.4
baz=148
PDAR Pinedale Array 31.74 337 P **P** 03 02 19.1 +1.1
comp=Z,1.4nm,0.8s,baz=138,slow=9.1,SNR=10
PDAR PcP **PcP** 03 05 09.8 +0.5
comp=Z,0.5nm,0.5s,baz=139,slow=8.4,SNR=2.3
PDAR pPcP 03 05 14.3
comp=Z,0.3nm,0.3s,baz=136,slow=5.2,SNR=8.2
PDAR LR LR 03 17 58.1
comp=Z,49nm,21.6s,baz=144,slow=42
comp=Z,1.4nm,0.8s
HVU Hansel Valley 32.26 332 IAmb IAmb 03 02 32.4
comp=Z,9.1nm,1.1s
AHID Auburn Hatcher 32.34 335 IAmb IAmb 03 02 30.8
comp=Z,16nm,1.5s
NV11 Mina Array Sit 32.65 322 IAmb IAmb 03 02 30.7
comp=Z,6.1nm,0.9s
ELK Elko 32.66 328 LR LR 03 17 02.7
comp=Z,104nm,19.4s,baz=150,slow=39
NVAR Mina Array Bea 32.74 322 P **P** 03 02 30.4 +3.5
comp=Z,5.3nm,0.8s,baz=139,slow=8.7,SNR=22
NVAR PcP **PcP** 03 05 14.4 +2.2
comp=Z,1.2nm,0.8s,baz=140,slow=3.9,SNR=3.6
NVAR pPcP 03 05 19.3
comp=Z,1.1nm,0.7s,baz=133,slow=2.6,SNR=4.5
comp=Z,5.3nm,0.8s
SADO Sadowa 32.76 19 LR LR 03 17 09.7
comp=Z,210nm,18.7s,baz=204,slow=39
LOHW Long Hollow 32.86 337 IAmb IAmb 03 02 39.7
comp=Z,9.6nm,1.1s
MOOW Moose Ponds 33.03 336 IAmb IAmb 03 02 41.6
comp=Z,7.1nm,1.1s
IMW Indian Meadow 33.23 336 P **P** 03 02 32.1 +1.0
IMW IAmb IAmb 03 02 43.7
comp=Z,4.8nm,0.8s
IMW **PcP** 03 05 13.4 -0.1
H17A Grant Village 33.51 337 IAmb IAmb 03 02 43.7
comp=Z,10nm,1.3s
H17A Grant Village 33.51 337 P **P** 03 02 36.1 +2.6
baz=148
LKWY Lake 33.59 338 IAmb IAmb 03 02 46.1
comp=Z,7.3nm,0.9s
RLMT Red Lodge 33.67 339 IAmb IAmb 03 02 43.8
comp=Z,4.8nm,0.8s
RLMT Red Lodge 33.67 339 P **P** 03 02 36.5 +1.6
baz=151
YMR Madison River 33.89 337 IAmb IAmb 03 02 49.1
comp=Z,11nm,1.0s
YHH Holmes Hill 33.95 337 IAmb IAmb 03 02 49.6
comp=Z,7.9nm,1.2s
MDND Maddock 33.96 352 P **P** 03 02 37.2 +0.1
baz=169
AGMN Agassiz Nation 34.07 357 P **P** 03 02 36.9 -1.1
baz=175
YHL Hebgen Lake 34.13 337 IAmb IAmb 03 02 52.2
comp=Z,12nm,1.2s
LAO LASA Array 34.16 344 IAmb IAmb 03 02 47.0
comp=Z,7.7nm,0.9s
LAO LASA Array 34.16 344 P **P** 03 02 38.7 -0.3
baz=157
EMB Emerald Bay 34.17 321 IAmb IAmb 03 02 47.6
comp=Z,11nm,1.2s
LONY Lake Ozonia 34.25 24 P **P** 03 02 36.4 -3.3
baz=213
HLID Hailey 34.41 332 IAmb IAmb 03 02 50.4
comp=Z,6.2nm,1.0s
HLID Hailey 34.41 332 P **P** 03 02 40.8 -0.5
baz=141,SNR=6.7
BOZ Bozeman (W) 34.93 337 IAmb IAmb 03 02 52.8
comp=Z,11nm,1.4s
BOZ Bozeman (W) 34.93 337 P **P** 03 02 45.7 0.0
baz=147
DGMT Dagmar 35.34 347 P **P** 03 02 50.1 +1.0
baz=161
WVOR Wild Horse Val 35.64 327 IAmb IAmb 03 02 55.6
comp=Z,8.4nm,1.1s
ETMB Extrema 35.93 130 P **P** 03 02 53.9 -0.5
ETMB IAmb IAmb 03 03 04.6
comp=Z,4.6nm,1.1s
ULM Lac du Bonnet 36.02 357 P **P** 03 02 53.1 -1.7
comp=Z,5.2nm,0.7s,baz=160,slow=9.0,SNR=5.7
ULM PcP **PcP** 03 05 22.5 +1.5
comp=Z,3.3nm,0.8s,baz=130,slow=2.9,SNR=3.2
ULM LR LR 03 19 58.0
comp=Z,87nm,19.1s,baz=200,slow=40
comp=Z,5.2nm,0.7s
EGMT Eagleton 36.39 341 P **P** 03 02 58.6 +0.5
baz=152
MSO Missoula 36.84 336 IAmb IAmb 03 03 04.9
comp=Z,6.5nm,0.9s
MSO Missoula 36.84 336 P **P** 03 03 03.6 +1.6
baz=145
F10A Beach Ranch, E 37.55 332 IAmb IAmb 03 03 14.2
comp=Z,11nm,0.8s
LPAZ La Paz 39.19 140 LR LR 03 18 01.4
comp=Z,63nm,21.1s,baz=300,slow=34
NEW Newport 39.28 335 LR LR 03 22 54.0
comp=Z,160nm,18.6s,baz=148,slow=41
C09A Chrisman Ranch 39.41 333 IAmb IAmb 03 03 27.8
comp=Z,7.6nm,0.9s
LVC Limon Verde 43.69 146 LR LR 03 20 03.1
comp=Z,39nm,20.6s,baz=288,slow=33
SIV San Ignacio 43.74 132 P **P** 03 03 58.5 -1.0
comp=Z,1.7nm,0.7s,baz=298,slow=10,SNR=10
SIV LR LR 03 22 04.3
comp=Z,82nm,18.3s,baz=298,slow=36
comp=Z,1.7nm,0.7s
RPN Rapa Nui 43.93 201 LR LR 03 17 34.1
comp=Z,58nm,21.9s,baz=18,slow=29
BRLDA Berland Lookou 44.08 340 IAmb IAmb 03 04 09.5
comp=Z,10.0nm,0.9s
SCHQ Schefferville 45.48 21 PcP **PcP** 03 05 51.2 -0.4
comp=Z,5.2nm,0.7s,baz=213,slow=3.3,SNR=5.1
SCHQ LR LR 03 25 26.9
comp=Z,249nm,18.5s,baz=228,slow=39
WAPA Wapiti River 45.59 339 P **P** 03 04 14.0 +0.3
YKA Yellowknife Ar 50.55 347 P **P** 03 04 52.8 +0.9
comp=Z,14nm,0.7s,baz=153,slow=7.3,SNR=51
YKA PcP **PcP** 03 06 10.2 +0.6
comp=Z,1.2nm,0.7s,baz=156,slow=3.7,SNR=3.8
comp=Z,14nm,0.7s

YKA Yellowknife Ar 50.55 347 P P 03 04 52.1 +0.2
KOTAN Kotaneelee Air 51.09 341 P P 03 04 57.2 +1.2
baz=140
WRAK Wrangell Islan 51.60 333 P P 03 05 00.2 +0.3
baz=128
DLBC Dease Lake 51.97 336 P P 03 05 05.5 +2.7
baz=132
FRB Frobisher Bay 52.41 14 LR LR 03 30 38.7
comp=Z,56nm,18.1s,baz=182,slow=40
R33M Jennings River 52.98 337 P P 03 05 11.3 +1.1
baz=132
WRGLY Wrigley 53.34 344 P P 03 05 13.3 +0.6
baz=142
CPUP Villa Florida 53.35 139 LR LR 03 26 20.7
comp=Z,29nm,18.2s,baz=348,slow=34
TGTN Hyland Airport 53.51 340 P P 03 05 16.2 +2.1
baz=136
N32M Quiet Lake 54.93 338 P P 03 05 25.0 +0.6
baz=130
MMPY Sheldon Lake, 55.28 340 P P 03 05 28.7 +1.8
baz=133
WHY Whitehorse 55.30 337 P P 03 05 26.6 -0.6
baz=128
FARO Faro, Yukon 55.74 339 P P 03 05 31.5 +1.3
baz=131
O30N Mendenhall 55.83 336 P P 03 05 32.0 +1.1
baz=127
N31M Braeburn, Yuko 56.15 337 P P 03 05 34.3 +1.1
baz=128
HYT Haines Junctio 56.42 336 P P 03 05 35.7 +0.4
baz=126
M29M Somme Creek 57.74 337 P P 03 05 46.0 +1.5
baz=125
L29M L29M 58.01 338 P P 03 05 47.0 +0.7
baz=126
PLCA Paso Flores 58.58 160 LR LR 03 26 00.8
comp=Z,43nm,18.7s,baz=284,slow=31
F31M Tsiigehtchic 59.36 343 P P 03 05 56.3 +0.7
baz=133
L27K Beaver Creek, 59.37 337 P P 03 05 56.5 +0.7
baz=122
M26K Nabesna, AK 59.48 336 P P 03 05 55.5 -1.1
baz=121
SFJD Kangerlussuaq 59.71 18 LR LR 03 33 27.5
comp=Z,208nm,18.1s,baz=212,slow=38
INK Inuvik 59.90 344 P P 03 06 00.5 +1.2
comp=Z,7.4nm,0.7s,baz=124,slow=6.6,SNR=34
comp=Z,7.4nm,0.7s
INK Inuvik 59.90 344 P P 03 06 00.1 +0.9
INK Inuvik 59.90 344 P P 03 06 00.2 +1.0
baz=133
K27K Chicken 59.99 338 P P 03 06 00.2 +0.2
baz=122
EGAK Eagle 60.07 338 P P 03 06 00.2 -0.3
baz=124
KLU Klutina 60.25 334 P P 03 06 03.1 +1.2
baz=117
RCBR Riachuelo 60.30 105 LR LR 03 35 48.7
comp=Z,44nm,18.3s,baz=110,slow=40
HARP HAARP 60.36 335 P P 03 06 04.1 +1.5
baz=118
RES Resolute Bay 60.49 360 LR LR 03 36 33.1
comp=Z,76nm,20.9s,baz=6.0,slow=40
RES Resolute Bay 60.49 360 P P 03 06 03.2 0.0
SCRK Sand Creek 60.68 337 P P 03 06 06.5 +1.6
baz=120
I27K Kandik River 60.69 339 P P 03 06 06.8 +1.9
baz=124
PAX Paxson 60.76 336 P P 03 06 06.0 +0.6
baz=118
J26L Joseph Creek 60.79 338 P P 03 06 06.4 +0.9
baz=121
A36M Sachs Harbour 60.82 349 P P 03 06 05.0 -0.5
baz=144
H27K Steamboat Moun 61.01 340 P P 03 06 08.4 +1.4
baz=124
G27K Doyon Strip 61.38 340 P P 03 06 09.8 +0.3
baz=124
WAT6 Susitna Watana 61.51 335 P P 03 06 10.5 0.0
baz=116
J25K Salcha River, 61.52 337 IAmb IAmb 03 06 16.6
comp=Z,8.0nm,1.1s
J25K Salcha River, 61.52 337 P P 03 06 10.6 +0.1
baz=119
HDA Harding Lake 62.02 337 P P 03 06 15.8 +2.0
baz=118
PRP Porcupine Dome 62.03 338 P P 03 06 14.7 +0.8
baz=120
OHAK Old Harbor 62.08 328 P P 03 06 16.1 +1.9
baz=108
E27K Coleen River 62.15 342 P P 03 06 16.5 +1.9
baz=125
G26K Porcupine Rive 62.16 340 P P 03 06 16.1 +1.5
baz=122
ILAR Eielson Array 62.17 337 P P 03 06 15.8 +1.0
comp=Z,2.9nm,0.9s,baz=143,slow=4.9,SNR=22
ILAR LR LR 03 34 09.2
comp=Z,65nm,19.7s,baz=258,slow=37
comp=Z,2.9nm,0.9s
RND Reindeer 62.32 335 P P 03 06 16.9 +1.0
CUT Chulitna 62.50 334 P P 03 06 16.9 -0.1
baz=113
MCK McKinley 62.50 336 P P 03 06 16.9 -0.1
baz=115
POKR Poker Plat Res 62.54 337 P P 03 06 15.5 -1.7
baz=117
Q19K Cape Douglas, 62.80 330 P P 03 06 19.5 +0.4
baz=108
G25K Bearman Lake 62.85 339 P P 03 06 19.4 +0.1
baz=120
SKT Skwentna 62.88 333 P P 03 06 20.2 +0.7
baz=112
TRF Thorofare Moun 62.93 335 P P 03 06 19.7 -0.3
baz=114
H24K Noodor Dome 63.04 338 P P 03 06 20.9 +0.3
baz=117
F25K Christian River 63.12 340 P P 03 06 21.4 +0.3
baz=120
I23K Minto, Yukon-K 63.28 337 P P 03 06 22.8 +0.7
baz=116
G24K Hadweenzic Riv 63.30 339 P P 03 06 23.1 +0.9
baz=118
E25K Arctic Village 63.36 341 P P 03 06 22.5 -0.2
baz=121
BPAW Bear Paw Mtn. 63.48 335 P P 03 06 22.8 -0.7
baz=113
C27K Jago River 63.60 342 P P 03 06 25.8 +1.6
baz=123
CAST Castle Rocks 63.66 335 P P 03 06 25.4 +0.7
CAST Castle Rocks 63.66 335 P P 03 06 24.6 -0.2
baz=112
MLY Manley 63.76 336 IAmb IAmb 03 06 34.4
comp=Z,8.6nm,1.0s
MLY Manley 63.76 336 P P 03 06 25.2 -0.2
baz=114
CHUM Lake Minchumin 63.93 335 P P 03 06 25.0 -1.4
baz=112
L20K Farewell, AK 64.08 333 P P 03 06 27.9 +0.4
baz=110
C26K Camden Bay 64.11 342 P P 03 06 27.3 -0.2
baz=122
G23K Bananza Creek 64.20 338 P P 03 06 29.1 +0.8
baz=116
D25K Kavik River 64.23 342 P P 03 06 29.7 +1.3
baz=120
P17K Kvichak River 64.25 329 P P 03 06 26.5 -2.1
baz=106
I21K Tanana 64.30 336 P P 03 06 26.3 -2.5
baz=113
H22K Ishtalitna Cre 64.36 337 P P 03 06 27.5 -1.8
baz=114
N18K Kilae Creek 64.42 331 P P 03 06 28.6 -1.2
baz=107
COLD Coldfoot 64.49 339 P P 03 06 29.1 -1.0
baz=116
E23K Chandalar 64.66 340 P P 03 06 31.5 +0.2
baz=116
G22K Bettles 64.83 338 P P 03 06 33.4 +1.1
baz=114
D24K Happy Valley 64.91 341 P P 03 06 33.1 +0.3
baz=118
TOLK Toolik Lake Re 64.91 340 P P 03 06 33.6 +0.8
baz=117
C24K Franklin Bluff 65.14 342 P P 03 06 34.6 +0.3
baz=118
TTA Tatalina 65.16 333 P P 03 06 34.8 +0.1
baz=108
F22K John River 65.31 339 P P 03 06 34.9 -0.5
baz=114
G21K Allakaket 65.39 338 P P 03 06 35.9 -0.1
baz=112
D23K Nanushuk River 65.42 340 P P 03 06 36.1 0.0
baz=116
F21K Alatna River 65.66 338 P P 03 06 38.3 +0.6
baz=112
C23K Itkillik River 65.78 341 P P 03 06 38.6 +0.1
baz=116
EUNU Eureka 65.96 1 P P 03 06 40.4 +0.8
BORG Borgarnes 69.58 26 LR LR 03 36 05.6
comp=Z,67nm,19.9s,baz=246,slow=35
JMIC Jan Mayen 74.98 20 LR LR 03 40 40.4
comp=Z,119nm,20.0s,baz=238,slow=36
EKA Eskdalemuir Ar 78.54 36 LR LR 03 42 21.8
comp=Z,83nm,19.1s,baz=284,slow=36
SPITS Spitsbergen Ar 80.14 11 LR LR 03 44 46.5
comp=Z,105nm,20.5s,baz=242,slow=37
SHEM Shemya Is, Ala 80.41 322 LR LR 03 42 36.6
comp=Z,31nm,18.2s,baz=152,slow=35
ESDC Sonseca Array 80.58 51 P P 03 08 04.9 -1.6
comp=Z,2.0nm,0.8s,baz=285,slow=5.2,SNR=14
ESDC LR LR 03 38 03.9
comp=Z,40nm,19.7s,baz=278,slow=32
comp=Z,2.0nm,0.8s
MDT Midelt 81.36 58 LR LR 03 38 27.4
comp=Z,23nm,20.8s,baz=306,slow=32
NB2 NORSAR Subarra 84.57 28 P P 03 08 27.0 +0.1
comp=Z,2.6nm,0.9s,baz=292,slow=4.8
NOA NORSAR Array B 84.57 28 P P 03 08 26.4 -0.4
comp=Z,1.3nm,0.8s,baz=292,slow=5.1,SNR=5.4
comp=Z,1.3nm,0.8s
HFS Hagfors 86.03 29 LR LR 03 46 55.3
comp=Z,64nm,18.3s,baz=254,slow=36
ARCES ARCESS Array B 86.34 18 P P 03 08 35.6 +0.1
comp=Z,3.1nm,0.8s,baz=290,slow=4.8,SNR=12
ARCES LR LR 03 47 33.6
comp=Z,50nm,18.0s,baz=286,slow=36
comp=Z,3.1nm,0.8s
DAVOX Davos/Dischmat 88.56 42 LR LR 03 44 08.8
comp=Z,31nm,20.1s,baz=270,slow=33
TIXI Tiksi 89.80 348 LR LR 03 57 14.5
comp=Z,34nm,18.1s,baz=228,slow=41
GERES GERESS Array B 90.25 39 P P 03 08 55.0 +0.4
comp=Z,0.5nm,0.7s,baz=45,slow=4.0,SNR=4.3
GERES LR LR 03 49 56.2
comp=Z,36nm,18.6s,baz=262,slow=36
comp=Z,0.5nm,0.7s
FINES FINESS Array B 90.85 25 P P 03 08 56.2 -0.8
comp=Z,2.7nm,0.9s,baz=318,slow=2.6,SNR=8.5
FINES LR LR 03 48 46.5
comp=Z,40nm,21.6s,baz=120,slow=35
comp=Z,2.7nm,0.9s
TORD Torodi Ar. Bea 91.55 76 P P 03 08 59.8 -1.4
comp=Z,0.6nm,0.7s,baz=306,slow=4.9,SNR=4.0
TORD LR LR 03 47 34.0
comp=Z,23nm,19.8s,baz=214,slow=34
comp=Z,0.6nm,0.7s
VRAC Vranov 91.81 38 LR LR 03 52 11.4
comp=Z,42nm,18.0s,baz=302,slow=37
VAE Valguarnera 94.99 50 LR LR 03 46 47.0
comp=Z,43nm,20.3s,baz=326,slow=32
AKASG Malin Array Be 98.25 33 LR LR 03 56 30.8
comp=Z,30nm,18.3s,baz=294,slow=37
MLR Muntele Rosu 99.21 38 LR LR 03 50 58.0
comp=Z,28nm,20.6s,baz=270,slow=34
MKAR Makanchi Array 119.16 3 PKP PKiKP 03 14 46.0 +3.0
comp=Z,0.4nm,0.6s,baz=0.0,slow=2.9,SNR=4.1
STKA Stephens Creek 127.06 241 PKP PKiKP 03 14 59.3 +0.3
comp=Z,1.4nm,0.8s,baz=1.6,slow=3.7,SNR=3.3
WRA Warramunga Arr 134.23 256 PKP PKiKP 03 15 13.2 -0.5
comp=Z,0.5nm,0.7s,baz=84,slow=2.2,SNR=9.2
WRA pPKP sPKPdf 03 15 18.9 -0.4
comp=Z,0.8nm,0.7s,baz=84,slow=2.6,SNR=6.2
ASAR Alice Springs 134.55 251 PKP PKiKP 03 15 14.4 +0.1
comp=Z,0.7nm,0.9s,baz=109,slow=2.3,SNR=2.5
ASAR pPKP sPKPdf 03 15 19.3 -0.6
comp=Z,0.7nm,0.9s,baz=94,slow=2.9,SNR=3.9
PZH PanZhiHua 136.98 340 PKP PKPdf 03 15 15.9 -1.6
CMAR Chiang Mai Arr 145.38 339 PKPbc PKPdf 03 15 32.9 +0.3
comp=Z,4.7nm,0.7s,baz=344,slow=3.9,SNR=24

*IDC **10** 02:55:58.1±3.6,5°.23S×152°.27E,h57km±29km,mb3.7/3,*
mbtmp4.0/4,ML2.2/1,MS3.6/1,Error ellipse: s-maj=58.5km
s-min=12.6km az=117.0
ISC 10 02:55:57.7±1.6,**5°.24S**±0°.09×**152°.3E**±0°.2,**h55**km,**n7,**
σ0:63/8,mb3.8/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KRVT	**Keravat (AS076**	**0.97**	**341**	P	**Pn**	**02 56 15.0**	**-0.3**
	642nm,0.3s,baz=263,slow=0.9,SNR=43						
KRVT				S	**Sn**	**02 56 28.8**	**+0.6**
	2μm,0.3s,baz=200,slow=23,SNR=16						
KRVT				LR	LR	02 56 46.8	
	comp=Z,188nm,19.3s,baz=296,slow=51						
PMG	**Port Moresby**	**6.60**	**231**	P	**Pn**	**02 57 32.8**	**+0.6**
	3.1nm,0.3s,baz=38,slow=9.4,SNR=5.3						
PMG				S	**Sn**	**02 58 45.7**	**-0.4**
	22nm,0.6s,baz=323,slow=23,SNR=14						
	8.4nm,0.3s						
WRA	**Warramunga Arr**	**22.82**	**229**	P	**P**	**03 00 55.3**	**-0.9**
	2.6nm,0.6s,baz=53,slow=10.0,SNR=31						
	2.6nm,0.6s						
ASAR	**Alice Springs**	**25.52**	**222**	P	**P**	**03 01 21.4**	**+0.1**
	2.2nm,0.7s,baz=58,slow=8.7,SNR=33						
	2.2nm,0.7s						
BATI	**Baumata**	**28.83**	**258**	LR	LR	03 16 25.7	
	comp=Z,102nm,18.2s,baz=238,slow=43						
ILAR	**Eielson Array**	**82.73**	**22**	P	**P**	**03 08 15.3**	**0.0**
	0.7nm,0.7s,baz=255,slow=5.2,SNR=5.9						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.00**	**287**	PKPbc	**PKPbc**	**03 15 43.4**	**+0.2**
	0.7nm,1.0s,baz=48,slow=2.1,SNR=3.1						

*JMA **10** 03:00:31.9±0.2,24°.2N±0°.9×121°.8E±0°.8,h59km±2km,*
MV2.9/10,TAIWAN REGION
*TAP **10** 03:00:33.3,24°.39N×121°.93E,h25km,ML3.8,C*
ISC 10 03:00:33.4±0.9,**24°.36N**±0°.01×**121°.94E**±0°.02,**h15**km±7km,
n155,σ0:74/229,6C-23D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
EWUT	**Wuta**	**0.17**	**300**	⇓P	**Pg**	**03 00 37.3**	**-0.4**
	baz=294						
EWUT				S	**Sb**	**03 00 41.0**	**-0.6**
	baz=294						
EHP	**Heping Village**	**0.19**	**256**	P	**Pb**	**03 00 39.0**	**+0.5**
	baz=245						
EHP				S	**Sb**	**03 00 43.8**	**+1.7**
	baz=245						
ENA	**Nanau**	**0.20**	**291**	⇓*i*P	**Pb**	**03 00 38.8**	**+0.1**
	baz=284						
ENA				*i* S	**Sb**	**03 00 42.7**	**+0.5**
	baz=284						
TWC	**Suao**	**0.27**	**341**	⇓*i*P	**Pg**	**03 00 39.6**	**+0.5**
	baz=344						
TWC				*i* S	**Sg**	**03 00 43.7**	**+0.7**
	baz=344						
ETL	**Fush Village**	**0.35**	**236**	P	**Pb**	**03 00 41.8**	**+0.4**
	baz=235						
ETL				S	**Sb**	**03 00 48.3**	**+1.6**
	baz=235						
NACB	**Ninganchiao**	**0.37**	**240**	P	**Pb**	**03 00 42.0**	**+0.4**
NACB	**Ninganchiao**	**0.37**	**240**	⇓*i*P	**Pb**	**03 00 41.6**	**0.0**
	baz=239						
NACB				*i* S	**Sb**	**03 00 48.6**	**+1.5**
	baz=239						
LATG	**Datong**	**0.42**	**295**	⇑P	**Pb**	**03 00 42.3**	**-0.2**
	baz=300						
LATG				*i* S	**Sb**	**03 00 48.5**	**-0.2**
	baz=300						
TWD	**Chiawan**	**0.42**	**229**	⇓*i*P	**Pb**	**03 00 42.7**	**+0.3**
	baz=231						
TWD				S	**Sn**	**03 00 50.3**	**-2.0**
	baz=231						
TWE	**Neicheng**	**0.44**	**325**	⇓*i*P	**Pg**	**03 00 42.6**	**+0.3**
	baz=327						
TWE				*i* S	**Sb**	**03 00 48.8**	**-0.4**
	baz=327						
ENTT	**Nioudou**	**0.44**	**309**	⇓*i*P	**Pg**	**03 00 41.7**	**-0.6**
	baz=309						
ENTT				*i* S	**Sg**	**03 00 48.1**	**-0.3**
	baz=309						
ILA	**Ilan**	**0.44**	**336**	⇓*i*P	**Pb**	**03 00 42.9**	**0.0**
	baz=332						
ILA				S	**Sb**	**03 00 49.4**	**+0.1**
	baz=332						
ETLH	**Xiulin Townshi**	**0.45**	**251**	⇓P	**Pb**	**03 00 43.0**	**0.0**
	baz=250						
ETLH				*i* S	**Sb**	**03 00 50.6**	**+1.1**
	baz=250						
EGS		**0.49**	**359**	⇓*i*P	**Pg**	**03 00 43.4**	**+0.3**
	baz=3.0						
EGS				S	**Sg**	**03 00 50.2**	**+0.6**
	baz=3.0						
HWA	**Hwalien**	**0.49**	**219**	*e*P	**Pb**	**03 00 44.4**	**+0.8**
	baz=215						
NTC	**Toucheng**	**0.51**	**348**	*e*P	**Pg**	**03 00 43.5**	**+0.1**
	baz=358						
FUSB	**Fushanzhiwuyua**	**0.52**	**321**	P	**Pb**	**03 00 44.0**	**-0.2**
	baz=322						
FUSB				S	**Sg**	**03 00 50.6**	**0.0**
	baz=322						
NNSB	**Datong**	**0.52**	**278**	⇑*i*P	**Pb**	**03 00 44.0**	**-0.2**
	baz=281						
NNSB				S	**Sb**	**03 00 51.3**	**-0.2**
	baz=281						
NNSH	**Datong**	**0.52**	**278**	P	**Pg**	**03 00 43.0**	**-0.6**
	baz=279						
NNSH				S	**Sg**	**03 00 50.4**	**-0.2**
	baz=279						
NNS	**Nan Shan**	**0.53**	**279**	⇑*e*P	**Pg**	**03 00 43.1**	**-0.8**
	baz=283						
NNS				*e*S	**Sb**	**03 00 51.0**	**-0.8**
	baz=283						
ETM	**Tongmen**	**0.57**	**227**	*e*P	**Pb**	**03 00 45.0**	**+0.1**
	baz=233						
ETM				*e*S	**Sn**	**03 00 54.5**	**-1.4**
	baz=233						
NWLT	**Wulai**	**0.58**	**316**	*e*P	**Pg**	**03 00 44.0**	**-0.9**
	baz=315						
TEYL	**Yanliau Villag**	**0.58**	**213**	P	**Pb**	**03 00 45.6**	**+0.4**
	baz=211						
TEYL				*e*S	**Sn**	**03 00 56.4**	**+0.2**
	baz=211						
NSK	**Sanguang**	**0.62**	**301**	⇑*e*P	**Pg**	**03 00 44.5**	**-1.1**
	baz=307						
NSK				*e*S	**Sg**	**03 00 52.8**	**-1.1**
	baz=307						
TIPB	**Shuangxi**	**0.62**	**350**	⇓*i*P	**Pg**	**03 00 45.5**	**-0.1**
	baz=357						
TIPB				S	**Sg**	**03 00 53.9**	**0.0**
	baz=357						
FUSS	**Fushou**	**0.65**	**260**	P	**Pb**	**03 00 46.7**	**+0.2**
	baz=263						
FUSS				S	**Sb**	**03 00 55.9**	**+0.5**
	baz=263						
TWB1	**Santiao Chiao**	**0.65**	**4**	⇓*i*P	**Pg**	**03 00 46.2**	**+0.1**
	baz=2.0						
TWB1				S	**Sg**	**03 00 54.5**	**-0.2**
	baz=2.0						
WHF	**Hehuan Shan**	**0.65**	**251**	⇓*i*P	**Pb**	**03 00 46.7**	**0.0**
	baz=255						
WHF				S	**Sb**	**03 00 56.5**	**+0.8**
	baz=255						
TWA	**Mucha**	**0.70**	**332**	P	**Pg**	**03 00 47.2**	**+0.1**
	baz=325						
TWA				S	**Sb**	**03 00 56.7**	**-0.1**
	baz=325						
TWT	**Tachien**	**0.71**	**262**	P	**Pb**	**03 00 48.1**	**+0.6**
	baz=260						
TWT				S	**Sn**	**03 00 58.1**	**-1.6**
	baz=260						
NHDH	**Xindian Distri**	**0.71**	**328**	*e*P	**Pb**	**03 00 47.9**	**+0.4**
	baz=322						
NHDH				S	**Sg**	**03 00 56.7**	**0.0**
	baz=322						
ESL	**Shilin**	**0.71**	**221**	P	**Pg**	**03 00 47.3**	**-0.1**
	baz=232						
ESL				S	**Sn**	**03 00 58.6**	**-1.0**
	baz=232						
TDCB	**Techi**	**0.72**	**262**	⇓*i*P	**Pb**	**03 00 48.1**	**+0.4**
	baz=260						
TDCB				*i* S	**Sb**	**03 00 57.8**	**+0.3**
	baz=260						
NWF	**Wu-fen Shan**	**0.73**	**348**	⇓*i*P	**Pg**	**03 00 47.8**	**+0.2**
	baz=343						
NWF				S	**Sb**	**03 00 57.8**	**+0.2**
	baz=343						
WFSB	**Wu-fen Shan**	**0.73**	**348**	⇓*i*P	**Pg**	**03 00 47.7**	**+0.2**
	baz=343						
WFSB				*i* S	**Sb**	**03 00 57.5**	**+0.1**
	baz=343						
SXI1	**Grass Mountain**	**0.74**	**355**	⇓*i*P	**Pg**	**03 00 47.9**	**+0.1**
	baz=359						
SXI1				S	**Sg**	**03 00 57.6**	**+0.1**
	baz=359						
TATO	**Taipei**	**0.74**	**326**	P	**Pb**	**03 00 48.6**	**+0.6**
TATO	**Taipei**	**0.74**	**326**	P	**Pb**	**03 00 48.3**	**+0.3**
	baz=320						
TATO				*i* S	**Sg**	**03 00 57.5**	**-0.1**
	baz=320						
TEGC	**Jichi Village**	**0.74**	**210**	*e*P	**Pg**	**03 00 48.1**	**+0.2**
	baz=207						
NHY	**Taipei**	**0.76**	**333**	*e*P	**Pb**	**03 00 48.9**	**+0.6**
	baz=328						
NHY				*e*S	**Sb**	**03 00 59.3**	**+0.9**
	baz=328						
CHGB	**Renai**	**0.76**	**247**	⇓*i*P	**Pb**	**03 00 48.5**	**0.0**
	baz=245						
CHGB				*i* S	**Sb**	**03 00 59.2**	**+0.5**
	baz=245						
TAP1	**Taipei**	**0.78**	**331**	*e*P	**Pg**	**03 00 49.1**	**+0.6**
	baz=325						
TAP1				S	**Sb**	**03 00 59.9**	**+1.0**
	baz=325						
TAP	**Taipei**	**0.79**	**330**	P	**Pg**	**03 00 49.1**	**+0.4**
	baz=325						
TAP				*i* S	**Sb**	**03 00 60.0**	**+0.8**
	baz=325						
NFF	**Wufeng Townshi**	**0.80**	**290**	*e*P	**Pg**	**03 00 48.4**	**-0.6**
	baz=293						
NFF				*e*S	**Sb**	**03 00 59.1**	**-0.5**
	baz=293						
TNOU	**National Taiwa**	**0.80**	**349**	P	**Pb**	**03 00 49.0**	**0.0**
	baz=346						
TNOU				S	**Sb**	**03 00 59.4**	**-0.3**
	baz=346						
EGFH	**Guangfu**	**0.83**	**215**	*e*P	**Pb**	**03 00 49.5**	**0.0**
	baz=199						
WUSB	**Renai**	**0.84**	**244**	⇓*i*P	**Pg**	**03 00 49.7**	**0.0**
	baz=234						
WUSB				S	**Sn**	**03 01 01.7**	**-1.1**
	baz=234						
YM01	**YM01**	**0.86**	**337**	P	**Pb**	**03 00 50.1**	**+0.1**
	baz=351						
YM01				S	**Sg**	**03 01 01.5**	**+0.2**
	baz=351						
NJD	**Zhudong**	**0.86**	**296**	*e*P	**Pn**	**03 00 50.9**	**-0.1**
	baz=298						
NWRT	**Kuosheng**	**0.88**	**343**	*e*P	**Pb**	**03 00 49.9**	**-0.5**
	baz=344						
TWS1	**Kuangyinshan**	**0.88**	**327**	*e*P	**Pg**	**03 00 50.8**	**+0.3**
	baz=338						
TWS1				S	**Sn**	**03 01 03.3**	**-0.4**
	baz=338						
YM08	**YM08**	**0.89**	**339**	P	**Pb**	**03 00 50.4**	**0.0**
	baz=340						
YM08				S	**Sg**	**03 01 02.7**	**+0.4**
	baz=340						
LIOB	**Emei**	**0.89**	**289**	*e*P	**Pn**	**03 00 51.1**	**-0.3**
	baz=288						
LIOB				S	**Sn**	**03 01 03.8**	**-0.2**
	baz=288						
NSTT	**Nanjuang**	**0.90**	**288**	P	**Pn**	**03 00 51.1**	**-0.4**
	baz=287						
NSTT				S	**Sn**	**03 01 03.3**	**-0.9**
	baz=287						
ANP	**Anpu**	**0.91**	**335**	*e*P	**Pb**	**03 00 51.0**	**+0.1**
	baz=322						
WHP	**Taichung City**	**0.91**	**265**	*e*P	**Pn**	**03 00 51.5**	**-0.2**
	baz=264						
WHP				*e*S	**Sn**	**03 01 03.6**	**-1.0**
	baz=264						
JYNG	**Yonagunijimaku**	**0.92**	**84**	*e*P	**Pb**	**03 00 50.9**	**-0.1**
JYNG				*e*S	**Sb**	**03 01 04.3**	**+1.3**
NCU	**National Centr**	**0.92**	**312**	P	**Pn**	**03 00 51.5**	**-0.2**
	baz=298						
NCU				S	**Sn**	**03 01 04.8**	**+0.2**
	baz=298						
NCUH	**Zhongli**	**0.92**	**312**	P	**Pn**	**03 00 51.6**	**-0.1**
	baz=298						
NCUH				S	**Sn**	**03 01 04.8**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=298						
NTST	Danshui	0.92	331	eP	Pn	03 00 51.8	0.0
	baz=341						
NTST				eS	Sn	03 01 04.9	+0.3
	baz=341						
HSN1	Hsinchu	0.94	297	eP	Pn	03 00 52.0	0.0
	baz=295						
VWDT	VWDT	0.95	231	⇓P	Pb	03 00 51.2	-0.3
	baz=229						
VWDT				eS	Sn	03 01 05.1	-0.2
	baz=229						
WPL	Puli Township	0.96	249	eP	Pg	03 00 51.8	-0.2
	baz=237						
TWY	Chenhua	0.97	341	⇑iP	Pg	03 00 52.3	+0.2
	baz=343						
TWY				iS	Sg	03 01 05.3	+0.5
	baz=343						
SBCB	Hsinchu	0.97	297	P	Pn	03 00 52.5	0.0
	baz=296						
SBCB				S	Sn	03 01 06.7	+0.7
	baz=296						
YOJ	Yonaguni jima	0.98	84	P	Pb	03 00 52.1	+0.1
YOJ	Yonaguni jima	0.98	84	P	Pb	03 00 51.9	-0.1
	baz=76						
YOJ				S	Sb	03 01 05.1	+0.4
	baz=76						
YOJ	Yonaguni jima	0.98	84	P	Pb	03 00 51.7	-0.3
YOJ				eS	Sb	03 01 05.2	+0.5
NSM	Shimen	0.98	341	eP	Pb	03 00 51.7	-0.3
	baz=342						
DPDB	Guoxing	0.98	251	eP	Pb	03 00 52.1	0.0
	baz=240						
HGSD	Ruisui	0.98	209	eP	Pb	03 00 52.2	+0.1
	baz=207						
WCS	Beigang Elemen	0.99	253	eP	Pb	03 00 51.8	-0.4
	baz=251						
WCS				eS	Sn	03 01 05.7	-0.6
	baz=251						
HSN	Hsinchu	0.99	297	eP	Pg	03 00 52.4	-0.2
	baz=299						
HSN				eS	Sn	03 01 06.5	+0.1
	baz=299						
EHY	Hungye	1.02	214	eP	Pb	03 00 51.1	-1.6
	baz=212						
NHW	Xinwu Township	1.04	309	eP	Pn	03 00 53.4	0.0
	baz=307						
SMLT	Sun Moon Lake	1.06	244	⇑eP	Pb	03 00 53.5	0.0
	baz=231						
NMLH	Miaoli	1.07	280	eP	Pg	03 00 54.6	+0.7
	baz=278						
SSLB	Suanglung	1.07	238	P	Pb	03 00 53.4	-0.1
SSLB	Suanglung	1.07	238	⇓iP	Pb	03 00 53.1	-0.4
	baz=228						
SSLB				S	Sb	03 01 07.1	-0.2
	baz=228						
TWQ1	Liyutan	1.07	270	P	Pg	03 00 54.5	+0.5
	baz=269						
TWQ1				eS	Sn	03 01 09.7	+1.4
	baz=269						
NSY	Sanyi	1.08	273	eP	Pg	03 00 54.7	+0.5
	baz=272						
NSY				eS	Sn	03 01 09.7	+1.1
	baz=272						
TYC	Yuchr	1.09	246	eP	Pb	03 00 53.9	0.0
	baz=244						
TYC				eS	Sn	03 01 10.3	+1.5
	baz=244						
YULB	Yu-li	1.13	212	P	Pb	03 00 54.3	-0.3
YULB	Yu-li	1.13	212	eP	Pb	03 00 52.7	-1.9
	baz=210						
EYUL	Yuli	1.16	210	eP	Pb	03 00 55.3	+0.2
	baz=223						
TWF1	Yuli	1.16	211	eP	Pn	03 00 53.6	-1.5
	baz=221						
TCU	Taichung	1.18	260	eP	Pg	03 00 56.5	+0.4
	baz=258						
WWF	Wufeng	1.18	255	eP	Pb	03 00 55.6	+0.2
	baz=253						
WWF				eS	Sg	03 01 12.9	+1.4
	baz=253						
WDJ	Dajia District	1.19	270	eP	Pg	03 00 56.4	+0.1
	baz=268						
WHYT	Xinyi Township	1.20	237	eP	Pn	03 00 55.6	+0.1
	baz=227						
WJS	Zhushan	1.23	245	eP	Pg	03 00 57.4	+0.2
	baz=243						
WJS				eS	Sg	03 01 15.5	+2.3
	baz=243						
WNT1	Nantou City	1.24	249	eP	Pg	03 00 57.3	+0.1
	baz=247						
WNT	Mingjian	1.25	248	eP	Pg	03 00 57.3	-0.1
	baz=245						
YUS	Yu-Shan	1.25	227	⇓P	Pn	03 00 56.2	-0.5
	baz=225						
YUS				eS	Sg	03 01 14.0	0.0
	baz=225						
WCHH	Zhanghua	1.29	258	eP	Pg	03 00 58.7	+0.4
	baz=256						
WCHH				eS	Sg	03 01 17.2	+2.0
	baz=256						
FULB	Fuli	1.30	207	eP	Pn	03 00 57.2	+0.3
	baz=219						
ALS	Alishan	1.34	231	⇓iP	Pn	03 00 57.9	+0.1
	baz=218						
CHKT	Chengkung	1.36	203	eP	Pb	03 00 58.4	-0.1
	baz=187						
CHN5	Tsauling	1.38	237	eP	Pn	03 00 58.0	-0.1
	baz=235						
ECS	Chishang	1.42	208	eP	Pb	03 00 59.5	-0.1
	baz=219						
WGK	Gukeng	1.43	242	eP	Pb	03 00 59.8	+0.2
	baz=240						
ELDTW	Lidau	1.44	216	eP	Pn	03 00 57.8	-1.2
	baz=204						
WDLH	Douliu	1.45	243	eP	Pb	03 00 59.8	-0.2
	baz=241						
EDH	Donghe	1.50	203	eP	Pn	03 00 57.9	-1.8
	baz=190						
WRL	Guolierlin Hig	1.50	253	eP	Pn	03 00 59.7	0.0
	baz=250						
WCKO	Fanlu	1.53	234	eP	Pn	03 01 00.6	+0.5
	baz=232						
WTK	Tuku	1.57	245	eP	Pb	03 01 01.7	-0.3
	baz=243						
CHN2	Minshiung	1.57	239	eP	Pb	03 01 02.7	+0.6
	baz=226						
CHN4	Tsaushan	1.59	231	P	Pn	03 01 01.4	+0.4
	baz=230						
CHN4				S	Sg	03 01 23.9	-0.8
	baz=230						
STYH	Taoyuan	1.59	222	eP	Pn	03 01 00.3	-0.6
	baz=221						
TPUB	Ta-pu	1.60	229	P	Pb	03 01 02.9	+0.3
TPUB	Ta-pu	1.60	229	eP	Pb	03 01 02.2	-0.4
	baz=228						
TPUB				eS	Sb	03 01 23.5	+0.9
	baz=228						
STYT	Tauyuan	1.61	223	eP	Pn	03 01 01.8	+0.5
	baz=221						
LONT	Longtian	1.63	207	eP	Pn	03 00 59.1	-2.3
	baz=207						
IRIF	Iriomote-Funau	1.63	90	eP	Pn	03 01 01.1	-0.3
IRIF				eS	Sn	03 01 21.7	-0.4
CHY	Chiayi	1.63	239	eP	Pb	03 01 03.4	+0.2
	baz=226						
WTP	Ta-pu	1.65	228	P	Pb	03 01 03.0	-0.4
	baz=227						
WTP				eS	Sg	03 01 25.3	-1.1
	baz=227						
TWK	Hsinying	1.72	231	P	Pb	03 01 04.0	-0.6
	baz=230						
TWK				eS	Sb	03 01 27.1	+1.0
	baz=230						
TWGBT	Beinan	1.73	208	P	Pn	03 01 03.3	+0.5
TWGBT	Beinan	1.73	208	eP	Pn	03 01 02.9	+0.1
	baz=195						
TWG	Pinlang	1.73	208	eP	Pn	03 01 02.9	+0.1
	baz=195						
CHN1	Nanshi	1.75	228	eP	Pb	03 01 04.5	-0.5
	baz=227						
CHN1				eS	Sb	03 01 27.4	+0.7
	baz=227						
WSL	Shuilin Townsh	1.78	242	eP	Pn	03 01 03.9	+0.4
	baz=256						
SGST	Jiashian	1.78	225	eP	Pn	03 01 04.4	+0.8
	baz=211						
SLGT	Liugui	1.81	221	eP	Pb	03 01 05.4	-0.7
	baz=221						
CHN8	Yiju	1.88	238	eP	Pb	03 01 06.3	-1.0
	baz=237						
JKRS	Kuro-shima	1.89	93	P	Pn	03 01 05.3	+0.2
JKRS				S	Sn	03 01 28.3	-0.2
ECL	Taimali	1.97	208	eP	Pn	03 01 07.2	+1.0
	baz=197						
SSD	Sandimen	2.00	217	eP	Pn	03 01 07.8	+1.1
	baz=218						
JIJ	Ishigaki jima	2.01	89	eP	Pn	03 01 06.1	-0.6
JIJ				eS	Sn	03 01 30.2	-1.3
TSMG	Majia	2.03	216	eP	Pb	03 01 08.8	-1.1
	baz=217						
TSCK	Chigu Township	2.08	235	eP	Pn	03 01 08.2	+0.5
	baz=234						
MASBT	Mashibuluo	2.11	215	eP	Pn	03 01 09.1	+0.9
	baz=216						
JISG	Ishigakijimahi	2.17	83	S	Sn	03 01 34.8	-0.7
EAST	Anshuo	2.21	207	eP	Pn	03 01 08.8	-0.7
	baz=198						
SCZT	Fangliau	2.32	212	eP	Pn	03 01 11.8	+0.8
	baz=200						
PNG	Penghu	2.32	251	eP	Pn	03 01 10.6	-0.4
	baz=248						
PHUB	P'eng-hu	2.33	249	eP	Pn	03 01 10.2	-0.8
	baz=247						
PHUB				eS	Sn	03 01 39.5	+0.1
	baz=247						
VWUC	VWUC	2.35	286	eP	Pn	03 01 10.2	-1.3
	baz=282						
WDGT	Dungji	2.36	243	eP	Pn	03 01 11.5	0.0
	baz=241						
LYUB	Lan-yu	2.37	188	eP	Pn	03 01 08.7	-2.9
	baz=187						
SLIU	Shizi	2.38	207	eP	Pn	03 01 12.9	+1.2
	baz=199						
JTJ	Tarama	2.53	83	eP	Pn	03 01 14.6	+0.8
SMST	Manzhou Townsh	2.54	204	eP	Pn	03 01 15.2	+1.3
	baz=191						
MSUT	Lienchiang	2.57	315	eP	Pn	03 01 15.2	+0.8
	baz=313						
VCHM	Qimei	2.57	244	eP	Pn	03 01 13.9	-0.5
	baz=242						
TWKBT	Hengchun	2.62	204	eP	Pn	03 01 15.9	+0.8
	baz=193						
PTMZ	Houxiangcun	2.66	285	eP	Pn	03 01 14.4	-1.2
	baz=281						
XPSS	Dashiqiu	3.01	329	eP	Pn	03 01 19.8	-0.6
	baz=328						
JMJ	Miyako jima 2	3.08	81	eP	Pn	03 01 21.9	+0.4
	baz=83						
MHZQ	Yeshan	3.16	304	eP	Pn	03 01 20.4	-2.1
	baz=300						
KNM	Kinmen	3.20	272	eP	Pn	03 01 23.9	+0.8
	baz=267						
KNMB	Chin-men Tao	3.24	273	eP	Pn	03 01 22.6	-1.0
	baz=267						
AXDP	Jialang	3.66	279	eP	Pn	03 01 28.8	-0.6
	baz=274						
ZPLA	Ao Xicun	3.85	265	eP	Pn	03 01 31.3	-0.8
	baz=259						

*TAP **10** 03:09:24.0, 24°.56N×122°.40E, h11km±1km, ML3.5, D*
*JMA **10** 03:09:24.9±0.1, 24°.5N±0°.8×122°.4E±0°.3, h33km±1km, MV3.3/10, NW OFF ISHIGAKIJIMA IS*
*IDC **10** 03:09:54.8±1.7, 20°.01N×120°.95E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=350.6km s-min=29.1km az=71.0*
ISC 10 03:09:22.7±1.2, **24°.53N**±0°.03×**122°.48E**±0°.02, **h3**km±11km, **n88, σ0s.94**/114, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.43	100	P	Pn	03 09 34.5	-1.4
JYNG				eS	Sb	03 09 41.7	+1.7
YOJ	Yonaguni jima	0.49	98	iP	Pn	03 09 35.4	-1.3
	baz=99						
YOJ				iS	Sb	03 09 44.4	+2.7
	baz=99						
YOJ	Yonaguni jima	0.49	98	P	Pn	03 09 35.5	-1.2
YOJ				S	Sb	03 09 43.3	+1.7
TWC	Suao	0.58	278	eP	Pg	03 09 34.1	+0.3
	baz=275						
EGS		0.59	303	iP	Pg	03 09 34.5	+0.5
	baz=304						
EGS				eS	Sb	03 09 43.4	-1.0
	baz=304						
TWB1	Santiao Chiao	0.65	317	P	Pg	03 09 35.8	+0.5
	baz=320						
NTC	Toucheng	0.67	299	eP	Pb	03 09 36.9	-0.2
	baz=299						
NTC				eS	Sb	03 09 46.7	-0.1
	baz=299						
ENA	Nanau	0.68	262	eP	Pb	03 09 37.0	-0.2
	baz=256						
ENA				S	Sg	03 09 45.6	+1.0
	baz=256						
TIPB	Shuangxi	0.74	307	iP	Pg	03 09 37.4	+0.5
	baz=308						
TIPB				eS	Sb	03 09 47.7	-1.1
	baz=308						
TWE	Neicheng	0.76	285	P	Pg	03 09 37.5	+0.2
	baz=283						
TWE				eS	Sg	03 09 47.8	+0.5
	baz=283						
SXI1	Grass Mountain	0.78	316	eP	Pb	03 09 38.7	-0.4
	baz=318						
SXI1				S	Sg	03 09 48.7	+0.7
	baz=318						
NWF	Wu-fen Shan	0.83	311	eP	Pb	03 09 39.8	-0.1
	baz=312						
NWF				eS	Sg	03 09 50.4	+0.9
	baz=312						
WFSB	Wu-fen Shan	0.83	311	eP	Pb	03 09 39.6	-0.2
	baz=312						
WFSB				S	Sg	03 09 50.4	+0.9
	baz=312						
ENTT	Nioudou	0.84	278	P	Pg	03 09 39.0	+0.2
	baz=275						
ENTT				S	Sg	03 09 50.1	+0.5
	baz=275						
FUSB	Fushanzhiwuyua	0.84	286	P	Pg	03 09 39.2	+0.3
	baz=284						
FUSB				S	Sg	03 09 50.5	+0.8
	baz=284						
ETL	Fush Village	0.86	245	P	Pb	03 09 40.3	-0.1
	baz=240						
LATG	Datong	0.86	271	P	Pg	03 09 39.8	+0.4
	baz=267						
NACB	Ninganchiao	0.88	246	iP	Pb	03 09 40.4	-0.2
	baz=241						
NACB				eS	Sb	03 09 51.9	-0.9
	baz=241						
NDT	Datong Townshi	0.88	275	eP	Pg	03 09 38.3	-1.3
	baz=272						
TNOU	National Taiwa	0.89	314	eP	Pg	03 09 40.0	+0.2
	baz=315						
TNOU				eS	Sg	03 09 51.5	+0.2
	baz=315						
TWD	Chiawan	0.92	241	eP	Pn	03 09 41.8	-0.8
	baz=236						
NWLT	Wulai	0.92	286	eP	Pg	03 09 40.1	-0.2
	baz=284						
NWLT				eS	Sg	03 09 51.9	-0.4
	baz=284						
TWA	Mucha	0.93	299	eP	Pb	03 09 41.3	-0.1
	baz=299						
ETLH	Xiulin Townshi	0.96	251	P	Pb	03 09 41.9	-0.2
	baz=246						
NHDH	Xindian Distri	0.97	297	eP	Pb	03 09 42.2	+0.1
	baz=296						
NHDH				eS	Sg	03 09 53.5	-0.3
	baz=296						
NWRT	Kuosheng	1.00	312	eS	Sg	03 09 54.5	-0.4
	baz=313						
NNSB	Datong	1.00	264	eP	Pb	03 09 42.5	-0.3
	baz=261						
NNSB				eS	Sg	03 09 54.3	-0.6
	baz=261						
NNSH	Datong	1.00	264	eP	Pg	03 09 41.6	-0.3
	baz=261						
NNSH				eS	Sg	03 09 54.4	-0.5
	baz=261						
TATO	Taipei	1.00	297	eP	Pb	03 09 42.5	-0.2
	baz=296						
TATO				eS	Sg	03 09 55.4	+0.4
	baz=296						
NNS	Nan Shan	1.01	265	eP	Pg	03 09 41.9	-0.2
	baz=262						
NNS				eS	Sg	03 09 54.4	-0.8
	baz=262						
YM01	YM01	1.03	307	eP	Pg	03 09 42.9	+0.4
	baz=307						
YM01				eS	Sg	03 09 55.4	-0.4
	baz=307						
NSK	Sanguang	1.03	278	eP	Pg	03 09 41.7	-0.7
	baz=276						
NSK				eS	Sg	03 09 54.8	-1.1
	baz=276						
YM08	YM08	1.04	309	eP	Pg	03 09 42.5	-0.1
	baz=310						
ETM	Tongmen	1.06	238	eP	Pn	03 09 44.3	-0.2
	baz=234						
ANP	Anpu	1.09	307	eP	Pb	03 09 43.2	-1.1
	baz=308						
TWY	Chenhua	1.09	313	eS	Sb	03 09 57.4	-1.4
	baz=314						
PCYT	Pengchaiyu	1.16	342	eP	Pn	03 09 45.3	-0.5
	baz=344						
FUSS	Fushou	1.16	256	eP	Pn	03 09 45.8	-0.3
	baz=253						
IRIF	Iriomote-Funau	1.16	99	P	Pg	03 09 45.8	+0.8
WHF	Hehuan Shan	1.17	251	eP	Pn	03 09 45.9	-0.5
	baz=247						
ESL	Shilin	1.19	233	eP	Pg	03 09 46.7	+1.1
	baz=229						
TWT	Tachien	1.22	257	eP	Pg	03 09 47.4	+1.3
	baz=254						
TDCB	Techi	1.23	257	eP	Pg	03 09 47.5	+1.1
	baz=254						
NFF	Wufeng Townshi	1.24	275	eP	Pn	03 09 46.5	-0.6
	baz=273						
CHGB	Renai	1.28	249	eP	Pg	03 09 48.2	+1.0
	baz=245						
EGFH	Guangfu	1.28	228	eP	Pb	03 09 47.1	-0.5
	baz=224						
LIOB	Emei	1.33	275	eP	Pg	03 09 50.2	+1.8
	baz=273						
NSTT	Nanjuang	1.35	275	eP	Pg	03 09 49.7	+1.1
	baz=272						
WUSB	Renai	1.35	247	eP	Pg	03 09 49.7	+1.0
	baz=243						
HGSD	Ruisui	1.41	223	eP	Pg	03 09 49.6	-0.2
	baz=219						
WHP	Taichung City	1.42	260	eP	Pg	03 09 51.1	+1.2
	baz=257						
JKRS	Kuro-shima	1.43	101	P	Pg	03 09 50.2	0.0
JKRS				S	Sb	03 10 08.1	-0.5
VWDT	VWDT	1.44	238	eP	Pg	03 09 51.1	+0.7
	baz=234						
EHY	Hungye	1.47	226	eP	Pb	03 09 50.0	-0.7
	baz=222						
DPDB	Guoxing	1.50	251	eP	Pg	03 09 53.0	+1.5
	baz=248						
WCS	Beigang Elemen	1.50	252	eP	Pg	03 09 51.9	+0.3
	baz=249						
JIJ	Ishigaki jima	1.53	96	P	Pb	03 09 50.9	-0.8
JIJ				eS	Sb	03 10 10.5	-1.0
YULB	Yu-li	1.56	224	eP	Pb	03 09 51.6	-0.8
	baz=220						
SSLB	Suanglung	1.57	242	eP	Pg	03 09 53.1	+0.2
	baz=239						
SMLT	Sun Moon Lake	1.58	246	eP	Pg	03 09 53.3	+0.4
	baz=243						
EYUL	Yuli	1.58	222	eP	Pb	03 09 52.4	-0.2
	baz=219						
TWF1	Yuli	1.59	223	eP	Pb	03 09 52.2	-0.6
	baz=219						
TYC	Yuchr	1.60	247	eP	Pg	03 09 53.9	+0.4
	baz=244						
JISG	Ishigakijimahi	1.67	88	P	Pn	03 09 52.8	-0.1
JISG				S	Sn	03 10 13.8	-1.0
WHYT	Xinyi Township	1.70	241	eP	Pg	03 09 55.5	+0.2
	baz=238						
FULB	Fuli	1.71	219	eP	Pn	03 09 52.4	-1.1
	baz=216						
ALS	Alishan	1.83	237	eP	Pg	03 09 57.6	-0.3
	baz=233						
EDH	Donghe	1.89	215	eP	Pn	03 09 55.7	-0.1
	baz=212						
ELDTW	Lidau	1.89	225	eP	Pb	03 09 56.4	-1.5
	baz=222						
WCKO	Fanlu	2.03	238	eP	Pn	03 09 58.4	+0.5
	baz=235						
JTJ	Tarama	2.03	86	P	Pb	03 09 58.7	-1.6
STYH	Taoyuan	2.06	229	eP	Pn	03 09 58.9	+0.6
	baz=226						
STYT	Tauyuan	2.08	230	eP	Pb	03 09 59.9	-1.3
	baz=226						
CHN4	Tsaushan	2.08	236	eP	Pb	03 10 00.1	-1.1
	baz=233						
TPUB	Ta-pu	2.09	234	eP	Pb	03 10 00.2	-1.1
	baz=232						
WTP	Ta-pu	2.13	234	eP	Pb	03 10 01.7	-0.4
	baz=230						
TWGBT	Beinan	2.13	217	eP	Pn	03 09 59.9	+0.6
	baz=214						
TWG	Pinlang	2.13	217	eP	Pn	03 09 59.9	+0.7
	baz=214						
TWK	Hsinying	2.21	236	eP	Pb	03 10 02.3	-1.1
	baz=233						
CHN1	Nanshi	2.23	234	eP	Pb	03 10 03.1	-0.6
	baz=231						
TSMG	Majia	2.47	223	eP	Pb	03 10 05.7	-2.1
	baz=220						
MASBT	Mashibuluo	2.55	222	eP	Pn	03 10 06.2	+1.2
	baz=219						
EAST	Anshuo	2.61	215	eP	Pb	03 10 07.8	-2.4
	baz=213						
LYUB	Lan-yu	2.65	198	eP	Pn	03 10 06.3	-0.1
	baz=196						
SCZT	Fangliau	2.74	219	eP	Pb	03 10 10.3	-2.1
	baz=216						
SLIU	Shizi	2.77	214	eP	Pb	03 10 10.8	-2.1
	baz=212						
WRA	Warramunga Arr	45.69	164	P	P	03 17 46.4	+1.3
	0.4nm,0.8s,baz=342,slow=8.9,SNR=5.7						
	0.4nm,0.8s						
ASAR	Alice Springs	49.17	166	P	P	03 18 13.8	+1.6
	0.2nm,0.5s,baz=342,slow=9.5,SNR=4.4						
	0.2nm,0.5s						

KRSC 10 03:13:37.7±1.1, **55°.84N×164°.01E, h53**km±19km, **ML3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.76	300	eP	Pn	03 13 52.8	+0.4
KBTR				eS	Sn	03 14 02.6	-0.5
KBG	Krutoberegovo	0.84	300	eP	Pn	03 13 53.9	+0.5
KBG				eS	Sn	03 14 04.5	-0.4
BKI	Bering	1.28	119	eP	Pn	03 14 02.2	+2.9
BKI				eS	Sn	03 14 18.8	+3.4
SMKR	Semkarok	1.60	299	eP	Pn	03 14 06.0	+2.3
SMKR				eS	Sn	03 14 25.8	+2.5
BDR	Baidarnaya	1.73	296	eP	Pn	03 14 08.0	+2.6
SRKR	Sorokina	1.78	299	eP	Pn	03 14 08.9	+2.8
SRKR				eS	Sn	03 14 31.6	+3.9
ZLN	Zelenaya	1.81	277	eP	Pn	03 14 09.6	+3.0
ZLN				eS	Sn	03 14 32.6	+4.2
CIRR	Tsirk	1.85	280	eP	Pn	03 14 09.2	+2.0
BZGR	Bezymyannyi-Gr	1.87	275	eP	Pn	03 14 09.9	+2.6
LGNR	Loginova	1.88	279	eP	Pn	03 14 10.7	+3.0
KLY	Klyuchi	1.94	286	eP	Pn	03 14 09.5	+1.3
KLY				eS	Sn	03 14 32.1	+0.7
KRSR	Krestovskiy	1.97	283	eP	Pn	03 14 11.3	+2.6
BZWR	Bezymyannyi-We	1.98	275	eP	Pn	03 14 11.4	+2.5
BZMR	Bezymyannaya	1.98	274	eP	Pn	03 14 11.6	+2.7
KIRR	Kirishev	2.07	275	eP	Pn	03 14 13.2	+3.1
KIRR				eS	Sn	03 14 38.2	+3.5
KMNR	Kamenistaya	2.13	269	eP	Pn	03 14 13.9	+3.0
KMNR				eS	Sn	03 14 40.7	+4.5
TUMD	Tumrok D	2.15	254	eP	Pn	03 14 13.9	+2.8
TUMD				eS	Sn	03 14 38.7	+2.2
TUMR	Tumrok	2.26	257	eP	Pn	03 14 16.2	+3.5
TUMR				eS	Sn	03 14 43.3	+3.8
SRDR	Sredinnyy	2.45	283	eP	Pn	03 14 18.7	+3.4
SRDR				eS	Sn	03 14 47.9	+3.9
ESO	Esso	2.99	274	eP	Pn	03 14 26.4	+3.8
OSSR	Ossora	3.46	352	eP	Pn	03 14 32.2	+3.2
OSSR				eS	Sn	03 15 10.4	+1.8
SPN	Mys Shipunski	3.59	222	eP	Pn	03 14 32.0	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NLC	**Nalytchevo**	**3.81**	**227**	eS	Sn	03 15 19.0	+1.8
SDLR	**Sedlovina**	**3.93**	**231**	eP	Pn	03 14 38.2	+2.6
KRER	**Koryakskii**	**3.97**	**232**	eP	Pn	03 14 39.7	+3.5
SMAR	**Somma**	**3.98**	**232**	eP	Pn	03 14 39.5	+3.2
AVH	**Avacha**	**4.00**	**232**	eP	Pn	03 14 40.2	+3.6
GNL	**Ganaly**	**4.12**	**241**	eP	Pn	03 14 41.9	+3.8
DALK	**Dalny**	**4.16**	**230**	eP	Pn	03 14 41.3	+2.7
PET	**Petropavlovsk**	**4.21**	**230**	eP	Pn	03 14 41.6	+2.4
KRMR	**Karymshinskiy**	**4.57**	**231**	eP	Pn	03 14 48.1	+3.9
GRL	**Gorelyy**	**4.79**	**229**	eP	Pn	03 14 51.4	+4.0
MTVR	**Mutnovka**	**4.79**	**228**	eP	Pn	03 14 51.2	+3.8

---

*NEIC **10** 03:14:27.9±1.2, 17°.23S±0°.08×71°.5W±0°.2, h70km±27km, mb4.1/2, ML4.1(ARE), ML3.6(GUC), Error ellipse: s-maj=21.4km s-min=11.7km az=95.0*
*GUC **10** 03:14:30.8±0.7, 17°.28S×71°.07W, h105km±6km, ML3.6*
*ARE **10** 03:14:30±1.3, 17°.33S±0°.08×71°.2W±0°.1, h78km±9km, Error ellipse: s-maj=18.8km s-min=10.9km az=89.0*
*IDC **10** 03:14:33.2±7.8, 17°.08S×71°.02W, h122km±48km, mb3.4/2, mbtmp3.7/3, Error ellipse: s-maj=110.6km s-min=32.0km az=127.0*
ISC 10 03:14:28.3±1.8**, 17°.25S**±0°.08×**71°.3W**±0°.1**, h89**km±17km**, n41, σ0s.91**/47**, 1C-3D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.46**	**140**	Pn	**Pn**	**03 14 54.4**	**+0.9**
AP01				Sn	**Sn**	**03 15 12.4**	**-0.2**
AP01	**Chacalluta**	**1.46**	**140**	⇓iP	**Pn**	**03 14 54.5**	**+0.9**
AP01				i S	**Sn**	**03 15 12.4**	**-0.2**
AP01				IAML		03 15 13.6	
	comp=N,4μm,0.2s						
PB12	**IPOC Station P**	**1.66**	**145**		**Pn**	**03 14 56.6**	**+0.4**
PB12	**IPOC Station P**	**1.66**	**145**	⇓iP	**Pn**	**03 14 56.9**	**+0.7**
PB12				i S	**Sn**	**03 15 17.2**	**-0.1**
PB12				IAML		03 15 18.6	
	comp=N,631nm,0.3s						
PB16	**IPOC Station P**	**2.05**	**122**		**Pn**	**03 15 01.9**	**+0.2**
PB16	**IPOC Station P**	**2.05**	**122**	eP	**Pn**	**03 15 02.1**	**+0.5**
PB16				i S	**Sn**	**03 15 26.2**	**-0.9**
PB16				IAML		03 15 28.3	
	comp=E,300nm,0.3s						
MNMC	**Minye Minye**	**2.50**	**139**	Pn	**Pn**	**03 15 07.7**	**+0.4**
MNMC	**Minye Minye**	**2.50**	**139**	⇓iP	**Pn**	**03 15 07.6**	**+0.2**
MNMC				i S	**Sn**	**03 15 36.2**	**-1.0**
MNMC				IAML		03 15 45.6	
	comp=N,423nm,0.2s						
PSGC	**Pisagua**	**2.60**	**154**	eP	**Pn**	**03 15 08.9**	**+0.3**
PSGC				eS	**Sn**	**03 15 37.9**	**-1.6**
PSGC				IAML		03 15 42.1	
	comp=E,130nm,0.5s						
PSGCX	**Pisagua**	**2.60**	**154**	Pn	**Pn**	**03 15 08.8**	**+0.2**
PB11	**IPOC Station P**	**2.96**	**148**		**Pn**	**03 15 13.6**	**+0.1**
PB11	**IPOC Station P**	**2.96**	**148**	eP	**Pn**	**03 15 13.3**	**-0.2**
PB11				i S	**Sn**	**03 15 46.6**	**-1.6**
PB11				IAML		03 15 47.5	
	comp=E,170nm,0.2s						
GO01	**Chusmiza**	**3.15**	**140**		**Pn**	**03 15 17.4**	**+1.1**
GO01	**Chusmiza**	**3.15**	**140**	⇑iP	**Pn**	**03 15 17.3**	**+1.1**
GO01				i S	**Sn**	**03 15 53.0**	**-0.2**
GO01				IAML		03 15 57.0	
	comp=E,326nm,0.1s						
TA02	**Huaiquique**	**3.21**	**159**		**Pn**	**03 15 17.3**	**+0.6**
LPAZ	**La Paz**	**3.22**	**73**	P	**Pn**	**03 15 18.6**	**+1.3**
	comp=E,49nm,0.7s,baz=262,slow=6.5,SNR=240						
LPAZ				S	**Sn**	**03 15 54.0**	**-1.1**
	comp=E,4.9nm,0.6s,baz=176,slow=22,SNR=1.0						
TA01	**Diego Aracena**	**3.47**	**162**		**Pn**	**03 15 21.0**	**+0.8**
PB08	**IPOC Station P**	**3.54**	**145**		**Pn**	**03 15 22.0**	**+0.5**
PATCX	**Punta Patache**	**3.72**	**163**	Pn	**Pn**	**03 15 24.6**	**+0.9**
PB01	**IPOC Station P**	**4.16**	**155**		**Pn**	**03 15 29.7**	**+0.1**
PB02	**IPOC Station P**	**4.27**	**162**		**Pn**	**03 15 31.8**	**+0.7**
PB07	**IPOC Station P**	**4.66**	**163**		**Pn**	**03 15 37.1**	**+0.7**
PB09	**IPOC Station P**	**4.93**	**157**		**Pn**	**03 15 41.0**	**+0.8**
PB03	**IPOC Station P**	**5.00**	**163**		**Pn**	**03 15 41.4**	**+0.3**
PB04	**IPOC Station P**	**5.18**	**168**		**Pn**	**03 15 43.7**	**+0.2**
PB06	**IPOC Station P**	**5.67**	**163**	Pn	**Pn**	**03 15 49.9**	**-0.4**
LVC	**Limon Verde**	**5.80**	**157**		**Pn**	**03 15 52.9**	**+0.7**
PB15	**IPOC Station P**	**6.18**	**164**		**Pn**	**03 15 57.0**	**-0.2**
PB10	**IPOC Station P**	**6.27**	**173**	Pn	**Pn**	**03 15 57.8**	**-0.5**
PB14	**IPOC Station P**	**7.39**	**173**	Pn	**Pn**	**03 16 13.2**	**-0.5**
GO02	**Mina Guanaco**	**8.04**	**169**	Pn	**Pn**	**03 16 21.9**	**-0.7**
AC01	**Pan de Azucar**	**8.88**	**176**	Pn	**Pn**	**03 16 32.9**	**-0.9**
ETMB	**Extrema**	**8.91**	**35**		**Pn**	**03 16 33.9**	**-0.4**
AC02	**Maricunga**	**9.75**	**168**	Pn	**Pn**	**03 16 46.2**	**0.0**
AC06	**Mina Casimiro**	**10.10**	**175**	Pn	**Pn**	**03 16 50.2**	**-0.2**
VA06	**Catapilco**	**15.24**	**180**	Pn	**Pn**	**03 17 57.0**	**-1.6**
VA06				IAmb	IAmb	03 17 58.5	
	comp=Z,35nm,1.2s						
H03N1	**Juan Fernandez**	**17.50**	**201**	T	T	03 36 45.6	
	baz=24,slow=73,SNR=39						
H03N2	**Juan Fernandez**	**17.51**	**202**	T	T	03 36 45.7	
	baz=24,slow=73,SNR=31						
H03N3	**Juan Fernandez**	**17.52**	**202**	T	T	03 36 44.8	
	baz=24,slow=73,SNR=39						
PLCA	**Paso Flores**	**23.41**	**178**	P	**P**	**03 19 32.8**	**+3.3**
	comp=Z,2.1nm,1.0s,baz=356,slow=17,SNR=3.3						
	comp=Z,2.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**78.17**	**72**	P	**P**	**03 26 17.8**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=256,slow=5.7,SNR=8.1						
	comp=Z,0.8nm,0.8s						

---

*IDC **10** 03:15:27.5±1.0, 24°.26N×121°.24E, h0km, mb3.6/8, mbtmp3.6/9, ML3.3/1, MS3.6/2, Error ellipse: s-maj=45.8km s-min=18.1km az=70.0*
*TAP **10** 03:15:28.9, 24°.40N×121°.91E, h27km, ML4.3, B*
*JMA **10** 03:15:28.2±0.2, 24°.3N±0°.7×121°.8E±0°.7, h52km±2km, MV3.4/10, TAIWAN REGION*
ISC 10 03:15:28.9±0.8**, 24°.38N**±0°.01×**121°.92E**±0°.02**, h18**km±5km**, n136, σ1s.18**/233**, mb3.5**/8**, 10C-20D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.14**	**298**	⇑eP	**Pg**	**03 15 32.8**	**-0.2**
	baz=293						
EWUT				eS	**Sg**	**03 15 36.4**	**+0.7**
	baz=293						
ENA	**Nanau**	**0.17**	**287**	⇑iP	**Pb**	**03 15 34.3**	**+0.8**
	baz=282						
ENA				i S	**Sb**	**03 15 38.1**	**+1.5**
	baz=282						
EHP	**Heping Village**	**0.17**	**247**	i P	**Pb**	**03 15 34.6**	**+1.0**
	baz=239						
EHP				S	**Sb**	**03 15 38.9**	**+2.1**
	baz=239						
TWC	**Suao**	**0.24**	**345**	⇓iP	**Pb**	**03 15 35.0**	**+0.3**
	baz=349						
TWC				i S	**Sb**	**03 15 39.2**	**+0.6**
	baz=349						
ETL	**Fush Village**	**0.35**	**231**	P	**Pb**	**03 15 37.4**	**+0.8**
	baz=227						
ETL				eS	**Sn**	**03 15 43.8**	**-1.9**
	baz=227						
NACB	**Ninganchiao**	**0.36**	**235**	⇓iP	**Pb**	**03 15 37.0**	**+0.2**
	baz=232						
NACB				eS	**Sn**	**03 15 43.7**	**-2.2**
	baz=232						
LATG	**Datong**	**0.39**	**294**	⇓iP	**Pn**	**03 15 37.8**	**-2.0**
	baz=292						
LATG				i S	**Sn**	**03 15 43.8**	**-3.0**
	baz=292						
TWE	**Neicheng**	**0.41**	**326**	⇓iP	**Pn**	**03 15 38.0**	**-1.9**
	baz=328						
TWE				S	**Sn**	**03 15 44.1**	**-3.0**
	baz=328						
ENTT	**Nioudou**	**0.41**	**309**	⇓iP	**Pb**	**03 15 37.1**	**-0.6**
	baz=309						
ENTT				S	**Sb**	**03 15 43.3**	**-0.3**
	baz=309						
ILA	**Ilan**	**0.41**	**338**	P	**Pn**	**03 15 38.3**	**-1.7**
	baz=340						
ILA				eS	**Sn**	**03 15 44.7**	**-2.6**
	baz=340						
TWD	**Chiawan**	**0.42**	**224**	⇓iP	**Pb**	**03 15 38.2**	**+0.4**
	baz=221						
TWD				S	**Sn**	**03 15 45.5**	**-1.9**
	baz=221						
NDT	**Datong Townshi**	**0.43**	**301**	⇓eP	**Pb**	**03 15 36.8**	**-1.2**
	baz=300						
NDT				eS	**Sb**	**03 15 43.2**	**-1.0**
	baz=300						
ETLH	**Xiulin Townshi**	**0.43**	**247**	⇓iP	**Pb**	**03 15 38.4**	**+0.3**
	baz=244						
ETLH				eS	**Sn**	**03 15 45.8**	**-2.1**
	baz=244						
EGS		**0.46**	**2**	⇓iP	**Pb**	**03 15 38.9**	**+0.3**
	baz=5.0						
EGS				S	**Sn**	**03 15 46.1**	**-2.5**
	baz=5.0						
NTC	**Toucheng**	**0.48**	**351**	P	**Pb**	**03 15 39.0**	**+0.1**
	baz=351						
NTC				eS	**Sn**	**03 15 46.3**	**-2.6**
	baz=351						
FUSB	**Fushanzhiwuyua**	**0.48**	**322**	⇓iP	**Pn**	**03 15 39.4**	**-1.7**
	baz=321						
FUSB				S	**Sn**	**03 15 46.4**	**-2.7**
	baz=321						
NNSB	**Datong**	**0.49**	**276**	⇑iP	**Pn**	**03 15 39.5**	**-1.6**
	baz=274						
NNSB				eS	**Sn**	**03 15 46.9**	**-2.5**
	baz=274						
NNSH	**Datong**	**0.49**	**276**	⇑iP	**Pb**	**03 15 38.5**	**-0.6**
	baz=274						
NNSH				S	**Sb**	**03 15 45.8**	**-0.2**
	baz=274						
HWA	**Hwalien**	**0.49**	**215**	eP	**Pn**	**03 15 40.0**	**-1.0**
	baz=212						
HWA				eS	**Sn**	**03 15 49.6**	**+0.4**
	baz=212						
NNS	**Nan Shan**	**0.50**	**277**	⇑iP	**Pb**	**03 15 38.7**	**-0.6**
	baz=275						
NNS				eS	**Sb**	**03 15 46.2**	**-0.1**
	baz=275						
NWLT	**Wulai**	**0.55**	**317**	eP	**Pb**	**03 15 39.4**	**-0.7**
	baz=316						
NWLT				eS	**Sb**	**03 15 46.7**	**-0.8**
	baz=316						
ETM	**Tongmen**	**0.56**	**223**	eP	**Pb**	**03 15 40.5**	**+0.2**
	baz=221						
ETM				eS	**Sn**	**03 15 49.5**	**-1.5**
	baz=221						
TEYL	**Yanliau Villag**	**0.59**	**210**	eP	**Pb**	**03 15 41.2**	**+0.5**
	baz=209						
TEYL				eS	**Sn**	**03 15 51.7**	**+0.2**
	baz=209						
NSK	**Sanguang**	**0.59**	**300**	⇑iP	**Pb**	**03 15 40.0**	**-0.7**
	baz=299						
NSK				S	**Sb**	**03 15 48.3**	**-0.5**
	baz=299						
TIPB	**Shuangxi**	**0.60**	**352**	⇓iP	**Pn**	**03 15 41.0**	**-1.5**
	baz=353						
TIPB				eS	**Sn**	**03 15 49.2**	**-2.6**
	baz=353						
FUSS	**Fushou**	**0.63**	**258**	⇑P	**Pn**	**03 15 42.2**	**-1.0**
	baz=256						
FUSS				S	**Sn**	**03 15 51.4**	**-1.5**
	baz=256						
TWB1	**Santiao Chiao**	**0.63**	**6**	⇓iP	**Pb**	**03 15 41.6**	**+0.1**
	baz=8.0						
TWB1				S	**Sb**	**03 15 50.2**	**+0.3**
	baz=8.0						
WHF	**Hehuan Shan**	**0.64**	**249**	⇓iP	**Pn**	**03 15 42.1**	**-1.4**
	baz=246						
WHF				S	**Sn**	**03 15 52.0**	**-1.4**
	baz=246						
TWA	**Mucha**	**0.67**	**333**	⇓iP	**Pn**	**03 15 42.6**	**-1.0**
	baz=334						
TWA				eS	**Sn**	**03 15 52.9**	**-0.8**
	baz=334						
NHDH	**Xindian Distri**	**0.68**	**329**	eP	**Pn**	**03 15 42.9**	**-0.8**
	baz=328						
NHDH				eS	**Sn**	**03 15 52.1**	**-1.8**
	baz=328						
TWT	**Tachien**	**0.69**	**260**	eP	**Pn**	**03 15 43.6**	**-0.4**
	baz=258						
TWT				eS	**Sn**	**03 15 53.7**	**-0.6**
	baz=258						
NWF	**Wu-fen Shan**	**0.70**	**350**	⇓eP	**Pn**	**03 15 43.2**	**-0.9**
	baz=351						
NWF				eS	**Sn**	**03 15 52.8**	**-1.7**
	baz=351						
WFSB	**Wu-fen Shan**	**0.70**	**350**	⇓eP	**Pn**	**03 15 43.2**	**-0.8**
	baz=350						
WFSB				eS	**Sn**	**03 15 52.8**	**-1.6**
	baz=350						
TDCB	**Techi**	**0.70**	**260**	⇑P	**Pn**	**03 15 43.6**	**-0.6**
	baz=258						
TDCB				eS	**Sn**	**03 15 53.1**	**-1.5**
	baz=258						
TATO	**Taipei**	**0.71**	**327**	eP	**Pn**	**03 15 43.3**	**-0.8**
	baz=327						
TATO				eS	**Sn**	**03 15 52.8**	**-1.8**
	baz=327						
SXI1	**Grass Mountain**	**0.71**	**357**	⇓P	**Pn**	**03 15 43.2**	**-1.0**
	baz=358						
SXI1				eS	**Sn**	**03 15 53.8**	**-1.0**
	baz=358						
ESL	**Shilin**	**0.71**	**218**	P	**Pg**	**03 15 42.6**	**-0.3**
	baz=216						
ESL				eS	**Sn**	**03 15 54.2**	**-0.6**
	baz=216						
NHY	**Taipei**	**0.73**	**334**	eP	**Pn**	**03 15 44.5**	**+0.2**
	baz=335						
NHY				eS	**Sn**	**03 15 55.4**	**+0.3**
	baz=335						
CHGB	**Renai**	**0.75**	**245**	⇓eP	**Pn**	**03 15 44.0**	**-0.8**
	baz=243						
CHGB				eS	**Sn**	**03 15 55.0**	**-0.9**
	baz=243						
TAP	**Taipei**	**0.76**	**331**	eP	**Pn**	**03 15 44.6**	**-0.1**
	baz=331						
TAP				eS	**Sn**	**03 15 55.2**	**-0.6**
	baz=331						
NFF	**Wufeng Townshi**	**0.77**	**289**	eP	**Pb**	**03 15 43.2**	**-0.6**
	baz=288						
NFF				eS	**Sn**	**03 15 54.2**	**-2.0**
	baz=288						
TNOU	**National Taiwa**	**0.78**	**350**	eP	**Pn**	**03 15 44.5**	**-0.6**
	baz=351						
TNOU				eS	**Sn**	**03 15 55.0**	**-1.3**
	baz=351						
WUSB	**Renai**	**0.82**	**242**	eP	**Pn**	**03 15 45.2**	**-0.6**
	baz=241						
WUSB				eS	**Sn**	**03 15 57.3**	**-0.3**
	baz=241						
YM01	**YM01**	**0.83**	**338**	eP	**Pn**	**03 15 46.0**	**+0.2**
	baz=338						
YM01				eS	**Sn**	**03 15 57.3**	**-0.3**
	baz=338						
NJD	**Zhudong**	**0.83**	**295**	eP	**Pn**	**03 15 46.8**	**+1.0**
	baz=294						
EGFH	**Guangfu**	**0.84**	**212**	eP	**Pb**	**03 15 44.9**	**0.0**
	baz=211						
EGFH				eS	**Sn**	**03 15 57.2**	**-0.5**
	baz=211						
TWS1	**Kuangyinshan**	**0.85**	**328**	eP	**Pn**	**03 15 46.3**	**+0.3**
	baz=328						
TWS1				eS	**Sn**	**03 15 59.0**	**+0.9**
	baz=328						
YM08	**YM08**	**0.86**	**340**	eP	**Pn**	**03 15 45.7**	**-0.4**
	baz=340						
YM08				eS	**Sn**	**03 15 57.3**	**-1.0**
	baz=340						
LIOB	**Emei**	**0.86**	**288**	eP	**Pn**	**03 15 46.7**	**+0.5**
	baz=287						
LIOB				eS	**Sn**	**03 15 58.9**	**+0.5**
	baz=287						
NSTT	**Nanjuang**	**0.87**	**287**	eP	**Pn**	**03 15 46.2**	**-0.1**
	baz=286						
NSTT				eS	**Sn**	**03 15 58.7**	**+0.2**
	baz=286						
ANP	**Anpu**	**0.88**	**336**	eP	**Pn**	**03 15 46.3**	**-0.2**
	baz=336						
ANP				eS	**Sn**	**03 15 58.9**	**-0.1**
	baz=336						
NCU	**National Centr**	**0.89**	**312**	eP	**Pn**	**03 15 47.2**	**+0.7**
	baz=311						
NCU				eS	**Sn**	**03 16 00.2**	**+1.3**
	baz=311						
NCUH	**Zhongli**	**0.89**	**312**	eP	**Pn**	**03 15 47.2**	**+0.7**
	baz=311						
NCUH				eS	**Sn**	**03 15 58.9**	**-0.1**
	baz=311						
NTST	**Danshui**	**0.89**	**332**	eP	**Pn**	**03 15 47.5**	**+1.0**
	baz=332						
NTST				eS	**Sn**	**03 15 60.0**	**+0.9**
	baz=332						
WHP	**Taichung City**	**0.89**	**264**	eP	**Pn**	**03 15 46.9**	**+0.2**
	baz=262						
WHP				eS	**Sn**	**03 15 59.3**	**+0.1**
	baz=262						
HSN1	**Hsinchu**	**0.91**	**296**	eP	**Pn**	**03 15 47.7**	**+0.9**
	baz=295						
TWY	**Chenhua**	**0.94**	**342**	eP	**Pn**	**03 15 47.9**	**+0.6**
	baz=343						
TWY				eS	**Sn**	**03 16 00.9**	**+0.7**
	baz=343						
JYNG	**Yonagunijimaku**	**0.94**	**85**	P	**Pb**	**03 15 46.9**	**+0.2**
JYNG				eS	**Sb**	**03 15 59.9**	**+1.1**
SBCB	**Hsinchu**	**0.94**	**296**	⇑eP	**Pn**	**03 15 47.9**	**+0.6**
	baz=295						
SBCB				eS	**Sn**	**03 16 02.8**	**+2.4**
	baz=295						
VWDT	**VWDT**	**0.94**	**229**	⇓eP	**Pg**	**03 15 46.7**	**-0.6**
	baz=228						
VWDT				eS	**Sn**	**03 16 00.4**	**+0.1**
	baz=228						
HSN	**Hsinchu**	**0.96**	**296**	eP	**Pn**	**03 15 48.0**	**+0.4**
	baz=298						
HSN				eS	**Sn**	**03 16 02.0**	**+1.2**
	baz=298						
DPDB	**Guoxing**	**0.97**	**249**	eP	**Pn**	**03 15 47.8**	**+0.1**
	baz=248						
DPDB				eS	**Sn**	**03 16 01.1**	**0.0**
	baz=248						
WCS	**Beigang Elemen**	**0.97**	**251**	eP	**Pn**	**03 15 47.1**	**-0.6**
	baz=250						
WCS				eS	**Sn**	**03 16 00.6**	**-0.4**
	baz=250						
HGSD	**Ruisui**	**0.99**	**207**	eP	**Pb**	**03 15 47.5**	**-0.1**
	baz=206						
HGSD				eS	**Sn**	**03 16 03.6**	**+2.0**
	baz=206						
YOJ	**Yonaguni jima**	**1.00**	**85**	i P	**Pb**	**03 15 47.5**	**-0.2**
	baz=86						
YOJ				eS	**Sb**	**03 16 00.7**	**+0.1**
	baz=86						
YOJ	**Yonaguni jima**	**1.00**	**85**	P	**Pb**	**03 15 47.5**	**-0.2**
YOJ				eS	**Sb**	**03 16 00.8**	**+0.1**
NHW	**Xinwu Township**	**1.01**	**309**	eP	**Pn**	**03 15 48.4**	**+0.2**
	baz=308						
NHW				eS	**Sn**	**03 16 04.2**	**+2.3**
	baz=308						
EHY	**Hungye**	**1.02**	**212**	eP	**Pb**	**03 15 47.4**	**-0.7**
	baz=211						
NMLH	**Miaoli**	**1.04**	**279**	eP	**Pn**	**03 15 50.0**	**+1.4**
	baz=278						
TWQ1	**Liyutan**	**1.04**	**269**	eP	**Pg**	**03 15 50.0**	**+0.9**
	baz=267						
TWQ1				eS	**Sn**	**03 16 05.6**	**+2.7**
	baz=267						
SMLT	**Sun Moon Lake**	**1.05**	**242**	⇑eP	**Pg**	**03 15 49.1**	**-0.2**
	baz=241						
SMLT				eS	**Sg**	**03 16 02.1**	**-1.0**
	baz=241						
NSY	**Sanyi**	**1.05**	**272**	eP	**Pg**	**03 15 50.4**	**+1.1**
	baz=271						
NSY				eS	**Sn**	**03 16 05.4**	**+2.2**
	baz=271						
SSLB	**Suanglung**	**1.06**	**236**	eP	**Pn**	**03 15 48.5**	**-0.5**
	baz=235						
SSLB				eS	**Sn**	**03 16 02.7**	**-0.6**
	baz=235						
TYC	**Yuchr**	**1.08**	**244**	eP	**Pg**	**03 15 49.4**	**-0.4**
	baz=243						
TYC				eS	**Sn**	**03 16 04.0**	**+0.3**
	baz=243						
YULB	**Yu-li**	**1.13**	**210**	eP	**Pn**	**03 15 48.3**	**-1.7**
	baz=209						
YULB				eS	**Sb**	**03 16 03.4**	**-1.1**
	baz=209						
TCU	**Taichung**	**1.16**	**259**	eP	**Pg**	**03 15 51.7**	**+0.4**
	baz=257						
TCU				eS	**Sg**	**03 16 09.0**	**+2.6**
	baz=257						
WWF	**Wufeng**	**1.16**	**253**	eP	**Pg**	**03 15 51.1**	**-0.2**
	baz=252						
WWF				eS	**Sg**	**03 16 08.5**	**+1.9**
	baz=252						
WDJ	**Dajia District**	**1.16**	**269**	eP	**Pg**	**03 15 51.7**	**+0.3**
	baz=268						
WDJ				eS	**Sg**	**03 16 08.8**	**+2.1**
	baz=268						
EYUL	**Yuli**	**1.16**	**208**	eP	**Pn**	**03 15 49.5**	**-0.8**
	baz=207						
TWF1	**Yuli**	**1.17**	**209**	eP	**Pn**	**03 15 49.2**	**-1.2**
	baz=208						
WHYT	**Xinyi Township**	**1.19**	**235**	eP	**Pg**	**03 15 51.0**	**-0.8**
	baz=234						
WHYT				eS	**Sg**	**03 16 07.4**	**0.0**
	baz=234						
WJS	**Zhushan**	**1.22**	**243**	eP	**Pg**	**03 15 52.6**	**+0.1**
	baz=242						
WNT1	**Nantou City**	**1.22**	**248**	eP	**Pg**	**03 15 53.4**	**+0.8**
	baz=246						
WNT	**Mingjian**	**1.23**	**246**	eP	**Pg**	**03 15 52.6**	**-0.1**
	baz=245						
YUS	**Yu-Shan**	**1.25**	**225**	eP	**Pn**	**03 15 51.7**	**-0.3**
	baz=224						
YUS				eS	**Sb**	**03 16 07.2**	**-1.1**
	baz=224						
WCHH	**Zhanghua**	**1.27**	**257**	eP	**Pg**	**03 15 53.4**	**-0.1**
	baz=256						
FULB	**Fuli**	**1.31**	**206**	eP	**Pn**	**03 15 51.6**	**-0.7**
	baz=205						
ALS	**Alishan**	**1.33**	**230**	⇓eP	**Pb**	**03 15 53.4**	**-0.2**
	baz=228						
ALS				eS	**Sn**	**03 16 10.1**	**-0.4**
	baz=228						
CHN5	**Tsauling**	**1.37**	**236**	eP	**Pb**	**03 15 53.8**	**-0.3**
	baz=235						
CHN5				eS	**Sg**	**03 16 13.2**	**-0.2**
	baz=235						
WDLH	**Douliu**	**1.44**	**242**	eP	**Pg**	**03 15 56.0**	**-0.5**
	baz=241						
ELDTW	**Lidau**	**1.44**	**215**	eP	**Pn**	**03 15 53.2**	**-1.1**
	baz=214						
WRL	**Guolierlin Hig**	**1.48**	**252**	eP	**Pb**	**03 15 54.9**	**-1.1**
	baz=251						
WRL				eS	**Sg**	**03 16 14.7**	**-2.2**
	baz=251						
EDH	**Donghe**	**1.51**	**202**	eP	**Pn**	**03 15 54.2**	**-0.9**
	baz=201						
EDH				eS	**Sn**	**03 16 14.3**	**0.0**
	baz=201						
WCKO	**Fanlu**	**1.52**	**232**	eP	**Pb**	**03 15 56.1**	**-0.6**
	baz=231						
WCKO				eS	**Sg**	**03 16 16.9**	**-1.1**
	baz=231						
CHN4	**Tsaushan**	**1.59**	**230**	eP	**Pb**	**03 15 57.1**	**-0.6**
	baz=229						
CHN4				eS	**Sg**	**03 16 19.8**	**-0.3**
	baz=229						
STYH	**Taoyuan**	**1.59**	**221**	eP	**Pn**	**03 15 55.5**	**-0.8**
	baz=220						
STYH				eS	**Sn**	**03 16 15.9**	**-0.5**
	baz=220						
TPUB	**Ta-pu**	**1.59**	**228**	eP	**Pb**	**03 15 57.5**	**-0.4**
	baz=227						
TPUB				eS	**Sg**	**03 16 19.3**	**-1.1**
	baz=227						
STYT	**Tauyuan**	**1.61**	**221**	eP	**Pn**	**03 15 57.1**	**+0.6**
	baz=220						
CHY	**Chiayi**	**1.62**	**238**	eP	**Pg**	**03 15 58.8**	**-1.3**
	baz=236						
CHY				eS	**Sg**	**03 16 21.2**	**0.0**
	baz=236						
WTP	**Ta-pu**	**1.64**	**227**	eP	**Pb**	**03 15 58.4**	**-0.3**
	baz=226						
WTP				eS	**Sg**	**03 16 20.8**	**-1.0**
	baz=226						
IRIF	**Iriomote-Funau**	**1.66**	**91**	P	**Pn**	**03 15 56.7**	**-0.4**
IRIF				eS	**Sn**	**03 16 17.4**	**-0.5**
TWK	**Hsinying**	**1.71**	**230**	eP	**Pb**	**03 15 59.9**	**0.0**
	baz=229						
TWK				eS	**Sg**	**03 16 23.2**	**-1.0**
	baz=229						
TWGBT	**Beinan**	**1.73**	**206**	eP	**Pn**	**03 15 57.7**	**-0.5**
	baz=206						
TWGBT				eS	**Sn**	**03 16 18.5**	**-1.4**
	baz=206						
TWG	**Pinlang**	**1.73**	**207**	eP	**Pn**	**03 15 58.5**	**+0.3**
	baz=206						
CHN1	**Nanshi**	**1.74**	**227**	eP	**Pb**	**03 16 00.0**	**-0.3**
	baz=226						
CHN1				eS	**Sg**	**03 16 23.2**	**-1.8**
	baz=226						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSL	**Shuilin Townsh**	**1.76**	**241**	*e*P	**Pb**	**03 15 59.3**	**-1.5**
	baz=240						
SGST	**Jiashian**	**1.78**	**224**	*e*P	**Pn**	**03 15 58.3**	**-0.5**
	baz=223						
SGST				*e*S	**Sb**	**03 16 24.0**	**+1.0**
	baz=223						
SLGT	**Liugui**	**1.81**	**220**	*e*P	**Pg**	**03 16 02.8**	**-0.8**
	baz=220						
CHN8	**Yiju**	**1.87**	**237**	*e*P	**Pb**	**03 16 01.8**	**-0.8**
	baz=236						
JKRS	**Kuro-shima**	**1.92**	**94**	*e*P	**Pn**	**03 16 00.8**	**+0.2**
JKRS				S	**Sn**	**03 16 24.4**	**0.0**
SCLT	**Jiali**	**1.98**	**233**	*e*P	**Pn**	**03 16 00.4**	**-1.2**
	baz=232						
SCLT				*e*S	**Sg**	**03 16 30.5**	**-2.2**
	baz=232						
ECL	**Taimali**	**1.98**	**207**	*e*P	**Pb**	**03 16 04.5**	**0.0**
	baz=206						
JIJ	**Ishigaki jima**	**2.03**	**90**	*e*P	**Pn**	**03 16 01.5**	**-0.7**
JIJ				S	**Sn**	**03 16 25.6**	**-1.6**
TSMG	**Majia**	**2.03**	**215**	*e*P	**Pb**	**03 16 04.4**	**-1.0**
	baz=214						
MASBT	**Mashibuluo**	**2.12**	**214**	*e*P	**Pb**	**03 16 05.2**	**-1.6**
	baz=213						
MASBT				*e*S	**Sb**	**03 16 31.6**	**-1.2**
	baz=213						
JISG	**Ishigakijimahi**	**2.19**	**84**	*e*P	**Pn**	**03 16 04.2**	**-0.3**
JISG				S	**Sn**	**03 16 30.8**	**-0.3**
EAST	**Anshuo**	**2.22**	**206**	*e*P	**Pb**	**03 16 07.7**	**-0.8**
	baz=206						
PNG	**Penghu**	**2.31**	**250**	*e*P	**Pn**	**03 16 06.1**	**+0.1**
	baz=249						
PHUB	**P'eng-hu**	**2.31**	**249**	*e*P	**Pn**	**03 16 06.1**	**0.0**
	baz=248						
PHUB				*e*S	**Sn**	**03 16 34.7**	**+0.6**
	baz=248						
VWUC	**VWUC**	**2.33**	**286**	*e*P	**Pn**	**03 16 05.9**	**-0.4**
	baz=285						
VWUC				*e*S	**Sn**	**03 16 33.9**	**-0.6**
	baz=285						
SCZT	**Fangliau**	**2.33**	**211**	*e*P	**Pn**	**03 16 08.2**	**+1.9**
	baz=210						
MATB	**Ma-tsu**	**2.51**	**315**	*e*P	**Pn**	**03 16 08.9**	**0.0**
	baz=314						
JTJ	**Tarama**	**2.55**	**84**	*e*P	**Pn**	**03 16 10.1**	**+0.6**
VCHM	**Qimei**	**2.56**	**243**	*e*P	**Pn**	**03 16 10.1**	**+0.6**
	baz=242						
PTMZ	**Houxiangcun**	**2.63**	**285**	*e*P	**Pn**	**03 16 10.4**	**-0.1**
	baz=284						
PTMZ				*e*S	**Sn**	**03 16 41.0**	**-0.9**
	baz=284						
KSRS	**Korea Array**	**14.01**	**20**	Pn	**P**	**03 18 52.2**	**-2.2**
	0.1nm,0.3s,baz=196,slow=11,SNR=5.0						
	1.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**21.42**	**20**	P	**P**	**03 20 20.8**	**+4.9**
	0.9nm,0.5s,baz=212,slow=13,SNR=2.0						
	0.9nm,0.5s						
KLR	**Kul'dur**	**25.98**	**15**	LR	LR	03 32 20.1	
	comp=Z,54nm,19.2s,baz=160,slow=39						
SONM	**Songino Array**	**26.45**	**336**	P	**P**	**03 21 04.0**	**-1.0**
	1.0nm,0.9s,baz=157,slow=10,SNR=5.0						
	1.0nm,0.9s						
MKAR	**Makanchi Array**	**38.66**	**315**	P	**P**	**03 22 50.9**	**-0.6**
	1.1nm,0.9s,baz=105,slow=9.2,SNR=5.5						
	1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**40.45**	**327**	P	**P**	**03 23 04.7**	**-1.6**
	0.6nm,0.5s,baz=104,slow=9.2,SNR=4.2						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**45.69**	**164**	P	**P**	**03 23 50.3**	**+1.3**
	0.2nm,0.5s,baz=348,slow=7.8,SNR=1.6						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**47.95**	**320**	P	**P**	**03 24 05.7**	**-0.7**
	0.4nm,0.4s,baz=120,slow=8.0,SNR=4.2						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**49.16**	**165**	P	**P**	**03 24 17.2**	**+1.2**
	0.3nm,0.7s,baz=345,slow=6.8,SNR=2.3						
	0.3nm,0.7s						
STKA	**Stephens Creek**	**59.02**	**160**	P	**P**	**03 25 30.5**	**+2.8**
	1.4nm,0.8s,baz=334,slow=10,SNR=3.4						
	1.4nm,0.8s						
KIRV	**Kirov**	**60.44**	**325**	LR	LR	03 52 03.0	
	comp=Z,90nm,18.6s,baz=316,slow=36						

IDC 10 03:47:25.9±3.4**, 19°.63S**×**65°.67E, h0**km**, mb3.8**/5**, mbtmp3.8**/5**, MS3.7**/36**, Error ellipse: s-maj=127.4km s-min=32.5km az=46.0, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.62**	**30**	T	T	04 04 17.4	
	baz=208,slow=76,SNR=51						
H08S2	**Diego Garcia H**	**13.63**	**30**	T	T	04 04 17.2	
	baz=208,slow=76,SNR=73						
H08S3	**Diego Garcia H**	**13.64**	**30**	T	T	04 04 16.1	
	baz=208,slow=76,SNR=103						
OPO	**Ambohidratompo**	**17.50**	**270**	LR	LR	03 55 42.9	
	comp=Z,156nm,19.7s,baz=240,slow=28						
PALK	**Pallekele**	**30.56**	**30**	LR	LR	04 03 34.3	
	comp=Z,193nm,18.2s,baz=308,slow=32						
KMBO	**Kilima Mbogo**	**33.34**	**300**	LR	LR	04 05 15.2	
	comp=Z,92nm,20.6s,baz=94,slow=32						
LSZ	**Lusaka**	**35.97**	**271**	LR	LR	04 08 46.4	
	comp=Z,68nm,18.1s,baz=126,slow=36						
LBTB	**Lobatse**	**37.36**	**254**	LR	LR	04 07 50.4	
	comp=Z,155nm,19.8s,baz=89,slow=33						
BOSA	**Boshof**	**37.81**	**248**	LR	LR	04 08 08.4	
	comp=Z,90nm,18.1s,baz=47,slow=33						
ATD	**Arta Tunnel**	**38.26**	**322**	LR	LR	04 08 35.0	
	comp=Z,31nm,18.8s,baz=350,slow=33						
MBAR	**Mbarara**	**39.08**	**295**	LR	LR	04 09 37.6	
	comp=Z,48nm,18.6s,baz=118,slow=34						
PSI	**Prapat**	**39.55**	**59**	LR	LR	04 08 31.8	
	comp=Z,155nm,18.4s,baz=226,slow=32						
SUR	**Sutherland**	**41.98**	**243**	LR	LR	04 10 17.0	
	comp=Z,169nm,18.2s,baz=96,slow=33						
LEM	**Lembang**	**42.64**	**78**	LR	LR	04 09 04.5	
	comp=Z,95nm,20.7s,baz=180,slow=30						
WSAR	**Wadi Sarin**	**43.16**	**351**	LR	LR	04 09 43.7	
	comp=Z,50nm,20.3s,baz=0.5,slow=31						
TSUM	**Tsumeb**	**45.23**	**262**	LR	LR	04 13 44.0	
	comp=Z,157nm,18.1s,baz=130,slow=35						
MAW	**Mawson**	**47.99**	**181**	LR	LR	04 12 59.3	
	comp=Z,68nm,19.8s,baz=347,slow=32						
BRDH	**Bariadhala**	**49.11**	**32**	LR	LR	04 15 28.7	
	comp=Z,93nm,19.9s,baz=270,slow=34						
CMAR	**Chiang Mai Arr**	**49.99**	**43**	LR	LR	04 15 55.1	
	comp=Z,104nm,18.6s,baz=230,slow=34						
KAPI	**Kappang**	**54.56**	**82**	LR	LR	04 18 35.6	
	comp=Z,29nm,18.1s,baz=254,slow=34						
EIL	**Elat**	**57.26**	**328**	LR	LR	04 18 46.6	
	comp=Z,47nm,19.6s,baz=160,slow=33						
AAK	**Ala-Archa**	**62.49**	**7**	LR	LR	04 22 13.8	
	comp=Z,54nm,20.8s,baz=204,slow=33						
GNI	**Garni**	**62.59**	**342**	LR	LR	04 22 16.3	
	comp=Z,29nm,21.6s,baz=126,slow=33						
ASAR	**Alice Springs**	**63.02**	**107**	P	P	03 57 55.1	-0.2
	0.5nm,0.7s,baz=276,slow=5.3,SNR=4.6						
ASAR				LR	LR	04 20 50.0	
	comp=Z,236nm,20.6s,baz=204,slow=32						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**64.17**	**103**	P	P	03 58 03.0	+0.2
	0.6nm,0.9s,baz=264,slow=5.7,SNR=4.2						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**67.79**	**12**	LR	LR	04 25 49.4	
	comp=Z,46nm,19.8s,baz=154,slow=34						
STKA	**Stephens Creek**	**68.25**	**117**	LR	LR	04 23 44.4	
	comp=Z,54nm,21.1s,baz=207,slow=32						
BVAR	**Borovoye Array**	**72.46**	**3**	LR	LR	04 29 07.0	
	comp=Z,38nm,18.7s,baz=180,slow=34						
DBIC	**Dimbokro**	**74.12**	**283**	LR	LR	04 30 14.2	
	comp=Z,41nm,18.6s,baz=110,slow=35						
ZALV	**Zalesovo Beam**	**75.11**	**12**	P	P	03 59 09.4	-0.1
	0.4nm,0.3s,baz=203,slow=10,SNR=2.0						
ZALV				LR	LR	04 30 09.0	
	comp=Z,38nm,18.3s,baz=64,slow=34						
	0.4nm,0.3s						
JOW	**Kunigami**	**76.25**	**55**	LR	LR	04 32 02.3	
	comp=Z,50nm,18.1s,baz=252,slow=35						
SONM	**Songino Array**	**76.44**	**27**	P	P	03 59 17.7	+0.2
	0.7nm,0.9s,baz=221,slow=4.6,SNR=4.0						
SONM				LR	LR	04 31 48.8	
	comp=Z,66nm,20.2s,baz=114,slow=35						
	0.7nm,0.9s						
AKASG	**Malin Array Be**	**77.03**	**337**	P	P	03 59 20.6	+0.1
	1.1nm,0.7s,baz=136,slow=4.7,SNR=5.3						
	1.1nm,0.7s						
PMG	**Port Moresby**	**78.94**	**96**	LR	LR	04 33 11.9	
	comp=Z,41nm,19.6s,baz=58,slow=35						
KSRS	**Korea Array**	**81.55**	**45**	LR	LR	04 36 06.6	
	comp=Z,13nm,18.1s,baz=235,slow=36						
MDT	**Midelt**	**84.96**	**307**	LR	LR	04 40 24.4	
	comp=Z,22nm,18.2s,baz=140,slow=37						
BBTS	**Babate**	**87.72**	**286**	LR	LR	04 39 08.6	
	comp=Z,59nm,18.2s,baz=114,slow=35						
MJAR	**Matsushiro Arr**	**88.29**	**50**	LR	LR	04 41 10.4	
	comp=Z,28nm,18.1s,baz=198,slow=36						
KLR	**Kul'dur**	**90.09**	**37**	LR	LR	04 42 38.7	
	comp=Z,30nm,18.0s,baz=200,slow=37						
NRIK	**Noril'sk**	**90.10**	**8**	LR	LR	04 39 08.3	
	comp=Z,48nm,21.2s,baz=264,slow=34						
RCBR	**Riachuelo**	**98.88**	**261**	LR	LR	04 39 27.2	
	comp=Z,53nm,18.4s,baz=300,slow=32						

*IDC **10** 04:24:33.9±0.9, 34°.23N×80°.32E, h0km, mb3.7/10, mbtmp3.7/12, ML3.3/2, MS3.0/1, Error ellipse: s-maj=28.0km s-min=18.1km az=57.0*

ISC 10 04:24:39.7±0.8**, 34°.4N**±0°.1×**80°.5E**±0°.2**, h35**km**, n23,** σ**0s.93**/22**, mb3.8**/9**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.65**	**154**	*e*P	**Pn**	**04 26 15.9**	**+0.7**
GKN	**Gorkha**	**7.30**	**150**	*e*P	**Pn**	**04 26 24.7**	**+0.6**
DMN	**Daman**	**7.85**	**148**	*e*P	**Pn**	**04 26 31.7**	**+0.1**
GUN	**Gumba**	**7.96**	**143**	*e*P	**Pn**	**04 26 33.6**	**+0.4**
PKIN	**Phulchoki**	**8.01**	**147**	*e*P	**Pn**	**04 26 34.5**	**+0.7**
PKI	**Pulchoki**	**8.02**	**147**	*e*P	**Pn**	**04 26 34.8**	**+0.8**
JIRN	**Jiri**	**8.32**	**142**	*e*P	**Pn**	**04 26 38.8**	**+0.6**
RAMN	**Ramite**	**9.11**	**143**	*e*P	**Pn**	**04 26 48.6**	**-0.3**
TAPN	**Taplejung**	**9.38**	**136**	*e*P	**Pn**	**04 26 51.3**	**-1.4**
MKAR	**Makanchi Array**	**12.47**	**6**	Pn	**Pn**	**04 27 33.5**	**-1.1**
	0.3nm,0.3s,baz=187,slow=13,SNR=8.5						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**16.28**	**356**	Pn	**P**	**04 28 28.2**	**0.0**
	baz=179,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**19.80**	**8**	P	**Pn**	**04 29 08.5**	**-0.1**
	0.3nm,0.3s,baz=196,slow=14,SNR=3.6						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**19.96**	**342**	P	**P**	**04 29 08.9**	**+0.2**
	0.8nm,0.4s,baz=146,slow=11,SNR=4.3						
	0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**22.87**	**129**	P	**P**	**04 29 40.5**	**+0.3**
	1.2nm,0.3s,baz=312,slow=11,SNR=7.8						
	1.2nm,0.3s						
SONM	**Songino Array**	**23.58**	**47**	P	**P**	**04 29 49.4**	**+2.2**
	0.2nm,0.5s,baz=228,slow=6.7,SNR=1.9						
	0.2nm,0.5s						
KSRS	**Korea Array**	**38.25**	**71**	LR	LR	04 48 50.9	
	comp=Z,21nm,21.4s,baz=95,slow=38						
FINES	**FINESS Array B**	**43.57**	**325**	P	**P**	**04 32 41.0**	**+1.1**
	1.6nm,0.8s,baz=128,slow=12,SNR=4.2						
	1.6nm,0.8s						
ARCES	**ARCESS Array B**	**46.10**	**336**	P	**P**	**04 33 01.1**	**+1.1**
	2.1nm,0.8s,baz=104,slow=11,SNR=1.9						
	2.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.49**	**275**	P	**P**	**04 36 08.0**	**-1.1**
	1.6nm,0.6s,baz=47,slow=5.3,SNR=28						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**74.46**	**128**	P	**P**	**04 36 14.1**	**-0.5**
	0.7nm,0.7s,baz=324,slow=5.4,SNR=5.3						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**74.47**	**19**	P	**P**	**04 36 13.5**	**-0.6**
	0.6nm,0.8s,baz=312,slow=4.6,SNR=7.1						
	0.6nm,0.8s						
INK	**Inuvik**	**74.52**	**12**	P	**P**	**04 36 14.1**	**-0.1**
	1.2nm,1.0s,baz=344,slow=7.4,SNR=3.6						
	1.2nm,1.0s						
ASAR	**Alice Springs**	**76.87**	**131**	P	**P**	**04 36 27.2**	**-1.2**
	0.4nm,0.5s,baz=304,slow=5.0,SNR=5.2						
	0.4nm,0.5s						

*IDC **10** 04:46:41.8±1.9, 35°.36S×179°.47W, h0km, mb4.5/2, mbtmp4.5/2, MS3.5/13, Error ellipse: s-maj=75.7km s-min=44.7km az=13.0*

*WEL **10** 04:46:45.2±1.4, 36°S±31°×17°9W±3°1, h33km, M4.4/8, ML4.7/8, MLv4.4/8, Error ellipse: s-maj=0.1km s-min=0.0km az=135.2*

*NOU **10** 04:46:48.8, 35°.71S×179°.43W, h119km, mb4.4/8, East of North Island, N.Z.*

*NEIC **10** 04:46:49.5±1.7, 35°.72S±0°.08×179°.53W±0°.09, h55km±12km, mb4.3/12, Error ellipse: s-maj=15.3km s-min=1.7km az=135.0*

ISC 10 04:46:46.3±1.0**, 35°.44S**±0°.07×**179°.3W**±0°.1**, h35**km**, n57,** σ**1s.55**/48**, mb4.3**/6**, MS3.6**/14**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.88**	**222**		**Pn**	**04 47 29.2**	**-0.5**
MXZ	**Matakaoa Point**	**2.88**	**222**	P	**Pn**	**04 47 29.2**	**-0.5**
MXZ	**Matakaoa Point**	**2.88**	**222**	P	**Pn**	**04 47 29.3**	**-0.5**
MXZ				S	**Sn**	**04 48 03.5**	**+0.5**
WMGZ	**Waiomatatini S**	**3.01**	**217**	P	**Pn**	**04 47 31.7**	**+0.1**
WMGZ				S	**Sn**	**04 48 09.0**	**+2.6**
PKGZ	**Pakihiroa**	**3.24**	**220**	P	**Pn**	**04 47 34.8**	**0.0**
PKGZ				S	**Sn**	**04 48 12.9**	**+0.8**
PUZ	**Puketiti**	**3.29**	**216**	P	**Pn**	**04 47 34.9**	**-0.5**
PUZ				S	**Sn**	**04 48 14.7**	**+1.5**
HAZ	**Te Kaha**	**3.31**	**225**	P	**Pn**	**04 47 35.6**	**0.0**
HAZ				S	**Sn**	**04 48 17.8**	**+4.1**
TWGZ	**Tauwhareparae**	**3.51**	**218**	P	**Pn**	**04 47 38.8**	**+0.4**
RUGZ	**Raukumara Rang**	**3.51**	**223**	P	**Pn**	**04 47 38.7**	**+0.2**
CNGZ	**Carnagh Statio**	**3.65**	**213**	P	**Pn**	**04 47 40.1**	**-0.2**
TKGZ	**Te Karaka**	**3.78**	**217**	P	**Pn**	**04 47 42.0**	**0.0**
TKGZ				S	**Sn**	**04 48 25.8**	**+0.6**
MWZ	**Matawai**	**3.86**	**221**	P	**Pn**	**04 47 43.1**	**-0.1**
MWZ				S	**Sn**	**04 48 27.8**	**+0.4**
KUZ	**Kuaotunu**	**4.26**	**251**	P	**Pn**	**04 47 49.3**	**+0.6**
BKZ	**Black Stump Fm**	**5.02**	**221**		**Pn**	**04 47 57.5**	**-1.7**
BKZ	**Black Stump Fm**	**5.02**	**221**	P	**Pn**	**04 47 58.6**	**-0.6**
OUZ	**Omahuta**	**5.84**	**270**		**Pn**	**04 48 11.2**	**+0.9**
OUZ	**Omahuta**	**5.84**	**270**	P	**Pn**	**04 48 11.2**	**+0.9**
TUWZ	**Tuamarina**	**8.00**	**220**	Pn	**Pn**	**04 48 37.0**	**-3.1**
CTZ	**Chatham Island**	**8.53**	**167**	P	**Pn**	**04 48 46.3**	**-1.0**
THZ	**Tophouse**	**8.79**	**222**	Pn	**Pn**	**04 48 48.9**	**-2.0**
KHZ	**Kahutara**	**8.93**	**217**	P	**Pn**	**04 48 50.9**	**-1.9**
RPZ	**Rata Peaks**	**11.13**	**219**	Sn	Sn	04 51 14.8	-11
	2.1nm,0.3s,baz=355,slow=22,SNR=12						
RPZ	**Rata Peaks**	**11.13**	**219**	P	**Pn**	**04 49 21.1**	**-1.8**
JCZ	**Jackson Bay**	**12.59**	**223**	P	**Pn**	**04 49 39.0**	**-3.9**
MLZ	**Mavora Lakes**	**13.79**	**220**	Pn	**Pn**	**04 49 56.6**	**-2.7**
DZM	**Mont Dzumac**	**18.26**	**313**	*e*LR	LR	04 55 03.8	
	comp=Z,341nm,26.5s						
DZM	**Mont Dzumac**	**18.26**	**313**	LR	LR	04 56 56.0	
	comp=Z,271nm,19.1s,baz=127,slow=34						
DZM	**Mont Dzumac**	**18.26**	**313**	P	**Pn**	**04 50 58.5**	**+1.5**
DZM				IAmb	IAmb	04 51 04.0	
	comp=Z,26nm,1.4s						
KOUNC	**Koumac, New Ca**	**20.71**	**311**	P	**P**	**04 51 24.6**	**+0.9**
KOUNC				IAmb	IAmb	04 51 25.6	
	comp=Z,17nm,0.8s						
RAR	**Rarotonga**	**22.20**	**55**	LR	LR	05 00 58.8	
	comp=Z,38nm,18.5s,baz=178,slow=38						
TOO	**Toolangi**	**28.31**	**255**	P	**P**	**04 52 34.4**	**-2.3**
TOO				IAmb	IAmb	04 52 38.0	
	comp=Z,7.9nm,1.2s						
TBI	**Tubuai**	**28.52**	**73**	*e*LR	LR	04 59 43.2	
	comp=Z,322nm,23.2s						
TBI				*e*LR	LR	04 59 43.3	
	comp=Z,2μm,24.5s						
PPT2	**Papeete2**	**31.79**	**64**	*e*LR	LR	05 01 07.0	
	comp=Z,69nm,22.5s						
PPT2				*e*LR	LR	05 01 07.4	
	comp=Z,92nm,23.2s						
HNR	**Honiara**	**32.09**	**319**	LR	LR	05 04 19.7	
	comp=Z,743nm,19.9s,baz=346,slow=33						
STKA	**Stephens Creek**	**32.62**	**265**	LR	LR	05 05 49.9	
	comp=Z,40nm,19.0s,baz=26,slow=35						
CTA	**Charters Tower**	**33.92**	**288**	LR	LR	05 07 29.5	
	comp=Z,39nm,18.1s,baz=72,slow=37						
CTAO	**Charters Tower**	**33.92**	**288**	P	**P**	**04 53 26.2**	**-0.1**
COEN	**Coen**	**39.93**	**293**	P	**P**	**04 54 16.2**	**-1.2**
PMG	**Port Moresby**	**40.09**	**302**	LR	LR	05 09 16.2	
	comp=Z,95nm,18.5s,baz=94,slow=34						
KRVT	**Keravat (AS076**	**40.78**	**313**	LR	LR	05 09 05.6	
	comp=Z,67nm,18.3s,baz=280,slow=33						
AS31	**Alice Springs**	**42.04**	**273**	P	**P**	**04 54 34.1**	**-0.6**
ASAR	**Alice Springs**	**42.04**	**273**	P	**P**	**04 54 34.0**	**-0.7**
	comp=Z,4.7nm,0.5s,baz=115,slow=7.8,SNR=60						
ASAR				LR	LR	05 12 19.6	
	comp=Z,85nm,18.3s,baz=155,slow=37						
	comp=Z,4.7nm,0.5s						
ASAR	**Alice Springs**	**42.04**	**273**	P	**P**	**04 54 33.1**	**-1.6**
SBA	**Scott Base**	**42.94**	**184**	P	**P**	**04 54 44.4**	**+3.1**
SBA				IAmb	IAmb	04 55 12.2	
	comp=Z,5.7nm,1.1s						
VNDA	**Vanda**	**42.98**	**186**	P	**P**	**04 54 43.3**	**+1.7**
WB2	**Warramunga Arr**	**43.48**	**278**	P	**P**	**04 54 45.3**	**-1.0**
WRA	**Warramunga Arr**	**43.48**	**278**	P	**P**	**04 54 45.4**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=121,slow=7.5,SNR=21						
WRA				LR	LR	05 12 01.6	
	comp=Z,67nm,18.6s,baz=65,slow=35						
	comp=Z,2.8nm,0.6s						
WRA	**Warramunga Arr**	**43.48**	**278**	P	**P**	**04 54 44.7**	**-1.7**
WB0	**Warramunga Arr**	**43.53**	**278**	P	**P**	**04 54 45.8**	**-0.9**
WB0				IAmb	IAmb	04 54 57.5	
	comp=Z,5.6nm,0.7s						
QSPA	**South Pole Qui**	**54.68**	**180**	P	**P**	**04 56 11.9**	**+0.2**
QSPA				IAmb	IAmb	04 56 39.3	
	comp=Z,2.4nm,0.8s						
RPN	**Rapa Nui**	**59.24**	**103**	LR	LR	05 19 06.0	
	comp=Z,26nm,18.4s,baz=220,slow=33						
GUMO	**Guam**	**59.43**	**319**	LR	LR	05 18 49.1	
	comp=Z,29nm,19.8s,baz=120,slow=32						
NNA	**Nana**	**93.03**	**107**	LR	LR	05 33 47.4	
	comp=Z,26nm,18.3s,baz=266,slow=30						
CPUP	**Villa Florida**	**97.64**	**130**	LR	LR	05 38 55.6	
	comp=Z,24nm,18.2s,baz=202,slow=32						
ARCES	**ARCESS Array B**	**143.24**	**346**	PKhKP	PKPpre	05 06 13.2	
	comp=Z,1.3nm,0.7s,baz=46,slow=5.2,SNR=3.6						
FINES	**FINESS Array B**	**149.41**	**336**	PKPbc	**PKPbc**	**05 06 31.3**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=43,slow=6.3,SNR=11						
TORD	**Torodi Ar. Bea**	**157.78**	**182**	PKPab	**PKPab**	**05 07 13.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=173,slow=3.6,SNR=2.6						

*IDC **10** 04:50:18.3±2.0, 34°.20S×178°.69W, h0km, mb4.4/2, mbtmp4.4/2, Error ellipse: s-maj=75.9km s-min=45.4km az=13.0*

*NEIC **10** 04:50:23.3±0.3, 34°.4S±0°.1×178°.6W±0°.1, h35km±8km, mb4.3/7, Error ellipse: s-maj=21.0km s-min=6.6km az=130.0*

ISC 10 04:50:24.5±1.2**, 34°.5S**±0°.1×**178°.6W**±0°.2**, h51**km**, n14,** σ**1s.25**/14**, mb4.3**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**6.14**	**219**	Pn	**Pn**	**04 51 52.2**	**-0.5**
OUZ	**Omahuta**	**6.49**	**261**	Pn	**Pn**	**04 51 57.9**	**+0.5**
BFZ	**Birch Farm**	**7.45**	**212**	Pn	**Pn**	**04 52 08.3**	**-2.2**
AFI	**Afiamalu**	**21.37**	**18**	P	**P**	**04 55 06.2**	**-1.6**
AS31	**Alice Springs**	**42.58**	**272**	P	**P**	**04 58 15.1**	**-0.6**
AS31				IAmb	IAmb	04 58 15.8	
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**42.58**	**272**	P	**P**	**04 58 15.3**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=112,slow=7.4,SNR=18						
	comp=Z,2.9nm,0.7s						
WR0	**Warramunga Arr**	**43.76**	**277**	P	**P**	**04 58 24.1**	**-1.1**
WR0				IAmb	IAmb	04 58 54.0	
	comp=Z,6.3nm,1.3s						
WB2	**Warramunga Arr**	**43.92**	**277**	P	**P**	**04 58 26.0**	**-0.5**
WB2				IAmb	IAmb	04 58 26.3	
	comp=Z,6.8nm,0.5s						
WRA	**Warramunga Arr**	**43.93**	**277**	P	**P**	**04 58 25.8**	**-0.8**
	comp=Z,3.4nm,0.4s,baz=117,slow=7.7,SNR=26						
	comp=Z,3.4nm,0.4s						
WRA	**Warramunga Arr**	**43.93**	**277**	P	**P**	**04 58 26.0**	**-0.6**
WB0	**Warramunga Arr**	**43.97**	**277**	P	**P**	**04 58 26.3**	**-0.6**
WB0				IAmb	IAmb	04 58 26.7	
	comp=Z,13nm,1.2s						
QSPA	**South Pole Qui**	**55.66**	**180**	P	**P**	**04 59 57.1**	**+1.9**
QSPA				IAmb	IAmb	05 00 04.7	
	comp=Z,4.3nm,1.4s						
FINES	**FINESS Array B**	**148.75**	**337**	PKPbc	**PKPbc**	**05 10 05.8**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=34,slow=3.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**158.78**	**181**	PKPab	**PKPab**	**05 10 54.4**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=172,slow=3.1,SNR=2.0						

ZUR 10 05:02:02.9, 45°.83N×**7°.45E, h7**km±3km**, MLh1.0**/15**, 2C-1D, Error ellipse: s-maj=6.1km s-min=1.1km az=138.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CIRO	**Champorcher**	**0.24**	**159**	⇑Pg	Pg	05 02 08.1	+0.4
CIRO				Sg	Sg	05 02 11.1	+0.2
SATI	**Passo dei Sala**	**0.30**	**80**	Pg	Pg	05 02 09.1	+0.3
TRAV	**Traversella**	**0.38**	**146**	⇑Pg	Pg	05 02 10.5	+0.3
MMK	**Mattmark**	**0.42**	**58**	⇓Pg	Pg	05 02 11.4	+0.3
MMK				Sg	Sg	05 02 16.7	-0.1
LSD	**Lago del Serru**	**0.43**	**211**	Sg	Sg	05 02 16.6	-0.2

*GEN **10** 05:02:55.2, 44°.32N×6°.21E, h8km±3km, Ml0.0*

*STR **10** 05:02:55.6±0.2, 44°N±1°×°±°, h7km±2km, MLv2.4/37, Error ellipse: s-maj=0.0km s-min=0.0km az=76.2, preliminary*

LDG 10 05:02:55.9±0.1**, 44°.29N**×**6°.17E, h2**km**, Md2.1**/2**, Ml2.1**/21**, 1D, Error ellipse: s-maj=1.2km s-min=0.9km az=52.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OGDI	**Digne**	**0.21**	**153**	P	Pg	05 02 59.4	-0.5
OGDI	**Digne**	**0.21**	**153**	Pg	Pg	05 02 59.4	-0.5
OGDI				Sg	Sg	05 03 02.6	+0.1
OGAG	**Argentiere**	**0.31**	**59**	P	Pn	05 03 06.5	-1.1
OGAG	**Argentiere**	**0.31**	**59**	Pg	Pn	05 03 06.5	-1.2
OGAG				Sg	Sb	05 03 14.6	+4.7
BLAF	**les Blancs**	**0.35**	**195**	⇓Pg	Pg	05 03 02.1	-0.6
BLAF				Sg	Sg	05 03 07.0	-0.3
CREF	**Crivoux**	**0.41**	**52**	Pg	Pg	05 03 03.8	-0.1
CREF				Sg	Sg	05 03 08.6	-0.7
JAUF	**Jausiers**	**0.44**	**72**	Pg	Pg	05 03 04.2	-0.1
JAUF				Sg	Sg	05 03 10.3	+0.2
SURF	**Saint Ours**	**0.50**	**68**	P	Pg	05 03 05.4	0.0
SURF				S	Sg	05 03 12.3	+0.4
SURF	**Saint Ours**	**0.50**	**68**	Pg	Pg	05 03 05.4	0.0
SURF				Sg	Sg	05 03 11.9	-0.1
SMRF	**Simiane la Rot**	**0.53**	**234**	*e*Pg	Pg	05 03 06.1	0.0
SMRF				*e*Sg	Sg	05 03 13.0	0.0
	14nm,0.1s						
BSTF	**la Bastide-des**	**0.56**	**223**	Pg	Pg	05 03 07.3	+0.7
TRIGF	**Trigance**	**0.57**	**162**	Pg	Pg	05 03 06.7	-0.2
TRIGF				Sg	Sg	05 03 14.7	+0.5
RUSF	**Rustrel**	**0.61**	**235**	Pg	Pg	05 03 07.6	+0.1
MBDF	**Montbardon**	**0.61**	**45**	*e*Pg	Pg	05 03 07.6	0.0
MBDF				*e*Sg	Sg	05 03 16.0	+0.4
	6.0nm,0.1s						
ISO	**Isola**	**0.64**	**99**	Pg	Pg	05 03 07.8	-0.5
ORIF	**Oris-en-Rattie**	**0.66**	**342**	*e*Pg	Pg	05 03 07.9	-0.6
ORIF				*e*Sg	Sg	05 03 16.7	-0.4
	18nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.66**	**342**	Pg	Pg	05 03 07.9	-0.6
ORIF				Sg	Sg	05 03 16.0	-1.1
PZZ	**Stroppo**	**0.71**	**72**	P	Pg	05 03 09.2	-0.3
PZZ				S	Sg	05 03 18.8	0.0
ARTF	**Artigues**	**0.75**	**201**	Pg	Pg	05 03 09.2	-1.1
ARTF				Pn	Pb	05 03 10.8	-0.9
CALF	**Calern**	**0.77**	**135**	Pg	Pg	05 03 10.3	-0.3
RRL	**Rocca Remolon**	**0.77**	**35**	P	Pg	05 03 10.3	-0.3
RRL				S	Sg	05 03 21.2	+0.5
SPIF	**crte de Spivo**	**0.80**	**107**	Pg	Pg	05 03 10.8	-0.6
MVIF	**Mont Vial**	**0.81**	**119**	Pg	Pg	05 03 12.0	+0.5
SAUF	**chteau de Sau**	**0.84**	**245**	Pg	Pb	05 03 13.0	-0.3
SAUF				Sn	Sn	05 03 26.9	-0.8
FLAF	**Flassans-sur-l**	**0.91**	**176**	Pg	Pg	05 03 12.6	-0.7
FLAF				Pn	Pb	05 03 13.8	-0.6
GDM	**Grand'Maison**	**0.91**	**358**	Pg	Pg	05 03 12.7	-0.6
GDM				Sg	Sg	05 03 24.9	-0.3
TURF	**col de Turini**	**0.94**	**109**	P	Pg	05 03 14.2	+0.3
TURF	**col de Turini**	**0.94**	**109**	Pg	Pg	05 03 13.6	-0.2
TURF				Pn	Pb	05 03 14.9	-0.1
TURF				Sg	Sb	05 03 27.1	-0.8
BHB	**Bricherasio**	**0.96**	**55**	P	Pg	05 03 13.6	-0.7
BHB				S	Sg	05 03 26.1	-0.6
ESCA	**l'Escarene**	**0.98**	**118**	Pg	Pg	05 03 15.0	+0.2
ESCA				Pn	Pb	05 03 15.6	0.0
OGMO	**Fort Saint-Gob**	**0.99**	**22**	P	Pg	05 03 14.5	-0.3
OGMO	**Fort Saint-Gob**	**0.99**	**22**	Pg	Pg	05 03 14.5	-0.3
LMR	**La Mourre**	**0.99**	**165**	*e*Pg	Pg	05 03 14.5	-0.3
LMR				*e*Sg	Sg	05 03 27.2	-0.5
	38nm,0.1s						
ARBF	**Arbois**	**1.00**	**217**	Pg	Pg	05 03 15.1	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBF	**Sospel**	**1.01**	**115**	*e*Pg	Pg	05 03 14.8	-0.4
SBF	**Sospel**	**1.01**	**115**	*e*Pn	Pb	05 03 15.7	-0.4
SBF				*e*Sg	Sg	05 03 27.7	-0.6
	54nm,0.4s						
EILF	**Villa Eilenroc**	**1.02**	**137**	Pg	Pg	05 03 15.4	0.0
EILF				Sg	Sb	05 03 30.0	-0.1
SAOF	**Saorge**	**1.04**	**107**	Pg	Pg	05 03 15.4	-0.5
SAOF				Pn	Pb	05 03 16.6	-0.1
VIVF	**Saint-Julien-l**	**1.21**	**298**	*e*Pg	Pg	05 03 17.9	-1.2
VIVF				*e*Sg	Sg	05 03 33.7	-1.0
	5.5nm,0.1s						
LPG	**La Plagne**	**1.27**	**19**	*e*Pg	Pg	05 03 19.9	-0.4
LPG				*e*Sg	Sg	05 03 36.3	-0.6
	6.9nm,0.3s						
LPL	**La Plagne**	**1.29**	**18**	*e*Pg	Pg	05 03 19.9	-0.7
LPL				*e*Sg	Sg	05 03 36.9	-0.4
	14nm,0.6s						
IMI	**Imperia**	**1.30**	**106**	P	Pg	05 03 20.4	-0.4
OGSM	**Saint Maurice**	**1.36**	**346**	Pn	Pn	05 03 21.3	-0.7
OGSM				Sn	Sg	05 03 39.5	-0.1
RSL	**Roselend**	**1.43**	**13**	Pn	Pn	05 03 22.9	-0.1
ASEAF	**Site Antares,**	**1.50**	**180**	Pn	Pn	05 03 23.5	0.0
SSB	**Saint Sauveur**	**1.52**	**311**	Pn	Pn	05 03 22.4	-1.8
SSB				Pg	Pg	05 03 25.7	+0.6
SSB				Sn	Sn	05 03 41.6	-2.9
SSB				Sg	Sg	05 03 45.0	+0.2
LASF	**Ste Croix**	**1.68**	**263**	*e*Pn	Pn	05 03 23.7	-2.6
LASF				*e*Sn	Sn	05 03 44.9	-3.5
	1.5nm,0.1s						
OG35	**Corcelles**	**1.80**	**347**	Pg	Pb	05 03 30.0	+0.3
OGSI	**Sixt**	**1.82**	**13**	Pg	Pg	05 03 30.8	0.0
CABF	**La Chapelle**	**2.32**	**359**	*e*Pn	Pn	05 03 34.1	-1.1
CABF	**La Chapelle**	**2.32**	**359**	*e*Pg	Pb	05 03 39.0	+0.5
CABF				*e*Sg	Sb	05 04 09.0	+1.4
	2.0nm,0.4s						
PGF	**Pioggiola**	**2.70**	**129**	*e*Pn	Pn	05 03 38.2	-2.2
PGF				*e*Sn	Sn	05 04 08.9	-4.8
	0.7nm,0.2s						
SMF	**Signal de Mont**	**2.87**	**326**	*e*Pn	Pn	05 03 40.9	-1.7
SMF				*e*Sn	Sn	05 04 13.2	-4.5
	1.3nm,0.2s						
SMF				*e*Sg	Sg	05 04 26.4	-1.6
	1.2nm,0.2s						
CAF	**Calviac**	**3.00**	**284**	*e*Pn	Pn	05 03 42.8	-1.7
CAF				*e*Sn	Sn	05 04 17.0	-4.0
	0.5nm,0.3s						
MTLF	**Montolieu**	**3.01**	**253**	*e*Pn	Pn	05 03 42.4	-2.2
MTLF				*e*Sn	Sn	05 04 17.0	-4.3
	1.4nm,0.2s						
AVF	**Avril sur Loir**	**3.19**	**323**	*e*Pn	Pn	05 03 44.9	-2.1
AVF	**Avril sur Loir**	**3.19**	**323**	*e*Pg	Pg	05 03 55.1	-1.8
AVF				*e*Sn	Sn	05 04 21.7	-3.9
AVF				*e*Sg	Sg	05 04 35.7	-2.5
	0.5nm,0.3s						
BGF	**Bois d'Agland**	**3.26**	**315**	*e*Pn	Pn	05 03 46.3	-1.7
BGF				*e*Sn	Sn	05 04 23.3	-4.0
	2.0nm,0.3s						
SSF	**Saint Saulge**	**3.34**	**327**	*e*Pn	Pn	05 03 47.6	-1.5
SSF				*e*Sn	Sn	05 04 25.1	-4.2
SSF				*e*Sg	Sg	05 04 41.0	-2.1
	1.0nm,0.3s						
LOR	**Lormes**	**3.39**	**332**	*e*Pg	Pb	05 03 58.2	+1.6
LOR				*e*Sn	Sn	05 04 25.3	-5.2
LOR				*e*Sg	Sg	05 04 42.3	-2.3
TCF	**Toulx Ste Croi**	**3.43**	**307**	*e*Pn	Pn	05 03 47.9	-2.5
TCF				*e*Sn	Sn	05 04 26.7	-5.0
	0.6nm,0.3s						
RJF	**Les Rejaudoux**	**3.46**	**289**	*e*Pn	Pn	05 03 49.0	-1.8
RJF	**Les Rejaudoux**	**3.46**	**289**	*e*Pg	Pb	05 03 59.8	+1.9
RJF				*e*Sn	Sn	05 04 28.2	-4.2
	0.2nm,0.1s						
HINF	**Hinteralfeld**	**3.56**	**7**	*e*Pn	Pn	05 03 49.6	-2.5
HINF	**Hinteralfeld**	**3.56**	**7**	*e*Pg	Pg	05 04 02.1	-1.9
HINF				*e*Sg	Sg	05 04 47.8	-2.3
	0.7nm,0.2s						
CDF	**Champ du Feu**	**4.19**	**10**	*e*Pn	Pn	05 03 58.5	-2.4

*IDC **10** 05:08:59.9±1.5, 25°.19N×127°.58E, h0km, mb4.0/7, mbtmp4.0/7, MS3.3/4, Error ellipse: s-maj=42.5km s-min=26.7km az=81.0*
*JMA **10** 05:09:06.2±0.4, 25°N±2°×12°8E±°, h61km±4km, MV3.4/13, NEAR OKINAWAJIMA ISLAND*
ISC 10 05:09:03.6±0.9**, 25°.27N**±0°.06×**127°.67E**±0°.05**, h27**km**, n23,** σ**1^{s}08**/26**, mb4.0**/7**, MS3.5**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.88**	**7**	P	**Pn**	**05 09 20.6**	**+0.5**
JJT3				*e*S	**Sn**	**05 09 30.9**	**-1.2**
JNTH	**Nagotoyohara**	**1.28**	**14**	P	**Pn**	**05 09 25.8**	**0.0**
JNTH				*e*S	**Sn**	**05 09 40.8**	**-1.3**
JKE	**Kume jima 2**	**1.32**	**323**	P	**Pn**	**05 09 25.6**	**-0.6**
JAGN	**Aguni-jima**	**1.37**	**344**	P	**Pn**	**05 09 26.9**	**0.0**
JOW	**Kunigami**	**1.65**	**19**	Pn	**Pn**	**05 09 31.1**	**+0.4**
	9.4nm,0.3s,baz=149,slow=23,SNR=20						
JOW	**Kunigami**	**1.65**	**19**	P	**Pn**	**05 09 31.1**	**+0.4**
JOW				*e*S	**Sn**	**05 09 49.9**	**-1.2**
JIH	**Iheya**	**1.78**	**9**	*e*P	**Pn**	**05 09 33.0**	**+0.4**
JIH				*e*S	**Sn**	**05 09 52.3**	**-2.0**
JYRO	**Yoronjima**	**1.88**	**22**	*e*P	**Pn**	**05 09 34.2**	**+0.2**
JIKM	**Ikemajima**	**2.22**	**262**	*e*S	**Sn**	**05 10 04.1**	**-1.1**
JTJ	**Tarama**	**2.77**	**258**	*e*S	**Sn**	**05 10 16.9**	**-1.7**
JMZ	**Minamidaito 2**	**3.25**	**80**	P	**Pn**	**05 09 53.0**	**+0.2**
JMZ				*e*S	**Sn**	**05 10 28.9**	**-1.8**
JKDJ	**Kitadaitoujima**	**3.34**	**78**	P	**Pn**	**05 09 54.4**	**+0.3**
JKDJ				*e*S	**Sn**	**05 10 31.2**	**-1.8**
KSRS	**Korea Array**	**12.15**	**1**	LR	LR	05 16 43.8	
	comp=Z,63nm,18.9s,baz=190,slow=38						
CMAR	**Chiang Mai Arr**	**27.47**	**261**	LR	LR	05 26 26.5	
	comp=Z,39nm,18.1s,baz=85,slow=38						
SONM	**Songino Array**	**28.09**	**329**	P	**P**	**05 14 53.2**	**+0.1**
	0.9nm,0.6s,baz=139,slow=9.8,SNR=6.0						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**41.80**	**313**	P	**P**	**05 16 50.8**	**-0.1**
	1.6nm,0.5s,baz=97,slow=11,SNR=20						
	1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**42.71**	**324**	P	**P**	**05 16 58.4**	**+0.3**
	1.0nm,0.5s,baz=111,slow=7.9,SNR=4.2						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**45.20**	**317**	P	**P**	**05 17 18.2**	**0.0**
	0.5nm,0.2s,baz=104,slow=8.7,SNR=5.1						
	0.5nm,0.2s						
WRA	**Warramunga Arr**	**45.41**	**171**	P	**P**	**05 17 19.5**	**-0.5**
	0.7nm,0.7s,baz=350,slow=8.8,SNR=2.6						
	0.7nm,0.7s						
ARU	**Arti**	**57.83**	**322**	LR	LR	05 45 57.0	
	comp=Z,45nm,21.3s,baz=40,slow=38						
FINES	**FINESS Array B**	**73.45**	**331**	P	**P**	**05 20 34.8**	**+1.6**
	4.4nm,1.0s,baz=69,slow=7.6,SNR=4.6						
	4.4nm,1.0s						
NB2	**NORSAR Subarra**	**79.95**	**334**	P	**P**	**05 21 11.5**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=53,slow=5.6						
NOA	**NORSAR Array B**	**79.95**	**334**	P	**P**	**05 21 11.4**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=52,slow=5.7,SNR=4.8						
NOA				LR	LR	06 01 14.4	
	comp=Z,21nm,19.0s,baz=255,slow=39						
	comp=Z,2.0nm,0.9s						

*JMA **10** 05:13:16.9±0.1, 24°.7N±0°.8×122°.3E±0°.3, h0km, MV2.5/7, TAIWAN REGION*
*TAP **10** 05:13:17.0, 24°.80N×122°.26E, h10km, ML2.9, C*
ISC 10 05:13:17.0±1.0**, 24°.77N**±0°.02×**122°.29E**±0°.02**, h8**km±9km**, n71,** σ**0^{s}60**/113**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.36**	**311**	*i* P	**Pg**	**05 13 24.1**	**0.0**
	baz=310						
TWB1				*i* S	**Sg**	**05 13 28.7**	**-0.1**
	baz=310						
TWC	**Suao**	**0.43**	**248**	*i* P	**Pg**	**05 13 25.5**	**+0.2**
	baz=253						
TWC				*i* S	**Sg**	**05 13 31.4**	**+0.4**
	baz=253						
TIPB	**Shuangxi**	**0.47**	**295**	*i* P	**Pg**	**05 13 26.4**	**+0.4**
	baz=293						
SXI1	**Grass Mountain**	**0.49**	**311**	P	**Pg**	**05 13 27.0**	**+0.5**
	baz=308						
SXI1				S	**Sg**	**05 13 33.9**	**+0.8**
	baz=308						
NWF	**Wu-fen Shan**	**0.55**	**303**	*i* P	**Pb**	**05 13 28.5**	**-0.4**
	baz=300						
NWF				*i* S	**Sb**	**05 13 36.5**	**-0.5**
	baz=300						
WFSB	**Wu-fen Shan**	**0.55**	**303**	P	**Pb**	**05 13 28.6**	**-0.2**
	baz=300						
WFSB				S	**Sb**	**05 13 36.1**	**-0.8**
	baz=300						
EWUT	**Wuta**	**0.57**	**235**	P	**Pg**	**05 13 26.8**	**-1.2**
	baz=234						
TWE	**Neicheng**	**0.57**	**265**	*i* P	**Pg**	**05 13 28.2**	**+0.2**
	baz=254						
TWE				S	**Sb**	**05 13 36.7**	**-0.8**
	baz=254						
TNOU	**National Taiwa**	**0.60**	**309**	P	**Pb**	**05 13 29.3**	**-0.5**
	baz=306						
TNOU				S	**Sg**	**05 13 37.4**	**+0.9**
	baz=306						
ENA	**Nanau**	**0.61**	**236**	*i* P	**Pg**	**05 13 28.6**	**0.0**
	baz=232						
ENA				S	**Sg**	**05 13 37.1**	**+0.5**
	baz=232						
FUSB	**Fushanzhiwuyua**	**0.64**	**269**	P	**Pg**	**05 13 29.7**	**+0.4**
	baz=267						
FUSB				S	**Sb**	**05 13 38.8**	**-0.7**
	baz=267						
ENTT	**Nioudou**	**0.67**	**259**	*i* P	**Pg**	**05 13 29.5**	**-0.4**
	baz=256						
ENTT				*i* S	**Sg**	**05 13 38.5**	**-0.2**
	baz=256						
TWA	**Mucha**	**0.67**	**288**	P	**Pb**	**05 13 31.0**	**0.0**
	baz=286						
JYNG	**Yonagunijimaku**	**0.68**	**118**	*e*P	**Pg**	**05 13 29.9**	**-0.1**
JYNG				S	**Sg**	**05 13 39.1**	**+0.2**
EHP	**Heping Village**	**0.68**	**227**	S	**Sb**	**05 13 40.4**	**-0.2**
	baz=234						
NWRT	**Kuosheng**	**0.71**	**307**	S	**Sb**	**05 13 41.2**	**-0.4**
	baz=305						
NWLT	**Wulai**	**0.72**	**271**	*i* P	**Pg**	**05 13 30.1**	**-0.7**
	baz=268						
NWLT				S	**Sg**	**05 13 39.5**	**-0.6**
	baz=268						
NHDH	**Xindian Distri**	**0.72**	**285**	*i* P	**Pb**	**05 13 31.9**	**+0.2**
	baz=273						
NHDH				*i* S	**Sb**	**05 13 41.5**	**-0.3**
	baz=273						
YOJ	**Yonaguni jima**	**0.73**	**115**	P	**Pg**	**05 13 30.9**	**0.0**
	baz=116						
YOJ				*e*S	**Sg**	**05 13 40.8**	**+0.4**
	baz=116						
YOJ	**Yonaguni jima**	**0.73**	**115**	P	**Pg**	**05 13 30.5**	**-0.5**
YOJ				*e*S	**Sg**	**05 13 40.7**	**+0.4**
NDT	**Datong Townshi**	**0.73**	**257**	P	**Pg**	**05 13 30.1**	**-0.8**
	baz=255						
NDT				*i* S	**Sb**	**05 13 41.4**	**-0.7**
	baz=255						
LATG	**Datong**	**0.73**	**251**	P	**Pg**	**05 13 31.2**	**+0.1**
	baz=249						
LATG				S	**Sb**	**05 13 42.0**	**-0.3**
	baz=249						
YM01	**YM01**	**0.75**	**300**	P	**Pg**	**05 13 31.4**	**0.0**
	baz=298						
YM01				S	**Sb**	**05 13 42.6**	**-0.2**
	baz=298						
TATO	**Taipei**	**0.76**	**286**	P	**Pb**	**05 13 32.6**	**+0.2**
TATO	**Taipei**	**0.76**	**286**	P	**Pb**	**05 13 32.2**	**-0.2**
	baz=274						
TATO				S	**Sb**	**05 13 43.3**	**+0.4**
	baz=274						
YM08	**YM08**	**0.76**	**303**	P	**Pg**	**05 13 32.0**	**+0.4**
	baz=302						
NSK	**Sanguang**	**0.85**	**264**	*i* P	**Pg**	**05 13 32.6**	**-0.7**
	baz=256						
NSK				S	**Sg**	**05 13 44.8**	**+0.3**
	baz=256						
NTST	**Danshui**	**0.86**	**297**	S	**Sb**	**05 13 46.2**	**+0.4**
	baz=308						
ETL	**Fush Village**	**0.86**	**225**	*i* P	**Pg**	**05 13 33.5**	**0.0**
	baz=233						
ETL				S	**Sb**	**05 13 45.2**	**-0.7**
	baz=233						
NACB	**Ninganchiao**	**0.87**	**227**	P	**Pg**	**05 13 33.5**	**-0.1**
NACB	**Ninganchiao**	**0.87**	**227**	P	**Pg**	**05 13 33.6**	**-0.1**
	baz=226						
NACB				S	**Sg**	**05 13 44.9**	**-0.1**
	baz=226						
PCYT	**Pengchaiyu**	**0.88**	**347**	*e*P	**Pg**	**05 13 31.5**	**-2.3**
	baz=346						
NNSB	**Datong**	**0.89**	**248**	P	**Pg**	**05 13 33.8**	**-0.3**
	baz=237						
NNSB				S	**Sb**	**05 13 47.0**	**0.0**
	baz=237						
NNS	**Nan Shan**	**0.90**	**249**	*i* P	**Pg**	**05 13 33.4**	**-0.8**
	baz=237						
NNS				*i* S	**Sg**	**05 13 46.0**	**0.0**
	baz=237						
ETLH	**Xiulin Townshi**	**0.93**	**233**	P	**Pg**	**05 13 34.5**	**-0.3**
	baz=232						
ETLH				S	**Sb**	**05 13 48.1**	**+0.3**
	baz=232						
TWD	**Chiawan**	**0.94**	**223**	S	**Sb**	**05 13 47.9**	**-0.1**
	baz=230						
NFF	**Wufeng Townshi**	**1.07**	**263**	P	**Pg**	**05 13 36.6**	**-1.0**
	baz=269						
NFF				S	**Sn**	**05 13 53.2**	**-0.4**
	baz=269						
ETM	**Tongmen**	**1.08**	**222**	P	**Pg**	**05 13 37.3**	**-0.5**
	baz=231						
ETM				S	**Sb**	**05 13 52.3**	**0.0**
	baz=231						
FUSS	**Fushou**	**1.09**	**241**	*i* P	**Pb**	**05 13 38.4**	**+0.2**
	baz=241						
FUSS				*i* S	**Sb**	**05 13 52.5**	**-0.1**
	baz=241						
WHF	**Hehuan Shan**	**1.12**	**236**	*i* P	**Pg**	**05 13 38.4**	**-0.2**
	baz=237						
WHF				*i* S	**Sg**	**05 13 53.1**	**-0.1**
	baz=237						
TWT	**Tachien**	**1.14**	**243**	*i* P	**Pn**	**05 13 39.6**	**+0.2**
	baz=237						
TWT				*i* S	**Sb**	**05 13 54.2**	**+0.1**
	baz=237						
TDCB	**Techi**	**1.15**	**244**	P	**Pn**	**05 13 39.9**	**+0.4**
	baz=237						
TDCB				S	**Sb**	**05 13 54.1**	**-0.3**
	baz=237						
LIOB	**Emei**	**1.17**	**264**	*i* P	**Pn**	**05 13 40.3**	**+0.7**
	baz=283						
NSTT	**Nanjuang**	**1.18**	**263**	*i* P	**Pn**	**05 13 40.8**	**+1.0**
	baz=263						
NSTT				*i* S	**Sn**	**05 13 57.0**	**+0.9**
	baz=263						
ESL	**Shilin**	**1.23**	**220**	P	**Pg**	**05 13 39.9**	**-0.8**
	baz=206						
CHGB	**Renai**	**1.24**	**235**	P	**Pb**	**05 13 40.9**	**+0.1**
	baz=236						
CHGB				S	**Sb**	**05 13 57.4**	**+0.4**
	baz=236						
WHP	**Taichung City**	**1.32**	**248**	*i* P	**Pb**	**05 13 42.5**	**+0.4**
	baz=249						
WHP				S	**Sn**	**05 13 59.6**	**0.0**
	baz=249						
WUSB	**Renai**	**1.32**	**234**	P	**Pb**	**05 13 42.3**	**+0.2**
	baz=235						
WUSB				S	**Sn**	**05 13 59.9**	**+0.1**
	baz=235						
IRIF	**Iriomote-Funau**	**1.38**	**108**	*e*P	**Pb**	**05 13 43.3**	**+0.2**
WCS	**Beigang Elemen**	**1.44**	**241**	*i* P	**Pg**	**05 13 44.4**	**-0.3**
	baz=249						
WCS				S	**Sg**	**05 14 03.6**	**+0.2**
	baz=249						
VWDT	**VWDT**	**1.46**	**226**	P	**Pb**	**05 13 44.3**	**0.0**
	baz=234						
VWDT				S	**Sg**	**05 14 05.0**	**+1.1**
	baz=234						
SMLT	**Sun Moon Lake**	**1.55**	**235**	*i* P	**Pg**	**05 13 46.6**	**0.0**
	baz=238						
SSLB	**Suanglung**	**1.56**	**231**	P	**Pb**	**05 13 46.4**	**+0.2**
SSLB	**Suanglung**	**1.56**	**231**	P	**Pb**	**05 13 46.2**	**0.0**
	baz=235						
TYC	**Yuchr**	**1.57**	**237**	*i* P	**Pg**	**05 13 46.9**	**-0.1**
	baz=240						
YULB	**Yu-li**	**1.65**	**214**	P	**Pg**	**05 13 48.5**	**0.0**
YULB	**Yu-li**	**1.65**	**214**	P	**Pn**	**05 13 45.0**	**-1.3**
	baz=221						
EYUL	**Yuli**	**1.67**	**212**	P	**Pb**	**05 13 47.7**	**-0.3**
	baz=205						
WHYT	**Xinyi Township**	**1.69**	**231**	*i* P	**Pb**	**05 13 48.1**	**-0.3**
	baz=233						
WHYT				S	**Sg**	**05 14 10.4**	**-1.0**
	baz=233						
JIJ	**Ishigaki jima**	**1.74**	**103**	S	**Sn**	**05 14 10.5**	**+0.8**
YUS	**Yu-Shan**	**1.77**	**224**	*i* P	**Pn**	**05 13 49.1**	**+0.7**
	baz=229						
FULB	**Fuli**	**1.81**	**210**	P	**Pn**	**05 13 47.6**	**-0.9**
	baz=194						
ALS	**Alishan**	**1.85**	**227**	*i* P	**Pb**	**05 13 50.4**	**-0.9**
	baz=233						
ALS				*i* S	**Sb**	**05 14 14.6**	**0.0**
	baz=233						
ELDTW	**Lidau**	**1.96**	**217**	*i* P	**Pn**	**05 13 50.4**	**-0.2**
	baz=210						
ELDTW				S	**Sn**	**05 14 16.2**	**+0.7**
	baz=210						
CHN4	**Tsaushan**	**2.10**	**228**	*i* P	**Pn**	**05 13 53.8**	**+1.3**
	baz=235						
CHN4				*i* S	**Sb**	**05 14 21.8**	**+0.2**
	baz=235						
TPUB	**Ta-pu**	**2.11**	**226**	P	**Pb**	**05 13 54.9**	**-0.6**
TPUB	**Ta-pu**	**2.11**	**226**	P	**Pb**	**05 13 54.5**	**-1.0**
	baz=218						
TPUB				S	**Sb**	**05 14 21.3**	**-0.5**
	baz=218						
WTP	**Ta-pu**	**2.16**	**226**	*i* P	**Pn**	**05 13 54.8**	**+1.5**
	baz=217						
TWK	**Hsinying**	**2.23**	**228**	P	**Pb**	**05 13 56.0**	**-1.6**
	baz=235						
CHN1	**Nanshi**	**2.26**	**226**	*i* P	**Pb**	**05 13 56.8**	**-1.2**
	baz=234						
EAST	**Anshuo**	**2.72**	**209**	P	**Pn**	**05 14 01.4**	**+0.4**
	baz=207						

*IDC **10** 05:13:25.1±28.0, 31°.15S×179°.58W, h380km±269km, mb3.6/5, mbtmp4.4/5, Error ellipse: s-maj=140.2km s-min=23.3km az=57.0*
ISC 10 05:13:26.1±2.2**, 31°.1S**±0°.3×**179°.5W**±0°.3**, h400**km**, n6,** σ**0^{s}42**/6**, mb3.7**/5**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.64**	**281**	P	**P**	**05 19 23.4**	**+0.5**
	1.8nm,0.4s,baz=100,slow=10.0,SNR=6.0						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**33.08**	**258**	P	**P**	**05 19 26.3**	**-0.2**
	1.9nm,0.5s,baz=90,slow=10,SNR=6.4						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**41.79**	**268**	P	**P**	**05 20 38.3**	**-0.4**
	3.2nm,0.5s,baz=105,slow=7.4,SNR=40						
	3.2nm,0.5s						
WRA	**Warramunga Arr**	**42.84**	**274**	P	**P**	**05 20 46.9**	**-0.1**
	5.0nm,0.3s,baz=113,slow=7.7,SNR=16						
	5.0nm,0.3s						
QSPA	**South Pole Qui**	**59.06**	**180**	P	**P**	**05 22 45.7**	**+0.1**
	1.7nm,0.6s,baz=64,slow=0.2,SNR=13						
	1.7nm,0.6s						
FINES	**FINESS Array B**	**145.30**	**339**	PKPbc	**PKPab**	**05 32 17.5**	**-0.2**
	0.8nm,0.4s,baz=48,slow=2.8,SNR=5.3						

*IDC **10** 05:27:54.5±1.6, 29°.16S×61°.11E, h0km, mb3.9/5, mbtmp3.9/5, MS3.4/13, Error ellipse: s-maj=71.2km s-min=29.4km az=26.0*
ISC 10 05:27:56.0±1.7**, 29°.2S**±0°.5×**61°.1E**±0°.3**, h10**km**, n25,** σ**1^{s}15**/6**, mb4.0**/5**, MS3.4**/13**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**23.94**	**29**	T	T	05 58 10.4	
	baz=204,slow=76,SNR=5.2						
H08S2	**Diego Garcia H**	**23.95**	**29**	T	T	05 58 09.7	
	baz=204,slow=76,SNR=6.6						
H08S3	**Diego Garcia H**	**23.96**	**29**	T	T	05 58 13.1	
	baz=204,slow=76,SNR=13						
KMBO	**Kilima Mbogo**	**35.97**	**317**	LR	LR	05 46 53.1	
	comp=Z,44nm,18.3s,baz=89,slow=32						
MAW	**Mawson**	**38.48**	**179**	LR	LR	05 48 18.0	
	comp=Z,52nm,20.5s,baz=94,slow=32						
MBAR	**Mbarara**	**40.55**	**309**	LR	LR	05 49 44.9	
	comp=Z,31nm,21.2s,baz=108,slow=32						
ATD	**Arta Tunnel**	**44.12**	**334**	LR	LR	05 51 05.1	
	comp=Z,42nm,18.2s,baz=6.0,slow=32						
H01W2	**Cape Leeuwin H**	**44.90**	**111**	T	T	06 23 49.9	
	baz=261,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**44.91**	**111**	T	T	06 23 49.8	
	baz=261,slow=75,SNR=21						
H01W1	**Cape Leeuwin H**	**44.92**	**111**	T	T	06 23 51.0	
	baz=261,slow=75,SNR=18						
WSAR	**Wadi Sarin**	**52.15**	**357**	LR	LR	05 54 10.9	
	comp=Z,49nm,18.2s,baz=177,slow=30						
SNAA	**Sanae**	**54.44**	**200**	LR	LR	05 56 05.1	
	comp=Z,26nm,20.5s,baz=10.0,slow=31						
H09N1	**TRISTAN DA CUN**	**60.61**	**242**	T	T	06 43 49.7	
	SNR=8.1						
QSPA	**South Pole Qui**	**60.99**	**180**	LR	LR	06 02 05.2	
	comp=Z,43nm,18.9s,baz=286,slow=34						
EIL	**Elat**	**63.60**	**335**	LR	LR	06 02 14.8	
	comp=Z,22nm,20.0s,baz=149,slow=32						
VNDA	**Vanda**	**64.05**	**166**	LR	LR	06 03 16.7	
	comp=Z,34nm,20.1s,baz=298,slow=33						
ASAR	**Alice Springs**	**64.51**	**104**	P	**P**	**05 38 32.5**	**-0.9**
	0.6nm,0.8s,baz=246,slow=6.1,SNR=6.7						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**66.33**	**100**	P	**P**	**05 38 46.5**	**+1.3**
	0.8nm,0.5s,baz=248,slow=5.9,SNR=1.6						
	0.8nm,0.5s						
GNI	**Garni**	**70.61**	**347**	LR	LR	06 08 29.5	
	comp=Z,24nm,19.6s,baz=142,slow=34						
TORD	**Torodi Ar. Bea**	**71.08**	**298**	P	**P**	**05 39 15.1**	**+0.3**
	1.0nm,0.8s,baz=120,slow=5.1,SNR=6.8						
TORD				LR	LR	06 10 07.3	
	comp=Z,38nm,19.3s,baz=214,slow=36						
	1.0nm,0.8s						
KBZ	**Khabaz**	**74.43**	**346**	LR	LR	06 11 01.1	
	comp=Z,19nm,20.1s,baz=106,slow=35						
MKAR	**Makanchi Array**	**77.99**	**15**	P	**P**	**05 39 54.2**	**-0.2**
	0.8nm,0.9s,baz=169,slow=8.4,SNR=4.4						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**82.24**	**6**	LR	LR	06 15 27.6	
	comp=Z,17nm,18.6s,baz=71,slow=35						
ZALV	**Zalesovo Beam**	**85.28**	**14**	P	**P**	**05 40 33.0**	**+0.4**
	0.5nm,0.3s,baz=178,slow=5.2,SNR=3.8						
	0.5nm,0.3s						
YKA	**Yellowknife Ar**	**146.54**	**356**	PKPbc	**PKPbc**	**05 47 35.9**	**-1.1**
	0.9nm,0.8s,baz=342,slow=3.3,SNR=5.2						

*GCG **10** 06:02:03.0±0.3, 15°.66N×93°.03W, h19km, MD3.6*
*MEX **10** 06:02:05.6±0.3, 15°.10N×93°.30W, h75km±7km, MD4.0*
ISC 10 06:02:05.1±1.7**, 15°.15N**±0°.09×**93°.23W**±0°.07**, h69**km±19km**, n9,** σ**1^{s}16**/14**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.55**	**1**	*e*P	**Pn**	**06 02 18.6**	**+0.1**
PCIG				*i* S	**Sn**	**06 02 28.7**	**+0.5**
CCIG	**Comitan**	**1.54**	**43**	*e*P	**Pn**	**06 02 31.2**	**+0.4**
CCIG				*e*S	**Sn**	**06 02 50.1**	**-0.1**
TGIG		**1.62**	**4**	*e*P	**Pn**	**06 02 31.8**	**-0.1**
TGIG				*e*S	**Sn**	**06 02 51.6**	**-0.3**
STG3	**Santiaguito 3,**	**1.67**	**105**	*e*P	**Pn**	**06 02 31.9**	**-0.5**
STG3				*e*S	**Sn**	**06 02 51.0**	**-2.1**
SULM	**Suchitepequez,**	**1.82**	**117**	*e*P	**Pn**	**06 02 34.8**	**+0.5**
NILT	**Santiago Nilte**	**1.94**	**317**	*e*S	**Sn**	**06 02 58.3**	**-1.1**
FUG	**Fuego 3**	**2.42**	**106**	*e*S	**Sn**	**06 03 11.0**	**-0.2**
CMIG	**Matias Romero**	**2.50**	**321**	*e*P	**Pn**	**06 02 44.8**	**+1.3**
CMIG				*e*S	**Sn**	**06 03 11.6**	**-1.4**
PCG	**Pacaya**	**2.65**	**106**	*e*S	**Sn**	**06 03 18.8**	**+1.8**

TRN 10 06:09:10.1, 9°.71N×61°.72W, h102km**, MD3.2, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.98**	**18**	*e*P	Pn	06 09 30.5	0.0
TRN				*e*S	Sn	06 09 45.3	-0.5
TBH	**Brigand Hill**	**1.00**	**40**	*e*P	Pn	06 09 31.4	+0.7
GRGR	**Grenville**	**2.41**	**2**	*e*P	Pn	06 09 48.1	-0.1
GRGR				*e*S	Sn	06 10 16.4	-0.9
BAUV	**El Baul**	**6.29**	**264**	*e*P	Pn	06 10 39.9	-0.4
BAUV	**El Baul**	**6.29**	**264**	*e*S	Sn	06 11 47.0	-3.9

*IDC **10** 06:21:41.9±1.1, 55°.01S×31°.07W, h0km, mb3.8/5, mbtmp3.9/5, MS3.2/2, Error ellipse: s-maj=56.3km*

s-min=25.5km az=46.0
*NEIC **10** 06:21:41.8±1.1, 55˚.13S±0˚.09×31˚.2W±0˚.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=22.5km s-min=8.5km az=52.0*
ISC 10 06:21:42.0±0.7**, 55˚.1S**±0˚.1×**31˚.3W**±0˚.1**, h10km, n23, σ0˚.87**/20**, mb4.4**/8**, South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.16	284		Pn	06 22 32.0	+0.3
PMSA	Palmer Station	18.82	226	LR	LR	06 32 51.8	
	comp=Z,89nm,18.3s,baz=68,slow=35						
PMSA	Palmer Station	18.82	226	P	P	06 26 01.2	-0.1
PMSA				IAmb	IAmb	06 26 15.4	
	comp=Z,30nm,1.2s						
SNAA	Sanae	20.54	155	P	Pn	06 26 22.5	+0.1
	comp=Z,2.5nm,0.9s,baz=312,slow=7.4,SNR=5.7						
	comp=Z,2.5nm,0.9s						
SNAA	Sanae	20.54	155	P	P	06 26 19.9	-0.3
TRQA	Tornquist	26.85	297	P	P	06 27 21.8	-0.7
PLCA	Paso Flores	29.56	283	LR	LR	06 39 30.5	
	comp=Z,36nm,19.1s,baz=176,slow=36						
CPUP	Villa Florida	34.51	316	P	P	06 28 31.8	+1.6
	comp=Z,1.8nm,0.7s,baz=128,slow=8.2,SNR=5.2						
	comp=Z,1.8nm,0.7s						
CPUP	Villa Florida	34.51	316	P	P	06 28 30.0	-0.1
CPUP				IAmb	IAmb	06 28 41.8	
	comp=Z,8.1nm,1.4s						
QSPA	South Pole Qui	35.12	180	P	P	06 28 35.8	+0.5
VA06	Catapilco	35.93	292	P	P	06 28 41.6	-0.7
CO03	El Pedregal	36.96	295	P	P	06 28 50.7	-0.6
CO03				IAmb	IAmb	06 28 54.2	
	comp=Z,22nm,1.2s						
PTLB	Pontes e Lacer	45.08	320	P	P	06 29 58.5	+0.5
PTLB				IAmb	IAmb	06 30 00.5	
	comp=Z,2.5nm,0.6s						
SIV	San Ignacio	45.31	318	P	P	06 30 00.1	+0.1
	comp=Z,0.6nm,0.6s,baz=160,slow=11,SNR=2.7						
	comp=Z,0.6nm,0.6s						
LPAZ	La Paz	47.99	309	P	P	06 30 23.4	+1.8
	comp=Z,2.2nm,0.7s,baz=144,slow=6.4,SNR=13						
	comp=Z,2.2nm,0.7s						
LPAZ	La Paz	47.99	309	P	P	06 30 20.7	-0.9
LPAZ				IAmb	IAmb	06 30 29.2	
	comp=Z,2.9nm,0.7s						
RCBR	Riachuelo	49.31	354	P	P	06 30 30.1	-1.0
TSUM	Tsumeb	51.33	66	P	P	06 30 46.0	-0.5
TSUM				IAmb	IAmb	06 31 10.4	
	comp=Z,9.9nm,1.4s						
CASY	Casey	55.51	162	P	P	06 31 16.3	-0.2
CASY				IAmb	IAmb	06 31 37.5	
	comp=Z,11nm,1.1s						
TORD	Torodi Ar. Bea	73.48	34	P	P	06 33 15.6	+1.1
	comp=Z,0.3nm,0.4s,baz=199,slow=6.9,SNR=2.3						
	comp=Z,0.3nm,0.4s						
ZALV	Zalesovo Beam	144.05	65	PKP	PKPdf	06 41 16.3	-0.2
	comp=Z,0.7nm,0.5s,baz=259,slow=1.5,SNR=3.6						
ILAR	Eielson Array	147.80	314	PKPbc	PKiKP	06 41 26.6	-0.9
	comp=Z,1.9nm,0.9s,baz=142,slow=2.3,SNR=12						
SONM	Songino Array	152.98	88	PKPbc	PKiKP	06 41 39.8	+0.9
	comp=Z,0.6nm,0.6s,baz=228,slow=2.1,SNR=4.0						

*HVO **10** 06:24:49.1±0.8, 19˚.69N±0˚.04×156˚.73W±0˚.07, h50km±9km, Error ellipse: s-maj=10.7km s-min=1.8km az=57.0*
NEIC 10 06:24:46.1±0.6**, 19˚.68N**±0˚.04×**156˚.75W**±0˚.05**, h26**km±9km**, ML3.1**/29**, ML2.6**/6(HVO)**, Error ellipse: s-maj=7.5km s-min=4.5km az=55.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLU	Kahalu`u	0.81	96		Pn	06 25 02.1	+0.1
KHLU					Sb	06 25 12.4	0.0
HUH	Hualalai	0.86	90		Pn	06 25 02.7	-0.1
HUH					Sb	06 25 13.8	-0.1
HUH				IAML		06 25 26.0	
	comp=N,290nm,2.1s						
HPAH	Hawaii Prepara	1.05	70		Pn	06 25 05.0	-0.2
HPAH					Sn	06 25 17.1	-2.0
ALEP	Alea Permanent	1.05	97		Pb	06 25 05.8	0.0
ALEP					Sb	06 25 19.3	-0.1
MWH	Moku‘aweowe	1.10	100		Pn	06 25 06.1	-0.2
MWH					Sn	06 25 20.0	-1.0
MWH				IAML		06 25 28.5	
	comp=E,388nm,1.3s						
MWH				IAML		06 25 31.6	
	comp=N,278nm,2.6s						
KHU	Kahuku	1.16	112		Pn	06 25 06.7	-0.1
KHU				IAML		06 25 17.1	
	comp=N,287nm,3.9s						
KHU					Sn	06 25 21.1	-0.8
KHU				IAML		06 25 23.3	
	comp=E,427nm,3.8s						
HLK	Haleakala	1.17	24		Pn	06 25 07.1	+0.1
HLK					Sn	06 25 20.1	-2.2
HLK				IAML		06 25 28.6	
	comp=E,351nm,3.4s						
HLK				IAML		06 25 34.0	
	comp=N,352nm,4.1s						
HMH	Humu‘ula Sheep	1.20	93		Pn	06 25 07.9	+0.4
HMH				IAML		06 25 21.3	
	comp=E,221nm,3.6s						
HMH				IAML		06 25 22.6	
	comp=N,398nm,3.9s						
KHLH	Kahului Airpor	1.25	14	Pn	Pb	06 25 08.6	-0.4
KHLH					Sn	06 25 22.5	-1.4
AIN	Ainahou	1.26	104		Pn	06 25 08.2	0.0
AIN					Sn	06 25 22.9	-1.4
AIN				IAML		06 25 26.9	
	comp=E,428nm,4.3s						
MLH	Mauna Loa	1.30	98	Pn	Pn	06 25 08.9	+0.1
MLH				IAML		06 25 43.0	
	comp=E,285nm,3.0s						
MLH				IAML		06 25 43.1	
	comp=N,318nm,4.5s						
RSD	Rainshed	1.41	99	Pn	Pn	06 25 10.6	+0.4
RSD				IAML		06 25 23.4	
	comp=E,320nm,2.3s						
HLP	Hilina Pali	1.41	105	Pn	Pn	06 25 10.2	0.0
PUH	Pauahi	1.48	102	Pn	Pn	06 25 10.8	-0.3
PUH				IAML		06 25 22.1	
	comp=E,279nm,4.1s						
JCUZ	Jacuzzi	1.58	100	Pn	Pn	06 25 12.4	-0.2
KIP	Kipapa	2.10	326	Pn	Pn	06 25 19.4	-0.1
KIP				IAML		06 25 54.4	
	comp=E,128nm,4.7s						

IDC 10 06:34:35.4±2.9**, 28˚.57S**×**61˚.67E, h0km, mb3.7**/3**, mbtmp3.8**/4**, ML4.1**/1**, MS3.5**/13**, Error ellipse: s-maj=132.4km s-min=32.7km az=35.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	16.57	304	Pn	Pn	06 38 27.6	-1.9
	0.1nm,0.3s,baz=125,slow=15,SNR=5.1						
	2.5nm,0.6s						
H08S1	Diego Carcia H	23.18	28	T	T	07 04 31.9	
	baz=204,slow=76,SNR=3.5						
H08S2	Diego Garcia H	23.18	28	T	T	07 04 33.1	
	baz=204,slow=76,SNR=2.9						
H08S3	Diego Garcia H	23.20	28	T	T	07 04 38.1	
	baz=204,slow=76,SNR=2.8						
LSZ	Lusaka	33.63	286	LR	LR	06 52 30.6	
	comp=Z,42nm,20.7s,baz=213,slow=32						
SUR	Sutherland	35.27	253	LR	LR	06 53 11.7	
	comp=Z,40nm,20.1s,baz=118,slow=32						
KMBO	Kilima Mbogo	35.90	315	LR	LR	06 54 09.7	
	comp=Z,53nm,21.2s,baz=88,slow=33						
MAW	Mawson	39.07	179	LR	LR	06 54 09.1	
	comp=Z,57nm,18.6s,baz=14,slow=30						
PALK	Pallekele	40.09	30	LR	LR	06 54 28.7	
	comp=Z,50nm,18.2s,baz=252,slow=30						
MBAR	Mbarara	40.59	308	LR	LR	06 57 28.9	
	comp=Z,43nm,18.9s,baz=110,slow=34						
TSUM	Tsumeb	41.18	273	LR	LR	06 57 31.6	
	comp=Z,26nm,18.3s,baz=152,slow=33						
H01W2	Cape Leeuwin H	44.65	112	T	T	07 30 49.6	
	baz=262,slow=75,SNR=4.7						
H01W3	Cape Leeuwin H	44.65	112	T	T	07 30 53.9	
	baz=262,slow=75,SNR=4.1						
H01W1	Cape Leeuwin H	44.67	112	T	T	07 30 53.8	
	baz=262,slow=75,SNR=5.4						
EIL	Elat	63.29	334	LR	LR	07 09 20.2	
	comp=Z,28nm,18.3s,baz=162,slow=33						
ASAR	Alice Springs	64.15	104	P	P	06 45 11.7	-0.4
	1.0nm,0.8s,baz=242,slow=6.4,SNR=8.2						
	1.0nm,0.8s						
VNDA	Vanda	64.50	166	LR	LR	07 10 47.0	
	comp=Z,36nm,18.3s,baz=263,slow=34						
WRA	Warramunga Arr	65.93	100	P	P	06 45 23.7	0.0
	0.7nm,0.8s,baz=246,slow=5.6,SNR=4.7						
	0.7nm,0.8s						
GNI	Garni	70.16	346	LR	LR	07 14 37.6	
	comp=Z,21nm,20.4s,baz=188,slow=34						
KBZ	Khabaz	73.98	346	LR	LR	07 17 09.1	
	comp=Z,26nm,21.1s,baz=150,slow=34						
KURBB	Kurchatov Arra	80.24	11	P	P	06 46 48.6	+1.1
	0.5nm,0.8s,baz=205,slow=6.1,SNR=1.7						
	0.5nm,0.8s						
JOW	Kunigami	84.35	55	LR	LR	07 18 25.4	
	comp=Z,132nm,18.9s,baz=106,slow=31						
MJAR	Matsushiro Arr	96.73	52	LR	LR	07 29 42.0	
	comp=Z,88nm,19.8s,baz=222,slow=34						
YKA	Yellowknife Ar	145.98	357	PKPbc	PKPdf	06 54 15.4	-0.1
	0.5nm,0.6s,baz=349,slow=4.2,SNR=4.4						

TEH 10 06:48:09.7, 30˚.05N×**57˚.61E, h9km, ML3.5, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.20	197	ePg	Pg	06 48 14.7	+0.7
CHMN				eSg	Sg	06 48 17.7	+0.8
TVBK	TV Kerman	0.73	265	ePg	Pb	06 48 24.8	-0.1
TVBK				eSg	Sb	06 48 34.8	-0.4
TVBK				e		06 48 36.7	
	comp=Z,31μm,0.2s						
KRBR	Kerman	0.74	265	ePg	Pb	06 48 24.9	0.0
NGRK	Negar Kerman	0.86	242	ePg	Pb	06 48 27.5	+0.4
NGRK				eSg	Sb	06 48 39.2	+0.3
NGRK				e		06 48 41.2	
	comp=Z,15μm,0.2s						
KHGB	Koh Gabri	1.03	288	ePg	Pg	06 48 29.4	-0.1
KHGB				e		06 48 48.1	
	comp=Z,7μm,0.3s						
KBAM	BAM	1.18	141	ePg	Pg	06 48 32.3	0.0
KBAM				eSg	Sn	06 48 48.8	+0.1
ZRDN	Zarand Kerman	1.30	315	ePg	Pg	06 48 34.9	+0.3
ZRDN				e		06 48 59.1	
	comp=Z,9μm,0.2s						
KHNJ	Kahnooj	2.10	178	ePn	Pb	06 48 46.8	-1.2
BSRN	Basiran	2.31	34	ePn	Pn	06 48 49.4	+1.3
IBAF	Bafgh	2.33	312	ePn	Pb	06 48 50.2	-1.8
IBAF				e		06 48 53.4	
	comp=Z,4μm,0.3s						
NHDN	Nehbandan	2.49	57	ePn	Pb	06 48 52.8	-2.0
IKOO	Kooshah	2.65	27	ePn	Pn	06 48 54.7	+1.8
ZHSF	Zahedan	2.79	98	ePn	Pb	06 48 57.6	-2.3
ZHDN	Zahedan	2.86	102	ePn	Pb	06 48 58.5	-2.6
ZHDN				e		06 49 48.9	
	comp=Z,1μm,0.7s						
IMEH	Mehriz	2.90	298	ePn	Pb	06 48 59.5	-2.3
IMEH				e		06 49 44.8	
	comp=Z,1μm,0.5s						
ITEG	Tejag	3.00	19	ePn	Pn	06 48 59.5	+1.9
BAGH	Bagheran - Bir	3.04	26	ePn	Pn	06 48 59.4	+1.0
BAGH				e		06 49 50.3	
	comp=Z,2μm,0.3s						
TPRV	Parvadeh(Tabas	3.07	345	ePn	Pn	06 49 00.8	+2.3
IDAH	Dahanechah	3.30	35	ePn	Pn	06 49 03.9	+2.0
IDAH				e		06 50 04.0	
	comp=Z,1μm,0.4s						
YZKH	Yazd	3.48	313	ePn	Pn	06 49 07.5	+3.4
AFRZ	Afriz	3.57	19	ePn	Pn	06 49 07.4	+1.9
TKDS	Koohdasht(Taba	3.57	354	ePn	Pn	06 49 07.4	+1.9
IMON	Monand	3.59	29	ePn	Pn	06 49 07.6	+1.8
IMON				e		06 50 14.9	
	comp=Z,1μm,0.2s						
TABS	Tabas	3.61	354	ePn	Pn	06 49 08.8	+2.8
ISAD	Sadrabad	3.84	300	ePn	Pn	06 49 12.5	+3.2
ISAD				e		06 50 26.7	
	comp=Z,554nm,0.5s						
TNSJ	Nastanj	3.99	348	ePn	Pn	06 49 13.5	+2.3
SHRT	Shahrakht	4.25	32	ePn	Pn	06 49 17.5	+2.8
ANAR	Anarak	4.55	314	ePn	Pn	06 49 21.9	+3.0
NASN	Na'in	4.93	305	ePn	Pn	06 49 27.0	+2.7
IZEF	Zefreh	5.32	304	ePn	Pn	06 49 33.0	+3.3
TBJM	Torbat-e-JAM	5.69	23	ePn	Pn	06 49 36.9	+2.3
SHRO	Shahrood	6.07	348	ePn	Pn	06 49 43.1	+3.3
IAKL	Akhelmad	6.60	8	ePn	Pn	06 49 49.7	+2.4

*IDC **10** 07:10:56.7±0.7, 14˚.66N×121˚.53E, h0km, mb4.2/15, mbtmp4.2/15, MS3.9/38, Error ellipse: s-maj=28.7km s-min=14.7km az=70.0*
*MAN **10** 07:10:59.2, 14˚.84N×121˚.40E, h9km, mb5.6, ML4.7, MS5.0*
MAN REPORTED INTENSITIES:; INTENSITY V- GENERAL NAKAR & INFANTA QUEZON; INTENSITY IV - ANTIPOLO CITY; ANGONO RIZAL; REAL QUEZON; INTENSITY III - QUEZON CITY; MARIKINA CITY; MANILA CITY; MAKATI CITY; MANDALUYONG CITY PASIG CITY; SAN JUAN CITY; PASAY CITY; TARLAC CITY; SAN MATEO TERESA TANAY & BINANGONAN RIZAL; CALUMPIT BULACAN; INTENSITY II - TAGUIG CITY; PARAQUE CITY; CALOOCAN CITY; VALENZUELA CITY; PATEROS METRO MANILA BACOOR CAVITE; SAN PEDRO CALAMBA STA. ROSA & LOS BAS LAGUNA; SAN ILDEFONSO BULACAN; BALER AURORA; GABALDON NUEVA ECIJA; INTENSITY I - PALAYAN CITY; GAPAN CITY NUEVA ECIJA.
*GCMT **10** 07:11:01.7±0.5, 14˚.92N±0˚.03×121˚.57E±0˚.03, h28km±2km, MW4.8/71, Moment Tensor Solution. s4,c4; s71,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.24; $M_{\theta\theta}$2.09±.15; $M_{\phi\phi}$-1.95±.14; $M_{r\theta}$-0.57±.21; $M_{\theta\phi}$-0.07±.11; $M_{\phi r}$-0.27±.27; Best double couple: $M_0$2.11100×10^{16} NP1:ϕ_s226.00000°, δ87.00000°, λ164.00000°. NP2: ϕ_s317.00000°, δ74.00000°, λ3.00000°. Principal axes: T 2.2260, Plg13.0000°, Azm180.0000°; N -0.2250, Plg74.0000°, Azm35.0000°; P -1.9960, Plg9.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **10** 07:11:04.3±0.0, 14˚.66N×121˚.26E, h40km, mb4.4/40, mB4.7/20, Ms4.3/31, Ms7 4.1/29*
*NEIC **10** 07:11:05.7±2.2, 14˚.79N±0˚.07×121˚.4E±0˚.1, h59km±8km, mb4.8/37, Error ellipse: s-maj=14.9km s-min=10.2km az=93.0*
*DJA **10** 07:11:07.8±0.7, 15˚N±5˚×12˚2E±1˚7, h67km±12km, M4.5/11, mB5.1/6, mb4.6/11, Mw(mB)4.5/6*
ISC 10 07:11:04.3±0.4**, 14˚.74N**±0˚.03×**121˚.45E**±0˚.04**, h51**km±4km**, h51km:pP-P, n165, σ2˚.36**/149**, mb4.6**/45**, MS4.0**/49**, 6C-9D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LQP	Lukban	0.63	172	⇑iP	Pn	07 11 13.1	-4.3
LQP				i S	Sn	07 11 27.2	+0.4
TGY	Tagaytay City	0.80	218	⇑eP	Pn	07 11 17.0	-2.5
TGY				eS	Sn	07 11 30.5	-0.1
PCPH	Palayan	0.89	337	⇑eP	Pn	07 11 13.6	-6.9
PCPH				eS	Sn	07 11 25.8	-6.7
JCNP	Jose Panganiba	1.29	110	⇓eP	Pn	07 11 23.3	-2.6
JCNP				eS	Sn	07 11 41.4	-0.7
APYP	Conner	3.11	356	⇑iP	Pn	07 11 48.4	-2.5
APYP				eS	Sn	07 12 34.2	+7.3
SIPP	Brgy, Tapao	3.31	343	⇓iP	Pn	07 11 53.7	+0.1
RCP	Roxas	3.40	158	⇓eP	Pn	07 11 54.6	-0.3
RCP				eS	Sn	07 12 37.9	+3.9
PACPP	Pamplona Cagay	3.70	359	⇑eP	Pn	07 11 55.9	-3.1
PACPP				eS	Sn	07 12 39.5	-1.8
TBP	Tagbilaran	5.54	155	eP	Pn	07 12 25.5	+1.2
PPR	Puerto Princes	5.60	209	⇓iP	Pn	07 12 21.4	-3.6
TWG	Pinlang	8.05	358		Pn	07 12 56.6	-2.0
KCP	Kidapawan	8.47	155	⇓eP	Pn	07 13 06.0	+1.5
TPUB	Ta-pu	8.55	355	Pn	Pn	07 13 02.8	-2.8
YULB	Yu-li	8.61	359		Pn	07 13 03.8	-2.5
SSLB	Suanglung	9.02	357		Pn	07 13 09.6	-2.3
MYLDM	Lahad Datu	9.93	197	Pn	Pn	07 13 26.9	+2.5
MYLDM	Lahad Datu	9.93	197	P	Pn	07 13 29.8	+5.4
	23nm,1.7s						
QIZ	Qiongzhong	11.90	293	P	Pn	07 13 51.4	0.0
QIZ				S	Sn	07 16 03.1	+0.4
QIZ				pmax	pmax		
	comp=Z,950nm,2.8s						
QIZ				LR	LR		
	comp=N,600nm,12.9s						
QIZ				LR	LR		
	comp=E,470nm,10.5s						
QIZ				LR	LR		
	comp=Z,410nm,8.6s						
TOLI2	Tolitoli	13.56	183	Pn	Pn	07 14 15.1	+1.1
GTOI	Gorontalo	14.10	174	P	Pn	07 14 20.6	-0.7
	437nm22nm,1.4s						
MRSI	Marisa	14.18	178	P	Pn	07 14 24.7	+2.3
	846nm27nm,1.0s						
JMZ	Minamidaito 2	14.33	38	Pn	Pn	07 14 22.9	-1.4
MPSI	Mapaga	14.39	186	P	P	07 14 31.2	+0.3
	48nm,1.1s						
SBUM	Sibu	15.23	218		Pn	07 14 35.6	-0.6
SBUM	Sibu	15.23	218	P	P	07 14 43.3	+3.0
UBPT	Khong Chiam	15.45	274	Pn	Pn	07 14 37.8	-1.3
APSI	Ampana	15.55	179	P	P	07 14 42.7	-1.1
	936nm74nm,0.9s						
LUWI	Luwuk	15.73	175	Pn	Pn	07 14 42.0	-0.7
LUWI				IAmb	IAmb	07 14 50.7	
	comp=Z,128nm,1.0s						
LUWI	Luwuk	15.73	175	P	P	07 14 46.9	+1.1
	comp=Z,3μmcomp=Z,93nm,1.2s						
BKB	Balikpapan	16.52	196	P	Pn	07 14 53.0	+0.3
NJ2	Nanjing	17.40	353	eP	P	07 15 07.1	+2.9
NJ2				pmax	pmax		
	comp=Z,17nm,0.8s						
GYA	Guiyang	18.08	313	⇑P	Pn	07 15 12.5	+0.5
GYA				pP	pP	07 15 20.4	-3.1
GYA				pmax	pmax		
	comp=Z,14nm,1.0s						
GYA				LR	LR		
	comp=Z,740nm,14.6s						
GYA				LR	LR		
	comp=Z,650nm,17.3s						
GYA				LR	LR		
	comp=Z,620nm,15.5s						
PMSI	Majene	18.29	188	P	P	07 15 14.7	+0.5
	comp=Z,2μmcomp=Z,127nm,1.4s						
SPSI	Sidrap Palu	18.66	185	P	Pn	07 15 20.9	+2.0
	comp=Z,1μmcomp=Z,15nm,1.0s						
BNSI	Bone	19.06	184	P	Pn	07 15 24.3	+0.5
	comp=Z,34nm,1.0s						
KRAI	Karang Ratu	19.21	158	P	P	07 15 23.4	-0.9
	comp=Z,36nm,1.6s						
KAPI	Kappang	19.70	185	P	P	07 15 30.4	+0.8
	comp=Z,19nm,1.0s,baz=13,slow=18,SNR=4.1						
KAPI				LR	LR	07 24 13.8	
	comp=Z,234nm,18.3s,baz=5.5,slow=41						
KAPI	Kappang	19.70	185	P	P	07 15 30.6	+1.0
KAPI				IAmb	IAmb	07 15 42.9	
	comp=Z,50nm,1.3s						
KAPI	Kappang	19.70	185	P	Pn	07 15 33.4	+2.1
BKSI	Bulukumba	19.97	184	P	Pn	07 15 36.7	+2.1
KMI	Kunming	20.37	303	⇓P	Pn	07 15 40.1	+0.5
KMI				pP	pP	07 15 52.3	+3.5
KMI				sP	sP	07 15 59.7	+4.4
KMI				S	S	07 19 19.2	-3.7
KMI				sS	sS	07 19 40.3	-1.6
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,220nm,4.6s						
KMI				LR	LR		
	comp=Z,320nm,15.7s						
KMI				LR	LR		
	comp=Z,280nm,12.8s						
KMI				LR	LR		
	comp=Z,300nm,21.4s						
LYN	LuoYang	21.33	339	⇓P	P	07 15 48.6	+1.6
LYN				pP	pP	07 15 58.7	-0.2
LYN				PP	PnPn	07 16 13.6	+5.0
LYN				S	S	07 19 42.6	+1.4
LYN				sS	sS	07 19 56.2	-4.1
LYN				SS	SnSn	07 20 09.9	+3.0
LYN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LYN				pmax	pmax		
	comp=Z,120nm,10.6s						
LYN				LR	LR		
	comp=Z,370nm,15.3s						
LYN				LR	LR		
	comp=Z,420nm,15.1s						
PZH	PanZhiHua	21.81	306	P	P	07 15 53.5	+1.1
PZH				S	S	07 19 47.8	-3.2
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,140nm,3.7s						
PZH				LR	LR		
	comp=Z,630nm,19.0s						
PZH				LR	LR		
	comp=Z,520nm,17.1s						
PZH				LR	LR		
	comp=Z,510nm,15.7s						
CM31	Chiang Mai Arr	21.88	283	P	P	07 15 53.6	+0.5
CM31				IAmb	IAmb	07 16 12.2	
	comp=Z,36nm,1.2s						
CMAR	Chiang Mai Arr	21.88	283	P	P	07 15 54.0	+0.9
	comp=Z,8.3nm,0.9s,baz=89,slow=8.2,SNR=46						
CMAR				LR	LR	07 24 38.1	
	comp=Z,150nm,18.6s,baz=95,slow=37						
	comp=Z,8.3nm,0.9s						
CMAR	Chiang Mai Arr	21.88	283	P	P	07 15 53.5	+0.3
CHTO	Chiang Mai	21.92	284	P	P	07 15 53.6	0.0
JMN	Monobe	22.01	29	P	P	07 15 55.0	+0.6
JMN				IAmb	IAmb	07 16 01.3	
	comp=Z,45nm,0.9s						
XAN	Xi'an	22.31	332	P	P	07 16 02.1	+4.4
XAN				pP	pP	07 16 11.7	+2.2
XAN				S	S	07 20 06.0	+6.1
XAN				pmax	pmax		
	comp=Z,18nm,1.8s						
XAN				LR	LR		
	comp=Z,600nm,16.1s						
XAN				LR	LR		
	comp=Z,270nm,17.5s						
XAN				LR	LR		
	comp=Z,620nm,14.1s						
IPM	Ipoh	22.55	245	P	P	07 16 00.6	+0.3
GUMO	Guam	22.73	90	LR	LR	07 24 25.5	
	comp=Z,194nm,19.2s,baz=226,slow=36						
CD2	Chengdu	22.86	318	P	P	07 16 03.1	-0.4
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				LR	LR		
	comp=Z,500nm,9.6s						
CD2				LR	LR		
	comp=Z,570nm,14.5s						
CD2				LR	LR		
	comp=Z,530nm,12.6s						
KSAR	Wonju Array Be	23.33	13	P	P	07 16 08.8	+0.9
KSRS	Korea Array	23.34	13	P	P	07 16 08.5	+0.3
	comp=Z,3.6nm,0.8s,baz=198,slow=12,SNR=9.8						
	comp=Z,3.6nm,0.8s						
HNS	HongShan	23.35	346	⇓P	P	07 16 09.5	+1.3
HNS				S	S	07 20 25.7	+8.4
HNS				SS	SnSn	07 21 06.6	+10
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
HNS				LR	LR		
	comp=Z,530nm,16.5s						
HNS				LR	LR		
	comp=Z,280nm,12.1s						
HNS				LR	LR		
	comp=Z,580nm,19.2s						
SRBI	Singaraja	23.50	196	P	P	07 16 14.6	+4.8
PLAI	Plampang	23.69	189	P	P	07 16 13.5	+1.9
TNCH	TengChong	23.83	299	⇓P	P	07 16 11.7	-1.4
TNCH				pP	pP	07 16 22.7	-3.2
TNCH				sP	sP	07 16 29.6	-2.4
TNCH				pmax	pmax		
	comp=Z,35nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,160nm,5.3s						
JAGI	Jajag, Banyuwa	24.17	198	P	P	07 16 15.9	0.0
JAGI				IAmb	IAmb	07 16 22.6	
	comp=Z,38nm,1.0s						
SOEI	Soe	24.49	173	P	P	07 16 20.1	+1.0
SOEI				IAmb	IAmb	07 16 30.0	
	comp=Z,38nm,0.8s						
SOEI	Soe	24.49	173	P	P	07 16 29.3	+10
JHJ	Hachijo jima 2	24.74	39	LR	LR	07 25 34.1	

comp=Z,103nm,18.3s,baz=346,slow=35
BATI Baumata 24.88 175 LR LR 07 28 03.9
comp=Z,190nm,18.6s,baz=200,slow=41
SDSI Sungai Dareh 25.20 234 P P 07 16 36.7 +11
BJT Baijiatuau 25.61 351 P P **07 16 28.0 -0.9**
BJI Beijing 25.63 351 P P **07 16 28.0 -1.0**
BJI sS **sS** **07 21 12.4 -3.4**
BJI pmax pmax
comp=Z,6.0nm,1.1s
BJI LR LR
comp=Z,89nm,15.3s
BJI LR LR
comp=Z,300nm,17.0s
BJI LR LR
comp=Z,270nm,14.7s
LZH Lanzhou 26.46 327 *e*P P 07 16 45.0 +8.1
LZH pP sP 07 16 57.4 +1.3
LZH pmax pmax
comp=Z,12nm,1.2s
HHC Hu-ho-hao-te 27.41 344 *e*P **P** **07 16 48.8 +3.6**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,380nm,5.0s
HHC LR LR
comp=Z,1μm,14.5s
HHC LR LR
comp=Z,400nm,11.8s
HHC LR LR
comp=Z,900nm,16.9s
CN2 Changchun 29.17 6 P P 07 17 05.5 +4.8
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
GOMU GeErMu 31.98 317 P P 07 17 35.1 +8.9
GOMU pP pP 07 17 38.5 -0.8
GOMU sP sP 07 17 39.6 -5.8
GOMU PcP **PP** **07 18 43.5 +4.4**
GOMU S **S** **07 22 36.6 +2.1**
GOMU sS sS 07 22 58.4 +1.6
GOMU pmax pmax
comp=Z,2.0nm,0.8s
GOMU pmax pmax
comp=Z,78nm,5.3s
GOMU LR LR
comp=N,270nm,13.7s
GOMU LR LR
comp=E,270nm,15.6s
GOMU LR LR
comp=Z,330nm,15.1s
RAMN Ramite 34.64 296 *e*P **P** **07 17 49.8 +0.5**
comp=Z,11nm,0.7s
JIRN Jiri 35.17 297 *e*P **P** **07 17 54.3 +0.3**
comp=Z,9.6nm,0.5s
SONM Songino Array 35.28 342 P **P** **07 17 57.0 +2.6**
comp=Z,0.9nm,0.5s,baz=133,slow=7.5,SNR=4.7
SONM LR LR 07 34 10.6
comp=Z,400nm,19.5s,baz=169,slow=39
KLR Kul'dur 35.42 12 P **P** **07 17 55.5 +0.2**
comp=Z,5.1nm,0.9s,baz=221,slow=10,SNR=5.0
comp=Z,5.1nm,0.9s
GUN Gumba 35.49 298 *e*P **P** **07 17 57.2 +0.5**
comp=Z,39nm,1.0s
KRVT Keravat (AS076 35.73 120 LR LR 07 30 16.4
comp=Z,151nm,20.7s,baz=74,slow=33
PKI Pulchoki 35.82 297 *e*P **P** **07 17 59.3 -0.2**
WRAB Tennant Creek 36.72 159 P **P** **07 18 04.9 -1.9**
WRAB IAmb IAmb 07 18 07.1
comp=Z,13nm,0.8s
WRAB Tennant Creek 36.72 159 P **P** **07 18 03.1 -3.7**
WRAB pP **pP** **07 18 17.4 -2.8**
WRA Warramunga Arr 36.72 159 P **P** **07 18 04.7 -2.2**
comp=Z,8.7nm,0.8s,baz=337,slow=9.5,SNR=52
WRA LR LR 07 36 01.1
comp=Z,64nm,18.1s,baz=8.5,slow=41
comp=Z,8.7nm,0.8s
WRA Warramunga Arr 36.72 159 P **P** **07 18 06.0 -0.8**
AS31 Alice Springs 40.06 162 P **P** **07 18 34.0 -0.9**
ASAR Alice Springs 40.06 162 P **P** **07 18 33.6 -1.3**
comp=Z,5.9nm,0.7s,baz=333,slow=6.5,SNR=45
comp=Z,5.9nm,0.7s
ASAR Alice Springs 40.06 162 P **P** **07 18 33.4 -1.5**
PALK Pallekele 40.63 264 LR LR 07 35 03.1
comp=Z,88nm,18.8s,baz=200,slow=36
WMQ Urumqi 40.83 322 *e*P **P** **07 18 39.9 -1.2**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ LR LR
comp=Z,910nm,19.5s
WMQ LR LR
comp=Z,430nm,18.5s
WMQ LR LR
comp=Z,380nm,21.5s
WAKE Wake Island 43.37 77 P **P** **07 19 01.2 -0.8**
H11S3 WAKE ISLAND Hy 43.43 79 T T 08 05 57.8
baz=274,slow=75,SNR=217
H11S1 WAKE ISLAND Hy 43.44 79 T T 08 05 58.7
baz=274,slow=75,SNR=135
H11S2 WAKE ISLAND Hy 43.44 79 T T 08 05 53.7
baz=274,slow=75,SNR=171
H11N1 WAKE ISLAND Hy 43.59 77 T T 08 05 27.2
baz=267,slow=74,SNR=25
H11N2 WAKE ISLAND Hy 43.59 77 T T 08 05 28.2
baz=267,slow=74,SNR=26
H11N3 WAKE ISLAND Hy 43.61 77 T T 08 05 28.5
baz=267,slow=74,SNR=28
MORW Morawa 43.86 187 P **P** **07 19 03.8 -2.0**
MORW IAmb IAmb 07 20 13.9
comp=Z,23nm,1.4s
MK31 Makanchi Array 45.64 323 P **P** **07 19 18.4 -1.4**
MKAR Makanchi Array 45.64 323 P **P** **07 19 21.1 +1.2**
comp=Z,2.5nm,0.8s,baz=128,slow=8.5,SNR=7.8
comp=Z,2.5nm,0.8s
MKAR Makanchi Array 45.64 323 P **P** **07 19 18.7 -1.2**
MAKZ Makanchi 45.84 323 P **P** **07 19 21.1 -0.3**
MAKZ IAmb IAmb 07 19 28.8
comp=Z,17nm,1.6s
YAK Yakutsk 47.59 5 LR LR 07 40 47.1
comp=Z,122nm,20.7s,baz=91,slow=38
PETK Petropavlovsk- 47.77 29 LR LR 07 40 46.9
comp=Z,69nm,19.1s,baz=236,slow=38
PETK Petropavlovsk- 47.77 29 P **P** **07 19 35.8 -0.6**
MNCI Minicoy 47.77 268 P **P** **07 19 36.9 0.0**
ZAA0 Zalesovo Array 48.48 332 P **P** **07 19 41.9 +0.1**
ZAA0 IAmb IAmb 07 19 51.4
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 48.48 332 P **P** **07 19 40.9 -0.9**
comp=Z,2.3nm,0.7s,baz=134,slow=5.6,SNR=6.6
comp=Z,2.3nm,0.7s
ZALV Zalesovo Beam 48.48 332 P **P** **07 19 41.2 -0.6**
AAK Ala-Archa 48.86 314 LR LR 07 39 54.7
comp=Z,218nm,21.4s,baz=76,slow=36
MA2 Magadan 49.69 19 LR LR 07 40 49.8
comp=Z,75nm,21.1s,baz=111,slow=36
KURK Kurchatov 49.74 326 P **P** **07 19 51.2 -0.2**
KURK Kurchatov 49.74 326 P **P** **07 19 50.4 -1.1**
KURK sP **sP** **07 20 12.9 +1.6**
STKA Stephens Creek 50.21 158 P **P** **07 19 53.6 -1.6**
comp=Z,1.7nm,0.5s,baz=308,slow=6.8,SNR=5.6
comp=Z,1.7nm,0.5s
GAR Garm 50.84 309 P **P** **07 19 59.6 -0.6**
CHGR Chuyangaron 51.64 308 P **P** **07 20 05.8 -0.4**
CHGR IAmb IAmb 07 20 16.8
comp=Z,17nm,1.0s
KK31 Karatay Array 51.78 314 P **P** **07 20 07.8 +0.8**
KKAR Karatay Array 51.78 314 P **P** **07 20 07.8 +0.8**
BVAR Borovoye Array 55.34 325 LR LR 07 45 13.4
comp=Z,127nm,18.4s,baz=116,slow=37
BRVK Borovoye 55.41 325 P **P** **07 20 33.4 0.0**
BRVK IAmb IAmb 07 20 43.8
comp=Z,9.1nm,1.0s
BRVK Borovoye 55.41 325 P **P** **07 20 33.5 +0.2**
BRVK pP **pP** **07 20 48.1 +0.7**
BRVK sP **sP** **07 20 56.6 +3.3**
SMY Shemya 56.11 36 P **P** **07 20 39.5 +1.2**
TIXI Tiksi 57.07 3 P **P** **07 20 44.9 0.0**
TIXI IAmb IAmb 07 20 50.6
comp=Z,16nm,1.1s
TIXI Tiksi 57.07 3 P **P** **07 20 44.5 -0.3**
TIXI pP **pP** **07 21 00.3 +1.3**
NRIK Noril'sk 58.58 347 P **P** **07 20 55.0 -0.5**
comp=Z,1.9nm,0.5s,baz=172,slow=2.9,SNR=3.8
NRIK LR LR 07 48 12.1
comp=Z,211nm,18.3s,baz=162,slow=38
comp=Z,1.9nm,0.5s
NRIK Noril'sk 58.58 347 P **P** **07 20 54.9 -0.6**
NRIK IAmb IAmb 07 21 09.4
comp=Z,13nm,1.2s
WSAR Wadi Sarin 59.62 288 LR LR 07 48 20.6
comp=Z,27nm,21.8s,baz=102,slow=38
GEYT Alibeck 60.12 305 P **P** **07 21 07.8 +1.0**
comp=Z,1.7nm,0.6s,baz=106,slow=5.1,SNR=3.3
GEYT LR LR 07 49 06.1
comp=Z,117nm,19.9s,baz=71,slow=38
comp=Z,1.7nm,0.6s
ABKAR Akbulak array 60.44 319 P **P** **07 21 08.6 -0.1**
ARU Arti 62.92 326 LR LR 07 48 17.8
comp=Z,104nm,18.6s,baz=107,slow=36
ARU Arti 62.92 326 P **P** **07 21 25.0 -0.3**
ARU IAmb IAmb 07 21 34.2
comp=Z,25nm,1.6s
KIRV Kirov 68.18 328 LR LR 07 51 26.6
comp=Z,86nm,21.7s,baz=98,slow=36
RAYN Ar Rayn 71.58 290 P **P** **07 22 21.1 +0.3**
RAYN IAmb IAmb 07 22 36.9
comp=Z,18nm,1.6s
KBZ Khabaz 71.74 312 LR LR 07 58 04.5
comp=Z,69nm,18.8s,baz=97,slow=39
AFI Afiamalu 71.93 110 LR LR 07 49 19.6
comp=Z,84nm,19.8s,baz=258,slow=32
GURO Guroymak-BITLI 72.77 306 P **P** **07 22 26.4 -1.4**
KLMR Klimovskoe 73.33 330 *e*P **P** **07 22 33.2 +2.8**
KLMR AMP 07 22 39.4
comp=Z,13nm,1.1s
IMAR Indian Mountai 74.54 25 P **P** **07 22 37.5 +0.1**
PPLA Purkeypile 75.35 28 P **P** **07 22 41.6 -0.7**
CAST Castle Rocks 75.37 28 P **P** **07 22 42.4 +0.1**
CAST IAmb IAmb 07 22 55.5
comp=Z,8.8nm,0.8s
SPU Mount Spurr 75.53 30 P **P** **07 22 42.5 -0.8**
MDM Murphy Dome 76.91 26 P **P** **07 22 50.6 -0.4**
MDM IAmb IAmb 07 23 31.4
comp=Z,14nm,1.4s
ILAR Eielson Array 77.50 26 P **P** **07 22 54.9 +0.5**
comp=Z,0.5nm,0.8s,baz=248,slow=4.3,SNR=4.2
comp=Z,0.5nm,0.8s
BMAR Burnt Mountain 78.03 23 P **P** **07 22 57.6 +0.3**
ARCES ARCESS Array B 78.38 339 P **P** **07 22 58.0 -1.1**
comp=Z,2.3nm,0.8s,baz=79,slow=6.3,SNR=4.8
ARCES LR LR 08 00 07.5
comp=Z,65nm,18.5s,baz=82,slow=38
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 78.38 339 P **P** **07 22 57.9 -1.3**
SPITS Spitsbergen Ar 78.73 348 LR LR 08 04 00.0
comp=Z,74nm,18.0s,baz=15,slow=40
MMAI Mount Meron Ar 78.86 301 LR LR 08 02 19.2
comp=Z,42nm,19.0s,baz=230,slow=39
FINES FINESS Array B 79.74 331 P **P** **07 23 05.3 -1.4**
comp=Z,4.8nm,1.1s,baz=54,slow=9.7,SNR=4.1
FINES LR LR 07 59 29.5
comp=Z,83nm,18.8s,baz=60,slow=36
comp=Z,4.8nm,1.1s
FINES FINESS Array B 79.74 331 P **P** **07 23 05.2 -1.5**
EIL Elat 79.87 298 LR LR 08 01 53.7
comp=Z,45nm,20.8s,baz=84,slow=38
EGAK Eagle 79.92 26 P **P** **07 23 07.7 +0.1**
AKASG Malin Array Be 80.14 320 LR LR 07 58 50.5
comp=Z,111nm,20.3s,baz=64,slow=36
MNK Minsk 80.20 324 *i* P **P** **07 23 06.9 -2.4**
comp=E,2.0nm,0.8s
MNK *i* P **P** **07 23 06.9 -2.4**
comp=N,23nm,1.0s
MNK *i* P **P** **07 23 06.9 -2.4**
comp=Z,5.0nm,0.7s,baz=79
MNK *i* PP **PP** **07 26 05.0 -6.9**
MNK *i* PPP PPP 07 27 53.3
MNK *i* S **S** **07 33 08.5 -1.9**
MNK *i* SS **SS** **07 38 19.3 -2.2**
MNK *i* SSS SSS 07 41 52.1
MNK *i* LQ LQ 07 48 30.0
MNK *i* LR LR 07 54 21.3
MNK *i* LRM MLR 08 00 29.1
comp=Z,78nm,20.6s
MNK *i* LRM MLR 08 02 15.5
comp=N,494nm,20.6s
MNK *i* LRM MLR 08 02 54.6
comp=E,48nm,19.8s
NACGM Naroch 80.74 324 *e*P P 07 23 18.2 +6.1
comp=Z,25nm,1.0s,baz=77
RAR Rarotonga 85.14 113 LR LR 07 55 22.8
comp=Z,51nm,20.4s,baz=270,slow=31
HFS Hagfors 85.92 331 LR LR 08 06 56.9
comp=Z,44nm,18.8s,baz=72,slow=39
NB2 NORSAR Subarra 86.68 333 P **P** **07 23 41.4 -1.1**
comp=Z,8.2nm,1.0s,baz=65,slow=5.1
NOA NORSAR Array B 86.68 333 P **P** **07 23 40.9 -1.6**
comp=Z,0.4nm,0.5s,baz=69,slow=4.7,SNR=2.5
NOA LR LR 08 07 22.5
comp=Z,86nm,18.5s,baz=60,slow=39
comp=Z,0.4nm,0.5s
IDI Anoyia 86.85 306 LR LR 08 08 54.8
comp=Z,29nm,19.1s,baz=100,slow=40
JMIC Jan Mayen 87.98 345 LR LR 08 07 56.5
comp=Z,45nm,18.2s,baz=236,slow=39
VRAC Vranov 88.35 321 LR LR 08 04 47.1
comp=Z,73nm,18.0s,baz=74,slow=36
GERES GERESS Array B 90.29 321 LR LR 08 04 52.8
comp=Z,81nm,20.2s,baz=64,slow=36
YKA Yellowknife Ar 91.54 23 P **P** **07 24 05.7 +0.3**
comp=Z,1.3nm,1.0s,baz=307,slow=4.6,SNR=4.5
comp=Z,1.3nm,1.0s
DAVOX Davos/Dischmat 93.49 320 LR LR 08 07 46.0
comp=Z,86nm,19.4s,baz=84,slow=36
BORG Borgarnes 95.86 345 LR LR 08 11 20.7
comp=Z,26nm,19.3s,baz=9.6,slow=38
EKA Eskdalemuir Ar 96.11 332 LR LR 08 12 36.9
comp=Z,113nm,18.7s,baz=44,slow=38
SFJD Kangerlussuaq 98.29 357 LR LR 08 11 42.7
comp=Z,52nm,18.6s,baz=8.5,slow=37
TXAR Lajitas Array 118.23 45 PKP **PKiKP** **07 29 47.3 +0.6**
comp=Z,0.1nm,0.4s,baz=204,slow=2.0,SNR=2.0

IDC 10 07:14:49.7±2.7, 3.79S×154.08E, h0km, mb3.7/4, mbtmp3.7/4, MS3.8/1, Error ellipse: s-maj=97.4km s-min=38.6km az=122.0, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.06**	**229**	P	P	07 20 16.0	-0.1
	0.6nm,0.7s,baz=55,slow=10,SNR=1.3						
	0.6nm,0.7s						
NWAO	**Narrogin (SRO)**	**45.00**	**226**	LR	LR	07 41 17.5	
	comp=Z,115nm,20.9s,baz=221,slow=35						
MKAR	**Makanchi Array**	**80.42**	**319**	P	P	07 27 04.0	+0.6
	0.6nm,0.7s,baz=100,slow=5.8,SNR=3.7						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**80.75**	**22**	P	P	07 27 05.3	+0.5
	0.2nm,0.6s,baz=270,slow=5.4,SNR=1.9						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**81.03**	**326**	P	P	07 27 05.6	-0.9
	0.9nm,0.4s,baz=126,slow=5.2,SNR=3.9						
	0.9nm,0.4s						

*INET **10** 07:17:02.7±1.3, 12.47N×88.17W, h23km±19km, MW3.5*
*SNET **10** 07:17:04.7±0.7, 12.66N×88.24W, h59km±19km, ML3.0*

ISC 10 07:17:01.9±2.3, 12.4N±0.2×88.22W±0.10, h50km, n11, σ0.974, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.95**	**339**	*e*P	**Pn**	**07 17 19.2**	**+0.2**
ALJI				IAML		07 17 30.7	
	comp=Z,963nm,0.1s						
ALJI				*e*S	**Sn**	**07 17 30.8**	**-0.6**
COEB	**Comit de Eme**	**1.10**	**344**	*e*P	**Pn**	**07 17 21.0**	**-0.1**
COEB				*e*S	**Sn**	**07 17 34.5**	**-0.7**
CRIN	**San Cristobal**	**1.17**	**77**	*e*P	**Pn**	**07 17 22.5**	**+0.5**
CRIN				*e*S	**Sn**	**07 17 38.5**	**+1.5**
PQSS	**Presa 15 de Se**	**1.23**	**344**	*e*P	**Pn**	**07 17 23.2**	**+0.5**
PQSS				IAML		07 17 39.5	
	comp=Z,269nm,0.2s						
COEG	**Centro de Oper**	**1.34**	**332**	*e*P	**Pn**	**07 17 24.9**	**+0.6**
COEG				*e*S	**Sn**	**07 17 40.5**	**-0.6**
COEG				IAML		07 17 44.8	
	comp=Z,383nm,0.2s						
SCLA	**Alcaldia de Sa**	**1.35**	**339**	*e*P	**Pn**	**07 17 25.1**	**+0.7**
SCLA				IAML		07 17 43.1	
	comp=Z,196nm,0.2s						
SJTE	**Alcalda de S**	**1.40**	**327**	*e*P	**Pn**	**07 17 25.7**	**+0.6**
SJTE				*e*S	**Sn**	**07 17 42.0**	**-0.6**
SJTE				IAML		07 17 44.7	
	comp=Z,238nm,0.2s						
CNGN	**Cerro Negro**	**1.49**	**87**	*e*P	**Pn**	**07 17 25.3**	**-0.9**
COPN	**Copaltepe**	**1.61**	**99**	*e*P	**Pn**	**07 17 28.2**	**+0.3**
MOMN	**Momotombo**	**1.64**	**91**	*e*P	**Pn**	**07 17 28.6**	**+0.2**
MOMN				*e*S	**Sn**	**07 17 47.4**	**-1.0**
TGUH	**Tegucigalpa,Un**	**1.86**	**30**	*e*P	**Pn**	**07 17 31.6**	**+0.2**

IDC 10 07:35:29.2±7.5, 16.24S×176.94E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=166.1km s-min=23.0km az=33.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.82**	**145**	Pn	Pn	07 36 02.5	+0.6
	223nm,0.3s,baz=270,slow=21,SNR=113						
MSVF				Sn	Sn	07 36 25.1	-0.6
	88nm,0.3s,baz=180,slow=19,SNR=9.1						
STKA	**Stephens Creek**	**35.64**	**238**	P	P	07 42 30.4	+1.4
	1.0nm,0.4s,baz=53,slow=6.8,SNR=3.4						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**40.59**	**258**	P	P	07 43 10.2	-0.7
	0.5nm,0.6s,baz=92,slow=9.0,SNR=10						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**41.00**	**253**	P	P	07 43 13.8	-0.5
	0.7nm,0.7s,baz=81,slow=9.8,SNR=8.8						
	0.7nm,0.7s						

*IDC **10** 07:38:49.7±0.8, 16.89S×176.62E, h0km, mb4.3/6, mbtmp4.3/6, MS3.8/31, Error ellipse: s-maj=28.9km s-min=17.6km az=178.0*
*GCMT **10** 07:38:56.3±0.3, 16.45S±0.02×176.59E±0.02, h23km±1km, MW4.9/96, Moment Tensor Solution. s26,c30; s96,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.35±.17; $M_{\theta\theta}$0.05±.13; $M_{\phi\phi}$0.29±.12; $M_{r\theta}$0.59±.19; $M_{\theta\phi}$3.19±.11; $M_{\phi r}$0.17±.17; Best double couple: M_o3.24700×10^{16} NP1:ϕs89.00000°, δ89.00000°, λ10.00000°. NP2: ϕs359.00000°, δ80.00000°, λ179.00000°. Principal axes: T 3.4430, Plg8.0000°, Azm314.0000°; N -0.3920, Plg80.0000°, Azm95.0000°; P -3.0520, Plg7.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 07:38:56.3±2.2, 17.09S±0.08×176.80E±0.08, h40km±7km, mb4.7/18 Error ellipse: s-maj=11.9km s-min=11.3km az=210.0*

ISC 10 07:38:55.6±0.5, 16.99S±0.09×176.67E±0.07, h35km, n72, σ1.964/37, mb4.6/15, MS3.9/32, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.51**	**119**	Pn	**Pn**	**07 39 18.9**	**-1.4**
	559nm,0.3s,baz=98,slow=7.4,SNR=284						
MSVF				Sn	**Sn**	**07 39 41.3**	**+2.5**
	243nm,0.3s,baz=6.8,slow=20,SNR=11						
MSVF				LR	LR	07 39 53.5	
	comp=Z,3μm,20.6s,baz=261,slow=40						
FUNA	**Funafuti**	**8.77**	**17**	Pn	**Pn**	**07 41 01.4**	**+1.4**
MARNC	**Mare, Loyalty**	**9.30**	**240**	Pn	**Pn**	**07 41 09.8**	**+2.6**
OUENC	**Ouen Island, N**	**10.71**	**238**	Pn	**Pn**	**07 41 28.5**	**+1.9**
DZM	**Mont Dzumac**	**10.88**	**241**	*e*Pn	**Pn**	**07 41 32.8**	**+3.8**
DZM	61nm,1.6s						
				*e*LR	LR	07 44 11.0	
	comp=Z,1μm,26.4s						
DZM	**Mont Dzumac**	**10.88**	**241**	LR	LR	07 44 46.4	
	comp=Z,650nm,19.8s,baz=57,slow=33						
DZM	**Mont Dzumac**	**10.88**	**241**	Pn	**Pn**	**07 41 30.8**	**+1.8**
ONTNC	**Ouen Toro**	**10.98**	**240**		**Pn**	**07 41 31.2**	**+1.0**
KOUNC	**Koumac, New Ca**	**12.25**	**251**	Pn	**Pn**	**07 41 49.0**	**+1.4**
RAO	**Raoul Island**	**13.18**	**159**	LR	LR	07 45 38.4	
	comp=Z,530nm,18.8s,baz=332,slow=31						
HNR	**Honiara**	**17.92**	**293**	LR	LR	07 49 09.3	
	comp=Z,8μm,18.5s,baz=130,slow=35						
OXZ	**Oxford**	**26.55**	**188**	P	**P**	**07 44 28.0**	**-2.1**
OXZ				IAmb	IAmb	07 44 48.2	
	comp=Z,44nm,1.5s						
RPZ	**Rata Peaks**	**27.06**	**189**	LR	LR	07 53 20.2	
	comp=Z,201nm,21.5s,baz=356,slow=32						
CTA	**Charters Tower**	**28.98**	**259**	LR	LR	07 54 17.1	
	comp=Z,187nm,20.1s,baz=83,slow=32						
CTAO	**Charters Tower**	**28.98**	**259**	P	**P**	**07 44 51.4**	**-0.8**
PMG	**Port Moresby**	**29.67**	**281**	LR	LR	07 55 58.1	
	comp=Z,288nm,18.1s,baz=68,slow=35						
PYZ	**Puysegur Point**	**30.26**	**194**	P	**P**	**07 45 02.1**	**-1.1**
PPT2	**Papeete2**	**32.21**	**96**	*e*LR	LR	07 53 37.3	
	comp=Z,472nm,29.5s						
TBI	**Tubuai**	**32.37**	**107**	*e*LR	LR	07 53 43.4	
	comp=Z,3μm,33.0s						
TOO	**Toolangi**	**34.22**	**227**	P	**P**	**07 45 38.2**	**+0.1**
TOO				IAmb	IAmb	07 45 40.9	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**35.02**	**238**	P	**P**	**07 45 46.1**	**+1.1**
	comp=Z,16nm,0.8s,baz=72,slow=9.0,SNR=30						
STKA				LR	LR	07 59 03.4	
	comp=Z,222nm,19.2s,baz=50,slow=35						
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**35.02**	**238**	P	**P**	**07 45 45.7**	**+0.6**
STKA				IAmb	IAmb	07 45 47.1	
	comp=Z,3.9nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**36.59**	**344**	T	T	08 24 03.1	
	baz=150,slow=78,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**36.60**	**344**	T	T	08 24 00.8	
	baz=150,slow=78,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**36.61**	**344**	T	T	08 24 00.9	
	baz=150,slow=78,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**37.72**	**345**	T	T	08 25 23.0	
	baz=166,slow=77,SNR=76						
H11N1	**WAKE ISLAND Hy**	**37.72**	**345**	T	T	08 25 24.0	
	baz=166,slow=77,SNR=89						
H11N2	**WAKE ISLAND Hy**	**37.73**	**345**	T	T	08 25 24.2	
	baz=166,slow=77,SNR=30						
WR0	**Warramunga Arr**	**39.99**	**259**	P	**P**	**07 46 24.9**	**-2.4**
WRA	**Warramunga Arr**	**40.18**	**259**	P	**P**	**07 46 26.1**	**-2.7**
	comp=Z,4.6nm,0.6s,baz=92,slow=9.1,SNR=51						
WRA				LR	LR	08 01 15.4	
	comp=Z,96nm,19.4s,baz=84,slow=34						
	comp=Z,4.6nm,0.6s						
WRA	**Warramunga Arr**	**40.18**	**259**	P	**P**	**07 46 25.6**	**-3.2**
AS31	**Alice Springs**	**40.53**	**253**	P	**P**	**07 46 29.8**	**-1.9**
ASAR	**Alice Springs**	**40.53**	**253**	P	**P**	**07 46 30.1**	**-1.6**
	comp=Z,7.6nm,0.8s,baz=81,slow=9.2,SNR=90						
ASAR				LR	LR	08 02 43.8	
	comp=Z,139nm,19.5s,baz=91,slow=35						
	comp=Z,7.6nm,0.8s						
ASAR	**Alice Springs**	**40.53**	**253**	P	**P**	**07 46 29.7**	**-2.1**
TAOE	**Nuku Hiva Isla**	**42.78**	**85**	*e*LR	LR	07 58 29.0	
	comp=Z,310nm,26.8s						
GUMO	**Guam**	**43.70**	**312**	LR	LR	08 04 23.2	
	comp=Z,60nm,19.0s,baz=126,slow=35						
SIJI	**Sorong**	**47.45**	**285**	LR	LR	08 07 59.7	
	comp=Z,120nm,18.5s,baz=254,slow=37						
SOEI	**Soe**	**51.36**	**271**	P	**P**	**07 47 58.2**	**+0.9**
SOEI				IAmb	IAmb	07 47 59.2	
	comp=Z,16nm,1.1s						
JCJ	**Chichijima**	**55.14**	**322**	LR	LR	08 07 06.4	
	comp=Z,88nm,20.6s,baz=110,slow=31						
MORW	**Morawa**	**56.55**	**246**	P	**P**	**07 48 35.5**	**+0.6**
MORW				IAmb	IAmb	07 48 39.8	
	comp=Z,18nm,1.2s						
JHJ2	**Mitsune**	**61.00**	**325**	P	**P**	**07 49 04.7**	**-0.9**
VNDA	**Vanda**	**61.01**	**184**	LR	LR	08 12 03.1	
	comp=Z,60nm,19.4s,baz=5.0,slow=33						
VNDA	**Vanda**	**61.01**	**184**	P	**P**	**07 49 05.1**	**0.0**
VNDA				IAmb	IAmb	07 49 30.8	
	comp=Z,3.8nm,1.3s						
JHJ	**Hachijo jima 2**	**61.03**	**325**	LR	LR	08 12 53.3	
	comp=Z,43nm,18.2s,baz=329,slow=34						
JAGI	**Jajag, Banyuwa**	**61.36**	**270**	P	**P**	**07 49 08.3**	**-0.2**
JMM	**Marumori**	**64.14**	**329**	P	**P**	**07 49 27.5**	**+1.0**
INU	**Inuyama**	**64.21**	**325**	P	**P**	**07 49 26.9**	**-0.2**
INU				IAmb	IAmb	07 49 37.1	
	comp=Z,17nm,1.4s						
MJAR	**Matsushiro Arr**	**64.45**	**326**	LR	LR	08 12 39.5	
	comp=Z,27nm,21.3s,baz=126,slow=32						
KSRS	**Korea Array**	**70.96**	**321**	LR	LR	08 15 49.9	
	comp=Z,39nm,21.3s,baz=135,slow=31						
QSPA	**South Pole Qui**	**73.06**	**180**	P	**P**	**07 50 22.6**	**+0.6**
QSPA				IAmb	IAmb	07 50 39.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,7.2nm,1.1s						
KLR	Kul'dur	77.00	332	LR	LR	08 22 01.6	
	comp=Z,39nm,18.3s,baz=166,slow=34						
KDAK	Kodiak Island	78.74	16	LR	LR	08 20 58.8	
	comp=Z,76nm,20.3s,baz=227,slow=32						
MA2	Magadan	79.16	347	LR	LR	08 21 11.8	
	comp=Z,34nm,19.9s,baz=122,slow=32						
YBH	Yreka Blue Hor	80.86	41	LR	LR	08 20 09.7	
	comp=Z,57nm,19.3s,baz=248,slow=31						
PFO	Pinyon Flats O	81.16	51	LR	LR	08 21 55.2	
	comp=Z,104nm,19.3s,baz=232,slow=32						
NVAR	Mina Array Bea	82.10	46	P	P	07 51 13.2	+0.2
	comp=Z,0.8nm,0.9s,baz=226,slow=9.2,SNR=4.7						
	comp=Z,0.8nm,0.9s						
LPIG	La Paz	82.10	62	LR	LR	08 23 12.6	
	comp=Z,84nm,18.3s,baz=312,slow=32						
BBB	Bella Bella	83.84	31	LR	LR	08 21 05.4	
	comp=Z,75nm,21.4s,baz=264,slow=30						
ELK	Elko	85.27	45	LR	LR	08 22 16.2	
	comp=Z,110nm,19.7s,baz=228,slow=31						
BCAR	Beaver Creek A	86.12	18	P	P	07 51 32.8	+0.2
IL31		86.13	15	P	P	07 51 32.8	+0.2
IL31				IAmb	IAmb	07 51 52.6	
	comp=Z,7.4nm,1.2s						
ILAR	Eielson Array	86.13	15	P	P	07 51 30.5	-2.0
	comp=Z,1.5nm,0.9s,baz=231,slow=6.2,SNR=7.6						
ILAR				LR	LR	08 24 05.3	
	comp=Z,57nm,21.1s,baz=204,slow=32						
	comp=Z,1.5nm,0.9s						
ILAR	Eielson Array	86.13	15	P	P	07 51 32.8	+0.2
MTPU	Mount Pierson	86.22	48	P	P	07 51 33.5	-0.7
MTPU				IAmb	IAmb	07 51 59.5	
	comp=Z,4.9nm,1.5s						
NEW	Newport	87.60	38	LR	LR	08 25 51.5	
	comp=Z,60nm,18.9s,baz=236,slow=32						
ANMO	Albuquerque	89.26	53	LR	LR	08 25 10.2	
	comp=Z,55nm,19.0s,baz=250,slow=31						
TXAR	Lajitas Array	89.52	59	P	P	07 51 49.2	-0.6
	comp=Z,0.6nm,0.9s,baz=190,slow=6.4,SNR=4.7						
TXAR				LR	LR	08 23 00.4	
	comp=Z,86nm,22.0s,baz=260,slow=30						
	comp=Z,0.6nm,0.9s						
SONM	Songino Array	89.83	321	LR	LR	08 25 34.9	
	comp=Z,41nm,21.4s,baz=154,slow=31						
PDAR	Pinedale Array	89.98	45	LR	LR	08 24 28.7	
	comp=Z,50nm,19.4s,baz=244,slow=30						
CMIG	Matias Romero	93.44	73	LR	LR	08 25 03.1	
	comp=Z,56nm,20.2s,baz=278,slow=30						
YKA	Yellowknife Ar	95.51	26	LR	LR	08 30 16.9	
	comp=Z,50nm,18.3s,baz=293,slow=32						
GERES	GERESS Array B	145.33	340	PKPbc	PKPdf	07 58 30.3	+0.4
	comp=Z,0.7nm,0.5s,baz=64,slow=3.1,SNR=6.4						

IDC 10 07:46:08.0±1.6, 3°.51S×138°.27E, h0km, mb3.8/3, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=77.7km s-min=28.9km az=96.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.77	193	Pn	Pn	07 50 05.1	+0.6
	0.3nm,0.3s,baz=16,slow=12,SNR=15						
	0.9nm,0.5s						
ASAR	Alice Springs	20.47	192	P	P	07 50 47.2	-0.3
	2.6nm,0.6s,baz=17,slow=11,SNR=31						
	2.6nm,0.6s						
MKAR	Makanchi Array	70.16	323	P	P	07 57 22.4	-0.2
	0.4nm,0.7s,baz=111,slow=7.9,SNR=3.8						
	0.4nm,0.7s						
ILAR	Eielson Array	86.74	24	P	P	07 58 53.9	+0.2
	0.8nm,0.8s,baz=249,slow=6.7,SNR=6.4						
	0.8nm,0.8s						

*NEIC **10** 07:53:16.8±1.7, 29°.0S±0°.1×61°.3E±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=20.5km s-min=15.8km az=230.0*

*IDC **10** 07:53:17.4±1.0, 29°.19S×61°.21E, h0km, mb4.1/7, mbtmp4.1/8, ML4.3/1, MS3.4/11, Error ellipse: s-maj=36.7km s-min=25.2km az=63.0*

ISC 10 07:53:17.4±0.6, **29°.0S**±0°.1×**61°.26E**±0°.10, **h11**km, **n49**, σ**1s.81**/32, **mb4.3**/13, **MS3.4**/11, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	9.27	326	Pn	Pn	07 55 28.9	-2.2
VOI	Vohitsoka	14.85	295	Pn	Pn	07 56 46.6	-0.9
ABPO	Ambohimpanom	16.21	305	Pn	Pn	07 57 03.5	-1.8
OPO	Ambohidratompo	16.52	306	Pn	Pn	07 57 12.2	+2.8
	0.1nm,0.3s,baz=122,slow=13,SNR=6.8						
	2.1nm,0.4s						
H08S1	Diego Carcia H	23.73	29	T	T	08 23 15.8	
	baz=204,slow=76,SNR=6.5						
H08S2	Diego Garcia H	23.74	29	T	T	08 23 16.2	
	baz=204,slow=76,SNR=8.0						
H08S3	Diego Garcia H	23.75	29	T	T	08 23 16.8	
	baz=204,slow=76,SNR=12						
POGA	Pongola	26.07	266	P	P	07 58 50.2	-0.9
POGA				IAmb	IAmb	07 59 01.2	
	comp=Z,12nm,1.0s						
BOSA	Boshof	31.47	262	LR	LR	08 10 31.6	
	comp=Z,39nm,18.8s,baz=150,slow=33						
BOSA	Boshof	31.47	262	P	P	07 59 39.7	+0.4
LBTB	Lobatse	31.94	269	LR	LR	08 10 13.0	
	comp=Z,48nm,19.8s,baz=106,slow=32						
KIBK	Kibwezi	34.52	316	P	P	08 00 05.0	-1.0
KMBO	Kilima Mbogo	35.95	316	LR	LR	08 11 44.7	
	comp=Z,77nm,20.8s,baz=93,slow=31						
MAW	Mawson	38.64	179	LR	LR	08 13 21.9	
	comp=Z,70nm,18.7s,baz=148,slow=31						
MAW	Mawson	38.64	179	P	P	08 00 39.4	-1.0
MNCI	Minicoy	38.78	19	P	P	08 00 41.0	-1.1
MNCI				IAmb	IAmb	08 00 47.8	
	comp=Z,27nm,1.0s						
MBAR	Mbarara	40.57	309	LR	LR	08 16 03.0	
	comp=Z,51nm,19.9s,baz=90,slow=34						
ATD	Arta Tunnel	44.05	334	LR	LR	08 16 16.2	
	comp=Z,46nm,18.6s,baz=66,slow=31						
H01W2	Cape Leeuwin H	44.83	112	T	T	08 49 09.7	
	baz=261,slow=75,SNR=19						
H01W3	Cape Leeuwin H	44.83	112	T	T	08 49 10.0	
	baz=261,slow=75,SNR=17						
H01W1	Cape Leeuwin H	44.84	112	T	T	08 49 11.0	
	baz=261,slow=75,SNR=19						
MORW	Morawa	47.52	104	P	P	08 01 50.9	-2.0
MORW				IAmb	IAmb	08 02 19.4	
	comp=Z,10nm,1.0s						
IPM	Ipoh	50.67	56	P	P	08 02 15.5	-1.6
WSAR	Wadi Sarin	52.00	357	LR	LR	08 21 07.6	
	comp=Z,32nm,18.3s,baz=186,slow=32						
CMAR	Chiang Mai Arr	59.59	42	P	P	08 03 25.6	+4.2
	comp=Z,1.6nm,0.3s,baz=224,slow=6.3,SNR=2.3						
	comp=Z,1.6nm,0.3s						
QSPA	South Pole Qui	61.15	180	P	P	08 03 32.1	+0.4
	comp=Z,2.0nm,1.1s,baz=342,slow=0.5,SNR=5.0						
	comp=Z,2.0nm,1.1s						
QSPA	South Pole Qui	61.15	180	P	P	08 03 32.2	+0.5
QSPA				IAmb	IAmb	08 03 35.8	
	comp=Z,3.8nm,1.2s						
EIL	Elat	63.52	334	LR	LR	08 28 05.1	
	comp=Z,33nm,20.4s,baz=163,slow=33						
ASAR	Alice Springs	64.40	104	P	P	08 03 55.5	+1.5
	comp=Z,1.2nm,0.7s,baz=242,slow=6.4,SNR=12						
	comp=Z,1.2nm,0.7s						
ASAR	Alice Springs	64.40	104	P	P	08 03 53.4	-0.5
AS31	Alice Springs	64.40	104	P	P	08 03 53.2	-0.7
WRA	Warramunga Arr	66.21	100	P	P	08 04 07.6	+1.9
	comp=Z,1.1nm,0.8s,baz=247,slow=5.7,SNR=9.2						
	comp=Z,1.1nm,0.8s						
WRA	Warramunga Arr	66.21	100	P	P	08 04 03.3	-2.4
WB2	Warramunga Arr	66.22	100	P	P	08 04 03.5	-2.2
WB2				IAmb	IAmb	08 04 08.6	
	comp=Z,2.1nm,0.9s						
MMAI	Mount Meron Ar	66.38	336	LR	LR	08 31 50.1	
	comp=Z,19nm,18.1s,baz=255,slow=35						
IDI	Anoyia	72.56	329	LR	LR	08 34 32.9	
	comp=Z,12nm,21.6s,baz=262,slow=34						
KBZ	Khabaz	74.31	346	LR	LR	08 36 40.2	
	comp=Z,22nm,18.8s,baz=66,slow=35						
MAKZ	Makanchi	77.75	14	P	P	08 05 14.4	+0.2
MAKZ				IAmb	IAmb	08 05 20.2	
	comp=Z,4.0nm,1.2s						
SSLB	Suanglung	77.80	54	P	P	08 05 13.6	-1.4
MK31	Makanchi Array	77.81	15	P	P	08 05 14.1	-0.4
MK31				IAmb	IAmb	08 05 25.7	
	comp=Z,2.6nm,1.3s						
MKAR	Makanchi Array	77.81	15	P	P	08 05 17.1	+2.6
	comp=Z,1.0nm,0.9s,baz=187,slow=4.9,SNR=6.3						
	comp=Z,1.0nm,0.9s						
MKAR	Makanchi Array	77.81	15	P	P	08 05 14.9	+0.5
ABKAR	Akbulak array	77.92	359	P	P	08 05 15.4	+0.4
CEL	Celeste	79.22	325	P	P	08 05 21.7	-0.8
TIR	Tirane	79.79	330	P	P	08 05 24.6	-0.9
KURBB	Kurchatov Arra	80.74	11	P	P	08 05 32.6	+2.2
	comp=Z,0.7nm,0.3s,baz=206,slow=6.1,SNR=5.7						
	comp=Z,0.7nm,0.3s						
BVAR	Borovoye Array	82.07	6	P	P	08 05 39.9	+2.5
	comp=Z,0.7nm,0.5s,baz=198,slow=4.4,SNR=3.5						
	comp=Z,0.7nm,0.5s						
YKA	Yellowknife Ar	146.40	357	PKPbc	PKPbc	08 12 59.5	+1.8
	comp=Z,1.0nm,0.6s,baz=352,slow=3.0,SNR=9.9						
TXAR	Lajitas Array	166.82	275	PKP	PKPdf	08 13 26.4	+2.8
	comp=Z,0.3nm,0.7s,baz=134,slow=3.6,SNR=4.0						

*BJI **10** 08:15:27.7±0.0, 9°.68S×111°.50E, h75km, mb4.8/30, mB5.1/13*

*DJA **10** 08:15:32.3±0.2, 9°S±2°×11°1E±°, h57km±2km, M5.2/41, mb4.9/41, mB5.8/8, MLv5.1/21, Mw(mB)5.4/8, MwMwp6.9/3, Mwp6.7/3*

*IDC **10** 08:15:34.7±1.9, 8°.80S×111°.41E, h70km±16km, mb4.3/27, mbtmp4.6/29, MS3.7/28, Error ellipse: s-maj=14.8km s-min=9.4km az=35.0*

*NEIC **10** 08:15:34.5±2.1, 8°.90S±0°.06×111°.42E±0°.07, h69km±6km, mb4.8/37, Error ellipse: s-maj=11.1km s-min=6.3km az=53.0*

ISC 10 08:15:33.7±0.5, **9°.01S**±0°.05×**111°.36E**±0°.03, **h68**km±4km, **h68**km**:pP-P, n196,** σ**1s.46**/203, **mb4.8**/55, **1C-1D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	0.83	347	P	Pn	08 15 47.8	-2.1
PCJI				S	Sn	08 15 59.3	-2.6
PWJI	Pagerwojo	1.07	24	P	Pn	08 15 52.0	-1.0
PWJI				S	Sn	08 16 05.8	-1.5
KRKI	Karangkates	1.37	52	P	Pn	08 15 56.5	-0.3
KRKI				S	Sn	08 16 14.6	+0.4
UGM	Wanagama	1.37	323		Pn	08 15 55.6	-1.3
UGM	Wanagama	1.37	323	P	Pn	08 15 55.6	-1.3
UGM				S	Sn	08 16 14.0	-0.3
UGM	Wanagama	1.37	323	P	Pn	08 15 56.3	-0.6
YOGI	Yogyakarta	1.59	318	P	Pn	08 15 58.7	-1.0
SMRI	Semarang	2.15	335	Pn	Pn	08 16 08.2	+0.9
SMRI	Semarang	2.15	335	P	Pn	08 16 08.6	+1.3
SMRI				S	Sn	08 16 32.7	-0.3
SMRI	Semarang	2.15	335	P	Pn	08 16 09.1	+1.8
TBJI	Tambak Boyo	2.23	13	P	Pn	08 16 09.7	+1.3
GRJI	Gresik	2.35	28	P	Pn	08 16 11.3	+1.2
SCJI	Gunung Srandil	2.54	301	P	Pn	08 16 10.6	-2.0
SCJI				S	Sn	08 16 39.1	-3.4
JAGI	Jajag, Banyuwa	2.81	79	Pn	Pn	08 16 15.9	-0.4
JAGI	Jajag, Banyuwa	2.81	79	P	Pn	08 16 15.5	-0.8
JAGI				S	Sn	08 16 46.8	-2.3
JAGI	Jajag, Banyuwa	2.81	79	P	Pn	08 16 16.3	0.0
CTJI	Waduk Cacaban	2.93	312	P	Pn	08 16 18.9	+0.9
CTJI				S	Sn	08 16 53.7	+1.6
KMMI	Kalianget	3.23	53	P	Pn	08 16 21.6	-0.4
KMMI				S	Sn	08 17 00.1	+0.8
BWJI	Bawean	3.39	22	P	Pn	08 16 25.7	+1.5
RTBI	Rangdo, Negare	3.58	82	P	Pn	08 16 27.7	+0.9
RTBI				S	Sn	08 17 09.2	+1.2
IGBI	Denpasar	3.74	87	P	Pn	08 16 28.8	-0.2
DNP	Denpasar	3.82	85	P	Pn	08 16 31.1	+1.1
SRBI	Singaraja	3.92	77	P	Pn	08 16 31.5	+0.1
BBJI	Bungbulang	3.98	292	P	Pn	08 16 31.1	-1.3
LEM	Lembang	4.30	300	P	Pn	08 16 37.4	+0.6
	193nm,0.6s,baz=68,slow=9.5,SNR=26						
LEM				S	Sn	08 17 26.7	+1.0
	417nm,0.6s,baz=61,slow=17,SNR=4.2						
LEM	Lembang	4.30	300	P	Pn	08 16 37.0	+0.3
LEM				S	Sn	08 17 32.5	+6.8
CNJI	Cibinong	4.52	292	P	Pn	08 16 37.9	-1.7
CNJI				S	Sn	08 17 30.9	0.0
KLNI	Mataram	4.71	83	P	Pn	08 16 43.6	+1.3
CBJI	Citeko	5.16	300	P	Pn	08 16 45.7	-2.7
SKJI	Sukabumi	5.16	292	P	Pn	08 16 48.3	-0.1
	2.8nm4μm201nm,0.6s						
TWSI	Taliwang, Sumb	5.46	88	P	Pn	08 16 54.0	+1.5
	1.2nm2μm128nm,0.7s						
PBKI	Pangkalan Bun	6.27	3	P	Pn	08 17 05.4	+1.8
	1.8nm760μm13μm428nm,0.7s						
PLAI	Plampang	6.34	89	P	Pn	08 17 05.6	+1.0
	1.1nm2μm195nm,0.8s						
PLAI	Plampang	6.34	89	P	Pn	08 17 05.4	+0.8
BBKI	Banjar Baru	6.50	32	P	Pn	08 17 07.8	+1.0
	0.8nm113nm,1.1s						
PPBI	Pangkal Pinang	8.56	322	P	Pn	08 17 36.8	+1.9
KAPI	Kappang	9.22	65	P	Pn	08 17 44.2	+0.2
	4.2nm,0.3s,baz=257,slow=7.2,SNR=9.0						
KAPI				LR	LR	08 21 44.8	
	comp=Z,291nm,21.7s,baz=246,slow=41						
KAPI	Kappang	9.22	65	Pn	Pn	08 17 43.8	-0.2
KAPI	Kappang	9.22	65	P	Pn	08 17 45.1	+1.1
	35nm,1.1s						
PMSI	Majene	9.29	54	P	Pn	08 17 45.6	+0.7
	64nm,0.8s						
LHSI	Lahat	9.34	303	P	Pn	08 17 45.5	0.0
	382μm,0.7s						
BKSI	Bulukumba	9.43	68	P	Pn	08 17 49.3	+2.5
	62nm,0.9s						
BSSI	Bau Bau, Buton	9.48	73	P	Pn	08 17 47.9	+0.3
	86nm,1.2s						
MNAI	Manna	9.54	298	Pn	Pn	08 17 47.8	-0.5
MNAI	Manna	9.54	298	P	Pn	08 17 48.8	+0.5
SPSI	Sidrap Palu	9.74	60	P	Pn	08 17 55.4	+4.4
BNSI	Bone	9.81	63	P	Pn	08 17 53.9	+1.8
	538nm52nm,1.1s						
KSM	Kuching	10.46	354		Pn	08 18 02.4	+1.4
KSM	Kuching	10.46	354	P	Pn	08 18 02.3	+1.4
	40nm,1.1s						
DSRI	Dabo	10.84	321	P	Pn	08 18 05.1	-0.9
	24nm,0.6s						
SBUM	Sibu	11.41	4	Pn	Pn	08 18 14.4	+0.5
SBUM	Sibu	11.41	4	P	Pn	08 18 15.6	+1.7
	8.1nm,0.8s						
SOEI	Soe	12.76	94	Pn	Pn	08 18 32.1	-0.3
SOEI	Soe	12.76	94	P	Pn	08 18 28.8	-3.6
	79nm,0.8s						
SOEI	Soe	12.76	94	P	Pn	08 18 31.0	-1.4
MYKOM	Kota Tinggi	13.08	325	Pn	Pn	08 18 37.8	+1.1
GIRL	Giralia	13.84	169	P	Pn	08 18 40.6	-6.1
LUWI	Luwuk	13.84	56	Pn	Pn	08 18 46.0	-0.8
LUWI	Luwuk	13.84	56	P	Pn	08 18 48.4	+1.6
	5μm89nm,0.6s						
BKNI	Bangkinang	13.85	312	Pn	Pn	08 18 47.9	+1.0
MRSI	Marisa	14.13	49	P	Pn	08 18 50.1	-0.6
	55nm,0.9s						
MBWA	Marble Bar	14.53	147	P	Pn	08 18 50.4	-5.4
PSA00	Pilbara Seismi	14.93	148	P	Pn	08 18 56.9	-4.0
GTOI	Gorontalo	15.05	51	P	Pn	08 19 02.0	-0.5
	23nm,0.9s						
KKM	Kota Kinabalu	15.71	18	P	Pn	08 19 08.2	-3.0
	24nm,1.1s						
MYLDM	Lahad Datu	15.79	27		Pn	08 19 09.9	-2.1
MYLDM	Lahad Datu	15.79	27	P	P	08 19 14.1	-0.5
	53nm,1.2s						
SANI	Sanana	16.11	65	P	P	08 19 16.9	-1.3
	54nm,1.3s						
NLAI	Namlea	16.66	71	P	P	08 19 24.2	-0.1
	108μm174nm,1.7s						
AAI	Ambon	17.54	74	P	Pn	08 19 33.3	-0.5
	112nm,0.8s						
KRAI	Karang Ratu	17.85	73	P	Pn	08 19 39.7	+2.2
	18μm50nm,0.8s						
LBMI	Labuha	18.09	64	P	Pn	08 19 43.0	+2.5
	92nm,0.9s						
KNRA	Kununurra	18.24	113	P	Pn	08 19 42.0	-0.2
TNTI	Ternate	18.67	59	pP	pP	08 20 01.2	+1.0
	59nm,0.7s						
MEEK	Meekatharra	18.83	160	P	P	08 19 47.5	-0.7
GAMI	Galela, Maluku	19.60	57	P	Pn	08 19 58.2	-0.3
	170nm,0.9s						
GAMI				pP	pP	08 20 10.1	-0.5
	170nm,0.9s						
SAUI	Saumlaki	19.75	89	P	Pn	08 19 59.9	-0.4
	182nm,0.8s						
MTN	Manton Dam	19.78	103	P	P	08 19 58.7	+0.1
MORW	Morawa	20.43	168	P	P	08 20 06.8	+1.2
MORW				IAmb	IAmb	08 20 10.1	
	comp=Z,107nm,1.9s						
DAV	Davao City (W)	21.35	42	LR	LR	08 30 57.4	
	comp=Z,126nm,18.6s,baz=204,slow=44						
SWI	Sorong	21.39	69	P	P	08 20 16.2	+0.2
	comp=Z,3μmcomp=Z,47nm,1.0s						
SIJI	Sorong	21.40	69	P	P	08 20 17.4	+1.3
	comp=Z,12nm,0.3s,baz=159,slow=23,SNR=1.8						
SIJI				LR	LR	08 29 22.2	
	comp=Z,114nm,20.2s,baz=58,slow=39						
	comp=Z,12nm,0.3s						
SIJI	Sorong	21.40	69	P	P	08 20 19.1	+3.0
	comp=Z,36nm,1.3s						
SIJI				pP	pP	08 20 29.1	-1.0
	comp=Z,36nm,1.3s						
BLDU	Ballidu	22.07	168	P	P	08 20 21.9	-1.2
WRKA	Warakurna	22.68	137	P	P	08 20 29.7	0.0
RKPI	Ransiki, Papua	23.89	73	P	P	08 20 41.1	-0.3
	comp=Z,74nm,0.7s						
MWPI	Manokwari, Pap	23.96	72	P	P	08 20 42.8	+0.9
	comp=Z,84nm,0.8s						
MWPI				pP	pP	08 20 55.1	-2.4
	comp=Z,84nm,0.8s						
NWAO	Narrogin (SRO)	24.41	168	LR	LR	08 30 01.1	
	comp=Z,268nm,21.3s,baz=241,slow=35						
WB0	Warramunga Arr	24.70	118	P	P	08 20 49.3	+0.6
WRA	Warramunga Arr	24.73	119	P	P	08 20 49.4	+0.5
	comp=Z,4.4nm,0.7s,baz=293,slow=11,SNR=44						
WRA				PcP	PcP	08 24 25.8	+1.3
	comp=Z,1.5nm,0.6s,baz=296,slow=2.0,SNR=6.4						
WRA				LR	LR	08 30 47.3	
	comp=Z,121nm,21.3s,baz=294,slow=37						
	comp=Z,4.4nm,0.7s						
WRA	Warramunga Arr	24.73	119	P	P	08 20 49.7	+0.8
WRAB	Tennant Creek	24.73	119	P	P	08 20 49.6	+0.7
WB2	Warramunga Arr	24.74	119	P	P	08 20 49.5	+0.6
SRPI	Serui, Papua	25.74	75	P	P	08 20 59.5	+1.3
SRPI				pP	pP	08 21 12.5	-1.4
AS31	Alice Springs	26.02	127	P	P	08 21 01.3	+0.6
ASAR	Alice Springs	26.02	127	P	P	08 21 01.4	+0.7
	comp=Z,2.4nm,0.5s,baz=300,slow=9.4,SNR=31						
ASAR				PcP	PcP	08 24 29.1	+1.6
	comp=Z,3.0nm,0.7s,baz=311,slow=1.8,SNR=13						
ASAR				LR	LR	08 31 23.6	
	comp=Z,158nm,21.8s,baz=319,slow=36						
	comp=Z,2.4nm,0.5s						
ASAR	Alice Springs	26.02	127	P	P	08 21 01.0	+0.3
AS01	Alice Springs	26.06	127	P	P	08 21 01.7	+0.7
FORT	Forrest	26.68	147	P	P	08 21 06.9	+0.5
FORT				IAmb	IAmb	08 21 26.7	
	comp=Z,29nm,0.8s						
FORT	Forrest	26.68	147	P	P	08 21 06.6	+0.2
QIS	Mount Isa	29.57	116	P	P	08 21 33.4	+1.0
CMAR	Chiang Mai Arr	29.92	336	P	P	08 21 35.5	+0.2
	comp=Z,2.1nm,0.6s,baz=173,slow=7.9,SNR=2.9						
CMAR				PcP	PcP	08 24 39.2	+2.3
	comp=Z,1.4nm,0.5s,baz=200,slow=3.3,SNR=6.2						
CMAR				LR	LR	08 34 22.2	
	comp=Z,197nm,20.5s,baz=165,slow=38						
	comp=Z,2.1nm,0.6s						
COEN	Coen	31.54	102	P	P	08 21 50.6	+0.7
COEN				IAmb	IAmb	08 21 52.3	
	comp=Z,18nm,1.1s						
COEN	Coen	31.54	102	P	P	08 21 51.2	+1.4
PALK	Pallekele	34.57	297	P	P	08 22 16.6	+0.3
	comp=Z,8.8nm,0.6s,baz=234,slow=7.4,SNR=7.5						
PALK				LR	LR	08 37 48.4	
	comp=Z,67nm,18.2s,baz=218,slow=39						
	comp=Z,8.8nm,0.6s						
PALK	Pallekele	34.57	297	P	P	08 22 15.6	-0.7
CTA	Charters Tower	35.45	112	P	P	08 22 25.3	+1.6
	comp=Z,2.2nm,0.6s,baz=287,slow=7.7,SNR=5.5						
CTA				LR	LR	08 37 09.9	
	comp=Z,73nm,19.6s,baz=264,slow=36						
	comp=Z,2.2nm,0.6s						
CTAO	Charters Tower	35.45	112	P	P	08 22 24.3	+0.5
CTAO				IAmb	IAmb	08 22 45.8	
	comp=Z,15nm,1.4s						
STKA	Stephens Creek	36.11	133	P	P	08 22 30.6	+1.2
	comp=Z,1.8nm,0.4s,baz=320,slow=7.7,SNR=14						
STKA				LR	LR	08 37 56.6	
	comp=Z,136nm,21.4s,baz=343,slow=37						
	comp=Z,1.8nm,0.4s						
STKA	Stephens Creek	36.11	133	P	P	08 22 30.4	+1.1
STKA	Stephens Creek	36.11	133	P	P	08 22 30.5	+1.2
PZH	PanZhiHua	36.51	345	P	P	08 22 34.5	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,6.3s						
BRDH	Bariadhala	36.94	329	LR	LR	08 41 02.7	
	comp=Z,210nm,18.3s,baz=90,slow=42						
H08S2	Diego Garcia H	38.47	269	T	T	09 03 34.3	
	baz=94,slow=75,SNR=27						
H08S3	Diego Garcia H	38.48	269	T	T	09 03 27.3	
	baz=94,slow=75,SNR=42						
H08S1	Diego Carcia H	38.49	269	T	T	09 03 36.5	
	baz=94,slow=75,SNR=13						
JOW	Kunigami	39.23	24	LR	LR	08 42 50.9	
	comp=Z,30nm,18.1s,baz=247,slow=42						
SHL	Shillong	39.25	332	P	P	08 22 54.8	-1.2
SHL				IAmb	IAmb	08 23 05.0	
	comp=Z,6.8nm,0.6s						
RABL	Rabaul	40.79	86	P	P	08 23 10.4	+1.6
NJ2	Nanjing	41.45	10	*e*P	P	08 23 16.9	+3.1
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
XAN	Xi'an	42.87	357	P	P	08 23 25.1	-0.4
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN	Xi'an	42.87	357	P	P	08 23 24.0	-1.5
XAN				pP	pP	08 23 45.1	+3.0
LYN	LuoYang	43.33	1	⇑P	P	08 23 29.1	0.0
LYN				sP	sP	08 23 56.5	+3.0
LYN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HNS	HongShan	46.27	4	⇓P	P	08 23 52.2	-0.2
HNS				pmax	pmax		
	comp=Z,11nm,0.9s						
JHS	Saijyo	48.36	24	P	P	08 24 07.2	-1.6
KSRS	Korea Array	48.75	18	P	P	08 24 12.1	+0.4
	comp=Z,2.2nm,0.6s,baz=198,slow=8.3,SNR=6.2						
	comp=Z,2.2nm,0.6s						
BJI	Beijing	49.00	5	P	P	08 24 13.2	-0.3
BJI				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC	Hu-ho-hao-te	49.61	0	*e*P	P	08 24 21.0	+2.7
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,6.1s						
JGF	Kuroka	50.70	27	P	P	08 24 25.1	-1.5
MAJO	Matsushiro	51.86	28	P	P	08 24 33.8	-1.5
MJAR	Matsushiro Arr	51.86	28	P	P	08 24 33.5	-1.7
	comp=Z,5.2nm,0.6s,baz=197,slow=7.4,SNR=12						
	comp=Z,5.2nm,0.6s						
MJB9	Matsu-Tunnel	51.86	28	P	P	08 24 34.7	-0.5
JMM	Marumori	54.14	29	P	P	08 24 51.2	-0.7
DZM	Mont Dzumac	54.37	111	LR	LR	08 50 21.1	
	comp=Z,90nm,18.4s,baz=244,slow=38						
USRK	Ussuriysk Ar.	56.16	18	P	P	08 25 05.5	-0.8
	comp=Z,10nm,0.9s,baz=186,slow=5.4,SNR=9.9						
	comp=Z,10nm,0.9s						
USA0B	Ussuriysk Arra	56.16	18	P	P	08 25 06.8	+0.4
USA0B				IAmb	IAmb	08 26 03.3	
	comp=Z,16nm,0.8s						
ULN	Ulaanbaatar	56.75	357	P	P	08 25 10.1	-0.6
	comp=Z,48nm,0.7s						
ULN	Ulaanbaatar	56.75	357	P	P	08 25 10.3	-0.4
SONM	Songino Array	56.76	356	P	P	08 25 10.4	-0.3
	comp=Z,4.6nm,0.5s,baz=178,slow=8.4,SNR=36						
SONM				PcP	PcP	08 26 06.5	+0.6
	comp=Z,3.0nm,0.5s,baz=181,slow=4.6,SNR=8.9						
SONM				LR	LR	08 52 07.6	
	comp=Z,54nm,18.4s,baz=165,slow=39						
	comp=Z,4.6nm,0.5s						
SONM	Songino Array	56.76	356	P	P	08 25 09.9	-0.8
SONM				IAmb	IAmb	08 25 11.0	
	comp=Z,4.0nm,0.7s						
WMQ	Urumqi	56.80	340	*e*P	P	08 25 13.2	+2.2
KBL	Kabul	58.99	320	P	P	08 25 24.4	-2.3
KBL				IAmb	IAmb	08 25 26.4	
	comp=Z,15nm,1.2s						
BOOM	Boomskoye usch	60.61	331	P	P	08 25 36.5	-1.2
BOOM				IAmb	IAmb	08 25 37.9	
	comp=Z,5.5nm,1.1s						
HEH	HeiHe	60.65	12	*e*P	P	08 25 36.8	-0.7
HEH				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,26nm,0.9s						
KLR	Kul'dur	60.69	15	P	P	08 25 36.8	-1.0
	comp=Z,3.4nm,0.6s,baz=189,slow=7.7,SNR=11						
	comp=Z,3.4nm,0.6s						
WSAR	Wadi Sarin	60.71	303	P	P	08 25 38.7	+0.2
	comp=Z,4.6nm,0.6s,baz=149,slow=1.1,SNR=5.8						
WSAR				LR	LR	08 52 38.7	
	comp=Z,34nm,18.6s,baz=136,slow=37						
	comp=Z,4.6nm,0.6s						
GAR	Garm	61.12	324	P	P	08 25 39.2	-1.9
MK31	Makanchi Array	61.30	338	P	P	08 25 40.8	-1.3
MK31				IAmb	IAmb	08 25 43.1	
	comp=Z,5.0nm,0.7s						
MKAR	Makanchi Array	61.30	338	P	P	08 25 41.2	-0.8
	comp=Z,5.1nm,0.4s,baz=150,slow=7.7,SNR=62						
MKAR				LR	LR	08 55 49.7	
	comp=Z,60nm,19.2s,baz=104,slow=40						
	comp=Z,5.1nm,0.4s						
MKAR	Makanchi Array	61.30	338	P	P	08 25 41.1	-0.9
AAK	Ala-Archa	61.43	330	LR	LR	08 56 25.5	
	comp=Z,66nm,18.6s,baz=134,slow=40						
MAKZ	Makanchi	61.43	337	P	P	08 25 43.2	+0.3
MAKZ				IAmb	IAmb	08 25 43.9	
	comp=Z,6.1nm,1.1s						
CHGR	Chuyangaron	61.56	323	P	P	08 25 41.6	-2.5
CHGR				IAmb	IAmb	08 25 42.2	
	comp=Z,16nm,1.0s						
RPZ	Rata Peaks	62.06	135	LR	LR	08 51 32.7	
	comp=Z,154nm,21.7s,baz=269,slow=35						
YSS	Yuzh-Sakhalins	62.33	24	P	P	08 25 47.9	-1.0
YSS				pP	pP	08 26 08.0	+1.4
YSS				sP	sP	08 26 16.4	+2.4
KKAR	Karatay Array	63.81	328	P	P	08 25 57.5	-1.3
KURBB	Kurchatov Arra	65.87	338	P	P	08 26 11.5	-0.5
	comp=Z,3.9nm,0.5s,baz=153,slow=5.0,SNR=51						
KURBB				PcP	PcP	08 26 43.0	+0.6
	comp=Z,1.3nm,0.5s,baz=152,slow=4.0,SNR=6.4						
	comp=Z,3.9nm,0.5s						
KURK	Kurchatov	65.91	338	P	P	08 26 11.5	-0.8
KURK				IAmb	IAmb	08 26 12.6	
	comp=Z,14nm,0.9s						
KURK	Kurchatov	65.91	338	P	P	08 26 10.7	-1.6
KURK				pP	pP	08 26 29.7	-0.2
ZAA0	Zalesovo Array	66.61	343	P	P	08 26 15.2	-1.6
ZAA0				IAmb	IAmb	08 26 16.7	
	comp=Z,11nm,1.0s						
ZALV	Zalesovo Beam	66.61	343	P	P	08 26 15.6	-1.2
	comp=Z,6.9nm,0.7s,baz=145,slow=4.2,SNR=26						
ZALV				LR	LR	08 57 29.5	
	comp=Z,60nm,20.3s,baz=148,slow=38						
	comp=Z,6.9nm,0.7s						
ZALV	Zalesovo Beam	66.61	343	P	P	08 26 15.1	-1.6
MAW	Mawson	66.76	198	LR	LR	08 50 43.2	
	comp=Z,66nm,19.8s,baz=62,slow=32						
GEYT	Alibeck	68.15	317	P	P	08 26 26.4	-0.5
	comp=Z,13nm,0.9s,baz=157,slow=8.0,SNR=21						
GEYT				LR	LR	08 58 28.2	
	comp=Z,36nm,18.9s,baz=137,slow=38						
	comp=Z,13nm,0.9s						
GEYT	Alibeck	68.15	317	P	P	08 26 26.1	-0.8
GEYT				IAmb	IAmb	08 26 27.7	
	comp=Z,17nm,1.0s						
GYA0B	ALIBECK ARRAY	68.15	317	P	P	08 26 25.8	-1.1
GYA0B				IAmb	IAmb	08 26 27.6	
	comp=Z,15nm,0.9s						
BVAR	Borovoye Array	70.94	335	LR	LR	09 00 11.3	
	comp=Z,46nm,20.8s,baz=118,slow=38						
BRVK	Borovoye	71.01	335	P	P	08 26 42.5	-1.6
BRVK				IAmb	IAmb	08 26 44.3	
	comp=Z,7.0nm,1.0s						
BRVK	Borovoye	71.01	335	P	P	08 26 41.3	-2.8
BRVK				sP	PcP	08 27 06.9	+2.9
RAYN	Ar Rayn	72.00	298	P	P	08 26 50.2	-0.5
YAK	Yakutsk	72.25	9	LR	LR	09 00 27.6	
	comp=Z,32nm,19.1s,baz=100,slow=37						
KIBK	Kibwezi	73.16	270	P	P	08 26 58.5	+0.6
VNDA	Vanda	73.23	170	LR	LR	08 58 01.7	
	comp=Z,49nm,18.6s,baz=287,slow=35						
PETK	Petropavlovsk-	73.32	27	P	P	08 26 57.5	-0.4
	comp=Z,11nm,0.9s,baz=333,slow=0.8,SNR=6.0						
	comp=Z,11nm,0.9s						
ABKAR	Akbulak array	73.37	328	P	P	08 26 57.9	-0.3
KMBO	Kilima Mbogo	74.13	271	P	P	08 27 05.7	+1.9
	comp=Z,1.8nm,0.5s,baz=76,slow=8.7,SNR=6.3						
	comp=Z,1.8nm,0.5s						
KMBO	Kilima Mbogo	74.13	271	P	P	08 27 04.7	+0.9
MA2	Magadan	75.25	20	LR	LR	09 03 11.7	
	comp=Z,26nm,18.6s,baz=136,slow=38						
ARU	Arti	78.32	333	P	P	08 27 25.6	-0.7
ARU				IAmb	IAmb	08 27 26.9	
	comp=Z,17nm,1.0s						
NRIK	Noril'sk	79.90	352	P	P	08 27 34.4	-0.3
	comp=Z,3.2nm,0.4s,baz=156,slow=5.9,SNR=4.7						
	comp=Z,3.2nm,0.4s						
QSPA	South Pole Qui	80.99	180	P	P	08 27 42.4	+1.5
	comp=Z,0.8nm,0.5s,baz=103,slow=1.2,SNR=11						
QSPA				LR	LR	09 00 22.1	
	comp=Z,125nm,21.2s,baz=239,slow=33						
	comp=Z,0.8nm,0.5s						
KBZ	Khabaz	81.04	317	P	P	08 27 42.0	+0.6
	comp=Z,9.8nm,0.9s,baz=106,slow=5.6,SNR=9.2						
	comp=Z,9.8nm,0.9s						
TIXI	Tiksi	81.32	6	P	P	08 27 41.4	-0.9
TIXI				IAmb	IAmb	08 27 42.3	
	comp=Z,20nm,0.9s						
BOSA	Boshof	82.35	242	P	P	08 27 50.5	+1.6
	comp=Z,1.5nm,0.6s,baz=54,slow=6.7,SNR=4.3						
BOSA				LR	LR	08 57 53.1	
	comp=Z,80nm,19.7s,baz=190,slow=31						
	comp=Z,1.5nm,0.6s						
LBTB	Lobatse	82.44	246	LR	LR	08 56 44.9	
	comp=Z,76nm,21.2s,baz=180,slow=30						
BRTR	Keskin Array B	86.39	311	P	P	08 28 09.0	0.0
	comp=Z,6.3nm,0.9s,baz=122,slow=6.0,SNR=13						
	comp=Z,6.3nm,0.9s						
BRTR	Keskin Array B	86.39	311	P	P	08 28 08.6	-0.4
AKASG	Malin Array Be	91.95	321	P	P	08 28 33.8	-1.0
	comp=Z,1.1nm,0.6s,baz=78,slow=5.2,SNR=6.6						
	comp=Z,1.1nm,0.6s						
NACGM	Naroch	94.19	325	eP	P	08 28 42.9	-2.1
	comp=Z,9.0nm,0.8s,baz=99						
FINES	FINESS Array B	95.59	331	P	P	08 28 50.9	-0.3
	comp=Z,3.8nm,1.0s,baz=102,slow=6.2,SNR=4.1						
	comp=Z,3.8nm,1.0s						
ARCES	ARCESS Array B	96.92	339	P	P	08 28 56.4	-0.8
	comp=Z,1.8nm,0.9s,baz=108,slow=4.0,SNR=4.3						
	comp=Z,1.8nm,0.9s						
YKA	Yellowknife Ar	117.16	22	PKP	PKiKP	08 34 11.2	+0.4
	comp=Z,0.5nm,0.6s,baz=347,slow=1.8,SNR=6.6						
NVAR	Mina Array Bea	126.76	48	PKP	PKiKP	08 34 32.5	+1.7
	comp=Z,0.7nm,0.8s,baz=247,slow=2.4,SNR=6.0						
PDAR	Pinedale Array	130.91	40	PKP	PKiKP	08 34 39.1	+0.2
	comp=Z,0.3nm,0.7s,baz=20,slow=4.7,SNR=3.8						
TXAR	Lajitas Array	141.45	54	PKhKP	PKPpre	08 34 50.7	
	comp=Z,0.3nm,0.6s,baz=270,slow=1.3,SNR=4.8						
BDFB	Brasilia	148.11	220	PKPbc	PKiKP	08 35 14.0	-0.7
	comp=Z,3.5nm,0.7s,baz=140,slow=8.0,SNR=4.8						

IDC 10 08:39:14.8±12.0**, 11°.95S×166°.50E, h116**km±133km**, mb3.6**/4**, mbtmp4.0**/5**, ML4.2**/1**, Error ellipse: s-maj=100.4km s-min=53.5km az=142.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.06	180	P	Pn	08 41 37.1	+0.8
	2.2nm,0.3s,baz=314,slow=14,SNR=45						
DZM				S	Sn	08 43 26.0	-1.4
	2.1nm,0.4s,baz=131,slow=23,SNR=1.6						
	7.6nm,0.5s						
WRA	Warramunga Arr	31.88	251	P	P	08 45 29.9	+0.6
	0.5nm,0.7s,baz=78,slow=9.3,SNR=4.7						
	0.5nm,0.7s						
ASAR	Alice Springs	33.06	245	P	P	08 45 38.9	-0.6
	0.7nm,0.7s,baz=70,slow=9.6,SNR=13						
	0.7nm,0.7s						
CMAR	Chiang Mai Arr	73.15	294	P	P	08 50 33.8	+0.5
	1.1nm,0.3s,baz=121,slow=3.8,SNR=6.2						
	1.1nm,0.3s						
MKAR	Makanchi Array	94.68	317	P	P	08 52 22.1	-0.8
	0.6nm,0.5s,baz=101,slow=5.4,SNR=5.1						
	0.6nm,0.5s						

WEL 10 08:41:12.4±1.4**, 37°S**±6°×**17°9E**±1°2**, h20**km**, M3.3**/11**, ML3.6**/13**, MLv3.3**/11**, Error ellipse: s-maj=0.0km s-min=0.0km az=92.5, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.89	228	P	Pb	08 41 28.1	-1.0
MXZ				S	Sb	08 41 40.2	-0.3
WMGZ	Waiomatatini S	1.02	214	P	Pn	08 41 31.7	0.0
WMGZ				S	Sn	08 41 46.7	+1.3
PKGZ	Pakihiroa	1.25	222	P	Pn	08 41 34.5	-0.2
PKGZ				S	Sn	08 41 51.7	+0.7
PUZ	Puketiti	1.30	212	P	Pn	08 41 35.2	-0.3
PUZ				S	Sb	08 41 53.0	+0.4
HAZ	Te Kaha	1.33	233	P	Pn	08 41 34.8	-1.1
TWGZ	Tauwhareparae	1.52	217	P	Pn	08 41 38.6	+0.2
RUGZ	Raukumara Rang	1.53	229	P	Pn	08 41 39.0	+0.4
CNGZ	Carnagh Statio	1.68	205	P	Pn	08 41 40.8	+0.1
TKGZ	Te Karaka	1.79	214	P	Pn	08 41 41.6	-0.5
WHRZ	Whale Island	1.93	242	P	Pn	08 41 45.2	+1.0
RIGZ	Rimuhau	2.05	212	P	Pn	08 41 44.9	-0.8
MARZ	Manawahe	2.20	242	P	Pn	08 41 46.9	-1.0
EDRZ	Edgecumbe	2.21	238	P	Pn	08 41 48.1	0.0
OPRZ	Ohinepanea	2.23	246	P	Pn	08 41 48.2	0.0
SNGZ	Shannon Statio	2.30	217	P	Pn	08 41 46.9	-2.3
MYRZ	Mayor Island	2.33	261	P	Pn	08 41 49.8	+0.2
KNZ	Kokohu	2.35	209	P	Pn	08 41 48.1	-1.8
RTZ	Ruatahuna	2.37	225	P	Pn	08 41 50.6	+0.4
MHGZ	Mahia Peninsul	2.39	203	P	Pn	08 41 49.2	-1.2
MUGZ	Murupara	2.40	230	P	Pn	08 41 49.9	-0.7
TGRZ	Tauranga	2.41	251	P	Pn	08 41 51.1	+0.4
TARZ	Mount Tarawera	2.44	238	P	Pn	08 41 51.9	+0.7
KARZ	Kaharoa	2.52	244	P	Pn	08 41 52.7	+0.4
RAHZ	Arahi	2.53	219	P	Pn	08 41 52.6	+0.3
WHHZ	Waihua	2.58	215	P	Pn	08 41 53.4	+0.3
MTHZ	Maungataniwha	2.61	223	P	Pn	08 41 53.5	0.0
ALRZ	Allen Road	2.72	233	P	Pn	08 41 54.9	-0.2
KUZ	Kuaotunu	2.74	274	P	Pn	08 41 54.1	-1.1
NMHZ	Naumai	2.81	220	P	Pn	08 41 55.9	-0.4
MRHZ	Matea Rd	2.84	228	P	Pn	08 41 56.7	0.0
ARHZ	Aropaoanui	2.84	216	P	Pn	08 41 56.3	-0.3
TOZ	Tahuroa Road	2.99	254	P	Pn	08 41 57.9	-0.7
BKZ	Black Stump Fm	3.03	223	P	Pn	08 41 58.2	-1.0
GRZ	Great Barrier	3.04	282	P	Pn	08 41 59.4	0.0
MCHZ	McNeill Hill	3.13	217	P	Pn	08 41 59.4	-1.2
CKHZ	Cape Kidnapper	3.14	210	P	Pn	08 41 58.5	-2.1
MKAZ	Moumakai	3.18	266	P	Pn	08 42 00.8	-0.4
WIAZ	Waiheke Island	3.21	272	P	Pn	08 42 01.6	-0.1
KWHZ	Kaweka Forest	3.25	220	P	Pn	08 42 01.4	-0.9
RATZ	Rangitukua	3.26	233	P	Pn	08 42 04.5	+2.0
KAHZ	Kahuranaki	3.33	211	P	Pn	08 42 01.2	-2.2
ETAZ	East Tamaki Re	3.37	269	P	Pn	08 42 04.2	+0.3
MBAZ	Motutapu North	3.40	272	P	Pn	08 42 05.2	+1.0
TMVZ	Te Maari	3.45	231	P	Pn	08 42 04.5	-0.7
ETVZ	East Tongariro	3.46	230	P	Pn	08 42 05.0	-0.2
ABAZ	Army Bay	3.47	275	P	Pn	08 42 05.6	+0.4
BHHZ	Black Hill Sta	3.49	223	P	Pn	08 42 05.0	-0.6
NNVZ	North Ngauruho	3.52	231	P	Pn	08 42 06.9	+0.9
WTVZ	West Tongariro	3.52	231	P	Pn	08 42 09.1	+3.0
PXZ	Pawanui	3.54	209	P	Pn	08 42 03.5	-2.7
TWVZ	Taurewa	3.59	233	P	Pn	08 42 08.7	+1.6
MOVZ	Moawhango	3.61	226	P	Pn	08 42 07.9	+0.7
RVAZ	Riverhead Bore	3.65	272	P	Pn	08 42 08.4	+0.6
HIZ	Hauiti	3.72	244	P	Pn	08 42 10.2	+1.4
PNHZ	Pukenui	3.73	217	P	Pn	08 42 07.0	-1.9
PRHZ	Porangahau	3.83	210	P	Pn	08 42 07.2	-3.0
ANWZ	Angora Road	4.06	210	P	Pn	08 42 11.4	-1.9
VRZ	Vera Road	4.07	237	P	Pn	08 42 14.2	+0.7
MRZ	Mangatainoka R	4.62	216	P	Pn	08 42 18.5	-2.5
OUZ	Omahuta	4.81	290	P	Pn	08 42 25.0	+1.4
CTZ	Chatham Island	7.50	156	P	Pn	08 42 58.9	-1.7

---

*JMA **10** 08:49:07.3±0.2, 31°.3N±0°.5×131°.9E±0°.9, h25km±1km, MV3.7/32, SE OFF OSUMI PEN*
JMA Felt I J1 at SE OFF OSUMI PEN .
*NIED **10** 08:49:07.3, 31°.29N×131°.93E, h25km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.29; $M_{\theta\theta}$0.28; $M_{\phi\phi}$1.01; $M_{r\theta}$0.33; $M_{\theta\phi}$0.36; $M_{\phi r}$-1.22; Fault plane solution: $M_0$1.74000×10^{15} NP1: ϕ_s215.00000°, δ26.00000°, λ-56.00000°. NP2: ϕ_s358.00000°, δ68.00000°, λ-105.00000°.*
*NEIC **10** 08:49:08.7±1.6, 31°.31N±0°.09×131°.62E±0°.09, h22km±7km, mb4.4/11 Error ellipse: s-maj=14.9km s-min=7.1km az=142.0*
*IDC **10** 08:49:13.1±10.0, 31°.39N×131°.48E, h69km±93km, mb3.5/11, mbtmp3.8/12, ML3.5/1, MS3.5/3, Error ellipse: s-maj=32.5km s-min=15.8km az=78.0*
ISC 10 08:49:09.3±0.7**, 31°.36N**±0°.04×**131°.74E**±0°.06**, h33**km**, n44, σ1s11**/44**, mb4.2**/17**, MS3.4**/3**, 4D, Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.43	293	⇓P	Pn	08 49 19.0	-0.2
JNAR				⇓eS	Sn	08 49 27.6	+1.6
JNKG	Nichinankitago	0.43	315	⇓P	Pb	08 49 18.7	-0.2
JNKG				⇓eS	Sn	08 49 26.9	+0.9
JTSR	Tashiro 2	0.72	255	P	Pb	08 49 23.3	-0.3
JTZ	Takazaki	0.78	315	eP	Pb	08 49 24.1	-0.4
JTSN	Tsuno	0.91	347	eP	Pn	08 49 25.6	-0.2
JTSN				eS	Sb	08 49 39.7	+1.2
JTN	Tanegashima 3	0.95	223	P	Pn	08 49 26.5	+0.1
JSU	Suzuyama	1.11	278		Pn	08 49 28.7	+0.2
JSU	Suzuyama	1.11	278	eP	Pb	08 49 29.3	-0.6
JSU				eS	Sb	08 49 45.9	+1.7
JMTN	Minamitane	1.20	217	eP	Pn	08 49 29.5	-0.2
JZO	Okuchi	1.25	309	eP	Pb	08 49 31.4	-1.0
JNU	Nakatsue	1.91	338		Pn	08 49 40.9	+1.3
JTU	Tsushima	3.72	329	Pn	Pn	08 50 03.4	-1.1
JHS	Saijyo	3.81	17		Pn	08 50 05.0	-0.8
KLR	Kul'dur	17.85	0	P	P	08 53 16.0	+0.5
	0.2nm,0.3s,baz=171,slow=13,SNR=2.6						
	1.4nm,0.7s						
SONM	Songino Array	25.37	318	P	P	08 54 32.8	-0.7
	1.3nm,0.8s,baz=128,slow=9.3,SNR=6.7						
SONM				LR	LR	09 06 28.8	
	comp=Z,106nm,18.0s,baz=152,slow=41						
	1.3nm,0.8s						
SONM	Songino Array	25.37	318	P	P	08 54 33.5	0.0
SONM				IAmb	IAmb	08 54 45.0	
	comp=Z,4.3nm,1.2s						
PETK	Petropavlovsk-	28.74	33	LR	LR	09 06 37.6	
	comp=Z,65nm,19.6s,baz=237,slow=36						
H11N2	WAKE ISLAND Hy	33.63	102	T	T	09 31 01.7	
	baz=297,slow=75,SNR=8.3						
H11N1	WAKE ISLAND Hy	33.63	102	T	T	09 31 08.7	
	baz=297,slow=75,SNR=6.4						
H11N3	WAKE ISLAND Hy	33.65	102	T	T	09 31 09.3	
	baz=297,slow=75,SNR=7.2						
MKAR	Makanchi Array	40.68	307	P	P	08 56 45.5	-1.1
	comp=Z,0.7nm,0.7s,baz=97,slow=8.7,SNR=4.3						
MKAR				LR	LR	09 15 29.9	
	comp=Z,64nm,19.1s,baz=83,slow=39						
	comp=Z,0.7nm,0.7s						
KNRA	Kununurra	46.85	184	P	P	08 57 36.4	+0.1
BVAR	Borovoye Array	48.67	315	P	P	08 57 48.9	-1.2
	comp=Z,1.7nm,0.5s,baz=102,slow=10,SNR=11						
	comp=Z,1.7nm,0.5s						
BRVK	Borovoye	48.73	315	P	P	08 57 49.9	-0.7
BRVK				IAmb	IAmb	08 57 50.1	
	comp=Z,2.2nm,0.5s						
KK31	Karatay Array	49.14	302	P	P	08 57 52.8	-1.2
KK31				IAmb	IAmb	08 57 53.9	
	comp=Z,1.9nm,0.7s						
KKAR	Karatay Array	49.14	302	P	P	08 57 53.0	-0.9
WB0	Warramunga Arr	50.89	177	P	P	08 58 07.0	-0.3
WB0				IAmb	IAmb	08 58 31.8	
	comp=Z,9.8nm,1.3s						
WRA	Warramunga Arr	51.07	177	P	P	08 58 08.3	-0.3
	comp=Z,0.8nm,0.7s,baz=350,slow=8.4,SNR=6.6						
	comp=Z,0.8nm,0.7s						
WRA	Warramunga Arr	51.07	177	P	P	08 58 08.4	-0.1
AS31	Alice Springs	54.75	178	P	P	08 58 36.5	+0.8
ASAR	Alice Springs	54.75	178	P	P	08 58 35.8	+0.1
	comp=Z,0.8nm,0.7s,baz=12,slow=12,SNR=13						
	comp=Z,0.8nm,0.7s						
ASAR	Alice Springs	54.75	178	P	P	08 58 36.1	+0.4
ABKAR	Akbulak array	55.51	311	P	P	08 58 40.5	-0.5
H23K	Yukon River	57.26	29	P	P	08 58 55.0	+1.7
H23K				IAmb	IAmb	08 59 29.0	
	comp=Z,8.6nm,1.4s						
MDM	Murphy Dome	57.89	30	P	P	08 58 59.0	+1.3
MDM				IAmb	IAmb	08 59 11.9	
	comp=Z,5.9nm,1.2s						
ILAR	Eielson Array	58.48	30	P	P	08 59 02.0	+0.2
	comp=Z,0.3nm,0.6s,baz=304,slow=8.2,SNR=5.1						
	comp=Z,0.3nm,0.6s						
PAX	Paxson	59.36	32	P	P	08 59 12.2	+4.1
K27K	Chicken	60.66	30	P	P	08 59 17.8	+0.9
K27K				IAmb	IAmb	08 59 35.2	
	comp=Z,2.0nm,0.9s						
BCAR	Beaver Creek A	60.99	31	P	P	08 59 20.2	+1.0
STKA	Stephens Creek	63.58	171	P	P	08 59 37.5	+0.8
	comp=Z,1.2nm,0.4s,baz=315,slow=11,SNR=4.8						
	comp=Z,1.2nm,0.4s						
FINES	FINESS Array B	69.93	330	P	P	09 00 15.0	-1.8
	comp=Z,4.7nm,1.2s,baz=101,slow=6.0,SNR=6.0						
	comp=Z,4.7nm,1.2s						
NOA	NORSAR Array B	76.06	334	P	P	09 00 52.2	-1.1
	comp=Z,0.4nm,0.6s,baz=48,slow=5.5,SNR=1.8						
	comp=Z,0.4nm,0.6s						
NVAR	Mina Array Bea	84.77	48	P	P	09 01 41.9	+1.2
	comp=Z,0.4nm,0.7s,baz=298,slow=4.7,SNR=4.3						
	comp=Z,0.4nm,0.7s						
PDAR	Pinedale Array	87.26	40	P	P	09 01 53.0	+0.1
	comp=Z,0.3nm,0.7s,baz=222,slow=2.0,SNR=3.6						
	comp=Z,0.3nm,0.7s						

---

*IDC **10** 09:14:56.0±2.9, 19°.01N×38°.96E, h0km, mb3.8/8, mbtmp3.8/8, MS3.4/23, Error ellipse: s-maj=66.6km s-min=27.2km az=21.0*
ISC 10 09:14:58.1±2.6**, 19°.0N**±0°.4×**39°.0E**±0°.2**, h13**km**, n26, σ1s02**/8**, mb3.9**/8**, MS3.3**/21**, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EIL	Elat	11.20	342	LR	LR	09 21 08.6	
	comp=Z,126nm,19.8s,baz=169,slow=33						
MMAI	Mount Meron Ar	14.28	348	LR	LR	09 23 20.6	
	comp=Z,154nm,18.1s,baz=112,slow=35						
KMBO	Kilima Mbogo	20.11	185	LR	LR	09 27 18.9	
	comp=Z,139nm,20.9s,baz=289,slow=37						
IDI	Anoyia	20.43	325	LR	LR	09 27 15.9	
	comp=Z,54nm,21.5s,baz=88,slow=36						
BRTR	Keskin Array B	21.12	349	P	P	09 19 44.1	+1.4
	3.6nm,1.0s,baz=174,slow=14,SNR=5.0						
BRTR				LR	LR	09 27 37.7	
	comp=Z,57nm,20.8s,baz=164,slow=36						
	3.6nm,1.0s						
GNI	Garni	21.62	12	LR	LR	09 28 36.1	
	comp=Z,86nm,19.6s,baz=156,slow=38						
GEYT	Alibeck	25.16	38	LR	LR	09 29 44.4	
	comp=Z,83nm,21.2s,baz=220,slow=35						
AKASG	Malin Array Be	32.53	348	P	P	09 21 27.5	-1.1
	0.1nm,0.2s,baz=163,slow=7.4,SNR=5.5						
AKASG				LR	LR	09 34 26.6	
	comp=Z,51nm,18.6s,baz=74,slow=36						
	0.1nm,0.2s						
AAK	Ala-Archa	38.10	44	LR	LR	09 38 18.6	
	comp=Z,80nm,20.8s,baz=254,slow=37						
ARU	Arti	40.12	17	LR	LR	09 43 40.9	
	comp=Z,43nm,19.1s,baz=218,slow=43						
MDT	Midelt	41.24	298	LR	LR	09 39 21.6	
	comp=Z,41nm,18.4s,baz=144,slow=36						
BVAR	Borovoye Array	41.75	28	LR	LR	09 42 29.7	
	comp=Z,58nm,18.9s,baz=237,slow=40						
PALK	Pallekele	42.18	100	LR	LR	09 37 40.6	
	comp=Z,78nm,18.5s,baz=22,slow=32						
ESDC	Sonseca Array	42.20	309	P	P	09 22 51.6	+0.7
	0.9nm,0.8s,baz=99,slow=9.2,SNR=4.1						
	0.9nm,0.8s						
TSUM	Tsumeb	43.41	210	LR	LR	09 41 28.3	
	comp=Z,92nm,18.5s,baz=337,slow=37						
DBIC	Dimbokro	44.33	260	LR	LR	09 40 56.6	
	comp=Z,40nm,18.8s,baz=61,slow=35						
MKAR	Makanchi Array	44.89	42	P	P	09 23 13.0	+0.6
	1.6nm,0.9s,baz=249,slow=5.1,SNR=7.1						
MKAR				LR	LR	09 43 34.9	
	comp=Z,47nm,22.0s,baz=276,slow=38						
	1.6nm,0.9s						
LBTB	Lobatse	45.68	197	LR	LR	09 42 45.8	
	comp=Z,78nm,20.1s,baz=6.5,slow=37						
NOA	NORSAR Array B	46.31	342	P	P	09 23 22.4	-1.0
	1.2nm,0.9s,baz=141,slow=8.5,SNR=2.9						
	1.2nm,0.9s						
BRDH	Bariadhala	49.15	76	LR	LR	09 46 07.5	
	comp=Z,91nm,18.4s,baz=271,slow=38						
ZALV	Zalesovo Beam	49.38	34	P	P	09 23 47.8	+0.5
	1.3nm,0.6s,baz=268,slow=7.3,SNR=7.1						
ZALV				LR	LR	09 46 14.8	
	comp=Z,31nm,18.4s,baz=240,slow=38						
	1.3nm,0.6s						
BBTS	Babate	53.12	274	LR	LR	09 49 05.4	
	comp=Z,110nm,18.5s,baz=84,slow=39						
CMAR	Chiang Mai Arr	56.54	80	P	P	09 24 40.7	0.0
	0.6nm,0.3s,baz=283,slow=8.2,SNR=5.3						
CMAR				LR	LR	09 51 03.2	
	comp=Z,13nm,18.0s,baz=285,slow=38						
	0.6nm,0.3s						
BORG	Borgarnes	60.40	335	LR	LR	09 54 44.4	
	comp=Z,20nm,18.1s,baz=354,slow=40						
SONM	Songino Array	61.04	45	P	P	09 25 11.4	-0.3
	0.7nm,0.6s,baz=247,slow=9.2,SNR=5.6						
	0.7nm,0.6s						
KSRS	Korea Array	77.88	54	LR	LR	10 05 06.5	
	comp=Z,46nm,19.2s,baz=40,slow=39						

---

*BER **10** 09:18:28.1±2.1, 79°.97N×21°.01E, h23km±7km, ML2.5, ML3.0(NAO), Confirmed Earthquake*
*NAO **10** 09:18:28.0±2.5, 79°.84N×20°.80E, h13km±10km, ML3.0*
*IEPN **10** 09:18:30.0, 79°.89N×21°.20E, h10km*
ISC 10 09:18:27.1±1.1**, 79°.86N**±0°.06×**21°.12E**±0°.05**, h10**km**, n17, σ1s66**/37**, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	1.92	211	Pn	Pn	09 18 59.2	-0.6
	baz=25,slow=16						
SPA0				Pg	Pb	09 19 02.2	+0.1
	baz=26,slow=16						
SPA0				Sn	Sn	09 19 22.3	-1.6
	baz=32,slow=14						
SPA0				Lg	Lg	09 19 27.3	
	baz=33,slow=18						
SPA0	Spitsbergen Ar	1.92	211	⇑iP	Pn	09 18 59.0	-0.7
SPA0				i S	Sn	09 19 22.7	-1.2
SPA0	Spitsbergen Ar	1.92	211	Pn	Pn	09 18 59.2	-0.6
	baz=25,slow=16						
SPA0				Pg	Pb	09 19 02.2	+0.1
	baz=26,slow=16						
SPA0				eS	Sn	09 19 21.8	-2.1
SPA0				eSg	Sb	09 19 27.3	+1.2
SPA0				IAML		09 19 35.4	
	comp=Z,39nm,0.6s						
KBS	Kingsbay	1.94	246	Pn	Pn	09 18 58.7	-1.3
KBS				Pg	Pb	09 19 02.8	+0.4
KBS				Lg	Lg	09 19 26.3	
KBS	Kingsbay	1.94	246	eP	Pn	09 18 58.8	-1.3
KBS				ePg	Pb	09 19 02.8	+0.4
KBS				eSg	Sn	09 19 26.2	+1.8
KBS				IAML		09 19 28.0	
	comp=Z,116nm,0.2s						
BRBB	Barentsburg B	2.22	220	Pn	Pn	09 19 03.2	-0.6
BRBB				Sn	Sn	09 19 29.1	-2.1
BRBB				Lg	Lg	09 19 37.1	
BRBB	Barentsburg B	2.22	220	Pn	Pn	09 19 03.2	-0.6
BRBB				eS	Sn	09 19 29.0	-2.1
BRBA	Barentsburg A	2.24	220	Pn	Pn	09 19 03.6	-0.5
BRBA				Sn	Sn	09 19 29.4	-2.5
BRBA				Lg	Lg	09 19 37.6	
BRBA	Barentsburg A	2.24	220	Pn	Pn	09 19 03.6	-0.5
BRBA				Sn	Sn	09 19 29.4	-2.5
BRBA				eSg	Sb	09 19 37.6	+2.3
BRBA				IAML		09 19 43.0	
	comp=Z,61nm,0.5s						
HSPB	Hornsund (broa	3.08	204	Pg	Pb	09 19 23.1	+1.2
HSPB				Lg	Lg	09 20 02.9	
HSPB	Hornsund (broa	3.08	204	P	Pb	09 19 23.8	+1.9
HSPB				S	Sb	09 20 02.5	+3.0
HSPB	Hornsund (broa	3.08	204	Pg	Pb	09 19 23.1	+1.2
HSPB				eSg	Sb	09 20 03.5	+4.0
HSPB				IAML		09 20 10.9	
	comp=Z,24nm,0.5s						
HOPEN	Hopen	3.46	165	eP	Pn	09 19 21.0	+0.1
HOPEN				ePg	Pb	09 19 28.2	-0.1
HOPEN				eS	Sn	09 20 01.0	-0.9
ZFI	Zemlya Franca-	4.54	65	P	Pn	09 19 36.5	+0.8
ZFI				eS	Sn	09 20 26.7	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,52nm,1.6s						
OMEGA	Omega	4.56	65	eP	Pn	09 19 36.9	+1.0
OMEGA				eS	Sn	09 20 26.5	-2.2
	comp=Z,51nm,2.8s						
ARA0	ARCESS Array S	10.44	171	Pn	Pn	09 20 54.9	-1.6
	baz=358,slow=10						
ARA0				Sn	Sn	09 22 44.5	-8.9
	baz=2.9,slow=22						
ARA0	ARCESS Array S	10.44	171	Pn	Pn	09 20 54.9	-1.6
	baz=358,slow=10						
ARA0				Sn	Sn	09 22 44.5	-8.9
	baz=2.9,slow=22						

IDC 10 09:25:41.5±8.1**, 7°.20S**×**129°.75E, h76**km±73km**, mb3.3**/1**, mbtmp3.7**/3**, ML3.8**/2**, MS3.6**/1**, Error ellipse: s-maj=137.6km s-min=38.7km az=59.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.42	161	P	Pn	09 28 49.4	+0.6
	0.6nm,0.3s,baz=344,slow=13,SNR=30						
WRA				S	Sn	09 31 08.1	-8.3
	1.2nm,0.6s,baz=332,slow=22,SNR=7.3						
	1.2nm,0.5s						
ASAR	Alice Springs	16.85	167	P	Pn	09 29 31.7	-0.9
	0.2nm,0.3s,baz=340,slow=11,SNR=16						
ASAR				S	Sn	09 32 30.4	-9.0
	0.3nm,0.5s,baz=328,slow=14,SNR=4.8						
	1.5nm,0.7s						
DZM	Mont Dzumac	38.32	117	LR	LR	09 48 29.8	
	comp=Z,78nm,19.2s,baz=34,slow=36						
MKAR	Makanchi Array	68.26	327	P	P	09 36 34.3	0.0
	0.3nm,0.5s,baz=118,slow=8.6,SNR=5.5						
	0.3nm,0.5s						
LPAZ	La Paz	150.71	143	PKPbc	PKPbc	09 45 26.6	-0.2
	0.7nm,0.3s,baz=201,slow=3.7,SNR=6.9						

*SOME **10** 09:29:47.3, 43°.60N×69°.90E*
*NNC **10** 09:29:48.5±4.8, 43°.40N×69°.80E, h0km, mb3.9, mpv3.3, Error ellipse: s-maj=34.1km s-min=12.4km az=121.0, Suspected Mining explosion.*
*KRNET **10** 09:29:48.8±0.1, 43°.49N×69°.79E, mb2.9*
ISC 10 09:29:46.6±2.5**, 43°.60N**±0°.08×**70°.0E**±0°.1**, h0**km**, n10, σ0**s**.92**/15**, 8C, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.63	141	⥣P	Pb	09 29 60.0	-0.5
	2.4nm,0.4s,baz=286,slow=16,SNR=87						
KK31				⥣S	Sb	09 30 09.6	-0.2
	9.5nm,0.3s,baz=290,slow=32						
IUG	Iuzhnay	1.45	178	P	Pb	09 30 14.2	-0.3
	354nm,0.7s						
IUG				S	Sn	09 30 34.0	+0.1
	62nm,0.7s						
TRKS	Terek-Say	2.24	157	⥣eP	Pg	09 30 29.1	-0.3
	baz=53						
TRKS				⥣iS	Sg	09 30 58.6	+0.2
	baz=53						
ARK	Arkit	2.32	140	⥣eP	Pb	09 30 30.0	+0.7
	baz=36						
ARK				⥣iS	Sb	09 31 00.0	+1.4
	baz=36						
EKS2	Erkin-Say	2.94	107	⥣eP	Pb	09 30 39.7	-0.2
	baz=4.0						
EKS2				⥣iS	Sb	09 31 17.0	+0.6
	baz=4.0						
BTLS	Baital	3.26	62	Pg	Pg	09 30 49.6	+0.5
	11nm,0.6s						
BTLS				Lg	Lg	09 31 34.3	
	4.5nm,0.8s						
SGDS	Sogindy	3.39	91	Pg	Pg	09 30 50.5	-1.0
	2.1nm,0.5s						
SGDS				Lg	Lg	09 31 35.7	
	3.3nm,0.5s						
KRBS	Karabastau	4.14	87	Pg	Pg	09 31 03.6	-2.3
	3.4nm,0.6s						
KRBS				Lg	Lg	09 31 58.6	
	4.7nm,0.6s						
KST	Kastek	4.41	95	Pg	Pg	09 31 10.9	-0.1
	2.5nm,0.5s						
KST				Lg	Lg	09 32 10.8	
	5.3nm,0.4s						
KTBS	Karatobe	4.87	86	Pg	Pg	09 31 20.4	+0.5
	2.8nm,0.5s						
KTBS				Lg	Lg	09 32 26.9	
	9.1nm,0.5s						

IDC 10 09:36:13.8±6.2**, 51°.64N**×**75°.59E, h0**km**, mbtmp2.7**/2**, ML2.2**/2**, Error ellipse: s-maj=78.0km s-min=36.8km az=81.0, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	6.06	64	I		10 10 30.0	
	baz=250,slow=335,SNR=1.4						
ZALV	Zalesovo Beam	6.06	64	Pn	Pn	09 37 44.2	-0.3
	0.2nm,0.3s,baz=255,slow=13,SNR=3.6						
	0.9nm,0.5s						
MKAR	Makanchi Array	6.54	135	Pn	Pn	09 37 51.0	-0.3
	0.1nm,0.3s,baz=321,slow=15,SNR=2.1						
MKAR				Lg	Lg	09 39 41.8	
	0.1nm,0.3s,baz=315,slow=27,SNR=8.2						
	0.2nm,0.5s						

*IDC **10** 09:48:59.6±0.6, 46°.68N×155°.72E, h0km, mb4.0/16, mbtmp4.0/17, ML2.6/1, MS3.4/6, Error ellipse: s-maj=19.3km s-min=14.5km az=157.0*
*SKHL **10** 09:49:05.8±0.2, 47°.10N×155°.20E, h65km±2km, mb4.7/4*
*NEIC **10** 09:49:05.1±1.3, 46°.9N±0°.1×155°.6E±0°.1, h30km±3km, mb4.5/17, Error ellipse: s-maj=21.0km s-min=12.0km az=155.0*
*MOS **10** 09:49:06.8±2.7, 47°.03N×155°.63E, h68km, mb4.4/8, Error ellipse: s-maj=11.9km s-min=8.2km az=81.8*
ISC 10 09:49:03.2±0.6**, 46°.92N**±0°.07×**155°.53E**±0°.07**, h18**km**, n89, σ1**s**.98**/81**, mb4.3**/29**, MS3.4**/6**, 1C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.79	6	eP	Pn	09 50 00.1	-0.5
SKR				AMB	AMB	09 50 00.8	
	40nm,0.3s						
SKR				eS	Sn	09 50 40.7	-4.0
SKR				A	A	09 50 46.9	
	40nm,0.3s						
SKR				A	A	09 50 46.9	
	100nm,0.3s						
SKR	Severo-Kuril's	3.79	6	ePN	Pn	09 50 00.5	-0.1
SKR				eS	Sn	09 50 42.3	-2.4
SKR				smax	smax		
	comp=N,71nm,0.5s						
SKR				smax	smax		
	comp=E,63nm,0.6s						
PAU	Pauzhetka	4.63	10	eP	Pn	09 50 11.9	-0.3
PAU				AMB	AMB	09 50 13.9	
	comp=E,20nm,0.2s						
PAU				eS	Sn	09 51 01.6	-3.9
PAU				A	A	09 51 04.6	
	comp=E,120nm,0.3s						
PAU				A	A	09 51 04.6	
	comp=E,80nm,0.3s						
PAU	Pauzhetka	4.63	10	ePN	Pn	09 50 08.6	-3.6
PAU				S	Sn	09 51 01.3	-4.2
KUR	Kuril'sk	5.59	255	eP	Pn	09 50 24.7	-0.6
KUR				AMB	AMB	09 50 25.0	
	comp=E,70nm,0.6s						
KUR				eS	Sn	09 51 23.9	-5.1
KUR				A	A	09 51 30.1	
	comp=E,200nm,0.7s						
KUR				A	A	09 51 30.1	
	comp=E,90nm,0.7s						
PEA0B	Petropavlovsk-	6.36	12	Pn	Pn	09 50 34.9	-1.0
PEA0B	Petropavlovsk-	6.36	12	PN	Pn	09 50 34.9	-1.0
PETK	Petropavlovsk-	6.36	12	Pn	Pn	09 50 33.9	-2.0
	comp=E,1.4nm,0.3s,baz=180,slow=12,SNR=20						
PETK	Petropavlovsk-	6.36	12	Pn	Pn	09 50 34.3	-1.6
PETK	Petropavlovsk-	6.36	12	PN	Pn	09 50 34.3	-1.6
YUK	Yuzh-Kuril'sk	7.38	251	eP	Pn	09 50 50.2	+0.3
YUK				AMB	AMB	09 50 50.9	
	comp=E,60nm,0.5s						
YUK				eS	Sn	09 52 07.0	-6.1
YUK				A	A	09 52 16.0	
	comp=E,350nm,0.9s						
YUK				A	A	09 52 16.0	
	comp=E,260nm,0.9s						
JKA	Kamikawa-asahi	9.50	258	Pn	Pn	09 51 19.3	+0.4
JKA	Kamikawa-asahi	9.50	258	eP	Pn	09 51 19.3	+0.4
ASAJ	Asahikawa	9.50	258	PN	Pn	09 51 19.3	+0.3
ERM	Erimo	10.10	245	Pn	Pn	09 51 26.4	-0.9
ERM	Erimo	10.10	245	i PN	Pn	09 51 28.5	+1.2
JTM	Tenmabayashi	12.09	245	Pn	Pn	09 51 51.7	-2.8
MA2	Magadan	12.99	349	LR	LR	09 57 10.0	
	comp=E,79nm,18.9s,baz=231,slow=37						
KLR	Kul'dur	16.05	287	i P	Pn	09 52 43.4	-4.3
KLR	Kul'dur	16.05	287	i P	P	09 52 53.2	+2.1
KLR				pmax	pmax		
	comp=Z,35nm,4.3s						
MJA0	Matsu Arr-Jizo	16.51	237	eP	P	09 52 59.2	+2.9
USA0B	Ussuriysk Arra	16.69	269	Pn	Pn	09 52 56.8	+0.8
USA0B	Ussuriysk Arra	16.69	269	P	Pn	09 52 56.8	+0.8
USA0B				pmax	pmax		
	comp=Z,6.0nm,0.7s						
USRK	Ussuriysk Ar.	16.69	269	Pn	Pn	09 52 55.5	-0.5
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=3.7						
	comp=Z,2.6nm,0.7s						
USRK	Ussuriysk Ar.	16.69	269	Pn	Pn	09 52 56.0	0.0
USRK	Ussuriysk Ar.	16.69	269	P	Pn	09 52 56.0	0.0
YAK	Yakutsk	21.10	325	i P	P	09 53 48.9	+2.5
YAK				pmax	pmax		
	comp=Z,13nm,1.1s						
BILL	Bilibino	21.89	11	eP	P	09 53 55.8	+1.0
BILL	Bilibino	21.89	11	⥣eP	P	09 53 55.8	+1.0
BILL				e		09 54 21.1	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,50nm,16.0s						
KSRS	Korea Array	22.43	255	P	P	09 54 01.7	+0.8
	comp=Z,1.4nm,0.7s,baz=60,slow=7.8,SNR=3.5						
	comp=Z,1.4nm,0.7s						
KSRS	Korea Array	22.43	255	eP	P	09 54 06.4	+5.5
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TIXI	Tiksi	27.80	342	P	P	09 54 51.3	+0.6
	comp=Z,2.1nm,0.5s,baz=18,slow=0.5,SNR=8.0						
	comp=Z,2.1nm,0.5s						
TIXI	Tiksi	27.80	342	i P	P	09 54 53.2	+2.5
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
H11N2	WAKE ISLAND Hy	28.67	157	T	T	10 24 43.1	
	baz=348						
H11N1	WAKE ISLAND Hy	28.68	157	T	T	10 24 38.5	
	baz=348,SNR=3.7						
H11N3	WAKE ISLAND Hy	28.68	157	T	T	10 24 42.2	
	baz=348						
H11S1	WAKE ISLAND Hy	29.79	158	T	T	10 26 05.9	
	baz=345,slow=76,SNR=7.4						
H11S3	WAKE ISLAND Hy	29.80	158	T	T	10 26 06.6	
	baz=345,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	29.80	158	T	T	10 26 07.6	
	baz=345,slow=76,SNR=10						
OHAK	Old Harbor	32.37	52	P	P	09 55 30.9	-0.3
SONM	Songino Array	32.84	290	P	P	09 55 35.8	+0.2
	comp=Z,0.5nm,0.5s,baz=70,slow=9.7,SNR=1.8						
	comp=Z,0.5nm,0.5s						
H21K	Melozitna Rive	32.99	37	P	P	09 55 35.6	-1.0
H21K				IAmb	IAmb	09 55 46.0	
	comp=Z,8.5nm,1.3s						
MDM	Murphy Dome	34.82	38	P	P	09 55 52.6	0.0
MDM				IAmb	IAmb	09 56 35.1	
	comp=Z,7.1nm,1.4s						
ILAR	Eielson Array	35.39	39	P	P	09 55 56.4	-1.0
	comp=Z,0.9nm,1.0s,baz=250,slow=6.9,SNR=4.9						
	comp=Z,0.9nm,1.0s						
BMAR	Burnt Mountain	36.45	34	P	P	09 56 07.6	+1.1
L27K	Beaver Creek,	37.66	41	P	P	09 56 17.6	+0.7
BCAR	Beaver Creek A	37.68	41	P	P	09 56 17.3	+0.3
EGAK	Eagle	37.84	39	P	P	09 56 17.5	-0.8
EGAK				IAmb	IAmb	09 56 48.6	
	comp=Z,12nm,1.4s						
HYT	Haines Junctio	40.00	45	P	P	09 56 37.2	+0.6
HYT				IAmb	IAmb	09 56 57.8	
	comp=Z,17nm,1.4s						
ZALV	Zalesovo Beam	43.85	306	P	P	09 57 07.5	-0.4
	comp=Z,0.9nm,0.4s,baz=63,slow=6.6,SNR=3.5						
ZALV				LR	LR	10 16 23.7	
	comp=Z,59nm,18.3s,baz=70,slow=37						
	comp=Z,0.9nm,0.4s						
MKAR	Makanchi Array	48.33	298	P	P	09 57 44.3	+0.9
	comp=Z,0.4nm,0.5s,baz=71,slow=6.8,SNR=4.6						
	comp=Z,0.4nm,0.5s						
KURK	Kurchatov	48.64	304	P	P	09 57 46.4	+0.7
KURK	Kurchatov	48.64	304	i P	P	09 57 46.6	+0.9
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURBB	Kurchatov Arra	48.74	304	P	P	09 57 47.5	+1.1
	comp=Z,2.1nm,0.5s,baz=66,slow=8.3,SNR=8.9						
	comp=Z,2.1nm,0.5s						
YKA	Yellowknife Ar	49.79	37	P	P	09 57 54.5	+0.2
	comp=Z,0.4nm,0.6s,baz=292,slow=7.1,SNR=2.9						
	comp=Z,0.4nm,0.6s						
BVAR	Borovoye Array	52.02	310	LR	LR	10 21 52.3	
	comp=Z,28nm,19.1s,baz=71,slow=38						
BRVK	Borovoye	52.06	310	P	P	09 58 12.5	+1.0
BRVK				IAmb	IAmb	09 58 17.0	
	comp=Z,4.4nm,0.7s						
BRVK	Borovoye	52.06	310	i P	P	09 58 14.2	+2.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	Chiang Mai Arr	54.02	258	P	P	09 58 27.2	+0.8
	comp=Z,1.1nm,0.6s,baz=36,slow=7.6,SNR=6.7						
	comp=Z,1.1nm,0.6s						
AAK	Ala-Archa	55.23	297	i P	P	09 58 37.9	+2.8
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARU	Arti	56.00	318	i P	P	09 58 42.2	+2.0
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PINE	Pine Mountain	56.08	60	P	P	09 58 41.3	+0.1
PLID	Pearl Lake	58.21	56	P	P	09 58 56.1	-0.3
PLID				IAmb	IAmb	09 58 56.7	
	comp=Z,4.2nm,0.7s						
KIRV	Kirov	58.63	324	LR	LR	10 26 12.6	
	comp=Z,42nm,19.1s,baz=44,slow=38						
ABKAR	Akbulak array	59.58	311	P	P	09 59 06.0	+0.5
PNTR	Pine Nut	59.68	64	P	P	09 59 06.5	0.0
NVAR	Mina Array Bea	60.88	64	P	P	09 59 14.7	-0.1
	comp=Z,1.6nm,0.7s,baz=297,slow=7.1,SNR=16						
	comp=Z,1.6nm,0.7s						
YHH	Holmes Hill	61.30	54	P	P	09 59 17.6	-0.1
YHH				IAmb	IAmb	09 59 20.8	
	comp=Z,5.4nm,1.3s						
R11A	Troy Canyon, C	62.59	62	P	P	09 59 25.7	-0.6
PDAR	Pinedale Array	63.30	55	P	P	09 59 30.4	-0.6
	comp=Z,1.4nm,0.8s,baz=275,slow=2.6,SNR=12						
	comp=Z,1.4nm,0.8s						
FINES	FINESS Array B	64.58	336	P	P	09 59 40.9	+2.1
	comp=Z,1.5nm,0.5s,baz=41,slow=8.4,SNR=12						
	comp=Z,1.5nm,0.5s						
FINES	FINESS Array B	64.58	336	P	P	09 59 38.3	-0.5
FINES	FINESS Array B	64.58	336	eP	P	09 59 43.0	+4.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RDMU	Red Mountain	64.72	57	P	P	09 59 40.4	+0.1
NOA	NORSAR Array B	68.59	342	LR	LR	10 32 54.7	
	comp=Z,13nm,20.5s,baz=255,slow=38						
WRA	Warramunga Arr	69.24	201	P	P	10 00 06.5	-2.4
	comp=Z,1.9nm,0.7s,baz=20,slow=6.8,SNR=17						
	comp=Z,1.9nm,0.7s						
WRA	Warramunga Arr	69.24	201	eP	P	10 00 06.7	-2.2
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	72.31	327	P	P	10 00 28.3	+1.0
	comp=Z,0.8nm,0.5s,baz=33,slow=6.4,SNR=2.7						
	comp=Z,0.8nm,0.5s						
ASAR	Alice Springs	72.92	201	P	P	10 00 29.7	-1.5
	comp=Z,1.9nm,0.7s,baz=18,slow=5.6,SNR=28						
	comp=Z,1.9nm,0.7s						
TX31	Lajitas Ar. Si	75.96	62	P	P	10 00 48.6	-0.5
TX32	Lajitas Array	75.96	62	P	P	10 00 48.5	-0.6
TX32				IAmb	IAmb	10 00 49.3	
	comp=Z,4.2nm,0.8s						
TXAR	Lajitas Array	75.96	62	P	P	10 00 48.5	-0.6
	comp=Z,3.1nm,0.6s,baz=301,slow=4.3,SNR=48						
	comp=Z,3.1nm,0.6s						
TXAR	Lajitas Array	75.96	62	P	P	10 00 48.4	-0.8
ESDC	Sonseca Array	91.87	344	LR	LR	10 48 07.3	
	comp=Z,30nm,20.2s,baz=194,slow=38						
H03N2	Juan Fernandez	137.10	92	T	T	12 40 33.1	
	baz=308,slow=77,SNR=5.9						
H03N1	Juan Fernandez	137.11	92	T	T	12 40 33.3	
	baz=308,slow=77,SNR=7.5						
H03N3	Juan Fernandez	137.11	92	T	T	12 40 32.5	
	baz=308,slow=77,SNR=7.2						
PLCA	Paso Flores	146.58	96	PKPbc	PKPdf	10 08 40.2	-1.4
	comp=Z,3.1nm,0.9s,baz=197,slow=4.2,SNR=4.7						
PLCA	Paso Flores	146.58	96	ePKP2	PKPdf	10 08 39.6	-1.9
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						

*IDC **10** 09:49:10.8±0.9, 59°.73S×29°.99W, h0km, mb4.3/6, mbtmp4.2/7, ML3.6/1, MS4.0/31, Error ellipse: s-maj=34.7km s-min=20.5km az=63.0*
*NEIC **10** 09:49:13.7±1.4, 59°.4S±0°.1×28°.7W±0°.1, h34km±6km, mb4.6/14, Error ellipse: s-maj=14.9km s-min=8.1km az=180.0*
*GCMT **10** 09:49:16.7±0.3, 59°.90S±0°.02×29°.72W±0°.04, h25km±1km, MW5.0/89, Moment Tensor Solution. s16,c19; s89,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.60±.20; $M_{\theta\theta}$-2.31±.15; $M_{\phi\phi}$2.91±.16; $M_{r\theta}$1.85±.35; $M_{\theta\phi}$2.41±.12; $M_{\phi r}$2.65±.35; Best double couple: $M_0$4.54400×10^{16} NP1:ϕ_s63.00000°,δ88.00000°,λ38.00000°. NP2: ϕ_s331.00000°,δ52.00000°,λ177.00000°. Principal axes: T 5.4920, Plg28.0000°, Azm294.0000°; N -1.8920, Plg52.0000°, Azm66.0000°; P -3.5950, Plg24.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 09:49:12.1±0.6**, 59°.7S**±0°.1×**29°.7W**±0°.2**, h10**km**, n58, σ1**s**.44**/27**, mb4.5**/9**, MS4.1**/30**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.59	323	Pn	Pn	09 50 50.6	+1.7
VNA1	Neumayer--Stat	14.06	150	P	Pn	09 52 28.9	-2.1
VNA3	Neumayer Olymp	14.12	153	P	Pn	09 52 29.3	-2.7
SNAA	Sanae	16.09	149	P	Pn	09 52 57.5	-0.6
SNAA	Sanae	16.09	149	Pn	Pn	09 52 57.6	-0.4
	0.2nm,0.3s,baz=318,slow=13,SNR=10						
SNAA				LR	LR	09 57 45.2	
	comp=Z,607nm,19.0s,baz=5.5,slow=32						
	2.0nm,0.6s						
SNAA	Sanae	16.09	149		Pn	09 52 56.6	-1.4
TROLL	Troll, Antarti	17.71	147	P	P	09 53 19.2	-0.2
BELA	Belgrano 2	18.31	183	P	P	09 53 27.4	+1.6
BELA				IAmb	IAmb	09 53 33.1	
	comp=Z,59nm,1.5s						
QSPA	South Pole Qui	30.51	180	P	P	09 55 25.6	+0.4
	comp=Z,6.8nm,1.1s,baz=201,slow=2.8,SNR=13						
QSPA				LR	LR	10 07 21.1	
	comp=Z,540nm,19.4s,baz=188,slow=36						
	comp=Z,6.8nm,1.1s						
QSPA	South Pole Qui	30.51	180	P	P	09 55 25.8	+0.7
QSPA				IAmb	IAmb	09 55 32.6	
	comp=Z,20nm,1.4s						
PLCA	Paso Flores	31.60	289	LR	LR	10 07 31.0	
	comp=Z,511nm,20.1s,baz=150,slow=35						
MAW	Mawson	38.04	142	LR	LR	10 10 51.4	
	comp=Z,179nm,18.7s,baz=246,slow=34						
CPUP	Villa Florida	38.44	318	P	P	09 56 33.7	-0.1
	comp=Z,2.6nm,0.6s,baz=151,slow=8.3,SNR=6.7						
CPUP				LR	LR	10 12 15.0	
	comp=Z,215nm,19.1s,baz=162,slow=36						
	comp=Z,2.6nm,0.6s						
CPUP	Villa Florida	38.44	318	P	P	09 56 32.2	-1.5
CPUP				IAmb	IAmb	09 56 45.1	
	comp=Z,15nm,1.4s						
AC05	El Transito	41.29	300	P	P	09 56 57.3	-0.3
AC02	Maricunga	42.53	303	P	P	09 57 09.0	+0.9
AC02				IAmb	IAmb	09 57 41.2	
	comp=Z,15nm,1.2s						
VNDA	Vanda	42.81	184	P	P	09 57 10.2	+0.9
	comp=Z,1.5nm,1.0s,baz=172,slow=5.4,SNR=3.6						
VNDA				LR	LR	10 13 47.0	
	comp=Z,92nm,19.1s,baz=174,slow=34						
	comp=Z,1.5nm,1.0s						
VNDA	Vanda	42.81	184	P	P	09 57 11.7	+2.4
SUR	Sutherland	42.95	73	LR	LR	10 10 52.7	
	comp=Z,158nm,19.2s,baz=212,slow=30						
GO02	Mina Guanaco	44.20	304	P	P	09 57 20.9	-0.5
GO02				IAmb	IAmb	09 57 30.1	
	comp=Z,15nm,1.1s						
LVC	Limon Verde	46.18	306	LR	LR	10 15 56.0	
	comp=Z,157nm,21.8s,baz=178,slow=35						
PB01	IPOC Station P	47.81	306	P	P	09 57 49.7	0.0
BOSA	Boshof	48.21	75	LR	LR	10 14 00.4	
	comp=Z,89nm,20.6s,baz=213,slow=31						
BOSA	Boshof	48.21	75	P	P	09 57 46.0	-6.8
PTLB	Pontes e Lacer	49.17	321	P	P	09 57 59.8	-0.3
PTLB				IAmb	IAmb	09 58 08.4	
	comp=Z,15nm,1.0s						
SIV	San Ignacio	49.30	319	LR	LR	10 19 05.4	
	comp=Z,174nm,19.7s,baz=130,slow=36						
LBTB	Lobatse	51.38	73	P	P	09 58 19.5	+2.6
	comp=Z,6.1nm,1.0s,baz=210,slow=6.5,SNR=4.7						
LBTB				LR	LR	10 15 51.4	
	comp=Z,172nm,19.9s,baz=211,slow=31						
	comp=Z,6.1nm,1.0s						
LPAZ	La Paz	51.57	310	P	P	09 58 19.1	+0.1
	comp=Z,1.9nm,0.6s,baz=121,slow=4.4,SNR=11						
LPAZ				LR	LR	10 21 22.6	
	comp=Z,89nm,19.8s,baz=144,slow=38						
	comp=Z,1.9nm,0.6s						
LPAZ	La Paz	51.57	310	P	P	09 58 19.2	+0.3
LPAZ				IAmb	IAmb	09 58 27.3	
	comp=Z,4.7nm,1.0s						
H10S2	ASCENSION HYDR	51.93	19	T	T	10 54 32.8	
	baz=31,slow=74,SNR=13						
H10S3	ASCENSION HYDR	51.93	19	T	T	10 54 32.5	
	baz=189,slow=74,SNR=19						
TSUM	Tsumeb	52.66	61	LR	LR	10 15 40.3	
	comp=Z,151nm,21.5s,baz=240,slow=30						
H10N1	ASCENSION HYDR	53.04	19	T	T	10 55 56.1	
	baz=189,slow=76,SNR=20						
H10N3	ASCENSION HYDR	53.05	19	T	T	10 55 52.4	
	baz=189,slow=76,SNR=37						
H10N2	ASCENSION HYDR	53.06	19	T	T	10 55 57.4	
	baz=189,slow=76,SNR=36						
RCBR	Riachuelo	53.98	352	LR	LR	10 19 06.5	
	comp=Z,74nm,18.8s,baz=327,slow=33						
NNA	Nana	58.99	303	LR	LR	10 22 13.4	
	comp=Z,90nm,21.8s,baz=146,slow=34						
LSZ	Lusaka	60.95	69	LR	LR	10 22 09.3	
	comp=Z,216nm,20.1s,baz=202,slow=32						
ATAH	Atahualpa	64.00	304	LR	LR	10 26 48.4	
	comp=Z,84nm,21.7s,baz=162,slow=35						
BOAV	Boa Vista	66.48	326	P	P	09 59 59.7	-2.0
BOAV				IAmb	IAmb	10 00 08.5	
	comp=Z,7.1nm,1.1s						
MDP	Montagnes des	67.13	335	LR	LR	10 27 42.3	
	comp=Z,60nm,19.9s,baz=171,slow=34						
MCRA	Macar, Loja	67.15	304	P	P	10 00 05.4	-0.6
DBIC	Dimbokro	69.08	27	LR	LR	10 23 36.6	
	comp=Z,101nm,20.0s,baz=207,slow=30						
ROSC	El Rosal	73.31	313	LR	LR	10 33 19.9	
	comp=Z,185nm,21.7s,baz=198,slow=36						
MBAR	Mbarara	75.00	64	LR	LR	10 30 46.9	
	comp=Z,121nm,19.4s,baz=96,slow=33						
PCRV	Puerto La Cruz	75.07	324	LR	LR	10 36 06.5	
	comp=Z,153nm,19.2s,slow=38						
RPZ	Rata Peaks	75.51	195	LR	LR	10 29 56.1	
	comp=Z,163nm,21.7s,baz=172,slow=32						
KMBO	Kilima Mbogo	77.59	70	LR	LR	10 32 48.3	
	comp=Z,77nm,19.1s,baz=63,slow=34						
NWAO	Narrogin (SRO)	83.73	153	LR	LR	10 37 04.9	
	comp=Z,108nm,18.1s,baz=128,slow=34						
STKA	Stephens Creek	88.45	173	LR	LR	10 39 42.2	
	comp=Z,164nm,20.4s,baz=203,slow=34						
PPT	Papeete	88.96	236	LR	LR	10 33 59.2	
	comp=Z,88nm,20.4s,baz=116,slow=30						
ATD	Arta Tunnel	91.29	69	LR	LR	10 41 15.5	
	comp=Z,58nm,18.2s,baz=29,slow=34						
MDT	Midelt	94.52	21	LR	LR	10 40 44.7	
	comp=Z,95nm,18.7s,baz=202,slow=33						
ASAR	Alice Springs	95.83	165	P	P	10 02 39.2	+0.6
	comp=Z,0.5nm,0.7s,baz=188,slow=4.0,SNR=9.6						
	comp=Z,0.5nm,0.7s						
DZM	Mont Dzumac	97.43	195	LR	LR	10 41 12.0	
	comp=Z,110nm,19.0s,baz=204,slow=32						
WRA	Warramunga Arr	99.55	165	LR	LR	10 45 00.3	
	comp=Z,100nm,21.2s,baz=179,slow=34						
ZALV	Zalesovo Beam	145.06	70	PKPbc	PKPbc	10 08 45.6	-2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.6nm,0.6s,baz=288,slow=1.4,SNR=1.8						
ILAR	Eielson Array	151.41	307	PKPbc	PKPbc	10 09 02.6	-1.8
	comp=Z,1.3nm,0.8s,baz=151,slow=2.7,SNR=8.7						

*STR **10** 09:54:16.2±0.6, 45°N±3°×°±°, h5km, MLv1.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=59.3, preliminary*
*LDG **10** 09:54:16.3±0.1, 44°.77N×6°.64E, h2km, Md1.7/2, Ml1.7/3, Error ellipse: s-maj=1.7km s-min=1.4km az=57.0*
GEN 10 09:54:15.4, 44°.77N×6°.65E, h1km±1km, Ml0.7, 1C, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	Montbardon	0.10	113	ePg	Pg	09 54 18.1	+0.8
MBDF	Montbardon	0.10	113	ePg	Pg	09 54 18.3	+1.0
MBDF				eSg	Sg	09 54 19.9	+1.3
	26nm,0.2s						
MBDF				eSg	Sg	09 54 20.2	+1.6
	28nm,0.2s						
RRL	Rocca Remolon	0.19	33	P	Pg	09 54 20.1	+1.1
RRL				S	Sg	09 54 23.2	+1.7
CREF	Crivoux	0.22	184	Pg	Pg	09 54 20.2	+0.7
CREF				Sg	Sg	09 54 23.5	+1.2
BNI	Bardonecchia	0.29	5	P	Pb	09 54 22.3	-1.2
BNI				S	Sg	09 54 26.0	+1.3
SURF	Saint Ours	0.31	157	P	Pg	09 54 22.4	+1.1
SURF				S	Sg	09 54 27.1	+1.8
SURF	Saint Ours	0.31	157	Pg	Pg	09 54 22.3	+1.1
SURF				Sg	Sg	09 54 27.1	+1.9
OGAG	Argentiere	0.32	194	P	Pg	09 54 17.4	-4.0
OGAG				S	Sg	09 54 18.7	-6.9
OGAG	Argentiere	0.32	194	⇑Pg	Pg	09 54 17.5	-4.0
OGAG				Sg	Sg	09 54 18.7	-6.9
JAUF	Jausiers	0.34	167	Pg	Pg	09 54 22.9	+1.0
JAUF				Sg	Sg	09 54 28.0	+1.6
PZZ	Stroppo	0.42	127	P	Pb	09 54 24.8	-1.0
PZZ				S	Sg	09 54 30.5	+1.5
BHB	Bricherasio	0.45	80	P	Pg	09 54 24.8	+0.9
BHB				S	Sg	09 54 30.6	+0.9
ORIF	Oris-en-Rattie	0.57	286	ePg	Pg	09 54 26.7	+0.5
ORIF				eSg	Sg	09 54 33.3	-0.3
	10nm,0.2s						
ORIF	Oris-en-Rattie	0.57	286	Pg	Pg	09 54 26.6	+0.4
ORIF				Sg	Sg	09 54 33.5	0.0
GDM	Grand'Maison	0.58	320	Pg	Pg	09 54 26.9	+0.4
GDM				Sg	Sg	09 54 34.3	+0.4
LPG	La Plagne	0.74	6	ePg	Pg	09 54 30.1	+0.6
LPG				eSg	Sb	09 54 41.2	-0.7
	1.5nm,0.2s						
LPL	La Plagne	0.75	5	ePg	Pg	09 54 30.6	+0.8
LPL				eSg	Sb	09 54 41.3	-1.0
	2.1nm,0.2s						
LSD	Lago del Serru	0.78	26	S	Sg	09 54 41.3	+1.0
SMRF	Simiane la Rot	1.10	225	ePg	Pn	09 54 37.9	-0.1
SMRF				eSg	Sb	09 54 52.6	+0.5
	0.5nm,0.2s						
VIVF	Saint-Julien-l	1.41	274	ePg	Pb	09 54 42.9	+0.4
VIVF				eSg	Sn	09 55 01.2	-0.2
	2.5nm,0.3s						
LMR	La Mourre	1.43	184	ePg	Pb	09 54 43.0	+0.1
LMR				eSg	Sn	09 55 02.5	+0.5
	2.1nm,0.2s						

*IDC **10** 10:23:30.6±0.8, 33°.24N×39°.43W, h0km, mb4.0/11, mbtmp4.0/11, MS3.6/25, Error ellipse: s-maj=28.3km s-min=19.8km az=132.0*
ISC 10 10:23:32.0±0.8, **33°.2N**±0°.2×**39°.4W**±0°.2, **h8km, n39, σ0s.85**/12, **mb4.0**/12, **MS3.7**/25, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBTS	Babate	27.74	126	LR	LR	10 37 25.0	
	comp=Z,207nm,21.5s,baz=293,slow=30						
SJG	San Juan	28.31	245	LR	LR	10 37 43.4	
	comp=Z,58nm,21.7s,baz=127,slow=30						
SCHQ	Schefferville	28.98	327	LR	LR	10 39 46.5	
	comp=Z,106nm,21.3s,baz=74,slow=34						
MDP	Montagnes des	30.55	207	LR	LR	10 38 24.4	
	comp=Z,55nm,21.1s,baz=306,slow=29						
SADO	Sadowa	32.71	303	LR	LR	10 42 27.7	
	comp=Z,40nm,18.3s,baz=174,slow=35						
TKL	Tuckaleechee C	36.48	287	LR	LR	10 42 47.9	
	comp=Z,183nm,21.7s,baz=130,slow=32						
RCBR	Riachuelo	38.93	174	LR	LR	10 43 22.2	
	comp=Z,57nm,18.2s,baz=130,slow=31						
DBIC	Dimbokro	41.48	122	LR	LR	10 45 57.6	
	comp=Z,67nm,21.9s,baz=340,slow=32						
ROSC	El Rosal	43.05	237	LR	LR	10 48 09.8	
	comp=Z,60nm,21.0s,baz=66,slow=34						
ULM	Lac du Bonnet	44.38	310	LR	LR	10 49 47.5	
	comp=Z,45nm,18.2s,baz=73,slow=36						
H10N2	ASCENSION HYDR	47.15	145	T	T	11 22 23.7	
	baz=331,slow=75,SNR=361						
H10N3	ASCENSION HYDR	47.15	145	T	T	11 22 24.1	
	baz=331,slow=75,SNR=295						
H10N1	ASCENSION HYDR	47.17	145	T	T	11 22 25.5	
	baz=331,slow=75,SNR=367						
H10S3	ASCENSION HYDR	48.05	146	T	T	11 23 35.2	
	baz=331,slow=74,SNR=30						
H10S2	ASCENSION HYDR	48.06	146	T	T	11 23 36.2	
	baz=249,slow=74,SNR=17						
BDFB	Brasilia	49.24	191	P	P	10 32 21.6	+0.4
	3.6nm,0.7s,baz=53,slow=5.8,SNR=4.8						
	3.6nm,0.7s						
AKASG	Malin Array Be	52.05	49	P	P	10 32 41.3	-0.8
	0.5nm,0.5s,baz=26,slow=0.6,SNR=1.8						
	0.5nm,0.5s						
CMIG	Matias Romero	52.17	266	LR	LR	10 53 46.4	
	comp=Z,39nm,19.9s,baz=39,slow=35						
TXAR	Lajitas Array	54.33	284	P	P	10 32 58.5	-0.8
	1.1nm,1.0s,baz=93,slow=7.6,SNR=5.9						
TXAR				LR	LR	10 54 37.1	
	comp=Z,82nm,19.9s,baz=92,slow=34						
	1.1nm,1.0s						
YKA	Yellowknife Ar	54.44	327	LR	LR	10 54 12.5	
	comp=Z,104nm,20.2s,baz=274,slow=34						
ANMO	Albuquerque	54.63	292	LR	LR	10 53 32.8	
	comp=Z,82nm,21.7s,baz=94,slow=33						
PDAR	Pinedale Array	54.70	302	P	P	10 33 01.4	-0.6
	2.8nm,0.9s,baz=74,slow=4.1,SNR=15						
PDAR				LR	LR	10 56 26.7	
	comp=Z,70nm,19.0s,baz=128,slow=36						
	2.8nm,0.9s						
LPAZ	La Paz	56.34	214	P	P	10 33 14.2	-0.2
	1.2nm,0.6s,baz=352,slow=5.3,SNR=6.3						
LPAZ				LR	LR	10 54 47.1	
	comp=Z,39nm,18.8s,baz=296,slow=33						
	1.2nm,0.6s						
BRTR	Keskin Array B	57.61	61	LR	LR	10 54 48.8	
	comp=Z,78nm,20.9s,baz=195,slow=33						
NEW	Newport	58.39	310	LR	LR	10 58 17.3	
	comp=Z,76nm,19.7s,baz=90,slow=36						
LVC	Limon Verde	62.22	211	LR	LR	10 59 20.5	
	comp=Z,28nm,18.1s,baz=18,slow=34						
NVAR	Mina Array Bea	62.38	300	P	P	10 33 55.0	-0.6
	0.7nm,0.8s,baz=72,slow=7.2,SNR=5.6						
	0.7nm,0.8s						
DLBC	Dease Lake	62.73	324	LR	LR	11 00 23.0	
	comp=Z,197nm,19.4s,baz=70,slow=35						
BBB	Bella Bella	63.86	317	LR	LR	11 00 41.4	
	comp=Z,86nm,20.7s,baz=168,slow=35						
YBH	Yreka Blue Hor	64.28	304	LR	LR	11 02 25.9	
	comp=Z,53nm,19.1s,baz=93,slow=36						
ILAR	Eielson Array	67.42	334	P	P	10 34 29.7	+2.0
	0.5nm,0.9s,baz=59,slow=7.6,SNR=4.1						
BVAR	Borovoye Array	74.77	36	P	P	10 35 12.5	+0.1
	0.8nm,0.7s,baz=289,slow=4.4,SNR=3.0						
	0.8nm,0.7s						
TSUM	Tsumeb	75.28	125	LR	LR	11 02 42.6	
	comp=Z,36nm,19.3s,baz=335,slow=31						
PLCA	Paso Flores	78.97	204	P	P	10 35 36.4	+0.2
	2.0nm,0.8s,baz=37,slow=5.6,SNR=3.9						
	2.0nm,0.8s						
KURBB	Kurchatov Arra	80.22	35	P	P	10 35 42.8	-0.1
	1.7nm,0.8s,baz=310,slow=6.0,SNR=16						
	1.7nm,0.8s						
ZALV	Zalesovo Beam	80.75	30	P	P	10 35 46.2	+0.5
	0.5nm,0.5s,baz=270,slow=1.4,SNR=3.6						
	0.5nm,0.5s						
MKAR	Makanchi Array	84.65	36	P	P	10 36 05.7	-0.6
	1.8nm,1.0s,baz=332,slow=4.8,SNR=6.5						
	1.8nm,1.0s						
LBTB	Lobatse	84.67	124	LR	LR	11 13 31.8	
	comp=Z,26nm,18.5s,baz=302,slow=35						
BOSA	Boshof	86.76	127	LR	LR	11 12 14.5	
	comp=Z,69nm,18.6s,baz=0.0,slow=34						

*NOU **10** 10:24:50.8, 19°.93S×133°.72E, h0km, mb4.3/31, Northern Territory, Australia*
*AUST **10** 10:24:51.9±1.0, 19°.77S×133°.90E, h5km, Error ellipse: s-maj=13.0km s-min=10.4km az=43.0*
*IDC **10** 10:24:52.8±1.0, 19°.87S×133°.86E, h0km, mb4.2/3, mbtmp4.1/5, ML4.0/2, MS4.0/1, Error ellipse: s-maj=8.2km s-min=4.3km az=98.0*
*NEIC **10** 10:24:53.5±2.0, 19°.79S±0°.07×133°.92E±0°.04, h10km±2km, Error ellipse: s-maj=12.2km s-min=4.1km az=22.0*
ISC 10 10:24:51.3±0.5, **19°.97S**±0°.04×**133°.84E**±0°.04, **h12km, n81, σ2s.06**/95, **mb4.2**/4, **Northern Territory**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	0.47	87	LR	LR	10 24 57.6	
	comp=Z,29nm,21.4s,baz=247,slow=10						
WRA				Pg	Pb	10 25 02.0	+0.4
	98nm,0.3s,baz=275,slow=18,SNR=7181						
WRA				Lg	Lg	10 25 07.7	
	576nm,0.3s,baz=281,slow=30,SNR=118						
WRA	Warramunga Arr	0.47	87	Pg	Pb	10 25 01.7	+0.1
WB2	Warramunga Arr	0.48	87	P	Pg	10 25 01.4	+0.6
	baz=0.5						
WB2				S	Sg	10 25 06.6	-0.6
	baz=0.5						
WB2	Warramunga Arr	0.48	87		Pb	10 25 01.9	+0.1
WB2				Sg	Sg	10 25 07.5	+0.3
WRAB	Tennant Creek	0.48	86		Pb	10 25 02.0	+0.2
WRAB	Tennant Creek	0.48	86	P	Pb	10 25 02.3	+0.5
WB0	Warramunga Arr	0.56	69		Pg	10 25 02.5	+0.3
WB0				Sg	Sg	10 25 08.2	-1.4
WR0	Warramunga Arr	0.66	89		Pb	10 25 05.3	+0.5
AS31	Alice Springs	3.68	179	Pn	Pb	10 25 54.6	-1.8
AS31				Sn	Sb	10 26 38.6	-2.4
ASAR	Alice Springs	3.68	179	Pn	Pb	10 25 54.3	-2.1
	24nm,0.3s,baz=8.7,slow=6.9,SNR=782						
ASAR				Sn	Sb	10 26 38.7	-2.3
	24nm,0.3s,baz=2.0,slow=28,SNR=11						
ASAR				Lg	Lg	10 26 51.1	
	63nm,0.3s,baz=358,slow=31,SNR=17						
	19nm,0.3s						
ASPA	Alice Springs	3.68	179	P	Pb	10 25 54.3	-2.1
	baz=3.9						
ASPA				S	Sb	10 26 39.1	-1.9
	baz=3.9						
QIS	Mount Isa	5.45	97	P	Pn	10 26 15.2	+2.8
	baz=5.4,SNR=20						
QIS				S	Sn	10 27 14.9	-0.1
	baz=5.4						
QIS	Mount Isa	5.45	97	P	Pn	10 26 15.6	+3.2
KNRA	Kununurra	6.45	311	P	Pn	10 26 26.9	+0.8
	baz=6.4,SNR=8.7						
KNRA				S	Sn	10 27 38.6	-1.1
	baz=6.4						
KNRA	Kununurra	6.45	311	Pn	Pn	10 26 28.9	+2.7
KNRA				Sn	Sn	10 27 38.5	-1.1
KNRA	Kununurra	6.45	311	P	Pn	10 26 27.6	+1.4
WRKA	Warakurna	7.19	224	P	Pn	10 26 39.4	+3.0
	baz=7.4,SNR=11						
WRKA				S	Sn	10 28 00.3	+2.2
	baz=7.4						
WRKA	Warakurna	7.19	224	P	Pn	10 26 39.4	+3.0
KDU	Kakadu	7.36	350	P	Pn	10 26 38.0	-0.6
	baz=7.2,SNR=49						
KDU				S	Sn	10 27 56.9	-5.2
	baz=7.2						
KDU	Kakadu	7.36	350	P	Pn	10 26 38.4	-0.2
MTN	Manton Dam	7.54	339	P	Pn	10 26 40.4	-0.8
	baz=7.4,SNR=9.2						
MTN				S	Sn	10 28 01.5	-5.2
	baz=7.4						
MTN	Manton Dam	7.54	339	Pn	Pn	10 26 41.5	+0.3
MTN	Manton Dam	7.54	339	P	Pn	10 26 41.2	0.0
OOD	Oodnadatta	7.97	168	P	Pn	10 26 51.2	+4.1
	baz=8.2,SNR=14						
OOD				S	Sn	10 28 19.7	+2.5
	baz=8.2						
OOD	Oodnadatta	7.97	168	P	Pn	10 26 51.3	+4.2
INKA	Innaminka	9.99	142	P	Pn	10 27 16.1	+1.4
	baz=10,SNR=5.0						
MTSU	Mount Surprise	10.07	81	P	Pn	10 27 15.4	-0.6
	baz=10.0,SNR=7.3						
MTSU	Mount Surprise	10.07	81	P	Pn	10 27 17.3	+1.3
MULG	Mulgathing	10.27	179	P	Pn	10 27 21.4	+2.8
	baz=10,SNR=16						
MULG	Mulgathing	10.27	179	P	Pn	10 27 21.7	+3.1
COEN	Coen	10.74	58	P	Pn	10 27 23.9	-1.2
	baz=11,SNR=26						
COEN	Coen	10.74	58		Pn	10 27 24.2	-0.9
COEN	Coen	10.74	58	P	Pn	10 27 24.1	-1.0
LCRK	Leigh Creek	11.16	160	P	Pn	10 27 32.7	+2.0
	baz=11,SNR=16						
LCRK	Leigh Creek	11.16	160	P	Pn	10 27 33.2	+2.4
QLP	Quilpie	11.60	127	P	Pn	10 27 40.4	+3.6
CTA	Charters Tower	11.67	93	Pn	Pn	10 27 40.2	+2.4
	0.4nm,0.3s,baz=255,slow=14,SNR=2.4						
CTA				Sn	Sn	10 29 43.5	-4.6
	0.6nm,0.3s,baz=330,slow=18,SNR=2.3						
CTA				Lg	Lg	10 30 59.6	
	2.0nm,0.3s,baz=2.6,slow=21,SNR=5.5						
	1.5nm,0.5s						
CTA	Charters Tower	11.67	93	P	Pn	10 27 40.4	+2.6
CTAO	Charters Tower	11.67	93	Pn	Pn	10 27 40.2	+2.4
CTAO	Charters Tower	11.67	93	P	Pn	10 27 40.2	+2.4
FORT	Forrest	11.96	205	P	Pn	10 27 43.4	+1.6
	baz=12,SNR=30						
FORT	Forrest	11.96	205	Pn	Pn	10 27 44.2	+2.5
FORT	Forrest	11.96	205	P	Pn	10 27 43.6	+1.9
BBOO	Buckleboo	12.94	172	P	Pn	10 27 55.8	+0.6
	baz=13,SNR=14						
BBOO	Buckleboo	12.94	172	Pn	Pn	10 27 55.6	+0.4
BBOO	Buckleboo	12.94	172	P	Pn	10 27 55.7	+0.6
PSA00	Pilbara Seismi	13.19	261	Pn	Pn	10 27 57.9	-0.7
PSA00	Pilbara Seismi	13.19	261	P	Pn	10 27 57.8	-0.7
STKA	Stephens Creek	13.75	151	Pn	Pn	10 28 06.2	0.0
	0.8nm,0.3s,baz=323,slow=14,SNR=9.6						
STKA				Sn	Sn	10 30 33.1	-5.8
	1.6nm,0.3s,baz=2.7,slow=6.9,SNR=6.0						
STKA	Stephens Creek	13.75	151	P	Pn	10 28 06.3	+0.2
	baz=14,SNR=6.3						
STKA	Stephens Creek	13.75	151	Pn	Pn	10 28 06.4	+0.2
STKA	Stephens Creek	13.75	151	P	Pn	10 28 06.2	0.0
HTT	Hallett	14.15	162	P	Pn	10 28 12.4	+0.7
	baz=14,SNR=3.1						
HTT	Hallett	14.15	162	P	Pn	10 28 12.6	+0.9
MEEK	Meekatharra	15.48	242	P	Pn	10 28 27.6	-2.0
	baz=16						
MEEK	Meekatharra	15.48	242	P	Pn	10 28 27.8	-1.8
KMBL	Kambalda	15.64	221	P	Pn	10 28 30.3	-1.4
	baz=16,SNR=7.7						
KMBL	Kambalda	15.64	221	P	Pn	10 28 29.7	-2.0
CMSA	Cobar Meteorol	15.69	140	P	Pn	10 28 31.7	-0.6
	baz=16						
CMSA	Cobar Meteorol	15.69	140	P	Pn	10 28 33.0	+0.7
ARPS	Mount Arapiles	18.15	159	P	P	10 29 04.4	+0.9
	baz=18,SNR=6.8						
ARPS	Mount Arapiles	18.15	159	P	Pn	10 29 03.9	+0.7
GENI	Genyem	18.34	20	P	P	10 29 08.3	+2.5
GIRL	Giralia	18.46	258	P	P	10 29 07.5	+0.4
KLBR	Kellerberrin	18.52	228	P	P	10 29 05.8	-1.8
MORW	Morawa	18.54	237	P	P	10 29 06.8	-1.1
	baz=19						
MORW	Morawa	18.54	237	P	P	10 29 06.5	-1.4
BLDU	Ballidu	18.75	232	P	P	10 29 08.8	-1.4
	baz=19,SNR=10						
BLDU	Ballidu	18.75	232	P	P	10 29 09.2	-1.0
NWAO	Narrogin (SRO)	19.65	226	P	P	10 29 20.4	+0.3
	6.1nm,0.6s,baz=288,slow=8.6,SNR=7.3						
NWAO				S	S	10 32 47.5	-14
	5.1nm,0.6s,baz=219,slow=3.9,SNR=1.8						
NWAO	Narrogin (SRO)	19.65	226	P	P	10 29 19.5	-0.6
	baz=20,SNR=5.4						
NWAO				P	P	10 29 19.5	-0.6
	baz=20,SNR=5.4						
NWAO	Narrogin (SRO)	19.65	226	P	P	10 29 19.4	-0.7
MUN	Mundaring	19.82	229	P	Pn	10 29 23.4	-0.2
	baz=20						
MUN	Mundaring	19.82	229	P	P	10 29 22.9	+0.9
TOO	Toolangi	20.27	152	P	Pn	10 29 30.9	+2.2
SONM	Songino Array	71.85	341	LR	LR	11 10 28.1	
	comp=Z,82nm,18.4s,baz=188,slow=38						
MK31	Makanchi Array	81.07	327	P	P	10 37 08.2	+1.9
MK31				IAmb	IAmb	10 37 11.1	
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	81.07	327	P	P	10 37 09.5	+3.2
	comp=Z,2.0nm,0.7s,baz=129,slow=7.2,SNR=14						
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	81.07	327	P	P	10 37 08.6	+2.3
ZALV	Zalesovo Beam	84.79	333	P	P	10 37 28.3	+3.0
	comp=Z,1.1nm,0.7s,baz=118,slow=2.5,SNR=6.0						
	comp=Z,1.1nm,0.7s						
KURBB	Kurchatov Arra	85.45	328	P	P	10 37 31.0	+2.2
	comp=Z,0.6nm,0.4s,baz=132,slow=4.4,SNR=8.3						
	comp=Z,0.6nm,0.4s						

HEL 10 10:49:59.0±0.3, **67°.86N**×**33°.97E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.26	81	PG	Pg	10 50 03.3	-0.7
LVZ				SG	Sg	10 50 07.6	+0.3
VRF	Varrio	1.66	268	PG	Pn	10 50 28.7	-0.7
	baz=82						
VRF				MSG		10 50 48.8	
	comp=Z,2.6nm,0.2s						
VRF				SG	Sn	10 50 50.7	-0.7
OLKF	Oulanka, Finla	2.36	231	PB	Pn	10 50 38.9	-0.1
OLKF				SB	Sn	10 51 08.8	+0.2
KU6	Riekki	2.44	223	PN	Pn	10 50 39.7	-0.3
KU6				SN	Sn	10 51 10.0	-0.5
KU6				MSG		10 51 11.0	
	comp=Z,1.2nm,0.2s						
SGF	Sodankyl	2.88	265	PN	Pn	10 50 46.7	+0.7
KEV	Kevo	3.17	310	PB	Pn	10 50 51.4	+1.4
KEV				SB	Sn	10 51 30.8	+2.4
KEV				MSG		10 51 32.0	
	comp=Z,1.5nm,0.2s						
ARA0	ARCESS Array S	3.52	302	PN	Pn	10 50 55.2	+0.3
ARA0				SN	Sn	10 51 37.9	+0.8
HEF	Hetta	3.90	283	SN	Sn	10 51 47.1	+0.6
KTK1	Kautokeino	4.13	291	PB	Pb	10 51 07.8	-4.6
KTK1				SN	Sn	10 51 51.8	-0.3

HEL 10 10:51:01.6±0.0, **64°.91N**×**24°.58E, h0km, ML0.8, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OBF3	Siikajoki	0.12	155	eP	Pg	10 51 03.8	-0.2
OBF3				eS	Sg	10 51 05.1	-0.4
OBF4	Vikkela, Lumij	0.24	114	PN	Sg	10 51 09.5	+0.1
OBF4	Vikkela, Lumij	0.24	114	eP	Pg	10 51 06.0	-0.2
OBF4				eS	Sg	10 51 09.1	-0.3
OBF2	Ylip, Raahe	0.36	187	eP	Pg	10 51 07.0	-1.4
OBF2				eS	Sg	10 51 11.0	-2.0
OBF0	Syolatti, Pyha	0.44	200	eP	Pg	10 51 09.3	-0.7
OBF0				eS	Sg	10 51 15.1	-0.6
OBF1	Elvisluoto, P	0.56	205	eP	Pg	10 51 11.5	-0.7
OBF1				eS	Sg	10 51 18.4	-0.9
OUL	Oulu	0.59	72	PB	Pg	10 51 12.2	-0.6
OUL	Oulu	0.59	72	eP	Pg	10 51 11.9	-0.9
OUL				eS	Sg	10 51 19.3	-1.1
OBF5	Vihanti	0.60	149	eS	Sg	10 51 18.8	-2.1
OBF7	Kamusenper, K	0.77	197	eP	Pg	10 51 15.5	-0.9
OBF7				eS	Sg	10 51 25.9	-0.4
OBF6	Kekajrvi, Yli	0.78	180	eS	Sg	10 51 25.0	-1.4
TOF	Tornio	1.18	355	eP	Pg	10 51 22.5	-1.6
TOF				eS	Sg	10 51 37.9	-1.5
TOF				MSG		10 51 39.9	
	comp=Z,0.5nm,0.1s						
ERTU	Ertsjaerv	1.92	330	eS	Sn	10 52 00.3	0.0
UMAU	Umeaa	1.98	240	eS	Sn	10 52 01.2	-0.7
VAF	Ylistaro	2.06	205	eS	Sn	10 52 03.7	0.0
VAF				MSG		10 52 06.3	
	comp=Z,0.4nm,0.1s						
PAJU	Pajala	2.21	345	SG	Sb	10 52 09.5	-0.7

*IDC **10** 10:57:45.7±0.9, 13°.88N×145°.48E, h88km±7km, mb3.9/17, mbtmp4.2/17, MS3.2/1, Error ellipse: s-maj=21.2km s-min=14.1km az=94.0*
*NEIC **10** 10:57:47.3±1.6, 13°.85N±0°.09×145°.4E±0°.1, h98km±6km, mb4.7/61, Error ellipse: s-maj=20.4km s-min=7.5km az=122.0*
ISC 10 10:57:47.0±0.6, **13°.84N**±0°.08×**145°.4E**±0°.1, **h100km, n92, σ0s.83**/85, **mb4.7**/50, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.60	246	P	Pn	10 58 03.3	-0.2
	4µm,0.3s,baz=121,slow=4.9,SNR=783						
GUMO				S	Sn	10 58 15.0	-1.0
	7µm,0.3s,baz=160,slow=17,SNR=18						
GUMO	Guam	0.60	246	P	Pn	10 58 03.6	0.0
SIJI	Sorong	20.26	225	P	Pn	11 02 18.5	+1.0
	30nm,0.8s,baz=60,slow=4.3,SNR=7.1						
JOW	Kunigami	20.60	311	P	P	11 02 18.9	+0.6
FAKI	Fak Fak	21.17	219	P	P	11 02 26.2	+1.8
FAKI				IAmb	IAmb	11 02 28.8	
	comp=Z,42nm,0.9s						
H11N1	WAKE ISLAND Hy	21.35	71	T	T	11 25 54.3	
	baz=257,slow=75,SNR=1.9						
H11N2	WAKE ISLAND Hy	21.36	71	T	T	11 25 38.0	
	baz=257,slow=75,SNR=2.5						
H11N3	WAKE ISLAND Hy	21.37	71	T	T	11 25 40.5	
	baz=257,slow=75,SNR=3.0						
TNTI	Ternate	22.09	236	P	P	11 02 31.9	-2.3
TNTI				IAmb	IAmb	11 02 34.0	
	comp=Z,20nm,0.8s						
JMN	Monobe	22.41	334	P	P	11 02 38.4	+0.9
JMN				IAmb	IAmb	11 02 40.1	
	comp=Z,39nm,1.1s						
JGF	Kuroka	22.86	343	P	P	11 02 40.6	-1.3
JNU	Nakatsue	23.33	328	P	P	11 02 45.0	-1.4
JNU				IAmb	IAmb	11 02 46.4	
	comp=Z,58nm,1.5s						
MJAR	Matsushiro Arr	23.52	345	P	P	11 02 47.3	-0.8
	comp=Z,1.5nm,0.4s,baz=191,slow=11,SNR=11						
MJAR				PcP	PcP	11 06 31.6	+0.7
	comp=Z,1.5nm,0.6s,baz=153,slow=5.9,SNR=4.4						
	comp=Z,1.5nm,0.4s						
MAJO	Matsushiro	23.52	345	P	P	11 02 47.4	-0.7
MJB9	Matsu-Tunnel	23.52	345	P	P	11 02 46.5	-1.6
JHS	Saijyo	23.82	334	P	P	11 02 49.9	-1.0
JHS				IAmb	IAmb	11 02 57.6	
	comp=Z,50nm,1.3s						
JSD	Sado	24.93	346	P	P	11 02 59.1	-1.7
JSD				IAmb	IAmb	11 03 18.8	
	comp=Z,37nm,1.1s						
KSRS	Korea Array	28.22	330	P	P	11 03 30.2	-0.2
	comp=Z,3.2nm,0.7s,baz=144,slow=9.1,SNR=9.8						
	comp=Z,3.2nm,0.7s						
MTN	Manton Dam	30.06	209	P	P	11 03 46.6	-0.3
MTN				IAmb	IAmb	11 03 47.6	
	comp=Z,8.6nm,0.8s						
NJ2	Nanjing	30.32	311	eP	P	11 03 50.9	+1.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
KNRA	Kununurra	33.64	210	P	P	11 04 18.8	+0.5
CN2	Changchun	34.42	334	P	P	11 04 15.9	-8.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WB0	Warramunga Arr	35.12	198	P	P	11 04 30.8	-0.3
WR0	Warramunga Arr	35.26	198	P	P	11 04 31.7	-0.5
WRAB	Tennant Creek	35.29	198	P	P	11 04 32.7	+0.3
WB2	Warramunga Arr	35.30	198	P	P	11 04 32.1	-0.4
WRA	Warramunga Arr	35.30	198	P	P	11 04 32.6	0.0
	comp=Z,2.0nm,0.6s,baz=21,slow=9.6,SNR=30						
WRA				LR	LR	11 18 51.4	
	comp=Z,41nm,21.1s,baz=55,slow=36						
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	35.30	198	P	P	11 04 31.1	-1.4
ASAR	Alice Springs	38.94	197	P	P	11 05 03.4	0.0
	comp=Z,1.4nm,0.7s,baz=22,slow=10,SNR=24						
	comp=Z,1.4nm,0.7s						
ASAR	Alice Springs	38.94	197	P	P	11 05 03.1	-0.3
HEH	HeiHe	39.18	342	eP	P	11 05 04.3	-0.7
HEH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PETK	Petropavlovsk-	40.37	11	P	P	11 05 15.1	+0.3
	comp=Z,2.6nm,0.8s,baz=180,slow=7.9,SNR=4.4						
	comp=Z,2.6nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PSA00	**Pilbara Seismi**	**43.23**	**216**	P	**P**	**11 05 39.1**	**+0.5**
PSA00				IAmb	IAmb	11 06 04.8	
	comp=Z,17nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.80**	**282**	P	**P**	**11 05 52.0**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=86,slow=6.0,SNR=5.4						
CMAR				PcP	**PcP**	**11 07 33.1**	**+1.4**
	comp=Z,1.2nm,0.4s,baz=92,slow=2.1,SNR=8.9						
	comp=Z,0.5nm,0.4s						
TNCH	**TengChong**	**45.41**	**292**	*e*P	P	11 05 50.6	-5.7
TNCH				pP	pP	11 06 15.4	-4.0
TNCH				pmax	pmax		
	comp=Z,130nm,4.8s						
MA2	**Magadan**	**45.83**	**4**	P	**P**	**11 05 58.1**	**-0.6**
SONM	**Songino Array**	**46.84**	**324**	P	**P**	**11 06 07.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=140,slow=8.6,SNR=5.8						
SONM				PcP	**PcP**	**11 07 39.0**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=142,slow=3.3,SNR=3.6						
	comp=Z,0.9nm,0.5s						
BBOO	**Buckleboo**	**47.24**	**191**	P	**P**	**11 06 10.3**	**+0.2**
BBOO				IAmb	IAmb	11 06 25.3	
	comp=Z,28nm,1.4s						
MORW	**Morawa**	**51.24**	**213**	P	**P**	**11 06 40.1**	**-0.6**
MORW				IAmb	IAmb	11 07 05.6	
	comp=Z,18nm,1.4s						
TIXI	**Tiksi**	**58.64**	**354**	P	**P**	**11 07 32.8**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=253,slow=1.0,SNR=4.8						
	comp=Z,0.8nm,0.3s						
TIXI	**Tiksi**	**58.64**	**354**	P	**P**	**11 07 33.0**	**-0.3**
TIXI				IAmb	IAmb	11 07 41.4	
	comp=Z,8.2nm,1.5s						
MK31	**Makanchi Array**	**61.69**	**316**	P	**P**	**11 07 54.3**	**-0.3**
MKAR	**Makanchi Array**	**61.69**	**316**	P	**P**	**11 07 54.7**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=90,slow=8.5,SNR=22						
	comp=Z,1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**61.74**	**324**	P	**P**	**11 07 55.1**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=96,slow=5.0,SNR=3.7						
ZALV				PcP	**PcP**	**11 08 34.7**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=119,slow=5.0,SNR=3.8						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**61.91**	**316**	P	**P**	**11 07 57.1**	**+1.0**
O18K	**Koktuh Hills**	**62.93**	**29**	P	**P**	**11 08 03.6**	**+1.0**
KDAK	**Kodiak Island**	**63.57**	**32**	P	**P**	**11 08 07.7**	**+0.9**
N19K	**Bonanza Creek**	**63.60**	**28**	P	**P**	**11 08 08.3**	**+1.2**
N19K				IAmb	IAmb	11 08 08.6	
	comp=Z,10nm,0.7s						
J20K	**Nowinta River**	**64.93**	**25**	P	**P**	**11 08 16.8**	**+1.2**
J20K				IAmb	IAmb	11 08 18.3	
	comp=Z,12nm,1.1s						
PPLA	**Purkeypile**	**65.32**	**27**	P	**P**	**11 08 19.1**	**+0.7**
PPLA				IAmb	IAmb	11 08 19.6	
	comp=Z,8.2nm,0.6s						
CAST	**Castle Rocks**	**65.53**	**26**	P	**P**	**11 08 20.2**	**+0.6**
O22K	**Cooper Landing**	**65.73**	**29**	P	**P**	**11 08 20.4**	**-0.5**
IMAR	**Indian Mountai**	**65.75**	**23**	P	**P**	**11 08 20.9**	**0.0**
SEW	**Seward**	**65.77**	**30**	P	**P**	**11 08 20.9**	**-0.1**
SEW				IAmb	IAmb	11 08 22.0	
	comp=Z,5.8nm,0.8s						
RC01	**Rabbit Creek A**	**65.89**	**29**	P	**P**	**11 08 21.5**	**-0.4**
H21K	**Melozitna Rive**	**66.00**	**24**	P	**P**	**11 08 22.9**	**+0.4**
NRIK	**Noril'sk**	**66.08**	**341**	P	**P**	**11 08 22.8**	**-0.2**
	comp=Z,9.4nm,0.5s,baz=115,slow=8.4,SNR=13						
	comp=Z,9.4nm,0.5s						
NRIK	**Noril'sk**	**66.08**	**341**	P	**P**	**11 08 22.9**	**0.0**
I21K	**Tanana**	**66.16**	**24**	P	**P**	**11 08 24.6**	**+1.1**
I21K				IAmb	IAmb	11 08 26.5	
	comp=Z,13nm,1.2s						
PMR	**Palmer**	**66.31**	**28**	P	**P**	**11 08 23.7**	**-0.8**
PMR				IAmb	IAmb	11 08 24.9	
	comp=Z,9.1nm,0.6s						
TRF	**Thorofare Moun**	**66.31**	**26**	P	**P**	**11 08 24.2**	**-0.6**
TRF				IAmb	IAmb	11 08 28.3	
	comp=Z,13nm,1.3s						
GHO	**Glory Hole Cre**	**66.45**	**28**	P	**P**	**11 08 25.4**	**-0.1**
PWL	**Port Wells**	**66.49**	**29**	P	**P**	**11 08 26.5**	**+0.7**
KNK	**Knik Glacier**	**66.57**	**29**	P	**P**	**11 08 26.8**	**+0.5**
KNK				IAmb	IAmb	11 08 27.3	
	comp=Z,14nm,0.8s						
SML	**Sawmill**	**66.73**	**28**	P	**P**	**11 08 27.0**	**-0.3**
SCM	**Sheep Creek Mo**	**67.20**	**28**	P	**P**	**11 08 31.1**	**+0.8**
MDM	**Murphy Dome**	**67.61**	**25**	IAmb	IAmb	11 08 35.1	
	comp=Z,15nm,1.5s						
KLU	**Klutina**	**67.78**	**29**	P	**P**	**11 08 34.8**	**+0.8**
IL31		**68.11**	**25**	P	**P**	**11 08 34.9**	**-0.9**
IL31				IAmb	IAmb	11 08 35.9	
	comp=Z,7.7nm,1.1s						
ILAR	**Eielson Array**	**68.11**	**25**	P	**P**	**11 08 34.4**	**-1.5**
	comp=Z,3.0nm,0.5s,baz=252,slow=5.6,SNR=90						
ILAR				PcP	**PcP**	**11 09 01.4**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=246,slow=5.6,SNR=6.0						
	comp=Z,3.0nm,0.5s						
PAX	**Paxson**	**68.30**	**27**	IAmb	IAmb	11 08 38.3	
	comp=Z,10nm,0.6s						
N25K	**Chitina, Valde**	**68.42**	**29**	P	**P**	**11 08 38.0**	**+0.1**
N25K				IAmb	IAmb	11 08 54.2	
	comp=Z,13nm,1.3s						
J25K	**Salcha River,**	**68.70**	**26**	IAmb	IAmb	11 08 39.4	
	comp=Z,10.0nm,1.4s						
GLB	**Gilahina Butte**	**68.76**	**29**	P	**P**	**11 08 40.2**	**+0.1**
GLB				IAmb	IAmb	11 08 41.5	
	comp=Z,18nm,1.0s						
VRDI	**Verde Repeater**	**68.89**	**29**	P	**P**	**11 08 41.2**	**+0.1**
VRDI				IAmb	IAmb	11 08 42.2	
	comp=Z,14nm,0.9s						
L26K	**Log Cabin Wild**	**69.26**	**27**	IAmb	IAmb	11 08 44.5	
	comp=Z,7.4nm,0.7s						
J26L	**Joseph Creek**	**69.44**	**26**	P	**P**	**11 08 44.1**	**-0.2**
J26L				IAmb	IAmb	11 08 45.0	
	comp=Z,23nm,1.5s						
BMAR	**Burnt Mountain**	**69.66**	**23**	P	**P**	**11 08 46.3**	**+0.8**
M27K	**Edge Creek, AK**	**69.82**	**28**	P	**P**	**11 08 47.2**	**+0.5**
M27K				IAmb	IAmb	11 08 49.5	
	comp=Z,14nm,1.1s						
BCAR	**Beaver Creek A**	**69.97**	**28**	P	**P**	**11 08 48.1**	**+0.7**
DAWY	**Dawson**	**71.17**	**27**	IAmb	IAmb	11 08 57.5	
	comp=Z,12nm,1.4s						
M30M	**Minto, Yukon**	**72.19**	**28**	P	**P**	**11 09 01.7**	**+0.8**
EPYK	**Eagle Plains**	**72.55**	**24**	IAmb	IAmb	11 09 29.4	
	comp=Z,14nm,1.4s						
A36M	**Sachs Harbour**	**76.73**	**19**	P	**P**	**11 09 26.8**	**-0.1**
YKA	**Yellowknife Ar**	**82.39**	**27**	P	**P**	**11 09 57.6**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=286,slow=5.3,SNR=22						
	comp=Z,3.7nm,0.7s						
RES	**Resolute Bay**	**84.18**	**13**	P	**P**	**11 10 06.9**	**+0.1**
NVAR	**Mina Array Bea**	**86.34**	**51**	P	**P**	**11 10 19.7**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=261,slow=6.7,SNR=9.0						
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**87.01**	**342**	P	**P**	**11 10 20.3**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=81,slow=7.5,SNR=8.1						
	comp=Z,3.2nm,0.7s						
FINES	**FINESS Array B**	**91.17**	**335**	P	**P**	**11 10 38.7**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=96,slow=3.9,SNR=12						
	comp=Z,2.2nm,0.6s						
PDAR	**Pinedale Array**	**91.40**	**45**	P	**P**	**11 10 42.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=222,slow=2.0,SNR=4.9						
	comp=Z,0.5nm,0.6s						
DBIC	**Dimbokro**	**144.15**	**303**	PKP	PKPbc	11 17 10.4	0.0
	comp=Z,7.9nm,0.6s,baz=67,slow=4.9,SNR=12						
LPAZ	**La Paz**	**147.52**	**99**	PKPbc	**PKPbc**	**11 17 20.3**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=325,slow=2.6,SNR=6.3						

*SOME **10** 11:24:57.5, 39.°45N×70.°42E, h0km*

ISU 10 11:24:54, 39.°71N×68.°22E, h1km, 1C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZI	**Dzhizak**	**0.51**	**323**	P	Pg	11 25 02.5	-1.2
DZI				S	Sg	11 25 10.1	-0.2
KRSA	**Karasay**	**0.55**	**318**	P	Pg	11 25 02.5	-2.0
KRSA				S	Sg	11 25 11.4	-0.3
AGL	**Agalyk**	**1.05**	**260**	P	Pg	11 25 11.7	-2.5
AGL				S	Sg	11 25 27.0	-0.9
PKMR	**Pachkamar**	**1.84**	**231**	P	Pn	11 25 27.1	+0.3
PKMR				S	Sb	11 25 51.8	-0.3
MINT	**Mingtut**	**2.24**	**70**	S	Sg	11 26 07.7	+1.7
IUG	**Iuzhnay**	**2.79**	**29**	*e*P	Pg	11 25 49.0	+1.4
	73nm,0.1s						
IUG				*e*S	Sg	11 26 26.4	+2.7
	43nm,0.0s						
KK31	**Karatay Array**	**3.80**	**26**	⇑Pg	Pg	11 26 06.3	-0.6
	0.9nm,0.2s,baz=208,slow=16,SNR=3.5						
KK31				⇓Lg	Lg	11 26 53.0	
	3.2nm,0.2s,baz=212,slow=28,SNR=13						
MRKS	**Merke**	**4.84**	**50**	*e*P	Pn	11 26 10.3	+2.2
	3.2nm,0.1s						
MRKS				*e*S	Sn	11 27 05.0	+0.3

3.3nm,0.0s

*IDC **10** 11:26:23.0±1.5, 29.°06S×61.°25E, h0km, mb4.0/6, mbtmp4.1/7, ML4.4/1, MS3.4/8, Error ellipse: s-maj=55.9km s-min=26.7km az=37.0*

ISC 10 11:26:24.5±1.5**, 29.°1S**±0.°3×**61.°2E**±0.°2**, h10km, n24, σ1.s01**/10**, mb4.2**/6**, MS3.4**/8**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.49**	**306**	Pn	**Pn**	**11 30 16.0**	**-0.2**
	0.1nm,0.3s,baz=127,slow=12,SNR=8.2						
	3.7nm,0.5s						
H08S1	**Diego Carcia H**	**23.80**	**29**	T	T	11 56 22.4	
	baz=201						
H08S2	**Diego Garcia H**	**23.81**	**29**	T	T	11 56 21.0	
	baz=201,slow=74						
H08S3	**Diego Garcia H**	**23.82**	**29**	T	T	11 56 37.3	
	baz=201,slow=74						
LSZ	**Lusaka**	**33.35**	**287**	LR	LR	11 46 46.7	
	comp=Z,54nm,19.0s,baz=62,slow=37						
SUR	**Sutherland**	**34.72**	**254**	LR	LR	11 43 59.3	
	comp=Z,50nm,19.6s,baz=150,slow=30						
KMBO	**Kilima Mbogo**	**35.94**	**316**	LR	LR	11 45 40.1	
	comp=Z,81nm,20.3s,baz=88,slow=32						
MAW	**Mawson**	**38.60**	**179**	LR	LR	11 45 25.8	
	comp=Z,57nm,20.2s,baz=18,slow=30						
MBAR	**Mbarara**	**40.54**	**309**	LR	LR	11 49 08.4	
	comp=Z,65nm,20.0s,baz=102,slow=34						
ATD	**Arta Tunnel**	**44.05**	**334**	LR	LR	11 50 15.0	
	comp=Z,73nm,20.1s,baz=92,slow=32						
H01W2	**Cape Leeuwin H**	**44.88**	**112**	T	T	12 22 14.7	
	baz=261,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**44.88**	**112**	T	T	12 22 14.7	
	baz=261,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**44.89**	**112**	T	T	12 22 15.3	
	baz=261,slow=75,SNR=13						
WSAR	**Wadi Sarin**	**52.04**	**357**	LR	LR	11 52 17.2	
	comp=Z,26nm,20.4s,baz=203,slow=30						
CMAR	**Chiang Mai Arr**	**59.67**	**42**	P	**P**	**11 36 30.1**	**+0.9**
	0.8nm,0.4s,baz=226,slow=6.9,SNR=7.1						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**64.46**	**104**	P	**P**	**11 37 00.8**	**-0.8**
	1.3nm,0.7s,baz=245,slow=6.5,SNR=12						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**66.27**	**100**	P	**P**	**11 37 12.9**	**-0.5**
	1.4nm,0.9s,baz=247,slow=5.8,SNR=8.4						
	1.4nm,0.9s						
GEYT	**Alibeck**	**66.69**	**357**	LR	LR	12 03 51.0	
	comp=Z,30nm,18.7s,baz=91,slow=34						
MKAR	**Makanchi Array**	**77.86**	**15**	P	**P**	**11 38 22.3**	**+0.2**
	1.0nm,0.7s,baz=208,slow=4.8,SNR=7.4						
	1.0nm,0.7s						
AKASG	**Malin Array Be**	**84.28**	**340**	P	**P**	**11 38 56.1**	**0.0**
	0.4nm,0.3s,baz=164,slow=4.6,SNR=5.0						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**85.15**	**14**	P	**P**	**11 38 59.6**	**-0.8**
	1.3nm,0.7s,baz=224,slow=4.1,SNR=5.9						
	1.3nm,0.7s						
YKA	**Yellowknife Ar**	**146.43**	**356**	PKPbc	**PKPab**	**11 46 04.6**	**-1.4**
	0.9nm,0.7s,baz=351,slow=3.8,SNR=6.6						
TXAR	**Lajitas Array**	**166.75**	**275**	PKP	**PKPdf**	**11 46 31.6**	**+0.8**
	0.3nm,0.8s,baz=151,slow=2.9,SNR=4.1						
NVAR	**Mina Array Bea**	**170.63**	**357**	PKP	**PKPdf**	**11 46 34.7**	**+1.5**
	0.9nm,1.0s,baz=288,slow=0.9,SNR=4.6						

DJA 10 11:27:40.3±0.6**, 3°S**±7°×**12°8E**±°**, h12km**±9km**, M3.7**/6**, mb3.7**/1**, MLv3.6**/6**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**0.63**	**123**	P	Pg	11 27 52.5	-0.1
AAI	**Ambon**	**0.78**	**156**	P	Pg	11 27 55.5	0.0
NLAI	**Namlea**	**0.81**	**251**	P	Pb	11 27 56.7	+0.3
MSAI	**Masohi**	**1.12**	**109**	P	Pg	11 28 02.3	+0.4
SANI	**Sanana**	**2.09**	**296**	P	Pn	11 28 13.8	-1.4
LBMI	**Labuha**	**2.35**	**351**	P	Pn	11 28 19.3	+0.6
SIJI	**Sorong**	**3.98**	**58**	P	Pn	11 28 41.4	+0.1
FAKI	**Fak Fak**	**4.37**	**89**	P	Pn	11 28 46.4	-0.2
GTOI	**Gorontalo**	**6.04**	**306**	P	Pn	11 29 12.8	+3.3

ATH 10 11:36:02.2, 39.°51N×20.°70E, h15km±4km, ML2.2/2, Error ellipse: s-maj=4.7km s-min=1.2km az=24.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	**Janina**	**0.19**	**37**	P	Pg	11 36 06.0	-0.7
JAN				S	Sg	11 36 10.1	+0.4
JAN				AML	AML	11 36 11.2	
	comp=E,3966μm,0.3s						
JAN				AML	AML	11 36 11.3	
	comp=N,2096μm,0.3s						
KPRO	**Kipourio**	**0.68**	**49**	P	Pg	11 36 15.4	-0.1
TSLK	**Tsoukalades, L**	**0.68**	**183**	P	Pg	11 36 15.3	-0.3
LKD2	**Lefkada island**	**0.72**	**183**	P	Pg	11 36 15.7	-0.6
KEK	**Kerkira**	**0.73**	**287**	P	Pb	11 36 16.6	0.0
KEK				AML	AML	11 36 33.0	
	comp=E,277μm,0.6s						
KEK				AML	AML	11 36 34.2	
	comp=N,406μm,0.6s						
NEST	**Nestorio**	**0.94**	**16**	P	Pb	11 36 20.2	-0.2
THL	**Klokotos Trika**	**1.02**	**86**	P	Pb	11 36 21.5	0.0
EVR	**Evrytania**	**1.04**	**124**	P	Pg	11 36 22.3	-0.1
FSK	**Fiskardo**	**1.05**	**186**	P	Pb	11 36 22.3	+0.1
PVO	**Paravola**	**1.10**	**144**	P	Pb	11 36 22.8	-0.2
MAKR	**Makrakomi, Fth**	**1.21**	**114**	P	Pg	11 36 25.4	-0.2
FNA	**Florina**	**1.38**	**22**	P	Pb	11 36 27.8	0.0

THE 10 11:36:53.6, 38.°26N×20.°59E, h19km±1km, ML1.9/6, Error ellipse: s-maj=1.8km s-min=0.7km az=191.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.08**	**181**	P	Pg	11 36 57.2	-0.1
VLS				S	Sg	11 36 59.8	+0.1
	715nm,0.0s						
KEF4	**Livadi, Kephal**	**0.13**	**270**	P	Pg	11 36 57.9	+0.2
KEF4				S	Sg	11 37 01.2	+0.7
	3μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.14**	**182**	P	Pg	11 36 57.9	0.0
PSDA				S	Sg	11 37 01.1	+0.3
	378nm,0.1s						
DMLN	**Damoulianata-K**	**0.17**	**263**	P	Pg	11 36 58.2	-0.1
DMLN				S	Sg	11 37 01.8	+0.3
	320nm,0.1s						
KEF3	**Kipouria, Keph**	**0.20**	**254**	P	Pg	11 36 58.5	-0.1
KEF3				S	Sg	11 37 01.8	-0.2
	652nm,0.2s						
FSK	**Fiskardo**	**0.20**	**354**	P	Pg	11 36 58.5	-0.2
FSK				S	Sg	11 37 02.3	+0.2
	88nm,0.1s						

*IDC **10** 11:42:02.1±3.3, 18.°80N×145.°63E, h180km±32km, mb3.5/9, mbtmp4.1/11, Error ellipse: s-maj=24.4km s-min=12.5km az=96.0*

*NEIC **10** 11:42:07.0±1.6, 18.°76N±0.°09×145.°6E±0.°2, h227km±8km, mb4.5/20, Error ellipse: s-maj=29.9km s-min=13.2km az=91.0*

ISC 10 11:42:04.8±0.5**, 18.°84N**±0.°06×**145.°5E**±0.°1**, h214km, n39, σ1.s07**/40**, mb4.3**/20**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.26**	**187**	Pn	**Pn**	**11 43 24.9**	**+2.0**
JCJ	**Chichijima**	**8.76**	**340**	P	**Pn**	**11 44 06.9**	**-0.9**
	88nm,0.9s,baz=106,slow=23,SNR=5.3						
JCJ				S	**S**	**11 45 44.8**	**-1.7**
	59nm,0.5s,baz=281,slow=23,SNR=2.1						
MJAR	**Matsushiro Arr**	**18.76**	**341**	P	**P**	**11 46 08.3**	**+0.3**
	1.2nm,0.5s,baz=173,slow=10,SNR=3.8						
MANU	**Manus Island**	**20.84**	**175**	P	**P**	**11 46 29.8**	**-0.5**
KNRA	**Kununurra**	**38.05**	**207**	P	**P**	**11 49 03.8**	**+0.9**
KNRA				IAmb	IAmb	11 49 05.3	
	comp=Z,14nm,0.8s						
CTAO	**Charters Tower**	**38.70**	**179**	P	**P**	**11 49 06.6**	**-1.6**
CTAO				IAmb	IAmb	11 49 23.8	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**39.89**	**196**	P	**P**	**11 49 18.5**	**+0.4**
WR0	**Warramunga Arr**	**40.03**	**196**	P	**P**	**11 49 19.5**	**+0.2**
WR0				IAmb	IAmb	11 49 20.6	
	comp=Z,15nm,1.1s						
WB2	**Warramunga Arr**	**40.07**	**196**	P	**P**	**11 49 19.9**	**+0.4**
WB2				IAmb	IAmb	11 49 20.9	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**40.07**	**196**	P	**P**	**11 49 20.0**	**+0.4**
	comp=Z,12nm,0.7s,baz=14,slow=8.8,SNR=68						
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**40.07**	**196**	P	**P**	**11 49 18.5**	**-1.1**
AS31	**Alice Springs**	**43.74**	**195**	P	**P**	**11 49 49.3**	**+0.1**
ASAR	**Alice Springs**	**43.74**	**195**	P	**P**	**11 49 49.3**	**0.0**
	comp=Z,2.3nm,0.6s,baz=16,slow=7.1,SNR=39						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**43.74**	**195**	P	**P**	**11 49 49.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.01**	**277**	P	**P**	**11 49 53.0**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=62,slow=6.8,SNR=4.3						
	comp=Z,0.3nm,0.3s						
DZM	**Mont Dzumac**	**45.53**	**152**	P	**P**	**11 50 04.0**	**+0.5**
	comp=Z,9.4nm,0.9s,baz=22,slow=4.7,SNR=7.5						
	comp=Z,9.4nm,0.9s						
DZM	**Mont Dzumac**	**45.53**	**152**	P	**P**	**11 50 03.1**	**-0.4**
OUENC	**Ouen Island, N**	**46.02**	**152**	P	**P**	**11 50 07.7**	**+0.6**
OUENC				IAmb	IAmb	11 50 41.6	
	comp=Z,24nm,1.2s						
STKA	**Stephens Creek**	**50.57**	**184**	P	**P**	**11 50 40.9**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=3.8,slow=8.4,SNR=5.1						
	comp=Z,1.5nm,0.5s						
STKA	**Stephens Creek**	**50.57**	**184**	P	**P**	**11 50 41.6**	**-0.1**
FORT	**Forrest**	**52.11**	**199**	P	**P**	**11 50 52.0**	**-1.2**
BBOO	**Buckleboo**	**52.15**	**190**	P	**P**	**11 50 52.2**	**-1.2**
BBOO				IAmb	IAmb	11 51 17.9	
	comp=Z,30nm,1.4s						
MORW	**Morawa**	**55.48**	**211**	P	**P**	**11 51 17.3**	**-0.3**
TOO	**Toolangi**	**56.11**	**180**	P	**P**	**11 51 21.4**	**-0.6**
TOO				IAmb	IAmb	11 51 26.8	
	comp=Z,15nm,1.4s						
MKAR	**Makanchi Array**	**58.22**	**314**	P	**P**	**11 51 39.0**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=84,slow=8.5,SNR=4.5						
	comp=Z,0.2nm,0.4s						
H24K	**Noodor Dome**	**63.43**	**25**	P	**P**	**11 52 12.9**	**+1.3**
H24K				IAmb	IAmb	11 52 26.7	
	comp=Z,7.2nm,1.3s						
TOLK	**Toolik Lake Re**	**63.53**	**22**	P	**P**	**11 52 13.6**	**+1.5**
ILAR	**Eielson Array**	**63.60**	**26**	P	**P**	**11 52 12.2**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=250,slow=5.4,SNR=5.1						
	comp=Z,0.4nm,0.8s						
J25K	**Salcha River,**	**64.21**	**27**	P	**P**	**11 52 17.2**	**+0.6**
J25K				IAmb	IAmb	11 52 20.6	
	comp=Z,7.8nm,1.4s						
BKZ	**Black Stump Fm**	**64.59**	**154**	P	**P**	**11 52 18.5**	**-0.9**
BKZ				IAmb	IAmb	11 52 41.0	
	comp=Z,17nm,1.4s						
BMAR	**Burnt Mountain**	**65.06**	**24**	P	**P**	**11 52 23.4**	**+1.4**
NNZ	**Nelson**	**65.12**	**157**	P	**P**	**11 52 21.6**	**-1.0**
TUWZ	**Tuamarina**	**65.51**	**157**	P	**P**	**11 52 23.3**	**-1.9**
BCAR	**Beaver Creek A**	**65.55**	**29**	P	**P**	**11 52 26.2**	**+0.9**
ABKAR	**Akbulak array**	**73.10**	**317**	P	**P**	**11 53 10.8**	**-0.9**
YKA	**Yellowknife Ar**	**77.95**	**28**	P	**P**	**11 53 39.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=290,slow=5.7,SNR=3.1						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**83.20**	**52**	P	**P**	**11 54 08.8**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=270,slow=6.0,SNR=14						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**86.67**	**335**	P	**P**	**11 54 22.8**	**-1.4**
	comp=Z,5.9nm,1.1s,baz=32,slow=5.4,SNR=1.9						
LPAZ	**La Paz**	**147.87**	**91**	PKPbc	**PKPbc**	**12 01 26.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=259,slow=3.4,SNR=2.9						

*IDC **10** 11:42:41.5±5.6, 20.°71N×145.°79E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=142.0km s-min=48.2km az=6.0*

ISC 10 11:42:48.3±5.0**, 21.°0N**±0.°9×**145.°8E**±0.°3**, h35km, n6, σ1.s12**/6**, mb3.8**/6**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.57**	**321**	P	**P**	**11 47 46.1**	**+0.5**
	2.7nm,0.7s,baz=148,slow=8.9,SNR=9.0						
	2.7nm,0.7s						
SONM	**Songino Array**	**41.44**	**320**	P	**P**	**11 50 31.1**	**-0.6**
	0.4nm,0.5s,baz=132,slow=8.3,SNR=3.7						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**56.28**	**322**	P	**P**	**11 52 24.6**	**-0.6**
	1.1nm,0.7s,baz=120,slow=8.5,SNR=4.1						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**56.96**	**313**	P	**P**	**11 52 31.6**	**+1.4**
	0.4nm,0.6s,baz=83,slow=9.0,SNR=2.9						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**61.59**	**27**	P	**P**	**11 53 02.4**	**+0.5**
	0.5nm,0.8s,baz=261,slow=5.4,SNR=2.3						
	0.5nm,0.8s						
FINES	**FINESS Array B**	**84.86**	**335**	P	**P**	**11 55 18.3**	**-0.8**
	1.8nm,0.6s,baz=56,slow=5.7,SNR=4.3						
	1.8nm,0.6s						

*NEIC **10** 11:49:27.7±2.1, 16.°00S±0.°07×173.°12W±0.°03, h10km±1km, mb5.0/46, Error ellipse: s-maj=12.3km s-min=4.5km az=170.0*

*IDC **10** 11:49:29.0±0.6, 16.°01S×173.°51W, h0km, mb4.7/16, mbtmp4.6/16, MS4.1/25, Error ellipse: s-maj=23.6km s-min=14.7km az=141.0*

*BJI **10** 11:49:30.6±0.0, 15.°80S×173.°02W, h15km, mb5.0/16, mB5.5/12, Ms5.2/3, Ms7 5.0/3*

*NOU **10** 11:49:33.0, 15.°97S×172.°77W, h72km, mb4.9/15, Samoa Islands Region*

*GCMT **10** 11:49:34.7±0.4, 16.°30S±0.°04×172.°98W±0.°04, h21km, MW4.9/69, Moment Tensor Solution. s38,c46; s69,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.34±.19; $M_{\theta\theta}$1.73±.14; $M_{\phi\phi}$1.61±.13; $M_{r\theta}$0.27±.28; $M_{\theta\phi}$-0.72±.08; $M_{\phi r}$-0.04±.26; Best double couple: $M_0$2.88000×10^{16} NP1:ϕ_s310.00000°, δ47.00000°, λ-93.00000°. NP2: ϕ_s134.00000°, δ43.00000°, λ-87.00000°. Principal axes: T 2.4050, Plg2.0000°, Azm42.0000°; N 0.9500, Plg2.0000°, Azm312.0000°; P -3.3550, Plg87.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 11:49:29.0±0.3**, 16.°15S**±0.°05×**173.°14W**±0.°06**, h10km, n314, σ1.s96**/261**, mb5.0**/51**, MS4.3**/30**, 25C-11D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.59**	**31**	Pn	**Pn**	**11 50 07.8**	**-3.1**
	137nm,0.3s,baz=196,slow=1.6,SNR=119						
AFI				Sn	**Sn**	**11 50 35.4**	**-7.1**
	203nm,0.3s,baz=151,slow=22,SNR=6.7						
AFI				LR	LR	11 50 49.2	
	comp=Z,830nm,19.5s,baz=136,slow=30						
AFI				T	T	11 52 36.6	
	2μm,0.6s,baz=0.8,slow=20,SNR=4.0						
AFI	**Afiamalu**	**2.59**	**31**	P	**Pn**	**11 50 08.2**	**-2.8**
NIUE	**Niue**	**4.22**	**134**	P	**Pn**	**11 50 32.1**	**-1.3**
	baz=4.2,SNR=58						
NIUE				S	**Sn**	**11 51 17.0**	**-5.8**
	baz=4.2						
NIUE	**Niue**	**4.22**	**134**	Pn	**Pn**	**11 50 32.3**	**-1.0**
NIUE	**Niue**	**4.22**	**134**	P	**Pn**	**11 50 32.4**	**-1.0**
MSVF	**Nonsavu**	**8.58**	**258**	Pn	Pn	11 51 39.9	+6.5
	2.0nm,0.3s,baz=108,slow=13,SNR=47						
MSVF				LR	LR	11 54 18.9	
	comp=Z,3μm,18.2s,baz=52,slow=35						
MSVF	**Nonsavu**	**8.58**	**258**	Pn	**Pn**	**11 51 32.5**	**-0.9**
RAR	**Rarotonga**	**13.62**	**114**	Pn	**Pn**	**11 52 39.6**	**-2.7**
	2.3nm,0.3s,baz=158,slow=20,SNR=2.7						
RAR	**Rarotonga**	**13.62**	**114**		**Pn**	**11 52 40.5**	**-1.8**
RAR	**Rarotonga**	**13.62**	**114**	P	**Pn**	**11 52 40.5**	**-1.8**
	110nm,2.0s						
RAO	**Raoul Island**	**13.76**	**198**	LR	LR	11 57 10.1	
	comp=Z,634nm,19.5s,baz=333,slow=33						
MARNC	**Mare, Loyalty**	**18.59**	**251**	P	**P**	**11 53 43.9**	**-2.6**
LIFNC	**LIFOU**	**19.17**	**253**	P	**P**	**11 53 51.2**	**-1.6**
OUENC	**Ouen Island, N**	**19.89**	**249**	P	**P**	**11 53 58.6**	**-2.1**
OUENC				IAmb	IAmb	11 54 14.0	
	comp=Z,103nm,1.5s						
DZM	**Mont Dzumac**	**20.16**	**250**	*e*Pn	Pn	11 54 05.1	-0.6
	comp=Z,128nm,1.4s						
DZM				*e*LR	LR	11 58 45.3	
	comp=Z,2μm,25.1s						
DZM	**Mont Dzumac**	**20.16**	**250**	P	Pn	11 54 05.2	-0.4
	comp=Z,25nm,1.0s,baz=85,slow=14,SNR=12						
DZM				LR	LR	12 00 29.4	
	comp=Z,1μm,19.6s,baz=48,slow=33						

DZM Mont Dzumac 20.16 250 P P 11 54 03.3 -0.5
DZM IAmb IAmb 11 54 09.7
comp=Z,64nm,1.2s
DZM Mont Dzumac 20.16 250 P Pn 11 54 08.0 +2.3
comp=Z,50nm,1.7s
ONTNC Ouen Toro 20.21 249 P P 11 54 04.5 +0.3
ONTNC IAmb IAmb 11 54 18.6
comp=Z,96nm,1.4s
KOUNC Koumac, New Ca 21.87 255 P P 11 54 21.2 -0.9
KOUNC IAmb IAmb 11 54 36.5
comp=Z,37nm,1.1s
OUZ Omahuta 22.40 210 P P 11 54 27.1 -0.6
OUZ Omahuta 22.40 210 P P 11 54 28.9 +1.3
comp=Z,29nm,0.9s
PAE Paea 22.59 97 *e*T T 12 17 41.5
comp=Z,7.5nm,0.4s
PPT Papeete 22.59 97 LR LR 12 01 08.4
comp=Z,304nm,19.9s,baz=260,slow=30
PPT2 Papeete2 22.59 97 *e*LR LR 12 00 01.6
comp=Z,522nm,23.2s
PPT2 *e*LR LR 12 00 02.0
comp=Z,453nm,24.8s
PPT2 Papeete2 22.59 97 *e*T T 12 17 42.8
comp=Z,15nm,0.4s
MXZ Matakaoa Point 22.63 198 P P **11 54 29.6 -0.5**
comp=Z,43nm,0.8s
KUZ Kuaotunu 22.77 204 P P **11 54 32.9 +1.3**
comp=Z,170nm,1.0s
TIAR Tiarei 22.81 97 *e*T T 12 17 57.7
comp=Z,3.0nm,0.3s
TBI Tubuai 23.39 112 *e*LR LR 12 00 20.8
comp=Z,11µm,23.5s
TBI *e*LR LR 12 00 21.4
comp=Z,2µm,23.5s
TBI Tubuai 23.39 112 *e*T T 12 18 39.8
comp=Z,25nm,0.3s
MEH Mehetia 24.03 98 *e*T T 12 19 32.2
comp=Z,9.5nm,0.3s
VAH Vaihoa 24.57 91 *e*T T 12 20 13.4
comp=Z,12nm,0.3s
HIZ Hauiti 24.65 203 P P **11 54 51.0 +1.2**
comp=Z,67nm,1.3s
BKZ Black Stump Fm 24.66 200 P P **11 54 48.6 -1.4**
BKZ IAmb IAmb 11 54 52.8
comp=Z,20nm,1.0s
HNR Honiara 27.07 281 LR LR 12 04 16.2
comp=Z,9µm,18.6s,baz=122,slow=33
TCW Tory Channel 27.24 201 P P **11 55 15.6 +2.4**
QRZ Quartz Range 27.55 204 P P **11 55 16.0 0.0**
QRZ Quartz Range 27.55 204 P P **11 55 16.8 +0.8**
comp=Z,87nm,0.9s
QRZ Quartz Range 27.55 204 P P **11 55 18.2 +2.2**
NNZ Nelson 27.57 202 P P **11 55 16.3 +0.1**
MRNZ Matariki Terra 27.95 203 P P **11 55 22.0 +2.4**
THZ Tophouse 28.22 202 P P **11 55 20.8 -1.3**
THZ IAmb IAmb 11 55 56.2
comp=Z,29nm,1.0s
THZ Tophouse 28.22 202 P P **11 55 21.3 -0.8**
KHZ Kahutara 28.57 201 P P **11 55 23.6 -1.4**
comp=Z,28nm,1.0s
KHZ Kahutara 28.57 201 P P **11 55 23.8 -1.2**
GVZ Greta Valley S 29.23 201 P P **11 55 33.3 +2.4**
LTZ Lake Taylor 29.33 202 P P **11 55 29.3 -2.6**
LTZ IAmb IAmb 11 55 38.2
comp=Z,20nm,0.7s
LTZ Lake Taylor 29.33 202 P P **11 55 29.4 -2.6**
INZ Inchbonnie 29.59 203 P P **11 55 34.7 +0.5**
OXZ Oxford 29.89 202 P P **11 55 34.6 -2.2**
MQZ McQueen's Vall 30.01 201 P P 11 55 43.8 +6.0
WVZ Waitaha Valley 30.16 204 P P **11 55 38.1 -1.1**
RPZ Rata Peaks 30.59 203 P P **11 55 44.6 +1.5**
comp=Z,17nm,0.8s,baz=340,slow=2.9,SNR=9.4
RPZ LR LR 12 07 49.7
comp=Z,315nm,19.4s,baz=26,slow=36
comp=Z,17nm,0.8s
RPZ Rata Peaks 30.59 203 P P **11 55 42.2 -0.8**
RPZ IAmb IAmb 11 56 04.8
comp=Z,38nm,1.0s
RPZ Rata Peaks 30.59 203 P P **11 55 44.5 +1.5**
comp=Z,23nm,0.9s
RPZ Rata Peaks 30.59 203 P P **11 55 44.8 +1.8**
JCZ Jackson Bay 31.78 205 P P **11 55 52.8 -0.8**
comp=Z,26nm,1.7s
TAOE Nuku Hiva Isla 32.98 81 *e*LR LR 12 04 52.6
comp=Z,233nm,21.7s
TAOE Nuku Hiva Isla 32.98 81 *e*T T 12 30 33.3
comp=Z,84nm,0.2s
ARMA Armidale 35.18 240 P P **11 56 22.0 -1.4**
baz=35,SNR=10
ARMA Armidale 35.18 240 P P **11 56 22.0 -1.4**
ARMA IAmb IAmb 11 56 30.2
comp=Z,19nm,1.2s
ARMA Armidale 35.18 240 P P **11 56 22.3 -1.2**
comp=Z,13nm,2.2s
KRVT Keravat (AS076 36.18 285 P P **11 56 29.0 -3.0**
comp=Z,25nm,0.7s,baz=215,slow=15,SNR=3.8
KRVT LR LR 12 09 00.6
comp=Z,146nm,20.5s,baz=262,slow=33
comp=Z,25nm,0.7s
RMQ Roma 36.84 247 P P **11 56 36.7 -0.9**
baz=37,SNR=5.6
CNB Canberra Magne 38.50 233 P P **11 56 50.1 -1.5**
baz=39,SNR=8.6
CNB Canberra Magne 38.50 233 P P **11 56 50.2 -1.4**
comp=Z,20nm,0.9s
CTA Charters Tower 38.73 258 LR LR 12 10 56.5
comp=Z,354nm,19.1s,baz=79,slow=34
CTAO Charters Tower 38.73 258 P P **11 56 51.6 -2.0**
CAN Canberra 38.78 233 P P **11 56 51.9 -2.1**
CAN IAmb IAmb 11 57 54.4
comp=Z,55nm,1.8s
PMG Port Moresby 39.25 275 P P **11 56 58.1 +0.1**
comp=Z,21nm,1.1s,baz=79,slow=6.6,SNR=5.7
PMG LR LR 12 12 02.4
comp=Z,124nm,18.4s,baz=94,slow=35
comp=Z,21nm,1.1s
PMG Port Moresby 39.25 275 P P **11 56 58.0 0.0**
PMG IAmb IAmb 11 57 01.3
comp=Z,25nm,1.1s
PMG Port Moresby 39.25 275 P P **11 57 01.1 +3.1**
comp=Z,23nm,1.2s
H11S2 WAKE ISLAND Hy 39.73 329 T T 12 39 14.2
baz=149,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 39.75 329 T T 12 39 06.2
baz=149,slow=76,SNR=8.8
H11S1 WAKE ISLAND Hy 39.75 329 T T 12 39 06.3
baz=149,slow=76,SNR=17
CMSA Cobar Meteorol 40.40 240 P P **11 57 05.6 -1.8**
baz=41,SNR=38
CMSA Cobar Meteorol 40.40 240 P P **11 57 05.8 -1.6**
comp=Z,26nm,1.3s
H11N3 WAKE ISLAND Hy 40.69 330 T T 12 40 23.5
baz=150,slow=76,SNR=18
H11N1 WAKE ISLAND Hy 40.69 330 T T 12 40 16.5
baz=150,slow=76,SNR=13
H11N2 WAKE ISLAND Hy 40.70 330 T T 12 40 24.9
baz=150,slow=76,SNR=14
QLP Quilpie 40.87 248 P P **11 57 09.7 -1.7**
baz=41,SNR=3.2
COEN Coen 42.19 267 P P **11 57 21.9 -0.5**
baz=42,SNR=9.4
TOO Toolangi 42.19 231 P P **11 57 20.5 -1.7**
baz=42,SNR=13
TOO Toolangi 42.19 231 P P **11 57 20.5 -1.7**
TOO IAmb IAmb 11 57 21.1
comp=Z,13nm,0.7s
STKA Stephens Creek 43.89 241 P P **11 57 34.5 -1.4**
comp=Z,7.0nm,0.7s,baz=100,slow=9.9,SNR=23
comp=Z,7.0nm,0.7s
STKA Stephens Creek 43.89 241 P P **11 57 34.6 -1.4**
baz=44,SNR=11
STKA Stephens Creek 43.89 241 P P **11 57 34.5 -1.4**
ARPS Mount Arapiles 44.75 234 P P **11 57 41.0 -1.7**
baz=45,SNR=6.6
HTT Hallett 46.37 239 P P **11 57 54.4 -1.4**
baz=46,SNR=4.2
BBOO Buckleboo 48.66 240 P P **11 58 11.7 -1.8**
baz=49,SNR=7.0
BBOO Buckleboo 48.66 240 P P **11 58 12.0 -1.5**
BBOO IAmb IAmb 11 58 20.9
comp=Z,31nm,1.4s
WR0 Warramunga Arr 49.73 257 P P **11 58 21.2 -0.7**
WB2 Warramunga Arr 49.91 257 P P **11 58 20.9 -2.4**
baz=50
WB2 Warramunga Arr 49.91 257 P P **11 58 21.0 -2.2**
WB2 IAmb IAmb 11 58 25.8
comp=Z,26nm,1.8s
WRAB Tennant Creek 49.91 257 P P **11 58 21.5 -1.8**
WRA Warramunga Arr 49.92 257 P P **11 58 20.6 -2.7**
comp=Z,3.7nm,0.9s,baz=93,slow=7.1,SNR=41
WRA LR LR 12 18 04.6
comp=Z,307nm,20.5s,baz=50,slow=35
comp=Z,3.7nm,0.9s
ASAR Alice Springs 50.12 252 P P **11 58 22.9 -1.9**
comp=Z,16nm,0.6s,baz=89,slow=8.2,SNR=214
comp=Z,16nm,0.6s
ASAR Alice Springs 50.12 252 P P **11 58 23.2 -1.6**
KDU Kakadu 52.67 266 P P **11 58 42.7 -1.2**
baz=53,SNR=5.9
MTN Manton Dam 53.93 266 P P **11 58 51.9 -1.3**
baz=54,SNR=7.5
MTN Manton Dam 53.93 266 IAmb IAmb 11 58 52.7
comp=Z,23nm,0.9s
WRKA Warakurna 55.18 251 P P **11 59 00.6 -1.7**
baz=55,SNR=33
KNRA Kununurra 55.71 262 P P **11 59 04.8 -1.4**
baz=56,SNR=9.5
KNRA Kununurra 55.71 262 P P **11 59 05.3 -0.8**
KNRA IAmb IAmb 11 59 13.6
comp=Z,26nm,1.3s
SIJI Sorong 56.83 280 P P **11 59 13.7 -0.5**
comp=Z,43nm,0.9s,baz=80,slow=5.9,SNR=11
comp=Z,43nm,0.9s
RPN Rapa Nui 59.77 112 LR LR 12 19 28.4
comp=Z,24nm,20.7s,baz=254,slow=30
JCJ Chichijima 61.06 314 LR LR 12 22 39.7
comp=Z,49nm,18.5s,baz=136,slow=33
SOEI Soe 61.15 268 P P **11 59 41.7 -2.7**
SBA Scott Base 62.53 185 P P **11 59 53.5 +1.1**
SBA IAmb IAmb 11 59 56.4
comp=Z,15nm,1.0s
VNDA Vanda 62.66 186 P P **11 59 55.8 +2.5**
comp=Z,4.2nm,0.8s,baz=7.8,slow=6.6,SNR=17
comp=Z,4.2nm,0.8s
VNDA Vanda 62.66 186 P P **11 59 54.2 +0.9**
VNDA IAmb IAmb 11 59 56.4
comp=Z,6.4nm,0.9s
PSA00 Pilbara Seismi 63.24 254 P P **11 59 56.6 -1.5**
MEEK Meekatharra 63.77 248 P P **11 59 59.9 -1.7**
baz=64
KLBR Kellerberrin 64.12 242 P P **12 00 02.3 -1.5**
baz=64,SNR=10
BLDU Balldu 65.08 243 P P **12 00 08.8 -1.3**
baz=65
MORW Morawa 65.80 245 P P **12 00 13.5 -1.3**
baz=66
CASY Casey 69.84 205 P P **12 00 40.5 +1.0**
ISA Isabella, Lake 73.01 44 P P 12 01 02.6 +3.3
baz=235
LPIG La Paz 73.21 58 LR LR 12 25 35.8
comp=Z,158nm,18.6s,baz=264,slow=30
PFO Pinyon Flats O 73.25 47 LR LR 12 27 10.7
comp=Z,213nm,18.4s,baz=236,slow=31
ORV Oroville 73.39 39 P P **12 00 58.3 -3.0**
ORV IAmb IAmb 12 01 11.5
comp=Z,19nm,1.6s
LRMC Laurel Mtn Rad 73.44 45 P P **12 01 04.6 +2.7**
baz=235
BELC Belle Mtn. Jos 73.78 47 P P 12 01 07.0 +3.1
baz=237
MPMC Manual Prospec 73.89 44 P P 12 01 07.6 +3.0
baz=235
QSPA South Pole Qui 73.90 180 P P **12 01 05.8 +1.8**
GSC Goldstone, Bar 73.93 45 P P **12 01 07.2 +2.5**
baz=236
HEC Hector,Ludlow 74.00 46 P P **12 01 07.8 +2.7**
baz=236
YBH Yreka Blue Hor 74.04 37 LR LR 12 26 11.8
comp=Z,173nm,19.7s,baz=245,slow=30
GMRC Granite Mounta 74.44 46 P P **12 01 10.4 +2.7**
baz=237
IRM Iron Mountain 74.46 47 P P 12 01 10.8 +3.1
baz=238
GRAC Grapevine Rang 74.50 43 P P 12 01 11.0 +3.1
baz=235
TUQ Turquoise Moun 74.61 45 P P **12 01 11.4 +2.7**
baz=237
SHOC Shoshone, Teco 74.62 45 P P **12 01 10.9 +2.2**
baz=236
NVAR Mina Array Bea 74.72 42 P P **12 01 11.9 +2.5**
comp=Z,4.2nm,0.9s,baz=226,slow=8.9,SNR=23
NVAR LR LR 12 28 19.2
comp=Z,265nm,18.9s,baz=212,slow=31
comp=Z,4.2nm,0.9s
TPNV Topopah Spring 75.22 44 P P **12 01 13.9 +1.6**
baz=236
KDAK Kodiak Island 75.60 11 LR LR 12 26 40.9
comp=Z,205nm,19.5s,baz=199,slow=30
R11A Troy Canyon, C 76.43 43 P P **12 01 21.8 +2.7**
baz=236
TUC Tucson 76.67 50 P P 12 01 23.8 +3.2
baz=241
WUAZ Wupatki 77.82 47 P P 12 01 30.9 +3.9
baz=240
ELK Elko 77.98 41 LR LR 12 29 30.4
comp=Z,190nm,19.0s,baz=216,slow=31
BBB Bella Bella 78.44 26 LR LR 12 31 18.8
comp=Z,141nm,19.6s,baz=253,slow=32
121A Cookes Peak, D 79.01 51 P P 12 01 36.9 +3.2
baz=243
121A Cookes Peak, D 79.01 51 P P 12 01 37.4 +3.8
baz=243
DUG Dugway, Tooele 79.24 43 P P 12 01 37.9 +3.2
baz=238
HLID Hailey 80.05 39 P P **12 01 41.2 +2.1**
baz=236
Y22A Socorro 80.26 51 P P 12 01 43.8 +3.3
baz=243
CRNM Carthage 80.44 51 P P **12 01 39.2 -2.2**
NJ2 Nanjing 80.82 307 *e*P P **12 01 46.3 +3.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
TX31 Lajitas Ar. Si 80.82 56 P P **12 01 46.4 +2.9**
baz=245
TXAR Lajitas Array 80.82 56 P P **12 01 45.9 +2.5**
comp=Z,2.8nm,1.1s,baz=224,slow=5.2,SNR=15
TXAR LR LR 12 30 49.0
comp=Z,144nm,18.3s,baz=244,slow=31
comp=Z,2.8nm,1.1s
SMAI San Martin Ant 80.97 159 P P **12 01 45.2 +1.8**
SMAI IAmb IAmb 12 01 56.0
comp=Z,22nm,1.1s
ANMO Albuquerque 81.09 50 LR LR 12 32 07.5
comp=Z,147nm,19.6s,baz=292,slow=32
ANMO Albuquerque 81.09 50 P P **12 01 43.7 -1.2**
ANMO Albuquerque 81.09 50 P P **12 01 47.3 +2.4**
baz=243
ANMO Albuquerque 81.09 50 P P **12 01 47.8 +2.9**
baz=243
NEW Newport 81.18 34 LR LR 12 30 51.9
comp=Z,162nm,18.9s,baz=220,slow=31
BNX BinXian 81.68 322 ⇑P P **12 01 48.1 +0.6**
BNX pmax pmax
comp=Z,13nm,1.0s
BNX pmax pmax
comp=Z,200nm,7.3s
CN2 Changchun 81.82 320 P P **12 01 49.4 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
Q32M Nakina River 81.94 20 P P 12 01 53.8 +5.0
baz=219
S22A 4UR Ranch, Cre 82.09 47 P P 12 01 53.4 +3.1
baz=242
MSO Missoula 82.13 37 P P **12 01 52.5 +2.5**
baz=236
DLBC Dease Lake 82.30 21 LR LR 12 33 42.7
comp=Z,91nm,18.0s,baz=186,slow=32
YHB Horse Butte 82.64 39 IAmb IAmb 12 02 03.5
comp=Z,13nm,1.1s
BW06 Boulder Array 82.65 42 P P **12 01 54.9 +1.8**
baz=240
PDAR Pinedale Array 82.65 42 P P **12 01 54.4 +1.4**
comp=Z,2.8nm,0.8s,baz=203,slow=3.4,SNR=19
PDAR LR LR 12 33 10.6
comp=Z,197nm,18.9s,baz=240,slow=32
comp=Z,2.8nm,0.8s
HDA Harding Lake 82.79 11 P P **12 01 53.1 +0.2**
baz=205
BOZ Bozeman (W) 82.82 38 P P **12 01 56.2 +2.5**
baz=238
CCB Clear Creek Bu 82.85 11 IAmb IAmb 12 02 01.4
comp=Z,12nm,1.1s
SDCO Great Sand Dun 83.03 48 P P **12 01 57.6 +2.4**
baz=243
SDCO Great Sand Dun 83.03 48 P P **12 01 57.8 +2.7**
baz=243
COLA College 83.05 11 P P **12 01 54.0 -0.2**
MDM Murphy Dome 83.06 10 P P **12 01 50.5 -3.8**
ILAR Eielson Array 83.13 11 P P **12 01 55.6 +0.9**
comp=Z,1.5nm,0.8s,baz=229,slow=6.5,SNR=25
comp=Z,1.5nm,0.8s
J25K Salcha River, 83.27 12 P P **12 01 56.8 +1.3**
baz=207
POKR Poker Plat Res 83.34 11 P P **12 01 57.0 +1.2**
baz=205
MSTX Muleshoe 83.42 52 P P **12 01 58.8 +1.8**
baz=245
J26L Joseph Creek 83.53 12 P P **12 01 59.4 +2.5**
baz=208
L29M L29M 83.58 15 P P **12 01 59.5 +2.4**
baz=214
H23K Yukon River 83.64 10 P P **12 01 57.7 +0.4**
baz=203
RLMT Red Lodge 84.01 40 P P 12 02 03.6 +3.7
baz=240
PRP Porcupine Dome 84.05 11 P P **12 02 01.2 +1.6**
baz=207
DAWY Dawson 84.08 14 P P **12 02 00.9 +1.3**
DAWY IAmb IAmb 12 02 09.3
comp=Z,12nm,1.1s
GCMT Greycliff 84.10 39 P P **12 01 59.8 -0.4**
K29M Barlow Dome 84.35 15 P P **12 02 03.4 +2.3**
baz=214
H03S2 Juan Fernandez 84.58 124 T T 13 35 43.8
baz=252,slow=75,SNR=31
H03S1 Juan Fernandez 84.59 124 T T 13 35 44.3
baz=252,slow=75,SNR=29
H03S3 Juan Fernandez 84.59 123 T T 13 35 39.3
baz=252,slow=75,SNR=28
ABTX Abilene, Hawle 85.29 54 P P **12 02 08.8 +2.4**
baz=247
ABTX Abilene, Hawle 85.29 54 P P **12 02 08.9 +2.4**
baz=247
I29M Ogilvie Camp, 85.43 14 P P **12 02 08.0 +1.7**
baz=213
F24K Squaw Lake 85.46 9 P P **12 02 08.0 +1.5**
baz=204
G26K Porcupine Rive 85.66 11 P P **12 02 09.8 +2.4**
baz=208
E25K Arctic Village 86.39 10 P P **12 02 12.3 +1.3**
baz=206
MAW Mawson 87.17 199 P P **12 02 17.3 +2.3**
comp=Z,12nm,1.0s,baz=143,slow=4.3,SNR=8.8
comp=Z,12nm,1.0s
XLT XiLinHaoTe 87.84 317 *e*P P **12 02 20.8 +2.0**
XLT pP pwP 12 02 26.3 +1.9
XLT sP sP 12 02 28.5 +6.3
XLT S S 12 12 50.9 -11
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,280nm,4.6s
XLT LR LR
comp=Z,85nm,16.4s
XLT LR LR
comp=Z,490nm,16.0s
XLT LR LR
comp=Z,550nm,16.0s
XAN Xi'an 89.27 306 P P **12 02 26.7 +1.0**
XAN pmax pmax
comp=Z,9.0nm,2.0s
HHC Hu-ho-hao-te 89.72 313 *e*P P **12 02 30.8 +3.1**
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,270nm,6.0s
YKA Yellowknife Ar 90.68 23 P P **12 02 33.0 +1.5**
comp=Z,1.8nm,1.1s,baz=250,slow=5.8,SNR=5.9
comp=Z,1.8nm,1.1s
TROLL Troll, Antarti 92.01 179 P P **12 02 39.4 +1.5**
VNA3 Neumayer Olymp 92.09 175 P P **12 02 39.8 +1.6**
SNAA Sanae 92.15 177 P P **12 02 39.5 +1.0**
SNAA Sanae 92.15 177 P P **12 02 39.4 +0.9**
MGMO Mountain Grove 92.54 52 P P **12 02 41.5 +0.7**
MGMO IAmb IAmb 12 02 50.2
comp=Z,7.3nm,0.8s
VNA1 Neumayer--Stat 92.79 175 P P **12 02 41.7 +0.4**
PZH PanZhiHua 92.83 297 P P 12 02 46.5 +4.0
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,170nm,6.9s
CMAR Chiang Mai Arr 93.09 288 P P **12 02 45.1 +1.4**
comp=Z,1.2nm,0.7s,baz=100,slow=2.4,SNR=11
comp=Z,1.2nm,0.7s
CMAR Chiang Mai Arr 93.09 288 P P **12 02 44.3 +0.6**
A36M Sachs Harbour 93.57 13 P P **12 02 46.4 +1.8**
baz=226
ULM Lac du Bonnet 94.35 39 LR LR 12 38 38.1
comp=Z,160nm,19.9s,baz=282,slow=31
TNCH TengChong 95.23 294 P P **12 02 56.8 +3.2**
TNCH pmax pmax
comp=Z,130nm,5.4s
SONM Songino Array 95.57 318 P P **12 02 54.9 +0.2**
comp=Z,0.4nm,0.6s,baz=67,slow=3.7,SNR=3.0
comp=Z,0.4nm,0.6s
GTA Gaotai 97.84 309 *e*P Pdif 12 03 05.4 +0.2
GTA pP pwP 12 03 09.5 -1.3
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,110nm,4.9s
GTA LR LR
comp=Z,460nm,19.6s
GTA LR LR
comp=Z,170nm,19.6s
GTA LR LR
comp=Z,540nm,20.0s
ZALV Zalesovo Beam 109.97 322 PKiKP **PKiKP 12 08 01.0 +0.6**
comp=Z,0.4nm,0.3s,baz=108,slow=4.7,SNR=1.3
MKAR Makanchi Array 111.53 314 PKiKP **PKiKP 12 08 03.8 +0.1**
comp=Z,1.5nm,1.0s,baz=169,slow=1.2,SNR=6.6
KSH Kashi 116.12 306 PKP **PKiKP 12 08 15.4 +2.5**
ARCES ARCESS Array B 125.38 352 PKP **PKiKP 12 08 30.5 +0.5**
comp=Z,3.2nm,0.8s,baz=22,slow=1.3,SNR=5.9
KLMR Klimovskoe 129.58 340 *e*PKPdf **PKPdf 12 08 36.7 -1.1**
KLMR AMP 12 08 41.5
comp=Z,20nm,1.5s
BOSA Boshof 132.07 202 PKP **PKiKP 12 08 46.5 +1.6**
comp=Z,6.0nm,1.1s,baz=158,slow=11,SNR=3.6
FINES FINESS Array B 132.73 348 PKP **PKiKP 12 08 45.6 +0.7**
comp=Z,3.8nm,0.9s,baz=121,slow=14,SNR=4.2
SNART Snartemo 137.88 360 *i* P **PKPdf 12 08 50.5 -2.9**
NACGM Naroch 138.37 343 *e*PKP **PKiKP 12 08 55.6 -0.9**
comp=Z,10.0nm,1.0s,baz=30
MNK Minsk 138.40 342 *i* PKP **PKiKP 12 08 58.2 +1.5**
comp=E,3.0nm,1.1s
MNK comp=N,47nm,1.2s *i* PKP **PKiKP 12 08 58.2 +1.5**
MNK comp=Z,15nm,1.0s,baz=32 *i* PKP **PKiKP 12 08 58.2 +1.5**
MNK *i* PP **PP 12 11 49.2 +5.6**
MNK *i* SKP 12 12 33.0
MNK *i* PKS **PKSdf 12 12 33.9 +3.5**
MNK *i* SKKS 12 25 32.3
MNK *i* SS **SS 12 30 02.1 +6.1**
MNK *i* LR LR 13 05 44.2
MNK *i* LRM MLR 13 13 31.7
MNK comp=N,794nm,19.8s *i* LRM MLR 13 14 16.4
MNK comp=E,28nm,19.8s *i* LRM MLR 13 14 25.0
MNK comp=Z,120nm,20.6s
AKASG Malin Array Be 141.12 337 PKP **PKiKP 12 09 00.0 -2.3**
comp=Z,3.7nm,0.8s,baz=38,slow=2.7,SNR=8.9
OJC Ojcow 144.44 346 *e*PKPdf PKPbc 12 09 03.1 -0.9
OJC *ep*PKPdf sPKPdf 12 09 10.1 +1.0
CLL Collm 144.58 353 *i* PKPdf **PKPdf 12 09 05.8 +0.1**
comp=Z,7.0nm,0.9s
CLL comp=Z,93nm,2.5s *i* x x 12 09 12.0
CLL Lm MLR 13 04 00.0
comp=Z,300nm,18.5s
STHS Stebnicka Huta 144.82 344 *e*PKP **PKPdf 12 09 06.2 0.0**
OSTC Ostas 144.86 350 *e*PKP **PKiKP 12 09 06.9 -3.2**
UPC Upice 144.94 350 *e*PKP **PKiKP 12 09 07.0 -3.2**
KOLS Kolonicke sedl 144.96 342 *e*PKP **PKiKP 12 09 07.0 -3.3**
DPC Dobruska-Polom 145.04 349 *e*PKP **PKiKP 12 09 07.7 -2.8**
DPC *ex* x 12 09 12.2
BURAR Bucovina Array 145.16 338 ⇑P **PKiKP 12 09 08.0 -2.9**
OKC Ostrava-Krasne 145.17 347 *e*PKP **PKiKP 12 09 07.9 -2.8**

KRLC	**Kraliky**	**145.22**	**349**	ePKP	**PKiKP**	**12 09 07.9**	**-3.0**
KRLC				ex	x	12 09 14.4	
CRVS	**Cervenica-Dubn**	**145.22**	**343**	ePKP	**PKiKP**	**12 09 07.9**	**-2.9**
MORC	**Moravsky Berou**	**145.36**	**348**	⇑P	**PKiKP**	**12 09 08.7**	**-2.4**
MORC	**Moravsky Berou**	**145.36**	**348**	ePKP	**PKPdf**	**12 09 07.5**	**+0.3**
KMBO	**Kilima Mbogo**	**145.43**	**243**	PKPbc	**PKiKP**	**12 09 10.2**	**-2.4**
	comp=Z,17nm,1.0s,baz=86,slow=3.7,SNR=25						
GHRR		**145.59**	**334**	⇓P	**PKiKP**	**12 09 09.9**	**-1.7**
TRPA	**Tarpa**	**145.60**	**341**	⇑P	**PKiKP**	**12 09 09.1**	**-2.5**
TRPA	**Tarpa**	**145.60**	**341**	PKP	**PKiKP**	**12 09 09.1**	**-2.5**
MEM	**Membach**	**145.62**	**1**	dPKP	**PKiKP**	**12 09 09.2**	**-2.3**
BSTI	**Sart Tilman**	**145.64**	**1**	dPKP	**PKiKP**	**12 09 09.4**	**-2.2**
SNF	**Seneffe**	**145.66**	**3**	dPKP	**PKiKP**	**12 09 09.8**	**-1.9**
PRU	**Pruhonice**	**145.68**	**351**	ePKP	**PKiKP**	**12 09 08.9**	**-2.8**
MAUC	**Maruska**	**145.69**	**347**	ePKP	**PKiKP**	**12 09 09.4**	**-2.4**
NKC	**Novy Kostel**	**145.71**	**354**	ePKP	**PKiKP**	**12 09 09.6**	**-2.2**
NKC				ex	x	12 09 16.2	
GOPC	**GO Pecny, Ondr**	**145.72**	**351**	ePKP	**PKiKP**	**12 09 09.7**	**-2.1**
GOPC				ex	x	12 09 14.0	
BCLA	**Clavier**	**145.79**	**2**	dPKP	**PKiKP**	**12 09 10.1**	**-1.8**
BGES	**Gesves**	**145.82**	**2**	dPKP	**PKiKP**	**12 09 11.0**	**-1.0**
ABAH	**Abaujker**	**145.84**	**343**	PKP	**PKiKP**	**12 09 09.7**	**-2.4**
ABAH	**Abaujker**	**145.84**	**343**	PKP	**PKiKP**	**12 09 10.3**	**-1.7**
BMRD	**Maredsous**	**145.89**	**2**	dPKP	**PKiKP**	**12 09 10.0**	**-2.1**
CFR	**Carcaliu**	**145.98**	**333**	⇑P	**PKiKP**	**12 09 10.3**	**-2.2**
VRAC	**Vranov**	**145.99**	**349**	⇑P	**PKiKP**	**12 09 10.8**	**-1.6**
VRAC	**Vranov**	**145.99**	**349**	ePKP	**PKiKP**	**12 09 09.5**	**-2.9**
VRI	**Vrincioaia**	**146.03**	**335**	⇑P	**PKiKP**	**12 09 10.6**	**-2.0**
PLOR	**Plostina**	**146.07**	**335**	⇓P	**PKiKP**	**12 09 11.1**	**-1.6**
DOU	**Dourbes**	**146.09**	**3**	dPKP	**PKiKP**	**12 09 10.8**	**-1.7**
TPGR	**Topolog**	**146.10**	**332**	⇑P	**PKiKP**	**12 09 11.2**	**-1.6**
OZUR		**146.22**	**336**	⇑P	**PKiKP**	**12 09 11.7**	**-1.3**
COVR	**Voineasa-Covas**	**146.26**	**335**	⇑P	**PKiKP**	**12 09 11.7**	**-1.4**
KRUC	**Moravsky**	**146.26**	**349**	ePKP	**PKPab**	**12 09 10.1**	**-0.4**
HARR	**Harsova**	**146.45**	**332**	⇑P	**PKiKP**	**12 09 12.2**	**-1.3**
DOPR	**Dopca**	**146.48**	**336**	⇑P	**PKiKP**	**12 09 12.7**	**-0.8**
PSZ	**Piszkesteto**	**146.55**	**344**	⇑P	**PKiKP**	**12 09 12.1**	**-1.6**
PSZ	**Piszkesteto**	**146.55**	**344**	PKP	**PKiKP**	**12 09 13.6**	**-0.1**
PSZ	**Piszkesteto**	**146.55**	**344**	PKP	**PKiKP**	**12 09 13.0**	**-0.7**
WLF	**Walferdange**	**146.57**	**1**	dPKP	**PKiKP**	**12 09 12.2**	**-1.4**
MLR	**Muntele Rosu**	**146.65**	**335**	⇑P	**PKiKP**	**12 09 12.9**	**-1.1**
KHC	**Kasperske Hory**	**146.65**	**352**	ePKP	**PKiKP**	**12 09 12.1**	**-1.7**
KHC				ex	x	12 09 18.3	
ISR	**Istrita**	**146.71**	**334**	⇑P	**PKiKP**	**12 09 12.9**	**-1.2**
MODS	**Modra-Piesok**	**146.75**	**347**	ePKP	**PKiKP**	**12 09 13.4**	**-0.6**
CKRC	**Cesky Krumlov**	**146.85**	**351**	ePKP	**PKiKP**	**12 09 12.2**	**-2.0**
BRTR	**Keskin Array B**	**146.90**	**320**	PKPbc	**PKiKP**	**12 09 13.3**	**-1.4**
	comp=Z,11nm,0.8s,baz=101,slow=2.5,SNR=25						
GERES	**GERESS Array B**	**146.92**	**352**	PKPbc	**PKiKP**	**12 09 13.2**	**-1.3**
	comp=Z,4.4nm,0.9s,baz=2.6,slow=2.9,SNR=16						
VOIR		**147.05**	**336**	⇑P	**PKiKP**	**12 09 14.2**	**-0.6**
ARR	**Arges**	**147.27**	**337**	⇑P	**PKiKP**	**12 09 15.4**	**+0.2**
CONA	**Conrad Observa**	**147.45**	**349**	iP	**PKiKP**	**12 09 15.2**	**-0.4**
	comp=Z,23nm,0.9s,SNR=14						
SIRR	**Siria**	**147.53**	**341**	⇑P	**PKiKP**	**12 09 15.0**	**-0.7**
SOP	**Sopron**	**147.55**	**348**	PKP	**PKiKP**	**12 09 14.0**	**-1.7**
RONA	**Rosalia, Austr**	**147.59**	**348**	iP	**PKiKP**	**12 09 15.4**	**-0.4**
	comp=Z,21nm,1.0s,SNR=9.3						
MOA	**Molln**	**147.81**	**351**	iP	**PKPab**	**12 09 15.9**	**-0.7**
	comp=Z,16nm,1.1s,SNR=5.1						
MPLH	**Magyarpolny**	**147.83**	**346**	PKP	**PKPab**	**12 09 16.6**	**0.0**
MPLH	**Magyarpolny**	**147.83**	**346**	PKP	**PKPab**	**12 09 16.1**	**-0.6**
GZR	**Gura Zlata**	**147.93**	**339**	⇑P	**PKPab**	**12 09 15.9**	**-1.3**
BIOA	**Bad Ischl, Aus**	**148.05**	**351**	eP	**PKPab**	**12 09 16.2**	**-1.4**
	comp=Z,7.0nm,0.8s						
BZS	**Buzias**	**148.12**	**340**	⇑P	**PKPbc**	**12 09 14.2**	**-0.9**
ARSA	**Arzberg**	**148.17**	**349**	iP	**PKPab**	**12 09 16.6**	**-1.5**
	comp=Z,13nm,1.1s,SNR=5.7						
MORH	**Mrgy, Hungar**	**148.45**	**344**	⇑P	**PKPab**	**12 09 17.1**	**-2.1**
HERR	**Herculane**	**148.50**	**339**	⇑P	**PKPab**	**12 09 17.4**	**-2.0**
RETA	**Reutte**	**148.59**	**355**	eP	**PKPab**	**12 09 17.9**	**-1.9**
	comp=Z,18nm,1.2s						
WATA	**Walderalm**	**148.66**	**354**	eP	**PKPab**	**12 09 18.0**	**-2.2**
	comp=Z,4.2nm,0.4s						
KBA	**Koelnbreinsper**	**148.69**	**351**	eP	**PKiKP**	**12 09 17.5**	**-0.8**
	comp=Z,8.3nm,0.9s						
MOTA	**Moosalm**	**148.70**	**354**	eP	**PKPab**	**12 09 18.0**	**-2.4**
	comp=Z,18nm,1.0s						
KOVH	**Kovagotottos**	**148.71**	**345**	PKP	**PKPab**	**12 09 17.8**	**-2.4**
WTTA	**Wattenberg**	**148.72**	**354**	iP	**PKPab**	**12 09 18.3**	**-2.2**
	comp=Z,18nm,0.7s,SNR=5.7						
SQTA	**Sankt Quirin**	**148.81**	**354**	eP	**PKPab**	**12 09 18.6**	**-2.1**
	comp=Z,16nm,1.1s						
SOKA	**Soboth**	**148.81**	**349**	eP	**PKiKP**	**12 09 17.8**	**-0.6**
	comp=Z,11nm,0.5s						
PERS	**Pernice**	**148.84**	**349**	ePKPbc	**PKiKP**	**12 09 17.6**	**-0.9**
DAVA	**Damuels**	**148.85**	**356**	eP	**PKPab**	**12 09 18.6**	**-2.4**
	comp=Z,24nm,1.1s						
PLVB	**Pleven**	**148.92**	**334**	⇑P	**PKPab**	**12 09 19.0**	**-2.2**
FETA	**Feichten**	**149.05**	**355**	iP	**PKPab**	**12 09 19.2**	**-2.6**
	comp=Z,22nm,1.1s,SNR=6.6						
OBKA	**Obir**	**149.06**	**350**	eP	**PKiKP**	**12 09 16.8**	**-2.1**
	comp=Z,5.6nm,0.8s						
MYKA	**Terra Mystica**	**149.09**	**351**	iP	**PKiKP**	**12 09 18.4**	**-0.6**
	comp=Z,16nm,0.9s,SNR=5.2						
ABTA	**Abfaltersbach**	**149.13**	**352**	iP	**PKiKP**	**12 09 18.6**	**-0.5**
	comp=Z,21nm,0.8s,SNR=7.4						
BLKB	**Belogradchik**	**149.49**	**337**	⇑P	**PKiKP**	**12 09 19.8**	**0.0**
CIMO	**Cimolais**	**149.57**	**352**		**PKiKP**	**12 09 19.5**	**-0.4**
STAL	**STALIGIAL**	**149.59**	**352**		**PKiKP**	**12 09 19.8**	**-0.2**
GBAS	**Gorenja Brezov**	**149.63**	**350**	ePKPbc	**PKiKP**	**12 09 19.9**	**-0.2**
JAVS	**Javornik**	**149.74**	**350**	iPKPbc	**PKiKP**	**12 09 20.1**	**-0.3**
DIVS	**Divibare**	**150.00**	**341**		**PKiKP**	**12 09 21.4**	**+0.5**
VTS	**Vitosha**	**150.12**	**335**	⇓P	**PKiKP**	**12 09 22.1**	**+0.8**
PDG	**Podgorica**	**151.73**	**340**	⇑P	**PKiKP**	**12 09 24.4**	**0.0**

ROM 10 12:12:08.2±0.1**,42°.668N**±0°.004×**13°.199E**±0°.006**, h14**^{km}**,ML2.0**/17**,18C-4D,Error ellipse: s-maj=0.5km s-min=0.2km az=36.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1218	**Civita (PG)**	**0.06**	**272**	P	Pg	12 12 11.2	+0.1
T1218				S	Sg	12 12 13.0	-0.1
T1213	**Norcia, Frazio**	**0.08**	**316**	⇓P	Pg	12 12 11.4	+0.2
T1213				S	Sg	12 12 13.3	0.0
T1213				AML	AML		
	comp=E,6550µm,0.2s						
T1213				AML	AML		
	comp=N,6045µm,0.2s						
T1213				AML	AML		
	comp=E,6410µm,0.2s						
T1213				AML	AML		
	comp=E,6555µm,0.2s						
T1213				AML	AML		
	comp=E,6550µm,0.2s						
T1213				AML	AML		
	comp=N,6045µm,0.3s						
T1213				AML	AML		
	comp=E,6410µm,0.2s						
T1213				AML	AML		
	comp=N,6195µm,0.2s						
T1213				AML	AML		
	comp=N,6050µm,0.3s						
T1213				AML	AML		
	comp=E,6405µm,0.2s						
T1213				AML	AML		
	comp=N,6200µm,0.2s						
T1204	**Amatrice, Fraz**	**0.09**	**85**	P	Pg	12 12 11.6	+0.2
T1204				S	Sg	12 12 13.7	+0.2
SMA1	**SAN MARTINO**	**0.11**	**111**	⇑P	Pb	12 12 11.9	-0.3
SMA1				S	Sg	12 12 14.1	+0.3
SMA1				AML	AML		
	comp=N,6120µm,0.2s						
SMA1				AML	AML		
	comp=E,13600µm,0.3s						
LNSS	**Leonessa**	**0.13**	**241**	⇑P	Pg	12 12 12.2	+0.3
LNSS				S	Sg	12 12 14.9	+0.5
LNSS				AML	AML		
	comp=E,1165µm,0.5s						
LNSS				AML	AML		
	comp=N,3570µm,0.5s						
LNSS				AML	AML		
	comp=N,3575µm,0.5s						
T1212	**Cascia, Frazio**	**0.14**	**306**	P	Pg	12 12 12.3	+0.4
T1212				S	Sg	12 12 14.9	+0.4
T1212				AML	AML		
	comp=E,2010µm,0.7s						
T1212				AML	AML		
	comp=E,2090µm,0.7s						
T1212				AML	AML		
	comp=N,2990µm,0.4s						
T1212				AML	AML		
	comp=N,3070µm,0.4s						
T1212				AML	AML		
	comp=E,2090µm,0.7s						
T1212				AML	AML		
	comp=E,2090µm,0.7s						
T1212				AML	AML		
	comp=N,3070µm,0.4s						
T1212				AML	AML		
	comp=E,2010µm,0.7s						
RM33	**Pellescritta (**	**0.16**	**176**	P	Pg	12 12 12.5	+0.3
RM33				S	Sg	12 12 15.4	+0.5
RM33				AML	AML		
	comp=N,1810µm,0.9s						
RM33				AML	AML		
	comp=E,2060µm,0.2s						
RM33				AML	AML		
	comp=N,1810µm,0.9s						
RM33				AML	AML		
	comp=N,1855µm,0.9s						
RM33				AML	AML		
	comp=N,1805µm,0.9s						
RM33				AML	AML		
	comp=N,1860µm,0.9s						
RM33				AML	AML		
	comp=E,2055µm,0.2s						
RM33				AML	AML		
	comp=E,2055µm,0.2s						
T1243	**Rocca Santa Ma**	**0.19**	**81**	⇑P	Pg	12 12 12.9	+0.3
CAMP	**Campotosto**	**0.20**	**130**	⇑P	Pg	12 12 13.2	+0.3
CAMP				S	Sg	12 12 16.7	+0.6
CAMP				AML	AML		
	comp=N,482µm,0.3s						
CAMP				AML	AML		
	comp=E,480µm,0.6s						
T1241	**Roccafluvione,**	**0.25**	**42**	⇑P	Pb	12 12 14.2	-0.5
T1241				S	Sb	12 12 18.4	-0.6
T1241				AML	AML		
	comp=E,882µm,0.2s						
T1241				AML	AML		
	comp=N,408µm,0.6s						
T1241				AML	AML		
	comp=N,409µm,0.6s						
T1215	**Vallo di Nera,**	**0.28**	**299**	⇑P	Pg	12 12 14.5	+0.4
T1215				S	Sb	12 12 19.2	-0.4
TERO	**Teramo**	**0.30**	**99**	⇑P	Pg	12 12 14.8	+0.2
TERO				S	Sg	12 12 19.4	+0.6
TERO				AML	AML		
	comp=E,756µm,0.3s						
TERO				AML	AML		
	comp=E,758µm,0.3s						
TERO				AML	AML		
	comp=N,912µm,0.1s						
TERO				AML	AML		
	comp=E,818µm,0.3s						
TERO				AML	AML		
	comp=N,1107µm,0.1s						
TERO				AML	AML		
	comp=N,911µm,0.1s						
TERO				AML	AML		
	comp=E,818µm,0.3s						
ARRO	**Arrone**	**0.33**	**255**	⇑P	Pg	12 12 15.4	+0.4
ARRO				AML	AML		
	comp=E,306µm,0.2s						
ARRO				AML	AML		
	comp=N,276µm,0.2s						
T1256	**Bolognola (MC)**	**0.34**	**3**	P	Pg	12 12 15.1	-0.1
T1256				AML	AML		
	comp=E,264µm,1.5s						
T1256				AML	AML		
	comp=E,264µm,1.5s						
T1256				AML	AML		
	comp=N,296µm,0.5s						
GIGS	**Gran Sasso**	**0.35**	**128**	⇓P	Pg	12 12 15.5	+0.2
GIGS				AML	AML		
	comp=E,192µm,0.3s						
GIGS				AML	AML		
	comp=E,191µm,0.3s						
GIGS				AML	AML		
	comp=N,89µm,0.6s						
FDMO	**Fiordimonte**	**0.38**	**347**	P	Pg	12 12 15.8	-0.1
FDMO				AML	AML		
	comp=E,920µm,0.7s						
FDMO				AML	AML		
	comp=N,813µm,0.1s						
FDMO				AML	AML		
	comp=N,814µm,0.1s						
CESI	**CESI - Serrava**	**0.40**	**327**	P	Pb	12 12 17.0	-0.2
CESI				AML	AML		
	comp=N,260µm,0.7s						
CESI				AML	AML		
	comp=E,162µm,0.4s						
CESI				AML	AML		
	comp=N,260µm,0.7s						
CESI				AML	AML		
	comp=E,162µm,0.4s						
FIAM	**Fiamignano**	**0.41**	**189**	⇑P	Pg	12 12 16.6	+0.2
FIAM				AML	AML		
	comp=E,274µm,0.6s						
FIAM				AML	AML		
	comp=N,212µm,0.4s						
GUMA	**Gualdo di Mace**	**0.41**	**14**	⇑P	Pb	12 12 17.3	+0.1
GUMA				AML	AML		
	comp=N,1132µm,0.4s						
GUMA				AML	AML		
	comp=E,1475µm,0.4s						
T1219	**Muccia, Frazio**	**0.41**	**340**	⇑P	Pg	12 12 16.4	-0.2
CSP1	**Cessapalombo**	**0.42**	**1**	⇑P	Pb	12 12 17.2	-0.4
OFFI	**Offida**	**0.45**	**53**	⇑P	Pb	12 12 18.4	+0.5
OFFI				AML	AML		
	comp=E,366µm,1.2s						
OFFI				AML	AML		
	comp=N,606µm,0.5s						
T1220	**Camerino, Fraz**	**0.45**	**350**	⇓P	Pg	12 12 16.5	-0.7
T1220				AML	AML		
	comp=E,786µm,0.4s						
T1220				AML	AML		
	comp=N,683µm,0.2s						
T1220				AML	AML		
	comp=E,790µm,0.4s						
CESX	**Cesi**	**0.46**	**263**	⇑P	Pg	12 12 17.5	+0.2
CESX				AML	AML		
	comp=N,288µm,0.3s						
CESX				AML	AML		
	comp=E,205µm,0.3s						
ASSB	**Assisi San Ben**	**0.55**	**313**	⇑P	Pb	12 12 19.5	-0.2
ASSB				AML	AML		
	comp=N,177µm,0.4s						
ASSB				AML	AML		
	comp=E,182µm,1.5s						
VCEL	**Villa Celiera**	**0.55**	**120**	⇓P	Pb	12 12 19.5	-0.1
VCEL				AML	AML		
	comp=E,376µm,0.5s						
VCEL				AML	AML		
	comp=N,380µm,0.7s						
SNTG	**Esanatoglia**	**0.62**	**342**	⇑P	Pg	12 12 19.4	-0.9
SNTG				AML	AML		
	comp=E,66µm,0.5s						
SNTG				AML	AML		
	comp=N,67µm,0.7s						
SNTG				AML	AML		
	comp=N,67µm,0.7s						
T0110	**Collepietro**	**0.62**	**136**	P	Pg	12 12 19.9	-0.4
T0110				AML	AML		
	comp=E,212µm,0.7s						
T0110				AML	AML		
	comp=N,185µm,0.5s						
EL6	**Elcito**	**0.67**	**354**	⇑P	Pg	12 12 20.4	-0.8
EL6				AML	AML		
	comp=N,148µm,0.7s						
EL6				AML	AML		
	comp=E,150µm,1.0s						
CING	**Cingoli**	**0.71**	**360**	AML	AML		
	comp=E,106µm,0.9s						
CING				AML	AML		
	comp=N,119µm,0.3s						
MGAB	**Montegabbione**	**0.84**	**287**	⇑P	Pn	12 12 25.1	-0.5
MGAB				AML	AML		
	comp=E,144µm,0.7s						
MGAB				AML	AML		
	comp=N,146µm,0.3s						

*BJI **10** 12:12:38.3±0.0,41°.33N×22°.10E,h8^{km},mb4.6/26, mB5.1/13,Ms5.2/5,Ms7 4.8/5*
*SOF **10** 12:12:39.9,40°.90N×22°.64E,h1^{km},MD4.9*
*MOS **10** 12:12:41.3±1.0,41°.05N×22°.71E,h9^{km},mb4.8/24, MS3.9/8,Error ellipse: s-maj=4.5km s-min=3.4km az=90.0*
*PRU **10** 12:12:41.0±0.0,41°.09N×23°.43E,h0^{km},M4.8*
*SKO **10** 12:12:41.6,40°.91N×22°.75E,h15^{km}*
*IDC **10** 12:12:41.1±0.6,40°.96N×22°.67E,h0^{km},mb4.3/28, mbtmp4.4/37,ML4.2/9,MS3.6/18,Error ellipse: s-maj=11.1km s-min=8.4km az=11.0*
*ATH **10** 12:12:42.9,40°.97N×22°.77E,h5^{km}±1^{km},ML4.4/20,Error ellipse: s-maj=1.4km s-min=0.6km az=14.0*
*PDG **10** 12:12:42.4±0.6,41°.00N×22°.73E,h13^{km},MD4.5/3, ML4.5/12,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
*MCSM **10** 12:12:42.7±0.4,41°N±4°×2°3E±°,h7^{km}±2^{km},mb4.7*
*ISK **10** 12:12:42.0,40°.98N×22°.75E,h13^{km},ML4.7/37*
*THE **10** 12:12:43.0,40°.97N×22°.76E,h8^{km},ML4.4/13,Error ellipse: s-maj=0.9km s-min=0.4km az=18.0*
*MED_RC **10** 12:12:43.0±0.3,40°.99N×22°.90E,h11^{km}±1^{km},MW4.6/18, Moment Tensor Solution.Mantle waves: s18,c24; Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.69±.06; $M_{\theta\theta}$0.98±.05; $M_{\phi\phi}$-0.29±.03; $M_{r\theta}$0.06±.09; $M_{\theta\phi}$-0.22±.03; $M_{\phi r}$-0.43±.11; Best double couple: $M_0$1.00000×10^{16} NP1:ϕ_s308.00000°,δ58.00000°, λ-50.00000°. NP2:ϕ_s71.00000°,δ49.00000°, λ-135.00000°. Principal axes: T 1.0300, Plg5.0000°, Azm11.0000°; N -0.0600, Plg33.0000°, Azm104.0000°; P -0.9700, Plg57.0000°, Azm274.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*BEO **10** 12:12:43.6±0.3,41°.05N×22°.77E,h12^{km}±2^{km},ML4.6/11*
*NEIC **10** 12:12:43.7±1.9,41°.07N±0°.05×22°.68E±0°.02,h10^{km}±1^{km}, mb4.9/80,Error ellipse: s-maj=8.5km s-min=3.1km az=185.0*
*TIR **10** 12:12:44.4,40°.82N×22°.73E,h0^{km}±9^{km},Md4.1,Ml4.9*
ISC 10 12:12:43.2±0.7**,40°.98N**±0°.01×**22°.74E**±0°.01**,h13**^{km}±4^{km}**, n612,σ1s.42**/684**,mb4.8**/96**,MS3.6**/14**,69C-31D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.22**	**33**	PG	**Pg**	**12 12 47.3**	**-0.7**
KNT				SG	**Sg**	**12 12 50.6**	**-0.6**
KNT	**Kendrikon**	**0.22**	**33**	P	**Pg**	**12 12 47.2**	**-0.7**
KNT				S	**Sg**	**12 12 50.4**	**-0.8**
	223µm,0.4s						
KNT	**Kendrikon**	**0.22**	**33**	⇑iPg	**Pg**	**12 12 47.3**	**-0.7**
KNT				iSg	**Sg**	**12 12 50.6**	**-0.6**
KNT	**Kendrikon**	**0.22**	**33**	P	**Pg**	**12 12 46.8**	**-1.2**
KNT				S	**Sg**	**12 12 50.2**	**-1.0**
GRG	**Griva**	**0.26**	**265**	PG	**Pg**	**12 12 48.1**	**-0.6**
GRG				SG	**Sg**	**12 12 52.4**	**-0.1**
GRG	**Griva**	**0.26**	**265**	P	**Pg**	**12 12 48.2**	**-0.5**
GRG				S	**Sg**	**12 12 52.4**	**-0.1**
	297µm,0.4s						
GRG	**Griva**	**0.26**	**265**	⇓iPg	**Pg**	**12 12 48.2**	**-0.5**
GRG				iSg	**Sg**	**12 12 52.4**	**-0.1**
GRG	**Griva**	**0.26**	**265**	P	**Pg**	**12 12 48.1**	**-0.5**
GRG				S	**Sg**	**12 12 52.2**	**-0.2**
GRG				AML	AML	12 12 52.9	
GRG				AML	AML	12 12 53.3	
GRG	**Griva**	**0.26**	**265**	P	**Pg**	**12 12 48.2**	**-0.5**
GRG				S	**Sg**	**12 12 52.4**	**-0.1**
VAY	**Valandovo**	**0.36**	**339**	ePg	**Pg**	**12 12 50.4**	**-0.2**
VAY				eSg	**Sg**	**12 12 55.8**	**+0.3**
VAY	**Valandovo**	**0.36**	**339**	⇑iPg	**Pg**	**12 12 50.4**	**-0.2**
VAY				iSg	**Sg**	**12 12 55.9**	**+0.3**
VAY				eLg	Lg	12 12 56.2	
	comp=N,84µm,0.4s						
VAY				eLg	Lg	12 12 56.3	
	comp=E,198µm,0.7s						
THE	**Thessaloniki**	**0.39**	**154**	P	**Pg**	**12 12 50.1**	**-0.8**
THE				S	**Sg**	**12 12 55.5**	**-0.6**
THE	**Thessaloniki**	**0.39**	**154**	⇑iPg	**Pg**	**12 12 50.2**	**-0.8**
THE				iSg	**Sg**	**12 12 55.3**	**-0.8**
THE	**Thessaloniki**	**0.39**	**154**	P	**Pg**	**12 12 50.2**	**-0.8**
	baz=136						
THE				S	**Sg**	**12 12 55.5**	**-0.6**
	baz=136						
THE	**Thessaloniki**	**0.39**	**154**	P	**Pg**	**12 12 49.9**	**-1.1**
THE				S	**Sg**	**12 12 55.0**	**-1.1**
THE				AML	AML	12 12 56.2	
	comp=E,82313µm,0.2s						
THE				AML	AML	12 12 57.5	
	comp=N,76397µm,0.6s						
HORT	**Hortiatis**	**0.47**	**145**	PG	**Pg**	**12 12 51.7**	**-0.8**
HORT				SG	**Sg**	**12 12 58.7**	**0.0**
HORT	**Hortiatis**	**0.47**	**145**	P	**Pg**	**12 12 51.5**	**-1.0**
HORT				S	**Sg**	**12 12 59.1**	**+0.4**
	comp=N,22µm,0.3s						
HORT	**Hortiatis**	**0.47**	**145**	P	**Pg**	**12 12 51.2**	**-1.3**
HORT				S	**Sg**	**12 12 58.1**	**-0.7**
HORT				AML	AML	12 12 59.8	
	comp=N,36195µm,0.2s						
HORT				AML	AML	12 13 01.2	
	comp=E,55202µm,0.3s						
SOH	**Sokhos**	**0.49**	**109**	P	**Pg**	**12 12 52.4**	**-0.4**
SOH				S	**Sg**	**12 12 59.8**	**+0.4**
	comp=E,47µm,0.3s						
SOH	**Sokhos**	**0.49**	**109**	⇓iPg	**Pg**	**12 12 52.5**	**-0.3**
SOH				iSg	**Sg**	**12 12 59.6**	**+0.2**
SOH	**Sokhos**	**0.49**	**109**	P	**Pg**	**12 12 52.3**	**-0.5**
SOH				S	**Sg**	**12 12 58.6**	**-0.7**
SOH				AML	AML	12 13 03.8	
SOH				AML	AML	12 13 05.2	
SOH	**Sokhos**	**0.49**	**109**	Pg	**Pg**	**12 12 52.3**	**-0.5**
SOH	**Sokhos**	**0.49**	**109**	P	**Pg**	**12 12 52.4**	**-0.4**
SOH				S	**Sg**	**12 12 59.8**	**+0.4**
SRS	**Serrai**	**0.66**	**78**	P	**Pg**	**12 12 55.4**	**-0.6**
SRS				S	**Sg**	**12 13 04.5**	**-0.2**
	comp=E,35µm,0.3s						
SRS	**Serrai**	**0.66**	**78**	ePg	**Pg**	**12 12 55.2**	**-0.8**
SRS				eSg	**Sg**	**12 13 04.2**	**-0.5**
SRS	**Serrai**	**0.66**	**78**	⇑iPg	**Pg**	**12 12 55.5**	**-0.6**
SRS				iSg	**Sg**	**12 13 04.5**	**-0.2**
SRS	**Serrai**	**0.66**	**78**	P	**Pg**	**12 12 55.2**	**-0.8**
SRS				S	**Sg**	**12 13 03.9**	**-0.8**
SRS				AML	AML	12 13 09.5	
	comp=E,61328µm,0.2s						
SRS				AML	AML	12 13 10.1	
	comp=N,75584µm,0.4s						
SRS	**Serrai**	**0.66**	**78**	Pg	**Pg**	**12 12 55.3**	**-0.8**
SRS	**Serrai**	**0.66**	**78**	P	**Pg**	**12 12 55.4**	**-0.6**
SRS				S	**Sg**	**12 13 04.5**	**-0.2**
STIP	**Stip**	**0.83**	**330**	iPg	**Pg**	**12 12 57.9**	**-1.4**
STIP				iSg	**Sg**	**12 13 09.6**	**-0.6**
NVR	**Nevrokopi**	**0.92**	**66**	P	**Pb**	**12 13 00.3**	**-0.8**
NVR				S	**Sg**	**12 13 12.9**	**-0.2**
	comp=N,42µm,0.4s						
NVR	**Nevrokopi**	**0.92**	**66**	P	**Pb**	**12 12 60.0**	**-1.1**
NVR				S	**Sg**	**12 13 12.2**	**-0.8**
NVR				AML	AML	12 13 14.6	
	comp=N,58955µm,0.2s						
NVR				AML	AML	12 13 16.8	
NVR	**Nevrokopi**	**0.92**	**66**	Pg	**Pb**	**12 13 00.2**	**-0.8**
KKB	**Krupnik**	**0.92**	**16**	iP	**Pb**	**12 13 00.1**	**-0.9**
MMB	**Musomiste**	**0.96**	**50**	iP	**Pb**	**12 13 00.8**	**-0.9**
KOKK	**Kokkinochori,**	**0.96**	**99**	P	**Pb**	**12 13 00.8**	**-1.0**
KOKK				S	**Sg**	**12 13 14.9**	**+0.5**
	comp=N,13µm,0.3s						
KOKK	**Kokkinochori,**	**0.96**	**99**	P	**Pb**	**12 13 01.2**	**-0.6**
KOKK				S	**Sb**	**12 13 14.0**	**-0.4**
KZN	**Kozani**	**1.00**	**228**	P	**Pb**	**12 13 00.8**	**-1.6**
KZN				S	**Sg**	**12 13 16.0**	**+0.4**
	comp=N,23µm,0.5s						
KZN	**Kozani**	**1.00**	**228**	P	**Pb**	**12 13 00.3**	**-2.2**
KZN				S	**Sg**	**12 13 15.8**	**+0.2**
KZN				AML	AML	12 13 19.6	
	comp=N,37683µm,0.5s						
KZN				AML	AML	12 13 20.8	
	comp=E,52573µm,0.5s						
FNA	**Florina**	**1.06**	**260**	PG	**Pb**	**12 13 02.2**	**-1.1**
FNA	**Florina**	**1.06**	**260**		**Pb**	**12 13 02.2**	**-1.1**
FNA	**Florina**	**1.06**	**260**	P	**Pb**	**12 13 02.3**	**-1.1**
FNA				S	**Sn**	**12 13 18.8**	**+0.5**
	comp=E,29µm,0.7s						
FNA	**Florina**	**1.06**	**260**	ePg	**Pb**	**12 13 02.0**	**-1.3**
FNA				eSg	**Sn**	**12 13 19.0**	**+0.7**
FNA	**Florina**	**1.06**	**260**	⇓iPg	**Pb**	**12 13 02.3**	**-1.0**
FNA	**Florina**	**1.06**	**260**	P	**Pb**	**12 13 02.3**	**-1.0**
	baz=269						
FNA				S	**Sn**	**12 13 19.2**	**+0.9**
	baz=269						
FNA	**Florina**	**1.06**	**260**	P	**Pb**	**12 13 01.9**	**-1.5**
FNA				S	**Sn**	**12 13 18.7**	**+0.4**

FNA AML AML 12 13 22.8
comp=N,63953µm,0.6s
FNA AML AML 12 13 22.8
comp=E,52368µm,0.7s
FNA Florina 1.06 260 P **Pb** **12 13 02.2 -1.0**
OUR Ouranopolis 1.14 124 PN **Pb** **12 13 04.5 -0.2**
OUR SN **Sn** **12 13 20.5 +0.2**
OUR Ouranopolis 1.14 124 P **Pb** **12 13 03.8 -1.0**
OUR S **Sn** **12 13 20.4 +0.2**
OUR Ouranopolis 1.14 124 P **Pb** **12 13 03.7 -1.0**
OUR S **Sb** **12 13 19.2 -0.2**
OUR AML AML 12 13 23.2
comp=E,94632µm,0.6s
OUR AML AML 12 13 23.2
comp=N,73264µm,0.7s
PAIG Paliouri 1.27 146 P **Pn** **12 13 05.2 -1.4**
PAIG S **Sn** **12 13 23.6 +0.1**
comp=N,21µm,0.8s
PAIG Paliouri 1.27 146 P **Pn** **12 13 05.4 -1.3**
PAIG S **Sb** **12 13 23.1 -0.1**
PAIG AML AML 12 13 30.1
comp=N,51296µm,1.0s
PAIG AML AML 12 13 32.1
comp=E,32535µm,1.2s
TYRN Tyrnavos 1.33 197 P **Pn** **12 13 06.9 -0.5**
TYRN S **Sn** **12 13 25.3 +0.4**
comp=E,24µm,0.7s
TYRN Tyrnavos 1.33 197 P **Pn** **12 13 06.5 -0.9**
TYRN S **Sn** **12 13 25.0 +0.1**
TYRN AML AML 12 13 28.3
comp=N,37430µm,0.8s
TYRN AML AML 12 13 29.1
comp=E,83629µm,0.7s
LRSO Larissa Observ 1.33 192 P **Pn** **12 13 07.4 -0.1**
LRSO S **Sn** **12 13 25.3 +0.3**
KAVA Kavala 1.34 89 P **Pn** **12 13 07.4 -0.2**
KAVA Kavala 1.34 89 P **Pn** **12 13 07.3 -0.3**
KAVA S **Sb** **12 13 24.8 -0.4**
SKO Skopje 1.39 316 *e*Pg **Pn** **12 13 08.0 -0.3**
SKO *e*Sg **Sb** **12 13 27.0 +0.2**
SKO Skopje 1.39 316 *i* Pg **Pn** **12 13 08.2 -0.1**
SKO Skopje 1.39 316 P **Pn** **12 13 07.7 -0.6**
SKO S **Sg** **12 13 28.1 0.0**
NEST Nestorio 1.41 247 P **Pn** **12 13 08.7 +0.1**
NEST S **Sg** **12 13 28.1 -0.5**
comp=E,7µm,1.2s
NEST Nestorio 1.41 247 P **Pn** **12 13 08.4 -0.1**
NEST S **Sb** **12 13 27.3 +0.1**
NEST AML AML 12 13 38.2
comp=N,16724µm,0.9s
NEST AML AML 12 13 40.0
comp=E,13379µm,0.6s
PENT Pentalofos 1.45 238 P **Pn** **12 13 09.6 +0.4**
PENT S **Sb** **12 13 28.8 +0.2**
KPRO Kipourio 1.47 226 P **Pb** **12 13 10.1 -0.3**
KPRO S **Sb** **12 13 29.6 +0.6**
KPRO Kipourio 1.47 226 P **Pn** **12 13 09.6 +0.2**
KPRO S **Sb** **12 13 29.5 +0.5**
OHR Ohrid 1.48 276 *e*Pg **Pn** **12 13 10.0 +0.5**
OHR *e*Sg **Sg** **12 13 30.5 -0.3**
OHR Ohrid 1.48 276 *i* Pn **Pb** **12 13 10.1 -0.4**
OHR *i* Sg **Sg** **12 13 30.8 0.0**
OHR *e*Lg Lg 12 13 31.2
comp=N,6µm,0.8s
OHR *e*Lg Lg 12 13 32.8
comp=E,4µm,0.6s
THL Klokotos Trika 1.52 202 P **Pn** **12 13 09.6 -0.5**
THL S **Sn** **12 13 29.6 0.0**
comp=E,18µm,0.8s
THL Klokotos Trika 1.52 202 P **Pn** **12 13 09.6 -0.5**
THL S **Sn** **12 13 28.9 -0.7**
THL AML AML 12 13 37.0
comp=E,33186µm,1.0s
THL AML AML 12 13 37.4
comp=N,26654µm,0.7s
THL Klokotos Trika 1.52 202 Pn **Pn** **12 13 09.5 -0.5**
BOSS Bosilegrad 1.53 353 *e*Pg **Pn** **12 13 10.5 +0.3**
BOSS *e*Sg **Sb** **12 13 30.5 -0.1**
KBN Korca 1.53 257 S **Pn** **12 13 10.5 +0.2**
KBN Korca 1.53 257 P **Pn** **12 13 10.4 +0.2**
KBN S **Sb** **12 13 30.9 +0.2**
KBN Korca 1.53 257 P **Pn** **12 13 10.5 +0.2**
THAS Thassos island 1.54 103 P **Pn** **12 13 09.7 -0.7**
RZN Rozhen 1.65 64 *i* P **Pb** **12 13 14.1 +0.6**
XOR Xorichti 1.65 168 P **Pn** **12 13 11.2 -0.7**
XOR S **Sn** **12 13 32.1 -0.8**
XOR Xorichti 1.65 168 P **Pn** **12 13 11.2 -0.7**
XOR S **Sn** **12 13 32.4 -0.5**
XOR AML AML 12 13 37.7
comp=E,17002µm,1.3s
XOR AML AML 12 13 38.5
comp=N,14656µm,0.7s
VTS Vitosha 1.68 12 ⇑P **Pb** **12 13 13.3 -0.7**
VTS ⇓S **Sg** **12 13 37.3 +0.1**
VTS Vitosha 1.68 12 **Pn** **12 13 12.4 0.0**
VTS Vitosha 1.68 12 *e*Pg **Pn** **12 13 12.6 +0.2**
VTS *e*Sg **Sn** **12 13 32.9 -0.9**
VTS Vitosha 1.68 12 *i* Pn **Pn** **12 13 12.4 0.0**
VTS Vitosha 1.68 12 *i* P **Pn** **12 13 13.1 +0.7**
VTS Vitosha 1.68 12 P **Pn** **12 13 12.4 0.0**
NEO Neokhori 1.71 167 P **Pn** **12 13 12.0 -0.7**
NEO Neokhori 1.71 167 P **Pn** **12 13 11.8 -0.9**
NEO S **Sn** **12 13 33.8 -0.6**
NEO AML AML 12 13 39.0
comp=E,14663µm,0.9s
NEO AML AML 12 13 39.8
comp=N,15710µm,0.6s
LSK Leskovik 1.83 244 P **Pn** **12 13 14.9 +0.5**
LSK Leskovik 1.83 244 P **Pn** **12 13 15.0 +0.5**
baz=249
LSK S **Sb** **12 13 38.5 -0.9**
baz=249
LSK AMP
comp=N,36nm,0.9s,baz=249
PLD Plovdiv 1.85 52 PN **Pn** **12 13 15.5 +0.9**
PLD Plovdiv 1.85 52 *e*Pn **Pb** **12 13 16.1 -0.8**
PLD *e*Sg **Sb** **12 13 40.6 +0.7**
PLD Plovdiv 1.85 52 *i* Pn **Pb** **12 13 15.8 -1.0**
PLD Plovdiv 1.85 52 *i* P **Pg** **12 13 18.5 -0.2**
PGB Panagyurishte 1.90 34 *i* P **Pb** **12 13 18.0 +0.3**
JAN Janina 1.96 228 P **Pn** **12 13 16.3 +0.2**
JAN Janina 1.96 228 P **Pn** **12 13 15.9 -0.2**
JAN S **Sn** **12 13 40.6 0.0**
JAN AML AML 12 14 01.4
comp=N,8622µm,1.1s
JAN AML AML 12 14 08.9
comp=E,10745µm,1.1s
BARS Barje 1.96 340 *e*Pn **Pn** **12 13 16.0 -0.1**
BARS Barje 1.96 340 *i* Pn **Pn** **12 13 15.9 -0.2**
AGG Agios Georgios 1.98 189 PN **Pn** **12 13 16.2 -0.2**
AGG Agios Georgios 1.98 189 P **Pn** **12 13 16.1 -0.3**
AGG Agios Georgios 1.98 189 P **Pn** **12 13 15.8 -0.7**
MAKR Makrakomi, Fth 2.02 194 P **Pn** **12 13 17.0 0.0**
RDO Rodhopi 2.12 85 PN **Pn** **12 13 18.1 -0.2**
RDO Rodhopi 2.12 85 Pn **Pn** **12 13 18.1 -0.2**
RDO Rodhopi 2.12 85 P **Pn** **12 13 18.0 -0.2**
RDO Rodhopi 2.12 85 P **Pn** **12 13 17.9 -0.3**
RDO AML AML 12 13 54.4
comp=N,17065µm,0.2s
RDO AML AML 12 13 55.1
comp=E,15970µm,0.2s
KDZ Kurdzhali 2.12 71 PN **Pn** **12 13 17.7 -0.6**
KDZ Kurdzhali 2.12 71 *i* P **Pn** **12 13 18.5 +0.2**
SMTH Samothraki Isl 2.18 103 P **Pn** **12 13 18.4 -0.7**
SMTH Samothraki Isl 2.18 103 P **Pn** **12 13 18.7 -0.4**
SMTH Samothraki Isl 2.18 103 Pn **Pn** **12 13 18.5 -0.7**
EVR Evrytania 2.18 200 P **Pn** **12 13 19.1 -0.2**
EVR Evrytania 2.18 200 P **Pn** **12 13 19.0 -0.3**
EVR S **Sn** **12 13 46.2 0.0**
EVR AML AML 12 14 05.0
comp=E,18321µm,1.2s
EVR AML AML 12 14 05.9
comp=N,17728µm,1.0s
TIR Tirane 2.20 281 **Pn** **12 13 20.0 +0.6**
TIR Tirane 2.20 281 P **Pn** **12 13 20.6 +1.1**
TIR Tirane 2.20 281 *i* Pn **Pn** **12 13 20.9 +1.4**
TIR Tirane 2.20 281 P **Pn** **12 13 20.9 +1.4**
baz=285
TIR S **Sg** **12 13 53.6 -0.5**
baz=285
TIR AMP
comp=N,9.4nm,0.9s,baz=285
TIR Tirane 2.20 281 Pn **Pn** **12 13 20.4 +0.9**

TIR Tirane 2.20 281 P **Pn** **12 13 20.0 +0.6**
AXAR Agios Charalam 2.21 182 P **Pn** **12 13 19.7 +0.1**
ZAPS Zavoj 2.29 358 *e*Pn **Pn** **12 13 21.5 +0.8**
ZAPS *e*Sn **Sn** **12 13 47.3 -1.5**
IGT Igoumenitsa 2.34 233 P **Pb** **12 13 23.8 -1.5**
IGT Igoumenitsa 2.34 233 *i* Pn **Pb** **12 13 23.8 -1.5**
IGT Igoumenitsa 2.34 233 P **Pb** **12 13 23.9 -1.5**
baz=236
IGT Igoumenitsa 2.34 233 P **Pn** **12 13 22.4 +1.0**
IGT AML AML 12 14 03.0
comp=N,3911µm,0.7s
IGT AML AML 12 14 04.3
comp=E,5043µm,1.6s
DIM Dimitrovgrad 2.35 62 *e*P **Pb** **12 13 26.1 +0.7**
SRN Sarande 2.37 243 P **Pb** **12 13 23.7 -1.9**
SRN Sarande 2.37 243 P **Pb** **12 13 23.8 -1.9**
baz=247
SRN S **Sb** **12 13 53.3 -1.4**
baz=247
SRN AMP
comp=N,22nm,1.0s,baz=247
ANX Ano Chora 2.47 195 P **Pn** **12 13 23.3 +0.1**
MPEP Malo Peshtene 2.49 17 *i* P **Pg** **12 13 29.5 -1.4**
VLO Vlora 2.52 259 **Pn** **12 13 25.6 +1.8**
VLO Vlora 2.52 259 P **Pn** **12 13 25.6 +1.8**
GADA Gvkgeada 2.53 107 PN **Pn** **12 13 23.9 0.0**
SELS Selova 2.54 332 *e*Pn **Pn** **12 13 23.5 -0.7**
KYMI Kymi, Euboea I 2.57 156 P **Pn** **12 13 24.3 -0.1**
KEK Kerkira 2.58 242 **Pn** **12 13 26.0 +1.4**
KEK Kerkira 2.58 242 P **Pn** **12 13 24.4 -0.2**
KEK S **Sn** **12 13 55.5 -0.4**
KEK AML AML 12 14 15.5
comp=E,4269µm,1.0s
KEK AML AML 12 14 17.1
comp=N,5700µm,1.1s
ENEZ Enez 2.60 94 PN **Pn** **12 13 24.3 -0.5**
SERG Sergoula 2.62 192 P **Pn** **12 13 25.5 +0.3**
EFP Efpalio 2.63 194 P **Pn** **12 13 25.5 +0.2**
PVY Plav 2.63 309 ⇑*i* Pn **Pn** **12 13 25.8 +0.3**
PVY *i* Sn **Sn** **12 13 59.2 +1.8**
BLKB Belogradchik 2.64 359 ⇓P **Pn** **12 13 26.1 +0.6**
BLKB Belogradchik 2.64 359 *e*Pn **Pn** **12 13 26.2 +0.6**
TSLK Tsoukalades, L 2.69 217 P **Pn** **12 13 28.1 +2.0**
LKD2 Lefkada island 2.71 217 P **Pn** **12 13 28.7 +2.2**
LKD2 Lefkada island 2.71 217 P **Pn** **12 13 28.6 +2.2**
baz=219
NYDR Nydri-Lefkada 2.76 215 P **Pn** **12 13 28.7 +1.7**
BOVS Bovan 2.76 344 *e*Pn **Pn** **12 13 26.6 -0.5**
BOVS *e*Sn **Sn** **12 13 59.7 -0.6**
BOZC Bozcaada 2.77 113 PN **Pn** **12 13 27.2 0.0**
PLVB Pleven 2.78 29 ⇑P **Pn** **12 13 28.8 +1.5**
ULC Ulcinj 2.81 292 ⇑*i* Pn **Pn** **12 13 28.3 +0.5**
ULC *i* Sn **Sn** **12 14 03.5 +2.0**
IVA Berane 2.85 313 ⇑*i* Pn **Pn** **12 13 28.7 +0.3**
IVA *i* Sn **Sn** **12 14 04.2 +1.7**
VILL Villia 2.85 171 P **Pn** **12 13 28.1 -0.2**
ZAGS Zajecar 2.86 353 *e*Pn **Pn** **12 13 27.9 -0.5**
ZAGS *e*Sn **Sn** **12 14 01.7 -0.9**
ERIK Erikli-Kesan 2.88 95 PN **Pn** **12 13 27.6 -1.1**
GELI Tayfur-Gelibol 2.90 100 PN **Pn** **12 13 29.3 +0.4**
DRME Dracevica, Mon 2.93 295 *e*Pn **Pn** **12 13 31.3 +1.9**
DRME Dracevica, Mon 2.93 295 ⇓*i* Pn **Pn** **12 13 30.0 +0.6**
DRME *i* Sn **Sn** **12 14 06.4 +1.9**
UKOP Uzunkopru-Edir 2.94 86 PN **Pn** **12 13 29.9 +0.3**
PVL Pavlikeni 2.95 40 *i* P **Pb** **12 13 35.0 -0.6**
EZN Ezine 2.97 112 PN **Pn** **12 13 30.3 +0.4**
PDG Podgorica 2.99 300 **Pn** **12 13 31.0 +0.8**
PDG Podgorica 2.99 300 *i* Pn **Pn** **12 13 31.7 +1.5**
PDG Podgorica 2.99 300 Pn **Pn** **12 13 31.5 +1.3**
TTG Podgorica 2.99 300 ⇓*i* Pn **Pn** **12 13 30.7 +0.5**
TTG *i* Sn **Sn** **12 14 07.7 +1.9**
KOME Kolasin 3.05 309 ⇓*i* Pn **Pn** **12 13 31.5 +0.3**
KOME *i* Sn **Sn** **12 14 09.1 +1.6**
SJES Sjenica 3.07 319 *e*Pn **Pn** **12 13 31.9 +0.4**
LPK Lapseki 3.11 100 PN **Pn** **12 13 32.4 +0.4**
EDRB Edirne 3.13 73 PN **Pn** **12 13 32.1 -0.1**
BUM Brajici-Budva 3.17 296 ⇑*i* Pn **Pn** **12 13 33.3 +0.5**
BUM *i* Sn **Sn** **12 14 12.3 +1.7**
IVAS Ivanjica 3.23 324 *e*Pn **Pn** **12 13 33.2 -0.4**
JMB Yambol 3.23 61 PN **Pn** **12 13 34.3 +0.7**
JMB Yambol 3.23 61 *i* P **Pn** **12 13 34.9 +1.3**
VLAD Vladila 3.26 22 ⇑P **Pn** **12 13 36.0 +2.1**
CEME Cevo 3.26 300 ⇑*i* Pn **Pn** **12 13 34.5 +0.4**
CEME *i* Sn **Sn** **12 14 14.3 +1.5**
GRUS Gruza 3.27 333 *e*Pn **Pn** **12 13 33.7 -0.4**
NKME Niksic 3.35 303 ⇑*i* Pn **Pn** **12 13 35.7 +0.5**
NKME *i* Sn **Sn** **12 14 16.4 +1.6**
RKY Sarkoy-Tekirda 3.38 94 PN **Pn** **12 13 35.7 +0.1**
SCTE Santa Cesarea 3.38 256 **Pn** **12 13 35.8 +0.1**
PLE Pljevlja 3.42 314 ⇑*i* Pn **Pn** **12 13 36.7 +0.3**
PLE *i* Sn **Sn** **12 14 18.1 +1.2**
HCY Herceg Novi 3.50 296 *e*Pn **Pn** **12 13 38.3 +1.0**
HCY Herceg Novi 3.50 296 ⇑*i* Pn **Pn** **12 13 37.8 +0.5**
HCY *i* Sn **Sn** **12 14 20.2 +1.6**
KRBG Karabiga-Canak 3.51 98 PN **Pn** **12 13 37.9 +0.5**
KUBS Kucevo 3.52 347 *e*Pn **Pn** **12 13 36.5 -1.0**
UPM Unac-Piva 3.62 309 *e*Pn **Pn** **12 13 40.2 +1.1**
UPM Unac-Piva 3.62 309 ⇓*i* Pn **Pn** **12 13 39.3 +0.2**
UPM *i* Sn **Sn** **12 14 22.8 +1.1**
TKR Tekirdag 3.63 88 PN **Pn** **12 13 39.7 +0.7**
RUDO Rudo 3.63 318 *e*Pn **Pn** **12 13 38.6 -0.5**
CHOS Chios island 3.64 134 PN **Pn** **12 13 39.9 +0.7**
PHSR Pinarhisar 3.66 78 PN **Pn** **12 13 39.8 +0.4**
TRUS Trudelj 3.67 333 *e*Pn **Pn** **12 13 39.0 -0.6**
BRY Bratogost 3.68 303 *e*Pn **Pn** **12 13 41.7 +1.9**
BRY Bratogost 3.68 303 *e*Pn **Pn** **12 13 40.2 +0.4**
BRY *i* Sn **Sn** **12 14 24.4 +1.3**
RMGR Halanga-Turnu 3.68 359 ⇓P **Pn** **12 13 40.4 +0.7**
DJES Djerdap 3.69 358 ⇑P **Pn** **12 13 39.6 -0.3**
SRE Strehaia 3.70 5 ⇑P **Pn** **12 13 40.4 +0.4**
MRMT Marmara Adasi 3.70 94 PN **Pn** **12 13 40.1 0.0**
TREB Trebinje 3.71 299 *e*Pn **Pn** **12 13 41.3 +1.1**
DIVS Divibare 3.72 328 Pn **Pn** **12 13 39.9 -0.5**
DIVS Divibare 3.72 328 *e*Pn **Pn** **12 13 40.1 -0.3**
DIVS Divibare 3.72 328 *e*Pn **Pn** **12 13 40.2 -0.2**
CRLT Corlu 3.78 86 PN **Pn** **12 13 41.8 +0.7**
BBLS Lazići 3.80 321 *e*Pn **Pn** **12 13 41.7 +0.3**
RAZG Razgrad 3.81 46 ⇑P **Pn** **12 13 44.0 +2.5**
ITM Ithomi 3.85 190 PN **Pn** **12 13 43.0 +0.9**
ITM Ithomi 3.85 190 P **Pn** **12 13 44.8 +2.7**
MDVR Moldovita 3.87 349 ⇑P **Pn** **12 13 41.8 -0.6**
GONE Gonen-Balikesi 3.88 102 PN **Pn** **12 13 43.3 +0.8**
HERR Herculane 3.91 357 ⇑P **Pn** **12 13 42.5 -0.3**
EDC Edincik 3.94 98 PN **Pn** **12 13 43.9 +0.5**
URLA Izmir 3.96 130 PN **Pn** **12 13 43.9 +0.3**
SGRR Singureni 4.02 35 ⇑P **Pn** **12 13 47.0 +2.6**
SLVT Silivri 4.14 85 PN **Pn** **12 13 47.0 +1.0**
HAPS Han Pijesak,Bl 4.18 319 *e*Pn **Pn** **12 13 47.1 +0.4**
STFAR Stefanesti-Arg 4.21 22 ⇑P **Pn** **12 13 49.2 +2.1**
CTYL Yalikoy Yolu 4.21 81 PN **Pn** **12 13 47.2 +0.2**
STON Ston 4.21 298 *e*Pn **Pn** **12 13 46.6 -0.4**
TEKS Tekeris 4.28 328 *e*Pn **Pn** **12 13 47.0 -1.1**
TEKS Tekeris 4.28 328 *e*Pn **Pn** **12 13 46.9 -1.1**
KCTX Karacabey (Bur 4.33 98 PN **Pn** **12 13 49.4 +0.7**
CTKS Kestanelik-??a 4.36 85 PN **Pn** **12 13 50.1 +1.0**
GZR Gura Zlata 4.41 0 ⇑P **Pn** **12 13 49.6 -0.2**
APE Apeiranthos 4.47 150 ⇑P **Pn** **12 13 52.2 +1.6**
APE Apeiranthos 4.47 150 PN **Pn** **12 13 51.7 +1.1**
APE Apeiranthos 4.47 150 *i* P **Pn** **12 13 50.7 +0.1**
SULR 4.51 34 ⇓P **Pn** **12 13 53.2 +2.1**
LOT Lotru 4.53 9 ⇑P **Pn** **12 13 52.6 +1.1**
ARR Arges 4.60 17 ⇑P **Pn** **12 13 53.8 +1.4**
LEHL Lehliu 4.60 39 ⇑P **Pn** **12 13 55.8 +3.4**
FRGS Fruska Gora 4.70 334 *e*Pn **Pn** **12 13 52.9 -0.8**
FRGS Fruska Gora 4.70 334 *e*Pn **Pn** **12 13 53.0 -0.8**
DST Dursunbey 4.70 105 PN **Pn** **12 13 54.9 +1.1**
BZS Buzias 4.71 350 ⇑P **Pn** **12 13 52.9 -1.0**
BZS Buzias 4.71 350 P **Pn** **12 13 52.8 -1.0**
KTHA Kythira Island 4.72 177 PN **Pn** **12 13 55.4 +1.3**
VOIR 4.76 20 ⇑P **Pn** **12 13 56.0 +1.3**
PSN Preselentsi 4.85 54 *i* P **Pn** **12 13 56.7 +0.9**
ICOR Ion Corvin 4.88 48 ⇑P **Pn** **12 13 58.6 +2.5**
TIP Timpagrande 4.93 251 **Pn** **12 13 59.3 +2.2**
AMRR Amara 4.96 41 ⇑P **Pn** **12 14 00.1 +2.8**
ISR Istrita 4.99 33 ⇓P **Pn** **12 13 59.9 +2.2**
AYDB Zeytinkoy-Aydi 5.00 126 PN **Pn** **12 13 59.1 +1.0**
PGOR Pogoanele 5.01 37 ⇑P **Pn** **12 14 01.1 +3.1**
SANT Santorini 5.07 154 ⇓P **Pn** **12 14 01.4 +2.5**
SANT Santorini 5.07 154 Pn **Pn** **12 14 02.2 +3.4**
DOB Doboj 5.07 319 *e*Pn **Pn** **12 13 58.9 +0.1**

MLR Muntele Rosu 5.08 26 ⇑P **Pn** **12 14 01.3 +2.2**
MLR Muntele Rosu 5.08 26 Pn **Pn** **12 14 01.3 +2.2**
comp=N,16nm,0.3s,baz=296,slow=1.7,SNR=71
MLR Lg Lg 12 15 27.5
comp=N,31nm,0.3s,baz=266,slow=21,SNR=5.0
comp=N,99nm,0.5s
MLR Muntele Rosu 5.08 26 Pn **Pn** **12 14 01.1 +2.0**
MANT Manisa 5.12 117 **Pn** **12 14 02.0 +2.2**
NEHR Nehoiu 5.15 29 ⇑P **Pn** **12 14 02.3 +2.4**
SRKY Kupres RS 5.15 309 *e*Pn **Pn** **12 14 00.9 +0.9**
MFTR Murfatlar 5.27 51 ⇑P **Pn** **12 14 04.1 +2.5**
TLBR Topalu 5.28 46 ⇑P **Pn** **12 14 04.3 +2.6**
BODT Bodrum 5.29 136 PN **Pn** **12 14 02.9 +1.1**
DOPR Dopca 5.34 20 ⇑P **Pn** **12 14 04.0 +1.4**
SIRR Siria 5.34 352 ⇓P **Pn** **12 14 02.3 -0.3**
CUC Castrocucco 5.37 262 Pn **Pn** **12 14 04.5 +1.4**
MGRS Mrkonjic Grad 5.40 311 *e*Pn **Pn** **12 14 04.9 +1.5**
BISRR Bisoca 5.41 31 ⇑P **Pn** **12 14 06.1 +2.6**
TIRR Tirgusor 5.43 48 **Pn** **12 14 04.6 +0.8**
TIRR Tirgusor 5.43 48 P **Pn** **12 14 04.6 +0.8**
COVR Voineasa-Covas 5.48 26 ⇑P **Pn** **12 14 07.2 +2.7**
BLY Banja Luka 5.56 315 *e*Pn **Pn** **12 14 06.4 +0.9**
AMBH Ambrzfalva 5.56 345 ⇓P **Pn** **12 14 05.2 -0.5**
AMBH Ambrzfalva 5.56 345 P **Pn** **12 14 05.1 -0.5**
OZUR 5.57 22 ⇑P **Pn** **12 14 07.4 +1.7**
IMMV Iera Moni Meta 5.60 170 PN **Pn** **12 14 08.2 +2.1**
PLOR Plostina 5.64 29 ⇓P **Pn** **12 14 08.9 +2.2**
DAT Datca 5.68 137 PN **Pn** **12 14 08.9 +1.6**
VRI Vrincioaia 5.68 29 ⇓P **Pn** **12 14 08.9 +1.7**
TPGR Topolog 5.69 45 ⇓P **Pn** **12 14 10.8 +3.5**
ODBI Odobesti 5.72 32 ⇑P **Pn** **12 14 10.8 +3.1**
CFR Carcaliu 5.76 41 ⇑P **Pn** **12 14 09.8 +1.6**
YER Yerkesik 5.77 130 PN **Pn** **12 14 09.9 +1.3**
TUDR 5.84 36 ⇑P **Pn** **12 14 12.4 +3.0**
PANC Panciu 5.85 32 ⇑P **Pn** **12 14 11.9 +2.5**
IZVR Izvoarele 5.85 37 ⇑P **Pn** **12 14 12.7 +3.2**
A051A Mrakovica 5.88 315 *e*Pn **Pn** **12 14 10.5 +0.5**
IDI Anoyia 5.93 163 ⇑P **Pn** **12 14 12.8 +2.1**
IDI Anoyia 5.93 163 Pn **Pn** **12 14 12.0 +1.2**
comp=N,6.0nm,0.3s,baz=356,slow=13,SNR=26
comp=N,45nm,0.6s
IDI Anoyia 5.93 163 PN **Pn** **12 14 12.5 +1.8**
IDI Anoyia 5.93 163 Pn **Pn** **12 14 12.9 +2.2**
BORA Eskisehir 5.98 98 Pn **Pn** **12 14 12.6 +1.1**
TURN Turunc 6.00 133 PN **Pn** **12 14 13.1 +1.5**
GIUM Giurgiulesti 6.02 40 ⇑P **Pn** **12 14 15.2 +3.4**
MORH Mrgy, Hungar 6.02 332 ⇓P **Pn** **12 14 11.7 -0.2**
MORH Mrgy, Hungar 6.02 332 P **Pn** **12 14 11.5 -0.4**
SCTR Scanteiesti 6.05 37 ⇑P **Pn** **12 14 15.3 +2.9**
KOVH Kovagotottos 6.12 328 P **Pn** **12 14 13.4 +0.1**
VARL Varlezi 6.16 35 ⇑P **Pn** **12 14 17.0 +3.2**
PAOL Paolisi 6.19 273 **Pn** **12 14 15.0 +0.8**
DALY Dalyan (Mula) 6.21 130 PN **Pn** **12 14 16.2 +1.8**
TESR Tescani 6.21 26 ⇑P **Pn** **12 14 16.8 +2.4**
VLDR Vladesti 6.22 37 ⇑P **Pn** **12 14 17.3 +2.7**
BIR Birlad 6.36 32 ⇓P **Pn** **12 14 19.2 +2.6**
ZKR Zakros 6.46 154 PN **Pn** **12 14 19.7 +1.7**
GIRR Girov 6.56 23 ⇑P **Pn** **12 14 20.5 +1.2**
VASR Vaslui 6.73 31 ⇓P **Pn** **12 14 24.4 +2.7**
BURAR Bucovina Array 6.87 14 ⇑P **Pn** **12 14 25.9 +2.3**
BURAR Bucovina Array 6.87 14 **Pn** **12 14 24.1 +0.5**
TIH Tihany 6.88 331 P **Pn** **12 14 24.0 +0.4**
BUR08 Bucovina Ar. S 6.89 14 **Pn** **12 14 24.3 +0.3**
BEHE Becsehely 6.98 324 P **Pn** **12 14 25.7 +0.5**
BEHE Becsehely 6.98 324 Pn **Pn** **12 14 26.0 +0.9**
ELL Elmali 7.01 125 **Pn** **12 14 29.1 +3.5**
ELL Elmali 7.01 125 P **Pn** **12 14 29.1 +3.5**
BUD Budapest 7.03 339 P **Pn** **12 14 26.1 +0.4**
BOJS Bojanci 7.09 312 *i* Pn **Pn** **12 14 27.5 +0.9**
CSKK Cskako 7.15 335 P **Pn** **12 14 27.7 +0.3**
CAMP Campotosto 7.15 286 **Pn** **12 14 27.3 -0.2**
TRPA Tarpa 7.15 359 ⇑P **Pn** **12 14 27.0 -0.4**
TRPA Tarpa 7.15 359 P **Pn** **12 14 26.9 -0.5**
AKAS Kas 7.16 129 **Pn** **12 14 30.3 +2.6**
PSZ Piszkesteto 7.23 345 ⇑P **Pn** **12 14 28.6 +0.1**
PSZ Piszkesteto 7.23 345 **Pn** **12 14 27.0 -1.5**
PSZ Piszkesteto 7.23 345 P **Pn** **12 14 27.8 -0.8**
PSZ Piszkesteto 7.23 345 Pn **Pn** **12 14 28.4 -0.1**
PSZ Piszkesteto 7.23 345 P **Pn** **12 14 27.0 -1.5**
MPLH Magyarpolny 7.23 331 P **Pn** **12 14 29.2 +0.7**
MPLH S **Sn** **12 15 46.0 -4.4**
VAE Valguarnera 7.35 244 LR LR 12 17 55.6
comp=N,294nm,21.5s,baz=160,slow=43
GBRS Gornja Briga 7.36 311 *i* Pn **Pn** **12 14 31.4 +1.1**
MILM Milestii Mici 7.38 34 *e*P **Pn** **12 14 32.0 +1.6**
MILM *e*S **Sn** **12 15 54.0 +0.1**
MILM *e*L L 12 17 07.0
MILM LRM MLR 12 18 32.0
comp=N,2µm,8.0s
MILM Milestii Mici 7.38 34 ⇑P **Pn** **12 14 32.8 +2.4**
MILM Milestii Mici 7.38 34 *e*P **Pn** **12 14 32.0 +1.6**
MILM *e*S **Sn** **12 15 54.0 +0.1**
MILM MLR MLR
comp=Z,2µm,8.0s
MILM MLR MLR
comp=E,1µm,9.0s
ABAH Abaujker 7.39 352 P **Pn** **12 14 30.9 +0.2**
KIS Kishinev 7.44 34 *e*P **Pn** **12 14 33.0 +1.7**
comp=E,38nm,0.6s
KIS *e*L L 12 17 43.0
KIS LRM MLR 12 18 33.0
comp=E,700nm,8.5s
KIS Kishinev 7.44 34 *e*P **Pn** **12 14 33.0 +1.7**
KIS pmax pmax
comp=Z,40nm,0.6s
KIS MLR MLR
comp=Z,700nm,8.5s
EGYH Egyhazaskeszo 7.52 331 P **Pn** **12 14 31.9 -0.5**
SRO Srobarova 7.53 337 *e*PN **Pn** **12 14 34.2 +1.6**
SRO Srobarova 7.53 337 *e*P **Pn** **12 14 34.2 +1.6**
UZH Uzhgorod 7.66 358 ⇑*i* P **Pn** **12 14 35.5 +1.2**
UZH *e*S **Sn** **12 16 01.3 +0.4**
UZH MLR MLR
comp=N,120nm,9.0s
UZH MLR MLR
comp=Z,120nm,9.0s
CEY Cerknica 7.70 311 *e*Pn **Pn** **12 14 35.1 +0.1**
KOLS Kolonicke sedl 7.96 358 *e*PN **Pn** **12 14 39.3 +0.8**
KOLS Kolonicke sedl 7.96 358 *e*P **Pn** **12 14 39.3 +0.8**
SOKA Soboth 7.97 318 *i* Pn **Pn** **12 14 39.3 +0.6**
comp=Z,53nm,0.9s,SNR=27
CRVS Cervenica-Dubn 7.97 354 *e*PN **Pn** **12 14 38.8 +0.1**
CRVS Cervenica-Dubn 7.97 354 *e*P **Pn** **12 14 38.8 +0.1**
VYHS Vyhne 8.01 341 *e*PN **Pn** **12 14 43.7 +4.5**
VYHS Vyhne 8.01 341 *e*P **Pn** **12 14 43.7 +4.5**
KMPD K-Podol'skiy 8.03 18 Pn **Pn** **12 14 39.7 +0.3**
comp=Z,66nm,1.1s
KMPD pP 12 14 41.2
comp=Z,66nm,1.1s
KMPD sP 12 14 42.8
comp=Z,66nm,1.1s
SOP Sopron 8.03 329 P **Pn** **12 14 39.7 +0.3**
SOP S **Sn** **12 16 11.8 +1.7**
SOP Sopron 8.03 329 P **Pn** **12 14 40.7 +1.2**
OBKA Obir 8.11 316 *e*Pn **Pn** **12 14 41.4 +0.8**
OBKA Obir 8.11 316 *i* Pn **Pn** **12 14 41.6 +1.0**
comp=Z,14nm,0.3s,SNR=13
ARSA Arzberg 8.14 323 *i* Pn **Pn** **12 14 41.8 +0.8**
comp=Z,20nm,0.3s,SNR=22
ARSA *e*Sn **Sn** **12 16 09.8 -3.0**
comp=Z,16nm,0.6s
RONA Rosalia, Austr 8.15 328 *i* Pn **Pn** **12 14 42.5 +1.3**
comp=Z,12nm,0.4s,SNR=13
VOJS Vojsko 8.18 311 *e*Pn **Pn** **12 14 42.2 +0.6**
VOJS *e*Sn **Sn** **12 16 16.3 +2.4**
VOJS IAML 12 16 23.4
comp=Z,88nm,0.7s
SORM Soroca 8.20 27 ⇑P **Pn** **12 14 43.5 +1.8**
MODS Modra-Piesok 8.35 334 *e*PN **Pn** **12 14 45.3 +1.4**
MODS *e*SN **Sn** **12 16 17.8 -0.2**
MODS Modra-Piesok 8.35 334 *e*P **Pn** **12 14 45.3 +1.4**
MODS *e* 12 16 17.8
BR131 Keskin Array S 8.41 95 *i* P **Pn** **12 14 45.7 +0.8**
BRTR Keskin Array B 8.41 95 Pn **Pn** **12 14 45.4 +0.5**
comp=Z,1.1nm,0.3s,baz=270,slow=12,SNR=8.1
BRTR Sn **Sn** **12 16 20.3 +0.5**
comp=Z,0.4nm,0.3s,baz=286,slow=21,SNR=2.8
BRTR LR LR 12 18 44.5
comp=Z,767nm,21.6s,baz=288,slow=43
comp=Z,3.0nm,0.5s
STHS Stebnicka Huta 8.50 353 *e*PN **Pn** **12 14 50.6 +4.6**
STHS Stebnicka Huta 8.50 353 *e*P **Pn** **12 14 50.6 +4.6**

CONA Conrad Observa 8.51 327 *i* Pn **Pn** **12 14 47.3 +1.2**
comp=Z,16nm,0.4s,SNR=13
MYKA Terra Mystica 8.67 314 *i* Pn **Pn** **12 14 50.3 +2.0**
comp=Z,28nm,0.7s,SNR=13
LVV L'vov 8.88 5 *e*P **Pn** **12 14 52.8 +1.6**
LVV *e*S **Sn** **12 16 32.8 +1.7**
LVV MLR MLR
comp=E,500nm,8.0s
LVV MLR MLR
comp=N,800nm,9.0s
LVV MLR MLR
comp=Z,700nm,9.0s
MAUC Maruska 9.07 339 *e*PN **Pn** **12 14 52.8 -1.0**
MAUC AMS AMS 12 18 40.0
comp=Z,2µm,8.9s
KBA Koelnbreinsper 9.11 315 *i* Pn **Pn** **12 14 55.4 +1.0**
comp=Z,10nm,0.4s,SNR=15
KBA Koelnbreinsper 9.11 315 P **Pn** **12 14 54.4 0.0**
MOA Molln 9.16 321 *i* Pn **Pn** **12 14 56.6 +1.6**
comp=Z,18nm,0.6s,SNR=8.7
MOA *e*Sn **Sn** **12 16 43.5 +5.7**
comp=Z,38nm,0.5s
SIM Simferopol' 9.23 61 *e*P **Pn** **12 14 59.9 +4.0**
SIM *e*S **Sn** **12 16 45.1 +5.5**
SIM pmax pmax
comp=Z,69nm,1.3s
SIM smax smax
comp=N,71nm,0.9s
KRUC Moravsky 9.24 333 *e*PN **Pn** **12 14 55.4 -0.7**
BIOA Bad Ischl, Aus 9.35 319 *i* Pn **Pn** **12 14 59.2 +1.5**
comp=N,12nm,0.4s,SNR=15
ABTA Abfaltersbach 9.37 311 *i* Pn **Pn** **12 14 58.5 +0.6**
comp=N,62nm,0.6s,SNR=38
VRAC Vranov 9.39 335 ⇑P **Pn** **12 14 56.9 -1.1**
VRAC Vranov 9.39 335 Pn **Pn** **12 14 57.6 -0.5**
comp=N,0.6nm,0.3s,baz=145,slow=12,SNR=5.9
VRAC LR LR 12 19 44.6
comp=N,262nm,18.4s,baz=161,slow=45
comp=N,8.1nm,0.8s
VRAC Vranov 9.39 335 *e*PN **Pn** **12 14 56.3 -1.8**
OKC Ostrava-Krasne 9.43 342 AMS AMS 12 19 00.0
comp=N,2µm,10.1s
MORC Moravsky Berou 9.53 339 ⇑P **Pn** **12 14 59.9 -0.1**
MORC Moravsky Berou 9.53 339 **Pn** **12 14 59.5 -0.5**
MORC Moravsky Berou 9.53 339 *e*PN **Pn** **12 14 59.0 -1.0**
MORC Moravsky Berou 9.53 339 P **Pn** **12 14 59.5 -0.5**
LUBAR Lubar, Ukraine 9.61 20 Pn **Pn** **12 15 02.0 +1.0**
comp=N,53nm,1.0s
LUBAR pP 12 15 03.3
comp=N,53nm,1.0s
LUBAR sP 12 15 04.5
comp=N,53nm,1.0s
TREC Trest 9.76 331 AMS AMS 12 18 50.0
comp=N,1µm,7.9s
CKRC Cesky Krumlov 9.86 326 *e*PN **Pn** **12 15 05.4 +0.9**
KRLC Kraliky 10.01 337 *e*PN **Pn** **12 15 06.6 0.0**
KRLC AMS AMS 12 19 30.0
comp=N,1µm,9.3s
KRLC Kraliky 10.01 337 *e*P **Pn** **12 15 06.6 0.0**
KRLC MLR MLR
comp=Z,1µm,9.3s
SALO Salr 10.04 302 **Pn** **12 15 06.5 -0.6**
GEC2 GERESS Array S 10.14 324 **Pn** **12 15 08.7 +0.2**
GERES GERESS Array B 10.14 324 Pn **Pn** **12 15 08.7 +0.2**
comp=Z,1.3nm,0.3s,baz=126,slow=13,SNR=19
GERES LR LR 12 20 00.4
comp=Z,196nm,18.8s,baz=204,slow=43
comp=Z,6.6nm,0.6s
GERES GERESS Array B 10.14 324 **Pn** **12 15 08.8 +0.4**
GERES GERESS Array B 10.14 324 P **Pn** **12 15 08.9 +0.4**
WTTA Wattenberg 10.15 312 *i* Pn **Pn** **12 15 10.3 +1.5**
comp=Z,31nm,0.7s,SNR=23
WTTA *e*Sn **Sn** **12 17 05.6 +3.1**
comp=Z,25nm,0.8s
WATA Walderalm 10.23 312 *i* Pn **Pn** **12 15 10.4 +0.7**
comp=Z,56nm,0.6s,SNR=37
WATA *e*Sn **Sn** **12 17 09.0 +4.7**
comp=Z,29nm,1.1s
SQTA Sankt Quirin 10.37 311 *i* Pn **Pn** **12 15 12.1 +0.4**
comp=Z,38nm,0.7s,SNR=27
DPC Dobruska-Polom 10.39 337 *e*PN **Pn** **12 15 11.3 -0.5**
DPC AMS AMS 12 19 50.0
comp=Z,1µm,8.5s
DPC Dobruska-Polom 10.39 337 *e*P **Pn** **12 15 11.3 -0.5**
DPC MLR MLR
comp=Z,1µm,8.5s
KHC Kasperske Hory 10.41 325 **Pn** **12 15 12.2 +0.1**
KHC Kasperske Hory 10.41 325 *e*PN **Pn** **12 15 12.2 +0.1**
KHC *e*SN **Sn** **12 17 07.9 -0.6**
KHC AMS AMS 12 19 20.0
comp=Z,1µm,10.4s
KHC Kasperske Hory 10.41 325 P **Pn** **12 15 12.2 +0.1**
MOTA Moosalm 10.50 311 *i* Pn **Pn** **12 15 15.1 +1.7**
comp=Z,88nm,0.7s,SNR=42
MOTA *e*Sn **Sn** **12 17 19.4 +8.4**
comp=Z,18nm,0.8s
GOPC GO Pecny, Ondr 10.53 331 AMS AMS 12 19 20.0
comp=Z,1µm,10.3s
GOPC GO Pecny, Ondr 10.53 331 Pn **Pn** **12 15 14.0 +0.3**
FETA Feichten 10.55 309 *i* Pn **Pn** **12 15 15.2 +1.1**
comp=Z,28nm,0.8s,SNR=17
FETA *e*Sn **Sn** **12 17 14.9 +2.7**
comp=Z,14nm,1.3s
AK07 Malin Array Si 10.58 23 Pn **Pn** **12 15 14.9 +0.6**
OSTC Ostas 10.60 337 AMS AMS 12 19 50.0
comp=Z,1µm,12.4s
AK14 Malin Array Si 10.62 23 Pn **Pn** **12 15 14.7 -0.2**
UPC Upice 10.62 336 AMS AMS 12 19 50.0
comp=Z,1µm,13.8s
FUORN Ofenpass-Fuorn 10.63 306 **Pn** **12 15 15.1 -0.2**
CHVC Chvalec 10.68 336 AMS AMS 12 19 40.0
comp=Z,800nm,13.1s
AK15 Malin Array Si 10.68 22 Pn **Pn** **12 15 16.6 +0.9**
PRU Pruhonice 10.68 330 *e*PN **Pn** **12 15 16.2 +0.4**
PRU AMS AMS 12 19 20.0
comp=Z,1µm,10.2s
PRU Pruhonice 10.68 330 *e*P **Pn** **12 15 16.2 +0.4**
PRU MLR MLR
comp=Z,1µm,10.2s
AKASG Malin Array Be 10.72 23 Pn **Pn** **12 15 15.3 -1.0**
comp=Z,1.7nm,0.3s,baz=208,slow=13,SNR=11
comp=Z,1.9nm,0.5s
AKASG Malin Array Be 10.72 23 **Pn** **12 15 16.5 +0.3**
AKASG Malin Array Be 10.72 23 *i* P **Pn** **12 15 18.7 +2.5**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 10.72 23 **Pn** **12 15 18.3 +2.0**
AKBB Malin Array Si 10.72 23 Pn **Pn** **12 15 16.6 +0.4**
AKBB Malin Array Si 10.72 23 *ce*P **Pn** **12 15 16.9 +0.7**
RETA Reutte 10.77 311 *e*Pn **Pn** **12 15 17.7 +0.6**
comp=Z,11nm,0.5s
DAVOX Davos/Dischmat 10.94 306 Pn **Pn** **12 15 19.8 +0.3**
comp=Z,2.4nm,0.3s,baz=135,slow=13,SNR=45
DAVOX LR LR 12 20 24.0
comp=Z,512nm,19.9s,baz=112,slow=42
comp=Z,34nm,0.7s
PVCC Panska Ves 11.12 332 AMS AMS 12 19 50.0
comp=Z,1µm,8.9s
DAVA Damuels 11.18 309 *e*Pn **Pn** **12 15 22.6 -0.2**
comp=Z,10nm,0.5s
DAVA *e*Sn **Sn** **12 17 32.1 +4.4**
comp=Z,17nm,0.8s
ANN Anapa 11.43 66 *e*P **Pn** **12 15 24.1 -1.9**
ANN *e*S **Sn** **12 17 33.1 -0.4**
ANN pmax pmax
comp=Z,145nm,1.1s
NKC Novy Kostel 11.72 326 *e*PN **Pn** **12 15 29.8 -0.2**
NKC AMS AMS 12 20 00.0
comp=Z,2µm,9.5s
NKC Novy Kostel 11.72 326 *e*P **Pn** **12 15 29.8 -0.2**
NKC MLR MLR
comp=Z,2µm,9.5s
SLE Schleitheim 12.24 308 P **Pn** **12 15 36.0 -1.1**
CLL Collm 12.33 330 Lmax 12 21 00.0
CLL Collm 12.33 330 *i* P **Pn** **12 15 41.2 +2.9**
CLL MLR MLR
comp=Z,200nm,29.2s
CLL Collm 12.33 330 *e*Pn **Pn** **12 15 40.0 +1.7**
CLL Collm 12.33 330 *ex* x 12 18 26.0
CLL Collm 12.33 330 Lm MLR 12 19 00.0
comp=N,500nm,21.6s
CLL Collm 12.33 330 Lm MLR 12 19 00.0
comp=E,900nm,18.4s
MOX Moxa 12.38 325 P **Pn** **12 15 38.7 -0.3**
LPG La Plagne 12.50 296 P **Pn** **12 15 41.2 +0.2**
LPL La Plagne 12.52 297 P **Pn** **12 15 40.3 -0.8**

BFO Black Forest 12.61 310 **Pn** **12 15 41.4 -0.8**
BFO Black Forest 12.61 310 P **Pn** **12 15 41.4 -0.8**
SOC Sochi 12.84 73 *e*P **Pn** **12 15 43.5 -1.8**
SOC *e* 12 18 08.8
SOC MLR MLR
comp=Z,176nm,18.0s
MMAI Mount Meron Ar 12.86 124 Pn **Pn** **12 15 47.3 +1.6**
comp=Z,2.5nm,0.3s,baz=308,slow=14,SNR=9.7
comp=Z,7.6nm,0.7s
ECH Echery 13.24 308 **Pn** **12 15 49.7 -1.1**
ECH Echery 13.24 308 P **Pn** **12 15 49.7 -1.1**
NACGM Naroch 14.19 10 *e*P Pn 12 15 55.6 -8.1
comp=Z,11nm,1.1s,baz=193
PABE Paberze 14.56 3 **Pn** **12 16 06.7 -2.0**
SHA1 Shidzhatmaz 14.98 73 *i* P **Pn** **12 16 15.5 +0.8**
NEY Neytrino 15.00 75 *i* P **Pn** **12 16 15.7 +0.8**
NEY pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 15.01 72 *e*P **Pn** **12 16 14.9 -0.1**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,55nm,13.0s
BTNL Ternell 15.02 315 *d*P **P** **12 16 21.4 +0.9**
MEM Membach 15.10 315 *d*P **Pn** **12 16 17.9 +1.9**
KBZ Khabaz 15.15 73 *i* P **Pn** **12 16 17.7 +1.0**
KBZ pmax pmax
comp=Z,21nm,0.9s
VSR Storozhevoye 15.28 42 *e*P **Pn** **12 16 18.2 -0.2**
VSR pmax pmax
comp=Z,10.0nm,0.8s
RCHB Rochefort 15.29 313 *d*P **Pn** **12 16 19.3 +0.8**
PYA1 Pyatigorsk 15.32 72 *i* P **Pn** **12 16 19.2 +0.2**
PYA1 pmax pmax
comp=Z,1.0nm,0.9s
BCLA Clavier 15.38 314 *d*P **P** **12 16 25.2 +0.9**
BGES Gesves 15.48 313 *d*P **Pn** **12 16 22.6 +1.6**
VORR Voronezh 15.57 41 *e*P **P** **12 16 28.7 +2.2**
VORR pmax pmax
comp=Z,40nm,0.4s
DOU Dourbes 15.61 312 *d*P **Pn** **12 16 21.5 -1.3**
BMRD Maredsous 15.62 313 *d*P **P** **12 16 26.0 -1.0**
BMRD *d*PP **PbPb** **12 17 13.8 -0.6**
NCK Nalchik 15.64 74 *i* P **Pn** **12 16 24.2 +0.9**
NCK pmax pmax
comp=Z,18nm,0.9s
ZEI Tsey 15.86 76 *e*P **P** **12 16 32.8 +2.8**
ZEI pmax pmax
comp=Z,34nm,1.2s
GEVA Gevas 15.87 93 Pn **P** **12 16 29.1 -1.0**
LPSR Galich'ya Gora 16.02 38 *e*P **Pn** **12 16 26.2 -1.7**
LPSR pmax pmax
comp=Z,30nm,0.7s
VRH Novokhopyorsk 16.62 46 *e*P **Pn** **12 16 34.1 -1.5**
VRH pmax pmax
comp=Z,20nm,0.8s
GNI Garni 16.73 86 Pn **Pn** **12 16 38.0 +0.6**
GNI lAmb lAmb 12 16 46.9
comp=Z,114nm,1.8s
GNI Garni 16.73 86 P **Pn** **12 16 38.0 +0.6**
GNI pmax pmax
comp=Z,114nm,1.8s
OBN Obninsk 16.85 28 LR LR 12 22 54.0
comp=Z,46nm,20.1s,baz=207,slow=36
OBN Obninsk 16.85 28 *de*P **Pn** **12 16 37.4 -1.1**
OBN *e*S **Sn** **12 19 42.7 -2.6**
OBN pmax pmax
comp=Z,21nm,0.8s
OBN MLR MLR
comp=Z,154nm,16.0s
GROC Groznyy 17.25 75 *e*P **Pn** **12 16 41.2 -2.4**
GROC pmax pmax
comp=Z,39nm,0.8s
NAX Nakhchivan 17.50 88 P **P** **12 16 50.0 +2.0**
BTLR Botlikh 17.57 77 *i* P **Pn** **12 16 47.1 -0.7**
VSU Vasula 17.68 7 *i* P **P** **12 16 49.6 -0.2**
VSU pmax pmax
comp=Z,60nm,1.0s
MOS Moscow 17.71 29 *e*P **Pn** **12 16 47.4 -1.9**
MOS *e*S **S** **12 20 11.5 -2.0**
MOS pmax pmax
comp=Z,56nm,0.6s
MOS MLR MLR
comp=Z,200nm,8.0s
GANJ Ganja 17.84 83 P **P** **12 16 55.9 +4.1**
MNGR Mingechevir, A 18.40 83 P **Pn** **12 17 02.2 +4.3**
SEKA Sheki 18.42 81 P **Pn** **12 17 03.1 +4.9**
MAK Makhachkala 18.50 76 *e*P **P** **12 16 54.2 -4.7**
MAK *e*S **Sn** **12 20 20.6 -5.0**
MAK pmax pmax
comp=Z,108nm,0.9s
HFS Hagfors 19.98 347 P **P** **12 17 14.4 -0.6**
comp=Z,4nm,0.3s,baz=171,slow=10,SNR=9.4
comp=Z,6.7nm,0.7s
LKRN Lenkeran, Azer 20.10 88 P Pn 12 17 19.9 +1.6
ESBB Sonseca Array 20.38 275 P **P** **12 17 19.2 -0.4**
ESDC Sonseca Array 20.38 275 P **P** **12 17 19.0 -0.6**
comp=Z,9.6nm,1.0s,baz=71,slow=11,SNR=20
ESDC LR LR 12 26 36.7
comp=Z,159nm,18.5s,baz=112,slow=41
comp=Z,9.6nm,1.0s
BELG Belogornoye 20.42 48 P **P** **12 17 20.1 +0.3**
comp=Z,54nm,1.0s,baz=30,slow=7.6,SNR=6.0
BELG LR LR 12 25 50.2
comp=Z,123nm,19.6s,baz=283,slow=38
comp=Z,54nm,1.0s
BELG Belogornoye 20.42 48 *i* P Pn 12 17 21.2 -0.7
BELG pmax pmax
comp=Z,12nm,1.0s
FINES FINESS Array B 20.59 5 P **P** **12 17 19.2 -2.4**
comp=Z,9.0nm,1.0s,baz=171,slow=9.8,SNR=4.0
FINES LR LR 12 25 03.4
comp=Z,181nm,20.7s,baz=200,slow=36
FINES FINESS Array B 20.59 5 *i* P Pn 12 17 23.3 -0.6
FINES pmax pmax
comp=Z,3.0nm,0.5s
PAB San Pablo 20.70 275 P **P** **12 17 23.0 -0.1**
PAB San Pablo 20.70 275 P **P** **12 17 23.0 -0.1**
PAB pmax pmax
comp=Z,10.0nm,0.8s
NC602 NORSAR Array S 20.95 345 lAmb lAmb 12 17 25.4
comp=Z,58nm,0.8s
NAO01 NORSAR Array S 21.18 344 lAmb lAmb 12 17 32.9
comp=Z,80nm,1.1s
NC405 NORSAR Array S 21.26 345 P **P** **12 17 27.3 -1.6**
NC405 lAmb lAmb 12 17 32.6
comp=Z,114nm,1.6s
NB201 NORSAR Array S 21.29 345 P **P** **12 17 27.9 -1.2**
NB201 lAmb lAmb 12 17 36.7
comp=Z,88nm,1.1s
NB2 NORSAR Subarra 21.29 344 P **P** **12 17 28.2 -1.0**
comp=Z,24nm,1.1s,baz=152,slow=10
NOA NORSAR Array B 21.29 344 P **P** **12 17 27.9 -1.4**
comp=Z,4.9nm,0.7s,baz=149,slow=10,SNR=24
NOA LR LR 12 26 10.0
comp=Z,108nm,20.7s,baz=160,slow=38
comp=Z,4.9nm,0.7s
NC303 NORSAR Array S 21.43 345 lAmb lAmb 12 17 34.4
comp=Z,28nm,1.0s
NC204 NORSAR Array S 21.60 344 P **P** **12 17 31.5 -1.0**
PBRG Braganca 22.09 282 *e*P **P** **12 17 37.7 -0.3**
comp=Z,38nm,1.3s
EKA Eskdalemuir Ar 22.29 319 P **P** **12 17 39.1 -0.9**
comp=Z,9.3nm,0.8s,baz=114,slow=11,SNR=14
EKA LR LR 12 26 49.5
comp=Z,244nm,20.3s,baz=128,slow=38
comp=Z,9.3nm,0.8s
MVO Moncorvo 22.40 280 *e*P **P** **12 17 43.3 +1.9**
comp=Z,38nm,1.6s
KLMR Klimovskoe 22.40 22 *e*P **P** **12 17 38.4 -2.7**
KLMR AMP 12 17 48.7
comp=Z,51nm,1.2s
KLMR Klimovskoe 22.40 22 *e*P **P** **12 17 38.3 -2.8**
KLMR pmax pmax
comp=Z,51nm,1.2s
PCBR Castelo Branco 22.99 277 *e*P **P** **12 17 48.5 +1.0**
comp=Z,39nm,1.2s
PMRV Marv??o 23.02 276 *e*P **P** **12 17 48.1 +0.3**
comp=Z,65nm,1.6s
PCAB Cabril 23.06 282 *e*P **P** **12 17 47.9 -0.3**
comp=Z,20nm,1.5s
PBAR Barrancos 23.08 273 *e*P **P** **12 17 48.4 0.0**
comp=Z,46nm,1.9s
PVIS Viseu 23.12 279 *e*P **P** **12 17 48.0 -0.9**
comp=Z,29nm,1.7s
PGAV Gavieira, Arco 23.20 283 *e*P **P** **12 17 49.9 +0.1**

comp=Z,81nm,1.4s
TAM Tamanrasset 23.22 224 P **P** **12 17 51.2 +1.1**
TAM Tamanrasset 23.22 224 P **P** **12 17 51.2 +1.1**
TAM pmax pmax
comp=Z,17nm,1.0s
MDT Midelt 23.27 258 P **P** **12 17 49.5 -1.1**
comp=Z,5.3nm,0.9s,baz=92,slow=14,SNR=7.8
comp=Z,5.3nm,0.9s
PESTR Estremoz 23.31 275 *e*P **P** **12 17 50.3 -0.5**
comp=Z,40nm,1.3s
PESTR Estremoz 23.31 275 P **P** **12 17 49.1 -1.7**
COI Coimbra 23.61 278 *e*P **P** **12 17 53.9 +0.2**
comp=Z,45nm,0.8s
COI Coimbra 23.61 278 lAmb lAmb 12 17 54.6
comp=Z,32nm,0.8s
PMTG Montargil 23.73 276 *e*P **P** **12 17 53.9 -1.0**
comp=Z,45nm,1.3s
PBEJ Beja 23.74 273 *e*P **P** **12 17 55.0 0.0**
comp=Z,25nm,1.3s
PCVE Castro Verde 23.99 272 *e*P **P** **12 17 56.6 -0.8**
comp=Z,26nm,1.5s
PNCL Nicolau / Gran 24.22 273 *e*P **P** **12 17 59.4 -0.1**
comp=Z,23nm,1.7s
KIRV Kirov 24.37 35 P **P** **12 18 00.6 -0.1**
comp=Z,8.2nm,0.4s,baz=205,slow=3.0,SNR=5.7
KIRV LR LR 12 27 47.3
comp=Z,171nm,19.7s,baz=240,slow=37
comp=Z,8.2nm,0.4s
KIRV Kirov 24.37 35 *ce*P **P** **12 18 00.3 -0.4**
PFVI Vila Bisbo 24.74 271 *e*P **P** **12 18 03.9 -0.4**
comp=Z,64nm,1.6s
PRGR Permogore 24.89 26 *e*P **P** **12 18 05.0 -0.4**
RAYN Ar Rayn 25.83 125 P **P** **12 18 14.7 +0.4**
RAYN pmax pmax
comp=Z,19nm,1.3s
ABKAR Akbulak array 27.30 60 P **P** **12 18 26.4 -0.8**
GEYT Alibeck 27.37 85 P **P** **12 18 29.0 +1.0**
comp=Z,4.5nm,0.7s,baz=299,slow=6.5,SNR=5.6
GEYT LR LR 12 31 15.9
comp=Z,63nm,20.1s,baz=325,slow=41
comp=Z,4.5nm,0.7s
GEYT Alibeck 27.37 85 P **P** **12 18 28.6 +0.5**
ARU Arti 27.84 44 P **P** **12 18 34.2 +2.2**
comp=Z,2.1nm,0.5s,baz=244,slow=12,SNR=5.0
comp=Z,2.1nm,0.5s
ARU Arti 27.84 44 P **P** **12 18 33.7 +1.7**
ARU lAmb lAmb 12 19 08.2
comp=Z,10nm,0.8s
ARU Arti 27.84 44 P **P** **12 18 31.5 -0.5**
ARU 12 19 15.6
ARU S **S** **12 23 15.7 +1.1**
ARCES ARCESS Array B 28.66 2 P **P** **12 18 38.0 -1.2**
comp=Z,2.4nm,0.8s,baz=180,slow=8.5,SNR=5.5
ARCES LR LR 12 31 02.9
comp=Z,146nm,21.3s,baz=189,slow=38
comp=Z,2.4nm,0.8s
HRA Herat 31.74 89 P **P** **12 19 07.2 +0.1**
HRA lAmb lAmb 12 19 12.4
comp=Z,9.6nm,0.9s
BRVK Borovoye 33.97 53 P **P** **12 19 26.0 0.0**
BRVK lAmb lAmb 12 19 27.8
comp=Z,6.6nm,0.8s
BRVK Borovoye 33.97 53 *ce*P **P** **12 19 26.1 0.0**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 34.03 53 P **P** **12 19 27.2 +0.6**
comp=Z,3.1nm,0.8s,baz=268,slow=6.8,SNR=16
comp=Z,3.1nm,0.8s
BORG Borgarnes 34.57 328 LR LR 12 33 51.5
comp=Z,93nm,18.1s,baz=122,slow=37
KK31 Karatay Array 35.16 70 lAmb lAmb 12 19 42.1
comp=Z,8.5nm,0.9s
BTK Batken 36.19 75 lAmb lAmb 12 19 49.9
comp=Z,8.4nm,0.7s
SPITS Spitsbergen Ar 37.40 358 LR LR 12 36 33.3
comp=Z,102nm,18.1s,baz=140,slow=38
AAK Ala-Archa 38.12 70 P **P** **12 20 03.4 +1.5**
comp=Z,3.6nm,0.7s,baz=238,slow=6.8,SNR=7.2
comp=Z,3.6nm,0.7s
AAK Ala-Archa 38.12 70 P **P** **12 20 02.9 +1.0**
AAK Ala-Archa 38.12 70 *ce*P **P** **12 20 01.9 0.0**
AAK pmax pmax
comp=Z,13nm,1.7s
LODK Lodwar 39.08 160 P **P** **12 20 10.5 +0.4**
BOOM Boomskoye usch 39.18 70 P **P** **12 20 11.3 +0.4**
BOOM Boomskoye usch 39.18 70 P **P** **12 20 11.3 +0.4**
BOOM pmax pmax
comp=Z,7.0nm,0.9s
KURBB Kurchatov Arra 39.22 56 P **P** **12 20 11.0 +0.2**
comp=Z,0.5nm,0.3s,baz=288,slow=9.8,SNR=8.0
comp=Z,0.5nm,0.3s
KURK Kurchatov 39.26 56 P **P** **12 20 09.9 -1.3**
KURK Kurchatov 39.26 56 *ce*P **P** **12 20 10.7 -0.5**
KURK pmax pmax
comp=Z,5.0nm,1.3s
NIL Nilore 40.36 84 P **P** **12 20 20.4 -0.3**
NIL lAmb lAmb 12 20 25.6
comp=Z,20nm,0.8s
NIL Nilore 40.36 84 P **P** **12 20 20.4 -0.3**
NIL pmax pmax
comp=Z,20nm,0.8s
DBIC Dimbokro 42.11 223 P **P** **12 20 34.6 -0.4**
comp=Z,11nm,0.7s,baz=36,slow=8.4,SNR=17
DBIC LR LR 12 39 14.5
comp=Z,106nm,19.3s,baz=29,slow=38
comp=Z,11nm,0.7s
MAKZ Makanchi 42.20 61 P **P** **12 20 35.3 -0.3**
MAKZ Makanchi 42.20 61 P **P** **12 20 35.3 -0.3**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
TIC Toumodi 42.22 224 ⇑*i* P **P** **12 20 35.6 -0.4**
comp=Z,24nm,0.9s
KIC Kosan Boka 42.31 223 ⇑*i* P **P** **12 20 36.6 -0.2**
comp=Z,14nm,0.6s
MK31 Makanchi Array 42.41 61 *d i* P **P** **12 20 36.9 -0.4**
MKAR Makanchi Array 42.41 61 P **P** **12 20 37.5 +0.2**
comp=Z,4.4nm,0.7s,baz=281,slow=6.7,SNR=41
comp=Z,4.4nm,0.7s
ZALV Zalesovo Beam 42.56 51 P **P** **12 20 38.4 0.0**
comp=Z,7.0nm,0.6s,baz=275,slow=8.7,SNR=30
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 42.56 51 P **P** **12 20 37.2 -1.2**
ZALV Zalesovo Beam 42.56 51 P **P** **12 20 37.2 -1.2**
LIC Lamto 42.58 223 ⇑*i* P **P** **12 20 38.8 -0.1**
comp=Z,74nm,0.7s
BBTS Babate 42.98 244 LR LR 12 40 54.8
comp=Z,123nm,18.4s,baz=47,slow=40
NRIK Noril'sk 43.52 28 *i* P **P** **12 20 46.1 +0.2**
NRIK pmax pmax
comp=Z,16nm,2.2s
DGZ Jazzator, Alta 45.01 56 *i* P **P** **12 20 57.9 -0.4**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 46.94 64 *e*P **P** **12 21 16.7 +3.2**
WMQ pP sP 12 21 20.7 +1.3
WMQ pmax pmax
comp=Z,13nm,0.9s
EUNU Eureka 53.12 348 P **P** **12 21 59.4 -0.6**
LSZ Lusaka 56.20 174 P **P** **12 22 24.5 +1.5**
LSZ pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 56.42 21 P **P** **12 22 24.4 +0.6**
comp=Z,0.7nm,0.3s,baz=197,slow=0.9,SNR=5.5
comp=Z,0.7nm,0.3s
TIXI Tiksi 56.42 21 *i* P **P** **12 22 24.1 +0.3**
TIXI pmax pmax
comp=Z,19nm,3.4s
SONM Songino Array 57.37 53 P **P** **12 22 31.7 +0.5**
comp=Z,1.3nm,0.8s,baz=292,slow=8.2,SNR=7.6
comp=Z,1.3nm,0.8s
SCHQ Schefferville 57.58 317 P **P** **12 22 31.8 -0.6**
comp=Z,8.4nm,0.7s,baz=141,slow=3.6,SNR=8.2
comp=Z,8.4nm,0.7s
YAK Yakutsk 61.83 31 *i* P **P** **12 23 01.8 +0.4**
YAK pmax pmax
comp=Z,38nm,2.4s
TNCH TengChong 63.66 79 P **P** **12 23 17.1 +2.6**
TNCH pmax pmax
comp=Z,17nm,0.6s
TNCH pmax pmax
comp=Z,130nm,5.5s
HHC Hu-ho-hao-te 64.06 58 *e*P **P** **12 23 17.9 +1.1**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.4s
XLT XiLinHaoTe 65.19 53 *e*P **P** **12 23 25.5 +1.4**

XLT				pP	sP	12 23 31.0	+0.9
XLT				sP	pP	12 23 33.4	+4.9
XLT				PcP	**PcP**	**12 23 56.3**	**-0.3**
XLT				pmax	pmax		
	comp=Z,7.0nm,1.4s						
XLT				pmax	pmax		
	comp=Z,190nm,6.3s						
XLT				LR	LR		
	comp=Z,1μm,23.2s						
XLT				LR	LR		
	comp=Z,1μm,24.0s						
PZH	**PanZhiHua**	**65.20**	**76**	P	**P**	**12 23 26.4**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,150nm,6.9s						
XAN	**Xi'an**	**66.05**	**65**	P	**P**	**12 23 29.9**	**+0.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**67.85**	**84**	P	**P**	**12 23 40.2**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=306,slow=7.8,SNR=14						
	comp=Z,1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**67.85**	**84**	*i* P	**P**	**12 23 40.4**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL	**Bilibino**	**67.89**	**14**⇑	*e*P	**P**	**12 23 41.4**	**+0.6**
BILL				*e*		12 24 03.0	
BILL				*e*		12 26 17.0	
BILL				*e*S	**S**	**12 32 30.3**	**-8.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,89nm,15.0s						
INK	**Inuvik**	**69.59**	**351**	P	**P**	**12 23 51.4**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=345,slow=8.6,SNR=4.0						
	comp=Z,2.5nm,0.9s						
KLR	**Kul'dur**	**70.63**	**41**	*i* P	**P**	**12 23 56.5**	**-1.6**
KLR				pmax	pmax		
	comp=Z,19nm,2.0s						
YKA	**Yellowknife Ar**	**71.33**	**341**	P	**P**	**12 24 02.3**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=30,slow=5.3,SNR=37						
	comp=Z,8.0nm,0.8s						
COLD	**Coldfoot**	**71.99**	**357**	IAmb	IAmb	12 25 06.1	
	comp=Z,18nm,1.5s						
NJ2	**Nanjing**	**73.94**	**61**	*e*P	**P**	**12 24 18.1**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,13nm,1.0s						
POKR	**Poker Plat Res**	**73.96**	**356**	IAmb	IAmb	12 24 20.0	
	comp=Z,7.1nm,0.8s						
MDM	**Murphy Dome**	**74.16**	**356**	IAmb	IAmb	12 24 20.9	
	comp=Z,10nm,0.9s						
MLY	**Manley**	**74.20**	**357**	IAmb	IAmb	12 24 23.1	
	comp=Z,25nm,1.6s						
IL31		**74.27**	**355**	P	**P**	**12 24 19.1**	**-0.4**
IL31				IAmb	IAmb	12 24 50.2	
	comp=Z,32nm,1.9s						
ILAR	**Eielson Array**	**74.27**	**355**	P	**P**	**12 24 20.9**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=348,slow=4.1,SNR=34						
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**74.27**	**355**	P	**P**	**12 24 20.6**	**+1.0**
ILAR	**Eielson Array**	**74.27**	**355**	P	**P**	**12 24 20.6**	**+1.0**
J26L	**Joseph Creek**	**74.31**	**354**	IAmb	IAmb	12 24 21.6	
	comp=Z,9.6nm,0.8s						
MAYO	**Mayo, Yukon**	**74.39**	**350**	P	**P**	**12 24 22.0**	**+1.8**
MAYO				IAmb	IAmb	12 24 22.3	
	comp=Z,12nm,0.7s						
ULM	**Lac du Bonnet**	**74.45**	**324**	P	**P**	**12 24 20.7**	**-0.1**
	comp=Z,8.7nm,0.6s,baz=9.7,slow=4.2,SNR=8.2						
	comp=Z,8.7nm,0.6s						
ULM	**Lac du Bonnet**	**74.45**	**324**	P	**P**	**12 24 20.4**	**-0.4**
ULM				IAmb	IAmb	12 24 21.6	
	comp=Z,11nm,0.7s						
ULM	**Lac du Bonnet**	**74.45**	**324**	P	**P**	**12 24 20.4**	**-0.4**
ULM				pmax	pmax		
	comp=Z,11nm,0.7s						
HDA	**Harding Lake**	**74.64**	**355**	IAmb	IAmb	12 24 23.1	
	comp=Z,10.0nm,0.8s						
MCK	**McKinley**	**75.42**	**356**	P	**P**	**12 24 26.8**	**+0.6**
MCK				IAmb	IAmb	12 24 28.1	
	comp=Z,17nm,1.1s						
MCK	**McKinley**	**75.42**	**356**	P	**P**	**12 24 26.8**	**+0.6**
MCK				pmax	pmax		
	comp=Z,17nm,1.1s						
L27K	**Beaver Creek,**	**75.57**	**353**	IAmb	IAmb	12 24 29.5	
	comp=Z,9.7nm,0.8s						
CAST	**Castle Rocks**	**75.86**	**358**	P	**P**	**12 24 29.6**	**+0.9**
CAST				IAmb	IAmb	12 24 30.6	
	comp=Z,9.9nm,0.8s						
KSRS	**Korea Array**	**76.24**	**52**	P	**P**	**12 24 31.0**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=310,slow=4.5,SNR=4.5						
	comp=Z,1.8nm,0.7s						
KSRS	**Korea Array**	**76.24**	**52**	P	**P**	**12 24 31.0**	**-0.3**
F36A	**Milaca**	**76.52**	**320**	P	**P**	**12 24 32.1**	**-0.6**
F36A				IAmb	IAmb	12 24 33.8	
	comp=Z,9.1nm,0.8s						
SKT	**Skwentna**	**77.28**	**357**	IAmb	IAmb	12 24 38.7	
	comp=Z,13nm,0.8s						
T47A	**Sharon Grove**	**79.31**	**310**	IAmb	IAmb	12 24 49.3	
	comp=Z,10nm,0.7s						
ECSD	**EROS Data Cent**	**79.57**	**320**	P	**P**	**12 24 50.1**	**+0.3**
CCM	**Cathedral Cave**	**80.91**	**313**		**P**	**12 24 57.0**	**-0.1**
CCM				IAmb	IAmb	12 24 57.8	
	comp=Z,7.3nm,0.8s						
CCM	**Cathedral Cave**	**80.91**	**313**	P	**P**	**12 24 57.0**	**-0.1**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
R40A	**Maddies Statio**	**81.30**	**314**	IAmb	IAmb	12 25 00.2	
	comp=Z,8.8nm,0.9s						
EGMT	**Eagleton**	**81.90**	**330**	IAmb	IAmb	12 25 04.3	
	comp=Z,20nm,1.2s						
MGMO	**Mountain Grove**	**82.12**	**313**	P	**P**	**12 25 03.6**	**+0.1**
MGMO				IAmb	IAmb	12 25 05.1	
	comp=Z,17nm,1.4s						
BAUV	**El Baul**	**84.80**	**277**	P	**P**	**12 25 16.7**	**-0.9**
LKWY	**Lake**	**85.02**	**328**	IAmb	IAmb	12 25 28.6	
	comp=Z,8.7nm,1.2s						
C09A	**Chrisman Ranch**	**85.08**	**335**	IAmb	IAmb	12 25 23.5	
	comp=Z,8.4nm,1.1s						
YMR	**Madison River**	**85.16**	**329**	IAmb	IAmb	12 25 22.6	
	comp=Z,7.4nm,1.0s						
YPP	**Pitchstone Pla**	**85.43**	**329**	IAmb	IAmb	12 25 31.8	
	comp=Z,14nm,1.4s						
E09A	**Wood Farm, Sta**	**86.17**	**334**	P	**P**	**12 25 24.0**	**+0.1**
E09A				IAmb	IAmb	12 25 28.9	
	comp=Z,7.4nm,1.1s						
PDAR	**Pinedale Array**	**86.17**	**327**	P	**P**	**12 25 23.9**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=54,slow=5.8,SNR=4.3						
	comp=Z,0.6nm,0.8s						
BDFB	**Brasilia**	**86.25**	**246**	P	**P**	**12 25 25.8**	**+0.9**
	comp=Z,6.1nm,0.9s,baz=45,slow=10.0,SNR=5.7						
	comp=Z,6.1nm,0.9s						
RDMU	**Red Mountain**	**88.00**	**326**	IAmb	IAmb	12 25 35.1	
	comp=Z,6.6nm,1.2s						
NVAR	**Mina Array Bea**	**93.33**	**330**	P	**P**	**12 25 58.3**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=48,slow=2.1,SNR=5.6						
	comp=Z,0.5nm,0.7s						
TXAR	**Lajitas Array**	**94.24**	**315**	P	**P**	**12 26 02.4**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=78,slow=3.2,SNR=5.8						
	comp=Z,0.5nm,0.8s						

DNK 10 12:14:20.6±0.9**, 56.°50N×13.°66E, h2**^{km}±5^{km}**, ML1.3, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEL	**Delary**	**0.12**	**104**	*i* P	Pg	12 14 22.9	0.0
DEL				*i* S	Sg	12 14 24.4	-0.1
BJUU	**Bjuv**	**0.56**	**220**	*i* P	Pg	12 14 30.9	-0.3
BJUU				*i* S	Sg	12 14 38.1	-0.2
FABU	**Falkenberg**	**0.72**	**315**	*i* P	Pg	12 14 34.4	0.0
FABU				*i* S	Sg	12 14 43.3	-0.5
BLEU	**Blekinge**	**1.21**	**98**	*i* P	Pg	12 14 42.5	-1.4
BLEU				*i* S	Sg	12 14 59.4	-0.1
ONAU	**Onsala**	**1.31**	**314**	*i* P	Pg	12 14 44.5	-1.2
ONAU				*i* S	Sg	12 15 01.7	-0.9
BSD	**Bornholm Skovb**	**1.56**	**152**	*i* P	Pn	12 14 47.9	-1.5
BSD				*i* S	Sn	12 15 09.6	-0.5
BSD				IAML		12 15 11.1	
	comp=Z,1.1nm,0.2s						

MOS ***10*** *12:24:08.1±1.1, 49.°99S×114.°32E, h10^{km}, mb5.3/19, MS5.4/4, Error ellipse: s-maj=20.5km s-min=9.0km az=75.2*

IDC ***10*** *12:24:08.2±0.5, 49.°99S×114.°42E, h0^{km}, mb4.8/18, mbtmp4.8/19, ML2.2/1, MS5.3/47, Error ellipse: s-maj=23.7km s-min=12.0km az=110.0*

BJI ***10*** *12:24:09.4±0.0, 49.°72S×114.°42E, h10^{km}, mb4.9/42, mB5.4/33, Ms5.7/47, Ms7 5.5/44*

NEIC ***10*** *12:24:10.1, 50.°02S×114.°21E, h6^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.28; $M_{\theta\theta}$3.77; $M_{\phi\phi}$-3.49; $M_{r\theta}$0.62; $M_{\theta\phi}$2.53; $M_{\phi r}$1.52; Fault plane solution: $M_0$4.72000×10^{17} NP1:ϕ_s208.22000°, δ86.98000°, λ-159.50000°. NP2:ϕ_s117.10000°, δ69.53000°, λ-3.22000°. Principal axes: T 4.7869, Plg12.0000°, Azm341.0000°; N -0.1305, Plg69.0000°, Azm216.0000°; P -4.6563, Plg17.0000°, Azm75.0000°;*

NEIC ***10*** *12:24:10.0±1.8, 50.°05S±0.°10×114.°4E±0.°2, h10^{km}±1^{km}, mb5.2/47, Ms_20 5.6/214, Mwb5.7/33 Error ellipse: s-maj=20.4km s-min=16.0km az=284.0*

GCMT ***10*** *12:24:14.0±0.1, 49.°98S×114.°25E, h12^{km}, MW5.8/166, Moment Tensor Solution. s131,c272; s166,c351; Duration: 1.s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.55±.05; $M_{\theta\theta}$4.66±.05; $M_{\phi\phi}$-4.11±.05; $M_{r\theta}$-0.07±.13; $M_{\theta\phi}$4.01±.04; $M_{\phi r}$-0.32±.13; Best double couple: $M_0$5.95200×10^{17} NP1:ϕ_s24.00000°, δ89.00000°, λ-177.00000°. NP2:ϕ_s294.00000°, δ87.00000°, λ-1.00000°. Principal axes: T 6.2220, Plg1.0000°, Azm159.0000°; N -0.5380, Plg87.0000°, Azm43.0000°; P -5.6810, Plg3.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 12:24:10.7±0.3**, 50.°08S**±0.°04×**114.°21E**±0.°06**, h15**^{km}**, n457, σ1.s85**/342**, mb5.2**/83**, MS5.6**/170**, 5C-2D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.17**	**360**	T	T	12 43 04.0	
	baz=180,slow=74,SNR=814						
H01W1	**Cape Leeuwin H**	**15.18**	**360**	T	T	12 43 05.6	
	baz=180,slow=74,SNR=818						
H01W3	**Cape Leeuwin H**	**15.19**	**360**	T	T	12 43 07.8	
	baz=180,slow=74,SNR=840						
AUALB	**St Joseph's Co**	**15.31**	**12**	P	**Pn**	**12 27 47.6**	**+1.4**
RKGY	**Rocky Gully**	**15.60**	**9**	P	**Pn**	**12 27 49.8**	**-0.1**
	baz=16,SNR=43						
CASY	**Casey**	**16.36**	**185**	P	**Pn**	**12 27 59.3**	**-0.2**
CASY				IAmb	IAmb	12 28 05.1	
	comp=Z,180nm,1.2s						
NWAO	**Narrogin (SRO)**	**17.29**	**9**	P	**Pn**	**12 28 09.6**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=58,slow=8.9,SNR=3.5						
NWAO				LR	LR	12 33 06.5	
	comp=Z,23μm,21.1s,baz=49,slow=31						
	comp=Z,32nm,0.9s						
NWAO	**Narrogin (SRO)**	**17.29**	**9**	P	**Pn**	**12 28 10.2**	**-1.3**
	baz=17,SNR=7.6						
NWAO				P	**Pn**	**12 28 10.2**	**-1.3**
	baz=17,SNR=7.6						
NWAO	**Narrogin (SRO)**	**17.29**	**9**		**Pn**	**12 28 11.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**17.29**	**9**	P	**Pn**	**12 28 10.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**17.29**	**9**	P	**Pn**	**12 28 11.3**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,98nm,1.2s						
MUN	**Mundaring**	**18.15**	**5**	P	**Pn**	**12 28 21.6**	**-0.5**
	baz=18,SNR=4.6						
MUN	**Mundaring**	**18.15**	**5**	P	**P**	**12 28 23.0**	**+0.6**
KLBR	**Kellerberrin**	**18.66**	**9**	P	**P**	**12 28 26.2**	**-1.8**
	baz=19,SNR=7.0						
KLBR				S	**Sn**	**12 31 57.2**	**+0.5**
	baz=19						
KLBR	**Kellerberrin**	**18.66**	**9**	P	**P**	**12 28 26.9**	**-1.1**
BLDU	**Ballidu**	**19.54**	**6**	P	**P**	**12 28 35.5**	**-2.1**
	baz=20						
BLDU	**Ballidu**	**19.54**	**6**	P	**P**	**12 28 35.7**	**-1.9**
KMBL	**Kambalda**	**19.56**	**20**	P	**P**	**12 28 37.8**	**-0.1**
MORW	**Morawa**	**21.03**	**4**	P	**P**	**12 28 52.5**	**-1.4**
	baz=21,SNR=7.6						
MORW	**Morawa**	**21.03**	**4**	P	**P**	**12 28 52.7**	**-1.1**
MORW				IAmb	IAmb	12 28 59.1	
	comp=Z,121nm,1.1s						
MORW	**Morawa**	**21.03**	**4**	P	**P**	**12 28 52.5**	**-1.4**
FORT	**Forrest**	**21.91**	**34**	P	**P**	**12 29 03.0**	**-0.2**
	baz=22,SNR=11						
FORT	**Forrest**	**21.91**	**34**	P	**P**	**12 29 02.7**	**-0.5**
FORT	**Forrest**	**21.91**	**34**	P	**P**	**12 29 04.7**	**+1.5**
BBOO	**Buckleboo**	**23.65**	**51**	P	**P**	**12 29 20.8**	**-0.6**
	baz=24						
BBOO	**Buckleboo**	**23.65**	**51**	P	**P**	**12 29 20.5**	**-0.9**
BBOO				IAmb	IAmb	12 29 33.6	
	comp=Z,118nm,1.6s						
BBOO	**Buckleboo**	**23.65**	**51**	P	**P**	**12 29 23.9**	**+2.5**
MEEK	**Meekatharra**	**23.65**	**10**	P	**P**	**12 29 19.6**	**-1.9**
	baz=24,SNR=3.6						
MEEK	**Meekatharra**	**23.65**	**10**	P	**P**	**12 29 22.9**	**+1.4**
	comp=Z,67nm,1.8s						
TAU	**Tasmania Unive**	**23.75**	**85**	P	**P**	**12 29 21.2**	**-1.1**
TAU				IAmb	IAmb	12 29 31.4	
	comp=Z,212nm,1.8s						
TAU	**Tasmania Unive**	**23.75**	**85**	IAMs_20	IAMs_20	12 36 28.2	
	comp=Z,19μm,18.0s						
TAU	**Tasmania Unive**	**23.75**	**85**	P	**P**	**12 29 26.3**	**+4.1**
TAU	**Tasmania Unive**	**23.75**	**85**	P	**P**	**12 29 21.2**	**-1.1**
TAU				pmax	pmax		
	comp=Z,212nm,1.8s						
MOO	**Moorlands**	**23.90**	**84**	P	**P**	**12 29 23.5**	**-0.2**
	baz=24,SNR=6.4						
MOO	**Moorlands**	**23.90**	**84**	P	**P**	**12 29 26.2**	**+2.5**
ARPS	**Mount Arapiles**	**23.91**	**67**	P	**P**	**12 29 24.0**	**+0.1**
	baz=24,SNR=18						
ARPS	**Mount Arapiles**	**23.91**	**67**	P	**P**	**12 29 24.4**	**+0.5**
WHYH	**Whyalla**	**24.25**	**54**	P	**P**	**12 29 30.1**	**+3.1**
CORO	**Coronation Par**	**24.38**	**82**	P	**P**	**12 29 31.4**	**+3.3**
GEXS	**Deakin Univers**	**24.46**	**72**	P	**P**	**12 29 31.2**	**+2.3**
AULHS	**Lilydale High**	**24.53**	**82**	P	**P**	**12 29 31.0**	**+1.5**
BRAT	**Ballarat**	**24.66**	**71**	P	**P**	**12 29 32.2**	**+1.5**
HTT	**Hallett**	**24.66**	**57**	P	**P**	**12 29 29.8**	**-1.0**
	baz=25,SNR=6.4						
HTT	**Hallett**	**24.66**	**57**	P	**P**	**12 29 29.8**	**-1.0**
MULG	**Mulgathing**	**24.78**	**44**	P	**P**	**12 29 32.2**	**+0.3**
GLAD	**Gladstone**	**25.18**	**82**	P	**P**	**12 29 37.8**	**+2.4**
TOO	**Toolangi**	**25.60**	**73**	P	**P**	**12 29 38.9**	**-0.3**
	baz=26,SNR=7.2						
TOO				S	**S**	**12 34 06.0**	**-0.7**
	baz=26						
TOO	**Toolangi**	**25.60**	**73**	P	**P**	**12 29 39.3**	**+0.1**
TOO				IAmb	IAmb	12 29 48.1	
	comp=Z,65nm,1.2s						
TOO	**Toolangi**	**25.60**	**73**	P	**P**	**12 29 41.9**	**+2.6**
TOO	**Toolangi**	**25.60**	**73**	P	**P**	**12 29 39.3**	**+0.1**
TOO				pmax	pmax		
	comp=Z,65nm,1.3s						
LCRK	**Leigh Creek**	**26.64**	**52**	P	**P**	**12 29 50.6**	**+1.9**
WRKA	**Warakurna**	**27.29**	**29**	P	**P**	**12 29 53.0**	**-1.6**
	baz=27,SNR=13						
WRKA	**Warakurna**	**27.29**	**29**	P	**P**	**12 29 53.2**	**-1.4**
STKA	**Stephens Creek**	**27.30**	**59**	P	**P**	**12 29 52.9**	**-1.7**
	comp=Z,20nm,1.1s,baz=194,slow=10,SNR=12						
STKA				LR	LR	12 38 38.0	
	comp=Z,11μm,21.8s,baz=215,slow=32						
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**27.30**	**59**	P	**P**	**12 29 53.5**	**-1.2**
	baz=27,SNR=10						
STKA	**Stephens Creek**	**27.30**	**59**	P	**P**	**12 29 53.1**	**-1.6**
STKA	**Stephens Creek**	**27.30**	**59**	P	**P**	**12 29 53.3**	**-1.3**
STKA	**Stephens Creek**	**27.30**	**59**	P	**P**	**12 29 53.1**	**-1.6**
STKA				pmax	pmax		
	comp=Z,13nm,1.3s						
MCQ	**Macquarie Isla**	**27.36**	**117**	P	**P**	**12 29 52.6**	**-2.4**
	baz=27						
PAF	**Port-aux-Franc**	**28.15**	**254**	IAMs_20	IAMs_20	12 38 13.4	
	comp=Z,16μm,18.0s						
MILA	**Mila**	**28.19**	**76**	P	**P**	**12 30 06.2**	**+3.5**
AUSMG	**Snowy Mountain**	**28.25**	**74**	P	**P**	**12 30 06.0**	**+2.8**
PSA00	**Pilbara Seismi**	**28.80**	**11**	P	**P**	**12 30 07.3**	**-0.8**
AIS	**Amsterdam Isla**	**28.80**	**281**	IAMs_20	IAMs_20	12 38 43.5	
	comp=Z,10μm,20.0s						
MBWA	**Marble Bar**	**29.19**	**11**	IAMs_20	IAMs_20	12 40 27.4	
	comp=Z,10μm,19.0s						
CAN	**Canberra**	**29.21**	**73**	P	**P**	**12 30 11.6**	**-0.1**
CAN				IAmb	IAmb	12 30 18.3	
	comp=Z,46nm,1.4s						
CAN				IAMs_20	IAMs_20	12 39 37.6	
	comp=Z,12μm,20.0s						
CAN	**Canberra**	**29.21**	**73**	P	**P**	**12 30 13.1**	**+1.4**
CAN	**Canberra**	**29.21**	**73**	P	**P**	**12 30 11.6**	**-0.1**
CAN				pmax	pmax		
	comp=Z,46nm,1.4s						
CNB	**Canberra Magne**	**29.43**	**73**	P	P	12 30 19.5	+5.8
CMSA	**Cobar Meteorol**	**29.86**	**64**	P	**P**	**12 30 17.6**	**+0.2**
	baz=30,SNR=8.3						
CMSA	**Cobar Meteorol**	**29.86**	**64**	P	**P**	**12 30 17.7**	**+0.2**
ASAR	**Alice Springs**	**30.52**	**37**	P	**P**	**12 30 21.2**	**-2.1**
	comp=Z,8.5nm,0.9s,baz=212,slow=8.4,SNR=35						
ASAR				LR	LR	12 40 56.7	
	comp=Z,7μm,20.8s,baz=207,slow=33						
	comp=Z,8.5nm,0.9s						
ASAR	**Alice Springs**	**30.52**	**37**	P	**P**	**12 30 21.6**	**-1.8**
ASAR	**Alice Springs**	**30.52**	**37**	P	**P**	**12 30 21.6**	**-1.8**
AS31	**Alice Springs**	**30.52**	**37**	P	**P**	**12 30 21.1**	**-2.3**
AS01	**Alice Springs**	**30.54**	**38**	P	**P**	**12 30 21.5**	**-2.1**
MAW	**Mawson**	**30.61**	**216**	P	**P**	**12 30 24.7**	**+1.1**
	comp=Z,10nm,0.6s,baz=92,slow=11,SNR=18						
MAW				LR	LR	12 40 17.8	
	comp=Z,2μm,18.8s,baz=72,slow=32						
	comp=Z,10nm,0.6s						
MAW	**Mawson**	**30.61**	**216**	P	**P**	**12 30 23.9**	**+0.3**
	baz=30,SNR=6.5						
MAW	**Mawson**	**30.61**	**216**	P	**P**	**12 30 24.4**	**+0.8**
MAW	**Mawson**	**30.61**	**216**	P	**P**	**12 30 24.5**	**+0.8**
AULRC	**Lightning Ridg**	**32.75**	**64**	P	**P**	**12 30 45.3**	**+2.5**
VNDA	**Vanda**	**32.76**	**163**	P	**P**	**12 30 41.8**	**-0.7**
	comp=Z,4.3nm,0.8s,baz=297,slow=10.0,SNR=17						
VNDA				LR	LR	12 43 27.4	
	comp=Z,17μm,18.1s,baz=324,slow=35						
	comp=Z,4.3nm,0.8s						
VNDA	**Vanda**	**32.76**	**163**	P	**P**	**12 30 42.5**	**0.0**
VNDA				IAmb	IAmb	12 30 55.2	
	comp=Z,42nm,1.5s						
VNDA	**Vanda**	**32.76**	**163**	P	**P**	**12 30 42.5**	**0.0**
VNDA				pmax	pmax		
	comp=Z,42nm,1.5s						
QLP	**Quilpie**	**32.87**	**56**	P	**P**	**12 30 46.0**	**+2.0**
AUPHS	**Peel High Scho**	**33.25**	**69**	P	**P**	**12 30 50.2**	**+2.9**
SBA	**Scott Base**	**33.85**	**162**	P	**P**	**12 30 52.5**	**+0.5**
SBA	**Scott Base**	**33.85**	**162**	IAMs_20	IAMs_20	12 43 57.8	
	comp=Z,10μm,18.0s						
SBA	**Scott Base**	**33.85**	**162**	P	**P**	**12 30 52.5**	**+0.5**
SBA				pmax	pmax		
	comp=Z,135nm,2.0s						
SBA				MLR	MLR		
	comp=Z,10μm,18.0s						
WRA	**Warramunga Arr**	**34.07**	**35**	P	**P**	**12 30 52.4**	**-2.1**
	comp=Z,25nm,0.9s,baz=202,slow=10,SNR=78						
WRA				LR	LR	12 43 20.3	
	comp=Z,4μm,21.9s,baz=196,slow=34						
	comp=Z,25nm,0.9s						
WRA	**Warramunga Arr**	**34.07**	**35**	P	**P**	**12 30 52.5**	**-1.9**
WRA	**Warramunga Arr**	**34.07**	**35**	P	**P**	**12 30 52.5**	**-1.9**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
WB2	**Warramunga Arr**	**34.07**	**35**	P	**P**	**12 30 52.5**	**-1.9**
	baz=34						
WB2	**Warramunga Arr**	**34.07**	**35**	P	**P**	**12 30 52.6**	**-1.9**
WB2				IAmb	IAmb	12 30 55.8	
	comp=Z,44nm,1.0s						
WRAB	**Tennant Creek**	**34.08**	**35**	P	**P**	**12 30 52.5**	**-2.1**
WRAB				IAmb	IAmb	12 31 04.2	
	comp=Z,36nm,0.8s						
WRAB	**Tennant Creek**	**34.08**	**35**	P	**P**	**12 30 52.5**	**-2.1**
WRAB	**Tennant Creek**	**34.08**	**35**	*ce*P	**P**	**12 30 52.9**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,88nm,1.7s						
WR0	**Warramunga Arr**	**34.13**	**36**	P	**P**	**12 30 53.1**	**-1.8**
ARMA	**Armidale**	**34.18**	**69**	P	**P**	**12 30 55.8**	**+0.3**
	baz=34,SNR=6.3						
ARMA	**Armidale**	**34.18**	**69**	P	**P**	**12 30 53.0**	**-2.5**
ARMA				IAmb	IAmb	12 31 02.4	
	comp=Z,80nm,1.6s						
ARMA	**Armidale**	**34.18**	**69**	P	**P**	**12 30 58.6**	**+3.1**
WB0	**Warramunga Arr**	**34.25**	**35**	P	**P**	**12 30 54.0**	**-2.0**
WB0				IAmb	IAmb	12 30 57.3	
	comp=Z,31nm,0.9s						
RMQ	**Roma**	**35.43**	**61**	P	**P**	**12 31 06.2**	**0.0**
	baz=35,SNR=16						
RMQ	**Roma**	**35.43**	**61**	P	**P**	**12 31 06.1**	**0.0**
QIS	**Mount Isa**	**35.67**	**44**	P	**P**	**12 31 07.2**	**-1.1**
	baz=36						
QIS	**Mount Isa**	**35.67**	**44**	P	**P**	**12 31 07.0**	**-1.3**
KNRA	**Kununurra**	**36.29**	**24**	P	**P**	**12 31 11.7**	**-1.8**
	baz=36						
KNRA	**Kununurra**	**36.29**	**24**	P	**P**	**12 31 13.8**	**+0.3**
KNRA				IAmb	IAmb	12 31 22.1	
	comp=Z,38nm,1.3s						
KNRA	**Kununurra**	**36.29**	**24**	P	**P**	**12 31 12.5**	**-1.0**
JCZ	**Jackson Bay**	**36.94**	**102**	P	P	12 31 25.9	+6.9
AUWSH	**Wavell State H**	**37.22**	**67**	P	**P**	**12 31 22.8**	**+1.4**
AUBSH	**Beerwah State**	**37.57**	**66**	P	**P**	**12 31 28.0**	**+3.6**
EIDS	**Eidsvold**	**37.61**	**63**	P	**P**	**12 31 27.9**	**+3.1**
RPZ	**Rata Peaks**	**38.54**	**103**	LR	LR	12 44 17.9	
	comp=Z,4μm,21.4s,baz=243,slow=32						
CTA	**Charters Tower**	**39.25**	**52**	P	**P**	**12 31 37.2**	**-1.4**
	comp=Z,9.8nm,1.1s,baz=216,slow=8.3,SNR=6.3						
CTA				LR	LR	12 47 10.6	
	comp=Z,10μm,19.2s,baz=211,slow=35						
	comp=Z,9.8nm,1.1s						
CTA	**Charters Tower**	**39.25**	**52**	P	**P**	**12 31 40.8**	**+2.2**
CTAO	**Charters Tower**	**39.25**	**52**	P	**P**	**12 31 38.1**	**-0.5**
CTAO	**Charters Tower**	**39.25**	**52**	IAMs_20	IAMs_20	12 46 57.9	
	comp=Z,9μm,20.0s						
CTAO	**Charters Tower**	**39.25**	**52**	P	**P**	**12 31 40.1**	**+1.5**
CTAO	**Charters Tower**	**39.25**	**52**	P	**P**	**12 31 38.1**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,35nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,9μm,20.0s						
MTN	**Manton Dam**	**39.64**	**26**	P	**P**	**12 31 40.6**	**-1.2**
	baz=40,SNR=4.7						
MTN	**Manton Dam**	**39.64**	**26**	P	**P**	**12 31 40.2**	**-1.7**
MTSU	**Mount Surprise**	**39.95**	**48**	P	**P**	**12 31 43.9**	**-0.6**
	baz=40,SNR=4.2						
MTSU	**Mount Surprise**	**39.95**	**48**	P	**P**	**12 31 43.5**	**-1.0**
QSPA	**South Pole Qui**	**40.05**	**180**	P	**P**	**12 31 45.5**	**+0.6**
	comp=Z,8.0nm,0.6s,baz=321,slow=2.1,SNR=29						
QSPA				LR	LR	12 47 46.2	
	comp=Z,21μm,18.5s,baz=330,slow=35						
	comp=Z,8.0nm,0.6s						
QSPA	**South Pole Qui**	**40.05**	**180**	P	**P**	**12 31 45.5**	**+0.6**
QSPA				IAmb	IAmb	12 31 50.4	
	comp=Z,191nm,2.0s						
KDU	**Kakadu**	**40.19**	**28**	P	**P**	**12 31 44.7**	**-1.7**
	baz=40,SNR=5.8						
KDU	**Kakadu**	**40.19**	**28**	P	**P**	**12 31 44.7**	**-1.7**
COCO	**West Island**	**40.39**	**333**	IAMs_20	IAMs_20	12 43 34.0	
	comp=Z,9μm,22.0s						
BATI	**Baumata**	**40.52**	**14**	P	**P**	**12 31 49.3**	**+0.2**
	comp=Z,32nm,0.6s,baz=304,slow=14,SNR=4.9						
BATI				LR	LR	12 49 00.6	
	comp=Z,7μm,18.1s,baz=199,slow=37						
	comp=Z,32nm,0.6s						
BATI	**Baumata**	**40.52**	**14**	P	**P**	**12 31 53.4**	**+4.2**
	comp=Z,79nm,1.5s						
THZ	**Tophouse**	**40.72**	**102**	P	**P**	**12 31 51.4**	**+0.7**
THZ				IAmb	IAmb	12 32 23.7	
	comp=Z,117nm,1.9s						
KHZ	**Kahutara**	**40.77**	**103**	P	P	12 31 56.9	+5.9
SOEI	**Soe**	**41.06**	**15**	P	**P**	**12 31 54.3**	**+0.6**
SOEI	**Soe**	**41.06**	**15**	P	**P**	**12 31 56.7**	**+3.0**
	comp=Z,2μmcomp=Z,87nm,1.3s						
SOEI	**Soe**	**41.06**	**15**	P	**P**	**12 31 55.3**	**+1.6**
TWSI	**Taliwang, Sumb**	**41.27**	**4**	P	**P**	**12 31 56.6**	**+1.3**
	comp=Z,48nm,1.5s						
BSWZ	**Blackbirch Sta**	**41.36**	**102**	P	**P**	**12 31 56.2**	**+0.4**
MMRI	**Maumere**	**41.85**	**12**	P	**P**	**12 31 59.5**	**-0.6**
MMRI	**Maumere**	**41.85**	**12**	P	P	12 32 05.2	+5.1
	comp=Z,84nm,1.6s						
MMRI	**Maumere**	**41.85**	**12**	P	**P**	**12 31 59.3**	**-0.8**
COEN	**Coen**	**43.07**	**44**	P	**P**	**12 32 09.6**	**-0.4**
	baz=43,SNR=4.8						
COEN	**Coen**	**43.07**	**44**	P	**P**	**12 32 09.2**	**-0.9**
COEN	**Coen**	**43.07**	**44**	P	**P**	**12 32 09.5**	**-0.5**
LEM	**Lembang**	**43.46**	**350**	P	**P**	**12 32 12.6**	**-0.8**
	comp=Z,14nm,0.5s,baz=168,slow=9.7,SNR=6.6						
LEM				LR	LR	12 46 18.3	
	comp=Z,13μm,21.9s,baz=172,slow=31						
	comp=Z,14nm,0.5s						
SAUI	**Saumlaki**	**44.32**	**25**	IAMs_20	IAMs_20	12 46 51.5	
	comp=Z,8μm,20.0s						
BKZ	**Black Stump Fm**	**44.44**	**101**	P	**P**	**12 32 19.0**	**-1.9**
BKZ				IAmb	IAmb	12 32 37.2	
	comp=Z,23nm,0.9s						
BKZ	**Black Stump Fm**	**44.44**	**101**	P	**P**	**12 32 21.5**	**+0.6**
KASI	**Kota Agung**	**45.15**	**346**	P	**P**	**12 32 30.4**	**+3.7**

comp=Z,41nm,1.6s
KAPI Kappang 45.15 8 P **P** **12 32 24.9 -1.8**
comp=Z,17nm,0.3s,baz=205,slow=5.5,SNR=5.5
KAPI LR LR 12 52 18.7
comp=Z,3µm,18.2s,baz=193,slow=38
comp=Z,17nm,0.3s
KAPI Kappang 45.15 8 P **P** **12 32 31.0 +4.3**
comp=Z,612nmcomp=Z,26nm,1.0s
KAPI Kappang 45.15 8 P **P** **12 32 27.5 +0.8**
KAPI Kappang 45.15 8 *i* P **P** **12 32 25.1 -1.6**
KAPI pmax pmax
comp=Z,21nm,1.2s
BBKI Banjar Baru 46.45 1 P **P** **12 32 40.2 +3.2**
comp=Z,44nm,1.0s
NVL N'lazarevskaya 47.48 206 *e*P **P** **12 32 44.0 -0.4**
NVL *e* 12 34 35.5
NVL *e*S **S** **12 39 36.2 -1.8**
NVL *e*SS **SS** **12 43 02.0 -3.1**
NVL pmax pmax
comp=Z,21nm,0.8s
NVL MLR MLR
comp=Z,3µm,16.0s
PMBI Palembang 47.66 347 IAMs_20 IAMs_20 12 48 35.2
comp=Z,6µm,21.0s
KRAI Karang Ratu 48.12 19 P **P** **12 32 51.8 +1.8**
comp=Z,1µmcomp=Z,14nm,1.2s
BKB Balikpapan 48.69 4 IAMs_20 IAMs_20 12 50 51.2
comp=Z,6µm,20.0s
PMG Port Moresby 48.88 45 P **P** **12 32 53.9 -1.9**
comp=Z,10.0nm,0.8s,baz=222,slow=12,SNR=3.6
PMG LR LR 12 53 05.8
comp=Z,5µm,18.3s,baz=200,slow=36
comp=Z,10.0nm,0.8s
PMG Port Moresby 48.88 45 P **P** **12 32 54.5 -1.4**
PMG Port Moresby 48.88 45 IAMs_20 IAMs_20 12 51 27.2
comp=Z,6µm,20.0s
PMG Port Moresby 48.88 45 P **P** **12 32 58.2 +2.3**
comp=Z,38nm,1.4s
PMG Port Moresby 48.88 45 P **P** **12 32 54.8 -1.1**
PMG Port Moresby 48.88 45 P **P** **12 32 54.5 -1.4**
PMG pmax pmax
comp=Z,74nm,1.4s
SANI Sanana 48.90 16 P **P** **12 32 53.6 -2.3**
KOUNC **Koumac, New Ca 49.13 72** P **P** **12 32 58.7 +1.0**
TROLL **Troll, Antarti 49.23 202** P **P** **12 32 58.5 +0.4**
DZM Mont Dzumac 49.33 75 *e*P **P** **12 33 00.5 +1.1**
comp=Z,258nm,25.2s
DZM Mont Dzumac 49.33 75 *e*PP **PP** **12 34 52.5 -0.8**
comp=Z,252nm,27.1s
DZM *e*S **S** **12 40 05.6 +0.2**
comp=Z,2µm,29.1s
DZM *e*LR LR 12 47 00.4
comp=Z,8µm,27.3s
DZM Mont Dzumac 49.33 75 LR LR 12 50 44.6
comp=Z,4µm,19.2s,baz=210,slow=32
DZM Mont Dzumac 49.33 75 P **P** **12 32 58.4 -1.0**
DZM IAmb IAmb 12 33 28.6
comp=Z,68nm,1.8s
DZM Mont Dzumac 49.33 75 P P 12 33 04.5 +5.1
LUWI Luwuk 49.40 11 P **P** **12 32 58.2 -1.6**
SDSI Sungai Dareh 50.17 343 P **P** **12 33 05.8 +0.2**
comp=Z,3µmcomp=Z,3µmcomp=Z,30nm,1.6s
SISI Saibi 50.26 340 P **P** **12 33 09.6 +3.3**
comp=Z,55nm,1.5s
PDSI Padang 50.37 342 P P 12 33 17.0 +10
LBMI Labuha 50.55 17 P **P** **12 33 09.9 +1.4**
comp=Z,2µmcomp=Z,84nm,1.4s
SNAA Sanae 50.74 201 P **P** **12 33 10.2 +0.8**
SNAA Sanae 50.74 201 P **P** **12 33 10.3 +0.8**
comp=Z,8.0nm,0.7s,baz=134,slow=12,SNR=23
SNAA LR LR 12 53 40.8
comp=Z,4µm,19.7s,baz=134,slow=35
comp=Z,8.0nm,0.7s
SNAA Sanae 50.74 201 P **P** **12 33 09.8 +0.4**
SNAA IAmb IAmb 12 33 18.3
comp=Z,35nm,1.1s
SNAA Sanae 50.74 201 *e*P **P** **12 33 10.8 +1.4**
SNAA Sanae 50.74 201 P **P** **12 33 09.8 +0.4**
SNAA pmax pmax
comp=Z,35nm,1.1s
BELA Belgrano 2 50.88 188 P **P** **12 33 10.2 -0.2**
BELA IAmb IAmb 12 33 32.8
comp=Z,26nm,1.0s
SIJI Sorong 51.15 22 LR LR 12 56 22.8
comp=Z,1µm,18.9s,baz=165,slow=38
TOLI2 Tolitoli 51.31 8 P **P** **12 33 12.8 -1.4**
TOLI2 IAmb IAmb 12 33 16.6
comp=Z,29nm,1.1s
TOLI2 Tolitoli 51.31 8 P **P** **12 33 16.3 +2.1**
comp=Z,29nm,1.4s
KSM Kuching 51.47 355 P **P** **12 33 15.0 -0.4**
KSM IAMs_20 IAMs_20 12 52 54.6
comp=Z,5µm,20.0s
KSM Kuching 51.47 355 P **P** **12 33 16.3 +0.9**
BKNI Bangkinang 51.47 343 P **P** **12 33 17.1 +1.7**
VNA2 Neumayer--Watz 52.31 201 P **P** **12 33 22.5 +1.4**
baz=128,slow=7.9
MYKOM **Kota Tinggi 52.43 347** P **P** **12 33 22.3 -0.3**
MYKOM IAmb IAmb 12 33 31.1
comp=Z,32nm,1.4s
MYKOM IAMs_20 IAMs_20 12 51 00.8
comp=Z,6µm,22.0s
MYKOM **Kota Tinggi 52.43 347** P P 12 33 31.0 +8.4
VNA3 Neumayer Olymp 52.59 200 P **P** **12 33 23.4 +0.2**
VNA1 Neumayer--Stat 52.71 201 P **P** **12 33 26.2 +2.2**
SBSI Sibolga 53.09 341 P **P** **12 33 27.2 -0.3**
comp=Z,2µmcomp=Z,2µmcomp=Z,78nm,0.8s
GSI Gunungsitoli 53.14 339 P **P** **12 33 27.5 -0.3**
GSI Gunungsitoli 53.14 339 P **P** **12 33 30.7 +2.8**
comp=Z,45nm,1.2s
GSI Gunungsitoli 53.14 339 P **P** **12 33 29.4 +1.5**
RAO Raoul Island 54.28 94 LR LR 12 54 26.2
comp=Z,1µm,18.1s,baz=205,slow=34
PSI Prapat 54.30 341 P **P** **12 33 35.8 -0.7**
comp=Z,11nm,1.8s
H08S2 Diego Garcia H 54.71 306 T T 13 32 31.1
baz=148,slow=76,SNR=244
H08S1 Diego Carcia H 54.72 306 T T 13 32 32.6
baz=148,slow=76,SNR=92
H08S3 Diego Garcia H 54.73 306 T T 13 32 32.6
baz=148,slow=76,SNR=328
DGAR Diego Garcia 54.93 306 IAMs_20 IAMs_20 12 53 01.0
comp=Z,4µm,19.0s
MYLDM **Lahad Datu 55.16 5** IAMs_20 IAMs_20 12 54 37.6
comp=Z,6µm,22.0s
KCSI Kotacane, Aceh 55.24 340 P **P** **12 33 44.3 +1.1**
comp=Z,20nm,1.4s
HNR Honiara 55.38 59 LR LR 12 55 44.8
comp=Z,36µm,18.3s,baz=218,slow=34
HNR Honiara 55.38 59 IAMs_20 IAMs_20 12 56 36.0
comp=Z,5µm,18.0s
KRVT Keravat (AS076 55.63 48 LR LR 12 56 35.1
comp=Z,5µm,20.2s,baz=345,slow=35
DAV Davao City (W) 57.77 13 LR LR 12 57 50.3
comp=Z,2µm,21.4s,baz=192,slow=35
VOI Vohitsoka 59.11 272 IAMs_20 IAMs_20 12 53 21.2
comp=Z,3µm,20.0s
MSVF Nonsavu 59.85 82 LR LR 12 56 27.4
comp=Z,3µm,18.4s,baz=219,slow=32
MSVF Nonsavu 59.85 82 IAMs_20 IAMs_20 12 56 07.1
comp=Z,3µm,19.0s
ABPO Ambohimpanom 60.92 275 IAMs_20 IAMs_20 12 54 59.0
comp=Z,4µm,19.0s
KAAM Kaadhehdhoo 61.44 311 IAMs_20 IAMs_20 12 53 46.5
comp=Z,3µm,22.0s
SMAI San Martin Ant 62.11 179 P **P** **12 34 30.6 +0.3**
SMAI IAmb IAmb 12 34 52.2
comp=Z,21nm,1.2s
GRHM Grahamstown, E 64.02 249 *e*P **P** **12 34 44.4 +0.8**
GRHM IAmb IAmb 12 34 46.5
comp=Z,603nm,2.5s
PALK Pallekele 64.11 322 LR LR 12 56 01.7
comp=Z,6µm,21.5s,baz=260,slow=30
POGA Pongola 64.90 257 *e*P P 12 35 03.4 +14
PMSA Palmer Station 65.47 181 LR LR 13 04 08.5
comp=Z,5µm,19.2s,baz=180,slow=37
NWCL Newcastle 65.76 255 *e*P **P** **12 34 55.0 -0.1**
NWCL IAmb IAmb 12 35 04.6
comp=Z,114nm,2.0s
GRAF Camdeboo Natio 65.85 248 *e*P **P** **12 34 57.0 +1.4**
GRAF IAmb IAmb 12 35 02.5
comp=Z,1µm,3.7s
BFON Badsfontein, M 66.67 248 *e*P P 12 35 06.7 +5.8
BFON IAmb IAmb 12 35 13.1
comp=Z,162nm,2.3s
SNKL Senekal, Frees 66.69 253 *e*P P 12 35 07.9 +6.7
SNKL IAmb IAmb 12 35 11.6
comp=Z,28nm,1.1s
MSEY Mahe Island 66.72 292 IAMs_20 IAMs_20 12 57 10.8
comp=Z,3µm,20.0s
BRAK Brakfontein 67.15 248 *e*P P 12 35 11.2 +7.2
GRAN Grantham 67.21 247 *e*P **P** **12 35 05.0 +0.6**
GRAN IAmb IAmb 12 35 12.8
comp=Z,36nm,1.6s
MOPA Mopani 67.82 260 *e*P **P** **12 35 09.5 +1.3**
MOPA IAmb IAmb 12 35 21.0
comp=Z,326nm,3.7s
FRAZ Fraserburg 67.93 246 *e*P **P** **12 35 10.2 +1.2**
FRAZ IAmb IAmb 12 35 19.1
comp=Z,935nm,3.7s
SUR Sutherland 67.96 246 IAMs_20 IAMs_20 12 57 47.6
comp=Z,4µm,20.0s
BOSA Boshof 67.99 251 P **P** **12 35 10.1 +0.7**
comp=Z,6.0nm,1.1s,baz=133,slow=6.1,SNR=4.2
BOSA LR LR 12 59 20.4
comp=Z,3µm,18.8s,baz=133,slow=31
comp=Z,6.0nm,1.1s
BOSA Boshof 67.99 251 *e*P **P** **12 35 11.1 +1.7**
BOSA IAmb IAmb 12 35 29.0
comp=Z,115nm,2.3s
NONG Nongkai 68.55 349 P **P** **12 35 12.5 0.0**
PCHI Peechi 68.82 320 *e*P **P** **12 35 15.3 +0.9**
PCHI *e*S **S** **12 44 18.2 +0.6**
GUMO Guam 68.88 32 LR LR 13 04 53.7
comp=Z,536nm,20.0s,baz=202,slow=36
QIZ Qiongzhong 68.91 356 IAMs_20 IAMs_20 13 03 41.9
comp=Z,3µm,20.0s
QIZ Qiongzhong 68.91 356 P **P** **12 35 14.7 -0.1**
QIZ S **S** **12 44 23.0 +4.5**
QIZ LR LR
comp=Z,2µm,18.2s
QIZ LR LR
comp=Z,1µm,21.6s
QIZ LR LR
comp=Z,2µm,22.4s
SWZ Schweizer 68.97 253 *e*P **P** **12 35 19.8 +4.3**
SWZ IAmb IAmb 12 35 41.4
comp=Z,32nm,1.6s
AFI Afiamalu 69.21 87 LR LR 13 00 26.9
comp=Z,2µm,19.6s,baz=236,slow=32
PHRA Phrae 69.39 346 P **P** **12 35 17.3 -0.5**
CM31 Chiang Mai Arr 69.56 345 P **P** **12 35 18.3 -0.6**
CM31 IAmb IAmb 12 35 20.1
comp=Z,35nm,1.4s
CMAR Chiang Mai Arr 69.56 345 P **P** **12 35 18.0 -0.8**
comp=Z,4.5nm,0.6s,baz=188,slow=5.4,SNR=34
CMAR LR LR 13 00 59.5
comp=Z,1µm,21.8s,baz=170,slow=32
comp=Z,4.5nm,0.6s
CMAR Chiang Mai Arr 69.56 345 P **P** **12 35 17.4 -1.4**
MUSN Musina, Limpop 69.69 259 *e*P **P** **12 35 20.0 +0.1**
MUSN IAmb IAmb 12 35 32.4
comp=Z,26nm,1.3s
LEPH Lephalale, Lim 69.85 257 *e*P P 12 35 26.5 +5.6
CHTO Chiang Mai 69.91 345 P **P** **12 35 19.5 -1.5**
CHTO IAmb IAmb 12 35 38.2
comp=Z,28nm,1.6s
CHTO Chiang Mai 69.91 345 P **P** **12 35 19.5 -1.5**
CHTO pmax pmax
comp=Z,28nm,1.7s
LBTB Lobatse 70.38 254 LR LR 12 59 35.4
comp=Z,8µm,21.8s,baz=145,slow=30
LBTB Lobatse 70.38 254 *e*P **P** **12 35 24.7 +0.5**
RAR Rarotonga 71.53 101 LR LR 12 59 46.3
comp=Z,419nm,21.4s,baz=236,slow=30
MND Mandalay 73.55 343 P **P** **12 35 44.4 +1.6**
comp=Z,4.0nm,1.1s
HYBB Hyderabad (bro 74.21 325 *e*P **P** **12 35 47.0 +0.2**
HYBB IVMs_BB IVMs_BB 13 01 40.9
comp=Z,531nm,18.1s
SAIH SAIHA 74.66 340 *e*P **P** **12 35 47.9 -1.5**
SAIH IAmb IAmb 12 35 52.2
comp=Z,22nm,0.9s
BRDH Bariadhala 75.15 338 LR LR 13 09 47.4
comp=Z,4µm,18.0s,baz=180,slow=36
KMI Kunming 75.56 349 ⇑P **P** **12 35 55.7 +1.0**
KMI pP pP 12 35 58.8 +0.4
KMI S **S** **12 45 37.5 +2.6**
KMI SS **SS** **12 50 19.7 -7.0**
KMI pmax pmax
comp=Z,31nm,1.4s
KMI pmax pmax
comp=Z,320nm,7.8s
KMI LR LR
comp=Z,3µm,25.8s
KMI LR LR
comp=Z,2µm,21.3s
KMI LR LR
comp=Z,6µm,21.5s
LSZ Lusaka 75.91 263 LR LR 13 04 54.0
comp=Z,4µm,19.1s,baz=142,slow=32
LSZ Lusaka 75.91 263 P **P** **12 35 58.8 +1.8**
LSZ Lusaka 75.91 263 P **P** **12 35 58.8 +1.8**
TNCH TengChong 76.06 345 P **P** **12 35 58.5 +1.0**
TNCH pP sP 12 36 02.6 0.0
TNCH sP pwP 12 36 04.3 -1.8
TNCH PP **PP** **12 38 50.7 +2.0**
TNCH S **S** **12 45 42.8 +2.4**
TNCH sS sS 12 45 49.0 +2.2
TNCH SS **SS** **12 50 37.1 +2.8**
TNCH pmax pmax
comp=Z,30nm,1.3s
TNCH pmax pmax
comp=Z,250nm,4.4s
TNCH LR LR
comp=Z,2µm,17.4s
TNCH LR LR
comp=Z,1µm,16.5s
TNCH LR LR
comp=Z,5µm,19.5s
TBI Tubuai 76.34 110 *e*LQ LQ 12 56 19.0
comp=Z,10µm,24.8s
TBI *e*LR LR 12 59 32.0
comp=Z,54µm,22.0s
TBI *e*LR LR 12 59 32.4
comp=Z,11µm,23.8s
GYA Guiyang 76.49 353 ⇑P **P** **12 36 02.8 +2.9**
GYA S **S** **12 45 46.5 +1.6**
GYA pmax pmax
comp=Z,21nm,0.8s
GYA LR LR
comp=Z,2µm,22.4s
GYA LR LR
comp=Z,1µm,21.2s
GYA LR LR
comp=Z,3µm,23.8s
IMP Imphal 76.72 341 *e*P **P** **12 35 59.6 -1.5**
IMP IAmb IAmb 12 36 06.3
comp=Z,43nm,1.8s
PZH PanZhiHua 77.04 349 P **P** **12 36 03.4 +0.4**
PZH sP **pwP** **12 36 11.3 -0.3**
PZH S **S** **12 45 54.4 +3.4**
PZH SKS **SKSac** **12 46 13.7 -1.0**
PZH SS **SS** **12 50 46.8 -2.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,160nm,6.2s
PZH LR LR
comp=Z,2µm,20.2s
PZH LR LR
comp=Z,1µm,20.4s
PZH LR LR
comp=Z,3µm,19.9s
KOHI KOHIMA 77.55 341 *e*P **P** **12 36 04.3 -1.6**
JOW Kunigami 77.58 13 LR LR 13 08 24.4
comp=Z,892nm,21.9s,baz=188,slow=34
SHL Shillong 77.88 339 IAmb IAmb 12 36 18.9
comp=Z,40nm,1.2s
CNSH ChangSha 77.92 359 S **S** **12 46 01.3 +1.2**
CNSH pmax pmax
comp=Z,320nm,3.8s
CNSH LR LR
comp=N,1µm,21.2s
CNSH LR LR
comp=E,1µm,19.6s
CNSH LR LR
comp=Z,1µm,18.0s
MOKO MOKOCHONG 78.05 342 *e*P **P** **12 36 06.6 -2.0**
EFI East Falkland 78.41 185 IAMs_20 IAMs_20 13 10 41.8
comp=Z,3µm,20.0s
GUWA GUWAHATI 78.53 339 *e*P **P** **12 36 10.1 -1.0**
TEZP TEZPUR 78.69 341 *e*P **P** **12 36 10.9 -1.1**
DHUB DHUBRI 78.76 338 *e*P **P** **12 36 11.8 -0.5**
DHUB IAmb IAmb 12 36 18.1
comp=Z,56nm,1.4s
ITAN ITANAGAR 79.01 341 *e*P **P** **12 36 13.2 -0.6**
ITAN IAmb IAmb 12 36 32.0
comp=Z,49nm,1.0s
KIBK Kibwezi 79.34 279 IAMs_20 IAMs_20 13 08 18.9
comp=Z,2µm,18.0s
ZIRO ZIRO 79.35 342 *e*P **P** **12 36 15.5 -0.3**
ZIRO IAmb IAmb 12 36 36.5
comp=Z,66nm,1.4s
TSUM Tsumeb 79.64 253 LR LR 13 06 40.9
comp=Z,6µm,18.2s,baz=144,slow=32
TSUM Tsumeb 79.64 253 *e*P **P** **12 36 18.6 +0.8**
WHN Wuhan 80.27 0 ⇓P **P** **12 36 20.4 -0.1**
WHN S **S** **12 46 27.0 +2.0**
WHN LR LR
comp=Z,4µm,19.4s
WHN LR LR
comp=Z,3µm,21.3s
WHN LR LR
comp=Z,6µm,27.9s
GTK Tadong 80.34 337 *e*P **P** **12 36 20.2 -1.0**
GTK IAmb IAmb 12 36 37.5
comp=Z,16nm,0.7s
PPT2 Papeete2 80.61 106 *e*S **S** **12 46 29.6 0.0**
comp=Z,237nm,23.0s
PPT2 Papeete2 80.61 106 *e*LQ LQ 12 58 07.1
comp=Z,8µm,41.8s
PPT2 *e*LR LR 13 01 30.7
comp=Z,2µm,30.0s
PPT2 *e*LR LR 13 01 30.8
comp=Z,2µm,21.8s
PPT Papeete 80.62 106 LR LR 13 05 16.3
comp=Z,1µm,19.3s,baz=234,slow=31
KMBO Kilima Mbogo 80.78 279 LR LR 13 05 05.8
comp=Z,1µm,21.8s,baz=104,slow=30
SSE Sheshan 81.06 6 P **P** **12 36 27.5 +2.8**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,94nm,3.5s
SSE LR LR
comp=Z,470nm,23.2s
SSE LR LR
comp=Z,200nm,22.6s
CD2 Chengdu 81.17 351 P **P** **12 36 26.2 +0.8**
CD2 S **S** **12 46 36.6 +2.1**
CD2 pmax pmax
comp=Z,270nm,8.2s
CD2 LR LR
comp=Z,1µm,19.1s
CD2 LR LR
comp=Z,1µm,18.1s
CD2 LR LR
comp=Z,5µm,21.6s
NJ2 Nanjing 81.87 4 *e*P **P** **12 36 33.1 +4.1**
NJ2 S **S** **12 46 42.0 +0.3**
NJ2 pmax pmax
comp=Z,340nm,3.8s
NJ2 LR LR
comp=Z,980nm,15.3s
NJ2 LR LR
comp=Z,900nm,17.9s
NJ2 LR LR
comp=Z,1µm,21.6s
LSA Lhasa 82.03 340 IAMs_20 IAMs_20 13 10 18.2
comp=Z,2µm,20.0s
XAN Xi'an 83.88 356 P **P** **12 36 38.3 -1.2**
XAN pP sP 12 36 46.0 +1.4
XAN S **S** **12 46 59.7 -2.5**
XAN SS **SS** **12 52 25.2 -5.8**
XAN pmax pmax
comp=Z,11nm,1.0s
XAN LR LR
comp=Z,2µm,22.8s
XAN LR LR
comp=Z,2µm,22.4s
XAN LR LR
comp=Z,4µm,22.8s
LYN LuoYang 84.28 359 ⇑P **P** **12 36 42.0 +0.6**
LYN pP PcP 12 36 43.8 -1.3
LYN S **S** **12 47 08.4 +2.4**
LYN sS sS 12 47 13.1 +0.5
LYN pmax pmax
comp=Z,150nm,6.9s
LYN LR LR
comp=Z,1µm,22.6s
LYN LR LR
comp=Z,850nm,20.0s
LYN LR LR
comp=Z,1µm,18.8s
MBAR Mbarara 85.34 275 LR LR 13 09 21.7
comp=Z,2µm,19.3s,baz=132,slow=32
MBAR Mbarara 85.34 275 IAMs_20 IAMs_20 13 08 51.2
comp=Z,2µm,20.0s
JHJ Hachijo jima 2 85.89 21 LR LR 13 13 19.4
comp=Z,741nm,21.8s,baz=278,slow=34
TIA Tai'an 85.96 2 P **P** **12 36 48.6 -1.2**
TIA S **S** **12 47 23.2 +0.6**
TIA pmax pmax
comp=Z,13nm,1.9s
TIA pmax pmax
comp=Z,160nm,6.9s
TIA LR LR
comp=Z,750nm,19.4s
TIA LR LR
comp=Z,890nm,18.2s
TIA LR LR
comp=Z,1µm,18.6s
LZH Lanzhou 86.28 352 *e*P **P** **12 36 51.4 -0.2**
LZH sP pwP 12 36 58.5 -1.7
LZH PP **PP** **12 40 13.2 +0.1**
LZH S **SKSac** **12 47 18.6 +1.6**
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,2µm,16.0s
LZH LR LR
comp=Z,2µm,15.1s
LZH LR LR
comp=Z,3µm,18.7s
JHS Saijyo 86.35 15 P **P** **12 36 54.1 +2.3**
HNS HongShan 87.11 0 ⇓P **P** **12 36 55.5 +0.2**
HNS PP **PP** **12 40 20.5 +1.0**
HNS SKS **SKSac** **12 47 23.7 +2.1**
HNS S **S** **12 47 34.0 +0.4**
HNS pmax pmax
comp=Z,16nm,1.4s
HNS LR LR
comp=Z,1µm,22.0s
HNS LR LR
comp=Z,680nm,21.8s
HNS LR LR
comp=Z,1µm,24.3s
ATD Arta Tunnel 87.14 292 LR LR 13 09 23.0
comp=Z,1µm,19.6s,baz=139,slow=31
GOMU GeErMu 87.60 344 P **P** **12 36 59.6 +1.3**
GOMU pP sP 12 37 03.0 -0.4
GOMU sP pP 12 37 04.4 +2.3
GOMU sS sS 12 47 45.4 -0.2
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU pmax pmax
comp=Z,220nm,4.6s
GOMU LR LR
comp=Z,1µm,21.7s
GOMU LR LR
comp=Z,940nm,20.8s
GOMU LR LR
comp=Z,2µm,21.4s
KSAR Wonju Array Be 87.98 11 P **P** **12 36 58.7 -0.9**
KSAR Wonju Array Be 87.98 11 P **P** **12 36 58.7 -0.9**
KSRS Korea Array 88.00 11 P **P** **12 36 59.6 0.0**
comp=Z,3.2nm,1.0s,baz=187,slow=6.1,SNR=6.4
KSRS LR LR 13 15 53.6
comp=Z,484nm,20.7s,baz=195,slow=35
comp=Z,3.2nm,1.0s
WSAR Wadi Sarin 88.00 311 LR LR 13 10 29.3
comp=Z,4µm,18.5s,baz=160,slow=32
MAJO Matsushiro 88.82 19 P **P** **12 37 04.8 +1.2**
MJAR Matsushiro Arr 88.82 19 P **P** **12 37 02.8 -0.8**
comp=Z,4.5nm,0.9s,baz=185,slow=5.7,SNR=5.4
MJAR LR LR 13 12 58.3
comp=Z,427nm,21.8s,baz=198,slow=33

comp=Z,4.5nm,0.9s
PLCA Paso Flores 89.47 176 P **P** **12 37 08.4 +1.4**
comp=Z,5.0nm,1.0s,baz=207,slow=9.0,SNR=4.9
PLCA LR LR 13 13 28.2
comp=Z,6µm,21.9s,baz=191,slow=33
comp=Z,5.0nm,1.0s
PLCA Paso Flores 89.47 176 P **P** **12 37 08.1 +1.0**
PLCA IAmb IAmb 12 37 36.1
comp=Z,19nm,1.2s
PLCA Paso Flores 89.47 176 P **P** **12 37 08.1 +1.0**
PLCA pmax pmax
comp=Z,19nm,1.2s
GTA Gaotai 90.01 349 *e*P **P** **12 37 09.1 -0.2**
GTA pP sP 12 37 14.0 -0.4
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,140nm,4.4s
GTA LR LR
comp=Z,1µm,21.1s
GTA LR LR
comp=Z,2µm,21.8s
GTA LR LR
comp=Z,2µm,21.1s
HHC Hu-ho-hao-te 90.58 358 *e*P **P** **12 37 13.1 +1.3**
HHC S **S** **12 48 08.2 +1.7**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,250nm,5.9s
HHC LR LR
comp=Z,3µm,19.2s
HHC LR LR
comp=Z,1µm,16.1s
HHC LR LR
comp=Z,3µm,18.0s
UOSS Minazif 90.63 310 IAMs_20 IAMs_20 13 11 32.0
comp=Z,2µm,20.0s
TAOE Nuku Hiva Isla 93.14 108 *e*LR LR 13 07 19.1
comp=Z,2µm,23.1s
XLT XiLinHaoTe 93.61 1 *e*P **P** **12 37 28.8 +3.0**
XLT pP pwP 12 37 33.2 -1.2
XLT sP sP 12 37 37.5 +6.6
XLT SKS **SKSac** **12 48 00.5 +1.3**
XLT S **ScS** **12 48 38.8 +3.7**
XLT sS sS 12 48 44.7 +5.0
XLT pmax pmax
comp=Z,13nm,1.2s
XLT pmax pmax
comp=Z,250nm,7.2s
XLT LR LR
comp=Z,1µm,24.4s
XLT LR LR
comp=Z,1µm,21.9s
RPN Rapa Nui 93.97 142 LR LR 13 10 47.1
comp=Z,1µm,20.5s,baz=202,slow=30
CN2 Changchun 94.01 8 P **P** **12 37 26.5 -1.0**
CN2 S **S** **12 48 31.7 -5.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,900nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,800nm,18.0s
RAYN Ar Rayn 95.09 301 IAMs_20 IAMs_20 13 13 13.6
comp=Z,2µm,19.0s
USRK Ussuriysk Ar. 95.17 13 LR LR 13 24 12.1
comp=Z,356nm,18.6s,baz=203,slow=38
WMQ Urumqi 96.34 341 *e*P **P** **12 37 40.0 +1.8**
WMQ LR LR
comp=Z,1µm,21.5s
WMQ LR LR
comp=Z,1µm,20.7s
WMQ LR LR
comp=Z,1µm,23.5s
ASAJ Asahikawa 97.03 20 LR LR 13 20 04.1
comp=Z,241nm,20.8s,baz=198,slow=35
SONM Songino Array 97.77 355 P **P** **12 37 43.4 -1.3**
comp=Z,0.4nm,0.5s,baz=174,slow=11,SNR=3.7
SONM LR LR 13 20 54.6
comp=Z,2µm,21.6s,baz=178,slow=35
comp=Z,0.4nm,0.5s
AAK Ala-Archa 98.66 332 LR LR 13 17 21.1
comp=Z,5µm,21.9s,baz=163,slow=32
AAK Ala-Archa 98.66 332 *i* P **P** **12 37 47.8 -1.0**
AAK pmax pmax
comp=Z,1.0nm,1.0s
KLR Kul'dur 100.07 12 LR LR 13 24 21.6
comp=Z,546nm,20.5s,baz=197,slow=36
KURK Kurchatov 104.91 337 IAMs_20 IAMs_20 13 25 13.8
comp=Z,2µm,20.0s
H10S2 ASCENSION HYDR 106.32 233 T T 14 38 11.8
baz=75,slow=74,SNR=9.3
H10S3 ASCENSION HYDR 106.33 233 T T 14 38 11.4
baz=145,slow=74,SNR=17
ZALV Zalesovo Beam 106.57 342 PP **PP** **12 42 49.0 -0.4**
comp=Z,0.3nm,0.4s,baz=137,slow=11,SNR=4.1
GNI Garni 108.54 311 IAMs_20 IAMs_20 13 24 29.3
comp=Z,1µm,18.0s
MAK Makhachkala 109.41 314 *i* P **Pdif** **12 38 41.2 +4.8**
MAK *e*PPP PPP 12 45 26.3
MAK *e* 12 49 14.0
MAK *e*PS **PS** **12 52 35.2 -1.9**
MAK *e*SS SS 12 58 30.8 -0.7
MAK pmax pmax
comp=Z,240nm,1.6s
YAK Yakutsk 112.44 8 IAMs_20 IAMs_20 13 35 28.2
comp=Z,1µm,20.0s
ANTO Ankara 114.48 303 IAMs_20 IAMs_20 13 28 00.8
comp=Z,2µm,20.0s
ARU Arti 115.72 329 IAMs_20 IAMs_20 13 29 02.1
comp=Z,2µm,20.0s
BELG Belogornoye 116.58 321 *i* PKIKP **PKPdf** **12 42 49.5 -3.5**
BELG pmax pmax
comp=Z,5.0nm,1.6s
RCBR Riachuelo 118.59 214 IAMs_20 IAMs_20 13 24 23.1
comp=Z,1µm,20.0s
NRIK Noril'sk 120.71 349 *i* PKIKP **PKiKP** **12 43 01.9 +1.3**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 121.87 5 IAMs_20 IAMs_20 13 41 55.9
comp=Z,1µm,20.0s
TIXI Tiksi 121.87 5 *i* PKIKP **PKPdf** **12 43 01.4 -1.2**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
MLR Muntele Rosu 122.00 304 IAMs_20 IAMs_20 13 42 27.8
comp=Z,1µm,19.0s
OBN Obninsk 123.15 318 *e*PKIKP **PKiKP** **12 43 06.3 +0.6**
OBN *e* 12 44 46.4
OBN *e* 12 50 06.5
OBN *i* SSS SSS 13 06 06.6
OBN pmax pmax
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 123.67 310 PKP **PKPdf** **12 43 05.0 -1.7**
comp=Z,0.6nm,0.5s,baz=80,slow=1.4,SNR=1.7
PDG Podgorica 123.73 298 IAMs_20 IAMs_20 13 41 22.9
comp=Z,1µm,19.0s
PRGR Permogore 124.03 328 *e*PKIKP **PKiKP** **12 43 09.9 +2.6**
KLMR Klimovskoe 125.71 324 *e*PKPdf **PKiKP** **12 43 13.6 +2.9**
KLMR AMP 12 43 25.7
comp=Z,22nm,1.5s
KLMR LR LR 13 00 00.6
KLMR AMP 13 02 40.5
comp=Z,455nm,18.0s
KLMR Klimovskoe 125.71 324 *e*PKIKP **PKiKP** **12 43 13.6 +2.9**
KLMR pmax pmax
comp=Z,22nm,1.5s
MNK Minsk 126.67 313 *i* PKP **PKPdf** **12 43 09.8 -2.6**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKPdf** **12 43 09.8 -2.6**
comp=N,9.0nm,0.8s
MNK *i* PKP **PKPdf** **12 43 09.8 -2.6**
comp=Z,6.0nm,0.7s,baz=127
MNK *i* PP **PP** **12 45 03.8 -6.1**
MNK *i* SKS **SKSdf** **12 50 18.8 -4.2**
MNK *i* PS **PS** **12 55 06.3 -6.7**
MNK *i* SS SS 13 01 56.8 -18
MNK *i* LQ LQ 13 26 56.6
MNK *i* LR LR 13 32 21.8
MNK *i* LRM MLR 13 38 34.8
comp=N,474nm,19.8s
MNK *i* LRM MLR 13 38 48.5
comp=Z,570nm,20.6s
MNK *i* LRM MLR 13 38 50.3
comp=E,95nm,22.4s
MNK Minsk 126.67 313 *i* PKIKP **PKPdf** **12 43 09.7 -2.6**
MNK *i* 12 50 18.8
MNK *i* PS **PS** **12 55 06.3 -6.7**
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,474nm,20.0s
MNK MLR MLR
comp=Z,570nm,21.0s
MNK MLR MLR
comp=E,95nm,22.0s
PSZ Piszkesteto 126.77 303 IAMs_20 IAMs_20 13 37 10.9
comp=Z,846nm,20.0s
AQU L'Aquila 127.08 294 IAMs_20 IAMs_20 13 45 07.7
comp=Z,996nm,20.0s
NACGM Naroch 127.42 313 *e*PKP **PKiKP** **12 43 15.2 +0.9**
comp=Z,22nm,1.1s,baz=125
FDMO Fiordimonte 127.68 295 **PKiKP** **12 43 16.0 +0.7**
PABE Paberze 129.09 313 IAMs_20 IAMs_20 13 36 45.8
comp=Z,1µm,20.0s
CLUD Ciudinico 129.80 298 **PKPdf** **12 43 18.9 +0.3**
GERES GERESS Array B 130.68 301 PKP **PKPdf** **12 43 20.4 +0.1**
comp=Z,0.8nm,0.7s,baz=181,slow=7.3,SNR=4.5
FINES FINESS Array B 131.35 320 PKP **PKiKP** **12 43 22.1 +0.1**
comp=Z,2.1nm,0.9s,baz=174,slow=9.4,SNR=4.0
FUORN Ofenpass-Fuorn 131.39 297 IAMs_20 IAMs_20 13 47 53.6
comp=Z,1µm,20.0s
TUE Stuetta 131.83 296 IAMs_20 IAMs_20 13 46 50.4
comp=Z,1µm,19.0s
CLL Collm 132.38 304 IAMs_20 IAMs_20 13 40 31.3
comp=Z,955nm,20.0s
CLL Collm 132.38 304 *e*PKPdf **PKiKP** **12 43 25.0 +0.6**
CLL *e*SS SS 13 03 29.0 +3.4
CLL *e*SSS SSS 13 08 18.0
CLL Lm MLR 13 40 00.0
comp=N,500nm,21.0s
CLL Lm MLR 13 40 00.0
comp=E,800nm,21.4s
CLL Lm MLR 13 40 00.0
comp=Z,900nm,20.3s
GRA1 Grafenberg Arr 132.50 301 IAMs_20 IAMs_20 13 50 10.9
comp=Z,1µm,19.0s
GRFO Grafenberg 132.50 301 IAMs_20 IAMs_20 13 50 10.9
comp=Z,1µm,19.0s
RGN Rugen 133.83 308 IAMs_20 IAMs_20 13 40 20.5
comp=Z,1µm,21.0s
SSB Saint Sauveur 134.00 292 IAMs_20 IAMs_20 13 44 50.9
comp=Z,1µm,19.0s
AVE Averroes 134.49 271 IAMs_20 IAMs_20 13 39 39.5
comp=Z,1µm,20.0s
I21K Tanana 135.35 37 IAMs_20 IAMs_20 13 39 55.1
comp=Z,1µm,20.0s
A21K Barrow 136.14 28 IAMs_20 IAMs_20 13 42 53.0
comp=Z,1µm,22.0s
ESDC Sonseca Array 136.15 281 PKP **PKPdf** **12 43 30.5 -0.4**
comp=Z,0.4nm,0.7s,baz=35,slow=4.7,SNR=1.9
H24K Noodor Dome 137.18 37 IAMs_20 IAMs_20 13 37 28.5
comp=Z,1µm,22.0s
ILAR Eielson Array 137.20 39 PKP **PKPdf** **12 43 31.8 -0.2**
comp=Z,1.1nm,0.8s,baz=289,slow=3.1,SNR=4.6
JTS Las Juntas de 137.28 152 IAMs_20 IAMs_20 13 32 47.3
comp=Z,1µm,20.0s
BCIP Isla Barro Col 137.57 159 IAMs_20 IAMs_20 13 47 02.5
comp=Z,832nm,21.0s
SCRK Sand Creek 138.12 40 IAMs_20 IAMs_20 13 38 58.2
comp=Z,1µm,20.0s
MTE Manteigas 138.82 279 IAMs_20 IAMs_20 13 43 20.0
comp=Z,1µm,20.0s
SNET Serv Nac Est T 138.97 144 IAMs_20 IAMs_20 13 45 17.2
comp=Z,957nm,21.0s
UNM Universidad Na 139.43 127 IAMs_20 IAMs_20 13 34 48.9
comp=Z,1µm,19.0s
NVAR Mina Array Bea 141.38 87 PKP **PKPdf** **12 43 37.5 -3.2**
comp=Z,0.5nm,0.7s,baz=233,slow=4.4,SNR=3.9
NVAR SKPbc **SKiKP** **12 47 18.5 -0.3**
comp=Z,0.2nm,0.7s,baz=194,slow=5.6,SNR=4.5
GRGR Grenville 142.01 187 IAMs_20 IAMs_20 13 47 23.5
comp=Z,1µm,20.0s
TUC Tucson 142.43 101 IAMs_20 IAMs_20 13 38 36.0
comp=Z,1µm,20.0s
PINE Pine Mountain 142.56 78 **PKPdf** **12 43 41.0 -1.6**
R11A Troy Canyon, C 143.09 89 P **PKPdf** **12 43 44.4 +0.7**
baz=235
INK Inuvik 143.20 35 PKPdf PKPab 12 43 37.2 -1.1
INK Inuvik 143.20 35 PKHKP PKPpre 12 43 37.2
WUAZ Wupatki 144.11 96 P PKPbc 12 43 44.5 +0.8
baz=232
MPOM Morne Pois Mar 144.23 188 IAMs_20 IAMs_20 13 48 57.5
comp=Z,1µm,20.0s
121A Cookes Peak, D 144.47 103 P **PKPdf** **12 43 45.6 -0.7**
baz=228
FDF Fort de France 144.54 188 IAMs_20 IAMs_20 13 50 02.7
comp=Z,1µm,21.0s
SVN Savane Anatole 144.65 188 IAMs_20 IAMs_20 13 49 55.6
comp=Z,1µm,20.0s
EPT El Paso 144.75 106 IAMs_20 IAMs_20 13 40 16.4
comp=Z,855nm,18.0s
TX31 Lajitas Ar. Si 144.77 112 P PKPbc 12 43 46.0 +0.2
baz=223
TXAR Lajitas Array 144.77 112 PKP **PKPab** **12 43 45.3 -0.4**
comp=Z,4.4nm,0.9s,baz=186,slow=4.7,SNR=16
LIRD Liard River Hi 145.13 51 P **PKPbc** **12 43 45.8 -0.1**
baz=258
TEIG Tepich 145.27 141 IAMs_20 IAMs_20 13 36 53.3
comp=Z,756nm,22.0s
B08A Colville Reser 145.61 72 **PKPdf** **12 43 47.1 -0.5**
DUG Dugway, Tooele 145.90 88 P **PKPab** **12 43 50.0 +0.4**
baz=237
Y22A Socorro 145.91 102 P **PKPab** **12 43 49.9 0.0**
baz=229
A36M Sachs Harbour 145.97 29 PKPdf **PKPdf** **12 43 46.8 -0.6**
A36M Sachs Harbour 145.97 29 P **PKPdf** **12 43 47.5 +0.2**
baz=278
Y22D IRIS PASSCAL I 146.03 102 IAMs_20 IAMs_20 13 44 48.2
comp=Z,1000nm,19.0s
GDHS Morne Mazeau, 146.12 187 IAMs_20 IAMs_20 13 48 47.4
comp=Z,1µm,21.0s
KOTAN Kotaneelee Air 146.28 50 P **PKiKP** **12 43 51.5 -1.0**
baz=261
PLID Pearl Lake 146.29 79 IAMs_20 IAMs_20 13 37 27.2
comp=Z,1µm,20.0s
ABD La Joyeuse, An 146.30 187 IAMs_20 IAMs_20 13 50 53.1
comp=Z,1µm,20.0s
833A Chaparral WMA, 146.51 118 P **PKPab** **12 43 52.3 +0.2**
baz=220
C36M Paulatuk 146.64 33 **PKPdf** **12 43 48.9 +0.3**
C36M Paulatuk 146.64 33 P **PKPdf** **12 43 48.9 +0.3**
baz=275
MTDJ Mount Denham 146.85 159 IAMs_20 IAMs_20 13 41 37.4
comp=Z,1µm,22.0s
ANMO Albuquerque 146.88 102 **PKPbc** **12 43 51.4 -0.9**
ANMO Albuquerque 146.88 102 P **PKPbc** **12 43 52.5 +0.3**
baz=230
ANMO Albuquerque 146.88 102 P **PKPbc** **12 43 52.7 +0.5**
baz=230
ANMO Albuquerque 146.88 102 *i* PKP2 **PKPdf** **12 43 49.7 -0.7**
WRGLY Wrigley 146.92 45 P **PKPab** **12 43 52.7 0.0**
baz=266
DAG Danmarks Havn 147.69 342 *i* P **PKPdf** **12 43 50.0 -0.2**
DAG IAmb IAmb 12 44 03.5
comp=Z,29nm,1.2s
SJG San Juan 148.10 179 IAMs_20 IAMs_20 13 48 26.9
comp=Z,1µm,20.0s
MSO Missoula 148.34 77 **PKPdf** **12 43 51.9 -0.4**
MSTX Muleshoe 148.55 107 P **PKiKP** **12 43 57.6 -0.6**
baz=228
MSTX Muleshoe 148.55 107 P **PKiKP** **12 43 58.5 +0.3**
baz=228
SDDR Presa de Saban 148.66 170 IAMs_20 IAMs_20 13 47 44.5
comp=Z,1µm,22.0s
O20A White River Ci 148.81 92 P **PKiKP** **12 43 58.1 -0.5**
baz=237
LOHW Long Hollow 149.05 85 IAMs_20 IAMs_20 13 44 22.3
comp=Z,941nm,20.0s
FLWY Flagg Ranch 149.21 84 IAMs_20 IAMs_20 14 03 42.5
comp=Z,1µm,22.0s
SDCO Great Sand Dun 149.22 98 P **PKiKP** **12 43 59.8 +0.1**
baz=234
BOZ Bozeman (W) 149.29 80 P **PKiKP** **12 43 59.3 -0.1**
baz=245
PDAR Pinedale Array 149.32 87 PKPbc **PKPbc** **12 43 57.8 -0.8**
comp=Z,2.5nm,1.0s,baz=144,slow=2.8,SNR=12
ABTX Abilene, Hawle 149.53 112 P **PKiKP** **12 44 00.6 +0.5**
baz=225
HKT Hockley 149.76 120 IAMs_20 IAMs_20 13 42 23.9
comp=Z,1µm,19.0s
ISCO Idaho Springs 150.32 95 IAMs_20 IAMs_20 13 39 30.9
comp=Z,1µm,18.0s
YKA Yellowknife Ar 150.97 46 PKPbc **PKPbc** **12 44 00.7 -0.8**
comp=Z,5.5nm,0.7s,baz=282,slow=2.1,SNR=21
K22A Casper 151.22 89 P **PKiKP** **12 44 03.9 +0.4**
baz=241
WMOK Wichita Mounta 151.50 110 **PKPbc** **12 44 02.5 -1.2**
WMOK Wichita Mounta 151.50 110 P **PKPbc** **12 44 02.9 -0.8**
baz=227
WMOK Wichita Mounta 151.50 110 PKIKP **PKPbc** **12 44 02.5 -1.2**
NATX Nacogdoches 151.79 120 IAMs_20 IAMs_20 13 50 21.4
comp=Z,956nm,19.0s
LOOK Love County 151.95 113 **PKPab** **12 44 10.6 -3.5**
NEEM North Greenlan 151.96 353 *e*P **PKPdf** **12 43 51.5 -5.8**
NEEM IAmb IAmb 12 44 16.8
comp=Z,76nm,1.2s
OK035 E0210 Rd and N 152.85 107 IAMs_20 IAMs_20 13 42 40.7
comp=Z,1µm,21.0s
OK029 Liberty Lake 153.02 110 IAMs_20 IAMs_20 13 56 41.2
comp=Z,1µm,20.0s
LAO LASA Array 153.17 82 IAMs_20 IAMs_20 13 45 12.1
comp=Z,1µm,20.0s
OK032 Salt Plains WL 153.21 107 IAMs_20 IAMs_20 13 43 04.4
comp=Z,1µm,19.0s
OK033 Mehan 153.50 110 IAMs_20 IAMs_20 14 07 32.8
comp=Z,1µm,20.0s
RSSD Black Hills 153.51 88 IAMs_20 IAMs_20 13 48 55.3
comp=Z,1µm,18.0s
OK030 Cody Creek RV 153.51 110 IAMs_20 IAMs_20 13 54 44.3
comp=Z,1µm,19.0s
OK052 Battle Ridge R 153.54 110 IAMs_20 IAMs_20 14 07 33.1
comp=Z,1µm,20.0s
OK034 N. Norfolk Rd. 153.61 110 IAMs_20 IAMs_20 14 07 28.8
comp=Z,1µm,19.0s
OK050 Pawnee Station 153.70 109 IAMs_20 IAMs_20 14 07 21.3
comp=Z,1µm,21.0s
OK048 Pawnee Station 153.74 109 IAMs_20 IAMs_20 14 07 17.3
comp=Z,1µm,21.0s
OK046 Pawnee Station 153.75 110 IAMs_20 IAMs_20 14 07 05.5
comp=Z,1µm,19.0s
OK045 Pawnee Station 153.77 109 IAMs_20 IAMs_20 14 07 06.1
comp=Z,1µm,19.0s
OK044 Pawnee Station 153.80 110 IAMs_20 IAMs_20 14 07 18.9
comp=Z,1µm,20.0s
OK051 E0350 and S346 153.86 109 IAMs_20 IAMs_20 13 55 33.5
comp=Z,1µm,19.0s
TUL1 Leonard 154.10 112 IAMs_20 IAMs_20 13 44 40.7
comp=Z,1µm,20.0s
VBMS Vicksburg 154.40 125 IAMs_20 IAMs_20 14 01 47.4
comp=Z,1µm,20.0s
MIAR Mount Ida 154.45 117 IAMs_20 IAMs_20 13 49 20.9
comp=Z,956nm,21.0s
DWPF Disney Wildern 155.03 146 IAMs_20 IAMs_20 13 57 41.6
comp=Z,939nm,19.0s
KSU1 Kansas State U 155.63 105 IAMs_20 IAMs_20 14 06 40.5
comp=Z,1µm,20.0s
OXF Oxford 156.75 123 IAMs_20 IAMs_20 14 11 24.8
comp=Z,1µm,22.0s
LRAL Lakeview Retre 156.85 129 IAMs_20 IAMs_20 14 02 25.4
comp=Z,1µm,22.0s
CCM Cathedral Cave 158.23 114 IAMs_20 IAMs_20 14 12 04.2
comp=Z,1µm,20.0s
WVT Waverly 158.81 123 IAMs_20 IAMs_20 14 03 25.4
comp=Z,1µm,21.0s
GOGA Godfrey 158.84 135 IAMs_20 IAMs_20 14 02 46.9
comp=Z,1µm,20.0s

ROM 10 12:38:31.0±0.1, 43°028N±0".004×13°037E±0".005,
h10km, ML2.0/3, 1C-1D, Error ellipse: s-maj=0.5km
s-min=0.3km az=326.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1219	**Muccia, Frazio**	**0.04**	**323**	P	Pg	12 38 33.2	+0.2
T1219				S	Sg	12 38 34.4	0.0
T1219				AML	AML		
	comp=E,7210µm,0.1s						
T1219				AML	AML		
	comp=N,6960µm,0.3s						
T1219				AML	AML		
	comp=E,7210µm,0.1s						
T1219				AML	AML		
	comp=E,7190µm,0.1s						
T1219	**Muccia, Frazio**	**0.04**	**323**	P	Pg	12 38 33.2	+0.2
T1219				AML	AML		
	comp=E,7205µm,0.1s						
T1219				AML	AML		
	comp=N,6960µm,0.3s						
T1219				AML	AML		
	comp=N,6960µm,0.3s						
T1219				AML	AML		
	comp=E,7205µm,0.1s						
FDMO	**Fiordimonte**	**0.04**	**77**	P	Pg	12 38 33.2	+0.2
FDMO				S	Sg	12 38 34.7	+0.3
FDMO				AML	AML		
	comp=N,2530µm,0.2s						
FDMO				AML	AML		
	comp=E,2875µm,0.3s						
FDMO				AML	AML		
	comp=N,2525µm,0.2s						
FDMO	**Fiordimonte**	**0.04**	**77**	P	Pg	12 38 32.4	-0.6
FDMO				AML	AML		
	comp=E,2875µm,0.3s						
FDMO				AML	AML		
	comp=N,2525µm,0.2s						
FDMO				AML	AML		
	comp=E,2875µm,0.3s						
FDMO				AML	AML		
	comp=N,2525µm,0.2s						
FEMA	**Monte Fema**	**0.07**	**172**	S	Sg	12 38 34.0	-1.1
T1220	**Camerino, Fraz**	**0.09**	**25**	P	Pg	12 38 34.1	+0.5
T1220				S	Sg	12 38 36.0	+0.6
T1220	**Camerino, Fraz**	**0.09**	**25**	P	Pg	12 38 34.0	+0.5
T1220				S	Sg	12 38 35.9	+0.5
T1220				AML	AML		
	comp=E,11400µm,0.3s						
T1220				AML	AML		
	comp=N,7525µm,0.4s						
T1220				AML	AML		
	comp=E,11550µm,0.2s						
T1220				AML	AML		
	comp=N,7580µm,0.4s						
T1220				AML	AML		
	comp=N,7525µm,0.4s						
T1220				AML	AML		
	comp=N,7580µm,0.4s						
T1220				AML	AML		
	comp=E,11400µm,0.3s						
T1220				AML	AML		
	comp=E,11550µm,0.2s						
CESI	**CESI - Serrava**	**0.10**	**257**	P	Pg	12 38 34.3	+0.7
CESI				S	Sg	12 38 36.4	+0.8
CESI				AML	AML		
	comp=N,1056µm,0.6s						
CESI				AML	AML		
	comp=E,1050µm,0.3s						
CESI				AML	AML		
	comp=N,1055µm,0.6s						
CESI	**CESI - Serrava**	**0.10**	**257**	P	Pg	12 38 34.2	+0.6
CESI				S	Sg	12 38 36.3	+0.7
CESI				AML	AML		
	comp=E,1050µm,0.3s						
CESI				AML	AML		
	comp=N,1055µm,0.6s						
CESI				AML	AML		
	comp=E,1050µm,0.3s						
CESI				AML	AML		
	comp=N,1055µm,0.6s						
T1216	**Preci, Frazion**	**0.14**	**185**	P	Pg	12 38 34.7	+0.5
T1216				S	Sg	12 38 37.4	+0.9
T1216				AML	AML		
	comp=E,1004µm,0.2s						
T1216				AML	AML		
	comp=N,724µm,0.3s						
T1216				AML	AML		
	comp=E,1006µm,0.2s						
T1216				AML	AML		
	comp=N,764µm,0.3s						
T1216				AML	AML		
	comp=N,763µm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T1216				AML	AML		
	comp=E,1002µm,0.2s						
T1216	Preci, Frazion	0.14	185	P	Pg	12 38 34.7	+0.5
T1216				S	Sg	12 38 37.2	+0.8
T1216				AML	AML		
	comp=E,742µm,0.4s						
T1216				AML	AML		
	comp=N,724µm,0.3s						
CSP1	Cessapalombo	0.14	62	P	Pg	12 38 34.8	+0.5
CSP1				S	Sg	12 38 37.4	+0.8
CSP1				AML	AML		
	comp=E,1525µm,0.6s						
CSP1				AML	AML		
	comp=N,1372µm,1.0s						
CSP1	Cessapalombo	0.14	62	P	Pg	12 38 34.8	+0.5
CSP1				AML	AML		
	comp=E,1525µm,0.6s						
CSP1				AML	AML		
	comp=N,1372µm,1.0s						
T1256	Bolognola (MC)	0.14	99	S	Sg	12 38 35.0	-1.7
T1256	Bolognola (MC)	0.14	99	P	Pg	12 38 34.8	+0.5
T1256				S	Sg	12 38 37.4	+0.7
T1256				AML	AML		
	comp=E,832µm,0.7s						
T1256				AML	AML		
	comp=N,1086µm,0.3s						
T1256				AML	AML		
	comp=E,814µm,0.4s						
T1256				AML	AML		
	comp=N,972µm,0.3s						
T1256				AML	AML		
	comp=N,972µm,0.3s						
T1256				AML	AML		
	comp=E,832µm,0.7s						
T1256				AML	AML		
	comp=E,814µm,0.4s						
T1256				AML	AML		
	comp=N,1086µm,0.3s						
T1245	Castelsantange	0.20	147	P	Pg	12 38 28.3	-7.0
T1245				S	Sg	12 38 37.0	-1.4
T1245	Castelsantange	0.20	147	P	Pb	12 38 36.7	-0.2
T1245				S	Sg	12 38 39.8	+1.5
T1245				AML	AML		
	comp=E,309µm,0.5s						
T1245				AML	AML		
	comp=N,282µm,0.3s						
T1245				AML	AML		
	comp=E,364µm,0.9s						
T1245				AML	AML		
	comp=N,476µm,0.3s						
T1245				AML	AML		
	comp=E,295µm,0.2s						
T1245				AML	AML		
	comp=N,302µm,0.2s						
SNTG	Esanatoglia	0.24	343	S	Sg	12 38 37.0	-2.3
MMO1	Montemonaco	0.25	121	P	Pg	12 38 36.7	+0.6
MMO1				S	Sg	12 38 40.8	+1.2
MMO1	Montemonaco	0.25	121	P	Pg	12 38 36.7	+0.6
MMO1				S	Sg	12 38 40.8	+1.2
T1215	Vallo di Nera,	0.26	209	P	Pg	12 38 36.8	+0.5
T1215				S	Sb	12 38 41.1	-1.1
T1215	Vallo di Nera,	0.26	209	P	Pg	12 38 36.9	+0.6
T1215				S	Sb	12 38 41.1	-1.2
T1215				AML	AML		
	comp=E,160µm,0.5s						
T1215				AML	AML		
	comp=N,164µm,0.3s						
T1215				AML	AML		
	comp=N,164µm,0.3s						
T1215				AML	AML		
	comp=E,160µm,0.5s						
T1212	Cascia, Frazio	0.28	179	P	Pg	12 38 28.4	-8.2
T1212				AML	AML		
	comp=E,408µm,0.2s						
T1212				AML	AML		
	comp=N,468µm,1.2s						
T1212	Cascia, Frazio	0.28	179	P	Pb	12 38 38.1	+0.1
T1212				AML	AML		
	comp=E,435µm,0.1s						
T1212				AML	AML		
	comp=N,490µm,0.2s						
EL6	Elcito	0.30	9	S	Sg	12 38 38.0	-3.3
ATCC	AVT- Casa Cast	0.33	299	S	Sg	12 38 39.0	-3.0
FOSV	Fossato di Vic	0.34	323	S	Sg	12 38 39.0	-3.2
T1241	Roccafluvione,	0.34	120	P	Pg	12 38 31.3	-6.4
T1241				AML	AML		
	comp=E,141µm,0.7s						
T1241				AML	AML		
	comp=N,170µm,0.2s						
T1218	Civita (PG)	0.36	171	P	Pg	12 38 38.7	+0.5
T1218				S	Sb	12 38 44.6	-0.7
T1218	Civita (PG)	0.36	171	P	Pg	12 38 38.7	+0.5
T1218				S	Sb	12 38 44.4	-0.9
CING	Cingoli	0.37	18	S	Sg	12 38 39.0	-4.2
T1204	Amatrice, Fraz	0.41	150	S	Sg	12 38 41.0	-3.5
MURB	Monte Urbino	0.44	302	S	Sg	12 38 41.0	-4.6
ARVD	Arcevia	0.47	352	S	Sg	12 38 42.0	-4.6
ATFO	Monte Foce - G	0.48	315	S	Sg	12 38 42.0	-4.8
T1211	Morro Reatino	0.51	195	P	Pg	12 38 41.1	+0.1
T1211				S	Sb	12 38 49.3	-0.3
PP3	Marolino	0.55	50	⇑P	Pg	12 38 32.7	-8.9
ATVO	AVT- Monte Val	0.58	308	S	Sg	12 38 43.0	-7.0
TERO	Teramo	0.58	134	⇓P	Pg	12 38 32.5	-10
TERO	Teramo	0.58	134	P	Pb	12 38 42.9	-0.4

*IDC **10** 12:43:10.2±0.7, 5.°53N×73.°77W, h141km±5km, mb3.1/3, mbtmp3.7/4, MS3.6/1, Error ellipse: s-maj=26.3km s-min=11.4km az=129.0*
*RSNC **10** 12:43:11.4±1.3, 5.°56N×73.°86W, h136km±6km, ML3.4, Mw4.0*
ISC 10 12:43:10.2±0.8**, 5.°59N**±0.°03×**73.°86W**±0.°03**, h141**km±6km**,**
n35, σ1.s53/65**, mb3.3**/3**, 4C-6D, Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	0.87	212	P	Pn	12 43 34.6	+1.1
	415nm,0.6s,baz=101,slow=13,SNR=146						
ROSC				S	Sn	12 43 51.8	+0.6
	626nm,0.4s,baz=203,slow=23,SNR=14						
ROSC	El Rosal	0.87	212	⇓iP	Pn	12 43 34.6	+1.1
ROSC				eS	Sn	12 43 51.4	+0.3
ROSC				IAML		12 43 55.0	
	comp=Z,801nm,0.4s						
CHIC	Chingaza	0.96	172	⇓iP	Pn	12 43 34.2	0.0
CHIC				eS	Sn	12 43 51.4	-1.1
CHIC				IAML		12 43 54.5	
	comp=Z,345nm,0.2s						
NORC	Norcasia	1.00	269	eP	Pn	12 43 34.1	-0.1
NORC				eS	Sn	12 43 52.0	-0.4
PTBC	PUERTO BERRIO,	1.12	328	⇑iP	Pn	12 43 34.9	-0.3
PTBC				eS	Sn	12 43 53.5	-0.8
PTBC				IAML		12 44 00.4	
	comp=Z,178nm,0.3s						
PTBC				IAML		12 44 03.8	
	comp=Z,118nm,0.3s						
BARC	Barichara	1.21	34	⇑eP	Pn	12 43 37.1	+0.8
BARC				eS	Sn	12 43 56.8	+0.6
VILC	Villavicencio,	1.48	174	⇓eP	Pn	12 43 39.1	+0.1
VILC				eS	Sn	12 44 01.1	+0.1
VILC				IAML		12 44 03.1	
	comp=Z,674nm,0.6s						
VILC				IAML		12 44 03.5	
	comp=Z,519nm,0.5s						
BRRC	Barranca, Sant	1.52	6	⇑eP	Pn	12 43 40.3	+1.0
BRRC				eS	Sn	12 44 02.5	+0.9
BRRC				IAML		12 44 06.5	
	comp=Z,321nm,0.1s						
ANIL	Santa Ana	1.88	235	eP	Pn	12 43 44.0	+0.3
ANIL				eS	Sn	12 44 10.0	+0.6
ANIL				IAML		12 44 14.7	
	comp=Z,420nm,0.4s						
ANIL				IAML		12 44 14.7	
	comp=Z,420nm,0.4s						
ANIL				IAML		12 44 14.9	
	comp=Z,427nm,0.4s						
PAMC	Pamplona, Colo	2.09	33	⇓eP	Pn	12 43 47.4	+1.1
PAMC				eS	Sn	12 44 15.3	+1.3
PAMC				IAML		12 44 18.5	
	comp=Z,217nm,0.4s						
PAMC				IAML		12 44 18.9	
	comp=Z,183nm,0.5s						
PRAC	Prado	2.12	209	⇓eP	Pn	12 43 46.1	-0.2
PRAC				eS	Sn	12 44 14.5	+0.5
PRAC				IAML		12 44 19.7	
	comp=Z,260nm,0.5s						
PRAC				IAML		12 44 20.1	
	comp=Z,231nm,0.5s						
ZARC	Zaragoza, Cauc	2.14	332	⇑iP	Pn	12 43 45.8	-0.7
ZARC				eS	Sn	12 44 13.8	-0.5
ZARC				IAML		12 44 22.0	
	comp=Z,289nm,0.3s						
ZARC				IAML		12 44 23.2	
	comp=Z,252nm,0.3s						
CBOC	Ciudad Bolivar	2.16	277	eP	Pn	12 43 47.6	+0.8
CBOC				eS	Sn	12 44 15.1	+0.1
CBOC				IAML		12 44 20.4	
	comp=Z,68nm,0.4s						
ORTC	Ortega, Tolima	2.16	220	⇓eP	Pn	12 43 46.9	+0.1
ORTC				eS	Sn	12 44 14.5	-0.4
PTGC	Puerto Gaitan,	2.21	129	eP	Pn	12 43 47.0	-0.3
PTGC				eS	Sn	12 44 14.5	-1.2
PTGC				IAML		12 44 20.4	
	comp=Z,111nm,0.6s						
PTGC				IAML		12 44 21.4	
	comp=Z,101nm,0.6s						
TAMC	Tame, Arauca	2.22	68	eP	Pn	12 43 48.5	+1.0
TAMC				eS	Sn	12 44 16.3	+0.1
TAMC				IAML		12 44 17.6	
	comp=Z,84nm,0.5s						
TAMC				IAML		12 44 20.9	
	comp=Z,79nm,0.5s						
PLMC	San Jos del P	2.50	254	eP	Pn	12 43 51.9	+0.9
PLMC				eS	Sn	12 44 22.4	0.0
PLMC				IAML		12 44 25.5	
	comp=Z,46nm,0.5s						
UREC	San Jos de Ur	2.72	322	eP	Pn	12 43 52.5	-1.1
UREC				eS	Sn	12 44 24.8	-2.3
UREC				IAML		12 44 28.0	
	comp=Z,140nm,0.2s						
UREC				IAML		12 44 28.2	
	comp=Z,140nm,0.2s						
DBBC	Dabeiba	2.73	301	eP	Pn	12 43 54.9	+1.0
DBBC				eS	Sn	12 44 29.0	+1.5
YOTC	Yotoco, Valle	2.94	237	eP	Pn	12 43 56.8	+0.2
YOTC				eS	Sn	12 44 35.2	+2.7
GUVC	San Jose del G	3.26	158	eP	Pn	12 43 59.3	-1.3
GUVC				eS	Sn	12 44 37.7	-1.9
GUVC				IAML		12 44 41.6	
	comp=Z,114nm,0.4s						
GARC	Garzon, Huila	3.75	206	eP	Pn	12 44 06.5	-0.7
GARC				eS	Sn	12 44 47.6	-3.8
GARC				IAML		12 44 51.6	
	comp=Z,65nm,0.2s						
LL1C	La Loma 1 Cana	3.94	4	eP	Pn	12 44 10.6	+1.2
LL1C				eS	Sn	12 44 57.4	+2.0
LCBC	Los crdobas,	4.09	323	eP	Pn	12 44 10.8	-0.6
LCBC				eS	Sn	12 44 59.4	+0.4
LCBC				IAML		12 45 10.4	
	comp=Z,61nm,0.6s						
ARGC	Ariguani, Magd	4.26	355	eP	Pn	12 44 15.3	+1.6
ARGC				eS	Sn	12 45 05.2	+2.2
ARGC				IAML		12 45 50.1	
	comp=Z,29nm,0.5s						
FLOC	Florencia	4.36	204	eP	Pn	12 44 15.2	+0.1
FLOC				eS	Sn	12 45 02.3	-3.2
FLOC				IAML		12 45 09.5	
	comp=Z,13nm,0.5s						
SJCC	San Jacinto, C	4.48	343	eP	Pn	12 44 15.1	-1.5
SJCC				eS	Sn	12 45 04.5	-3.7
SJCC				IAML		12 45 12.9	
	comp=Z,61nm,0.7s						
SJCC				IAML		12 45 13.1	
	comp=Z,55nm,0.5s						
SDV	Santo Domingo	4.58	44	P	Pn	12 44 19.1	+1.1
	comp=Z,26nm,0.4s,baz=206,slow=10,SNR=21						
SDV				S	Sn	12 45 10.1	-0.8
	comp=Z,21nm,0.3s,baz=257,slow=20,SNR=14						
CRJC	Cerrejon, Guaj	5.48	10	eP	Pn	12 44 29.6	-0.5
CRJC				eS	Sn	12 45 28.2	-4.2
CRJC				IAML		12 45 45.4	
	comp=Z,62nm,0.5s						
URIC	Uribia, Colomb	6.35	17	eP	Pn	12 44 39.4	-2.1
URIC				eS	Sn	12 45 48.1	-4.8
URIC				IAML		12 45 58.0	
	comp=Z,14nm,0.8s						
URIC				IAML		12 46 01.4	
	comp=Z,9.0nm,0.3s						
SIV	San Ignacio	24.90	150	P	P	12 48 19.8	-0.5
	comp=Z,0.5nm,0.3s,baz=304,slow=8.9,SNR=4.4						
	comp=Z,0.5nm,0.3s						
PDAR	Pinedale Array	48.65	325	P	P	12 51 41.1	+0.9
	comp=Z,0.3nm,0.5s,baz=116,slow=8.1,SNR=3.0						
PDAR				LR	LR	13 16 28.0	
	comp=Z,59nm,19.4s,baz=268,slow=41						
	comp=Z,0.3nm,0.5s						
ILAR	Eielson Array	77.77	335	P	P	12 54 52.1	+0.7
	comp=Z,0.3nm,0.5s,baz=101,slow=4.6,SNR=7.3						
	comp=Z,0.3nm,0.5s						
ASAR	Alice Springs	147.79	233	PKPbc	PKPbc	13 02 38.5	-0.9
	comp=Z,0.1nm,0.3s,baz=123,slow=3.4,SNR=8.1						
WRA	Warramunga Arr	149.09	240	PKPbc	PKPbc	13 02 42.3	-0.5
	comp=Z,0.2nm,0.4s,baz=107,slow=3.1,SNR=11						

*SKO **10** 12:44:44.9, 40.°98N×22.°73E, h15km*
*SOF **10** 12:44:45.9, 41.°02N×22.°69E, h1km, MD3.0*
*ATH **10** 12:44:46.1, 40.°98N×22.°74E, h12km±4km, ML2.4/9, Error ellipse: s-maj=4.8km s-min=0.8km az=331.0*
*BEO **10** 12:44:46.9±0.4, 41.°00N×22.°73E, h5km±3km, ML2.2/6*
*THE **10** 12:44:46.4, 40.°98N×22.°75E, h6km±4km, ML2.4/9, Error ellipse: s-maj=4.3km s-min=0.3km az=334.0*
ISC 10 12:44:46.5±0.9**, 40.°98N**±0.°02×**22.°73E**±0.°02**, h12**km±7km**,**
n48, σ0.s54/76**, 3C-3D, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNT	Kendrikon	0.22	35	P	Pg	12 44 50.7	-0.4
KNT				S	Sg	12 44 54.0	-0.3
	5µm,0.2s						
KNT	Kendrikon	0.22	35	⇑iPg	Pg	12 44 50.7	-0.4
KNT				i Sg	Sg	12 44 54.0	-0.3
KNT	Kendrikon	0.22	35	P	Pg	12 44 50.8	-0.4
KNT				S	Sg	12 44 53.9	-0.4
GRG	Griva	0.25	264	P	Pg	12 44 51.5	-0.2
GRG				S	Sg	12 44 55.5	+0.2
	4µm,0.2s						
GRG	Griva	0.25	264	⇓iPg	Pg	12 44 51.5	-0.2
GRG				i Sg	Sg	12 44 55.5	+0.2
GRG	Griva	0.25	264	P	Pg	12 44 51.5	-0.2
GRG				S	Sg	12 44 55.4	+0.1
GRG				AML	AML	12 44 55.7	
	comp=N,5701µm,0.2s						
GRG				AML	AML	12 44 55.8	
	comp=E,9160µm,0.2s						
VAY	Valandovo	0.36	340	ePg	Pg	12 44 53.6	-0.1
VAY				eSg	Sg	12 44 59.0	+0.5
VAY	Valandovo	0.36	340	⇑iPg	Pg	12 44 53.9	+0.2
VAY				i Sg	Sg	12 44 59.1	+0.6
VAY				eLg	Lg	12 44 59.3	
	comp=N,1µm,0.2s						
VAY				eLg	Lg	12 44 59.5	
	comp=E,888nm,0.4s						
THE	Thessaloniki	0.39	153	P	Pg	12 44 53.6	-0.6
THE				S	Sg	12 44 59.3	-0.1
	comp=E,925nm,0.3s						
THE	Thessaloniki	0.39	153	⇑iPg	Pg	12 44 53.6	-0.6
THE				i Sg	Sg	12 44 59.4	0.0
THE	Thessaloniki	0.39	153	P	Pg	12 44 53.6	-0.6
THE				S	Sg	12 44 59.3	-0.1
THE				AML	AML	12 45 00.0	
	comp=N,1869µm,0.3s						
THE				AML	AML	12 45 00.1	
	comp=E,1802µm,0.2s						
HORT	Hortiatis	0.47	144	P	Pg	12 44 55.3	-0.5
HORT				S	Sg	12 45 01.9	-0.2
	comp=E,512nm,0.2s						
HORT	Hortiatis	0.47	144	P	Pg	12 44 55.2	-0.5
HORT				S	Sg	12 45 01.9	-0.2
HORT				AML	AML	12 45 02.6	
	comp=E,883µm,0.2s						
HORT				AML	AML	12 45 03.5	
	comp=N,1148µm,0.2s						
SOH	Sokhos	0.50	109	P	Pg	12 44 56.0	-0.2
SOH				S	Sg	12 45 02.9	+0.1
	comp=N,662nm,0.4s						
SOH	Sokhos	0.50	109	⇓iPg	Pg	12 44 56.0	-0.2
SOH				i Sg	Sg	12 45 03.1	+0.3
SOH	Sokhos	0.50	109	P	Pg	12 44 56.0	-0.2
SOH				S	Sg	12 45 02.8	0.0
SOH				AML	AML	12 45 05.8	
	comp=N,1495µm,0.4s						
SOH				AML	AML	12 45 05.8	
	comp=E,1824µm,0.3s						
SRS	Serrai	0.66	78	P	Pg	12 44 58.8	-0.5
SRS				S	Sg	12 45 08.5	+0.4
	comp=E,180nm,0.3s						
SRS	Serrai	0.66	78	ePg	Pg	12 44 58.8	-0.5
SRS				eSg	Sg	12 45 07.8	-0.3
SRS	Serrai	0.66	78	⇓iPg	Pg	12 44 58.9	-0.4
SRS				i Sg	Sg	12 45 08.1	0.0
SRS	Serrai	0.66	78	P	Pg	12 44 58.8	-0.5
SRS				AML	AML	12 45 09.4	
	comp=E,379µm,0.3s						
SRS				AML	AML	12 45 14.6	
	comp=N,367µm,0.3s						
STIP	Stip	0.82	330	i Pg	Pg	12 45 01.4	-1.0
STIP				i Sg	Sg	12 45 12.2	-0.9
KKB	Krupnik	0.92	16	i P	Pg	12 45 03.6	-0.6
NVR	Nevrokopi	0.93	66	P	Pg	12 45 03.9	-0.5
NVR				S	Sb	12 45 16.8	-0.1
	comp=N,182nm,0.4s						
NVR	Nevrokopi	0.93	66	P	Pg	12 45 03.2	-1.1
NVR				S	Sg	12 45 16.0	-0.5
NVR				AML	AML	12 45 17.6	
	comp=N,302µm,0.3s						
NVR				AML	AML	12 45 20.5	
	comp=E,386µm,0.3s						
MMB	Musomiste	0.96	51	i P	Pg	12 45 04.9	-0.1
KOKK	Kokkinochori,	0.97	99	P	Pg	12 45 04.5	-0.7
KOKK				AML	AML	12 45 23.9	
	comp=N,509µm,0.3s						
KOKK				AML	AML	12 45 25.1	
	comp=E,355µm,0.5s						
KZN	Kozani	1.00	228	P	Pg	12 45 04.8	-0.9
KZN				S	Sb	12 45 20.0	+1.1
	comp=E,258nm,0.4s						
KZN	Kozani	1.00	228	P	Pg	12 45 05.0	-0.7
FNA	Florina	1.05	260	P	Pg	12 45 05.5	-1.1
FNA				S	Sb	12 45 21.1	+0.8
	comp=E,170nm,0.4s						
FNA	Florina	1.05	260	ePg	Pg	12 45 05.6	-1.1
FNA				eSg	Sg	12 45 20.0	-0.3
FNA	Florina	1.05	260	i Pg	Pg	12 45 05.6	-1.1
FNA	Florina	1.05	260	P	Pg	12 45 05.5	-1.1
FNA				AML	AML	12 45 24.2	
	comp=E,179µm,0.4s						
FNA				AML	AML	12 45 24.8	
	comp=N,351µm,0.3s						
KAVA	Kavala	1.35	89	P	Pn	12 45 11.6	+0.5
KAVA	Kavala	1.35	89	P	Pn	12 45 11.0	-0.2
SKO	Skopje	1.39	316	ePg	Pn	12 45 12.0	+0.3
SKO				eSg	Sb	12 45 29.8	-0.2
SKO	Skopje	1.39	316	i Pn	Pn	12 45 12.0	+0.3
THL	Klokotos Trika	1.52	201	P	Pn	12 45 13.9	+0.4
THL				AML	AML	12 45 39.2	
	comp=E,174µm,0.5s						
THL				AML	AML	12 45 40.6	
	comp=N,153µm,0.7s						
BOSS	Bosilegrad	1.52	353	ePg	Pb	12 45 14.8	+0.1
BOSS				eSg	Sb	12 45 34.5	+0.5
RZN	Rozhen	1.65	64	eP	Pg	12 45 18.3	+0.1
VTS	Vitosha	1.68	13	i Pn	Pn	12 45 16.5	+0.7
VTS	Vitosha	1.68	13	eP	Pb	12 45 17.5	+0.1
PGB	Panagyurishte	1.90	34	i P	Pb	12 45 20.9	-0.2
BARS	Barje	1.96	340	ePn	Pn	12 45 19.8	+0.3
BARS	Barje	1.96	340	i Pn	Pn	12 45 19.9	+0.4
KDZ	Kurdzhali	2.13	71	eP	Pb	12 45 25.0	0.0
ZAPS	Zavoj	2.29	358	ePg	Pg	12 45 29.2	-1.2
ZAPS				eSg	Sg	12 45 59.4	-0.7
MPEP	Malo Peshtene	2.49	17	i P	Pb	12 45 31.5	+0.4
DIVS	Divibare	3.71	328	ePn	Pn	12 45 44.2	+0.4

*TAP **10** 13:12:25.9, 24.°81N×122.°24E, h13km, ML2.7, D*
*JMA **10** 13:12:25.7±0.1, 25°N±1°×122.°3E±0.°6, h45km, TAIWAN REGION*
ISC 10 13:12:25.0±1.1**, 24.°78N**±0.°02×**122.°32E**±0.°02**, h7**km±9km**,**
n64, σ0.s66/119**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		0.36	281	i P	Pg	13 12 32.4	+0.5
	baz=268						
EGS				S	Sg	13 12 36.5	-0.2
	baz=268						
TWB1	Santiao Chiao	0.38	308	i P	Pg	13 12 32.5	+0.1
	baz=311						
TWB1				i S	Sg	13 12 36.9	-0.4
	baz=311						
TWC	Suao	0.46	249	i P	Pg	13 12 33.8	-0.1
	baz=242						
TWC				i S	Sg	13 12 39.6	-0.2
	baz=242						
TIPB	Shuangxi	0.49	294	i P	Pg	13 12 34.7	+0.3
	baz=293						
SXI1	Grass Mountain	0.51	308	P	Pg	13 12 35.4	+0.5
	baz=309						
SXI1				S	Sg	13 12 41.9	+0.3
	baz=309						
NWF	Wu-fen Shan	0.57	301	i P	Pb	13 12 37.0	-0.3
	baz=300						
NWF				i S	Sb	13 12 45.2	-0.4
	baz=300						
WFSB	Wu-fen Shan	0.57	301	P	Pb	13 12 37.0	-0.3
	baz=300						
WFSB				eS	Sg	13 12 44.0	+0.6
	baz=300						
TWE	Neicheng	0.59	265	i P	Pg	13 12 36.3	-0.1
	baz=253						
TWE				i S	Sb	13 12 45.7	-0.6
	baz=253						
TNOU	National Taiwa	0.62	307	eP	Pg	13 12 37.3	+0.4
	baz=308						
TNOU				S	Sb	13 12 46.1	-0.8
	baz=308						
ENA	Nanau	0.63	237	i P	Pg	13 12 37.1	0.0
	baz=231						
ENA				i S	Sg	13 12 45.6	+0.3
	baz=231						
JYNG	Yonagunijimaku	0.66	119	P	Pg	13 12 37.9	+0.2
JYNG				S	Sb	13 12 47.3	-0.8
FUSB	Fushanzhiwuyua	0.66	269	P	Pg	13 12 37.7	-0.1
	baz=266						
FUSB				S	Sb	13 12 47.5	-0.9
	baz=266						
ENTT	Nioudou	0.70	259	P	Pg	13 12 38.0	-0.4
	baz=255						
ENTT				S	Sg	13 12 46.6	-0.9
	baz=255						
TWA	Mucha	0.70	287	eP	Pg	13 12 38.5	+0.1
	baz=274						
TWA				S	Sb	13 12 49.0	-0.3
	baz=274						
YOJ	Yonaguni jima	0.70	116	P	Pg	13 12 38.7	+0.1
YOJ				S	Sb	13 12 48.8	-0.7
NWLT	Wulai	0.74	270	P	Pg	13 12 39.0	-0.3
	baz=268						
NWLT				i S	Sg	13 12 47.8	-1.1
	baz=268						
LATG	Datong	0.76	252	P	Pg	13 12 39.8	+0.1
	baz=249						
LATG				S	Sg	13 12 49.9	+0.4
	baz=249						
YM01	YM01	0.77	299	P	Pb	13 12 40.5	-0.3
	baz=298						
YM01				S	Sg	13 12 50.4	+0.4
	baz=298						
TWY	Chenhua	0.82	308	P	Pg	13 12 41.0	+0.2
	baz=307						
TWY				S	Sb	13 12 52.5	-0.2
	baz=307						
YHNB	Yeheng	0.86	263	P	Pg	13 12 41.3	-0.3
	baz=255						
YHNB				S	Sb	13 12 53.7	-0.4
	baz=255						
NSK	Sanguang	0.88	264	i P	Pg	13 12 40.4	-1.5
	baz=256						
NSK				S	Sg	13 12 52.8	-0.5
	baz=256						
PCYT	Pengchaiyu	0.88	345	P	Pg	13 12 42.0	+0.1
	baz=357						
PCYT				S	Sb	13 12 54.1	-0.4

baz=357
NACB Ninganchiao 0.89 228 P **Pg 13 12 41.6 -0.5**
baz=226
NACB S **Sg 13 12 52.8 -0.9**
baz=226
NNSB Datong 0.92 248 P **Pg 13 12 42.5 -0.1**
baz=238
NNSB S **Sg 13 12 54.7 +0.1**
baz=238
NNS Nan Shan 0.92 249 P **Pg 13 12 41.7 -1.0**
baz=238
NNS S **Sg 13 12 54.5 -0.2**
baz=238
ETLH Xiulin Townshi 0.95 233 P **Pg 13 12 43.0 -0.2**
baz=232
ETLH S **Sb 13 12 56.0 -0.6**
baz=232
TWD Chiawan 0.96 224 P **Pg 13 12 43.4 +0.1**
baz=230
TWD *i* S **Sg 13 12 55.7 0.0**
baz=230
NFF Wufeng Townshi 1.10 263 *e*P **Pg 13 12 45.3 -0.9**
baz=266
NFF *e*S **Sg 13 12 60.0 -0.5**
baz=266
FUSS Fushou 1.11 242 P **Pg 13 12 45.9 -0.4**
baz=241
FUSS S **Sb 13 13 01.4 0.0**
baz=241
WHF Hehuan Shan 1.15 237 *i* P **Pg 13 12 46.7 -0.3**
baz=236
WHF *i* S **Sg 13 13 01.4 -0.5**
baz=236
TWT Tachien 1.16 244 *i* P **Pn 13 12 48.2 +0.4**
baz=233
TWT *i* S **Sb 13 13 02.8 0.0**
baz=233
TDCB Techi 1.18 244 P **Pn 13 12 48.3 +0.3**
baz=233
TDCB S **Sb 13 13 03.3 +0.1**
baz=233
LIOB Emei 1.19 264 *e*P **Pb 13 12 47.3 -0.6**
baz=263
LIOB *e*S **Sg 13 13 02.8 -0.5**
baz=263
NSTT Nanjuang 1.21 263 *i* P **Pg 13 12 49.6 +1.5**
baz=262
NSTT *i* S **Sn 13 13 05.4 +0.5**
baz=262
ESL Shilin 1.25 220 *i* P **Pn 13 12 48.7 -0.2**
baz=205
CHGB Renai 1.26 236 P **Pg 13 12 49.4 +0.1**
baz=236
CHGB S **Sb 13 13 05.5 -0.3**
baz=236
WUSB Renai 1.34 235 P **Pg 13 12 50.6 -0.2**
baz=235
WUSB S **Sg 13 13 08.1 -0.2**
baz=235
WHP Taichung City 1.34 249 P **Pg 13 12 50.9 +0.1**
baz=248
WHP *e*S **Sb 13 13 07.0 -0.9**
baz=248
IRIF Iriomote-Funau 1.36 109 *e*S **Sb 13 13 07.9 -0.4**
EGFH Guangfu 1.37 217 *e*P **Pg 13 12 51.9 +0.6**
baz=237
EGFH *e*S **Sg 13 13 11.0 +2.0**
baz=237
NMLH Miaoli 1.41 261 *e*P **Pg 13 12 53.2 +1.2**
baz=260
NMLH *e*S **Sg 13 13 11.9 +1.6**
baz=260
WCS Beigang Elemen 1.47 241 *e*P **Pb 13 12 52.4 -0.2**
baz=247
WCS *e*S **Sg 13 13 13.1 +0.9**
baz=247
TWQ1 Liyutan 1.47 253 P **Pg 13 12 54.2 +1.0**
baz=253
TWQ1 S **Sg 13 13 12.6 +0.3**
baz=253
VWDT VWDT 1.48 227 P **Pg 13 12 53.2 -0.2**
baz=228
VWDT S **Sg 13 13 13.8 +1.3**
baz=228
HGSD Ruisui 1.52 213 *e*P **Pb 13 12 53.1 -0.4**
baz=200
HGSD *e*S **Sg 13 13 14.3 +0.6**
baz=200
EHY Hungye 1.56 216 *e*P **Pb 13 12 54.0 -0.2**
baz=219
EHY *e*S **Sb 13 13 14.0 -0.1**
baz=219
SMLT Sun Moon Lake 1.57 236 P **Pg 13 12 55.2 +0.1**
baz=237
SMLT S **Sn 13 13 14.0 0.0**
baz=237
SSLB Suanglung 1.59 232 S **Sn 13 13 14.1 -0.2**
baz=241
TYC Yuchr 1.59 237 P **Pg 13 12 55.5 0.0**
baz=238
TYC *e*S **Sn 13 13 13.8 -0.5**
baz=238
YULB Yu-li 1.66 214 P **Pn 13 12 55.0 +0.4**
baz=218
YULB S **Sn 13 13 15.1 -1.0**
baz=218
EYUL Yuli 1.69 213 *e*P **Pb 13 12 56.4 0.0**
baz=217
WHYT Xinyi Township 1.72 231 *e*P **Pb 13 12 57.2 +0.3**
baz=234
WJS Zhushan 1.73 237 *e*P **Pg 13 12 57.8 -0.4**
baz=240
WJS *e*S **Sg 13 13 22.0 +1.3**
baz=240
FULB Fuli 1.83 211 *e*P **Pb 13 12 57.9 -0.8**
baz=198
FULB S **Sb 13 13 21.5 -0.3**
baz=198
ALS Alishan 1.87 228 P **Pb 13 12 59.1 -0.5**
baz=214
WCKO Fanlu 2.06 230 *e*P **Pn 13 13 01.0 +1.1**
baz=234
WCKO *e*S **Sg 13 13 30.6 -0.4**
baz=234
CHN4 Tsaushan 2.12 228 P **Pn 13 13 01.8 +1.0**
baz=232
CHN4 S **Sb 13 13 30.5 +0.2**
baz=232
TPUB Ta-pu 2.13 227 *e*P **Pb 13 13 02.6 -1.4**
baz=215
TPUB *e*S **Sg 13 13 32.7 -0.8**
baz=215
STYH Taoyuan 2.13 222 *e*P **Pb 13 13 02.6 -1.4**
baz=226
STYH *e*S **Sb 13 13 30.9 +0.3**
baz=226
WTP Ta-pu 2.18 226 *e*P **Pb 13 13 04.9 +0.1**
baz=215
WTP *e*S **Sb 13 13 32.8 +0.8**
baz=215
TWK Hsinying 2.25 228 *e*P **Pb 13 13 04.7 -1.2**
baz=231
TWGBT Beinan 2.26 210 *e*S **Sn 13 13 31.4 +0.7**
baz=202
CHN1 Nanshi 2.28 226 *e*P **Pb 13 13 05.1 -1.3**
baz=230
CHN1 *e*S **Sb 13 13 36.3 +1.5**
baz=230
SGST Jiashian 2.32 224 *e*P **Pn 13 13 04.6 +1.1**
baz=214
SGST *e*S **Sb 13 13 35.9 0.0**
baz=214

NNC 10 13:28:49.1±2.7, 51.75N×73.19E, h0km, mb3.2, mpv2.8, 3C-3D, Error ellipse: s-maj=18.7km s-min=13.4km az=127.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**2.14**	**308**	⇓Pg	Pb	13 29 28.4	-0.4
	4.7nm,0.8s,baz=127,slow=15						
BVA0				⇑Lg	Lg	13 29 57.3	
	11nm,0.6s,baz=125,slow=26						
BRVK	**Borovoye**	**2.21**	**307**	⇑Pg	Pb	13 29 29.2	-0.7
	3.3nm,0.7s						
BRVK				⇑Lg	Lg	13 29 59.3	
	13nm,0.7s						
KURBB	**Kurchatov Arra**	**3.54**	**107**	⇓Pg	Pn	13 29 45.4	+0.1
	2.8nm,0.8s						
KURK	**Kurchatov**	**3.56**	**105**	⇓Pg	Pn	13 29 44.0	-1.6
	3.2nm,1.2s						

*ROM **10** 13:50:59.3±0.0, 42.883N±0.002×13.131E±0.004, h8km, ML3.6/77, Error ellipse: s-maj=0.3km s-min=0.0km az=252.0*
*LDG **10** 13:51:00.7±0.2, 42.82N×13.16E, h10km, Ml3.4/21, Error ellipse: s-maj=6.7km s-min=3.7km az=47.0*
*PRU **10** 13:51:01.5±0.0, 42.92N×13.23E, h10km*
*IDC **10** 13:51:02.7±2.2, 43.15N×13.34E, h0km, mb3.8/4, mbtmp3.8/8, ML3.6/4, MS4.1/1, Error ellipse: s-maj=38.8km s-min=17.2km az=63.0*
*STR **10** 13:51:10.7±1.4, 43°N±7°×1°3E±1°3, h10km, MLv3.8/20, Error ellipse: s-maj=0.0km s-min=0.0km az=83.2, preliminary*

ISC 10 13:51:00.1±0.7, 42.88N±0.01×13.10E±0.01, h7km±4km, n232, σ1s84/303, mb3.7/4, 16C-16D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1216	**Preci, Frazion**	**0.06**	**281**	⇑P	**Pg**	**13 51 02.0**	**+0.1**
T1216				S	**Sg**	**13 51 03.7**	**+0.5**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1245	**Castelsantange**	**0.07**	**110**	P	**Pg**	**13 51 01.3**	**-0.8**
T1245				S	**Sg**	**13 51 02.4**	**-1.1**
T1245				AML	AML		
T1245				AML	AML		
FEMA	**Monte Fema**	**0.09**	**334**	⇑P	**Pg**	**13 51 02.2**	**-0.2**
FEMA				S	**Sg**	**13 51 04.0**	**0.0**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
T1212	**Cascia, Frazio**	**0.14**	**199**	⇓P	**Pg**	**13 51 03.2**	**+0.2**
T1212				S	**Sg**	**13 51 05.7**	**+0.7**
T1212				AML	AML		
	comp=E,52100μm,0.4s						
T1212				AML	AML		
	comp=N,38900μm,0.9s						
T1212				AML	AML		
	comp=N,38500μm,0.9s						
T1212				AML	AML		
	comp=N,38100μm,0.9s						
T1212				AML	AML		
	comp=E,52100μm,0.4s						
T1212				AML	AML		
	comp=E,51500μm,0.4s						
T1212				AML	AML		
	comp=N,38900μm,0.9s						
T1212				AML	AML		
	comp=N,38500μm,0.9s						
T1213	**Norcia, Frazio**	**0.15**	**174**	P	**Pg**	**13 51 03.3**	**0.0**
T1213				S	**Sg**	**13 51 05.9**	**+0.4**
T1213				AML	AML		
	comp=N,30900μm,0.5s						
T1213				AML	AML		
	comp=N,30950μm,0.5s						
T1213				AML	AML		
	comp=N,30700μm,0.5s						
T1213				AML	AML		
	comp=E,25400μm,0.4s						
T1213				AML	AML		
	comp=E,25800μm,0.3s						
T1256	**Bolognola (MC)**	**0.16**	**35**	⇑P	**Pg**	**13 51 02.8**	**-0.6**
T1256				S	**Sg**	**13 51 05.3**	**-0.4**
T1256				AML	AML		
	comp=E,58250μm,0.7s						
T1256				AML	AML		
	comp=N,60950μm,0.6s						
T1256				AML	AML		
	comp=N,60900μm,0.6s						
T1256				AML	AML		
	comp=N,55850μm,0.5s						
T1256				AML	AML		
	comp=E,59000μm,0.7s						
T1256				AML	AML		
	comp=E,58300μm,0.7s						
FDMO	**Fiordimonte**	**0.16**	**356**	⇓P	**Pg**	**13 51 03.2**	**-0.2**
FDMO				S	**Sg**	**13 51 05.8**	**+0.1**
FDMO				AML	AML		
	comp=N,88400μm,0.2s						
FDMO				AML	AML		
	comp=E,90550μm,0.3s						
T1244	**Arquata del Tr**	**0.19**	**130**	⇑P	**Pg**	**13 51 03.8**	**-0.2**
T1244				S	**Sg**	**13 51 07.2**	**+0.7**
T1215	**Vallo di Nera,**	**0.19**	**246**	⇓P	**Pg**	**13 51 04.4**	**+0.4**
T1215				S	**Sg**	**13 51 08.1**	**+1.5**
T1215				AML	AML		
	comp=N,21800μm,0.3s						
T1215				AML	AML		
	comp=N,20700μm,0.3s						
T1215				AML	AML		
	comp=E,24350μm,0.6s						
T1215				AML	AML		
	comp=E,24600μm,0.7s						
T1219	**Muccia, Frazio**	**0.19**	**338**	⇓P	**Pg**	**13 51 03.9**	**-0.1**
T1219				S	**Sg**	**13 51 06.9**	**+0.3**
T1219				AML	AML		
	comp=E,84700μm,1.1s						
T1219				AML	AML		
	comp=N,80950μm,0.9s						
T1219				AML	AML		
	comp=N,81000μm,0.8s						
CESI	**CESI - Serrava**	**0.19**	**311**	⇑P	**Pg**	**13 51 04.2**	**+0.2**
CESI				S	**Sg**	**13 51 07.4**	**+0.7**
CESI				AML	AML		
CESI				AML	AML		
	comp=E,46450μm,0.8s						
AM05	**Amandola Campo**	**0.21**	**62**	AML	AML		
	comp=E,56000μm,0.6s						
AM05				AML	AML		
	comp=N,1820μm,0.5s						
AM05				AML	AML		
	comp=E,52650μm,0.6s						
AM05				AML	AML		
	comp=N,39350μm,0.7s						
T1218	**Civita (PG)**	**0.21**	**178**	⇓P	**Pg**	**13 51 04.3**	**0.0**
T1218				S	**Sg**	**13 51 07.9**	**+0.7**
T1218				AML	AML		
	comp=E,16450μm,0.8s						
T1218				AML	AML		
	comp=E,15400μm,0.9s						
T1218				AML	AML		
	comp=N,22150μm,0.1s						
T1218				AML	AML		
	comp=E,16400μm,0.8s						
T1218				AML	AML		
	comp=N,21950μm,0.1s						
T1218				AML	AML		
	comp=E,15450μm,0.9s						
CSP1	**Cessapalombo**	**0.23**	**19**	⇑P	**Pg**	**13 51 04.2**	**-0.5**
CSP1				S	**Sg**	**13 51 07.8**	**0.0**
CSP1				AML	AML		
	comp=E,62050μm,0.5s						
CSP1				AML	AML		
	comp=E,62100μm,0.5s						
CSP1				AML	AML		
	comp=N,60000μm,0.2s						
CSP1				AML	AML		
	comp=N,59950μm,0.2s						
CSP1				AML	AML		
	comp=E,62000μm,0.5s						
T1220	**Camerino, Fraz**	**0.23**	**357**	P	**Pg**	**13 51 04.5**	**-0.2**
T1220				S	**Sg**	**13 51 08.4**	**+0.5**
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1220				AML	AML		
T1241	**Roccafluvione,**	**0.24**	**95**	⇑P	**Pg**	**13 51 04.4**	**-0.5**
T1241				S	**Sg**	**13 51 08.4**	**+0.3**
T1241				AML	AML		
	comp=E,25850μm,0.8s						
T1241				AML	AML		
	comp=N,18200μm,0.7s						
T1241				AML	AML		
	comp=E,25900μm,0.8s						
T1241				AML	AML		
	comp=N,18150μm,0.7s						
T1201	**Domo (RI)**	**0.25**	**154**	P	**Pg**	**13 51 05.2**	**+0.2**
GUMA	**Gualdo di Mace**	**0.25**	**43**	P	**Pg**	**13 51 04.9**	**-0.2**
GUMA				S	**Sg**	**13 51 09.0**	**+0.6**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
T1204	**Amatrice, Fraz**	**0.26**	**142**	⇑P	**Pg**	**13 51 05.0**	**-0.2**
T1204				S	**Sg**	**13 51 09.6**	**+0.9**
T1204				AML	AML		
	comp=E,16500μm,0.7s						
T1204				AML	AML		
	comp=N,17200μm,0.8s						
T1204				AML	AML		
	comp=E,16550μm,0.7s						
T1204				AML	AML		
	comp=N,17150μm,0.8s						
LNSS	**Leonessa**	**0.28**	**190**	⇓P	**Pg**	**13 51 05.7**	**0.0**
LNSS				S	**Sg**	**13 51 10.8**	**+1.4**
LNSS				AML	AML		
	comp=N,15700μm,0.9s						
LNSS				AML	AML		
	comp=E,6275μm,0.7s						
SEF1	**Sefro**	**0.29**	**337**	P	**Pg**	**13 51 05.7**	**-0.1**
SEF1				S	**Sg**	**13 51 10.6**	**+0.8**
SEF1				AML	AML		
	comp=E,62300μm,1.4s						
SEF1				AML	AML		
	comp=N,53650μm,1.4s						
SMA1	**SAN MARTINO**	**0.30**	**145**	⇑P	**Pg**	**13 51 05.7**	**-0.3**
SMA1				S	**Sg**	**13 51 10.9**	**+0.8**
SMA1				AML	AML		
	comp=N,14250μm,0.6s						
SMA1				AML	AML		
	comp=E,14700μm,0.7s						
PIO1	**Pioraco**	**0.31**	**344**	P	**Pg**	**13 51 06.2**	**-0.1**
T1243	**Rocca Santa Ma**	**0.31**	**126**	⇑P	**Pg**	**13 51 05.7**	**-0.6**
T1243				S	**Sg**	**13 51 10.6**	**+0.2**
MDAR	**Monte D'Aria**	**0.32**	**5**	P	**Pg**	**13 51 06.2**	**-0.1**
MDAR				S	**Sg**	**13 51 10.9**	**+0.4**
FIU1	**Fiuminata**	**0.33**	**338**	P	**Pg**	**13 51 06.5**	**-0.1**
FIU1				S	**Sg**	**13 51 11.8**	**+0.7**
FIU1				AML	AML		
	comp=N,19550μm,0.5s						
FIU1				AML	AML		
	comp=N,19500μm,0.5s						
FIU1				AML	AML		
	comp=E,19400μm,1.5s						
SSM1	**San Severino M**	**0.35**	**9**	P	**Pg**	**13 51 06.8**	**-0.3**
SSM1				S	**Sg**	**13 51 12.1**	**+0.4**
GAG1	**Gagliole**	**0.36**	**356**	AML	AML		
	comp=N,47250μm,0.4s						
GAG1				AML	AML		
	comp=E,44800μm,0.5s						
GAG1				AML	AML		
	comp=E,44850μm,0.5s						
MNTP	**Montappone**	**0.37**	**46**	P	**Pg**	**13 51 07.5**	**+0.1**
MNTP				S	**Sb**	**13 51 14.2**	**-0.8**
RM33	**Pellescritta (**	**0.38**	**168**	⇓P	**Pg**	**13 51 07.2**	**-0.3**
RM33				S	**Sg**	**13 51 13.4**	**+0.9**
RM33				AML	AML		
	comp=N,5385μm,1.3s						
RM33				AML	AML		
	comp=E,7260μm,0.9s						
RM33				AML	AML		
	comp=N,5380μm,1.3s						
RM33				AML	AML		
	comp=N,5275μm,0.9s						
RM33				AML	AML		
	comp=E,7115μm,0.9s						
ARRO	**Arrone**	**0.39**	**220**	P	**Pg**	**13 51 07.8**	**+0.2**
ARRO				AML	AML		
	comp=E,5110μm,1.4s						
ARRO				AML	AML		
	comp=N,4370μm,0.7s						
T1211	**Morro Reatino**	**0.39**	**208**	P	**Pg**	**13 51 07.8**	**0.0**
T1211				S	**Sg**	**13 51 14.7**	**+1.8**
T1211				AML	AML		
	comp=N,10550μm,0.6s						
T1211				AML	AML		
	comp=E,6190μm,1.0s						
T1211				AML	AML		
	comp=N,10500μm,0.6s						
T1211				AML	AML		
	comp=N,10475μm,0.6s						
T1211				AML	AML		
	comp=N,10600μm,0.6s						
T1211				AML	AML		
	comp=E,6175μm,0.4s						
T1211				AML	AML		
	comp=E,6200μm,1.0s						
SNTG	**Esanatoglia**	**0.39**	**342**	⇓P	**Pg**	**13 51 07.4**	**-0.4**
SNTG				S	**Sg**	**13 51 13.9**	**+0.9**
SNTG				AML	AML		
	comp=E,9625μm,0.6s						
SNTG				AML	AML		
	comp=N,9835μm,0.3s						
SNTG				AML	AML		
	comp=E,9115μm,0.6s						
SNTG				AML	AML		
	comp=N,9335μm,0.5s						
SNTG				AML	AML		
	comp=E,9630μm,0.6s						
CAMP	**Campotosto**	**0.41**	**147**	⇑P	**Pg**	**13 51 07.5**	**-0.6**
CAMP				S	**Sg**	**13 51 14.1**	**+0.6**
CAMP				AML	AML		
	comp=E,4205μm,0.9s						
CAMP				AML	AML		
	comp=N,4530μm,0.8s						
T1246	**Crognaleto (TE**	**0.41**	**136**	⇑P	**Pg**	**13 51 07.5**	**-0.6**
T1246				S	**Sg**	**13 51 13.9**	**+0.4**
OFFI	**Offida**	**0.43**	**82**	⇑P	**Pg**	**13 51 08.7**	**+0.2**
OFFI				AML	AML		
	comp=N,21100μm,0.7s						
OFFI				AML	AML		
	comp=E,17600μm,0.8s						
TERO	**Teramo**	**0.45**	**125**	⇑P	**Pg**	**13 51 08.0**	**-0.8**
TERO				S	**Sg**	**13 51 14.8**	**+0.1**
TERO				AML	AML		
	comp=N,9790μm,0.3s						
TERO				AML	AML		
	comp=E,6355μm,0.8s						
TERO				AML	AML		
	comp=N,9800μm,0.3s						
TERO				AML	AML		
	comp=E,6785μm,0.8s						
TERO				AML	AML		
	comp=N,10120μm,0.3s						
EL6	**Elcito**	**0.45**	**360**	P	**Pg**	**13 51 08.4**	**-0.4**
EL6				S	**Sg**	**13 51 15.5**	**+0.7**
EL6				AML	AML		
	comp=N,35150μm,1.3s						
EL6				AML	AML		
	comp=E,25900μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.46**	**312**	P	**Pg**	**13 51 09.0**	**0.0**
ATCC				S	**Sg**	**13 51 16.7**	**+1.7**
ATCC				AML	AML		
	comp=E,21200μm,0.5s						
ATCC				AML	AML		
	comp=N,20800μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.46**	**162**	⇑P	**Pg**	**13 51 08.8**	**-0.2**
T1247				AML	AML		
	comp=E,7295μm,0.8s						
T1247				AML	AML		
	comp=N,6615μm,0.7s						
CESX	**Cesi**	**0.47**	**235**	⇓P	**Pg**	**13 51 09.2**	**0.0**
CESX				AML	AML		
	comp=E,11950μm,0.6s						
CESX				AML	AML		
	comp=N,10350μm,0.4s						
FOSV	**Fossato di Vic**	**0.49**	**329**	⇓P	**Pg**	**13 51 09.2**	**-0.3**
FOSV				S	**Sg**	**13 51 17.2**	**+1.3**
CING	**Cingoli**	**0.50**	**8**	P	**Pg**	**13 51 09.3**	**-0.5**
CING				S	**Sb**	**13 51 17.2**	**-1.6**
CING				AML	AML		
	comp=N,7200μm,0.6s						
CING				AML	AML		
	comp=E,10660μm,0.9s						

GIGS Gran Sasso 0.55 141 P Pg 13 51 09.8 -0.9
GIGS AML AML
comp=E,1350µm,0.6s
GIGS AML AML
comp=N,1270µm,1.5s
GIGS AML AML
comp=E,1345µm,0.6s
MMUR Monte Murano 0.57 352 P Pg 13 51 10.7 -0.4
MMUR S Sb 13 51 19.9 -0.8
AQU L'Aquila 0.57 157 P Pg 13 51 10.5 -0.6
MURB Monte Urbino 0.57 312 P Pg 13 51 11.1 -0.1
MURB S Sb 13 51 20.9 0.0
MURB AML AML
comp=E,22350µm,0.2s
MURB AML AML
comp=N,17100µm,1.0s
MURB AML AML
comp=N,17100µm,1.0s
MURB AML AML
comp=E,22400µm,0.3s
MURB AML AML
comp=N,17100µm,0.9s
MURB AML AML
comp=E,25350µm,0.2s
CADA Capodarco di F 0.58 57 P Pb 13 51 12.2 -0.2
CIMA Civitanova Mar 0.59 44 P Pb 13 51 12.2 -0.6
TRTR Tortoreto Alta 0.60 97 P Pg 13 51 12.0 +0.4
SSFR Montelago di S 0.60 337 P Pg 13 51 11.2 -0.5
SSFR S Sb 13 51 21.3 -0.5
SSFR AML AML
comp=N,18050µm,1.2s
SSFR AML AML
comp=E,20000µm,0.2s
SSFR AML AML
comp=E,20050µm,0.2s
SSFR AML AML
comp=N,17650µm,0.2s
FIAM Fiamignano 0.61 179 ⇓P Pg 13 51 11.2 -0.7
FIAM S Sg 13 51 20.8 +0.9
PP3 Marolino 0.62 36 P Pg 13 51 12.2 +0.2
PP3 AML AML
comp=E,18750µm,1.3s
PP3 AML AML
comp=N,15250µm,1.2s
PP3 AML AML
comp=E,18400µm,1.3s
PP3 AML AML
comp=E,18350µm,1.3s
PP3 AML AML
comp=N,14900µm,0.3s
ATFO Monte Foce - G 0.62 322 ⇓P Pg 13 51 11.8 -0.4
ATFO AML AML
comp=N,5880µm,0.7s
ATFO AML AML
comp=E,6070µm,0.7s
ARVD Arcevia 0.63 349 P Pg 13 51 11.7 -0.6
ARVD S Sb 13 51 21.8 -0.7
ARVD AML AML
comp=E,5160µm,0.3s
ARVD AML AML
comp=N,4125µm,0.7s
ATLO AVT- Montelove 0.67 311 P Pg 13 51 12.5 -0.5
FRON Frontone 0.70 337 ⇓P Pg 13 51 12.8 -0.7
FRON S Sb 13 51 23.9 -0.5
FRON AML AML
comp=E,5190µm,0.1s
FRON AML AML
comp=E,5195µm,0.1s
FRON AML AML
comp=N,6980µm,1.2s
FAGN Fagnano 0.71 150 P Pg 13 51 13.1 -0.6
FAGN AML AML
comp=E,5365µm,0.6s
FAGN AML AML
comp=N,4365µm,0.4s
ATVO AVT- Monte Val 0.72 315 ⇓P Pg 13 51 13.4 -0.5
ATVO S Sb 13 51 24.7 -0.3
ATVO AML AML
comp=N,3425µm,0.4s
ATVO AML AML
comp=E,3995µm,0.5s
ATVA AVT- Monte Val 0.72 304 P Pg 13 51 13.5 -0.5
MGAB Montegabbione 0.73 273 P Pg 13 51 14.1 0.0
MGAB AML AML
comp=E,10190µm,0.5s
MGAB AML AML
comp=E,10205µm,0.5s
MGAB AML AML
comp=N,7935µm,0.6s
MGAB AML AML
comp=E,10175µm,0.5s
MGAB AML AML
comp=N,8465µm,0.6s
COR1 Corinaldo 0.76 354 P Pg 13 51 15.0 +0.3
COR1 AML AML
comp=N,11700µm,1.1s
COR1 AML AML
comp=E,4150µm,0.8s
COR1 AML AML
comp=N,10480µm,1.1s
COR1 AML AML
comp=E,7440µm,0.8s
COR1 AML AML
comp=N,10465µm,1.1s
COR1 AML AML
comp=N,11650µm,1.1s
COR1 AML AML
comp=E,4160µm,0.8s
AOI Ancona 0.76 28 ⇑P Pg 13 51 14.1 -0.7
AOI S Sn 13 51 26.4 -2.7
AOI AML AML
comp=N,4630µm,0.4s
AOI AML AML
comp=E,4610µm,0.6s
ATMI Monte Miggiano 0.76 307 P Pg 13 51 15.3 +0.5
ATMI AML AML
comp=E,10720µm,0.5s
ATMI AML AML
comp=N,12550µm,0.5s
ATPI Pietralunga - 0.77 318 ⇓P Pg 13 51 14.4 -0.5
ATPI AML AML
comp=E,4580µm,0.5s
ATPI AML AML
comp=N,4045µm,0.5s
ATPI AML AML
comp=N,4040µm,0.5s
PIEI Pieia 0.78 328 P Pg 13 51 14.2 -0.8
PIEI S Sb 13 51 26.7 0.0
PIEI AML AML
comp=E,3735µm,0.4s
PIEI AML AML
comp=N,2865µm,0.9s
SRES S.Oreste - Sor 0.78 215 P Pg 13 51 14.7 -0.3
SRES AML AML
comp=N,2015µm,0.5s
SRES AML AML
comp=E,2185µm,0.8s
MPAG Monte Paganucc 0.79 342 ⇓P Pg 13 51 14.6 -0.7
MPAG S Sb 13 51 27.3 +0.1
MPAG AML AML
comp=E,4140µm,1.4s
MPAG AML AML
comp=N,3520µm,0.4s
PCRO Pietralacroce 0.79 23 P Pb 13 51 16.0 -0.2
T0110 Collepietro 0.82 142 P Pg 13 51 14.4 -1.5
T0110 AML AML
comp=N,5540µm,0.7s
T0110 AML AML
comp=E,4595µm,0.8s
NARO Abbazia di Nar 0.82 333 P Pg 13 51 15.0 -0.9
NARO S Sb 13 51 27.8 -0.3
NARO AML AML
comp=E,2735µm,0.5s
NARO AML AML
comp=N,2160µm,1.4s
FSSB Fossombrone 0.85 344 P Pg 13 51 16.0 -0.4
FSSB S Sn 13 51 29.5 -1.6
FSSB AML AML
comp=E,8670µm,1.1s
FSSB AML AML
comp=E,8665µm,1.1s
FSSB AML AML
comp=N,16150µm,0.4s
SACS San Casciano d 0.88 268 P Pg 13 51 17.2 +0.2
SACS AML AML
comp=E,3505µm,0.7s
SACS AML AML
comp=N,3570µm,0.6s
SACS AML AML
comp=N,3715µm,0.6s
SACS AML AML
comp=E,3850µm,0.7s
PTQR Pietraquaria 0.88 166 P Pg 13 51 15.5 -1.6
BADI Badiali 0.89 315 AML AML
BADI comp=N,2225µm,0.5s
BADI AML AML
comp=E,189µm,0.7s
MTCE Montecelio 0.90 198 P Pb 13 51 16.9 -1.0
MTCE AML AML
comp=E,2080µm,0.8s
MTCE AML AML
comp=N,1410µm,0.8s
PE3 Peglio 0.93 332 P Pg 13 51 17.5 -0.4
PE3 AML AML
comp=E,98µm,0.1s
PE3 AML AML
comp=N,126µm,0.1s
CERT Cerreto 0.93 186 P Pb 13 51 17.1 -1.6
CERT AML AML
comp=E,2160µm,1.0s
CERT AML AML
comp=N,1455µm,1.2s
CAFI Castiglion Fio 0.95 299 P Pb 13 51 17.8 -1.0
CAFI AML AML
comp=N,2215µm,0.4s
CAFI AML AML
comp=E,3475µm,0.8s
CAFI AML AML
comp=N,2090µm,0.4s
CAFI AML AML
comp=E,3420µm,0.8s
MCIV Monte Civitell 1.05 265 P Pb 13 51 20.3 -0.4
MCIV AML AML
comp=E,1390µm,0.7s
MCIV AML AML
comp=N,1160µm,0.5s
VVLD Villa Vallelon 1.08 159 P Pb 13 51 19.9 -1.2
PESA Pesaro 1.08 350 P Pb 13 51 20.4 -0.7
PESA AML AML
comp=N,4795µm,0.7s
PESA AML AML
comp=E,6435µm,0.3s
CPGN Carpegna, Ital 1.08 328 P Pb 13 51 20.8 -0.5
CPGN AML AML
comp=E,3430µm,0.9s
CPGN AML AML
comp=N,2650µm,1.4s
GUAR Guarcino 1.09 172 P Pb 13 51 21.1 -0.2
GUAR AML AML
comp=E,1635µm,0.9s
GUAR AML AML
comp=N,1815µm,0.7s
LPEL Lama dei Pelig 1.15 136 AML AML
LPEL comp=E,1805µm,0.6s
LPEL AML AML
comp=N,1570µm,0.9s
TOLF Tolfa 1.15 225 P Pn 13 51 21.2 -1.4
TOLF AML AML
comp=E,1200µm,0.5s
TOLF AML AML
comp=N,1720µm,0.9s
ARCI Arcidosso 1.20 269 P Pn 13 51 23.0 -0.4
ARCI AML AML
comp=E,547µm,0.7s
ARCI AML AML
comp=N,472µm,0.7s
POFI Posta Fibreno 1.25 159 P Pn 13 51 23.2 -0.7
GIUL Giuliano Di Ro 1.32 175 P Pn 13 51 24.8 -0.2
GIUL AML AML
comp=N,871µm,0.9s
GIUL AML AML
comp=E,730µm,0.9s
ASQU Asqua 1.33 314 P Pn 13 51 24.6 -0.5
SFI Santa Sofia 1.38 319 P Pn 13 51 25.7 0.0
SFI AML AML
comp=E,871µm,0.9s
SFI AML AML
comp=E,826µm,0.9s
SFI AML AML
comp=N,1073µm,1.3s
SFI AML AML
comp=N,1077µm,1.3s
RNI2 Rionero Sannit 1.41 146 P Pb 13 51 28.0 +1.2
CERA Filignano 1.45 152 P Pn 13 51 26.5 -0.3
FROS Frosini 1.47 284 P Pn 13 51 26.5 -0.5
MIDA Miranda 1.50 145 P Pn 13 51 26.7 -0.8
OSSC Osservatorio P 1.50 296 P Pn 13 51 27.0 -0.5
RUFI Rufina 1.51 310 P Pn 13 51 27.4 -0.1
TRIF Trifonti 1.63 279 AML AML
TRIF comp=E,490µm,0.5s
TRIF AML AML
comp=N,561µm,0.6s
VAGA Valle Agricola 1.69 150 P Pb 13 51 32.2 +0.8
BRIS BRISIGHELLA 1.72 318 P Pb 13 51 32.2 +0.2
SEI Scarperia 1.73 313 P Pn 13 51 30.9 +0.3
MPPT Montemurlo 1.82 307 P Pn 13 51 31.5 -0.3
MELA Melanico ??? S 1.90 127 P Pn 13 51 33.3 +0.3
MELA AML AML
comp=N,1405µm,0.8s
MELA AML AML
comp=N,1375µm,0.9s
MELA AML AML
comp=E,1148µm,0.5s
MELA AML AML
comp=E,1141µm,1.0s
TREM Isole Tremiti 1.93 112 P Pn 13 51 33.6 +0.3
TREM AML AML
comp=E,1058µm,0.7s
TREM AML AML
comp=N,1310µm,0.7s
APRC Apricena 2.13 121 P Pn 13 51 36.6 +0.6
APRC AML AML
comp=E,702µm,0.6s
APRC AML AML
comp=N,745µm,0.7s
SGRT San Giovanni R 2.26 119 P Pn 13 51 38.3 +0.4
SGRT AML AML
comp=N,617µm,0.7s
SGRT AML AML
comp=E,588µm,0.7s
SARO Sassorosso 2.36 304 AML AML
SARO comp=N,616µm,0.6s
SARO AML AML
comp=E,452µm,0.5s
SMPL Sampolo 2.93 256 P Pn 13 51 47.6 +0.5
CEY Cerknica 3.01 18 ePn Pn 13 51 48.1 -0.1
PGF Pioggiola 3.04 265 ePn Pn 13 51 49.9 +1.2
PGF eSn Sn 13 52 21.2 -4.2
comp=E,25nm,0.7s
PGF Pioggiola 3.04 265 P Pn 13 51 48.1 -0.6
SABO M.te Sabotino 3.12 6 P Pn 13 51 49.4 -0.3
SABO AML AML
comp=N,2195µm,0.5s
SABO AML AML
comp=E,466µm,0.8s
SABO AML AML
comp=E,2045µm,0.8s
SABO AML AML
comp=N,539µm,0.5s
ROVR Rover Verones 3.13 333 P Pn 13 51 50.5 +0.6
CGRP Cima Grappa 3.14 343 P Pn 13 51 50.5 +0.3
CGRP AML AML
comp=N,482µm,0.8s
CGRP AML AML
comp=E,570µm,0.4s
MGRS Mrkonjic Grad 3.27 61 ePn Pn 13 51 52.7 +0.9
DOSS Dosso del Somm 3.30 336 P Pn 13 51 53.1 +0.8
SALO Salr 3.31 327 P Pn 13 51 53.6 +1.3
MPRI Monte Prat 3.36 359 P Pn 13 51 53.2 +0.1
MPRI AML AML
comp=N,590µm,0.5s
MPRI AML AML
comp=E,362µm,0.6s
STON Ston 3.38 89 ePn Pn 13 51 51.3 -1.9
STAL STALIGIAL 3.39 355 P Pn 13 51 53.4 -0.1
STAL AML AML
comp=N,349µm,0.3s
STAL AML AML
comp=E,424µm,0.9s
STAL AML AML
comp=N,382µm,0.9s
STAL AML AML
comp=E,359µm,0.8s
A051A Mrakovica 3.48 51 ePn Pn 13 51 54.7 +0.1
BLY Banja Luka 3.50 56 ePn Pn 13 51 57.0 +2.2
MYKA Terra Mystica 3.77 6 i Pn Pn 13 51 59.7 +1.1
comp=E,27nm,0.5s,SNR=14
OBKA Obir 3.77 15 ePn Pn 13 51 59.3 +0.6
OBKA Obir 3.77 15 ePn Pn 13 52 01.2 +2.5
comp=E,3.1nm,0.2s
ABTA Abfaltersbach 3.89 354 i Pn Pn 13 52 01.2 +0.9
comp=E,62nm,0.5s,SNR=43
ABTA eSn Sn 13 52 46.8 +0.5
comp=E,82nm,0.6s
BRY Bratogost 3.99 88 ePn Pn 13 52 01.9 +0.1
HCY Herceg Novi 4.00 94 ePn Pn 13 51 59.9 -1.8
SAOF Saorge 4.19 287 P Pn 13 52 08.1 +3.7
KBA Koelnbreinsper 4.20 2 i Pn Pn 13 52 05.6 +0.9
comp=E,23nm,0.4s,SNR=20
KBA Koelnbreinsper 4.20 2 ePn Pn 13 52 05.4 +0.7
KBA eSn Sn 13 52 53.7 -0.4
SBF Sospel 4.25 285 ePn Pn 13 52 05.0 -0.2
SBF eSn Sn 13 52 52.6 -2.5
comp=E,42nm,0.7s
UPM Unac-Piva 4.26 84 ePn Pn 13 52 05.4 -0.2
TURF col de Turini 4.30 287 P Pn 13 52 09.1 +3.1
FETA Feichten 4.47 339 i Pn Pn 13 52 10.1 +1.7
comp=E,6.8nm,0.4s,SNR=5.6
WTTA Wattenberg 4.51 347 ePn Pn 13 52 10.3 +1.4
comp=E,7.6nm,0.4s
WTTA Wattenberg 4.51 347 ePn Pn 13 52 10.5 +1.6
DAVOX Davos/Dischmat 4.53 331 Pn Pn 13 52 11.5 +2.4
comp=E,4.8nm,0.3s,baz=140,slow=13,SNR=36
DAVOX Sn Sn 13 53 03.5 +1.4
comp=E,2.1nm,0.3s,baz=140,slow=19,SNR=3.3
comp=E,28nm,0.6s
SQTA Sankt Quirin 4.54 343 ePn Pn 13 52 11.3 +1.9
comp=E,9.2nm,0.2s
DRME Dracevica, Mon 4.55 97 ePn Pn 13 52 09.9 +0.6
WATA Walderalm 4.59 347 i Pn Pn 13 52 12.0 +2.1
comp=E,17nm,0.5s,SNR=7.5
RUDO Rudo 4.64 79 ePn Pn 13 52 10.7 +0.2
MOTA Moosalm 4.69 343 i Pn Pn 13 52 13.8 +2.4
comp=E,17nm,0.5s,SNR=7.2
ARSA Arzberg 4.70 21 ePn Pn 13 52 10.7 -0.6
comp=E,8.8nm,0.6s
ARSA Arzberg 4.70 21 eSn Sn 13 53 03.9 -2.1
KOVH Kovagotottos 4.80 46 P Pn 13 52 12.2 -0.5
KOVH S Sn 13 53 05.5 -3.1
BIOA Bad Ischl, Aus 4.83 4 i Pn Pn 13 52 14.4 +1.2
comp=E,36nm,0.6s,SNR=13
SURF Saint Ours 4.84 291 P Pn 13 52 15.6 +2.2
LMR La Mourre 4.85 278 ePn Pn 13 52 12.8 -0.6
LMR eSn Sn 13 53 04.9 -4.9
comp=E,7.2nm,0.6s
RJOB Jochberg 4.86 358 ePn Pn 13 52 15.8 +2.2
RJOB eSn Sn 13 53 11.8 +1.6
JAUF Jausiers 4.86 291 P Pn 13 52 15.6 +1.8
RETA Reutte 4.90 341 ePn Pn 13 52 16.3 +2.1
comp=E,4.2nm,0.2s
PLONS Plons/SG 4.94 329 ePn Pn 13 52 17.5 +2.8
MBDF Montbardon 4.94 294 ePn Pn 13 52 16.6 +1.8
MBDF eSn Sn 13 53 07.3 -5.0
comp=E,27nm,0.8s
OBER Oberstdorf 4.95 337 ePn Pn 13 52 16.9 +2.1
OBER eSn Sn 13 53 16.0 +3.7
DAVA Damuels 4.96 334 i Pn Pn 13 52 17.8 +2.6
comp=E,18nm,0.5s,SNR=9.1
DAVA Damuels 4.96 334 ePn Pn 13 52 17.5 +2.4
CREF Crivoux 4.99 292 P Pn 13 52 18.3 +2.8
OGAG Argentiere 5.01 291 P Pn 13 52 20.5 +4.7
MOA Molln 5.04 9 Pn Pn 13 52 16.5 +0.5
comp=E,8.1nm,0.5s,SNR=8.4
MOA Molln 5.04 9 ePn Pn 13 52 17.5 +1.5
MOA eSn Sn 13 53 14.7 +0.2
DIVS Divibare 5.16 74 ePn Pn 13 52 18.1 +0.4
DIX Grande Dixence 5.18 310 P Pn 13 52 20.1 +1.9
UBR Ueberruh 5.25 337 eSn Sn 13 53 20.4 +0.7
LPG La Plagne 5.26 302 ePn Pn 13 52 21.0 +1.6
LPG eSn Sn 13 53 18.7 -1.7
comp=E,18nm,0.7s
LPL La Plagne 5.29 302 ePn Pn 13 52 20.6 +1.0
LPL eSn Sn 13 53 16.2 -4.7
comp=E,14nm,0.5s
RONA Rosalia, Austr 5.32 24 ePn Pn 13 52 20.9 +0.9
comp=E,4.8nm,0.4s
FRGS Fruska Gora 5.34 62 ePn Pn 13 52 26.1 +5.8
CONA Conrad Observa 5.41 20 ePn Pn 13 52 21.6 +0.4
comp=E,5.3nm,0.4s
CONA eSn Sn 13 53 21.7 -2.0
comp=E,12nm,0.5s
GDM Grand'Maison 5.55 297 P Pn 13 52 27.0 +3.8
OGSI Sixt 5.55 307 P Pn 13 52 26.6 +3.5
AIGLE Aigle 5.59 310 P Pn 13 52 26.2 +2.5
SMRF Simiane la Rot 5.59 284 ePn Pn 13 52 25.0 +1.3
SMRF eSn Sn 13 53 24.0 -4.2
comp=E,18nm,1.0s
ORIF Oris-en-Rattie 5.60 294 ePn Pn 13 52 26.0 +2.1
ORIF eSn Sn 13 53 23.0 -5.5
comp=E,4.6nm,0.4s
ORIF Oris-en-Rattie 5.60 294 P Pn 13 52 26.7 +2.8
SULZ Cheisacher 5.83 325 P Pn 13 52 29.8 +2.8
SULZ Cheisacher 5.83 325 S Sn 13 53 34.1 0.0
SLE Schleitheim 5.87 328 ePn Pn 13 52 28.0 +0.6
SLE eSn Sn 13 53 33.9 -1.0
SLE Schleitheim 5.87 328 P Pn 13 52 28.0 +0.6
SLE Schleitheim 5.87 328 S Sn 13 53 34.0 -1.0
BALST Balsthal 5.87 321 ePn Pn 13 52 28.7 +1.1
BALST Balsthal 5.87 321 S Sn 13 53 35.3 +0.2
BALST Balsthal 5.87 321 P Pn 13 52 28.8 +1.3
METMA Mettma DE 5.92 326 ePn Pn 13 52 29.0 +0.8
GEC2 GERESS Array S 5.98 4 eSn Sn 13 53 35.6 -2.2
GERES GERESS Array B 5.98 4 Pn Pn 13 52 28.5 -0.6
comp=E,1.2nm,0.3s,baz=178,slow=14,SNR=11
GERES Sn Sn 13 53 34.6 -3.3
comp=E,5.2nm,0.3s,baz=180,slow=25,SNR=12
comp=E,1.6nm,0.3s
CKRC Cesky Krumlov 6.00 8 ePN Pn 13 52 28.2 -1.1
CKRC eSN Sn 13 53 34.9 -3.3
BERGE Lenzkirch (DE) 6.08 327 ePn Pn 13 52 31.3 +0.9
BERGE eSn Sn 13 53 37.6 -2.5
GIMEL St. Georges / 6.09 309 P Pn 13 52 32.7 +2.2
BOURR Bourrignon 6.13 319 P Pn 13 52 32.6 +1.5
FELD Feldberg im Sc 6.15 326 P Pn 13 52 33.1 +1.7
BRANT Les Verrieres 6.21 313 P Pn 13 52 34.6 +2.3
CABF La Chapelle 6.24 309 ePn Pn 13 52 33.7 +1.2
KIZ Kirchzarten 6.25 326 P Pn 13 52 33.6 +0.9
KIZ Kirchzarten 6.25 326 S Sn 13 53 42.3 -2.0
KHC Kasperske Hory 6.26 3 ePN Pn 13 52 32.0 -0.9
KHC eSN Sn 13 53 41.3 -3.3
WET Wettzell 6.27 359 eSn Sn 13 53 41.5 -3.3
BFO Black Forest 6.40 330 eSn Sn 13 53 46.8 -1.2
VIVF Saint-Julien-l 6.41 291 ePn Pn 13 52 34.0 -0.9
VIVF eSn Sn 13 53 42.8 -5.4
comp=E,2.9nm,0.5s
RIVEL MONT RIVEL 6.41 310 P Pn 13 52 37.0 +2.1
VOGT Vogtsburg - To 6.45 326 P Pn 13 52 36.4 +0.9
MOF Molkenrain 6.51 322 P Pn 13 52 37.4 +1.1
MOF S Sn 13 53 51.4 +0.5
KRUC Moravsky 6.59 19 ePN Pn 13 52 35.6 -1.8
KRUC eSN Sn 13 53 48.7 -4.1
HINF Hinteralfeld 6.62 320 ePn Pn 13 52 37.2 -0.5
HINF eSn Sn 13 53 49.0 -4.3
comp=E,37nm,0.5s
RONF Ronchamp 6.64 319 P Pn 13 52 39.0 +1.0
ECH Echery 6.77 324 ePn Pn 13 52 40.1 +0.3
ECH Echery 6.77 324 P Pn 13 52 40.0 +0.1
ECH S Sn 13 53 55.8 -1.5
CDF Champ du Feu 6.88 326 ePn Pn 13 52 41.0 -0.3
CDF eSn Sn 13 53 55.0 -4.8
comp=E,14nm,0.4s
HAU Haudompre 6.99 320 ePn Pn 13 52 43.2 +0.4
HAU eSn Sn 13 53 56.9 -5.6
comp=E,30nm,0.5s
CIEL Dossenheim-sur 7.17 328 P Pn 13 52 46.3 +0.9
PRU Pruhonice 7.18 7 eSN Sn 13 54 03.4 -3.8
NKC Novy Kostel 7.37 357 eSN Sn 13 54 07.6 -4.3
SMF Signal de Mont 7.59 303 ePn Pn 13 52 49.5 -1.6
SMF eSn Sn 13 54 11.9 -5.4
comp=E,2.6nm,0.3s
PAGF Fort de Pagny 7.67 320 ePn Pn 13 52 51.8 -0.4
PAGF eSn Sn 13 54 11.8 -7.5
comp=E,20nm,0.6s
SFTF Sexfontaines 7.77 316 ePn Pn 13 52 52.9 -0.6
SFTF eSn Sn 13 54 15.3 -6.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,13nm,0.5s						
LOR	**Lormes**	**7.88**	**307**	*e*Pn	**Pn**	**13 52 54.5**	**-0.5**
LOR				*e*Sn	**Sn**	**13 54 17.7**	**-6.7**
	comp=E,6.7nm,0.5s						
AVF	**Avril sur Loir**	**7.96**	**303**	*e*Pn	**Pn**	**13 52 54.1**	**-2.0**
SSF	**Saint Saulge**	**7.99**	**305**	*e*Pn	**Pn**	**13 52 54.3**	**-2.2**
SAVF	**Savonnieres en**	**8.00**	**319**	*e*Pn	**Pn**	**13 52 56.1**	**-0.6**
SAVF				*e*Sn	**Sn**	**13 54 20.6**	**-6.7**
	comp=E,5.5nm,0.4s						
BRG	**Berggiesshubel**	**8.02**	**4**	*e*P	**Pn**	**13 52 56.8**	**-0.1**
BRG				Amp		13 52 57.9	
	comp=Z,3.0nm,0.6s						
BRG				*e*x	x	13 54 22.3	
BRG				*e*x	x	13 55 30.3	
BRG				Amp		13 55 52.9	
	comp=Z,17nm,1.5s						
BGF	**Bois d'Agland**	**8.18**	**300**	*e*Pn	**Pn**	**13 52 59.0**	**-0.1**
CLL	**Collm**	**8.43**	**360**	*e*Sn	**Sn**	**13 54 34.0**	**-3.9**
CLL				*e*Sg	Sg	13 55 42.0	+11
TCF	**Toulx Ste Croi**	**8.49**	**297**	*e*Pn	**Pn**	**13 53 01.4**	**-2.0**
GIVF	**Givet**	**9.21**	**325**	*e*Pn	**Pn**	**13 53 13.1**	**-0.1**
BAIF	**Baives**	**9.44**	**323**	*e*Pn	**Pn**	**13 53 15.8**	**-0.6**
BAIF				*e*Sn	**Sn**	**13 54 55.8**	**-6.9**
	comp=Z,2.0nm,0.2s						
EKA	**Eskdalemuir Ar**	**16.34**	**325**	Pn	**P**	**13 54 52.6**	**-0.1**
	baz=141,slow=14						
	comp=Z,0.6nm,0.4s						
FINES	**FINESS Array B**	**20.15**	**18**	P	Pn	13 55 35.2	-1.2
	comp=Z,0.1nm,0.3s,baz=200,slow=16,SNR=1.1						
	comp=Z,1.3nm,0.7s						
ARU	**Arti**	**31.77**	**49**	P	**P**	**13 57 26.7**	**+2.1**
	comp=Z,2.1nm,0.5s,baz=258,slow=9.3,SNR=4.6						
	comp=Z,2.1nm,0.5s						
BVAR	**Borovoye Array**	**38.71**	**54**	P	**P**	**13 58 26.6**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=270,slow=7.4,SNR=5.1						
	comp=Z,1.0nm,0.7s						
WSAR	**Wadi Sarin**	**42.30**	**103**	LR	LR	14 19 21.3	
	comp=Z,219nm,18.1s,baz=233,slow=40						
MKAR	**Makanchi Array**	**47.77**	**60**	P	**P**	**13 59 39.3**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=276,slow=5.2,SNR=4.6						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**74.69**	**79**	P	**P**	**14 02 42.0**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=304,slow=7.8,SNR=6.5						
	comp=Z,0.5nm,0.5s						

IDC 10 13:53:49.5±16.0**, 20.°84S×65.°22E, h0km, mb3.7**/5**, mbtmp3.7**/5**, Error ellipse: s-maj=537.6km s-min=34.7km az=57.0, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**63.07**	**107**	P	P	14 04 18.9	-0.2
	0.6nm,0.7s,baz=264,slow=6.4,SNR=8.6						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**64.31**	**103**	P	P	14 04 27.5	+0.2
	0.8nm,0.9s,baz=261,slow=5.4,SNR=4.0						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**69.07**	**12**	P	P	14 04 56.7	-0.3
	0.5nm,0.8s,baz=205,slow=5.4,SNR=4.1						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**76.38**	**12**	P	P	14 05 40.5	+0.2
	1.0nm,0.8s,baz=177,slow=2.9,SNR=2.8						
	1.0nm,0.8s						
SONM	**Songino Array**	**77.71**	**27**	P	P	14 05 48.4	+0.3
	0.5nm,0.5s,baz=233,slow=6.5,SNR=2.8						
	0.5nm,0.5s						

---

*IDC **10** 13:54:04.6±1.2, 20.°03S×66.°44E, h0km, mb3.9/12, mbtmp3.9/12, MS4.4/3, Error ellipse: s-maj=42.4km s-min=20.6km az=60.0*

*GCMT **10** 13:54:18.0±0.2, 20.°06S±0.°02×66.°31E±0.°02, h14km, MW5.1/114, Moment Tensor Solution. s33,c35; s114,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.36±.27; $M_{\theta\theta}$1.50±.16; $M_{\phi\phi}$3.86±.18; $M_{r\theta}$0.43±.39; $M_{\theta\phi}$-1.85±.11; $M_{\phi r}$0.99±.38; Best double couple: $M_0$5.22100×10^{16} NP1:ϕ_s159.00000°, δ49.00000°, λ-79.00000°. NP2:ϕ_s324.00000°, δ42.00000°, λ-102.00000°. Principal axes: T 4.9180, Plg4.0000°, Azm242.0000°; N 0.6050, Plg8.0000°, Azm333.0000°; P -5.5230, Plg81.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 10 13:54:07.3±1.2**, 20.°0S**±0.°2×**66.°5E**±0.°3**, h16km, n18, σ0.s88**/12**, mb4.1**/12**, MS4.3**/3**, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.61**	**26**	T	T	14 11 35.2	
	baz=204,slow=76,SNR=25						
H08S2	**Diego Garcia H**	**13.62**	**26**	T	T	14 11 35.3	
	baz=204,slow=76,SNR=126						
H08S3	**Diego Garcia H**	**13.63**	**26**	T	T	14 11 36.2	
	baz=204,slow=76,SNR=267						
LSZ	**Lusaka**	**36.75**	**271**	LR	LR	14 14 35.3	
	comp=Z,593nm,20.8s,baz=130,slow=34						
TSUM	**Tsumeb**	**45.95**	**262**	LR	LR	14 20 16.0	
	comp=Z,902nm,18.5s,baz=104,slow=34						
CMAR	**Chiang Mai Arr**	**49.76**	**42**	P	**P**	**14 02 59.1**	**-0.2**
	0.6nm,0.6s,baz=232,slow=8.9,SNR=4.9						
	0.6nm,0.6s						
KAPI	**Kappang**	**53.85**	**81**	LR	LR	14 25 36.7	
	comp=Z,122nm,19.0s,baz=237,slow=35						
ASAR	**Alice Springs**	**62.16**	**107**	P	**P**	**14 04 28.6**	**+0.3**
	1.3nm,0.7s,baz=269,slow=5.8,SNR=18						
	1.3nm,0.7s						
AAK	**Ala-Archa**	**62.79**	**7**	P	**P**	**14 04 34.0**	**+1.9**
	1.1nm,0.6s,baz=204,slow=6.6,SNR=4.1						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**63.32**	**103**	P	**P**	**14 04 36.7**	**+0.6**
	2.0nm,0.8s,baz=260,slow=6.0,SNR=10						
	2.0nm,0.8s						
BRTR	**Keskin Array B**	**66.89**	**333**	P	**P**	**14 04 59.5**	**+0.6**
	1.1nm,0.8s,baz=179,slow=6.4,SNR=3.5						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**68.02**	**12**	P	**P**	**14 05 05.5**	**-0.3**
	0.6nm,0.8s,baz=170,slow=7.4,SNR=4.6						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**71.14**	**8**	P	**P**	**14 05 25.1**	**+0.2**
	0.4nm,0.2s,baz=205,slow=7.4,SNR=5.4						
	0.4nm,0.2s						
VNDA	**Vanda**	**71.75**	**167**	P	**P**	**14 05 28.2**	**-0.1**
	0.5nm,0.7s,baz=239,slow=5.1,SNR=4.1						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**72.82**	**2**	P	**P**	**14 05 34.5**	**-0.4**
	1.2nm,0.7s,baz=158,slow=4.8,SNR=6.3						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**75.35**	**11**	P	**P**	**14 05 49.3**	**-0.4**
	1.7nm,0.7s,baz=221,slow=6.4,SNR=6.9						
	1.7nm,0.7s						
SONM	**Songino Array**	**76.44**	**26**	P	**P**	**14 05 55.1**	**-1.1**
	0.6nm,0.7s,baz=83,slow=22,SNR=2.8						
	0.6nm,0.7s						
AKASG	**Malin Array Be**	**77.70**	**337**	P	**P**	**14 06 02.3**	**-0.7**
	0.6nm,0.6s,baz=126,slow=4.8,SNR=4.5						
	0.6nm,0.6s						

---

*DJA **10** 14:00:42.3±0.9, 10°S±4°×11°9E±°, h39km±28km, M4.4/12, mb4.4/3, mB4.8/1, MLv4.4/12, Mw(mB)4.1/1*

*IDC **10** 14:00:43.5±5.5, 9.°39S×119.°10E, h74km±49km, mb3.2/3, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=57.3km s-min=12.8km az=58.0*

ISC 10 14:00:41.1±0.8**, 9.°50S**±0.°06×**119.°03E**±0.°03**, h46km, n28, σ1.s78**/37**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.41**	**298**	P	**Pn**	**14 01 04.9**	**+0.6**
PLAI				S	**Sn**	**14 01 22.2**	**+0.5**
PLAI	**Plampang**	**1.41**	**298**	P	**Pn**	**14 01 04.9**	**+0.6**
TWSI	**Taliwang, Sumb**	**2.25**	**290**	P	**Pn**	**14 01 17.1**	**+1.2**
TWSI				S	**Sn**	**14 01 43.5**	**+1.0**
KLNI	**Mataram**	**3.09**	**290**	P	**Pn**	**14 01 29.8**	**+2.4**
MMRI	**Maumere**	**3.28**	**75**	P	**Pn**	**14 01 32.2**	**+2.1**
MMRI	**Maumere**	**3.28**	**75**	P	**Pn**	**14 01 32.6**	**+2.5**
BSSI	**Bau Bau, Buton**	**3.64**	**24**	P	**Pn**	**14 01 36.1**	**+1.2**
BSSI				S	**Sn**	**14 02 17.6**	**+0.9**
DNP	**Denpasar**	**3.86**	**282**	P	**Pn**	**14 01 38.6**	**+0.6**
DNP				S	**Sn**	**14 02 26.7**	**+4.6**
IGBI	**Denpasar**	**3.89**	**280**	P	**Pn**	**14 01 40.2**	**+1.8**
IGBI				S	**Sn**	**14 02 23.5**	**+0.6**
SRBI	**Singaraja**	**4.03**	**290**	P	**Pn**	**14 01 42.0**	**+1.8**
RTBI	**Rangdo, Negare**	**4.17**	**284**	P	**Pn**	**14 01 44.4**	**+2.2**
BKSI	**Bulukumba**	**4.29**	**15**	P	**Pn**	**14 01 45.5**	**+1.6**
BKSI				S	**Sn**	**14 02 32.3**	**-0.5**
KAPI	**Kappang**	**4.52**	**9**	P	**Pn**	**14 01 49.0**	**+2.1**
	3.2nm,0.3s,baz=180,slow=12,SNR=6.1						
KAPI				S	**Sn**	**14 02 37.5**	**-0.7**
	19nm,0.3s,baz=64,slow=21,SNR=7.6						
	9.9nm,0.3s						
KAPI	**Kappang**	**4.52**	**9**	P	**Pn**	**14 01 49.1**	**+2.1**
KAPI	**Kappang**	**4.52**	**9**	P	**Pn**	**14 01 49.1**	**+2.1**
BATI	**Baumata**	**4.62**	**99**	P	**Pn**	**14 01 50.4**	**+1.9**
	275nm,0.3s,baz=280,slow=11,SNR=103						
BATI				S	**Sn**	**14 02 43.0**	**+2.1**
	39nm,0.3s,baz=22,slow=21,SNR=6.2						
BATI	**Baumata**	**4.62**	**99**	P	**Pn**	**14 01 50.4**	**+1.9**
BATI				S	**Sn**	**14 02 41.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.92**	**282**	P	**Pn**	**14 01 52.6**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.92**	**282**	P	**Pn**	**14 01 53.3**	**+0.7**
SOEI	**Soe**	**5.17**	**93**	P	**Pn**	**14 01 57.4**	**+1.3**
	0.3nm73nm,0.6s						
SOEI	**Soe**	**5.17**	**93**	P	**Pn**	**14 01 58.4**	**+2.3**
BNSI	**Bone**	**5.18**	**12**	P	**Pn**	**14 01 58.8**	**+2.7**
	0.1nm14nm,0.7s						
KNRA	**Kununurra**	**11.31**	**124**	P	**Pn**	**14 03 18.7**	**-1.4**
MTN	**Manton Dam**	**12.33**	**107**	P	**Pn**	**14 03 32.2**	**-1.9**
WRA	**Warramunga Arr**	**18.07**	**127**	P	**P**	**14 04 47.5**	**-1.3**
	0.2nm,0.3s,baz=302,slow=14,SNR=8.6						
	1.9nm,1.1s						
ASAR	**Alice Springs**	**20.01**	**137**	P	**P**	**14 05 10.7**	**+0.5**
	0.8nm,0.7s,baz=311,slow=10.0,SNR=12						
	0.8nm,0.7s						
SONM	**Songino Array**	**58.17**	**350**	P	**P**	**14 10 30.0**	**-0.4**
	0.4nm,0.4s,baz=167,slow=4.1,SNR=2.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**64.91**	**333**	P	**P**	**14 11 14.6**	**-1.3**
	0.3nm,0.5s,baz=139,slow=6.0,SNR=7.1						
	0.3nm,0.5s						

NOU 10 14:02:04.0, 15.°96S×167.°22E, h0km, MLv3.8/6**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.98**	**152**	P	Pn	14 02 39.4	+0.5
KOUNC	**Koumac, New Ca**	**5.35**	**211**	P	Pn	14 03 25.1	-0.1
YATNC	**Mamie plateau,**	**6.08**	**183**	P	Pn	14 03 35.3	+0.2
DZM	**Mont Dzumac**	**6.12**	**187**	P	Pn	14 03 34.9	-1.0

---

*IDC **10** 14:04:48.7±1.4, 2.°89S×130.°16E, h0km, mb3.7/3, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=35.5km s-min=21.7km az=92.0*

*DJA **10** 14:04:52.4±1.7, 3°S±4°×13°0E±°, h22km±17km, M3.6/9, MLv3.6/9*

ISC 10 14:04:52.4±0.8**, 2.°88S**±0.°06×**130.°13E**±0.°05**, h25km, n14, σ0.s93**/17**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.29**	**249**	P	**Pb**	**14 05 16.5**	**+0.6**
MSAI				S	**Sb**	**14 05 33.3**	**+1.3**
BNDI	**Bandanaira**	**1.65**	**188**	P	**Pb**	**14 05 21.8**	**-0.3**
KRAI	**Karang Ratu**	**1.79**	**256**	P	**Pb**	**14 05 23.1**	**-1.4**
AAI	**Ambon**	**2.09**	**247**	P	**Pn**	**14 05 25.9**	**0.0**
FAKI	**Fak Fak**	**2.12**	**91**	P	**Pn**	**14 05 26.4**	**+0.2**
SIJI	**Sorong**	**2.30**	**30**	Pn	**Pn**	**14 05 28.9**	**+0.1**
	8.6nm,0.3s,baz=225,slow=24,SNR=53						
SIJI				Sn	**Sn**	**14 05 56.8**	**+0.6**
	14nm,0.3s,baz=232,slow=22,SNR=14						
	22nm,0.3s						
SIJI	**Sorong**	**2.30**	**30**	P	**Pn**	**14 05 28.3**	**-0.4**
NLAI	**Namlea**	**3.05**	**263**	P	**Pn**	**14 05 40.1**	**+1.1**
LBMI	**Labuha**	**3.44**	**310**	P	**Pn**	**14 05 44.5**	**0.0**
LBMI				S	**Sn**	**14 06 25.1**	**+0.6**
SANI	**Sanana**	**4.22**	**281**	P	**Pn**	**14 05 53.0**	**-2.2**
WRA	**Warramunga Arr**	**17.45**	**167**	P	**Pn**	**14 08 53.9**	**-0.4**
	0.4nm,0.3s,baz=348,slow=12,SNR=7.3						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**20.98**	**170**	P	**P**	**14 09 33.1**	**-0.9**
	3.3nm,0.5s,baz=349,slow=10,SNR=44						
	3.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.32**	**306**	P	**P**	**14 12 03.8**	**+0.8**
	0.2nm,0.3s,baz=143,slow=7.3,SNR=4.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**64.89**	**326**	P	**P**	**14 15 29.5**	**-0.1**
	0.4nm,0.7s,baz=133,slow=10.0,SNR=1.9						
	0.4nm,0.7s						

---

*HEL **10** 14:10:28.5±0.3, 67.°66N×20.°37E, h0km, ML2.0, Explosion*

*UPP **10** 14:10:32.8±0.0, 67.°65N×20.°99E, h0km, ML2.2, Explosion*

*IDC **10** 14:10:32.6±1.0, 67.°70N×20.°93E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=12.6km s-min=4.3km az=141.0*

*KOLA **10** 14:10:34.8, 67.°55N×21.°57E, h0km, ML2.2*

ISC 10 14:10:32.7±0.8**, 67.°65N**±0.°02×**21.°03E**±0.°03**, h0km, n37, σ1.s56**/55**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.40**	**319**	P	**Pg**	**14 10 40.3**	**-0.1**
KUA				S	**Sg**	**14 10 45.9**	**+0.2**
MASU	**Masugnsbyn**	**0.42**	**117**	P	**Pg**	**14 10 41.2**	**+0.5**
LANU	**Lannavaara**	**0.54**	**42**	P	**Pg**	**14 10 43.1**	**+0.1**
LANU	**Lannavaara**	**0.54**	**42**	PB	**Pg**	**14 10 42.9**	**-0.1**
LANU				SG	**Sg**	**14 10 50.7**	**+0.6**
DUNU	**Dundret**	**0.56**	**199**	P	**Pg**	**14 10 43.4**	**0.0**
DUNU				S	**Sg**	**14 10 50.9**	**+0.2**
RATU	**Laukkuluspa**	**0.58**	**288**	P	**Pg**	**14 10 43.3**	**-0.4**
NIKU	**Nikkaluokta**	**0.79**	**287**	P	**Pg**	**14 10 47.2**	**-0.6**
SALU	**Saltoluokta**	**1.01**	**256**	P	**Pg**	**14 10 51.2**	**-0.8**
PAJU	**Pajala**	**1.02**	**127**	P	**Pg**	**14 10 51.7**	**-0.6**
PAJU	**Pajala**	**1.02**	**127**	PN	**Pg**	**14 10 51.4**	**-0.9**
	baz=302						
PAJU				SG	**Sg**	**14 11 06.5**	**+1.0**
ERTU	**Ertsjaerv**	**1.19**	**157**	PN	**Pg**	**14 10 54.5**	**-1.0**
ERTU				SN	**Sg**	**14 11 11.0**	**+0.1**
KLF	**Kolari**	**1.21**	**109**	PG	**Pg**	**14 10 55.0**	**-0.7**
KLF				SG	**Sn**	**14 11 14.1**	**+0.3**
HEF	**Hetta**	**1.25**	**51**	PN	**Pg**	**14 10 55.5**	**-1.1**
HEF				MSG		14 11 12.1	
	comp=Z,7.6nm,0.2s						
HEF				SG	**Sg**	**14 11 13.2**	**+0.4**
HARU	**Harads**	**1.49**	**181**	P	**Pn**	**14 11 00.1**	**-0.6**
KTK1	**Kautokeino**	**1.59**	**30**	SN	**Sb**	**14 11 23.8**	**+0.2**
I37NO	**I37NO**	**1.69**	**329**	I		14 19 50.4	
	baz=148,slow=330,SNR=1.2						
KALU	**Kalix**	**2.02**	**152**	PN	**Pn**	**14 11 03.8**	**-4.2**
KALU				SN	**Sn**	**14 11 30.9**	**-2.9**
TOF	**Tornio**	**2.04**	**139**	PG	**Pn**	**14 11 08.5**	**+0.2**
	baz=317						
TOF				MSG		14 11 34.6	
	comp=Z,16nm,0.2s						
TOF				SG	**Sb**	**14 11 36.8**	**+0.3**
SGF	**Sodankyl**	**2.12**	**93**	PG	**Pn**	**14 11 10.3**	**+0.9**
SGF				SN	**Sn**	**14 11 38.0**	**+1.7**
RNF	**Rovaniemi**	**2.21**	**116**	PG	**Pn**	**14 11 11.9**	**+1.3**
RNF				SG	**Sb**	**14 11 42.0**	**+0.6**
ARA0	**ARCESS Array S**	**2.50**	**39**	PG	**Pn**	**14 11 15.2**	**+0.5**
ARA0				SN	**Sn**	**14 11 44.7**	**-1.2**
ARCES	**ARCESS Array B**	**2.50**	**39**	Pn	**Pn**	**14 11 15.3**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=218,slow=14,SNR=19						
ARCES				Lg	Lg	14 11 49.1	
	comp=Z,1.1nm,0.3s,baz=221,slow=26,SNR=11						
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**2.50**	**39**	P	**Pn**	**14 11 15.5**	**+0.8**
ARCES				S	**Sn**	**14 11 46.0**	**+0.1**
KEV	**Kevo**	**3.04**	**43**	PB	**Pn**	**14 11 22.3**	**+0.3**
KEV				SN	**Sn**	**14 11 60.0**	**+1.0**
KEV				MSG		14 12 02.8	
	comp=Z,3.7nm,0.2s						
BURU	**Burvik**	**3.08**	**177**	PG	**Pn**	**14 11 23.8**	**+1.2**
BURU				SG	**Sn**	**14 12 03.1**	**+3.0**
OUL	**Oulu**	**3.24**	**140**	PG	**Pb**	**14 11 29.1**	**-1.9**
OUL				SG	**Sb**	**14 12 11.5**	**+0.7**
VRF	**Varrio**	**3.27**	**84**	PN	**Pn**	**14 11 25.3**	**+0.1**
VRF				SN	**Sn**	**14 12 05.4**	**+0.7**
OBF4	**Vikkela, Lumij**	**3.29**	**148**	PB	**Pn**	**14 11 26.8**	**+1.4**
	baz=331						
OBF0	**Syolatti, Pyha**	**3.42**	**156**	PB	**Pn**	**14 11 28.6**	**+1.4**
MSF	**Maaselka**	**3.62**	**115**	SN	**Sn**	**14 12 15.3**	**+2.0**
UMAU	**Umeaa**	**3.79**	**182**	PB	**Pn**	**14 11 33.1**	**+0.8**
UMAU				SB	**Sn**	**14 12 18.4**	**+1.0**
KU6	**Riekki**	**3.86**	**111**	PG	**Pb**	**14 11 43.0**	**+1.4**
	baz=293						
APA0	**Apatity Array**	**4.57**	**85**	S	**Sn**	**14 12 32.1**	**-4.6**
APA	**Apatity**	**4.73**	**85**	S	**Sn**	**14 12 35.0**	**-5.7**
FINES	**FINESS Array B**	**6.60**	**158**	Pn	**Pn**	**14 12 11.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=341,slow=14,SNR=2.2						
FINES				Sn	**Sn**	**14 13 26.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=348,slow=23,SNR=1.8						
FINES				Lg	Lg	14 13 59.3	
	comp=Z,0.2nm,0.3s,baz=346,slow=27,SNR=4.1						
	comp=Z,3.1nm,1.0s						
NOA	**NORSAR Array B**	**7.88**	**217**	Pn	**Pn**	**14 12 28.4**	**0.0**
	baz=28,slow=15,SNR=2.8						
	comp=Z,0.4nm,0.8s						
HFS	**Hagfors**	**8.20**	**207**	Pn	**Pn**	**14 12 31.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=1.7						
	comp=Z,3.0nm,1.0s						

---

*NOU **10** 14:13:33.8, 17.°60S×168.°98E, h83km, MLv3.7/13, Vanuatu Islands*

*IDC **10** 14:13:40.4±8.8, 19.°80S×170.°64E, h98km±55km, mb3.8/3, mbtmp4.1/4, Error ellipse: s-maj=114.2km s-min=64.5km az=144.0*

ISC 10 14:13:42.8±1.0**, 18.°10S**±0.°08×**168.°2E**±0.°1**, h10km, n12, σ1.s85**/12**, mb3.9**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.38**	**359**	P	**Pb**	**14 13 51.0**	**-0.6**
RTV	**Rentapao**	**0.38**	**35**	P	**Pg**	**14 13 50.5**	**+0.2**
LIFNC	**LIFOU**	**2.81**	**199**	P	**Pn**	**14 14 25.6**	**-2.2**
MARNC	**Mare, Loyalty**	**3.36**	**183**	P	**Pn**	**14 14 34.2**	**-1.3**
YATNC	**Mamie plateau,**	**4.12**	**197**	P	**Pn**	**14 14 45.7**	**-0.2**
DZM	**Mont Dzumac**	**4.28**	**202**	P	**Pn**	**14 14 46.9**	**-1.2**
	6.5nm,0.4s,baz=142,slow=19,SNR=44						
DZM				S	**Sn**	**14 15 38.7**	**+0.6**
	8.0nm,0.4s,baz=146,slow=22,SNR=14						
DZM	**Mont Dzumac**	**4.28**	**202**	P	**Pn**	**14 14 47.8**	**-0.3**
KOUNC	**Koumac, New Ca**	**4.42**	**236**	P	**Pn**	**14 14 48.2**	**-1.8**
OUENC	**Ouen Island, N**	**4.48**	**196**	P	**Pn**	**14 14 50.7**	**-0.1**
STKA	**Stephens Creek**	**27.65**	**235**	P	**P**	**14 19 28.6**	**-2.3**
	1.9nm,0.8s,baz=80,slow=12,SNR=4.9						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**32.03**	**261**	P	P	14 20 15.7	+5.8
	0.6nm,0.6s,baz=96,slow=7.1,SNR=17						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**32.46**	**254**	P	**P**	**14 20 17.3**	**+3.6**
	5.0nm,0.5s,baz=87,slow=9.1,SNR=106						
	5.0nm,0.5s						

---

*IDC **10** 14:19:14.0±0.6, 37.°80S×78.°12E, h0km, mb4.4/14, mbtmp4.4/14, MS4.3/27, Error ellipse: s-maj=19.1km s-min=17.7km az=102.0*

*NEIC **10** 14:19:15.1±2.0, 37.°7S±0.°1×78.°04E±0.°05, h10km±1km, mb4.8/27, Error ellipse: s-maj=19.3km s-min=4.2km az=162.0*

*GCMT **10** 14:19:19.1±0.4, 37.°93S±0.°02×78.°32E±0.°03, h28km±1km, MW5.1/81, Moment Tensor Solution. s14,c15; s81,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.24±.33; $M_{\theta\theta}$3.42±.24; $M_{\phi\phi}$-2.18±.23; $M_{r\theta}$-0.81±.32; $M_{\theta\phi}$-3.15±.15; $M_{\phi r}$2.81±.40; Best double couple: $M_0$5.23000×10^{16} NP1:ϕ_s155.00000°, δ80.00000°, λ-37.00000°. NP2: ϕ_s252.00000°, δ54.00000°, λ-168.00000°. Principal axes: T 5.4180, Plg17.0000°, Azm209.0000°; N -0.3750, Plg52.0000°, Azm322.0000°; P -5.0430, Plg33.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 14:19:15.1±0.5**, 37.°72S**±0.°09×**78.°02E**±0.°08**, h10km, n80, σ0.s97**/50**, mb4.7**/30**, MS4.3**/27**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.37**	**258**	Pg	**Pg**	**14 19 22.7**	**+0.3**
H01W2	**Cape Leeuwin H**	**29.12**	**96**	T	T	14 55 26.1	
	baz=254,slow=74,SNR=626						
H01W3	**Cape Leeuwin H**	**29.13**	**96**	T	T	14 55 26.6	
	baz=254,slow=74,SNR=718						
H01W1	**Cape Leeuwin H**	**29.14**	**96**	T	T	14 55 27.4	
	baz=254,slow=74,SNR=726						
H08S2	**Diego Garcia H**	**30.36**	**349**	T	T	14 57 13.2	
	baz=171,slow=76,SNR=1778						
H08S1	**Diego Carcia H**	**30.36**	**349**	T	T	14 57 13.7	
	baz=171,slow=76,SNR=301						
H08S3	**Diego Garcia H**	**30.38**	**349**	T	T	14 57 14.8	
	baz=171,slow=76,SNR=3328						
MAW	**Mawson**	**31.12**	**191**	P	**P**	**14 25 33.8**	**+0.4**
	10nm,0.8s,baz=7.9,slow=9.8,SNR=8.5						
MAW				LR	LR	14 35 40.0	
	comp=Z,836nm,18.7s,baz=3.0,slow=32						
	10nm,0.8s						
MAW	**Mawson**	**31.12**	**191**	P	**P**	**14 25 34.5**	**+1.0**
VOI	**Vohitsoka**	**31.16**	**292**	P	**P**	**14 25 31.9**	**-2.5**
VOI				IAmb	IAmb	14 25 39.7	
	comp=Z,9.5nm,0.7s						
NWAO	**Narrogin (SRO)**	**32.19**	**93**	LR	LR	14 35 31.8	
	comp=Z,369nm,19.2s,baz=118,slow=30						
ABPO	**Ambohimpanom**	**32.67**	**296**	P	**P**	**14 25 46.9**	**-0.9**
ABPO				IAmb	IAmb	14 25 51.3	
	comp=Z,9.1nm,1.1s						
OPO	**Ambohidratompo**	**32.99**	**297**	P	**P**	**14 25 51.9**	**+1.3**
	comp=Z,6.1nm,0.9s,baz=146,slow=4.5,SNR=6.0						
OPO				LR	LR	14 35 59.6	
	comp=Z,230nm,18.5s,baz=356,slow=30						
	comp=Z,6.1nm,0.9s						
LEM	**Lembang**	**40.83**	**49**	LR	LR	14 39 55.6	
	comp=Z,530nm,21.1s,baz=190,slow=30						
BOSA	**Boshof**	**44.59**	**266**	P	**P**	**14 27 28.6**	**+0.9**
	comp=Z,6.9nm,0.8s,baz=118,slow=7.4,SNR=6.7						
	comp=Z,6.9nm,0.8s						
BOSA	**Boshof**	**44.59**	**266**	P	**P**	**14 27 27.0**	**-0.7**
PALK	**Pallekele**	**44.83**	**4**	LR	LR	14 41 37.7	
	comp=Z,446nm,21.3s,baz=296,slow=30						
SUR	**Sutherland**	**46.52**	**259**	P	**P**	**14 27 41.6**	**-1.5**
ASAR	**Alice Springs**	**49.38**	**90**	P	**P**	**14 28 04.6**	**-0.5**
	comp=Z,8.0nm,1.1s,baz=234,slow=7.0,SNR=24						
	comp=Z,8.0nm,1.1s						
ASAR	**Alice Springs**	**49.38**	**90**	P	**P**	**14 28 04.9**	**-0.3**
AS31	**Alice Springs**	**49.38**	**90**	P	**P**	**14 28 05.7**	**+0.5**
KNRA	**Kununurra**	**49.69**	**78**	P	**P**	**14 28 06.4**	**-1.0**
KNRA				IAmb	IAmb	14 28 20.2	
	comp=Z,15nm,0.9s						
TROLL	**Troll, Antarti**	**50.15**	**203**	P	**P**	**14 28 10.5**	**+0.1**
SBUM	**Sibu**	**50.99**	**46**	P	P	14 28 27.6	+10
	comp=Z,5.4nm,1.8s						
STKA	**Stephens Creek**	**51.65**	**104**	LR	LR	14 46 02.1	
	comp=Z,178nm,20.2s,baz=227,slow=31						
STKA	**Stephens Creek**	**51.65**	**104**	P	**P**	**14 28 20.7**	**-1.4**
WRA	**Warramunga Arr**	**51.66**	**86**	P	**P**	**14 28 22.2**	**-0.1**
	comp=Z,11nm,1.1s,baz=236,slow=7.1,SNR=19						
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**51.66**	**86**	P	**P**	**14 28 23.3**	**+1.0**
WB2	**Warramunga Arr**	**51.67**	**86**	P	**P**	**14 28 22.6**	**+0.2**
WB2				IAmb	IAmb	14 28 35.7	
	comp=Z,10nm,1.1s						
WB0	**Warramunga Arr**	**51.80**	**86**	P	**P**	**14 28 23.0**	**-0.4**
WB0				IAmb	IAmb	14 28 27.0	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**51.81**	**87**	P	**P**	**14 28 21.9**	**-1.6**
WR0				IAmb	IAmb	14 28 27.1	
	comp=Z,17nm,1.1s						
SNAA	**Sanae**	**51.84**	**203**	P	**P**	**14 28 23.2**	**+0.1**
SNAA	**Sanae**	**51.84**	**203**	P	**P**	**14 28 23.3**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=60,slow=4.2,SNR=5.8						
SNAA				LR	LR	14 46 26.2	
	comp=Z,308nm,20.9s,baz=8.5,slow=32						
	comp=Z,2.6nm,0.9s						
VNDA	**Vanda**	**52.18**	**164**	LR	LR	14 48 28.1	
	comp=Z,207nm,19.9s,baz=262,slow=34						
VNDA	**Vanda**	**52.18**	**164**	P	**P**	**14 28 26.0**	**+0.5**
VNDA				IAmb	IAmb	14 28 43.5	
	comp=Z,7.9nm,1.4s						
KMBO	**Kilima Mbogo**	**52.24**	**304**	P	**P**	**14 28 27.9**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=158,slow=6.3,SNR=6.1						
KMBO				LR	LR	14 45 27.9	
	comp=Z,159nm,21.6s,baz=273,slow=30						
	comp=Z,2.1nm,0.7s						
KMBO	**Kilima Mbogo**	**52.24**	**304**	P	**P**	**14 28 25.5**	**-1.5**
QSPA	**South Pole Qui**	**52.44**	**180**	P	**P**	**14 28 26.8**	**-0.8**
	comp=Z,17nm,1.0s,baz=281,slow=3.5,SNR=23						
QSPA				LR	LR	14 49 11.7	
	comp=Z,1μm,18.8s,baz=294,slow=34						

comp=Z,17nm,1.0s
QSPA South Pole Qui 52.44 180 P **P** **14 28 26.7 -1.0**
QSPA IAmb IAmb 14 28 32.0
comp=Z,20nm,1.0s
VNA1 Neumayer--Stat 53.73 204 P **P** **14 28 38.0 +1.0**
VNA3 Neumayer Olymp 54.07 204 P **P** **14 28 39.9 +0.5**
TSUM Tsumeb 55.33 272 LR LR 14 49 04.3
comp=Z,341nm,20.6s,baz=287,slow=32
MYLDM Lahad Datu 56.90 51 P P 14 29 12.5 +12
comp=Z,18nm,1.2s
LODK Lodwar 56.91 306 P **P** **14 29 00.0 -0.6**
LODK IAmb IAmb 14 29 07.1
comp=Z,10nm,1.4s
MBAR Mbarara 57.02 299 LR LR 14 50 37.8
comp=Z,243nm,18.4s,baz=46,slow=33
BELA Belgrano 2 57.93 193 P **P** **14 29 07.2 +0.2**
ATD Arta Tunnel 59.05 319 LR LR 14 50 44.3
comp=Z,140nm,19.1s,baz=0.5,slow=32
CMAR Chiang Mai Arr 59.25 23 P **P** **14 29 17.6 +0.9**
comp=Z,0.9nm,0.4s,baz=210,slow=6.8,SNR=9.8
CMAR LR LR 14 50 53.8
comp=Z,196nm,21.2s,baz=355,slow=32
comp=Z,0.9nm,0.4s
CMAR Chiang Mai Arr 59.25 23 P **P** **14 29 16.3 -0.5**
CTA Charters Tower 61.03 94 LR LR 14 53 58.3
comp=Z,205nm,18.2s,baz=22,slow=34
BRDH Bariadhala 61.43 14 LR LR 14 53 39.0
comp=Z,464nm,19.7s,baz=255,slow=34
RPZ Rata Peaks 67.10 128 LR LR 14 53 16.9
comp=Z,298nm,20.1s,baz=284,slow=30
H09N1 TRISTAN DA CUN 68.78 239 T T 15 45 01.0
SNR=54
SMAI San Martin Ant 71.27 193 P **P** **14 30 34.0 -0.1**
PMSA Palmer Station 73.59 196 LR LR 15 00 05.4
comp=Z,188nm,21.7s,baz=92,slow=33
KSH Kashi 76.89 358 P **P** **14 31 07.1 -0.2**
KSH pP pP 14 31 10.5 +0.4
KSH pmax pmax
comp=Z,8.0nm,1.2s
XAN Xi'an 76.96 26 P **P** **14 31 08.7 +0.9**
XAN pP pwP 14 31 13.4 +0.6
XAN pmax pmax
comp=Z,5.0nm,0.6s
LZH Lanzhou 77.24 21 *e*P P 14 31 15.8 +6.4
LZH pmax pmax
comp=Z,14nm,1.0s
GEYT Alibeck 77.49 344 P **P** **14 31 12.1 +1.4**
comp=Z,2.5nm,0.8s,baz=180,slow=8.7,SNR=4.6
comp=Z,2.5nm,0.8s
GEYT Alibeck 77.49 344 P **P** **14 31 09.6 -1.1**
GEYT IAmb IAmb 14 31 19.1
comp=Z,16nm,1.3s
NJ2 Nanjing 79.18 34 *e*P P 14 31 28.0 +7.9
NJ2 pmax pmax
comp=Z,13nm,0.9s
AAK Ala-Archa 80.05 357 LR LR 15 03 21.2
comp=Z,331nm,20.5s,baz=188,slow=33
GNI Garni 83.29 335 LR LR 15 05 59.0
comp=Z,80nm,18.4s,baz=140,slow=34
GNI Garni 83.29 335 P **P** **14 31 41.6 -0.4**
MK31 Makanchi Array 84.22 3 P **P** **14 31 44.2 -2.2**
MK31 IAmb IAmb 14 31 54.1
comp=Z,4.9nm,1.1s
MKAR Makanchi Array 84.22 3 P **P** **14 31 46.6 +0.2**
comp=Z,3.4nm,0.8s,baz=175,slow=5.5,SNR=16
MKAR LR LR 15 06 32.0
comp=Z,186nm,21.8s,baz=312,slow=34
comp=Z,3.4nm,0.8s
MKAR Makanchi Array 84.22 3 P **P** **14 31 46.1 -0.3**
MAKZ Makanchi 84.22 3 P **P** **14 31 45.2 -1.2**
MAKZ IAmb IAmb 14 31 54.2
comp=Z,9.0nm,1.1s
KBZ Khabaz 87.10 335 LR LR 15 06 57.6
comp=Z,77nm,21.1s,baz=150,slow=33
BRTR Keskin Array B 87.18 327 P **P** **14 32 01.9 +0.5**
comp=Z,0.9nm,0.8s,baz=160,slow=4.6,SNR=2.3
comp=Z,0.9nm,0.8s
DBIC Dimbokro 88.43 280 LR LR 15 07 46.3
comp=Z,118nm,20.9s,baz=148,slow=33
SONM Songino Array 88.86 19 P **P** **14 32 10.9 +1.7**
comp=Z,1.2nm,1.0s,baz=204,slow=4.7,SNR=3.8
comp=Z,1.2nm,1.0s
ZALV Zalesovo Beam 91.49 4 P **P** **14 32 22.0 +0.9**
comp=Z,1.1nm,0.7s,baz=197,slow=4.6,SNR=4.6
ZALV LR LR 15 11 34.9
comp=Z,140nm,21.0s,baz=273,slow=34
comp=Z,1.1nm,0.7s
ARU Arti 95.23 349 LR LR 15 14 55.7
comp=Z,57nm,19.6s,baz=74,slow=35
KLR Kul'dur 98.77 32 LR LR 15 15 10.1
comp=Z,171nm,21.1s,baz=213,slow=34
RAR Rarotonga 100.09 127 LR LR 15 09 08.0
comp=Z,101nm,20.5s,baz=166,slow=30
NACGM Naroch 102.16 333 *e*P **Pdif** **14 33 09.7 +0.2**
baz=141
YKA Yellowknife Ar 154.01 13 PKPbc **PKiKP** **14 39 14.4 +0.3**
comp=Z,1.7nm,0.8s,baz=319,slow=2.4,SNR=4.2
TXAR Lajitas Array 171.52 170 PKP **PKPdf** **14 39 25.0 +0.8**
comp=Z,0.9nm,1.0s,baz=134,slow=2.6,SNR=4.1
PDAR Pinedale Array 172.32 47 PKP **PKPdf** **14 39 25.0 +0.7**
comp=Z,1.2nm,1.1s,baz=336,slow=2.0,SNR=2.8

*SCB **10** 14:26:02.0±1.3, 17°.30S×67°.08W, h24km±8km, ML4.5/1, MW3.6, Error ellipse: s-maj=8.4km s-min=6.4km az=2.0*
*VAO **10** 14:26:10.8±0.4, 17°.36S×67°.51W, h10km, mb4.2*
ISC 10 14:26:10.2±1.0, 17°.33S±0.07×67°.58W±0.07, h10km, n21, σ1§29/22, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOE	**La Paz, Chanca**	**0.65**	**323**	P	**Pg**	**14 26 21.6**	**-1.3**
SOEJ	**Jacaque**	**0.69**	**301**	P	**Pg**	**14 26 22.0**	**-1.6**
LPAZ	**La Paz**	**1.16**	**333**	P	Pg	14 26 29.2	-3.5
LPAZ				S	**Sg**	**14 26 47.9**	**0.0**
LPAZ	**La Paz**	**1.16**	**333**	*e*P	**Pg**	**14 26 31.9**	**-0.8**
BBOD	**La Paz, Gloria**	**1.20**	**305**	P	**Pn**	**14 26 31.5**	**-2.0**
GO01	**Chusmiza**	**2.79**	**213**	P	**Pn**	**14 26 56.9**	**+1.5**
MOCB	**Mochara**	**4.31**	**155**	P	**Pn**	**14 27 15.0**	**-1.3**
YJA	**Yavi**	**5.20**	**158**	P	**Pn**	**14 27 29.3**	**+0.8**
LVC	**Limon Verde**	**5.40**	**193**	*e*P	**Pn**	**14 27 32.0**	**+0.8**
SIV	**San Ignacio**	**6.37**	**79**	P	**Pn**	**14 27 43.5**	**-0.8**
SIV				S	**Sn**	**14 28 57.0**	**-0.2**
SIV				IAML		14 29 31.8	
	175nm,3.0s						
BBSD	**Serra de San D**	**6.66**	**90**	P	**Pn**	**14 27 47.3**	**-0.9**
BBSD	**Serra de San D**	**6.66**	**90**	*e*P	**Pn**	**14 27 48.6**	**+0.4**
BBRB	**Robore, Bolivi**	**7.46**	**98**	*e*P	**Pn**	**14 27 57.5**	**-1.7**
ETMB	**Extrema**	**7.58**	**10**	*e*P	**Pn**	**14 28 02.2**	**+1.3**
PTLB	**Pontes e Lacer**	**8.31**	**78**	*e*P	**Pn**	**14 28 11.8**	**+1.0**
VILB	**Vilhena**	**8.34**	**60**	*e*P	**Pn**	**14 28 12.1**	**+0.7**
MURT	**Porto Murtinho**	**10.34**	**116**	*e*P	**Pn**	**14 28 36.6**	**-2.0**
PANT	**Pantanal (Braz**	**10.55**	**101**	*e*P	**Pn**	**14 28 41.5**	**0.0**
CZSB	**Cruzeiro do Su**	**10.77**	**332**	*e*P	**Pn**	**14 28 46.6**	**+1.9**
PDRB	**Porto dos Gac**	**11.94**	**63**	*e*P	**Pn**	**14 29 01.0**	**+0.3**
CLDB	**Colider**	**13.10**	**62**	*e*P	**Pn**	**14 29 15.1**	**-1.4**

UPA 10 14:28:28.5±2.4, 7°.53N×82°.42W, h8km±30km, MW4.0, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR3	**Chiriqui UPA,**	**0.86**	**6**	⇑*i*P	Pg	14 28 44.3	-0.9
DVD	**David**	**0.90**	**358**	*e*P	Pg	14 28 45.2	-0.6
DVD				*e*S	Sg	14 28 57.1	-0.4
CDITO	**Canoas**	**1.13**	**337**	*e*P	Pg	14 28 50.2	0.0
PTAR3	**Potrerillos Ar**	**1.16**	**356**	*e*P	Pg	14 28 50.6	-0.2
PTAR3				*e*S	Sn	14 29 07.6	+0.5
BCO2	**Palmira**	**1.18**	**355**	*e*P	Pg	14 28 50.2	-1.1
BCO2				*e*S	Sg	14 29 05.5	-1.1
BCO2				*e*S	Sn	14 29 09.3	+1.4
BRU2	**Volcan**	**1.28**	**348**	*e*P	Pn	14 28 51.7	-1.1
BRU2				*e*S	Sb	14 29 09.3	-0.4
BRU2				*e*S	Sn	14 29 11.3	+0.9
BC3P	**Paso Ancho**	**1.29**	**352**	*e*P	Pn	14 28 52.6	-0.4
RSUS3	**Rio de Jesus,**	**1.33**	**70**	*e*P	Pn	14 28 51.4	-1.9
RSUS3				*e*S	Sb	14 29 09.4	-1.4
STIA3	**Santiago, Vera**	**1.54**	**68**	⇓*e*P	Pn	14 28 54.9	-1.3
STIA3				*e*S	Sn	14 29 16.0	-0.5
CNI2	**El Empalme, Bo**	**1.88**	**358**	*e*P	Pn	14 29 01.2	+0.3
CNI2				*e*S	Sg	14 29 28.0	-1.0
TOSI3	**Tonosi**	**1.97**	**93**	*e*P	Pn	14 28 59.8	-2.3
TOSI3				*e*S	Sn	14 29 26.1	-0.8
CHIT3	**Chitre**	**2.03**	**78**	*e*P	Pn	14 29 02.5	-0.5
CHIT3				*e*S	Sn	14 29 28.1	-0.4
BATAN	**Batan**	**2.72**	**340**	*e*P	Pb	14 29 17.7	+0.3
BCIP	**Isla Barro Col**	**3.03**	**57**	*e*P	Pn	14 29 18.4	+1.7
BCIP				*e*S	Sb	14 29 59.4	-0.5
UPA	**Univ. de Panam**	**3.20**	**63**	*e*P	Pn	14 29 17.7	-1.4
UPA				*i* S	Sn	14 29 57.8	+0.4
JTS	**Las Juntas de**	**3.71**	**318**	*e*P	Pb	14 29 30.8	-3.6

*TEH **10** 14:33:44.2, 28°.89N×57°.28E, h20km, ML3.1*
*DSN **10** 14:33:46.0±1.2, 28°.76N×56°.37E, h10km, ML3.5/4, Error ellipse: s-maj=70.6km s-min=9.7km az=90.0*
*OMAN **10** 14:33:48.5±0.6, 28°.49N×57°.35E, h10km±28km, ml3.3/8, Error ellipse: s-maj=54.6km s-min=5.9km az=8.0*
ISC 10 14:33:43.4±0.9, 28°.84N±0°.04×57°.30E±0°.05, h10km, n29, σ1§51/42, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.94**	**328**	*e*Sg	**Sg**	**14 34 15.7**	**+1.8**
NGRK				*e*Pg	**Pg**	**14 34 02.1**	**+0.5**
NGRK				*e*		14 34 17.3	
	comp=Z,11μm,0.3s						
KHNJ	**Kahnooj**	**0.96**	**158**	*e*Pg	**Pb**	**14 34 03.6**	**+1.4**
CHMN	**Cheshme madani**	**1.03**	**12**	*e*Pg	**Pg**	**14 34 03.2**	**-0.2**
KBAM	**BAM**	**1.05**	**74**	*e*Pg	**Pg**	**14 34 04.8**	**+1.1**
TVBK	**TV Kerman**	**1.23**	**338**	*e*		14 34 25.4	
	comp=Z,4μm,0.2s						
TVBK				*e*Pg	**Pn**	**14 34 05.6**	**-1.5**
GENO	**Geno**	**1.75**	**215**	*e*Pn	**Pn**	**14 34 14.8**	**+0.8**
GENO				*e*		14 34 40.3	
	comp=Z,2μm,0.2s						
SHME	**Shamm**	**2.97**	**201**	P	**Pn**	**14 34 31.1**	**+0.4**
	SNR=13						
SHME				S	**Sn**	**14 35 04.5**	**-1.8**
SHME	**Shamm**	**2.97**	**201**	P	**Pn**	**14 34 30.5**	**-0.1**
JASK	**Jask - Hormozg**	**3.01**	**170**	*e*Pn	**Pn**	**14 34 32.3**	**+1.1**
BANOM	**Banah**	**3.04**	**197**	P	**Pn**	**14 34 32.0**	**+0.3**
	SNR=33						
BANOM				S	**Sn**	**14 35 07.6**	**-0.6**
BANOM	**Banah**	**3.04**	**197**	P	**Pn**	**14 34 31.6**	**-0.1**
BANOM				S	**Sn**	**14 35 06.6**	**-1.6**
ZHSF	**Zahedan**	**3.13**	**75**	*e*Pn	**Pn**	**14 34 33.5**	**+0.5**
MASF	**Masafi**	**3.61**	**197**	P	**Pn**	**14 34 40.3**	**+0.8**
MASF				S	**Sn**	**14 35 21.7**	**-0.4**
UOSS	**Minazif**	**4.00**	**194**	P	**Pn**	**14 34 45.6**	**+0.7**
UOSS				S	**Sn**	**14 35 30.7**	**-1.2**
UOSS	**Minazif**	**4.00**	**194**	P	**Pn**	**14 34 45.0**	**+0.1**
NAZ	**Nazwa, Dubai**	**4.11**	**201**	P	**Pn**	**14 34 47.4**	**+1.0**
NAZ				S	**Sn**	**14 35 33.0**	**-1.5**
HATD	**Hatta, Dubai**	**4.14**	**195**	P	**Pn**	**14 34 47.8**	**+1.1**
HATD				S	**Sn**	**14 35 33.4**	**-1.8**
YZKH	**Yazd**	**4.24**	**327**	*e*Pn	**Pn**	**14 34 48.4**	**+0.2**
ASHO	**Ashiyiah**	**4.29**	**195**	P	**Pn**	**14 34 49.5**	**+0.6**
	SNR=7.7						
ASHO				S	**Sn**	**14 35 37.8**	**-1.2**
ASHO	**Ashiyiah**	**4.29**	**195**	P	**Pn**	**14 34 47.3**	**-1.6**
ASHO				S	**Sn**	**14 35 37.4**	**-1.6**
CHBR	**Chabahar**	**4.30**	**138**	*e*Pn	**Pn**	**14 34 48.1**	**-0.8**
FAQ	**Al Faqa, Dubai**	**4.36**	**201**	P	**Pn**	**14 34 48.5**	**-1.2**
ASUD	**Al Ashush, Dub**	**4.56**	**203**	P	**Pn**	**14 34 53.2**	**+0.8**
	SNR=6.0						
ASUD				S	**Sn**	**14 35 42.3**	**-3.2**
TABS	**Tabas**	**4.79**	**358**	*e*Pn	**Pn**	**14 34 55.9**	**+0.1**
HOQ	**Hoqain**	**5.24**	**180**	P	**Pn**	**14 35 00.2**	**-1.7**
ARQ	**Araqi**	**5.53**	**187**	P	**Pn**	**14 35 06.6**	**+0.8**
	SNR=8.0						
WSAR	**Wadi Sarin**	**5.71**	**168**	P	**Pn**	**14 35 07.8**	**-0.5**
WSAR				S	**Sn**	**14 36 09.0**	**-4.9**
SMDO	**Samad**	**5.80**	**173**	S	**Sn**	**14 36 13.9**	**-2.5**
BSY	**Bisya**	**6.08**	**181**	P	**Pn**	**14 35 15.2**	**+1.8**
BSY				S	**Sn**	**14 36 21.1**	**-1.9**

ROM 10 15:04:01.4±0.0, 43°.046N±0°.002×13°.083E±0°.004, h9km, ML1.4/3, 1C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=234.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.14**	**253**	P	Pg	15 04 05.0	+0.5
CESI				S	Sg	15 04 07.4	+0.8
CESI				AML	AML		
	comp=E,62μm,0.1s						
CESI				AML	AML		
	comp=N,84μm,0.2s						
CESI				AML	AML		
	comp=N,148μm,0.2s						
CESI				AML	AML		
	comp=E,131μm,0.5s						
CESI				AML	AML		
	comp=N,147μm,0.2s						
T1216	**Preci, Frazion**	**0.16**	**197**	P	Pg	15 04 03.7	-1.1
T1216				AML	AML		
	comp=E,505μm,0.3s						
T1216				AML	AML		
	comp=N,373μm,0.2s						
T1245	**Castelsantange**	**0.20**	**158**	AML	AML		
	comp=E,836μm,1.1s						
T1245				AML	AML		
	comp=E,295μm,0.4s						
T1245				AML	AML		
	comp=N,440μm,0.8s						
T1245				AML	AML		
	comp=E,32000μm,1.6s						
T1245				AML	AML		
	comp=N,420μm,0.7s						
T1245				AML	AML		
	comp=N,440μm,0.8s						
T1245				AML	AML		
	comp=N,854μm,0.4s						
T1245				AML	AML		
	comp=N,854μm,0.4s						
MMO1	**Montemonaco**	**0.23**	**129**	P	Pg	15 04 06.5	+0.4
MMO1				S	Sg	15 04 10.8	+1.5
SNTG	**Esanatoglia**	**0.23**	**334**	P	Pg	15 04 07.0	+0.8
SNTG				S	Sg	15 04 10.9	+1.5
EL6	**Elcito**	**0.28**	**3**	⇓P	Pg	15 04 07.9	+0.8
EL6				S	Sb	15 04 12.7	-1.0
T1241	**Roccafluvione,**	**0.32**	**126**	⇑P	Pg	15 04 08.5	+0.8
T1241				S	Sb	15 04 13.8	-0.8
T1241				AML	AML		
	comp=E,6200μm,0.6s						
T1241				AML	AML		
	comp=N,59μm,1.0s						
FOSV	**Fossato di Vic**	**0.34**	**317**	S	Sb	15 04 23.0	+7.7
MMUR	**Monte Murano**	**0.40**	**351**	⇓P	Pn	15 04 14.5	+1.1
T1204	**Amatrice, Fraz**	**0.41**	**155**	S	Sb	15 04 20.0	+2.7
MURB	**Monte Urbino**	**0.46**	**298**	P	Pg	15 04 04.8	-5.6
MURB				AML	AML		
	comp=E,243μm,0.1s						
MURB				AML	AML		
	comp=N,172μm,1.6s						
BRSN	**Barisano**	**1.44**	**330**	S	Sb	15 04 47.0	+0.3
IMOL	**Imola, Italy**	**1.63**	**324**	S	Sg	15 04 58.0	+4.1
POPM	**Popiglio**	**1.96**	**301**	S	Sg	15 05 04.0	-0.5
MNTV	**Mantova**	**2.67**	**323**	S	Sn	15 05 14.0	-3.1
CRND	**Cornuda**	**2.88**	**346**	P	Pn	15 04 49.1	+1.6
ZONE	**Zone**	**3.45**	**323**	P	Pn	15 04 56.4	+1.1
BOSI	**Bolzano**	**3.67**	**341**	S	Sn	15 05 39.0	-2.7
MILN	**Milano**	**3.68**	**313**	P	Pb	15 05 03.3	-3.3

ROM 10 15:05:11.7±0.5, 39°.72N±0°.02×15°.44E±0°.03, h8km±3km, ML2.0/4, 1D, Error ellipse: s-maj=2.3km s-min=1.7km az=228.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.40**	**46**	P	Pg	15 05 20.2	+0.7
CUC				S	Sb	15 05 26.3	-1.0
MGR	**Morigerati**	**0.43**	**12**	⇓P	Pg	15 05 20.6	+0.5
MGR				S	Sb	15 05 27.1	-1.0
MGR				AML	AML		
	comp=N,203μm,0.2s						
MGR				AML	AML		
	comp=E,218μm,0.7s						
MGR				AML	AML		
	comp=N,203μm,1.8s						
CET2	**Cetraro**	**0.44**	**115**	P	Pg	15 05 20.1	-0.1
CET2				S	Sb	15 05 27.3	-1.1
MMN	**Mormanno**	**0.46**	**68**	S	Pb	15 05 22.0	0.0
MMN	**Mormanno**	**0.46**	**68**	P	Pb	15 05 21.6	-0.4
MMN				S	Sb	15 05 28.6	-0.3
SIRI	**Monte Sirino -**	**0.57**	**35**	P	Pg	15 05 23.1	+0.4
MTSN	**Montesano sull**	**0.60**	**23**	P	Pb	15 05 24.4	-0.1
MTSN				AML	AML		
	comp=E,123μm,1.6s						
MTSN				AML	AML		
	comp=N,142μm,1.5s						
MTSN				AML	AML		
	comp=N,142μm,0.5s						
CMPR	**Campora**	**0.61**	**350**	P	Pg	15 05 23.6	+0.1
CMPR				S	Sb	15 05 33.5	+0.1
CMPR				AML	AML		
	comp=E,489μm,0.2s						
CMPR				AML	AML		
	comp=N,240μm,0.3s						
CAR1	**CAROLEI**	**0.76**	**128**	P	Pb	15 05 27.1	0.0
CDRU	**Civita di Ruta**	**0.78**	**352**	P	Pg	15 05 26.4	-0.3
CDRU				S	Sb	15 05 37.9	-0.4
CDRU				AML	AML		
	comp=E,228μm,1.2s						
CDRU				AML	AML		
	comp=N,90μm,1.5s						
CDRU				AML	AML		
	comp=E,228μm,0.8s						

RSNC 10 15:13:03.4±1.1, 9°.90N×73°.18W, h122km±5km, ML3.3, Mw3.7, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL1C	**La Loma 1 Cana**	**0.51**	**226**	*e*P	Pn	15 13 21.6	-0.1
LL1C				*e*S	Sn	15 13 34.8	-0.7
LL1C				IAML		15 13 38.4	
	comp=Z,2μm,0.3s						
LL5C	**La Loma 5 El P**	**0.55**	**254**	*e*P	Pn	15 13 21.9	0.0
LL5C				IAML		15 13 35.0	
	comp=Z,1μm,0.2s						
LL5C				*e*S	Sn	15 13 35.6	-0.2
ARGC	**Ariguani, Magd**	**1.05**	**268**	*e*P	Pn	15 13 26.4	+0.4
ARGC				*e*S	Sn	15 13 43.2	-0.1
ARGC				IAML		15 13 44.7	
	comp=Z,183nm,0.2s						
CRJC	**Cerrejon, Guaj**	**1.15**	**15**	⇑*i*P	Pn	15 13 27.1	-0.1
CRJC				*e*S	Sn	15 13 44.4	-0.9
CRJC				IAML		15 13 45.6	
	comp=Z,799nm,0.2s						
SJCC	**San Jacinto, C**	**1.97**	**270**	*e*P	Pn	15 13 35.8	-0.8
SJCC				*e*S	Sn	15 14 01.0	-1.0
SJCC				IAML		15 14 03.0	
	comp=Z,145nm,0.4s						
URIC	**Uribia, Colomb**	**2.14**	**33**	*e*P	Pn	15 13 38.5	-0.2
URIC				*e*S	Sn	15 14 04.8	-0.8
URIC				IAML		15 14 06.8	
	comp=Z,94nm,0.3s						
PAMC	**Pamplona, Colo**	**2.59**	**169**	*e*P	Pn	15 13 45.0	0.0
PAMC				*e*S	Sn	15 14 15.8	-0.9
PAMC				IAML		15 14 20.0	
	comp=Z,119nm,0.5s						
BRRC	**Barranca, Sant**	**2.83**	**191**	*e*P	Pn	15 13 46.9	-0.7
BRRC				*e*S	Sn	15 14 20.9	-0.6
BRRC				IAML		15 14 23.4	
	comp=Z,75nm,0.2s						
ZARC	**Zaragoza, Cauc**	**2.91**	**215**	*e*P	Pn	15 13 47.6	-1.1
ZARC				*e*S	Sn	15 14 20.3	-3.2
ZARC				IAML		15 14 27.9	
	comp=Z,47nm,0.2s						
UREC	**San Jos de Ur**	**3.16**	**228**	*e*P	Pn	15 13 50.0	-1.9
UREC				*e*S	Sn	15 14 24.1	-5.1
UREC				IAML		15 14 28.0	
	comp=Z,52nm,0.2s						
BARC	**Barichara**	**3.29**	**180**	*e*P	Pn	15 13 53.8	-0.1
BARC				IAML		15 14 33.8	
	comp=Z,105nm,0.3s						
LCBC	**Los crdobas,**	**3.31**	**252**	*e*P	Pn	15 13 52.6	-1.3
LCBC				*e*S	Sn	15 14 30.2	-2.6
LCBC				IAML		15 14 34.5	
	comp=Z,100nm,0.3s						
PTBC	**PUERTO BERRIO,**	**3.57**	**201**	*e*P	Pn	15 13 57.4	0.0
PTBC				*e*S	Sn	15 14 36.5	-2.6
PTBC				IAML		15 14 40.6	
	comp=Z,40nm,0.5s						
CBOC	**Ciudad Bolivar**	**4.89**	**215**	*e*P	Pn	15 14 15.7	+0.5
CBOC				*e*S	Sn	15 15 06.8	-4.1
CBOC				IAML		15 15 15.3	
	comp=Z,9.7nm,0.5s						
CHIC	**Chingaza**	**5.27**	**186**	*e*P	Pn	15 14 21.4	+1.0
CHIC				*e*S	Sn	15 15 20.4	+0.1
CHIC				IAML		15 15 25.6	
	comp=Z,7.6nm,0.3s						
PLMC	**San Jos del P**	**5.84**	**212**	*e*P	Pn	15 14 28.0	+0.2
PLMC				*e*S	Sn	15 15 31.2	-2.5
PLMC				IAML		15 15 36.4	
	comp=Z,11nm,0.5s						
PRAC	**Prado**	**6.38**	**195**	*e*P	Pn	15 14 35.8	+0.7
PRAC				*e*S	Sn	15 15 45.9	-0.7
PRAC				IAML		15 15 47.7	
	comp=Z,8.0nm,0.3s						

ROM 10 15:17:07.5±0.7, 39°.71N±0°.02×15°.43E±0°.04, h8km±5km, ML1.8/7, 1D, Error ellipse: s-maj=2.7km s-min=2.1km az=239.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.41**	**47**	P	Pg	15 17 15.8	+0.3
CUC				S	Sg	15 17 22.1	+1.1
CUC				AML	AML		
	comp=E,209μm,0.5s						
CUC				AML	AML		
	comp=N,170μm,1.4s						
CUC				AML	AML		
	comp=N,214μm,1.4s						
CUC				AML	AML		
	comp=E,246μm,0.5s						
CUC				AML	AML		
	comp=N,83μm,0.1s						
CUC				AML	AML		
	comp=N,110μm,0.1s						
CUC				AML	AML		
	comp=E,129μm,0.1s						
MGR	**Morigerati**	**0.43**	**13**	⇓P	Pg	15 17 16.0	0.0
MGR				S	Sb	15 17 23.9	-0.2
MGR				AML	AML		
	comp=E,92μm,0.1s						
MGR				AML	AML		
	comp=N,126μm,1.4s						
MGR				AML	AML		
	comp=N,482μm,0.7s						
MGR				AML	AML		
	comp=E,610μm,0.4s						
MGR				AML	AML		
	comp=N,102μm,0.3s						
MGR				AML	AML		
	comp=E,93μm,0.1s						
CET2	**Cetraro**	**0.45**	**114**	P	Pg	15 17 16.8	+0.5
CET2				AML	AML		
	comp=E,380μm,0.7s						
CET2				AML	AML		
	comp=N,391μm,0.3s						
CET2				AML	AML		
	comp=N,334μm,0.1s						
CET2				AML	AML		
	comp=E,319μm,0.1s						
MMN	**Mormanno**	**0.47**	**68**	P	Pg	15 17 17.3	+0.7
MMN				S	Sg	15 17 23.5	+0.8
SIRI	**Monte Sirino -**	**0.58**	**36**	P	Pb	15 17 19.8	-0.2
MTSN	**Montesano sull**	**0.60**	**24**	P	Pb	15 17 20.8	+0.4
CMPR	**Campora**	**0.61**	**351**	P	Pg	15 17 19.6	+0.2
CMPR				S	Sb	15 17 28.9	-0.4
CMPR				AML	AML		
	comp=E,652μm,0.5s						
CMPR				AML	AML		
	comp=N,531μm,0.4s						
CMPR				AML	AML		
	comp=E,294μm,0.4s						
SCHR	**S. Chirico Rap**	**0.69**	**46**	P	Pb	15 17 21.8	-0.1
SCHR				S	Sb	15 17 32.0	+0.3
SCHR				AML	AML		
	comp=E,94μm,0.8s						
SCHR				AML	AML		
	comp=N,94μm,1.6s						
SCHR				AML	AML		
	comp=N,159μm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCHR				AML	AML		
	comp=E,182µm,0.4s						
SCHR				AML	AML		
	comp=E,46µm,0.3s						
CAR1	CAROLEI	0.76	127	P	Pb	15 17 22.7	-0.3
CAR1				S	Sb	15 17 33.3	-0.3
CAR1				AML	AML		
	comp=E,278µm,3.2s						
CAR1				AML	AML		
	comp=E,213µm,2.9s						
CAR1				AML	AML		
	comp=N,117µm,1.3s						
CDRU	Civita di Ruta	0.78	353	P	Pg	15 17 21.9	-0.7
CDRU				AML	AML		
	comp=E,1545µm,0.2s						
CDRU				AML	AML		
	comp=N,1200µm,0.3s						
CELI	Celico	0.89	110	AML	AML		
	comp=E,192µm,1.9s						
CELI				AML	AML		
	comp=N,184µm,2.2s						
CELI				AML	AML		
	comp=E,96µm,0.3s						
FDMO	Fiordimonte	3.76	333	AML	AML		
	comp=N,54µm,0.8s						
FDMO				AML	AML		
	comp=E,85µm,0.2s						

*ROM **10** 15:17:34.7±0.1, 40.°654N±0.°006×15.°44E±0.°01, h9km±1km, ML2.4/9, Error ellipse: s-maj=0.9km s-min=0.7km az=287.0*

RISSC 10 15:17:34.0, 40.°68N×15.°47E, h10km, ML2.6/6, 2C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCL3	Muro Lucano (S	0.03	66	⇑iP	Pg	15 17 36.2	+0.3
VDS3	Muro Lucano (V	0.07	331	i P	Pg	15 17 36.9	+0.5
MRLC	Muro Lucano	0.08	10	⇑P	Pg	15 17 37.2	+0.9
MRLC				S	Sg	15 17 39.5	+1.5
MRLC				AML	AML		
	comp=E,6605µm,0.4s						
MRLC				AML	AML		
	comp=N,8560µm,0.3s						
MRLC				AML	AML		
	comp=N,8130µm,0.3s						
MRLC				AML	AML		
	comp=E,6610µm,0.4s						
MRLC				AML	AML		
	comp=E,6850µm,0.4s						
MRLC				AML	AML		
	comp=E,6609µm,0.4s						
MRLC				AML	AML		
	comp=E,5196µm,0.2s						
MRLC				AML	AML		
	comp=N,8130µm,0.3s						
MRLC				AML	AML		
	comp=N,8561µm,0.3s						
MRLC	Muro Lucano	0.08	10	S	Sg	15 17 39.5	+1.5
COL3	Colliano	0.11	273	i P	Pg	15 17 37.1	+0.4
COL3	Colliano	0.11	273	⇓P	Pg	15 17 37.2	+0.4
COL3				S	Sg	15 17 39.6	+0.8
VDP3	Vietri Di Pote	0.11	135	i P	Pg	15 17 37.3	+0.5
VDP3				i S	Sg	15 17 39.9	+1.2
CGG3	Caggiano	0.14	164	i P	Pg	15 17 37.9	+0.6
SRN3	Sant'Arsenio	0.20	183	i P	Pg	15 17 38.6	+0.4
SRN3				i S	Sg	15 17 42.5	+1.6
RDM3	Ruvo Del Monte	0.20	14	P	Pg	15 17 40.9	+2.6
CDRU	Civita di Ruta	0.23	214	P	Pg	15 17 39.1	+0.4
CDRU				S	Sg	15 17 43.4	+1.4
MCRV	Calabrutti - M	0.25	294	P	Pb	15 17 40.4	-0.3
PZUN	Potenza	0.26	98	P	Pb	15 17 41.6	+0.9
PZUN	Potenza	0.26	98	P	Pb	15 17 41.6	+0.9
VULT	Monte Vulture	0.29	22	P	Pb	15 17 42.6	+1.2
VULT	Monte Vulture	0.29	22	P	Pb	15 17 42.6	+1.2
LIO3	Lioni	0.31	314	P	Pb	15 17 42.0	+0.4
SNAL	S. Angelo Dei	0.32	321	P	Pb	15 17 41.9	+0.1
SNAL				AML	AML		
	comp=E,1168µm,0.8s						
SNAL				AML	AML		
	comp=N,1101µm,0.9s						
SNAL				AML	AML		
	comp=E,1216µm,0.8s						
SNAL				AML	AML		
	comp=E,1167µm,0.8s						
SNAL				AML	AML		
	comp=N,1104µm,0.9s						
SNAL				AML	AML		
	comp=E,1216µm,0.8s						
SNAL				AML	AML		
	comp=N,1144µm,1.3s						
SNAL				AML	AML		
	comp=E,1214µm,0.8s						
SNAL				AML	AML		
	comp=N,1042µm,1.0s						
SNAL				AML	AML		
	comp=N,1027µm,1.0s						
SNAL				AML	AML		
	comp=E,1167µm,0.8s						
CMPR	Campora	0.39	200	P	Pg	15 17 42.1	+0.5
CMPR				AML	AML		
	comp=E,652µm,0.5s						
CMPR				AML	AML		
	comp=N,531µm,0.4s						
CMPR				AML	AML		
	comp=N,531µm,0.4s						
CMPR				AML	AML		
	comp=E,652µm,0.5s						
CAFE	Carife	0.39	333	P	Pb	15 17 43.4	+0.4
CAFE				AML	AML		
	comp=E,571µm,1.5s						
CAFE				AML	AML		
	comp=N,422µm,0.6s						
CAFE				AML	AML		
	comp=N,334µm,0.6s						
CAFE				AML	AML		
	comp=E,572µm,1.5s						
CAFE				AML	AML		
	comp=N,390µm,1.6s						
CAFE				AML	AML		
	comp=E,552µm,1.4s						
CAFE				AML	AML		
	comp=N,334µm,0.6s						
CAFE				AML	AML		
	comp=E,467µm,0.4s						
CAFE				AML	AML		
	comp=E,497µm,0.4s						
CAFE				AML	AML		
	comp=N,422µm,0.6s						
MCEL	Monticello	0.44	145	AML	AML		
	comp=E,725µm,0.5s						
MCEL				AML	AML		
	comp=E,724µm,0.4s						
MCEL				AML	AML		
	comp=N,800µm,1.1s						
MCEL				AML	AML		
	comp=E,725µm,0.4s						
MCEL				AML	AML		
	comp=E,730µm,0.5s						
MCEL				AML	AML		
	comp=N,782µm,1.1s						
MCEL				AML	AML		
	comp=E,730µm,0.5s						
MCEL				AML	AML		
	comp=N,785µm,0.5s						
MCEL				AML	AML		
	comp=N,780µm,0.5s						
PALZ	Palazzo San Ge	0.46	55	P	Pb	15 17 44.8	+0.6
PALZ	Palazzo San Ge	0.46	55	P	Pb	15 17 44.8	+0.6
MTSN	Montesano sull	0.47	153	P	Pb	15 17 43.8	-0.5
MTSN				S	Sb	15 17 52.3	+0.9
MTSN				AML	AML		
	comp=E,756µm,0.7s						
MTSN				AML	AML		
	comp=N,862µm,0.3s						
MTSN				AML	AML		
	comp=N,861µm,0.3s						
MTSN				AML	AML		
	comp=E,756µm,0.7s						
MTSN	Montesano sull	0.47	153	S	Sb	15 17 52.3	+0.9
PTRP	Pietrapertosa	0.48	109	P	Pb	15 17 45.3	+0.7
PTRP				AML	AML		
	comp=E,401µm,0.7s						
PTRP				AML	AML		
	comp=N,419µm,0.6s						
AG11	Viggiano (PZ)	0.51	133	AML	AML		
	comp=E,566µm,0.7s						
AG11				AML	AML		
	comp=N,1018µm,12.2s						
MGR	Morigerati	0.55	173	P	Pg	15 17 44.6	0.0
MGR				S	Sb	15 17 53.5	-0.1
MGR				AML	AML		
	comp=E,610µm,0.4s						
MGR				AML	AML		
	comp=N,482µm,0.7s						
MGR				AML	AML		
	comp=E,742µm,0.5s						
MGR				AML	AML		
	comp=N,454µm,0.8s						
MGR				AML	AML		
	comp=N,567µm,0.4s						
MGR				AML	AML		
	comp=E,373µm,0.3s						
SIRI	Monte Sirino -	0.58	149	P	Pg	15 17 45.4	0.0
SIRI				S	Sb	15 17 55.5	+0.8
SIRI				AML	AML		
	comp=N,615µm,0.2s						
SIRI				AML	AML		
	comp=E,580µm,0.3s						
SIRI				AML	AML		
	comp=E,563µm,0.3s						
SIRI				AML	AML		
	comp=N,615µm,0.2s						
SIRI				AML	AML		
	comp=N,597µm,0.2s						
SIRI				AML	AML		
	comp=E,581µm,0.3s						
SIRI	Monte Sirino -	0.58	149	S	Sb	15 17 55.5	+0.8
SGRT	San Giovanni R	1.09	11	AML	AML		
	comp=N,123µm,0.6s						
SGRT				AML	AML		
	comp=E,140µm,1.5s						

RISSC 10 15:17:57.8, 40.°67N×15.°46E, h7km, ML2.4/5, 1C, Southern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCL3	Muro Lucano (S	0.05	62	⇑iP	Pg	15 17 59.8	+0.4
SCL3				i S	Sg	15 18 01.3	+0.9
VDS3	Muro Lucano (V	0.07	343	i P	Pg	15 18 00.5	+0.8
COL3	Colliano	0.10	279	i P	Pg	15 18 00.6	+0.6
COL3				i S	Sg	15 18 02.9	+1.4
CGG3	Caggiano	0.14	158	i P	Pg	15 18 01.4	+0.7
SRN3	Sant'Arsenio	0.19	179	i P	Pg	15 18 02.4	+0.9
SRN3				i S	Sg	15 18 06.1	+2.1

*TEH **10** 15:20:09.1, 30.°03N×57.°63E, h7km, ML3.6*
*DSN **10** 15:20:13.8±1.8, 30.°17N×56.°58E, h10km, ML3.3/5, Error ellipse: s-maj=84.4km s-min=14.6km az=89.0*

ISC 10 15:20:10.4±0.8, 29.°99N±0.°03×57.°64E±0.°03, h10km, n46, σ1.s99/48, Southern Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.16	212	ePg	Pg	15 20 13.0	-1.1
CHMN				eSg	Sg	15 20 16.7	0.0
KRBR	Kerman	0.76	269	ePg	Pg	15 20 23.9	-1.3
TVBK	TV Kerman	0.76	270	ePg	Pg	15 20 23.9	-1.3
TVBK				e		15 20 38.9	
	comp=Z,25µm,0.4s						
NGRK	Negar Kerman	0.86	246	ePg	Pb	15 20 26.4	-1.3
NGRK				eSg	Sb	15 20 38.1	-1.3
NGRK				e		15 20 41.1	
	comp=Z,20µm,0.2s						
KBAM	BAM	1.11	140	ePg	Pn	15 20 31.3	-0.9
KBAM				e		15 20 49.9	
	comp=Z,18µm,0.2s						
ZRDN	Zarand Kerman	1.36	316	ePg	Pg	15 20 34.9	-1.6
KHNJ	Kahnooj	2.04	178	ePn	Pb	15 20 46.5	-1.1
BSRN	Basiran	2.34	33	ePn	Pb	15 20 49.9	-3.0
IBAF	Bafgh	2.39	312	ePn	Pb	15 20 50.8	-2.8
IBAF				e		15 20 52.4	
	comp=Z,4µm,0.5s						
NHDN	Nehbandan	2.50	56	ePn	Pn	15 20 51.7	+0.3
IKOO	Kooshah	2.69	25	e	Sg	15 21 43.1	+6.2
	comp=Z,3µm,0.4s						
IBND	Bandar-abas	2.71	201	ePn	Pb	15 20 56.0	-3.1
IBND				e		15 21 51.8	
	comp=Z,3µm,0.9s						
ZHSF	Zahedan	2.75	97	ePn	Pb	15 20 56.9	-3.0
ZHDN	Zahedan	2.83	101	ePn	Pn	15 20 56.8	+1.0
ZHDN				e		15 21 42.8	
	comp=Z,2µm,0.3s						
GENO	Geno	2.89	207	ePn	Pb	15 20 58.9	-3.3
GENO				e		15 21 03.8	
	comp=Z,3µm,0.4s						
IMEH	Mehriz	2.95	299	ePn	Pn	15 20 58.5	+0.9
IMEH				e		15 21 47.2	
	comp=Z,1µm,0.7s						
ITEG	Tejag	3.05	18	ePn	Pn	15 20 58.2	-0.7
ITEG				e		15 21 06.4	
	comp=Z,2µm,0.2s						
BAGH	Bagheran - Bir	3.09	25	ePn	Pn	15 20 59.8	+0.3
BAGH				e		15 21 07.5	
	comp=Z,1µm,0.4s						
TPRV	Parvadeh(Tabas	3.13	345	ePn	Pn	15 21 00.2	+0.2
TPRV				e		15 21 53.1	
	comp=Z,3µm,0.4s						
IDAH	Dahanechah	3.34	34	ePn	Pn	15 21 03.4	+0.5
IDAH				e		15 22 00.5	
	comp=Z,1µm,0.6s						
YZKH	Yazd	3.54	313	ePn	Pn	15 21 06.3	+0.8
ICHK	Chekchek	3.56	310	e		15 21 19.3	
	comp=Z,826nm,0.5s						
ICHK				ePn	Pn	15 21 07.0	+1.0
AFRZ	Afriz	3.62	19	ePn	Pn	15 21 06.1	-0.6
IMON	Monand	3.63	28	ePn	Pn	15 21 07.6	+0.7
IMON				e		15 22 13.3	
	comp=Z,843nm,0.3s						
TKDS	Koohdasht(Taba	3.63	353	ePn	Pn	15 21 07.0	+0.1
TKDS				e		15 22 13.8	
	comp=Z,2µm,0.8s						
TABS	Tabas	3.67	353	ePn	Pn	15 21 08.0	+0.6
ISAD	Sadrabad	3.90	300	ePn	Pn	15 21 11.7	+1.1
ISAD				e		15 21 25.1	
	comp=Z,542nm,0.6s						
TNSJ	Nastanj	4.05	348	ePn	Pn	15 21 13.4	+0.8
SHME	Shamm	4.15	199	P	Pn	15 21 16.7	+2.9
BANOM	Banah	4.22	197	P	Pn	15 21 18.0	+3.1
BANOM				S	Sn	15 22 09.4	+5.0
SHRT	Shahrakht	4.29	31	ePn	Pn	15 21 16.6	+0.8
ANAR	Anarak	4.61	315	ePn	Pn	15 21 21.1	+0.8
IRAM	Ramesheh	4.86	293	ePn	Pn	15 21 24.5	+0.6
NASN	Na'in	4.99	305	ePn	Pn	15 21 26.0	+0.3
CHBR	Chabahar	5.06	149	ePn	Pn	15 21 26.8	+0.5
UOSS	Minazif	5.19	195	P	Pn	15 21 33.6	+5.5
KLNJ	Kolanjah	5.31	282	ePn	Pn	15 21 31.5	+1.3
IZEF	Zefreh	5.38	304	ePn	Pn	15 21 31.9	+0.9
ASHO	Ashiyiah	5.47	195	P	Pn	15 21 35.1	+3.0
FAQ	Al Faqa, Dubai	5.54	200	P	Pn	15 21 35.8	+2.9
ASUD	Al Ashush, Dub	5.73	202	P	Pn	15 21 37.9	+2.3
TBJM	Torbat-e-JAM	5.73	23	ePn	Pn	15 21 36.5	+0.8
KRSH	Karshahi	6.13	312	ePn	Pn	15 21 42.2	+1.0
SHRO	Shahrood	6.13	348	ePn	Pn	15 21 42.5	+1.3
ISFB	Sefidab	6.31	315	ePn	Pn	15 21 44.4	+0.8
IAKL	Akhelmad	6.66	8	ePn	Pn	15 21 48.8	+0.2

*ISK **10** 15:22:59.9, 39.°90N×39.°44E, h6km, ML2.6/7*
*DDA **10** 15:23:01.3±0.0, 39.°90N×39.°45E, h7km±2km, ML1.5*

ISC 10 15:23:00.9±1.0, 39.°89N±0.°03×39.°45E±0.°04, h12km±9km, n11, σ0.s56/20, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EUZM	Uzumlu	0.26	134	P	Pg	15 23 06.8	+0.4
EUZM				i AML	AML	15 23 11.0	
	comp=E,130nm,0.3s						
EUZM				i AML	AML	15 23 11.0	
	comp=N,66nm,0.2s						
EUZM				S	Sb	15 23 11.3	-0.8
KELT	Kelkit	0.30	330	P	Pb	15 23 07.6	-0.7
KELT				S	Sg	15 23 11.4	+0.2
KELT				i AML	AML	15 23 12.0	
	comp=N,112nm,0.2s						
KELT				i AML	AML	15 23 12.0	
	comp=E,128nm,0.6s						
ERZN	Erzincan	0.37	145	PG	Pg	15 23 07.1	-1.2
ERZN				SG	Sg	15 23 13.3	+0.1
GUMT	Gumushane	0.57	2	PG	Pg	15 23 11.4	-0.6
GUMT				SG	Sg	15 23 19.9	+0.3
BAYB	BAYBURT	0.72	59	P	Pg	15 23 14.5	-0.3
BAYB				S	Sb	15 23 25.4	0.0
BAYB				i AML	AML	15 23 30.0	
	comp=N,28nm,0.3s						
BAYB				i AML	AML	15 23 30.0	
	comp=E,20nm,0.6s						
BAYT	Aydıntepe-Bayb	0.73	46	PG	Pg	15 23 14.6	-0.4
BAYT				SG	Sg	15 23 25.1	+0.4
KEMA	Kemaliye	0.97	230	P	Pb	15 23 20.1	+0.5
KEMA				S	Sn	15 23 33.9	-0.2
KEMA				i AML	AML	15 23 39.0	
	comp=E,8.5nm,0.3s						
KEMA				i AML	AML	15 23 42.0	
	comp=N,11nm,0.4s						
KTUT	Trabzon	1.12	12	PN	Pb	15 23 22.3	+0.1
KTUT				SN	Sb	15 23 37.5	+0.7
ESPY	Espiye-Giresun	1.17	332	PN	Pb	15 23 22.9	-0.1
ESPY				SN	Sb	15 23 38.1	0.0
ARPR	Arapgir-MALATY	1.17	228	PN	Pb	15 23 23.5	+0.3
CHOM	Cayeli-Rize	1.57	39	PN	Pn	15 23 29.1	+0.5

MAN 10 16:08:36.5, 10.°13N×125.°24E, h26km, mb4.0, ML2.7, MS2.3, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.38	271	⇓eP	Pn	16 08 46.1	-0.2
MSLP				i S	Sn	16 08 52.7	-0.1
SCPH	Surigao	0.42	145	⇓eP	Pb	16 08 45.9	+0.3
TABP	Talibon, Bohol	0.90	268	⇑iP	Pn	16 08 53.5	0.0
TABP				eS	Sn	16 09 06.5	+0.9
LLP	Lapu-Lapu	1.27	279	eP	Pn	16 08 52.1	-6.5
LLP				eS	Sn	16 09 15.1	+0.2

MAN 10 16:09:18.8, 7.°16N×125.°93E, h16km, mb4.0, ML2.7, MS2.3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.85	260	⇑iP	Pb	16 09 34.0	-1.3
KCP				i S	Sb	16 09 45.8	-0.6
BIPH	Bislig	1.11	23	⇓eP	Pb	16 09 39.5	-0.1
BIPH				i S	Sn	16 09 54.4	-0.3
CTBH	Cotabato--PC H	1.67	272	⇑iP	Pn	16 09 46.5	-0.9
CGP	Cagayan de Oro	1.78	317	⇓eP	Pn	16 09 49.7	+0.7
CGP				eS	Sb	16 10 12.2	-1.0

*NEIC **10** 16:16:39.6±2.4, 30.°44N±0.°04×140.°3E±0.°1, h130km±8km, mb4.4/24, Error ellipse: s-maj=15.6km s-min=5.3km az=85.0*
*IDC **10** 16:16:40.6±1.2, 30.°37N×140.°29E, h140km±14km, mb3.6/14, mbtmp4.0/18, Error ellipse: s-maj=30.3km s-min=9.6km az=76.0*
*JMA **10** 16:16:40.2±0.1, 30.°5N±0.°9×14°0E±°, h139km, MV3.7/19, NEAR TORISHIMA IS*

ISC 10 16:16:40.9±0.5, 30.°45N±0.°05×140.°33E±0.°08, h150km, n79, σ1.s73/87, mb4.0/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.69	351	Pn	Pn	16 17 23.1	-1.2
JHJ2	Mitsune	2.69	351	eP	Pn	16 17 23.9	-0.4
JHJ	Hachijo jima 2	2.70	350	P	Pn	16 17 25.8	+1.3
	34nm,0.3s,baz=96,slow=22,SNR=1.1						
CBIJ	Chichi jima	3.72	154	P	Pn	16 17 36.6	-0.9
CBIJ				eS	Sn	16 18 18.8	-2.6
JCJ	Chichijima	3.72	154	P	Pn	16 17 36.4	-1.1
	66nm,0.3s,baz=78,slow=22,SNR=17						
JCJ				S	Sn	16 18 18.9	-2.5
	106nm,0.3s,baz=321,slow=23,SNR=12						
JCJ	Chichijima	3.72	154	P	Pn	16 17 36.7	-0.8
BSO1	Boso 1	4.23	7	eP	Pn	16 17 44.6	+1.1
BSO1				eS	Sn	16 18 33.3	+0.9
JIE	Ise	4.98	323	eP	Pn	16 17 56.2	+2.2
JHU	Hanno	5.46	351	P	Pn	16 18 01.0	+0.7
JHU				S	Sn	16 19 00.3	-2.1
INU	Inuyama	5.62	331	Pn	Pn	16 17 60.0	-2.5
INU	Inuyama	5.62	331	P	Pn	16 18 05.1	+2.6
JRY	Ryogami san	5.68	348	P	Pn	16 18 04.6	+1.3
JGF	Kuroka	5.71	335	Pn	Pn	16 18 05.5	+1.8
JGF	Kuroka	5.71	335	P	Pn	16 18 05.9	+2.2
JAG	Ashikaga	6.00	353	P	Pn	16 18 06.6	-0.9
MJAR	Matsushiro Arr	6.33	344	P	Pn	16 18 12.8	+0.9
	1.4nm,0.4s,baz=241,slow=31,SNR=12						
MAJO	Matsushiro	6.33	344		Pn	16 18 10.1	-1.9
MAJO	Matsushiro	6.33	344	P	Pn	16 18 13.7	+1.8
MJB9	Matsu-Tunnel	6.33	344	Pn	Pn	16 18 08.5	-3.5
JMM	Marumori	7.41	3		Pn	16 18 24.8	-1.4
JMM	Marumori	7.41	3	P	Pn	16 18 25.6	-0.7
JHS	Saijyo	7.58	309	Pn	Pn	16 18 28.3	-0.4
JSD	Sado	7.76	348	Pn	Pn	16 18 29.1	-1.8
JSD	Sado	7.76	348	P	Pn	16 18 30.7	-0.3
JNU	Nakatsue	8.47	291	Pn	Pn	16 18 36.3	-4.3
JNU	Nakatsue	8.47	291	P	Pn	16 18 40.2	-0.4
JMK	Ichinoseki	8.51	5	P	Pn	16 18 39.8	-1.3
JMK				S	Sn	16 20 07.6	-8.0
JTM	Tenmabayashi	10.33	3	Pn	Pn	16 19 01.6	-3.5
ERM	Erimo	11.76	10	Pn	Pn	16 19 22.7	-1.2
JKA	Kamikawa-asahi	13.76	7	Pn	Pn	16 19 49.8	+0.3
USA0B	Ussuriysk Arra	15.23	337	Pn	Pn	16 20 06.0	-2.0
USRK	Ussuriysk Ar.	15.23	337	P	Pn	16 20 06.6	-1.4
	1.8nm,0.5s,baz=143,slow=8.5,SNR=11						
USRK	Ussuriysk Ar.	15.23	337	Pn	Pn	16 20 06.4	-1.6
YSS	Yuzh-Sakhalins	16.59	6		Pn	16 20 25.8	+1.3
YHNB	Yeheng	17.76	256	P	Pn	16 20 36.8	-2.1
YHNB				IAmb	IAmb	16 21 15.1	
	comp=Z,48nm,1.3s						
NACB	Ninganchiao	17.78	254	P	P	16 20 35.3	-2.4
NACB				IAmb	IAmb	16 21 12.4	
	comp=Z,27nm,1.2s						
YULB	Yu-li	18.36	252	P	Pn	16 20 43.7	-2.3
YULB				IAmb	IAmb	16 21 03.3	
	comp=Z,28nm,1.2s						
SSLB	Suanglung	18.47	254	P	P	16 20 44.4	-0.9
SSLB				IAmb	IAmb	16 20 48.6	
	comp=Z,29nm,1.1s						
TPUB	Ta-pu	18.95	253	P	Pn	16 20 50.5	-2.3
TPUB				IAmb	IAmb	16 21 31.2	
	comp=Z,50nm,1.3s						
KLR	Kul'dur	19.86	343	P	Pn	16 21 00.6	-2.6
	comp=Z,2.1nm,0.4s,baz=169,slow=9.7,SNR=9.1						
ENH	Enshi	26.58	278	P	P	16 22 03.8	-1.3
ENH				IAmb	IAmb	16 22 30.2	
	comp=Z,5.4nm,0.6s						
SONM	Songino Array	31.20	313	P	P	16 22 46.9	+1.0
	comp=Z,0.5nm,0.6s,baz=139,slow=9.7,SNR=3.5						
	comp=Z,0.5nm,0.6s						
PHRA	Phrae	38.20	261	P	P	16 23 46.5	+0.4
CHTO	Chiang Mai	39.16	263	P	P	16 23 54.6	+0.3
CHTO				IAmb	IAmb	16 23 55.1	
	comp=Z,9.2nm,1.3s						
CMAR	Chiang Mai Arr	39.32	262	P	P	16 23 55.6	+0.1
	comp=Z,0.5nm,0.5s,baz=50,slow=7.4,SNR=7.1						
	comp=Z,0.5nm,0.5s						
KSM	Kuching	40.51	230	P	P	16 24 06.9	+1.6
KSM				IAmb	IAmb	16 24 07.6	
	comp=Z,6.2nm,0.5s						
TIXI	Tiksi	41.72	355	P	P	16 24 15.6	+1.1
	comp=Z,1.1nm,0.4s,baz=19,slow=0.7,SNR=7.7						
	comp=Z,1.1nm,0.4s						
COEN	Coen	44.23	176	P	P	16 24 36.7	+1.4
COEN				IAmb	IAmb	16 25 18.1	
	comp=Z,5.1nm,1.1s						
ZALV	Zalesovo Beam	45.91	317	P	P	16 24 48.0	-0.2
	comp=Z,0.5nm,0.3s,baz=82,slow=6.9,SNR=3.6						
ZALV				PcP	PcP	16 26 23.5	+0.9
	comp=Z,0.4nm,0.4s,baz=101,slow=4.7,SNR=5.5						
	comp=Z,0.5nm,0.3s						
MK31	Makanchi Array	47.12	307	P	P	16 24 57.2	-0.6
MKAR	Makanchi Array	47.12	307	P	P	16 24 58.5	+0.6
	comp=Z,0.1nm,0.3s,baz=84,slow=11,SNR=6.3						
MKAR				PcP	PcP	16 26 28.1	+0.9
	comp=Z,0.3nm,0.3s,baz=72,slow=5.6,SNR=7.9						
	comp=Z,0.1nm,0.3s						
MKAR	Makanchi Array	47.12	307	P	P	16 24 56.1	-1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRIK	Noril'sk	48.94	338	P	P	16 25 13.2	+1.8
	comp=Z,1.3nm,0.4s,baz=103,slow=9.3,SNR=4.0						
	comp=Z,1.3nm,0.4s						
KURK	Kurchatov	49.50	313	P	P	16 25 15.2	-0.7
GSI	Gunungsitoli	49.81	243	P	P	16 25 18.9	+0.2
WB0	Warramunga Arr	50.25	187	P	P	16 25 22.3	+0.4
WB0				IAmb	IAmb	16 25 45.1	
	comp=Z,5.4nm,1.3s						
WR0	Warramunga Arr	50.43	187	P	P	16 25 23.7	+0.5
WR0				IAmb	IAmb	16 25 56.7	
	comp=Z,6.5nm,1.3s						
WB2	Warramunga Arr	50.43	187	P	P	16 25 23.9	+0.7
WB2				IAmb	IAmb	16 26 01.1	
	comp=Z,8.2nm,1.4s						
WRA	Warramunga Arr	50.43	187	P	P	16 25 23.7	+0.5
	comp=Z,0.7nm,0.3s,baz=2.5,slow=7.6,SNR=14						
	comp=Z,0.7nm,0.3s						
WRA	Warramunga Arr	50.43	187	P	P	16 25 23.8	+0.5
AS31	Alice Springs	54.16	187	P	P	16 25 51.9	+1.2
ASAR	Alice Springs	54.16	187	P	P	16 25 51.1	+0.4
	comp=Z,0.4nm,0.4s,baz=9.2,slow=6.6,SNR=27						
	comp=Z,0.4nm,0.4s						
ASAR	Alice Springs	54.16	187	P	P	16 25 50.7	0.0
RC01	Rabbit Creek A	54.22	34	P	P	16 25 50.4	-0.3
ILAR	Eielson Array	55.59	30	P	P	16 26 01.6	+1.1
KKAR	Karatay Array	55.84	304	P	P	16 26 01.9	-0.8
ABKAR	Akbulak array	61.61	313	P	P	16 26 41.8	-0.5
ABKAR	Akbulak array	61.61	313	P	P	16 26 41.8	-0.5
ABKAR				PcP	PcP	16 27 22.6	+0.1
ARCES	ARCESS Array B	69.85	340	P	P	16 27 36.5	+1.7
	comp=Z,1.9nm,0.6s,baz=71,slow=8.9,SNR=9.0						
	comp=Z,1.9nm,0.6s						
ARCES	ARCESS Array B	69.85	340	P	P	16 27 36.6	+1.8
FIA1	FINESS Array S	74.23	333	P	P	16 28 01.6	+0.7
FIA0	FINESS Array S	74.23	333	P	P	16 28 01.6	+0.7
FINES	FINESS Array B	74.23	333	P	P	16 28 01.9	+1.0
	comp=Z,3.1nm,0.4s,baz=65,slow=4.8,SNR=36						
	comp=Z,3.1nm,0.4s						
FINES	FINESS Array B	74.23	333	P	P	16 28 01.9	+0.9
KBZ	Khabaz	74.55	312	P	P	16 28 04.2	+1.1
	comp=Z,2.6nm,0.9s,baz=131,slow=7.0,SNR=5.1						
	comp=Z,2.6nm,0.9s						
AKASG	Malin Array Be	78.97	323	P	P	16 28 28.3	+0.5
	comp=Z,2.2nm,0.3s,baz=52,slow=5.4,SNR=27						
	comp=Z,2.2nm,0.3s						
NB2	NORSAR Subarra	79.90	337	P	P	16 28 33.6	+0.9
	comp=Z,0.6nm,0.4s,baz=43,slow=5.3						
NOA	NORSAR Array B	79.90	337	P	P	16 28 33.8	+1.1
	comp=Z,0.4nm,0.4s,baz=58,slow=6.9,SNR=5.7						
	comp=Z,0.4nm,0.4s						
BRTR	Keskin Array B	82.55	312	P	P	16 28 48.0	+0.7
	comp=Z,1.1nm,0.7s,baz=72,slow=4.7,SNR=3.5						
	comp=Z,1.1nm,0.7s						

MAN 10 17:08:31.6,6°.69N×125°.54E,h15km,mb4.1,ML2.9,MS2.5, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.84	224	⇑ eP	Pg	17 08 44.0	-3.8

*NEIC **10** 17:14:54.3,19°.09S×69°.41W,h73km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.43; $M_{\theta\theta}$0.06; $M_{\phi\phi}$3.37; $M_{r\theta}$0.28; $M_{\theta\phi}$0.26; $M_{\phi r}$-0.83; Fault plane solution: $M_0$3.52000×10^{15} NP1:ϕ_s189.80000°, δ38.60000°,λ-81.44000°. NP2:ϕ_s358.91000°,δ51.91000°, λ-96.77000°. Principal axes: T 3.4809, Plg7.0000°, Azm94.0000°; N 0.0723, Plg5.0000°, Azm3.0000°; P -3.5532, Plg81.0000°, Azm235.0000°;*

*NEIC **10** 17:14:54.3±1.7,19°.11S±0°.04×69°.41W±0°.06,h95km±4km, mb4.7/77,Mwr4.3/17,Mwr4.5(GUC) Error ellipse: s-maj=9.1km s-min=5.0km az=68.0*

*GUC **10** 17:14:55.4±0.7,19°.13S×69°.42W,h96km±2km,ML4.6*

*IDC **10** 17:14:55.7±1.8,19°.20S×69°.53W,h102km±18km,mb4.0/6, mbtmp4.3/8,MS3.1/3,Error ellipse: s-maj=25.5km s-min=14.5km az=92.0*

*VAO **10** 17:14:56.0±0.5,19°.03S×69°.13W,h95km,mb4.5*

ISC 10 17:14:53.7±0.5,**19°.15S**±0°.03×**69°.44W**±0°.05,**h95**km±5km, **n210**,σ1s.**38**/215,**mb4.8**/34,**3C-5D,Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNMC	Minye Minye	0.15	276	Pn	Pn	17 15 08.1	+0.5
MNMC	Minye Minye	0.15	276	iP	Pn	17 15 09.0	+1.4
MNMC				iS	Sn	17 15 19.8	+1.9
MNMC				IAML		17 15 21.4	
	comp=E,47µm,0.6s						
GO01	Chusmiza	0.57	156		Pn	17 15 11.4	+1.3
GO01	Chusmiza	0.57	156	⇓ iP	Pn	17 15 11.9	+1.7
GO01				iS	Sn	17 15 24.9	+2.6
GO01				IAML		17 15 26.1	
	comp=N,21µm,0.6s						
PB11	IPOC Station P	0.65	199	Pn	Pn	17 15 11.7	+1.2
PB11				Sn	Sn	17 15 24.5	+1.6
PB11	IPOC Station P	0.65	199	⇓ iP	Pn	17 15 12.0	+1.5
PB11				iS	Sn	17 15 24.9	+2.0
PB11				IAML		17 15 25.6	
	comp=N,40µm,0.4s						
PSGC	Pisagua	0.79	235	⇑ iP	Pn	17 15 12.9	+1.2
PSGC				iS	Sn	17 15 26.5	+1.3
PSGC				IAML		17 15 32.0	
	comp=E,14µm,0.2s						
PSGCX	Pisagua	0.79	235	Pn	Pn	17 15 12.0	+0.3
PB16	IPOC Station P	0.81	355		Pn	17 15 13.1	+0.7
PB16	IPOC Station P	0.81	355	⇓ iP	Pn	17 15 14.4	+1.9
PB16				iS	Sn	17 15 28.9	+2.5
PB16				IAML		17 15 30.1	
	comp=E,23µm,0.3s						
PB12	IPOC Station P	1.00	302	Pn	Pn	17 15 14.7	+0.8
PB12				Sn	Sn	17 15 29.9	+0.8
PB12	IPOC Station P	1.00	302	⇑ iP	Pn	17 15 15.0	+1.1
PB12				iS	Sn	17 15 30.1	+1.1
PB12				IAML		17 15 31.6	
	comp=E,25µm,0.6s						
PB08	IPOC Station P	1.02	165		Pn	17 15 15.7	+1.1
PB08				Sn	Sn	17 15 32.2	+2.2
PB08	IPOC Station P	1.02	165	⇓ iP	Pn	17 15 16.4	+1.9
PB08				iS	Sn	17 15 32.6	+2.6
AP01	Chacalluta	1.16	312	Pn	Pn	17 15 16.7	+1.1
AP01	Chacalluta	1.16	312	eP	Pn	17 15 16.8	+1.2
AP01				iS	Sn	17 15 33.9	+1.9
HMBC	Humberstone	1.20	201	⇑ iP	Pn	17 15 17.6	+1.3
HMBC				iS	Sn	17 15 34.8	+1.5
HMBC				IAML		17 15 41.0	
	comp=N,12µm,0.7s						
TA02	Huaiquique	1.30	210		Pn	17 15 18.3	+1.1
TA02				Sn	Sn	17 15 35.8	+0.8
TA02	Huaiquique	1.30	210	eP	Pn	17 15 18.4	+1.1
TA02				iS	Sn	17 15 35.5	+0.5
TA02				IAML		17 15 39.6	
	comp=N,15µm,0.3s						
TA01	Diego Aracena	1.58	206		Pn	17 15 21.2	+0.5
TA01	Diego Aracena	1.58	206	eP	Pn	17 15 21.6	+0.9
TA01				iS	Sn	17 15 41.7	+0.5
TA01				IAML		17 15 48.1	
	comp=E,8µm,0.1s						
PATCX	Punta Patache	1.80	202		Pn	17 15 24.3	+0.7
PATCX				Sn	Sn	17 15 45.3	-1.0
PATCX	Punta Patache	1.80	202	eP	Pn	17 15 24.9	+1.3
PATCX				iS	Sn	17 15 45.4	-1.0
PATCX				IAML		17 15 56.2	
	comp=E,6µm,0.5s						
PB01	IPOC Station P	1.89	182		Pn	17 15 25.8	+1.0
PB01	IPOC Station P	1.89	182	⇓ iP	Pn	17 15 26.2	+1.5
PB01				iS	Sn	17 15 47.8	-0.6
PB01				IAML		17 15 54.2	
	comp=N,4µm,0.3s						
PB02	IPOC Station P	2.21	191		Pn	17 15 29.8	+0.8
PB02	IPOC Station P	2.21	191	eP	Pn	17 15 30.2	+1.3
PB02				IAML		17 16 06.5	
	comp=E,8µm,0.7s						
PB07	IPOC Station P	2.60	189	Pn	Pn	17 15 34.6	+0.4
PB07	IPOC Station P	2.60	189	eP	Pn	17 15 35.9	+1.7
PB07				IAML		17 16 13.1	
	comp=E,4µm,0.6s						
PB09	IPOC Station P	2.64	176		Pn	17 15 35.4	+0.6
PB09	IPOC Station P	2.64	176	eP	Pn	17 15 36.7	+2.0
PB03	IPOC Station P	2.90	186		Pn	17 15 38.7	+0.4
PB03	IPOC Station P	2.90	186	eP	Pn	17 15 40.1	+1.8
LPAZ	La Paz	3.10	24	P	Pn	17 15 44.8	+3.4
	comp=E,42nm,0.4s,baz=192,slow=2.5,SNR=220						
LPAZ	La Paz	3.10	24		Pn	17 15 44.4	+3.1
PB04	IPOC Station P	3.24	192		Pn	17 15 43.7	+0.9
PB04	IPOC Station P	3.24	192	eP	Pn	17 15 44.6	+1.9
LVC	Limon Verde	3.48	172	P	Pn	17 15 48.3	+2.1
	comp=E,189nm,0.6s,baz=353,slow=9.3,SNR=84						
LVC				S	Sn	17 16 28.0	+1.4
	comp=E,163nm,0.4s,baz=340,slow=16,SNR=5.7						
LVC	Limon Verde	3.48	172	Pn	Pn	17 15 48.0	+1.8
LVC	Limon Verde	3.48	172	eP	Pn	17 15 47.9	+1.7
LVC	Limon Verde	3.48	172	eP	Pn	17 15 49.2	+3.0
PB06	IPOC Station P	3.54	182		Pn	17 15 47.4	+0.5
PB06	IPOC Station P	3.54	182	eP	Pn	17 15 48.0	+1.2
AF01	San Pedro de A	3.96	163	Pn	Pn	17 15 53.3	+0.6
PB15	IPOC Station P	4.04	180	Pn	Pn	17 15 54.2	+0.6
PB10	IPOC Station P	4.47	193	Pn	Pn	17 15 59.0	-0.2
PB14	IPOC Station P	5.53	189	Pn	Pn	17 16 11.4	-2.4
GO02	Mina Guanaco	5.99	181	Pn	Pn	17 16 19.7	-0.4
AC01	Pan de Azucar	7.05	189	Pn	Pn	17 16 32.2	-2.1
AC02	Maricunga	7.66	178	Pn	Pn	17 16 41.2	-1.8
AC06	Mina Casimiro	8.22	186	Pn	Pn	17 16 48.3	-1.9
GO03	Copiap	8.44	185	Pn	Pn	17 16 51.4	-1.9
SIV	San Ignacio	8.57	70	P	Pn	17 16 53.2	-1.9
	comp=E,27nm,0.4s,baz=258,slow=10.0,SNR=138						
SIV				LR	LR	17 21 09.5	
	comp=E,119nm,18.4s,baz=287,slow=43						
BBSD	Serra de San D	8.61	78	eP	Pn	17 16 54.0	-1.6
BBRB	Robore, Bolivi	9.16	86	eP	Pn	17 17 00.2	-2.9
ETMB	Extrema	9.79	19	Pn	Pn	17 17 10.4	-1.2
ETMB	Extrema	9.79	19	eP	Pn	17 17 10.6	-1.0
LCO	Las Campanas	9.89	186	Pn	Pn	17 17 12.2	-1.0
NNA	Nana	10.08	314	LR	LR	17 21 41.4	
	comp=E,38nm,18.4s,baz=204,slow=40						
NNA	Nana	10.08	314	Pn	Pn	17 17 12.2	-3.5
PTLB	Pontes e Lacer	10.50	71	Pn	Pn	17 17 18.5	-2.9
PTLB	Pontes e Lacer	10.50	71	eP	Pn	17 17 19.2	-2.1
CO01	Juntas del Tor	10.80	183	Pn	Pn	17 17 22.9	-2.7
VILB	Vilhena	10.80	57	Pn	Pn	17 17 24.1	-1.3
VILB	Vilhena	10.80	57	eP	Pn	17 17 24.2	-1.3
GO04	Tololo Observa	11.05	186	Pn	Pn	17 17 31.5	+2.5
MURT	Porto Murtinho	11.37	105	eP	Pn	17 17 31.1	-1.9
SAML	Samuel	11.81	32	Pn	Pn	17 17 36.0	-3.0
ANTJ	Antonio Joao (	12.89	105	eP	Pn	17 17 53.1	-0.4
AQDB	Aquidauana	12.99	98	Pn	Pn	17 17 51.2	-3.6
AQDB	Aquidauana	12.99	98	eP	Pn	17 17 53.4	-1.4
CPUP	Villa Florida	13.26	125	P	Pn	17 17 57.1	-1.0
	comp=E,4.0nm,0.9s,baz=313,slow=13,SNR=6.0						
SALV	Santo Antonio	13.50	78	eP	Pn	17 17 59.3	-2.1
VA03	San Esteban	13.60	184	Pn	Pn	17 18 00.5	-2.2
PP1B	Ponte de Pedra	13.90	86	eP	Pn	17 18 04.5	-2.2
MT02	Curacav	14.14	186	Pn	Pn	17 18 09.2	-0.4
MT03	Universidad Ad	14.32	184	P	Pn	17 18 14.0	+1.9
PDRB	Porto dos Gac	14.35	60	eP	Pn	17 18 09.8	-2.7
MT09	Talagante	14.64	185	Pn	Pn	17 18 13.9	-2.2
LMEL	Las Melosas	14.66	183	Pn	Pn	17 18 14.9	-1.6
MT01	Popeta	14.75	186	Pn	Pn	17 18 16.6	-0.9
AZCA	Azaras, Argent	15.19	128	eP	Pn	17 18 22.8	-0.3
BO01	Tunca	15.26	185	Pn	Pn	17 18 23.9	0.0
CLDB	Colider	15.52	60	eP	Pn	17 18 25.1	-2.2
BO02	Sierra Bellavi	15.63	184	Pn	Pn	17 18 25.9	-2.8
BO02				IAmb	IAmb	17 18 34.7	
	comp=Z,24nm,0.7s						
CRSM	Crissiumal (Br	16.39	123	eP	Pn	17 18 38.3	+0.2
UNIS	Unistalda (Bra	16.40	130	eP	P	17 18 40.4	+1.1
H03N1	Juan Fernandez	16.57	209	T	T	17 36 02.7	
	baz=31,slow=73,SNR=42						
H03N2	Juan Fernandez	16.57	209	T	T	17 35 50.5	
	baz=31,slow=73,SNR=8.5						
H03N3	Juan Fernandez	16.58	209	T	T	17 36 01.4	
	baz=31,slow=73,SNR=89						
RODS	Rosario do Sul	17.06	134	eP	P	17 18 47.1	+0.5
ARAG	Araguaiana, MT	17.16	81	eP	Pn	17 18 46.5	-1.1
ALGR	Alto Alegre (B	17.79	126	eP	Pn	17 18 55.2	0.0
ITAB	Concordia	17.82	120		Pn	17 18 56.2	+0.7
ITAB				IAmb	IAmb	17 18 57.5	
	comp=Z,26nm,0.8s						
ITAB	Concordia	17.82	120	eP	P	17 18 55.3	+0.4
MCRA	Macar, Loja	17.92	324	P	P	17 18 56.0	-0.2
MACA	Manacapuru-AM	18.05	29	P	P	17 18 56.6	-1.0
MACA				IAmb	IAmb	17 18 58.7	
	comp=Z,19nm,0.6s						
MACA	Manacapuru-AM	18.05	29	eP	P	17 18 57.4	-0.2
BOSC	San Juan Bosco	18.20	330	P	P	17 18 58.5	-1.0
BOSC				IAmb	IAmb	17 19 07.2	
	comp=Z,24nm,0.5s						
NPGB	Novo Progresso	18.22	51	eP	P	17 18 57.5	-2.0
CPSB	Cacapava Do Su	18.32	131	eP	P	17 19 01.1	+0.6
SNDB	Serra Nova Dou	18.86	70	eP	P	17 19 05.7	-0.8
FRTB	Fartura	18.98	106	eP	P	17 19 06.9	-0.9
PLTB	Pedras Altas	19.00	134	P	Pn	17 19 09.1	-0.6
PLTB	Pedras Altas	19.00	134	eP	P	17 19 08.0	0.0
COHC	Cochancay	19.16	329	P	P	17 19 09.6	-0.2
BB19B	Bebedouro	19.73	99	eP	P	17 19 15.1	-0.8
PORT	Chimborazo Vol	19.81	331	Pn	Pn	17 19 19.4	-0.5
CHSH	Refugio Sur-Vo	19.83	331	P	P	17 19 16.3	-1.3
CHSH				IAmb	IAmb	17 19 32.0	
	comp=Z,21nm,0.6s						
ITTB	Itaituba	19.86	44	eP	P	17 19 16.2	-1.3
TRQA	Tornquist	19.93	163	P	P	17 19 17.9	-0.1
TRQA				IAmb	IAmb	17 19 19.4	
	comp=Z,14nm,0.7s						
IPMB	Ipameri, GO	20.15	90	eP	P	17 19 19.8	-0.8
SLOR	San Lorenzo -	20.35	333	P	P	17 19 22.9	-0.2
SLOR				IAmb	IAmb	17 19 28.1	
	comp=Z,17nm,0.9s						
GO06	Curarrehue	20.44	185	P	P	17 19 22.8	-0.8
BDFB	Brasilia	20.73	84	P	Pn	17 19 28.7	-1.5
	comp=Z,8.2nm,0.5s,baz=255,slow=11,SNR=12						
	comp=Z,8.2nm,0.5s						
BDFB	Brasilia	20.73	84	P	P	17 19 25.6	-1.3
PLCA	Paso Flores	21.54	182	P	P	17 19 36.1	+0.9
	comp=Z,10nm,0.9s,baz=360,slow=10.0,SNR=12						
	comp=Z,10nm,0.9s						
PLCA	Paso Flores	21.54	182	P	P	17 19 34.4	-0.8
PLCA				IAmb	IAmb	17 19 39.1	
	comp=Z,19nm,1.0s						
PLCA	Paso Flores	21.54	182	eP	P	17 19 38.3	+3.0
PMNB	Patos De Minas	21.77	92	eP	P	17 19 36.8	-1.2
LL04	Puerto Octay	21.84	186	P	P	17 19 38.2	-0.2
LL04				IAmb	IAmb	17 19 41.0	
	comp=Z,16nm,0.8s						
BOAV	Boa Vista	23.13	23	P	P	17 19 50.5	-1.4
BOAV				IAmb	IAmb	17 20 16.4	
	comp=Z,8.0nm,1.1s						
SMTB	Santa Maria do	23.50	67	eP	P	17 19 55.4	0.0
JANB	Januaria	24.34	84	eP	P	17 20 02.1	-0.9
MC01	Montes Claros	24.37	88	eP	P	17 20 03.3	+0.1
DIAM	Diamantina, MG	24.41	92	eP	P	17 20 03.1	-0.5
SDBA	SAO DESIDERIO	24.52	78	eP	P	17 20 04.0	-0.6
MCPB	Macapa, AP	25.28	44	eP	P	17 20 12.5	+1.1
AY01	Puyuhuapi	25.34	185	P	P	17 20 11.4	-0.2
AY01				IAmb	IAmb	17 20 47.4	
	comp=Z,33nm,1.3s						
BAUV	El Baul	27.95	3	P	P	17 20 33.9	-1.4
BAUV				IAmb	IAmb	17 20 35.6	
	comp=Z,25nm,0.8s						
BATAN	Batan	32.15	334	P	P	17 21 11.7	-0.7
SVB	Belmont	33.21	15	P	P	17 21 20.3	-1.4
OBIP	Obispado Ponce	37.06	4	P	P	17 21 53.7	-1.0
OBIP				IAmb	IAmb	17 21 54.5	
	comp=Z,8.7nm,0.5s						
CELP	Cerrillos	37.10	5	P	P	17 21 53.7	-1.3
CELP				IAmb	IAmb	17 21 55.6	
	comp=Z,15nm,0.7s						
MTO3	Montecristo	38.68	328	P	P	17 22 09.9	+1.2
BIRD	Birdtown, Kers	54.51	349	P	P	17 24 12.1	+0.3
BIRD				IAmb	IAmb	17 24 12.6	
	comp=Z,10nm,0.7s						
KMSC	Kings Mountain	55.16	348	P	P	17 24 16.1	-0.3
KMSC				IAmb	IAmb	17 24 25.6	
	comp=Z,8.1nm,0.9s						
833A	Chaparral WMA,	55.38	328	P	P	17 24 18.7	+0.6
833A				IAmb	IAmb	17 24 19.5	
	comp=Z,9.0nm,0.7s						
WVT	Waverly	57.67	342	P	P	17 24 33.1	-1.1
WVT				IAmb	IAmb	17 24 33.9	
	comp=Z,6.3nm,0.7s						
TXAR	Lajitas Array	58.43	325	P	P	17 24 40.5	+0.7
	comp=Z,0.9nm,0.7s,baz=146,slow=8.6,SNR=9.8						
	comp=Z,0.9nm,0.7s						
TXAR	Lajitas Array	58.43	325	P	P	17 24 39.9	+0.2
TX31	Lajitas Ar. Si	58.43	325	P	P	17 24 40.1	+0.3
TX31				IAmb	IAmb	17 24 51.1	
	comp=Z,14nm,1.4s						
TX32	Lajitas Array	58.43	325	P	P	17 24 40.1	+0.3
TX32				IAmb	IAmb	17 24 51.1	
	comp=Z,5.8nm,1.5s						
ABTX	Abilene, Hawle	59.04	330	P	P	17 24 44.4	+0.5
ABTX				IAmb	IAmb	17 24 45.2	
	comp=Z,5.2nm,0.7s						
Q51A	Peebles	59.32	347	P	P	17 24 45.7	+0.1
Q51A				IAmb	IAmb	17 24 46.3	
	comp=Z,8.4nm,1.0s						
P53A	Whipple	59.39	349	P	P	17 24 46.2	+0.1
P51A	Williamsport	59.70	348	P	P	17 24 47.0	-1.2
P51A				IAmb	IAmb	17 25 19.3	
	comp=Z,17nm,1.3s						
TUL1	Leonard	60.18	335	P	P	17 24 51.7	+0.1
TUL1				IAmb	IAmb	17 24 52.6	
	comp=Z,6.3nm,0.6s						
DEOK	Depew	60.40	335	P	P	17 24 52.8	-0.3
DEOK				IAmb	IAmb	17 24 54.1	
	comp=Z,18nm,0.6s						
WMOK	Wichita Mounta	60.41	332	P	P	17 24 52.3	-1.0
OK030	Cody Creek RV	60.59	335	P	P	17 24 54.4	0.0
M57A	Sunshine Farm,	60.60	353	P	P	17 24 53.8	-0.5
OK034	N. Norfolk Rd.	60.63	335	P	P	17 24 54.1	-0.6
OK031	S. Brethren Rd	60.63	335	P	P	17 24 54.5	-0.2
OK033	Mehan	60.75	335	P	P	17 24 55.0	-0.4
QUOK	Quay	60.77	335	P	P	17 24 55.5	-0.1
QUOK				IAmb	IAmb	17 24 56.6	
	comp=Z,12nm,0.7s						
HTMS	Hat Mesa	60.88	327	P	P	17 24 56.1	-0.5
CLN7	Carlsbad 7	60.92	327	P	P	17 24 57.2	+0.4
OK044	Pawnee Station	60.98	335	P	P	17 24 57.0	0.0
GDL2	Guadalupe Moun	61.04	326	P	P	17 24 58.4	+0.8
OK051	E0350 and S346	61.11	335	P	P	17 24 57.2	-0.7
OK051				IAmb	IAmb	17 24 59.0	
	comp=Z,12nm,0.7s						
CROK	Carrier	61.58	334	P	P	17 25 01.3	+0.3
CROK				IAmb	IAmb	17 25 01.9	
	comp=Z,18nm,0.8s						
MSTX	Muleshoe	61.64	329	P	P	17 25 01.6	0.0
MSTX				IAmb	IAmb	17 25 02.6	
	comp=Z,10.0nm,1.1s						
KAN14	Manchester OK	61.96	334	P	P	17 25 02.4	-1.2
KAN12	Harper NE Stat	62.26	334	P	P	17 25 06.2	+0.5
N41A	Harden Midland	62.79	342	P	P	17 25 08.3	-0.8
N41A				IAmb	IAmb	17 25 17.2	
	comp=Z,16nm,1.1s						
K50A	Casco	62.80	349	P	P	17 25 08.8	-0.2
319A	Douglas	63.13	322	P	P	17 25 12.5	+0.8
319A				IAmb	IAmb	17 25 14.4	
	comp=Z,6.2nm,0.7s						
121A	Cookes Peak, D	63.14	324	P	P	17 25 12.7	+0.9
121A				IAmb	IAmb	17 25 14.2	
	comp=Z,2.6nm,0.6s						
SBM	South Baldy	63.91	325	P	P	17 25 17.1	0.0
LENM	Lemitar	63.94	326	P	P	17 25 18.6	+1.6
SNAA	Sanae	64.65	161	P	P	17 25 22.1	+1.0
SNAA				IAmb	IAmb	17 25 50.1	
	comp=Z,4.9nm,1.2s						
BGNE	Belgrade	65.87	337	P	P	17 25 28.8	-0.4
SDCO	Great Sand Dun	65.98	329	P	P	17 25 30.3	0.0
SDCO				IAmb	IAmb	17 25 32.3	
	comp=Z,4.5nm,0.9s						
Q24A	Divide	66.78	330	P	P	17 25 35.6	+0.1
Q24A				IAmb	IAmb	17 25 37.1	
	comp=Z,5.1nm,1.1s						
DBIC	Dimbokro	68.56	75	P	P	17 25 49.5	+2.8
	comp=Z,3.8nm,0.7s,baz=238,slow=5.5,SNR=3.9						
	comp=Z,3.8nm,0.7s						
P17A	Butcher Ranch,	69.93	327	P	P	17 25 56.4	+1.5
P17A				IAmb	IAmb	17 25 57.1	
	comp=Z,5.5nm,1.1s						
MSU	Marysvale	69.97	325	P	P	17 25 56.9	+1.7
PSUT	Pine Spring	70.90	324	P	P	17 26 00.3	-0.5
QSPA	South Pole Qui	71.03	180	P	P	17 26 02.4	+1.2
HWUT	Hardware Ranch	71.94	328	P	P	17 26 08.0	+1.0
GMN	Gold Mountain	71.98	322	P	P	17 26 08.9	+1.5
ULM	Lac du Bonnet	72.94	343	P	P	17 26 14.7	+2.2
ULM				IAmb	IAmb	17 26 31.3	
	comp=Z,13nm,1.4s						
NVAR	Mina Array Bea	73.35	322	P	P	17 26 17.4	+1.9
	comp=Z,0.9nm,0.8s,baz=158,slow=7.0,SNR=6.4						
	comp=Z,0.9nm,0.8s						
NVAR	Mina Array Bea	73.35	322	P	P	17 26 17.3	+1.8
HLID	Hailey	74.80	328	P	P	17 26 25.6	+1.9
PAHR	Pah Rah Range	74.82	322	P	P	17 26 25.9	+2.0
EGMT	Eagleton	75.98	333	P	P	17 26 30.6	+0.3
EGMT				IAmb	IAmb	17 27 02.3	
	comp=Z,14nm,1.0s						
PLID	Pearl Lake	76.68	328	P	P	17 26 36.0	+1.4
BMO	Blue Mountains	77.18	327	P	P	17 26 38.5	+1.3
WALA	Waterton Lakes	78.57	332	P	P	17 26 45.6	+0.8
WALA				IAmb	IAmb	17 27 15.1	
	comp=Z,8.1nm,1.4s						
VNDA	Vanda	79.07	190	LR	LR	17 58 28.0	
	comp=Z,35nm,18.4s,baz=232,slow=33						
C09A	Chrisman Ranch	79.71	329	P	P	17 26 51.8	+0.9
C09A				IAmb	IAmb	17 26 53.5	
	comp=Z,4.6nm,0.8s						
YKA	Yellowknife Ar	88.81	341	P	P	17 27 36.8	+0.2
	comp=Z,4.7nm,0.6s,baz=136,slow=4.8,SNR=12						
	comp=Z,4.7nm,0.6s						
H11S2	WAKE ISLAND Hy	127.06	279	T	T	19 53 22.2	
	baz=101,slow=74,SNR=184						
H11S1	WAKE ISLAND Hy	127.07	279	T	T	19 53 13.1	
	baz=101,slow=74,SNR=53						
H11S3	WAKE ISLAND Hy	127.08	279	T	T	19 53 14.9	
	baz=101,slow=74,SNR=114						
H11N3	WAKE ISLAND Hy	127.08	281	T	T	19 53 19.2	
	baz=100,slow=74,SNR=24						
H11N2	WAKE ISLAND Hy	127.09	281	T	T	19 53 19.7	
	baz=100,slow=74,SNR=31						
H11N1	WAKE ISLAND Hy	127.10	281	T	T	19 53 19.3	
	baz=100,slow=74,SNR=19						
ASAR	Alice Springs	131.74	209	PKP	PKPdf	17 33 56.7	+0.2
	comp=Z,0.4nm,0.4s,baz=134,slow=1.6,SNR=10						
WRA	Warramunga Arr	134.70	212	PKP	PKPdf	17 34 02.5	+0.4
	comp=Z,1.0nm,0.5s,baz=146,slow=1.8,SNR=12						
ZALV	Zalesovo Beam	140.02	24	PKP	PKPdf	17 34 11.7	+0.9
	comp=Z,1.3nm,0.6s,baz=261,slow=3.5,SNR=6.4						
KSH	Kashi	143.96	48	PKP	PKPab	17 34 16.2	+0.3
MKAR	Makanchi Array	143.99	34	PKhKP	PKPpre	17 34 15.8	
	comp=Z,0.4nm,0.6s,baz=21,slow=2.6,SNR=4.4						
USRK	Ussuriysk Ar.	149.26	329	PKPbc	PKiKP	17 34 32.6	+0.1
	comp=Z,2.3nm,0.6s,baz=20,slow=1.6,SNR=4.2						
MJAR	Matsushiro Arr	150.19	311	PKPbc	PKiKP	17 34 35.0	+0.2
	comp=Z,1.3nm,0.6s,baz=77,slow=1.5,SNR=4.4						
SONM	Songino Array	151.18	6	PKPbc	PKiKP	17 34 36.8	+0.2
	comp=Z,3.6nm,0.7s,baz=317,slow=1.3,SNR=18						
HHC	Hu-ho-hao-te	158.35	358	eP	PKPdf	17 34 40.4	+0.2
PZH	PanZhiHua	169.06	46	PKP	PKPdf	17 34 49.0	-1.5

*JMA **10** 17:18:00.3±0.2,26°N±2°×12°5E±°,h182km,MV3.6/30,NW OFF MIYAKOJIMA ISLAND*

*IDC **10** 17:18:02.0±7.1,26°.38N×125°.20E,h210km±101km, mb2.9/3,mbtmp3.6/4,Error ellipse: s-maj=141.5km s-min=21.5km az=57.0*

ISC 10 17:18:00.1±1.1,**26°.4N**±0°.1×**124°.87E**±0°.07,**h191**km±14km, **n28**,σ1s.**42**/45,**mb3.1**/3,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	1.46	166	P	Pn	17 18 33.0	+0.4
JIKM				S	Sn	17 18 58.0	+0.2
JIRB	Irabujima	1.54	170	P	Pn	17 18 33.8	+0.5
JIRB				S	Sn	17 18 59.4	+0.3
JMJ2	Miyako jima3	1.65	165	P	Pn	17 18 35.5	+1.1
JMJ2				S	Sn	17 19 01.4	+0.3
JOGS	Gusukube	1.65	163	P	Pn	17 18 35.7	+1.3
JOGS				eS	Sn	17 19 01.7	+0.6
JTJ	Tarama	1.70	185	P	Pn	17 18 35.7	+0.7
JTJ				S	Sn	17 19 00.2	-1.8
JKE	Kume jima 2	1.72	90	iP	Pn	17 18 36.3	+1.3
JISG	Ishigakijimahi	1.82	196	P	Pn	17 18 36.4	+0.3
JISG				S	Sn	17 19 02.1	-2.0
JIJ	Ishigaki jima	2.08	199	iP	Pn	17 18 38.5	-0.3
JIJ				S	Sn	17 19 05.7	-3.3
JAGN	Aguni-jima	2.14	83	P	Pn	17 18 40.3	+0.9
JAGN				eS	Sn	17 19 09.6	-0.4
JKRS	Kuro-shima	2.24	201	P	Pn	17 18 40.4	-0.1
JKRS				S	Sn	17 19 09.2	-2.8
IRIF	Iriomote-Funau	2.25	207	P	Pn	17 18 40.4	-0.2
IRIF				S	Sn	17 19 09.9	-2.3

HATJ	**Hateruma jima**	**2.47**	**203**	P		**Pn**	17 18 43.3	**+0.1**	
HATJ				S		**Sn**	17 19 14.2	**-2.5**	
YOJ	**Yonaguni jima**	**2.52**	**222**	P		**Pn**	17 18 44.2	**+0.6**	
YOJ				*e*S		**Sn**	17 19 18.0	**+0.5**	
JJT3	**Tamagusuku3**	**2.63**	**94**	*i* P		**Pn**	17 18 46.2	**+1.4**	
JNTH	**Nagotoyohara**	**2.83**	**86**	P		**Pn**	17 18 48.1	**+0.9**	
JNTH				*e*S		**Sn**	17 19 21.6	**-2.4**	
JIH	**Iheya**	**2.86**	**75**	*i* P		**Pn**	17 18 48.5	**+1.0**	
JIH				*e*S		**Sn**	17 19 24.7	**+0.2**	
JOW	**Kunigami**	**3.09**	**80**	P		**Pn**	17 18 51.0	**+0.7**	
	111nm,0.3s,baz=111,slow=22,SNR=118								
JOW				S		**Sn**	17 19 27.1	**-2.5**	
	52nm,0.2s,baz=111,slow=26,SNR=7.7								
JOW	**Kunigami**	**3.09**	**80**	*i* P		**Pn**	17 18 50.9	**+0.7**	
JYRO	**Yoronjima**	**3.28**	**77**	P		**Pn**	17 18 53.0	**+0.5**	
JOKE	**Okinoerabujima**	**3.46**	**72**	P		**Pn**	17 18 55.2	**+0.4**	
JTK	**Tokunoshima**	**3.91**	**68**	P		**Pn**	17 19 00.5	**+0.1**	
JTK				*e*S		**Sn**	17 19 46.5	**-1.2**	
JAMN	**Amaminishikomi**	**4.27**	**63**	P		**Pn**	17 19 04.8	**-0.1**	
JAMN				*e*S		**Sn**	17 19 53.8	**-2.1**	
JAM	**Amami Oshima**	**4.69**	**63**	P		**Pn**	17 19 10.1	**-0.1**	
JAM				S		**Sn**	17 20 02.2	**-3.2**	
JMZ	**Minamidaito 2**	**5.74**	**94**	P		**Pn**	17 19 23.9	**+0.1**	
JKDJ	**Kitadaitoujima**	**5.79**	**92**	P		**Pn**	17 19 24.5	**0.0**	
JKDJ				S		**Sn**	17 20 29.8	**-1.3**	
MKAR	**Makanchi Array**	**39.22**	**313**	P		**P**	17 25 11.4	**+1.6**	
	0.2nm,0.4s,baz=95,slow=9.5,SNR=4.1								
	0.2nm,0.4s								
WRA	**Warramunga Arr**	**46.92**	**168**	P		P	17 26 11.1	-0.5	
	0.4nm,0.4s,baz=347,slow=8.2,SNR=11								
	0.4nm,0.4s								
ASAR	**Alice Springs**	**50.48**	**169**	P		P	17 26 38.7	+0.1	
	0.2nm,0.4s,baz=353,slow=7.9,SNR=16								
	0.2nm,0.4s								

ATH 10 17:20:53.9, 40.98N×22.74E, h16km±2km, ML1.2/3, Error ellipse: s-maj=3.2km s-min=1.2km az=212.0, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KNT	**Kendrikon**	**0.22**	**34**	P		Pg	17 20 58.5	-0.4
GRG	**Griva**	**0.26**	**264**	P		Pg	17 20 59.5	0.0
GRG				S		Sg	17 21 03.3	-0.1
GRG					AML	AML	17 21 03.6	
	comp=E,283μm,0.2s							
GRG					AML	AML	17 21 05.4	
	comp=N,161μm,0.1s							
VAY	**Valandovo**	**0.36**	**340**	*i* Pg		Pb	17 21 01.8	-0.2
VAY				*i* Sg		Sb	17 21 07.0	-0.4
HORT	**Hortiatis**	**0.47**	**144**	P		Pg	17 21 03.1	-0.3
HORT				S		Sg	17 21 09.5	-0.3
HORT					AML	AML	17 21 11.2	
	comp=N,53μm,0.2s							
HORT					AML	AML	17 21 11.2	
	comp=E,52μm,0.2s							
SOH	**Sokhos**	**0.49**	**109**	P		Pg	17 21 03.8	0.0
SOH				S		Sb	17 21 10.9	-0.4
SOH					AML	AML	17 21 13.2	
	comp=N,62μm,0.3s							
SOH					AML	AML	17 21 13.9	
	comp=E,79μm,0.2s							
SRS	**Serrai**	**0.66**	**78**	P		Pg	17 21 06.7	-0.3
SRS				S		Sg	17 21 15.5	-0.2
STIP	**Stip**	**0.82**	**330**	*i* Pg		Pb	17 21 09.3	-0.6
STIP				*i* Sg		Sb	17 21 20.0	-0.7
NVR	**Nevrokopi**	**0.93**	**66**	P		Pb	17 21 11.3	-0.3
NVR				S		Sb	17 21 23.3	-0.4

ROM 10 17:22:56.5±0.1, 43.002N±0.003×13.059E±0.004, h11km, ML1.8/1, 3C-5D, Error ellipse: s-maj=0.3km s-min=0.2km az=250.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
FDMO	**Fiordimonte**	**0.04**	**31**	↑P		Pg	17 22 59.0	+0.3
FDMO				S		Sg	17 23 00.6	+0.3
FDMO					AML	AML		
FDMO					AML	AML		
FDMO					AML	AML		
	comp=N,1403μm,0.1s							
FDMO					AML	AML		
	comp=E,670μm,0.2s							
T1219	**Muccia, Frazio**	**0.07**	**325**	↓P		Pg	17 22 59.3	+0.3
T1219				S		Sg	17 23 01.1	+0.4
T1219					AML	AML		
	comp=E,40100μm,0.4s							
T1219					AML	AML		
	comp=N,53050μm,0.3s							
T1220	**Camerino, Fraz**	**0.11**	**11**	↑P		Pg	17 22 59.8	+0.4
T1220				S		Sg	17 23 02.1	+0.5
T1220					AML	AML		
T1220					AML	AML		
T1220					AML	AML		
T1220					AML	AML		
CESI	**CESI - Serrava**	**0.11**	**271**	↓P		Pg	17 23 00.1	+0.6
CESI					AML	AML		
	comp=E,51600μm,0.4s							
CESI					AML	AML		
	comp=N,50250μm,0.3s							
T1216	**Preci, Frazion**	**0.12**	**195**	S		Sg	17 23 01.0	-0.7
CSP1	**Cessapalombo**	**0.14**	**50**	↑P		Pg	17 23 00.2	+0.3
CSP1					AML	AML		
	comp=E,64750μm,1.3s							
CSP1					AML	AML		
	comp=N,52500μm,1.2s							
T1245	**Castelsantange**	**0.17**	**147**	↓P		Pg	17 23 01.1	+0.7
MMO1	**Montemonaco**	**0.22**	**118**	↓P		Pg	17 23 01.6	+0.4
T1215	**Vallo di Nera,**	**0.24**	**215**	P		Pg	17 23 02.0	+0.5
T1215				S		Sg	17 23 06.0	+0.9
T1241	**Roccafluvione,**	**0.31**	**118**	↓P		Pg	17 23 03.1	+0.3
T1241				S		Sb	17 23 08.2	-0.8
T1218	**Civita (PG)**	**0.34**	**173**		AML	AML		
	comp=N,11950μm,1.6s							
T1218					AML	AML		
	comp=E,7825μm,1.0s							
T1218					AML	AML		
	comp=E,7655μm,1.0s							
T1218					AML	AML		
	comp=N,11960μm,1.6s							

PRU ***10*** *17:23:29.8±0.0, 42.88N×13.73E, h10km*
ROM ***10*** *17:23:30.2±0.1, 42.984N±0.003×13.149E±0.004, h9km, ML3.4/52, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
LDG ***10*** *17:23:30.8±0.2, 42.93N×13.15E, h10km, Ml3.2/12, Error ellipse: s-maj=6.2km s-min=3.5km az=41.0*
IDC ***10*** *17:23:34.2±2.6, 43.42N×13.76E, h0km, mb3.5/2, mbtmp3.5/4, ML3.5/2, MS3.2/5, Error ellipse: s-maj=49.4km s-min=19.4km az=64.0*

ISC 10 17:23:30.4±0.7, 42.98N±0.01×13.11E±0.02, h13km±4km, n146, σ1s80/182, MS3.6/3, 34C-35D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
FEMA	**Monte Fema**	**0.05**	**253**	P		**Pg**	**17 23 32.6**	**-0.4**
FEMA				S		**Sg**	**17 23 34.8**	**-0.1**
FEMA					AML	AML		
FEMA					AML	AML		
	comp=N,85000μm,0.7s							
FEMA					AML	AML		
	comp=N,85050μm,0.7s							
T1256	**Bolognola (MC)**	**0.09**	**70**	P		**Pg**	**17 23 32.1**	**-1.3**
T1256				S		**Sg**	**17 23 33.7**	**-1.9**
T1256					AML	AML		
	comp=N,79550μm,1.1s							
T1256					AML	AML		
	comp=E,72050μm,0.6s							
T1256					AML	AML		
	comp=N,79500μm,1.1s							
T1256					AML	AML		
	comp=N,72800μm,1.0s							
T1256					AML	AML		
	comp=E,71900μm,0.7s							
T1216	**Preci, Frazion**	**0.11**	**219**	↑P		**Pg**	**17 23 33.7**	**+0.1**
T1216				S		**Sb**	**17 23 36.5**	**-0.6**
T1216					AML	AML		
	comp=E,71050μm,1.0s							
T1216					AML	AML		
T1216					AML	AML		
	comp=E,71050μm,1.0s							
T1219	**Muccia, Frazio**	**0.11**	**315**	P		**Pg**	**17 23 33.2**	**-0.3**
T1219						S	**Sg**	**17 23 36.0**	**+0.1**
T1245	**Castelsantange**	**0.13**	**156**	↑P		**Pg**	**17 23 33.7**	**-0.2**
T1245				S		**Sg**	**17 23 36.5**	**+0.1**
T1245					AML	AML		
	comp=E,30300μm,0.6s							
T1245					AML	AML		
	comp=N,65350μm,1.5s							
T1245					AML	AML		
	comp=N,62150μm,1.5s							
T1245					AML	AML		
	comp=E,30250μm,0.6s							
T1245					AML	AML		
	comp=E,46550μm,0.6s							
T1245					AML	AML		
	comp=N,65350μm,1.5s							
T1220	**Camerino, Fraz**	**0.14**	**352**	P		**Pg**	**17 23 33.3**	**-0.6**
T1220				S		**Sb**	**17 23 37.0**	**-0.8**
T1220					AML	AML		
T1220					AML	AML		
T1220					AML	AML		
T1220					AML	AML		
T1220					AML	AML		
T1220					AML	AML		
CESI	**CESI - Serrava**	**0.16**	**280**	↑P		**Pg**	**17 23 34.5**	**+0.3**
CESI				S		**Sb**	**17 23 37.8**	**-0.6**
CESI					AML	AML		
	comp=E,51600μm,0.4s							
CESI					AML	AML		
	comp=N,50250μm,0.3s							
MMO1	**Montemonaco**	**0.17**	**116**	↓P		**Pg**	**17 23 34.1**	**-0.4**
MMO1				S		**Sg**	**17 23 37.0**	**-0.4**
AM05	**Amandola Campo**	**0.17**	**90**	P		**Pg**	**17 23 34.0**	**-0.5**
AM05				S		**Sg**	**17 23 36.8**	**-0.5**
AM05					AML	AML		
	comp=E,37100μm,0.6s							
AM05					AML	AML		
	comp=N,31550μm,0.1s							
AM05					AML	AML		
	comp=E,37150μm,0.6s							
AM05					AML	AML		
	comp=E,39200μm,0.8s							
AM05					AML	AML		
	comp=N,1367μm,1.2s							
GUMA	**Gualdo di Mace**	**0.18**	**62**	↑P		**Pg**	**17 23 34.2**	**-0.4**
GUMA				S		**Sg**	**17 23 37.9**	**+0.3**
GUMA					AML	AML		
	comp=E,98850μm,0.5s							
GUMA					AML	AML		
GUMA					AML	AML		
	comp=N,91100μm,0.5s							
GUMA					AML	AML		
GUMA					AML	AML		
SEF1	**Sefro**	**0.21**	**324**	↑P		**Pg**	**17 23 35.2**	**+0.1**
SEF1				S		**Sb**	**17 23 39.6**	**-0.4**
SEF1					AML	AML		
	comp=E,26600μm,0.3s							
SEF1					AML	AML		
	comp=N,22300μm,0.3s							
SEF1					AML	AML		
	comp=E,26650μm,0.3s							
SEF1					AML	AML		
	comp=N,22250μm,0.3s							
MDAR	**Monte D'Aria**	**0.22**	**6**	P		**Pg**	**17 23 35.0**	**-0.2**
MDAR					AML	AML		
	comp=E,8750μm,0.7s							
MDAR					AML	AML		
	comp=N,17650μm,1.6s							
MDAR					AML	AML		
	comp=N,17600μm,1.6s							
T1212	**Cascia, Frazio**	**0.23**	**193**	↑P		**Pb**	**17 23 35.8**	**-0.7**
T1212				S		**Sb**	**17 23 40.0**	**-0.6**
T1212					AML	AML		
	comp=N,20850μm,1.5s							
T1212					AML	AML		
	comp=E,16100μm,0.6s							
T1212					AML	AML		
	comp=N,20750μm,1.5s							
T1212					AML	AML		
	comp=E,16500μm,0.6s							
T1212					AML	AML		
	comp=N,20850μm,1.5s							
T1212					AML	AML		
	comp=E,16050μm,0.5s							
T1212					AML	AML		
	comp=E,16100μm,0.5s							
T1212					AML	AML		
	comp=E,16450μm,0.5s							
FIU1	**Fiuminata**	**0.25**	**328**	↓P		**Pb**	**17 23 36.5**	**-0.3**
FIU1					AML	AML		
	comp=N,5885μm,0.9s							
FIU1					AML	AML		
	comp=E,5425μm,1.5s							
T1215	**Vallo di Nera,**	**0.25**	**226**	P		**Pb**	**17 23 36.4**	**-0.4**
T1215				S		**Sb**	**17 23 41.3**	**+0.1**
T1215					AML	AML		
	comp=E,9335μm,0.4s							
T1215					AML	AML		
	comp=N,6480μm,1.5s							
T1215					AML	AML		
	comp=E,9365μm,0.4s							
T1215					AML	AML		
	comp=E,9930μm,0.4s							
T1215					AML	AML		
	comp=E,9360μm,0.4s							
T1215					AML	AML		
	comp=E,9905μm,0.4s							
T1215					AML	AML		
	comp=N,6480μm,1.5s							
T1215					AML	AML		
	comp=E,9340μm,0.4s							
T1215					AML	AML		
	comp=N,6700μm,0.4s							
T1215					AML	AML		
	comp=N,6485μm,1.5s							
T1215					AML	AML		
	comp=E,9895μm,0.4s							
T1213	**Norcia, Frazio**	**0.25**	**178**	↓P		**Pg**	**17 23 36.1**	**+0.3**
T1213				S		**Sb**	**17 23 40.6**	**-0.5**
T1213					AML	AML		
	comp=E,11370μm,0.6s							
T1213					AML	AML		
	comp=N,11300μm,1.0s							
T1213					AML	AML		
	comp=E,11550μm,0.6s							
T1213					AML	AML		
	comp=N,11250μm,1.0s							
T1213					AML	AML		
	comp=E,11350μm,0.6s							
T1213					AML	AML		
	comp=N,11650μm,1.1s							
T1241	**Roccafluvione,**	**0.26**	**117**	↑P		**Pg**	**17 23 35.6**	**-0.3**
T1241				S		**Sg**	**17 23 40.1**	**+0.4**
T1241					AML	AML		
	comp=E,14850μm,0.6s							
T1241					AML	AML		
	comp=N,14350μm,0.5s							
T1241					AML	AML		
	comp=E,15600μm,1.6s							
T1241					AML	AML		
	comp=N,14350μm,0.5s							
GAG1	**Gagliole**	**0.26**	**353**	↑P		**Pg**	**17 23 36.0**	**0.0**
SNTG	**Esanatoglia**	**0.31**	**336**	↓P		**Pg**	**17 23 36.5**	**-0.3**
SNTG					AML	AML		
	comp=N,5135μm,0.4s							
SNTG					AML	AML		
	comp=E,3615μm,0.6s							
SNTG					AML	AML		
	comp=N,5195μm,0.4s							
SNTG					AML	AML		
	comp=E,3740μm,0.6s							
SNTG					AML	AML		
	comp=N,5130μm,0.4s							
T1218	**Civita (PG)**	**0.31**	**180**	P		**Pg**	**17 23 37.1**	**+0.4**
T1218				S		**Sb**	**17 23 42.7**	**-0.1**
T1218					AML	AML		
	comp=N,11950μm,1.6s							
T1218					AML	AML		
	comp=E,7650μm,1.0s							
T1218					AML	AML		
	comp=E,7825μm,1.0s							
T1218					AML	AML		
	comp=E,7655μm,1.0s							
T1218					AML	AML		
	comp=N,11950μm,1.6s							
T1218					AML	AML		
	comp=E,7820μm,1.0s							
T1218					AML	AML		
	comp=E,7665μm,1.0s							
T1204	**Amatrice, Fraz**	**0.34**	**154**	↓P		**Pg**	**17 23 37.4**	**+0.1**
T1204				S		**Sb**	**17 23 43.3**	**-0.4**
T1204					AML	AML		
	comp=N,10255μm,0.2s							
T1204					AML	AML		
	comp=E,16050μm,0.4s							
T1204					AML	AML		
	comp=N,10250μm,0.2s							
ASSB	**Assisi San Ben**	**0.34**	**281**	↑P		**Pb**	**17 23 37.7**	**-0.6**
ASSB					AML	AML		
	comp=N,12300μm,0.4s							
ASSB					AML	AML		
	comp=E,22500μm,0.5s							
EL6	**Elcito**	**0.35**	**359**	↓P		**Pg**	**17 23 36.4**	**-1.1**
EL6					AML	AML		
	comp=E,8090μm,1.3s							
EL6					AML	AML		
	comp=N,10150μm,1.4s							
EL6					AML	AML		
	comp=N,10125μm,1.4s							
EL6					AML	AML		
	comp=E,8115μm,1.3s							
T1243	**Rocca Santa Ma**	**0.37**	**139**	P		**Pg**	**17 23 37.7**	**-0.2**
T1243				S		**Sb**	**17 23 43.9**	**-0.8**
LNSS	**Leonessa**	**0.38**	**188**	P		**Pg**	**17 23 38.3**	**+0.3**
LNSS					AML	AML		
	comp=E,3680μm,0.2s							
LNSS					AML	AML		
	comp=N,11000μm,0.4s							
SMA1	**SAN MARTINO**	**0.38**	**155**	↓P		**Pg**	**17 23 38.1**	**0.0**
SMA1				S		**Sb**	**17 23 44.5**	**-0.4**
SMA1					AML	AML		
	comp=N,10905μm,0.5s							
SMA1					AML	AML		
	comp=E,9000μm,1.3s							
SMA1					AML	AML		
	comp=N,10930μm,0.5s							
CING	**Cingoli**	**0.40**	**8**	↓P		**Pg**	**17 23 38.1**	**-0.4**
CING					AML	AML		
	comp=N,3995μm,0.4s							
CING					AML	AML		
	comp=E,5500μm,0.6s							
ATCC	**AVT- Casa Cast**	**0.41**	**301**	↓P		**Pb**	**17 23 38.8**	**-0.7**
ATCC					AML	AML		
	comp=E,10900μm,0.7s							
ATCC					AML	AML		
	comp=N,10770μm,0.6s							
ATCC					AML	AML		
	comp=N,10730μm,0.6s							
FOSV	**Fossato di Vic**	**0.41**	**321**	↓P		**Pg**	**17 23 38.6**	**0.0**
FOSV					AML	AML		
	comp=E,4950μm,0.7s							
FOSV					AML	AML		
	comp=N,6295μm,1.1s							
FOSV					AML	AML		
	comp=E,4955μm,0.7s							
OFFI	**Offida**	**0.42**	**96**	↑P		**Pb**	**17 23 39.5**	**-0.3**
OFFI					AML	AML		
	comp=E,9515μm,0.5s							
OFFI					AML	AML		
	comp=N,15050μm,0.6s							
ARRO	**Arrone**	**0.47**	**213**	↓P		**Pb**	**17 23 40.2**	**-0.4**
ARRO				S		**Sb**	**17 23 49.0**	**+1.5**
ARRO					AML	AML		
	comp=N,3000μm,1.1s							
ARRO					AML	AML		
	comp=E,2515μm,0.9s							
ARRO					AML	AML		
	comp=N,2995μm,1.1s							
RM33	**Pellescritta (**	**0.47**	**171**	↓P		**Pg**	**17 23 39.8**	**0.0**
RM33					AML	AML		
	comp=N,4565μm,0.6s							
RM33					AML	AML		
	comp=E,3760μm,0.8s							
RM33					AML	AML		
	comp=N,4605μm,0.6s							
RM33					AML	AML		
	comp=N,4565μm,0.6s							
RM33					AML	AML		
	comp=E,3765μm,0.8s							
RM33					AML	AML		
	comp=E,3780μm,1.5s							
T1211	**Morro Reatino**	**0.48**	**203**	↑P		**Pb**	**17 23 40.5**	**-0.4**
T1211					AML	AML		
	comp=E,5450μm,0.5s							
T1211					AML	AML		
	comp=N,8440μm,1.2s							
T1211					AML	AML		
	comp=E,5285μm,0.5s							
T1211					AML	AML		
	comp=N,8415μm,1.2s							
T1211					AML	AML		
	comp=N,8470μm,1.2s							
T1211					AML	AML		
	comp=N,8430μm,1.2s							
T1211					AML	AML		
	comp=E,5280μm,0.5s							
T1211					AML	AML		
	comp=E,5455μm,0.5s							
CAMP	**Campotosto**	**0.49**	**154**	↓P		**Pg**	**17 23 39.9**	**-0.2**
CAMP					AML	AML		
	comp=E,3820μm,1.4s							
CAMP					AML	AML		
	comp=N,4295μm,0.3s							
CAMP					AML	AML		
	comp=N,4300μm,0.3s							
TERO	**Teramo**	**0.51**	**134**	↑P		**Pg**	**17 23 39.9**	**-0.4**
TERO				S		**Sb**	**17 23 49.0**	**+0.5**
TERO					AML	AML		
	comp=E,4340μm,0.5s							
TERO					AML	AML		
	comp=N,5785μm,0.5s							
TERO					AML	AML		
	comp=N,5945μm,0.5s							
TERO					AML	AML		
	comp=N,5790μm,0.5s							
TERO					AML	AML		
	comp=E,4530μm,0.5s							
MURB	**Monte Urbino**	**0.52**	**304**	↓P		**Pb**	**17 23 40.9**	**-0.5**
MURB					AML	AML		
	comp=E,9345μm,0.3s							
MURB					AML	AML		
	comp=E,9935μm,0.3s							
MURB					AML	AML		
	comp=N,8570μm,1.4s							
MURB					AML	AML		
	comp=N,8165μm,1.5s							
MURB					AML	AML		
	comp=N,8565μm,1.4s							
SSFR	**Montelago di S**	**0.52**	**332**	↑P		**Pg**	**17 23 40.5**	**-0.1**
SSFR					AML	AML		
	comp=N,5085μm,0.3s							
SSFR					AML	AML		
	comp=E,5325μm,0.3s							
SSFR					AML	AML		
	comp=N,4360μm,0.2s							
SSFR					AML	AML		
	comp=E,4905μm,0.3s							
ARVD	**Arcevia**	**0.54**	**346**	↑P		**Pg**	**17 23 40.5**	**-0.4**
ARVD				S		**Sb**	**17 23 50.0**	**+0.6**
ARVD					AML	AML		
	comp=E,3140μm,0.5s							
ARVD					AML	AML		
	comp=N,2425μm,0.8s							
CESX	**Cesi**	**0.54**	**227**	↓P		**Pb**	**17 23 41.2**	**-0.5**
CESX					AML	AML		
	comp=E,6345μm,0.4s							
CESX					AML	AML		
	comp=N,7165μm,0.5s							
PP3	**Marolino**	**0.54**	**42**	↑P		**Pb**	**17 23 42.0**	**+0.3**
PP3					AML	AML		
	comp=N,7710μm,0.6s							
PP3					AML	AML		
	comp=E,8790μm,0.8s							
PP3					AML	AML		
	comp=N,7830μm,0.6s							
PP3					AML	AML		
	comp=E,8600μm,0.8s							
T1247	**Pizzolo (AQ)**	**0.55**	**166**	↓P		**Pg**	**17 23 41.2**	**0.0**
T1247				S		**Sb**	**17 23 51.0**	**+1.2**
T1247					AML	AML		
	comp=E,5505μm,1.0s							
T1247					AML	AML		
	comp=N,5390μm,1.0s							
T1247					AML	AML		

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	comp=N,5385μm,1.0s						
ATFO	**Monte Foce - G**	**0.56**	**315**	⇓P	**Pg**	**17 23 41.3**	**0.0**
ATFO				AML	AML		
	comp=E,3050μm,0.5s						
ATFO				AML	AML		
	comp=N,2905μm,1.6s						
FRON	**Frontone**	**0.61**	**332**	⇓P	**Pg**	**17 23 42.0**	**-0.4**
FRON				AML	AML		
	comp=E,2260μm,0.6s						
FRON				AML	AML		
	comp=N,3450μm,0.3s						
TRTR	**Tortoreto Alta**	**0.61**	**106**	⇓P	**Pb**	**17 23 43.4**	**+0.5**
TRTR				AML	AML		
	comp=E,9895μm,0.6s						
TRTR				AML	AML		
	comp=N,9255μm,0.4s						
GIGS	**Gran Sasso**	**0.62**	**147**	⇑P	**Pg**	**17 23 42.3**	**-0.3**
GIGS				AML	AML		
	comp=E,1495μm,1.5s						
GIGS				AML	AML		
	comp=N,1380μm,0.6s						
ATVO	**AVT- Monte Val**	**0.66**	**308**	⇓P	**Pg**	**17 23 43.1**	**-0.1**
ATVO				AML	AML		
	comp=E,2440μm,1.6s						
ATVO				AML	AML		
	comp=N,1830μm,0.5s						
COR1	**Corinaldo**	**0.66**	**353**	⇓P	**Pb**	**17 23 44.2**	**+0.5**
COR1				AML	AML		
	comp=E,5270μm,0.3s						
COR1				AML	AML		
	comp=N,5320μm,1.1s						
COR1				AML	AML		
	comp=N,4360μm,0.9s						
COR1				AML	AML		
	comp=E,5265μm,0.3s						
COR1				AML	AML		
	comp=N,5320μm,1.1s						
COR1				AML	AML		
	comp=E,2920μm,0.4s						
COR1				AML	AML		
	comp=N,4355μm,0.9s						
AOI	**Ancona**	**0.68**	**32**	P	**Pb**	**17 23 43.9**	**-0.1**
AOI				AML	AML		
	comp=E,1635μm,0.5s						
AOI				AML	AML		
	comp=N,1670μm,0.6s						
PIEI	**Pieia**	**0.70**	**323**	⇓P	**Pg**	**17 23 43.6**	**-0.5**
PIEI				S	**Sn**	**17 23 56.0**	**-0.8**
PIEI				AML	AML		
	comp=E,1370μm,0.3s						
PIEI				AML	AML		
	comp=N,1340μm,1.3s						
MPAG	**Monte Paganucc**	**0.70**	**338**	P	**Pg**	**17 23 43.9**	**-0.2**
MPAG				S	**Sn**	**17 23 56.0**	**-0.9**
ATPI	**Pietralunga -**	**0.70**	**313**	⇓P	**Pg**	**17 23 44.0**	**-0.1**
ATPI				S	**Sn**	**17 23 56.0**	**-0.9**
ATPI				AML	AML		
	comp=E,2335μm,0.7s						
ATPI				AML	AML		
	comp=N,1825μm,0.4s						
FIAM	**Fiamignano**	**0.71**	**180**	⇓P	**Pg**	**17 23 43.8**	**-0.4**
FIAM				S	**Sn**	**17 23 56.0**	**-1.1**
FIAM				AML	AML		
	comp=N,1285μm,0.5s						
FIAM				AML	AML		
	comp=E,1840μm,0.7s						
ATMI	**Monte Miggiano**	**0.71**	**300**	⇓P	**Pn**	**17 23 45.7**	**-0.6**
ATMI				AML	AML		
	comp=E,5025μm,0.7s						
ATMI				AML	AML		
	comp=N,5135μm,0.9s						
SENI	**Senigallia**	**0.73**	**7**	⇑P	**Pn**	**17 23 45.5**	**-0.9**
MGAB	**Montegabbione**	**0.74**	**265**	⇑P	**Pb**	**17 23 45.1**	**-0.1**
MGAB				AML	AML		
	comp=E,5415μm,0.5s						
MGAB				AML	AML		
	comp=N,5330μm,0.7s						
MGAB				AML	AML		
	comp=E,6590μm,0.5s						
MGAB				AML	AML		
	comp=N,5290μm,0.7s						
MGAB				AML	AML		
	comp=N,5335μm,0.7s						
NARO	**Abbazia di Nar**	**0.74**	**329**	⇓P	**Pg**	**17 23 44.3**	**-0.5**
NARO				S	**Sn**	**17 23 57.0**	**-0.8**
NARO				AML	AML		
	comp=E,1380μm,1.0s						
NARO				AML	AML		
	comp=N,1305μm,1.6s						
FSSB	**Fossombrone**	**0.76**	**341**	P	**Pg**	**17 23 44.9**	**-0.2**
APEC	**Apecchio**	**0.77**	**319**	⇑P	**Pn**	**17 23 46.3**	**-0.8**
FAGN	**Fagnano**	**0.79**	**154**	⇑P	**Pg**	**17 23 45.1**	**-0.7**
FAGN				S	**Sn**	**17 23 58.0**	**-1.0**
FAGN				AML	AML		
	comp=N,5090μm,1.5s						
FAGN				AML	AML		
	comp=E,3890μm,1.4s						
VCEL	**Villa Celiera**	**0.79**	**137**	⇑P	**Pg**	**17 23 45.6**	**-0.2**
VCEL				S	**Sn**	**17 23 59.0**	**-0.1**
VCEL				AML	AML		
	comp=E,2995μm,0.5s						
VCEL				AML	AML		
	comp=N,3985μm,0.5s						
BADI	**Badiali**	**0.83**	**310**	⇑P	**Pb**	**17 23 46.5**	**-0.2**
SACS	**San Casciano d**	**0.89**	**262**	⇓P	**Pn**	**17 23 48.5**	**-0.2**
SACS				AML	AML		
	comp=N,3190μm,0.7s						
SACS				AML	AML		
	comp=E,1855μm,0.6s						
SACS				AML	AML		
	comp=N,3180μm,0.7s						
SACS				AML	AML		
	comp=E,2100μm,0.6s						
T0110	**Collepietro**	**0.90**	**147**	⇑P	**Pg**	**17 23 46.9**	**-0.8**
T0110				AML	AML		
	comp=E,2610μm,0.4s						
T0110				AML	AML		
	comp=N,2855μm,0.5s						
CAFI	**Castiglion Fio**	**0.91**	**293**	⇓P	**Pb**	**17 23 48.2**	**+0.1**
CAFI				AML	AML		
	comp=E,1965μm,0.6s						
CAFI				AML	AML		
	comp=N,1465μm,0.6s						
CAFI				AML	AML		
	comp=N,1395μm,0.7s						
CAFI				AML	AML		
	comp=E,1930μm,0.7s						
MTCE	**Montecelio**	**0.99**	**196**	⇓P	**Pn**	**17 23 51.5**	**+1.4**
MTCE				AML	AML		
	comp=N,886μm,0.6s						
MTCE				AML	AML		
	comp=E,1445μm,0.5s						
CPGN	**Carpegna, Ital**	**1.01**	**325**	P	**Pb**	**17 23 47.1**	**-2.7**
LATE	**Laterza**	**1.03**	**250**	⇑P	**Pn**	**17 23 52.3**	**+1.7**
MCIV	**Monte Civitell**	**1.07**	**260**	⇑P	**Pn**	**17 23 53.0**	**+1.8**
MCIV				AML	AML		
	comp=E,728μm,0.8s						
MCIV				AML	AML		
	comp=N,760μm,0.6s						
RCAV	**Rocca di Cave**	**1.14**	**186**	P	**Pg**	**17 23 53.4**	**+1.1**
VVLD	**Villa Vallelon**	**1.17**	**161**	⇑P	**Pg**	**17 23 53.2**	**+0.3**
VVLD				AML	AML		
	comp=N,1395μm,0.6s						
VVLD				AML	AML		
	comp=E,975μm,0.6s						
LPEL	**Lama dei Pelig**	**1.22**	**139**	⇓P	**Pn**	**17 23 52.6**	**-0.6**
LPEL				AML	AML		
	comp=E,1370μm,0.8s						
LPEL				AML	AML		
	comp=N,829μm,0.7s						
TOLF	**Tolfa**	**1.23**	**222**	⇓P	**Pg**	**17 23 54.3**	**+0.3**
TOLF				AML	AML		
	comp=N,722μm,0.5s						
TOLF				AML	AML		
	comp=E,1066μm,0.7s						
SFI	**Santa Sofia**	**1.31**	**316**	⇑P	**Pg**	**17 23 57.5**	**+1.9**
SFI				AML	AML		
	comp=E,678μm,1.2s						
SFI				AML	AML		
	comp=N,911μm,1.1s						
SFI				AML	AML		
	comp=E,652μm,0.9s						
SFI				AML	AML		
	comp=N,874μm,1.1s						
LMD	**Lutirano**	**1.50**	**318**	⇑P	**Pg**	**17 24 00.9**	**+1.6**
FRES	**Fresagrandinar**	**1.53**	**131**	P	**Pn**	**17 23 57.6**	**+0.2**
CERA	**Filignano**	**1.53**	**154**	⇑P	**Pg**	**17 23 59.6**	**-0.2**
CERA				AML	AML		
	comp=N,632μm,0.9s						
CERA				AML	AML		
	comp=E,855μm,0.7s						
TRIV	**Trivento**	**1.61**	**138**	⇑P	**Pg**	**17 24 01.7**	**+0.4**
MELA	**Melanico ??? S**	**1.96**	**130**	⇓P	**Pg**	**17 24 06.8**	**-1.1**
TREM	**Isole Tremiti**	**1.96**	**115**	⇓P	**Pb**	**17 24 05.7**	**-0.4**
TREM				AML	AML		
	comp=N,982μm,0.6s						
TREM				AML	AML		
	comp=E,798μm,0.7s						
BRJN	**Brijuni**	**1.98**	**13**	⇓P	**Pb**	**17 24 05.1**	**-1.2**
SGRT	**San Giovanni R**	**2.30**	**121**	⇑P	**Pb**	**17 24 09.9**	**-1.9**
SGRT				S	**Sb**	**17 24 39.0**	**-1.2**
SGRT				AML	AML		
	comp=N,344μm,0.6s						
SGRT				AML	AML		
	comp=E,406μm,0.7s						
MSAG	**Monte S. Angel**	**2.43**	**120**	⇓P	**Pb**	**17 24 11.8**	**-2.1**
MSAG				AML	AML		
	comp=E,683μm,0.5s						
MSAG				AML	AML		
	comp=N,866μm,0.6s						
NDIM	**Novi di Modena**	**2.49**	**321**	S	**Sg**	**17 24 50.0**	**-0.5**
CEY	**Cerknica**	**2.92**	**18**	*e*Pn	**Pn**	**17 24 18.3**	**+1.8**
SABO	**M.te Sabotino**	**3.02**	**6**	P	**Pn**	**17 24 18.7**	**+0.7**
SABO				AML	AML		
	comp=N,1565μm,0.8s						
SABO				AML	AML		
	comp=E,276μm,0.7s						
SABO				AML	AML		
	comp=N,408μm,0.8s						
SABO				AML	AML		
	comp=E,1067μm,1.6s						
PGF	**Pioggiola**	**3.06**	**263**	*e*Pn	**Pn**	**17 24 16.5**	**-2.1**
PGF				*e*Sn	**Sn**	**17 24 52.0**	**-3.1**
	comp=E,1.5nm,0.2s						
PZUN	**Potenza**	**3.08**	**138**	S	**Sn**	**17 24 54.0**	**-1.4**
DOSS	**Dosso del Somm**	**3.21**	**335**	⇑P	**Pn**	**17 24 23.8**	**+3.0**
MGRS	**Mrkonjic Grad**	**3.22**	**62**	*e*Pn	**Pb**	**17 24 28.5**	**+1.1**
STON	**Ston**	**3.37**	**90**	*e*Pn	**Pn**	**17 24 21.9**	**-0.8**
A051A	**Mrakovica**	**3.41**	**52**	*e*Pn	**Pn**	**17 24 24.6**	**+1.2**
BLY	**Banja Luka**	**3.44**	**58**	*e*Pn	**Pn**	**17 24 26.1**	**+2.5**
ZAG	**Zagreb**	**3.52**	**35**	S	**Sn**	**17 25 05.0**	**-1.2**
ACOM	**Acomizza, Ital**	**3.58**	**4**	⇑P	**Pn**	**17 24 27.5**	**+1.7**
ACOM				AML	AML		
	comp=N,160μm,0.6s						
ACOM				AML	AML		
	comp=E,236μm,1.4s						
ACOM				AML	AML		
	comp=E,257μm,1.4s						
ACOM				AML	AML		
	comp=N,182μm,1.5s						
MYKA	**Terra Mystica**	**3.67**	**6**	*i* Pn	**Pn**	**17 24 28.5**	**+1.6**
	comp=N,9.8nm,0.5s,SNR=8.0						
OBKA	**Obir**	**3.68**	**16**	*e*Pn	**Pn**	**17 24 28.9**	**+1.9**
OBKA	**Obir**	**3.68**	**16**	*e*Pn	**Pn**	**17 24 29.1**	**+2.1**
	comp=N,14nm,0.6s						
KOSI	**Kohlern**	**3.70**	**341**	⇑P	**Pn**	**17 24 29.9**	**+2.5**
KOSI				AML	AML		
	comp=E,195μm,0.8s						
KOSI				AML	AML		
	comp=N,140μm,1.4s						
ABTA	**Abfaltersbach**	**3.79**	**354**	*i* Pn	**Pn**	**17 24 30.5**	**+1.9**
	comp=N,71nm,0.5s,SNR=43						
SOKA	**Soboth**	**3.94**	**20**	*e*Pn	**Pn**	**17 24 33.9**	**+3.2**
	comp=N,6.6nm,0.4s						
BRY	**Bratogost**	**3.98**	**89**	*e*Pn	**Pn**	**17 24 33.5**	**+2.2**
HCY	**Herceg Novi**	**4.00**	**96**	*e*Pn	**Pn**	**17 24 32.2**	**+0.8**
KBA	**Koelnbreinsper**	**4.11**	**2**	*i* Pn	**Pn**	**17 24 34.9**	**+1.9**
	comp=N,8.7nm,0.4s,SNR=8.8						
SBF	**Sospel**	**4.23**	**284**	*e*Pn	**Pn**	**17 24 38.4**	**+3.8**
SBF				*e*Sn	**Sn**	**17 25 20.8**	**-3.1**
	comp=N,21nm,0.6s						
UPM	**Unac-Piva**	**4.25**	**85**	*e*Pn	**Pn**	**17 24 37.9**	**+2.9**
FETA	**Feichten**	**4.38**	**338**	*i* Pn	**Pn**	**17 24 39.6**	**+2.8**
	comp=N,6.7nm,0.4s,SNR=7.4						
WTTA	**Wattenberg**	**4.41**	**347**	*i* Pn	**Pn**	**17 24 40.3**	**+3.0**
	comp=N,10nm,0.6s,SNR=5.8						
DAVOX	**Davos/Dischmat**	**4.44**	**330**	Pn	**Pn**	**17 24 41.3**	**+3.7**
	comp=N,3.5nm,0.3s,baz=168,slow=18,SNR=24						
DAVOX				Sn	**Sn**	**17 25 32.0**	**+2.7**
	comp=N,0.3nm,0.3s,baz=291,slow=22,SNR=1.2						
DAVOX				LR	LR	17 27 06.7	
	comp=N,60nm,19.7s,baz=120,slow=49						
	comp=N,11nm,0.5s						
SQTA	**Sankt Quirin**	**4.45**	**343**	*i* Pn	**Pn**	**17 24 40.5**	**+2.8**
	comp=N,23nm,0.4s,SNR=12						
WATA	**Walderalm**	**4.49**	**347**	*i* Pn	**Pn**	**17 24 41.4**	**+3.1**
	comp=N,15nm,0.4s,SNR=9.5						
DRME	**Dracevica, Mon**	**4.55**	**98**	*e*Pn	**Pn**	**17 24 40.8**	**+1.8**
MOTA	**Moosalm**	**4.59**	**343**	*i* Pn	**Pn**	**17 24 42.8**	**+3.1**
	comp=N,14nm,0.7s,SNR=6.6						
ARSA	**Arzberg**	**4.60**	**21**	*e*Pn	**Pn**	**17 24 40.5**	**+0.8**
	comp=N,1.7nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.73**	**4**	*e*Pn	**Pn**	**17 24 44.0**	**+2.5**
	comp=N,9.3nm,0.3s						
KOVH	**Kovagotottos**	**4.73**	**47**	P	**Pn**	**17 24 40.9**	**-0.5**
LMR	**La Mourre**	**4.84**	**276**	*e*Pn	**Pn**	**17 24 43.0**	**0.0**
DAVA	**Damuels**	**4.88**	**333**	*e*Pn	**Pn**	**17 24 47.2**	**+3.6**
	comp=N,7.5nm,0.5s						
MBDF	**Montbardon**	**4.91**	**293**	*e*Pn	**Pn**	**17 24 44.5**	**+0.5**
MBDF				*e*Sn	**Sn**	**17 25 39.1**	**-1.7**
	comp=N,17nm,0.9s						
LPG	**La Plagne**	**5.22**	**301**	*e*Pn	**Pn**	**17 24 49.0**	**+0.6**
LPG				*e*Sn	**Sn**	**17 25 42.9**	**-5.7**
	comp=N,7.5nm,0.6s						
RONA	**Rosalia, Austr**	**5.23**	**24**	*e*Pn	**Pn**	**17 24 49.3**	**+1.0**
	comp=N,3.2nm,0.5s						
LPL	**La Plagne**	**5.24**	**301**	*e*Pn	**Pn**	**17 24 48.6**	**0.0**
LPL				*e*Sn	**Sn**	**17 25 44.3**	**-4.7**
	comp=N,13nm,0.7s						
CONA	**Conrad Observa**	**5.32**	**20**	*e*Pn	**Pn**	**17 24 50.6**	**+1.1**
	comp=N,3.4nm,0.5s						
ORIF	**Oris-en-Rattie**	**5.57**	**293**	*e*Pn	**Pn**	**17 24 53.0**	**-0.1**
ORIF				*e*Sn	**Sn**	**17 25 53.2**	**-3.8**
	comp=N,6.6nm,0.7s						
SMRF	**Simiane la Rot**	**5.58**	**283**	*e*Pn	**Pn**	**17 24 52.6**	**-0.5**
GERES	**GERESS Array B**	**5.88**	**4**	Pn	**Pn**	**17 24 57.7**	**+0.4**
	comp=N,0.8nm,0.3s,baz=180,slow=12,SNR=19						
GERES				Sn	**Sn**	**17 25 57.5**	**-7.1**
	comp=N,1.0nm,0.3s,baz=189,slow=24,SNR=5.0						
	comp=N,1.3nm,0.4s						
CKRC	**Cesky Krumlov**	**5.90**	**8**	*e*PN	**Pn**	**17 24 57.0**	**-0.5**
CKRC				*e*SN	**Sn**	**17 26 03.4**	**-1.6**
KHC	**Kasperske Hory**	**6.16**	**3**	*e*PN	**Pn**	**17 25 01.5**	**+0.4**
KHC				*e*SN	**Sn**	**17 26 10.5**	**-1.0**
CABF	**La Chapelle**	**6.18**	**308**	*e*Pn	**Pn**	**17 25 00.1**	**-1.3**
HINF	**Hinteralfeld**	**6.54**	**320**	*e*Pn	**Pn**	**17 25 05.5**	**-0.9**
HINF				*e*Sn	**Sn**	**17 26 14.6**	**-6.3**
	comp=N,23nm,0.8s						
CDF	**Champ du Feu**	**6.80**	**325**	*e*Pn	**Pn**	**17 25 09.4**	**-0.5**
CDF				*e*Sn	**Sn**	**17 26 21.7**	**-5.5**
	comp=N,9.3nm,0.6s						
HAU	**Haudompre**	**6.92**	**319**	*e*Pn	**Pn**	**17 25 11.6**	**+0.1**
HAU				*e*Sn	**Sn**	**17 26 23.1**	**-6.9**
	comp=N,16nm,0.4s						
SFTF	**Sexfontaines**	**7.71**	**316**	*e*Pn	**Pn**	**17 25 22.1**	**-0.2**
LOR	**Lormes**	**7.82**	**306**	*e*Pn	**Pn**	**17 25 21.9**	**-2.0**
LOR				*e*Sn	**Sn**	**17 26 45.6**	**-6.7**
	comp=N,6.3nm,0.7s						
BRG	**Berggiesshubel**	**7.92**	**4**	*e*P	Pn	17 25 34.5	+9.4
BRG	**Berggiesshubel**	**7.92**	**4**	Amp		17 25 38.1	
	comp=Z,2.3nm,0.7s						
BRG	**Berggiesshubel**	**7.92**	**4**	*e*x	x	17 26 51.8	
BRG	**Berggiesshubel**	**7.92**	**4**	*e*x	x	17 27 57.0	
BRG	**Berggiesshubel**	**7.92**	**4**	Amp		17 28 18.5	
	comp=Z,27nm,1.8s						
CLL	**Collm**	**8.34**	**360**	*e*Sg	**Sg**	**17 28 00.0**	**+2.3**
BAIF	**Baives**	**9.37**	**322**	*e*Pn	**Pn**	**17 25 44.3**	**-0.7**
ESDC	**Sonseca Array**	**13.25**	**261**	LR	LR	17 30 51.0	
	comp=Z,39nm,21.7s,baz=336,slow=32						
KURBB	**Kurchatov Arra**	**44.10**	**56**	LR	LR	17 50 48.0	
	comp=Z,45nm,19.0s,baz=34,slow=38						
MKAR	**Makanchi Array**	**47.72**	**60**	P	**P**	**17 32 08.7**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=289,slow=6.3,SNR=2.9						
	comp=Z,0.3nm,0.7s						
YAK	**Yakutsk**	**63.62**	**28**	LR	LR	18 03 14.0	
	comp=Z,45nm,19.9s,baz=290,slow=38						
MDP	**Montagnes des**	**68.89**	**257**	LR	LR	18 00 31.7	
	comp=Z,45nm,21.8s,baz=336,slow=32						
CMAR	**Chiang Mai Arr**	**74.67**	**79**	P	**P**	**17 35 11.2**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=308,slow=7.2,SNR=4.5						
	comp=Z,0.4nm,0.7s						

BJI ***10*** *17:35:36.2±0.0, 20°.27S×177°.98W, h535km, mb5.1/60, mB5.2/29*

NEIC ***10*** *17:35:38.7±2.0, 20°.43S±0°.09×178°.22W±0°.10, h544km±5km, mb5.1/352, Mww5.6, Error ellipse: s-maj=14.0km s-min=12.6km az=141.0*

NOU ***10*** *17:35:38.2, 20°.42S×178°.18W, h541km, ML5.1/148, Fiji Islands Region*

IDC ***10*** *17:35:38.4±0.6, 20°.39S×178°.29W, h542km±6km, mb4.6/39, mbtmp5.4/42, Error ellipse: s-maj=8.6km s-min=7.0km az=162.0*

MOS ***10*** *17:35:38.1±0.8, 20°.40S×178°.32W, h549km, mb5.1/44, Error ellipse: s-maj=7.7km s-min=7.1km az=63.3*

GCMT ***10*** *17:35:44.7±0.2, 20°.31S±0°.02×178°.43W±0°.02, h561km±1km, MW5.6/117, Moment Tensor Solution. s117,c198; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.97±.05; $M_{\theta\theta}$1.47±.08; $M_{\phi\phi}$0.49±.08; $M_{r\theta}$-1.02±.08; $M_{\theta\phi}$1.33±.07; $M_{\phi r}$-2.18±.07; Best double couple: $M_0$3.27200×10^{17} NP1:ϕ_s33.00000°,δ70.00000°, λ-109.00000°. NP2:ϕ_s258.00000°,δ27.00000°, λ-49.00000°. Principal axes: T 3.2910, Plg23.0000°, Azm137.0000°; N -0.0430, Plg17.0000°, Azm40.0000°; P -3.2520, Plg61.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

NEIC ***10*** *17:35:44, 20°.27S×178°.22W, h550km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.96; $M_{\theta\theta}$1.70; $M_{\phi\phi}$0.25; $M_{r\theta}$-0.37; $M_{\theta\phi}$1.05; $M_{\phi r}$-1.72; Fault plane solution: $M_0$2.76000×10^{17} NP1: ϕ_s265.00000°,δ36.00000°,λ-46.00000°. NP2:ϕ_s35.00000°, δ65.00000°,λ-116.00000°. Principal axes: T 2.5790, Plg16.0000°, Azm145.0000°; N 0.3253, Plg24.0000°, Azm47.0000°; P -2.9043, Plg61.0000°, Azm265.0000°;*

ISC 10 17:35:37.9±0.3**, 20°.39S**±0°.04×**178°.20W**±0°.04**, h548**km±3km**, h549**km**:pP-P, n1650,** σ1s**26**/1735**, mb5.1**/298**, 124C-69D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.42**	**306**	P	**P**	**17 37 04.4**	**+1.3**
	907nm,0.4s,baz=159,slow=4.2,SNR=1287						
MSVF	**Nonsavu**	**4.42**	**306**	P	**P**	**17 37 04.3**	**+1.2**
MSVF	**Nonsavu**	**4.42**	**306**	P	**P**	**17 37 04.9**	**+1.8**
FUTU	**Fugatoga**	**6.05**	**1**	P	**P**	**17 37 17.9**	**+0.9**
NIUE	**Niue**	**7.90**	**82**	P	**P**	**17 37 33.7**	**-1.0**
NIUE	**Niue**	**7.90**	**82**	P	**P**	**17 37 34.9**	**+0.2**
RAO	**Raoul Island**	**8.83**	**178**	P	**P**	**17 37 39.8**	**-4.0**
	408nm,0.3s,baz=279,slow=23,SNR=8.0						
RAO				S	**S**	**17 39 24.8**	**-2.4**
	586nm,0.3s,baz=92,slow=23,SNR=15						
RAO	**Raoul Island**	**8.83**	**178**	P	**P**	**17 37 40.0**	**-3.8**
RAO	**Raoul Island**	**8.83**	**178**	P	**P**	**17 37 44.1**	**+0.3**
	407nm,0.5s						
RAO	**Raoul Island**	**8.83**	**178**	P	**P**	**17 37 40.0**	**-3.8**
AFI	**Afiamalu**	**8.90**	**45**	P	**P**	**17 37 42.2**	**-2.6**
	236nm,0.8s,baz=38,slow=2.4,SNR=23						
AFI				S	**S**	**17 39 20.9**	**-7.9**
	168nm,0.7s,baz=44,slow=21,SNR=4.8						
AFI	**Afiamalu**	**8.90**	**45**	P	**P**	**17 37 41.3**	**-3.5**
AFI	**Afiamalu**	**8.90**	**45**	P	**P**	**17 37 42.4**	**-2.4**
AFI	**Afiamalu**	**8.90**	**45**	P	**P**	**17 37 41.3**	**-3.5**
FUNA	**Funafuti**	**12.06**	**348**	P	**P**	**17 38 15.3**	**-1.9**
FUNA	**Funafuti**	**12.06**	**348**	P	**P**	**17 38 16.8**	**-0.4**
RTV	**Rentapao**	**12.90**	**279**	P	**P**	**17 38 27.2**	**+1.3**
MARNC	**Mare, Loyalty**	**12.91**	**263**	P	**P**	**17 38 25.7**	**-0.3**
MARNC	**Mare, Loyalty**	**12.91**	**263**	P	**P**	**17 38 26.5**	**+0.6**
DVP	**Devils Point**	**13.14**	**279**	P	**P**	**17 38 29.5**	**+1.2**
LIFNC	**LIFOU**	**13.64**	**266**	P	**P**	**17 38 32.1**	**-1.4**
LIFNC	**LIFOU**	**13.64**	**266**	P	**P**	**17 38 32.8**	**-0.7**
YATNC	**Mamie plateau,**	**14.00**	**261**	P	**P**	**17 38 37.2**	**0.0**
OUENC	**Ouen Island, N**	**14.08**	**259**	P	**P**	**17 38 37.7**	**-0.2**
OUENC	**Ouen Island, N**	**14.08**	**259**	P	**P**	**17 38 38.4**	**+0.4**
DZM	**Mont Dzumac**	**14.42**	**261**	*e*Pn	**P**	**17 38 41.7**	**+0.1**
	142nm,0.8s						
DZM				*e*S	**S**	**17 41 09.7**	**-3.2**
	3μm,25.9s						
DZM	**Mont Dzumac**	**14.42**	**261**	P	**P**	**17 38 41.6**	**+0.1**
	96nm,0.5s,baz=89,slow=14,SNR=80						
DZM	**Mont Dzumac**	**14.42**	**261**	P	**P**	**17 38 41.9**	**+0.3**
ONTNC	**Ouen Toro**	**14.43**	**260**	P	**P**	**17 38 40.8**	**-0.7**
ONTNC	**Ouen Toro**	**14.43**	**260**	P	**P**	**17 38 41.7**	**+0.1**
NOUC	**Port Laguerre**	**14.55**	**261**	P	**P**	**17 38 42.9**	**+0.1**
KOUNC	**Koumac, New Ca**	**16.41**	**266**	P	**P**	**17 39 03.5**	**+2.0**
OUZ	**Omahuta**	**16.45**	**204**	P	**P**	**17 39 02.1**	**+0.6**
KUZ	**Kuaotunu**	**17.14**	**197**	P	**P**	**17 39 08.6**	**+0.7**
RAR	**Rarotonga**	**17.25**	**96**	P	**P**	**17 39 09.2**	**+0.1**
	123nm,0.8s,baz=242,slow=6.2,SNR=21						
RAR	**Rarotonga**	**17.25**	**96**	P	**P**	**17 39 09.1**	**0.0**
RAR	**Rarotonga**	**17.25**	**96**	P	**P**	**17 39 10.0**	**+0.9**
	273nm,0.9s						
MXZ	**Matakaoa Point**	**17.38**	**189**	P	**P**	**17 39 08.6**	**-1.5**
BKZ	**Black Stump Fm**	**19.27**	**193**	P	**P**	**17 39 24.7**	**-2.6**
BKZ	**Black Stump Fm**	**19.27**	**193**	P	**P**	**17 39 25.9**	**-1.4**
BFZ	**Birch Farm**	**20.78**	**192**	P	**P**	**17 39 39.8**	**-1.2**
MSWZ	**Moikau Station**	**21.69**	**193**	P	**P**	**17 39 46.0**	**-3.2**
QRZ	**Quartz Range**	**21.85**	**199**	P	**P**	**17 39 50.0**	**-0.6**
QRZ	**Quartz Range**	**21.85**	**199**	P	**P**	**17 39 50.4**	**-0.2**
NNZ	**Nelson**	**21.96**	**197**	P	**P**	**17 39 51.0**	**-0.6**
TUWZ	**Tuamarina**	**22.01**	**196**	P	**P**	**17 39 50.6**	**-1.5**
CMWZ	**Cape Campbell**	**22.25**	**195**	P	**P**	**17 39 53.1**	**-1.0**
BSWZ	**Blackbirch Sta**	**22.30**	**196**	P	**P**	**17 39 54.6**	**0.0**
THZ	**Tophouse**	**22.60**	**198**	P	**P**	**17 39 56.4**	**-1.1**
KHZ	**Kahutara**	**23.04**	**196**	P	**P**	**17 39 59.6**	**-1.6**
KHZ	**Kahutara**	**23.04**	**196**	P	**P**	**17 39 59.7**	**-1.5**
LHI	**Lord Howe Isla**	**23.21**	**237**	P	**P**	**17 40 03.2**	**+0.3**
	baz=23,SNR=3.6						
LHI	**Lord Howe Isla**	**23.21**	**237**	P	**P**	**17 40 04.0**	**+1.1**
LHI	**Lord Howe Isla**	**23.21**	**237**	P	**P**	**17 40 04.0**	**+1.1**
TARA	**Tarawa**	**23.29**	**337**	P	**P**	**17 40 05.4**	**+1.6**
	125nm,1.0s						
CTZ	**Chatham Island**	**23.32**	**177**	P	**P**	**17 40 06.2**	**+2.5**
LTZ	**Lake Taylor**	**23.72**	**198**	P	**P**	**17 40 05.2**	**-2.1**
HNR	**Honiara**	**23.73**	**294**	P	**P**	**17 40 07.5**	**-0.2**
	370nm,0.5s,baz=286,slow=3.1,SNR=4.5						
	370nm,0.5s						
HNR	**Honiara**	**23.73**	**294**	P	**P**	**17 40 07.4**	**-0.3**
OXZ	**Oxford**	**24.29**	**198**	P	**P**	**17 40 10.5**	**-1.8**
MQZ	**McQueen's Vall**	**24.48**	**196**	P	**P**	**17 40 12.2**	**-1.7**
RPZ	**Rata Peaks**	**24.93**	**199**	P	**P**	**17 40 16.8**	**-1.3**
	9.2nm,0.4s,baz=348,slow=1.7,SNR=12						
	9.2nm,0.4s						
RPZ	**Rata Peaks**	**24.93**	**199**	P	**P**	**17 40 16.6**	**-1.4**
FOZ	**Fox Glacier**	**25.16**	**201**	P	**P**	**17 40 19.1**	**-0.9**
LBZ	**Lake Benmore**	**25.81**	**199**	P	**P**	**17 40 23.6**	**-2.1**
JCZ	**Jackson Bay**	**25.99**	**202**	P	**P**	**17 40 27.2**	**-0.2**
ODZ	**Otahua Downs**	**26.27**	**198**	P	**P**	**17 40 29.1**	**-0.6**
ODZ	**Otahua Downs**	**26.27**	**198**	P	**P**	**17 40 29.6**	**-0.1**
WKZ	**Wanaka**	**26.58**	**201**	P	**P**	**17 40 31.1**	**-1.4**
TBI	**Tubuai**	**26.82**	**102**	*e*P	**P**	**17 40 34.9**	**0.0**
	229nm,1.0s						
GC1S	**Gold Coast 1 S**	**26.88**	**248**	P	**P**	**17 40 36.9**	**+1.5**
	142nm,0.9s						
AUWSH	**Wavell State H**	**27.16**	**250**	P	**P**	**17 40 39.2**	**+1.3**
AUBSH	**Beerwah State**	**27.17**	**251**	P	**P**	**17 40 39.0**	**+1.1**
PAE	**Paea**	**27.18**	**89**	*e*P	**P**	**17 40 37.4**	**-0.7**
	46nm,1.1s						
PAE				*e*pP	**pP**	**17 42 01.3**	**-4.1**
	43nm,1.4s						
PPT2	**Papeete2**	**27.20**	**89**	*e*P	**P**	**17 40 38.7**	**+0.3**
	250nm,1.2s						
PPT2				*e*pP	**pP**	**17 42 01.9**	**-3.8**
	192nm,1.5s						
PPT	**Papeete**	**27.20**	**89**	P	**P**	**17 40 39.4**	**+1.0**
	262nm,1.1s,baz=340,slow=3.5,SNR=15						
	262nm,1.1s						
PPTF	**Pamatai, Papee**	**27.20**	**89**	P	**P**	**17 40 38.1**	**-0.3**
PPTF	**Pamatai, Papee**	**27.20**	**89**	P	**P**	**17 40 39.4**	**+0.9**
	258nm,1.7s						
MLZ	**Mavora Lakes**	**27.35**	**201**	P	**P**	**17 40 39.9**	**+0.6**
TIAR	**Tiarei**	**27.42**	**89**	*e*P	**P**	**17 40 39.5**	**-0.8**
	30nm,1.0s						
TIAR				*e*pP	**pP**	**17 42 05.4**	**-2.3**
	29nm,1.4s						
DCZ	**Deep Cove**	**27.77**	**202**	P	**P**	**17 40 43.1**	**+0.2**
WHZ	**Wether Hill Ro**	**27.87**	**201**	P	**P**	**17 40 43.5**	**-0.3**
MEH	**Mehetia**	**28.56**	**90**	*e*P	**P**	**17 40 50.5**	**+0.3**
	56nm,1.0s						
MEH				*e*pP	**pP**	**17 42 20.7**	**+2.5**
	41nm,1.3s						
EIDS	**Eidsvold**	**28.70**	**254**	P	**P**	**17 40 51.3**	**0.0**
	baz=29,SNR=77						

EIDS Eidsvold 28.70 254 P **P** **17 40 51.3 0.0**
EIDS Eidsvold 28.70 254 P **P** **17 40 51.7 +0.4**
ARMA Armidale 28.95 244 P **P** **17 40 54.5 +0.9**
baz=29,SNR=150
ARMA Armidale 28.95 244 P **P** **17 40 54.5 +0.9**
ARMA Armidale 28.95 244 P **P** **17 40 54.5 +0.9**
RK1H Rockhampton Ha 29.17 258 P **P** **17 40 56.0 +0.5**
VAH Vaihoa 29.53 85 *e*P **P** **17 40 58.0 -0.6**
107nm,0.9s
NTLH Newcastle Hard 29.54 239 P **P** **17 41 00.2 +1.7**
105nm,1.0s
SYDH Sydney Hard Ro 30.56 238 P **P** **17 41 08.1 +0.8**
RMQ Roma 30.86 252 P **P** **17 41 10.9 +0.9**
baz=31,SNR=181
RMQ Roma 30.86 252 P **P** **17 41 10.9 +0.9**
AUDCS Dubbo College 31.86 241 P **P** **17 41 19.5 +1.0**
AULRC Lightning Ridg 31.88 247 P **P** **17 41 19.0 +0.4**
CNB Canberra Magne 32.13 236 P **P** **17 41 21.3 +0.5**
baz=32,SNR=56
CNB Canberra 32.13 236 P **P** **17 41 21.6 +0.8**
CAN Canberra 32.42 236 P **P** **17 41 23.5 +0.3**
CAN Canberra 32.42 236 P **P** **17 41 24.0 +0.8**
CAN Canberra 32.42 236 P **P** **17 41 23.5 +0.3**
CAN pmax pmax
comp=Z,139nm,1.1s
CAN Canberra 32.42 236 P **P** **17 41 22.9 -0.3**
CAN pP **pP** **17 42 51.2 -2.3**
MILA Mila 32.89 233 P **P** **17 41 27.8 +0.6**
baz=33,SNR=4.0
MILA Mila 32.89 233 P **P** **17 41 28.3 +1.1**
TV1H Townsville Har 32.91 266 P **P** **17 41 27.8 +0.3**
RABL Rabaul 33.03 295 P **P** **17 41 29.6 +1.0**
AUSMG Snowy Mountain 33.08 234 P **P** **17 41 29.6 +0.8**
KRVT Keravat (AS076 33.09 295 P **P** **17 41 28.5 -0.6**
comp=Z,55nm,0.5s,baz=332,slow=1.1,SNR=20
comp=Z,55nm,0.5s
CTA Charters Tower 33.31 264 P **P** **17 41 31.3 +0.4**
comp=Z,214nm,0.7s,baz=90,slow=9.9,SNR=260
CTA S **S** **17 46 12.3 -1.0**
comp=Z,9.4nm,1.0s,baz=257,slow=17,SNR=3.5
comp=Z,214nm,0.7s
CTA Charters Tower 33.31 264 P **P** **17 41 31.3 +0.4**
CTAO Charters Tower 33.31 264 P **P** **17 41 31.4 +0.4**
CTAO Charters Tower 33.31 264 P **P** **17 41 31.4 +0.4**
CTAO Charters Tower 33.31 264 P **P** **17 41 31.4 +0.4**
CTAO pmax pmax
comp=Z,265nm,0.9s
CTAO Charters Tower 33.31 264 P **P** **17 41 27.9 -3.0**
CTAO sP **PcP** **17 43 57.0 +0.1**
CMSA Cobar Meteorol 34.17 244 P **P** **17 41 38.0 0.0**
baz=34,SNR=173
CMSA Cobar Meteorol 34.17 244 P **P** **17 41 38.2 +0.3**
AUSSC Sale College, 34.80 232 P **P** **17 41 43.8 +0.7**
QLP Quilpie 34.91 253 P **P** **17 41 43.5 -0.8**
baz=35,SNR=17
PMG Port Moresby 35.13 283 P **P** **17 41 46.5 +0.2**
comp=Z,111nm,0.6s,baz=76,slow=6.7,SNR=79
comp=Z,111nm,0.6s
PMG Port Moresby 35.13 283 P **P** **17 41 46.5 +0.2**
PMG Port Moresby 35.13 283 P **P** **17 41 46.4 +0.2**
comp=Z,2µmcomp=Z,222nm,0.8s
PMG Port Moresby 35.13 283 P **P** **17 41 46.6 +0.4**
PMG Port Moresby 35.13 283 *de*P **P** **17 41 46.4 +0.2**
PMG pmax pmax
comp=Z,175nm,0.9s
PMG Port Moresby 35.13 283 P **P** **17 41 44.9 -1.3**
MTSU Mount Surprise 35.41 267 P **P** **17 41 48.7 +0.3**
baz=35,SNR=52
MTSU Mount Surprise 35.41 267 P **P** **17 41 48.8 +0.3**
PATS Pohnpei 35.57 317 P **P** **17 41 50.8 +1.0**
TOO Toolangi 35.81 234 P **P** **17 41 51.8 +0.2**
baz=36,SNR=55
TOO Toolangi 35.81 234 P **P** **17 41 52.0 +0.4**
TOO Toolangi 35.81 234 P **P** **17 41 52.1 +0.5**
TOO Toolangi 35.81 234 P **P** **17 41 52.0 +0.4**
TOO pmax pmax
comp=Z,103nm,0.9s
AULHS Lilydale High 35.92 227 P **P** **17 41 53.3 +1.0**
AUMAG Moama Anglican 35.95 236 P **P** **17 41 53.6 +0.9**
CORO Coronation Par 36.05 227 P **P** **17 41 54.8 +1.4**
comp=Z,80nm,1.0s
MOO Moorlands 36.45 225 P **P** **17 41 58.6 +1.9**
baz=36,SNR=4.9
TAU Tasmania Unive 36.57 224 P **P** **17 41 57.7 0.0**
TAU IAmb IAmb 17 41 58.9
comp=Z,35nm,0.9s
TAU Tasmania Unive 36.57 224 P **P** **17 41 57.8 0.0**
TAU Tasmania Unive 36.57 224 P **P** **17 41 57.7 0.0**
TAU pmax pmax
comp=Z,35nm,1.0s
GEXS Deakin Univers 36.91 233 P **P** **17 42 01.6 +1.0**
comp=Z,105nm,1.3s
BRAT Ballarat 36.99 234 P **P** **17 42 02.5 +1.3**
COEN Coen 37.39 274 P **P** **17 42 05.3 +0.5**
baz=37,SNR=184
COEN Coen 37.39 274 P **P** **17 42 05.4 +0.5**
COEN Coen 37.39 274 P **P** **17 42 05.4 +0.6**
STKA Stephens Creek 37.67 244 P **P** **17 42 07.3 +0.4**
comp=Z,65nm,0.6s,baz=93,slow=10,SNR=185
STKA PcP **PcP** **17 44 10.9 +1.2**
comp=Z,18nm,0.6s,baz=77,slow=4.9,SNR=4.4
comp=Z,65nm,0.6s
STKA Stephens Creek 37.67 244 P **P** **17 42 07.4 +0.4**
baz=38,SNR=157
STKA Stephens Creek 37.67 244 P **P** **17 42 07.5 +0.6**
STKA IAmb IAmb 17 42 08.7
comp=Z,48nm,1.1s
STKA Stephens Creek 37.67 244 P **P** **17 42 07.3 +0.4**
INKA Innaminka 38.06 251 P **P** **17 42 11.2 +1.1**
MANU Manus Island 38.23 294 P **P** **17 42 12.8 +1.0**
MANU Manus Island 38.23 294 P **P** **17 42 12.7 +1.0**
ARPS Mount Arapiles 38.39 236 P **P** **17 42 13.0 +0.3**
baz=38,SNR=38
ARPS Mount Arapiles 38.39 236 P **P** **17 42 13.2 +0.5**
TAOE Nuku Hiva Isla 38.47 78 *e*P **P** **17 42 13.5 -0.2**
comp=Z,237nm,1.0s
TAOE Nuku Hiva Isla 38.47 78 P **P** **17 42 14.4 +0.7**
QIS Mount Isa 39.45 262 P **P** **17 42 21.0 -0.5**
baz=39,SNR=42
QIS Mount Isa 39.45 262 P **P** **17 42 21.2 -0.3**
HTT Hallett 40.11 242 P **P** **17 42 26.6 -0.1**
baz=40,SNR=42
HTT Hallett 40.11 242 P **P** **17 42 26.9 +0.2**
LCRK Leigh Creek 40.41 247 P **P** **17 42 29.4 +0.4**
GHSS Government Hou 40.59 240 P **P** **17 42 31.4 +1.0**
comp=Z,145nm,0.9s
PTPS Port Pirie 40.85 243 P **P** **17 42 33.4 +1.0**
WHYH Whyalla 41.18 243 P **P** **17 42 35.4 +0.3**
WAKE Wake Island 42.13 338 P **P** **17 42 42.0 -0.6**
BBOO Buckleboo 42.43 243 P **P** **17 42 44.8 -0.1**
baz=42,SNR=125
BBOO Buckleboo 42.43 243 P **P** **17 42 44.8 -0.1**
BBOO Buckleboo 42.43 243 P **P** **17 42 44.8 -0.1**
OOD Oodnadatta 42.54 251 P **P** **17 42 46.8 +0.9**
MULG Mulgathing 43.99 247 P **P** **17 42 57.1 0.0**
WR0 Warramunga Arr 44.24 262 P **P** **17 42 58.7 -0.6**
GENI Genyem 44.27 288 P **P** **17 43 00.6 +1.1**
comp=Z,5µmcomp=Z,350nm,1.8s
GENI Genyem 44.27 288 P **P** **17 43 01.0 +1.5**
AS01 Alice Springs 44.32 257 P **P** **17 43 00.0 +0.2**
AS31 Alice Springs 44.36 257 P **P** **17 43 00.2 0.0**
ASAR Alice Springs 44.36 257 P **P** **17 43 00.1 -0.1**
comp=Z,272nm,0.5s,baz=94,slow=7.6,SNR=3659
ASAR PcP **PcP** **17 44 32.8 +0.6**
comp=Z,39nm,0.6s,baz=106,slow=3.6,SNR=10.0
ASAR S **S** **17 48 53.0 -2.1**
comp=Z,15nm,0.9s,baz=92,slow=15,SNR=16
comp=Z,272nm,0.5s
ASAR Alice Springs 44.36 257 P **P** **17 43 00.4 +0.2**
WB0 Warramunga Arr 44.41 262 P **P** **17 43 00.3 -0.2**
WB2 Warramunga Arr 44.42 262 P **P** **17 43 00.1 -0.5**
WRAB Tennant Creek 44.42 262 P **P** **17 43 00.0 -0.6**
WRAB Tennant Creek 44.42 262 P **P** **17 43 00.1 -0.6**
WRAB Tennant Creek 44.42 262 *de*P **P** **17 42 59.8 -0.8**
WRAB pmax pmax
comp=Z,406nm,1.3s
WRAB Tennant Creek 44.42 262 P **P** **17 42 58.4 -2.3**
WRAB pP **PcP** **17 44 31.8 -0.7**
WRA Warramunga Arr 44.43 262 P **P** **17 43 00.1 -0.7**
comp=Z,133nm,0.5s,baz=97,slow=7.7,SNR=1495
WRA PcP **PcP** **17 44 33.2 +0.7**
comp=Z,20nm,0.7s,baz=96,slow=3.6,SNR=6.9
WRA S **S** **17 48 53.9 -2.3**
comp=Z,10nm,1.0s,baz=95,slow=13,SNR=10
comp=Z,133nm,0.5s

WRA Warramunga Arr 44.43 262 P **P** **17 43 00.0 -0.7**
WRA IAmb IAmb 17 43 01.4
comp=Z,29nm,0.9s
KHU Kahuku 45.18 31 P **P** **17 43 07.1 +0.5**
KHU Kahuku 45.18 31 P **P** **17 43 07.1 +0.5**
KHU pmax pmax
comp=Z,397nm,1.7s
KHLU Kahalu`u 45.34 30 P **P** **17 43 08.7 +1.0**
KHLU IAmb IAmb 17 43 09.4
comp=Z,84nm,0.9s
MLOA Mauna Loa Obse 45.45 31 P **P** **17 43 07.6 -1.3**
HUH Hualalai 45.45 30 P **P** **17 43 07.9 -0.8**
HMH Humu'ula Sheep 45.55 31 P **P** **17 43 10.0 +0.4**
POHA Pohakuloa 45.66 30 P **P** **17 43 10.6 +0.3**
HPAH Hawaii Prepara 45.81 30 P **P** **17 43 11.3 +0.1**
KEKH Kekaha 45.82 24 P **P** **17 43 12.3 +1.1**
KEKH IAmb IAmb 17 43 13.1
comp=Z,55nm,0.7s
KHLH Kahului Airpor 46.23 29 P **P** **17 43 14.4 +0.1**
KDU Kakadu 47.76 271 P **P** **17 43 25.7 -0.3**
baz=48,SNR=111
KDU Kakadu 47.76 271 P **P** **17 43 25.8 -0.2**
SRPI Serui, Papua 48.11 287 P **P** **17 43 29.2 +0.6**
comp=Z,2µmcomp=Z,147nm,0.9s
MIDW Midway 48.33 1 P **P** **17 43 29.8 -0.1**
MTN Manton Dam 48.97 271 P **P** **17 43 34.3 -0.7**
baz=49,SNR=120
MTN Manton Dam 48.97 271 P **P** **17 43 34.7 -0.3**
MTN Manton Dam 48.97 271 P **P** **17 43 34.8 -0.3**
FORT Forrest 49.17 247 P **P** **17 43 35.7 -0.5**
baz=49,SNR=118
FORT Forrest 49.17 247 P **P** **17 43 36.0 -0.3**
FORT Forrest 49.17 247 P **P** **17 43 36.0 -0.3**
WRKA Warakurna 49.31 254 P **P** **17 43 37.4 -0.1**
baz=49,SNR=1000
WRKA Warakurna 49.31 254 P **P** **17 43 37.5 0.0**
GUMO Guam 49.59 310 P **P** **17 43 40.2 +0.8**
comp=Z,201nm,0.6s,baz=156,slow=8.0,SNR=12
comp=Z,201nm,0.6s
GUMO Guam 49.59 310 P **P** **17 43 40.1 +0.6**
GUMO Guam 49.59 310 P **P** **17 43 40.1 +0.6**
GUMO pmax pmax
comp=Z,255nm,0.8s
SAUI Saumlaki 50.30 277 P **P** **17 43 45.8 +0.9**
SAUI Saumlaki 50.30 277 P **P** **17 43 45.7 +0.9**
comp=Z,5µmcomp=Z,580nm,1.2s
SAUI Saumlaki 50.30 277 P **P** **17 43 46.1 +1.3**
KNRA Kununurra 50.48 266 P **P** **17 43 45.9 -0.1**
baz=50,SNR=79
KNRA Kununurra 50.48 266 P **P** **17 43 45.6 -0.5**
KNRA Kununurra 50.48 266 P **P** **17 43 46.1 0.0**
comp=Z,367nm,0.7s
FAKI Fak Fak 51.29 283 P **P** **17 43 51.9 -0.1**
FAKI Fak Fak 51.29 283 P **P** **17 43 52.8 +0.8**
comp=Z,163nm,1.4s
FAKI Fak Fak 51.29 283 P **P** **17 43 52.2 +0.2**
BNDI Bandanaira 52.82 280 P **P** **17 44 03.2 +0.2**
comp=Z,7µmcomp=Z,431nm,1.3s
BNDI Bandanaira 52.82 280 P **P** **17 44 03.3 +0.2**
SIJI Sorong 53.03 285 P **P** **17 44 04.8 +0.4**
comp=Z,455nm,0.7s,baz=101,slow=4.8,SNR=156
comp=Z,455nm,0.7s
SIJI Sorong 53.03 285 P **P** **17 44 04.5 0.0**
comp=Z,4µmcomp=Z,510nm,0.8s
DRV Dumont d'Urvil 53.40 199 P **P** **17 44 05.0 -1.2**
DRV x **PcP** **17 45 03.4 -1.1**
DRV pP **pwP** **17 45 55.1 +2.4**
MSAI Masohi 54.17 281 P **P** **17 44 14.4 +1.8**
comp=Z,563nmcomp=Z,53nm,0.5s
KMBL Kambalda 54.44 245 P **P** **17 44 14.0 -0.2**
baz=54,SNR=13
KMBL Kambalda 54.44 245 P **P** **17 44 14.0 -0.2**
KRAI Karang Ratu 54.67 281 P **P** **17 44 16.4 +0.3**
comp=Z,2µmcomp=Z,209nm,1.1s
AAI Ambon 54.72 280 P **P** **17 44 16.1 -0.3**
NLAI Namlea 55.90 280 P **P** **17 44 24.9 +0.3**
comp=Z,155nm,0.8s
SOEI Soe 56.31 272 P **P** **17 44 28.9 +1.3**
SOEI Soe 56.31 272 P **P** **17 44 29.2 +1.6**
comp=Z,7µmcomp=Z,803nm,1.0s
SOEI Soe 56.31 272 P **P** **17 44 29.4 +1.8**
LBMI Labuha 56.55 283 P **P** **17 44 29.8 +0.7**
comp=Z,3µmcomp=Z,295nm,1.0s
BATI Baumata 56.74 271 P **P** **17 44 32.0 +1.6**
comp=Z,3µmcomp=Z,314nm,1.0s
TNTI Ternate 57.25 285 P **P** **17 44 34.3 +0.4**
TNTI Ternate 57.25 285 P **P** **17 44 34.3 +0.4**
comp=Z,3µmcomp=Z,252nm,1.0s
TNTI Ternate 57.25 285 P **P** **17 44 34.7 +0.8**
GAMI Galela, Maluku 57.32 286 P **P** **17 44 34.1 -0.3**
SANI Sanana 57.38 281 P **P** **17 44 34.6 -0.2**
SANI Sanana 57.38 281 P **P** **17 44 35.0 +0.2**
PSA00 Pilbara Seismi 57.51 257 P **P** **17 44 34.8 -0.8**
PSA00 Pilbara Seismi 57.51 257 P **P** **17 44 34.8 -0.8**
PSA00 IAmb IAmb 17 44 36.5
comp=Z,123nm,0.9s
PSA00 Pilbara Seismi 57.51 257 P **P** **17 44 35.3 -0.3**
AUALB St Joseph's Co 57.55 241 P **P** **17 44 35.9 +0.3**
MBWA Marble Bar 57.69 257 P **P** **17 44 36.0 -0.8**
MBWA Marble Bar 57.69 257 P **P** **17 44 36.7 -0.1**
MBWA Marble Bar 57.69 257 P **P** **17 44 36.6 -0.2**
MBWA Marble Bar 57.69 257 P **P** **17 44 36.3 -0.6**
MBWA x **PcP** **17 45 22.3 0.0**
KLBR Kellerberrin 57.93 245 P **P** **17 44 37.9 -0.4**
baz=58,SNR=140
KLBR Kellerberrin 57.93 245 P **P** **17 44 38.2 -0.1**
SBA Scott Base 57.97 184 P **P** **17 44 39.7 +2.0**
SBA Scott Base 57.97 184 P **P** **17 44 39.7 +2.0**
SBA pmax pmax
comp=Z,47nm,1.4s
SBA Scott Base 57.97 184 P **P** **17 44 37.7 0.0**
SBA pP **pwP** **17 46 27.3 +0.8**
VNDA Vanda 58.00 185 P **P** **17 44 39.8 +1.8**
comp=Z,4.5nm,0.7s,baz=356,slow=7.9,SNR=23
VNDA ScP **ScP** **17 48 32.8 +2.7**
comp=Z,5.1nm,1.1s,baz=342,slow=5.1,SNR=4.6
comp=Z,4.5nm,0.7s
VNDA Vanda 58.00 185 P **P** **17 44 39.0 +1.0**
VNDA Vanda 58.00 185 P **P** **17 44 39.0 +1.0**
VNDA pP **pwP** **17 46 26.2 -0.3**
NWAO Narrogin (SRO) 58.25 243 P **P** **17 44 40.5 +0.1**
comp=Z,62nm,0.8s,baz=346,slow=7.4,SNR=38
comp=Z,62nm,0.8s
NWAO Narrogin (SRO) 58.25 243 P **P** **17 44 40.3 -0.2**
baz=58,SNR=25
NWAO P **P** **17 44 40.3 -0.2**
baz=58,SNR=25
NWAO Narrogin (SRO) 58.25 243 P **P** **17 44 40.5 +0.1**
NWAO IAmb IAmb 17 44 41.6
comp=Z,204nm,1.2s
NWAO Narrogin (SRO) 58.25 243 P **P** **17 44 40.9 +0.5**
NWAO Narrogin (SRO) 58.25 243 P **P** **17 44 40.5 +0.1**
NWAO Narrogin (SRO) 58.25 243 P **P** **17 44 39.9 -0.6**
RKGY Rocky Gully 58.33 241 P **P** **17 44 41.3 +0.3**
baz=58,SNR=22
RKGY Rocky Gully 58.33 241 P **P** **17 44 41.4 +0.5**
MMRI Maumere 58.56 272 P **P** **17 44 43.0 +0.2**
MMRI Maumere 58.56 272 P **P** **17 44 42.6 -0.2**
MMRI Maumere 58.56 272 P **P** **17 44 42.8 0.0**
BLDU Ballidu 58.93 246 P **P** **17 44 44.5 -0.6**
baz=59,SNR=83
BLDU Ballidu 58.93 246 P **P** **17 44 44.7 -0.3**
MUN Mundaring 59.20 244 P **P** **17 44 47.2 +0.3**
baz=59,SNR=44
MUN Mundaring 59.20 244 P **P** **17 44 47.2 +0.3**
AUHAR St Anne's Scho 59.36 243 P **P** **17 44 48.7 +0.9**
MORW Morawa 59.70 248 P **P** **17 44 49.7 -0.5**
baz=60,SNR=47
MORW Morawa 59.70 248 P **P** **17 44 49.4 -0.8**
MORW IAmb IAmb 17 44 51.2
comp=Z,152nm,1.1s
MORW Morawa 59.70 248 P **P** **17 44 50.0 -0.2**
KKSI Kolaka, Sulawe 60.61 277 P **P** **17 44 56.5 +0.1**
LUWI Luwuk 60.73 281 P **P** **17 44 57.4 +0.2**
LUWI Luwuk 60.73 281 P **P** **17 44 58.1 +0.9**
comp=Z,4µmcomp=Z,421nm,1.1s
LUWI Luwuk 60.73 281 P **P** **17 44 58.2 +1.0**
BSSI Bau Bau, Buton 61.01 274 P **P** **17 44 59.1 0.0**
DAV Davao City (W) 61.62 290 P **P** **17 45 03.5 +0.4**
BKSI Bulukumba 61.63 275 P **P** **17 45 02.8 -0.3**
APSI Ampana 61.81 280 P **P** **17 45 05.6 +1.3**
comp=Z,4µmcomp=Z,356nm,1.2s
BNSI Bone 61.97 276 P **P** **17 45 05.3 0.0**
MRSI Marisa 62.08 282 P **P** **17 45 05.9 -0.2**

KAPI Kappang 62.09 275 P **P** **17 45 05.9 -0.2**
comp=Z,24nm,0.6s,baz=123,slow=4.5,SNR=21
comp=Z,24nm,0.6s
KAPI Kappang 62.09 275 P **P** **17 45 06.4 +0.3**
KAPI IAmb IAmb 17 45 07.5
comp=Z,224nm,1.8s
KAPI Kappang 62.09 275 P **P** **17 45 06.8 +0.7**
KAPI Kappang 62.09 275 P **P** **17 45 06.3 +0.2**
comp=Z,1µmcomp=Z,75nm,1.6s
KAPI Kappang 62.09 275 P **P** **17 45 06.6 +0.5**
comp=Z,83nm,1.6s
KAPI Kappang 62.09 275 *d*P **P** **17 45 05.7 -0.4**
KAPI pmax pmax
comp=Z,33nm,0.9s
KAPI Kappang 62.09 275 P **P** **17 45 04.8 -1.3**
GIRL Giralia 62.40 254 P **P** **17 45 08.9 +0.9**
baz=62,SNR=16
SPSI Sidrap Palu 62.44 276 P **P** **17 45 07.5 -0.9**
CCD Concordia, Ant 62.53 194 P **P** **17 45 07.7 -0.7**
CCD pP **pP** **17 46 58.7 +1.1**
PLAI Plampang 62.68 270 P **P** **17 45 09.8 -0.2**
PLAI Plampang 62.68 270 P **P** **17 45 09.9 -0.1**
PMSI Majene 63.40 276 P **P** **17 45 15.3 +0.7**
comp=Z,3µmcomp=Z,307nm,1.1s
TOLI2 Tolitoli 63.40 282 P **P** **17 45 14.1 -0.5**
TOLI2 Tolitoli 63.40 282 P **P** **17 45 15.1 +0.6**
TWSI Taliwang, Sumb 63.55 270 P **P** **17 45 15.4 -0.1**
MPSI Mapaga 63.91 281 P **P** **17 45 17.9 +0.1**
CASY Casey 63.98 205 P **P** **17 45 17.6 +0.3**
CASY IAmb IAmb 17 45 18.8
comp=Z,79nm,1.1s
KLNI Mataram 64.39 270 P **P** **17 45 20.2 -0.7**
IGBI Denpasar 65.16 270 P **P** **17 45 26.1 +0.4**
JAGI Jajag, Banyuwa 66.20 270 P **P** **17 45 31.5 -0.8**
JAGI Jajag, Banyuwa 66.20 270 P **P** **17 45 31.4 -0.8**
JAGI Jajag, Banyuwa 66.20 270 P **P** **17 45 31.5 -0.8**
comp=Z,190nm,2.1s
ABJI Asem Bagus 66.33 270 P **P** **17 45 33.6 +0.6**
MYLDM Lahad Datu 67.12 285 P **P** **17 45 39.1 +1.2**
MYLDM IAmb IAmb 17 45 58.5
comp=Z,79nm,0.7s
MYLDM Lahad Datu 67.12 285 P **P** **17 45 40.4 +2.5**
comp=Z,2µmcomp=Z,146nm,1.2s
BBKI Banjar Baru 67.21 275 P **P** **17 45 39.4 +0.9**
comp=Z,5µmcomp=Z,165nm,1.4s
MTKI Muara Teweh, K 68.06 277 P **P** **17 45 44.1 +0.4**
GRJI Gresik 68.26 271 P **P** **17 45 45.9 +1.0**
comp=Z,3µmcomp=Z,207nm,1.2s
PCJI Pacitan 69.07 269 P **P** **17 45 50.2 +0.4**
KKM Kota Kinabalu 69.55 285 P **P** **17 45 53.6 +0.9**
KKM Kota Kinabalu 69.55 285 P **P** **17 45 53.5 +0.8**
comp=Z,2µmcomp=Z,169nm,1.2s
KKM Kota Kinabalu 69.55 285 P **P** **17 45 53.9 +1.2**
JMM Marumori 69.60 326 P **P** **17 45 53.0 +0.7**
JMM IAmb IAmb 17 45 54.2
comp=Z,69nm,1.1s
JMM Marumori 69.60 326 P **P** **17 45 53.3 +1.0**
QSPA South Pole Qui 69.68 180 P **P** **17 45 53.7 +1.1**
comp=Z,32nm,0.9s,baz=5.0,slow=0.6,SNR=100
comp=Z,32nm,0.9s
QSPA South Pole Qui 69.68 180 P **P** **17 45 53.6 +1.1**
QSPA IAmb IAmb 17 45 54.8
comp=Z,32nm,0.9s
QSPA South Pole Qui 69.68 180 P **P** **17 45 52.1 -0.5**
QSPA pP **pP** **17 47 44.4 0.0**
UGM Wanagama 69.78 269 P **P** **17 45 53.8 -0.2**
JGF Kuroka 69.81 323 P **P** **17 45 54.4 +0.6**
JGF IAmb IAmb 17 46 20.1
comp=Z,106nm,1.7s
MJAR Matsushiro Arr 70.01 324 P **P** **17 45 55.2 +0.4**
comp=Z,12nm,0.5s,baz=154,slow=5.7,SNR=52
comp=Z,12nm,0.5s
MAJO Matsushiro 70.01 324 P **P** **17 45 55.4 +0.5**
MAJO IAmb IAmb 17 45 56.5
comp=Z,59nm,1.3s
MAJO Matsushiro 70.01 324 P **P** **17 45 55.7 +0.8**
MAJO Matsushiro 70.01 324 P **P** **17 45 55.4 +0.5**
MAJO pmax pmax
comp=Z,59nm,1.3s
MJB9 Matsu-Tunnel 70.01 324 P **P** **17 45 56.4 +1.5**
MJB9 IAmb IAmb 17 45 57.5
comp=Z,60nm,1.3s
SMRI Semarang 70.13 270 P **P** **17 45 57.0 +0.9**
SMRI Semarang 70.13 270 P **P** **17 45 57.1 +0.9**
SMRI Semarang 70.13 270 P **P** **17 45 57.4 +1.3**
PBKI Pangkalan Bun 70.44 274 P **P** **17 45 59.6 +1.7**
comp=Z,259nm,0.9s
JSD Sado 71.07 325 P **P** **17 46 02.2 +1.2**
JSD IAmb IAmb 17 46 03.2
comp=Z,112nm,1.2s
JSD Sado 71.07 325 P **P** **17 46 02.3 +1.2**
JSU Suzuyama 71.31 315 P **P** **17 46 03.6 +0.9**
CTJI Waduk Cacaban 71.33 269 P **P** **17 46 03.6 +0.5**
AMKA Amchitka 71.49 358 P **P** **17 46 03.3 +0.1**
JTM Tenmabayashi 71.67 329 P **P** **17 46 05.8 +1.3**
JTM IAmb IAmb 17 46 06.7
comp=Z,86nm,1.4s
SBUM Sibu 71.80 280 P **P** **17 46 07.2 +1.3**
SBUM IAmb IAmb 17 46 08.4
comp=Z,44nm,1.3s
SBUM Sibu 71.80 280 P **P** **17 46 07.1 +1.2**
comp=Z,508nmcomp=Z,31nm,1.6s
JHS Saijyo 71.90 320 P **P** **17 46 07.2 +1.2**
KIWB Kanaga Island 71.93 1 P **P** **17 46 05.9 +0.1**
ADK Adak 71.97 1 P **P** **17 46 06.0 0.0**
ADK Adak 71.97 1 P **P** **17 46 06.3 +0.3**
ADK Adak 71.97 1 P **P** **17 46 06.0 0.0**
ADK pmax pmax
comp=Z,168nm,0.6s
JNU Nakatsue 72.06 317 P **P** **17 46 07.6 +0.5**
JNU IAmb IAmb 17 46 08.9
comp=Z,75nm,1.1s
JNU Nakatsue 72.06 317 P **P** **17 46 07.7 +0.7**
JCJI Jatiwangi 72.35 270 P **P** **17 46 10.1 +1.0**
comp=Z,125nm,0.8s
BBJI Bungbulang 72.62 268 P **P** **17 46 10.5 -0.2**
LEM Lembang 72.85 269 P **P** **17 46 12.5 +0.3**
comp=Z,207nm,0.9s,baz=87,slow=4.6,SNR=40
comp=Z,207nm,0.9s
CNJI Cibinong 73.15 268 P **P** **17 46 14.0 +0.3**
TWG Pinlang 73.16 303 P **P** **17 46 12.3 -1.2**
TWG IAmb IAmb 17 46 24.9
comp=Z,180nm,1.7s
KSM Kuching 73.21 278 P **P** **17 46 14.3 +0.3**
KSM Kuching 73.21 278 P **P** **17 46 14.8 +0.8**
comp=Z,2µmcomp=Z,147nm,1.2s
KSM Kuching 73.21 278 P **P** **17 46 15.0 +1.0**
NACB Ninganchiao 73.46 304 P **P** **17 46 14.1 -1.1**
NACB Ninganchiao 73.46 304 P **P** **17 46 15.0 -0.2**
NIKH Nikolski High 73.50 6 P **P** **17 46 14.6 -0.1**
NIKH Nikolski High 73.50 6 P **P** **17 46 15.1 +0.3**
baz=189
NIKH Nikolski High 73.50 6 P **P** **17 46 15.5 +0.8**
JKA Kamikawa-asahi 73.54 332 P **P** **17 46 17.6 +2.5**
ASAJ Asahikawa 73.54 332 P **P** **17 46 17.7 +2.5**
ASAJ pmax pmax
comp=Z,148nm,1.1s
SSLB Suanglung 73.75 304 P **P** **17 46 15.9 -1.0**
SSLB IAmb IAmb 17 46 17.3
comp=Z,90nm,1.1s
SSLB Suanglung 73.75 304 P **P** **17 46 16.6 -0.3**
TPUB Ta-pu 73.76 303 P **P** **17 46 16.4 -0.5**
TPUB Ta-pu 73.76 303 P **P** **17 46 16.5 -0.5**
SKJI Sukabumi 73.79 268 P **P** **17 46 18.1 +0.8**
YHNB Yeheng 73.89 305 P **P** **17 46 17.9 +0.2**
YHNB IAmb IAmb 17 46 19.0
comp=Z,113nm,1.2s
YHNB Yeheng 73.89 305 P **P** **17 46 18.3 +0.6**
TATO Taipei 73.96 305 P **P** **17 46 19.1 +1.1**
SBJI Serang 74.48 269 P **P** **17 46 22.3 +1.1**
UNV Unalaska Valle 74.61 7 P **P** **17 46 21.2 +0.2**
UNV IAmb IAmb 17 46 21.7
comp=Z,25nm,0.6s
UNV Unalaska Valle 74.61 7 P **P** **17 46 21.1 +0.1**
baz=191
BLSI Bandar Lampung 75.56 270 P **P** **17 46 27.5 +0.2**
YSS Yuzh-Sakhalins 75.71 334 P **P** **17 46 28.7 +1.4**
YSS IAmb IAmb 17 46 30.1
comp=Z,105nm,1.0s
YSS Yuzh-Sakhalins 75.71 334 P **P** **17 46 29.0 +1.7**
YSS Yuzh-Sakhalins 75.71 334 *de*P **P** **17 46 29.0 +1.7**
YSS pmax pmax
comp=Z,138nm,1.2s
PPBI Pangkal Pinang 75.81 273 P **P** **17 46 29.4 +0.7**

PET Petropavlovsk 75.81 346 eP P 17 46 28.0 +0.3
PET pmax pmax
comp=Z,40nm,0.5s
KLI Kotabumi 76.09 270 P P
PEA0B Petropavlovsk- 76.11 345 P P 17 46 30.0 -0.2
PEA0B IAmb IAmb 17 46 30.0 +0.6
comp=Z,80nm,0.8s 17 46 31.2
PEA0B Petropavlovsk- 76.11 345 ceP P 17 46 30.6 +1.2
PETK Petropavlovsk- 76.11 345 P P 17 46 29.5 0.0
comp=Z,49nm,0.7s,baz=124,slow=5.4,SNR=68
comp=Z,49nm,0.7s
PETK Petropavlovsk- 76.11 345 P P 17 46 30.3 +0.9
PETK Petropavlovsk- 76.11 345 P P 17 46 30.3 +0.9
QZH Quanzhou 76.19 303⇑ iP P 17 46 31.8 +1.3
QZH pmax pmax
comp=Z,81nm,1.1s
KASI Kota Agung 76.21 269 P P 17 46 29.3 -1.5
TJN Taejon 76.36 318 ceP P 17 46 32.6 +1.5
CHNA Chernabura Isl 76.59 11 P P 17 46 32.3 +0.4
baz=198
KSRS Korea Array 76.68 319 P P 17 46 34.0 +1.2
comp=Z,8.7nm,0.6s,baz=127,slow=6.1,SNR=34
comp=Z,8.7nm,0.6s
KSRS Korea Array 76.68 319 P P 17 46 34.0 +1.2
KSAR Wonju Array Be 76.70 319 P P 17 46 34.3 +1.4
KSAR Wonju Array Be 76.70 319 P P 17 46 34.3 +1.4
KS19 Wonju Array Si 76.74 319 P P 17 46 34.6 +1.3
KS19 IAmb IAmb 17 46 44.5
comp=Z,69nm,1.4s
LWLI Liwa 76.79 270 P P 17 46 33.7 -0.5
PMBI Palembang 76.83 272 P P 17 46 35.0 +0.8
PMBI Palembang 76.83 272 P P 17 46 36.2 +2.0
comp=Z,265nm,1.1s
PMBI Palembang 76.83 272 P P 17 46 36.1 +1.9
comp=Z,267nm,1.2s
SDPT Sand Point 76.93 10 P P 17 46 33.9 +0.1
SDPT IAmb IAmb 17 46 42.2
comp=Z,119nm,0.8s
SDPT Sand Point 76.93 10 P P 17 46 34.0 +0.2
baz=197
INCN Inchon 77.50 318 P P 17 46 38.7 +1.3
INCN IAmb IAmb 17 46 39.8
comp=Z,120nm,1.4s
INCN Inchon 77.50 318 P P 17 46 39.4 +2.1
INCN Inchon 77.50 318 P P 17 46 40.3 +2.9
comp=Z,76nm,1.9s
INCN Inchon 77.50 318 P P 17 46 38.7 +1.3
INCN pmax pmax
comp=Z,120nm,1.4s
SCZ2 Santa Cruz Isl 77.66 47 P P 17 46 40.4 +2.0
baz=235
SCI2 San Clemente I 77.83 48 P P 17 46 41.1 +1.8
baz=236
DSRI Dabo 77.86 274 P P 17 46 40.7 +0.9
MNAI Manna 78.05 270 P P 17 46 40.6 -0.2
MNAI Manna 78.05 270 P P 17 46 50.6 +10
PKM Mcpherson Peak 78.05 46 P P 17 46 42.8 +2.2
baz=235
SAO San Andreas Ge 78.08 43 P P 17 46 42.7 +2.2
SAO San Andreas Ge 78.08 43 P P 17 46 42.7 +2.2
SAO pmax pmax
comp=Z,28nm,0.9s
CIS Catalina Islan 78.16 48 P P 17 46 42.5 +1.4
baz=236
PMPB Monarch Peak 78.17 44 P P 17 46 43.5 +2.4
SMMC Simmler 78.17 45 P P 17 46 43.4 +2.3
baz=234
CHGN Chignik 78.20 11 P P 17 46 41.1 +0.5
CHGN IAmb IAmb 17 46 44.5
comp=Z,77nm,0.8s
CHGN Chignik 78.20 11 P P 17 46 41.1 +0.5
baz=199
CHIR Chirikof Islan 78.29 13 P P 17 46 42.1 +1.0
baz=202
JMBI JAMBI 78.33 273 P P 17 46 45.0 +2.6
comp=Z,3µmcomp=Z,236nm,1.3s
BCW Bitter Crk WRg 78.35 46 P P 17 46 44.0 +1.9
TPRI Tanjung Pinang 78.40 275 P P 17 46 43.9 +1.2
HOPS Hopland Field 78.41 41 P P 17 46 44.4 +2.2
HOPS IAmb IAmb 17 46 53.2
comp=Z,80nm,1.3s
GDXM Geysers 78.46 41 P P 17 46 45.4 +2.7
KCPM Cahto Peak 78.53 40 P P 17 46 45.1 +2.2
KCPM IAmb IAmb 17 46 54.1
comp=Z,49nm,1.2s
KSI Kapahiang 78.62 270 P P 17 46 43.9 -0.1
KMPM Mount Pierce 78.67 39 P P 17 46 46.4 +2.8
KMPM IAmb IAmb 17 46 47.2
comp=Z,51nm,0.9s
PASC Pasadena Art C 78.75 47 P P 17 46 45.3 +1.2
USA0B Ussuriysk Arra 78.77 326 P P 17 46 45.6 +1.7
USA0B IAmb IAmb 17 46 46.9
comp=Z,53nm,0.9s
USA0B Ussuriysk Arra 78.77 326 diP P 17 46 45.2 +1.2
USRK Ussuriysk Ar. 78.77 326 P P 17 46 45.3 +1.3
comp=Z,33nm,0.7s,baz=122,slow=3.4,SNR=55
comp=Z,33nm,0.7s
USRK Ussuriysk Ar. 78.77 326 P P 17 46 45.5 +1.6
USRK Ussuriysk Ar. 78.77 326 P P 17 46 45.5 +1.6
SMAI San Martin Ant 78.78 159 P P 17 46 44.9 +1.2
SMAI IAmb IAmb 17 46 54.0
comp=Z,47nm,1.1s
KMRM Mail Ridge 78.79 39 P P 17 46 47.0 +2.7
KMRM IAmb IAmb 17 46 47.9
comp=Z,104nm,0.9s
109C Camp Elliot, M 78.79 49 P P 17 46 46.1 +1.7
109C Camp Elliot, M 78.79 49 P P 17 46 46.3 +1.9
baz=237
CBX Cerro Bola 78.79 49 P P 17 46 46.5 +2.0
ARVC Arvin 78.85 46 P P 17 46 46.8 +2.2
baz=235
TYV Tymovskoe 78.86 336 eP P 17 46 45.9 +1.6
TYV eS S 17 55 52.6 -5.0
TYV pmax pmax
comp=Z,79nm,1.1s
TYV pmax pmax
comp=Z,500nm,2.9s
TYV smax smax
comp=N,1µm,3.9s
TYV smax smax
comp=E,2µm,3.9s
DLV T Lat 78.91 287 P P 17 46 48.0 +2.4
comp=E,89nm,1.7s
ELS Elsinore Mount 78.98 48 P P 17 46 46.9 +1.4
BAR Barrett 78.99 49 P P 17 46 47.3 +1.8
VES Vestal, Richgr 79.08 45 P P 17 46 47.6 +1.8
baz=235
MURC Murrieta 79.12 48 P P 17 46 47.9 +1.7
baz=236
MASI Maura Aman, Be 79.13 271 P P 17 46 47.3 +0.6
ESJX Sierra Juarez 79.14 50 P P 17 46 49.1 +2.6
BFSC Mount Baldy Ra 79.15 47 P P 17 46 48.0 +1.6
baz=236
KHMM Horse Mountain 79.18 39 P P 17 46 49.0 +2.6
EDW2 Edwards Air Fo 79.28 47 P P 17 46 48.7 +1.7
baz=236,SNR=12
MONP2 Monument Peak 79.28 49 P P 17 46 49.3 +2.1
baz=237,SNR=11
SII Sitkinak Islan 79.28 13 P P 17 46 47.5 +1.1
baz=203
MYKOM Kota Tinggi 79.34 276 P P 17 46 49.1 +1.4
MYKOM IAmb IAmb 17 46 49.9
comp=Z,190nm,1.4s
MYKOM Kota Tinggi 79.34 276 P P 17 46 48.6 +0.9
comp=Z,1µmcomp=Z,97nm,1.4s
RMX La Rumorosa 79.37 49 P P 17 46 49.5 +1.8
IKP In-Ko-Pah, Jac 79.37 49 P P 17 46 49.8 +2.3
baz=237,SNR=9.1
ISA Isabella, Lake 79.39 46 P P 17 46 49.1 +1.5
ISA Isabella, Lake 79.39 46 P P 17 46 49.7 +2.1
baz=235,SNR=10.0
ISA Isabella, Lake 79.39 46 P P 17 46 49.1 +1.5
ISA pmax pmax
comp=Z,68nm,1.8s
CCAC Calif City Air 79.41 46 P P 17 46 49.1 +1.4
YUH Yuha Desert 79.50 49 P P 17 46 50.0 +1.9
CMB Columbia Colle 79.51 43 P P 17 46 49.8 +1.7
CMB Columbia Colle 79.51 43 P P 17 46 49.8 +1.7
CMB pmax pmax
comp=Z,22nm,1.0s
R16K Pilot Point 79.55 11 P P 17 46 48.3 +0.6
baz=200
PFO Pinyon Flats O 79.64 48 P P 17 46 51.0 +1.9
comp=Z,7.5nm,0.9s,baz=296,slow=3.9,SNR=8.6
comp=Z,7.5nm,0.9s

PFO Pinyon Flats O 79.64 48 P P 17 46 50.9 +1.9
PFO Pinyon Flats O 79.64 48 P P 17 46 50.8 +1.9
baz=237,SNR=5.6
PFO Pinyon Flats O 79.64 48 P P 17 46 50.9 +1.9
PFO pmax pmax
comp=Z,12nm,1.1s
TPFO Pinon Flats 79.64 48 P P 17 46 50.7 +1.6
baz=237
NJ2 Nanjing 79.66 310⇓ iP P 17 46 50.3 +1.3
NJ2 pmax pmax
comp=Z,37nm,0.8s
AFDM Forest Hills D 79.68 42 P P 17 46 50.2 +1.3
BELA Belgrano 2 79.69 173 P P 17 46 48.1 -0.3
ORV Oroville 79.72 41 P P 17 46 50.6 +1.5
ORV Oroville 79.72 41 P P 17 46 50.6 +1.5
ORV pmax pmax
comp=Z,21nm,0.9s
PMD Palm Desert 79.72 48 P P 17 46 51.3 +2.0
PMD IAmb IAmb 17 46 52.2
comp=Z,17nm,1.3s
SWSC Sam W. Stewart 79.75 49 P P 17 46 51.2 +1.7
baz=236
LRMC Laurel Mtn Rad 79.82 46 P P 17 46 51.6 +1.7
baz=236,SNR=6.6
OHAK Old Harbor 80.08 13 P P 17 46 51.4 +0.9
baz=204
CWC Cottonwood Cre 80.09 45 P P 17 46 53.1 +1.8
baz=236
MDPB Devils Postpil 80.11 44 P P 17 46 53.4 +1.8
OMMB Old Mammoth Mi 80.16 44 P P 17 46 53.1 +1.3
BELC Belle Mtn. Jos 80.17 48 P P 17 46 53.7 +1.9
baz=237,SNR=14
EMB Emerald Bay 80.24 42 P P 17 46 54.0 +1.8
MLAC Mammoth, Mammo 80.27 44 P P 17 46 54.2 +1.8
baz=235
MPMC Manual Prospec 80.28 46 P P 17 46 54.0 +1.6
baz=236,SNR=13
MDJ Mudanjiang 80.32 325 P P 17 46 53.3 +1.2
MDJ pmax pmax
comp=Z,63nm,1.6s
MDJ pmax pmax
comp=Z,490nm,5.6s
MDJ Mudanjiang 80.32 325 P P 17 46 54.1 +2.0
comp=Z,76nm,1.1s
GSC Goldstone, Bar 80.32 47 P P 17 46 54.1 +1.6
GSC Goldstone, Bar 80.32 47 P P 17 46 53.9 +1.4
baz=236,SNR=7.0
GSC Goldstone, Bar 80.32 47 P P 17 46 54.1 +1.6
GSC pmax pmax
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 80.32 39 P P 17 46 54.6 +2.3
comp=Z,nm,0.7s,baz=189,slow=2.4,SNR=77
comp=Z,30nm,0.7s
YBH Yreka Blue Hor 80.32 39 P P 17 46 54.6 +2.3
YBH IAmb IAmb 17 46 55.7
comp=Z,34nm,0.8s
YBH Yreka Blue Hor 80.32 39 P P 17 46 54.6 +2.3
YBH pmax pmax
comp=Z,34nm,0.8s
TIN Tinemaha, Big 80.34 45 P P 17 46 54.1 +1.5
baz=235,SNR=5.5
BC3 Big Chuckawall 80.37 49 P P 17 46 54.7 +1.9
baz=238,SNR=6.2
HEC Hector,Ludlow 80.39 47 P P 17 46 54.6 +1.8
baz=237,SNR=9.1
WAKR Walker 80.39 43 P P 17 46 54.8 +1.9
WAKR IAmb IAmb 17 46 56.2
comp=Z,38nm,1.0s
MPK Martis Peak 80.48 42 P P 17 46 55.6 +2.2
MPK IAmb IAmb 17 46 56.5
comp=Z,70nm,1.1s
GLA Glamis 80.50 50 P P 17 46 55.7 +2.4
GLA Glamis 80.50 50 P P 17 46 55.8 +2.4
baz=238,SNR=6.3
GLA Glamis 80.50 50 P P 17 46 55.7 +2.4
GLA pmax pmax
comp=Z,33nm,1.1s
Q17K Contact Creek 80.52 12 P P 17 46 53.2 +0.2
baz=201,SNR=22
BEKR Beckworth 80.61 41 P P 17 46 55.5 +1.5
PNTR Pine Nut 80.63 42 P P 17 46 56.0 +1.8
PNTR IAmb IAmb 17 46 57.3
comp=Z,62nm,0.8s
QSM Queen of Sheba 80.64 46 P P 17 46 55.7 +1.6
SDSI Sungai Dareh 80.65 272 P P 17 46 53.7 -0.9
VCNR Virginia City 80.71 42 P P 17 46 55.5 +0.9
VCNR IAmb IAmb 17 47 05.4
comp=Z,32nm,0.4s
HUMO Hull Mountain 80.72 38 P P 17 46 56.2 +1.9
HUMO IAmb IAmb 17 46 57.9
comp=Z,40nm,1.1s
KDAK Kodiak Island 80.75 14 P P 17 46 55.0 +1.0
baz=204
Q16K King Salmon 80.76 11 P P 17 46 54.5 +0.5
baz=200,SNR=12
YERR Yerington 80.79 43 P P 17 46 56.2 +1.2
YERR IAmb IAmb 17 46 57.9
comp=Z,31nm,0.9s
LCH Last Change Ra 80.83 45 P P 17 46 55.8 +0.6
GMRC Granite Mounta 80.83 48 P P 17 46 57.0 +1.8
baz=237,SNR=8.6
LHV Little Huntoon 80.84 44 P P 17 46 57.1 +2.2
LHV IAmb IAmb 17 46 58.4
comp=Z,32nm,1.0s
IRM Iron Mountain 80.85 48 P P 17 46 57.4 +2.1
baz=238,SNR=13
P16K Nushagak River 80.86 10 P P 17 46 55.2 +0.7
baz=199
DBO Dodson Butte 80.88 37 P P 17 46 57.5 +2.3
GRAC Grapevine Rang 80.88 45 P P 17 46 57.7 +2.4
baz=236,SNR=13
GWY Greenwater Val 80.90 46 P P 17 46 56.7 +1.1
TUQ Turquoise Moun 81.00 47 P P 17 46 57.8 +1.8
baz=237,SNR=13
SHOC Shoshone, Teco 81.01 46 P P 17 46 57.7 +1.7
baz=237
RYN Ryan 81.05 43 P P 17 46 57.8 +1.5
RYN IAmb IAmb 17 46 59.2
comp=Z,85nm,1.9s
Q18K Katmai Hardscr 81.05 12 P P 17 46 56.1 +0.4
baz=202,SNR=22
NVAR Mina Array Bea 81.07 43 P P 17 46 58.3 +1.8
comp=Z,15nm,0.8s,baz=224,slow=9.1,SNR=98
NVAR pP pP 17 48 54.4 +1.4
NVAR comp=Z,2.1nm,1.0s,baz=220,slow=6.5,SNR=2.9 PKKPbc PKKPbc 18 05 30.4 +0.6
NVAR comp=Z,0.8nm,0.7s,baz=80,slow=4.5,SNR=5.7 PKPPKP P'P'df 18 13 39.8 +7.8
comp=Z,1.4nm,0.9s,baz=118,slow=2.1,SNR=6.2
comp=Z,15nm,0.8s
NVAR Mina Array Bea 81.07 43 P P 17 46 57.6 +1.1
NVAR pP 17 48 53.0 +0.1
BLYC Blythe 81.08 49 P P 17 46 58.6 +2.3
113A Mohawk Valley, 81.11 50 P P 17 46 58.2 +1.7
GMN Gold Mountain 81.12 45 P P 17 46 57.7 +0.9
PAHR Pah Rah Range 81.12 42 P P 17 46 57.6 +1.0
NV11 Mina Array Sit 81.17 44 P P 17 46 58.3 +1.4
NV11 pP 17 48 54.8 +1.4
MZP Montezuma Peak 81.26 44 P P 17 46 58.6 +1.0
P17K Kvichak River 81.29 11 P P 17 46 57.5 +0.7
baz=201,SNR=17
GRNR Gornyy 81.32 333 diP P 17 46 58.4 +1.2
GRNR pmax pmax
comp=Z,50nm,1.0s
214A Organ Pipe Nat 81.39 51 P P 17 47 00.3 +2.3
214A IAmb IAmb 17 47 01.6
comp=Z,69nm,1.9s
214A Organ Pipe Nat 81.39 51 P P 17 47 00.3 +2.3
baz=240
PMSA Palmer Station 81.46 157 P P 17 46 59.0 +1.3
comp=Z,6.8nm,1.0s,baz=301,slow=5.9,SNR=4.1
comp=Z,6.8nm,1.0s
Q20K Shuyak Island 81.55 13 P P 17 46 59.0 +0.9
baz=204
KVN Kaiserville 81.56 43 P P 17 47 00.2 +1.3
KVN Kaiserville 81.56 43 P P 17 47 00.2 +1.3
KVN pmax pmax
comp=Z,27nm,0.9s
PDSI Padang 81.56 272 P P 17 46 58.6 -0.7
TPH Tonopah 81.58 44 P P 17 47 00.5 +1.4
TPH Tonopah 81.58 44 P P 17 47 00.5 +1.4
TPH pmax pmax
comp=Z,130nm,0.9s
Q19K Cape Douglas, 81.58 13 P P 17 46 58.9 +0.6
baz=203
TPNV Topopah Spring 81.60 46 P P 17 47 00.4 +1.3

TPNV Topopah Spring 81.60 46 P P 17 47 01.0 +1.9
baz=237,SNR=20
TPNV Topopah Spring 81.60 46 P P 17 47 00.4 +1.3
TPNV pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 81.61 200 P P 17 46 59.6 +1.2
comp=Z,23nm,1.0s,baz=139,slow=6.3,SNR=14
comp=Z,23nm,1.0s
MAW Mawson 81.61 200 P P 17 47 00.0 +1.6
baz=82,SNR=7.7
MAW Mawson 81.61 200 P P 17 46 59.1 +0.7
MAW Mawson 81.61 200 P P 17 46 59.1 +0.7
MAW pmax pmax
comp=Z,5.0nm,1.0s
PDMCI Parker Dam,Lak 81.64 49 P P 17 47 01.5 +2.3
baz=238,SNR=6.2
PLTX Planet X, Gerl 81.65 41 P P 17 47 00.6 +1.3
PLTX IAmb IAmb 17 50 18.3
comp=Z,105nm,0.5s
P18K Big Mountain, 81.70 12 P P 17 46 59.0 0.0
P18K IAmb IAmb 17 47 01.5
comp=Z,75nm,0.8s
P18K Big Mountain, 81.70 12 P P 17 46 59.2 +0.3
baz=202,SNR=12
BUCK Buck Mountain 81.70 37 P P 17 47 01.5 +2.2
BUCK IAmb IAmb 17 47 10.0
comp=Z,55nm,1.1s
O17K Koliganek Bris 81.72 11 P P 17 46 59.3 +0.4
baz=200,SNR=8.0
MOD Modoc Plateau 81.85 40 P P 17 47 01.6 +1.3
MOD IAmb IAmb 17 47 03.2
comp=Z,37nm,0.8s
V12A Nelson 81.89 47 P P 17 47 02.5 +1.9
K05A Summer Lake 82.00 39 P P 17 47 03.0 +2.0
K05A IAmb IAmb 17 47 04.4
comp=Z,79nm,0.9s
Q09A Carvers 82.03 44 P P 17 47 01.1 -0.2
Q09A IAmb IAmb 17 47 04.1
comp=Z,65nm,0.8s
SHPR Sheep Range 82.09 46 P P 17 47 02.8 +1.1
CN2 Changchun 82.10 323⇑ iP P 17 47 02.7 +1.4
CN2 eS S 17 56 34.7 +3.9
CN2 pmax pmax
comp=Z,50nm,1.1s
CN2 pmax pmax
comp=Z,300nm,3.0s
N16K Nishlik Lake 82.11 10 P P 17 47 02.2 +1.2
baz=198
O18K Koktuh Hills 82.13 11 P P 17 47 02.0 +0.9
O18K Koktuh Hills 82.13 11 P P 17 47 01.4 +0.2
baz=202,SNR=26
BNX BinXian 82.22 325⇑ P P 17 47 03.1 +1.2
BNX pmax pmax
comp=Z,63nm,0.7s
BNX pmax pmax
comp=Z,510nm,5.7s
WHN Wuhan 82.23 306⇑ P P 17 47 03.9 +1.7
WHN pmax pmax
comp=Z,160nm,1.4s
W13A Hualapai Mount 82.23 48 P P 17 47 02.9 +0.4
S11A Rachel 82.31 45 P P 17 47 04.5 +1.8
S11A IAmb IAmb 17 47 05.4
comp=Z,31nm,0.8s
P19K Oil Pt 82.33 12 P P 17 47 01.6 -0.5
P19K IAmb IAmb 17 47 03.7
comp=Z,70nm,0.8s
P19K Oil Pt 82.33 12 P P 17 47 02.8 +0.6
baz=204
KLR Kul'dur 82.34 330 P P 17 47 04.3 +1.9
comp=Z,13nm,0.7s,baz=102,slow=4.5,SNR=35
comp=Z,13nm,0.7s
KLR Kul'dur 82.34 330 ceP P 17 47 03.9 +1.5
KLR pmax pmax
comp=Z,34nm,1.3s
H04A Detroit Lake 82.45 37 P P 17 47 03.4 +0.3
H04A IAmb IAmb 17 47 05.1
comp=Z,26nm,0.7s
PINE Pine Mountain 82.61 38 P P 17 47 06.0 +1.9
PINE IAmb IAmb 17 47 07.5
comp=Z,72nm,0.8s
O19K Port Alsworth 82.62 12 P P 17 47 03.7 +0.3
baz=202
CNPM China Poot 82.63 13 P P 17 47 04.6 +0.9
CNPM IAmb IAmb 17 47 05.4
comp=Z,83nm,0.9s
PRN Pahroc Range 82.65 46 P P 17 47 06.4 +1.9
PRN IAmb IAmb 17 47 07.7
comp=Z,32nm,0.9s
ILSW Iliamna Southw 82.65 12 P P 17 47 04.1 +0.2
ILSW IAmb IAmb 17 47 05.5
comp=Z,148nm,0.8s
HOM Homer 82.67 13 P P 17 47 04.9 +1.1
baz=205
SISI Saibi 82.70 271 P P 17 47 07.4 +2.3
comp=Z,1µmcomp=Z,55nm,1.6s
N18K Kilae Creek 82.78 11 P P 17 47 04.9 +0.5
N18K Kilae Creek 82.78 11 P P 17 47 05.1 +0.8
baz=201
R11A Troy Canyon, C 82.80 45 P P 17 47 06.3 +1.1
R11A Troy Canyon, C 82.80 45 P P 17 47 06.7 +1.4
baz=237,SNR=12
O20K Slope Mountain 82.85 13 P P 17 47 05.0 +0.2
baz=204
E03A Lebam 82.87 35 P P 17 47 07.3 +2.3
E03A IAmb IAmb 17 47 08.1
comp=Z,62nm,0.9s
BMN Battle Mountai 82.90 42 P P 17 47 06.9 +1.3
BMN IAmb IAmb 17 47 08.4
comp=Z,35nm,0.9s
BMN Battle Mountai 82.90 42 P P 17 47 06.9 +1.3
BMN pmax pmax
comp=Z,35nm,0.9s
UBPT Khong Chiam 82.92 289 P P 17 47 08.3 +2.3
comp=Z,44nm,1.4s
BRLK Bradley Lake 82.93 14 P P 17 47 05.8 +0.7
BRLK IAmb IAmb 17 47 06.8
comp=Z,94nm,0.9s
BRSE Bradley Lake S 82.94 14 P P 17 47 06.0 +0.8
baz=206,SNR=8.7
TUC Tucson 83.06 52 P P 17 47 09.0 +2.5
TUC Tucson 83.06 52 P P 17 47 09.3 +2.7
baz=241
TUC Tucson 83.06 52 P P 17 47 09.0 +2.5
TUC pmax pmax
comp=Z,6.0nm,1.0s
TIA Tai'an 83.06 313 ⇓P P 17 47 07.6 +1.3
TIA pmax pmax
comp=Z,41nm,1.4s
HOOD Mount Hood Mea 83.14 36 P P 17 47 08.4 +1.7
HOOD IAmb IAmb 17 47 17.2
comp=Z,35nm,1.1s
N19K Bonanza Creek 83.16 11 P P 17 47 06.5 +0.1
N19K IAmb IAmb 17 47 07.5
comp=Z,54nm,0.8s
WVOR Wild Horse Val 83.17 40 P P 17 47 08.7 +1.8
WVOR IAmb IAmb 17 47 09.9
comp=Z,32nm,1.1s
WVOR Wild Horse Val 83.17 40 P P 17 47 08.7 +1.8
WVOR pmax pmax
comp=Z,31nm,1.1s
RSO Redoubt South 83.17 12 P P 17 47 06.6 0.0
NLWA Neilton Lookou 83.25 34 P P 17 47 09.4 +2.3
NLWA IAmb IAmb 17 47 10.1
comp=Z,34nm,1.0s
SEW Seward 83.55 14 P P 17 47 09.3 +1.1
baz=207
I07A Izee 83.62 38 P P 17 47 10.8 +1.7
I07A IAmb IAmb 17 47 12.2
comp=Z,32nm,0.9s
MA2 Magadan 83.63 345 P P 17 47 08.8 +0.2
comp=Z,30nm,0.7s,baz=133,slow=5.0,SNR=17
comp=Z,30nm,0.7s
Q23K Middleton Isla 83.71 16 P P 17 47 10.0 +1.0
baz=210
319A Douglas 83.73 53 P P 17 47 11.9 +2.0
319A IAmb IAmb 17 47 13.7
comp=Z,39nm,1.0s
CAPN Captain Cook N 83.78 13 P P 17 47 10.2 +1.0
baz=205
J08A Circle Bar Ran 83.80 39 P P 17 47 11.3 +1.3
J08A IAmb IAmb 17 47 13.0
comp=Z,35nm,1.1s
O22K Cooper Landing 83.83 14 P P 17 47 10.0 +0.5
O22K Cooper Landing 83.83 14 P P 17 47 10.2 +0.7
baz=207
B04A Port Angeles 83.86 33 P P 17 47 12.3 +2.3

B04A IAmb IAmb 17 47 13.2
comp=Z,79nm,1.6s
CCUT Cedar City 83.87 46 P P 17 47 12.2 +1.5
P23K Montague Islan 83.94 15 P P 17 47 11.7 +1.6
baz=209
N20K Mount Spurr 83.95 12 P P 17 47 10.3 0.0
baz=204,SNR=15
SPCR Spurr Chakacha 83.95 12 P P 17 47 10.2 -0.1
baz=204,SNR=11
KNB Kanab 83.96 47 P P 17 47 12.6 +1.6
KNB Kanab 83.96 47 P P 17 47 12.6 +1.6
KNB pmax pmax
comp=Z,24nm,1.4s
SPU Mount Spurr 83.97 12 P P 17 47 10.1 -0.2
SPR3 Spring Creek 3 83.98 45 P P 17 47 11.6 +0.3
SPR3 IAmb IAmb 17 47 13.4
comp=Z,8.8nm,1.0s
U15A North Rim 84.03 48 P P 17 47 13.4 +1.9
U15A IAmb IAmb 17 47 14.8
comp=Z,28nm,1.0s
GAMB Gambell 84.04 3 P P 17 47 11.4 +0.9
baz=186
PSUT Pine Spring 84.05 45 P P 17 47 12.9 +1.4
SZCU Shurtz Canyon 84.08 46 P P 17 47 13.3 +1.7
D05A Enumclaw 84.11 35 P P 17 47 13.7 +2.4
D05A IAmb IAmb 17 47 14.7
comp=Z,64nm,1.1s
M19K Big River Lodg 84.19 11 P P 17 47 11.3 0.0
M19K IAmb IAmb 17 47 12.8
comp=Z,37nm,0.7s
M19K Big River Lodg 84.19 11 P P 17 47 11.8 +0.5
baz=202
WUAZ Wupatki 84.21 49 P P 17 47 14.1 +1.8
baz=240
RPSI Rantau Prapat 84.26 275 P P 17 47 12.2 -0.5
RPSI IAmb IAmb 17 47 14.0
comp=Z,58nm,1.0s
PGC Sidney 84.27 33 P P 17 47 13.7 +1.7
PGC IAmb IAmb 17 47 14.7
comp=Z,38nm,1.0s
SKLT Songkhla 84.27 280 P P 17 47 14.9 +2.1
comp=Z,2umcomp=Z,122nm,1.2s
SKLT Songkhla 84.27 280 P P 17 47 14.9 +2.1
PSI Prapat 84.30 275 P P 17 47 13.7 +0.6
PSI Prapat 84.30 275 P P 17 47 12.3 -0.8
PSI pmax pmax
comp=Z,58nm,1.0s
ELK Elko 84.33 43 P P 17 47 14.0 +1.2
comp=Z,5.3nm,0.8s,baz=249,slow=3.7,SNR=29
comp=Z,5.3nm,0.8s
ELK Elko 84.33 43 P P 17 47 13.6 +0.8
ELK Elko 84.33 43 P P 17 47 13.6 +0.8
ELK pmax pmax
comp=Z,7.0nm,0.8s
L19K White Mountain 84.36 11 P P 17 47 13.3 +1.1
L19K IAmb IAmb 17 47 14.4
comp=Z,90nm,1.2s
L19K White Mountain 84.36 11 P P 17 47 12.8 +0.6
baz=202
RC01 Rabbit Creek A 84.37 13 P P 17 47 13.2 +1.0
RC01 IAmb IAmb 17 47 13.9
comp=Z,61nm,0.9s
RC01 Rabbit Creek A 84.37 13 P P 17 47 12.8 +0.5
baz=207,SNR=7.4
M20K Styx River 84.40 12 P P 17 47 13.1 +0.6
baz=204
PWL Port Wells 84.48 14 P P 17 47 13.3 +0.5
PWL IAmb IAmb 17 47 14.3
comp=Z,76nm,0.8s
PWL Port Wells 84.48 14 P P 17 47 12.8 0.0
baz=208,SNR=9.9
SUA Susitna One 84.49 13 P P 17 47 13.5 +0.6
SUA Susitna One 84.49 13 P P 17 47 13.1 +0.2
baz=206,SNR=9.5
PKCU Pink Cliffs 84.53 47 P P 17 47 16.0 +2.0
PKCU IAmb IAmb 17 47 17.7
comp=Z,22nm,0.9s
G08A Pilot Rock 84.64 38 P P 17 47 15.8 +1.7
G08A IAmb IAmb 17 47 17.0
comp=Z,38nm,1.0s
G08A pP **pP 17 49 12.8 +1.0**
CRAG Craig 84.69 24 P P 17 47 15.0 +1.1
baz=222
SKT Skwentna 84.80 12 P P 17 47 13.5 -0.9
SKT IAmb IAmb 17 47 14.8
comp=Z,24nm,1.0s
SKT Skwentna 84.80 12 P P 17 47 13.9 -0.5
baz=205
L20K Farewell, AK 84.81 11 P P 17 47 14.9 +0.5
baz=203
EYAK Cordova Ski Ar 84.83 15 P P 17 47 15.0 +0.6
baz=210
LTY Liberty 84.86 35 P P 17 47 15.2 +0.2
TTA Tatalina 84.87 10 P P 17 47 14.9 +0.2
TTA IAmb IAmb 17 47 16.9
comp=Z,50nm,1.1s
TTA Tatalina 84.87 10 P P 17 47 15.6 +0.9
baz=201,SNR=10
TTA Tatalina 84.87 10 P P 17 47 14.9 +0.2
TTA pmax pmax
comp=Z,50nm,1.1s
M22K Willow 84.89 13 P P 17 47 14.7 +0.1
baz=206,SNR=15
MTPU Mount Pierson 84.92 46 P P 17 47 17.2 +1.2
KNK Knik Glacier 84.94 14 P P 17 47 16.0 +1.0
KNK IAmb IAmb 17 47 16.7
comp=Z,60nm,0.9s
KNK Knik Glacier 84.94 14 P P 17 47 15.7 +0.6
baz=208,SNR=9.8
PMR Palmer 84.95 13 P P 17 47 15.6 +0.6
PMR IAmb IAmb 17 47 16.6
comp=Z,90nm,1.4s
PMR Palmer 84.95 13 P P 17 47 15.5 +0.5
baz=207,SNR=7.4
PMR Palmer 84.95 13 P P 17 47 15.6 +0.6
PMR pmax pmax
comp=Z,90nm,1.4s
HAWA Hanford 84.97 36 P P 17 47 17.1 +1.6
HAWA IAmb IAmb 17 47 18.6
comp=Z,33nm,1.0s
HAWA **pP 17 49 12.5 -1.0**
GSI Gunungsitoli 85.03 273 P P 17 47 16.7 +0.1
GSI Gunungsitoli 85.03 273 P P 17 47 18.0 +1.4
GSI Gunungsitoli 85.03 273 P P 17 47 18.1 +1.4
comp=Z,236nm,0.8s
HEH HeiHe 85.12 328 *eP* **P 17 47 17.0 +0.9**
HEH pmax pmax
comp=Z,52nm,0.6s
HEH pmax pmax
comp=Z,420nm,5.4s
MVU Marysvale 85.14 46 P P 17 47 18.8 +2.0
MVU IAmb IAmb 17 49 25.1
comp=Z,62nm,1.4s
GHO Glory Hole Cre 85.16 13 P P 17 47 16.6 +0.5
MSU Marysvale 85.16 46 P P 17 47 18.5 +1.6
MSU Marysvale 85.16 46 P P 17 47 18.5 +1.6
U33K Whale Pass 85.17 23 P P 17 47 18.3 +2.1
baz=222
B06A Marblemount 85.20 34 P P 17 47 17.6 +1.0
B06A IAmb IAmb 17 47 18.8
comp=Z,23nm,1.0s
E08A Dider Farm, El 85.29 37 P P 17 47 18.4 +1.4
E08A IAmb IAmb 17 47 19.9
comp=Z,21nm,0.9s
SML Sawmill 85.32 14 P P 17 47 18.1 +1.2
SML IAmb IAmb 17 47 20.1
comp=Z,33nm,1.1s
SML Sawmill 85.32 14 P P 17 47 17.4 +0.5
baz=208
DIV Divide 85.33 15 P P 17 47 17.1 +0.2
DIV IAmb IAmb 17 47 18.7
comp=Z,60nm,0.9s
HNS HongShan 85.33 313 ⇓*P* **P 17 47 19.0 +1.6**
HNS pmax pmax
comp=Z,47nm,0.9s
BMO Blue Mountains 85.35 39 P P 17 47 18.4 +0.9
BMO Blue Mountains 85.35 39 P P 17 47 18.4 +0.9
BMO pmax pmax
comp=Z,16nm,0.8s
121A Cookes Peak, D 85.40 53 P P 17 47 19.5 +1.3
121A Cookes Peak, D 85.40 53 P P 17 47 20.6 +2.5
baz=242
121A Cookes Peak, D 85.40 53 P P 17 47 20.2 +2.1
baz=242
CUT Chulitna 85.44 13 P P 17 47 17.4 0.0
baz=206

M23K Glacier View 85.44 14 P P 17 47 17.8 +0.4
baz=208
BMRM Bremner River 85.48 16 P P 17 47 18.4 +0.8
BMRM IAmb IAmb 17 47 19.5
comp=Z,47nm,0.8s
BMRM Bremner River 85.48 16 P P 17 47 18.1 +0.4
baz=211,SNR=5.3
S31K Pelican 85.48 21 P P 17 47 18.7 +1.1
baz=219
MESA MESA 85.52 17 P P 17 47 19.2 +1.2
baz=214
LYN LuoYang 85.54 309 ⇓*iP* **P 17 47 20.1 +1.6**
LYN pmax pmax
comp=Z,50nm,0.9s
SCM Sheep Creek Mo 85.57 14 P P 17 47 18.9 +0.8
SCM Sheep Creek Mo 85.57 14 P P 17 47 18.6 +0.5
baz=209,SNR=14
SCM Sheep Creek Mo 85.57 14 P P 17 47 18.9 +0.8
SCM pmax pmax
comp=Z,95nm,0.8s
K20K Telida 85.59 11 P P 17 47 19.0 +0.9
baz=203
DUG Dugway, Tooele 85.60 44 P P 17 47 19.5 +0.6
DUG Dugway, Tooele 85.60 44 P P 17 47 20.1 +1.2
baz=239
DUG Dugway, Tooele 85.60 44 P P 17 47 19.5 +0.6
DUG pmax pmax
comp=Z,20nm,2.0s
KLU Klutina 85.60 15 P P 17 47 19.2 +0.9
KLU IAmb IAmb 17 47 20.1
comp=Z,37nm,1.0s
KLU Klutina 85.60 15 P P 17 47 19.2 +0.9
baz=210
KCSI Kotacane, Aceh 85.62 275 P P 17 47 19.4 -0.1
BJT Baijiatuau 85.67 315 P P 17 47 19.7 +0.7
BJT IAmb IAmb 17 47 20.8
comp=Z,28nm,0.8s
BJT Baijiatuau 85.67 315 P P 17 47 20.7 +1.7
BJT Baijiatuau 85.67 315 P P 17 47 19.7 +0.7
BJT pmax pmax
comp=Z,28nm,0.8s
BJI Beijing 85.68 315 P P 17 47 20.1 +1.1
BJI pmax pmax
comp=Z,50nm,1.3s
D08A Wollman Farm, 85.70 36 P P 17 47 20.4 +1.4
D08A IAmb IAmb 17 47 22.0
comp=Z,29nm,0.9s
SRIT Nakonsritamara 85.73 281 P P 17 47 21.1 +1.2
SRIT Nakonsritamara 85.73 281 P P 17 47 22.3 +2.4
comp=Z,148nm,1.4s
E09A Wood Farm, Sta 85.82 37 P P 17 47 20.5 +0.9
E09A IAmb IAmb 17 47 22.2
comp=Z,41nm,1.2s
ENH Enshi 85.82 304 P P 17 47 20.5 +0.5
ENH Enshi 85.82 304 P P 17 47 21.1 +1.1
SURA Surathani 85.91 281 P P 17 47 23.2 +2.5
VRDI Verde Repeater 86.00 16 P P 17 47 20.9 +0.6
VRDI IAmb IAmb 17 47 22.3
comp=Z,102nm,1.4s
CAST Castle Rocks 86.01 11 P P 17 47 19.3 -0.8
CAST IAmb IAmb 17 47 20.5
comp=Z,51nm,0.8s
CAST Castle Rocks 86.01 11 P P 17 47 19.4 -0.7
baz=204,SNR=20
KIDD KIDD Seismic O 86.02 54 P P 17 47 23.6 +2.6
baz=243
N25K Chitina, Valde 86.03 15 P P 17 47 20.8 +0.5
N25K Chitina, Valde 86.03 15 P P 17 47 21.3 +1.0
baz=211,SNR=7.5
F10A Beach Ranch, E 86.03 38 P P 17 47 21.6 +0.9
F10A pP **pP 17 49 20.5 +1.4**
Q16A Castle Valley 86.05 46 P P 17 47 23.0 +1.9
Q16A IAmb IAmb 17 49 28.8
comp=Z,52nm,1.8s
NONG Nongkai 86.05 291 P P 17 47 22.6 +1.3
M24K Tolsona, Glenn 86.08 14 P P 17 47 21.7 +1.2
M24K Tolsona, Glenn 86.08 14 P P 17 47 21.7 +1.2
baz=210
GLB Gilahina Butte 86.08 16 P P 17 47 20.4 -0.2
WAT6 Susitna Watana 86.14 14 P P 17 47 21.2 +0.3
baz=208,SNR=23
WAT1 Susitna Watana 86.18 13 P P 17 47 21.3 +0.3
baz=208
TMUT Trail Mountain 86.21 46 P P 17 47 23.6 +1.6
SEY Seymchan 86.22 347 P P 17 47 21.6 +0.5
comp=Z,72nm,0.6s,baz=146,slow=5.7,SNR=238
comp=Z,72nm,0.6s
SEY Seymchan 86.22 347 *ceP* **P 17 47 22.1 +1.0**
SEY pmax pmax
comp=Z,84nm,0.7s
MCARA McCarthy VSAT 86.24 16 P P 17 47 22.2 +1.0
baz=213
PLID Pearl Lake 86.24 39 P P 17 47 22.9 +1.0
PLID IAmb IAmb 17 47 24.3
comp=Z,67nm,1.7s
PLID pP **pP 17 49 21.5 +1.2**
B08A Colville Reser 86.25 35 P P 17 47 22.3 +0.6
B08A IAmb IAmb 17 47 23.7
comp=Z,26nm,0.9s
NAYO Nakonayok 86.25 287 P P 17 47 25.5 +3.2
LLLB Lillooet 86.30 32 P P 17 47 23.5 +1.7
LLLB IAmb IAmb 17 47 24.3
comp=Z,20nm,1.0s
P29M Windy Craggy 86.31 19 P P 17 47 23.4 +1.8
baz=218
BARN Barnard Glacie 86.33 17 P P 17 47 23.5 +1.6
BARN IAmb IAmb 17 47 24.1
comp=Z,37nm,0.8s
J20K Nowinta River 86.34 10 P P 17 47 22.7 +1.0
J20K IAmb IAmb 17 47 23.5
comp=Z,83nm,1.5s
KTH Kantishna Hill 86.35 12 P P 17 47 21.6 -0.2
KTH IAmb IAmb 17 47 22.4
comp=Z,49nm,1.0s
HLID Hailey 86.36 41 P P 17 47 24.1 +1.6
HLID IAmb IAmb 17 47 25.5
comp=Z,16nm,0.8s
HLID pP **pP 17 49 20.1 -0.9**
HLID Hailey 86.36 41 P P 17 47 24.4 +1.9
baz=237,SNR=26
TRF Thorofare Moun 86.38 12 P P 17 47 22.3 +0.2
TRF Thorofare Moun 86.38 12 P P 17 47 22.0 0.0
baz=206,SNR=22
CHUM Lake Minchumin 86.39 11 P P 17 47 21.8 -0.1
baz=204,SNR=10
SPUT South Promonto 86.42 43 P P 17 47 23.9 +1.2
SPUT **pP 17 49 18.4 -2.7**
GYA Guiyang 86.43 300 ⇑*iP* **P 17 47 24.8 +1.7**
GYA pmax pmax
comp=Z,33nm,1.6s
GCSA Galena City Sc 86.44 9 P P 17 47 23.0 +0.9
baz=200
HVU Hansel Valley 86.45 43 P P 17 47 23.6 +0.7
HVU **pwP 17 49 23.2 -1.5**
HVU IAmb IAmb 17 49 37.2
comp=Z,34nm,1.8s
HVU Hansel Valley 86.45 43 P P 17 47 23.6 +0.7
HVU *PP **pwP 17 49 23.2 -1.5**
HVU pmax pmax
comp=Z,34nm,1.8s
C09A Chrisman Ranch 86.49 36 P P 17 47 23.6 +0.8
C09A IAmb IAmb 17 47 25.3
comp=Z,30nm,1.0s
O28M Mount Upton 86.50 18 P P 17 47 24.0 +1.2
baz=215
SBM South Baldy 86.51 52 P P 17 47 24.8 +1.2
HARP HAARP 86.57 15 P P 17 47 24.1 +1.3
baz=211
SRU San Rafael Swe 86.58 46 P P 17 47 25.2 +1.6
SRU IAmb IAmb 17 47 26.2
comp=Z,18nm,0.9s
SRU San Rafael Swe 86.58 46 P P 17 47 25.2 +1.6
SRU pmax pmax
comp=Z,18nm,0.9s
O29M Mount Kennedy 86.59 19 P P 17 47 24.8 +1.7
baz=217
PLBC Pleasant Camp 86.61 20 P P 17 47 24.7 +1.7
baz=219
P17A Butcher Ranch, 86.61 46 P P 17 47 25.6 +1.8
P17A IAmb IAmb 17 49 32.1
comp=Z,32nm,1.6s
RND Reindeer 86.63 13 P P 17 47 23.5 +0.4
RND Reindeer 86.63 13 P P 17 47 23.5 +0.4
RND pmax pmax
comp=Z,70nm,0.8s

Y22A Socorro 86.65 52 P P 17 47 26.3 +2.2
baz=243
DHY Denali Highway 86.65 14 P P 17 47 23.4 +0.1
DHY IAmb IAmb 17 47 24.9
comp=Z,125nm,1.8s
DHY Denali Highway 86.65 14 P P 17 47 23.7 +0.4
baz=209,SNR=8.8
LENM Lemitar 86.75 52 P P 17 47 25.5 +1.0
BPAW Bear Paw Mtn. 86.83 12 P P 17 47 23.8 -0.2
BPAW IAmb IAmb 17 47 24.5
comp=Z,93nm,1.8s
BPAW Bear Paw Mtn. 86.83 12 P P 17 47 24.6 +0.6
baz=205,SNR=5.5
T35M Bob Quinn 86.89 24 P P 17 47 26.2 +1.8
baz=224
MCK McKinley 86.91 13 P P 17 47 24.3 0.0
MCK IAmb IAmb 17 47 25.6
comp=Z,83nm,1.2s
MCK McKinley 86.91 13 P P 17 47 24.7 +0.3
baz=207,SNR=23
MCK McKinley 86.91 13 P P 17 47 24.3 0.0
MCK pmax pmax
comp=Z,83nm,1.2s
P30M Million Dollar 86.94 19 P P 17 47 26.2 +1.5
baz=218
SKAG Skagway 86.94 20 P P 17 47 24.5 0.0
SKAG IAmb IAmb 17 47 27.9
comp=Z,102nm,1.6s
SKAG Skagway 86.94 20 P P 17 47 26.0 +1.4
baz=220
PAX Paxson 86.99 14 P P 17 47 24.8 -0.1
PAX Paxson 86.99 14 P P 17 47 25.1 +0.2
baz=210,SNR=5.4
PAX Paxson 86.99 14 P P 17 47 24.8 -0.1
PAX pmax pmax
comp=Z,14nm,0.9s
LHMI Lhok Sumawe 86.99 277 P P 17 47 26.7 +0.8
TCUT Toone Canyon 86.99 44 P P 17 47 25.5 -0.1
TCUT IAmb IAmb 17 49 40.9
comp=Z,82nm,1.8s
BNM Barren Site 87.00 52 P P 17 47 27.1 +1.4
P18A Preston Nutter 87.02 46 P P 17 47 27.5 +1.6
YUK8 Steele Glacier 87.04 17 P P 17 47 26.6 +1.2
baz=216,SNR=7.3
TIY Taiyuan 87.06 312 *eP* **P 17 47 27.9 +2.1**
M26K Nabesna, AK 87.10 16 P P 17 47 26.0 +0.6
M26K IAmb IAmb 17 47 27.6
comp=Z,44nm,1.1s
M26K Nabesna, AK 87.10 16 P P 17 47 26.6 +1.3
baz=213
HWUT Hardware Ranch 87.14 44 P P 17 47 26.4 +0.2
TX31 Lajitas Ar. Si 87.15 57 P P 17 47 27.9 +1.4
TX31 IAmb IAmb 17 47 29.8
comp=Z,42nm,1.0s
TX31 **pP 17 49 24.7 -0.4**
TX31 Lajitas Ar. Si 87.15 57 P P 17 47 28.5 +2.0
baz=245
TX32 Lajitas Array 87.15 57 P P 17 47 27.4 +1.0
TX32 **pP 17 49 24.9 -0.2**
TXAR Lajitas Array 87.15 57 P P 17 47 28.6 +2.1
comp=Z,9.9nm,0.8s,baz=218,slow=6.7,SNR=79
TXAR pP **pP 17 49 25.6 +0.5**
comp=Z,1.9nm,1.1s,baz=207,slow=3.0,SNR=3.2
TXAR PKKPbc **PKKPbc 18 05 15.5 +0.6**
comp=Z,0.6nm,0.5s,baz=124,slow=3.1,SNR=7.6
comp=Z,9.9nm,0.8s
TXAR Lajitas Array 87.15 57 P P 17 47 27.9 +1.4
TXAR pP **pP 17 49 24.9 -0.2**
MLSI Meulaboh, Aceh 87.16 276 P P 17 47 28.9 +2.2
comp=Z,94nm,0.7s
YUK6 Outpost Mounta 87.17 18 P P 17 47 27.3 +1.4
baz=217
BWN Browne 87.19 12 P P 17 47 25.1 -0.5
S34M Telegraph Cree 87.24 23 P P 17 47 28.0 +2.0
baz=223
YUK3 Moose Creek 87.25 17 P P 17 47 27.4 +1.2
baz=215,SNR=14
PV13 Radium Mtn., P 87.29 48 P P 17 47 26.4 -0.6
PV23 Carpenter Ridg 87.29 47 P P 17 47 27.6 +0.5
PV23 IAmb IAmb 17 47 29.5
comp=Z,14nm,0.8s
PV11 David Mesa, Pa 87.32 47 P P 17 47 27.5 +0.4
HYT Haines Junctio 87.33 19 P P 17 47 27.8 +1.2
HYT IAmb IAmb 17 47 29.0
comp=Z,24nm,0.9s
HYT Haines Junctio 87.33 19 P P 17 47 28.1 +1.6
baz=218
M27K Edge Creek, AK 87.35 16 P P 17 47 28.1 +1.5
M27K Edge Creek, AK 87.35 16 P P 17 47 27.7 +1.0
baz=214,SNR=14
BCYI Bear Canyon 87.38 41 P P 17 47 27.3 0.0
MENT Mentasta 87.38 15 P P 17 47 27.3 +0.7
MENT IAmb IAmb 17 47 28.8
comp=Z,22nm,0.9s
NEW Newport 87.39 36 P P 17 47 28.1 +1.1
NEW Newport 87.39 36 P P 17 47 28.2 +1.1
baz=235
NEW Newport 87.39 36 P P 17 47 28.1 +1.1
NEW pmax pmax
comp=Z,19nm,1.3s
YUK4 Talbot Arm 87.41 18 P P 17 47 28.4 +1.4
baz=217
ZEA Zeya 87.44 331 *eP* **P 17 47 28.7 +1.7**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ANMO Albuquerque 87.48 51 P P 17 47 29.5 +1.5
comp=Z,11nm,1.1s,baz=223,slow=5.7,SNR=12
comp=Z,11nm,1.1s
ANMO Albuquerque 87.48 51 P P 17 47 28.9 +1.0
ANMO pP **pP 17 49 27.1 +0.4**
ANMO Albuquerque 87.48 51 P P 17 47 28.6 +0.6
baz=243
ANMO Albuquerque 87.48 51 P P 17 47 29.5 +1.5
baz=243
ANMO Albuquerque 87.48 51 P P 17 47 29.0 +1.0
ANMO *PP **pP 17 49 27.1 +0.4**
ANMO pmax pmax
comp=Z,12nm,1.1s
L26K Log Cabin Wild 87.54 15 P P 17 47 27.8 +0.5
L26K IAmb IAmb 17 47 37.2
comp=Z,48nm,1.4s
L26K Log Cabin Wild 87.54 15 P P 17 47 28.5 +1.1
baz=212,SNR=6.4
P32M Atlin 87.58 21 P P 17 47 29.2 +1.6
baz=221
Q32M Nakina River 87.60 22 P P 17 47 29.0 +1.0
baz=222
PV15 Paradox Valley 87.61 48 P P 17 47 29.1 +0.5
I21K Tanana 87.63 11 P P 17 47 28.0 +0.3
I21K Tanana 87.63 11 P P 17 47 28.0 +0.3
baz=204,SNR=25
K24K Donnelly Dome 87.64 14 P P 17 47 28.9 +1.0
baz=210,SNR=19
NEA2 Nenana 87.65 12 P P 17 47 27.4 -0.5
NEA2 IAmb IAmb 17 47 29.1
comp=Z,28nm,0.8s
NEA2 Nenana 87.65 12 P P 17 47 27.3 -0.5
baz=207,SNR=16
BVCY Beaver Creek 87.67 16 P P 17 47 29.4 +1.5
baz=215,SNR=15
O30N Mendenhall 87.72 19 P P 17 47 29.7 +1.5
baz=219,SNR=7.4
MLY Manley 87.72 11 P P 17 47 27.5 -0.7
MLY IAmb IAmb 17 47 28.9
comp=Z,32nm,0.6s
MLY Manley 87.72 11 P P 17 47 28.1 -0.1
baz=206,SNR=24
XLT XiLinHaoTe 87.73 319 *eP* **P 17 47 29.6 +0.8**
XLT pmax pmax
comp=Z,52nm,0.8s
XLT pmax pmax
comp=Z,280nm,5.2s
WRH Wood River Hil 87.73 13 P P 17 47 27.5 -0.6
GDL2 Guadalupe Moun 87.84 55 P P 17 47 31.1 +1.5
TROLL Troll, Antarti 87.84 180 P P 17 47 28.8 -0.1
TROLL Troll, Antarti 87.84 180 pP pP 17 49 29.5 +1.9
DOT Dot Lake 87.90 15 P P 17 47 29.7 +0.7
DOT IAmb IAmb 17 47 30.8
comp=Z,35nm,1.0s
XAN Xi'an 87.92 307 P P 17 47 31.5 +1.7
XAN pmax pmax
comp=Z,94nm,1.3s
HDA Harding Lake 87.92 13 P P 17 47 28.9 -0.2
HDA Harding Lake 87.92 13 P P 17 47 29.2 +0.2
baz=209,SNR=30
H21K Melozitna Rive 87.93 10 P P 17 47 29.1 +0.1

H21K IAmb IAmb 17 47 32.0
comp=Z,28nm,0.8s
H21K Melozitna Rive 87.93 10 P P 17 47 30.0 +0.9
baz=204
RDMU Red Mountain 87.94 45 P P 17 47 30.6 +0.6
CCB Clear Creek Bu 87.95 13 P P 17 47 28.5 -0.6
L27K Beaver Creek, 87.95 16 P P 17 47 29.5 +0.2
L27K IAmb IAmb 17 47 31.4
comp=Z,25nm,1.1s
L27K Beaver Creek, 87.95 16 P P 17 47 30.6 +1.3
baz=214
N30M Aishikik Lake 87.95 18 P P 17 47 30.7 +1.3
baz=218
BCAR Beaver Creek A 87.97 16 P P 17 47 30.0 +0.7
MCMT McKenzie Canyo 87.99 40 P P 17 47 31.8 +1.6
WHY Whitehorse 88.01 20 P P 17 47 31.0 +1.3
baz=220
AHID Auburn Hatcher 88.02 43 P P 17 47 30.3 0.0
DLBC Dease Lake 88.02 23 P P 17 47 31.5 +1.7
DLBC IAmb IAmb 17 47 31.9
comp=Z,16nm,0.9s
DLBC Dease Lake 88.02 23 P P 17 47 31.4 +1.7
baz=224
IMAR Indian Mountai 88.08 10 P P 17 47 29.4 -0.4
I23K Minto, Yukon-K 88.09 12 P P 17 47 28.5 -1.3
I23K IAmb IAmb 17 47 38.7
comp=Z,22nm,0.6s
I23K Minto, Yukon-K 88.09 12 P P 17 47 29.8 0.0
baz=207,SNR=14
SNAA Sanae 88.13 179 pP pP 17 49 29.0 0.0
SNAA Sanae 88.13 179 P P 17 47 29.7 -0.5
SNAA Sanae 88.13 179 P P 17 47 28.7 -1.5
SNAA Sanae 88.13 179 *i* P **P 17 47 30.0 -0.2**
SNAA pmax pmax
comp=Z,13nm,1.4s
TCOL CIGO, UAF Yank 88.14 12 P P 17 47 29.9 -0.1
TCOL CIGO, UAF Yank 88.14 12 P P 17 47 30.0 0.0
baz=208,SNR=11
MDM Murphy Dome 88.14 12 P P 17 47 29.9 -0.2
COLA College 88.14 12 P P 17 47 29.6 -0.3
COLA College 88.14 12 P P 17 47 29.9 -0.1
baz=208
COLA College 88.14 12 P P 17 47 30.3 +0.3
COLA College 88.14 12 P P 17 47 29.7 -0.3
COLA pmax pmax
comp=Z,92nm,0.7s
SCRK Sand Creek 88.20 14 P P 17 47 30.4 -0.1
SCRK IAmb IAmb 17 47 33.6
comp=Z,16nm,0.8s
SCRK Sand Creek 88.20 14 P P 17 47 31.2 +0.7
baz=212,SNR=7.4
CLNB Carlsbad 88.23 55 P P 17 47 31.3 -0.1
IL31 88.25 13 P P 17 47 29.9 -0.6
IL31 IAmb IAmb 17 47 31.7
comp=Z,38nm,0.9s
ILAR Eielson Array 88.25 13 P P 17 47 30.4 -0.2
comp=Z,18nm,0.7s,baz=216,slow=5.3,SNR=184
ILAR pP **pP 17 49 30.6 +0.9**
comp=Z,5.5nm,1.1s,baz=226,slow=4.9,SNR=5.3
ILAR PKiKP **PKiKP 17 52 27.4 -0.5**
comp=Z,0.6nm,0.5s,baz=262,slow=3.2,SNR=7.7
comp=Z,18nm,0.7s
ILAR Eielson Array 88.25 13 P **P 17 47 29.7 -0.9**
ILAR **pP 17 49 29.7 +0.1**
VNA3 Neumayer Olymp 88.27 176 P P 17 47 30.7 -0.1
VNA3 S **S 17 57 26.8 -2.5**
VNA3 Neumayer Olymp 88.27 176 pP pP 17 49 30.7 +1.0
P33M Teslin, Yukon 88.34 21 P P 17 47 32.5 +1.3
baz=222
M29M Somme Creek 88.34 17 P P 17 47 32.8 +1.6
baz=217
CLN7 Carlsbad 7 88.35 55 P P 17 47 31.9 -0.1
N31M Braeburn, Yuko 88.37 19 P P 17 47 32.6 +1.4
N31M IAmb IAmb 17 47 33.7
comp=Z,47nm,0.9s
N31M Braeburn, Yuko 88.37 19 P P 17 47 32.3 +1.0
baz=219,SNR=5.4
R33M Jennings River 88.37 22 P P 17 47 33.2 +1.8
baz=224
H22K Ishtalitna Cre 88.39 11 P P 17 47 32.1 +0.8
baz=205,SNR=40
MSO Missoula 88.40 38 P P 17 47 32.8 +0.9
MSO IAmb IAmb 17 47 33.7
comp=Z,21nm,1.4s
MSO Missoula 88.40 38 P P 17 47 32.6 +0.7
baz=238
J25K Salcha River, 88.43 14 P P 17 47 32.2 +0.7
baz=211
POKR Poker Plat Res 88.44 13 P P 17 47 30.8 -0.6
POKR IAmb IAmb 17 47 32.4
comp=Z,41nm,0.9s
POKR Poker Plat Res 88.44 13 P P 17 47 31.4 -0.1
baz=209,SNR=12
REDW Red Top Meadow 88.48 42 P P 17 47 33.1 +0.7
REDW IAmb IAmb 17 47 35.3
comp=Z,36nm,1.1s
TPAW Teton Pass 88.48 42 P P 17 47 33.6 +1.1
TPAW IAmb IAmb 17 47 35.4
comp=Z,22nm,1.1s
S22A 4UR Ranch, Cre 88.48 49 P P 17 47 33.6 +0.9
S22A 4UR Ranch, Cre 88.48 49 P P 17 47 34.1 +1.3
baz=243
HIA Hailar 88.49 325 P P 17 47 33.0 +0.9
HIA IAmb IAmb 17 47 33.9
comp=Z,22nm,0.8s
HIA Hailar 88.49 325 P P 17 47 33.2 +1.1
comp=Z,34nm,0.9s
HIA Hailar 88.49 325 P P 17 47 33.0 +0.9
HIA pmax pmax
comp=Z,22nm,0.8s
FXWY Fox Creek 88.51 42 P P 17 47 34.0 +1.4
HTMS Hat Mesa 88.51 55 P P 17 47 33.8 +1.0
CPRX Cap Rock 88.57 54 P P 17 47 34.1 +1.1
SNOW Snow King Moun 88.59 42 P P 17 47 34.5 +1.5
SNOW IAmb IAmb 17 47 35.9
comp=Z,36nm,1.0s
G21K Allakaket 88.61 10 P P 17 47 33.5 +1.3
baz=203
O20A White River Ci 88.62 46 P P 17 47 34.1 +0.9
O20A IAmb IAmb 17 47 35.7
comp=Z,34nm,1.4s
O20A White River Ci 88.62 46 P P 17 47 34.6 +1.4
baz=242
H23K Yukon River 88.66 11 P P 17 47 32.5 0.0
H23K IAmb IAmb 17 47 33.5
comp=Z,13nm,0.9s
H23K Yukon River 88.66 11 P P 17 47 33.0 +0.5
baz=207
IMW Indian Meadow 88.69 42 P P 17 47 35.0 +1.4
IMW IAmb IAmb 17 47 36.5
comp=Z,26nm,0.9s
IMW **pP 17 49 32.0 -0.7**
K27K Chicken 88.70 15 P P 17 47 34.7 +2.0
baz=214
VNA2 Neumayer--Watz 88.70 177 P P 17 47 32.9 0.0
baz=181,slow=4.0
VNA2 S **S 17 57 31.3 -2.0**
VNA2 Neumayer--Watz 88.70 177 pP pP 17 49 31.5 -0.3
baz=183,slow=3.9
MOOW Moose Ponds 88.74 42 P P 17 47 35.0 +1.4
J26L Joseph Creek 88.75 14 P P 17 47 34.4 +1.3
J26L Joseph Creek 88.75 14 P P 17 47 34.2 +1.2
baz=212,SNR=46
LRM Limekiln Ridge 88.75 40 P P 17 47 34.2 +0.6
LOHW Long Hollow 88.76 42 P P 17 47 34.9 +1.1
LOHW IAmb IAmb 17 47 35.9
comp=Z,12nm,0.7s
PHRA Phrae 88.78 290 P P 17 47 36.0 +1.9
NVL N'lazarevskaya 88.82 183 *eP* **P 17 47 31.8 -1.5**
NVL pmax pmax
comp=Z,40nm,0.9s
QLMT Earthquake Lak 88.86 41 P P 17 47 36.4 +2.3
BILL Bilibino 88.91 354 P P 17 47 34.2 +0.7
BILL IAmb IAmb 17 47 36.6
comp=Z,18nm,0.8s
BILL Bilibino 88.91 354 ⇓ *eP* **P 17 47 34.5 +0.9**
BILL *e**PP **pP 17 49 34.4 +0.8**
BILL *e* 17 51 16.4
BILL *e*PPP PPP 17 53 16.0
BILL pmax pmax
comp=Z,20nm,0.8s
M30M Minto, Yukon 88.92 18 P P 17 47 35.3 +1.5
M30M Minto, Yukon 88.92 18 P P 17 47 35.2 +1.5
baz=218
VNA1 Neumayer--Stat 88.93 177 P P 17 47 33.9 0.0
VNA1 Neumayer--Stat 88.93 177 pP pP 17 49 33.0 +0.2
N32M Quiet Lake 88.96 20 P P 17 47 36.0 +1.9
baz=222
YHB Horse Butte 88.96 41 P P 17 47 36.8 +2.1
YHB IAmb IAmb 17 47 38.1
comp=Z,24nm,1.0s
YHB **pP 17 49 35.4 +1.5**
YPP Pitchstone Pla 88.96 42 P P 17 47 35.2 +0.4
YPP IAmb IAmb 17 49 47.2
comp=Z,32nm,1.8s
L29M L29M 88.97 17 P P 17 47 35.9 +1.9
baz=217
H24K Noodor Dome 88.98 12 P P 17 47 33.9 -0.2
baz=208
BW06 Boulder Array 89.01 43 P P 17 47 35.6 +0.6
BW06 IAmb IAmb 17 47 37.0
comp=Z,15nm,0.8s
BW06 Boulder Array 89.01 43 P P 17 47 36.0 +1.0
baz=241,SNR=23
PD31 Pinedale Array 89.01 43 P P 17 47 35.6 +0.7
PD31 IAmb IAmb 17 47 37.0
comp=Z,14nm,0.8s
PDAR Pinedale Array 89.01 43 P P 17 47 35.9 +0.9
comp=Z,14nm,0.8s,baz=210,slow=3.0,SNR=109
PDAR pP **pP 17 49 35.7 +1.5**
comp=Z,1.0nm,1.0s,baz=235,slow=2.9,SNR=2.5
PDAR PKKPbc **PKKPbc 18 05 10.3 -0.9**
comp=Z,1.1nm,0.8s,baz=77,slow=4.2,SNR=7.9
comp=Z,14nm,0.8s
PDAR Pinedale Array 89.01 43 P P 17 47 35.2 +0.2
PDAR pP **pP 17 49 35.1 +0.9**
YHL Hebgen Lake 89.02 41 P P 17 47 36.5 +1.5
YHL IAmb IAmb 17 47 38.5
comp=Z,32nm,1.0s
YHL **pP 17 49 34.0 -0.3**
SMCO Snowmass 89.04 47 P P 17 47 36.0 +0.6
YMR Madison River 89.06 41 P P 17 47 36.0 +0.8
YMR IAmb IAmb 17 47 38.6
comp=Z,24nm,0.9s
YMR **pP 17 49 35.8 +1.5**
BOZ Bozeman (W) 89.12 40 P P 17 47 36.4 +1.1
BOZ IAmb IAmb 17 47 38.2
comp=Z,24nm,1.0s
BOZ **pP 17 49 35.8 +1.2**
BOZ Bozeman (W) 89.12 40 P P 17 47 37.1 +1.8
baz=239,SNR=26
KMI Kunming 89.13 297 ⇓ P **P 17 47 37.7 +1.8**
KMI pmax pmax
comp=Z,48nm,1.2s
KMI pmax pmax
comp=Z,270nm,4.0s
HHC Hu-ho-hao-te 89.14 314 *eP* **P 17 47 37.1 +1.7**
HHC pmax pmax
comp=Z,65nm,1.1s
HHC pmax pmax
comp=Z,240nm,5.2s
H17A Grant Village 89.17 42 P P 17 47 37.7 +2.1
H17A IAmb IAmb 17 47 39.6
comp=Z,19nm,0.8s
H17A Grant Village 89.17 42 P P 17 47 38.6 +2.9
baz=240,SNR=19
PRP Porcupine Dome 89.18 13 P P 17 47 35.4 +0.3
PRP IAmb IAmb 17 47 37.2
comp=Z,57nm,1.4s
PRP Porcupine Dome 89.18 13 P P 17 47 35.3 +0.2
baz=210,SNR=9.6
YHH Holmes Hill 89.19 41 P P 17 47 36.6 +0.8
YHH IAmb IAmb 17 47 39.5
comp=Z,84nm,2.0s
YNR Norris Junctio 89.26 41 P P 17 47 37.8 +1.7
F21K Alatna River 89.27 9 P P 17 47 36.3 +1.0
baz=203
G22K Bettles 89.30 10 P P 17 47 36.8 +1.4
baz=205
M31M Drury Creek, Y 89.34 19 P P 17 47 36.3 +0.5
M31M IAmb IAmb 17 47 37.4
comp=Z,21nm,1.0s
M31M Drury Creek, Y 89.34 19 P P 17 47 36.5 +0.8
baz=220,SNR=6.1
LKWY Lake 89.36 41 P P 17 47 39.6 +3.0
LKWY IAmb IAmb 17 47 40.7
comp=Z,17nm,0.8s
LKWY Lake 89.36 41 P P 17 47 39.6 +3.0
LKWY pmax pmax
comp=Z,17nm,0.8s
G23K Bananza Creek 89.37 11 P P 17 47 36.3 +0.5
baz=206,SNR=12
DAWY Dawson 89.40 16 P P 17 47 37.3 +1.2
DAWY Dawson 89.40 16 P P 17 47 37.0 +1.0
baz=216,SNR=18
SDCO Great Sand Dun 89.42 49 P P 17 47 37.4 +0.3
SDCO Great Sand Dun 89.42 49 P P 17 47 38.2 +1.1
baz=244
PLCA Para Flores 89.49 134 P P 17 47 39.1 +1.9
comp=Z,1.4nm,0.6s,baz=216,slow=6.6,SNR=3.7
PLCA PKKPbc **PKKPbc 18 05 09.7 +0.2**
comp=Z,1.8nm,0.8s,baz=125,slow=2.2,SNR=3.1
comp=Z,1.4nm,0.6s
I26K Coal Creek Min 89.52 14 P P 17 47 37.7 +1.2
I26K Coal Creek Min 89.52 14 P P 17 47 37.8 +1.3
baz=213
EGAK Eagle 89.55 15 P P 17 47 37.6 +1.1
EGAK Eagle 89.55 15 P P 17 47 37.4 +0.8
baz=214,SNR=23
HRY Holter Researc 89.57 39 P P 17 47 38.5 +1.2
YMP Mirror Lake Pl 89.60 41 P P 17 47 39.3 +1.6
YMP IAmb IAmb 17 48 05.3
comp=Z,19nm,1.3s
WALA Waterton Lakes 89.61 36 P P 17 47 38.6 +1.2
WALA IAmb IAmb 17 47 39.7
comp=Z,20nm,0.9s
WTLY Watson Lake, Y 89.66 22 P P 17 47 39.0 +1.7
baz=225
FARO Faro, Yukon 89.68 19 P P 17 47 39.0 +1.6
baz=221
K29M Barlow Dome 89.72 17 P P 17 47 39.0 +1.4
baz=218
F22K John River 89.73 10 P P 17 47 38.8 +1.3
baz=204
MSTX Muleshoe 89.80 54 P P 17 47 39.5 +0.9
MSTX IAmb IAmb 17 47 40.8
comp=Z,16nm,0.9s
MSTX Muleshoe 89.80 54 P P 17 47 39.8 +1.1
baz=245
MSTX Muleshoe 89.80 54 P P 17 47 39.9 +1.3
baz=245
COLD Coldfoot 89.80 11 P P 17 47 39.1 +1.4
COLD IAmb IAmb 17 47 40.0
comp=Z,34nm,0.8s
COLD Coldfoot 89.80 11 P P 17 47 38.7 +1.0
baz=206,SNR=23
G24K Hadweenzic Riv 89.83 12 P P 17 47 39.2 +1.3
baz=209
CM31 Chiang Mai Arr 89.90 290 P P 17 47 39.6 +0.3
CM31 Chiang Mai Arr 89.90 290 P P 17 47 42.0 +2.7
SNR=18
CMAR Chiang Mai Arr 89.90 290 P P 17 47 40.8 +1.5
comp=Z,35nm,0.9s,baz=117,slow=2.8,SNR=197
CMAR pP **pwP 17 49 42.9 0.0**
comp=Z,1.2nm,0.9s,baz=140,slow=4.7,SNR=2.7
CMAR PP **PP 17 51 19.0 -3.3**
comp=Z,0.4nm,0.4s,baz=121,slow=32,SNR=4.3
CMAR PKKPbc **PKKPbc 18 05 09.0 +1.3**
comp=Z,0.8nm,0.4s,baz=279,slow=4.2,SNR=6.3
CMAR SKKPbc SKKPbc 18 07 55.8 +0.8
comp=Z,0.2nm,0.5s,baz=285,slow=4.1,SNR=4.8
comp=Z,35nm,0.9s
CMAR Chiang Mai Arr 89.90 290 P **P 17 47 40.5 +1.2**
CMAR Chiang Mai Arr 89.90 290 *i* P **P 17 47 41.7 +2.4**
CMAR pmax pmax
comp=Z,35nm,0.9s
T25A Trinidad 89.94 50 P P 17 47 40.4 +1.1
baz=244
MAYO Mayo, Yukon 89.98 18 P P 17 47 40.0 +1.4
baz=219
J29M Klondike Camp 90.02 16 P P 17 47 40.4 +1.5
J29M Klondike Camp 90.02 16 P P 17 47 40.3 +1.5
baz=217,SNR=5.5
CHTO Chiang Mai 90.03 290 P P 17 47 41.0 +1.1
CHTO Chiang Mai 90.03 290 P P 17 47 41.0 +1.1
CHTO pmax pmax
comp=Z,57nm,0.7s
RWWY Rawlins 90.03 45 P P 17 47 40.6 +0.9
RWWY IAmb IAmb 17 47 41.9
comp=Z,24nm,1.1s
BTO Baotou 90.07 314 *eP* **P 17 47 41.3 +1.6**
BTO S **S 17 57 39.4 -7.4**
I27K Kandik River 90.12 14 P P 17 47 40.3 +1.0
baz=214
G25K Bearman Lake 90.15 12 P P 17 47 40.2 +0.8
baz=210
LIRD Liard River Hi 90.17 24 P P 17 47 40.9 +1.3
baz=228,SNR=9.4
833A Chaparral WMA, 90.17 60 P P 17 47 41.5 +1.1
baz=247
Q24A Divide 90.21 48 P P 17 47 42.3 +1.6
Q24A Divide 90.21 48 P P 17 47 42.0 +1.2
baz=244
RLMT Red Lodge 90.33 41 P P 17 47 42.9 +1.8
RLMT IAmb IAmb 17 47 44.0
comp=Z,12nm,1.0s
RLMT Red Lodge 90.33 41 P P 17 47 42.7 +1.7
baz=241,SNR=7.2
WAPA Wapiti River 90.35 29 P P 17 47 41.7 +1.1
WAPA IAmb IAmb 17 47 42.7
comp=Z,22nm,0.8s
F24K Squaw Lake 90.47 11 P P 17 47 42.0 +1.2
baz=208
PZH PanZhiHua 90.49 298 P P 17 47 43.5 +1.4
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,230nm,4.2s
N23A Red Feather La 90.52 46 P P 17 47 44.0 +2.0
N23A IAmb IAmb 17 47 45.3
comp=Z,14nm,0.9s
N23A Red Feather La 90.52 46 P P 17 47 43.7 +1.6
baz=243
BRLDA Berland Lookou 90.59 31 P P 17 47 43.3 +1.5
BRLDA IAmb IAmb 17 47 44.4
comp=Z,33nm,1.0s
MMPY Sheldon Lake, 90.63 20 P P 17 47 42.9 +1.2
baz=223,SNR=7.5
E23K Chandalar 90.65 10 P P 17 47 42.9 +1.1
baz=207
H27K Steamboat Moun 90.67 14 P P 17 47 43.0 +1.2
baz=214
JCT Junction City 90.68 58 P P 17 47 43.2 +0.5
JCT Junction City 90.68 58 P P 17 47 44.2 +1.5
baz=247
JCT Junction City 90.68 58 P P 17 47 43.2 +0.5
JCT pmax pmax
comp=Z,7.0nm,0.8s
I29M Ogilvie Camp, 90.73 16 P P 17 47 42.8 +0.8
I29M IAmb IAmb 17 47 43.6
comp=Z,33nm,1.1s
I29M Ogilvie Camp, 90.73 16 P P 17 47 42.9 +0.8
baz=217,SNR=9.9
G26K Porcupine Rive 90.78 13 P P 17 47 43.9 +1.7
baz=212
TGTN Hyland Airport 90.83 22 P P 17 47 44.5 +1.7
baz=226,SNR=6.1
E24K Your Creek 90.86 11 P P 17 47 43.9 +1.2
baz=208
K22A Casper 90.93 44 P P 17 47 45.0 +1.3
K22A IAmb IAmb 17 47 46.0
comp=Z,15nm,0.9s
K22A Casper 90.93 44 P P 17 47 45.3 +1.6
baz=243
K22A Casper 90.93 44 P P 17 47 44.9 +1.1
baz=243
F25K Christian Rive 90.96 12 P P 17 47 44.1 +1.0
baz=210,SNR=8.7
AMTX Amarillo 91.00 53 P P 17 47 45.3 +1.1
baz=246
AMTX Amarillo 91.00 53 P P 17 47 45.1 +0.9
baz=246
BMAR Burnt Mountain 91.03 12 P P 17 47 44.6 +1.2
PHWY Pilot Hill 91.03 46 P P 17 47 45.2 +0.8
G27K Doyon Strip 91.12 14 P P 17 47 44.8 +0.9
baz=214
TOLK Toolik Lake Re 91.18 10 P P 17 47 44.6 +0.5
TOLK IAmb IAmb 17 47 46.1
comp=Z,32nm,1.4s
TOLK Toolik Lake Re 91.18 10 P P 17 47 45.0 +0.9
baz=207
D23K Nanushuk River 91.30 10 P P 17 47 46.1 +1.5
baz=206
F26K Sheenjek River 91.34 12 P P 17 47 46.1 +1.2
baz=212
KOTAN Kotaneelee Air 91.42 24 P P 17 47 46.5 +1.1
baz=230
E25K Arctic Village 91.43 12 P P 17 47 46.2 +1.0
baz=210,SNR=7.5
EGMT Eagleton 91.45 39 P P 17 47 47.1 +1.1
baz=241
ABTX Abilene, Hawle 91.65 56 P P 17 47 48.1 +0.9
ABTX pP **pP 17 49 46.1 -0.6**
ABTX IAmb IAmb 17 50 01.2
comp=Z,57nm,1.9s
ABTX Abilene, Hawle 91.65 56 P P 17 47 48.5 +1.4
baz=247
ABTX Abilene, Hawle 91.65 56 P P 17 47 48.1 +0.9
baz=247
D24K Happy Valley 91.76 10 P P 17 47 47.3 +0.5
baz=207
EPYK Eagle Plains 91.93 15 P P 17 47 48.5 +0.8
EPYK IAmb IAmb 17 47 49.4
comp=Z,24nm,0.8s
EPYK Eagle Plains 91.93 15 P P 17 47 48.5 +0.8
baz=218,SNR=8.9
YAK Yakutsk 91.94 338 P P 17 47 48.0 +0.3
comp=Z,38nm,0.7s,baz=67,slow=0.4,SNR=25
comp=Z,38nm,0.7s
YAK Yakutsk 91.94 338 P P 17 47 47.0 -0.6
YAK Yakutsk 91.94 338 *ce*P **P 17 47 47.6 -0.1**
YAK pmax pmax
comp=Z,58nm,0.8s
C23K Itkillik River 92.09 9 P P 17 47 49.7 +1.4
baz=206
E27K Coleen River 92.28 13 P P 17 47 50.5 +1.3
baz=214
C24K Franklin Bluff 92.29 10 P P 17 47 50.4 +1.3
baz=208
D25K Kavik River 92.33 11 P P 17 47 49.9 +0.5
baz=210
G30M tAoh Zraii Nji 92.53 15 P P 17 47 51.3 +0.9
baz=219
LZH Lanzhou 92.55 308 *e*P **P 17 47 53.1 +1.7**
LZH pmax pmax
comp=Z,43nm,1.2s
LZH pmax pmax
comp=Z,180nm,4.5s
TNCH TengChong 92.64 296 ⇓ P **P 17 47 51.6 -0.5**
TNCH SKS **SKSac 17 57 29.6 -4.1**
TNCH S **ScS 17 58 13.0 +1.6**
TNCH pmax pmax
comp=Z,23nm,1.6s
TNCH pmax pmax
comp=Z,180nm,6.2s
LAO LASA Array 92.95 41 P P 17 47 54.4 +1.6
baz=243
C27K Jago River 93.07 11 P P 17 47 53.8 +1.0
baz=212
C26K Camden Bay 93.10 11 P P 17 47 54.4 +1.5
baz=211
PBA Port Blair 93.12 281 P P 17 47 56.5 +2.3
RSSD Black Hills 93.20 44 P P 17 47 54.9 +0.7
RSSD IAmb IAmb 17 47 56.1
comp=Z,22nm,1.6s
RSSD Black Hills 93.20 44 P P 17 47 54.9 +0.7
baz=245
RSSD Black Hills 93.20 44 P P 17 47 54.9 +0.7
RSSD pmax pmax
comp=Z,22nm,1.6s
F31M Tsiigehtchic 93.51 16 P P 17 47 55.3 +0.6
baz=221,SNR=6.9
INK Inuvik 94.21 15 P P 17 47 58.0 0.0
INK IAmb IAmb 17 47 59.3
comp=Z,18nm,1.1s
INK Inuvik 94.21 15 P P 17 47 58.2 +0.3
baz=221,SNR=9.8
INK Inuvik 94.21 15 P P 17 47 58.0 0.0
INK pmax pmax
comp=Z,17nm,1.1s
R32A Long Quarter, 94.58 51 P P 17 48 01.1 +0.6
DGMT Dagmar 94.96 40 P P 17 48 03.2 +1.4
baz=245
ULN Ulaanbaatar 95.16 319 P P 17 48 03.1 +0.2
ULN IAmb IAmb 17 48 05.2
comp=Z,8.7nm,0.8s
ULN Ulaanbaatar 95.16 319 P P 17 48 04.1 +1.1
ULN Ulaanbaatar 95.16 319 P P 17 48 03.6 +0.7

ULN Ulaanbaatar 95.16 319 P P 17 48 03.2 +0.2
ULN pmax pmax
comp=Z,9.0nm,0.8s
SONM Songino Array 95.55 319 P P 17 48 04.8 +0.1
comp=Z,2.3nm,0.5s,baz=129,slow=4.0,SNR=22
SONM PP PP 17 52 01.1 -4.3
comp=Z,1.2nm,0.9s,baz=117,slow=5.2,SNR=4.0
comp=Z,2.3nm,0.5s
SONM Songino Array 95.55 319 P P 17 48 04.6 0.0
SONM IAmb IAmb 17 48 06.2
comp=Z,19nm,1.6s
YKA Yellowknife Ar 96.49 25 P P 17 48 08.9 +0.5
comp=Z,3.4nm,0.9s,baz=238,slow=4.9,SNR=5.7
comp=Z,3.4nm,0.9s
GTA Gaotai 96.76 309 ⇑P P 17 48 11.6 +1.3
GTA pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 98.59 345 P Pdif 17 48 17.3 -0.2
comp=Z,1.9nm,0.7s,baz=47,slow=0.4,SNR=9.1
comp=Z,1.9nm,0.7s
TIXI Tiksi 98.59 345 *i* P Pdif 17 48 17.5 0.0
TIXI pmax pmax
comp=Z,10.0nm,1.2s
LPAZ La Paz 102.28 113 PKKPbc PKKPbc 18 04 35.9 +0.3
comp=Z,2.0nm,0.7s,baz=49,slow=1.5,SNR=7.4
TAPN Taplejung 102.58 295 *e*P PKiKP 17 52 54.8 +0.3
RAMN Ramite 103.42 294 *e*P PKiKP 17 52 56.0 +0.1
comp=Z,17nm,0.8s
JIRN Jiri 103.96 295 *e*P PKiKP 17 52 56.4 -0.7
comp=Z,15nm,0.6s
GUN Gumba 104.29 295 *e*P PKiKP 17 52 57.3 -0.4
PKI Pulchoki 104.60 294 *e*P PKiKP 17 52 57.6 -0.6
comp=Z,14nm,0.6s
PKIN Phulchoki 104.62 294 *e*P PKiKP 17 52 57.6 -0.6
comp=Z,9.4nm,0.5s
DMN Daman 104.87 294 *e*P PKiKP 17 52 58.2 -0.4
comp=Z,10nm,0.6s
DANN Dangsing 106.22 295 *e*P PKiKP 17 53 00.7 -0.4
comp=Z,23nm,0.6s
TLIN TLI 109.23 295 *e*P PKiKP 17 53 06.6 +0.1
LGTI Lohaghat 109.47 295 *e*P PKiKP 17 53 06.6 -0.2
ZALV Zalesovo Beam 110.29 321 PKiKP PKiKP 17 53 06.6 -1.0
comp=Z,8.2nm,0.6s,baz=150,slow=0.8,SNR=41
NRIK Noril'sk 110.39 338 PKiKP PKiKP 17 53 07.0 -0.3
comp=Z,2.2nm,0.5s,baz=96,slow=4.3,SNR=5.0
NRIK Noril'sk 110.39 338*c i*PKIKP PKiKP 17 53 07.9 +0.6
MK31 Makanchi Array 110.98 313 *i* PKIKP PKiKP 17 53 08.1 -1.1
MKAR Makanchi Array 110.98 313 PKiKP PKiKP 17 53 08.2 -1.0
comp=Z,9.6nm,0.6s,baz=84,slow=0.8,SNR=74
MKAR PKKPbc PKKPbc 18 04 08.6 -0.4
comp=Z,0.9nm,0.8s,baz=236,slow=3.9,SNR=4.0
MAKZ Makanchi 111.20 313 ⇑PKIKP PKiKP 17 53 08.8 -0.8
SMLA Simla 112.42 296 *e*P PKiKP 17 53 11.7 -0.6
SMLA IAmb IAmb 17 53 13.0
comp=Z,11nm,0.7s
KURK Kurchatov 113.78 317 P PKiKP 17 53 14.1 -0.3
KURK Kurchatov 113.78 317*c i*PKIKP PKiKP 17 53 13.9 -0.4
KURK pmax pmax
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 113.84 317 PKiKP PKiKP 17 53 13.7 -0.8
comp=Z,12nm,0.7s,baz=96,slow=1.8,SNR=119
KURBB PP PP 17 54 13.5 -5.0
comp=Z,2.9nm,1.0s,baz=97,slow=6.5,SNR=5.2
KURBB SKP SKPdf 17 55 59.3 +1.2
comp=Z,1.5nm,0.7s,baz=82,slow=2.1,SNR=5.2
KURBB SKKPbc SKKPbc 18 06 50.7 -3.0
comp=Z,0.6nm,0.6s,baz=276,slow=3.8,SNR=8.6
KURBB SKKP SKKPbc 18 06 58.6 +4.9
comp=Z,0.6nm,0.7s,baz=280,slow=4.1,SNR=4.9
KURBB Kurchatov Arra 113.84 317 PKIKP PKiKP 17 53 13.1 -1.3
THN Thein Dam 113.87 297 *e*P PKiKP 17 53 15.2 +0.1
NRN Naryn 114.86 307 PKPdf 17 53 16.9 -0.2
NRN Naryn 114.86 307 PKIKP PKPdf 17 53 16.9 -0.3
BOOM Boomskoye usch 115.00 308 PKPdf 17 53 17.2 0.0
BOOM Boomskoye usch 115.00 308 PKIKP PKPdf 17 53 17.2 0.0
TKM2 Tokmak 2 115.30 309 P PKPdf 17 53 17.3 -0.5
SNR=12
TKM2 Tokmak 2 115.30 309 PKIKP PKPdf 17 53 16.6 -1.2
CHMS Chumysh 115.92 309 P PKPdf 17 53 18.6 -0.1
SNR=7.7
UCH Uchtor 116.04 308 P PKiKP 17 53 20.0 +0.4
SNR=12
AAK Ala-Archa 116.08 308 P PKiKP 17 53 19.4 +0.1
SNR=5.8
AAK Ala-Archa 116.08 308 PKP PKPdf 17 53 18.8 -0.5
comp=Z,4.5nm,0.7s,baz=166,slow=3.0,SNR=18
AAK Ala-Archa 116.08 308 PKPdf PKPdf 17 53 18.4 -0.9
AAK Ala-Archa 116.08 308 P PKiKP 17 53 19.3 0.0
AAK Ala-Archa 116.08 308 PKPdf PKPdf 17 53 18.6 -0.6
AAK Ala-Archa 116.08 308*c i*PKIKP PKiKP 17 53 19.2 0.0
AAK pmax pmax
comp=Z,12nm,1.7s
USP Ospenovka 116.12 309 P PKPdf 17 53 18.5 -0.6
SNR=14
EKS2 Erkin-Say 116.61 308 P PKiKP 17 53 20.4 +0.1
SNR=9.1
AML Almayashu 116.64 308 P PKiKP 17 53 20.7 +0.1
SNR=18
JUMK Jumkunaria 116.87 287 *e*P PKiKP 17 53 21.9 +0.8
NEEM North Greenlan 117.50 11 *i* P PKPdf 17 53 20.8 -0.4
DRK Karamyk 117.88 305 PKPdf 17 53 22.1 -0.9
BTK Batken 118.67 305 PKPdf PKPdf 17 53 23.8 -0.4
BTK Batken 118.67 305 PKIKP PKPdf 17 53 23.8 -0.4
BVA0 Borovoye Array 118.87 320 PKIKP PKPdf 17 53 23.2 -0.9
BRVK Borovoye 118.93 320 PKPdf PKPdf 17 53 23.5 -0.7
BRVK Borovoye 118.93 320 P PKPdf 17 53 24.0 -0.2
BRVK Borovoye 118.93 320*c i*PKIKP PKPdf 17 53 24.0 -0.2
BRVK pmax pmax
comp=Z,35nm,1.0s
GAR Garm 119.00 304 PKPdf 17 53 24.6 -0.4
KK31 Karatay Array 119.03 309 PKPdf 17 53 24.2 -0.5
KK31 Karatay Array 119.03 309 PKIKP PKPdf 17 53 24.2 -0.5
KKAR Karatay Array 119.03 309 PKPdf PKPdf 17 53 23.9 -0.8
KKAR Karatay Array 119.03 309 PKPdf PKPdf 17 53 24.4 -0.4
KKAR Karatay Array 119.03 309 PKIKP PKPdf 17 53 23.9 -0.8
VOI Vohitsoka 119.19 229 P PKiKP 17 53 26.3 +0.4
BDFB Brasilia 119.37 122 PKP PKPdf 17 53 26.2 -0.1
comp=Z,3.8nm,0.7s,baz=150,slow=8.9,SNR=3.9
BDFB PKKPbc PKKPbc 18 03 41.3 +1.0
comp=Z,5.8nm,0.6s,baz=112,slow=2.7,SNR=7.5
KBL Kabul 119.67 299 PKPdf PKPdf 17 53 26.4 -0.1
KBL Kabul 119.67 299 P PKiKP 17 53 26.8 +0.2
SNR=14
KBL Kabul 119.67 299 PKIKP PKPdf 17 53 26.4 -0.1
CHGR Chuyangaron 119.88 304 PKPdf PKiKP 17 53 26.7 0.0
CHGR Chuyangaron 119.88 304 PKIKP PKiKP 17 53 26.7 0.0
OPO Ambohidratompo121.02 232 PKP PKiKP 17 53 30.2 +0.6
comp=Z,9.2nm,0.6s,baz=154,slow=0.9,SNR=14
ILULI Ilulissat 121.70 20 *e*P PKPdf 17 53 28.9 -0.1
SPITS Spitsbergen Ar 121.74 357 PKP PKiKP 17 53 29.0 -0.1
comp=Z,20nm,0.7s,baz=72,slow=5.4,SNR=14
SPB2 Spitsbergen Ar 121.75 356 PKPdf 17 53 28.8 -0.1
SBV Sambava 121.95 239 P PKPdf 17 53 29.4 -1.7
DAG Danmarks Havn 122.64 5 *i* P PKPdf 17 53 29.0 -1.7
SFJD Kangerlussuaq 122.91 22 *i* P PKPdf 17 53 30.8 -0.6
SUMG Summit 123.09 13 *i* P PKPdf 17 53 32.1 0.0
NUUK Nuuk 123.75 25 *i* P PKPdf 17 53 33.0 -0.1
SVE Sverdlovsk 123.79 326 *e*PKIKP PKiKP 17 53 33.6 -0.1
SVE pmax pmax
comp=Z,45nm,1.0s
SUR Sutherland 124.46 200 P PKiKP 17 53 36.7 +0.5
DY2G Dye2 124.67 21 *i* P PKPdf 17 53 34.5 -0.6
DBG Daneborg 124.75 7 *i* P PKPdf 17 53 33.2 -1.6
ARU Arti 125.00 325 PKPdf PKPdf 17 53 35.1 -0.6
ARU Arti 125.00 325 *i* PKIKP PKPdf 17 53 35.6 -0.1
ARU 17 55 35.7
ARU 17 59 54.6
ARU SP SP 18 04 41.1 +1.8
ICESG Greenland Ices 125.15 17 *i* P PKPdf 17 53 34.5 -1.6
HRA Herat 125.27 298 PKPdf PKPdf 17 53 35.6 -1.6
AB31 Akbulak array 125.88 317 PKIKP PKPdf 17 53 37.0 -0.6
ABKAR Akbulak array 125.88 317 PKPdf PKPdf 17 53 37.4 -0.3
ABKAR Akbulak array 125.88 317 PKPdf 17 53 37.1 -0.5
BOSA Boshof 126.27 206 PKP PKiKP 17 53 40.1 +0.3
comp=Z,6.7nm,0.7s,baz=151,slow=3.0,SNR=12
AKTO Aktyubinsk 126.86 318 PKIKP PKPdf 17 53 38.9 -0.6
WSAR Wadi Sarin 127.44 284 P PKiKP 17 53 42.7 +0.6
MHTO MHTO 127.69 281 P PKPdf 17 53 42.0 +0.1
SNR=8.9
JMDO Jabal Madar 127.79 283 P PKiKP 17 53 42.8 +0.1
DQM DQM 127.89 280 P PKiKP 17 53 43.3 +0.3
BIDO Bidbid 127.94 284 P PKiKP 17 53 43.4 +0.3
SMDO Samad 127.95 284 P PKiKP 17 53 44.0 +0.8
SNR=7.2
GEYT Alibeck 128.56 303 PKhKP PKPpre 17 53 31.7
comp=Z,3.1nm,0.6s,baz=253,slow=1.5,SNR=6.2
GEYT PKP PKiKP 17 53 43.7 -0.2
comp=Z,16nm,0.7s,baz=248,slow=1.6,SNR=25
GEYT pPKP pPKPdf 17 55 52.2 +1.2
comp=Z,2.7nm,0.8s,baz=101,slow=3.8,SNR=2.3
GEYT Alibeck 128.56 303 PKPdf PKPdf 17 53 42.6 -0.6
GYA0B ALIBECK ARRAY128.56 303 PKPdf PKPdf 17 53 43.1 0.0
BSY Bisya 128.68 283 P PKiKP 17 53 45.0 +0.4
SNR=5.4
HOQ Hoqain 128.69 284 P PKiKP 17 53 44.2 -0.3
ARCES ARCESS Array B 128.78 350 PKhKP PKPpre 17 53 30.1
comp=Z,1.3nm,0.6s,baz=29,slow=2.8,SNR=6.7
ARCES PKP PKPdf 17 53 42.8 +0.2
comp=Z,13nm,0.6s,baz=27,slow=1.3,SNR=35
ARCES ARCESS Array B 128.78 350 PKPdf PKPdf 17 53 42.5 -0.1
APA Apatity 128.79 345⇓*i*PKIKP PKPdf 17 53 42.3 -0.3
APA pmax pmax
comp=Z,12nm,0.8s
PRGR Permogore 128.86 335 *e*PKIKP PKPdf 17 53 41.0 -1.9
ARQ Araqi 129.38 284 P PKPdf 17 53 44.8 -0.4
UOSS Minazif 129.86 286 PKPdf PKPdf 17 53 45.3 -0.7
UOSS Minazif 129.86 286 P PKPdf 17 53 46.2 +0.2
UOSS Minazif 129.86 286 *i* PKPdf PKPdf 17 53 44.0 -2.0
SNR=9.0
DMTO DMTO 129.87 276 P PKPdf 17 53 46.4 +0.2
BANOM Banah 129.88 287 PKPdf PKPdf 17 53 41.2 -4.8
HATD Hatta, Dubai 129.91 286 P PKiKP 17 53 47.0 0.0
SNR=6.0
HATD Hatta, Dubai 129.91 286 *i* PKPdf PKPdf 17 53 44.8 -1.3
SNR=13
MSFE Esma-Masafi 129.95 286 *i* PKPdf PKPdf 17 53 45.0 -1.2
SNR=7.5
MASF Masafi 129.95 286 P PKiKP 17 53 46.8 -0.2
ASHO Ashiyiah 129.96 286 P PKPdf 17 53 46.5 +0.3
SNR=5.6
ASHO Ashiyiah 129.96 286 *i* PKPdf PKPdf 17 53 45.1 -1.2
SNR=8.8
SHME Shamm 130.03 287 P PKPdf 17 53 46.6 +0.4
SHME Shamm 130.03 287 PKPdf PKPdf 17 53 44.0 -2.2
ALNE Al Ain 130.17 285 P PKiKP 17 53 47.0 -0.5
NAZ Nazwa, Dubai 130.36 286 P PKiKP 17 53 47.8 0.0
NAZ Nazwa, Dubai 130.36 286 PKPdf PKPdf 17 53 44.9 -2.0
FAQ Al Faqa, Dubai 130.39 286 P PKiKP 17 53 47.5 -0.4
RBK Rabkut 130.52 276 P PKiKP 17 53 48.5 +0.1
ASUD Al Ashush, Dub 130.62 285 P PKiKP 17 53 48.5 +0.2
ASUD Al Ashush, Dub 130.62 285 *i* PKPdf PKPdf 17 53 46.3 -1.1
SNR=6.1
DOK Doka 130.81 277 P PKiKP 17 53 48.5 -0.4
WHFO Wadi Hawf 131.01 276 P PKiKP 17 53 48.8 -0.5
ABTO Aybut 131.33 276 P PKiKP 17 53 50.6 +0.5
KLMR Klimovskoe 131.70 336 *e*PKPdf PKPdf 17 53 48.3 0.0
KLMR AMP 17 53 50.2
comp=Z,43nm,1.4s
KLMR Klimovskoe 131.70 336 *e*PKIKP PKPdf 17 53 48.3 0.0
KLMR pmax pmax
comp=Z,43nm,1.4s
BELG Belogornoye 132.40 323 *i* PKIKP PKiKP 17 53 50.6 -0.5
BELG pmax pmax
comp=Z,16nm,0.9s
GHWR Ruwais 132.77 284 P PKiKP 17 53 52.5 -0.2
JRN Qarnain Island 132.89 286 P PKiKP 17 53 53.2 +0.3
SHMA Al-Shehemyia 134.66 287 P PKiKP 17 53 57.0 +0.5
SMRA Abu-Samra 134.71 285 P PKiKP 17 53 56.8 +0.1
SAKB Bahrain 135.05 287 P PKiKP 17 53 57.5 +0.2
FIA1 FINESS Array S 135.61 344 PKPdf 17 53 55.2 -0.4
FINES FINESS Array B 135.61 344 PKhKP PKPpre 17 53 41.8
comp=Z,2.8nm,0.7s,baz=73,slow=3.1,SNR=7.1
FINES PKP PKPdf 17 53 55.7 +0.1
comp=Z,15nm,0.6s,baz=92,slow=4.2,SNR=9.8
FINES SKPbc SKPbc 17 56 38.1 +2.3
comp=Z,4.0nm,0.7s,baz=108,slow=6.2,SNR=3.9
FINES FINESS Array B 135.61 344 PKPdf PKPdf 17 53 54.7 -1.0
MOS Moscow 135.71 332 *i* PKIKP PKPdf 17 53 55.1 -0.9
MAK Makhachkala 135.73 311 *i* P Pdif 17 51 02.0 -1.4
MAK *i* 17 53 57.4
MAK *e* 17 56 06.1
MAK *e* 17 56 41.1
MAK pmax pmax
comp=Z,713nm,1.6s
AKT Akhty 135.96 309 *e*PKIKP PKiKP 17 53 58.3 -0.6
AKT *e* 17 56 44.8
AKT pmax pmax
comp=Z,29nm,0.8s
VRH Novokhopyorsk 136.21 324 *e*PKIKP PKPdf 17 53 56.3 -0.7
VRH pmax pmax
comp=Z,40nm,0.6s
OBN Obninsk 136.57 332 PKPdf 17 53 56.4 -1.1
OBN Obninsk 136.57 332*d i*PKIKP PKPdf 17 53 57.2 -0.4
OBN *e* 17 56 49.2
OBN pmax pmax
comp=Z,56nm,1.3s
GROC Groznyy 136.86 312 *e*PKIKP PKPdf 17 53 58.4 -0.1
GROC pmax pmax
comp=Z,82nm,1.1s
LPSR Galich'ya Gora 136.94 327 *e*PKIKP PKPdf 17 53 58.0 -0.4
LPSR pmax pmax
comp=Z,20nm,0.9s
RAF Rauma 137.04 346 *e*P PKPpre 17 53 50.5
VORR Voronezh 137.31 326 *e*PKIKP PKPdf 17 53 59.6 +0.5
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 137.58 326 *e*PKIKP PKPdf 17 53 57.0 -2.6
VSR pmax pmax
comp=Z,30nm,1.0s
VSU Vasula 137.88 341 *e*P PKPpre 17 53 52.1
KIBK Kibwezi 137.89 242 PKPpre 17 53 49.6
KIBK Kibwezi 137.89 242 P PKiKP 17 54 02.9 -0.7
AAL Aland 138.19 346 *e*P PKPpre 17 53 52.5
ZEI Tsey 138.31 312 *i* PKIKP PKPdf 17 54 01.7 +0.2
ZEI pmax pmax
comp=Z,13nm,1.0s
GNI Garni 138.49 308 PKPdf PKPdf 17 54 02.3 +0.4
GNI Garni 138.49 308 P PKiKP 17 54 03.5 -0.7
GNI Garni 138.49 308 *i* PKIKP PKPdf 17 54 01.9 0.0
MTSE Matsula 138.53 343 *e*P PKPpre 17 53 54.2
NC303 NORSAR Array S 138.65 353 PKPpre 17 53 52.0
KBZ Khabaz 138.68 314 PKhKP PKPpre 17 53 54.7
comp=Z,4.2nm,0.9s,baz=175,slow=1.3,SNR=5.7
KBZ Khabaz 138.68 314 *i* PKIKP PKiKP 17 54 04.1 0.0
KBZ pmax pmax
comp=Z,8.0nm,0.9s
NC405 NORSAR Array S 138.72 353 PKPpre 17 53 51.0
KIV Kislovodsk 138.74 314 P PKPdf 17 54 02.4 +0.3
KIV Kislovodsk 138.74 314 *e*PKIKP PKPdf 17 54 01.9 -0.2
KIV pmax pmax
comp=Z,16nm,1.1s
NB201 NORSAR Array S 138.83 353 PKPpre PKPpre 17 53 54.5
SHA1 Shidzhatmaz 138.84 314 *i* PKIKP PKPdf 17 54 02.4 -0.1
NB2 NORSAR Subarra138.85 353 PKP PKPpre 17 53 52.8
comp=Z,2.3nm,0.5s,baz=16,slow=3.2
NB2 pPKP SKiKP 17 56 47.7 -0.6
comp=Z,2.2nm,0.8s,baz=14,slow=2.9
NOA NORSAR Array B 138.85 353 PKhKP PKPpre 17 53 52.5
comp=Z,7.1nm,0.7s,baz=21,slow=2.4,SNR=24
NOA SKPbc SKiKP 17 56 47.7 -0.6
comp=Z,3.5nm,0.8s,baz=16,slow=4.5,SNR=5.7
UPP Uppsala 138.98 348 *e*P PKPpre 17 53 53.7
NAO01 NORSAR Array S 139.07 353 PKPpre 17 53 54.7
NC602 NORSAR Array S 139.11 353 PKPpre 17 53 53.3
KMBO Kilima Mbogo 139.22 243 PKhKP PKPpre 17 53 56.9
comp=Z,4.0nm,0.8s,baz=101,slow=1.8,SNR=9.6
KMBO SKPbc SKiKP 17 56 51.2 +0.3
comp=Z,1.7nm,0.3s,baz=57,slow=2.2,SNR=6.4
KMBO Kilima Mbogo 139.22 243 PKPpre 17 53 55.9
KMBO Kilima Mbogo 139.22 243 P PKPpre 17 53 57.1
KMBO Kilima Mbogo 139.22 243 PKPdf PKPpre 17 53 58.0
KMBO Kilima Mbogo 139.22 243 PKHKP PKPpre 17 53 55.9
HFS Hagfors 139.40 351 PKhKP PKPpre 17 53 54.4
baz=66,slow=7.0
HFS SKPbc SKiKP 17 56 48.6 -0.8
comp=Z,9.6nm,1.0s,baz=67,slow=1.9,SNR=4.2
RAYN Ar Rayn 139.46 283 PKPpre 17 53 55.7
RAYN Ar Rayn 139.46 283 P PKPpre 17 53 57.1
RAYN Ar Rayn 139.46 283 PKPdf PKPdf 17 54 00.7 -3.3
RAYN Ar Rayn 139.46 283 ⇑PKHKP PKPpre 17 53 56.7
GEVA Gevas 140.23 306 PKPpre 17 53 58.3
KONO Kongsberg 140.38 354 PKPpre 17 53 57.7
KONO Kongsberg 140.38 354 ⇑PKHKP PKPpre 17 53 58.3
ISAL Salakas 140.40 338 *e*P PKPdf 17 54 00.3 -4.2
VIKU Vikbolandet 140.42 348 *e*P PKPpre 17 53 58.2
IIGN Ignalina 140.55 338 *e*P PKPdf 17 54 00.3 -4.6
MNK Minsk 140.60 336 *i* PKP PKPdf 17 53 59.4 -5.6
MNK *i* PKP PKPdf 17 53 59.4 -5.6
MNK *i* PKP PKPdf 17 53 59.4 -5.6
comp=Z,27nm,0.8s,baz=40
MNK *i* SKKS 18 08 57.8
MNK *i* SSS SSS 18 20 12.9
MNK Minsk 140.60 336 *i* PKHKP PKPpre 17 53 59.4
MNK *i* SSS SSS 18 20 12.9
MNK pmax pmax
comp=Z,27nm,0.8s
NACGM Naroch 140.70 337⇑*i*PKP PKPdf 17 53 59.8 -5.3
comp=Z,68nm,0.8s,baz=39
VSVD Vaisvydziai 140.79 340 *e*P PKPdf 17 54 00.5 -4.8
GURO Guroymak-BITLI 140.94 307 PKPpre 17 54 01.9
PABE Paberze 141.18 340 PKPpre 17 54 00.5
PABE Paberze 141.18 340 *e*P PKPdf 17 54 02.2 -3.7
PBUR Paburge 141.36 342 *e*P PKPdf 17 54 02.6 -3.7
KOPT Kop Dagi 141.64 309 PKPdf PKPdf 17 54 04.3 -3.4
LINV Loch Inver, As 141.94 6 *e*P PKPdf 17 54 03.6 -3.7
MARD Mardin 142.23 305 PKPdf PKPdf 17 54 05.6 -3.0
KAC Achnashellach 142.57 6 *e*P PKPdf 17 54 05.8 -2.6
FURI Furi 142.63 258 PKPdf 17 54 08.8 -1.4
MCD Coleburn Disti 142.67 4 *e*P PKPdf 17 54 05.5 -3.1
KPL Plockton 142.69 7 *e*P PKPdf 17 54 06.1 -2.5
AKASG Malin Array Be 142.82 331 PKhKP PKPpre 17 54 05.9
comp=Z,126nm,0.5s,baz=43,slow=4.5,SNR=481
AKASG SKPbc SKiKP 17 56 57.4 +0.7
comp=Z,4.9nm,0.8s,baz=41,slow=2.8,SNR=5.4
AKBB Malin Array Si 142.82 331*d i*PKHKP PKPpre 17 54 06.3
AKBB pmax pmax
comp=Z,101nm,0.9s
DEL Delary 142.86 349 *e*P PKPdf 17 54 06.0 -2.9
GOET G??ttrup 142.99 353 *i* P PKPdf 17 54 08.1 -1.1
SHEL Horse Pasture 143.13 168 PKPdf PKPbc 17 54 09.7 +0.9
SHEL Horse Pasture 143.13 168 PKIKP PKPbc 17 54 09.7 +0.9
LODK Lodwar 143.21 247 PKPab 17 54 08.9 0.0
LODK Lodwar 143.21 247 P PKPdf 17 54 10.2 -0.8
SNR=54
DRUM Mains of Drumt 143.39 4 *e*P PKPab 17 54 08.0 -0.1
MUD Monsted U'grnd 143.57 353 *i* P PKPbc 17 54 09.0 +0.1
EDU Dundee 143.71 5 *e*P PKPdf 17 54 10.0 -0.5
INVG Invergeldie, C 143.75 5 *e*P PKPab 17 54 09.5 0.0
LAWE Loch Awe, Argy 143.78 7 *e*P PKPab 17 54 10.0 +0.4
SIM Simferopol' 143.79 320 *e*PKIKP PKPdf 17 54 10.6 -0.3
COP Copenhagen 143.86 350 *i* P PKPab 17 54 10.1 +0.2
BSD Bornholm Skovb 143.94 347 *e*P PKPbc 17 54 09.9 -0.2
BSD Bornholm Skovb 143.94 347 *i* P PKPab 17 54 10.5 +0.2
LLD Lille Linde 144.23 350 *i* P PKPab 17 54 11.7 +0.3
PGBU Glenifferbraes 144.32 6 *e*P PKPbc 17 54 11.2 -0.1
ESY Stoneypath 144.37 4 *e*P PKPbc 17 54 11.5 0.0
EBL Broad Law 144.48 5 *e*P PKPbc 17 54 11.9 +0.1
DIKM Dikmen 144.67 314 ⇑P PKPdf 17 54 12.1 -0.5
MBAR Mbarara 144.82 237 PKP PKPab 17 54 15.3 +0.2
comp=Z,72nm,0.9s,baz=102,slow=3.3,SNR=111
EKA Eskdalemuir Ar 144.91 5 PKP PKPbc 17 54 13.2 +0.1
comp=Z,52nm,0.9s,baz=327,slow=3.0,SNR=60
ESK Eskdalemuir 144.92 5 *e*P PKPdf 17 54 12.8 +0.3
ESK Eskdalemuir 144.92 5 PKPdf PKPbc 17 54 12.9 -0.3
ESK Eskdalemuir 144.92 5 PKIKP PKPbc 17 54 12.9 -0.3
GAZ Gaziantep 144.99 306 PKPbc 17 54 13.9 -0.2
SORM Soroca 145.01 329 ⇑P PKPbc 17 54 13.8 +0.1
SORM Soroca 145.01 329 ⇑PKIKP PKPbc 17 54 13.8 +0.1
NEWG New Galloway 145.03 6 *e*P PKPbc 17 54 13.3 -0.2
GKP Gorka Klasztor 145.09 344 *e*PKPbc PKPab 17 54 14.4 -0.3
GKP Gorka Klasztor 145.09 344 *e*P PKPab 17 54 14.2 -0.5
GAL1 Galloway 145.22 7 *e*P PKPbc 17 54 14.4 +0.3
BEL Belsk 145.29 339 *e*PKPbc PKPab 17 54 14.9 -0.6
PURM Purcari 145.29 325 ⇓P PKPbc 17 54 15.0 +0.4
BZK Bozkurt 145.36 316 ⇑P PKPbc 17 54 14.6 -0.3
BZK Bozkurt 145.36 316 PKPdf PKPdf 17 54 12.0 -1.7
BNN Bunyan 145.42 310 PKPdf PKPdf 17 54 14.4 +0.3
EDMD Edmundbyers 145.49 4 *e*P PKPbc 17 54 14.9 0.0
KIS Kishinev 145.54 327⇓*i*PKP PKPbc 17 54 15.0 -0.3
comp=Z,160nm,0.6s
KIS Kishinev 145.54 327 ⇑P PKPab 17 54 16.1 -0.6
KIS Kishinev 145.54 327*d i*PKIKP PKPbc 17 54 15.0 -0.3
KIS pmax pmax
comp=Z,160nm,0.6s
MILM Milestii Mici 145.59 327 *e*PKP PKPdf 17 54 14.0 +0.1
comp=Z,250nm,0.6s
MILM Milestii Mici 145.59 327 ⇓P PKPbc 17 54 15.6 +0.2
MILM Milestii Mici 145.59 327 ⇓PKIKP PKPbc 17 54 15.6 +0.2
KESW Keswick, Cumbr 145.65 5 *e*P PKPbc 17 54 15.8 +0.5
LVV L'vov 145.72 334 *e*PKIKP PKPdf 17 54 14.2 +0.1
DRBR Darabani 145.80 330 ⇑P PKPbc 17 54 15.8 -0.2
IOMK Kirk Michael 145.84 7 *e*P PKPbc 17 54 15.6 -0.3
WIM Isle of Man 145.94 7 *e*P PKPbc 17 54 16.5 +0.3
GDLE Glaisdale, N Y 145.96 3 *e*P PKPbc 17 54 16.4 +0.2
ILGA Ilgaz 145.98 314 PKPdf 17 54 15.1 0.0
IAS Iasi 146.05 328 ⇓P PKPbc 17 54 17.2 +0.5
IAS Iasi 146.05 328 ⇓PKP2 PKPbc 17 54 17.2 +0.5
VASR Vaslui 146.30 327 ⇑P PKPbc 17 54 18.4 +0.9
HPK Haverah Park 146.38 4 *e*P PKPbc 17 54 17.7 +0.3
ASF Jabal al Asfar 146.56 298 PKPbc PKPbc 17 54 19.3 +0.6
comp=Z,70nm,0.6s,baz=105,slow=1.8,SNR=116
DSB Dublin 146.60 9 PKPdf PKPdf 17 54 16.2 +0.8
BR131 Keskin Array S 146.62 312 PKPdf 17 54 16.0 -0.2
BR131 Keskin Array S 146.62 312 P PKPbc 17 54 19.0 +0.2
SNR=19
BR131 Keskin Array S 146.62 312 PKIKP PKPdf 17 54 16.0 -0.2
BRTR Keskin Array B 146.62 312 PKP PKPdf 17 54 15.9 -0.2
comp=Z,45nm,0.6s,baz=164,slow=2.0,SNR=116
BRTR PKPbc PKPbc 17 54 18.8 0.0
comp=Z,46nm,0.6s,baz=133,slow=3.4,SNR=101
BRTR SKKPbc SKKPbc 18 04 56.3 -0.2
comp=Z,2.5nm,0.9s,baz=232,slow=4.1,SNR=7.0
BRTR Keskin Array B 146.62 312 PKPdf PKPdf 17 54 15.5 -0.6
BIR Birlad 146.64 327 ⇑P PKiKP 17 54 19.9 -0.5
BIR Birlad 146.64 327 ⇑PKP2 PKiKP 17 54 19.9 -0.5
RUE Ruedersdorf 146.64 347 *e*P PKPdf 17 54 16.8 +1.3
VLDR Vladesti 146.68 326 ⇑P PKiKP 17 54 19.5 -1.0
VARL Varlezi 146.77 326 ⇓P PKiKP 17 54 19.9 -0.8
YRC Rhoscolyn 146.83 7 *e*P PKPbc 17 54 18.6 0.0
BUR08 Bucovina Ar. S 146.86 331 PKPdf 17 54 16.6 +0.4
TATR Tatarca 146.86 325 ⇑P PKPbc 17 54 19.7 +0.7
BURAR Bucovina Array 146.87 331 ⇑P PKiKP 17 54 20.5 -0.5
BURAR Bucovina Array 146.87 331 PKPdf PKPdf 17 54 16.6 +0.4
BURAR Bucovina Array 146.87 331 ⇑PKP2 PKiKP 17 54 20.5 -0.5
GHRR 146.89 327 ⇑P PKiKP 17 54 20.5 -0.4
JURR Jurilovca 146.94 324 ⇑P PKPbc 17 54 19.8 +0.6
TESR Tescani 146.97 328 ⇑P PKPbc 17 54 19.8 +0.6
YLL Llanberis 146.98 7 *e*P PKPbc 17 54 19.1 0.0
OJC Ojcow 146.99 339 *e*PKPdf PKPdf 17 54 13.8 -2.4
OJC *e*PKPbc PKPbc 17 54 17.4 -1.8
OJC Ojcow 146.99 339 PKPdf PKPdf 17 54 13.1 -3.1
OJC Ojcow 146.99 339 PKHKP PKPpre 17 54 13.1
SLCR Slobozia Conac 147.01 326 ⇑P PKPbc 17 54 19.8 +0.5
IZVR Izvoarele 147.04 326 ⇑P PKPbc 17 54 19.6 +0.2
TUDR 147.06 326 ⇑P PKPbc 17 54 19.7 +0.2
CFR Carcaliu 147.08 325 ⇑P PKiKP 17 54 20.5 -0.8
CFR Carcaliu 147.08 325 ⇑PKP2 PKiKP 17 54 20.5 -0.8
RCY Rachaya 147.12 300 *e*P PKiKP 17 54 21.1 -0.9
KOLS Kolonicke sedl 147.13 335 *e*PKP PKiKP 17 54 21.0 -0.4
KOLS Kolonicke sedl 147.13 335 *e*PKP2 PKiKP 17 54 21.0 -0.4
TPGR Topolog 147.13 324 ⇑P PKiKP 17 54 20.7 -0.9
STHS Stebnicka Huta 147.14 336 *e*PKP PKPbc 17 54 20.0 +0.4
STHS *e* 17 54 24.5
STHS Stebnicka Huta 147.14 336 *e*PKP2 PKPbc 17 54 20.1 +0.4
ANTO Ankara 147.14 313 ⇑P PKPbc 17 54 20.9 +0.8
ANTO Ankara 147.14 313 PKPdf 17 54 15.7 -1.2
ANTO Ankara 147.14 313 P PKPbc 17 54 20.7 +0.6
ANTO Ankara 147.14 313 ⇑PKP2 PKPbc 17 54 20.9 +0.8
PANC Panciu 147.15 327 ⇓P PKiKP 17 54 20.8 -0.7
BHL Bhannes 147.16 301 *e*P PKPbc 17 54 20.4 +0.1
BR231 Keskin MP Arra 147.17 313 PKPbc 17 54 20.4 +0.2
QRWL Qaraoun 147.24 301 *e*P PKPbc 17 54 21.2 +0.7
ODBI Odobesti 147.27 326 ⇓P PKiKP 17 54 22.2 +0.5
DQRL Deir Qamar 147.28 301 *e*P PKPbc 17 54 21.3 +0.7
FOEL Foel Wylfa 147.33 6 *e*P PKPbc 17 54 19.3 -0.7
VRI Vrincioaia 147.37 327 ⇑P PKiKP 17 54 21.2 -0.8
VRI Vrincioaia 147.37 327 ⇑PKP2 PKiKP 17 54 21.2 -0.8
TIRR Tirgusor 147.39 323 ⇑P PKiKP 17 54 21.6 -0.4
TIRR Tirgusor 147.39 323 PKPbc 17 54 20.8 +0.4
TIRR Tirgusor 147.39 323 ⇑PKP2 PKiKP 17 54 21.6 -0.4
PLOR Plostina 147.42 327 ⇑P PKPbc 17 54 21.2 +0.7
PLOR Plostina 147.42 327 ⇑PKP2 PKPbc 17 54 21.2 +0.7
TSCT Constanta Port 147.44 323 ⇑P PKiKP 17 54 22.1 -0.1
EFOR EFORIE 147.50 323 ⇑P PKPbc 17 54 21.0 +0.3
HARR Harsova 147.51 324 ⇑P PKiKP 17 54 21.6 -0.7
HARR Harsova 147.51 324 ⇑PKP2 PKiKP 17 54 21.6 -0.7
KSP Ksiaz 147.53 343 *e*PKPdf PKPdf 17 54 17.5 +0.4
KSP *e*PKPbc PKiKP 17 54 21.4 -0.8
TLBR Topalu 147.54 324 ⇑P PKiKP 17 54 21.6 -0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MFTR	Murfatlar	147.56	323	⇑P	PKiKP	17 54 22.2	-0.2
MMAI	Mount Meron Ar	147.59	300	PKP	PKPdf	17 54 18.1	+0.3
	comp=Z,80nm,0.5s,baz=70,slow=4.8,SNR=118						
MMAI				PKPbc	PKPbc	17 54 22.0	+0.6
	comp=Z,80nm,0.5s,baz=74,slow=5.2,SNR=221						
BISRR	Bisoca	147.60	326	⇑P	PKiKP	17 54 22.0	-0.5
BMR	Baia Mare	147.60	332	⇑P	PKiKP	17 54 22.2	-0.2
BMR	Baia Mare	147.60	332	⇑PKP2	PKiKP	17 54 22.2	-0.2
COVR	Voineasa-Covas	147.65	327	⇑P	PKPbc	17 54 21.2	+0.1
TRPA	Tarpa	147.66	334	⇑P	PKiKP	17 54 22.2	-0.3
TRPA	Tarpa	147.66	334	PKP	PKPdf	17 54 17.6	+0.3
ARCR	ARCALIA	147.66	331	⇑P	PKiKP	17 54 22.5	0.0
MANR	Mangalia	147.69	322	⇑P	PKiKP	17 54 22.4	-0.3
OZUR		147.69	328	⇑P	PKiKP	17 54 22.2	-0.5
WACR	West Acre	147.71	1	eP	PKPbc	17 54 20.8	-0.1
HLM1	Long Mynd	147.72	5	eP	PKPbc	17 54 21.2	+0.2
OSTC	Ostas	147.81	343	ePKPDF	PKPdf	17 54 18.0	+0.4
OSTC				⇑ePKP	PKiKP	17 54 22.5	-0.3
GHAJ	Ghor Haditha	147.84	297		PKPbc	17 54 21.5	-0.5
OKC	Ostrava-Krasne	147.86	340	⇑ePKP	PKPbc	17 54 21.9	+0.4
OKC				ePKPAB	PKPab	17 54 26.7	+0.7
OKC	Ostrava-Krasne	147.86	340	ePKP2	PKPbc	17 54 21.9	+0.4
PGOR	Pogoanele	147.88	325	⇓P	PKPbc	17 54 22.1	+0.4
NEHR	Nehoiu	147.89	327	⇑P	PKPbc	17 54 22.0	+0.3
UPC	Upice	147.91	343	ePKPDF	PKPdf	17 54 18.0	+0.3
UPC				⇑ePKP	PKPbc	17 54 22.2	+0.6
UPC	Upice	147.91	343	ePKHKP	PKPpre	17 54 18.0	
CLL	Collm	147.91	347	PKPdf	PKPdf	17 54 16.8	-0.9
CLL	Collm	147.91	347	ePKPdf	PKPdf	17 54 17.0	-0.7
	comp=Z,23nm,1.2s						
CLL				iPKPbc	PKiKP	17 54 22.4	-0.5
	comp=Z,203nm,0.8s						
CLL				iPKPab	PKPab	17 54 26.8	+0.7
	comp=Z,87nm,0.6s						
CLL				ipPKPab	pPKPab	17 56 30.3	+1.3
	comp=Z,19nm,1.1s						
CLL				ex	x	17 56 38.0	
CLL				iSKPdf	SKPdf	17 57 00.1	+0.2
CLL				esPKPab	sPKPab	17 57 24.0	+0.9
CLL				ePP	PP	17 57 56.0	+1.8
CLL				eSKSdf	SKSdf	18 00 30.0	-4.2
CLL				esSKPdf		18 01 00.0	
CLL				ePSKS		18 08 16.0	
CLL				ePPS	PPS	18 10 54.0	
CLL				eSS	SS	18 16 06.0	-9.2
CLL				esSS		18 19 48.0	
CLL				ex	x	18 21 00.0	
CLL				esSSS		18 25 06.0	
CLL				eSSSS		18 26 12.0	
CLL	Collm	147.91	347	iPKPab	PKPab	17 54 34.4	+8.3
	comp=Z,51nm,0.6s						
CLL	Collm	147.91	347	iPKP2	PKiKP	17 54 22.4	-0.5
CLL				pmax	pmax		
	comp=Z,203nm,0.8s						
CLL				pmax	pmax		
	comp=Z,87nm,0.6s						
CLL	Collm	147.91	347	iPKPbc	PKPab	17 54 29.9	+3.8
	comp=Z,109nm,0.9s						
MDUB	Mudurnu	147.93	315		PKPbc	17 54 21.2	-0.9
ICOR	Ion Corvin	147.94	323	⇑P	PKiKP	17 54 23.3	+0.1
DPC	Dobruska-Polom	147.96	342	ePKPDF	PKPdf	17 54 18.4	+0.5
DPC				⇑ePKP	PKiKP	17 54 22.5	-0.6
DPC	Dobruska-Polom	147.96	342	ePKHKP	PKPpre	17 54 18.4	
ISR	Istrita	147.97	326	⇑P	PKiKP	17 54 23.1	-0.2
ISR	Istrita	147.97	326	⇑PKP2	PKiKP	17 54 23.1	-0.2
DOPR	Dopca	147.97	328	⇑P	PKiKP	17 54 23.2	0.0
PSN	Preselentsi	148.00	323	P	PKPbc	17 54 21.0	-1.0
LPW	Lampeter	148.01	7	eP	PKPbc	17 54 21.6	-0.1
MLR	Muntele Rosu	148.03	327	⇑P	PKiKP	17 54 22.9	-0.6
MLR	Muntele Rosu	148.03	327	PKPdf	PKPdf	17 54 17.6	-0.6
MLR	Muntele Rosu	148.03	327	⇑PKP2	PKiKP	17 54 22.9	-0.6
ABAH	Abaujker	148.05	335	PKP	PKPdf	17 54 19.0	+1.0
KRLC	Kraliky	148.07	342	ePKPDF	PKPdf	17 54 18.8	+0.7
KRLC				⇑ePKP	PKPbc	17 54 22.6	+0.5
KRLC				ePKPAB	PKPab	17 54 30.7	+3.8
KRLC	Kraliky	148.07	342	ePKHKP	PKPpre	17 54 18.8	
BRG	Berggiesshubel	148.10	345	Amp		17 56 33.3	
	comp=Z,18nm,1.3s						
BRG	Berggiesshubel	148.10	345	PKP2	PKiKP	17 54 23.2	-0.1
BRG				pmax	pmax		
	comp=Z,93nm,0.9s						
BRG	Berggiesshubel	148.10	345	⇓iPKPf		17 54 18.7	
BRG	Berggiesshubel	148.10	345	Amp		17 54 19.8	
	comp=Z,36nm,1.4s						
BRG	Berggiesshubel	148.10	345	⇑PKP	PKiKP	17 54 23.3	-0.1
BRG	Berggiesshubel	148.10	345	Amp		17 54 24.0	
	comp=Z,93nm,0.9s						
BRG	Berggiesshubel	148.10	345	PKPab	PKPab	17 54 27.9	+1.0
BRG	Berggiesshubel	148.10	345	Amp		17 54 28.5	
	comp=Z,73nm,0.7s						
BRG	Berggiesshubel	148.10	345	pPKP	pPKPdf	17 56 32.0	+5.7
MORC	Moravsky Berou	148.11	341	⇓P	PKiKP	17 54 23.4	0.0
MORC	Moravsky Berou	148.11	341		PKPdf	17 54 18.2	+0.1
MORC	Moravsky Berou	148.11	341	e	PKiKP	17 54 23.0	-0.4
MORC	Moravsky Berou	148.11	341	⇓PKP2	PKiKP	17 54 23.4	0.0
MORC	Moravsky Berou	148.11	341	ePKP	PKPdf	17 54 18.6	+0.5
MESR	Meseseni	148.24	332	⇑P	PKiKP	17 54 23.5	-0.2
RASA	Rasa	148.24	324	⇑P	PKiKP	17 54 23.7	-0.1
LEHL	Lehliu	148.25	325	⇑P	PKiKP	17 54 23.7	-0.1
CBBR	Cluj-Babes-Bol	148.26	331	⇑P	PKiKP	17 54 23.8	0.0
PVCC	Panska Ves	148.27	344	ePKPDF	PKPdf	17 54 19.1	+0.8
PVCC				⇑ePKP	PKiKP	17 54 23.3	-0.4
PVCC	Panska Ves	148.27	344	ePKHKP	PKPpre	17 54 19.1	
CJR	Cluj-Napoca	148.28	331	⇑P	PKiKP	17 54 23.7	-0.2
CJR	Cluj-Napoca	148.28	331	⇑PKP2	PKiKP	17 54 23.7	-0.2
MDB	Medias	148.34	329	⇑P	PKiKP	17 54 24.6	+0.6
MDB	Medias	148.34	329	⇑PKP2	PKiKP	17 54 24.6	+0.6
MAUC	Maruska	148.38	340	ePKPDF	PKPdf	17 54 19.8	+1.2
MAUC				⇑ePKP	PKiKP	17 54 24.1	+0.1
MONM	Monmouth	148.40	5	eP	PKPbc	17 54 22.8	+0.1
SULR		148.42	326	⇑P	PKiKP	17 54 23.8	-0.4
VOIR		148.52	328	⇑P	PKiKP	17 54 24.2	-0.2
VOIR		148.52	328	⇑PKP2	PKiKP	17 54 24.2	-0.2
STRD	Stroud	148.52	5	eP	PKPbc	17 54 23.0	0.0
EIL	Elat	148.66	294	PKP	PKPdf	17 54 19.2	-0.4
	comp=Z,44nm,1.0s,baz=89,slow=3.2,SNR=6.8						
EIL				PKPbc	PKPbc	17 54 24.5	+0.4
	comp=Z,87nm,0.7s,baz=73,slow=2.0,SNR=71						
CSS	Mathiatis	148.68	304		PKPbc	17 54 23.1	-1.0
BORA	Eskisehir	148.72	315		PKPbc	17 54 23.5	-0.6
PRD	Provadia	148.75	322	P	PKPbc	17 54 24.0	+0.2
ARR	Arges	148.77	328	⇑P	PKiKP	17 54 25.7	+0.7
PRU	Pruhonice	148.77	344	⇑ePKP	PKiKP	17 54 24.3	-0.4
PRU				ePKPAB	PKPab	17 54 30.4	+0.7
PRU	Pruhonice	148.77	344	ePKHKP	PKPpre	17 54 24.3	
PRU				e		17 54 30.4	
GOPC	GO Pecny, Ondr	148.78	344	⇑ePKP	PKiKP	17 54 24.3	-0.5
GOPC				ePKPAB	PKPab	17 54 30.6	+0.8
GOPC	GO Pecny, Ondr	148.78	344	ePKHKP	PKPpre	17 54 24.3	
GOPC				e		17 54 30.6	
VYHS	Vyhne	148.78	338	ePKP	PKPdf	17 54 19.5	+0.3
VYHS				e		17 54 25.1	
VYHS				e		17 54 31.2	
VYHS	Vyhne	148.78	338	ePKHKP	PKPpre	17 54 19.5	
VYHS				e		17 54 31.2	
BORR	Bors	148.79	333	⇑P	PKiKP	17 54 25.6	+0.8
SWN1	Swindon	148.81	4	eP	PKPbc	17 54 24.0	+0.2
VRAC	Vranov	148.81	341	⇑P	PKiKP	17 54 25.1	+0.2
VRAC	Vranov	148.81	341	PKPbc	PKiKP	17 54 24.5	-0.4
	baz=44,slow=2.1						
VRAC	Vranov	148.81	341	e	PKiKP	17 54 24.8	-0.1
VRAC	Vranov	148.81	341	⇑PKP2	PKiKP	17 54 25.1	+0.2
VRAC	Vranov	148.81	341	ePKP	PKPdf	17 54 19.6	+0.4
PSZ	Piszkesteto	148.88	336	⇑P	PKiKP	17 54 24.8	-0.3
PSZ	Piszkesteto	148.88	336	PKPdf	PKPdf	17 54 18.8	-0.7
PSZ	Piszkesteto	148.88	336	PKP	PKPdf	17 54 20.5	+1.0
PSZ	Piszkesteto	148.88	336	⇑PKHKP	PKPpre	17 54 24.8	
STFAR	Stefanesti-Arg	148.97	327	⇓P	PKPbc	17 54 23.8	-0.6
RAZG	Razgrad	149.02	324	⇓P	PKiKP	17 54 25.2	-0.3
NKC	Novy Kostel	149.04	347	ePKPDF	PKPdf	17 54 20.1	+0.5
NKC				⇑ePKP	PKiKP	17 54 25.0	-0.3
NKC				ePKPAB	PKPab	17 54 31.6	+0.8
NKC	Novy Kostel	149.04	347	ePKHKP	PKPpre	17 54 20.1	
NKC				e		17 54 31.6	
KRUC	Moravsky	149.09	341	e	PKiKP	17 54 25.3	-0.1
KRUC	Moravsky	149.09	341	ePKP	PKPdf	17 54 19.9	+0.2
LOT	Lotru	149.14	329	⇑P	PKPbc	17 54 25.2	+0.3
TREC	Trest	149.15	342	⇑ePKP	PKPbc	17 54 25.0	+0.3
TREC				ePKPAB	PKPab	17 54 32.3	+1.0
TREC	Trest	149.15	342	ePKHKP	PKPpre	17 54 25.0	
TREC				e		17 54 32.3	
HUMR	Humele	149.19	327	⇑P	PKiKP	17 54 25.4	-0.4
DEV	Deva	149.22	331	⇑P	PKiKP	17 54 26.0	+0.2
DEV	Deva	149.22	331	⇑PKHKP	PKPpre	17 54 26.0	
SMOL	Smolenice	149.25	339	ePKP2	PKiKP	17 54 26.6	+0.8
ELSH	Elham, Standar	149.30	1	eP	PKPbc	17 54 25.0	+0.1
COPA	Copaceanca	149.34	326	⇑P	PKiKP	17 54 25.9	-0.2
MODS	Modra-Piesok	149.42	340	e	PKiKP	17 54 26.8	+0.6
MODS	Modra-Piesok	149.42	340	ePKHKP	PKPpre	17 54 21.0	
MODS	Modra-Piesok	149.42	340	ePKP	PKPdf	17 54 21.0	+0.8
SIRR	Siria	149.49	332	⇑P	PKiKP	17 54 26.8	+0.4
BEBN	Eben Emael	149.50	355	dPKPdf	PKPdf	17 54 20.8	+0.6
BEBN				dPKiKP	PKiKP	17 54 26.3	+0.1
BEBN				dPKPab	PKPab	17 54 33.2	+0.6
BEBN				dPKP	PKPbc	17 54 40.3	+15
SZH	Strazhica	149.53	324	P	PKPbc	17 54 25.0	-0.8
ZST	Bratislava	149.63	340	e	PKPab	17 54 34.6	+1.3
ZST	Bratislava	149.63	340	ePKHKP	PKPpre	17 54 26.8	
ZST				e		17 54 34.6	
ZST	Bratislava	149.63	340	ePKP	PKiKP	17 54 26.8	+0.3
GZR	Gura Zlata	149.65	330	⇑P	PKiKP	17 54 26.7	-0.1
GZR	Gura Zlata	149.65	330	⇑PKIKP	PKiKP	17 54 26.7	-0.1
ISP	Isparta	149.65	311		PKPbc	17 54 26.0	-0.4
ISP	Isparta	149.65	311	PKHKP	PKPpre	17 54 26.0	
MEM	Membach	149.66	355	dPKPdf	PKPdf	17 54 21.1	+0.6
MEM				dPKPbc	PKiKP	17 54 26.2	-0.3
MEM				dPKiKP	PKPbc	17 54 26.6	+0.8
MEM				dPKPab	PKPab	17 54 34.2	+0.9
BTNL	Ternell	149.67	355	dPKPdf	PKPdf	17 54 21.3	+0.7
BTNL				dPKiKP	PKiKP	17 54 26.6	0.0
BTNL				dPKPab	PKPab	17 54 34.4	+1.0
DYA	Yadsworthy	149.67	7	eP	PKPbc	17 54 25.8	-0.1
JMB	Yambol	149.67	322	P	PKPbc	17 54 26.0	-0.1
BSTI	Sart Tilman	149.72	355	dPKiKP	PKiKP	17 54 26.8	+0.2
BSTI				dPKPab	PKPab	17 54 33.8	+0.2
KHC	Kasperske Hory	149.81	345	PKPdf	PKPdf	17 54 20.9	+0.1
KHC	Kasperske Hory	149.81	345	ePKPDF	PKPdf	17 54 21.2	+0.3
KHC				⇑ePKP	PKiKP	17 54 26.9	-0.1
KHC				ePKPAB	PKPab	17 54 34.8	+0.7
KHC				ex	x	17 54 42.5	
KHC	Kasperske Hory	149.81	345	ePKIKP	PKPdf	17 54 21.2	+0.3
KHC				e		17 54 34.8	
GRFO	Grafenberg	149.81	348		PKPdf	17 54 21.2	+0.4
GRFO	Grafenberg	149.81	348	PKIKP	PKPdf	17 54 21.2	+0.4
SNF	Seneffe	149.88	357	dPKiKP	PKiKP	17 54 27.0	0.0
SNF				dPKPab	PKPab	17 54 34.7	+0.5
BCLA	Clavier	149.90	356	dPKiKP	PKiKP	17 54 26.9	-0.2
BCLA				dPKPab	PKPab	17 54 34.1	-0.2
BCLA				dPKP	PKPbc	17 54 42.2	+16
CKRC	Cesky Krumlov	149.91	343	ePKPDF	PKPdf	17 54 21.4	+0.4
CKRC				⇑ePKP	PKiKP	17 54 26.8	-0.3
CKRC				ePKPAB	PKPab	17 54 35.1	+0.6
BHOU	Houvegnez	149.91	355	dPKPdf	PKPdf	17 54 21.8	+0.9
BHOU				dPKiKP	PKiKP	17 54 27.3	+0.2
BHOU				dPKPab	PKPab	17 54 35.3	+0.9
BHOU				dPKP	PKPbc	17 54 42.8	+16
CSKK	Cskako	149.95	337	PKP	PKiKP	17 54 26.9	-0.3
BGES	Gesves	149.95	356	dPKiKP	PKiKP	17 54 26.8	-0.3
BGES				dPKPab	PKPab	17 54 34.2	-0.4
BGES				dPKP	PKPbc	17 54 42.5	+16
SRE	Strehaia	149.98	329	⇑P	PKiKP	17 54 28.2	+0.8
SRE	Strehaia	149.98	329	⇑PKHKP	PKPpre	17 54 28.2	
BZS	Buzias	150.01	332	⇑P	PKiKP	17 54 27.7	+0.3
BZS	Buzias	150.01	332	⇑PKHKP	PKPpre	17 54 27.7	
GEC2	GERESS Array S	150.04	344		PKPdf	17 54 19.4	-1.9
GERES	GERESS Array B	150.04	344	PKP	PKPdf	17 54 21.4	+0.1
	comp=Z,2.2nm,0.7s,baz=64,slow=3.1,SNR=18						
GERES				PKPbc	PKiKP	17 54 27.5	0.0
	comp=Z,21nm,0.6s,baz=35,slow=2.4,SNR=81						
GERES	GERESS Array B	150.04	344		PKPdf	17 54 19.2	-2.1
BMRD	Maredsous	150.06	356	dPKiKP	PKiKP	17 54 27.4	0.0
BMRD				dPKPab	PKPab	17 54 35.2	+0.2
PLVB	Pleven	150.16	325	⇑P	PKiKP	17 54 28.1	+0.3
SOP	Sopron	150.26	340	PKP	PKiKP	17 54 28.0	+0.2
CONA	Conrad Observa	150.26	341	eP	PKPdf	17 54 22.0	+0.3
	comp=Z,10.0nm,1.2s						
CONA				iP	PKiKP	17 54 28.1	+0.1
	comp=Z,59nm,0.7s,SNR=20						
CONA				eP	PKPab	17 54 36.0	-0.1
	comp=Z,34nm,0.7s						
DOU	Dourbes	150.27	356	dPKiKP	PKiKP	17 54 27.9	+0.1
DOU				dPKPab	PKPab	17 54 35.7	-0.2
DOU				dPKP	PKPbc	17 54 44.0	+17
DJES	Djerdap	150.31	329	⇑P	PKPbc	17 54 27.2	-0.4
RONA	Rosalia, Austr	150.33	340	iP	PKPdf	17 54 22.0	+0.3
	comp=Z,10nm,1.0s						
RONA				iP	PKiKP	17 54 28.1	+0.1
	comp=Z,70nm,0.6s,SNR=22						
RONA				eP	PKPab	17 54 36.4	+0.1
	comp=Z,50nm,0.6s						
MPLH	Magyarpolny	150.37	338	PKP	PKPdf	17 54 24.1	+2.4
BAIL	Bailesti	150.38	328	⇑P	PKiKP	17 54 28.6	+0.4
PUNG	Punghina	150.40	328	⇓P	PKiKP	17 54 28.6	+0.3
BANR	Banloc	150.41	332	⇑P	PKiKP	17 54 29.0	+0.8
DIM	Dimitrovgrad	150.54	322	P	PKPbc	17 54 28.0	-0.1
ELL	Elmali	150.57	310		PKPbc	17 54 28.4	-0.2
ELL	Elmali	150.57	310	PKIKP	PKPbc	17 54 28.4	-0.2
WLF	Walferdange	150.58	354	PKPdf	PKPdf	17 54 21.4	-0.5
WLF				PKPbc	PKiKP	17 54 28.9	+0.4
WLF	Walferdange	150.58	354	dPKPdf	PKPdf	17 54 22.6	+0.7
WLF				dPKiKP	PKiKP	17 54 29.2	+0.7
WLF				dPKPab	PKPab	17 54 37.0	-0.2
WLF				dPKP	PKPbc	17 54 45.8	+18
WLF	Walferdange	150.58	354	PKIKP	PKPdf	17 54 21.4	-0.5
MDVR	Moldovita	150.61	330	⇑P	PKPdf	17 54 22.5	+0.2
MANT	Manisa	150.69	314		PKPbc	17 54 28.8	-0.2
MORH	Mrgy, Hungar	150.77	336	⇑P	PKiKP	17 54 29.2	+0.3
MORH	Mrgy, Hungar	150.77	336	PKP	PKPdf	17 54 22.4	+0.1
MOA	Molln	150.80	343	eP	PKPdf	17 54 22.4	0.0
	comp=Z,6.4nm,1.0s						
MOA				iP	PKiKP	17 54 29.1	+0.1
	comp=Z,23nm,0.6s,SNR=7.2						
KDZ	Kurdzhali	150.86	322	P	PKPbc	17 54 28.0	-0.9
ARSA	Arzberg	150.97	341	eP	PKPdf	17 54 22.9	+0.2
	comp=Z,5.5nm,1.1s						
ARSA				iP	PKiKP	17 54 29.5	+0.1
	comp=Z,13nm,0.8s,SNR=5.7						
BLKB	Belogradchik	151.00	328	⇑P	PKiKP	17 54 29.6	0.0
AKAS	Kas	151.01	309		PKPbc	17 54 28.3	-1.3
JVM	Valle D.L. Mar	151.06	5	eP	PKiKP	17 54 29.3	-0.1
STU	Stuttgart	151.06	350	PKPdf	PKPdf	17 54 21.2	-1.5
STU				PKPbc	PKiKP	17 54 29.6	+0.1
STU	Stuttgart	151.06	350	PKIKP	PKPdf	17 54 21.2	-1.5
KOVH	Kovagotottos	151.09	336	PKP	PKPdf	17 54 23.5	+0.7
RDO	Rodhopi	151.11	321	PKPdf	PKPdf	17 54 21.5	-1.5
RDO				PKPbc	PKPbc	17 54 29.2	-0.3
BIOA	Bad Ischl, Aus	151.12	343	iP	PKiKP	17 54 29.7	0.0
	comp=Z,16nm,0.5s,SNR=5.6						
BIOA				eP	PKPab	17 54 41.5	+1.9
	comp=Z,55nm,0.7s						
BEHE	Becsehely	151.24	338	PKP	PKiKP	17 54 30.8	+0.9
RZN	Rozhen	151.24	323	P	PKPbc	17 54 29.0	-1.0
VTS	Vitosha	151.43	326	⇓P	PKiKP	17 54 30.8	+0.2
VTS	Vitosha	151.43	326		PKPdf	17 54 21.5	-2.2
VTS					PKiKP	17 54 30.8	+0.2
VTS	Vitosha	151.43	326	P	PKPbc	17 54 30.0	-0.4
VTS	Vitosha	151.43	326	PKIKP	PKiKP	17 54 30.8	+0.2
BFO	Black Forest	151.63	351		PKiKP	17 54 31.2	+0.5
BFO	Black Forest	151.63	351	PKIKP	PKiKP	17 54 31.2	+0.5
SOKA	Soboth	151.63	341	iP	PKPdf	17 54 23.4	-0.3
	comp=Z,9.1nm,1.0s,SNR=6.5						
SOKA				eP	PKPbc	17 54 30.5	-0.1
	comp=Z,29nm,0.9s						
KBA	Koelnbreinsper	151.76	343	eP	PKPdf	17 54 23.8	-0.3
	comp=Z,14nm,1.3s						
KBA				iP	PKPbc	17 54 30.9	-0.1
	comp=Z,33nm,0.9s,SNR=7.1						
MMB	Musomiste	151.86	324	P	PKPbc	17 54 30.0	-1.2
ECH	Echery	151.90	352		PKiKP	17 54 31.6	+0.3
ECH	Echery	151.90	352	PKIKP	PKiKP	17 54 31.6	+0.3
DIVS	Divibare	151.92	331	PKPdf	PKPdf	17 54 24.1	-0.2
OBKA	Obir	151.93	341	eP	PKPdf	17 54 23.8	-0.4
	comp=Z,12nm,1.7s						
OBKA				eP	PKPbc	17 54 31.2	-0.1
	comp=Z,12nm,0.6s						
WATA	Walderalm	151.97	346	eP	PKPdf	17 54 24.4	+0.1
	comp=Z,7.0nm,0.8s						
WATA				iP	PKPbc	17 54 31.5	0.0
	comp=Z,22nm,0.5s,SNR=7.3						
RETA	Reutte	152.00	347	eP	PKPdf	17 54 24.6	+0.3
	comp=Z,4.0nm,0.8s						
RETA				iP	PKiKP	17 54 32.0	+0.4
	comp=Z,20nm,0.9s,SNR=5.1						
RETA				eP	PKPab	17 54 44.6	+1.3
	comp=Z,18nm,0.7s						
WTTA	Wattenberg	152.02	346	iP	PKPdf	17 54 24.8	+0.3
	comp=Z,15nm,0.9s,SNR=12						
WTTA				eP	PKiKP	17 54 32.1	+0.3
	comp=Z,68nm,0.9s						
WTTA				eP	PKPab	17 54 44.8	+1.2
	comp=Z,48nm,0.6s						
MOTA	Moosalm	152.06	346	iP	PKPdf	17 54 24.5	+0.1
	comp=Z,15nm,0.9s,SNR=5.7						
MOTA				eP	PKPbc	17 54 31.5	-0.1
	comp=Z,33nm,0.8s						
MOTA				eP	PKPab	17 54 44.9	+1.2
	comp=Z,50nm,1.0s						
ARG	Arkhangelos	152.09	310		PKPbc	17 54 31.6	-0.2
ARG	Arkhangelos	152.09	310	PKIKP	PKPbc	17 54 31.6	-0.2
MYKA	Terra Mystica	152.09	342	eP	PKPdf	17 54 24.3	-0.1
	comp=Z,3.3nm,0.6s						
MYKA				iP	PKPbc	17 54 31.6	0.0
	comp=Z,23nm,0.6s,SNR=8.4						
MYKA				eP	PKPab	17 54 44.0	+0.3
	comp=Z,25nm,0.5s						
SQTA	Sankt Quirin	152.16	346	iP	PKPdf	17 54 24.8	+0.2
	comp=Z,22nm,1.3s,SNR=5.2						
SQTA				eP	PKiKP	17 54 32.3	+0.4
	comp=Z,15nm,0.5s						
PRED	Cave del Predi	152.28	342		PKPbc	17 54 31.2	-0.8
PRED				PKPab	PKPab	17 54 44.5	-0.1
ABTA	Abfaltersbach	152.29	344	iP	PKPdf	17 54 24.5	-0.2
	comp=Z,22nm,0.8s,SNR=9.7						
ABTA				eP	PKPbc	17 54 31.9	-0.2
	comp=Z,54nm,0.6s						
ABTA				eP	PKPab	17 54 45.0	+0.4
	comp=Z,48nm,0.6s						
DAVA	Damuels	152.37	348	eP	PKPdf	17 54 25.2	+0.3
	comp=Z,10nm,1.1s						
DAVA				iP	PKiKP	17 54 33.5	+1.0
	comp=Z,46nm,1.4s,SNR=5.5						
FETA	Feichten	152.45	347	iP	PKPdf	17 54 25.6	+0.5
	comp=Z,27nm,1.1s,SNR=9.8						
FETA				eP	PKiKP	17 54 33.2	+0.5
	comp=Z,15nm,0.6s						
CLUD	Cludinico	152.46	343	PKPdf	PKPdf	17 54 23.1	-1.9
STIP	Stip	152.63	325	iP	PKPbc	17 54 32.2	-0.6
VAY	Valandovo	152.68	324	iP	PKPbc	17 54 32.8	-0.1
STAL	STALIGIAL	152.69	343		PKPdf	17 54 23.4	-1.9
STAL				PKPbc	PKPbc	17 54 32.2	-0.6
SABO	M.te Sabotino	152.69	342	PKPdf	PKPdf	17 54 24.8	-0.5
CIMO	Cimolais	152.71	344	PKPdf	PKPdf	17 54 24.6	-0.7
CIMO				PKPbc	PKPbc	17 54 32.5	-0.4
SKO	Skopje	152.82	327	eP	PKPdf	17 54 25.6	0.0
DAVOX	Davos/Dischmat	152.86	348	PKP	PKPdf	17 54 26.0	+0.3
	comp=Z,8.9nm,0.8s,baz=129,slow=1.6,SNR=13						
DAVOX				PKPbc	PKiKP	17 54 34.1	+0.6
	comp=Z,25nm,0.5s,baz=255,slow=3.7,SNR=36						
FUORN	Ofenpass-Fuorn	152.93	347	PKPdf	PKPdf	17 54 25.1	-0.7
KARP	Karpathos	153.09	309		PKPbc	17 54 34.0	-0.1
CTI	Castel Tesino	153.16	345		PKPdf	17 54 25.0	-1.0
CTI					PKPbc	17 54 33.4	-0.6
CTI				PKPab	PKPab	17 54 48.1	-0.3
CTI	Castel Tesino	153.16	345	PKIKP	PKPdf	17 54 25.0	-1.0
CTI						17 54 33.4	
CTI						17 54 48.1	
PDG	Podgorica	153.55	330	⇑P	PKiKP	17 54 34.9	+0.1
PDG	Podgorica	153.55	330	PKPdf	PKPdf	17 54 25.3	-1.2
FNA	Florina	153.70	325		PKPdf	17 54 25.5	-1.4
FNA	Florina	153.70	325	PKIKP	PKPdf	17 54 25.5	-1.4
TEOL	Teolo	153.79	344		PKPdf	17 54 27.1	+0.2
SALO	Salr	153.83	346		PKPab	17 54 51.1	0.0
ZCCA	Zocca	154.91	344	PKPdf	PKPdf	17 54 23.7	-4.8
BNI	Bardonecchia	155.07	352	PKPdf	PKPdf	17 54 29.3	+0.5
BNI	Bardonecchia	155.07	352	PKIKP	PKPdf	17 54 29.3	+0.5
SGRT	San Giovanni R	155.64	334	PKPdf	PKPdf	17 54 28.6	-0.9
MATE	Matera	156.13	331	⇑P	PKPab	17 55 01.8	+0.6
PBRG	Braganca	157.46	17	ePKPdf	PKPdf	17 54 32.1	+0.3
PBRG	Braganca	157.46	17	ePKPab	PKPab	17 55 08.1	+1.2
POLO	Lamas de Olo	157.55	19	ePKPdf	PKPdf	17 54 32.4	+0.4
POLO	Lamas de Olo	157.55	19	ePKPab	PKPab	17 55 08.3	+0.9
MVO	Moncorvo	157.97	18	ePKPdf	PKPdf	17 54 33.8	+1.3
MVO	Moncorvo	157.97	18	ePKPab	PKPab	17 55 10.5	+1.3
PVIS	Viseu	158.11	20	ePKPdf	PKPdf	17 54 33.8	+1.1
PVIS	Viseu	158.11	20	ePKPab	PKPab	17 55 10.4	+0.6
PCAS	Casmilo, Conde	158.51	22	ePKPdf	PKPdf	17 54 32.8	-0.3
PCAS	Casmilo, Conde	158.51	22	ePKPab	PKPab	17 55 12.3	+0.8
MTE	Manteigas	158.51	20	ePKPdf	PKPdf	17 54 34.0	+0.8
MTE	Manteigas	158.51	20	ePKPab	PKPab	17 55 12.5	+0.9
MTE	Manteigas	158.51	20		PKPdf	17 54 33.6	+0.5
PSBE	So Bento	158.87	23	ePKPab	PKPab	17 55 14.8	+1.6
PCBR	Castelo Branco	159.04	20	ePKPdf	PKPdf	17 54 34.5	+0.8
PCBR	Castelo Branco	159.04	20	ePKPab	PKPab	17 55 14.3	+0.5
PMAFR	Mafra	159.17	25	ePKPab	PKPab	17 55 15.4	+0.9
PMRV	Marv??o	159.44	21	ePKPdf	PKPdf	17 54 35.2	+1.0
PMRV	Marv??o	159.44	21	ePKPab	PKPab	17 55 16.4	+0.8
PMTG	Montargil	159.47	23	ePKPdf	PKPdf	17 54 35.0	+0.8
PMTG	Montargil	159.47	23	ePKPab	PKPab	17 55 15.8	+0.1
PESTR	Estremoz	159.88	22	ePKPab	PKPab	17 55 18.3	+0.8
ESDC	Sonseca Array	160.15	13	PKP	PKPdf	17 54 35.9	+0.8
	comp=Z,2.7nm,1.1s,baz=331,slow=2.1,SNR=9.0						
ESDC				PKPab	PKPab	17 55 19.8	+1.1
	comp=Z,9.0nm,0.9s,baz=341,slow=4.0,SNR=23						
ESDC	Sonseca Array	160.15	13		PKPdf	17 54 35.0	0.0
ESDC					PKPab	17 55 18.8	+0.1
PNCL	Nicolau / Gran	160.20	25	ePKPdf	PKPdf	17 54 36.4	+1.4
PNCL	Nicolau / Gran	160.20	25	ePKPab	PKPab	17 55 19.5	+0.6
PBEJ	Beja	160.53	23	ePKPdf	PKPdf	17 54 36.9	+1.5
MESJ	Messejana	160.56	24	ePKPdf	PKPdf	17 54 36.2	+0.7
PTEO	Sao Teotonio	160.61	26	ePKPdf	PKPdf	17 54 37.1	+1.6
PBAR	Barrancos	160.69	21	ePKPdf	PKPdf	17 54 36.4	+0.8
PBAR	Barrancos	160.69	21	ePKPab	PKPab	17 55 22.1	+1.0
PCVE	Castro Verde	160.81	24	ePKPab	PKPab	17 55 19.7	-1.9
MORF	Marmelete	160.84	26	ePKPdf	PKPdf	17 54 36.7	+0.8
PFVI	Vila Bisbo	160.92	27	ePKPdf	PKPdf	17 54 37.2	+1.4
PFVI	Vila Bisbo	160.92	27	ePKPab	PKPab	17 55 22.6	+0.5
PVAQ	Vaqueiros	161.13	24	ePKPab	PKPab	17 55 24.3	+1.3
KEST	Kesra	163.34	338	PKP	PKPdf	17 54 39.5	+1.1
	comp=Z,7.1nm,0.8s,baz=351,slow=6.0,SNR=6.0						
KEST				PKPab	PKPab	17 55 33.6	+0.7
	comp=Z,8.6nm,0.5s,baz=339,slow=10.0,SNR=4.7						
LIC	Lamto	164.44	154	⇑iPKIKP	PKPdf	17 54 39.8	-0.1
	comp=Z,76nm,0.8s						
KIC	Kosan Boka	164.68	155	⇑iPKIKP	PKPdf	17 54 39.9	-0.2
	comp=Z,16nm,0.8s						
TIC	Toumodi	164.82	153	⇓ePKIKP	PKPdf	17 54 39.8	-0.5
	comp=Z,63nm,0.9s						
DBIC	Dimbokro	164.91	154	PKP	PKPdf	17 54 40.1	-0.2
	comp=Z,19nm,1.0s,baz=169,slow=4.2,SNR=8.1						
DBIC	Dimbokro	164.91	154		PKPdf	17 54 38.6	-1.7
MDT	Midelt	166.37	23	PKP	PKPdf	17 54 42.5	+1.5
	comp=Z,7.9nm,0.9s,baz=228,slow=4.0,SNR=9.5						
MDT				PKPab	PKPab	17 55 48.1	+1.8
	comp=Z,3.6nm,0.7s,baz=236,slow=1.4,SNR=7.1						
TAM	Tamanrasset	175.79	305		PKPdf	17 54 45.2	-0.9
TAM	Tamanrasset	175.79	305	PKIKP	PKPdf	17 54 45.2	-0.9

NEIC ***10*** *17:40:45.5±2.8, 4°.93N±0°.09×94°.9E±0°.1, h126km±10km, mb4.2/17, Error ellipse: s-maj=17.3km s-min=12.5km az=67.0*

IDC ***10*** *17:40:46.9±9.9, 5°.25N×94°.63E, h101km±85km, mb3.8/10, mbtmp4.2/11, ML4.5/1, MS3.3/2, Error ellipse: s-maj=62.2km s-min=21.5km az=54.0*

ISC 10 17:40:42.9±0.7**, 4°.84N**±0°.09×**94°.51E**±0°.10**, h100km, n51, σ1s.51**/42**, mb4.1**/17**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.46	81	Pn	Pn	17 41 19.8	-1.7
LHMI	Lhok Sumawe	2.46	81	P	Pn	17 41 20.3	-1.2
GSI	Gunungsitoli	4.65	139	Pn	Pn	17 41 50.7	-0.4
GSI	Gunungsitoli	4.65	139	P	Pn	17 41 51.1	+0.1
PSI	Prapat	4.84	114	P	Pn	17 41 55.8	+2.1
RPSI	Rantau Prapat	4.89	116	Pn	Pn	17 41 55.5	+1.3
KULM	Kulim	6.13	86		Pn	17 42 10.2	-0.9
SRIT	Nakonsritamara	6.29	53	Pn	Pn	17 42 10.8	-2.4
SKLT	Songkhla	6.50	69	P	Pn	17 42 14.1	-2.0
PBA	Port Blair	7.00	346	Pn	Pn	17 42 19.5	-3.4
MNAI	Manna	12.43	137	Pn	Pn	17 43 35.7	-0.8
MNAI	Manna	12.43	137	P	Pn	17 43 36.6	+0.1
PALK	Pallekele	13.94	281	LR	LR	17 48 49.6	
	comp=Z,56nm,19.3s,baz=188,slow=34						
PALK	Pallekele	13.94	281	Pn	Pn	17 43 54.6	-1.7

CM31 Chiang Mai Arr 14.21 17 Pn 17 44 00.4 +0.7
CMAR Chiang Mai Arr 14.21 17 P Pn 17 43 58.0 -1.7
0.7nm,0.3s,baz=210,slow=15,SNR=28
1.1nm,0.4s
CMAR Chiang Mai Arr 14.21 17 Pn 17 44 00.0 +0.3
CHTO Chiang Mai 14.55 17 Pn Pn 17 44 02.3 -1.7
PHRA Phrae 14.69 22 Pn 17 44 06.1 +0.3
LSA Lhasa 24.94 353 P P 17 45 57.9 +0.4
LSA IAmb IAmb 17 45 59.4
comp=Z,5.9nm,0.4s
H08S2 Diego Garcia H 25.23 241 T T 18 11 56.5
baz=59,slow=76,SNR=149
H08S3 Diego Garcia H 25.23 241 T T 18 11 57.7
baz=59,slow=76,SNR=357
H08S1 Diego Carcia H 25.24 241 T T 18 12 07.4
baz=59,slow=76,SNR=27
AAK Ala-Archa 41.63 338 P P 17 48 20.6 -1.0
AAK IAmb IAmb 17 48 39.1
comp=Z,4.6nm,1.4s
MK31 Makanchi Array 43.12 348 P P 17 48 33.8 +0.5
MK31 IAmb IAmb 17 48 35.5
comp=Z,2.6nm,0.8s
MKAR Makanchi Array 43.12 348 P P 17 48 33.7 +0.3
comp=Z,2.1nm,0.5s,baz=171,slow=7.7,SNR=36
comp=Z,2.1nm,0.5s
MKAR Makanchi Array 43.12 348 P P 17 48 33.5 +0.2
MAKZ Makanchi 43.20 347 P P 17 48 34.3 +0.3
MAKZ IAmb IAmb 17 48 35.6
comp=Z,2.9nm,0.8s
KK31 Karatay Array 43.64 334 P P 17 48 37.4 -0.1
KKAR Karatay Array 43.64 334 P P 17 48 37.8 +0.3
KKAR Karatay Array 43.64 334 P P 17 48 37.5 0.0
KKAR IAmb IAmb 17 48 45.2
comp=Z,2.1nm,1.1s
SONM Songino Array 44.04 12 P P 17 48 42.2 +1.3
comp=Z,1.3nm,0.6s,baz=189,slow=7.6,SNR=2.4
comp=Z,1.3nm,0.6s
WB0 Warramunga Arr 46.21 123 P P 17 48 51.9 -6.4
WRA Warramunga Arr 46.25 123 P P 17 49 03.5 +4.9
comp=Z,6.1nm,0.8s,baz=303,slow=9.1,SNR=8.5
comp=Z,6.1nm,0.8s
WRA Warramunga Arr 46.25 123 P P 17 48 53.2 -5.4
WB2 Warramunga Arr 46.26 123 P P 17 48 53.0 -5.7
WR0 Warramunga Arr 46.42 123 P P 17 48 56.4 -3.6
KURBB Kurchatov Arra 47.57 346 P P 17 49 09.9 +1.6
comp=Z,1.5nm,0.6s,baz=170,slow=7.1,SNR=22
comp=Z,1.5nm,0.6s
KURK Kurchatov 47.63 346 P P 17 49 10.2 +1.3
KURK IAmb IAmb 17 49 19.5
comp=Z,6.7nm,1.4s
ZAA0 Zalesovo Array 49.60 352 P P 17 49 24.2 +0.3
ZAA0 IAmb IAmb 17 49 26.0
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 49.60 352 P P 17 49 24.6 +0.8
comp=Z,1.0nm,0.3s,baz=171,slow=7.2,SNR=11
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 49.60 352 P P 17 49 23.1 -0.8
BVAR Borovoye Array 51.97 342 P P 17 49 42.3 +0.6
comp=Z,0.9nm,0.6s,baz=128,slow=11,SNR=4.9
comp=Z,0.9nm,0.6s
BRVK Borovoye 52.03 342 P P 17 49 42.3 +0.2
BRVK IAmb IAmb 17 50 12.5
comp=Z,5.2nm,1.3s
ABKAR Akbulak array 53.07 332 P P 17 49 48.9 -0.9
KLR Kul'dur 54.32 29 LR LR 18 18 04.5
comp=Z,51nm,18.1s,baz=67,slow=42
TIXI Tiksi 70.12 11 P P 17 51 45.0 +0.9
comp=Z,1.2nm,0.4s,baz=42,slow=0.5,SNR=5.9
comp=Z,1.2nm,0.4s
FINES FINESS Array B 75.56 333 P P 17 52 18.4 +2.0
comp=Z,1.2nm,0.7s,baz=134,slow=8.2,SNR=4.0
comp=Z,1.2nm,0.7s
GERES GERESS Array B 80.33 319 P P 17 52 46.3 +3.1
comp=Z,0.7nm,0.4s,baz=100,slow=5.8,SNR=8.6
comp=Z,0.7nm,0.4s
DAVOX Davos/Dischmat 82.83 316 P P 17 52 59.4 +2.8
comp=Z,2.0nm,0.6s,baz=30,slow=16,SNR=3.8
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 141.80 26 PKP PKPdf 18 00 04.8 +1.0
comp=Z,0.1nm,0.4s,baz=353,slow=0.5,SNR=3.6

---

*VAO **10** 17:43:14.1±0.5, 14.°78S×73.°52W, h59km, mb4.7*
*IDC **10** 17:43:14.9±2.2, 14.°73S×73.°41W, h73km±20km, mb4.1/18, mbtmp4.4/22, MS3.3/3, Error ellipse: s-maj=24.5km s-min=13.1km az=45.0*
*NEIC **10** 17:43:14.0±1.6, 14.°79S±0.°08×73.°59W±0.°10, h60km±7km, mb4.9/230, ML4.7(ARE), Error ellipse: s-maj=15.3km s-min=9.2km az=57.0*
*ARE **10** 17:43:15±2.3, 14.°88S±0.°08×73.°68W±0.°10, h108km±5km, Error ellipse: s-maj=15.2km s-min=8.4km az=52.0*
ISC 10 17:43:13.2±0.5**, 14.°80S**±0.°06**×73.°56W**±0.°07**, h59**km±4km**, h59**km**:pP-P, n373, σ1.°04**/372**, mb4.9**/128**, Central Peru**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
NNA Nana 4.24 311 P Pn 17 44 18.1 +2.7
26nm,0.4s,baz=152,slow=8.8,SNR=14
NNA LR LR 17 45 38.9
comp=Z,154nm,21.6s,baz=200,slow=33
NNA Nana 4.24 311 Pn 17 44 16.4 +1.0
AP01 Chacalluta 4.71 139 Pn Pn 17 44 22.7 +1.0
PB12 IPOC Station P 4.90 141 Pn Pn 17 44 25.6 +1.2
PB16 IPOC Station P 5.24 133 Pn Pn 17 44 32.0 +2.5
LPAZ La Paz 5.44 106 P Pn 17 44 37.5 +5.2
29nm,0.4s,baz=281,slow=11,SNR=68
LPAZ La Paz 5.44 106 Pn Pn 17 44 37.3 +4.9
MNMC Minye Minye 5.74 139 Pn Pn 17 44 37.1 +1.0
PSGCX Pisagua 5.79 146 Pn Pn 17 44 37.3 +0.6
PB11 IPOC Station P 6.18 143 Pn 17 44 42.6 +0.5
TA02 Huaiquique 6.35 149 Pn 17 44 44.5 +0.3
GO01 Chusmiza 6.39 140 Pn 17 44 46.8 +1.6
TA01 Diego Aracena 6.58 151 Pn Pn 17 44 48.3 +0.9
PB08 IPOC Station P 6.78 142 Pn 17 44 50.6 +0.2
PATCX Punta Patache 6.81 152 Pn 17 44 50.6 0.0
CZSB Cruzeiro do Su 7.08 7 Pn 17 44 55.8 +1.5
CZSB Cruzeiro do Su 7.08 7 eP Pn 17 44 56.2 +2.0
PB01 IPOC Station P 7.32 149 Pn 17 44 57.5 0.0
PB02 IPOC Station P 7.36 152 Pn 17 44 58.1 -0.1
PB07 IPOC Station P 7.72 154 Pn 17 45 02.9 -0.3
PB03 IPOC Station P 8.06 154 Pn 17 45 07.7 -0.1
PB09 IPOC Station P 8.08 150 Pn 17 45 09.4 +1.4
PB04 IPOC Station P 8.16 157 Pn 17 45 08.6 -0.6
PB06 IPOC Station P 8.72 155 Pn Pn 17 45 17.8 +1.0
ETMB Extrema 8.72 56 Pn Pn 17 45 18.1 +1.3
ETMB Extrema 8.72 56 eP Pn 17 45 18.1 +1.3
LVC Limon Verde 8.93 151 P Pn 17 45 20.9 +1.0
9.5nm,0.3s,baz=351,slow=8.2,SNR=29
LVC S Sn 17 46 55.4 -3.8
38nm,0.4s,baz=205,slow=19,SNR=10
LVC Limon Verde 8.93 151 eP Pn 17 45 21.1 +1.2
PB15 IPOC Station P 9.21 156 Pn 17 45 23.3 -0.3
AF01 San Pedro de A 9.57 149 Pn Pn 17 45 26.8 -1.8
GO02 Mina Guanaco 10.96 161 Pn Pn 17 45 47.4 -0.2
TBTG Tabatinga, AM 11.14 19 Pn 17 45 50.8 +1.0
TBTG Tabatinga, AM 11.14 19 eP Pn 17 45 50.9 +1.0
SAML Samuel 11.70 61 Pn Pn 17 45 55.4 -2.2
SIV San Ignacio 12.11 97 P Pn 17 46 02.4 -0.6
18nm,0.5s,baz=290,slow=9.4,SNR=72
BOSC San Juan Bosco 12.56 337 Pn 17 46 08.3 -1.0
BBSD Serra de San D 12.68 103 eP Pn 17 46 10.9 0.0
VILB Vilhena 13.11 84 Pn Pn 17 46 14.6 -2.1
VILB Vilhena 13.11 84 eP Pn 17 46 16.8 +0.1
COHC Cochancay 13.48 335 Pn 17 46 21.7 -0.1
BBRB Robore, Bolivi 13.63 107 eP Pn 17 46 24.8 +1.0
PTLB Pontes e Lacer 13.95 95 Pn Pn 17 46 26.5 -1.5
PTLB Pontes e Lacer 13.95 95 eP Pn 17 46 28.3 +0.3
PORT Chimborazo Vol 14.22 338 P Pn 17 46 34.0 +1.9
SLOR San Lorenzo - 14.81 340 Pn Pn 17 46 36.9 -2.8
SGCB S£o Gabriel d 15.95 24 eP Pn 17 46 53.2 -0.8
MURT Porto Murtinho 16.61 117 eP Pn 17 47 03.2 +0.9
PANT Pantanal (Braz 16.74 107 eP Pn 17 47 03.6 -0.3
MACA Manacapuru-AM 17.18 49 Pn 17 47 07.8 -1.5
MACA IAmb IAmb 17 47 12.3
comp=Z,144nm,1.1s
MACA Manacapuru-AM 17.18 49 eP Pn 17 47 08.7 -0.7
CLDB Colider 17.76 79 eP Pn 17 47 16.1 -0.3
AQDB Aquidauana 17.93 111 P P 17 47 17.0 -1.5
AQDB Aquidauana 17.93 111 eP P 17 47 19.5 +1.1
ANTJ Antonio Joao (18.13 116 eP P 17 47 19.5 -1.1
CPUP Villa Florida 19.02 130 P P 17 47 31.3 +1.0
comp=Z,4.8nm,0.9s,baz=315,slow=9.1,SNR=6.9
CPUP Villa Florida 19.02 130 P P 17 47 30.6 +0.2
CPUP Villa Florida 19.02 130 eP P 17 47 31.3 +1.0
H03N1 Juan Fernandez 19.18 194 T T 18 06 17.5
baz=16,slow=74,SNR=344
H03N2 Juan Fernandez 19.18 194 T T 18 06 17.0
baz=16,slow=74,SNR=349
H03N3 Juan Fernandez 19.20 194 T T 18 06 16.2
baz=16,slow=74,SNR=331
NPGB Novo Progresso 19.45 69 eP P 17 47 35.2 0.0
BO02 Sierra Bellavi 20.06 173 P Pn 17 47 44.1 +0.2
ITTB Itaituba 20.39 61 eP P 17 47 45.4 0.0
AZCA Azaras, Argent 21.00 132 eP P 17 47 52.6 +0.8
BOAV Boa Vista 21.42 38 P P 17 47 56.4 0.0
BOAV IAmb IAmb 17 48 01.5
comp=Z,41nm,0.8s
BOAV Boa Vista 21.42 38 eP P 17 47 57.1 +0.7
ITQB Itaqui 21.52 136 P P 17 47 58.9 +1.6
ITQB IAmb IAmb 17 48 01.1
comp=Z,48nm,1.2s
ITQB Itaqui 21.52 136 eP P 17 47 59.4 +2.0
SNDB Serra Nova Dou 21.84 85 eP P 17 48 00.5 -0.5
CRSM Crissiumal (Br 22.12 128 eP P 17 48 04.4 +0.6
FRBT Francisco Belt 22.17 123 eP P 17 48 04.8 +0.4
UNIS Unistalda (Bra 22.22 133 eP P 17 48 06.5 +1.6
PCMB Pacaembu 22.23 111 eP P 17 48 06.0 +0.9
PTGB Pitanga 22.48 119 eP P 17 48 08.8 +0.9
ITRB Iturama 22.68 106 eP P 17 48 12.1 +2.1
RODS Rosario do Sul 22.90 136 eP P 17 48 12.6 +0.5
MALB Monte Alegre 22.99 58 eP P 17 48 14.2 +1.0
ITAB Concordia 23.48 125 eP P 17 48 17.1 -0.6
ALGR Alto Alegre (B 23.56 130 eP P 17 48 19.1 +0.5
SDV Santo Domingo 23.71 7 P P 17 48 20.7 +0.6
comp=Z,12nm,0.7s,baz=217,slow=8.5,SNR=7.1
comp=Z,12nm,0.7s
SDV Santo Domingo 23.71 7 P P 17 48 16.4 -3.8
SDV Santo Domingo 23.71 7 eP P 17 48 19.7 -0.5
FRTB Fartura 24.19 114 eP P 17 48 25.6 +1.3
BAUV El Baul 24.22 13 P P 17 48 24.3 -0.2
IPMB Ipameri, GO 24.52 101 eP P 17 48 27.1 -0.4
BDFB Brasilia 24.66 95 P P 17 48 27.5 -1.3
comp=Z,2.7nm,0.4s,baz=278,slow=9.9,SNR=4.0
comp=Z,2.7nm,0.4s
BDFB Brasilia 24.66 95 eP P 17 48 28.6 -0.2
GO06 Curarrehue 24.76 176 P P 17 48 29.8 +0.4
PLTB Pedras Altas 24.85 136 P P 17 48 29.4 -0.8
PLTB Pedras Altas 24.85 136 eP P 17 48 29.9 -0.3
PRPB Parauapebas 24.85 72 eP P 17 48 29.8 -0.6
TIJ01 Guaruva-PR 25.29 118 eP P 17 48 35.4 +1.0
CNLB Canela 25.46 128 eP P 17 48 35.3 -0.6
MCPB Macapa, AP 25.65 58 eP P 17 48 38.8 +1.2
RCLB Rio Claro- Sao 25.78 111 eP P 17 48 39.2 +0.4
PLCA Paso Flores 25.97 175 eP P 17 48 40.7 +0.4
SMTB Santa Maria do 26.09 80 eP P 17 48 43.0 +1.3
PMNB Patos De Minas 26.24 102 eP P 17 48 43.0 -0.1
VAO Valinhos 26.42 112 eP P 17 48 45.3 +0.7
TER01 Tubaro-SC 26.43 125 eP P 17 48 46.0 +1.4
PARB Paraibuna 27.70 112 eP P 17 48 56.2 0.0
DIAM Diamantina, MG 28.85 101 eP P 17 49 06.6 +0.1
CAM01 Campos-RJ 31.04 108 eP P 17 49 27.0 +1.4
ROSB Rosrio 31.35 71 eP P 17 49 28.4 0.0
ALF01 Guarapari-ES 31.77 105 eP P 17 49 33.5 +1.4
RIB01 Linhares ES 32.00 103 eP P 17 49 34.1 0.0
GUA01 Guaratinga, BA 32.53 98 eP P 17 49 40.4 +1.6
CMC01 Camacan, BA 32.86 95 eP P 17 49 43.5 +1.8
GDU01 Guandu, BA 32.94 92 eP P 17 49 44.3 +1.8
NHSC New Hope 48.05 353 P P 17 51 47.0 +0.3
152A Waverly Hall 48.39 347 P P 17 51 48.4 -0.9
152A IAmb IAmb 17 51 50.5
comp=Z,14nm,0.9s
Y57A Sumter 48.98 352 P P 17 51 53.6 -0.1
Z51A Franklin 49.12 347 P P 17 51 54.0 -0.9
Z51A IAmb IAmb 17 51 55.5
comp=Z,15nm,0.9s
LRAL Lakeview Retre 49.27 345 P P 17 51 55.8 -0.2
LRAL IAmb IAmb 17 51 56.6
comp=Z,19nm,1.2s
JSC Jenkinsville 49.36 352 P P 17 51 56.3 -0.4
JSC IAmb IAmb 17 53 51.1
comp=Z,33nm,1.7s
HODGE Hodges 49.46 351 P P 17 51 57.3 -0.2
HODGE IAmb IAmb 17 51 58.1
comp=Z,12nm,0.9s
BIRD Birdtown, Kers 49.61 353 P P 17 51 58.4 -0.2
PAULI Pauline 49.97 351 P P 17 52 01.6 +0.3
PAULI IAmb IAmb 17 52 02.2
comp=Z,20nm,0.9s
W57A Gilead 50.05 353 P P 17 52 01.6 -0.4
W57A IAmb IAmb 17 52 02.9
comp=Z,24nm,1.1s
X51A Calhoun 50.25 348 P P 17 52 02.6 -0.9
PMSA Palmer Station 50.34 175 LR LR 18 10 41.4
comp=Z,61nm,21.2s,baz=214,slow=33
FPAL Fort Paine 50.39 347 P P 17 52 03.4 -1.2
FPAL IAmb IAmb 17 52 05.2
comp=Z,13nm,0.9s
W52A Murphy 50.59 349 P P 17 52 05.6 -0.5
W52A IAmb IAmb 17 52 06.7
comp=Z,24nm,1.1s
V58A Windy Hill, Pi 50.59 354 P P 17 52 06.1 +0.1
X48A Hartselle 50.63 346 P P 17 52 05.7 -0.7
X48A IAmb IAmb 17 52 06.6
comp=Z,11nm,0.8s
W50A Signal Mountai 50.96 348 P P 17 52 08.2 -0.7
W50A IAmb IAmb 17 52 09.2
comp=Z,14nm,0.8s
SWET Sewanee 51.11 347 P P 17 52 09.3 -0.7
SWET IAmb IAmb 17 52 10.1
comp=Z,14nm,0.8s
V52A Sevierville 51.25 350 P P 17 52 09.9 -1.1
V52A IAmb IAmb 17 52 11.4
comp=Z,18nm,0.9s
U56A King 51.28 353 P P 17 52 10.1 -1.1
U56A IAmb IAmb 17 52 12.6
comp=Z,18nm,0.9s
PLAL Pickwick Lake 51.39 345 P P 17 52 10.9 -1.1
PLAL IAmb IAmb 17 52 11.8
comp=Z,15nm,1.1s
T59A Double "B" Far 51.63 356 P P 17 52 13.7 -0.1
T59A IAmb IAmb 17 52 15.0
comp=Z,18nm,0.8s
WLAR White Oak Lake 51.70 339 P P 17 52 15.1 +0.7
T57A Hurt 51.80 354 P P 17 52 14.7 -0.4
V48A Smith Brothers 51.81 346 P P 17 52 14.3 -0.9
V48A IAmb IAmb 17 52 15.3
comp=Z,21nm,1.1s
WHTX Lake Whitney, 51.86 334 P P 17 52 15.8 +0.2
WHTX IAmb IAmb 17 52 17.1
comp=Z,15nm,0.9s
WVT Waverly 52.42 345 P P 17 52 18.1 -1.6
WVT IAmb IAmb 17 52 19.2
comp=Z,15nm,1.1s
WVT Waverly 52.42 345 P P 17 52 16.9 -2.8
UALR University of 52.43 340 P P 17 52 19.1 -0.7
UALR IAmb IAmb 17 52 20.5
comp=Z,11nm,0.8s
S57A Dark Hollow, R 52.53 355 P P 17 52 20.3 -0.1
S57A IAmb IAmb 17 52 21.6
comp=Z,13nm,0.8s
T50A Nancy 52.63 349 P P 17 52 20.1 -1.1
T50A IAmb IAmb 17 52 21.3
comp=Z,8.5nm,0.9s
TXAR Lajitas Array 52.63 327 P P 17 52 22.0 +0.5
comp=Z,2.4nm,0.5s,baz=151,slow=8.9,SNR=30
comp=Z,2.4nm,0.5s
TXAR Lajitas Array 52.63 327 P 17 52 21.7 +0.2
TX31 Lajitas Ar. Si 52.63 327 P P 17 52 21.3 -0.3
TX31 IAmb IAmb 17 52 22.7
comp=Z,13nm,0.8s
TX32 Lajitas Array 52.63 327 P P 17 52 21.5 0.0
MIAR Mount Ida 52.63 339 P 17 52 21.1 -0.2
MIAR IAmb IAmb 17 52 22.2
comp=Z,8.1nm,0.7s
R58B Mineral 52.64 356 P P 17 52 21.2 -0.1
R58B IAmb IAmb 17 52 22.3
comp=Z,21nm,1.1s
Z35A Perchaven, San 52.94 335 P P 17 52 24.2 +0.6
Z35A IAmb IAmb 17 52 25.1
comp=Z,24nm,0.9s
T47A Sharon Grove 53.07 346 P P 17 52 23.4 -1.1
T47A IAmb IAmb 17 52 23.8
comp=Z,13nm,1.1s
HICK Hickman 53.16 344 P P 17 52 23.9 -1.2
LCAR Lake Charles 53.26 342 P P 17 52 23.9 -1.9
ABTX Abilene, Hawle 53.35 332 P P 17 52 26.9 +0.3
Q56A Snyder Ridge, 53.82 355 P P 17 52 30.6 +0.6
Q56A IAmb IAmb 17 52 31.5
comp=Z,16nm,0.8s
Q54A Coxs Mills 53.93 353 P P 17 52 30.4 -0.3
CGM3 Cape Girardeau 53.99 344 P P 17 52 30.4 -0.8
CGM3 IAmb IAmb 17 52 31.6
comp=Z,2µm,1.2s
SDMD Soldier's Deli 54.02 357 P P 17 52 31.3 0.0
SDMD IAmb IAmb 17 52 32.5
comp=Z,9.3nm,0.9s
WCI Wyandotte Cave 54.09 348 P P 17 52 31.0 -0.9
WCI Wyandotte Cave 54.09 348 P P 17 52 30.0 -1.8
USIN University of 54.13 346 P P 17 52 31.4 -0.8
X34A Smith Ranch, M 54.28 335 P P 17 52 34.0 +0.6
Q51A Peebles 54.32 351 P P 17 52 31.2 -2.4
Q51A IAmb IAmb 17 52 33.7
comp=Z,17nm,1.1s
HHAR Hobbs 54.33 340 P P 17 52 33.6 -0.2
HHAR IAmb IAmb 17 52 34.4
comp=Z,12nm,1.0s
WUPA West Chester U 54.48 358 P P 17 52 35.2 +0.4
WUPA IAmb IAmb 17 52 49.1
comp=Z,15nm,1.4s
MVL Millersville 54.58 357 P P 17 52 36.0 +0.6
MVL IAmb IAmb 17 52 36.9
comp=Z,10.0nm,0.9s
MGMO Mountain Grove 54.60 342 P 17 52 34.7 -1.0
MGMO IAmb IAmb 17 52 36.2
comp=Z,23nm,1.1s
TUL1 Leonard 54.65 338 P P 17 52 35.3 -0.7
TUL1 IAmb IAmb 17 52 36.9
comp=Z,16nm,0.8s
FNO Franklin 54.68 336 P P 17 52 35.8 -0.5
WMOK Wichita Mounta 54.78 335 P P 17 52 36.0 -1.1
WMOK IAmb IAmb 17 52 55.2
comp=Z,14nm,1.7s
FVM French Village 54.84 344 P P 17 52 36.4 -1.0
DEOK Depew 54.85 337 P P 17 52 37.0 -0.5
DEOK IAmb IAmb 17 52 38.3
comp=Z,55nm,1.5s
OK025 Westminster Rd 54.94 336 P P 17 52 36.8 -1.3
OK025 IAmb IAmb 17 52 38.4
comp=Z,20nm,0.9s
OLIL Olney 54.97 346 P P 17 52 37.2 -1.1
OK030 Cody Creek RV 55.03 337 P P 17 52 38.2 -0.6
OK030 IAmb IAmb 17 52 38.8
comp=Z,18nm,1.2s
BLO Bloomington 55.04 348 P P 17 52 37.6 -1.2
P49A Miami Univ. Ec 55.05 349 P P 17 52 37.5 -1.3
P49A IAmb IAmb 17 52 38.4
comp=Z,18nm,1.1s
OK052 Battle Ridge R 55.10 337 P P 17 52 38.8 -0.5
OK052 IAmb IAmb 17 52 39.9
comp=Z,25nm,1.2s
OK053 SW of W Deep R 55.11 337 P P 17 52 38.5 -0.9
OK053 IAmb IAmb 17 52 39.5
comp=Z,12nm,0.9s
HTMS Hat Mesa 55.12 329 P P 17 52 38.8 -0.8
CCM Cathedral Cave 55.13 343 P P 17 52 38.7 -0.8
CCM IAmb IAmb 17 53 40.5
comp=Z,8.6nm,0.8s
CCM Cathedral Cave 55.13 343 P P 17 52 37.9 -1.6
CCM pP pP 17 52 54.5 -2.2
OK029 Liberty Lake 55.17 336 P P 17 52 39.2 -0.6
OK029 IAmb IAmb 17 52 40.2
comp=Z,18nm,0.9s
OK033 Mehan 55.19 337 P P 17 52 39.4 -0.6
OK033 IAmb IAmb 17 52 40.6
comp=Z,28nm,1.2s
QUOK Quay 55.22 337 P P 17 52 39.8 -0.3
QUOK IAmb IAmb 17 52 40.8
comp=Z,11nm,0.8s
GDL2 Guadalupe Moun 55.27 328 P P 17 52 41.3 +0.6
SLM Saint Louis 55.40 344 P P 17 52 40.4 -1.1
S39A Bolivar 55.42 341 P P 17 52 41.1 -0.4
S39A IAmb IAmb 17 52 42.0
comp=Z,14nm,1.0s
OK044 Pawnee Station 55.43 337 P P 17 52 41.9 +0.2
N58A Sunbury 55.43 357 P P 17 52 42.2 +0.6
N58A IAmb IAmb 17 52 43.0
comp=Z,17nm,0.8s
ACSO Alum Creek Sta 55.45 351 P P 17 52 40.7 -1.0
ACSO IAmb IAmb 17 52 42.2
comp=Z,19nm,1.1s
OK046 Pawnee Station 55.49 337 P P 17 52 42.2 +0.1
OK046 IAmb IAmb 17 52 43.0
comp=Z,16nm,1.0s
OK050 Pawnee Station 55.52 337 P P 17 52 42.4 +0.1
OK048 Pawnee Station 55.52 337 P P 17 52 42.2 -0.2
OK048 IAmb IAmb 17 52 43.2
comp=Z,17nm,1.0s
CSTR Hydro, Custer 55.53 335 P P 17 52 42.5 0.0
CSTR IAmb IAmb 17 52 43.4
comp=Z,2.8nm,1.0s
OK045 Pawnee Station 55.54 337 P P 17 52 41.3 -1.2
OK045 IAmb IAmb 17 52 43.4
comp=Z,21nm,1.0s
OK051 E0350 and S346 55.56 337 P P 17 52 42.0 -0.6
R40A Maddies Statio 55.65 342 P P 17 52 42.4 -0.8
R40A IAmb IAmb 17 52 43.2
comp=Z,8.2nm,0.8s
CPRX Cap Rock 55.68 329 P P 17 52 44.4 +0.7
WSPT Westport, CT 55.69 0 P P 17 52 43.4 +0.1
YLE Yale 55.83 1 P P 17 52 44.7 +0.3
MSTX Muleshoe 55.91 331 P P 17 52 45.2 -0.1
MSTX IAmb IAmb 17 52 46.7
comp=Z,15nm,1.1s
BLOK Blackwell 55.93 337 P P 17 52 45.4 +0.1
BLOK IAmb IAmb 17 53 18.6
comp=Z,184nm,0.4s
M57A Sunshine Farm, 55.95 357 P P 17 52 45.7 +0.4
M57A IAmb IAmb 17 52 46.8
comp=Z,19nm,0.8s
P43A Skaggs, Pawnee 56.17 345 P P 17 52 45.8 -1.0
N49A Columbus Grove 56.31 350 P P 17 52 47.0 -0.9
N49A IAmb IAmb 17 52 48.2
comp=Z,19nm,0.9s
OK032 Salt Plains WL 56.35 336 P P 17 52 48.0 -0.2
OK032 IAmb IAmb 17 52 48.9
comp=Z,10nm,0.7s
KAN14 Manchester OK 56.38 337 P P 17 52 48.1 -0.4
KAN14 IAmb IAmb 17 52 49.0
comp=Z,8.1nm,0.6s
N47A Urbana 56.53 349 P P 17 52 48.0 -1.4
L59A Walton 56.72 359 P P 17 52 51.1 +0.3
P40A Paris 56.73 343 P P 17 52 50.2 -0.7
P40A IAmb IAmb 17 52 50.9
comp=Z,11nm,0.8s
BINY Binghamton 56.76 358 P P 17 52 51.7 +0.6
BINY IAmb IAmb 17 52 52.4
comp=Z,18nm,0.8s
L56A Greenwood 56.77 356 P P 17 52 50.8 -0.4
L56A IAmb IAmb 17 54 38.3
comp=Z,26nm,1.2s
HDIL Hopedale 56.98 346 P P 17 52 51.4 -1.2
WVNY West Valley, N 57.11 356 P P 17 52 53.3 -0.2
P38A Dawn 57.26 342 P P 17 52 53.5 -1.1
P38A IAmb IAmb 17 52 54.9
comp=Z,16nm,1.1s
319A Douglas 57.30 324 P P 17 52 56.5 +1.2
319A IAmb IAmb 17 52 57.0
comp=Z,11nm,0.8s
121A Cookes Peak, D 57.34 326 P P 17 52 56.7 +1.1
121A IAmb IAmb 17 52 57.4
comp=Z,7.9nm,0.8s
N41A Harden Midland 57.51 344 P P 17 52 55.0 -1.4
R32A Long Quarter, 57.95 337 P P 17 52 59.2 -0.4
BNM Barren Site 57.97 328 P P 17 52 59.3 -0.7
SBM South Baldy 58.12 327 P P 17 52 59.5 -1.8
ANMO Albuquerque 58.50 328 P P 17 53 04.0 +0.3
comp=Z,1.3nm,0.5s,baz=131,slow=8.9,SNR=4.0
comp=Z,1.3nm,0.5s
ANMO Albuquerque 58.50 328 P P 17 53 04.8 +1.1
J47A Sunmer 58.67 350 P P 17 53 03.2 -1.2
L40A Anamosa 58.88 345 P P 17 53 04.1 -1.8
N35A Tabor 59.04 341 P P 17 53 06.1 -1.0
DELO Deloro Mine 59.15 357 P P 17 53 06.6 -1.1
T25A Trinidad 59.27 332 P P 17 53 09.3 +0.3
T25A IAmb IAmb 17 53 10.5
comp=Z,9.6nm,0.9s
N33A J Bar K, Exete 59.54 339 P P 17 53 10.2 -0.3
G62A West of Eustis 59.80 2 P P 17 53 12.9 +0.7
214A Organ Pipe Nat 59.80 322 P P 17 53 13.2 +0.7
214A IAmb IAmb 17 53 18.4

comp=Z,8.4nm,1.1s
MNTQ Montreal, Queb 60.01 360 P **P** **17 53 13.8 +0.2**
KSCO Kaye Shedlock' 60.03 334 P **P** **17 53 14.3 +0.2**
SDCO Great Sand Dun 60.27 331 P **P** **17 53 16.8 +0.8**
SDCO IAmb IAmb 17 53 17.4
comp=Z,14nm,1.0s
L34A Svendsen Farm, 60.28 341 P **P** **17 53 14.4 -1.1**
W18A Petrified Fore 60.35 326 P **P** **17 53 17.2 +0.7**
W18A IAmb IAmb 17 53 18.9
comp=Z,16nm,1.1s
BGNE Belgrade 60.38 339 P **P** **17 53 15.8 -0.5**
F64A Sherman 60.56 4 P **P** **17 53 17.4 0.0**
S22A 4UR Ranch, Cre 60.90 330 P **P** **17 53 20.6 +0.4**
Q24A Divide 61.09 332 P **P** **17 53 21.8 +0.2**
Q24A IAmb IAmb 17 53 22.9
comp=Z,9.9nm,1.1s
I37A Lemond, Waseca 61.27 344 P **P** **17 53 20.8 -1.5**
I37A IAmb IAmb 17 53 22.1
comp=Z,15nm,0.8s
MVCO Mesa Verde 61.30 329 P **P** **17 53 22.5 -0.4**
MVCO IAmb IAmb 17 53 24.4
comp=Z,9.7nm,1.3s
Y14A Wickenburg 61.32 323 P **P** **17 53 22.8 -0.1**
WUAZ Wupatki 61.54 325 P **P** **17 53 24.8 +0.3**
WUAZ IAmb IAmb 17 53 26.5
comp=Z,8.8nm,1.0s
D62A Allapoint, All 61.73 4 **P** **17 53 25.7 +0.5**
ECSD EROS Data Cent 61.95 341 P **P** **17 53 25.9 -0.9**
ECSD IAmb IAmb 17 53 27.3
comp=Z,14nm,1.1s
SMCO Snowmass 62.11 331 P **P** **17 53 29.0 +0.6**
PV15 Paradox Valley 62.17 329 P **P** **17 53 29.5 +0.7**
PV15 IAmb IAmb 17 53 31.1
comp=Z,10nm,0.8s
PV13 Radium Mtn., P 62.20 329 P **P** **17 53 29.8 +0.9**
PV13 IAmb IAmb 17 53 30.4
comp=Z,12nm,1.2s
SPMN Marine on St. 62.24 345 P **P** **17 53 28.1 -0.6**
U15A North Rim 62.71 325 P **P** **17 53 33.5 +1.1**
U15A IAmb IAmb 17 53 34.6
comp=Z,14nm,1.5s
F36A Milaca 63.02 344 P **P** **17 53 33.3 -0.6**
PFO Pinyon Flats O 63.16 320 P **P** **17 53 36.6 +1.3**
comp=Z,3.3nm,0.9s,baz=164,slow=3.1,SNR=3.5
comp=Z,3.3nm,0.9s
KNB Kanab 63.43 326 P **P** **17 53 38.3 +1.2**
O20A White River Ci 63.46 331 P **P** **17 53 37.5 +0.3**
O20A IAmb IAmb 17 55 20.4
comp=Z,19nm,1.2s
PKCU Pink Cliffs 63.47 326 P **P** **17 53 37.5 0.0**
PKCU IAmb IAmb 17 54 10.2
comp=Z,35nm,1.9s
V12A Nelson 63.65 323 P **P** **17 53 38.2 -0.3**
V12A IAmb IAmb 17 53 40.3
comp=Z,18nm,1.7s
F33A 5 Mile Ranch, 63.76 342 **P** **17 53 38.5 -0.3**
SRU San Rafael Swe 63.78 329 P **P** **17 53 39.7 +0.4**
Q16A Castle Valley 63.96 328 P **P** **17 53 40.8 +0.2**
Q16A IAmb IAmb 17 53 42.7
comp=Z,17nm,1.6s
P18A Preston Nutter 64.04 329 P **P** **17 53 42.0 +0.8**
CCUT Cedar City 64.11 326 P **P** **17 53 43.0 +1.4**
P17A Butcher Ranch, 64.17 329 P **P** **17 53 42.3 +0.4**
P17A IAmb IAmb 17 53 43.4
comp=Z,12nm,1.1s
MSU Marysvale 64.18 327 P **P** **17 53 42.9 +0.9**
MVU Marysvale 64.20 327 P **P** **17 53 43.4 +1.3**
TMUT Trail Mountain 64.27 328 P **P** **17 53 43.2 +0.5**
SHPR Sheep Range 64.38 324 P **P** **17 53 43.0 +0.3**
RDMU Red Mountain 64.43 330 P **P** **17 53 44.0 +0.4**
QSM Queen of Sheba 65.00 322 P **P** **17 53 46.6 -0.6**
QSM IAmb IAmb 17 53 48.9
comp=Z,17nm,1.6s
GWY Greenwater Val 65.03 322 P **P** **17 53 47.8 +0.2**
GWY IAmb IAmb 17 53 49.5
comp=Z,16nm,1.7s
PSUT Pine Spring 65.09 326 P **P** **17 53 48.9 +0.9**
NLU North Lily Min 65.20 328 P **P** **17 53 49.9 +1.2**
TPNV Topopah Spring 65.31 323 P **P** **17 53 50.3 +0.9**
JLU Jordanelle 65.38 329 P **P** **17 53 50.4 +0.6**
B35A Bob, Littlefor 65.39 345 P **P** **17 53 48.5 -1.0**
B35A IAmb IAmb 17 53 49.0
comp=Z,12nm,0.8s
SPR3 Spring Creek 3 65.69 326 P **P** **17 53 52.6 +0.6**
SPR3 IAmb IAmb 17 53 53.6
comp=Z,10.0nm,1.3s
TCUT Toone Canyon 65.75 329 P **P** **17 53 52.5 +0.3**
TCUT IAmb IAmb 17 54 09.8
comp=Z,33nm,1.9s
DUG Dugway, Tooele 65.76 328 P **P** **17 53 52.8 +0.6**
DUG IAmb IAmb 17 53 54.2
comp=Z,11nm,1.0s
ISA Isabella, Lake 65.77 321 P **P** **17 53 52.3 +1.0**
ISA IAmb IAmb 17 53 55.0
comp=Z,24nm,1.9s
E28A Huff 65.79 340 P **P** **17 53 52.7 +0.6**
AGMN Agassiz Nation 65.88 344 P **P** **17 53 52.2 -0.4**
AGMN IAmb IAmb 17 53 53.0
comp=Z,22nm,0.8s
R11A Troy Canyon, C 65.91 325 P **P** **17 53 54.4 +1.2**
PDAR Pinedale Array 66.14 332 P **P** **17 53 54.4 -0.3**
comp=Z,0.6nm,0.6s,baz=147,slow=3.5,SNR=6.5
comp=Z,0.6nm,0.6s
PDAR Pinedale Array 66.14 332 P **P** **17 53 54.1 -0.6**
GMN Gold Mountain 66.14 323 P **P** **17 53 56.0 +1.3**
GMN IAmb IAmb 17 53 57.0
comp=Z,17nm,1.7s
HWUT Hardware Ranch 66.19 330 P **P** **17 53 54.9 -0.1**
SPUT South Promonto 66.41 329 P **P** **17 53 56.9 +0.6**
SPUT IAmb IAmb 17 55 17.2
comp=Z,16nm,1.8s
BGU Big Grassy Mou 66.41 328 P **P** **17 53 56.6 +0.3**
MZP Montezuma Peak 66.49 323 P **P** **17 53 58.1 +1.1**
MDND Maddock 66.56 341 P **P** **17 53 57.1 +0.1**
AHID Auburn Hatcher 66.86 331 P **P** **17 53 59.1 -0.1**
HVU Hansel Valley 66.92 329 P **P** **17 53 59.9 +0.3**
REDW Red Top Meadow 67.20 331 P **P** **17 54 01.1 -0.3**
REDW IAmb IAmb 17 54 02.8
comp=Z,27nm,1.7s
TPAW Teton Pass 67.34 331 P **P** **17 54 01.2 -1.2**
OMMB Old Mammoth Mi 67.38 322 P **P** **17 54 02.2 -0.5**
OMMB IAmb IAmb 17 54 04.7
comp=Z,22nm,1.7s
ELK Elko 67.43 327 P **P** **17 54 03.8 +0.9**
comp=Z,2.2nm,0.9s,baz=95,slow=3.0,SNR=8.6
comp=Z,2.2nm,0.9s
ELK Elko 67.43 327 P **P** **17 54 03.8 +0.9**
NV11 Mina Array Sit 67.43 323 P **P** **17 54 03.1 +0.3**
MDPB Devils Postpil 67.44 322 P **P** **17 54 03.4 +0.4**
MDPB IAmb IAmb 17 55 20.4
comp=Z,17nm,2.0s
MOOW Moose Ponds 67.45 332 P **P** **17 54 03.1 +0.2**
FXWY Fox Creek 67.49 331 P **P** **17 54 03.7 +0.4**
LHV Little Huntoon 67.51 323 P **P** **17 54 04.9 +1.8**
LHV IAmb IAmb 17 54 05.7
comp=Z,20nm,1.7s
NVAR Mina Array Bea 67.51 323 P **P** **17 54 04.5 +1.0**
comp=Z,0.8nm,0.7s,baz=159,slow=7.0,SNR=7.6
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 67.51 323 P **P** **17 54 03.7 +0.2**
IMW Indian Meadow 67.65 332 P **P** **17 54 04.0 -0.3**
IMW IAmb IAmb 17 54 05.7
comp=Z,15nm,1.6s
ULM Lac du Bonnet 67.68 345 P **P** **17 54 03.4 -0.6**
comp=Z,16nm,0.7s,baz=162,slow=5.8,SNR=12
comp=Z,16nm,0.7s
VNA3 Neumayer Olymp 67.80 162 P **P** **17 54 04.8 +0.2**
KVN Kaiserville 67.82 324 P **P** **17 54 06.1 +0.8**
LKWY Lake 67.92 332 P **P** **17 54 07.5 +1.5**
YNR Norris Junctio 68.17 332 P **P** **17 54 08.5 +1.0**
WAKR Walker 68.22 323 P **P** **17 54 09.2 +1.3**
WAKR IAmb IAmb 17 55 08.7
comp=Z,29nm,1.9s
YHH Holmes Hill 68.30 332 P **P** **17 54 08.8 +0.4**
VNA2 Neumayer--Watz 68.39 161 P **P** **17 54 08.4 +0.1**
baz=250,slow=2.9
YERR Yerington 68.43 323 P **P** **17 54 08.7 -0.5**
YERR IAmb IAmb 17 54 11.6
comp=Z,20nm,1.5s
YHL Hebgen Lake 68.50 332 P **P** **17 54 11.0 +1.3**
YHL IAmb IAmb 17 54 11.9
comp=Z,12nm,1.0s
GCMT Greycliff 68.57 334 P **P** **17 54 10.3 +0.4**
DGMT Dagmar 68.63 339 P **P** **17 54 10.2 +0.2**
DGMT IAmb IAmb 17 54 11.7
comp=Z,19nm,0.9s
PAHR Pah Rah Range 68.99 324 P **P** **17 54 13.0 +0.4**
PAHR IAmb IAmb 17 54 15.6
comp=Z,10nm,1.1s
HLID Hailey 69.05 329 P **P** **17 54 13.3 +0.4**
HLID IAmb IAmb 17 54 14.8
comp=Z,22nm,1.9s
BCYI Bear Canyon 69.12 331 P **P** **17 54 14.2 +0.8**
MCMT McKenzie Canyo 69.25 331 P **P** **17 54 14.0 -0.2**
BOZ Bozeman (W) 69.28 332 P **P** **17 54 14.2 -0.1**
SCHQ Schefferville 69.59 4 P **P** **17 54 15.1 -0.7**
comp=Z,8.3nm,0.9s,baz=206,slow=9.5,SNR=4.1
comp=Z,8.3nm,0.9s
MFID Camas Ranch 69.65 328 P **P** **17 54 16.9 +0.3**
MFID IAmb IAmb 17 54 18.6
comp=Z,15nm,1.0s
BEKR Beckworth 69.66 323 P **P** **17 54 17.1 +0.3**
SNAA Sanae 70.01 161 P **P** **17 54 18.5 +0.1**
SNAA Sanae 70.01 161 P **P** **17 54 18.1 -0.2**
ORV Oroville 70.12 322 P **P** **17 54 20.1 +0.7**
ORV IAmb IAmb 17 54 22.4
comp=Z,14nm,1.1s
PLID Pearl Lake 70.94 330 P **P** **17 54 24.4 -0.2**
J08A Circle Bar Ran 70.98 327 P **P** **17 54 24.4 -0.2**
MOD Modoc Plateau 70.98 325 P **P** **17 54 25.1 +0.4**
DBIC Dimbokro 71.36 78 P **P** **17 54 25.9 -1.5**
comp=Z,12nm,0.8s,baz=268,slow=6.6,SNR=9.7
comp=Z,12nm,0.8s
DBIC Dimbokro 71.36 78 P **P** **17 54 25.1 -2.4**
DBIC pP **pP** **17 54 39.3 -5.7**
DBIC sP **PcP** **17 54 47.3 +0.4**
BMO Blue Mountains 71.42 329 P **P** **17 54 26.9 -0.5**
TROLL Troll, Antarti 71.73 161 P **P** **17 54 29.2 +0.3**
I07A Izee 72.02 327 P **P** **17 54 32.1 +1.2**
F10A Beach Ranch, E 72.18 330 P **P** **17 54 32.4 +0.6**
YBH Yreka Blue Hor 72.23 324 P **P** **17 54 31.9 -0.3**
comp=Z,2.1nm,0.8s,baz=219,slow=1.5,SNR=4.8
comp=Z,2.1nm,0.8s
G08A Pilot Rock 72.56 328 P **P** **17 54 34.8 +0.6**
PINE Pine Mountain 72.59 326 P **P** **17 54 35.9 +1.5**
PINE IAmb IAmb 17 54 36.7
comp=Z,11nm,0.9s
E09A Wood Farm, Sta 73.01 330 P **P** **17 54 36.9 +0.3**
H04A Detroit Lake 73.85 326 P **P** **17 54 42.2 +0.6**
C09A Chrisman Ranch 73.98 330 P **P** **17 54 43.0 +0.7**
B08A Colville Reser 74.88 330 P **P** **17 54 48.0 +0.4**
QSPA South Pole Qui 75.35 180 P **P** **17 54 50.9 +0.7**
comp=Z,1.2nm,0.5s,baz=195,slow=0.1,SNR=6.7
QSPA pP **sP** **17 55 17.0 +2.1**
comp=Z,4.1nm,0.9s,baz=136,slow=1.0,SNR=4.0
comp=Z,1.2nm,0.5s
D05A Enumclaw 75.40 328 P **P** **17 54 50.9 +0.4**
D05A IAmb IAmb 17 54 52.1
comp=Z,23nm,0.9s
B06A Marblemount 76.03 329 P **P** **17 54 53.9 -0.2**
B06A IAmb IAmb 17 54 55.2
comp=Z,12nm,0.9s
NLWA Neilton Lookou 76.50 327 P **P** **17 54 58.2 +1.4**
NLWA IAmb IAmb 17 54 59.3
comp=Z,17nm,0.8s
BRLDA Berland Lookou 78.12 335 P **P** **17 55 05.0 -0.8**
BRLDA IAmb IAmb 17 55 35.0
comp=Z,18nm,1.2s
MDT Midelt 81.05 53 LR LR 18 27 58.6
comp=Z,28nm,21.0s,baz=342,slow=33
YKA Yellowknife Ar 83.46 342 P **P** **17 55 33.6 -0.4**
comp=Z,6.7nm,0.8s,baz=138,slow=5.0,SNR=14
comp=Z,6.7nm,0.8s
ESDC Sonseca Array 84.33 47 P **P** **17 55 39.2 +0.1**
comp=Z,6.0nm,0.9s,baz=257,slow=5.2,SNR=15
comp=Z,6.0nm,0.9s
ESDC Sonseca Array 84.33 47 P **P** **17 55 39.1 +0.1**
ESDC IAmb IAmb 17 55 40.1
comp=Z,7.8nm,1.1s
TAM Tamanrasset 85.92 65 P **P** **17 55 48.0 +0.5**
TAM IAmb IAmb 17 56 30.7
comp=Z,19nm,1.6s
P33M Teslin, Yukon 88.45 335 P **P** **17 55 59.3 +0.5**
RES Resolute Bay 90.30 354 P **P** **17 56 07.0 -0.1**
comp=Z,3.5nm,0.9s,baz=216,slow=9.6,SNR=4.0
comp=Z,3.5nm,0.9s
A36M Sachs Harbour 93.14 346 P **P** **17 56 19.4 -0.8**
INK Inuvik 93.19 341 P **P** **17 56 20.3 -0.2**
comp=Z,5.8nm,1.2s,baz=110,slow=5.6,SNR=5.0
comp=Z,5.8nm,1.2s
ILAR Eielson Array 96.34 336 P **P** **17 56 33.8 -1.2**
comp=Z,0.9nm,1.0s,baz=135,slow=2.6,SNR=4.6
comp=Z,0.9nm,1.0s
BVAR Borovoye Array 132.43 29 PKP **PKPdf** **18 02 20.9 +0.2**
comp=Z,1.1nm,0.6s,baz=259,slow=0.8,SNR=5.9
ASAR Alice Springs 133.28 216 PKP **PKPdf** **18 02 22.7 -0.7**
comp=Z,1.6nm,0.7s,baz=133,slow=2.0,SNR=32
WRA Warramunga Arr 135.90 219 PKP **PKPdf** **18 02 27.9 -0.4**
comp=Z,3.7nm,0.9s,baz=145,slow=1.6,SNR=18
ZALV Zalesovo Beam 137.42 19 PKP **PKPdf** **18 02 30.1 +0.1**
comp=Z,8.5nm,0.9s,baz=293,slow=2.7,SNR=23
ZALV pP **sPKPdf** **18 02 58.9 +3.0**
comp=Z,5.2nm,0.9s,baz=298,slow=3.2,SNR=4.4
KURBB Kurchatov Arra 137.75 26 PKP **PKPdf** **18 02 31.1 +0.3**
comp=Z,2.0nm,0.9s,baz=311,slow=2.5,SNR=12
KURBB pP **sPKPdf** **18 02 59.6 +3.1**
comp=Z,1.2nm,1.0s,baz=300,slow=2.6,SNR=3.7
MKAR Makanchi Array 142.27 27 PKhKP PKPpre 18 02 33.9
comp=Z,1.9nm,0.8s,baz=345,slow=3.7,SNR=11
KSH Kashi 143.69 41 PKP **PKPdf** **18 02 42.2 +0.2**
MJAR Matsushiro Arr 144.36 313 PKP **PKPab** **18 02 40.3 -0.9**
comp=Z,4.5nm,0.9s,baz=345,slow=1.6,SNR=7.5
WMQ Urumqi 146.95 25 *e*PKPbc **PKPdf** **18 02 47.9 +0.5**
SONM Songino Array 147.06 0 PKP **PKPdf** **18 02 47.7 +0.1**
comp=Z,10.0nm,0.8s,baz=330,slow=1.8,SNR=51
SONM PKPbc **PKPbc** **18 02 49.5 -0.2**
comp=Z,10.0nm,0.8s,baz=340,slow=2.7,SNR=46
KSRS Korea Array 150.46 324 PKPbc **PKPbc** **18 02 58.2 -0.3**
comp=Z,2.1nm,0.9s,baz=90,slow=27,SNR=4.2
HHC Hu-ho-hao-te 153.67 351 *e*PKPbc **PKPdf** **18 03 01.7 +3.7**
GTA Gaotai 154.80 12 *e*PKPbc **PKPdf** **18 03 00.0 +0.3**
NJ2 Nanjing 159.42 329 *e*PKP **PKPdf** **18 03 08.0 +2.5**
PZH PanZhiHua 167.56 20 PKP **PKPdf** **18 03 13.6 +0.1**
CMAR Chiang Mai Arr 171.95 62 PKP **PKPdf** **18 03 15.6 -0.6**
comp=Z,1.1nm,1.0s,baz=309,slow=2.2,SNR=7.7

ROM 10 17:52:29.8±0.2, 43.010N±0.005×13.079E±0.007,
h7km±1km, ML1.9/15, 11C-5D, Error ellipse: s-maj=0.6km
s-min=0.4km az=227.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
FDMO	**Fiordimonte**	**0.03**	**12**	P	Pg	17 52 31.3	+0.1
FDMO				S	Sg	17 52 32.2	0.0
FDMO				AML	AML		
	comp=N,2285μm,0.2s						
FDMO				AML	AML		
	comp=E,1900μm,0.1s						
FDMO				AML	AML		
	comp=N,2280μm,0.2s						
T1219	**Muccia, Frazio**	**0.07**	**311**	P	Pg	17 52 31.8	+0.1
T1219				S	Sg	17 52 33.0	0.0
T1219	**Muccia, Frazio**	**0.07**	**311**	P	Pg	17 52 31.8	+0.1
T1219				S	Sg	17 52 33.1	+0.1
T1219				AML	AML		
	comp=E,116μm,1.5s						
T1219				AML	AML		
	comp=N,128μm,0.7s						
T1219				AML	AML		
	comp=E,116μm,1.5s						
T1219				AML	AML		
	comp=N,128μm,0.7s						
T1220	**Camerino, Fraz**	**0.10**	**4**	P	Pg	17 52 32.4	+0.2
T1220				S	Sg	17 52 34.1	+0.4
T1220				AML	AML		
	comp=E,896μm,0.5s						
T1220				AML	AML		
	comp=N,834μm,1.1s						
T1220				AML	AML		
	comp=N,1345μm,0.5s						
T1220				AML	AML		
	comp=N,1350μm,0.5s						
T1220				AML	AML		
	comp=E,1495μm,1.2s						
T1220	**Camerino, Fraz**	**0.10**	**4**	⇑P	Pg	17 52 32.4	+0.3
T1220				S	Sg	17 52 34.3	+0.5
T1220				AML	AML		
	comp=E,1505μm,1.1s						
T1220				AML	AML		
	comp=N,1300μm,0.5s						
T1220				AML	AML		
	comp=E,1495μm,1.1s						
T1220				AML	AML		
	comp=N,1350μm,0.5s						
T1220				AML	AML		
	comp=E,1505μm,1.1s						
T1220				AML	AML		
	comp=N,1300μm,0.5s						
T1220				AML	AML		
	comp=E,1495μm,1.1s						
T1220				AML	AML		
	comp=N,1345μm,0.5s						
T1220				AML	AML		
	comp=N,1350μm,0.5s						
T1220				AML	AML		
	comp=E,1495μm,1.2s						
T1256	**Bolognola (MC)**	**0.11**	**92**	P	Pg	17 52 32.8	+0.5
T1256				S	Sg	17 52 35.0	+0.9
T1256				AML	AML		
	comp=E,127μm,0.3s						
T1256				AML	AML		
	comp=N,97μm,0.3s						
T1256				AML	AML		
	comp=E,246μm,0.3s						
T1256				AML	AML		
	comp=N,238μm,0.4s						
T1256	**Bolognola (MC)**	**0.11**	**92**	P	Pg	17 52 32.9	+0.6
T1256				S	Sg	17 52 35.3	+1.3
T1256				AML	AML		
	comp=N,238μm,0.4s						
T1256				AML	AML		
	comp=N,238μm,0.4s						
T1256				AML	AML		
	comp=E,246μm,0.3s						
CSP1	**Cessapalombo**	**0.12**	**48**	P	Pg	17 52 32.9	+0.4
CSP1				S	Sg	17 52 35.1	+0.7
CSP1	**Cessapalombo**	**0.12**	**48**	⇑P	Pg	17 52 32.9	+0.4
CSP1				S	Sg	17 52 35.2	+0.8
T1216	**Preci, Frazion**	**0.13**	**200**	P	Pg	17 52 33.2	+0.7
T1216				S	Sg	17 52 36.0	+1.6
CESI	**CESI - Serrava**	**0.13**	**268**	P	Pg	17 52 33.0	+0.4
CESI				S	Sg	17 52 35.2	+0.8
CESI				AML	AML		
	comp=E,61μm,0.1s						
CESI				AML	AML		
	comp=N,84μm,0.3s						
CESI				AML	AML		
	comp=E,216μm,0.3s						
CESI				AML	AML		
	comp=N,285μm,0.2s						
CESI	**CESI - Serrava**	**0.13**	**268**	P	Pg	17 52 33.0	+0.4
CESI				S	Sg	17 52 35.4	+0.9
CESI				AML	AML		
	comp=E,216μm,0.3s						
CESI				AML	AML		
	comp=N,285μm,0.2s						
CESI				AML	AML		
	comp=E,216μm,0.3s						
T1245	**Castelsantange**	**0.17**	**152**	P	Pg	17 52 33.4	+0.1
T1245	**Castelsantange**	**0.17**	**152**	P	Pg	17 52 33.4	0.0
T1245				S	Sg	17 52 36.1	+0.3
T1245				AML	AML		
	comp=E,2320μm,1.0s						
T1245				AML	AML		
	comp=N,1810μm,0.2s						
GUMA	**Gualdo di Mace**	**0.20**	**74**	P	Pg	17 52 34.6	+0.9
GUMA				S	Sg	17 52 38.4	+2.0
GUMA	**Gualdo di Mace**	**0.20**	**74**	⇑P	Pg	17 52 34.6	+0.9
GUMA				AML	AML		
	comp=E,475μm,0.3s						
GUMA				AML	AML		
	comp=N,368μm,0.3s						
AM05	**Amandola Campo**	**0.20**	**99**	⇑P	Pg	17 52 36.2	+2.4
AM05				AML	AML		
	comp=E,672μm,0.1s						
AM05				AML	AML		
	comp=N,73μm,0.1s						
MMO1	**Montemonaco**	**0.21**	**121**	P	Pg	17 52 34.7	+0.6
MMO1				S	Sg	17 52 37.9	+0.9
MMO1	**Montemonaco**	**0.21**	**121**	P	Pg	17 52 34.7	+0.7
MMO1				S	Sg	17 52 38.0	+1.1
T1212	**Cascia, Frazio**	**0.26**	**186**	AML	AML		
	comp=N,1082μm,0.3s						
T1212				AML	AML		
	comp=E,1150μm,0.3s						
T1212				AML	AML		
	comp=N,1148μm,0.3s						
T1212				AML	AML		
	comp=N,1080μm,0.3s						
T1212				AML	AML		
	comp=E,1152μm,0.3s						
T1212				AML	AML		
	comp=N,1144μm,0.3s						
T1212				AML	AML		
	comp=E,1275μm,0.3s						
T1212	**Cascia, Frazio**	**0.26**	**186**	AML	AML		
	comp=E,1276μm,0.3s						
T1212				AML	AML		
	comp=E,1277μm,0.3s						
T1212				AML	AML		
	comp=N,1080μm,0.3s						
T1212				AML	AML		
	comp=E,1152μm,0.3s						
T1212				AML	AML		
	comp=N,1144μm,0.3s						
T1212				AML	AML		
	comp=N,1082μm,0.3s						
T1212				AML	AML		
	comp=E,1146μm,0.3s						
T1212				AML	AML		
	comp=N,1145μm,0.3s						
T1215	**Vallo di Nera,**	**0.26**	**217**	P	Pg	17 52 35.2	+0.3
T1215				S	Sg	17 52 38.9	+0.6
T1215	**Vallo di Nera,**	**0.26**	**217**	⇑P	Pg	17 52 35.3	+0.3
T1215				AML	AML		
	comp=E,205μm,1.3s						
T1215				AML	AML		
	comp=N,205μm,1.2s						
SNTG	**Esanatoglia**	**0.27**	**338**	P	Pg	17 52 35.2	+0.2
SNTG				S	Sg	17 52 39.4	+0.7
SNTG	**Esanatoglia**	**0.27**	**338**	⇓P	Pg	17 52 35.5	+0.4
SNTG				AML	AML		
	comp=E,50μm,0.1s						
SNTG				AML	AML		
	comp=N,52μm,1.1s						
T1213	**Norcia, Frazio**	**0.29**	**173**	AML	AML		
	comp=E,2805μm,0.3s						
T1213				AML	AML		
	comp=E,2580μm,0.3s						
T1213				AML	AML		
	comp=E,2575μm,0.3s						
T1213				AML	AML		
	comp=N,2575μm,0.7s						
T1213				AML	AML		
	comp=N,2550μm,0.7s						
T1241	**Roccafluvione,**	**0.30**	**121**	⇑P	Pg	17 52 35.4	-0.3
T1241				AML	AML		
	comp=E,223μm,0.5s						
T1241				AML	AML		
	comp=N,148μm,0.9s						
T1241				AML	AML		
	comp=N,148μm,0.9s						
T1241				AML	AML		
	comp=E,222μm,0.5s						
EL6	**Elcito**	**0.32**	**3**	⇓P	Pg	17 52 36.3	+0.2
T1218	**Civita (PG)**	**0.34**	**176**	⇑P	Pg	17 52 33.7	-2.8
T1218				AML	AML		
	comp=E,834μm,0.2s						
T1218				AML	AML		
	comp=E,832μm,0.2s						
T1218				AML	AML		
	comp=N,1495μm,0.2s						
T1218				AML	AML		
	comp=E,834μm,0.2s						
T1218				AML	AML		
	comp=N,1490μm,0.2s						
T1204	**Amatrice, Fraz**	**0.38**	**152**	⇑P	Pg	17 52 34.4	-2.8
LNSS	**Leonessa**	**0.41**	**184**	⇓P	Pg	17 52 35.1	-2.6
LNSS				AML	AML		
	comp=E,172μm,0.2s						
LNSS				AML	AML		
	comp=N,363μm,0.7s						
T1243	**Rocca Santa Ma**	**0.41**	**139**	⇓P	Pg	17 52 35.5	-2.4
ARRO	**Arrone**	**0.49**	**208**	⇑P	Pg	17 52 37.5	-1.7
ARVD	**Arcevia**	**0.50**	**348**	S	Sb	17 52 48.0	-0.5
T1211	**Morro Reatino**	**0.50**	**199**	⇑P	Pg	17 52 37.2	-2.3
RM33	**Pellescritta (**	**0.51**	**169**	P	Pg	17 52 36.3	-3.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RM33				AML	AML		
	comp=E,116µm,0.9s						
RM33				AML	AML		
	comp=N,80µm,0.4s						
CAMP	**Campotosto**	**0.53**	**153**	⇓P	Pg	17 52 36.7	-3.4
CESX	**Cesi**	**0.54**	**223**	⇑P	Pg	17 52 39.6	-0.7
TERO	**Teramo**	**0.55**	**135**	P	Pg	17 52 37.6	-2.7
TERO				AML	AML		
	comp=E,102µm,1.5s						
TERO				AML	AML		
	comp=N,149µm,0.1s						
GIGS	**Gran Sasso**	**0.67**	**147**	P	Pg	17 52 39.2	-3.4
FIAM	**Fiamignano**	**0.74**	**178**	S	Sg	17 52 49.0	-4.7
CPGN	**Carpegna, Ital**	**0.96**	**325**	S	Sb	17 53 02.0	0.0

ROM 10 17:53:01.7±0.2**, 42°.85N**±0°.01×**13°.13E**±0°.01**, h14**km±2km**,**
ML1.3/2**, 3D, Error ellipse: s-maj=1.2km s-min=0.6km**
az=209.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.04**	**85**	P	Pg	17 53 04.6	0.0
T1245				S	Sg	17 53 06.1	-0.4
T1245				AML	AML		
	comp=E,257µm,0.8s						
T1245				AML	AML		
	comp=N,309µm,0.3s						
T1245				AML	AML		
	comp=N,206µm,1.1s						
T1216	**Preci, Frazion**	**0.09**	**295**	P	Pg	17 53 05.6	+0.8
T1212	**Cascia, Frazio**	**0.12**	**213**	P	Pg	17 53 05.2	0.0
T1212				AML	AML		
	comp=E,250µm,0.2s						
T1212				AML	AML		
	comp=N,240µm,0.1s						
MMO1	**Montemonaco**	**0.15**	**72**	P	Pb	17 53 06.0	-0.3
MMO1				S	Sb	17 53 09.0	-0.5
T1256	**Bolognola (MC)**	**0.17**	**24**	⇓P	Pg	17 53 06.2	+0.2
T1218	**Civita (PG)**	**0.18**	**184**	P	Pg	17 53 06.0	-0.1
FDMO	**Fiordimonte**	**0.19**	**350**	P	Pg	17 53 06.3	+0.2
T1215	**Vallo di Nera,**	**0.20**	**255**	⇓P	Pb	17 53 07.0	-0.2
T1241	**Roccafluvione,**	**0.22**	**89**	P	Pb	17 53 07.1	-0.4
T1219	**Muccia, Frazio**	**0.22**	**336**	P	Pb	17 53 07.2	-0.4
T1219				S	Sg	17 53 09.9	-0.2
CESI	**CESI - Serrava**	**0.23**	**312**	P	Pb	17 53 08.1	+0.4
CSP1	**Cessapalombo**	**0.24**	**13**	⇓P	Pg	17 53 07.0	-0.1
CSP1				AML	AML		
	comp=E,90µm,1.6s						
CSP1				AML	AML		
	comp=N,75µm,0.5s						
T1220	**Camerino, Fraz**	**0.26**	**353**	P	Pg	17 53 07.3	0.0
T1243	**Rocca Santa Ma**	**0.28**	**124**	P	Pg	17 53 07.7	0.0
ARVD	**Arcevia**	**0.66**	**348**	S	Sn	17 53 28.0	+1.2

ROM 10 17:53:39.5±0.2**, 37°.93N**±0°.02×**12°.86E**±0°.02**, h11**km**,**
ML2.8/7**, 3D, Error ellipse: s-maj=2.0km s-min=1.4km**
az=12.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTGR	**Montagna Grand**	**0.09**	**242**	P	Pg	17 53 43.2	+1.1
MFNL	**Monte Finestre**	**0.15**	**159**	⇓P	Pg	17 53 43.1	+0.1
CRJA	**Costa Raja**	**0.18**	**138**	⇓P	Pg	17 53 43.3	-0.1
ERC	**Erice**	**0.23**	**296**	P	Pg	17 53 44.8	+0.3
ERC				S	Sg	17 53 48.9	+1.0
ERC				AML	AML		
	comp=E,2700µm,1.6s						
ERC				AML	AML		
	comp=N,2960µm,0.7s						
ERC				AML	AML		
	comp=N,3222µm,2.5s						
ERC				AML	AML		
	comp=E,2896µm,8.6s						
ERC				AML	AML		
	comp=E,2405µm,0.4s						
ERC				AML	AML		
	comp=N,2246µm,0.3s						
MMGO	**Monte Magaggia**	**0.29**	**160**	⇓P	Pg	17 53 45.1	-0.3
CLTB	**Caltabellotta**	**0.46**	**141**	AML	AML		
	comp=E,22043µm,0.5s						
CLTB				AML	AML		
	comp=E,22050µm,1.5s						
CLTB				AML	AML		
	comp=N,29750µm,0.5s						
CLTB				AML	AML		
	comp=N,29761µm,0.5s						
MPG	**Monte Pellegri**	**0.46**	**60**	P	Pg	17 53 48.1	-0.5
MPG				AML	AML		
	comp=E,818µm,0.8s						
MPG				AML	AML		
	comp=N,1016µm,0.9s						
MPG				AML	AML		
	comp=E,820µm,0.8s						
MPG				AML	AML		
	comp=N,1015µm,0.9s						
MPG				AML	AML		
	comp=E,786µm,0.5s						
MPG				AML	AML		
	comp=N,999µm,0.5s						
SOLUN	**Solunto**	**0.56**	**73**	P	Pg	17 53 50.0	-0.4
SOLUN				S	Sg	17 53 58.0	+0.2
SOLUN				AML	AML		
	comp=E,772µm,0.5s						
SOLUN				AML	AML		
	comp=N,979µm,0.5s						
SOLUN				AML	AML		
	comp=N,1143µm,3.8s						
SOLUN				AML	AML		
	comp=E,787µm,2.9s						
SOLUN				AML	AML		
	comp=E,787µm,0.9s						
SOLUN				AML	AML		
	comp=N,1143µm,0.2s						
GIB	**Gibilmanna**	**0.93**	**86**	P	Pg	17 53 57.1	-0.4
PETRA	**Petralia Sopra**	**1.00**	**95**	P	Pg	17 53 58.6	-0.2
PETRA				AML	AML		
	comp=E,1240µm,0.7s						
PETRA				AML	AML		
	comp=N,1022µm,0.9s						
PETRA				AML	AML		
	comp=N,1023µm,0.9s						
PETRA				AML	AML		
	comp=E,1242µm,0.7s						
PLLN	**Pollina**	**1.02**	**86**	P	Pg	17 53 58.9	-0.3
CLTA	**Licata**	**1.17**	**131**	P	Pg	17 54 02.9	+0.8
CLTA				AML	AML		
	comp=E,248µm,0.4s						
IACL	**Alicudi**	**1.33**	**63**	P	Pg	17 54 04.9	-0.1
MSFR	**San Fratello**	**1.38**	**85**	P	Pn	17 54 03.5	-1.2
RAFF	**Raffo Rosso**	**1.39**	**120**	P	Pb	17 54 05.6	0.0
RAFF				AML	AML		
	comp=E,303µm,0.9s						
RAFF				AML	AML		
	comp=N,276µm,0.5s						
RAFF				AML	AML		
	comp=N,277µm,0.5s						
RAFF				AML	AML		
	comp=E,303µm,0.9s						
HVZN	**Vizzini**	**1.66**	**116**	P	Pb	17 54 09.7	-0.5
HLNI	**Lentini**	**1.71**	**109**	P	Pn	17 54 09.9	+0.7
HLNI				AML	AML		
	comp=N,223µm,0.9s						
HLNI				AML	AML		
	comp=E,218µm,0.6s						
HLNI				AML	AML		
	comp=N,219µm,0.4s						
HLNI				AML	AML		
	comp=E,218µm,0.6s						
HMDC	**Modica**	**1.82**	**122**	P	Pn	17 54 10.9	+0.1
SSY	**Sortino**	**1.93**	**113**	P	Pn	17 54 13.5	+1.2
HAGA	**Augusta**	**1.94**	**109**	P	Pb	17 54 14.1	-0.8

*NOU **10** 18:05:13.6, 40°.74S×174°.68E, h58km, MLv3.9/12, Cook Strait, New Zealand*
*WEL **10** 18:05:14.1, 41°S±5°×17°5E±°, h42km±10km, M3.9/12, ML4.2/12, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=117.4*
ISC 10 18:05:13.3±1.4**, 40°.70S**±0°.03×**174°.69E**±0°.03**, h61**km±9km**,**
n125, σ**0°.98**/130**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.23**	**133**	P	**Pn**	**18 05 22.8**	**-0.3**
KIW				S	**Sn**	**18 05 28.9**	**-1.3**
OGWZ	**Otaki Gorge**	**0.38**	**107**	P	**Pn**	**18 05 24.6**	**+0.3**
OGWZ				S	**Sn**	**18 05 32.3**	**+0.1**
CAW	**Cannon Point**	**0.49**	**145**	P	**Pn**	**18 05 26.2**	**+0.8**
CAW				S	**Sn**	**18 05 35.2**	**+1.2**
WEL	**Wellington**	**0.58**	**174**	P	**Pn**	**18 05 27.2**	**+1.0**
WEL				S	**Sn**	**18 05 37.1**	**+1.4**
DUWZ	**D'Urville Isla**	**0.59**	**260**	P	**Pn**	**18 05 25.5**	**-0.8**
DUWZ				S	**Sn**	**18 05 34.4**	**-1.4**
TCW	**Tory Channel**	**0.59**	**211**	P	**Pn**	**18 05 26.8**	**+0.4**
TCW				S	**Sn**	**18 05 35.7**	**-0.2**
SNZO	**South Karori**	**0.60**	**179**	P	**Pn**	**18 05 27.3**	**+0.8**
HOWZ	**Holdsworth Sta**	**0.66**	**107**	P	**Pn**	**18 05 27.7**	**+0.6**
MRZ	**Mangatainoka R**	**0.68**	**87**	P	**Pn**	**18 05 27.9**	**+0.6**
OHWZ	**Ohakea**	**0.69**	**44**	P	**Pn**	**18 05 28.0**	**+0.5**
MTW	**Mount Morrison**	**0.77**	**127**	P	**Pn**	**18 05 29.0**	**+0.5**
MSWZ	**Moikau Station**	**0.83**	**149**	P	**Pn**	**18 05 30.0**	**+0.8**
PAWZ	**Paruwai Farm**	**0.88**	**141**	P	**Pn**	**18 05 30.5**	**+0.6**
POWZ	**Post Office Ro**	**0.88**	**70**	P	**Pn**	**18 05 30.5**	**+0.7**
TIWZ	**Tintock**	**0.91**	**95**	P	**Pn**	**18 05 31.0**	**+0.7**
TUWZ	**Tuamarina**	**0.92**	**218**	P	**Pn**	**18 05 31.3**	**+1.0**
PLWZ	**Palliser**	**0.96**	**154**	P	**Pn**	**18 05 31.5**	**+0.5**
WAZ	**Wanganui**	**0.98**	**14**	P	**Pn**	**18 05 31.3**	**+0.2**
PRWZ	**Pori Road**	**0.99**	**82**	P	**Pn**	**18 05 32.0**	**+0.8**
TMWZ	**Te Maipa**	**1.00**	**114**	P	**Pn**	**18 05 31.8**	**+0.4**
TRWZ	**Traveller**	**1.03**	**133**	P	**Pn**	**18 05 34.0**	**+2.2**
CMWZ	**Cape Campbell**	**1.10**	**199**	P	**Pn**	**18 05 35.8**	**+3.0**
NNZ	**Nelson**	**1.11**	**242**	P	**Pn**	**18 05 33.5**	**+0.6**
CPWZ	**Castlepoint**	**1.17**	**101**	P	**Pn**	**18 05 34.6**	**+1.0**
TSZ	**Takapari Road**	**1.17**	**57**	P	**Pn**	**18 05 34.0**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.18**	**211**	P	**Pn**	**18 05 35.1**	**+1.4**
BFZ	**Birch Farm**	**1.19**	**89**	P	**Pn**	**18 05 34.0**	**+0.2**
BFZ	**Birch Farm**	**1.19**	**89**	P	**Pn**	**18 05 34.0**	**+0.2**
DVHZ	**Dannevirke**	**1.20**	**71**	P	**Pn**	**18 05 34.5**	**+0.4**
LREZ	**Lake Rotokare**	**1.26**	**350**	P	**Pn**	**18 05 35.1**	**+0.3**
TKNZ	**Takaka Hill**	**1.35**	**255**	P	**Pn**	**18 05 36.7**	**+0.7**
ANWZ	**Angora Road**	**1.38**	**80**	P	**Pn**	**18 05 36.8**	**+0.3**
PNHZ	**Pukenui**	**1.40**	**56**	P	**Pn**	**18 05 34.8**	**-1.9**
PREZ	**Palmer Road**	**1.42**	**343**	P	**Pn**	**18 05 37.8**	**+0.8**
NMEZ	**Namu Road**	**1.43**	**334**	P	**Pn**	**18 05 37.5**	**+0.4**
MTVZ	**Mangateitei**	**1.45**	**25**	P	**Pn**	**18 05 38.5**	**+1.1**
WPHZ	**Waipukurau**	**1.48**	**65**	P	**Pn**	**18 05 38.6**	**+0.7**
KHEZ	**Kahui Hut**	**1.50**	**340**	P	**Pn**	**18 05 38.7**	**+0.6**
KHEZ	**Kahui Hut**	**1.50**	**340**	P	**Pn**	**18 05 38.7**	**+0.6**
PKVZ	**Pokaka**	**1.50**	**20**	P	**Pn**	**18 05 39.2**	**+1.0**
NEZ	**North Egmont**	**1.50**	**342**	P	**Pn**	**18 05 38.8**	**+0.6**
MOVZ	**Moawhango**	**1.53**	**33**	P	**Pn**	**18 05 38.9**	**+0.3**
WNVZ	**Wahianoa**	**1.54**	**27**	P	**Pn**	**18 05 39.9**	**+1.1**
PRHZ	**Porangahau**	**1.55**	**74**	P	**Pn**	**18 05 39.0**	**+0.3**
TRVZ	**Turoa**	**1.55**	**26**	P	**Pn**	**18 05 40.1**	**+1.2**
DREZ	**Durham Road**	**1.56**	**346**	P	**Pn**	**18 05 39.6**	**+0.8**
NBEZ	**Newall Road No**	**1.57**	**336**	P	**Pn**	**18 05 39.4**	**+0.5**
VRZ	**Vera Road**	**1.58**	**2**	P	**Pn**	**18 05 39.6**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.58**	**26**	P	**Pn**	**18 05 40.6**	**+1.3**
FWVZ	**Far West T-bar**	**1.59**	**25**	P	**Pn**	**18 05 40.6**	**+1.0**
PKE	**Pukeiti**	**1.60**	**340**	P	**Pn**	**18 05 39.9**	**+0.5**
BHHZ	**Black Hill Sta**	**1.61**	**41**	P	**Pn**	**18 05 40.0**	**+0.5**
MRNZ	**Matariki Terra**	**1.62**	**244**	P	**Pn**	**18 05 40.9**	**+1.3**
TUVZ	**Tukino**	**1.62**	**28**	P	**Pn**	**18 05 41.1**	**+1.4**
QRZ	**Quartz Range**	**1.64**	**265**	P	**Pn**	**18 05 39.9**	**-0.1**
QRZ	**Quartz Range**	**1.64**	**265**	P	**Pn**	**18 05 40.0**	**+0.1**
MHEZ	**Mangahewa**	**1.65**	**350**	P	**Pn**	**18 05 41.0**	**+1.0**
NGZ	**Ngauruhoe**	**1.68**	**25**	P	**Pn**	**18 05 41.7**	**+1.1**
SNVZ	**South Ngauruho**	**1.68**	**26**	P	**Pn**	**18 05 41.9**	**+1.2**
THZ	**Tophouse**	**1.71**	**231**	P	**Pn**	**18 05 42.0**	**+1.1**
OTVZ	**Oturere**	**1.71**	**26**	P	**Pn**	**18 05 42.3**	**+1.2**
NNVZ	**North Ngauruho**	**1.73**	**25**	P	**Pn**	**18 05 42.4**	**+1.1**
TWVZ	**Taurewa**	**1.73**	**20**	P	**Pn**	**18 05 42.2**	**+0.9**
WTVZ	**West Tongariro**	**1.73**	**24**	P	**Pn**	**18 05 42.2**	**+0.9**
ETVZ	**East Tongariro**	**1.75**	**27**	P	**Pn**	**18 05 42.6**	**+1.0**
KRVZ	**Karewarewa**	**1.77**	**25**	P	**Pn**	**18 05 42.7**	**+1.0**
TMVZ	**Te Maari**	**1.77**	**27**	P	**Pn**	**18 05 42.9**	**+1.1**
NTVZ	**North Tongarir**	**1.77**	**26**	P	**Pn**	**18 05 43.0**	**+1.2**
PXZ	**Pawanui**	**1.79**	**69**	P	**Pn**	**18 05 42.7**	**+0.7**
KWHZ	**Kaweka Forest**	**1.85**	**47**	P	**Pn**	**18 05 42.8**	**0.0**
KATZ	**Kakaramea**	**1.89**	**25**	P	**Pn**	**18 05 44.8**	**+1.3**
KAHZ	**Kahuranaki**	**1.91**	**62**	P	**Pn**	**18 05 43.4**	**-0.2**
KHZ	**Kahutara**	**1.92**	**206**	P	**Pn**	**18 05 44.6**	**+1.0**
KHZ	**Kahutara**	**1.92**	**206**	P	**Pn**	**18 05 44.5**	**+1.0**
MCHZ	**McNeill Hill**	**1.99**	**51**	P	**Pn**	**18 05 44.8**	**+0.1**
RATZ	**Rangitukua**	**2.02**	**25**	P	**Pn**	**18 05 46.8**	**+1.7**
BKZ	**Black Stump Fm**	**2.07**	**43**	P	**Pn**	**18 05 46.2**	**+0.4**
BKZ	**Black Stump Fm**	**2.07**	**43**	P	**Pn**	**18 05 47.0**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.11**	**61**	P	**Pn**	**18 05 45.9**	**-0.4**
WATZ	**Wairara**	**2.15**	**22**	P	**Pn**	**18 05 49.0**	**+2.1**
HIZ	**Hauiti**	**2.19**	**3**	P	**Pn**	**18 05 48.5**	**+1.1**
HIZ	**Hauiti**	**2.19**	**3**	P	**Pn**	**18 05 48.3**	**+0.8**
ARHZ	**Aropaoanui**	**2.29**	**52**	P	**Pn**	**18 05 48.5**	**-0.2**
NMHZ	**Naumai**	**2.29**	**46**	P	**Pn**	**18 05 48.6**	**-0.2**
MRHZ	**Matea Rd**	**2.29**	**36**	P	**Pn**	**18 05 48.3**	**-0.6**
TLZ	**Tolley Road**	**2.46**	**16**	P	**Pn**	**18 05 52.8**	**+1.6**
GVZ	**Greta Valley S**	**2.58**	**208**	P	**Pn**	**18 05 52.9**	**+0.2**
RTZ	**Ruatahuna**	**2.74**	**41**	P	Pn	18 05 60.0	+5.1
LTZ	**Lake Taylor**	**2.75**	**220**	P	**Pn**	**18 05 55.2**	**+0.1**
SNGZ	**Shannon Statio**	**2.81**	**48**	P	**Pn**	**18 05 55.0**	**-0.8**
KNZ	**Kokohu**	**2.85**	**55**	P	**Pn**	**18 05 54.9**	**-1.4**
TOZ	**Tahuroa Road**	**3.04**	**12**	P	**Pn**	**18 05 59.6**	**+0.7**
RIGZ	**Rimuhau**	**3.10**	**51**	P	**Pn**	**18 05 58.4**	**-1.4**
INZ	**Inchbonnie**	**3.16**	**229**	P	**Pn**	**18 06 00.5**	**-0.1**
MWZ	**Matawai**	**3.23**	**44**	P	**Pn**	**18 06 00.0**	**-1.6**
OKCZ	**Okains Bay**	**3.25**	**201**	P	**Pn**	**18 06 01.6**	**-0.3**
MQZ	**McQueen's Vall**	**3.36**	**206**	P	**Pn**	**18 06 01.8**	**-1.5**
AKCZ	**Akaroa Harbour**	**3.43**	**202**	P	**Pn**	**18 06 03.3**	**-1.0**
RACZ	**Rakaia**	**3.56**	**211**	P	**Pn**	**18 06 04.9**	**-1.2**
RUGZ	**Raukumara Rang**	**3.59**	**41**	P	**Pn**	**18 06 05.2**	**-1.3**
MKAZ	**Moumakai**	**3.61**	**6**	P	**Pn**	**18 06 07.6**	**+0.8**
AWAZ	**Awhitu Peninsu**	**3.64**	**359**	P	**Pn**	**18 06 07.8**	**+0.6**
ETAZ	**East Tamaki Re**	**3.75**	**3**	P	**Pn**	**18 06 10.0**	**+1.3**
WTAZ	**Waiatarua**	**3.77**	**359**	P	**Pn**	**18 06 10.0**	**+1.0**
WVZ	**Waitaha Valley**	**3.78**	**230**	P	**Pn**	**18 06 10.4**	**+1.3**
HAZ	**Te Kaha**	**3.80**	**40**	P	**Pn**	**18 06 08.1**	**-1.2**
PKGZ	**Pakihiroa**	**3.85**	**44**	P	**Pn**	**18 06 08.7**	**-1.4**
WACZ	**Wakanui South**	**3.86**	**212**	P	**Pn**	**18 06 09.0**	**-1.1**
WIAZ	**Waiheke Island**	**3.92**	**5**	P	**Pn**	**18 06 12.1**	**+1.0**
KUZ	**Kuaotunu**	**4.04**	**12**	P	**Pn**	**18 06 13.2**	**+0.6**
KUZ	**Kuaotunu**	**4.04**	**12**	P	**Pn**	**18 06 13.7**	**+1.2**
RPZ	**Rata Peaks**	**4.04**	**221**	P	**Pn**	**18 06 12.3**	**-0.4**
RPZ	**Rata Peaks**	**4.04**	**221**	P	**Pn**	**18 06 11.8**	**-0.8**
ABAZ	**Army Bay**	**4.10**	**2**	P	**Pn**	**18 06 14.1**	**+0.6**
ARCZ	**Arundel**	**4.16**	**218**	P	**Pn**	**18 06 13.7**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**4.17**	**230**	P	**Pn**	**18 06 15.1**	**+0.8**
GRZ	**Great Barrier**	**4.49**	**8**	P	**Pn**	**18 06 19.7**	**+1.0**
TMZ	**Timaru**	**4.57**	**215**	P	**Pn**	**18 06 19.0**	**-1.0**
FOZ	**Fox Glacier**	**4.59**	**230**	P	**Pn**	**18 06 19.9**	**-0.3**
LBZ	**Lake Benmore**	**4.96**	**221**	P	**Pn**	**18 06 24.9**	**-0.3**
ODZ	**Otahua Downs**	**5.26**	**213**	P	**Pn**	**18 06 28.3**	**-1.0**
ODZ	**Otahua Downs**	**5.26**	**213**	P	**Pn**	**18 06 27.5**	**-1.7**
JCZ	**Jackson Bay**	**5.52**	**230**	P	**Pn**	**18 06 32.6**	**-0.3**
JCZ	**Jackson Bay**	**5.52**	**230**	P	**Pn**	**18 06 32.1**	**-0.8**
SYZ	**Scrubby Hill**	**7.08**	**213**	P	**Pn**	**18 06 54.1**	**-0.1**

*IDC **10** 18:05:37.5±1.3, 38°.77N×109°.60E, h0km, mb3.2/6, mbtmp3.3/7, ML3.3/1, Error ellipse: s-maj=45.3km s-min=17.6km az=65.0*
ISC 10 18:05:42.6±1.3**, 38°.8N**±0°.1×**109°.5E**±0°.3**, h35**km**, n7,**
σ**0°.69**/7**, mb3.1**/6**, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.34**	**347**	Pn	**Pn**	**18 07 54.5**	**-0.2**
	0.3nm,0.3s,baz=167,slow=15,SNR=7.8						
SONM				Lg	Lg	18 10 32.4	
	baz=153,slow=26,SNR=3.5						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**21.44**	**301**	P	**P**	**18 10 26.8**	**-0.8**
	0.4nm,0.8s,baz=109,slow=11,SNR=2.8						
	0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.22**	**207**	P	**P**	**18 10 36.2**	**+0.1**
	0.5nm,0.7s,baz=14,slow=9.5,SNR=6.7						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**22.65**	**320**	P	**P**	**18 10 41.1**	**+0.7**
	0.7nm,0.8s,baz=114,slow=7.0,SNR=2.4						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**24.81**	**309**	P	**P**	**18 11 01.9**	**+0.8**
	0.3nm,0.7s,baz=111,slow=9.8,SNR=3.7						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**62.87**	**154**	P	**P**	**18 16 04.7**	**-0.4**
	0.5nm,0.7s,baz=346,slow=7.1,SNR=2.7						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**66.18**	**156**	P	**P**	**18 16 26.9**	**+0.2**
	0.3nm,0.5s,baz=346,slow=6.4,SNR=11						
	0.3nm,0.5s						

*IDC **10** 18:09:33.2±1.4, 30°.24N×50°.59E, h0km, mb3.8/13, mbtmp3.8/16, ML3.4/3, Error ellipse: s-maj=29.5km s-min=19.7km az=19.0*
*SGS **10** 18:09:36.8, 30°.76N×50°.82E, h15km, Ml4.2*
*TEH **10** 18:09:37.1, 30°.50N×50°.72E, h12km, ML3.6*
*OMAN **10** 18:09:43.9±0.1, 30°.05N×51°.14E, h10km, mb5.2/18, ml4.0/1, Error ellipse: s-maj=1.2km s-min=1.0km az=8.0*
*DSN **10** 18:09:43.2±2.1, 29°.76N×50°.76E, h10km, ML3.7/6, Error ellipse: s-maj=29.8km s-min=7.9km az=3.0*
ISC 10 18:09:36.0±0.5**, 30°.46N**±0°.03×**50°.76E**±0°.04**, h10**km**, n122,**
σ**2°.38**/149**, mb3.9**/17**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.46**	**288**	*e*Pg	**Pb**	**18 09 46.4**	**+0.2**
KLNJ	**Kolanjah**	**0.90**	**53**	*e*Pg	**Pg**	**18 09 54.5**	**+1.0**
KLNJ				*e*Sg	**Sb**	**18 10 08.1**	**+1.8**
KLNJ				*e*		18 10 11.0	
	comp=Z,16µm,0.3s						
KAZ1	**Kazerun**	**1.13**	**137**	*e*Pg	**Pg**	**18 10 00.0**	**+2.2**
IBRJ	**Brojen**	**1.51**	**16**	*e*		18 10 30.5	
	comp=Z,8µm,0.6s						
IBRJ				*e*Pn	**Pb**	**18 10 05.0**	**+0.7**
AHBU	**AHRAM**	**1.66**	**163**	*e*		18 10 36.1	
	comp=Z,99nm,0.5s						
AHBU				*e*Pn	**Pb**	**18 10 08.4**	**+1.7**
SHI	**Shiraz**	**1.73**	**118**	*e*		18 10 44.3	
	comp=Z,5µm,0.6s						
SHI				*e*Pn	**Pb**	**18 10 09.6**	**+1.6**
AMIS	**Naft Sefid**	**1.74**	**314**	*e*Pn	**Pn**	**18 10 07.5**	**+1.1**
SHK1	**Shahrekord**	**1.87**	**3**	*e*Pn	**Pb**	**18 10 10.4**	**0.0**
SHK1				*e*		18 10 13.6	
	comp=Z,5µm,0.6s						
IRAM	**Ramesheh**	**1.94**	**46**	*e*Pn	**Pb**	**18 10 12.5**	**+0.9**
IRAM				*e*		18 10 45.2	
	comp=Z,3µm,0.6s						
IPIR	**Pirpir**	**2.22**	**3**	*e*Pn	**Pb**	**18 10 16.1**	**-0.4**
IPIR				*e*		18 10 51.6	
	comp=Z,4µm,0.7s						
IGAR	**Gharneh**	**2.23**	**29**	*e*Pn	**Pb**	**18 10 16.5**	**0.0**
IGAR				*e*		18 10 22.4	
	comp=Z,3µm,0.2s						
IZEF	**Zefreh**	**2.77**	**28**	*e*Pn	**Pn**	**18 10 24.0**	**+3.2**
IZEF				*e*		18 10 32.6	
	comp=Z,2µm,0.5s						
QIR1	**Qir**	**2.81**	**134**	*e*Pn	**Pn**	**18 10 24.2**	**+3.1**
ISAD	**Sadrabad**	**2.90**	**59**	*e*Pn	**Pn**	**18 10 25.9**	**+3.4**
ISAD				*e*		18 11 19.2	
	comp=N,2µm,0.8s						
NASN	**Na'in**	**2.92**	**36**	*e*Pn	**Pn**	**18 10 25.9**	**+3.1**
IKLH	**Kolahrood**	**2.94**	**14**	*e*Pn	**Pn**	**18 10 26.0**	**+3.0**
IKLH				*e*		18 11 15.2	
	comp=Z,1µm,0.5s						
QAMS	**Qamsar**	**3.31**	**9**	*e*Pn	**Pn**	**18 10 31.1**	**+2.9**
QAMS				*e*		18 11 28.8	
	comp=Z,2µm,0.4s						
KHMZ	**Khomeyn**	**3.34**	**349**	*e*Pn	**Pn**	**18 10 31.5**	**+3.0**
IMEH	**Mehriz**	**3.44**	**73**	*e*Pn	**Pn**	**18 10 33.3**	**+3.4**
IMEH				*e*		18 11 19.3	
	comp=Z,694nm,0.3s						
ICHK	**Chekchek**	**3.59**	**59**	*e*Pn	**Pn**	**18 10 35.1**	**+3.1**
ICHK				*e*		18 11 21.3	
	comp=Z,1µm,0.6s						
IKMR	**Kamar-syah**	**3.66**	**327**	*e*Pn	**Pn**	**18 10 34.4**	**+1.7**
IKMR				*e*		18 11 43.8	
	comp=Z,1µm,0.8s						
KRSH	**Karshahi**	**3.69**	**18**	*e*Pn	**Pn**	**18 10 35.8**	**+2.5**
KRSH				*e*		18 11 25.2	
	comp=Z,841nm,0.2s						
ANAR	**Anarak**	**3.72**	**42**	*e*Pn	**Pn**	**18 10 36.1**	**+2.5**
YZKH	**Yazd**	**3.80**	**59**	*e*Pn	**Pn**	**18 10 38.1**	**+3.3**
IKFM	**Kafar-mosalman**	**3.93**	**322**	*e*Pn	**Pn**	**18 10 38.4**	**+2.0**
IDOB	**Doab**	**3.97**	**327**	*e*Pn	**Pn**	**18 10 38.6**	**+1.3**
GHVR	**GHOM**	**4.03**	**6**	*e*Pn	**Pn**	**18 10 41.2**	**+3.2**
ISFB	**Sefidab**	**4.08**	**18**	*e*Pn	**Pn**	**18 10 41.1**	**+2.5**
ISFB				*e*		18 10 42.1	
	comp=Z,510nm,0.3s						
HSAM	**Samen**	**4.16**	**335**	*e*Pn	**Pn**	**18 10 41.5**	**+1.6**
QYSM	**Um Kedad**	**4.27**	**234**	S	**Sn**	**18 11 32.3**	**+1.1**
QYSM	**Um Kedad**	**4.27**	**234**	P	**Pn**	**18 10 42.8**	**+1.6**
IBAF	**Bafgh**	**4.28**	**74**	*e*Pn	**Pn**	**18 10 44.4**	**+3.0**
IQOM	**Qom**	**4.38**	**3**	*e*Pn	**Pn**	**18 10 45.2**	**+2.4**
SAKB	**Bahrain**	**4.47**	**183**	P	**Pn**	**18 10 47.2**	**+3.3**
SAKB				S	**Sn**	**18 11 38.8**	**+2.9**
HAGD	**Aghdareh**	**4.56**	**343**	*e*Pn	**Pn**	**18 10 47.1**	**+1.8**
HAGD				*e*		18 12 23.6	
	comp=Z,359nm,0.8s						
SHMA	**Al-Shehemyia**	**4.59**	**178**	P	**Pn**	**18 10 48.9**	**+3.4**
SHMA				S	**Sn**	**18 11 40.4**	**+1.6**
IVRN	**Varamin**	**4.60**	**10**	*e*Pn	**Pn**	**18 10 48.3**	**+2.6**
IVRN				*e*		18 10 49.8	
	comp=Z,443nm,0.2s						
IKOM	**Komasi**	**4.61**	**324**	*e*Pn	**Pn**	**18 10 47.6**	**+1.6**
IBZA	**Bozab**	**4.69**	**329**	*e*Pn	**Pn**	**18 10 48.3**	**+1.2**
KHGB	**Koh Gabri**	**4.94**	**90**	*e*Pn	**Pn**	**18 10 53.3**	**+2.7**
IRAZ	**Razeghan**	**4.98**	**352**	*e*Pn	**Pn**	**18 10 53.1**	**+2.0**
IRAZ				*e*		18 12 31.6	
	comp=Z,512nm,1.0s						
ILBA	**Ilam Banvizeh**	**4.99**	**310**	*e*Pn	**Pn**	**18 10 51.3**	**+0.3**
IDMV	**Damavand**	**5.21**	**12**	*e*Pn	**Pn**	**18 10 56.6**	**+2.2**
KRBR	**Kerman**	**5.22**	**94**	*e*Pn	**Pn**	**18 10 57.6**	**+3.2**
TVBK	**TV Kerman**	**5.22**	**94**	*e*Pn	**Pn**	**18 10 57.9**	**+3.4**
IGHG	**Ghaleghazi**	**5.24**	**319**	*e*Pn	**Pn**	**18 10 56.3**	**+1.7**
NGRK	**Negar Kerman**	**5.24**	**97**	*e*Pn	**Pn**	**18 10 57.9**	**+3.1**
NGRK				*e*		18 12 02.4	
	comp=Z,528nm,0.2s						
ILAS	**Lasjerd**	**5.25**	**20**	*e*Pn	**Pn**	**18 10 56.9**	**+2.1**
DAMV	**Damavand**	**5.26**	**11**	*e*Pn	**Pn**	**18 10 57.3**	**+2.4**
QABG	**Abgarm-Qazvin**	**5.33**	**350**	*e*Pn	**Pn**	**18 10 57.3**	**+1.5**
IFIR	**Firoozkooh**	**5.43**	**17**	*e*Pn	**Pn**	**18 10 59.6**	**+2.3**
IFIR				*e*		18 11 02.2	
	comp=Z,287nm,0.2s						
SNGE	**Sanandaj**	**5.44**	**329**	*e*Pn	**Pn**	**18 10 58.3**	**+0.9**
CHTH	**Charan**	**5.44**	**3**	*e*Pn	**Pn**	**18 11 00.0**	**+2.5**
ILIN	**Lien**	**5.48**	**325**	*e*Pn	**Pn**	**18 10 59.1**	**+1.2**
IDHR	**Dehrash**	**5.61**	**320**	*e*Pn	**Pn**	**18 11 01.2**	**+1.5**
IANJ	**Anjilo**	**5.65**	**27**	*e*Pn	**Pn**	**18 11 02.5**	**+2.1**
SMRA	**Abu-Samra**	**5.69**	**179**	P	**Pn**	**18 11 02.7**	**+2.0**
SMRA				S	**Sn**	**18 12 06.4**	**+0.4**
ISHM	**Shahmirzad**	**5.74**	**21**	*e*		18 11 05.4	
	comp=Z,462nm,0.2s						
ISHM				*e*Pn	**Pn**	**18 11 04.1**	**+2.5**
JRN	**Qarnain Island**	**5.80**	**161**	P	**Pn**	**18 11 04.3**	**+2.1**
JRN				S	**Sn**	**18 12 08.7**	**-0.1**
IPRN	**Peran**	**5.92**	**12**	*e*Pn	**Pn**	**18 11 06.1**	**+2.2**
NHRD	**Haradh**	**5.92**	**196**	P	**Pn**	**18 11 05.9**	**+2.0**
QALM	**Alamut, Qazvin**	**5.96**	**359**	*e*Pn	**Pn**	**18 11 06.7**	**+2.2**
KLST	**Kelardasht - M**	**6.05**	**2**	*e*Pn	**Pn**	**18 11 08.1**	**+2.3**
QSDN	**Sirdan**	**6.17**	**348**	*e*Pn	**Pn**	**18 11 09.3**	**+1.8**
TABS	**Tabas**	**6.27**	**58**	*e*Pn	**Pn**	**18 11 11.6**	**+2.9**
ZNJK	**Zanjan**	**6.43**	**345**	*e*Pn	**Pn**	**18 11 14.4**	**+3.4**
SHME	**Shamm**	**6.47**	**131**	P	**Pn**	**18 11 12.4**	**+1.0**
SHME				S	**Sn**	**18 12 23.0**	**-2.2**
SHME	**Shamm**	**6.47**	**131**	P	**Pn**	**18 11 12.7**	**+1.3**
IGLO	**Ghaloghah**	**6.55**	**22**	*e*Pn	**Pn**	**18 11 15.7**	**+3.1**
BANOM	**Banah**	**6.66**	**131**	P	**Pn**	**18 11 14.6**	**+0.6**
	SNR=19						
BANOM				S	**Sn**	**18 12 27.1**	**-2.9**
BANOM	**Banah**	**6.66**	**131**	P	**Pn**	**18 11 14.3**	**+0.3**
BANOM				S	**Sn**	**18 12 26.6**	**-3.3**
GHWR	**Ruwais**	**6.74**	**163**	P	Pn	18 11 20.6	+5.6
GHWR				S	**Sn**	**18 12 29.7**	**-2.2**
KBAM	**BAM**	**6.82**	**99**	*e*Pn	**Pn**	**18 11 19.6**	**+3.4**
MASF	**Masafi**	**6.97**	**135**	P	**Pn**	**18 11 19.4**	**+1.2**
MASF				S	**Sn**	**18 12 34.5**	**-3.0**
NAZ	**Nazwa, Dubai**	**6.97**	**140**	P	**Pn**	**18 11 20.1**	**+1.8**
NAZ				S	**Sn**	**18 12 36.4**	**-1.3**
ASUD	**Al Ashush, Dub**	**7.09**	**144**	P	**Pn**	**18 11 22.0**	**+2.1**
	SNR=16						
ASUD				S	**Sn**	**18 12 39.3**	**-1.2**
ASUD	**Al Ashush, Dub**	**7.09**	**144**	P	**Pn**	**18 11 20.4**	**+0.6**
FAQ	**Al Faqa, Dubai**	**7.13**	**142**	P	**Pn**	**18 11 22.4**	**+2.0**
FAQ				S	**Sn**	**18 12 39.5**	**-1.9**
MZWR	**Madinat Zayed**	**7.23**	**157**	P	**Pn**	**18 11 23.9**	**+2.1**
MZWR				S	**Sn**	**18 12 42.8**	**-1.1**
UOSS	**Minazif**	**7.31**	**137**	P	**Pn**	**18 11 23.8**	**+0.8**
UOSS				S	**Sn**	**18 12 42.0**	**-4.1**

UOSS	**Minazif**	**7.31**	**137**	P	**Pn**	**18 11 23.0**	**0.0**		
BSRN	**Basiran**	**7.32**	**76**	*e*Pn	**Pn**	**18 11 26.5**	**+3.3**		
HATD	**Hatta, Dubai**	**7.36**	**138**	P	**Pn**	**18 11 24.9**	**+1.3**		
HATD				S	**Sn**	**18 12 43.6**	**-3.7**		
HATD	**Hatta, Dubai**	**7.36**	**138**	P	**Pn**	**18 11 24.5**	**+0.8**		
ASHO	**Ashiyiah**	**7.43**	**139**	P	**Pn**	**18 11 26.1**	**+1.5**		
	SNR=8.8								
ASHO				S	**Sn**	**18 12 45.9**	**-3.1**		
ASHO	**Ashiyiah**	**7.43**	**139**	P	**Pn**	**18 11 24.8**	**+0.2**		
ALNE	**Al Ain**	**7.77**	**144**	P	**Pn**	**18 11 30.7**	**+1.4**		
ALNE				S	**Sn**	**18 12 55.5**	**-1.9**		
RAYN	**Ar Rayn**	**8.35**	**215**	P	**Pn**	**18 11 36.1**	**-1.1**		
UMZA	**Um Al Zommool**	**8.66**	**152**	P	**Pn**	**18 11 42.9**	**+1.4**		
UMZA				S	**Sn**	**18 13 15.1**	**-4.1**		
SHRT	**Shahrakht**	**8.69**	**66**	*e*Pn	**Pn**	**18 11 44.6**	**+2.7**		
ARQ	**Araqi**	**8.76**	**143**	P	**Pn**	**18 11 43.8**	**+0.9**		
ARQ				S	**Sn**	**18 13 17.4**	**-4.4**		
HOQ	**Hoqain**	**9.00**	**138**	P	**Pn**	**18 11 46.4**	**+0.2**		
HOQ				S	**Sn**	**18 13 23.6**	**-4.0**		
BSY	**Bisya**	**9.60**	**142**	P	**Pn**	**18 11 54.7**	**+0.3**		
BSY				S	**Sn**	**18 13 37.0**	**-5.4**		
GEYT	**Alibeck**	**9.62**	**37**	Pn	**Pn**	**18 11 55.0**	**+0.3**		
	comp=Z,0.2nm,0.3s,baz=219,slow=11,SNR=1.7								
	comp=Z,1.2nm,0.5s								
SMDO	**Samad**	**9.84**	**137**	P	**Pn**	**18 11 57.0**	**-0.7**		
SMDO				S	**Sn**	**18 13 43.8**	**-4.4**		
WSAR	**Wadi Sarin**	**10.05**	**134**	Pn	**Pn**	**18 11 58.4**	**-2.2**		
	comp=Z,0.3nm,0.3s,baz=328,slow=5.1,SNR=12								
WSAR				Sn	Sn	18 13 44.6	-8.8		
	comp=Z,0.3nm,0.3s,baz=272,slow=10,SNR=1.5								
	comp=Z,0.9nm,0.4s								
JMDO	**Jabal Madar**	**10.40**	**139**	P	**Pn**	**18 12 04.3**	**-1.1**		
MHTO	**MHTO**	**11.45**	**144**	P	**Pn**	**18 12 20.1**	**+0.4**		
MHTO				S	**Sn**	**18 14 21.2**	**-6.5**		
DQM	**DQM**	**12.15**	**148**	P	**Pn**	**18 12 28.8**	**-0.4**		
DQM				S	Sn	18 14 37.9	-6.8		
DOK	**Doka**	**12.18**	**165**	P	**Pn**	**18 12 30.1**	**+0.4**		
	SNR=7.6								
DOK				S	**Sn**	**18 14 39.5**	**-6.2**		
WHFO	**Wadi Hawf**	**12.78**	**167**	P	**Pn**	**18 12 37.9**	**-0.1**		
	SNR=25								
WHFO				S	**Sn**	**18 14 53.7**	**-6.7**		
DMTO	**DMTO**	**13.25**	**162**	P	**Pn**	**18 12 43.0**	**-1.2**		
	SNR=18								
DMTO				S	Sn	18 15 04.5	-7.2		
ABTO	**Aybut**	**13.25**	**169**	P	**Pn**	**18 12 43.6**	**-0.8**		
ABTO				S	**Sn**	**18 15 06.2**	**-5.7**		
RBK	**Rabkut**	**13.28**	**166**	P	**Pn**	**18 12 43.7**	**-1.0**		
RBK				S	Sn	18 15 04.1	-8.4		
MMAI	**Mount Meron Ar**	**13.31**	**285**	Pn	**Pn**	**18 12 43.8**	**-1.4**		
	comp=Z,0.3nm,0.3s,baz=86,slow=19,SNR=1.2								
	comp=Z,0.1nm,0.2s								
BELG	**Belogornoye**	**22.04**	**355**	P	**P**	**18 14 32.5**	**+1.9**		
	comp=Z,3.6nm,0.7s,baz=202,slow=19,SNR=1.9								
	comp=Z,3.6nm,0.7s								
MLR	**Muntele Rosu**	**24.52**	**315**	P	**P**	**18 14 56.7**	**+1.0**		
	comp=Z,3.8nm,0.8s,baz=135,slow=11,SNR=7.0								
	comp=Z,3.8nm,0.8s								
AKASG	**Malin Array Be**	**25.84**	**328**	P	**P**	**18 15 06.9**	**-0.5**		
	comp=Z,0.6nm,0.5s,baz=111,slow=7.1,SNR=4.6								
	comp=Z,0.6nm,0.5s								
ARU	**Arti**	**26.54**	**10**	P	**P**	**18 15 15.3**	**+1.6**		
	comp=Z,2.2nm,0.5s,baz=256,slow=3.8,SNR=7.1								
	comp=Z,2.2nm,0.5s								
BVAR	**Borovoye Array**	**26.72**	**27**	P	**P**	**18 15 16.6**	**+1.2**		
	comp=Z,1.8nm,0.5s,baz=225,slow=6.4,SNR=11								
BVAR				PcP	**PcP**	**18 18 38.6**	**-0.1**		
	comp=Z,0.3nm,0.3s,baz=216,slow=2.7,SNR=4.2								
	comp=Z,1.8nm,0.5s								
KURBB	**Kurchatov Arra**	**28.90**	**38**	P	**P**	**18 15 36.2**	**+1.3**		
	comp=Z,1.1nm,0.8s,baz=239,slow=9.5,SNR=11								
	comp=Z,1.1nm,0.8s								
MKAR	**Makanchi Array**	**29.29**	**47**	P	**P**	**18 15 39.5**	**+1.0**		
	comp=Z,0.3nm,0.6s,baz=235,slow=8.5,SNR=4.2								
	comp=Z,0.3nm,0.6s								
GERES	**GERESS Array B**	**33.50**	**314**	P	**P**	**18 16 13.4**	**-2.2**		
	comp=Z,0.3nm,0.5s,baz=105,slow=10,SNR=2.4								
	comp=Z,0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**33.93**	**36**	P	**P**	**18 16 20.0**	**+0.8**		
	comp=Z,1.0nm,0.6s,baz=259,slow=12,SNR=6.4								
	comp=Z,1.0nm,0.6s								
WTTA	**Wattenberg**	**34.35**	**310**	*e*P	**P**	**18 16 22.9**	**-0.3**		
	comp=Z,2.3nm,0.5s								
WATA	**Walderalm**	**34.41**	**311**	*e*P	**P**	**18 16 22.8**	**-0.8**		
	comp=Z,2.1nm,0.5s								
SQTA	**Sankt Quirin**	**34.62**	**310**	*e*P	**P**	**18 16 24.8**	**-0.7**		
	comp=Z,2.8nm,0.3s								
FETA	**Feichten**	**34.89**	**310**	*e*P	**P**	**18 16 27.3**	**-0.5**		
	comp=Z,0.9nm,0.4s								
FINES	**FINESS Array B**	**34.98**	**340**	P	**P**	**18 16 27.3**	**-0.8**		
	comp=Z,1.0nm,0.4s,baz=147,slow=9.8,SNR=11								
	comp=Z,1.0nm,0.4s								
NOA	**NORSAR Array B**	**40.12**	**331**	P	**P**	**18 17 09.8**	**-1.9**		
	comp=Z,0.2nm,0.4s,baz=125,slow=8.7,SNR=1.6								
	comp=Z,0.2nm,0.4s								
ILAR	**Eielson Array**	**84.08**	**8**	P	**P**	**18 22 06.0**	**-0.7**		
	comp=Z,0.3nm,0.6s,baz=328,slow=3.2,SNR=2.8								
	comp=Z,0.3nm,0.6s								
ASAR	**Alice Springs**	**96.14**	**114**	P	**P**	**18 23 02.9**	**-1.5**		
	comp=Z,0.5nm,1.1s,baz=302,slow=5.3,SNR=2.1								
	comp=Z,0.5nm,1.1s								

ROM 10 18:12:19.9±0.0,**42.762N**±0.002×**13.058E**±0.004, **h10**km,**ML2.1**/20,**20C-6D**,**Error ellipse: s-maj=0.3km s-min=0.2km az=260.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1212	**Cascia, Frazio**	**0.01**	**224**	P	Pg	18 12 22.2	+0.3
T1212	**Cascia, Frazio**	**0.01**	**224**	P	Pg	18 12 22.2	+0.3
T1212				S	Sg	18 12 23.4	+0.2
T1212				AML	AML		
	comp=E,9315μm,0.3s						
T1212				AML	AML		
	comp=N,8840μm,0.2s						
T1212				AML	AML		
	comp=E,8775μm,0.3s						
T1212				AML	AML		
	comp=N,9055μm,0.2s						
T1212				AML	AML		
	comp=E,8785μm,0.3s						
T1212				AML	AML		
	comp=N,8840μm,0.2s						
T1212				AML	AML		
	comp=E,9310μm,0.3s						
T1212				AML	AML		
	comp=N,9060μm,0.2s						
T1212	**Cascia, Frazio**	**0.01**	**224**	S	Sg	18 12 23.4	+0.2
T1212				AML	AML		
	comp=E,8780μm,0.3s						
T1212				AML	AML		
	comp=E,9300μm,0.3s						
T1212				AML	AML		
	comp=N,8835μm,0.2s						
T1212				AML	AML		
	comp=E,8755μm,0.3s						
T1212				AML	AML		
	comp=N,9060μm,0.2s						
T1212				AML	AML		
	comp=E,9315μm,0.3s						
T1212				AML	AML		
	comp=E,8775μm,0.3s						
T1212				AML	AML		
	comp=N,9055μm,0.2s						
T1212				AML	AML		
	comp=E,9310μm,0.3s						
T1212				AML	AML		
	comp=N,8840μm,0.2s						
T1212				AML	AML		
	comp=E,8785μm,0.3s						
T1212				AML	AML		
	comp=N,9060μm,0.2s						
T1213	**Norcia, Frazio**	**0.06**	**127**	P	Pg	18 12 22.6	+0.4
T1213				S	Sg	18 12 24.1	+0.3
T1213				AML	AML		
	comp=E,10385μm,0.1s						
T1213				AML	AML		
	comp=N,4875μm,0.2s						
T1213				AML	AML		
	comp=E,9905μm,0.1s						
T1213				AML	AML		
	comp=N,4755μm,0.2s						
T1213				AML	AML		
	comp=E,10390μm,0.1s						
T1213				AML	AML		
	comp=N,4875μm,0.2s						
T1213				AML	AML		
	comp=E,9880μm,0.1s						
T1213				AML	AML		
	comp=N,4760μm,0.2s						
T1213				AML	AML		
	comp=N,4875μm,0.2s						
T1213				AML	AML		
	comp=N,4760μm,0.2s						
T1213				AML	AML		
	comp=E,9880μm,0.1s						
T1213				AML	AML		
	comp=E,10390μm,0.1s						
T1218	**Civita (PG)**	**0.10**	**155**	P	Pg	18 12 23.1	+0.4
T1218				S	Sg	18 12 25.3	+0.7
T1218				AML	AML		
	comp=E,2085μm,0.4s						
T1218				AML	AML		
	comp=N,4515μm,0.9s						
T1218				AML	AML		
	comp=E,2065μm,0.4s						
T1218				AML	AML		
	comp=N,4515μm,0.9s						
T1218				AML	AML		
	comp=N,4515μm,0.9s						
T1218				AML	AML		
	comp=N,4515μm,0.9s						
T1218				AML	AML		
	comp=E,2085μm,0.4s						
T1218				AML	AML		
	comp=E,2065μm,0.4s						
T1218	**Civita (PG)**	**0.10**	**155**	⇑P	Pg	18 12 23.1	+0.5
T1218				S	Sg	18 12 25.4	+0.7
T1218				AML	AML		
	comp=E,2085μm,0.3s						
T1218				AML	AML		
	comp=E,2060μm,0.4s						
T1218				AML	AML		
	comp=N,4510μm,0.9s						
T1218				AML	AML		
	comp=N,4510μm,0.9s						
T1218				AML	AML		
	comp=E,2060μm,0.4s						
T1218				AML	AML		
	comp=N,4515μm,0.9s						
T1218				AML	AML		
	comp=E,2065μm,0.4s						
T1218				AML	AML		
	comp=N,4515μm,0.9s						
T1218				AML	AML		
	comp=E,2085μm,0.4s						
T1216	**Preci, Frazion**	**0.13**	**347**	⇓P	Pg	18 12 23.6	+0.5
T1216				S	Sg	18 12 25.9	+0.6
T1216				AML	AML		
	comp=E,2440μm,0.6s						
T1216				AML	AML		
	comp=N,3980μm,0.7s						
T1245	**Castelsantange**	**0.13**	**45**	P	Pg	18 12 23.7	+0.5
T1245				S	Sg	18 12 25.9	+0.4
T1245				AML	AML		
	comp=E,5855μm,0.7s						
T1245				AML	AML		
	comp=N,5445μm,0.6s						
T1245				AML	AML		
	comp=E,5855μm,0.7s						
T1245				AML	AML		
	comp=N,5445μm,0.6s						
T1245				AML	AML		
	comp=E,5855μm,0.7s						
T1245				AML	AML		
	comp=N,5445μm,0.6s						
T1245	**Castelsantange**	**0.13**	**45**	⇑P	Pg	18 12 23.7	+0.5
T1245				S	Sg	18 12 26.0	+0.5
T1245				AML	AML		
	comp=E,5855μm,0.7s						
T1245				AML	AML		
	comp=N,5445μm,0.6s						
T1215	**Vallo di Nera,**	**0.14**	**286**	P	Pg	18 12 23.8	+0.5
T1215	**Vallo di Nera,**	**0.14**	**286**	⇑P	Pg	18 12 23.8	+0.5
T1215	**Vallo di Nera,**	**0.14**	**286**	P	Pg	18 12 23.8	+0.5
T1215				S	Sg	18 12 26.4	+0.8
T1215				AML	AML		
	comp=E,680μm,0.4s						
T1215				AML	AML		
	comp=N,1007μm,0.3s						
T1215				AML	AML		
	comp=N,1006μm,0.3s						
T1215				AML	AML		
	comp=E,680μm,0.4s						
T1215	**Vallo di Nera,**	**0.14**	**286**	S	Sg	18 12 26.5	+0.9
T1215				AML	AML		
	comp=E,680μm,0.4s						
T1215				AML	AML		
	comp=E,684μm,0.4s						
T1215				AML	AML		
	comp=N,1004μm,0.3s						
T1215				AML	AML		
	comp=E,680μm,0.4s						
T1215				AML	AML		
	comp=N,1002μm,0.3s						
T1215				AML	AML		
	comp=E,682μm,0.4s						
T1215				AML	AML		
	comp=N,1004μm,0.3s						
T1215				AML	AML		
	comp=N,1007μm,0.3s						
T1215				AML	AML		
	comp=N,1006μm,0.3s						
T1215				AML	AML		
	comp=N,1006μm,0.3s						
T1215				AML	AML		
	comp=E,683μm,0.4s						
LNSS	**Leonessa**	**0.16**	**185**	P	Pg	18 12 24.1	+0.6
LNSS				S	Sg	18 12 26.9	+0.9
LNSS				AML	AML		
	comp=E,918μm,0.2s						
LNSS				AML	AML		
	comp=N,1685μm,0.4s						
LNSS				AML	AML		
	comp=E,918μm,0.2s						
LNSS				AML	AML		
	comp=N,1690μm,0.4s						
LNSS				AML	AML		
	comp=E,918μm,0.2s						
LNSS				AML	AML		
	comp=N,1690μm,0.4s						
LNSS	**Leonessa**	**0.16**	**185**	⇑P	Pg	18 12 24.1	+0.6
LNSS				S	Sg	18 12 27.0	+1.0
LNSS				AML	AML		
	comp=N,1685μm,0.4s						
LNSS				AML	AML		
	comp=E,918μm,0.2s						
LNSS				AML	AML		
	comp=N,1690μm,0.4s						
LNSS				AML	AML		
	comp=E,918μm,0.2s						
FEMA	**Monte Fema**	**0.20**	**358**	⇑P	Pg	18 12 24.9	+0.6
FEMA				S	Sg	18 12 28.1	+0.9
T1204	**Amatrice, Fraz**	**0.21**	**114**	P	Pg	18 12 25.0	+0.6
T1204				S	Sg	18 12 28.9	+1.4
T1204	**Amatrice, Fraz**	**0.21**	**114**	⇑P	Pg	18 12 25.0	+0.6
T1204				S	Sg	18 12 28.8	+1.4
MMO1	**Montemonaco**	**0.24**	**55**	P	Pg	18 12 25.3	+0.4
MMO1				S	Sg	18 12 29.3	+1.0
MMO1	**Montemonaco**	**0.24**	**55**	⇑P	Pg	18 12 25.4	+0.4
MMO1				S	Sg	18 12 29.2	+0.9
SMA1	**SAN MARTINO**	**0.24**	**123**	P	Pg	18 12 25.6	+0.6
SMA1				S	Sg	18 12 30.1	+1.8
SMA1				AML	AML		
	comp=E,919μm,0.2s						
SMA1				AML	AML		
	comp=N,554μm,0.4s						
SMA1				AML	AML		
	comp=N,554μm,0.4s						
SMA1	**SAN MARTINO**	**0.24**	**123**	P	Pg	18 12 25.7	+0.7
SMA1				S	Sg	18 12 30.2	+1.9
SMA1				AML	AML		
	comp=E,596μm,0.9s						
SMA1				AML	AML		
	comp=N,554μm,0.4s						
CESI	**CESI - Serrava**	**0.27**	**335**	P	Pg	18 12 25.9	+0.5
CESI				S	Sg	18 12 30.1	+1.0
CESI				AML	AML		
	comp=E,637μm,0.2s						
CESI				AML	AML		
	comp=N,964μm,1.2s						
CESI				AML	AML		
	comp=N,964μm,1.2s						
CESI				AML	AML		
	comp=E,637μm,0.2s						
CESI	**CESI - Serrava**	**0.27**	**335**	⇓P	Pg	18 12 25.9	+0.5
CESI				S	Sb	18 12 30.3	-1.2
CESI				AML	AML		
	comp=E,637μm,0.2s						
CESI				AML	AML		
	comp=N,964μm,1.2s						
CESI				AML	AML		
	comp=E,686μm,0.5s						
CESI				AML	AML		
	comp=E,637μm,0.2s						
T1211	**Morro Reatino**	**0.27**	**213**	P	Pg	18 12 26.0	+0.5
T1211				S	Sg	18 12 30.3	+1.1
T1211	**Morro Reatino**	**0.27**	**213**	⇑P	Pg	18 12 26.0	+0.5
T1211				S	Sb	18 12 30.7	-1.0
T1211				AML	AML		
	comp=E,530μm,1.4s						
T1211				AML	AML		
	comp=N,1002μm,0.2s						
T1211				AML	AML		
	comp=E,530μm,1.4s						
T1211				AML	AML		
	comp=N,1002μm,0.2s						
T1256	**Bolognola (MC)**	**0.27**	**27**	P	Pg	18 12 25.9	+0.3
T1256				S	Sg	18 12 30.5	+1.2
T1256				AML	AML		
	comp=E,384μm,1.0s						
T1256				AML	AML		
	comp=N,340μm,1.5s						
T1256				AML	AML		
	comp=E,384μm,1.0s						
T1256				AML	AML		
	comp=N,339μm,1.5s						
T1256	**Bolognola (MC)**	**0.27**	**27**	⇑P	Pg	18 12 25.9	+0.4
T1256				S	Sg	18 12 30.5	+1.2
T1256				AML	AML		
	comp=N,340μm,1.5s						
T1256				AML	AML		
	comp=E,384μm,1.0s						
T1256				AML	AML		
	comp=N,339μm,1.5s						
T1256				AML	AML		
	comp=E,384μm,1.0s						
FDMO	**Fiordimonte**	**0.28**	**4**	P	Pg	18 12 25.9	+0.4
FDMO				AML	AML		
	comp=E,2415μm,0.2s						
FDMO				AML	AML		
	comp=N,2310μm,0.2s						
FDMO	**Fiordimonte**	**0.28**	**4**	P	Pg	18 12 25.9	+0.4
FDMO				S	Sg	18 12 30.5	+1.2
FDMO				AML	AML		
	comp=E,761μm,0.1s						
FDMO				AML	AML		
	comp=N,800μm,0.2s						
FDMO				AML	AML		
	comp=E,2415μm,0.2s						
FDMO				AML	AML		
	comp=N,2310μm,0.2s						
RM33	**Pellescritta (**	**0.28**	**155**	P	Pg	18 12 26.0	+0.4
RM33				S	Sg	18 12 30.6	+1.2
RM33				AML	AML		
	comp=E,488μm,0.6s						
RM33				AML	AML		
	comp=N,368μm,1.2s						
RM33				AML	AML		
	comp=E,438μm,0.6s						
RM33				AML	AML		
	comp=N,386μm,0.4s						
RM33				AML	AML		
	comp=E,438μm,0.6s						
RM33				AML	AML		
	comp=N,386μm,0.4s						
RM33				AML	AML		
	comp=N,386μm,0.4s						
RM33	**Pellescritta (**	**0.28**	**155**	⇑P	Pg	18 12 26.0	+0.4
RM33				S	Sb	18 12 30.6	-1.2
ARRO	**Arrone**	**0.28**	**230**	P	Pg	18 12 26.1	+0.5
ARRO				S	Sg	18 12 30.6	+1.2
ARRO				AML	AML		
	comp=E,302μm,0.3s						
ARRO				AML	AML		
	comp=N,461μm,0.2s						
ARRO				AML	AML		
	comp=E,302μm,0.3s						
ARRO				AML	AML		
	comp=N,461μm,0.2s						
ARRO	**Arrone**	**0.28**	**230**	⇑P	Pg	18 12 26.2	+0.5
ARRO				S	Sb	18 12 30.9	-1.0
ARRO				AML	AML		
	comp=E,302μm,0.3s						
ARRO				AML	AML		
	comp=N,460μm,0.2s						
ARRO				AML	AML		
	comp=E,302μm,0.3s						
ARRO				AML	AML		
	comp=N,461μm,0.2s						
T1241	**Roccafluvione,**	**0.29**	**71**	P	Pg	18 12 26.2	+0.4
T1241				S	Sb	18 12 31.1	-1.1
T1241				AML	AML		
	comp=E,857μm,0.3s						
T1241				AML	AML		
	comp=N,634μm,0.3s						
T1241				AML	AML		
	comp=E,857μm,0.3s						
T1241				AML	AML		
	comp=N,634μm,0.3s						
T1241				AML	AML		
	comp=N,634μm,0.3s						
T1241				AML	AML		
	comp=E,857μm,0.3s						
T1241	**Roccafluvione,**	**0.29**	**71**	⇑P	Pg	18 12 26.2	+0.4
T1241				S	Sb	18 12 31.0	-1.2
T1241				AML	AML		
	comp=E,857μm,0.3s						
T1241				AML	AML		
	comp=N,634μm,0.3s						
T1219	**Muccia, Frazio**	**0.30**	**353**	P	Pg	18 12 26.2	+0.3
T1219				S	Sg	18 12 31.0	+1.1
T1219	**Muccia, Frazio**	**0.30**	**353**	⇑P	Pg	18 12 26.3	+0.4
T1219				S	Sg	18 12 31.1	+1.1
CAMP	**Campotosto**	**0.34**	**131**	⇓P	Pg	18 12 27.2	+0.4
CSP1	**Cessapalombo**	**0.35**	**18**	P	Pg	18 12 27.1	+0.2
CSP1				S	Sb	18 12 32.8	-1.0
CSP1				AML	AML		
	comp=E,388μm,1.6s						
CSP1				AML	AML		
	comp=N,578μm,0.9s						
CSP1				AML	AML		
	comp=E,388μm,1.6s						
CSP1				AML	AML		
	comp=N,578μm,0.9s						
CSP1	**Cessapalombo**	**0.35**	**18**	⇑P	Pg	18 12 27.2	+0.3
CSP1				S	Sb	18 12 32.9	-1.0
T1220	**Camerino, Fraz**	**0.35**	**4**	P	Pg	18 12 27.3	+0.4
T1220				S	Sb	18 12 33.0	-0.8
T1220				AML	AML		
	comp=E,3025μm,0.4s						
T1220				AML	AML		
	comp=N,2865μm,0.4s						
T1220	**Camerino, Fraz**	**0.35**	**4**	⇓P	Pg	18 12 27.4	+0.5
T1220				AML	AML		
	comp=E,1089μm,1.1s						
T1220				AML	AML		
	comp=N,963μm,0.3s						
T1220				AML	AML		
	comp=E,3645μm,0.3s						
T1220				AML	AML		
	comp=N,2865μm,0.4s						
T1220				AML	AML		
	comp=E,3584μm,0.3s						
T1220				AML	AML		
	comp=N,2821μm,0.4s						
GUMA	**Gualdo di Mace**	**0.36**	**34**	P	Pg	18 12 27.8	+0.6
GUMA				S	Sb	18 12 34.0	-0.3
GUMA				AML	AML		
	comp=E,718μm,0.4s						
GUMA				AML	AML		
	comp=N,686μm,0.5s						
GUMA				AML	AML		
	comp=N,687μm,0.5s						
GUMA				AML	AML		
	comp=E,718μm,0.4s						
GUMA	**Gualdo di Mace**	**0.36**	**34**	⇑P	Pg	18 12 27.8	+0.7
GUMA				S	Sb	18 12 33.8	-0.4

GUMA					AML	AML				
	comp=E,718μm,0.4s									
GUMA					AML	AML				
	comp=N,686μm,0.5s									
GUMA					AML	AML				
	comp=E,718μm,0.4s									
GUMA					AML	AML				
	comp=N,687μm,0.5s									
CESX	**Cesi**	**0.38**	**247**	⇓P		Pg	18	12	27.9	+0.4
CESX				AML		AML				
	comp=E,148μm,0.2s									
CESX				AML		AML				
	comp=N,153μm,0.8s									
ASSB	**Assisi San Ben**	**0.41**	**314**	P		Pg	18	12	28.4	+0.4
ASSB				AML		AML				
	comp=N,190μm,0.3s									
ASSB				AML		AML				
	comp=E,211μm,1.2s									
TERO	**Teramo**	**0.43**	**109**	P		Pg	18	12	28.4	+0.1
TERO				AML		AML				
	comp=E,170μm,1.3s									
TERO				AML		AML				
	comp=N,211μm,1.5s									
TERO				AML		AML				
	comp=N,210μm,1.5s									
TERO				AML		AML				
	comp=E,170μm,1.3s									
TERO	**Teramo**	**0.43**	**109**	P		Pg	18	12	28.4	+0.1
TERO				S		Sg	18	12	35.0	+1.0
TERO				AML		AML				
	comp=N,211μm,1.5s									
TERO				AML		AML				
	comp=E,170μm,1.3s									
TERO				AML		AML				
	comp=N,210μm,1.5s									
GIGS	**Gran Sasso**	**0.49**	**129**	P		Pg	18	12	29.7	+0.2
GIGS				AML		AML				
	comp=E,34μm,1.5s									
GIGS				AML		AML				
	comp=N,28μm,1.6s									
GIGS				AML		AML				
	comp=E,34μm,1.5s									
GIGS				AML		AML				
	comp=N,29μm,1.6s									
OFFI	**Offida**	**0.49**	**69**	P		Pb	18	12	30.4	-0.3
OFFI				AML		AML				
	comp=N,534μm,0.7s									
OFFI				AML		AML				
	comp=E,372μm,0.3s									
FIAM	**Fiamignano**	**0.50**	**175**	⇓P		Pg	18	12	29.8	+0.2
FIAM				AML		AML				
	comp=E,140μm,0.9s									
FIAM				AML		AML				
	comp=N,113μm,0.9s									
FIAM				AML		AML				
	comp=E,140μm,0.9s									
FIAM				AML		AML				
	comp=N,113μm,0.9s									
SNTG	**Esanatoglia**	**0.50**	**350**	P		Pg	18	12	29.7	0.0
SNTG				S		Sb	18	12	37.5	-0.7
SNTG				AML		AML				
	comp=E,145μm,0.4s									
SNTG				AML		AML				
	comp=N,144μm,0.6s									
SNTG				AML		AML				
	comp=E,145μm,0.4s									
SNTG				AML		AML				
	comp=N,144μm,0.6s									
SNTG	**Esanatoglia**	**0.50**	**350**	⇑P		Pg	18	12	29.9	+0.2
SNTG				AML		AML				
	comp=N,144μm,0.6s									
SNTG				AML		AML				
	comp=E,145μm,0.4s									
SNTG				AML		AML				
	comp=N,144μm,0.6s									
ATCC	**AVT- Casa Cast**	**0.52**	**324**	P		Pg	18	12	30.5	+0.4
EL6	**Elcito**	**0.57**	**3**	⇑P		Pg	18	12	31.2	+0.2
EL6				S		Sb	18	12	40.2	0.0
EL6				AML		AML				
	comp=E,207μm,0.7s									
EL6				AML		AML				
	comp=N,198μm,0.2s									
CING	**Cingoli**	**0.62**	**9**	⇑P		Pg	18	12	32.3	+0.3
CING				S		Sb	18	12	42.2	+0.5
CING				AML		AML				
	comp=N,73μm,1.6s									
CING				AML		AML				
	comp=E,94μm,0.2s									
FAGN	**Fagnano**	**0.63**	**142**	⇑P		Pb	18	12	33.0	0.0
FAGN				AML		AML				
	comp=E,140μm,0.4s									
FAGN				AML		AML				
	comp=N,112μm,0.4s									
FAGN				AML		AML				
	comp=E,140μm,0.4s									
FAGN				AML		AML				
	comp=N,112μm,0.4s									
VCEL	**Villa Celiera**	**0.69**	**122**	⇑P		Pb	18	12	33.8	-0.2
VCEL				S		Sb	18	12	44.8	+1.2
ATFO	**Monte Foce - G**	**0.70**	**330**	P		Pb	18	12	34.1	-0.2
ATFO				S		Sb	18	12	44.8	+0.7
ATFO				AML		AML				
	comp=N,85μm,0.4s									
ATFO				AML		AML				
	comp=E,77μm,1.0s									
ATFO				AML		AML				
	comp=N,86μm,0.4s									
ARVD	**Arcevia**	**0.74**	**353**	P		Pb	18	12	34.8	-0.2
ARVD				S		Sb	18	12	46.1	+1.0

KRSC 10 19:03:17.4±1.0, 55.05N×162.42E, h41km±30km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.17**	**278**	*eP*	Pn	19 03 38.4	+1.0
TUMD				*eS*	Sn	19 03 52.5	+0.4
KBTR	**Krutoberegovo**	**1.18**	**11**	*eP*	Pn	19 03 38.6	+1.2
KBTR				*eS*	Sn	19 03 54.0	+1.7
KBG	**Krutoberegovo**	**1.22**	**7**	*eP*	Pn	19 03 40.6	+2.7
KBG				*eS*	Sn	19 03 57.5	+4.4
BZGR	**Bezymyannyi-Gr**	**1.32**	**313**	*eP*	Pn	19 03 40.9	+1.4
TUMR	**Tumrok**	**1.33**	**281**	*eP*	Pn	19 03 41.3	+1.7
ZLN	**Zelenaya**	**1.33**	**317**	*eP*	Pn	19 03 41.0	+1.3
BZMR	**Bezymyannaya**	**1.41**	**310**	*eP*	Pn	19 03 42.0	+1.2
CIRR	**Tsirk**	**1.43**	**319**	*eP*	Pn	19 03 42.9	+1.9
KMNR	**Kamenistaya**	**1.43**	**300**	*eP*	Pn	19 03 43.1	+2.1
KMNR				*eS*	Sn	19 04 01.8	+3.2
KIRR	**Kirishev**	**1.49**	**308**	*eP*	Pn	19 03 44.0	+2.2
KPT	**Kopyto**	**1.55**	**307**	*eP*	Pn	19 03 44.4	+1.8
KRSR	**Krestovskiy**	**1.57**	**319**	*eP*	Pn	19 03 43.9	+1.0
KLY	**Klyuchi**	**1.61**	**322**	*eP*	Pn	19 03 43.7	+0.3
SMKR	**Semkarok**	**1.62**	**341**	*eP*	Pn	19 03 45.2	+1.6
BDR	**Baidarnaya**	**1.67**	**336**	*eP*	Pn	19 03 46.6	+2.4
SRKR	**Sorokina**	**1.75**	**337**	*eP*	Pn	19 03 47.2	+1.8
KOZ	**Kozyrevsk**	**1.76**	**306**	*eP*	Pn	19 03 47.5	+2.0
SRDR	**Sredinnyy**	**1.99**	**311**	*eP*	Pn	19 03 50.0	+1.4
BKI	**Bering**	**2.04**	**84**	*eS*	Sn	19 04 15.0	+1.5
ESO	**Esso**	**2.29**	**294**	*eP*	Pn	19 03 54.0	+1.3
ESO				*eS*	Sn	19 04 20.2	+0.5
SPN	**Mys Shipunski**	**2.42**	**217**	*eS*	Sn	19 04 25.0	+2.3
SDLR	**Sedlovina**	**2.74**	**231**	*eP*	Pn	19 04 01.8	+2.9
SDLR				*eS*	Sn	19 04 33.4	+2.6
KRER	**Koryakskii**	**2.78**	**232**	*eP*	Pn	19 04 03.5	+3.9
SMAR	**Somma**	**2.78**	**231**	*eP*	Pn	19 04 02.7	+3.0
AVH	**Avacha**	**2.81**	**232**	*eP*	Pn	19 04 04.3	+4.4
AVH				*eS*	Sn	19 04 37.8	+5.2
KOK	**Koryaka**	**2.84**	**233**	*eP*	Pn	19 04 04.3	+4.0
GNL	**Ganaly**	**2.95**	**244**	*eP*	Pn	19 04 05.2	+3.3
DALK	**Dalny**	**2.96**	**228**	*eP*	Pn	19 04 04.8	+2.9
DALK				*eS*	Sn	19 04 42.1	+5.9
PET	**Petropavlovsk**	**3.01**	**229**	*eP*	Pn	19 04 05.9	+3.3
KRMR	**Karymshinskiy**	**3.38**	**230**	*eP*	Pn	19 04 11.0	+3.4
KRMR				*eS*	Sn	19 04 51.0	+4.7
GRL	**Gorelyy**	**3.59**	**228**	*eP*	Pn	19 04 14.1	+3.4

JMA ***10*** *19:23:52.9±0.4, 23.°N×121.°E, h0km, MV3.7/9, TAIWAN REGION*
TAP ***10*** *19:23:55.6, 23.22N×120.68E, h9km, ML3.4, B*
ISC 10 19:23:56.7±0.7, 23.23N±0.01×120.68E±0.01, h9km±4km, n127, σ1.9/07/224, 14C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.06**	**289**	⇓*iP*	Pg	19 23 58.1	-0.6
WTP	baz=298			*i* S	Sg	19 23 59.7	-0.4
	baz=298						
TPUB	**Ta-pu**	**0.09**	**331**	P	Pg	19 23 58.7	-0.2
TPUB	**Ta-pu**	**0.09**	**331**	⇓*iP*	Pg	19 23 58.6	-0.3
TPUB	baz=333			*i* S	Sg	19 24 00.5	0.0
	baz=333						
STYT	**Tauyuan**	**0.10**	**130**	⇓*iP*	Pg	19 23 58.8	-0.4
STYT	baz=123			*i* S	Sg	19 24 00.9	0.0
	baz=123						
STYH	**Taoyuan**	**0.11**	**121**	⇓*iP*	Pg	19 23 57.8	-1.4
STYH	baz=115			*eS*	Sg	19 23 59.7	-1.3
	baz=115						
CHN1	**Nanshi**	**0.14**	**253**	⇓*iP*	Pg	19 23 59.5	-0.2
CHN1	baz=258			*i* S	Sg	19 24 02.2	+0.3
	baz=258						
CHN4	**Tsaushan**	**0.14**	**329**	⇓*iP*	Pg	19 23 58.8	-1.0
CHN4	baz=331			*i* S	Sg	19 24 01.7	-0.4
	baz=331						
SGST	**Jiashian**	**0.17**	**211**	⇑*iP*	Pg	19 23 58.8	-1.4
SGST	baz=210			S	Sg	19 24 01.9	-0.7
	baz=210						
TWK	**Hsinying**	**0.18**	**283**	⇓*iP*	Pg	19 24 00.2	-0.2
TWK	baz=287			*i* S	Sg	19 24 03.6	+0.6
	baz=287						
WCKO	**Fanlu**	**0.22**	**343**	P	Pg	19 24 00.3	-0.9
WCKO	baz=344			*i* S	Sg	19 24 04.4	+0.2
	baz=344						
ALS	**Alishan**	**0.31**	**23**	⇑*iP*	Pg	19 24 02.9	0.0
ALS	baz=23			S	Sg	19 24 07.8	+0.7
	baz=23						
ELDTW	**Lidau**	**0.32**	**97**	⇓*iP*	Pg	19 24 03.0	0.0
ELDTW	baz=94			S	Sg	19 24 07.6	+0.3
	baz=94						
CHN3	**Shinhua**	**0.32**	**242**	*eP*	Pg	19 24 03.9	+0.8
CHN3	baz=257			S	Sb	19 24 10.5	+0.6
	baz=257						
CHN2	**Minshiung**	**0.35**	**329**	*eP*	Pg	19 24 04.0	+0.4
CHN2	baz=330			S	Sb	19 24 11.0	+0.1
	baz=330						
CHY	**Chiayi**	**0.35**	**320**	⇓P	Pg	19 24 04.0	+0.4
CHY	baz=322			S	Sb	19 24 10.9	0.0
	baz=322						
SHHT	**Tainan City**	**0.36**	**236**	*eP*	Pg	19 24 04.1	+0.3
SHHT	baz=253			*eS*	Sb	19 24 11.9	+0.8
	baz=253						
YUS	**Yu-Shan**	**0.36**	**44**	⇑*iP*	Pg	19 24 04.1	+0.1
YUS	baz=43			*eS*	Sg	19 24 09.2	+0.3
	baz=43						
SSHA	**Shanhua**	**0.37**	**256**	P	Pg	19 24 04.8	+0.9
SSHA	baz=267			S	Sb	19 24 12.5	+1.3
	baz=267						
CHN5	**Tsauling**	**0.37**	**0**	P	Pg	19 24 03.0	-1.0
CHN5	baz=7.0			*eS*	Sg	19 24 09.2	+0.3
	baz=7.0						
SCST	**Cishan**	**0.38**	**206**	*eP*	Pg	19 24 04.8	+0.7
SCST	baz=208			*eS*	Sb	19 24 12.4	+0.9
	baz=208						
ICHU	**Yijhu**	**0.39**	**290**	P	Pg	19 24 04.6	+0.4
ICHU	baz=293			S	Sb	19 24 12.2	+0.4
	baz=293						
CHN8	**Yiju**	**0.44**	**286**	*eP*	Pg	19 24 05.6	+0.3
CHN8	baz=289			*eS*	Sb	19 24 13.7	+0.2
	baz=289						
SCLT	**Jiali**	**0.45**	**264**	*eP*	Pg	19 24 05.7	+0.4
SCLT	baz=266			*eS*	Sb	19 24 14.6	+1.1
	baz=266						
TAI1	**Yung-k'ang**	**0.45**	**246**	*eP*	Pg	19 24 06.2	+0.8
TAI1	baz=248			*eS*	Sn	19 24 15.4	+4.1
	baz=248						
TWM1	**Shoushan**	**0.46**	**210**	*eP*	Pb	19 24 07.0	0.0
TWM1	baz=211			*eS*	Sb	19 24 14.5	+0.5
	baz=211						
WGK	**Gukeng**	**0.47**	**347**	P	Pg	19 24 06.4	+0.6
WGK	baz=349			*eS*	Sb	19 24 14.6	+0.4
	baz=349						
WDLH	**Douliu**	**0.48**	**345**	*eP*	Pg	19 24 06.8	+0.8
WDLH	baz=345			*eS*	Sg	19 24 14.3	+2.1
	baz=345						
SSD	**Sandimen**	**0.48**	**185**	⇑P	Pg	19 24 05.7	-0.3
SSD	baz=174			S	Sg	19 24 12.3	0.0
	baz=174						
TAI	**Tainan**	**0.50**	**242**	*eP*	Pb	19 24 08.0	+0.4
TAI	baz=259			*eS*	Sn	19 24 17.5	+4.7
	baz=259						
WHYT	**Xinyi Township**	**0.50**	**19**	⇑*iP*	Pg	19 24 06.3	0.0
WHYT	baz=24			*eS*	Sg	19 24 13.8	+0.9
	baz=24						
WSL	**Shuilin Townsh**	**0.51**	**306**	*eP*	Pg	19 24 06.2	-0.3
WSL	baz=308			*eS*	Sg	19 24 14.9	+1.8
	baz=308						
ECS	**Chishang**	**0.52**	**104**	⇓*iP*	Pg	19 24 06.8	+0.1
ECS	baz=102			S	Sg	19 24 14.8	+1.3
	baz=102						
TSMG	**Majia**	**0.52**	**183**	P	Pg	19 24 06.4	-0.4
TSMG	baz=174			*eS*	Sg	19 24 13.5	-0.1
	baz=174						
LONT	**Longtian**	**0.53**	**127**	⇓*iP*	Pg	19 24 06.8	-0.1
LONT	baz=125			*eS*	Sg	19 24 14.8	+1.0
	baz=125						
TWG	**Pinlang**	**0.55**	**138**	⇓*iP*	Pg	19 24 07.2	0.0
TWG	baz=125			*eS*	Sg	19 24 15.1	+0.7
	baz=125						
TSCK	**Chigu Township**	**0.55**	**262**	*eP*	Pg	19 24 06.8	-0.4
TSCK	baz=265			*eS*	Sb	19 24 16.9	+0.5
	baz=265						
TWGBT	**Beinan**	**0.55**	**137**	P	Pg	19 24 07.3	-0.1
TWGBT	**Beinan**	**0.55**	**137**	⇓*iP*	Pg	19 24 07.2	-0.2
TWGBT	baz=125			S	Sg	19 24 14.9	+0.3
	baz=125						
FULB	**Fuli**	**0.57**	**93**	⇓*eP*	Pg	19 24 08.1	+0.4
	baz=84						
TSPT	**Pingtung City**	**0.57**	**197**	*eP*	Pb	19 24 09.2	+0.3
	baz=200						
WSF	**Szhu**	**0.58**	**315**	P	Pg	19 24 08.0	+0.1
WSF	baz=317			S	Sb	19 24 17.6	+0.1
	baz=317						
WJS	**Zhushan**	**0.59**	**5**	*eP*	Pg	19 24 08.5	+0.3
WJS	baz=4.0			*eS*	Sg	19 24 17.9	+1.9
	baz=4.0						
YULB	**Yu-li**	**0.60**	**74**	P	Pg	19 24 08.1	-0.1
YULB	**Yu-li**	**0.60**	**74**	⇑*iP*	Pg	19 24 07.9	-0.3
YULB	baz=72			S	Sg	19 24 15.7	-0.3
	baz=72						
EYUL	**Yuli**	**0.60**	**78**	P	Pg	19 24 08.3	-0.1
EYUL	baz=76			S	Sg	19 24 16.2	-0.1
	baz=76						
MASBT	**Mashibuluo**	**0.61**	**184**	P	Pg	19 24 08.2	-0.4
MASBT	baz=179			S	Sg	19 24 16.3	-0.3
	baz=179						
SSLB	**Suanglung**	**0.61**	**25**	P	Pg	19 24 08.2	-0.4
SSLB	**Suanglung**	**0.61**	**25**	⇑*iP*	Pg	19 24 08.1	-0.4
SSLB	baz=31			*eS*	Sg	19 24 16.9	+0.2
	baz=31						
EDH	**Donghe**	**0.63**	**113**	P	Pg	19 24 09.0	+0.1
EDH	baz=112			*eS*	Sg	19 24 19.0	+1.9
	baz=112						
CHKT	**Chengkung**	**0.65**	**101**	⇓*iP*	Pg	19 24 09.7	+0.5
CHKT	baz=99			*eS*	Sb	19 24 21.0	+1.7
	baz=99						
WNT	**Mingjian**	**0.65**	**1**	⇑*iP*	Pg	19 24 09.6	+0.4
WNT	baz=1.0			*eS*	Sg	19 24 20.0	+2.3
	baz=1.0						
EHY	**Hungye**	**0.66**	**65**	⇑*eP*	Pg	19 24 09.1	-0.2
EHY	baz=72			*eS*	Sg	19 24 17.7	-0.2
	baz=72						
ECL	**Taimali**	**0.68**	**158**	P	Pg	19 24 09.4	-0.4
ECL	baz=140			*eS*	Sg	19 24 18.6	0.0
	baz=140						
VWDT	**VWDT**	**0.68**	**39**	⇑*iP*	Pg	19 24 09.5	-0.2
SMLT	**Sun Moon Lake**	**0.69**	**17**	⇑P	Pg	19 24 10.1	+0.2
SMLT	baz=24			S	Sg	19 24 20.8	+1.8
	baz=24						
TYC	**Yuchr**	**0.69**	**14**	⇑*iP*	Pg	19 24 10.5	+0.4
TYC	baz=14			*eS*	Sg	19 24 20.9	+1.8
	baz=14						
WRL	**Guolierlin Hig**	**0.72**	**338**	*eP*	Pg	19 24 09.8	-0.9
WRL	baz=327			*eS*	Sg	19 24 21.2	+1.1
	baz=327						
WTCT	**Ta-ch'eng**	**0.73**	**330**	*eP*	Pg	19 24 08.9	-1.8
WTCT	baz=332			*eS*	Sg	19 24 21.9	+1.6
	baz=332						
HGSD	**Ruisui**	**0.74**	**69**	*eP*	Pg	19 24 11.1	+0.2
HGSD	baz=73			*eS*	Sg	19 24 22.1	+1.5
	baz=73						
EGFH	**Guangfu**	**0.82**	**57**	*eP*	Pb	19 24 12.2	-0.9
EGFH	baz=56			*eS*	Sb	19 24 23.5	-0.8
	baz=56						
SCZT	**Fangliau**	**0.85**	**183**	*eP*	Pb	19 24 12.6	-1.1
SCZT	baz=183			*eS*	Sn	19 24 26.3	-1.1
	baz=183						
EAST	**Anshuo**	**0.85**	**169**	⇓P	Pb	19 24 12.7	-1.0
EAST	baz=168			*eS*	Sg	19 24 25.2	+0.9
	baz=168						
WCS	**Beigang Elemen**	**0.85**	**15**	*eP*	Pb	19 24 11.9	-1.8
WCS	baz=14			*eS*	Sb	19 24 24.3	-1.0
	baz=14						
WCHH	**Zhanghua**	**0.86**	**353**	*eP*	Pb	19 24 13.9	+0.2
WCHH	baz=353			*eS*	Sn	19 24 27.6	-0.1
	baz=353						
WUSB	**Renai**	**0.86**	**28**	⇑*iP*	Pb	19 24 12.5	-1.4
WUSB	baz=27			*eS*	Sb	19 24 25.9	+0.3
	baz=27						
TAWH	**Dawu Township**	**0.90**	**167**	*eP*	Pb	19 24 12.4	-2.1
TAWH	baz=162			*eS*	Sb	19 24 25.9	-0.8
	baz=162						
ESL	**Shilin**	**0.91**	**50**	*eP*	Pb	19 24 13.7	-1.0
ESL	baz=48			*eS*	Sb	19 24 27.1	+0.2
	baz=48						
LDUT	**Ludao**	**0.92**	**127**	*eP*	Pb	19 24 13.7	-1.0
LDUT	baz=125			*eS*	Sb	19 24 27.3	+0.2
	baz=125						
TCU	**Taichung**	**0.92**	**0**	*eP*	Pb	19 24 14.2	-0.6
TCU	baz=1.0			*eS*	Sb	19 24 27.7	+0.6
	baz=1.0						
WDGT	**Dungji**	**0.93**	**272**	*eP*	Pb	19 24 13.6	-1.5
WDGT	baz=275			*eS*	Sb	19 24 26.2	-1.4
	baz=275						
CHGB	**Renai**	**0.95**	**29**	P	Pb	19 24 14.1	-1.3
CHGB	baz=28			*eS*	Sb	19 24 27.4	-0.8
	baz=28						
SLIU	**Shizi**	**1.01**	**173**	*eP*	Pb	19 24 15.7	-0.7
SLIU	baz=173			*eS*	Sg	19 24 30.1	+0.8
	baz=173						
PHUB	**P'eng-hu**	**1.05**	**286**	*eP*	Pb	19 24 15.1	-1.9
PHUB	baz=288			*eS*	Sb	19 24 29.2	-1.8
	baz=288						
WHF	**Hehuan Shan**	**1.06**	**30**	⇑P	Pb	19 24 16.4	-1.2
WHF	baz=30			*eS*	Sb	19 24 32.0	+0.3
	baz=30						
WHP	**Taichung City**	**1.08**	**13**	P	Pb	19 24 17.1	-0.4
WHP	baz=23			*eS*	Sb	19 24 32.5	+0.7
	baz=23						
PNG	**Penghu**	**1.08**	**288**	*eP*	Pb	19 24 15.7	-1.9
PNG	baz=291			*eS*	Sb	19 24 30.2	-1.7
	baz=291						
TDCB	**Techi**	**1.11**	**23**	*eP*	Pb	19 24 16.8	-1.4
TDCB	baz=22			*eS*	Sb	19 24 32.7	-0.2
	baz=22						
WDJ	**Dajia District**	**1.12**	**358**	*eP*	Pb	19 24 18.0	-0.2
WDJ	baz=359			*eS*	Sn	19 24 34.3	+0.2
	baz=359						
TWQ1	**Liyutan**	**1.12**	**5**	P	Pb	19 24 17.9	-0.4
TWQ1	baz=5.0			*eS*	Sb	19 24 33.2	+0.3
	baz=5.0						
TWT	**Tachien**	**1.12**	**24**	*eP*	Pb	19 24 17.5	-0.8
TWT	baz=23			*eS*	Sb	19 24 32.5	-0.7
	baz=23						
HWA	**Hwalien**	**1.13**	**49**	*eP*	Pn	19 24 18.4	-0.4
HWA	baz=47			*eS*	Sb	19 24 34.6	+1.3
	baz=47						
FUSS	**Fushou**	**1.14**	**27**	*eP*	Pn	19 24 17.9	-1.2
FUSS	baz=26			*eS*	Sb	19 24 33.3	-0.6
	baz=26						
VCHM	**Qimei**	**1.15**	**269**	*eP*	Pb	19 24 16.5	-2.2
VCHM	baz=272			*eS*	Sb	19 24 31.7	-2.0
	baz=272						
NSY	**Sanyi**	**1.19**	**4**	*eP*	Pn	19 24 19.1	-0.4
NSY	baz=352			*eS*	Sg	19 24 37.1	+2.2
	baz=352						
TWD	**Chiawan**	**1.20**	**45**	*eP*	Pn	19 24 18.9	-0.7
TWD	baz=54			*eS*	Sb	19 24 35.6	+0.4
	baz=54						
SMST	**Manzhou Townsh**	**1.21**	**173**	*eP*	Pn	19 24 19.5	-0.2
SMST	baz=171			*eS*	Sg	19 24 37.9	+2.3
	baz=171						
HEN	**Hengchun**	**1.22**	**177**	*eP*	Pn	19 24 19.5	-0.4
HEN	baz=169			*eS*	Sg	19 24 38.1	+2.3
	baz=169						
ETLH	**Xiulin Townshi**	**1.23**	**37**	*eP*	Pn	19 24 19.2	-0.9
ETLH	baz=36			*eS*	Sn	19 24 37.3	+0.5
	baz=36						

NACB	**Ninganchiao**	**1.27**	**42**	P	**Pn**	**19 24 20.0**	**-0.6**
NACB	**Ninganchiao**	**1.27**	**42**	*e*P	**Pn**	**19 24 19.7**	**-0.8**
	baz=51						
NACB				*e*S	**Sb**	**19 24 37.7**	**+0.6**
	baz=51						
TWK1	**Hengchun**	**1.28**	**175**	*e*P	**Pb**	**19 24 21.4**	**+0.4**
	baz=197						
TWKBT	**Hengchun**	**1.29**	**174**	*e*P	**Pn**	**19 24 20.1**	**-0.7**
	baz=174						
TWKBT				*e*S	**Sg**	**19 24 38.5**	**+0.5**
	baz=174						
NMLH	**Miaoli**	**1.31**	**5**	*e*P	**Pn**	**19 24 20.3**	**-0.8**
	baz=353						
NMLH				*e*S	**Sn**	**19 24 39.1**	**+0.3**
	baz=353						
NNSB	**Datong**	**1.36**	**28**	P	**Pn**	**19 24 21.3**	**-0.7**
	baz=25						
NNS	**Nan Shan**	**1.37**	**28**	*e*P	**Pn**	**19 24 20.8**	**-1.3**
	baz=27						
NNS				*e*S	**Sn**	**19 24 39.5**	**-0.9**
	baz=27						
NSTT	**Nanjuang**	**1.43**	**12**	*e*P	**Pn**	**19 24 22.0**	**-0.8**
	baz=1.0						
NSTT				*e*S	**Sn**	**19 24 42.3**	**+0.5**
	baz=1.0						
LAY	**Lan-yu**	**1.43**	**145**	*e*P	**Pn**	**19 24 22.4**	**-0.5**
	baz=143						
LAY				*e*S	**Sn**	**19 24 41.8**	**-0.1**
	baz=143						
LIOB	**Emei**	**1.45**	**12**	*e*P	**Pn**	**19 24 22.6**	**-0.5**
	baz=2.0						
LIOB				*e*S	**Sg**	**19 24 44.4**	**+1.1**
	baz=2.0						
NFF	**Wufeng Townshi**	**1.46**	**16**	*e*P	**Pn**	**19 24 22.2**	**-1.1**
	baz=4.0						
NFF				*e*S	**Sn**	**19 24 42.8**	**+0.3**
	baz=4.0						
LYUB	**Lan-yu**	**1.48**	**145**	*e*P	**Pn**	**19 24 19.9**	**-3.6**
	baz=133						
LATG	**Datong**	**1.52**	**31**	*e*P	**Pn**	**19 24 24.0**	**-0.1**
	baz=29						
LATG				*e*S	**Sb**	**19 24 45.3**	**+0.8**
	baz=29						
ENA	**Nanau**	**1.54**	**39**	*e*P	**Pn**	**19 24 24.4**	**0.0**
	baz=53						
NDT	**Datong Townshi**	**1.57**	**29**	*e*P	**Pn**	**19 24 22.9**	**-1.8**
	baz=28						
NDT				*e*S	**Sn**	**19 24 46.1**	**+0.9**
	baz=28						
NSK	**Sanguang**	**1.57**	**23**	*e*P	**Pn**	**19 24 24.0**	**-0.8**
	baz=12						
NSK				*e*S	**Sb**	**19 24 46.5**	**+0.5**
	baz=12						
YHNB	**Yeheng**	**1.57**	**24**	P	**Pn**	**19 24 25.6**	**+0.7**
YHNB	**Yeheng**	**1.57**	**24**	P	**Pn**	**19 24 24.8**	**0.0**
	baz=23						
YHNB				*e*S	**Sn**	**19 24 46.1**	**+0.6**
	baz=23						
ENTT	**Nioudou**	**1.63**	**30**	*e*P	**Pn**	**19 24 25.7**	**+0.1**
	baz=14						
NWLT	**Wulai**	**1.72**	**26**	*e*P	**Pn**	**19 24 28.1**	**+1.2**
	baz=22						
FUSB	**Fushanzhiwuyua**	**1.74**	**28**	*e*P	**Pn**	**19 24 27.6**	**+0.4**
	baz=13						
TWE	**Neicheng**	**1.74**	**31**	*e*P	**Pn**	**19 24 28.4**	**+1.2**
	baz=30						
TWE				*e*S	**Sg**	**19 24 54.0**	**+1.2**
	baz=30						
TWC	**Suao**	**1.75**	**38**	*e*P	**Pn**	**19 24 28.1**	**+0.9**
	baz=51						
NHDH	**Xindian Distri**	**1.90**	**24**	*e*P	**Pn**	**19 24 29.6**	**+0.4**
	baz=4.0						
TWA	**Mucha**	**1.93**	**25**	*e*P	**Pn**	**19 24 31.7**	**+1.9**
	baz=22						
TIPB	**Shuangxi**	**2.03**	**31**	*e*P	**Pn**	**19 24 32.1**	**+1.0**
	baz=9.0						
YM01	**YM01**	**2.08**	**23**	*e*P	**Pn**	**19 24 31.3**	**-0.5**
	baz=20						
VWUC	**VWUC**	**2.08**	**328**	*e*P	**Pn**	**19 24 29.9**	**-1.9**
	baz=327						
ANP	**Anpu**	**2.10**	**21**	*e*P	**Pn**	**19 24 32.4**	**+0.3**
	baz=1.0						
SXI1	**Grass Mountain**	**2.16**	**30**	*e*P	**Pn**	**19 24 33.6**	**+0.7**
	baz=9.0						
PTMZ	**Houxiangcun**	**2.30**	**322**	*e*P	**Pn**	**19 24 33.0**	**-1.8**
	baz=322						
KNM	**Kinmen**	**2.37**	**300**	*e*P	**Pn**	**19 24 34.8**	**-0.9**
	baz=299						
YOJ	**Yonaguni jima**	**2.47**	**60**	*e*P	**Pn**	**19 24 37.8**	**+0.7**
IRIF	**Iriomote-Funau**	**3.01**	**68**	P	**Pn**	**19 24 45.9**	**+1.3**
IRIF				*e*S	**Sn**	**19 25 23.5**	**+2.8**
JKRS	**Kuro-shima**	**3.22**	**71**	P	**Pn**	**19 24 48.8**	**+1.4**
MHZQ	**Yeshan**	**3.23**	**333**	*e*P	**Pn**	**19 24 45.9**	**-1.7**
	baz=332						
JIJ	**Ishigaki jima**	**3.37**	**70**	P	**Pn**	**19 24 50.0**	**+0.4**
JIJ				*e*S	**Sn**	**19 25 29.9**	**+0.2**
LYJJ	**Jianjiangzhen**	**3.41**	**346**	*e*P	**Pn**	**19 24 48.2**	**-1.9**
	baz=345						
JISG	**Ishigakijimahi**	**3.59**	**67**	P	**Pn**	**19 24 52.7**	**+0.1**
JISG				*e*S	**Sn**	**19 25 34.5**	**-0.7**

---

*TAP **10** 19:28:43.8, 24°.67N×122°.57E, h25km, ML2.9, C*
*JMA **10** 19:28:44.4±0.1, 24°.6N±0°.7×122°.6E±0°.3, h24km±1km, MV2.1/9, NW OFF ISHIGAKIJIMA IS*
ISC 10 19:28:44.0±1.0**, 24°.66N**±0°.03×**122°.56E**±0°.02**, h22**km±8km**, n83, σ0s.80**/131**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.41**	**120**	P	**Pb**	**19 28 52.6**	**+0.1**
JYNG				*e*S	**Sb**	**19 28 58.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.46**	**115**	*i* P	**Pb**	**19 28 53.4**	**0.0**
	baz=118						
YOJ				*i* S	**Sb**	**19 28 60.0**	**+0.2**
	baz=118						
YOJ	**Yonaguni jima**	**0.46**	**115**	P	**Pb**	**19 28 53.4**	**0.0**
YOJ				*e*S	**Sb**	**19 28 59.8**	**+0.1**
TWB1	**Santiao Chiao**	**0.62**	**304**	*i* P	**Pb**	**19 28 55.8**	**-0.4**
	baz=302						
TWB1				S	**Sb**	**19 29 03.3**	**-1.2**
	baz=302						
TWC	**Suao**	**0.65**	**266**	P	**Pb**	**19 28 56.2**	**-0.3**
	baz=264						
TWC				*e*S	**Sb**	**19 29 04.8**	**-0.3**
	baz=264						
TIPB	**Shuangxi**	**0.73**	**295**	*i* P	**Pb**	**19 28 58.0**	**0.0**
	baz=304						
TIPB				S	**Sb**	**19 29 08.2**	**+0.5**
	baz=304						
EWUT	**Wuta**	**0.74**	**253**	*e*P	**Pb**	**19 28 56.7**	**-1.4**
	baz=252						
EWUT				*e*S	**Sb**	**19 29 06.6**	**-1.2**
	baz=252						
ILA	**Ilan**	**0.74**	**278**	P	**Pb**	**19 28 58.5**	**+0.3**
	baz=276						
ILA				*e*S	**Sn**	**19 29 09.2**	**-0.6**
	baz=276						
SXI1	**Grass Mountain**	**0.76**	**305**	*i* P	**Pb**	**19 28 58.6**	**+0.1**
	baz=303						
SXI1				S	**Sb**	**19 29 08.9**	**+0.6**
	baz=303						
ENA	**Nanau**	**0.78**	**253**	P	**Pb**	**19 28 58.5**	**-0.3**
	baz=251						
ENA				*e*S	**Sb**	**19 29 07.9**	**-1.0**
	baz=251						
TWE	**Neicheng**	**0.81**	**275**	*e*P	**Pb**	**19 28 58.8**	**-0.6**
	baz=272						
TWE				*e*S	**Sb**	**19 29 10.6**	**+0.7**
	baz=272						
NWF	**Wu-fen Shan**	**0.81**	**300**	*i* P	**Pb**	**19 28 59.6**	**+0.1**
	baz=311						
NWF				*e*S	**Sn**	**19 29 11.3**	**-0.4**
	baz=311						
WFSB	**Wu-fen Shan**	**0.81**	**300**	P	**Pb**	**19 28 59.6**	**+0.2**
	baz=309						
WFSB				*e*S	**Sn**	**19 29 11.5**	**-0.1**
	baz=309						
TNOU	**National Taiwa**	**0.86**	**305**	*i* P	**Pb**	**19 29 00.1**	**-0.2**
	baz=303						
TNOU				S	**Sb**	**19 29 11.2**	**-0.2**
	baz=303						
FUSB	**Fushanzhiwuyua**	**0.89**	**277**	*e*P	**Pb**	**19 29 00.5**	**-0.2**
	baz=274						
FUSB				*e*S	**Sb**	**19 29 12.8**	**+0.7**
	baz=274						
ENTT	**Nioudou**	**0.90**	**269**	*e*P	**Pb**	**19 29 00.1**	**-0.8**
	baz=267						
ENTT				*e*S	**Sb**	**19 29 12.8**	**+0.3**
	baz=267						
TWA	**Mucha**	**0.94**	**290**	P	**Pn**	**19 29 01.9**	**0.0**
	baz=288						
TWA				S	**Sb**	**19 29 14.0**	**+0.3**
	baz=288						
LATG	**Datong**	**0.94**	**263**	*e*P	**Pb**	**19 29 01.8**	**+0.1**
	baz=261						
LATG				*e*S	**Sb**	**19 29 13.2**	**-0.6**
	baz=261						
NDT	**Datong Townshi**	**0.95**	**267**	*e*P	**Pn**	**19 28 59.2**	**-2.8**
	baz=265						
NWLT	**Wulai**	**0.96**	**277**	*e*P	**Pn**	**19 29 01.1**	**-1.2**
	baz=275						
NWLT				*e*S	**Sb**	**19 29 13.7**	**-0.6**
	baz=275						
NHY	**Taipei**	**0.97**	**293**	*e*P	**Pb**	**19 29 03.1**	**+0.9**
	baz=291						
NHDH	**Xindian Distri**	**0.98**	**288**	P	**Pb**	**19 29 02.7**	**+0.4**
	baz=286						
NHDH				S	**Sb**	**19 29 15.4**	**+0.6**
	baz=286						
NACB	**Ninganchiao**	**1.00**	**241**	P	**Pb**	**19 29 02.7**	**+0.1**
NACB	**Ninganchiao**	**1.00**	**241**	P	**Pn**	**19 29 02.4**	**-0.3**
	baz=246						
NACB				*e*S	**Sb**	**19 29 15.2**	**-0.1**
	baz=246						
YM01	**YM01**	**1.02**	**299**	P	**Pn**	**19 29 02.7**	**-0.3**
	baz=297						
YM01				*e*S	**Sb**	**19 29 16.2**	**+0.2**
	baz=297						
TATO	**Taipei**	**1.02**	**288**	P	**Pb**	**19 29 03.2**	**+0.3**
TATO	**Taipei**	**1.02**	**288**	P	**Pb**	**19 29 03.1**	**+0.2**
	baz=286						
TATO				*e*S	**Sn**	**19 29 16.6**	**0.0**
	baz=286						
YM08	**YM08**	**1.02**	**301**	P	**Pn**	**19 29 02.3**	**-0.7**
	baz=284						
YM08				S	**Sb**	**19 29 15.3**	**-0.7**
	baz=284						
TWD	**Chiawan**	**1.05**	**237**	*e*P	**Pb**	**19 29 04.6**	**+1.2**
	baz=241						
TWD				*e*S	**Sn**	**19 29 18.1**	**+0.8**
	baz=241						
TWY	**Chenhua**	**1.06**	**306**	*e*P	**Pb**	**19 29 04.5**	**+0.8**
	baz=318						
TWY				S	**Sn**	**19 29 18.1**	**+0.4**
	baz=318						
YHNB	**Yeheng**	**1.07**	**271**	P	**Pb**	**19 29 04.2**	**+0.3**
YHNB	**Yeheng**	**1.07**	**271**	*e*P	**Pb**	**19 29 04.1**	**+0.2**
	baz=269						
YHNB				*e*S	**Sb**	**19 29 17.5**	**0.0**
	baz=269						
ANP	**Anpu**	**1.08**	**299**	*e*P	**Pb**	**19 29 05.4**	**+1.4**
	baz=297						
ETLH	**Xiulin Townshi**	**1.08**	**246**	*e*P	**Pb**	**19 29 04.3**	**+0.3**
	baz=251						
ETLH				*e*S	**Sb**	**19 29 17.6**	**0.0**
	baz=251						
NSK	**Sanguang**	**1.09**	**271**	*e*P	**Pn**	**19 29 03.4**	**-0.6**
	baz=269						
NSK				*e*S	**Sb**	**19 29 16.4**	**-1.5**
	baz=269						
NNSB	**Datong**	**1.09**	**258**	*e*P	**Pn**	**19 29 04.0**	**0.0**
	baz=264						
NNSB				S	**Sn**	**19 29 18.7**	**+0.2**
	baz=264						
NNSH	**Datong**	**1.09**	**258**	*e*P	**Pn**	**19 29 03.7**	**-0.4**
	baz=256						
NNSH				*e*S	**Sb**	**19 29 17.6**	**-0.5**
	baz=256						
NNS	**Nan Shan**	**1.10**	**259**	P	**Pn**	**19 29 03.9**	**-0.2**
	baz=257						
NNS				*e*S	**Sb**	**19 29 17.1**	**-1.2**
	baz=257						
IRIF	**Iriomote-Funau**	**1.12**	**106**	P	**Pn**	**19 29 04.2**	**-0.1**
TWS1	**Kuangyinshan**	**1.12**	**293**	*e*P	**Pn**	**19 29 04.2**	**-0.2**
	baz=291						
TWS1				*e*S	**Sn**	**19 29 18.8**	**-0.3**
	baz=291						
ETM	**Tongmen**	**1.19**	**235**	*e*P	**Pb**	**19 29 06.0**	**+0.2**
	baz=233						
ETM				*e*S	**Sb**	**19 29 22.6**	**+1.8**
	baz=233						
FUSS	**Fushou**	**1.26**	**251**	P	**Pb**	**19 29 07.8**	**+0.5**
	baz=257						
FUSS				*e*S	**Sb**	**19 29 23.4**	**+0.2**
	baz=257						
WHF	**Hehuan Shan**	**1.28**	**247**	P	**Pb**	**19 29 08.2**	**+0.5**
	baz=244						
WHF				*e*S	**Sn**	**19 29 23.3**	**-0.4**
	baz=244						
NFF	**Wufeng Townshi**	**1.31**	**269**	*e*P	**Pn**	**19 29 07.2**	**+0.2**
	baz=280						
NFF				*e*S	**Sb**	**19 29 24.5**	**+0.2**
	baz=280						
TWT	**Tachien**	**1.32**	**253**	*e*P	**Pb**	**19 29 09.7**	**+1.5**
	baz=236						
TWT				*e*S	**Sb**	**19 29 26.3**	**+1.6**
	baz=236						
ESL	**Shilin**	**1.32**	**231**	*e*P	**Pb**	**19 29 07.9**	**-0.3**
	baz=215						
JKRS	**Kuro-shima**	**1.39**	**107**	P	**Pn**	**19 29 08.5**	**+0.5**
JKRS				*e*S	**Sb**	**19 29 25.9**	**-0.7**
CHGB	**Renai**	**1.39**	**245**	*e*P	**Pb**	**19 29 10.3**	**+0.9**
	baz=226						
CHGB				*e*S	**Sb**	**19 29 28.0**	**+1.1**
	baz=226						
LIOB	**Emei**	**1.40**	**270**	*e*P	**Pb**	**19 29 10.6**	**+1.2**
	baz=283						
LIOB				*e*S	**Sb**	**19 29 29.6**	**+2.7**
	baz=283						
NSTT	**Nanjuang**	**1.42**	**269**	*e*P	**Pb**	**19 29 09.6**	**-0.1**
	baz=282						
WUSB	**Renai**	**1.47**	**243**	*e*P	**Pb**	**19 29 11.4**	**+0.7**
	baz=227						
WUSB				*e*S	**Sb**	**19 29 30.4**	**+1.4**
	baz=227						
JIJ	**Ishigaki jima**	**1.48**	**101**	P	**Pb**	**19 29 09.9**	**-0.8**
WHP	**Taichung City**	**1.52**	**256**	*e*P	**Pb**	**19 29 13.0**	**+1.6**
	baz=242						
HGSD	**Ruisui**	**1.56**	**222**	*e*P	**Pn**	**19 29 10.8**	**+0.4**
	baz=210						
VWDT	**VWDT**	**1.57**	**235**	*e*P	**Pb**	**19 29 12.4**	**0.0**
	baz=234						
JISG	**Ishigakijimahi**	**1.60**	**92**	*e*P	**Pn**	**19 29 11.6**	**+0.7**
EHY	**Hungye**	**1.61**	**225**	*e*P	**Pn**	**19 29 11.6**	**+0.5**
	baz=223						
EHY				*e*S	**Sb**	**19 29 32.6**	**-0.2**
	baz=223						
DPDB	**Guoxing**	**1.61**	**248**	*e*P	**Pb**	**19 29 13.0**	**0.0**
	baz=234						
NMLH	**Miaoli**	**1.61**	**266**	*e*P	**Pb**	**19 29 13.0**	**0.0**
	baz=278						
WCS	**Beigang Elemen**	**1.61**	**249**	*e*P	**Pb**	**19 29 13.0**	**-0.1**
	baz=235						
NSY	**Sanyi**	**1.65**	**262**	*e*P	**Pb**	**19 29 14.1**	**+0.4**
	baz=260						
TWQ1	**Liyutan**	**1.65**	**260**	*e*P	**Pb**	**19 29 15.1**	**+1.3**
	baz=258						
SMLT	**Sun Moon Lake**	**1.70**	**243**	*e*P	**Pb**	**19 29 14.9**	**+0.4**
	baz=228						
SSLB	**Suanglung**	**1.70**	**240**	P	**Pb**	**19 29 14.6**	**0.0**
SSLB	**Suanglung**	**1.70**	**240**	*e*P	**Pb**	**19 29 14.2**	**-0.3**
	baz=224						
YULB	**Yu-li**	**1.71**	**223**	*e*P	**Pn**	**19 29 12.9**	**+0.5**
	baz=221						
YULB				*e*S	**Sb**	**19 29 35.2**	**-0.5**
	baz=221						
TYC	**Yuchr**	**1.72**	**245**	*e*P	**Pb**	**19 29 15.7**	**+0.7**
	baz=229						
EYUL	**Yuli**	**1.73**	**221**	*e*P	**Pn**	**19 29 13.3**	**+0.6**
	baz=235						
EYUL				*e*S	**Sb**	**19 29 35.5**	**-0.7**
	baz=235						
TWF1	**Yuli**	**1.74**	**222**	*e*P	**Pn**	**19 29 13.3**	**+0.4**
	baz=235						
TWF1				*e*S	**Sn**	**19 29 35.2**	**+0.8**
	baz=235						
WHYT	**Xinyi Township**	**1.83**	**239**	*e*P	**Pb**	**19 29 16.7**	**0.0**
	baz=225						
YUS	**Yu-Shan**	**1.87**	**232**	*e*P	**Pb**	**19 29 17.1**	**-0.7**
	baz=231						
WNT	**Mingjian**	**1.88**	**246**	*e*P	**Pb**	**19 29 17.9**	**+0.4**
	baz=244						
ALS	**Alishan**	**1.97**	**235**	*e*P	**Pb**	**19 29 19.0**	**-0.3**
	baz=220						
ELDTW	**Lidau**	**2.03**	**224**	*e*P	**Pn**	**19 29 17.7**	**+0.7**
	baz=223						
WCKO	**Fanlu**	**2.16**	**236**	*e*P	**Pb**	**19 29 20.9**	**-1.4**
	baz=235						
STYH	**Taoyuan**	**2.20**	**228**	*e*P	**Pn**	**19 29 20.2**	**+1.0**
	baz=227						
CHN4	**Tsaushan**	**2.22**	**234**	*e*P	**Pb**	**19 29 21.8**	**-1.6**
	baz=220						
TPUB	**Ta-pu**	**2.22**	**233**	P	**Pb**	**19 29 24.1**	**+0.7**
TPUB	**Ta-pu**	**2.22**	**233**	*e*P	**Pb**	**19 29 22.5**	**-1.0**
	baz=220						
WTP	**Ta-pu**	**2.27**	**232**	*e*P	**Pb**	**19 29 23.1**	**-1.1**
	baz=231						
TWK	**Hsinying**	**2.34**	**234**	*e*P	**Pb**	**19 29 24.6**	**-0.9**
	baz=219						
TWK				*e*S	**Sb**	**19 29 54.4**	**+0.3**
	baz=219						
CHN1	**Nanshi**	**2.37**	**232**	*e*P	**Pb**	**19 29 24.8**	**-1.2**
	baz=231						
SGST	**Jiashian**	**2.39**	**229**	*e*P	**Pb**	**19 29 24.1**	**-2.2**
	baz=227						
SGST				*e*S	**Sb**	**19 29 54.7**	**-0.8**
	baz=227						

---

*IDC **10** 19:32:45.0±1.7, 14°.98S×177°.49W, h0km, mb4.0/7, mbtmp3.9/9, ML5.2/1, MS4.1/51, Error ellipse: s-maj=112.3km s-min=16.8km az=143.0*
*GCMT **10** 19:32:51.0±0.3, 15°.05S±0°.02×177°.11W±0°.01, h18km±1km, MW4.9/86, Moment Tensor Solution. s20,c21; s86,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29±.12; $M_{\theta\theta}$0.17±.11; $M_{\phi\phi}$0.12±.09; $M_{r\theta}$-0.25±.23; $M_{\theta\phi}$2.80±.10; $M_{\phi r}$0.62±.24; Best double couple: $M_0$2.88600×10^{16} NP1:ϕ_s181.00000°,δ84.00000°,λ-167.00000°. NP2: ϕ_s90.00000°,δ77.00000°,λ-7.00000°. Principal axes: T 2.9660, Plg5.0000°, Azm315.0000°; N -0.1610, Plg75.0000°, Azm207.0000°; P -2.8050, Plg14.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 10 19:32:46.6±1.7**, 14°.9S**±0°.6×**177°.6W**±0°.5**, h10**km**, n55, σ0s.81**/11**, mb4.1**/7**, MS4.2**/51**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.10**	**235**	Pn	**Pn**	**19 34 03.6**	**+0.3**
	3.0nm,0.3s,baz=279,slow=23,SNR=15						
MSVF				Sn	**Sn**	**19 35 02.8**	**+0.5**
	0.3nm,0.3s,baz=233,slow=21,SNR=1.8						
MSVF				LR	LR	19 35 47.3	
	comp=Z,3μm,19.8s,baz=52,slow=36						
	3.4nm,0.3s						
DZM	**Mont Dzumac**	**16.78**	**242**	*e*LR	LR	19 41 00.8	
	comp=Z,1μm,22.2s						
DZM	**Mont Dzumac**	**16.78**	**242**	Pn	**P**	**19 36 43.6**	**-0.6**
	3.6nm,0.9s,baz=79,slow=13,SNR=4.2						
DZM				LR	LR	19 42 02.9	
	comp=Z,1μm,20.9s,baz=59,slow=33						
PPT2	**Papeete2**	**26.99**	**100**	*e*LR	LR	19 45 23.9	
	comp=Z,272nm,22.2s						
PPT2				*e*LR	LR	19 45 24.0	
	comp=Z,307nm,22.8s						
TBI	**Tubuai**	**27.82**	**112**	*e*LR	LR	19 45 35.2	
	comp=Z,4μm,25.0s						
TBI				*e*LR	LR	19 45 35.6	
	comp=Z,18μm,24.5s						
RPZ	**Rata Peaks**	**30.37**	**196**	LR	LR	19 49 28.4	
	comp=Z,470nm,21.6s,baz=18,slow=33						
KRVT	**Keravat (AS076**	**31.73**	**286**	LR	LR	19 50 25.7	
	comp=Z,520nm,21.5s,baz=257,slow=33						
PMG	**Port Moresby**	**34.89**	**275**	LR	LR	19 52 48.6	
	comp=Z,324nm,18.6s,baz=106,slow=34						
STKA	**Stephens Creek**	**40.87**	**238**	P	**P**	**19 40 29.3**	**+0.3**
	11nm,0.9s,baz=70,slow=7.6,SNR=12						
STKA				LR	LR	19 55 17.7	
	comp=Z,357nm,21.9s,baz=56,slow=33						
	11nm,0.9s						
WRA	**Warramunga Arr**	**46.07**	**257**	P	**P**	**19 41 10.7**	**-0.4**
	0.4nm,0.7s,baz=91,slow=6.9,SNR=2.5						
WRA				LR	LR	19 58 37.3	
	comp=Z,234nm,20.9s,baz=86,slow=34						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**46.47**	**251**	P	**P**	**19 41 13.8**	**-0.6**
	1.3nm,0.7s,baz=84,slow=8.5,SNR=16						
ASAR				LR	LR	19 59 42.3	
	comp=Z,212nm,21.8s,baz=139,slow=35						
	1.3nm,0.7s						
GUMO	**Guam**	**46.71**	**305**	LR	LR	19 58 02.6	
	comp=Z,116nm,20.2s,baz=130,slow=32						
SIJI	**Sorong**	**52.41**	**281**	LR	LR	20 02 57.6	
	comp=Z,139nm,20.9s,baz=78,slow=34						
JCJ	**Chichijima**	**57.15**	**317**	LR	LR	20 02 10.5	
	comp=Z,219nm,20.0s,baz=138,slow=31						
DAV	**Davao City (W)**	**60.44**	**287**	LR	LR	20 07 52.3	
	comp=Z,78nm,18.4s,baz=191,slow=35						
NWAO	**Narrogin (SRO)**	**61.39**	**240**	LR	LR	20 08 54.2	
	comp=Z,211nm,19.3s,baz=322,slow=35						
VNDA	**Vanda**	**63.54**	**185**	LR	LR	20 05 53.8	
	comp=Z,51nm,20.9s,baz=36,slow=31						
RPN	**Rapa Nui**	**64.19**	**113**	LR	LR	20 03 38.1	
	comp=Z,124nm,20.9s,baz=271,slow=29						
MJAR	**Matsushiro Arr**	**65.99**	**322**	LR	LR	20 07 10.7	
	comp=Z,89nm,21.3s,baz=146,slow=31						
JOW	**Kunigami**	**66.96**	**308**	LR	LR	20 09 37.0	
	comp=Z,112nm,19.0s,baz=314,slow=33						
ASAJ	**Asahikawa**	**69.02**	**330**	LR	LR	20 07 59.8	
	comp=Z,190nm,21.9s,baz=160,slow=31						
PETK	**Petropavlovsk-**	**70.96**	**345**	LR	LR	20 12 17.4	
	comp=Z,129nm,18.9s,baz=163,slow=33						
KSRS	**Korea Array**	**73.00**	**317**	LR	LR	20 11 07.8	
	comp=Z,75nm,21.7s,baz=120,slow=32						
LEM	**Lembang**	**73.66**	**267**	LR	LR	20 19 04.6	
	comp=Z,60nm,18.0s,baz=108,slow=38						
USRK	**Ussuriysk Ar.**	**74.59**	**325**	LR	LR	20 12 01.6	
	comp=Z,141nm,21.4s,baz=125,slow=32						
QSPA	**South Pole Qui**	**75.18**	**180**	LR	LR	20 12 37.3	
	comp=Z,48nm,21.3s,baz=32,slow=32						
PFO	**Pinyon Flats O**	**75.54**	**49**	LR	LR	20 11 59.6	
	comp=Z,212nm,19.5s,baz=222,slow=31						
YBH	**Yreka Blue Hor**	**75.65**	**39**	P	**P**	**19 44 33.4**	**+1.2**
	2.1nm,0.8s,baz=137,slow=10.0,SNR=5.2						
YBH				LR	LR	20 08 57.3	
	comp=Z,275nm,21.3s,baz=282,slow=29						
	2.1nm,0.8s						
LPIG	**La Paz**	**76.21**	**60**	LR	LR	20 09 40.0	
	comp=Z,141nm,21.4s,baz=230,slow=29						
NVAR	**Mina Array Bea**	**76.67**	**44**	P	**P**	**19 44 38.5**	**+0.2**
	0.9nm,0.8s,baz=236,slow=7.2,SNR=6.3						
NVAR				LR	LR	20 09 34.8	
	comp=Z,139nm,22.0s,baz=272,slow=29						
	0.9nm,0.8s						
KLR	**Kul'dur**	**77.93**	**329**	LR	LR	20 13 18.1	
	comp=Z,236nm,21.6s,baz=176,slow=31						
MA2	**Magadan**	**78.49**	**344**	LR	LR	20 15 04.1	
	comp=Z,128nm,20.8s,baz=148,slow=32						
BBB	**Bella Bella**	**79.26**	**28**	LR	LR	20 13 12.7	
	comp=Z,182nm,19.1s,baz=242,slow=31						
ELK	**Elko**	**79.88**	**43**	LR	LR	20 15 23.7	
	comp=Z,113nm,18.5s,baz=248,slow=32						
NEW	**Newport**	**82.57**	**36**	LR	LR	20 13 26.5	
	comp=Z,135nm,20.1s,baz=155,slow=30						
DLBC	**Dease Lake**	**82.72**	**23**	LR	LR	20 17 09.9	
	comp=Z,246nm,18.3s,baz=288,slow=32						
ILAR	**Eielson Array**	**82.74**	**13**	P	**P**	**19 45 10.9**	**+0.6**
	1.2nm,0.7s,baz=226,slow=6.6,SNR=8.0						
ILAR				LR	LR	20 13 37.4	
	comp=Z,101nm,20.5s,baz=200,slow=30						
	1.2nm,0.7s						
ANMO	**Albuquerque**	**83.56**	**51**	LR	LR	20 14 36.2	
	comp=Z,196nm,20.5s,baz=236,slow=30						
TXAR	**Lajitas Array**	**83.67**	**58**	LR	LR	20 14 56.9	
	comp=Z,187nm,19.4s,baz=227,slow=30						
PDAR	**Pinedale Array**	**84.58**	**43**	P	**P**	**19 45 19.5**	**-1.1**
	0.3nm,0.8s,baz=234,slow=3.1,SNR=2.8						
PDAR				LR	LR	20 15 07.8	
	comp=Z,100nm,20.0s,baz=258,slow=30						
	0.3nm,0.8s						
PMSA	**Palmer Station**	**86.28**	**157**	LR	LR	20 14 11.8	
	comp=Z,62nm,20.4s,baz=250,slow=29						
MAW	**Mawson**	**87.00**	**199**	LR	LR	20 21 37.6	
	comp=Z,95nm,19.0s,baz=116,slow=34						
YAK	**Yakutsk**	**87.07**	**338**	LR	LR	20 18 33.9	
	comp=Z,62nm,20.9s,baz=90,slow=32						
CMIG	**Matias Romero**	**87.50**	**72**	LR	LR	20 15 47.9	
	comp=Z,56nm,19.9s,baz=250,slow=30						
CMAR	**Chiang Mai Arr**	**88.64**	**289**	LR	LR	20 21 03.3	

comp=Z,61nm,21.7s,baz=105,slow=33
YKA Yellowknife Ar 91.23 24 LR LR 20 21 30.4
comp=Z,196nm,18.5s,baz=256,slow=32
SONM Songino Array 91.79 319 LR LR 20 23 16.7
comp=Z,51nm,19.4s,baz=130,slow=33
PLCA Paso Flores 92.82 133 LR LR 20 19 21.2
comp=Z,64nm,20.1s,baz=210,slow=30
TIXI Tiksi 93.43 345 LR LR 20 29 09.4
comp=Z,72nm,18.1s,baz=204,slow=36
SNAA Sanae 93.61 178 LR LR 20 26 19.2
comp=Z,51nm,18.4s,baz=188,slow=34
ULM Lac du Bonnet 96.05 40 LR LR 20 22 22.2
comp=Z,216nm,20.8s,baz=288,slow=31
BRDH Bariadhala 96.33 292 LR LR 20 27 37.9
comp=Z,60nm,19.4s,baz=114,slow=34
ATAH Atahualpa 96.97 99 LR LR 20 19 58.7
comp=Z,76nm,21.1s,baz=245,slow=29
NNA Nana 97.08 104 LR LR 20 21 34.3
comp=Z,40nm,20.5s,baz=227,slow=30
GERES GERESS Array B 144.86 347 PKPbc **PKPdf 19 52 23.3 -0.8**
1.2nm,0.9s,baz=20,slow=4.3,SNR=10

---

*IDC **10** 19:39:06.8±0.9, 15°.20S×177°.34W, h0km, mb4.1/9, mbtmp4.1/9, Error ellipse: s-maj=40.7km s-min=19.3km az=146.0*

ISC 10 19:39:08.4±0.9, 15°.2S±0°.2×177°.3W±0°.2, h10km, n13, σ0s78/10, mb4.0/9, Fiji Islands region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.81 244**	*e*LR	LR	19 46 13.9	
	comp=Z,157nm,21.1s					
PPT2	**Papeete2**	**26.73 99**	*e*LR	LR	19 51 42.9	
	comp=Z,211nm,21.8s					
TBI	**Tubuai**	**27.50 111**	*e*LR	LR	19 52 00.3	
	comp=Z,2μm,25.8s					
KRVT	**Keravat (AS076**	**32.02 287**	P	**P**	**19 45 35.9 +0.5**	
	18nm,0.7s,baz=115,slow=4.2,SNR=4.3					
	18nm,0.7s					
STKA	**Stephens Creek**	**40.87 239**	P	**P**	**19 46 51.0 +0.3**	
	6.4nm,0.9s,baz=79,slow=9.2,SNR=8.5					
	6.4nm,0.9s					
WRA	**Warramunga Arr**	**46.19 257**	P	**P**	**19 47 33.5 -0.3**	
	1.0nm,1.0s,baz=89,slow=7.6,SNR=5.1					
	1.0nm,1.0s					
ASAR	**Alice Springs**	**46.56 252**	P	**P**	**19 47 36.0 -0.8**	
	1.5nm,0.8s,baz=86,slow=8.2,SNR=14					
	1.5nm,0.8s					
QSPA	**South Pole Qui**	**74.85 180**	P	**P**	**19 50 49.3 +0.3**	
	1.4nm,0.8s,baz=309,slow=2.5,SNR=4.1					
	1.4nm,0.8s					
YBH	**Yreka Blue Hor**	**75.78 39**	P	**P**	**19 50 55.5 +0.8**	
	2.6nm,1.1s,baz=202,slow=8.9,SNR=4.0					
	2.6nm,1.1s					
NVAR	**Mina Array Bea**	**76.77 44**	P	**P**	**19 50 59.6 -0.9**	
	1.0nm,0.8s,baz=226,slow=10,SNR=5.7					
	1.0nm,0.8s					
ILAR	**Eielson Array**	**83.02 13**	P	**P**	**19 51 33.4 -0.1**	
	0.9nm,0.9s,baz=224,slow=5.4,SNR=5.0					
	0.9nm,0.9s					
PDAR	**Pinedale Array**	**84.68 43**	P	**P**	**19 51 43.8 +1.0**	
	0.6nm,0.9s,baz=217,slow=3.7,SNR=4.3					
	0.6nm,0.9s					
GERES	**GERESS Array B 145.23 347**		PKPbc	**PKPdf**	**19 58 45.7 -0.8**	
	0.3nm,0.4s,baz=347,slow=4.1,SNR=5.0					

---

*IDC **10** 19:39:22.5±1.2, 6°.18S×128°.69E, h301km±18km, mb3.0/2, mbtmp4.1/6, Error ellipse: s-maj=23.8km s-min=13.2km az=115.0*

*NEIC **10** 19:39:23.8±1.0, 6°.23S±0°.05×128°.68E±0°.10, h306km±14km, mb4.0/3, Error ellipse: s-maj=14.4km s-min=6.7km az=106.0*

ISC 10 19:39:23.5±0.7, 6°.23S±0°.06×128°.71E±0°.06, h322km, n30, σ1s70/37, mb3.5/3, Banda Sea

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.07 35**	P	**Pn**	**19 40 14.6 +1.8**	
SAUI	**Saumlaki**	**3.11 124**	Pn	**Pn**	**19 40 22.5 +0.6**	
SAUI				**S**	**19 41 05.1 -3.4**	
SAUI	**Saumlaki**	**3.11 124**	P	**Pn**	**19 40 23.3 +1.5**	
FAKI	**Fak Fak**	**4.82 47**	Pn	**Pn**	**19 40 40.3 +0.4**	
FAKI				**S**	**19 41 37.8 -3.6**	
FAKI	**Fak Fak**	**4.82 47**	P	**Pn**	**19 40 40.5 +0.6**	
SANI	**Sanana**	**4.96 327**	P	**Pn**	**19 40 42.4 +1.0**	
SOEI	**Soe**	**5.62 231**	Pn	**Pn**	**19 40 48.8 -0.4**	
SOEI				**S**	**19 41 55.6 -2.8**	
SOEI	**Soe**	**5.62 231**	P	**Pn**	**19 40 49.0 -0.2**	
SIJI	**Sorong**	**5.90 26**	P	**Pn**	**19 40 52.1 -0.3**	
	4.6nm,0.4s,baz=180,slow=20,SNR=6.8					
SIJI			S	**S**	**19 42 00.2 -3.9**	
	13nm,0.2s,baz=194,slow=8.3,SNR=11					
BATI	**Baumata**	**6.37 231**	P	**Pn**	**19 40 57.7 -0.2**	
	16nm,0.4s,baz=46,slow=3.2,SNR=14					
BATI			S	**S**	**19 42 11.2 -3.0**	
	16nm,0.5s,baz=53,slow=18,SNR=12					
MTN	**Manton Dam**	**7.00 160**	Pn	**Pn**	**19 41 05.0 -0.2**	
MTN	**Manton Dam**	**7.00 160**	P	**Pn**	**19 41 05.4 +0.2**	
KDU	**Kakadu**	**7.42 150**	P	**Pn**	**19 41 10.4 +0.1**	
KAPI	**Kappang**	**8.99 277**	P	**Pn**	**19 41 30.4 +1.0**	
WB0	**Warramunga Arr**	**14.55 158**	P	**P**	**19 42 35.0 +0.5**	
WRAB	**Tennant Creek**	**14.69 159**	P	**P**	**19 42 36.8 +0.7**	
WRA	**Warramunga Arr**	**14.69 159**	P	**P**	**19 42 36.7 +0.6**	
	2.1nm,0.4s,baz=340,slow=12,SNR=40					
WRA			S	**S**	**19 45 12.7 -3.4**	
	0.7nm,0.6s,baz=341,slow=22,SNR=5.7					
WRA	**Warramunga Arr**	**14.69 159**	P	**P**	**19 42 35.3 -0.8**	
WB2	**Warramunga Arr**	**14.70 159**	P	**P**	**19 42 36.6 +0.5**	
WR0	**Warramunga Arr**	**14.78 158**	P	**P**	**19 42 37.7 +0.6**	
COEN	**Coen**	**16.17 119**	P	**P**	**19 42 54.1 +1.7**	
COEN			IAmb	IAmb	19 43 17.5	
	comp=Z,16nm,1.5s					
COEN	**Coen**	**16.17 119**	P	**P**	**19 42 54.0 +1.7**	
QIS	**Mount Isa**	**17.74 144**	P	**P**	**19 43 10.6 +1.3**	
AS31	**Alice Springs**	**18.05 164**	P	**P**	**19 43 13.4 +0.9**	
AS31			IAmb	IAmb	19 43 14.6	
	comp=Z,4.0nm,0.6s					
ASAR	**Alice Springs**	**18.05 164**	P	**P**	**19 43 13.7 +1.2**	
	comp=Z,7.9nm,0.4s,baz=346,slow=12,SNR=163					
ASAR			S	**S**	**19 46 21.4 -1.2**	
	comp=Z,1.9nm,0.9s,baz=343,slow=21,SNR=12					
ASAR	**Alice Springs**	**18.05 164**	P	**P**	**19 43 13.3 +0.8**	
WRKA	**Warakurna**	**18.71 181**	P	**P**	**19 43 20.3 +0.8**	
STKA	**Stephens Creek**	**28.22 156**	P	**P**	**19 44 48.2 +0.7**	
	comp=Z,1.5nm,0.7s,baz=1.9,slow=11,SNR=4.9					
	comp=Z,1.5nm,0.7s					
MKAR	**Makanchi Array**	**66.88 327**	P	**P**	**19 49 42.3 +0.6**	
	comp=Z,0.2nm,0.6s,baz=114,slow=7.3,SNR=2.6					
	comp=Z,0.2nm,0.6s					
VNDA	**Vanda**	**73.37 173**	P	**P**	**19 50 22.4 +2.2**	
VNDA			IAmb	IAmb	19 50 29.5	
	comp=Z,2.1nm,1.4s					

---

*JMA **10** 19:59:07.5±0.1, 24°.1N±0°.8×122°.2E±0°.2, h51km±1km, MV2.1/10, TAIWAN REGION*

*TAP **10** 19:59:07.7, 24°.22N×122°.19E, h54km, ML3.1, C*

ISC 10 19:59:04.6±1.0, 24°.14N±0°.02×122°.26E±0°.02, h12km±9km, n136, σ0s73/214, 1C-10D, Taiwan region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
ENA	**Nanau**	**0.56 301**	⇓*i*P	**Pn**	**19 59 19.0 +0.6**	
	baz=304					
ENA			*i* S	**Sn**	**19 59 27.4 -0.3**	
	baz=304					
TWC	**Suao**	**0.60 321**	P	**Pn**	**19 59 19.4 +0.3**	
	baz=325					
TWC			S	**Sb**	**19 59 27.1 +1.6**	
	baz=325					
NACB	**Ninganchiao**	**0.61 273**	⇓*i*P	**Pn**	**19 59 19.4 +0.2**	
	baz=266					
NACB			S	**Sb**	**19 59 27.9 +2.0**	
	baz=266					
TWD	**Chiawan**	**0.61 264**	⇓*i*P	**Pn**	**19 59 19.5 +0.3**	
	baz=249					
TWD			*i* S	**Sn**	**19 59 28.2 -0.8**	
	baz=249					
HWA	**Hwalien**	**0.62 255**	P	**Pn**	**19 59 20.3 +0.9**	
	baz=246					
HWA			S	**Sn**	**19 59 29.8 +0.5**	
	baz=246					
TEYL	**Yanliau Villag**	**0.67 246**	*e*P	**Pn**	**19 59 20.6 +0.6**	
	baz=236					
TEYL			S	**Sn**	**19 59 30.5 +0.1**	
	baz=236					
JYNG	**Yonagunijimaku**	**0.69 63**	P	**Pn**	**19 59 21.9 +1.5**	
JYNG			*e*S	**Sn**	**19 59 32.6 +1.5**	
ETLH	**Xiulin Townshi**	**0.72 275**	⇓*i*P	**Pn**	**19 59 20.9 +0.1**	
	baz=270					
ETLH			S	**Sb**	**19 59 30.7 +1.6**	
	baz=270					
ETM	**Tongmen**	**0.73 256**	*e*P	**Pn**	**19 59 21.2 +0.4**	
	baz=249					
YOJ	**Yonaguni jima**	**0.75 65**	*i* P	**Pn**	**19 59 22.9 +1.7**	
	baz=71					
YOJ			S	**Sn**	**19 59 33.9 +1.3**	
	baz=71					
YOJ	**Yonaguni jima**	**0.75 65**	P	**Pn**	**19 59 22.9 +1.7**	
YOJ			S	**Sn**	**19 59 33.8 +1.3**	
EGS		**0.76 337**	*e*P	**Pn**	**19 59 21.6 +0.4**	
	baz=340					
EGS			*e*S	**Sn**	**19 59 31.6 -1.1**	
	baz=340					
LATG	**Datong**	**0.78 300**	⇓P	**Pn**	**19 59 21.8 +0.1**	
	baz=298					
LATG			S	**Sb**	**19 59 31.8 +1.0**	
	baz=298					
TEGC	**Jichi Village**	**0.79 237**	*e*P	**Pn**	**19 59 22.6 +0.9**	
	baz=222					
TWE	**Neicheng**	**0.79 317**	*i* P	**Pn**	**19 59 22.2 +0.5**	
	baz=311					
TWE			S	**Sb**	**19 59 32.1 +1.0**	
	baz=311					
ENTT	**Nioudou**	**0.81 308**	P	**Pb**	**19 59 21.3 +0.7**	
	baz=307					
ENTT			*e*S	**Sb**	**19 59 31.7 +0.2**	
	baz=307					
ESL	**Shilin**	**0.83 247**	P	**Pn**	**19 59 22.5 +0.3**	
	baz=240					
NNSB	**Datong**	**0.85 290**	P	**Pn**	**19 59 22.7 +0.1**	
	baz=286					
NNSB			*e*S	**Sb**	**19 59 33.6 +0.7**	
	baz=286					
NNSH	**Datong**	**0.85 290**	*e*P	**Pb**	**19 59 21.8 +0.3**	
	baz=286					
NNSH			*e*S	**Sg**	**19 59 32.9 +0.6**	
	baz=286					
NNS	**Nan Shan**	**0.86 290**	*e*P	**Pb**	**19 59 21.7 0.0**	
	baz=287					
NNS			S	**Sg**	**19 59 33.0 +0.3**	
	baz=287					
FUSB	**Fushanzhiwuyua**	**0.87 315**	P	**Pn**	**19 59 23.4 +0.5**	
	baz=307					
FUSB			S	**Sb**	**19 59 34.6 +1.1**	
	baz=307					
EGFH	**Guangfu**	**0.90 239**	*e*P	**Pn**	**19 59 23.8 +0.6**	
	baz=226					
EGFH			*e*S	**Sn**	**19 59 35.7 -0.4**	
	baz=226					
TWB1	**Santiao Chiao**	**0.90 344**	*i* P	**Pn**	**19 59 23.1 -0.1**	
	baz=347					
TWB1			S	**Sg**	**19 59 33.6 -0.1**	
	baz=347					
WHF	**Hehuan Shan**	**0.91 270**	⇓*i*P	**Pn**	**19 59 23.8 0.0**	
	baz=256					
WHF			S	**Sb**	**19 59 35.7 +0.8**	
	baz=256					
TIPB	**Shuangxi**	**0.92 334**	P	**Pn**	**19 59 23.7 +0.2**	
	baz=344					
TIPB			*e*S	**Sb**	**19 59 34.9 +0.1**	
	baz=344					
FUSS	**Fushou**	**0.94 277**	*e*P	**Pn**	**19 59 24.3 +0.4**	
	baz=272					
FUSS			*e*S	**Sb**	**19 59 36.1 +0.6**	
	baz=272					
NWLT	**Wulai**	**0.94 313**	*e*P	**Pb**	**19 59 23.3 +0.4**	
	baz=302					
NWLT			*e*S	**Sg**	**19 59 35.1 +0.1**	
	baz=302					
YHNB	**Yeheng**	**0.96 303**	⇓*i*P	**Pn**	**19 59 24.4 +0.3**	
	baz=301					
YHNB			S	**Sg**	**19 59 35.9 +0.1**	
	baz=301					
NSK	**Sanguang**	**0.98 303**	⇓*i*P	**Pg**	**19 59 23.6 0.0**	
	baz=301					
NSK			S	**Sg**	**19 59 35.5 -1.0**	
	baz=301					
CHGB	**Renai**	**1.00 266**	⇓*i*P	**Pn**	**19 59 25.1 +0.3**	
	baz=252					
CHGB			S	**Sg**	**19 59 37.5 +0.5**	
	baz=252					
TWT	**Tachien**	**1.00 277**	P	**Pn**	**19 59 25.6 +0.9**	
	baz=272					
TWT			*e*S	**Sb**	**19 59 37.7 +0.4**	
	baz=272					
HGSD	**Ruisui**	**1.00 230**	*e*P	**Pn**	**19 59 25.6 +1.0**	
	baz=220					
HGSD			*e*S	**Sn**	**19 59 38.6 -0.1**	
	baz=220					
SXI1	**Grass Mountain**	**1.01 340**	⇑*i*P	**Pn**	**19 59 24.7 -0.1**	
	baz=350					
SXI1			S	**Sg**	**19 59 37.0 -0.4**	
	baz=350					
TDCB	**Techi**	**1.01 277**	P	**Pn**	**19 59 25.5 +0.6**	
	baz=273					
TDCB			S	**Sg**	**19 59 37.9 +0.4**	
	baz=273					
NWF	**Wu-fen Shan**	**1.02 335**	*e*P	**Pn**	**19 59 25.0 0.0**	
	baz=346					
NWF			*e*S	**Sg**	**19 59 37.2 -0.6**	
	baz=346					
WFSB	**Wu-fen Shan**	**1.02 335**	P	**Pn**	**19 59 25.1 +0.2**	
	baz=346					
WFSB			*e*S	**Sg**	**19 59 37.5 -0.3**	
	baz=346					
TWA	**Mucha**	**1.04 324**	*e*P	**Pn**	**19 59 25.6 +0.5**	
	baz=324					
TWA			*e*S	**Sb**	**19 59 38.6 +0.4**	
	baz=324					
WUSB	**Renai**	**1.06 262**	P	**Pn**	**19 59 26.0 +0.5**	
	baz=252					
WUSB			S	**Sg**	**19 59 39.0 +0.2**	
	baz=252					
NHDH	**Xindian Distri**	**1.06 321**	P	**Pn**	**19 59 26.2 +0.9**	
	baz=320					
NHDH			*e*S	**Sb**	**19 59 39.1 +0.3**	
	baz=320					
EHY	**Hungye**	**1.07 234**	*e*P	**Pn**	**19 59 26.0 +0.5**	
	baz=229					
EHY			*e*S	**Sg**	**19 59 38.9 -0.3**	
	baz=229					
TATO	**Taipei**	**1.09 320**	*e*P	**Pn**	**19 59 26.2 +0.4**	
	baz=319					
TATO			*e*S	**Sg**	**19 59 39.8 -0.1**	
	baz=319					
NHY	**Taipei**	**1.09 325**	*e*P	**Pg**	**19 59 25.2 -0.5**	
	baz=338					
VWDT	**VWDT**	**1.10 250**	⇓*i*P	**Pn**	**19 59 26.8 +0.9**	
	baz=237					
VWDT			*e*S	**Sg**	**19 59 40.1 0.0**	
	baz=237					
TNOU	**National Taiwa**	**1.10 336**	*e*P	**Pb**	**19 59 25.6 0.0**	
	baz=346					
ECBN	**Changbin**	**1.11 222**	*e*P	**Pg**	**19 59 26.0 +0.1**	
	baz=209					
TAP1	**Taipei**	**1.12 323**	*e*P	**Pn**	**19 59 26.7 +0.5**	
	baz=323					
TAP	**Taipei**	**1.13 323**	*e*P	**Pn**	**19 59 26.7 +0.4**	
	baz=323					
NFF	**Wufeng Townshi**	**1.15 295**	*e*P	**Pb**	**19 59 26.6 0.0**	
	baz=293					
NFF			*e*S	**Sb**	**19 59 40.5 -1.1**	
	baz=293					
YULB	**Yu-li**	**1.16 230**	*e*P	**Pn**	**19 59 27.0 +0.3**	
	baz=236					
EYUL	**Yuli**	**1.17 228**	*e*P	**Pg**	**19 59 27.9 +0.7**	
	baz=234					
EYUL			*e*S	**Sg**	**19 59 43.0 +0.5**	
	baz=234					
YM01	**YM01**	**1.18 328**	*e*P	**Pb**	**19 59 27.1 0.0**	
	baz=339					
YM01			*e*S	**Sb**	**19 59 40.9 -1.5**	
	baz=339					
TWF1	**Yuli**	**1.18 229**	*e*P	**Pg**	**19 59 27.7 +0.3**	
	baz=235					
WPL	**Puli Township**	**1.20 264**	P	**Pg**	**19 59 28.1 +0.4**	
	baz=256					
WPL			*e*S	**Sb**	**19 59 43.2 +0.3**	
	baz=256					
YM08	**YM08**	**1.21 330**	*e*P	**Pb**	**19 59 27.1 -0.4**	
	baz=339					
YM08			*e*S	**Sb**	**19 59 40.4 -2.7**	
	baz=339					
WHP	**Taichung City**	**1.21 277**	*e*P	**Pg**	**19 59 28.8 +0.8**	
	baz=267					
NJD	**Zhudong**	**1.22 299**	*e*P	**Pg**	**19 59 28.5 +0.3**	
	baz=297					
NJD			*e*S	**Sb**	**19 59 44.0 +0.5**	
	baz=297					
NTY	**Taoyuan**	**1.23 314**	*e*P	**Pn**	**19 59 27.5 -0.2**	
	baz=322					
DPDB	**Guoxing**	**1.23 265**	P	**Pg**	**19 59 28.7 +0.5**	
	baz=257					
TWS1	**Kuangyinshan**	**1.23 321**	*e*P	**Pn**	**19 59 27.8 +0.1**	
	baz=331					
TWS1			*e*S	**Sb**	**19 59 43.5 -0.1**	
	baz=331					
WCS	**Beigang Elemen**	**1.24 266**	*e*P	**Pn**	**19 59 27.8 0.0**	
	baz=259					
WCS			*e*S	**Sb**	**19 59 43.5 -0.4**	
	baz=259					
LIOB	**Emei**	**1.24 294**	*e*P	**Pg**	**19 59 29.0 +0.4**	
	baz=292					
LIOB			*e*S	**Sb**	**19 59 44.3 +0.2**	
	baz=292					
SSLB	**Suanglung**	**1.25 254**	P	**Pb**	**19 59 28.5 +0.3**	
	baz=250					
SSLB			*e*S	**Sb**	**19 59 43.2 -1.1**	
	baz=250					
NSTT	**Nanjuang**	**1.25 293**	P	**Pg**	**19 59 28.9 +0.2**	
	baz=291					
NSTT			S	**Sb**	**19 59 44.1 -0.2**	
	baz=291					
NTST	**Danshui**	**1.26 324**	*e*P	**Pb**	**19 59 28.4 0.0**	
	baz=335					
NTST			*e*S	**Sb**	**19 59 44.2 -0.3**	
	baz=335					
SMLT	**Sun Moon Lake**	**1.27 259**	P	**Pg**	**19 59 29.3 +0.2**	
	baz=249					
SMLT			S	**Sb**	**19 59 44.6 -0.4**	
	baz=249					
NCUH	**Zhongli**	**1.28 310**	*e*P	**Pn**	**19 59 28.6 +0.2**	
	baz=309					
TWY	**Chenhua**	**1.28 332**	*e*P	**Pb**	**19 59 28.8 +0.1**	
	baz=344					
FULB	**Fuli**	**1.29 224**	*e*P	**Pb**	**19 59 29.2 +0.2**	
	baz=210					
FULB			*e*S	**Sb**	**19 59 45.3 -0.2**	
	baz=210					
HSN1	**Hsinchu**	**1.30 299**	*e*P	**Pg**	**19 59 29.6 0.0**	
	baz=298					
TYC	**Yuchr**	**1.31 260**	P	**Pb**	**19 59 29.6 +0.4**	
	baz=250					
TYC			*e*S	**Sb**	**19 59 45.3 -0.7**	
	baz=250					
CHKT	**Chengkung**	**1.32 219**	*e*P	**Pn**	**19 59 29.1 +0.1**	
	baz=206					
CHKT			*e*S	**Sb**	**19 59 44.6 -1.8**	
	baz=206					
IRIF	**Iriomote-Funau**	**1.35 82**	P	**Pg**	**19 59 31.2 +0.6**	
IRIF			*e*S	**Sg**	**19 59 48.4 +0.2**	
WHYT	**Xinyi Township**	**1.36 251**	*e*P	**Pg**	**19 59 31.0 +0.1**	
	baz=242					
WHYT			*e*S	**Sb**	**19 59 47.3 -0.3**	
	baz=242					
YUS	**Yu-Shan**	**1.36 242**	*e*P	**Pg**	**19 59 31.1 +0.2**	
	baz=238					
TWQ1	**Liyutan**	**1.38 279**	*e*P	**Pg**	**19 59 30.9 -0.2**	
	baz=276					
NSY	**Sanyi**	**1.40 282**	*e*P	**Pg**	**19 59 31.4 -0.1**	
	baz=279					
NMLH	**Miaoli**	**1.40 287**	*e*P	**Pb**	**19 59 30.6 -0.1**	
	baz=284					
ECS	**Chishang**	**1.42 223**	*e*P	**Pg**	**19 59 32.0 +0.2**	
	baz=230					
WJS	**Zhushan**	**1.44 258**	*e*P	**Pg**	**19 59 32.5 +0.2**	
	baz=250					
WJS			*e*S	**Sb**	**19 59 50.5 +0.7**	
	baz=250					
TCU	**Taichung**	**1.45 271**	*e*P	**Pb**	**19 59 32.1 +0.5**	
	baz=267					
EDH	**Donghe**	**1.46 217**	*e*P	**Pb**	**19 59 32.1 +0.3**	
	baz=207					
EDH			*e*S	**Sn**	**19 59 47.9 -2.0**	
	baz=207					
WNT1	**Nantou City**	**1.47 261**	*e*P	**Pg**	**19 59 33.1 +0.3**	
	baz=258					
WNT	**Mingjian**	**1.47 260**	*e*P	**Pg**	**19 59 33.0 +0.1**	
	baz=256					
ALS	**Alishan**	**1.48 245**	*e*P	**Pg**	**19 59 32.9 -0.1**	
	baz=234					
ALS			*e*S	**Sn**	**19 59 50.5 -0.3**	
	baz=234					
ELDTW	**Lidau**	**1.48 231**	*e*P	**Pb**	**19 59 32.2 0.0**	
	baz=227					
ELDTW			*e*S	**Sn**	**19 59 49.0 -1.7**	
	baz=227					
CHN5	**Tsauling**	**1.55 250**	*e*P	**Pb**	**19 59 33.1 -0.3**	
	baz=246					
WYL	**Yuanlin Townsh**	**1.55 264**	*e*P	**Pb**	**19 59 33.4 +0.1**	
	baz=261					
WYL			*e*S	**Sb**	**19 59 53.9 +1.0**	
	baz=261					
WCHH	**Zhanghua**	**1.56 268**	*e*P	**Pb**	**19 59 33.5 0.0**	
	baz=265					
JKRS	**Kuro-shima**	**1.60 86**	P	**Pg**	**19 59 35.2 -0.1**	
JKRS			*e*S	**Sg**	**19 59 55.6 -0.5**	
LONT	**Longtian**	**1.61 220**	*e*P	**Pg**	**19 59 35.2 -0.4**	
	baz=217					
WGK	**Gukeng**	**1.62 254**	*e*P	**Pb**	**19 59 35.1 +0.5**	
	baz=240					
WGK			*e*S	**Sb**	**19 59 56.3 +1.3**	
	baz=240					
LDUT	**Ludao**	**1.63 207**	*e*P	**Pb**	**19 59 35.2 +0.4**	
	baz=204					
WDLH	**Douliu**	**1.64 254**	*e*P	**Pb**	**19 59 35.3 +0.4**	
	baz=251					
STYH	**Taoyuan**	**1.67 235**	*e*P	**Pn**	**19 59 34.7 +0.9**	
	baz=226					
STYH			*e*S	**Sn**	**19 59 54.1 -1.1**	
	baz=226					
WCKO	**Fanlu**	**1.67 246**	P	**Pb**	**19 59 35.3 -0.1**	
	baz=243					
WCKO			S	**Sn**	**19 59 56.0 +0.8**	
	baz=243					
STYT	**Tauyuan**	**1.69 235**	*e*P	**Pb**	**19 59 35.8 0.0**	
	baz=225					
STYT			*e*S	**Sn**	**19 59 55.7 -0.1**	
	baz=225					
TWGBT	**Beinan**	**1.71 220**	*e*P	**Pn**	**19 59 34.6 +0.3**	
	baz=225					
TWGBT			*e*S	**Sn**	**19 59 54.2 -1.9**	
	baz=225					
TWG	**Pinlang**	**1.71 220**	*e*P	**Pn**	**19 59 35.0 +0.7**	
	baz=217					
TPUB	**Ta-pu**	**1.71 241**	*e*P	**Pb**	**19 59 36.4 +0.2**	
	baz=238					
TPUB			*e*S	**Sn**	**19 59 57.0 +0.7**	
	baz=238					
CHN4	**Tsaushan**	**1.72 243**	P	**Pb**	**19 59 36.0 -0.3**	
	baz=232					
CHN4			*e*S	**Sn**	**19 59 57.5 +1.0**	
	baz=232					
JIJ	**Ishigaki jima**	**1.73 82**	P	**Pb**	**19 59 36.2 -0.2**	
JIJ			*e*S	**Sb**	**19 59 57.5 -0.6**	
WRL	**Guolierlin Hig**	**1.74 262**	*e*P	**Pn**	**19 59 35.2 +0.4**	
	baz=259					
WTP	**Ta-pu**	**1.75 240**	*e*P	**Pb**	**19 59 37.1 +0.3**	
	baz=237					
WTP			*e*S	**Sn**	**19 59 58.6 +1.2**	
	baz=237					
WTK	**Tuku**	**1.77 256**	*e*P	**Pb**	**19 59 36.6 -0.6**	
	baz=253					
CHY	**Chiayi**	**1.80 250**	*e*P	**Pb**	**19 59 37.2 -0.4**	
	baz=246					
TWK	**Hsinying**	**1.85 242**	*e*P	**Pb**	**19 59 38.2 -0.2**	
	baz=239					
CHN1	**Nanshi**	**1.85 239**	*e*P	**Pb**	**19 59 38.5 0.0**	
	baz=237					
CHN1			*e*S	**Sb**	**20 00 01.3 -0.4**	
	baz=237					
SGST	**Jiashian**	**1.87 236**	*e*P	**Pb**	**19 59 38.0 -0.7**	
	baz=233					
SGST			*e*S	**Sn**	**20 00 01.3 +1.2**	
	baz=233					
SLGT	**Liugui**	**1.87 233**	*e*P	**Pb**	**19 59 38.0 -0.8**	
	baz=230					
JISG	**Ishigakijimahi**	**1.92 76**	P	**Pb**	**19 59 38.7 -0.9**	
JISG			*e*S	**Sn**	**20 00 01.6 +0.3**	

ECL	**Taimali** baz=216	**1.95**	**218**	*e*P	**Pb**	**19 59 39.8 -0.3**
WSL	**Shuilin Townsh** baz=250	**1.96**	**252**	*e*P	**Pn**	**19 59 38.2 +0.4**
WSL	baz=250			*e*S	**Sn**	**20 00 02.9 +0.6**
CHN8	**Yiju** baz=245	**2.04**	**248**	*e*P	**Pn**	**19 59 40.2 +1.3**
SSD	**Sandimen** baz=225	**2.04**	**227**	*e*P	**Pb**	**19 59 41.1 -0.6**
SSD	baz=225			*e*S	**Sn**	**20 00 05.6 +1.2**
TSMG	**Majia** baz=224	**2.06**	**226**	*e*P	**Pb**	**19 59 41.8 -0.3**
MASBT	**Mashibuluo** baz=223	**2.14**	**225**	*e*P	**Pb**	**19 59 42.2 -1.1**
MASBT	baz=223			*e*S	**Sn**	**20 00 07.6 +0.9**
EAST	**Anshuo** baz=215	**2.18**	**217**	*e*P	**Pb**	**19 59 43.0 -1.1**
TAWH	**Dawu Township** baz=213	**2.19**	**215**	*e*P	**Pb**	**19 59 43.9 -0.4**
LYUB	**Lan-yu** baz=195	**2.22**	**197**	*e*P	**Pn**	**19 59 40.5 -0.9**
TSCK	**Chigu Township** baz=242	**2.23**	**244**	*e*P	**Pn**	**19 59 42.1 +0.7**
JTJ	**Tarama**	**2.28**	**77**	P	**Pb**	**19 59 44.2 -1.5**
SCZT	**Fangliau** baz=216	**2.32**	**221**	*e*P	**Pb**	**19 59 45.2 -1.2**
PHUB	**P'eng-hu** baz=254	**2.54**	**256**	*e*P	**Pn**	**19 59 46.0 +0.3**
PNG	**Penghu** baz=255	**2.54**	**258**	*e*P	**Pn**	**19 59 46.0 +0.2**
VWUC	**VWUC** baz=287	**2.70**	**289**	*e*P	**Pn**	**19 59 47.2 -0.7**
VCHM	**Qimei** baz=249	**2.76**	**251**	*e*P	**Pn**	**19 59 49.7 +1.0**
MATB	**Ma-tsu** baz=312	**2.90**	**314**	*e*P	**Pn**	**19 59 50.5 -0.3**
MSUT	**Lienchiang** baz=313	**2.93**	**314**	*e*P	**Pn**	**19 59 50.4 -0.7**
PTMZ	**Houxiangcun** baz=286	**3.00**	**288**	*e*P	**Pn**	**19 59 50.9 -1.1**
LYJJ	**Jianjiangzhen** baz=316	**3.30**	**317**	*e*P	**Pn**	**19 59 55.8 -0.3**
XPSS	**Dashiqiu** baz=336	**3.35**	**326**	*e*P	**Pn**	**19 59 56.1 -0.7**
KNM	**Kinmen** baz=264	**3.51**	**275**	*e*P	**Pn**	**19 59 59.6 +0.6**
MHZQ	**Yeshan** baz=302	**3.52**	**304**	*e*P	**Pn**	**19 59 57.9 -1.4**
KNMB	**Chin-men Tao** baz=265	**3.55**	**276**	*e*P	**Pn**	**19 59 58.6 -1.0**
AXDP	**Jialang** baz=280	**3.98**	**282**	*e*P	**Pn**	**20 00 05.0 -0.6**
ZPLA	**Ao Xicun** baz=266	**4.13**	**268**	*e*P	**Pn**	**20 00 06.5 -1.2**

ROM 10 20:00:26.0±0.1, 42.738N±0.004×13.131E±0.007, h14km, ML2.9/39, 27C-28D, Error ellipse: s-maj=0.4km s-min=0.4km az=90.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1213	**Norcia, Frazio**	**0.01**	**196**	P	Pg	20 00 28.8	+0.3
T1213				S	Sg	20 00 30.5	+0.3
T1213				AML	AML		
T1213				AML	AML		
T1213				AML	AML		
T1213				AML	AML		
T1213				AML	AML		
T1213				AML	AML		
T1213				AML	AML		
T1213				AML	AML		
T1213				AML	AML		
T1213	**Norcia, Frazio**	**0.01**	**196**	P	Pg	20 00 28.8	+0.3
T1212	**Cascia, Frazio**	**0.07**	**282**	P	Pg	20 00 29.1	+0.3
T1212				AML	AML		
	comp=N,18550μm,0.6s						
T1212				AML	AML		
	comp=N,19300μm,0.6s						
T1212				AML	AML		
	comp=E,22250μm,0.4s						
T1212				AML	AML		
	comp=N,18500μm,0.6s						
T1212				AML	AML		
	comp=E,21550μm,0.4s						
T1212				AML	AML		
	comp=N,19300μm,0.6s						
T1212				AML	AML		
	comp=E,22250μm,0.4s						
T1212				AML	AML		
	comp=E,21550μm,0.4s						
T1212	**Cascia, Frazio**	**0.07**	**282**	P	Pg	20 00 29.1	+0.3
T1218	**Civita (PG)**	**0.07**	**190**	⇑P	Pg	20 00 29.4	+0.5
T1218				AML	AML		
	comp=E,37900μm,0.3s						
T1218				AML	AML		
	comp=N,34650μm,1.0s						
T1218				AML	AML		
	comp=N,34950μm,0.4s						
T1218				AML	AML		
	comp=E,37900μm,0.3s						
T1218				AML	AML		
	comp=E,36100μm,0.3s						
T1218				AML	AML		
	comp=N,34950μm,0.4s						
T1218				AML	AML		
	comp=E,36100μm,0.3s						
T1218				AML	AML		
	comp=N,34600μm,1.0s						
T1218	**Civita (PG)**	**0.07**	**190**	P	Pg	20 00 29.4	+0.5
T1218				S	Sg	20 00 31.3	+0.5
T1201	**Domo (RI)**	**0.12**	**132**	P	Pb	20 00 30.1	-0.1
T1245	**Castelsantange**	**0.13**	**20**	P	Pg	20 00 29.7	+0.1
T1245				S	Sg	20 00 32.2	+0.2
T1245				AML	AML		
	comp=E,8910μm,1.0s						
T1245				AML	AML		
	comp=N,24800μm,1.1s						
T1245				AML	AML		
	comp=E,8905μm,1.0s						
T1245				AML	AML		
	comp=E,18150μm,1.0s						
T1245				AML	AML		
	comp=N,26900μm,1.1s						
T1245	**Castelsantange**	**0.13**	**20**	P	Pg	20 00 29.7	+0.1
T1245				S	Sg	20 00 31.8	-0.2
T1245				AML	AML		
	comp=E,8910μm,1.0s						
T1245				AML	AML		
	comp=N,26900μm,1.1s						
T1245				AML	AML		
	comp=E,18150μm,1.0s						
T1245				AML	AML		
	comp=N,24800μm,1.1s						
T1245				AML	AML		
	comp=E,8895μm,1.0s						
T1245				AML	AML		
	comp=N,26900μm,1.1s						
T1245				AML	AML		
	comp=E,18150μm,1.0s						
T1245				AML	AML		
	comp=N,24800μm,1.1s						
T1245				AML	AML		
	comp=E,8905μm,1.0s						
T1245				AML	AML		
	comp=N,26900μm,1.1s						
T1245				AML	AML		
	comp=E,18150μm,1.0s						
T1245				AML	AML		
	comp=N,24800μm,1.1s						
T1245				AML	AML		
	comp=E,8905μm,1.0s						
T1245				AML	AML		
	comp=E,18150μm,1.0s						
T1245				AML	AML		
	comp=N,26900μm,1.1s						
T1245				AML	AML		
	comp=N,24800μm,1.1s						
LNSS	**Leonessa**	**0.15**	**206**	⇑P	Pb	20 00 30.6	-0.1
LNSS				AML	AML		
	comp=E,4805μm,0.4s						
LNSS				AML	AML		
	comp=N,16700μm,0.2s						
LNSS	**Leonessa**	**0.15**	**206**	P	Pb	20 00 30.6	-0.1
T1204	**Amatrice, Fraz**	**0.15**	**114**	⇓P	Pg	20 00 27.9	-2.0
T1204				AML	AML		
	comp=E,10500μm,0.6s						
T1204				AML	AML		
	comp=N,6805μm,0.5s						
T1204				AML	AML		
	comp=E,10450μm,0.6s						
T1204	**Amatrice, Fraz**	**0.15**	**114**	P	Pb	20 00 30.4	-0.4
T1216	**Preci, Frazion**	**0.17**	**332**	P	Pg	20 00 30.4	+0.3
SMA1	**SAN MARTINO**	**0.18**	**125**	P	Pg	20 00 28.3	-2.0
SMA1				AML	AML		
	comp=N,6100μm,0.9s						
SMA1				AML	AML		
	comp=E,11800μm,0.2s						
SMA1				AML	AML		
	comp=N,6095μm,0.9s						
SMA1	**SAN MARTINO**	**0.18**	**125**	P	Pb	20 00 30.9	-0.5
T1215	**Vallo di Nera,**	**0.20**	**288**	⇑P	Pg	20 00 27.6	-3.0
T1215				S	Sg	20 00 32.0	-1.7
T1215				AML	AML		
	comp=E,3390μm,0.4s						
T1215				AML	AML		
	comp=N,3505μm,1.0s						
T1215				AML	AML		
	comp=E,3250μm,0.4s						
T1215				AML	AML		
	comp=N,3475μm,1.0s						
T1215				AML	AML		
	comp=N,3500μm,1.0s						
T1215				AML	AML		
	comp=E,3245μm,0.4s						
T1215				AML	AML		
	comp=N,3470μm,0.2s						
T1215				AML	AML		
	comp=E,3385μm,0.4s						
MMO1	**Montemonaco**	**0.22**	**42**	⇑P	Pg	20 00 31.0	+0.2
MMO1				S	Sg	20 00 34.4	+0.3
MMO1	**Montemonaco**	**0.22**	**42**	⇑P	Pg	20 00 31.0	+0.2
FEMA	**Monte Fema**	**0.23**	**345**	P	Pg	20 00 31.4	+0.2
FEMA				S	Sg	20 00 35.0	+0.4
FEMA				AML	AML		
	comp=E,7325μm,0.5s						
FEMA				AML	AML		
	comp=N,6120μm,0.5s						
FEMA				AML	AML		
	comp=E,7325μm,0.5s						
FEMA				AML	AML		
	comp=N,6115μm,0.5s						
FEMA				AML	AML		
	comp=E,7325μm,0.5s						
FEMA				AML	AML		
	comp=N,6120μm,0.5s						
FEMA				AML	AML		
	comp=N,6120μm,0.5s						
FEMA				AML	AML		
	comp=E,7325μm,0.5s						
RM33	**Pellescritta (**	**0.24**	**165**	P	Pb	20 00 31.9	-0.3
RM33				AML	AML		
	comp=E,5180μm,1.1s						
RM33				AML	AML		
	comp=N,3540μm,0.2s						
RM33				AML	AML		
	comp=N,3460μm,0.2s						
RM33				AML	AML		
	comp=E,5185μm,1.1s						
RM33				AML	AML		
	comp=E,5125μm,1.1s						
RM33	**Pellescritta (**	**0.24**	**165**	P	Pb	20 00 31.8	-0.3
T1243	**Rocca Santa Ma**	**0.24**	**100**	P	Pg	20 00 31.5	+0.3
T1243				S	Sg	20 00 35.4	+0.7
T1243	**Rocca Santa Ma**	**0.24**	**100**	P	Pg	20 00 31.4	+0.2
T1241	**Roccafluvione,**	**0.25**	**62**	P	Pg	20 00 31.7	+0.3
T1241				S	Sg	20 00 35.6	+0.6
T1241				AML	AML		
	comp=E,1180μm,0.3s						
T1241				AML	AML		
	comp=N,1365μm,0.4s						
T1241				AML	AML		
	comp=E,4145μm,0.3s						
T1241				AML	AML		
	comp=N,946μm,0.4s						
T1256	**Bolognola (MC)**	**0.28**	**15**	P	Pg	20 00 32.0	+0.1
T1256				S	Sg	20 00 36.4	+0.5
T1256				AML	AML		
	comp=E,4090μm,0.9s						
T1256				AML	AML		
	comp=N,4135μm,0.4s						
T1256				AML	AML		
	comp=E,4070μm,0.9s						
T1256				AML	AML		
	comp=N,3885μm,0.4s						
T1256				AML	AML		
	comp=N,4140μm,0.4s						
T1256	**Bolognola (MC)**	**0.28**	**15**	P	Pg	20 00 32.0	+0.1
T1256				S	Sg	20 00 36.3	+0.4
T1256				AML	AML		
	comp=E,4090μm,0.9s						
T1256				AML	AML		
	comp=N,4135μm,0.4s						
T1256				AML	AML		
	comp=E,4070μm,0.9s						
T1256				AML	AML		
	comp=N,3885μm,0.4s						
T1256				AML	AML		
	comp=E,4090μm,0.9s						
T1256				AML	AML		
	comp=N,4135μm,0.4s						
T1256				AML	AML		
	comp=E,4070μm,0.9s						
T1256				AML	AML		
	comp=N,3885μm,0.4s						
T1256				AML	AML		
	comp=E,4090μm,0.9s						
T1256				AML	AML		
	comp=N,4135μm,0.4s						
T1256				AML	AML		
	comp=E,4070μm,0.9s						
T1256				AML	AML		
	comp=N,3885μm,0.4s						
T1256				AML	AML		
	comp=N,4135μm,0.4s						
CAMP	**Campotosto**	**0.29**	**134**	⇓P	Pb	20 00 32.6	-0.5
CAMP				AML	AML		
	comp=E,2475μm,0.2s						
CAMP				AML	AML		
	comp=N,1875μm,0.2s						
CAMP	**Campotosto**	**0.29**	**134**	P	Pg	20 00 32.6	+0.5
T1211	**Morro Reatino**	**0.29**	**225**	⇑P	Pb	20 00 32.7	-0.3
T1211				AML	AML		
	comp=E,4775μm,0.9s						
T1211				AML	AML		
	comp=N,6760μm,0.3s						
T1211				AML	AML		
	comp=E,4820μm,0.9s						
T1211				AML	AML		
	comp=E,4785μm,0.9s						
T1211				AML	AML		
	comp=N,6775μm,0.3s						
AM05	**Amandola Campo**	**0.29**	**34**	P	Pg	20 00 32.4	+0.3
AM05				S	Sb	20 00 37.1	-0.7
AM05				AML	AML		
	comp=E,4915μm,0.1s						
AM05				AML	AML		
	comp=N,7395μm,1.3s						
AM05				AML	AML		
	comp=N,595μm,0.1s						
AM05				AML	AML		
	comp=N,7390μm,1.3s						
AM05				AML	AML		
	comp=E,5975μm,0.1s						
FDMO	**Fiordimonte**	**0.30**	**354**	P	Pg	20 00 32.5	+0.2
FDMO				S	Sb	20 00 37.4	-0.8
FDMO				AML	AML		
	comp=E,1390μm,0.4s						
FDMO				AML	AML		
	comp=N,1680μm,1.0s						
FDMO				AML	AML		
	comp=E,1395μm,0.4s						
FDMO				AML	AML		
	comp=N,1675μm,1.0s						
T1246	**Crognaleto (TE**	**0.31**	**120**	P	Pg	20 00 32.8	+0.4
ARRO	**Arrone**	**0.31**	**240**	⇑P	Pb	20 00 33.1	-0.3
ARRO				AML	AML		
	comp=N,3915μm,0.1s						
ARRO				AML	AML		
	comp=E,4520μm,0.1s						
CESI	**CESI - Serrava**	**0.32**	**328**	⇑P	Pg	20 00 27.2	-5.3
CESI				AML	AML		
	comp=E,2410μm,0.3s						
CESI				AML	AML		
	comp=N,3135μm,1.2s						
T1247	**Pizzolo (AQ)**	**0.32**	**157**	⇓P	Pb	20 00 33.3	-0.3
T1247				AML	AML		
	comp=N,4115μm,0.2s						
T1247				AML	AML		
	comp=E,2740μm,0.4s						
T1219	**Muccia, Frazio**	**0.33**	**344**	P	Pg	20 00 32.9	+0.1
T1219				S	Sg	20 00 38.0	+0.7
T1219				AML	AML		
	comp=E,2575μm,0.4s						
T1219				AML	AML		
	comp=N,1955μm,0.1s						
T1219	**Muccia, Frazio**	**0.33**	**344**	P	Pg	20 00 32.9	+0.1
CSP1	**Cessapalombo**	**0.36**	**9**	P	Pg	20 00 33.5	+0.1
CSP1				S	Sb	20 00 39.1	-0.7
CSP1				AML	AML		
	comp=N,2120μm,0.5s						
CSP1				AML	AML		
	comp=E,1760μm,0.3s						
CSP1				AML	AML		
	comp=N,2115μm,0.5s						
CSP1				AML	AML		
	comp=N,2110μm,0.5s						
CSP1				AML	AML		
	comp=E,1761μm,0.3s						
CSP1	**Cessapalombo**	**0.36**	**9**	P	Pg	20 00 33.4	+0.1
CSP1				S	Sg	20 00 38.9	+0.6
CSP1				AML	AML		
	comp=E,1760μm,0.3s						
CSP1				AML	AML		
	comp=N,2120μm,0.5s						
CSP1				AML	AML		
	comp=E,1760μm,0.3s						
CSP1				AML	AML		
	comp=N,2115μm,0.5s						
CSP1				AML	AML		
	comp=E,1761μm,0.3s						
CSP1				AML	AML		
	comp=N,2110μm,0.5s						
CSP1				AML	AML		
	comp=N,2110μm,0.5s						
CSP1				AML	AML		
	comp=E,1761μm,0.3s						
GUMA	**Gualdo di Mace**	**0.36**	**25**	P	Pb	20 00 33.8	-0.4
GUMA				S	Sb	20 00 39.7	-0.1
GUMA				AML	AML		
	comp=E,5670μm,0.3s						
GUMA				AML	AML		
	comp=E,5020μm,0.4s						
GUMA				AML	AML		
	comp=N,7305μm,0.4s						
GUMA				AML	AML		
	comp=N,6975μm,0.4s						
TERO	**Teramo**	**0.37**	**108**	P	Pg	20 00 30.3	-3.1
TERO				AML	AML		
	comp=E,3205μm,0.7s						
TERO				AML	AML		
	comp=E,3020μm,0.7s						
TERO				AML	AML		
	comp=N,3225μm,0.3s						
TERO				AML	AML		
	comp=N,3030μm,0.3s						
TERO	**Teramo**	**0.37**	**108**	P	Pg	20 00 33.6	+0.1
T1220	**Camerino, Fraz**	**0.37**	**355**	P	Pg	20 00 33.7	+0.2
T1220				S	Sb	20 00 39.9	-0.3
T1220				AML	AML		
	comp=E,4940μm,0.3s						
T1220				AML	AML		
	comp=E,4965μm,0.3s						
T1220				AML	AML		
	comp=N,5385μm,0.5s						
T1220				AML	AML		
	comp=E,4945μm,0.3s						
T1220				AML	AML		
	comp=N,5450μm,0.5s						
CESX	**Cesi**	**0.43**	**253**	⇑P	Pg	20 00 34.9	+0.4
CESX				AML	AML		
	comp=E,1880μm,0.4s						
CESX				AML	AML		
	comp=N,1980μm,0.3s						
SEF1	**Sefro**	**0.43**	**342**	P	Pg	20 00 34.9	+0.3
AQU	**L'Aquila**	**0.43**	**152**	⇑P	Pb	20 00 35.3	-0.2
AQU				AML	AML		
	comp=E,850μm,1.2s						
AQU				AML	AML		
	comp=E,823μm,1.2s						
AQU				AML	AML		
	comp=N,984μm,1.2s						
AQU				AML	AML		
	comp=E,851μm,1.2s						
AQU				AML	AML		
	comp=N,1007μm,1.2s						
OFFI	**Offida**	**0.45**	**64**	⇓P	Pg	20 00 30.3	-4.7
OFFI				AML	AML		
	comp=N,5180μm,0.5s						
OFFI				AML	AML		
	comp=E,5810μm,0.6s						
ASSB	**Assisi San Ben**	**0.46**	**311**	P	Pg	20 00 30.4	-4.8
FIAM	**Fiamignano**	**0.47**	**181**	⇑P	Pb	20 00 35.8	-0.4
FIAM				AML	AML		
	comp=N,1059μm,0.2s						
FIAM				AML	AML		
	comp=E,1470μm,1.1s						
FIAM				AML	AML		
	comp=N,1060μm,0.2s						
MNTP	**Montappone**	**0.47**	**32**	P	Pb	20 00 36.1	0.0
SNTG	**Esanatoglia**	**0.54**	**345**	P	Pg	20 00 29.9	-6.7
SNTG				AML	AML		
	comp=E,496μm,0.8s						
SNTG				AML	AML		
	comp=N,458μm,1.2s						
SNTG				AML	AML		
	comp=N,460μm,1.0s						
SNTG				AML	AML		
	comp=E,450μm,1.2s						
ATCC	**AVT- Casa Cast**	**0.57**	**321**	P	Pg	20 00 31.9	-5.4
ATCC				AML	AML		
	comp=E,1105μm,0.3s						
ATCC				AML	AML		
	comp=N,1062μm,0.5s						
FAGN	**Fagnano**	**0.58**	**144**	⇑P	Pg	20 00 37.5	+0.2
FAGN				AML	AML		
	comp=E,1885μm,0.5s						
FAGN				AML	AML		
	comp=N,1570μm,0.6s						
TRTR	**Tortoreto Alta**	**0.58**	**83**	⇑P	Pb	20 00 38.6	+0.6
TRTR				AML	AML		
	comp=E,4140μm,0.5s						
TRTR				AML	AML		
	comp=N,3805μm,0.4s						
TRTR				AML	AML		
	comp=E,4140μm,0.5s						
TRTR				AML	AML		
	comp=N,3805μm,0.4s						
TRTR				AML	AML		
	comp=E,4140μm,0.5s						
TRTR				AML	AML		
	comp=N,3805μm,0.4s						
TRTR				AML	AML		
	comp=N,3805μm,0.4s						
TRTR				AML	AML		
	comp=E,4140μm,0.5s						
TRTR	**Tortoreto Alta**	**0.58**	**83**	⇑P	Pb	20 00 38.6	+0.6
EL6	**Elcito**	**0.59**	**358**	S	Sg	20 00 38.0	-7.5
VCEL	**Villa Celiera**	**0.63**	**123**	⇓P	Pb	20 00 38.6	-0.2
VCEL				S	Sn	20 00 50.0	-0.6
VCEL				AML	AML		
	comp=E,1620μm,0.9s						
VCEL				AML	AML		
	comp=N,1765μm,0.2s						
CING	**Cingoli**	**0.64**	**4**	S	Sg	20 00 39.0	-8.0
SRES	**S.Oreste - Sor**	**0.68**	**223**	⇑P	Pb	20 00 40.1	+0.4
SRES				S	Sn	20 00 52.0	+0.3
SRES				AML	AML		
	comp=E,342μm,0.3s						
SRES				AML	AML		
	comp=N,306μm,0.2s						

MURB	**Monte Urbino**	**0.69**	**320**	P	Pg	20 00 39.5 +0.1
MURB				AML	AML	
	comp=E,1565μm,1.5s					
MURB				AML	AML	
	comp=N,1320μm,1.5s					
MURB				AML	AML	
	comp=E,1695μm,1.5s					
MURB				AML	AML	
	comp=N,1510μm,1.5s					
MURB				AML	AML	
	comp=E,1565μm,1.5s					
MURB				AML	AML	
	comp=N,1315μm,1.5s					
MURB				AML	AML	
	comp=E,1695μm,1.5s					
MURB				AML	AML	
	comp=N,1510μm,1.5s					
MURB				AML	AML	
	comp=E,1565μm,1.5s					
MURB				AML	AML	
	comp=N,1315μm,1.5s					
MURB				AML	AML	
	comp=E,1695μm,1.5s					
MURB				AML	AML	
	comp=N,1510μm,1.5s					
MURB				AML	AML	
	comp=E,1565μm,1.5s					
MURB				AML	AML	
	comp=N,1315μm,1.5s					
MURB				AML	AML	
	comp=E,1695μm,1.5s					
MURB				AML	AML	
	comp=N,1315μm,1.5s					
MURB				AML	AML	
	comp=N,1510μm,1.5s					
T0110	**Collepietro**	**0.70**	**137**	⇑P	Pg	20 00 39.5 -0.2
T0110				S	Sn	20 00 51.0 -1.3
T0110				AML	AML	
	comp=E,1160μm,0.5s					
T0110				AML	AML	
	comp=N,928μm,1.3s					
PP3	**Marolino**	**0.73**	**29**	S	Sg	20 00 42.0 -7.8
ATTE	**AVT- Monte Tez**	**0.73**	**309**	P	Pb	20 00 40.5 -0.1
ATTE				AML	AML	
	comp=E,326μm,1.6s					
ATTE				AML	AML	
	comp=N,309μm,0.4s					
ATTE				AML	AML	
	comp=E,326μm,1.6s					
ATTE				AML	AML	
	comp=N,309μm,0.4s					
ATTE				AML	AML	
	comp=E,326μm,1.6s					
ATTE				AML	AML	
	comp=N,309μm,0.4s					
ATTE				AML	AML	
	comp=E,326μm,1.6s					
ATTE				AML	AML	
	comp=N,309μm,0.4s					
PTQR	**Pietraquaria**	**0.74**	**164**	⇑P	Pn	20 00 42.0 -0.2
PTQR				AML	AML	
	comp=N,126μm,0.4s					
PTQR				AML	AML	
	comp=E,159μm,1.5s					
SSFR	**Montelago di S**	**0.74**	**340**	S	Sg	20 00 41.0 -9.3
ATFO	**Monte Foce - G**	**0.75**	**327**	P	Pg	20 00 40.8 +0.1
ATFO				AML	AML	
	comp=E,352μm,0.6s					
ATFO				AML	AML	
	comp=N,304μm,0.4s					
ATFO				AML	AML	
	comp=E,352μm,0.6s					
ATFO				AML	AML	
	comp=N,304μm,0.4s					
ATFO				AML	AML	
	comp=N,304μm,0.4s					
ATFO				AML	AML	
	comp=E,352μm,0.6s					
MGAB	**Montegabbione**	**0.77**	**283**	⇓P	Pb	20 00 41.2 0.0
MGAB				AML	AML	
	comp=N,747μm,0.8s					
MGAB				AML	AML	
	comp=E,814μm,0.2s					
MGAB				AML	AML	
	comp=N,793μm,0.8s					
MGAB				AML	AML	
	comp=E,758μm,0.2s					
MTCE	**Montecelio**	**0.77**	**202**	⇑P	Pb	20 00 41.3 +0.1
MTCE				AML	AML	
	comp=E,274μm,0.4s					
MTCE				AML	AML	
	comp=N,184μm,0.8s					
ARVD	**Arcevia**	**0.77**	**350**	P	Pg	20 00 32.1 -8.9
ARVD				S	Sg	20 00 42.0 -9.2
ARVD				AML	AML	
	comp=E,268μm,1.3s					
ARVD				AML	AML	
	comp=N,168μm,1.3s					
ARVD	**Arcevia**	**0.77**	**350**	P	Pg	20 00 40.7 -0.3
CERT	**Cerreto**	**0.80**	**188**	⇑P	Pg	20 00 41.3 -0.2
CERT				S	Sn	20 00 55.0 +0.4
FRON	**Frontone**	**0.83**	**339**	⇓P	Pg	20 00 42.2 +0.1
FRON				AML	AML	
	comp=E,218μm,0.7s					
FRON				AML	AML	
	comp=N,282μm,1.4s					
FRON				AML	AML	
	comp=E,218μm,0.7s					
FRON				AML	AML	
	comp=N,283μm,1.4s					
FRON				AML	AML	
	comp=N,283μm,1.4s					
FRON				AML	AML	
	comp=E,218μm,0.7s					
FRON	**Frontone**	**0.83**	**339**	⇓P	Pg	20 00 42.2 +0.1
ATVO	**AVT- Monte Val**	**0.83**	**321**	P	Pg	20 00 42.1 -0.1
ATVO				AML	AML	
	comp=E,218μm,1.4s					
ATVO				AML	AML	
	comp=N,274μm,0.5s					
ATVO				AML	AML	
	comp=E,218μm,1.4s					
ATVO				AML	AML	
	comp=N,274μm,0.5s					
ATVO				AML	AML	
	comp=N,274μm,0.5s					
ATVO				AML	AML	
	comp=E,218μm,1.4s					
ATMI	**Monte Miggiano**	**0.87**	**314**	⇓P	Pn	20 00 43.6 -0.3
ATMI	**Monte Miggiano**	**0.87**	**314**	⇓P	Pn	20 00 43.6 -0.3
ATMI				S	Sn	20 00 57.0 +0.5
ATMI				AML	AML	
	comp=E,756μm,0.3s					
ATMI				AML	AML	
	comp=N,981μm,0.3s					
ATMI				AML	AML	
	comp=E,756μm,0.3s					
ATMI				AML	AML	
	comp=N,976μm,0.3s					
ATMI				AML	AML	
	comp=E,756μm,0.3s					
ATMI				AML	AML	
	comp=N,976μm,0.3s					
ATMI	**Monte Miggiano**	**0.87**	**314**	S	Sn	20 00 57.0 +0.5
AOI	**Ancona**	**0.88**	**23**	S	Sg	20 00 44.0 -11
ATPI	**Pietralunga -**	**0.89**	**323**	P	Pg	20 00 43.0 -0.2
ATPI				AML	AML	
	comp=E,218μm,0.8s					
ATPI				AML	AML	
	comp=N,182μm,0.6s					
ATPI				AML	AML	
	comp=E,218μm,0.8s					
ATPI				AML	AML	
	comp=N,182μm,0.6s					
ATPI				AML	AML	
	comp=E,218μm,0.8s					
ATPI				AML	AML	
	comp=N,182μm,0.6s					
COR1	**Corinaldo**	**0.90**	**354**	S	Sg	20 00 45.0 -10
RCAV	**Rocca di Cave**	**0.90**	**189**	P	Pn	20 00 45.4 +1.0
SACS	**San Casciano d**	**0.91**	**277**	⇓P	Pb	20 00 43.8 +0.2
SACS				AML	AML	
	comp=N,292μm,0.6s					
SACS				AML	AML	
	comp=E,278μm,0.8s					
PIEI	**Pieia**	**0.91**	**332**	P	Pg	20 00 36.6 -7.0
PIEI				AML	AML	
	comp=E,264μm,1.5s					
PIEI				AML	AML	
	comp=N,202μm,0.2s					
MPAG	**Monte Paganucc**	**0.93**	**343**	⇑P	Pg	20 00 43.7 -0.3
MPAG	**Monte Paganucc**	**0.93**	**343**	⇑P	Pg	20 00 43.7 -0.3
MPAG				S	Sn	20 00 60.0 +1.9
MPAG				AML	AML	
	comp=E,240μm,0.6s					
MPAG				AML	AML	
	comp=N,181μm,0.7s					
MPAG				AML	AML	
	comp=E,240μm,0.6s					
MPAG				AML	AML	
	comp=N,182μm,0.7s					
MPAG				AML	AML	
	comp=E,240μm,0.6s					
MPAG				AML	AML	
	comp=N,182μm,0.7s					
MPAG	**Monte Paganucc**	**0.93**	**343**	S	Sn	20 00 60.0 +1.9
VVLD	**Villa Vallelon**	**0.94**	**157**	P	Pn	20 00 45.2 +0.3
VVLD				AML	AML	
	comp=E,133μm,0.6s					
VVLD				AML	AML	
	comp=N,220μm,1.6s					
SENI	**Senigallia**	**0.97**	**4**	S	Sb	20 00 47.0 -10
LATE	**Laterza**	**0.99**	**263**	⇓P	Pn	20 00 45.7 +0.2
FSSB	**Fossombrone**	**0.99**	**345**	P	Pb	20 00 44.8 -0.2
FSSB				AML	AML	
	comp=E,586μm,0.3s					
FSSB				AML	AML	
	comp=N,992μm,0.4s					
FSSB				AML	AML	
	comp=E,586μm,0.3s					
FSSB				AML	AML	
	comp=N,992μm,0.4s					
FSSB				AML	AML	
	comp=N,992μm,0.4s					
FSSB				AML	AML	
	comp=E,586μm,0.3s					
FSSB	**Fossombrone**	**0.99**	**345**	P	Pb	20 00 44.8 -0.2
BADI	**Badiali**	**1.01**	**320**	⇓P	Pg	20 00 45.5 +0.1
BADI	**Badiali**	**1.01**	**320**	⇓P	Pg	20 00 45.5 +0.1
ROM9	**Roma**	**1.02**	**207**	S	Sn	20 01 07.0 +7.0
LPEL	**Lama dei Pelig**	**1.04**	**131**	⇓P	Pb	20 00 45.3 -0.6
LPEL				S	Sn	20 01 01.0 +0.3
LPEL				AML	AML	
	comp=E,296μm,0.6s					
LPEL				AML	AML	
	comp=N,256μm,1.5s					
MCIV	**Monte Civitell**	**1.07**	**273**	⇑P	Pn	20 00 47.6 +0.8
MCIV				AML	AML	
	comp=E,214μm,1.6s					
MCIV				AML	AML	
	comp=N,128μm,0.5s					
TOLF	**Tolfa**	**1.07**	**232**	⇓P	Pn	20 00 46.6 -0.1
TOLF				AML	AML	
	comp=E,212μm,0.4s					
TOLF				AML	AML	
	comp=N,264μm,0.4s					
GIUL	**Giuliano Di Ro**	**1.18**	**175**	P	Pg	20 00 49.8 +1.0
RUFI	**Rufina**	**1.62**	**314**	P	Pb	20 00 55.1 -0.6
MELA	**Melanico ??? S**	**1.81**	**124**	⇓P	Pb	20 00 59.3 +0.4
MTCR	**Monte La Croce**	**2.02**	**310**	P	Pn	20 01 00.4 +0.6
MSAG	**Monte S. Angel**	**2.30**	**115**	⇓P	Pg	20 01 10.4 +0.3
GROG	**Isola di Gorgo**	**2.47**	**287**	S	Sg	20 01 49.0 +3.6
GROG	**Isola di Gorgo**	**2.47**	**287**	S	Sg	20 01 49.0 +3.6
CMPR	**Campora**	**2.92**	**145**	S	Sn	20 01 48.0 +1.0
MNTV	**Mantova**	**2.94**	**326**	S	Sn	20 01 49.0 +1.5
SABO	**M.te Sabotino**	**3.26**	**6**	⇑P	Pn	20 01 17.5 +0.7
STON	**Ston**	**3.37**	**86**	⇓P	Pn	20 01 18.5 +0.4
MATE	**Matera**	**3.39**	**127**	⇑P	Pb	20 01 26.0 +0.1
DOSS	**Dosso del Somm**	**3.44**	**337**	⇑P	Pn	20 01 21.8 +2.4
CTI	**Castel Tesino**	**3.48**	**343**	P	Pn	20 01 21.9 +2.1
RNCA	**Ronca, Sant'Ol**	**3.50**	**301**	P	Pn	20 01 20.3 +0.3
RNCA	**Ronca, Sant'Ol**	**3.50**	**301**	P	Pn	20 01 20.3 +0.3
STAL	**STALIGIAL**	**3.54**	**355**	⇑P	Pn	20 01 22.5 +1.9
LUSI	**Trento, Gardas**	**3.58**	**335**	⇑P	Pn	20 01 23.7 +2.5
CIMO	**Cimolais**	**3.61**	**352**	⇓P	Pn	20 01 23.1 +1.6
EUCT	**Pavia**	**3.79**	**312**	S	Sb	20 02 22.0 +3.5
EUCT	**Pavia**	**3.79**	**312**	S	Sb	20 02 22.0 +3.5
ACOM	**Acomizza, Ital**	**3.82**	**4**	⇓P	Pn	20 01 26.4 +1.8
ACOM	**Acomizza, Ital**	**3.82**	**4**	⇓P	Pn	20 01 26.4 +1.8
OBKA	**Obir**	**3.90**	**15**	*e*Pn	Pn	20 01 29.4 +3.7
	comp=N,0.4nm,0.2s					
MYKA	**Terra Mystica**	**3.91**	**5**	*e*Pn	Pn	20 01 27.5 +1.7
	comp=N,0.5nm,0.2s					
KOSI	**Kohlern**	**3.93**	**342**	⇓P	Pn	20 01 29.1 +3.0
KOSI	**Kohlern**	**3.93**	**342**	⇓P	Pn	20 01 29.1 +3.0
APPI	**Appiano**	**3.98**	**341**	⇓P	Pn	20 01 29.5 +2.8
APPI	**Appiano**	**3.98**	**341**	⇓P	Pn	20 01 29.5 +2.8
ABTA	**Abfaltersbach**	**4.03**	**354**	*e*Pn	Pn	20 01 29.7 +2.2
	comp=N,0.3nm,0.1s					
KBA	**Koelnbreinsper**	**4.34**	**2**	*e*Pn	Pn	20 01 33.8 +2.0
	comp=N,0.8nm,0.3s					
ROSI	**Rosskopf**	**4.37**	**344**	⇓P	Pn	20 01 34.8 +2.7
ROSI	**Rosskopf**	**4.37**	**344**	⇓P	Pn	20 01 34.8 +2.7
WATA	**Walderalm**	**4.73**	**347**	*e*Pn	Pn	20 01 40.6 +3.5
	comp=N,1.0nm,0.2s					
PLAC	**Placanica**	**4.97**	**148**	P	Pn	20 01 39.3 -0.9
PLAC	**Placanica**	**4.97**	**148**	P	Pn	20 01 39.3 -0.9
HAGA	**Augusta**	**5.66**	**163**	P	Pb	20 02 08.1 +3.5
HAGA	**Augusta**	**5.66**	**163**	P	Pb	20 02 08.1 +3.5
KHC	**Kasperske Hory**	**6.40**	**3**	*e*SN	Sn	20 03 11.0 -1.8

NEIC ***10*** *20:06:50.5±0.9, 20.4S±0.2×178.0W±0.2, h556km±20km, mb4.2/14, Error ellipse: s-maj=34.0km s-min=23.4km az=209.0*
IDC ***10*** *20:06:52.3±5.4, 20.4S×178.39W, h549km±37km, mb3.3/5, mbtmp4.2/6, Error ellipse: s-maj=118.7km s-min=24.9km az=141.0*

ISC 10 20:06:49.9±0.8, 20.6S±0.2×178.2W±0.1, h534km, n25, σ0s85/26, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.54**	**307**	P		**P**	**20 08 16.6**	**+1.5**
	5.7nm,0.4s,baz=97,slow=22,SNR=15							
MSVF	**Nonsavu**	**4.54**	**307**	P		**P**	**20 08 16.8**	**+1.7**
NIUE	**Niue**	**7.90**	**81**	P		**P**	**20 08 46.2**	**0.0**
EIDS	**Eidsvold**	**28.68**	**255**	P		**P**	**20 12 04.3**	**+0.5**
EIDS				IAmb		IAmb	20 12 26.2	
	comp=Z,11nm,1.3s							
ARMA	**Armidale**	**28.90**	**244**	P		**P**	**20 12 05.5**	**-0.3**
ARMA				IAmb		IAmb	20 12 26.7	
	comp=Z,14nm,1.4s							
CTA	**Charters Tower**	**33.33**	**264**	P		**P**	**20 12 44.1**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=86,slow=11,SNR=2.2							
	comp=Z,1.1nm,0.3s							
CTAO	**Charters Tower**	**33.33**	**264**	P		**P**	**20 12 44.4**	**+0.6**
CTAO				IAmb		IAmb	20 13 08.9	
	comp=Z,14nm,1.5s							
PATS	**Pohnpei**	**35.71**	**317**	P		**P**	**20 13 01.9**	**-1.9**
STKA	**Stephens Creek**	**37.62**	**244**	P		**P**	**20 13 19.4**	**0.0**
	comp=Z,2.0nm,1.0s,baz=68,slow=12,SNR=4.2							
	comp=Z,2.0nm,1.0s							
STKA	**Stephens Creek**	**37.62**	**244**	P		**P**	**20 13 19.8**	**+0.5**
BBOO	**Buckleboo**	**42.38**	**244**	P		**P**	**20 13 57.4**	**0.0**
BBOO				IAmb		IAmb	20 14 04.2	
	comp=Z,17nm,1.1s							
WR0	**Warramunga Arr**	**44.24**	**262**	P		**P**	**20 14 11.8**	**-0.4**
WR0				IAmb		IAmb	20 14 39.9	
	comp=Z,9.4nm,1.5s							
AS31	**Alice Springs**	**44.35**	**257**	P		**P**	**20 14 13.1**	**+0.1**
AS31				IAmb		IAmb	20 14 13.8	
	comp=Z,1.4nm,1.0s							
ASAR	**Alice Springs**	**44.35**	**257**	P		**P**	**20 14 13.0**	**0.0**
	comp=Z,2.5nm,0.5s,baz=89,slow=8.4,SNR=50							
ASAR				PcP		**PcP**	**20 15 46.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=94,slow=3.8,SNR=6.0							
	comp=Z,2.5nm,0.5s							
ASAR	**Alice Springs**	**44.35**	**257**	P		**P**	**20 14 13.0**	**0.0**
WB0	**Warramunga Arr**	**44.41**	**262**	P		**P**	**20 14 12.7**	**-0.7**
WB0				IAmb		IAmb	20 14 13.4	
	comp=Z,5.7nm,1.3s							
WB2	**Warramunga Arr**	**44.42**	**262**	P		**P**	**20 14 13.0**	**-0.5**
WB2				IAmb		IAmb	20 14 13.4	
	comp=Z,6.0nm,1.2s							
WRA	**Warramunga Arr**	**44.43**	**262**	P		**P**	**20 14 12.9**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=97,slow=7.3,SNR=42							
	comp=Z,0.9nm,0.3s							
WRA	**Warramunga Arr**	**44.43**	**262**	P		**P**	**20 14 13.3**	**-0.3**
FORT	**Forrest**	**49.13**	**247**	P		**P**	**20 14 48.7**	**-0.2**
KNRA	**Kununurra**	**50.49**	**266**	P		**P**	**20 14 58.1**	**-1.0**
VNDA	**Vanda**	**57.84**	**185**	P		**P**	**20 15 49.9**	**0.0**
ILAR	**Eielson Array**	**88.40**	**13**	P		**P**	**20 18 45.3**	**+0.8**
	comp=Z,5.7nm,1.4s,baz=214,slow=5.6,SNR=3.6							
	comp=Z,5.7nm,1.4s							
AKASG	**Malin Array Be**	**142.98**	**331**	PKP		**PKPdf**	**20 25 20.9**	**-1.7**
	comp=Z,1.8nm,0.5s,baz=39,slow=3.9,SNR=7.1							
GERES	**GERESS Array B**	**150.21**	**344**	PKPbc		**PKiKP**	**20 25 41.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=51,slow=5.3,SNR=2.6							

IDC ***10*** *20:07:41.2±1.3, 20.98N×121.58E, h0km, mb3.5/6, mbtmp3.6/7, ML3.6/1, MS3.8/2, Error ellipse: s-maj=43.2km s-min=21.3km az=69.0*
TAP ***10*** *20:07:46.2, 21.09N×121.29E, h78km, ML4.0, D*
JMA ***10*** *20:07:46.9±0.7, 21.1N±3.3×12.1E±, h38km, MV4.3/12, TAIWAN REGION*
MAN ***10*** *20:07:48.1, 20.92N×121.47E, h53km, mb4.3, ML3.1, MS2.8*

ISC 10 20:07:44.2±0.8, 20.92N±0.03×121.26E±0.04, h21km±3km, n124, σ1s96/189, mb3.4/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**1.03**	**341**	*i* P		**Pb**	**20 08 04.9**	**+1.5**
	baz=327							
TSEB				*i* S		**Sn**	**20 08 18.1**	**+0.9**
	baz=327							
TWKBT	**Hengchun**	**1.10**	**338**	P		**Pb**	**20 08 05.3**	**+0.8**
	baz=326							
TWKBT				S		**Sb**	**20 08 19.1**	**+0.7**
	baz=326							
TWK1	**Hengchun**	**1.10**	**338**	*i* P		**Pb**	**20 08 05.3**	**+0.7**
	baz=326							
TWK1				*i* S		**Sb**	**20 08 19.0**	**+0.5**
	baz=326							
LYUB	**Lan-yu**	**1.12**	**16**	P		**Pn**	**20 08 04.6**	**0.0**
	baz=17							
LYUB				S		**Sb**	**20 08 18.5**	**-0.5**
	baz=17							
LAY	**Lan-yu**	**1.15**	**14**	*i* P		**Pn**	**20 08 05.1**	**0.0**
	baz=15							
SMST	**Manzhou Townsh**	**1.16**	**340**	P		**Pn**	**20 08 05.8**	**+0.5**
	baz=331							
SMST				S		**Sb**	**20 08 20.4**	**+0.1**
	baz=331							
HEN	**Hengchun**	**1.18**	**336**	*i* P		**Pb**	**20 08 06.8**	**+0.8**
	baz=324							
HEN				*i* S		**Sb**	**20 08 21.9**	**+1.1**
	baz=324							
SLIU	**Shizi**	**1.36**	**342**	*i* P		**Pn**	**20 08 08.3**	**+0.3**
	baz=328							
SLIU				*i* S		**Sn**	**20 08 24.4**	**-1.0**
	baz=328							
TAWH	**Dawu Township**	**1.45**	**346**	P		**Pn**	**20 08 08.1**	**-1.2**
	baz=353							
TAWH				S		**Sn**	**20 08 25.5**	**-2.2**
	baz=353							
EAST	**Anshuo**	**1.50**	**345**	*i* P		**Pn**	**20 08 09.9**	**-0.2**
	baz=352							
EAST				*i* S		**Sn**	**20 08 27.4**	**-1.6**
	baz=352							
SCZT	**Fangliau**	**1.56**	**338**	*i* P		**Pn**	**20 08 11.1**	**+0.3**
	baz=328							
CICP	**Calayan Island**	**1.66**	**173**	⇑*e*P		**Pb**	**20 08 15.3**	**+1.2**
CICP				*e*S		**Sb**	**20 08 36.2**	**+1.7**
ECL	**Taimali**	**1.69**	**350**	*i* P		**Pn**	**20 08 11.5**	**-1.0**
	baz=356							
ECL				*i* S		**Sn**	**20 08 29.8**	**-3.8**
	baz=356							
LDUT	**Ludao**	**1.75**	**6**	*i* P		**Pn**	**20 08 12.7**	**-0.7**
	baz=6.0							
LDUT				*i* S		**Sn**	**20 08 33.5**	**-1.7**
	baz=6.0							
MASBT	**Mashibuluo**	**1.78**	**341**	P		**Pn**	**20 08 14.0**	**+0.2**
	baz=332							
TSMG	**Majia**	**1.86**	**342**	*i* P		**Pn**	**20 08 15.0**	**0.0**
	baz=347							
TSMG				*i* S		**Sn**	**20 08 35.6**	**-2.3**
	baz=347							
TWGBT	**Beinan**	**1.90**	**355**	P		**Pn**	**20 08 14.1**	**-1.3**
	baz=353							
TWGBT				S		**Sn**	**20 08 35.6**	**-3.1**
	baz=353							
TWG	**Pinlang**	**1.90**	**355**	*i* P		**Pn**	**20 08 13.8**	**-1.6**
	baz=353							
TWG				*i* S		**Sn**	**20 08 35.6**	**-3.1**
	baz=353							
SSD	**Sandimen**	**1.91**	**342**	*i* P		**Pn**	**20 08 16.0**	**+0.4**
	baz=347							
SSD				S		**Sn**	**20 08 37.1**	**-1.8**
	baz=347							
LONT	**Longtian**	**1.98**	**357**	*i* P		**Pn**	**20 08 15.8**	**-0.7**
	baz=355							
LONT				*i* S		**Sn**	**20 08 38.0**	**-2.8**
	baz=355							
EDH	**Donghe**	**2.04**	**1**	*i* P		**Pn**	**20 08 17.1**	**-0.2**
	baz=351							
EDH				*i* S		**Sn**	**20 08 39.9**	**-2.3**
	baz=351							
TWM1	**Shoushan**	**2.05**	**338**	*i* P		**Pn**	**20 08 19.5**	**+2.1**
	baz=324							
TWM1				S		**Sn**	**20 08 44.8**	**+2.4**
	baz=324							
SCST	**Cishan**	**2.08**	**340**	*i* P		**Pn**	**20 08 18.5**	**+0.6**
	baz=338							
CHKT	**Chengkung**	**2.17**	**3**	*i* P		**Pn**	**20 08 19.8**	**+0.7**
	baz=353							
CHKT				*i* S		**Sn**	**20 08 43.8**	**-1.6**
	baz=353							
SGST	**Jiashian**	**2.24**	**344**	*i* P		**Pn**	**20 08 19.9**	**-0.2**
	baz=342							
SHHT	**Tainan City**	**2.25**	**338**	P		**Pn**	**20 08 20.4**	**0.0**
	baz=336							
SHHT				S		**Sn**	**20 08 47.3**	**-0.2**
	baz=336							
FULB	**Fuli**	**2.27**	**1**	*i* P		**Pn**	**20 08 20.6**	**+0.1**
	baz=350							
FULB				*i* S		**Sn**	**20 08 45.3**	**-2.5**
	baz=350							
ELDTW	**Lidau**	**2.27**	**354**	*i* P		**Pn**	**20 08 20.1**	**-0.5**
	baz=358							
STYH	**Taoyuan**	**2.28**	**349**	*i* P		**Pn**	**20 08 20.1**	**-0.6**
	baz=347							
CHN3	**Shinhua**	**2.30**	**339**	S		**Sn**	**20 08 48.3**	**-0.3**
	baz=337							
CHN1	**Nanshi**	**2.35**	**343**	*i* P		**Pn**	**20 08 21.8**	**+0.1**
	baz=352							
CHN1				S		**Sn**	**20 08 49.3**	**-0.7**
	baz=352							
SSHA	**Shanhua**	**2.38**	**338**	*e*S		**Sn**	**20 08 49.1**	**-1.5**
	baz=336							
WTP	**Ta-pu**	**2.39**	**346**	*i* P		**Pn**	**20 08 22.1**	**-0.1**
	baz=344							
WTP				S		**Sn**	**20 08 49.7**	**-1.2**
	baz=344							
EYUL	**Yuli**	**2.42**	**1**	*i* P		**Pn**	**20 08 22.6**	**+0.1**
	baz=353							
TPUB	**Ta-pu**	**2.44**	**346**	P		**Pn**	**20 08 22.3**	**-0.6**
	baz=345							
TWK	**Hsinying**	**2.44**	**343**	*i* P		**Pn**	**20 08 22.8**	**-0.2**
	baz=352							
PACPP	**Pamplona Cagay**	**2.45**	**178**	⇓*e*P		**Pb**	**20 08 26.7**	**-0.9**
PACPP				*e*S		**Sb**	**20 08 54.7**	**-2.7**
SCLT	**Jiali**	**2.45**	**336**	S		**Sn**	**20 08 51.0**	**-1.4**
	baz=324							
YULB	**Yu-li**	**2.46**	**1**	P		**Pn**	**20 08 22.3**	**-0.8**
	baz=355							
TSCK	**Chigu Township**	**2.47**	**334**	P		**Pn**	**20 08 21.9**	**-1.3**
	baz=332							
TSCK				S		**Sn**	**20 08 49.2**	**-3.6**
	baz=332							
CHN4	**Tsaushan**	**2.50**	**346**	*i* P		**Pn**	**20 08 22.5**	**-1.1**
	baz=344							
HGSD	**Ruisui**	**2.56**	**3**	P		**Pn**	**20 08 24.8**	**+0.2**
	baz=10.0							
YUS	**Yu-Shan**	**2.57**	**354**	*i* P		**Pn**	**20 08 25.8**	**+0.7**
	baz=343							
EHY	**Hungye**	**2.57**	**1**	*i* P		**Pn**	**20 08 24.1**	**-0.7**
	baz=1.0							
WCKO	**Fanlu**	**2.58**	**347**	P		**Pn**	**20 08 23.7**	**-1.1**
	baz=345							
WCKO				S		**Sn**	**20 08 52.5**	**-3.1**
	baz=345							
ICHU	**Yijhu**	**2.59**	**340**	*i* P		**Pn**	**20 08 25.0**	**+0.1**
	baz=338							
ICHU				*i* S		**Sn**	**20 08 53.4**	**-2.5**

baz=338
CHN8 Yiju 2.60 338 P Pn 20 08 23.3 -1.7
baz=327
CHN8 *i* S Sn 20 08 54.0 -2.1
baz=327
ALS Alishan 2.61 351 *i* P Pn 20 08 25.7 +0.2
baz=350
ALS S Sn 20 08 54.6 -2.1
baz=350
CHY Chiayi 2.68 343 *i* P Pn 20 08 26.4 +0.3
baz=352
CHY *i* S Sn 20 08 54.5 -3.5
baz=352
CHN2 Minshiung 2.70 345 S Sn 20 08 58.2 -0.2
baz=343
CHN5 Tsauling 2.72 349 *i* P Pn 20 08 25.3 -1.5
baz=347
EGFH Guangfu 2.74 3 *i* P Pn 20 08 27.6 +0.6
baz=354
EGFH *e*S Sn 20 08 56.1 -3.4
baz=354
WDGT Dungji 2.76 328 *i* P Pn 20 08 25.2 -2.0
baz=325
WDGT *i* S Sn 20 08 55.4 -4.5
baz=325
WSL Shuilin Townsh 2.76 340 P Pn 20 08 27.6 +0.3
baz=338
WSL S Sn 20 08 57.0 -3.0
baz=338
WHYT Xinyi Township 2.79 352 *i* P Pn 20 08 27.9 +0.3
baz=351
WHYT S Sn 20 08 58.9 -1.8
baz=351
VWDT VWDT 2.82 358 P Pn 20 08 29.0 +0.9
baz=350
VWDT S Sn 20 08 58.5 -3.0
baz=350
WDLH Douliu 2.83 347 *i* P Pn 20 08 28.1 -0.1
baz=345
WDLH *i* S Sn 20 08 59.5 -2.4
baz=345
VCHM Qimei 2.84 324 P Pn 20 08 27.2 -1.2
baz=328
VCHM S Sn 20 08 57.9 -4.1
baz=328
SSLB Suanglung 2.87 354 P Pn 20 08 29.1 +0.3
baz=353
SSLB S Sn 20 09 01.1 -1.6
baz=353
WSF Szhu 2.87 341 S Sn 20 08 59.6 -3.0
baz=331
ESL Shilin 2.88 3 *i* P Pn 20 08 29.0 0.0
baz=3.0
ESL S Sn 20 08 58.9 -4.1
baz=3.0
WJS Zhushan 2.93 350 *i* P Pn 20 08 30.3 +0.7
baz=349
SMLT Sun Moon Lake 2.97 354 *i* P Pn 20 08 30.6 +0.4
baz=353
SMLT S Sn 20 09 02.5 -2.8
baz=353
WNT Mingjian 2.99 350 *i* P Pn 20 08 30.6 +0.1
baz=349
WNT *i* S Sn 20 09 02.9 -2.8
baz=349
TYC Yuchr 2.99 353 *i* P Pn 20 08 30.7 +0.3
baz=352
TYC S Sn 20 09 03.6 -2.1
baz=352
PHUB P'eng-hu 3.02 329 P Pn 20 08 29.9 -0.9
baz=332
PHUB S Sn 20 09 01.7 -4.6
baz=332
WUSB Renai 3.06 358 P Pn 20 08 32.2 +0.7
baz=347
WUSB S Sn 20 09 04.0 -3.5
baz=347
PNG Penghu 3.07 329 *i* P Pn 20 08 31.0 -0.5
baz=334
PNG *i* S Sn 20 09 04.0 -3.6
baz=334
WRL Guolierlin Hig 3.08 345 *i* P Pn 20 08 29.6 -2.0
baz=351
WRL *i* S Sn 20 09 03.1 -4.7
baz=351
CHGB Renai 3.12 359 P Pn 20 08 33.0 +0.5
baz=348
WCS Beigang Elemen 3.14 354 *i* P Pn 20 08 31.3 -1.2
baz=353
WCS *i* S Sn 20 09 06.4 -2.9
baz=353
TWD Chiawan 3.16 6 *i* P Pn 20 08 32.7 -0.1
baz=354
TWD *e*S Sn 20 09 08.3 -1.5
baz=354
WHF Hehuan Shan 3.21 0 *i* P Pn 20 08 34.6 +0.8
baz=360
WCHH Zhanghua 3.21 348 P Pn 20 08 34.0 +0.5
baz=347
WCHH S Sn 20 09 07.3 -3.8
baz=347
NACB Ninganchiao 3.25 5 P Pn 20 08 34.3 +0.3
baz=354
NACB S Sn 20 09 07.5 -4.7
baz=354
TCU Taichung 3.26 351 P Pn 20 08 33.8 -0.3
baz=350
TCU S Sn 20 09 07.2 -5.1
baz=350
ETLH Xiulin Townshi 3.28 4 P Pn 20 08 34.4 -0.1
baz=3.0
FUSS Fushou 3.31 360 *i* P Pn 20 08 35.7 +0.6
baz=349
FUSS S Sn 20 09 11.7 -2.2
baz=349
TDCB Techi 3.32 358 P Pn 20 08 35.8 +0.7
baz=348
TWT Tachien 3.32 359 *i* P Pn 20 08 35.1 0.0
baz=349
TWT S Sn 20 09 10.4 -3.6
baz=349
WHP Taichung City 3.35 355 *i* P Pn 20 08 36.0 +0.5
baz=354
WHP S Sn 20 09 11.4 -3.4
baz=354
TWQ1 Liyutan 3.44 353 *i* P Pn 20 08 36.7 0.0
baz=352
TWQ1 *i* S Sn 20 09 14.5 -2.3
baz=352
NNSB Datong 3.49 2 P Pn 20 08 38.8 +1.3
baz=7.0
NNSB S Sn 20 09 14.8 -3.4
baz=7.0
NNS Nan Shan 3.50 2 *i* P Pn 20 08 37.2 -0.4
baz=7.0
NNS *e*S Sn 20 09 15.0 -3.6
baz=7.0
NSY Sanyi 3.51 353 *e*S Sn 20 09 15.8 -2.7
baz=352
ENA Nanau 3.52 7 *i* P Pn 20 08 38.6 +0.9
baz=355
ENA *e*S Sn 20 09 15.4 -3.3
baz=355
LATG Datong 3.61 4 P Pn 20 08 39.5 +0.5
baz=4.0
LATG S Sn 20 09 17.8 -3.2
baz=4.0
NDT Datong Townshi 3.67 4 P Pn 20 08 38.6 -1.2
baz=9.0
NDT S Sn 20 09 21.1 -1.4
baz=9.0
NFF Wufeng Townshi 3.70 358 P Pn 20 08 39.2 -1.0
baz=357
NSTT Nanjuang 3.70 356 *i* P Pn 20 08 40.1 -0.1
baz=356
NSTT S Sn 20 09 19.4 -3.8
baz=356
TWC Suao 3.71 8 P Pn 20 08 41.1 +0.7
baz=8.0
ENTT Nioudou 3.71 4 *i* P Pn 20 08 39.8 -0.6
baz=4.0
ENTT S Sn 20 09 20.1 -3.4
baz=4.0
LIOB Emei 3.71 357 P Pn 20 08 40.6 +0.2
baz=356
YHNB Yeheng 3.73 2 P Pn 20 08 41.6 +0.9
baz=352
YHNB S Sn 20 09 21.1 -3.1
baz=352

NSK Sanguang 3.74 1 *i* P Pn 20 08 41.6 +0.8
baz=352
NSK *i* S Sn 20 09 22.1 -2.2
baz=352
TWE Neicheng 3.80 6 P Pn 20 08 42.9 +1.3
baz=6.0
FUSB Fushanzhiwuyua 3.83 4 *i* P Pn 20 08 42.9 +0.8
baz=12
NWLT Wulai 3.84 3 *i* P Pn 20 08 43.0 +0.8
baz=3.0
HATJ Hateruma jima 3.91 37 *e*S Sn 20 09 25.8 -2.5
TIPB Shuangxi 4.07 7 *i* P Pn 20 08 47.2 +1.9
baz=356
TIPB S Sn 20 09 26.9 -5.4
baz=356
IRIF Iriomote-Funau 4.09 33 P Pn 20 08 46.8 +1.2
IRIF S Sn 20 09 32.0 -0.8
NWF Wu-fen Shan 4.16 7 P Pn 20 08 47.3 +0.7
baz=356
JKRS Kuro-shima 4.17 37 P Pn 20 08 47.7 +1.2
JKRS S Sn 20 09 33.5 -1.2
SXI1 Grass Mountain 4.19 8 P Pn 20 08 48.0 +1.0
baz=356
SXI1 *e*S Sn 20 09 32.1 -3.3
baz=356
JIJ Ishigaki jima 4.34 37 P Pn 20 08 49.5 +0.5
JIJ S Sn 20 09 35.9 -3.1
JISG Ishigakijimahi 4.61 37 P Pn 20 08 53.2 +0.5
JISG S Sn 20 09 43.2 -2.4
JTJ Tarama 4.88 40 *e*P Pn 20 08 56.6 +0.2
JTJ S Sn 20 09 49.6 -2.6
JIRB Irabujima 5.30 42 *e*P Pn 20 09 02.5 +0.2
JMJ2 Miyako jima3 5.34 44 P Pn 20 09 03.4 +0.6
JMJ2 *e*S Sn 20 10 01.2 -2.5
KSRS Korea Array 17.46 18 P Pn 20 11 45.9 -0.5
0.2nm,0.3s,baz=188,slow=11,SNR=3.2
1.8nm,0.9s
CMAR Chiang Mai Arr 21.15 267 P P 20 12 31.5 +3.3
0.7nm,0.3s,baz=74,slow=9.5,SNR=4.6
0.7nm,0.3s
SONM Songino Array 29.41 339 P P 20 13 45.7 -0.6
0.9nm,0.6s,baz=155,slow=9.4,SNR=6.1
0.9nm,0.6s
MKAR Makanchi Array 40.77 319 P P 20 15 26.6 +2.7
0.2nm,0.4s,baz=102,slow=7.6,SNR=6.0
0.2nm,0.4s
PALK Pallekele 41.47 257 LR LR 20 34 56.6
comp=Z,94nm,18.4s,baz=239,slow=39
WRA Warramunga Arr 42.58 162 P P 20 15 38.1 -0.8
0.4nm,0.6s,baz=345,slow=9.0,SNR=2.2
0.4nm,0.6s
H11N1 WAKE ISLAND Hy 42.70 83 T T 21 01 03.8
baz=282
H11N2 WAKE ISLAND Hy 42.70 83 T T 21 01 05.8
baz=282
H11N3 WAKE ISLAND Hy 42.72 83 T T 21 01 01.0
baz=282
H11S3 WAKE ISLAND Hy 42.73 85 T T 21 00 59.6
baz=282,slow=74,SNR=3.9
H11S1 WAKE ISLAND Hy 42.74 85 T T 21 01 08.5
baz=282,slow=74,SNR=4.3
H11S2 WAKE ISLAND Hy 42.75 85 T T 21 01 10.5
baz=282,slow=74,SNR=4.0
ZALV Zalesovo Beam 43.04 329 P P 20 15 42.4 +0.1
0.8nm,0.6s,baz=123,slow=11,SNR=4.5
0.8nm,0.6s
ASAR Alice Springs 46.00 164 P P 20 16 06.8 +0.5
0.3nm,0.8s,baz=344,slow=7.1,SNR=2.3
0.3nm,0.8s
GEYT Alibeck 56.55 302 LR LR 20 44 19.2
comp=Z,77nm,18.3s,baz=87,slow=39

*GUC **10** 20:33:41.5±0.5, 22°.30S×67°.61W, h198km±12km, ML3.8*
*SCB **10** 20:33:43.6±0.8, 22°.22S×67°.52W, h174km±7km, ML3.4/2, MW3.3, Error ellipse: s-maj=4.6km s-min=2.3km az=0.0*
ISC 10 20:33:38.9±1.3, **22°.28S**±0°.06×**67°.50W**±0°.05, **h200**km, **n21**, σ1°**93**/27, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.84**	**87**	P	**Pn**	**20 34 17.6**	**+1.3**
PB06	**IPOC Station P**	**1.96**	**257**	P	**Pn**	**20 34 18.5**	**+1.3**
PB06				S	**Sn**	**20 34 44.0**	**-3.0**
PB06				IAML		20 34 48.4	
	127nm,0.2s						
MOCB	**Mochara**	**2.01**	**60**	P	**Pn**	**20 34 19.6**	**+1.6**
MOCB				S	**Sn**	**20 34 44.7**	**-3.6**
PB15	**IPOC Station P**	**2.04**	**243**	*e*P	**Pn**	**20 34 19.3**	**+1.2**
PB15				*i* S	**Sn**	**20 34 48.2**	**-0.4**
PB15	**IPOC Station P**	**2.04**	**243**	P	**Pn**	**20 34 19.8**	**+1.7**
PB03	**IPOC Station P**	**2.10**	**276**	*i* S	**Sn**	**20 34 48.4**	**-1.2**
PB03				IAML		20 34 49.9	
PB01	**IPOC Station P**	**2.22**	**303**	*i* S	**Sn**	**20 34 51.1**	**-0.7**
PB01				IAML		20 34 52.7	
	comp=E,171nm,0.1s						
PB02	**IPOC Station P**	**2.42**	**293**	*i* S	**Sn**	**20 34 54.4**	**-1.4**
PB02				IAML		20 34 56.0	
	comp=E,326nm,0.2s						
PB02	**IPOC Station P**	**2.42**	**293**	P	**Pn**	**20 34 23.1**	**+1.0**
PB04	**IPOC Station P**	**2.46**	**268**	P	**Pn**	**20 34 24.1**	**+1.6**
PB04				S	**Sn**	**20 34 52.8**	**-3.6**
PB04				IAML		20 34 57.6	
	comp=E,161nm,0.2s						
PB08	**IPOC Station P**	**2.63**	**324**	*e*P	Pn	20 34 50.4	+26
PB08				*i* S	**Sn**	**20 35 00.8**	**+0.4**
PATCX	**Punta Patache**	**2.87**	**300**	*e*P	Pn	20 34 39.6	+13
PATCX				*i* S	**Sn**	**20 35 03.3**	**-1.4**
PATCX				IAML		20 35 04.7	
	comp=N,143nm,0.3s						
HMBC	**Humberstone**	**2.99**	**311**	*i* S	**Sn**	**20 35 05.4**	**-1.9**
HMBC				IAML		20 35 06.8	
	comp=E,219nm,0.3s						
TA01	**Diego Aracena**	**3.03**	**304**	*i* S	**Sn**	**20 35 05.7**	**-2.2**
TA01				IAML		20 35 09.9	
	comp=E,98nm,0.2s						
GO01	**Chusmiza**	**3.04**	**328**	*e*P	**Pn**	**20 34 31.1**	**+1.5**
GO01				*i* S	**Sn**	**20 35 10.3**	**+1.2**
GO01	**Chusmiza**	**3.04**	**328**	P	**Pn**	**20 34 30.6**	**+1.0**
PB11	**IPOC Station P**	**3.22**	**321**	*i* S	**Sn**	**20 35 11.1**	**-1.2**
GO02	**Mina Guanaco**	**3.45**	**213**	P	**Pn**	**20 34 36.1**	**+1.9**
PSGC	**Pisagua**	**3.63**	**317**	*i* S	**Sn**	**20 35 18.1**	**-3.0**
MNMC	**Minye Minye**	**3.70**	**328**	*e*P	**Pn**	**20 34 39.0**	**+1.7**
MNMC				*i* S	**Sn**	**20 35 21.3**	**-1.7**
LPAZ	**La Paz**	**5.99**	**354**	P	**Pn**	**20 35 08.1**	**+1.4**

*IDC **10** 20:35:45.7±2.6, 17°.00S×179°.37W, h555km±18km, mb3.1/3, mbtmp4.0/4, Error ellipse: s-maj=111.8km s-min=25.9km az=144.0*
ISC 10 20:35:45.6±3.0, **16°.8S**±0°.9×**179°.5W**±0°.7, **h550**km, **n7**, σ0°**71**/7, **mb3.9**/3, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.54**	**247**	P	**P**	**20 36 58.9**	**+0.8**
	14nm,0.6s,baz=69,slow=5.4,SNR=16						
STKA	**Stephens Creek**	**38.29**	**240**	P	**P**	**20 42 18.8**	**-0.7**
	1.1nm,0.4s,baz=89,slow=8.5,SNR=6.0						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**43.83**	**259**	P	**P**	**20 43 03.6**	**0.0**
	0.6nm,0.7s,baz=94,slow=7.8,SNR=14						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**44.11**	**253**	P	**P**	**20 43 06.0**	**+0.1**
	4.0nm,0.5s,baz=88,slow=8.0,SNR=49						
	4.0nm,0.5s						
MMAI	**Mount Meron Ar**	**144.66**	**304**	PKP	**PKPdf**	**20 54 20.8**	**+0.4**
	1.2nm,0.5s,baz=51,slow=4.6,SNR=3.7						
GERES	**GERESS Array B**	**146.25**	**344**	PKPbc	**PKPbc**	**20 54 24.7**	**-0.2**
	0.6nm,0.5s,baz=46,slow=3.9,SNR=7.7						
DAVOX	**Davos/Dischmat**	**149.08**	**347**	PKPbc	**PKPbc**	**20 54 31.6**	**-0.8**
	2.5nm,0.4s,baz=333,slow=6.8,SNR=7.9						

*IDC **10** 20:37:50.9±1.3, 43°.62N×105°.53W, h0km, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=28.4km s-min=9.0km az=150.0*
*NEIC **10** 20:37:53.8±1.2, 43°.54N±0°.03×105°.36W±0°.06, h0km±2km, ML3.3/78, Error ellipse: s-maj=7.6km s-min=3.2km az=118.0*
ISC 10 20:37:52.8±1.0, **43°.52N**±0°.05×**105°.35W**±0°.05, **h0**km, **n81**, σ1°**29**/79, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

RSSD Black Hills 1.13 57 Pg Pg 20 38 13.7 -0.7
K22A Casper 1.22 225 Pg Pg 20 38 15.5 -0.7
PHWY Pilot Hill 2.22 182 Pn Pn 20 38 31.9 +0.8
RWWY Rawlins 2.29 217 Pn Pn 20 38 34.0 +2.0
RWWY IAML 20 39 08.0
142nm,1.2s
RWWY IAML 20 39 10.1
214nm,0.8s
N23A Red Feather La 2.66 190 Pn Pn 20 38 38.8 +1.6
N23A IAML 20 39 22.5
comp=E,126nm,0.7s
BRIGG Briggsdale 3.04 165 Pn 20 38 43.3 +1.1
BW06 Boulder Array 3.17 258 Pn 20 38 44.9 +0.8
BW06 IAML 20 39 33.2
comp=E,58nm,0.5s
PD31 Pinedale Array 3.17 258 Pn Pn 20 38 44.5 +0.5
PDAR Pinedale Array 3.17 258 Pn Pn 20 38 44.3 +0.2
comp=E,1.5nm,0.3s,baz=78,slow=17,SNR=29
PDAR Pg Pb 20 38 48.1 -1.9
comp=E,4.4nm,0.3s,baz=79,slow=17,SNR=51
PDAR Lg Lg 20 39 27.9
comp=E,18nm,0.3s,baz=76,slow=37,SNR=5.2
comp=E,4.5nm,0.5s
PDAR Pinedale Array 3.17 258 Pn Pn 20 38 44.4 +0.3
LAO LASA Array 3.23 349 Pn Pn 20 38 44.3 -0.5
RLMT Red Lodge 3.23 301 Pn Pn 20 38 45.5 +0.6
RLMT IAML 20 39 42.5
comp=E,61nm,0.7s
RLMT IAML 20 39 46.0
comp=E,72nm,2.5s
OGNE Ogallala 3.56 135 Pn Pn 20 38 50.4 +1.0
YMP Mirror Lake Pl 3.67 291 Pn 20 38 51.9 +0.9
LKWY Lake 3.79 288 Pn 20 38 54.2 +1.7
LKWY IAML 20 40 01.4
comp=E,53nm,0.8s
LKWY IAML 20 40 12.3
comp=E,34nm,2.4s
LOHW Long Hollow 3.82 273 Pn 20 38 54.8 +1.8
LOHW IAML 20 40 31.3
comp=E,35nm,0.1s
GCMT Greycliff 3.83 308 Pn 20 38 53.9 +0.8
H17A Grant Village 3.87 285 Pn 20 38 56.1 +2.3
H17A IAML 20 39 58.3
comp=E,40nm,2.0s
H17A IAML 20 40 00.0
comp=N,58nm,2.2s
FLWY Flagg Ranch 3.91 280 Pn Pn 20 38 56.5 +2.2
MOOW Moose Ponds 3.92 275 Pn Pn 20 38 55.6 +1.2
SNOW Snow King Moun 3.93 271 Pn 20 38 56.1 +1.5
SNOW IAML 20 40 25.4
comp=N,53nm,2.1s
YPP Pitchstone Pla 4.01 283 Pn 20 38 55.3 -0.5
O20A White River Ci 4.01 214 Pn Pn 20 38 57.3 +1.6
YNR Norris Junctio 4.02 289 Pn 20 38 56.9 +1.2
YNR IAML 20 40 06.6
comp=E,31nm,2.4s
IMW Indian Meadow 4.07 277 Pn 20 38 58.1 +1.6
IMW IAML 20 40 06.8
comp=E,37nm,0.6s
IMW IAML 20 40 10.0
comp=E,28nm,2.3s
TPAW Teton Pass 4.07 272 Pn 20 38 58.0 +1.4
TPAW IAML 20 40 19.7
comp=E,33nm,1.7s
TPAW IAML 20 40 20.3
comp=E,46nm,1.4s
FXWY Fox Creek 4.12 274 Pn 20 38 59.7 +2.5
YHH Holmes Hill 4.15 290 Pn 20 39 00.2 +2.5
YMR Madison River 4.20 288 Pn Pn 20 38 59.8 +1.5
YMR IAML 20 40 19.9
comp=E,42nm,0.8s
YMR IAML 20 40 41.9
comp=N,43nm,1.7s
AHID Auburn Hatcher 4.27 262 Pn 20 39 00.1 +0.8
AHID IAML 20 40 20.2
comp=N,39nm,1.6s
AHID IAML 20 40 20.7
comp=N,28nm,0.7s
RDMU Red Mountain 4.30 228 Pn 20 38 59.3 -0.4
RDMU IAML 20 40 25.5
comp=N,34nm,1.4s
RDMU IAML 20 40 45.7
comp=E,31nm,2.4s
YHB Horse Butte 4.38 288 Pn 20 39 00.6 -0.2
YHB IAML 20 40 15.1
comp=N,32nm,2.3s
YHB IAML 20 40 21.6
comp=E,27nm,1.9s
YHL Hebgen Lake 4.40 290 Pn 20 39 01.5 +0.4
YHL IAML 20 40 26.1
comp=N,38nm,1.3s
ECR Eagle Creek 4.42 266 Pn 20 39 00.5 -0.7
E28A Huff 4.50 46 Pn 20 39 02.4 +0.2
SMCO Snowmass 4.51 196 Pn 20 39 02.0 -0.7
SMCO IAML 20 40 25.5
comp=N,34nm,1.6s
SMCO IAML 20 40 30.5
comp=N,25nm,1.5s
Q24A Divide 4.55 178 Pn 20 39 02.1 -1.1
Q24A IAML 20 40 25.2
comp=E,30nm,0.6s
K31A O'Neill 4.92 98 Pn Pn 20 39 08.5 +0.5
BOZ Bozeman (W) 4.94 297 Pn 20 39 09.6 +1.2
BOZ IAML 20 40 38.4
comp=E,17nm,1.0s
BOZ IAML 20 40 40.3
comp=E,17nm,2.8s
KSCO Kaye Shedlock' 4.95 155 Pn 20 39 08.9 +0.4
HWUT Hardware Ranch 4.97 249 Pn 20 39 10.2 +1.4
HWUT IAML 20 40 54.4
comp=E,26nm,1.4s
DGMT Dagmar 5.02 9 Pn Pn 20 39 09.9 +0.7
TCUT Toone Canyon 5.09 244 Pn 20 39 11.6 +1.1
P18A Preston Nutter 5.34 225 Pn 20 39 15.8 +1.8
JLU Jordanelle 5.39 239 Pn 20 39 14.3 -0.3
EGMT Eagleton 5.46 327 Pn Pn 20 39 16.2 +0.8
LRM Limekiln Ridge 5.56 297 Pn Pn 20 39 18.6 +1.6
HRY Holter Researc 5.58 307 Pn Pn 20 39 17.4 +0.3
PV22 Blue Mesa, Par 5.62 209 Pn Pn 20 39 17.9 +0.2
PV07 Paradox Valley 5.66 207 Pn 20 39 19.8 +1.5
PV21 Cone Mtn., Par 5.66 210 Pn Pn 20 39 19.1 +0.7
PV15 Paradox Valley 5.69 206 Pn 20 39 19.6 +0.8
SPUT South Promonto 5.70 250 Pn 20 39 19.5 +0.7
P17A Butcher Ranch, 5.72 227 Pn 20 39 20.8 +1.7
HVU Hansel Valley 5.74 255 Pn 20 39 20.5 +1.1
PV23 Carpenter Ridg 5.77 210 Pn 20 39 21.4 +1.5
PV04 Paradox Valley 5.78 209 Pn Pn 20 39 20.1 +0.1
PV12 Saucer Basin, 5.82 208 Pn Pn 20 39 20.5 0.0
PV14 Lion Creek, Pa 5.84 210 Pn Pn 20 39 21.4 +0.6
PV10 Paradox Valley 5.85 210 Pn Pn 20 39 24.1 +3.1
PV20 West Nyswonger 5.85 209 Pn Pn 20 39 20.9 -0.1
PV11 David Mesa, Pa 5.86 208 Pn 20 39 21.4 +0.4
PV16 Nyswonger Mesa 5.86 209 Pn Pn 20 39 23.1 +2.0
BCYI Bear Canyon 5.87 281 Pn Pn 20 39 21.3 +0.1
SRU San Rafael Swe 5.88 223 Pn 20 39 22.2 +0.9
PV19 Morning Glory 5.88 209 Pn Pn 20 39 21.9 +0.5
PV03 Paradox Valley 5.89 208 Pn Pn 20 39 21.4 -0.1
PV01 Paradox Valley 5.91 205 Pn Pn 20 39 23.4 +1.6
PV18 Skein Mesa, Pa 5.92 208 Pn Pn 20 39 23.5 +1.7
PV13 Radium Mtn., P 5.96 207 Pn Pn 20 39 24.2 +1.7
TMUT Trail Mountain 6.10 228 Pn 20 39 26.3 +1.9
PV05 Paradox Valley 6.13 209 Pn Pn 20 39 25.4 +0.6
CBKS Cedar Bluff 6.33 136 Pn Pn 20 39 28.1 +0.8
ECSD EROS Data Cent 6.35 85 Pn Pn 20 39 28.0 +0.4
Q16A Castle Valley 6.35 226 Pn 20 39 29.4 +1.6
DUG Dugway, Tooele 6.48 242 Pn 20 39 31.6 +2.0
MSU Marysvale 7.18 228 Pn Pn 20 39 40.9 +1.6
I10CA LAC DU BONNET 9.24 40 I 21 35 10.0
comp=E,0.1nm,1.2s,baz=217,slow=322,SNR=6.2
ULM Lac du Bonnet 9.35 41 Pn Pn 20 40 04.5 -4.2
comp=E,0.8nm,0.3s,baz=230,slow=14,SNR=6.4
ULM Lg Lg 20 42 41.2
baz=306,slow=6.0
comp=E,3.2nm,0.4s
NVAR Mina Array Bea 11.03 247 Pn Pn 20 40 33.1 +1.2
comp=E,0.1nm,0.3s,baz=60,slow=13,SNR=2.5
comp=E,0.1nm,0.4s
TXAR Lajitas Array 14.22 174 Pg P 20 42 11.2 +48
baz=0.0,slow=20,SNR=2.4
TXAR Lg Lg 20 45 17.1
baz=352,slow=31,SNR=1.7

*IDC **10** 21:01:14.4±1.5, 45°.70N×106°.39W, h0km, mbtmp3.3/2,*

ML3.0/2, Error ellipse: s-maj=62.7km s-min=9.8km az=135.0

*NEIC **10** 21:01:15.4±2.1, 45°.87N±0°.04×106°.49W±0°.05, h0km±2km, ML3.0/50, Error ellipse: s-maj=8.0km s-min=4.9km az=327.0*

ISC 10 21:01:13.3±1.1**, 46°.02N**±0°.05×**106°.39W**±0°.07**, h0**km**, n34,** σ**1°.67**/34**, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAO	LASA Array	0.68	10	Pg	Pn	21 01 31.4	+1.0
LAO				IAML		21 01 48.6	
	371nm,0.4s						
RLMT	Red Lodge	2.21	247	Pn	Pn	21 01 51.1	-0.4
RLMT				IAML		21 02 20.3	
	108nm,0.4s						
GCMT	Greycliff	2.30	266		Pn	21 01 52.0	-0.6
RSSD	Black Hills	2.53	138	Pn	Pn	21 01 56.1	+0.3
RSSD				IAML		21 02 34.5	
	73nm,0.5s						
RSSD				IAML		21 02 38.2	
	76nm,0.4s						
DGMT	Dagmar	2.87	31	Pb	Pg	21 02 08.7	+0.3
YMP	Mirror Lake Pl	2.94	246		Pn	21 02 01.8	+0.1
EGMT	Eagleton	3.05	312		Pb	21 02 06.2	-2.3
LKWY	Lake	3.18	244		Pn	21 02 04.8	0.0
LKWY				IAML		21 03 01.2	
	35nm,1.3s						
LKWY				IAML		21 03 09.6	
	33nm,1.3s						
YNR	Norris Junctio	3.29	248		Pn	21 02 06.8	+0.5
YNR				IAML		21 02 55.4	
	comp=E,36nm,0.4s						
YNR				IAML		21 03 00.3	
	comp=N,44nm,0.6s						
H17A	Grant Village	3.37	243		Pn	21 02 08.7	+1.2
YHH	Holmes Hill	3.37	250	Pn	Pn	21 02 07.3	-0.2
YMR	Madison River	3.50	249		Pn	21 02 10.3	+1.2
YHL	Hebgen Lake	3.57	253		Pn	21 02 09.4	-0.8
YHL				IAML		21 03 05.9	
	comp=E,43nm,0.6s						
YHL				IAML		21 03 10.2	
	comp=N,41nm,0.7s						
YPP	Pitchstone Pla	3.58	242		Pn	21 02 13.4	+3.1
FLWY	Flagg Ranch	3.61	239	Pn	Pn	21 02 10.4	-0.3
FLWY				IAML		21 03 29.6	
	comp=N,32nm,2.2s						
YHB	Horse Butte	3.61	251		Pn	21 02 12.7	+2.0
YHB				IAML		21 03 27.4	
	comp=N,23nm,2.4s						
BOZ	Bozeman (W)	3.69	265		Pn	21 02 11.3	-0.4
BOZ				IAML		21 03 16.1	
	comp=N,22nm,0.5s						
QLMT	Earthquake Lak	3.74	253		Pn	21 02 13.2	+0.7
HRY	Holter Researc	3.83	282		Pn	21 02 13.2	-0.4
MOOW	Moose Ponds	3.84	235	Pn	Pn	21 02 13.0	-0.8
IMW	Indian Meadow	3.86	238		Pn	21 02 13.6	-0.6
IMW				IAML		21 03 16.0	
	comp=N,33nm,0.5s						
IMW				IAML		21 03 28.2	
	comp=N,43nm,0.6s						
BW06	Boulder Array	3.96	216	Pn	Pn	21 02 15.6	+0.1
BW06				IAML		21 03 15.9	
	comp=N,18nm,0.6s						
BW06				IAML		21 03 17.1	
	comp=N,18nm,1.6s						
PD31	Pinedale Array	3.96	216	Pn	Pn	21 02 15.5	-0.1
PDAR	Pinedale Array	3.96	216	Pn	Pn	21 02 15.6	+0.1
	comp=N,1.1nm,0.3s,baz=46,slow=12,SNR=48						
PDAR				Pg	Pb	21 02 23.8	-0.3
	comp=N,3.0nm,0.3s,baz=38,slow=19,SNR=28						
PDAR				Lg	Lg	21 03 11.1	
	comp=N,4.1nm,0.3s,baz=41,slow=34,SNR=11						
	comp=N,1.1nm,0.3s						
PDAR	Pinedale Array	3.96	216	Pn	Pn	21 02 15.8	+0.2
SNOW	Snow King Moun	4.02	232	Pn	Pn	21 02 17.4	+1.0
SNOW				IAML		21 04 24.6	
	comp=N,24nm,2.8s						
SNOW				IAML		21 04 29.4	
	comp=N,26nm,4.0s						
FXWY	Fox Creek	4.07	236		Pn	21 02 21.3	+4.3
TPAW	Teton Pass	4.11	234		Pn	21 02 19.8	+2.1
TPAW				IAML		21 04 28.5	
	comp=N,22nm,3.3s						
REDW	Red Top Meadow	4.14	232	Pn	Pn	21 02 21.7	+3.7
REDW				IAML		21 02 49.8	
	comp=N,24nm,0.6s						
REDW				IAML		21 03 44.5	
	comp=N,18nm,3.5s						
AHID	Auburn Hatcher	4.69	228	Pn	Pn	21 02 22.1	-3.4
AHID				IAML		21 03 50.6	
	comp=N,14nm,2.9s						
AHID				IAML		21 03 53.0	
	comp=N,12nm,2.1s						
MCMT	McKenzie Canyo	4.70	258		Pn	21 02 25.1	-0.6
N23A	Red Feather La	5.13	176	Pn	Pn	21 02 29.3	-2.4
I10CA	LAC DU BONNET	8.10	55	I		21 49 30.0	
	comp=N,0.1nm,1.1s,baz=233,slow=325,SNR=1.0						
ULM	Lac du Bonnet	8.21	55	Pn	Pn	21 03 15.6	+2.0
	comp=N,0.5nm,0.3s,baz=238,slow=14,SNR=2.0						
ULM				Lg	Lg	21 05 35.0	
	comp=N,0.8nm,0.3s,baz=169,slow=17,SNR=2.1						
	comp=N,1.3nm,0.3s						

---

*IDC **10** 21:09:14.6±2.3, 6°.31S×130°.40E, h138km±23km, mb3.5/4, mbtmp4.0/8, MS3.7/1, Error ellipse: s-maj=37.0km s-min=20.8km az=89.0*

*NEIC **10** 21:09:15.1±3.0, 6°.33S±0°.05×130°.38E±0°.05, h145km±11km, mb4.1/7, Error ellipse: s-maj=9.0km s-min=6.4km az=223.0*

ISC 10 21:09:14.9±0.6**, 6°.33S**±0°.05×**130°.34E**±0°.06**, h150**km**, n42,** σ**2°.03**/48**, mb3.9**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.85	346	P	Pn	21 09 51.3	+2.9
SAUI	Saumlaki	1.90	150	Pn	Pn	21 09 50.0	+1.2
SAUI				Sn	Sn	21 10 13.6	-1.4
FAKI	Fak Fak	3.89	29	Pn	Pn	21 10 13.2	-0.5
FAKI				Sn	Sn	21 10 57.5	-2.1
FAKI	Fak Fak	3.89	29	P	Pn	21 10 13.3	-0.5
SIJI	Sorong	5.51	10	P	Pn	21 10 34.5	-0.7
	16nm,0.2s,baz=192,slow=20,SNR=52						
SIJI				S	Sn	21 11 32.1	-5.7
	52nm,0.2s,baz=253,slow=23,SNR=14						
SANI	Sanana	6.08	314	P	Pn	21 10 45.3	+2.6
	12nm,0.6s						
MTN	Manton Dam	6.52	173	Pn	Pn	21 10 49.5	+1.0
MTN				Sn	Sn	21 11 59.6	-2.4
MTN	Manton Dam	6.52	173	P	Pn	21 10 49.6	+1.0
KDU	Kakadu	6.66	162	P	Pn	21 10 50.3	-0.1
SOEI	Soe	6.91	240	Pn	Pn	21 10 54.8	+0.9
SOEI				Sn	Sn	21 12 10.3	-1.2
SOEI	Soe	6.91	240	P	Pn	21 10 55.3	+1.4
	20nm,1.3s						
BATI	Baumata	7.64	239	P	Pn	21 11 04.1	+0.5
	14nm,0.4s,baz=156,slow=5.4,SNR=7.2						
BATI				S	Sn	21 12 25.2	-3.8
	13nm,0.3s,baz=45,slow=1.4,SNR=1.9						
KNRA	Kununurra	9.41	189		Pn	21 11 26.4	-0.8
KNRA	Kununurra	9.41	189	P	Pn	21 11 26.4	-0.8
	13nm,0.6s						
TOLI2	Tolitoli	12.07	307	Pn	Pn	21 12 04.7	+2.4
TOLI2	Tolitoli	12.07	307	P	P	21 12 09.1	+0.4
PLAI	Plampang	12.70	258	P	P	21 12 14.4	-1.3
	23nm,1.0s						
WB0	Warramunga Arr	13.92	164	P	Pn	21 12 25.2	-0.8
WRAB	Tennant Creek	14.07	164	Pn	Pn	21 12 28.1	+0.3
WRAB	Tennant Creek	14.07	164	P	Pn	21 12 27.4	-0.4
WRA	Warramunga Arr	14.07	164	P	Pn	21 12 26.1	-1.8
	1.3nm,0.5s,baz=350,slow=13,SNR=20						
WRA				S	Sn	21 14 53.5	-11
	3.1nm,0.4s,baz=334,slow=22,SNR=13						
WRA	Warramunga Arr	14.07	164	Pn	Pn	21 12 26.3	-1.6
WB2	Warramunga Arr	14.08	164	Pn	Pn	21 12 27.5	-0.4
DAV	Davao City (W)	14.14	340		P	21 12 30.8	-0.9
COEN	Coen	14.73	122	P	P	21 12 39.4	+1.1
COEN	Coen	14.73	122	P	P	21 12 39.9	+1.7
	10.0nm,0.8s						
QIS	Mount Isa	16.75	148	P	Pn	21 13 03.5	+2.5
AS31	Alice Springs	17.57	169	P	Pn	21 13 11.9	+1.2
ASAR	Alice Springs	17.57	169	P	Pn	21 13 11.9	+1.1
	2.0nm,0.5s,baz=344,slow=10,SNR=47						
ASAR				S	S	21 16 17.0	-7.8
	1.0nm,0.8s,baz=349,slow=24,SNR=5.9						
ASAR	Alice Springs	17.57	169	P	Pn	21 13 12.3	+1.6
MBWA	Marble Bar	17.96	214		P	21 13 13.6	-0.3
PSA00	Pilbara Seismi	18.24	213	P	P	21 13 18.1	+1.3
PSA00				IAmb	IAmb	21 13 59.5	
	comp=Z,34nm,1.5s						
KKM	Kota Kinabalu	18.70	311		P	21 13 23.2	+1.1
KKM				IAmb	IAmb	21 13 44.3	
	comp=Z,17nm,1.1s						
CMAR	Chiang Mai Arr	39.57	309	P	P	21 16 32.8	+1.0
	comp=Z,0.6nm,0.7s,baz=146,slow=7.3,SNR=6.0						
	comp=Z,0.6nm,0.7s						
RAO	Raoul Island	53.77	122	LR	LR	21 41 53.0	
	comp=Z,69nm,18.3s,baz=314,slow=36						
SONM	Songino Array	57.92	341	P	P	21 18 52.5	+1.0
	comp=Z,0.5nm,0.6s,baz=162,slow=5.6,SNR=4.9						
	comp=Z,0.5nm,0.6s						
MK31	Makanchi Array	67.86	327	P	P	21 19 58.5	+1.4
MK31				IAmb	IAmb	21 19 59.2	
	comp=Z,1.7nm,0.8s						
MKAR	Makanchi Array	67.86	327	P	P	21 19 58.5	+1.5
	comp=Z,1.9nm,0.4s,baz=113,slow=8.6,SNR=51						
	comp=Z,1.9nm,0.4s						
MKAR	Makanchi Array	67.86	327	P	P	21 19 57.7	+0.6
MAKZ	Makanchi	68.04	326	P	P	21 19 58.5	+0.3
MAKZ				IAmb	IAmb	21 20 00.1	
	comp=Z,1.6nm,0.5s						
ZALV	Zalesovo Beam	71.14	334	P	P	21 20 16.5	-0.4
	comp=Z,0.4nm,0.4s,baz=145,slow=3.0,SNR=2.4						
	comp=Z,0.4nm,0.4s						
VNDA	Vanda	73.06	173	P	P	21 20 29.1	+0.9
VNDA				IAmb	IAmb	21 20 31.0	
	comp=Z,4.0nm,1.5s						

---

*IDC **10** 22:04:26.7±1.1, 12°.88S×169°.37E, h632km±13km, mb3.6/18, mbtmp4.6/21, Error ellipse: s-maj=13.1km s-min=11.8km az=146.0*

*NOU **10** 22:04:27.9, 12°.93S×169°.35E, h638km, MLv5.1/23, Santa Cruz Islands Region*

*NEIC **10** 22:04:27.1±1.1, 12°.87S±0°.10×169°.4E±0°.1, h633km±7km, mb4.5/156, Error ellipse: s-maj=15.7km s-min=14.1km az=114.0*

ISC 10 22:04:27.6±0.4**, 12°.91S**±0°.06×**169°.38E**±0°.06**, h645**km**, n225,** σ**0°.89**/218**, mb4.4**/96**, 1C, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	4.92	193	P	P	22 06 01.4	-1.4
LIFNC	LIFOU	8.09	194	P	P	22 06 28.4	-0.9
LIFNC	LIFOU	8.09	194	P	P	22 06 28.7	-0.6
	156nm,1.1s						
MARNC	Mare, Loyalty	8.62	188	P	P	22 06 33.3	-0.9
MARNC	Mare, Loyalty	8.62	188	P	P	22 06 33.6	-0.6
	6.9nm,0.5s						
KOUNC	Koumac, New Ca	9.03	212	P	P	22 06 37.9	-0.2
KOUNC	Koumac, New Ca	9.03	212	P	P	22 06 39.5	+1.4
	48nm,1.0s						
DZM	Mont Dzumac	9.53	197	P	P	22 06 43.1	+0.2
	12nm,0.4s,baz=288,slow=10,SNR=37						
DZM	Mont Dzumac	9.53	197	P	P	22 06 42.9	-0.1
DZM	Mont Dzumac	9.53	197	P	P	22 06 43.4	+0.5
	26nm,1.1s						
NOUC	Port Laguerre	9.60	197	P	P	22 06 44.3	+0.8
	55nm,0.9s						
MSVF	Nonsavu	9.63	121	P	P	22 06 44.1	+0.1
	35nm,0.7s,baz=281,slow=7.9,SNR=25						
MSVF	Nonsavu	9.63	121	P	P	22 06 43.6	-0.4
MSVF	Nonsavu	9.63	121	P	P	22 06 44.2	+0.2
	81nm,0.9s						
OUENC	Ouen Island, N	9.76	194	P	P	22 06 44.4	-0.6
OUENC	Ouen Island, N	9.76	194	P	P	22 06 45.7	+0.7
	49nm,1.2s						
HNR	Honiara	9.88	290	P	P	22 06 44.8	-1.5
	851nm,0.3s,baz=173,slow=8.1,SNR=2.0						
HNR				S	S	22 08 37.5	-2.6
	775nm,0.3s,baz=65,slow=19,SNR=1.2						
HNR	Honiara	9.88	290	P	P	22 06 45.9	-0.4
HNR	Honiara	9.88	290	P	P	22 06 47.7	+1.4
FUNA	Funafuti	10.58	67	P	P	22 06 50.6	-2.5
TARA	Tarawa	14.60	14	P	P	22 07 28.7	-1.8
AFI	Afiamalu	18.35	95	P	P	22 08 05.0	+0.2
KRVT	Keravat (AS076	19.16	295	P	P	22 08 11.0	-1.1
	25nm,0.4s,baz=185,slow=5.0,SNR=10.0						
PMG	Port Moresby	22.08	277	P	P	22 08 38.5	+0.4
	7.7nm,0.3s,baz=99,slow=12,SNR=6.9						
	7.7nm,0.3s						
PMG	Port Moresby	22.08	277	P	P	22 08 37.9	-0.2
PMG				IAmb	IAmb	22 08 39.7	
	comp=Z,26nm,1.1s						
PMG	Port Moresby	22.08	277	P	P	22 08 40.2	+2.1
PMG	Port Moresby	22.08	277	P	P	22 08 40.3	+2.1
CTA	Charters Tower	23.28	249	P	P	22 08 47.4	-1.3
	comp=Z,2.7nm,0.4s,baz=60,slow=12,SNR=4.2						
	comp=Z,2.7nm,0.4s						
RMQ	Roma	23.60	232	P	P	22 08 52.2	+0.7
MTSU	Mount Surprise	24.69	255	P	P	22 09 01.8	+0.6
COEN	Coen	25.51	265	P	P	22 09 08.4	0.0
COEN				IAmb	IAmb	22 09 10.0	
	comp=Z,8.5nm,0.6s						
COEN	Coen	25.51	265	P	P	22 09 09.2	+0.8
BKZ	Black Stump Fm	26.90	168	P	P	22 09 19.7	-0.6
QRZ	Quartz Range	27.94	175	P	P	22 09 31.0	+1.8
BFZ	Birch Farm	28.31	169	P	P	22 09 31.1	-1.3
NNZ	Nelson	28.41	174	P	P	22 09 34.1	+0.9
SNZO	South Karori	28.67	172	P	P	22 09 34.5	-0.9
TUWZ	Tuamarina	28.69	173	P	P	22 09 35.5	-0.1
MSWZ	Moikau Station	28.86	171	P	P	22 09 36.5	-0.6
THZ	Tophouse	28.91	175	P	P	22 09 38.1	+0.5
BSWZ	Blackbirch Sta	28.96	173	P	P	22 09 37.9	-0.1
PLWZ	Palliser	29.01	171	P	P	22 09 37.1	-1.3
CMWZ	Cape Campbell	29.04	173	P	P	22 09 38.9	+0.2
QIS	Mount Isa	29.48	251	P	P	22 09 43.3	+0.5
KHZ	Kahutara	29.62	174	P	P	22 09 43.0	-0.6
LTZ	Lake Taylor	29.87	176	P	P	22 09 45.7	-0.1
LTZ				IAmb	IAmb	22 10 12.2	
	comp=Z,27nm,1.3s						
FOZ	Fox Glacier	30.51	179	P	P	22 09 51.0	-0.2
FOZ				IAmb	IAmb	22 10 05.1	
	comp=Z,23nm,1.2s						
RPZ	Rata Peaks	30.73	178	P	P	22 09 52.2	-0.9
	comp=Z,3.9nm,0.4s,baz=319,slow=12,SNR=2.3						
	comp=Z,3.9nm,0.4s						
RPZ	Rata Peaks	30.73	178	P	P	22 09 52.6	-0.4
MQZ	McQueen's Vall	30.81	175	P	P	22 09 53.2	-0.5
LBZ	Lake Benmore	31.37	179	P	P	22 09 57.9	-0.6
STKA	Stephens Creek	31.73	229	P	P	22 10 02.1	+0.4
	comp=Z,4.1nm,0.5s,baz=49,slow=8.3,SNR=20						
STKA				ScP	ScP	22 15 17.5	+1.4
	comp=Z,1.7nm,0.5s,baz=117,slow=4.5,SNR=4.7						
	comp=Z,4.1nm,0.5s						
STKA	Stephens Creek	31.73	229	P	P	22 10 02.7	+1.0
ODZ	Otahua Downs	32.04	178	P	P	22 10 03.5	-0.6
WAKE	Wake Island	32.10	355	P	P	22 10 04.2	-0.8
DCZ	Deep Cove	32.50	183	P	P	22 10 06.5	-1.4
TOO	Toolangi	32.52	217	P	P	22 10 09.0	+0.6
WR0	Warramunga Arr	34.10	253	P	P	22 10 21.1	-0.7
WR0				IAmb	IAmb	22 10 21.9	
	comp=Z,18nm,1.4s						
WB0	Warramunga Arr	34.21	254	P	P	22 10 22.2	-0.5
WB2	Warramunga Arr	34.27	254	P	P	22 10 22.6	-0.6
WRAB	Tennant Creek	34.27	254	P	P	22 10 22.5	-0.7
WRAB				IAmb	IAmb	22 10 23.4	
	comp=Z,24nm,1.2s						
WRAB	Tennant Creek	34.27	254	P	P	22 10 22.5	-0.7
WRA	Warramunga Arr	34.28	254	P	P	22 10 22.3	-1.0
	comp=Z,8.1nm,0.4s,baz=84,slow=8.5,SNR=196						
WRA				PcP	PcP	22 12 39.6	-0.6
	comp=Z,0.6nm,0.6s,baz=82,slow=3.4,SNR=2.5						
WRA				S	S	22 15 03.2	-4.1
	comp=Z,2.3nm,1.0s,baz=86,slow=14,SNR=7.3						
WRA				ScP	ScP	22 15 26.5	+1.1
	comp=Z,2.7nm,1.1s,baz=78,slow=4.2,SNR=7.5						
	comp=Z,8.1nm,0.4s						
WRA	Warramunga Arr	34.28	254	P	P	22 10 21.5	-1.8
AS01	Alice Springs	35.21	247	P	P	22 10 30.7	-0.2
AS31	Alice Springs	35.25	247	P	P	22 10 31.1	-0.2
ASAR	Alice Springs	35.25	247	P	P	22 10 30.9	-0.4
	comp=Z,14nm,0.4s,baz=76,slow=9.6,SNR=295						
ASAR				PcP	PcP	22 12 42.2	-0.8
	comp=Z,1.1nm,0.8s,baz=72,slow=3.0,SNR=5.5						
ASAR				S	S	22 15 19.0	-2.7
	comp=Z,1.3nm,0.9s,baz=77,slow=16,SNR=7.0						
ASAR				ScP	ScP	22 15 31.1	+2.2
	comp=Z,0.9nm,0.7s,baz=78,slow=4.8,SNR=7.1						
	comp=Z,14nm,0.4s						
ASAR	Alice Springs	35.25	247	P	P	22 10 31.0	-0.3
KDU	Kakadu	35.98	266	P	P	22 10 37.0	-0.2
BBOO	Buckleboo	36.31	231	P	P	22 10 40.0	+0.2
FAKI	Fak Fak	38.04	282	P	P	22 10 53.6	-0.5
KNRA	Kununurra	39.42	261	P	P	22 11 04.7	-0.3
KNRA				IAmb	IAmb	22 11 05.4	
	comp=Z,24nm,1.0s						
WRKA	Warakurna	40.53	247	P	P	22 11 14.0	+0.2
FORT	Forrest	41.99	238	P	P	22 11 25.1	0.0
BATI	Baumata	44.83	268	P	P	22 11 48.6	+1.4
	comp=Z,26nm,0.4s,baz=86,slow=15						
	comp=Z,26nm,0.4s						
PSA00	Pilbara Seismi	47.92	253	P	P	22 12 10.4	+0.1
MBWA	Marble Bar	48.02	253	P	P	22 12 10.8	-0.2
TOLI2	Tolitoli	50.18	282	P	P	22 12 26.5	-0.4
NWAO	Narrogin (SRO)	51.44	238	P	P	22 12 35.3	-0.4
NWAO				IAmb	IAmb	22 12 47.1	
	comp=Z,18nm,1.1s						
MORW	Morawa	51.91	243	P	P	22 12 39.0	-0.2
MJAR	Matsushiro Arr	57.30	330	P	P	22 13 15.9	-0.5
	comp=Z,1.3nm,0.6s,baz=170,slow=8.1,SNR=4.6						
	comp=Z,1.3nm,0.6s						
VNDA	Vanda	64.72	182	P	P	22 14 04.2	+0.2
	comp=Z,0.6nm,0.6s,baz=7.0,slow=6.5,SNR=9.7						
	comp=Z,0.6nm,0.6s						
VNDA	Vanda	64.72	182	P	P	22 14 04.5	+0.5
NJ2	Nanjing	65.86	314	*e*P	P	22 14 14.1	+2.4
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
PETK	Petropavlovsk-	66.52	352	P	P	22 14 15.9	+0.6
	comp=Z,4.2nm,0.8s,baz=199,slow=8.4,SNR=3.7						
	comp=Z,4.2nm,0.8s						
HHC	Hu-ho-hao-te	75.57	318	*e*P	P	22 15 08.9	+0.5
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,5.9s						
CMAR	Chiang Mai Arr	76.12	293	P	P	22 15 12.9	+1.1
	comp=Z,0.8nm,0.4s,baz=124,slow=4.1,SNR=10						
	comp=Z,0.8nm,0.4s						
CMAR	Chiang Mai Arr	76.12	293	P	P	22 15 11.7	-0.1
CHTO	Chiang Mai	76.23	293	P	P	22 15 11.9	-0.5
PZH	PanZhiHua	76.48	302	P	P	22 15 14.9	+1.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
QSPA	South Pole Qui	77.11	180	P	P	22 15 16.6	+0.2
P18K	Big Mountain,	77.53	18	P	P	22 15 18.7	+0.1
P18K				IAmb	IAmb	22 15 19.4	
	comp=Z,33nm,1.1s						
O18K	Koktuh Hills	77.91	17	P	P	22 15 18.1	-2.5
O18K				IAmb	IAmb	22 15 44.6	
	comp=Z,33nm,1.5s						
N18K	Kilae Creek	78.40	17	P	P	22 15 23.2	0.0
N18K				IAmb	IAmb	22 16 04.3	
	comp=Z,15nm,1.3s						
ILSW	Iliamna Southw	78.63	18	P	P	22 15 24.7	+0.1
ILSW				IAmb	IAmb	22 15 43.5	
	comp=Z,26nm,1.2s						
LZH	Lanzhou	78.65	311	*e*P	P	22 15 26.8	+1.5
LZH				pP	pwP	22 17 44.5	+3.9
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CNPM	China Poot	78.87	19	P	P	22 15 25.8	+0.1
BRLK	Bradley Lake	79.16	19	P	P	22 15 27.8	+0.6
BRLK				IAmb	IAmb	22 15 28.0	
	comp=Z,22nm,0.9s						
M19K	Big River Lodg	79.82	17	P	P	22 15 31.8	+1.2
M19K				IAmb	IAmb	22 15 57.7	
	comp=Z,20nm,1.4s						
SPU	Mount Spurr	79.91	18		pP	22 17 37.8	-5.5
L19K	White Mountain	79.92	16	IAmb	IAmb	22 15 35.2	
	comp=Z,14nm,0.9s						
M20K	Styx River	80.15	17	P	P	22 15 32.4	-0.1
TTA	Tatalina	80.23	15	P	P	22 15 33.6	+0.9
SUA	Susitna One	80.53	18	P	P	22 15 34.7	+0.3
K20K	Telida	81.08	16	P	P	22 15 37.9	+0.8
K20K				IAmb	IAmb	22 15 38.9	
	comp=Z,16nm,1.1s						
PPLA	Purkeypile	81.23	17	P	P	22 15 37.9	-0.1
KMRM	Mail Ridge	81.37	45	P	P	22 15 40.5	+1.4
KMRM				IAmb	IAmb	22 15 41.4	
	comp=Z,12nm,0.9s						
KHMM	Horse Mountain	81.63	45	P	P	22 15 42.2	+1.6
KHMM				IAmb	IAmb	22 15 42.5	
	comp=Z,7.9nm,0.8s						
CAST	Castle Rocks	81.67	16	P	P	22 15 39.6	-0.5
J20K	Nowinta River	81.73	15	IAmb	IAmb	22 15 41.9	
	comp=Z,16nm,0.8s						
SCM	Sheep Creek Mo	81.88	19	P	P	22 15 41.6	+0.3
KLU	Klutina	82.08	20	P	P	22 15 42.9	+0.6
KLU				IAmb	IAmb	22 16 21.6	
	comp=Z,34nm,1.4s						
KTH	Kantishna Hill	82.10	17	IAmb	IAmb	22 15 42.3	
	comp=Z,16nm,0.9s						
BMRM	Bremner River	82.15	21	P	P	22 15 42.7	+0.1
TRF	Thorofare Moun	82.20	17	P	P	22 15 42.5	-0.4
TRF				IAmb	IAmb	22 15 43.6	
	comp=Z,14nm,0.9s						
SONM	Songino Array	82.28	323	P	P	22 15 43.8	+0.1
	comp=Z,1.4nm,0.8s,baz=135,slow=5.9,SNR=7.6						
	comp=Z,1.4nm,0.8s						
SONM	Songino Array	82.28	323	P	P	22 15 44.2	+0.5
M24K	Tolsona, Glenn	82.45	19	P	P	22 15 45.2	+1.1
M24K				IAmb	IAmb	22 15 47.0	
	comp=Z,13nm,0.8s						
RND	Reindeer	82.58	18	P	P	22 15 44.4	-0.4
RND				IAmb	IAmb	22 15 45.1	
	comp=Z,7.6nm,0.8s						
N25K	Chitina, Valde	82.61	20	P	P	22 15 45.6	+0.6
N25K				IAmb	IAmb	22 15 45.7	
	comp=Z,13nm,0.8s						
ORV	Oroville	82.65	47	P	P	22 15 45.5	0.0
YBH	Yreka Blue Hor	82.69	44	P	P	22 15 46.2	+0.4
	comp=Z,6.4nm,0.9s,baz=170,slow=1.4,SNR=12						
	comp=Z,6.4nm,0.9s						
YBH	Yreka Blue Hor	82.69	44	P	P	22 15 46.6	+0.8
YBH				IAmb	IAmb	22 15 47.8	
	comp=Z,9.7nm,1.1s						
AFDM	Forest Hills D	82.79	47	P	P	22 15 46.5	+0.2
AFDM				IAmb	IAmb	22 15 47.9	
	comp=Z,8.2nm,1.0s						
CMB	Columbia Colle	82.86	48	P	P	22 15 46.9	+0.2
HUMO	Hull Mountain	82.89	43	P	P	22 15 47.5	+0.9
HUMO				IAmb	IAmb	22 15 48.8	
	comp=Z,10nm,0.9s						
GTA	Gaotai	82.92	313	⇑P	P	22 15 48.3	+1.2
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
I21K	Tanana	83.10	15	IAmb	IAmb	22 15 48.6	
	comp=Z,16nm,0.8s						
H21K	Melozitna Rive	83.27	15	P	P	22 15 48.4	+0.4
H21K				IAmb	IAmb	22 15 50.3	
	comp=Z,13nm,1.1s						
BCPM	Bancas Point	83.28	23	P	P	22 15 48.8	+0.6
IMAR	Indian Mountai	83.30	14	P	P	22 15 48.6	+0.4
ISA	Isabella, Lake	83.42	51	P	P	22 15 49.6	+0.1
ISA				IAmb	IAmb	22 15 51.3	
	comp=Z,9.0nm,1.1s						
EMB	Emerald Bay	83.43	48	P	P	22 15 49.8	+0.1
ELS	Elsinore Mount	83.52	53	P	P	22 15 50.3	+0.2
ELS				IAmb	IAmb	22 15 55.1	
	comp=Z,8.7nm,0.5s						
BEKR	Beckworth	83.58	47	P	P	22 15 50.6	+0.2
WRH	Wood River Hil	83.61	17	IAmb	IAmb	22 15 50.0	
	comp=Z,8.5nm,0.8s						
MDPB	Devils Postpil	83.67	49	P	P	22 15 47.6	-3.4
MDPB				IAmb	IAmb	22 15 52.7	
	comp=Z,8.1nm,1.0s						
OMMB	Old Mammoth Mi	83.73	49	P	P	22 15 51.3	0.0
OMMB				IAmb	IAmb	22 15 53.7	
	comp=Z,16nm,1.5s						
WAKR	Walker	83.73	48	P	P	22 15 51.0	-0.2
WAKR				IAmb	IAmb	22 15 53.3	
	comp=Z,11nm,1.1s						
CCB	Clear Creek Bu	83.83	17	IAmb	IAmb	22 15 51.0	
	comp=Z,6.3nm,0.7s						
MDM	Murphy Dome	83.94	17	IAmb	IAmb	22 15 51.3	
	comp=Z,6.8nm,0.8s						
IL31		84.18	17	IAmb	IAmb	22 15 52.8	

	comp=Z,11nm,0.9s						
ILAR	Eielson Array	84.18	17	P	P	22 15 51.3	-1.2
	comp=Z,9.1nm,0.8s,baz=235,slow=5.7,SNR=49						
	comp=Z,9.1nm,0.8s						
PAHR	Pah Rah Range	84.22	47	P	P	22 15 53.3	-0.2
PAHR				IAmb	IAmb	22 15 55.2	
	comp=Z,12nm,1.3s						
H04A	Detroit Lake	84.25	42	P	P	22 15 53.1	-0.2
WISH	Wishkah	84.28	39	P	P	22 15 53.4	+0.1
K05A	Summer Lake	84.32	44	P	P	22 15 54.4	+0.4
K05A				IAmb	IAmb	22 15 55.9	
	comp=Z,9.1nm,0.9s						
LHV	Little Huntoon	84.32	49	P	P	22 15 54.6	+0.9
LHV				IAmb	IAmb	22 15 56.0	
	comp=Z,9.4nm,1.2s						
PMD	Palm Desert	84.35	54	P	P	22 15 53.5	-0.6
PMD				IAmb	IAmb	22 15 55.1	
	comp=Z,6.3nm,1.2s						
BESE	Bessie Mountai	84.36	26	P	P	22 15 53.5	-0.1
YUH	Yuha Desert	84.38	55	P	P	22 15 53.8	-0.4
JIS	Juneau Island	84.39	26	P	P	22 15 53.9	+0.3
DSP	Deep Springs	84.40	50	P	P	22 15 54.3	+0.1
DSP				IAmb	IAmb	22 15 56.3	
	comp=Z,11nm,1.0s						
MOD	Modoc Plateau	84.41	45	P	P	22 15 53.3	-1.0
RYN	Ryan	84.45	48	P	P	22 15 55.0	+0.3
SCRK	Sand Creek	84.49	19	P	P	22 15 54.7	+0.5
SCRK				IAmb	IAmb	22 15 58.5	
	comp=Z,7.6nm,1.0s						
J25K	Salcha River,	84.52	18	IAmb	IAmb	22 15 54.8	
	comp=Z,10nm,1.1s						
NVAR	Mina Array Bea	84.53	49	P	P	22 15 55.7	+0.6
	comp=Z,2.7nm,0.8s,baz=227,slow=7.3,SNR=14						
	comp=Z,2.7nm,0.8s						
L27K	Beaver Creek,	84.55	20	P	P	22 15 54.4	0.0
BCAR	Beaver Creek A	84.57	20	P	P	22 15 54.0	-0.5
NV11	Mina Array Sit	84.64	49	P	P	22 15 55.2	-0.4
PINE	Pine Mountain	84.71	43	P	P	22 15 56.2	+0.4
PINE				IAmb	IAmb	22 15 57.7	
	comp=Z,7.3nm,0.8s						
QSM	Queen of Sheba	84.75	51	P	P	22 15 55.5	-0.4
HOOD	Mount Hood Mea	84.86	41	P	P	22 15 56.8	+0.4
HOOD				IAmb	IAmb	22 15 57.9	
	comp=Z,16nm,1.2s						
KVN	Kaiserville	84.91	48	P	P	22 15 57.4	+0.6
KVN				IAmb	IAmb	22 16 20.8	
	comp=Z,6.4nm,0.7s						
GMN	Gold Mountain	84.91	50	P	P	22 15 57.2	+0.2
MZP	Montezuma Peak	84.96	50	P	P	22 15 57.2	0.0
GWY	Greenwater Val	84.97	51	P	P	22 15 56.6	-0.6
WCT	Wildcat Mounta	85.21	51	P	P	22 15 58.2	-0.1
WCT				IAmb	IAmb	22 16 00.0	
	comp=Z,12nm,1.2s						
WCT					pP	22 18 15.1	+2.5
GLA	Glamis	85.38	55	P	P	22 15 58.0	-1.1
GLA				IAmb	IAmb	22 16 01.5	
	comp=Z,18nm,1.2s						
TPNV	Topopah Spring	85.55	51	P	P	22 15 59.9	0.0
I07A	Izee	85.78	43	P	P	22 16 01.0	+0.2
I07A				IAmb	IAmb	22 16 02.2	
	comp=Z,5.6nm,0.8s						
BLYC	Blythe	85.84	54	P	P	22 16 01.3	+0.1
BLYC				IAmb	IAmb	22 16 03.4	
	comp=Z,9.2nm,1.1s						
J08A	Circle Bar Ran	86.20	44	P	P	22 16 03.3	+0.5
J08A				IAmb	IAmb	22 16 40.5	
	comp=Z,9.3nm,0.7s						
V12A	Nelson	86.22	52	P	P	22 16 03.4	+0.3
V12A				IAmb	IAmb	22 16 04.9	
	comp=Z,13nm,1.4s						
SHPR	Sheep Range	86.23	51	P	P	22 16 03.6	+0.4
R11A	Troy Canyon, C	86.51	50	P	P	22 16 04.2	-0.3
G08A	Pilot Rock	86.60	42	P	P	22 16 05.0	+0.4
G08A				IAmb	IAmb	22 16 06.3	
	comp=Z,11nm,1.0s						
PRN	Pahroc Range	86.60	51	P	P	22 16 05.5	+0.6
PRN				IAmb	IAmb	22 16 07.1	
	comp=Z,12nm,0.9s						
HAWA	Hanford	86.64	41	P	P	22 16 04.6	-0.1
HAWA				IAmb	IAmb	22 16 06.5	
	comp=Z,6.8nm,0.8s						
BMAR	Burnt Mountain	86.76	16	P	P	22 16 05.0	+0.2
W13A	Hualapai Mount	86.77	53	P	P	22 16 05.8	-0.1
E08A	Dider Farm, El	86.98	41	P	P	22 16 06.6	+0.4
D08A	Wollman Farm,	87.29	41	P	P	22 16 08.3	+0.7
D08A				IAmb	IAmb	22 16 09.4	
	comp=Z,6.7nm,0.9s						
BMO	Blue Mountains	87.53	43	IAmb	IAmb	22 16 10.4	
	comp=Z,6.4nm,1.1s						
E09A	Wood Farm, Sta	87.58	41	P	P	22 16 09.4	+0.4
E09A				IAmb	IAmb	22 16 10.6	
	comp=Z,9.3nm,1.1s						
SPR3	Spring Creek 3	87.65	49	P	P	22 16 10.6	+0.6
SPR3				IAmb	IAmb	22 16 11.6	
	comp=Z,8.3nm,0.9s						
LCMT	Little Creek M	87.85	51	P	P	22 16 10.9	+0.2
LCMT				IAmb	IAmb	22 16 12.8	
	comp=Z,8.4nm,1.0s						
PSUT	Pine Spring	87.86	50	P	P	22 16 11.3	+0.5
PSUT				IAmb	IAmb	22 16 12.6	
	comp=Z,5.5nm,0.9s						
CCUT	Cedar City	87.92	51	P	P	22 16 11.7	+0.5
CCUT				IAmb	IAmb	22 16 13.5	
	comp=Z,6.0nm,0.9s						
F10A	Beach Ranch, E	87.98	42	P	P	22 16 10.8	-0.3
F10A				IAmb	IAmb	22 16 12.3	
	comp=Z,11nm,0.8s						
MFID	Camas Ranch	88.03	45	P	P	22 16 11.4	+0.1
MFID				IAmb	IAmb	22 16 13.1	
	comp=Z,6.1nm,0.9s						
SZCU	Shurtz Canyon	88.14	51	P	P	22 16 11.8	-0.4
KNB	Kanab	88.17	52	P	P	22 16 13.0	+0.7
KNB				IAmb	IAmb	22 16 14.5	
	comp=Z,6.9nm,1.2s						
U15A	North Rim	88.40	52	P	P	22 16 13.7	+0.2
U15A				IAmb	IAmb	22 16 15.8	
	comp=Z,9.1nm,0.9s						
TUC	Tucson	88.42	56	P	P	22 16 14.1	+0.7
PLID	Pearl Lake	88.48	43	P	P	22 16 13.8	+0.2
WUAZ	Wupatki	88.85	53	P	P	22 16 15.3	-0.1
WUAZ				IAmb	IAmb	22 16 17.6	
	comp=Z,6.0nm,0.9s						
NEW	Newport	88.86	40	P	P	22 16 14.6	-0.4
NEW				IAmb	IAmb	22 16 16.6	
	comp=Z,4.3nm,0.9s						
MTPU	Mount Pierson	88.96	51	P	P	22 16 16.9	+0.8
MTPU				IAmb	IAmb	22 16 18.8	
	comp=Z,5.4nm,0.9s						
MVU	Marysvale	89.08	50	P	P	22 16 16.9	+0.4
MSU	Marysvale	89.11	50	P	P	22 16 17.1	+0.5
DUG	Dugway, Tooele	89.14	48	P	P	22 16 17.4	+0.7
319A	Douglas	89.39	58	P	P	22 16 16.9	-1.1
319A				IAmb	IAmb	22 16 20.3	
	comp=Z,7.7nm,0.8s						
W18A	Petrified Fore	90.03	54	P	P	22 16 21.3	+0.4
W18A				IAmb	IAmb	22 16 23.3	
	comp=Z,9.0nm,1.0s						
FXWY	Fox Creek	91.42	46	P	P	22 16 26.4	-0.8
PV23	Carpenter Ridg	91.47	51	P	P	22 16 27.7	+0.1
PV23				IAmb	IAmb	22 16 29.5	
	comp=Z,6.9nm,0.8s						
PV03	Paradox Valley	91.55	51	P	P	22 16 27.7	-0.2
PV22	Blue Mesa, Par	91.67	51	P	P	22 16 28.4	0.0
PV22				IAmb	IAmb	22 16 30.1	
	comp=Z,3.9nm,0.8s						
PDAR	Pinedale Array	92.21	47	P	P	22 16 30.8	-0.1
WMQ	Urumqi	92.93	314	*e*P	P	22 16 35.5	+1.6
TXAR	Lajitas Array	93.61	61	P	P	22 16 38.0	+0.6
	comp=Z,0.6nm,0.8s,baz=234,slow=4.3,SNR=6.1						
	comp=Z,0.6nm,0.8s						
TXAR	Lajitas Array	93.61	61	P	P	22 16 37.4	0.0
YKA	Yellowknife Ar	95.00	27	P	P	22 16 42.2	-0.5
	comp=Z,4.7nm,0.8s,baz=262,slow=4.5,SNR=6.0						
	comp=Z,4.7nm,0.8s						
MK31	Makanchi Array	97.32	316	Pdif	Pdif	22 16 53.2	-0.3
MK31				IAmb	IAmb	22 16 55.6	
	comp=Z,2.4nm,1.2s						
MKAR	Makanchi Array	97.32	316	P	Pdif	22 16 53.5	-0.1
	comp=Z,0.9nm,0.8s,baz=95,slow=5.7,SNR=7.1						
	comp=Z,0.9nm,0.8s						
MKAR	Makanchi Array	97.32	316		Pdif	22 16 52.9	-0.6
KAN16	Harper SW Stat	99.69	54		pwP	22 19 24.5	-1.8
ARCES	ARCESS Array B	119.00	346	PKP	PKPdf	22 22 03.5	-0.7
	comp=Z,1.4nm,0.5s,baz=73,slow=2.5,SNR=35						
FINES	FINESS Array B	124.78	340	PKP	PKPdf	22 22 14.9	-0.4
	comp=Z,2.6nm,0.9s,baz=116,slow=3.2,SNR=4.7						
GURO	Guroymak-BITLI	126.99	309		PKPdf	22 22 21.4	+0.9
SGRT	San Giovanni R	143.23	326		PKPab	22 22 49.0	+0.2
SENIN	Lac Senin/Sane	143.38	339		PKPab	22 22 49.9	+0.4
KEST	Kesra	151.01	325	PKPbc	PKPbc	22 23 10.4	+0.5
	comp=Z,5.4nm,1.1s,baz=90,slow=2.0,SNR=3.8						
ESDC	Sonseca Array	152.70	349	PKPbc	PKPbc	22 23 13.6	+0.1
	comp=Z,0.8nm,0.8s,baz=20,slow=4.7,SNR=5.1						
ESDC				PKPab	PKPab	22 23 27.4	-0.1
	comp=Z,0.4nm,0.6s,baz=2.8,slow=4.4,SNR=5.5						

IDC ***10*** *22:04:59.1±1.9, 43°.70N×105°.48W, h0km, mb4.0/3, mbtmp3.9/6, ML3.6/3, Error ellipse: s-maj=58.7km s-min=8.3km az=152.0*

NEIC ***10*** *22:05:01.0±1.8, 43°.70N±0°.06×105°.31W±0°.05, h0km±2km, ML3.2/76, Error ellipse: s-maj=10.0km s-min=5.3km az=339.0*

ISC 10 22:04:59.6±0.8**, 43°.78N**±0°.05×**105°.27W**±0°.05**, h0km, n43, σ1§14**/41**, mb4.5**/3**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.95	68		Pb	22 05 19.4	+0.2
K22A	Casper	1.45	220		Pn	22 05 25.2	-2.1
PHWY	Pilot Hill	2.48	183		Pn	22 05 41.8	+0.3
PHWY				IAML		22 06 17.1	
	175nm,0.3s						
PHWY				IAML		22 06 17.1	
	115nm,0.3s						
RWWY	Rawlins	2.53	215		Pn	22 05 43.0	+0.8
N23A	Red Feather La	2.92	190		Pn	22 05 48.2	+0.6
N23A				IAML		22 06 31.4	
	comp=E,67nm,0.3s						
N23A				IAML		22 06 35.4	
	comp=N,88nm,0.3s						
LAO	LASA Array	2.99	347		Pb	22 05 53.2	-0.6
RLMT	Red Lodge	3.16	297		Pn	22 05 51.9	+1.0
RLMT				IAML		22 06 41.6	
	comp=N,59nm,0.3s						
RLMT				IAML		22 06 50.3	
	comp=N,61nm,0.3s						
BRIGG	Briggsdale	3.27	167		Pn	22 05 52.4	+0.1
BW06	Boulder Array	3.29	254		Pn	22 05 53.1	+0.4
BW06				IAML		22 06 39.9	
	comp=N,55nm,0.3s						
BW06				IAML		22 06 41.9	
	comp=N,66nm,0.3s						
PD31	Pinedale Array	3.29	254		Pn	22 05 53.1	+0.4
PDAR	Pinedale Array	3.29	254	Pn	Pn	22 05 52.9	+0.2
	comp=N,7.1nm,0.3s,baz=74,slow=14,SNR=47						
PDAR				Lg	Lg	22 06 36.7	
	comp=N,19nm,0.3s,baz=74,slow=33,SNR=11						
	comp=N,9.0nm,0.3s						
YMP	Mirror Lake Pl	3.64	287		Pn	22 05 58.1	+0.6
OGNE	Ogallala	3.71	139		Pn	22 05 59.2	+0.9
LKWY	Lake	3.77	284		Pn	22 05 59.5	+0.2
LKWY				IAML		22 07 03.5	
	comp=N,32nm,3.0s						
H17A	Grant Village	3.87	281		Pg	22 06 12.1	-1.8
H17A				IAML		22 07 02.9	
	comp=E,35nm,0.6s						
H17A				IAML		22 07 06.7	
	comp=N,34nm,1.5s						
FLWY	Flagg Ranch	3.94	276	Pn	Pn	22 06 02.6	+1.1
FLWY				IAML		22 07 09.1	
	comp=N,30nm,1.6s						
MOOW	Moose Ponds	3.97	271		Pn	22 06 03.5	+1.6
SNOW	Snow King Moun	4.00	267		Pn	22 06 03.7	+1.3
SNOW				IAML		22 07 05.4	
	comp=N,36nm,1.3s						
SNOW				IAML		22 07 16.5	
	comp=N,40nm,1.3s						
YNR	Norris Junctio	4.00	285		Pn	22 06 02.2	-0.2
YPP	Pitchstone Pla	4.02	279		Pn	22 06 03.5	+0.7
REDW	Red Top Meadow	4.08	266		Pn	22 06 03.8	+0.3
REDW				IAML		22 07 14.0	
	comp=N,40nm,1.3s						
REDW				IAML		22 07 25.3	
	comp=N,43nm,1.4s						
IMW	Indian Meadow	4.10	274		Pn	22 06 05.0	+1.1
IMW				IAML		22 07 14.8	
	comp=N,24nm,0.7s						
YHH	Holmes Hill	4.13	286		Pn	22 06 06.4	+2.2
TPAW	Teton Pass	4.13	268		Pn	22 06 05.6	+1.3
TPAW				IAML		22 07 33.6	
	comp=N,30nm,1.0s						
FXWY	Fox Creek	4.18	270		Pn	22 06 05.8	+0.9
YMR	Madison River	4.19	284		Pn	22 06 06.1	+1.1
YMR				IAML		22 07 28.4	
	comp=N,29nm,1.7s						
YMR				IAML		22 07 39.6	
	comp=E,23nm,1.5s						
O20A	White River Ci	4.26	212		Pn	22 06 05.8	-0.2
O20A				IAML		22 07 18.4	
	comp=E,41nm,0.3s						
E28A	Huff	4.28	48	Pn	Pn	22 06 08.3	+2.3
YHB	Horse Butte	4.37	285		Pn	22 06 09.2	+1.7
YHB				IAML		22 07 30.5	
	comp=N,18nm,2.4s						
AHID	Auburn Hatcher	4.38	259		Pn	22 06 07.9	+0.4
AHID				IAML		22 07 16.9	
	comp=N,34nm,0.3s						
AHID				IAML		22 07 27.5	
	comp=N,36nm,1.0s						
YHL	Hebgen Lake	4.38	286	Pn	Pn	22 06 10.1	+2.5
YHL				IAML		22 07 30.3	
	comp=N,28nm,1.4s						
ECR	Eagle Creek	4.50	263		Pn	22 06 09.0	-0.3
RDMU	Red Mountain	4.52	226		Pn	22 06 09.6	0.0
RDMU				IAML		22 07 25.3	
	comp=E,28nm,1.1s						
QLMT	Earthquake Lak	4.55	286		Pn	22 06 10.9	+1.1
SMCO	Snowmass	4.77	196		Pb	22 06 26.4	+2.0
SMCO				IAML		22 07 35.4	
	comp=E,16nm,0.7s						
Q24A	Divide	4.81	179		Pn	22 06 12.9	-0.7
Q24A				IAML		22 07 36.7	
	comp=E,27nm,0.9s						
Q24A				IAML		22 07 39.6	
	comp=N,18nm,0.3s						
BOZ	Bozeman (W)	4.89	294	IAML		22 07 38.9	
	comp=N,15nm,2.9s						
HWUT	Hardware Ranch	5.12	247	IAML		22 07 39.0	
	comp=N,18nm,1.2s						
HWUT				IAML		22 07 39.8	
	comp=N,21nm,2.6s						
ELK	Elko	7.99	251	Pn	Pn	22 06 57.3	+0.1
	comp=N,0.3nm,0.3s,baz=69,slow=8.6,SNR=2.3						
ELK				Lg	Lg	22 09 02.8	
	comp=N,0.1nm,0.3s,baz=180,slow=17,SNR=1.4						
	comp=N,0.4nm,0.3s						
ULM	Lac du Bonnet	9.11	41	Pn	Pn	22 07 12.0	-0.3
	comp=N,1.6nm,0.3s,baz=227,slow=13,SNR=10						
ULM				Lg	Lg	22 09 41.7	
	comp=N,0.2nm,0.3s,baz=256,slow=0.9,SNR=2.0						
	comp=N,3.1nm,0.3s						
ARCES	ARCESS Array B	61.38	18	P	P	22 15 15.9	-0.9
	comp=N,4.0nm,1.1s,baz=332,slow=7.4,SNR=4.5						
	comp=N,4.0nm,1.1s						
FINES	FINESS Array B	68.00	23	P	P	22 16 00.2	+0.1
	comp=N,3.2nm,1.0s,baz=320,slow=5.6,SNR=2.1						
	comp=N,3.2nm,1.0s						
MKAR	Makanchi Array	89.57	355	P	P	22 17 59.3	+0.5
	comp=N,0.2nm,0.7s,baz=24,slow=5.5,SNR=1.4						
	comp=N,0.2nm,0.7s						

IDC 10 22:33:48.2±4.8**, 15°.34S**×**173°.99W, h0km, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=380.7km s-min=36.5km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.31	257	P	P	22 42 39.3	-0.2
	0.3nm,0.5s,baz=93,slow=7.9,SNR=2.3						
	0.3nm,0.5s						
ASAR	Alice Springs	49.59	252	P	P	22 42 41.6	0.0
	0.9nm,0.5s,baz=88,slow=8.5,SNR=13						
	0.9nm,0.5s						
PDAR	Pinedale Array	82.60	42	P	P	22 46 13.6	-0.1
	0.4nm,0.8s,baz=215,slow=2.9,SNR=3.2						
	0.4nm,0.8s						

WEL 10 22:42:27.8±0.9**, 31°S**±23°×**18°0W**±6°4**, h359km**±26km**, M4.4**/12**, mB4.8**/11**, MLv5.0**/12**, Mw(mB)4.0**/11**, Error ellipse: s-maj=0.1km s-min=0.0km az=109.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.14	46	P	Pn	22 43 20.0	-0.9
GLKZ				S	S	22 44 04.0	+0.3
MXZ	Matakaoa Point	6.98	193	P	Pn	22 44 09.9	-0.2
MXZ				S	S	22 45 33.5	+0.3
WMGZ	Waiomatatini S	7.21	192	P	Pn	22 44 13.2	+0.5
WMGZ				S	S	22 45 40.3	+2.2
HAZ	Te Kaha	7.28	196	P	Pn	22 44 13.6	+0.1
HAZ				S	S	22 45 40.9	+1.2
PKGZ	Pakihiroa	7.34	194	P	Pn	22 44 13.7	-0.6
PKGZ				S	S	22 45 43.3	+2.2
RUGZ	Raukumara Rang	7.51	196	P	Pn	22 44 16.9	+0.6
RUGZ				S	S	22 45 45.8	+1.0
TWGZ	Tauwhareparae	7.64	194	P	P	22 44 19.3	+0.3
TWGZ				S	S	22 45 48.9	+1.4
MWZ	Matawai	7.89	196	P	Pn	22 44 20.4	-0.3
MWZ				S	S	22 45 53.0	+0.1
CNGZ	Carnagh Statio	7.89	192	P	Pn	22 44 20.6	-0.1
TKGZ	Te Karaka	7.92	194	P	P	22 44 22.1	0.0
TKGZ				S	S	22 45 52.6	-0.8
UTU	Utuhina	8.14	204	P	S	22 46 14.8	+17
RRRZ	Republican Roa	8.18	201	P	P	22 44 25.4	-1.1
MUGZ	Murupara	8.23	200	P	Pn	22 44 25.3	+0.7
RTZ	Ruatahuna	8.30	198	P	Pn	22 44 26.0	+0.5
RAHZ	Arahi	8.55	197	P	Pn	22 44 29.1	+0.6
RAHZ				S	S	22 46 06.9	-0.3
RAHZ	Arahi	8.55	197	P	S	22 46 06.5	-0.7
MTHZ	Maungataniwha	8.56	199	P	Pn	22 44 26.1	-2.5
MTHZ				S	S	22 46 05.9	-1.4
MTHZ	Maungataniwha	8.56	199	P	S	22 46 08.5	+1.2
WHHZ	Waihua	8.67	196	P	S	22 46 10.6	+0.9
WATZ	Wairara	8.77	204	P	S	22 46 18.0	+5.9
NMHZ	Naumai	8.80	198	P	Pn	22 44 31.3	-0.1
RATZ	Rangitukua	8.90	204	P	S	22 46 16.9	+2.0
ARHZ	Aropaoanui	8.90	197	P	Pn	22 44 31.8	-0.8
ARHZ				S	S	22 46 13.8	-1.0
BKZ	Black Stump Fm	8.95	199	P	S	22 46 12.6	-3.2
RITZ	Rihia Road	8.97	203	P	S	22 46 18.8	+2.4
KATZ	Kakaramea	9.03	204	P	S	22 46 18.8	+1.1
NTVZ	North Tongarir	9.14	203	P	S	22 46 21.2	+0.9
TMVZ	Te Maari	9.15	203	P	S	22 46 21.4	+1.0
KRVZ	Karewarewa	9.15	203	P	S	22 46 21.1	+0.7
MCHZ	McNeill Hill	9.15	198	P	S	22 46 22.1	+1.9
WTVZ	West Tongariro	9.19	204	P	S	22 46 21.7	+0.5
NNVZ	North Ngauruho	9.19	203	P	S	22 46 21.9	+0.6
KWHZ	Kaweka Forest	9.21	199	P	S	22 46 20.8	-0.7
CKHZ	Cape Kidnapper	9.26	196	P	Pn	22 44 36.2	-0.7
CKHZ				S	S	22 46 21.3	-1.3
BHHZ	Black Hill Sta	9.37	201	P	S	22 46 24.4	-0.7
KAHZ	Kahuranaki	9.44	196	P	S	22 46 27.3	+0.9
TSZ	Takapari Road	9.93	200	P	S	22 46 32.6	-4.6
PRHZ	Porangahau	9.94	197	P	S	22 46 30.4	-7.0
BFZ	Birch Farm	10.43	197	P	S	22 46 43.5	-4.6

ISK ***10*** *22:42:57.5, 34°.92N×30°.78E, h83km, ML3.4/21*

HLW ***10*** *22:42:58.7, 35°.01N×30°.62E, h31km±10km, Md4.0*

NIC ***10*** *22:42:58.7±0.0, 35°.25N×30°.78E, h66km±9km, Ml3.8/7*

IDC ***10*** *22:42:59.4±1.9, 35°.04N×30°.70E, h42km±20km, mb3.6/5, mbtmp3.6/11, ML3.6/6, MS1.9/1, Error ellipse: s-maj=22.6km s-min=17.9km az=72.0*

GII ***10*** *22:43:01.8±0.5, 34°.88N×30°.91E, h80km, MD3.3/2, Mm3.3/4*

DDA ***10*** *22:43:01.0±0.0, 35°.11N×30°.83E, h37km, MW3.7*

ISC 10 22:42:59.6±1.3**, 35°.02N**±0°.03×**30°.76E**±0°.03**, h38km**±2km**, n108, σ1§66**/152**, mb3.8**/6**, 3C-3D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKMS	Akamas	1.29	89⇓	*e*P	Pn	22 43 21.0	-0.2
AKMS				S	Sn	22 43 38.6	+1.4
AKMS				AML	AML	22 43 44.3	
	5.7nm,0.3s						
AKMS				AML	AML	22 43 44.3	
	5.7nm,0.3s						
AKMS				AML	AML	22 43 45.5	
	4.4nm,0.3s						
AKMS				AML	AML	22 43 45.5	
	4.4nm,0.3s						
NATA	Nata	1.51	98⇓	*i*P	Pn	22 43 24.4	+0.3
NATA				S	Sn	22 43 44.3	+1.8
NATA				AML	AML	22 43 52.7	
	7.5nm,0.4s						
NATA				AML	AML	22 43 52.7	
	7.5nm,0.4s						
NATA				AML	AML	22 44 06.2	
	5.7nm,0.7s						
NATA				AML	AML	22 44 06.2	
	5.7nm,0.7s						
ALFC	Alefka	1.52	84⇓	*i*P	Pn	22 43 24.1	-0.1
ALFC				S	Sn	22 43 42.7	0.0
ALFC				AML	AML	22 43 43.3	
	3.7nm,0.3s						
ALFC				AML	AML	22 43 43.3	
	3.7nm,0.3s						
ALFC				AML	AML	22 43 53.0	
	5.5nm,0.4s						
ALFC				AML	AML	22 43 53.0	
	5.5nm,0.4s						
AKAS	Kas	1.54	323	PN	Pn	22 43 25.5	+0.9
AKAS				SN	Sn	22 43 46.2	+2.8
AKAS	Kas	1.54	323	P	Pn	22 43 32.2	+7.6
OSC1	CSNet OBS 1	1.57	164	P	Pn	22 43 28.7	+3.8
OSC1				S	Sn	22 43 50.5	+6.5
TROD	Troodos	1.73	92	P	Pn	22 43 26.5	-0.9
TROD				S	Sn	22 43 50.6	+2.3
TROD				AML	AML	22 44 02.5	
	1.2nm,0.5s						
TROD				AML	AML	22 44 02.5	
	1.2nm,0.5s						
TROD				AML	AML	22 44 03.0	
	1.2nm,0.4s						
TROD				AML	AML	22 44 03.0	
	1.2nm,0.4s						
GAZI	Gazipasa	1.76	46	PN	Pn	22 43 27.1	-0.4
GAZI	Gazipasa	1.76	46	P	Pn	22 43 26.5	-1.1
GAZI				S	Sn	22 43 47.2	-1.4
GAZI				*i* AML	AML	22 43 53.0	
	comp=E,221nm,0.4s						
GAZI				*i* AML	AML	22 43 54.0	
	comp=N,262nm,0.6s						
SZAC	Souni	1.76	98	P	Pn	22 43 27.6	0.0
SZAC				S	Sn	22 43 50.5	+1.6
SZAC				AML	AML	22 43 52.2	
	2.7nm,0.2s						
SZAC				AML	AML	22 43 52.2	
	2.7nm,0.2s						
SZAC				AML	AML	22 43 59.4	
	1.9nm,0.3s						
SZAC				AML	AML	22 43 59.4	
	1.9nm,0.3s						
KEPZ	Antalya-Kepez	2.00	20	P	Pn	22 43 31.2	+0.2
KEPZ				S	Sn	22 43 54.7	-0.1
KEPZ				*i* AML	AML	22 44 01.0	
	comp=N,236nm,0.8s						
KEPZ				*i* AML	AML	22 44 02.0	
	comp=E,114nm,0.7s						
KORT	Korkueli	2.01	351	P	Pn	22 43 35.0	+3.9
ASGA	Asgata	2.06	96⇑	*e*P	Pn	22 43 31.2	-0.5
ASGA				S	Sn	22 43 57.3	+1.3
ASGA				AML	AML	22 44 09.2	
	1.4nm,0.5s						
ASGA				AML	AML	22 44 09.2	
	1.4nm,0.5s						
ASGA				AML	AML	22 44 16.2	
	1.5nm,0.5s						
ASGA				AML	AML	22 44 16.2	
	1.5nm,0.5s						
CSS	Mathiatis	2.11	91⇑	*e*P	Pn	22 43 32.2	-0.2
CSS				S	Sn	22 43 57.4	0.0
ATHAL	Athalassa	2.17	86	P	Pn	22 43 32.6	-0.6
ATHAL				S	Sn	22 43 59.4	+0.7
ATHAL				AML	AML	22 44 08.4	
	2µm,0.6s						
ATHAL				AML	AML	22 44 08.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2µm,0.6s						
ATHAL				AML	AML	22 44 11.9	
	1.6nm,0.4s						
ATHAL				AML	AML	22 44 11.9	
	1.6nm,0.4s						
TEKE	Tekeli-Mersin	2.23	59	PN	Pn	22 43 33.8	-0.1
TEKE				SN	Sn	22 44 01.4	+1.2
CAME	Cameli-Denizli	2.26	329	PN	Pn	22 43 35.7	+1.2
BUCA	Burdur, Bucak-	2.31	356	P	Pn	22 43 38.7	+3.5
MVOU	Mavrovouni	2.36	89	⇑eP	Pn	22 43 35.6	-0.1
MVOU				S	Sn	22 44 04.6	+1.2
HDMB	Hadim	2.40	35	PN	Pn	22 43 37.1	+0.6
BERE	Bereket-Mersin	2.41	56	PN	Pn	22 43 36.9	+0.3
GOLH	Golhisar	2.42	337	P	Pn	22 43 37.7	+1.0
GOLH				S	Sn	22 44 04.6	-0.6
GOLH				i AML	AML	22 44 14.0	
	comp=E,40nm,0.6s						
GOLH				i AML	AML	22 44 14.0	
	comp=N,47nm,0.5s						
ARG	Arkhangelos	2.46	300	PN	Pn	22 43 37.9	+0.8
SUTC	Sutluce-Ispart	2.46	4	PN	Pn	22 43 38.7	+1.3
AKK2	Akkuyu-Mersin	2.53	63	PN	Pn	22 43 38.7	+0.5
SEYD	Seydisehir-KON	2.54	20	PN	Pn	22 43 39.5	+1.1
AKKU	Akkuyu-Mersin	2.54	63	PN	Pn	22 43 38.8	+0.5
GULN	MERSIN_Gulnar	2.55	62	P	Pn	22 43 38.7	+0.3
GULN				S	Sn	22 44 06.2	-2.0
GULN				i AML	AML	22 44 17.0	
	comp=N,67nm,0.4s						
SEDI	Konya, Seydise	2.56	18	P	Pn	22 43 39.3	+0.6
TEVE	Tevekalti-Mers	2.60	56	PN	Pn	22 43 39.9	+0.7
YESI	Yesilovacik-Me	2.63	63	PN	Pn	22 43 40.1	+0.7
TISA	Tisan-Mersin	2.64	63	PN	Pn	22 43 40.2	+0.6
KARG	Kargicak-Mersi	2.68	63	PN	Pn	22 43 40.7	+0.5
PARAL	Paralimni	2.69	90	P	Pn	22 43 41.7	+1.3
TURN	Turunc	2.69	311	PN	Pn	22 43 41.8	+1.4
TURN	Turunc	2.69	311	P	Pn	22 43 41.3	+0.9
TURN				S	Sn	22 44 09.5	-2.2
TURN				i AML	AML	22 44 17.0	
	comp=N,16nm,0.2s						
TURN				i AML	AML	22 44 17.0	
	comp=E,16nm,0.4s						
APMY	Acipayam-Deniz	2.72	335	PN	Pn	22 43 42.4	+1.6
BRDR	BURDUR-Merkez	2.73	348	P	Pn	22 43 41.8	+0.8
KEBE	Keben-Mersin	2.79	58	PN	Pn	22 43 42.5	+0.7
KKBE	Karaman, Kazim	2.82	38	P	Pn	22 43 42.8	+0.5
KKBE				S	Sn	22 44 15.7	+0.7
KKBE				i AML	AML	22 44 31.0	
	comp=E,57nm,0.5s						
TAVA	DENIZLI_Tavas	2.87	329	P	Pn	22 43 44.3	+1.4
TAVA				S	Sn	22 44 11.5	-4.6
TAVA				i AML	AML	22 44 18.0	
	comp=E,24nm,0.5s						
TAVA				i AML	AML	22 44 19.0	
	comp=N,22nm,1.0s						
BASM	Basmaki-Afyon	2.95	349	PN	Pn	22 43 45.3	+1.3
KRMN	Karaman	2.96	43	PN	Pn	22 43 45.1	+1.0
BAGO	Egridir - ISPA	2.97	0	P	Pn	22 43 45.4	+1.1
MULA	Mugla, Merkez-	2.98	319	P	Pn	22 43 46.5	+2.0
MULA				S	Sn	22 44 15.8	-3.2
MULA				i AML	AML	22 44 22.0	
	comp=E,36nm,0.5s						
MULA				i AML	AML	22 44 27.0	
	comp=N,15nm,0.6s						
KMER	Konya-Meram	3.04	25	P	Pn	22 43 46.9	+1.6
DAT	Datca	3.10	304	PN	Pn	22 43 46.8	+0.7
KIZK	Mersin	3.12	61	P	Pn	22 43 46.1	-0.1
KIZK				S	Sn	22 44 21.0	-1.2
KIZK				i AML	AML	22 44 24.0	
	comp=N,36nm,0.6s						
KIZK				i AML	AML	22 44 38.0	
	comp=E,45nm,0.4s						
DOGA	KONYA_Doganhis	3.17	13	P	Pn	22 43 48.1	+1.0
YVAC	Isparta, Yalva	3.27	7	P	Pn	22 43 49.2	+0.7
PASA	Karahalli, USA	3.48	343	P	Pn	22 43 50.8	-0.5
KERG	Konya-Eregli	3.62	48	P	Pn	22 43 53.9	+0.6
KERG				S	Sn	22 44 34.5	-0.4
KERG				i AML	AML	22 44 42.0	
	comp=N,34nm,0.4s						
KERG				i AML	AML	22 44 49.0	
	comp=E,37nm,0.7s						
KDHN	Kadinhani	3.67	17	P	Pn	22 43 52.5	-1.3
ALIN	Konya, Altinte	3.69	27	P	Pn	22 43 54.0	-0.2
AYDB	Zeytinkoy-Aydi	3.73	323	PN	Pn	22 43 54.9	+0.2
MANT	Manisa	3.89	334	P	Pn	22 43 55.9	-1.2
USAK	Uak-Merkez	3.95	340	P	Pn	22 43 58.1	+0.5
USAK				i AML	AML	22 44 29.0	
	comp=N,78nm,1.3s						
USAK				i AML	AML	22 44 29.0	
	comp=E,52nm,0.9s						
USAK				S	Sn	22 44 38.3	-4.4
CHBY	Cihanbeyli	3.95	25	PN	Pn	22 43 58.5	+0.8
KIZT	Kizilcal	3.96	13	PN	Pn	22 43 58.9	+1.0
GULE	Gulek	3.96	54	P	Pn	22 43 59.4	+1.5
GULE				S	Sn	22 44 44.8	+1.6
GULE				i AML	AML	22 44 55.0	
	comp=N,30nm,0.4s						
GULE				i AML	AML	22 45 02.0	
	comp=E,69nm,0.6s						
HNTI	Hanita	4.14	116	Pn	Pn	22 43 59.9	-0.4
HNTI				Sn	Sn	22 44 45.6	-1.8
DQRL	Deir Qamar	4.19	107	eP	Pn	22 44 00.8	-0.2
OFRI	`Ofer	4.25	123	Pn	Pn	22 44 02.3	+0.5
OFRI				Sn	Sn	22 44 49.6	-0.6
QRWL	Qaraoun	4.33	108	eP	Pn	22 44 03.3	+0.4
MMA0B	Mount Meron ar	4.34	116	Pn	Pn	22 44 03.0	-0.1
MMA0B				Sn	Sn	22 44 51.3	-1.2
MMAI	Mount Meron Ar	4.34	116	P	Pn	22 44 02.6	-0.5
	11nm,0.3s,baz=306,slow=11,SNR=77						
MMAI				S	Sn	22 44 50.5	-2.0
	4.4nm,0.2s,baz=294,slow=28,SNR=10						
MMAI				LR	LR	22 46 35.4	
	comp=Z,13nm,19.1s,baz=251,slow=49						
	6.2nm,0.3s						
CIFT	Cifteler, Eski	4.34	3	PN	Pn	22 44 03.9	+0.8
GEM	Giv'at Ha'Em	4.45	112	Pn	Pn	22 44 04.5	0.0
GEM				Sn	Sn	22 44 53.8	-1.2
RCY	Rachaya	4.47	108	eP	Pn	22 44 04.7	-0.3
NATI	Neve Ativ	4.48	112	Pn	Pn	22 44 04.9	-0.1
NATI				Sn	Sn	22 44 54.6	-1.2
AKO	Adana	4.51	56	P	Pn	22 44 05.5	+0.2
MMLI	Mount Malkishu	4.66	122	Pn	Pn	22 44 08.0	+0.6
MMLI				Sn	Sn	22 44 58.8	-1.4
YAHY	KAYSERI_Yahyal	4.81	49	P	Pn	22 44 10.2	+0.6
IDI	Anoyia	4.82	275	P	Pn	22 44 09.2	-0.4
	3.7nm,0.3s,baz=33,slow=7.5,SNR=32						
IDI				S	Sn	22 45 00.6	-3.6
	8.3nm,0.3s,baz=299,slow=19,SNR=3.3						
	7.7nm,0.4s						
HMDT	Nahal Hemdat	4.84	123	Pn	Pn	22 44 09.9	+0.1
HMDT				Sn	Sn	22 45 04.1	-0.5
AMAZ	Amatzia	4.92	134	Pn	Pn	22 44 12.0	+1.0
AMAZ				Sn	Sn	22 45 05.6	-1.0
KZIT	Kziot	5.11	142	Pn	Pn	22 44 14.1	+0.5
KZIT				Sn	Sn	22 45 10.1	-1.3
KOT	Kottamia	5.15	170	P	Pn	22 44 14.3	+0.1
	baz=168						
KOT				S	Sn	22 45 08.3	-4.2
	baz=168						
YTIR	Yattir	5.16	134	Pn	Pn	22 44 14.4	+0.1
YTIR				Sn	Sn	22 45 11.1	-1.5
DSI	Dead Sea	5.17	130	Pn	Pn	22 44 15.1	+0.6
BRTR	Keskin Array B	5.23	25	P	Pn	22 44 15.7	+0.3
	0.5nm,0.3s,baz=196,slow=13,SNR=16						
BRTR				S	Sn	22 45 14.5	0.0
	0.7nm,0.4s,baz=206,slow=27,SNR=1.9						
	1.2nm,0.4s						
HNAT	Natroun	5.37	181	P	Pn	22 44 17.2	0.0
	baz=181						
HNAT				S	Sn	22 45 13.6	-4.1
	baz=181						
KUZU	Kuzuini	5.42	69	P	Pn	22 44 18.7	+0.8
HSAF	As Saff	5.42	173	P	Pn	22 44 17.9	-0.1
	baz=171						
SUZ	Suez	5.45	161	P	Pn	22 44 18.0	-0.3
	baz=159						
GLL	Jalalah	5.48	171	P	Pn	22 44 18.7	-0.1
	baz=170						
SLUM	Salum	5.83	234	P	Pn	22 44 22.1	-1.3
	baz=234						
SLUM				S	Sn	22 45 22.1	-6.8
	baz=234						
ASF	Jabal al Asfar	5.85	117	P	Pn	22 44 24.4	+0.5
	1.6nm,0.3s,baz=312,slow=7.1,SNR=18						
ASF				S	Sn	22 45 29.3	-0.5
	1.7nm,0.3s,baz=252,slow=18,SNR=1.8						
	2.9nm,0.3s						
PRNI	Paran	5.87	141	Pn	Pn	22 44 23.9	-0.1
PRNI				Sn	Sn	22 45 27.9	-2.1
KRMI	Paran Flat	5.92	144	Pn	Pn	22 44 25.3	+0.5
KRMI				Sn	Sn	22 45 28.4	-3.0
RYAN	Fayoum	5.93	184	P	Pn	22 44 24.4	-0.5
	baz=183						
HRFI	Mount Harif	6.14	143	Pn	Pn	22 44 28.2	+0.4
HRFI				Sn	Sn	22 45 33.9	-2.8
MBRI	Mt Berech	6.28	145	Pn	Pn	22 44 30.0	+0.2
NBNS	Bani Suef	6.39	176	P	Pn	22 44 30.9	-0.3
	baz=174						
EIL	Elat	6.40	145	P	Pn	22 44 31.5	+0.1
	0.7nm,0.3s,baz=348,slow=9.3,SNR=9.7						
EIL				S	Sn	22 45 38.1	-5.1
	9.5nm,0.3s,baz=158,slow=19,SNR=12						
	2.1nm,0.3s						
NUB	Nuweibaa	6.82	150	P	Pn	22 44 37.8	+0.7
	baz=149						
HKAT	Jabal Katrina	7.03	156	P	Pn	22 44 39.9	-0.3
	baz=155						
SWA2		7.30	219	P	Pn	22 44 42.1	-1.7
	baz=219						
TAMRE	El Minia	7.31	179	P	Pn	22 44 43.3	-0.6
	baz=177						
HFRF	Wahat Farafira	8.12	196	P	Pn	22 44 53.8	-1.1
	baz=195						
AKASG	Malin Array Be	15.72	356	P	Pn	22 46 39.1	+1.1
	0.5nm,0.3s,baz=181,slow=9.5,SNR=6.9						
	0.2nm,0.3s						
GERES	GERESS Array B	18.70	323	P	Pn	22 47 16.7	+1.4
	0.3nm,0.5s,baz=128,slow=9.2,SNR=3.6						
BELG	Belogornoye	21.13	30	P	P	22 47 43.4	+2.4
	25nm,0.9s,baz=212,slow=19,SNR=8.6						
FINES	FINESS Array B	26.62	355	P	P	22 48 32.7	-1.4
	1.7nm,0.6s,baz=159,slow=12,SNR=9.7						
	1.7nm,0.6s						
ARCES	ARCESS Array B	34.70	357	P	P	22 49 43.6	-1.7
	0.5nm,0.5s,baz=178,slow=8.1,SNR=6.3						
	0.5nm,0.5s						
MKAR	Makanchi Array	40.02	57	P	P	22 50 31.1	+0.4
	2.0nm,0.6s,baz=276,slow=7.3,SNR=18						
	2.0nm,0.6s						
ZALV	Zalesovo Beam	41.80	46	P	P	22 50 43.7	-1.5
	0.4nm,0.3s,baz=265,slow=7.8,SNR=2.0						
	0.4nm,0.3s						
SONM	Songino Array	55.99	52	P	P	22 52 34.5	+0.2
	0.2nm,0.4s,baz=266,slow=6.7,SNR=2.0						
	0.2nm,0.4s						

NNC 10 22:45:56.5±15.0, 37°.04N×70°.68E, h0km, mb4.5, mpv4.1, 2C-3D, Error ellipse: s-maj=124.3km s-min=110.9km az=42.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.59	24	P	Pn	22 47 21.6	+0.4
	SNR=226						
UCH	Uchtor	5.96	29	P	Pn	22 47 25.9	-0.5
	SNR=17						
KK31	Karatay Array	6.05	359	⇑S	Sn	22 48 39.3	+2.0
	5.3nm,0.6s,baz=187,slow=24,SNR=7.0						
KK31	Karatay Array	6.05	359	P	Pn	22 47 30.4	+3.1
	6.7nm,0.2s,baz=181,slow=13,SNR=582						
KK31				⇑S	Sn	22 48 39.3	+2.0
	5.3nm,0.6s,baz=187,slow=24,SNR=7.0						
EKS2	Erkin-Say	6.10	22	P	Pn	22 47 28.7	+0.8
	SNR=9.8						
AAK	Ala-Archa	6.31	27	P	Pn	22 47 31.0	+0.1
	SNR=23						
KBK	Karagaybulak	6.50	29	P	Pn	22 47 33.7	+0.2
	SNR=5.8						
CHMS	Chumysh	6.72	26	P	Pn	22 47 36.2	-0.2
	SNR=10.0						
CHMS	Chumysh	6.72	26	⇓P	Pn	22 47 35.6	-0.8
	6.3nm,0.5s						
CHMS				⇓S	Sn	22 48 52.9	-0.8
	5.0nm,0.6s						
USP	Ospenovka	6.87	24	P	Pn	22 47 37.9	-0.6
	SNR=45						
TKM2	Tokmak 2	6.98	31	P	Pn	22 47 38.9	-1.3
	SNR=13						
TKM2	Tokmak 2	6.98	31	⇓P	Pn	22 47 38.4	-1.7
	6.4nm,0.6s						

JMA 10 22:46:09.3±0.2, 38°.4N±0°.5×142°.2E±0°.8, h27km±2km, MV1.7/26, E OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.56	265	P	Pb	22 46 20.1	-0.4
JIKH				eS	Sb	22 46 27.5	-0.7
JIO	Ouri	0.65	278	eP	Pb	22 46 22.0	-0.1
JIO				eS	Sb	22 46 30.4	-0.4
JKMT	Kesennumamotoy	0.70	309	P	Pb	22 46 22.8	-0.2
JKMT				eS	Sb	22 46 32.6	+0.3
OFUJ	Ofunato	0.81	331	P	Pb	22 46 24.2	-0.7
OFUJ				eS	Sb	22 46 35.0	-0.4
JMK	Ichinoseki	0.95	309	eP	Pn	22 46 26.6	-0.1
JOM	Ohasama	1.30	329	eP	Pn	22 46 32.0	+0.3

IDC 10 22:53:18.7±2.9, 4°.84S×153°.18E, h53km±23km, mb3.5/8, mbtmp3.8/9, ML2.3/1, MS3.0/2, Error ellipse: s-maj=27.7km s-min=15.0km az=70.0

NEIC 10 22:53:18.5±2.7, 5°.06S±0°.04×153°.1E±0°.1, h35km±2km, mb4.3/13, Error ellipse: s-maj=17.9km s-min=5.8km az=73.0

ISC 10 22:53:18.2±0.7, 4°.85S±0°.08×153°.21E±0°.09, h43km, n26, σ1s.40/28, mb4.0/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	1.23	302	Pn	Pn	22 53 39.8	+0.8
RABL				Sn	Sn	22 53 55.8	+1.3
KRVT	Keravat (AS076	1.30	295	P	Pn	22 53 39.3	-0.6
	171nm,0.4s,baz=45,slow=20,SNR=26						
KRVT				S	Sn	22 53 56.2	+0.1
	276nm,0.3s,baz=356,slow=1.9,SNR=8.7						
KRVT				LR	LR	22 54 22.7	
	comp=Z,132nm,19.2s,baz=222,slow=51						
PMG	Port Moresby	7.52	233	P	Pn	22 55 06.8	+1.4
	2.9nm,0.3s,baz=49,slow=9.1,SNR=2.4						
PMG				S	Sn	22 56 29.5	+0.2
	16nm,0.4s,baz=174,slow=21,SNR=7.4						
	6.5nm,0.3s						
CTA	Charters Tower	16.59	203	LR	LR	23 03 04.8	
	comp=Z,38nm,19.6s,baz=85,slow=35						
LIFNC	LIFOU	20.89	140	P	P	22 57 55.6	-1.4
LIFNC				IAmb	IAmb	22 58 17.9	
	comp=Z,27nm,0.9s						
DZM	Mont Dzumac	21.39	144	P	P	22 58 02.4	-0.1
	comp=Z,3.0nm,0.5s,baz=308,slow=17,SNR=8.6						
	comp=Z,3.0nm,0.5s						
DZM	Mont Dzumac	21.39	144	P	P	22 58 02.7	+0.2
DZM				IAmb	IAmb	22 58 21.4	
	comp=Z,18nm,1.4s						
OUENC	Ouen Island, N	21.89	144	P	P	22 58 06.2	-1.5
OUENC				IAmb	IAmb	22 58 32.3	
	comp=Z,25nm,1.4s						
WB0	Warramunga Arr	23.57	229	P	P	22 58 21.5	-3.6
WRAB	Tennant Creek	23.70	229	P	P	22 58 23.4	-3.0
WB2	Warramunga Arr	23.71	229	P	P	22 58 27.1	+0.6
WB2				IAmb	IAmb	22 58 27.3	
	comp=Z,9.1nm,1.4s						
WRA	Warramunga Arr	23.72	229	P	P	22 58 25.2	-1.4
	comp=Z,0.7nm,0.5s,baz=52,slow=9.7,SNR=16						
	comp=Z,0.7nm,0.5s						
WRA	Warramunga Arr	23.72	229	P	P	22 58 25.6	-0.9
KNRA	Kununurra	26.32	244	P	P	22 58 50.8	+0.6
ASAR	Alice Springs	26.39	223	P	P	22 58 50.4	-0.4
	comp=Z,0.2nm,0.4s,baz=55,slow=8.6,SNR=2.0						
ASAR				LR	LR	23 09 20.7	
	comp=Z,44nm,19.0s,baz=158,slow=36						
	comp=Z,0.2nm,0.4s						
LTZ	Lake Taylor	41.39	159	P	P	23 01 00.9	+0.5
CMAR	Chiang Mai Arr	58.27	295	P	P	23 03 08.8	-0.2
	comp=Z,0.4nm,0.3s,baz=108,slow=5.8,SNR=1.6						
	comp=Z,0.4nm,0.3s						
SONM	Songino Array	66.58	328	P	P	23 04 03.9	-0.3
	comp=Z,0.3nm,0.5s,baz=144,slow=5.1,SNR=2.1						
	comp=Z,0.3nm,0.5s						
VNDA	Vanda	72.77	178	P	P	23 04 41.7	+0.1
	comp=Z,0.7nm,0.8s,baz=329,slow=5.8,SNR=3.6						
	comp=Z,0.7nm,0.8s						
VNDA	Vanda	72.77	178	P	P	23 04 41.2	-0.5
VNDA				IAmb	IAmb	23 05 01.6	
	comp=Z,2.8nm,1.4s						
N19K	Bonanza Creek	76.97	23	P	P	23 05 08.7	+2.4
MK31	Makanchi Array	80.63	319	P	P	23 05 25.4	-1.2
MK31				IAmb	IAmb	23 05 57.7	
	comp=Z,3.5nm,1.5s						
MKAR	Makanchi Array	80.63	319	P	P	23 05 25.6	-1.1
	comp=Z,0.9nm,0.7s,baz=101,slow=6.5,SNR=7.8						
	comp=Z,0.9nm,0.7s						
ZALV	Zalesovo Beam	81.42	326	P	P	23 05 28.7	-1.9
	comp=Z,0.4nm,0.3s,baz=114,slow=6.5,SNR=2.9						
	comp=Z,0.4nm,0.3s						
QSPA	South Pole Qui	85.11	180	P	P	23 05 50.8	+1.2
QSPA				IAmb	IAmb	23 06 09.0	
	comp=Z,3.3nm,1.4s						
GERES	GERESS Array B	124.31	329	PKP	PKPdf	23 12 11.9	-0.9
	comp=Z,0.1nm,0.4s,baz=23,slow=3.2,SNR=2.0						

MEX 10 22:59:33.5±0.6, 14°.74N×93°.85W, h15km, MD4.5

NEIC 10 22:59:34.0±2.1, 14°.71N±0°.05×93°.76W±0°.04, h35km±2km, mb4.3/33, Md4.5/70(MEX), Error ellipse: s-maj=10.0km s-min=3.8km az=222.0

IDC 10 22:59:33.8±4.2, 14°.89N×93°.50W, h39km±33km, mb3.9/10, mbtmp4.1/12, ML4.3/2, MS3.4/10, Error ellipse: s-maj=52.9km s-min=19.5km az=39.0

GCG 10 22:59:36.5±0.7, 15°.07N×93°.53W, h35km±999km, MD4.3

ISC 10 22:59:32.5±0.5, 14°.67N±0°.04×93°.88W±0°.03, h35km, n153, σ2s.19/190, mb4.4/19, MS3.3/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.22	32		Pn	22 59 51.6	-1.5
PCIG					Sn	23 00 05.8	-2.5
PCIG		1.22	32	i P	Pn	22 59 51.6	-1.5
PCIG				i S	Sn	23 00 05.8	-2.5
THIG		1.58	81		Pn	22 59 57.2	-0.9
THIG					Sn	23 00 15.1	-2.3
THIG		1.58	81	eP	Pn	22 59 57.2	-0.9
THIG				i S	Sn	23 00 15.1	-2.3
PATR	El Naranjo	1.66	74	eP	Pn	22 59 57.7	-1.6
PATR				eS	Sn	23 00 16.9	-2.7
PAVE	Pavencul	1.73	72	eP	Pn	22 59 59.0	-1.3
PAVE				eS	Sn	23 00 18.6	-2.7
CHUJ	Union Juarez	1.77	76	eP	Pn	22 59 59.4	-1.5
CHUJ				eS	Sn	23 00 19.8	-2.5
NILT	Santiago Nilte	2.01	340	eP	Pn	23 00 02.8	-1.2
NILT				eS	Sn	23 00 25.7	-2.3
RTAL	Retalhuleu	2.12	94	Pn	Pn	23 00 04.9	-0.6
TGIG		2.22	19		Pn	23 00 07.4	+0.5
TGIG					Sn	23 00 31.5	-1.8
TGIG		2.22	19	eP	Pn	23 00 07.4	+0.5
TGIG				eS	Sn	23 00 31.5	-1.8
STG3	Santiaguito 3,	2.24	89	eP	Pn	23 00 07.2	-0.1
STG3				eS	Sn	23 00 31.8	-2.1
SULM	Suchitepequez,	2.27	99	eP	Pn	23 00 08.5	+0.9
SULM				eS	Sn	23 00 33.5	-1.0
CCIG	Comitan	2.33	46	Pn	Pn	23 00 08.6	+0.1
CCIG	Comitan	2.33	46	eP	Pn	23 00 09.2	+0.7
CCIG				eS	Sn	23 00 33.0	-2.9
HUEH	Huehuetenango	2.39	74	Pn	Pn	23 00 09.7	+0.3
HUIG	Huatulco	2.41	297		Pn	23 00 08.8	-0.6
HUIG					Sn	23 00 33.8	-4.0
HUIG	Huatulco	2.41	297	eP	Pn	23 00 08.8	-0.6
HUIG				eS	Sn	23 00 33.8	-4.0
CMIG	Matias Romero	2.59	338	Pn	Pn	23 00 11.4	-0.6
	97nm,0.3s,baz=160,slow=8.3,SNR=782						
CMIG				Sn	Sn	23 00 40.0	-2.3
	77nm,0.3s,baz=160,slow=13,SNR=5.5						
	365nm,0.4s						
CMIG	Matias Romero	2.59	338		Pn	23 00 11.7	-0.3
CMIG					Sn	23 00 40.3	-2.0
CMIG	Matias Romero	2.59	338	i P	Pn	23 00 11.7	-0.3
CMIG				eS	Sn	23 00 40.3	-2.0
UXUV	UXUV	2.65	355	eP	Pn	23 00 13.8	+1.1
UXUV				eS	Sn	23 00 41.8	-1.9
PANG	Puerto Angel	2.69	292		Pn	23 00 14.3	+1.0
PANG					Sn	23 00 40.4	-4.2
PANG	Puerto Angel	2.69	292	eP	Pn	23 00 14.3	+1.0
PANG				eS	Sn	23 00 40.4	-4.2
FUG	Fuego 3	2.95	94	eP	Pn	23 00 17.8	+0.7
FUG				eS	Sn	23 00 50.0	-1.5
PCG	Pacaya	3.19	95	eP	Pn	23 00 21.9	+1.6
PCG				eS	Sn	23 00 56.8	-0.5
PEIG	Puerto Escondi	3.42	293		Pn	23 00 23.3	-0.1
PEIG					Sn	23 00 57.6	-5.0
PEIG	Puerto Escondi	3.42	293	eP	Pn	23 00 23.3	-0.1
PEIG				eS	Sn	23 00 57.6	-5.0
NBG	Las Nubes	3.42	91	eP	Pn	23 00 26.6	+2.9
NEUV	Arroyo Zacate	3.54	329	eP	Pn	23 00 24.6	-0.5
NEUV				eS	Sn	23 01 02.7	-3.1
OXIG	Oaxaca	3.64	311		Pn	23 00 28.4	+1.9
OXIG					Sn	23 01 07.2	-1.2
VHO	Vista Hermosa	3.64	311	eP	Pn	23 00 28.4	+1.9
VHO				i S	Sn	23 01 07.2	-1.2
PMUV	Sontecomapan	4.03	343	eP	Pn	23 00 30.0	-1.9
PMUV				eS	Sn	23 01 14.9	-3.1
MRL	Marmol	4.08	84	eP	Pn	23 00 34.5	+1.8
YOIG	Yosondua	4.14	302		Pn	23 00 35.9	+2.4
YOIG					Sn	23 01 17.8	-3.1
YOIG	Yosondua	4.14	302	eP	Pn	23 00 35.9	+2.4
YOIG				i S	Sn	23 01 17.8	-3.1
MTO3	Montecristo	4.39	93	Pn	Pn	23 00 36.0	-0.9
ESQI	Esquipulas	4.40	91	Pn	Pn	23 00 35.9	-1.1
PNIG	Pinotepa	4.43	293		Pn	23 00 38.2	+0.9
PNIG					Sn	23 01 22.7	-5.1
PNIG	Pinotepa	4.43	293	eP	Pn	23 00 38.2	+0.9
PNIG				eS	Sn	23 01 22.7	-5.1
PETF	Flores	4.47	59	Pn	Pn	23 00 37.9	+0.1
TXIG	Tlaxiaco	4.53	305		Pn	23 00 41.4	+2.4
TXIG					Sn	23 01 29.2	-1.4
TXIG	Tlaxiaco	4.53	305	eP	Pn	23 00 41.4	+2.4
TXIG				eS	Sn	23 01 29.2	-1.4
TOIG	Toxpalan	4.58	319		Pn	23 00 41.5	+2.1
TOIG					Sn	23 01 29.6	-1.9
TOIG	Toxpalan	4.58	319	eP	Pn	23 00 41.5	+2.1
TOIG				eS	Sn	23 01 29.6	-1.9
SNET	Serv Nac Est T	4.62	102	Pn	Pn	23 00 39.6	-0.3
SCIG	Sabancuy	5.00	31	eP	Pn	23 00 42.8	-2.2
SCIG				eS	Sn	23 01 39.2	-2.4
FTIG	Fresnillo de T	5.20	309		Pn	23 00 51.0	+3.0
FTIG					Sn	23 01 45.1	-1.6
FTIG	Fresnillo de T	5.20	309	eP	Pn	23 00 51.0	+3.0
FTIG				eS	Sn	23 01 45.1	-1.6
MGIG	Malinaltepec	5.23	300		Pn	23 00 50.8	+2.4
MGIG					Sn	23 01 46.9	-0.8
MGIG	Malinaltepec	5.23	300	eP	Pn	23 00 50.8	+2.4
MGIG				i S	Sn	23 01 46.9	-0.8
TLIG	Tlapa	5.34	303	Pn	Pn	23 00 52.9	+3.0
TLIG	Tlapa	5.34	303	eP	Pn	23 00 52.7	+2.8
TLIG				e		23 01 46.2	
JAUV	Jalcomulco	5.44	330	eP	Pn	23 00 49.6	-1.7
JAUV				eS	Sn	23 01 49.2	-3.5
CRIG	Cruz Grande	5.46	293		Pn	23 00 52.9	+1.5
CRIG	Cruz Grande	5.46	293	eP	Pn	23 00 52.9	+1.5
CRIG				e		23 01 46.4	
LVIG	Laguna Verde	5.58	335	eP	Pn	23 00 50.8	-2.3
DAIG	Los Arroyos	6.02	294		Pn	23 01 00.9	+1.7
DAIG	Los Arroyos	6.02	294	eP	Pn	23 01 00.9	+1.7
DAIG				eS	Sn	23 01 58.2	-8.7
PPM	Popocatepetl	6.30	315	eP	Pn	23 01 06.7	+3.2
PPIG	Popocatepetl	6.30	315		Pn	23 01 06.7	+3.2
MEIG	Mezcala	6.39	301		Pn	23 01 07.7	+3.4
MEIG					Sn	23 02 13.0	-3.1
MEIG	Mezcala	6.39	301	eP	Pn	23 01 07.7	+3.4
MEIG				i S	Sn	23 02 13.0	-3.1
TGUH	Tegucigalpa,Un	6.44	95	Pn	Pn	23 01 04.9	-0.1
YAIG	Yautepec	6.48	311		Pn	23 01 09.1	+3.5
YAIG	Yautepec	6.48	311	eP	Pn	23 01 09.1	+3.5
CXUV	Coxquihui	6.52	328	eP	Pn	23 01 05.3	-0.7
CXUV				eS	Sn	23 02 16.6	-2.6
PLIG	Platanillo	6.54	305		Pn	23 01 09.9	+3.6
PLIG	Platanillo	6.54	305	eP	Pn	23 01 09.9	+3.6
PLIG				eS	Sn	23 02 18.3	-1.4
CAIG	El Cayaco	6.58	292		Pn	23 01 09.1	+2.3
CAIG	El Cayaco	6.58	292	eP	Pn	23 01 09.1	+2.3
CAIG				eS	Sn	23 02 13.0	-7.7

CRIN	San Cristobal	6.92	106	Pn	Pn	23 01 13.0	+1.4
ARIG	Puente Sto Nin	7.17	301		Pn	23 01 18.6	+3.7
ARIG	Puente Sto Nin	7.17	301	eP	Pn	23 01 18.6	+3.7
CNGN	Cerro Negro	7.31	106	Pn	Pn	23 01 15.9	-1.0
TEIG	Tepich	7.69	43	Pn	Pn	23 01 20.4	-1.7
MATN	Matagalpa	7.92	102	Pn	Pn	23 01 24.2	-1.2
MOIG	Morelia	8.58	307		Pn	23 01 38.9	+4.5
MMIG	Aquila	9.76	293		Pn	23 01 53.8	+3.3
MMIG	Aquila	9.76	293	iP	Pn	23 01 53.8	+3.3
MMIG				eS	Sn	23 03 34.6	-4.4
COIG	Colima	10.40	297	eP	Pn	23 02 03.0	+3.7
JUBC	Volcan de Coli	10.44	299	eP	Pn	23 02 01.3	+1.3
MNGA	Volcan de Coli	10.46	298	eP	Pn	23 02 04.1	+3.8
INCO	Volcan de Coli	10.47	299	eP	Pn	23 02 04.3	+3.7
R15V		10.65	296	eP	Pn	23 02 07.4	+4.6
CIHU	Emiliano Zapat	11.34	295	eP	Pn	23 02 14.4	+2.2
ZAIG	Zacatecas	11.51	316	Pn	Pn	23 02 18.3	+3.6
SRBA	San Rafael, Bu	11.62	117	Pn	Pn	23 02 16.9	+0.8
PRVC	Isla de Provid	12.22	94	Pn	Pn	23 02 21.6	-2.6
833A	Chaparral WMA,	14.52	340	Pn	Pn	23 02 56.8	+1.2
PAYG	Puerto Ayora	15.65	167	Pn	Pn	23 03 09.8	-0.9
435B	Jarrell	16.40	349	Pn	Pn	23 03 20.4	+0.4
435B				IAmb	IAmb	23 03 30.7	
	comp=Z,15nm,0.7s						
HPIG		16.43	320	Pn	Pn	23 03 22.0	+1.4
061Z	Ochoppi	16.49	45	Pn	Pn	23 03 19.6	-1.6
JCT	Junction City	16.65	342	Pn	Pn	23 03 24.2	+0.9
TXAR	Lajitas Array	17.17	330	Pn	Pn	23 03 31.6	+1.8
	comp=Z,0.2nm,0.3s,baz=150,slow=13,SNR=31						
	comp=Z,5.1nm,1.0s						
TXAR	Lajitas Array	17.17	330		P	23 03 32.4	+1.2
TX31	Lajitas Ar. Si	17.17	330	P	P	23 03 32.5	+1.3
TX31				IAmb	IAmb	23 03 33.7	
	comp=Z,24nm,1.1s						
TX32	Lajitas Array	17.17	330	P	P	23 03 32.3	+1.1
WHTX	Lake Whitney,	17.55	350	P	Pn	23 03 35.5	+1.1
WHTX				IAmb	IAmb	23 03 51.2	
	comp=Z,12nm,0.7s						
ABTX	Abilene, Hawle	18.63	345	P	P	23 03 48.1	+0.9
Z47A	Carrollton	19.19	15	P	P	23 03 52.0	-1.2
Z47A				IAmb	IAmb	23 04 22.5	
	comp=Z,14nm,0.5s						
CLNB	Carlsbad	19.75	334	P	P	23 04 00.9	+1.4
152A	Waverly Hall	19.77	23	P	P	23 03 59.7	+0.1
MIAR	Mount Ida	19.79	1		P	23 04 01.7	+1.8
MIAR				IAmb	IAmb	23 04 04.9	
	comp=Z,16nm,1.2s						
HTMS	Hat Mesa	19.83	335	P	P	23 04 02.7	+2.3
CLN7	Carlsbad 7	19.85	335	P	P	23 04 02.4	+1.8
GDL2	Guadalupe Moun	19.90	333	P	P	23 04 03.5	+2.3
X34A	Smith Ranch, M	20.16	351	P	Pn	23 04 07.6	+1.6
X34A				IAmb	IAmb	23 04 30.8	
	comp=Z,22nm,0.9s						
154A	Montrose	20.39	27	P	P	23 04 06.7	+0.4
154A				IAmb	IAmb	23 04 08.8	
	comp=Z,19nm,0.8s						
CPRX	Cap Rock	20.41	335	P	P	23 04 07.7	+1.0
X48A	Hartselle	20.64	16	P	P	23 04 09.3	+0.2
X48A				IAmb	IAmb	23 04 41.5	
	comp=Z,14nm,1.1s						
LGNH	Logne	20.75	76	P	P	23 04 10.0	-0.3
MSTX	Muleshoe	20.83	339	P	P	23 04 13.9	+2.6
FCAR	Ozark Folk Cen	21.19	4	P	P	23 04 15.7	+0.7
AMTX	Amarillo	21.32	342	P	P	23 04 17.2	+0.7
HHAR	Hobbs	21.52	360	P	P	23 04 18.9	+0.3
ROSC	El Rosal	21.59	115	P	P	23 04 22.9	+2.9
	comp=Z,19nm,0.8s,baz=360,slow=2.3,SNR=9.5						
319A	Douglas	21.80	322	P	P	23 04 23.9	+2.1
319A				IAmb	IAmb	23 04 41.9	
	comp=Z,11nm,1.1s						
121A	Cookes Peak, D	21.83	327	P	P	23 04 24.6	+2.5
121A				IAmb	IAmb	23 04 26.6	
	comp=Z,18nm,1.0s						
ELIS	Ellis County	21.88	348	P	P	23 04 24.3	+1.8
ELIS				IAmb	IAmb	23 04 36.5	
	comp=Z,24nm,1.0s						
WVT	Waverly	22.05	13	P	P	23 04 25.0	+0.8
OK032	Salt Plains WL	22.38	351	P	P	23 04 28.5	+0.7
OK032				IAmb	IAmb	23 04 52.7	
	comp=Z,8.9nm,0.6s						
TKL	Tuckaleechee C	22.79	22	LR	LR	23 15 00.4	
	comp=Z,102nm,18.6s,baz=208,slow=41						
S39A	Bolivar	22.94	1	P	P	23 04 32.9	-0.8
S39A				IAmb	IAmb	23 04 33.5	
	comp=Z,7.6nm,0.7s						
ANMO	Albuquerque	23.15	333	P	P	23 04 37.6	+1.6
	comp=Z,0.8nm,0.6s,baz=157,slow=12,SNR=2.4						
	comp=Z,0.8nm,0.6s						
SDV	Santo Domingo	23.46	102	P	P	23 04 37.7	-1.6
	comp=Z,2.6nm,0.3s,baz=289,slow=5.8,SNR=4.8						
	comp=Z,2.6nm,0.3s						
SDV	Santo Domingo	23.46	102	P	P	23 04 38.3	-1.1
SDV				IAmb	IAmb	23 04 40.0	
	comp=Z,7.5nm,0.8s						
WCI	Wyandotte Cave	24.41	15	P	P	23 04 45.9	-1.9
WCI				IAmb	IAmb	23 04 47.5	
	comp=Z,9.4nm,0.6s						
BAUV	El Baul	25.91	100	P	P	23 05 00.9	-0.7
BAUV				IAmb	IAmb	23 05 02.4	
	comp=Z,13nm,0.9s						
N38A	Joes South For	26.04	1	P	P	23 05 01.1	-1.3
SJG	San Juan	26.82	79	LR	LR	23 14 56.4	
	comp=Z,46nm,21.8s,baz=262,slow=35						
ECSD	EROS Data Cent	29.06	356	IAmb	IAmb	23 05 29.0	
	comp=Z,5.8nm,0.7s						
PDAR	Pinedale Array	31.08	337	LR	LR	23 19 48.7	
	comp=Z,48nm,19.0s,baz=124,slow=39						
NNA	Nana	31.41	147	LR	LR	23 16 18.1	
	comp=Z,48nm,18.2s,baz=310,slow=32						
NVAR	Mina Array Bea	32.02	322	P	P	23 05 58.3	+2.4
	comp=Z,0.8nm,0.8s,baz=135,slow=7.7,SNR=6.7						
NVAR				PcP	PcP	23 08 46.6	+1.2
	comp=Z,0.3nm,0.4s,baz=157,slow=2.9,SNR=3.3						
	comp=Z,0.8nm,0.8s						
SADO	Sadowa	32.51	20	LR	LR	23 19 24.0	
	comp=Z,70nm,18.8s,baz=153,slow=37						
ETMB	Extrema	36.67	130	P	P	23 06 36.0	-0.2
ETMB				IAmb	IAmb	23 06 50.2	
	comp=Z,5.4nm,1.2s						
MDP	Montagnes des	41.66	99	LR	LR	23 25 22.0	
	comp=Z,52nm,20.9s,baz=228,slow=38						
RPN	Rapa Nui	44.17	200	LR	LR	23 21 23.6	
	comp=Z,1μm,22.0s,baz=248,slow=29						
SIV	San Ignacio	44.48	132	LR	LR	23 25 21.5	
	comp=Z,34nm,18.3s,baz=290,slow=35						
YKA	Yellowknife Ar	49.97	348	P	P	23 08 22.7	-0.2
	comp=Z,3.9nm,0.8s,baz=152,slow=7.1,SNR=4.9						
	comp=Z,3.9nm,0.8s						
BDFB	Brasilia	54.42	122	P	P	23 08 56.4	-0.4
	comp=Z,2.3nm,0.6s,baz=277,slow=7.2,SNR=4.1						
	comp=Z,2.3nm,0.6s						
RCBR	Riachuelo	60.98	105	LR	LR	23 39 49.8	
	comp=Z,20nm,19.8s,baz=108,slow=40						
ILAR	Eielson Array	61.51	337	P	P	23 09 45.8	+0.1
	comp=Z,1.2nm,0.7s,baz=141,slow=5.1,SNR=13						
	comp=Z,1.2nm,0.7s						
JMIC	Jan Mayen	74.73	20	LR	LR	23 44 06.5	
	comp=Z,37nm,21.1s,baz=40,slow=36						
ESDC	Sonseca Array	80.73	51	P	P	23 11 40.3	-2.3
	comp=Z,1.0nm,0.9s,baz=295,slow=5.5,SNR=6.0						
	comp=Z,1.0nm,0.9s						
NB2	NORSAR Subarra	84.43	28	P	P	23 12 01.9	+0.6
	comp=Z,1.5nm,0.7s,baz=291,slow=5.1						
NOA	NORSAR Array B	84.43	28	P	P	23 12 00.9	-0.4
	comp=Z,3.1nm,0.8s,baz=291,slow=5.1,SNR=8.0						
	comp=Z,3.1nm,0.8s						
ARCES	ARCESS Array B	86.07	18	P	P	23 12 08.3	-1.1
	comp=Z,0.7nm,0.4s,baz=290,slow=4.5,SNR=13						
	comp=Z,0.7nm,0.4s						
FINES	FINESS Array B	90.66	25	P	P	23 12 30.2	-1.1
	comp=Z,2.3nm,0.9s,baz=248,slow=2.1,SNR=7.3						
FINES				LR	LR	23 52 19.5	
	comp=Z,36nm,18.8s,baz=317,slow=35						
	comp=Z,2.3nm,0.9s						
WRA	Warramunga Arr	133.78	256	PKP	PKPdf	23 18 46.4	-0.2
	comp=Z,0.2nm,0.8s,baz=82,slow=2.9,SNR=5.0						
CMAR	Chiang Mai Arr	144.74	339	PKP	PKPab	23 19 05.5	+0.2
	comp=Z,2.1nm,0.8s,baz=343,slow=3.7,SNR=13						

IDC 10 23:27:10.2±6.6**, 19°.64S**×**178°.51W, h581**km±57km**,**
mb2.8/3**, mbtmp3.8**/4**, Error ellipse: s-maj=250.1km s-min=29.0km az=157.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.77	300	P	P	23 28 32.8	0.0
	29nm,0.5s,baz=146,slow=11,SNR=51						
WRA	Warramunga Arr	44.26	261	P	P	23 34 29.2	-0.2
	0.3nm,0.3s,baz=96,slow=7.6,SNR=15						
	0.3nm,0.3s						
ASAR	Alice Springs	44.26	256	P	P	23 34 29.4	-0.1
	0.8nm,0.5s,baz=103,slow=7.1,SNR=12						
	0.8nm,0.5s						
TXAR	Lajitas Array	86.99	58	P	P	23 38 54.9	-0.1
	0.3nm,0.6s,baz=213,slow=6.5,SNR=3.5						
	0.3nm,0.6s						

JMA ***10*** *23:51:29.3±0.2, 38°N±1°×13°6E±°, h360km±1km, MV3.3/28, SEA OF JAPAN*
IDC ***10*** *23:51:29.2±0.7, 37°.90N×135°.66E, h344km±9km, mb3.3/13, mbtmp4.0/17, Error ellipse: s-maj=14.7km s-min=11.8km az=18.0*
NEIC ***10*** *23:51:30.3±2.0, 37°.98N±0°.06×135°.75E±0°.07, h347km±9km, mb4.0/49, Error ellipse: s-maj=10.7km s-min=6.6km az=217.0*
ISC 10 23:51:29.7±0.5**, 37°.93N**±0°.06×**135°.72E**±0°.06**, h350**km**, n104, σ1s.02**/111**, mb3.9**/36**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHG	Hegura jima	0.95	95	S	S	23 52 51.9	+0.2
JKG	Kaga	1.73	163	eP	Pn	23 52 19.5	+0.3
JSD	Sado	2.01	86		Pn	23 52 21.3	+0.3
JSD	Sado	2.01	86	P	Pn	23 52 21.3	+0.3
JSD	Sado	2.01	86	P	Pn	23 52 21.4	+0.3
JSD				S	S	23 53 01.4	-0.8
MJB9	Matsu-Tunnel	2.42	124	Pn	Pn	23 52 25.4	+1.2
MAJO	Matsushiro	2.42	124		Pn	23 52 24.0	-0.2
MAJO	Matsushiro	2.42	124	P	Pn	23 52 24.2	0.0
MAT	Matsushiro	2.42	124	P	Pn	23 52 24.2	0.0
MJAR	Matsushiro Arr	2.42	124	P	Pn	23 52 24.2	0.0
	29nm,0.6s,baz=315,slow=7.9,SNR=66						
MJAR				S	S	23 53 07.6	-0.4
	3.3nm,0.6s,baz=316,slow=15,SNR=1.5						
JYTA	Yamagatataniai	2.47	160	S	S	23 53 08.1	-0.6
JOI	OKI	2.57	231	P	Pn	23 52 25.7	+0.4
JWT	Wachi	2.66	186	P	Pn	23 52 26.4	+0.2
JWT				S	S	23 53 10.2	-1.2
JGF	Kuroka	2.67	150		Pn	23 52 27.0	+0.7
JGF	Kuroka	2.67	150	P	Pn	23 52 27.2	+0.9
INU	Inuyama	2.78	158	Pn	Pn	23 52 27.5	+0.4
JRY	Ryogami san	3.19	126	eP	Pn	23 52 30.5	-0.3
JRY				eS	S	23 53 18.6	-1.4
JYN	Shimob	3.33	136	eP	Pn	23 52 31.8	-0.4
JAG	Ashikaga	3.34	116	P	Pn	23 52 31.3	-0.9
JHS	Saijyo	3.60	216		Pn	23 52 35.6	+0.8
JHS	Saijyo	3.60	216	P	Pn	23 52 35.6	+0.8
JHS	Saijyo	3.60	216	P	Pn	23 52 35.5	+0.7
JIE	Ise	3.62	167	P	Pn	23 52 35.4	+0.4
JOD2	Odawara 2	3.80	133	P	Pn	23 52 36.5	-0.3
JOD2				eS	S	23 53 29.6	-1.1
JMM	Marumori	4.01	89		Pn	23 52 38.7	0.0
JMM	Marumori	4.01	89	P	Pn	23 52 38.8	0.0
JTNC	Tanabenakahech	4.11	181	P	Pn	23 52 39.7	-0.2
JMK	Ichinoseki	4.44	75	P	Pn	23 52 43.1	0.0
JMN	Monobe	4.45	200		Pn	23 52 45.4	+1.9
JMN	Monobe	4.45	200	P	Pn	23 52 45.4	+1.9
JTM	Tenmabayashi	5.03	54		Pn	23 52 49.9	+0.5
JTM	Tenmabayashi	5.03	54	P	Pn	23 52 50.0	+0.5
JHJ	Hachijo jima 2	5.83	144	P	Pn	23 52 58.8	+0.1
	131nm,0.8s,baz=28,slow=10,SNR=1.7						
JHJ				S	S	23 54 09.4	-1.4
	184nm,0.8s,baz=76,slow=17,SNR=2.1						
KSRS	Korea Array	6.20	268	P	Pn	23 53 03.6	+0.9
	3.1nm,0.7s,baz=81,slow=12,SNR=7.5						
JNU	Nakatsue	6.21	221	Pn	Pn	23 53 03.8	+0.7
JNU	Nakatsue	6.21	221	P	Pn	23 53 03.8	+0.7
JEM	Erimo	7.02	52	P	Pn	23 53 11.2	-0.9
JKA	Kamikawa-asahi	8.07	38		Pn	23 53 23.6	-0.9
KLR	Kul'dur	11.65	347	P	Pn	23 54 05.9	-1.1
	2.1nm,0.6s,baz=159,slow=9.9,SNR=5.4						
ENH	Enshi	22.98	258	P	P	23 56 04.8	0.0
SONM	Songino Array	23.53	304	P	P	23 56 09.1	-0.6
	2.0nm,0.7s,baz=106,slow=8.8,SNR=12						
	2.0nm,0.7s						
SONM	Songino Array	23.53	304	P	P	23 56 09.6	-0.1
TIXI	Tiksi	33.97	356	P	P	23 57 40.6	-0.3
TIXI				IAmb	IAmb	23 57 40.7	
	comp=Z,2.9nm,0.5s						
PHRA	Phrae	36.48	248	P	P	23 58 03.3	+0.5
CHTO	Chiang Mai	37.23	250	P	P	23 58 09.0	-0.1
CHTO				IAmb	IAmb	23 58 09.9	
	comp=Z,3.4nm,0.6s						
CMAR	Chiang Mai Arr	37.46	249	P	P	23 58 10.9	0.0
	comp=Z,1.7nm,0.3s,baz=50,slow=9.1,SNR=5.0						
	comp=Z,1.7nm,0.3s						
ZALV	Zalesovo Beam	37.95	312	P	P	23 58 13.9	-0.7
	comp=Z,0.7nm,0.4s,baz=96,slow=9.4,SNR=4.1						
	comp=Z,0.7nm,0.4s						
MK31	Makanchi Array	39.78	300	P	P	23 58 28.9	-0.9
MKAR	Makanchi Array	39.78	300	P	P	23 58 28.6	-1.2
	comp=Z,0.7nm,0.5s,baz=86,slow=10.0,SNR=17						
MKAR				ScP	ScP	00 03 42.1	-0.8
	comp=Z,0.4nm,0.8s,baz=61,slow=3.1,SNR=3.7						
	comp=Z,0.7nm,0.5s						
MKAR	Makanchi Array	39.78	300	P	P	23 58 29.4	-0.4
NRIK	Noril'sk	40.58	336	P	P	23 58 37.2	+1.4
	comp=Z,1.6nm,0.5s,baz=121,slow=9.5,SNR=2.5						
	comp=Z,1.6nm,0.5s						
KURK	Kurchatov	41.79	307	P	P	23 58 45.1	-0.8
K20K	Telida	48.16	35	P	P	23 59 37.2	+1.9
K20K				IAmb	IAmb	23 59 39.9	
	comp=Z,5.8nm,1.1s						
IMAR	Indian Mountai	48.21	31	P	P	23 59 37.3	+1.6
H21K	Melozitna Rive	48.61	32	P	P	23 59 40.0	+1.3
H21K				IAmb	IAmb	23 59 41.4	
	comp=Z,14nm,1.5s						
M20K	Styx River	48.69	37	P	P	23 59 41.2	+1.8
M20K				IAmb	IAmb	23 59 48.5	
	comp=Z,19nm,1.5s						
KKAR	Karatay Array	48.73	298	P	P	23 59 39.9	-0.1
PPLA	Purkeypile	49.04	35	P	P	23 59 44.0	+1.8
CAST	Castle Rocks	49.04	35	P	P	23 59 44.0	+1.9
CAST				IAmb	IAmb	00 00 18.9	
	comp=Z,6.7nm,1.4s						
KDAK	Kodiak Island	49.46	42	P	P	23 59 45.4	+0.2
	comp=Z,14nm,1.1s,baz=294,slow=12,SNR=1.7						
	comp=Z,14nm,1.1s						
BTK	Batken	49.47	294	P	P	23 59 45.3	-0.3
MLY	Manley	49.51	32	P	P	23 59 46.3	+0.8
KTH	Kantishna Hill	49.55	34	P	P	23 59 47.1	+1.3
KTH				IAmb	IAmb	23 59 56.2	
	comp=Z,12nm,1.3s						
I23K	Minto, Yukon-K	50.08	32	P	P	23 59 50.6	+0.9
BWN	Browne	50.13	33	P	P	23 59 52.2	+2.1
GAR	Garm	50.20	293	P	P	23 59 51.4	+0.3
GAR				IAmb	IAmb	23 59 52.3	
	comp=Z,4.8nm,0.8s						
MDM	Murphy Dome	50.57	32	P	P	23 59 55.0	+1.5
MDM				IAmb	IAmb	23 59 55.3	
	comp=Z,3.8nm,0.5s						
H24K	Noodor Dome	50.62	31	P	P	23 59 54.7	+0.9
WRH	Wood River Hil	50.69	33	P	P	23 59 55.4	+1.2
WRH				IAmb	IAmb	00 00 17.4	
	comp=Z,15nm,1.5s						
CCB	Clear Creek Bu	50.79	33	P	P	23 59 55.6	+0.7
CHGR	Chuyangaron	51.16	293	P	P	23 59 58.0	-0.3
IL31		51.17	32	P	P	23 59 58.2	+0.5
IL31				IAmb	IAmb	00 00 21.5	
	comp=Z,13nm,1.5s						
ILAR	Eielson Array	51.17	32	P	P	23 59 58.1	+0.4
	comp=Z,1.2nm,0.7s,baz=260,slow=5.7,SNR=20						
	comp=Z,1.2nm,0.7s						
ILAR	Eielson Array	51.17	32	P	P	23 59 58.4	+0.7
HDA	Harding Lake	51.19	33	P	P	23 59 58.3	+0.4
SCM	Sheep Creek Mo	51.42	36	P	P	23 59 59.7	0.0
BMAR	Burnt Mountain	51.73	29	P	P	00 00 04.3	+2.4
J26L	Joseph Creek	52.62	33	P	P	00 00 08.7	+0.1
I26K	Coal Creek Min	52.64	31	P	P	00 00 09.1	+0.6
ARU	Arti	52.65	317	P	P	00 00 08.6	-0.1
L27K	Beaver Creek,	53.68	34	P	P	00 00 17.9	+1.8
L27K				IAmb	IAmb	00 00 18.7	
	comp=Z,4.1nm,0.7s						
BCAR	Beaver Creek A	53.70	34	P	P	00 00 18.3	+2.1
M27K	Edge Creek, AK	53.82	35	P	P	00 00 18.7	+1.5
M27K				IAmb	IAmb	00 01 01.9	
	comp=Z,18nm,1.5s						
ABKAR	Akbulak array	53.86	308	P	P	00 00 17.2	-0.3
ABKAR				IAmb	IAmb	00 00 17.6	
	comp=Z,3.0nm,0.5s						
EPYK	Eagle Plains	54.98	29	P	P	00 00 26.7	+1.4
EPYK				IAmb	IAmb	00 00 27.5	
	comp=Z,7.5nm,0.8s						
INK	Inuvik	55.64	27	P	P	00 00 30.8	+1.0
INK				IAmb	IAmb	00 00 31.5	
	comp=Z,11nm,1.4s						
M30M	Minto, Yukon	56.04	34	P	P	00 00 34.7	+1.9
M30M				IAmb	IAmb	00 01 16.8	
	comp=Z,6.3nm,1.4s						
P29M	Windy Craggy	56.53	37	P	P	00 00 37.3	+1.0
A36M	Sachs Harbour	57.10	21	P	P	00 00 41.0	+1.1
A36M				IAmb	IAmb	00 00 42.0	
	comp=Z,4.5nm,0.9s						
WB0	Warramunga Arr	57.41	181	P	P	00 00 42.9	+0.1
WB0				IAmb	IAmb	00 01 02.2	
	comp=Z,11nm,1.5s						
WB2	Warramunga Arr	57.58	182	P	P	00 00 45.6	+1.7
WB2				IAmb	IAmb	00 00 46.2	
	comp=Z,9.3nm,1.5s						
WRA	Warramunga Arr	57.58	182	P	P	00 00 43.8	-0.2
	comp=Z,0.2nm,0.4s,baz=357,slow=7.3,SNR=7.3						
	comp=Z,0.2nm,0.4s						
WRA	Warramunga Arr	57.58	182	P	P	00 00 44.4	+0.4
WR0	Warramunga Arr	57.59	181	P	P	00 00 44.1	0.0
WR0				IAmb	IAmb	00 01 04.2	
	comp=Z,4.0nm,1.1s						
C36M	Paulatuk	58.49	24	P	P	00 00 50.5	+0.9
SPB2	Spitsbergen Ar	58.73	348	P	P	00 00 47.8	-3.4
EUNU	Eureka	59.94	8	P	P	00 00 59.7	+0.3
EUNU				IAmb	IAmb	00 00 60.0	
	comp=Z,2.2nm,0.8s						
RES	Resolute Bay	62.82	13	P	P	00 01 18.7	+0.3
FINES	FINESS Array B	65.85	330	P	P	00 01 38.1	0.0
	comp=Z,2.3nm,1.0s,baz=38,slow=7.0,SNR=1.5						
	comp=Z,2.3nm,1.0s						
NOA	NORSAR Array B	71.53	335	P	P	00 02 12.2	-0.7
	comp=Z,0.4nm,0.7s,baz=42,slow=5.4,SNR=1.0						
	comp=Z,0.4nm,0.7s						
PINE	Pine Mountain	73.14	47	P	P	00 02 24.8	+1.9
PINE				IAmb	IAmb	00 02 25.5	
	comp=Z,3.8nm,0.8s						
NVAR	Mina Array Bea	78.00	51	P	P	00 02 50.9	+0.6
	comp=Z,0.9nm,0.6s,baz=298,slow=3.9,SNR=4.4						
	comp=Z,0.9nm,0.6s						
PDAR	Pinedale Array	80.17	43	P	P	00 03 02.6	+0.6
	comp=Z,0.7nm,0.8s,baz=311,slow=1.0,SNR=7.0						
	comp=Z,0.7nm,0.8s						
TXAR	Lajitas Array	93.05	49	P	P	00 04 05.8	+1.2
	comp=Z,0.7nm,0.6s,baz=290,slow=3.2,SNR=8.7						
	comp=Z,0.7nm,0.6s						

IDC 10 23:52:14.3±2.8**, 8°.26S**×**111°.35E, h0**km**, mb3.6**/5**,**
mbtmp3.6/5**, Error ellipse: s-maj=137.3km s-min=21.9km az=51.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.10	120	P	P	23 57 41.4	+0.3
	0.3nm,0.6s,baz=296,slow=11,SNR=6.3						
	0.3nm,0.6s						
ASAR	Alice Springs	26.49	128	P	P	23 57 53.2	-0.4
	0.5nm,0.5s,baz=301,slow=8.9,SNR=6.6						
	0.5nm,0.5s						
SONM	Songino Array	56.02	356	P	P	00 01 55.4	+0.6
	0.5nm,0.6s,baz=167,slow=6.8,SNR=4.3						
	0.5nm,0.6s						
MKAR	Makanchi Array	60.61	337	P	P	00 02 26.9	0.0
	0.4nm,0.3s,baz=150,slow=7.3,SNR=9.8						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	65.90	343	P	P	00 03 01.1	-0.7
	0.8nm,0.6s,baz=142,slow=7.2,SNR=2.5						
	0.8nm,0.6s						

IDC ***11*** *00:00:29.8±1.1, 15°.49N×93°.53E, h0km, mb3.7/6, mbtmp3.6/7, MS3.4/2, Error ellipse: s-maj=36.5km s-min=21.0km az=53.0*
ISC 11 00:00:35.1±1.1**, 15°.6N**±0°.1×**93°.5E**±0°.1**, h35**km**, n13, σ0s.57**/10**, mb3.7**/6**, Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.92	60	Pn	Pn	00 02 00.4	0.0
	1.6nm,0.6s,baz=244,slow=15,SNR=6.9						
CMAR				Sn	Sn	00 03 07.1	+0.1
	0.6nm,0.3s,baz=246,slow=28,SNR=3.3						
BRDH	Bariadhala	7.30	346	Sn	Sn	00 03 40.1	-0.9
	37nm,0.3s,baz=272,slow=17,SNR=1.6						
H08S3	Diego Garcia H	31.08	224	T	T	00 39 24.0	
	baz=45,slow=74						
H08S2	Diego Garcia H	31.09	224	T	T	00 39 31.9	
	baz=45,slow=74						
H08S1	Diego Carcia H	31.10	224	T	T	00 39 32.5	
	baz=45						
MKAR	Makanchi Array	32.52	346	P	P	00 07 03.4	+0.7
	0.4nm,0.6s,baz=144,slow=10,SNR=4.9						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	38.91	352	P	P	00 07 57.2	0.0
	0.8nm,0.5s,baz=169,slow=8.1,SNR=6.2						
	0.8nm,0.5s						
KBZ	Khabaz	51.19	314	LR	LR	00 35 27.9	
	comp=Z,18nm,18.3s,baz=176,slow=41						
WRA	Warramunga Arr	53.42	130	P	P	00 09 51.2	-0.7
	0.4nm,0.8s,baz=313,slow=8.0,SNR=5.7						
WRA				PcP	PcP	00 10 58.4	-0.5
	0.2nm,0.7s,baz=324,slow=3.8,SNR=4.7						
	0.4nm,0.8s						
ASAR	Alice Springs	55.47	134	P	P	00 10 06.9	+0.1
	0.3nm,0.5s,baz=311,slow=6.8,SNR=2.4						
	0.3nm,0.5s						
TIXI	Tiksi	59.87	12	LR	LR	00 40 41.8	
	comp=Z,54nm,18.6s,baz=318,slow=40						
ARCES	ARCESS Array B	67.89	339	P	P	00 11 30.2	+0.5
	4.1nm,1.2s,baz=97,slow=7.4,SNR=1.4						
	4.1nm,1.2s						
GERES	GERESS Array B	71.79	317	P	P	00 11 54.4	+0.1
	0.8nm,0.8s,baz=94,slow=5.4,SNR=5.6						
	0.8nm,0.8s						

SJA ***11*** *00:11:01.7±0.7, 32°.17S×72°.20W, h12km, ML4.1, MW4.0*
IDC ***11*** *00:11:02.1±1.2, 32°.09S×71°.90W, h0km, mb3.8/2, mbtmp3.8/5, ML4.2/3, MS3.2/7, Error ellipse: s-maj=38.6km s-min=28.5km az=126.0*
NEIC ***11*** *00:11:05.9±2.1, 32°.13S±0°.02×71°.83W±0°.08, h20km±6km, Mwr3.9/52, ML4.1(GUC), Error ellipse: s-maj=10.2km s-min=1.4km az=101.0*
NEIC ***11*** *00:11:06, 32°.14S×71°.74W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-2.46; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$3.00; $M_{r\theta}$1.79; $M_{\theta\phi}$2.09; $M_{\phi r}$-7.13; Fault plane solution: $M_0$8.13000×10^{14} NP1:ϕ_s235.70000°, δ20.72000°, λ-25.94000°. NP2:ϕ_s350.16000°, δ81.10000°, λ-108.78000°. Principal axes: T 7.9727, Plg34.0000°, Azm96.0000°; N 0.3126, Plg19.0000°, Azm353.0000°; P -8.2854, Plg50.0000°, Azm239.0000°;*
GUC ***11*** *00:11:06.9±0.8, 32°.14S×71°.74W, h19km±4km, ML4.1*
ISC 11 00:11:05.4±1.0**, 32°.12S**±0°.02×**71°.81W**±0°.04**, h17**km±6km**, n102, σ1s.53**/126**, MS3.4**/3**, 5C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA06	Catapilco	0.62	136		Pg	00 11 18.3	+0.6
VA06					Sb	00 11 25.7	-0.5
VA06	Catapilco	0.62	136	⇓iP	Pg	00 11 18.4	+0.6
VA06				iS	Sg	00 11 25.9	-0.1
VA06				IAML		00 11 29.1	
	comp=E,31μm,0.4s						
VA01	Torpederas	0.91	171		Pb	00 11 22.9	+0.1
VA01				Sn	Sg	00 11 35.8	+0.6
VA01	Torpederas	0.91	171	iP	Pb	00 11 22.9	+0.1
VA01				iS	Sb	00 11 35.2	+0.5
VA01	Torpederas	0.91	171	eP	Pb	00 11 17.6	-5.2
ROCH	El Roble	1.09	142	⇑iP	Pb	00 11 25.9	0.0
ROCH				iS	Sb	00 11 39.9	0.0
ROCH				IAML		00 11 42.9	
	comp=N,9μm,0.5s						
ROC1	El Roble	1.09	142		Pb	00 11 25.9	0.0
ROC1				Sn	Sb	00 11 39.9	-0.1
ROC1	El Roble	1.09	142	eP	Pb	00 11 25.6	-0.3
CO02	Combarbal	1.14	37		Pn	00 11 27.1	+0.4

CO02 Sn Sb 00 11 42.3 +0.9
CO02 Combarbal 1.14 37 *i* P Pn 00 11 27.1 +0.4
CO02 IAML 00 11 45.3
comp=E,10µm,0.3s
CO02 Combarbal 1.14 37 *eP* Pn 00 11 26.9 +0.1
CO02 IAML 00 11 47.7
comp=Z,3µm,0.3s
VA03 San Esteban 1.25 122 Pn 00 11 28.1 -0.1
VA03 San Esteban 1.25 122 ⇑ *iP* Pn 00 11 28.3 +0.2
VA03 *i* S Sn 00 11 44.3 -0.3
VA03 IAML 00 11 47.5
comp=E,11µm,0.6s
MT02 Curacav 1.27 154 Pn 00 11 28.3 -0.1
MT02 Curacav 1.27 154 ⇑ *iP* Pn 00 11 28.5 +0.1
MT02 *i* S Sb 00 11 43.9 -1.1
MT02 Curacav 1.27 154 *eP* Pn 00 11 28.0 -0.4
MT02 IAML 00 11 50.2
comp=Z,2µm,0.5s
PEL Peldehue 1.40 137 ⇑ *iP* Pn 00 11 30.6 +0.4
PEL *i* S Sb 00 11 48.7 +0.1
PEL IAML 00 11 51.7
comp=N,5µm,0.5s
PEL Peldehue 1.40 137 *eP* Pn 00 11 25.1 -5.0
PEL *eP* Pb 00 11 31.0 -0.1
CO06 Fray Jorge 1.45 6 Pn Pn 00 11 31.2 +0.4
CO06 Fray Jorge 1.45 6 ⇓ *iP* Pn 00 11 31.0 +0.2
VA05 Santo Domingo 1.54 174 Pn 00 11 32.0 -0.1
VA05 Santo Domingo 1.54 174 ⇓ *iP* Pn 00 11 32.0 -0.1
VA05 *i* S Sb 00 11 53.6 +0.8
VA05 IAML 00 11 59.5
comp=E,7µm,0.4s
MT05 Renca 1.56 145 Pn 00 11 33.5 +1.0
MT05 Renca 1.56 145 *eP* Pn 00 11 33.2 +0.7
MT05 *i* S Sb 00 11 53.3 -0.1
MT05 IAML 00 11 57.4
comp=E,6µm,0.3s
MT05 Renca 1.56 145 *eP* Pn 00 11 33.6 +1.2
MT05 IAML 00 12 01.3
comp=Z,2µm,0.7s
CO03 El Pedregal 1.59 37 Pn 00 11 34.1 +1.3
CO03 El Pedregal 1.59 37 *i* P Pn 00 11 34.2 +1.3
CO03 *i* S Sb 00 11 55.0 +0.7
CO03 IAML 00 12 00.0
comp=E,3µm,0.6s
MT03 Universidad Ad 1.76 142 Pn 00 11 36.5 +1.3
MT03 Universidad Ad 1.76 142 *i* P Pn 00 11 36.1 +1.0
MT03 *i* S Sb 00 11 58.4 -0.7
MT03 IAML 00 12 09.4
comp=E,4µm,0.6s
MT03 Universidad Ad 1.76 142 *eP* Pn 00 11 36.0 +0.8
MT03 *eP* Pn 00 11 36.4 +1.3
MT03 IAML 00 12 09.0
comp=Z,3µm,0.8s
FCH Farellones 1.76 134 ⇑ *iP* Pn 00 11 36.3 +0.8
FCH *i* S Sb 00 11 58.4 -1.0
MT09 Talagante 1.79 158 Pn 00 11 37.0 +1.2
MT09 Talagante 1.79 158 *i* P Pn 00 11 36.8 +1.1
MT09 IAML 00 12 06.2
comp=N,3µm,0.4s
MT01 Popeta 1.80 165 Pn 00 11 36.2 +0.5
MT01 Popeta 1.80 165 ⇓ *iP* Pn 00 11 36.1 +0.3
MT01 *i* S Sn 00 11 56.8 -1.4
MT01 IAML 00 12 06.1
comp=E,2µm,0.8s
MT01 Popeta 1.80 165 *eP* Pn 00 11 36.0 +0.3
MT01 IAML 00 12 05.6
comp=Z,2µm,0.5s
BO04 La Punta 2.12 152 Pn 00 11 41.2 +1.0
BO04 La Punta 2.12 152 *i* S Sb 00 12 08.5 -1.1
BO04 IAML 00 12 13.9
comp=N,2µm,0.5s
GO04 Tololo Observa 2.12 24 Pn 00 11 41.7 +1.4
GO04 Tololo Observa 2.12 24 *i* P Pn 00 11 41.5 +1.1
GO04 *i* S Sb 00 12 10.8 +1.1
GO04 Tololo Observa 2.12 24 *eP* Pn 00 11 41.7 +1.4
GO04 *eS* Sb 00 12 12.4 +2.6
RTLS Leoncito 2.16 82 *eP* Pb 00 11 45.0 +0.7
RTLS *eS* Sb 00 12 09.1 -1.7
RTLS IAML 00 12 18.4
comp=Z,2µm,0.6s
LMEL Las Melosas 2.19 142 Pn 00 11 42.8 +1.6
LMEL Las Melosas 2.19 142 ⇓ *iP* Pn 00 11 43.2 +2.0
LMEL *i* S Sb 00 12 10.6 -1.1
LMEL IAML 00 12 16.8
comp=N,1µm,0.6s
CO05 La Serena 2.25 13 Pn 00 11 42.9 +1.1
CO05 La Serena 2.25 13 *eP* Pn 00 11 45.1 +3.3
CO05 *eS* Sb 00 12 13.8 +0.7
CO05 IAML 00 12 22.1
comp=E,2µm,0.4s
BO01 Tunca 2.35 165 Pn Pn 00 11 43.8 +0.6
BO01 Tunca 2.35 165 *iP* Pn 00 11 43.8 +0.6
BO01 Tunca 2.35 165 *eP* Pn 00 11 43.6 +0.4
BO01 *eS* Sg 00 12 19.4 -1.6
BO01 IAML 00 12 25.0
comp=Z,480nm,0.8s
CO01 Juntas del Tor 2.59 35 Pb 00 11 51.7 +0.1
CO01 Juntas del Tor 2.59 35 *eP* Pn 00 11 50.0 +3.2
CO01 IAML 00 12 29.6
comp=N,638nm,0.6s
CO01 Juntas del Tor 2.59 35 *eP* Pb 00 11 51.1 -0.5
CO01 IAML 00 12 32.4
comp=Z,589nm,0.7s
ZON Zonda 2.73 79 Pb 00 11 53.1 -0.7
ZON Zonda 2.73 79 *eP* Pb 00 11 53.9 +0.1
ZON *eP* Pg 00 11 54.0 -3.7
ZON *eS* Sg 00 12 35.1 +2.0
ZON IAML 00 12 44.8
comp=Z,419nm,1.1s
RTCV Cerro Valdivia 2.79 86 *eP* Pb 00 11 55.9 +1.0
RTCV *eS* Sg 00 12 33.6 -1.5
AROD Rodeo 2.79 46 *eP* Pb 00 11 53.6 -1.4
AROD *eP* Pn 00 11 54.0 +4.4
AROD *eS* Sg 00 12 32.9 -2.3
ACCO Cerro Coronel 2.80 58 *eP* Pb 00 11 54.0 -1.2
ACCO *eS* Sg 00 12 33.2 -2.3
BO02 Sierra Bellavi 2.80 162 Pn 00 11 50.3 +0.8
BO02 Sierra Bellavi 2.80 162 *iP* Pn 00 11 50.3 +0.8
BO02 Sierra Bellavi 2.80 162 *eP* Pn 00 11 50.0 +0.4
BO02 *eS* Sn 00 12 25.1 +2.1
BO02 IAML 00 12 34.5
comp=Z,1µm,0.7s
GO05 Huala 2.89 182 Pn Pn 00 11 49.9 -0.8
GO05 Huala 2.89 182 *eP* Pn 00 11 49.9 -0.8
GO05 *eP* Pb 00 11 50.0 -6.5
GO05 *eS* Sn 00 12 26.4 +1.4
RTLL Cerro Villicun 2.95 75 *eP* Pb 00 11 56.0 -1.6
RTLL *eS* Sb 00 12 31.6 -1.7
ACDV Cuesta del Vie 3.02 51 *eP* Pn 00 11 55.1 +2.6
ACDV *eS* Sg 00 12 42.2 -0.1
ACDV IAML 00 12 54.9
comp=Z,315nm,0.6s
LCO Las Campanas 3.24 17 Pn Pn 00 11 56.2 +0.4
COIS El Sosneado 3.51 149 *eP* Pn 00 11 51.1 -8.1
AC05 El Transito 3.53 22 Pn 00 12 00.8 +1.2
AC05 El Transito 3.53 22 *eS* Sn 00 12 43.6 +2.7
AC05 IAML 00 12 59.7
comp=Z,808nm,0.7s
ML02 Panimavida 3.65 175 Pn Pn 00 12 01.4 +0.3
AC04 Llanos de Chal 3.95 9 Pn 00 12 05.1 -0.1
AVFE Valle Fertil 4.00 70 *eP* Pn 00 12 10.1 +4.2
AVFE *eS* Sb 00 13 02.1 -1.4
AVFE IAML 00 13 12.0
comp=Z,305nm,2.1s
ACHE Chepes 4.49 79 *eP* Pn 00 12 16.0 +3.2
ACHE *eS* Sb 00 13 14.4 -3.4
BI05 Punta Hualpn 4.76 193 Pn Pn 00 12 15.2 -1.2
AC06 Mina Casimiro 4.91 15 Pn 00 12 19.0 +0.5
MRA San Martin 5.17 95 *eP* Pn 00 12 24.0 +1.9
AC02 Maricunga 5.76 25 Pn Pn 00 12 28.6 -1.9
H03N1 Juan Fernandez 6.12 256 T T 00 19 05.5
baz=86,slow=73,SNR=746
H03N3 Juan Fernandez 6.14 256 T T 00 19 11.0
baz=86,slow=73,SNR=778
H03N2 Juan Fernandez 6.14 256 T T 00 19 06.6
baz=86,slow=73,SNR=603
H03S3 Juan Fernandez 6.20 252 T T 00 19 12.0
baz=83,slow=75
H03S1 Juan Fernandez 6.21 252 T T 00 19 16.4
baz=83,slow=75
H03S2 Juan Fernandez 6.22 252 T T 00 19 14.1
baz=83,slow=75
GO06 Curarrehue 7.46 178 Pn Pn 00 12 53.3 -0.2

LR04 Corral 7.86 189 Pn Pn 00 12 57.5 -1.4
PLCA Paso Flores 8.66 174 Pn Pn 00 13 10.3 +0.4
comp=Z,0.9nm,0.3s,baz=8.7,slow=13,SNR=30
PLCA LR LR 00 17 09.7
comp=Z,59nm,21.6s,baz=332,slow=42
comp=Z,2.6nm,0.4s
PLCA Paso Flores 8.66 174 Pn Pn 00 13 10.5 +0.5
LVC Limon Verde 9.81 16 Sn Sn 00 15 22.3 +6.2
comp=Z,0.4nm,0.3s,baz=190,slow=20,SNR=2.2
LVC LR LR 00 17 13.3
comp=Z,80nm,20.6s,baz=214,slow=38
LVC Limon Verde 9.81 16 Pn Pn 00 13 24.9 -1.3
TRQA Tornquist 10.00 129 Pn 00 13 30.1 +1.9
ITQB Itaqui 13.27 83 Pn Pn 00 14 11.7 -1.4
CPUP Villa Florida 13.89 69 Pn Pn 00 14 23.1 +1.5
comp=Z,0.3nm,0.3s,baz=230,slow=13,SNR=4.9
CPUP Sn Sn 00 16 57.6 +2.2
comp=Z,0.2nm,0.3s,baz=248,slow=11,SNR=2.1
CPUP LR LR 00 20 10.9
comp=Z,126nm,19.6s,baz=256,slow=39
comp=Z,1.3nm,0.4s
SIV San Ignacio 18.79 34 P P 00 15 24.1 +0.1
baz=212,slow=12,SNR=9.2
SIV LR LR 00 23 59.3
comp=Z,39nm,18.7s,baz=260,slow=41
comp=Z,1.9nm,0.9s
BDFB Brasilia 27.15 58 P P 00 16 47.2 -0.8
comp=Z,3.6nm,0.9s,baz=240,slow=8.1,SNR=3.9
BDFB LR LR 00 29 09.3
comp=Z,119nm,18.8s,baz=309,slow=40
comp=Z,3.6nm,0.9s
MDP Montagnes des 41.27 30 LR LR 00 37 52.2
comp=Z,43nm,20.1s,baz=210,slow=39
RCBR Riachuelo 42.51 60 LR LR 00 37 24.4
comp=Z,52nm,21.1s,baz=323,slow=37
TXAR Lajitas Array 66.19 330 P P 00 22 04.8 -0.1
comp=Z,0.2nm,0.6s,baz=150,slow=7.3,SNR=2.5
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 122.49 209 PKP PKPdf 00 29 59.2 -1.3
comp=Z,0.3nm,0.7s,baz=164,slow=1.7,SNR=5.4
H11S2 WAKE ISLAND Hyl 25.97 270 T T 02 49 12.6
baz=118,slow=75,SNR=11
H11S1 WAKE ISLAND Hyl 25.98 270 T T 02 49 13.7
baz=118,slow=75,SNR=7.0
H11S3 WAKE ISLAND Hyl 25.99 270 T T 02 49 13.8
baz=118,slow=75,SNR=7.1
ZALV Zalesovo Beam 152.52 31 PKPbc PKPbc 00 31 00.4 +0.2
comp=Z,0.6nm,0.5s,baz=309,slow=3.6,SNR=3.9
ZALV PKPab pPKPbc 00 31 08.7 +2.8
comp=Z,1.2nm,0.5s,baz=298,slow=4.0,SNR=7.2
PZH PanZhiHua 172.07 133 PKP PKPdf 00 31 10.9 -2.9

RSNC 11 00:26:42.0±1.1, **6°81N×73°15W, h145**km±6km, **ML2.2, 1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**190**	⇓ *iP*		Pn		00 27 01.4	-0.7
BARC				*eS*		Sn		00 27 16.5	-0.7
BARC				IAML				00 27 17.6	
comp=Z,44nm,0.2s									
BRRC	**Barranca, Sant**	**0.64**	**298**	*i* P		Pn		00 27 03.2	-0.3
BRRC				*eS*		Sn		00 27 20.4	+0.5
BRRC				IAML				00 27 23.2	
comp=Z,21nm,0.4s									
PAMC	**Pamplona, Colo**	**0.69**	**40**	*eP*		Pn		00 27 04.2	-0.2
PAMC				*eS*		Sn		00 27 21.2	-0.3
PAMC				IAML				00 27 23.3	
comp=Z,17nm,0.4s									
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*eP*		Pn		00 27 08.1	-1.3
PTBC				*eS*		Sn		00 27 29.2	-1.1
PTBC				IAML				00 27 35.1	
comp=Z,29nm,0.6s									
TAMC	**Tame, Arauca**	**1.40**	**105**	*eP*		Pn		00 27 09.6	-0.5
TAMC				IAML				00 27 30.5	
comp=Z,10nm,0.3s									
TAMC				*eS*		Sn		00 27 31.3	-0.2
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	*eP*		Pn		00 27 14.1	-0.7
ZARC				*eS*		Sn		00 27 39.3	-0.8
ZARC				IAML				00 27 45.4	
comp=Z,31nm,0.5s									
NORC	**Norcasia**	**2.11**	**234**	*eP*		Pn		00 27 18.2	0.0
NORC				*eS*		Sn		00 27 46.1	0.0
NORC				IAML				00 27 48.3	
comp=Z,12nm,0.4s									
CHIC	**Chingaza**	**2.24**	**195**	*eP*		Pn		00 27 18.7	-1.4
CHIC				*eS*		Sn		00 27 49.1	-0.3
CHIC				IAML				00 27 58.7	
comp=Z,6.0nm,0.3s									
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*eP*		Pn		00 27 29.8	+0.5
CBOC				*eS*		Sn		00 28 04.7	-1.2
CBOC				IAML				00 28 18.0	
comp=Z,4.1nm,0.7s									
PRAC	**Prado**	**3.53**	**210**	*eP*		Pn		00 27 35.2	-0.9
PRAC				*eS*		Sn		00 28 17.1	-0.8
PRAC				IAML				00 28 23.8	
comp=Z,6.9nm,0.3s									
ORTC	**Ortega, Tolima**	**3.56**	**216**	*eP*		Pn		00 27 35.6	-0.8
ORTC				*eS*		Sn		00 28 18.4	-0.3
ORTC				IAML				00 28 25.3	
comp=Z,5.4nm,0.4s									
PLMC	**San Jos del P**	**3.65**	**239**	*eP*		Pn		00 27 37.7	0.0
PLMC				*eS*		Sn		00 28 21.3	+0.5
PLMC				IAML				00 28 28.9	
comp=Z,3.2nm,0.4s									

*DJA **11** 00:26:44.7±0.2, 9°S±2°×111°1E±°, h62km±3km, M5.0/48, mb5.1/48, mB5.4/26, MLv5.5/22, Mw(mB)4.8/26, MwMwp5.5/1, Mwp5.6/1*
*IDC **11** 00:26:45.6±1.4, 8°80S×111°46E, h60km±12km, mb4.6/24, mbtmp4.9/27, MS3.8/54, Error ellipse: s-maj=13.0km s-min=8.4km az=30.0*
*NEIC **11** 00:26:46.8±2.4, 8°82S±0°05×111°48E±0°03, h62km±5km, mb5.0/128, Error ellipse: s-maj=8.4km s-min=2.2km az=152.0*

ISC 11 00:26:44.7±0.7, **8°95S**±0°04×**111°37E**±0°04, **h51**km±6km, **n597**,σ1**§48**/575, **mb5.0**/101, **MS3.9**/58, **20C-1D, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.77**	**346**	P		P		**00 26 59.9**	**+0.5**
PCJI				S		Sn		**00 27 11.1**	**+1.0**
UGM	**Wanagama**	**1.32**	**321**	Pn		Pn		**00 27 08.0**	**+1.2**
UGM				Sn		Sn		**00 27 25.0**	**+1.6**
UGM	**Wanagama**	**1.32**	**321**	P		Pn		**00 27 08.0**	**+1.2**
UGM				S		Sn		**00 27 24.3**	**+0.9**
UGM	**Wanagama**	**1.32**	**321**	P		Pn		**00 27 08.6**	**+1.8**
KRKI	**Karangkates**	**1.33**	**54**	P		Pn		**00 27 08.9**	**+2.0**
KRKI				S		Sn		**00 27 26.5**	**+3.0**
SMRI	**Semarang**	**2.10**	**334**			Pn		**00 27 20.7**	**+3.3**
SMRI	**Semarang**	**2.10**	**334**	P		Pn		**00 27 21.0**	**+3.6**
SMRI	Semarang	2.10	334	P		Pn		**00 27 21.4**	**+4.0**
GRJI	**Gresik**	**2.30**	**29**	P		Pn		**00 27 23.5**	**+3.3**
JAGI	**Jajag, Banyuwa**	**2.80**	**80**	Pn		Pn		**00 27 27.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.80**	**80**	P		Pn		**00 27 28.2**	**+1.3**
JAGI	**Jajag, Banyuwa**	**2.80**	**80**	P		Pn		**00 27 28.8**	**+1.9**
CTJI	**Waduk Cacaban**	**2.90**	**312**	P		Pn		**00 27 30.6**	**+2.3**
ABJI	**Asem Bagus**	**3.06**	**68**	P		Pn		**00 27 33.6**	**+3.0**
KMMI	**Kalianget**	**3.19**	**54**	P		Pn		**00 27 33.4**	**+1.0**
BWJI	**Bawean**	**3.33**	**23**	P		Pn		**00 27 37.9**	**+3.6**
RTBI	**Rangdo, Negare**	**3.57**	**82**	P		Pn		**00 27 40.0**	**+2.4**
IGBI	**Denpasar**	**3.74**	**88**	P		Pn		**00 27 41.5**	**+1.6**
DNP	**Denpasar**	**3.81**	**86**	P		Pn		00 27 47.1	+6.3
SRBI	**Singaraja**	**3.90**	**78**	P		Pn		**00 27 45.1**	**+3.0**
JCJI	**Jatiwangi**	**3.92**	**308**	P		Pn		**00 27 42.2**	**-0.2**
BBJI	**Bungbulang**	**3.96**	**292**	P		Pn		**00 27 43.9**	**+0.9**
LEM	**Lembang**	**4.27**	**299**	P		Pn		**00 27 49.0**	**+1.7**
357nm,0.6s,baz=94,slow=18,SNR=32									
LEM				S			Sn	**00 28 39.7**	**+3.7**
1µm,0.6s,baz=45,slow=20,SNR=8.5									
LEM				LR		LR		00 29 54.5	
comp=Z,1µm,19.1s,baz=110,slow=44									
LEM	**Lembang**	**4.27**	**299**	P		Pn		**00 27 49.5**	**+2.2**
CNJI	**Cibinong**	**4.50**	**291**	P		Pn		**00 27 50.2**	**-0.1**
KLNI	**Mataram**	**4.71**	**84**	P		Pn		**00 27 54.1**	**+0.9**
SKJI	**Sukabumi**	**5.14**	**292**	P		Pn		**00 28 00.4**	**+1.3**
6.6nm11µm366nm,0.5s									
TWSI	**Taliwang, Sumb**	**5.46**	**88**	P		Pn		**00 28 06.1**	**+2.6**
2.8nm4µm268nm,0.7s									
XMI	**Christmas Isla**	**5.79**	**255**	P		Pn		**00 28 04.8**	**-3.3**
SBJI	**Serang**	**5.90**	**298**	P		Pn		**00 28 13.4**	**+3.8**
1.9nm171nm,0.9s									

PBKI Pangkalan Bun 6.21 3 P Pn 00 28 17.5 +3.7
5.8nm18µm1µm,0.5s
PLAI Plampang 6.34 89 P Pn 00 28 18.0 +2.5
1.9nm4µm330nm,0.7s
PLAI Plampang 6.34 89 P Pn 00 28 18.6 +3.1
BBKI Banjar Baru 6.45 33 P Pn 00 28 21.2 +4.0
1.4nm283nm,0.9s
BLSI Bandar Lampung 7.04 300 P Pn 00 28 25.3 +0.1
0.9nm188nm,0.4s
KASI Kota Agung 7.62 296 P Pn 00 28 35.9 +2.8
0.5nm96nm,0.7s
KLI Kotabumi 7.63 302 P Pn 00 28 36.1 +2.8
PPBI Pangkal Pinang 8.52 322 P Pn 00 28 47.6 +2.2
11µm419nm,0.7s
MTKI Muara Teweh, K 8.70 24 P Pn 00 28 51.6 +3.7
17µm123nm,0.4s
KAPI Kappang 9.20 65 P Pn 00 28 52.9 -1.8
6.3nm,0.4s,baz=232,slow=12,SNR=1.6
KAPI S Sn 00 30 32.6 -4.3
7.8nm,0.4s,baz=236,slow=23,SNR=1.1
KAPI LR LR 00 33 07.4
comp=Z,403nm,21.4s,baz=248,slow=42
KAPI Kappang 9.20 65 Pn Pn 00 28 54.4 -0.4
KAPI Kappang 9.20 65 P Pn 00 28 56.8 +2.0
701nm86nm,1.2s
PMSI Majene 9.25 55 P Pn 00 28 57.0 +1.5
1µm144nm,1.2s
BKSI Bulukumba 9.41 68 P Pn 00 29 01.0 +3.4
815nm91nm,1.0s
BSSI Bau Bau, Buton 9.47 74 P Pn 00 29 00.8 +2.3
2µm197nm,0.8s
MNAI Manna 9.52 298 Pn Pn 00 28 59.9 +0.7
MNAI Manna 9.52 298 P Pn 00 29 01.5 +2.4
166nm,1.1s
MNAI Manna 9.52 298 P Pn 00 28 59.5 +0.4
SPSI Sidrap Palu 9.71 60 P Pn 00 29 03.5 +1.8
691nm63nm,1.0s
BNSI Bone 9.79 63 P Pn 00 29 08.0 +5.2
954nm100nm,1.2s
KSI Kapahiang 10.18 301 P Pn 00 29 09.0 +0.7
243nm,0.6s
SMKI Samarinda 10.26 35 P Pn 00 29 13.4 +4.1
KSM Kuching 10.41 354 Pn Pn 00 29 12.5 +1.2
KSM Kuching 10.41 354 P Pn 00 29 14.3 +3.0
546nm71nm,0.9s
MMRI Maumere 10.75 89 Pn Pn 00 29 16.5 +0.4
MMRI Maumere 10.75 89 P Pn 00 29 14.7 -1.3
118nm,0.7s
MASI Maura Aman, Be 10.75 302 P Pn 00 29 16.8 +0.7
953nm65nm,0.9s
DSRI Dabo 10.79 321 P Pn 00 29 19.0 +2.4
41nm,0.8s
KKSI Kolaka, Sulawe 11.27 66 P Pn 00 29 26.4 +3.3
56nm,0.6s
SBUM Sibu 11.36 4 Pn Pn 00 29 29.4 +5.1
SBUM Sibu 11.36 4 P Pn 00 29 28.6 +4.3
238nm19nm,0.8s
BBSI Bau Bau 11.63 74 P Pn 00 29 41.4 +13
TPRI Tanjung Pinang 11.94 325 P Pn 00 29 36.5 +4.2
112nm,0.7s
BATI Baumata 12.19 97 P Pn 00 29 34.9 -0.9
66nm,0.4s,baz=321,slow=6.8,SNR=4.0
BATI S Sn 00 31 47.7 -2.6
25nm,0.4s,baz=11,slow=23,SNR=5.5
BATI Baumata 12.19 97 P Pn 00 29 33.4 -2.4
101nm,0.9s
MPSI Mapaga 12.54 43 P Pn 00 29 43.9 +3.4
928nm38nm,0.9s
SDSI Sungai Dareh 12.70 308 P Pn 00 29 41.8 -0.9
2µm7.7nm,0.7s
SOEI Soe 12.76 95 Pn Pn 00 29 42.9 -0.6
SOEI Soe 12.76 95 P Pn 00 29 42.6 -1.0
1µm108nm,0.8s
SOEI Soe 12.76 95 P Pn 00 29 44.4 +0.8
PPSI Pulau Pagai 12.86 298 P P 00 29 51.1 -3.1
APSI Ampana 12.98 53 P P 00 29 52.7 -3.0
864nm72nm,1.5s
MYKOM Kota Tinggi 13.04 325 P Pn 00 29 50.3 +3.0
PDSI Padang 13.47 306 P Pn 00 29 53.7 +0.4
27nm,0.6s
TOLI2 Tolitoli 13.71 44 P 00 30 00.7 -3.0
LUWI Luwuk 13.81 56 P P 00 30 02.8 -2.0
LUWI Luwuk 13.81 56 P P 00 30 01.7 -3.1
118nm,1.1s
GIRL Giralia 13.89 169 P Pn 00 29 54.6 -4.3
baz=14,SNR=9.9
GIRL Giralia 13.89 169 Pn Pn 00 29 53.2 -5.7
GIRL Giralia 13.89 169 P Pn 00 29 54.4 -4.5
MRSI Marisa 14.10 49 P Pn 00 30 03.4 +1.7
948nm102nm,0.8s
MBWA Marble Bar 14.57 147 Pn Pn 00 30 03.8 -4.2
MBWA Marble Bar 14.57 147 P Pn 00 30 03.4 -4.6
PSA00 Pilbara Seismi 14.97 148 P Pn 00 30 09.7 -3.6
PSA00 Pilbara Seismi 14.97 148 P Pn 00 30 10.2 -3.0
GTOI Gorontalo 15.01 51 P P 00 30 16.4 -1.8
436nm62nm,0.9s
KKM Kota Kinabalu 15.66 18 P 00 30 24.7 -0.8
KKM Kota Kinabalu 15.66 18 P P 00 30 25.6 +0.1
38nm,0.9s
MYLDM Lahad Datu 15.73 27 P P 00 30 27.9 +1.7
107nm,1.2s
PBSI Pulau Batu 15.74 303 P Pn 00 30 22.4 -0.8
83nm,1.1s
SANI Sanana 16.08 66 P Pn 00 30 28.8 +1.3
1µm128nm,1.2s
NLAI Namlea 16.64 71 P P 00 30 37.5 +1.2
72nm,0.8s
PSI Prapat 17.03 313 P P 00 30 40.8 0.0
11nm,1.2s
GSI Gunungsitoli 17.10 306 P Pn 00 30 36.0 -4.4
28nm,0.6s
AAI Ambon 17.52 74 P Pn 00 30 45.5 0.0
3µm218nm,0.7s
KULM Kulim 17.73 323 P Pn 00 30 47.4 -0.6
KRAI Karang Ratu 17.83 73 P Pn 00 30 48.6 -0.7
4µm103nm,0.9s
LBMI Labuha 18.06 64 P Pn 00 30 54.0 +1.8
3µm211nm,1.2s
KNRA Kununurra 18.26 113 P Pn 00 30 54.6 +0.1
baz=18,SNR=9.2
KNRA Kununurra 18.26 113 Pn 00 30 54.8 +0.3
KNRA Kununurra 18.26 113 P Pn 00 30 55.1 +0.6
MSAI Masohi 18.32 73 P P 00 30 49.1 -5.8
TNTI Ternate 18.64 60 Pn P 00 30 58.4 +0.1
TNTI Ternate 18.64 60 P Pn 00 30 59.5 +0.4
42nm,0.7s
SNSI Sinabang, Aceh 18.76 306 P Pn 00 31 01.7 +1.1
30nm,1.3s
SGSI Sangihe 18.89 49 P Pn 00 31 03.1 +0.9
47µm433nm,0.4s
BNDI Bandanaira 18.93 78 P P 00 31 01.7 +0.2
15µm313nm,1.2s
GAMI Galela, Maluku 19.56 58 P P 00 31 08.3 -0.2
395nm,1.0s
SAUI Saumlaki 19.74 89 P P 00 31 08.7 -1.8
SAUI Saumlaki 19.74 89 P P 00 31 07.4 -3.1
7µm167nm,1.0s
MTN Manton Dam 19.79 103 P P 00 31 11.6 +0.6
baz=20,SNR=3.9
MTN Manton Dam 19.79 103 P Pn 00 31 12.5 -0.3
MTN IAmb IAmb 00 31 19.4
comp=Z,41nm,0.7s
MLSI Meulaboh, Aceh 19.87 311 P P 00 31 11.5 -0.3
comp=Z,28nm,0.8s
MORW Morawa 20.49 168 P P 00 31 18.8 +0.3
baz=21,SNR=6.0
MORW Morawa 20.49 168 P P 00 31 19.9 +1.4
KDU Kakadu 21.06 102 P P 00 31 25.0 +0.3
baz=21,SNR=6.4
DAV Davao City (W) 21.30 42 LR LR 00 41 04.8
comp=Z,229nm,18.4s,baz=196,slow=41
SWI Sorong 21.37 69 P P 00 31 26.9 -1.2
comp=Z,107nm,1.1s
SIJI Sorong 21.38 69 P P 00 31 26.5 -1.6
comp=Z,36nm,0.7s,baz=271,slow=9.9,SNR=12
SIJI LR LR 00 41 00.1
comp=Z,181nm,18.3s,baz=340,slow=40
comp=Z,36nm,0.7s
SIJI Sorong 21.38 69 P P 00 31 25.8 -2.3
comp=Z,83nm,1.0s
FAKI Fak Fak 21.61 75 P P 00 31 27.4 -3.2
FAKI IAmb IAmb 00 31 35.2
comp=Z,46nm,0.8s
FAKI Fak Fak 21.61 75 P P 00 31 28.8 -1.8
comp=Z,1µmcomp=Z,54nm,0.8s
WRKA Warakurna 22.72 137 P P 00 31 42.1 -0.4
baz=23,SNR=45

WRKA Warakurna 22.72 137 P **P** **00 31 41.9 -0.6**
KMBL Kambalda 24.36 158 P **P** **00 31 57.7 -0.3**
baz=24,SNR=6.6
NWAO Narrogin (SRO) 24.47 168 S **S** **00 36 23.4 +7.5**
comp=Z,6.7nm,0.8s,baz=230,slow=8.4,SNR=1.4
NWAO LR LR 00 41 34.9
comp=Z,374nm,20.2s,baz=117,slow=36
WB0 Warramunga Arr 24.73 118 P **P** **00 32 02.0 +0.4**
WRA Warramunga Arr 24.75 119 P **P** **00 32 02.1 +0.3**
comp=Z,11nm,0.7s,baz=292,slow=11,SNR=213
WRA PcP **PcP** **00 35 37.5 -0.1**
comp=Z,2.1nm,0.6s,baz=311,slow=1.7,SNR=5.5
WRA LR LR 00 43 36.3
comp=Z,169nm,19.1s,baz=296,slow=41
comp=Z,11nm,0.7s
WRA Warramunga Arr 24.75 119 P **P** **00 32 02.0 +0.2**
WRAB Tennant Creek 24.76 119 P **P** **00 32 02.5 +0.7**
WRAB Tennant Creek 24.76 119 P **P** **00 32 02.1 +0.3**
WB2 Warramunga Arr 24.76 119 P **P** **00 32 01.9 0.0**
WR0 Warramunga Arr 24.93 119 P **P** **00 32 04.3 +1.0**
WR0 IAmb IAmb 00 32 05.9
comp=Z,44nm,0.7s
AS31 Alice Springs 26.06 127 P **P** **00 32 14.5 +0.9**
ASAR Alice Springs 26.06 127 P **P** **00 32 14.1 +0.5**
comp=Z,13nm,0.6s,baz=304,slow=9.0,SNR=106
ASAR PcP **PcP** **00 35 40.8 +0.2**
comp=Z,5.6nm,0.6s,baz=307,slow=1.9,SNR=13
ASAR ScP **ScP** **00 39 15.4 -0.9**
comp=Z,1.9nm,1.1s,baz=338,slow=2.0,SNR=4.1
ASAR LR LR 00 42 36.6
comp=Z,289nm,21.6s,baz=326,slow=36
comp=Z,13nm,0.6s
AS01 Alice Springs 26.09 127 P **P** **00 32 15.1 +1.2**
FORT Forrest 26.73 147 P **P** **00 32 20.6 +1.1**
baz=27,SNR=6.7
FORT Forrest 26.73 147 P **P** **00 32 19.9 +0.5**
FORT IAmb IAmb 00 32 23.1
comp=Z,42nm,0.7s
FORT Forrest 26.73 147 P **P** **00 32 20.0 +0.5**
PHRA Phrae 29.41 338 P **P** **00 32 44.3 +0.9**
PHRA IAmb IAmb 00 33 00.4
comp=Z,35nm,0.8s
QIS Mount Isa 29.59 116 P **P** **00 32 45.7 +0.5**
baz=30,SNR=22
QIS Mount Isa 29.59 116 P **P** **00 32 45.9 +0.7**
OOD Oodnadatta 29.63 132 P **P** **00 32 45.2 -0.2**
CMAR Chiang Mai Arr 29.86 336 P **P** **00 32 46.8 -0.7**
comp=Z,5.8nm,0.7s,baz=170,slow=7.9,SNR=29
CMAR PcP **PcP** **00 35 50.9 +1.0**
comp=Z,2.9nm,0.4s,baz=197,slow=3.2,SNR=11
CMAR ScP **ScP** **00 39 25.3 -2.6**
comp=Z,0.8nm,0.3s,baz=206,slow=2.6,SNR=4.2
CMAR LR LR 00 45 44.1
comp=Z,348nm,20.3s,baz=150,slow=38
comp=Z,5.8nm,0.7s
MULG Mulgathing 30.00 138 P **P** **00 32 49.5 +0.8**
CHTO Chiang Mai 30.19 336 P **P** **00 32 50.4 0.0**
COEN Coen 31.55 102 P **P** **00 33 03.3 +0.7**
baz=32,SNR=44
COEN Coen 31.55 102 P **P** **00 33 02.9 +0.3**
COEN IAmb IAmb 00 33 04.6
comp=Z,38nm,0.8s
COEN Coen 31.55 102 P **P** **00 33 03.5 +1.0**
BBOO Buckleboo 32.94 140 P **P** **00 33 14.2 -0.3**
BBOO Buckleboo 32.94 140 P **P** **00 33 15.3 +0.8**
MTSU Mount Surprise 33.26 109 P **P** **00 33 18.1 +0.5**
baz=33,SNR=12
INKA Innaminka 33.42 128 P **P** **00 33 20.1 +1.3**
YULB Yu-li 33.58 17 P **P** **00 33 20.1 -0.1**
SSLB Suanglung 33.86 16 P **P** **00 33 22.4 -0.2**
PALK Pallekele 34.55 297 LR LR 00 46 56.5
comp=Z,69nm,21.1s,baz=221,slow=35
PALK Pallekele 34.55 297 P **P** **00 33 29.3 +0.6**
PALK IAmb IAmb 00 33 30.7
comp=Z,31nm,1.0s
PMG Port Moresby 35.33 94 P **P** **00 33 35.4 0.0**
comp=Z,5.2nm,0.5s,baz=292,slow=9.4,SNR=4.2
PMG LR LR 00 50 09.1
comp=Z,217nm,18.7s,baz=301,slow=40
comp=Z,5.2nm,0.5s
CTA Charters Tower 35.47 112 P **P** **00 33 37.1 +0.5**
comp=Z,8.1nm,0.8s,baz=276,slow=11,SNR=9.3
CTA LR LR 00 49 23.4
comp=Z,120nm,21.0s,baz=269,slow=38
comp=Z,8.1nm,0.8s
CTAO Charters Tower 35.47 112 P **P** **00 33 37.8 +1.2**
CTAO IAmb IAmb 00 33 38.9
comp=Z,12nm,0.9s
TNCH TengChong 36.02 340 P **P** **00 33 42.0 +0.6**
TNCH pmax pmax
comp=Z,34nm,0.7s
TNCH pmax pmax
comp=Z,83nm,4.4s
STKA Stephens Creek 36.15 133 P **P** **00 33 42.4 +0.1**
comp=Z,11nm,0.5s,baz=314,slow=8.8,SNR=37
STKA PcP **PcP** **00 36 07.8 +0.6**
comp=Z,5.4nm,0.5s,baz=290,slow=2.5,SNR=4.8
STKA LR LR 00 48 58.9
comp=Z,319nm,21.8s,baz=312,slow=37
comp=Z,11nm,0.5s
STKA Stephens Creek 36.15 133 P **P** **00 33 43.1 +0.8**
PZH PanZhiHua 36.46 345 P **P** **00 33 46.2 +1.2**
PZH S **S** **00 39 31.2 +7.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.1s
PZH LR LR
comp=Z,550nm,22.0s
PZH LR LR
comp=Z,740nm,23.2s
PZH LR LR
comp=Z,740nm,22.3s
BRDH Bariadhala 36.90 329 LR LR 00 50 37.8
comp=Z,338nm,18.0s,baz=120,slow=39
H08S2 Diego Garcia H 38.48 269 T T 01 14 52.4
baz=94,slow=75,SNR=33
H08S3 Diego Garcia H 38.49 269 T T 01 15 03.6
baz=94,slow=75,SNR=29
H08S1 Diego Carcia H 38.49 269 T T 01 14 54.1
baz=94,slow=75,SNR=28
ENH Enshi 39.04 357 P **P** **00 34 05.8 -0.8**
ENH IAmb IAmb 00 34 07.8
comp=Z,22nm,0.6s
JOW Kunigami 39.17 24 LR LR 00 50 54.2
comp=Z,104nm,21.7s,baz=135,slow=37
JOW Kunigami 39.17 24 P **P** **00 34 07.6 -0.2**
GUMO Guam 40.09 56 LR LR 00 50 14.2
comp=Z,63nm,21.4s,baz=240,slow=35
CD2 Chengdu 40.30 350 P **P** **00 34 17.1 0.0**
CD2 pmax pmax
comp=Z,20nm,0.6s
KRVT Keravat (AS076 40.63 86 LR LR 00 53 48.9
comp=Z,70nm,18.7s,baz=15,slow=40
EIDS Eidsvold 41.12 118 P **P** **00 34 25.6 +1.6**
NJ2 Nanjing 41.39 10 *eP* **P** **00 34 27.1 +1.0**
NJ2 pmax pmax
comp=Z,33nm,0.6s
HYBB Hyderabad (bro 41.69 309 *eP* **P** **00 34 26.8 -2.0**
MNCI Minicoy 41.82 293 P **P** **00 34 30.8 +0.9**
XAN Xi'an 42.81 357 ⇑P **P** **00 34 37.0 -0.7**
XAN pP sP 00 34 55.4 -1.3
XAN sP pP 00 35 04.2 +13
XAN PP **PP** **00 36 21.7 +3.8**
XAN pmax pmax
comp=Z,34nm,0.8s
XAN LR LR
comp=Z,230nm,15.8s
XAN LR LR
comp=Z,200nm,13.7s
XAN LR LR
comp=Z,310nm,24.0s
LSA Lhasa 43.07 334 P **P** **00 34 40.7 +0.3**
LSA IAmb IAmb 00 34 42.1
comp=Z,22nm,0.5s
LSA Lhasa 43.07 334 *i* P **P** **00 34 40.5 +0.1**
SNR=6.4
ARMA Armidale 43.19 125 P **P** **00 34 43.5 +2.5**
LYN LuoYang 43.27 1 ⇑*i*P **P** **00 34 41.3 0.0**
LYN pmax pmax
comp=Z,20nm,0.9s
TIA Tai'an 45.24 7 ⇑P **P** **00 34 56.0 -1.1**
TIA pmax pmax
comp=Z,37nm,0.7s
LZH Lanzhou 45.35 351 *eP* **P** **00 34 58.9 +0.8**
LZH pmax pmax
comp=Z,25nm,1.1s
JNU Nakatsue 45.78 23 P **P** **00 35 00.6 -0.8**
JNU IAmb IAmb 00 35 05.1
comp=Z,9.1nm,0.7s
POO Poona 46.00 307 *eP* P 00 34 57.0 -6.4
HNS HongShan 46.21 4 ⇑P **P** **00 35 04.0 -0.7**
HNS pmax pmax
comp=Z,21nm,0.8s
JTU Tsushima 46.49 21 P **P** **00 35 06.6 -0.3**
JTU IAmb IAmb 00 35 23.4
comp=Z,20nm,0.9s
HNR Honiara 47.93 95 LR LR 01 01 32.2
comp=Z,791nm,18.5s,baz=256,slow=44
JHS Saijyo 48.31 24 P **P** **00 35 21.0 -0.1**
JHS IAmb IAmb 00 35 22.4
comp=Z,24nm,0.9s
KSRS Korea Array 48.70 18 P **P** **00 35 23.6 -0.4**
comp=Z,6.0nm,0.7s,baz=200,slow=8.5,SNR=14
KSRS PcP **PcP** **00 36 48.8 +0.2**
comp=Z,2.7nm,0.8s,baz=192,slow=3.1,SNR=4.4
KSRS LR LR 00 57 19.6
comp=Z,34nm,18.4s,baz=200,slow=38
comp=Z,6.0nm,0.7s
BJT Baijiatuan 48.92 5 P **P** **00 35 24.6 -1.1**
BJI Beijing 48.95 5 P **P** **00 35 25.1 -0.7**
BJI pmax pmax
comp=Z,29nm,0.7s
GTA Gaotai 49.30 348 *eP* **P** **00 35 29.3 +0.6**
GTA PcP **PcP** **00 36 51.9 +1.0**
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,170nm,4.7s
GTA LR LR
comp=Z,140nm,17.8s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,150nm,17.8s
HHC Hu-ho-hao-te 49.55 0 *eP* P 00 35 35.6 +5.0
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,140nm,7.0s
JGF Kuroka 50.64 28 P **P** **00 35 37.8 -1.1**
JGF IAmb IAmb 00 35 38.8
comp=Z,14nm,0.6s
MAJO Matsushiro 51.81 28 P **P** **00 35 46.3 -1.3**
MAJO IAmb IAmb 00 36 00.7
comp=Z,16nm,0.9s
MJAR Matsushiro Arr 51.81 28 P **P** **00 35 45.7 -1.9**
comp=Z,13nm,0.8s,baz=200,slow=7.6,SNR=17
MJAR LR LR 00 57 58.1
comp=Z,59nm,21.7s,baz=214,slow=36
comp=Z,13nm,0.8s
MJB9 Matsu-Tunnel 51.81 28 P **P** **00 35 47.3 -0.3**
MJB9 IAmb IAmb 00 36 01.7
comp=Z,16nm,0.9s
KOUNC Koumac, New Ca 52.25 109 P **P** **00 35 51.6 +0.4**
KOUNC IAmb IAmb 00 36 02.6
comp=Z,15nm,0.8s
XLT XiLinHaoTe 52.77 4 ⇑*i*P **P** **00 35 54.2 -0.5**
XLT S **S** **00 43 18.0 -1.4**
XLT ScS **ScS** **00 45 35.8 -4.3**
XLT pmax pmax
comp=Z,25nm,0.8s
XLT pmax pmax
comp=Z,160nm,3.8s
XLT LR LR
comp=Z,76nm,11.6s
XLT LR LR
comp=Z,480nm,9.8s
CN2 Changchun 54.04 13 P **P** **00 36 02.3 -1.6**
CN2 PcP **PcP** **00 37 08.7 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
JMM Marumori 54.09 29 P **P** **00 36 03.2 -1.1**
DZM Mont Dzumac 54.38 111 *eS* **S** **00 43 43.6 +1.5**
comp=Z,124nm,25.9s
DZM *e*LR LR 00 51 55.2
comp=Z,171nm,24.5s
DZM Mont Dzumac 54.38 111 LR LR 01 01 14.8
comp=Z,149nm,18.0s,baz=218,slow=38
NIL Nilore 55.72 321 P **P** **00 36 14.1 -2.3**
NIL Nilore 55.72 321 P **P** **00 36 13.4 -2.9**
USA0B Ussuriysk Arra 56.10 18 P **P** **00 36 18.3 -0.4**
USA0B IAmb IAmb 00 36 19.8
comp=Z,27nm,0.9s
USRK Ussuriysk Ar. 56.10 18 P **P** **00 36 17.8 -1.0**
comp=Z,21nm,0.8s,baz=202,slow=5.6,SNR=16
comp=Z,21nm,0.8s
USRK Ussuriysk Ar. 56.10 18 P **P** **00 36 18.3 -0.5**
BNX BinXian 56.31 13 ⇓P **P** **00 36 18.9 -1.3**
BNX pmax pmax
comp=Z,15nm,0.8s
BNX pmax pmax
comp=Z,570nm,4.9s
ULN Ulaanbaatar 56.69 357 P **P** **00 36 22.3 -0.8**
ULN Ulaanbaatar 56.69 357 P **P** **00 36 21.9 -1.2**
SONM Songino Array 56.70 356 P **P** **00 36 22.5 -0.6**
comp=Z,12nm,0.6s,baz=178,slow=8.1,SNR=133
SONM PcP **PcP** **00 37 18.7 -0.1**
comp=Z,6.1nm,0.5s,baz=186,slow=4.0,SNR=22
SONM ScP **ScP** **00 41 13.2 -1.0**
comp=Z,0.9nm,0.8s,baz=158,slow=4.1,SNR=4.5
SONM LR LR 01 03 09.3
comp=Z,111nm,18.4s,baz=182,slow=39
comp=Z,12nm,0.6s
SONM Songino Array 56.70 356 IAmb IAmb 00 36 23.4
comp=Z,13nm,0.7s
WMQ Urumqi 56.75 340 *eP* **P** **00 36 27.2 +3.7**
WMQ LR LR
comp=Z,120nm,20.7s
KSH Kashi 58.33 328 P **P** **00 36 33.0 -1.8**
KSH PcP **PcP** **00 37 24.6 -0.8**
KSH pmax pmax
comp=Z,12nm,0.7s
HIA Hailar 58.43 6 P **P** **00 36 34.6 -0.5**
KBL Kabul 58.95 320 P **P** **00 36 37.0 -2.3**
KBL IAmb IAmb 00 36 37.9
comp=Z,13nm,0.8s
TARG Taragay, Kyrgy 59.09 331 P **P** **00 36 39.8 -0.5**
SHLS Shalkode 59.44 333 *eP* **P** **00 36 39.6 -2.8**
comp=Z,4.1nm,0.6s,baz=334
NRN Naryn 59.74 330 P **P** **00 36 43.4 -1.4**
NRN IAmb IAmb 00 36 44.1
comp=Z,10nm,1.1s
NRN PcP **PcP** **00 37 31.7 +0.5**
SATY Saty 59.84 333 *eP* **P** **00 36 43.4 -1.8**
baz=332
JKA Kamikawa-asahi 59.92 26 P **P** **00 36 44.9 -0.5**
KPKS Kokpek 60.03 333 *eP* **P** **00 36 44.3 -2.1**
baz=333
WBK Wadi Bani Khal 60.13 302 P **P** **00 36 46.8 -0.6**
MHTO MHTO 60.30 300 P **P** **00 36 47.3 -1.2**
SNR=5.5
MDOK Medeo 60.55 332 *eP* **P** **00 36 46.9 -3.1**
baz=332
DRK Karamyk 60.55 326 P **P** **00 36 49.8 -0.6**
BOOM Boomskoye usch 60.56 331 P **P** **00 36 49.4 -0.8**
HEH HeiHe 60.59 12 *eP* **P** **00 36 49.0 -1.0**
HEH pmax pmax
comp=Z,53nm,0.9s
HEH pmax pmax
comp=Z,270nm,4.2s
KLR Kul'dur 60.63 15 LR LR 01 05 27.0
comp=Z,51nm,18.6s,baz=194,slow=38
WSAR Wadi Sarin 60.68 303 LR LR 01 03 42.5
comp=Z,50nm,19.1s,baz=132,slow=36
WSAR Wadi Sarin 60.68 303 P **P** **00 36 50.9 -0.3**
JMDO Jabal Madar 60.76 302 P **P** **00 36 51.0 -0.7**
SNR=6.6
DRV Dumont d'Urvil 60.85 167 pP pP 00 37 07.8 +3.3
DRV Dumont d'Urvil 60.85 167 P **P** **00 36 48.7 -2.8**
ZSN Zaisan 60.88 340 *eP* **P** **00 36 50.0 -2.1**
baz=340
TKM2 Tokmak 2 61.05 331 P **P** **00 36 52.8 -0.8**
SNR=7.8
GAR Garm 61.07 324 P **P** **00 36 51.5 -2.1**
SMDO Samad 61.09 302 P **P** **00 36 53.5 -0.5**
CHKK Chushkaly 61.10 332 *eP* **P** **00 36 51.3 -2.4**
baz=332
KBK Karagaybulak 61.17 330 P **P** **00 36 53.8 -0.6**
SNR=16
BIDO Bidbid 61.22 303 P **P** **00 36 54.5 -0.3**
MK31 Makanchi Array 61.25 338 P **P** **00 36 53.7 -0.9**
MK31 IAmb IAmb 00 36 55.3
comp=Z,12nm,0.8s
MKAR Makanchi Array 61.25 338 P **P** **00 36 53.4 -1.2**
comp=Z,9.9nm,0.4s,baz=150,slow=7.4,SNR=169
MKAR LR LR 01 07 02.9
comp=Z,104nm,19.6s,baz=128,slow=40
comp=Z,9.9nm,0.4s
MKAR Makanchi Array 61.25 338 P **P** **00 36 53.7 -0.8**
TDK Taldyqorghan 61.37 334 *eP* **P** **00 36 53.2 -2.2**
baz=334
MAKZ Makanchi 61.38 337 P **P** **00 36 54.5 -1.0**
MAKZ IAmb IAmb 00 36 56.1
comp=Z,11nm,1.0s
MAKZ Makanchi 61.38 337 sP sP 00 37 18.1 +3.4
MAKZ Makanchi 61.38 337 P **P** **00 36 53.0 -2.4**
MAKZ Makanchi 61.38 337 pP pP 00 37 11.7 +2.6
AAK Ala-Archa 61.38 330 P **P** **00 36 55.2 -0.5**
SNR=7.9
AAK Ala-Archa 61.38 330 LR LR 01 07 27.6
comp=Z,111nm,20.2s,baz=144,slow=40
AAK Ala-Archa 61.38 330 P **P** **00 36 55.8 +0.1**
AAK IAmb IAmb 00 37 01.6
comp=Z,6.3nm,0.8s
AAK Ala-Archa 61.38 330 *i* P **P** **00 36 55.2 -0.5**
SNR=10
AML Almayashu 61.42 329 P **P** **00 36 55.0 -1.2**
SNR=16
KUU Kurty 61.44 332 *eP* **P** **00 36 53.7 -2.1**
baz=332
BTK Batken 61.50 325 IAmb IAmb 00 36 55.9
comp=Z,9.0nm,0.7s
CHGR Chuyangaron 61.52 323 P **P** **00 36 54.0 -2.6**
BSY Bisya 61.67 302 P **P** **00 36 57.2 -0.7**
EKS2 Erkin-Say 61.76 329 P **P** **00 36 57.4 -0.8**
SNR=17
USP Ospenovka 61.85 330 P **P** **00 36 57.0 -1.7**
SNR=10
SGDS Sogindy 61.92 330 *eP* **P** **00 36 56.8 -2.4**
baz=330
HOQ Hoqain 61.93 303 P **P** **00 36 59.3 -0.2**
RPZ Rata Peaks 62.10 135 LR LR 01 02 34.6
comp=Z,304nm,21.8s,baz=281,slow=35
RPZ Rata Peaks 62.10 135 P **P** **00 37 02.5 +2.1**
RPZ IAmb IAmb 00 37 04.5
comp=Z,13nm,0.8s
RBK Rabkut 62.29 295 P **P** **00 37 02.3 +0.2**
ARQ Araqi 62.48 302 P **P** **00 37 02.3 -1.0**
OXZ Oxford 62.69 134 P **P** **00 37 05.6 +1.2**
OXZ IAmb IAmb 00 37 08.4
comp=Z,13nm,0.6s
LTZ Lake Taylor 62.72 134 P **P** **00 37 06.3 +1.6**
LTZ IAmb IAmb 00 37 21.9
comp=Z,10nm,1.1s
DOK Doka 62.74 296 P **P** **00 37 04.0 -1.1**
SNR=17
ABPO Ambohimpanom 62.76 253 P **P** **00 37 07.6 +2.1**
WHFO Wadi Hawf 62.82 295 P **P** **00 37 04.4 -1.2**
SNR=20
THZ Tophouse 62.95 132 P **P** **00 37 08.0 +1.8**
THZ IAmb IAmb 00 37 19.7
comp=Z,23nm,1.1s
ABTO Aybut 63.05 295 P **P** **00 37 06.5 -0.7**
SNR=6.9
VOI Vohitsoka 63.17 250 P **P** **00 37 09.4 +1.3**
VOI IAmb IAmb 00 37 10.7
comp=Z,11nm,0.7s
MQZ McQueen's Vall 63.22 135 P **P** **00 37 09.5 +1.6**
MQZ IAmb IAmb 00 37 09.6
comp=Z,21nm,1.1s
IUG Iuzhnay 63.36 327 *eP* **P** **00 37 06.8 -2.1**
baz=327
UMZA Um Al Zommool 63.38 301 P **P** **00 37 08.3 -0.9**
BTLS Baital 63.38 331 *eP* **P** **00 37 06.0 -2.8**
baz=331
HRA Herat 63.39 316 P **P** **00 37 07.3 -2.1**
UOSS Minazif 63.41 304 P **P** **00 37 08.6 -0.8**
UOSS IAmb IAmb 00 37 09.2
comp=Z,15nm,0.9s
UOSS Minazif 63.41 304 P **P** **00 37 08.5 -1.0**
UOSS Minazif 63.41 304 *i* P **P** **00 37 08.5 -1.0**
SNR=6.7
UOSS Minazif 63.41 304 P **P** **00 37 07.6 -1.8**
HATD Hatta, Dubai 63.42 303 P **P** **00 37 09.0 -0.5**
HATD Hatta, Dubai 63.42 303 *i* P **P** **00 37 09.0 -0.5**
SNR=12
ASHO Ashiyiah 63.42 303 P **P** **00 37 08.9 -0.6**
ASHO Ashiyiah 63.42 303 *i* P **P** **00 37 09.0 -0.6**
SNR=14
MSFE Esma-Masafi 63.62 304 *i* P **P** **00 37 10.5 -0.4**
SNR=8.5
MASF Masafi 63.63 304 P **P** **00 37 10.7 -0.3**
BANOM Banah 63.75 305 P **P** **00 37 11.2 -0.5**
BANOM Banah 63.75 305 P **P** **00 37 10.7 -1.0**
KK31 Karatay Array 63.76 328 P **P** **00 37 09.9 -1.5**
KKAR Karatay Array 63.76 328 P **P** **00 37 09.8 -1.6**
KKAR Karatay Array 63.76 328 P **P** **00 37 10.0 -1.4**
FAQ Al Faqa, Dubai 63.84 303 P **P** **00 37 11.6 -0.6**
FAQ Al Faqa, Dubai 63.84 303 *i* P **P** **00 37 11.5 -0.7**
SNR=33
NAZ Nazwa, Dubai 63.88 303 P **P** **00 37 12.2 -0.3**
SNR=5.5
NAZ Nazwa, Dubai 63.88 303 *i* P **P** **00 37 11.8 -0.7**
SNR=5.5
SHME Shamm 63.93 305 P **P** **00 37 12.5 -0.3**
SHME Shamm 63.93 305 P **P** **00 37 12.2 -0.6**
ASUD Al Ashush, Dub 64.00 303 P **P** **00 37 13.0 -0.3**
SNR=17
ASUD Al Ashush, Dub 64.00 303 *i* P **P** **00 37 12.8 -0.6**
SNR=17
MZWR Madinat Zayed 64.87 301 P **P** **00 37 18.2 -0.8**
MZR Muzera 64.92 300 P **P** **00 37 18.9 -0.5**
MZR Muzera 64.92 300 *i* P **P** **00 37 18.7 -0.6**
SNR=10
BKZ Black Stump Fm 65.15 129 P **P** **00 37 21.8 +1.1**
BKZ IAmb IAmb 00 37 24.7
comp=Z,12nm,0.9s
MSVF Nonsavu 65.20 105 LR LR 01 09 02.9
comp=Z,55nm,18.5s,baz=196,slow=39
MSVF Nonsavu 65.20 105 IAmb IAmb 00 37 24.3
comp=Z,15nm,0.8s
BFZ Birch Farm 65.21 131 P **P** **00 37 22.5 +1.5**
BFZ IAmb IAmb 00 37 27.0
comp=Z,21nm,1.1s
KURK Kurchatov 65.86 338 P **P** **00 37 23.9 -1.0**
KURK IAmb IAmb 00 37 24.8
comp=Z,26nm,0.9s
KURK Kurchatov 65.86 338 sP sP 00 37 46.1 +2.0
KURK Kurchatov 65.86 338 P **P** **00 37 22.4 -2.4**
KURK Kurchatov 65.86 338 pP pP 00 37 36.9 -1.7
JRN Qarnain Island 66.20 302 P **P** **00 37 26.8 -0.7**
MXZ Matakaoa Point 66.34 127 P **P** **00 37 29.7 +1.4**
ZAA0 Zalesovo Array 66.56 343 P **P** **00 37 28.5 -0.7**
ZAA0 IAmb IAmb 00 37 28.9
comp=Z,20nm,1.0s
ZALV Zalesovo Beam 66.56 343 P **P** **00 37 27.6 -1.6**
comp=Z,7.9nm,0.3s,baz=155,slow=4.5,SNR=58
ZALV LR LR 01 08 52.4
comp=Z,100nm,19.0s,baz=158,slow=38
comp=Z,7.9nm,0.3s
ZALV Zalesovo Beam 66.56 343 P **P** **00 37 28.1 -1.2**
MAW Mawson 66.82 198 P **P** **00 37 31.1 +0.4**
comp=Z,4.3nm,0.9s,baz=25,slow=6.9,SNR=3.6
MAW LR LR 01 02 15.7
comp=Z,148nm,18.2s,baz=36,slow=32
comp=Z,4.3nm,0.9s
MAW Mawson 66.82 198 P **P** **00 37 32.2 +1.5**
SLWR Sila 66.84 301 P **P** **00 37 31.3 -0.4**
BRZS Berezniki 67.68 334 *eP* **P** **00 37 34.8 -1.7**
comp=Z,4.6nm,0.4s,baz=334
SMRA Abu-Samra 67.82 301 P **P** **00 37 37.0 -0.9**
GEYT Alibeck 68.11 317 P **P** **00 37 38.5 -1.0**
comp=Z,22nm,0.8s,baz=155,slow=7.8,SNR=42
GEYT LR LR 01 11 12.1
comp=Z,61nm,18.7s,baz=152,slow=39
comp=Z,22nm,0.8s
GEYT Alibeck 68.11 317 P **P** **00 37 38.9 -0.6**
GYA0B ALIBECK ARRAY 68.11 317 IAmb IAmb 00 37 39.8
comp=Z,29nm,0.9s
BVAR Borovoye Array 70.89 335 LR LR 01 11 33.5
comp=Z,85nm,20.4s,baz=135,slow=38
BRVK Borovoye 70.96 335 P **P** **00 37 55.9 -0.8**
BRVK IAmb IAmb 00 37 56.5
comp=Z,14nm,0.8s
BRVK Borovoye 70.96 335 x P 00 38 06.9 +10
BRVK Borovoye 70.96 335 P **P** **00 37 54.2 -2.5**
ATD Arta Tunnel 71.10 285 LR LR 01 04 07.1

comp=Z,30nm,18.0s,baz=100,slow=32
RAYN Ar Rayn 71.97 298 P P 00 38 02.6 -0.9
RAYN Ar Rayn 71.97 298 P P 00 38 02.4 -1.1
YAK Yakutsk 72.19 9 LR LR 01 14 12.6
comp=Z,41nm,18.1s,baz=266,slow=40
YAK Yakutsk 72.19 9 P P 00 38 02.8 -1.1
KIBK Kibwezi 73.17 270 P P 00 38 11.8 +0.9
KIBK IAmb IAmb 00 38 12.9
comp=Z,13nm,1.0s
PEA0B Petropavlovsk- 73.26 27 P P 00 38 10.2 -0.3
PEA0B IAmb IAmb 00 38 25.5
comp=Z,19nm,1.1s
PETK Petropavlovsk- 73.26 27 P P 00 38 09.2 -1.3
comp=Z,18nm,0.9s,baz=218,slow=1.2,SNR=12
comp=Z,18nm,0.9s
VNDA Vanda 73.29 170 P P 00 38 10.6 +0.3
comp=Z,1.0nm,0.8s,baz=327,slow=7.8,SNR=7.0
VNDA LR LR 01 06 58.0
comp=Z,77nm,22.0s,baz=326,slow=33
comp=Z,1.0nm,0.8s
VNDA Vanda 73.29 170 P P 00 38 11.2 +0.9
ABKAR Akbulak array 73.33 328 P P 00 38 10.4 -0.5
KMBO Kilima Mbogo 74.13 271 P P 00 38 16.9 +0.1
comp=Z,5.3nm,0.8s,baz=62,slow=18,SNR=18
KMBO LR LR 01 05 16.4
comp=Z,128nm,21.1s,baz=92,slow=31
comp=Z,5.3nm,0.8s
KMBO Kilima Mbogo 74.13 271 P P 00 38 17.9 +1.1
MA2 Magadan 75.20 20 LR LR 01 14 20.2
comp=Z,35nm,18.1s,baz=236,slow=38
POGA Pongola 76.80 244 P P 00 38 33.3 +1.8
ARU Arti 78.27 333 LR LR 01 17 06.6
comp=Z,75nm,18.7s,baz=126,slow=39
ARU Arti 78.27 333 P P 00 38 37.9 -1.1
ARU IAmb IAmb 00 38 39.1
comp=Z,24nm,0.9s
GNI Garni 78.39 314 LR LR 01 17 00.1
comp=Z,31nm,21.4s,baz=102,slow=38
GEVA Gevas 78.94 312 IAmb IAmb 00 38 49.5
comp=Z,16nm,0.8s
GURO Guroymak-BITLI 79.78 312 IAmb IAmb 00 38 48.8
comp=Z,10nm,0.5s
NRIK Noril'sk 79.84 352 P P 00 38 45.7 -1.6
comp=Z,8.9nm,0.7s,baz=145,slow=4.7,SNR=16
comp=Z,8.9nm,0.7s
NRIK Noril'sk 79.84 352 P P 00 38 46.3 -1.0
NRIK IAmb IAmb 00 38 47.3
comp=Z,14nm,0.9s
ONI Oni 80.20 316 P P 00 38 50.9 +1.0
ONI IAmb IAmb 00 39 03.5
comp=Z,12nm,0.9s
MARD Mardin 80.30 310 IAmb IAmb 00 38 51.3
comp=Z,24nm,1.1s
MBAR Mbarara 80.65 271 LR LR 01 11 08.9
comp=Z,58nm,19.0s,baz=108,slow=33
MBAR Mbarara 80.65 271 P P 00 38 53.7 +0.6
MBAR IAmb IAmb 00 38 55.4
comp=Z,24nm,1.0s
KBZ Khabaz 81.00 317 P P 00 38 53.6 -0.5
comp=Z,18nm,0.9s,baz=112,slow=6.0,SNR=21
comp=Z,18nm,0.9s
QSPA South Pole Qui 81.05 180 LR LR 01 10 36.4
comp=Z,96nm,21.6s,baz=350,slow=32
QSPA South Pole Qui 81.05 180 P P 00 38 54.9 +0.7
QSPA IAmb IAmb 00 39 12.4
comp=Z,14nm,1.1s
LSZ Lusaka 81.16 256 LR LR 01 09 13.1
comp=Z,105nm,22.0s,baz=112,slow=31
LSZ Lusaka 81.16 256 P P 00 38 55.7 0.0
KIV Kislovodsk 81.23 317 P P 00 38 55.4 -0.1
KIV IAmb IAmb 00 38 58.6
comp=Z,16nm,0.8s
TIXI Tiksi 81.27 6 P P 00 38 53.7 -1.2
KOPT Kop Dagi 81.39 313 P P 00 38 57.4 +0.8
KOPT IAmb IAmb 00 39 04.1
comp=Z,24nm,0.8s
BOSA Boshof 82.38 242 P P 00 39 02.3 +0.3
comp=Z,3.9nm,0.6s,baz=130,slow=8.7,SNR=8.9
BOSA LR LR 01 09 36.4
comp=Z,137nm,19.1s,baz=128,slow=31
comp=Z,3.9nm,0.6s
LBTB Lobatse 82.47 246 LR LR 01 09 16.7
comp=Z,49nm,20.1s,baz=179,slow=31
GHAJ Ghor Haditha 82.67 303 P P 00 39 03.7 +0.6
GHAJ IAmb IAmb 00 39 04.7
comp=Z,26nm,0.9s
EIL Elat 82.77 301 LR LR 01 18 19.3
comp=Z,38nm,18.2s,baz=63,slow=37
GAZ Gaziantep 82.96 309 IAmb IAmb 00 39 06.1
comp=Z,20nm,0.9s
MMAI Mount Meron Ar 83.25 305 LR LR 01 18 18.0
comp=Z,21nm,21.0s,baz=188,slow=37
KIRV Kirov 83.59 332 LR LR 01 21 05.4
comp=Z,47nm,18.3s,baz=117,slow=39
TOKA Tokat 84.42 312 P P 00 39 12.2 +0.2
SUR Sutherland 85.74 238 LR LR 01 12 56.5
comp=Z,94nm,18.9s,baz=146,slow=32
RAR Rarotonga 85.76 111 LR LR 01 16 59.0
comp=Z,28nm,19.4s,baz=227,slow=35
KIWB Kanaga Island 85.79 36 P P 00 39 18.0 -0.5
BRTR Keskin Array B 86.35 311 P P 00 39 21.4 -0.5
comp=Z,14nm,0.9s,baz=125,slow=6.4,SNR=44
BRTR LR LR 01 21 59.2
comp=Z,44nm,19.7s,baz=124,slow=38
comp=Z,14nm,0.9s
BRTR Keskin Array B 86.35 311 P P 00 39 21.7 -0.1
BZK Bozkurt 86.66 313 P P 00 39 22.0 -1.1
ANTO Ankara 87.02 311 P P 00 39 24.8 -0.2
ANTO IAmb IAmb 00 39 25.9
comp=Z,17nm,0.9s
MDUB Mudurnu 88.35 311 P P 00 39 30.3 -1.1
OBN Obninsk 88.72 326 P P 00 39 32.2 -0.4
BORA Eskisehir 88.78 311 IAmb IAmb 00 39 34.0
comp=Z,13nm,0.9s
SNAA Sanae 88.94 197 P P 00 39 34.9 +1.3
SNAA Sanae 88.94 197 LR LR 01 16 10.3
comp=Z,58nm,18.4s,baz=185,slow=33
SNAA Sanae 88.94 197 P P 00 39 35.0 +1.4
SNAA IAmb IAmb 00 39 35.8
comp=Z,4.6nm,0.7s
ARG Arkhangelos 89.82 307 P P 00 39 41.4 +3.2
PURM Purcari 90.62 317 ⇑P P 00 39 41.0 -0.6
TSUM Tsumeb 90.63 251 LR LR 01 13 50.7
comp=Z,77nm,21.8s,baz=150,slow=31
JURR Jurilovca 90.94 315 ⇑P P 00 39 42.5 -0.7
TIRR Tirgusor 91.21 315 ⇑P P 00 39 42.9 -1.6
BELA Belgrano 2 91.27 187 P P 00 39 44.7 +0.5
BELA IAmb IAmb 00 39 45.9
comp=Z,3.6nm,0.8s
MILM Milestii Mici 91.42 317 ⇑P P 00 39 44.0 -1.3
TLBR Topalu 91.48 315 ⇑P P 00 39 45.5 -0.2
CFR Carcaliu 91.54 315 ⇑P P 00 39 45.6 -0.4
HARR Harsova 91.59 315 ⇑P P 00 39 46.0 -0.2
VLDR Vladesti 91.70 316 ⇑P P 00 39 46.4 -0.3
VARL Varlezi 91.88 316 ⇑P P 00 39 47.0 -0.6
AKASG Malin Array Be 91.91 321 P P 00 39 45.4 -2.1
comp=Z,3.6nm,0.7s,baz=82,slow=5.2,SNR=16
AKASG LR LR 01 27 29.3
comp=Z,29nm,18.0s,baz=74,slow=40
comp=Z,3.6nm,0.7s
SORM Soroca 91.96 318 ⇑P P 00 39 46.6 -1.2
GHRR 92.21 316 ⇑P P 00 39 49.4 +0.3
PLOR Plostina 92.69 316 ⇑P P 00 39 49.2 -2.2
MLR Muntele Rosu 93.12 315 IAmb IAmb 00 39 56.6
comp=Z,5.4nm,0.8s
BURAR Bucovina Array 93.95 317 P P 00 39 56.5 -0.7
BURAR IAmb IAmb 00 39 58.5
comp=Z,4.1nm,0.8s
BUR08 Bucovina Ar. S 93.97 317 IAmb IAmb 00 40 00.1
comp=Z,6.7nm,1.1s
ARCR ARCALIA 94.45 317 ⇑P P 00 39 58.0 -1.4
VTS Vitosha 94.61 312 IAmb IAmb 00 40 00.5
comp=Z,4.3nm,0.8s
LOT Lotru 94.62 315 ⇑P P 00 39 59.4 -0.9
TBI Tubuai 94.81 114 *e*LR LR 01 10 38.2
comp=Z,410nm,26.8s
BMR Baia Mare 95.11 317 ⇑P P 00 40 01.7 -0.7
FINES FINESS Array B 95.54 331 P P 00 40 02.9 -1.1
comp=Z,2.6nm,0.6s,baz=114,slow=9.3,SNR=11
comp=Z,2.6nm,0.6s
KOLS Kolonicke sedl 96.08 318 *e*PDIFF **P 00 40 06.8 0.0**
ARCES ARCESS Array B 96.87 339 LR LR 01 27 29.2
comp=Z,78nm,20.0s,baz=85,slow=38
SPITS Spitsbergen Ar 99.73 348 LR LR 01 31 31.0
comp=Z,56nm,18.9s,baz=80,slow=39
N19K Bonanza Creek 99.77 30 P Pdif 00 40 25.3 +2.1
baz=269
M19K Big River Lodg 99.83 29 P Pdif 00 40 23.4 +0.1
baz=269
J20K Nowinta River 99.95 26 P Pdif 00 40 25.0 +1.1
baz=270
Q19K Cape Douglas, 100.18 32 P Pdif 00 40 26.0 +1.0
baz=270
G21K Allakaket 100.19 24 P Pdif 00 40 27.6 +2.7
baz=271
H22K Ishtalitna Cre 101.08 25 P Pdif 00 40 30.1 +1.2
baz=273
BPAW Bear Paw Mtn. 101.34 26 P Pdif 00 40 31.7 +1.6
baz=273
TOLK Toolik Lake Re 101.58 22 P Pdif 00 40 32.2 +1.1
baz=275
E23K Chandalar 101.62 22 P Pdif 00 40 32.5 +1.2
baz=275
F24K Squaw Lake 102.33 23 P Pdif 00 40 36.2 +1.8
baz=276
KNK Knik Glacier 102.68 29 P Pdif 00 40 37.3 +1.3
baz=275
NOA NORSAR Array B 102.69 331 P Pdif 00 40 33.7 -2.5
comp=Z,0.8nm,0.7s,baz=112,slow=7.2,SNR=3.7
WAT6 Susitna Watana 102.91 28 P Pdif 00 40 38.5 +1.2
baz=276
ILAR Eielson Array 103.05 26 P Pdif 00 40 35.9 -1.7
comp=Z,0.4nm,0.9s,baz=305,slow=3.2,SNR=3.0
PAX Paxson 103.90 27 P Pdif 00 40 43.2 +1.6
baz=278
PNL Peninsula 107.36 30 P PKiKP 00 45 08.1 +2.7
baz=282
ESDC Sonseca Array 115.12 310 PKP **PKiKP 00 45 19.6 -1.2**
comp=Z,0.5nm,0.8s,baz=52,slow=2.1,SNR=3.4
DBIC Dimbokro 116.84 273 PKP **PKPdf 00 45 22.6 -2.0**
comp=Z,7.7nm,0.7s,baz=71,slow=3.3,SNR=1.9
NEW Newport 123.54 37 P PKiKP 00 45 37.9 +1.0
baz=298
BEKR Beckworth 124.73 47 PKPdf **PKiKP 00 45 40.3 +0.6**
MSO Missoula 126.12 37 P PKiKP 00 45 42.5 +0.4
baz=300
PKM Mcpherson Peak 126.67 53 P PKiKP 00 45 44.9 +1.2
baz=286
NVAR Mina Array Bea 126.72 48 PKP **PKiKP 00 45 44.5 +0.7**
comp=Z,1.6nm,0.7s,baz=250,slow=2.2,SNR=16
SCZ2 Santa Cruz Isl 127.06 54 P PKiKP 00 45 45.0 +0.7
baz=286
HLID Hailey 127.37 41 P PKiKP 00 45 45.8 +1.0
baz=297
CWC Cottonwood Cre 127.55 51 P PKiKP 00 45 45.9 +0.6
baz=289
EDW2 Edwards Air Fo 128.10 52 P PKiKP 00 45 47.4 +1.0
baz=288
MPMC Manual Prospec 128.12 51 P PKiKP 00 45 47.7 +1.1
baz=289
BOZ Bozeman (W) 128.13 37 P PKiKP 00 45 46.8 +0.5
baz=301
LRMC Laurel Mtn Rad 128.16 52 P PKiKP 00 45 47.6 +1.0
baz=288
BFSC Mount Baldy Ra 128.56 53 P PKiKP 00 45 47.3 -0.1
baz=288
R11A Troy Canyon, C 128.74 47 P PKiKP 00 45 48.2 +0.4
baz=292
TPNV Topopah Spring 128.76 49 P PKiKP 00 45 48.3 +0.5
baz=291
GSC Goldstone, Bar 128.89 52 P PKiKP 00 45 49.2 +1.2
baz=289
HEC Hector,Ludlow 129.41 52 P PKiKP 00 45 49.9 +0.9
baz=289
TUQ Turquoise Moun 129.53 51 P PKiKP 00 45 50.8 +1.5
baz=290
PFO Pinyon Flats O 129.70 53 P PKiKP 00 45 50.7 +1.0
baz=288
TPFO Pinyon Flats 129.70 53 P PKiKP 00 45 50.6 +0.8
baz=288
RLMT Red Lodge 129.79 37 P PKiKP 00 45 50.2 +0.6
baz=303
BELC Belle Mtn. Jos 129.94 53 P PKiKP 00 45 51.6 +1.4
baz=289
MONP2 Monument Peak 129.94 54 P PKiKP 00 45 51.6 +1.3
baz=288
DUG Dugway, Tooele 129.95 44 P PKiKP 00 45 51.2 +1.2
baz=296
GMRC Granite Mounta 129.95 52 P PKiKP 00 45 51.8 +1.6
baz=290
IKP In-Ko-Pah, Jac 130.27 55 P PKiKP 00 45 52.3 +1.5
baz=288
SWSC Sam W. Stewart 130.43 54 P PKiKP 00 45 52.3 +1.3
baz=288
BC3 Big Chuckawall 130.48 53 P PKiKP 00 45 52.3 +1.0
baz=289
IRM Iron Mountain 130.56 52 P PKiKP 00 45 51.5 +0.2
baz=290
LAO LASA Array 130.62 34 P PKiKP 00 45 52.0 +0.9
baz=308
BW06 Boulder Array 130.87 40 P PKPdf 00 45 51.4 +0.3
baz=301
PDAR Pinedale Array 130.87 40 PKP **PKPdf 00 45 51.3 +0.2**
comp=Z,0.6nm,0.6s,baz=12,slow=1.4,SNR=6.3
K22A Casper 132.81 38 P PKiKP 00 45 55.7 -0.1
baz=288
WUAZ Wupatki 132.95 49 P PKiKP 00 45 56.4 +0.1
baz=294
O20A White River Ci 133.06 42 P PKiKP 00 45 56.5 +0.1
baz=300,SNR=5.4
RSSD Black Hills 133.41 35 PKPdf **PKPdf 00 45 56.3 +0.5**
RSSD Black Hills 133.41 35 P PKiKP 00 45 56.7 -0.4
baz=308
N23A Red Feather La 134.15 40 P PKPdf 00 45 57.6 +0.3
baz=304
SCHQ Schefferville 134.22 359 PKP **PKPdf 00 45 56.7 0.0**
comp=Z,4.0nm,0.7s,baz=21,slow=8.6,SNR=5.8
MVCO Mesa Verde 134.31 46 P PKiKP 00 45 58.7 -0.4
baz=298
W18A Petrified Fore 134.33 49 P PKiKP 00 46 00.0 +0.9
baz=295
SDCO Great Sand Dun 136.12 43 P PKiKP 00 46 02.9 0.0
baz=301
ANMO Albuquerque 136.82 47 P PKiKP 00 46 05.3 +1.1
baz=298
T25A Trinidad 137.18 43 P PKiKP 00 46 04.3 -0.6
baz=302
ECSD EROS Data Cent 137.64 30 P PKiKP 00 46 05.7 +0.3
baz=317
MSTX Muleshoe 139.96 46 P PKiKP 00 46 09.8 -0.7
baz=301
TXAR Lajitas Array 141.42 53 PKhKP PKPpre 00 46 03.7
comp=Z,0.4nm,0.5s,baz=247,slow=2.5,SNR=8.3
TXAR PKP **PKPdf 00 46 11.9 +1.1**
comp=Z,1.6nm,0.7s,baz=270,slow=0.9,SNR=11
L44A Lake County Fo 142.81 24 P PKiKP 00 46 14.9 -1.0
baz=327
CPUP Villa Florida 143.25 197 PKP PKPbc 00 46 11.2 +0.1
comp=Z,3.1nm,0.8s,baz=188,slow=5.5,SNR=6.5
R40A Maddies Statio 143.86 32 P PKPab 00 46 12.0 +0.2
baz=318,SNR=13
JCT Junction City 143.88 49 PKPdf PKPbc 00 46 13.9 +1.0
U38A Gravette 144.00 37 P PKPbc 00 46 12.9 -0.1
baz=313
CCM Cathedral Cave 144.57 32 P PKPbc 00 46 14.7 0.0
baz=319,SNR=19
SFIN Lafayette 144.65 25 P PKPbc 00 46 15.0 +0.1
baz=327
SFIN Lafayette 144.65 25 P PKPab 00 46 14.7 0.0
baz=327,SNR=5.8
LBNH Lisbon 144.73 4 PKPdf **PKPdf 00 46 15.7 -0.5**
LBNH Lisbon 144.73 4 P PKPbc 00 46 15.5 +0.4
baz=354
LBNH Lisbon 144.73 4 P PKPbc 00 46 15.4 +0.4
baz=354
NCB Newcomb 144.77 7 P PKPbc 00 46 15.6 +0.4
baz=350,SNR=21
N47A Urbana 144.78 23 P PKPab 00 46 15.2 0.0
baz=330
N47A P **PKPab 00 46 15.2 0.0**
baz=330
WHTX Lake Whitney, 144.79 45 P PKPbc 00 46 16.1 +0.4
baz=304
WHTX Lake Whitney, 144.79 45 P PKPdf 00 46 16.7 +0.1
baz=304
MCVT Middlebury Col 144.92 5 P PKPbc 00 46 16.0 +0.3
baz=352,SNR=7.5
I63A Otisfield 144.99 2 P PKPbc 00 46 15.9 0.0
baz=356
I63A P PKPbc 00 46 15.9 0.0
baz=356
Q44A Meyer Farm, Va 145.01 28 P PKPbc 00 46 15.9 -0.2
baz=323,SNR=7.6
FVM French Village 145.05 31 P PKPbc 00 46 15.8 -0.5
baz=320,SNR=6.3
J57A Williamstown 145.07 9 P PKPdf 00 46 16.6 -0.1
baz=347,SNR=13
J57A P PKPdf 00 46 16.6 -0.1
baz=347,SNR=13
833A Chaparral WMA, 145.23 52 P PKPdf 00 46 17.5 +0.1
baz=298
J58A Remsen 145.23 9 P PKPab 00 46 16.8 0.0
baz=348,SNR=10
J58A P PKPab 00 46 16.8 0.0
baz=348,SNR=10
J59A Piesco 145.24 8 P PKPdf 00 46 17.1 0.0
baz=350,SNR=9.5
J59A P PKPdf 00 46 17.1 0.0
baz=350,SNR=9.5
P46A Rosedale 145.24 26 P PKPbc 00 46 16.7 -0.1
baz=326,SNR=15
M50A Fremont 145.25 19 P PKPbc 00 46 16.5 -0.3
baz=334
M50A P PKPbc 00 46 16.5 -0.3
baz=334
N49A Columbus Grove 145.30 21 P PKPbc 00 46 16.5 -0.4
baz=332
N49A P PKPbc 00 46 16.5 -0.4
baz=332
435B Jarrell 145.36 47 P PKPab 00 46 18.0 +0.3
baz=303
ERPA Erie 145.48 15 P PKPbc 00 46 17.6 0.0
baz=340
O48B Farmland 145.52 23 P PKPdf 00 46 17.6 0.0
baz=330,SNR=16
O48B Farmland 145.52 23 P PKPbc 00 46 17.8 +0.1
baz=330,SNR=16
WVNY West Valley, N 145.54 13 P PKPdf 00 46 17.5 -0.1
baz=342,SNR=7.7
J61A Chester 145.56 5 P PKPab 00 46 18.2 +0.2
baz=353
J61A P PKPab 00 46 18.2 +0.2
baz=353
OLIL Olney 145.57 27 P PKPab 00 46 18.2 0.0
baz=324,SNR=12
K57A Scipio Center 145.65 10 P PKPab 00 46 18.3 -0.1
baz=346,SNR=7.5
Z38A Mt. Pleasant 145.71 41 P PKPab 00 46 19.6 +0.7
baz=309
MIAR Mount Ida 145.76 38 P PKPab 00 46 19.7 +0.6
baz=312
MIAR Mount Ida 145.76 38 P PKPab 00 46 18.9 -0.1
baz=312
S44A Carbondale 145.86 30 P PKPab 00 46 19.0 -0.3
baz=322,SNR=9.7
O49A Covington 145.89 22 P PKPbc 00 46 19.0 +0.2
baz=332,SNR=9.8
O49A P PKPbc 00 46 19.0 +0.2
baz=332,SNR=9.8
M53A WI Miller and 145.93 16 P PKPbc 00 46 19.1 +0.2
baz=338,SNR=6.0
HCNY Howe Caverns 146.01 8 P PKPdf 00 46 18.5 +0.1
baz=350,SNR=7.5
LCAR Lake Charles 146.10 34 P PKPdf 00 46 18.8 +0.1
baz=317
P48A Milroy 146.11 24 P PKPdf 00 46 19.0 +0.4
baz=329
P48A P PKPdf 00 46 19.0 +0.4
baz=329
BINY Binghamton 146.25 10 P PKPbc 00 46 20.1 +0.1
baz=347,SNR=5.6
BINY Binghamton 146.25 10 P PKPbc 00 46 19.8 -0.1
baz=347,SNR=5.6
P49A Miami Univ. Ec 146.32 23 P PKPbc 00 46 19.8 -0.4
baz=330,SNR=11
P49A Miami Univ. Ec 146.32 23 P PKPbc 00 46 19.7 -0.4
baz=330,SNR=11
ACSO Alum Creek Sta 146.33 20 P PKPbc 00 46 19.6 -0.5
baz=334,SNR=8.7
ACSO Alum Creek Sta 146.33 20 P PKPbc 00 46 20.5 +0.3
baz=334,SNR=8.7
M55A Ridgway 146.40 14 P PKPbc 00 46 20.5 +0.1
baz=342,SNR=8.1
M55A P PKPbc 00 46 20.5 +0.1
baz=342,SNR=8.1
L59A Walton 146.41 9 P PKPbc 00 46 20.7 +0.2
baz=348,SNR=8.4
L59A P PKPbc 00 46 20.7 +0.2
baz=348,SNR=8.4
L61B Northampton 146.44 5 P PKPbc 00 46 20.7 +0.2
baz=353
N53A Lisbon 146.47 17 P PKPbc 00 46 20.9 +0.2
baz=338,SNR=6.0
N53A P PKPbc 00 46 20.9 +0.2
baz=338,SNR=6.0
HRV Adam Dziewonsk 146.48 4 P PKPbc 00 46 20.7 +0.2
baz=355
HRV Adam Dziewonsk 146.48 4 P PKPab 00 46 21.0 -0.5
baz=355
PSDB Penn State Uni 146.72 14 P PKPbc 00 46 21.2 -0.1
baz=342
WCI Wyandotte Cave 146.79 26 P PKPbc 00 46 21.8 +0.2
baz=327,SNR=10
WCI Wyandotte Cave 146.79 26 P PKPbc 00 46 21.7 +0.2
baz=327
O52A Adamsville 146.81 19 P PKPbc 00 46 21.6 +0.1
baz=336,SNR=6.1
O52A P PKPbc 00 46 21.6 +0.1
baz=336,SNR=6.1
O53A New Philadelph 146.88 18 P PKPbc 00 46 21.2 -0.6
baz=337
M57A Sunshine Farm, 146.88 12 P PKPbc 00 46 22.1 +0.3
baz=344,SNR=15
M57A P PKPbc 00 46 22.1 +0.3
baz=344,SNR=15
KSPA Keystone Colle 146.92 10 P PKPbc 00 46 22.2 +0.3
baz=347,SNR=6.9
P51A Williamsport 146.97 21 P PKPbc 00 46 21.7 -0.4
baz=333
P51A P PKPbc 00 46 21.7 -0.4
baz=333
P52A Corning 147.15 19 P PKPbc 00 46 22.1 -0.5
baz=335,SNR=7.9
O54A Avella 147.18 17 P PKPbc 00 46 23.1 +0.5
baz=338,SNR=5.3
O54A P PKPbc 00 46 23.1 +0.5
baz=338,SNR=5.3
R49A Shelbyville 147.21 24 P PKPbc 00 46 22.4 -0.4
baz=329,SNR=7.8
R49A P PKPbc 00 46 22.4 -0.4
baz=329,SNR=7.8
Q51A Peebles 147.27 21 P PKPbc 00 46 22.7 -0.3
baz=332,SNR=8.0
Q51A P PKPbc 00 46 22.7 -0.3
baz=332,SNR=8.0
SSPA Standing Stone 147.39 13 P PKPbc 00 46 23.2 0.0
baz=343,SNR=9.2
SSPA Standing Stone 147.39 13 P PKPbc 00 46 22.8 -0.4
baz=343
N58A Sunbury 147.44 11 P PKPbc 00 46 23.5 +0.2
baz=345,SNR=8.9
N58A P PKPbc 00 46 23.5 +0.2
baz=345,SNR=8.9
T47A Sharon Grove 147.45 28 P PKPbc 00 46 23.5 0.0
baz=324,SNR=7.9
P53A Whipple 147.52 19 P PKPbc 00 46 23.7 +0.1
baz=336,SNR=8.1
P53A P PKPbc 00 46 23.7 +0.1
baz=336,SNR=8.1
R50A Paris 147.56 23 P PKPbc 00 46 23.4 -0.3
baz=330,SNR=7.1
R50A P PKPbc 00 46 23.4 -0.3
baz=330,SNR=7.1
ODNJ Ogdensburg 147.56 8 P PKPbc 00 46 24.0 +0.4
baz=349
PAL Palisades 147.73 7 P PKPbc 00 46 24.4 +0.3
baz=350
PAL Palisades 147.73 7 P PKPbc 00 46 23.7 -0.4
baz=350
WVT Waverly 147.79 30 PKPbc 00 46 24.7 +0.2
WVT Waverly 147.79 30 P PKPbc 00 46 24.6 +0.2
baz=322
WVT Waverly 147.79 30 P PKPbc 00 46 24.3 -0.1
baz=322
MCWV Mont Chateau 147.82 16 P PKPbc 00 46 24.7 +0.3
baz=339
MCWV Mont Chateau 147.82 16 P PKPbc 00 46 24.3 -0.1
baz=339
W45A Hickory Valley 147.85 33 P PKPbc 00 46 24.8 +0.2
baz=319
Q54A Coxs Mills 148.15 18 P PKPbc 00 46 25.3 0.0
baz=337,SNR=5.9

Q54A				P	PKPbc	00 46 25.3	0.0
	baz=337,SNR=5.9						
BDFB	Brasilia	148.15	220	PKPbc	PKPbc	00 46 26.1	0.0
	comp=Z,4.5nm,0.6s,baz=158,slow=6.0,SNR=9.5						
BDFB	Brasilia	148.15	220	PKPab	PKiKP	00 46 27.8	0.0
OXF	Oxford	148.21	34	P	PKPbc	00 46 25.7	+0.1
	baz=318						
OXF	Oxford	148.21	34	P	PKPbc	00 46 25.3	-0.2
	baz=318						
PANJ	Princeton	148.24	9	P	PKPbc	00 46 25.6	+0.1
	baz=348						
TUPA	Temple Univers	148.37	10	P	PKPbc	00 46 25.3	-0.5
	baz=348						
R53A	Hurricane	148.38	20	P	PKPbc	00 46 26.2	+0.2
	baz=334,SNR=6.5						
R53A				P	PKPbc	00 46 26.2	+0.2
	baz=334,SNR=6.5						
S51A	Beattyville	148.40	23	P	PKPbc	00 46 25.8	-0.2
	baz=331,SNR=9.9						
S51A				P	PKPbc	00 46 25.8	-0.2
	baz=331,SNR=9.9						
T50A	Nancy	148.43	25	P	PKPbc	00 46 25.9	-0.2
	baz=328						
T50A				P	PKPbc	00 46 25.9	-0.2
	baz=328						
U49A	Red Boiling Sp	148.44	27	P	PKPbc	00 46 26.3	+0.1
	baz=326						
P57A	Homestead Farm	148.46	14	P	PKPbc	00 46 26.1	0.0
	baz=342						
P57A				P	PKPbc	00 46 26.1	0.0
	baz=342						
PB06	IPOC Station P	148.53	178		PKiKP	00 46 28.7	+0.1
V48A	Smith Brothers	148.59	29	P	PKPbc	00 46 26.3	-0.3
	baz=324						
Y45A	Yeager Farm, C	148.61	35	P	PKPbc	00 46 27.1	+0.5
	baz=318						
TZTN	Tazewell	149.37	24	P	PKPbc	00 46 28.1	-0.4
	baz=330						
V51A	Loudon	149.67	26	P	PKPbc	00 46 29.5	+0.3
	baz=328						
W50A	Signal Mountai	149.74	28	P	PKPbc	00 46 29.5	0.0
	baz=326						
BLA	Blacksburg	149.91	19	P	PKPbc	00 46 29.4	-0.5
	baz=336						
V52A	Sevierville	149.95	25	P	PKPbc	00 46 30.4	+0.4
	baz=329						
TKL	Tuckaleechee C	150.04	25	P	PKPbc	00 46 30.1	-0.1
	baz=329						
U54A	Nelsons Funny	150.05	22	P	PKPbc	00 46 30.2	0.0
	baz=333						
U54A				P	PKPbc	00 46 30.2	0.0
	baz=333						
Y49A	Blount Mountai	150.30	31	P	PKPbc	00 46 30.7	-0.1
	baz=323						
X51A	Calhoun	150.48	28	P	PKPbc	00 46 31.5	+0.3
	baz=326						
X51A				P	PKPbc	00 46 31.5	+0.3
	baz=326						
LRAL	Lakeview Retre	150.63	33	P	PKPbc	00 46 31.9	+0.3
	baz=321						
V55A	Taylorsville	150.87	21	P	PKPbc	00 46 32.1	0.0
	baz=334						
V55A				P	PKPbc	00 46 32.1	0.0
	baz=334						
T59A	Double "B" Far	150.95	15	P	PKPbc	00 46 32.4	+0.2
	baz=342						
T59A				P	PKPbc	00 46 32.4	+0.2
	baz=342						
KMSC	Kings Mountain	151.46	22	P	PKPbc	00 46 33.3	-0.3
	baz=333						
PAULI	Pauline	151.56	23	P	PKPbc	00 46 33.2	-0.6
	baz=332						
BRAL	Brewton	152.02	35	P	PKiKP	00 46 35.2	-0.1
	baz=318						
GOGA	Godfrey	152.07	27	P	PKiKP	00 46 35.3	+0.1
	baz=327						
TIGA	Tifton	153.65	30	P	PKiKP	00 46 38.8	+0.2
	baz=325						
NHSC	New Hope	153.70	22	P	PKiKP	00 46 39.4	+0.8
	baz=334						

LDG 11 00:36:55.8±0.2, 42.80N×13.13E, h11km, Ml2.6/13, Error ellipse: s-maj=4.2km s-min=3.3km az=106.0
ROM 11 00:36:56.0±0.0, 42.789N±0.002×13.122E±0.004, h11km, ML3.5/11, Error ellipse: s-maj=0.3km s-min=0.0km az=250.0
PRU 11 00:36:56.6±0.0, 42.72N×13.71E, h10km
ISC 11 00:36:55.9±0.6, 42.77N±0.01×13.11E±0.02, h12km±3km, n145, σ1§72/187, 38C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1213	Norcia, Frazio	0.05	165	P	Pg	00 36 58.6	+0.3
T1213				S	Sg	00 37 00.2	0.0
T1212	Cascia, Frazio	0.05	245	⇑P	Pg	00 36 58.7	+0.3
T1212				S	Sg	00 37 00.5	+0.3
T1212				AML	AML		
	comp=E,43700µm,0.7s						
T1212				AML	AML		
	comp=E,41450µm,0.7s						
T1212				AML	AML		
	comp=N,53450µm,0.5s						
T1212				AML	AML		
	comp=E,43750µm,0.7s						
T1212				AML	AML		
	comp=N,53550µm,0.4s						
T1212				AML	AML		
	comp=E,41400µm,0.7s						
T1212				AML	AML		
	comp=N,53450µm,0.5s						
T1212				AML	AML		
	comp=E,43700µm,0.7s						
T1212				AML	AML		
	comp=N,53550µm,0.5s						
T1212				AML	AML		
	comp=N,53600µm,0.5s						
T1212				AML	AML		
	comp=E,41400µm,0.7s						
T1245	Castelsantange	0.10	35	⇓P	Pg	00 36 58.9	-0.2
T1245				S	Sg	00 37 00.7	-0.6
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1218	Civita (PG)	0.10	177	⇑P	Pg	00 36 59.5	+0.5
T1218				S	Sg	00 37 01.9	+0.8
T1218				AML	AML		
	comp=E,44250µm,0.5s						
T1218				AML	AML		
	comp=N,56400µm,0.5s						
T1218				AML	AML		
	comp=E,41750µm,0.5s						
T1218				AML	AML		
	comp=N,56050µm,0.4s						
T1218				AML	AML		
	comp=E,41700µm,0.4s						
T1218				AML	AML		
	comp=N,56100µm,0.5s						
T1218				AML	AML		
	comp=E,44300µm,0.4s						
T1216	Preci, Frazion	0.13	331	P	Pg	00 36 59.5	+0.1
T1216				S	Sg	00 37 01.6	-0.2
T1216				AML	AML		
	comp=N,22500µm,0.6s						
T1216				AML	AML		
	comp=E,18500µm,0.5s						
T1216				AML	AML		
	comp=N,22550µm,0.6s						
T1244	Arquata del Tr	0.14	97	⇓P	Pg	00 36 59.8	+0.4
T1244				S	Sg	00 37 02.6	+0.7
T1201	Domo (RI)	0.16	138	⇑P	Pb	00 37 00.4	-0.4
T1201				S	Sg	00 37 03.7	+1.4
LNSS	Leonessa	0.18	196	⇑P	Pg	00 37 00.8	+0.8
LNSS				S	Sg	00 37 04.7	+1.8
T1215	Vallo di Nera,	0.18	279	P	Pg	00 37 00.5	+0.5
T1215				S	Sg	00 37 03.9	+1.0
T1215				AML	AML		
	comp=E,2770µm,0.4s						
T1215				AML	AML		
	comp=N,3155µm,0.7s						
T1215				AML	AML		
	comp=E,2885µm,0.6s						
T1215				AML	AML		
	comp=N,3145µm,0.7s						
T1215				AML	AML		
	comp=E,2770µm,0.5s						
T1215				AML	AML		
	comp=N,3160µm,0.7s						
T1215				AML	AML		
	comp=E,2880µm,0.6s						
T1215				AML	AML		
	comp=N,3155µm,0.7s						
T1215				AML	AML		
	comp=E,2875µm,0.6s						
T1215				AML	AML		
	comp=N,3140µm,0.7s						
T1215				AML	AML		
	comp=E,2878µm,0.6s						
T1215				AML	AML		
	comp=N,3155µm,0.7s						
T1204	Amatrice, Fraz	0.18	122	⇑P	Pg	00 37 00.6	+0.5
T1204				S	Sg	00 37 03.9	+0.8
FEMA	Monte Fema	0.19	347	P	Pg	00 37 00.4	+0.1
FEMA				S	Sg	00 37 03.5	+0.2
SMA1	SAN MARTINO	0.22	130	⇑P	Pg	00 37 01.2	+0.5
SMA1				S	Sg	00 37 04.7	+0.7
T1256	Bolognola (MC)	0.25	20	⇑P	Pg	00 37 01.2	-0.1
T1256				S	Sg	00 37 05.2	+0.3
T1241	Roccafluvione,	0.25	71	⇑P	Pg	00 37 01.3	+0.1
T1241				S	Sg	00 37 05.2	+0.4
T1241				AML	AML		
	comp=E,19300µm,0.3s						
T1241				AML	AML		
	comp=N,22700µm,0.2s						
T1241				AML	AML		
	comp=N,22750µm,0.2s						
T1241				AML	AML		
	comp=E,19700µm,0.3s						
T1241				AML	AML		
	comp=N,21900µm,0.2s						
T1241				AML	AML		
	comp=E,19750µm,0.3s						
T1241				AML	AML		
	comp=N,21950µm,0.2s						
FDMO	Fiordimonte	0.26	357	⇑P	Pg	00 37 01.5	0.0
FDMO				S	Sg	00 37 05.7	+0.5
FDMO				AML	AML		
	comp=N,6410µm,0.6s						
FDMO				AML	AML		
	comp=E,3775µm,1.0s						
FDMO				AML	AML		
	comp=E,3780µm,1.0s						
T1243	Rocca Santa Ma	0.26	107	⇑P	Pg	00 37 01.6	+0.1
T1243				S	Sg	00 37 05.8	+0.6
CESI	CESI - Serrava	0.28	327	⇑P	Pg	00 37 01.9	+0.2
CESI				S	Sg	00 37 06.3	+0.7
CESI				AML	AML		
	comp=E,4915µm,0.8s						
CESI				AML	AML		
	comp=N,8760µm,0.5s						
CESI				AML	AML		
	comp=E,5445µm,3.4s						
RM33	Pellescritta (	0.28	163	⇑P	Pg	00 37 02.2	+0.5
RM33				S	Sb	00 37 07.0	-0.4
T1219	Muccia, Frazio	0.29	345	⇑P	Pg	00 37 02.0	0.0
T1219				S	Sg	00 37 06.3	+0.3
T1219				AML	AML		
	comp=N,7120µm,0.3s						
T1219				AML	AML		
	comp=N,7115µm,0.3s						
T1219				AML	AML		
	comp=E,8575µm,0.2s						
T1211	Morro Reatino	0.30	218	⇑P	Pg	00 37 02.9	+0.7
T1211				S	Sb	00 37 08.2	-0.1
ARRO	Arrone	0.32	233	⇑P	Pg	00 37 03.1	+0.7
ARRO				S	Sb	00 37 08.5	-0.1
CAMP	Campotosto	0.33	137	⇑P	Pg	00 37 02.9	+0.3
CAMP				S	Sg	00 37 08.1	+1.1
CSP1	Cessapalombo	0.33	13	⇑P	Pg	00 37 02.6	0.0
CSP1				S	Sg	00 37 07.4	+0.3
CSP1				AML	AML		
	comp=E,6840µm,0.4s						
CSP1				AML	AML		
	comp=E,4234µm,0.9s						
CSP1				AML	AML		
	comp=N,7740µm,0.5s						
GUMA	Gualdo di Mace	0.33	30	⇑P	Pg	00 37 03.0	+0.3
GUMA				S	Sb	00 37 08.4	-0.7
GUMA				AML	AML		
	comp=N,19250µm,0.5s						
GUMA				AML	AML		
	comp=N,19150µm,0.5s						
GUMA				AML	AML		
	comp=E,17500µm,0.5s						
GUMA				AML	AML		
	comp=E,20050µm,0.5s						
GUMA				AML	AML		
	comp=E,14564µm,0.4s						
T1220	Camerino, Fraz	0.34	358	⇑P	Pg	00 37 02.8	0.0
T1220				S	Sb	00 37 08.1	-1.2
T1220				AML	AML		
	comp=N,19100µm,0.7s						
T1220				AML	AML		
	comp=N,19350µm,0.7s						
T1220				AML	AML		
	comp=E,22800µm,0.4s						
T1220				AML	AML		
	comp=N,19150µm,0.7s						
T1220				AML	AML		
	comp=N,19300µm,0.7s						
T1220				AML	AML		
	comp=E,22800µm,0.4s						
T1220				AML	AML		
	comp=E,22800µm,0.4s						
T1246	Crognaleto (TE	0.34	124	⇑P	Pg	00 37 03.1	+0.3
T1246				S	Sb	00 37 08.6	-0.8
T1247	Pizzolo (AQ)	0.36	157	⇑P	Pg	00 37 03.6	+0.5
T1247				S	Sb	00 37 09.7	-0.2
SEF1	Sefro	0.39	343	P	Pg	00 37 03.8	0.0
SEF1				S	Sb	00 37 09.9	-0.9
TERO	Teramo	0.40	112	P	Pg	00 37 03.8	0.0
TERO				S	Sb	00 37 10.0	-0.9
MDAR	Monte D'Aria	0.42	4	P	Pg	00 37 04.2	-0.1
CESX	Cesi	0.42	247	⇑P	Pg	00 37 04.8	+0.5
CESX				S	Sb	00 37 11.7	+0.1
FIU1	Fiuminata	0.43	343	P	Pg	00 37 04.5	0.0
FIU1				S	Sb	00 37 11.0	-1.1
MNTP	Montappone	0.45	36	⇑P	Pb	00 37 05.3	-0.5
OFFI	Offida	0.46	69	⇑P	Pb	00 37 05.7	-0.2
SSM1	San Severino M	0.46	6	P	Pg	00 37 04.9	-0.1
GIGS	Gran Sasso	0.47	133	P	Pg	00 37 05.1	-0.1
GIGS				S	Sb	00 37 12.7	-0.4
AQU	L'Aquila	0.47	152	⇑P	Pg	00 37 05.4	+0.2
AQU				S	Sb	00 37 13.2	+0.1
SNTG	Esanatoglia	0.50	346	⇑P	Pg	00 37 05.5	-0.2
SNTG				S	Sb	00 37 13.3	-0.6
FIAM	Fiamignano	0.51	179	⇑P	Pg	00 37 06.1	+0.3
FIAM				S	Sg	00 37 13.9	+1.3
ATCC	AVT- Casa Cast	0.54	320	⇑P	Pg	00 37 06.5	+0.1
EL6	Elcito	0.56	360	⇑P	Pg	00 37 06.6	-0.3
FOSV	Fossato di Vic	0.58	334	⇑P	Pg	00 37 07.1	-0.2
FOSV				S	Sg	00 37 15.0	+0.1
TRTR	Tortoreto Alta	0.59	86	P	Pb	00 37 08.6	+0.4
CING	Cingoli	0.60	6	⇑P	Pg	00 37 07.4	-0.4
CING				S	Sb	00 37 16.1	-0.8
FAGN	Fagnano	0.62	145	⇑P	Pg	00 37 07.8	-0.2
MURB	Monte Urbino	0.65	319	P	Pg	00 37 08.0	-0.6
CIMA	Civitanova Mar	0.67	38	P	Pb	00 37 09.8	+0.2
SRES	S.Oreste - Sor	0.69	220	P	Pg	00 37 09.6	+0.2
SSFR	Montelago di S	0.70	340	P	Pg	00 37 09.3	-0.3
PP3	Marolino	0.71	31	P	Pb	00 37 09.9	-0.2
ATFO	Monte Foce - G	0.71	327	P	Pg	00 37 09.5	-0.3
ARVD	Arcevia	0.73	351	P	Pg	00 37 09.7	-0.5
T0110	Collepietro	0.74	138	P	Pg	00 37 09.9	-0.4
MGAB	Montegabbione	0.74	281	P	Pb	00 37 10.9	0.0
ATLO	AVT- Montelove	0.75	317	P	Pg	00 37 10.1	-0.3
PTQR	Pietraquaria	0.78	164	⇓P	Pg	00 37 11.1	0.0
TB01	Gubbio	0.78	321	P	Pg	00 37 10.8	-0.3
ATVA	AVT- Monte Val	0.79	310	P	Pb	00 37 11.4	-0.1
TB02	Pietralunga	0.79	320	P	Pg	00 37 11.0	-0.2
FRON	Frontone	0.80	340	⇑P	Pg	00 37 10.6	-0.7
ATVO	AVT- Monte Val	0.80	320	P	Pg	00 37 11.1	-0.3
MTCE	Montecelio	0.80	200	⇑P	Pg	00 37 11.0	-0.4
CERT	Cerreto	0.83	186	⇑P	Pg	00 37 11.4	-0.6
ATMI	Monte Miggiano	0.83	313	P	Pb	00 37 12.5	+0.2
ATPC	Poggio Castell	0.85	326	P	Pg	00 37 11.8	-0.6
ATPI	Pietralunga -	0.85	323	⇑P	Pg	00 37 11.9	-0.5
AOI	Ancona	0.86	25	⇑P	Pg	00 37 12.1	-0.4
COR1	Corinaldo	0.86	355	P	Pb	00 37 12.6	-0.2
PIEI	Pieia	0.87	331	P	Pg	00 37 12.3	-0.4
SACS	San Casciano d	0.89	275	P	Pb	00 37 13.5	+0.3
PCRO	Pietralacroce	0.89	20	P	Pb	00 37 13.6	+0.3
MPAG	Monte Paganucc	0.89	344	P	Pg	00 37 12.6	-0.6
RCAV	Rocca di Cave	0.93	187	P	Pg	00 37 13.2	-0.8
FSSB	Fossombrone	0.95	345	⇑P	Pg	00 37 13.6	-0.6
INTR	Introdacqua	0.96	142	AML	AML		
	comp=E,1024µm,0.9s						
INTR				AML	AML		
	comp=N,1410µm,0.9s						
VVLD	Villa Vallelon	0.98	157	P	Pg	00 37 14.1	-0.7
GUAR	Guarcino	0.99	171	P	Pg	00 37 15.3	+0.3
CAFI	Castiglion Fio	1.00	304	P	Pg	00 37 15.2	-0.1
RMP	Rome, Mte Porz	1.01	198	P	Pg	00 37 14.6	-0.7
VIVA	Pratoni del Vi	1.05	194	P	Pb	00 37 14.8	-1.3
MCIV	Monte Civitell	1.05	271	P	Pg	00 37 16.0	-0.3
SF11	Podere del Sol	1.05	276	P	Pg	00 37 16.3	+0.1
SAMA	S.Maria delle	1.06	201	P	Pb	00 37 16.2	0.0
LPEL	Lama dei Pelig	1.08	132	P	Pb	00 37 15.6	-0.9
TOLF	Tolfa	1.08	230	P	Pb	00 37 16.7	+0.1
SF13	Bagnolo	1.10	273	P	Pb	00 37 17.0	+0.1
SF14	Selvena	1.10	270	P	Pb	00 37 16.9	+0.1
LAV9	Lanuvio	1.14	196	P	Pb	00 37 17.9	+0.4
POFI	Posta Fibreno	1.15	157	P	Pb	00 37 17.5	-0.2
LRP	Arpino	1.18	162	P	Pb	00 37 18.5	+0.3
PESA	Pesaro	1.18	351	P	Pb	00 37 17.9	-0.4
GIUL	Giuliano Di Ro	1.22	175	P	Pn	00 37 18.4	-0.3
LATB	Latina	1.28	185	P	Pn	00 37 19.3	-0.3
LATB				AML	AML		
	comp=E,150µm,1.1s						
LATB				AML	AML		
	comp=N,108µm,0.8s						
RNI2	Rionero Sannit	1.32	144	P	Pb	00 37 20.9	+0.2
CERA	Filignano	1.36	150	P	Pb	00 37 21.7	+0.4
ASQU	Asqua	1.41	317	P	Pb	00 37 22.1	0.0
MIDA	Miranda	1.42	143	P	Pn	00 37 21.1	-0.4
SFI	Santa Sofia	1.46	321	P	Pb	00 37 22.8	-0.2
FROS	Frosini	1.50	288	P	Pn	00 37 23.2	+0.7
OSSC	Osservatorio P	1.56	299	P	Pn	00 37 24.1	+0.7
RUFI	Rufina	1.58	313	P	Pb	00 37 25.0	-0.1
VAGA	Valle Agricola	1.59	148	P	Pb	00 37 25.1	-0.3
MTCR	Monte La Croce	1.98	310	P	Pn	00 37 30.1	+0.7
APRC	Apricena	2.07	119	P	Pn	00 37 31.8	+1.3
PGF	Pioggiola	3.04	267	eP	Pn	00 37 45.3	+1.4
PGF				eSn	Sn	00 38 16.5	-3.7
	comp=N,2.4nm,0.2s						
CEY	Cerknica	3.11	17	ePn	Pn	00 37 45.0	+0.2
MGRS	Mrkonjic Grad	3.32	59	ePn	Pn	00 37 50.4	+2.7
STON	Ston	3.38	87	ePn	Pn	00 37 48.1	-0.3
A051A	Mrakovica	3.54	50	ePn	Pn	00 37 51.7	+0.9
BLY	Banja Luka	3.55	55	ePn	Pb	00 37 56.0	-2.7
TREB	Trebinje	3.86	89	ePn	Pn	00 37 56.4	+1.3
OBKA	Obir	3.87	15	ePn	Pn	00 37 56.0	+0.7
OBKA	Obir	3.87	15	ePn	Pn	00 37 57.2	+1.9
	comp=N,1.2nm,0.2s						
MYKA	Terra Mystica	3.88	5	ePn	Pn	00 37 56.7	+1.4
	comp=N,3.7nm,0.6s						
HCY	Herceg Novi	3.99	93	ePn	Pn	00 37 57.4	+0.6
ABTA	Abfaltersbach	4.00	354	ePn	Pn	00 37 58.8	+1.8
	comp=N,18nm,0.5s						
BRY	Bratogost	4.00	86	ePn	Pn	00 38 00.1	+3.0
SOKA	Soboth	4.14	19	ePn	Pn	00 38 00.2	+1.3
	comp=N,0.8nm,0.3s						
UPM	Unac-Piva	4.28	82	ePn	Pn	00 38 02.3	+1.4
SBF	Sospel	4.28	287	eP	Pn	00 38 02.9	+2.0
SBF				eSn	Sn	00 38 46.0	-4.8
	comp=N,4.2nm,0.4s						
KBA	Koelnbreinsper	4.31	2	ePn	Pn	00 38 03.0	+1.7
	comp=N,5.1nm,0.4s						
HAPS	Han Pijesak,Bl	4.45	71	ePn	Pn	00 38 07.6	+4.3
DRME	Dracevica, Mon	4.53	95	ePn	Pn	00 38 06.4	+2.1
FETA	Feichten	4.57	339	ePn	Pn	00 38 08.5	+3.6
	comp=N,2.4nm,0.6s						
WTTA	Wattenberg	4.61	347	ePn	Pn	00 38 09.0	+3.5
	comp=N,1.8nm,0.3s						
SQTA	Sankt Quirin	4.65	344	ePn	Pn	00 38 09.9	+3.9
	comp=N,2.1nm,0.2s						
WATA	Walderalm	4.69	347	ePn	Pn	00 38 10.4	+3.8
	comp=N,4.1nm,0.5s						
MOTA	Moosalm	4.79	343	ePn	Pn	00 38 11.6	+3.7
	comp=N,1.8nm,0.4s						
ARSA	Arzberg	4.79	20	ePn	Pn	00 38 08.7	+0.8
	comp=N,2.4nm,0.6s						
LMR	La Mourre	4.87	279	eP	Pn	00 38 09.9	+1.0
LMR				eSn	Sn	00 39 00.3	-4.8
	comp=N,0.8nm,0.4s						
BIOA	Bad Ischl, Aus	4.93	4	ePn	Pn	00 38 12.1	+2.3
	comp=N,5.1nm,0.3s						
MBDF	Montbardon	4.99	295	eP	Pn	00 38 13.1	+2.4
MBDF				eSn	Sn	00 39 03.1	-5.2
	comp=N,1.1nm,0.5s						
RETA	Reutte	5.00	341	ePn	Pn	00 38 13.8	+3.1
	comp=N,1.3nm,0.3s						
DAVA	Damuels	5.06	334	ePn	Pn	00 38 15.7	+4.0
	comp=N,1.4nm,0.3s						
MOA	Molln	5.14	9	ePn	Pn	00 38 14.5	+1.8
	comp=N,1.0nm,0.3s						
DIVS	Divibare	5.18	73	ePn	Pn	00 38 17.5	+4.2
LPL	La Plagne	5.34	303	eP	Pn	00 38 18.4	+2.7
LPL				eSn	Sn	00 39 11.6	-5.6
	comp=N,1.7nm,0.4s						
CONA	Conrad Observa	5.51	20	ePn	Pn	00 38 18.7	+0.9
	comp=N,2.2nm,0.4s						
SMRF	Simiane la Rot	5.62	285	eP	Pn	00 38 21.7	+2.4
SMRF				eSn	Sn	00 39 18.0	-5.8
	comp=N,0.6nm,0.3s						
ORIF	Oris-en-Rattie	5.65	295	eP	Pn	00 38 24.8	+5.1
ORIF				eSn	Sn	00 39 18.8	-5.7
	comp=N,0.8nm,0.3s						
CKRC	Cesky Krumlov	6.11	7	eSN	Sn	00 39 34.1	-1.5
KHC	Kasperske Hory	6.37	3	ePN	Pn	00 38 29.5	0.0
KHC				eSN	Sn	00 39 40.6	-1.5
HINF	Hinteralfeld	6.70	321	eP	Pn	00 38 36.3	+2.2
HINF				eSn	Sn	00 39 43.6	-6.7
	comp=N,3.2nm,0.4s						
CDF	Champ du Feu	6.96	326	eSn	Sn	00 39 49.9	-7.0
	comp=N,1.5nm,0.3s						
HAU	Haudompre	7.07	320	eP	Pn	00 38 41.6	+2.4
HAU				eSn	Sn	00 39 52.4	-7.0
	comp=N,3.0nm,0.3s						

IDC 11 01:01:06.8±3.2, 16.53S×174.64W, h0km, mb3.7/3, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=186.2km s-min=30.5km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.80	47	Pn	Pn	01 02 06.6	0.0
	18nm,0.3s,baz=229,slow=20,SNR=14						
AFI				Sn	Sn	01 02 41.1	-11
	44nm,0.3s,baz=50,slow=22,SNR=12						
	83nm,0.5s						
STKA	Stephens Creek	42.45	241	P	P	01 09 03.5	-0.2
	1.2nm,0.5s,baz=80,slow=12,SNR=3.5						
	1.2nm,0.5s						
WRA	Warramunga Arr	48.43	258	P	P	01 09 51.1	-0.2
	0.1nm,0.3s,baz=94,slow=7.0,SNR=11						
	0.1nm,0.3s						
ASAR	Alice Springs	48.63	253	P	P	01 09 52.8	-0.1
	1.1nm,0.6s,baz=88,slow=8.6,SNR=15						
	1.1nm,0.6s						

RSNC 11 01:10:41.5±1.1, 6.81N×73.15W, h146km±5km, ML3.0, Mw3.5, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.21	189	⇓iP	Pn	01 11 01.2	-0.5
BARC				eS	Sn	01 11 16.1	-0.9
BARC				IAML		01 11 17.3	
	comp=Z,270nm,0.4s						
BRRC	Barranca, Sant	0.63	298	⇑iP	Pn	01 11 03.1	-0.1
BRRC				eS	Sn	01 11 19.8	+0.2
BRRC				IAML		01 11 24.0	
	comp=Z,146nm,0.2s						
PAMC	Pamplona, Colo	0.69	40	⇑iP	Pn	01 11 04.0	-0.1
PAMC				eS	Sn	01 11 20.6	-0.8
PAMC				IAML		01 11 22.1	
	comp=Z,111nm,0.2s						
PTBC	PUERTO BERRIO,	1.32	259	eP	Pn	01 11 08.0	-1.0
PTBC				eS	Sn	01 11 28.8	-1.2

PTBC IAML 01 11 35.6
comp=Z,160nm,0.3s
TAMC Tame, Arauca 1.40 105 ⇓*i*P Pn 01 11 09.7 -0.1
TAMC *e*S Sn 01 11 31.2 -0.2
TAMC IAML 01 11 40.9
comp=Z,61nm,1.3s
ZARC Zaragoza, Cauc 1.83 292 *e*P Pn 01 11 13.6 -0.8
ZARC *e*S Sn 01 11 39.1 -0.5
ZARC IAML 01 11 44.1
comp=Z,153nm,0.4s
NORC Norcasia 2.11 234 *e*P Pn 01 11 17.2 -0.6
NORC *e*S Sn 01 11 45.7 +0.1
NORC IAML 01 11 54.5
comp=Z,76nm,0.4s
CHIC Chingaza 2.24 195 *e*P Pn 01 11 19.3 -0.4
CHIC *e*S Sn 01 11 48.5 -0.5
CHIC IAML 01 11 52.0
comp=Z,82nm,0.6s
ROSC El Rosal 2.27 211 *e*P Pn 01 11 21.8 +1.7
ROSC *e*S Sn 01 11 50.0 +0.3
ROSC IAML 01 11 55.7
comp=Z,215nm,0.4s
ROSC IAML 01 11 55.7
comp=Z,214nm,0.4s
UREC San Jos de Ur 2.54 292 *e*P Pn 01 11 20.9 -2.1
UREC *e*S Sn 01 11 52.2 -2.8
UREC IAML 01 12 00.2
comp=Z,54nm,0.1s
VILC Villavicencio, 2.73 191 *e*P Pn 01 11 25.1 -0.4
VILC *e*S Sn 01 11 59.2 -0.2
VILC IAML 01 12 04.2
comp=Z,99nm,0.6s
VILC IAML 01 12 08.9
comp=Z,104nm,0.4s
LL1C La Loma 1 Cana 2.75 352 *e*P Pn 01 11 26.3 +0.7
LL1C *e*S Sn 01 12 01.7 +2.1
PTGC Puerto Gaitan, 2.78 159 ⇓*i*P Pn 01 11 24.4 -1.6
PTGC *e*S Sn 01 11 57.9 -2.4
PTGC IAML 01 12 02.5
comp=Z,31nm,0.3s
CBOC Ciudad Bolivar 3.00 252 *e*P Pn 01 11 28.7 -0.1
CBOC *e*S Sn 01 12 05.6 +0.2
CBOC IAML 01 12 10.2
comp=Z,19nm,0.8s
DBBC Dabeiba 3.05 274 *e*P Pn 01 11 28.8 -0.6
DBBC *e*S Sn 01 12 05.2 -1.1
ANIL Santa Ana 3.21 224 *e*P Pn 01 11 32.5 +0.8
ANIL *e*S Sn 01 12 11.4 +0.8
ARGC Ariguani, Magd 3.22 340 *e*P Pn 01 11 31.5 -0.1
ARGC *e*S Sn 01 12 10.0 -0.4
ARGC IAML 01 12 20.5
comp=Z,18nm,0.3s
PRAC Prado 3.52 209 *e*P Pn 01 11 34.7 -0.8
PRAC *e*S Sn 01 12 16.7 -0.7
PRAC IAML 01 12 21.2
comp=Z,83nm,0.6s
ORTC Ortega, Tolima 3.56 216 *e*P Pn 01 11 35.4 -0.5
ORTC *e*S Sn 01 12 16.5 -1.6
ORTC IAML 01 12 22.4
comp=Z,41nm,0.3s
PLMC San Jos del P 3.64 239 *e*P Pn 01 11 36.6 -0.5
PLMC *e*S Sn 01 12 19.0 -1.2
PLMC IAML 01 12 24.7
comp=Z,12nm,0.2s
SJCC San Jacinto, C 3.67 327 *e*P Pn 01 11 34.9 -2.6
SJCC *e*S Sn 01 12 16.4 -4.5
SJCC IAML 01 12 23.6
comp=Z,19nm,0.6s
CRJC Cerrejon, Guaj 4.20 4 *e*P Pn 01 11 41.6 -2.7
CRJC *e*S Sn 01 12 28.3 -4.9
CRJC IAML 01 12 37.6
comp=Z,34nm,0.5s
YOTC Yotoco, Valle 4.24 229 *e*P Pn 01 11 44.0 -1.0
YOTC IAML 01 12 45.6
comp=Z,5.2nm,1.4s
GUVC San Jose del G 4.26 173 *e*P Pn 01 11 43.9 -1.3
GUVC *e*S Sn 01 12 32.0 -2.7
URIC Uribia, Colomb 5.00 13 *e*P Pn 01 11 51.8 -3.0
URIC *e*S Sn 01 12 46.3 -5.7
URIC IAML 01 13 05.5
comp=Z,11nm,1.2s

JMA 11 01:11:06.1±0.2,**39.9N**±0.2×**140.4E**±0.3,**h1**km,±2km,
MV0.4/10,**NORTHERN AKITA PREF,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.37**	**33**	*e*P	Pg	01 11 13.6	+0.3
JRG	**Rokugo**	**0.52**	**157**	*e*S	Sb	01 11 25.1	-0.9

*IDC **11** 01:12:47.1±0.9,32.62N×130.49E,h0km,mb3.8/8, mbtmp3.9/12,ML3.7/4,MS3.3/11,Error ellipse: s-maj=26.9km s-min=15.9km az=69.0*
*JMA **11** 01:12:49.3±0.0,32.7N±0.1×130.7E±0.1,h12km,MD4.2/20, MV4.2/20,NW KUMAMOTO PREF*
JMA Felt IV J1 at NW KUMAMOTO PREF .
*NIED **11** 01:12:49.3,32.74N×130.67E,h12km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.10; $M_{\theta\theta}$1.99; $M_{\phi\phi}$-1.88; $M_{r\theta}$-0.60; $M_{\theta\phi}$-0.23; $M_{\phi r}$0.79; Fault plane solution: M_o2.19000×10^{15} NP1: ϕ_s229.00000°,δ63.00000°,λ-177.00000°. NP2: ϕ_s138.00000°,δ87.00000°,λ-27.00000°.*
*NEIC **11** 01:12:50.8±2.5,32.73N±0.02×130.76E±0.08,h10km±1km, mb4.2/5 Error ellipse: s-maj=11.0km s-min=3.1km az=102.0*

ISC 11 01:12:49.7±1.1,**32.69N**±0.03×**130.64E**±0.05,**h7**km±7km,
n80,σ1§64/49,mb3.6/13,**MS3.3**/8,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.20**	**134**	P	**Pg**	**01 12 54.1**	**+0.4**
JIU3				S	**Sg**	**01 12 57.6**	**+1.1**
JIU3	**Izumi3**	**0.20**	**134**	A	A	01 12 54.1	
	comp=E,67nm,1.5s,comp=E,51nm,0.9s						
JTA	**Tamana**	**0.29**	**341**	P	**Pg**	**01 12 54.8**	**-0.5**
JTA				S	**Sg**	**01 12 58.3**	**-0.8**
JTA	**Tamana**	**0.29**	**341**	A	A	01 12 54.8	
	comp=E,70nm,1.1s,comp=E,54nm,0.7s						
JNU	**Nakatsue**	**0.47**	**25**	Pg	**Pg**	**01 12 58.0**	**-0.8**
JNU				Sg	**Sg**	**01 13 04.0**	**-1.0**
JNU	**Nakatsue**	**0.47**	**25**	P	**Pg**	**01 12 58.2**	**-0.6**
JNU	**Nakatsue**	**0.47**	**25**	A	A	01 12 57.7	
	comp=E,39nm,1.0s,comp=E,19nm,1.9s						
JHD	**Hondo**	**0.48**	**242**	A	A	01 12 59.5	
	comp=E,28nm,1.2s,comp=E,63nm,0.6s						
JZO	**Okuchi**	**0.55**	**184**	A	A	01 13 00.8	
	comp=E,16nm,0.3s,comp=E,12nm,0.6s						
JKIT	**Kitakata**	**0.69**	**95**	A	A	01 13 02.2	
	comp=E,15nm,0.4s,comp=E,17nm,0.2s						
JUR	**Ureshino**	**0.71**	**305**	A	A	01 13 02.8	
	comp=E,11nm,0.9s,comp=E,9.0nm,2.3s						
NGSJ	**Nagasakinomoza**	**0.71**	**265**	A	A	01 13 03.4	
	comp=E,6.0nm,4.5s,comp=E,7.0nm,2.2s						
JFI	**Itaya**	**0.76**	**344**	A	A	01 13 03.3	
	comp=E,19nm,0.3s,comp=E,21nm,0.3s						
JTSN	**Tsuno**	**0.85**	**121**	A	A	01 13 05.5	
	comp=E,11nm,0.3s,comp=E,34nm,0.5s						
JTZ	**Takazaki**	**0.87**	**154**	*i* P	**Pb**	**01 13 06.9**	**-0.3**
JTZ	**Takazaki**	**0.87**	**154**	A	A	01 13 06.9	
	comp=E,18nm,0.5s,comp=E,23nm,0.4s						
JHHC	**Hyugahichiya**	**0.88**	**106**	A	A	01 13 05.7	
	comp=E,11nm,0.6s,comp=E,14nm,0.9s						
JBEP	**Beppuamama**	**0.91**	**45**	A	A	01 13 05.6	
	comp=E,16nm,1.1s,comp=E,15nm,0.8s						
JUS	**Usuki**	**1.01**	**68**	A	A	01 13 07.5	
	comp=E,10.0nm,0.5s,comp=E,12nm,0.4s						
JFA	**Akaike**	**1.03**	**7**	A	A	01 13 07.7	
	comp=E,6.0nm,6.1s						
JSKE	**Saikikamae**	**1.07**	**84**	A	A	01 13 08.8	
	comp=E,6.0nm,0.4s,comp=E,4.0nm,0.8s						
JSU	**Suzuyama**	**1.19**	**188**		**Pg**	**01 13 12.2**	**-0.3**
JSU	**Suzuyama**	**1.19**	**188**	P	**Pg**	**01 13 12.3**	**-0.3**
JSU	**Suzuyama**	**1.19**	**188**	A	A	01 13 12.0	
	comp=E,4.0nm,3.9s,comp=E,6.0nm,0.6s						
JNKG	**Nichinankitago**	**1.20**	**149**	A	A	01 13 11.9	
	comp=E,14nm,1.0s,comp=E,14nm,1.9s						
JKI	**Kunimi**	**1.22**	**39**	A	A	01 13 11.0	
	comp=E,13nm,2.1s,comp=E,13nm,2.4s						
JNAR	**Kushima--Naru**	**1.28**	**155**	A	A	01 13 13.2	
	comp=E,18nm,1.2s,comp=E,11nm,1.1s						
JSJ	**Shimokoshiki**	**1.28**	**218**	A	A	01 13 13.5	
	comp=E,11nm,1.4s,comp=E,9.0nm,1.4s						
JII	**Iki**	**1.34**	**326**	A	A	01 13 13.4	
	comp=E,17nm,1.2s,comp=E,12nm,1.3s						
JKD	**Kudamatsu**	**1.71**	**37**	A	A	01 13 18.6	
	comp=E,7.0nm,4.5s,comp=E,5.0nm,3.7s						
JTSM	**Tsushimamitsus**	**1.95**	**328**	A	A	01 13 22.5	
	comp=E,5.0nm,0.8s,comp=E,4.0nm,3.1s						
JTU	**Tsushima**	**2.10**	**331**		**Pn**	**01 13 26.0**	**+0.7**
JTU	**Tsushima**	**2.10**	**331**	P	**Pn**	**01 13 25.9**	**+0.7**
JTU	**Tsushima**	**2.10**	**331**	A	A	01 13 24.8	
	comp=E,6.0nm,1.5s,comp=E,4.0nm,0.7s						
JHGM	**Hagimishima**	**2.13**	**11**	A	A	01 13 24.8	
	comp=N,7.0nm,1.7s						
JHIK	**Hikimi**	**2.13**	**30**	A	A	01 13 24.8	
	comp=E,3.0nm,2.5s						
JMN	**Monobe**	**2.91**	**68**		**Pn**	**01 13 37.5**	**+1.2**
JMN	**Monobe**	**2.91**	**68**	P	Pg	01 13 37.6	+2.6
JHS	**Saijyo**	**3.09**	**41**		**Pn**	**01 13 38.8**	**-0.1**
JHS	**Saijyo**	**3.09**	**41**	P	**Pn**	**01 13 38.9**	**0.0**
TJN	**Taejon**	**4.56**	**325**	Pn	**Pn**	**01 14 00.8**	**+1.7**
KSRS	**Korea Array**	**5.25**	**336**	Pn	**Pn**	**01 14 08.0**	**-0.5**
	0.7nm,0.3s,baz=152,slow=14,SNR=7.4						
KSRS				Pg	**Pb**	**01 14 23.5**	**+1.8**
	1.6nm,0.3s,baz=155,slow=17,SNR=11						
KSRS				Lg	Lg	01 15 33.8	
	3.2nm,0.3s,baz=162,slow=32,SNR=7.3						
	2.7nm,0.5s						
KS19	**Wonju Array Si**	**5.31**	**335**	Pn	**Pn**	**01 14 13.3**	**+3.9**
INCN	**Inchon**	**5.80**	**327**	Pn	**Pn**	**01 14 19.9**	**+3.7**
INU	**Inuyama**	**5.92**	**62**		**Pn**	**01 14 18.0**	**+0.2**
JOW	**Kunigami**	**6.19**	**200**	Pn	**Pn**	**01 14 17.4**	**-4.2**
	5.8nm,0.3s,baz=36,slow=11,SNR=4.4						
	21nm,0.8s						
JOW	**Kunigami**	**6.19**	**200**		**Pn**	**01 14 22.1**	**+0.6**
JGF	**Kuroka**	**6.28**	**61**		**Pn**	**01 14 23.2**	**+0.5**
JGF	**Kuroka**	**6.28**	**61**	P	**Pn**	**01 14 22.9**	**+0.2**
	31nm,0.7s						
MJAR	**Matsushiro Arr**	**7.33**	**56**	Pn	**Pn**	**01 14 38.0**	**+0.9**
	0.3nm,0.3s,baz=242,slow=13,SNR=11						
MJAR				LR	LR	01 17 25.5	
	comp=Z,158nm,20.9s,baz=234,slow=37						
	5.3nm,0.6s						
JHJ	**Hachijo jima 2**	**7.70**	**84**	Pn	**Pn**	**01 14 41.9**	**-0.4**
	17nm,0.3s,baz=221,slow=19,SNR=4.2						
	121nm,0.6s						
JHJ2	**Mitsune**	**7.73**	**84**	P	**Pn**	**01 14 42.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**11.54**	**5**	Pn	**Pn**	**01 15 36.7**	**+1.9**
	0.2nm,0.3s,baz=192,slow=14,SNR=5.1						
USRK				LR	LR	01 19 32.6	
	comp=Z,118nm,21.4s,baz=191,slow=35						
USRK	**Ussuriysk Ar.**	**11.54**	**5**	Pn	**Pn**	**01 15 33.6**	**-1.1**
KLR	**Kul'dur**	**16.54**	**3**	Pn	**P**	**01 16 44.7**	**0.0**
	0.3nm,0.3s,baz=171,slow=5.8,SNR=12						
KLR				LR	LR	01 22 17.2	
	comp=Z,91nm,21.0s,baz=192,slow=34						
ULN	**Ulaanbaatar**	**23.40**	**317**	P	**P**	**01 17 58.2**	**-1.0**
ULN				IAmb	IAmb	01 18 26.8	
	comp=Z,3.6nm,1.0s						
SONM	**Songino Array**	**23.76**	**317**	P	**P**	**01 18 01.9**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=116,slow=10,SNR=2.6						
SONM				LR	LR	01 28 22.9	
	comp=Z,60nm,19.2s,baz=106,slow=39						
	comp=Z,0.9nm,0.9s						
SONM	**Songino Array**	**23.76**	**317**	P	**P**	**01 18 00.9**	**-1.9**
PETK	**Petropavlovsk-**	**28.16**	**36**	LR	LR	01 30 21.7	
	comp=Z,48nm,20.8s,baz=60,slow=37						
YAK	**Yakutsk**	**29.36**	**359**	LR	LR	01 30 21.0	
	comp=Z,61nm,19.0s,baz=88,slow=36						
CMAR	**Chang Mai Arr**	**31.77**	**251**	LR	LR	01 33 13.8	
	comp=Z,33nm,18.0s,baz=70,slow=39						
MKAR	**Makanchi Array**	**39.14**	**306**	P	**P**	**01 20 20.6**	**+2.8**
	comp=Z,0.3nm,0.7s,baz=116,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**39.14**	**306**	P	**P**	**01 20 18.4**	**+0.6**
KURBB	**Kurchatov Arra**	**41.91**	**311**	P	**P**	**01 20 39.3**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=100,slow=9.2,SNR=2.1						
	comp=Z,1.1nm,0.8s						
NRIK	**Noril'sk**	**43.85**	**340**	P	**P**	**01 20 55.0**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=144,slow=8.7,SNR=1.7						
	comp=Z,2.1nm,0.7s						
AAK	**Ala-Archa**	**44.81**	**300**	LR	LR	01 41 14.8	
	comp=Z,50nm,19.0s,baz=64,slow=38						
BVAR	**Borovoye Array**	**47.07**	**314**	LR	LR	01 40 29.0	
	comp=Z,39nm,19.4s,baz=102,slow=35						
KK31	**Karatay Array**	**47.66**	**301**	P	**P**	**01 21 27.1**	**+0.5**
KKAR	**Karatay Array**	**47.66**	**301**	P	**P**	**01 21 26.9**	**+0.2**
KKAR				IAmb	IAmb	01 21 34.5	
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**52.46**	**176**	P	**P**	**01 22 01.0**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=355,slow=7.9,SNR=3.1						
	comp=Z,0.7nm,0.8s						
WB2	**Warramunga Arr**	**52.46**	**176**	P	**P**	**01 22 03.4**	**+0.2**
WB2				IAmb	IAmb	01 22 30.8	
	comp=Z,5.3nm,1.4s						
ABKAR	**Akbulak array**	**53.93**	**310**	P	**P**	**01 22 15.2**	**+1.4**
ASAR	**Alice Springs**	**56.13**	**176**	P	**P**	**01 22 28.9**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=13,slow=9.8,SNR=2.8						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**57.79**	**30**	P	**P**	**01 22 44.9**	**+3.7**
	comp=Z,0.5nm,0.8s,baz=270,slow=6.9,SNR=4.7						
DZM	**Mont Dzumac**	**64.31**	**143**	LR	LR	01 48 49.2	
	comp=Z,56nm,18.5s,baz=37,slow=34						
FINES	**FINESS Array B**	**68.31**	**330**	P	**P**	**01 23 48.6**	**-2.5**
	comp=Z,2.7nm,1.0s,baz=48,slow=4.3,SNR=6.6						
	comp=Z,2.7nm,1.0s						
AKASG	**Malin Array Be**	**72.02**	**319**	P	**P**	**01 24 11.7**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=54,slow=6.2,SNR=2.2						
	comp=Z,0.7nm,0.5s						
NOA	**NORSAR Array B**	**74.46**	**334**	LR	LR	02 03 04.2	
	comp=Z,17nm,19.9s,baz=330,slow=40						
CLL	**Collm**	**80.04**	**326**	*e*P	**P**	**01 25 02.0**	**+2.2**
NVAR	**Mina Array Bea**	**84.56**	**47**	P	**P**	**01 25 24.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=299,slow=4.0,SNR=1.2						
	comp=Z,0.2nm,0.5s						

*PRU **11** 02:44:52.6±0.0,42.93N×13.93E,h0km*
ROM 11 02:44:51.3±0.1,**42.887N**±0.003×**13.206E**±0.005,
h7km,**ML2.7**/11,**Error ellipse: s-maj=0.4km s-min=0.2km az=74.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.03**	**204**	P	Pg	02 44 53.0	+0.1
T1245				S	Sg	02 44 54.2	+0.2
T1245				AML	AML		
	comp=N,58900μm,1.6s						
T1245				AML	AML		
	comp=E,55900μm,0.3s						
T1245				AML	AML		
	comp=E,56600μm,0.3s						
T1245				AML	AML		
	comp=N,55750μm,1.6s						
T1245				AML	AML		
	comp=E,56650μm,0.3s						
T1245				AML	AML		
	comp=N,58850μm,1.6s						
MMO1	**Montemonaco**	**0.09**	**82**	P	Pg	02 44 53.8	+0.3
MMO1				S	Sg	02 44 55.7	+0.6
T1256	**Bolognola (MC)**	**0.12**	**7**	P	Pg	02 44 54.1	0.0
T1256				S	Sg	02 44 56.4	+0.4
FEMA	**Monte Fema**	**0.14**	**303**	P	Pg	02 44 54.7	+0.4
FEMA				S	Sg	02 44 57.4	+1.0
T1216	**Preci, Frazion**	**0.14**	**271**	P	Pg	02 44 54.9	+0.6
T1216				S	Sg	02 44 57.6	+1.3
AM05	**Amandola Campo**	**0.14**	**50**	P	Pg	02 44 54.8	+0.4
AM05				S	Sg	02 44 57.3	+1.0
AM05				AML	AML		
	comp=E,12200μm,0.1s						
AM05				AML	AML		
	comp=N,800μm,0.6s						
AM05				AML	AML		
	comp=E,12350μm,0.1s						
AM05				AML	AML		
	comp=N,800μm,0.6s						
AM05				AML	AML		
	comp=E,12150μm,0.1s						
AM05				AML	AML		
	comp=N,14300μm,0.1s						
AM05				AML	AML		
	comp=E,12300μm,0.1s						
T1241	**Roccafluvione,**	**0.17**	**101**	P	Pg	02 44 55.4	+0.6
T1241				S	Sg	02 44 58.5	+1.4
T1241				AML	AML		
	comp=N,4610μm,0.9s						
T1241				AML	AML		
	comp=E,5055μm,0.4s						
T1241				AML	AML		
	comp=E,5315μm,0.7s						
T1241				AML	AML		
	comp=N,4595μm,0.9s						
T1241				AML	AML		
	comp=E,5060μm,0.4s						
FDMO	**Fiordimonte**	**0.17**	**330**	P	Pg	02 44 55.2	+0.3
FDMO				S	Sg	02 44 58.3	+1.0
T1213	**Norcia, Frazio**	**0.17**	**200**	P	Pg	02 44 55.9	+1.0
T1213				S	Sg	02 44 59.0	+1.7
T1213				AML	AML		
	comp=N,3870μm,0.4s						
T1213				AML	AML		
	comp=N,3710μm,0.3s						
T1213				AML	AML		
	comp=E,2125μm,1.4s						
T1213				AML	AML		
	comp=N,3870μm,0.3s						
T1213				AML	AML		
	comp=E,2345μm,1.4s						
T1213				AML	AML		
	comp=E,2130μm,1.4s						
T1213				AML	AML		
	comp=N,3865μm,0.4s						
T1213				AML	AML		
	comp=E,2340μm,1.4s						
T1213				AML	AML		
	comp=N,3715μm,0.3s						
T1212	**Cascia, Frazio**	**0.18**	**221**	P	Pg	02 44 55.9	+0.9
T1212				S	Sg	02 44 59.4	+1.9
GUMA	**Gualdo di Mace**	**0.20**	**28**	P	Pg	02 44 56.1	+0.8
GUMA				S	Sg	02 44 60.0	+1.8
GUMA				AML	AML		
	comp=E,8180μm,0.9s						
GUMA				AML	AML		
	comp=E,12100μm,0.6s						
GUMA				AML	AML		
	comp=N,6595μm,1.1s						
GUMA				AML	AML		
	comp=N,8515μm,0.6s						
CSP1	**Cessapalombo**	**0.20**	**360**	P	Pg	02 44 55.8	+0.3
CSP1				S	Sg	02 44 59.7	+1.3
CSP1				AML	AML		
	comp=E,2370μm,1.0s						
CSP1				AML	AML		
	comp=N,2885μm,1.3s						
CSP1				AML	AML		
	comp=E,2375μm,1.0s						
CSP1				AML	AML		
	comp=N,2890μm,1.3s						
CSP1				AML	AML		
	comp=N,2895μm,1.3s						
T1219	**Muccia, Frazio**	**0.22**	**319**	P	Pg	02 44 56.2	+0.4
T1219				S	Sg	02 45 00.1	+1.2
T1219				AML	AML		
	comp=E,2975μm,0.4s						
T1219				AML	AML		
	comp=E,2975μm,0.4s						
T1219				AML	AML		
	comp=N,2465μm,0.5s						
T1204	**Amatrice, Fraz**	**0.23**	**159**	P	Pg	02 44 56.6	+0.8
T1204				S	Sg	02 45 01.2	+2.2
T1204				AML	AML		
	comp=E,2350μm,0.4s						
T1204				AML	AML		
	comp=N,1555μm,0.3s						
T1218	**Civita (PG)**	**0.23**	**197**	P	Pg	02 44 56.9	+1.0
T1218				S	Sg	02 45 01.1	+2.1
T1218				AML	AML		
	comp=E,1595μm,0.9s						
T1218				AML	AML		
	comp=N,2060μm,0.4s						
T1218				AML	AML		
	comp=E,1455μm,0.9s						
T1218				AML	AML		
	comp=N,2002μm,0.4s						
T1218				AML	AML		
	comp=E,1590μm,0.9s						
T1218				AML	AML		
	comp=E,1449μm,0.9s						
T1218				AML	AML		
	comp=N,1998μm,0.4s						
T1218				AML	AML		
	comp=E,1450μm,0.9s						
T1218				AML	AML		
	comp=N,2065μm,0.4s						
T1218				AML	AML		
	comp=N,2000μm,0.4s						
T1220	**Camerino, Fraz**	**0.24**	**339**	P	Pg	02 44 56.4	+0.3
T1220				S	Sg	02 45 01.3	+2.0
T1220				AML	AML		
	comp=E,7765μm,1.6s						
T1220				AML	AML		
	comp=E,7750μm,1.6s						
T1220				AML	AML		
	comp=N,8795μm,0.3s						
T1220				AML	AML		
	comp=N,8745μm,0.3s						
T1220				AML	AML		
	comp=E,7755μm,1.6s						
T1220				AML	AML		
	comp=N,8805μm,0.3s						
CESI	**CESI - Serrava**	**0.25**	**298**	P	Pg	02 44 56.8	+0.5
CESI				S	Sg	02 45 01.2	+1.5
T1243	**Rocca Santa Ma**	**0.26**	**137**	P	Pg	02 44 57.1	+0.6
T1243				S	Sb	02 45 01.8	-1.3
T1215	**Vallo di Nera,**	**0.26**	**251**	P	Pg	02 44 57.2	+0.6
T1215				S	Sb	02 45 01.8	-1.3
SMA1	**SAN MARTINO**	**0.27**	**160**	P	Pg	02 44 57.3	+0.6
SMA1				S	Sb	02 45 02.4	-1.1
SMA1				AML	AML		
	comp=E,1730μm,0.7s						
SMA1				AML	AML		
	comp=N,1950μm,0.4s						
LNSS	**Leonessa**	**0.31**	**203**	P	Pg	02 44 58.2	+0.7
LNSS				S	Sb	02 45 04.0	-0.5
OFFI	**Offida**	**0.35**	**82**	P	Pb	02 44 59.9	-0.1
OFFI				S	Sb	02 45 07.2	+1.4
RM33	**Pellescritta (**	**0.38**	**179**	P	Pg	02 44 59.3	+0.5
RM33				S	Sb	02 45 05.9	-0.6
CAMP	**Campotosto**	**0.38**	**157**	P	Pg	02 44 59.1	+0.3
CAMP				S	Sb	02 45 05.3	-1.3
CAMP				AML	AML		
	comp=N,492μm,1.0s						
CAMP				AML	AML		
	comp=E,498μm,0.3s						
TERO	**Teramo**	**0.40**	**132**	P	Pg	02 44 59.4	+0.4
TERO				S	Sb	02 45 06.2	-0.7
TERO				AML	AML		
	comp=E,1215μm,0.5s						
TERO				AML	AML		
	comp=N,1810μm,0.4s						
TERO				AML	AML		
	comp=E,1211μm,0.5s						
TERO				AML	AML		
	comp=E,1230μm,0.5s						
TERO				AML	AML		
	comp=N,1745μm,0.4s						
SNTG	**Esanatoglia**	**0.42**	**332**	P	Pg	02 44 59.7	+0.2
SNTG				S	Sb	02 45 06.5	-1.1
ASSB	**Assisi San Ben**	**0.43**	**291**	P	Pg	02 44 60.0	+0.2
ASSB				S	Sb	02 45 07.2	-0.8
T1211	**Morro Reatino**	**0.44**	**216**	P	Pg	02 45 00.3	+0.4
T1211				S	Sb	02 45 07.8	-0.5
ARRO	**Arrone**	**0.45**	**227**	P	Pb	02 45 00.8	-0.7
EL6	**Elcito**	**0.45**	**350**	P	Pg	02 45 00.4	+0.3
EL6				S	Sb	02 45 07.9	-0.7
T1247	**Pizzolo (AQ)**	**0.45**	**171**	P	Pg	02 45 00.6	+0.5
T1247				S	Sb	02 45 08.7	+0.1
CING	**Cingoli**	**0.49**	**359**	P	Pg	02 45 01.0	+0.2
CING				S	Sb	02 45 09.3	-0.4
ATCC	**AVT- Casa Cast**	**0.51**	**306**	P	Pg	02 45 01.5	+0.3
ATCC				S	Sb	02 45 10.3	0.0
FOSV	**Fossato di Vic**	**0.52**	**321**	P	Pg	02 45 01.7	+0.3
FOSV				S	Sb	02 45 10.3	-0.3
CESX	**Cesi**	**0.54**	**239**	P	Pg	02 45 01.9	+0.2
CESX				S	Sb	02 45 10.8	-0.2
AQU	**L'Aquila**	**0.55**	**165**	P	Pg	02 45 02.4	+0.4
AQU				S	Sb	02 45 11.1	-0.4
PP3	**Marolino**	**0.57**	**31**	P	Pb	02 45 03.9	+0.2
PP3				S	Sn	02 45 14.3	-1.2
FIAM	**Fiamignano**	**0.62**	**186**	P	Pg	02 45 03.4	0.0
FIAM				S	Sb	02 45 13.4	-0.1
MURB	**Monte Urbino**	**0.62**	**307**	P	Pg	02 45 03.6	+0.2
MURB				S	Sb	02 45 14.4	+0.8
SSFR	**Montelago di S**	**0.63**	**331**	P	Pg	02 45 03.7	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSFR				S	Sb	02 45 14.2	+0.4
ARVD	Arcevia	0.64	342	P	Pg	02 45 03.9	+0.2
ARVD				S	Sb	02 45 14.5	+0.5
ATFO	Monte Foce - G	0.67	316	P	Pg	02 45 04.4	+0.2
ATFO				S	Sb	02 45 15.3	+0.5
VCEL	Villa Celiera	0.68	136	P	Pg	02 45 05.0	+0.5
FAGN	Fagnano	0.68	156	P	Pg	02 45 05.0	+0.5
FRON	Frontone	0.72	331	P	Pg	02 45 05.1	-0.1
FRON				S	Sb	02 45 16.7	+0.4
COR1	Corinaldo	0.76	349	P	Pb	02 45 07.3	+0.4
ATVO	AVT- Monte Val	0.77	310	P	Pg	02 45 05.8	-0.3
T0110	Collepietro	0.78	147	P	Pg	02 45 05.8	-0.6
MGAB	Montegabbione	0.80	272	P	Pg	02 45 07.0	+0.2
MPAG	Monte Paganucc	0.81	336	P	Pg	02 45 07.3	+0.4
MPAG				S	Sn	02 45 20.5	-1.1
PIEI	Pieia	0.81	323	P	Pg	02 45 06.8	-0.1
PIEI				S	Sb	02 45 19.5	+0.5
ATPI	Pietralunga -	0.81	314	P	Pg	02 45 06.8	-0.2
ATMI	Monte Miggiano	0.82	303	P	Pn	02 45 11.0	+1.6
FSSB	Fossombrone	0.86	339	P	Pg	02 45 08.3	+0.3
FSSB				S	Sn	02 45 22.8	0.0
CERT	Cerreto	0.95	190	S	Sg	02 45 13.0	-9.0
ABTA	Abfaltersbach	3.89	353	ePn	Pn	02 45 53.6	+2.0
	comp=N,1.9nm,0.3s						
ABTA				eSn	Sn	02 46 38.1	+0.5
	comp=N,4.8nm,0.7s						
FETA	Feichten	4.49	338	ePn	Pn	02 46 04.0	+4.1
	comp=N,0.8nm,0.4s						
WTTA	Wattenberg	4.51	346	ePn	Pn	02 46 03.2	+3.0
	comp=N,1.6nm,0.5s						
SQTA	Sankt Quirin	4.56	343	ePn	Pn	02 46 04.4	+3.6
	comp=N,2.4nm,0.3s						
DAVA	Damuels	4.99	333	ePn	Pn	02 46 10.7	+4.0
	comp=N,2.4nm,0.6s						
KHC	Kasperske Hory	6.25	2	eSN	Sn	02 47 35.5	-0.1

*IDC **11** 02:45:41.8±0.5, 26°.08S×70°.66E, h0^{km}, mb4.2/16, mbtmp4.2/16, MS3.8/39, Error ellipse: s-maj=15.6km s-min=15.5km az=123.0*

*GCMT **11** 02:45:41.5±0.5, 26°.05S±0°.03×70°.73E±0°.05, h24^{km}±1^{km}, MW4.9/70, Moment Tensor Solution. s17,c19; s70,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.17±.27; $M_{\theta\theta}$2.25±.16; $M_{\phi\phi}$0.91±.15; $M_{r\theta}$0.50±.17; $M_{\theta\phi}$-0.83±.08; $M_{\phi r}$-0.10±.19; Best double couple: $M_0$2.95400×10^{16} NP1:ϕ_s294.00000°,δ50.00000°,λ-92.00000°. NP2: ϕ_s117.00000°,δ40.00000°,λ-87.00000°. Principal axes: T 2.6920, Plg5.0000°, Azm25.0000°; N 0.5190, Plg2.0000°, Azm295.0000°; P -3.2160, Plg85.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **11** 02:45:43.5±1.5, 26°.2S±0°.1×70°.6E±0°.2, h10^{km}±1^{km}, mb4.6/19 Error ellipse: s-maj=26.8km s-min=19.8km az=101.0*

ISC 11 02:45:43.4±0.5**, 26°.08S**±0°.09×**70°.7E**±0°.1**, h10**^{km}**, n77, σ0^s.63**/44**, mb4.3**/20**, MS3.8**/39**, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	18.42	6	T	T	03 08 55.2	
	baz=186,slow=76,SNR=40						
H08S2	Diego Garcia H	18.42	6	T	T	03 08 54.9	
	baz=186,slow=76,SNR=125						
H08S3	Diego Garcia H	18.43	6	T	T	03 08 56.1	
	baz=186,slow=76,SNR=207						
OPO	Ambohidratompo	22.93	284	P	P	02 50 48.9	+0.9
	4.3nm,0.7s,baz=124,slow=10,SNR=5.2						
	4.3nm,0.7s						
PALK	Pallekele	34.56	18	LR	LR	03 03 18.5	
	comp=Z,312nm,20.4s,baz=298,slow=31						
H01W2	Cape Leeuwin H	38.24	114	T	T	03 33 36.1	
	baz=271,slow=75,SNR=55						
H01W3	Cape Leeuwin H	38.24	114	T	T	03 33 34.3	
	baz=271,slow=75,SNR=52						
H01W1	Cape Leeuwin H	38.26	114	T	T	03 33 34.5	
	baz=271,slow=75,SNR=62						
LEM	Lembang	40.08	68	LR	LR	03 06 08.5	
	comp=Z,112nm,21.2s,baz=191,slow=31						
BOSA	Boshof	40.22	256	P	P	02 53 19.9	-0.7
	4.2nm,0.7s,baz=109,slow=8.2,SNR=9.6						
BOSA				LR	LR	03 07 50.4	
	comp=Z,165nm,18.2s,baz=111,slow=33						
	4.2nm,0.7s						
BOSA	Boshof	40.22	256	P	P	02 53 19.5	-1.1
BOSA				IAmb	IAmb	02 53 32.2	
	comp=Z,21nm,1.4s						
LBTB	Lobatse	40.51	261	P	P	02 53 22.6	-0.3
	comp=Z,2.6nm,0.8s,baz=117,slow=9.0,SNR=2.7						
LBTB				LR	LR	03 06 51.9	
	comp=Z,175nm,22.0s,baz=179,slow=31						
	comp=Z,2.6nm,0.8s						
LBTB	Lobatse	40.51	261	P	P	02 53 23.3	+0.3
LBTB				IAmb	IAmb	02 53 37.8	
	comp=Z,20nm,1.4s						
KMBO	Kilima Mbogo	40.60	302	P	P	02 53 25.1	+1.2
	comp=Z,2.8nm,0.8s,baz=79,slow=6.9,SNR=8.6						
	comp=Z,2.8nm,0.8s						
KMBO	Kilima Mbogo	40.60	302	P	P	02 53 23.8	-0.2
LSZ	Lusaka	40.99	277	P	P	02 53 27.2	+0.2
	comp=Z,3.1nm,0.5s,baz=108,slow=19,SNR=6.4						
LSZ				LR	LR	03 07 29.6	
	comp=Z,97nm,20.8s,baz=133,slow=32						
	comp=Z,3.1nm,0.5s						
MAW	Mawson	41.81	184	P	P	02 53 33.8	+0.9
	comp=Z,3.0nm,0.8s,baz=343,slow=14,SNR=3.2						
MAW				LR	LR	03 07 28.1	
	comp=Z,287nm,18.7s,baz=358,slow=31						
	comp=Z,3.0nm,0.8s						
SUR	Sutherland	43.63	250	LR	LR	03 08 29.8	
	comp=Z,266nm,20.1s,baz=124,slow=31						
ATD	Arta Tunnel	46.15	321	LR	LR	03 11 08.0	
	comp=Z,44nm,18.8s,baz=60,slow=33						
TSUM	Tsumeb	49.18	267	LR	LR	03 12 49.6	
	comp=Z,37nm,18.0s,baz=126,slow=33						
WSAR	Wadi Sarin	50.39	346	LR	LR	03 12 51.4	
	comp=Z,87nm,18.4s,baz=164,slow=32						
KAPI	Kappang	51.35	75	LR	LR	03 16 17.6	
	comp=Z,32nm,18.0s,baz=242,slow=36						
CM31	Chiang Mai Arr	52.12	35	P	P	02 54 55.1	+1.1
CMAR	Chiang Mai Arr	52.12	35	P	P	02 54 54.7	+0.7
	comp=Z,0.8nm,0.3s,baz=223,slow=7.0,SNR=13						
CMAR				LR	LR	03 13 13.6	
	comp=Z,80nm,22.0s,baz=220,slow=32						
	comp=Z,0.8nm,0.3s						
CMAR	Chiang Mai Arr	52.12	35	P	P	02 54 54.3	+0.3
CHTO	Chiang Mai	52.41	35	P	P	02 54 57.3	+1.1
CHTO				IAmb	IAmb	02 55 04.1	
	comp=Z,6.5nm,1.1s						
BRDH	Bariadhala	52.56	25	LR	LR	03 13 44.4	
	comp=Z,155nm,21.4s,baz=258,slow=32						
SHL	Shillong	55.29	23	P	P	02 55 17.4	0.0
ASAR	Alice Springs	56.93	102	P	P	02 55 29.4	+0.2
	comp=Z,2.3nm,0.8s,baz=255,slow=6.4,SNR=21						
	comp=Z,2.3nm,0.8s						
WRA	Warramunga Arr	58.45	98	P	P	02 55 40.1	+0.3
	comp=Z,2.5nm,0.9s,baz=254,slow=7.0,SNR=13						
WRA				LR	LR	03 18 11.2	
	comp=Z,56nm,18.6s,baz=249,slow=33						
	comp=Z,2.5nm,0.9s						
TROLL	Troll, Antarti	58.68	200	P	P	02 55 41.5	+0.6
LSA	Lhasa	58.84	21	P	P	02 55 43.4	+0.6
SNAA	Sanae	60.29	200	P	P	02 55 51.7	-0.1
SNAA	Sanae	60.29	200	P	P	02 55 51.3	-0.5
	comp=Z,2.0nm,0.7s,baz=100,slow=11,SNR=17						
SNAA				LR	LR	03 16 59.6	
	comp=Z,39nm,19.8s,baz=6.0,slow=31						
	comp=Z,2.0nm,0.7s						
SNAA	Sanae	60.29	200	P	P	02 55 51.1	-0.8
SNAA				IAmb	IAmb	02 56 11.0	
	comp=Z,4.1nm,1.1s						
KBL	Kabul	60.31	358	P	P	02 55 52.5	-0.1
KBL				IAmb	IAmb	02 56 21.6	
	comp=Z,2.8nm,0.6s						
VNA2	Neumayer--Watz	61.69	201	P	P	02 56 01.4	0.0
	baz=64,slow=5.4						
VNA1	Neumayer--Stat	61.97	202	P	P	02 56 03.8	+0.6
VNA3	Neumayer Olymp	62.44	201	P	P	02 56 06.4	0.0
QSPA	South Pole Qui	64.05	180	P	P	02 56 16.7	-0.6
	comp=Z,1.3nm,0.3s,baz=290,slow=6.1,SNR=8.9						
QSPA				LR	LR	03 20 10.3	
	comp=Z,54nm,21.7s,baz=296,slow=32						
	comp=Z,1.3nm,0.3s						
QSPA	South Pole Qui	64.05	180	P	P	02 56 17.1	-0.2
QSPA				IAmb	IAmb	02 56 21.5	
	comp=Z,6.7nm,1.1s						
GEYT	Alibeck	64.75	349	LR	LR	03 20 57.7	
	comp=Z,64nm,20.1s,baz=168,slow=33						
VNDA	Vanda	65.00	166	P	P	02 56 23.2	+0.1
	comp=Z,2.5nm,0.8s,baz=276,slow=7.9,SNR=20						
VNDA				LR	LR	03 22 02.5	
	comp=Z,113nm,18.3s,baz=237,slow=34						
	comp=Z,2.5nm,0.8s						
VNDA	Vanda	65.00	166	P	P	02 56 22.6	-0.5
VNDA				IAmb	IAmb	02 56 25.0	
	comp=Z,4.1nm,0.9s						
EIL	Elat	65.15	326	LR	LR	03 20 31.9	
	comp=Z,36nm,20.2s,baz=260,slow=32						
BELA	Belgrano 2	67.83	193	P	P	02 56 41.0	-0.3
AAK	Ala-Archa	68.47	3	LR	LR	03 24 44.3	
	comp=Z,87nm,18.7s,baz=186,slow=34						
KK31	Karatay Array	68.84	360	P	P	02 56 47.3	-0.6
KK31				IAmb	IAmb	02 56 48.7	
	comp=Z,3.8nm,1.3s						
KKAR	Karatay Array	68.84	360	P	P	02 56 47.9	0.0
CTA	Charters Tower	68.93	103	LR	LR	03 24 14.9	
	comp=Z,38nm,18.9s,baz=261,slow=34						
GURO	Guroymak-BITLI	69.66	336	P	P	02 56 53.9	+0.6
GNI	Garni	70.17	339	LR	LR	03 25 31.7	
	comp=Z,104nm,18.8s,baz=132,slow=34						
MK31	Makanchi Array	73.29	8	P	P	02 57 14.3	-0.5
MKAR	Makanchi Array	73.29	8	P	P	02 57 14.1	-0.7
	comp=Z,1.4nm,0.7s,baz=195,slow=5.9,SNR=11						
MKAR				LR	LR	03 28 45.3	
	comp=Z,66nm,18.8s,baz=224,slow=35						
	comp=Z,1.4nm,0.7s						
MKAR	Makanchi Array	73.29	8	P	P	02 57 14.3	-0.5
PMG	Port Moresby	73.86	93	LR	LR	03 29 43.2	
	comp=Z,33nm,18.0s,baz=68,slow=36						
KBZ	Khabaz	73.99	339	LR	LR	03 28 17.5	
	comp=Z,58nm,18.6s,baz=160,slow=34						
BRTR	Keskin Array B	74.01	331	P	P	02 57 18.8	-0.5
	comp=Z,0.9nm,0.7s,baz=164,slow=5.8,SNR=4.0						
BRTR				LR	LR	03 29 03.0	
	comp=Z,41nm,18.3s,baz=136,slow=35						
	comp=Z,0.9nm,0.7s						
ABKAR	Akbulak array	75.60	353	P	P	02 57 27.7	-0.5
BVAR	Borovoye Array	78.77	360	LR	LR	03 30 32.5	
	comp=Z,100nm,20.5s,baz=178,slow=34						
SONM	Songino Array	80.29	24	P	P	02 57 54.7	+0.3
	comp=Z,2.4nm,0.9s,baz=218,slow=4.1,SNR=13						
	comp=Z,2.4nm,0.9s						
SONM	Songino Array	80.29	24	P	P	02 57 54.6	+0.1
SONM				IAmb	IAmb	02 57 56.1	
	comp=Z,6.5nm,1.2s						
KRVT	Keravat (AS076	80.38	90	LR	LR	03 33 26.0	
	comp=Z,38nm,19.2s,baz=247,slow=36						
ULN	Ulaanbaatar	80.55	24	P	P	02 57 55.7	-0.2
ULN				IAmb	IAmb	02 57 59.0	
	comp=Z,12nm,1.4s						
ZALV	Zalesovo Beam	80.63	8	P	P	02 57 55.4	-0.6
	comp=Z,1.5nm,0.7s,baz=189,slow=2.8,SNR=6.7						
ZALV				LR	LR	03 31 44.5	
	comp=Z,27nm,19.5s,baz=358,slow=34						
	comp=Z,1.5nm,0.7s						
ZALV	Zalesovo Beam	80.63	8	P	P	02 57 55.3	-0.7
BELG	Belogornoye	80.70	346	LR	LR	03 32 55.9	
	comp=Z,46nm,18.9s,baz=304,slow=35						
ARU	Arti	82.82	353	LR	LR	03 34 23.7	
	comp=Z,49nm,18.3s,baz=152,slow=35						
PMSA	Palmer Station	82.88	198	LR	LR	03 27 44.7	
	comp=Z,55nm,21.9s,baz=180,slow=30						
KSRS	Korea Array	82.98	42	LR	LR	03 33 07.2	
	comp=Z,60nm,20.3s,baz=230,slow=34						
KIRV	Kirov	86.18	349	LR	LR	03 34 09.5	
	comp=Z,12nm,22.0s,baz=137,slow=34						
MJAR	Matsushiro Arr	89.01	48	LR	LR	03 38 48.2	
	comp=Z,26nm,18.6s,baz=195,slow=36						
USRK	Ussuriysk Ar.	89.63	39	LR	LR	03 39 34.5	
	comp=Z,47nm,18.0s,baz=36,slow=36						
BBTS	Babate	93.85	284	LR	LR	03 39 42.5	
	comp=Z,48nm,18.1s,baz=104,slow=34						
FINES	FINESS Array B	94.34	340	LR	LR	03 40 15.2	
	comp=Z,53nm,18.4s,baz=122,slow=35						
ASAJ	Asahikawa	95.89	44	LR	LR	03 40 21.8	
	comp=Z,33nm,19.8s,baz=182,slow=34						
PDAR	Pinedale Array	163.35	1	PKPab	PKPab	03 06 35.7	-1.6
	comp=Z,0.3nm,0.8s,baz=20,slow=2.9,SNR=2.8						

IDC 11 02:50:39.6±1.6**, 27°.15N**×**99°.03E, h0**^{km}**, mb3.2**/5**, mbtmp3.3**/5**, MS3.4**/1**, Error ellipse: s-maj=84.8km s-min=22.9km az=66.0, Yunnan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	21.44	14	P	P	02 55 29.0	-0.4
	0.4nm,0.6s,baz=201,slow=7.7,SNR=3.6						
	0.4nm,0.6s						
MKAR	Makanchi Array	23.64	330	P	P	02 55 52.4	-0.1
	0.3nm,0.6s,baz=141,slow=9.3,SNR=3.2						
	0.3nm,0.6s						
JOW	Kunigami	26.04	84	LR	LR	03 07 46.5	
	comp=Z,90nm,20.2s,baz=303,slow=39						
ZALV	Zalesovo Beam	28.75	342	P	P	02 56 39.1	+0.3
	0.4nm,0.4s,baz=148,slow=8.4,SNR=2.0						
	0.4nm,0.4s						
WRA	Warramunga Arr	57.99	140	P	P	03 00 34.7	+0.4
	0.2nm,0.6s,baz=326,slow=7.4,SNR=5.0						
	0.2nm,0.6s						
ASAR	Alice Springs	60.72	143	P	P	03 00 52.6	-0.6
	0.2nm,0.5s,baz=325,slow=7.9,SNR=2.2						
	0.2nm,0.5s						

*IDC **11** 02:56:05.5±2.9, 15°.32S×173°.48W, h0^{km}, mb3.9/5, mbtmp3.9/6, ML3.9/1, MS3.6/16, Error ellipse: s-maj=173.4km s-min=20.6km az=149.0*

ISC 11 02:56:10.7±2.9**, 15°.3S**±1°.0×**173°.4W**±0°.6**, h42**^{km}**, n27, σ2^s.41**/7**, mb3.8**/5**, MS3.8**/14**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.06	48	Pn	Pn	02 56 41.0	-2.0
	36nm,0.3s,baz=46,slow=14,SNR=10						
AFI				Sn	Sn	02 56 60.0	-7.5
	72nm,0.3s,baz=20,slow=23,SNR=18						
AFI				LR	LR	02 57 19.7	
	comp=Z,332nm,20.0s,baz=296,slow=34						
	80nm,0.3s						
MSVF	Nonsavu	8.59	252	LR	LR	03 00 46.9	
	comp=Z,271nm,19.8s,baz=60,slow=33						
DZM	Mont Dzumac	20.27	248	LR	LR	03 06 20.9	
	comp=Z,35nm,20.0s,baz=46,slow=30						
RPZ	Rata Peaks	31.29	202	LR	LR	03 13 31.0	
	comp=Z,118nm,20.2s,baz=36,slow=34						
H11S2	WAKE ISLAND Hy	38.90	329	T	T	03 44 04.7	
	baz=149,slow=76,SNR=7.1						
H11S3	WAKE ISLAND Hy	38.91	329	T	T	03 44 08.2	
	baz=149,slow=76,SNR=7.9						
H11S1	WAKE ISLAND Hy	38.91	329	T	T	03 44 05.5	
	baz=149,slow=76,SNR=7.5						
H11N3	WAKE ISLAND Hy	39.84	330	T	T	03 45 24.8	
	baz=150,slow=76,SNR=4.1						
H11N1	WAKE ISLAND Hy	39.85	330	T	T	03 45 28.2	
	baz=150,slow=76,SNR=5.1						
H11N2	WAKE ISLAND Hy	39.86	330	T	T	03 45 26.5	
	baz=150,slow=76,SNR=4.8						
STKA	Stephens Creek	44.12	240	LR	LR	03 20 32.8	
	comp=Z,66nm,20.0s,baz=194,slow=33						
WRA	Warramunga Arr	49.91	257	P	P	03 04 59.4	-1.2
	0.9nm,0.8s,baz=87,slow=7.2,SNR=15						
	0.9nm,0.8s						
ASAR	Alice Springs	50.18	252	P	P	03 05 02.7	0.0
	6.4nm,0.5s,baz=86,slow=7.9,SNR=98						
ASAR				LR	LR	03 24 50.2	
	comp=Z,39nm,18.3s,baz=156,slow=34						
	6.4nm,0.5s						
YBH	Yreka Blue Hor	73.49	37	LR	LR	03 32 13.6	
	comp=Z,81nm,19.4s,baz=276,slow=30						
NVAR	Mina Array Bea	74.23	42	P	P	03 07 46.7	+3.0
	0.4nm,0.8s,baz=241,slow=6.9,SNR=4.4						
	0.4nm,0.8s						
ELK	Elko	77.48	41	LR	LR	03 33 41.7	
	comp=Z,51nm,20.4s,baz=288,slow=29						
TXAR	Lajitas Array	80.52	56	LR	LR	03 37 33.2	
	comp=Z,40nm,18.9s,baz=229,slow=31						
ANMO	Albuquerque	80.71	50	LR	LR	03 36 40.0	
	comp=Z,66nm,19.9s,baz=235,slow=30						
DLBC	Dease Lake	81.59	21	LR	LR	03 37 23.5	
	comp=Z,27nm,19.6s,baz=292,slow=30						
PDAR	Pinedale Array	82.16	42	P	P	03 08 28.7	+1.1
	0.8nm,1.0s,baz=235,slow=3.2,SNR=3.7						
	0.8nm,1.0s						
ILAR	Eielson Array	82.34	11	P	P	03 08 29.2	+1.5
	0.9nm,1.0s,baz=187,slow=6.4,SNR=3.1						
	0.9nm,1.0s						
YAK	Yakutsk	89.04	337	LR	LR	03 44 16.5	
	comp=Z,46nm,19.7s,baz=268,slow=32						
ULM	Lac du Bonnet	93.83	39	LR	LR	03 43 51.6	
	comp=Z,73nm,20.2s,baz=288,slow=30						
TIXI	Tiksi	94.92	344	LR	LR	03 47 22.7	
	comp=Z,46nm,21.9s,baz=308,slow=32						
TKL	Tuckaleechee C	98.42	55	LR	LR	03 49 41.9	
	comp=Z,50nm,18.9s,baz=324,slow=33						
LPAZ	La Paz	99.81	110	LR	LR	03 48 30.4	
	comp=Z,18nm,19.2s,baz=120,slow=32						
BRTR	Keskin Array B	146.10	321	PKPbc	PKiKP	03 15 47.7	-2.4
	2.1nm,0.8s,baz=68,slow=4.2,SNR=8.8						

*SJA **11** 03:16:48.2±0.8, 30°.05S×72°.35W, h11^{km}±3^{km}, ML4.1, MW4.0*

*GUC **11** 03:16:54.8±0.7, 30°.20S×71°.95W, h33^{km}±3^{km}, ML4.0*

*NEIC **11** 03:16:54.2±2.1, 30°.12S±0°.05×72°.12W±0°.08, h31^{km}±4^{km}, mb4.0/4, ML4.0(GUC), Error ellipse: s-maj=9.9km s-min=6.5km az=77.0*

ISC 11 03:16:51.7±1.4**, 30°.07S**±0°.02×**72°.12W**±0°.05**, h14**^{km}±9^{km}**, n70, σ1^s.77**/117**, 3C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.73	145		Pb	03 17 06.4	+0.1
CO06	Fray Jorge	0.73	145	eP	Pb	03 17 06.2	-0.1
CO06				eS	Sg	03 17 15.4	-0.3
CO06				IAML		03 17 18.0	
	comp=E,12μm,0.4s						
CO05	La Serena	0.78	79		Pn	03 17 08.1	-0.2
CO05	La Serena	0.78	79⇓	eP	Pn	03 17 08.1	-0.2
CO05				eS	Sn	03 17 18.7	-1.1
CO05				IAML		03 17 23.2	
	comp=E,12μm,0.3s						
GO04	Tololo Observa	1.15	95		Pg	03 17 14.0	+0.1
GO04	Tololo Observa	1.15	95⇓	eP	Pg	03 17 13.9	+0.1
GO04				eS	Sb	03 17 27.0	-1.4
GO04				IAML		03 17 41.0	
	comp=N,15μm,0.7s						
GO04	Tololo Observa	1.15	95	eP	Pb	03 17 11.2	-2.3
GO04				eP	Pg	03 17 14.1	+0.2
GO04				eS	Sn	03 17 31.7	+2.4
CO03	El Pedregal	1.45	122		Pb	03 17 18.3	-0.4
CO03	El Pedregal	1.45	122⇓	eP	Pb	03 17 18.2	-0.4
CO03				eS	Sn	03 17 35.8	-0.9
CO03				IAML		03 17 39.8	
	comp=N,4μm,0.6s						
CO02	Combarbal	1.48	140		Pb	03 17 19.1	-0.2
CO02	Combarbal	1.48	140	eP	Pb	03 17 19.0	-0.2
CO02				eS	Sn	03 17 36.4	-1.1
CO02				IAML		03 17 46.0	
	comp=N,9μm,0.6s						
CO02	Combarbal	1.48	140	eP	Pb	03 17 18.9	-0.3
CO02				eS	Sg	03 17 41.5	+1.9
CO02				IAML		03 17 42.1	
	comp=Z,3μm,0.5s						
LCO	Las Campanas	1.62	50		Pb	03 17 21.2	-0.5
LCO	Las Campanas	1.62	50	eP	Pb	03 17 21.1	-0.7
LCO				eS	Sg	03 17 43.2	-1.0
LCO	Las Campanas	1.62	50	eP	Pb	03 17 21.0	-0.7
CO01	Juntas del Tor	1.76	87	Pn	Pb	03 17 23.6	-0.4
CO01	Juntas del Tor	1.76	87⇑	eP	Pb	03 17 24.0	0.0
CO01				eS	Sg	03 17 46.7	-1.7
CO01				IAML		03 17 51.7	
	comp=N,2μm,0.5s						
CO01	Juntas del Tor	1.76	87	eP	Pb	03 17 24.0	0.0
CO01				eS	Sg	03 17 48.8	+0.4
CO01				IAML		03 17 51.1	
	comp=Z,926nm,0.4s						
AC05	El Transito	2.02	53		Pb	03 17 27.3	-1.1
AC05	El Transito	2.02	53⇑	eP	Pb	03 17 27.3	-1.1
AC05				eS	Sb	03 17 53.9	+0.4
AC05				IAML		03 18 01.4	
	comp=N,1μm,0.7s						
AC05	El Transito	2.02	53	eP	Pb	03 17 27.0	-1.4
AC05				eS	Sb	03 17 54.7	+1.2
AC05				IAML		03 17 59.9	
	comp=Z,1μm,1.2s						
AC04	Llanos de Chal	2.07	26	Pn	Pn	03 17 26.6	+0.4
AC04	Llanos de Chal	2.07	26⇑	eP	Pn	03 17 26.4	+0.3
AC04				i S	Sn	03 17 51.4	-0.4
AC04	Llanos de Chal	2.07	26	eP	Pn	03 17 26.0	-0.1
AC04				eS	Sg	03 18 04.7	+6.3
AC04				IAML		03 18 14.5	
	comp=Z,594nm,0.7s						
AROD	Rodeo	2.29	93	eP	Pb	03 17 33.0	-0.1
AROD				eS	Sg	03 18 05.7	+0.2
VA06	Catapilco	2.58	164	Pn	Pn	03 17 33.1	0.0
VA06	Catapilco	2.58	164	eP	Pn	03 17 33.3	+0.2
VA06				eS	Sn	03 18 03.5	-0.8
VA06				IAML		03 18 24.0	
	comp=E,2μm,0.5s						
ACDV	Cuesta del Vie	2.60	93	eP	Pn	03 17 34.7	+1.2
ACDV				eP	Pb	03 17 39.0	+0.7
ACDV				eS	Sb	03 18 11.2	+1.1
ACDV				IAML		03 18 17.3	
	comp=Z,579nm,0.5s						
ACCO	Cerro Coronel	2.69	102	eP	Pb	03 17 39.0	-0.9
ACCO				eS	Sb	03 18 12.7	-0.2
GO03	Copiap	2.97	34		Pn	03 17 39.6	+1.1
GO03	Copiap	2.97	34	eP	Pn	03 17 39.6	+1.1
GO03				eS	Sb	03 18 17.7	-3.0
VA01	Torpederas	2.97	172	Pn	Pn	03 17 37.7	-0.8
RTLS	Leoncito	2.97	126	eP	Pb	03 17 43.0	-1.7
RTLS				eP	Pn	03 17 43.1	+4.3
RTLS				eS	Sb	03 18 18.7	-2.3
RTLS				IAML		03 18 37.7	
	comp=Z,482nm,1.1s						
VA03	San Esteban	3.00	154		Pn	03 17 40.4	+1.3
VA03	San Esteban	3.00	154	eP	Pn	03 17 40.6	+1.6
VA03				eS	Sn	03 18 16.0	+1.1
VA03				IAML		03 18 30.8	
	comp=E,1μm,0.4s						
VA03	San Esteban	3.00	154	eP	Pn	03 17 40.7	+1.7
VA03				eS	Sb	03 18 19.2	-2.4
VA03				IAML		03 18 31.5	
	comp=Z,536nm,0.5s						
ROCH	El Roble	3.04	162	eP	Pn	03 17 40.3	+0.6
ROCH				eS	Sn	03 18 15.6	-0.5
ROCH				IAML		03 18 37.5	
	comp=E,645nm,0.5s						
ROC1	El Roble	3.04	162		Pn	03 17 40.2	+0.5
ROC1	El Roble	3.04	162	eP	Pn	03 17 40.2	+0.5
ROC1				eS	Sn	03 18 16.7	+0.5
AC06	Mina Casimiro	3.12	30	Pn	Pn	03 17 41.7	+1.1
MT02	Curacav	3.29	166		Pn	03 17 43.6	+0.7
MT02	Curacav	3.29	166	eP	Pn	03 17 40.2	-2.6
MT02				eP	Pn	03 17 43.0	+0.1
MT02				eP	Pn	03 17 43.1	+0.3
MT02				eS	Sn	03 18 24.7	+2.9
MT02				IAML		03 18 42.7	
	comp=Z,251nm,0.6s						
PEL	Peldehue	3.30	159	eP	Pn	03 17 44.5	+1.5
PEL				eS	Sg	03 18 38.2	+0.5
RTLL	Cerro Villicun	3.38	113	eP	Pb	03 17 48.0	-3.5
RTLL				eS	Sb	03 18 31.3	-1.2
MT05	Renca	3.51	161	Pn	Pn	03 17 46.2	+0.2
MT05	Renca	3.51	161	eP	Pn	03 17 47.4	+1.4
MT05				eP	Pn	03 17 48.0	+2.0
MT05				eS	Sn	03 18 30.2	+2.8
MT05				IAML		03 18 45.1	
	comp=Z,604nm,1.1s						
MT03	Universidad Ad	3.68	159		Pn	03 17 48.3	0.0
MT03	Universidad Ad	3.68	159	eP	Pn	03 17 50.0	+1.7
MT03				eS	Sn	03 18 33.1	+1.6
MT03				IAML		03 18 54.1	
	comp=Z,521nm,1.0s						
MT01	Popeta	3.85	169	eP	Pn	03 17 51.0	+0.3
MT01				eS	Sn	03 18 36.0	+0.2
MT01				IAML		03 19 08.0	
	comp=Z,192nm,0.6s						
AVFE	Valle Fertil	4.07	99	eP	Pn	03 17 57.0	+3.3
AVFE				eS	Sb	03 18 53.2	+0.8
AVFE				eS	Sb	03 18 54.7	+2.3
AVFE				IAML		03 19 00.4	
	comp=Z,243nm,1.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LMEL	**Las Melosas**	**4.10**	**157**		**Pn**	**03 17 53.3**	**-0.9**
AC01	**Pan de Azucar**	**4.13**	**19**	*e*P	**Pn**	**03 17 54.0**	**-0.5**
AC01				*e*S	**Sg**	**03 19 01.2**	**-3.2**
AC01				IAML		03 19 12.1	
	comp=Z,123nm,1.1s						
AC02	**Maricunga**	**4.16**	**40**	Pn	**Pn**	**03 17 56.9**	**+1.6**
AC02	**Maricunga**	**4.16**	**40**	*e*P	**Pn**	**03 17 57.0**	**+1.6**
AC02				*e*S	**Sb**	**03 18 57.2**	**+1.8**
AC02				IAML		03 19 15.3	
	comp=Z,230nm,0.9s						
BO01	**Tunca**	**4.40**	**169**	*e*P	**Pn**	**03 17 58.7**	**+0.6**
BO01				*e*S	**Sb**	**03 19 02.2**	**+0.5**
BO01				IAML		03 19 17.6	
	comp=Z,114nm,1.1s						
ACLC	**CERRO LA CRUZ**	**4.54**	**83**	*e*P	**Pn**	**03 18 03.5**	**+3.2**
ACLC				*e*S	**Sb**	**03 19 00.2**	**-5.7**
ACLC				IAML		03 19 22.2	
	comp=Z,289nm,0.9s						
BO02	**Sierra Bellavi**	**4.84**	**167**	*e*P	**Pn**	**03 18 05.0**	**+0.7**
BO02				*e*P	**Pn**	**03 18 05.2**	**+0.9**
BO02				*e*S	**Sn**	**03 19 03.0**	**+2.8**
BO02				IAML		03 19 32.5	
	comp=Z,129nm,0.7s						
APLL	**PUNTA DE LOS L**	**4.85**	**95**	*e*P	**Pn**	**03 18 02.2**	**-2.2**
APLL				*e*P	**Pn**	**03 18 07.5**	**+3.1**
APLL				*e*S	**Sb**	**03 19 11.2**	**-3.5**
GO05	**Huala**	**4.93**	**178**	*e*P	**Pn**	**03 18 05.0**	**-0.4**
GO05				*e*S	**Sn**	**03 18 57.8**	**-4.5**
PB14	**IPOC Station P**	**5.63**	**16**		**Pn**	**03 18 15.8**	**+0.4**
ML02	**Panimavida**	**5.71**	**174**		**Pn**	**03 18 13.2**	**-2.9**
PB08	**IPOC Station P**	**10.24**	**16**		**Pn**	**03 19 20.8**	**+2.0**
PTLB	**Pontes e Lacer**	**18.82**	**42**	P	**P**	**03 21 10.4**	**-0.8**
PTLB				IAmb	IAmb	03 21 21.4	
	comp=Z,5.2nm,1.0s						
VILB	**Vilhena**	**20.30**	**35**	P	**P**	**03 21 27.1**	**-0.3**
VILB				IAmb	IAmb	03 21 40.5	
	comp=Z,6.6nm,0.8s						
ETMB	**Extrema**	**20.89**	**17**	P	**P**	**03 21 34.4**	**+0.6**
ETMB				IAmb	IAmb	03 22 03.9	
	comp=Z,5.1nm,1.0s						
BDFB	**Brasilia**	**26.37**	**62**	P	**P**	**03 22 24.9**	**-3.0**
VNA3	**Neumayer Olymp**	**53.03**	**159**	P	**P**	**03 26 09.6**	**+1.7**
VNA2	**Neumayer--Watz**	**53.66**	**158**	P	**P**	**03 26 14.2**	**+1.6**
	baz=291,slow=8.3						
SNAA	**Sanae**	**55.25**	**159**	P	**P**	**03 26 25.7**	**+1.5**
TROLL	**Troll, Antarti**	**56.96**	**159**	P	**P**	**03 26 38.0**	**+1.5**

*TIF **11** 03:33:25.2, 42.°58N×43.°26E, h14km*
*MOS **11** 03:33:25.5±0.0, 42.°58N×43.°18E, h8km, MPVA3.2*
*DDA **11** 03:33:26.1±0.0, 42.°53N×42.°97E, h6km±1km, ML2.0*
ISC 11 03:33:25.4±1.0**, 42.°57N**±0.°02×**43.°20E**±0.°03**, h7**km±8km**,**
n32, σ**0.s47**/59**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONI	**Oni**	**0.19**	**85**	P	**Pg**	**03 33 29.4**	**+0.1**
ONI				S	**Sg**	**03 33 32.0**	**+0.1**
ONI	**Oni**	**0.19**	**85**	*e*Pg	**Pg**	**03 33 29.4**	**+0.1**
ONI				*e*Sg	**Sg**	**03 33 32.0**	**+0.1**
TKB	**Tkibuli**	**0.27**	**214**	P	**Pb**	**03 33 31.9**	**-0.6**
TKB				S	**Sb**	**03 33 37.0**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.43**	**41**	*e*Pg	**Pg**	**03 33 33.5**	**-0.4**
DIGR				*e*Sg	**Sg**	**03 33 39.9**	**+0.3**
ALIG	**Mtskhetisjvari**	**0.58**	**144**	P	**Pg**	**03 33 36.8**	**+0.2**
ALIG				S	**Sg**	**03 33 44.9**	**+0.8**
NEY	**Neytrino**	**0.76**	**333**	*e*Pg	**Pg**	**03 33 40.4**	**+0.3**
NEY				*e*Sg	**Sg**	**03 33 49.8**	**-0.1**
KORR	**Kora**	**0.82**	**51**	*e*Pg	**Pg**	**03 33 41.5**	**+0.3**
KORR				*e*Sg	**Sb**	**03 33 53.2**	**-0.1**
LSNR	**Lesken**	**0.84**	**33**	*e*Pg	**Pg**	**03 33 41.9**	**+0.3**
LSNR				*e*Sg	**Sb**	**03 33 54.0**	**0.0**
LACR	**Lac**	**0.85**	**72**	*e*Pg	**Pg**	**03 33 41.1**	**-0.7**
LACR				*e*Sg	**Sg**	**03 33 52.7**	**-0.2**
ABS	**Abastumani**	**0.86**	**199**	P	**Pb**	**03 33 42.7**	**-0.1**
ABS				S	**Sb**	**03 33 55.7**	**+1.1**
NCK	**Nalchik**	**0.97**	**18**	*e*Pg	**Pb**	**03 33 44.6**	**+0.1**
NCK				*e*Sg	**Sn**	**03 33 58.8**	**-0.6**
ARNR	**Ardon**	**1.00**	**52**	*e*Pg	**Pg**	**03 33 45.1**	**+0.4**
ARNR				*e*Sg	**Sn**	**03 34 00.3**	**0.0**
STDR	**Stavd-Durt**	**1.02**	**38**	*i* Pg	**Pn**	**03 33 46.0**	**-0.1**
STDR				*e*Sg	**Sn**	**03 34 01.8**	**+1.1**
PNSH	**Pansheti**	**1.05**	**86**	P	**Pg**	**03 33 45.0**	**-0.6**
PNSH				S	**Sg**	**03 33 58.3**	**-1.0**
KBZ	**Khabaz**	**1.18**	**349**	*e*Pg	**Pb**	**03 33 47.6**	**-0.3**
KBZ				*e*Sg	**Sb**	**03 34 03.3**	**-0.1**
AKH	**Akhalkalaki**	**1.18**	**169**	P	**Pg**	**03 33 48.3**	**+0.2**
AKH				S	**Sb**	**03 34 04.2**	**+0.5**
AKH	**Akhalkalaki**	**1.18**	**169**	*e*Pg	**Pg**	**03 33 48.2**	**+0.1**
AKH				*e*Sg	**Sb**	**03 34 04.3**	**+0.5**
SHA1	**Shidzhatmaz**	**1.23**	**342**	*e*Pg	**Pn**	**03 33 49.1**	**-0.1**
SHA1				*e*Sg	**Sn**	**03 34 06.2**	**0.0**
KBTC	**Kuba-Taba**	**1.25**	**7**	*e*Pg	**Pg**	**03 33 50.2**	**+0.7**
KBTC				*e*Sg	**Sn**	**03 34 07.2**	**+0.8**
KIV0	**Kislovodsk Arr**	**1.43**	**345**	*e*Pg	**Pb**	**03 33 52.2**	**-0.2**
KIV0				*e*Sg	**Sg**	**03 34 11.1**	**-0.2**
KIV	**Kislovodsk**	**1.43**	**345**	*e*Pg	**Pg**	**03 33 52.6**	**-0.2**
KIV				*e*Sg	**Sg**	**03 34 11.1**	**-0.4**
DMNI	**Dmanisi**	**1.45**	**149**	P	**Pn**	**03 33 52.3**	**+0.2**
DMNI				S	**Sb**	**03 34 11.7**	**+0.3**
SHTL	**Shatili**	**1.45**	**86**	P	**Pn**	**03 33 52.4**	**+0.3**
BEYR	**Belyy Ugol+**	**1.46**	**349**	*e*Pg	**Pb**	**03 33 52.9**	**-0.1**
BEYR				*e*Sg	**Sb**	**03 34 11.8**	**0.0**
BATM	**Batumi**	**1.48**	**230**	P	**Pb**	**03 33 53.4**	**+0.2**
BATM	**Batumi**	**1.48**	**230**	*e*Pg	**Pb**	**03 33 53.4**	**+0.2**
DBOC	**Borcka**	**1.68**	**223**	P	**Pb**	**03 33 56.1**	**-0.4**
DBOC				S	**Sn**	**03 34 15.8**	**-1.1**
DAGI	**Agillar**	**1.77**	**213**	P	**Pb**	**03 33 57.7**	**-0.6**
DAGI				S	**Sb**	**03 34 20.8**	**0.0**
DBAD	**Bademkaya**	**1.92**	**216**	P	**Pb**	**03 33 59.9**	**-0.8**
DBAD				S	**Sb**	**03 34 25.2**	**+0.4**
DBAD				*i* AML	AML	03 34 28.0	
	comp=E,17nm,0.4s						
DBAD				*i* AML	AML	03 34 29.0	
	comp=N,12nm,0.3s						
DGRG	**David-gareji**	**1.97**	**124**	P	**Pb**	**03 34 01.3**	**-0.3**
DGRG	**David-gareji**	**1.97**	**124**	*e*Pg	**Pb**	**03 34 01.3**	**-0.3**
DDEM	**Demirkent**	**2.00**	**213**	P	**Pb**	**03 34 01.4**	**-0.7**
DDEM				S	**Sb**	**03 34 27.9**	**+0.7**
DDEM				*i* AML	AML	03 34 31.0	
	comp=N,25nm,0.3s						

*GUC **11** 03:58:16.9±0.8, 23.°22S×71.°32W, h29km±4km, ML3.5*
*IDC **11** 03:58:28.4±3.3, 22.°91S×70.°48W, h108km±23km, mb3.5/1, mbtmp3.9/4, Error ellipse: s-maj=49.2km s-min=31.3km az=100.0*
ISC 11 03:58:12.0±2.2**, 23.°34S**±0.°04×**71.°29W**±0.°09**, h7**km±11km**,**
n27, σ**1.s49**/36**, 5C, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.70**	**105**⇑	*e*P	**Pn**	**03 58 30.2**	**+1.9**
PB10				*i* S	**Sn**	**03 58 40.4**	**+1.0**
PB10				IAML		03 58 43.4	
	comp=N,2µm,0.3s						
PB04	**IPOC Station P**	**1.45**	**47**	*e*P	**Pg**	**03 58 40.4**	**+0.6**
PB04				*i* S	**Sg**	**03 58 58.1**	**-0.6**
PB04				IAML		03 59 01.6	
	comp=N,868nm,0.4s						
PB15	**IPOC Station P**	**1.68**	**86**	*e*P	**Pg**	**03 58 45.0**	**+0.8**
PB15				*e*S	**Sg**	**03 59 07.5**	**+1.5**
PB06	**IPOC Station P**	**1.70**	**69**⇑	*e*P	**Pg**	**03 58 45.1**	**+0.4**
PB06				*e*S	**Sg**	**03 59 06.6**	**-0.2**
PB06				IAML		03 59 09.7	
	comp=N,510nm,0.2s						
PB03	**IPOC Station P**	**1.91**	**48**⇑	*e*P	**Pb**	**03 58 47.3**	**0.0**
PB03				*e*S	**Sb**	**03 59 10.7**	**-0.7**
PB03				IAML		03 59 12.8	
	comp=E,343nm,0.2s						
PB07	**IPOC Station P**	**2.06**	**39**⇑	*e*P	**Pb**	**03 58 49.0**	**-0.8**
PB07				*e*S	**Sn**	**03 59 13.8**	**+0.6**
PB07				IAML		03 59 15.6	
	comp=N,554nm,0.2s						
LVC	**Limon Verde**	**2.31**	**72**	P	**Pg**	**03 58 54.9**	**-1.4**
	comp=N,22nm,0.2s,baz=259,slow=12,SNR=189						
LVC				S	**Sg**	**03 59 24.8**	**-1.4**
	comp=N,119nm,0.4s,baz=165,slow=23,SNR=23						
LVC	**Limon Verde**	**2.31**	**72**	*e*P	**Pb**	**03 58 53.8**	**-0.4**
LVC				*e*S	**Sb**	**03 59 21.4**	**-1.7**
PB02	**IPOC Station P**	**2.39**	**33**	*e*P	**Pn**	**03 58 52.8**	**+1.2**
PB02				*e*S	**Sn**	**03 59 20.7**	**-0.4**
PB02				IAML		03 59 23.3	
	comp=N,456nm,0.2s						
GO02	**Mina Guanaco**	**2.39**	**140**⇑	*e*P	**Pb**	**03 58 53.9**	**-1.7**
GO02				*e*S	**Sb**	**03 59 23.8**	**-1.5**
GO02				IAML		03 59 27.0	
	comp=E,311nm,0.3s						
PB09	**IPOC Station P**	**2.44**	**51**	*e*P	**Pb**	**03 58 55.7**	**-0.5**
PB09				*e*S	**Sb**	**03 59 25.4**	**-1.1**
PB09				IAML		03 59 35.5	
	comp=E,165nm,0.6s						
PATCX	**Punta Patache**	**2.72**	**23**	*e*P	**Pn**	**03 58 56.8**	**+0.6**
PATCX				*e*S	**Sn**	**03 59 27.1**	**-2.1**
PATCX				IAML		03 59 33.3	
	comp=N,258nm,0.2s						
PB01	**IPOC Station P**	**2.83**	**37**	*e*P	**Pn**	**03 58 59.9**	**+2.3**
PB01				*e*S	**Sn**	**03 59 32.7**	**+0.6**
PB01				IAML		03 59 41.6	
	comp=E,280nm,0.4s						
TA01	**Diego Aracena**	**2.94**	**21**	*e*P	**Pn**	**03 58 59.6**	**+0.5**
TA01				*e*S	**Sn**	**03 59 32.9**	**-1.9**
TA01				IAML		03 59 38.8	
	comp=N,172nm,0.3s						
HMBC	**Humberstone**	**3.31**	**23**	*e*P	**Pn**	**03 59 06.2**	**+1.8**
HMBC				*e*S	**Sn**	**03 59 43.5**	**-0.6**
HMBC				IAML		03 59 51.3	
	comp=N,202nm,0.6s						
PB08	**IPOC Station P**	**3.75**	**32**	IAML		04 00 03.0	
	comp=E,143nm,0.1s						
PB11	**IPOC Station P**	**3.87**	**23**	*e*P	**Pn**	**03 59 13.6**	**+1.5**
PB11				*e*S	**Sn**	**03 59 57.0**	**-0.9**
PB11				IAML		04 00 03.1	
	comp=E,213nm,0.1s						
LPAZ	**La Paz**	**7.62**	**24**	P	**Pn**	**04 00 08.2**	**+4.2**
	comp=E,1.7nm,0.3s,baz=204,slow=6.9,SNR=17						
SIV	**San Ignacio**	**12.08**	**55**	P	**Pn**	**04 01 06.1**	**+1.4**
	comp=E,6.8nm,0.8s,baz=240,slow=12,SNR=39						
H03N1	**Juan Fernandez**	**12.09**	**212**	T	T	04 13 52.5	
	baz=40,slow=72,SNR=6.5						
H03N2	**Juan Fernandez**	**12.10**	**212**	T	T	04 13 52.6	
	baz=40,slow=72,SNR=9.7						
H03N3	**Juan Fernandez**	**12.11**	**212**	T	T	04 13 51.7	
	baz=40,slow=72,SNR=7.3						
PLCA	**Paso Flores**	**17.36**	**178**	P	P	04 02 28.3	+12
	comp=E,2.0nm,0.9s,baz=3.9,slow=14,SNR=3.3						
BDFB	**Brasilia**	**23.22**	**75**	P	**P**	**04 03 18.0**	**-1.9**
	comp=E,2.1nm,0.5s,baz=132,slow=13,SNR=6.4						
	comp=E,2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**144.07**	**33**	PKP	PKPbc	04 17 47.6	+1.5
	comp=E,0.2nm,0.3s,baz=292,slow=3.3,SNR=5.1						
ZALV	**Zalesovo Beam**	**144.54**	**24**	PKP	PKPbc	04 17 48.4	+0.9
	comp=E,0.8nm,0.6s,baz=308,slow=3.5,SNR=4.1						
MKAR	**Makanchi Array**	**148.41**	**36**	PKPbc	**PKPbc**	**04 18 00.2**	**+1.0**
	comp=E,1.2nm,0.7s,baz=318,slow=3.5,SNR=11						

IDC 11 04:02:27.1±1.5**, 54.°69N**×**34.°81W, h0**km**, mb3.3**/2**,**
mbtmp3.5/3**, ML2.6**/1**, Error ellipse: s-maj=129.0km**
s-min=27.6km az=19.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.40**	**284**	P	P	04 06 44.0	+0.5
	0.2nm,0.3s,baz=93,slow=17,SNR=1.9						
	2.6nm,0.7s						
ESDC	**Sonseca Array**	**25.52**	**113**	P	P	04 07 57.1	0.0
	1.0nm,0.8s,baz=318,slow=9.9,SNR=6.3						
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**48.45**	**288**	P	P	04 11 10.6	-0.6
	0.1nm,0.4s,baz=64,slow=6.1,SNR=2.2						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**147.89**	**20**	PKPbc	PKPbc	04 22 13.2	-0.6
	0.4nm,0.6s,baz=341,slow=1.8,SNR=4.8						

*REN **11** 04:22:59±2.6, 39.°73N±0.°04×115.°55W±0.°04, h10km±6km, ML2.4/10, ML2.5/102(NEIC), Error ellipse: s-maj=5.9km s-min=4.1km az=216.0*
NEIC 11 04:22:59.2±2.9**, 39.°70N**±0.°04×**115.°46W**±0.°03**, h8**km±6km**,**
Error ellipse: s-maj=5.5km s-min=3.5km az=200.0,
Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
Q12A	**Willow Creek R**	**0.82**	**143**		Pb	04 23 15.9	+0.1
Q12A					Sn	04 23 29.4	-0.2
ELK	**Elko**	**1.06**	**9**		Pg	04 23 19.6	+0.1
ELK				IAML		04 23 34.8	
	113nm,0.2s						
SPR3	**Spring Creek 3**	**1.12**	**128**		Pn	04 23 22.9	+1.5
SPR3				IAML		04 23 41.6	
	comp=E,66nm,0.9s						
SPR3				IAML		04 23 42.3	
	comp=N,51nm,0.5s						
R11A	**Troy Canyon, C**	**1.35**	**184**		Pg	04 23 25.3	+0.2
R11A	**Troy Canyon, C**	**1.35**	**184**		Sg	04 23 44.3	+1.6
R11A	**Troy Canyon, C**	**1.35**	**184**	IAML		04 23 49.8	
	comp=E,42nm,0.6s						
R11A				IAML		04 23 50.3	
	comp=N,33nm,0.4s						
BMN	**Battle Mountai**	**1.54**	**299**	Pn	Pn	04 23 26.4	-0.6
BMN				IAML		04 23 49.4	
	comp=N,80nm,0.8s						
BMN				IAML		04 23 49.5	
	comp=E,62nm,0.8s						
BMN	**Battle Mountai**	**1.54**	**299**		Sb	04 23 48.0	+0.4
Q09A	**Carvers**	**1.59**	**238**	Pn	Pb	04 23 28.9	0.0
PSUT	**Pine Spring**	**1.71**	**132**	Pn	Pb	04 23 30.5	-0.5
DUG	**Dugway, Tooele**	**2.10**	**76**	Pn	Pb	04 23 36.6	-0.9
DUG				IAML		04 24 07.8	
	comp=E,32nm,0.8s						
DUG				IAML		04 24 11.5	
	comp=E,40nm,0.7s						
TPH	**Tonopah**	**2.13**	**221**	Pn	Pb	04 23 37.4	-0.7
KVN	**Kaiserville**	**2.15**	**253**	Pn	Pn	04 23 36.8	+1.3
KVN				IAML		04 24 07.7	
	comp=N,40nm,0.7s						
KVN				IAML		04 24 18.0	
	comp=E,37nm,0.8s						
BGU	**Big Grassy Mou**	**2.23**	**56**	Pn	Pn	04 23 37.0	+0.5
PRN	**Pahroc Range**	**2.31**	**172**		Pn	04 23 39.3	+1.6
NV11	**Mina Array Sit**	**2.45**	**240**	Pn	Pn	04 23 37.0	-2.6
NVAR	**Mina Array Bea**	**2.55**	**241**	Pn	Pn	04 23 40.2	-0.8
NV09	**Mina Array Sit**	**2.57**	**241**		Pn	04 23 42.6	+1.4
NV08	**Mina Array Sit**	**2.57**	**241**		Pn	04 23 42.6	+1.3
RYN	**Ryan**	**2.61**	**247**	IAML		04 24 23.8	
	comp=E,34nm,0.6s						
RYN				IAML		04 24 24.6	
	comp=N,27nm,0.5s						
NLU	**North Lily Min**	**2.62**	**83**	Pn	Pn	04 23 41.8	-0.1
NLU				IAML		04 24 28.8	
	comp=E,16nm,0.6s						
CCUT	**Cedar City**	**2.70**	**142**	Pn	Pn	04 23 42.7	-0.4
CCUT				IAML		04 24 34.0	
	comp=N,15nm,2.4s						
LHV	**Little Huntoon**	**2.78**	**240**	Pn	Pn	04 23 41.7	-2.2
GMN	**Gold Mountain**	**2.78**	**211**	Pn	Pn	04 23 42.8	-1.4
GMN				IAML		04 24 31.6	
	comp=N,17nm,0.7s						
MVU	**Marysvale**	**2.80**	**114**	Pn	Pn	04 23 44.6	+0.2
SZCU	**Shurtz Canyon**	**2.81**	**138**	Pn	Pn	04 23 43.9	-0.7
SZCU				IAML		04 24 38.4	
	comp=E,19nm,0.8s						
SZCU				IAML		04 24 38.8	
	comp=N,16nm,0.3s						
MSU	**Marysvale**	**2.82**	**114**	Pn	Pn	04 23 43.6	-1.1
TPNV	**Topopah Spring**	**2.82**	**193**	Pn	Pn	04 23 45.4	+0.8
TPNV				IAML		04 24 35.4	
	comp=N,21nm,0.7s						
TPNV				IAML		04 24 37.3	
	comp=N,26nm,0.8s						
HVU	**Hansel Valley**	**2.91**	**44**	IAML		04 24 39.7	
	comp=N,27nm,0.5s						
MPU	**Maple Canyon**	**2.96**	**83**	Pn	Pn	04 23 45.5	-1.2
LCH	**Last Change Ra**	**3.00**	**216**	Pn	Pn	04 23 46.0	-1.2
LCH				IAML		04 24 44.1	
	comp=E,13nm,0.7s						
PAHR	**Pah Rah Range**	**3.03**	**271**	Pn	Pn	04 23 44.8	-2.7
WCT	**Wildcat Mounta**	**3.04**	**198**	Pn	Pn	04 23 46.9	-0.8
WCT				IAML		04 24 42.3	
	comp=E,11nm,4.4s						
MTPU	**Mount Pierson**	**3.05**	**122**	Pn	Pn	04 23 47.5	-0.4
MTPU				IAML		04 24 45.0	
	comp=N,11nm,4.6s						
MTPU				IAML		04 24 49.9	
	comp=E,11nm,3.3s						
GRAC	**Grapevine Rang**	**3.09**	**210**	Pn	Pn	04 23 46.7	-1.5
GRAC				IAML		04 24 14.2	
	comp=N,23nm,4.6s						
GRAC				IAML		04 24 46.5	
	comp=E,20nm,0.5s						
SHPR	**Sheep Range**	**3.20**	**176**	Pn	Pn	04 23 49.6	-0.2
LCMT	**Little Creek M**	**3.20**	**146**	Pn	Pn	04 23 49.8	-0.1
LCMT				IAML		04 24 52.0	
	comp=E,10nm,2.8s						
JLU	**Jordanelle**	**3.20**	**72**	Pn	Pn	04 23 49.5	-0.5
JLU				IAML		04 24 42.4	
	comp=N,13nm,1.3s						
PNTR	**Pine Nut**	**3.26**	**261**	Pn	Pn	04 23 48.9	-1.9
PNTR				IAML		04 24 48.2	
	comp=E,18nm,0.8s						
TMUT	**Trail Mountain**	**3.32**	**96**	IAML		04 24 47.8	
	comp=N,16nm,4.8s						
TMUT				IAML		04 24 48.8	
	comp=E,14nm,0.5s						
WAKR	**Walker**	**3.32**	**250**		Pn	04 23 49.8	-1.7
WAKR				IAML		04 24 46.4	
	comp=E,10nm,2.2s						
WAKR				IAML		04 24 47.2	
	comp=N,14nm,0.7s						
KNB	**Kanab**	**3.39**	**141**	Pn	Pn	04 23 52.4	-0.1
KNB				IAML		04 24 48.0	
	comp=E,10nm,1.9s						
KNB				IAML		04 25 01.7	
	comp=N,9.0nm,4.3s						
Q16A	**Castle Valley**	**3.42**	**102**	IAML		04 24 23.1	
	comp=E,7.9nm,4.8s						
Q16A				IAML		04 24 54.2	
	comp=N,7.4nm,4.3s						
WVOR	**Wild Horse Val**	**3.63**	**320**	Pn	Pn	04 23 55.1	-0.8
WVOR				IAML		04 25 11.8	
	comp=N,12nm,4.3s						
WVOR				IAML		04 25 19.7	
	comp=N,8.4nm,4.4s						
GWY	**Greenwater Val**	**3.64**	**196**	Pn	Pn	04 23 56.4	+0.5
GWY				IAML		04 25 02.8	
	comp=N,10nm,0.9s						
GWY				IAML		04 25 05.7	
	comp=E,13nm,3.7s						
MFID	**Camas Ranch**	**3.72**	**356**	Pn	Pn	04 23 57.0	-0.1
BEKR	**Beckworth**	**3.78**	**274**	Pn	Pn	04 23 57.8	-0.1
BEKR				IAML		04 25 02.0	
	comp=N,8.5nm,5.0s						
BEKR				IAML		04 25 04.2	
	comp=E,6.9nm,3.4s						
SRU	**San Rafael Swe**	**3.87**	**97**	IAML		04 25 12.2	
	comp=N,5.4nm,0.6s						
SRU				IAML		04 25 33.1	
	comp=E,6.7nm,4.5s						
HLID	**Hailey**	**3.94**	**11**		Pn	04 23 59.9	-0.1
HLID				IAML		04 24 34.4	
	comp=E,8.1nm,4.8s						
HLID				IAML		04 25 23.4	
	comp=E,6.9nm,3.4s						
V12A	**Nelson**	**4.00**	**173**	IAML		04 25 11.6	
	comp=N,6.5nm,3.4s						
V12A				IAML		04 25 18.8	
	comp=E,4.9nm,2.6s						
U15A	**North Rim**	**4.12**	**142**	Pn	Pn	04 24 03.7	+1.1
U15A				IAML		04 25 15.4	
	comp=E,8.0nm,1.2s						
J08A	**Circle Bar Ran**	**4.30**	**329**	Pn	Pn	04 24 01.9	-3.0

*RSNC **11** 04:31:34.0±1.0, 6.°80N×73.°16W, h147km±4km, ML3.3*
*IDC **11** 04:31:35.6±5.9, 6.°61N×73.°24W, h183km±39km, mb2.6/2, mbtmp3.2/3, Error ellipse: s-maj=105.0km s-min=39.3km az=77.0*
ISC 11 04:31:32.6±0.9**, 6.°82N**±0.°03×**73.°15W**±0.°04**, h154**km±6km**,**
n32, σ**1.s70**/61**, 2C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**187**⇓	*i*P	**Pn**	**04 31 53.9**	**0.0**
BARC				*e*S	**Sn**	**04 32 08.6**	**-1.4**
BARC				IAML		04 32 11.4	
	comp=Z,721nm,0.4s						
BRRC	**Barranca, Sant**	**0.62**	**297**⇑	*i*P	**Pn**	**04 31 55.7**	**+0.6**
BRRC				*e*S	**Sn**	**04 32 12.5**	**+0.2**
BRRC				IAML		04 32 16.6	
	comp=Z,271nm,0.4s						
PAMC	**Pamplona, Colo**	**0.68**	**41**⇑	*i*P	**Pn**	**04 31 56.7**	**+0.6**
PAMC				*e*S	**Sn**	**04 32 13.7**	**-0.3**
PAMC				IAML		04 32 15.6	
	comp=Z,239nm,0.6s						
PAMC				IAML		04 32 15.6	
	comp=Z,239nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e*P	**Pn**	**04 32 00.8**	**0.0**
PTBC				*e*S	**Sn**	**04 32 21.6**	**-0.7**
PTBC				IAML		04 32 27.8	
	comp=Z,148nm,0.3s						
PTBC				IAML		04 32 27.8	
	comp=Z,148nm,0.3s						
TAMC	**Tame, Arauca**	**1.41**	**106**⇓	*i*P	**Pn**	**04 32 02.3**	**+0.7**
TAMC				*e*S	**Sn**	**04 32 23.8**	**-0.1**
TAMC				IAML		04 32 33.5	
	comp=Z,115nm,1.1s						
TAMC				IAML		04 32 33.5	
	comp=Z,115nm,1.1s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P	**Pn**	**04 32 06.2**	**+0.2**
ZARC				*e*S	**Sn**	**04 32 31.8**	**+0.2**
ZARC				IAML		04 32 36.9	
	comp=Z,200nm,0.3s						
ZARC				IAML		04 32 36.9	
	comp=Z,200nm,0.3s						
NORC	**Norcasia**	**2.12**	**234**	*e*P	**Pn**	**04 32 09.8**	**+0.3**
NORC				*e*S	**Sn**	**04 32 37.6**	**-0.2**
NORC				IAML		04 32 43.7	
	comp=Z,110nm,0.4s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	**Pn**	**04 32 12.1**	**+0.6**
CHIC				*e*S	**Sn**	**04 32 41.5**	**+0.1**
CHIC				IAML		04 32 44.5	
	comp=Z,137nm,0.5s						
CHIC				IAML		04 32 44.5	
	comp=Z,137nm,0.5s						
ROSC	**El Rosal**	**2.29**	**211**	P	**Pn**	**04 32 13.7**	**+1.8**
	comp=Z,58nm,0.3s,baz=84,slow=17,SNR=48						
ROSC				S	**Sn**	**04 32 44.0**	**+2.1**
	comp=Z,308nm,0.4s,baz=132,slow=18,SNR=18						
ROSC	**El Rosal**	**2.29**	**211**	*e*P	**Pn**	**04 32 13.7**	**+1.8**
ROSC				*e*S	**Sn**	**04 32 42.6**	**+0.6**
ROSC				IAML		04 32 48.4	
	comp=Z,285nm,0.5s						
ROSC				IAML		04 32 48.4	
	comp=Z,285nm,0.5s						
ROSC				IAML		04 32 48.5	
	comp=Z,234nm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**292**	*e*P	**Pn**	**04 32 13.7**	**-0.8**
UREC				*e*S	**Sn**	**04 32 44.5**	**-2.1**
UREC				IAML		04 32 55.3	
	comp=Z,72nm,0.2s						
UREC				IAML		04 32 55.3	
	comp=Z,72nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.73**	**352**	*e*P	**Pn**	**04 32 19.0**	**+2.1**
LL1C				*e*P	**Sn**	**04 32 54.5**	**+3.4**
LL1C				IAML		04 33 02.4	
	comp=Z,398nm,0.7s						
LL1C				IAML		04 33 58.6	
	comp=Z,183nm,0.7s						
VILC	**Villavicencio,**	**2.75**	**191**	*e*P	**Pn**	**04 32 17.6**	**+0.5**
VILC				*e*S	**Sn**	**04 32 51.5**	**-0.1**
VILC				IAML		04 32 56.9	
	comp=Z,196nm,0.6s						
VILC				IAML		04 32 56.9	
	comp=Z,196nm,0.6s						
PTGC	**Puerto Gaitan,**	**2.80**	**159**⇓	*i*P	**Pn**	**04 32 17.0**	**-0.7**
PTGC				*e*S	**Sn**	**04 32 50.4**	**-2.1**
PTGC				IAML		04 32 52.9	
	comp=Z,56nm,0.4s						
PTGC				IAML		04 32 52.9	
	comp=Z,56nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*e*P	**Pn**	**04 32 21.6**	**+1.2**
CBOC				*e*S	**Sn**	**04 32 56.1**	**-1.0**
CBOC				IAML		04 33 06.3	
	comp=Z,31nm,0.5s						
CBOC				IAML		04 33 06.3	
	comp=Z,31nm,0.5s						
DBBC	**Dabeiba**	**3.04**	**274**	*e*P	**Pn**	**04 32 21.2**	**+0.4**
DBBC				*e*S	**Sn**	**04 32 56.7**	**-1.4**
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P	**Pn**	**04 32 24.1**	**+1.3**
ARGC				*e*S	**Sn**	**04 33 02.4**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARGC				IAML		04 33 11.6	
	comp=Z,28nm,0.6s						
ARGC				IAML		04 33 11.6	
	comp=Z,28nm,0.6s						
ANIL	**Santa Ana**	**3.22**	**224**	*e*P	**Pn**	**04 32 25.2**	**+1.9**
ANIL				*e*S	**Sn**	**04 33 04.3**	**+1.8**
ANIL				IAML		04 33 13.9	
	comp=Z,267nm,0.3s						
ANIL				IAML		04 33 13.9	
	comp=Z,267nm,0.3s						
PRAC	**Prado**	**3.54**	**209**	*e*P	**Pn**	**04 32 24.7**	**-2.4**
PRAC				*e*S	**Sn**	**04 33 05.9**	**-3.5**
PRAC				IAML		04 33 12.9	
	comp=Z,138nm,0.7s						
PRAC				IAML		04 33 12.9	
	comp=Z,138nm,0.7s						
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P	**Pn**	**04 32 28.0**	**+0.5**
ORTC				*e*S	**Sn**	**04 33 10.8**	**+0.8**
ORTC				IAML		04 33 14.9	
	comp=Z,68nm,0.5s						
ORTC				IAML		04 33 14.9	
	comp=Z,68nm,0.5s						
PLMC	**San Jos del P**	**3.65**	**239**	*e*P	**Pn**	**04 32 29.4**	**+0.9**
PLMC				*e*S	**Sn**	**04 33 13.6**	**+1.6**
PLMC				IAML		04 33 19.3	
	comp=Z,24nm,0.2s						
SJCC	**San Jacinto, C**	**3.65**	**327**	*e*P	**Pn**	**04 32 27.7**	**-1.0**
SJCC				*e*S	**Sn**	**04 33 08.8**	**-3.3**
SJCC				IAML		04 33 22.2	
	comp=Z,43nm,0.9s						
SJCC				IAML		04 33 22.2	
	comp=Z,43nm,0.9s						
LCBC	**Los crdobas,**	**3.77**	**303**	*e*P	**Pn**	**04 32 30.3**	**+0.3**
LCBC				*e*S	**Sn**	**04 33 12.8**	**-1.9**
LCBC				IAML		04 33 18.3	
	comp=Z,44nm,0.6s						
LCBC				IAML		04 33 18.3	
	comp=Z,44nm,0.6s						
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	*e*P	**Pn**	**04 32 34.2**	**-1.2**
CRJC				*e*S	**Sn**	**04 33 20.9**	**-3.5**
CRJC				IAML		04 33 29.0	
	comp=Z,60nm,0.4s						
CRJC				IAML		04 33 29.0	
	comp=Z,60nm,0.4s						
YOTC	**Yotoco, Valle**	**4.25**	**229**	*e*P	**Pn**	**04 32 36.5**	**+0.1**
YOTC				*e*S	**Sn**	**04 33 24.4**	**-1.7**
YOTC				IAML		04 33 38.3	
	comp=Z,8.1nm,1.4s						
YOTC				IAML		04 33 38.3	
	comp=Z,8.1nm,1.4s						
GUVC	**San Jose del G**	**4.28**	**173**	*e*P	**Pn**	**04 32 36.3**	**-0.4**
GUVC				*e*S	**Sn**	**04 33 25.0**	**-1.7**
GUVC				IAML		04 33 29.4	
	comp=Z,27nm,0.3s						
GUVC				IAML		04 33 29.4	
	comp=Z,27nm,0.3s						
URIC	**Uribia, Colomb**	**4.98**	**13**	*e*P	**Pn**	**04 32 44.2**	**-1.8**
URIC				*e*S	**Sn**	**04 33 39.7**	**-3.5**
URIC				IAML		04 33 45.0	
	comp=Z,12nm,0.6s						
URIC				IAML		04 33 45.0	
	comp=Z,12nm,0.6s						
GARC	**Garzon, Huila**	**5.16**	**207**	*e*P	**Pn**	**04 32 50.8**	**+2.2**
GARC				*e*S	**Sn**	**04 33 44.3**	**-3.5**
GARC				IAML		04 33 50.3	
	comp=Z,37nm,0.3s						
GARC				IAML		04 33 50.3	
	comp=Z,37nm,0.3s						
BBAC	**Balboa, Cauca**	**6.28**	**221**	*e*P	**Pn**	**04 33 05.2**	**+1.9**
BBAC				*e*S	**Sn**	**04 34 11.0**	**-3.3**
BBAC				IAML		04 34 18.6	
	comp=Z,3.5nm,1.3s						
BBAC				IAML		04 34 18.6	
	comp=Z,3.5nm,1.3s						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**04 38 23.6**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=131,slow=11,SNR=1.9						
	comp=Z,0.1nm,0.4s						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**04 39 57.8**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=124,slow=11,SNR=1.8						
	comp=Z,0.1nm,0.5s						
WRA	**Warramunga Arr**	**150.31**	**241**	PKPbc	**PKPbc**	**04 51 05.3**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=110,slow=2.4,SNR=4.8						

*IDC **11** 04:40:17.7±1.2, 41°.00N×22°.79E, h0km, mb3.3/6, mbtmp3.5/12, ML3.7/6, MS2.8/4, Error ellipse: s-maj=18.5km s-min=14.0km az=27.0*
*ISK **11** 04:40:17.7, 40°.97N×22°.76E, h9km, ML3.7/18*
*SKO **11** 04:40:17.3, 40°.92N×22°.75E, h10km*
*SOF **11** 04:40:17.8, 40°.98N×22°.74E, h10km, MD4.1*
*ATH **11** 04:40:18.6, 40°.97N×22°.76E, h5km±1km, ML3.5/14, Error ellipse: s-maj=1.6km s-min=0.7km az=354.0*
*PDG **11** 04:40:18.1±0.4, 40°.99N×22°.75E, h14km, ML3.5/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*THE **11** 04:40:18.4, 40°.97N×22°.76E, h7km, ML3.6/13, Error ellipse: s-maj=1.0km s-min=0.5km az=5.0*
*BEO **11** 04:40:19.2±0.4, 41°.05N×22°.77E, h12km±1km, ML3.5/14*
*DDA **11** 04:40:21.0±0.0, 40°.75N×22°.38E, h3km±49km, MW3.5*
*PRU **11** 04:40:31.8±0.0, 41°.16N×21°.21E, h0km*
ISC 11 04:40:18.4±0.8**, 40°.97N**±0°.01×**22°.76E**±0°.01**, h10**km±6km**, n237, σ1s.28**/314**, mb3.4**/4**, 38C-25D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.22**	**29**	PG	**Pg**	**04 40 22.7**	**-0.3**
KNT				SG	**Sg**	**04 40 25.9**	**-0.1**
KNT	**Kendrikon**	**0.22**	**29**	P	**Pg**	**04 40 22.6**	**-0.3**
KNT				S	**Sg**	**04 40 25.8**	**-0.2**
	39µm,0.2s						
KNT	**Kendrikon**	**0.22**	**29**	⇑*i*Pg	**Pg**	**04 40 22.7**	**-0.3**
KNT				*i* Sg	**Sg**	**04 40 26.0**	**-0.1**
KNT	**Kendrikon**	**0.22**	**29**	P	**Pg**	**04 40 22.6**	**-0.3**
KNT				S	**Sg**	**04 40 25.4**	**-0.6**
GRG	**Griva**	**0.27**	**267**	PG	**Pg**	**04 40 23.9**	**-0.1**
GRG				SG	**Sg**	**04 40 28.1**	**+0.4**
GRG	**Griva**	**0.27**	**267**	P	**Pg**	**04 40 23.9**	**-0.1**
GRG				S	**Sg**	**04 40 27.8**	**+0.1**
	34µm,0.3s						
GRG	**Griva**	**0.27**	**267**	⇓*i*Pg	**Pg**	**04 40 23.9**	**-0.1**
GRG				*i* Sg	**Sg**	**04 40 28.0**	**+0.3**
GRG	**Griva**	**0.27**	**267**	P	**Pg**	**04 40 23.8**	**-0.1**
GRG				S	**Sg**	**04 40 27.2**	**-0.5**
GRG				AML	AML	04 40 28.3	
	comp=N,56644µm,0.2s						
GRG				AML	AML	04 40 28.3	
	comp=E,83705µm,0.3s						
THE	**Thessaloniki**	**0.37**	**155**	P	**Pg**	**04 40 25.8**	**0.0**
THE				S	**Sg**	**04 40 30.3**	**-0.4**
THE	**Thessaloniki**	**0.37**	**155**	⇑*i*Pg	**Pg**	**04 40 25.9**	**0.0**
THE				*i* Sg	**Sg**	**04 40 30.9**	**+0.2**
THE	**Thessaloniki**	**0.37**	**155**	P	**Pg**	**04 40 25.7**	**-0.1**
THE				S	**Sg**	**04 40 30.5**	**-0.2**
THE				AML	AML	04 40 32.2	
	comp=E,6521µm,0.4s						
THE				AML	AML	04 40 33.5	
	comp=N,12596µm,0.4s						
VAY	**Valandovo**	**0.38**	**338**	*e*Pg	**Pg**	**04 40 25.9**	**0.0**
VAY				*e*Sg	**Sg**	**04 40 31.1**	**+0.2**
VAY	**Valandovo**	**0.38**	**338**	⇑*i*Pg	**Pg**	**04 40 26.0**	**0.0**
VAY				*i* Sg	**Sg**	**04 40 31.4**	**+0.5**
VAY				*e*Lg	Lg	04 40 31.6	
	comp=N,8µm,0.3s						
VAY				*e*Lg	Lg	04 40 31.9	
	comp=E,9µm,0.2s						
HORT	**Hortiatis**	**0.45**	**145**	PG	**Pg**	**04 40 27.3**	**0.0**
HORT	**Hortiatis**	**0.45**	**145**	P	**Pg**	**04 40 27.3**	**0.0**
HORT				S	**Sg**	**04 40 33.5**	**+0.2**
	comp=E,3µm,0.5s						
HORT	**Hortiatis**	**0.45**	**145**	P	**Pg**	**04 40 27.4**	**0.0**
HORT				S	**Sg**	**04 40 33.3**	**-0.1**
HORT				AML	AML	04 40 35.4	
	comp=E,7005µm,0.5s						
HORT				AML	AML	04 40 38.8	
	comp=N,4791µm,0.5s						
SOH	**Sokhos**	**0.47**	**108**	P	**Pg**	**04 40 27.9**	**+0.2**
SOH				S	**Sg**	**04 40 34.5**	**+0.5**
	comp=N,8µm,0.6s						
SOH	**Sokhos**	**0.47**	**108**	⇑*i*Pg	**Pg**	**04 40 28.0**	**+0.2**
SOH				*i* Sg	**Sg**	**04 40 35.0**	**+1.0**
SOH	**Sokhos**	**0.47**	**108**	P	**Pg**	**04 40 28.1**	**+0.4**
SOH				S	**Sg**	**04 40 34.3**	**+0.4**
SOH				AML	AML	04 40 37.1	
	comp=N,15915µm,0.5s						
SOH				AML	AML	04 40 37.3	
	comp=E,21522µm,0.5s						
SRS	**Serrai**	**0.65**	**77**	P	**Pg**	**04 40 30.8**	**-0.1**
SRS				S	**Sb**	**04 40 40.3**	**-0.6**
	comp=E,3µm,0.4s						
SRS	**Serrai**	**0.65**	**77**	*e*Pg	**Pg**	**04 40 31.0**	**0.0**
SRS				*e*Sg	**Sb**	**04 40 40.2**	**-0.6**
SRS	**Serrai**	**0.65**	**77**	⇓*i*Pg	**Pg**	**04 40 30.8**	**-0.1**
SRS				*i* Sg	**Sb**	**04 40 40.4**	**-0.4**
SRS	**Serrai**	**0.65**	**77**	P	**Pg**	**04 40 30.9**	**0.0**
SRS				S	**Sg**	**04 40 39.2**	**-0.2**
SRS				AML	AML	04 40 43.5	
	comp=E,5253µm,0.5s						
SRS				AML	AML	04 40 46.4	
	comp=N,5478µm,0.4s						
STIP	**Stip**	**0.84**	**329**	⇑*i*Pg	**Pg**	**04 40 33.6**	**-1.1**
STIP				*i* Sg	**Sg**	**04 40 44.9**	**-0.8**
NVR	**Nevrokopi**	**0.91**	**65**	P	**Pg**	**04 40 35.8**	**-0.2**
NVR				S	**Sg**	**04 40 47.9**	**0.0**
	comp=N,3µm,0.4s						
NVR	**Nevrokopi**	**0.91**	**65**	P	**Pg**	**04 40 35.9**	**-0.2**
NVR				S	**Sb**	**04 40 48.3**	**-0.3**
NVR				AML	AML	04 40 52.5	
	comp=N,4270µm,0.6s						
NVR				AML	AML	04 40 53.0	
	comp=E,6908µm,0.3s						
KKB	**Krupnik**	**0.93**	**15**	P	**Pg**	**04 40 35.5**	**-0.8**
KOKK	**Kokkinochori,**	**0.95**	**99**	P	**Pg**	**04 40 36.5**	**-0.2**
KOKK	**Kokkinochori,**	**0.95**	**99**	P	**Pg**	**04 40 36.9**	**+0.1**
KOKK				S	**Sb**	**04 40 50.1**	**+0.5**
MMB	**Musomiste**	**0.95**	**49**	P	**Pg**	**04 40 36.2**	**-0.6**
KZN	**Kozani**	**1.00**	**229**	P	**Pg**	**04 40 36.9**	**-0.9**
KZN				S	**Sg**	**04 40 50.9**	**+0.1**
KZN				AML	AML	04 40 55.4	
	comp=N,5253µm,0.4s						
KZN				AML	AML	04 40 56.4	
	comp=E,5393µm,0.5s						
FNA	**Florina**	**1.07**	**260**	PG	**Pg**	**04 40 37.8**	**-1.1**
FNA	**Florina**	**1.07**	**260**	P	**Pg**	**04 40 37.8**	**-1.1**
FNA				S	**Sb**	**04 40 53.5**	**+0.5**
	comp=E,2µm,0.6s						
FNA	**Florina**	**1.07**	**260**	*e*Pg	**Pg**	**04 40 37.9**	**-1.0**
FNA	**Florina**	**1.07**	**260**	*i* Pg	**Pg**	**04 40 38.0**	**-1.0**
FNA	**Florina**	**1.07**	**260**	P	**Pg**	**04 40 37.1**	**-1.8**
FNA				S	**Sg**	**04 40 52.5**	**-0.3**
FNA				*i* AML	AML	04 40 56.0	
	comp=E,263nm,0.5s						
FNA	**Florina**	**1.07**	**260**	P	**Pg**	**04 40 37.9**	**-1.0**
FNA				S	**Sg**	**04 40 52.4**	**-0.4**
FNA				AML	AML	04 40 56.8	
	comp=E,4108µm,0.6s						
FNA				AML	AML	04 40 58.3	
	comp=N,5231µm,0.5s						
OUR	**Ouranopolis**	**1.13**	**124**	PN	**Pb**	**04 40 39.5**	**-0.4**
OUR	**Ouranopolis**	**1.13**	**124**	P	**Pb**	**04 40 39.5**	**-0.4**
OUR				S	**Sn**	**04 40 56.3**	**+0.6**
	comp=N,4µm,0.5s						
OUR	**Ouranopolis**	**1.13**	**124**	P	**Pb**	**04 40 39.7**	**-0.2**
OUR				S	**Sb**	**04 40 54.0**	**-0.6**
OUR				AML	AML	04 40 58.4	
	comp=N,6915µm,0.5s						
OUR				AML	AML	04 40 58.9	
	comp=E,10722µm,0.6s						
KVLA	**Kavala**	**1.23**	**91**	P	**Pn**	**04 40 41.7**	**+0.1**
KVLA				S	**Sb**	**04 40 57.0**	**-0.7**
KVLA				AML	AML	04 41 00.2	
	comp=N,4503µm,0.6s						
KVLA				AML	AML	04 41 04.5	
	comp=E,3176µm,0.4s						
PAIG	**Paliouri**	**1.26**	**146**	P	**Pn**	**04 40 40.8**	**-1.2**
PAIG				S	**Sn**	**04 40 59.0**	**+0.1**
	comp=E,2µm,0.8s						
PAIG	**Paliouri**	**1.26**	**146**	P	**Pn**	**04 40 41.7**	**-0.3**
PAIG				S	**Sn**	**04 40 59.2**	**+0.3**
PAIG				AML	AML	04 41 03.0	
	comp=N,3845µm,0.7s						
PAIG				AML	AML	04 41 05.2	
	comp=E,3279µm,1.0s						
TYRN	**Tyrnavos**	**1.32**	**198**	P	**Pn**	**04 40 43.1**	**+0.2**
TYRN				S	**Sg**	**04 41 01.4**	**+0.4**
	comp=E,3µm,0.5s						
TYRN	**Tyrnavos**	**1.32**	**198**	P	**Pn**	**04 40 42.6**	**-0.3**
TYRN				S	**Sg**	**04 41 00.8**	**-0.1**
TYRN				AML	AML	04 41 03.9	
	comp=N,5281µm,0.6s						
TYRN				AML	AML	04 41 04.8	
	comp=E,8077µm,0.5s						
KAVA	**Kavala**	**1.33**	**88**	P	**Pn**	**04 40 43.0**	**0.0**
KAVA				S	**Sb**	**04 41 00.6**	**+0.2**
	comp=E,6µm,0.5s						
KAVA	**Kavala**	**1.33**	**88**	P	**Pb**	**04 40 43.2**	**-0.1**
KAVA				S	**Sb**	**04 41 00.3**	**-0.2**
SKO	**Skopje**	**1.41**	**316**	*e*Pg	**Pn**	**04 40 43.8**	**-0.3**
SKO				*e*Sg	**Sn**	**04 41 02.2**	**-0.5**
SKO	**Skopje**	**1.41**	**316**	*i* Pn	**Pn**	**04 40 43.8**	**-0.3**
NEST	**Nestorio**	**1.42**	**247**	P	**Pn**	**04 40 44.3**	**0.0**
NEST	**Nestorio**	**1.42**	**247**	P	**Pb**	**04 40 44.7**	**-0.3**
KPRO	**Kipourio**	**1.47**	**227**	P	**Pb**	**04 40 45.6**	**-0.4**
OHR	**Ohrid**	**1.49**	**276**	*e*Pg	**Pb**	**04 40 46.0**	**-0.3**
OHR				*e*Sg	**Sg**	**04 41 06.3**	**-0.1**
OHR	**Ohrid**	**1.49**	**276**	*i* Pn	**Pb**	**04 40 45.9**	**-0.3**
OHR				*i* Sg	**Sg**	**04 41 06.5**	**+0.1**
OHR				*e*Lg	Lg	04 41 07.0	
	comp=N,495nm,0.7s						
OHR				*e*Lg	Lg	04 41 08.0	
	comp=E,468nm,0.5s						
THL	**Klokotos Trika**	**1.52**	**202**	P	**Pn**	**04 40 45.4**	**-0.2**
THL				S	**Sn**	**04 41 05.6**	**+0.2**
	comp=E,1µm,0.6s						
THL	**Klokotos Trika**	**1.52**	**202**	P	**Pn**	**04 40 45.5**	**0.0**
THAS	**Thassos island**	**1.53**	**103**	P	**Pn**	**04 40 45.6**	**-0.2**
THAS	**Thassos island**	**1.53**	**103**	P	**Pn**	**04 40 46.1**	**+0.4**
THAS				S	**Sn**	**04 41 05.5**	**-0.2**
THAS				AML	AML	04 41 12.1	
	comp=E,2357µm,0.5s						
THAS				AML	AML	04 41 14.6	
	comp=N,1461µm,0.4s						
BOSS	**Bosilegrad**	**1.54**	**352**	*e*Pg	**Pn**	**04 40 46.1**	**+0.2**
BOSS				*e*Sg	**Sn**	**04 41 05.6**	**-0.3**
KBN	**Korca**	**1.54**	**258**	P	**Pn**	**04 40 46.0**	**0.0**
RZN	**Rozhen**	**1.64**	**63**	P	**Pg**	**04 40 49.5**	**-0.3**
XOR	**Xorichti**	**1.64**	**168**	P	**Pn**	**04 40 46.8**	**-0.5**
XOR				S	**Sn**	**04 41 08.3**	**-0.1**
XOR	**Xorichti**	**1.64**	**168**	P	**Pn**	**04 40 46.8**	**-0.5**
XOR				S	**Sn**	**04 41 07.3**	**-1.1**
XOR				AML	AML	04 41 09.0	
	comp=N,2594µm,0.4s						
XOR				AML	AML	04 41 10.6	
	comp=E,3439µm,0.5s						
VTS	**Vitosha**	**1.68**	**12**	⇑P	**Pb**	**04 40 49.9**	**+0.3**
VTS				⇑S	**Sn**	**04 41 09.6**	**-0.1**
VTS	**Vitosha**	**1.68**	**12**	*e*Pg	**Pn**	**04 40 48.2**	**+0.2**
VTS				*e*Sg	**Sn**	**04 41 09.4**	**-0.3**
VTS	**Vitosha**	**1.68**	**12**	*i* Pn	**Pn**	**04 40 48.2**	**+0.2**
VTS	**Vitosha**	**1.68**	**12**	P	**Pn**	**04 40 48.0**	**0.0**
NEO	**Neokhori**	**1.70**	**168**	P	**Pn**	**04 40 47.7**	**-0.4**
NEO				S	**Sn**	**04 41 09.9**	**-0.1**
	comp=E,1µm,0.4s						
NEO	**Neokhori**	**1.70**	**168**	P	**Pn**	**04 40 47.7**	**-0.4**
PLD	**Plovdiv**	**1.84**	**52**	PN	**Pn**	**04 40 50.7**	**+0.6**
PLD	**Plovdiv**	**1.84**	**52**	*i* Pn	**Pn**	**04 40 51.1**	**+1.0**
PGB	**Panagyurishte**	**1.90**	**33**	P	**Pb**	**04 40 53.2**	**+0.1**
BARS	**Barje**	**1.97**	**339**	*e*Pn	**Pn**	**04 40 51.6**	**-0.2**
BARS	**Barje**	**1.97**	**339**	*i* Pn	**Pn**	**04 40 51.7**	**-0.2**
AGG	**Agios Georgios**	**1.98**	**190**	PN	**Pn**	**04 40 51.9**	**-0.1**
AGG	**Agios Georgios**	**1.98**	**190**	P	**Pn**	**04 40 51.7**	**-0.2**
AGG	**Agios Georgios**	**1.98**	**190**	P	**Pn**	**04 40 52.3**	**+0.4**
AGG	**Agios Georgios**	**1.98**	**190**	P	**Pn**	**04 40 51.9**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.02**	**194**	P	**Pn**	**04 40 52.8**	**+0.3**
RDO	**Rodhopi**	**2.11**	**84**	PN	**Pn**	**04 40 53.9**	**+0.2**
RDO	**Rodhopi**	**2.11**	**84**	P	**Pn**	**04 40 53.6**	**-0.1**
KDZ	**Kurdzhali**	**2.11**	**70**	PN	**Pn**	**04 40 53.2**	**-0.6**
KDZ	**Kurdzhali**	**2.11**	**70**	P	**Pn**	**04 40 53.5**	**-0.3**
SMTH	**Samothraki Isl**	**2.16**	**102**	P	**Pn**	**04 40 54.2**	**-0.3**
EVR	**Evrytania**	**2.18**	**200**	P	**Pn**	**04 40 55.3**	**+0.5**
AXAR	**Agios Charalam**	**2.21**	**182**	P	**Pn**	**04 40 54.8**	**-0.3**
TIR	**Tirane**	**2.22**	**281**	*e*Pn	**Pn**	**04 40 56.2**	**+1.0**
TIR	**Tirane**	**2.22**	**281**	*i* Pn	**Pn**	**04 40 56.5**	**+1.2**
ZAPS	**Zavoj**	**2.30**	**358**	*e*Pn	**Pn**	**04 40 57.0**	**+0.6**
ZAPS				*e*Sn	**Sn**	**04 41 23.5**	**-1.3**
DIM	**Dimitrovgrad**	**2.34**	**62**	P	**Pn**	**04 40 58.3**	**+1.4**
IGT	**Igoumenitsa**	**2.35**	**233**	*i* Pn	**Pb**	**04 40 60.0**	**-0.9**
ANX	**Ano Chora**	**2.46**	**196**	P	**Pn**	**04 40 59.1**	**+0.4**
GADA	**Gvkgeada**	**2.51**	**107**	PN	**Pn**	**04 40 59.9**	**+0.6**
GOKA	**anakkale-Gk**	**2.52**	**107**	P	**Pg**	**04 41 05.9**	**-0.8**
GOKA				S	**Sg**	**04 41 40.9**	**+1.5**
GOKA				*i* AML	AML	04 41 43.0	
	comp=E,510nm,0.6s						
GOKA				*i* AML	AML	04 41 53.0	
	comp=E,422nm,0.6s						
SELS	**Selova**	**2.56**	**332**	*e*Pn	**Pn**	**04 40 59.2**	**-0.7**
SELS				*e*Sn	**Sn**	**04 41 29.6**	**-1.5**
ENEZ	**Enez**	**2.58**	**94**	PN	**Pn**	**04 41 00.8**	**+0.6**
CAVK	**Edirne/Enez-Ca**	**2.60**	**95**	P	**Pg**	**04 41 08.2**	**-0.1**
BLKB	**Belogradchik**	**2.65**	**359**	⇑P	**Pn**	**04 41 02.5**	**+1.3**
BLKB				⇓S	**Sg**	**04 41 46.0**	**+2.5**
PVY	**Plav**	**2.65**	**309**	⇑*i*Pn	**Pn**	**04 41 01.5**	**+0.2**
PVY				*i* Sn	**Sb**	**04 41 36.1**	**-2.5**
BOZC	**Bozcaada**	**2.75**	**113**	PN	**Pn**	**04 41 03.5**	**+0.9**
ECEA	**Canakkale, Ece**	**2.76**	**108**	P	**Pg**	**04 41 11.2**	**-0.1**
BOVS	**Bovan**	**2.77**	**344**	*e*Pn	**Pn**	**04 41 02.1**	**-0.8**
BOVS				*e*Sn	**Sn**	**04 41 34.2**	**-2.2**
PLVB	**Pleven**	**2.78**	**29**	⇑P	**Pg**	**04 41 10.7**	**-1.0**
PLVB				⇓S	**Sg**	**04 41 49.4**	**+1.6**
VIL2	**Platees**	**2.79**	**172**	P	**Pn**	**04 41 03.5**	**+0.5**
BEY	**Berane**	**2.86**	**313**	*i* Pn	**Pn**	**04 41 04.9**	**+0.8**
IVA	**Berane**	**2.86**	**313**	⇓*i*Pn	**Pn**	**04 41 04.4**	**+0.3**
IVA				*i* Sn	**Sn**	**04 41 41.2**	**+2.5**
ERIK	**Erikli-Kesan**	**2.86**	**95**	PN	**Pn**	**04 41 04.7**	**+0.6**
ERIK	**Erikli-Kesan**	**2.86**	**95**	P	**Pg**	**04 41 12.1**	**-1.2**
ZAGS	**Zajecar**	**2.87**	**352**	*e*Pn	**Pn**	**04 41 03.6**	**-0.5**
ZAGS				*e*Sn	**Sn**	**04 41 35.9**	**-2.7**
GELI	**Tayfur-Gelibol**	**2.88**	**100**	PN	**Pn**	**04 41 05.1**	**+0.8**
UKOP	**Uzunkopru-Edir**	**2.93**	**86**	PN	**Pn**	**04 41 06.1**	**+1.1**
UKOP	**Uzunkopru-Edir**	**2.93**	**86**	P	**Pg**	**04 41 12.7**	**-1.8**
UKOP				S	**Sg**	**04 41 50.1**	**-2.4**
UKOP				*i* AML	AML	04 42 00.0	
	comp=E,3µm,0.8s						
UKOP				*i* AML	AML	04 42 07.0	
	comp=E,2µm,0.9s						
DRME	**Dracevica, Mon**	**2.94**	**296**	*e*Pn	**Pn**	**04 41 07.3**	**+2.1**
DRME	**Dracevica, Mon**	**2.94**	**296**	⇑*i*Pn	**Pn**	**04 41 05.7**	**+0.5**
DRME				*i* Sn	**Sn**	**04 41 43.4**	**+2.8**
PVL	**Pavlikeni**	**2.95**	**40**	P	**Pb**	**04 41 10.2**	**-0.8**
EZN	**Ezine**	**2.95**	**112**	PN	**Pn**	**04 41 06.3**	**+1.0**
EZN	**Ezine**	**2.95**	**112**	P	**Pb**	**04 41 12.9**	**+1.8**
KOCA	**Canakkale, Ayv**	**2.97**	**119**	P	**Pg**	**04 41 15.4**	**0.0**
KOCA				S	**Sg**	**04 41 52.4**	**-1.5**
KESN	**Edirne-Kesan**	**2.97**	**92**	P	**Pn**	**04 41 04.2**	**-1.7**
PDG	**Podgorica**	**3.00**	**300**	⇓P	**Pn**	**04 41 07.4**	**+1.3**
PDG	**Podgorica**	**3.00**	**300**	*e*Pn	**Pn**	**04 41 07.3**	**+1.3**
TTG	**Podgorica**	**3.00**	**300**	⇑*i*Pn	**Pn**	**04 41 06.5**	**+0.5**
TTG				*i* Sn	**Sn**	**04 41 44.8**	**+2.8**
KOME	**Kolasin**	**3.06**	**309**	⇓*i*Pn	**Pn**	**04 41 07.3**	**+0.3**
KOME				*i* Sn	**Sn**	**04 41 46.2**	**+2.5**
SJES	**Sjenica**	**3.09**	**319**	*e*Pn	**Pn**	**04 41 07.5**	**+0.2**
SJES				*e*Sn	**Sn**	**04 41 44.2**	**-0.1**
LPK	**Lapseki**	**3.10**	**100**	PN	**Pn**	**04 41 08.2**	**+0.9**
EDRB	**Edirne**	**3.12**	**72**	P	**Pg**	**04 41 17.0**	**-1.2**
EDRB				S	**Sb**	**04 41 54.6**	**+2.6**
EDRB				*i* AML	AML	04 42 06.0	
	comp=E,106nm,1.0s						
BAYC	**CANAKKALE_Bayr**	**3.14**	**112**	P	**Pn**	**04 41 06.4**	**-1.5**
BUM	**Brajici-Budva**	**3.19**	**296**	⇓*i*Pn	**Pn**	**04 41 09.1**	**+0.5**
BUM				*i* Sn	**Sn**	**04 41 49.3**	**+2.6**
IVAS	**Ivanjica**	**3.24**	**324**	*e*Pn	**Pn**	**04 41 08.9**	**-0.5**
VLAD	**Vladila**	**3.26**	**21**	⇓P	**Pg**	**04 41 21.4**	**+0.6**
CEME	**Cevo**	**3.28**	**300**	*e*Pn	**Pn**	**04 41 10.3**	**+0.4**
CEME				*i* Sn	**Sn**	**04 41 51.4**	**+2.5**
GRUS	**Gruza**	**3.28**	**333**	*e*Pn	**Pn**	**04 41 09.5**	**-0.4**
GRUS				*e*Sn	**Sn**	**04 41 48.2**	**-0.8**
SZH	**Strazhica**	**3.29**	**45**	P	**Pg**	**04 41 20.1**	**-1.3**
PUNG	**Punghina**	**3.31**	**2**	⇑P	**Pb**	**04 41 18.0**	**+0.9**
NKME	**Niksic**	**3.36**	**303**	⇑*i*Pn	**Pn**	**04 41 11.4**	**+0.4**
NKME				*i* Sn	**Sn**	**04 41 53.4**	**+2.4**
RKY	**Sarkoy-Tekirda**	**3.36**	**93**	PN	**Pn**	**04 41 11.9**	**+0.9**
SART	**Tekirdag**	**3.36**	**93**	P	**Pg**	**04 41 21.4**	**-1.4**
PLE	**Pljevlja**	**3.44**	**314**	⇓*i*Pn	**Pn**	**04 41 12.5**	**+0.4**
PLE				*i* Sn	**Sn**	**04 41 55.1**	**+2.1**
KRBG	**Karabiga-Canak**	**3.50**	**98**	PN	**Pn**	**04 41 13.8**	**+1.0**
HCY	**Herceg Novi**	**3.52**	**296**	*e*Pn	**Pn**	**04 41 14.4**	**+1.3**
HCY	**Herceg Novi**	**3.52**	**296**	⇓*i*Pn	**Pn**	**04 41 13.6**	**+0.5**
HCY				*i* Sn	**Sn**	**04 41 57.2**	**+2.4**
KUBS	**Kucevo**	**3.53**	**347**	*e*Pn	**Pn**	**04 41 11.6**	**-1.7**
KUBS				*e*Sn	**Sn**	**04 41 54.0**	**-1.1**
BUHA	**Balikesir, Bur**	**3.62**	**113**	P	**Pn**	**04 41 15.7**	**+1.3**
UPM	**Unac-Piva**	**3.63**	**309**	*e*Pn	**Pn**	**04 41 15.8**	**+0.9**
UPM	**Unac-Piva**	**3.63**	**309**	⇓*i*Pn	**Pn**	**04 41 15.2**	**+0.3**
UPM				*i* Sn	**Sn**	**04 41 59.9**	**+2.0**
COPA	**Copaceanca**	**3.64**	**29**	⇓P	**Pg**	**04 41 27.9**	**-0.3**
COPA				⇑S	**Sg**	**04 42 15.6**	**+0.2**
RUDO	**Rudo**	**3.65**	**318**	*e*Pn	**Pn**	**04 41 14.2**	**-0.7**
TRUS	**Trudelj**	**3.69**	**333**	*e*Pn	**Pn**	**04 41 14.7**	**-0.7**
MRMT	**Marmara Adasi**	**3.69**	**94**	PN	**Pn**	**04 41 16.1**	**+0.6**
BRY	**Bratogost**	**3.69**	**303**	*e*Pn	**Pn**	**04 41 17.1**	**+1.5**
BRY	**Bratogost**	**3.69**	**303**	⇓*i*Pn	**Pn**	**04 41 16.0**	**+0.4**
BRY				*i* Sn	**Sn**	**04 42 01.4**	**+2.1**
SRE	**Strehaia**	**3.70**	**5**	⇓P	**Pg**	**04 41 26.9**	**-2.4**
TREB	**Trebinje**	**3.73**	**299**	*e*Pn	**Pn**	**04 41 17.5**	**+1.5**
DIVS	**Divibare**	**3.73**	**328**	*e*Pn	**Pn**	**04 41 15.7**	**-0.5**
DIVS	**Divibare**	**3.73**	**328**	*e*Pn	**Pn**	**04 41 15.6**	**-0.6**
DIVS				*e*Sn	**Sn**	**04 41 57.6**	**-2.6**
BBLS	**Lazići**	**3.81**	**320**	*e*Pn	**Pn**	**04 41 17.0**	**-0.2**
MDVR	**Moldovita**	**3.88**	**349**	⇑P	**Pn**	**04 41 17.4**	**-0.8**
HUMR	**Humele**	**3.91**	**24**	⇑P	**Pn**	**04 41 21.8**	**+3.3**
HUMR				⇓S	**Sg**	**04 42 24.7**	**+0.7**
HERR	**Herculane**	**3.92**	**356**	⇓P	**Pn**	**04 41 18.1**	**-0.5**
HAPS	**Han Pijesak,Bl**	**4.20**	**319**	*e*Pn	**Pn**	**04 41 22.9**	**+0.4**
STON	**Ston**	**4.23**	**298**	*e*Pn	**Pn**	**04 41 22.2**	**-0.6**
TEKS	**Tekeris**	**4.29**	**327**	*e*Pn	**Pn**	**04 41 22.3**	**-1.5**
GZR	**Gura Zlata**	**4.42**	**0**	⇑P	**Pn**	**04 41 25.1**	**-0.4**
SULR		**4.51**	**34**	⇑P	**Pg**	**04 41 42.3**	**-2.4**
ARR	**Arges**	**4.60**	**17**	⇑P	**Pn**	**04 41 31.1**	**+3.1**
FRGS	**Fruska Gora**	**4.71**	**334**	*e*Pn	**Pn**	**04 41 28.6**	**-0.9**
FRGS	**Fruska Gora**	**4.71**	**334**	*e*Pn	**Pn**	**04 41 28.3**	**-1.2**
BZS	**Buzias**	**4.72**	**350**	⇓P	**Pn**	**04 41 28.5**	**-1.0**
VOIR		**4.77**	**20**	⇑P	**Pn**	**04 41 31.3**	**+1.0**
PSN	**Preselentsi**	**4.85**	**54**	P	**Pn**	**04 41 30.9**	**-0.4**
ICOR	**Ion Corvin**	**4.87**	**48**	⇑P	**Pg**	**04 41 52.1**	**+0.4**
DEV	**Deva**	**4.91**	**1**	⇓P	**Pn**	**04 41 35.7**	**+3.5**
ISR	**Istrita**	**4.99**	**33**	⇑P	**Pn**	**04 41 36.9**	**+3.6**
MLR	**Muntele Rosu**	**5.08**	**26**	⇑P	**Pn**	**04 41 38.8**	**+4.1**
MLR	**Muntele Rosu**	**5.08**	**26**	Pn	**Pn**	**04 41 37.0**	**+2.3**
	comp=E,3.2nm,0.3s,baz=244,slow=8.4,SNR=27						
MLR				Lg	Lg	04 42 58.8	
	comp=E,1.9nm,0.3s,baz=74,slow=20,SNR=2.0						
	comp=E,9.7nm,0.3s						
NEHR	**Nehoiu**	**5.15**	**29**	⇑P	**Pn**	**04 41 37.8**	**+2.3**
SRKY	**Kupres RS**	**5.16**	**309**	*e*Pn	**Pn**	**04 41 35.2**	**-0.6**
MFTR	**Murfatlar**	**5.26**	**51**	⇓P	Pn	04 41 43.7	+6.6
TLBR	**Topalu**	**5.28**	**46**	⇑P	**Pn**	**04 41 38.6**	**+1.3**
HARR	**Harsova**	**5.32**	**44**	⇓P	**Pn**	**04 41 41.9**	**+4.1**
DOPR	**Dopca**	**5.35**	**20**	⇑P	**Pn**	**04 41 40.5**	**+2.2**
SIRR	**Siria**	**5.35**	**352**	⇑P	**Pn**	**04 41 37.9**	**-0.4**
GRER		**5.38**	**34**	⇑P	Pn	04 41 43.5	+4.9
BISRR	**Bisoca**	**5.41**	**31**	⇑P	**Pn**	**04 41 41.7**	**+2.6**
MGRS	**Mrkonjic Grad**	**5.42**	**311**	*e*Pn	**Pn**	**04 41 40.6**	**+1.4**
TIRR	**Tirgusor**	**5.43**	**48**	⇑P	**Pn**	**04 41 39.3**	**0.0**
COVR	**Voineasa-Covas**	**5.48**	**26**	⇑P	**Pn**	**04 41 41.7**	**+1.6**
BLY	**Banja Luka**	**5.57**	**314**	*e*Pn	**Pn**	**04 41 42.1**	**+0.8**
OZUR		**5.57**	**22**	⇑P	**Pn**	**04 41 43.4**	**+2.0**
PLOR	**Plostina**	**5.64**	**29**	⇑P	**Pn**	**04 41 44.0**	**+1.7**
VRI	**Vrincioaia**	**5.68**	**29**	⇓P	**Pn**	**04 41 44.1**	**+1.3**
TPGR	**Topolog**	**5.69**	**45**	⇓P	**Pn**	**04 41 45.2**	**+2.3**
ODBI	**Odobesti**	**5.72**	**32**	⇑P	**Pn**	**04 41 42.6**	**-0.7**
CFR	**Carcaliu**	**5.76**	**41**	⇑P	**Pn**	**04 41 47.0**	**+3.2**
A051A	**Mrakovica**	**5.89**	**315**	*e*Pn	**Pn**	**04 41 46.4**	**+0.6**
IDI	**Anoyia**	**5.92**	**163**	Pn	**Pn**	**04 41 49.0**	**+2.8**
	comp=E,1.3nm,0.3s,baz=354,slow=8.9,SNR=8.5						
IDI				Sn	**Sn**	**04 42 53.8**	**-0.2**
	comp=E,0.4nm,0.3s,baz=271,slow=14,SNR=1.2						
IDI				LR	LR	04 43 41.1	
	comp=E,36nm,20.7s,baz=250,slow=34						
	comp=E,7.2nm,0.6s						
MORH	**Mrgy, Hungar**	**6.03**	**332**	⇑P	**Pn**	**04 41 47.5**	**-0.2**
MORH	**Mrgy, Hungar**	**6.03**	**332**	P	**Pn**	**04 41 46.9**	**-0.7**
GHRR		**6.11**	**32**	⇓P	**Pn**	**04 41 51.2**	**+2.6**
KOVH	**Kovagotottos**	**6.13**	**328**	P	**Pn**	**04 41 49.4**	**+0.3**
TESR	**Tescani**	**6.21**	**26**	⇓P	Pn	04 41 57.9	+7.8
TRPA	**Tarpa**	**7.16**	**359**	⇑P	**Pn**	**04 42 02.3**	**-0.8**
TRPA	**Tarpa**	**7.16**	**359**	P	**Pn**	**04 42 05.3**	**+2.3**
MPLH	**Magyarpolny**	**7.25**	**331**	P	**Pn**	**04 42 05.0**	**+0.7**
MPLH				S	**Sn**	**04 43 24.1**	**-2.5**

CEY	Cerknica	7.72	311	ePn	Pn	04 42 10.4	-0.4
SOKA	Soboth	7.98	318	ePn	Pn	04 42 14.9	+0.4
	comp=E,3.6nm,0.3s,SNR=9.1						
SOKA				eSn	Sn	04 43 47.1	+2.3
	comp=E,1.4nm,0.5s						
VYHS	Vyhne	8.02	341	ePN	Pn	04 42 17.4	+2.5
OBKA	Obir	8.12	316	ePn	Pn	04 42 17.3	+0.9
OBKA	Obir	8.12	316	ePn	Pn	04 42 17.7	+1.3
	comp=E,4.7nm,0.3s,SNR=6.4						
ARSA	Arzberg	8.15	323	Pn	Pn	04 42 17.5	+0.8
	comp=E,6.0nm,0.3s,SNR=8.9						
RONA	Rosalia, Austr	8.16	328	ePn	Pn	04 42 18.8	+1.9
	comp=E,2.0nm,0.4s						
ZST	Bratislava	8.27	333	ePN	Pn	04 42 22.9	+4.5
MODS	Modra-Piesok	8.37	334	ePN	Pn	04 42 21.6	+1.9
MODS				eSN	Sn	04 43 55.8	+1.7
BRTR	Keskin Array B	8.40	95	Pn	Pn	04 42 21.1	+0.8
	comp=E,0.2nm,0.3s,baz=146,slow=11,SNR=1.6						
BRTR				LR	LR	04 45 24.0	
	comp=E,27nm,18.3s,baz=290,slow=37						
	comp=E,0.5nm,0.4s						
CONA	Conrad Observa	8.52	327	ePn	Pn	04 42 23.2	+1.3
	comp=E,0.8nm,0.3s						
CONA				eSn	Sn	04 44 00.7	+2.6
	comp=E,1.6nm,0.5s						
MYKA	Terra Mystica	8.68	314	ePn	Pn	04 42 27.0	+2.9
	comp=E,2.5nm,0.5s						
KBA	Koelnbreinsper	9.12	315	ePn	Pn	04 42 31.5	+1.4
	comp=E,1.0nm,0.3s						
MOA	Molln	9.17	321	ePn	Pn	04 42 33.6	+2.9
	comp=E,0.4nm,0.2s						
ABTA	Abfaltersbach	9.38	311	Pn	Pn	04 42 34.1	+0.5
	comp=E,5.2nm,0.6s,SNR=7.0						
GERES	GERESS Array B	10.15	324	Pn	Pn	04 42 45.7	+1.5
	comp=E,0.2nm,0.3s,baz=156,slow=13,SNR=7.0						
	comp=E,0.5nm,0.5s						
WTTA	Wattenberg	10.17	312	ePn	Pn	04 42 45.8	+1.2
	comp=E,2.6nm,0.4s						
WATA	Walderalm	10.24	312	ePn	Pn	04 42 47.1	+1.6
	comp=E,4.7nm,0.4s						
SQTA	Sankt Quirin	10.39	311	ePn	Pn	04 42 47.8	+0.3
	comp=E,1.5nm,0.2s						
KHC	Kasperske Hory	10.42	325	ePN	Pn	04 42 51.6	+3.8
MOTA	Moosalm	10.52	311	Pn	Pn	04 42 50.7	+1.5
	comp=E,3.7nm,0.5s,SNR=6.3						
RETA	Reutte	10.79	311	ePn	Pn	04 42 56.0	+3.1
	comp=E,1.1nm,0.3s						
DAVOX	Davos/Dischmat	10.96	306	Pn	Pn	04 42 56.2	+0.9
	comp=E,0.6nm,0.3s,baz=146,slow=21,SNR=10						
	comp=E,2.8nm,0.5s						
MMAI	Mount Meron Ar	12.84	124	Pn	Pn	04 43 20.6	-0.5
	comp=E,0.7nm,0.3s,baz=332,slow=8.8,SNR=2.2						
	comp=E,0.4nm,0.3s						
ESDC	Sonseca Array	20.39	275	P	Pn	04 44 57.1	-0.3
	comp=E,0.5nm,0.7s,baz=77,slow=9.2,SNR=7.5						
	comp=E,0.5nm,0.7s						
FINES	FINESS Array B	20.60	5	P	P	04 44 56.0	-1.3
	comp=E,2.3nm,0.8s,baz=160,slow=10,SNR=2.3						
	comp=E,2.3nm,0.8s						
NB2	NORSAR Subarra	21.30	344	P	P	04 45 03.9	-1.1
	comp=Z,0.2nm,0.5s,baz=152,slow=10						
NOA	NORSAR Array B	21.30	344	P	P	04 45 04.0	-1.1
	comp=Z,0.4nm,0.6s,baz=163,slow=10,SNR=3.5						
	comp=Z,0.4nm,0.6s						
EKA	Eskdalemuir Ar	22.30	319	P	P	04 45 15.7	0.0
	comp=Z,0.9nm,0.7s,baz=115,slow=9.5,SNR=3.4						
	comp=Z,0.9nm,0.7s						
KIRV	Kirov	24.37	35	LR	LR	04 56 43.8	
	comp=Z,35nm,20.0s,baz=325,slow=41						
ARCES	ARCESS Array B	28.66	2	LR	LR	04 58 27.0	
	comp=Z,60nm,18.3s,baz=250,slow=38						
MKAR	Makanchi Array	42.40	61	P	P	04 48 13.2	+0.2
	comp=Z,0.4nm,0.5s,baz=288,slow=6.1,SNR=3.7						
	comp=Z,0.4nm,0.5s						
ZALV	Zalesovo Beam	42.56	51	P	P	04 48 14.0	-0.1
	comp=Z,0.9nm,0.6s,baz=302,slow=8.2,SNR=3.7						
	comp=Z,0.9nm,0.6s						

DDA 11 04:44:18.8±0.0**,37°.00N×27°.39E,h11**km±1km**,ML1.9, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.08	35	P	Pg	04 44 21.5	+0.3
BDRM				i AML	AML	04 44 23.0	
	comp=E,560nm,0.2s						
BDRM				S	Sg	04 44 23.1	0.0
BODT	Bodrum	0.09	313	P	Pg	04 44 21.4	0.0
BODT				i AML	AML	04 44 23.0	
	comp=N,1µm,0.2s						
BODT				S	Sg	04 44 23.5	+0.2
GCAM	G?zelcaml?	0.71	350	P	Pn	04 44 34.3	-0.4
YER	Yerkesik	0.73	79	P	Pb	04 44 33.3	-0.2
YER				S	Sb	04 44 43.0	-0.5
AYDN	Tasoluk	0.76	31	P	Pb	04 44 34.2	0.0
AYDN				S	Sb	04 44 44.2	-0.3
AYDN				i AML	AML	04 44 50.0	
	comp=N,21nm,0.7s						
MULA	Mugla, Merkez-	0.79	71	P	Pn	04 44 36.1	+0.2
TAVA	DENIZLI_Tavas	1.30	69	P	Pn	04 44 41.8	-1.2

ISK 11 04:44:19.6,36°.47N×28°.66E,h24km**,ML2.3**/10**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	Dalyan (Mula)	0.35	360	PG	Pb	04 44 28.0	+0.7
DALY				SG	Sb	04 44 33.5	+1.0
FETY	Fethiye	0.38	64	PG	Pb	04 44 28.0	+0.1
FETY				SG	Sb	04 44 34.8	+1.3
TURN	Turunc	0.45	313	PG	Pb	04 44 29.5	+0.5
TURN	Turunc	0.45	313	P	Pb	04 44 29.3	+0.3
TURN				S	Sb	04 44 35.4	+0.1
TURN				i AML	AML	04 44 36.0	
	comp=N,107nm,0.3s						
ARG	Arkhangelos	0.50	240	PG	Pb	04 44 30.3	+0.6
CAME	Cameli-Denizli	0.70	47	PG	Pn	04 44 34.7	+0.5
CAME				SG	Sn	04 44 44.5	+0.2
YER	Yerkesik	0.73	336	PG	Pn	04 44 34.9	+0.4
AKAS	Kas	0.80	107	PG	Pn	04 44 36.2	+0.7
AKAS	Kas	0.80	107	P	Pn	04 44 36.1	+0.6
ELL	Elmali	1.04	74	PG	Pb	04 44 39.2	+0.1
GOLH	Golhisar	1.05	43	P	Pb	04 44 41.7	+2.5
GOLH				S	Sn	04 44 57.8	+4.9
GOLH				i AML	AML	04 45 11.0	
	comp=E,13nm,0.4s						
APMY	Acipayam-Deniz	1.13	27	PN	Pb	04 44 40.3	-0.2
APMY				SN	Sb	04 44 55.4	+0.7
KARP	Karpathos	1.52	233	PN	Pn	04 44 45.9	+0.6

*BJI **11** 04:53:34.4±0.0,34°.41N×136°.85E,h347km,mb4.9/73, mB4.7/36*
*MOS **11** 04:53:36.3±0.8,34°.44N×136°.75E,h354km,mb4.6/35, Error ellipse: s-maj=6.8km s-min=4.2km az=111.2*
*NEIC **11** 04:53:37.5±1.6,34°.50N±0°.06×136°.81E±0°.07, h349km±4km,mb4.7/308,Error ellipse: s-maj=9.1km s-min=8.6km az=154.0*
*IDC **11** 04:53:37.3±0.4,34°.45N×136°.74E,h345km±3km,mb4.2/51, mbtmp4.9/57,Error ellipse: s-maj=6.4km s-min=5.2km az=73.0*
*JMA **11** 04:53:37.0±0.2,35°N±1°×136°.8E±0°.9,h357km±1km, MD4.9/40,MW4.9/40,ISE BAY REGION*
JMA Felt I J1 at ISE BAY REGION .
*NIED **11** 04:53:37.0,34°.56N×136°.81E,h357km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.61; $M_{\theta\theta}$0.05; $M_{\phi\phi}$-1.66; $M_{r\theta}$0.03; $M_{\theta\phi}$0.16; $M_{\phi r}$-1.82; Fault plane solution: $M_0$2.46000×10^{16} NP1: ϕ_s351.00000°,δ21.00000°,λ84.00000°. NP2: ϕ_s178.00000°,δ69.00000°,λ92.00000°.*
*KEA **11** 04:53:41.5,34°.46N×136°.57E,h359km,MS4.2/3*
ISC 11 04:53:37.4±0.3**,34°.49N**±0°.03**×136°.79E**±0°.03**,h350**km±2km**, h350**km**:pP-P,n917,**σ**1°.21**/800**,mb4.6**/252**,28C-26D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	Ise	0.12	217	i P	Pn	04 54 21.9	+0.7
JIE				S	S	04 54 56.1	-0.2
JIE	Ise	0.12	217	A	A	04 54 21.9	
	comp=E,12nm,2.8s,comp=E,8.0nm,1.6s						
JAA	Atsumi	0.32	63	i P	Pn	04 54 22.2	+0.9
JAA				S	S	04 54 57.0	+0.5
JAA	Atsumi	0.32	63	A	A	04 54 22.2	
	comp=E,23nm,2.3s,comp=E,5.0nm,1.2s						
TSUJ	Tsu 2	0.38	306	A	A	04 54 22.0	
	comp=E,15nm,3.2s,comp=E,11nm,1.3s						
JKN2	Miekihoku	0.50	240	A	A	04 54 22.3	
	comp=E,8.0nm,2.3s,comp=E,5.0nm,1.2s						
JEG	Eigenji	0.73	333	A	A	04 54 22.6	
	comp=E,11nm,2.2s,comp=E,3.0nm,2.2s						
JSSY	Shinshiroyabe	0.73	54	A	A	04 54 22.6	
	comp=E,14nm,3.8s,comp=E,8.0nm,2.3s						
TTO4	TONANKAI O.B.S	0.78	128	A	A	04 54 23.1	
	comp=E,50nm,2.2s,comp=E,9.0nm,6.3s						
JICN	Ichinomiyachia	0.81	3	A	A	04 54 22.8	
	comp=E,39nm,2.4s,comp=E,9.0nm,2.3s						
HMMJ	Hamamatsu 2	0.85	64	A	A	04 54 23.0	
	comp=E,12nm,3.6s,comp=E,6.0nm,1.5s						
TTO1	TONANKAI O.B.S	0.86	180	P	Pn	04 54 23.5	+1.1
JAO	Obara	0.87	26	A	A	04 54 23.0	
	comp=E,26nm,1.9s,comp=E,8.0nm,2.1s						
INU	Inuyama	0.88	12		Pn	04 54 23.0	+0.4
INU	Inuyama	0.88	12	P	Pn	04 54 23.1	+0.4
TK02	Tokai 2	0.96	124	⇓iP	Pn	04 54 23.9	+1.2
TK02				⇓S	S	04 55 00.9	+1.8
JKKS	Kakegawashinom	1.02	75	A	A	04 54 23.7	
	comp=E,27nm,2.6s,comp=E,19nm,1.9s						
JWY	Kouya	1.03	255	i P	Pn	04 54 24.1	+0.7
JYTA	Yamagatataniai	1.11	358	i P	Pn	04 54 24.1	+0.6
JYTA				S	S	04 55 00.2	-0.3
JYTA	Yamagatataniai	1.11	358	A	A	04 54 24.1	
	comp=E,16nm,2.5s,comp=E,3.0nm,1.5s						
JSG	Sagara	1.16	80	A	A	04 54 24.3	
	comp=E,26nm,3.8s,comp=E,12nm,2.6s						
JTNC	Tanabenakahech	1.19	236	i P	Pn	04 54 24.6	+0.5
JTNC				S	S	04 55 02.0	+0.7
JGF	Kuroka	1.20	22		Pn	04 54 24.2	+0.2
JGF				Sn	S	04 55 00.7	-0.7
JGF	Kuroka	1.20	22	P	Pn	04 54 24.4	+0.4
JGF	Kuroka	1.20	22	A	A	04 54 24.2	
	comp=E,13nm,3.7s,comp=E,10.0nm,1.7s						
JNY	Yasuok	1.24	45	A	A	04 54 24.4	
	comp=E,21nm,1.7s,comp=E,10.0nm,2.2s						
SHZ3	Shizuoka 3	1.30	63	A	A	04 54 24.8	
	comp=E,17nm,3.4s,comp=E,18nm,1.8s						
JWKM	Wakayamakushim	1.35	220	A	A	04 54 25.6	
	comp=E,8.0nm,2.4s,comp=E,4.0nm,3.7s						
JWT	Wachi	1.39	305	i P	Pn	04 54 25.4	+0.5
JWT	Wachi	1.39	305	A	A	04 54 25.4	
	comp=E,2.0nm,2.4s,comp=E,2.0nm,5.3s						
JFNN	Fujinakano	1.71	65	⇓P	Pn	04 54 27.1	+0.4
JFNN	Fujinakano	1.71	65	A	A	04 54 27.1	
	comp=E,14nm,3.2s,comp=E,8.0nm,6.3s						
JIZS	Izushimoda	1.73	82	A	A	04 54 27.3	
	comp=E,11nm,2.6s,comp=E,8.0nm,2.5s						
JYN	Shimob	1.76	54	⇓iP	Pn	04 54 27.2	+0.1
JYN	Shimob	1.76	54	A	A	04 54 27.2	
	comp=E,12nm,2.9s,comp=E,8.0nm,4.8s						
JGN	Niukaw	1.79	14	A	A	04 54 27.3	
	comp=E,10.0nm,3.4s,comp=E,5.0nm,2.1s						
JKY	Yasaka	1.79	310	A	A	04 54 27.6	
	comp=E,4.0nm,1.2s,comp=E,6.0nm,2.3s						
JKG	Kaga	1.83	348	i P	Pn	04 54 27.7	+0.3
JKG				S	S	04 55 06.8	-0.8
JKG	Kaga	1.83	348	A	A	04 54 27.7	
	comp=E,9.0nm,3.2s,comp=E,9.0nm,1.7s						
JHTM	Izuhatsuma	1.88	75	A	A	04 54 28.2	
	comp=E,17nm,1.4s,comp=E,17nm,1.7s						
JOD2	Odawara 2	2.04	67	⇓iP	Pn	04 54 29.1	+0.1
JOD2	Odawara 2	2.04	67	A	A	04 54 29.1	
	comp=E,7.0nm,4.4s,comp=E,9.0nm,2.6s						
JAI	Aioi	2.06	251	i P	Pn	04 54 29.7	+0.5
JAI				S	S	04 55 10.4	-0.3
JKSM	Kasumi	2.06	303	A	A	04 54 29.5	
	comp=E,3.0nm,2.2s,comp=E,6.0nm,2.6s						
JTT	Ttatey	2.16	12	A	A	04 54 29.8	
	comp=E,18nm,3.6s,comp=E,6.0nm,1.4s						
JIM2	Oshima 3	2.19	83	A	A	04 54 30.3	
	comp=E,16nm,2.2s,comp=E,13nm,2.8s						
JNG	Nsakai	2.19	29	A	A	04 54 30.0	
	comp=E,9.0nm,2.6s,comp=E,11nm,1.6s						
JRY	Ryogami san	2.30	48	⇓iP	Pn	04 54 31.3	+0.3
JRY				⇓eS	S	04 55 12.8	-1.1
JRY	Ryogami san	2.30	48	A	A	04 54 31.3	
	comp=E,4.0nm,1.5s,comp=E,7.0nm,1.9s						
MAJO	Matsushiro	2.35	29	Pn	Pn	04 54 31.4	+0.1
MAJO	Matsushiro	2.35	29	P	Pn	04 54 31.6	+0.3
MAJO	Matsushiro	2.35	29	d iP	Pn	04 54 31.2	-0.1
MAT	Matsushiro	2.35	29	P	Pn	04 54 31.3	0.0
MAT				S	S	04 55 13.4	-1.2
MJAR	Matsushiro Arr	2.35	29	P	Pn	04 54 31.4	+0.2
	623nm,0.6s,baz=206,slow=8.2,SNR=971						
MJAR				S	S	04 55 13.6	-1.0
	222nm,0.9s,baz=210,slow=14,SNR=13						
MJB9	Matsu-Tunnel	2.35	29	Pn	Pn	04 54 32.4	+1.1
JJH	Hakui	2.43	360	A	A	04 54 31.8	
	comp=E,8.0nm,3.3s,comp=E,10.0nm,1.8s						
JHU	Hanno	2.45	56	A	A	04 54 32.1	
	comp=E,12nm,0.9s,comp=E,7.0nm,2.1s						
JYO	Yokosk	2.47	72	A	A	04 54 32.4	
	comp=E,9.0nm,5.5s,comp=E,14nm,3.6s						
JMN	Monobe	2.53	253		Pn	04 54 33.4	+0.6
JMN	Monobe	2.53	253	P	Pn	04 54 33.5	+0.6
JMN	Monobe	2.53	253	i P	Pn	04 54 33.4	+0.6
JMN				S	S	04 55 17.9	+0.6
JMN	Monobe	2.53	253	A	A	04 54 33.4	
	comp=E,6.0nm,1.8s,comp=E,2.0nm,3.4s						
JGK	Kuni	2.56	35	A	A	04 54 32.9	
	comp=E,6.0nm,3.0s,comp=E,5.0nm,5.2s						
TATJ	Tateyama 2	2.61	77	A	A	04 54 33.5	
	comp=E,15nm,3.7s,comp=E,12nm,4.2s						
JHJ	Hachijo jima 2	2.84	118	P	Pn	04 54 35.5	+0.1
	726nm,0.3s,baz=37,slow=2.1,SNR=28						
JHJ				S	S	04 55 22.2	+0.3
	512nm,0.3s,baz=275,slow=21,SNR=7.2						
JJN	Nakama	2.84	23	A	A	04 54 35.1	
	comp=E,14nm,1.4s,comp=E,12nm,1.3s						
JHJ2	Mitsune	2.87	118		Pn	04 54 35.2	-0.4
JHJ2	Mitsune	2.87	118	P	Pn	04 54 35.4	-0.2
JKHR	Kochiharuno	2.91	251	A	A	04 54 36.7	
	comp=E,7.0nm,3.2s,comp=E,6.0nm,2.8s						
JAG	Ashikaga	2.91	48	⇓iP	Pn	04 54 34.6	-1.2
JAG				⇓eS	S	04 55 19.4	-3.5
JAG	Ashikaga	2.91	48	A	A	04 54 34.6	
	comp=E,3.0nm,2.0s,comp=E,3.0nm,3.5s						
JHS	Saijyo	3.07	281		Pn	04 54 38.1	+0.7
JHS	Saijyo	3.07	281	P	Pn	04 54 38.2	+0.7
JHS	Saijyo	3.07	281	i P	Pn	04 54 38.1	+0.7
JHS				S	S	04 55 25.8	+0.1
JHS	Saijyo	3.07	281	A	A	04 54 38.1	
	comp=E,8.0nm,2.3s,comp=E,7.0nm,1.7s						
JYT	Yasato	3.28	57	A	A	04 54 39.2	
	comp=E,10.0nm,0.4s,comp=E,10.0nm,1.1s						
JOI	OKI	3.41	303	P	Pn	04 54 40.8	+0.3
BSO1	Boso 1	3.46	86	i P	Pn	04 54 38.9	-1.5
BSO1				S	S	04 55 30.7	-0.4
JSB	Shiboa	3.55	45	A	A	04 54 41.7	
	comp=E,11nm,2.6s,comp=E,10.0nm,6.0s						
JHYU	Hitachinakayam	3.61	58	A	A	04 54 42.3	
	comp=E,7.0nm,3.7s,comp=E,8.0nm,1.4s						
UWA2	Uwa jima 2	3.69	251	A	A	04 54 44.1	
	comp=E,4.0nm,6.4s,comp=E,3.0nm,4.9s						
JTO	Tosashimizu	3.70	245	i P	Pn	04 54 44.0	+0.5
JTO				S	S	04 55 37.0	+0.4
JTO	Tosashimizu	3.70	245	A	A	04 54 44.0	
	comp=E,4.0nm,4.6s,comp=E,3.0nm,4.2s						
JSD	Sado	3.74	18	Pn	Pn	04 54 43.5	-0.1
JSD	Sado	3.74	18	P	Pn	04 54 43.7	+0.1
JHO	Hitachi	3.74	54	A	A	04 54 43.6	
	comp=E,6.0nm,1.7s,comp=E,9.0nm,1.5s						
JFY	Yanaizu	3.75	38	A	A	04 54 43.6	
	comp=E,3.0nm,3.0s,comp=E,3.0nm,5.0s						
JNS	Sasagawa	3.90	31	A	A	04 54 45.1	
	comp=E,3.0nm,1.6s,comp=E,3.0nm,3.3s						
JHIK	Hikimi	4.02	272	A	A	04 54 47.1	
	comp=E,8.0nm,4.5s,comp=E,2.0nm,2.8s						
JYAR	Yonezawaarcadi	4.36	37	A	A	04 54 49.8	
	comp=E,7.0nm,1.3s,comp=E,8.0nm,1.3s						
JFK	Kawauchi	4.38	48	A	A	04 54 50.1	
	comp=E,6.0nm,1.8s,comp=E,7.0nm,1.6s						
JUS	Usuki	4.43	253	A	A	04 54 51.6	
	comp=E,7.0nm,4.6s,comp=E,4.0nm,3.3s						
JYS	Shirataka	4.57	34	A	A	04 54 51.9	
	comp=E,7.0nm,2.6s,comp=E,8.0nm,1.5s						
JBEP	Beppuamama	4.62	257	A	A	04 54 53.6	
	comp=E,9.0nm,4.0s,comp=E,6.0nm,3.2s						
JMST	Minamisoumatoc	4.63	45	A	A	04 54 52.6	
	comp=E,8.0nm,0.9s,comp=E,11nm,0.8s						
JHGM	Hagimishima	4.67	275	A	A	04 54 53.8	
	comp=E,6.0nm,4.6s,comp=E,4.0nm,4.4s						
JMM	Marumori	4.67	43		Pn	04 54 52.2	-1.2
JMM	Marumori	4.67	43	P	Pn	04 54 52.2	-1.2
JMM	Marumori	4.67	43	A	A	04 54 53.1	
	comp=E,7.0nm,1.0s,comp=E,9.0nm,2.1s						
JYA	Atsumi	4.72	29	A	A	04 54 53.6	
	comp=E,8.0nm,1.8s,comp=E,8.0nm,1.9s						
JOU	Okura	4.97	38	A	A	04 54 56.3	
	comp=E,10.0nm,2.3s,comp=E,11nm,3.3s						
JNU	Nakatsue	5.11	256		Pn	04 54 58.7	+0.4
JNU	Nakatsue	5.11	256	P	Pn	04 54 59.1	+0.8
JOFO	Osakifurukawao	5.28	38	A	A	04 54 59.6	
	comp=E,17nm,2.9s,comp=E,21nm,2.8s						
JZO	Okuchi	5.69	247	A	A	04 55 05.5	
	comp=E,5.0nm,5.9s,comp=E,3.0nm,3.9s						
JMK	Ichinoseki	5.70	37	A	A	04 55 04.4	
	comp=E,3.0nm,2.0s,comp=E,4.0nm,3.6s						
JKMT	Kesennumamotoy	5.72	40	A	A	04 55 04.6	
	comp=E,6.0nm,6.0s,comp=E,6.0nm,1.1s						
JYW	Yuwa	5.74	27	A	A	04 55 04.7	
	comp=E,5.0nm,1.7s,comp=E,9.0nm,2.5s						
JRG	Rokugo	5.79	31	A	A	04 55 05.3	
	comp=E,3.0nm,1.7s,comp=E,5.0nm,3.4s						
OFUJ	Ofunato	6.03	39	A	A	04 55 08.1	
	comp=E,5.0nm,2.1s,comp=E,6.0nm,4.1s						
JSU	Suzuyama	6.10	243	Pn	Pn	04 55 09.3	-0.1
JSU	Suzuyama	6.10	243	P	Pn	04 55 10.2	+0.8
JOM	Ohasama	6.14	35	A	A	04 55 09.4	
	comp=E,4.0nm,1.8s,comp=E,7.0nm,1.9s						
JSZI	Iwateshizukuis	6.21	31	A	A	04 55 10.1	
	comp=E,6.0nm,1.9s,comp=E,9.0nm,3.8s						
JAH	Hinai	6.46	27	A	A	04 55 13.0	
	comp=E,5.0nm,2.3s,comp=E,8.0nm,3.6s						
JKEN	Kujiedanarisaw	6.92	33	A	A	04 55 18.3	
	comp=E,4.0nm,1.9s,comp=E,7.0nm,8.9s						
JANG	Nango	6.97	31	A	A	04 55 18.9	
	comp=E,3.0nm,2.4s,comp=E,4.0nm,1.7s						
JTM	Tenmabayashi	7.14	27	Pn	Pn	04 55 19.4	-1.9
JTM	Tenmabayashi	7.14	27	P	Pn	04 55 21.1	-0.2
JAHD	Aomorihigashid	7.66	27	A	A	04 55 27.0	
	comp=E,5.0nm,2.1s,comp=E,4.0nm,5.8s						
KSRS	Korea Array	7.78	295	P	Pn	04 55 30.1	+1.2
	64nm,0.8s,baz=112,slow=12,SNR=121						
KSRS				S	S	04 56 60.0	+0.3
	21nm,1.2s,baz=105,slow=22,SNR=5.9						
KSRS				ScP	ScP	05 04 26.4	+0.1
	1.4nm,0.5s,baz=136,slow=1.4,SNR=5.1						
KSAR	Wonju Array Be	7.80	295	Pn	Pn	04 55 29.8	+0.6
KSAR	Wonju Array Be	7.80	295	P	Pn	04 55 29.8	+0.6
KS19	Wonju Array Si	7.83	295		Pn	04 55 29.2	-0.4
TJN	Taejon	7.92	286		Pn	04 55 30.5	-0.1
TJN	Taejon	7.92	286	P	Pn	04 55 31.9	+1.3
	283nm,1.3s						
TJN	Taejon	7.92	286	ceP	Pn	04 55 31.1	+0.5
JCJ	Chichijima	8.70	146	P	Pn	04 55 33.6	-6.4
	84nm,0.4s,baz=282,slow=23,SNR=16						
JCJ				S	S	04 57 08.2	-12
	458nm,0.3s,baz=283,slow=22,SNR=22						
JCJ	Chichijima	8.70	146	Pn	Pn	04 55 37.8	-2.2
INCN	Inchon	8.76	293		P	04 55 42.0	-1.0
INCN	Inchon	8.76	293	P	P	04 55 42.7	-0.4
INCN	Inchon	8.76	293	P	P	04 55 42.0	-1.0
ERM	Erimo	9.03	32		Pn	04 55 41.6	-2.0
ERM	Erimo	9.03	32	P	Pn	04 55 42.2	-1.4
ERM	Erimo	9.03	32	ceP	Pn	04 55 43.1	-0.5
ERM				pmax	pmax		
	comp=Z,100nm,1.3s						
JEM	Erimo	9.03	32	P	Pn	04 55 42.3	-1.3
MSHR	Mys Shultsa	9.21	333	i P	Pn	04 55 46.2	+0.5
MSHR				pmax	pmax		
	comp=Z,25nm,0.7s						
HJU	Haeju	9.62	295	P	P	04 55 52.2	-0.3
HJU				pP		04 56 57.2	
HJU				S	S	04 57 41.0	+1.1
HJU				AMS	AMS		
	comp=N,422nm,2.7s						
HJU				AMS	AMS		
	comp=E,447nm,2.8s						
HJU				AMS	AMS		
	comp=Z,258nm,1.6s						
PYAG	Pyongyang	9.95	300	P	P	04 55 56.6	+0.3
PYAG				pP		04 56 58.4	
PYAG				S	S	04 57 49.6	+2.3
PYAG				AMS	AMS		
	comp=N,210nm,3.5s						
PYAG				AMS	AMS		
	comp=E,160nm,2.7s						
PYAG				AMS	AMS		
	comp=Z,87nm,1.5s						
USRK	Ussuriysk Ar.	10.39	340	P	Pn	04 56 00.2	+0.4
	comp=Z,41nm,0.7s,baz=162,slow=11,SNR=67						
USA0B	Ussuriysk Arra	10.39	340	P	Pn	04 56 00.3	+0.5
USA0B	Ussuriysk Arra	10.39	340	i P	Pn	04 55 59.9	+0.1
JOW	Kunigami	10.58	226	P	Pn	04 56 02.5	+0.2
	comp=Z,166nm,0.6s,baz=38,slow=7.4,SNR=36						
JOW	Kunigami	10.58	226	Pn	Pn	04 56 01.1	-1.3
JOW	Kunigami	10.58	226	P	Pn	04 56 02.6	+0.2
ASAJ	Asahikawa	10.61	23	P	Pn	04 56 02.8	+0.3
JKA	Kamikawa-asahi	10.61	23		Pn	04 56 02.8	+0.3
NMR	Nemuro--Hokkai	11.27	35	⇑iP	Pn	04 56 08.9	-1.4
NMR				eS	S	04 58 06.6	-10
SUJ	Sinuiju	11.28	303	P	P	04 56 11.6	+0.6
SUJ				pP		04 57 15.2	
SUJ				S	S	04 58 16.9	+0.3
SUJ				AMS	AMS		
	comp=N,295nm,3.7s						
SUJ				AMS	AMS		
	comp=E,159nm,2.0s						
SUJ				AMS	AMS		
	comp=Z,124nm,1.6s						
MDJ	Mudanjiang	11.54	333	P	P	04 56 14.2	+0.4
MDJ				S	S	04 58 24.8	+2.6
MDJ				pmax	pmax		
	comp=Z,86nm,0.4s						
MDJ				pmax	pmax		
	comp=Z,310nm,3.6s						
MDJ				LR	LR		
	comp=Z,430nm,12.8s						
RUSJ	Misakicho	11.62	32	eP	P	04 56 15.2	+0.6
RUSJ				eS	S	04 58 18.3	-5.7
YUK	Yuzh-Kuril'sk	11.84	34	eP	P	04 56 17.3	+0.2
YUK				eS	S	04 58 21.7	-7.0
YUK				pmax	pmax		
	comp=Z,159nm,0.3s						
YUK				pmax	pmax		
	comp=E,43nm,0.1s						
YUK				pmax	pmax		
	comp=N,66nm,0.3s						
CN2	Changchun	12.80	320	P	P	04 56 27.9	+0.2
CN2				S	S	04 58 41.9	-6.9
CN2				pmax	pmax		
	comp=N,40nm,0.6s						
YSS	Yuzh-Sakhalins	13.24	18	P	P	04 56 31.8	-0.8
YSS	Yuzh-Sakhalins	13.24	18	P	Pn	04 56 34.4	+0.8
YSS	Yuzh-Sakhalins	13.24	18	αeP	Pn	04 56 34.4	+0.8
YSS				eS	S	04 58 53.1	-4.6
YSS				pmax	pmax		
	comp=Z,300nm,1.0s						
YSS				pmax	pmax		
	comp=Z,270nm,0.4s						
YSS				smax	smax		
	comp=N,70nm,1.0s						
BNX	BinXian	13.33	330	⇓P	P	04 56 33.4	-0.1
BNX				pmax	pmax		
	comp=N,40nm,0.6s						
BNX				pmax	pmax		
	comp=N,400nm,3.8s						
UGL	Uglegorsk	15.10	13	eP	Pn	04 56 55.5	+0.4
UGL				pmax	pmax		
	comp=Z,120nm,0.5s						
KLR	Kul'dur	15.20	347	P	P	04 56 53.9	-0.1
	comp=Z,19nm,0.6s,baz=153,slow=9.3,SNR=50						
KLR	Kul'dur	15.20	347	deP	P	04 56 53.5	-0.5
KLR				pmax	pmax		
	comp=Z,27nm,1.0s						
NJ2	Nanjing	15.20	266	⇓P	P	04 56 53.7	-0.6
NJ2				pmax	pmax		
	comp=Z,70nm,0.9s						
TIA	Tai'an	16.14	282	⇓P	P	04 57 04.3	-0.2
TIA				pmax	pmax		
	comp=Z,73nm,1.2s						
TIA				LR	LR		
	comp=Z,160nm,4.6s						

TIA LR LR
comp=Z,230nm,9.5s
TIA LR LR
comp=Z,310nm,6.6s
GRNR Gornyy 16.28 359⇓*iP* P 04 57 06.6 +0.9
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.7s
YHNB Yeheng 16.58 238 P P 04 57 08.9 -0.5
TYV Tymovskoe 16.91 13 *e*P Pn 04 57 18.0 +1.8
TYV *e*S S 05 00 13.4 +2.5
TYV pmax pmax
comp=Z,1μm,3.5s
TYV pmax pmax
comp=Z,40nm,1.3s
TYV smax smax
comp=N,1μm,4.2s
TYV smax smax
comp=E,1μm,4.2s
HEH HeiHe 17.19 339 *e*P P 04 57 14.8 -0.7
HEH sP **sP 04 58 49.7 -0.2**
HEH S S 05 00 17.5 +1.2
HEH PcP PcP 05 01 34.1 -5.4
HEH pmax pmax
comp=E,32nm,0.5s
HEH pmax pmax
comp=E,250nm,6.4s
BJI Beijing 17.31 295 P P 04 57 16.2 -0.7
BJI sP **sP 04 58 49.0 -2.1**
BJI S S 05 00 21.2 +2.3
BJI pmax pmax
comp=E,43nm,0.6s
BJT Baijiatuau 17.31 295 P P 04 57 15.4 -1.6
BJT IAmb IAmb 04 57 16.7
comp=Z,33nm,0.6s
BJT Baijiatuau 17.31 295 P P 04 57 15.4 -1.6
BJT pmax pmax
comp=Z,33nm,0.6s
SSLB Suanglung 17.45 237 P P 04 57 16.7 -1.9
YULB Yu-li 17.47 235 P P 04 57 18.8 -0.1
TPUB Ta-pu 17.99 236 P P 04 57 22.5 -2.0
TWGBT Beinan 18.01 234 P P 04 57 24.6 0.0
comp=Z,152nm,0.8s
HNS HongShan 18.11 286 ⇓*iP* P 04 57 24.7 -0.8
HNS S S 05 00 32.7 -2.0
HNS pmax pmax
comp=Z,230nm,1.2s
HNS LR LR
comp=Z,210nm,11.8s
HNS LR LR
comp=Z,220nm,13.5s
QZH Quanzhou 18.43 244⇑*iP* P 04 57 27.3 -1.7
QZH pmax pmax
comp=Z,89nm,0.7s
XLT XiLinHaoTe 18.56 307⇓*iP* P 04 57 28.0 -2.3
XLT S S 05 00 43.2 -0.3
XLT pmax pmax
comp=Z,74nm,0.6s
XLT pmax pmax
comp=Z,240nm,6.1s
WHN Wuhan 19.32 264 ⇑P P 04 57 37.4 -1.0
WHN pmax pmax
comp=Z,280nm,0.7s
HIA Hailar 19.41 325 P P 04 57 37.3 -1.9
HIA Hailar 19.41 325 P P 04 57 37.3 -1.9
HIA pmax pmax
comp=Z,44nm,0.6s
TIY Taiyuan 19.93 286 *e*P P 04 57 43.0 -1.8
TIY S S 05 01 07.8 +0.4
TIY pmax pmax
comp=Z,310nm,5.0s
LYN LuoYang 20.04 277 ⇓P P 04 57 43.5 -2.2
LYN S S 05 01 06.4 -2.6
LYN pmax pmax
comp=Z,50nm,1.2s
LYN pmax pmax
comp=Z,300nm,3.4s
ZEA Zeya 20.39 344 *e*P P 04 57 48.6 -0.2
ZEA *e*S S 05 01 15.9 +1.5
ZEA pmax pmax
comp=N,40nm,0.6s
ZEA pmax pmax
comp=Z,90nm,0.7s
ZEA smax smax
comp=E,500nm,5.5s
HHC Hu-ho-hao-te 20.92 295 *e*P P 04 57 54.6 +0.7
HHC pmax pmax
comp=E,200nm,1.0s
HHC pmax pmax
comp=E,230nm,5.5s
BTO Baotou 22.04 294 *e*P P 04 58 02.7 -1.4
XAN Xi'an 23.02 277 ⇓P P 04 58 12.5 -0.4
XAN S S 05 02 03.6 +6.5
XAN pmax pmax
comp=E,120nm,0.7s
XAN pmax pmax
comp=E,420nm,3.5s
XAN LR LR
comp=E,220nm,11.0s
XAN LR LR
comp=E,220nm,12.4s
XAN LR LR
comp=E,320nm,13.7s
PEA0B Petropavlovsk- 23.81 32*ce*P P 04 58 20.8 +1.0
PETK Petropavlovsk- 23.81 32 P P 04 58 20.1 +0.3
comp=E,22nm,0.9s,baz=212,slow=7.9,SNR=16
comp=E,22nm,0.9s
PETK Petropavlovsk- 23.81 32 P P 04 58 19.6 -0.2
ULN Ulaanbaatar 25.89 310 P P 04 58 37.9 -0.8
ULN Ulaanbaatar 25.89 310 P P 04 58 39.7 +1.1
comp=E,2μmcomp=E,114nm,0.8s
ULN Ulaanbaatar 25.89 310*ce*P P 04 58 39.8 +1.1
ULN pmax pmax
comp=Z,65nm,2.5s
SONM Songino Array 26.30 310 P P 04 58 43.4 +1.1
comp=Z,14nm,0.5s,baz=114,slow=9.4,SNR=71
SONM ScP **ScP 05 05 03.0 -0.9**
comp=Z,0.7nm,0.8s,baz=146,slow=3.2,SNR=4.3
comp=Z,14nm,0.5s
SONM Songino Array 26.30 310 P P 04 58 42.0 -0.3
MA2 Magadan 26.73 16 P P 04 58 46.3 +0.5
comp=Z,12nm,0.6s,baz=167,slow=14,SNR=2.2
comp=Z,12nm,0.6s
LZH Lanzhou 26.88 283 *e*P P 04 58 47.3 -0.3
LZH pP pP 04 59 54.0 +2.4
LZH sP sP 05 00 32.7 -0.7
LZH pmax pmax
comp=Z,43nm,1.1s
GYA Guiyang 27.10 261⇑*iP* P 04 58 48.9 -0.7
GYA pmax pmax
comp=Z,42nm,1.1s
YAK Yakutsk 27.93 353*ce*P P 04 58 56.7 +0.4
YAK pmax pmax
comp=Z,13nm,0.6s
CD2 Chengdu 27.96 272⇓*iP* P 04 58 56.2 -0.9
CD2 pmax pmax
comp=Z,150nm,0.6s
ZAK Zakamensk 29.09 313 *e*P P 04 59 07.4 +0.6
ZAK pmax pmax
comp=Z,7.0nm,1.1s
GTA Gaotai 29.82 290 ⇓P P 04 59 13.1 -0.4
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,170nm,9.1s
GTA LR LR
comp=Z,200nm,14.2s
GTA LR LR
comp=Z,440nm,15.3s
GTA LR LR
comp=Z,180nm,17.8s
SEY Seymchan 30.10 14 P P 04 59 16.3 +0.9
comp=Z,11nm,0.8s,baz=218,slow=8.3,SNR=9.8
comp=Z,11nm,0.8s
SEY Seymchan 30.10 14*ce*P P 04 59 15.6 +0.2
SEY pmax pmax
comp=Z,19nm,1.7s
KMI Kunming 30.87 262 ⇑P P 04 59 22.4 -0.5
KMI pmax pmax
comp=Z,26nm,0.6s
MOY Mondy 30.88 315 *e*P P 04 59 24.0 +1.4
PZH PanZhiHua 31.11 265 P P 04 59 23.8 -1.1
PZH sP **sP 05 01 09.0 -2.1**
PZH S S 05 04 00.1 -4.3
PZH pmax pmax
comp=Z,30nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.9s
MYLDM Lahad Datu 33.73 214 P P 04 59 46.4 -0.9
MYLDM IAmb IAmb 05 00 04.5
comp=Z,36nm,0.9s
MYLDM Lahad Datu 33.73 214 P P 04 59 48.3 +1.0
comp=Z,48nm,1.0s
PATS Pohnpei 33.93 139 P P 04 59 48.3 -0.8
PATS Pohnpei 33.93 139 P P 04 59 50.3 +1.2
UBPT Khong Chiam 34.04 244 P P 04 59 50.8 +0.8
comp=Z,54nm,1.2s
GOMU GeErMu 34.10 285 P P 04 59 50.6 -0.1
GOMU pmax pmax
comp=Z,46nm,0.9s
GOMU pmax pmax
comp=Z,120nm,4.5s
NONG Nongkai 34.12 250 P P 04 59 50.9 +0.2
DLV T Lat 34.15 236 P P 04 59 51.6 +0.4
TNCH TengChong 34.37 265 P P 04 59 52.3 -0.7
TNCH pP pP 05 00 57.9 -1.6
TNCH PP **PnPn 05 01 22.2 -0.9**
TNCH sP sP 05 01 40.1 +0.3
TNCH pmax pmax
comp=Z,32nm,1.0s
TNCH pmax pmax
comp=Z,110nm,4.1s
MWPI Manokwari, Pap 35.33 185 P P 05 00 09.7 +8.8
PHRA Phrae 36.16 253 P P 05 00 08.1 +0.1
MRSI Marisa 36.58 205 P P 05 00 11.6 +0.2
comp=Z,46nm,1.0s
CMAR Chiang Mai Arr 37.20 254 P P 05 00 16.3 -0.4
comp=Z,2.4nm,0.4s,baz=46,slow=7.1,SNR=17
CMAR pP **pP 05 01 24.6 +0.3**
comp=Z,1.0nm,0.3s,baz=40,slow=6.1,SNR=1.8
CMAR PP **PP 05 01 49.5 -0.8**
comp=Z,0.7nm,0.3s,baz=39,slow=9.7,SNR=4.4
CMAR ScP **ScP 05 05 41.8 +0.5**
comp=Z,2.8nm,0.8s,baz=60,slow=3.0,SNR=4.3
comp=Z,2.4nm,0.4s
CMAR Chiang Mai Arr 37.20 254 *i*P P 05 00 15.6 -1.1
CMAR pmax pmax
comp=Z,3.0nm,0.4s
FAKI Fak Fak 37.45 187 P P 05 00 17.2 -1.5
FAKI IAmb IAmb 05 00 19.1
comp=Z,38nm,0.8s
FAKI Fak Fak 37.45 187 P P 05 00 18.2 -0.5
comp=Z,61nm,1.1s
TIXI Tiksi 37.46 356 P P 05 00 18.1 0.0
comp=Z,9.1nm,0.4s,baz=230,slow=0.0,SNR=14
comp=Z,9.1nm,0.4s
TIXI Tiksi 37.46 356*ce*P P 05 00 18.3 +0.2
TIXI pmax pmax
comp=Z,9.0nm,0.7s
MPSI Mapaga 37.47 209 P P 05 00 19.1 +0.2
comp=Z,20nm,1.0s
BILL Bilibino 37.56 18 P P 05 00 19.5 +0.5
BILL Bilibino 37.56 18*c i*P P 05 00 20.2 +1.2
BILL *i* 05 01 56.5
BILL *i* 05 02 28.6
BILL pmax pmax
comp=Z,88nm,1.0s
MANU Manus Island 37.67 163 P P 05 00 19.6 -0.9
MND Mandalay 37.69 262 P P 05 00 20.2 -0.4
comp=Z,31nm,0.9s
SANI Sanana 37.73 198 P P 05 00 19.1 -2.0
comp=Z,24nm,0.5s
SANI Sanana 37.73 198 P P 05 00 19.6 -1.5
NAYO Nakonayok 37.76 247 P P 05 00 22.1 +0.8
comp=Z,267nm,1.0s
APSI Ampana 37.97 205 P P 05 00 22.8 -0.2
comp=Z,35nm,1.0s
KRAI Karang Ratu 38.43 194 P P 05 00 27.6 +0.8
comp=Z,52nm,0.6s
WMQ Urumqi 38.70 299 *e*P P 05 00 30.2 +1.3
WMQ pmax pmax
comp=Z,25nm,1.3s
DGZ Jazzator, Alta 38.92 308*d i*P P 05 00 31.7 +1.0
DGZ pmax pmax
comp=Z,15nm,0.9s
SBUM Sibu 39.24 221 P P 05 00 32.6 -0.9
SBUM Sibu 39.24 221 P P 05 00 34.2 +0.7
comp=Z,9.3nm,1.2s
SHL Shillong 39.62 269 P P 05 00 35.3 -1.4
SHL Shillong 39.62 269 P P 05 00 35.3 -1.4
SHL pmax pmax
comp=Z,17nm,0.8s
ZSN Zaisan 40.57 305 *e*P P 05 00 43.8 -0.2
baz=305
ZSN Zaisan 40.57 305 *e*P P 05 00 43.7 -0.2
MTKI Muara Teweh, K 40.79 215 P P 05 00 48.1 +2.0
comp=Z,105nm,0.5s
ZALV Zalesovo Beam 40.94 315 P P 05 00 46.6 -0.2
comp=Z,9.1nm,0.5s,baz=95,slow=8.2,SNR=27
ZALV PcP **PcP 05 02 39.3 -0.2**
comp=Z,5.8nm,0.6s,baz=101,slow=3.2,SNR=10
ZALV ScP **ScP 05 05 54.5 -0.6**
comp=Z,2.7nm,0.8s,baz=108,slow=5.5,SNR=6.6
comp=Z,9.1nm,0.5s
ZALV Zalesovo Beam 40.94 315 P P 05 00 46.4 -0.4
KSM Kuching 41.11 223 P P 05 00 48.4 -0.3
KSM Kuching 41.11 223 P P 05 00 49.2 +0.5
comp=Z,35nm,0.8s
KSM Kuching 41.11 223 P P 05 00 49.0 +0.3
BNSI Bone 41.76 205 P P 05 00 54.5 +0.7
comp=Z,15nm,1.0s
NIKH Nikolski High 42.27 47 P P 05 00 57.4 -0.1
baz=266
SURA Surathani 42.34 242 P P 05 00 59.2 +0.7
MK31 Makanchi Array 42.35 304 P P 05 00 58.8 +0.4
MK31 Makanchi Array 42.35 304*d i*P P 05 00 58.7 +0.4
MKAR Makanchi Array 42.35 304 P P 05 00 58.8 +0.5
comp=Z,24nm,0.6s,baz=85,slow=10,SNR=177
MKAR ScP **ScP 05 05 59.8 -1.2**
comp=Z,1.0nm,0.6s,baz=100,slow=2.4,SNR=5.3
comp=Z,24nm,0.6s
TAPN Taplejung 42.37 274 *e*P P 05 00 58.8 -0.3
comp=Z,49nm,0.4s
KAPI Kappang 42.45 206 P P 05 00 59.0 -0.4
comp=Z,11nm,0.4s,baz=356,slow=5.2,SNR=9.4
comp=Z,11nm,0.4s
KAPI Kappang 42.45 206 P P 05 00 57.9 -1.5
KAPI Kappang 42.45 206 P P 05 01 00.4 +1.0
comp=Z,27nm,1.2s
KAPI Kappang 42.45 206 P P 05 00 59.4 0.0
KAPI Kappang 42.45 206 P P 05 00 59.0 -0.4
MAKZ Makanchi 42.56 304 P P 05 00 59.8 -0.1
MAKZ IAmb IAmb 05 01 01.0
comp=Z,22nm,0.5s
MAKZ Makanchi 42.56 304 P P 05 00 59.9 -0.1
BKSI Bulukumba 42.61 205 P P 05 00 59.7 -0.9
comp=Z,23nm,0.6s
SRIT Nakonsritamara 42.74 242 P P 05 01 02.0 +0.2
SRIT IAmb IAmb 05 01 03.3
comp=Z,65nm,1.1s
SRIT Nakonsritamara 42.74 242 P P 05 01 02.5 +0.7
SKLT Songkhla 42.98 239 P P 05 01 05.4 +1.7
comp=Z,38nm,0.9s
SKLT Songkhla 42.98 239 P P 05 01 04.2 +0.5
RAMN Ramite 43.44 274 *e*P P 05 01 07.1 -0.4
comp=Z,93nm,0.7s
JIRN Jiri 43.51 275 *e*P P 05 01 08.4 +0.2
comp=Z,212nm,0.4s
GUN Gumba 43.67 276 *e*P P 05 01 09.5 +0.1
comp=Z,98nm,0.6s
NRIK Noril'sk 44.08 337 P P 05 01 12.1 +0.5
comp=Z,15nm,0.5s,baz=111,slow=8.1,SNR=16
NRIK PcP **PcP 05 02 50.0 +0.2**
comp=Z,1.3nm,0.4s,baz=89,slow=4.1,SNR=4.2
comp=Z,15nm,0.5s
NRIK Noril'sk 44.08 337 P P 05 01 12.2 +0.5
NRIK Noril'sk 44.08 337*de*P P 05 01 12.0 +0.5
NRIK pmax pmax
comp=Z,11nm,0.6s
PKI Pulchoki 44.18 276 *e*P P 05 01 13.0 -0.4
comp=Z,41nm,0.4s
PKIN Phulchoki 44.19 276 *e*P P 05 01 12.9 -0.5
comp=Z,52nm,0.4s
KULM Kulim 44.29 237 IAmb IAmb 05 01 16.3
comp=Z,43nm,1.3s
DMN Daman 44.42 276 *e*P P 05 01 14.8 -0.4
comp=Z,37nm,0.4s
KURK Kurchatov 44.60 310 P P 05 01 15.4 -0.6
KURK IAmb IAmb 05 01 16.8
comp=Z,32nm,0.7s
KURK Kurchatov 44.60 310*ce*P P 05 01 16.0 0.0
KURK pmax pmax
comp=Z,32nm,0.7s
IPM Ipoh 44.61 236 P P 05 01 15.9 -0.6
IPM IAmb IAmb 05 01 18.0
comp=Z,49nm,0.8s
IPM Ipoh 44.61 236 P P 05 01 15.9 -0.6
comp=Z,527nmcomp=Z,66nm,0.9s
IPM Ipoh 44.61 236 P P 05 01 16.0 -0.5
KURBB Kurchatov Arra 44.66 310 P P 05 01 16.4 -0.1
comp=Z,14nm,0.6s,baz=87,slow=6.3,SNR=83
comp=Z,14nm,0.6s
KURBB Kurchatov Arra 44.66 310 P P 05 01 15.5 -0.9
PDGK Podgornoye 44.69 299 P P 05 01 16.3 -0.6
PMG Port Moresby 44.74 165 P P 05 01 17.0 -0.4
comp=Z,11nm,0.5s,baz=333,slow=22,SNR=4.7
comp=Z,11nm,0.5s
PMG Port Moresby 44.74 165*ce*P P 05 01 16.9 -0.6
PMG pmax pmax
comp=Z,9.0nm,0.6s
UZB Uzynbulak 45.05 299 *e*P P 05 01 19.1 -0.7
baz=299
UZB Uzynbulak 45.05 299 *e*P P 05 01 19.1 -0.7
KPKS Kokpek 45.24 299 *e*P P 05 01 20.4 -0.8
baz=300
KPKS Kokpek 45.24 299 *e*P P 05 01 20.4 -0.8
ZHN Zhinishke 45.47 299 *e*P P 05 01 22.0 -1.1
baz=299
ZHN Zhinishke 45.47 299 *e*P P 05 01 21.9 -1.1
SATY Saty 45.51 299 *e*P P 05 01 22.4 -0.9
baz=299
SATY Saty 45.51 299 *e*P P 05 01 22.4 -0.9
BATI Baumata 46.16 198 P P 05 01 28.1 -0.4
comp=Z,82nm,0.7s,baz=354,slow=3.8,SNR=5.1
comp=Z,82nm,0.7s
CHKK Chushkaly 46.40 300 *e*P P 05 01 29.5 -0.5
baz=300
CHKK Chushkaly 46.40 300 *e*P P 05 01 29.5 -0.5
PPBI Pangkal Pinang 46.45 225 P P 05 01 30.8 0.0
comp=Z,44nm,0.8s
MDOK Medeo 46.47 299 *e*P P 05 01 30.5 -0.4
baz=299
MDOK Medeo 46.47 299 *e*P P 05 01 30.4 -0.4
KUU Kurty 46.85 300 *e*P P 05 01 32.3 -1.3
baz=300
KUU Kurty 46.85 300 *e*P P 05 01 32.2 -1.3
KDU Kakadu 47.09 186 P P 05 01 34.8 -0.8
PSI Prapat 47.26 237 P P 05 01 36.6 -0.5
comp=Z,18nm,0.9s
PSI Prapat 47.26 237 P P 05 01 36.6 -0.5
MTN Manton Dam 47.37 188 P P 05 01 36.3 -1.4
MTN Manton Dam 47.37 188 P P 05 01 36.7 -1.0
TKM2 Tokmak 2 47.56 299 P P 05 01 40.0 +0.8
SNR=14
TKM2 Tokmak 2 47.56 299 P P 05 01 39.1 -0.1
CHNA Chernabura Isl 47.77 44 P P 05 01 40.3 0.0
baz=272
KBK Karagaybulak 48.08 299 P P 05 01 43.8 +0.7
SNR=8.6
SGDS Sogindy 48.15 300 *e*P P 05 01 42.1 -1.4
baz=300
SGDS Sogindy 48.15 300 *e*P P 05 01 42.1 -1.4
N16K Nishlik Lake 48.23 37 P P 05 01 45.6 +1.9
baz=268
BTLS Baital 48.27 302 *e*P P 05 01 42.9 -1.4
baz=302
BTLS Baital 48.27 302 *e*P P 05 01 42.8 -1.4
MNSI Mandailing Nat 48.28 234 P P 05 01 45.3 +0.6
comp=Z,44nm,0.6s
USP Ospenovka 48.28 300 P P 05 01 37.4 -7.1
SNR=6.2
SDSI Sungai Dareh 48.36 231 P P 05 01 45.0 -0.3
comp=Z,57nm,0.7s
CHGN Chignik 48.39 42 P P 05 01 45.5 +0.5
baz=272
AAK Ala-Archa 48.41 299 P P 05 01 46.0 +0.4
SNR=7.1
AAK Ala-Archa 48.41 299 P P 05 01 45.6 0.0
comp=Z,5.1nm,0.5s,baz=142,slow=6.7,SNR=12
comp=Z,5.1nm,0.5s
AAK Ala-Archa 48.41 299 P P 05 01 45.5 -0.1
AAK Ala-Archa 48.41 299*ce*P P 05 01 46.0 +0.4
AAK pmax pmax
comp=Z,6.0nm,1.0s
BRZS Berezniki 48.45 309 *e*P P 05 01 44.8 -0.9
baz=309
BRZS Berezniki 48.45 309 *e*P P 05 01 44.7 -0.9
UCH Uchtor 48.49 299 P P 05 01 47.4 +0.9
SNR=6.3
O16K Kokwok River B 48.54 38 P P 05 01 47.4 +1.3
baz=269
COEN Coen 48.56 172 P P 05 01 46.2 -0.5
COEN IAmb IAmb 05 01 47.5
comp=Z,22nm,0.6s
COEN Coen 48.56 172 P P 05 01 46.9 +0.2
OTUK Ortayu 48.91 307 P P 05 01 48.7 -0.4
O17K Koliganek Bris 49.05 38 P P 05 01 50.9 +1.0
baz=270
AML Almayashu 49.10 299 P P 05 01 51.9 +0.8
SNR=12
GSI Gunungsitoli 49.27 237 P P 05 01 51.7 -0.5
comp=Z,119nm,1.2s
GSI Gunungsitoli 49.27 237 P P 05 01 52.0 -0.2
Q16K King Salmon 49.28 39 P P 05 01 52.7 +1.1
baz=271
GCSA Galena City Sc 49.35 31 P P 05 01 53.1 +1.0
baz=266
P17K Kvichak River 49.39 39 P P 05 01 53.4 +1.0
baz=271
BVA0 Borovoye Array 49.54 313 P P 05 01 53.6 -0.1
BVAR Borovoye Array 49.54 313 P P 05 01 53.6 -0.1
comp=Z,10nm,0.4s,baz=100,slow=8.3,SNR=42
BVAR PcP **PcP 05 03 09.8 +0.1**
comp=Z,5.5nm,0.6s,baz=80,slow=5.3,SNR=8.8
BVAR ScP **ScP 05 06 29.8 -1.1**
comp=Z,2.7nm,0.7s,baz=96,slow=4.6,SNR=7.4
comp=Z,10nm,0.4s
BRVK Borovoye 49.60 313 P P 05 01 54.6 +0.4
BRVK Borovoye 49.60 313*ce*P P 05 01 54.4 +0.2
BRVK pmax pmax
comp=Z,6.0nm,0.6s
TTA Tatalina 49.63 34 P P 05 01 55.5 +1.2
baz=268
N18K Kilae Creek 49.65 37 P P 05 01 55.9 +1.4
baz=270
Q17K Contact Creek 49.70 40 P P 05 01 55.7 +0.8
baz=272
O18K Koktuh Hills 50.00 38 IAmb IAmb 05 02 01.1
comp=Z,28nm,0.8s
O18K Koktuh Hills 50.00 38 P P 05 01 59.4 +2.3
baz=271,SNR=5.8
P18K Big Mountain, 50.00 38 P P 05 01 57.8 +0.7
P18K IAmb IAmb 05 01 59.6
comp=Z,57nm,1.1s
P18K Big Mountain, 50.00 38 P P 05 01 58.4 +1.3
baz=272,SNR=6.0
Q18K Katmai Hardscr 50.14 39 P P 05 01 58.7 +0.4
baz=272
L19K White Mountain 50.16 35 P P 05 01 59.6 +1.4
baz=270
A21K Barrow 50.26 23 P P 05 02 00.0 +1.3
baz=260
N19K Bonanza Creek 50.34 36 P P 05 02 00.6 +1.0
baz=271
M19K Big River Lodg 50.37 35 P P 05 02 00.9 +1.1
baz=270
KNRA Kununurra 50.47 190 P P 05 02 00.3 -0.7
KNRA IAmb IAmb 05 02 03.4
comp=Z,19nm,0.6s
KNRA Kununurra 50.47 190 P P 05 02 00.6 -0.3
J20K Nowinta River 50.51 32 IAmb IAmb 05 02 03.7
comp=Z,39nm,1.1s
J20K Nowinta River 50.51 32 P P 05 02 02.4 +1.7
baz=269
K20K Telida 50.53 33 IAmb IAmb 05 02 03.9
comp=Z,41nm,1.1s
K20K Telida 50.53 33 P P 05 02 02.5 +1.6
baz=269
L20K Farewell, AK 50.61 34 P P 05 02 02.9 +1.3
baz=270
Q19K Cape Douglas, 50.84 39 P P 05 02 03.7 +0.4
baz=273
G21K Allakaket 50.86 29 P P 05 02 04.6 +1.3
baz=267
F21K Alatna River 50.91 28 P P 05 02 04.3 +0.6
baz=267
M20K Styx River 50.97 35 P P 05 02 05.7 +1.4
baz=271

P19K Oil Pt 51.01 30 P P 05 02 05.6 +1.1
baz=273
H21K Melozitna Rive 51.11 30 P P 05 02 06.6 +1.4
baz=269
OHAK Old Harbor 51.15 41 P P 05 02 05.4 -0.1
baz=275
KK31 Karatay Array 51.16 301 P P 05 02 06.1 +0.2
KK31 Karatay Array 51.16 301 *i* P P 05 02 05.8 -0.1
KKAR Karatay Array 51.16 301 P P 05 02 05.2 -0.7
KKAR Karatay Array 51.16 301 P P 05 02 05.2 -0.7
KKAR pmax pmax
comp=Z,15nm,0.7s
O20K Slope Mountain 51.29 37 P P 05 02 07.6 +1.0
baz=273
CHUM Lake Minchumin 51.31 32 P P 05 02 08.2 +1.6
baz=270,SNR=6.2
PPLA Purkeypile 51.38 34 IAmb IAmb 05 02 11.2
comp=Z,57nm,1.5s
PPLA Purkeypile 51.38 34 P P 05 02 08.4 +1.0
baz=271
CAST Castle Rocks 51.42 33 P P 05 02 08.9 +1.4
baz=271,SNR=8.1
F22K John River 51.42 28 P P 05 02 09.4 +2.0
baz=268
SPCR Spurr Chakacha 51.44 36 P P 05 02 09.1 +1.4
baz=273,SNR=6.1
N20K Mount Spurr 51.44 36 P P 05 02 09.0 +1.3
baz=273,SNR=7.0
I21K Tanana 51.45 31 IAmb IAmb 05 02 10.8
comp=Z,36nm,1.1s
I21K Tanana 51.45 31 P P 05 02 09.6 +2.0
baz=270
KDAK Kodiak Island 51.48 40 P P 05 02 08.5 +0.6
comp=Z,22nm,0.6s,baz=287,slow=2.6,SNR=56
comp=Z,22nm,0.6s
KDAK Kodiak Island 51.48 40 P P 05 02 08.4 +0.5
baz=275
KDAK Kodiak Island 51.48 40 *i* P P 05 02 07.6 -0.4
KDAK pmax pmax
comp=Z,43nm,0.8s
Q20K Shuyak Island 51.51 39 P P 05 02 08.4 +0.2
baz=275
G22K Bettles 51.67 28 P P 05 02 10.3 +1.1
baz=269
H22K Ishtalitna Cre 51.71 30 P P 05 02 11.6 +2.1
baz=270
SKT Skwentna 51.72 35 P P 05 02 10.8 +1.0
baz=273
IUG Iuzhnay 51.74 300 *e*P P 05 02 09.7 -0.6
baz=300
IUG Iuzhnay 51.74 300 *e*P P 05 02 09.7 -0.6
NIL Nilore 51.84 288 P P 05 02 11.1 0.0
NIL Nilore 51.84 288 P P 05 02 11.1 0.0
NIL pmax pmax
comp=Z,13nm,0.7s
BPAW Bear Paw Mtn. 51.89 32 P P 05 02 12.4 +1.4
baz=272,SNR=5.6
KTH Kantishna Hill 51.94 33 IAmb IAmb 05 02 14.0
comp=Z,36nm,1.2s
MLY Manley 51.98 31 IAmb IAmb 05 02 14.5
comp=Z,45nm,1.4s
MLY Manley 51.98 31 P P 05 02 13.5 +2.0
baz=271,SNR=15
D23K Nanushuk River 52.04 26 P P 05 02 13.7 +1.8
baz=268
C23K Itkillik River 52.10 25 P P 05 02 13.8 +1.5
baz=267
SUA Susitna One 52.12 35 IAmb IAmb 05 02 15.7
comp=Z,46nm,0.9s
SUA Susitna One 52.12 35 P P 05 02 13.6 +0.8
baz=274
COLD Coldfoot 52.18 28 P P 05 02 14.5 +1.5
baz=270
TRF Thorofare Moun 52.23 33 P P 05 02 14.7 +1.1
baz=273
G23K Bananza Creek 52.25 29 P P 05 02 14.9 +1.4
baz=270,SNR=7.0
BRSE Bradley Lake S 52.26 38 P P 05 02 14.7 +1.0
baz=275
CUT Chulitna 52.29 34 P P 05 02 14.3 +0.5
baz=274
GAR Garm 52.40 296 P P 05 02 14.5 -0.7
GAR IAmb IAmb 05 02 16.0
comp=Z,31nm,1.2s
M22K Willow 52.40 35 P P 05 02 15.7 +1.1
baz=274
E23K Chandalar 52.41 27 P P 05 02 16.4 +1.7
baz=270
TOLK Toolik Lake Re 52.43 26 P P 05 02 16.2 +1.4
baz=269,SNR=5.5
H23K Yukon River 52.46 30 IAmb IAmb 05 02 18.4
comp=Z,44nm,0.9s
H23K Yukon River 52.46 30 P P 05 02 16.7 +1.7
baz=272,SNR=23
BWN Browne 52.56 32 IAmb IAmb 05 02 18.9
comp=Z,37nm,0.8s
I23K Minto, Yukon-K 52.56 31 P P 05 02 16.7 +0.9
baz=272
RC01 Rabbit Creek A 52.64 36 P P 05 02 16.4 0.0
RC01 Rabbit Creek A 52.64 36 P P 05 02 18.0 +1.6
baz=275
NEA2 Nenana 52.71 31 IAmb IAmb 05 02 19.4
comp=Z,40nm,0.9s
NEA2 Nenana 52.71 31 P P 05 02 18.4 +1.6
baz=273,SNR=15
D24K Happy Valley 52.71 26 P P 05 02 18.3 +1.6
baz=270
C24K Franklin Bluff 52.76 25 P P 05 02 18.5 +1.4
baz=269
MCK McKinley 52.81 33 IAmb IAmb 05 02 20.5
comp=Z,34nm,1.3s
MCK McKinley 52.81 33 P P 05 02 18.5 +0.8
baz=274
MTSU Mount Surprise 52.82 171 P P 05 02 18.6 +0.4
E24K Your Creek 52.83 27 P P 05 02 19.4 +1.6
baz=271
PMR Palmer 52.89 35 IAmb IAmb 05 02 19.2
comp=Z,32nm,1.1s
PMR Palmer 52.89 35 P P 05 02 18.8 +0.6
baz=275
GHO Glory Hole Cre 52.97 35 IAmb IAmb 05 02 20.3
comp=Z,32nm,1.0s
WAT1 Susitna Watana 53.05 34 P P 05 02 20.4 +1.0
baz=275
F24K Squaw Lake 53.07 28 P P 05 02 21.1 +1.6
baz=272
H24K Noodor Dome 53.15 30 IAmb IAmb 05 02 23.1
comp=Z,29nm,1.1s
H24K Noodor Dome 53.15 30 P P 05 02 21.9 +1.9
baz=273
TCOL CIGO, UAF Yank 53.21 31 IAmb IAmb 05 02 23.8
comp=Z,39nm,1.2s
TCOL CIGO, UAF Yank 53.21 31 P P 05 02 22.0 +1.6
baz=274
COLA College 53.21 31 P P 05 02 20.9 +0.5
COLA IAmb IAmb 05 02 23.8
comp=Z,42nm,1.3s
COLA College 53.21 31 P P 05 02 21.9 +1.5
baz=274
COLA College 53.21 31 P P 05 02 21.2 +0.8
COLA College 53.21 31 P P 05 02 20.9 +0.5
COLA pmax pmax
comp=Z,42nm,1.3s
KNK Knik Glacier 53.23 35 P P 05 02 21.4 +0.8
baz=276
SML Sawmill 53.23 35 IAmb IAmb 05 02 22.8
comp=Z,24nm,0.9s
SML Sawmill 53.23 35 P P 05 02 21.6 +0.7
baz=276
G24K Hadweenzic Riv 53.27 29 P P 05 02 22.3 +1.5
baz=273
POKR Poker Plat Res 53.37 31 IAmb IAmb 05 02 24.4
comp=Z,50nm,0.9s
POKR Poker Plat Res 53.37 31 P P 05 02 23.3 +1.7
baz=274,SNR=17
WAT6 Susitna Watana 53.45 34 P P 05 02 23.0 +0.6
baz=276
M23K Glacier View 53.53 35 P P 05 02 23.8 +0.9
baz=276
DHY Denali Highway 53.57 33 P P 05 02 23.9 +0.6
baz=276
D25K Kavik River 53.58 25 P P 05 02 24.5 +1.4
baz=272
ILAR Eielson Array 53.63 31 P P 05 02 23.7 +0.2
comp=Z,6.8nm,0.8s,baz=266,slow=5.3,SNR=59
comp=Z,6.8nm,0.8s
ILAR Eielson Array 53.63 31 P P 05 02 23.5 0.0
HDA Harding Lake 53.64 32 IAmb IAmb 05 02 24.9
comp=Z,34nm,1.0s
HDA Harding Lake 53.64 32 P P 05 02 23.5 0.0
baz=275,SNR=12
SCM Sheep Creek Mo 53.72 35 P P 05 02 25.2 +0.9
baz=276
G25K Bearman Lake 53.81 29 P P 05 02 26.9 +2.2
baz=274,SNR=6.6
P23K Montague Islan 53.91 37 P P 05 02 26.9 +1.4
baz=278
E25K Arctic Village 53.93 27 P P 05 02 27.3 +1.7
baz=273,SNR=12
F25K Christian Rive 53.93 28 P P 05 02 27.8 +2.1
baz=274,SNR=15
C26K Camden Bay 54.07 25 P P 05 02 28.0 +1.5
baz=273
PRP Porcupine Dome 54.14 30 P P 05 02 28.2 +0.9
baz=275,SNR=5.6
WRAB Tennant Creek 54.17 183 P P 05 02 26.4 -1.5
WRAB Tennant Creek 54.17 183 P P 05 02 27.3 -0.6
WRAB Tennant Creek 54.17 183 *i* P P 05 02 26.9 -1.0
WRAB pmax pmax
comp=Z,17nm,0.5s
WRA Warramunga Arr 54.18 183 P P 05 02 27.1 -0.8
comp=Z,23nm,0.4s,baz=358,slow=7.7,SNR=310
WRA PcP PcP 05 03 27.9 +0.5
comp=Z,2.5nm,0.6s,baz=0.5,slow=4.2,SNR=5.8
WRA S S 05 09 34.5 -2.8
comp=Z,0.9nm,0.8s,baz=0.3,slow=13,SNR=4.9
comp=Z,23nm,0.4s
WRA Warramunga Arr 54.18 183 P P 05 02 26.1 -1.8
WRA Warramunga Arr 54.18 183 *i* P P 05 02 25.1 -2.8
WRA pmax pmax
comp=Z,28nm,0.4s
WB1 Warramunga Ar. 54.19 183 P P 05 02 27.5 -0.6
M24K Tolsona, Glenn 54.23 34 P P 05 02 29.3 +1.4
baz=277
TV1H Townsville Har 54.29 168 P P 05 02 28.2 -0.5
J25K Salcha River, 54.30 31 P P 05 02 29.1 +0.8
baz=276
KLU Klutina 54.42 35 P P 05 02 30.6 +1.3
baz=278
PAX Paxson 54.44 33 P P 05 02 30.5 +1.0
baz=277
F26K Sheenjek River 54.49 27 P P 05 02 31.7 +2.0
baz=275
C27K Jago River 54.50 25 P P 05 02 31.6 +2.0
baz=274
DIV Divide 54.55 36 IAmb IAmb 05 02 32.7
comp=Z,57nm,1.3s
EYAK Cordova Ski Ar 54.64 36 P P 05 02 31.9 +1.2
baz=279
HARP HAARP 54.66 34 P P 05 02 32.1 +1.2
baz=278
G26K Porcupine Rive 54.70 28 P P 05 02 33.2 +2.1
baz=276,SNR=12
QIS Mount Isa 54.80 177 P P 05 02 31.7 -0.7
KBL Kabul 54.81 291 P P 05 02 31.9 -0.7
KBL Kabul 54.81 291 P P 05 02 31.9 -0.7
KBL pmax pmax
comp=Z,12nm,1.2s
SCRK Sand Creek 54.97 32 IAmb IAmb 05 02 35.0
comp=Z,43nm,1.1s
SCRK Sand Creek 54.97 32 P P 05 02 33.9 +0.7
baz=278,SNR=19
CTA Charters Tower 55.01 169 P P 05 02 33.2 -0.7
comp=Z,12nm,0.8s,baz=352,slow=5.8,SNR=17
comp=Z,12nm,0.8s
CTA Charters Tower 55.01 169 P P 05 02 34.0 +0.1
CTAO Charters Tower 55.01 169 P P 05 02 33.5 -0.4
CTAO IAmb IAmb 05 02 34.7
comp=Z,21nm,1.0s
CTAO Charters Tower 55.01 169 P P 05 02 34.0 +0.1
CTAO Charters Tower 55.01 169 P P 05 02 33.5 -0.4
CTAO pmax pmax
comp=Z,21nm,1.0s
N25K Chitina, Valde 55.04 35 P P 05 02 34.6 +0.9
baz=279
J26L Joseph Creek 55.08 31 P P 05 02 34.4 +0.4
baz=278
BMRM Bremner River 55.13 36 P P 05 02 35.5 +1.2
baz=279,SNR=5.4
I26K Coal Creek Min 55.15 30 P P 05 02 34.9 +0.6
baz=278
MENT Mentasta 55.24 33 IAmb IAmb 05 02 37.8
comp=Z,31nm,1.0s
L26K Log Cabin Wild 55.39 33 IAmb IAmb 05 02 38.8
comp=Z,26nm,1.0s
L26K Log Cabin Wild 55.39 33 P P 05 02 37.4 +1.3
baz=279,SNR=12
E27K Coleen River 55.40 27 P P 05 02 37.6 +1.6
baz=277,SNR=14
GLB Gilahina Butte 55.44 35 IAmb IAmb 05 02 39.1
comp=Z,31nm,1.2s
G27K Doyon Strip 55.56 28 P P 05 02 38.7 +1.5
baz=278,SNR=7.6
VRDI Verde Repeater 55.64 35 IAmb IAmb 05 02 40.5
comp=Z,26nm,1.1s
M26K Nabesna, AK 55.65 34 IAmb IAmb 05 02 40.7
comp=Z,46nm,1.2s
M26K Nabesna, AK 55.65 34 P P 05 02 39.2 +1.2
baz=280
H27K Steamboat Moun 55.69 29 P P 05 02 39.9 +1.7
baz=278
I27K Kandik River 55.74 30 P P 05 02 40.4 +1.8
baz=279
ARU Arti 55.79 319 P P 05 02 38.8 -0.1
comp=Z,6.8nm,0.2s,baz=39,slow=4.3,SNR=10
comp=Z,6.8nm,0.2s
ARU Arti 55.79 319 P P 05 02 38.5 -0.4
ARU Arti 55.79 319 *d* *i* P P 05 02 38.9 -0.1
ARU *PP pP 05 03 49.2 -3.3
ARU S S 05 09 59.0 +1.2
ARU pmax pmax
comp=Z,16nm,1.2s
K27K Chicken 55.80 32 IAmb IAmb 05 02 41.6
comp=Z,36nm,1.1s
K27K Chicken 55.80 32 P P 05 02 40.4 +1.5
baz=279
MCARA McCarthy VSAT 55.82 35 P P 05 02 40.3 +1.2
baz=280,SNR=5.1
EGAK Eagle 56.07 31 P P 05 02 41.7 +1.0
baz=280
L27K Beaver Creek, 56.07 33 IAmb IAmb 05 02 43.7
comp=Z,37nm,1.3s
L27K Beaver Creek, 56.07 33 P P 05 02 42.2 +1.3
baz=280
M27K Edge Creek, AK 56.17 34 IAmb IAmb 05 02 44.3
comp=Z,27nm,0.9s
M27K Edge Creek, AK 56.17 34 P P 05 02 42.6 +0.8
baz=281
BVCY Beaver Creek 56.63 34 P P 05 02 46.0 +1.2
baz=281
AB31 Akbulak array 56.71 310 *i* P P 05 02 45.0 -0.5
ABKAR Akbulak array 56.71 310 P P 05 02 45.4 -0.1
ABKAR pP pP 05 03 58.5 -0.9
YUK3 Moose Creek 56.95 34 P P 05 02 48.7 +1.5
baz=282,SNR=5.9
DAWY Dawson 56.95 31 P P 05 02 48.2 +1.2
baz=282
I29M Ogilvie Camp, 57.15 30 IAmb IAmb 05 02 50.8
comp=Z,31nm,1.2s
I29M Ogilvie Camp, 57.15 30 P P 05 02 49.3 +1.0
baz=282,SNR=8.3
O28M Mount Upton 57.29 35 P P 05 02 50.7 +0.9
baz=283
J29M Klondike Camp 57.37 31 P P 05 02 51.7 +1.7
baz=282
YUK8 Steele Glacier 57.38 35 P P 05 02 51.1 +0.9
baz=283
EPYK Eagle Plains 57.57 28 P P 05 02 53.0 +1.7
baz=282,SNR=44
AKTO Aktyubinsk 57.58 312 P P 05 02 50.0 -1.5
G30M tAoh Zraii Nji 57.64 28 P P 05 02 53.1 +1.4
baz=282
L29M L29M 57.71 32 P P 05 02 54.5 +2.2
baz=283,SNR=11
M29M Somme Creek 57.71 33 P P 05 02 54.3 +1.9
baz=283,SNR=10
K29M Barlow Dome 57.81 31 P P 05 02 54.7 +1.7
baz=283
YUK4 Talbot Arm 57.89 35 P P 05 02 55.2 +1.4
baz=284
AS01 Alice Springs 57.89 183 P P 05 02 53.6 -0.4
AS31 Alice Springs 57.90 183 IAmb IAmb 05 02 56.5
comp=Z,14nm,0.4s
ASAR Alice Springs 57.90 183 P P 05 02 53.5 -0.4
comp=Z,9.0nm,0.4s,baz=16,slow=12,SNR=216
comp=Z,9.0nm,0.4s
ASAR Alice Springs 57.90 183 P P 05 02 53.1 -0.9
YUK6 Outpost Mounta 58.12 35 P P 05 02 57.0 +1.7
baz=284
PALK Pallekele 58.13 256 P P 05 02 55.5 -0.4
comp=Z,6.6nm,0.6s,baz=141,slow=6.1,SNR=6.0
comp=Z,6.6nm,0.6s
O29M Mount Kennedy 58.18 36 P P 05 02 57.8 +2.1
baz=285
INK Inuvik 58.34 26 P P 05 02 57.2 +0.8
comp=Z,6.0nm,0.5s,baz=289,slow=5.4,SNR=48
comp=Z,6.0nm,0.5s
INK Inuvik 58.34 26 P P 05 02 57.3 +0.9
baz=284,SNR=9.5
M30M Minto, Yukon 58.43 33 P P 05 02 58.4 +1.2
baz=285
F31M Tsiigehtchic 58.47 27 P P 05 02 59.1 +1.8
baz=284
HYT Haines Junctio 58.56 35 IAmb IAmb 05 03 01.4
comp=Z,37nm,1.2s
HYT Haines Junctio 58.56 35 P P 05 02 59.5 +1.2
baz=285,SNR=5.5
MAYO Mayo, Yukon 58.57 32 P P 05 02 59.5 +1.3
baz=285
N30M Aishikik Lake 58.59 34 P P 05 02 59.9 +1.6
baz=285
P29M Windy Craggy 58.76 36 P P 05 03 01.3 +1.8
baz=286
P30M Million Dollar 59.01 36 P P 05 03 03.1 +1.9
baz=286
N31M Braeburn, Yuko 59.18 34 IAmb IAmb 05 03 05.4
comp=Z,31nm,1.1s
N31M Braeburn, Yuko 59.18 34 P P 05 03 04.1 +1.7
baz=286
O30N Mendenhall 59.24 35 P P 05 03 04.3 +1.6
baz=286
PLBC Pleasant Camp 59.48 36 P P 05 03 05.4 +1.1
baz=287
M31M Drury Creek, Y 59.61 33 P P 05 03 06.4 +1.2
baz=287,SNR=6.4
WRKA Warakurna 59.74 189 P P 05 03 06.3 -0.3
WHY Whitehorse 59.84 35 IAmb IAmb 05 03 10.8
comp=Z,26nm,1.3s
WHY Whitehorse 59.84 35 P P 05 03 08.3 +1.4
baz=287,SNR=6.4
SKAG Skagway 59.99 36 IAmb IAmb 05 03 10.8
comp=Z,46nm,1.4s
SKAG Skagway 59.99 36 P P 05 03 09.0 +1.3
baz=288
S31K Pelican 59.99 38 P P 05 03 09.3 +1.5
baz=288
A36M Sachs Harbour 59.99 21 P P 05 03 08.4 +0.8
A36M Sachs Harbour 59.99 21 P P 05 03 09.0 +1.4
baz=289,SNR=33
KIRV Kirov 60.01 323 P P 05 03 08.1 +0.2
comp=Z,13nm,0.5s,baz=192,slow=0.8,SNR=4.4
comp=Z,13nm,0.5s
KIRV Kirov 60.01 323 *ce*P P 05 03 08.5 +0.6
FARO Faro, Yukon 60.07 33 P P 05 03 09.1 +0.7
FARO IAmb IAmb 05 03 11.0
comp=Z,30nm,1.1s
FARO Faro, Yukon 60.07 33 P P 05 03 09.7 +1.4
baz=288,SNR=11
HRA Herat 60.08 293 P P 05 03 08.8 -0.3
N32M Quiet Lake 60.53 34 P P 05 03 12.5 +1.1
baz=288
P32M Atlin 60.73 36 P P 05 03 14.7 +1.9
baz=289
SIT Sitka 60.74 39 P P 05 03 14.4 +1.6
baz=289
PRGR Permogore 60.84 327 *e*P P 05 03 13.1 -0.3
MMPY Sheldon Lake, 60.87 32 P P 05 03 15.4 +1.7
baz=289
P33M Teslin, Yukon 60.95 35 P P 05 03 15.9 +1.6
baz=289
EIDS Eidsvold 61.05 165 P P 05 03 15.2 -0.1
QLP Quilpie 61.14 172 P P 05 03 15.4 -0.4
C36M Paulatuk 61.29 24 IAmb IAmb 05 03 18.0
comp=Z,27nm,0.8s
C36M Paulatuk 61.29 24 P P 05 03 17.2 +1.0
baz=292,SNR=14
Q32M Nakina River 61.64 36 P P 05 03 20.3 +1.2
baz=290
RMQ Roma 61.69 168 P P 05 03 20.2 +0.7
GEYT Alibeck 61.75 298 P P 05 03 20.2 +0.2
comp=Z,8.1nm,0.6s,baz=70,slow=5.5,SNR=12
GEYT pP pP 05 04 35.4 -0.1
comp=Z,4.6nm,0.8s,baz=50,slow=4.6,SNR=2.7
comp=Z,8.1nm,0.6s
OOD Oodnadatta 61.95 181 P P 05 03 21.1 -0.1
INKA Innaminka 62.00 176 P P 05 03 21.8 +0.3
R33M Jennings River 62.11 35 P P 05 03 23.2 +1.1
baz=291
SPITS Spitsbergen Ar 62.27 348 P P 05 03 23.6 +0.9
comp=Z,6.0nm,0.6s,baz=84,slow=7.6,SNR=7.8
comp=Z,6.0nm,0.6s
S34M Telegraph Cree 62.57 37 P P 05 03 26.3 +1.3
baz=292
TGTN Hyland Airport 62.57 33 P P 05 03 26.7 +1.8
baz=292,SNR=11
WTLY Watson Lake, Y 62.87 34 P P 05 03 28.2 +1.3
baz=292
DZM Mont Dzumac 62.91 149 P P 05 03 29.0 +1.3
comp=Z,17nm,0.6s,baz=180,slow=22,SNR=36
comp=Z,17nm,0.6s
DZM Mont Dzumac 62.91 149 P P 05 03 27.4 -0.3
DZM Mont Dzumac 62.91 149 P P 05 03 28.9 +1.2
DLBC Dease Lake 62.92 36 P P 05 03 28.4 +1.1
comp=Z,11nm,1.0s,baz=288,slow=7.5,SNR=7.8
comp=Z,11nm,1.0s
DLBC Dease Lake 62.92 36 IAmb IAmb 05 03 30.4
comp=Z,14nm,0.9s
DLBC Dease Lake 62.92 36 P P 05 03 28.9 +1.6
baz=292
BELG Belogornoye 63.08 317 P P 05 03 28.2 -0.1
comp=Z,41nm,0.7s,baz=17,slow=1.0,SNR=20
comp=Z,41nm,0.7s
BELG Belogornoye 63.08 317 *i* P P 05 03 28.0 -0.3
BELG pmax pmax
comp=Z,4.0nm,0.8s
EUNU Eureka 63.23 8 P P 05 03 28.8 -0.2
V35K Ketchikan 63.29 40 P P 05 03 30.8 +1.1
baz=292
NOR Nord 63.33 356 *i* P P 05 03 30.2 +0.6
NOR IAmb IAmb 05 03 30.7
comp=Z,3.1nm,0.7s
T35M Bob Quinn 63.36 38 P P 05 03 31.8 +1.6
baz=293
KLMR Klimovskoe 63.88 327 *e*P P 05 03 32.0 -1.4
KLMR AMP 05 03 33.7
comp=Z,9.0nm,0.6s
KLMR Klimovskoe 63.88 327 *e*P P 05 03 32.0 -1.4
KLMR pmax pmax
comp=Z,9.0nm,0.6s
WRGLY Wrigley 63.95 30 P P 05 03 35.3 +1.6
baz=295
LIRD Liard River Hi 64.40 34 P P 05 03 38.5 +1.7
baz=295
AULRC Lightning Ridg 64.44 169 P P 05 03 37.8 +0.4
LCRK Leigh Creek 64.60 179 P P 05 03 39.1 +0.8
KOTAN Kotaneelee Air 65.03 33 P P 05 03 41.7 +0.9
baz=296
ARCES ARCESS Array B 65.03 339 P P 05 03 41.1 +0.4
comp=Z,7.0nm,0.5s,baz=63,slow=8.8,SNR=97
comp=Z,7.0nm,0.5s
ARCES ARCESS Array B 65.03 339 P P 05 03 41.2 +0.5
ARCES IAmb IAmb 05 03 41.9
comp=Z,13nm,1.1s
ARCES ARCESS Array B 65.03 339 P P 05 03 41.2 +0.5
ARCES pmax pmax
comp=Z,13nm,1.2s
MSVF Nonsavu 65.09 136 P P 05 03 43.6 +1.8
comp=Z,10nm,0.7s,baz=280,slow=6.9,SNR=8.4
comp=Z,10nm,0.7s
MSVF Nonsavu 65.09 136 P P 05 03 42.0 +0.2
MSVF IAmb IAmb 05 03 45.1
comp=Z,21nm,1.0s
FORT Forrest 65.44 188 P P 05 03 43.7 0.0
RES Resolute Bay 65.97 13 IAmb IAmb 05 03 48.0
comp=Z,19nm,0.9s
ARMA Armidale 66.06 166 P P 05 03 48.3 +0.5
STKA Stephens Creek 66.17 176 P P 05 03 48.4 +0.2
comp=Z,7.3nm,0.5s,baz=349,slow=6.5,SNR=29
comp=Z,7.3nm,0.5s
STKA Stephens Creek 66.17 176 P P 05 03 47.6 -0.7
CMSA Cobar Meteorol 66.21 172 P P 05 03 49.1 +0.6
AUDCS Dubbo College 67.29 169 P P 05 03 56.6 +1.3

OBN **Obninsk** 67.85 322 *ce*P **P** 05 03 58.3 -0.2
OBN *i* 05 04 21.2
OBN *i* *PP **pP** 05 05 15.6 +0.1
OBN pmax pmax
comp=Z,6.0nm,0.5s
YKA Yellowknife Ar 67.86 28 P **P** 05 03 59.2 +0.7
comp=Z,8.9nm,1.0s,baz=313,slow=6.3,SNR=5.2
comp=Z,8.9nm,1.0s
DAG Danmarks Havn 67.95 354 *i* P **P** 05 03 59.5 +0.6
DAG IAmb IAmb 05 03 60.0
comp=Z,16nm,0.8s
TULEG Thule 68.07 6 IAmb IAmb 05 04 00.9
comp=Z,17nm,1.0s
TULEG Thule 68.07 6 *i* P **P** 05 04 00.1 +0.4
TULEG IAmb IAmb 05 04 00.6
comp=Z,16nm,1.0s
NEEM North Greenlan 68.22 2 *i* P **P** 05 04 02.0 +1.1
MGCD Mangrove Creek 68.67 167 P **P** 05 04 04.9 +1.1
SYDH Sydney Hard Ro 69.14 168 P **P** 05 04 07.9 +1.3
FIA1 FINESS Array S 69.27 331 P **P** 05 04 07.1 -0.1
FINES FINESS Array B 69.27 331 P **P** 05 04 07.0 -0.2
comp=Z,13nm,0.5s,baz=74,slow=5.1,SNR=129
comp=Z,13nm,0.5s
FINES FINESS Array B 69.27 331 P **P** 05 04 06.6 -0.6
ZEI Tsey 69.46 308 *e*P **P** 05 04 07.7 -1.3
ZEI pmax pmax
comp=Z,6.0nm,0.7s
NWAO Narrogin (SRO) 69.53 197 P **P** 05 04 08.5 -0.5
comp=Z,6.0nm,0.5s,baz=229,slow=5.0,SNR=8.3
comp=Z,6.0nm,0.5s
KBZ Khabaz 69.66 310 P **P** 05 04 10.7 +0.8
comp=Z,16nm,0.8s,baz=85,slow=1.3,SNR=26
comp=Z,16nm,0.8s
KVAR Kislovodsk Arr 69.68 310 P **P** 05 04 11.6 +1.5
comp=Z,4.7nm,0.6s,baz=86,slow=23,SNR=3.5
comp=Z,4.7nm,0.6s
KIV Kislovodsk 69.69 310 P **P** 05 04 10.7 +0.5
KIV Kislovodsk 69.69 310 *e*P **P** 05 04 10.1 -0.1
KIV pmax pmax
comp=Z,23nm,1.0s
SHA1 Shidzhatmaz 69.81 310 *i* P **P** 05 04 10.7 -0.4
CAN Canberra 70.38 169 P **P** 05 04 13.8 -0.4
CAN Canberra 70.38 169 P **P** 05 04 15.1 +0.9
CAN Canberra 70.38 169 P **P** 05 04 13.8 -0.4
CAN pmax pmax
comp=Z,52nm,1.4s
MEF Metsahovi 70.66 331 *e*P **P** 05 04 15.9 +0.4
LLLB Lillooet 70.67 41 IAmb IAmb 05 04 18.0
comp=Z,13nm,0.9s
VSU Vasula 70.70 328 *e*P **P** 05 04 16.4 +0.7
VSU Vasula 70.70 328 *i* P **P** 05 04 15.6 -0.2
VSU pmax pmax
comp=Z,40nm,0.7s
B04A Port Angeles 71.06 44 IAmb IAmb 05 04 20.4
comp=Z,14nm,0.8s
BRLDA Berland Lookou 71.16 37 IAmb IAmb 05 04 20.8
comp=Z,18nm,0.9s
NLWA Neilton Lookou 71.19 45 P **P** 05 04 19.7 +0.7
RAF Rauma 71.21 332 *e*P **P** 05 04 19.0 +0.2
AUSMG Snowy Mountain 71.40 170 P **P** 05 04 21.4 +1.1
MTSE Matsula 71.79 330 *e*P **P** 05 04 22.8 +0.6
TOO Toolangi 72.15 173 P **P** 05 04 24.8 +0.2
TOO pP **pP** 05 05 43.1 +1.7
TOO Toolangi 72.15 173 P **P** 05 04 25.7 +1.1
TOO Toolangi 72.15 173 P **P** 05 04 24.8 +0.2
TOO *PP **pP** 05 05 43.2 +1.7
TOO pmax pmax
comp=Z,7.0nm,0.8s
D05A Enumclaw 72.39 45 IAmb IAmb 05 04 46.4
comp=Z,23nm,1.2s
AAL Aland 72.42 332 *e*P **P** 05 04 25.0 -0.9
MNK Minsk 72.44 325 *i* P **P** 05 04 27.2 +1.0
comp=E,2.0nm,0.9s
MNK *i* P **P** 05 04 27.2 +1.0
comp=N,32nm,0.9s
MNK *i* P **P** 05 04 27.2 +1.0
comp=Z,21nm,0.9s,baz=55
MNK *i* pP **pP** 05 05 45.3 +1.0
MNK *i* sP sP 05 06 41.9 +20
MNK *i* PP **PP** 05 07 13.5 +1.4
MNK *i* PPP PPP 05 08 59.6
MNK *i* S **SKiKP** 05 13 22.5 -0.9
MNK *i* sS **sS** 05 15 41.7 +4.1
MNK *i* SS **SS** 05 17 59.6 -6.8
MNK *i* LRM MLR 05 39 15.8
comp=Z,69nm,19.6s
MNK *i* LRM MLR 05 40 12.3
comp=N,611nm,20.0s
MNK *i* LRM MLR 05 40 20.0
comp=E,37nm,20.0s
MNK Minsk 72.44 325 *i* P **P** 05 04 27.1 +1.0
MNK *i* 05 04 42.5
MNK *i* *PP **pP** 05 05 45.3 +1.0
MNK *i* 05 07 13.4
MNK *i* PPP PPP 05 08 59.5
MNK *i* S **SKiKP** 05 13 22.4 -0.9
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,32nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.9s
MNK MLR MLR
comp=Z,69nm,20.0s
MNK MLR MLR
comp=N,611nm,20.0s
MNK MLR MLR
comp=E,37nm,20.0s
ISAL Salakas 72.64 326 *e*P **P** 05 04 28.4 +1.0
IIGN Ignalina 72.73 326 *e*P **P** 05 04 28.9 +1.1
NACGM Naroch 72.73 325 *e*P **P** 05 04 27.6 -0.3
comp=Z,24nm,1.1s,baz=55
GURO Guroymak-BITLI 72.78 305 P **P** 05 04 30.1 +1.4
SLIT Slitere, Latvi 73.09 329 *e*P **P** 05 04 29.9 0.0
SUMG Summit 73.18 359 *i* P **P** 05 04 32.1 +1.4
SUMG IAmb IAmb 05 04 33.4
comp=Z,45nm,1.3s
B08A Colville Reser 73.27 43 P **P** 05 04 31.2 -0.1
B08A IAmb IAmb 05 04 33.2
comp=Z,19nm,1.1s
UPP Uppsala 73.53 333 *e*P **P** 05 04 32.2 -0.2
H04A Detroit Lake 73.60 47 P **P** 05 04 33.6 +0.4
H04A IAmb IAmb 05 04 35.4
comp=Z,25nm,1.2s
PABE Paberze 73.67 327 *e*P **P** 05 04 34.1 +0.8
DBO Dodson Butte 73.79 49 IAmb IAmb 05 04 36.9
comp=Z,18nm,1.1s
AKASG Malin Array Be 73.95 321 P **P** 05 04 34.6 -0.4
comp=Z,5.9nm,0.6s,baz=49,slow=6.5,SNR=28
AKASG pP **pP** 05 05 53.2 -0.3
comp=Z,4.7nm,0.8s,baz=49,slow=7.0,SNR=6.0
comp=Z,5.9nm,0.6s
AKBB Malin Array Si 73.95 321 P **P** 05 04 34.1 -1.0
AKBB IAmb IAmb 05 04 35.4
comp=Z,11nm,0.6s
AKBB **pP** 05 05 53.2 -0.3
AKBB Malin Array Si 73.95 321 *i* P **P** 05 04 34.9 -0.1
AKBB pmax pmax
comp=Z,6.0nm,0.9s
D08A Wollman Farm, 74.22 44 IAmb IAmb 05 04 38.2
comp=Z,11nm,0.8s
HAWA Hanford 74.24 44 IAmb IAmb 05 04 39.1
comp=Z,14nm,1.1s
PBUR Paburge 74.25 328 *e*P **P** 05 04 36.7 +0.1
MARD Mardin 74.26 305 P **P** 05 04 37.6 +0.3
MARD IAmb IAmb 05 04 45.3
comp=Z,17nm,1.1s
F07A Phinny Hill Vi 74.28 45 IAmb IAmb 05 04 39.6
comp=Z,26nm,1.2s
E08A Dider Farm, El 74.45 44 IAmb IAmb 05 04 39.7
comp=Z,11nm,0.8s
NEW Newport 74.55 42 P **P** 05 04 39.6 +1.0
comp=Z,11nm,1.0s,baz=298,slow=4.6,SNR=14
comp=Z,11nm,1.0s
NEW Newport 74.55 42 IAmb IAmb 05 04 40.6
comp=Z,17nm,1.1s
NEW Newport 74.55 42 P **P** 05 04 39.6 +1.0
baz=305,SNR=10
VIKU Vikbolandet 74.80 332 *e*P **P** 05 04 39.9 +0.2
NC405 NORSAR Array S 74.80 336 P **P** 05 04 39.3 -0.4
HFS Hagfors 74.80 334 P **P** 05 04 39.4 -0.3
comp=Z,7.7nm,0.4s,baz=66,slow=3.7,SNR=73
comp=Z,7.7nm,0.4s
YBH Yreka Blue Hor 74.86 50 P **P** 05 04 42.1 +1.6
comp=Z,5.1nm,0.7s,baz=354,slow=5.0,SNR=18
comp=Z,5.1nm,0.7s
YBH Yreka Blue Hor 74.86 50 IAmb IAmb 05 04 42.6
comp=Z,10nm,1.0s
NB2 NORSAR Subarra 75.02 336 P **P** 05 04 40.7 -0.3
comp=Z,4.3nm,0.5s,baz=44,slow=5.9
NOA NORSAR Array B 75.02 336 P **P** 05 04 40.5 -0.5
comp=Z,3.2nm,0.5s,baz=56,slow=6.1,SNR=32
NOA pP **pP** 05 05 58.5 -1.2
comp=Z,3.2nm,1.0s,baz=45,slow=6.0,SNR=5.3
comp=Z,3.2nm,0.5s
NORES NORESS Array B 75.13 335 P **P** 05 04 43.7 +2.1
K05A Summer Lake 75.45 48 IAmb IAmb 05 04 46.8
comp=Z,22nm,1.0s
WALA Waterton Lakes 75.82 40 P **P** 05 04 46.3 +0.5
WALA IAmb IAmb 05 04 48.0
comp=Z,16nm,0.9s
MOD Modoc Plateau 76.27 49 IAmb IAmb 05 04 50.9
comp=Z,22nm,1.4s
BMO Blue Mountains 76.40 45 IAmb IAmb 05 04 50.8
comp=Z,11nm,0.8s
ORV Oroville 76.83 51 IAmb IAmb 05 04 53.0
comp=Z,20nm,1.4s
WVOR Wild Horse Val 76.99 47 IAmb IAmb 05 04 54.2
comp=Z,8.6nm,0.9s
MSO Missoula 77.14 42 IAmb IAmb 05 04 55.7
comp=Z,16nm,1.3s
MSO Missoula 77.14 42 P **P** 05 04 53.7 +0.5
baz=307
LVV L'vov 77.15 322 *e*P P 05 05 02.8 +10
DEL Delary 77.31 331 *e*P **P** 05 04 54.6 +0.9
PLTX Planet X, Gerl 77.47 49 P **P** 05 04 55.3 +0.2
PLTX IAmb IAmb 05 04 57.6
comp=Z,17nm,0.9s
AFDM Forest Hills D 77.50 51 IAmb IAmb 05 04 57.1
comp=Z,13nm,1.3s
TAU Tasmania Unive 77.62 172 P **P** 05 04 53.6 -1.8
TAU Tasmania Unive 77.62 172 P **P** 05 04 53.7 -1.8
TAU pmax pmax
comp=Z,22nm,1.0s
BR131 Keskin Array S 77.66 310 IAmb IAmb 05 04 58.2
comp=Z,6.8nm,0.8s
BRTR Keskin Array B 77.66 310 P **P** 05 04 56.9 +0.6
comp=Z,3.8nm,0.8s,baz=122,slow=4.5,SNR=13
BRTR pP **pP** 05 06 14.9 -0.8
comp=Z,2.5nm,1.0s,baz=90,slow=3.7,SNR=3.1
comp=Z,3.8nm,0.8s
BSD Bornholm Skovb 77.84 330 *e*P **P** 05 04 56.3 -0.4
BURAR Bucovina Array 77.91 320 P **P** 05 04 57.6 +0.3
RAYN Ar Rayn 78.08 290 P **P** 05 04 58.8 +0.1
RAYN IAmb IAmb 05 04 59.3
comp=Z,10nm,0.6s
RAYN Ar Rayn 78.08 290 P **P** 05 04 58.8 +0.1
RAYN pmax pmax
comp=Z,10.0nm,0.6s
PAHR Pah Rah Range 78.09 50 IAmb IAmb 05 05 00.6
comp=Z,22nm,1.3s
VCNR Virginia City 78.15 50 IAmb IAmb 05 05 01.1
comp=Z,7.8nm,0.9s
PNTR Pine Nut 78.30 51 IAmb IAmb 05 05 01.6
comp=Z,9.6nm,0.7s
CMB Columbia Colle 78.40 52 IAmb IAmb 05 05 01.5
comp=Z,7.1nm,0.7s
EGMT Eagleton 78.63 39 P **P** 05 05 02.3 +1.0
baz=310,SNR=5.8
WAKR Walker 78.74 51 IAmb IAmb 05 05 04.0
comp=Z,7.6nm,0.7s
HLID Hailey 78.84 45 IAmb IAmb 05 05 04.5
comp=Z,8.8nm,0.9s
HLID Hailey 78.84 45 P **P** 05 05 03.8 +1.2
baz=307,SNR=12
BOZ Bozeman (W) 79.16 42 IAmb IAmb 05 05 05.8
comp=Z,8.2nm,0.9s
BOZ Bozeman (W) 79.16 42 P **P** 05 05 05.3 +1.0
baz=309,SNR=11
RYN Ryan 79.26 50 IAmb IAmb 05 05 07.2
comp=Z,15nm,1.2s
NVAR Mina Array Bea 79.51 51 P **P** 05 05 07.5 +1.1
comp=Z,6.1nm,0.8s,baz=289,slow=5.2,SNR=46
comp=Z,6.1nm,0.8s
MLAC Mammoth, Mammo 79.64 51 P **P** 05 05 08.4 +1.3
baz=306
YHB Horse Butte 79.93 42 IAmb IAmb 05 05 10.9
comp=Z,14nm,1.0s
ELK Elko 80.05 47 IAmb IAmb 05 05 11.7
comp=Z,17nm,1.4s
YHH Holmes Hill 80.10 42 IAmb IAmb 05 05 12.0
comp=Z,14nm,1.4s
YMR Madison River 80.11 42 P **P** 05 05 09.6 +0.1
YMR IAmb IAmb 05 05 12.2
comp=Z,19nm,1.2s
SMMC Simmler 80.21 54 P **P** 05 05 11.4 +1.5
baz=305
YNR Norris Junctio 80.24 42 IAmb IAmb 05 05 13.5
comp=Z,11nm,1.3s
MORC Moravsky Berou 80.36 325 *e*P **P** 05 05 10.9 +0.4
TIN Tinemaha, Big 80.36 52 P **P** 05 05 11.7 +0.9
baz=306
H17A Grant Village 80.50 42 P **P** 05 05 14.2 +2.7
baz=310,SNR=21
MAUC Maruska 80.50 325↑ *e*P **P** 05 05 11.7 +0.5
YMP Mirror Lake Pl 80.51 42 IAmb IAmb 05 05 31.8
comp=Z,14nm,1.3s
KRLC Kraliky 80.51 326↑ *e*P **P** 05 05 11.5 +0.2
VES Vestal, Richgr 80.51 53 P **P** 05 05 11.9 +0.4
baz=306,SNR=5.2
DPC Dobruska-Polom 80.54 326↑ *i*P **P** 05 05 12.2 +0.8
PKM Mcpherson Peak 80.58 54 P **P** 05 05 12.7 +0.6
baz=306
VYHS Vyhne 80.61 323 *e*P **P** 05 05 12.5 +0.8
IMW Indian Meadow 80.61 43 IAmb IAmb 05 05 15.1
comp=Z,14nm,1.0s
LCH Last Change Ra 80.64 51 IAmb IAmb 05 05 14.3
comp=Z,12nm,1.2s
RLMT Red Lodge 80.75 41 P **P** 05 05 14.1 +1.3
baz=310,SNR=8.6
CWC Cottonwood Cre 80.82 52 P **P** 05 05 13.9 +0.6
baz=306
TPAW Teton Pass 80.86 43 P **P** 05 05 14.1 +0.6
TPAW IAmb IAmb 05 05 15.7
comp=Z,10nm,0.8s
HVU Hansel Valley 80.88 45 IAmb IAmb 05 05 15.9
comp=Z,14nm,0.8s
GRAC Grapevine Rang 80.95 51 IAmb IAmb 05 05 16.0
comp=Z,12nm,0.9s
GRAC Grapevine Rang 80.95 51 P **P** 05 05 15.0 +1.1
baz=307,SNR=6.7
SNOW Snow King Moun 80.99 43 IAmb IAmb 05 05 16.8
comp=Z,9.9nm,0.9s
REDW Red Top Meadow 81.00 43 IAmb IAmb 05 05 16.7
comp=Z,12nm,1.1s
ISA Isabella, Lake 81.02 53 P **P** 05 05 14.3 +0.1
baz=306
VRAC Vranov 81.13 325 P **P** 05 05 14.7 +0.3
comp=Z,4.5nm,0.8s,baz=41,slow=4.3,SNR=4.5
comp=Z,4.5nm,0.8s
VRAC Vranov 81.13 325 *e*P **P** 05 05 15.1 +0.6
DGMT Dagmar 81.14 36 P **P** 05 05 15.0 +0.5
baz=313
AHID Auburn Hatcher 81.23 44 IAmb IAmb 05 05 17.4
comp=Z,8.5nm,1.1s
R11A Troy Canyon, C 81.28 49 P **P** 05 05 16.8 +1.1
baz=307,SNR=14
LAO LASA Array 81.33 38 P **P** 05 05 16.4 +0.8
baz=312
CLL Collm 81.35 328 P **P** 05 05 14.8 -0.8
CLL IAmb IAmb 05 05 16.6
comp=Z,6.7nm,0.7s
SPUT South Promonto 81.37 45 IAmb IAmb 05 05 18.6
comp=Z,19nm,1.4s
KRUC Moravsky 81.39 325 *e*P **P** 05 05 16.4 +0.6
MPMC Manual Prospec 81.43 52 P **P** 05 05 17.3 +0.8
baz=307,SNR=10
MODS Modra-Piesok 81.45 324 *e*P **P** 05 05 17.2 +1.1
GOPC GO Pecny, Ondr 81.55 326↑ *e*P **P** 05 05 17.3 +0.7
FURC Furnace Creek, 81.59 51 P **P** 05 05 18.3 +1.3
baz=307,SNR=6.8
PRU Pruhonice 81.61 327↑ *e*P **P** 05 05 17.4 +0.5
PRU Pruhonice 81.61 327 *e*P **P** 05 05 17.4 +0.5
CCAC Calif City Air 81.62 53 IAmb IAmb 05 05 18.6
comp=Z,7.8nm,0.8s
LRMC Laurel Mtn Rad 81.65 53 P **P** 05 05 18.4 +0.8
baz=307,SNR=5.7
TPNV Topopah Spring 81.70 51 P **P** 05 05 17.8 -0.1
TPNV IAmb IAmb 05 05 19.8
comp=Z,8.7nm,1.1s
TPNV Topopah Spring 81.70 51 P **P** 05 05 18.7 +0.8
baz=307,SNR=14
TPNV Topopah Spring 81.70 51 P **P** 05 05 17.8 -0.1
TPNV pmax pmax
comp=Z,9.0nm,1.1s
EDW2 Edwards Air Fo 81.80 53 P **P** 05 05 18.9 +0.6
baz=306,SNR=6.6
DUG Dugway, Tooele 81.84 46 P **P** 05 05 19.9 +1.4
baz=309,SNR=17
GWY Greenwater Val 81.89 52 IAmb IAmb 05 05 20.1
comp=Z,10nm,0.7s
BKZ Black Stump Fm 81.98 150 P **P** 05 05 18.8 0.0
BKZ IAmb IAmb 05 05 20.5
comp=Z,11nm,0.8s
BKZ Black Stump Fm 81.98 150 P **P** 05 05 18.5 -0.3
BW06 Boulder Array 82.11 43 IAmb IAmb 05 05 21.5
comp=Z,10nm,0.9s
BW06 Boulder Array 82.11 43 P **P** 05 05 20.6 +0.6
baz=310,SNR=10
PD31 Pinedale Array 82.11 43 IAmb IAmb 05 05 21.5
comp=Z,9.2nm,0.9s
PDAR Pinedale Array 82.11 43 P **P** 05 05 20.3 +0.3
comp=Z,6.2nm,0.8s,baz=295,slow=2.2,SNR=46
comp=Z,6.2nm,0.8s
VTS Vitosha 82.15 317 P **P** 05 05 19.8 -0.3
VTS Vitosha 82.15 317 P **P** 05 05 19.8 -0.3
VTS pmax pmax
comp=Z,6.0nm,1.0s
CTU Camp Tracy 82.17 46 IAmb IAmb 05 05 21.9
comp=Z,7.9nm,0.9s
PRN Pahroc Range 82.19 50 IAmb IAmb 05 05 22.8
comp=Z,16nm,1.1s
PSUT Pine Spring 82.24 48 IAmb IAmb 05 05 22.8
comp=Z,12nm,1.1s
SHOC Shoshone, Teco 82.31 52 P **P** 05 05 21.4 +0.6
baz=307
GSC Goldstone, Bar 82.33 52 IAmb IAmb 05 05 22.8
comp=Z,26nm,1.5s
GSC Goldstone, Bar 82.33 52 P **P** 05 05 21.7 +0.6
baz=307,SNR=8.6
CIS Catalina Islan 82.39 55 P **P** 05 05 21.7 +0.3
baz=306
JLU Jordanelle 82.40 46 IAmb IAmb 05 05 23.8
comp=Z,17nm,1.4s
BFSC Mount Baldy Ra 82.40 54 P **P** 05 05 22.0 +0.5
baz=307
NLU North Lily Min 82.44 46 IAmb IAmb 05 05 24.1
comp=Z,13nm,1.1s
CONA Conrad Observa 82.44 324 *i* P **P** 05 05 21.6 +0.2
comp=Z,6.9nm,0.8s,SNR=7.8
CKRC Cesky Krumlov 82.54 326 *e*P **P** 05 05 22.2 +0.4
SCI2 San Clemente I 82.55 55 P **P** 05 05 22.9 +0.8
baz=306
KHC Kasperske Hory 82.66 326 P **P** 05 05 22.2 -0.2
KHC IAmb IAmb 05 05 23.8
comp=Z,7.1nm,0.7s
KHC Kasperske Hory 82.66 326↑ *i*P **P** 05 05 22.8 +0.4
KHC *ex* **pP** 05 06 45.5 +2.6
KHC Kasperske Hory 82.66 326↑ *i*P **P** 05 05 22.8 +0.4
KHC *e* 05 06 45.5
GEC2 GERESS Array S 82.81 326 IAmb IAmb 05 05 23.9
comp=Z,5.2nm,0.7s
GERES GERESS Array B 82.81 326 P **P** 05 05 23.1 -0.1
comp=Z,3.8nm,0.6s,baz=42,slow=2.2,SNR=4.5
GERES pP **pP** 05 06 45.0 +1.3
comp=Z,1.3nm,0.8s,baz=57,slow=4.9,SNR=5.2
comp=Z,3.8nm,0.6s
TUQ Turquoise Moun 82.82 52 P **P** 05 05 24.3 +0.6
baz=308,SNR=14
BBRC Big Bear Solar 82.88 53 P **P** 05 05 24.6 +0.5
baz=307
HEC Hector,Ludlow 82.92 52 P **P** 05 05 24.6 +0.5
baz=307,SNR=8.4
WTNK Soaring Height 82.95 51 IAmb IAmb 05 05 26.4
comp=Z,4.6nm,1.1s
DIVS Divibare 82.96 320 IAmb IAmb 05 05 25.4
comp=Z,13nm,1.2s
ARSA Arzberg 83.08 324 *e*P **P** 05 05 25.2 +0.6
comp=Z,9.1nm,1.2s
MURC Murrieta 83.09 54 P **P** 05 05 25.3 +0.4
baz=307
MOA Molln 83.26 325 *e*P **P** 05 05 26.0 +0.5
comp=Z,7.7nm,1.3s
SZCU Shurtz Canyon 83.30 49 IAmb IAmb 05 05 28.3
comp=Z,10nm,1.3s
GRA1 Grafenberg Arr 83.31 328 P **P** 05 05 25.5 -0.2
GRA1 IAmb IAmb 05 05 27.4
comp=Z,14nm,0.8s
GRF Grafenberg Arr 83.31 328 P **P** 05 05 25.5 -0.2
GRF pmax pmax
comp=Z,14nm,0.8s
V12A Nelson 83.34 51 IAmb IAmb 05 05 28.4
comp=Z,13nm,1.2s
TMUT Trail Mountain 83.37 46 IAmb IAmb 05 05 28.9
comp=Z,16nm,1.4s
GMRC Granite Mounta 83.39 52 P **P** 05 05 27.3 +0.8
baz=308,SNR=6.8
MTPU Mount Pierson 83.57 48 IAmb IAmb 05 05 30.6
comp=Z,18nm,1.1s
PFO Pinyon Flats O 83.57 54 P **P** 05 05 26.7 -0.8
PFO IAmb IAmb 05 05 29.0
comp=Z,18nm,1.1s
PFO Pinyon Flats O 83.57 54 P **P** 05 05 27.9 +0.5
baz=307,SNR=11
PFO Pinyon Flats O 83.57 54 P **P** 05 05 26.7 -0.8
PFO pmax pmax
comp=Z,18nm,1.1s
TPFO Pinon Flats 83.58 54 P **P** 05 05 28.1 +0.6
baz=307,SNR=9.1
PMD Palm Desert 83.61 53 IAmb IAmb 05 05 28.8
comp=Z,13nm,0.9s
Q16A Castle Valley 83.63 47 IAmb IAmb 05 05 29.7
comp=Z,11nm,1.0s
BELC Belle Mtn. Jos 83.64 53 P **P** 05 05 28.1 +0.3
baz=308,SNR=7.2
ULM Lac du Bonnet 83.65 31 P **P** 05 05 27.4 +0.1
comp=Z,7.3nm,0.8s,baz=248,slow=7.5,SNR=3.8
comp=Z,7.3nm,0.8s
BIOA Bad Ischl, Aus 83.67 325 *e*P **P** 05 05 28.0 +0.5
comp=Z,3.9nm,0.5s
SOKA Soboth 83.72 324 *i* P **P** 05 05 28.1 +0.2
comp=Z,7.3nm,0.8s,SNR=5.4
MDND Maddock 83.76 34 P **P** 05 05 28.4 +0.5
baz=316
K22A Casper 83.87 42 P **P** 05 05 29.1 +0.2
baz=312
PKCU Pink Cliffs 83.87 48 IAmb IAmb 05 05 32.0
comp=Z,20nm,1.3s
BAR Barrett 83.99 54 IAmb IAmb 05 05 30.9
comp=Z,7.9nm,0.9s
MONP2 Monument Peak 84.03 54 P **P** 05 05 30.6 +0.7
baz=308,SNR=5.8
IRM Iron Mountain 84.11 52 P **P** 05 05 31.0 +1.0
baz=308,SNR=7.2
RWWY Rawlins 84.13 43 IAmb IAmb 05 05 31.9
comp=Z,14nm,1.1s
EKA Eskdalemuir Ar 84.19 338 P **P** 05 05 29.9 0.0
comp=Z,1.1nm,0.4s,baz=37,slow=4.8,SNR=18
comp=Z,1.1nm,0.4s
RSSD Black Hills 84.20 39 P **P** 05 05 30.7 +0.2
baz=314
BC3 Big Chuckawall 84.21 53 P **P** 05 05 31.3 +0.6
baz=308,SNR=7.4
IKP In-Ko-Pah, Jac 84.39 54 P **P** 05 05 32.2 +0.7
baz=308
SWSC Sam W. Stewart 84.42 54 P **P** 05 05 32.3 +0.8
baz=308
YUH Yuha Desert 84.52 54 IAmb IAmb 05 05 33.6
comp=Z,16nm,1.3s
U15A North Rim 84.53 49 IAmb IAmb 05 05 34.2
comp=Z,8.5nm,1.0s
O20A White River Ci 84.57 44 P **P** 05 05 33.6 +1.2
baz=311,SNR=6.8
PDMCI Parker Dam,Lak 84.67 52 P **P** 05 05 33.8 +1.1
baz=308
BLYC Blythe 84.77 52 IAmb IAmb 05 05 34.6
comp=Z,8.1nm,0.9s
ABTA Abfaltersbach 84.88 325 *e*P **P** 05 05 34.1 +0.4
comp=Z,12nm,1.6s
ESJX Sierra Juarez 84.89 55 P **P** 05 05 34.3 +0.2
ESJX IAmb IAmb 05 05 35.8
comp=Z,18nm,1.4s
GLA Glamis 85.00 53 P **P** 05 05 35.3 +0.9
baz=308
AGMN Agassiz Nation 85.13 32 P **P** 05 05 35.8 +1.1
baz=319
RETA Reutte 85.14 327 *e*P **P** 05 05 35.7 +0.8
comp=Z,9.1nm,1.5s
N23A Red Feather La 85.37 43 IAmb IAmb 05 05 38.8
comp=Z,19nm,1.2s
N23A Red Feather La 85.37 43 P **P** 05 05 37.7 +1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=313,SNR=6.3						
PV07	Paradox Valley	85.45	46	IAmb	IAmb	05 05 39.9	
	comp=Z,18nm,1.4s						
FETA	Feichten	85.51	326	eP	P	05 05 36.5	-0.3
	comp=Z,4.4nm,0.9s						
BMRD	Maredsous	85.53	331	dP	P	05 05 36.8	+0.1
	comp=Z,7.4nm,0.8s						
WUAZ	Wupatki	85.68	49	IAmb	IAmb	05 05 40.1	
	comp=Z,14nm,1.1s						
WUAZ	Wupatki	85.68	49	P	P	05 05 38.9	+1.0
	baz=310,SNR=7.5						
DAVA	Damuels	85.69	327	eP	P	05 05 37.7	0.0
	comp=Z,13nm,1.1s						
FUORN	Ofenpass-Fuorn	86.02	326	P	P	05 05 39.7	+0.2
FUORN				IAmb	IAmb	05 05 40.0	
	comp=Z,5.9nm,0.6s						
DAVOX	Davos/Dischmat	86.07	327	P	P	05 05 39.5	-0.1
	comp=Z,4.0nm,0.7s,baz=36,slow=5.4,SNR=8.8						
	comp=Z,4.0nm,0.7s						
MVCO	Mesa Verde	86.34	47	IAmb	IAmb	05 05 43.5	
	comp=Z,11nm,1.2s						
MVCO	Mesa Verde	86.34	47	P	P	05 05 42.2	+1.0
	baz=311,SNR=5.4						
S22A	4UR Ranch, Cre	86.98	45	IAmb	IAmb	05 05 47.0	
	comp=Z,13nm,1.2s						
S22A	4UR Ranch, Cre	86.98	45	P	P	05 05 45.4	+1.1
	baz=312,SNR=9.3						
214A	Organ Pipe Nat	87.01	53	P	P	05 05 45.2	+1.0
	baz=309						
Q24A	Divide	87.13	44	P	P	05 05 45.7	+0.7
	baz=313						
EYMN	Ely	87.27	30	P	P	05 05 45.7	+0.7
	baz=322						
OGNE	Ogallala	87.47	40	P	P	05 05 47.1	+0.8
	baz=315						
SDCO	Great Sand Dun	87.76	45	P	P	05 05 48.7	+0.7
SDCO	Great Sand Dun	87.76	45	P	P	05 05 48.7	+0.7
	baz=313,SNR=7.8						
ECSD	EROS Data Cent	88.20	36	IAmb	IAmb	05 05 50.7	
	comp=Z,10nm,1.1s						
ECSD	EROS Data Cent	88.20	36	P	P	05 05 49.7	+0.2
	baz=318						
T25A	Trinidad	88.80	44	IAmb	IAmb	05 05 54.8	
	comp=Z,8.9nm,0.9s						
T25A	Trinidad	88.80	44	P	P	05 05 53.8	+1.0
	baz=314,SNR=5.8						
SPMN	Marine on St.	88.83	33	P	P	05 05 53.2	+0.8
	baz=321						
ANMO	Albuquerque	89.08	47	P	P	05 05 53.3	-0.8
ANMO	Albuquerque	89.08	47	P	P	05 05 55.0	+0.9
	baz=313						
ANMO	Albuquerque	89.08	47	P	P	05 05 53.3	-0.8
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
121A	Cookes Peak, D	89.88	50	P	P	05 05 58.8	+1.0
	baz=312						
KSU1	Kansas State U	91.67	39	P	P	05 06 06.8	+1.0
	baz=319						
JFWS	Jewell Farm	91.78	33	P	P	05 06 07.8	+1.6
	baz=323						
AMTX	Amarillo	91.96	45	P	P	05 06 08.0	+0.7
	baz=315						
MSTX	Muleshoe	91.96	46	IAmb	IAmb	05 06 08.7	
	comp=Z,8.1nm,1.1s						
MSTX	Muleshoe	91.96	46	P	P	05 06 07.5	+0.2
	baz=315						
ELIS	Ellis County	92.40	42	IAmb	IAmb	05 06 23.1	
	comp=Z,17nm,1.2s						
L44A	Lake County Fo	93.40	32	P	P	05 06 13.6	0.0
	baz=324						
WMOK	Wichita Mounta	93.72	43	IAmb	IAmb	05 06 16.6	
	comp=Z,5.4nm,1.1s						
WMOK	Wichita Mounta	93.72	43	P	P	05 06 15.8	+0.5
	baz=317						
TX31	Lajitas Ar. Si	94.64	50	P	P	05 06 19.4	-0.3
TX32	Lajitas Array	94.64	50	IAmb	IAmb	05 06 21.7	
	comp=Z,9.2nm,1.1s						
TXAR	Lajitas Array	94.64	50	P	P	05 06 20.3	+0.7
	comp=Z,4.6nm,0.9s,baz=288,slow=3.5,SNR=30						
	comp=Z,4.6nm,0.9s						
HPIG		94.99	53	P	P	05 06 21.3	-0.2
HPIG				IAmb	IAmb	05 06 24.5	
	comp=Z,4.0nm,0.9s						
CCM	Cathedral Cave	95.17	36	P	P	05 06 21.8	0.0
	baz=322						
QSPA	South Pole Qui	124.23	180		PKPdf	05 11 53.4	-0.6
SDV	Santo Domingo	129.64	36	PKPdf	PKPdf	05 12 06.4	+0.2
SDV	Santo Domingo	129.64	36	eP	PKPdf	05 12 06.4	+0.2
CZSB	Cruzeiro do Su	141.98	52	PKPdf	PKPdf	05 12 26.9	-1.8
SMAI	San Martin Ant	143.66	165	PKPdf	PKPbc	05 12 29.1	+0.5
MACA	Manacapuru-AM	144.84	31		PKPbc	05 12 32.8	-0.9
MACA	Manacapuru-AM	144.84	31	eP	PKPbc	05 12 33.4	-0.3
MCPB	Macapa, AP	145.06	16	eP	PKPbc	05 12 34.5	+0.1
MALB	Monte Alegre	145.93	20	eP	PKPdf	05 12 35.9	+0.2
ETMB	Extrema	147.65	46	PKPbc	PKPdf	05 12 39.7	+1.3
ETMB	Extrema	147.65	46	eP	PKPbc	05 12 40.4	-1.3
ITTB	Itaituba	147.85	24	eP	PKPdf	05 12 39.1	+0.2
ROSB	Rosrio	148.56	2	eP	PKPbc	05 12 42.4	-1.7
NPGB	Novo Progresso	150.48	25	eP	PKPdf	05 12 45.5	+2.5
RCBR	Riachuelo	150.69	345	eP	PKPdf	05 12 45.5	+2.1
PRPB	Parauapebas	151.17	14	eP	PKPdf	05 12 46.5	+2.4
LPAZ	La Paz	151.22	57	PKP	PKPdf	05 12 45.2	+0.4
	comp=Z,2.8nm,1.1s,baz=352,slow=5.4,SNR=6.4						
LPAZ				PKPbc	PKiKP	05 12 51.8	+0.3
	comp=Z,8.0nm,0.9s,baz=5.7,slow=5.4,SNR=26						
LPAZ	La Paz	151.22	57	eP	PKPdf	05 12 45.7	+0.9
MNMC	Minye Minye	152.03	64		PKPbc	05 12 51.3	-1.1
PB11	IPOC Station P	152.37	65		PKPbc	05 12 51.8	-1.2
PB11					PKPab	05 13 02.2	-2.4
VILB	Vilhena	153.59	40	eP	PKPdf	05 12 49.7	+2.1
CLDB	Colider	153.83	29	eP	PKPdf	05 12 50.5	+2.5
PDRB	Porto dos Gac	154.11	32	eP	PKPdf	05 12 50.4	+2.1
SMTB	Santa Maria do	154.18	10	eP	PKPdf	05 12 50.9	+2.4
LVC	Limon Verde	154.59	69	PKPab	PKPab	05 13 14.6	+0.4
	comp=Z,5.5nm,0.8s,baz=355,slow=6.8,SNR=3.3						
SIV	San Ignacio	155.57	46	PKP	PKPdf	05 12 50.2	-0.1
	comp=Z,1.2nm,0.9s,baz=238,slow=8.4,SNR=4.2						
SIV				PKPab	PKPab	05 13 18.0	-0.1
	comp=Z,6.9nm,0.8s,baz=272,slow=3.0,SNR=20						
PTLB	Pontes e Lacer	156.23	41	eP	PKPdf	05 12 53.5	+2.5
SNDB	Serra Nova Dou	156.41	20	eP	PKPdf	05 12 54.2	+2.8
BBSD	Serra de San D	156.78	46	eP	PKPdf	05 12 52.7	+0.9
PLCA	Paso Flores	157.51	114	PKPab	PKPab	05 13 25.1	-1.0
	comp=Z,2.6nm,0.8s,baz=219,slow=3.7,SNR=3.9						
PLCA	Paso Flores	157.51	114	eP	PKPdf	05 12 54.3	+2.2
MC01	Montes Claros	162.28	2	eP	PKPdf	05 13 01.0	+2.9
VAO	Valinhos	168.09	17	eP	PKPdf	05 13 05.2	+2.4
CRSM	Crissiumal (Br	168.38	56	eP	PKPdf	05 13 05.9	+3.1

*BJI **11** 04:56:57.2±0.0, 11.°60N×141.°82E, h31km, mb4.6/18, mB5.0/8*

*NEIC **11** 04:57:07.0±1.5, 12.°27N±0.°09×141.°2E±0.°1, h36km±6km, mb4.8/52, Error ellipse: s-maj=14.4km s-min=13.7km az=92.0*

*IDC **11** 04:57:08.3±2.9, 12.°26N×141.°18E, h52km±27km, mb4.4/32, mbtmp4.7/34, ML5.1/2, MS3.6/43, Error ellipse: s-maj=15.8km s-min=9.2km az=71.0*

ISC 11 04:57:06.0±0.3**, 12.°21N**±0.°05×**141.°13E**±0.°07**, h34**km**, n139,** σ**0.94**/122**, mb4.8**/58**, MS3.6**/38**, 1C-1D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.89	69	P	Pn	04 58 04.0	+0.5
	95nm,0.3s,baz=196,slow=7.2,SNR=30						
GUMO				LR	LR	04 59 46.6	
	comp=Z,268nm,18.5s,baz=245,slow=41						
	589nm,0.6s						
GUMO	Guam	3.89	69	Pn	Pn	04 58 03.6	+0.1
GUMO	Guam	3.89	69	P	Pn	04 58 05.4	+1.9
GUMO	Guam	3.89	69	P	P	04 58 04.0	-0.1
JCJ	Chichijima	14.85	4	LR	LR	05 05 00.2	
	comp=Z,168nm,21.9s,baz=133,slow=32						
DAV	Davao City (W)	16.16	253	LR	LR	05 08 25.6	
	comp=Z,37nm,18.8s,baz=356,slow=42						
FAKI	Fak Fak	17.43	211		P	05 01 08.2	+0.5
JOW	Kunigami	18.91	322	LR	LR	05 07 00.1	
	comp=Z,183nm,21.5s,baz=294,slow=31						
KRVT	Keravat (AS076	19.66	146	P	Pn	05 01 34.0	+0.3
	8.8nm,0.3s,baz=283,slow=8.4,SNR=5.8						
KRVT				LR	LR	05 08 33.7	
	comp=Z,132nm,18.6s,baz=127,slow=35						
	48nm,0.5s						
JHJ	Hachijo jima 2	20.85	357	LR	LR	05 08 03.7	
	comp=Z,243nm,19.6s,baz=140,slow=32						
PMG	Port Moresby	22.29	164	P	P	05 01 60.0	-0.6
	13nm,0.6s,baz=356,slow=12,SNR=8.7						
PMG				LR	LR	05 10 47.0	
	comp=Z,142nm,18.4s,baz=306,slow=37						
	13nm,0.6s						
PMG	Port Moresby	22.29	164	P	P	05 01 59.6	-1.0
LUWI	Luwuk	22.49	235	P	P	05 02 02.1	-0.6
JNU	Nakatsue	22.84	337	P	P	05 02 06.0	-0.4
JNU				IAmb	IAmb	05 02 25.0	
	comp=Z,65nm,1.4s						
MYLDM	Lahad Datu	23.42	255	P	P	05 02 13.2	+0.8
MJAR	Matsushiro Arr	24.38	354	LR	LR	05 12 01.1	
	comp=Z,122nm,18.2s,baz=167,slow=37						
COEN	Coen	26.07	175	P	P	05 02 37.0	+0.4
COEN				IAmb	IAmb	05 02 39.7	
	comp=Z,17nm,0.8s						
KSRS	Korea Array	27.79	337	LR	LR	05 12 20.6	
	comp=Z,81nm,21.6s,baz=150,slow=33						
KSAR	Wonju Array Be	27.79	337	P	P	05 02 50.2	-1.7
NJ2	Nanjing	28.46	317	eP	P	05 03 00.2	+2.3
NJ2				pmax	pmax		
	comp=Z,26nm,0.5s						
HNR	Honiara	28.49	138	LR	LR	05 14 00.5	
	comp=Z,1μm,19.4s,baz=284,slow=36						
KNRA	Kununurra	30.29	204	P	P	05 03 13.0	-1.2
WHN	Wuhan	30.77	311	⇓P	P	05 03 31.1	+13
ASAJ	Asahikawa	31.82	2	LR	LR	05 15 47.9	
	comp=Z,38nm,21.8s,baz=188,slow=35						
CTA	Charters Tower	32.48	171	P	P	05 03 34.9	+1.3
	comp=Z,28nm,0.8s,baz=342,slow=8.7,SNR=27						
CTA				LR	LR	05 16 36.8	
	comp=Z,50nm,19.0s,baz=314,slow=36						
	comp=Z,28nm,0.8s						
CTAO	Charters Tower	32.48	171	P	P	05 03 34.2	+0.6
CTAO	Charters Tower	32.48	171	P	P	05 03 34.3	+0.7
CTAO				pP	pP	05 03 43.5	+1.5
WB2	Warramunga Arr	32.64	192	P	P	05 03 35.0	+0.1
WRA	Warramunga Arr	32.64	192	P	P	05 03 35.4	+0.5
	comp=Z,29nm,0.8s,baz=12,slow=9.4,SNR=36						
WRA				LR	LR	05 16 37.5	
	comp=Z,95nm,19.4s,baz=8.0,slow=36						
	comp=Z,29nm,0.8s						
WRA	Warramunga Arr	32.64	192	P	P	05 03 34.8	-0.1
USRK	Ussuriysk Ar.	32.84	348	P	P	05 03 37.0	+0.5
	comp=Z,0.9nm,0.3s,baz=163,slow=6.0,SNR=2.5						
USRK				LR	LR	05 15 29.2	
	comp=Z,86nm,20.8s,baz=153,slow=34						
	comp=Z,0.9nm,0.3s						
USRK	Ussuriysk Ar.	32.84	348	P	P	05 03 36.3	-0.2
AS31	Alice Springs	36.34	191	P	P	05 04 06.5	-0.6
ASAR	Alice Springs	36.35	191	P	P	05 04 07.8	+0.8
	comp=Z,4.0nm,0.6s,baz=21,slow=10,SNR=5.3						
ASAR				LR	LR	05 18 45.1	
	comp=Z,72nm,19.3s,baz=344,slow=36						
	comp=Z,4.0nm,0.6s						
XAN	Xi'an	36.49	312	⇑P	P	05 04 13.6	+5.3
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KLR	Kul'dur	37.72	350	P	P	05 04 18.3	-0.2
	comp=Z,7.4nm,0.9s,baz=150,slow=8.5,SNR=13						
KLR				LR	LR	05 17 39.7	
	comp=Z,104nm,20.6s,baz=184,slow=33						
	comp=Z,7.4nm,0.9s						
HEH	HeiHe	39.58	346	eP	P	05 04 33.8	-0.2
HEH				pmax	pmax		
	comp=Z,17nm,1.2s						
HEH				pmax	pmax		
	comp=Z,370nm,5.1s						
CMAR	Chiang Mai Arr	41.09	284	P	P	05 04 48.6	+1.6
	comp=Z,5.7nm,0.6s,baz=87,slow=6.3,SNR=19						
	comp=Z,5.7nm,0.6s						
CMAR	Chiang Mai Arr	41.09	284	P	P	05 04 47.8	+0.8
CM31	Chiang Mai Arr	41.09	284	P	P	05 04 47.2	+0.3
CM31				IAmb	IAmb	05 04 59.4	
	comp=Z,35nm,1.4s						
DZM	Mont Dzumac	42.15	144	P	P	05 04 57.3	+1.6
	comp=Z,16nm,0.6s,baz=296,slow=5.3,SNR=12						
DZM				LR	LR	05 22 17.3	
	comp=Z,69nm,18.8s,baz=22,slow=36						
	comp=Z,16nm,0.6s						
DZM	Mont Dzumac	42.15	144	P	P	05 04 55.3	-0.4
DZM				IAmb	IAmb	05 04 58.2	
	comp=Z,20nm,0.9s						
TNCH	TengChong	42.17	294	eP	P	05 04 56.6	+0.6
TNCH				pP	pP	05 05 05.9	+1.0
TNCH				pmax	pmax		
	comp=Z,16nm,0.6s						
RPSI	Rantau Prapat	42.84	261	P	P	05 05 00.3	-1.0
PETK	Petropavlovsk-	42.90	15	P	P	05 05 02.2	+1.0
	comp=Z,3.5nm,0.7s,baz=188,slow=9.9,SNR=3.1						
	comp=Z,3.5nm,0.7s						
ARMA	Armidale	43.56	167	P	P	05 05 06.1	-0.9
STKA	Stephens Creek	43.83	179	P	P	05 05 08.9	-0.1
	comp=Z,20nm,0.6s,baz=359,slow=7.4,SNR=18						
STKA				LR	LR	05 24 08.6	
	comp=Z,35nm,19.2s,baz=22,slow=37						
	comp=Z,20nm,0.6s						
STKA	Stephens Creek	43.83	179	P	P	05 05 09.2	+0.3
FORT	Forrest	44.55	196	P	P	05 05 14.7	0.0
BBOO	Buckleboo	45.02	186	P	P	05 05 18.8	+0.3
ULN	Ulaanbaatar	45.53	328	P	P	05 05 22.5	-0.1
SONM	Songino Array	45.85	328	P	P	05 05 24.6	-0.5
	comp=Z,3.0nm,1.1s,baz=135,slow=8.8,SNR=5.7						
SONM				PcP	PcP	05 07 01.2	-0.8
	comp=Z,1.5nm,0.7s,baz=144,slow=3.6,SNR=4.5						
SONM				LR	LR	05 25 08.9	
	comp=Z,60nm,18.8s,baz=144,slow=37						
	comp=Z,3.0nm,1.1s						
SONM	Songino Array	45.85	328	P	P	05 05 25.6	+0.5
MSVF	Nonsavu	47.05	129	P	P	05 05 35.7	+0.9
	comp=Z,24nm,0.7s,baz=279,slow=8.3,SNR=27						
MSVF				LR	LR	05 24 21.7	
	comp=Z,98nm,18.0s,baz=205,slow=35						
	comp=Z,24nm,0.7s						
MSVF	Nonsavu	47.05	129	P	P	05 05 35.5	+0.7
MSVF				pP	sP	05 05 47.3	0.0
MORW	Morawa	47.66	210	P	P	05 05 39.1	-0.1
MA2	Magadan	47.83	7	LR	LR	05 24 25.7	
	comp=Z,33nm,21.9s,baz=131,slow=34						
CAN	Canberra	47.85	171	P	P	05 05 41.3	+0.6
CAN				IAmb	IAmb	05 05 42.0	
	comp=Z,7.5nm,0.7s						
CAN	Canberra	47.85	171	P	P	05 05 41.2	+0.5
CAN				pP	sP	05 05 52.2	-1.1
BRDH	Bariadhala	48.16	290	LR	LR	05 25 00.8	
	comp=Z,42nm,20.4s,baz=88,slow=35						
SHL	Shillong	48.20	293	P	P	05 05 43.5	-0.3
SHL				IAmb	IAmb	05 05 49.5	
	comp=Z,7.5nm,1.0s						
LSA	Lhasa	49.42	299	P	P	05 05 54.9	+1.4
LSA				IAmb	IAmb	05 05 56.7	
	comp=Z,6.3nm,0.6s						
TOO	Toolangi	49.68	175	P	P	05 05 55.9	+1.2
TOO				IAmb	IAmb	05 05 57.2	
	comp=Z,11nm,0.8s						
YAK	Yakutsk	50.43	353	P	P	05 06 00.5	+0.5
	comp=Z,17nm,0.6s,baz=77,slow=1.9,SNR=7.6						
YAK				LR	LR	05 25 12.1	
	comp=Z,55nm,21.5s,baz=94,slow=33						
	comp=Z,17nm,0.6s						
SEY	Seymchan	51.28	7	P	P	05 06 07.1	+0.6
	comp=Z,10nm,0.8s,baz=200,slow=6.0,SNR=9.8						
	comp=Z,10nm,0.8s						
AFI	Afiamalu	53.40	118	LR	LR	05 27 59.8	
	comp=Z,43nm,18.0s,baz=302,slow=35						
BILL	Bilibino	58.16	11	P	P	05 06 54.9	-1.3
BILL				IAmb	IAmb	05 06 58.1	
	comp=Z,9.6nm,0.9s						
PALK	Pallekele	59.66	271	P	P	05 07 07.8	+0.2
	comp=Z,4.5nm,0.8s,baz=171,slow=8.1,SNR=3.7						
	comp=Z,4.5nm,0.8s						
MK31	Makanchi Array	59.99	317	P	P	05 07 09.4	+0.1
MKAR	Makanchi Array	59.99	317	P	P	05 07 10.3	+1.0
	comp=Z,4.8nm,0.8s,baz=105,slow=8.0,SNR=16						
MKAR				LR	LR	05 33 17.9	
	comp=Z,51nm,21.4s,baz=136,slow=36						
	comp=Z,4.8nm,0.8s						
MKAR	Makanchi Array	59.99	317	P	P	05 07 10.2	+0.8
MAKZ	Makanchi	60.20	317	P	P	05 07 10.8	+0.1
MAKZ				IAmb	IAmb	05 07 13.0	
	comp=Z,10nm,1.1s						
MAKZ	Makanchi	60.20	317	P	P	05 07 11.3	+0.5
MAKZ				pP	pP	05 07 20.0	+0.1
MAKZ				sP	pwP	05 07 28.7	+3.5
ZAA0	Zalesovo Array	60.66	326	P	P	05 07 14.5	+0.7
ZAA0				IAmb	IAmb	05 07 32.0	
	comp=Z,23nm,1.9s						
ZALV	Zalesovo Beam	60.66	326	P	P	05 07 14.3	+0.6
	comp=Z,2.5nm,0.6s,baz=116,slow=7.9,SNR=7.5						
ZALV				LR	LR	05 33 42.4	
	comp=Z,41nm,20.5s,baz=86,slow=36						
	comp=Z,2.5nm,0.6s						
ZALV	Zalesovo Beam	60.66	326	P	P	05 07 13.9	+0.1
RPZ	Rata Peaks	61.98	156	LR	LR	05 33 30.0	
	comp=Z,47nm,18.3s,baz=352,slow=35						
KURK	Kurchatov	63.32	321	P	P	05 07 31.0	-0.6
KURK	Kurchatov	63.32	321	P	P	05 07 31.6	0.0
KURK				pP	pP	05 07 41.5	+0.7
KURK				sP	pwP	05 07 49.2	+3.1
KURBB	Kurchatov Arra	63.35	321	P	P	05 07 32.5	+0.6
	comp=Z,11nm,1.0s,baz=104,slow=6.8,SNR=34						
	comp=Z,11nm,1.0s						
AAK	Ala-Archa	64.67	311	LR	LR	05 36 41.8	
	comp=Z,39nm,20.6s,baz=70,slow=37						
AAK	Ala-Archa	64.67	311	P	P	05 07 40.2	-0.7
NIL	Nilore	64.98	301	P	P	05 07 42.7	-0.2
NIL	Nilore	64.98	301	P	P	05 07 43.6	+0.7
NIL				pP	pP	05 07 51.9	-0.3
NRIK	Noril'sk	66.27	342	P	P	05 07 50.6	+0.1
	comp=Z,7.4nm,0.7s,baz=120,slow=7.4,SNR=7.4						
NRIK				LR	LR	05 37 34.5	
	comp=Z,55nm,18.3s,baz=166,slow=37						
	comp=Z,7.4nm,0.7s						
NRIK	Noril'sk	66.27	342	P	P	05 07 50.6	+0.1
NRIK				IAmb	IAmb	05 07 51.6	
	comp=Z,8.1nm,0.8s						
GAR	Garm	67.54	307	IAmb	IAmb	05 08 01.7	
	comp=Z,10nm,0.7s						
KK31	Karatay Array	67.63	312	P	P	05 07 59.9	+0.2
KK31				IAmb	IAmb	05 08 09.4	
	comp=Z,16nm,1.9s						
KKAR	Karatay Array	67.63	312	P	P	05 07 59.7	0.0
KBL	Kabul	68.48	302	P	P	05 08 04.8	-0.7
KBL				IAmb	IAmb	05 08 16.8	
	comp=Z,7.1nm,1.0s						
BVAR	Borovoye Array	68.77	322	P	P	05 08 07.0	+0.4
	comp=Z,7.9nm,0.6s,baz=105,slow=7.6,SNR=26						
BVAR				LR	LR	05 39 51.0	
	comp=Z,47nm,18.3s,baz=73,slow=37						
	comp=Z,7.9nm,0.6s						
BRVK	Borovoye	68.83	322	P	P	05 08 06.7	-0.4
BRVK				IAmb	IAmb	05 08 09.3	
	comp=Z,11nm,0.7s						
BRVK	Borovoye	68.83	322	P	P	05 08 07.1	+0.1
IMAR	Indian Mountai	68.90	23	P	P	05 08 06.6	-0.6
MLY	Manley	69.83	25	P	P	05 08 12.6	-0.4
MLY				IAmb	IAmb	05 08 14.0	
	comp=Z,12nm,1.0s						
COLD	Coldfoot	70.61	23	P	P	05 08 17.7	0.0
COLD				IAmb	IAmb	05 08 19.2	
	comp=Z,6.7nm,0.8s						
ILAR	Eielson Array	71.37	25	P	P	05 08 20.6	-1.8
	comp=Z,1.6nm,0.8s,baz=258,slow=5.3,SNR=13						
	comp=Z,1.6nm,0.8s						
HRA	Herat	74.10	302	IAmb	IAmb	05 08 40.9	
	comp=Z,13nm,0.9s						
ABKAR	Akbulak array	75.12	318	P	P	05 08 44.7	-0.1
ARU	Arti	75.83	325	P	P	05 08 48.4	-0.3
	comp=Z,5.7nm,0.2s,baz=158,slow=1.8,SNR=6.2						
ARU				LR	LR	05 44 25.5	
	comp=Z,60nm,18.8s,baz=81,slow=37						
	comp=Z,5.7nm,0.2s						
ARU	Arti	75.83	325	P	P	05 08 48.1	-0.6
INK	Inuvik	77.03	22	P	P	05 08 54.5	-0.7
	comp=Z,3.1nm,0.9s,baz=247,slow=5.4,SNR=7.3						
	comp=Z,3.1nm,0.9s						
INK	Inuvik	77.03	22	IAmb	IAmb	05 09 05.4	
	comp=Z,9.6nm,1.2s						
GEYT	Alibeck	77.14	306	P	P	05 08 56.5	0.0
	comp=Z,3.3nm,0.7s,baz=253,slow=1.5,SNR=4.7						
GEYT				LR	LR	05 45 14.9	
	comp=Z,41nm,20.7s,baz=116,slow=37						
	comp=Z,3.3nm,0.7s						
GEYT	Alibeck	77.14	306	P	P	05 08 55.1	-1.5
WSAR	Wadi Sarin	78.48	291	LR	LR	05 45 52.0	
	comp=Z,14nm,19.1s,baz=104,slow=37						
A36M	Sachs Harbour	79.61	18	P	P	05 09 08.7	-0.7
A36M				IAmb	IAmb	05 09 10.4	
	comp=Z,10.0nm,0.8s						
KIRV	Kirov	80.58	328	P	P	05 09 15.3	+0.4
	comp=Z,10.0nm,0.5s,baz=308,slow=6.7,SNR=3.6						
KIRV				LR	LR	05 47 10.8	
	comp=Z,45nm,18.6s,baz=46,slow=37						
	comp=Z,10.0nm,0.5s						
BELG	Belogornoye	82.57	322	P	P	05 09 25.3	-0.3
	comp=Z,42nm,0.9s,baz=301,slow=1.2,SNR=10						
BELG				LR	LR	05 48 05.6	
	comp=Z,66nm,18.9s,baz=56,slow=37						
	comp=Z,42nm,0.9s						
EUNU	Eureka	84.71	7	IAmb	IAmb	05 09 37.2	
	comp=Z,9.0nm,0.8s						
SPITS	Spitsbergen Ar	84.80	350	LR	LR	05 48 14.9	
	comp=Z,23nm,19.0s,baz=358,slow=36						
RES	Resolute Bay	86.71	13	LR	LR	05 50 57.2	
	comp=Z,9.8nm,19.6s,baz=355,slow=37						
ARCES	ARCESS Array B	87.25	341	P	P	05 09 48.3	-0.5
	comp=Z,2.4nm,0.5s,baz=66,slow=7.3,SNR=29						
ARCES				LR	LR	05 52 07.7	
	comp=Z,25nm,19.3s,baz=98,slow=38						
	comp=Z,2.4nm,0.5s						
PINE	Pine Mountain	87.29	46	IAmb	IAmb	05 09 50.8	
	comp=Z,5.7nm,0.8s						
BEKR	Beckworth	88.69	50	P	P	05 09 54.9	-1.6
BEKR				IAmb	IAmb	05 09 56.9	
	comp=Z,4.1nm,0.8s						
J08A	Circle Bar Ran	89.14	46	IAmb	IAmb	05 10 16.7	
	comp=Z,11nm,1.5s						
VNDA	Vanda	90.35	176	P	P	05 10 02.0	-1.1
	comp=Z,0.4nm,0.6s,baz=301,slow=9.1,SNR=3.0						
VNDA				LR	LR	05 49 04.2	
	comp=Z,37nm,19.1s,baz=351,slow=34						
	comp=Z,0.4nm,0.6s						
KVN	Kaiserville	90.60	50	P	P	05 10 04.9	-0.6
NVAR	Mina Array Bea	90.62	51	P	P	05 10 04.0	-1.6
	comp=Z,1.1nm,0.8s,baz=262,slow=6.0,SNR=7.8						
	comp=Z,1.1nm,0.8s						
NVAR	Mina Array Bea	90.62	51	P	P	05 10 04.7	-0.9
FINES	FINESS Array B	90.84	334	P	P	05 10 04.2	-1.7
	comp=Z,12nm,0.7s,baz=70,slow=5.0,SNR=43						
FINES				LR	LR	05 51 40.6	
	comp=Z,40nm,20.1s,baz=32,slow=36						
	comp=Z,12nm,0.7s						
AKASG	Malin Array Be	94.01	324	P	P	05 10 18.7	-2.0
	comp=Z,0.9nm,0.6s,baz=51,slow=3.5,SNR=1.9						
AKASG				LR	LR	05 55 50.6	
	comp=Z,42nm,18.9s,baz=23,slow=38						
	comp=Z,0.9nm,0.6s						
HFS	Hagfors	96.64	336	LR	LR	05 58 27.3	
	comp=Z,52nm,19.3s,baz=70,slow=38						
NOA	NORSAR Array B	97.00	338	P	P	05 10 32.2	-2.0
	comp=Z,1.1nm,0.7s,baz=51,slow=4.5,SNR=3.3						
NOA				LR	LR	05 57 04.8	
	comp=Z,18nm,19.3s,baz=270,slow=37						
	comp=Z,1.1nm,0.7s						
GERES	GERESS Array B	103.58	327	Pdiff	Pdif	05 11 02.3	-1.6
	comp=Z,0.2nm,0.5s,baz=52,slow=5.1,SNR=3.7						
PLCA	Paso Flores	140.25	141	PKP	PKPdf	05 16 32.4	+0.6
	comp=Z,2.2nm,0.7s,baz=214,slow=3.8,SNR=6.3						
MT05	Renca	144.07	131	PKPdf	PKPbc	05 16 37.0	+0.2
LCO	Las Campanas	145.99	124	PKPbc	PKPbc	05 16 43.5	+0.2
CZSB	Cruzeiro do Su	146.40	86	PKPbc	PKPbc	05 16 44.1	-0.4
AC05	El Transito	146.40	124	PKPbc	PKPab	05 16 45.0	-0.2
PB15	IPOC Station P	148.93	115	PKPbc	PKPbc	05 16 50.8	-0.7
PB01	IPOC Station P	149.42	111	PKPbc	PKPbc	05 16 52.1	-0.5
LVC	Limon Verde	149.58	114	PKPbc	PKiKP	05 16 53.8	-0.6
	comp=Z,9.1nm,0.6s,baz=254,slow=3.9,SNR=15						
LVC	Limon Verde	149.58	114	PKPbc	PKPbc	05 16 53.7	+0.4
PB16	IPOC Station P	149.85	105	PKPbc	PKPbc	05 16 54.1	-0.2
GO01	Chusmiza	149.94	108	PKPbc	PKiKP	05 16 54.8	-0.5
LPAZ	La Paz	151.36	102	PKPbc	PKPbc	05 16 58.1	+0.1
	comp=Z,11nm,0.8s,baz=278,slow=2.2,SNR=29						
SIV	San Ignacio	158.14	103	PKPab	PKPab	05 17 34.6	+0.2
	comp=Z,1.5nm,0.8s,baz=245,slow=3.8,SNR=4.5						
BDFB	Brasilia	170.49	112	PKPab	PKPab	05 18 30.1	+1.4
	comp=Z,0.7nm,0.3s,baz=210,slow=8.1,SNR=3.0						

IDC 11 04:57:12.4±3.4**, 54.°31N**×**87.°42E, h0**km**, mbtmp2.9**/2**, ML2.6**/2**, Error ellipse: s-maj=31.4km s-min=19.1km az=42.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**258**	I		05 07 10.0	
	baz=78,slow=338,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.57**	**258**	Pg	Pn	04 57 39.8	-1.8
	2.7nm,0.3s,baz=78,slow=16,SNR=25						
ZALV				Lg	Lg	04 58 02.8	
	3.1nm,0.3s,baz=74,slow=27,SNR=8.9						
KURBB	**Kurchatov Arra**	**6.56**	**239**	Pn	Pn	04 58 50.7	+0.5
	0.1nm,0.3s,baz=54,slow=13,SNR=5.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.20**	**205**	Pn	Pn	04 59 14.0	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=7.2						
	0.2nm,0.5s						

*IDC **11** 05:07:27.5±1.4, 12°.34N×141°.23E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=76.7km s-min=25.1km az=85.0*

ISC 11 05:07:32.1±1.5**, 12°.3N**±0°.2×**141°.5E**±0°.6**, h33km, n6, σ1s.03**/6**, mb4.1**/5**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.82**	**192**	P	**P**	**05 14 02.7**	**0.0**
	2.0nm,0.8s,baz=11,slow=9.3,SNR=11						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**36.52**	**192**	P	**P**	**05 14 35.4**	**+0.7**
	0.3nm,0.4s,baz=22,slow=12,SNR=6.9						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**43.95**	**180**	P	**P**	**05 15 35.4**	**-0.6**
	1.9nm,0.5s,baz=356,slow=7.5,SNR=4.5						
	1.9nm,0.5s						
BVAR	**Borovoye Array**	**68.87**	**322**	P	**P**	**05 18 34.1**	**+0.7**
	0.5nm,0.5s,baz=100,slow=7.6,SNR=2.6						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**90.88**	**334**	P	**P**	**05 20 31.1**	**-1.0**
	2.2nm,0.8s,baz=66,slow=4.8,SNR=4.5						
	2.2nm,0.8s						
LPAZ	**La Paz**	**151.07**	**101**	PKPbc	**PKiKP**	**05 27 24.9**	**+0.9**
	0.4nm,0.5s,baz=252,slow=3.2,SNR=3.9						

*DJA **11** 05:33:36.6±0.6, 8°S±3°×12°8E±°, h171km±22km, M4.4/13, mb4.5/7, mB5.1/2, MLv4.4/13, Mw(mB)4.5/2*
*IDC **11** 05:33:38.2±2.1, 7°.81S×128°.46E, h78km±20km, mb3.5/6, mbtmp4.0/8, MS2.8/2, Error ellipse: s-maj=19.4km s-min=14.3km az=109.0*
*NEIC **11** 05:33:38.1±1.9, 7°.94S±0°.06×128°.59E±0°.07, h69km±9km, mb4.3/12, Error ellipse: s-maj=11.3km s-min=6.1km az=50.0*

ISC 11 05:33:38.9±0.5**, 7°.90S**±0°.05×**128°.58E**±0°.06**, h100km, n54, σ2s.39**/50**, mb3.9**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.69**	**92**	Pn	**Pn**	**05 34 19.2**	**-1.4**
SAUI	**Saumlaki**	**2.69**	**92**	P	**Pn**	**05 34 23.3**	**+2.8**
BNDI	**Bandanaira**	**3.60**	**22**	P	**Pn**	**05 34 30.8**	**-1.9**
AAI	**Ambon**	**4.20**	**355**	P	**Pn**	**05 34 38.7**	**-2.1**
MSAI	**Masohi**	**4.53**	**4**	P	**Pn**	**05 34 43.4**	**-1.9**
KRAI	**Karang Ratu**	**4.55**	**358**	P	**Pn**	**05 34 43.7**	**-1.9**
SOEI	**Soe**	**4.65**	**246**		**Pn**	**05 34 46.0**	**-0.9**
SOEI	**Soe**	**4.65**	**246**	P	**Pn**	**05 34 44.8**	**-2.1**
NLAI	**Namlea**	**4.86**	**342**	P	**Pn**	**05 34 46.5**	**-3.2**
BATI	**Baumata**	**5.37**	**244**	P	**Pn**	**05 34 56.2**	**-0.5**
	54nm,0.4s,baz=140,slow=4.6,SNR=7.6						
BATI				S	**Sn**	**05 35 54.9**	**-2.5**
	42nm,0.4s,baz=317,slow=19,SNR=1.6						
BATI	**Baumata**	**5.37**	**244**	P	**Pn**	**05 34 54.5**	**-2.2**
	0.4nm80nm,0.6s						
MTN	**Manton Dam**	**5.52**	**153**		**Pn**	**05 34 56.9**	**-1.8**
FAKI	**Fak Fak**	**6.14**	**37**		**Pn**	**05 35 05.2**	**-1.9**
FAKI	**Fak Fak**	**6.14**	**37**	P	**Pn**	**05 35 05.7**	**-1.5**
	0.2nm54nm,0.7s						
MMRI	**Maumere**	**6.32**	**263**	Pn	**Pn**	**05 35 08.2**	**-1.4**
BBSI	**Bau Bau**	**6.43**	**291**	P	**Pn**	**05 35 07.6**	**-3.5**
	0.2nm47nm,0.8s						
LBMI	**Labuha**	**7.29**	**351**	P	**Pn**	**05 35 19.5**	**-3.3**
	0.3nm2µm80nm,0.9s						
SIJI	**Sorong**	**7.47**	**21**	P	**Pn**	**05 35 25.2**	**-0.1**
	16nm,0.4s,baz=232,slow=22,SNR=7.6						
SIJI				S	**Sn**	**05 36 47.0**	**-1.6**
	4.0nm,0.3s,baz=257,slow=23,SNR=1.2						
SIJI				LR	LR	05 38 38.6	
	comp=Z,133nm,19.3s,baz=246,slow=40						
SIJI	**Sorong**	**7.47**	**21**	P	**Pn**	**05 35 22.6**	**-2.7**
KNRA	**Kununurra**	**7.74**	**179**		**Pn**	**05 35 26.1**	**-2.7**
KNRA	**Kununurra**	**7.74**	**179**	P	**Pn**	**05 35 25.8**	**-3.0**
KAPI	**Kappang**	**9.23**	**288**		**Pn**	**05 35 50.7**	**+1.6**
WB0	**Warramunga Arr**	**13.08**	**155**		Pn	05 36 36.0	-4.8
WRAB	**Tennant Creek**	**13.21**	**156**	P	Pn	05 36 37.3	-5.3
WRA	**Warramunga Arr**	**13.21**	**156**	P	Pn	05 36 37.0	-5.6
	2.9nm,0.3s,baz=328,slow=14,SNR=74						
WRA				S	Sn	05 38 55.4	-13
	20nm,0.7s,baz=339,slow=22,SNR=16						
WRA				LR	LR	05 43 05.3	
	comp=Z,21nm,20.5s,baz=312,slow=42						
WB2	**Warramunga Arr**	**13.22**	**156**	Pn	**Pn**	**05 36 38.2**	**-4.5**
WB1	**Warramunga Ar.**	**13.23**	**156**	P	Pn	05 36 38.0	-4.9
COEN	**Coen**	**15.54**	**114**		**Pn**	**05 37 10.7**	**-1.8**
COEN				IAmb	IAmb	05 37 22.2	
	comp=Z,14nm,1.3s						
COEN	**Coen**	**15.54**	**114**	P	**Pn**	**05 37 11.4**	**-1.1**
MBWA	**Marble Bar**	**15.71**	**212**	Pn	**Pn**	**05 37 13.4**	**-1.2**
MBWA				IAmb	IAmb	05 37 41.4	
	comp=Z,33nm,1.5s						
PSA00	**Pilbara Seismi**	**16.00**	**211**		**P**	**05 37 18.8**	**-0.9**
PSA00				IAmb	IAmb	05 37 22.0	
	comp=Z,13nm,0.8s						
ASAR	**Alice Springs**	**16.49**	**163**	P	**Pn**	**05 37 20.0**	**-4.3**
	comp=Z,1.9nm,0.5s,baz=332,slow=10.0,SNR=19						
ASAR				S	Sn	05 40 12.9	-14
	comp=Z,2.0nm,0.5s,baz=330,slow=18,SNR=6.0						
QIS	**Mount Isa**	**16.50**	**141**	P	**Pn**	**05 37 22.3**	**-2.1**
AS01	**Alice Springs**	**16.50**	**162**	P	**Pn**	**05 37 21.7**	**-2.8**
WRKA	**Warakurna**	**17.05**	**181**	P	**Pn**	**05 37 28.9**	**-2.3**
SBUM	**Sibu**	**19.29**	**302**	P	**P**	**05 37 56.6**	**+0.6**
GIRL	**Giralia**	**20.14**	**222**	P	Pn	05 38 06.2	-1.6
CTA	**Charters Tower**	**20.97**	**127**	P	Pn	05 38 16.0	-1.6
	comp=Z,1.7nm,0.5s,baz=305,slow=11,SNR=2.4						
	comp=Z,1.7nm,0.5s						
FORT	**Forrest**	**22.77**	**181**	P	**P**	**05 38 31.5**	**-1.5**
FORT	**Forrest**	**22.77**	**181**	P	**P**	**05 38 37.4**	**+4.4**
MULG	**Mulgathing**	**22.86**	**168**	P	**P**	**05 38 35.2**	**+1.4**
QLP	**Quilpie**	**23.80**	**143**	P	**P**	**05 38 45.9**	**+3.3**
MORW	**Morawa**	**24.15**	**208**	P	**P**	**05 38 47.4**	**+1.7**
MORW				IAmb	IAmb	05 38 48.1	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**25.74**	**165**	P	**P**	**05 39 01.2**	**+1.0**
BBOO				IAmb	IAmb	05 39 24.4	
	comp=Z,51nm,1.4s						
STKA	**Stephens Creek**	**26.76**	**155**	P	**P**	**05 39 11.4**	**+2.1**
	comp=Z,2.1nm,0.5s,baz=324,slow=11,SNR=7.2						
	comp=Z,2.1nm,0.5s						
STKA	**Stephens Creek**	**26.76**	**155**	P	**P**	**05 39 10.7**	**+1.4**
SONM	**Songino Array**	**58.86**	**343**	P	**P**	**05 43 28.8**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=157,slow=7.6,SNR=1.9						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**68.21**	**328**	P	**P**	**05 44 29.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=116,slow=7.5,SNR=9.8						
	comp=Z,0.5nm,0.4s						
VNDA	**Vanda**	**71.74**	**173**	P	**P**	**05 44 52.5**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=318,slow=7.7,SNR=6.8						
	comp=Z,0.7nm,0.7s						
VNDA	**Vanda**	**71.74**	**173**	P	**P**	**05 44 52.5**	**+2.8**
ZALV	**Zalesovo Beam**	**71.77**	**335**	P	**P**	**05 44 50.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=126,slow=7.5,SNR=3.9						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**82.09**	**180**	P	**P**	**05 45 50.7**	**+2.6**
QSPA				IAmb	IAmb	05 45 56.9	
	comp=Z,5.4nm,1.4s						
BELA	**Belgrano 2**	**93.85**	**184**	P	**P**	**05 46 47.2**	**+2.6**
LPAZ	**La Paz**	**150.83**	**145**	PKPbc	**PKPab**	**05 53 25.0**	**-3.8**
	comp=Z,0.9nm,0.7s,baz=185,slow=4.4,SNR=3.8						

*TIR **11** 05:36:42.6, 38°.24N×20°.61E, h4km±1km, Md3.4, Ml3.2*
*THE **11** 05:36:43.8, 38°.29N×20°.42E, h11km, ML3.6/9, Error ellipse: s-maj=1.1km s-min=0.5km az=266.0*
*ATH **11** 05:36:44.0, 38°.30N×20°.46E, h9km±1km, ML3.3/5, Error ellipse: s-maj=1.6km s-min=0.7km az=259.0*

ISC 11 05:36:43.8±0.8**, 38°.29N**±0°.02×**20°.47E**±0°.03**, h9km**±5km**, n43, σ0s.81**/70**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEF4	**Livadi, Kephal**	**0.05**	**232**	P	**Pg**	**05 36 45.9**	**+0.3**
KEF4				S	**Sg**	**05 36 47.5**	**+0.5**
KEF4	**Livadi, Kephal**	**0.05**	**232**	P	**Pg**	**05 36 45.8**	**+0.1**
KEF4				S	**Sg**	**05 36 47.2**	**+0.2**
DMLN	**Damoulianata-K**	**0.09**	**238**	P	**Pg**	**05 36 46.4**	**+0.2**
DMLN				S	**Sg**	**05 36 48.0**	**+0.1**
	136µm,0.4s						
KEF3	**Kipouria, Keph**	**0.13**	**229**	P	**Pg**	**05 36 46.5**	**-0.2**
KEF3				S	**Sg**	**05 36 48.4**	**-0.3**
KEF3	**Kipouria, Keph**	**0.13**	**229**	P	**Pg**	**05 36 46.5**	**-0.2**
KEF3				S	**Sg**	**05 36 48.2**	**-0.5**
VLS	**Valsamata**	**0.14**	**139**	P	**Pg**	**05 36 47.4**	**+0.4**
VLS				S	**Sg**	**05 36 50.2**	**+1.0**
	101µm,0.1s						
VLS	**Valsamata**	**0.14**	**139**	P	**Pg**	**05 36 47.4**	**+0.4**
VLS				S	**Sg**	**05 36 49.8**	**+0.6**
VLS				AML	AML	05 36 50.3	
VLS				AML	AML	05 36 50.4	
FSK	**Fiskardo**	**0.19**	**23**	P	**Pg**	**05 36 47.9**	**+0.2**
FSK				S	**Sg**	**05 36 51.0**	**+0.6**
	11µm,0.2s						
FSK	**Fiskardo**	**0.19**	**23**	P	**Pg**	**05 36 47.9**	**+0.2**
FSK				S	**Sg**	**05 36 50.4**	**0.0**
FSK				AML	AML	05 36 51.4	
	comp=N,16700µm,0.3s						
FSK				AML	AML	05 36 51.4	
	comp=E,27766µm,0.1s						
PSDA	**Pessada-Kefalo**	**0.19**	**153**	P	**Pg**	**05 36 48.3**	**+0.4**
PSDA				S	**Sg**	**05 36 52.0**	**+1.4**
	comp=E,31µm,0.2s						
PSDA	**Pessada-Kefalo**	**0.19**	**153**	P	**Pg**	**05 36 48.2**	**+0.4**
PSDA				S	**Sg**	**05 36 51.6**	**+1.0**
EVGI	**Lefkada island**	**0.36**	**23**	P	**Pg**	**05 36 51.1**	**+0.1**
EVGI				S	**Sg**	**05 36 57.0**	**+1.1**
	comp=E,15µm,0.2s						
EVGI	**Lefkada island**	**0.36**	**23**	P	**Pg**	**05 36 51.0**	**+0.1**
EVGI				S	**Sg**	**05 36 55.7**	**-0.2**
DRAG	**Dragano-Lefkad**	**0.41**	**12**	P	**Pg**	**05 36 51.8**	**0.0**
DRAG				S	**Sg**	**05 36 58.2**	**+1.1**
	comp=E,28µm,0.4s						
NYDR	**Nydri-Lefkada**	**0.46**	**23**	P	**Pg**	**05 36 52.6**	**-0.2**
LKD2	**Lefkada island**	**0.52**	**16**	P	**Pg**	**05 36 53.8**	**-0.2**
LKD2	**Lefkada island**	**0.52**	**16**	P	**Pg**	**05 36 53.4**	**-0.6**
	baz=4.0						
LKD2				S	**Sb**	**05 37 02.1**	**-0.7**
	baz=4.0						
LKD2	**Lefkada island**	**0.52**	**16**	P	**Pg**	**05 36 53.6**	**-0.4**
TSLK	**Tsoukalades, L**	**0.56**	**15**	P	**Pg**	**05 36 54.4**	**-0.2**
TSLK	**Tsoukalades, L**	**0.56**	**15**	P	**Pg**	**05 36 54.2**	**-0.4**
TSLK				S	**Sg**	**05 37 01.1**	**-0.8**
LTHK	**Lithakia**	**0.64**	**153**	P	**Pg**	**05 36 56.0**	**-0.2**
LTHK				S	**Sb**	**05 37 07.1**	**+0.9**
LTHK	**Lithakia**	**0.64**	**153**	P	**Pg**	**05 36 56.1**	**-0.1**
LTHK				S	**Sb**	**05 37 06.2**	**0.0**
LTHK				AML	AML	05 37 07.1	
	comp=E,10122µm,0.3s						
LTHK				AML	AML	05 37 07.6	
	comp=N,21538µm,0.2s						
RLS	**Riolos of Patr**	**0.82**	**106**	P	**Pg**	**05 36 59.3**	**-0.2**
RLS	**Riolos of Patr**	**0.82**	**106**	P	**Pg**	**05 36 59.4**	**-0.2**
RLS				S	**Sg**	**05 37 11.0**	**+0.8**
RLS				AML	AML	05 37 17.4	
	comp=E,2101µm,0.5s						
RLS				AML	AML	05 37 19.9	
	comp=N,1783µm,0.4s						
PVO	**Paravola**	**0.89**	**68**	P	**Pg**	**05 37 01.0**	**+0.1**
PVO				S	**Sn**	**05 37 15.7**	**+0.2**
	comp=N,3µm,0.3s						
PVO	**Paravola**	**0.89**	**68**	P	**Pg**	**05 37 01.1**	**+0.1**
PVO				S	**Sg**	**05 37 12.6**	**0.0**
DRO	**Drossia**	**1.03**	**108**	P	**Pg**	**05 37 03.9**	**+0.3**
EFP	**Efpalio**	**1.14**	**82**	P	**Pg**	**05 37 04.6**	**-1.0**
EFP				S	**Sn**	**05 37 22.1**	**+0.6**
	comp=N,2µm,0.5s						
EFP	**Efpalio**	**1.14**	**82**	P	**Pg**	**05 37 04.7**	**-0.9**
ANX	**Ano Chora**	**1.18**	**74**	P	**Pb**	**05 37 05.9**	**-0.5**
LAKA	**Lakka**	**1.19**	**92**	P	**Pb**	**05 37 05.6**	**-0.9**
LAKA				S	**Sn**	**05 37 23.8**	**+0.9**
	comp=N,2µm,0.6s						
LAKA	**Lakka**	**1.19**	**92**	P	**Pb**	**05 37 05.6**	**-0.9**
EVR	**Evrytania**	**1.22**	**59**	P	**Pb**	**05 37 06.1**	**-1.1**
IGT	**Igoumenitsa**	**1.25**	**355**	P	**Pn**	**05 37 06.9**	**-0.5**
IGT	**Igoumenitsa**	**1.25**	**355**	P	**Pn**	**05 37 07.2**	**-0.3**
	baz=351						
IGT				S	**Sn**	**05 37 24.6**	**+0.2**
	baz=351						
IGT	**Igoumenitsa**	**1.25**	**355**	P	**Pn**	**05 37 07.1**	**-0.3**
IGT				S	**Sb**	**05 37 23.6**	**-0.1**
IGT				AML	AML	05 37 27.5	
	comp=E,957µm,0.7s						
IGT				AML	AML	05 37 30.8	
	comp=N,999µm,0.4s						
SERG	**Sergoula**	**1.25**	**84**	P	**Pn**	**05 37 07.0**	**-0.5**
SERG	**Sergoula**	**1.25**	**84**	P	**Pn**	**05 37 06.6**	**-0.8**
JAN	**Janina**	**1.40**	**12**	P	**Pn**	**05 37 09.2**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.49**	**60**	P	**Pn**	**05 37 10.5**	**-0.2**
AGG	**Agios Georgios**	**1.63**	**63**	P	**Pn**	**05 37 12.5**	**-0.2**
SRN	**Sarande**	**1.63**	**347**	P	**Pn**	**05 37 13.1**	**+0.4**
	baz=345						
SRN				S	**Sg**	**05 37 39.6**	**+3.3**
	baz=345						
SRN				AMP			
	comp=N,0.3nm,0.3s,baz=345						
LSK	**Leskovik**	**1.86**	**3**	P	**Pb**	**05 37 17.4**	**-0.6**
	baz=0.0						
LSK				S	**Sg**	**05 37 47.2**	**+3.5**
	baz=0.0						
LSK				AMP			
	comp=N,1.5nm,0.6s,baz=0.0						

*LDG **11** 05:38:49.5±0.6, 44°.64N×6°.90E, h15km, Md0.9/2, Error ellipse: s-maj=16.7km s-min=5.9km az=74.0*

STR 11 05:38:47.2±2.0**, 45°N**±5°×°±1°1**, h5km, MLv3.6**/5**, Error ellipse: s-maj=0.0km s-min=0.0km az=79.6, preliminary, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.18**	**261**	*e*Pg	Pg	05 38 53.0	+2.2
MBDF				*e*Sg	Sg	05 38 56.1	+2.9
	8.7nm,0.2s						
SURF	**Saint Ours**	**0.31**	**208**	Pg	Pg	05 38 53.9	+0.6
SURF				Sg	Sg	05 38 57.2	-0.3
CREF	**Crivoux**	**0.35**	**234**	Pg	Pg	05 38 54.0	0.0
CREF				Sg	Sg	05 38 59.6	+1.0
JAUF	**Jausiers**	**0.38**	**211**	Pg	Pg	05 38 54.9	+0.3
JAUF				Sg	Sg	05 38 59.0	-0.6
ORIF	**Oris-en-Rattie**	**0.83**	**282**	*e*Pg	Pb	05 39 04.6	+0.5

*GEN **11** 05:38:55.4, 44°.66N×7°.03E, h11km±1km, Ml3.0*
*ROM **11** 05:38:55.4±0.1, 44°.649N±0°.005×7°.04E±0°.01, h16km±1km, ML3.0/20, Error ellipse: s-maj=0.9km s-min=0.2km az=61.0*
*STR **11** 05:38:56.1±0.3, 45°N±1°×°±°, h7km±2km, MLv3.4/61, Error ellipse: s-maj=0.0km s-min=0.0km az=77.1, preliminary*
*PRU **11** 05:38:56.9±0.0, 44°.53N×7°.48E, h0km*
*LDG **11** 05:38:56.1±0.1, 44°.67N×7°.08E, h2km, Md3.3/2, Ml3.3/46, Error ellipse: s-maj=1.9km s-min=1.4km az=69.0*

ISC 11 05:38:55.6±0.8**, 44°.68N**±0°.01×**7°.06E**±0°.01**, h16km**±5km**, n197, σ1s.46**/319**, 12C-3D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.17**	**166**	P	**Pg**	**05 38 59.6**	**-0.5**
PZZ				S	**Sg**	**05 39 02.2**	**-0.8**
PZZ	**Stroppo**	**0.17**	**166**	P	**Pg**	**05 38 59.6**	**-0.5**
PZZ				S	**Sg**	**05 39 02.3**	**-0.8**
MBDF	**Montbardon**	**0.21**	**284**	*e*Pg	**Pb**	**05 39 00.7**	**-0.5**
MBDF				*e*Sg	**Sg**	**05 39 03.8**	**-0.2**
	6µm,0.2s						
BHB	**Bricherasio**	**0.22**	**41**	S	**Sb**	**05 39 04.8**	**-0.4**
BHB	**Bricherasio**	**0.22**	**41**	P	**Pb**	**05 39 01.3**	**0.0**
BHB				S	**Sb**	**05 39 05.2**	**+0.1**
SURF	**Saint Ours**	**0.26**	**222**	P	**Pg**	**05 39 01.0**	**-0.4**
SURF				S	**Sg**	**05 39 04.7**	**-0.7**
SURF	**Saint Ours**	**0.26**	**222**	Pg	**Pg**	**05 39 01.0**	**-0.4**
SURF				Sg	**Sg**	**05 39 04.7**	**-0.7**
RRL	**Rocca Remolon**	**0.31**	**322**	P	**Pb**	**05 39 02.6**	**-0.3**
RRL				S	**Sb**	**05 39 07.2**	**-0.7**
RRL	**Rocca Remolon**	**0.31**	**322**	⇑P	**Pb**	**05 39 02.6**	**-0.3**
RRL				S	**Sb**	**05 39 07.2**	**-0.7**
RRL				AML	AML		
	comp=E,4815µm,0.3s						
RRL				AML	AML		
	comp=E,4815µm,1.7s						
RRL				AML	AML		
	comp=N,5595µm,0.8s						
JAUF	**Jausiers**	**0.33**	**222**	Pg	**Pg**	**05 39 02.2**	**-0.3**
JAUF				Sg	**Sg**	**05 39 06.6**	**-0.7**
CREF	**Crivoux**	**0.33**	**248**	Pg	**Pg**	**05 39 02.3**	**-0.4**
CREF				Sg	**Sg**	**05 39 07.0**	**-0.5**
OGAG	**Argentiere**	**0.43**	**239**	P	**Pg**	**05 39 03.6**	**-0.8**
OGAG				S	**Sg**	**05 39 09.0**	**-1.2**
OGAG	**Argentiere**	**0.43**	**239**	⇑Pg	**Pg**	**05 39 03.5**	**-0.8**
OGAG				Sg	**Sg**	**05 39 09.1**	**-1.2**
BNI	**Bardonecchia**	**0.46**	**325**	P	**Pb**	**05 39 05.2**	**-0.3**
BNI				S	**Sb**	**05 39 11.9**	**-0.3**
BNI	**Bardonecchia**	**0.46**	**325**	⇑P	**Pb**	**05 39 05.2**	**-0.3**
BNI				S	**Sb**	**05 39 11.8**	**-0.3**
BNI				AML	AML		
	comp=N,832µm,0.6s						
BNI				AML	AML		
	comp=E,1845µm,1.1s						
BNI				AML	AML		
	comp=N,1016µm,0.6s						
BNI				AML	AML		
	comp=E,1535µm,1.1s						
BNI				AML	AML		
	comp=E,1530µm,1.1s						
STV	**Sant Anna di V**	**0.47**	**156**	P	**Pg**	**05 39 04.8**	**-0.2**
STV				S	**Sg**	**05 39 10.8**	**-0.7**
STV	**Sant Anna di V**	**0.47**	**156**	⇑P	**Pg**	**05 39 04.8**	**-0.2**
STV				S	**Sg**	**05 39 10.7**	**-0.7**
STV				AML	AML		
	comp=N,3015µm,0.6s						
STV				AML	AML		
	comp=E,4320µm,0.2s						
ISO	**Isola**	**0.49**	**181**	P	**Pb**	**05 39 05.7**	**-0.2**
ISO				S	**Sb**	**05 39 11.9**	**-1.0**
ISO	**Isola**	**0.49**	**181**	Pg	**Pb**	**05 39 05.3**	**-0.6**
ISO				Sg	**Sg**	**05 39 11.3**	**-0.7**
ENR	**Entracque**	**0.52**	**150**	P	**Pg**	**05 39 05.5**	**-0.4**
ENR				S	**Sg**	**05 39 12.5**	**-0.4**
ENR	**Entracque**	**0.52**	**150**	⇑P	**Pg**	**05 39 05.5**	**-0.4**
ENR				S	**Sg**	**05 39 12.6**	**-0.4**
ENR				AML	AML		
	comp=E,6965µm,1.1s						
ENR				AML	AML		
	comp=N,9460µm,0.3s						
ENR				AML	AML		
	comp=E,6965µm,0.9s						
ENR				AML	AML		
	comp=N,9460µm,1.7s						
OGMO	**Fort Saint-Gob**	**0.59**	**334**	P	**Pb**	**05 39 07.7**	**0.0**
OGMO				S	**Sb**	**05 39 15.7**	**-0.2**
OGMO	**Fort Saint-Gob**	**0.59**	**334**	⇑Pg	**Pb**	**05 39 07.7**	**0.0**
OGMO				Sg	**Sb**	**05 39 15.7**	**-0.2**
SPIF	**crte de Spivo**	**0.63**	**168**	⇑Pg	**Pb**	**05 39 07.9**	**-0.5**
SPIF				Sg	**Sb**	**05 39 16.4**	**-0.6**
MONC	**Moncucco Torin**	**0.74**	**57**	P	**Pn**	**05 39 10.9**	**-0.5**
MONC				S	**Sn**	**05 39 23.7**	**+1.4**
MONC	**Moncucco Torin**	**0.74**	**57**	⇑P	**Pn**	**05 39 10.9**	**-0.5**
MONC				AML	AML		
	comp=E,2745µm,0.2s						
MONC				AML	AML		
	comp=N,3210µm,0.5s						
TURF	**col de Turini**	**0.74**	**161**	P	**Pg**	**05 39 09.6**	**-0.5**
TURF				S	**Sg**	**05 39 19.2**	**-0.7**
TURF	**col de Turini**	**0.74**	**161**	⇑Pg	**Pg**	**05 39 09.6**	**-0.5**
TURF				Sg	**Sg**	**05 39 19.3**	**-0.7**
SAOF	**Saorge**	**0.78**	**152**	P	**Pg**	**05 39 09.8**	**-0.9**
SAOF				S	**Sb**	**05 39 20.5**	**-0.5**
SAOF	**Saorge**	**0.78**	**152**	P	**Pg**	**05 39 09.9**	**-0.9**
SAOF				S	**Sg**	**05 39 20.1**	**-0.9**
SAOF				AML	AML		
	comp=E,1070µm,1.0s						
SAOF				AML	AML		
	comp=N,1310µm,0.6s						
SAOF	**Saorge**	**0.78**	**152**	⇑Pg	**Pg**	**05 39 09.8**	**-0.9**
SAOF				Sg	**Sg**	**05 39 20.4**	**-0.5**
MVIF	**Mont Vial**	**0.78**	**175**	P	**Pn**	**05 39 11.2**	**-0.9**
MVIF				S	**Sb**	**05 39 21.2**	**-0.1**
MVIF	**Mont Vial**	**0.78**	**175**	Pg	**Pb**	**05 39 10.7**	**-0.2**
MVIF				Sg	**Sb**	**05 39 20.8**	**-0.5**
OGDI	**Digne**	**0.78**	**224**	P	**Pn**	**05 39 12.1**	**0.0**
OGDI				S	**Sn**	**05 39 23.1**	**-0.4**
OGDI	**Digne**	**0.78**	**224**	Pg	**Pn**	**05 39 12.0**	**0.0**
OGDI				Pn	**Pb**	**05 39 14.6**	**+3.8**
OGDI				Sg	**Sn**	**05 39 23.1**	**-0.4**
OGDI				Sn	**Sb**	**05 39 27.8**	**+6.6**
LSD	**Lago del Serru**	**0.79**	**4**	P	**Pb**	**05 39 11.2**	**+0.1**
LSD				S	**Sg**	**05 39 21.4**	**0.0**
LSD	**Lago del Serru**	**0.79**	**4**	⇓P	**Pb**	**05 39 11.2**	**+0.1**
LSD				S	**Sg**	**05 39 21.4**	**0.0**
LSD				AML	AML		
	comp=N,1645µm,0.2s						
LSD				AML	AML		
	comp=E,1915µm,0.7s						
MGRO	**Montegrosso**	**0.83**	**139**	P	**Pg**	**05 39 10.8**	**-1.0**
MGRO				S	**Sg**	**05 39 21.8**	**-0.9**
MGRO	**Montegrosso**	**0.83**	**139**	P	**Pg**	**05 39 10.8**	**-1.0**
MGRO				S	**Sg**	**05 39 21.7**	**-1.1**
LPG	**La Plagne**	**0.85**	**345**	*e*Pg	**Pb**	**05 39 12.5**	**+0.3**
LPG				*e*Sg	**Sb**	**05 39 23.5**	**0.0**
	comp=E,635nm,0.3s						
GDM	**Grand'Maison**	**0.85**	**309**	Pg	**Pb**	**05 39 12.1**	**-0.1**
GDM				Sg	**Sb**	**05 39 23.3**	**-0.1**
SBF	**Sospel**	**0.86**	**161**	*e*Pg	**Pg**	**05 39 11.7**	**-0.5**
SBF				*e*Sg	**Sb**	**05 39 22.9**	**-0.5**
	comp=E,1µm,0.4s						
LPL	**La Plagne**	**0.87**	**345**	*e*Pg	**Pb**	**05 39 12.9**	**+0.4**
LPL				*e*Sg	**Sb**	**05 39 24.4**	**+0.4**
	comp=E,365nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.87**	**287**	*e*Pg	**Pb**	**05 39 12.3**	**-0.1**
ORIF				*e*Sg	**Sg**	**05 39 22.9**	**-1.2**
	comp=E,568nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.87**	**287**	P	**Pb**	**05 39 12.3**	**-0.1**
ORIF				S	**Sg**	**05 39 23.2**	**-0.8**
ORIF				AML	AML		
	comp=N,912µm,0.4s						
ORIF				AML	AML		
	comp=E,1010µm,0.7s						
ORIF				AML	AML		
	comp=E,1010µm,1.3s						
ORIF	**Oris-en-Rattie**	**0.87**	**287**	Pg	**Pb**	**05 39 12.3**	**-0.1**
ORIF	**Oris-en-Rattie**	**0.87**	**287**	Sg	**Sb**	**05 39 24.2**	**+0.3**
ESCA	**l'Escarene**	**0.87**	**165**	P	**Pn**	**05 39 12.6**	**-0.7**
ESCA				S	**Sb**	**05 39 24.1**	**+0.3**
ESCA	**l'Escarene**	**0.87**	**165**	Pg	**Pb**	**05 39 12.1**	**-0.3**
ESCA				Sg	**Sb**	**05 39 23.7**	**-0.1**
RORO	**Rocca Rossa**	**0.92**	**128**	P	**Pb**	**05 39 12.4**	**-0.7**
RORO				S	**Sb**	**05 39 24.6**	**-0.5**
RORO	**Rocca Rossa**	**0.92**	**128**	P	**Pb**	**05 39 12.4**	**-0.7**
RORO				S	**Sb**	**05 39 24.8**	**-0.3**
RORO				AML	AML		
	comp=E,1345µm,0.2s						
RORO				AML	AML		
	comp=E,1350µm,0.2s						
RORO				AML	AML		
	comp=N,964µm,1.5s						
RORO				AML	AML		
	comp=N,964µm,1.5s						
RORO				AML	AML		
	comp=N,964µm,0.5s						
CALF	**Calern**	**0.93**	**186**	⇓Pg	**Pn**	**05 39 13.4**	**-0.7**
CALF				Sg	**Sn**	**05 39 26.1**	**-1.0**
ROTM	**Rocchetta Tana**	**0.94**	**79**	P	**Pn**	**05 39 14.3**	**+0.2**
ROTM				S	**Sn**	**05 39 27.8**	**+0.6**
ROTM	**Rocchetta Tana**	**0.94**	**79**	P	**Pn**	**05 39 14.2**	**0.0**
ROTM				AML	AML		
	comp=N,5965µm,1.4s						
ROTM				AML	AML		
	comp=N,5965µm,0.6s						
ROTM				AML	AML		
	comp=E,4220µm,0.4s						
MENA	**Menton**	**0.94**	**161**	P	**Pn**	**05 39 14.0**	**-0.1**
MENA				S	**Sn**	**05 39 26.6**	**-0.7**
BURY	**Giardini Botan**	**0.96**	**158**	P	**Pb**	**05 39 13.2**	**-0.6**
CANO	**Canova, Maglio**	**0.97**	**119**	P	**Pb**	**05 39 13.4**	**-0.5**
CANO				S	**Sg**	**05 39 26.9**	**-0.1**
CANO	**Canova, Maglio**	**0.97**	**119**	⇑P	**Pb**	**05 39 13.4**	**-0.5**
CANO				AML	AML		
	comp=N,1820µm,0.2s						

CANO				AML	AML		
	comp=E,1820µm,0.9s						
TRAV	**Traversella**	**0.97**	**30**	P	**Pb**	**05 39 13.0**	**-1.1**
TRAV				S	**Sb**	**05 39 25.4**	**-1.3**
TRAV	**Traversella**	**0.97**	**30**	P	**Pb**	**05 39 13.0**	**-1.1**
TRAV				AML	AML		
	comp=E,531µm,0.2s						
TRAV				AML	AML		
	comp=N,618µm,0.3s						
TRAV				AML	AML		
	comp=E,531µm,1.8s						
QLNO	**Quiliano**	**0.99**	**110**	P	**Pb**	**05 39 14.2**	**-0.2**
QLNO				S	**Sb**	**05 39 26.7**	**-0.4**
QLNO	**Quiliano**	**0.99**	**110**	P	**Pb**	**05 39 14.0**	**-0.4**
QLNO				AML	AML		
	comp=E,669µm,1.6s						
QLNO				AML	AML		
	comp=N,696µm,1.4s						
QLNO				AML	AML		
	comp=N,696µm,0.6s						
QLNO				AML	AML		
	comp=E,669µm,0.4s						
CIRO	**Champorcher**	**0.99**	**21**	P	**Pb**	**05 39 13.9**	**-0.7**
CIRO				S	**Sb**	**05 39 27.3**	**-0.3**
CIRO	**Champorcher**	**0.99**	**21**	P	**Pb**	**05 39 13.9**	**-0.7**
CIRO				AML	AML		
	comp=E,196µm,1.0s						
CIRO				AML	AML		
	comp=N,125µm,0.3s						
CIRO				AML	AML		
	comp=E,196µm,1.0s						
BLAF	**les Blancs**	**1.02**	**225**	Pg	**Pn**	**05 39 15.5**	**+0.1**
TRIGF	**Trigance**	**1.04**	**207**	⇓Pg	**Pn**	**05 39 15.2**	**-0.3**
TRIGF				Sg	**Sn**	**05 39 29.7**	**-0.2**
RSL	**Roselend**	**1.06**	**343**	P	**Pn**	**05 39 16.3**	**+0.4**
RSL	**Roselend**	**1.06**	**343**	Pg	**Pn**	**05 39 16.3**	**+0.4**
PCP	**Piancastagn**	**1.07**	**97**	P	**Pb**	**05 39 15.6**	**-0.2**
PCP	**Piancastagn**	**1.07**	**97**	P	**Pb**	**05 39 15.6**	**-0.2**
PCP				AML	AML		
	comp=N,618µm,0.4s						
PCP				AML	AML		
	comp=E,612µm,0.3s						
GRN	**Grenoble**	**1.09**	**302**	⇑Pg	**Pg**	**05 39 16.9**	**+0.2**
MRGE	**Morge**	**1.09**	**0**	P	**Pg**	**05 39 16.8**	**0.0**
MRGE	**Morge**	**1.09**	**0**	P	**Pg**	**05 39 16.8**	**0.0**
MRGE				AML	AML		
	comp=E,540µm,0.3s						
MRGE				AML	AML		
	comp=N,672µm,0.5s						
MRGE				AML	AML		
	comp=N,671µm,0.5s						
EILF	**Villa Eilenroc**	**1.13**	**177**	P	**Pg**	**05 39 17.9**	**+0.6**
EILF	**Villa Eilenroc**	**1.13**	**177**	Pg	**Pg**	**05 39 17.1**	**-0.3**
EILF				Sg	**Sn**	**05 39 32.0**	**+0.1**
MLYF	**Mely**	**1.15**	**234**	Pg	**Pg**	**05 39 18.7**	**+0.9**
MLYF				Sg	**Sn**	**05 39 34.1**	**+1.5**
SMRF	**Simiane la Rot**	**1.27**	**237**	*e*Pg	**Pg**	**05 39 19.9**	**-0.2**
SMRF				*e*Sg	**Sg**	**05 39 37.8**	**+1.1**
	comp=N,332nm,0.4s						
BSTF	**la Bastide-des**	**1.29**	**232**	Pn	**Pg**	**05 39 20.8**	**+0.4**
BSTF				Sg	**Sg**	**05 39 38.2**	**+0.9**
SATI	**Passo dei Sala**	**1.33**	**25**	P	**Pn**	**05 39 18.9**	**-1.0**
SATI	**Passo dei Sala**	**1.33**	**25**	P	**Pn**	**05 39 18.9**	**-1.0**
SATI				AML	AML		
	comp=N,193µm,1.3s						
SATI				AML	AML		
	comp=E,222µm,0.5s						
SARZ	**Sarezzano**	**1.33**	**81**	P	**Pg**	**05 39 21.8**	**+0.5**
OGSM	**Saint Maurice**	**1.34**	**315**	Pn	**Pg**	**05 39 21.5**	**0.0**
OGSM				Pg	**Pb**	**05 39 22.3**	**+1.9**
OGSM				Sn	**Sg**	**05 39 41.0**	**+2.1**
RUSF	**Rustrel**	**1.35**	**238**	Pg	**Pg**	**05 39 21.1**	**-0.4**
RNCA	**Ronca, Sant'Ol**	**1.37**	**98**	P	**Pn**	**05 39 20.3**	**+0.2**
RNCA	**Ronca, Sant'Ol**	**1.37**	**98**	P	**Pn**	**05 39 20.2**	**+0.2**
RNCA				AML	AML		
	comp=E,147µm,1.6s						
RNCA				AML	AML		
	comp=N,199µm,0.4s						
RNCA				AML	AML		
	comp=E,147µm,0.4s						
RNCA				AML	AML		
	comp=N,199µm,1.6s						
LMR	**La Mourre**	**1.40**	**197**	*e*Pg	**Pb**	**05 39 21.0**	**-0.3**
LMR				*e*Sg	**Sg**	**05 39 39.8**	**-0.9**
	comp=N,250nm,0.2s						
OGSI	**Sixt**	**1.41**	**351**	Pn	**Pg**	**05 39 22.8**	**+0.1**
ARTF	**Artigues**	**1.41**	**220**	Pn	**Pg**	**05 39 21.9**	**-0.9**
ARTF				Pg	**Pb**	**05 39 22.5**	**+1.0**
ARTF				Sg	**Sg**	**05 39 41.0**	**-0.2**
FLAF	**Flassans-sur-I**	**1.42**	**204**	Pn	**Pb**	**05 39 21.5**	**-0.1**
FLAF				Sn	**Sg**	**05 39 40.4**	**-0.8**
DIX	**Grande Dixence**	**1.43**	**10**	P	**Pb**	**05 39 22.2**	**+0.2**
DIX	**Grande Dixence**	**1.43**	**10**	Pn	**Pb**	**05 39 21.9**	**-0.1**
DIX	**Grande Dixence**	**1.43**	**10**	Sn	**Sg**	**05 39 41.9**	**+0.2**
SALAN	**Lac Salanfe**	**1.47**	**358**	P	**Pg**	**05 39 24.1**	**+0.2**
LEPF	**PUYLOUBIER**	**1.51**	**221**	Pn	**Pb**	**05 39 23.0**	**-0.3**
LEPF				Sn	**Sg**	**05 39 43.2**	**-1.1**
MMK	**Mattmark**	**1.52**	**25**	P	**Pn**	**05 39 22.0**	**-0.3**
MMK				AML	AML		
	comp=N,238µm,0.4s						
MMK				AML	AML		
	comp=E,241µm,0.6s						
MMK				AML	AML		
	comp=N,238µm,1.6s						
SAUF	**chteau de Sau**	**1.58**	**243**	Pn	**Pb**	**05 39 24.2**	**-0.2**
SAUF				Pg	**Pg**	**05 39 26.7**	**+0.7**
SAUF				Sg	**Sg**	**05 39 48.0**	**+1.4**
GORR	**Gorreto**	**1.60**	**92**	P	**Pb**	**05 39 24.6**	**-0.2**
GORR				AML	AML		
	comp=E,273µm,0.4s						
GORR				AML	AML		
	comp=N,148µm,1.5s						
GORR				AML	AML		
	comp=N,148µm,0.5s						
EMBD	**Embd, Matterta**	**1.64**	**19**	Pn	**Pb**	**05 39 24.8**	**-0.6**
AIGLE	**Aigle**	**1.67**	**358**	Pn	**Pg**	**05 39 27.7**	**0.0**
VARE	**Varese**	**1.70**	**45**	P	**Pn**	**05 39 24.6**	**-0.1**
VARE				AML	AML		
	comp=E,160µm,0.8s						
VARE				AML	AML		
	comp=N,215µm,0.8s						
VIVF	**Saint-Julien-l**	**1.71**	**277**	*e*Pn	**Pb**	**05 39 26.1**	**-0.5**
VIVF	**Saint-Julien-l**	**1.71**	**277**	*e*Pg	**Pg**	**05 39 28.7**	**+0.3**
VIVF				*e*Sg	**Sg**	**05 39 50.0**	**-0.6**
	comp=N,213nm,0.5s						
ARBF	**Arbois**	**1.72**	**227**	Pn	**Pg**	**05 39 28.2**	**-0.4**
OG35	**Corcelles**	**1.72**	**323**	Pn	**Pb**	**05 39 27.6**	**+0.7**
OG35				Pg	**Pg**	**05 39 29.2**	**+0.5**
GIMEL	**St. Georges /**	**1.94**	**344**	Pn	**Pb**	**05 39 30.6**	**-0.1**
ASEAF	**Site Antares,**	**1.99**	**199**	Pn	**Pb**	**05 39 29.5**	**-1.7**
CABF	**La Chapelle**	**2.05**	**341**	*e*P	**Pb**	**05 39 31.6**	**-0.9**
CABF	**La Chapelle**	**2.05**	**341**	*e*Pg	**Pg**	**05 39 35.2**	**+0.2**
CABF				*e*Sg	**Sg**	**05 40 00.5**	**-1.1**
	comp=N,25nm,0.2s						
FUSIO	**Fusio**	**2.11**	**32**	P	**Pn**	**05 39 30.1**	**-0.3**
FUSIO				AML	AML		
	comp=E,84µm,1.4s						
FUSIO				AML	AML		
	comp=N,75µm,1.3s						
GRAM	**Graiana**	**2.16**	**94**	P	**Pn**	**05 39 32.0**	**+1.0**
GRAM				AML	AML		
	comp=E,323µm,1.2s						
GRAM				AML	AML		
	comp=N,255µm,0.4s						
RIVEL	**MONT RIVEL**	**2.23**	**340**	Pn	**Pb**	**05 39 34.3**	**-1.2**
BRANT	**Les Verrieres**	**2.30**	**350**	Pn	**Pb**	**05 39 35.7**	**-1.1**
LASF	**Ste Croix**	**2.37**	**256**	*e*Pn	**Pn**	**05 39 34.2**	**+0.4**
LASF	**Ste Croix**	**2.37**	**256**	*e*Pg	**Pg**	**05 39 39.8**	**-1.3**
LASF				*e*Sn	**Sn**	**05 40 01.8**	**-0.8**
	comp=N,53nm,0.3s						
PGF	**Pioggiola**	**2.55**	**146**	*e*Pn	**Pn**	**05 39 35.2**	**-1.2**
PGF	**Pioggiola**	**2.55**	**146**	*e*P	**Pn**	**05 39 37.5**	**+1.1**
PGF				*e*Sn	**Sn**	**05 40 04.3**	**-2.9**
	comp=N,35nm,0.2s						
PGF	**Pioggiola**	**2.55**	**146**	Pn	**Pn**	**05 39 35.6**	**-0.8**
CHMF	**Charmoille**	**2.59**	**354**	Pn	**Pn**	**05 39 39.0**	**+2.1**
PII	**Pisa**	**2.67**	**110**	P	**Pn**	**05 39 37.8**	**-0.1**
BALST	**Balsthal**	**2.70**	**9**	Pn	**Pb**	**05 39 41.2**	**-2.4**
BOURR	**Bourrignon**	**2.72**	**2**	Pn	**Pb**	**05 39 42.0**	**-1.9**
POPM	**Popiglio**	**2.73**	**102**	P	**Pn**	**05 39 38.6**	**-0.1**
POPM				AML	AML		
	comp=E,95µm,1.6s						
POPM				AML	AML		
	comp=N,89µm,1.5s						
LBL	**Lubilhac**	**2.76**	**283**	Pn	**Pn**	**05 39 40.8**	**+1.5**
LBL	**Lubilhac**	**2.76**	**283**	Pg	**Pg**	**05 39 48.0**	**-0.5**
PLYF	**Puligny Montra**	**2.80**	**325**	Pn	**Pb**	**05 39 42.5**	**-2.6**
CORF	**Corte**	**2.82**	**147**	Pn	**Pn**	**05 39 40.1**	**+0.1**
CORF				Sn	**Sn**	**05 40 11.4**	**-2.4**
DAVOX	**Davos/Dischmat**	**2.89**	**42**	P	**Pn**	**05 39 42.3**	**+1.2**
DAVOX				AML	AML		
	comp=E,35µm,0.4s						
DAVOX				AML	AML		
	comp=N,42µm,0.5s						
SULZ	**Cheisacher**	**2.95**	**14**	Pn	**Pn**	**05 39 44.1**	**+2.3**
SMF	**Signal de Mont**	**2.99**	**312**	*e*P	**Pn**	**05 39 44.7**	**+2.3**
SMF	**Signal de Mont**	**2.99**	**312**	*e*Pg	**Pg**	**05 39 51.2**	**-1.8**
SMF				*e*Sn	**Sn**	**05 40 17.8**	**-0.2**
SMF				*e*Sg	**Sg**	**05 40 30.2**	**-1.6**
	comp=N,28nm,0.2s						
ROVR	**Rover Verones**	**3.00**	**70**	P	**Pn**	**05 39 41.8**	**-0.8**
ROVR				AML	AML		
	comp=E,29µm,0.4s						
ROVR				AML	AML		
	comp=N,46µm,0.4s						
AJAC	**Base Areonaval**	**3.02**	**155**	Pn	**Pn**	**05 39 43.2**	**+0.5**
LUSI	**Trento, Gardas**	**3.03**	**64**	AML	AML		
	comp=N,186µm,0.3s						
LUSI				AML	AML		
	comp=E,105µm,0.6s						
RONF	**Ronchamp**	**3.05**	**355**	Pn	**Pn**	**05 39 45.3**	**+2.1**
GAGG	**Gaggia**	**3.09**	**62**	AML	AML		
	comp=E,85µm,1.1s						
GAGG				AML	AML		
	comp=N,77µm,1.1s						
HINF	**Hinteralfeld**	**3.15**	**358**	*e*P	**Pn**	**05 39 46.2**	**+1.7**
HINF				*e*Sn	**Sn**	**05 40 21.0**	**-0.7**
	comp=N,12nm,0.2s						
HINF				*e*Sg	**Sg**	**05 40 34.9**	**-1.7**
	comp=N,15nm,0.3s						
DOSS	**Dosso del Somm**	**3.16**	**66**	AML	AML		
	comp=N,112µm,0.5s						
DOSS				AML	AML		
	comp=E,99µm,0.7s						
MOF	**Molkenrain**	**3.18**	**1**	Pn	**Pn**	**05 39 46.8**	**+1.8**
SLE	**Schleitheim**	**3.25**	**17**	Pn	**Pn**	**05 39 47.9**	**+2.0**
CLAF	**Gruissan**	**3.25**	**243**	*e*Pn	**Pn**	**05 39 46.6**	**+0.7**
CLAF	**Gruissan**	**3.25**	**243**	Pn	**Pn**	**05 39 46.6**	**+0.7**
DAVA	**Damuels**	**3.27**	**36**	Pn	**Pn**	**05 39 47.6**	**+1.2**
	comp=E,1.9nm,0.1s,SNR=4.9						
DAVA				*e*Sn	**Sn**	**05 40 26.6**	**+1.6**
	comp=E,19nm,0.3s						
AVF	**Avril sur Loir**	**3.35**	**311**	*e*P	**Pn**	**05 39 49.5**	**+2.3**
AVF	**Avril sur Loir**	**3.35**	**311**	*e*Pg	**Pg**	**05 39 58.5**	**-1.2**
AVF				*e*Sn	**Sn**	**05 40 26.1**	**-0.5**
AVF				*e*Sg	**Sg**	**05 40 41.7**	**-1.3**
	comp=E,24nm,0.4s						
HAU	**Haudompre**	**3.37**	**352**	*e*P	**Pn**	**05 39 49.1**	**+1.6**
HAU				*e*Sn	**Sn**	**05 40 25.5**	**-1.7**
	comp=E,21nm,0.3s						
HAU				*e*Sg	**Sg**	**05 40 42.0**	**-1.7**
	comp=E,21nm,0.3s						
LOR	**Lormes**	**3.42**	**320**	*e*P	**Pn**	**05 39 50.6**	**+2.3**
	baz=140						
LOR				*e*Sn	**Sn**	**05 40 27.6**	**-0.9**
	comp=E,17nm,0.2s						
LOR	**Lormes**	**3.42**	**320**	Pn	**Pn**	**05 39 50.3**	**+2.1**
SSF	**Saint Saulge**	**3.44**	**315**	*e*P	**Pn**	**05 39 50.9**	**+2.4**
SSF	**Saint Saulge**	**3.44**	**315**	*e*Pg	**Pg**	**05 40 00.1**	**-1.4**
SSF				*e*Sn	**Sn**	**05 40 28.1**	**-0.9**
SSF				*e*Sg	**Sg**	**05 40 45.2**	**-0.9**
	comp=E,17nm,0.3s						
FETA	**Feichten**	**3.48**	**46**	*e*Pn	**Pn**	**05 39 51.8**	**+2.7**
	comp=E,1.7nm,0.2s						
BGF	**Bois d'Agland**	**3.50**	**304**	*e*P	**Pn**	**05 39 51.4**	**+2.0**
BGF				*e*Sn	**Sn**	**05 40 29.9**	**-0.6**
BGF				*e*Sg	**Sg**	**05 40 47.0**	**-1.1**
	comp=E,38nm,0.3s						
CGRP	**Cima Grappa**	**3.56**	**69**	AML	AML		
	comp=N,85µm,0.5s						
CGRP				AML	AML		
	comp=E,84µm,0.8s						
CAF	**Calviac**	**3.56**	**276**	*e*Pn	**Pn**	**05 39 51.4**	**+1.2**
CAF				*e*Sn	**Sn**	**05 40 31.5**	**-0.5**
	comp=E,9.3nm,0.3s						
MTLF	**Montolieu**	**3.74**	**251**	*e*Pn	**Pn**	**05 39 53.2**	**+0.6**
MTLF				*e*Sn	**Sn**	**05 40 34.7**	**-1.6**
	comp=E,25nm,0.4s						
MTLF	**Montolieu**	**3.74**	**251**	Pn	**Pn**	**05 39 53.5**	**+0.9**
MTLF	**Montolieu**	**3.74**	**251**	Sn	**Sn**	**05 40 35.6**	**-0.7**
CDF	**Champ du Feu**	**3.74**	**2**	*e*P	**Pn**	**05 39 53.6**	**+0.9**
CDF				*e*Sn	**Sn**	**05 40 35.0**	**-1.5**
	comp=E,10nm,0.2s						
SJAF	**Saint Jean de**	**3.74**	**236**	Pn	**Pn**	**05 39 53.4**	**+0.7**
TCF	**Toulx Ste Croi**	**3.77**	**297**	*e*P	**Pn**	**05 39 55.1**	**+2.0**
TCF	**Toulx Ste Croi**	**3.77**	**297**	*e*Pg	**Pg**	**05 40 06.3**	**-1.5**
TCF				*e*Sn	**Sn**	**05 40 35.1**	**-2.0**
TCF				*e*Sg	**Sg**	**05 40 54.8**	**-1.8**
	comp=E,9.7nm,0.3s						
SFTF	**Sexfontaines**	**3.80**	**339**	*e*P	**Pn**	**05 39 55.8**	**+2.4**
	baz=157						
SFTF				*e*Sn	**Sn**	**05 40 36.3**	**-1.4**
	comp=E,18nm,0.2s						
RETA	**Reutte**	**3.81**	**41**	*e*Pn	**Pn**	**05 39 55.0**	**+1.2**
	comp=E,0.8nm,0.2s						
RETA				*e*Sn	**Sn**	**05 40 41.6**	**+3.3**
	comp=E,2.2nm,0.2s						
SQTA	**Sankt Quirin**	**3.86**	**47**	*e*Pn	**Pn**	**05 39 58.2**	**+3.9**
	comp=E,2.5nm,0.1s						
MOTA	**Moosalm**	**3.88**	**45**	*e*Pn	**Pn**	**05 39 56.4**	**+1.6**
	comp=E,0.8nm,0.2s						
MOTA				*e*Sn	**Sn**	**05 40 41.7**	**+1.6**
	comp=E,1.4nm,0.2s						
FILF	**Fillols**	**3.89**	**239**	Pn	**Pn**	**05 39 57.3**	**+2.5**
RJF	**Les Rejaudoux**	**3.98**	**281**	*e*P	**Pn**	**05 39 58.5**	**+2.6**
RJF				*e*Sn	**Sn**	**05 40 41.0**	**-1.3**
RJF				*e*Sg	**Sg**	**05 41 01.4**	**-2.0**
	comp=E,13nm,0.4s						
PAGF	**Fort de Pagny**	**3.99**	**347**	*e*P	**Pn**	**05 39 58.3**	**+2.3**
	baz=166						
PAGF				*e*Sn	**Sn**	**05 40 40.8**	**-1.6**
	comp=E,8.5nm,0.1s						
FNEB	**Nbias**	**4.00**	**245**	Pn	**Pn**	**05 39 57.5**	**+1.3**
HYF	**Humbligny**	**4.03**	**312**	*e*P	**Pn**	**05 40 00.0**	**+3.4**
HYF				*e*Sn	**Sn**	**05 40 41.6**	**-1.8**
HYF				*e*Sg	**Sg**	**05 41 03.8**	**-1.0**
MEZF	**Maizieres J'vi**	**4.07**	**341**	*e*Pn	**Pn**	**05 39 57.7**	**+0.6**
	baz=159						
MEZF	**Maizieres J'vi**	**4.07**	**341**	*e*Pg	**Pg**	**05 40 12.2**	**-1.3**
	baz=158						
MEZF				*e*Sn	**Sn**	**05 40 42.9**	**-1.5**
	comp=E,14nm,0.3s						
WTTA	**Wattenberg**	**4.11**	**49**	Pn	**Pn**	**05 40 00.2**	**+2.3**
	comp=E,3.2nm,0.2s,SNR=7.1						
WTTA				*e*Sn	**Sn**	**05 40 48.2**	**+2.5**
	comp=E,3.5nm,0.4s						
WATA	**Walderalm**	**4.12**	**48**	*e*Pn	**Pn**	**05 40 01.8**	**+3.8**
	comp=E,1.2nm,0.2s						
SAVF	**Savonnieres en**	**4.16**	**342**	*e*P	**Pn**	**05 40 01.1**	**+2.7**
	baz=168						
SAVF				*e*Sn	**Sn**	**05 40 46.0**	**-0.6**
	comp=E,8.6nm,0.3s						
MONQ	**Montcuq**	**4.20**	**268**	Pn	**Pn**	**05 40 00.9**	**+1.9**
ABTA	**Abfaltersbach**	**4.35**	**60**	*e*Pn	**Pn**	**05 40 03.2**	**+2.1**
	comp=E,3.3nm,0.3s						
ABTA				*e*Sn	**Sn**	**05 40 52.4**	**+1.0**
	comp=E,2.0nm,0.3s						
LFF	**La Frestale**	**4.50**	**276**	*e*Pn	**Pn**	**05 40 03.8**	**+0.7**
LFF				*e*Sn	**Sn**	**05 40 52.1**	**-3.0**
LFF				*e*Sg	**Sg**	**05 41 18.2**	**-1.9**
	comp=E,9.8nm,0.3s						
MLS	**Moulis**	**4.64**	**250**	Pn	**Pn**	**05 40 06.0**	**+1.0**
KBA	**Koelnbreinsper**	**5.00**	**59**	*e*Pn	**Pn**	**05 40 12.7**	**+2.5**
	comp=E,3.4nm,0.5s						
EPF	**Esparros**	**5.13**	**254**	*e*Pn	**Pn**	**05 40 12.1**	**+0.3**
EPF				*e*Sn	**Sn**	**05 41 08.8**	**-1.8**
EPF				*e*Sg	**Sg**	**05 41 36.5**	**-3.6**
	comp=E,4.2nm,0.3s						
MFF	**Saint Martin d**	**5.41**	**293**	*e*P	**Pn**	**05 40 17.7**	**+2.2**
MFF				*e*Sn	**Sn**	**05 41 15.2**	**-2.2**
MFF				*e*Sg	**Sg**	**05 41 45.8**	**-3.2**
	comp=E,7.8nm,0.4s						
RCHB	**Rochefort**	**5.62**	**348**	Pn	**Pn**	**05 40 21.0**	**+2.6**
GIVF	**Givet**	**5.64**	**345**	*e*P	Pn	05 40 23.4	+4.7
GIVF				*e*Sn	**Sn**	**05 41 20.5**	**-2.5**
	comp=E,3.4nm,0.2s						
DOU	**Dourbes**	**5.67**	**344**	Pn	**Pn**	**05 40 21.9**	**+2.7**
BAIF	**Baives**	**5.72**	**341**	*e*P	**Pn**	**05 40 22.1**	**+2.3**
BAIF				*e*Sn	**Sn**	**05 41 22.3**	**-2.8**
	comp=E,2.8nm,0.3s						
ETSF	**Etsaut**	**5.79**	**255**	*e*Pn	**Pn**	**05 40 20.5**	**-0.4**
ETSF	**Etsaut**	**5.79**	**255**	*e*P	**Pn**	**05 40 25.0**	**+4.1**
ETSF				*e*Sn	**Sn**	**05 41 24.4**	**-2.6**
	comp=E,6.7nm,0.3s						
SJPF	**Ste Jean**	**6.18**	**258**	*e*Pn	**Pn**	**05 40 26.6**	**+0.4**
SJPF				*e*Sn	**Sn**	**05 41 34.0**	**-2.6**
	comp=E,1.0nm,0.3s						
LDF	**La Druitiere**	**6.31**	**311**	*e*P	**Pn**	**05 40 30.8**	**+2.9**
LDF				*e*Sn	**Sn**	**05 41 36.8**	**-2.7**
LDF				*e*Sg	**Sg**	**05 42 14.4**	**-3.5**
	comp=E,1.8nm,0.3s						
KHC	**Kasperske Hory**	**6.31**	**43**	*e*PN	**Pn**	**05 40 28.3**	**+0.3**
KHC				*e*SN	**Sn**	**05 41 37.4**	**-2.3**
CKRC	**Cesky Krumlov**	**6.48**	**48**	*e*PN	**Pn**	**05 40 30.5**	**+0.2**
FLN	**La Foliniere**	**6.60**	**311**	*e*P	**Pn**	**05 40 34.1**	**+2.2**
	baz=134						
FLN				*e*Sn	**Sn**	**05 41 43.6**	**-3.1**
FLN				*e*Sg	**Sg**	**05 42 23.6**	**-3.6**
	comp=E,3.3nm,0.4s						
GRR	**Gorron**	**6.60**	**307**	*e*P	**Pn**	**05 40 34.2**	**+2.3**
GRR				*e*Sn	**Sn**	**05 41 43.8**	**-3.0**
GRR				*e*Sg	**Sg**	**05 42 23.1**	**-4.2**
	comp=E,2.2nm,0.3s						
SGMF	**Saint Gilles**	**7.54**	**302**	*e*Pn	**Pn**	**05 40 45.1**	**+0.3**
SGMF				*e*Sn	**Sn**	**05 42 06.3**	**-3.6**
SGMF				*e*Sg		05 42 53.1	
	comp=E,1.4nm,0.4s						
QUIF	**Quistinic**	**7.79**	**298**	*e*Pn	**Pn**	**05 40 48.5**	**+0.4**
QUIF				*e*Sn	**Sn**	**05 42 12.7**	**-3.2**
QUIF				*e*Sg		05 43 00.4	
	comp=E,1.1nm,0.3s						
ROSF	**Rostrenen**	**8.01**	**301**	*e*Pn	**Pn**	**05 40 52.6**	**+1.4**
ROSF				*e*Sn	**Sn**	**05 42 18.0**	**-3.5**
ROSF				*e*Sg		05 43 07.6	
	comp=E,1.2nm,0.3s						
KRLC	**Kraliky**	**8.53**	**47**	*e*PN	**Pn**	**05 40 59.0**	**+0.7**

IDC 11 06:00:47.6±3.2**, 54.19N×87.43E, h0km, mbtmp2.9**/3**,**
ML2.5/3**, Error ellipse: s-maj=30.4km s-min=19.2km**
az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**262**	I		06 10 40.0	
	baz=79,slow=334,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.56**	**262**	Pg	Pn	06 01 14.1	-2.5
	2.1nm,0.3s,baz=80,slow=13,SNR=22						
ZALV				Lg	Lg	06 01 37.5	
	1.2nm,0.3s,baz=80,slow=27,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.51**	**240**	Pn	Pn	06 02 25.2	+0.6
	0.1nm,0.3s,baz=54,slow=13,SNR=4.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.09**	**206**	Pn	Pn	06 02 47.5	+1.2
	0.1nm,0.3s,baz=27,slow=15,SNR=1.3						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**10.20**	**270**	Pn	Pn	06 03 14.8	-0.4
	baz=84,slow=15,SNR=2.2						
	0.3nm,0.4s						

*NNC **11** 06:00:56.9±3.1, 53.79N×90.84E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=23.8km s-min=19.1km az=46.0,
Suspected Mining explosion.
*IDC **11** 06:00:59.0±3.1, 53.71N×90.71E, h0km, mbtmp3.3/3,*
ML3.2/2, Error ellipse: s-maj=26.6km s-min=21.4km
az=61.0
ISC 11 06:00:58.1±4.0**, 53.8N**±0.1×**90.8E**±0.2**, h0km, n10,**
σ**1s.37**/13**, 7C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.55**	**276**	I		06 27 38.4	
	baz=87,slow=339,SNR=2.3						
ZAA0	**Zalesovo Array**	**3.55**	**276**	⇑Pg	**Pb**	**06 02 00.5**	**-1.1**
	2.1nm,0.7s						
ZAA0				⇑Lg	Lg	06 02 51.1	
	14nm,0.9s						
ZALV	**Zalesovo Beam**	**3.55**	**276**	Pn	**Pn**	**06 01 54.8**	**+0.4**
	1.2nm,0.4s,baz=96,slow=14,SNR=2.0						
ZALV				Pg	**Pb**	**06 02 01.6**	**0.0**
	1.8nm,0.3s,baz=92,slow=16,SNR=9.2						
ZALV				Lg	Lg	06 02 50.7	
	3.3nm,0.3s,baz=96,slow=28,SNR=8.3						
KURK	**Kurchatov**	**8.07**	**253**	⇓Pn	**Pn**	**06 02 57.4**	**+1.1**
	3.2nm,0.8s						
KURK				⇑Sn	**Sn**	**06 04 30.5**	**+2.3**
	11nm,1.1s						
KURK				⇑Lg	Lg	06 05 14.9	
	24nm,1.2s						
KURBB	**Kurchatov Arra**	**8.16**	**252**	Pn	**Pn**	**06 02 57.7**	**+0.1**
	0.3nm,0.3s,baz=66,slow=15,SNR=10						
KURBB				Sn	**Sn**	**06 04 27.5**	**-3.0**
	0.1nm,0.3s,baz=67,slow=26,SNR=5.2						
KURBB				Lg	Lg	06 05 15.6	
	0.1nm,0.3s,baz=68,slow=34,SNR=2.6						
	1.8nm,0.4s						
KURBB	**Kurchatov Arra**	**8.16**	**252**	⇑Pn	**Pn**	**06 02 58.0**	**+0.3**
	4.0nm,0.6s						
KURBB				⇑Sn	**Sn**	**06 04 31.3**	**+0.8**
	22nm,0.8s						
KURBB				⇓Lg	Lg	06 05 16.3	
	56nm,0.9s						
MK31	**Makanchi Array**	**8.83**	**221**	⇑Pn	**Pn**	**06 03 06.2**	**-0.7**
	1.0nm,0.6s,baz=37,slow=14,SNR=9.9						
MK31				⇓Sn	**Sn**	**06 04 47.3**	**+0.2**
	3.0nm,0.8s,baz=45,slow=22,SNR=5.6						
MK31				⇓Lg	Lg	06 05 41.1	
	27nm,1.2s,baz=53,slow=36,SNR=5.0						
MKAR	**Makanchi Array**	**8.83**	**221**	Pn	**Pn**	**06 03 07.8**	**+0.9**
	0.3nm,0.3s,baz=39,slow=12,SNR=10.0						
MKAR				Sn	**Sn**	**06 04 47.2**	**+0.1**
	0.2nm,0.3s,baz=39,slow=30,SNR=5.6						
MKAR				Lg	Lg	06 05 33.3	
	0.1nm,0.3s,baz=54,slow=36,SNR=2.1						
	0.8nm,0.5s						
SONM	**Songino Array**	**11.50**	**115**	Lg	Lg	06 06 58.3	
	0.4nm,0.3s,baz=300,slow=27,SNR=9.5						
I34MN	**SONGINO INFRAS**	**11.53**	**115**	I		07 08 40.0	
	baz=307,slow=323,SNR=1.5						

*AUST **11** 06:21:42.9±3.4, 24.78S×115.33E, h15km±23km, Error*
ellipse: s-maj=17.4km s-min=8.5km az=75.0
*IDC **11** 06:21:49.1±6.0, 25.13S×116.46E, h0km, mb3.6/1,*
mbtmp3.5/4, ML2.8/3, MS3.5/2, Error ellipse: s-maj=71.8km
s-min=23.1km az=124.0
ISC 11 06:21:41.5±1.1**, 24.77S**±0.06×**115.38E**±0.09**, h10km, n16,**
σ**1s.57**/22**, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRL	**Giralia**	**2.36**	**333**	P	**Pn**	**06 22 21.1**	**+0.8**
	baz=2.4						
GIRL				S	**Sn**	**06 22 50.8**	**+1.4**
	baz=2.4						
MEEK	**Meekatharra**	**3.46**	**123**	P	**Pn**	**06 22 38.4**	**+2.9**
	baz=3.5						
MEEK				S	**Sn**	**06 23 18.9**	**+2.2**
	baz=3.5						
MORW	**Morawa**	**4.33**	**172**	P	**Pn**	**06 22 49.6**	**+2.2**
	baz=4.3						
MORW				S	**Sn**	**06 23 39.0**	**+1.1**
	baz=4.3						
BLDU	**Ballidu**	**5.95**	**169**	P	**Pn**	**06 23 10.1**	**+0.4**
	baz=6.0						
BLDU				S	**Sn**	**06 24 19.4**	**+1.5**
	baz=6.0						
KLBR	**Kellerberrin**	**7.12**	**163**	P	**Pn**	**06 23 26.3**	**+0.6**
	baz=7.1						
KLBR				S	**Sn**	**06 24 45.5**	**-1.2**
	baz=7.1						
MUN	**Mundaring**	**7.22**	**174**	P	**Pn**	**06 23 28.3**	**+1.1**
	baz=7.2						
MUN				S	**Sn**	**06 24 49.0**	**-0.3**
	baz=7.2						
NWAO	**Narrogin (SRO)**	**8.29**	**169**	Pn	**Pn**	**06 23 43.2**	**+1.3**
	0.7nm,0.3s,baz=53,slow=14,SNR=6.1						
NWAO				Sn	**Sn**	**06 25 12.5**	**-3.1**
	1.2nm,0.3s,baz=28,slow=6.0,SNR=2.0						
NWAO				Lg	Lg	06 25 56.1	
	2.0nm,0.3s,baz=306,slow=19,SNR=4.5						
	8.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**8.29**	**169**	P	**Pn**	**06 23 42.4**	**+0.5**
	baz=8.3						

NWAO				P	Pn	06 23 42.4	+0.5
	baz=8.3						
NWAO				S	Sn	06 25 15.1	-0.6
	baz=8.3						
KMBL	Kambalda	8.73	140	P	Pn	06 23 47.7	-0.2
	baz=8.8						
WRKA	Warakurna	11.73	94	P	Pn	06 24 27.3	-1.8
	baz=12						
FORT	Forrest	12.72	121	P	Pn	06 24 41.5	-1.0
	baz=13						
ASAR	Alice Springs	16.94	90	Pn	Pn	06 25 33.6	-5.2
	0.1nm,0.3s,baz=261,slow=11,SNR=6.3						
ASAR				Sn	Sn	06 28 34.2	-13
	0.1nm,0.3s,baz=268,slow=22,SNR=1.8						
	0.2nm,0.5s						
WRA	Warramunga Arr	18.18	78	P	Pn	06 25 52.5	-1.7
	0.1nm,0.3s,baz=251,slow=12,SNR=1.7						
WRA				S	Sn	06 29 05.7	-12
	0.5nm,0.9s,baz=252,slow=24,SNR=1.4						
	0.4nm,0.6s						
STKA	Stephens Creek	24.10	113	P	P	06 26 57.8	+0.3
	0.7nm,0.3s,baz=280,slow=11,SNR=2.8						
	0.7nm,0.3s						
RPZ	Rata Peaks	48.81	127	LR	LR	06 48 58.6	
	comp=Z,103nm,18.6s,baz=337,slow=34						
MA2	Magadan	88.94	17	LR	LR	07 15 26.4	
	comp=Z,13nm,20.2s,baz=192,slow=36						

---

*IDC **11** 06:32:59.6±3.1, 19°.90S×179°.08W, h626km±23km, mb2.9/7, mbtmp3.9/9, Error ellipse: s-maj=84.1km s-min=19.3km az=148.0*

ISC 11 06:32:59.9±2.0, 20°.4S±0°.5×178°.9W±0°.3, h650km, n12, σ0s.89/11, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.96	312	P	P	06 34 23.8	-5.1
	16nm,0.4s,baz=187,slow=8.1,SNR=37						
DZM	Mont Dzumac	13.81	260	P	P	06 35 54.6	-0.7
	5.1nm,0.9s,baz=118,slow=15,SNR=2.0						
CTA	Charters Tower	32.70	264	P	P	06 38 42.8	+0.7
	1.5nm,0.4s,baz=49,slow=7.3,SNR=1.9						
	1.5nm,0.4s						
ASAR	Alice Springs	43.76	257	P	P	06 40 11.7	+0.8
	0.6nm,0.7s,baz=92,slow=7.8,SNR=6.7						
	0.6nm,0.7s						
WRA	Warramunga Arr	43.82	262	P	P	06 40 11.0	-0.4
	0.2nm,0.3s,baz=97,slow=7.5,SNR=13						
	0.2nm,0.3s						
PETK	Petropavlovsk-	75.98	346	P	P	06 43 42.3	+0.3
	5.1nm,1.0s,baz=163,slow=10,SNR=2.0						
	5.1nm,1.0s						
NVAR	Mina Array Bea	81.51	44	P	P	06 44 12.6	+0.8
	0.4nm,0.7s,baz=235,slow=6.6,SNR=3.7						
	0.4nm,0.7s						
ILAR	Eielson Array	88.40	13	P	P	06 44 43.8	-0.4
	0.3nm,0.4s,baz=233,slow=6.6,SNR=5.4						
	0.3nm,0.4s						
PDAR	Pinedale Array	89.44	44	P	P	06 44 49.6	-0.3
	0.3nm,0.7s,baz=228,slow=2.3,SNR=2.8						
	0.3nm,0.7s						
BVAR	Borovoye Array	118.50	320	PKP	PKPdf	06 50 35.8	+0.5
	0.7nm,0.4s,baz=98,slow=3.1,SNR=3.9						
AKASG	Malin Array Be	142.54	331	PKP	PKPdf	06 51 18.7	-1.7
	1.3nm,0.4s,baz=44,slow=4.2,SNR=11						
GERES	GERESS Array B	149.89	343	PKPbc	PKPbc	06 51 39.2	+0.6
	0.3nm,0.2s,baz=330,slow=9.5,SNR=1.9						

---

*NOU **11** 06:41:51.7, 38°.79S×179°.11E, h0km, MLv3.6/6, Off E. Coast of N. Island, N.Z.*

*WEL **11** 06:41:54.1±0.7, 39°S±4°×17°9E±°, h12km, M3.7/16, ML4.0/16, MLv3.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=67.9*

ISC 11 06:41:54.0±1.7, 38°.66S±0°.04×179°.02E±0°.07, h14km±11km, n62, σ0s.98/69, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	0.66	285	P	Pb	06 42 07.8	+0.5
PUZ	Puketiti	0.84	314	P	Pg	06 42 10.0	-0.3
PUZ				S	Sg	06 42 20.9	-0.5
TKGZ	Te Karaka	0.95	283	P	Pg	06 42 12.2	-0.1
TKGZ				S	Sb	06 42 24.7	+0.2
TWGZ	Tauwhareparae	0.95	300	P	Pg	06 42 12.2	-0.2
WMGZ	Waiomatatini S	0.97	330	P	Pn	06 42 13.0	-0.2
WMGZ				S	Sn	06 42 26.0	-0.7
RIGZ	Rimuhau	0.99	267	P	Pb	06 42 13.2	+0.3
MHGZ	Mahia Peninsul	1.00	240	P	Pn	06 42 14.1	+0.6
PKGZ	Pakihiroa	1.07	316	P	Pb	06 42 14.1	-0.2
PKGZ				S	Sb	06 42 27.9	-0.3
KNZ	Kokohu	1.11	251	P	Pb	06 42 14.8	-0.2
MWZ	Matawai	1.22	285	P	Pn	06 42 15.8	-0.8
MWZ				S	Sb	06 42 30.7	-1.7
MXZ	Matakaoa Point	1.23	333	P	Pb	06 42 17.0	-0.1
MXZ	Matakaoa Point	1.23	333	P	Pb	06 42 17.0	-0.1
MXZ				S	Sg	06 42 33.8	-0.1
RUGZ	Raukumara Rang	1.27	303	P	Pn	06 42 16.7	-0.7
RAGZ	Rawiri	1.27	277	P	Pn	06 42 17.4	0.0
SNGZ	Shannon Statio	1.32	264	P	Pn	06 42 18.1	+0.1
HAZ	Te Kaha	1.33	312	P	Pn	06 42 17.7	-0.4
WHHZ	Waihua	1.45	253	P	Pn	06 42 20.6	+0.7
RAHZ	Arahi	1.53	260	P	Pb	06 42 22.4	+0.2
URZ	Urewera	1.55	284	P	Pn	06 42 21.4	+0.2
URZ	Urewera	1.55	284	P	Pn	06 42 22.0	+0.8
ARHZ	Aropaoanui	1.69	249	P	Pn	06 42 23.7	+0.6
MTHZ	Maungataniwha	1.71	263	P	Pb	06 42 25.1	-0.2
NMHZ	Naumai	1.78	255	P	Pn	06 42 24.8	+0.4
CKHZ	Cape Kidnapper	1.81	236	P	Pn	06 42 25.1	+0.4
WIZ	White Island	1.84	308	P	Pg	06 42 30.9	+1.7
EDRZ	Edgecumbe	1.88	287	P	Pg	06 42 30.5	+0.5
MCHZ	McNeill Hill	1.97	246	P	Pn	06 42 27.9	+1.0
KAHZ	Kahuranaki	2.01	235	P	Pn	06 42 28.4	+0.8
BKZ	Black Stump Fm	2.04	255	P	Pn	06 42 28.7	+0.8
BKZ	Black Stump Fm	2.04	255	P	Pn	06 42 28.4	+0.5
PXZ	Pawanui	2.16	230	P	Pn	06 42 29.5	-0.1
KWHZ	Kaweka Forest	2.16	249	P	Pn	06 42 30.0	+0.4
WPHZ	Waipukurau	2.44	234	P	Pn	06 42 33.6	+0.2
PRHZ	Porangahau	2.44	228	P	Pn	06 42 33.1	-0.3
BHHZ	Black Hill Sta	2.44	249	P	Pn	06 42 33.7	+0.2
PNHZ	Pukenui	2.52	239	P	Pn	06 42 34.3	-0.2
KATZ	Kakaramea	2.62	262	P	Pn	06 42 37.2	+1.3
ETVZ	East Tongariro	2.62	259	P	Pn	06 42 36.8	+0.8
TMVZ	Te Maari	2.63	259	P	Pn	06 42 37.2	+1.1
NTVZ	North Tongarir	2.65	260	P	Pn	06 42 37.2	+0.9
MOVZ	Moawhango	2.65	253	P	Pn	06 42 37.4	+1.0
OTVZ	Oturere	2.67	258	P	Pn	06 42 37.9	+1.3
KRVZ	Karewarewa	2.67	260	P	Pn	06 42 37.8	+1.1
WTVZ	West Tongariro	2.71	259	P	Pn	06 42 38.3	+1.0
DVHZ	Dannevirke	2.75	233	P	Pn	06 42 37.3	-0.4
WNVZ	Wahianoa	2.75	255	P	Pn	06 42 38.6	+0.8
TSZ	Takapari Road	2.75	239	P	Pn	06 42 37.2	-0.5
BFZ	Birch Farm	2.94	226	P	Pn	06 42 38.5	-1.8
BFZ	Birch Farm	2.94	226	P	Pn	06 42 38.7	-1.6
PRWZ	Pori Road	3.02	230	P	Pn	06 42 41.7	+0.3
POWZ	Post Office Ro	3.05	235	P	Pn	06 42 41.8	+0.1
KUZ	Kuaotunu	3.24	305	P	Pn	06 42 45.0	+0.6
KUZ	Kuaotunu	3.24	305	P	Pn	06 42 45.0	+0.6
MRZ	Mangatainoka R	3.32	232	P	Pn	06 42 44.7	-0.9
TMWZ	Te Maipa	3.43	224	P	Pn	06 42 46.7	-0.3
HOWZ	Holdsworth Sta	3.50	229	P	Pn	06 42 46.7	-1.3
MTW	Mount Morrison	3.68	226	P	Pn	06 42 48.5	-1.9
KIW	Kapiti Island	3.85	234	P	Pn	06 42 51.7	-1.1
PAWZ	Paruwai Farm	3.87	224	P	Pn	06 42 51.2	-1.9
THZ	Tophouse	5.61	235	P	Pn	06 43 16.8	-0.2
CTZ	Chatham Island	6.04	148	P	Pn	06 43 27.3	+4.4
CTZ				S	Sn	06 44 31.5	-0.2
FUTU	Fugatoga	24.39	7	P	P	06 47 12.8	+0.9
	50nm,1.7s						

ROM 11 06:53:00.7±0.1, 42°.797N±0°.004×13°.172E±0°.005, h10km, ML1.6/4, 5C-5D, Error ellipse: s-maj=0.4km s-min=0.4km az=279.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T1245	Castelsantange	0.06	11	P	Pg	06 53 03.3	+0.2
T1245				S	Sg	06 53 04.8	0.0
T1245	Castelsantange	0.06	11	⇓P	Pg	06 53 03.3	+0.2
T1245				S	Sg	06 53 04.8	0.0
T1245				AML	AML		
	comp=E,37500µm,1.6s						
T1245				AML	AML		
	comp=N,2645µm,0.2s						
T1245				AML	AML		
	comp=E,2010µm,0.2s						
T1245				AML	AML		
	comp=N,2575µm,0.2s						
T1245				AML	AML		
	comp=E,70000µm,1.6s						
T1245				AML	AML		
	comp=N,2645µm,0.2s						
T1245				AML	AML		
	comp=E,2010µm,0.2s						
T1245				AML	AML		
	comp=N,2575µm,0.2s						
T1245				AML	AML		
	comp=E,80000µm,1.6s						
T1245				AML	AML		
	comp=N,2650µm,0.2s						
T1245				AML	AML		
	comp=E,2010µm,0.2s						
T1245				AML	AML		
	comp=N,2575µm,0.2s						
T1245				AML	AML		
	comp=N,2575µm,0.2s						
T1245				AML	AML		
	comp=E,80000µm,1.6s						
T1245				AML	AML		
	comp=N,2650µm,0.2s						
T1245				AML	AML		
	comp=E,2010µm,0.2s						
T1213	Norcia, Frazio	0.08	205	⇑P	Pg	06 53 03.4	+0.2
T1213	Norcia, Frazio	0.08	205	⇑P	Pg	06 53 03.4	+0.2
T1213				S	Sg	06 53 05.0	0.0
T1213				AML	AML		
	comp=E,4360µm,1.5s						
T1213				AML	AML		
	comp=N,5000µm,0.1s						
T1213				AML	AML		
	comp=E,4280µm,0.7s						
T1213				AML	AML		
	comp=N,4935µm,0.1s						
T1213				AML	AML		
	comp=E,4360µm,1.5s						
T1213				AML	AML		
	comp=N,4995µm,0.1s						
T1213				AML	AML		
	comp=E,4275µm,0.7s						
T1213				AML	AML		
	comp=N,4930µm,0.1s						
T1213				AML	AML		
	comp=E,4360µm,1.5s						
T1213				AML	AML		
	comp=N,4995µm,0.1s						
T1213				AML	AML		
	comp=E,4285µm,0.7s						
T1213				AML	AML		
	comp=N,4935µm,0.1s						
T1213				AML	AML		
	comp=N,4995µm,0.1s						
T1213				AML	AML		
	comp=N,4935µm,0.1s						
T1213				AML	AML		
	comp=E,4360µm,1.5s						
T1213				AML	AML		
	comp=E,4285µm,0.7s						
T1212	Cascia, Frazio	0.10	244	P	Pg	06 53 03.8	+0.4
T1212				S	Sg	06 53 05.9	+0.4
T1212				AML	AML		
	comp=E,832µm,0.1s						
T1212				AML	AML		
	comp=N,1357µm,0.1s						
T1212				AML	AML		
	comp=E,737µm,0.1s						
T1218	Civita (PG)	0.13	198	P	Pg	06 53 04.4	+0.5
T1218				S	Sg	06 53 07.1	+0.9
T1218				AML	AML		
	comp=N,1165µm,0.2s						
T1218				AML	AML		
	comp=E,1435µm,0.1s						
T1218				AML	AML		
	comp=N,1066µm,0.2s						
T1218				AML	AML		
	comp=E,1299µm,0.1s						
T1216	Preci, Frazion	0.15	310	P	Pg	06 53 04.5	+0.4
T1216				S	Sg	06 53 07.1	+0.7
T1216	Preci, Frazion	0.15	310	⇑P	Pg	06 53 04.5	+0.4
T1216				S	Sg	06 53 07.1	+0.6
MMO1	Montemonaco	0.15	48	P	Pg	06 53 04.7	+0.5
MMO1				S	Sg	06 53 07.7	+1.0
MMO1	Montemonaco	0.15	48	P	Pg	06 53 04.7	+0.4
MMO1				S	Sg	06 53 07.5	+0.8
T1204	Amatrice, Fraz	0.16	138	P	Pg	06 53 05.0	+0.6
T1204				S	Sg	06 53 08.0	+1.0
T1204				AML	AML		
	comp=N,239µm,0.1s						
T1204				AML	AML		
	comp=E,434µm,0.2s						
T1241	Roccafluvione,	0.20	73	P	Pg	06 53 05.6	+0.6
T1241				S	Sg	06 53 09.1	+1.2
T1241	Roccafluvione,	0.20	73	P	Pg	06 53 05.6	+0.6
T1241				S	Sg	06 53 09.1	+1.2
SMA1	SAN MARTINO	0.20	144	P	Pb	06 53 06.7	0.0
SMA1				S	Sg	06 53 09.3	+1.2
SMA1				AML	AML		
	comp=E,347µm,0.4s						
SMA1				AML	AML		
	comp=N,393µm,0.2s						
SMA1				AML	AML		
	comp=E,150µm,0.0s						
SMA1				AML	AML		
	comp=N,155µm,0.0s						
SMA1	SAN MARTINO	0.20	144	AML	AML		
	comp=E,347µm,0.4s						
SMA1				AML	AML		
	comp=N,393µm,0.2s						
T1256	Bolognola (MC)	0.21	11	AML	AML		
	comp=E,253µm,0.3s						
T1256				AML	AML		
	comp=N,296µm,0.2s						
LNSS	Leonessa	0.22	207	⇓P	Pg	06 53 05.9	+0.6
LNSS	Leonessa	0.22	207	⇓P	Pg	06 53 05.9	+0.6
LNSS				S	Sg	06 53 09.7	+1.3
LNSS				AML	AML		
	comp=E,626µm,0.2s						
LNSS				AML	AML		
	comp=N,921µm,0.3s						
LNSS				AML	AML		
	comp=E,626µm,0.2s						
LNSS				AML	AML		
	comp=N,921µm,0.3s						
LNSS				AML	AML		
	comp=E,626µm,0.2s						
LNSS				AML	AML		
	comp=N,920µm,0.3s						
LNSS				AML	AML		
	comp=E,626µm,0.2s						
LNSS				AML	AML		
	comp=N,920µm,0.3s						
T1215	Vallo di Nera,	0.22	271	P	Pg	06 53 05.8	+0.4
T1215				S	Sg	06 53 09.5	+1.0
T1243	Rocca Santa Ma	0.23	116	P	Pg	06 53 06.0	+0.5
T1243				S	Sg	06 53 09.8	+1.1
FDMO	Fiordimonte	0.25	346	AML	AML		
	comp=E,156µm,0.2s						
FDMO				AML	AML		
	comp=E,145µm,0.2s						
FDMO				AML	AML		
	comp=N,106µm,1.2s						
FDMO				AML	AML		
	comp=E,145µm,0.2s						
FDMO				AML	AML		
	comp=N,107µm,1.2s						
FDMO				AML	AML		
	comp=E,156µm,0.2s						
FDMO				AML	AML		
	comp=N,296µm,0.2s						
FDMO				AML	AML		
	comp=N,296µm,0.2s						
CESI	CESI - Serrava	0.29	317	AML	AML		
	comp=N,244µm,0.3s						
CESI				AML	AML		
	comp=E,150µm,0.5s						
CESI				AML	AML		
	comp=E,150µm,0.5s						
CESI				AML	AML		
	comp=N,244µm,0.3s						
CESI				AML	AML		
	comp=N,244µm,0.3s						
CESI				AML	AML		
	comp=E,150µm,0.5s						
T1219	Muccia, Frazio	0.29	335	AML	AML		
	comp=N,186µm,0.1s						
T1219				AML	AML		
	comp=E,142µm,0.2s						
RM33	Pellescritta (	0.29	174	P	Pg	06 53 07.0	+0.4
RM33				S	Sb	06 53 12.0	-1.0
RM33	Pellescritta (	0.29	174	AML	AML		
	comp=E,194µm,0.2s						
RM33				AML	AML		
	comp=E,194µm,0.2s						
RM33				AML	AML		
	comp=N,130µm,1.0s						
RM33				AML	AML		
	comp=E,194µm,0.2s						
RM33				AML	AML		
	comp=N,130µm,1.0s						
RM33				AML	AML		
	comp=E,194µm,0.2s						
RM33				AML	AML		
	comp=N,130µm,1.0s						
RM33				AML	AML		
	comp=N,130µm,1.0s						
T1220	Camerino, Fraz	0.32	349	AML	AML		
	comp=N,300µm,1.2s						
T1220				AML	AML		
	comp=E,370µm,1.3s						
T1220	Camerino, Fraz	0.32	349	AML	AML		
	comp=E,361µm,0.3s						
T1220				AML	AML		
	comp=N,270µm,0.5s						
T1220				AML	AML		
	comp=E,361µm,0.3s						
T1220				AML	AML		
	comp=N,270µm,0.4s						
T1220				AML	AML		
	comp=N,270µm,0.4s						
T1220				AML	AML		
	comp=E,361µm,0.3s						
TERO	Teramo	0.36	118	P	Pg	06 53 08.3	+0.4
ASSB	Assisi San Ben	0.45	303	AML	AML		
	comp=E,76µm,1.0s						
ASSB				AML	AML		
	comp=N,65µm,0.4s						
ASSB				AML	AML		
	comp=E,76µm,1.0s						
ASSB				AML	AML		
	comp=N,65µm,0.4s						
ASSB				AML	AML		
	comp=E,76µm,1.0s						
ASSB				AML	AML		
	comp=N,65µm,0.4s						
GIGS	Gran Sasso	0.45	140	P	Pg	06 53 10.1	+0.5
GIGS				S	Sg	06 53 16.5	+0.9
SNTG	Esanatoglia	0.49	340	P	Pg	06 53 10.6	+0.3
SNTG				S	Sb	06 53 18.3	-0.4
TRIF	Trifonti	1.70	282	P	Pb	06 53 31.3	-0.7
TRIF	Trifonti	1.70	282	P	Pb	06 53 31.3	-0.7
SIRI	Monte Sirino -	3.31	141	S	Sn	06 54 32.0	0.0
SIRI	Monte Sirino -	3.31	141	S	Sn	06 54 32.0	0.0
SARZ	Sarezzano	3.71	305	⇓P	Pn	06 53 58.0	-0.1
SARZ	Sarezzano	3.71	305	⇓P	Pn	06 53 58.0	-0.1
EUCT	Pavia	3.78	311	S	Sb	06 54 53.0	-0.2
EUCT	Pavia	3.78	311	S	Sb	06 54 53.0	-0.2
CANO	Canova, Maglio	3.86	293	⇑P	Pb	06 54 10.7	+1.8
CANO	Canova, Maglio	3.86	293	⇑P	Pb	06 54 10.7	+1.8
BORM	Bormio	4.18	332	P	Pn	06 54 02.7	-1.9
BORM	Bormio	4.18	332	P	Pn	06 54 02.7	-1.9

IDC 11 06:59:30.2±3.0, 53°.46N×87°.48E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=27.5km s-min=15.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.66	288	I		07 10 50.0	
	baz=104,slow=342,SNR=6.8						
ZALV	Zalesovo Beam	1.66	288	Pg	Pn	06 59 59.0	-1.5
	0.8nm,0.3s,baz=110,slow=16,SNR=9.1						
ZALV				Lg	Lg	07 00 23.2	
	1.1nm,0.3s,baz=111,slow=28,SNR=7.6						
KURBB	Kurchatov Arra	6.21	246	Pn	Pn	07 01 04.0	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=3.2						
KURBB				Lg	Lg	07 02 46.4	
	baz=66,slow=32,SNR=1.4						
	0.5nm,0.5s						
MKAR	Makanchi Array	7.45	209	Pn	Pn	07 01 21.5	+1.3
	0.1nm,0.3s,baz=29,slow=14,SNR=6.4						
	0.3nm,0.5s						

---

*KRSC **11** 07:05:44.3±2.6, 49°.74N×154°.47E, h246km±24km, ML5.2*

*BJI **11** 07:05:44.5±0.0, 49°.97N×153°.85E, h212km, mb4.6/55, mB4.8/24*

*IDC **11** 07:05:45.9±0.5, 49°.98N×153°.62E, h196km±4km, mb4.3/43, mbtmp4.8/51, MS3.0/2, Error ellipse: s-maj=8.0km s-min=7.1km az=153.0*

*MOS **11** 07:05:45.0±0.9, 49°.90N×153°.71E, h201km, mb4.8/56, Error ellipse: s-maj=6.4km s-min=3.5km az=77.9*

*NEIC **11** 07:05:47.1±1.2, 50°.0N±0°.1×153°.6E±0°.1, h200km±7km, mb4.6/84, Error ellipse: s-maj=17.0km s-min=10.4km az=142.0*

ISC 11 07:05:45.7±0.4, 49°.87N±0°.04×153°.88E±0°.04, h198km±2km, h197km:pP-P, n597, σ1s.31/685, mb4.6/184, 29C-27D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.65	60	eP	Pn	07 06 20.1	-0.4
SKR				eS	Sn	07 06 47.7	+0.1
SKR	Severo-Kuril's	1.65	60	PN	Pn	07 06 20.1	-0.4
SKR				S	Sn	07 06 47.7	+0.1
PAU	Pauzhetka	2.46	48	eP	Pn	07 06 28.6	-0.2
PAU				eS	Sn	07 07 05.2	+2.6
PAU	Pauzhetka	2.46	48	PN	Pn	07 06 28.6	-0.2
PAU				S	Sn	07 07 05.2	+2.6
KDTR	Khodutka, Kamc	3.29	52	eP	Pn	07 06 37.8	-0.8
KDTR				eS	Sn	07 07 17.1	-3.0
KDTR	Khodutka, Kamc	3.29	52	PN	Pn	07 06 37.8	-0.8
KDTR				S	Sn	07 07 17.1	-3.0
APC	Apacha	3.69	33	eP	Pn	07 06 44.1	+0.8
APC				eS	Sn	07 07 29.4	+0.7
APC	Apacha	3.69	33	PN	Pn	07 06 44.1	+0.8
APC				S	Sn	07 07 29.4	+0.7
GRL	Gorelyy	3.76	43	eP	Pn	07 06 45.7	+1.2
GRL				eS	Sn	07 07 31.0	+0.3
GRL	Gorelyy	3.76	43	PN	Pn	07 06 45.7	+1.2
GRL				S	Sn	07 07 31.0	+0.3
MTVR	Mutnovka	3.77	44	eP	Pn	07 06 45.3	+0.8
MTVR				eS	Sn	07 07 29.9	-0.8
MTVR	Mutnovka	3.77	44	PN	Pn	07 06 45.3	+0.8
MTVR				S	Sn	07 07 29.9	-0.8
RUS	Russkaya	3.89	47	eP	Pn	07 06 45.0	-0.8
RUS				eS	Sn	07 07 30.0	-3.1
RUS	Russkaya	3.89	47	PN	Pn	07 06 45.0	-0.8
RUS				S	Sn	07 07 30.0	-3.1
KRMR	Karymshinskiy	3.99	40	eP	Pn	07 06 47.9	+0.8
KRMR				eS	Sn	07 07 35.8	+0.4
KRMR	Karymshinskiy	3.99	40	PN	Pn	07 06 47.9	+0.8
KRMR				S	Sn	07 07 35.8	+0.4
PEA0B	Petropavlovsk-	4.03	35		Pn	07 06 48.5	+0.9
PEA0B	Petropavlovsk-	4.03	35c	iPN	Pn	07 06 49.1	+1.5
PETK	Petropavlovsk-	4.03	35	P	Pn	07 06 48.2	+0.6
	35nm,0.4s,baz=196,slow=11,SNR=317						
PETK				S	Sn	07 07 36.1	-0.3
	46nm,0.9s,baz=292,slow=7.8,SNR=2.3						
PETK	Petropavlovsk-	4.03	35		Pn	07 06 48.4	+0.8
PET	Petropavlovsk	4.35	42		Pn	07 06 52.8	+1.2
PET	Petropavlovsk	4.35	42	eP	Pn	07 06 52.2	+0.6
PET				eS	Sn	07 07 42.2	-1.3
PET	Petropavlovsk	4.35	42	PN	Pn	07 06 52.2	+0.6
PET				S	Sn	07 07 42.2	-1.3
DALK	Dalny	4.39	42	eP	Pn	07 06 52.9	+0.7
DALK				eS	Sn	07 07 42.2	-2.4
DALK	Dalny	4.39	42	PN	Pn	07 06 52.9	+0.7
DALK				S	Sn	07 07 42.2	-2.4
KOK	Koryaka	4.53	39	eP	Pn	07 06 55.8	+1.8
KOK				eS	Sn	07 07 48.4	+0.5
KOK	Koryaka	4.53	39	PN	Pn	07 06 55.8	+1.8
KOK				S	Sn	07 07 48.4	+0.5

UGLR Uglovaya 4.55 41 *e*P Pn 07 06 56.1 +1.8
UGLR eS Sn 07 07 47.9 -0.4
UGLR Uglovaya 4.55 41 PN Pn 07 06 56.1 +1.8
UGLR S Sn 07 07 47.9 -0.4
AVH Avacha 4.55 40 *e*P Pn 07 06 56.3 +2.0
AVH eS Sn 07 07 48.3 -0.1
AVH Avacha 4.55 40 PN Pn 07 06 56.3 +2.0
AVH S Sn 07 07 48.3 -0.1
SMAR Somma 4.58 40 *e*P Pn 07 06 56.7 +1.9
SMAR eS Sn 07 07 47.8 -1.4
SMAR Somma 4.58 40 PN Pn 07 06 56.7 +1.9
SMAR S Sn 07 07 47.8 -1.4
GNL Ganaly 4.59 32 *e*P Pn 07 06 56.1 +1.4
GNL Ganaly 4.59 32 PN Pn 07 06 56.1 +1.4
SDLR Sedlovina 4.62 41 *e*P Pn 07 06 56.7 +1.5
SDLR Sedlovina 4.62 41 PN Pn 07 06 56.7 +1.5
NLC Nalytchevo 4.75 44 *e*P Pn 07 06 55.9 -0.8
NLC eS Sn 07 07 48.4 -4.3
NLC Nalytchevo 4.75 44 PN Pn 07 06 55.9 -0.8
NLC S Sn 07 07 48.4 -4.3
SPN Mys Shipunski 5.02 48 *e*P Pn 07 06 59.8 -0.3
SPN eS Sn 07 07 52.1 -6.8
SPN Mys Shipunski 5.02 48 PN Pn 07 06 59.8 -0.3
KUR Kuril'sk 6.17 224 *e*PN Pn 07 07 14.6 -0.4
KUR eS Sn 07 08 27.9 +2.2
KUR pmax pmax
comp=Z,72nm,0.5s
TUMR Tumrok 6.63 33 *e*P Pn 07 07 22.9 +1.9
TUMR Tumrok 6.63 33 PN Pn 07 07 22.8 +1.8
TUMR Sn 07 08 34.8 -1.8
TUMD Tumrok D 6.66 34 *e*P Pn 07 07 22.8 +1.5
TUMD eS Sn 07 08 34.8 -2.3
ESO Esso 6.73 24 *e*P Pn 07 07 24.2 +2.0
ESO Esso 6.73 24 PN Pn 07 07 24.2 +2.0
KMNR Kamenistaya 7.04 31 *e*P Pn 07 07 27.1 +0.8
KMNR Kamenistaya 7.04 31 PN Pn 07 07 27.1 +0.8
TYV Tymovskoe 7.25 282 *e*PN Pn 07 07 31.9 +2.9
TYV eS Sn 07 08 50.8 -0.2
TYV pmax pmax
comp=Z,28nm,0.9s
TYV pmax pmax
comp=Z,600nm,3.5s
TYV smax smax
comp=E,900nm,4.1s
TYV smax smax
comp=N,23nm,1.5s
TYV smax smax
comp=E,33nm,1.5s
BZMR Bezymyannaya 7.27 31 *e*P Pn 07 07 29.1 -0.3
BZMR Bezymyannaya 7.27 31 PN Pn 07 07 29.1 -0.3
SRDR Sredinnyy 7.35 26 *e*P Pn 07 07 32.7 +2.4
SRDR Sredinnyy 7.35 26 PN Pn 07 07 32.7 +2.4
YSS Yuzh-Sakhalins 7.96 253 *e*PN Pn 07 07 39.2 +1.0
YSS pmax pmax
comp=Z,20nm,0.8s
YUK Yuzh-Kuril'sk 8.01 226 *ce*PN Pn 07 07 37.8 -1.1
SRKR Sorokina 8.08 30 *e*P Pn 07 07 41.4 +1.6
SRKR Sorokina 8.08 30 PN Pn 07 07 41.4 +1.6
SMKR Semkarok 8.12 31 P Pn 07 07 39.3 -1.0
SMKR Semkarok 8.12 31 PN Pn 07 07 39.3 -1.0
KBTR Krutoberegovo 8.32 37 *e*P Pn 07 07 42.5 -0.4
KBTR S Sn 07 09 06.4 -10
KBTR Krutoberegovo 8.32 37 PN Pn 07 07 42.5 -0.4
BKI Bering 9.10 49 *e*P Pn 07 07 51.7 -1.3
BKI eS Sn 07 09 22.8 -12
BKI Bering 9.10 49 PN Pn 07 07 51.7 -1.3
JKA Kamikawa-asahi 9.61 238 Pn 07 08 01.3 +1.5
ASAJ Asahikawa 9.62 238 PN Pn 07 08 01.3 +1.4
MA2 Magadan 9.89 351 P Pn 07 08 03.7 +0.4
comp=Z,5.2nm,0.4s,baz=147,slow=19,SNR=1.6
ERM Erimo 10.83 228 Pn Pn 07 08 13.4 -2.1
ERM Erimo 10.83 228 P Pn 07 08 12.0 -3.5
ERM Erimo 10.83 228 *de*PN Pn 07 08 14.5 -1.0
JEM Erimo 10.83 228 P Pn 07 08 14.5 -1.0
SHEM Shemya Is, Ala 12.97 70 P P 07 08 46.3 +0.4
comp=Z,208nm,1.1s,baz=286,slow=15,SNR=2.1
SHEM S Sn 07 11 02.9 -4.1
comp=Z,48nm,0.5s,baz=287,slow=23,SNR=1.5
SEY Seymchan 13.12 357 P Pn 07 08 43.2 -1.2
comp=Z,6.2nm,0.8s,baz=84,slow=17,SNR=4.5
SEY Seymchan 13.12 357⇑ *e*PN Pn 07 08 44.1 -0.3
SEY pmax pmax
comp=Z,9.0nm,0.9s
KLR Kul'dur 14.38 276 P Pn 07 09 00.1 0.0
comp=Z,11nm,0.8s,baz=72,slow=13,SNR=22
KLR Kul'dur 14.38 276 *de*P P 07 09 02.3 +0.7
KLR pmax pmax
comp=Z,44nm,1.0s
USA0B Ussuriysk Arra 15.94 258 P P 07 09 18.3 -0.6
USA0B IAmb IAmb 07 09 21.8
comp=Z,33nm,1.1s
USA0B Ussuriysk Arra 15.94 258⇑ *e*P Pn 07 09 19.2 0.0
USRK Ussuriysk Ar. 15.94 258 P P 07 09 18.5 -0.4
comp=Z,9.5nm,0.5s,baz=61,slow=12,SNR=20
USRK Ussuriysk Ar. 15.94 258 P P 07 09 18.1 -0.7
JSD Sado 16.28 229 P 07 09 22.2 -0.5
ZEA Zeya 16.88 293 *e*P Pn 07 09 29.8 -0.5
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=Z,20nm,1.1s
HEH HeiHe 16.97 281 *e*P P 07 09 30.6 +0.4
HEH pmax pmax
comp=Z,29nm,0.8s
HEH pmax pmax
comp=Z,580nm,5.9s
MDJ Mudanjiang 17.27 262 P P 07 09 32.6 -1.0
MDJ Mudanjiang 17.27 262 P P 07 09 32.5 -1.0
MDJ pmax pmax
comp=Z,23nm,0.6s
MDJ pmax pmax
comp=Z,400nm,3.6s
MDJ Mudanjiang 17.27 262 P P 07 09 33.0 -0.5
MJB9 Matsu-Tunnel 17.50 226 P P 07 09 36.3 +0.2
MJAR Matsushiro Arr 17.50 226 P P 07 09 36.2 +0.1
comp=Z,18nm,0.8s,baz=22,slow=12,SNR=22
MAJO Matsushiro 17.50 226 P P 07 09 36.1 +0.1
MAJO Matsushiro 17.50 226 P P 07 09 36.7 +0.6
MAJO Matsushiro 17.50 226 *de*P P 07 09 35.6 -0.5
MAJO pmax pmax
comp=Z,27nm,0.8s
YAK Yakutsk 18.08 321 P P 07 09 41.4 -0.6
comp=Z,45nm,0.3s,baz=82,slow=1.3,SNR=12
YAK S S 07 12 55.8 -2.7
comp=Z,5.8nm,0.3s,baz=160,slow=18,SNR=1.4
YAK Yakutsk 18.08 321 P Pn 07 09 42.9 -1.3
YAK Yakutsk 18.08 321 *c i*P P 07 09 42.8 +0.7
YAK eS S 07 12 58.2 -0.3
YAK pmax pmax
comp=Z,113nm,0.8s
YAK pmax pmax
comp=N,16nm,0.8s
YAK pmax pmax
comp=E,52nm,1.4s
YAK smax smax
comp=N,354nm,4.6s
YAK smax smax
comp=E,290nm,4.9s
BNX BinXian 18.22 267 ⇑P P 07 09 42.7 -1.1
BNX pmax pmax
comp=E,15nm,0.7s
BNX pmax pmax
comp=E,290nm,3.8s
KIWB Kanaga Island 18.34 73 P P 07 09 45.6 +0.6
ADK Adak 18.63 72 P P 07 09 48.2 0.0
ADK Adak 18.63 72 P P 07 09 48.2 0.0
ADK pmax pmax
comp=Z,65nm,1.0s
JGF Kuroka 18.66 226 P P 07 09 48.8 0.0
JGF IAmb IAmb 07 09 57.0
comp=Z,17nm,0.8s
INU Inuyama 19.03 227 P P 07 09 53.1 +0.5
BILL Bilibino 19.24 14 P P 07 09 55.9 +1.4
BILL IAmb IAmb 07 09 56.9
comp=Z,16nm,0.5s
BILL Bilibino 19.24 14 *c i*P P 07 09 55.8 +1.2
BILL pmax pmax
comp=Z,15nm,1.0s
JHJ2 Mitsune 19.72 217 P P 07 09 60.0 -0.2
CN2 Changchun 20.30 264 P P 07 10 02.5 -3.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
JHS Saijyo 21.24 233 P P 07 10 16.3 0.0
HIA Hailar 22.04 282 P P 07 10 26.1 +1.9
comp=Z,13nm,0.7s
KSRS Korea Array 22.38 246 P P 07 10 27.2 -0.2
comp=Z,29nm,0.8s,baz=46,slow=9.7,SNR=48
comp=Z,29nm,0.8s
KS19 Wonju Array Si 22.38 246 P P 07 10 28.2 +0.8
KS19 IAmb IAmb 07 10 29.9
comp=Z,29nm,0.8s
KSAR Wonju Array Be 22.41 246 P P 07 10 27.8 +0.1
KSAR Wonju Array Be 22.41 246 P P 07 10 27.8 +0.1
JNU Nakatsue 23.87 234 P P 07 10 41.4 +0.4
JNU Nakatsue 23.87 234 P P 07 10 41.6 +0.6
BOD Bodaibo 24.52 304 *e*P P 07 10 45.9 -0.7
BOD pmax pmax
comp=Z,15nm,2.1s
TIXI Tiksi 24.64 341 P P 07 10 46.4 -1.2
comp=Z,10nm,0.5s,baz=127,slow=20,SNR=28
comp=Z,10nm,0.5s
TIXI Tiksi 24.64 341 P P 07 10 46.7 -0.9
TIXI IAmb IAmb 07 10 47.9
comp=Z,17nm,1.0s
TIXI Tiksi 24.64 341 *de*P P 07 10 47.1 -0.4
TIXI pmax pmax
comp=Z,16nm,0.9s
XLT XiLinHaoTe 26.31 272 *e*P P 07 11 02.5 -0.5
XLT pP pP 07 11 42.4 0.0
XLT PP PnPn 07 11 52.1 -2.9
XLT S S 07 15 21.1 +0.3
XLT pmax pmax
comp=Z,17nm,0.7s
XLT pmax pmax
comp=Z,140nm,4.6s
BJI Beijing 28.16 264 P P 07 11 18.2 -1.2
BJI pmax pmax
comp=Z,3.0nm,0.7s
N16K Nishlik Lake 28.42 50 P P 07 11 22.4 +0.9
baz=270
O17K Koliganek Bris 29.27 51 P P 07 11 29.6 +0.7
baz=273
TTA Tatalina 29.79 45 P P 07 11 34.3 +0.6
baz=268
N18K Kilae Creek 29.84 49 P P 07 11 35.0 +1.0
baz=272
Q17K Contact Creek 30.00 54 P P 07 11 35.6 +0.1
baz=276
JOW Kunigami 30.26 230 P P 07 11 37.6 -0.4
comp=Z,17nm,0.6s,baz=90,slow=12,SNR=2.3
comp=Z,17nm,0.6s
JOW Kunigami 30.26 230 P P 07 11 38.4 +0.3
Q18K Katmai Hardscr 30.42 53 P P 07 11 39.2 -0.1
baz=276
ULN Ulaanbaatar 30.48 285 P P 07 11 40.9 +1.0
comp=Z,33nm,0.6s
ULN Ulaanbaatar 30.48 285 *de*P P 07 11 39.1 -0.8
ULN pmax pmax
comp=Z,3.0nm,1.0s
HNS HongShan 30.61 261 ⇑P P 07 11 41.2 +0.2
HNS pmax pmax
comp=Z,37nm,1.1s
J20K Nowinta River 30.68 43 P P 07 11 41.4 +0.1
baz=268
HHC Hu-ho-hao-te 30.71 269 *e*P P 07 11 41.1 -0.9
HHC pmax pmax
comp=Z,27nm,0.6s
HHC pmax pmax
comp=Z,260nm,5.7s
SONM Songino Array 30.90 285 P P 07 11 42.4 -1.2
comp=Z,0.8nm,0.3s,baz=84,slow=7.3,SNR=8.2
SONM PcP PcP 07 14 34.7 -0.3
comp=Z,2.3nm,0.7s,baz=108,slow=3.4,SNR=3.2
SONM ScP ScP 07 17 58.0 -0.7
comp=Z,1.2nm,1.0s,baz=17,slow=1.5,SNR=4.2
comp=Z,0.8nm,0.3s
IMAR Indian Mountai 30.98 39 P P 07 11 44.7 +0.8
G21K Allakaket 31.13 38 P P 07 11 46.2 +0.9
baz=264
H21K Melozitna Rive 31.34 40 P P 07 11 48.0 +0.9
baz=266
NJ2 Nanjing 31.50 249 *e*P P 07 11 49.1 +0.3
NJ2 pmax pmax
comp=Z,12nm,0.5s
PPLA Purkeypile 31.54 45 P P 07 11 51.3 +2.2
PPLA IAmb IAmb 07 11 52.8
comp=Z,23nm,1.4s
CAST Castle Rocks 31.58 44 P P 07 11 50.9 +1.6
CAST Castle Rocks 31.58 44 P P 07 11 49.2 0.0
baz=271
I21K Tanana 31.66 41 P P 07 11 50.1 +0.3
baz=268
F22K John River 31.76 36 P P 07 11 50.8 0.0
baz=264
SKT Skwentna 31.88 47 P P 07 11 54.2 +2.3
SKT Skwentna 31.88 47 P P 07 11 53.9 +2.0
baz=274
H22K Ishtalitna Cre 31.94 39 P P 07 11 53.0 +0.6
baz=267
G22K Bettles 31.96 37 P P 07 11 53.5 +1.0
baz=266
KTH Kantishna Hill 32.10 44 P P 07 11 55.6 +1.8
KTH IAmb IAmb 07 11 59.9
comp=Z,13nm,1.1s
CAPN Captain Cook N 32.16 49 P P 07 11 53.5 -0.8
baz=276
MLY Manley 32.18 41 P P 07 11 54.9 +0.4
baz=269
TRF Thorofare Moun 32.39 44 P P 07 11 58.0 +1.5
TRF IAmb IAmb 07 12 08.9
comp=Z,14nm,1.3s
TRF Thorofare Moun 32.39 44 P P 07 11 58.0 +1.5
baz=272
D23K Nanushuk River 32.48 34 P P 07 11 58.9 +1.9
baz=263
COLD Coldfoot 32.49 37 P P 07 11 58.3 +1.1
baz=266
G23K Bananza Creek 32.53 38 P P 07 11 58.5 +1.0
baz=267
C23K Itkillik River 32.63 32 P P 07 12 00.2 +2.0
baz=262
H23K Yukon River 32.70 40 P P 07 12 00.4 +1.5
baz=269
I23K Minto, Yukon-K 32.77 41 P P 07 12 00.7 +1.3
baz=270
E23K Chandalar 32.78 35 P P 07 12 01.2 +1.5
baz=266
TOLK Toolik Lake Re 32.85 34 P P 07 12 01.1 +0.8
TOLK Toolik Lake Re 32.85 34 P P 07 12 01.7 +1.5
baz=265
NEA2 Nenana 32.90 42 P P 07 12 01.7 +1.1
baz=272
D24K Happy Valley 33.17 33 P P 07 12 04.0 +1.0
baz=265
E24K Your Creek 33.20 35 P P 07 12 04.6 +1.3
baz=267,SNR=5.9
WAT1 Susitna Watana 33.21 45 P P 07 12 04.3 +0.8
baz=275
MDM Murphy Dome 33.25 41 P P 07 12 05.9 +2.2
MDM IAmb IAmb 07 12 10.8
comp=Z,12nm,1.2s
C24K Franklin Bluff 33.27 32 P P 07 12 04.9 +1.1
baz=264
WRH Wood River Hil 33.32 42 P P 07 12 06.2 +1.9
WRH IAmb IAmb 07 12 07.2
comp=Z,15nm,1.1s
H24K Noodor Dome 33.38 40 P P 07 12 06.2 +1.3
baz=271
KNK Knik Glacier 33.39 48 P P 07 12 07.0 +2.0
KNK Knik Glacier 33.39 48 P P 07 12 05.8 +0.8
baz=277
F24K Squaw Lake 33.41 36 P P 07 12 06.3 +1.2
baz=268
TCOL CIGO, UAF Yank 33.41 41 P P 07 12 06.6 +1.6
baz=272
SML Sawmill 33.41 47 P P 07 12 06.3 +1.1
baz=276
COLA College 33.41 41 P P 07 12 06.2 +1.1
baz=272
COLA College 33.41 41 P P 07 12 07.2 +2.2
COLA College 33.41 41⇑ *i*P P 07 12 06.3 +1.3
COLA pmax pmax
comp=Z,12nm,1.0s
CCB Clear Creek Bu 33.44 42 P P 07 12 06.0 +0.7
CCB IAmb IAmb 07 12 08.9
comp=Z,13nm,1.4s
G24K Hadweenzic Riv 33.55 38 P P 07 12 07.6 +1.4
baz=270
POKR Poker Plat Res 33.58 41 P P 07 12 07.6 +1.0
baz=272
LYN LuoYang 33.80 259 *e*P P 07 12 09.0 +0.2
LYN pmax pmax
comp=Z,10.0nm,1.1s
HDA Harding Lake 33.82 42 P P 07 12 09.7 +1.0
baz=274
IL31 33.83 41 P P 07 12 10.2 +1.6
ILAR Eielson Array 33.83 41 P P 07 12 09.7 +1.0
comp=Z,3.9nm,0.9s,baz=264,slow=5.5,SNR=34
ILAR pP pP 07 12 49.1 -0.2
comp=Z,1.4nm,0.7s,baz=264,slow=6.7,SNR=2.4
ILAR PcP PcP 07 14 41.5 -1.1
comp=Z,0.4nm,0.5s,baz=285,slow=3.2,SNR=1.5
comp=Z,3.9nm,0.9s
D25K Kavik River 34.05 33 P P 07 12 11.9 +1.3
baz=267
F25K Christian Rive 34.27 36 P P 07 12 14.0 +1.5
baz=270
E25K Arctic Village 34.30 35 P P 07 12 14.1 +1.3
baz=269
PRP Porcupine Dome 34.36 40 P P 07 12 14.4 +0.9
baz=273
J25K Salcha River, 34.49 42 P P 07 12 14.6 +0.2
baz=275
EYAK Cordova Ski Ar 34.82 49 P P 07 12 17.7 +0.5
baz=280
G26K Porcupine Rive 35.00 37 P P 07 12 20.3 +1.6
baz=273
C27K Jago River 35.01 33 P P 07 12 20.2 +1.5
baz=269
SCRK Sand Creek 35.15 43 P P 07 12 21.0 +0.9
SCRK Sand Creek 35.15 43 P P 07 12 20.4 +0.3
baz=277
E27K Coleen River 35.79 35 P P 07 12 26.5 +1.1
baz=273
M26K Nabesna, AK 35.81 45 P P 07 12 28.3 +2.5
baz=280
G27K Doyon Strip 35.85 38 P P 07 12 27.3 +1.3
baz=275
H27K Steamboat Moun 35.95 39 P P 07 12 28.8 +1.9
baz=276
K27K Chicken 35.98 42 P P 07 12 28.2 +1.2
baz=278
L27K Beaver Creek, 36.23 44 P P 07 12 31.6 +2.3
L27K IAmb IAmb 07 12 34.0
comp=Z,15nm,1.3s
L27K Beaver Creek, 36.23 44 P P 07 12 31.2 +1.9
baz=280
BCAR Beaver Creek A 36.25 44 P P 07 12 31.7 +2.2
EGAK Eagle 36.27 41 P P 07 12 30.3 +0.8
baz=278
M27K Edge Creek, AK 36.33 45 P P 07 12 32.2 +2.0
baz=281
XAN Xi'an 36.39 262 ⇑P P 07 12 30.6 -0.3
XAN PcP PcP 07 14 51.4 +0.7
XAN ScP ScP 07 18 18.9 +0.8
XAN pmax pmax
comp=Z,11nm,1.3s
NRIK Noril'sk 36.39 327 P P 07 12 29.8 -0.7
comp=Z,5.5nm,0.7s,baz=93,slow=8.2,SNR=4.2
comp=Z,5.5nm,0.7s
NRIK Noril'sk 36.39 327 *de*P P 07 12 29.9 -0.5
YULB Yu-li 36.68 236 P P 07 12 34.1 +0.6
YULB IAmb IAmb 07 13 06.2
comp=Z,20nm,1.1s
MESA MESA 36.75 49 P P 07 12 35.9 +2.0
baz=284
EPYK Eagle Plains 37.86 38 P P 07 12 44.4 +1.4
baz=280
M29M Somme Creek 37.88 44 P P 07 12 45.1 +1.9
baz=283
L29M L29M 37.88 43 P P 07 12 44.6 +1.4
baz=283
G30M tAoh Zraii Nji 37.96 37 P P 07 12 44.9 +1.2
baz=279
LZH Lanzhou 38.39 268 *e*P P 07 12 48.0 +0.1
LZH pmax pmax
comp=Z,18nm,1.2s
ENH Enshi 38.52 256 P P 07 12 50.1 +1.3
comp=Z,19nm,1.2s
M30M Minto, Yukon 38.60 44 P P 07 12 50.9 +1.8
baz=284
HYT Haines Junctio 38.72 47 P P 07 12 51.6 +1.3
baz=286
INK Inuvik 38.76 35 P P 07 12 51.2 +0.9
INK Inuvik 38.76 35 P P 07 12 52.1 +1.8
baz=280,SNR=7.4
INK Inuvik 38.76 35 P P 07 12 51.2 +0.9
INK pmax pmax
comp=Z,4.0nm,0.9s
F31M Tsiigehtchic 38.83 36 P P 07 12 52.0 +1.1
baz=281
GTA Gaotai 39.08 276 ⇑P P 07 12 53.6 +0.1
GTA pmax pmax
comp=Z,10.0nm,0.7s
GTA pmax pmax
comp=Z,62nm,6.2s
GTA LR LR
comp=Z,110nm,15.3s
GTA LR LR
comp=Z,170nm,16.4s
GTA LR LR
comp=Z,110nm,13.4s
N31M Braeburn, Yuko 39.34 45 P P 07 12 56.7 +1.4
baz=286
O30N Mendenhall 39.40 47 P P 07 12 57.0 +1.2
baz=287
PLBC Pleasant Camp 39.66 49 P P 07 12 57.1 -0.7
baz=288
WHY Whitehorse 40.00 47 P P 07 13 01.4 +0.6
baz=288
FARO Faro, Yukon 40.24 44 P P 07 13 03.4 +0.7
baz=287
A36M Sachs Harbour 40.84 28 P P 07 13 09.1 +1.7
A36M Sachs Harbour 40.84 28 P P 07 13 09.4 +2.0
baz=283
P33M Teslin, Yukon 41.11 47 P P 07 13 11.3 +1.4
baz=290
ZAA0 Zalesovo Array 41.26 303 P P 07 13 09.4 -1.7
ZALV Zalesovo Beam 41.26 303 P P 07 13 09.6 -1.4
comp=Z,5.9nm,0.3s,baz=63,slow=7.2,SNR=34
ZALV PcP PcP 07 15 05.8 +0.1
comp=Z,3.5nm,0.3s,baz=97,slow=3.4,SNR=15
ZALV ScP ScP 07 18 35.8 -0.7
comp=Z,0.6nm,0.5s,baz=79,slow=7.5,SNR=2.0
ZALV S S 07 18 54.5 -15
comp=Z,0.5nm,0.4s,baz=327,slow=16,SNR=2.2
comp=Z,5.9nm,0.3s
DGZ Jazzator, Alta 41.60 296 *d i*P P 07 13 14.3 +0.2
DGZ *i* *PP pP 07 13 59.6 +3.8
DGZ pmax pmax
comp=Z,14nm,0.9s
CD2 Chengdu 41.73 262 P P 07 13 15.4 +0.2
CD2 pmax pmax
comp=Z,20nm,0.7s
C36M Paulatuk 41.88 32 P P 07 13 16.8 +1.0
C36M IAmb IAmb 07 13 18.8
comp=Z,11nm,0.4s
R33M Jennings River 42.28 47 P P 07 13 21.5 +2.1
baz=292
GOMU GeErMu 44.16 275 P P 07 13 33.9 -1.1
GOMU pmax pmax
comp=Z,9.0nm,0.7s
GOMU pmax pmax
comp=Z,110nm,4.3s
WMQ Urumqi 44.34 289 *e*P P 07 13 34.3 -1.7
WMQ pmax pmax
comp=Z,30nm,0.7s
EUNU Eureka 45.97 12 P P 07 13 48.6 +0.3
EUNU IAmb IAmb 07 13 50.5
comp=Z,17nm,0.8s
MK31 Makanchi Array 46.02 295 P P 07 13 48.4 -0.7
MK31 IAmb IAmb 07 13 49.7
comp=Z,17nm,0.8s
MK31 Makanchi Array 46.02 295 *d i*P P 07 13 48.3 -0.8
MKAR Makanchi Array 46.02 295 P P 07 13 48.2 -0.9
comp=Z,14nm,0.7s,baz=64,slow=8.2,SNR=94
MKAR pP pP 07 14 31.7 +0.1
comp=Z,5.3nm,0.8s,baz=56,slow=9.0,SNR=3.4
MKAR PcP PcP 07 15 21.9 -0.1
comp=Z,1.7nm,0.4s,baz=70,slow=4.9,SNR=12
comp=Z,14nm,0.7s
PZH PanZhiHua 46.03 259 P P 07 13 49.6 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax

comp=Z,140nm,5.1s
KURK Kurchatov 46.12 301 P P 07 13 48.9 -0.8
KURK IAmb IAmb 07 13 49.8
comp=Z,37nm,0.8s
KURK Kurchatov 46.12 301 *de*P **P 07 13 48.8 -0.9**
MAKZ Makanchi 46.20 295 P P 07 13 49.7 -0.8
MAKZ IAmb IAmb 07 13 50.5
comp=Z,23nm,1.2s
MAKZ Makanchi 46.20 295 P P 07 13 49.7 -0.8
MAKZ pmax pmax
comp=Z,23nm,1.3s
KURBB Kurchatov Arra 46.21 301 P P 07 13 49.4 -1.0
comp=Z,30nm,0.6s,baz=64,slow=8.2,SNR=151
KURBB PcP **PcP 07 15 22.2 -0.4**
comp=Z,3.6nm,0.7s,baz=58,slow=3.4,SNR=8.7
KURBB ScP **ScP 07 18 55.7 -1.0**
comp=Z,0.5nm,0.3s,baz=63,slow=3.3,SNR=7.5
comp=Z,30nm,0.6s
KMI Kunming 46.37 257 ⇓P **P 07 13 53.4 +1.1**
KMI pmax pmax
comp=Z,17nm,0.9s
RES Resolute Bay 47.72 20 P P 07 14 02.9 +1.1
RES IAmb IAmb 07 14 04.0
comp=Z,34nm,1.4s
RES Resolute Bay 47.72 20 P P 07 14 02.9 +1.1
RES pmax pmax
comp=Z,34nm,1.4s
YKA Yellowknife Ar 48.14 39 P P 07 14 06.5 +1.3
comp=Z,5.4nm,0.8s,baz=302,slow=7.1,SNR=7.0
comp=Z,5.4nm,0.8s
BVAR Borovoye Array 49.31 308 P P 07 14 13.6 -0.7
comp=Z,19nm,0.6s,baz=57,slow=8.4,SNR=99
BVAR PcP **PcP 07 15 33.3 -0.5**
comp=Z,6.7nm,0.3s,baz=80,slow=4.3,SNR=23
BVAR ScP **ScP 07 19 09.4 -0.4**
comp=Z,0.5nm,0.4s,baz=56,slow=2.6,SNR=2.0
comp=Z,19nm,0.6s
BRVK Borovoye 49.35 308 P P 07 14 14.2 -0.3
BRVK IAmb IAmb 07 14 14.7
comp=Z,25nm,0.8s
BRVK Borovoye 49.35 308 *d iP* **P 07 14 13.4 -1.1**
BRVK pmax pmax
comp=Z,28nm,0.8s
KBS Kingsbay 49.49 351 ⇓*e*P **P 07 14 16.7 +1.5**
KBS pmax pmax
comp=Z,9.0nm,0.9s
SPITS Spitsbergen Ar 49.63 349 P P 07 14 15.4 -1.0
comp=Z,3.6nm,0.5s,baz=64,slow=8.5,SNR=11
SPITS PcP **PcP 07 15 35.0 +0.4**
comp=Z,8.0nm,0.8s,baz=91,slow=6.7,SNR=2.5
comp=Z,3.6nm,0.5s
KHU Kahuku 50.31 109 P P 07 14 24.2 +1.8
KHU Kahuku 50.31 109 P P 07 14 24.2 +1.8
KHU pmax pmax
comp=Z,87nm,1.3s
TULEG Thule 50.96 12 P P 07 14 26.0 -0.3
TULEG IAmb IAmb 07 14 27.4
comp=Z,9.3nm,0.6s
TULEG Thule 50.96 12 *i* P **P 07 14 26.0 -0.3**
TULEG IAmb IAmb 07 14 27.1
comp=Z,8.6nm,0.6s
NONG Nongkai 51.35 251 P P 07 14 31.1 +1.2
SVE Sverdlovsk 51.92 316 *e*P **P 07 14 33.3 -0.3**
SVE pmax pmax
comp=Z,35nm,0.7s
NEEM North Greenlan 52.00 7 *i* P **P 07 14 33.5 -0.9**
NEEM IAmb IAmb 07 14 34.3
comp=Z,12nm,0.6s
TKM2 Tokmak 2 52.13 294 P P 07 14 35.1 -0.6
SNR=8.9
ULHL Ulahol 52.15 293 P P 07 14 35.9 0.0
SNR=8.1
USP Ospenovka 52.57 295 P P 07 14 38.2 -0.4
SNR=16
MND Mandalay 52.81 260 P P 07 14 42.1 +1.4
PHRA Phrae 52.81 254 P P 07 14 41.9 +1.2
AAK Ala-Archa 52.95 295 P P 07 14 41.5 -0.1
SNR=7.6
AAK Ala-Archa 52.95 295 P P 07 14 40.9 -0.7
comp=Z,11nm,0.9s,baz=102,slow=5.9,SNR=19
AAK pP **pP 07 15 25.2 -0.1**
comp=Z,4.7nm,0.9s,baz=74,slow=5.3,SNR=3.1
AAK LR LR 07 36 34.4
comp=Z,16nm,20.6s,baz=48,slow=35
comp=Z,11nm,0.9s
AAK Ala-Archa 52.95 295 P **P 07 14 41.2 -0.5**
AAK IAmb IAmb 07 14 42.0
comp=Z,12nm,0.9s
AAK Ala-Archa 52.95 295 *ce*P **P 07 14 41.3 -0.3**
AAK pmax pmax
comp=Z,10.0nm,0.7s
SHL Shillong 53.01 267 P P 07 14 42.3 0.0
SHL IAmb IAmb 07 14 43.6
comp=Z,31nm,1.0s
SHL Shillong 53.01 267 P P 07 14 42.3 0.0
SHL pmax pmax
comp=Z,31nm,1.0s
ARU Arti 53.08 316 P P 07 14 41.6 -0.6
ARU Arti 53.08 316 *d iP* **P 07 14 41.2 -1.0**
ARU *P **pP 07 15 24.9 -1.1**
ARU 07 15 46.6
ARU S **S 07 21 55.8 -0.6**
ARU pmax pmax
comp=Z,54nm,0.6s
EKS2 Erkin-Say 53.36 295 P P 07 14 44.6 0.0
SNR=5.7
CHTO Chiang Mai 53.38 255 P P 07 14 45.3 +0.5
CHTO IAmb IAmb 07 14 47.5
comp=Z,20nm,0.8s
CHTO Chiang Mai 53.38 255 P P 07 14 45.3 +0.5
CHTO pmax pmax
comp=Z,20nm,0.8s
DAG Danmarks Havn 53.55 358 *i* P **P 07 14 43.8 -1.4**
DAG IAmb IAmb 07 14 45.3
comp=Z,8.4nm,0.7s
CMAR Chiang Mai Arr 53.65 255 P P 07 14 47.2 +0.5
comp=Z,7.1nm,0.6s,baz=32,slow=6.6,SNR=33
CMAR PcP **PcP 07 15 51.2 +0.8**
comp=Z,4.5nm,0.7s,baz=9.9,slow=2.8,SNR=11
comp=Z,7.1nm,0.6s
KSH Kashi 53.98 291 P P 07 14 52.9 +3.8
KSH pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 54.91 55 P P 07 14 56.3 +0.7
baz=308
KK31 Karatay Array 54.98 297 P P 07 14 54.9 -1.2
KK31 IAmb IAmb 07 14 56.0
comp=Z,7.4nm,0.9s
KK31 Karatay Array 54.98 297 P P 07 14 54.9 -1.2
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 54.98 297 P P 07 14 55.5 -0.7
KKAR Karatay Array 54.98 297 P P 07 14 55.0 -1.1
KKAR IAmb IAmb 07 14 56.0
comp=Z,7.4nm,0.9s
KKAR Karatay Array 54.98 297 P P 07 14 55.5 -0.7
ARCES ARCESS Array B 55.08 340 P P 07 14 55.1 -1.3
comp=Z,2.6nm,0.4s,baz=31,slow=7.5,SNR=7.0
ARCES PcP **PcP 07 15 55.4 +0.2**
comp=Z,1.6nm,0.5s,baz=29,slow=3.0,SNR=3.9
comp=Z,2.6nm,0.4s
PINE Pine Mountain 55.59 61 P P 07 15 03.3 +2.6
KIRV Kirov 55.61 322 P P 07 14 59.4 -0.9
comp=Z,14nm,0.5s,baz=38,slow=1.1,SNR=4.3
comp=Z,14nm,0.5s
KIRV Kirov 55.61 322 ⇑*e*P **P 07 14 59.9 -0.4**
K05A Summer Lake 56.28 62 P P 07 15 08.4 +2.8
K05A IAmb IAmb 07 15 09.4
comp=Z,17nm,1.1s
ABKAR Akbulak array 56.85 309 P P 07 15 08.4 -0.8
MOD Modoc Plateau 57.14 62 P P 07 15 13.4 +1.7
J08A Circle Bar Ran 57.25 60 P P 07 15 14.6 +2.3
MSO Missoula 57.49 54 P P 07 15 14.8 +0.9
baz=310
PLID Pearl Lake 57.51 57 P P 07 15 15.9 +1.7
PLID IAmb IAmb 07 15 17.0
comp=Z,7.2nm,0.8s
SUMG Summit 57.55 4 *i* P **P 07 15 14.1 -0.2**
SUMG IAmb IAmb 07 15 16.1
comp=Z,13nm,0.7s
GAR Garm 57.70 294 P P 07 15 14.5 -1.0
KLMR Klimovskoe 57.71 328 *e*P **P 07 15 12.6 -2.5**
KLMR AMP 07 15 16.0
comp=Z,57nm,1.3s
KLMR *ep*P **pP 07 15 58.6 -1.0**
KLMR Klimovskoe 57.71 328 *e*P **P 07 15 12.6 -2.5**
KLMR *e**PP **pP 07 15 58.6 -1.0**
KLMR pmax pmax
comp=Z,57nm,1.3s
WVOR Wild Horse Val 57.75 61 P P 07 15 17.4 +1.6
WVOR Wild Horse Val 57.75 61 P P 07 15 17.4 +1.6
WVOR pmax pmax
comp=Z,3.0nm,0.9s
BEKR Beckworth 58.43 64 P P 07 15 22.3 +1.6
CHGR Chuyangaron 58.61 294 P P 07 15 20.4 -1.4
CHGR Chuyangaron 58.61 294 P P 07 15 20.4 -1.4
CHGR pmax pmax
comp=Z,90nm,1.2s
EGMT Eagleton 58.87 51 P P 07 15 25.0 +1.5
baz=312
MPK Martis Peak 58.99 65 P P 07 15 26.6 +1.9
MPK IAmb IAmb 07 15 27.5
comp=Z,7.8nm,0.7s
PAHR Pah Rah Range 59.10 64 P P 07 15 27.0 +1.8
HLID Hailey 59.37 58 P P 07 15 28.4 +1.4
baz=312
NIL Nilore 59.44 287 P P 07 15 26.9 -0.6
NIL Nilore 59.44 287 P P 07 15 26.9 -0.6
NIL pmax pmax
comp=Z,29nm,1.0s
BOZ Bozeman (W) 59.51 54 P P 07 15 29.8 +1.8
BOZ Bozeman (W) 59.51 54 P P 07 15 29.8 +1.8
baz=312
BOZ Bozeman (W) 59.51 54 P P 07 15 29.8 +1.8
BOZ pmax pmax
comp=Z,3.0nm,0.6s
KVN Kaiserville 60.28 64 P P 07 15 35.2 +1.9
KVN IAmb IAmb 07 15 36.3
comp=Z,7.7nm,0.9s
KVN Kaiserville 60.28 64 P P 07 15 35.2 +1.9
KVN pmax pmax
comp=Z,8.0nm,0.9s
SURA Surathani 60.40 247 P P 07 15 35.7 +1.6
YHH Holmes Hill 60.46 55 P P 07 15 37.0 +2.4
BELG Belogornoye 60.56 318 P P 07 15 33.7 -1.1
comp=Z,45nm,0.8s,baz=88,slow=0.6,SNR=21
comp=Z,45nm,0.8s
BELG Belogornoye 60.56 318 *d iP* **P 07 15 33.6 -1.1**
BELG pmax pmax
comp=Z,8.0nm,0.9s
NVAR Mina Array Bea 60.58 64 P P 07 15 37.5 +2.2
comp=Z,4.8nm,0.7s,baz=294,slow=7.4,SNR=50
NVAR pP **pP 07 16 19.9 -0.8**
comp=Z,1.1nm,0.7s,baz=297,slow=7.7,SNR=3.0
comp=Z,4.8nm,0.7s
NVAR Mina Array Bea 60.58 64 P P 07 15 37.4 +2.0
MLAC Mammoth, Mammo 60.80 65 P P 07 15 38.8 +1.9
baz=312
SRIT Nakonsritamara 60.87 247 P P 07 15 39.9 +2.6
H17A Grant Village 60.87 55 P P 07 15 39.3 +2.0
baz=313
DGMT Dagmar 61.31 48 P P 07 15 42.1 +2.2
baz=314
FINES FINESS Array B 61.44 334 P P 07 15 39.4 -1.1
comp=Z,10nm,0.4s,baz=33,slow=7.7,SNR=118
FINES PcP **PcP 07 16 20.2 -0.3**
comp=Z,7.7nm,0.6s,baz=60,slow=4.6,SNR=9.9
comp=Z,10nm,0.4s
LAO LASA Array 61.55 50 P P 07 15 43.4 +1.9
baz=314
LCH Last Change Ra 61.77 65 P P 07 15 45.1 +1.8
VES Vestal, Richgr 61.86 67 P P 07 15 45.0 +1.3
baz=313
SFJD Kangerlussuaq 61.99 11 *i* P **P 07 15 43.9 -0.2**
CWC Cottonwood Cre 62.05 66 P P 07 15 46.5 +1.3
baz=313
PKM Mcpherson Peak 62.07 68 P P 07 15 45.9 +0.5
baz=313
GRAC Grapevine Rang 62.09 65 P P 07 15 48.0 +2.7
baz=313,SNR=9.5
R11A Troy Canyon, C 62.20 63 P P 07 15 48.4 +2.1
baz=313,SNR=6.3
ISA Isabella, Lake 62.34 67 P P 07 15 48.1 +1.1
baz=313
DUG Dugway, Tooele 62.51 60 P P 07 15 50.5 +2.3
baz=314
DUG Dugway, Tooele 62.51 60 P P 07 15 49.1 +0.9
BW06 Boulder Array 62.52 56 P P 07 15 49.4 +1.0
baz=314
PDAR Pinedale Array 62.52 56 P P 07 15 49.9 +1.5
comp=Z,2.4nm,0.7s,baz=320,slow=1.6,SNR=23
PDAR pP **pP 07 16 33.2 -0.3**
comp=Z,0.8nm,0.7s,baz=332,slow=1.2,SNR=2.7
comp=Z,2.4nm,0.7s
PDAR Pinedale Array 62.52 56 P P 07 15 49.4 +1.0
MPMC Manual Prospec 62.66 66 P P 07 15 50.4 +1.1
baz=314
FURC Furnace Creek, 62.74 65 P P 07 15 51.4 +1.9
baz=314,SNR=15
LRMC Laurel Mtn Rad 62.94 66 P P 07 15 52.1 +1.0
baz=314
RAF Rauma 62.96 336 *e*P **P 07 15 49.1 -1.4**
DY2G Dye2 62.97 9 *i* P **P 07 15 50.5 -0.4**
DY2G IAmb IAmb 07 15 52.2
comp=Z,10nm,0.5s
OBN Obninsk 63.03 325 P P 07 15 50.6 -0.5
comp=Z,3.6nm,0.4s,baz=122,slow=19,SNR=4.7
comp=Z,3.6nm,0.4s
OBN Obninsk 63.03 325 *de*P **P 07 15 51.0 -0.1**
OBN *i* 07 16 26.5
OBN *e**PP **pP 07 16 37.3 +0.8**
OBN *e* 07 18 11.4
OBN *e*S **S 07 24 03.1 -2.2**
OBN *e*SS **SS 07 28 13.3 -0.3**
OBN pmax pmax
comp=Z,44nm,2.5s
QSM Queen of Sheba 63.09 65 P P 07 15 53.7 +1.8
QSM IAmb IAmb 07 15 54.5
comp=Z,6.1nm,1.0s
EDW2 Edwards Air Fo 63.16 67 P P 07 15 54.1 +1.6
baz=314,SNR=8.4
SHOC Shoshone, Teco 63.48 65 P P 07 15 55.8 +1.3
baz=314
GSC Goldstone, Bar 63.58 66 P P 07 15 56.6 +1.4
GSC Goldstone, Bar 63.58 66 P P 07 15 56.6 +1.4
baz=314,SNR=6.2
GSC Goldstone, Bar 63.58 66 P P 07 15 56.7 +1.4
GSC pmax pmax
comp=Z,4.0nm,0.8s
VSU Vasula 63.69 332 *e*P **P 07 15 55.4 0.0**
BFSC Mount Baldy Ra 63.81 67 P P 07 15 58.0 +1.3
baz=314
CIS Catalina Islan 63.93 69 P P 07 15 58.3 +0.8
baz=314
TUQ Turquoise Moun 64.01 65 P P 07 15 59.7 +1.6
baz=314,SNR=10.0
AAL Aland 64.14 336 *e*P **P 07 15 56.8 -1.5**
HEC Hector,Ludlow 64.19 66 P P 07 16 01.1 +2.0
baz=314,SNR=8.8
BBRC Big Bear Solar 64.23 67 P P 07 16 00.9 +1.2
baz=314
MTSE Matsula 64.34 334 *e*P **P 07 15 59.9 +0.3**
RSSD Black Hills 64.44 51 P P 07 16 02.0 +1.1
baz=316
MURC Murrieta 64.53 68 P P 07 16 01.4 0.0
baz=314
GMRC Granite Mounta 64.61 66 P P 07 16 03.4 +1.4
baz=314,SNR=6.6
PFO Pinyon Flats O 64.96 67 P P 07 16 05.3 +1.1
baz=315
BELC Belle Mtn. Jos 64.96 66 P P 07 16 05.2 +1.0
baz=315,SNR=5.1
TPFO Pinon Flats 64.97 67 P P 07 16 05.6 +1.3
baz=315
O20A White River Ci 65.07 57 P P 07 16 06.8 +1.9
baz=315
AGMN Agassiz Nation 65.30 44 P P 07 16 07.4 +1.4
baz=318
IRM Iron Mountain 65.36 66 P P 07 16 08.2 +1.5
baz=315,SNR=8.3
W13A Hualapai Mount 65.44 64 P P 07 16 09.2 +1.8
NB2 NORSAR Subarra 65.44 341 P P 07 16 05.6 -1.2
comp=Z,3.2nm,0.5s,baz=25,slow=6.5
NOA NORSAR Array B 65.44 341 P P 07 16 05.4 -1.4
comp=Z,3.8nm,0.5s,baz=26,slow=6.6,SNR=30
NOA PcP **PcP 07 16 35.9 -1.1**
comp=Z,1.3nm,0.6s,baz=26,slow=3.4,SNR=3.5
comp=Z,3.8nm,0.5s
GEYT Alibeck 65.46 300 P P 07 16 06.6 -0.7
comp=Z,10.0nm,0.5s,baz=12,slow=3.6,SNR=16
comp=Z,10.0nm,0.5s
GEYT Alibeck 65.46 300 P P 07 16 06.3 -1.0
GYA0B ALIBECK ARRAY 65.46 300 P P 07 16 06.7 -0.6
GYA0B IAmb IAmb 07 16 07.8
comp=Z,12nm,0.7s
MONP2 Monument Peak 65.48 68 P P 07 16 09.1 +1.3
baz=315
BC3 Big Chuckawall 65.53 66 P P 07 16 09.1 +1.3
baz=315
NORES NORESS Array B 65.65 341 P P 07 16 08.7 +0.7
SLIT Slitere, Latvi 65.69 334 *e*P **P 07 16 08.1 -0.2**
HFS Hagfors 65.71 339 P P 07 16 07.0 -1.5
comp=Z,7.4nm,0.3s,baz=48,slow=3.0,SNR=59
comp=Z,7.4nm,0.3s
HFS Hagfors 65.71 339 P P 07 16 07.0 -1.5
N23A Red Feather La 65.76 55 P P 07 16 11.3 +1.9
baz=316
SWSC Sam W. Stewart 65.82 67 P P 07 16 10.6 +1.0
baz=315
IKP In-Ko-Pah, Jac 65.84 68 P P 07 16 10.9 +1.0
baz=315
PDMCI Parker Dam,Lak 65.84 65 P P 07 16 11.0 +1.3
baz=315
PSI Prapat 65.91 244 P P 07 16 11.1 +0.6
PSI pmax pmax
comp=Z,13nm,1.1s
RPSI Rantau Prapat 66.00 244 P P 07 16 11.1 +0.2
RPSI IAmb IAmb 07 16 11.9
comp=Z,13nm,1.1s
ISAL Salakas 66.27 331 *e*P **P 07 16 12.3 +0.2**
GLA Glamis 66.32 66 P P 07 16 14.7 +1.9
baz=315
IIGN Ignalina 66.42 330 *e*P **P 07 16 13.1 +0.1**
VIKU Vikbolandet 66.44 337 *e*P **P 07 16 12.2 -0.9**
MNK Minsk 66.58 329 *i* P **P 07 16 12.8 -1.2**
comp=E,2.0nm,0.8s
MNK *i* P **P 07 16 12.8 -1.2**
comp=N,16nm,0.8s
MNK *i* P **P 07 16 12.8 -1.2**
comp=Z,47nm,0.8s,baz=35
MNK *i* pP **pP 07 16 59.4 -0.5**
MNK *i* sP **sP 07 17 21.3 +0.2**
MNK *i* PP **PP 07 18 49.5 +6.8**
MNK *i* PPP PPP 07 20 01.6
MNK *i* S **S 07 24 47.4 -1.2**
MNK *i* sS **sS 07 26 09.3 +0.9**
MNK *i* SS SS 07 28 56.4 -12
MNK Minsk 66.58 329 *i* P **P 07 16 12.8 -1.2**
MNK *i **PP **pP 07 16 59.4 -0.5**
MNK *i **SP **sP 07 17 21.3 +0.2**
MNK *i 07 18 49.4
MNK *i S **S 07 24 47.3 -1.2**
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,47nm,0.8s
WUAZ Wupatki 66.59 62 P P 07 16 16.6 +1.9
baz=316
VSVD Vaisvydziai 66.60 332 *e*P **P 07 16 14.0 -0.2**
NACGM Naroch 66.61 330 *e*P **P 07 16 13.9 -0.3**
comp=Z,46nm,0.9s,baz=34
ISCO Idaho Springs 66.72 56 P P 07 16 16.1 +0.5
PABE Paberze 66.99 332 *e*P **P 07 16 16.0 -0.6**
MVCO Mesa Verde 67.01 59 P P 07 16 18.7 +1.3
baz=316
MAK Makhachkala 67.43 310 *e*P **P 07 16 18.6 -1.0**
MAK *e**PP **pP 07 17 04.5 -1.0**
MAK *i **SP **sP 07 17 26.9 +0.2**
MAK *e*S **S 07 24 58.9 -0.2**
MAK *e*SS **SS 07 29 23.9 +1.6**
EYMN Ely 67.47 41 P P 07 16 21.6 +1.8
baz=321
S22A 4UR Ranch, Cre 67.55 58 P P 07 16 22.2 +1.4
baz=317
Q24A Divide 67.57 56 P P 07 16 22.7 +1.7
baz=317
OGNE Ogallala 67.76 53 P P 07 16 24.2 +2.3
baz=318
IVI Ivigtut 67.87 11 P P 07 16 22.3 +0.3
GOF Gofitskoye 67.99 314 ⇑*e*P **P 07 16 23.0 -0.1**
SDCO Great Sand Dun 68.27 57 P P 07 16 27.1 +1.8
baz=317
214A Organ Pipe Nat 68.30 66 P P 07 16 27.2 +1.9
baz=316
ECSD EROS Data Cent 68.37 47 P P 07 16 26.1 +0.6
ECSD EROS Data Cent 68.37 47 P P 07 16 26.7 +1.2
baz=319
ZKTA Zakatala 68.85 310 P P 07 16 27.0 -1.5
DEL Delary 68.95 338 *e*P **P 07 16 28.5 -0.3**
KIV Kislovodsk 69.00 314 *e*P **P 07 16 30.7 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 69.07 314 P P 07 16 28.8 -0.9
comp=Z,7.4nm,0.8s,baz=73,slow=3.4,SNR=12
comp=Z,7.4nm,0.8s
KBZ Khabaz 69.07 314 *de*P **P 07 16 29.5 -0.2**
TUC Tucson 69.23 64 P P 07 16 32.5 +1.4
baz=317
AKASG Malin Array Be 69.24 326 P P 07 16 29.1 -1.6
comp=Z,2.4nm,0.3s,baz=34,slow=6.6,SNR=37
AKASG PcP **PcP 07 16 52.1 -0.9**
comp=Z,2.7nm,0.5s,baz=39,slow=4.2,SNR=5.9
comp=Z,2.4nm,0.3s
AKBB Malin Array Si 69.24 326 P P 07 16 29.4 -1.3
AKBB IAmb IAmb 07 16 31.0
comp=Z,16nm,0.8s
AKBB Malin Array Si 69.24 326 *de*P **P 07 16 29.7 -1.0**
T25A Trinidad 69.30 57 P P 07 16 33.1 +1.5
baz=318
ZEI Tsey 69.31 312 *e*P **P 07 16 29.3 -2.3**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
GANJ Ganja 69.75 309 P P 07 16 32.6 -1.4
ANMO Albuquerque 69.79 60 P P 07 16 36.5 +2.0
baz=318
BSD Bornholm Skovb 69.90 336 *e*P **P 07 16 33.7 -1.0**
Y22F Passcal Instru 70.16 61 P P 07 16 39.5 +2.6
baz=318
Y22D IRIS PASSCAL I 70.17 61 P P 07 16 39.7 +2.9
baz=318
SCHQ Schefferville 70.24 24 P P 07 16 36.9 +0.1
comp=Z,5.9nm,0.3s,baz=334,slow=5.9,SNR=27
comp=Z,5.9nm,0.3s
121A Cookes Peak, D 70.80 62 P P 07 16 43.2 +2.5
baz=318
GKP Gorka Klasztor 70.91 334 *e*P **P 07 16 41.1 +0.4**
BEL Belsk 71.12 331 *e*P **P 07 16 43.0 +1.0**
BEL Belsk 71.12 331 P P 07 16 42.7 +0.6
BEL pmax pmax
comp=Z,121nm,0.8s
WRA Warramunga Arr 71.63 199 P P 07 16 45.0 -0.4
comp=Z,1.0nm,0.5s,baz=19,slow=6.7,SNR=20
WRA pP **pP 07 17 30.2 -1.8**
comp=Z,2.3nm,1.1s,baz=15,slow=6.4,SNR=3.7
comp=Z,1.0nm,0.5s
SORM Soroca 71.69 325 ⇑P **P 07 16 44.6 -1.0**
SORM Soroca 71.69 325 P P 07 16 44.5 -1.0
DZM Mont Dzumac 72.48 168 P P 07 16 51.5 +0.9
comp=Z,8.6nm,1.0s,baz=270,slow=7.1
comp=Z,8.6nm,1.0s
MSTX Muleshoe 72.55 58 P P 07 16 52.6 +1.5
baz=319
OJC Ojcow 72.83 331 *e*P **P 07 16 50.7 -1.6**
STHS Stebnicka Huta 73.07 330 *e*P **P 07 16 53.5 -0.2**
STHS Stebnicka Huta 73.07 330 *e*P **P 07 16 53.5 -0.2**
STHS pmax pmax
comp=Z,14nm,0.7s
KOLS Kolonicke sedl 73.15 329 *e*P **P 07 16 54.6 +0.4**
KOLS Kolonicke sedl 73.15 329 *e*P **P 07 16 54.6 +0.4**
KOLS pmax pmax
comp=Z,16nm,0.8s
BUR08 Bucovina Ar. S 73.25 327 P P 07 16 54.4 -0.5
BUR08 IAmb IAmb 07 16 56.5
comp=Z,7.8nm,0.7s
BURAR Bucovina Array 73.27 327 ⇑P **P 07 16 54.4 -0.7**
BURAR Bucovina Array 73.27 327 P P 07 16 54.9 -0.1
BURAR IAmb IAmb 07 16 56.5
comp=Z,7.7nm,0.7s
BURAR Bucovina Array 73.27 327 P P 07 16 54.3 -0.7
KSP Ksiaz 73.34 333 *e*P **P 07 16 56.0 +0.8**
KSP Ksiaz 73.34 333 P P 07 16 55.5 +0.3
KSP pmax pmax
comp=Z,19nm,0.8s
CHVC Chvalec 73.63 334 *e*P **P 07 16 56.7 -0.3**
PALK Pallekele 73.64 262 P P 07 16 58.0 +0.4
comp=Z,36nm,1.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TESR	**Tescani**	**73.68**	**325**	⇑P	**P**	**07 16 56.4**	**-0.9**
TRPA	**Tarpa**	**73.76**	**328**	⇑P	**P**	**07 16 57.6**	**0.0**
DPC	**Dobruska-Polom**	**73.77**	**333**	*e*P	**P**	**07 16 57.6**	**-0.2**
DPC	**Dobruska-Polom**	**73.77**	**333**	*e*P	**P**	**07 16 57.6**	**-0.2**
CLL	**Collm**	**73.83**	**336**	⇑*i*P	**P**	**07 16 57.5**	**-0.6**
	comp=Z,11nm,0.9s						
CLL	**Collm**	**73.83**	**336**	⇑*i*P	**P**	**07 16 57.5**	**-0.6**
CLL				pmax	pmax		
	comp=Z,11nm,0.9s						
KRLC	**Kraliky**	**73.88**	**333**	*e*P	**P**	**07 16 58.0**	**-0.5**
KRLC	**Kraliky**	**73.88**	**333**	*e*P	**P**	**07 16 58.0**	**-0.5**
MORC	**Moravsky Berou**	**73.92**	**332**	⇑P	**P**	**07 16 58.5**	**-0.2**
MORC	**Moravsky Berou**	**73.92**	**332**	*e*P	**P**	**07 16 58.6**	**-0.1**
MORC	**Moravsky Berou**	**73.92**	**332**	P	**P**	**07 16 58.8**	**+0.1**
MORC				pmax	pmax		
	comp=Z,30nm,0.8s						
WMOK	**Wichita Mounta**	**74.12**	**55**	P	**P**	**07 17 01.3**	**+1.2**
	baz=320						
PLOR	**Plostina**	**74.24**	**325**	⇓P	**P**	**07 17 00.6**	**-0.1**
PLOR	**Plostina**	**74.24**	**325**	P	**P**	**07 17 00.5**	**-0.1**
CFR	**Carcaliu**	**74.24**	**323**	⇑P	**P**	**07 16 59.3**	**-1.2**
CFR	**Carcaliu**	**74.24**	**323**	P	**P**	**07 16 59.3**	**-1.2**
TPGR	**Topolog**	**74.40**	**323**	⇓P	**P**	**07 17 00.2**	**-1.3**
COVR	**Voineasa-Covas**	**74.41**	**325**	⇓P	**P**	**07 17 01.9**	**+0.3**
GOPC	**GO Pecny, Ondr**	**74.60**	**334**	*e*P	**P**	**07 17 02.2**	**-0.4**
GOPC	**GO Pecny, Ondr**	**74.60**	**334**	*e*P	**P**	**07 17 02.2**	**-0.4**
PRU	**Pruhonice**	**74.60**	**334**	*e*P	**P**	**07 17 02.7**	**+0.1**
PRU	**Pruhonice**	**74.60**	**334**	*e*P	**P**	**07 17 02.7**	**+0.1**
VRAC	**Vranov**	**74.62**	**333**	⇑P	**P**	**07 17 02.9**	**+0.2**
VRAC	**Vranov**	**74.62**	**333**	P	**P**	**07 17 02.0**	**-0.7**
	comp=Z,11nm,0.5s,baz=22,slow=7.5,SNR=13						
VRAC				LR	LR	07 52 00.5	
	comp=Z,8.7nm,21.6s,baz=8.0,slow=37						
	comp=Z,11nm,0.5s						
VRAC	**Vranov**	**74.62**	**333**	*e*P	**P**	**07 17 02.9**	**+0.2**
VYHS	**Vyhne**	**74.65**	**331**	*e*P	**P**	**07 17 03.6**	**+0.7**
VYHS	**Vyhne**	**74.65**	**331**	*e*P	**P**	**07 17 03.6**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,12nm,0.9s						
HARR	**Harsova**	**74.73**	**323**	⇑P	**P**	**07 17 02.3**	**-1.1**
HARR	**Harsova**	**74.73**	**323**	P	**P**	**07 17 02.2**	**-1.1**
TIRR	**Tirgusor**	**74.73**	**323**	⇑P	**P**	**07 17 02.8**	**-0.7**
TIRR	**Tirgusor**	**74.73**	**323**	P	**P**	**07 17 02.7**	**-0.7**
MLR	**Muntele Rosu**	**74.80**	**325**	⇑P	**P**	**07 17 04.3**	**+0.3**
MLR	**Muntele Rosu**	**74.80**	**325**	P	**P**	**07 17 03.7**	**-0.2**
	comp=Z,8.7nm,0.6s,baz=321,slow=6.5,SNR=15						
	comp=Z,8.7nm,0.6s						
PSZ	**Piszkesteto**	**74.82**	**330**	⇓P	**P**	**07 17 04.4**	**+0.5**
PSZ	**Piszkesteto**	**74.82**	**330**	P	**P**	**07 17 04.4**	**+0.5**
KRUC	**Moravsky**	**74.89**	**333**	*e*P	**P**	**07 17 04.4**	**+0.1**
KRUC	**Moravsky**	**74.89**	**333**	P	**P**	**07 17 04.2**	**-0.1**
KRUC				pmax	pmax		
	comp=Z,18nm,0.9s						
SMOL	**Smolenice**	**75.07**	**332**	*e*P	**P**	**07 17 06.1**	**+0.8**
VOIR		**75.18**	**325**	⇑P	**P**	**07 17 06.0**	**-0.1**
VOIR		**75.18**	**325**	P	**P**	**07 17 06.2**	**+0.1**
VOIR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MODS	**Modra-Piesok**	**75.24**	**332**	*e*P	**P**	**07 17 07.5**	**+1.2**
MODS	**Modra-Piesok**	**75.24**	**332**	*e*P	**P**	**07 17 07.5**	**+1.2**
MODS				pmax	pmax		
	comp=Z,20nm,1.1s						
ASAR	**Alice Springs**	**75.33**	**199**	P	**P**	**07 17 07.5**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=10,slow=5.4,SNR=26						
ASAR				pP	**pP**	**07 17 53.8**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=16,slow=5.8,SNR=2.4						
	comp=Z,1.0nm,0.4s						
CCM	**Cathedral Cave**	**75.34**	**48**	P	**P**	**07 17 08.8**	**+1.8**
	baz=323						
TX32	**Lajitas Array**	**75.54**	**62**	P	**P**	**07 17 10.2**	**+1.8**
TXAR	**Lajitas Array**	**75.54**	**62**	P	**P**	**07 17 10.2**	**+1.8**
	comp=Z,3.5nm,0.7s,baz=296,slow=4.8,SNR=46						
TXAR				pP	**pP**	**07 17 53.7**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=289,slow=3.8,SNR=3.1						
	comp=Z,3.5nm,0.7s						
TXAR	**Lajitas Array**	**75.54**	**62**	P	**P**	**07 17 09.9**	**+1.5**
TXAR	**Lajitas Array**	**75.54**	**62**	P	**P**	**07 17 09.9**	**+1.5**
KHC	**Kasperske Hory**	**75.65**	**334**	P	**P**	**07 17 09.0**	**+0.4**
KHC				IAmb	IAmb	07 17 10.8	
	comp=Z,12nm,0.7s						
KHC	**Kasperske Hory**	**75.65**	**334**	*e*P	**P**	**07 17 08.3**	**-0.3**
KHC	**Kasperske Hory**	**75.65**	**334**	*e*P	**P**	**07 17 08.3**	**-0.3**
CKRC	**Cesky Krumlov**	**75.72**	**334**	*e*P	**P**	**07 17 09.9**	**+0.9**
WET	**Wettzell**	**75.83**	**335**	P	**P**	**07 17 10.0**	**+0.4**
WET				pmax	pmax		
	comp=Z,17nm,1.1s						
WSAR	**Wadi Sarin**	**75.84**	**289**	P	**P**	**07 17 09.8**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=115,slow=14,SNR=2.3						
	comp=Z,3.8nm,0.9s						
GERES	**GERESS Array B**	**75.87**	**334**	P	**P**	**07 17 09.3**	**-0.7**
	comp=Z,6.0nm,0.5s,baz=41,slow=5.7,SNR=25						
	comp=Z,6.0nm,0.5s						
GZR	**Gura Zlata**	**76.04**	**327**	⇑P	**P**	**07 17 10.1**	**-0.8**
GZR	**Gura Zlata**	**76.04**	**327**	P	**P**	**07 17 10.1**	**-0.8**
CONA	**Conrad Observa**	**76.07**	**332**	*i* P	**P**	**07 17 11.6**	**+0.5**
	comp=Z,13nm,0.6s,SNR=7.2						
RONA	**Rosalia, Austr**	**76.14**	**332**	*e*P	**P**	**07 17 12.8**	**+1.3**
	comp=Z,15nm,1.1s						
MEM	**Membach**	**76.20**	**340**	*d*P	**P**	**07 17 12.9**	**+1.3**
MEM				*d*PcP	**PcP**	**07 17 22.4**	**-0.4**
BZS	**Buzias**	**76.25**	**328**	P	**P**	**07 17 11.6**	**-0.4**
BZS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
O48B	**Farmland**	**76.35**	**42**	P	**P**	**07 17 13.2**	**+0.5**
	baz=325						
BRTR	**Keskin Array B**	**76.47**	**317**	P	**P**	**07 17 12.9**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=72,slow=2.6,SNR=12						
	comp=Z,2.6nm,0.7s						
MOA	**Molln**	**76.61**	**333**	*e*P	**P**	**07 17 15.2**	**+1.2**
	comp=Z,6.7nm,0.7s						
FCAR	**Ozark Folk Cen**	**76.63**	**50**	P	**P**	**07 17 14.5**	**+0.2**
FCAR				IAmb	IAmb	07 17 15.3	
	comp=Z,5.3nm,0.6s						
BMRD	**Maredsous**	**76.77**	**340**	*d*P	**P**	**07 17 16.3**	**+1.5**
	comp=Z,7.6nm,0.8s						
RCHB	**Rochefort**	**76.80**	**340**	*d*P	**P**	**07 17 16.1**	**+1.1**
BIOA	**Bad Ischl, Aus**	**76.93**	**334**	*e*P	**P**	**07 17 17.1**	**+1.2**
	comp=Z,5.8nm,0.6s						
MIAR	**Mount Ida**	**76.96**	**51**	P	**P**	**07 17 17.3**	**+1.1**
	baz=322						
PLVB	**Pleven**	**77.09**	**325**	⇓P	**P**	**07 17 16.2**	**-0.6**
BAIF	**Baives**	**77.12**	**340**	*e*P	**P**	**07 17 17.5**	**+0.7**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SOKA	**Soboth**	**77.44**	**332**	*e*P	**P**	**07 17 20.0**	**+1.3**
	comp=Z,5.8nm,0.5s						
WCI	**Wyandotte Cave**	**77.50**	**44**	P	**P**	**07 17 20.2**	**+1.0**
	baz=325						
KBA	**Koelnbreinsper**	**77.57**	**334**	*i* P	**P**	**07 17 20.2**	**+0.6**
	comp=Z,31nm,0.6s,SNR=14						
KBA	**Koelnbreinsper**	**77.57**	**334**	P	**P**	**07 17 20.3**	**+0.6**
KBA				pmax	pmax		
	comp=Z,51nm,0.8s						
BLKB	**Belogradchik**	**77.61**	**326**	⇓P	**P**	**07 17 17.9**	**-1.8**
OBKA	**Obir**	**77.74**	**333**	*e*P	**P**	**07 17 21.3**	**+0.9**
	comp=Z,9.0nm,0.7s						
WATA	**Walderalm**	**77.84**	**335**	*e*P	**P**	**07 17 21.4**	**+0.4**
	comp=Z,11nm,0.5s						
WTTA	**Wattenberg**	**77.89**	**335**	*i* P	**P**	**07 17 23.1**	**+1.8**
	comp=Z,17nm,0.5s,SNR=5.6						
WTTA	**Wattenberg**	**77.89**	**335**	P	**P**	**07 17 22.0**	**+0.6**
WTTA				pmax	pmax		
	comp=Z,36nm,0.8s						
MYKA	**Terra Mystica**	**77.89**	**333**	*e*P	**P**	**07 17 21.8**	**+0.5**
	comp=Z,7.6nm,0.5s						
RETA	**Reutte**	**77.92**	**335**	*e*P	**P**	**07 17 22.8**	**+1.4**
	comp=Z,4.1nm,0.6s						
CDF	**Champ du Feu**	**77.96**	**338**	*e*P	**P**	**07 17 21.4**	**-0.2**
CDF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MOTA	**Moosalm**	**77.96**	**335**	*e*P	**P**	**07 17 23.1**	**+1.4**
	comp=Z,9.2nm,0.7s						
SQTA	**Sankt Quirin**	**78.04**	**335**	*e*P	**P**	**07 17 23.3**	**+1.1**
	comp=Z,11nm,0.6s						
PKME	**Peaks-Kenny Pk**	**78.08**	**30**	P	**P**	**07 17 24.7**	**+2.5**
	baz=333						
ABTA	**Abfaltersbach**	**78.11**	**334**	*e*P	**P**	**07 17 23.1**	**+0.6**
	comp=Z,8.0nm,0.6s						
LBNH	**Lisbon**	**78.12**	**32**	P	**P**	**07 17 24.8**	**+2.3**
	baz=332						
VTS	**Vitosha**	**78.27**	**325**	⇑P	**P**	**07 17 23.4**	**-0.1**
DAVA	**Damuels**	**78.34**	**336**	*e*P	**P**	**07 17 25.8**	**+2.0**
	comp=Z,5.3nm,0.6s						
FETA	**Feichten**	**78.36**	**335**	*e*P	**P**	**07 17 23.2**	**-0.7**
	comp=Z,7.1nm,0.6s						
WVT	**Waverly**	**78.50**	**47**	P	**P**	**07 17 26.0**	**+1.4**
	baz=325						
HINF	**Hinteralfeld**	**78.61**	**338**	*e*P	**P**	**07 17 25.2**	**0.0**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RDO	**Rodhopi**	**78.66**	**323**	P	**P**	**07 17 25.3**	**-0.1**
RDO				IAmb	IAmb	07 17 26.6	
	comp=Z,7.3nm,0.9s						
DAVOX	**Davos/Dischmat**	**78.81**	**336**	P	**P**	**07 17 26.4**	**0.0**
	comp=Z,8.6nm,0.5s,baz=356,slow=4.7,SNR=16						
	comp=Z,8.6nm,0.5s						
FLN	**La Foliniere**	**79.30**	**343**	*e*P	**P**	**07 17 28.7**	**-0.1**
FLN				pmax	pmax		
	comp=Z,81nm,1.7s						
LDF	**La Druitiere**	**79.39**	**343**	*e*P	**P**	**07 17 29.2**	**-0.1**
LDF				pmax	pmax		
	comp=Z,52nm,1.6s						
GRR	**Gorron**	**79.73**	**343**	*e*P	**P**	**07 17 30.7**	**-0.4**
GRR				pmax	pmax		
	comp=Z,11nm,0.5s						
LOR	**Lormes**	**79.83**	**340**	*e*P	**P**	**07 17 31.6**	**-0.1**
LOR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CABF	**La Chapelle**	**79.93**	**338**	*e*P	**P**	**07 17 32.5**	**+0.2**
CABF				pmax	pmax		
	comp=Z,15nm,1.0s						
SSF	**Saint Saulge**	**80.10**	**340**	*e*P	**P**	**07 17 33.9**	**+0.8**
SSF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SGMF	**Saint Gilles**	**80.17**	**344**	*e*P	**P**	**07 17 33.7**	**+0.3**
SGMF				pmax	pmax		
	comp=Z,131nm,1.9s						
ROSF	**Rostrenen**	**80.21**	**345**	*e*P	**P**	**07 17 34.1**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,22nm,0.8s						
AVF	**Avril sur Loir**	**80.39**	**340**	*e*P	**P**	**07 17 34.8**	**+0.1**
AVF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SMF	**Signal de Mont**	**80.42**	**340**	*e*P	**P**	**07 17 35.0**	**+0.1**
SMF				pmax	pmax		
	comp=Z,48nm,1.4s						
QUIF	**Quistinic**	**80.60**	**345**	*e*P	**P**	**07 17 36.8**	**+1.1**
QUIF				pmax	pmax		
	comp=Z,129nm,1.9s						
BGF	**Bois d'Agland**	**80.72**	**340**	*e*P	**P**	**07 17 37.2**	**+0.7**
BGF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LPL	**La Plagne**	**80.79**	**337**	*e*P	**P**	**07 17 37.9**	**+0.8**
LPL				pmax	pmax		
	comp=Z,20nm,0.7s						
LPG	**La Plagne**	**80.81**	**337**	*e*P	**P**	**07 17 38.2**	**+0.9**
LPG				pmax	pmax		
	comp=Z,20nm,0.6s						
ASF	**Jabal al Asfar**	**81.08**	**310**	P	**P**	**07 17 38.0**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=20,slow=6.5,SNR=3.2						
	comp=Z,2.5nm,0.6s						
TCF	**Toulx Ste Croi**	**81.12**	**341**	*e*P	**P**	**07 17 38.9**	**+0.3**
TCF				pmax	pmax		
	comp=Z,12nm,0.8s						
MMAI	**Mount Meron Ar**	**81.13**	**312**	P	**P**	**07 17 39.0**	**0.0**
	comp=Z,6.4nm,0.4s,baz=42,slow=6.8,SNR=17						
	comp=Z,6.4nm,0.4s						
MFF	**Saint Martin d**	**81.31**	**342**	*e*P	**P**	**07 17 39.7**	**+0.2**
MFF				pmax	pmax		
	comp=Z,57nm,1.7s						
LRAL	**Lakeview Retre**	**81.42**	**48**	P	**P**	**07 17 40.5**	**+0.2**
	baz=325						
MBDF	**Montbardon**	**81.52**	**337**	*e*P	**P**	**07 17 41.1**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,12nm,0.7s						
ORIF	**Oris-en-Rattie**	**81.57**	**338**	*e*P	**P**	**07 17 41.9**	**+0.8**
ORIF				pmax	pmax		
	comp=Z,17nm,0.7s						
VIVF	**Saint-Julien-l**	**81.92**	**338**	*e*P	**P**	**07 17 43.5**	**+0.7**
VIVF				pmax	pmax		
	comp=Z,20nm,0.9s						
SBF	**Sospel**	**82.16**	**336**	*e*P	**P**	**07 17 45.6**	**+1.5**
SBF				pmax	pmax		
	comp=Z,14nm,0.5s						
RJF	**Les Rejaudoux**	**82.20**	**341**	*e*P	**P**	**07 17 46.3**	**+2.0**
RJF				pmax	pmax		
	comp=Z,25nm,1.3s						
CAF	**Calviac**	**82.45**	**340**	*e*P	**P**	**07 17 46.0**	**+0.4**
CAF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
RAYN	**Ar Rayn**	**83.38**	**299**	P	**P**	**07 17 50.3**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MTLF	**Montolieu**	**83.92**	**340**	*e*P	**P**	**07 17 54.1**	**+1.0**
MTLF				pmax	pmax		
	comp=Z,13nm,0.8s						
IDI	**Anoyia**	**83.95**	**320**	P	**P**	**07 17 51.3**	**-2.2**
	comp=Z,8.8nm,0.6s,baz=356,slow=6.4,SNR=7.1						
	comp=Z,8.8nm,0.6s						
EIL	**Elat**	**84.08**	**310**	P	**P**	**07 17 53.3**	**-0.8**
	comp=Z,7.8nm,0.6s,baz=52,slow=5.5,SNR=8.5						
	comp=Z,7.8nm,0.6s						
TIGA	**Tifton**	**84.36**	**46**	P	**P**	**07 17 56.3**	**+0.9**
	baz=327						
EPF	**Esparros**	**84.63**	**341**	*e*P	**P**	**07 17 57.0**	**+0.3**
EPF				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SJPF	**Ste Jean**	**84.87**	**342**	*e*P	**P**	**07 17 59.1**	**+1.2**
SJPF				pmax	pmax		
	comp=Z,60nm,1.7s						
ETSF	**Etsaut**	**84.94**	**341**	*e*P	**P**	**07 17 58.4**	**+0.1**
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.5s						
POLO	**Lamas de Olo**	**87.72**	**346**	*e*P	**P**	**07 18 11.1**	**-0.8**
	comp=Z,11nm,1.6s						
MVO	**Moncorvo**	**87.81**	**346**	*e*P	P	07 18 05.7	-6.5
	comp=Z,30nm,1.6s						
PVRL	**Vila Real**	**87.81**	**346**	*e*P	**P**	**07 18 11.8**	**-0.4**
	comp=Z,24nm,2.3s						
PVIS	**Viseu**	**88.38**	**346**	*e*P	**P**	**07 18 14.3**	**-0.6**
	comp=Z,30nm,1.6s						
ESDC	**Sonseca Array**	**88.72**	**343**	P	**P**	**07 18 15.1**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=7.4,slow=4.0,SNR=28						
	comp=Z,4.9nm,0.9s						
PCAS	**Casmilo, Conde**	**89.12**	**347**	*e*P	**P**	**07 18 17.6**	**-0.8**
	comp=Z,25nm,1.9s						
KEST	**Kesra**	**89.17**	**332**	P	**P**	**07 18 18.1**	**-0.6**
	comp=Z,9.1nm,0.7s,baz=334,slow=2.5,SNR=10						
	comp=Z,9.1nm,0.7s						
KEST	**Kesra**	**89.17**	**332**	P	**P**	**07 18 18.7**	**0.0**
KEST				IAmb	IAmb	07 18 19.6	
	comp=Z,12nm,0.8s						
PMRV	**Marv??o**	**89.56**	**346**	*e*P	**P**	**07 18 17.3**	**-3.1**
	comp=Z,27nm,1.8s						
PBAR	**Barrancos**	**90.73**	**345**	*e*P	**P**	**07 18 24.5**	**-1.3**
	comp=Z,22nm,1.5s						
CMLA	**Cha da Macela**	**92.74**	**360**	*i* P	**P**	**07 18 31.3**	**-3.9**
DBIC	**Dimbokro**	**120.73**	**335**	PKP	**PKPdf**	**07 24 13.4**	**-0.8**
	comp=Z,5.2nm,1.0s,baz=64,slow=4.2,SNR=3.6						
VNDA	**Vanda**	**127.21**	**178**	PKP	**PKPdf**	**07 24 24.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=315,slow=5.2,SNR=7.7						
LPAZ	**La Paz**	**132.40**	**60**	PKP	**PKiKP**	**07 24 38.5**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=274,slow=7.7,SNR=9.4						
BOSA	**Boshof**	**135.92**	**279**	PKhKP	PKPpre	07 24 39.4	
	comp=Z,2.5nm,0.7s,baz=7.4,slow=2.3,SNR=5.4						
CPUP	**Villa Florida**	**146.41**	**57**	PKPbc	**PKPbc**	**07 25 03.4**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=334,slow=4.7,SNR=5.0						
CPUP				pPKPbc	pPKPbc	07 25 53.2	+0.1
	comp=Z,2.8nm,0.9s,baz=304,slow=6.7,SNR=2.7						
PLCA	**Paso Flores**	**147.86**	**91**	PKPbc	**PKPbc**	**07 25 07.2**	**+0.4**
	comp=Z,2.3nm,1.1s,baz=304,slow=3.5,SNR=9.0						

---

*SOME **11** 07:08:56.6, 44°.90N×78°.72E, h20^{km}*
*NNC **11** 07:08:56.3±2.4, 44°.84N×78°.63E, h0^{km}, mb2.3, mpv3.1, Error ellipse: s-maj=17.3km s-min=11.6km az=170.0*
ISC 11 07:08:56.5±1.0**, 44°.89N**±0°.04×**78°.71E**±0°.03**, h16**^{km}±9^{km}**, n25,** σ**0**ˢ**.90**/46**, 2C, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.24**	**297**	*e*P	**Pg**	**07 09 02.7**	**+0.8**
	25nm,0.1s						
TDK				*e*S	**Sg**	**07 09 06.5**	**+0.9**
	42nm,0.2s						
BLB	**Baldybastay**	**0.81**	**192**	*e*P	**Pg**	**07 09 11.5**	**-0.8**
	4.5nm,0.2s						
BLB				*e*S	**Sg**	**07 09 21.5**	**-1.6**
	6.2nm,0.2s						
BLB	**Baldybastay**	**0.81**	**192**	P	**Pg**	**07 09 11.3**	**-1.0**
	5.1nm,0.2s						
BLB				S	**Sg**	**07 09 21.5**	**-1.6**
	6.2nm,0.2s						
ARXS	**Arharly**	**0.93**	**223**	*e*P	**Pg**	**07 09 13.6**	**-0.9**
	3.0nm,0.1s						
ARXS				*e*S	**Sg**	**07 09 25.5**	**-1.2**
	4.3nm,0.3s						
ARXS	**Arharly**	**0.93**	**223**	P	**Pg**	**07 09 13.6**	**-0.9**
	3.0nm,0.1s						
ARXS				S	**Sg**	**07 09 25.5**	**-1.2**
	3.8nm,0.1s						
DJR	**Jarkent**	**0.95**	**126**	*e*P	**Pg**	**07 09 14.8**	**-0.2**
	3.9nm,0.1s						
DJR				*e*S	**Sg**	**07 09 27.7**	**+0.1**
	2.5nm,0.1s						
DJR	**Jarkent**	**0.95**	**126**	P	**Pg**	**07 09 14.8**	**-0.2**
	3.9nm,0.1s						
DJR				S	**Sg**	**07 09 27.7**	**+0.1**
	2.5nm,0.1s						
KPKS	**Kokpek**	**1.43**	**181**	*e*P	**Pb**	**07 09 22.7**	**-0.1**
	6.9nm,0.2s						
KPKS				*e*S	**Sn**	**07 09 41.0**	**+0.8**
	3.4nm,0.3s						
KPKS	**Kokpek**	**1.43**	**181**	P	**Pb**	**07 09 22.6**	**-0.1**
KPKS				S	**Sn**	**07 09 41.0**	**+0.8**
CHKK	**Chushkaly**	**1.61**	**231**	*e*P	**Pb**	**07 09 25.9**	**0.0**
	7.4nm,0.1s						
CHKK				*e*S	**Sb**	**07 09 46.5**	**+0.5**
	6.8nm,0.3s						
CHKK	**Chushkaly**	**1.61**	**231**	P	**Pb**	**07 09 25.9**	**0.0**
	7.4nm,0.1s						
CHKK				S	**Sb**	**07 09 46.5**	**+0.5**
	6.8nm,0.3s						
PDGK	**Podgornoye**	**1.66**	**160**	P	**Pb**	**07 09 26.5**	**-0.2**
	1.8nm,0.2s						
PDGK				S	**Sb**	**07 09 47.5**	**0.0**
	1.0nm,0.1s						
UZB	**Uzynbulak**	**1.76**	**173**	*e*P	**Pb**	**07 09 28.3**	**-0.1**
	1.7nm,0.1s						
UZB				*e*S	**Sb**	**07 09 50.4**	**0.0**
	5.9nm,0.3s						
UZB	**Uzynbulak**	**1.76**	**173**	P	**Pn**	**07 09 27.2**	**+0.8**
	1.7nm,0.1s						
UZB				S	**Sn**	**07 09 48.2**	**-0.3**
	5.9nm,0.2s						
SHLS	**Shalkode**	**1.82**	**162**	*e*P	**Pg**	**07 09 31.9**	**+0.5**
	3.2nm,0.2s						
SHLS				*e*S	**Sg**	**07 09 56.4**	**+1.4**
	8.4nm,0.3s						
SHLS	**Shalkode**	**1.82**	**162**	P	**Pg**	**07 09 31.1**	**-0.3**
	5.7nm,0.1s						
SHLS				S	**Sg**	**07 09 55.3**	**+0.3**
	8.4nm,0.3s						
SATY	**Saty**	**1.85**	**187**	*e*P	**Pb**	**07 09 29.8**	**-0.1**
	3.9nm,0.2s						
SATY				*e*S	**Sb**	**07 09 53.4**	**+0.6**
	12nm,0.2s						
SATY	**Saty**	**1.85**	**187**	P	**Pb**	**07 09 30.2**	**+0.2**
	12nm,0.1s						
SATY				S	**Sb**	**07 09 53.7**	**+0.9**
	12nm,0.2s						
MDOK	**Medeo**	**2.10**	**215**	*e*P	**Pb**	**07 09 34.6**	**+0.3**
	1.6nm,0.2s						
MDOK				*e*S	**Sb**	**07 10 01.3**	**+1.1**
	3.3nm,0.2s						
MDOK	**Medeo**	**2.10**	**215**	Pg	**Pb**	**07 09 34.6**	**+0.3**
	1.6nm,0.2s						
MDOK				Lg	Lg	07 10 01.3	
	3.3nm,0.2s						
TNSS	**Tian-Shan**	**2.25**	**215**	*e*P	**Pb**	**07 09 36.9**	**0.0**
	2.7nm,0.1s						
TNSS				*e*S	**Sb**	**07 10 05.4**	**+0.7**
	2.9nm,0.5s						
TNSS	**Tian-Shan**	**2.25**	**215**	Pg	**Pb**	**07 09 36.6**	**-0.4**
	2.8nm,0.1s						
TNSS				Lg	Lg	07 10 04.7	
	2.9nm,0.5s						
KRBS	**Karabastau**	**2.49**	**242**	*e*P	**Pb**	**07 09 41.7**	**+1.0**
	1.1nm,0.2s						
KRBS				*e*S	**Sg**	**07 10 13.7**	**-2.7**
	1.9nm,0.3s						
KRBS	**Karabastau**	**2.49**	**242**	Pg	**Pb**	**07 09 40.5**	**-0.3**
	1.2nm,0.2s						
KRBS				Lg	Lg	07 10 11.6	
	2.1nm,0.5s						
MK31	**Makanchi Array**	**3.14**	**52**	⇑Pn	**Pb**	**07 09 49.8**	**-2.1**
	0.2nm,0.3s,baz=256,slow=16,SNR=5.4						
MK31				⇑Lg	Lg	07 10 35.7	
	0.4nm,0.6s,baz=256,slow=28						

---

*IDC **11** 07:17:08.1±1.4, 5°.06S×145°.89E, h0^{km}, mb3.7/3, mbtmp3.7/6, ML3.5/2, MS2.9/4, Error ellipse: s-maj=59.0km s-min=25.6km az=107.0*
ISC 11 07:17:12.9±1.4**, 5°.2S**±0°.1×**146°.0E**±0°.2**, h27**^{km}**, n7,** σ**2**ˢ**.03**/7**, mb3.9**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.33**	**164**	Pn	**Pn**	**07 18 18.2**	**+1.1**
	17nm,0.4s,baz=344,slow=8.9,SNR=7.3						
PMG				Sn	**Sn**	**07 19 03.9**	**-2.8**
	3.8nm,0.3s,baz=347,slow=19,SNR=4.4						
PMG				LR	LR	07 20 36.1	
	comp=Z,120nm,20.6s,baz=322,slow=46						
CTA	**Charters Tower**	**14.79**	**179**	Pn	**Pn**	**07 20 42.7**	**+2.2**
	0.2nm,0.3s,baz=357,slow=17,SNR=1.5						
CTA				LR	LR	07 25 56.6	
	comp=Z,37nm,21.5s,baz=18,slow=35						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**18.51**	**217**	P	**Pn**	**07 21 26.2**	**-1.4**
	0.2nm,0.3s,baz=38,slow=11,SNR=12						
WRA				LR	LR	07 28 15.5	
	comp=Z,59nm,18.3s,baz=327,slow=36						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**21.73**	**211**	P	**P**	**07 22 02.3**	**0.0**
	0.4nm,0.5s,baz=47,slow=7.7,SNR=5.7						
	0.4nm,0.5s						
KSRS	**Korea Array**	**45.66**	**340**	LR	LR	07 41 46.6	
	comp=Z,20nm,20.7s,baz=70,slow=32						
VNDA	**Vanda**	**72.76**	**176**	P	**P**	**07 28 38.2**	**-0.2**
	0.9nm,0.7s,baz=337,slow=7.1,SNR=7.9						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**85.16**	**23**	P	**P**	**07 29 45.8**	**-0.6**
	1.1nm,0.7s,baz=251,slow=4.9,SNR=12						
	1.1nm,0.7s						

---

*NEIC **11** 07:20:31.6±2.3, 7°.54S±0°.06×128°.42E±0°.08, h142^{km}±4^{km}, mb4.0/12, Error ellipse: s-maj=11.8km s-min=9.1km az=102.0*
*IDC **11** 07:20:31.2±2.1, 7°.57S×128°.39E, h151^{km}±21^{km}, mb3.8/5, mbtmp4.3/9, Error ellipse: s-maj=29.0km s-min=19.8km az=90.0*
ISC 11 07:20:31.6±0.5**, 7°.60S**±0°.06×**128°.40E**±0°.06**, h151**^{km}**, n33,** σ**2**ˢ**.05**/36**, mb4.0**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.90**	**98**		**Pn**	**07 21 18.2**	**+0.4**
SOEI	**Soe**	**4.61**	**242**	Pn	**Pn**	**07 21 41.2**	**+1.2**
BATI	**Baumata**	**5.34**	**241**	P	**Pn**	**07 21 50.0**	**+0.4**
	232nm,0.4s,baz=114,slow=3.2,SNR=27						
BATI				S	**Sn**	**07 22 47.2**	**-3.3**
	47nm,0.3s,baz=45,slow=19,SNR=2.4						
MTN	**Manton Dam**	**5.87**	**153**	Pn	**Pn**	**07 21 57.5**	**+1.0**
FAKI	**Fak Fak**	**6.03**	**40**	Pn	**Pn**	**07 21 57.9**	**-0.8**
SIJI	**Sorong**	**7.27**	**23**	P	**Pn**	**07 22 14.3**	**-1.0**
	17nm,0.4s,baz=187,slow=23,SNR=11						
SIJI				S	**Sn**	**07 23 32.5**	**-4.4**
	7.3nm,0.3s,baz=248,slow=23,SNR=2.3						
KNRA	**Kununurra**	**8.04**	**177**	Pn	**Pn**	**07 22 25.5**	**0.0**
WB0	**Warramunga Arr**	**13.42**	**155**	Pn	**Pn**	**07 23 34.4**	**-1.8**
WRA	**Warramunga Arr**	**13.55**	**155**	P	**Pn**	**07 23 36.3**	**-1.6**
	2.4nm,0.6s,baz=333,slow=10,SNR=21						
WRA				S	Sn	07 25 58.8	-9.3
	9.0nm,0.6s,baz=338,slow=21,SNR=12						
WRA	**Warramunga Arr**	**13.55**	**155**	Pn	**Pn**	**07 23 36.1**	**-1.9**
COEN	**Coen**	**15.83**	**115**		**Pn**	**07 24 06.4**	**+0.1**
COEN				IAmb	IAmb	07 24 15.0	
	comp=Z,11nm,1.2s						
MBWA	**Marble Bar**	**15.87**	**211**		**Pn**	**07 24 07.3**	**+0.6**
MBWA				IAmb	IAmb	07 24 20.3	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**16.16**	**210**	P	**P**	**07 24 11.3**	**+0.7**
PSA00				IAmb	IAmb	07 24 23.6	
	comp=Z,10nm,1.4s						
AS31	**Alice Springs**	**16.83**	**162**		**P**	**07 24 18.6**	**+0.6**
ASAR	**Alice Springs**	**16.83**	**162**	P	**P**	**07 24 18.8**	**+0.8**

comp=Z,4.0nm,0.5s,baz=340,slow=9.7,SNR=52
ASAR S **S** **07 27 19.1 -6.5**
comp=Z,1.1nm,0.6s,baz=339,slow=26,SNR=2.7
ASAR Alice Springs 16.83 162 P 07 24 18.4 +0.3
MORW Morawa 24.32 207 P **P 07 25 38.1 +2.8**
KSRS Korea Array 44.82 359 P **P 07 28 30.5 0.0**
comp=Z,0.5nm,0.3s,baz=179,slow=9.0,SNR=1.8
comp=Z,0.5nm,0.3s
MAJO Matsushiro 44.87 11 P **P 07 28 34.0 +3.1**
MJB9 Matsu-Tunnel 44.87 11 P **P 07 28 35.3 +4.3**
SONM Songino Array 58.52 343 P **P 07 30 12.7 +0.6**
comp=Z,0.6nm,0.5s,baz=162,slow=5.7,SNR=2.8
comp=Z,0.6nm,0.5s
PETK Petropavlovsk- 65.40 19 P **P 07 30 57.6 -0.2**
comp=Z,5.7nm,0.9s,baz=153,slow=4.3,SNR=4.0
comp=Z,5.7nm,0.9s
MK31 Makanchi Array 67.87 328 P **P 07 31 13.5 -0.1**
MK31 IAmb IAmb 07 31 16.0
comp=Z,2.3nm,1.2s
MKAR Makanchi Array 67.87 328 P **P 07 31 13.3 -0.3**
comp=Z,1.3nm,0.5s,baz=121,slow=8.3,SNR=23
comp=Z,1.3nm,0.5s
MKAR Makanchi Array 67.87 328 P **P 07 31 13.1 -0.5**
ZALV Zalesovo Beam 71.42 335 P **P 07 31 33.3 -1.9**
comp=Z,1.6nm,0.3s,baz=150,slow=4.8,SNR=14
comp=Z,1.6nm,0.3s
VNDA Vanda 72.05 173 P **P 07 31 40.9 +2.2**
KURK Kurchatov 72.21 329 P **P 07 31 39.7 -0.3**
KURK IAmb IAmb 07 31 40.6
comp=Z,3.8nm,0.8s
KK31 Karatay Array 72.75 319 P **P 07 31 44.9 +1.4**
KKAR Karatay Array 72.75 319 P **P 07 31 44.4 +1.0**
ABKAR Akbulak array 81.99 322 P **P 07 32 34.1 -0.5**
QSPA South Pole Qui 82.38 180 P **P 07 32 37.8 +1.2**
QSPA IAmb IAmb 07 32 58.9
comp=Z,2.1nm,1.2s
LPAZ La Paz 151.18 145 PKPbc **PKPbc 07 40 08.8 0.0**
comp=Z,0.5nm,0.4s,baz=240,slow=2.3,SNR=2.4

*JMA **11** 07:23:45.2±0.1,24.2°N±0.6×121.9°E±0.4,h61km±1km, MV2.8/9,TAIWAN REGION*
*TAP **11** 07:23:46.4,24.25°N×121.91E,h50km,ML3.4,C*
ISC 11 07:23:46.4±1.2,24.21°N±0.02×121.97°E±0.02,h44km±6km, n113,σ1°12/197,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.23**	**295**	*eP*			**Pn**	**07 23 54.7**	**+0.3**
	baz=284								
EWUT	**Wuta**	**0.29**	**323**	*eP*			**Pn**	**07 23 54.0**	**-1.0**
EWUT	baz=328			*eS*			**Sn**	**07 24 00.8**	**-0.1**
ENA	**Nanau**	**0.30**	**316**	*i* P			**Pn**	**07 23 55.0**	**0.0**
ENA	baz=320			*i* S			**Sn**	**07 24 01.8**	**+0.7**
NACB	**Ninganchiao**	**0.35**	**264**	P			**Pn**	**07 23 55.3**	**-0.2**
NACB	**Ninganchiao**	**0.35**	**264**	*i* P			**Pn**	**07 23 55.4**	**-0.2**
NACB	baz=255			*i* S			**Sn**	**07 24 02.2**	**+0.3**
TWD	**Chiawan**	**0.37**	**249**	*eP*			**Pn**	**07 23 55.6**	**-0.1**
TWD	baz=234			*i* S			**Sn**	**07 24 03.2**	**+0.9**
HWA	**Hwalien**	**0.41**	**235**	*eP*			**Pn**	**07 23 56.5**	**+0.3**
HWA	baz=224			*eS*			**Sn**	**07 24 05.2**	**+2.1**
TWC	**Suao**	**0.41**	**344**	*i* P			**Pn**	**07 23 56.6**	**+0.4**
TWC	baz=357			S			**Sn**	**07 24 04.0**	**+0.8**
ETLH	**Xiulin Townshi**	**0.45**	**269**	P			**Pn**	**07 23 56.5**	**-0.2**
ETLH	baz=257			*eS*			**Sn**	**07 24 04.2**	**+0.1**
TEYL	**Yanliau Villag**	**0.48**	**225**	*i* P			**Pn**	**07 23 57.3**	**+0.2**
TEYL	baz=219			*eS*			**Sn**	**07 24 06.2**	**+1.5**
ETM	**Tongmen**	**0.50**	**241**	*i* P			**Pn**	**07 23 57.4**	**0.0**
ETM	baz=245			*i* S			**Sn**	**07 24 05.6**	**+0.5**
LATG	**Datong**	**0.52**	**308**	*i* P			**Pn**	**07 23 57.5**	**-0.2**
LATG	baz=309			*i* S			**Sn**	**07 24 05.8**	**+0.2**
ENTT	**Nioudou**	**0.56**	**319**	*eP*			**Pn**	**07 23 57.4**	**-0.8**
ENTT	baz=317			*eS*			**Sn**	**07 24 06.0**	**-0.6**
NDT	**Datong Townshi**	**0.57**	**313**	*eP*			**Pn**	**07 23 55.7**	**-2.6**
TWE	**Neicheng**	**0.58**	**331**	*i* P			**Pn**	**07 23 58.5**	**+0.2**
TWE	baz=339			*i* S			**Sn**	**07 24 07.5**	**+0.6**
NNSB	**Datong**	**0.58**	**292**	P			**Pn**	**07 23 58.2**	**-0.3**
NNSB	baz=290			*i* S			**Sn**	**07 24 06.9**	**-0.2**
NNSH	**Datong**	**0.58**	**292**	P			**Pn**	**07 23 57.2**	**-1.2**
NNSH	baz=290			S			**Sn**	**07 24 06.0**	**-1.1**
NNS	**Nan Shan**	**0.59**	**293**	P			**Pn**	**07 23 57.4**	**-1.3**
NNS	baz=291			S			**Sn**	**07 24 06.8**	**-0.6**
EGS		**0.63**	**357**	*eP*			**Pn**	**07 23 59.9**	**+0.8**
EGS	baz=3.0			S			**Sn**	**07 24 09.0**	**+0.9**
ESL	**Shilin**	**0.63**	**231**	*eP*			**Pn**	**07 23 58.5**	**-0.5**
ESL	baz=234			*eS*			**Sn**	**07 24 08.2**	**0.0**
TEGC	**Jichi Village**	**0.64**	**218**	*i* P			**Pn**	**07 23 59.4**	**+0.3**
TEGC	baz=201			S			**Sn**	**07 24 09.9**	**+1.6**
FUSB	**Fushanzhiwuyua**	**0.65**	**327**	P			**Pn**	**07 23 59.1**	**-0.2**
FUSB	baz=322			S			**Sn**	**07 24 08.9**	**+0.4**
WHF	**Hehuan Shan**	**0.65**	**264**	*i* P			**Pn**	**07 23 59.4**	**-0.2**
WHF	baz=260			S			**Sn**	**07 24 09.0**	**-0.2**
FUSS	**Fushou**	**0.67**	**273**	*i* P			**Pn**	**07 23 59.9**	**+0.1**
FUSS	baz=270			S			**Sn**	**07 24 09.4**	**+0.1**
NWLT	**Wulai**	**0.71**	**323**	*eP*			**Pn**	**07 23 59.0**	**-1.1**
NWLT	baz=318			*eS*			**Sn**	**07 24 08.3**	**-1.6**
YHNB	**Yeheng**	**0.71**	**310**	P			**Pn**	**07 24 00.1**	**-0.1**
YHNB	**Yeheng**	**0.71**	**310**	P			**Pn**	**07 23 60.0**	**-0.2**
YHNB	baz=303			*eS*			**Sn**	**07 24 09.8**	**-0.3**
NSK	**Sanguang**	**0.72**	**310**	*eP*			**Pn**	**07 23 59.2**	**-1.2**
NSK	baz=303			*eS*			**Sn**	**07 24 08.8**	**-1.6**
TWT	**Tachien**	**0.73**	**273**	P			**Pn**	**07 24 01.0**	**+0.5**
TWT	baz=270			*eS*			**Sn**	**07 24 11.4**	**+0.8**
EGFH	**Guangfu**	**0.73**	**223**	*eP*			**Pn**	**07 24 00.0**	**-0.4**
EGFH	baz=227			*eS*			**Sn**	**07 24 11.1**	**+0.5**
TDCB	**Techi**	**0.74**	**273**	P			**Pn**	**07 24 01.0**	**+0.3**
TDCB	baz=270			*eS*			**Sn**	**07 24 11.0**	**0.0**
CHGB	**Renai**	**0.74**	**258**	P			**Pn**	**07 24 00.7**	**0.0**
CHGB	baz=246			S			**Sn**	**07 24 11.2**	**+0.2**
TIPB	**Shuangxi**	**0.77**	**350**	*eP*			**Pn**	**07 24 01.4**	**+0.4**
TIPB				*eS*			**Sn**	**07 24 12.2**	**+0.8**
TWB1	**Santiao Chiao**	**0.79**	**1**	P			**Pn**	**07 24 01.0**	**-0.2**
TWB1	baz=19			S			**Sn**	**07 24 11.6**	**-0.3**
WUSB	**Renai**	**0.81**	**254**	P			**Pn**	**07 24 01.6**	**+0.1**
WUSB	baz=245			S			**Sn**	**07 24 12.8**	**+0.2**
TWA	**Mucha**	**0.84**	**335**	*eP*			**Pn**	**07 24 02.6**	**+0.7**
TWA	baz=339			*eS*			**Sn**	**07 24 13.9**	**+0.7**
NWF	**Wu-fen Shan**	**0.87**	**349**	*eP*			**Pn**	**07 24 02.7**	**+0.3**
NWF	baz=353			*eS*			**Sn**	**07 24 14.5**	**+0.5**
WFSB	**Wu-fen Shan**	**0.87**	**349**	P			**Pn**	**07 24 02.6**	**+0.3**
WFSB	baz=353			*eS*			**Sn**	**07 24 14.3**	**+0.5**
HGSD	**Ruisui**	**0.88**	**215**	*eP*			**Pn**	**07 24 02.3**	**-0.1**
HGSD	baz=199			*eS*			**Sn**	**07 24 15.5**	**+1.6**
TATO	**Taipei**	**0.88**	**330**	P			**Pn**	**07 24 05.5**	**+3.1**
SXI1	**Grass Mountain**	**0.88**	**354**	P			**Pn**	**07 24 02.5**	**0.0**
SXI1	baz=10.0			*eS*			**Sn**	**07 24 14.2**	**-0.1**
NFF	**Wufeng Townshi**	**0.88**	**298**	P			**Pn**	**07 24 02.0**	**-0.5**
NFF	baz=298			*eS*			**Sn**	**07 24 13.0**	**-1.2**
VWDT	**VWDT**	**0.89**	**239**	P			**Pn**	**07 24 02.7**	**+0.3**
VWDT	baz=228			*eS*			**Sn**	**07 24 14.5**	**+0.3**
JYNG	**Yonagunijimaku**	**0.92**	**75**	P			**Pn**	**07 24 03.3**	**+0.4**
JYNG				*eS*			**Sn**	**07 24 15.9**	**+0.9**
EHY	**Hungye**	**0.92**	**220**	*eP*			**Pn**	**07 24 02.0**	**-0.9**
WHP	**Taichung City**	**0.94**	**274**	P			**Pn**	**07 24 04.2**	**+0.9**
WHP	baz=272			*eS*			**Sn**	**07 24 16.2**	**+0.6**
WPL	**Puli Township**	**0.95**	**258**	P			**Pn**	**07 24 03.7**	**+0.4**
LIOB	**Emei**	**0.97**	**297**	*eP*			**Pn**	**07 24 04.4**	**+0.7**
LIOB	baz=296			*eS*			**Sn**	**07 24 17.2**	**+0.8**
NSTT	**Nanjuang**	**0.98**	**295**	P			**Pn**	**07 24 04.4**	**+0.7**
NSTT	baz=295			*eS*			**Sn**	**07 24 17.1**	**+0.6**
YOJ	**Yonaguni jima**	**0.98**	**75**	P			**Pn**	**07 24 04.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.98**	**75**	P			**Pn**	**07 24 03.8**	**0.0**
YOJ	baz=78			*eS*			**Sn**	**07 24 17.5**	**+1.0**
YOJ	**Yonaguni jima**	**0.98**	**75**	*eP*			**Pn**	**07 24 03.7**	**0.0**
YOJ				*eS*			**Sn**	**07 24 17.4**	**+1.0**
WCS	**Beigang Elemen**	**0.98**	**261**	*eP*			**Pn**	**07 24 03.2**	**-0.6**
YM01	**YM01**	**1.00**	**339**	P			**Pn**	**07 24 04.4**	**+0.4**
YM01	baz=329			*eS*			**Sn**	**07 24 16.9**	**-0.1**
TWS1	**Kuangyinshan**	**1.02**	**330**	*eP*			**Pn**	**07 24 04.1**	**-0.2**
TWS1	baz=333			*eS*			**Sn**	**07 24 18.1**	**+0.7**
SSLB	**Suanglung**	**1.02**	**246**	P			**Pn**	**07 24 04.4**	**0.0**
SSLB	**Suanglung**	**1.02**	**246**	*eP*			**Pn**	**07 24 04.1**	**-0.3**
SSLB	baz=237			*eS*			**Sn**	**07 24 17.6**	**0.0**
YULB	**Yu-li**	**1.02**	**217**	P			**Pn**	**07 24 03.1**	**-1.3**
YULB	**Yu-li**	**1.02**	**217**	*eP*			**Pn**	**07 24 03.5**	**-0.8**
YM08	**YM08**	**1.03**	**340**	*eP*			**Pn**	**07 24 04.1**	**-0.4**
YM08	baz=344			S			**Sn**	**07 24 17.1**	**-0.7**
SMLT	**Sun Moon Lake**	**1.03**	**252**	*eP*			**Pn**	**07 24 04.8**	**+0.2**
SMLT	baz=242			*eS*			**Sn**	**07 24 18.9**	**+0.9**
EYUL	**Yuli**	**1.05**	**215**	*eP*			**Pn**	**07 24 04.5**	**-0.2**
TWF1	**Yuli**	**1.06**	**216**	*eP*			**Pn**	**07 24 04.0**	**-0.8**
NTST	**Danshui**	**1.06**	**333**	*eP*			**Pn**	**07 24 04.8**	**-0.1**
NTST	baz=336			*eS*			**Sn**	**07 24 19.1**	**+0.7**
TYC	**Yuchr**	**1.06**	**253**	*eP*			**Pn**	**07 24 05.3**	**+0.4**
TYC	baz=244			*eS*			**Sn**	**07 24 19.0**	**+0.5**
SBCB	**Hsinchu**	**1.07**	**303**	P			**Pn**	**07 24 05.5**	**+0.6**
SBCB	baz=303			*eS*			**Sn**	**07 24 20.2**	**+1.5**
TWQ1	**Liyutan**	**1.10**	**277**	*eP*			**Pn**	**07 24 05.8**	**+0.3**
TWQ1	baz=276			*eS*			**Sn**	**07 24 21.2**	**+1.7**
NSY	**Sanyi**	**1.12**	**281**	*eP*			**Pn**	**07 24 06.5**	**+0.7**
NSY	baz=280			*eS*			**Sn**	**07 24 22.1**	**+2.1**
NMLH	**Miaoli**	**1.12**	**287**	*eP*			**Pn**	**07 24 06.0**	**+0.2**
NMLH	baz=286			*eS*			**Sn**	**07 24 20.9**	**+0.8**
WHYT	**Xinyi Township**	**1.15**	**244**	*eP*			**Pn**	**07 24 06.8**	**+0.8**
WHYT	baz=234			*eS*			**Sn**	**07 24 21.4**	**+0.8**
WWF	**Wufeng**	**1.18**	**262**	*eP*			**Pn**	**07 24 06.8**	**+0.4**
YUS	**Yu-Shan**	**1.18**	**233**	*eP*			**Pn**	**07 24 07.3**	**+0.4**
YUS	baz=220			*eS*			**Sn**	**07 24 21.6**	**-0.5**
FULB	**Fuli**	**1.19**	**212**	*eP*			**Pn**	**07 24 06.7**	**+0.1**
WJS	**Zhushan**	**1.20**	**251**	*eP*			**Pn**	**07 24 08.3**	**+1.5**
WJS	baz=239			*eS*			**Sn**	**07 24 23.9**	**+2.0**
WNT	**Mingjian**	**1.22**	**254**	*eP*			**Pn**	**07 24 08.8**	**+1.7**
WNT	baz=252			*eS*			**Sn**	**07 24 25.1**	**+2.6**
CHKT	**Chengkung**	**1.24**	**207**	*eP*			**Pn**	**07 24 08.1**	**+0.8**
CHKT	baz=191			*eS*			**Sn**	**07 24 21.1**	**-1.7**
ALS	**Alishan**	**1.28**	**237**	*eP*			**Pn**	**07 24 09.2**	**+1.1**
ALS	baz=233			*eS*			**Sn**	**07 24 25.6**	**+1.4**
EDH	**Donghe**	**1.38**	**207**	P			**Pn**	**07 24 08.3**	**-0.9**
EDH	baz=193			*eS*			**Sn**	**07 24 25.4**	**-0.8**
WDLH	**Douliu**	**1.41**	**249**	*eP*			**Pn**	**07 24 11.0**	**+1.4**
WDLH	baz=246			*eS*			**Sn**	**07 24 29.6**	**+2.5**
WCKO	**Fanlu**	**1.47**	**239**	*eP*			**Pn**	**07 24 11.3**	**+0.8**
WCKO	baz=236			*eS*			**Sn**	**07 24 30.7**	**+2.2**
WRL	**Guolierlin Hig**	**1.49**	**258**	*eP*			**Pn**	**07 24 10.0**	**-0.7**
WRL	baz=257			*eS*			**Sn**	**07 24 30.3**	**+1.3**
STYH	**Taoyuan**	**1.51**	**227**	*eS*			**Sn**	**07 24 29.6**	**+0.1**
CHN4	**Tsaushan**	**1.53**	**236**	*eP*			**Pn**	**07 24 11.8**	**+0.6**
CHN4	baz=223			*eS*			**Sn**	**07 24 31.8**	**+1.8**
TPUB	**Ta-pu**	**1.53**	**234**	P			**Pn**	**07 24 12.6**	**+1.3**
TPUB	**Ta-pu**	**1.53**	**234**	P			**Pn**	**07 24 12.7**	**+1.3**
TPUB	baz=221			*eS*			**Sn**	**07 24 32.4**	**+2.4**
WTP	**Ta-pu**	**1.57**	**233**	*eP*			**Pn**	**07 24 13.2**	**+1.3**
WTP	baz=229			*eS*			**Sn**	**07 24 33.3**	**+2.2**
CHY	**Chiayi**	**1.58**	**244**	*eP*			**Pn**	**07 24 13.7**	**+1.7**
CHY	baz=230			*eS*			**Sn**	**07 24 34.2**	**+2.8**
LDUT	**Ludao**	**1.60**	**197**	*eP*			**Pn**	**07 24 10.9**	**-1.3**
LDUT	baz=184			*eS*			**Sn**	**07 24 29.3**	**-2.4**
IRIF	**Iriomote-Funau**	**1.61**	**85**	*eP*			**Pn**	**07 24 12.4**	**+0.1**
TWGBT	**Beinan**	**1.61**	**211**	*eP*			**Pn**	**07 24 11.9**	**-0.6**
TWGBT	baz=197			*eS*			**Sn**	**07 24 29.7**	**-2.3**
TWG	**Pinlang**	**1.61**	**211**	*eP*			**Pn**	**07 24 11.7**	**-0.7**
TWG	baz=197			*eS*			**Sn**	**07 24 29.9**	**-2.1**
TWK	**Hsinying**	**1.65**	**236**	*eP*			**Pn**	**07 24 14.6**	**+1.5**
TWK	baz=233			*eS*			**Sn**	**07 24 35.6**	**+2.5**
CHN1	**Nanshi**	**1.67**	**233**	*eP*			**Pn**	**07 24 15.1**	**+1.8**
CHN1	baz=229			*eS*			**Sn**	**07 24 35.5**	**+2.0**
SGST	**Jiashian**	**1.70**	**229**	*eP*			**Pn**	**07 24 13.4**	**-0.2**
SGST	baz=215			*eS*			**Sn**	**07 24 34.9**	**+0.7**
WSL	**Shuilin Townsh**	**1.74**	**247**	*eP*			**Pn**	**07 24 14.3**	**+0.2**
WSL	baz=258			*eS*			**Sn**	**07 24 36.3**	**+1.2**
JKRS	**Kuro-shima**	**1.86**	**89**	P			**Pn**	**07 24 16.5**	**+0.7**
JKRS				*eS*			**Sn**	**07 24 39.4**	**+1.3**
TSMG	**Majia**	**1.93**	**219**	*eP*			**Pn**	**07 24 18.4**	**+1.6**
TSMG	baz=215			*eS*			**Sn**	**07 24 42.2**	**+2.3**
JIJ	**Ishigaki jima**	**1.99**	**85**	P			**Pn**	**07 24 17.7**	**+0.2**
MASBT	**Mashibuluo**	**2.01**	**218**	*eP*			**Pn**	**07 24 18.8**	**+0.9**
MASBT	baz=200			*eS*			**Sn**	**07 24 44.4**	**+2.6**
JISG	**Ishigakijimahi**	**2.17**	**80**	*eP*			**Pn**	**07 24 20.0**	**0.0**
JISG				*eS*			**Sn**	**07 24 46.5**	**+0.9**
LYUB	**Lan-yu**	**2.23**	**189**	*eP*			**Pn**	**07 24 18.4**	**-2.5**
LYUB	baz=184			*eS*			**Sn**	**07 24 43.5**	**-3.6**
SLIU	**Shizi**	**2.26**	**209**	*eP*			**Pn**	**07 24 21.0**	**-0.3**
PNG	**Penghu**	**2.30**	**254**	*eP*			**Pn**	**07 24 20.7**	**-1.2**
PNG	baz=254			*eS*			**Sn**	**07 24 48.3**	**-0.7**
PHUB	**P'eng-hu**	**2.30**	**253**	*eP*			**Pn**	**07 24 21.1**	**-0.8**
WDGT	**Dungji**	**2.32**	**246**	*eP*			**Pn**	**07 24 22.0**	**-0.1**
SMST	**Manzhou Townsh**	**2.42**	**206**	*eP*			**Pn**	**07 24 23.2**	**-0.3**
SMST	baz=199			*eS*			**Sn**	**07 24 50.8**	**-1.1**
VWUC	**VWUC**	**2.42**	**289**	*eP*			**Pn**	**07 24 22.2**	**-1.3**
VCHM	**Qimei**	**2.54**	**247**	*eP*			**Pn**	**07 24 24.7**	**-0.4**
VCHM	baz=247			*eS*			**Sn**	**07 24 54.9**	**+0.1**
MATB	**Ma-tsu**	**2.66**	**317**	*eP*			**Pn**	**07 24 25.3**	**-1.5**
PTMZ	**Houxiangcun**	**2.72**	**288**	*eP*			**Pn**	**07 24 26.3**	**-1.3**
XPSS	**Dashiqiu**	**3.15**	**330**	*eP*			**Pn**	**07 24 32.0**	**-1.5**
KNMB	**Chin-men Tao**	**3.28**	**275**	*eP*			**Pn**	**07 24 33.7**	**-1.6**
AXDP	**Jialang**	**3.71**	**281**	*eP*			**Pn**	**07 24 40.0**	**-1.2**

*IDC **11** 07:42:21.0±2.3,34.10S×178.44W,h0km,mb4.2/3, mbtmp4.2/4,ML3.5/1,MS3.6/3,Error ellipse: s-maj=64.8km s-min=43.3km az=155.0*
*WEL **11** 07:42:25.9±0.8,33.5°S±14.1×17.9°W±3.5,h33km,M4.5/10, mB5.0/6,ML4.8/11,MLv4.5/10,Mw(mB)4.4/6,Error ellipse: s-maj=0.0km s-min=0.0km az=111.5*
ISC 11 07:42:25.5±1.5,33.5S±0.1×178.3W±0.2,h41km,n29, σ1°65/32,mb4.2/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.27**	**5**	P			**Pn**	**07 43 26.4**	**-1.6**
GLKZ				S			**Sn**	**07 44 14.2**	**-2.5**
MXZ	**Matakaoa Point**	**4.87**	**213**	P			**Pn**	**07 43 34.1**	**-2.1**
MXZ				S			**Sn**	**07 44 28.0**	**-3.4**
WMGZ	**Waiomatatini S**	**5.04**	**211**	P			**Pn**	**07 43 40.0**	**+1.5**
WMGZ				S			**Sn**	**07 44 35.4**	**-0.1**
PKGZ	**Pakihiroa**	**5.24**	**213**	P			**Pn**	**07 43 40.1**	**-1.3**
PKGZ				S			**Sn**	**07 44 39.5**	**-1.1**
HAZ	**Te Kaha**	**5.28**	**216**	P			**Pn**	**07 43 41.3**	**-0.5**
HAZ				S			**Sn**	**07 44 42.1**	**+0.8**
PUZ	**Puketiti**	**5.31**	**211**	P			**Pn**	**07 43 40.9**	**-1.5**
PUZ				S			**Sn**	**07 44 41.5**	**-0.9**
RUGZ	**Raukumara Rang**	**5.49**	**215**	P			**Pn**	**07 43 44.6**	**-0.3**
RUGZ				S			**Sn**	**07 44 44.8**	**-2.0**
TWGZ	**Tauwhareparae**	**5.52**	**212**	P			**Pn**	**07 43 44.7**	**-0.6**
TWGZ				S			**Sn**	**07 44 45.6**	**-1.9**
CNGZ	**Carnagh Statio**	**5.69**	**209**	P			**Pn**	**07 43 47.3**	**-0.2**
MWZ	**Matawai**	**5.86**	**214**	P			**Pn**	**07 43 49.1**	**-0.7**
MWZ				S			**Sn**	**07 44 53.7**	**-2.0**
OPRZ	**Ohinepanea**	**5.99**	**223**	P			**Pn**	**07 43 52.6**	**+1.0**
URZ	**Urewera**	**6.00**	**217**	P			**Pn**	**07 43 51.6**	**-0.1**
URZ				S			**Sn**	**07 44 56.6**	**-2.5**
RIGZ	**Rimuhau**	**6.06**	**210**	P			**Pn**	**07 43 53.2**	**+0.6**
RIGZ				S			**Sn**	**07 44 59.2**	**-1.4**
SNGZ	**Shannon Statio**	**6.30**	**213**	P			**Pn**	**07 43 55.5**	**-0.4**
SNGZ				S			**Sn**	**07 45 04.7**	**-2.0**
RPZ	**Rata Peaks**	**13.12**	**216**	Pn			Pn	07 45 21.0	-8.2
RPZ	0.3nm,0.3s,baz=27,slow=2.3,SNR=1.4			Sn			Sn	07 47 39.5	-14
	0.6nm,0.3s,baz=27,slow=20,SNR=1.9								
	8.6nm,0.8s								
DZM	**Mont Dzumac**	**17.65**	**306**	LR			LR	07 52 24.2	
	comp=Z,200nm,18.1s,baz=202,slow=34								
CTA	**Charters Tower**	**34.16**	**284**	P			**P**	**07 49 09.2**	**+2.2**
	2.1nm,0.6s,baz=108,slow=8.1,SNR=5.5								
CTA				LR			LR	08 01 09.6	
	comp=Z,43nm,18.2s,baz=80,slow=33								
	2.1nm,0.6s								
ASAR	**Alice Springs**	**42.77**	**270**	P			**P**	**07 50 19.1**	**-0.1**
	1.8nm,0.7s,baz=111,slow=7.5,SNR=22								
	1.8nm,0.7s								
WRA	**Warramunga Arr**	**44.04**	**276**	P			**P**	**07 50 30.1**	**+0.6**
	3.0nm,0.7s,baz=116,slow=7.1,SNR=22								
	3.0nm,0.7s								
H03S2	**Juan Fernandez**	**78.97**	**123**	T			T	09 19 13.5	
	baz=242,slow=75,SNR=398								
H03S1	**Juan Fernandez**	**78.98**	**123**	T			T	09 19 13.3	
	baz=242,slow=75,SNR=382								
H03S3	**Juan Fernandez**	**78.99**	**123**	T			T	09 19 16.2	
	baz=242,slow=75,SNR=399								
H03N3	**Juan Fernandez**	**79.18**	**123**	T			T	09 19 46.7	
	baz=237								
H03N2	**Juan Fernandez**	**79.18**	**123**	T			T	09 19 46.3	
	baz=237								
H03N1	**Juan Fernandez**	**79.19**	**123**	T			T	09 19 45.9	
	baz=237								
ASAJ	**Asahikawa**	**85.10**	**333**	LR			LR	08 24 23.5	
	comp=Z,81nm,21.9s,baz=67,slow=30								
FINES	**FINESS Array B**	**147.97**	**338**	PKPbc			**PKPab**	**08 02 08.1**	**-0.3**
	1.4nm,0.5s,baz=49,slow=4.2,SNR=9.6								
NB2	**NORSAR Subarra**	**151.79**	**350**	PKP			**PKiKP**	**08 02 18.2**	**+2.8**
	comp=Z,0.5nm,0.6s,baz=17,slow=2.6								
BRTR	**Keskin Array B**	**153.71**	**293**	PKPbc			**PKiKP**	**08 02 22.6**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=116,slow=4.0,SNR=5.2								

*NIED **11** 07:48:59.5, 44°.91N×149°.87E, h30km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.83; $M_{\theta\theta}$3.37; $M_{\phi\phi}$-5.21; $M_{r\theta}$-2.56; $M_{\theta\phi}$-2.06; $M_{\phi r}$4.49; Fault plane solution: $M_0$7.19000×10^{14} NP1: ϕ_s234.00000°, δ41.00000°, λ166.00000°. NP2: ϕ_s335.00000°, δ81.00000°, λ50.00000°.*

*JMA **11** 07:48:59.5±0.8, 45°N±4°×15°0E±°, h30km, MV4.2/13, SE OFF ETOROFU*

*SKHL **11** 07:49:00.6±0.5, 44°.70N×149°.80E, h23km±6km, mb4.5/7*

*IDC **11** 07:49:06.2±5.1, 44°.90N×149°.78E, h94km±47km, mb3.1/6, mbtmp3.4/7, MS2.9/3, Error ellipse: s-maj=35.9km s-min=26.9km az=119.0*

ISC 11 07:48:59.6±1.0**, 44°.73N**±0°.10×**149°.91E**±0°.09**, h35km, n30, σ1s.42**/30**, mb3.5**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.54	290	eP	Pn	07 49 24.4	0.0
KUR				AMB	AMB	07 49 30.3	
	160nm,0.4s						
KUR				eS	Sn	07 49 41.9	-1.2
KUR				A	A	07 49 52.8	
	480nm,0.5s						
KUR				A	A	07 49 52.8	
	230nm,0.5s						
YUK	Yuzh-Kuril'sk	2.99	258	eP	Pn	07 49 45.5	+1.1
YUK				AMB	AMB	07 49 47.1	
	110nm,0.3s						
YUK				eS	Sn	07 50 19.0	+0.1
YUK				A	A	07 50 29.6	
	510nm,0.6s						
YUK				A	A	07 50 29.6	
	160nm,0.6s						
NEM2	Nemuro 2	3.30	247	eP	Pn	07 49 48.7	0.0
NEM2				eS	Sn	07 50 24.9	-1.8
NMR	Nemuro--Hokkai	3.31	247	i P	Pn	07 49 49.0	+0.2
NMR				AMB	AMB	07 49 50.3	
	60nm,0.3s						
NMR				eS	Sn	07 50 25.0	-1.9
NMR				A	A	07 50 40.3	
	120nm,0.5s						
NMR				A	A	07 50 40.3	
	110nm,0.5s						
JRA	Rausu	3.53	259	eP	Pn	07 49 54.2	+2.4
JNK	Nakash	3.91	255	eP	Pn	07 49 58.2	+1.2
JNK				eS	Sn	07 50 42.0	+0.3
AKK	Akkeshi	4.05	247	i P	Pn	07 49 59.3	+0.4
AKK				AMB	AMB	07 50 01.6	
	30nm,0.4s						
AKK				eS	Sn	07 50 43.9	-1.2
AKK				A	A	07 51 05.7	
	90nm,0.4s						
AKK				A	A	07 51 05.7	
	80nm,0.4s						
JAK	Akkeshi	4.15	247	eP	Pn	07 50 00.6	+0.3
JAK				eS	Sn	07 50 45.6	-2.0
JTKR	Abashiri--Toko	4.37	262	eP	Pn	07 50 06.2	+2.8
JAR	Ashorobuto	4.66	254	eP	Pn	07 50 09.0	+1.7
JOB	Onbets	4.76	250	eP	Pn	07 50 10.0	+1.2
JOB				eS	Sn	07 51 01.7	-1.0
JCH	Churui	5.20	248	eP	Pn	07 50 16.1	+1.3
JCH				eS	Sn	07 51 13.7	+0.2
JKK2	Kamakawa 2	5.21	263	eP	Pn	07 50 18.1	+3.1
ASAJ	Asahikawa	5.28	266	LR	LR	07 52 30.6	
	comp=Z,105nm,19.6s,baz=113,slow=39						
JNBK	Urakawa-nobuka	5.75	247	eP	Pn	07 50 22.6	+0.2
JNBK				eS	Sn	07 51 26.0	-1.1
PETK	Petropavlovsk-	9.82	29	P	Pn	07 51 23.7	+5.6
	0.7nm,0.4s,baz=200,slow=13,SNR=4.5						
USRK	Ussuriysk Ar.	12.82	274	LR	LR	07 56 54.4	
	comp=Z,68nm,19.2s,baz=320,slow=37						
KSRS	Korea Array	18.07	254	LR	LR	07 59 16.3	
	comp=Z,33nm,18.9s,baz=70,slow=34						
H11N2	WAKE ISLAND Hy	28.65	145	T	T	08 25 40.4	
	baz=335,slow=76,SNR=34						
H11N1	WAKE ISLAND Hy	28.67	145	T	T	08 25 44.4	
	baz=335,slow=76,SNR=24						
H11N3	WAKE ISLAND Hy	28.67	145	T	T	08 25 42.5	
	baz=335,slow=76,SNR=29						
H11S1	WAKE ISLAND Hy	29.68	146	T	T	08 27 01.9	
	baz=336,slow=76,SNR=31						
H11S3	WAKE ISLAND Hy	29.68	146	T	T	08 27 00.5	
	baz=336,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	29.69	146	T	T	08 26 58.0	
	baz=336,slow=76,SNR=23						
ILAR	Eielson Array	39.52	37	P	P	07 56 25.5	-1.0
	0.2nm,0.7s,baz=269,slow=8.3,SNR=1.0						
	0.2nm,0.7s						
MKAR	Makanchi Array	45.89	298	P	P	07 57 17.2	-1.2
	0.7nm,0.8s,baz=78,slow=5.1,SNR=3.6						
	0.7nm,0.8s						
WRA	Warramunga Arr	65.91	196	P	P	07 59 42.1	+0.3
	0.4nm,0.7s,baz=15,slow=6.8,SNR=2.5						
	0.4nm,0.7s						
ASAR	Alice Springs	69.62	196	P	P	08 00 07.0	+1.8
	0.3nm,0.8s,baz=10,slow=5.8,SNR=2.4						
	0.3nm,0.8s						
GERES	GERESS Array B	79.24	332	P	P	08 01 00.8	-0.2
	0.3nm,0.4s,baz=54,slow=9.0,SNR=1.7						
	0.3nm,0.4s						
TXAR	Lajitas Array	80.45	58	P	P	08 01 08.3	+0.4
	0.1nm,0.3s,baz=316,slow=4.3,SNR=4.2						
	0.1nm,0.3s						

*NEIC **11** 07:50:07.4±1.4, 48°.27S±0°.04×120°.3E±0°.2, h10km±1km, mb4.4/28, Error ellipse: s-maj=20.3km s-min=5.7km az=83.0*

*IDC **11** 07:50:10.0±3.9, 48°.87S×120°.71E, h0km, mb3.8/4, mbtmp3.8/4, MS3.4/2, Error ellipse: s-maj=208.3km s-min=22.2km az=100.0*

ISC 11 07:50:06.8±0.5**, 48°.24S**±0°.07×**120°.31E**±0°.09**, h10km, n41, σ0s.87**/31**, mb4.2**/12**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	14.10	339	T	T	08 09 00.5	
	baz=161,slow=74,SNR=77						
H01W2	Cape Leeuwin H	14.10	339	T	T	08 08 45.7	
	baz=161,slow=74,SNR=93						
H01W3	Cape Leeuwin H	14.12	339	T	T	08 08 58.8	
	baz=161,slow=74,SNR=57						
NWAO	Narrogin (SRO)	15.47	350	LR	LR	07 58 37.5	
	comp=Z,158nm,20.4s,baz=12,slow=32						
NWAO	Narrogin (SRO)	15.47	350	Pn	Pn	07 53 45.8	+0.8
NWAO				IAmb	IAmb	07 54 04.8	
	comp=Z,22nm,1.0s						
FORT	Forrest	18.42	22	P	P	07 54 21.0	-1.1
FORT				IAmb	IAmb	07 54 36.2	
	comp=Z,39nm,1.1s						
CASY	Casey	18.80	192	P	P	07 54 25.2	-0.8
CASY				IAmb	IAmb	07 55 06.2	
	comp=Z,92nm,1.3s						
MORW	Morawa	19.43	349	P	P	07 54 32.7	-0.5
MORW				IAmb	IAmb	07 55 13.7	
	comp=Z,18nm,1.2s						
BBOO	Buckleboo	19.46	43	P	Pn	07 54 34.4	-0.3
BBOO				IAmb	IAmb	07 54 44.1	
	comp=Z,29nm,1.4s						
TAU	Tasmania Unive	19.59	84	P	Pn	07 54 34.5	-1.7
TAU				IAmb	IAmb	07 54 45.3	
	comp=Z,22nm,0.9s						
STKA	Stephens Creek	22.96	52	P	P	07 55 10.7	-0.5
MCQ	Macquarie Isla	24.68	119	P	P	07 55 26.6	-0.9
CAN	Canberra	24.82	69	P	P	07 55 28.6	-0.4
CAN				IAmb	IAmb	07 55 29.8	
	comp=Z,24nm,1.5s						
ASAR	Alice Springs	26.80	29	P	P	07 55 55.8	+8.8
	comp=Z,2.5nm,1.0s,baz=200,slow=8.6,SNR=9.4						
	comp=Z,2.5nm,1.0s						
ASAR	Alice Springs	26.80	29	P	P	07 55 47.4	+0.4
AS31	Alice Springs	26.80	29	P	P	07 55 48.0	+1.0
WRA	Warramunga Arr	30.42	27	P	P	07 56 27.8	+8.5
	comp=Z,1.0nm,1.1s,baz=206,slow=8.7,SNR=3.6						
	comp=Z,1.0nm,1.1s						
WRA	Warramunga Arr	30.42	27	P	P	07 56 20.7	+1.4
WB2	Warramunga Arr	30.43	27	P	P	07 56 18.9	-0.4
WB2				IAmb	IAmb	07 56 27.2	
	comp=Z,6.2nm,1.4s						
WB0	Warramunga Arr	30.61	27	P	P	07 56 21.5	+0.6
WB0				IAmb	IAmb	07 56 50.6	
	comp=Z,8.3nm,1.4s						
PYZ	Puysegur Point	31.21	104	P	P	07 56 26.9	+0.9
VNDA	Vanda	33.41	165	P	P	07 56 43.4	-1.6
	comp=Z,1.0nm,0.8s,baz=311,slow=9.3,SNR=6.8						
	comp=Z,1.0nm,0.8s						
VNDA	Vanda	33.41	165	P	P	07 56 45.2	+0.3
FOZ	Fox Glacier	34.30	101	P	P	07 56 55.1	+2.1
MAW	Mawson	34.43	215	P	P	07 56 54.2	+0.3
CTAO	Charters Tower	35.02	46	P	P	07 57 00.3	+0.8
CTAO				IAmb	IAmb	07 57 16.8	
	comp=Z,14nm,1.3s						
QRZ	Quartz Range	37.33	98	P	P	07 57 20.0	+0.9
COEN	Coen	39.08	37	P	P	07 57 34.1	+0.1
COEN				IAmb	IAmb	07 58 06.7	
	comp=Z,4.0nm,0.9s						
MMRI	Maumere	39.50	3	P	P	07 57 37.4	-0.1
MMRI				IAmb	IAmb	07 57 38.6	
	comp=Z,54nm,1.2s						
COCO	West Island	40.92	324	P	P	07 57 48.6	-0.7
QSPA	South Pole Qui	41.88	180	P	P	07 57 56.9	0.0
	comp=Z,1.2nm,0.8s,baz=330,slow=2.2,SNR=5.9						
	comp=Z,1.2nm,0.8s						
QSPA	South Pole Qui	41.88	180	P	P	07 57 57.5	+0.5
LEM	Lembang	42.66	341	LR	LR	08 16 28.4	
	comp=Z,34nm,18.0s,baz=188,slow=36						
MNAI	Manna	46.18	336	P	P	07 58 31.6	0.0
MARNC	Mare, Loyalty	46.40	72	P	P	07 58 34.0	+0.6
BELA	Belgrano 2	53.21	186	P	P	07 59 24.7	+0.2
BELA				IAmb	IAmb	07 59 27.7	
	comp=Z,2.1nm,0.9s						
ROCAM	Rodrigues Isla	53.60	281	P	P	07 59 28.3	+0.2
SNAA	Sanae	53.85	199	P	P	07 59 29.5	+0.1
SNAA				IAmb	IAmb	07 59 34.1	
	comp=Z,2.8nm,1.0s						
H08S2	Diego Garcia H	57.09	299	T	T	09 02 20.7	
	baz=144,slow=76						
H08S1	Diego Carcia H	57.10	299	T	T	09 02 32.5	
	baz=144						
H08S3	Diego Garcia H	57.11	299	T	T	09 02 30.8	
	baz=144,slow=76						

*HEL **11** 07:51:40.7±0.4, 70°.04N×35°.38E, h0km, ML2.4, Suspected explosion*

*KOLA **11** 07:51:50.4, 69°.70N×34°.03E, h0km, ML2.7*

*NAO **11** 07:51:51.7±1.3, 69°.63N×33°.38E, ML2.6*

*BER **11** 07:51:52.2±1.7, 69°.70N×33°.60E, h0km, ML2.0, Suspected explosion*

ISC 11 07:51:44.5±1.7**, 69°.84N**±0°.06×**34°.76E**±0°.08**, h0km, n37, σ1s.16**/60**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TERR	Teriberka	0.65	169	P	Pn	07 52 01.0	+0.1
TERR				S	Sn	07 52 10.1	-1.8
VADS	Vadso	1.88	281	ePg	Pb	07 52 19.3	-0.3
VADS				eSg	Sn	07 52 40.5	-1.7
LVZ	Lovozero	1.95	181	eP	Pn	07 52 18.3	-0.5
LVZ				eS	Sb	07 52 45.2	-0.4
APA	Apatity	2.33	193	P	Pb	07 52 27.7	+0.4
APA				S	Sn	07 52 54.3	+1.0
APA0	Apatity Array	2.33	197	Pn	Pb	07 52 26.5	-0.8
	baz=8.3,slow=14						
APA0				Sn	Sn	07 52 52.8	-0.5
	baz=6.5,slow=22						
APA0				Lg	Lg	07 52 55.1	
	baz=6.7,slow=22						
APA0	Apatity Array	2.33	197	P	Pb	07 52 26.6	-0.8
APA0				S	Sn	07 52 53.8	+0.5
KEV	Kevo	2.69	272	Pn	Pn	07 52 28.3	-0.7
KEV				Pg	Pb	07 52 32.3	-1.1
KEV				Sn	Sn	07 52 59.6	-2.6
KEV	Kevo	2.69	272	eP	Pn	07 52 28.7	-0.3
KEV				eS	Sn	07 53 02.4	+0.2
KEV				MSG		07 53 07.6	
	comp=Z,17nm,0.2s						
KEV	Kevo	2.69	272	eP	Pn	07 52 28.9	-0.1
KEV				ePg	Pb	07 52 32.4	-1.1
VRF	Varrio	2.81	224	eP	Pn	07 52 30.2	-0.4
VRF				MSG		07 53 05.7	
	comp=Z,12nm,0.1s						
ARA0	ARCESS Array S	3.24	269	Pn	Pn	07 52 37.6	+1.1
	baz=92,slow=14						
ARA0				Lg	Lg	07 53 18.1	
	baz=92,slow=28						
ARA0	ARCESS Array S	3.24	269	eP	Pn	07 52 36.1	-0.4
ARA0				eS	Sn	07 53 16.8	+1.0
ARA0	ARCESS Array S	3.24	269	eP	Pn	07 52 37.7	+1.2
ARA0				IAML		07 53 24.6	
	comp=Z,12nm,0.2s						
ARCES	ARCESS Array B	3.24	269	P	Pn	07 52 38.6	+2.1
ARCES				S	Sn	07 53 14.2	-1.6
HAMF	Hammerfest	3.85	287	Pn	Pn	07 52 46.9	+2.1
HAMF				Sn	Sn	07 53 29.2	-1.4
HAMF	Hammerfest	3.85	287	e	Pn	07 52 45.2	+0.4
HAMF				ePg	Pb	07 52 54.2	+1.0
SGF	Sodankyl	3.85	235	eP	Pn	07 52 44.7	-0.2
SGF				eS	Sn	07 53 32.1	+1.3
OLKF	Oulanka, Finla	4.06	212	eP	Pn	07 52 48.1	+0.3
OLKF				eS	Sn	07 53 37.9	+1.9
KTK1	Kautokeino	4.15	264	Pn	Pn	07 52 49.0	0.0
KTK1				Pg	Pb	07 52 58.3	0.0
KTK1				Lg	Lg	07 53 47.1	
KTK1	Kautokeino	4.15	264	eP	Pn	07 52 49.0	0.0
KTK1				ePg	Pb	07 52 58.1	-0.2
KTK1				IAML		07 53 52.8	
	comp=Z,8.3nm,0.2s						
HEF	Hetta	4.22	255	Pn	Pn	07 52 49.7	-0.3
HEF				Pg	Pb	07 52 59.6	+0.1
HEF				Lg	Lg	07 53 49.0	
HEF	Hetta	4.22	255	eP	Pn	07 52 50.5	+0.5
HEF				eS	Sn	07 53 41.0	+1.1
HEF	Hetta	4.22	255	eP	Pn	07 52 50.8	+0.8
HEF				ePg	Pb	07 52 59.4	-0.1
KU6	Riekki	4.24	208	eP	Pn	07 52 50.9	+0.6
KU6				eS	Sn	07 53 41.8	+1.4
RNF	Rovaniemi	4.59	229	eP	Pn	07 52 55.4	+0.3
RNF				eS	Sn	07 53 50.6	+1.6
LANU	Lannavaara	4.94	255	eP	Pn	07 52 59.1	-0.8
KIF	Kilpisjarvi	4.99	267	Pn	Pn	07 53 00.4	-0.2
KIF	Kilpisjarvi	4.99	267	eP	Pn	07 52 60.0	-0.6
KIF	Kilpisjarvi	4.99	267	e	Pn	07 53 00.5	-0.1
JETT	Jettan, Norway	5.00	274	Pn	Pn	07 53 02.6	+1.8
JETT	Jettan, Norway	5.00	274	e	Pn	07 53 01.6	+0.8
TOF	Tornio	5.44	231	eP	Pn	07 53 06.1	-0.6
SALU	Saltoluokta	6.43	255	eP	Pn	07 53 20.8	+0.5
STEI	Steigen	7.29	264	eP	Pn	07 53 31.5	-0.5
FIA0	FINESS Array S	9.14	207	Pn	Pn	07 53 57.0	-0.5
	baz=23,slow=11						
SPA0	Spitsbergen Ar	9.72	337	Pn	Pn	07 54 09.0	+3.6
	baz=140,slow=16						
HFS	Hagfors	13.10	233	Pn	Pn	07 54 48.9	-2.6
	baz=34,slow=16						

IDC 11 07:56:49.1±4.4**, 57°.02S**×**146°.89W, h0km, mb3.8**/3**, mbtmp3.8**/3**, MS3.8**/16**, Error ellipse: s-maj=129.5km s-min=39.5km az=54.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	26.92	202	LR	LR	08 09 55.8	
	comp=Z,242nm,20.5s,baz=54,slow=29						
RPZ	Rata Peaks	29.43	279	LR	LR	08 12 49.2	
	comp=Z,172nm,18.9s,baz=129,slow=33						
QSPA	South Pole Qui	33.12	180	P	P	08 03 26.6	0.0
	1.9nm,0.8s,baz=65,slow=1.8,SNR=8.3						
	1.9nm,0.8s						
TBI	Tubuai	33.69	356	eLR	LR	08 12 18.2	
	comp=Z,2μm,28.2s						
TBI	Tubuai	33.69	356	eT	T	08 39 39.9	
	12nm,0.3s						
RAO	Raoul Island	35.26	309	LR	LR	08 14 26.7	
	comp=Z,95nm,21.2s,baz=73,slow=30						
RAR	Rarotonga	37.01	340	LR	LR	08 16 22.7	
	comp=Z,229nm,18.5s,baz=184,slow=32						
PPT2	Papeete2	39.42	356	eLR	LR	08 14 56.7	
	comp=Z,342nm,25.5s						
PPT	Papeete	39.44	356	LR	LR	08 17 34.7	
	comp=Z,93nm,19.5s,baz=100,slow=32						
VAH	Vaihoa	41.71	359	eT	T	08 49 45.5	
	22nm,0.3s						
MSVF	Nonsavu	47.15	312	LR	LR	08 21 14.0	
	comp=Z,91nm,21.9s,baz=159,slow=31						
TAOE	Nuku Hiva Isla	48.34	9	eLR	LR	08 19 00.4	
	comp=Z,223nm,27.6s						
DZM	Mont Dzumac	48.63	296	eLR	LR	08 19 35.9	
	comp=Z,112nm,27.6s						
H03S2	Juan Fernandez	50.59	93	T	T	09 00 52.7	
	baz=218						
H03S1	Juan Fernandez	50.60	93	T	T	09 00 56.7	
	baz=218						
H03S3	Juan Fernandez	50.61	93	T	T	09 00 51.0	
	baz=218						
H03N3	Juan Fernandez	50.88	93	T	T	09 01 11.6	
	baz=221						
H03N2	Juan Fernandez	50.89	93	T	T	09 01 07.6	
	baz=221						
H03N1	Juan Fernandez	50.90	93	T	T	09 01 10.0	
	baz=221						
MAW	Mawson	53.74	194	LR	LR	08 26 38.3	
	comp=Z,132nm,18.1s,baz=146,slow=33						
ASAR	Alice Springs	64.66	265	P	P	08 07 28.6	0.0
	0.6nm,0.8s,baz=138,slow=6.4,SNR=6.2						
	0.6nm,0.8s						
LVC	Limon Verde	64.83	93	LR	LR	08 28 38.9	
	comp=Z,33nm,18.6s,baz=196,slow=30						
H01W1	Cape Leeuwin H	66.00	243	T	T	09 19 21.5	
	baz=144,slow=76,SNR=7.6						
H01W2	Cape Leeuwin H	66.00	243	T	T	09 19 21.5	
	baz=144,slow=76,SNR=9.4						
H01W3	Cape Leeuwin H	66.02	243	T	T	09 19 30.0	
	baz=144,slow=76,SNR=7.6						
WRA	Warramunga Arr	67.42	268	P	P	08 07 46.3	0.0
	0.7nm,0.9s,baz=145,slow=5.8,SNR=6.4						
	0.7nm,0.9s						
NNA	Nana	69.18	80	LR	LR	08 31 20.9	
	comp=Z,33nm,18.6s,baz=230,slow=30						
LPAZ	La Paz	70.38	90	LR	LR	08 31 19.7	
	comp=Z,46nm,21.9s,baz=164,slow=29						
ATAH	Atahualpa	72.41	76	LR	LR	08 32 44.6	
	comp=Z,59nm,21.2s,baz=229,slow=30						
SIV	San Ignacio	74.48	95	LR	LR	08 35 34.0	
	comp=Z,56nm,21.3s,baz=280,slow=31						
SUR	Sutherland	90.34	170	LR	LR	08 45 40.0	
	comp=Z,69nm,20.2s,baz=167,slow=32						
PCRV	Puerto La Cruz	94.26	78	LR	LR	08 47 20.1	
	comp=Z,96nm,18.7s,slow=32						
BOSA	Boshof	94.44	173	LR	LR	08 48 23.5	
	comp=Z,111nm,20.0s,baz=188,slow=33						
LBTB	Lobatse	98.04	173	LR	LR	08 51 11.7	
	comp=Z,96nm,19.2s,baz=162,slow=33						
H10S3	ASCENSION HYDR	103.51	131	T	T	10 07 00.5	
	baz=15,slow=74,SNR=5.7						
H10S2	ASCENSION HYDR	103.51	131	T	T	10 07 00.5	
	baz=205,slow=74,SNR=2.9						
H10N3	ASCENSION HYDR	104.58	131	T	T	10 08 22.1	
	baz=204,slow=74,SNR=16						
H10N1	ASCENSION HYDR	104.59	131	T	T	10 08 15.9	
	baz=204,slow=74,SNR=20						
H10N2	ASCENSION HYDR	104.60	131	T	T	10 08 26.6	
	baz=204,slow=74,SNR=14						
MKAR	Makanchi Array	148.64	272	PKPbc	PKPbc	08 16 36.6	-0.6
	0.8nm,0.8s,baz=116,slow=3.4,SNR=4.0						

*IDC **11** 07:58:47.4±2.2, 51°.58N×82°.74E, h0km, mbtmp2.6/2, ML1.9/2, Error ellipse: s-maj=48.8km s-min=17.4km az=104.0*

*NNC **11** 07:58:47.9±2.0, 51°.54N×82°.36E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=19.6km s-min=7.4km az=15.0, Suspected Mining explosion.*

ISC 11 07:58:46.8±1.3**, 51°.67N**±0°.10×**82°.4E**±0°.2**, h0km, n6, σ0s.62**/5**, 1C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	Kurchatov	2.55	250	⇓Lg	Lg	08 00 07.5	
	6.0nm,0.8s						
KURBB	Kurchatov Arra	2.64	248	⇑Pg	Pb	07 59 34.9	0.0
	1.9nm,0.8s,baz=72,slow=17						
KURBB				Lg	Lg	08 00 09.9	
	14nm,0.9s,baz=74,slow=31						
ZALV	Zalesovo Beam	2.72	32	Pn	Pn	07 59 31.9	+0.2
	0.4nm,0.3s,baz=213,slow=14,SNR=9.1						
ZALV				Sn	Sn	08 00 05.1	-0.3
	0.2nm,0.3s,baz=216,slow=24,SNR=3.9						
	2.7nm,0.6s						
I46RU	ZALESOVO INFRA	2.72	32	I		08 13 54.1	
	0.1nm,1.0s,baz=209,slow=335,SNR=17						
MK31	Makanchi Array	4.88	181	Pn	Pn	08 00 00.9	-0.5
	0.6nm,0.5s,baz=8.8,slow=12,SNR=5.6						
MK31				⇓Lg	Lg	08 01 18.4	
	1.4nm,0.7s,baz=7.0,slow=27,SNR=4.1						
MKAR	Makanchi Array	4.88	181	Pn	Pn	08 00 02.0	+0.6
	0.2nm,0.3s,baz=5.1,slow=12,SNR=6.3						
MKAR				Lg	Lg	08 01 18.3	
	0.2nm,0.3s,baz=4.4,slow=27,SNR=8.2						
	1.0nm,0.6s						

*NNC **11** 08:08:21.0±6.4, 51°.71N×82°.05E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=61.5km s-min=28.7km az=9.0, Suspected Mining explosion.*

*IDC **11** 08:08:25.6±1.3, 51°.39N×81°.74E, h0km, mbtmp2.2/2, ML2.3/1, Error ellipse: s-maj=15.6km s-min=11.6km az=138.0*

ISC 11 08:08:24.9±0.9**, 51°.46N**±0°.07×**81°.76E**±0°.06**, h0km, n8, σ1s.06**/10**, 2C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	Kurchatov	2.11	251	⇑Pn	Pn	08 09 00.6	-0.9
	1.3nm,0.8s						
KURK				⇓Sn	Sb	08 09 30.8	-0.1
	10nm,0.8s						
KURBB	Kurchatov Arra	2.20	249	Pg	Pn	08 09 04.0	+1.3
	0.2nm,0.3s,baz=72,slow=18,SNR=5.1						
KURBB				Lg	Lg	08 09 36.3	
	0.2nm,0.3s,baz=72,slow=35,SNR=2.4						
KURBB	Kurchatov Arra	2.20	249	⇓Sn	Sg	08 09 35.8	+0.1
	17nm,0.8s						
ZALV	Zalesovo Beam	3.11	35	Pn	Pn	08 09 16.2	+1.0
	0.3nm,0.3s,baz=222,slow=19,SNR=1.1						
ZALV				Pg	Pg	08 09 24.6	0.0
	baz=220,slow=16						
ZALV				Sn	Sn	08 09 51.1	-2.0
	0.3nm,0.3s,baz=213,slow=21,SNR=3.2						
ZALV				Lg	Lg	08 10 06.4	
	0.3nm,0.3s,baz=216,slow=24,SNR=4.3						
I46RU	ZALESOVO INFRA	3.12	35	I		08 25 00.0	
	baz=213,slow=322,SNR=3.1						
MAKZ	Makanchi	4.65	178	⇓Lg	Lg	08 10 54.6	
	2.8nm,0.9s						
MK31	Makanchi Array	4.68	176	⇑Pn	Pn	08 09 37.3	+0.5
	1.4nm,0.7s,baz=354,slow=15,SNR=5.2						
MK31				Lg	Lg	08 10 54.6	
	3.3nm,0.8s,baz=359,slow=27,SNR=5.0						
MKAR	Makanchi Array	4.68	176	Pn	Pn	08 09 36.9	0.0
	0.1nm,0.3s,baz=9.3,slow=13,SNR=5.6						
MKAR				Pg	Pb	08 09 47.5	-0.3
	0.1nm,0.3s,baz=6.1,slow=16,SNR=3.7						
MKAR				Lg	Lg	08 10 45.0	
	0.1nm,0.3s,baz=342,slow=32,SNR=2.8						
	0.5nm,0.7s						

*BJI **11** 08:13:42.9±0.0, 53°.06N×174°.47E, h90km, mb5.0/50, mB5.0/30*

*IDC **11** 08:13:45.1±0.3, 52°.80N×174°.42E, h90km±2km, mb4.7/53, mbtmp5.0/55, MS3.6/55, Error ellipse: s-maj=10.0km s-min=6.9km az=162.0*

*MOS **11** 08:13:45.1±1.0, 52°.75N×174°.50E, h105km, mb5.2/118, Error ellipse: s-maj=7.0km s-min=3.8km az=101.7*

*NEIC **11** 08:13:45.6±1.5, 52°.7N±0°.1×174°.49E±0°.10, h96km±4km, mb5.3/69, Error ellipse: s-maj=16.1km s-min=8.5km az=189.0*

*AEIC **11** 08:13:46.2±2.9, 52°.00N±0°.06×174°.2E±0°.1, h38km±6km, Error ellipse: s-maj=10.8km s-min=6.7km az=55.0*

*GCMT **11** 08:13:46.6±0.2, 52°.90N±0°.01×174°.52E±0°.02, h106km±2km, MW5.1/134, Moment Tensor Solution. s63,c82; s134,c193; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.27±.16; $M_{\theta\theta}$-0.25±.24; $M_{\phi\phi}$1.52±.19; $M_{r\theta}$-5.69±.11; $M_{\theta\phi}$-0.25±.19; $M_{\phi r}$0.78±.09; Best double couple: $M_0$5.79400×10^{16} NP1: ϕ_s100.00000°, δ87.00000°, λ-95.00000°. NP2: ϕ_s342.00000°, δ6.00000°, λ-28.00000°. Principal axes: T 5.0960, Plg42.0000°, Azm195.0000°; N 1.3990, Plg5.0000°, Azm100.0000°; P -6.4920, Plg48.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function

ISC 11 08:13:46.1±0.3**, 52.78N**±0.05×**174.39E**±0.03**, h100**km±1km**,**
h100km:pP-P, n1088, σ**1.03**/1169**, mb5.2**/266**, 40C-56D,**
Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.18**	**255**	P	**Pn**	**08 13 59.3**	**-1.0**
	12µm,0.5s,baz=86,slow=2.3,SNR=593						
SHEM				S	**Sn**	**08 14 09.6**	**-1.2**
	53µm,0.6s,baz=239,slow=20,SNR=43						
SMY	**Shemya**	**0.18**	**255**	Pn	**Pn**	**08 13 58.9**	**-1.4**
SMY				Sn	**Sn**	**08 14 09.1**	**-1.8**
AMKA	**Amchitka**	**3.34**	**113**	Pn	**Pn**	**08 14 35.6**	**-0.7**
KIWB	**Kanaga Island**	**5.27**	**97**		**Pn**	**08 15 01.2**	**-1.2**
ADK	**Adak**	**5.54**	**96**	Pn	**Pn**	**08 15 05.0**	**-1.1**
ADK	**Adak**	**5.54**	**96**	P	**Pn**	**08 15 05.2**	**-0.9**
ADK	**Adak**	**5.54**	**96**	P	**Pn**	**08 15 05.0**	**-1.1**
GSTR	**Great Sitkin T**	**5.88**	**93**	Pn	**Pn**	**08 15 09.6**	**-1.1**
PET	**Petropavlovsk**	**9.52**	**278**		**Pn**	**08 16 02.0**	**+1.9**
PET	**Petropavlovsk**	**9.52**	**278**	P	**Pn**	**08 16 02.8**	**+2.7**
PET	**Petropavlovsk**	**9.52**	**278**	*e*P	**Pn**	**08 16 02.6**	**+2.5**
PET				*e*S	**Sn**	**08 17 40.3**	**-4.8**
PET				MLR	MLR		
	comp=Z,200nm,9.0s						
PEA0B	**Petropavlovsk-**	**10.09**	**279**	Pn	**Pn**	**08 16 09.6**	**+1.7**
PEA0B	**Petropavlovsk-**	**10.09**	**279**	*de*P	**Pn**	**08 16 09.4**	**+1.6**
PETK	**Petropavlovsk-**	**10.09**	**279**	P	**Pn**	**08 16 08.2**	**+0.4**
	comp=Z,20nm,0.5s,baz=90,slow=17,SNR=17						
PETK				S	**Sn**	**08 17 54.8**	**-4.2**
	comp=Z,13nm,0.5s,baz=104,slow=15,SNR=6.7						
PETK				LR	LR	08 20 07.5	
	comp=Z,43nm,18.0s,baz=95,slow=38						
PETK	**Petropavlovsk-**	**10.09**	**279**	Pn	**Pn**	**08 16 09.4**	**+1.6**
PETK	**Petropavlovsk-**	**10.09**	**279**	P	**Pn**	**08 16 09.4**	**+1.6**
NIKH	**Nikolski High**	**10.13**	**82**	Pn	**Pn**	**08 16 09.7**	**+1.2**
NIKH	**Nikolski High**	**10.13**	**82**	P	**Pn**	**08 16 07.5**	**-1.0**
	baz=278						
NIKH	**Nikolski High**	**10.13**	**82**	P	**Pn**	**08 16 10.2**	**+1.8**
UNV	**Unalaska Valle**	**11.48**	**77**	Pn	**Pn**	**08 16 26.7**	**+0.1**
UNV	**Unalaska Valle**	**11.48**	**77**	P	**Pn**	**08 16 25.3**	**-1.3**
	baz=274						
SKR	**Severo-Kuril's**	**11.53**	**267**	*e*P	**Pn**	**08 16 29.5**	**+2.2**
SKR				*e*S	**Sn**	**08 18 25.9**	**-8.0**
SKR				pmax	pmax		
	comp=Z,27nm,0.8s						
SKR				smax	smax		
	comp=N,484nm,1.0s						
SKR				smax	smax		
	comp=E,402nm,0.5s						
GAMB	**Gambell**	**13.19**	**28**	P	**Pn**	**08 16 47.3**	**-1.9**
	baz=220						
FALS	**False Pass**	**13.26**	**72**	P	**Pn**	**08 16 48.9**	**-1.3**
	baz=271						
MA2	**Magadan**	**14.76**	**307**	P	**P**	**08 17 14.7**	**+1.9**
	comp=E,72nm,0.8s,baz=95,slow=10,SNR=15						
MA2				LR	LR	08 22 44.3	
	comp=E,76nm,20.5s,baz=109,slow=36						
MA2	**Magadan**	**14.76**	**307**⇓	*e*P	**P**	**08 17 11.9**	**-0.9**
MA2				pmax	pmax		
	comp=Z,103nm,1.0s						
SDPT	**Sand Point**	**14.95**	**70**	Pn	**Pn**	**08 17 11.4**	**-0.5**
SDPT	**Sand Point**	**14.95**	**70**	P	**Pn**	**08 17 11.0**	**-0.9**
	baz=272						
SEY	**Seymchan**	**15.42**	**320**	P	**P**	**08 17 19.9**	**-0.3**
	comp=Z,26nm,0.9s,baz=127,slow=11,SNR=22						
SEY	**Seymchan**	**15.42**	**320**⇑	*e*P	**Pn**	**08 17 18.9**	**+1.1**
SEY				pmax	pmax		
	comp=Z,33nm,0.9s						
CHNA	**Chernabura Isl**	**15.48**	**72**	P	**Pn**	**08 17 16.8**	**-1.8**
	baz=274						
ANM	**Nome**	**15.72**	**33**	P	**Pn**	**08 17 19.7**	**-1.9**
	baz=231						
BILL	**Bilibino**	**15.80**	**349**	*c i*P	**P**	**08 17 24.1**	**-0.3**
BILL				pmax	pmax		
	comp=Z,39nm,1.0s						
BILL				MLR	MLR		
	comp=Z,294nm,19.0s						
CHGN	**Chignik**	**16.12**	**67**	Pn	**Pn**	**08 17 25.5**	**-1.1**
CHGN	**Chignik**	**16.12**	**67**	P	**Pn**	**08 17 25.2**	**-1.3**
	baz=270						
N16K	**Nishlik Lake**	**16.56**	**52**	P	**Pn**	**08 17 31.0**	**-1.0**
	baz=255						
P16K	**Nushagak River**	**16.62**	**57**	P	**Pn**	**08 17 31.6**	**-1.1**
	baz=261						
R16K	**Pilot Point**	**16.65**	**62**	P	**Pn**	**08 17 31.2**	**-1.9**
	baz=266						
O16K	**Kokwok River B**	**16.68**	**55**	P	**Pn**	**08 17 32.1**	**-1.2**
	baz=259,SNR=7.9						
O17K	**Koliganek Bris**	**17.21**	**55**	P	**Pn**	**08 17 39.1**	**-0.7**
	baz=259						
Q16K	**King Salmon**	**17.25**	**59**	P	**Pn**	**08 17 40.1**	**-0.3**
	baz=263,SNR=13						
P17K	**Kvichak River**	**17.43**	**57**	P	**P**	**08 17 41.3**	**-1.1**
	baz=262						
Q17K	**Contact Creek**	**17.61**	**60**	P	**Pn**	**08 17 44.5**	**-0.4**
	baz=265,SNR=29						
CHIR	**Chirikof Islan**	**17.69**	**68**	P	**P**	**08 17 43.7**	**-1.6**
CHIR	**Chirikof Islan**	**17.69**	**68**	P	**P**	**08 17 44.6**	**-0.7**
	baz=274						
N18K	**Kilae Creek**	**17.99**	**52**	P	**Pn**	**08 17 49.5**	**+0.2**
N18K	**Kilae Creek**	**17.99**	**52**	P	**P**	**08 17 47.3**	**-1.2**
	baz=258						
P18K	**Big Mountain,**	**18.08**	**56**	P	**Pn**	**08 17 49.9**	**-0.5**
P18K	**Big Mountain,**	**18.08**	**56**	P	**P**	**08 17 48.1**	**-1.4**
	baz=262,SNR=11						
Q18K	**Katmai Hardscr**	**18.10**	**59**	P	**P**	**08 17 48.9**	**-1.0**
	baz=265,SNR=40						
O18K	**Koktuh Hills**	**18.16**	**55**		**Pn**	**08 17 51.2**	**-0.2**
O18K	**Koktuh Hills**	**18.16**	**55**	P	**P**	**08 17 50.0**	**-0.4**
	baz=261,SNR=12						
SII	**Sitkinak Islan**	**18.47**	**66**	P	**P**	**08 17 54.0**	**+0.2**
	baz=272						
SII	**Sitkinak Islan**	**18.47**	**66**	P	**P**	**08 17 53.4**	**-0.4**
TTA	**Tatalina**	**18.56**	**45**	P	**Pn**	**08 17 55.9**	**-0.3**
TTA	**Tatalina**	**18.56**	**45**	P	**P**	**08 17 55.1**	**+0.2**
	baz=251,SNR=18						
TTA	**Tatalina**	**18.56**	**45**	P	**Pn**	**08 17 55.9**	**-0.3**
O19K	**Port Alsworth**	**18.66**	**54**	P	**P**	**08 17 55.7**	**-0.1**
	baz=261						
N19K	**Bonanza Creek**	**18.69**	**52**	P	**Pn**	**08 17 56.9**	**-0.9**
N19K	**Bonanza Creek**	**18.69**	**52**	P	**P**	**08 17 56.5**	**+0.2**
	baz=259						
RDOG	**Red Dog Mine**	**18.78**	**27**	P	**P**	**08 17 56.0**	**-1.2**
	baz=227						
Q19K	**Cape Douglas,**	**18.84**	**58**	P	**P**	**08 17 57.8**	**0.0**
Q19K	**Cape Douglas,**	**18.84**	**58**	P	**P**	**08 17 57.3**	**-0.6**
	baz=266						
L19K	**White Mountain**	**18.84**	**48**	P	**Pn**	**08 17 58.6**	**-1.0**
L19K	**White Mountain**	**18.84**	**48**	P	**P**	**08 17 57.5**	**-0.4**
	baz=254,SNR=27						
GCSA	**Galena City Sc**	**18.91**	**40**	P	**P**	**08 17 58.9**	**+0.4**
	baz=244,SNR=39						
OHAK	**Old Harbor**	**18.95**	**64**	P	**P**	**08 17 58.6**	**-0.4**
OHAK	**Old Harbor**	**18.95**	**64**	P	**P**	**08 17 58.7**	**-0.4**
	baz=271,SNR=8.0						
M19K	**Big River Lodg**	**18.98**	**49**	P	**P**	**08 17 59.7**	**+0.3**
	baz=256						
P19K	**Oil Pt**	**19.12**	**56**	P	**P**	**08 18 00.3**	**-0.6**
	baz=264						
ILSW	**Iliamna Southw**	**19.21**	**55**	P	**P**	**08 18 02.5**	**+0.5**
KDAK	**Kodiak Island**	**19.34**	**62**	P	**P**	**08 18 02.0**	**-1.2**
	comp=Z,68nm,0.3s,baz=293,slow=1.3,SNR=108						
KDAK				S	**S**	**08 21 33.7**	**-2.7**
	comp=Z,6.9nm,0.7s,baz=320,slow=17,SNR=1.5						
KDAK				LR	LR	08 25 26.7	
	comp=Z,232nm,18.5s,baz=266,slow=36						
KDAK	**Kodiak Island**	**19.34**	**62**	P	**P**	**08 18 02.3**	**-0.9**
KDAK	**Kodiak Island**	**19.34**	**62**	P	**P**	**08 18 02.4**	**-0.8**
	baz=270						
KDAK	**Kodiak Island**	**19.34**	**62**	*ce*P	**P**	**08 18 02.4**	**-0.8**
KDAK				pmax	pmax		
	comp=Z,86nm,0.3s						
L20K	**Farewell, AK**	**19.36**	**47**	P	**P**	**08 18 02.4**	**-1.1**
	baz=255,SNR=26						
Q20K	**Shuyak Island**	**19.46**	**59**	P	**P**	**08 18 03.5**	**-1.1**
	baz=268						
RSO	**Redoubt South**	**19.47**	**54**	P	**Pn**	**08 18 05.9**	**-1.1**
O20K	**Slope Mountain**	**19.48**	**55**	P	**P**	**08 18 04.3**	**-0.6**
	baz=263						
K20K	**Telida**	**19.53**	**45**	P	**P**	**08 18 04.4**	**-1.0**
	baz=252,SNR=25						
M20K	**Styx River**	**19.55**	**49**	P	**P**	**08 18 05.0**	**-0.7**
	baz=257						
TYV	**Tymovskoe**	**19.63**	**277**	*e*P	**Pn**	**08 18 09.1**	**+0.3**
TYV				*e*S	**Sn**	**08 21 46.8**	**-2.5**
TYV				pmax	pmax		
	comp=Z,41nm,0.9s						
TYV				pmax	pmax		
	comp=Z,400nm,3.2s						
TYV				smax	smax		
	comp=E,1µm,5.3s						
J20K	**Nowinta River**	**19.77**	**43**	P	**P**	**08 18 08.7**	**+0.8**
	baz=250						
N20K	**Mount Spurr**	**19.85**	**52**	P	**P**	**08 18 09.3**	**+0.4**
	baz=260,SNR=29						
SPCR	**Spurr Chakacha**	**19.85**	**52**	P	**P**	**08 18 09.5**	**+0.6**
	baz=260,SNR=24						
SPU	**Mount Spurr**	**19.92**	**52**	P	**Pn**	**08 18 10.7**	**-1.5**
HOM	**Homer**	**19.92**	**56**	P	**P**	**08 18 10.0**	**+0.4**
	baz=265						
CNPM	**China Poot**	**20.12**	**57**	P	**P**	**08 18 11.8**	**+0.1**
PPLA	**Purkeypile**	**20.22**	**47**	P	Pn	08 18 14.5	-1.3
PPLA	**Purkeypile**	**20.22**	**47**	P	**P**	**08 18 13.5**	**+0.5**
	baz=256,SNR=43						
SKT	**Skwentna**	**20.31**	**50**	P	**P**	**08 18 14.8**	**+0.9**
SKT	**Skwentna**	**20.31**	**50**	P	**P**	**08 18 14.6**	**+0.8**
	baz=259,SNR=43						
BRLK	**Bradley Lake**	**20.32**	**56**	P	**P**	**08 18 13.7**	**-0.2**
BRSE	**Bradley Lake S**	**20.39**	**56**	P	Pn	08 18 16.5	-1.0
	baz=266,SNR=6.8						
CAST	**Castle Rocks**	**20.41**	**45**	P	**P**	**08 18 15.4**	**+0.6**
CAST	**Castle Rocks**	**20.41**	**45**	P	**P**	**08 18 15.6**	**+0.9**
	baz=254,SNR=90						
CHUM	**Lake Minchumin**	**20.44**	**44**	P	Pn	08 18 16.6	-1.5
	baz=253,SNR=55						
SUA	**Susitna One**	**20.59**	**51**	P	**P**	**08 18 17.5**	**+0.6**
	baz=261						
IMAR	**Indian Mountai**	**20.62**	**38**	P	**P**	**08 18 17.6**	**+0.5**
H21K	**Melozitna Rive**	**20.85**	**39**	P	**P**	**08 18 19.7**	**+0.2**
	baz=248						
M22K	**Willow**	**20.93**	**51**	P	**P**	**08 18 20.4**	**+0.1**
	baz=261,SNR=7.3						
G21K	**Allakaket**	**20.93**	**37**	P	**P**	**08 18 20.6**	**+0.2**
	baz=245						
KTH	**Kantishna Hill**	**20.95**	**45**	P	**P**	**08 18 21.4**	**+0.7**
O22K	**Cooper Landing**	**20.96**	**54**	P	**P**	**08 18 20.4**	**-0.3**
O22K	**Cooper Landing**	**20.96**	**54**	P	**P**	**08 18 21.4**	**+0.7**
	baz=265						
CUT	**Chulitna**	**20.98**	**49**	P	**P**	**08 18 21.3**	**+0.4**
	baz=259						
I21K	**Tanana**	**20.99**	**41**	P	**P**	**08 18 21.7**	**+0.7**
	baz=250						
RC01	**Rabbit Creek A**	**21.02**	**53**	P	**P**	**08 18 22.3**	**+1.0**
	baz=263,SNR=17						
SEW	**Seward**	**21.06**	**55**	P	**P**	**08 18 22.0**	**+0.3**
	baz=266						
BPAW	**Bear Paw Mtn.**	**21.06**	**44**	P	**P**	**08 18 22.9**	**+1.1**
BPAW	**Bear Paw Mtn.**	**21.06**	**44**	P	**P**	**08 18 22.7**	**+0.8**
	baz=254,SNR=48						
YSS	**Yuzh-Sakhalins**	**21.10**	**267**	*e*P	**P**	**08 18 24.9**	**+2.6**
YSS				*e**SP	**sP**	**08 18 52.1**	**-1.8**
YSS				*e*S	**S**	**08 22 06.1**	**-5.1**
YSS				*e*SS	**SnSn**	**08 22 50.9**	**+9.4**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,800nm,15.3s						
YSS				smax	smax		
	comp=E,900nm,14.2s						
TRF	**Thorofare Moun**	**21.19**	**46**	P	**P**	**08 18 23.9**	**+0.5**
TRF	**Thorofare Moun**	**21.19**	**46**	P	**P**	**08 18 23.3**	**-0.1**
	baz=256,SNR=49						
F21K	**Alatna River**	**21.26**	**35**	P	**P**	**08 18 24.1**	**+0.3**
	baz=243						
PMR	**Palmer**	**21.38**	**51**	P	**P**	**08 18 26.0**	**+0.9**
	baz=263,SNR=20						
MLY	**Manley**	**21.44**	**42**	P	**P**	**08 18 26.7**	**+0.8**
	baz=252,SNR=81						
H22K	**Ishtalitna Cre**	**21.48**	**39**	P	**P**	**08 18 27.0**	**+0.7**
	baz=249,SNR=50						
KNK	**Knik Glacier**	**21.67**	**52**	P	**P**	**08 18 27.8**	**-0.6**
KNK	**Knik Glacier**	**21.67**	**52**	P	**P**	**08 18 28.5**	**+0.1**
	baz=264,SNR=21						
PWL	**Port Wells**	**21.68**	**53**	P	**P**	**08 18 27.4**	**-1.0**
PWL	**Port Wells**	**21.68**	**53**	P	**P**	**08 18 27.9**	**-0.5**
	baz=265,SNR=6.7						
BWN	**Browne**	**21.73**	**44**	P	**P**	**08 18 30.0**	**+1.2**
SML	**Sawmill**	**21.78**	**51**	P	**P**	**08 18 28.5**	**-1.0**
SML	**Sawmill**	**21.78**	**51**	P	**P**	**08 18 29.5**	**0.0**
	baz=263,SNR=79						
SML	**Sawmill**	**21.78**	**51**	P	**P**	**08 18 28.5**	**-1.0**
RND	**Reindeer**	**21.81**	**46**	P	**P**	**08 18 29.5**	**-0.4**
RND	**Reindeer**	**21.81**	**46**	P	**P**	**08 18 29.5**	**-0.4**
G22K	**Bettles**	**21.83**	**36**	P	**P**	**08 18 29.3**	**-0.6**
	baz=246,SNR=44						
F22K	**John River**	**21.84**	**35**	P	**P**	**08 18 29.8**	**-0.2**
	baz=244						
WAT1	**Susitna Watana**	**21.84**	**48**	P	**P**	**08 18 29.2**	**-0.9**
	baz=260						
MCK	**McKinley**	**21.85**	**46**	P	**P**	**08 18 30.1**	**0.0**
MCK	**McKinley**	**21.85**	**46**	P	**P**	**08 18 29.5**	**-0.7**
	baz=257,SNR=79						
MCK	**McKinley**	**21.85**	**46**	P	**P**	**08 18 30.2**	**0.0**
NEA2	**Nenana**	**22.00**	**43**	P	**P**	**08 18 31.5**	**-0.3**
NEA2	**Nenana**	**22.00**	**43**	P	**P**	**08 18 31.7**	**0.0**
	baz=255,SNR=102						
I23K	**Minto, Yukon-K**	**22.04**	**42**	P	**P**	**08 18 32.5**	**+0.4**
I23K	**Minto, Yukon-K**	**22.04**	**42**	P	**P**	**08 18 32.4**	**+0.4**
	baz=253,SNR=58						
M23K	**Glacier View**	**22.07**	**51**	P	**P**	**08 18 31.7**	**-0.8**
	baz=264,SNR=44						
P23K	**Montague Islan**	**22.08**	**56**	P	**P**	**08 18 32.2**	**-0.4**
	baz=268						
WAT6	**Susitna Watana**	**22.16**	**49**	P	**P**	**08 18 32.5**	**-1.2**
	baz=262,SNR=57						
H23K	**Yukon River**	**22.17**	**40**	P	**P**	**08 18 32.8**	**-0.7**
	baz=252,SNR=17						
SCM	**Sheep Creek Mo**	**22.26**	**51**	P	**P**	**08 18 34.3**	**-0.2**
	baz=264,SNR=40						
G23K	**Bananza Creek**	**22.29**	**38**	P	**P**	**08 18 34.7**	**-0.1**
	baz=249,SNR=73						
WRH	**Wood River Hil**	**22.38**	**44**	P	**P**	**08 18 34.8**	**-0.9**
DHY	**Denali Highway**	**22.41**	**48**	P	**P**	**08 18 35.1**	**-1.2**
DHY	**Denali Highway**	**22.41**	**48**	P	**P**	**08 18 35.3**	**-0.9**
	baz=261,SNR=20						
MDM	**Murphy Dome**	**22.44**	**43**	P	**P**	**08 18 36.3**	**-0.1**
TCOL	**CIGO, UAF Yank**	**22.57**	**43**	P	**P**	**08 18 37.6**	**-0.1**
	baz=256,SNR=113						
COLA	**College**	**22.58**	**43**	P	**P**	**08 18 37.7**	**-0.1**
	baz=256						
COLA	**College**	**22.58**	**43**	P	**P**	**08 18 37.9**	**+0.2**
COLA	**College**	**22.58**	**43**	*d i*P	**P**	**08 18 37.2**	**-0.5**
COLA				pmax	pmax		
	comp=Z,314nm,1.1s						
A21K	**Barrow**	**22.61**	**24**	P	**P**	**08 18 37.8**	**-0.2**
	baz=230,SNR=6.6						
POKR	**Poker Plat Res**	**22.81**	**42**	P	**P**	**08 18 40.0**	**-0.1**
	baz=256,SNR=170						
H24K	**Noodor Dome**	**22.83**	**40**	P	**P**	**08 18 40.9**	**+0.6**
H24K	**Noodor Dome**	**22.83**	**40**	P	**P**	**08 18 39.7**	**-0.6**
	baz=254,SNR=112						
M24K	**Tolsona, Glenn**	**22.83**	**50**	P	**P**	**08 18 39.8**	**-0.6**
	baz=264,SNR=28						
HDA	**Harding Lake**	**22.85**	**44**	P	**P**	**08 18 40.0**	**-0.5**
	baz=258,SNR=51						
KLU	**Klutina**	**22.89**	**52**	P	**P**	**08 18 40.0**	**-1.0**
	baz=266,SNR=25						
EYAK	**Cordova Ski Ar**	**22.93**	**54**	P	**P**	**08 18 40.8**	**-0.4**
	baz=268						
EYAK	**Cordova Ski Ar**	**22.93**	**54**	P	**P**	**08 18 41.0**	**-0.2**
E23K	**Chandalar**	**22.95**	**34**	P	**P**	**08 18 41.5**	**-0.1**
	baz=246						
ILAR	**Eielson Array**	**22.95**	**43**	P	**P**	**08 18 40.3**	**-1.2**
	comp=Z,20nm,0.4s,baz=251,slow=8.3,SNR=319						
ILAR				PcP	**PcP**	**08 22 26.8**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=274,slow=3.3,SNR=5.0						
ILAR				LR	LR	08 27 43.2	
	comp=Z,220nm,19.4s,baz=262,slow=37						
	comp=Z,20nm,0.4s						
D23K	**Nanushuk River**	**22.99**	**32**	P	**P**	**08 18 41.2**	**-0.6**
	baz=243,SNR=32						
TOLK	**Toolik Lake Re**	**23.21**	**33**	P	**P**	**08 18 44.1**	**+0.2**
	baz=245,SNR=38						
K24K	**Donnelly Dome**	**23.24**	**46**	P	**P**	**08 18 43.2**	**-1.1**
	baz=261,SNR=28						
G24K	**Hadweenzic Riv**	**23.24**	**38**	P	**P**	**08 18 44.7**	**+0.5**
	baz=252						
PAX	**Paxson**	**23.25**	**48**	P	**P**	**08 18 43.6**	**-0.9**
	baz=263,SNR=81						
HARP	**HAARP**	**23.33**	**50**	P	**P**	**08 18 44.8**	**-0.3**
	baz=265,SNR=18						
E24K	**Your Creek**	**23.35**	**35**	P	**P**	**08 18 45.3**	**0.0**
	baz=248,SNR=48						
F24K	**Squaw Lake**	**23.36**	**36**	P	**P**	**08 18 45.0**	**-0.3**
	baz=250,SNR=39						
C23K	**Itkillik River**	**23.42**	**30**	P	**P**	**08 18 45.4**	**-0.4**
	baz=241,SNR=36						
BMRM	**Bremner River**	**23.50**	**53**	P	**P**	**08 18 46.3**	**-0.4**
	baz=269,SNR=9.3						
N25K	**Chitina, Valde**	**23.53**	**52**	P	**P**	**08 18 47.1**	**+0.1**
	baz=267,SNR=20						
ERM	**Erimo**	**23.54**	**255**	P	**P**	**08 18 49.4**	**+2.3**
	comp=Z,54nm,0.8s						
JEM	**Erimo**	**23.54**	**255**	P	**P**	**08 18 49.5**	**+2.4**
	comp=Z,24nm,0.8s						
J25K	**Salcha River,**	**23.56**	**44**	P	**P**	**08 18 46.5**	**-0.8**
	baz=259						
KAIM	**Kayak Island**	**23.58**	**56**	P	**P**	**08 18 47.5**	**+0.1**
	baz=271						
RIDG	**Independent Ri**	**23.64**	**46**	P	**P**	**08 18 46.6**	**-1.3**
	baz=262,SNR=14						
D24K	**Happy Valley**	**23.67**	**32**	P	**P**	**08 18 47.8**	**-0.3**
	baz=245,SNR=36						
PRP	**Porcupine Dome**	**23.68**	**42**	P	**P**	**08 18 48.9**	**+0.5**
PRP	**Porcupine Dome**	**23.68**	**42**	P	**P**	**08 18 48.3**	**-0.1**
	baz=257,SNR=69						
H25L	**Birch Creek**	**23.75**	**40**	P	**P**	**08 18 48.6**	**-0.2**
	baz=255						
G25K	**Bearman Lake**	**23.78**	**39**	P	**P**	**08 18 49.0**	**-0.1**
	baz=254,SNR=17						
GLB	**Gilahina Butte**	**23.90**	**52**	P	**P**	**08 18 49.8**	**-0.5**
C24K	**Franklin Bluff**	**23.96**	**31**	P	**P**	**08 18 50.0**	**-0.6**
	baz=244						
MENT	**Mentasta**	**24.05**	**49**	P	**P**	**08 18 51.4**	**-0.2**
SCRK	**Sand Creek**	**24.05**	**46**	P	**P**	**08 18 50.5**	**-1.2**
	baz=262,SNR=84						
FYU	**Fort Yukon**	**24.06**	**39**	P	**P**	**08 18 52.5**	**+0.9**
VRDI	**Verde Repeater**	**24.07**	**53**	P	**P**	**08 18 51.6**	**-0.4**
F25K	**Christian Rive**	**24.20**	**37**	P	**P**	**08 18 53.4**	**+0.5**
	baz=252,SNR=81						
L26K	**Log Cabin Wild**	**24.22**	**48**	P	**P**	**08 18 53.1**	**0.0**
L26K	**Log Cabin Wild**	**24.22**	**48**	P	**P**	**08 18 52.9**	**-0.3**
	baz=265,SNR=33						
MCARA	**McCarthy VSAT**	**24.28**	**52**	P	**P**	**08 18 53.5**	**-0.1**
MCARA	**McCarthy VSAT**	**24.28**	**52**	P	**P**	**08 18 53.3**	**-0.3**
	baz=269,SNR=35						
J26L	**Joseph Creek**	**24.31**	**45**	P	**P**	**08 18 53.1**	**-0.8**
J26L	**Joseph Creek**	**24.31**	**45**	P	**P**	**08 18 52.6**	**-1.4**
	baz=261						
M26K	**Nabesna, AK**	**24.34**	**50**	P	**P**	**08 18 53.9**	**-0.3**
	baz=267						
E25K	**Arctic Village**	**24.39**	**36**	P	**P**	**08 18 54.9**	**+0.3**
	baz=251,SNR=102						
D25K	**Kavik River**	**24.54**	**33**	P	**P**	**08 18 55.6**	**-0.3**
	baz=248						
I26K	**Coal Creek Min**	**24.61**	**43**	P	**P**	**08 18 56.4**	**-0.3**
	baz=260						
G26K	**Porcupine Rive**	**24.71**	**39**	P	**P**	**08 18 57.7**	**+0.2**
	baz=256,SNR=134						
F26K	**Sheenjek River**	**24.77**	**37**	P	**P**	**08 18 58.8**	**+0.7**
	baz=254,SNR=40						
MESA	**MESA**	**24.82**	**55**	P	**P**	**08 18 59.1**	**+0.4**
	baz=273						
M27K	**Edge Creek, AK**	**24.85**	**50**	P	**P**	**08 18 59.2**	**+0.2**
	baz=268,SNR=59						
K27K	**Chicken**	**24.89**	**46**	P	**P**	**08 18 59.7**	**+0.5**
	baz=264						
L27K	**Beaver Creek,**	**24.92**	**48**	P	**P**	**08 18 59.6**	**+0.1**
	baz=266,SNR=48						
C26K	**Camden Bay**	**25.24**	**32**	P	**P**	**08 19 02.1**	**-0.2**
	baz=248						
I27K	**Kandik River**	**25.30**	**42**	P	**P**	**08 19 02.4**	**-0.5**
	baz=261						
YAK	**Yakutsk**	**25.31**	**309**	P	**P**	**08 19 02.0**	**-0.9**
	comp=Z,21nm,0.3s,baz=86,slow=2.5,SNR=32						
YAK				S	**S**	**08 23 19.9**	**-1.3**
	comp=Z,6.7nm,0.4s,baz=12,slow=14,SNR=7.1						
YAK				LR	LR	08 28 47.5	
	comp=Z,66nm,20.9s,baz=88,slow=36						
	comp=Z,21nm,0.3s						
YAK	**Yakutsk**	**25.31**	**309**	P	**P**	**08 19 02.1**	**-0.8**
YAK	**Yakutsk**	**25.31**	**309**	*d i*P	**P**	**08 19 02.0**	**-0.9**
YAK				*e**PP	**pP**	**08 19 24.4**	**+0.5**
YAK				*e*		08 19 42.7	
YAK				*e*		08 22 31.9	
YAK				*e*S	**S**	**08 23 21.4**	**+0.2**
YAK				*e**SS	**sS**	**08 24 00.5**	**+1.7**
YAK				*e*		08 29 48.8	
YAK				pmax	pmax		
	comp=Z,174nm,1.0s						
YAK				pmax	pmax		
	comp=N,23nm,1.0s						
YAK				pmax	pmax		
	comp=E,31nm,1.0s						
YAK				pmax	pmax		
	comp=Z,324nm,5.6s						
YAK				pmax	pmax		
	comp=N,227nm,3.6s						
YAK				pmax	pmax		
	comp=E,318nm,3.7s						
YAK				smax	smax		
	comp=E,336nm,3.0s						
YAK				smax	smax		
	comp=N,330nm,2.0s						
BVCY	**Beaver Creek**	**25.33**	**50**	P	**P**	**08 19 02.7**	**-0.5**
	baz=269,SNR=6.8						
EGAK	**Eagle**	**25.37**	**44**	P	**P**	**08 19 02.6**	**-0.9**
	baz=263,SNR=45						
H27K	**Steamboat Moun**	**25.44**	**41**	P	**P**	**08 19 03.8**	**-0.4**
	baz=260						
G27K	**Doyon Strip**	**25.50**	**40**	P	**P**	**08 19 04.7**	**0.0**
	baz=258						
YUK3	**Moose Creek**	**25.51**	**51**	P	**P**	**08 19 04.0**	**-1.1**
	baz=270,SNR=19						
C27K	**Jago River**	**25.53**	**33**	P	**P**	**08 19 04.2**	**-0.7**
	baz=250						
O28M	**Mount Upton**	**25.66**	**54**	P	**P**	**08 19 06.2**	**-0.3**
	baz=273						
PINM	**Pinnacle**	**25.67**	**55**	P	**P**	**08 19 06.2**	**-0.2**
	baz=274						
E27K	**Coleen River**	**25.84**	**37**	P	**P**	**08 19 07.2**	**-0.5**
	baz=256,SNR=53						
YUK8	**Steele Glacier**	**25.85**	**53**	P	**P**	**08 19 07.9**	**-0.3**
	baz=272,SNR=12						
DAWY	**Dawson**	**26.07**	**46**	P	**P**	**08 19 09.7**	**-0.2**
DAWY				IAmb	IAmb	08 19 38.9	
	comp=Z,148nm,1.2s						
DAWY	**Dawson**	**26.07**	**46**	P	**P**	**08 19 10.0**	**+0.1**
	baz=267,SNR=45						
PNL	**Peninsula**	**26.13**	**56**	P	**P**	**08 19 10.1**	**-0.4**
	baz=276						
PNL	**Peninsula**	**26.13**	**56**	P	**P**	**08 19 10.7**	**+0.2**
YUK4	**Talbot Arm**	**26.39**	**52**	P	**P**	**08 19 12.9**	**-0.1**
	baz=273						
M29M	**Somme Creek**	**26.45**	**50**	P	**P**	**08 19 13.1**	**-0.3**
	baz=271,SNR=18						
O29M	**Mount Kennedy**	**26.49**	**55**	P	**P**	**08 19 13.3**	**-0.5**
	baz=275						
YUK6	**Outpost Mounta**	**26.55**	**53**	P	**P**	**08 19 14.2**	**-0.2**
	baz=274						
L29M	**L29M**	**26.60**	**48**	P	**P**	**08 19 14.3**	**-0.4**
	baz=270						
J29M	**Klondike Camp**	**26.61**	**45**	P	**P**	**08 19 14.7**	**-0.1**
	baz=267						
I29M	**Ogilvie Camp,**	**26.64**	**43**	P	**P**	**08 19 14.0**	**-0.9**
	baz=265,SNR=38						
KLR	**Kul'dur**	**26.78**	**280**	P	**P**	**08 19 15.6**	**-0.7**
	comp=Z,5.8nm,1.0s,baz=68,slow=10,SNR=9.2						
	comp=Z,5.8nm,1.0s						
KLR	**Kul'dur**	**26.78**	**280**⇑	*e*P	**P**	**08 19 16.1**	**-0.2**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
K29M	**Barlow Dome**	**26.89**	**47**	P	**P**	**08 19 17.0**	**-0.3**
	baz=269						
HYT	**Haines Junctio**	**26.97**	**54**	P	**P**	**08 19 18.0**	**-0.2**
	baz=275,SNR=16						
P29M	**Windy Craggy**	**26.97**	**56**	P	**P**	**08 19 17.9**	**-0.1**
	baz=277						
N30M	**Aishikik Lake**	**27.13**	**52**	P	**P**	**08 19 19.1**	**-0.3**
	baz=274						
M30M	**Minto, Yukon**	**27.22**	**50**	P	**P**	**08 19 20.0**	**-0.2**
M30M	**Minto, Yukon**	**27.22**	**50**	P	**P**	**08 19 18.9**	**-1.2**
	baz=272						
P30M	**Million Dollar**	**27.31**	**55**	P	**P**	**08 19 21.4**	**+0.4**
	baz=277						
TIXI	**Tiksi**	**27.35**	**331**	P	**P**	**08 19 20.9**	**-0.3**
	comp=Z,5.5nm,0.5s,baz=58,slow=0.0,SNR=14						
TIXI				ScP	**ScP**	**08 26 08.0**	**-0.5**
	comp=Z,7.5nm,1.1s,baz=127,slow=0.2,SNR=7.4						

TIXI LR LR 08 30 03.8
comp=Z,61nm,20.2s,baz=43,slow=36
comp=Z,5.5nm,0.5s
TIXI Tiksi 27.35 331 P P 08 19 22.0 +0.8
TIXI IAmb IAmb 08 19 51.6
comp=Z,56nm,0.9s
TIXI Tiksi 27.35 331⇓ eP P 08 19 20.3 -0.9
TIXI pmax pmax
comp=Z,25nm,1.3s
EPYK Eagle Plains 27.38 41 P P 08 19 20.8 -0.8
baz=264,SNR=18
MAYO Mayo, Yukon 27.61 47 P P 08 19 23.4 -0.2
baz=271
G30M tAoh Zraii Nji 27.64 40 P P 08 19 23.8 -0.2
baz=264,SNR=12
O30N Mendenhall 27.67 54 P P 08 19 24.4 +0.1
baz=276
PLBC Pleasant Camp 27.69 56 P P 08 19 23.9 -0.4
baz=278
N31M Braeburn, Yuko 27.75 52 P P 08 19 25.1 +0.1
baz=275
ZEA Zeya 27.82 291 eP P 08 19 25.7 +0.1
ZEA pmax pmax
comp=Z,20nm,1.0s
S31K Pelican 28.00 60 P P 08 19 28.3 +1.2
baz=281
SKAG Skagway 28.21 56 P P 08 19 29.7 +0.7
baz=279
WHY Whitehorse 28.27 54 P P 08 19 30.0 +0.3
baz=277
M31M Drury Creek, Y 28.36 50 P P 08 19 31.0 +0.7
baz=275,SNR=14
F31M Tsiigehtchic 28.65 39 P P 08 19 32.2 -0.5
baz=265,SNR=10
SIT Sitka 28.67 61 P P 08 19 32.9 -0.2
baz=284
INK Inuvik 28.81 37 P P 08 19 34.1 -0.1
comp=Z,8.5nm,0.3s,baz=267,slow=8.2,SNR=70
comp=Z,8.5nm,0.3s
INK Inuvik 28.81 37 P P 08 19 33.7 -0.5
baz=264,SNR=19
R32K Eaglecrest 28.84 58 P P 08 19 33.8 -0.8
baz=282
FARO Faro, Yukon 28.84 50 P P 08 19 34.0 -0.6
baz=276,SNR=13
JIS Juneau Island 28.91 58 P P 08 19 36.0 +0.9
HEH HeiHe 28.94 284 eP P 08 19 34.7 -0.9
HEH pP pP **08 19 57.5 -0.4**
HEH sP sP **08 20 09.9 +0.4**
HEH PcP PcP **08 22 41.6 -0.2**
HEH S S **08 24 17.2 -1.5**
HEH ScP ScP **08 26 13.5 -0.3**
HEH pmax pmax
comp=Z,12nm,1.2s
HEH pmax pmax
comp=Z,150nm,5.2s
S32K Killisnoo 28.98 60 P P 08 19 36.0 +0.2
baz=283
P32M Atlin 29.00 56 P P 08 19 36.6 +0.5
baz=280,SNR=11
USRK Ussuriysk Ar. 29.02 270 P P 08 19 35.8 -0.5
comp=Z,4.8nm,0.6s,baz=59,slow=9.8,SNR=8.2
USRK ScP ScP **08 26 15.1 +0.9**
comp=Z,4.5nm,0.9s,baz=60,slow=4.6,SNR=4.3
USRK LR LR 08 30 52.4
comp=Z,122nm,21.1s,baz=19,slow=35
comp=Z,4.8nm,0.6s
N32M Quiet Lake 29.08 52 P P 08 19 37.2 +0.5
baz=278
P33M Teslin, Yukon 29.35 54 P P 08 19 39.4 +0.2
baz=280,SNR=29
MMPY Sheldon Lake, 29.77 49 P P 08 19 43.4 +0.6
baz=276,SNR=18
Q32M Nakina River 29.85 57 P P 08 19 45.0 +1.2
baz=282,SNR=5.8
MAJO Matsushiro 30.03 252 P P 08 19 46.8 +1.4
MAJO Matsushiro 30.03 252⇓ eP P 08 19 46.3 +0.9
MAJO pmax pmax
comp=Z,15nm,0.9s
MJAR Matsushiro Arr 30.03 252 P P 08 19 44.7 -0.7
comp=Z,3.6nm,0.9s,baz=46,slow=7.1,SNR=5.9
MJAR ScP ScP **08 26 17.8 +0.2**
comp=Z,3.9nm,1.1s,baz=325,slow=0.9,SNR=5.2
comp=Z,3.6nm,0.9s
R33M Jennings River 30.42 56 P P 08 19 50.2 +1.5
baz=282
S34M Telegraph Cree 30.67 58 P P 08 19 52.0 +1.3
baz=285
BNX BinXian 30.99 276 ⇑P P 08 19 53.6 -0.1
BNX pmax pmax
comp=Z,21nm,1.0s
BNX pmax pmax
comp=Z,220nm,6.0s
DLBC Dease Lake 31.11 57 P P 08 19 56.0 +1.3
comp=Z,8.7nm,0.5s,baz=252,slow=6.8,SNR=29
DLBC LR LR 08 32 08.3
comp=Z,139nm,21.8s,baz=288,slow=36
comp=Z,8.7nm,0.5s
DLBC Dease Lake 31.11 57 P P 08 19 55.9 +1.3
baz=284,SNR=8.6
JGF Kuroka 31.18 251 P P 08 19 57.1 +1.6
TGTN Hyland Airport 31.32 51 P P 08 19 57.4 +0.9
baz=281,SNR=12
WTLY Watson Lake, Y 31.34 54 P P 08 19 57.0 +0.3
baz=282,SNR=14
T35M Bob Quinn 31.38 60 P P 08 19 57.9 +0.9
baz=287,SNR=6.8
JHJ2 Mitsune 31.61 245 P P 08 19 59.4 +0.2
JHJ Hachijo jima 2 31.62 245 P P 08 19 58.1 -1.3
comp=Z,174nm,0.4s,baz=173,slow=11,SNR=9.5
A36M Sachs Harbour 31.96 31 P P 08 20 02.3 +0.4
A36M IAmb IAmb 08 20 04.9
comp=Z,80nm,0.9s
A36M Sachs Harbour 31.96 31 P P 08 20 02.4 +0.5
baz=266,SNR=45
C36M Paulatuk 32.29 36 P P 08 20 05.0 +0.2
C36M Paulatuk 32.29 36 P P 08 20 04.1 -0.7
baz=271,SNR=39
LIRD Liard River Hi 32.84 54 P P 08 20 10.3 +0.5
baz=285,SNR=9.0
CN2 Changchun 33.20 274 P P 08 20 08.1 -5.0
CN2 pmax pmax
comp=Z,20nm,0.8s
WRGLY Wrigley 33.20 47 P P 08 20 13.5 +0.7
baz=282
H11N2 WAKE ISLAND Hy 33.49 193 T T 08 56 04.1
baz=9.4,slow=76,SNR=34
H11N3 WAKE ISLAND Hy 33.51 193 T T 08 55 50.1
baz=9.4,slow=76,SNR=29
H11N1 WAKE ISLAND Hy 33.51 193 T T 08 55 56.4
baz=9.4,slow=76,SNR=56
KOTAN Kotaneelee Air 33.64 53 P P 08 20 17.8 +1.1
baz=286,SNR=18
BOD Bodaibo 33.73 303 eP P 08 20 16.3 -1.2
BOD pmax pmax
comp=Z,83nm,0.9s
BBB Bella Bella 34.22 67 LR LR 08 32 44.4
comp=Z,77nm,18.6s,baz=296,slow=33
H11S1 WAKE ISLAND Hy 34.72 193 T T 08 57 07.5
baz=8.2,slow=76,SNR=66
H11S3 WAKE ISLAND Hy 34.74 193 T T 08 57 02.0
baz=8.2,slow=76,SNR=74
H11S2 WAKE ISLAND Hy 34.74 193 T T 08 57 20.2
baz=8.2,slow=76,SNR=40
KSRS Korea Array 35.52 263 P P 08 20 34.4 +1.3
comp=Z,5.3nm,0.8s,baz=57,slow=8.3,SNR=16
KSRS LR LR 08 34 53.9
comp=Z,38nm,21.3s,baz=55,slow=36
comp=Z,5.3nm,0.8s
YKA Yellowknife Ar 37.31 46 P P 08 20 47.6 -0.5
comp=Z,8.3nm,0.4s,baz=233,slow=9.5,SNR=54
YKA LR LR 08 37 14.8
comp=Z,182nm,20.4s,baz=300,slow=38
comp=Z,8.3nm,0.4s
KIP Kipapa 37.81 135⇑ eP P 08 20 54.2 +1.6
KIP pmax pmax
comp=Z,31nm,1.2s
XLT XiLinHaoTe 38.78 281 ⇑ iP P 08 21 01.6 +0.8
XLT ScP ScP **08 26 49.0 +0.2**
XLT pmax pmax
comp=Z,23nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.6s
RES Resolute Bay 40.20 24 P P 08 21 11.7 -0.4
comp=Z,24nm,1.0s,baz=285,slow=5.1,SNR=14
RES PcP PcP **08 23 14.3 +0.4**
comp=Z,4.0nm,0.6s,baz=270,slow=2.9,SNR=2.0
comp=Z,24nm,1.0s

B08A Colville Reser 40.98 69 P P 08 21 18.5 -0.4
B08A IAmb IAmb 08 21 20.1
comp=Z,39nm,1.2s
BJI Beijing 41.01 276 P P 08 21 17.1 -2.0
BJI pmax pmax
comp=Z,5.0nm,1.1s
NRIK Noril'sk 41.02 327 P P 08 21 18.9 +0.2
comp=Z,13nm,1.0s,baz=70,slow=7.0,SNR=20
NRIK PcP PcP **08 23 17.1 +0.4**
comp=Z,5.2nm,0.5s,baz=51,slow=9.2,SNR=4.2
NRIK ScP ScP **08 26 57.7 +0.8**
comp=Z,1.5nm,0.4s,baz=61,slow=7.3,SNR=4.5
comp=Z,13nm,1.0s
NRIK Noril'sk 41.02 327 d iP P 08 21 18.6 -0.2
NRIK pmax pmax
comp=Z,27nm,1.2s
HOOD Mount Hood Mea 41.31 74 P P 08 21 21.6 -0.1
HOOD IAmb IAmb 08 21 23.0
comp=Z,71nm,1.4s
ULN Ulaanbaatar 41.85 291 P P 08 21 26.7 +0.6
comp=Z,90nm,1.2s
ULN Ulaanbaatar 41.85 291 ceP P 08 21 26.5 +0.4
ULN pmax pmax
comp=Z,22nm,1.0s
ULN Ulaanbaatar 41.85 291 P P 08 21 24.3 -1.8
ULN pP pP **08 21 47.6 -1.7**
ULN Ulaanbaatar 41.85 291 P P 08 21 26.5 +0.4
ALE Alert 41.95 9 P P 08 21 25.6 -0.7
ALE pP pwP **08 21 53.3 -0.1**
ALE sP sP **08 22 03.1 +3.7**
ALE Alert 41.95 9 P P 08 21 26.9 +0.6
ALE pP pwP **08 21 50.4 -2.9**
F07A Phinny Hill Vi 41.99 72 P P 08 21 27.1 +0.1
F07A IAmb IAmb 08 21 28.3
comp=Z,49nm,1.1s
SONM Songino Array 42.24 292 P P 08 21 29.9 +0.7
comp=Z,12nm,0.7s,baz=57,slow=8.7,SNR=42
SONM PcP PcP **08 23 21.8 +0.5**
comp=Z,0.3nm,0.3s,baz=56,slow=3.5,SNR=2.7
SONM ScP ScP **08 27 02.8 +0.4**
comp=Z,5.1nm,1.0s,baz=68,slow=2.5,SNR=15
SONM LR LR 08 39 46.3
comp=Z,58nm,19.8s,baz=62,slow=37
comp=Z,12nm,0.7s
SONM Songino Array 42.24 292 P P 08 21 29.9 +0.7
SONM Songino Array 42.24 292 P P 08 21 29.9 +0.7
SONM pmax pmax
comp=Z,15nm,0.8s
NEW Newport 42.28 68 P P 08 21 29.2 -0.2
comp=Z,7.4nm,0.5s,baz=305,slow=6.2,SNR=23
NEW PcP PcP **08 23 21.2 -0.1**
comp=Z,3.5nm,0.8s,baz=278,slow=6.2,SNR=2.7
comp=Z,7.4nm,0.5s
NEW Newport 42.28 68 P P 08 21 29.2 -0.2
baz=303,SNR=14
ZAK Zakamensk 42.60 297 eP P 08 21 32.1 0.0
ZAK pmax pmax
comp=Z,23nm,1.4s
YBH Yreka Blue Hor 42.78 79 P P 08 21 33.8 +0.2
comp=Z,1.6nm,0.5s,baz=318,slow=5.8,SNR=10
comp=Z,1.6nm,0.5s
YBH Yreka Blue Hor 42.78 79 P P 08 21 33.4 -0.2
G08A Pilot Rock 42.89 72 P P 08 21 33.7 -0.8
MOY Mondy 43.15 299 eP P 08 21 36.9 +0.4
MOY pmax pmax
comp=Z,11nm,1.3s
HHC Hu-ho-hao-te 43.28 280 eP P 08 21 38.9 +1.2
HHC pmax pmax
comp=Z,130nm,5.4s
HNS HongShan 43.57 274 ⇓P P 08 21 41.5 +1.7
HNS pmax pmax
comp=Z,35nm,1.2s
WALA Waterton Lakes 43.63 65 P P 08 21 40.1 -0.3
J08A Circle Bar Ran 44.31 74 P P 08 21 45.9 +0.1
J08A IAmb IAmb 08 21 47.0
comp=Z,56nm,2.0s
NJ2 Nanjing 44.65 265 eP P 08 21 50.7 +2.1
NJ2 pmax pmax
comp=Z,12nm,0.5s
WVOR Wild Horse Val 44.77 75 P P 08 21 47.2 -2.4
WVOR pmax pmax
comp=Z,11nm,1.8s
MSO Missoula 44.87 67 P P 08 21 50.0 -0.3
MSO IAmb IAmb 08 21 51.6
comp=Z,68nm,1.8s
MSO Missoula 44.87 67 P P 08 21 50.1 -0.1
baz=306,SNR=14
GUMO Guam 45.62 222 LR LR 08 39 47.7
comp=Z,55nm,18.7s,baz=40,slow=34
NOR Nord 45.73 2 i P P 08 21 55.5 -1.0
NOR IAmb IAmb 08 21 58.5
comp=Z,166nm,2.6s
PAHR Pah Rah Range 46.02 79 P P 08 21 59.6 +0.1
HRY Holter Researc 46.12 66 P P 08 21 59.4 -0.8
LRM Limekiln Ridge 46.30 68 P P 08 22 00.9 -0.8
EGMT Eagleton 46.49 64 P P 08 22 01.9 -1.2
baz=306,SNR=6.1
HLID Hailey 46.54 71 P P 08 22 03.1 -0.5
baz=308,SNR=16
FFC Flin Flon 46.67 52 P P 08 22 03.8 -0.4
FFC sP sP **08 22 39.4 +1.9**
BOZ Bozeman (W) 46.89 68 P P 08 22 05.6 -0.6
BOZ IAmb IAmb 08 22 06.9
comp=Z,47nm,1.4s
BOZ Bozeman (W) 46.89 68 P P 08 22 05.7 -0.6
baz=307,SNR=26
BOZ Bozeman (W) 46.89 68 P P 08 22 05.6 -0.6
BOZ pmax pmax
comp=Z,47nm,1.4s
NEEM North Greenlan 47.01 12 i P P 08 22 06.0 -0.9
NEEM IAmb IAmb 08 22 09.3
comp=Z,118nm,0.8s
QLMT Earthquake Lak 47.47 68 P P 08 22 10.8 0.0
NVAR Mina Array Bea 47.48 79 P P 08 22 10.8 -0.2
comp=Z,2.0nm,0.9s,baz=295,slow=7.4,SNR=14
NVAR PcP PcP **08 23 39.9 +0.2**
comp=Z,2.8nm,0.8s,baz=294,slow=4.0,SNR=5.5
NVAR ScP ScP **08 27 23.7 -0.6**
comp=Z,1.0nm,1.0s,baz=283,slow=1.9,SNR=6.9
YHL Hebgen Lake 47.60 68 P P 08 22 11.4 -0.5
YHL IAmb IAmb 08 22 12.7
comp=Z,37nm,1.2s
YHB Horse Butte 47.65 68 P P 08 22 11.5 -0.7
YHB IAmb IAmb 08 22 12.9
comp=Z,43nm,1.2s
ELK Elko 47.81 75 LR LR 08 40 55.6
comp=Z,66nm,18.1s,baz=291,slow=34
ELK Elko 47.81 75 P P 08 22 13.3 -0.3
KBS Kingsbay 48.14 356⇑ eP P 08 22 16.2 +1.0
KBS pmax pmax
comp=Z,51nm,1.7s
KBS Kingsbay 48.14 356 eP P 08 22 16.0 +0.7
KBS Kingsbay 48.14 356 P P 08 22 15.0 -0.2
KBS pP pwP **08 22 42.3 -0.5**
KBS Kingsbay 48.14 356 P P 08 22 15.9 +0.7
KBS sP sP **08 22 51.5 +2.9**
H17A Grant Village 48.22 68 P P 08 22 16.9 +0.3
baz=308,SNR=18
KULLO Kullorsuaq 48.36 16 i P P 08 22 15.4 -1.5
WHN Wuhan 48.44 267 ⇓P P 08 22 18.9 +0.7
WHN pmax pmax
comp=Z,48nm,0.6s
RLMT Red Lodge 48.50 67 P P 08 22 18.8 0.0
baz=308,SNR=20
HVU Hansel Valley 48.59 72 P P 08 22 19.6 +0.2
HVU Hansel Valley 48.59 72 P P 08 22 19.6 +0.2
HVU pmax pmax
comp=Z,16nm,1.2s
SPA0 Spitsbergen Ar 48.62 354 eP P 08 22 18.9 -0.1
SPA0 IAmb IAmb 08 22 19.6
comp=Z,188nm,1.1s
SPITS Spitsbergen Ar 48.62 354 P P 08 22 18.8 -0.1
comp=Z,22nm,0.3s,baz=45,slow=6.4,SNR=163
SPITS LR LR 08 42 34.1
comp=Z,131nm,20.6s,baz=348,slow=36
comp=Z,22nm,0.3s
SPB2 Spitsbergen Ar 48.62 354 P P 08 22 18.9 -0.1
VES Vestal, Richgr 48.72 83 P P 08 22 20.9 +0.6
baz=313
PKM Mcpherson Peak 48.92 84 P P 08 22 21.6 -0.5
baz=313
CWC Cottonwood Cre 48.93 81 P P 08 22 21.9 -0.1
baz=312
GRAC Grapevine Rang 48.98 80 P P 08 22 22.3 0.0
baz=312
BGU Big Grassy Mou 48.99 73 P P 08 22 22.1 -0.4

R11A Troy Canyon, C 49.16 78 P P 08 22 23.3 -0.5
baz=312,SNR=6.6
DGMT Dagmar 49.21 60 P P 08 22 23.7 -0.2
baz=308,SNR=8.2
DGMT Dagmar 49.21 60 P P 08 22 23.4 -0.5
baz=308,SNR=8.2
LAO LASA Array 49.22 63 P P 08 22 23.8 -0.2
LAO LASA Array 49.22 63 P P 08 22 24.1 +0.1
baz=308,SNR=14
LAO LASA Array 49.22 63 P P 08 22 24.3 +0.3
baz=308,SNR=14
XAN Xi'an 49.31 275 ⇑P P 08 22 25.8 +1.0
XAN pP pP 08 22 47.2 -1.5
XAN sP sP 08 22 56.7 -3.3
XAN S S **08 29 23.6 +0.1**
XAN sS sS 08 29 57.3 -6.3
XAN pmax pmax
comp=Z,12nm,1.4s
MPMC Manual Prospec 49.54 81 P P 08 22 26.7 0.0
baz=313
DUG Dugway, Tooele 49.59 74 P P 08 22 26.6 -0.4
baz=311,SNR=12
DUG Dugway, Tooele 49.59 74 P P 08 22 27.4 +0.4
DUG pmax pmax
comp=Z,16nm,1.7s
FURC Furnace Creek, 49.64 80 P P 08 22 27.8 +0.6
baz=313
BW06 Boulder Array 49.81 69 P P 08 22 28.3 -0.5
baz=310,SNR=23
PD31 Pinedale Array 49.81 69 P P 08 22 28.6 -0.2
PD31 IAmb IAmb 08 22 29.5
comp=Z,22nm,1.2s
PDAR Pinedale Array 49.81 69 P P 08 22 28.1 -0.7
comp=Z,6.1nm,0.5s,baz=326,slow=3.1,SNR=87
PDAR ScP ScP **08 27 32.6 -1.5**
comp=Z,1.0nm,0.9s,baz=343,slow=1.5,SNR=4.7
comp=Z,6.1nm,0.5s
ZALV Zalesovo Beam 49.96 309 P P 08 22 28.1 -1.3
comp=Z,7.8nm,0.7s,baz=54,slow=6.6,SNR=10.0
ZALV PcP PcP **08 23 48.4 +0.4**
comp=Z,6.5nm,0.8s,baz=35,slow=5.4,SNR=5.8
ZALV LR LR 08 45 31.6
comp=Z,37nm,18.7s,baz=54,slow=38
comp=Z,7.8nm,0.7s
UPNV Upernavik 49.96 17 i P P 08 22 28.6 -0.6
UPNV IAmb IAmb 08 22 31.4
comp=Z,100nm,1.1s
SHOC Shoshone, Teco 50.37 81 P P 08 22 33.1 +0.3
baz=313
DAG Danmarks Havn 50.45 4 i P P 08 22 31.4 -1.4
DAG IAmb IAmb 08 22 34.2
comp=Z,29nm,1.2s
DAG Danmarks Havn 50.45 4 P P 08 22 31.4 -1.4
DAG pmax pmax
comp=Z,26nm,0.9s
GSC Goldstone, Bar 50.46 81 P P 08 22 33.3 -0.2
baz=313,SNR=5.1
CIS Catalina Islan 50.78 84 P P 08 22 35.2 -0.8
baz=314
TUQ Turquoise Moun 50.90 81 P P 08 22 36.6 -0.3
baz=313
LZH Lanzhou 50.98 281 eP P 08 22 38.7 +1.2
LZH pP pP 08 23 02.4 +0.9
LZH sP sP 08 23 10.6 -2.1
LZH S S **08 29 47.2 +0.4**
LZH sS sS 08 30 24.9 -2.2
LZH pmax pmax
comp=Z,41nm,1.1s
HEC Hector,Ludlow 51.06 82 P P 08 22 37.6 -0.5
baz=314
BBRC Big Bear Solar 51.09 83 P P 08 22 38.4 -0.1
baz=314
GTA Gaotai 51.14 286 ⇓P P 08 22 39.4 +0.7
GTA pP pP 08 23 03.1 +0.9
GTA sP sP 08 23 13.2 0.0
GTA S S **08 29 51.4 +2.4**
GTA pmax pmax
comp=Z,34nm,1.0s
GTA pmax pmax
comp=Z,56nm,5.5s
GTA LR LR
comp=Z,95nm,16.4s
GTA LR LR
comp=Z,170nm,15.3s
GTA LR LR
comp=Z,160nm,17.1s
DGZ Jazzator, Alta 51.32 304 d iP P 08 22 40.0 +0.1
DGZ pmax pmax
comp=Z,21nm,1.0s
GMRC Granite Mounta 51.50 81 P P 08 22 41.3 -0.1
baz=314
K22A Casper 51.60 68 P P 08 22 41.7 -0.4
baz=310,SNR=6.9
K22A Casper 51.60 68 P P 08 22 41.7 -0.4
baz=311,SNR=6.9
PFO Pinyon Flats O 51.82 83 P P 08 22 43.8 -0.1
baz=314
PFO Pinyon Flats O 51.82 83 P P 08 22 42.7 -1.1
PFO sP sP **08 23 19.4 +2.1**
TPFO Pinon Flats 51.83 83 P P 08 22 43.6 -0.3
baz=314
BELC Belle Mtn. Jos 51.83 82 P P 08 22 43.4 -0.6
baz=314
BJO1 Bjornoya 51.93 352 eP P 08 22 44.4 +0.5
MDND Maddock 52.00 59 P P 08 22 45.2 +0.3
MDND Maddock 52.00 59 P P 08 22 45.1 +0.3
baz=310,SNR=19
MDND Maddock 52.00 59 P P 08 22 44.5 -0.3
baz=310,SNR=19
RSSD Black Hills 52.03 65 P P 08 22 44.8 -0.6
RSSD IAmb IAmb 08 22 46.0
comp=Z,64nm,1.6s
RSSD Black Hills 52.03 65 P P 08 22 44.8 -0.6
baz=310,SNR=28
RSSD Black Hills 52.03 65 P P 08 22 44.5 -0.9
baz=311
RSSD Black Hills 52.03 65 P P 08 22 44.8 -0.6
RSSD pmax pmax
comp=Z,64nm,1.6s
RSSD Black Hills 52.03 65 P P 08 22 44.1 -1.3
RSSD pP pP **08 23 05.9 -2.3**
RSSD Black Hills 52.03 65 P P 08 22 44.8 -0.6
RSSD sP sP **08 23 20.2 +1.3**
IRM Iron Mountain 52.23 81 P P 08 22 46.9 +0.1
baz=314
E28A Huff 52.25 60 P P 08 22 46.6 -0.1
baz=310,SNR=6.8
O20A White River Ci 52.27 71 P P 08 22 46.6 -0.6
O20A IAmb IAmb 08 22 47.9
comp=Z,22nm,1.2s
O20A White River Ci 52.27 71 P P 08 22 46.5 -0.7
baz=312,SNR=6.1
ULM Lac du Bonnet 52.35 54 P P 08 22 46.9 -0.5
comp=Z,14nm,0.3s,baz=311,slow=6.9,SNR=41
comp=Z,14nm,0.3s
IKP In-Ko-Pah, Jac 52.70 83 P P 08 22 50.9 +0.6
baz=315
PDMCI Parker Dam,Lak 52.74 80 P P 08 22 50.0 -0.4
baz=314
DBG Daneborg 52.82 5 i P P 08 22 48.9 -1.6
DBG IAmb IAmb 08 22 51.6
comp=Z,28nm,0.9s
SUMG Summit 52.87 12 i P P 08 22 50.9 -0.4
SUMG IAmb IAmb 08 22 54.0
comp=Z,78nm,1.0s
N23A Red Feather La 53.08 69 P P 08 22 53.5 +0.3
baz=312
WUAZ Wupatki 53.55 77 P P 08 22 56.5 -0.1
baz=314
AGMN Agassiz Nation 53.62 56 P P 08 22 56.3 -0.4
baz=311,SNR=13
AGMN Agassiz Nation 53.62 56 P P 08 22 56.3 -0.4
baz=311,SNR=13
FRB Frobisher Bay 53.95 29 P P 08 22 57.7 -1.1
comp=Z,22nm,0.7s,baz=332,slow=7.6,SNR=17
comp=Z,22nm,0.7s
ZSN Zaisan 54.07 303 eP P 08 22 59.0 -1.1
baz=303
ZSN Zaisan 54.07 303 eP P 08 22 58.9 -1.1
MVCO Mesa Verde 54.09 74 P P 08 23 00.5 -0.1
baz=314
SUSD Miller 54.57 61 P P 08 23 03.3 -0.4
baz=312
CD2 Chengdu 54.61 276 P P 08 23 04.5 +0.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
B35A Bob, Littlefor 54.65 55 P P 08 23 03.7 -0.5

baz=312,SNR=5.9
S22A 4UR Ranch, Cre 54.69 72 P **P** **08 23 04.7 -0.3**
baz=314,SNR=12
W18A Petrified Fore 54.80 77 P **P** **08 23 05.9 +0.2**
baz=314
Q24A Divide 54.83 70 P **P** **08 23 05.7 -0.3**
baz=313
KURK Kurchatov 54.95 309 P **P** **08 23 06.6 +0.3**
KURK Kurchatov 54.95 309*d i* P **P** **08 23 06.1 -0.2**
KURK pmax pmax
comp=Z,202nm,1.0s
KURK Kurchatov 54.95 309 P **P** **08 23 06.3 0.0**
KURK pP **pP** **08 23 31.4 +1.9**
KURK sP **sP** **08 23 42.0 +1.8**
WMQ Urumqi 55.01 298 ⇑P **P** **08 23 08.0 +1.0**
WMQ sP sP 08 23 45.5 +4.4
WMQ pmax pmax
comp=Z,63nm,0.9s
WMQ pmax pmax
comp=Z,310nm,4.3s
WMQ LR LR
comp=Z,64nm,24.7s
KURBB Kurchatov Arra 55.05 309 P **P** **08 23 06.8 -0.2**
comp=Z,113nm,0.9s,baz=47,slow=7.1,SNR=144
KURBB PcP **PcP** **08 24 07.3 0.0**
comp=Z,4.2nm,0.8s,baz=46,slow=6.6,SNR=0.8
KURBB ScP **ScP** **08 27 56.9 +0.4**
comp=Z,1.7nm,0.8s,baz=48,slow=4.3,SNR=4.5
comp=Z,113nm,0.9s
214A Organ Pipe Nat 55.17 82 P **P** **08 23 08.5 +0.3**
baz=316
OGNE Ogallala 55.24 66 P **P** **08 23 09.2 +0.5**
baz=313,SNR=8.4
OGNE Ogallala 55.24 66 P **P** **08 23 08.7 0.0**
baz=313,SNR=8.4
SDCO Great Sand Dun 55.46 71 P **P** **08 23 11.1 +0.6**
baz=314,SNR=7.8
SDCO Great Sand Dun 55.46 71 P **P** **08 23 10.4 -0.2**
baz=314,SNR=7.8
MK31 Makanchi Array 55.82 304 P **P** **08 23 11.9 -0.7**
MK31 IAmb IAmb 08 23 13.1
comp=Z,25nm,0.8s
MK31 Makanchi Array 55.82 304*d i* P **P** **08 23 11.9 -0.7**
MKAR Makanchi Array 55.82 304 P **P** **08 23 11.9 -0.7**
comp=Z,13nm,0.3s,baz=44,slow=7.1,SNR=167
MKAR LR LR 08 49 49.6
comp=Z,56nm,18.4s,baz=74,slow=39
comp=Z,13nm,0.3s
MKAR Makanchi Array 55.82 304 P **P** **08 23 11.8 -0.8**
MKAR Makanchi Array 55.82 304 P **P** **08 23 12.0 -0.7**
SFJD Kangerlussuaq 55.83 20 P **P** **08 23 11.6 -0.7**
comp=Z,12nm,0.5s,baz=343,slow=4.2,SNR=12
SFJD LR LR 08 48 23.7
comp=Z,69nm,21.5s,baz=344,slow=37
comp=Z,12nm,0.5s
ICESG Greenland Ices 55.90 14 *i* P **P** **08 23 12.1 -1.2**
ICESG IAmb IAmb 08 23 14.2
comp=Z,47nm,0.9s
ARA0 ARCESS Array S 55.90 347 *eP* **P** **08 23 12.7 -0.1**
ARA0 IAmb IAmb 08 23 13.3
comp=Z,68nm,1.3s
ARCES ARCESS Array B 55.90 347 P **P** **08 23 12.3 -0.6**
comp=Z,4.9nm,0.5s,baz=32,slow=8.1,SNR=59
ARCES LR LR 08 49 50.3
comp=Z,71nm,18.4s,baz=24,slow=39
comp=Z,4.9nm,0.5s
ARCES ARCESS Array B 55.90 347 P **P** **08 23 12.3 -0.6**
ARCES IAmb IAmb 08 23 13.6
comp=Z,57nm,1.3s
ARCES ARCESS Array B 55.90 347 P **P** **08 23 12.3 -0.6**
ARCES pmax pmax
comp=Z,57nm,1.3s
LVZ Lovozero 55.96 343⇑ *eP* **P** **08 23 12.8 -0.5**
LVZ pmax pmax
comp=Z,39nm,1.3s
LVZ Lovozero 55.96 343 P **P** **08 23 12.8 -0.6**
LVZ pP **pP** **08 23 36.0 -0.5**
MAKZ Makanchi 55.97 304 P **P** **08 23 13.3 -0.4**
MAKZ Makanchi 55.97 304 P **P** **08 23 13.3 -0.4**
MAKZ pmax pmax
comp=Z,46nm,1.0s
MAKZ Makanchi 55.97 304 P **P** **08 23 11.4 -2.2**
MAKZ x x 08 23 28.3
MAKZ pP **pP** **08 23 37.5 +0.4**
MAKZ Makanchi 55.97 304 P **P** **08 23 13.1 -0.6**
MAKZ pP **pP** **08 23 38.1 +1.0**
EYMN Ely 56.03 54 P **P** **08 23 13.6 -0.6**
EYMN Ely 56.03 54 P **P** **08 23 13.2 -1.0**
baz=313,SNR=8.4
EYMN Ely 56.03 54 P **P** **08 23 13.1 -1.0**
baz=313,SNR=8.4
GYA Guiyang 56.05 270 ⇑P **P** **08 23 14.5 -0.2**
GYA S **S** **08 30 57.3 +1.7**
GYA ScS **ScS** **08 32 53.0 -1.2**
GYA pmax pmax
comp=Z,30nm,0.5s
TUC Tucson 56.14 80 P **P** **08 23 14.8 -0.4**
baz=316
GOMU GeErMu 56.23 287 P **P** **08 23 16.2 +0.1**
GOMU pmax pmax
comp=Z,20nm,0.9s
GOMU pmax pmax
comp=Z,86nm,5.2s
KSCO Kaye Shedlock' 56.23 68 P **P** **08 23 16.4 +0.5**
baz=314,SNR=20
KSCO Kaye Shedlock' 56.23 68 P **P** **08 23 16.0 +0.1**
baz=314,SNR=20
ECSD EROS Data Cent 56.29 61 P **P** **08 23 14.9 -1.2**
baz=313,SNR=6.9
ECSD EROS Data Cent 56.29 61 P **P** **08 23 15.2 -0.9**
baz=313,SNR=6.9
F36A Milaca 56.44 57 P **P** **08 23 16.3 -0.8**
baz=313,SNR=6.3
JETT Jettan, Norway 56.51 349 *eP* **P** **08 23 17.2 0.0**
JETT IAmb IAmb 08 23 17.4
comp=Z,43nm,0.9s
T25A Trinidad 56.51 71 P **P** **08 23 17.7 -0.2**
baz=314,SNR=12
JMIC Jan Mayen 56.52 1 LR LR 08 48 15.0
comp=Z,29nm,19.2s,baz=24,slow=37
TRO Tromso 56.59 350 *eP* **P** **08 23 17.8 +0.1**
TRO IAmb IAmb 08 23 18.4
comp=Z,37nm,0.9s
KTK1 Kautokeino 56.68 348 *eP* **P** **08 23 18.3 -0.1**
KTK1 IAmb IAmb 08 23 19.0
comp=Z,57nm,1.1s
ANMO Albuquerque 56.85 75 P **P** **08 23 20.4 +0.1**
baz=315
ANMO Albuquerque 56.85 75 P **P** **08 23 20.4 +0.1**
baz=315
ANMO Albuquerque 56.85 75⇓ *eP* **P** **08 23 19.5 -0.8**
ANMO pmax pmax
comp=Z,9.0nm,1.7s
ANMO Albuquerque 56.85 75 P **P** **08 23 18.7 -1.6**
ANMO pP **pP** **08 23 41.6 -1.9**
ANMO Albuquerque 56.85 75 P **P** **08 23 20.4 +0.1**
E38A The Farm, Brul 56.92 55 P **P** **08 23 19.8 -0.6**
baz=314,SNR=8.9
BVAR Borovoye Array 57.03 316 P **P** **08 23 21.1 0.0**
comp=Z,15nm,0.3s,baz=50,slow=7.9,SNR=91
BVAR PcP **PcP** **08 24 14.9 -0.1**
comp=Z,4.2nm,0.4s,baz=73,slow=3.1,SNR=5.7
BVAR LR LR 08 51 52.4
comp=Z,52nm,18.2s,baz=40,slow=40
comp=Z,15nm,0.3s
BRVK Borovoye 57.05 316 P **P** **08 23 21.0 -0.2**
BRVK IAmb IAmb 08 23 22.4
comp=Z,33nm,0.9s
BRVK Borovoye 57.05 316*d i* P **P** **08 23 21.1 -0.1**
BRVK pmax pmax
comp=Z,57nm,1.7s
BRVK Borovoye 57.05 316 P **P** **08 23 21.0 -0.2**
BRVK Borovoye 57.05 316 P **P** **08 23 21.2 0.0**
BGNE Belgrade 57.06 64 P **P** **08 23 21.6 +0.1**
baz=314,SNR=12
BGNE Belgrade 57.06 64 P **P** **08 23 21.6 +0.1**
baz=314,SNR=12
DY2G Dye2 57.15 18 *i* P **P** **08 23 21.2 -0.8**
DY2G IAmb IAmb 08 23 22.2
comp=Z,61nm,1.2s
SPMN Marine on St. 57.25 57 P **P** **08 23 22.1 -0.6**
baz=314,SNR=11
SPMN Marine on St. 57.25 57 P **P** **08 23 22.6 -0.1**
baz=314,SNR=11
Y22A Socorro 57.26 76 P **P** **08 23 23.8 +0.7**
baz=315

L34A Svendsen Farm, 57.64 62 P **P** **08 23 25.0 -0.5**
L34A Svendsen Farm, 57.64 62 P **P** **08 23 25.1 -0.5**
baz=314,SNR=10
SGF Sodankyl 57.70 346 P **P** **08 23 24.3 -1.3**
SGF pmax pmax
comp=Z,37nm,1.9s
121A Cookes Peak, D 57.77 77 P **P** **08 23 26.9 +0.2**
baz=316
I37B Waseca 57.78 58 P **P** **08 23 26.9 +0.4**
baz=314,SNR=12
CBKS Cedar Bluff 57.99 67 P **P** **08 23 28.3 +0.1**
baz=315
SVE Sverdlovsk 58.06 324*ce* P **P** **08 23 29.2 +0.9**
SVE pmax pmax
comp=Z,56nm,1.0s
BRZS Berezniki 58.20 312 *eP* **P** **08 23 28.8 -0.6**
comp=Z,8.1nm,0.4s,baz=312
BRZS Berezniki 58.20 312 *eP* **P** **08 23 28.7 -0.6**
BRZS pmax pmax
comp=Z,8.0nm,0.4s
G40A Rib Lake 58.53 56 P **P** **08 23 31.3 -0.5**
G40A IAmb IAmb 08 23 32.6
comp=Z,28nm,0.9s
G40A Rib Lake 58.53 56 P **P** **08 23 31.4 -0.3**
baz=315,SNR=5.9
STEI Steigen 58.61 351 *eP* **P** **08 23 31.8 0.0**
STEI IAmb IAmb 08 23 33.2
comp=Z,34nm,1.1s
MSF Maaselka 58.72 344 P **P** **08 23 32.8 +0.1**
MSF pmax pmax
comp=Z,52nm,1.2s
N35A Tabor 58.80 62 P **P** **08 23 33.8 +0.1**
baz=315,SNR=8.9
R32A Long Quarter, 58.84 66 P **P** **08 23 33.1 -0.8**
baz=315,SNR=6.9
PRGR Permogore 58.92 334 *eP* **P** **08 23 34.5 +0.4**
PRGR *e**SP **pwP** **08 24 03.3 +0.9**
PRGR pmax pmax
comp=Z,53nm,0.8s
PZH PanZhiHua 59.01 274 P **P** **08 23 36.4 +1.0**
PZH S **S** **08 31 33.3 -1.0**
PZH sS **sS** **08 32 12.6 -3.2**
PZH ScS **ScS** **08 33 14.4 -1.5**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,120nm,6.4s
TDK Taldyqorghan 59.01 305 *eP* **P** **08 23 34.7 -0.5**
baz=305
TDK Taldyqorghan 59.01 305 *eP* **P** **08 23 34.6 -0.5**
ARU Arti 59.11 324 P **P** **08 23 35.9 +0.5**
comp=Z,39nm,0.4s,baz=34,slow=4.6,SNR=82
ARU LR LR 08 50 14.2
comp=Z,64nm,20.0s,baz=32,slow=37
comp=Z,39nm,0.4s
ARU Arti 59.11 324 P **P** **08 23 36.6 +1.1**
ARU Arti 59.11 324*c i* P **P** **08 23 36.0 +0.5**
ARU 08 24 19.2
ARU S **S** **08 31 38.0 +3.5**
ARU SS **SS** **08 35 27.6 -1.5**
ARU pmax pmax
comp=Z,108nm,1.0s
ARU Arti 59.11 324 P **P** **08 23 36.1 +0.6**
FAUS Fauske 59.14 351 *eP* **P** **08 23 35.6 +0.1**
FAUS IAmb IAmb 08 23 36.3
comp=Z,61nm,1.0s
I40A Norwalk 59.30 57 P **P** **08 23 36.7 -0.3**
I40A Norwalk 59.30 57 P **P** **08 23 36.5 -0.5**
baz=315,SNR=15
SCIA State Center 59.36 60 P **P** **08 23 37.9 +0.5**
baz=315
SCIA State Center 59.36 60 P **P** **08 23 37.1 -0.4**
baz=316
KSU1 Kansas State U 59.52 65 P **P** **08 23 37.7 -0.9**
baz=315,SNR=6.7
KSU1 Kansas State U 59.52 65 P **P** **08 23 38.0 -0.6**
baz=316,SNR=6.7
AMTX Amarillo 59.66 71 P **P** **08 23 40.3 +0.5**
baz=316,SNR=6.1
AMTX Amarillo 59.66 71 P **P** **08 23 39.4 -0.4**
baz=316
MSTX Muleshoe 59.68 73 P **P** **08 23 40.0 0.0**
baz=316,SNR=9.6
MSTX Muleshoe 59.68 73 P **P** **08 23 39.7 -0.2**
baz=316,SNR=9.6
SHLS Shalkode 59.79 302 *eP* **P** **08 23 39.0 -1.7**
comp=Z,17nm,0.8s,baz=302
SHLS Shalkode 59.79 302 *eP* **P** **08 23 38.9 -1.7**
SHLS pmax pmax
comp=Z,17nm,0.8s
KRVT Keravat (AS076 59.94 206 LR LR 08 43 48.9
comp=Z,110nm,20.4s,baz=143,slow=30
KPKS Kokpek 59.97 303 *eP* **P** **08 23 41.5 -0.3**
comp=Z,21nm,1.0s,baz=303
KPKS Kokpek 59.97 303 *eP* **P** **08 23 41.5 -0.3**
KPKS pmax pmax
comp=Z,21nm,1.0s
OUL Oulu 59.99 345 P **P** **08 23 41.2 -0.2**
OUL pmax pmax
comp=Z,45nm,1.4s
UZB Uzynbulak 60.02 303 *eP* **P** **08 23 41.1 -1.2**
baz=303
UZB Uzynbulak 60.02 303 *eP* **P** **08 23 41.0 -1.2**
U32A Winter Ranch, 60.12 68 P **P** **08 23 42.3 -0.6**
baz=316
N38A Joes South For 60.14 61 P **P** **08 23 42.3 -0.5**
baz=316,SNR=9.5
JFWS Jewell Farm 60.18 57 P **P** **08 23 42.1 -1.0**
baz=316,SNR=8.8
JFWS Jewell Farm 60.18 57 P **P** **08 23 41.8 -1.3**
baz=316,SNR=8.8
L40A Annosa 60.29 59 P **P** **08 23 43.0 -0.9**
baz=316,SNR=6.5
ZHN Zhinishke 60.31 303 *eP* **P** **08 23 43.1 -1.1**
baz=303
ZHN Zhinishke 60.31 303 *eP* **P** **08 23 43.0 -1.1**
KIRV Kirov 60.38 330 P **P** **08 23 44.8 +0.7**
comp=Z,58nm,0.8s,baz=40,slow=2.8,SNR=25
KIRV LR LR 08 51 16.7
comp=Z,62nm,21.6s,baz=23,slow=37
comp=Z,58nm,0.8s
KIRV Kirov 60.38 330*de* P **P** **08 23 45.1 +1.0**
MOR8 Moi Rana 60.40 351 *eP* **P** **08 23 42.6 -1.6**
MOR8 IAmb IAmb 08 23 43.6
comp=Z,36nm,1.0s
SATY Saty 60.40 303 *eP* **P** **08 23 44.4 -0.4**
comp=Z,23nm,1.3s,baz=303
SATY Saty 60.40 303 *eP* **P** **08 23 44.3 -0.4**
SATY pmax pmax
comp=Z,23nm,1.3s
CHKK Chushkaly 60.54 305 *eP* **P** **08 23 44.6 -1.0**
baz=304
CHKK Chushkaly 60.54 305 *eP* **P** **08 23 44.5 -1.0**
P38A Dawn 60.82 62 P **P** **08 23 46.6 -0.9**
baz=316,SNR=9.2
KUU Kurty 60.84 305 *eP* **P** **08 23 46.2 -1.4**
baz=305
KUU Kurty 60.84 305 *eP* **P** **08 23 46.2 -1.4**
MDOK Medeo 61.01 304 *eP* **P** **08 23 47.6 -1.3**
baz=304
MDOK Medeo 61.01 304 *eP* **P** **08 23 47.6 -1.3**
BTLS Baital 61.13 307 *eP* **P** **08 23 49.2 -0.3**
comp=Z,18nm,1.0s,baz=307
BTLS Baital 61.13 307 *eP* **P** **08 23 49.2 -0.3**
BTLS pmax pmax
comp=Z,18nm,1.0s
KLMR Klimovskoe 61.13 337 *eP* **P** **08 23 47.4 -1.8**
KLMR AMP 08 23 50.9
comp=Z,103nm,1.1s
KLMR Klimovskoe 61.13 337 *eP* **P** **08 23 47.4 -1.8**
KLMR pmax pmax
comp=Z,103nm,1.1s
T35B Sooner Cattle 61.13 66 P **P** **08 23 48.5 -1.2**
baz=316,SNR=6.3
L42A Oliver, Polo 61.14 58 P **P** **08 23 48.6 -1.0**
baz=316,SNR=5.4
TNSS Tian-Shan 61.16 304 *eP* **P** **08 23 49.5 -0.8**
baz=304
TNSS Tian-Shan 61.16 304 *eP* **P** **08 23 49.4 -0.8**
SCHQ Schefferville 61.40 35 P **P** **08 23 50.8 -0.4**
comp=Z,41nm,0.9s,baz=347,slow=6.5,SNR=43
comp=Z,41nm,0.9s
SCHQ Schefferville 61.40 35 P **P** **08 23 51.2 +0.1**
IVI Ivigtut 61.42 22 *eP* **P** **08 23 50.3 -0.8**
IVI IAmb IAmb 08 23 51.5
comp=Z,56nm,1.2s

WMOK Wichita Mounta 61.43 69 P **P** **08 23 51.5 -0.2**
baz=316,SNR=19
WMOK Wichita Mounta 61.43 69 P **P** **08 23 51.6 -0.1**
baz=317,SNR=19
WMOK Wichita Mounta 61.43 69 P **P** **08 23 51.1 -0.6**
WMOK pmax pmax
comp=Z,19nm,1.3s
N41A Harden Midland 61.46 60 P **P** **08 23 51.0 -0.7**
baz=316,SNR=12
GLMI Grayling 61.60 53 P **P** **08 23 51.8 -0.9**
baz=318
P40A Paris 61.68 61 P **P** **08 23 52.6 -0.7**
baz=317,SNR=28
L44A Lake County Fo 61.91 57 P **P** **08 23 54.3 -0.4**
baz=317
TKM2 Tokmak 2 61.92 305 P **P** **08 23 55.4 +0.3**
SNR=23
SGDS Sogindy 62.01 306 *eP* **P** **08 23 54.5 -1.1**
baz=306
SGDS Sogindy 62.01 306 *eP* **P** **08 23 54.4 -1.1**
ULHL Ulahol 62.09 304 P **P** **08 23 57.2 +0.9**
SNR=8.2
BORG Borgarnes 62.18 8 LR LR 08 49 59.9
comp=Z,32nm,21.4s,baz=292,slow=35
USP Ospenovka 62.21 306 P **P** **08 23 57.4 +0.6**
SNR=42
NSS Namsos 62.24 352 *eP* **P** **08 23 56.6 0.0**
NSS IAmb IAmb 08 23 57.2
comp=Z,41nm,1.1s
TUL1 Leonard 62.26 67 P **P** **08 23 56.4 -0.8**
baz=317,SNR=9.1
TUL1 Leonard 62.26 67 P **P** **08 23 56.5 -0.7**
baz=317,SNR=9.1
CHMS Chumysh 62.28 305 P **P** **08 23 57.6 +0.3**
SNR=12
HDIL Hopedale 62.38 59 P **P** **08 23 57.4 -0.5**
baz=317,SNR=16
HDIL Hopedale 62.38 59 P **P** **08 23 57.5 -0.4**
baz=317,SNR=16
M44A Midewin, Midew 62.42 57 P **P** **08 23 57.1 -1.1**
baz=317,SNR=6.1
KBK Karagaybulak 62.44 305 P **P** **08 23 58.7 +0.2**
SNR=15
R40A Maddies Statio 62.46 62 P **P** **08 23 57.4 -1.2**
baz=317,SNR=30
ABTX Abilene, Hawle 62.47 72 P **P** **08 23 58.6 0.0**
baz=317,SNR=14
ABTX Abilene, Hawle 62.47 72 P **P** **08 23 58.8 +0.2**
baz=317,SNR=14
TX31 Lajitas Ar. Si 62.51 77 P **P** **08 23 59.0 -0.2**
baz=317,SNR=45
TXAR Lajitas Array 62.51 77 P **P** **08 23 59.0 -0.1**
comp=Z,3.8nm,0.3s,baz=306,slow=5.4,SNR=186
comp=Z,3.8nm,0.3s
U38A Gravette 62.66 65 P **P** **08 23 58.4 -1.5**
baz=317,SNR=12
AAK Ala-Archa 62.68 305 P **P** **08 24 00.3 +0.2**
SNR=11
AAK Ala-Archa 62.68 305 P **P** **08 24 00.3 +0.2**
comp=Z,24nm,0.9s,baz=96,slow=2.6,SNR=40
AAK LR LR 08 52 05.5
comp=Z,58nm,19.2s,baz=39,slow=37
comp=Z,24nm,0.9s
AAK Ala-Archa 62.68 305 P **P** **08 23 58.9 -1.2**
AAK Ala-Archa 62.68 305 P **P** **08 24 00.3 +0.2**
AAK pP **pwP** **08 24 26.2 -2.1**
P43A Skaggs, Pawnee 62.93 60 P **P** **08 24 00.6 -1.0**
baz=317,SNR=14
UCH Uchtor 62.97 305 P **P** **08 24 02.9 +0.5**
SNR=12
EKS2 Erkin-Say 63.01 306 P **P** **08 24 02.9 +0.6**
SNR=27
LSA Lhasa 63.02 284 P **P** **08 24 04.4 +1.5**
LSA pmax pmax
comp=Z,19nm,0.6s
O44A Mansfield 63.11 59 P **P** **08 24 01.6 -1.1**
baz=318,SNR=8.1
CCM Cathedral Cave 63.18 62 P **P** **08 24 02.1 -1.3**
baz=317,SNR=14
CCM Cathedral Cave 63.18 62 P **P** **08 24 02.6 -0.7**
baz=318
CCM Cathedral Cave 63.18 62 P **P** **08 24 02.2 -1.1**
CCM pmax pmax
comp=Z,21nm,0.4s
CCM Cathedral Cave 63.18 62 P **P** **08 24 00.9 -2.4**
CCM pP **pwP** **08 24 29.4 -2.8**
CCM Cathedral Cave 63.18 62 P **P** **08 24 02.0 -1.3**
HNR Honiara 63.19 196 LR LR 08 47 31.5
comp=Z,850nm,19.8s,baz=4.0,slow=32
Z35A Perchaven, San 63.32 69 P **P** **08 24 04.1 -0.2**
baz=317
FINES FINESS Array B 63.37 344 P **P** **08 24 03.8 -0.4**
comp=Z,25nm,0.7s,baz=9.7,slow=7.7,SNR=74
FINES LR LR 08 53 01.4
comp=Z,66nm,21.8s,baz=18,slow=37
comp=Z,25nm,0.7s
AML Almayashu 63.45 305 P **P** **08 24 06.3 +0.8**
SNR=33
X37A Clayton 63.46 67 P **P** **08 24 05.0 -0.2**
baz=317,SNR=5.4
SFIN Lafayette 63.65 57 P **P** **08 24 05.7 -0.6**
baz=318,SNR=7.4
SFIN Lafayette 63.65 57 P **P** **08 24 05.5 -0.8**
baz=318,SNR=7.4
FVM French Village 63.67 61 P **P** **08 24 05.3 -1.3**
baz=318,SNR=6.4
Q44A Meyer Farm, Va 63.74 60 P **P** **08 24 06.1 -0.9**
baz=318,SNR=9.5
AAM Ann Arbor 63.94 54 P **P** **08 24 07.3 -0.9**
baz=319
JCT Junction City 63.94 73 P **P** **08 24 08.2 -0.3**
baz=318,SNR=7.6
JCT Junction City 63.94 73 P **P** **08 24 07.8 -0.6**
baz=318,SNR=7.6
JCT Junction City 63.94 73 P **P** **08 24 08.0 -0.5**
PUL Pulkovo 64.13 341⇓ *eP* **P** **08 24 10.3 +1.1**
PUL pmax pmax
comp=Z,64nm,0.5s
WHTX Lake Whitney, 64.19 71 P **P** **08 24 09.9 -0.1**
baz=318,SNR=5.9
WHTX Lake Whitney, 64.19 71 P **P** **08 24 09.4 -0.6**
baz=318,SNR=5.9
SADO Sadowa 64.22 49 LR LR 08 54 34.8
comp=Z,30nm,18.1s,baz=338,slow=38
KSH Kashi 64.24 302 P **P** **08 24 14.8 +4.4**
KSH pmax pmax
comp=Z,46nm,1.1s
OLIL Olney 64.35 59 P **P** **08 24 10.0 -0.9**
baz=318,SNR=6.2
SIJI Sorong 64.45 229 LR LR 08 48 39.0
comp=Z,38nm,20.3s,baz=28,slow=32
RAF Rauma 64.46 346 *eP* **P** **08 24 10.9 -0.3**
MIAR Mount Ida 64.49 66 P **P** **08 24 11.5 -0.5**
baz=318,SNR=29
MIAR Mount Ida 64.49 66 P **P** **08 24 11.4 -0.5**
baz=318,SNR=29
MIAR Mount Ida 64.49 66 P **P** **08 24 10.9 -1.0**
MIAR pmax pmax
comp=Z,51nm,1.4s
S44A Carbondale 64.51 61 P **P** **08 24 10.9 -1.1**
baz=318,SNR=10
MOL Molde 64.53 353 *eP* **P** **08 24 11.2 -0.5**
Z38A Mt. Pleasant 64.65 68 P **P** **08 24 12.8 -0.2**
baz=318,SNR=6.9
LCAR Lake Charles 64.70 63 P **P** **08 24 11.6 -1.6**
baz=318,SNR=14
O48B Farmland 64.72 56 P **P** **08 24 12.0 -1.3**
baz=319,SNR=5.2
O48B Farmland 64.72 56 P **P** **08 24 12.7 -0.7**
baz=319,SNR=5.2
MEF Metsahovi 64.81 344 *eP* **P** **08 24 13.3 -0.3**
DOMB Dombas 64.94 352 *eP* **P** **08 24 14.4 0.0**
DOMB IAML 08 24 15.3
comp=Z,8.8nm,0.4s
AKN Aaknes 64.96 354 *eP* **P** **08 24 15.1 +0.5**
435B Jarrell 65.00 72 P **P** **08 24 15.2 -0.1**
baz=318
435B Jarrell 65.00 72 P **P** **08 24 15.5 +0.2**
baz=318
237A Washetta, Mont 65.12 69 P **P** **08 24 15.7 -0.3**
baz=318
P48A Milroy 65.19 57 P **P** **08 24 15.8 -0.6**
P48A Milroy 65.19 57 P **P** **08 24 15.3 -1.0**
baz=319,SNR=20
P48A P **P** **08 24 15.3 -1.0**
baz=319,SNR=20
O49A Covington 65.19 56 P **P** **08 24 15.5 -0.9**

baz=319,SNR=6.3
O49A P P 08 24 15.5 -0.9
baz=319,SNR=6.3
IUG luzhnay 65.23 307 *e*P P 08 24 15.9 -0.9
baz=308
IUG luzhnay 65.23 307 *e*P P 08 24 15.8 -0.9
P49A Miami Univ. Ec 65.49 57 P P 08 24 17.3 -1.0
baz=319,SNR=16
P49A Miami Univ. Ec 65.49 57 P P 08 24 17.3 -1.0
baz=319,SNR=16
AAL Aland 65.53 346 *e*P P 08 24 17.9 -0.3
LNXT Lenox 65.57 62 P P 08 24 18.8 -0.1
baz=318,SNR=7.4
SHL Shillong 65.64 281 P P 08 24 19.3 -0.4
SHL pmax pmax
comp=Z,35nm,1.2s
WCI Wyandotte Cave 65.67 59 P P 08 24 18.9 -0.6
baz=319,SNR=11
WCI Wyandotte Cave 65.67 59 P P 08 24 18.8 -0.7
baz=319
WCI Wyandotte Cave 65.67 59 P P 08 24 18.9 -0.6
NB2 NORSAR Subarra 65.74 351 P P 08 24 19.5 -0.1
baz=10.0,slow=6.2
NB2 NORSAR Subarra 65.74 351 P P 08 24 19.5 -0.1
comp=Z,9.0nm,0.3s,baz=10.0,slow=6.2
NOA NORSAR Array B 65.74 351 P P 08 24 19.5 -0.1
comp=Z,9.0nm,0.4s,baz=11,slow=6.5,SNR=238
NOA LR LR 08 53 31.5
comp=Z,29nm,20.4s,baz=20,slow=36
comp=Z,9.0nm,0.4s
833A Chaparral WMA, 65.78 75 P P 08 24 21.5 +1.1
baz=319
ACSO Alum Creek Sta 65.83 55 P P 08 24 19.8 -0.7
baz=320
ERPA Erie 65.85 52 P P 08 24 20.4 -0.2
baz=320
NATX Nacogdoches 65.95 69 P P 08 24 21.6 +0.2
baz=319
NC602 NORSAR Array S 66.01 351 *e*P P 08 24 21.3 0.0
NORES NORESS Array B 66.01 351 P P 08 24 21.1 -0.2
NORES pmax pmax
comp=Z,2.0nm,0.3s
HYA Hoyanger 66.02 354 *e*P P 08 24 21.9 +0.6
M53A WI Miller and 66.04 53 P P 08 24 21.5 -0.4
baz=320,SNR=8.6
VSU Vasula 66.05 342 *e*P P 08 24 22.0 +0.5
VSU Vasula 66.05 342 *d*iP P 08 24 21.5 0.0
VSU pmax pmax
comp=Z,158nm,0.9s
BELG Belogornoye 66.12 328 P P 08 24 22.7 +0.6
comp=Z,145nm,0.8s,baz=353,slow=6.0,SNR=52
comp=Z,145nm,0.8s
MOS Moscow 66.12 335 *e*P P 08 24 21.9 -0.2
MOS *e* 08 24 49.9
MOS pmax pmax
comp=Z,105nm,1.0s
ALLY Alegheny Colle 66.14 52 P P 08 24 22.0 -0.5
baz=320,SNR=6.1
UPP Uppsala 66.17 347 *e*P P 08 24 22.8 +0.5
T47A Sharon Grove 66.17 60 P P 08 24 22.5 -0.2
baz=319,SNR=29
R49A Shelbyville 66.20 58 P P 08 24 22.5 -0.3
baz=319,SNR=7.5
R49A P P 08 24 22.5 -0.3
baz=319,SNR=7.5
MTSE Matsula 66.33 344 *e*P P 08 24 23.6 +0.2
SKAR Skarslia 66.34 353 *e*P P 08 24 24.2 +0.7
HFS Hagfors 66.38 350 P P 08 24 23.1 -0.5
comp=Z,12nm,0.4s,baz=23,slow=4.8,SNR=125
HFS LR LR 08 55 00.7
comp=Z,39nm,20.3s,baz=34,slow=37
comp=Z,12nm,0.4s
LONY Lake Ozonia 66.40 47 P P 08 24 22.4 -1.7
baz=322
WVT Waverly 66.44 61 P P 08 24 23.8 -0.6
baz=319,SNR=22
WVT Waverly 66.44 61 P P 08 24 23.8 -0.6
baz=319
WVT Waverly 66.44 61 P P 08 24 23.8 -0.6
WVT pmax pmax
comp=Z,52nm,1.2s
WVT Waverly 66.44 61 P P 08 24 22.8 -1.6
WVT Waverly 66.44 61 P P 08 24 23.9 -0.6
W45A Hickory Valley 66.44 63 P P 08 24 24.1 -0.4
baz=319,SNR=6.8
CHTO Chiang Mai 66.47 270 P P 08 24 25.7 +0.8
CHTO pmax pmax
comp=Z,10.0nm,0.9s
O52A Adamsville 66.49 54 P P 08 24 23.5 -1.2
baz=320,SNR=11
O52A P P 08 24 23.5 -1.2
baz=320,SNR=11
Q51A Peebles 66.57 56 P P 08 24 24.6 -0.7
baz=320,SNR=7.9
Q51A P P 08 24 24.6 -0.7
baz=320,SNR=7.9
HKT Hockley 66.63 71 P P 08 24 26.1 +0.4
HKT pmax pmax
comp=Z,60nm,1.9s
R50A Paris 66.64 57 P P 08 24 25.6 -0.1
baz=320,SNR=9.4
R50A P P 08 24 25.6 -0.1
baz=320,SNR=9.4
O53A New Philadelph 66.69 54 P P 08 24 25.0 -1.0
baz=320
P52A Corning 66.71 55 P P 08 24 25.3 -0.9
baz=320
CMAR Chiang Mai Arr 66.75 270 P P 08 24 27.4 +0.8
comp=Z,5.0nm,0.6s,baz=23,slow=7.4,SNR=32
CMAR LR LR 08 54 50.5
comp=Z,19nm,20.2s,baz=55,slow=37
comp=Z,5.0nm,0.6s
ASK Askoy 66.76 354 *e*P P 08 24 26.1 0.0
OXF Oxford 66.81 63 P P 08 24 26.4 -0.4
baz=319
OXF Oxford 66.81 63 P P 08 24 26.4 -0.4
baz=319
OSL Oslo 66.87 351 *e*P P 08 24 27.1 +0.3
M55A Ridgway 66.94 51 P P 08 24 27.0 -0.5
baz=321,SNR=11
M55A P P 08 24 27.0 -0.5
baz=321,SNR=11
OBN Obninsk 66.95 335 P P 08 24 27.8 +0.4
comp=Z,7.4nm,0.5s,baz=31,slow=3.4,SNR=18
OBN LR LR 08 55 15.5
comp=Z,25nm,21.1s,baz=21,slow=37
comp=Z,7.4nm,0.5s
OBN Obninsk 66.95 335 *d*iP P 08 24 27.5 +0.1
OBN *i* 08 24 54.6
OBN pmax pmax
comp=Z,154nm,1.7s
OBN MLR MLR
comp=Z,129nm,19.0s
E62A Clayton Lake 66.96 42 P P 08 24 27.0 -0.6
baz=324,SNR=5.8
E62A P P 08 24 27.0 -0.6
baz=324,SNR=5.8
L56A Greenwood 66.99 50 P P 08 24 27.4 -0.5
baz=321,SNR=9.3
L56A P P 08 24 27.4 -0.5
baz=321,SNR=9.3
K57A Scipio Center 67.00 49 P P 08 24 26.8 -1.2
K57A IAmb IAmb 08 24 27.8
comp=Z,54nm,1.2s
O54A Avella 67.15 53 P P 08 24 28.1 -0.8
PLAL Pickwick Lake 67.17 62 P P 08 24 27.8 -1.3
PLAL IAmb IAmb 08 24 29.2
comp=Z,68nm,1.2s
PSDB Penn State Uni 67.21 52 P P 08 24 28.9 -0.4
baz=321
Y45A Yeager Farm, C 67.22 64 P P 08 24 29.1 -0.4
baz=319,SNR=18
U49A Red Boiling Sp 67.23 59 P P 08 24 28.6 -0.9
U49A IAmb IAmb 08 24 30.2
comp=Z,27nm,0.5s
U49A Red Boiling Sp 67.23 59 P P 08 24 28.8 -0.6
baz=320,SNR=29
ODD1 Odda 67.23 353 *e*P P 08 24 29.6 +0.5
KONO Kongsberg 67.26 352 P P 08 24 29.4 +0.2
KONO IAmb IAmb 08 24 30.7
comp=Z,42nm,1.0s
KONO Kongsberg 67.26 352 *d*iP P 08 24 29.5 +0.2
KONO pmax pmax
comp=Z,61nm,1.7s
KONO Kongsberg 67.26 352 *e*P P 08 24 29.9 +0.6
KONO Kongsberg 67.26 352 P P 08 24 28.6 -0.6
KONO Kongsberg 67.26 352 P P 08 24 29.4 +0.2

KONO sP **sP** 08 25 07.2 +3.5
V48A Smith Brothers 67.27 61 P P 08 24 28.8 -0.9
baz=320,SNR=15
T50A Nancy 67.33 58 P P 08 24 29.6 -0.5
baz=320
T50A P P 08 24 29.6 -0.5
baz=320
F62A Pittston Farm, 67.36 43 P P 08 24 29.2 -0.9
baz=324,SNR=5.9
F62A P P 08 24 29.2 -0.9
baz=324,SNR=5.9
AFI Afiamalu 67.48 165 LR LR 08 47 51.2
comp=Z,52nm,21.8s,baz=193,slow=30
S51A Beattyville 67.50 57 P P 08 24 29.8 -1.3
baz=320,SNR=6.2
S51A P P 08 24 29.8 -1.3
baz=320,SNR=6.2
VIKU Vikbolandet 67.61 348 *e*P P 08 24 31.8 +0.3
SLIT Slitere, Latvi 67.62 344 *e*P P 08 24 31.8 +0.3
BINY Binghamton 67.67 49 P P 08 24 31.7 -0.5
BINY IAmb IAmb 08 24 32.4
comp=Z,72nm,1.4s
BINY Binghamton 67.67 49 P P 08 24 31.4 -0.8
baz=322
STRU Stroemstad 67.72 351 *i*P P 08 24 31.9 -0.2
BLS5 Blasjo 67.73 353 *e*P P 08 24 33.1 +0.8
R53A Hurricane 67.80 56 P P 08 24 32.5 -0.6
baz=320,SNR=7.3
R53A P P 08 24 32.5 -0.6
baz=320,SNR=7.3
M57A Sunshine Farm, 67.81 50 P P 08 24 32.4 -0.6
M57A IAmb IAmb 08 24 33.6
comp=Z,40nm,1.0s
M57A Sunshine Farm, 67.81 50 P P 08 24 31.9 -1.2
baz=322,SNR=7.9
M57A P P 08 24 31.9 -1.2
baz=322,SNR=7.9
MCWV Mont Chateau 67.82 53 P P 08 24 32.9 -0.2
baz=321
LBNH Lisbon 67.86 45 P P 08 24 32.9 -0.4
baz=323
H62A Milan 67.92 45 P P 08 24 33.3 -0.4
H62A IAmb IAmb 08 24 34.4
comp=Z,38nm,0.8s
H62A Milan 67.92 45 P P 08 24 32.8 -0.9
baz=323,SNR=7.5
H62A P P 08 24 32.8 -0.9
baz=323,SNR=7.5
VBMS Vicksburg 67.93 66 P P 08 24 33.7 -0.1
baz=320
SSPA Standing Stone 68.00 51 P P 08 24 33.7 -0.6
baz=321,SNR=14
SSPA Standing Stone 68.00 51 P P 08 24 33.7 -0.6
baz=322
SSPA Standing Stone 68.00 51 P P 08 24 33.7 -0.6
SSPA pP **PcP** 08 25 00.2 +0.4
X48A Hartselle 68.12 62 P P 08 24 33.7 -1.4
baz=320,SNR=18
PKME Pecks-Kenny Pk 68.15 43 P P 08 24 34.4 -0.7
baz=324
KSPA Keystone Colle 68.27 49 P P 08 24 34.9 -1.0
baz=322
CHGR Chuyangaron 68.34 306 P P 08 24 36.7 +0.2
CHGR Chuyangaron 68.34 306 P P 08 24 36.7 +0.2
CHGR pmax pmax
comp=Z,110nm,0.9s
TZTN Tazewell 68.36 58 P P 08 24 35.7 -0.9
baz=320,SNR=8.6
TZTN Tazewell 68.36 58 P P 08 24 36.2 -0.4
baz=321,SNR=8.6
N58A Sunbury 68.39 51 P P 08 24 35.5 -1.2
baz=322,SNR=5.3
N58A P P 08 24 35.5 -1.2
baz=322,SNR=5.3
SIMJ Simiganj 68.41 306 P P 08 24 36.9 -0.1
SIMJ pP **pP** 08 25 00.8 -0.3
SIMJ sP **sP** 08 25 11.3 -0.3
146A Union 68.41 64 P P 08 24 35.4 -1.6
baz=320,SNR=9.6
W50A Signal Mountai 68.47 60 P P 08 24 36.8 -0.6
baz=320,SNR=13
V51A Loudon 68.52 59 P P 08 24 36.8 -0.7
baz=320,SNR=15
Z47A Carrollton 68.53 63 P P 08 24 36.7 -0.9
baz=320,SNR=19
LPSR Galich'ya Gora 68.57 333 *e*P P 08 24 35.0 -2.6
LPSR pmax pmax
comp=Z,60nm,1.0s
TJOU Tjoern 68.66 350 *i*P P 08 24 37.6 -0.4
R55A Marlinton 68.75 54 P P 08 24 38.6 -0.5
R55A Marlinton 68.75 54 P P 08 24 38.5 -0.5
baz=321
R55A P P 08 24 38.5 -0.5
baz=321
SNART Snartemo 68.75 353 *e*P P 08 24 39.8 +1.2
FPAL Fort Paine 68.82 61 P P 08 24 38.4 -1.1
FPAL IAmb IAmb 08 24 39.7
comp=Z,63nm,1.2s
V52A Sevierville 68.88 58 P P 08 24 39.2 -0.6
baz=320,SNR=6.2
ISAL Salakas 68.88 341 *e*P P 08 24 40.3 +0.8
Y49A Blount Mountai 68.92 62 P P 08 24 39.0 -1.1
baz=320,SNR=11
TKL Tuckaleechee C 68.93 59 LR LR 08 56 32.1
comp=Z,160nm,18.3s,baz=333,slow=37
TKL Tuckaleechee C 68.93 59 P P 08 24 39.5 -0.6
TKL IAmb IAmb 08 24 40.5
comp=Z,47nm,1.2s
TKL Tuckaleechee C 68.93 59 P P 08 24 39.6 -0.6
baz=320,SNR=9.7
TKL Tuckaleechee C 68.93 59 P P 08 24 39.5 -0.6
TKL pmax pmax
comp=Z,47nm,1.2s
BORU Boraas 68.93 350 *i*P P 08 24 39.0 -0.7
L61B Northampton 68.96 47 P P 08 24 38.5 -1.7
baz=323
VRH Novokhopyorsk 69.00 330 *e*P P 08 24 36.2 -4.0
VRH pmax pmax
comp=Z,90nm,1.0s
IIGN Ignalina 69.07 341 *e*P P 08 24 41.8 +1.2
APSI Ampana 69.20 238 P P 08 24 41.2 -0.7
X51A Calhoun 69.20 60 P P 08 24 41.2 -0.6
baz=320,SNR=5.5
X51A P P 08 24 41.2 -0.6
baz=320,SNR=5.5
LRAL Lakeview Retre 69.23 63 P P 08 24 40.6 -1.4
baz=320,SNR=8.2
LRAL Lakeview Retre 69.23 63 P P 08 24 40.5 -1.4
baz=320,SNR=8.2
ONAU Onsala 69.25 350 *i*P P 08 24 40.8 -0.9
U54A Nelsons Funny 69.27 57 P P 08 24 41.9 -0.3
baz=321,SNR=6.9
U54A P P 08 24 41.9 -0.3
baz=321,SNR=6.9
VORR Voronezh 69.32 332 *e*P P 08 24 43.1 +0.9
VORR pmax pmax
comp=Z,80nm,0.6s
PABE Paberze 69.35 343 *e*P P 08 24 42.9 +0.5
NACGM Naroch 69.38 341 ⇑*i*P P 08 24 43.0 +0.5
comp=Z,67nm,0.9s,baz=21
V53A Saluda 69.42 58 P P 08 24 42.5 -0.7
V53A IAmb IAmb 08 24 43.9
comp=Z,53nm,1.4s
V53A Saluda 69.42 58 P P 08 24 42.6 -0.5
baz=321,SNR=7.7
V53A P P 08 24 42.6 -0.5
baz=321,SNR=7.7
BLA Blacksburg 69.43 55 P P 08 24 42.5 -0.8
BLA Blacksburg 69.43 55 P P 08 24 42.7 -0.5
baz=321
BLA Blacksburg 69.43 55 P P 08 24 43.0 -0.3
baz=322
BLA Blacksburg 69.43 55 P P 08 24 42.5 -0.8
BLA pmax pmax
comp=Z,18nm,1.0s
SDMD Soldier's Deli 69.46 52 P P 08 24 42.1 -1.2
baz=322,SNR=7.5
MNK Minsk 69.53 340 *i*P P 08 24 42.5 -1.0
comp=E,5.0nm,1.0s
MNK *i*P P 08 24 42.5 -1.0
comp=N,48nm,1.0s
MNK *i*P P 08 24 42.5 -1.0
comp=Z,78nm,1.0s,baz=21
MNK *i*pP **PcP** 08 25 03.3 -2.7
MNK *i*sP **pwP** 08 25 12.4 -0.1
MNK *i*PP **PP** 08 27 16.6 -1.0

MNK *i*PPP PPP 08 28 58.3
MNK *i*S **S** 08 33 44.0 +1.1
MNK *i*sS **SKiKP** 08 34 20.0 -1.3
MNK *i*SS SS 08 38 45.0 +34
MNK *i*SSS SSS 08 41 50.6
MNK Minsk 69.53 340 *i*P P 08 24 42.4 -1.0
MNK *i* 08 25 05.1
MNK *i**SP **pwP** 08 25 12.4 -0.1
MNK *i* 08 27 16.6
MNK *i*PPP PPP 08 28 58.3
MNK *i*S **S** 08 33 43.9 +1.1
MNK *i**SS **SKiKP** 08 34 20.0 -1.3
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK pmax pmax
comp=N,48nm,1.0s
MNK pmax pmax
comp=Z,78nm,1.0s
FABU Falkenberg 69.56 349 *i*P P 08 24 42.6 -1.0
PAL Palisades 69.56 49 P P 08 24 43.1 -0.8
baz=323
TUPA Temple Univers 69.64 50 P P 08 24 44.0 -0.4
baz=323,SNR=5.1
S57A Dark Hollow, R 69.73 54 P P 08 24 44.7 -0.4
baz=322,SNR=5.6
S57A P P 08 24 44.7 -0.4
baz=322,SNR=5.6
VSR Storozhevoye 69.74 332 *e*P P 08 24 34.7 -10
VSR pmax pmax
comp=Z,50nm,1.0s
BLEU Blekinge 69.86 347 *i*P P 08 24 44.4 -1.1
BG3 Lake Jocassee 69.88 59 P P 08 24 45.2 -0.8
BG3 IAmb IAmb 08 24 46.7
comp=Z,77nm,1.3s
CASEE Lake Jocassee 69.88 59 P P 08 24 45.5 -0.5
baz=321,SNR=13
DEL Delary 69.94 349 *e*P P 08 24 45.5 -0.4
NIL Nilore 70.11 300 P P 08 24 48.1 +0.6
NIL pmax pmax
comp=Z,60nm,1.2s
NIL Nilore 70.11 300 P P 08 24 47.4 -0.1
NIL Nilore 70.11 300 P P 08 24 48.1 +0.7
U56A King 70.13 56 P P 08 24 47.3 -0.2
U56A IAmb IAmb 08 24 48.0
comp=Z,20nm,0.4s
U56A King 70.13 56 P P 08 24 47.2 -0.3
baz=322,SNR=5.5
U56A P P 08 24 47.2 -0.3
baz=322,SNR=5.5
CBN Corbin Frederi 70.15 53 P P 08 24 47.5 -0.1
baz=322
Y52A Lilburn 70.16 60 P P 08 24 46.8 -0.9
baz=321,SNR=11
Y52A P P 08 24 46.8 -0.9
baz=321,SNR=11
T57A Hurt 70.18 55 P P 08 24 47.0 -0.8
T57A Hurt 70.18 55 P P 08 24 46.6 -1.1
baz=322,SNR=5.6
T57A P P 08 24 46.6 -1.1
baz=322,SNR=5.6
BJUU Bjuv 70.43 349 *i*P P 08 24 47.1 -1.8
250A Grady 70.44 63 P P 08 24 48.6 -0.8
baz=321,SNR=7.8
MUD Monsted U'grnd 70.45 351 *i*P P 08 24 50.0 +0.9
MUD IAmb IAmb 08 24 50.5
comp=Z,50nm,1.1s
MUD Monsted U'grnd 70.45 351 P P 08 24 50.3 +1.2
MUD pmax pmax
comp=Z,41nm,1.1s
KMSC Kings Mountain 70.58 57 P P 08 24 48.8 -1.4
baz=322,SNR=12
KMSC Kings Mountain 70.58 57 P P 08 24 49.6 -0.6
baz=322,SNR=12
PAULI Pauline 70.59 58 P P 08 24 49.7 -0.6
baz=321,SNR=6.0
152A Waverly Hall 70.73 61 P P 08 24 49.8 -1.4
baz=321,SNR=6.9
LUNU Lund 70.81 349 *i*P P 08 24 49.7 -1.6
HODGE Hodges 70.82 59 P P 08 24 50.3 -1.3
baz=321,SNR=15
GOGA Godfrey 70.82 60 P P 08 24 50.6 -1.1
baz=321,SNR=5.6
GOGA Godfrey 70.82 60 P P 08 24 50.6 -1.1
baz=321,SNR=5.6
GOGA Godfrey 70.82 60 P P 08 24 50.3 -1.4
GOGA pmax pmax
comp=Z,20nm,1.3s
KLNR Kaliningrad 70.86 344⇓*e*P P 08 24 51.0 -0.6
KLNR pmax pmax
comp=Z,47nm,0.9s
BSD Bornholm Skovb 71.14 348 *e*P P 08 24 53.1 -0.1
BSD Bornholm Skovb 71.14 348 *e*P P 08 24 53.6 +0.4
W57A Gilead 71.26 56 P P 08 24 53.4 -0.9
baz=322
W57A P P 08 24 53.4 -0.9
baz=322
JSC Jenkinsville 71.29 58 P P 08 24 53.8 -0.7
baz=322,SNR=8.5
KBL Kabul 71.61 303 P P 08 24 56.9 +0.2
KBL IAmb IAmb 08 24 57.3
comp=Z,30nm,0.8s
KBL Kabul 71.61 303 P P 08 24 56.9 +0.2
KBL pmax pmax
comp=Z,30nm,0.9s
154A Montrose 71.63 60 P P 08 24 55.9 -0.7
baz=321,SNR=6.3
HAW Hawthorne Fire 71.83 59 P P 08 24 57.4 -0.4
baz=322,SNR=9.1
EKA Eskdalemuir Ar 72.24 359 P P 08 25 00.2 +0.4
comp=Z,3.4nm,0.3s,baz=1.0,slow=4.7,SNR=63
comp=Z,3.4nm,0.3s
CNNC Cliffs of the 72.25 55 P P 08 24 59.5 -0.7
baz=323
TIGA Tifton 72.29 61 P P 08 25 00.2 -0.4
baz=322
TAOE Nuku Hiva Isla 72.56 132 *e*LR LR 08 47 21.7
comp=Z,170nm,24.2s
GKP Gorka Klasztor 72.61 346 *e*P P 08 25 02.7 +0.6
NHSC New Hope 72.77 58 P P 08 25 03.0 -0.3
baz=322
AKASG Malin Array Be 72.79 338 P P 08 25 03.4 +0.2
comp=Z,14nm,0.3s,baz=26,slow=6.3,SNR=72
AKASG LR LR 08 59 14.9
comp=Z,49nm,21.1s,baz=34,slow=38
comp=Z,14nm,0.3s
AKASG Malin Array Be 72.79 338 P P 08 25 03.6 +0.5
AKBB Malin Array Si 72.79 338 P P 08 25 02.9 -0.2
AKBB IAmb IAmb 08 25 04.4
comp=Z,45nm,0.9s
AKBB Malin Array Si 72.79 338 *d*iP P 08 25 03.1 -0.1
BSEG Bad Segeberg 72.83 350 P P 08 25 04.2 +0.8
BSEG pmax pmax
comp=Z,53nm,1.2s
BEL Belsk 73.42 343 *e*P P 08 25 08.0 +1.0
BEL Belsk 73.42 343 P P 08 25 08.3 +1.4
BEL pmax pmax
comp=Z,165nm,0.8s
KAPI Kappang 73.67 238 P P 08 25 08.8 0.0
comp=Z,3.6nm,0.3s,baz=82,slow=7.1
comp=Z,3.6nm,0.3s
KAPI Kappang 73.67 238 *de*P P 08 25 09.2 +0.4
KAPI pmax pmax
comp=Z,10.0nm,1.0s
GOF Gofitskoye 73.98 326⇑*e*P P 08 25 11.3 +1.0
GEYT Alibeck 74.12 313 P P 08 25 12.1 +0.8
comp=Z,18nm,0.9s,baz=338,slow=3.5,SNR=25
GEYT LR LR 08 59 57.4
comp=Z,60nm,19.3s,baz=18,slow=37
comp=Z,18nm,0.9s
MAK Makhachkala 74.23 322 *e*P P 08 25 09.3 -2.5
MAK *e**PP **pP** 08 25 35.8 -0.3
MAK *e**SP **sP** 08 25 45.3 -1.3
MAK *e*PPP PPP 08 29 43.6
MAK *e*S **S** 08 34 34.2 -2.9
MAK *e*SS **SS** 08 39 25.2 +1.9
MAK *e*SSS SSS 08 42 47.8
MAK pmax pmax
comp=Z,320nm,1.4s
GROC Groznyy 74.65 324 *e*P P 08 25 14.0 -0.2
GROC *e* 08 25 30.3
GROC *e* 08 28 05.8
GROC pmax pmax
comp=Z,108nm,1.1s
LVV L'vov 74.74 341 *e*P P 08 25 15.0 +0.4
DZM Mont Dzumac 74.85 188 *e*LR LR 08 48 26.5
comp=Z,557nm,33.1s

DZM Mont Dzumac 74.85 188 P **P** **08 25 16.9 +1.4**
DZM LR LR 08 51 25.3
comp=Z,99nm,19.8s,baz=29,slow=30
KIV Kislovodsk 75.08 326 ⇑P **P** **08 25 18.3 +1.5**
KIV Kislovodsk 75.08 326 *e*P **P** **08 25 17.7 +0.9**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,50nm,18.0s
CLL Collm 75.11 348 ⇓*i*P **P** **08 25 16.4 -0.3**
CLL Collm 75.11 348 ⇓*i*P **P** **08 25 16.4 -0.3**
CLL pmax pmax
comp=Z,44nm,1.8s
KSP Ksiaz 75.11 346 *e*P **P** **08 25 17.1 +0.3**
KSP Ksiaz 75.11 346 P **P** **08 25 16.9 +0.2**
KSP pmax pmax
comp=Z,24nm,0.8s
OJC Ojcow 75.15 343 *e*P **P** **08 25 15.5 -1.6**
OJC Ojcow 75.15 343 P **P** **08 25 15.4 -1.6**
OJC pmax pmax
comp=Z,53nm,0.9s
KWP Kalwaria Pacla 75.18 341 P **P** **08 25 19.0 +1.8**
KWP Kalwaria Pacla 75.18 341 P **P** **08 25 19.0 +1.8**
KBZ Khabaz 75.21 326 P **P** **08 25 18.4 +1.1**
comp=Z,37nm,0.9s,baz=31,slow=3.5,SNR=48
KBZ LR LR 09 01 55.6
comp=Z,46nm,18.3s,baz=26,slow=38
comp=Z,37nm,0.9s
KBZ Khabaz 75.21 326 *d i*P **P** **08 25 18.7 +1.3**
KBZ pmax pmax
comp=Z,48nm,1.0s
SORM Soroca 75.39 337 ⇓P **P** **08 25 18.5 +0.1**
SORM Soroca 75.39 337 P **P** **08 25 18.4 +0.1**
CHVC Chvalec 75.40 346 *e*P **P** **08 25 18.7 +0.3**
OSTC Ostas 75.40 346 *e*P **P** **08 25 19.0 +0.6**
BRG Berggiesshubel 75.41 347 *e*P **P** **08 25 18.7 +0.3**
BRG Amp 08 25 19.7
comp=Z,19nm,1.1s
BRG *ex* x 08 25 25.9
BRG Amp 08 25 26.5
comp=Z,8.0nm,1.2s
BRG Amp 08 55 47.0
comp=Z,0.1nm,17.7s
BRG Berggiesshubel 75.41 347 *e*P **P** **08 25 18.7 +0.3**
BRG *e* 08 25 25.8
BRG pmax pmax
comp=Z,19nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,1.3s
AKT Akhty 75.43 321 *e*P **P** **08 25 19.2 +0.3**
AKT *e* 08 25 32.4
AKT pmax pmax
comp=Z,47nm,0.9s
UPC Upice 75.48 346 *e*P **P** **08 25 19.4 +0.5**
UPC Upice 75.48 346 *e*P **P** **08 25 19.4 +0.5**
DPC Dobruska-Polom 75.59 346 *e*P **P** **08 25 20.1 +0.6**
DPC *ex* x 08 25 49.6
DPC Dobruska-Polom 75.59 346 *e*P **P** **08 25 20.1 +0.6**
DPC *e* 08 25 49.6
STHS Stebnicka Huta 75.67 342 *e*P **P** **08 25 20.8 +0.8**
STHS Stebnicka Huta 75.67 342 *e*P **P** **08 25 20.8 +0.8**
STHS pmax pmax
comp=Z,56nm,1.6s
ZEI Tsey 75.69 325 *e*P **P** **08 25 17.9 -2.5**
ZEI pmax pmax
comp=Z,59nm,1.0s
NEY Neytrino 75.69 326 ⇑*e*P **P** **08 25 21.8 +1.4**
NEY pmax pmax
comp=Z,4.0nm,1.0s
ZKTA Zakatala 75.71 322 P **P** **08 25 20.7 +0.4**
KRLC Kraliky 75.78 345 *e*P **P** **08 25 21.3 +0.6**
KRLC Kraliky 75.78 345 *e*P **P** **08 25 21.3 +0.6**
OKC Ostrava-Krasne 75.80 344 *e*P **P** **08 25 21.5 +0.8**
OKC Ostrava-Krasne 75.80 344 *e*P **P** **08 25 21.5 +0.8**
MOX Moxa 75.93 349 P **P** **08 25 21.7 +0.3**
MOX pmax pmax
comp=Z,17nm,1.2s
KOLS Kolonicke sedl 75.94 341 *e*P **P** **08 25 22.7 +1.2**
KOLS Kolonicke sedl 75.94 341 *e*P **P** **08 25 22.7 +1.2**
KOLS pmax pmax
comp=Z,49nm,0.7s
MORC Moravsky Berou 75.96 345 ⇓P **P** **08 25 21.4 -0.2**
MORC Moravsky Berou 75.96 345 *e*P **P** **08 25 21.8 +0.2**
MORC Moravsky Berou 75.96 345 P **P** **08 25 22.3 +0.7**
MORC pmax pmax
comp=Z,27nm,1.5s
ANN Anapa 76.01 330 *e*P **P** **08 25 22.4 +0.5**
ANN pmax pmax
comp=Z,102nm,1.1s
DWPF Disney Wildern 76.06 62 P **P** **08 25 22.4 -0.1**
baz=323
PRU Pruhonice 76.20 347 *e*P **P** **08 25 23.3 +0.4**
PRU Pruhonice 76.20 347 *e*P **P** **08 25 23.3 +0.4**
UZH Uzhgorod 76.22 341 *e*P **P** **08 25 22.4 -0.7**
UZH *i* 08 25 29.5
GOPC GO Pecny, Ondr 76.24 347 *e*P **P** **08 25 23.6 +0.4**
GOPC GO Pecny, Ondr 76.24 347 *e*P **P** **08 25 23.6 +0.4**
MAUC Maruska 76.31 344 *e*P **P** **08 25 24.7 +1.1**
KIS Kishinev 76.34 337 ⇓*i*P **P** **08 25 24.0 +0.2**
comp=Z,70nm,0.6s
SOC Sochi 76.39 328 *e*P **P** **08 25 24.2 +0.1**
SOC *e* 08 28 15.8
SOC *e*PPP PPP 08 30 01.7
SOC *e*S **S** **08 35 03.4 +2.5**
SOC *e*'SS **ScS** **08 35 35.0 +4.6**
SOC *e*SS **SS** **08 39 55.9 0.0**
SOC *e*SSS SSS 08 43 16.0
SOC pmax pmax
comp=Z,25nm,0.8s
MILM Milestii Mici 76.42 337 ⇓*i*P **P** **08 25 24.0 -0.2**
comp=Z,110nm,1.2s
MILM Milestii Mici 76.42 337 *d i*P **P** **08 25 24.0 -0.2**
MILM pmax pmax
comp=Z,110nm,1.2s
MEM Membach 76.52 352 *d*P **P** **08 25 25.5 +0.8**
comp=Z,27nm,0.9s
MEM Membach 76.52 352 P **P** **08 25 25.6 +0.8**
MEM pmax pmax
comp=Z,45nm,1.2s
BTNL Ternell 76.53 352 *d*P **P** **08 25 25.4 +0.5**
BTNL *d*PcP **PcP** **08 25 37.0 +1.0**
VRAC Vranov 76.56 345 ⇓P **P** **08 25 25.8 +0.7**
VRAC Vranov 76.56 345 P **P** **08 25 25.0 0.0**
comp=Z,27nm,0.9s,baz=15,slow=6.2,SNR=26
VRAC LR LR 09 01 57.2
comp=Z,46nm,21.9s,baz=9.0,slow=38
comp=Z,27nm,0.9s
VRAC Vranov 76.56 345 *e*P **P** **08 25 25.6 +0.6**
CTA Charters Tower 76.57 207 LR LR 08 58 31.2
comp=Z,52nm,18.4s,baz=62,slow=35
CTA Charters Tower 76.57 207 P **P** **08 25 25.5 +0.2**
CTA pmax pmax
comp=Z,20nm,1.2s
CTAO Charters Tower 76.57 207 P **P** **08 25 25.5 +0.2**
CTAO pmax pmax
comp=Z,18nm,1.3s
BSTI Sart Tilman 76.58 353 *d*P **P** **08 25 25.8 +0.7**
BURAR Bucovina Array 76.59 339 ⇑P **P** **08 25 26.5 +1.1**
BURAR Bucovina Array 76.59 339 P **P** **08 25 26.4 +1.1**
BURAR IAmb IAmb 08 25 27.7
comp=Z,55nm,0.8s
BURAR Bucovina Array 76.59 339 P **P** **08 25 26.4 +1.1**
TRPA Tarpa 76.65 341 ⇑P **P** **08 25 26.7 +1.2**
TRPA Tarpa 76.65 341 P **P** **08 25 26.5 +1.0**
GANJ Ganja 76.68 322 P **P** **08 25 26.2 +0.3**
PPT Papeete 76.68 145 LR LR 08 51 07.9
comp=Z,104nm,21.5s,baz=336,slow=29
TNS Taunus Mts 76.69 351 P **P** **08 25 25.8 0.0**
TNS pmax pmax
comp=Z,18nm,1.0s
PPT2 Papeete2 76.70 145 *e*LR LR 08 49 17.4
comp=Z,160nm,23.2s
PPT2 *e*LR LR 08 49 17.5
comp=Z,59nm,25.8s
ABAH Abaujker 76.74 342 P **P** **08 25 27.0 +1.0**
SNF Seneffe 76.75 354 *d*P **P** **08 25 27.0 +1.0**
BCLA Clavier 76.77 353 *d*P **P** **08 25 26.6 +0.5**
comp=Z,13nm,0.9s
BHOU Houvegnez 76.78 352 *d*P **P** **08 25 26.5 +0.3**
BGES Gesves 76.82 353 *d*P **P** **08 25 26.6 +0.2**
comp=Z,15nm,1.0s
KRUC Moravsky 76.83 345 *e*P **P** **08 25 26.9 +0.4**
KRUC Moravsky 76.83 345 P **P** **08 25 27.4 +0.9**
KRUC pmax pmax
comp=Z,35nm,1.6s
SIM Simferopol' 76.85 332 *e*P **P** **08 25 28.3 +1.6**
SIM 08 25 40.0
SIM pmax pmax
comp=Z,33nm,0.9s
BMR Baia Mare 76.89 340 P **P** **08 25 28.2 +1.3**
BMR pmax pmax
comp=Z,56nm,1.2s
BMRD Maredsous 76.92 353 *d*P **P** **08 25 27.5 +0.5**
comp=Z,21nm,1.0s
VYHS Vyhne 76.98 344 *e*P **P** **08 25 28.4 +1.0**
VYHS Vyhne 76.98 344 *e*P **P** **08 25 28.4 +1.0**
VYHS pmax pmax
comp=Z,38nm,1.1s
CMIG Matias Romero 77.02 79 LR LR 08 59 47.8
comp=Z,27nm,18.1s,baz=302,slow=36
RCHB Rochefort 77.03 353 *d*P **P** **08 25 27.8 +0.2**
comp=Z,14nm,0.9s
RCHB *d*Pdif **PcP** **08 25 40.3 +2.2**
AKH Akhalkalaki 77.04 324 P **P** **08 25 29.6 +1.5**
GIVF Givet 77.12 353 *e*P **P** **08 25 28.7 +0.6**
GIVF pmax pmax
comp=Z,40nm,1.2s
DOU Dourbes 77.14 353 *d*P **P** **08 25 28.6 +0.4**
comp=Z,12nm,1.1s
KHC Kasperske Hory 77.17 347 *e*P **P** **08 25 29.3 +0.8**
KHC *ex* x 08 26 00.7
KHC Kasperske Hory 77.17 347 *d i*P **P** **08 25 28.8 +0.3**
KHC pmax pmax
comp=Z,47nm,1.1s
SMOL Smolenice 77.20 345 *e*P **P** **08 25 30.4 +1.8**
SMOL pmax pmax
comp=Z,22nm,1.1s
BAIF Baives 77.20 354 *e*P **P** **08 25 28.6 0.0**
BAIF pmax pmax
comp=Z,38nm,1.2s
WET Wettzell 77.25 348 P **P** **08 25 29.4 +0.5**
WET pmax pmax
comp=Z,15nm,2.3s
ARCR ARCALIA 77.28 340 ⇑P **P** **08 25 29.9 +0.8**
TESR Tescani 77.31 338 ⇓P **P** **08 25 29.8 +0.5**
PSZ Piszkesteto 77.35 343 ⇓P **P** **08 25 31.1 +1.5**
PSZ Piszkesteto 77.35 343 P **P** **08 25 30.6 +1.0**
PSZ Piszkesteto 77.35 343 P **P** **08 25 31.1 +1.5**
PSZ pmax pmax
comp=Z,48nm,1.2s
MODS Modra-Piesok 77.36 345 *e*P **P** **08 25 31.2 +1.7**
MODS Modra-Piesok 77.36 345 *e*P **P** **08 25 31.2 +1.7**
MODS pmax pmax
comp=Z,101nm,1.2s
CKRC Cesky Krumlov 77.37 347 *e*P **P** **08 25 30.0 +0.4**
GERES GERESS Array B 77.43 347 P **P** **08 25 30.2 +0.2**
comp=Z,4.5nm,0.8s,baz=27,slow=3.6,SNR=36
GERES LR LR 09 02 30.7
comp=Z,34nm,19.2s,baz=8.0,slow=38
comp=Z,4.5nm,0.8s
WLF Walferdange 77.45 352 *d*P **P** **08 25 31.1 +1.1**
ZST Bratislava 77.56 345 *e*P **P** **08 25 32.3 +1.7**
ZST Bratislava 77.56 345 *e*P **P** **08 25 32.3 +1.7**
ZST pmax pmax
comp=Z,109nm,1.0s
GNI Garni 77.70 323 P **P** **08 25 32.5 +0.7**
comp=Z,11nm,0.6s,baz=83,slow=2.5,SNR=6.9
GNI LR LR 09 03 46.7
comp=Z,74nm,19.1s,baz=26,slow=39
comp=Z,11nm,0.6s
GNI Garni 77.70 323 *d i*P **P** **08 25 33.7 +1.9**
GNI pmax pmax
comp=Z,23nm,1.0s
CJR Cluj-Napoca 77.79 340 ⇑P **P** **08 25 33.6 +1.6**
CJR Cluj-Napoca 77.79 340 P **P** **08 25 33.5 +1.6**
VRI Vrincioaia 77.90 338 ⇑P **P** **08 25 33.4 +0.8**
VRI Vrincioaia 77.90 338 P **P** **08 25 32.0 -0.6**
VRI pmax pmax
comp=Z,12nm,1.0s
BUD Budapest 77.93 343 P **P** **08 25 34.2 +1.5**
BUD Budapest 77.93 343 P **P** **08 25 34.8 +2.1**
BUD pmax pmax
comp=Z,57nm,1.1s
PLOR Plostina 77.94 338 ⇓P **P** **08 25 33.9 +1.1**
PLOR Plostina 77.94 338 P **P** **08 25 33.9 +1.1**
CONA Conrad Observa 78.02 345 *i*P **P** **08 25 34.1 +0.8**
comp=Z,39nm,1.2s,SNR=12
COVR Voineasa-Covas 78.04 338 ⇑P **P** **08 25 34.8 +1.4**
DOPR Dopca 78.11 338 ⇑P **P** **08 25 35.1 +1.4**
SOP Sopron 78.15 345 P **P** **08 25 35.4 +1.5**
SOP Sopron 78.15 345 P **P** **08 25 35.8 +1.9**
SOP pmax pmax
comp=Z,33nm,1.3s
RONA Rosalia, Austr 78.17 345 *i*P **P** **08 25 35.4 +1.3**
comp=Z,28nm,1.3s,SNR=8.9
CSKK Cskako 78.18 344 P **P** **08 25 35.6 +1.5**
CFR Carcaliu 78.22 336 ⇑P **P** **08 25 35.1 +0.8**
CFR Carcaliu 78.22 336 P **P** **08 25 34.8 +0.5**
CFR pmax pmax
comp=Z,20nm,1.6s
MLR Muntele Rosu 78.44 338 ⇓P **P** **08 25 36.3 +0.6**
MLR Muntele Rosu 78.44 338 P **P** **08 25 36.2 +0.6**
comp=Z,20nm,1.0s,baz=33,slow=4.9,SNR=16
MLR LR LR 09 03 14.4
comp=Z,74nm,18.9s,baz=48,slow=38
comp=Z,20nm,1.0s
TPGR Topolog 78.45 336 ⇑P **P** **08 25 36.0 +0.4**
MPLH Magyarpolny 78.49 344 P **P** **08 25 37.1 +1.3**
BIOA Bad Ischl, Aus 78.57 347 *e*P **P** **08 25 37.5 +1.3**
comp=Z,22nm,1.2s
BFO Black Forest 78.57 351 P **P** **08 25 36.9 +0.6**
BFO pmax pmax
comp=Z,24nm,1.6s
CDF Champ du Feu 78.59 351 *e*P **P** **08 25 36.1 -0.3**
CDF pmax pmax
comp=Z,34nm,1.3s
SIRR Siria 78.61 341 ⇑P **P** **08 25 38.0 +1.6**
ISR Istrita 78.65 337 P **P** **08 25 38.1 +1.3**
ISR pmax pmax
comp=Z,30nm,1.8s
VOIR 78.69 339 ⇑P **P** **08 25 38.2 +1.2**
VOIR 78.69 339 P **P** **08 25 38.4 +1.4**
VOIR pmax pmax
comp=Z,38nm,1.3s
HARR Harsova 78.72 336 ⇑P **P** **08 25 37.4 +0.3**
HARR Harsova 78.72 336 P **P** **08 25 37.4 +0.3**
ARSA Arzberg 78.73 345 *i*P **P** **08 25 38.1 +0.9**
comp=Z,23nm,1.1s,SNR=7.2
FLN La Foliniere 78.74 357 *e*P **P** **08 25 36.7 -0.4**
FLN pmax pmax
comp=Z,73nm,1.4s
ECH Echery 78.80 351 P **P** **08 25 38.1 +0.6**
ECH pmax pmax
comp=Z,132nm,2.1s
TIRR Tirgusor 78.82 336 ⇑P **P** **08 25 38.4 +0.9**
TIRR Tirgusor 78.82 336 P **P** **08 25 38.5 +0.9**
TIRR pmax pmax
comp=Z,61nm,1.3s
ARR Arges 78.85 339 ⇑P **P** **08 25 39.5 +1.6**
LDF La Druitiere 78.90 356 *e*P **P** **08 25 37.3 -0.7**
LDF pmax pmax
comp=Z,40nm,1.2s
HAU Haudompre 79.08 352 *e*P **P** **08 25 38.7 -0.3**
HAU pmax pmax
comp=Z,25nm,1.2s
SLE Schleitheim 79.12 350 P **P** **08 25 39.5 +0.3**
SLE pmax pmax
comp=Z,13nm,1.0s
GRR Gorron 79.13 357 *e*P **P** **08 25 38.9 -0.3**
GRR pmax pmax
comp=Z,124nm,1.5s
RETA Reutte 79.14 349 *e*P **P** **08 25 40.2 +0.8**
comp=Z,15nm,1.2s
WATA Walderalm 79.19 348 *i*P **P** **08 25 40.9 +1.1**
comp=Z,38nm,1.1s,SNR=7.9
KBA Koelnbreinsper 79.21 347 *i*P **P** **08 25 41.2 +1.2**
comp=Z,82nm,1.0s,SNR=26
KBA Koelnbreinsper 79.21 347 P **P** **08 25 41.2 +1.2**
KBA pmax pmax
comp=Z,79nm,1.0s
GZR Gura Zlata 79.22 340 ⇑P **P** **08 25 40.5 +0.5**
GZR Gura Zlata 79.22 340 P **P** **08 25 40.4 +0.5**
HINF Hinteralfeld 79.22 351 *e*P **P** **08 25 39.2 -0.6**
HINF pmax pmax
comp=Z,21nm,1.3s
MORH Mrgy, Hungar 79.22 343 ⇓P **P** **08 25 39.9 0.0**
MORH Mrgy, Hungar 79.22 343 P **P** **08 25 39.8 0.0**
MOTA Moosalm 79.24 349 *i*P **P** **08 25 40.9 +0.8**
comp=Z,47nm,1.2s,SNR=11
BZS Buzias 79.24 341 ⇑P **P** **08 25 40.9 +0.9**
BZS Buzias 79.24 341 P **P** **08 25 40.6 +0.7**
BZS pmax pmax
comp=Z,38nm,1.3s
ROSF Rostrenen 79.24 358 *e*P **P** **08 25 39.7 -0.2**
ROSF pmax pmax
comp=Z,151nm,1.7s
WTTA Wattenberg 79.25 348 *i*P **P** **08 25 41.2 +1.0**
comp=Z,46nm,1.2s,SNR=9.9
WTTA Wattenberg 79.25 348 P **P** **08 25 40.9 +0.7**
WTTA pmax pmax
comp=Z,38nm,1.2s
SGMF Saint Gilles 79.31 358 *e*P **P** **08 25 39.9 -0.3**
SGMF pmax pmax
comp=Z,253nm,2.4s
SQTA Sankt Quirin 79.35 348 *i*P **P** **08 25 41.8 +1.1**
comp=Z,39nm,1.1s,SNR=9.5
SOKA Soboth 79.36 346 *i*P **P** **08 25 42.1 +1.5**
comp=Z,36nm,0.6s,SNR=16
DAVA Damuels 79.44 349 *e*P **P** **08 25 42.2 +1.0**
comp=Z,21nm,1.6s
KOVH Kovagotottos 79.44 343 P **P** **08 25 41.9 +0.9**
GROS Grobnik 79.50 345 *i*P **P** **08 25 42.1 +0.7**
OBKA Obir 79.60 346 *i*P **P** **08 25 43.4 +1.4**
comp=Z,63nm,1.0s,SNR=9.1
FETA Feichten 79.60 349 *i*P **P** **08 25 43.1 +1.0**
comp=Z,25nm,1.1s,SNR=6.0
ABTA Abfaltersbach 79.65 347 *i*P **P** **08 25 43.2 +1.0**
comp=Z,47nm,1.2s,SNR=11
QUIF Quistinic 79.66 358 *e*P **P** **08 25 43.0 +0.9**
QUIF pmax pmax
comp=Z,56nm,1.6s
HERR Herculane 79.78 340 ⇑P **P** **08 25 43.2 +0.3**
HYBB Hyderabad (bro 79.79 285 *e*P **P** **08 25 43.5 +0.1**
DAVOX Davos/Dischmat 79.94 349 P **P** **08 25 44.4 +0.4**
comp=Z,16nm,0.9s,baz=4.3,slow=2.8,SNR=16
comp=Z,16nm,0.9s
DJES Djerdap 79.97 340 ⇑P **P** **08 25 44.1 +0.2**
LOR Lormes 80.00 353 P **P** **08 25 44.7 +0.7**
LOR pmax pmax
comp=Z,23nm,1.8s
MDVR Moldovita 80.02 341 ⇓P **P** **08 25 45.0 +0.8**
FUORN Ofenpass-Fuorn 80.05 349 P **P** **08 25 45.5 +0.8**
WB0 Warramunga Arr 80.14 218 P **P** **08 25 43.9 -1.1**
SSF Saint Saulge 80.23 354 *e*P **P** **08 25 45.0 -0.3**
SSF pmax pmax
comp=Z,23nm,1.2s
WRAB Tennant Creek 80.31 218 *i*P **P** **08 25 45.6 -0.3**
WB2 Warramunga Arr 80.32 218 P **P** **08 25 44.8 -1.1**
WRA Warramunga Arr 80.32 218 P **P** **08 25 45.3 -0.7**
comp=Z,10nm,1.0s,baz=36,slow=6.0,SNR=41
WRA LR LR 09 01 32.7
comp=Z,34nm,18.7s,baz=331,slow=36
comp=Z,10nm,1.0s
WRA Warramunga Arr 80.32 218 P **P** **08 25 44.7 -1.2**
BOJS Bojanci 80.47 345 *i*P **P** **08 25 47.0 +0.5**
AVF Avril sur Loir 80.51 354 *e*P **P** **08 25 45.5 -1.2**
AVF pmax pmax
comp=Z,85nm,1.8s
SMF Signal de Mont 80.63 353 *e*P **P** **08 25 47.1 -0.3**
SMF pmax pmax
comp=Z,66nm,1.5s
PLVB Pleven 80.73 338 ⇓P **P** **08 25 48.7 +0.7**
MFF Saint Martin d 80.89 356 *e*P **P** **08 25 48.6 -0.1**
MFF pmax pmax
comp=Z,94nm,1.8s
BLKB Belogradchik 80.93 340 ⇓P **P** **08 25 49.3 +0.2**
DIVS Divibare 81.02 342 P **P** **08 25 49.5 -0.1**
TCF Toulx Ste Croi 81.09 355 *e*P **P** **08 25 49.5 -0.4**
TCF pmax pmax
comp=Z,8.0nm,0.9s
LPL La Plagne 81.51 351 *e*P **P** **08 25 53.1 +0.7**
LPL pmax pmax
comp=Z,34nm,1.3s
VTS Vitosha 81.77 339 ⇑P **P** **08 25 53.7 0.0**
VTS Vitosha 81.77 339 P **P** **08 25 54.2 +0.5**
VTS pmax pmax
comp=Z,16nm,1.3s
BR131 Keskin Array S 81.79 330 P **P** **08 25 53.4 -0.4**
BR131 IAmb IAmb 08 25 55.5
comp=Z,26nm,0.9s
BR131 Keskin Array S 81.79 330 *d i*P **P** **08 25 54.3 +0.5**
BRTR Keskin Array B 81.79 330 P **P** **08 25 54.3 +0.5**
comp=Z,13nm,0.8s,baz=49,slow=2.9,SNR=48
BRTR LR LR 09 05 24.6
comp=Z,60nm,21.0s,baz=9.5,slow=38
comp=Z,13nm,0.8s
ANTO Ankara 81.91 331 P **P** **08 25 55.0 +0.6**
RAO Raoul Island 81.96 173 LR LR 08 55 16.0
comp=Z,79nm,20.4s,baz=5.5,slow=30
TBI Tubuai 82.08 147 *e*LR LR 08 51 46.5
comp=Z,3μm,29.5s
TBI *e*LR LR 08 51 46.6
comp=Z,970nm,28.5s
PDG Podgorica 82.77 342 ⇑P **P** **08 25 59.4 +0.7**
SKO Skopje 82.77 340 *i*P **P** **08 26 00.1 +1.4**
ISO Isola 82.81 351 P **P** **08 26 00.4 +1.5**
ISO pmax pmax
comp=Z,27nm,1.1s
STIP Stip 82.88 339 *i*P **P** **08 25 59.3 0.0**
SRS Serrai 83.13 338 P **P** **08 26 01.2 +0.6**
SRS pmax pmax
comp=Z,26nm,1.2s
VAY Valandovo 83.16 339 *i*P **P** **08 26 01.9 +1.2**
SOH Sokhos 83.46 338 P **P** **08 26 02.6 +0.2**
SOH pmax pmax
comp=Z,13nm,1.3s
GRG Griva 83.54 339 P **P** **08 26 03.5 +0.8**
GRG pmax pmax
comp=Z,25nm,1.4s
LMR La Mourre 83.70 351 *e*P **P** **08 26 04.3 +0.9**
LMR pmax pmax
comp=Z,23nm,1.0s
OHR Ohrid 83.73 340 *i*P **P** **08 26 04.2 +0.5**
AQU L'Aquila 83.83 346 P **P** **08 26 06.0 +1.8**
AQU pmax pmax
comp=Z,46nm,1.2s
ASAR Alice Springs 83.88 217 P **P** **08 26 04.4 -0.1**
comp=Z,6.0nm,1.0s,baz=28,slow=4.7,SNR=26
ASAR LR LR 08 58 45.7
comp=Z,35nm,20.9s,baz=348,slow=32
comp=Z,6.0nm,1.0s
ASAR Alice Springs 83.88 217 P **P** **08 26 04.1 -0.4**
ASAR Alice Springs 83.88 217 P **P** **08 26 04.1 -0.4**
MTLF Montolieu 84.02 354 *e*P **P** **08 26 05.5 +0.4**
MTLF pmax pmax
comp=Z,38nm,1.2s
PGF Pioggiola 84.22 349 *e*P **P** **08 26 06.3 +0.1**
PGF pmax pmax
comp=Z,170nm,1.5s
ETSF Etsaut 84.60 356 *e*P **P** **08 26 08.4 +0.3**
ETSF pmax pmax
comp=Z,10.0nm,0.8s
UOSS Minazif 85.83 307 P **P** **08 26 13.4 -1.0**
PALK Pallekele 86.50 277 ⇑*e*P **P** **08 26 17.7 -0.2**
MMAI Mount Meron Ar 87.39 327 LR LR 09 11 21.4
comp=Z,36nm,18.0s,baz=52,slow=40
ESDC Sonseca Array 87.91 359 P **P** **08 26 23.8 -0.6**
comp=Z,3.7nm,0.9s,baz=350,slow=3.7,SNR=15
comp=Z,3.7nm,0.9s
IDI Anoyia 88.36 335 LR LR 09 10 07.5
comp=Z,23nm,18.6s,baz=353,slow=38
VAE Valguarnera 88.44 344 P **P** **08 26 27.0 +0.1**
comp=Z,19nm,0.6s,baz=63,slow=4.5,SNR=3.6
VAE LR LR 09 14 51.1
comp=Z,43nm,18.3s,baz=357,slow=41
comp=Z,19nm,0.6s
STKA Stephens Creek 89.03 207 P **P** **08 26 29.9 +0.5**
comp=Z,8.0nm,0.9s,baz=351,slow=9.3,SNR=5.4
STKA LR LR 09 02 06.8
comp=Z,35nm,21.3s,baz=23,slow=33
comp=Z,8.0nm,0.9s
KEST Kesra 90.90 348 P **P** **08 26 38.0 -0.5**
comp=Z,6.5nm,0.9s,baz=355,slow=7.1,SNR=4.8
comp=Z,6.5nm,0.9s
RAYN Ar Rayn 92.00 314 P **P** **08 26 43.9 +0.2**
RAYN pmax pmax
comp=Z,2.0nm,1.5s
SDV Santo Domingo 97.56 65 LR LR 09 12 28.7
comp=Z,52nm,21.2s,baz=272,slow=36
DBIC Dimbokro 120.78 359 PKP **PKPdf** **08 32 26.0 -0.6**
comp=Z,9.7nm,1.2s,baz=53,slow=2.5,SNR=6.2
ROSB Rosrio 120.97 47 *e*P **PKiKP** **08 32 31.4 +4.4**
SIV San Ignacio 123.28 71 PKP **PKPdf** **08 32 30.8 -0.4**
comp=Z,1.2nm,0.6s,baz=287,slow=2.8,SNR=6.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMC01	**Camacan, BA**	**134.06**	**49**	*e*P	**PKiKP**	**08 32 55.9**	**+2.9**
DIAM	**Diamantina, MG**	**134.61**	**55**	*e*P	**PKiKP**	**08 32 56.8**	**+2.5**
VAS01	**Vassouras-RJ**	**138.06**	**58**	*e*P	**PKiKP**	**08 33 03.6**	**+2.5**
MAW	**Mawson**	**145.00**	**218**	PKPbc	**PKPdf**	**08 33 10.0**	**+0.1**
	comp=Z,8.0nm,0.5s,baz=91,slow=3.1,SNR=17						
MAW	**Mawson**	**145.00**	**218**	PKIKP	**PKPdf**	**08 33 10.0**	**+0.1**
BOSA	**Boshof**	**146.82**	**305**	PKPbc	**PKPbc**	**08 33 16.4**	**0.0**
	comp=Z,21nm,1.1s,baz=46,slow=1.9,SNR=12						

*MDD **11** 08:14:38.4±0.5, 36.̊69N×9.̊70W, h29km, mb_Lg3.5/22, Error ellipse: s-maj=4.4km s-min=3.0km az=64.0*
*CNRM **11** 08:14:40.0, 36.̊58N×9.̊28W, h50km, ml3.0*
*INMG **11** 08:14:39.6±1.5, 36.̊69N×9.̊63W, h29km±5km, ML3.0, Error ellipse: s-maj=3.1km s-min=2.9km az=56.0*
*SFS **11** 08:14:39.0, 36.̊70N×9.̊60W, h35km, ML3.8, SW. CABO DE SAN VICENTE*
*LDG **11** 08:14:40.9±0.5, 36.̊72N×9.̊26W, h30km, Ml3.6/3, Error ellipse: s-maj=9.6km s-min=5.4km az=43.0*
ISC 11 08:14:37.5±1.2**, 36.̊70N**±0.̊04×**9.̊57W**±0.̊05**, h35km, n104, σ2.̊14**/173**, 6C-2D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**0.56**	**55**	*e*Pg	**Pn**	**08 14 51.4**	**+2.4**
PSVI				*e*Sg	**Sn**	**08 15 00.0**	**+2.9**
PSVI				A	A	08 15 02.7	
	640nm,0.5s						
PFVI	**Vila Bisbo**	**0.73**	**54**	⇑*i*P	**Pn**	**08 14 53.3**	**+1.9**
PFVI				*e*S	**Sn**	**08 15 03.4**	**+2.0**
PFVI				A	A	08 15 03.9	
	492nm,0.1s						
PFVI	**Vila Bisbo**	**0.73**	**54**	P	**Pn**	**08 14 52.6**	**+1.3**
PFVI	**Vila Bisbo**	**0.73**	**54**	P	**Pn**	**08 14 52.6**	**+1.3**
PFVI				S	**Sn**	**08 15 02.3**	**+0.9**
PLAGO	**Lagos**	**0.81**	**61**	*e*P	**Pn**	**08 14 54.4**	**+2.0**
PLAGO				*e*S	**Sn**	**08 15 05.5**	**+2.3**
PLAGO				A	A	08 15 06.6	
	962nm,0.1s						
PALJ	**Aljezur**	**0.87**	**45**	*e*P	**Pn**	**08 14 55.2**	**+2.0**
PALJ				*e*S	**Sn**	**08 15 06.7**	**+2.0**
PALJ				A	A	08 15 08.1	
	591nm,0.2s						
PPOR	**Portimao**	**0.93**	**62**	*e*S	**Sn**	**08 15 08.2**	**+1.9**
MORF	**Marmelete**	**0.95**	**51**	*e*P	**Pn**	**08 14 56.3**	**+1.9**
MORF				*e*S	**Sn**	**08 15 08.6**	**+1.8**
MORF				IAML		08 15 11.0	
	comp=E,936nm,0.2s						
PTEO	**Sao Teotonio**	**1.08**	**39**	⇑*i*P	**Pn**	**08 14 57.9**	**+1.8**
PTEO				*e*S	**Sn**	**08 15 11.8**	**+2.0**
PTEO				A	A	08 15 14.4	
	comp=E,150nm,0.3s						
PALBU	**Albufeira**	**1.13**	**69**	*e*S	**Sn**	**08 15 12.9**	**+1.8**
PALBU				A	A	08 15 14.3	
	comp=E,370nm,0.2s						
PFARO	**Faro**	**1.36**	**76**	*e*S	**Sn**	**08 15 19.0**	**+2.2**
PSINE	**Sines**	**1.37**	**24**	*e*P	**Pn**	**08 15 01.7**	**+1.5**
PSINE				*e*S	**Sn**	**08 15 18.3**	**+1.2**
PSINE				A	A	08 15 28.8	
	comp=E,384nm,0.5s						
PCVE	**Castro Verde**	**1.54**	**52**	⇑*e*Pn	**Pn**	**08 15 04.5**	**+2.1**
PCVE				*e*Sn	**Sn**	**08 15 23.1**	**+2.0**
PCVE				A	A	08 15 24.3	
	comp=E,174nm,0.4s						
MESJ	**Messejana**	**1.56**	**43**	*e*P	**Pn**	**08 15 04.5**	**+1.7**
MESJ				*e*S	**Sn**	**08 15 23.1**	**+1.3**
MESJ				IAML		08 15 24.0	
	comp=E,103nm,0.1s						
PTAV	**Tavira**	**1.59**	**74**	*e*Sn	**Sn**	**08 15 23.8**	**+1.3**
PTAV				A	A	08 15 31.8	
	comp=E,320nm,0.8s						
PNCL	**Nicolau / Gran**	**1.63**	**30**	⇑*i*Pn	**Pn**	**08 15 05.2**	**+1.5**
PNCL				*e*Sn	**Sn**	**08 15 24.2**	**+0.7**
PNCL				A	A	08 15 25.0	
	comp=E,115nm,0.1s						
PVAQ	**Vaqueiros**	**1.64**	**64**	⇓*e*Pn	**Pn**	**08 15 05.9**	**+2.1**
PVAQ				*e*Sn	**Sn**	**08 15 25.0**	**+1.3**
PVAQ				A	A	08 15 26.7	
	comp=E,200nm,0.1s						
PVAQ	**Vaqueiros**	**1.64**	**64**	P	**Pn**	**08 15 05.8**	**+2.0**
PVAQ	**Vaqueiros**	**1.64**	**64**	P	**Pn**	**08 15 05.8**	**+2.0**
PVAQ				S	**Sn**	**08 15 24.7**	**+1.0**
EGRO	**El Granado**	**1.86**	**63**	P	**Pn**	**08 15 08.7**	**+1.8**
EGRO				S	**Sn**	**08 15 30.7**	**+1.5**
EGRO				*i* Vmb_Lg		08 15 34.0	
PBEJ	**Beja**	**1.89**	**45**	*e*Pn	**Pn**	**08 15 08.8**	**+1.5**
PBEJ				*e*Sn	**Sn**	**08 15 31.3**	**+1.3**
PBEJ				A	A	08 15 32.3	
	comp=E,76nm,0.4s						
PSETU	**Setºbal**	**1.91**	**17**	*e*Sn	**Sn**	**08 15 32.2**	**+1.8**
LIS	**Lisbon**	**2.04**	**9**	*e*S	**Sn**	**08 15 34.0**	**+0.5**
LIS				IAML		08 15 35.9	
	comp=N,116nm,0.1s						
LIS	**Lisbon**	**2.04**	**9**	*e*Sn	**Sn**	**08 15 34.2**	**+0.7**
PMST	**Lisbon--Monsan**	**2.05**	**9**	*e*Sn	**Sn**	**08 15 34.1**	**+0.2**
PMST				A	A	08 15 34.7	
	comp=N,93nm,0.2s						
PCASC	**Cascais**	**2.07**	**2**	*e*Sn	**Sn**	**08 15 41.0**	**+6.8**
PVERD	**Verdizela**	**2.08**	**4**	*e*Sn	**Sn**	**08 15 31.2**	**-3.2**
INMG	**Instituto de M**	**2.10**	**10**	*e*Sn	**Sn**	**08 15 37.1**	**+2.1**
PACT	**Alcochete**	**2.14**	**16**	*e*Pn	**Pn**	**08 15 12.7**	**+2.0**
PACT				*e*Sn	**Sn**	**08 15 37.3**	**+1.2**
PACT				A	A	08 15 39.5	
	comp=N,43nm,0.3s						
EVO	**Evora**	**2.21**	**34**	P	**Pn**	**08 15 12.8**	**+1.2**
EVO				S	**Sn**	**08 15 37.1**	**-0.5**
PMAFR	**Mafra**	**2.26**	**6**	*e*Pn	**Pn**	**08 15 13.4**	**+1.0**
PMAFR				*e*Sn	**Sn**	**08 15 39.2**	**+0.2**
PMAFR				A	A	08 15 41.1	
	comp=N,160nm,0.2s						
ARNO	**Arenosillo**	**2.31**	**79**	P	**Pn**	**08 15 15.6**	**+2.6**
PBAR	**Barrancos**	**2.49**	**53**	*e*Pn	**Pn**	**08 15 17.3**	**+1.7**
PBAR				*e*Sn	**Sn**	**08 15 45.8**	**+1.0**
PBAR				A	A	08 15 47.8	
	comp=N,64nm,0.6s						
EMIN	**Mina Concepcio**	**2.54**	**64**	P	**Pn**	**08 15 17.8**	**+1.5**
EMIN				S	**Sn**	**08 15 46.7**	**+0.6**
EMIN				*i* Vmb_Lg		08 15 48.7	
PMTG	**Montargil**	**2.59**	**24**	*e*Pn	**Pn**	**08 15 18.4**	**+1.5**
PMTG				*e*Sn	**Sn**	**08 15 47.3**	**+0.2**
PMTG				A	A	08 15 58.8	
	comp=N,36nm,0.2s						
PSANT	**Santarm**	**2.63**	**15**	*e*Sn	**Sn**	**08 15 49.2**	**+1.1**
PESTR	**Estremoz**	**2.67**	**35**	⇑*e*Pn	**Pn**	**08 15 19.0**	**+1.0**
PESTR				*e*Sn	**Sn**	**08 15 49.3**	**+0.2**
PESTR				A	A	08 15 53.2	
	comp=N,20nm,0.2s						
PESTR	**Estremoz**	**2.67**	**35**	P	**Pn**	**08 15 18.9**	**+1.0**
PESTR	**Estremoz**	**2.67**	**35**	P	**Pn**	**08 15 18.9**	**+1.0**
PESTR				S	**Sn**	**08 15 49.5**	**+0.3**
PCDRA	**Caldas da Rain**	**2.72**	**7**	*e*Sn	**Sn**	**08 15 51.9**	**+1.5**
PSBE	**So Bento**	**2.87**	**12**	*e*Pn	**Pn**	**08 15 22.1**	**+1.3**
PSBE				*e*Sn	**Sn**	**08 15 53.6**	**-0.5**
PSBE				A	A	08 15 56.4	
	comp=N,37nm,0.2s						
EBAD	**Badajoz**	**2.88**	**44**	⇑P	**Pn**	**08 15 22.0**	**+1.1**
EBAD				S	**Sn**	**08 15 54.4**	**+0.1**
EBAD				*i* Vmb_Lg		08 15 55.9	
ESPR	**Espera**	**2.99**	**86**	⇓P	**Pn**	**08 15 24.2**	**+1.9**
ESPR				S	**Sn**	**08 15 56.2**	**-0.7**
ESPR				*i* Vmb_Lg		08 15 59.8	
PMRV	**Marv??o**	**3.22**	**32**	*e*Pn	**Pn**	**08 15 26.9**	**+1.3**
PMRV				*e*Sn	**Sn**	**08 16 01.8**	**-0.9**
PMRV				A	A	08 16 04.0	
	comp=N,50nm,0.2s						
EJIF	**Jimena Fronter**	**3.31**	**93**	P	**Pn**	**08 15 29.4**	**+2.6**
EJIF				S	**Sn**	**08 16 05.5**	**+0.5**
LIJA	**Lijar**	**3.35**	**85**	P	**Pn**	**08 15 30.6**	**+3.1**
LIJA				S	**Sn**	**08 16 04.1**	**-1.9**
PCAS	**Casmilo, Conde**	**3.45**	**14**	*e*Pn	**Pn**	**08 15 29.9**	**+1.2**
PCAS				*e*Sn	**Sn**	**08 16 07.6**	**-0.7**
PCAS				A	A	08 16 11.5	
	comp=N,17nm,0.3s						
CEU	**Ceuta**	**3.48**	**102**	P	**Pn**	**08 15 32.0**	**+2.8**
CEU				S	**Sn**	**08 16 11.4**	**+2.2**
PCBR	**Castelo Branco**	**3.54**	**27**	*e*Pn	**Pn**	**08 15 31.6**	**+1.7**
PCBR				*e*Sn	**Sn**	**08 16 10.4**	**-0.1**
PCBR				A	A	08 16 12.7	
	comp=N,16nm,0.3s						
ECAB	**El Cabril**	**3.58**	**66**	P	**Pn**	**08 15 32.0**	**+1.5**
ECAB				S	**Sn**	**08 16 10.8**	**-0.8**
ECAB				*i* Vmb_Lg		08 16 13.3	
COI	**Coimbra**	**3.62**	**14**	*e*Sn	**Sn**	**08 16 12.0**	**-0.4**
CHEFC	**Chefchaouen**	**3.79**	**114**	P	**Pn**	**08 15 36.0**	**+2.6**
CHEFC	**Chefchaouen**	**3.79**	**114**	P	**Pn**	**08 15 36.0**	**+2.6**
CHEFC				S	**Sn**	**08 16 13.8**	**-3.0**
AVE	**Averroes**	**3.83**	**152**	P	**Pn**	**08 15 34.9**	**+0.9**
AVE				S	**Sn**	**08 16 16.0**	**-1.8**
AVE	**Averroes**	**3.83**	**152**	P	**Pn**	**08 15 34.2**	**+0.2**
AVE				S	**Sn**	**08 16 16.2**	**-1.6**
EMIJ	**Mijas**	**3.86**	**91**	P	**Pn**	**08 15 36.1**	**+1.7**
EMIJ				S	**Sn**	**08 16 18.8**	**+0.3**
EMIJ				*i* Vmb_Lg		08 16 22.7	
MTE	**Manteigas**	**4.02**	**23**	*e*Pn	**Pn**	**08 15 38.0**	**+1.4**
MTE				*e*Sn	**Sn**	**08 16 21.5**	**-0.9**
MTE				A	A	08 16 28.8	
	comp=N,10nm,0.6s						
EMAL	**Malaga-Limoner**	**4.13**	**88**	P	**Pn**	**08 15 40.4**	**+2.3**
EMAL				S	**Sn**	**08 16 26.1**	**+1.0**
PVIS	**Viseu**	**4.21**	**18**	*e*Pn	**Pn**	**08 15 40.9**	**+1.6**
PVIS				*e*Sn	**Sn**	**08 16 26.4**	**-0.9**
PVIS				A	A	08 16 29.4	
	comp=N,18nm,0.1s						
EADA	**Adamuz**	**4.24**	**68**	P	**Pn**	**08 15 41.4**	**+1.9**
EADA				S	**Sn**	**08 16 26.3**	**-1.5**
EADA				*i* Vmb_Lg		08 16 29.3	
EPLA	**Plasencia**	**4.33**	**38**	P	**Pn**	**08 15 42.0**	**+1.1**
EPLA				S	**Sn**	**08 16 29.2**	**-1.0**
EGOR	**Sierra Gorda,**	**4.40**	**83**	P	**Pn**	**08 15 44.2**	**+2.3**
EGOR				S	**Sn**	**08 16 32.5**	**+0.6**
EGOR				*i* Vmb_Lg		08 16 37.8	
PTO	**Porto**	**4.49**	**9**	*e*Sn	**Sn**	**08 16 31.5**	**-2.5**
ELGU	**Los Guajares,**	**4.78**	**86**	P	**Pn**	**08 15 50.0**	**+3.0**
ELGU				S	**Sn**	**08 16 39.6**	**-1.5**
ELGU				*i* Vmb_Lg		08 16 48.7	
PVRL	**Vila Real**	**4.79**	**17**	*e*Pn	**Pn**	**08 15 48.5**	**+1.3**
PVRL				*e*Sn	**Sn**	**08 16 40.0**	**-1.4**
PVRL				A	A	08 16 42.3	
	comp=N,37nm,0.1s						
POLO	**Lamas de Olo**	**4.86**	**16**	*e*Pn	**Pn**	**08 15 49.3**	**+1.1**
POLO				*e*Sn	**Sn**	**08 16 41.3**	**-2.1**
POLO				A	A	08 16 44.6	
	comp=N,6.4nm,0.7s						
MVO	**Moncorvo**	**4.88**	**23**	*e*Pn	**Pn**	**08 15 49.4**	**+1.0**
MVO				*e*Sn	**Sn**	**08 16 41.6**	**-2.0**
MVO				A	A	08 16 44.4	
	comp=N,16nm,0.2s						
PAB	**San Pablo**	**5.00**	**54**	P	**Pn**	**08 15 51.1**	**+1.0**
PAB				S	**Sn**	**08 16 44.8**	**-1.9**
PAB				*i* Vmb_Lg		08 16 47.9	
PAB	**San Pablo**	**5.00**	**54**	P	**Pn**	**08 15 51.3**	**+1.2**
PAB	**San Pablo**	**5.00**	**54**	P	**Pn**	**08 15 51.3**	**+1.2**
PCAB	**Cabril**	**5.14**	**13**	*e*Pn	**Pn**	**08 15 53.0**	**+1.0**
PCAB				*e*Sn	**Sn**	**08 16 48.0**	**-2.1**
PCAB				A	A	08 16 52.0	
	comp=N,16nm,0.1s						
ELOB	**Lobios**	**5.29**	**12**	P	**Pn**	**08 15 54.6**	**+0.5**
ELOB				S	**Sn**	**08 16 50.5**	**-3.3**
ELOB				*i* Vmb_Lg		08 16 54.6	
EQES	**Quesada**	**5.30**	**76**	P	**Pn**	**08 15 55.7**	**+1.5**
EQES				S	**Sn**	**08 16 53.5**	**-0.7**
EQES				*i* Vmb_Lg		08 16 56.2	
PGAV	**Gavieira, Arco**	**5.35**	**10**	*e*Pn	**Pn**	**08 15 56.0**	**+1.1**
PGAV				*e*Sn	**Sn**	**08 16 51.8**	**-3.5**
PGAV				A	A	08 16 56.1	
	comp=N,18nm,0.2s						
EBER	**Berja**	**5.37**	**86**	P	**Pn**	**08 15 57.1**	**+1.9**
EBER				S	**Sn**	**08 16 56.7**	**+0.9**
EBER				*i* Vmb_Lg		08 16 59.3	
MD31	**MD31**	**5.51**	**133**	P	**Pn**	**08 15 57.6**	**+0.5**
MD31				S	**Sn**	**08 16 54.7**	**-4.5**
PBRG	**Braganca**	**5.55**	**22**	*e*Pn	**Pn**	**08 15 59.0**	**+1.4**
PBRG				*e*Sn	**Sn**	**08 16 57.9**	**-2.2**
PBRG				A	A	08 17 01.0	
	comp=N,7.4nm,0.2s						
MDT	**Midelt**	**5.63**	**132**	P	**Pn**	**08 15 59.1**	**+0.3**
MDT	**Midelt**	**5.63**	**132**	P	**Pn**	**08 15 59.1**	**+0.3**
MDT				S	**Sn**	**08 16 58.2**	**-4.1**
OUK	**Oukaimeden**	**5.66**	**165**	P	**Pn**	**08 15 60.0**	**+0.5**
OUK	**Oukaimeden**	**5.66**	**165**	P	**Pn**	**08 15 59.5**	**+0.1**
OUK				S	**Sn**	**08 16 59.9**	**-3.6**
ECAL	**Calabor**	**5.67**	**22**	P	**Pn**	**08 16 00.3**	**+1.0**
ECAL				S	**Sn**	**08 17 01.3**	**-2.0**
ECAL				*i* Vmb_Lg		08 17 04.1	
GUD	**Guadarrama**	**5.78**	**45**	P	**Pn**	**08 16 01.9**	**+1.0**
GUD				S	**Sn**	**08 17 04.0**	**-2.0**
GUD				*i* Vmb_Lg		08 17 06.9	
UCM	**Universidad Co**	**6.13**	**52**	P	**Pn**	**08 16 06.5**	**+0.9**
UCM				Sg	**Sn**	**08 17 14.9**	**+0.5**
JBK	**JBK**	**6.18**	**110**	P	**Pn**	**08 16 06.1**	**-0.4**
JBK				S	**Sn**	**08 17 08.7**	**-7.3**
EAGO	**Agolada(Pontev**	**6.20**	**10**	P	**Pn**	**08 16 07.4**	**+1.0**
EAGO				S	**Sn**	**08 17 12.8**	**-3.3**
EAGO				*i* Vmb_Lg		08 17 16.6	
EMAZ	**Mazaricos**	**6.25**	**4**	P	**Pn**	**08 16 07.1**	**-0.1**
EMAZ				S	**Sn**	**08 17 12.5**	**-4.9**
EMAZ				*i* Vmb_Lg		08 17 15.5	
EZAR	**Zarzadilla de**	**6.39**	**77**	P	**Pn**	**08 16 10.0**	**+0.8**
EZAR				S	**Sn**	**08 17 19.0**	**-1.9**
EZAR				*i* Vmb_Lg		08 17 22.6	
PMPST	**Porto Santo, M**	**6.63**	**239**	*e*Pn	**Pn**	**08 16 11.2**	**-1.2**
PMPST				*e*Sn	Sn	08 17 17.0	-10
PMPS	**Porto Santo**	**6.64**	**239**	*e*Sn	Sn	08 17 14.1	-13
ETOB	**Tobarra**	**6.65**	**71**	P	**Pn**	**08 16 14.3**	**+1.5**
ETOB				S	**Sn**	**08 17 22.7**	**-4.6**
ETOB				*i* Vmb_Lg		08 17 27.4	
EPON	**Pontenova**	**6.87**	**15**	P	**Pn**	**08 16 17.1**	**+1.4**
EPON				S	**Sn**	**08 17 30.3**	**-2.3**
ETOR	**Torete**	**7.17**	**53**	P	**Pn**	**08 16 21.5**	**+1.7**
ETOR				S	**Sn**	**08 17 35.7**	**-4.4**
ETOR				*i* Vmb_Lg		08 17 40.5	
EARI	**Arriondas**	**7.39**	**26**	P	**Pn**	**08 16 25.4**	**+2.6**
EARI				S	**Sn**	**08 17 44.1**	**-1.4**
EMOS	**Mosqueruela**	**8.01**	**60**	P	**Pn**	**08 16 34.7**	**+3.2**
EMOS				S	**Sn**	**08 17 57.6**	**-3.3**
EMOS				*i* Vmb_Lg		08 18 04.0	
EALK	**Alkurruntz**	**8.98**	**41**	S	**Sn**	**08 18 21.0**	**-3.5**
SJPF	**Ste Jean**	**9.06**	**42**	*e*Pn	**Pn**	**08 16 46.3**	**+0.6**
SJPF				*e*Sn	**Sn**	**08 18 17.5**	**-8.9**
	comp=N,2.0nm,0.2s						
ETSF	**Etsaut**	**9.29**	**45**	*e*Pn	**Pn**	**08 16 49.9**	**+1.0**
ETSF				*e*Sn	Sn	08 18 22.7	-9.5
	comp=N,2.7nm,0.3s						
EPF	**Esparros**	**9.89**	**47**	*e*Pn	**Pn**	**08 16 56.6**	**-0.6**
EPF	**Esparros**	**9.89**	**47**	*e*P	**Pn**	**08 17 00.9**	**+3.7**
EPF				*e*Sn	Sn	08 18 37.3	-10
	comp=N,2.7nm,0.2s						
MTLF	**Montolieu**	**11.20**	**50**	*e*Pn	**Pn**	**08 17 13.5**	**-1.6**
MTLF	**Montolieu**	**11.20**	**50**	*e*P	**Pn**	**08 17 19.4**	**+4.3**
LFF	**La Frestale**	**11.34**	**40**	*e*Pn	**Pn**	**08 17 15.6**	**-1.3**
LDF	**La Druitiere**	**13.75**	**27**	*e*Pn	**Pn**	**08 17 48.9**	**-0.9**

*NERS **11** 08:22:38.1±0.0, 65.̊01N×169.̊33W, h33km*
*IDC **11** 08:22:58.8±1.3, 65.̊86N×171.̊21W, h0km, mb3.6/5, mbtmp3.7/7, ML3.4/2, MS3.6/4, Error ellipse: s-maj=56.4km s-min=16.1km az=16.0*
ISC 11 08:23:00.1±0.8**, 66.̊2N**±0.̊2×**170.̊21W**±0.̊06**, h10km, n13, σ1.̊49**/10**, mb3.7**/5**, MS3.8**/4**, Near north coast of eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDR	**Anadyr'**	**5.33**	**260**	*e*	**Pb**	**08 24 33.0**	**-0.1**
ANDR				*e*Sg	**Sb**	**08 25 39.1**	**+2.1**
ANDR				Sgmax		08 25 45.6	
	370nm,0.7s						
ANDR				Sgmax		08 25 45.6	
	120nm,0.5s						
BILL	**Bilibino**	**9.33**	**292**	*e*Sg	Sn	08 27 56.9	+58
BILL				Sgmax		08 28 10.9	
	130nm,0.4s						
ILAR	**Eielson Array**	**9.78**	**87**	Pn	**Pn**	**08 25 22.0**	**+1.5**
	0.2nm,0.3s,baz=281,slow=14,SNR=10						
ILAR				Sn	**Sn**	**08 27 09.3**	**-0.9**
	0.1nm,0.3s,baz=291,slow=23,SNR=1.7						
ILAR				Lg	Lg	08 28 13.7	
	baz=299,slow=32						
	0.5nm,0.4s						
KDAK	**Kodiak Island**	**11.76**	**127**	Pn	**Pn**	**08 25 46.7**	**-0.9**
	0.5nm,0.3s,baz=302,slow=15,SNR=2.2						
	10nm,0.9s						
SONM	**Songino Array**	**45.03**	**289**	P	**P**	**08 31 14.4**	**-1.2**
	0.7nm,0.6s,baz=44,slow=6.4,SNR=3.2						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**47.55**	**309**	P	**P**	**08 31 34.3**	**-0.8**
	0.7nm,0.5s,baz=64,slow=6.9,SNR=2.7						
	0.7nm,0.5s						
JCJ	**Chichijima**	**48.84**	**241**	LR	LR	08 49 30.4	
	comp=Z,20nm,21.5s,baz=160,slow=33						
KURBB	**Kurchatov Arra**	**52.37**	**311**	P	**P**	**08 32 10.6**	**-1.2**
	0.4nm,0.3s,baz=26,slow=7.2,SNR=1.4						
	0.4nm,0.3s						
TXAR	**Lajitas Array**	**54.08**	**98**	P	**P**	**08 32 26.5**	**+1.8**
	0.6nm,0.9s,baz=339,slow=4.8,SNR=3.9						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**54.55**	**306**	P	**P**	**08 32 27.0**	**-0.8**
	0.4nm,0.7s,baz=44,slow=10,SNR=2.1						
	0.4nm,0.7s						
SJG	**San Juan**	**79.14**	**70**	LR	LR	09 12 16.8	
	comp=Z,37nm,18.8s,baz=330,slow=37						
MDP	**Montagnes des**	**96.12**	**63**	LR	LR	09 16 36.0	
	comp=Z,55nm,21.9s,baz=6.0,slow=33						
BBTS	**Babate**	**97.04**	**26**	LR	LR	09 17 56.7	
	comp=Z,44nm,20.6s,baz=25,slow=34						

*DJA **11** 08:28:07.4±0.4, 3˚N±4˚×12˚7E±˚, h10km, M4.6/14, mb4.9/8, mB5.3/6, MLv4.4/14, Mw(mB)4.8/6*
*IDC **11** 08:28:11.3±1.5, 2.̊79N×126.̊50E, h82km±14km, mb3.8/17, mbtmp4.2/21, MS3.4/10, Error ellipse: s-maj=21.5km s-min=8.1km az=71.0*
*NEIC **11** 08:28:11.8±1.9, 2.̊82N±0.̊08×126.̊56E±0.̊09, h76km±8km, mb4.4/18, Error ellipse: s-maj=14.9km s-min=10.2km az=51.0*
ISC 11 08:28:10.2±0.4**, 2.̊87N**±0.̊05×**126.̊60E**±0.̊07**, h63km, n90, σ1.̊67**/87**, mb4.3**/28**, 4C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.34**	**307**	P	**Pn**	**08 28 30.0**	**-2.9**
SGSI	**Sangihe**	**1.34**	**307**	P	**Pn**	**08 28 30.2**	**-2.7**
GAMI	**Galela, Maluku**	**1.57**	**131**	P	**Pn**	**08 28 34.7**	**-1.2**
GAMI	**Galela, Maluku**	**1.57**	**131**	P	**Pn**	**08 28 35.0**	**-0.9**
	9.9nm26μm2μm,0.5s						
TNTI	**Ternate**	**2.22**	**160**		**Pn**	**08 28 45.5**	**+0.8**
TNTI	**Ternate**	**2.22**	**160**	P	**Pn**	**08 28 45.7**	**+1.0**
TNTI	**Ternate**	**2.22**	**160**	P	**Pn**	**08 28 46.6**	**+1.9**
	1.1nm4μm248nm,1.1s						
LBMI	**Labuha**	**3.59**	**165**	P	**Pn**	**08 29 04.6**	**+1.1**
LBMI	**Labuha**	**3.59**	**165**	P	**Pn**	**08 29 05.0**	**+1.5**
	3μm96nm,0.7s						
GSPH	**General Santos**	**3.60**	**333**	⇑*e*P	**Pn**	**08 29 02.7**	**-1.0**
GTOI	**Gorontalo**	**4.21**	**238**	P	**Pn**	**08 29 12.5**	**+0.5**
GTOI	**Gorontalo**	**4.21**	**238**	P	Pn	08 29 21.3	+9.3
	531nm28nm,0.6s						
DAV	**Davao City (W)**	**4.30**	**346**	P	**Pn**	**08 29 15.0**	**+1.9**
	237nm,0.4s,baz=210,slow=20,SNR=1.9						
DAV				S	**Sn**	**08 30 06.3**	**+4.3**
	165nm,0.3s,baz=244,slow=19,SNR=1.4						
KCP	**Kidapawan**	**4.38**	**340**	⇑*e*P	**Pn**	**08 29 15.0**	**+0.6**
KCP				*i* S	**Sn**	**08 30 07.3**	**+3.1**
SANI	**Sanana**	**4.92**	**187**	P	**Pn**	**08 29 22.6**	**+0.9**
	0.2nm16nm,0.6s						
SANI	**Sanana**	**4.92**	**187**	P	**Pn**	**08 29 26.1**	**+4.4**
	16nm,0.6s						
CTBH	**Cotabato--PC H**	**4.92**	**332**	⇑*i*P	**Pn**	**08 29 21.8**	**+0.2**
BUKP	**Musuan**	**5.21**	**343**	⇑*e*P	**Pn**	**08 29 25.9**	**+0.2**
MRSI	**Marisa**	**5.22**	**243**	P	**Pn**	**08 29 25.6**	**-0.2**
	0.7nm2μm148nm,0.5s						
MRSI	**Marisa**	**5.22**	**243**	P	**Pn**	**08 29 27.5**	**+1.7**
	2μm148nm,0.5s						
LUWI	**Luwuk**	**5.45**	**225**		**Pn**	**08 29 32.2**	**+3.3**
LUWI	**Luwuk**	**5.45**	**225**	P	**Pn**	**08 29 29.4**	**+0.5**
	1.1nm9μm139nm,0.8s						
LUWI	**Luwuk**	**5.45**	**225**	P	Pn	08 29 36.5	+7.6
	9μm139nm,0.8s						
SIJI	**Sorong**	**5.96**	**128**	P	**Pn**	**08 29 37.1**	**+1.2**
	5.2nm,0.3s,baz=329,slow=19						
SIJI				S	**Sn**	**08 30 44.6**	**+1.7**
	3.4nm,0.3s,baz=264,slow=23,SNR=1.3						
SIJI				LR	LR	08 31 53.6	
	comp=Z,352nm,20.0s,baz=278,slow=37						
TOLI2	**Tolitoli**	**6.07**	**253**	Pn	**Pn**	**08 29 36.0**	**-1.4**
NLAI	**Namlea**	**6.08**	**175**	P	**Pn**	**08 29 38.7**	**+1.1**
	0.1nm7μm18nm,0.4s						
APSI	**Ampana**	**6.21**	**233**	P	**Pn**	**08 29 39.5**	**+0.2**
	0.6nm2μm180nm,0.5s						
APSI	**Ampana**	**6.21**	**233**	P	**Pn**	**08 29 43.6**	**+4.3**
KRAI	**Karang Ratu**	**6.40**	**164**	P	**Pn**	**08 29 43.2**	**+1.3**
	0.2nm19nm,0.6s						
MSAI	**Masohi**	**6.59**	**159**	P	**Pn**	**08 29 45.8**	**+1.2**
AAI	**Ambon**	**6.70**	**166**	P	**Pn**	**08 29 47.2**	**+1.1**
	0.2nm39nm,0.4s						
MPSI	**Mapaga**	**7.15**	**250**	P	**Pn**	**08 29 52.2**	**0.0**
MYLDM	**Lahad Datu**	**8.40**	**286**	Pn	**Pn**	**08 30 09.7**	**+0.4**
KAPI	**Kappang**	**10.39**	**221**	P	**Pn**	**08 30 35.6**	**-1.0**
	6.6nm,0.8s,baz=22,slow=19,SNR=2.1						
KAPI				LR	LR	08 35 12.9	
	comp=Z,128nm,21.0s,baz=33,slow=41						
KAPI	**Kappang**	**10.39**	**221**	Pn	**Pn**	**08 30 38.5**	**+1.9**
KKM	**Kota Kinabalu**	**10.82**	**287**	Pn	**Pn**	**08 30 43.9**	**+1.3**
BATI	**Baumata**	**13.31**	**193**	P	**Pn**	**08 31 15.3**	**-1.1**
	16nm,0.4s,baz=323,slow=10,SNR=1.7						
SBUM	**Sibu**	**14.37**	**269**	Pn	**Pn**	**08 31 31.8**	**+1.3**
MTN	**Manton Dam**	**16.24**	**164**	Pn	**Pn**	**08 31 52.5**	**-2.0**
MTN				IAmb	IAmb	08 32 02.6	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**18.55**	**173**	P	**P**	**08 32 21.5**	**-0.4**
KNRA				IAmb	IAmb	08 32 48.8	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.85**	**183**	P	**P**	**08 32 45.1**	**-2.0**
	baz=22,slow=11						
WB0	**Warramunga Arr**	**23.76**	**162**	P	**P**	**08 33 15.2**	**-1.9**
WB0				IAmb	IAmb	08 33 27.0	
	comp=Z,22nm,1.4s						
JOW	**Kunigami**	**23.89**	**4**	LR	LR	08 41 33.3	
	comp=Z,64nm,21.4s,baz=311,slow=34						
WRA	**Warramunga Arr**	**23.91**	**162**	P	**P**	**08 33 17.4**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=340,slow=10,SNR=29						
WRA				S	**S**	**08 37 28.9**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=336,slow=19,SNR=3.0						
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**23.91**	**162**	P	**P**	**08 33 17.1**	**-1.3**
WR0	**Warramunga Arr**	**23.99**	**161**	P	**P**	**08 33 17.7**	**-1.4**
WR0				IAmb	IAmb	08 33 57.3	
	comp=Z,5.3nm,0.7s						
PSA00	**Pilbara Seismi**	**25.17**	**195**	P	**P**	**08 33 29.8**	**0.0**
PSA00				IAmb	IAmb	08 34 02.2	
	comp=Z,31nm,1.4s						
AS31	**Alice Springs**	**27.31**	**165**	P	**P**	**08 33 48.9**	**-0.3**
ASAR	**Alice Springs**	**27.31**	**165**	P	**P**	**08 33 48.8**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=347,slow=7.5,SNR=15						
ASAR				PcP	**PcP**	**08 37 06.6**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=340,slow=2.5,SNR=2.1						
	comp=Z,0.7nm,0.4s						
ASAR	**Alice Springs**	**27.31**	**165**	P	**P**	**08 33 49.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.20**	**302**	P	**P**	**08 34 22.9**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=130,slow=9.7,SNR=1.3						
	comp=Z,0.8nm,0.3s						
PZH	**PanZhiHua**	**33.48**	**317**	P	**P**	**08 34 45.5**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.3s						
FORT	**Forrest**	**33.48**	**178**	P	**P**	**08 34 42.1**	**-1.5**
KSRS	**Korea Array**	**34.44**	**2**	P	**P**	**08 34 52.0**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=169,slow=9.3,SNR=4.6						
	comp=Z,0.7nm,0.4s						
BBOO	**Buckleboo**	**36.59**	**167**	P	**P**	**08 35 09.6**	**-0.8**
EIDS	**Eidsvold**	**36.76**	**141**	P	**P**	**08 35 11.3**	**-0.6**
EIDS				IAmb	IAmb	08 35 33.5	
	comp=Z,9.2nm,1.2s						
STKA	**Stephens Creek**	**37.37**	**159**	P	**P**	**08 35 16.8**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=342,slow=7.8,SNR=4.3						
	comp=Z,1.9nm,0.5s						
STKA	**Stephens Creek**	**37.37**	**159**	P	**P**	**08 35 16.0**	**-1.0**
HHC	**Hu-ho-hao-te**	**40.17**	**342**	*e*P	**P**	**08 35 44.2**	**+3.7**
HHC				pmax	pmax		
	comp=Z,230nm,6.7s						
ARMA	**Armidale**	**40.82**	**146**	P	**P**	**08 35 46.6**	**+0.6**
ARMA				IAmb	IAmb	08 35 47.5	
	comp=Z,18nm,1.5s						
USRK	**Ussuriysk Ar.**	**41.44**	**6**	P	**P**	**08 35 50.9**	**+0.2**
	comp=Z,8.7nm,0.8s,baz=187,slow=8.2,SNR=12						
	comp=Z,8.7nm,0.8s						
JKA	**Kamikawa-asahi**	**43.45**	**17**	P	**P**	**08 36 08.6**	**+1.6**
KLR	**Kul'dur**	**46.40**	**5**	P	**P**	**08 36 29.1**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=198,slow=10,SNR=3.4						

	comp=Z,3.2nm,1.0s						
HEH	HeiHe	47.22	1	eP	P	08 36 41.1	+4.3
HEH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ULN	Ulaanbaatar	47.90	342	P	P	08 36 43.8	+1.5
ULN				IAmb	IAmb	08 36 44.6	
	comp=Z,4.7nm,1.1s						
SONM	Songino Array	48.07	342	P	P	08 36 41.7	-1.9
	comp=Z,0.6nm,0.4s,baz=165,slow=10,SNR=6.2						
SONM				LR	LR	09 00 00.2	
	comp=Z,40nm,19.4s,baz=144,slow=40						
	comp=Z,0.6nm,0.4s						
WMQ	Urumqi	53.35	325	eP	P	08 37 26.0	+2.7
WMQ				LR	LR		
	comp=Z,87nm,17.3s						
MK31	Makanchi Array	58.19	326	P	P	08 37 57.5	-0.3
MK31				IAmb	IAmb	08 38 01.1	
	comp=Z,6.9nm,1.5s						
MKAR	Makanchi Array	58.19	326	P	P	08 37 56.8	-1.0
	comp=Z,1.1nm,0.5s,baz=121,slow=8.1,SNR=16						
	comp=Z,1.1nm,0.5s						
MKAR	Makanchi Array	58.19	326	P	P	08 37 57.2	-0.6
MA2	Magadan	59.57	14	LR	LR	09 01 43.8	
	comp=Z,19nm,21.8s,baz=236,slow=34						
ZALV	Zalesovo Beam	61.30	333	P	P	08 38 17.5	-1.5
	comp=Z,0.7nm,0.4s,baz=128,slow=9.2,SNR=3.2						
	comp=Z,0.7nm,0.4s						
KURBB	Kurchatov Arra	62.39	328	P	P	08 38 25.2	-1.2
	comp=Z,0.9nm,0.4s,baz=125,slow=6.6,SNR=4.7						
	comp=Z,0.9nm,0.4s						
KURK	Kurchatov	62.40	328	P	P	08 38 26.0	-0.5
KURK				IAmb	IAmb	08 38 37.5	
	comp=Z,3.1nm,0.7s						
GAR	Garm	62.41	313	P	P	08 38 26.4	-0.6
BVAR	Borovoye Array	67.97	327	P	P	08 39 01.9	-0.6
	comp=Z,0.8nm,0.4s,baz=141,slow=4.8,SNR=6.2						
	comp=Z,0.8nm,0.4s						
WSAR	Wadi Sarin	68.65	294	LR	LR	09 12 15.8	
	comp=Z,33nm,19.1s,baz=150,slow=39						
TIXI	Tiksi	68.70	1	P	P	08 39 05.4	-1.4
	comp=Z,0.9nm,0.3s,baz=174,slow=0.8,SNR=3.9						
TIXI				LR	LR	09 11 07.0	
	comp=Z,24nm,19.0s,baz=212,slow=38						
	comp=Z,0.9nm,0.3s						
GEYT	Alibeck	71.33	309	P	P	08 39 22.6	-1.0
	comp=Z,1.1nm,0.4s,baz=96,slow=4.3,SNR=2.0						
	comp=Z,1.1nm,0.4s						
ABKAR	Akbulak array	72.73	321	P	P	08 39 30.2	-1.5
ARU	Arti	75.59	328	P	P	08 39 47.3	-0.9
	comp=Z,5.3nm,0.2s,baz=127,slow=6.6,SNR=3.5						
VNDA	Vanda	82.59	173	P	P	08 40 24.5	-1.5
	comp=Z,0.8nm,1.0s,baz=256,slow=5.5,SNR=2.9						
	comp=Z,0.8nm,1.0s						
VNDA	Vanda	82.59	173	P	P	08 40 26.7	+0.7
IMAR	Indian Mountai	83.18	24	P	P	08 40 30.2	+0.9
ILAR	Eielson Array	85.94	25	P	P	08 40 42.8	-0.4
	comp=Z,0.3nm,0.8s,baz=270,slow=4.6,SNR=5.1						
	comp=Z,0.3nm,0.8s						
ARCES	ARCESS Array B	91.21	340	LR	LR	09 30 19.6	
	comp=Z,37nm,18.5s,baz=234,slow=41						
FINES	FINESS Array B	92.53	332	P	P	08 41 13.4	-1.0
	comp=Z,6.1nm,1.1s,baz=56,slow=5.7,SNR=4.2						
	comp=Z,6.1nm,1.1s						
PABE	Paberze	94.78	326	eP	P	08 41 22.9	-2.0
HFS	Hagfors	98.72	332	LR	LR	09 28 51.5	
	comp=Z,46nm,20.6s,baz=270,slow=37						
NOA	NORSAR Array B	99.50	334	LR	LR	09 29 43.9	
	comp=Z,17nm,18.6s,baz=325,slow=37						

IDC 11 08:33:50.4±2.5, 53°.66N×86°.99E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=22.9km s-min=13.2km az=75.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.32	284	I		08 43 05.0	
	0.1nm,1.1s,baz=102,slow=341,SNR=7.5						
ZALV	Zalesovo Beam	1.32	284	Pg	Pg	08 34 14.5	-1.2
	1.1nm,0.3s,baz=105,slow=15,SNR=19						
ZALV				Lg	Lg	08 34 32.7	
	2.2nm,0.3s,baz=104,slow=28,SNR=24						
KURBB	Kurchatov Arra	6.03	243	Pn	Pn	08 35 21.7	+0.9
	0.1nm,0.3s,baz=58,slow=14,SNR=2.0						
KURBB				Lg	Lg	08 37 03.4	
	0.1nm,0.3s,baz=60,slow=32,SNR=2.1						
	0.6nm,0.3s						
MKAR	Makanchi Array	7.50	206	Pn	Pn	08 35 42.5	+1.5
	0.2nm,0.3s,baz=25,slow=14,SNR=7.5						
MKAR				Sn	Sn	08 37 06.4	-0.3
	0.1nm,0.3s,baz=23,slow=26,SNR=2.6						
MKAR				Lg	Lg	08 37 47.4	
	0.1nm,0.3s,baz=22,slow=31,SNR=6.7						
	0.5nm,0.6s						

IDC 11 08:35:09.8±6.2, 6°.60S×129°.90E, h163km±84km, mb3.5/1, mbtmp3.7/4, MS3.3/1, Error ellipse: s-maj=169.6km s-min=24.0km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.86	14	P	Pn	08 36 34.9	0.0
	2.8nm,0.3s,baz=198,slow=19,SNR=8.1						
SIJI				S	Sn	08 37 32.3	-9.2
	13nm,0.2s,baz=251,slow=23,SNR=11						
WRA	Warramunga Arr	13.94	162	P	Pn	08 38 20.7	+0.1
	0.8nm,0.6s,baz=346,slow=13,SNR=5.1						
WRA				S	Sn	08 40 43.6	-12
	0.3nm,0.3s,baz=330,slow=25,SNR=1.9						
WRA				LR	LR	08 43 21.4	
	comp=Z,128nm,20.3s,baz=330,slow=35						
ASAR	Alice Springs	17.40	168	P	P	08 39 01.6	-0.1
	0.8nm,0.8s,baz=345,slow=9.5,SNR=5.4						
ASAR				S	S	08 42 06.5	-8.1
	0.3nm,0.8s,baz=350,slow=26,SNR=2.1						
MKAR	Makanchi Array	67.84	327	P	P	08 45 50.4	0.0
	1.7nm,1.1s,baz=129,slow=6.9,SNR=2.7						
	1.7nm,1.1s						

SJA 11 08:37:03.2±1.4, 31°.53S×72°.10W, h10km, ML4.1, MW3.8
GUC 11 08:37:08.5±0.7, 31°.52S×71°.74W, h36km±3km, ML3.4
ISC 11 08:37:05.0±2.1, 31°.53S±0°.03×72°.14W±0°.07, h10km±16km, n40, σ1s.45/64, 1C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.96	27	⇓iP	Pb	08 37 24.8	+1.1
CO06				iS	Sg	08 37 35.7	-0.2
CO06				IAML		08 37 38.3	
	comp=E,3μm,0.3s						
CO02	Combarbal	1.03	72	⇓iP	Pb	08 37 22.4	-2.5
CO02				IAML		08 37 34.5	
	comp=E,4μm,0.3s						
VA06	Catapilco	1.25	145	⇓iP	Pn	08 37 28.1	-0.4
VA06				iS	Sb	08 37 42.4	-2.5
VA06				IAML		08 37 45.6	
	comp=N,2μm,0.3s						
CO03	El Pedregal	1.42	61	⇓iP	Pn	08 37 28.9	-2.1
CO03				IAML		08 37 47.0	
	comp=E,1μm,0.3s						
ROCH	El Roble	1.73	147	iP	Pn	08 37 35.6	+0.3
ROCH				IAML		08 38 00.9	
	comp=N,1μm,0.4s						
ROC1	El Roble	1.73	147	eP	Pn	08 37 35.7	+0.3
ROC1				eS	Sn	08 37 58.4	+0.8
GO04	Tololo Observa	1.78	41	⇑iP	Pn	08 37 35.9	-0.2
GO04				iS	Sn	08 37 55.9	-3.0
GO04	Tololo Observa	1.78	41	eP	Pn	08 37 36.0	-0.1
GO04				eS	Sn	08 37 59.1	+0.2
CO05	La Serena	1.79	26	eP	Pn	08 37 36.8	+0.9
CO05				eS	Sn	08 37 58.2	-0.5
CO05				IAML		08 38 04.4	
	comp=E,588nm,0.3s						
VA03	San Esteban	1.82	133	iP	Pn	08 37 36.4	-0.1
VA03				IAML		08 37 59.3	
	comp=E,1μm,0.6s						
MT02	Curacav	1.92	154	eP	Pn	08 37 38.2	+0.5
PEL	Peldehue	2.02	143	iP	Pn	08 37 39.8	+0.5
PEL				iS	Sn	08 38 03.2	-1.5
PEL				IAML		08 38 08.1	
	comp=E,498nm,0.5s						
PEL	Peldehue	2.02	143	eP	Pn	08 37 39.9	+0.6
PEL				eS	Sn	08 38 05.2	+0.5
VA05	Santo Domingo	2.17	168	iP	Pn	08 37 42.2	+1.0
VA05				IAML		08 38 17.7	
	comp=E,454nm,0.5s						
MT05	Renca	2.20	148	iP	Pn	08 37 42.5	+0.8
MT05				IAML		08 38 19.2	
	comp=E,547nm,0.4s						
CO01	Juntas del Tor	2.34	49	iP	Pn	08 37 44.3	+0.5
CO01				IAML		08 38 14.5	
	comp=N,263nm,0.5s						
FCH	Farellones	2.38	139	iP	Pn	08 37 44.8	+0.4
FCH				iS	Sn	08 38 13.1	-0.6
FCH				IAML		08 38 21.5	
	comp=E,156nm,0.5s						
MT03	Universidad Ad	2.39	145	iP	Pn	08 37 45.2	+0.8
MT03				iS	Sn	08 38 12.7	-1.1
MT03				IAML		08 38 21.9	
	comp=E,534nm,0.2s						
RTLS	Leoncito	2.44	97	eP	Pn	08 37 46.1	+0.9
RTLS				eS	Sn	08 38 17.9	+2.7
MT09	Talagante	2.44	157	iP	Pn	08 37 46.7	+1.6
MT09				iS	Sn	08 38 14.2	-0.8
MT09				IAML		08 38 21.9	
	comp=N,247nm,0.2s						
MT01	Popeta	2.44	162	iP	Pn	08 37 46.2	+1.2
MT01				IAML		08 38 27.5	
	comp=E,173nm,0.5s						
AROD	Rodeo	2.67	60	eP	Pn	08 37 49.5	+1.1
AROD				eS	Sn	08 38 22.7	+1.8
BO04	La Punta	2.77	153	iP	Pn	08 37 50.8	+1.3
BO04				iS	Sn	08 38 23.0	0.0
BO04				IAML		08 38 36.6	
	comp=E,192nm,0.6s						
ACCO	Cerro Coronel	2.80	71	eP	Pn	08 37 51.4	+1.2
ACCO				eS	Sn	08 38 26.4	+2.2
LCO	Las Campanas	2.80	27	iP	Pn	08 37 50.7	+0.5
LMEL	Las Melosas	2.83	145	eP	Pn	08 37 51.3	+0.9
LMEL				IAML		08 38 34.8	
	comp=N,254nm,0.4s						
ACDV	Cuesta del Vie	2.93	63	eS	Sn	08 38 28.6	+1.4
ZON	Zonda	2.95	91	eP	Pn	08 37 54.5	+2.4
ZON				eS	Sn	08 38 31.6	+4.0
BO03	Pichilemu	2.96	177	eP	Pn	08 37 53.4	+1.3
BO01	Tunca	2.99	163	eP	Pn	08 37 53.9	+1.5
RTCV	Cerro Valdivia	3.08	97	eP	Pn	08 37 56.1	+2.3
RTLL	Cerro Villicun	3.14	87	eP	Pn	08 37 55.8	+1.2
RTLL				eS	Sn	08 38 32.5	+0.3
BO02	Sierra Bellavi	3.44	161	eP	Pn	08 38 00.7	+1.9
GO05	Huala	3.47	177	eP	Pn	08 38 00.2	+1.0
GO05				eS	Sn	08 38 38.2	-2.2
AVFE	Valle Fertil	4.11	79	eP	Pn	08 38 08.4	+0.4
AVFE				eS	Sn	08 38 58.2	+2.0
ACHE	Chepes	4.70	87	eP	Pn	08 38 17.2	+1.1
ACHE				eS	Sn	08 39 11.7	+0.9
EDS3	Malargue	4.80	152	eP	Pb	08 38 30.5	+1.1
ACLC	CERRO LA CRUZ	4.94	66	eP	Pn	08 38 20.6	+1.0
ACLC				eS	Sn	08 39 15.5	-1.4
ACLC				IAML		08 39 27.7	
	comp=Z,97nm,0.6s						
APLL	PUNTA DE LOS L	4.95	78	eP	Pn	08 38 20.0	+0.5
APLL				eP	Pn	08 38 20.3	+0.8
APLL				eS	Sn	08 39 15.5	-1.4
MRA	San Martin	5.53	101	eP	Pn	08 38 28.2	+0.7
MRA				eS	Sn	08 39 29.0	-2.2
MRA				IAML		08 39 35.8	
	comp=Z,104nm,0.6s						

IDC 11 08:41:12.0±2.9, 54°.29N×87°.20E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=23.6km s-min=17.3km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.44	257	I		08 50 40.0	
	baz=78,slow=338,SNR=2.3						
ZALV	Zalesovo Beam	1.44	257	Pg	Pn	08 41 37.7	-1.7
	1.4nm,0.3s,baz=73,slow=15,SNR=13						
ZALV				Lg	Lg	08 41 56.6	
	3.1nm,0.3s,baz=72,slow=34,SNR=4.4						
KURBB	Kurchatov Arra	6.45	239	Pn	Pn	08 42 49.0	+1.0
	0.1nm,0.3s,baz=55,slow=13,SNR=6.1						
KURBB				Sn	Sn	08 44 02.9	+0.6
	baz=45,slow=29,SNR=1.9						
KURBB				Lg	Lg	08 44 38.5	
	baz=49,slow=30,SNR=4.8						
	1.4nm,0.9s						
MKAR	Makanchi Array	8.12	205	Pn	Pn	08 43 12.3	+1.2
	0.1nm,0.3s,baz=25,slow=15,SNR=5.6						
MKAR				Sn	Sn	08 44 41.8	-1.8
	0.1nm,0.3s,baz=22,slow=26,SNR=3.6						
MKAR				Lg	Lg	08 45 32.0	
	0.1nm,0.3s,baz=25,slow=31,SNR=6.6						
	0.3nm,0.4s						

BER 11 08:43:53.7±1.6, 67°.43N×33°.31E, h0km, ML1.5, Suspected explosion
HEL 11 08:43:52.1±0.2, 68°.05N×33°.60E, h0km, ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVZ	Lovozero	0.42	111	PG	Pg	08 43 59.8	-0.5
LVZ				SG	Sg	08 44 06.1	+0.4
VRF	Varrio	1.54	260	PG	Pn	08 44 20.4	-0.5
VRF				MSG		08 44 38.2	
	comp=Z,6.6nm,0.2s						
VRF				SN	Sn	08 44 40.5	-1.0
OLKF	Oulanka, Finla	2.39	225	PN	Pn	08 44 30.7	-1.7
OLKF				SN	Sn	08 45 00.0	-2.4
SGF	Sodankyl	2.76	260	PN	Pn	08 44 35.6	-1.9
SGF				SG	Sb	08 45 16.8	+0.2
MSF	Maaselka	2.80	222	PN	Pn	08 44 37.7	-0.4
MSF				SN	Sn	08 45 11.9	-0.7
KEV	Kevo	2.94	309	PG	Pb	08 44 44.4	-0.8
KEV				MSG		08 45 18.4	
	comp=Z,2.7nm,0.2s						
KEV				SG	Sb	08 45 23.1	+1.5
KEV	Kevo	2.94	309	eP	Pb	08 44 44.5	-0.7
KEV				eS	Sb	08 45 23.1	+1.5
RNF	Rovaniemi	3.28	247	PN	Pn	08 44 43.6	-1.0
	baz=65						
ARA0	ARCESS Array S	3.30	301	PB	Pn	08 44 48.1	+3.2
ARA0				SG	Sb	08 45 34.5	+2.5
ARA0	ARCESS Array S	3.30	301	eP	Pb	08 44 48.4	-3.0
ARA0				eS	Sb	08 45 29.2	-2.8
ARA0				IAML		08 45 44.2	
	comp=Z,3.1nm,0.3s						
HEF	Hetta	3.72	280	SB	Sn	08 45 39.3	+4.1
KLF	Kolari	3.77	262	PG	Pb	08 45 00.1	+0.6
TOF	Tornio	4.14	246	PG	Pb	08 45 05.7	0.0
TOF				SG	Sb	08 45 58.0	+2.0
PAJU	Pajala	4.16	260	PG	Pb	08 45 06.3	+0.3
PAJU				SN	Sn	08 45 45.5	-0.4
OUL	Oulu	4.28	230	SG	Sb	08 46 02.6	+2.3
LANU	Lannavaara	4.36	275	PN	Pn	08 45 00.0	+0.5
HAMF	Hammerfest	4.37	311	eS	Sn	08 45 54.5	+3.5
KALU	Kalix	4.59	246	SB	Sb	08 46 07.8	-1.3
ERTU	Ertsjaerv	4.67	257	SN	Sn	08 45 56.5	-2.0
KIF	Kilpisjarvi	4.80	287	eS	Sn	08 46 00.7	-1.0

IDC 11 08:46:08.7±5.4, 12°.07S×167°.37E, h318km±57km, mb3.3/6, mbtmp3.9/7, Error ellipse: s-maj=53.8km s-min=23.9km az=159.0
ISC 11 08:46:08.6±0.9, 12°.0S±0°.2×167°.4E±0°.2, h317km, n8, σ0s.74/10, mb3.4/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.02	185	P	Pn	08 48 27.3	+0.3
	7.1nm,0.8s,baz=22,slow=14,SNR=13						
WRA	Warramunga Arr	32.67	252	P	P	08 52 11.6	-0.6
	0.4nm,0.4s,baz=83,slow=8.4,SNR=8.0						
WRA				PcP	PcP	08 54 50.3	+0.5
	0.2nm,0.9s,baz=70,slow=3.7,SNR=1.5						
	0.4nm,0.4s						
ASAR	Alice Springs	33.81	245	P	P	08 52 21.1	-0.8
	0.7nm,0.9s,baz=79,slow=9.4,SNR=9.4						
ASAR				PcP	PcP	08 54 52.8	-0.3
	0.1nm,0.4s,baz=90,slow=3.1,SNR=1.4						
	0.7nm,0.9s						
CMAR	Chiang Mai Arr	73.97	293	P	P	08 57 11.6	+1.2
	0.4nm,0.3s,baz=120,slow=5.4,SNR=4.6						
	0.4nm,0.3s						
ILAR	Eielson Array	83.95	18	P	P	08 58 02.7	-0.4
	1.5nm,0.7s,baz=225,slow=5.5,SNR=22						
	1.5nm,0.7s						
NVAR	Mina Array Bea	85.44	49	P	P	08 58 11.6	+0.1
	0.3nm,0.7s,baz=234,slow=7.7,SNR=3.9						
	0.3nm,0.7s						
MKAR	Makanchi Array	95.33	317	P	P	08 58 57.3	+0.2
	1.3nm,0.7s,baz=90,slow=5.6,SNR=6.9						
	1.3nm,0.7s						
ARCES	ARCESS Array B	117.68	346	PKP	PKPdf	09 04 15.8	-0.9
	0.3nm,0.3s,baz=44,slow=2.7,SNR=6.2						

IDC 11 08:54:41.3±2.0, 35°.78N×98°.07W, h0km, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=30.6km s-min=10.8km az=104.0
TUL 11 08:54:43.4±0.6, 35°.57N±0°.02×98°.14W±0°.02, h6km±7km, ML3.4, mb_Lg3.3/96(NEIC), Error ellipse: s-maj=3.8km s-min=2.0km az=213.0
ANF 11 08:54:43.2±0.4, 35°.60N×98°.16W, h1km±3km, ML4.0/14, Error ellipse: s-maj=3.1km s-min=1.8km az=111.0
NEIC 11 08:54:44.2±0.6, 35°.58N±0°.02×98°.14W±0°.02, h6km±6km, Error ellipse: s-maj=3.1km s-min=2.0km az=218.0
ISC 11 08:54:43.3±1.2, 35°.60N±0°.02×98°.13W±0°.02, h2km±10km, n123, σ1s.22/102, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCOK	Bluff Creek, N	0.43	82	Pg	Pg	08 54 52.1	+0.6
BCOK				Sg	Sg	08 54 58.6	+1.5
CSTR	Hydro, Custer	0.45	276		Pg	08 54 52.5	+0.5
OK029	Liberty Lake	0.59	70	Pg	Pg	08 54 55.0	+0.5
OK029				Sg	Sg	08 55 03.6	+1.5
OK025	Westminster Rd	0.65	91	Pg	Pg	08 54 56.2	+0.4
OK025				Sg	Sg	08 55 05.6	+1.5
FNO	Franklin	0.69	120	Pg	Pg	08 54 56.5	0.0
CROK	Carrier	0.91	8		Pg	08 55 01.1	+0.3
OK038	West end E0370	1.01	331		Pg	08 55 02.7	+0.1
WMOK	Wichita Mounta	1.01	212		Pg	08 55 01.8	-0.9
WMOK	Wichita Mounta	1.01	212	P	Pg	08 55 01.8	-0.9
	baz=32						
WMOK	Wichita Mounta	1.01	212	P	Pg	08 55 01.7	-0.9
	baz=32						
WMOK				S	Sg	08 55 15.0	-0.7
	baz=32						
X34A	Smith Ranch, M	1.03	166		Pg	08 55 02.6	-0.3
U32A	Winter Ranch,	1.05	318	P	Pg	08 55 03.2	-0.1
	baz=138,SNR=123						
OK033	Mehan	1.07	65		Pg	08 55 03.7	0.0
OK031	S. Brethren Rd	1.11	71	Pg	Pb	08 55 04.4	-0.8
OK030	Cody Creek RV	1.15	73	Pg	Pb	08 55 04.9	-0.9
OK052	Battle Ridge R	1.15	70		Pb	08 55 05.0	-0.9
OK053	SW of W Deep R	1.17	69	Pg	Pb	08 55 05.3	-0.9
OK035	E0210 Rd and N	1.20	337		Pn	08 55 06.1	-1.0
OK032	Salt Plains WL	1.20	357		Pn	08 55 06.3	-0.8
NOKA	Waynoka	1.22	328		Pn	08 55 06.4	-1.0
OK034	N. Norfolk Rd.	1.23	70	Pg	Pn	08 55 06.3	-1.2
OK050	Pawnee Station	1.23	49		Pn	08 55 06.6	-0.9
OK048	Pawnee Station	1.26	49	Pg	Pn	08 55 07.2	-0.7
GC02	Grant County #	1.27	10		Pn	08 55 07.2	-0.8
OK046	Pawnee Station	1.27	51		Pn	08 55 07.4	-0.7
QUOK	Quay	1.29	63	Pg	Pn	08 55 07.5	-0.8
OK045	Pawnee Station	1.29	49		Pn	08 55 07.8	-0.6
OK044	Pawnee Station	1.33	54		Pn	08 55 08.1	-0.8
DEOK	Depew	1.35	79		Pn	08 55 08.0	-1.2
KAN14	Manchester OK	1.36	6		Pn	08 55 08.9	-0.5
BLOK	Blackwell	1.38	32		Pn	08 55 08.9	-0.6
OK051	E0350 and S346	1.39	49		Pn	08 55 09.2	-0.5
KAN17	Caldwell West	1.47	12	Pg	Pn	08 55 10.2	-0.6
KAN13	South Haven SW	1.51	20		Pn	08 55 10.4	-0.9
KAN01	Argonia South	1.58	11	Pg	Pn	08 55 12.0	-0.3
KAN09	Caldwell North	1.59	15		Pn	08 55 12.4	0.0
KAN06	Argonia West S	1.66	8		Pn	08 55 13.5	+0.1
KS20	Mayfield South	1.69	16		Pn	08 55 13.8	0.0
LOOK	Love County	1.79	154		Pn	08 55 15.5	+0.4
LOOK				IAmb_Lg		08 55 38.3	
	comp=Z,21nm,0.7s						
T35A	Sooner Cattle	1.86	44	Pn	Pn	08 55 16.2	+0.1
T35A				IAmb_Lg		08 55 43.3	
	comp=Z,111nm,0.8s						
T35B	Sooner Cattle	1.86	44	P	Pn	08 55 16.6	+0.5
	baz=225,SNR=70						
T35B				S	Sb	08 55 41.4	-0.2
	baz=225						
TUL1	Leonard	1.93	80	Pn	Pn	08 55 17.4	+0.4
TUL1				IAmb_Lg		08 55 47.0	
	comp=Z,119nm,1.0s						
TUL1	Leonard	1.93	80	P	Pn	08 55 17.5	+0.4
	baz=261,SNR=98						
TUL1				S	Sb	08 55 43.0	-0.7
	baz=261						
TUL1	Leonard	1.93	80	P	Pn	08 55 17.5	+0.4
	baz=261						
TUL1				S	Sb	08 55 43.4	-0.3
	baz=261						
Z35A	Perchaven, San	2.38	162		Pn	08 55 23.4	+0.1
Z35A				IAmb_Lg		08 56 02.4	
	comp=Z,88nm,0.8s						
Z35A	Perchaven, San	2.38	162	P	Pn	08 55 24.0	+0.7
	baz=342,SNR=48						
Z35A				S	Sb	08 55 55.2	-1.4
	baz=342						
X37A	Clayton	2.48	113	IAmb_Lg		08 56 02.6	
	comp=Z,134nm,0.9s						
X37A	Clayton	2.48	113	P	Pn	08 55 25.1	+0.5
	baz=294,SNR=96						
X37A				S	Sn	08 55 56.5	+1.0
	baz=294						
RLO	Rose Lookout	2.59	77	Pn	Pn	08 55 26.1	-0.1
AMTX	Amarillo	2.99	257		Pn	08 55 32.5	+0.7
AMTX				IAmb_Lg		08 56 16.3	
	comp=Z,65nm,0.8s						
AMTX	Amarillo	2.99	257	P	Pn	08 55 32.6	+0.9
	baz=75						
AMTX				S	Sb	08 56 14.2	-0.1
	baz=75						
U38A	Gravette	3.15	73	P	Pn	08 55 34.2	+0.3
	baz=255,SNR=21						
ABTX	Abilene, Hawle	3.22	203		Pn	08 55 34.6	-0.3
ABTX	Abilene, Hawle	3.22	203	P	Pn	08 55 35.0	+0.1
	baz=22,SNR=42						
ABTX				S	Sn	08 56 14.1	+0.2
	baz=22						
ABTX	Abilene, Hawle	3.22	203	P	Pn	08 55 35.0	+0.1
	baz=22						
ABTX				S	Sn	08 56 14.3	+0.5
	baz=22						
CBKS	Cedar Bluff	3.45	339	IAmb_Lg		08 56 35.2	
	comp=Z,53nm,0.9s						
CBKS	Cedar Bluff	3.45	339	P	Pn	08 55 38.5	+0.4
	baz=158						
CBKS	Cedar Bluff	3.45	339	P	Pn	08 55 39.3	+1.2
	baz=158						
HHAR	Hobbs	3.47	77		Pn	08 55 38.4	0.0
HHAR				IAmb_Lg		08 56 39.6	
	comp=Z,54nm,0.8s						
HHAR	Hobbs	3.47	77	P	Pn	08 55 38.6	+0.3
	baz=260						
Z38A	Mt. Pleasant	3.50	131	P	Pn	08 55 39.1	+0.5
	baz=313,SNR=5.7						
WHTX	Lake Whitney,	3.64	171	IAmb_Lg		08 56 43.0	
	comp=Z,81nm,0.7s						
WHTX	Lake Whitney,	3.64	171	P	Pb	08 55 50.2	+1.8
	baz=351						
WHTX				Sb	Sb	08 56 33.2	+0.2
	baz=351						
KSU1	Kansas State U	3.70	19	IAmb_Lg		08 56 50.5	
	comp=Z,69nm,0.7s						
MIAR	Mount Ida	3.88	104	IAmb_Lg		08 56 55.0	
	comp=Z,100nm,0.9s						
MIAR	Mount Ida	3.88	104	P	Pn	08 55 44.6	+0.7
	baz=287,SNR=14						
MIAR	Mount Ida	3.88	104	P	Pn	08 55 44.6	+0.7
	baz=287						
MIAR				S	Sn	08 56 29.5	-0.6
	baz=287						
237A	Washetta, Mont	4.08	151		Pn	08 55 46.2	-0.4
237A	Washetta, Mont	4.08	151	P	Pn	08 55 46.5	-0.1
	baz=332,SNR=9.1						
MSTX	Muleshoe	4.15	248	P	Pn	08 55 48.1	+0.4
	baz=66						
MSTX				Sb	Sb	08 56 51.5	+3.8
	baz=66						
S39A	Bolivar	4.40	60		Pn	08 55 51.0	-0.1
S39A				IAmb_Lg		08 57 05.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,64nm,0.7s						
S39A	Bolivar	4.40	60	P	Pn	08 55 51.2	+0.1
	baz=243						
WLAR	White Oak Lake	4.56	113	IAmb_Lg		08 57 18.4	
	comp=Z,45nm,0.9s						
WHAR	Wooly Hollow	4.78	92		Pn	08 55 56.5	+0.2
WHAR				IAmb_Lg		08 57 23.8	
	comp=Z,54nm,0.8s						
NATX	Nacogdoches	4.80	142	S	Sn	08 56 51.7	-1.1
	baz=324						
435B	Jarrell	4.83	174	IAmb_Lg		08 57 27.2	
	comp=Z,69nm,0.7s						
FCAR	Ozark Folk Cen	4.90	85	IAmb_Lg		08 57 25.0	
	comp=Z,76nm,0.9s						
KSCO	Kaye Shedlock'	4.94	315	IAmb_Lg		08 57 31.8	
	comp=Z,39nm,0.7s						
MGMO	Mountain Grove	4.98	70	IAmb_Lg		08 57 22.9	
	comp=Z,70nm,0.8s						
N33A	J Bar K, Exete	5.16	6	IAmb_Lg		08 57 40.0	
	comp=Z,42nm,0.8s						
T25A	Trinidad	5.29	289	P	Pn	08 56 04.3	+0.8
	baz=105						
T25A				Sb	Sb	08 57 27.4	+6.7
	baz=105						
JCT	Junction City	5.29	196	IAmb_Lg		08 57 44.4	
	comp=Z,58nm,0.8s						
JCT	Junction City	5.29	196	P	Pn	08 56 03.0	-0.5
	baz=15,SNR=8.0						
JCT	Junction City	5.29	196	P	Pn	08 56 03.1	-0.3
	baz=15						
R40A	Maddies Statio	5.41	59	P	Pn	08 56 04.8	-0.1
	baz=242,SNR=20						
P38A	Dawn	5.43	41	IAmb_Lg		08 57 50.8	
	comp=Z,39nm,0.9s						
CCAR	Cane Creek	5.50	106	IAmb_Lg		08 57 50.2	
	comp=Z,74nm,1.0s						
LCAR	Lake Charles	5.69	83	IAmb_Lg		08 57 54.0	
	comp=Z,30nm,0.7s						
CCM	Cathedral Cave	6.04	64	IAmb_Lg		08 57 58.8	
	comp=Z,37nm,0.8s						
OGNE	Ogallala	6.15	331	Pn	Pn	08 56 15.2	0.0
OGNE				IAmb_Lg		08 58 06.9	
	comp=Z,50nm,0.8s						
OGNE	Ogallala	6.15	331	P	Pn	08 56 16.3	+1.0
	baz=149						
P40A	Paris	6.22	49	Pn	Pn	08 56 16.1	-0.1
P40A				IAmb_Lg		08 58 07.6	
	comp=Z,38nm,0.9s						
143A	Socs Landing,	6.28	115	IAmb_Lg		08 58 15.3	
	comp=Z,27nm,0.7s						
SDCO	Great Sand Dun	6.30	292	Sb	Sg	08 57 59.3	-6.2
	baz=108						
PBMO	Poplar Bluff	6.34	77	IAmb_Lg		08 58 10.0	
	comp=Z,76nm,0.7s						
Q24A	Divide	6.52	303	IAmb_Lg		08 58 19.0	
	comp=Z,38nm,0.7s						
735A	Kenedy	6.73	178	IAmb_Lg		08 58 26.9	
	comp=Z,44nm,0.8s						
BRIGG	Briggsdale	6.96	317	IAmb_Lg		08 58 41.2	
	comp=Z,30nm,0.8s						
SLM	Saint Louis	7.00	62	IAmb_Lg		08 58 31.9	
	comp=Z,43nm,0.8s						
CGM3	Cape Girardeau	7.04	74	IAmb_Lg		08 58 29.1	
	comp=Z,60nm,1.2s						
OXF	Oxford	7.24	96	Pn	Pn	08 56 29.1	-0.9
OXF				IAmb_Lg		08 58 42.8	
	comp=Z,38nm,0.9s						
Y45A	Yeager Farm, C	7.28	101	IAmb_Lg		08 58 50.2	
	comp=Z,39nm,1.0s						
W45A	Hickory Valley	7.32	91	IAmb_Lg		08 58 42.6	
	comp=Z,53nm,0.9s						
833A	Chaparral WMA,	7.33	189	IAmb_Lg		08 58 48.2	
	comp=Z,31nm,1.0s						
SCIA	State Center	7.38	30	IAmb_Lg		08 58 47.7	
	comp=Z,54nm,0.8s						
S44A	Carbondale	7.44	71	IAmb_Lg		08 58 56.8	
	comp=Z,42nm,0.7s						
N41A	Harden Midland	7.67	46	IAmb_Lg		08 58 49.9	
	comp=Z,43nm,0.8s						
TXAR	Lajitas Array	7.80	218	Pn	Pn	08 56 37.0	-0.9
	comp=Z,0.4nm,0.3s,baz=43,slow=10,SNR=29						
TXAR				Sn	Sn	08 58 06.3	-0.6
	comp=Z,0.7nm,0.3s,baz=45,slow=17,SNR=1.8						
TXAR				Lg	Lg	08 58 46.2	
	comp=Z,1.0nm,0.3s,baz=41,slow=26,SNR=3.6						
	comp=Z,0.4nm,0.3s						
TXAR	Lajitas Array	7.80	218	Pn	Pn	08 56 37.0	-0.9
TX32	Lajitas Array	7.80	218	Pn	Pn	08 56 36.7	-1.2
P43A	Skaggs, Pawnee	7.94	57	IAmb_Lg		08 59 01.7	
	comp=Z,44nm,0.9s						
Q44A	Meyer Farm, Va	7.98	63	Pn	Pn	08 56 39.7	-0.6
Q44A				IAmb_Lg		08 59 02.1	
	comp=Z,55nm,1.0s						
N23A	Red Feather La	8.10	313		Pn	08 56 42.6	+0.4
N23A				IAmb_Lg		08 59 24.4	
	comp=Z,24nm,0.8s						
L40A	Anamosa	8.41	38	IAmb_Lg		08 59 13.9	
	comp=Z,30nm,0.7s						
HDIL	Hopedale	8.55	52	Pn	Pn	08 56 47.9	-0.1
SUSD	Miller	8.86	356	IAmb_Lg		08 59 44.1	
	comp=Z,28nm,0.8s						
O44A	Mansfield	8.89	56	IAmb_Lg		08 59 28.6	
	comp=Z,33nm,0.8s						
L42A	Oliver, Polo	9.19	43	IAmb_Lg		08 59 51.3	
	comp=Z,25nm,0.8s						
JFWS	Jewell Farm	9.52	38	IAmb_Lg		08 59 46.0	
	comp=Z,21nm,0.8s						
K22A	Casper	9.59	320	IAmb_Lg		09 00 05.1	
	comp=Z,22nm,1.1s						
RSSD	Black Hills	9.64	334	IAmb_Lg		08 59 57.2	
	comp=Z,17nm,0.9s						
PDAR	Pinedale Array	11.39	312	Pn	Pn	08 57 27.3	+0.1
	comp=Z,0.1nm,0.3s,baz=124,slow=14,SNR=1.9						
PDAR				Pg		08 58 06.1	
	comp=Z,0.1nm,0.3s,baz=121,slow=17,SNR=2.7						
PDAR				Lg	Lg	09 00 29.8	
	comp=Z,0.2nm,0.3s,baz=125,slow=26,SNR=2.3						
	comp=Z,0.1nm,0.4s						
ULM	Lac du Bonnet	14.73	6	Pn	Pn	08 58 02.2	-10
	comp=Z,0.3nm,0.3s,baz=186,slow=10,SNR=1.9						
ULM				Sn	Sn	09 00 36.5	-20
	baz=126,slow=15,SNR=1.9						
ULM				Lg	Lg	09 02 07.7	
	comp=Z,0.3nm,0.3s,baz=329,slow=12,SNR=1.4						
	comp=Z,1.8nm,0.7s						

IDC 11 09:00:42.2±14.0,52°.53N×36°.61E,h0km,mbtmp3.9/2, ML3.1/2,Error ellipse: s-maj=174.0km s-min=86.5km az=2.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	4.22	5	I		09 26 30.0	
	0.1nm,0.7s,baz=185,slow=290,SNR=0.7						
FINES	FINESS Array B	10.61	332	Pn	Pn	09 03 10.7	-4.7
	0.3nm,0.3s,baz=149,slow=12,SNR=12						
FINES				Sn	Sn	09 04 56.2	-19
	0.1nm,0.3s,baz=155,slow=24,SNR=2.0						
	3.1nm,0.9s						
I31KZ	AKTYUBINSK INF	13.52	90	I		10 17 30.0	
	baz=287,slow=296,SNR=3.9						
ARCES	ARCESS Array B	17.84	347	P	P	09 04 52.4	+0.1
	0.2nm,0.3s,baz=158,slow=10,SNR=9.4						
	3.1nm,0.7s						

LDG 11 09:13:21.3±0.1,44°.65N×7°.03E,h15km,Md1.4/2,Ml1.4/6, Error ellipse: s-maj=2.4km s-min=1.3km az=79.0, Northern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	Montbardon	0.20	293	ePg	Pg	09 13 26.2	+0.1
MBDF				eSg	Sg	09 13 29.4	+0.2
	9.4nm,0.1s						
SBF	Sospel	0.84	159	ePg	Pg	09 13 37.0	-0.6
SBF				eSg	Sg	09 13 48.3	-0.3
	4.7nm,0.2s						
ORIF	Oris-en-Rattie	0.86	289	eSg	Sg	09 13 48.3	-1.0
	0.5nm,0.2s						
LPG	La Plagne	0.87	347	ePg	Pg	09 13 38.0	-0.3
LPG				eSg	Sg	09 13 49.8	0.0
	0.8nm,0.2s						
LPL	La Plagne	0.89	347	ePg	Pg	09 13 39.1	+0.4
LPL				eSg	Sg	09 13 50.0	-0.4
	0.6nm,0.2s						
SMRF	Simiane la Rot	1.24	238	ePg	Pb	09 13 44.5	+0.1
SMRF				eSg	Sn	09 14 00.9	+0.3
	0.8nm,0.3s						
LMR	La Mourre	1.37	196	ePg	Pg	09 13 47.1	-0.5
LMR				eSg	Sg	09 14 05.2	-0.1
	0.9nm,0.2s						

ISK 11 09:13:33.4,38°.08N×26°.68E,h5km,ML2.5/9
DDA 11 09:13:34.7±0.0,38°.09N×26°.63E,h7km±3km,ML1.8
ISC 11 09:13:34.3±1.0,38°.07N±0°.04×26°.63E±0°.04,h12km±7km, n16,σ0s.79/24,Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZEYE	Izmir, Urla-Ze	0.19	329	P	Pg	09 13 38.5	-0.2
ZEYE				S	Sg	09 13 41.8	+0.2
ZEYE				i AML	AML	09 13 42.0	
	comp=N,1μm,0.2s						
ZEYE				i AML	AML	09 13 42.0	
	comp=E,252nm,0.2s						
DGB	zmir	0.20	96	P	Pg	09 13 39.2	+0.5
DGB				i AML	AML	09 13 42.0	
	comp=N,108nm,0.2s						
DGB				S	Sg	09 13 42.1	+0.3
DGB				i AML	AML	09 13 43.0	
	comp=E,131nm,0.2s						
URLA	Izmir	0.29	354	PG	Pg	09 13 39.3	-1.0
URLA				SG	Sg	09 13 43.9	-0.4
CHOS	Chios island	0.55	305	PG	Pb	09 13 45.7	-0.3
GCAM	G?zelcaml?	0.60	128	PG	Pg	09 13 45.1	-1.0
GCAM	G?zelcaml?	0.60	128	P	Pb	09 13 46.4	-0.5
GCAM				S	Sb	09 13 56.2	+1.0
GCAM				i AML	AML	09 14 14.0	
	comp=N,79nm,0.9s						
FOCM	Foa	0.64	7	PG	Pg	09 13 46.3	-0.6
FOCM				SG	Sg	09 13 55.4	0.0
ZEDA	zmir-Bergama	0.96	21	P	Pg	09 13 52.4	-0.5
ZEDA				S	Sn	09 14 06.6	-0.5
ZEDA				i AML	AML	09 14 10.0	
	comp=N,28nm,0.3s						
ZEDA				i AML	AML	09 14 11.0	
	comp=E,22nm,0.5s						
AYDB	Zeytinkoy-Aydi	1.00	97	PG	Pg	09 13 52.4	-1.3
AYDN	Tasoluk	1.07	112	P	Pn	09 13 55.5	+0.4
AYDN				S	Sn	09 14 10.1	+0.1
AYDN				i AML	AML	09 14 13.0	
	comp=E,20nm,0.5s						
AYDN				i AML	AML	09 14 14.0	
	comp=N,15nm,0.3s						
GOMA	Golmarmara-Man	1.19	58	PN	Pg	09 13 55.7	-1.6
SIGR	SIGRI	1.29	332	PN	Pn	09 13 58.4	+0.3
APE	Apeiranthos	1.33	221	PN	Pn	09 13 59.1	+0.4
MANT	Manisa	1.57	74	P	Pg	09 14 04.3	-0.3
MANT				S	Sn	09 14 23.1	+0.5
MANT				i AML	AML	09 14 26.0	
	comp=E,8.7nm,0.4s						
MANT				i AML	AML	09 14 27.0	
	comp=N,8.3nm,0.4s						
EZN	Ezine	1.77	352	PN	Pn	09 14 05.8	+1.1
BOZC	Bozcaada	1.82	346	PN	Pn	09 14 06.7	+1.2

NNC 11 09:22:47.7±2.0,47°.30N×88°.01E,h0km,mb4.5,mpv4.4, Error ellipse: s-maj=17.7km s-min=8.6km az=115.0
BJI 11 09:22:51.9±0.0,47°.40N×87°.66E,h9km,mb4.1/5,mB4.6/3, ML4.2/8,Ms3.5/2,Ms7 3.4/1
SOME 11 09:22:52.6,47°.52N×87°.38E,h20km,MS4.1
ASRS 11 09:22:55.7±0.4,48°N±2°×8°7E±°,h5km,MLh4.9/12,Error ellipse: s-maj=5.2km s-min=2.3km az=129.5,confirmed
IDC 11 09:22:55.0±1.0,47°.77N×87°.29E,h0km,mb3.6/5, mbtmp3.8/10,ML3.4/5,Error ellipse: s-maj=13.5km s-min=10.6km az=22.0
MOS 11 09:22:56.3±2.0,47°.51N×86°.80E,h9km,mb4.4/2,Error ellipse: s-maj=8.9km s-min=6.6km az=79.4
NEIC 11 09:22:57.6±2.7,47°.74N±0°.09×87°.0E±0°.1,h10km±1km, mb4.7/13,ML4.1(BJI),Error ellipse: s-maj=18.0km s-min=13.4km az=132.0
ISC 11 09:22:56.2±0.5,47°.61N±0°.03×87°.20E±0°.04,h10km,n122, σ2s.71/150,mb4.3/12,11C-12D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	1.59	265	eP	Pg	09 23 28.1	+1.4
	123nm,0.1s						
ZSN				eS	Sg	09 23 53.4	+6.1
	3μm,0.6s						
DGZ	Jazzator, Alta	2.10	4	Pg	Pb	09 23 34.3	-0.3
DGZ				Sg	Sg	09 24 01.7	-2.0
DGZ	Jazzator, Alta	2.10	4	PN	Pb	09 23 34.2	-0.3
DGZ						09 24 01.9	
CUR	Chagan-Uzun	2.61	16	Pg	Pb	09 23 42.5	-0.6
CUR				Sg	Sb	09 24 13.4	-1.9
CUR	Chagan-Uzun	2.61	16	PN	Pb	09 23 42.5	-0.6
CUR						09 24 13.7	
CHBI	Chibit, Altay	2.72	4	Pg	Pg	09 23 46.6	-1.6
CHBI				Sg	Sg	09 24 20.0	-3.5
CHBI	Chibit, Altay	2.72	4	PN	Pg	09 23 46.6	-1.6
CHBI						09 24 20.4	
ULGR	Ulagan, Altay	3.06	9	Pg	Pg	09 23 52.4	-2.4
ULGR				Sg	Sb	09 24 29.2	+1.0
ULGR	Ulagan, Altay	3.06	9	PN	Pg	09 23 52.4	-2.4
ULGR						09 24 29.5	
MK31	Makanchi Array	3.44	258		Pn	09 23 51.4	+1.5
MK31	Makanchi Array	3.44	258	⇓Pn	Pn	09 23 51.2	+1.2
	1.7nm,0.2s,baz=87,slow=13,SNR=556						
MK31				⇓Pg	Pg	09 23 59.7	-2.5
	32nm,0.5s,baz=84,slow=16,SNR=122						
MK31				⇓Lg	Lg	09 24 52.0	
	462nm,0.6s,baz=85,slow=28,SNR=20						
MK31	Makanchi Array	3.44	258	PN	Pn	09 23 51.4	+1.5
MKAR	Makanchi Array	3.44	258	Pn	Pn	09 23 51.2	+1.3
	2.7nm,0.3s,baz=68,slow=16,SNR=60						
MKAR				Pg	Pb	09 23 58.7	+1.4
	14nm,0.3s,baz=80,slow=18,SNR=37						
MKAR				Lg	Lg	09 24 46.1	
	105nm,0.3s,baz=76,slow=25,SNR=16						
	3.6nm,0.3s						
MKAR	Makanchi Array	3.44	258		Pn	09 23 51.4	+1.5
MKAR	Makanchi Array	3.44	258	Pn	Pn	09 23 51.9	+2.0
MKAR				Pg	Pg	09 24 03.0	+0.8
MKAR				Sg	Sg	09 24 51.5	+4.7
MKAR	Makanchi Array	3.44	258	PN	Pn	09 23 51.9	+2.0
MKAR						09 24 03.0	
MAKZ	Makanchi	3.65	259		Pn	09 23 54.5	+1.7
MAKZ	Makanchi	3.65	259	⇑Pg	Pg	09 24 02.9	-3.2
	26nm,0.4s						
MAKZ				⇑Lg	Lg	09 24 58.8	
	161nm,0.4s						
MAKZ	Makanchi	3.65	259	Pn	Pn	09 23 54.5	+1.7
MAKZ				Pg	Pg	09 24 04.2	-1.9
MAKZ				Sg	Sg	09 24 56.6	+3.2
MAKZ	Makanchi	3.65	259	PN	Pn	09 23 54.5	+1.7
UKR	Ust'-Kan	3.69	335	⇑Pn	Pn	09 23 55.5	+2.1
UKR				Pg	Pg	09 24 06.1	-0.9
UKR				Sg	Sg	09 24 57.2	+2.4
UKR	Ust'-Kan	3.69	335	PN	Pn	09 23 55.5	+2.1
UKR						09 24 06.2	
UKR						09 25 00.7	
WMQ	Urumqi	3.80	175	ePn	Pn	09 23 51.3	-3.6
WMQ				Sn	Sn	09 24 34.4	-5.3
WMQ				Sg	Sb	09 24 48.7	-0.9
WMQ				smax	smax		
	comp=N,900nm,1.3s						
WMQ				smax	smax		
	comp=E,610nm,1.5s						
ARTR	Artybash	4.20	1	Pn	Pn	09 24 01.1	+0.9
ARTR				Pg	Pg	09 24 14.1	-2.4
ARTR				Sg	Sg	09 25 06.5	-4.4
ARTR	Artybash	4.20	1	PN	Pn	09 24 01.1	+0.9
ARTR						09 24 14.1	
ARTR						09 25 08.7	
GALT	Gorno-Altaysk,	4.43	350	Pn	Pn	09 24 05.1	+1.7
GALT				Pg	Pg	09 24 18.6	-2.4
GALT				Sg	Sg	09 25 13.9	-4.5
TASR	Tashtagol	5.18	5	Pg	Pb	09 24 30.3	+3.5
TASR				Sg	Sg	09 25 37.8	-4.5
TASR	Tashtagol	5.18	5	PN	Pb	09 24 28.1	+1.3
TASR						09 24 34.9	
TASR						09 25 38.8	
SEM	Semipalatinsk	5.36	304	eP	Pg	09 24 36.4	-2.6
	38nm,0.3s						
SEM				eS	Sg	09 25 50.6	+2.3
	183nm,0.6s						
SEM	Semipalatinsk	5.36	304	Pg	Pg	09 24 35.4	-3.5
	59nm,0.5s						
SEM				Lg	Lg	09 25 50.6	
	286nm,0.4s						
HVS	Khovu-Aksy	5.52	48	i PN	Pn	09 24 27.1	+8.6
ELT	Eltsovka	5.70	354	Pn	Pn	09 24 20.8	0.0
ELT				Pg	Pg	09 24 40.6	-4.6
ELT				Sg	Sg	09 25 53.2	-5.7
ELT	Eltsovka	5.70	354	PN	Pn	09 24 21.7	+0.9
TBTR	Tabat	5.79	22	i PN	Pb	09 24 38.5	+1.3
TBTR				i S	Sg	09 25 54.2	-7.6
DJO	Djoy, Khakassi	5.79	25	Pg	Pb	09 24 40.7	+3.5
DJO				Sg	Sb	09 25 53.9	+7.4
MALIN	Malinovka, Kuz	5.82	0	Sg	Sg	09 25 58.1	-4.9
TAIL	Tailep, Kuzbas	5.85	360	Sg	Sg	09 26 00.5	-3.4
DJOS	Djoyskaya Sosn	5.85	26	Pg	Pb	09 24 42.8	+4.5
DJOS				Sg	Sb	09 25 55.2	+6.8
DJOS	Djoyskaya Sosn	5.85	26	PN	Pb	09 24 43.6	+5.3
DJOS						09 25 58.7	
CERR	Cheremushki	5.91	26	Pg	Pb	09 24 44.4	+5.2
CERR				Sg	Sb	09 25 56.9	+7.0
CERR	Cheremushki	5.91	26	PN	Pb	09 24 44.4	+5.2
CERR						09 26 00.1	
DJR	Jarkent	6.12	240	eP	Pg	09 24 49.3	-4.0
	7.8nm,1.0s						
DJR				eS	Sg	09 26 12.2	-0.3
	73nm,0.8s						
DJR	Jarkent	6.12	240	Pg	Pg	09 24 48.4	-4.8
	13nm,0.4s						
DJR				Lg	Lg	09 26 12.1	
	132nm,1.0s						
LUZB	Luzhba, Kemero	6.16	9	Pg	Pg	09 24 48.6	-5.5
LUZB				Sg	Sg	09 26 06.0	-7.8
KZLR	Kyzyl	6.24	46	Sg	Sb	09 26 03.6	+3.9
VCHU	Verkh-Chumysh,	6.38	356	Sg	Sg	09 26 18.9	-1.8
VCHU	Verkh-Chumysh,	6.38	356	PG	Pg	09 25 05.0	+6.8
KURK	Kurchatov	6.43	302	Pn	Pn	09 24 31.2	+0.3
KURK	Kurchatov	6.43	302	⇑Pn	Pn	09 24 31.2	+0.3
	13nm,0.4s						
KURK				⇓Lg	Lg	09 26 32.1	
	308nm,1.0s						
KURK	Kurchatov	6.43	302	Pn	Pn	09 24 31.7	+0.8
KURK				Pg	Pg	09 25 00.0	+0.8
KURK				S	Sn	09 25 47.2	+2.9
KURK				Sg	Sg	09 26 28.1	+5.7
KURK	Kurchatov	6.43	302	PN	Pn	09 24 31.7	+0.8
KURK						09 25 45.9	
KURBB	Kurchatov Arra	6.44	301	Pn	Pn	09 24 31.7	+0.7
	1.3nm,0.3s,baz=109,slow=14,SNR=86						
KURBB				Sn	Sn	09 25 45.9	+1.3
	1.4nm,0.3s,baz=264,slow=16,SNR=4.6						
KURBB				Lg	Lg	09 26 18.1	
	2.1nm,0.3s,baz=112,slow=31,SNR=1.9						
	6.1nm,0.4s						
KURBB	Kurchatov Arra	6.44	301	⇑Pn	Pn	09 24 31.6	+0.5
	33nm,0.6s						
KURBB				⇑Lg	Lg	09 26 32.6	
	453nm,0.6s						
KURBB	Kurchatov Arra	6.44	301	PN	Pn	09 24 31.6	+0.5
ZAA0	Zalesovo Array	6.53	348	Pn	Pn	09 24 31.5	-0.7
ZAA0	Zalesovo Array	6.53	348	Pn	Pn	09 24 30.1	-2.1
ZAA0				Sn	Sn	09 25 50.5	+3.8
ZAA0				Lg	Lg	09 26 29.0	
ZALV	Zalesovo Beam	6.53	348	Pn	Pn	09 24 31.4	-0.8
	3.6nm,0.3s,baz=166,slow=14,SNR=39						
ZALV				Sn	Sn	09 25 46.0	-0.7
	20nm,0.3s,baz=168,slow=24,SNR=13						
ZALV				Lg	Lg	09 26 16.3	
	7.7nm,0.3s,baz=163,slow=26,SNR=5.3						
	6.4nm,0.3s						
ZALV	Zalesovo Beam	6.53	348	Pn	Pn	09 24 31.2	-0.9
ERU	Erunakovo, Kuz	6.54	1	Pg	Pg	09 24 59.2	-2.2
ERU				Sg	Sg	09 26 23.5	-2.6
KOTO	Kotino, Kuzbas	6.59	359	Sg	Sg	09 26 25.9	-1.7
TDK	Taldyqorghan	6.62	250	eP	Pg	09 24 58.6	-4.5
	48nm,0.7s						
TDK				eS	Sg	09 26 27.7	-1.1
	399nm,1.2s						
TDK	Taldyqorghan	6.62	250	Pg	Pg	09 24 57.7	-5.3
	43nm,0.3s						
TDK				Lg	Lg	09 26 28.1	
	594nm,1.0s						
BJR1	Bachatsky 1, K	6.68	354	Sg	Sg	09 26 28.4	-2.1
ABNR	Abakan	6.69	22	i PN	Pb	09 24 57.2	+4.7
ABNR				i S	Sg	09 26 27.7	-3.1
PDGK	Podgornoye	6.90	235	Pg	Pb	09 25 00.1	+3.8
	5.7nm,0.4s						
PDGK				Lg	Lg	09 26 33.6	
	76nm,0.7s						
PDGK	Podgornoye	6.90	235	⇓Pn	Pn	09 24 36.0	-1.5
	6.8nm,0.8s						
PDGK				⇓Sn	Sn	09 25 55.3	-1.0
	30nm,0.7s						
PDGK				⇓Lg	Lg	09 26 36.2	
	156nm,0.7s						
PDGK	Podgornoye	6.90	235	PN	Pn	09 24 36.3	-1.3
PDGK				S	Sn	09 25 55.2	-1.0
KPKS	Kokpek	7.27	238	eP	Pg	09 25 09.5	-5.9
	19nm,0.4s						
KPKS				eS	Sg	09 26 46.9	-2.6
	238nm,1.0s						
KPKS	Kokpek	7.27	238	Pg	Pb	09 25 08.7	+6.2
	19nm,0.4s						
KPKS				Lg	Lg	09 26 46.9	
	327nm,0.7s						
MDOK	Medeo	8.41	242	Pg	Pb	09 25 27.8	+5.8
	5.9nm,0.4s						
MDOK				Sn	Sn	09 26 38.3	+5.0
	24nm,0.6s						
MDOK				⇑Lg	Lg	09 27 27.9	
	73nm,0.9s						
TARG	Taragay, Kyrgy	8.90	232	Pn	Pn	09 25 05.8	+0.5
TARG	Taragay, Kyrgy	8.90	232	P	Pn	09 25 05.8	+0.5
KST	Kastek	9.13	244	Pg	Pn	09 25 45.6	+37
	8.1nm,0.7s						
KST				Lg	Lg	09 27 50.1	
	36nm,0.8s						
TKM2	Tokmak 2	9.43	244	⇓Pn	Pn	09 25 08.7	-3.6
	2.9nm,0.6s						
TKM2				⇑Lg	Lg	09 27 57.3	
	40nm,0.8s						
TKM2	Tokmak 2	9.43	244	P	Pn	09 25 08.9	-3.3
OTUK	Ortayu	10.00	279	⇑Pn	Pn	09 25 19.3	-0.6
	4.2nm,0.5s						
OTUK				⇓Sn	Sn	09 27 22.7	+11
	21nm,0.5s						
OTUK				⇓Lg	Lg	09 28 21.6	
	46nm,0.8s						
OTUK	Ortayu	10.00	279	P	Pn	09 25 19.3	-0.6
AAK	Ala-Archa	10.26	246	Pn	Pn	09 25 29.2	+5.7
	0.2nm,0.3s,baz=116,slow=10,SNR=2.2						
AAK				Lg	Lg	09 28 21.4	
	0.6nm,0.3s,baz=347,slow=23,SNR=1.5						
BVAR	Borovoye Array	12.03	303	Pn	Pn	09 25 47.2	-0.3
	0.2nm,0.3s,baz=102,slow=14,SNR=22						
BVAR				Sn	Sn	09 27 57.0	-4.7
	0.2nm,0.3s,baz=101,slow=24,SNR=2.7						
BVAR				Lg	Lg	09 29 11.9	
	0.2nm,0.3s,baz=117,slow=25,SNR=2.4						
	4.9nm,0.5s						
BRVK	Borovoye	12.10	303	Pn	Pn	09 25 48.1	-0.4
BRVK	Borovoye	12.10	303	P	Pn	09 25 48.1	-0.4
KK31	Karatay Array	12.57	255		Pn	09 25 53.9	-1.1
KK31	Karatay Array	12.57	255	⇓Pn	Pn	09 25 53.3	-1.7
	0.4nm,0.4s,baz=58,slow=14,SNR=6.0						
KK31				⇑Sn	Sn	09 28 19.8	+4.8
	2.0nm,0.5s						
KK31				⇑Lg	Lg	09 29 39.6	
	32nm,0.9s,baz=63,slow=27,SNR=5.1						
KK31	Karatay Array	12.57	255	P	Pn	09 25 53.9	-1.1
KKAR	Karatay Array	12.57	255	Pn	Pn	09 25 53.9	-1.1
KKAR	Karatay Array	12.57	255	P	Pn	09 25 53.9	-1.1
SONM	Songino Array	12.93	82	Pn	Pn	09 25 54.4	-5.7
	0.1nm,0.3s,baz=270,slow=13,SNR=5.7						
SONM				Lg	Lg	09 29 27.1	
	0.4nm,0.3s,baz=265,slow=33,SNR=9.1						
GAR	Garm	14.98	241		Pn	09 26 26.7	-1.3
CHGR	Chuyangaron	15.89	242	Pn	Pn	09 26 39.9	0.0
CHGR				IAmb	IAmb	09 27 03.1	
	comp=Z,9.5nm,0.4s						
CHGR	Chuyangaron	15.89	242	P	Pn	09 26 39.9	0.0
CHGR				pmax	pmax		
	comp=Z,9.0nm,0.4s						

CHCP	Chirah Chowk	17.45	222	P	Pn	09 26 55.4	-4.3
NIL	Nilore	17.47	222	P	Pn	09 26 55.9	-4.0
NIL				pmax	pmax		
	comp=Z,16nm,0.9s						
CEP	Cherat	17.95	225	P	Pn	09 27 01.1	-4.9
CEP				S	Sn	09 30 25.0	-1.2
ABKAR	Akbulak array	18.13	285		P	09 27 08.6	+0.3
THW	Thamme Wali	18.88	224	P	P	09 27 11.2	-5.4
ARU	Arti	19.59	307	P	P	09 27 22.7	-1.5
	baz=110,slow=6.1,SNR=16						
ARU				S	S	09 31 03.6	-1.5
	comp=Z,1.4nm,0.3s,baz=49,slow=23,SNR=1.8						
	comp=Z,9.6nm,0.5s						
ARU	Arti	19.59	307		Pn	09 27 24.4	-1.1
ARU	Arti	19.59	307	*d i*P	Pn	09 27 25.9	+0.4
ARU				S	S	09 31 07.3	+2.2
ARU				pmax	pmax		
	comp=Z,11nm,0.7s						
NJ2	Nanjing	28.60	111	*e*P	P	09 28 46.4	-6.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ONI	Oni	30.97	277	P	P	09 29 13.2	-0.3
ONI				IAmb	IAmb	09 29 15.0	
	comp=Z,6.7nm,0.6s						
ONI	Oni	30.97	277	P	P	09 29 13.2	-0.3
ONI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FINES	FINESS Array B	36.61	315	P	P	09 30 00.6	-1.6
	comp=Z,2.2nm,0.9s,baz=84,slow=7.9,SNR=6.5						
	comp=Z,2.2nm,0.9s						
FINES	FINESS Array B	36.61	315	P	P	09 30 01.2	-1.0
FINES	FINESS Array B	36.61	315	P	P	09 30 01.2	-1.0
ARCES	ARCESS Array B	36.67	329	P	P	09 30 02.2	-0.4
ARCES				IAmb	IAmb	09 30 04.7	
	comp=Z,24nm,1.5s						
ARCES	ARCESS Array B	36.67	329	P	P	09 30 02.2	-0.4
ARCES				pmax	pmax		
	comp=Z,24nm,1.5s						
JSD	Sado	38.04	85	P	P	09 30 16.6	+2.1
BRTR	Keskin Array B	38.86	279	P	P	09 30 20.7	-1.0
	comp=Z,0.4nm,0.5s,baz=44,slow=7.8,SNR=3.6						
	comp=Z,0.4nm,0.5s						
BUR08	Bucovina Ar. S	40.78	294	P	P	09 30 36.5	-0.9
BURAR	Bucovina Array	40.78	294	P	P	09 30 35.4	-2.1
NC405	NORSAR Array S	43.45	317	P	P	09 30 56.5	-2.4
NB2	NORSAR Subarra	43.70	317	P	P	09 30 58.1	-2.9
	comp=Z,0.7nm,0.5s,baz=71,slow=7.9						
NOA	NORSAR Array B	43.70	317	P	P	09 30 58.1	-2.9
	comp=Z,0.2nm,0.3s,baz=79,slow=9.1,SNR=5.4						
NC204	NORSAR Array S	43.84	317	P	P	09 30 59.9	-2.2
TOLK	Toolik Lake Re	56.68	22	P	P	09 32 41.4	+2.1
TOLK				IAmb	IAmb	09 32 53.3	
	comp=Z,12nm,1.4s						
KTH	Kantishna Hill	60.11	26	P	P	09 33 04.8	+1.5
KTH				IAmb	IAmb	09 33 14.8	
	comp=Z,15nm,1.5s						
ILAR	Eielson Array	60.32	24	P	P	09 33 03.7	-1.0
	comp=Z,0.2nm,0.6s,baz=326,slow=5.6,SNR=5.3						
	comp=Z,0.2nm,0.6s						
TRF	Thorofare Moun	60.38	26	P	P	09 33 07.0	+1.8
TRF				IAmb	IAmb	09 33 17.2	
	comp=Z,9.3nm,1.2s						
WRA	Warramunga Arr	79.43	135	P	P	09 35 03.7	+1.1
	comp=Z,0.3nm,0.6s,baz=333,slow=5.2,SNR=2.5						
	comp=Z,0.3nm,0.6s						
ASAR	Alice Springs	82.44	138	P	P	09 35 20.1	+1.5
	comp=Z,0.4nm,0.7s,baz=336,slow=5.3,SNR=6.4						
	comp=Z,0.4nm,0.7s						
ASAR	Alice Springs	82.44	138	P	P	09 35 20.8	+2.2
ASAR	Alice Springs	82.44	138	P	P	09 35 20.8	+2.2

*GEN **11** 09:31:21.4, 44.°77N×6.°66E, h1km±1km, Ml1.8*
*ROM **11** 09:31:21.9±0.1, 44.°785N±0.°005×6.°65E±0.°01, h14km±2km, Md1.8/4, Error ellipse: s-maj=0.9km s-min=0.3km az=242.0*
*LDG **11** 09:31:22.7±0.1, 44.°78N×6.°65E, h2km, Md2.4/2, Ml2.5/16, Error ellipse: s-maj=1.4km s-min=0.9km az=62.0*
*STR **11** 09:31:22.6±0.3, 45°N±2°×°±°, h3km, MLv2.1/22, Error ellipse: s-maj=0.0km s-min=0.0km az=59.9, preliminary*
ISC 11 09:31:21.2±0.8**, 44.°76N**±0.°01×**6.°62E**±0.°02**, h7**km±6km**, n76, σ1.ˢ45**/120**, 5C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	Montbardon	0.11	108	*e*Pg	Pg	09 31 24.0	+0.2
MBDF				*e*Sg	Sg	09 31 26.2	+0.6
	269nm,0.1s						
RRL	Rocca Remolon	0.20	37	P	Pb	09 31 26.3	+1.0
RRL				S	Sg	09 31 29.4	+1.3
RRL	Rocca Remolon	0.20	37	⇑P	Pb	09 31 26.3	+1.0
RRL				S	Sg	09 31 29.4	+1.3
RRL				END			
CREF	Crivoux	0.21	180	Pg	Pg	09 31 26.4	+0.9
CREF				Sg	Sg	09 31 29.7	+1.3
BNI	Bardonecchia	0.29	8	P	Pb	09 31 28.0	-0.8
BNI				S	Sb	09 31 32.3	-1.7
BNI	Bardonecchia	0.29	8	P	Pb	09 31 27.9	-0.9
BNI				S	Sb	09 31 32.2	-1.7
BNI				END			
OGAG	Argentiere	0.31	190	P	Pg	09 31 23.7	-3.6
OGAG				S	Sg	09 31 24.9	-6.6
OGAG	Argentiere	0.31	190	⇑Pg	Pg	09 31 23.7	-3.6
OGAG				Sg	Sg	09 31 25.0	-6.5
SURF	Saint Ours	0.31	154	P	Pg	09 31 28.4	+1.0
SURF				S	Sg	09 31 33.3	+1.8
SURF	Saint Ours	0.31	154	Pg	Pg	09 31 28.4	+1.0
JAUF	Jausiers	0.35	164	Pg	Pg	09 31 28.9	+1.0
JAUF				Sg	Sg	09 31 34.4	+1.8
PZZ	Stroppo	0.44	126	P	Pg	09 31 30.5	+0.9
PZZ				S	Sg	09 31 36.7	+1.3
PZZ	Stroppo	0.44	126	P	Pb	09 31 30.7	-0.6
PZZ				S	Sb	09 31 37.1	-1.0
PZZ				END			
OGMO	Fort Saint-Gob	0.45	6	P	Pb	09 31 31.2	-0.2
OGMO				S	Sb	09 31 37.5	-0.9
OGMO	Fort Saint-Gob	0.45	6	Pg	Pb	09 31 31.0	-0.4
OGMO				Sg	Sb	09 31 37.3	-1.1
BHB	Bricherasio	0.47	80	P	Pb	09 31 31.1	-0.6
BHB	Bricherasio	0.47	80	P	Pb	09 31 31.1	-0.6
BHB				S	Sb	09 31 37.2	-1.6
BHB				END			
ORIF	Oris-en-Rattie	0.55	287	*e*Pg	Pg	09 31 32.6	+0.9
ORIF				*e*Sg	Sg	09 31 39.7	+0.8
	105nm,0.2s						
ORIF	Oris-en-Rattie	0.55	287	⇑P	Pg	09 31 32.7	+0.9
ORIF	Oris-en-Rattie	0.55	287	⇑Pg	Pg	09 31 32.7	+0.9
ORIF				Sg	Sg	09 31 39.8	+0.8
GDM	Grand'Maison	0.57	321	⇑Pg	Pb	09 31 33.1	-0.4
GDM				Sg	Sg	09 31 40.5	+0.9
ISO	Isola	0.66	152	P	Pb	09 31 35.4	+0.4
ISO				S	Sb	09 31 43.8	-0.5
ISO	Isola	0.66	152	Pg	Pb	09 31 34.7	-0.3
ISO				Sg	Sg	09 31 43.1	+0.8
OGDI	Digne	0.69	199	P	Pn	09 31 37.0	-0.4
OGDI	Digne	0.69	199	Pg	Pn	09 31 37.1	-0.2
STV	Sant Anna di V	0.72	135	P	Pg	09 31 35.8	+0.7
STV				S	Sb	09 31 45.8	-0.4
LPG	La Plagne	0.74	7	*e*Pg	Pb	09 31 36.5	-0.1
LPG				*e*Sg	Sb	09 31 47.1	+0.1
	65nm,0.5s						
LPL	La Plagne	0.76	6	*e*Pg	Pb	09 31 36.7	-0.1
LPL				*e*Sg	Sb	09 31 47.7	+0.3
	52nm,0.6s						
ENR	Entracque	0.78	133	P	Pb	09 31 37.5	+0.3
ENR				S	Sb	09 31 48.0	0.0
LSD	Lago del Serru	0.79	27	P	Pb	09 31 37.0	-0.3
LSD				S	Sb	09 31 47.5	-0.8
RSL	Roselend	0.93	0	P	Pn	09 31 39.9	-0.9
RSL				S	Sn	09 31 54.7	+0.3
RSL	Roselend	0.93	0	Pg	Pn	09 31 40.5	-0.2
MVIF	Mont Vial	0.95	156	Pg	Pn	09 31 41.3	+0.4
TURF	col de Turini	0.96	145	P	Pn	09 31 41.2	0.0
TURF				S	Sn	09 31 54.5	-0.7
TURF	col de Turini	0.96	145	Pg	Pn	09 31 40.9	-0.3
TURF				Sg	Sn	09 31 54.9	-0.3
MLYF	Mely	0.99	219	Pg	Pn	09 31 42.1	+0.6
SAOF	Saorge	1.02	139	P	Pn	09 31 42.0	0.0
SAOF				S	Sn	09 31 56.0	-0.6
SAOF	Saorge	1.02	139	Pg	Pn	09 31 41.9	0.0
SAOF				Sg	Sn	09 31 56.0	-0.6
TRIGF	Trigance	1.03	189	Pg	Pn	09 31 42.6	+0.6
CALF	Calern	1.03	168	Pg	Pn	09 31 42.4	+0.3
CALF				Pn	Pb	09 31 44.4	+3.0
OGSM	Saint Maurice	1.07	323	Pg	Pn	09 31 42.9	+0.4
SBF	Sospel	1.07	147	*e*Pg	Pn	09 31 42.7	+0.1
SBF				*e*Sg	Sn	09 31 57.2	-0.6
	41nm,0.3s						
CIRO	Champorcher	1.07	38	P	Pn	09 31 42.4	-0.5
CIRO				S	Sb	09 31 56.0	-0.5
SMRF	Simiane la Rot	1.09	224	*e*Pg	Pn	09 31 43.9	+1.1
SMRF				*e*Sg	Sn	09 31 58.5	+0.4
	13nm,0.4s						
TRAV	Traversella	1.09	46	P	Pn	09 31 42.5	-0.4
BSTF	la Bastide-des	1.13	219	Pg	Pg	09 31 46.5	+3.7
RUSF	Rustrel	1.16	225	Pg	Pg	09 31 45.8	+2.4
OGSI	Sixt	1.31	4	Pg	Pg	09 31 50.2	+4.0
ARTF	Artigues	1.31	207	Pg	Pg	09 31 48.0	+1.7
VIVF	Saint-Julien-l	1.39	275	*e*Pg	Pg	09 31 49.7	+1.9
VIVF				*e*Sg	Sg	09 32 08.2	+2.4
	27nm,0.3s						
LMR	La Mourre	1.43	183	*e*Pg	Pg	09 31 49.1	+0.5
LMR				*e*Sg	Sg	09 32 08.2	+1.1
	14nm,0.2s						
OG35	Corcelles	1.48	330	Pg	Pg	09 31 51.0	+1.5
CABF	La Chapelle	1.89	349	*e*Pn	Pn	09 31 54.4	+0.5
CABF	La Chapelle	1.89	349	*e*Pg	Pg	09 31 58.2	+0.9
CABF				*e*Sg	Sg	09 32 21.5	-0.3
	4.7nm,0.3s						
LASF	Ste Croix	2.10	252	*e*Pn	Pn	09 31 57.6	+0.9
LASF	Ste Croix	2.10	252	*e*Pg	Pg	09 32 01.9	+0.6
LASF				*e*Sn	Sn	09 32 22.9	-0.1
	2.4nm,0.3s						
SMF	Signal de Mont	2.71	315	*e*Pn	Pn	09 32 05.4	+0.3
SMF	Signal de Mont	2.71	315	*e*Pg	Pg	09 32 13.2	+0.2
SMF				*e*Sg	Sg	09 32 48.0	-0.1
	4.0nm,0.2s						
PGF	Pioggiola	2.81	141	*e*Pn	Pn	09 32 07.1	+0.6
PGF				*e*Sn	Sn	09 32 40.0	-0.6
	2.7nm,0.3s						
AVF	Avril sur Loir	3.06	313	*e*Pn	Pn	09 32 09.7	-0.1
AVF	Avril sur Loir	3.06	313	*e*Pg	Pg	09 32 20.0	+0.3
AVF				*e*Sg	Sg	09 32 57.1	-2.2
	1.9nm,0.3s						
HINF	Hinteralfeld	3.06	3	*e*Pn	Pn	09 32 10.3	+0.4
HINF				*e*Sg	Sg	09 32 59.0	-0.4
LOR	Lormes	3.16	323	*e*Pn	Pn	09 32 12.2	+0.9
LOR	Lormes	3.16	323	*e*Pg	Pg	09 32 21.2	-0.5
	baz=144						
LOR				*e*Sn	Sn	09 32 47.9	-1.3
LOR				*e*Sg	Sg	09 33 01.7	-0.9
	2.7nm,0.2s,baz=139						
SSF	Saint Saulge	3.16	318	*e*Pn	Pn	09 32 11.7	+0.4
SSF	Saint Saulge	3.16	318	*e*Pg	Pg	09 32 21.8	0.0
SSF				*e*Sg	Sg	09 33 01.1	-1.7
	2.7nm,0.3s						
BGF	Bois d'Agland	3.20	305	*e*P	Pn	09 32 14.2	+2.4
BGF	Bois d'Agland	3.20	305	*e*Pg	Pg	09 32 22.6	+0.2
BGF				*e*Sg	Sg	09 33 03.2	-0.6
	6.0nm,0.3s						
CAF	Calviac	3.25	274	*e*Pn	Pn	09 32 13.1	+0.6
CAF				*e*Sn	Sn	09 32 50.4	-1.0
	1.8nm,0.4s						
TCF	Toulx Ste Croi	3.46	298	*e*Pn	Pn	09 32 16.4	+1.0
TCF				*e*Sn	Sn	09 32 55.0	-1.5
TCF				*e*Sg	Sg	09 33 11.9	-0.2
	0.9nm,0.2s						
RJF	Les Rejaudoux	3.66	280	*e*Pn	Pn	09 32 18.0	-0.1
T1219	Muccia, Frazio	4.92	108	AML	AML		
	comp=E,1170μm,0.7s						
T1219				AML	AML		
	comp=N,1377μm,0.2s						
T1220	Camerino, Fraz	4.96	107	AML	AML		
	comp=E,3640μm,0.5s						
T1220				AML	AML		
	comp=E,3805μm,1.4s						
T1220				AML	AML		
	comp=N,3910μm,0.4s						
T1220				AML	AML		
	comp=N,3900μm,0.3s						
SRES	S.Oreste - Sor	4.97	118	AML	AML		
	comp=N,130μm,0.4s						
SRES				AML	AML		
	comp=E,148μm,1.6s						
FDMO	Fiordimonte	4.98	108	AML	AML		
	comp=E,140μm,0.2s						
FDMO				AML	AML		
	comp=N,231μm,0.2s						
FDMO				AML	AML		
	comp=E,834μm,0.4s						
FDMO				AML	AML		
	comp=N,1250μm,0.9s						
PP3	Marolino	5.22	103	AML	AML		
	comp=E,1550μm,0.5s						
PP3				AML	AML		
	comp=E,1640μm,0.4s						
PP3				AML	AML		
	comp=N,1335μm,0.4s						
PP3				AML	AML		
	comp=N,1435μm,0.4s						

*IDC **11** 09:57:04.8±0.9, 7.°89S×122.°32E, h224km±7km, mb3.5/6, mbtmp4.2/11, Error ellipse: s-maj=27.8km s-min=8.9km az=67.0*
*NEIC **11** 09:57:04.7±1.6, 7.°93S±0.°08×122.°2E±0.°1, h220km±6km, mb4.4/20, Error ellipse: s-maj=15.5km s-min=9.7km az=65.0*
*DJA **11** 09:57:05.3±0.5, 8°S±3°×12°2E±°, h210km±6km, M4.1/13, mb4.0/2, mB4.7/2, MLv4.2/13, Mw(mB)3.9/2*
ISC 11 09:57:04.6±0.6**, 7.°99S**±0.°04×**122.°16E**±0.°06**, h224**km±6km**, n71, σ1.ˢ00**/79**, mb4.1**/11**, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	0.65	173		Pn	09 57 35.0	-0.1
MMRI	Maumere	0.65	173	P	Pn	09 57 34.7	-0.4
MMRI				S	S	09 57 58.0	-1.0
BSSI	Bau Bau, Buton	2.47	318	P	Pn	09 57 49.3	-0.5
BBSI	Bau Bau	2.52	9	P	Pn	09 57 51.4	+1.1
BBSI				S	S	09 58 27.9	+1.9
BATI	Baumata	2.66	146	P	Pn	09 57 52.2	+0.4
	312nm,0.4s,baz=353,slow=2.3,SNR=46						
BATI				S	S	09 58 28.8	+0.1
	236nm,0.3s,baz=321,slow=9.0,SNR=12						
BATI	Baumata	2.66	146	P	Pn	09 57 52.0	+0.2
BATI				S	S	09 58 28.4	-0.3
SOEI	Soe	2.72	130		Pn	09 57 53.1	+0.5
SOEI	Soe	2.72	130	P	Pn	09 57 53.4	+0.8
SOEI				S	S	09 58 30.4	+0.3
BKSI	Bulukumba	3.33	323	P	Pn	09 57 58.6	-0.8
KAPI	Kappang	3.80	321	P	Pn	09 58 05.6	+0.7
	18nm,0.4s,baz=136,slow=12,SNR=12						
KAPI	Kappang	3.80	321	Pn	Pn	09 58 05.9	+0.9
KAPI	Kappang	3.80	321	P	Pn	09 58 05.3	+0.3
KKSI	Kolaka, Sulawe	3.83	352	P	Pn	09 58 06.0	+0.7
BNSI	Bone	4.11	330	P	Pn	09 58 09.0	+0.3
PLAI	Plampang	4.42	259	P	Pn	09 58 11.3	-1.1
SPSI	Sidrap Palu	4.65	329	P	Pn	09 58 15.7	+0.4
TWSI	Taliwang, Sumb	5.28	262	P	Pn	09 58 22.2	-0.9
KLNI	Mataram	6.02	265	P	Pn	09 58 31.3	-1.2
	0.4nm39nm,1.4s						
LUWI	Luwuk	6.93	5	Pn	Pn	09 58 40.6	-3.6
APSI	Ampana	7.05	356	P	Pn	09 58 47.5	+1.8
KNRA	Kununurra	10.00	140		Pn	09 59 22.6	-1.0
MTN	Manton Dam	10.06	119	Pn	Pn	09 59 23.6	-0.6
MTN	Manton Dam	10.06	119	P	Pn	09 59 23.8	-0.5
FAKI	Fak Fak	11.23	64	Pn	Pn	09 59 37.4	-1.9
SIJI	Sorong	11.51	53	P	Pn	09 59 41.4	-1.3
	5.3nm,0.5s,baz=143,slow=23,SNR=2.5						
MBWA	Marble Bar	13.30	190	Pn	Pn	10 00 05.3	+0.3
MBWA	Marble Bar	13.30	190	P	P	10 00 08.3	+1.1
PSA00	Pilbara Seismi	13.69	189	Pn	Pn	10 00 08.6	-1.2
PSA00	Pilbara Seismi	13.69	189	P	P	10 00 12.3	+0.8
WB0	Warramunga Arr	16.66	136	P	P	10 00 44.5	+0.2
WB0				IAmb	IAmb	10 00 45.9	
	comp=Z,7.6nm,0.7s						
WRA	Warramunga Arr	16.74	136	P	P	10 00 45.8	+0.5
	comp=Z,4.4nm,0.5s,baz=319,slow=11,SNR=59						
WRA				S	S	10 03 48.6	-0.1
	comp=Z,3.7nm,0.8s,baz=311,slow=22,SNR=5.2						
WRA	Warramunga Arr	16.74	136	P	P	10 00 45.2	-0.1
WRAB	Tennant Creek	16.75	136	P	P	10 00 45.8	+0.5
WRAB				IAmb	IAmb	10 00 48.1	
	comp=Z,9.4nm,0.7s						
WRAB	Tennant Creek	16.75	136	P	P	10 00 45.6	+0.3
WB2	Warramunga Arr	16.75	136	P	P	10 00 45.3	0.0
WB2				IAmb	IAmb	10 00 48.1	
	comp=Z,9.2nm,0.7s						
WR0	Warramunga Arr	16.89	136	P	P	10 00 47.4	+0.5
WR0				IAmb	IAmb	10 00 48.6	
	comp=Z,20nm,1.1s						
WRKA	Warakurna	17.94	162	P	P	10 00 59.3	+1.1
AS31	Alice Springs	19.23	145	P	P	10 01 13.5	+1.3
AS31				IAmb	IAmb	10 01 14.2	
	comp=Z,13nm,0.4s						
ASAR	Alice Springs	19.23	145	P	P	10 01 13.1	+0.9
	comp=Z,16nm,0.4s,baz=325,slow=12,SNR=398						
ASAR				S	S	10 04 37.5	-0.5
	comp=Z,0.5nm,0.8s,baz=317,slow=23,SNR=2.7						
ASAR				ScP	ScP	10 08 36.6	-3.3
	comp=Z,2.3nm,0.7s,baz=336,slow=1.9,SNR=14						
ASAR	Alice Springs	19.23	145	P	P	10 01 13.2	+1.0
AS01	Alice Springs	19.25	145	P	P	10 01 13.5	+1.0
QIS	Mount Isa	20.99	128	P	P	10 01 31.2	+0.2
COEN	Coen	21.46	108	P	P	10 01 35.1	-0.6
COEN	Coen	21.46	108	P	P	10 01 34.8	-0.9
MORW	Morawa	21.75	195	P	P	10 01 38.3	-0.1
MORW				IAmb	IAmb	10 01 38.5	
	comp=Z,8.3nm,0.5s						
BLDU	Ballidu	23.08	192	P	P	10 01 50.4	-0.2
FORT	Forrest	23.34	167	P	P	10 01 53.8	+0.9
FORT	Forrest	23.34	167	P	P	10 01 53.3	+0.4
OOD	Oodnadatta	23.49	149	P	P	10 01 54.8	+0.5
MULG	Mulgathing	24.82	155	P	P	10 02 06.9	+0.5
NWAO	Narrogin (SRO)	25.23	190	P	P	10 02 10.2	+0.1
BBOO	Buckleboo	27.86	154	P	P	10 02 34.0	+0.5
BBOO	Buckleboo	27.86	154	P	P	10 02 33.9	+0.3
QIZ	Qiongzhong	29.47	336	P	P	10 02 48.1	+0.2
STKA	Stephens Creek	29.87	145	P	P	10 02 52.4	+1.0
	comp=Z,5.7nm,0.4s,baz=325,slow=8.0,SNR=11						
	comp=Z,5.7nm,0.4s						
STKA	Stephens Creek	29.87	145	P	P	10 02 52.3	+1.0
MJAR	Matsushiro Arr	46.79	18	P	P	10 05 10.6	-1.2
	comp=Z,1.8nm,0.6s,baz=205,slow=8.2,SNR=3.1						
	comp=Z,1.8nm,0.6s						
USRK	Ussuriysk Ar.	52.70	9	P	P	10 05 54.9	-1.2
	comp=Z,1.4nm,0.4s,baz=194,slow=6.5,SNR=11						
	comp=Z,1.4nm,0.4s						
USRK	Ussuriysk Ar.	52.70	9	P	P	10 05 55.1	-1.0
SONM	Songino Array	57.31	347	P	P	10 06 28.4	-0.7
	comp=Z,0.4nm,0.5s,baz=174,slow=5.8,SNR=1.9						
	comp=Z,0.4nm,0.5s						
BKZ	Black Stump Fm	57.60	132	P	P	10 06 32.0	+0.6
BKZ				IAmb	IAmb	10 06 49.1	
	comp=Z,34nm,1.5s						
MK31	Makanchi Array	65.04	331	P	P	10 07 20.8	-0.2
MK31				IAmb	IAmb	10 07 59.6	
	comp=Z,4.2nm,1.2s						
MKAR	Makanchi Array	65.04	331	P	P	10 07 20.9	-0.1
	comp=Z,0.3nm,0.5s,baz=134,slow=8.6,SNR=7.2						
	comp=Z,0.3nm,0.5s						
MAKZ	Makanchi	65.20	331	P	P	10 07 22.6	+0.6
MAKZ				IAmb	IAmb	10 07 56.0	
	comp=Z,5.9nm,1.1s						
PEA0B	Petropavlovsk-	67.93	22	P	P	10 07 40.4	+1.4
PETK	Petropavlovsk-	67.93	22	P	P	10 07 40.1	+1.0
VNDA	Vanda	72.51	172	P	P	10 08 07.0	+0.6
	comp=Z,0.7nm,0.5s,baz=318,slow=8.0,SNR=14						
	comp=Z,0.7nm,0.5s						
VNDA	Vanda	72.51	172	P	P	10 08 07.4	+1.0
QSPA	South Pole Qui	82.00	180	P	P	10 08 59.9	+0.5
SNAA	Sanae	92.79	195	P	P	10 09 51.2	-0.1
SNAA				IAmb	IAmb	10 09 56.0	
	comp=Z,4.2nm,1.3s						
LPAZ	La Paz	153.82	157	PKPab	PKPab	10 16 53.5	+1.0
	comp=Z,0.8nm,0.6s,baz=170,slow=6.1,SNR=3.9						

*NEIC **11** 09:59:18.7±1.4, 11.°7S±0.°2×65.°80E±0.°10, h10km±1km, mb4.4/14, Error ellipse: s-maj=25.7km s-min=15.7km az=182.0*
*IDC **11** 09:59:20.5±1.5, 11.°16S×66.°59E, h0km, mb3.8/7, mbtmp3.8/7, MS3.3/5, Error ellipse: s-maj=57.7km s-min=26.3km az=45.0*
ISC 11 09:59:19.0±0.9**, 11.°6S**±0.°2×**66.°0E**±0.°2**, h10**km**, n33, σ1.ˢ53**/22**, mb4.2**/13**, MS3.4**/5**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	7.51	59	T	T	10 08 20.4	
	baz=237,slow=76,SNR=9.9						
H08S2	Diego Garcia H	7.53	59	T	T	10 08 24.7	
	baz=237,slow=76,SNR=26						
H08S3	Diego Garcia H	7.53	59	T	T	10 08 32.3	
	baz=237,slow=76,SNR=36						
LODK	Lodwar	33.92	294	P	P	10 05 58.9	-3.9
LBTB	Lobatse	40.43	245	LR	LR	10 22 28.1	
	comp=Z,70nm,18.8s,baz=174,slow=34						
CMAR	Chiang Mai Arr	44.16	48	LR	LR	10 23 05.4	
	comp=Z,15nm,20.5s,baz=170,slow=33						
NIL	Nilore	45.54	8	P	P	10 07 38.6	-0.4
NIL				IAmb	IAmb	10 07 42.2	
	comp=Z,5.1nm,0.8s						
SUR	Sutherland	46.29	236	LR	LR	10 24 49.2	
	comp=Z,67nm,18.4s,baz=30,slow=32						
SBUM	Sibu	48.04	76	P	P	10 07 57.9	-1.1
SBUM				IAmb	IAmb	10 08 21.8	
	comp=Z,3.8nm,1.3s						
H01W3	Cape Leeuwin H	49.36	126	T	T	11 00 50.6	
	baz=287,slow=75,SNR=11						
H01W2	Cape Leeuwin H	49.36	126	T	T	11 00 37.1	
	baz=287,slow=75,SNR=13						
H01W1	Cape Leeuwin H	49.38	126	T	T	11 00 32.6	
	baz=287,slow=75,SNR=14						
GAR	Garm	50.51	4	P	P	10 08 18.1	+0.5
KAPI	Kappang	53.53	88	LR	LR	10 29 03.2	
	comp=Z,18nm,18.4s,baz=186,slow=34						
MKAR	Makanchi Array	59.95	13	P	P	10 09 25.2	-0.2
	comp=Z,0.4nm,0.7s,baz=206,slow=8.6,SNR=2.1						
	comp=Z,0.4nm,0.7s						
ABKAR	Akbulak array	60.84	355	P	P	10 09 30.8	-0.6
ABKAR				IAmb	IAmb	10 09 34.1	
	comp=Z,4.0nm,0.9s						
KURK	Kurchatov	63.04	9	P	P	10 09 46.5	+0.4
KURK				IAmb	IAmb	10 09 48.1	
	comp=Z,2.6nm,0.8s						
ASAR	Alice Springs	65.32	111	P	P	10 10 02.0	+0.2
	comp=Z,0.9nm,0.9s,baz=239,slow=7.1,SNR=5.0						
	comp=Z,0.9nm,0.9s						
WRA	Warramunga Arr	65.93	107	P	P	10 10 06.3	+0.5
	comp=Z,1.2nm,0.8s,baz=275,slow=5.7,SNR=8.9						
	comp=Z,1.2nm,0.8s						
WRA	Warramunga Arr	65.93	107	P	P	10 10 05.8	0.0
WB2	Warramunga Arr	65.94	107	P	P	10 10 05.6	-0.3
WRAB	Tennant Creek	65.94	107	P	P	10 10 05.1	-0.8
WB0	Warramunga Arr	65.99	107	P	P	10 10 06.0	-0.2
WB0				IAmb	IAmb	10 10 07.1	
	comp=Z,3.5nm,1.1s						
ZAA0	Zalesovo Array	67.24	12	P	P	10 10 12.7	-0.7
ZAA0				IAmb	IAmb	10 10 14.9	
	comp=Z,2.7nm,1.0s						
ZALV	Zalesovo Beam	67.24	12	P	P	10 10 12.2	-1.2
	comp=Z,1.0nm,0.6s,baz=234,slow=4.4,SNR=4.7						
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	67.24	12	P	P	10 10 13.0	-0.4
SONM	Songino Array	69.22	28	P	P	10 10 25.4	-0.7
	comp=Z,0.7nm,0.5s,baz=224,slow=4.0,SNR=4.8						
	comp=Z,0.7nm,0.5s						
AKASG	Malin Array Be	69.83	336	P	P	10 10 31.3	+1.7
	comp=Z,0.6nm,0.5s,baz=134,slow=5.7,SNR=2.8						
	comp=Z,0.6nm,0.5s						
KSRS	Korea Array	75.78	46	LR	LR	10 43 13.9	
	comp=Z,18nm,19.6s,baz=85,slow=35						
QSPA	South Pole Qui	78.45	180	P	P	10 11 20.0	-0.1
ESDC	Sonseca Array	82.41	313	P	P	10 11 45.6	+3.9
	comp=Z,0.7nm,0.7s,baz=87,slow=2.8,SNR=4.6						
	comp=Z,0.7nm,0.7s						
PDAR	Pinedale Array	148.72	354	PKPbc	PKiKP	10 19 08.9	+0.2
	comp=Z,0.6nm,0.8s,baz=347,slow=3.7,SNR=5.8						
NVAR	Mina Array Bea	153.02	7	PKPbc	PKiKP	10 19 20.0	+2.3
	comp=Z,0.5nm,0.8s,baz=270,slow=2.7,SNR=4.7						

IDC 11 10:15:02.1±2.3**, 1.°03N**×**127.°02E, h0**km**, mb3.1**/3**, mbtmp3.1**/3**, MS3.0**/1**, Error ellipse: s-maj=171.9km s-min=29.1km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEM	Lembang	20.87	248	LR	LR	10 28 58.6	

	comp=Z,40nm,18.8s,baz=62,slow=40						
WRA	**Warramunga Arr**	**22.04**	**161**	P	P	10 19 58.0	-0.6
	0.2nm,0.4s,baz=340,slow=11,SNR=7.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**25.44**	**165**	P	P	10 20 32.5	+0.6
	0.1nm,0.4s,baz=346,slow=12,SNR=1.8						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**59.94**	**326**	P	P	10 25 10.1	-0.1
	0.4nm,0.6s,baz=137,slow=4.9,SNR=1.8						
	0.4nm,0.6s						

*KRSC **11** 10:22:32.1±0.3, 48°.14N×156°.23E, h11km±8km, ML4.3*
*IDC **11** 10:22:33.2±3.8, 48°.22N×154°.20E, h72km±33km, mb3.5/13, mbtmp3.7/14, ML2.3/1, Error ellipse: s-maj=24.2km s-min=19.8km az=132.0*
*MOS **11** 10:22:33.4±1.1, 48°.28N×154°.46E, h46km, mb4.0/1, Error ellipse: s-maj=20.2km s-min=6.3km az=72.3*
*SKHL **11** 10:22:34.0±0.3, 48°.30N×154°.50E, h90km±4km, mb4.6/5, msh5.4/3*
ISC 11 10:22:29.9±0.8**, 47°.97N**±0°.09×**154°.9E**±0°.1**, h50km, n61, σ2s.19**/74**, mb3.8**/13**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.83**	**16**	P	**Pn**	**10 23 15.2**	**+2.6**
SKR				S	**Sn**	**10 23 46.3**	**+0.8**
SKR	**Severo-Kuril's**	**2.83**	**16**	*e*P	**Pn**	**10 23 14.9**	**+2.3**
SKR				AMB	AMB	10 23 15.9	
	10.0nm,0.4s						
SKR				*e*S	**Sn**	**10 23 45.8**	**+0.3**
SKR				A	A	10 23 47.1	
	130nm,0.5s						
SKR				A	A	10 23 47.1	
	130nm,0.5s						
SKR	**Severo-Kuril's**	**2.83**	**16**	PN	**Pn**	**10 23 15.2**	**+2.6**
SKR				S	**Sn**	**10 23 46.3**	**+0.8**
PAU	**Pauzhetka**	**3.72**	**19**	P	**Pn**	**10 23 27.5**	**+2.8**
PAU				S	**Sn**	**10 24 08.1**	**+0.9**
PAU	**Pauzhetka**	**3.72**	**19**	*e*P	**Pn**	**10 23 27.9**	**+3.2**
PAU				AMB	AMB	10 23 28.5	
	20nm,0.3s						
PAU				*e*S	**Sn**	**10 24 08.1**	**+0.9**
PAU				A	A	10 24 11.2	
	90nm,0.4s						
PAU				A	A	10 24 11.2	
	280nm,0.4s						
PAU	**Pauzhetka**	**3.72**	**19**	PN	**Pn**	**10 23 27.5**	**+2.8**
PAU				S	**Sn**	**10 24 08.1**	**+0.9**
KDTR	**Khodutka, Kamc**	**4.36**	**27**	P	**Pn**	**10 23 34.9**	**+1.3**
KDTR				S	**Sn**	**10 24 20.8**	**-2.2**
KDTR	**Khodutka, Kamc**	**4.36**	**27**	PN	**Pn**	**10 23 34.9**	**+1.3**
KDTR				S	**Sn**	**10 24 20.8**	**-2.2**
ASAK	**Asacha**	**4.82**	**22**	P	**Pn**	**10 23 42.5**	**+2.5**
ASAK	**Asacha**	**4.82**	**22**	PN	**Pn**	**10 23 42.5**	**+2.5**
MTVR	**Mutnovka**	**4.99**	**24**	P	**Pn**	**10 23 44.6**	**+2.3**
MTVR				S	**Sn**	**10 24 37.9**	**-0.8**
MTVR	**Mutnovka**	**4.99**	**24**	PN	**Pn**	**10 23 44.6**	**+2.3**
MTVR				S	**Sn**	**10 24 37.9**	**-0.8**
GRL	**Gorelyy**	**5.02**	**23**	P	**Pn**	**10 23 45.3**	**+2.5**
GRL				S	**Sn**	**10 24 38.9**	**-0.6**
GRL	**Gorelyy**	**5.02**	**23**	PN	**Pn**	**10 23 45.3**	**+2.5**
GRL				S	**Sn**	**10 24 38.9**	**-0.6**
RUS	**Russkaya**	**5.04**	**26**	S	**Sn**	**10 24 38.2**	**-1.5**
PETK	**Petropavlovsk-**	**5.45**	**18**	P	**Pn**	**10 23 51.4**	**+2.9**
	0.5nm,0.3s,baz=179,slow=14,SNR=16						
PETK				S	**Sn**	**10 24 51.4**	**+1.6**
	2.4nm,0.7s,baz=174,slow=15,SNR=1.2						
	2.8nm,0.7s						
KUR	**Kuril'sk**	**5.56**	**243**	*e*P	**Pn**	**10 23 53.5**	**+3.5**
KUR				AMB	AMB	10 24 03.9	
	40nm,0.6s						
KUR				*e*S	**Sn**	**10 24 53.5**	**+0.9**
KUR				A	A	10 25 05.0	
	70nm,0.4s						
KUR				A	A	10 25 05.0	
	90nm,0.4s						
KUR	**Kuril'sk**	**5.56**	**243**	*e*PN	**Pn**	**10 23 53.5**	**+3.5**
KUR				*e*S	**Sn**	**10 24 54.5**	**+1.9**
KUR				pmax	pmax		
	comp=Z,67nm,0.6s						
PET	**Petropavlovsk**	**5.60**	**24**	S	**Sn**	**10 24 52.9**	**-0.6**
DALK	**Dalny**	**5.64**	**24**	P	**Pn**	**10 23 53.5**	**+2.5**
DALK				S	**Sn**	**10 24 53.5**	**-0.9**
DALK	**Dalny**	**5.64**	**24**	PN	**Pn**	**10 23 53.5**	**+2.5**
DALK				S	**Sn**	**10 24 53.5**	**-0.9**
UGLR	**Uglovaya**	**5.81**	**24**	S	**Sn**	**10 24 57.9**	**-1.0**
KOK	**Koryaka**	**5.84**	**23**	P	**Pn**	**10 23 56.4**	**+2.5**
KOK				S	**Sn**	**10 24 58.6**	**-0.9**
KOK	**Koryaka**	**5.84**	**23**	*e*P	**Pn**	**10 23 56.4**	**+2.5**
KOK				*e*S	**Sn**	**10 24 58.6**	**-0.9**
KOK	**Koryaka**	**5.84**	**23**	PN	**Pn**	**10 23 56.4**	**+2.5**
KOK				S	**Sn**	**10 24 58.6**	**-0.9**
AVH	**Avacha**	**5.84**	**23**	P	**Pn**	**10 23 56.5**	**+2.6**
AVH				S	**Sn**	**10 24 58.6**	**-0.9**
AVH	**Avacha**	**5.84**	**23**	PN	**Pn**	**10 23 56.5**	**+2.6**
AVH				S	**Sn**	**10 24 58.6**	**-0.9**
KRER	**Koryakskii**	**5.88**	**23**	S	**Sn**	**10 24 59.2**	**-1.4**
GNL	**Ganaly**	**6.05**	**17**	P	**Pn**	**10 24 00.4**	**+3.6**
GNL	**Ganaly**	**6.05**	**17**	PN	**Pn**	**10 24 00.4**	**+3.6**
SPN	**Mys Shipunski**	**6.09**	**31**	S	**Sn**	**10 25 02.4**	**-3.1**
YUK	**Yuzh-Kuril'sk**	**7.42**	**241**	*e*P	**Pn**	**10 24 17.6**	**+2.1**
YUK				AMB	AMB	10 24 17.9	
	comp=Z,80nm,0.4s						
NMR	**Nemuro--Hokkai**	**7.89**	**238**	*e*P	**Pn**	**10 24 21.7**	**-0.3**
TUMR	**Tumrok**	**8.02**	**22**	P	**Pn**	**10 24 27.0**	**+3.2**
TUMR	**Tumrok**	**8.02**	**22**	PN	**Pn**	**10 24 27.0**	**+3.2**
YSS	**Yuzh-Sakhalins**	**8.29**	**267**	*e*P	**Pn**	**10 24 30.4**	**+3.0**
YSS				AMB	AMB	10 24 33.0	
	comp=Z,20nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.29**	**267**	*e*PN	**Pn**	**10 24 31.1**	**+3.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
AKK	**Akkeshi**	**8.62**	**239**	*e*P	**Pn**	**10 24 31.6**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**29.80**	**157**	T	T	11 00 48.4	
	baz=342,slow=76,SNR=66						
H11N1	**WAKE ISLAND Hy**	**29.82**	**157**	T	T	11 00 48.9	
	baz=342,slow=76,SNR=117						
H11N3	**WAKE ISLAND Hy**	**29.82**	**157**	T	T	11 00 50.0	
	baz=342,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**30.92**	**158**	T	T	11 01 48.1	
	baz=344,slow=76,SNR=229						
H11S3	**WAKE ISLAND Hy**	**30.93**	**158**	T	T	11 01 48.6	
	baz=344,slow=76,SNR=214						
H11S2	**WAKE ISLAND Hy**	**30.94**	**158**	T	T	11 01 51.2	
	baz=344,slow=76,SNR=162						
ILAR	**Eielson Array**	**34.84**	**40**	P	**P**	**10 29 17.4**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=264,slow=5.9,SNR=1.9						
	comp=Z,0.2nm,0.6s						
INK	**Inuvik**	**39.97**	**33**	P	**P**	**10 30 00.7**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=295,slow=5.4,SNR=13						
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**42.89**	**305**	P	**P**	**10 30 19.6**	**-3.5**
	comp=Z,0.6nm,0.4s,baz=51,slow=8.1,SNR=4.1						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**47.46**	**297**	P	**P**	**10 30 56.5**	**-2.9**
	comp=Z,0.8nm,0.5s,baz=54,slow=7.9,SNR=6.3						
	comp=Z,0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**53.83**	**257**	P	**P**	**10 31 45.2**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=46,slow=6.5,SNR=2.1						
	comp=Z,0.8nm,0.3s						
ARCES	**ARCESS Array B**	**57.09**	**341**	P	**P**	**10 32 08.8**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=34,slow=7.3,SNR=6.8						
	comp=Z,0.4nm,0.4s						
NVAR	**Mina Array Bea**	**60.80**	**64**	P	**P**	**10 32 39.4**	**+2.5**
	comp=Z,0.1nm,0.5s,baz=297,slow=4.0,SNR=1.9						
	comp=Z,0.1nm,0.5s						
FINES	**FINESS Array B**	**63.45**	**335**	P	**P**	**10 32 51.8**	**-2.2**
	comp=Z,1.1nm,0.4s,baz=36,slow=7.8,SNR=17						
	comp=Z,1.1nm,0.4s						
NB2	**NORSAR Subarra**	**67.46**	**342**	P	**P**	**10 33 18.7**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.46**	**342**	P	**P**	**10 33 18.6**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=27,slow=6.5,SNR=9.3						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**70.07**	**201**	P	**P**	**10 33 37.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=12,slow=6.1,SNR=2.6						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**71.20**	**327**	P	**P**	**10 33 40.7**	**-2.4**
	comp=Z,0.5nm,0.4s,baz=34,slow=5.7,SNR=3.5						
	comp=Z,0.5nm,0.4s						
ASAR	**Alice Springs**	**73.76**	**200**	P	**P**	**10 34 00.6**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=9.4,slow=5.1,SNR=2.0						
	comp=Z,0.2nm,0.5s						
BRTR	**Keskin Array B**	**78.32**	**318**	P	**P**	**10 34 23.0**	**-1.7**

	comp=Z,1.3nm,0.8s,baz=69,slow=4.4,SNR=6.2						
	comp=Z,1.3nm,0.8s						
H03N2	**Juan Fernandez**	**137.55**	**90**	T	T	13 15 26.5	
	baz=309,slow=77,SNR=11						
H03N1	**Juan Fernandez**	**137.56**	**90**	T	T	13 15 28.8	
	baz=309,slow=77,SNR=9.6						
H03N3	**Juan Fernandez**	**137.56**	**90**	T	T	13 15 25.9	
	baz=309,slow=77,SNR=7.8						

*MOS **11** 10:42:49.8±0.9, 49°.75N×155°.26E, h64km, mb4.4/2, Error ellipse: s-maj=26.6km s-min=6.2km az=71.3*
*KRSC **11** 10:42:53.2±1.9, 49°.73N×156°.92E, h51km±29km, ML4.1*
*NEIC **11** 10:42:55.1±2.5, 50°.0N±0°.1×156°.3E±0°.3, h137km±12km, mb4.2/7, Error ellipse: s-maj=31.9km s-min=11.9km az=124.0*
*IDC **11** 10:42:58.3±5.1, 50°.26N×156°.30E, h159km±88km, mb3.3/3, mbtmp3.8/3, Error ellipse: s-maj=134.5km s-min=66.9km az=81.0*
ISC 11 10:42:52.5±1.0**, 49°.8N**±0°.1×**156°.3E**±0°.1**, h100km, n61, σ1s.89**/63**, mb4.1**/7**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.94**	**353**	*e*P	**Pn**	**10 43 12.0**	**-0.2**
SKR				*e*S	**Sn**	**10 43 26.0**	**-1.0**
SKR	**Severo-Kuril's**	**0.94**	**353**	*e*PN	**Pn**	**10 43 11.7**	**-0.5**
SKR				*e*S	**Sn**	**10 43 25.8**	**-1.2**
SKR				pmax	pmax		
	comp=Z,166nm,0.6s						
SKR				smax	smax		
	comp=E,402nm,0.2s						
SKR				smax	smax		
	comp=N,885nm,0.2s						
PAU	**Pauzhetka**	**1.75**	**11**	*e*P	**Pn**	**10 43 22.7**	**+1.0**
PAU				*e*S	**Sn**	**10 43 44.7**	**+0.7**
PAU	**Pauzhetka**	**1.75**	**11**	PN	**Pn**	**10 43 22.7**	**+1.0**
PAU				S	**Sn**	**10 43 44.7**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.35**	**28**	*e*P	**Pn**	**10 43 30.3**	**+0.8**
KDTR				*e*S	**Sn**	**10 43 57.2**	**-0.7**
KDTR	**Khodutka, Kamc**	**2.35**	**28**	PN	**Pn**	**10 43 30.3**	**+0.8**
ASAK	**Asacha**	**2.82**	**20**	*e*P	**Pn**	**10 43 37.9**	**+2.1**
ASAK	**Asacha**	**2.82**	**20**	PN	**Pn**	**10 43 37.9**	**+2.1**
MTVR	**Mutnovka**	**2.98**	**23**	*e*P	**Pn**	**10 43 39.8**	**+1.8**
MTVR				*e*S	**Sn**	**10 44 13.9**	**+0.8**
MTVR	**Mutnovka**	**2.98**	**23**	PN	**Pn**	**10 43 39.8**	**+1.8**
MTVR				S	**Sn**	**10 44 13.9**	**+0.8**
GRL	**Gorelyy**	**3.02**	**21**	*e*P	**Pn**	**10 43 40.8**	**+2.3**
GRL				*e*S	**Sn**	**10 44 16.0**	**+2.0**
GRL	**Gorelyy**	**3.02**	**21**	PN	**Pn**	**10 43 40.8**	**+2.3**
GRL				S	**Sn**	**10 44 16.0**	**+2.0**
RUS	**Russkaya**	**3.02**	**27**	*e*S	**Sn**	**10 44 12.3**	**-1.6**
APC	**Apacha**	**3.22**	**9**	*e*P	**Pn**	**10 43 43.4**	**+2.3**
APC	**Apacha**	**3.22**	**9**	PN	**Pn**	**10 43 43.4**	**+2.3**
KRMR	**Karymshinskiy**	**3.29**	**20**	*e*P	Pn	10 43 46.1	+4.1
KRMR	**Karymshinskiy**	**3.29**	**20**	PN	Pn	10 43 46.1	+4.1
PEA0B	**Petropavlovsk-**	**3.47**	**14**	Pn	**Pn**	**10 43 44.5**	**0.0**
PEA0B	**Petropavlovsk-**	**3.47**	**14**	PN	**Pn**	**10 43 44.5**	**0.0**
PETK	**Petropavlovsk-**	**3.47**	**14**	P	**Pn**	**10 43 45.7**	**+1.3**
	comp=N,2.4nm,0.4s,baz=187,slow=12,SNR=27						
PETK				S	**Sn**	**10 44 28.0**	**+3.3**
	comp=N,2.0nm,0.5s,baz=220,slow=13,SNR=0.9						
PETK	**Petropavlovsk-**	**3.47**	**14**	Pn	**Pn**	**10 43 45.4**	**+0.9**
PET	**Petropavlovsk**	**3.59**	**23**	Pn	**Pn**	**10 43 45.0**	**-1.0**
PET	**Petropavlovsk**	**3.59**	**23**	*e*S	**Sn**	**10 44 28.6**	**+1.1**
DALK	**Dalny**	**3.62**	**24**	*e*P	**Pn**	**10 43 48.1**	**+1.6**
DALK				*e*S	**Sn**	**10 44 29.6**	**+1.3**
DALK	**Dalny**	**3.62**	**24**	PN	**Pn**	**10 43 48.1**	**+1.6**
DALK				S	**Sn**	**10 44 29.6**	**+1.3**
UGLR	**Uglovaya**	**3.80**	**24**	*e*P	**Pn**	**10 43 51.2**	**+2.2**
UGLR	**Uglovaya**	**3.80**	**24**	PN	**Pn**	**10 43 51.2**	**+2.2**
AVH	**Avacha**	**3.83**	**23**	*e*P	**Pn**	**10 43 52.0**	**+2.6**
AVH	**Avacha**	**3.83**	**23**	PN	**Pn**	**10 43 52.0**	**+2.6**
KOK	**Koryaka**	**3.83**	**22**	*e*P	**Pn**	**10 43 52.3**	**+2.9**
KOK	**Koryaka**	**3.83**	**22**	PN	**Pn**	**10 43 52.3**	**+2.9**
GNL	**Ganaly**	**4.08**	**14**	*e*P	**Pn**	**10 43 55.0**	**+2.3**
GNL	**Ganaly**	**4.08**	**14**	PN	**Pn**	**10 43 55.0**	**+2.3**
SPN	**Mys Shipunski**	**4.08**	**33**	*e*S	**Sn**	**10 44 38.5**	**-0.8**
TUMR	**Tumrok**	**6.01**	**22**	*e*P	Pn	10 44 22.9	+4.0
TUMR	**Tumrok**	**6.01**	**22**	PN	Pn	10 44 22.9	+4.0
KBTR	**Krutoberegovo**	**7.57**	**29**	P	**Pn**	**10 44 40.8**	**+0.9**
KBTR	**Krutoberegovo**	**7.57**	**29**	PN	**Pn**	**10 44 40.8**	**+0.9**
ERM	**Erimo**	**11.97**	**235**	Pn	**Pn**	**10 45 42.6**	**+2.9**
ERM	**Erimo**	**11.97**	**235**	PN	**Pn**	**10 45 42.6**	**+2.9**
JMM	**Marumori**	**16.28**	**229**		**Pn**	**10 46 37.7**	**+2.7**
JMM				IAmb	IAmb	10 47 02.6	
	comp=Z,67nm,1.3s						
USRK	**Ussuriysk Ar.**	**17.45**	**261**	P	**P**	**10 46 50.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**17.45**	**261**	P	**P**	**10 46 50.1**	**+0.9**
JSU	**Suzuyama**	**26.57**	**236**	P	**P**	**10 48 20.1**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**31.13**	**160**	T	T	11 22 17.0	
	baz=348,slow=76,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**31.15**	**160**	T	T	11 22 17.0	
	baz=348,slow=76,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**31.15**	**160**	T	T	11 22 15.8	
	baz=348,slow=76,SNR=6.7						
TRF	**Thorofare Moun**	**31.39**	**44**	P	**P**	**10 49 01.2**	**-2.4**
TRF				IAmb	IAmb	10 49 22.0	
	comp=Z,5.5nm,1.1s						
TOLK	**Toolik Lake Re**	**32.07**	**34**	P	**P**	**10 49 06.4**	**-3.0**
TOLK				IAmb	IAmb	10 49 08.1	
	comp=Z,7.4nm,1.5s						
H11S1	**WAKE ISLAND Hy**	**32.27**	**161**	T	T	11 23 41.3	
	baz=347,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**32.29**	**161**	T	T	11 23 40.7	
	baz=347,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**32.29**	**161**	T	T	11 23 43.0	
	baz=347,slow=76,SNR=9.6						
J25K	**Salcha River,**	**33.53**	**42**	P	**P**	**10 49 20.5**	**-1.8**
ZALV	**Zalesovo Beam**	**42.63**	**304**	P	**P**	**10 50 36.0**	**-2.5**
	comp=Z,0.7nm,0.4s,baz=70,slow=7.1,SNR=3.0						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**42.63**	**304**	P	**P**	**10 50 35.0**	**-3.5**
MK31	**Makanchi Array**	**47.48**	**296**	P	**P**	**10 51 15.5**	**-1.5**
MK31				IAmb	IAmb	10 51 32.8	
	comp=Z,4.2nm,1.2s						
MK31	**Makanchi Array**	**47.48**	**296**	P	**P**	**10 51 15.5**	**-1.5**
MK31				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MKAR	**Makanchi Array**	**47.48**	**296**	P	**P**	**10 51 15.1**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=59,slow=6.2,SNR=4.5						
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**47.50**	**303**	P	**P**	**10 51 14.8**	**-2.3**
KURK				IAmb	IAmb	10 51 16.4	
	comp=Z,6.2nm,1.4s						
KURK	**Kurchatov**	**47.50**	**303**	P	**P**	**10 51 14.8**	**-2.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**55.13**	**257**	P	**P**	**10 52 14.9**	**+0.4**
	comp=Z,0.4nm,0.2s,baz=26,slow=6.8,SNR=4.9						
	comp=Z,0.4nm,0.2s						

IDC 11 10:43:18.9±700.0**, 50°.93N×51°.10E, h0km, Error ellipse: s-maj=347.7km s-min=104.2km az=92.0, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.45**	**94**	I		11 11 30.0	
	0.3nm,0.7s,baz=280,slow=300,SNR=3.2						
I46RU	**ZALESOVO INFRA**	**20.66**	**68**	I		12 50 30.0	
	0.1nm,1.2s,baz=274,slow=330,SNR=2.0						
I34MN	**SONGINO INFRAS**	**35.45**	**73**	I		14 20 10.0	
	baz=297,slow=330,SNR=1.0						

LDG 11 10:56:57.0±0.4**, 44°.56N×6°.95E, h22km, Md0.7**/2**, Ml1.2**/2**, Error ellipse: s-maj=9.8km s-min=5.8km az=80.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.21**	**323**	*e*Pg	Pb	10 57 01.9	-1.0
SBF	**Sospel**	**0.78**	**153**	*e*Sg	Sb	10 57 21.2	-0.9
	1.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.84**	**295**	*e*Pg	Pb	10 57 13.2	+0.2
ORIF				*e*Sg	Sb	10 57 24.3	+0.4
	0.1nm,0.2s						
LPG	**La Plagne**	**0.94**	**352**	*e*Sg	Sn	10 57 28.2	0.0
	0.6nm,0.2s						
LPL	**La Plagne**	**0.97**	**351**	*e*Pg	Pn	10 57 16.3	+0.8

*IDC **11** 10:57:09.3±0.7, 60°.24S×47°.35W, h0km, mb4.3/10, mbtmp4.3/11, ML4.3/1, MS3.6/19, Error ellipse: s-maj=24.6km s-min=16.4km az=70.0*
*NEIC **11** 10:57:10.6±1.4, 60°.43S±0°.05×47°.5W±0°.2, h10km±1km, mb4.7/52, Error ellipse: s-maj=14.9km s-min=7.2km az=113.0*
ISC 11 10:57:10.9±0.4**, 60°.40S**±0°.05×**47°.64W**±0°.07**, h10km, n138, σ1s.09**/128**, mb4.7**/29**, MS3.6**/18**, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.59**	**49**	Pn	**Pn**	**10 59 13.9**	**-1.2**
PMSA	**Palmer Station**	**8.74**	**233**	Pn	**Pn**	**10 59 18.0**	**+0.9**
	2.9nm,0.3s,baz=46,slow=9.0,SNR=13						
PMSA				Sn	**Sn**	**11 00 54.4**	**-1.1**
	0.5nm,0.3s,baz=89,slow=2.9,SNR=1.2						
PMSA				LR	LR	11 02 55.5	
	comp=Z,492nm,18.1s,baz=60,slow=39						
	7.4nm,0.4s						
PMSA	**Palmer Station**	**8.74**	**233**	Pn	**Pn**	**10 59 17.1**	**0.0**
EFI	**East Falkland**	**10.49**	**322**	Pn	**Pn**	**10 59 42.1**	**+0.8**
SMAI	**San Martin Ant**	**11.42**	**219**	Pn	**Pn**	**10 59 52.4**	**-1.5**
MG01	**Puerto William**	**12.00**	**288**	Pn	**Pn**	**11 00 01.5**	**-0.2**
MG02	**Cerro Sombrero**	**14.07**	**293**	Pn	**Pn**	**11 00 31.7**	**+1.6**
MG05	**Puerto Natales**	**16.32**	**291**	Pn	**Pn**	**11 00 59.9**	**+0.1**
MG05				IAmb	IAmb	11 01 10.8	
	comp=Z,105nm,1.5s						
GO09	**Cerro Castillo**	**16.52**	**293**	Pn	**Pn**	**11 01 02.9**	**+0.5**
GO09				IAmb	IAmb	11 01 19.4	
	comp=Z,72nm,1.4s						
BELA	**Belgrano 2**	**18.07**	**171**		**Pn**	**11 01 20.9**	**-0.7**
VNA3	**Neumayer Olymp**	**18.56**	**141**	P	**P**	**11 01 29.0**	**+1.5**
VNA1	**Neumayer--Stat**	**18.86**	**139**	P	**Pn**	**11 01 33.2**	**+1.9**
VNA2	**Neumayer--Watz**	**19.20**	**140**	P	**P**	**11 01 36.6**	**+2.2**
	baz=289,slow=14						
COYC	**Coyhaique**	**20.72**	**305**	P	**P**	**11 01 50.8**	**-0.3**
COYC				IAmb	IAmb	11 01 57.1	
	comp=Z,50nm,1.2s						
SNAA	**Sanae**	**20.79**	**141**	P	**P**	**11 01 54.4**	**+2.5**
SNAA	**Sanae**	**20.79**	**141**	P	**P**	**11 01 53.0**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=292,slow=9.5,SNR=23						
SNAA				S	**S**	**11 05 39.8**	**-3.6**
	comp=Z,0.7nm,0.9s,baz=232,slow=2.1,SNR=1.6						
SNAA				LR	LR	11 09 00.2	
	comp=Z,169nm,18.1s,baz=305,slow=34						
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**	**20.79**	**141**	P	**P**	**11 01 49.9**	**-1.9**
AY01	**Puyuhuapi**	**21.89**	**306**	P	**P**	**11 02 03.5**	**-0.3**
AY01				IAmb	IAmb	11 02 05.7	
	comp=Z,30nm,1.1s						
TROLL	**Troll, Antarti**	**22.50**	**141**	P	**P**	**11 02 12.2**	**+1.9**
LL02	**Futaleuf**	**22.61**	**309**	P	**P**	**11 02 11.1**	**-0.4**
LL02				IAmb	IAmb	11 02 12.7	
	comp=Z,28nm,1.1s						
TRQA	**Tornquist**	**24.14**	**331**	P	**P**	**11 02 27.1**	**+0.3**
PLCA	**Paso Flores**	**24.25**	**314**	P	**P**	**11 02 27.7**	**-0.2**
	comp=Z,16nm,0.8s,baz=156,slow=8.9,SNR=46						
PLCA				LR	LR	11 11 23.0	
	comp=Z,135nm,21.6s,baz=170,slow=35						
	comp=Z,16nm,0.8s						
PLCA	**Paso Flores**	**24.25**	**314**	P	**P**	**11 02 28.2**	**+0.3**
PLCA				IAmb	IAmb	11 02 28.7	
	comp=Z,20nm,0.8s						
PLCA	**Paso Flores**	**24.25**	**314**	*e*P	**P**	**11 02 28.1**	**+0.2**
GO06	**Curarrehue**	**25.59**	**314**	P	**P**	**11 02 39.4**	**-0.7**
BO02	**Sierra Bellavi**	**29.68**	**319**	P	**P**	**11 03 16.0**	**-0.7**
BO02				IAmb	IAmb	11 03 58.2	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**11 03 20.3**	**+2.3**
	comp=Z,14nm,0.8s,baz=164,slow=3.5,SNR=40						
	comp=Z,14nm,0.8s						
QSPA	**South Pole Qui**	**29.84**	**180**	P	**P**	**11 03 19.2**	**+1.2**
QSPA				IAmb	IAmb	11 03 21.6	
	comp=Z,14nm,0.9s						
GO05	**Huala**	**29.86**	**317**	P	**P**	**11 03 18.6**	**+0.3**
CPSB	**Cacapava Do Su**	**30.25**	**350**	*e*P	**P**	**11 03 23.1**	**+1.4**
MT09	**Talagante**	**30.68**	**320**	P	**P**	**11 03 25.3**	**-0.4**
CNLB	**Canela**	**31.16**	**355**	*e*P	**P**	**11 03 31.3**	**+1.5**
MT02	**Curacav**	**31.21**	**320**	P	**P**	**11 03 29.4**	**-0.8**
ITQB	**Itaqui**	**31.32**	**345**	*e*P	**P**	**11 03 32.7**	**+1.6**
VA01	**Torpederas**	**31.59**	**319**	P	**P**	**11 03 34.8**	**+1.3**
UNIS	**Unistalda (Bra**	**31.73**	**348**	*e*P	**P**	**11 03 35.7**	**+1.0**
ALGR	**Alto Alegre (B**	**31.81**	**351**	*e*P	**P**	**11 03 38.0**	**+2.5**
AZCA	**Azaras, Argent**	**32.81**	**346**	*e*P	**P**	**11 03 45.2**	**+1.0**
CO03	**El Pedregal**	**33.31**	**322**	P	**P**	**11 03 49.0**	**+0.3**
CO01	**Juntas del Tor**	**33.94**	**324**	P	**P**	**11 03 54.8**	**+0.4**
CO01				IAmb	IAmb	11 04 08.3	
	comp=Z,7.5nm,0.8s						
GO04	**Tololo Observa**	**33.96**	**322**	P	**P**	**11 03 54.3**	**-0.3**
CPUP	**Villa Florida**	**34.70**	**345**	LR	LR	11 16 55.7	
	comp=Z,81nm,21.7s,baz=193,slow=34						
LCO	**Las Campanas**	**35.02**	**323**	P	**P**	**11 04 02.9**	**-0.8**
LCO				IAmb	IAmb	11 04 04.3	
	comp=Z,23nm,1.4s						
AC05	**El Transito**	**35.06**	**324**	P	**P**	**11 04 03.3**	**-0.7**
AC05				IAmb	IAmb	11 04 04.3	
	comp=Z,17nm,1.3s						
PTGB	**Pitanga**	**35.80**	**353**	*e*P	**P**	**11 04 11.2**	**+0.9**
AC04	**Llanos de Chal**	**35.89**	**323**	P	**P**	**11 04 10.7**	**-0.3**
GO03	**Copiap**	**36.22**	**325**	P	**P**	**11 04 13.5**	**-0.3**
GO03				IAmb	IAmb	11 04 27.5	
	comp=Z,13nm,0.7s						
AC02	**Maricunga**	**36.63**	**327**	P	**P**	**11 04 17.4**	**-0.4**
VAO	**Valinhos**	**37.37**	**1**	*e*P	**P**	**11 04 25.5**	**+1.9**
MAN01	**Angra dos Reis**	**37.59**	**6**	*e*P	**P**	**11 04 27.7**	**+2.2**
AC01	**Pan de Azucar**	**37.69**	**325**	P	**P**	**11 04 25.8**	**-0.4**
RCLB	**Rio Claro- Sao**	**37.95**	**0**	*e*P	**P**	**11 04 30.0**	**+1.5**
GO02	**Mina Guanaco**	**38.34**	**327**	P	**P**	**11 04 32.6**	**+0.5**
GO02				IAmb	IAmb	11 04 32.8	
	comp=Z,12nm,0.9s						
ANTJ	**Antonio Joao (**	**38.82**	**348**	*e*P	**P**	**11 04 36.9**	**+1.0**
PCMB	**Pacaembu**	**38.84**	**355**	*e*P	**P**	**11 04 36.7**	**+0.7**
BB19B	**Bebedouro**	**39.30**	**359**	*e*P	**P**	**11 04 40.4**	**+0.5**
MURT	**Porto Murtinho**	**39.34**	**345**	*e*P	**P**	**11 04 40.5**	**+0.4**
PB15	**IPOC Station P**	**40.17**	**328**	P	**P**	**11 04 46.7**	**-0.6**
PB15				IAmb	IAmb	11 05 00.6	
	comp=Z,25nm,1.5s						
AQDB	**Aquidauana**	**40.29**	**348**	*e*P	**P**	**11 04 48.6**	**+0.5**
LVC	**Limon Verde**	**40.59**	**329**	LR	LR	11 23 02.8	
	comp=Z,72nm,18.1s,baz=194,slow=38						
LVC	**Limon Verde**	**40.59**	**329**	P	**P**	**11 04 50.7**	**-0.3**
LVC	**Limon Verde**	**40.59**	**329**	*e*P	**P**	**11 04 51.1**	**+0.1**
PB06	**IPOC Station P**	**40.67**	**328**	P	**P**	**11 04 51.1**	**-0.4**
ITRB	**Iturama**	**40.70**	**356**	*e*P	**P**	**11 04 52.3**	**+0.8**
VNDA	**Vanda**	**41.13**	**189**	P	**P**	**11 04 56.5**	**+2.1**
	comp=Z,2.0nm,1.2s,baz=138,slow=9.6,SNR=6.0						
VNDA				LR	LR	11 24 25.2	
	comp=Z,47nm,18.2s,baz=160,slow=40						
	comp=Z,2.0nm,1.2s						
VNDA	**Vanda**	**41.13**	**189**	P	**P**	**11 04 54.7**	**+0.3**
PB04	**IPOC Station P**	**41.18**	**327**	P	**P**	**11 04 55.4**	**-0.2**
PB03	**IPOC Station P**	**41.35**	**328**	P	**P**	**11 04 56.1**	**-0.9**
PB03				IAmb	IAmb	11 05 10.4	
	comp=Z,8.7nm,0.7s						
PB09	**IPOC Station P**	**41.46**	**329**	P	**P**	**11 04 58.6**	**+0.7**
PB09				IAmb	IAmb	11 05 32.3	
	comp=Z,18nm,1.3s						
PB07	**IPOC Station P**	**41.69**	**328**	P	**P**	**11 04 59.4**	**-0.4**
PB07				IAmb	IAmb	11 05 13.4	
	comp=Z,31nm,1.4s						
PMNB	**Patos De Minas**	**41.82**	**2**	*e*P	**P**	**11 05 01.8**	**+1.0**
PANT	**Pantanal (Braz**	**41.86**	**347**	*e*P	**P**	**11 05 02.4**	**+1.4**
PB02	**IPOC Station P**	**42.08**	**328**	P	**P**	**11 05 02.5**	**-0.4**
PB02				IAmb	IAmb	11 05 17.7	
	comp=Z,8.8nm,0.7s						
DIAM	**Diamantina, MG**	**42.15**	**6**	*e*P	**P**	**11 05 04.8**	**+1.3**
PB01	**IPOC Station P**	**42.24**	**329**	P	**P**	**11 05 03.9**	**-0.3**
PB01				IAmb	IAmb	11 05 19.4	
	comp=Z,16nm,0.9s						
IPMB	**Ipameri, GO**	**42.37**	**359**	*e*P	**P**	**11 05 05.6**	**+0.4**
MAW	**Mawson**	**42.68**	**148**	P	**P**	**11 05 08.4**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=238,slow=11,SNR=4.5						
MAW				LR	LR	11 22 34.6	
	comp=Z,247nm,18.1s,baz=246,slow=36						
	comp=Z,4.7nm,0.7s						
NAN01	**Guarapari, ES**	**42.84**	**11**	*e*P	**P**	**11 05 10.5**	**+1.5**
BBRB	**Robore, Bolivi**	**42.97**	**343**	*e*P	**P**	**11 05 10.3**	**+0.3**
GO01	**Chusmiza**	**43.48**	**330**	P	**P**	**11 05 13.8**	**-1.0**
PB11	**IPOC Station P**	**43.51**	**329**	P	**P**	**11 05 14.4**	**-0.2**
PB11				IAmb	IAmb	11 05 16.5	
	comp=Z,21nm,1.4s						
PSGCX	**Pisagua**	**43.79**	**329**	P	**P**	**11 05 16.9**	**+0.2**
PSGCX				IAmb	IAmb	11 05 38.8	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,19nm,1.3s						
MNMC	Minye Minye	44.10	329	P	P	11 05 19.5	0.0
MNMC				IAmb	IAmb	11 05 20.8	
	comp=Z,12nm,0.7s						
GUA01	Guaratinga, BA	44.12	11	eP	P	11 05 20.8	+1.5
BBSD	Serra de San D	44.16	342	eP	P	11 05 19.8	+0.2
BDFB	Brasilia	44.69	359	P	P	11 05 23.7	-0.3
	comp=Z,7.1nm,0.7s,baz=214,slow=2.9,SNR=10						
BDFB				LR	LR	11 21 03.3	
	comp=Z,80nm,21.5s,baz=137,slow=32						
	comp=Z,7.1nm,0.7s						
BDFB	Brasilia	44.69	359	P	P	11 05 22.5	-1.6
BDFB				IAmb	IAmb	11 05 25.1	
	comp=Z,7.3nm,0.7s						
BDFB	Brasilia	44.69	359	eP	P	11 05 24.6	+0.6
ARAG	Araguaiana, MT	44.73	354	eP	P	11 05 24.8	+0.6
PB12	IPOC Station P	44.78	329	P	P	11 05 24.5	-0.2
PB12				IAmb	IAmb	11 05 38.0	
	comp=Z,14nm,1.2s						
SALV	Santo Antonio	44.82	349	eP	P	11 05 26.1	+1.2
PB16	IPOC Station P	44.84	330	P	P	11 05 25.0	-0.7
SIV	San Ignacio	45.41	342	LR	LR	11 27 27.5	
	comp=Z,54nm,18.2s,baz=252,slow=40						
PTLB	Pontes e Lacer	45.66	344	P	P	11 05 31.7	+0.2
PTLB				IAmb	IAmb	11 05 32.4	
	comp=Z,5.7nm,0.9s						
PTLB	Pontes e Lacer	45.66	344	eP	P	11 05 32.0	+0.5
LPAZ	La Paz	46.48	332	P	P	11 05 38.9	+0.1
	comp=Z,1.3nm,0.7s,baz=174,slow=7.0,SNR=5.5						
LPAZ				LR	LR	11 28 33.7	
	comp=Z,32nm,18.5s,baz=157,slow=41						
	comp=Z,1.3nm,0.7s						
LPAZ	La Paz	46.48	332	P	P	11 05 38.0	-0.8
LPAZ	La Paz	46.48	332	eP	P	11 05 39.2	+0.4
SDBA	SAO DESIDERIO	47.95	4	eP	P	11 05 50.4	+0.9
VILB	Vilhena	48.26	343	P	P	11 05 51.0	-1.0
VILB				IAmb	IAmb	11 05 55.1	
	comp=Z,9.4nm,0.7s						
VILB	Vilhena	48.26	343	eP	P	11 05 52.0	+0.1
SNDB	Serra Nova Dou	48.41	355	eP	P	11 05 53.8	+0.7
PDRB	Porto dos Gac	49.16	348	eP	P	11 05 59.3	+0.5
CLDB	Colider	49.80	349	eP	P	11 06 03.1	-0.7
SMTB	Santa Maria do	51.43	0	eP	P	11 06 16.6	+0.5
ETMB	Extrema	52.35	337	P	P	11 06 22.3	-0.6
ETMB				IAmb	IAmb	11 06 23.3	
	comp=Z,2.9nm,0.8s						
ETMB	Extrema	52.35	337	eP	P	11 06 22.2	-0.6
CASY	Casey	52.60	169	P	P	11 06 23.9	-0.2
NNA	Nana	52.90	323	LR	LR	11 27 53.3	
	comp=Z,46nm,19.3s,baz=162,slow=35						
NPGB	Novo Progresso	53.55	350	eP	P	11 06 31.6	-0.1
PRPB	Parauapebas	54.13	357	eP	P	11 06 35.2	-0.8
RCBR	Riachuelo	55.17	14	LR	LR	11 29 35.8	
	comp=Z,54nm,18.6s,baz=325,slow=35						
CZSB	Cruzeiro do Su	55.83	330	eP	P	11 06 46.6	-1.7
ITTB	Itaituba	56.24	350	eP	P	11 06 50.4	-0.8
BOSA	Boshof	57.18	91	P	P	11 06 55.8	-2.2
	comp=Z,0.8nm,0.5s,baz=233,slow=8.2,SNR=3.5						
	comp=Z,0.8nm,0.5s						
ATAH	Atahualpa	57.96	323	LR	LR	11 30 17.9	
	comp=Z,50nm,21.2s,baz=161,slow=34						
MACA	Manacapuru-AM	57.96	345	eP	P	11 07 02.7	-0.7
MALB	Monte Alegre	58.62	352	eP	P	11 07 07.7	-0.2
MCPB	Macapa, AP	59.97	355	eP	P	11 07 17.1	-0.2
LBTB	Lobatse	60.33	89	P	P	11 07 18.5	-1.4
	comp=Z,1.5nm,0.4s,baz=214,slow=8.6,SNR=4.4						
	comp=Z,1.5nm,0.4s						
LBTB	Lobatse	60.33	89	P	P	11 07 19.5	-0.4
MCRA	Macar, Loja	61.05	322	P	P	11 07 23.8	-0.9
MCRA				IAmb	IAmb	11 07 39.3	
	comp=Z,9.1nm,1.4s						
SGCB	S£o Gabriel d	61.96	338	eP	P	11 07 29.4	-1.4
COHC	Cochancay	62.65	324	P	P	11 07 35.7	+0.3
BOAV	Boa Vista	63.42	346	P	P	11 07 40.2	-0.3
BOAV				IAmb	IAmb	11 07 40.8	
	comp=Z,6.0nm,0.7s						
BOAV	Boa Vista	63.42	346	eP	P	11 07 39.3	-1.3
MDP	Montagnes des	65.42	355	LR	LR	11 37 21.2	
	comp=Z,37nm,20.0s,baz=214,slow=37						
ROSC	El Rosal	68.33	331	LR	LR	11 41 42.3	
	comp=Z,67nm,18.4s,baz=220,slow=39						
LSZ	Lusaka	69.84	85	LR	LR	11 33 57.8	
	comp=Z,52nm,21.2s,baz=200,slow=32						
SDV	Santo Domingo	71.43	336	LR	LR	11 40 44.4	
	comp=Z,39nm,20.9s,baz=46,slow=37						
SJG	San Juan	79.66	342	LR	LR	11 45 19.1	
	comp=Z,12nm,20.6s,baz=155,slow=36						
CMIG	Matias Romero	86.06	315	LR	LR	11 40 47.1	
	comp=Z,33nm,21.9s,baz=236,slow=30						
ASAR	Alice Springs	96.23	181	P	P	11 10 37.9	-1.4
	comp=Z,0.6nm,0.8s,baz=170,slow=3.6,SNR=5.1						
	comp=Z,0.6nm,0.8s						
WRA	Warramunga Arr	99.93	182	P	Pdif	11 10 54.8	-1.2
	comp=Z,0.3nm,0.6s,baz=180,slow=4.3,SNR=5.1						
ARCES	ARCESS Array B	139.64	31	PKP	PKPdf	11 16 36.1	-0.9
	comp=Z,3.3nm,1.1s,baz=209,slow=1.7,SNR=1.6						
PZH	PanZhiHua	140.19	135	PKP	PKPdf	11 16 37.3	-2.2
ILAR	Eielson Array	144.93	313	PKP	PKPab	11 16 44.8	-1.1
	comp=Z,4.1nm,0.5s,baz=145,slow=1.8,SNR=96						
MKAR	Makanchi Array	148.18	92	PKPbc	PKPdf	11 16 54.2	+1.6
	comp=Z,2.6nm,0.7s,baz=240,slow=1.9,SNR=7.9						

MEX 11 11:08:55.7±0.4, 32°.25N×116°.51W, h39km±8km, MD2.9

ECX 11 11:08:55.5±0.6, 32°.21N×116°.38W, h14km±5km, MD2.6, ML2.8, 7C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBX	Cerro Bola	0.26	293	⇑eP	Pg	11 09 01.0	-0.1
CBX				eS	Sg	11 09 05.0	+0.2
CBX	Cerro Bola	0.26	293	iP	Pg	11 09 00.9	-0.2
CBX				iS	Sg	11 09 05.3	+0.4
TJIG	Tijuana	0.33	312	⇓eP	Pg	11 09 01.9	-0.4
TJIG				eS	Sg	11 09 06.6	-0.3
TJIG	Tijuana	0.33	312	iP	Pg	11 09 01.9	-0.5
TJIG				iS	Sg	11 09 06.5	-0.4
TKX	Tecate	0.40	332	eP	Pg	11 09 02.5	-1.1
TKX				eS	Sg	11 09 08.6	-0.5
TKX				IAML		11 09 08.7	
	comp=N,915nm,0.1s						
TKX				⇑e		11 09 08.7	
RMX	La Rumorosa	0.47	33	eP	Pg	11 09 04.1	-0.7
RMX				eS	Sg	11 09 10.2	-0.9
RMX				e		11 09 10.7	
RMX				IAML		11 09 10.7	
	comp=E,748nm,0.1s						
IKP	In-Ko-Pah, Jac	0.49	28	⇓eP	Pg	11 09 04.7	-0.6
IKP				eS	Sg	11 09 11.5	-0.4
BAR	Barrett	0.53	332	⇓eP	Pg	11 09 04.9	-1.0
BAR				eS	Sg	11 09 12.0	-0.9
BAR				e		11 09 12.2	
BAR				IAML		11 09 12.2	
	comp=N,765nm,0.2s						
BAR				⇓e		11 09 12.6	
BAR				IAML		11 09 12.6	
	comp=E,443nm,0.1s						
SJX	San Joaquin	0.57	141	⇑iP	Pg	11 09 03.4	-3.4
SJX				eS	Sg	11 09 09.3	-5.1
SJX				IAML		11 09 09.7	
	comp=N,2μm,0.1s						
SJX				⇑e		11 09 09.7	
YUH2	Yuha Desert	0.58	42	⇓eP	Pg	11 09 06.3	-0.6
YUH2				eS	Sg	11 09 13.9	-0.8
OLP	Otay Lakes Par	0.61	310	⇑eP	Pg	11 09 06.4	-1.0
OLP				eS	Sg	11 09 14.4	-1.0
MONP2	Monument Peak	0.68	357	⇓iP	Pg	11 09 07.8	-1.0
MONP2				eS	Sg	11 09 16.8	-0.9
SDRC	San Diego Road	0.70	318	⇓eP	Pg	11 09 07.8	-1.4
SDRC				IAML		11 09 17.4	
	comp=N,593nm,0.1s						
SDRC				⇑e		11 09 17.4	
EML	El Monte Cty P	0.78	330	⇓eP	Pg	11 09 09.0	-1.6
RHX	Rio Hardy	0.93	94	eP	Pb	11 09 12.2	-1.3
RHX				eS	Sb	11 09 24.5	-1.3
VTX	Valle De La Tr	0.96	148	eP	Pb	11 09 12.3	-1.8
VTX				eS	Sb	11 09 24.6	-2.2
VTX				⇑e		11 09 25.0	
VTX				IAML		11 09 25.0	
	comp=N,158nm,0.1s						
MATG	Mataguay Scout	1.01	347	eP	Pb	11 09 13.2	-1.7
MATG				eS	Sb	11 09 26.3	-1.8
MBIG	Mexicali	1.02	79	iP	Pb	11 09 12.8	-2.2
MBIG				eS	Sb	11 09 25.7	-2.6
ECBX	El Chinero	1.35	123	eP	Pn	11 09 18.5	-1.5
ECBX				e		11 09 38.2	
ECBX				IAML		11 09 38.2	
	comp=E,146nm,0.3s						
SPIG	San Pedro Mart	1.40	146	eP	Pn	11 09 19.9	-1.1
SPIG	San Pedro Mart	1.40	146	iP	Pn	11 09 19.4	-1.6
SPIG				iS	Sn	11 09 36.9	-2.6
SFX	San Felipe	1.75	131	e	Pb	11 09 27.3	-0.2
SFX				e		11 09 49.4	

IDC 11 11:12:30.4±4.2, 37°.25N×97°.53W, h0km, mbtmp2.8/3, ML3.5/3, Error ellipse: s-maj=51.2km s-min=16.2km az=77.0

TUL 11 11:12:36.4±1.4, 36°.95N±0°.02×97°.89W±0°.03, h6km±6km, ML3.3, mb_Lg3.0/60(NEIC), Error ellipse: s-maj=3.5km s-min=2.8km az=154.0

NEIC 11 11:12:36.6±0.9, 36°.91N±0°.02×97°.89W±0°.03, h6km±7km, Error ellipse: s-maj=3.3km s-min=2.8km az=136.0

ANF 11 11:12:37.1±0.3, 36°.90N×97°.89W, h7km, ML3.7/15, Error ellipse: s-maj=3.3km s-min=3.0km az=161.0

ISC 11 11:12:36.4±0.8, 36°.93N±0°.02×97°.89W±0°.02, h9km±5km, n106, σ0s.88/100, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	Manchester OK	0.07	295	Pg	Pg	11 12 38.3	-0.1
KAN14				Sg	Sg	11 12 39.5	-0.3
GC02	Grant County #	0.08	164	Pg	Pg	11 12 38.8	+0.3
GC02				Sg	Sg	11 12 40.4	+0.3
KAN17	Caldwell West	0.15	40	Pg	Pg	11 12 39.9	+0.2
KAN17				Sg	Sg	11 12 42.1	+0.2
KAN01	Argonia South	0.25	24	Pg	Pg	11 12 41.6	+0.2
KAN01				Sg	Sg	11 12 44.8	+0.1
OK032	Salt Plains WL	0.29	245	Pg	Pg	11 12 42.5	+0.4
OK032				Sg	Sg	11 12 46.7	+0.8
KAN09	Caldwell North	0.30	46	Pg	Pg	11 12 42.6	+0.2
KAN09				Sg	Sg	11 12 46.9	+0.5
KAN08	Anthony NE Sta	0.31	347	Pg	Pg	11 12 42.7	+0.3
KAN08				Sg	Sg	11 12 47.1	+0.6
KAN06	Argonia West S	0.32	4		Pg	11 12 43.0	+0.3
KAN06				Sg	Sg	11 12 47.5	+0.5
KAN13	South Haven SW	0.34	75	Pg	Pg	11 12 43.4	+0.3
KAN13				Sg	Sg	11 12 48.1	+0.5
KAN12	Harper NE Stat	0.38	346	Pg	Pg	11 12 44.1	+0.2
KS21	Milan North St	0.40	27	Pg	Pg	11 12 44.4	+0.2
KS20	Mayfield South	0.40	41	Pg	Pg	11 12 44.4	+0.2
CROK	Carrier	0.43	190	Pg	Pg	11 12 45.3	+0.5
BLOK	Blackwell	0.56	107	Pg	Pg	11 12 47.6	+0.3
OK035	E0210 Rd and N	0.70	252	Pg	Pg	11 12 50.0	+0.2
OK038	West end E0370	0.82	237		Pg	11 12 52.3	+0.1
NOKA	Waynoka	0.89	251		Pg	11 12 53.4	0.0
OK050	Pawnee Station	0.90	126		Pg	11 12 53.8	+0.1
OK045	Pawnee Station	0.91	122		Pg	11 12 54.0	+0.1
OK048	Pawnee Station	0.91	124	Pg	Pg	11 12 54.0	+0.1
OK051	E0350 and S346	0.94	116		Pg	11 12 54.5	-0.1
OK046	Pawnee Station	0.95	124		Pg	11 12 54.5	-0.1
OK044	Pawnee Station	1.04	122	Pg	Pg	11 12 56.1	-0.1
U32A	Winter Ranch,	1.05	239	Pg	Pg	11 12 56.5	-0.1
U32A	Winter Ranch,	1.05	239	P	Pg	11 12 56.4	-0.1
	baz=59,SNR=28						
U32A				S	Sb	11 13 10.8	+0.1
	baz=59						
T35A	Sooner Cattle	1.10	90	Pg	Pg	11 12 57.3	-0.2
T35B	Sooner Cattle	1.10	90	P	Pg	11 12 57.2	-0.3
	baz=270,SNR=162						
T35B				S	Sg	11 13 11.8	-0.1
	baz=270						
OK033	Mehan	1.17	139		Pb	11 12 58.6	-0.1
OK029	Liberty Lake	1.18	163		Pb	11 12 58.9	-0.1
QUOK	Quay	1.21	128	Pg	Pb	11 12 59.5	-0.1
OK053	SW of W Deep R	1.27	136		Pn	11 13 00.4	0.0
OK052	Battle Ridge R	1.28	137		Pn	11 13 00.5	0.0
BCOK	Bluff Creek, N	1.29	170		Pn	11 13 00.6	-0.1
OK031	S. Brethren Rd	1.29	139		Pn	11 13 00.4	-0.2
OK034	N. Norfolk Rd.	1.32	134		Pn	11 13 01.2	+0.2
OK030	Cody Creek RV	1.34	138		Pn	11 13 01.4	+0.1
OK025	Westminster Rd	1.42	162	Pn	Pb	11 13 02.9	-0.1
CSTR	Hydro, Custer	1.43	207	Pn	Pb	11 13 03.3	-0.1
ELIS	Ellis County	1.50	236	Pn	Pb	11 13 04.3	-0.2
DEOK	Depew	1.56	134	Pn	Pb	11 13 05.0	-0.4
R32A	Long Quarter,	1.63	337		Pb	11 13 06.4	-0.3
R32A	Long Quarter,	1.63	337	P	Pb	11 13 06.5	-0.1
	baz=156,SNR=77						
R32A				S	Sg	11 13 28.2	-0.6
	baz=156						
FNO	Franklin	1.71	167		Pb	11 13 07.7	-0.4
TUL1	Leonard	1.97	120		Pb	11 13 11.4	-1.1
TUL1				IAmb_Lg		11 13 40.6	
	comp=Z,106nm,0.9s						
TUL1	Leonard	1.97	120	P	Pb	11 13 11.7	-0.8
	baz=302,SNR=46						
TUL1				S	Sb	11 13 37.3	+0.2
	baz=302						
WMOK	Wichita Mounta	2.30	199		Pn	11 13 15.3	+0.7
WMOK	Wichita Mounta	2.30	199	P	Pn	11 13 15.6	+1.0
	baz=18,SNR=40						
X34A	Smith Ranch, M	2.32	179		Pn	11 13 16.6	+1.7
CBKS	Cedar Bluff	2.38	323	Pn	Pn	11 13 15.8	0.0
CBKS	Cedar Bluff	2.38	323	S	Sb	11 13 49.8	+0.6
	baz=142						
KSU1	Kansas State U	2.39	25	Pn	Pn	11 13 15.6	-0.2
KSU1	Kansas State U	2.39	25	P	Pn	11 13 17.0	+1.2
	baz=205,SNR=19						
KSU1				S	Sb	11 13 49.8	+0.5
	baz=205						
RLO	Rose Lookout	2.43	107		Pn	11 13 16.8	+0.5
U38A	Gravette	2.86	99	P	Pn	11 13 22.6	+0.4
	baz=281,SNR=29						
LOOK	Love County	2.98	169	Pn	Pn	11 13 25.8	+1.9
LOOK				IAmb_Lg		11 14 17.2	
	comp=Z,20nm,0.8s						
X37A	Clayton	3.10	138	Pn	Pn	11 13 27.4	+1.9
X37A				IAmb_Lg		11 14 19.8	
	comp=Z,57nm,0.8s						
X37A	Clayton	3.10	138	P	Pn	11 13 27.1	+1.5
	baz=320						
HHAR	Hobbs	3.24	100		Pn	11 13 29.1	+1.6
HHAR	Hobbs	3.24	100	P	Pn	11 13 28.9	+1.4
	baz=282						
Z35A	Perchaven, San	3.63	172	Pn	Pn	11 13 33.8	+1.0
Z35A	Perchaven, San	3.63	172	S	Sn	11 14 17.7	+2.0
	baz=352						
AMTX	Amarillo	3.69	238		Pn	11 13 35.9	+2.1
S39A	Bolivar	3.72	77		Pn	11 13 35.1	+1.0
N33A	J Bar K, Exete	3.82	5	Pn	Pn	11 13 35.7	+0.2
MIAR	Mount Ida	4.24	123	Pn	Pn	11 13 42.1	+0.9
MIAR				IAmb_Lg		11 15 00.6	
	comp=Z,25nm,0.7s						
KSCO	Kaye Shedlock'	4.28	300	IAmb_Lg		11 15 00.2	
	comp=Z,34nm,0.9s						
N35A	Tabor	4.30	23	Pn	Pn	11 13 43.3	+1.3
P38A	Dawn	4.36	51	Pn	Pn	11 13 43.5	+0.7
P38A	Dawn	4.36	51	P	Pn	11 13 43.9	+1.0
	baz=233,SNR=17						
Z38A	Mt. Pleasant	4.37	146	Pn	Pn	11 13 44.0	+1.1
Z38A				IAmb_Lg		11 14 58.4	
	comp=Z,27nm,1.0s						
BGNE	Belgrade	4.48	357	Pn	Pn	11 13 44.5	0.0
BGNE				IAmb_Lg		11 14 59.9	
	comp=Z,42nm,0.8s						
BGNE	Belgrade	4.48	357	P	Pn	11 13 45.6	+1.1
	baz=177						
MGMO	Mountain Grove	4.50	85		Pn	11 13 45.8	+1.0
MGMO				IAmb_Lg		11 15 01.8	
	comp=Z,30nm,0.7s						
R40A	Maddies Statio	4.66	71		Pn	11 13 47.7	+0.7
R40A	Maddies Statio	4.66	71	P	Pn	11 13 47.8	+0.8
	baz=254,SNR=20						
WHAR	Wooly Hollow	4.82	108	IAmb_Lg		11 15 14.0	
	comp=Z,43nm,1.0s						
WHTX	Lake Whitney,	4.94	176	Pn	Pn	11 13 50.5	-0.3
WHTX	Lake Whitney,	4.94	176	P	Pn	11 13 51.4	+0.6
	baz=356,SNR=7.3						
MSTX	Muleshoe	4.96	235		Pn	11 13 50.5	-0.7
UALR	University of	4.99	114	Pn	Pn	11 13 50.5	-1.0
UALR				IAmb_Lg		11 15 27.4	
	comp=Z,31nm,1.1s						
WLAR	White Oak Lake	5.07	128	Pn	Pn	11 13 50.7	-1.9
OGNE	Ogallala	5.15	322	Pn	Pn	11 13 53.2	-0.6
OGNE				IAmb_Lg		11 15 27.5	
	comp=Z,28nm,0.8s						
L34A	Svendsen Farm,	5.17	13	IAmb_Lg		11 15 23.2	
	comp=Z,41nm,0.8s						
237A	Washetta, Mont	5.21	160	Pn	Pn	11 13 52.1	-2.4
T25A	Trinidad	5.22	274	IAmb_Lg		11 15 26.9	
	comp=Z,26nm,0.9s						
P40A	Paris	5.28	59	IAmb_Lg		11 15 26.3	
	comp=Z,24nm,0.8s						
N38A	Joes South For	5.30	42		Pn	11 13 56.3	+0.6
N38A				IAmb_Lg		11 15 26.6	
	comp=Z,24nm,0.7s						
N38A	Joes South For	5.30	42	P	Pn	11 13 56.4	+0.7
	baz=224,SNR=7.8						
LCAR	Lake Charles	5.49	97	IAmb_Lg		11 15 32.6	
	comp=Z,18nm,1.1s						
CCAR	Cane Creek	5.83	119	IAmb_Lg		11 15 57.7	
	comp=Z,20nm,0.8s						
FVM	French Village	6.03	78	IAmb_Lg		11 15 47.2	
	comp=Z,20nm,0.8s						
435B	Jarrell	6.13	178	IAmb_Lg		11 15 59.7	
	comp=Z,20nm,0.9s						
SCIA	State Center	6.15	35	IAmb_Lg		11 16 07.7	
	comp=Z,20nm,0.8s						
JCT	Junction City	6.63	194	IAmb_Lg		11 16 16.5	
	comp=Z,21nm,1.0s						
S44A	Carbondale	6.92	81	IAmb_Lg		11 16 18.8	
	comp=Z,21nm,0.8s						
P43A	Skaggs, Pawnee	7.12	65	IAmb_Lg		11 16 30.7	
	comp=Z,22nm,0.8s						
N23A	Red Feather La	7.42	305	IAmb_Lg		11 16 34.3	
	comp=Z,21nm,0.8s						
SUSD	Miller	7.55	354	IAmb_Lg		11 16 48.9	
	comp=Z,23nm,1.1s						
HDIL	Hopedale	7.63	59	IAmb_Lg		11 16 59.1	
	comp=Z,24nm,0.7s						
Y22D	IRIS PASSCAL I	7.90	252	IAmb_Lg		11 17 06.5	
	comp=Z,14nm,0.7s						
OLIL	Olney	7.95	74	IAmb_Lg		11 16 52.6	
	comp=Z,19nm,0.9s						
O44A	Mansfield	8.05	64	IAmb_Lg		11 17 06.5	
	comp=Z,22nm,1.1s						
K22A	Casper	8.76	313	IAmb_Lg		11 17 32.9	
	comp=Z,10nm,1.0s						
TXAR	Lajitas Array	8.99	214	Pn	Pn	11 14 45.7	-0.8
	comp=Z,0.2nm,0.3s,baz=40,slow=10,SNR=13						
TXAR				Pg	Pg	11 15 17.8	-11
	comp=Z,0.2nm,0.3s,baz=38,slow=12,SNR=4.7						
TXAR				Lg	Lg	11 17 19.8	
	comp=Z,0.4nm,0.3s,baz=35,slow=26,SNR=6.4						
	comp=Z,0.2nm,0.3s						
PDAR	Pinedale Array	10.70	307	Pn	Pn	11 15 06.8	-3.2
	comp=Z,0.1nm,0.3s,baz=116,slow=16,SNR=1.4						
PDAR				Pg		11 15 47.9	
	comp=Z,0.1nm,0.3s,baz=116,slow=14,SNR=2.4						
PDAR				Lg	Lg	11 18 06.4	
	comp=Z,0.1nm,0.3s,baz=104,slow=22,SNR=2.5						
	comp=Z,0.1nm,0.4s						
NVAR	Mina Array Bea	16.23	281	Pn	Pn	11 16 22.6	-2.3
	comp=Z,0.1nm,0.3s,baz=92,slow=9.1,SNR=1.6						
	comp=Z,0.1nm,0.4s						

NNC 11 11:23:36.2±6.2, 36°.38N×76°.84E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=51.0km s-min=42.0km az=136.0

NEIC 11 11:23:46.1±1.7, 36°.83N±0°.08×76°.8E±0°.1, h117km±10km, mb4.4/17, Error ellipse: s-maj=16.7km s-min=5.2km az=130.0

IDC 11 11:23:50.9±7.0, 37°.23N×77°.15E, h146km±45km, mb3.4/6, mbtmp3.8/11, MS3.2/2, Error ellipse: s-maj=60.1km s-min=23.2km az=6.0

ISC 11 11:23:42.3±0.6, 36°.60N±0°.04×77°.11E±0°.06, h100km, n70, σ2s.35/80, mb4.2/14, 5C-4D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	Jammu	4.28	206	eP	Pn	11 24 49.4	+4.1
JMU				eS	Sn	11 25 36.2	+2.1
CHCP	Chirah Chowk	4.30	228	P	Pn	11 24 49.0	+3.3
THN	Thein Dam	4.31	196	eP	Pn	11 24 49.6	+3.9
THN				eS	Sn	11 25 36.8	+1.9
NIL	Nilore	4.32	228	Pn	Pn	11 24 49.0	+3.2
NIL				Sn	Sn	11 25 35.0	-0.1
NRN	Naryn	4.90	350		Pn	11 24 55.0	+1.0
CEP	Cherat	5.08	238	P	Pn	11 24 58.5	+2.3
CEP				S	Sn	11 25 55.0	+1.3
DRK	Karamyk	5.08	306	Pn	Pn	11 24 55.3	-1.0
TARG	Taragay, Kyrgy	5.15	6		Pn	11 24 59.3	+2.0
BHK	Bhakra	5.20	187	eP	Pn	11 25 01.4	+3.6
BHK				eS	Sn	11 25 57.6	+1.0
SMLA	Simla	5.46	179	eP	Pn	11 25 04.0	+2.8
SMLA				eS	Sn	11 26 01.5	-1.2
SMLA				IAML		11 26 06.1	
	comp=N,422nm,0.4s						
SMLA				IAML		11 26 06.7	
	comp=E,405nm,0.5s						
ULHL	Ulahol	5.67	354	P	Pn	11 25 05.4	+1.0
	SNR=9.6						
THW	Thamme Wali	5.83	231	P	Pn	11 25 07.3	+1.0
GAR	Garm	5.88	296	Pn	Pn	11 25 04.8	-2.3
BOOM	Boomskoye usch	5.95	352		Pn	11 25 09.0	+1.0
UCH	Uchtor	5.96	341	P	Pn	11 25 09.3	+0.8
	SNR=24						
BTK	Batken	6.03	307	Pn	Pn	11 25 07.9	-1.1
AML	Almayashu	6.12	335	P	Pn	11 25 12.5	+1.9
	SNR=8.9						
KBK	Karagaybulak	6.27	345	P	Sn	11 26 22.8	+0.1
	SNR=7.3						
AAK	Ala-Archa	6.36	342	P	Pn	11 25 14.3	+0.8
	SNR=9.6						
AAK	Ala-Archa	6.36	342	P	Pn	11 25 14.6	+1.1
	comp=E,6.4nm,0.3s,baz=151,slow=8.6,SNR=22						
AAK				S	Sn	11 26 22.6	-2.1
	comp=E,8.9nm,0.8s,baz=97,slow=8.1,SNR=6.6						
AAK	Ala-Archa	6.36	342		Pn	11 25 14.3	+0.8
TKM2	Tokmak 2	6.42	350	P	Pn	11 25 15.1	+0.7
	SNR=12						
TKM2	Tokmak 2	6.42	350	⇓P	Pn	11 25 15.1	+0.7
	comp=E,3.4nm,0.5s						
TKM2				⇑S	Sn	11 26 35.8	+10
	comp=E,7.4nm,0.6s						
MDOK	Medeo	6.55	360	⇑P	Pn	11 25 16.9	+0.7
	comp=E,12nm,1.0s						
MDOK				⇑S	Sn	11 26 35.0	+5.5
	comp=E,25nm,1.2s						
CHMS	Chumysh	6.64	345	⇑P	Pn	11 25 17.6	+0.3
	comp=E,12nm,0.8s						
KBL	Kabul	6.88	255	Pn	Pn	11 25 20.9	+0.1
PDGK	Podgornoye	6.96	15	⇓P	Pn	11 25 22.1	+0.4
	comp=E,15nm,0.5s						
PDGK				⇓S	Sn	11 26 47.3	+7.8
	comp=E,35nm,1.1s						
LGTI	Lohaghat	7.60	159	eS	Sn	11 26 50.9	-4.0
KK31	Karatay Array	8.24	324		Pn	11 25 38.4	-0.6
KK31	Karatay Array	8.24	324	⇑P	Pn	11 25 38.6	-0.4
	comp=E,1.6nm,0.3s,baz=133,slow=12,SNR=51						
KK31				⇓S	Sn	11 27 09.4	-0.8
	comp=E,2.9nm,0.5s,baz=138,slow=25,SNR=10						
KKAR	Karatay Array	8.24	324		Pn	11 25 38.4	-0.5
KKAR	Karatay Array	8.24	324		Pn	11 25 38.5	-0.5
SONA	Sohna	8.33	180	eP	Pn	11 25 43.0	+2.8
SONA				eS	Sn	11 27 07.8	-4.9
KHET	Khetri	8.57	188	eP	Pn	11 25 45.1	+1.4
KHET				eS	Sn	11 27 12.6	-6.1
AJM	Ajmer	10.31	192	eS	Sn	11 27 56.6	-4.3
MAKZ	Makanchi	10.82	18	Pn	Pn	11 26 12.4	-1.8
MKAR	Makanchi Array	10.89	19	P	Pn	11 26 13.6	-1.4
	comp=E,0.9nm,0.3s,baz=211,slow=14,SNR=18						
MKAR				S	Sn	11 28 08.6	-6.3
	comp=E,2.2nm,0.4s,baz=193,slow=25,SNR=10						
JHNI	Jhansi	11.17	173	eS	Sn	11 28 13.1	-8.6
KURBB	Kurchatov Arra	14.05	4	P	Pn	11 26 53.8	-2.9
	comp=E,0.6nm,0.3s,baz=193,slow=12,SNR=2.0						
BVAR	Borovoye Array	17.09	346	P	Pn	11 27 32.2	-2.5
	comp=E,1.1nm,0.4s,baz=146,slow=11,SNR=6.5						
BRVK	Borovoye	17.14	346		Pn	11 27 33.0	-2.4
ABKAR	Akbulak array	17.77	321	P	P	11 27 40.5	-2.0
ZAA0	Zalesovo Array	18.16	15	P	P	11 27 45.9	-0.8
ZALV	Zalesovo Beam	18.16	15	P	P	11 27 43.5	-3.1
	comp=E,0.6nm,0.3s,baz=198,slow=8.9,SNR=3.5						
ZALV	Zalesovo Beam	18.16	15	P	P	11 27 45.6	-1.0
ARU	Arti	23.44	334	P	P	11 28 40.3	-2.1
	comp=E,2.5nm,0.3s,baz=104,slow=9.7,SNR=3.5						
	comp=E,2.5nm,0.3s						
SONM	Songino Array	24.28	53	P	P	11 28 52.4	+2.1
	comp=E,1.2nm,0.9s,baz=240,slow=8.8,SNR=5.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,1.2nm,0.9s						
FIA1	**FINESS Array S**	**40.20**	**325**	P	**P**	**11 31 07.9**	**-0.6**
FIA1				IAmb	IAmb	11 31 13.5	
	comp=Z,16nm,1.3s						
FINES	**FINESS Array B**	**40.20**	**325**	P	**P**	**11 31 08.8**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=111,slow=9.4,SNR=15						
	comp=Z,0.9nm,0.3s						
FINES	**FINESS Array B**	**40.20**	**325**	P	**P**	**11 31 09.0**	**+0.5**
ARCES	**ARCESS Array B**	**42.98**	**336**	P	**P**	**11 31 31.2**	**0.0**
	comp=Z,3.3nm,0.8s,baz=106,slow=8.8,SNR=12						
	comp=Z,3.3nm,0.8s						
ARCES	**ARCESS Array B**	**42.98**	**336**	P	**P**	**11 31 31.9**	**+0.8**
ARCES				IAmb	IAmb	11 31 46.4	
	comp=Z,16nm,1.3s						
NC405	**NORSAR Array S**	**47.02**	**323**	P	**P**	**11 32 03.3**	**0.0**
NC303	**NORSAR Array S**	**47.19**	**323**	P	**P**	**11 32 03.9**	**-0.6**
NC303				IAmb	IAmb	11 32 32.3	
	comp=Z,17nm,1.3s						
NOA	**NORSAR Array B**	**47.27**	**323**	P	**P**	**11 32 04.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=90,slow=7.6,SNR=3.6						
	comp=Z,0.4nm,0.5s						
NC204	**NORSAR Array S**	**47.48**	**323**	P	**P**	**11 32 07.2**	**+0.3**
ASAJ	**Asahikawa**	**49.29**	**60**	LR	LR	11 56 24.1	
	comp=Z,21nm,19.7s,baz=56,slow=40						
LEM	**Lembang**	**51.81**	**140**	LR	LR	11 57 02.4	
	comp=Z,34nm,20.7s,baz=239,slow=38						
TOLK	**Toolik Lake Re**	**69.50**	**17**	P	**P**	**11 34 40.5**	**+0.9**
IMAR	**Indian Mountai**	**70.50**	**20**	P	**P**	**11 34 45.9**	**+0.2**
BMAR	**Burnt Mountain**	**71.60**	**16**	P	**P**	**11 34 53.8**	**+1.4**
J20K	**Nowinta River**	**71.75**	**21**	P	**P**	**11 34 54.2**	**+0.9**
J20K				IAmb	IAmb	11 34 59.3	
	comp=Z,6.0nm,1.3s						
H24K	**Noodor Dome**	**72.14**	**18**	P	**P**	**11 34 56.8**	**+1.1**
H24K				IAmb	IAmb	11 35 02.3	
	comp=Z,5.0nm,1.4s						
K20K	**Telida**	**72.39**	**22**	P	**P**	**11 34 58.7**	**+1.5**
K20K				IAmb	IAmb	11 35 23.6	
	comp=Z,8.7nm,1.4s						
MDM	**Murphy Dome**	**72.75**	**18**	P	**P**	**11 35 00.6**	**+1.3**
INK	**Inuvik**	**72.92**	**11**	P	**P**	**11 35 00.8**	**+0.7**
INK				IAmb	IAmb	11 35 41.9	
	comp=Z,4.8nm,1.4s						
ILAR	**Eielson Array**	**73.25**	**18**	P	**P**	**11 35 01.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=331,slow=5.7,SNR=4.2						
	comp=Z,0.2nm,0.6s						
PPLA	**Purkeypile**	**73.30**	**21**	P	**P**	**11 35 03.6**	**+1.0**
PPLA				IAmb	IAmb	11 35 17.5	
	comp=Z,17nm,1.4s						
J26L	**Joseph Creek**	**74.28**	**17**	P	**P**	**11 35 08.8**	**+0.5**
J26L				IAmb	IAmb	11 35 28.2	
	comp=Z,8.3nm,1.5s						
O18K	**Koktuh Hills**	**74.68**	**24**	P	**P**	**11 35 12.8**	**+2.2**

*IDC **11** 11:52:42.8±0.6, 28.°38S×176.°58W, h0^{km}, mb4.4/16, mbtmp4.4/17, ML4.3/2, MS3.8/24, Error ellipse: s-maj=17.6km s-min=14.9km az=139.0*

*NEIC **11** 11:52:43.4±2.0, 28.°9S±0.°1×176.°54W±0.°04, h10$^{km}\pm1^{km}$, mb4.6/26, Error ellipse: s-maj=17.1km s-min=6.6km az=179.0*

ISC 11 11:52:43.7±0.5**, 28.°71S**±0.°07×**176.°56W**±0.°06**, h10**^{km}**, n94, σ1s79**/78**, mb4.5**/26**, MS3.8**/23**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.31**	**245**	Pn	**Pg**	**11 53 12.0**	**+3.2**
	766nm,0.3s,baz=74,slow=10,SNR=33						
RAO				Sn	**Sn**	**11 53 31.5**	**+5.9**
	1μm,0.3s,baz=90,slow=22,SNR=8.4						
RAO				LR	LR	11 53 49.5	
	comp=Z,1μm,18.1s,baz=106,slow=46						
RAO	**Raoul Island**	**1.31**	**245**	Pn	**Pn**	**11 53 07.0**	**-1.0**
RAO				Sn	**Sb**	**11 53 20.5**	**-4.7**
NIUE	**Niue**	**11.34**	**34**	Pn	**Pn**	**11 55 27.2**	**+1.3**
HRRZ	**Handcock Road**	**11.35**	**210**	P	Pn	11 55 44.6	+19
BKZ	**Black Stump Fm**	**11.91**	**207**	P	**Pn**	**11 55 30.1**	**-3.6**
MSVF	**Nonsavu**	**12.00**	**334**	Pn	Pn	11 55 31.0	-3.9
	0.2nm,0.3s,baz=216,slow=19,SNR=1.0						
MSVF				LR	LR	11 59 36.4	
	comp=Z,824nm,18.8s,baz=143,slow=35						
MSVF	**Nonsavu**	**12.00**	**334**	Pn	**Pn**	**11 55 36.8**	**+1.9**
MCHZ	**McNeill Hill**	**12.07**	**206**	P	**Pn**	**11 55 36.0**	**+0.2**
KWHZ	**Kaweka Forest**	**12.16**	**207**	P	**Pn**	**11 55 34.7**	**-2.4**
SNVZ	**South Ngauruho**	**12.29**	**210**	P	**Pn**	**11 55 40.7**	**+1.9**
KAHZ	**Kahuranaki**	**12.31**	**204**	P	**Pn**	**11 55 37.5**	**-1.6**
BHHZ	**Black Hill Sta**	**12.36**	**208**	P	**Pn**	**11 55 38.4**	**-1.3**
TSZ	**Takapari Road**	**12.89**	**207**	P	**Pn**	**11 55 46.9**	**0.0**
ANWZ	**Angora Road**	**13.04**	**204**	P	**Pn**	**11 55 48.0**	**-1.0**
PREZ	**Palmer Road**	**13.10**	**214**	P	Pn	11 55 59.5	+10
BFZ	**Birch Farm**	**13.32**	**204**	P	**Pn**	**11 55 51.8**	**-1.0**
MRZ	**Mangatainoka R**	**13.55**	**206**	P	**Pn**	**11 55 53.1**	**-2.9**
HOWZ	**Holdsworth Sta**	**13.78**	**206**	P	**Pn**	**11 55 56.7**	**-2.5**
TUWZ	**Tuamarina**	**14.87**	**209**	P	**Pn**	**11 56 11.0**	**-2.9**
NNZ	**Nelson**	**14.94**	**211**	P	**Pn**	**11 56 13.8**	**-1.2**
MRNZ	**Matariki Terra**	**15.37**	**212**	P	**Pn**	**11 56 19.0**	**-1.6**
AFI	**Afiamalu**	**15.38**	**18**	Pn	**Pn**	**11 56 21.5**	**+0.5**
THZ	**Tophouse**	**15.59**	**211**	P	**Pn**	**11 56 22.1**	**-1.5**
MARNC	**Mare, Loyalty**	**15.70**	**294**	Pn	**Pn**	**11 56 24.1**	**-1.0**
LIFNC	**LIFOU**	**16.69**	**295**		**Pn**	**11 56 39.4**	**+1.7**
LIFNC				IAmb	IAmb	11 57 00.4	
	comp=Z,72nm,1.0s						
DZM	**Mont Dzumac**	**16.72**	**289**	*e*LR	LR	12 00 34.3	
	comp=Z,623nm,24.0s						
DZM	**Mont Dzumac**	**16.72**	**289**	Pn	**Pn**	**11 56 37.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=90,slow=17,SNR=3.4						
DZM				LR	LR	12 02 13.5	
	comp=Z,619nm,18.5s,baz=138,slow=34						
	comp=Z,11nm,1.1s						
DZM	**Mont Dzumac**	**16.72**	**289**	Pn	**Pn**	**11 56 37.8**	**-0.4**
RAR	**Rarotonga**	**16.94**	**68**	LR	LR	12 03 26.0	
	comp=Z,95nm,18.5s,baz=216,slow=38						
RAR	**Rarotonga**	**16.94**	**68**	Pn	**Pn**	**11 56 39.5**	**-1.4**
RAR				IAmb	IAmb	11 56 53.5	
	comp=Z,97nm,1.4s						
RPZ	**Rata Peaks**	**17.97**	**210**	P	**Pn**	**11 56 51.3**	**-2.3**
	comp=Z,7.1nm,0.5s,baz=31,slow=8.1,SNR=7.4						
KOUNC	**Koumac, New Ca**	**19.20**	**291**	P	**P**	**11 57 05.8**	**-2.0**
KOUNC				IAmb	IAmb	11 57 18.1	
	comp=Z,31nm,1.1s						
TBI	**Tubuai**	**24.90**	**84**	*e*LR	LR	12 04 06.7	
	comp=Z,650nm,23.2s						
TBI				*e*LR	LR	12 04 07.0	
	comp=Z,4μm,22.0s						
PPT2	**Papeete2**	**27.10**	**72**	*e*LR	LR	12 04 58.7	
	comp=Z,156nm,22.8s						
PPT2				*e*LR	LR	12 04 58.8	
	comp=Z,168nm,25.8s						
ARMA	**Armidale**	**27.68**	**259**	P	**P**	**11 58 31.8**	**-0.4**
ARMA				IAmb	IAmb	11 59 15.1	
	comp=Z,15nm,1.5s						
HNR	**Honiara**	**29.24**	**306**	LR	LR	12 09 06.0	
	comp=Z,1μm,19.1s,baz=165,slow=34						
TAU	**Tasmania Unive**	**32.27**	**234**	P	**P**	**11 59 11.4**	**-1.1**
CTA	**Charters Tower**	**34.83**	**276**	P	**P**	**11 59 35.8**	**+0.7**
	comp=Z,4.1nm,0.6s,baz=109,slow=9.7,SNR=12						
CTA				LR	LR	12 12 54.6	
	comp=Z,398nm,18.2s,baz=102,slow=35						
	comp=Z,4.1nm,0.6s						
CTAO	**Charters Tower**	**34.83**	**276**	P	**P**	**11 59 35.6**	**+0.6**
CTAO				IAmb	IAmb	11 59 37.4	
	comp=Z,5.4nm,0.7s						
STKA	**Stephens Creek**	**36.12**	**254**	P	**P**	**11 59 47.0**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=106,slow=12,SNR=6.4						
STKA				LR	LR	12 13 22.5	
	comp=Z,161nm,18.1s,baz=35,slow=34						
	comp=Z,3.8nm,0.7s						
STKA	**Stephens Creek**	**36.12**	**254**	P	**P**	**11 59 44.7**	**-1.3**
RABL	**Rabaul**	**38.42**	**304**	P	**P**	**12 00 06.0**	**+0.3**
RABL				IAmb	IAmb	12 00 07.0	
	comp=Z,16nm,0.8s						
KRVT	**Keravat (AS076**	**38.45**	**303**	P	**P**	**12 00 05.8**	**-0.1**
	comp=Z,28nm,0.7s,baz=52,slow=19,SNR=2.5						
	comp=Z,28nm,0.7s						
PMG	**Port Moresby**	**39.08**	**292**	P	**P**	**12 00 10.0**	**-1.2**
PMG				IAmb	IAmb	12 00 29.7	
	comp=Z,15nm,1.2s						
COEN	**Coen**	**40.07**	**283**	P	**P**	**12 00 19.9**	**+0.4**
COEN				IAmb	IAmb	12 00 20.8	
	comp=Z,8.2nm,1.2s						
BBOO	**Buckleboo**	**40.66**	**252**	P	**P**	**12 00 23.6**	**-0.7**
BBOO				IAmb	IAmb	12 00 44.2	
	comp=Z,27nm,1.2s						
AS31	**Alice Springs**	**44.49**	**265**	P	**P**	**12 00 54.8**	**-0.7**
ASAR	**Alice Springs**	**44.49**	**265**	P	**P**	**12 00 55.1**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=94,slow=7.2,SNR=43						
ASAR				PcP	**PP**	**12 02 39.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=114,slow=3.9,SNR=2.0						
	comp=Z,2.4nm,0.6s						
ASAR	**Alice Springs**	**44.49**	**265**	P	**P**	**12 00 54.2**	**-1.3**
WR0	**Warramunga Arr**	**45.15**	**270**	P	**P**	**12 00 60.0**	**-0.8**
WR0				IAmb	IAmb	12 01 06.9	
	comp=Z,6.9nm,1.1s						
WB2	**Warramunga Arr**	**45.32**	**270**	P	**P**	**12 01 00.7**	**-1.5**
WB2				IAmb	IAmb	12 01 04.8	
	comp=Z,5.8nm,0.9s						
WRAB	**Tennant Creek**	**45.32**	**270**	P	**P**	**12 01 01.0**	**-1.1**
WRAB				IAmb	IAmb	12 01 03.9	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**45.33**	**270**	P	**P**	**12 01 01.4**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=108,slow=6.2,SNR=44						
WRA				PcP	**PcP**	**12 02 42.7**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=120,slow=3.0,SNR=2.1						
WRA				LR	LR	12 19 30.2	
	comp=Z,101nm,18.2s,baz=114,slow=36						
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**45.33**	**270**	P	**P**	**12 01 00.7**	**-1.5**
WB0	**Warramunga Arr**	**45.34**	**270**	P	**P**	**12 01 00.5**	**-1.9**
WB0				IAmb	IAmb	12 01 03.0	
	comp=Z,4.7nm,0.8s						
FORT	**Forrest**	**47.72**	**253**	P	**P**	**12 01 19.0**	**-1.8**
VNDA	**Vanda**	**49.90**	**186**	P	**P**	**12 01 39.2**	**+2.4**
	comp=Z,1.8nm,1.0s,baz=4.0,slow=7.8,SNR=10						
VNDA				LR	LR	12 18 52.4	
	comp=Z,30nm,21.0s,baz=10.0,slow=31						
	comp=Z,1.8nm,1.0s						
VNDA	**Vanda**	**49.90**	**186**	P	**P**	**12 01 33.5**	**-3.4**
KNRA	**Kununurra**	**51.87**	**272**	P	**P**	**12 01 50.7**	**-1.9**
GUMO	**Guam**	**56.21**	**313**	LR	LR	12 24 14.4	
	comp=Z,63nm,19.7s,baz=142,slow=34						
RPN	**Rapa Nui**	**58.68**	**106**	LR	LR	12 24 12.5	
	comp=Z,36nm,18.9s,baz=246,slow=32						
BATI	**Baumata**	**58.71**	**276**	LR	LR	12 28 24.1	
	comp=Z,378nm,18.1s,baz=127,slow=36						
QSPA	**South Pole Qui**	**61.39**	**180**	P	**P**	**12 03 02.8**	**+3.0**
	comp=Z,6.0nm,0.8s,baz=43,slow=1.6,SNR=22						
	comp=Z,6.0nm,0.8s						
QSPA	**South Pole Qui**	**61.39**	**180**	P	**P**	**12 02 59.8**	**0.0**
KAPI	**Kappang**	**64.58**	**279**	LR	LR	12 32 38.9	
	comp=Z,48nm,18.5s,baz=124,slow=37						
PMSA	**Palmer Station**	**73.28**	**156**	LR	LR	12 34 18.9	
	comp=Z,66nm,18.8s,baz=246,slow=34						
MAW	**Mawson**	**74.32**	**200**	P	**P**	**12 04 24.3**	**+3.4**
	comp=Z,4.8nm,0.7s,baz=132,slow=5.1,SNR=5.6						
MAW				LR	LR	12 36 25.4	
	comp=Z,92nm,19.4s,baz=90,slow=35						
	comp=Z,4.8nm,0.7s						
LEM	**Lembang**	**74.34**	**271**	LR	LR	12 36 57.5	
	comp=Z,64nm,19.4s,baz=214,slow=36						
JOW	**Kunigami**	**76.48**	**311**	LR	LR	12 35 15.1	
	comp=Z,40nm,20.4s,baz=136,slow=34						
MJAR	**Matsushiro Arr**	**77.59**	**324**	P	**P**	**12 04 39.4**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=161,slow=5.4,SNR=5.0						
MJAR				LR	LR	12 35 27.9	
	comp=Z,36nm,18.2s,baz=132,slow=33						
	comp=Z,2.7nm,0.7s						
TROLL	**Troll, Antarti**	**79.55**	**180**	P	**P**	**12 04 52.2**	**+1.6**
SNAA	**Sanae**	**79.80**	**178**	P	**P**	**12 04 52.7**	**+0.9**
SNAA	**Sanae**	**79.80**	**178**	LR	LR	12 39 46.5	
	comp=Z,34nm,18.1s,baz=189,slow=35						
SNAA	**Sanae**	**79.80**	**178**	P	**P**	**12 04 51.1**	**-0.7**
SNAA				IAmb	IAmb	12 04 53.6	
	comp=Z,3.8nm,1.1s						
VNA3	**Neumayer Olymp**	**79.89**	**176**	P	**P**	**12 04 53.3**	**+1.0**
VNA2	**Neumayer--Watz**	**80.34**	**176**	P	**P**	**12 04 56.0**	**+1.3**
	baz=178,slow=4.6						
VNA1	**Neumayer--Stat**	**80.57**	**176**	P	**P**	**12 04 57.6**	**+1.7**
SHEM	**Shemya Is, Ala**	**81.50**	**354**	LR	LR	12 36 40.4	
	comp=Z,168nm,18.8s,baz=57,slow=32						
PLCA	**Paso Flores**	**82.73**	**133**	P	**P**	**12 05 10.0**	**+2.1**
	comp=Z,5.6nm,0.9s,baz=212,slow=5.0,SNR=9.7						
PLCA				LR	LR	12 37 41.3	
	comp=Z,44nm,18.4s,baz=228,slow=32						
	comp=Z,5.6nm,0.9s						
PLCA	**Paso Flores**	**82.73**	**133**	P	**P**	**12 05 05.8**	**-2.1**
PLCA				PcP	**sP**	**12 05 10.4**	**-0.1**
KSRS	**Korea Array**	**83.90**	**319**	P	**P**	**12 05 13.2**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=135,slow=8.0,SNR=5.9						
KSRS				LR	LR	12 40 47.1	
	comp=Z,26nm,18.4s,baz=85,slow=34						
	comp=Z,1.6nm,0.9s						
PETK	**Petropavlovsk-**	**84.51**	**345**	P	**P**	**12 05 16.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=233,slow=8.7,SNR=1.4						
	comp=Z,2.4nm,0.8s						
NVAR	**Mina Array Bea**	**86.15**	**42**	P	**P**	**12 05 25.5**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=219,slow=8.8,SNR=18						
	comp=Z,1.6nm,0.8s						
TXAR	**Lajitas Array**	**90.42**	**57**	P	**P**	**12 05 46.1**	**+0.4**
	comp=Z,1.8nm,1.2s,baz=230,slow=7.7,SNR=5.9						
	comp=Z,1.8nm,1.2s						
MA2	**Magadan**	**92.01**	**344**	LR	LR	12 42 11.6	
	comp=Z,27nm,19.0s,baz=104,slow=32						
LVC	**Limon Verde**	**93.63**	**118**	LR	LR	12 40 58.4	
	comp=Z,42nm,18.8s,baz=223,slow=31						
PDAR	**Pinedale Array**	**94.05**	**43**	P	**P**	**12 06 02.4**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=204,slow=3.3,SNR=5.2						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**96.01**	**12**	P	**P**	**12 06 08.3**	**-2.2**
	comp=Z,0.4nm,0.8s,baz=207,slow=5.6,SNR=2.2						
	comp=Z,0.4nm,0.8s						
YAK	**Yakutsk**	**100.18**	**337**	LR	LR	12 52 25.4	
	comp=Z,33nm,18.6s,baz=89,slow=36						
FINES	**FINESS Array B**	**143.97**	**342**	PKhKP	PKPpre	12 12 15.7	
	comp=Z,0.9nm,0.5s,baz=29,slow=4.4,SNR=9.4						
KBZ	**Khabaz**	**145.18**	**306**	PKP	**PKPbc**	**12 12 20.7**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=154,slow=13,SNR=4.6						
NOA	**NORSAR Array B**	**147.25**	**353**	PKPbc	**PKPdf**	**12 12 25.7**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=13,slow=4.5,SNR=5.8						
AKASG	**Malin Array Be**	**150.67**	**326**	PKPbc	**PKPbc**	**12 12 34.7**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=44,slow=3.0,SNR=10						
BRTR	**Keskin Array B**	**152.84**	**302**	PKPbc	**PKPbc**	**12 12 40.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=124,slow=3.7,SNR=3.7						

*MOS **11** 12:17:19.1±0.9, 34.°17N×136.°91E, h356^{km}, mb4.0/20, Error ellipse: s-maj=9.0km s-min=5.9km az=101.5*

*JMA **11** 12:17:20.6±0.2, 34.°N±1.°×136.°9E±0.°9, h361$^{km}\pm1^{km}$, MV3.9/37, SE OFF KII PENINSULA*

*NIED **11** 12:17:20.6, 34.°30N×136.°86E, h361^{km}, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.91; $M_{\theta\theta}$1.83; $M_{\phi\phi}$-0.92; $M_{r\theta}$-0.45; $M_{\theta\phi}$-0.25; $M_{\phi r}$-1.91; Fault plane solution: $M_0$2.39000×10^{15} NP1: ϕ_s307.00000°, δ51.00000°, λ-28.00000°. NP2: ϕ_s56.00000°, δ68.00000°, λ-138.00000°.*

*IDC **11** 12:17:20.9±0.7, 34.°20N×136.°86E, h358$^{km}\pm7^{km}$, mb3.5/21, mbtmp4.2/27 Error ellipse: s-maj=11.3km s-min=9.3km az=76.0*

*NEIC **11** 12:17:21.3±1.8, 34.°27N±0.°07×136.°91E±0.°10, h358$^{km}\pm7^{km}$, mb4.1/57, Error ellipse: s-maj=12.3km s-min=9.8km az=125.0*

ISC 11 12:17:20.4±0.5**, 34.°26N**±0.°05×**136.°90E**±0.°05**, h353**$^{km}\pm4^{km}$**, n229, σ1s24**/253**, mb4.0**/67**, 6C-23D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.21**	**310**	⇓P	**Pn**	**12 18 06.0**	**+1.5**
JIE				⇓S	**S**	**12 18 40.6**	**+0.6**
JAA	**Atsumi**	**0.42**	**28**	⇓*i*P	**Pn**	**12 18 06.5**	**+1.6**
JAA				⇓S	**S**	**12 18 42.0**	**+1.5**
TTO1	**TONANKAI O.B.S**	**0.64**	**189**	P	**Pn**	**12 18 06.8**	**+1.7**
TK02	**Tokai 2**	**0.77**	**113**	⇓P	**Pn**	**12 18 07.4**	**+1.9**
JWY	**Kouya**	**1.09**	**268**	*i* P	**Pn**	**12 18 08.1**	**+1.1**
JWY				S	**S**	**12 18 44.4**	**+0.1**
INU	**Inuyama**	**1.09**	**5**	Pn	**Pn**	**12 18 08.1**	**+1.3**
INU	**Inuyama**	**1.09**	**5**	P	**Pn**	**12 18 08.2**	**+1.4**
JTNC	**Tanabenakahech**	**1.16**	**248**	P	**Pn**	**12 18 08.3**	**+1.0**
JTNC				S	**S**	**12 18 44.9**	**+0.1**
JYTA	**Yamagatataniai**	**1.34**	**354**	P	**Pn**	**12 18 09.3**	**+1.4**
JYTA				S	**S**	**12 18 46.8**	**+0.6**
JGF	**Kuroka**	**1.39**	**15**	Pn	**Pn**	**12 18 09.3**	**+1.1**
JGF	**Kuroka**	**1.39**	**15**	P	**Pn**	**12 18 09.4**	**+1.1**
JWT	**Wachi**	**1.61**	**310**	*i* P	**Pn**	**12 18 10.5**	**+1.0**
JWT				S	**S**	**12 18 48.6**	**-0.3**
JFNN	**Fujinakano**	**1.74**	**57**	P	**Pn**	**12 18 11.6**	**+1.3**
JYN	**Shimob**	**1.83**	**47**	⇓*i*P	**Pn**	**12 18 11.9**	**+1.0**
JOD2	**Odawara 2**	**2.06**	**60**	*i* P	**Pn**	**12 18 13.4**	**+1.0**
JKG	**Kaga**	**2.07**	**347**	P	**Pn**	**12 18 13.3**	**+0.9**
JKG				S	**S**	**12 18 54.5**	**+0.3**
JAI	**Aioi**	**2.09**	**258**	P	**Pn**	**12 18 13.4**	**+0.8**
JAI				S	**S**	**12 18 54.3**	**-0.4**
JRY	**Ryogami san**	**2.40**	**42**	⇓*i*P	**Pn**	**12 18 16.3**	**+1.3**
JRY				⇓*e*S	**S**	**12 18 59.0**	**+0.1**
MAJO	**Matsushiro**	**2.52**	**25**	Pn	**Pn**	**12 18 16.9**	**+1.0**
MAJO	**Matsushiro**	**2.52**	**25**	P	**Pn**	**12 18 17.1**	**+1.2**
MAJO	**Matsushiro**	**2.52**	**25**	*d i*P	**Pn**	**12 18 16.7**	**+0.8**
MAT	**Matsushiro**	**2.52**	**25**	P	**Pn**	**12 18 16.9**	**+1.0**
MAT				S	**S**	**12 19 00.8**	**+0.3**
MJAR	**Matsushiro Arr**	**2.52**	**25**	P	**Pn**	**12 18 16.8**	**+0.9**
	74nm,0.5s,baz=187,slow=11,SNR=152						
MJAR				S	**S**	**12 19 00.3**	**-0.2**
	10.0nm,0.3s,baz=198,slow=15,SNR=4.2						
MJB9	**Matsu-Tunnel**	**2.52**	**25**	Pn	**Pn**	**12 18 17.9**	**+2.0**
JMN	**Monobe**	**2.57**	**259**	Pn	**Pn**	**12 18 17.3**	**+0.9**
JMN	**Monobe**	**2.57**	**259**	P	**Pn**	**12 18 17.3**	**+0.9**
JMN	**Monobe**	**2.57**	**259**	P	**Pn**	**12 18 17.2**	**+0.9**
JHJ	**Hachijo jima 2**	**2.65**	**114**	P	**Pn**	**12 18 18.3**	**+1.2**
	291nm,0.4s,baz=323,slow=21,SNR=25						
JHJ				S	**S**	**12 19 04.5**	**+1.9**
	135nm,0.6s,baz=247,slow=23,SNR=1.3						
JHJ2	**Mitsune**	**2.68**	**114**	Pn	**Pn**	**12 18 18.2**	**+0.9**
JHJ2	**Mitsune**	**2.68**	**114**	P	**Pn**	**12 18 16.5**	**-0.8**
JHJ2	**Mitsune**	**2.68**	**114**	P	**Pn**	**12 18 18.3**	**+0.9**
JHS	**Saijyo**	**3.21**	**284**	Pn	**Pn**	**12 18 22.9**	**+0.9**
JHS	**Saijyo**	**3.21**	**284**	P	**Pn**	**12 18 22.9**	**+0.9**
JHS	**Saijyo**	**3.21**	**284**	*i* P	**Pn**	**12 18 22.8**	**+0.9**
JHS				S	**S**	**12 19 12.2**	**+0.7**
BSO1	**Boso 1**	**3.39**	**82**	P	**Pn**	**12 18 22.3**	**-0.6**
JTO	**Tosashimizu**	**3.70**	**249**	*i* P	**Pn**	**12 18 27.2**	**+0.6**
JSD	**Sado**	**3.93**	**16**		**Pn**	**12 18 29.3**	**+0.5**
JSD	**Sado**	**3.93**	**16**	P	**Pn**	**12 18 29.7**	**+0.9**
JMM	**Marumori**	**4.79**	**40**		**Pn**	**12 18 37.6**	**-0.1**
JMM	**Marumori**	**4.79**	**40**	P	**Pn**	**12 18 37.7**	**0.0**
JNU	**Nakatsue**	**5.15**	**259**	Pn	**Pn**	**12 18 42.6**	**+0.7**
JNU	**Nakatsue**	**5.15**	**259**	P	**Pn**	**12 18 42.6**	**+0.7**
JSU	**Suzuyama**	**6.08**	**245**	Pn	**Pn**	**12 18 53.0**	**+0.7**
JSU	**Suzuyama**	**6.08**	**245**	P	**Pn**	**12 18 53.1**	**+0.8**
JTU	**Tsushima**	**6.21**	**275**	P	**Pn**	**12 18 54.2**	**+0.5**
JTM	**Tenmabayashi**	**7.31**	**26**	Pn	**Pn**	**12 19 06.5**	**+0.2**
JTM	**Tenmabayashi**	**7.31**	**26**	P	**Pn**	**12 19 06.5**	**+0.2**
KSRS	**Korea Array**	**7.96**	**296**	P	**P**	**12 19 15.2**	**0.0**
	6.0nm,0.7s,baz=116,slow=12,SNR=16						
KSAR	**Wonju Array Be**	**7.98**	**296**	Pn	**P**	**12 19 15.2**	**-0.2**
KSAR	**Wonju Array Be**	**7.98**	**296**	P	**P**	**12 19 15.3**	**-0.2**
KS19	**Wonju Array Si**	**8.02**	**296**	Pn	**Pn**	**12 19 15.8**	**+1.1**
TJN	**Taejon**	**8.08**	**288**	Pn	**Pn**	**12 19 15.2**	**-0.3**
TJN	**Taejon**	**8.08**	**288**	P	**Pn**	**12 19 15.2**	**-0.3**
JCJ	**Chichijima**	**8.46**	**146**	P	Pn	12 19 14.1	-6.0
	29nm,0.3s,baz=0.3,slow=18,SNR=12						
JCJ				S	S	12 20 47.0	-11
	126nm,0.3s,baz=272,slow=21,SNR=13						
JCJ	**Chichijima**	**8.46**	**146**	P	**Pn**	**12 19 17.4**	**-2.7**
ERM	**Erimo**	**9.18**	**31**	Pn	**Pn**	**12 19 27.6**	**-0.8**
ERM	**Erimo**	**9.18**	**31**	P	**Pn**	**12 19 27.3**	**-1.1**
ERM	**Erimo**	**9.18**	**31**	⇓*e*P	**Pn**	**12 19 27.1**	**-1.3**
JEM	**Erimo**	**9.18**	**31**	P	**Pn**	**12 19 27.7**	**-0.7**
JOW	**Kunigami**	**10.49**	**227**	P	**Pn**	**12 19 44.2**	**0.0**
	9.7nm,0.5s,baz=77,slow=14,SNR=4.7						
JOW	**Kunigami**	**10.49**	**227**		**Pn**	**12 19 44.7**	**+0.4**
JOW	**Kunigami**	**10.49**	**227**	P	**Pn**	**12 19 43.1**	**-1.1**
USRK	**Ussuriysk Ar.**	**10.63**	**340**	P	**P**	**12 19 46.6**	**+0.1**
	24nm,0.5s,baz=148,slow=11,SNR=105						
USA0B	**Ussuriysk Arra**	**10.63**	**340**	P	**P**	**12 19 46.6**	**+0.1**
USA0B	**Ussuriysk Arra**	**10.63**	**340**	⇓*e*P	**P**	**12 19 46.7**	**+0.1**
ASAJ	**Asahikawa**	**10.79**	**22**	P	**P**	**12 19 48.2**	**-0.1**
JKA	**Kamikawa-asahi**	**10.79**	**22**	Pn	**Pn**	**12 19 47.2**	**-0.3**
JKA					**P**	**12 19 48.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**11.40**	**34**	*e*P	**Pn**	**12 19 54.3**	**-0.5**
NMR				*e*S	**S**	**12 21 55.2**	**-6.9**
RUSJ	**Misakicho**	**11.77**	**31**	*e*P	**Pn**	**12 20 00.5**	**+1.3**
RUSJ				*e*S	**S**	**12 22 06.6**	**-3.4**
MDJ	**Mudanjiang**	**11.78**	**334**	P	**Pn**	**12 19 59.7**	**+0.3**
MDJ	**Mudanjiang**	**11.78**	**334**	P	**Pn**	**12 19 59.6**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**11.98**	**33**	P	**Pn**	**12 20 02.7**	**+1.0**
YUK				*e*S	**S**	**12 22 08.7**	**-5.9**
YUK				pmax	pmax		
	comp=Z,107nm,0.7s						
YUK				pmax	pmax		
	comp=N,31nm,0.6s						
YUK				pmax	pmax		
	comp=E,35nm,0.3s						
YSS	**Yuzh-Sakhalins**	**13.44**	**17**	P	**Pn**	**12 20 19.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**13.44**	**17**	⇓*e*P	**Pn**	**12 20 19.2**	**+0.4**
YSS				*e*S	**S**	**12 22 42.5**	**-1.7**
YSS				pmax	pmax		
	comp=Z,120nm,0.5s						
YSS				smax	smax		
	comp=E,20nm,1.2s						
NJ2	**Nanjing**	**15.28**	**267**	*e*P	**P**	**12 20 37.2**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
KLR	**Kul'dur**	**15.44**	**347**	P	**P**	**12 20 39.2**	**-0.3**
	comp=Z,9.5nm,0.5s,baz=166,slow=8.5,SNR=40						
KLR	**Kul'dur**	**15.44**	**347**	*de*P	**P**	**12 20 39.3**	**-0.1**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TIA	**Tai'an**	**16.28**	**283**	⇓P	**P**	**12 20 48.5**	**-0.2**
TIA				pmax	pmax		
	comp=Z,40nm,0.7s						
YHNB	**Yeheng**	**16.54**	**239**	P	**P**	**12 20 50.4**	**-1.3**
NACB	**Ninganchiao**	**16.70**	**237**	P	**P**	**12 20 52.9**	**-0.4**
NACB	**Ninganchiao**	**16.70**	**237**	P	**P**	**12 20 52.7**	**-0.7**
SSLB	**Suanglung**	**17.39**	**237**	P	**P**	**12 20 58.9**	**-2.0**
SSLB	**Suanglung**	**17.39**	**237**	P	**P**	**12 20 59.0**	**-1.9**
YULB	**Yu-li**	**17.42**	**236**	P	**P**	**12 20 59.0**	**-2.1**
YULB				IAmb	IAmb	12 20 59.8	
	comp=Z,20nm,1.1s						
YULB	**Yu-li**	**17.42**	**236**	P	**P**	**12 20 58.9**	**-2.1**
HEH	**HeiHe**	**17.44**	**339**	*e*P	**P**	**12 21 02.3**	**+1.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,270nm,5.2s						
BJT	**Baijiatuau**	**17.49**	**295**	P	**P**	**12 20 59.8**	**-1.8**
BJT				IAmb	IAmb	12 21 15.2	
	comp=Z,7.5nm,0.6s						
BJT	**Baijiatuau**	**17.49**	**295**	P	**P**	**12 20 59.8**	**-1.8**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TPUB	**Ta-pu**	**17.94**	**237**	P	**P**	**12 21 05.0**	**-1.7**
TPUB	**Ta-pu**	**17.94**	**237**	P	**P**	**12 21 04.9**	**-1.7**
TWGBT	**Beinan**	**17.95**	**235**	P	**P**	**12 21 04.7**	**-2.1**
TWG	**Pinlang**	**17.95**	**235**	P	**P**	**12 21 04.7**	**-2.1**
HNS	**HongShan**	**18.27**	**286**	⇑P	**P**	**12 21 09.2**	**-0.7**
HNS				pmax	pmax		
	comp=Z,61nm,0.8s						
XLT	**XiLinHaoTe**	**18.77**	**307**	⇓*i*P	**P**	**12 21 12.7**	**-2.6**
XLT				pmax	pmax		
	comp=Z,19nm,0.8s						
WHN	**Wuhan**	**19.39**	**265**	⇓P	**P**	**12 21 21.0**	**-0.9**
WHN				pmax	pmax		
	comp=Z,66nm,1.0s						
ZEA	**Zeya**	**20.64**	**344**	*e*P	**P**	**12 21 35.5**	**+1.7**
HHC	**Hu-ho-hao-te**	**21.10**	**296**	*e*P	**P**	**12 21 39.5**	**+1.3**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,330nm,6.6s						
XAN	**Xi'an**	**23.14**	**277**	⇓P	**P**	**12 21 55.8**	**-0.9**
XAN				S	**S**	**12 25 42.6**	**+1.2**
XAN				pmax	pmax		
	comp=Z,17nm,0.7s						
ENH	**Enshi**	**23.49**	**268**	P	**P**	**12 21 59.0**	**-1.0**
ULN	**Ulaanbaatar**	**26.11**	**310**	P	**P**	**12 22 24.7**	**+1.4**
ULN				IAmb	IAmb	12 22 25.8	
	comp=Z,5.3nm,0.7s						
ULN	**Ulaanbaatar**	**26.11**	**310**	*d i*P	**P**	**12 22 24.4**	**+1.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**26.51**	**310**	P	**P**	**12 22 28.0**	**+1.1**
	comp=Z,5.6nm,0.9s,baz=117,slow=8.7,SNR=24						
	comp=Z,5.6nm,0.9s						
SONM	**Songino Array**	**26.51**	**310**	P	**P**	**12 22 27.8**	**+1.0**
SONM				IAmb	IAmb	12 22 29.4	
	comp=Z,3.8nm,0.8s						
SONM	**Songino Array**	**26.51**	**310**	P	**P**	**12 22 28.0**	**+1.1**
YAK	**Yakutsk**	**28.17**	**353**	⇓*e*P	**P**	**12 22 40.2**	**-0.9**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA	**Gaotai**	**29.98**	**291**	*e*P	**P**	**12 22 57.4**	**-0.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PZH	**PanZhiHua**	**31.19**	**265**	P	**P**	**12 23 07.4**	**-0.8**
PZH				pmax	pmax		

comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.7s
GOMU GeErMu 34.24 286 P **P** **12 23 34.5 -0.2**
GOMU pmax pmax
comp=Z,13nm,1.0s
GOMU pmax pmax
comp=Z,40nm,3.5s
PHRA Phrae 36.18 254 P **P** **12 23 50.9 0.0**
CHTO Chiang Mai 37.04 255 P **P** **12 23 57.1 -0.9**
CHTO IAmb IAmb 12 23 58.3
comp=Z,4.5nm,0.8s
CHTO Chiang Mai 37.04 255 P **P** **12 23 57.1 -0.9**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 37.23 255 P **P** **12 23 59.4 -0.2**
comp=Z,1.3nm,0.3s,baz=47,slow=6.5,SNR=19
comp=Z,1.3nm,0.3s
CMAR Chiang Mai Arr 37.23 255 *i* P **P** **12 23 59.4 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
FAKI Fak Fak 37.23 188 P **P** **12 23 59.9 +0.3**
FAKI IAmb IAmb 12 24 32.5
comp=Z,25nm,1.2s
TIXI Tiksi 37.70 356 P **P** **12 24 03.0 +0.3**
comp=Z,0.6nm,0.3s,baz=137,slow=0.0,SNR=5.3
comp=Z,0.6nm,0.3s
TIXI Tiksi 37.70 356 P **P** **12 24 03.2 +0.6**
TIXI Tiksi 37.70 356 P **P** **12 24 03.3 +0.6**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
BILL Bilibino 37.75 18 *i* P **P** **12 24 02.6 -0.6**
BILL *i* *PP **pP** **12 25 13.5 +1.8**
BILL *i* 12 25 36.8
BILL pmax pmax
comp=Z,6.0nm,1.1s
WMQ Urumqi 38.90 299 *e*P **P** **12 24 14.6 +1.5**
WMQ pmax pmax
comp=Z,32nm,0.7s
DGZ Jazzator, Alta 39.14 309 *d i* P **P** **12 24 16.2 +1.1**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
ZAA0 Zalesovo Array 41.17 315 P **P** **12 24 30.9 -0.4**
ZALV Zalesovo Beam 41.17 315 P **P** **12 24 30.8 -0.5**
comp=Z,1.4nm,0.6s,baz=104,slow=8.0,SNR=8.5
ZALV PcP **PcP** **12 26 22.5 -0.3**
comp=Z,2.9nm,0.5s,baz=94,slow=3.2,SNR=13
comp=Z,1.4nm,0.6s
ZALV Zalesovo Beam 41.17 315 P **P** **12 24 31.4 +0.2**
ZALV Zalesovo Beam 41.17 315 *i* P **P** **12 24 31.5 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
TAPN Taplejung 42.48 274 *e*P **P** **12 24 42.0 -0.6**
comp=Z,12nm,0.4s
MKAR Makanchi Array 42.55 304 P **P** **12 24 42.9 +0.3**
comp=Z,5.5nm,0.6s,baz=77,slow=10,SNR=24
MKAR PcP **PcP** **12 26 27.5 -0.2**
comp=Z,0.5nm,0.4s,baz=44,slow=4.4,SNR=2.8
MKAR ScP **ScP** **12 29 42.7 -1.3**
comp=Z,1.0nm,0.9s,baz=78,slow=5.6,SNR=2.4
comp=Z,5.5nm,0.6s
RAMN Ramite 43.55 274 *e*P **P** **12 24 50.3 -0.7**
comp=Z,31nm,0.7s
JIRN Jiri 43.62 276 *e*P **P** **12 24 51.7 0.0**
comp=Z,61nm,0.4s
GUN Gumba 43.78 276 *e*P **P** **12 24 52.9 -0.1**
comp=Z,30nm,0.7s
PKI Pulchoki 44.30 276 *e*P **P** **12 24 56.2 -0.8**
comp=Z,11nm,0.4s
PKIN Phulchoki 44.30 276 *e*P **P** **12 24 56.1 -0.9**
comp=Z,15nm,0.4s
DMN Daman 44.53 276 *e*P **P** **12 24 58.1 -0.6**
comp=Z,8.0nm,0.4s
KURK Kurchatov 44.82 310 P **P** **12 24 59.9 -0.4**
KURK IAmb IAmb 12 25 01.0
comp=Z,8.2nm,0.6s
KURK Kurchatov 44.82 310 *de*P **P** **12 25 00.1 -0.2**
KURK pmax pmax
comp=Z,14nm,1.7s
MMRI Maumere 44.87 201 P **P** **12 25 00.5 -0.6**
TARG Taragay, Kyrgy 46.38 297 P **P** **12 25 13.3 +0.3**
TARG IAmb IAmb 12 25 14.6
comp=Z,4.3nm,0.8s
TARG Taragay, Kyrgy 46.38 297 P **P** **12 25 13.3 +0.3**
TARG pmax pmax
comp=Z,4.0nm,0.8s
PSI Prapat 47.21 237 P **P** **12 25 18.4 -1.0**
PSI pmax pmax
comp=Z,54nm,1.1s
COEN Coen 48.31 172 P **P** **12 25 28.1 +0.6**
COEN IAmb IAmb 12 25 33.0
comp=Z,8.3nm,1.2s
AAK Ala-Archa 48.61 299 P **P** **12 25 30.1 +0.4**
AAK IAmb IAmb 12 25 30.2
comp=Z,2.9nm,0.6s
AAK Ala-Archa 48.61 299 *de*P **P** **12 25 29.6 -0.1**
AAK pmax pmax
comp=Z,2.0nm,0.7s
GSI Gunungsitoli 49.22 237 P **P** **12 25 34.1 -0.3**
BRVK Borovoye 49.83 314 P **P** **12 25 39.3 +0.8**
BRVK Borovoye 49.83 314‖ *e*P **P** **12 25 38.8 +0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
J20K Nowinta River 50.65 32 P **P** **12 25 46.8 +2.3**
J20K IAmb IAmb 12 26 11.6
comp=Z,5.8nm,1.4s
K20K Telida 50.67 33 P **P** **12 25 46.4 +1.8**
K20K IAmb IAmb 12 26 05.7
comp=Z,15nm,1.5s
IMAR Indian Mountai 50.89 30 P **P** **12 25 47.3 +1.1**
KK31 Karatay Array 51.36 301 P **P** **12 25 50.3 +0.3**
KK31 IAmb IAmb 12 25 50.9
comp=Z,10nm,0.6s
KK31 Karatay Array 51.36 301 P **P** **12 25 50.3 +0.3**
KK31 pmax pmax
comp=Z,10.0nm,0.6s
KKAR Karatay Array 51.36 301 P **P** **12 25 50.4 +0.3**
KKAR Karatay Array 51.36 301 P **P** **12 25 50.3 +0.3**
KKAR IAmb IAmb 12 25 50.9
comp=Z,10nm,0.6s
KKAR Karatay Array 51.36 301 P **P** **12 25 50.4 +0.3**
PPLA Purkeypile 51.52 34 P **P** **12 25 53.4 +2.4**
PPLA IAmb IAmb 12 25 56.8
comp=Z,27nm,1.4s
CAST Castle Rocks 51.56 33 P **P** **12 25 52.1 +0.9**
KDAK Kodiak Island 51.60 40 P **P** **12 25 51.3 -0.2**
comp=Z,13nm,1.0s,baz=316,slow=0.5,SNR=6.8
comp=Z,13nm,1.0s
KDAK Kodiak Island 51.60 40 P **P** **12 25 53.0 +1.5**
KDAK Kodiak Island 51.60 40 P **P** **12 25 53.0 +1.5**
KDAK pmax pmax
comp=Z,40nm,1.4s
SPU Mount Spurr 51.65 36 P **P** **12 25 53.6 +1.8**
MLY Manley 52.13 31 P **P** **12 25 57.5 +2.2**
SUA Susitna One 52.26 35 P **P** **12 25 58.1 +1.7**
SUA IAmb IAmb 12 26 26.1
comp=Z,28nm,1.4s
H23K Yukon River 52.62 30 P **P** **12 26 00.5 +1.7**
H23K IAmb IAmb 12 26 03.0
comp=Z,9.4nm,1.4s
I23K Minto, Yukon-K 52.71 31 P **P** **12 26 01.1 +1.6**
COLA College 53.36 31 P **P** **12 26 06.5 +2.4**
CHGR Chuyangaron 53.55 296 P **P** **12 26 06.0 -0.1**
CHGR Chuyangaron 53.55 296 P **P** **12 26 06.0 -0.1**
CHGR pmax pmax
comp=Z,28nm,1.0s
WB0 Warramunga Arr 53.77 183 P **P** **12 26 07.0 -0.7**
WB0 IAmb IAmb 12 26 10.0
comp=Z,5.2nm,0.6s
ILAR Eielson Array 53.78 31 P **P** **12 26 07.8 +0.6**
comp=Z,0.4nm,0.6s,baz=257,slow=4.7,SNR=11
comp=Z,0.4nm,0.6s
SCM Sheep Creek Mo 53.85 35 P **P** **12 26 09.8 +1.9**
SCM Sheep Creek Mo 53.85 35 P **P** **12 26 09.8 +1.9**
SCM pmax pmax
comp=Z,49nm,1.4s
WRAB Tennant Creek 53.94 183 P **P** **12 26 08.1 -0.8**
WRAB Tennant Creek 53.94 183 P **P** **12 26 08.1 -0.8**
WRAB pmax pmax
comp=Z,3.0nm,1.2s
WB2 Warramunga Arr 53.95 183 P **P** **12 26 08.3 -0.6**
WB2 IAmb IAmb 12 26 11.2
comp=Z,4.7nm,0.8s
WRA Warramunga Arr 53.95 183 P **P** **12 26 08.2 -0.8**
comp=Z,2.2nm,0.3s,baz=360,slow=7.5,SNR=77
comp=Z,2.2nm,0.3s
WRA Warramunga Arr 53.95 183 P **P** **12 26 07.2 -1.7**
WRA Warramunga Arr 53.95 183 *i* P **P** **12 26 08.1 -0.8**
WRA pmax pmax
comp=Z,3.0nm,0.3s
WR0 Warramunga Arr 53.96 183 P **P** **12 26 08.5 -0.5**
WR0 IAmb IAmb 12 26 11.4
comp=Z,4.7nm,0.8s
BMAR Burnt Mountain 54.51 28 P **P** **12 26 14.3 +1.9**
CTA Charters Tower 54.77 169 P **P** **12 26 14.8 +0.1**
comp=Z,3.0nm,0.9s,baz=342,slow=9.6,SNR=2.5
comp=Z,3.0nm,0.9s
J26L Joseph Creek 55.23 31 P **P** **12 26 18.9 +1.3**
BMRM Bremner River 55.27 36 P **P** **12 26 20.1 +2.2**
K27K Chicken 55.95 32 P **P** **12 26 24.6 +2.1**
ARU Arti 56.02 319 *d i* P **P** **12 26 23.2 0.0**
ARU 12 27 10.6
ARU *PP **pP** **12 27 37.6 0.0**
ARU 12 28 29.0
ARU S **S** **12 33 45.5 +2.3**
ARU pmax pmax
comp=Z,7.0nm,1.3s
L27K Beaver Creek, 56.22 33 P **P** **12 26 27.0 +2.5**
L27K IAmb IAmb 12 26 51.6
comp=Z,5.1nm,1.4s
EGAK Eagle 56.22 31 P **P** **12 26 24.1 -0.3**
BCAR Beaver Creek A 56.23 33 P **P** **12 26 26.6 +2.0**
M27K Edge Creek, AK 56.32 34 P **P** **12 26 27.5 +2.2**
M27K IAmb IAmb 12 26 60.0
comp=Z,10nm,1.4s
ABKAR Akbulak array 56.93 310 P **P** **12 26 29.7 +0.1**
AS31 Alice Springs 57.67 183 P **P** **12 26 34.6 -0.4**
ASAR Alice Springs 57.67 183 P **P** **12 26 34.5 -0.5**
comp=Z,1.2nm,0.3s,baz=360,slow=6.2,SNR=37
comp=Z,1.2nm,0.3s
EPYK Eagle Plains 57.73 28 P **P** **12 26 37.3 +2.3**
EPYK IAmb IAmb 12 26 37.8
comp=Z,6.1nm,0.7s
PALK Pallekele 58.16 256 P **P** **12 26 38.5 -0.2**
PALK pmax pmax
comp=Z,7.0nm,1.3s
INK Inuvik 58.50 26 P **P** **12 26 41.2 +1.1**
comp=Z,0.7nm,0.5s,baz=296,slow=5.3,SNR=8.0
comp=Z,0.7nm,0.5s
INK Inuvik 58.50 26 P **P** **12 26 41.5 +1.3**
INK Inuvik 58.50 26 P **P** **12 26 41.5 +1.3**
INK pmax pmax
comp=Z,3.0nm,1.2s
A36M Sachs Harbour 60.18 21 P **P** **12 26 52.1 +0.7**
A36M IAmb IAmb 12 26 59.1
comp=Z,5.7nm,1.1s
GEYT Alibeck 61.94 298 P **P** **12 27 04.4 +0.5**
comp=Z,4.8nm,0.9s,baz=39,slow=5.7,SNR=5.9
comp=Z,4.8nm,0.9s
ARCES ARCESS Array B 65.28 339 P **P** **12 27 25.0 +0.1**
comp=Z,1.4nm,0.6s,baz=67,slow=8.8,SNR=10
comp=Z,1.4nm,0.6s
ARCES ARCESS Array B 65.28 339 P **P** **12 27 25.4 +0.6**
ARCES IAmb IAmb 12 27 31.7
comp=Z,12nm,1.4s
ARCES ARCESS Array B 65.28 339 P **P** **12 27 25.4 +0.6**
ARCES pmax pmax
comp=Z,12nm,1.4s
FIA1 FINESS Array S 69.52 331 P **P** **12 27 51.0 -0.2**
FINES FINESS Array B 69.52 331 P **P** **12 27 50.8 -0.5**
comp=Z,2.0nm,0.5s,baz=60,slow=5.4,SNR=25
comp=Z,2.0nm,0.5s
FINES FINESS Array B 69.52 331 P **P** **12 27 51.2 0.0**
FINES FINESS Array B 69.52 331 *i* P **P** **12 27 51.0 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
ZEI Tsey 69.68 308 *e*P **P** **12 27 50.2 -2.7**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 69.88 310 P **P** **12 27 53.8 0.0**
comp=Z,7.5nm,0.8s,baz=68,slow=2.2,SNR=14
comp=Z,7.5nm,0.8s
KBZ Khabaz 69.88 310 *ce*P **P** **12 27 54.6 +0.8**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 69.91 310 *e*P **P** **12 27 55.5 +1.4**
KIV pmax pmax
comp=Z,15nm,1.0s
AKASG Malin Array Be 74.19 321 P **P** **12 28 18.6 -0.4**
comp=Z,1.0nm,0.5s,baz=50,slow=6.7,SNR=7.4
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 74.19 321‖ *e*P **P** **12 28 18.7 -0.3**
NOA NORSAR Array B 75.27 336 P **P** **12 28 24.7 -0.3**
comp=Z,0.8nm,0.6s,baz=44,slow=5.5,SNR=2.7
comp=Z,0.8nm,0.6s
BR131 Keskin Array S 77.87 310‖ *e*P **P** **12 28 40.6 +0.6**
BRTR Keskin Array B 77.87 310 P **P** **12 28 40.0 -0.1**
comp=Z,2.0nm,0.8s,baz=104,slow=5.2,SNR=8.1
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 77.87 310 *i* P **P** **12 28 40.7 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BUR08 Bucovina Ar. S 78.13 320 P **P** **12 28 42.0 +0.8**
BUR08 IAmb IAmb 12 28 42.5
comp=Z,2.9nm,1.1s
BURAR Bucovina Array 78.14 320 P **P** **12 28 42.0 +0.7**
RAYN Ar Rayn 78.24 290 P **P** **12 28 42.0 -0.2**
RAYN Ar Rayn 78.24 290 P **P** **12 28 42.0 -0.2**
RAYN pmax pmax
comp=Z,7.0nm,0.7s
VRI Vrincioaia 78.39 318 P **P** **12 28 43.5 +0.9**
VRI pmax pmax
comp=Z,7.0nm,1.2s
NVAR Mina Array Bea 79.59 51 P **P** **12 28 50.8 +1.4**
comp=Z,0.2nm,0.6s,baz=270,slow=4.5,SNR=2.6
comp=Z,0.2nm,0.6s
CLL Collm 81.59 328 *i* P **P** **12 28 59.4 0.0**
comp=Z,4.0nm,0.6s
PDAR Pinedale Array 82.21 43 P **P** **12 29 04.5 +1.4**
comp=Z,2.0nm,0.6s,baz=316,slow=6.2,SNR=3.6
comp=Z,2.0nm,0.6s
VTS Vitosha 82.38 317 P **P** **12 29 04.7 +0.9**
VTS pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 82.90 326 P **P** **12 29 06.7 +0.5**
KHC IAmb IAmb 12 29 07.1
comp=Z,3.7nm,0.8s
KHC Kasperske Hory 82.90 326‖ *e*P **P** **12 29 06.5 +0.3**
KHC pmax pmax
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 83.05 326 P **P** **12 29 07.1 +0.1**
GEC2 pmax pmax
comp=Z,4.0nm,1.8s
GERES GERESS Array B 83.05 326 P **P** **12 29 07.2 +0.1**
comp=Z,1.5nm,0.6s,baz=46,slow=5.8,SNR=12
comp=Z,1.5nm,0.6s
GERES GERESS Array B 83.05 326 P **P** **12 29 07.7 +0.6**
GERES GERESS Array B 83.05 326 P **P** **12 29 07.7 +0.6**
FUORN Ofenpass-Fuorn 86.26 326 P **P** **12 29 23.4 +0.2**
FUORN IAmb IAmb 12 29 38.6
comp=Z,8.1nm,1.4s

*IDC **11** 12:22:42.8±1.1, 11°.51S×117°.59E, h0km, mb3.8/5, mbtmp3.9/9, ML4.2/5, MS3.0/1, Error ellipse: s-maj=29.9km s-min=19.3km az=73.0*
*DJA **11** 12:22:46.9±1.1, 12°.2S±4°.×11°.8E±°, h39km±37km, M4.7/13, mb4.7/6, mB5.1/6, MLv4.8/13, Mw(mB)4.5/6*
ISC 11 12:22:47.4±0.6, **11°.57S**±0°.06×**117°.78E**±0°.05, **h35**km, **n42,** σ1§**21**/49, **mb3.7**/5, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.72**	**360**	P		**Pn**	**12 23 29.6**	**+0.9**
PLAI	**Plampang**	**2.72**	**360**	P		**Pn**	**12 23 29.6**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.95**	**342**	P		**Pn**	**12 23 32.2**	**+0.4**
KLNI	**Mataram**	**3.54**	**332**	P		**Pn**	**12 23 40.0**	**+0.1**
KLNI				S		**Sn**	**12 24 21.3**	**+0.7**
IGBI	**Denpasar**	**3.77**	**316**	P		**Pn**	**12 23 42.3**	**-0.8**
IGBI				S		**Sn**	**12 24 26.0**	**-0.2**
DNP	**Denpasar**	**3.83**	**318**	P		**Pn**	**12 23 43.8**	**-0.1**
DNP				S		**Sn**	**12 24 26.3**	**-1.4**
RTBI	**Rangdo, Negare**	**4.17**	**318**	P		**Pn**	**12 23 48.7**	**+0.1**
RTBI				S		**Sn**	**12 24 36.5**	**+0.4**
SRBI	**Singaraja**	**4.29**	**324**	P		**Pn**	**12 23 50.2**	**0.0**
SRBI				S		**Sn**	**12 24 39.9**	**+0.9**
JAGI	**Jajag, Banyuwa**	**4.72**	**310**	P		**Pn**	**12 23 54.8**	**-1.3**
JAGI	**Jajag, Banyuwa**	**4.72**	**310**	P		**Pn**	**12 23 55.2**	**-0.9**
MMRI	**Maumere**	**5.26**	**57**	P		**Pn**	**12 24 04.6**	**+1.0**
MMRI	**Maumere**	**5.26**	**57**	P		**Pn**	**12 24 04.6**	**+1.0**
KMMI	**Kalianget**	**5.86**	**320**	P		**Pn**	**12 24 11.8**	**0.0**
	0.4nm80nm,1.8s						
BATI	**Baumata**	**5.93**	**77**	Pn		**Pn**	**12 24 14.4**	**+1.6**
	42nm,0.3s,baz=210,slow=0.3,SNR=28						
BATI				Sn		**Sn**	**12 25 18.7**	**-0.9**
	8.8nm,0.3s,baz=288,slow=9.6,SNR=2.3						
BATI	**Baumata**	**5.93**	**77**	P		**Pn**	**12 24 13.7**	**+0.9**
	0.6nm2μm106nm,0.8s						
BSSI	**Bau Bau, Buton**	**6.01**	**27**	P		**Pn**	**12 24 14.2**	**+0.2**
	0.5nm1μm42nm,0.7s						
KRKI	**Karangkates**	**6.25**	**302**	P		**Pn**	**12 24 15.7**	**-1.5**
	0.5nm28nm,0.5s						
BKSI	**Bulukumba**	**6.62**	**21**	P		**Pn**	**12 24 23.1**	**+0.8**
	0.3nm636nm29nm,0.9s						
SOEI	**Soe**	**6.62**	**75**	P		**Pn**	**12 24 23.5**	**+1.1**
	0.4nm1μm115nm,0.8s						
SOEI	**Soe**	**6.62**	**75**	P		**Pn**	**12 24 24.6**	**+2.2**
KAPI	**Kappang**	**6.79**	**17**	Pn		**Pn**	**12 24 25.7**	**+1.0**
	2.2nm,0.3s,baz=179,slow=1.7,SNR=9.0						
KAPI				Sn		**Sn**	**12 25 37.2**	**-3.7**
	12nm,0.3s,baz=105,slow=22,SNR=13						
	13nm,0.5s						
KAPI	**Kappang**	**6.79**	**17**	P		**Pn**	**12 24 27.7**	**+3.0**
PCJI	**Pacitan**	**7.32**	**297**	P		**Pn**	**12 24 30.7**	**-1.2**
	0.4nm78nm,0.9s						
BNSI	**Bone**	**7.48**	**18**	P		**Pn**	**12 24 34.9**	**+0.8**
	0.1nm9.3nm,0.9s						
SPSI	**Sidrap Palu**	**7.80**	**15**	P		**Pn**	**12 24 40.4**	**+1.9**
UGM	**Wanagama**	**8.02**	**296**	P		**Pn**	**12 24 41.8**	**+0.2**
MBWA	**Marble Bar**	**9.72**	**169**	P		**Pn**	**12 25 03.2**	**-1.7**
PSA00	**Pilbara Seismi**	**10.15**	**169**	P		**Pn**	**12 25 08.9**	**-1.8**
KNRA	**Kununurra**	**11.43**	**112**	P		**Pn**	**12 25 28.4**	**+0.2**
GIRL	**Giralia**	**11.53**	**197**	P		**Pn**	**12 25 29.0**	**-0.6**
MTN	**Manton Dam**	**13.11**	**97**	P		**Pn**	**12 25 51.6**	**+0.3**
WRKA	**Warakurna**	**16.69**	**145**	P		**Pn**	**12 26 37.7**	**-1.1**
SIJI	**Sorong**	**17.09**	**52**	P		**P**	**12 26 45.3**	**+0.1**
	1.1nm,0.3s,baz=230,slow=7.9,SNR=7.5						
	9.3nm,0.7s						
MORW	**Morawa**	**17.49**	**185**	P		**Pn**	**12 26 48.5**	**-0.2**
WRA	**Warramunga Arr**	**17.97**	**120**	P		**P**	**12 26 55.2**	**+0.3**
	0.5nm,0.3s,baz=291,slow=15,SNR=9.7						
WRA				S		Sn	12 29 59.9	-14
	2.2nm,0.5s,baz=286,slow=25,SNR=9.5						
	1.1nm,0.5s						
BLDU	**Ballidu**	**18.98**	**183**	P		**P**	**12 27 06.1**	**+0.1**
ASAR	**Alice Springs**	**19.49**	**130**	P		**Pn**	**12 27 13.9**	**+0.8**
	0.7nm,0.3s,baz=320,slow=15,SNR=20						
ASAR				S		S	12 30 37.3	-13
	3.8nm,0.6s,baz=301,slow=22,SNR=8.5						
ASAR				LR		LR	12 34 42.8	
	comp=Z,40nm,18.1s,baz=333,slow=37						
	2.9nm,0.9s						
NWAO	**Narrogin (SRO)**	**21.27**	**181**	P		**P**	**12 27 33.2**	**+2.4**
	11nm,0.5s,baz=8.3,slow=17,SNR=24						
NWAO				S		S	12 31 10.4	-15
	6.5nm,0.3s,baz=340,slow=6.4,SNR=3.4						
	11nm,0.5s						
SONM	**Songino Array**	**60.00**	**351**	P		**P**	**12 32 50.9**	**+0.3**
	0.3nm,0.5s,baz=171,slow=9.4,SNR=2.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**66.20**	**334**	P		**P**	**12 33 31.5**	**-0.2**
	0.4nm,0.6s,baz=135,slow=6.2,SNR=4.1						
	0.4nm,0.6s						
VNDA	**Vanda**	**69.66**	**171**	P		**P**	**12 33 53.4**	**+0.4**
	0.3nm,0.8s,baz=299,slow=7.0,SNR=1.9						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**71.01**	**340**	P		**P**	**12 34 00.8**	**-0.6**
	0.5nm,0.3s,baz=146,slow=5.5,SNR=2.1						
	0.5nm,0.3s						

IDC 11 12:31:00.3±10.0, **27°.72N**×**144°.75E, h0**km, **mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=389.3km s-min=36.2km az=71.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.44**	**193**	P		P	12 39 44.3	-0.3
	0.5nm,0.3s,baz=13,slow=8.3,SNR=30						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**51.84**	**309**	P		P	12 40 10.1	-0.1
	0.9nm,0.9s,baz=96,slow=8.1,SNR=2.2						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**52.15**	**193**	P		P	12 40 12.8	+0.1
	0.3nm,1.0s,baz=17,slow=6.6,SNR=1.6						
	0.3nm,1.0s						

*IDC **11** 12:34:27.0±1.5, 19°.36S×177°.56W, h526km±23km, mb3.2/5, mbtmp4.1/8, Error ellipse: s-maj=32.8km s-min=18.4km az=175.0*
ISC 11 12:34:28.1±1.0, **19°.1S**±0°.2×**177°.6W**±0°.1, **h550**km, **n8,** σ1§**15**/9, **mb3.6**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.34**	**288**	P		**P**	**12 35 51.1**	**-1.7**
	2.2nm,0.4s,baz=133,slow=19,SNR=12						
AFI	**Afiamalu**	**7.63**	**48**	P		**P**	**12 36 22.2**	**-0.2**
	17nm,0.7s,baz=242,slow=17,SNR=1.7						
AFI				S		**S**	**12 37 55.7**	**-0.3**
	23nm,0.4s,baz=214,slow=16,SNR=9.6						
DZM	**Mont Dzumac**	**15.21**	**256**	P		**P**	**12 37 38.8**	**-1.1**
	3.8nm,0.7s,baz=86,slow=19,SNR=2.1						
CTA	**Charters Tower**	**34.01**	**262**	P		**P**	**12 40 27.6**	**+0.8**
	4.4nm,0.5s,baz=85,slow=9.9,SNR=21						
	4.4nm,0.5s						
WRA	**Warramunga Arr**	**45.16**	**261**	P		**P**	**12 41 56.7**	**+0.4**
	0.7nm,0.5s,baz=98,slow=7.9,SNR=24						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**45.20**	**255**	P		**P**	**12 41 57.0**	**+0.4**
	2.9nm,0.8s,baz=96,slow=7.9,SNR=22						
	2.9nm,0.8s						
QSPA	**South Pole Qui**	**70.93**	**180**	P		**P**	**12 44 49.7**	**-0.3**
	1.3nm,0.7s,baz=356,slow=19,SNR=14						
	1.3nm,0.7s						
SONM	**Songino Array**	**94.97**	**319**	P		**P**	**12 46 53.7**	**+1.7**
	0.1nm,0.3s,baz=123,slow=5.3,SNR=1.6						
	0.1nm,0.3s						

IDC 11 13:18:56.5±51.0, **27°.38S**×**179°.53W, h0**km, **mb3.8**/3, **mbtmp3.8**/3, **Error ellipse: s-maj=925.9km s-min=161.9km az=93.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.97**	**253**	P		P	13 25 40.9	-0.9
	0.6nm,0.4s,baz=91,slow=9.1,SNR=4.9						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**42.00**	**264**	P		P	13 26 49.6	-0.2
	0.7nm,0.6s,baz=100,slow=7.1,SNR=19						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**42.71**	**270**	P		P	13 26 56.0	+0.5
	0.7nm,0.4s,baz=107,slow=8.0,SNR=12						
	0.7nm,0.4s						

*MOS **11** 13:20:27.2±1.4, 31°.90N×50°.00E, h10km, mb4.6/14, Error ellipse: s-maj=8.5km s-min=6.2km az=105.8*
*IDC **11** 13:20:27.1±0.8, 31°.95N×50°.10E, h0km, mb4.1/20, mbtmp4.1/26, ML4.2/6, MS3.3/9, Error ellipse: s-maj=18.6km s-min=13.2km az=174.0*
*TEH **11** 13:20:28.4, 32°.01N×50°.14E, h8km, ML4.2*
*NEIC **11** 13:20:29.5±2.3, 31°.92N±0°.03×50°.00E±0°.08, h10km±1km, mb4.4/31, mb_Lg4.2(TEH), Error ellipse: s-maj=12.3km s-min=2.9km az=248.0*
*SGS **11** 13:20:30.9, 32°.06N×50°.13E, h9km, Ml4.8*
*DSN **11** 13:20:35.7±2.9, 31°.46N×50°.32E, h10km, ML4.0/11, Error ellipse: s-maj=37.7km s-min=15.7km az=9.0*
*OMAN **11** 13:20:36.1±0.5, 31°.63N×50°.59E, h10km, mb5.8/22, ms2.7/1, Error ellipse: s-maj=9.9km s-min=5.7km az=12.0*
ISC 11 13:20:29.7±0.3, **31°.95N**±0°.03×**50°.14E**±0°.02, **h15**km, **n286,** σ2§**15**/305, **mb4.4**/56, **MS3.5**/4, **14C-13D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHK1	**Shahrekord**	**0.74**	**59**	*e*Pg		**Pg**	**13 20 41.6**	**-2.6**
AMIS	**Naft Sefid**	**0.78**	**249**	*e*Pg		**Pg**	**13 20 44.5**	**-0.3**
AMIS				*e*Sg		**Sn**	**13 20 57.1**	**-0.4**
AMIS				*e*			13 21 04.3	
	comp=Z,75μm,0.2s						
IBRJ	**Brojen**	**0.96**	**92**	*e*Pg		**Pb**	**13 20 47.3**	**-0.9**
IBRJ				*e*Sg		**Sn**	**13 21 03.1**	**+0.7**
IBRJ				*e*			13 21 05.0	
	comp=Z,67μm,0.6s						

IPIR Pirpir 0.97 41 ePg Pb 13 20 46.7 -1.8
ABEH Behbahan 1.35 176 ePg Pg 13 20 55.9 +0.3
ABEH e 13 21 00.6
comp=Z,85µm,0.3s
AHWZ Ahwaz 1.41 245 ePg Pg 13 20 57.1 +0.2
AHWZ eSg Sg 13 21 19.5 +4.2
KLNJ Kolanjah 1.56 127 ePg Pg 13 20 59.3 -0.4
KLNJ eSg Sg 13 21 26.1 +6.1
KLNJ e 13 21 48.8
comp=Z,21µm,0.8s
IGAR Gharneh 1.68 74 ePn Pb 13 20 59.7 -0.8
IGAR e 13 21 31.8
comp=Z,23µm,0.5s
KHMZ Khomeyn 1.79 355 ePg Pb 13 21 02.4 0.0
IKLH Kolahrood 1.83 41 ePn Pn 13 21 01.6 +0.7
IKLH e 13 21 42.1
comp=Z,22µm,0.6s
IRAM Rameshеh 1.92 94 ePn Pb 13 21 03.9 -0.6
IRAM e 13 21 44.0
comp=Z,14µm,0.6s
QAMS Qamsar 2.08 30 e 13 21 43.7
comp=Z,18µm,0.4s
QAMS ePn Pn 13 21 05.7 +1.5
IZEF Zefreh 2.08 62 e 13 21 09.0
comp=Z,10µm,0.8s
IZEF ePn Pb 13 21 06.1 -1.3
IKMR Kamar-syah 2.15 317 e 13 21 48.2
comp=Z,23µm,0.4s
IKMR ePn Pb 13 21 06.8 -1.6
NASN Na'in 2.42 69 ePn Pb 13 21 11.4 -1.7
IDOB Doab 2.47 319 ePn Pn 13 21 10.9 +1.3
IKFM Kafar-mosalman 2.49 310 ePn Pn 13 21 11.7 +2.0
IKFM e 13 22 05.5
comp=Z,21µm,0.5s
DHL1 Dehloran 2.53 288 ePn Pn 13 21 11.9 +1.7
HSAM Samen 2.60 331 ePn Pn 13 21 12.9 +1.4
HSAM e 13 21 56.4
comp=Z,5µm,1.0s
KRSH Karshahi 2.63 39 ePn Pn 13 21 13.6 +1.9
KRSH e 13 21 57.0
comp=Z,8µm,0.6s
KAZ1 Kazerun 2.65 150 ePn Pb 13 21 14.8 -2.1
KAZ1 e 13 22 09.6
comp=Z,15µm,0.6s
GHVR GHOM 2.71 21 ePn Pn 13 21 15.3 +2.5
ISFB Sefidab 2.98 36 ePn Pn 13 21 18.4 +1.9
ISFB e 13 22 09.9
comp=Z,4µm,0.8s
HAGD Aghdareh 2.99 344 ePn Pn 13 21 18.0 +1.3
HAGD e 13 22 07.3
comp=Z,6µm,1.0s
IQOM Qom 2.99 15 ePn Pn 13 21 17.9 +1.1
IQOM e 13 21 32.3
comp=Z,7µm,1.0s
ISAD Sadrabad 3.02 90 ePn Pn 13 21 19.9 +2.7
ISAD e 13 22 18.0
comp=Z,5µm,0.8s
SHI Shiraz 3.08 138 ePn Pn 13 21 20.3 +2.4
IKOM Komasi 3.13 316 ePn Pn 13 21 20.2 +1.6
IBZA Bozab 3.16 323 ePn Pn 13 21 20.2 +1.1
IBZA e 13 22 34.1
comp=Z,4µm,0.8s
AHBU AHRAM 3.23 162 ePn Pn 13 21 23.0 +3.1
AHBU e 13 22 32.7
comp=Z,99nm,0.8s
ANAR Anarak 3.28 67 ePn Pn 13 21 23.9 +3.2
IVRN Varamin 3.32 23 ePn Pn 13 21 23.6 +2.4
IRAZ Razeghan 3.45 357 ePn Pn 13 21 25.2 +2.1
IRAZ e 13 22 31.6
comp=Z,6µm,0.8s
KCHF Cheshme Sefid, 3.48 313 ePn Pn 13 21 24.8 +1.3
KCHF e 13 22 42.9
comp=Z,5µm,0.6s
KER Kermanshah 3.50 315 ePn Pn 13 21 25.0 +1.3
ICHK Chekchek 3.64 84 ePn Pn 13 21 28.4 +2.7
ILBA Ilam Banvizeh 3.71 298 ePn Pn 13 21 27.2 +0.7
IMHD Mahdasht 3.75 7 ePn Pn 13 21 29.0 +1.8
IMHD e 13 22 46.2
comp=Z,3µm,0.8s
QABG Abgarm-Qazvin 3.78 353 ePn Pn 13 21 28.7 +1.0
YZKH Yazd 3.81 82 ePn Pn 13 21 31.2 +3.3
IGHG Ghaleghazi 3.82 309 ePn Pn 13 21 29.3 +1.1
IGHG e 13 22 59.1
comp=Z,7µm,1.1s
IMEH Mehriz 3.86 97 ePn Pn 13 21 31.4 +2.7
IMEH e 13 22 45.2
comp=Z,1µm,0.7s
SNGE Sanandaj 3.91 324 ePn Pn 13 21 30.8 +1.4
IDMV Damavand 3.95 23 ePn Pn 13 21 31.8 +1.7
ILIN Lien 3.98 319 ePn Pn 13 21 31.3 +0.9
ILIN e 13 22 53.6
comp=Z,2µm,0.7s
DAMV Damavand 3.98 22 ePn Pn 13 21 32.8 +2.4
CHTH Charan 4.04 12 ePn Pn 13 21 33.4 +2.2
ILAS Lasjerd 4.16 34 ePn Pn 13 21 34.7 +1.9
IDHR Dehrash 4.17 312 ePn Pn 13 21 34.0 +1.0
IDHR e 13 22 32.9
comp=Z,4µm,0.3s
IFIR Firoozkooh 4.28 30 ePn Pn 13 21 36.7 +2.1
IGZV Ghazvin 4.43 1 ePn Pn 13 21 38.2 +1.6
IGZV e 13 23 00.9
comp=Z,2µm,0.9s
QALM Alamut, Qazvin 4.49 5 ePn Pn 13 21 38.8 +1.3
QSDN Sirdan 4.62 350 ePn Pn 13 21 40.9 +1.8
KLST Kelardasht - M 4.62 9 ePn Pn 13 21 41.1 +1.8
IBAF Bafgh 4.64 93 ePn Pn 13 21 42.1 +2.7
IBAF e 13 21 45.5
comp=Z,2µm,0.3s
IPRN Peran 4.66 22 ePn Pn 13 21 41.7 +2.1
ISHM Shahmirzad 4.66 33 ePn Pn 13 21 41.7 +1.9
IANJ Anjilo 4.72 41 ePn Pn 13 21 42.5 +2.0
JIR1 Jirandeh 4.76 357 ePn Pn 13 21 42.4 +1.4
ZNJK Zanjan 4.86 346 ePn Pn 13 21 45.0 +2.5
GIDE GILAN DEYLAMAN 4.97 358 ePn Pn 13 21 46.5 +2.6
IGLO Ghaloghah 5.48 33 ePn Pn 13 21 53.3 +2.3
TPRV Parvadeh(Tabas 5.64 77 ePn Pn 13 21 55.6 +2.5
KHGB Koh Gabri 5.66 104 ePn Pn 13 21 55.6 +2.1
TNSJ Nastanj 5.80 68 ePn Pn 13 21 57.3 +2.0
RQBS RQBS 5.85 219 P Pn 13 21 56.9 +0.9
RQBS RQBS 5.85 219 S Sn 13 23 01.3 -1.6
SAKB Bahrain 5.96 177 P Pn 13 22 00.1 +2.8
SAKB S Sn 13 23 07.5 +2.2
TVBK TV Kerman 6.02 107 ePn Pn 13 22 00.8 +2.3
SMAN Sihmah 6.03 198 P Pn 13 21 59.3 +1.0
SHMA Al-Shehemyia 6.11 173 P Pn 13 22 01.6 +2.1
SHMA S Sn 13 23 08.5 -0.7
TKDS Koohdasht(Taba 6.11 72 ePn Pn 13 22 02.4 +2.8
NGRK Negar Kerman 6.12 110 ePn Pn 13 22 03.0 +3.0
TABS Tabas 6.12 72 ePn Pn 13 22 02.8 +3.1
SHRO Shahrood 6.33 49 ePn Pn 13 22 05.3 +2.7
CHMN Cheshme madani 6.69 106 ePn Pn 13 22 10.8 +3.0
IHRS Heris 6.84 339 ePn Pn 13 22 11.0 +1.3
RMAH Rumah 7.17 204 P Pn 13 22 14.7 +0.6
SMRA Abu-Samra 7.20 175 P Pn 13 22 15.9 +1.5
SMRA S Sn 13 23 35.7 -0.3
NHRD Haradh 7.26 188 P Pn 13 22 15.6 +0.2
ITEG Tejag 7.34 80 ePn Pn 13 22 19.0 +2.4
MRVT Maraveh tapeh 7.51 39 ePn Pn 13 22 21.4 +2.6
IKOO Kooshah 7.53 84 ePn Pn 13 22 22.0 +2.8
AFRZ Afriz 7.63 76 ePn Pn 13 22 23.7 +3.2
BSRN Basiran 7.64 87 ePn Pn 13 22 23.4 +2.8
KHNJ Kahnooj 7.68 119 ePn Pn 13 22 24.2 +3.1
KBAM BAM 7.70 109 ePn Pn 13 22 24.3 +2.9
SHME Shamm 7.88 137 P Pn 13 22 26.4 +2.6
SHME S Sn 13 23 50.5 -2.3
SHME Shamm 7.88 137 P Pn 13 22 24.2 +0.4
SLWR Sila 7.97 170 P Pn 13 22 27.5 +2.5
SLWR S Sn 13 23 55.6 +0.8
BANOM Banah 8.07 136 P Pn 13 22 26.2 -0.3
SNR=31
BANOM S Sn 13 23 53.7 -3.9
BANOM Banah 8.07 136 iP Pn 13 22 25.6 -0.8
SNR=14
BANOM S Sn 13 23 53.6 -3.9
MASF Masafi 8.42 140 P Pn 13 22 31.2 0.0
SNR=7.8
MASF S Sn 13 24 03.9 -2.1
SNR=7.9
MSFE Esma-Masafi 8.43 140 iP Pn 13 22 30.9 -0.5
SNR=7.8
NAZ Nazwa, Dubai 8.47 144 P Pn 13 22 34.0 +2.1
SNR=5.8
NAZ S Sn 13 24 05.1 -2.0

NAZ Nazwa, Dubai 8.47 144 P Pn 13 22 32.9 +1.0
NHDN Nehbandan 8.47 91 ePn Pn 13 22 35.5 +3.5
IAKL Akhelmad 8.51 55 ePn Pn 13 22 35.0 +2.3
GEVA Gevas 8.60 320 Pn Pn 13 22 29.2 -4.5
IPAY Payeh 8.60 56 ePn Pn 13 22 36.1 +2.2
ASUD Al Ashush, Dub 8.61 147 P Pn 13 22 34.7 +0.9
FAQ Al Faqa, Dubai 8.63 145 P Pn 13 22 35.8 +1.6
SHRT Shahrakht 8.72 76 ePn Pn 13 22 38.8 +3.5
UOSS Minazif 8.78 141 Pn Pn 13 22 35.5 -0.7
UOSS Minazif 8.78 141 P Pn 13 22 36.7 +0.5
UOSS S Sn 13 24 11.2 -3.7
UOSS Minazif 8.78 141 iP Pn 13 22 36.9 +0.8
SNR=10
HATD Hatta, Dubai 8.84 142 P Pn 13 22 40.0 +3.0
SNR=15
HATD Hatta, Dubai 8.84 142 iP Pn 13 22 38.0 +1.0
SNR=15
GEYT Alibeck 8.86 45 Pn Pn 13 22 38.1 +0.9
comp=Z,1.5nm,0.3s,baz=246,slow=11,SNR=7.3
GEYT LR LR 13 26 22.3
comp=Z,163nm,18.6s,baz=300,slow=40
comp=Z,27nm,0.3s
GEYT Alibeck 8.86 45 Pn Pn 13 22 38.6 +1.3
GYA0B ALIBECK ARRAY 8.86 45 Pn Pn 13 22 37.9 +0.7
ASHO Ashiyiah 8.92 143 P Pn 13 22 38.0 -0.1
SNR=21
ASHO P 13 22 42.0
SNR=5.0
ASHO S Sn 13 24 17.0 -1.4
SNR=9.8
ASHO Ashiyiah 8.92 143 iP Pn 13 22 37.9 -0.2
SNR=19
TBJM Torbat-e-JAM 9.12 66 ePn Pn 13 22 44.0 +3.0
ALNE Al Ain 9.29 146 P Pn 13 22 45.7 +2.5
SNR=9.7
ALNE Al Ain 9.29 146 iP Pn 13 22 43.1 -0.1
SNR=7.7
RAYN Ar Rayn 9.34 207 Pn Pn 13 22 42.5 -1.4
RAYN Ar Rayn 9.34 207 iP Pn 13 22 42.7 -1.2
SNR=59
RAYN Ar Rayn 9.34 207 P Pn 13 22 42.5 -1.4
MARD Mardin 9.38 307 Pn Pn 13 22 42.8 -1.7
MZR Muzera 9.39 161 P Pn 13 22 45.9 +1.4
SNR=21
MZR S Sn 13 24 29.0 -0.9
MZR Muzera 9.39 161 iP Pn 13 22 45.4 +0.9
SNR=21
ZHSF Zahedan 9.44 102 ePn Pn 13 22 51.1 +5.7
SOHO SOHO 9.62 142 P Pn 13 22 45.8 -1.7
UMZA Um Al Zommool 10.22 153 P Pn 13 22 56.5 +0.6
BIDO Bidbid 10.97 138 P Pn 13 23 07.7 +1.5
SNR=6.4
BIDO S Sn 13 25 04.8 -4.0
BSY Bisya 11.11 144 P Pn 13 23 08.4 +0.4
SNR=5.2
BSY S Sn 13 25 06.9 -5.1
ASF Jabal al Asfar 11.24 275 Pn Pn 13 23 08.7 -1.2
comp=Z,5.0nm,0.3s,baz=97,slow=11,SNR=32
ASF Sn Sn 13 25 08.9 -6.3
comp=Z,0.7nm,0.3s,baz=159,slow=7.5,SNR=3.8
comp=Z,11nm,0.4s
SMDO Samad 11.30 140 P Pn 13 23 10.5 -0.2
SNR=12
SMDO S Sn 13 25 09.2 -7.6
WSAR Wadi Sarin 11.48 137 Pn Pn 13 23 12.6 -0.6
comp=Z,2.7nm,0.3s,baz=322,slow=6.9,SNR=33
WSAR Sn Sn 13 25 16.4 -4.8
comp=Z,0.6nm,0.3s,baz=283,slow=21,SNR=6.7
WSAR LR LR 13 28 15.1
comp=Z,114nm,20.2s,baz=318,slow=41
comp=Z,16nm,0.4s
WSAR Wadi Sarin 11.48 137 P Pn 13 23 13.7 +0.5
SNR=6.6
WSAR S Sn 13 25 14.7 -6.5
JMDO Jabal Madar 11.88 141 P Pn 13 23 19.2 +0.5
SNR=7.4
JMDO P Pn 13 23 19.2 +0.5
SNR=7.4
GHAJ Ghor Haditha 12.44 271 Pn Pn 13 23 24.6 -1.6
MMAI Mount Meron Ar 12.49 279 Pn Pn 13 23 25.6 -1.3
comp=Z,0.8nm,0.3s,baz=98,slow=16,SNR=2.7
MMAI LR LR 13 29 52.5
comp=Z,62nm,18.6s,baz=240,slow=45
comp=Z,0.5nm,0.2s
MHTO MHTO 12.97 145 P Pn 13 23 33.7 +0.2
SNR=22
MHTO S Sn 13 25 50.2 -7.3
SNR=5.4
KBZ Khabaz 13.07 336 LR LR 13 28 18.2
comp=Z,31nm,18.0s,baz=159,slow=36
EIL Elat 13.25 264 Pn Pn 13 23 36.1 -1.2
comp=Z,0.6nm,0.3s,baz=66,slow=22,SNR=1.6
EIL LR LR 13 29 58.8
comp=Z,123nm,19.8s,baz=63,slow=43
comp=Z,3.4nm,0.7s
DOK Doka 13.75 164 P Pn 13 23 43.5 -0.7
SNR=23
WHFO Wadi Hawf 14.35 166 P Pn 13 23 50.8 -1.6
SNR=26
ABTO Aybut 14.81 168 P Pn 13 23 56.6 -2.1
SNR=5.3
DMTO DMTO 14.82 162 P Pn 13 23 56.9 -2.0
SNR=14
BR131 Keskin Array S 15.45 305 P P 13 24 11.9 +0.2
BR131 IAmb IAmb 13 24 24.8
comp=Z,6.6nm,0.7s
BR131 Keskin Array S 15.45 305 P P 13 24 11.9 +0.2
BR131 pmax pmax
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 15.45 305 Pn Pn 13 24 08.9 +1.6
comp=Z,0.6nm,0.3s,baz=131,slow=12,SNR=11
comp=Z,1.3nm,0.4s
KBL Kabul 16.03 76 P P 13 24 20.1 +1.9
KBL pmax pmax
comp=Z,4.0nm,0.5s
CHGR Chuyangaron 16.90 61 P P 13 24 28.8 +1.1
CHGR IAmb IAmb 13 24 41.1
comp=Z,17nm,0.9s
CHGR Chuyangaron 16.90 61 P P 13 24 28.8 +1.1
CHGR pmax pmax
comp=Z,17nm,0.9s
GAR Garm 17.86 61 P P 13 24 42.3 +3.9
ABKAR Akbulak array 18.80 20 P Pn 13 24 49.9 +0.9
ABKAR Akbulak array 18.80 20 P Pn 13 24 50.5 +1.6
KK31 Karatay Array 19.57 50 P Pn 13 25 00.7 +2.3
KK31 Karatay Array 19.57 50 P Pn 13 25 00.7 +2.3
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 19.57 50 P Pn 13 25 00.5 +2.1
KKAR Karatay Array 19.57 50 P Pn 13 25 00.7 +2.3
KKAR IAmb IAmb 13 25 02.9
comp=Z,3.1nm,0.7s
KKAR Karatay Array 19.57 50 P Pn 13 25 00.7 +2.3
KKAR pmax pmax
comp=Z,3.0nm,0.7s
BELG Belogornoye 20.52 356 P P 13 25 07.0 -0.1
comp=Z,20nm,0.7s,baz=340,slow=3.7,SNR=6.8
comp=Z,20nm,0.7s
VSR Storozhevoye 20.89 340 eP P 13 25 07.3 -3.9
VSR pmax pmax
comp=Z,20nm,1.1s
MFTR Murfatlar 20.94 312 ⇑P P 13 25 11.3 -0.5
JURR Jurilovca 20.94 314 ⇑P P 13 25 11.6 -0.2
TIRR Tirgusor 21.08 313 ⇓P P 13 25 13.1 -0.2
TIRR Tirgusor 21.08 313 P P 13 25 14.3 +1.0
TIRR IAmb IAmb 13 25 20.8
comp=Z,19nm,0.9s
TIRR Tirgusor 21.08 313 P P 13 25 14.3 +1.0
TIRR pmax pmax
comp=Z,19nm,0.9s
TPGR Topolog 21.27 313 ⇑P P 13 25 15.7 +0.3
IDI Anoyia 21.27 286 P P 13 25 15.3 -0.3
comp=Z,12nm,0.6s,baz=116,slow=6.3,SNR=11
comp=Z,12nm,0.6s
IDI Anoyia 21.27 286 P P 13 25 15.9 +0.3
IDI IAmb IAmb 13 25 25.0
comp=Z,18nm,0.9s
HARR Harsova 21.49 313 ⇑P P 13 25 19.1 +1.3
HARR Harsova 21.49 313 ⇑P P 13 25 19.1 +1.3
CFR Carcaliu 21.60 314 ⇑P P 13 25 16.7 -2.2
CFR Carcaliu 21.60 314 ⇑P P 13 25 16.7 -2.2
AAK Ala-Archa 22.05 54 LR LR 13 35 04.6
comp=Z,42nm,21.2s,baz=259,slow=40
LPSR Galich'ya Gora 22.19 342 eP P 13 25 23.4 -1.8
LPSR pmax pmax
comp=Z,10.0nm,0.9s

KSH Kashi 22.24 63 P P 13 25 24.5 -1.6
KSH pP pP 13 25 28.6 -2.4
NRN Naryn 22.73 58 P P 13 25 34.7 +3.2
NRN IAmb IAmb 13 25 39.5
comp=Z,9.3nm,1.0s
NRN Naryn 22.73 58 P P 13 25 34.7 +3.2
NRN pmax pmax
comp=Z,9.0nm,1.0s
VRI Vrincioaia 22.80 314 ⇓P P 13 25 38.2 +6.3
VRI Vrincioaia 22.80 314 ⇓P P 13 25 38.2 +6.3
PLOR Plostina 22.84 314 ⇓P P 13 25 34.8 +2.5
PLOR Plostina 22.84 314 ⇓P P 13 25 34.8 +2.5
NEHR Nehoiu 22.86 313 ⇓P P 13 25 33.3 +0.9
SORM Soroca 23.11 321 ⇓P P 13 25 33.0 -1.9
SORM Soroca 23.11 321 ⇓P P 13 25 33.0 -1.9
MLR Muntele Rosu 23.11 313 ⇑P P 13 25 36.5 +1.4
MLR Muntele Rosu 23.11 313 P P 13 25 36.0 +0.9
comp=Z,3.1nm,0.4s,baz=146,slow=5.6,SNR=5.4
comp=Z,3.1nm,0.4s
MLR Muntele Rosu 23.11 313 P P 13 25 36.9 +1.8
MLR IAmb IAmb 13 25 47.5
comp=Z,11nm,0.9s
MLR Muntele Rosu 23.11 313 P P 13 25 36.0 +0.9
COVR Voineasa-Covas 23.11 314 ⇑P P 13 25 36.3 +1.2
TESR Tescani 23.18 316 ⇑P P 13 25 35.8 +0.2
VOIR 23.65 312 ⇓P P 13 25 40.0 -0.4
VOIR 23.65 312 ⇓P P 13 25 40.0 -0.4
AGG Agios Georgios 23.66 295 P P 13 25 43.5 +2.9
AGG pmax pmax
comp=Z,8.0nm,0.9s
BIZ Bicaz 23.71 316 ⇓P P 13 25 48.0 +7.0
ITM Ithomi 23.77 290 P P 13 25 40.5 -1.1
ITM IAmb IAmb 13 25 58.8
comp=Z,24nm,1.1s
VTS Vitosha 23.81 304 ⇑P P 13 25 35.1 -7.0
VTS Vitosha 23.81 304 ⇑P P 13 25 35.1 -7.0
ARR Arges 23.88 311 ⇑P P 13 25 43.7 +1.1
GRG Griva 23.97 300 P P 13 25 44.3 +0.7
GRG pmax pmax
comp=Z,6.0nm,0.9s
TARG Taragay, Kyrgy 24.11 58 P P 13 25 47.4 +2.1
TARG IAmb IAmb 13 25 57.5
comp=Z,4.6nm,1.0s
TARG Taragay, Kyrgy 24.11 58 P P 13 25 47.4 +2.1
TARG pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 24.30 327 P P 13 25 44.9 -1.6
comp=Z,1.0nm,0.4s,baz=135,slow=9.2,SNR=8.6
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 24.30 327 P P 13 25 47.4 +1.0
AKBB IAmb IAmb 13 25 48.3
comp=Z,5.7nm,0.7s
AKBB Malin Array Si 24.30 327 P P 13 25 47.4 +1.0
AKBB pmax pmax
comp=Z,6.0nm,0.7s
BURAR Bucovina Array 24.58 317 ⇓P P 13 25 49.6 +0.5
BURAR Bucovina Array 24.58 317 ⇓P P 13 25 49.4 +0.2
BURAR Bucovina Array 24.58 317 ⇓P P 13 25 49.6 +0.5
BUR08 Bucovina Ar. S 24.60 317 P P 13 25 48.5 -0.9
BUR08 IAmb IAmb 13 25 54.1
comp=Z,4.0nm,0.8s
FNA Florina 24.70 299 P P 13 25 49.3 -0.9
FNA Florina 24.70 299 P P 13 25 49.3 -0.9
FNA pmax pmax
comp=Z,5.0nm,1.3s
ARU Arti 25.17 11 P P 13 25 54.0 -0.3
comp=Z,1.3nm,0.4s,baz=294,slow=23,SNR=1.5
comp=Z,1.3nm,0.4s
ARU Arti 25.17 11 eP P 13 25 54.0 -0.3
BVAR Borovoye Array 25.66 29 P P 13 25 58.5 -0.1
comp=Z,1.3nm,0.4s,baz=224,slow=8.8,SNR=12
comp=Z,1.3nm,0.4s
TRPA Tarpa 26.41 316 ⇑P P 13 26 07.4 +1.9
KOLS Kolonicke sedl 26.94 317 eP P 13 26 14.8 +4.4
KOLS Kolonicke sedl 26.94 317 eP P 13 26 14.8 +4.4
CRVS Cervenica-Dubn 27.40 317 eP P 13 26 18.6 +4.1
CRVS Cervenica-Dubn 27.40 317 eP P 13 26 18.6 +4.1
KURBB Kurchatov Arra 28.08 40 P P 13 26 20.1 -0.4
comp=Z,0.4nm,0.3s,baz=240,slow=9.8,SNR=4.1
comp=Z,0.4nm,0.3s
KURK Kurchatov 28.18 40 P P 13 26 20.1 -1.3
MKAR Makanchi Array 28.70 50 P P 13 26 26.0 -0.2
comp=Z,0.9nm,0.7s,baz=246,slow=12,SNR=4.1
comp=Z,0.9nm,0.7s
GERES GERESS Array B 32.10 312 P P 13 26 56.1 -0.1
comp=Z,0.3nm,0.3s,baz=129,slow=10,SNR=3.6
comp=Z,0.3nm,0.3s
WTTA Wattenberg 33.00 309 iP P 13 27 03.9 -0.4
comp=Z,2.6nm,0.3s
WATA Walderalm 33.05 309 iP P 13 27 06.3 +1.6
comp=Z,2.0nm,0.2s
ZAA0 Zalesovo Array 33.08 38 P P 13 27 04.6 0.0
ZAA0 IAmb IAmb 13 27 14.0
comp=Z,2.2nm,0.9s
ZALV Zalesovo Beam 33.08 38 P P 13 27 04.3 -0.3
comp=Z,2.0nm,0.5s,baz=254,slow=11,SNR=14
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 33.08 38 P P 13 27 04.8 +0.2
ZALV Zalesovo Beam 33.08 38 P P 13 27 04.8 +0.2
SQTA Sankt Quirin 33.27 309 iP P 13 27 06.1 -0.4
comp=Z,3.9nm,0.3s
MOTA Moosalm 33.37 309 iP P 13 27 06.2 -1.2
comp=Z,1.4nm,0.2s
FIA1 FINESS Array S 33.40 339 P P 13 27 07.4 0.0
FIA1 IAmb IAmb 13 27 12.7
comp=Z,14nm,1.2s
FINES FINESS Array B 33.40 339 P P 13 27 07.2 -0.2
comp=Z,2.7nm,0.4s,baz=142,slow=10,SNR=47
comp=Z,2.7nm,0.4s
FETA Feichten 33.55 308 iP P 13 27 08.7 -0.3
comp=Z,2.6nm,0.6s
GRB1 Grafenberg Arr 33.55 313 P P 13 27 08.2 -0.6
GRB1 pmax pmax
comp=Z,18nm,0.6s
BSD Bornholm Skovb 33.90 324 iP P 13 27 15.5 +3.8
BSD IAmb IAmb 13 27 51.6
comp=Z,30nm,0.9s
DAVA Damuels 34.17 308 iP P 13 27 13.1 -1.3
comp=Z,1.3nm,0.2s
BNI Bardonecchia 36.02 304 P P 13 27 29.7 -0.6
BNI Bardonecchia 36.02 304 P P 13 27 29.7 -0.6
BNI pmax pmax
comp=Z,24nm,1.4s
MSF Maaselka 36.32 346 P P 13 27 31.7 -0.8
MSF pmax pmax
comp=Z,31nm,1.2s
OUL Oulu 36.35 343 P P 13 27 32.2 -0.6
OUL pmax pmax
comp=Z,25nm,1.2s
LVZ Lovozero 37.11 350 P P 13 27 40.0 +0.7
LVZ Lovozero 37.11 350 P P 13 27 40.0 +0.7
LVZ pmax pmax
comp=Z,72nm,1.5s
SGF Sodankyl 38.16 346 P P 13 27 47.7 -0.3
SGF pmax pmax
comp=Z,15nm,2.8s
NC405 NORSAR Array S 38.40 331 P P 13 27 49.6 -0.5
NC405 IAmb IAmb 13 27 58.3
comp=Z,21nm,1.1s
NB2 NORSAR Subarra 38.56 331 P P 13 27 50.2 -1.4
baz=121,slow=8.6
NB2 NORSAR Subarra 38.56 331 P P 13 27 50.2 -1.4
comp=Z,1.2nm,0.6s,baz=121,slow=8.6
NOA NORSAR Array B 38.56 331 P P 13 27 50.2 -1.4
comp=Z,2.4nm,0.8s,baz=122,slow=8.4,SNR=7.7
NOA LR LR 13 44 49.5
comp=Z,43nm,18.4s,baz=355,slow=38
comp=Z,2.4nm,0.8s
KEV Kevo 40.02 348 P P 13 28 03.3 -0.3
KEV IAmb IAmb 13 28 08.0
comp=Z,19nm,1.0s
KEV Kevo 40.02 348 P P 13 28 03.3 -0.3
KEV pmax pmax
comp=Z,19nm,1.0s
ARA0 ARCESS Array S 40.12 347 eP P 13 28 05.0 +0.6
ARCES ARCESS Array B 40.12 347 P P 13 28 03.5 -1.0
comp=Z,2.8nm,0.7s,baz=156,slow=7.6,SNR=16
comp=Z,2.8nm,0.7s
ARCES ARCESS Array B 40.12 347 P P 13 28 04.9 +0.4
ARCES IAmb IAmb 13 28 10.2
comp=Z,15nm,1.2s
ARCES ARCESS Array B 40.12 347 P P 13 28 04.9 +0.4
ARCES pmax pmax
comp=Z,15nm,1.3s
KTK1 Kautokeino 40.15 345 eP P 13 28 04.6 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KTK1				IAmb	IAmb	13 28 05.2	
	comp=Z,6.0nm,0.5s						
FAUS	Fauske	40.94	340	eP	P	13 28 10.9	-0.3
FAUS				IAmb	IAmb	13 28 16.6	
	comp=Z,31nm,1.2s						
STOK	Stokkvaagen	40.94	338	eP	P	13 28 11.2	0.0
JETT	Jettan, Norway	41.20	345	eP	P	13 28 13.6	+0.2
JETT				IAmb	IAmb	13 28 14.0	
	comp=Z,20nm,0.6s						
STEI	Steigen	41.32	341	eP	P	13 28 14.1	-0.3
STEI				IAmb	IAmb	13 28 16.6	
	comp=Z,60nm,1.5s						
HAMF	Hammerfest	41.39	347	eP	P	13 28 15.1	+0.2
TRO	Tromso	41.60	344	eP	P	13 28 16.4	-0.2
TRO				IAmb	IAmb	13 28 16.7	
	comp=Z,9.2nm,0.6s						
EKA	Eskdalemuir Ar	43.74	319	P	P	13 28 34.0	-0.2
ESDC	Sonseca Array	43.98	296	P	P	13 28 34.8	-1.6
	comp=Z,0.4nm,0.5s,baz=70,slow=8.5,SNR=3.0						
	comp=Z,0.4nm,0.5s						
SONM	Songino Array	44.99	52	P	P	13 28 44.5	+0.1
	comp=Z,0.7nm,0.5s,baz=272,slow=8.0,SNR=4.8						
	comp=Z,0.7nm,0.5s						
SONM	Songino Array	44.99	52	P	P	13 28 46.3	+1.8
SONM	Songino Array	44.99	52	P	P	13 28 46.3	+1.8
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CMAR	Chiang Mai Arr	45.80	95	P	P	13 28 51.4	+0.3
	comp=Z,0.4nm,0.5s,baz=283,slow=9.3,SNR=2.3						
	comp=Z,0.4nm,0.5s						
SPB2	Spitsbergen Ar	48.62	351	P	P	13 29 12.8	+0.5
SPA0	Spitsbergen Ar	48.62	351	eP	P	13 29 12.9	+0.5
SPA0				IAmb	IAmb	13 29 13.8	
	comp=Z,29nm,1.2s						
SPITS	Spitsbergen Ar	48.62	351	P	P	13 29 12.9	+0.5
	comp=Z,3.0nm,0.4s,baz=135,slow=11,SNR=13						
	comp=Z,3.0nm,0.4s						
SPITS	Spitsbergen Ar	48.62	351	P	P	13 29 12.9	+0.5
SPITS				pmax	pmax		
	comp=Z,62nm,1.4s						
DBG	Daneborg	54.23	342	iP	P	13 29 55.3	+0.9
DBG				IAmb	IAmb	13 30 03.4	
	comp=Z,2.6nm,1.9s						
DAG	Danmarks Havn	54.32	345	iP	P	13 29 54.9	0.0
DAG				IAmb	IAmb	13 29 55.3	
	comp=Z,2.1nm,0.6s						
DAG	Danmarks Havn	54.32	345	P	P	13 29 54.5	-0.5
DAG				pmax	pmax		
	comp=Z,5.0nm,1.5s						
NOR	Nord	55.25	351	iP	P	13 30 01.8	+0.2
NOR				IAmb	IAmb	13 30 03.4	
	comp=Z,1.5nm,1.2s						
DBIC	Dimbokro	56.96	256	P	P	13 30 13.9	-0.9
	comp=Z,5.0nm,1.1s,baz=47,slow=9.0,SNR=3.8						
	comp=Z,5.0nm,1.1s						
DBIC	Dimbokro	56.96	256	P	P	13 30 14.4	-0.3
DBIC	Dimbokro	56.96	256	P	P	13 30 14.5	-0.3
LBTB	Lobatse	61.30	205	P	P	13 30 45.8	+1.1
LBTB	Lobatse	61.30	205	P	P	13 30 45.8	+1.1
LBTB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSRS	Korea Array	62.48	61	P	P	13 30 51.6	-0.9
	comp=Z,0.6nm,0.6s,baz=281,slow=5.6,SNR=2.2						
	comp=Z,0.6nm,0.6s						
BOSA	Boshof	64.71	204	P	P	13 31 07.5	+0.2
	comp=Z,2.8nm,0.7s,baz=329,slow=7.7,SNR=3.4						
	comp=Z,2.8nm,0.7s						
EUNU	Eureka	65.72	352	P	P	13 31 14.7	+1.5
EUNU				IAmb	IAmb	13 31 41.9	
	comp=Z,7.7nm,1.4s						
SUR	Sutherland	69.73	206	LR	LR	14 06 10.8	
	comp=Z,105nm,19.1s,baz=134,slow=39						
ASAJ	Asahikawa	70.18	50	LR	LR	14 05 05.0	
	comp=Z,38nm,18.2s,baz=164,slow=38						
A36M	Sachs Harbour	76.30	359	P	P	13 32 17.4	-0.1
TOLK	Toolik Lake Re	78.65	7	P	P	13 32 31.0	+0.3
BMAR	Burnt Mountain	80.31	6	P	P	13 32 40.4	+0.6
IMAR	Indian Mountai	80.66	10	P	P	13 32 41.5	-0.1
BCAR	Beaver Creek A	84.84	5	P	P	13 33 03.5	0.0

ROM 11 13:23:09.6±0.1, 42.949N±0.002×13.141E±0.003, h8km, ML1.9/7, 4C-3D, Error ellipse: s-maj=0.2km s-min=0.0km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1256	Bolognola (MC)	0.09	47	⇓P	Pg	13 23 12.2	+0.3
T1256				S	Sg	13 23 13.9	+0.3
T1256				AML	AML		
	comp=E,1780µm,0.2s						
T1256				AML	AML		
	comp=N,1390µm,0.6s						
FDMO	Fiordimonte	0.10	336	⇓P	Pg	13 23 12.3	+0.3
FDMO				S	Sg	13 23 14.1	+0.5
FDMO				AML	AML		
	comp=E,1152µm,0.2s						
FDMO				AML	AML		
	comp=N,2040µm,0.2s						
FDMO				AML	AML		
	comp=E,1151µm,0.2s						
FDMO				AML	AML		
	comp=N,2035µm,0.2s						
T1245	Castelsantange	0.10	159	P	Pg	13 23 12.7	+0.6
T1245				S	Sg	13 23 14.6	+0.7
T1245				AML	AML		
	comp=E,474µm,0.7s						
T1245				AML	AML		
	comp=N,650µm,0.4s						
T1245				AML	AML		
	comp=E,2040µm,0.2s						
T1245				AML	AML		
	comp=N,1680µm,0.2s						
T1245				AML	AML		
	comp=N,650µm,0.4s						
T1245				AML	AML		
	comp=E,7163µm,1.5s						
T1245				AML	AML		
	comp=E,454µm,0.3s						
T1245				AML	AML		
	comp=N,1745µm,0.2s						
T1216	Preci, Frazion	0.11	237	⇑P	Pg	13 23 12.6	+0.4
T1216				S	Sg	13 23 14.6	+0.7
T1216				AML	AML		
	comp=E,589µm,0.4s						
T1216				AML	AML		
	comp=N,948µm,0.3s						
MMO1	Montemonaco	0.14	110	P	Pg	13 23 13.1	+0.4
MMO1				S	Sg	13 23 15.7	+0.8
CSP1	Cessapalombo	0.15	18	P	Pg	13 23 13.3	+0.4
CSP1				S	Sg	13 23 16.3	+1.1
AM05	Amandola Campo	0.16	79	P	Pg	13 23 13.4	+0.5
AM05				S	Sg	13 23 16.3	+1.0
T1220	Camerino, Fraz	0.17	347	⇓P	Pg	13 23 13.5	+0.4
T1220				S	Sg	13 23 16.6	+1.1
T1220				AML	AML		
	comp=E,1360µm,1.3s						
T1220				AML	AML		
	comp=N,1985µm,0.6s						
T1220				AML	AML		
	comp=N,2000µm,0.6s						
T1220				AML	AML		
	comp=E,1330µm,1.2s						
CESI	CESI - Serrava	0.18	288	⇑P	Pg	13 23 13.9	+0.5
CESI				S	Sg	13 23 17.1	+1.1
CESI				AML	AML		
	comp=E,600µm,0.4s						
CESI				AML	AML		
	comp=N,612µm,0.9s						
GUMA	Gualdo di Mace	0.18	51	P	Pg	13 23 14.1	+0.7
GUMA				S	Sg	13 23 17.6	+1.6
GUMA				AML	AML		
	comp=E,1455µm,0.5s						
GUMA				AML	AML		
	comp=N,1750µm,0.6s						
T1241	Roccafluvione,	0.23	113	P	Pg	13 23 14.7	+0.4
T1241				S	Sg	13 23 18.7	+1.3
T1241				AML	AML		
	comp=N,150µm,1.3s						
T1241				AML	AML		
	comp=E,316µm,0.3s						
T1241				AML	AML		
	comp=E,316µm,0.3s						
T1241				AML	AML		
	comp=N,150µm,1.3s						
SNTG	Esanatoglia	0.34	334	P	Pg	13 23 16.8	+0.5
SNTG				AML	AML		
	comp=E,88µm,0.6s						
SNTG				AML	AML		
	comp=N,96µm,1.6s						
SNTG				AML	AML		
	comp=E,88µm,0.6s						
SNTG				AML	AML		
	comp=N,96µm,1.6s						
T1243	Rocca Santa Ma	0.34	138	⇑P	Pg	13 23 16.2	-0.1
ASSB	Assisi San Ben	0.37	285	P	Pb	13 23 19.7	+1.4
EL6	Elcito	0.38	356	S	Sb	13 23 24.0	-0.8
OFFI	Offida	0.40	92	P	Pb	13 23 18.3	-0.6
T1211	Morro Reatino	0.47	207	S	Sb	13 23 27.0	-0.2
MURB	Monte Urbino	0.55	305	S	Sb	13 23 30.0	+0.4
ARVD	Arcevia	0.57	345	S	Sb	13 23 30.0	-0.1
ATVO	AVT- Monte Val	0.69	309	⇑P	Pg	13 23 22.7	-0.2
ATVO				S	Sb	13 23 34.0	+0.4
PIEI	Pieia	0.73	323	S	Sb	13 23 36.0	+1.1
SF04	Casetta	1.09	265	S	Sn	13 23 48.0	+1.4

DJA 11 13:37:18.2±0.4, 4°N±4°×12°7E±°, h10km, M4.5/13, mb4.8/7, mB5.0/6, MLv4.6/13, Mw(mB)4.4/6
IDC 11 13:37:27.6±4.0, 2.81N×126.32E, h43km±40km, mb4.0/19, mbtmp4.2/20, ML3.7/1, MS3.1/5, Error ellipse: s-maj=32.1km s-min=13.2km az=73.0
MAN 11 13:37:29.3, 3.07N×126.53E, h20km, mb5.2, ML4.1, MS4.3
NEIC 11 13:37:31.5±1.7, 2.87N±0.09×126.55E±0.09, h73km±8km, mb4.4/33, Error ellipse: s-maj=15.6km s-min=10.7km az=48.0
ISC 11 13:37:29.9±0.4, 2.94N±0.04×126.62E±0.07, h63km, n103, σ1.55/103, mb4.4/35, 6C-7D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.31	304	P	Pn	13 37 43.2	-9.0
GAMI	Galela, Maluku	1.60	133	P	Pn	13 37 54.8	-1.3
TNTI	Ternate	2.28	161	Pn	Pn	13 38 05.4	+0.1
TNTI	Ternate	2.28	161	P	Pn	13 38 05.1	-0.2
DDMP	Don Marcelino,	3.27	344	⇓eP	Pn	13 38 18.4	-0.3
DDMP				eS	Sn	13 38 55.9	-0.5
GSPH	General Santos	3.54	332	⇑eP	Pn	13 38 22.2	-0.4
LBMI	Labuha	3.66	166	P	Pn	13 38 26.1	+1.9
MATI	Mati	3.99	355	⇓eP	Pn	13 38 31.8	+3.1
MATI				eS	Sn	13 39 17.9	+3.6
SKMP	Bagumbayan, Su	4.11	330	⇓eP	Pn	13 38 30.8	+0.5
SKMP				eS	Sn	13 39 17.5	+0.4
DAV	Davao City (W)	4.23	346	LR	LR	13 39 42.6	
	comp=Z,174nm,20.9s,baz=110,slow=31						
GTOI	Gorontalo	4.27	238	P	Pn	13 38 32.6	+0.1
	0.2nm498nm34nm,0.8s						
KCP	Kidapawan	4.32	339	⇑eP	Pn	13 38 34.7	+1.5
KCP				iS	Sn	13 39 27.8	+5.5
CTBH	Cotabato--PC H	4.86	331	⇑iP	Pn	13 38 39.3	-1.3
SANI	Sanana	5.00	187	P	Pn	13 38 45.5	+3.1
	0.2nm970nm22nm,0.7s						
BUKP	Musuan	5.14	343	⇓eP	Pn	13 38 43.2	-1.3
BUKP				eS	Sn	13 39 41.6	-1.0
BUKP	Musuan	5.14	343	⇑eP	Pn	13 38 46.3	+1.8
BIPH	Bislig	5.21	357	⇓iP	Pn	13 38 43.0	-2.4
BIPH				iS	Sn	13 39 46.6	+2.4
MRSI	Marisa	5.28	242	P	Pn	13 38 46.3	0.0
	0.9nm2µm155nm,0.6s						
LUWI	Luwuk	5.52	224		Pn	13 38 52.7	+3.1
LUWI	Luwuk	5.52	224	P	Pn	13 38 54.0	+4.4
CGP	Cagayan de Oro	5.80	341	⇑eP	Pn	13 38 44.0	-9.5
CGP				eS	Sn	13 39 48.1	-11
PAGZ	Pagadian	5.84	327	⇓eP	Pn	13 38 54.0	0.0
SIJI	Sorong	5.99	129	P	Pn	13 38 55.6	-0.4
	2.0nm,0.3s,baz=314,slow=22,SNR=3.3						
SIJI				S	Sn	13 40 05.2	+1.8
	8.5nm,0.5s,baz=217,slow=22,SNR=2.1						
	6.1nm,0.3s						
SIJI	Sorong	5.99	129	P	Pn	13 38 52.8	-3.3
TOLI2	Tolitoli	6.11	253	Pn	Pn	13 38 56.8	-0.9
APSI	Ampana	6.27	232	P	Pn	13 39 01.0	+1.1
	0.9nm3µm275nm,0.8s						
KRAI	Karang Ratu	6.47	164	P	Pn	13 39 04.2	+1.6
	0.2nm1µm25nm,0.5s						
GLSP	General Luna,	6.81	356	⇓eP	Pn	13 39 04.4	-2.9
MPSI	Mapaga	7.20	249	P	Pn	13 39 12.8	+0.2
	0.1nm870nm29nm,0.7s						
FAKI	Fak Fak	8.10	136	Pn	Pn	13 39 26.5	+1.6
MYLDM	Lahad Datu	8.40	286	Pn	Pn	13 39 32.2	+3.2
MYLDM	Lahad Datu	8.40	286	P	Pn	13 39 20.7	-8.3
KAPI	Kappang	10.46	221	LR	LR	13 44 09.5	
	comp=Z,117nm,18.8s,baz=34,slow=40						
KKM	Kota Kinabalu	10.82	287	Pn	Pn	13 40 04.5	+2.3
SBUM	Sibu	14.39	268		Pn	13 40 52.4	+1.9
MTN	Manton Dam	16.31	164	P	Pn	13 41 13.8	-1.2
KSM	Kuching	16.36	265	P	P	13 41 20.4	+2.8
KSM				IAmb	IAmb	13 41 22.8	
	comp=Z,30nm,1.2s						
KNRA	Kununurra	18.62	174	P	P	13 41 42.0	-0.5
KNRA				IAmb	IAmb	13 41 42.2	
	comp=Z,19nm,0.9s						
TPUB	Ta-pu	21.05	345	P	P	13 42 06.1	-2.8
TPUB				IAmb	IAmb	13 42 23.1	
	comp=Z,24nm,1.0s						
LEM	Lembang	21.30	243	LR	LR	13 51 50.7	
	comp=Z,58nm,19.1s,baz=23,slow=41						
SSLB	Suanglung	21.43	346	P	P	13 42 11.0	-2.0
SSLB				IAmb	IAmb	13 42 13.2	
	comp=Z,16nm,0.8s						
COEN	Coen	23.48	136	P	P	13 42 33.9	-0.5
WB0	Warramunga Arr	23.82	162	P	P	13 42 36.3	-1.1
WB0				IAmb	IAmb	13 42 46.1	
	comp=Z,14nm,1.1s						
WRAB	Tennant Creek	23.97	162	P	P	13 42 37.6	-1.0
WRA	Warramunga Arr	23.97	162	P	P	13 42 37.5	-1.2
	comp=Z,3.2nm,0.5s,baz=342,slow=11,SNR=35						
WRA				S	S	13 46 51.6	+0.4
	comp=Z,0.8nm,0.8s,baz=349,slow=19,SNR=4.5						
	comp=Z,3.2nm,0.5s						
WRA	Warramunga Arr	23.97	162	P	P	13 42 37.7	-1.0
WB2	Warramunga Arr	23.98	162	P	P	13 42 37.6	-1.1
WB2				IAmb	IAmb	13 42 53.5	
	comp=Z,14nm,0.9s						
WR0	Warramunga Arr	24.05	161	P	P	13 42 38.1	-1.3
PSA00	Pilbara Seismi	25.25	195	P	P	13 42 49.9	-0.4
PSA00				IAmb	IAmb	13 42 53.0	
	comp=Z,13nm,1.0s						
AS31	Alice Springs	27.38	165	P	P	13 43 09.1	-0.4
ASAR	Alice Springs	27.38	165	P	P	13 43 08.7	-0.9
	comp=Z,0.8nm,0.6s,baz=350,slow=7.8,SNR=12						
	comp=Z,0.8nm,0.6s						
ASAR	Alice Springs	27.38	165	P	P	13 43 08.2	-1.4
WHN	Wuhan	29.81	338	⇑P	P	13 43 28.0	-3.0
NJ2	Nanjing	29.86	347	eP	P	13 43 33.4	+1.9
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CMAR	Chiang Mai Arr	31.18	302	P	P	13 43 41.5	-1.8
	comp=Z,0.4nm,0.4s,baz=120,slow=6.7,SNR=6.8						
CMAR				LR	LR	13 58 09.1	
	comp=Z,18nm,18.1s,baz=105,slow=40						
	comp=Z,0.4nm,0.4s						
FORT	Forrest	33.56	178	P	P	13 44 03.6	-0.4
KSRS	Korea Array	34.37	2	P	P	13 44 11.5	+0.7
	comp=Z,2.0nm,0.8s,baz=185,slow=10,SNR=7.5						
	comp=Z,2.0nm,0.8s						
XAN	Xi'an	35.07	334	P	P	13 44 15.4	-1.7
XAN				sP	sP	13 44 38.3	-0.9
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BBOO	Buckleboo	36.66	167	P	P	13 44 30.3	-0.3
EIDS	Eidsvold	36.81	141	P	P	13 44 31.4	-0.6
EIDS				IAmb	IAmb	13 44 32.6	
	comp=Z,6.9nm,0.9s						
STKA	Stephens Creek	37.44	159	P	P	13 44 36.5	-0.7
	comp=Z,3.4nm,0.7s,baz=344,slow=9.8,SNR=7.3						
	comp=Z,3.4nm,0.7s						
STKA	Stephens Creek	37.44	159	P	P	13 44 37.2	0.0
SHL	Shillong	40.26	307	P	P	13 45 00.1	-1.1
SHL				IAmb	IAmb	13 45 01.1	
	comp=Z,7.6nm,0.6s						
CN2	Changchun	40.70	359	eP	P	13 45 04.9	+0.6
ARMA	Armidale	40.88	146	P	P	13 45 06.8	+0.7
USA0B	Ussuriysk Arra	41.36	6	P	P	13 45 11.5	+1.8
USA0B				IAmb	IAmb	13 45 12.1	
	comp=Z,8.9nm,0.8s						
USRK	Ussuriysk Ar.	41.36	6	P	P	13 45 11.3	+1.6
	comp=Z,10nm,0.7s,baz=195,slow=7.4,SNR=17						
	comp=Z,10nm,0.7s						
USRK	Ussuriysk Ar.	41.36	6	P	P	13 45 11.1	+1.3
PALK	Pallekele	45.92	277	LR	LR	14 07 22.4	
	comp=Z,28nm,18.8s,baz=198,slow=39						
SONM	Songino Array	48.01	342	P	P	13 46 02.6	-0.1
	comp=Z,2.1nm,0.8s,baz=156,slow=8.7,SNR=9.8						
	comp=Z,2.1nm,0.8s						
SONM	Songino Array	48.01	342	P	P	13 46 03.9	+1.2
PEA0B	Petropavlovsk-	56.20	22	P	P	13 47 04.6	+1.3
PETK	Petropavlovsk-	56.20	22	P	P	13 47 04.3	+0.9
	comp=Z,4.4nm,1.0s,baz=190,slow=3.4,SNR=8.0						
	comp=Z,4.4nm,1.0s						
PETK	Petropavlovsk-	56.20	22	P	P	13 47 04.4	+1.0
MKAR	Makanchi Array	58.14	326	P	P	13 47 16.9	-0.3
	comp=Z,3.4nm,0.6s,baz=116,slow=8.2,SNR=14						
	comp=Z,3.4nm,0.6s						
MAKZ	Makanchi	58.32	325	P	P	13 47 19.1	+0.6
KSH	Kashi	58.52	315	P	P	13 47 21.6	+1.5
LBZ	Lake Benmore	61.10	146	P	P	13 47 37.4	-0.2
ZAA0	Zalesovo Array	61.23	333	P	P	13 47 38.0	-0.3
ZAA0				IAmb	IAmb	13 47 38.2	
	comp=Z,2.8nm,0.9s						
ZALV	Zalesovo Beam	61.23	333	P	P	13 47 37.1	-1.2
	comp=Z,1.3nm,0.6s,baz=106,slow=8.2,SNR=7.1						
	comp=Z,1.3nm,0.6s						
ZALV	Zalesovo Beam	61.23	333	P	P	13 47 37.6	-0.7
KURBB	Kurchatov Arra	62.34	328	P	P	13 47 45.0	-0.7
	comp=Z,4.5nm,0.8s,baz=124,slow=6.2,SNR=40						
	comp=Z,4.5nm,0.8s						
KURK	Kurchatov	62.34	328	P	P	13 47 45.4	-0.3
GAR	Garm	62.37	313	P	P	13 47 46.0	-0.4
BTK	Batken	62.38	314	P	P	13 47 46.7	+0.2
BTK				IAmb	IAmb	13 47 47.3	
	comp=Z,3.6nm,0.8s						
KK31	Karatay Array	63.73	317	P	P	13 47 55.2	0.0
KK31				IAmb	IAmb	13 47 56.3	
	comp=Z,2.9nm,0.8s						
KKAR	Karatay Array	63.73	317	P	P	13 47 55.1	-0.1
KKAR	Karatay Array	63.73	317	P	P	13 47 55.0	-0.3
KKAR				IAmb	IAmb	13 47 56.3	
	comp=Z,2.9nm,0.8s						
BVAR	Borovoye Array	67.92	327	P	P	13 48 21.8	-0.1
	comp=Z,2.4nm,0.8s,baz=120,slow=8.8,SNR=10						
	comp=Z,2.4nm,0.8s						
BRVK	Borovoye	67.99	327	P	P	13 48 22.2	-0.1
BRVK				IAmb	IAmb	13 48 23.0	
	comp=Z,3.1nm,0.7s						
NRIK	Noril'sk	71.16	346	P	P	13 48 41.9	+0.3
	comp=Z,5.0nm,0.6s,baz=111,slow=6.8,SNR=4.5						
	comp=Z,5.0nm,0.6s						
ABKAR	Akbulak array	72.69	321	P	P	13 48 50.7	-0.4
ARU	Arti	75.54	328	P	P	13 49 06.9	-0.7
	comp=Z,2.2nm,0.5s,baz=171,slow=4.4,SNR=4.9						
	comp=Z,2.2nm,0.5s						
M19K	Big River Lodg	82.23	28	P	P	13 49 46.2	+2.0
M19K				IAmb	IAmb	13 50 14.5	
	comp=Z,10nm,1.4s						
VNDA	Vanda	82.66	173	P	P	13 49 46.6	+0.6
	comp=Z,0.9nm,1.0s,baz=303,slow=7.8,SNR=3.6						
	comp=Z,0.9nm,1.0s						
IMAR	Indian Mountai	83.10	24	P	P	13 49 50.3	+1.7
KLMR	Klimovskoe	86.03	331	eP	P	13 50 02.2	-1.2
KLMR				AMP		13 50 04.2	
	comp=Z,7.0nm,0.7s						
BMAR	Burnt Mountain	86.84	23	P	P	13 50 09.5	+2.1
BRTR	Keskin Array B	90.43	310	P	P	13 50 24.3	-0.8
	comp=Z,0.8nm,0.7s,baz=163,slow=4.8,SNR=3.7						
	comp=Z,0.8nm,0.7s						
ARCES	ARCESS Array B	91.14	340	P	P	13 50 27.3	-0.3
	comp=Z,2.2nm,0.8s,baz=81,slow=7.7,SNR=3.7						
	comp=Z,2.2nm,0.8s						
AKASG	Malin Array Be	92.43	321	P	P	13 50 32.9	-1.0
	comp=Z,0.3nm,0.3s,baz=66,slow=4.8,SNR=5.1						
	comp=Z,0.3nm,0.3s						
FINES	FINESS Array B	92.47	332	P	P	13 50 33.1	-0.7
	comp=Z,1.3nm,0.8s,baz=117,slow=8.5,SNR=1.5						
	comp=Z,1.3nm,0.8s						
TXAR	Lajitas Array	122.17	53	PKP	PKiKP	13 56 19.2	+0.6
	comp=Z,0.3nm,0.7s,baz=1.9,slow=2.7,SNR=2.8						

IDC 11 13:49:35.6±3.1, 38.76N×122.79W, h0km, mbtmp2.9/5, ML2.8/4, Error ellipse: s-maj=41.1km s-min=12.7km az=39.0
NEIC 11 13:49:36.6±2.1, 38.74N±0.02×122.69W±0.03, h15km±2km, Error ellipse: s-maj=3.4km s-min=2.5km az=72.0
NCEDC 11 13:49:36.0±2.9, 38.75N±0.01×122.70W±0.02, h1km±6km, ML3.3/59, ML3.1/64(NEIC), Error ellipse: s-maj=2.4km s-min=1.8km az=73.0
ISC 11 13:49:36.4±1.1, 38.74N±0.02×122.67W±0.02, h4km±10km, n152, σ1.29/148, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCRM	Castle Rock Sp	0.05	316		Pg	13 49 36.7	-0.9
GAXM	Alexander Vall	0.07	248		Pg	13 49 37.5	-0.5
GDXM	Geysers	0.12	306	Pg	Pg	13 49 38.2	-0.7
NMTM	Middletown	0.19	69		Pg	13 49 40.3	+0.2
MNRC	McLaughlin Min	0.23	51		Pg	13 49 41.2	+0.4
GSSM	Skaggs Springs	0.27	263		Pg	13 49 41.6	0.0
GCVM	Cloverdale	0.27	277		Pg	13 49 41.6	-0.1
GCVM					Sg	13 49 47.8	+2.6
GWKM	Walker Ridge	0.34	24		Pg	13 49 43.7	+0.6
HOPS	Hopland Field	0.41	309	Pg	Pg	13 49 44.3	+0.1
HOPS				IAML		13 49 56.2	
	comp=N,3µm,1.2s						
GBMM	Baldy Mountain	0.43	19		Pb	13 49 45.4	-1.2
GTSM	Trough Springs	0.58	5		Pb	13 49 48.3	-0.9
NDHM	Dunnigan Hills	0.59	87		Pb	13 49 49.9	+0.5
MCCM	Marconi Confer	0.61	196	Pg	Pb	13 49 48.9	-0.8
MCCM				IAML		13 50 05.0	
	comp=E,2µm,0.8s						
GGUM	Gualala	0.66	281		Pg	13 49 49.0	0.0
GWRM	Wonder Ranch	0.68	314		Pg	13 49 49.3	-0.1
NLHM	Lake Herman	0.74	146		Pg	13 49 51.1	+0.5
GHOM	Hamilton Openi	0.74	295		Pb	13 49 50.8	-1.2
GHMM	Hull Mountain	0.78	345		Pb	13 49 51.9	-0.8
NPRM	Point Reyes	0.79	200		Pg	13 49 51.7	+0.2
CPMM	Point Molate	0.81	165		Pg	13 49 52.3	+0.3
GCK	Clark Valley	0.83	13		Pb	13 49 53.4	+0.1
CSPM	San Pablo Ridg	0.83	160		Pg	13 49 52.7	+0.4
CPIM	Pinole Ridge	0.83	154		Pg	13 49 53.0	+0.7
OSUM	Sutter Buttes	0.83	50		Pg	13 49 52.1	-0.2
SUTB	Sutter Butte	0.85	54		Pg	13 49 52.3	-0.3
RFSB	Richmond Field	0.86	162		Pg	13 49 53.2	+0.3
CTAM	Taylor	0.88	144		Pb	13 49 54.1	0.0
GNAM	Navarro Ridge	0.88	302		Pb	13 49 53.6	-0.7
HMR	Hamilton Ranch	0.90	130		Pb	13 49 54.6	0.0
VAK	Adit at Lawren	0.92	159		Pg	13 49 53.8	-0.3
BL67	Building 67, L	0.92	159		Pg	13 49 54.5	+0.5
BRK	Berkeley--Havi	0.92	159		Pg	13 49 53.6	-0.4
CVPM	Vollmer Peak	0.92	157		Pg	13 49 53.9	-0.2
BKS	Berkeley--Byer	0.93	158		Pg	13 49 53.8	-0.4
GTC	Three Chop Rid	0.95	314		Pg	13 49 54.2	-0.5
CYBM	Yerba Buena Is	0.96	165		Pg	13 49 54.6	-0.1
BDM	Black Diamond	1.01	141		Pg	13 49 55.2	-0.5
CRPB	Russellman Par	1.02	144		Pg	13 49 55.2	-0.8
CRHM	Round Hill Res	1.03	148		Pg	13 49 56.2	+0.2
CMCM	Mills College	1.03	158		Pg	13 49 56.2	0.0
GVV	Valley View	1.04	360		Pb	13 49 56.5	-0.6
BGC	Bolinger Road	1.04	152		Pg	13 49 55.7	-0.6
FARB	Farallon Islan	1.07	194		Pg	13 49 55.8	-1.1
KFPM	Farley Peak	1.07	327		Pg	13 49 56.5	-0.5
JSBM	San Bruno Moun	1.08	168		Pg	13 49 56.1	-1.0
OHCM	Honcut	1.10	57		Pg	13 49 55.7	-1.8
CSLM	San Leandro Hi	1.10	157		Pg	13 49 56.8	-0.7
JMGM	Milagra Ridge	1.11	172		Pg	13 49 56.5	-1.2
PAM	Palermo	1.14	51		Pg	13 49 56.5	-1.9
OWYM	Wyandotte	1.17	52		Pg	13 49 56.8	-2.0
JCPM	Coyote Point	1.18	166		Pg	13 49 57.7	-1.3
KCPM	Cahto Peak	1.18	324		Pn	13 49 59.8	-0.1
KCPM	Cahto Peak	1.18	324	IAML		13 50 23.0	
	comp=N,301nm,1.1s						
KCPM				IAML		13 50 36.0	
	comp=E,516nm,1.6s						
CDOM	Doolan Road	1.20	147		Pn	13 50 00.3	+0.3
ORV	Oroville	1.22	48		Pg	13 49 57.4	-2.4
CBSNC	Byron Hot Spri	1.22	138		Pg	13 49 59.4	-0.5
OGOM	Van Goodin Ran	1.23	42		Pg	13 49 57.2	-2.8
JCHM	Cahill Ridge	1.24	169		Pg	13 49 58.4	-1.8
CNIC	Niles Canyon	1.26	154		Pg	13 49 58.8	-1.7
CVLM	Vallecito	1.29	149		Pg	13 49 59.9	-1.2
WENL	Wente Vineyard	1.33	147		Pg	13 50 01.2	-0.7
AFDM	Forest Hills D	1.34	80		Pg	13 49 59.2	-3.0

KPK	Kanaka Peak	1.36	51		Pg	13 50 00.1	-2.3
JRSC	Jasper Ridge	1.37	166		Pn	13 49 60.0	-2.4
LTCM	Tuscan Springs	1.53	16		Pn	13 50 01.9	-2.6
JSGM	Saratoga Golf	1.53	161		Pn	13 50 02.7	-1.8
CMMM	Mount Mocho	1.58	144		Pn	13 50 04.3	-1.0
COSM	Mount Oso	1.60	140		Pn	13 50 04.3	-1.2
MHC	Mount Hamilton	1.61	149		Pn	13 50 04.1	-1.6
JJOM	Saint Joseph's	1.62	160		Pn	13 50 03.6	-2.2
ARN	Arnold Ranch	1.65	147		Pn	13 50 05.0	-1.2
CCOB	Coe Ranch Numb	1.67	152		Pn	13 50 05.5	-1.0
KMRM	Mail Ridge	1.69	332		Pb	13 50 07.5	-0.6
KMRM				IAML		13 50 41.6	
	comp=N,146nm,1.3s						
KMRM				IAML		13 51 01.1	
	comp=E,151nm,1.3s						
AMC	Almaden	1.71	157		Pn	13 50 05.1	-1.9
CMPM	Mikes Peak	1.74	142		Pn	13 50 06.7	-0.8
JLAB	Laurel Hill	1.75	155		Pn	13 50 05.7	-1.8
MCUB	Copperopolis B	1.78	115		Pn	13 50 06.5	-1.6
JRGM	Rodeo Gulch Ro	1.79	162		Pn	13 50 05.8	-2.2
JTGM	Trout Gulch Ro	1.82	160		Pn	13 50 05.9	-2.5
CMB	Columbia Colle	1.93	111		Pn	13 50 09.0	-1.0
CMB	Columbia Colle	1.93	111		Pn	13 50 09.3	-0.7
CMB				IAML		13 50 21.0	
	comp=N,77nm,0.5s						
CMB				IAML		13 50 44.1	
	comp=E,72nm,0.6s						
DONR	Donner Summit	1.93	71		Pn	13 50 10.1	-0.2
CDC	Canada Road	1.95	151		Pn	13 50 09.0	-1.3
HPCM	Pacheco Lake	2.00	146		Pn	13 50 09.4	-1.7
SLD	San Luis Dam	2.02	145		Pn	13 50 10.5	-0.8
EMB	Emerald Bay	2.02	82		Pn	13 50 11.7	+0.2
ANZ	Anzar Road	2.04	155		Pn	13 50 09.8	-1.7
HTUM	Tustin Road	2.07	157		Pn	13 50 09.4	-2.6
LOY	Loyalton	2.10	63		Pn	13 50 12.8	+0.2
BEKR	Beckworth	2.12	57		Pn	13 50 13.1	+0.3
MPK	Martis Peak	2.13	74		Pn	13 50 13.6	+0.5
FRP	Fremont Peak	2.19	154		Pn	13 50 11.2	-2.4
SAO	San Andreas Ge	2.20	153	Pn	Pn	13 50 12.1	-1.6
MYLM	Yosemite Lake	2.23	127		Pn	13 50 13.2	-0.9
PEAR	Peavine Mounta	2.28	67		Pn	13 50 15.4	+0.4
LBCM	Butte Creek Ri	2.33	25		Pn	13 50 15.5	-0.2
MBUM	Mount Bullion	2.36	119		Pn	13 50 15.4	-0.7
SCZ	Santa Cruz	2.36	154		Pn	13 50 13.4	-2.5
BJCM	Johnson Can.	2.41	155		Pn	13 50 14.3	-2.4
VCNR	Virginia City	2.42	76		Pn	13 50 17.3	+0.3
VCNR				IAML		13 50 58.8	
	comp=E,105nm,0.7s						
VCNR				IAML		13 51 02.3	
	comp=N,86nm,0.7s						
PNTR	Pine Nut	2.42	81		Pn	13 50 17.5	+0.5
BVL	Bear Valley	2.46	151		Pn	13 50 16.3	-1.0
HAST	Hastings Reser	2.51	159		Pn	13 50 15.6	-2.4
BBGB	Big Mountain B	2.51	149		Pn	13 50 16.7	-1.5
BPIM	Pinnacles	2.54	152		Pn	13 50 16.0	-2.4
WAKR	Walker	2.54	94		Pn	13 50 19.5	+0.9
WAKR	Walker	2.54	94	IAML		13 50 59.3	
	comp=N,61nm,0.6s						
WAKR				IAML		13 51 13.4	
	comp=E,82nm,1.3s						
BSMM	Soledad Missio	2.55	157		Pn	13 50 16.8	-1.8
BMSM	Mercy Hot Spri	2.55	144		Pn	13 50 17.7	-1.0
BBNM	San Benito	2.56	150		Pn	13 50 17.6	-1.1
LTIM	Timbered Crate	2.60	20		Pn	13 50 20.2	+0.9
MMIM	Miami Mountain	2.66	119		Pn	13 50 19.8	-0.4
YERR	Yerington	2.69	84		Pn	13 50 20.9	+0.3
YERR				IAML		13 51 03.2	
	comp=N,97nm,0.7s						
MHDM	Hidden Dam	2.73	126		Pn	13 50 20.8	-0.2
PAHR	Pah Rah Range	2.73	68		Pn	13 50 20.9	-0.3
PCCM	Crazy Canyon	2.90	155		Pn	13 50 22.0	-1.4
PMPB	Monarch Peak	2.92	149		Pn	13 50 23.5	-0.2
PMPB	Monarch Peak	2.92	149	IAML		13 51 29.5	
	comp=E,75nm,1.2s						
PMPB				IAML		13 51 40.8	
	comp=N,80nm,1.3s						
YBH	Yreka Blue Hor	2.99	359	Pn	Pn	13 50 25.8	+1.1
	comp=N,0.5nm,0.3s,baz=175,slow=12,SNR=9.7						
	comp=N,2.9nm,0.6s						
YBH	Yreka Blue Hor	2.99	359		Pn	13 50 23.9	-0.9
MDCM	Deadman Creek	3.04	109		Pn	13 50 26.4	+0.8
MDPB	Devils Postpil	3.04	110		Pn	13 50 26.3	+0.8
MDPB	Devils Postpil	3.04	110	IAML		13 51 14.6	
	comp=N,75nm,0.7s						
MDPB				IAML		13 51 18.1	
	comp=E,55nm,1.1s						
MINS	Minaret Summit	3.04	110		Pn	13 50 26.4	+0.8
MRDM	Red Cones	3.06	111		Pn	13 50 26.8	+0.8
MMSM	Mammoth Summit	3.07	110		Pn	13 50 27.3	+1.2
MDYM	Dry Creek	3.08	109		Pn	13 50 27.4	+1.3
MMLB	Mammoth Lakes	3.10	109		Pn	13 50 27.5	+1.1
OMMB	Old Mammoth Mi	3.10	110		Pn	13 50 27.6	+1.2
OMMB	Old Mammoth Mi	3.10	110	IAML		13 51 10.0	
	comp=E,42nm,1.1s						
OMMB				IAML		13 51 12.1	
	comp=N,54nm,1.4s						
MEMM	East Mammoth H	3.13	109		Pn	13 50 28.3	+1.5
PLTX	Planet X, Gerl	3.16	50		Pn	13 50 26.7	-0.4
PLTX				IAML		13 51 23.7	
	comp=N,140nm,1.4s						
PLTX				IAML		13 51 50.9	
	comp=E,146nm,1.4s						
MCBM	Casa Benchmark	3.17	109		Pn	13 50 29.1	+1.8
RYN	Ryan	3.25	91		Pn	13 50 28.1	-0.2
RYN				IAML		13 51 23.1	
	comp=N,47nm,0.7s						
RYN				IAML		13 51 23.3	
	comp=E,36nm,1.0s						
PKD	Bear Valley Ra	3.26	148		Pn	13 50 27.1	-1.3
LHV	Little Huntoon	3.31	97		Pn	13 50 29.8	+0.9
LHV	Little Huntoon	3.31	97	IAML		13 51 28.4	
	comp=E,70nm,1.1s						
LHV				IAML		13 52 13.2	
	comp=N,74nm,1.4s						
ORC	Owens River	3.35	108		Pn	13 50 31.3	+1.5
RCCR	Rock Creek Can	3.35	111		Pn	13 50 31.1	+1.1
BENR	Benton	3.38	106		Pn	13 50 30.9	+0.6
RAMR	Ramage Ranch	3.41	155		Pn	13 50 28.6	-1.8
NVAR	Mina Array Bea	3.44	94	Pn	Pn	13 50 31.0	+0.1
	comp=N,1.1nm,0.3s,baz=267,slow=15,SNR=27						
NVAR				Pg	Pb	13 50 37.7	-0.3
	comp=N,4.0nm,0.3s,baz=261,slow=18,SNR=23						
NVAR				Lg	Lg	13 51 26.7	
	comp=N,2.2nm,0.3s,baz=269,slow=29,SNR=3.6						
	comp=N,2.8nm,0.7s						
NVAR	Mina Array Bea	3.44	94		Pn	13 50 30.9	-0.1
PCMM	Cholame Hills	3.44	148		Pn	13 50 29.9	-0.9
NV11	Mina Array Sit	3.55	94		Pn	13 50 32.6	+0.1
NV11				IAML		13 51 31.6	
	comp=N,41nm,2.0s						
NV11				IAML		13 51 54.9	
	comp=E,32nm,1.6s						
KVN	Kaiserville	3.58	84	Pn	Pn	13 50 32.5	-0.5
KVN				IAML		13 51 30.9	
	comp=E,25nm,1.2s						
MOD	Modoc Plateau	3.64	29	Pn	Pn	13 50 33.6	-0.1
MOD				IAML		13 52 19.4	
	comp=E,25nm,1.8s						
ISA	Isabella, Lake	4.54	131	Pn	Pn	13 50 46.1	+0.1
ISA				IAML		13 51 54.3	
	comp=N,14nm,1.8s						
ISA				IAML		13 51 56.0	
	comp=E,24nm,1.7s						
WVOR	Wild Horse Val	4.80	38		Pn	13 50 48.1	-1.5
WVOR				IAML		13 52 58.6	
	comp=E,9.8nm,4.4s						
WVOR				IAML		13 53 02.2	
	comp=E,9.6nm,4.3s						
ELK	Elko	6.07	68	Pn	Pn	13 51 07.2	+0.1
	comp=E,0.2nm,0.3s,baz=252,slow=13,SNR=6.0						
	comp=E,0.8nm,0.5s						
PDAR	Pinedale Array	10.73	64	Pn	Pn	13 52 15.6	+4.5
	comp=E,0.8nm,0.9s,baz=240,slow=12,SNR=6.1						
TXAR	Lajitas Array	18.30	115	P	P	13 53 53.6	+2.1
	baz=309,slow=10,SNR=2.5						
	comp=E,0.3nm,0.8s						

GCG ***11*** *14:03:11.7±0.5, 15°.30N×90°.74W, h6km±6km, MD3.7*
UCR ***11*** *14:03:11.0±1.1, 15°.50N×90°.90W, h26km±13km, ML3.5*
SNET ***11*** *14:03:11.0±1.1, 15°.51N×90°.90W, h26km±13km, ML3.6*
ISC 11 14:03:09.4±3.3**, 15°.46N**±0°.09×**90°.87W**±0°.04**, h8**km±23km**, n16,** σ**1s30**/27**, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUEH	Huehuetenango	0.62	258	eP	Pb	14 03 23.6	+1.0
HUEH				eS	Sn	14 03 32.7	-2.3
HUEH	Huehuetenango	0.62	258	eP	Pb	14 03 23.6	+1.0
HUEH				eS	Sn	14 03 32.7	-2.3
NBG	Las Nubes	1.00	150	eP	Pb	14 03 27.9	-1.2
NBG				eS	Sb	14 03 40.4	-2.2
FUG	Fuego 3	1.00	178	eP	Pb	14 03 28.0	-1.1
STG3	Santiaguito 3,	1.00	223	eP	Pb	14 03 29.5	+0.4
STG3				eS	Sn	14 03 45.5	+1.2
PCG	Pacaya	1.09	166	eP	Pb	14 03 29.7	-0.8
MRL	Marmol	1.20	108	eP	Pn	14 03 31.5	-1.2
MRL				eS	Sn	14 03 49.8	+0.5
RTAL	Retalhuleu	1.22	221	eP	Pn	14 03 32.9	+0.2
RTAL				eS	Sn	14 03 49.1	-0.3
SULM	Suchitepequez,	1.33	211	eP	Pb	14 03 35.8	+1.3
ESQI	Esquipulas	1.73	121	eP	Pn	14 03 40.0	+0.2
ESQI				eS	Sn	14 04 03.0	+1.0
MTO3	Montecristo	1.80	126	eP	Pn	14 03 41.9	+1.0
MTO3				eS	Sn	14 04 05.1	+1.1
MTO3	Montecristo	1.80	126	eP	Pn	14 03 41.9	+1.0
MTO3				eS	Sn	14 04 05.1	+1.1
NUBE	Las Nubes	1.87	146	eP	Pn	14 03 42.6	+0.8
NUBE				eS	Sn	14 04 06.5	+0.8
NUBE	Las Nubes	1.87	146	eP	Pn	14 03 42.6	+0.8
NUBE				eS	Sn	14 04 06.5	+0.8
CEVE	Cerro Verde	2.02	143	eP	Pn	14 03 45.6	+1.6
CEVE				IAML		14 03 53.4	
	comp=Z,443nm,0.4s						
CEVE	Cerro Verde	2.02	143	eP	Pn	14 03 45.6	+1.6
CEVE				IAML		14 03 53.4	
	comp=Z,443nm,0.4s						

IDC ***11*** *14:06:23.1±5.0, 9°.38S×124°.67E, h0km, mb4.1/1, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=70.3km s-min=18.1km az=166.0*
DJA ***11*** *14:06:26.4±0.7, 9°S±3°×12°4E±°, h35km±18km, M3.7/6, mb4.0/2, mB5.8/1, MLv3.5/6, Mw(mB)5.3/1*
ISC 11 14:06:24.8±1.2**, 9°.00S**±0°.06×**124°.17E**±0°.09**, h35**km**, n11,** σ**2s48**/12**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	0.76	172	P	Pn	14 06 41.3	+2.2
SOEI				S	Sn	14 06 52.7	+3.3
BATI	Baumata	1.30	202	Pg	Pn	14 06 47.4	+0.9
	11nm,0.3s,baz=91,slow=3.9,SNR=13						
BATI				Lg	Lg	14 07 04.8	
	32nm,0.3s,baz=136,slow=10,SNR=19						
BATI	Baumata	1.30	202	P	Pn	14 06 47.6	+1.1
BATI				S	Sn	14 07 04.3	+1.7
MMRI	Maumere	1.94	281	P	Pn	14 06 56.1	+0.8
BBSI	Bau Bau	3.83	335	P	Pn	14 07 23.0	+1.6
BSSI	Bau Bau, Buton	4.62	308	P	Pn	14 07 33.2	+1.0
PLAI	Plampang	6.32	271	P	Pn	14 07 56.2	+0.7
	0.1nm25nm,1.1s						
NLAI	Namlea	6.42	27	P	Pn	14 07 59.4	+2.4
WRA	Warramunga Arr	14.66	139	Pn	Pn	14 09 44.4	-5.5
	0.4nm,0.3s,baz=320,slow=14,SNR=9.9						
WRA				Sn	Sn	14 12 19.2	-12
	0.3nm,0.3s,baz=316,slow=27,SNR=5.7						
	0.9nm,0.4s						
ASAR	Alice Springs	17.31	149	Pn	Pn	14 10 19.4	-4.4
	0.4nm,0.3s,baz=320,slow=11,SNR=12						
	0.5nm,0.3s						
STKA	Stephens Creek	27.93	147	P	P	14 12 09.8	-2.1
	2.3nm,0.9s,baz=340,slow=15,SNR=2.1						
	2.3nm,0.9s						

MAN ***11*** *14:06:51.3, 4°.46N×128°.81E, h29km, mb4.6, ML3.4, MS3.3*
IDC ***11*** *14:06:55.8±4.5, 3°.60N×127°.91E, h174km±47km, mb3.2/5, mbtmp3.7/6, Error ellipse: s-maj=88.7km s-min=18.3km az=77.0*
ISC 11 14:06:54.1±0.9**, 3°.6N**±0°.2×**127°.9E**±0°.2**, h150**km**, n9,** σ**1s18**/9**, mb3.6**/5**, 3D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	3.27	319	⇓eP	Pn	14 07 44.9	-0.1
DDMP				eS	Sn	14 08 26.1	+1.8
SKMP	Bagumbayan, Su	4.39	311	⇓eP	Pn	14 08 00.2	+0.7
BIPH	Bislig	4.78	342	⇓iP	Pn	14 07 60.0	-4.7
BIPH				iS	Sn	14 08 51.7	-7.9
SIJI	Sorong	5.60	143	P	Pn	14 08 17.1	+1.5
	6.8nm,0.4s,baz=116,slow=8.8,SNR=65						
WRA	Warramunga Arr	24.26	165	P	P	14 11 57.0	-0.4
	1.2nm,0.5s,baz=345,slow=11,SNR=15						
	1.2nm,0.5s						
ASAR	Alice Springs	27.75	168	P	P	14 12 28.0	-0.8
	0.5nm,0.4s,baz=354,slow=8.3,SNR=9.0						
	0.5nm,0.4s						
KSRS	Korea Array	33.68	0	P	P	14 13 20.3	-0.5
	0.4nm,0.6s,baz=173,slow=11,SNR=1.5						
	0.4nm,0.6s						
STKA	Stephens Creek	37.63	161	P	P	14 13 53.6	-1.0
	1.9nm,0.9s,baz=331,slow=14,SNR=1.5						
	1.9nm,0.9s						
MKAR	Makanchi Array	58.30	325	P	P	14 16 32.6	-0.6
	0.3nm,0.4s,baz=108,slow=8.7,SNR=1.5						
	0.3nm,0.4s						

IDC ***11*** *14:12:35.3±1.1, 4°.35S×122°.92E, h0km, mb3.8/4, mbtmp3.9/8, ML3.8/4, MS3.0/2, Error ellipse: s-maj=27.1km s-min=18.9km az=54.0*
NEIC ***11*** *14:12:37.3±1.3, 4°.27S±0°.07×123°.07E±0°.05, h10km±1km, mb3.7/9, Error ellipse: s-maj=11.7km s-min=9.2km az=351.0*
DJA ***11*** *14:12:37.0±0.3, 4°S±3°×12°3E±°, h10km, M4.2/13, mb4.8/4, mB4.7/4, MLv3.9/13, Mw(mB)4.0/4*
ISC 11 14:12:37.0±0.6**, 4°.38S**±0°.06×**122°.91E**±0°.06**, h10**km**, n42,** σ**1s01**/40**, mb4.0**/5**, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBSI	Bau Bau	1.16	197	P	Pb	14 12 58.5	-0.6
KKSI	Kolaka, Sulawe	1.28	279	P	Pn	14 12 57.3	-3.6
BNSI	Bone	2.80	269	P	Pn	14 13 20.2	-1.7
BKSI	Bulukumba	2.94	251	P	Pn	14 13 22.4	-1.4
BSSI	Bau Bau, Buton	2.98	234	P	Pn	14 13 23.1	-1.4
SPSI	Sidrap Palu	3.16	277	P	Pn	14 13 25.4	-1.5
KAPI	Kappang	3.21	259	Pn	Pn	14 13 28.1	+0.5
	11nm,0.3s,baz=150,slow=4.8,SNR=6.1						
KAPI				Sn	Sn	14 14 05.7	-0.3
	3.8nm,0.3s,baz=80,slow=23,SNR=1.2						
	26nm,0.4s						
KAPI	Kappang	3.21	259	P	Pn	14 13 27.4	-0.2
LUWI	Luwuk	3.31	358	Pn	Pn	14 13 27.5	-1.5
LUWI	Luwuk	3.31	358	P	Pn	14 13 27.4	-1.5
APSI	Ampana	3.67	340	P	Pn	14 13 33.3	-0.5
SANI	Sanana	3.84	53	P	Pn	14 13 37.4	+1.2
MMRI	Maumere	4.29	189	Pn	Pn	14 13 42.0	-0.4
MMRI	Maumere	4.29	189	P	Pn	14 13 42.5	+0.1
NLAI	Namlea	4.33	75	P	Pn	14 13 44.0	+1.1
MRSI	Marisa	4.92	349	P	Pn	14 13 49.9	-1.1
GTOI	Gorontalo	4.98	1	P	Pn	14 13 52.1	+0.2
	0.1nm338nm28nm,0.5s						
MPSI	Mapaga	5.57	327	P	Pn	14 14 00.6	+0.6
BATI	Baumata	5.84	173	Pn	Pn	14 14 03.7	-0.1
	6.2nm,0.3s,baz=22,slow=5.2,SNR=2.4						
BATI				LR	LR	14 16 29.3	
	comp=Z,126nm,21.9s,baz=166,slow=40						
	16nm,0.4s						
TOLI2	Tolitoli	5.85	339	Pn	Pn	14 14 04.6	+0.7
TNTI	Ternate	6.78	41	Pn	Pn	14 14 14.2	-2.4
SIJI	Sorong	9.04	68	Pn	Pn	14 14 48.7	+1.0
	0.9nm,0.3s,baz=151,slow=1.7,SNR=3.7						
	2.6nm,0.3s						
FAKI	Fak Fak	9.43	81	Pn	Pn	14 14 52.8	-0.3
MYLDM	Lahad Datu	10.47	335	Pn	Pn	14 15 09.0	+1.7
DAV	Davao City (W)	11.68	13	LR	LR	14 20 05.4	
	comp=Z,69nm,18.3s,baz=152,slow=39						
MTN	Manton Dam	11.69	137		Pn	14 15 23.4	-0.7
KNRA	Kununurra	12.62	153	Pn	Pn	14 15 36.6	-0.1
WB0	Warramunga Arr	18.95	145	IAmb	IAmb	14 16 58.0	
	comp=Z,5.4nm,1.1s						
WB0				P	P	14 16 58.0	-0.5
WRAB	Tennant Creek	19.06	145	P	P	14 16 59.1	-0.6
WRAB				IAmb	IAmb	14 16 59.8	
	comp=Z,3.3nm,0.9s						
WRA	Warramunga Arr	19.06	145	P	P	14 16 58.5	-1.2
	comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=12						
	comp=Z,2.8nm,1.0s						
WRA	Warramunga Arr	19.06	145	P	P	14 16 59.6	-0.1
WB2	Warramunga Arr	19.07	145	P	P	14 16 58.7	-1.1
WB2				IAmb	IAmb	14 17 06.7	
	comp=Z,9.5nm,1.5s						
WR0	Warramunga Arr	19.19	145	P	P	14 17 00.3	-0.9
WR0				IAmb	IAmb	14 17 20.5	
	comp=Z,5.1nm,1.2s						
AS31	Alice Springs	21.91	152	P	P	14 17 31.6	+0.9
ASAR	Alice Springs	21.92	152	P	P	14 17 31.2	+0.6
	comp=Z,5.7nm,1.0s,baz=344,slow=16,SNR=18						
	comp=Z,5.7nm,1.0s						
ASAR	Alice Springs	21.92	152	P	P	14 17 30.9	+0.2
COEN	Coen	22.13	117	P	P	14 17 31.2	-1.8
COEN				IAmb	IAmb	14 17 46.2	
	comp=Z,7.9nm,1.3s						
CMAR	Chiang Mai Arr	32.76	315	P	P	14 19 10.4	0.0
	comp=Z,0.4nm,0.4s,baz=129,slow=5.6,SNR=5.5						
	comp=Z,0.4nm,0.4s						
SONM	Songino Array	53.98	346	P	P	14 22 00.2	-1.1
	comp=Z,1.3nm,0.9s,baz=160,slow=8.1,SNR=4.2						
	comp=Z,1.3nm,0.9s						
ZALV	Zalesovo Beam	66.25	337	P	P	14 23 24.9	-0.3
	comp=Z,1.2nm,0.8s,baz=121,slow=4.2,SNR=5.0						
	comp=Z,1.2nm,0.8s						
VNDA	Vanda	75.95	172	P	P	14 24 25.1	+1.4
QSPA	South Pole Qui	85.59	180	P	P	14 25 17.0	+1.5

OSPL ***11*** *14:31:17.7±3.1, 17°.80N×65°.21W, h5km±496km, ML4.1*
NEIC ***11*** *14:31:17.8±1.9, 17°.86N±0°.05×65°.60W±0°.02, h22km±3km, Error ellipse: s-maj=7.3km s-min=3.0km az=176.0*
RSPR ***11*** *14:31:18.8, 17°.92N×65°.61W, h4km±1km, MD3.2/13*
IDC ***11*** *14:31:19.1±1.4, 18°.03N×66°.03W, h0km, mb3.4/5, mbtmp3.6/6, ML3.2/1, MS3.2/10, Error ellipse: s-maj=40.9km s-min=11.2km az=47.0*
ISC 11 14:31:17.4±1.0**, 17°.86N**±0°.04×**65°.63W**±0°.02**, h15**km±7km**, n119,** σ**1s20**/121**, mb3.4**/5**, MS3.1**/9**, 10C-6D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUMP	Col San Antoni	0.35	322	⇑eP	Pb	14 31 25.3	-0.1
HUMP	Col San Antoni	0.35	322	eS	Sb	14 31 30.5	-0.2
HUMP	Col San Antoni	0.35	322		Pb	14 31 25.2	-0.1
HUMP				IAML		14 31 31.8	
	comp=E,15µm,0.2s						
HUMP	Col San Antoni	0.35	322		Sb	14 31 30.5	-0.2
CBYP	Canovanas	0.46	331	⇑eP	Pb	14 31 27.2	-0.1
CBYP	Canovanas	0.46	331	eS	Sb	14 31 34.4	+0.4
CBYP	Canovanas	0.46	331		Pb	14 31 27.1	-0.2
CBYP	Canovanas	0.46	331		Sb	14 31 34.4	+0.4
IGPR	InterUniversit	0.47	282	⇑eP	Pg	14 31 27.1	+0.3
IGPR	InterUniversit	0.47	282	eS	Sg	14 31 33.8	+0.6
IGPR	InterUniversit	0.47	282		Sg	14 31 33.8	+0.6
CUPR	Culebra, Puert	0.55	36	⇓eP	Pb	14 31 28.8	0.0
CUPR	Culebra, Puert	0.55	36	eS	Sb	14 31 36.4	+0.1
CUPR	Culebra, Puert	0.55	36	Pg	Pb	14 31 28.3	-0.5
CUPR				IAML		14 31 37.1	
	comp=E,14µm,0.5s						
CUPR				IAML		14 31 37.1	
	comp=N,10µm,0.6s						
CUPR	Culebra, Puert	0.55	36		Sb	14 31 36.4	+0.1
SJG	San Juan	0.56	296	Pn	Pg	14 31 28.4	0.0
	comp=N,212nm,0.3s,baz=113,slow=14,SNR=266						
SJG				Sn	Sg	14 31 35.3	-0.6
	comp=N,824nm,0.3s,baz=353,slow=15,SNR=45						
SJG	San Juan	0.56	296		Pg	14 31 28.4	0.0
GCPR	Guaynabo City	0.62	315	⇑eP	Pg	14 31 29.8	+0.1
GCPR	Guaynabo City	0.62	315	eS	Sb	14 31 38.5	0.0
GCPR	Guaynabo City	0.62	315	Pg	Pg	14 31 29.6	0.0
GCPR	Guaynabo City	0.62	315		Sb	14 31 38.5	0.0
STVI	Saint Thomas	0.80	53	eS	Sg	14 31 43.4	-0.2
STVI	Saint Thomas	0.80	53		Pb	14 31 32.6	-0.4
STVI	Saint Thomas	0.80	53		Sg	14 31 43.4	-0.2
CDVI	St. Croix	0.83	98	⇓eP	Pg	14 31 33.6	+0.1
CDVI	St. Croix	0.83	98	eS	Sg	14 31 44.7	+0.3
CDVI	St. Croix	0.83	98		Pg	14 31 33.6	+0.1
CDVI	St. Croix	0.83	98		Sg	14 31 44.7	+0.3
CELP	Cerrillos	0.93	283		Pb	14 31 34.9	-0.3
CELP				Sg	Sg	14 31 48.2	+0.5
CELP				IAML		14 31 51.6	
	comp=E,5µm,0.8s						
CELP				IAML		14 31 52.1	
	comp=N,3µm,0.7s						
SJVI	Gifft Hill Sch	0.94	60	⇓eP	Pb	14 31 34.9	-0.5
SJVI	Gifft Hill Sch	0.94	60	eS	Sg	14 31 47.4	-0.5
SJVI	Gifft Hill Sch	0.94	60		Pb	14 31 34.9	-0.5
SJVI					Sg	14 31 47.4	-0.5
EMPR	Esperanza - Ma	1.05	305	⇑eP	Pn	14 31 37.4	-0.2
EMPR	Esperanza - Ma	1.05	305	eS	Sn	14 31 51.4	-0.7
EMPR	Esperanza - Ma	1.05	305	Pn	Pb	14 31 37.2	-0.2
EMPR				Sg	Sg	14 31 51.9	+0.3
TBVI	Tortola	1.10	60	⇑eP	Pb	14 31 37.7	-0.6
TBVI	Tortola	1.10	60	eS	Sb	14 31 51.7	-0.7
TBVI	Tortola	1.10	60		Pb	14 31 37.7	-0.6
TBVI					Sb	14 31 51.7	-0.7
AOPR	Arecibo Observ	1.18	294	⇓eP	Pn	14 31 39.0	-0.4
AOPR	Arecibo Observ	1.18	294	eS	Sb	14 31 53.9	-0.6
AOPR	Arecibo Observ	1.18	294		Pn	14 31 38.5	-0.8
AOPR	Arecibo Observ	1.18	294		Sb	14 31 53.9	-0.6
AOPR	Arecibo Observ	1.18	294	eP	Pn	14 31 38.5	-0.8
AOPR				eS	Sb	14 31 54.4	-0.1
GBPR	Guanica, Bosqu	1.20	275	⇑eP	Pb	14 31 39.9	+0.1
MLPR	Magueyes Islan	1.35	275	⇓eP	Pn	14 31 41.9	+0.1
MLPR	Magueyes Islan	1.35	275	eS	Sg	14 32 02.1	+0.9
MLPR	Magueyes Islan	1.35	275	Pn	Pn	14 31 41.7	0.0
MLPR				IAML		14 32 06.4	
	comp=E,2µm,0.8s						
MLPR				IAML		14 32 07.0	
	comp=N,3µm,1.0s						
MLPR	Magueyes Islan	1.35	275		Sg	14 32 02.1	+0.9
CRPR	Cabo Rojo, PR	1.42	276	⇓eP	Pn	14 31 42.8	+0.1
CRPR	Cabo Rojo, PR	1.42	276	eS	Sn	14 32 01.5	+0.4
CRPR	Cabo Rojo, PR	1.42	276		Pn	14 31 42.6	0.0
CRPR				IAML		14 32 15.5	
	comp=E,2µm,0.8s						
CRPR	Cabo Rojo, PR	1.42	276		Sn	14 32 01.5	+0.4
LSP	Las Mesas	1.42	283	⇑eP	Pb	14 31 43.7	0.0
LSP	Las Mesas	1.42	283	eS	Sn	14 31 58.2	-3.0
AGPR	Aguadilla, PR	1.54	293	⇑eP	Pb	14 31 45.2	-0.4
AGPR	Aguadilla, PR	1.54	293	eS	Sn	14 32 03.3	-0.6
AGPR	Aguadilla, PR	1.54	293		Pn	14 31 44.6	+0.3
AGPR				Sn	Sn	14 32 04.0	+0.1
AGPR	Aguadilla, PR	1.54	293	iP	Pn	14 31 44.9	+0.7
AGPR				eS	Sb	14 32 05.6	+0.8
AGPR				IAML		14 32 13.0	
	comp=Z,2µm,0.7s						
IDE	Isla Desecheo	1.83	287	⇑eP	Pb	14 31 50.0	-0.7
IDE	Isla Desecheo	1.83	287	eS	Sn	14 32 10.0	-1.3
SMRT	St. Maarten	2.44	85	Pn	Pn	14 31 56.7	+0.1
SMRT				IAML		14 32 42.5	
	comp=N,851nm,0.5s						
SMRT				IAML		14 32 42.6	
	comp=E,939nm,0.4s						
SMRT	St. Maarten	2.44	85	eP	Pn	14 31 56.8	+0.1
SMRT				eS	Sn	14 32 26.8	+0.6
SEUS	St. Eustatius	2.55	98	Pn	Pn	14 31 57.4	-0.8
SEUS				IAML		14 32 37.4	
	comp=E,508nm,0.6s						
SEUS				IAML		14 32 50.4	
	comp=N,740nm,0.7s						
PCDR	Punta Cana, DR	2.70	284		Pn	14 32 00.8	+0.5
PCDR				IAML		14 32 46.5	
	comp=E,706nm,1.3s						
PCDR	Punta Cana, DR	2.70	284	iP	Pb	14 32 05.1	-0.3
PCDR				eS	Sb	14 32 40.9	+2.6
PCDR				IAML		14 32 58.0	
	comp=Z,596nm,0.7s						
MBFL	Flemmings, Mon	3.44	108	eP	Pn	14 32 11.3	+0.8
ANWB	Willy Bob	3.66	92		Pn	14 32 13.5	0.0
ANWB				IAML		14 33 12.9	
	comp=Z,198nm,1.4s						
ANWB	Willy Bob	3.66	92	eP	Pn	14 32 13.8	+0.3
ANWB				eS	Sn	14 32 56.9	+0.4
ANBD	Bethesda, Anti	3.77	102	eP	Pn	14 32 15.4	+0.4
ANBD				eS	Sn	14 32 58.7	-0.5
GDHS	Morne Mazeau,	4.02	113		Pn	14 32 18.9	+0.4
ABD	La Joyeuse, An	4.19	109	Pn	Pn	14 32 19.0	-1.7
ABD				IAML		14 33 35.4	

comp=N,143nm,1.9s
ABD IAML 14 33 55.2
comp=E,166nm,1.8s
ABD La Joyeuse, An 4.19 109 *e*P **Pn 14 32 21.4 +0.6**
CBE Ff, Capester 4.24 114 Pn 14 32 21.2 -0.3
CBE Ff, Capester 4.24 114 *e*P **Pn 14 32 21.7 +0.2**
CBE *e*T T 14 36 20.8
CBE T T 14 36 54.0
MDCT Cottage Hill, 4.57 119 *e*P **Pn 14 32 26.5 +0.5**
MAGL Barre de l'ile 4.57 114 Pn **Pn 14 32 25.0 -1.1**
MAGL IAML 14 33 42.3
comp=N,139nm,1.8s
MAGL IAML 14 33 47.0
comp=E,159nm,1.9s
MAGL Barre de l'ile 4.57 114 *e*P **Pn 14 32 25.6 -0.5**
GDSD La Dsirade Is 4.62 109 Pn **Pn 14 32 24.6 -2.2**
DSLB Salisbury 4.70 120 *e*P **Pn 14 32 27.7 0.0**
SC01 Santiago de lo 5.08 289 Pn 14 32 30.4 -2.7
SVN Savane Anatole 5.23 124 Pn 14 32 35.0 -0.2
FDF Fort de France 5.31 125 Pn 14 32 35.7 -0.5
FDF IAML 14 35 20.5
comp=E,58nm,1.9s
FDF IAML 14 35 38.0
comp=N,68nm,1.4s
FDF Fort de France 5.31 125 *e*P **Pn 14 32 35.7 -0.5**
SDDR Presa de Saban 5.49 283 Pn **Pn 14 32 40.9 +2.2**
SDDR Presa de Saban 5.49 283 *e*P Pn 14 32 43.3 +4.6
SDDR Presa de Saban 5.49 283 *e*S **Sb 14 33 54.0 -4.7**
SDDR Presa de Saban 5.49 283 *i* P Pn 14 32 43.9 +5.1
SDDR IAML 14 34 08.7
comp=Z,74nm,0.8s
BIM Bigot 5.50 127 Pn **Pn 14 32 38.1 -0.7**
BIM Bigot 5.50 127 *e*P **Pn 14 32 37.9 -0.9**
ILAM Ilet Lapin Mar 5.50 123 Pn **Pn 14 32 38.4 -0.4**
ILAM Ilet Lapin Mar 5.50 123 *e*P **Pn 14 32 37.9 -0.9**
MPOM Morne Pois Mar 5.70 126 Pn **Pn 14 32 41.9 +0.3**
MPOM Morne Pois Mar 5.70 126 *e*P **Pn 14 32 41.7 +0.1**
SLBI Saint Lucia, B 5.88 130 *e*P **Pn 14 32 43.2 -0.8**
MCLT Moule a Chique 6.11 132 Pn **Pn 14 32 49.4 +2.1**
SVB Belmont 6.21 137 Pn **Pn 14 32 47.1 -1.5**
GRTK Grand Turk 6.33 306 Pn **Pn 14 32 50.9 +0.7**
TOSP Speyside 8.18 142 Pn **Pn 14 33 17.7 +2.1**
BAUV El Baul 9.17 195 Pn 14 33 28.2 -1.0
SDV Santo Domingo 10.17 209 Pn **Pn 14 33 44.9 +1.9**
comp=Z,1.8nm,0.3s,baz=137,slow=8.7,SNR=5.5
SDV Sn **Sn 14 35 34.9 -2.1**
comp=Z,1.4nm,0.3s,baz=331,slow=18,SNR=4.3
comp=Z,6.4nm,0.4s
SDV Santo Domingo 10.17 209 Pn **Pn 14 33 43.1 0.0**
ROSC El Rosal 15.49 214 LR LR 14 41 42.6
comp=Z,112nm,19.0s,baz=242,slow=40
BOAV Boa Vista 16.17 161 Pn **Pn 14 35 00.7 -3.5**
456A Hilliard 19.65 314 P **P 14 35 42.4 -3.3**
WUPA West Chester U 23.63 341 P **P 14 36 28.4 +0.5**
MVL Millersville 23.93 339 P **P 14 36 32.7 +1.8**
TKL Tuckaleechee C 23.94 321 LR LR 14 46 15.4
comp=Z,31nm,20.6s,baz=138,slow=38
LUPA Lehigh Univers 24.17 342 P **P 14 36 28.5 -4.6**
CMIG Matias Romero 27.91 273 LR LR 14 47 34.1
comp=Z,37nm,21.2s,baz=30,slow=35
SADO Sadowa 29.12 340 LR LR 14 48 49.8
comp=Z,46nm,20.1s,baz=172,slow=36
LPAZ La Paz 34.03 184 P P 14 38 07.0 +5.3
comp=Z,1.7nm,0.9s,baz=26,slow=5.6,SNR=5.9
comp=Z,1.7nm,0.9s
TXAR Lajitas Array 36.53 295 P **P 14 38 23.9 +1.2**
comp=Z,0.2nm,0.4s,baz=116,slow=9.9,SNR=5.6
TXAR LR LR 14 57 03.1
comp=Z,27nm,19.6s,baz=6.0,slow=43
comp=Z,0.2nm,0.4s
ANMO Albuquerque 40.02 303 LR LR 14 57 21.7
comp=Z,40nm,18.4s,baz=134,slow=40
PDAR Pinedale Array 44.66 313 P **P 14 39 30.6 +0.7**
comp=Z,0.1nm,0.4s,baz=110,slow=4.9,SNR=1.8
PDAR LR LR 15 00 26.0
comp=Z,26nm,18.2s,baz=38,slow=40
comp=Z,0.1nm,0.4s
NVAR Mina Array Bea 50.04 305 P **P 14 40 14.4 +2.6**
comp=Z,0.2nm,0.5s,baz=119,slow=5.2,SNR=2.1
comp=Z,0.2nm,0.5s
SFJD Kangerlussuaq 50.06 8 LR LR 14 58 11.8
comp=Z,9.4nm,21.8s,baz=203,slow=32
NEW Newport 51.46 318 LR LR 15 03 55.3
comp=Z,83nm,18.4s,baz=266,slow=38
PLCA Paso Flores 58.48 184 LR LR 15 07 10.4
comp=Z,75nm,21.5s,baz=358,slow=37
ILAR Eielson Array 70.28 333 P **P 14 42 33.0 +3.2**
comp=Z,0.2nm,0.6s,baz=105,slow=4.1,SNR=2.7
comp=Z,0.2nm,0.6s

---

*IDC **11** 14:35:33.5±1.6, 32.°06N×50.°09E, h0km, mb4.1/16, mbtmp4.1/21, ML4.1/4, MS3.0/5, Error ellipse: s-maj=30.5km s-min=16.0km az=177.0*
*MOS **11** 14:35:33.9±1.5, 31.°92N×49.°91E, h13km, mb4.4/14, Error ellipse: s-maj=8.5km s-min=5.1km az=107.1*
*TEH **11** 14:35:34.4, 32.°00N×50.°11E, h8km, ML4.0*
*SGS **11** 14:35:35.5, 32.°14N×50.°18E, h10km, Ml4.7*
*NEIC **11** 14:35:35.4±2.6, 31.°87N±0.°02×49.°92E±0.°09, h10km±1km, mb4.4/28, mb_Lg4.0(TEH), Error ellipse: s-maj=13.5km s-min=3.0km az=79.0*
*DSN **11** 14:35:41.0±2.2, 31.°39N×50.°12E, h10km, ML3.8/10, Error ellipse: s-maj=27.9km s-min=9.6km az=5.0*
*OMAN **11** 14:35:41.5±2.6, 31.°58N×50.°25E, h10km, mb5.8/17, Error ellipse: s-maj=27.4km s-min=9.0km az=152.0*
ISC 11 14:35:35.4±0.4**, 31.°94N**±0.°04×**50.°09E**±0.°03**, h15km, n261, σ1.°80**/268**, mb4.3**/39**, MS3.0**/3**, 14C-12D, Northern and central Iran**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AMIS Naft Sefid 0.74 249 *e*Pg **Pb 14 35 49.8 -0.2**
AMIS *e* 14 36 06.0
comp=Z,75µm,0.2s
SHK1 Shahrekord 0.78 60 *e*Pg Pg 14 35 47.2 -3.4
IBRJ Brojen 0.99 91 *e*Pg **Pb 14 35 52.5 -2.0**
IBRJ *e*Sg **Sb 14 36 09.5 +2.0**
IBRJ *e* 14 36 10.6
comp=Z,41µm,0.7s
IPIR Pirpir 1.01 42 *e*Pg **Pb 14 35 52.4 -2.3**
ABEH Behbahan 1.34 174 *e* 14 36 04.2
comp=Z,47µm,0.6s
ABEH *e*Pg **Pg 14 36 01.4 +0.2**
AHWZ Ahwaz 1.38 244 *e*Pg **Pg 14 36 01.6 -0.3**
KLNJ Kolanjah 1.58 125 *e*Pn **Pn 14 36 04.3 +1.1**
KLNJ *e* 14 36 43.5
comp=Z,17µm,1.1s
IGAR Gharneh 1.72 74 *e* 14 36 34.2
comp=Z,16µm,0.5s
IGAR *e*Pg **Pn 14 36 06.4 +1.4**
KHMZ Khomeyn 1.80 356 *e*Pg **Pn 14 36 08.3 +2.1**
IKLH Kolahrood 1.86 42 *e* 14 36 47.8
comp=Z,15µm,0.5s
IKLH *e*Pn **Pn 14 36 07.7 +0.7**
IRAM Ramesheh 1.95 93 *e*Pn **Pn 14 36 10.0 +1.8**
IRAM *e* 14 36 49.6
comp=Z,9µm,0.6s
QAMS Qamsar 2.10 31 *e*Pn **Pn 14 36 11.0 +0.7**
QAMS *e* 14 36 46.5
comp=Z,17µm,0.4s
IZEF Zefreh 2.12 63 *e*Pn **Pn 14 36 12.0 +1.5**
IZEF *e* 14 36 46.4
comp=Z,6µm,0.6s
IKMR Kamar-syah 2.14 318 *e*Pn **Pn 14 36 12.2 +1.7**
IKMR *e* 14 37 01.3
comp=Z,18µm,0.7s
IDOB Doab 2.45 319 *e*Pn **Pn 14 36 16.1 +1.0**
NASN Na'in 2.45 69 *e*Pn **Pn 14 36 17.1 +1.9**
IKFM Kafar-mosalman 2.47 311 *e*Pn **Pn 14 36 16.8 +1.7**
IKFM *e* 14 37 24.1
comp=Z,18µm,1.1s
DHL1 Dehloran 2.50 288 *e*Pn **Pn 14 36 17.5 +2.0**
HSAM Samen 2.59 332 *e*Pn **Pn 14 36 18.7 +1.6**
HSAM *e* 14 36 23.3
comp=Z,3µm,0.6s
KRSH Karshahi 2.66 40 *e*Pn **Pn 14 36 19.6 +1.7**
KRSH *e* 14 37 26.0
comp=Z,5µm,0.8s
KAZ1 Kazerun 2.66 150 *e*Pn **Pn 14 36 20.8 +3.0**
GHVR GHOM 2.73 21 *e*Pn **Pn 14 36 20.6 +1.8**
HAGD Aghdareh 2.99 345 *e*Pn **Pn 14 36 23.6 +1.1**
HAGD *e* 14 37 15.5
comp=Z,5µm,1.0s
ISFB Sefidab 3.01 36 *e*Pn **Pn 14 36 24.2 +1.6**
ISFB *e* 14 37 14.0
comp=Z,3µm,1.0s
IQOM Qom 3.01 15 *e*Pn **Pn 14 36 23.8 +1.0**
IQOM *e* 14 36 34.7
comp=Z,4µm,0.7s
ISAD Sadrabad 3.05 89 *e*Pn **Pn 14 36 25.9 +2.5**
ISAD *e* 14 37 23.7
comp=Z,5µm,0.7s
SHI Shiraz 3.09 137 *e*Pn **Pn 14 36 25.7 +1.8**
SHI *e* 14 36 41.1
comp=Z,3µm,0.9s
IKOM Komasi 3.11 317 *e*Pn **Pn 14 36 25.7 +1.6**
IBZA Bozab 3.15 324 *e*Pn **Pn 14 36 26.0 +1.3**
IBZA *e* 14 37 36.4
comp=Z,3µm,1.0s
AHBU AHRAM 3.23 161 *e*Pn **Pn 14 36 28.8 +3.2**
ANAR Anarak 3.31 67 *e*Pn **Pn 14 36 29.0 +2.1**
IVRN Varamin 3.34 24 *e*Pn **Pn 14 36 29.1 +1.9**
IRAZ Razeghan 3.46 358 *e*Pn **Pn 14 36 30.4 +1.4**
IRAZ *e* 14 36 39.7
comp=Z,5µm,0.8s
KCHF Cheshme Sefid, 3.46 313 *e*Pn **Pn 14 36 30.2 +1.2**
KCHF *e* 14 37 48.4
comp=Z,3µm,0.6s
KER Kermanshah 3.48 315 *e*Pn **Pn 14 36 30.4 +1.2**
IHSB Hasanabad 3.63 15 *e*Pn **Pn 14 36 32.8 +1.6**
IHSB *e* 14 36 52.3
comp=Z,4µm,0.8s
ICHK Chekchek 3.67 84 *e*Pn **Pn 14 36 33.7 +1.8**
ICHK *e* 14 37 38.5
comp=Z,2µm,0.6s
ILBA Ilam Banvizeh 3.68 298 *e*Pn **Pn 14 36 32.7 +0.8**
IMHD Mahdasht 3.77 7 *e*Pn **Pn 14 36 34.4 +1.3**
IMHD *e* 14 36 50.4
comp=Z,3µm,0.6s
QABG Abgarm-Qazvin 3.79 354 *e*Pn **Pn 14 36 34.4 +0.9**
IGHG Ghaleghazi 3.80 310 *e*Pn **Pn 14 36 34.4 +0.8**
YZKH Yazd 3.84 82 *e*Pn **Pn 14 36 36.9 +2.8**
IMEH Mehriz 3.89 97 *e*Pn **Pn 14 36 37.1 +2.2**
IMEH *e* 14 37 48.3
comp=Z,1µm,0.8s
SNGE Sanandaj 3.90 325 *e*Pn **Pn 14 36 36.2 +1.3**
ILIN Lien 3.96 319 *e*Pn **Pn 14 36 36.8 +0.9**
IDMV Damavand 3.98 23 *e*Pn **Pn 14 36 37.5 +1.4**
DAMV Damavand 4.00 22 *e*Pn **Pn 14 36 38.3 +1.9**
CHTH Charan 4.05 12 *e*Pn **Pn 14 36 38.8 +1.7**
IDHR Dehrash 4.15 313 *e*Pn **Pn 14 36 38.8 +0.4**
ILAS Lasjerd 4.19 34 *e*Pn **Pn 14 36 40.6 +1.6**
QIR1 Qir 4.29 143 *e*Pn **Pn 14 36 43.7 +3.5**
IFIR Firoozkooh 4.31 30 *e*Pn **Pn 14 36 41.6 +0.9**
IGZV Ghazvin 4.44 1 *e*Pn **Pn 14 36 43.5 +1.1**
QALM Alamut, Qazvin 4.51 6 *e*Pn **Pn 14 36 44.4 +1.0**
QSDN Sirdan 4.62 351 *e*Pn **Pn 14 36 46.5 +1.6**
KLST Kelardasht - M 4.64 10 *e*Pn **Pn 14 36 47.3 +2.1**
IBAF Bafgh 4.67 93 *e*Pn **Pn 14 36 47.9 +2.3**
IPRN Peran 4.68 23 *e*Pn **Pn 14 36 47.5 +1.8**
ISHM Shahmirzad 4.69 34 *e*Pn **Pn 14 36 46.8 +0.9**
IANJ Anjilo 4.75 41 *e*Pn **Pn 14 36 48.2 +1.5**
JIR1 Jirandeh 4.77 357 *e*Pn **Pn 14 36 48.4 +1.5**
ZNJK Zanjan 4.86 347 *e*Pn **Pn 14 36 50.0 +1.7**
QYSM Um Kedad 4.94 215 P **Pn 14 36 50.7 +1.7**
QYSM Um Kedad 4.94 215 S **Sn 14 37 47.0 +1.1**
GIDE GILAN DEYLAMAN 4.98 358 *e*Pn **Pn 14 36 52.1 +2.3**
IGLO Ghaloghah 5.51 33 *e*Pn **Pn 14 36 59.0 +1.9**
TPRV Parvadeh(Tabas 5.68 77 *e*Pn **Pn 14 37 01.9 +2.6**
KHGB Koh Gabri 5.69 104 *e*Pn **Pn 14 37 01.1 +1.5**
RQBS RQBS 5.82 219 P **Pn 14 37 02.5 +1.2**
TNSJ Nastanj 5.84 68 *e*Pn **Pn 14 37 03.2 +1.7**
SAKB Bahrain 5.95 176 P **Pn 14 37 05.7 +2.7**
SAKB S **Sn 14 38 13.5 +2.6**
SMAN Sihmah 6.01 198 P **Pn 14 37 05.1 +1.4**
TVBK TV Kerman 6.05 107 *e* 14 37 45.7
comp=Z,761nm,0.7s
TVBK *e*Pn **Pn 14 37 06.6 +2.0**
KRBR Kerman 6.05 107 *e*Pn **Pn 14 37 07.0 +2.4**
SHMA Al-Shehemyia 6.11 173 P **Pn 14 37 07.3 +2.2**
SHMA S **Sn 14 38 16.9 +2.2**
TKDS Koohdasht(Taba 6.15 72 *e*Pn **Pn 14 37 07.9 +2.1**
TABS Tabas 6.16 72 *e*Pn **Pn 14 37 08.2 +2.3**
SHRO Shahrood 6.36 49 *e*Pn **Pn 14 37 10.9 +2.1**
CHMN Cheshme madani 6.72 106 *e*Pn **Pn 14 37 16.7 +2.8**
IHRS Heris 6.84 339 *e*Pn **Pn 14 37 16.7 +1.3**
NHRD Haradh 7.25 188 P **Pn 14 37 21.6 +0.7**
MRVT Maraveh tapeh 7.54 39 *e*Pn **Pn 14 37 27.0 +2.1**
AFRZ Afriz 7.67 76 *e*Pn **Pn 14 37 28.5 +1.8**
BSRN Basiran 7.68 87 *e*Pn **Pn 14 37 29.0 +2.2**
KBAM BAM 7.73 109 *e*Pn **Pn 14 37 29.8 +2.3**
SHME Shamm 7.90 136 P **Pn 14 37 32.0 +2.2**
SHME S **Sn 14 38 56.1 -2.9**
SHME Shamm 7.90 136 P **Pn 14 37 31.1 +1.4**
SLWR Sila 7.96 169 P **Pn 14 37 32.9 +2.2**
BANOM Banah 8.09 136 P **Pn 14 37 33.3 +0.9**
SNR=5.7
BANOM Banah 8.09 136 *i* P **Pn 14 37 31.2 -1.2**
SNR=22
BANOM S **Sn 14 39 01.0 -2.6**
GHWR Ruwais 8.31 162 P **Pn 14 37 37.2 +1.8**
MASF Masafi 8.43 139 P **Pn 14 37 36.9 -0.3**
SNR=6.9
MSFE Esma-Masafi 8.44 139 *i* P **Pn 14 37 37.0 -0.2**
SNR=14
NAZ Nazwa, Dubai 8.48 143 P **Pn 14 37 39.1 +1.4**
SNR=7.2
NAZ S **Sn 14 39 12.5 -0.7**
SNR=5.5
NAZ Nazwa, Dubai 8.48 143 P **Pn 14 37 38.5 +0.8**
GEVA Gevas 8.58 320 Pn **Pn 14 37 40.2 +1.0**
ASUD Al Ashush, Dub 8.62 146 P **Pn 14 37 42.2 +2.5**
SNR=12
ASUD S **Sn 14 39 18.5 +1.9**
ASUD Al Ashush, Dub 8.62 146 *i* P **Pn 14 37 41.0 +1.4**
SNR=12
FAQ Al Faqa, Dubai 8.65 145 P **Pn 14 37 40.1 +0.1**
SHRT Shahrakht 8.75 76 *e*Pn **Pn 14 37 45.1 +3.6**
UOSS Minazif 8.80 141 Pn **Pn 14 37 42.8 +0.7**
UOSS Minazif 8.80 141 *i* P **Pn 14 37 42.2 +0.1**
SNR=13
HATD Hatta, Dubai 8.86 142 P **Pn 14 37 43.5 +0.6**
SNR=14
HATD S **Sn 14 39 18.9 -3.5**
HATD Hatta, Dubai 8.86 142 *i* P **Pn 14 37 42.9 0.0**
SNR=14
GEYT Alibeck 8.89 46 Pn **Pn 14 37 42.8 -0.6**
comp=Z,2.1nm,0.5s,baz=251,slow=9.0,SNR=4.6
GEYT LR LR 14 41 31.3
comp=Z,92nm,20.4s,baz=306,slow=41
GEYT Alibeck 8.89 46 Pn 14 37 46.3 +2.9
GYA0B ALIBECK ARRAY 8.89 46 Pn 14 37 46.3 +2.9
ASHO Ashiyiah 8.93 142 P **Pn 14 37 43.7 -0.2**
SNR=15
ASHO S **Sn 14 39 20.9 -3.5**
ASHO Ashiyiah 8.93 142 *i* P **Pn 14 37 43.5 -0.4**
SNR=21
TBJM Torbat-e-JAM 9.16 66 *e*Pn **Pn 14 37 46.7 -0.5**
IKRD Kardeh 9.16 56 *e*Pn **Pn 14 37 48.4 +1.1**
GNI Garni 9.27 334⇑*e*P **Pn 14 37 50.0 +1.3**
ALNE Al Ain 9.30 146 P **Pn 14 37 50.0 +1.0**
SNR=5.5
RAYN Ar Rayn 9.31 207 Pn **Pn 14 37 48.3 -1.0**
RAYN Ar Rayn 9.31 207 S **Sn 14 39 34.8 +1.0**
RAYN Ar Rayn 9.31 207 P **Pn 14 37 48.2 -1.0**
RAYN Ar Rayn 9.31 207 P **Pn 14 37 48.3 -1.0**
MARD Mardin 9.36 308 Pn 14 37 49.0 -0.9
MZR Muzera 9.39 161 *i* P **Pn 14 37 50.9 +0.7**
SNR=12
JRKH Jarkhoshk 9.40 62 *e*Pn **Pn 14 37 52.3 +1.9**
ARQ Araqi 10.29 145 P **Pn 14 38 02.6 +0.1**
SNR=23
ARQ S **Sn 14 39 52.7 -4.9**
HOQ Hoqain 10.49 141 P **Pn 14 38 05.4 +0.1**
BSY Bisya 11.12 144 P **Pn 14 38 13.9 0.0**
SNR=23
ASF Jabal al Asfar 11.20 275 Pn **Pn 14 38 14.1 -1.0**
comp=Z,3.1nm,0.3s,baz=88,slow=3.5,SNR=22
ASF Sn **Sn 14 40 14.9 -5.2**
comp=Z,0.4nm,0.3s,baz=154,slow=19,SNR=5.6
comp=Z,6.5nm,0.3s
WSAR Wadi Sarin 11.50 137 Pn **Pn 14 38 18.8 -0.3**
comp=Z,2.2nm,0.3s,baz=348,slow=7.5,SNR=19
WSAR Sn **Sn 14 40 22.3 -5.0**
comp=Z,0.8nm,0.3s,baz=119,slow=18,SNR=3.5
WSAR LR LR 14 43 20.0
comp=Z,37nm,18.8s,baz=340,slow=40
comp=Z,13nm,0.5s
WSAR Wadi Sarin 11.50 137 P **Pn 14 38 17.8 -1.4**
SNR=9.2
WSAR S **Sn 14 40 23.1 -4.2**
JMDO Jabal Madar 11.89 141 P **Pn 14 38 24.6 0.0**
SNR=16
MMAI Mount Meron Ar 12.45 279 Pn **Pn 14 38 30.4 -1.8**
comp=Z,0.6nm,0.3s,baz=100,slow=14,SNR=1.5
comp=Z,0.6nm,0.5s
MHTO MHTO 12.98 145 P **Pn 14 38 39.0 -0.4**
SNR=72
KBZ Khabaz 13.07 336 LR LR 14 44 15.1
comp=Z,84nm,21.5s,baz=153,slow=40
KBZ Khabaz 13.07 336⇑*e*P **Pn 14 38 39.3 -1.1**
KIV Kislovodsk 13.34 336 *e*P **Pn 14 38 47.3 +3.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,28nm,12.0s
DOK Doka 13.75 164 P **Pn 14 38 48.8 -1.1**
SNR=14
SOC Sochi 14.22 328 *e*P **Pn 14 38 56.1 0.0**
SOC *e* 14 41 24.5
SOC MLR MLR
comp=Z,46nm,11.0s
BR131 Keskin Array S 15.43 305 Pn 14 39 13.3 +0.7
BR131 IAmb IAmb 14 39 24.6
comp=Z,9.1nm,1.2s
BR131 Keskin Array S 15.43 305⇓*e*P **Pn 14 39 12.8 +0.1**
BRTR Keskin Array B 15.43 305 Pn **Pn 14 39 14.9 +2.3**
comp=Z,0.3nm,0.3s,baz=125,slow=14,SNR=9.2
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 15.43 305 Pn **Pn 14 39 14.2 +1.5**
BRTR Keskin Array B 15.43 305 *i* P **P 14 39 17.7 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
CHGR Chuyangaron 16.93 61 P 14 39 35.2 +1.4
CHGR IAmb IAmb 14 39 47.1
comp=Z,13nm,0.9s
CHGR Chuyangaron 16.93 61 P **P 14 39 35.2 +1.4**
CHGR pmax pmax
comp=Z,13nm,0.9s
GAR Garm 17.90 61 P **P 14 39 45.7 +1.2**
ABKAR Akbulak array 18.82 20 P **P 14 39 55.1 +0.8**
ABKAR Akbulak array 18.82 20 P **P 14 39 55.2 +0.8**
KK31 Karatay Array 19.61 50 P **Pn 14 40 07.1 +2.6**
KK31 Karatay Array 19.61 50 P **Pn 14 40 07.1 +2.6**
KK31 pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 19.61 50 P **Pn 14 40 07.1 +2.6**
KKAR Karatay Array 19.61 50 P **Pn 14 40 07.1 +2.6**
KKAR IAmb IAmb 14 40 10.3
comp=Z,5.9nm,1.2s
KKAR Karatay Array 19.61 50 P **Pn 14 40 07.1 +2.6**
KKAR pmax pmax
comp=Z,6.0nm,1.2s
VRH Novokhopyorsk 20.22 345 *e*P **P 14 40 08.7 -0.9**
VRH pmax pmax
comp=Z,20nm,0.6s
BELG Belogornoye 20.52 356 P **P 14 40 10.9 -2.0**
comp=Z,37nm,0.8s,baz=1.8,slow=3.0,SNR=7.6
comp=Z,37nm,0.8s
BELG Belogornoye 20.52 356 *i* P **P 14 40 12.3 -0.6**
VSR Storozhevoye 20.88 340 *e*P P 14 40 08.2 -8.7
VSR pmax pmax
comp=Z,3.0nm,0.5s
TIRR Tirgusor 21.06 313 ⇓P **P 14 40 19.1 +0.3**
TIRR Tirgusor 21.06 313 P **P 14 40 19.1 +0.3**
IDI Anoyia 21.24 286 P **P 14 40 22.0 +1.1**
comp=Z,9.7nm,0.6s,baz=78,slow=7.9,SNR=12
comp=Z,9.7nm,0.6s
IDI Anoyia 21.24 286 P **P 14 40 22.4 +1.4**
IDI IAmb IAmb 14 40 28.4
comp=Z,35nm,1.2s
TPGR Topolog 21.25 314 ⇑P **P 14 40 20.7 -0.2**
VORR Voronezh 21.28 341 *e*P **P 14 40 17.3 -3.8**
HARR Harsova 21.47 313 ⇓P **P 14 40 23.4 +0.1**
HARR Harsova 21.47 313 P **P 14 40 23.3 +0.1**
CFR Carcaliu 21.59 314 ⇓P **P 14 40 24.2 -0.3**
CFR Carcaliu 21.59 314 P **P 14 40 24.1 -0.3**
RDO Rodhopi 21.71 302 P **P 14 40 25.1 -0.8**
RDO IAmb IAmb 14 40 33.2
comp=Z,15nm,1.2s
AAK Ala-Archa 22.08 54 LR LR 14 50 02.9
comp=Z,53nm,19.2s,baz=247,slow=40
AAK Ala-Archa 22.08 54 P **P 14 40 32.0 +2.0**
AAK Ala-Archa 22.08 54⇓*e*P **P 14 40 34.7 +4.6**
AAK pmax pmax
comp=Z,5.0nm,1.5s
LPSR Galich'ya Gora 22.19 342 *e*P **P 14 40 28.1 -2.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
KSH Kashi 22.28 63 P **P 14 40 31.2 -1.0**
KSH pP sP 14 40 41.5 +2.3
KSH sP pP 14 40 45.6 +8.6
KSH pmax pmax
comp=Z,9.0nm,1.1s
NRN Naryn 22.77 58 P **P 14 40 40.4 +2.8**
NRN IAmb IAmb 14 40 44.7
comp=Z,7.7nm,1.0s
NRN Naryn 22.77 58 P **P 14 40 40.4 +2.8**
NRN pmax pmax
comp=Z,8.0nm,1.0s
PLOR Plostina 22.83 314 ⇑P **P 14 40 38.7 +0.8**
PLOR Plostina 22.83 314 P **P 14 40 38.6 +0.8**
MLR Muntele Rosu 23.09 313 ⇓P **P 14 40 41.1 +0.4**
MLR Muntele Rosu 23.09 313 P **P 14 40 40.8 +0.1**
comp=Z,6.5nm,0.9s,baz=225,slow=1.4,SNR=5.4
comp=Z,6.5nm,0.9s
MLR Muntele Rosu 23.09 313 P **P 14 40 41.7 +1.0**
MLR IAmb IAmb 14 40 53.2
comp=Z,10nm,0.9s
MLR Muntele Rosu 23.09 313 P **P 14 40 41.7 +1.0**
MLR pmax pmax
comp=Z,10.0nm,0.9s
TESR Tescani 23.16 316 ⇑P **P 14 40 42.4 +1.2**
VOIR 23.63 312 ⇑P **P 14 40 46.8 +0.8**
VOIR 23.63 312 P **P 14 40 46.7 +0.8**
ITM Ithomi 23.73 291 P **P 14 40 46.8 -0.2**
AKASG Malin Array Be 24.29 327 P **P 14 40 49.8 -2.3**
comp=Z,1.0nm,0.5s,baz=135,slow=10.0,SNR=7.4
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 24.29 327*ce*P **P 14 40 51.2 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 24.29 327*de*P **P 14 40 51.1 -0.9**
KIEV Kiev 24.30 327 P **P 14 40 51.0 -1.1**
KMPD K-Podol'skiy 24.37 320 P **P 14 40 51.0 -1.8**
BURAR Bucovina Array 24.56 317 ⇑P **P 14 40 53.9 -0.8**
BURAR Bucovina Array 24.56 317 P **P 14 40 54.6 -0.1**
BURAR Bucovina Array 24.56 317 P **P 14 40 53.9 -0.8**
BUR08 Bucovina Ar. S 24.59 317 P **P 14 40 55.4 +0.5**
BUR08 IAmb IAmb 14 41 15.8
comp=Z,6.1nm,1.1s
FNA Florina 24.67 299 P **P 14 40 57.1 +1.4**
FNA Florina 24.67 299 P **P 14 40 57.1 +1.4**
FNA pmax pmax
comp=Z,3.0nm,1.0s
KSV Kosov 25.01 318 P **P 14 40 57.9 -0.7**
GZR Gura Zlata 25.07 310 ⇑P **P 14 40 59.5 +0.3**
GZR Gura Zlata 25.07 310 P **P 14 40 59.5 +0.3**
OBN Obninsk 25.07 342 P **P 14 40 58.5 -0.5**
comp=Z,4.3nm,0.4s,baz=345,slow=21,SNR=3.6
comp=Z,4.3nm,0.4s
OBN Obninsk 25.07 342*de*P **P 14 40 59.0 0.0**
OBN *e*S S 14 45 12.3 -10
OBN pmax pmax
comp=Z,45nm,2.5s
OBN MLR MLR
comp=Z,36nm,13.0s
HERR Herculane 25.11 309 ⇑P Pb 14 41 00.4 +0.3
ARU Arti 25.19 11 P **P 14 40 59.7 -0.4**
comp=Z,0.9nm,0.3s,baz=243,slow=3.5,SNR=3.9
comp=Z,0.9nm,0.3s
ARU Arti 25.19 11*d i*P **P 14 41 00.2 +0.1**
ARU S **S 14 45 17.1 -7.6**
ARU pmax pmax
comp=Z,8.0nm,1.9s
MOS Moscow 25.36 343 *e*P **P 14 41 01.6 0.0**
MARR Marisel-Cluj 25.38 313 ⇑P **P 14 41 02.2 +0.1**
BRVK Borovoye 25.66 29⇑*e*P **P 14 41 06.4 +1.9**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 25.68 29 P **P 14 41 05.2 +0.6**

comp=Z,1.5nm,0.6s,baz=216,slow=7.3,SNR=8.5
comp=Z,1.5nm,0.6s
TRSU Trosnyk 26.12 316 P **P 14 41 10.8 +2.1**
TRPA Tarpa 26.39 316 ⇑P **P 14 41 12.4 +1.3**
KOLS Kolonicke sedl 26.93 317 *e*P **P 14 41 20.2 +4.2**
KOLS Kolonicke sedl 26.93 317 *e*P **P 14 41 20.2 +4.2**
CRVS Cervenica-Dubn 27.38 317 *e*P Pb 14 41 25.9 +2.9
CRVS Cervenica-Dubn 27.38 317 *e*P **P 14 41 25.9 +5.8**
MAKZ Makanchi 28.54 49 P **P 14 41 33.9 +3.4**
MAKZ IAmb IAmb 14 41 38.3
comp=Z,11nm,1.4s
MAKZ Makanchi 28.54 49 P **P 14 41 33.9 +3.4**
MAKZ pmax pmax
comp=Z,11nm,1.5s
MKAR Makanchi Array 28.74 50 P **P 14 41 31.4 -0.8**
comp=Z,1.1nm,0.9s,baz=242,slow=10.0,SNR=2.3
comp=Z,1.1nm,0.9s
KLMR Klimovskoe 29.75 350 *e*P **P 14 41 39.1 -1.9**
KLMR AMP 14 41 41.3
comp=Z,26nm,1.5s
KLMR Klimovskoe 29.75 350 *e*P **P 14 41 39.1 -1.9**
KLMR pmax pmax
comp=Z,26nm,1.5s
MORC Moravsky Berou 30.07 316 P **P 14 41 44.6 +0.6**
MORC IAmb IAmb 14 41 45.2
comp=Z,2.3nm,0.8s
MORC Moravsky Berou 30.07 316 P **P 14 41 44.6 +0.6**
MORC pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 32.08 312 P **P 14 42 01.1 -0.7**
comp=Z,0.3nm,0.5s,baz=101,slow=4.2,SNR=3.8
comp=Z,0.3nm,0.5s
DGZ Jazzator, Alta 32.94 46⇓*e*P **P 14 42 10.2 +0.8**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
ZAA0 Zalesovo Array 33.11 38 P **P 14 42 11.3 +0.7**
ZAA0 IAmb IAmb 14 42 11.9
comp=Z,1.8nm,0.6s
ZALV Zalesovo Beam 33.11 38 P **P 14 42 09.4 -1.2**
comp=Z,1.1nm,0.4s,baz=256,slow=11,SNR=8.4
comp=Z,1.1nm,0.4s
ZALV Zalesovo Beam 33.11 38 *i* P **P 14 42 10.6 0.0**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
FIA1 FINESS Array S 33.40 339 P **P 14 42 12.8 -0.3**
FIA1 IAmb IAmb 14 42 40.8
comp=Z,17nm,1.3s
FINES FINESS Array B 33.40 339 P **P 14 42 11.6 -1.4**
comp=Z,3.4nm,0.4s,baz=141,slow=10,SNR=43
comp=Z,3.4nm,0.4s
FINES FINESS Array B 33.40 339 P **P 14 42 12.6 -0.5**
FINES FINESS Array B 33.40 339 *i* P **P 14 42 12.8 -0.2**
FINES pmax pmax
comp=Z,4.0nm,0.4s
BNI Bardonecchia 35.99 304 P **P 14 42 35.3 -0.6**
BNI IAmb IAmb 14 42 46.5
comp=Z,21nm,1.3s
BNI Bardonecchia 35.99 304 P **P 14 42 35.3 -0.6**
BNI pmax pmax
comp=Z,21nm,1.3s
LVZ Lovozero 37.12 350 P **P 14 42 45.5 +0.5**
LVZ Lovozero 37.12 350 P **P 14 42 45.5 +0.5**
LVZ pmax pmax
comp=Z,58nm,1.4s
PALK Pallekele 37.61 124⇓*e*P P 14 42 59.2 +9.4
PALK pmax pmax
comp=Z,7.0nm,1.1s
NORES NORESS Array B 38.26 330 P **P 14 42 55.0 +0.3**
NC405 NORSAR Array S 38.39 331 P **P 14 42 55.0 -0.8**
NB2 NORSAR Subarra 38.56 331 P **P 14 42 55.8 -1.5**
baz=124,slow=8.6
NB2 NORSAR Subarra 38.56 331 P **P 14 42 55.8 -1.5**
comp=Z,2.5nm,0.7s,baz=124,slow=8.6
NOA NORSAR Array B 38.56 331 P **P 14 42 55.8 -1.5**
comp=Z,1.6nm,0.8s,baz=122,slow=8.3,SNR=6.9
NOA LR LR 14 59 53.0
comp=Z,23nm,20.4s,baz=165,slow=38
comp=Z,1.6nm,0.8s
KEV Kevo 40.03 348 P **P 14 43 08.6 -0.8**
KEV Kevo 40.03 348 P **P 14 43 08.6 -0.8**
KEV pmax pmax
comp=Z,45nm,1.3s
ARA0 ARCESS Array S 40.12 347 *e*P **P 14 43 10.5 +0.3**
ARCES ARCESS Array B 40.12 347 P **P 14 43 09.1 -1.1**
comp=Z,3.1nm,0.7s,baz=152,slow=8.0,SNR=15
comp=Z,3.1nm,0.7s
ARCES ARCESS Array B 40.12 347 P **P 14 43 09.9 -0.3**
ARCES IAmb IAmb 14 43 19.8
comp=Z,22nm,1.5s
ARCES ARCESS Array B 40.12 347 P **P 14 43 09.9 -0.3**
ARCES pmax pmax
comp=Z,22nm,1.5s
KTK1 Kautokeino 40.15 345 *e*P **P 14 43 10.1 -0.3**
KTK1 IAmb IAmb 14 43 12.1
comp=Z,24nm,1.1s
FAUS Fauske 40.93 340 *e*P **P 14 43 15.6 -1.3**
STOK Stokkvaagen 40.94 338 *e*P **P 14 43 16.8 -0.1**
JETT Jettan, Norway 41.20 345 *e*P **P 14 43 18.9 -0.3**
JETT IAmb IAmb 14 43 19.4
comp=Z,23nm,0.6s
STEI Steigen 41.32 341 *e*P **P 14 43 19.0 -1.0**
STEI IAmb IAmb 14 43 20.4
comp=Z,18nm,1.1s
HAMF Hammerfest 41.39 347 *e*P **P 14 43 20.6 0.0**
HAMF IAML 14 43 21.0
comp=Z,4.1nm,0.4s
TRO Tromso 41.60 344 *e*P **P 14 43 21.9 -0.5**
TRO IAmb IAmb 14 43 22.3
comp=Z,12nm,0.6s
NRIK Noril'sk 42.97 18*ce*P **P 14 43 36.0 +2.5**
ESDC Sonseca Array 43.95 296 P **P 14 43 43.5 +1.6**
comp=Z,0.2nm,0.4s,baz=66,slow=6.3,SNR=2.2
comp=Z,0.2nm,0.4s
SONM Songino Array 45.02 52 P **P 14 43 51.0 +0.6**
comp=Z,0.3nm,0.3s,baz=268,slow=4.3,SNR=2.5
comp=Z,0.3nm,0.3s
SPB2 Spitsbergen Ar 48.63 351 P **P 14 44 18.6 +0.5**
SPA0 Spitsbergen Ar 48.63 351 *e*P **P 14 44 18.6 +0.5**
SPA0 IAmb IAmb 14 44 19.7
comp=Z,22nm,1.0s
SPITS Spitsbergen Ar 48.63 351 P **P 14 44 18.5 +0.4**
comp=Z,3.9nm,0.5s,baz=131,slow=10,SNR=14
comp=Z,3.9nm,0.5s
DAG Danmarks Havn 54.32 345 *i* P **P 14 44 58.0 -2.7**
TIXI Tiksi 56.51 22⇓*e*P **P 14 45 17.2 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,1.4s
EUNU Eureka 65.72 352 P **P 14 46 19.7 +0.7**
EUNU IAmb IAmb 14 46 35.7
comp=Z,4.2nm,1.2s
A36M Sachs Harbour 76.31 359 P **P 14 47 23.0 -0.2**
IMAR Indian Mountai 80.68 10 P **P 14 47 47.4 0.0**
BCAR Beaver Creek A 84.85 5 P **P 14 48 09.4 +0.2**

ROM 11 14:38:57.6±0.0**, 42°.876N**±0°.003×**13°.057E**±0°.004**, h11**km**, ML1.7**/6**, 3C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=72.0, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
NRCA Norcia 0.06 136 P Pg 14 39 00.3 +0.4
NRCA S Sg 14 39 01.9 +0.3
NRCA AML AML
comp=E,1175μm,0.1s
NRCA AML AML
comp=N,2965μm,0.1s
NRCA AML AML
comp=N,2965μm,0.2s
NRCA AML AML
comp=N,3120μm,0.2s
NRCA AML AML
comp=E,1175μm,0.1s
NRCA AML AML
comp=E,1265μm,0.1s
FEMA Monte Fema 0.09 356 P Pg 14 39 00.7 +0.4
FEMA S Sg 14 39 02.6 +0.4
T1245 Castelsantange 0.10 102 P Pg 14 39 00.9 +0.5
T1245 S Sg 14 39 03.0 +0.5
T1245 AML AML
comp=N,1027μm,0.7s
T1245 AML AML
comp=E,789μm,0.8s
T1245 AML AML
comp=N,958μm,1.1s
T1245 AML AML
comp=E,804μm,0.8s
T1245 AML AML
comp=N,1025μm,0.7s
T1245 AML AML
comp=N,962μm,1.1s
T1245 AML AML
comp=N,1024μm,0.7s
T1215 Vallo di Nera, 0.16 242 P Pg 14 39 01.7 +0.6
T1215 S Sg 14 39 04.4 +0.7
CESI CESI - Serrava 0.17 319 P Pg 14 39 02.0 +0.6
CESI S Sg 14 39 05.0 +0.9
CESI AML AML
comp=E,338μm,0.2s
CESI AML AML
comp=N,450μm,0.3s
CESI AML AML
comp=E,338μm,0.2s
MMO1 Montemonaco 0.20 83 P Pg 14 39 01.9 0.0
MMO1 S Sg 14 39 05.7 +0.8
T1218 Civita (PG) 0.21 168 P Pg 14 39 02.6 +0.5
T1218 S Sg 14 39 06.2 +1.0
T1218 AML AML
comp=E,214μm,1.5s
T1218 AML AML
comp=N,225μm,0.2s
LNSS Leonessa 0.27 183 P Pg 14 39 03.5 +0.3
LNSS S Sb 14 39 08.2 -1.1
LNSS AML AML
comp=E,54μm,1.4s
LNSS AML AML
comp=N,184μm,0.1s
LNSS AML AML
comp=E,73μm,1.4s
T1241 Roccafluvione, 0.28 94 ⇑P Pg 14 39 03.9 +0.6
T1241 AML AML
comp=N,72μm,1.5s
T1241 AML AML
comp=E,116μm,0.2s
ASSB Assisi San Ben 0.34 300 ⇑P Pg 14 39 04.8 +0.4
ASSB S Sg 14 39 10.0 +1.1
ARRO Arrone 0.37 216 P Pg 14 39 05.3 +0.4
T1211 Morro Reatino 0.37 204 P Pg 14 39 05.4 +0.4
T1211 S Sb 14 39 11.7 -0.5
RM33 Pellescritta (0.39 162 P Pg 14 39 05.6 +0.4
RM33 S Sb 14 39 11.8 -0.6
SNTG Esanatoglia 0.39 347 P Pg 14 39 05.6 +0.3
SNTG S Sb 14 39 11.7 -0.9
ATCC AVT- Casa Cast 0.43 315 ⇓P Pb 14 39 06.8 -0.6
EL6 Elcito 0.45 4 P Pg 14 39 06.8 +0.2
EL6 S Sb 14 39 13.9 -0.6
TERO Teramo 0.48 122 P Pg 14 39 07.1 +0.2
FIAM Fiamignano 0.61 176 ⇑P Pg 14 39 09.3 -0.2
RCAV Rocca di Cave 1.03 185 P Pg 14 39 16.6 -0.9
SF01 Poggio Pratacc 1.10 267 P Pn 14 39 18.9 -0.1

---

*IDC **11** 14:46:47.0±2.6, 26°.20S×178°.45E, h588km±28km, mb3.0/3, mbtmp4.1/6, Error ellipse: s-maj=38.8km s-min=27.6km az=126.0*
*NEIC **11** 14:46:46.6±1.4, 26°.2S±0°.2×178°.5E±0°.3, h588km±21km, mb4.2/17, Error ellipse: s-maj=37.8km s-min=19.8km az=54.0*
ISC 11 14:46:46.9±0.9**, 26°.1S**±0°.1×**178°.6E**±0°.1**, h600**km**, n29,** σ**0s87**/28**, mb4.0**/11**, South of Fiji Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
RAO Raoul Island 4.39 136 P **P 14 48 13.3 -1.7**
MSVF Nonsavu 8.38 357 P **P 14 48 50.1 +0.1**
0.8nm,0.3s,baz=61,slow=20,SNR=7.9
MSVF Nonsavu 8.38 357 P **P 14 48 49.9 -0.2**
DZM Mont Dzumac 11.80 287 P **P 14 49 23.9 +0.1**
5.8nm,1.0s,baz=97,slow=19,SNR=2.3
QRZ Quartz Range 15.49 197 P **P 14 50 00.5 +1.2**
THZ Tophouse 16.27 195 P **P 14 50 07.5 +0.9**
LTZ Lake Taylor 17.39 196 P **P 14 50 16.0 -0.8**
OXZ Oxford 17.96 196 P **P 14 50 21.2 -0.7**
OXZ IAmb IAmb 14 50 32.4
comp=Z,37nm,1.3s
RPZ Rata Peaks 18.58 197 P **P 14 50 26.4 -1.2**
comp=Z,6.4nm,0.7s,baz=107,slow=19,SNR=1.3
WKZ Wanaka 20.18 200 P **P 14 50 41.3 -0.8**
EIDS Eidsvold 24.77 266 P **P 14 51 23.2 0.0**
EIDS IAmb IAmb 14 52 03.9
comp=Z,11nm,1.4s
CTAO Charters Tower 30.29 275 P **P 14 52 11.3 +0.1**
CTAO IAmb IAmb 14 52 27.6
comp=Z,13nm,1.4s
STKA Stephens Creek 32.74 251 P **P 14 52 32.1 +0.1**
comp=Z,1.0nm,0.4s,baz=103,slow=11,SNR=6.3
comp=Z,1.0nm,0.4s
STKA Stephens Creek 32.74 251 P **P 14 52 32.1 +0.1**
COEN Coen 35.28 283 P **P 14 52 53.5 +0.2**
COEN IAmb IAmb 14 52 54.2
comp=Z,2.9nm,0.7s
AS31 Alice Springs 40.45 264 P **P 14 53 34.7 -0.5**
ASAR Alice Springs 40.45 264 P **P 14 53 34.9 -0.3**
comp=Z,1.3nm,0.4s,baz=91,slow=7.3,SNR=42
comp=Z,1.3nm,0.4s
ASAR Alice Springs 40.45 264 P **P 14 53 34.2 -0.9**
WR0 Warramunga Arr 40.84 269 P **P 14 53 36.9 -1.3**
WR0 IAmb IAmb 14 54 20.0
comp=Z,6.6nm,1.4s
WB2 Warramunga Arr 41.02 269 P **P 14 53 39.2 -0.5**
WB2 IAmb IAmb 14 53 46.1
comp=Z,9.8nm,1.5s
WRA Warramunga Arr 41.03 269 P **P 14 53 38.6 -1.1**
comp=Z,1.5nm,0.4s,baz=104,slow=7.7,SNR=18
comp=Z,1.5nm,0.4s
WRA Warramunga Arr 41.03 269 P **P 14 53 39.0 -0.7**
WB0 Warramunga Arr 41.03 269 P **P 14 53 38.6 -1.1**
WB0 IAmb IAmb 14 54 14.6
comp=Z,8.1nm,1.4s
KNRA Kununurra 47.45 272 P **P 14 54 28.4 -0.6**
KNRA IAmb IAmb 14 55 05.7
comp=Z,27nm,1.4s
QSPA South Pole Qui 63.95 180 P **P 14 56 23.7 +1.5**
QSPA IAmb IAmb 14 56 24.6
comp=Z,4.5nm,1.1s
BELA Belgrano 2 74.38 173 P **P 14 57 24.6 +0.6**
FINES FINESS Array B 140.12 340 PKhKP PKPpre 15 05 01.8
comp=Z,0.8nm,0.5s,baz=46,slow=5.5,SNR=6.8
NOA NORSAR Array B 144.06 350 PKP **PKPdf 15 05 15.3 +0.7**
comp=Z,0.9nm,0.6s,baz=26,slow=4.2,SNR=3.6
BRTR Keskin Array B 147.82 304 PKPbc **PKPbc 15 05 26.7 +1.1**
comp=Z,0.2nm,0.3s,baz=79,slow=3.1,SNR=1.8

---

*ARE **11** 14:53:04±2.6, 8°.53S±0°.07×74°.63W±0°.08, h154km±5km, Error ellipse: s-maj=11.2km s-min=9.5km az=115.0*
*IDC **11** 14:53:04.6±0.6, 8°.56S×74°.46W, h142km±5km, mb4.5/28, mbtmp4.9/35, MS3.4/7, Error ellipse: s-maj=13.1km s-min=9.0km az=53.0*
*NEIC **11** 14:53:04.4±1.3, 8°.60S±0°.07×74°.51W±0°.08, h136km±6km, mb5.2/60, ML5.3(ARE), Error ellipse: s-maj=11.6km s-min=9.7km az=117.0*
*VAO **11** 14:53:06.4±0.6, 8°.61S×74°.34W, h155km±4km, mb4.9*
*GCMT **11** 14:53:08.4±0.3, 8°.44S±0°.02×74°.53W±0°.03, h148km±5km, MW4.9/82, Moment Tensor Solution. s8,c9; s82,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.61±.13; $M_{\theta\theta}$-1.95±.14; $M_{\phi\phi}$2.56±.16; $M_{r\theta}$-1.32±.08; $M_{\theta\phi}$0.25±.17; $M_{\phi r}$-1.37±.12; Best double couple: $M_0$2.99100×10^{16} NP1:ϕ_s43.00000°, δ83.00000°, λ-42.00000°. NP2: ϕ_s140.00000°, δ48.00000°, λ-170.00000°. Principal axes: T 3.1690, Plg22.0000°, Azm99.0000°; N -0.3550, Plg48.0000°, Azm216.0000°; P -2.8130, Plg34.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 14:53:04.5±0.4**, 8°.61S**±0°.04×**74°.51W**±0°.04**, h144**km±3km**, h145**km**:pP-P, n612,** σ**0s84**/637**, mb5.0**/61**, 6C-1D, Peru-Brazil border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CZSB Cruzeiro do Su 1.99 64 **Pn 14 53 40.5 +1.3**
CZSB Sn **Sn 14 54 07.6 +1.9**
CZSB Cruzeiro do Su 1.99 64 *e*P **Pn 14 53 40.6 +1.4**
NNA Nana 4.07 214 P **Pn 14 54 05.6 +0.1**
320nm,0.2s,baz=26,slow=4.7,SNR=72
NNA S **Sn 14 54 50.0 -3.0**
675nm,0.4s,baz=117,slow=16,SNR=8.7
NNA Nana 4.07 214 Pn **Pn 14 54 05.1 -0.5**
ATAH Atahualpa 4.12 291 P **Pn 14 54 05.7 -0.9**
449nm,0.4s,baz=87,slow=3.1,SNR=1020
ATAH S **Sn 14 54 51.6 -3.1**
958nm,0.8s,baz=90,slow=13,SNR=3.5
TBTG Tabatinga, AM 6.34 46 **Pn 14 54 35.4 -0.4**
BOSC San Juan Bosco 6.72 324 Pn 14 54 35.6 -5.4
MCRA Macar, Loja 6.86 308 Pn Pn 14 54 37.6 -5.1
ARNL Arenillas 7.47 312 **Pn 14 54 47.1 -3.9**
COHC Cochancay 7.72 322 **Pn 14 54 52.1 -2.1**
PORT Chimborazo Vol 8.27 329 **Pn 14 55 01.2 -1.0**
ETMB Extrema 8.28 99 Pn **Pn 14 55 00.2 -1.5**
ETMB Extrema 8.28 99 *e*P **Pn 14 55 00.5 -1.2**
CHSH Refugio Sur-Vo 8.30 328 **Pn 14 55 00.7 -1.8**
SLOR San Lorenzo - 8.78 333 Pn **Pn 14 55 07.1 -1.8**
PULU Pululahua 9.45 335 **Pn 14 55 16.4 -1.4**
IMBA Imbabura, San 9.56 337 Pn **Pn 14 55 18.8 -0.6**
LPAZ La Paz 9.85 141 P **Pn 14 55 23.2 0.0**
9.4nm,0.6s,baz=332,slow=9.2,SNR=24
LPAZ La Paz 9.85 141 Pn **Pn 14 55 22.8 -0.4**
LPAZ La Paz 9.85 141 *e*P **Pn 14 55 22.5 -0.7**
PB12 IPOC Station P 10.74 158 Pn **Pn 14 55 34.2 -0.4**
PB16 IPOC Station P 10.82 154 **Pn 14 55 38.0 +1.9**
SAML Samuel 11.20 93 **Pn 14 55 38.0 -2.5**
SGCB S£o Gabriel d 11.25 42 *e*P **Pn 14 55 38.3 -3.0**
MNMC Minye Minye 11.49 156 Pn **Pn 14 55 44.0 -0.6**
PSGCX Pisagua 11.72 159 Pn **Pn 14 55 46.3 -1.2**
PB11 IPOC Station P 12.04 158 **Pn 14 55 50.2 -1.5**
GO01 Chusmiza 12.14 155 **Pn 14 55 52.2 -1.1**
PB08 IPOC Station P 12.58 156 **Pn 14 55 57.5 -1.4**
TA01 Diego Aracena 12.60 161 **Pn 14 55 57.4 -1.4**
PATCX Punta Patache 12.85 161 P **Pn 14 55 59.7 -2.3**
PB01 IPOC Station P 13.28 159 **Pn 14 56 07.4 -0.2**
ROSC El Rosal 13.36 1 P **Pn 14 56 09.6 +0.6**
42nm,0.6s,baz=165,slow=5.5,SNR=11
PB02 IPOC Station P 13.39 161 P Pn 14 56 04.0 -5.1
PB07 IPOC Station P 13.78 162 **Pn 14 56 12.7 -1.4**
PB09 IPOC Station P 14.06 159 **Pn 14 56 17.5 -0.1**
PB03 IPOC Station P 14.12 162 **Pn 14 56 17.4 -1.1**
VILB Vilhena 14.70 108 Pn **Pn 14 56 25.0 -0.7**
VILB Vilhena 14.70 108 *e*P **Pn 14 56 24.9 -0.7**
LVC Limon Verde 14.92 160 P **Pn 14 56 29.3 +0.7**
50nm,0.9s,baz=322,slow=8.0,SNR=30
LVC Limon Verde 14.92 160 *e*P **P 14 56 31.4 +0.7**
SIV San Ignacio 15.03 120 P **Pn 14 56 30.1 +0.3**
44nm,0.5s,baz=298,slow=12,SNR=134
SIV S **Sn 14 59 11.4 -5.4**
31nm,0.8s,baz=220,slow=17,SNR=3.5
BBSD Serra de San D 16.00 124 *e*P **Pn 14 56 41.2 -0.4**
PTLB Pontes e Lacer 16.49 116 **Pn 14 56 47.5 -0.2**
PTLB Pontes e Lacer 16.49 116 *e*P **Pn 14 56 47.1 -0.5**
BBRB Robore, Bolivi 17.21 125 *e*P **P 14 56 55.7 0.0**
BOAV Boa Vista 17.72 53 **Pn 14 57 02.3 -0.2**
BOAV Boa Vista 17.72 53 *e*P **P 14 57 01.3 0.0**
PDRB Porto dos Gac 17.75 101 *e*P **P 14 57 02.3 +0.6**
SDV Santo Domingo 17.81 13 P **P 14 57 01.9 -0.5**
34nm,0.3s,baz=132,slow=6.0,SNR=20
SDV Santo Domingo 17.81 13 *e*P **P 14 57 02.4 0.0**
BCIP Isla Barro Col 18.44 343 P **P 14 57 09.7 +0.6**
CLDB Colider 18.58 98 *e*P **P 14 57 10.9 +0.2**
BAUV El Baul 18.59 20 **P 14 57 10.9 +0.1**
NPGB Novo Progresso 19.04 87 *e*P **P 14 57 15.9 +0.3**
ITTB Itaituba 19.12 78 *e*P **P 14 57 17.4 +0.8**
SALV Santo Antonio 19.75 113 *e*P **P 14 57 23.2 -0.2**
SRBA San Rafael, Bu 19.80 333 P **P 14 57 24.9 +0.9**
RIMA Rio Macho 20.50 333 P **P 14 57 32.9 +1.3**
HDC Heredia 20.82 332 *e*P Pn 14 57 37.7 -1.4
PCRV Puerto La Cruz 21.09 28 P **P 14 57 37.8 0.0**
11nm,0.4s,baz=20,slow=3.2,SNR=8.6
11nm,0.4s
MALB Monte Alegre 21.24 73 *e*P **P 14 57 39.0 -0.4**
AQDB Aquidauana 21.66 125 P **P 14 57 43.3 -0.5**
AQDB Aquidauana 21.66 125 *e*P **P 14 57 43.3 -0.5**
ANTJ Antonio Joao (22.23 129 *e*P **P 14 57 48.3 -1.3**
SNDB Serra Nova Dou 23.08 100 *e*P **P 14 57 57.6 -0.2**
ARAG Araguaiana, MT 23.27 110 *e*P **P 14 57 59.2 -0.3**
MCPB Macapa, AP 23.82 71 *e*P **P 14 58 04.3 -0.1**
CPUP Villa Florida 24.01 139 P **P 14 58 06.2 +0.1**
14nm,0.7s,baz=320,slow=10,SNR=32
CPUP LR LR 15 09 04.3
comp=Z,79nm,20.3s,baz=308,slow=40
14nm,0.7s
CPUP Villa Florida 24.01 139 P **P 14 58 05.7 -0.4**
CPUP Villa Florida 24.01 139 *e*P **P 14 58 05.5 -0.6**
PRPB Parauapebas 24.61 86 *e*P **P 14 58 10.9 -0.8**
MDP Montagnes des 25.71 59 P **P 14 58 21.6 0.0**
2.6nm,0.6s,baz=204,slow=6.2,SNR=14
2.6nm,0.6s
ITRB Iturama 25.84 118 *e*P **P 14 58 22.2 -0.6**
PCMB Pacaembu 25.85 123 *e*P **P 14 58 22.6 -0.2**
MCLT Moule a Chique 25.95 31 P **P 14 58 24.8 +1.1**
AZCA Azaras, Argent 26.09 140 *e*P **P 14 58 24.6 -0.3**
SMTB Santa Maria do 26.61 93 *e*P **P 14 58 29.0 -0.8**
FRBT Francisco Belt 26.71 133 *e*P **P 14 58 30.2 -0.4**
PTGB Pitanga 26.74 129 *e*P **P 14 58 30.3 -0.6**
BDFB Brasilia 26.81 108 P **P 14 58 31.2 -0.5**
37nm,0.9s,baz=270,slow=10,SNR=34
37nm,0.9s
BDFB Brasilia 26.81 108 P **P 14 58 31.8 +0.2**
BDFB IAmb IAmb 14 58 35.3
comp=Z,52nm,1.0s
BDFB Brasilia 26.81 108 *e*P **P 14 58 31.7 0.0**
ITQB Itaqui 26.84 144 P **P 14 58 32.2 +0.6**
ITQB IAmb IAmb 14 59 06.0
comp=Z,68nm,0.9s
CRSM Crissiumal (Br 26.96 137 *e*P **P 14 58 32.7 -0.1**
TMAB Tom-Au,PA,Br 27.00 78 *e*P **P 14 58 33.5 +0.3**
IPMB Ipameri, GO 27.20 113 *e*P **P 14 58 34.3 -0.8**
UNIS Unistalda (Bra 27.35 141 *e*P **P 14 58 34.6 -1.5**
MLPR Magueyes Islan 27.42 16 P **P 14 58 36.4 -0.5**
CELP Cerrillos 27.65 16 P **P 14 58 38.7 -0.2**
CELP IAmb IAmb 14 58 39.7
comp=Z,64nm,0.9s
SJG San Juan 27.81 17 P **P 14 58 39.5 -0.7**
comp=Z,29nm,0.4s,baz=168,slow=7.9,SNR=9.5
comp=Z,29nm,0.4s
AOPR Arecibo Observ 27.86 16 P **P 14 58 40.5 -0.3**
AOPR IAmb IAmb 14 58 41.3
comp=Z,64nm,0.8s
BB19B Bebedouro 27.95 119 *e*P **P 14 58 40.6 -1.1**
CBYP Canovanas 28.04 18 P **P 14 58 40.5 -2.0**
CBYP IAmb IAmb 14 58 46.6
comp=Z,44nm,0.6s
ITAB Concordia 28.13 134 P **P 14 58 43.0 -0.1**
RODS Rosario do Sul 28.18 143 *e*P **P 14 58 44.5 +1.0**
ALGR Alto Alegre (B 28.49 138 *e*P **P 14 58 45.4 -1.0**
PMNB Patos De Minas 28.97 113 *e*P **P 14 58 50.3 -0.6**
CPSB Cacapava Do Su 29.29 141 *e*P **P 14 58 53.6 +0.2**
RCLB Rio Claro- Sao 29.32 121 *e*P **P 14 58 53.6 -0.3**
SDBA SAO DESIDERIO 29.34 100 *e*P **P 14 58 53.7 -0.4**
TIJ01 Guaruva-PR 29.42 128 *e*P **P 14 58 55.3 +0.5**
VAO Valinhos 30.04 122 *e*P **P 14 58 59.3 -0.9**
JANB Januaria 30.22 105 *e*P **P 14 59 01.1 -0.7**
CNLB Canela 30.29 136 *e*P **P 14 59 01.3 -1.0**
PET01 Itanhaem-SP 30.32 124 *e*P P 14 58 57.6 -5.0
ROSB Rosrio 30.75 81 *e*P **P 14 59 06.0 -0.5**
MC01 Montes Claros 30.86 108 *e*P **P 14 59 07.1 -0.4**
TER01 Tubaro-SC 31.04 133 *e*P **P 14 59 07.8 -1.1**
PARB Paraibuna 31.30 121 *e*P **P 14 59 10.8 -0.6**
DIAM Diamantina, MG 31.45 111 *e*P **P 14 59 12.4 -0.4**
TEIG Tepich 31.70 335 P **P 14 59 15.0 +0.4**
TEIG Tepich 31.70 335 P **P 14 59 14.5 -0.2**
PLCA Paso Flores 32.18 174 P **P 14 59 19.5 +0.7**
comp=Z,2.3nm,0.7s,baz=10,slow=13,SNR=5.2
comp=Z,2.3nm,0.7s
PLCA Paso Flores 32.18 174 *e*P **P 14 59 19.6 +0.9**
PLCA Paso Flores 32.18 174 P **P 14 59 20.6 +1.8**
PLCA pP **pP 14 59 50.2 +0.4**
LL04 Puerto Octay 32.22 177 P **P 14 59 18.3 -0.7**
LL04 **pP 14 59 50.7 +0.5**
CMIG Matias Romero 32.53 322 P **P 14 59 22.9 +0.9**
comp=Z,9.2nm,0.8s,baz=112,slow=6.9,SNR=6.8
comp=Z,9.2nm,0.8s
MAN01 Angra dos Reis 32.54 119 *e*P **P 14 59 22.2 +0.1**
DUB01 Friburgo-RJ 33.67 117 *e*P **P 14 59 31.2 -0.7**
SJMB Sao Joao De Ma 33.84 111 *e*P **P 14 59 33.4 0.0**
CAM01 Campos-RJ 34.22 116 *e*P **P 14 59 35.8 -0.9**
GDU01 Guandu, BA 34.62 102 *e*P **P 14 59 39.6 -0.6**
RIB01 Linhares ES 34.70 112 *e*P **P 14 59 39.7 -1.1**
ALF01 Guarapari-ES 34.72 114 *e*P **P 14 59 40.2 -0.7**
GUA01 Guaratinga, BA 34.74 107 *e*P **P 14 59 41.0 -0.2**

CMC01 **Camacan, BA** 34.84 104 *e*P P 14 59 41.8 -0.3
DWPF **Disney Wildern** 37.11 350 P P 15 00 00.7 -0.4
baz=169
RCBR **Riachuelo** 38.39 89 *e*P P 15 00 12.2 0.0
656A **Willston** 38.54 349 P P 15 00 13.1 0.0
656A **Willston** 38.54 349 P P 15 00 12.9 -0.2
baz=167
TIGA **Tifton** 40.76 348 P P 15 00 31.2 -0.3
baz=166
352A **Blakely** 41.09 346 P P 15 00 34.1 -0.1
baz=164
BRAL **Brewton** 41.34 344 P P 15 00 35.9 -0.3
baz=161
NHSC **New Hope** 41.84 353 P P 15 00 38.7 -1.5
baz=172
152A **Waverly Hall** 42.19 347 P P 15 00 42.7 -0.4
152A **Waverly Hall** 42.19 347 P P 15 00 42.3 -0.8
baz=165,SNR=8.8
GOGA **Godfrey** 42.65 349 P P 15 00 46.4 -0.4
baz=167,SNR=5.6
GOGA **Godfrey** 42.65 349 P P 15 00 46.0 -0.8
baz=167,SNR=5.6
Z51A **Franklin** 42.91 347 P P 15 00 49.0 0.0
LRAL **Lakeview Retre** 43.09 345 P P 15 00 49.8 -0.6
baz=162,SNR=5.8
LRAL **Lakeview Retre** 43.09 345 P P 15 00 49.8 -0.6
baz=162,SNR=5.8
W57A **Gilead** 43.83 354 P P 15 00 55.9 -0.4
W57A IAmb IAmb 15 00 57.3
comp=Z,45nm,0.8s
W57A **Gilead** 43.83 354 P P 15 00 56.4 +0.1
baz=172,SNR=12
W57A P P 15 00 56.4 +0.1
baz=172,SNR=12
833A **Chaparral WMA,** 43.89 328 P P 15 00 57.4 +0.6
baz=143,SNR=12
833A **Chaparral WMA,** 43.89 328 P P 15 00 57.6 +0.7
baz=143,SNR=12
KMSC **Kings Mountain** 43.99 352 P P 15 00 57.3 -0.2
baz=170
X51A **Calhoun** 44.05 348 P P 15 00 57.5 -0.5
baz=165
X51A P P 15 00 57.5 -0.5
baz=165
CASEE **Lake Jocassee** 44.09 350 P P 15 00 59.0 +0.6
baz=168
V58A **Windy Hill, Pi** 44.38 355 P P 15 01 00.5 -0.1
baz=174,SNR=9.7
V58A P P 15 01 00.5 -0.1
baz=174,SNR=9.7
NATX **Nacogdoches** 44.53 335 P P 15 01 03.1 +1.2
baz=151
NATX **Nacogdoches** 44.53 335 P P 15 01 02.5 +0.6
baz=151
V55A **Taylorsville** 44.67 352 P P 15 01 04.0 +1.0
baz=171
V55A P P 15 01 04.0 +1.0
baz=171
W50A **Signal Mountai** 44.75 347 P P 15 01 03.1 -0.6
baz=165,SNR=7.8
TKL **Tuckaleechee C** 44.89 349 P P 15 01 04.3 -0.3
comp=Z,12nm,1.0s,baz=145,slow=9.9,SNR=6.0
comp=Z,12nm,1.0s
TKL **Tuckaleechee C** 44.89 349 P P 15 01 04.4 -0.3
baz=167,SNR=5.2
435B **Jarrell** 44.99 332 P P 15 01 05.5 -0.1
435B **Jarrell** 44.99 332 P P 15 01 07.3 +1.7
baz=147
435B **Jarrell** 44.99 332 P P 15 01 06.1 +0.5
baz=147
V52A **Sevierville** 45.04 350 P P 15 01 05.5 -0.3
V52A **Sevierville** 45.04 350 P P 15 01 05.6 -0.3
baz=167,SNR=7.6
U56A **King** 45.06 353 P P 15 01 06.7 +0.6
baz=172
U56A P P 15 01 06.7 +0.6
baz=172
V51A **Loudon** 45.14 349 P P 15 01 06.0 -0.7
baz=166
OXF **Oxford** 45.15 343 P P 15 01 05.6 -1.2
baz=159
237A **Washetta, Mont** 45.22 334 P P 15 01 08.1 +0.7
237A **Washetta, Mont** 45.22 334 P P 15 01 08.7 +1.4
baz=150,SNR=13
T59A **Double "B" Far** 45.43 357 P P 15 01 09.0 +0.1
baz=176,SNR=10.0
T59A P P 15 01 09.0 +0.1
baz=176,SNR=10.0
T57A **Hurt** 45.59 355 P P 15 01 10.3 +0.1
baz=173,SNR=20
T57A P P 15 01 10.3 +0.1
baz=173,SNR=20
V48A **Smith Brothers** 45.62 346 P P 15 01 09.3 -1.1
V48A IAmb IAmb 15 01 10.3
comp=Z,38nm,0.9s
V48A **Smith Brothers** 45.62 346 P P 15 01 09.3 -1.1
baz=163,SNR=10
WLAR **White Oak Lake** 45.63 338 P P 15 01 10.9 +0.4
WLAR IAmb IAmb 15 01 11.9
comp=Z,64nm,1.2s
TZTN **Tazewell** 45.71 350 P P 15 01 10.0 -1.2
baz=168
JCT **Junction City** 45.83 329 P P 15 01 12.7 +0.4
baz=144,SNR=7.2
JCT **Junction City** 45.83 329 P P 15 01 12.2 -0.1
baz=144,SNR=7.2
BLA **Blacksburg** 45.92 353 P P 15 01 13.5 +0.7
baz=172
BLA **Blacksburg** 45.92 353 P P 15 01 12.8 0.0
baz=172
WHTX **Lake Whitney,** 45.95 333 P P 15 01 13.9 +0.8
WHTX IAmb IAmb 15 01 15.0
comp=Z,87nm,1.3s
WHTX **Lake Whitney,** 45.95 333 P P 15 01 13.8 +0.8
baz=148,SNR=12
WHTX **Lake Whitney,** 45.95 333 P P 15 01 13.6 +0.5
baz=148,SNR=12
Z38A **Mt. Pleasant** 45.97 336 P P 15 01 14.4 +1.1
baz=151,SNR=5.7
U49A **Red Boiling Sp** 46.12 347 P P 15 01 12.9 -1.4
baz=164
WVT **Waverly** 46.23 345 P P 15 01 13.1 -2.1
baz=162,SNR=7.6
WVT **Waverly** 46.23 345 P P 15 01 13.2 -2.1
baz=162
WVT **Waverly** 46.23 345 P P 15 01 13.3 -2.0
S57A **Dark Hollow, R** 46.32 355 P P 15 01 16.1 +0.2
S57A IAmb IAmb 15 01 17.1
comp=Z,46nm,0.8s
S57A **Dark Hollow, R** 46.32 355 P P 15 01 15.8 -0.1
baz=174,SNR=12
S57A P P 15 01 15.8 -0.1
baz=174,SNR=12
R58B **Mineral** 46.44 356 P P 15 01 17.2 +0.4
baz=175,SNR=6.3
R58B P P 15 01 17.2 +0.4
baz=175,SNR=6.3
MIAR **Mount Ida** 46.57 338 P P 15 01 17.4 -0.5
baz=154,SNR=8.5
MIAR **Mount Ida** 46.57 338 P P 15 01 16.8 -1.1
baz=154,SNR=8.5
WHAR **Wooly Hollow** 46.78 340 P P 15 01 18.6 -0.9
WHAR IAmb IAmb 15 01 19.7
comp=Z,52nm,1.0s
T47A **Sharon Grove** 46.87 346 P P 15 01 18.6 -1.6
baz=163
R55A **Marlinton** 46.94 354 P P 15 01 21.2 +0.4
baz=172
R55A P P 15 01 21.2 +0.4
baz=172
Z35A **Perchaven, San** 46.99 334 P P 15 01 22.5 +1.3
baz=149,SNR=7.0
TXAR **Lajitas Array** 47.03 324 P P 15 01 22.1 +0.4
comp=Z,8.9nm,0.8s,baz=149,slow=8.7,SNR=108
TXAR pP pP 15 01 54.6 +0.2
comp=Z,3.8nm,0.9s,baz=148,slow=8.0,SNR=4.2
comp=Z,8.9nm,0.8s
TX31 **Lajitas Ar. Si** 47.04 324 P P 15 01 22.2 +0.4
TX31 IAmb IAmb 15 01 23.3
comp=Z,36nm,0.9s
TX31 **Lajitas Ar. Si** 47.04 324 P P 15 01 21.9 +0.2
baz=139,SNR=28
TX32 **Lajitas Array** 47.04 324 P P 15 01 22.2 +0.4
LCAR **Lake Charles** 47.12 342 P P 15 01 20.9 -1.3
baz=157,SNR=11
SLBS **Sierra La Lagu** 47.22 314 P P 15 01 24.7 +1.4
SLBS pP pP 15 01 57.7 +1.7
SLBS sP sP 15 02 13.6 +1.5
X37A **Clayton** 47.29 336 P P 15 01 24.1 +0.6
baz=152,SNR=25
ABTX **Abilene, Hawle** 47.49 331 P P 15 01 26.0 +0.8
ABTX **Abilene, Hawle** 47.49 331 P P 15 01 25.6 +0.4
baz=145,SNR=26
ABTX **Abilene, Hawle** 47.49 331 P P 15 01 25.6 +0.4
baz=145,SNR=26
R50A **Paris** 47.54 350 P P 15 01 24.4 -1.0
baz=167
R50A P P 15 01 24.4 -1.0
baz=167
Q56A **Snyder Ridge,** 47.61 355 P P 15 01 26.7 +0.8
baz=174
Q56A P P 15 01 26.7 +0.8
baz=174
R49A **Shelbyville** 47.71 349 P P 15 01 25.6 -1.1
baz=166
R49A P P 15 01 25.6 -1.1
baz=166
Q54A **Coxs Mills** 47.71 353 P P 15 01 26.0 -0.6
baz=172,SNR=6.8
Q54A P P 15 01 26.0 -0.6
baz=172,SNR=6.8
WCI **Wyandotte Cave** 47.88 347 P P 15 01 26.4 -1.6
baz=164
HHAR **Hobbs** 48.25 339 P P 15 01 30.2 -0.7
HHAR IAmb IAmb 15 01 31.2
comp=Z,37nm,0.9s
HHAR **Hobbs** 48.25 339 P P 15 01 30.2 -0.7
baz=154
P53A **Whipple** 48.28 353 P P 15 01 30.5 -0.5
baz=171
P53A P P 15 01 30.5 -0.5
baz=171
MCWV **Mont Chateau** 48.28 354 P P 15 01 31.3 +0.2
baz=173
MCWV **Mont Chateau** 48.28 354 P P 15 01 31.2 +0.2
baz=173
MVL **Millersville** 48.39 358 P P 15 01 32.8 +1.0
MVL IAmb IAmb 15 01 33.5
comp=Z,56nm,1.0s
P52A **Corning** 48.52 352 P P 15 01 31.8 -1.1
baz=170
RLO **Rose Lookout** 48.54 338 P 15 01 32.4 -0.7
RLO IAmb IAmb 15 01 34.0
comp=Z,59nm,0.8s
U38A **Gravette** 48.55 339 P P 15 01 32.3 -0.9
baz=153,SNR=6.6
TUL1 **Leonard** 48.61 337 P P 15 01 33.9 +0.2
baz=152,SNR=7.2
TUL1 **Leonard** 48.61 337 P P 15 01 33.1 -0.5
baz=152,SNR=7.2
FVM **French Village** 48.68 343 P P 15 01 32.8 -1.3
baz=159,SNR=8.0
FNO **Franklin** 48.70 335 P 15 01 34.4 +0.1
PANJ **Princeton** 48.74 360 P P 15 01 35.2 +0.7
baz=180
P49A **Miami Univ. Ec** 48.83 350 P P 15 01 33.3 -1.9
baz=167
WMOK **Wichita Mounta** 48.85 333 P P 15 01 35.7 +0.1
baz=147,SNR=10
WMOK **Wichita Mounta** 48.85 333 P P 15 01 35.4 -0.1
baz=147,SNR=10
O52A **Adamsville** 48.95 353 P P 15 01 35.7 -0.5
baz=170
O52A P P 15 01 35.7 -0.5
baz=170
CCM **Cathedral Cave** 48.98 342 P P 15 01 34.7 -1.8
baz=158,SNR=8.3
CCM **Cathedral Cave** 48.98 342 P P 15 01 35.0 -1.4
baz=158
CCM **Cathedral Cave** 48.98 342 P P 15 01 34.8 -1.6
CCM PcP PcP 15 02 58.1 -0.2
O53A **New Philadelph** 49.01 353 P P 15 01 35.8 -0.7
baz=171
OK031 **S. Brethren Rd** 49.06 336 P 15 01 36.9 -0.2
SSPA **Standing Stone** 49.10 357 P P 15 01 37.5 +0.2
baz=176
Q44A **Meyer Farm, Va** 49.16 345 P P 15 01 36.3 -1.4
baz=161,SNR=6.0
ACSO **Alum Creek Sta** 49.23 351 P P 15 01 37.5 -0.8
baz=169
ACSO **Alum Creek Sta** 49.23 351 P P 15 01 37.3 -1.0
baz=169
N58A **Sunny** 49.25 358 P P 15 01 38.6 +0.3
baz=177,SNR=6.2
N58A P P 15 01 38.6 +0.3
baz=177,SNR=6.2
S39A **Bolivar** 49.31 340 P P 15 01 37.7 -1.2
baz=155,SNR=15
P46A **Rosedale** 49.41 347 P P 15 01 38.2 -1.5
baz=163
OK046 **Pawnee Station** 49.48 336 P P 15 01 40.5 +0.3
R40A **Maddies Statio** 49.51 342 P P 15 01 38.9 -1.6
baz=157,SNR=10
N53A **Lisbon** 49.52 354 P P 15 01 40.2 -0.2
baz=172
N53A P P 15 01 40.2 -0.2
baz=172
O48B **Farmland** 49.61 349 P P 15 01 39.8 -1.4
baz=166,SNR=9.6
O48B **Farmland** 49.61 349 P P 15 01 39.5 -1.7
baz=166,SNR=9.6
PSDB **Penn State Uni** 49.65 356 P P 15 01 41.7 +0.2
baz=174
M57A **Sunshine Farm,** 49.76 357 P P 15 01 42.8 +0.6
baz=177,SNR=5.3
M57A P P 15 01 42.8 +0.6
baz=177,SNR=5.3
T35B **Sooner Cattle** 49.77 337 P P 15 01 42.3 -0.1
baz=151,SNR=8.8
P43A **Skaggs, Pawnee** 49.98 345 P P 15 01 43.0 -1.0
baz=160,SNR=13
N49A **Columbus Grove** 50.09 350 P P 15 01 43.5 -1.2
baz=168
N49A P P 15 01 43.5 -1.2
baz=168
SFIN **Lafayette** 50.11 347 P P 15 01 43.3 -1.6
baz=164
SFIN **Lafayette** 50.11 347 P P 15 01 44.8 -0.2
baz=164
M53A **Wi Miller and** 50.12 354 P P 15 01 44.4 -0.6
baz=172
MSTX **Muleshoe** 50.12 329 P P 15 01 45.1 -0.2
baz=142,SNR=22
MSTX **Muleshoe** 50.12 329 P P 15 01 45.4 +0.1
baz=142,SNR=22
N47A **Urbana** 50.31 349 P P 15 01 44.8 -1.7
baz=166,SNR=7.8
N47A P P 15 01 44.8 -1.7
baz=166,SNR=7.8
AMTX **Amarillo** 50.31 331 P P 15 01 46.9 +0.2
baz=144,SNR=5.1
AMTX **Amarillo** 50.31 331 P P 15 01 46.4 -0.3
baz=144
U32A **Winter Ranch,** 50.33 334 P P 15 01 47.0 +0.3
baz=148,SNR=6.9
BINY **Binghamton** 50.58 359 P P 15 01 49.3 +0.8
baz=178,SNR=7.7
BINY **Binghamton** 50.58 359 P P 15 01 48.9 +0.4
baz=178,SNR=7.7
P40A **Paris** 50.59 342 P P 15 01 47.4 -1.1
baz=157,SNR=6.4
HDIL **Hopedale** 50.79 345 P P 15 01 47.9 -2.1
baz=161
P38A **Dawn** 51.13 341 P P 15 01 51.5 -1.1
baz=156,SNR=6.1
N41A **Harden Midland** 51.34 344 P P 15 01 53.0 -1.2
baz=159,SNR=7.2
KSU1 **Kansas State U** 51.72 338 P P 15 01 56.5 -0.5
KSU1 IAmb IAmb 15 01 58.2
comp=Z,56nm,1.1s
KSU1 **Kansas State U** 51.72 338 P P 15 01 56.7 -0.3
baz=152,SNR=7.8
KSU1 **Kansas State U** 51.72 338 P P 15 01 56.2 -0.8
baz=152,SNR=7.8
121A **Cookes Peak, D** 51.77 324 P P 15 01 58.7 +0.9
121A IAmb IAmb 15 01 59.9
comp=Z,33nm,1.0s
121A **Cookes Peak, D** 51.77 324 P P 15 01 58.6 +0.8
baz=136,SNR=10
121A **Cookes Peak, D** 51.77 324 P P 15 01 59.0 +1.3
baz=136,SNR=10
N38A **Joes South For** 52.10 342 P P 15 01 59.0 -0.8
baz=156,SNR=7.9
LBNH **Lisbon** 52.65 2 P P 15 02 03.0 -0.8
baz=183
CBKS **Cedar Bluff** 52.70 335 P P 15 02 04.9 +0.6
baz=148,SNR=7.5
CBKS **Cedar Bluff** 52.70 335 P P 15 02 04.2 -0.1
baz=148,SNR=7.5
L40A **Anamosa** 52.70 344 P P 15 02 03.3 -0.8
baz=159,SNR=6.4
ANMO **Albuquerque** 52.81 327 P P 15 02 05.8 +0.4
comp=Z,15nm,0.9s,baz=126,slow=8.2,SNR=25
comp=Z,15nm,0.9s
ANMO **Albuquerque** 52.81 327 P P 15 02 05.9 +0.6
baz=139,SNR=23
ANMO **Albuquerque** 52.81 327 P P 15 02 05.9 +0.4
baz=139
ANMO **Albuquerque** 52.81 327 P P 15 02 05.8 +0.4
ANMO pP pP 15 02 40.1 +1.4
LONY **Lake Ozonia** 52.98 360 P P 15 02 06.4 +0.2
baz=180
JFWS **Jewell Farm** 53.25 346 P P 15 02 06.5 -1.7
baz=160
SADO **Sadowa** 53.30 356 P P 15 02 07.1 -1.4
comp=Z,19nm,0.9s,baz=269,slow=5.5,SNR=4.5
comp=Z,19nm,0.9s
TUC **Tucson** 53.42 321 P P 15 02 09.4 -0.4
TUC **Tucson** 53.42 321 P P 15 02 10.2 +0.5
baz=133
TUC **Tucson** 53.42 321 P P 15 02 10.2 +0.5
T25A **Trinidad** 53.44 330 P P 15 02 10.5 +0.4
baz=142,SNR=32
PKME **Peaks-Kenny Pk** 53.83 5 P P 15 02 13.1 +0.8
baz=186
MNTQ **Montreal, Queb** 53.87 1 P P 15 02 12.7 0.0
KSCO **Kaye Shedlock'** 54.11 333 P P 15 02 15.0 +0.3
KSCO **Kaye Shedlock'** 54.11 333 P P 15 02 14.8 0.0
baz=145
L34A **Svendsen Farm,** 54.17 340 P P 15 02 14.1 -0.9
baz=153,SNR=6.7
BGNE **Belgrade** 54.31 338 P P 15 02 16.0 +0.1
BGNE **Belgrade** 54.31 338 P P 15 02 16.1 +0.1
baz=151,SNR=5.7
BGNE **Belgrade** 54.31 338 P P 15 02 15.3 -0.7
baz=151,SNR=5.7
214A **Organ Pipe Nat** 54.46 320 P P 15 02 18.2 +1.0
214A **Organ Pipe Nat** 54.46 320 P P 15 02 17.5 +0.2
baz=131,SNR=22
SDCO **Great Sand Dun** 54.46 330 P P 15 02 18.2 +0.7
baz=141,SNR=59
SDCO **Great Sand Dun** 54.46 330 P P 15 02 18.1 +0.7
baz=141,SNR=59
W18A **Petrified Fore** 54.76 325 P P 15 02 19.9 +0.3
baz=136,SNR=8.4
S22A **4UR Ranch, Cre** 55.13 329 P P 15 02 22.6 +0.3
baz=140,SNR=20
Q24A **Divide** 55.24 331 P P 15 02 23.4 +0.3
baz=142,SNR=10.0
OGNE **Ogallala** 55.45 335 P P 15 02 24.7 +0.5
baz=146,SNR=10
OGNE **Ogallala** 55.45 335 P P 15 02 24.4 +0.2
baz=146,SNR=10
K31A **O'Neill** 55.59 338 P P 15 02 25.2 0.0
baz=151,SNR=8.1
MVCO **Mesa Verde** 55.60 327 P P 15 02 25.5 -0.1
baz=138,SNR=6.4
ECSD **EROS Data Cent** 55.83 341 P P 15 02 25.7 -1.1
baz=153,SNR=10.0
ECSD **EROS Data Cent** 55.83 341 P P 15 02 25.9 -1.0
baz=153,SNR=10.0
WUAZ **Wupatki** 55.99 324 P P 15 02 29.1 +0.8
baz=134,SNR=37
SPMN **Marine on St.** 56.06 344 P P 15 02 27.4 -1.1
baz=158
SPMN **Marine on St.** 56.06 344 P P 15 02 27.3 -1.1
baz=158
GLA **Glamis** 56.46 319 P P 15 02 32.1 +0.6
baz=130
PMSA **Palmer Station** 56.56 175 *e*P P 15 02 32.8 +1.2
PDMCI **Parker Dam,Lak** 56.84 321 P P 15 02 34.8 +0.7
baz=131
F36A **Milaca** 56.84 344 P P 15 02 33.0 -0.9
baz=157,SNR=9.2
SWSC **Sam W. Stewart** 57.03 319 P P 15 02 36.1 +0.6
baz=129
IKP **In-Ko-Pah, Jac** 57.05 318 P P 15 02 36.2 +0.5
baz=129
N23A **Red Feather La** 57.14 332 P P 15 02 36.9 +0.4
baz=142,SNR=5.9
SUSD **Miller** 57.25 339 P P 15 02 36.0 -0.8
baz=151
SUSD **Miller** 57.25 339 P P 15 02 36.1 -0.8
baz=151
BC3 **Big Chuckawall** 57.25 319 P P 15 02 37.6 +0.4
baz=130,SNR=21
IRM **Iron Mountain** 57.37 320 P P 15 02 39.1 +1.1
baz=130,SNR=71
MONP2 **Monument Peak** 57.40 318 P P 15 02 38.8 +0.4
baz=128,SNR=6.3
F33A **5 Mile Ranch,** 57.62 342 P P 15 02 38.0 -1.4
F33A **5 Mile Ranch,** 57.62 342 P P 15 02 38.1 -1.3
baz=154
O20A **White River Ci** 57.66 330 P P 15 02 40.5 +0.5
baz=140,SNR=10
BELC **Belle Mtn. Jos** 57.82 319 P P 15 02 42.2 +0.9
baz=129,SNR=24
109C **Camp Elliot, M** 57.85 318 P P 15 02 42.2 +0.9
baz=126
TPFO **Pinon Flats** 57.87 319 P P 15 02 42.6 +1.0
baz=129,SNR=19
PFO **Pinyon Flats O** 57.87 319 P P 15 02 42.6 +1.0
baz=129,SNR=19
PFO **Pinyon Flats O** 57.87 319 P P 15 02 42.4 +0.8
PFO pP pP 15 03 17.0 +1.4
GMRC **Granite Mounta** 58.10 320 P P 15 02 44.1 +0.9
baz=130,SNR=27
V12A **Nelson** 58.21 322 P P 15 02 44.6 +0.8
V12A IAmb IAmb 15 02 45.6
comp=Z,26nm,1.0s
EYMN **Ely** 58.28 347 P P 15 02 42.6 -1.5
baz=160
MURC **Murrieta** 58.35 318 P P 15 02 45.9 +1.1
baz=128,SNR=5.2
P17A **Butcher Ranch,** 58.45 328 P P 15 02 45.7 +0.1
P17A IAmb IAmb 15 02 47.0
comp=Z,28nm,1.0s
HEC **Hector,Ludlow** 58.56 320 P P 15 02 47.3 +1.0
baz=130,SNR=18
BBRC **Big Bear Solar** 58.58 319 P P 15 02 47.6 +1.0
baz=129
TUQ **Turquoise Moun** 58.69 321 P P 15 02 47.7 +0.5
baz=130,SNR=31
K22A **Casper** 58.79 333 P P 15 02 48.2 +0.4
baz=142,SNR=13
K22A **Casper** 58.79 333 P P 15 02 48.1 +0.3
baz=142,SNR=13
SCI2 **San Clemente I** 58.87 317 P P 15 02 48.9 +0.5
baz=127
RSSD **Black Hills** 58.90 336 P P 15 02 49.4 +0.7
baz=145,SNR=16
RSSD **Black Hills** 58.90 336 P P 15 02 48.9 +0.2
baz=145
RSSD **Black Hills** 58.90 336 P P 15 02 49.1 +0.5
CIS **Catalina Islan** 59.04 317 P P 15 02 50.2 +0.7
baz=127,SNR=6.2
BFSC **Mount Baldy Ra** 59.04 319 P P 15 02 50.6 +0.9
baz=128,SNR=6.5
GSC **Goldstone, Bar** 59.16 320 P P 15 02 51.0 +0.6
baz=129,SNR=17
SHOC **Shoshone, Teco** 59.20 321 P P 15 02 51.3 +0.6
baz=130,SNR=5.7
B35A **Bob, Littlefor** 59.21 345 P P 15 02 49.0 -1.3
baz=158,SNR=6.2
EDW2 **Edwards Air Fo** 59.66 319 P P 15 02 54.0 +0.2
baz=128,SNR=14
SNCC **San Nicolas Is** 59.69 317 P P 15 02 54.1 +0.1
baz=126
E28A **Huff** 59.70 339 P P 15 02 54.4 +0.6
baz=150
AGMN **Agassiz Nation** 59.72 344 P P 15 02 53.1 -0.8
baz=155,SNR=5.7
AGMN **Agassiz Nation** 59.72 344 P P 15 02 54.5 +0.7
baz=155,SNR=5.7
LRMC **Laurel Mtn Rad** 59.83 320 P P 15 02 55.8 +0.7
baz=129,SNR=17
FURC **Furnace Creek,** 59.93 321 P P 15 02 56.5 +1.0
baz=130,SNR=11
MPMC **Manual Prospec** 60.06 320 P P 15 02 56.8 +0.1
baz=129,SNR=20
DUG **Dugway, Tooele** 60.08 327 P P 15 02 57.3 +0.6
baz=135,SNR=42
BW06 **Boulder Array** 60.30 331 P P 15 02 58.3 0.0

BW06 IAmb IAmb 15 02 59.8
comp=Z,24nm,1.2s
BW06 Boulder Array 60.30 331 P **P** **15 02 58.0 -0.3**
baz=139,SNR=19
PD31 Pinedale Array 60.30 331 P **P** **15 02 58.2 0.0**
PDAR Pinedale Array 60.30 331 P **P** **15 02 57.9 -0.4**
comp=Z,9.6nm,1.0s,baz=142,slow=7.5,SNR=51
PDAR pP **pP** **15 03 32.7 +0.2**
comp=Z,3.0nm,0.9s,baz=157,slow=8.0,SNR=3.2
comp=Z,9.6nm,1.0s
PDAR Pinedale Array 60.30 331 P **P** **15 02 57.7 -0.5**
R11A Troy Canyon, C 60.38 324 P **P** **15 02 60.0 +1.1**
baz=132,SNR=45
HWUT Hardware Ranch 60.43 329 P **P** **15 02 58.9 -0.3**
HWUT IAmb IAmb 15 03 00.2
comp=Z,36nm,0.8s
MDND Maddock 60.44 341 P **P** **15 02 59.5 +0.6**
baz=151,SNR=12
MDND Maddock 60.44 341 P **P** **15 02 58.6 -0.3**
baz=151,SNR=12
ISA Isabella, Lake 60.45 319 P **P** **15 02 59.8 +0.6**
baz=128,SNR=12
GRAC Grapevine Rang 60.58 321 P **P** **15 03 00.8 +0.7**
baz=130
CWC Cottonwood Cre 60.67 320 P **P** **15 03 01.2 +0.3**
baz=129
PKM Mcpherson Peak 60.85 318 P **P** **15 03 02.4 +0.3**
baz=126,SNR=8.0
VES Vestal, Richgr 60.95 319 P **P** **15 03 03.2 +0.7**
baz=128
AHID Auburn Hatcher 61.05 330 P **P** **15 03 02.9 -0.4**
AHID IAmb IAmb 15 03 04.2
comp=Z,34nm,1.3s
TIN Tinemaha, Big 61.15 321 P **P** **15 03 04.6 +0.6**
baz=129
SMMC Simmler 61.23 318 P **P** **15 03 05.0 +0.5**
baz=126,SNR=9.8
ULM Lac du Bonnet 61.50 345 P **P** **15 03 04.6 -1.3**
comp=Z,16nm,0.8s,baz=163,slow=7.4,SNR=10.0
comp=Z,16nm,0.8s
MOOW Moose Ponds 61.61 331 P **P** **15 03 07.1 +0.1**
ELK Elko 61.79 326 P **P** **15 03 08.4 0.0**
comp=Z,6.7nm,1.0s,baz=117,slow=3.4,SNR=20
comp=Z,6.7nm,1.0s
LAO LASA Array 61.89 336 P **P** **15 03 08.9 +0.2**
LAO IAmb IAmb 15 03 09.3
comp=Z,18nm,0.8s
LAO LASA Array 61.89 336 P **P** **15 03 08.9 +0.2**
baz=144
LAO LASA Array 61.89 336 P **P** **15 03 09.1 +0.4**
baz=144
MLAC Mammoth, Mammo 61.89 321 P **P** **15 03 10.2 +1.2**
baz=128
RLMT Red Lodge 61.96 333 P **P** **15 03 09.2 -0.1**
RLMT IAmb IAmb 15 03 10.7
comp=Z,21nm,1.0s
RLMT Red Lodge 61.96 333 P **P** **15 03 09.5 +0.1**
baz=140,SNR=14
H17A Grant Village 62.01 331 P **P** **15 03 10.4 +0.7**
baz=139
NVAR Mina Array Bea 62.06 322 P **P** **15 03 11.0 +0.8**
comp=Z,8.9nm,0.8s,baz=137,slow=7.0,SNR=70
NVAR pP **pP** **15 03 45.3 +0.7**
comp=Z,2.3nm,0.7s,baz=128,slow=9.2,SNR=2.8
comp=Z,8.9nm,0.8s
DGMT Dagmar 62.57 338 P **P** **15 03 13.8 +0.7**
baz=147,SNR=9.9
DGMT Dagmar 62.57 338 P **P** **15 03 13.5 +0.4**
baz=147,SNR=9.9
HLID Hailey 63.30 329 P **P** **15 03 18.6 +0.3**
baz=135,SNR=18
BOZ Bozeman (W) 63.41 332 P **P** **15 03 18.8 -0.1**
BOZ IAmb IAmb 15 03 20.4
comp=Z,39nm,1.1s
BOZ Bozeman (W) 63.41 332 P **P** **15 03 19.4 +0.6**
baz=138,SNR=20
SCHQ Schefferville 63.53 5 P **P** **15 03 19.1 -0.3**
comp=Z,16nm,1.0s,baz=190,slow=6.6,SNR=6.4
comp=Z,16nm,1.0s
EGMT Eagleton 64.41 335 P **P** **15 03 25.7 +0.3**
EGMT IAmb IAmb 15 03 26.5
comp=Z,40nm,0.8s
EGMT Eagleton 64.41 335 P **P** **15 03 25.6 +0.3**
baz=141,SNR=15
ORV Oroville 64.71 321 P **P** **15 03 28.5 +1.2**
MSO Missoula 65.40 331 P **P** **15 03 32.7 +0.9**
baz=136,SNR=30
NEW Newport 67.94 331 P **P** **15 03 47.9 +0.1**
comp=Z,12nm,0.8s,baz=139,slow=5.9,SNR=15
comp=Z,12nm,0.8s
NEW Newport 67.94 331 P **P** **15 03 48.0 +0.2**
baz=134,SNR=12
LIC Lamto 70.82 80⇑ *e*P **P** **15 04 05.3 -0.8**
comp=Z,27nm,1.0s
TIC Toumodi 70.91 80⇓ *i*P **P** **15 04 06.3 -0.4**
comp=Z,58nm,0.9s
DBIC Dimbokro 71.07 80 P **P** **15 04 07.2 -0.4**
comp=Z,14nm,0.6s,baz=271,slow=4.5,SNR=21
comp=Z,14nm,0.6s
DBIC Dimbokro 71.07 80 P **P** **15 04 07.1 -0.6**
DBIC pP **pP** **15 04 42.0 -0.9**
KIC Kosan Boka 71.12 80⇑ *i*P **P** **15 04 07.4 -0.6**
comp=Z,14nm,0.5s
FRB Frobisher Bay 72.29 3 P **P** **15 04 12.9 -0.9**
comp=Z,28nm,1.0s,baz=236,slow=5.6,SNR=3.9
FRB LR LR 15 36 09.8
comp=Z,16nm,18.9s,baz=204,slow=36
comp=Z,28nm,1.0s
VNA3 Neumayer Olymp 73.93 162 P **P** **15 04 24.7 +1.1**
VNA3 Neumayer Olymp 73.93 162 pP pP 15 05 00.2 +1.1
VNA1 Neumayer--Stat 74.16 162 P **P** **15 04 26.1 +1.3**
VNA1 Neumayer--Stat 74.16 162 pP pP 15 05 02.6 +2.3
VNA2 Neumayer--Watz 74.52 162 P **P** **15 04 28.1 +1.1**
baz=283,slow=5.7
VNA2 Neumayer--Watz 74.52 162 pP pP 15 05 04.2 +1.7
baz=281,slow=5.8
BBB Bella Bella 75.87 329 P **P** **15 04 34.9 0.0**
comp=Z,33nm,1.0s,baz=110,slow=5.9,SNR=3.6
comp=Z,33nm,1.0s
SNAA Sanae 76.14 162 P **P** **15 04 37.5 +1.2**
SNAA Sanae 76.14 162 pP pP 15 05 13.8 +1.8
SNAA Sanae 76.14 162 P **P** **15 04 37.5 +1.2**
YKA Yellowknife Ar 77.32 342 P **P** **15 04 42.5 -0.4**
comp=Z,12nm,0.8s,baz=139,slow=5.9,SNR=14
YKA pP **pP** **15 05 17.8 -0.8**
comp=Z,1.8nm,0.6s,baz=142,slow=6.0,SNR=2.5
comp=Z,12nm,0.8s
TROLL Troll, Antarti 77.86 162 P **P** **15 04 47.3 +1.4**
TROLL Troll, Antarti 77.86 162 pP pP 15 05 23.7 +1.9
FLDN Fort Liard 78.76 337 P **P** **15 04 51.8 +1.1**
baz=130
KOTAN Kotaneelee Air 78.91 337 P **P** **15 04 52.8 +1.1**
baz=130,SNR=7.0
LIRD Liard River Hi 79.26 336 P **P** **15 04 54.2 +0.6**
baz=128,SNR=5.9
T35M Bob Quinn 79.61 333 P **P** **15 04 56.8 +1.2**
baz=124
WRAK Wrangell Islan 80.28 331 P **P** **15 04 59.6 +0.6**
baz=122
DLBC Dease Lake 80.33 334 P **P** **15 04 59.9 +0.4**
comp=Z,9.6nm,1.0s,baz=165,slow=2.8,SNR=6.4
comp=Z,9.6nm,1.0s
DLBC Dease Lake 80.33 334 P **P** **15 05 00.7 +1.3**
baz=124
WRGLY Wrigley 80.71 340 P **P** **15 05 02.7 +1.5**
baz=131
WTLY Watson Lake, Y 80.77 336 P **P** **15 05 02.5 +0.8**
baz=126
ESDC Sonseca Array 80.82 47 P **P** **15 05 02.8 +0.3**
comp=Z,1.1nm,0.7s,baz=250,slow=6.7,SNR=6.8
comp=Z,1.1nm,0.7s
R33M Jennings River 81.27 334 P **P** **15 05 04.9 +0.4**
baz=124
TGTN Hyland Airport 81.40 337 P **P** **15 05 05.8 +0.7**
baz=126,SNR=8.5
QSPA South Pole Qui 81.50 180 P **P** **15 05 06.9 +1.2**
Q32M Nakina River 81.60 334 P **P** **15 05 07.5 +1.2**
baz=122
S32K Killisnoo 81.87 332 P **P** **15 05 08.1 +0.6**
baz=120
R32K Eaglecrest 82.25 332 P **P** **15 05 10.4 +0.9**
baz=120
P33M Teslin, Yukon 82.50 335 P **P** **15 05 11.7 +0.8**
baz=122,SNR=5.0
N32M Quiet Lake 83.11 335 P **P** **15 05 14.6 +0.7**
baz=122
MMPY Sheldon Lake, 83.18 337 P **P** **15 05 14.7 +0.5**
baz=124,SNR=5.5

WHY Whitehorse 83.61 334 P **P** **15 05 17.1 +0.5**
baz=120
PLBC Pleasant Camp 83.67 333 P **P** **15 05 18.1 +1.4**
baz=119
FARO Faro, Yukon 83.79 336 P **P** **15 05 18.3 +0.9**
baz=122,SNR=6.8
RES Resolute Bay 84.09 355 P **P** **15 05 18.6 0.0**
comp=Z,7.5nm,0.9s,baz=162,slow=9.4,SNR=6.8
comp=Z,7.5nm,0.9s
O30N Mendenhall 84.18 334 P **P** **15 05 20.5 +1.1**
baz=119
M31M Drury Creek, Y 84.19 336 P **P** **15 05 20.4 +1.0**
baz=121
P30M Million Dollar 84.25 334 P **P** **15 05 20.7 +0.9**
baz=118
SUMG Summit 84.32 10 *i*P **P** **15 05 21.0 +0.7**
SUMG IAmb IAmb 15 05 21.0
comp=Z,38nm,0.9s
P29M Windy Craggy 84.36 333 P **P** **15 05 20.8 +0.5**
baz=118
N31M Braeburn, Yuko 84.40 335 P **P** **15 05 21.0 +0.5**
baz=119
HYT Haines Junctio 84.82 334 P **P** **15 05 23.1 +0.4**
baz=118
C36M Paulatuk 84.92 344 P **P** **15 05 23.9 +1.1**
baz=131
N30M Aishikik Lake 84.94 335 P **P** **15 05 23.7 +0.4**
baz=118
O29M Mount Kennedy 85.05 333 P **P** **15 05 23.7 -0.1**
baz=117
TULEG Thule 85.07 1 *i*P **P** **15 05 23.8 +0.4**
TULEG IAmb IAmb 15 05 24.7
comp=Z,36nm,1.0s
YUK6 Outpost Mounta 85.24 334 P **P** **15 05 25.5 +0.5**
baz=117
M30M Minto, Yukon 85.35 336 P **P** **15 05 25.6 +0.4**
baz=119
MAYO Mayo, Yukon 85.49 337 P **P** **15 05 26.6 +0.8**
baz=120
YUK4 Talbot Arm 85.55 334 P **P** **15 05 26.9 +0.5**
baz=117
M29M Somme Creek 85.97 335 P **P** **15 05 28.6 +0.2**
baz=117
O28M Mount Upton 85.97 333 P **P** **15 05 29.1 +0.4**
baz=115
YUK8 Steele Glacier 86.01 334 P **P** **15 05 29.0 +0.3**
baz=116
L29M L29M 86.14 336 P **P** **15 05 29.8 +0.7**
baz=117
K29M Barlow Dome 86.24 337 P **P** **15 05 30.2 +0.5**
baz=118
YUK3 Moose Creek 86.52 334 P **P** **15 05 31.3 +0.1**
baz=115,SNR=5.5
F31M Tsiigehtchic 86.68 341 P **P** **15 05 31.9 +0.4**
baz=122,SNR=5.5
A36M Sachs Harbour 86.94 346 P **P** **15 05 32.5 -0.2**
baz=130,SNR=20
NEEM North Greenlan 86.94 5 *i*P **P** **15 05 33.4 +0.3**
NEEM IAmb IAmb 15 05 34.6
comp=Z,50nm,1.1s
BVCY Beaver Creek 86.96 335 P **P** **15 05 33.2 +0.1**
baz=115
INK Inuvik 87.07 341 P **P** **15 05 33.4 0.0**
comp=Z,18nm,0.9s,baz=101,slow=6.5,SNR=30
comp=Z,18nm,0.9s
INK Inuvik 87.07 341 P **P** **15 05 33.5 +0.1**
INK IAmb IAmb 15 05 34.5
comp=Z,23nm,1.0s
INK Inuvik 87.07 341 P **P** **15 05 33.3 0.0**
baz=122,SNR=15
DAWY Dawson 87.08 337 P **P** **15 05 33.9 +0.2**
baz=116
EPYK Eagle Plains 87.15 339 P **P** **15 05 34.4 +0.4**
baz=119,SNR=6.1
I29M Ogilvie Camp, 87.25 338 P **P** **15 05 34.7 +0.3**
baz=117,SNR=7.3
G30M tAoh Zraii Nji 87.28 340 P **P** **15 05 35.6 +1.0**
baz=119
M27K Edge Creek, AK 87.37 334 P **P** **15 05 35.8 +0.6**
baz=114
MCARA McCarthy VSAT 87.48 333 P **P** **15 05 36.3 +0.7**
baz=113,SNR=6.1
BCAR Beaver Creek A 87.62 335 P **P** **15 05 36.9 +0.7**
L27K Beaver Creek, 87.64 335 P **P** **15 05 36.8 +0.5**
baz=114
M26K Nabesna, AK 87.86 334 P **P** **15 05 37.4 0.0**
baz=113
BMRM Bremner River 88.03 333 P **P** **15 05 38.6 +0.3**
baz=112
EGAK Eagle 88.08 337 P **P** **15 05 38.8 +0.5**
EGAK IAmb IAmb 15 05 39.5
comp=Z,19nm,0.9s
EGAK Eagle 88.08 337 P **P** **15 05 39.1 +0.8**
baz=115,SNR=12
K27K Chicken 88.13 336 P **P** **15 05 39.2 +0.6**
baz=114
L26K Log Cabin Wild 88.26 335 P **P** **15 05 39.2 -0.1**
baz=113
EYAK Cordova Ski Ar 88.40 332 P **P** **15 05 40.4 +0.5**
baz=110
I27K Kandik River 88.60 337 P **P** **15 05 41.0 +0.1**
baz=114
HARP HAARP 88.80 334 P **P** **15 05 42.1 +0.3**
baz=111
KLU Klutina 88.81 333 P **P** **15 05 42.1 +0.1**
baz=110,SNR=9.0
H27K Steamboat Moun 88.82 338 P **P** **15 05 41.6 -0.3**
baz=114
SCRK Sand Creek 88.89 336 P **P** **15 05 42.3 0.0**
baz=112,SNR=8.9
J26L Joseph Creek 88.92 336 P **P** **15 05 42.4 0.0**
baz=112,SNR=16
I26K Coal Creek Min 89.07 337 P **P** **15 05 42.9 0.0**
baz=113
G27K Doyon Strip 89.11 339 P **P** **15 05 43.3 +0.1**
baz=114
PAX Paxson 89.14 334 P **P** **15 05 43.5 0.0**
baz=111,SNR=10
M24K Tolsona, Glenn 89.14 333 P **P** **15 05 43.7 +0.3**
baz=110
RIDG Independent Ri 89.15 335 P **P** **15 05 43.7 +0.2**
baz=111,SNR=6.0
TSUM Tsumeb 89.17 109 LR LR 15 43 14.1
comp=Z,26nm,19.3s,baz=334,slow=34
SCM Sheep Creek Mo 89.56 333 P **P** **15 05 45.0 -0.4**
baz=109
E27K Coleen River 89.66 340 P **P** **15 05 45.6 -0.2**
baz=114
J25K Salcha River, 89.68 336 P **P** **15 05 46.4 +0.4**
baz=111
PWL Port Wells 89.71 332 P **P** **15 05 45.8 -0.3**
baz=108
M23K Glacier View 89.73 333 P **P** **15 05 46.7 +0.5**
baz=109
SUR Sutherland 89.90 123 LR LR 15 44 26.5
comp=Z,29nm,18.6s,baz=266,slow=34
KNK Knik Glacier 89.94 332 P **P** **15 05 47.4 +0.3**
baz=108
G26K Porcupine Rive 89.94 338 P **P** **15 05 47.3 +0.4**
baz=112
WAT6 Susitna Watana 89.99 334 P **P** **15 05 48.0 +0.4**
baz=109,SNR=7.3
DHY Denali Highway 89.99 334 P **P** **15 05 47.9 +0.4**
baz=109
SEW Seward 90.00 331 P **P** **15 05 47.2 -0.2**
baz=107
SML Sawmill 90.00 333 P **P** **15 05 48.0 +0.5**
baz=108
PRP Porcupine Dome 90.07 337 P **P** **15 05 47.9 +0.1**
baz=111
HDA Harding Lake 90.25 336 P **P** **15 05 48.7 +0.2**
baz=110,SNR=5.7
ILAR Eielson Array 90.35 336 P **P** **15 05 48.2 -0.8**
comp=Z,7.1nm,1.0s,baz=140,slow=3.2,SNR=8.4
comp=Z,7.1nm,1.0s
ILAR Eielson Array 90.35 336 P **P** **15 05 49.2 +0.2**
F26K Sheenjek River 90.35 339 P **P** **15 05 49.7 +0.7**
baz=112
BMAR Burnt Mountain 90.41 339 P **P** **15 05 49.7 +0.4**
WAT1 Susitna Watana 90.42 334 P **P** **15 05 49.2 -0.2**
baz=108
RC01 Rabbit Creek A 90.43 332 P **P** **15 05 49.8 +0.4**
baz=107
H25L Birch Creek 90.44 337 P **P** **15 05 49.7 +0.3**
baz=110
BRSE Bradley Lake S 90.52 331 P **P** **15 05 50.5 +0.6**
baz=106
POKR Poker Plat Res 90.68 336 P **P** **15 05 50.4 -0.1**

baz=109,SNR=5.3
G25K Bearman Lake 90.72 338 P **P** **15 05 51.3 +0.7**
baz=110
COLA College 90.77 336 P **P** **15 05 51.1 +0.2**
baz=109
TCOL CIGO, UAF Yank 90.78 336 P **P** **15 05 51.1 +0.2**
baz=109,SNR=6.2
F25K Christian Rive 90.85 339 P **P** **15 05 52.0 +0.7**
baz=111
MCK McKinley 90.86 335 P **P** **15 05 51.9 +0.5**
baz=108
KDAK Kodiak Island 90.92 328 P **P** **15 05 51.1 -0.6**
comp=Z,6.0nm,0.6s,baz=139,slow=3.9,SNR=5.9
comp=Z,6.0nm,0.6s
KDAK Kodiak Island 90.92 328 P **P** **15 05 52.2 +0.5**
C27K Jago River 90.94 341 P **P** **15 05 51.9 +0.3**
baz=112
DAG Danmarks Havn 90.97 11 *i*P **P** **15 05 51.5 -0.1**
DAG IAmb IAmb 15 05 52.3
comp=Z,18nm,1.0s
SUA Susitna One 91.00 332 P **P** **15 05 52.2 0.0**
baz=106
E25K Arctic Village 91.01 339 P **P** **15 05 52.6 +0.6**
baz=111
CUT Chulitna 91.05 333 P **P** **15 05 52.1 -0.1**
baz=107
H24K Noodor Dome 91.09 337 P **P** **15 05 53.6 +1.1**
baz=109
OHAK Old Harbor 91.15 328 P **P** **15 05 53.2 +0.3**
baz=104
NEA2 Nenana 91.18 335 P **P** **15 05 52.8 0.0**
baz=108,SNR=9.6
G24K Hadweenzic Riv 91.22 338 P **P** **15 05 53.5 +0.5**
baz=109
TRF Thorofare Moun 91.36 334 P **P** **15 05 53.9 0.0**
baz=106
I23K Minto, Yukon-K 91.47 336 P **P** **15 05 54.5 +0.4**
baz=107
SII Sitkinak Islan 91.47 327 P **P** **15 05 54.5 +0.1**
baz=103
SKT Skwentna 91.50 333 P **P** **15 05 54.3 -0.1**
baz=106,SNR=8.5
O20K Slope Mountain 91.53 331 P **P** **15 05 54.9 +0.3**
baz=104
N20K Mount Spurr 91.61 332 P **P** **15 05 55.5 +0.5**
baz=105
SPCR Spurr Chakacha 91.61 332 P **P** **15 05 55.4 +0.4**
baz=105
F24K Squaw Lake 91.63 338 P **P** **15 05 55.5 +0.5**
baz=109
D25K Kavik River 91.70 340 P **P** **15 05 55.5 +0.2**
baz=110
BPAW Bear Paw Mtn. 91.84 335 P **P** **15 05 56.2 +0.2**
baz=106,SNR=7.3
MLY Manley 91.99 336 P **P** **15 05 56.8 +0.1**
baz=106
E24K Your Creek 92.03 339 P **P** **15 05 56.9 +0.2**
baz=108
PPLA Purkeypile 92.04 333 P **P** **15 05 57.0 0.0**
baz=105
CAST Castle Rocks 92.13 334 P **P** **15 05 57.2 0.0**
baz=105,SNR=6.4
G23K Bananza Creek 92.19 337 P **P** **15 05 57.7 +0.2**
baz=107
M20K Styx River 92.21 332 P **P** **15 05 57.6 -0.2**
baz=104
CHUM Lake Minchumin 92.35 334 P **P** **15 05 57.9 -0.3**
baz=105
Q18K Katmai Hardscr 92.38 329 P **P** **15 05 58.2 -0.4**
baz=102
COLD Coldfoot 92.40 338 P **P** **15 05 57.9 -0.6**
baz=106
E23K Chandalar 92.43 339 P **P** **15 05 58.3 -0.3**
baz=107
D24K Happy Valley 92.47 340 P **P** **15 05 59.1 +0.4**
baz=108
H22K Ishtalitna Cre 92.48 336 P **P** **15 05 59.0 +0.2**
baz=106
I21K Tanana 92.54 336 P **P** **15 05 59.2 +0.1**
baz=105
TOLK Toolik Lake Re 92.58 339 P **P** **15 05 59.4 +0.1**
baz=107
N19K Bonanza Creek 92.59 331 P **P** **15 05 58.7 -0.8**
baz=103
C24K Franklin Bluff 92.61 340 P **P** **15 05 59.4 +0.1**
baz=108
P18K Big Mountain, 92.65 330 P **P** **15 05 59.6 -0.2**
baz=102
L20K Farewell, AK 92.69 333 P **P** **15 06 00.2 +0.3**
baz=103
Q17K Contact Creek 92.75 328 P **P** **15 06 00.2 -0.1**
baz=102
M19K Big River Lodg 92.80 332 P **P** **15 06 00.6 +0.2**
baz=103
K20K Telida 92.98 334 P **P** **15 06 01.3 +0.1**
baz=103
H21K Melozitna Rive 92.99 336 P **P** **15 06 01.5 +0.3**
baz=104
D23K Nanushuk River 93.06 339 P **P** **15 06 02.2 +0.8**
baz=106
L19K White Mountain 93.07 332 P **P** **15 06 01.5 -0.2**
baz=102
J20K Nowinta River 93.20 334 P **P** **15 06 02.2 0.0**
baz=103
F22K John River 93.21 338 P **P** **15 06 02.5 +0.3**
baz=105
P17K Kvichak River 93.22 329 P **P** **15 06 02.1 -0.2**
baz=101
Q16K King Salmon 93.22 329 P **P** **15 06 02.9 +0.5**
baz=101
E22K Anaktuvuk Pass 93.24 339 P **P** **15 06 03.2 +0.8**
baz=105
N18K Kilae Creek 93.24 331 P **P** **15 06 02.4 -0.1**
baz=102
C23K Itkillik River 93.28 340 P **P** **15 06 03.0 +0.6**
baz=106
G21K Allakaket 93.48 337 P **P** **15 06 04.1 +0.7**
baz=104
F21K Alatna River 93.63 337 P **P** **15 06 05.3 +1.1**
baz=104
O17K Koliganek Bris 93.65 330 P **P** **15 06 04.1 -0.2**
baz=101
TTA Tatalina 93.75 333 P **P** **15 06 05.5 +0.7**
baz=102
CHNA Chernabura Isl 94.14 325 P **P** **15 06 07.4 +0.7**
baz=99
GCSA Galena City Sc 94.48 335 P **P** **15 06 08.8 +0.8**
baz=100
GERES GERESS Array B 95.24 42 LR LR 15 45 53.4
comp=Z,10nm,19.2s,baz=341,slow=33
NB2 NORSAR Subarra 95.40 29 P **P** **15 06 12.8 +0.4**
baz=263,slow=4.4
NB2 NORSAR Subarra 95.40 29 P **P** **15 06 12.8 +0.4**
comp=Z,6.1nm,1.1s,baz=263,slow=4.4
NOA NORSAR Array B 95.40 29 P **P** **15 06 12.9 +0.6**
comp=Z,2.3nm,0.9s,baz=259,slow=4.4,SNR=4.7
comp=Z,2.3nm,0.9s
LBTB Lobatse 95.44 116 LR LR 15 46 35.5
comp=Z,15nm,20.2s,baz=180,slow=34
LSZ Lusaka 99.84 107 LR LR 15 49 15.2
comp=Z,38nm,19.8s,baz=163,slow=34
ABKAR Akbulak array 124.48 35 **PKiKP** **15 11 48.2 +1.2**
STKA Stephens Creek 126.98 219 PKP **PKiKP** **15 11 52.4 -0.2**
comp=Z,1.2nm,0.7s,baz=212,slow=3.2,SNR=2.9
ZAA0 Zalesovo Array 131.83 16 PKPdf **PKiKP** **15 12 01.5 -0.1**
ZALV Zalesovo Beam 131.83 16 PKP **PKiKP** **15 12 01.4 -0.2**
comp=Z,4.0nm,0.8s,baz=318,slow=2.0,SNR=20
ZALV SKPbc **SKPab** **15 15 14.8 +0.8**
comp=Z,1.8nm,0.8s,baz=319,slow=4.0,SNR=7.0
ZALV Zalesovo Beam 131.83 16 PKPdf **PKiKP** **15 12 01.9 +0.3**
MKAR Makanchi Array 137.10 23 PKP **PKPdf** **15 12 10.6 -0.1**
comp=Z,2.7nm,0.9s,baz=356,slow=4.9,SNR=5.1
ASAR Alice Springs 137.57 220 PKP **PKPdf** **15 12 12.7 +0.4**
comp=Z,2.5nm,0.9s,baz=145,slow=2.5,SNR=10
ASAR pPKP **pPKPdf** **15 12 50.6 -0.1**
comp=Z,1.7nm,1.1s,baz=124,slow=3.1,SNR=3.9
ASAR SKPbc **SKPbc** **15 15 32.4 -0.3**
comp=Z,1.5nm,0.9s,baz=128,slow=3.2,SNR=7.8
WRA Warramunga Arr 139.85 225 PKhKP PKPpre 15 12 09.0
comp=Z,0.4nm,0.6s,baz=127,slow=2.6,SNR=8.8
WRA PKP **PKPdf** **15 12 16.9 +0.4**
comp=Z,1.5nm,0.6s,baz=228,slow=1.4,SNR=21
WRA SKPbc **SKPbc** **15 15 38.9 -0.2**
comp=Z,1.8nm,0.9s,baz=134,slow=2.5,SNR=6.0
WRA Warramunga Arr 139.85 225 PKPdf **PKPdf** **15 12 17.1 +0.6**
SONM Songino Array 140.90 359 PKhKP PKPpre 15 12 11.3
comp=Z,0.3nm,0.5s,baz=306,slow=43,SNR=2.6
SONM PKP **PKPdf** **15 12 18.8 +1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.7nm,0.5s,baz=48,slow=2.2,SNR=4.4						
WMQ	Urumqi	141.64	21	eP	PKPdf	15 12 19.0	-0.1
XLT	XiLinHaoTe	143.65	347	⇑iP	PKPbc	15 12 20.2	-0.3
KSRS	Korea Array	144.83	328	PKP	PKPbc	15 12 24.2	+0.1
	comp=Z,7.9nm,0.9s,baz=32,slow=2.3,SNR=20						
KSRS				SKPbc	SKPbc	15 15 51.1	+0.2
	comp=Z,2.4nm,1.0s,baz=75,slow=1.4,SNR=4.4						
MTN	Manton Dam	146.78	230		PKPdf	15 12 29.5	+0.8
HHC	Hu-ho-hao-te	147.44	351	eP	PKPdf	15 12 26.5	-2.8
BTO	Baotou	147.88	354	ePKPbc	PKPbc	15 12 31.7	-1.4
GTA	Gaotai	148.91	9	ePKPbc	PKiKP	15 12 36.6	-0.6
GTA				pPKP	pPKPab	15 13 16.0	-1.4
GTA				sPKP		15 13 36.9	
HNS	HongShan	150.15	345	⇑P	PKiKP	15 12 39.8	+0.2
HNS				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH	Lanzhou	152.61	3	eP	PKPab	15 12 55.8	+0.2
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
SIJI	Sorong	152.64	251	PKPab	PKPab	15 12 57.1	+0.8
	comp=Z,3.8nm,0.5s,baz=82,slow=1.6,SNR=4.2						
LYN	LuoYang	153.40	347	⇑PKPbc	PKPab	15 12 58.9	+0.1
NJ2	Nanjing	153.58	334	eP	PKPbc	15 12 44.5	-2.2
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
XAN	Xi'an	154.50	353	PKPbc	PKPdf	15 12 40.6	+0.4
XAN				pPKP	PKiKP	15 12 54.3	+5.6
PZH	PanZhiHua	161.85	11	PKP	PKPdf	15 12 47.2	-2.2
GYA	Guiyang	162.21	357	⇑P	PKPab	15 13 37.2	+0.1
GYA				pmax	pmax		
	comp=Z,17nm,0.9s						
CMAR	Chiang Mai Arr	168.33	32	PKPab	PKPab	15 14 04.9	+0.7
	comp=Z,2.4nm,0.9s,baz=318,slow=5.9,SNR=13						

---

*ANF **11** 15:40:17.3±0.3, 59°.50N×138°.83W, h2km±2km, ML3.5/29, Error ellipse: s-maj=2.4km s-min=1.3km az=27.0*
*AEIC **11** 15:40:17.8±2.2, 59°.51N±0°.03×138°.85W±0°.07, h9km±6km, Error ellipse: s-maj=5.8km s-min=2.5km az=50.0*
*PGC **11** 15:40:18.2±0.1, 59°.51N×138°.87W, h13km, ML3.2/14, 43km Ene of Yakutat, Ak Southeastern Alaska*
*NEIC **11** 15:40:18.1±2.0, 59°.49N±0°.04×138°.85W±0°.06, h9km±6km, Error ellipse: s-maj=6.4km s-min=3.8km az=211.0*
ISC 11 15:40:17.5±1.0, **59°.50N**±0°.02×**138°.86W**±0°.02, **h8**km±8km, **n159**, σ1s.**06**/210, **Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	Peninsula	0.32	303		Pn	15 40 28.6	+0.2
PNL	Peninsula	0.32	303	P	Pg	15 40 24.3	+0.4
PNL				S	Pn	15 40 28.7	+0.2
PNL	Peninsula	0.32	303	P	Pg	15 40 24.3	+0.4
	baz=120,SNR=331						
PNL				S	Pn	15 40 28.6	+0.2
	baz=120						
YKU2	Yakutat	0.41	273	Pg	Pg	15 40 26.6	+1.1
P29M	Windy Craggy	0.59	76		Pg	15 40 28.9	+0.1
P29M				IAML		15 40 39.8	
	comp=E,1μm,0.4s						
P29M	Windy Craggy	0.59	76	P	Pg	15 40 29.1	+0.1
P29M				S	Sg	15 40 37.0	+0.3
P29M	Windy Craggy	0.59	76	P	Pg	15 40 29.0	+0.1
	baz=258						
P29M				S	Sg	15 40 36.9	+0.3
	baz=258						
BCPM	Bancas Point	0.60	320		Pg	15 40 29.1	0.0
BCPM				IAML		15 40 40.8	
	comp=E,1μm,0.3s						
O29M	Mount Kennedy	0.82	10	P	Pg	15 40 32.8	-0.6
O29M				S	Sg	15 40 43.7	-0.4
O29M	Mount Kennedy	0.82	10	P	Pg	15 40 32.7	-0.6
	baz=190						
O29M				S	Sg	15 40 43.8	-0.2
	baz=190						
PINM	Pinnacle	0.93	311	P	Pg	15 40 34.5	-0.8
	baz=130,SNR=161						
PINM				S	Sg	15 40 48.1	+0.8
	baz=130						
PCA	Pinnacle	0.93	311		Pg	15 40 34.4	-1.0
PCA					Sg	15 40 48.1	+0.7
PCA	Pinnacle	0.93	311	P	Pg	15 40 34.3	-1.0
PCA				S	Sg	15 40 47.2	-0.2
YUK7	Dusty Glacier	1.10	19	P	Pg	15 40 37.9	-0.7
YUK7				S	Sg	15 40 52.2	-0.8
P30M	Million Dollar	1.15	56	P	Pg	15 40 39.0	-0.6
P30M				S	Sg	15 40 53.0	-1.5
P30M	Million Dollar	1.15	56	P	Pg	15 40 39.0	-0.6
	baz=238						
P30M				S	Sb	15 40 54.7	0.0
	baz=238						
SAMH	Samovar Hills	1.16	304		Pg	15 40 38.7	-1.1
SAMH					Sn	15 40 56.7	+0.6
SAMH	Samovar Hills	1.16	304	P	Pg	15 40 38.7	-1.1
SAMH				S	Sg	15 40 53.3	-1.5
PLBC	Pleasant Camp	1.27	91	P	Pn	15 40 40.4	-1.2
PLBC				S	Sb	15 40 57.2	-1.0
PLBC	Pleasant Camp	1.27	91	P	Pn	15 40 40.2	-1.3
	baz=273,SNR=472						
PLBC				S	Sb	15 40 57.0	-1.2
	baz=273						
O28M	Mount Upton	1.44	333	P	Pn	15 40 43.6	-0.6
O28M				S	Sb	15 41 02.1	-1.3
O28M	Mount Upton	1.44	333	P	Pn	15 40 43.7	-0.4
	baz=152						
O28M				S	Sb	15 41 03.6	+0.3
	baz=152						
YUK6	Outpost Mounta	1.47	10	P	Pn	15 40 44.5	-0.1
YUK6				S	Sn	15 41 02.5	-1.6
YUK6	Outpost Mounta	1.47	10	P	Pn	15 40 44.5	-0.1
	baz=190,SNR=310						
YUK6				S	Sn	15 41 03.6	-0.5
	baz=190						
TABL	Table Mountain	1.49	311		Pn	15 40 43.4	-1.3
TABL					Sb	15 41 05.1	+0.5
TABL	Table Mountain	1.49	311	IAML		15 41 06.8	
	comp=E,253nm,0.7s						
TABL	Table Mountain	1.49	311	P	Pn	15 40 44.4	-0.3
TABL				S	Sn	15 41 03.2	-1.1
HYT	Haines Junctio	1.50	26	Pn	Pn	15 40 44.9	+0.1
HYT				IAML		15 41 07.0	
	comp=E,291nm,0.9s						
HYT				IAML		15 41 09.1	
	comp=N,304nm,0.7s						
HYT	Haines Junctio	1.50	26	P	Pn	15 40 44.9	+0.1
HYT				S	Sn	15 41 03.7	-0.8
HYT	Haines Junctio	1.50	26	P	Pn	15 40 44.9	+0.1
	baz=208,SNR=333						
HYT				S	Sn	15 41 04.6	+0.1
	baz=208						
YAH	Yahtse	1.69	302		Pn	15 40 47.1	-0.4
MESA	MESA	1.70	295	Pn	Pn	15 40 46.7	-1.0
MESA				Sn	Sn	15 41 09.2	-0.5
MESA	MESA	1.70	295	IAML		15 41 12.7	
	comp=E,296nm,0.6s						
MESA	MESA	1.70	295	Pn	Pn	15 40 46.7	-1.0
MESA				Sn	Sn	15 41 09.2	-0.5
MESA	MESA	1.70	295	P	Pn	15 40 46.6	-1.0
	baz=112,SNR=22						
MESA				S	Sb	15 41 11.0	+0.2
	baz=112						
YUK5	Granite Creek	1.72	16	Pn	Pn	15 40 47.9	+0.2
YUK5				Sn	Sn	15 41 08.7	-1.2
YUK5				Sg	Sb	15 41 11.5	+0.4
YUK5	Granite Creek	1.72	16	Pn	Pn	15 40 47.9	+0.2
YUK5				Sn	Sn	15 41 08.7	-1.2
YUK5				Sg	Sb	15 41 11.5	+0.4
SKAG	Skagway	1.80	90	Pn	Pn	15 40 49.8	+1.0
SKAG	Skagway	1.80	90	P	Pn	15 40 49.6	+0.8
	baz=273,SNR=173						
SKAG				S	Sb	15 41 12.9	-0.5
	baz=273						
YUK8	Steele Glacier	1.85	346	Pn	Pn	15 40 49.1	-0.6
YUK8				Sn	Sn	15 41 11.7	-1.6
YUK8	Steele Glacier	1.85	346	P	Pn	15 40 50.3	+0.6
	baz=165						
YUK8				S	Sb	15 41 15.4	+0.4
	baz=165						
YUK4	Talbot Arm	1.86	3	Pg	Pb	15 40 52.2	+0.4
YUK4	Talbot Arm	1.86	3	Pg	Pb	15 40 52.2	+0.4
YUK4	Talbot Arm	1.86	3	P	Pb	15 40 52.3	+0.4
	baz=185,SNR=69						
O30N	Mendenhall	1.89	46	P	Pn	15 40 50.9	+0.9
	baz=228,SNR=1000						
O30N				S	Sb	15 41 15.2	-0.7
	baz=228						
R31K	City Hall, Gus	1.95	122	P	Pn	15 40 51.2	+0.4
	baz=306						
R31K				S	Sn	15 41 16.8	+1.4
	baz=306						
S31K	Pelican	2.06	137	P	Pn	15 40 52.8	+0.5
	baz=320,SNR=30						
S31K				S	Sb	15 41 20.2	-0.6
	baz=320						
ISLE	Juniper Island	2.07	304		Pn	15 40 52.7	+0.1
ISLE				IAML		15 41 33.7	
	comp=E,131nm,0.7s						
ISLE				IAML		15 41 34.9	
	comp=N,140nm,1.5s						
BARN	Barnard Glacie	2.10	320		Pn	15 40 53.9	+0.8
BARN				IAML		15 41 23.5	
	comp=E,176nm,0.6s						
SNH	Sunshine Point	2.12	291	Pn	Pn	15 40 53.2	0.0
SNH				IAML		15 41 37.7	
	comp=E,198nm,3.1s						
N30M	Aishikik Lake	2.16	23	Pg	Pb	15 40 56.1	-0.7
N30M				Sn	Sn	15 41 19.4	-1.3
N30M	Aishikik Lake	2.16	23	Pg	Pb	15 40 56.1	-0.7
N30M				Sn	Sn	15 41 19.4	-1.3
N30M	Aishikik Lake	2.16	23	P	Pn	15 40 54.2	+0.5
	baz=205						
N30M				S	Sn	15 41 21.0	+0.4
	baz=205						
WAX	Waxell Ridge	2.22	297		Pn	15 40 53.9	-0.8
WAX	Waxell Ridge	2.22	297	IAML		15 41 34.8	
	comp=E,166nm,0.5s						
WAX				IAML		15 41 41.2	
	comp=N,216nm,0.6s						
KIAG	Kiagna River	2.26	311	Pn	Pn	15 40 54.7	-0.6
KIAG				Sn	Sn	15 41 22.6	-0.7
KIAG	Kiagna River	2.26	311	Pn	Pn	15 40 54.7	-0.6
KIAG				Sn	Sn	15 41 22.6	-0.7
BESE	Bessie Mountai	2.27	112	Sn	Sn	15 41 21.9	-1.4
BESE	Bessie Mountai	2.27	112	Sn	Sn	15 41 21.9	-1.4
WHY	Whitehorse	2.31	58	Pn	Pn	15 40 56.6	+0.7
WHY				IAML		15 41 32.0	
	comp=E,149nm,0.5s						
WHY				IAML		15 41 33.6	
	comp=N,154nm,0.5s						
WHY	Whitehorse	2.31	58	Pn	Pn	15 40 56.7	+0.7
WHY	Whitehorse	2.31	58	P	Pn	15 40 57.0	+1.1
	baz=241,SNR=24						
WHY				S	Sn	15 41 25.5	+0.9
	baz=241						
BALM	Baldy	2.32	313		Pn	15 40 56.2	+0.1
BALM	Baldy	2.32	313	Pn	Pn	15 40 55.9	-0.2
YUK3	Moose Creek	2.42	342	Pg	Pb	15 41 01.2	-0.1
YUK3	Moose Creek	2.42	342	Pg	Pb	15 41 01.2	-0.1
YUK3	Moose Creek	2.42	342	Pb	Pb	15 41 01.0	-0.3
	baz=160						
YUK3				S	Sb	15 41 29.6	-1.7
	baz=160						
YUK2	White River	2.50	338	Pn	Pn	15 40 58.7	+0.3
YUK2	White River	2.50	338	Pn	Pn	15 40 58.7	+0.3
N31M	Braeburn, Yuko	2.51	36		Pn	15 40 59.8	+1.2
N31M				IAML		15 41 37.6	
	comp=E,163nm,0.7s						
N31M				IAML		15 41 38.2	
	comp=N,139nm,0.6s						
N31M	Braeburn, Yuko	2.51	36	Pn	Pn	15 40 59.7	+1.1
N31M	Braeburn, Yuko	2.51	36	P	Pn	15 40 59.8	+1.2
	baz=219,SNR=624						
N31M				S	Sn	15 41 30.9	+1.5
	baz=219						
R32K	Eaglecrest	2.57	117	P	Pn	15 40 58.7	-0.6
	baz=301,SNR=48						
R32K				Sb	Sb	15 41 35.7	+0.4
	baz=301						
BERG	Berg Lake	2.60	292		Pn	15 40 58.9	-0.8
P32M	Atlin	2.62	86	Pn	Pn	15 41 00.3	+0.2
P32M	Atlin	2.62	86	Pn	Pn	15 41 00.3	+0.2
P32M	Atlin	2.62	86	P	Pn	15 41 00.5	+0.4
	baz=270,SNR=38						
P32M				S	Sn	15 41 32.7	+0.5
	baz=270						
JIS	Juneau Island	2.63	116		Pn	15 40 59.3	-0.7
MCARA	McCarthy VSAT	2.80	314		Pn	15 41 03.4	+0.9
MCARA	McCarthy VSAT	2.80	314	IAML		15 41 53.9	
	comp=N,109nm,0.8s						
MCARA				IAML		15 41 57.6	
	comp=E,109nm,0.8s						
MCARA	McCarthy VSAT	2.80	314	P	Pn	15 41 03.8	+1.3
	baz=131,SNR=29						
VRDI	Verde Repeater	2.87	309		Pn	15 41 03.5	0.0
M29M	Somme Creek	2.96	4	Pn	Pn	15 41 05.1	+0.2
M29M	Somme Creek	2.96	4	Pn	Pn	15 41 05.1	+0.2
M29M	Somme Creek	2.96	4	P	Pn	15 41 06.3	+1.4
	baz=184						
M29M				Sb	Sb	15 41 49.5	+2.5
	baz=184						
S32K	Killisnoo	3.03	130	Pb	Pb	15 41 11.1	-0.5
	baz=314						
S32K				Sb	Sb	15 41 49.2	+0.5
	baz=314						
SIT	Sitka	3.08	141	Pb	Pb	15 41 12.7	+0.3
	baz=324						
SIT				Sb	Sb	15 41 51.9	+1.9
	baz=324						
BVCY	Beaver Creek	3.09	342	Pb	Pb	15 41 13.2	+0.6
	baz=161						
GLB	Gilahina Butte	3.13	311		Pn	15 41 07.2	+0.1
GLB	Gilahina Butte	3.13	311	IAML		15 42 00.2	
	comp=N,48nm,3.0s						
P33M	Teslin, Yukon	3.13	74	Pn	Pn	15 41 07.1	0.0
P33M				IAML		15 41 55.5	
	comp=E,99nm,0.7s						
P33M	Teslin, Yukon	3.13	74	Pn	Pn	15 41 07.0	-0.2
P33M	Teslin, Yukon	3.13	74	Pn	Pn	15 41 07.0	-0.2
P33M	Teslin, Yukon	3.13	74	P	Pn	15 41 06.8	-0.3
	baz=260,SNR=69						
P33M				Sb	Sb	15 41 54.2	+2.4
	baz=260						
BMRM	Bremner River	3.22	300		Pn	15 41 08.0	-0.3
BMRM	Bremner River	3.22	300	P	Pn	15 41 09.4	+1.0
	baz=115						
M27K	Edge Creek, AK	3.23	334		Pn	15 41 10.0	+1.5
M27K	Edge Creek, AK	3.23	334	Pb	Pb	15 41 15.6	+0.5
	baz=151						
M30M	Minto, Yukon	3.25	17		Pn	15 41 10.1	+1.3
M30M	Minto, Yukon	3.25	17	Pn	Pn	15 41 09.6	+0.8
M30M	Minto, Yukon	3.25	17	Pn	Pn	15 41 09.6	+0.8
M30M	Minto, Yukon	3.25	17	P	Pn	15 41 09.7	+1.0
	baz=199,SNR=55						
M30M				Sb	Sb	15 41 57.8	+2.7
	baz=199						
N32M	Quiet Lake	3.32	58	Pn	Pn	15 41 11.0	+1.3
N32M	Quiet Lake	3.32	58	Pn	Pn	15 41 11.0	+1.3
N32M	Quiet Lake	3.32	58	P	Pn	15 41 10.7	+1.0
	baz=242						
N32M				S	Sn	15 41 51.5	+2.3
	baz=242						
Q32M	Nakina River	3.43	96	P	Pn	15 41 11.4	0.0
	baz=282,SNR=20						
Q32M				Sb	Sg	15 42 04.8	-2.8
	baz=282						
M31M	Drury Creek, Y	3.49	37		Pn	15 41 13.4	+1.4
M31M				IAML		15 42 11.4	
	comp=N,50nm,0.6s						
M31M				IAML		15 42 14.9	
	comp=E,52nm,0.9s						
M31M	Drury Creek, Y	3.49	37	Pn	Pn	15 41 13.4	+1.4
M31M	Drury Creek, Y	3.49	37	Pn	Pn	15 41 13.4	+1.4
M31M	Drury Creek, Y	3.49	37	P	Pn	15 41 13.2	+1.2
	baz=221,SNR=9.4						
M31M				S	Sn	15 41 54.7	+1.4
	baz=221						
N25K	Chitina, Valde	3.54	309		Pn	15 41 13.2	+0.5
N25K				IAML		15 42 17.5	
	comp=N,40nm,4.7s						
N25K	Chitina, Valde	3.54	309	P	Pn	15 41 14.2	+1.5
	baz=124						
M26K	Nabesna, AK	3.54	327		Pn	15 41 13.2	+0.4
L29M	L29M	3.64	5	Pn	Pn	15 41 15.3	+1.2
L29M	L29M	3.64	5	Pn	Pn	15 41 15.3	+1.2
L29M	L29M	3.64	5	Sb	Sg	15 42 10.7	-3.7
	baz=186						
DIV	Divide	3.81	298	Pn	Pn	15 41 16.8	+0.4
FARO	Faro, Yukon	3.85	42		Pn	15 41 18.2	+1.3
FARO	Faro, Yukon	3.85	42	Pn	Pn	15 41 17.4	+0.5
FARO	Faro, Yukon	3.85	42	Pn	Pn	15 41 17.4	+0.5
FARO	Faro, Yukon	3.85	42	P	Pn	15 41 18.0	+1.1
	baz=227,SNR=11						
FARO				S	Sn	15 42 03.5	+1.3
	baz=227						
BCAR	Beaver Creek A	3.85	340		Pn	15 41 18.0	+1.1
L27K	Beaver Creek,	3.85	339		Pn	15 41 18.3	+1.3
L27K	Beaver Creek,	3.85	339	Pn	Pn	15 41 17.8	+0.7
L27K	Beaver Creek,	3.85	339	Pn	Pn	15 41 17.8	+0.7
KLU	Klutina	4.03	303		Pn	15 41 21.5	+2.1
KLU				IAML		15 42 19.3	
	comp=N,42nm,0.7s						
KLU				IAML		15 42 20.3	
	comp=E,33nm,1.0s						
R33M	Jennings River	4.03	88	Pn	Pn	15 41 19.9	+0.3
R33M	Jennings River	4.03	88	Pn	Pn	15 41 19.9	+0.3
R33M	Jennings River	4.03	88	P	Pn	15 41 19.8	+0.3
	baz=275						
S34M	Telegraph Cree	4.33	108	Pn	Pn	15 41 23.8	+0.3
S34M	Telegraph Cree	4.33	108	Pn	Pn	15 41 23.8	+0.3
S34M	Telegraph Cree	4.33	108	P	Pn	15 41 23.9	+0.3
	baz=295,SNR=18						
MAYO	Mayo, Yukon	4.35	18	Pn	Pn	15 41 24.4	+0.6
MAYO	Mayo, Yukon	4.35	18	Pn	Pn	15 41 24.4	+0.6
K29M	Barlow Dome	4.41	8	Pn	Pn	15 41 25.5	+0.8
K29M	Barlow Dome	4.41	8	Pn	Pn	15 41 25.5	+0.8
K29M	Barlow Dome	4.41	8	P	Pn	15 41 26.3	+1.6
	baz=189						
M24K	Tolsona, Glenn	4.44	309	Pn	Pn	15 41 27.3	+2.3
DAWY	Dawson	4.59	357		Pn	15 41 28.1	+0.9
DAWY				IAML		15 42 48.1	
	comp=N,23nm,4.9s						
DAWY				IAML		15 42 58.2	
	comp=E,18nm,4.5s						
DAWY	Dawson	4.59	357	Pn	Pn	15 41 28.0	+0.9
DLBC	Dease Lake	4.70	99		Pn	15 41 28.4	-0.2
DLBC				IAML		15 42 58.7	
	comp=E,28nm,0.7s						
DLBC	Dease Lake	4.70	99	Pn	Pn	15 41 29.5	+0.9
SCM	Sheep Creek Mo	4.78	303	Pn	Pn	15 41 31.5	+1.7
K27K	Chicken	4.80	343	Pn	Pn	15 41 32.9	+2.9
MMPY	Sheldon Lake,	4.84	46	Pn	Pn	15 41 31.9	+1.3
MMPY	Sheldon Lake,	4.84	46	Pn	Pn	15 41 31.9	+1.3
MMPY	Sheldon Lake,	4.84	46	P	Pn	15 41 32.2	+1.6
	baz=233,SNR=69						
SCRK	Sand Creek	5.11	334	Pn	Pn	15 41 35.1	+0.7
EGAK	Eagle	5.41	350	Pn	Pn	15 41 41.0	+2.7
GHO	Glory Hole Cre	5.45	299	Pn	Pn	15 41 41.0	+2.0
SKT	Skwentna	6.69	297	Pn	Pn	15 41 56.8	+0.8
TRF	Thorofare Moun	6.75	311	Pn	Pn	15 41 58.9	+2.0
NEA2	Nenana	7.01	321		Pn	15 42 00.9	+0.7
KTH	Kantishna Hill	7.05	310		Pn	15 42 02.8	+1.9
ILSW	Iliamna Southw	7.24	280	Pn	Pn	15 42 04.4	+0.9
PPLA	Purkeypile	7.28	304	Pn	Pn	15 42 06.7	+2.6
BPAW	Bear Paw Mtn.	7.36	314	Pn	Pn	15 42 06.2	+1.0
KDAK	Kodiak Island	7.36	262	Pn	Pn	15 42 04.7	-0.4
CAST	Castle Rocks	7.45	307	Pn	Pn	15 42 07.7	+1.3

---

*IDC **11** 15:43:02.8±8.0, 36°.41N×71°.19E, h192km±66km, mb3.2/3, mbtmp3.6/6, MS2.8/1, Error ellipse: s-maj=75.4km s-min=27.5km az=50.0*
ISC 11 15:43:02.7±1.5, **36°.5N**±0°.1×**70°.9E**±0°.2, **h188**km, **n9**, σ**2s.48**/11, **mb3.2**/3, **1C-2D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.57	357	Pn	Pn	15 44 37.9	+0.8
	0.5nm,0.3s,baz=184,slow=12,SNR=18						
KK31				⇑Sn	Sn	15 45 47.4	-4.5
	2.4nm,0.3s,baz=187,slow=23,SNR=12						
AAK	Ala-Archa	6.69	23	P	Pn	15 44 40.5	+1.6
	6.0nm,0.4s,baz=187,slow=6.4,SNR=19						
AAK				S	Sn	15 45 53.7	-1.1
	1.6nm,0.5s,baz=140,slow=21,SNR=8.9						
TKM2	Tokmak 2	7.32	28	⇓Pn	Pn	15 44 48.2	+1.0
	8.7nm,0.8s						
TKM2				⇓Sn	Sn	15 46 07.6	-2.3
	2.3nm,0.8s						
BVAR	Borovoye Array	16.50	359	P	Pn	15 46 45.8	+2.5
	0.3nm,0.4s,baz=168,slow=7.3,SNR=2.2						
ZALV	Zalesovo Beam	19.91	25	P	P	15 47 21.6	+2.0
	0.5nm,0.5s,baz=202,slow=11,SNR=2.8						
ARCES	ARCESS Array B	41.09	338	P	P	15 50 28.1	+0.4
	3.0nm,0.9s,baz=116,slow=8.1,SNR=5.7						
	3.0nm,0.9s						
KSRS	Korea Array	44.92	71	LR	LR	16 11 58.9	
	comp=Z,11nm,20.4s,baz=35,slow=39						
WRA	Warramunga Arr	82.05	122	P	P	15 54 60.0	-2.2
	0.1nm,0.4s,baz=325,slow=5.0,SNR=5.4						
	0.1nm,0.4s						
ASAR	Alice Springs	84.32	125	P	P	15 55 12.2	-1.5
	0.3nm,0.6s,baz=315,slow=4.9,SNR=6.6						
	0.3nm,0.6s						

IDC 11 15:43:33.1±4.1, **22°.43N**×**13°.07W**, **h0**km, **mbtmp4.0**/1, **ML3.8**/1, **Error ellipse: s-maj=207.5km s-min=65.9km az=75.0, Western Sahara**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	17.55	152	P	Pn	15 47 39.4	0.0
	0.4nm,0.3s,baz=336,slow=10,SNR=1.4						
	1.7nm,0.4s						
I48TN	KESRA INFRASON	23.60	51	I		18 07 40.0	
	baz=242,slow=310,SNR=0.9						
WRA	Warramunga Arr	149.54	91	PKPbc	PKPbc	16 03 24.9	-0.4
	0.2nm,0.7s,baz=292,slow=1.8,SNR=2.0						
ASAR	Alice Springs	149.62	99	PKPbc	PKPbc	16 03 24.9	-0.5
	0.2nm,0.7s,baz=276,slow=3.0,SNR=4.3						

---

*UCR **11** 15:46:30.8±1.8, 11°.29N×86°.54W, h5km, MW4.8, mb4.5(NEIC)*
*INET **11** 15:46:31.1±0.9, 11°.10N×86°.62W, h15km±7km, MW4.1*
*NEIC **11** 15:46:32.0±1.9, 11°.18N±0°.06×86°.60W±0°.09, h50km±13km, mb4.5/12, Error ellipse: s-maj=14.5km s-min=6.6km az=60.0*
*IDC **11** 15:46:31.5±0.9, 11°.43N×86°.10W, h33km±5km, mb4.0/11, mbtmp4.1/12, ML3.8/1, MS3.7/37, Error ellipse: s-maj=39.2km s-min=16.4km az=56.0*
ISC 11 15:46:32.4±0.7, **11°.27N**±0°.04×**86°.53W**±0°.05, **h45**km±6km, **n154**, σ**1s.99**/151, **mb4.3**/15, **MS3.7**/33, **6C-3D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.91	356	eP	Pn	15 46 50.0	+1.2
CONN	Concepcion	0.93	72	eP	Pn	15 46 50.1	+0.9
WILN	Americas 2	0.95	21	eP	Pn	15 46 50.7	+1.4
WILN				eS	Sn	15 47 06.4	+4.8
HZTE	Horizontes, Gu	1.07	121		Pn	15 46 50.4	-0.7
GBS2	Las Lilas	1.14	112	eP	Pn	15 46 51.7	-0.3
GBS2				eS	Sn	15 47 09.0	+2.5
GBS3	Finca Las Img	1.16	115	eP	Pn	15 46 51.9	-0.4
GBS3				eS	Sn	15 47 09.0	+2.0
LAPC	Finca la Perla	1.19	115	⇑eP	Pn	15 46 52.4	-0.2
LAPC				eS	Sn	15 47 09.6	+2.0
BUEV	Buena Vista	1.20	113	⇑eP	Pn	15 46 52.6	-0.3
BUEV				eS	Sn	15 47 10.5	+2.5
GB1A	Borinquen Arri	1.20	112	⇓eP	Pn	15 46 52.5	-0.4
GB1A				eS	Sn	15 47 11.1	+3.1
CNGN	Cerro Negro	1.23	352	Pn	Pn	15 46 54.0	+0.8
CNGN	Cerro Negro	1.23	352	eP	Pn	15 46 54.5	+1.2
BUAI	Buenos Aires	1.24	108	⇓iP	Pn	15 46 53.1	-0.2
BUAI				eS	Sn	15 47 12.9	+4.0
GPS3	Bodega del ICE	1.25	114	eP	Pn	15 46 53.7	+0.2
GPS3				eS	Sn	15 47 12.0	+2.7
GPS2	Hotel Rincn d	1.27	114	⇑eP	Pn	15 46 53.9	+0.2
GPS2				eS	Sn	15 47 11.4	+1.8
LIM1	Limonal	1.38	114	eP	Pn	15 46 55.8	+0.5
LIM1				eS	Sn	15 47 14.8	+2.4
ORTG	Ortega, Santa	1.39	131		Pn	15 46 54.5	-0.9
GUAB	Guayabo de Bag	1.40	114	eP	Pn	15 46 55.9	+0.4
GUAB				eS	Sn	15 47 15.3	+2.5
MESS	Mesas	1.41	112	eP	Pn	15 46 56.2	+0.5
MESS				eS	Sn	15 47 16.3	+3.1
MICM	Guayabo	1.43	113	eP	Pn	15 46 57.0	+1.1
MICM				eS	Sn	15 47 16.8	+3.3
COLC	Colonia	1.44	115	eP	Pn	15 46 56.4	+0.4
COLC				eS	Sn	15 47 15.7	+1.9
HORNC	Hornillas	1.44	113	⇓eP	Pn	15 46 56.9	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HORNC				eS	Sn	15 47 15.7	+1.8
SAJU	San Juanillo,	1.44	146⇑	iP	Pn	15 46 58.5	+2.4
SAJU				eS	Sn	15 47 20.0	+6.2
BOAB	BOACO BROADBAN	1.44	36	Pn	Pn	15 46 56.7	+0.6
BOAB	BOACO BROADBAN	1.44	36	eS	Sn	15 47 17.6	+3.7
BRAN	Las Pilas	1.45	7	eP	Pn	15 46 50.7	-5.5
CUI	Cuipilapa	1.47	114	eP	Pn	15 46 57.0	+0.4
CUI				eS	Sn	15 47 17.4	+2.7
ACON	Acoyapa	1.50	62		Pn	15 46 57.5	+0.7
ACON	Acoyapa	1.50	62	eP	Pn	15 46 57.6	+0.8
CRIN	San Cristobal	1.51	340	Pn	Pn	15 46 58.2	+1.2
CRIN	San Cristobal	1.51	340	eP	Pn	15 46 58.4	+1.4
CRIN				eS	Sn	15 47 19.0	+3.4
DUNO	Dulce Nombre,	1.56	139	Pn	Pn	15 46 56.3	-1.4
ACAL	Aguas Claras	1.60	113	eP	Pn	15 46 59.2	+0.9
ACAL				eS	Sn	15 47 21.9	+4.0
PTEN	Parque Tenorio	1.61	110⇑	eP	Pn	15 46 59.1	+0.6
PTEN				eS	Sn	15 47 23.0	+4.9
VERA	Finca Concepci	1.68	104⇑	iP	Pn	15 47 00.5	+1.2
VERA				eS	Sn	15 47 23.8	+4.0
MATN	Matagalpa	1.75	20		Pn	15 47 01.8	+1.4
JTS	Las Juntas de	1.83	122		Pn	15 47 01.1	-0.3
PACM	Arenal	1.90	114	eP	Pn	15 46 54.0	-8.4
PACM				eS	Sn	15 47 11.8	-13
CASO	Castillo	1.95	115	eP	Pn	15 47 04.8	+1.6
CASO				eS	Sn	15 47 32.4	+5.9
CEDE	Laguna Cedeo	1.96	113	eP	Pn	15 47 04.0	+0.8
CEDE				eS	Sn	15 47 32.9	+6.3
FORC	Fortuna	2.00	113	eP	Pn	15 47 05.4	+1.7
FORC				eS	Sn	15 47 33.1	+5.6
COVE	Coope Vega, Sa	2.16	104	Pn	Pn	15 47 06.0	+0.1
JACO	JACO, Garabito	2.44	131		Pn	15 47 09.3	-0.4
JACO	JACO, Garabito	2.44	131	eP	Pn	15 47 10.9	+1.1
HDC	Heredia	2.69	118	Pn	Pn	15 47 12.0	-1.3
HDC	Heredia	2.69	118	eP	Pn	15 47 17.2	+3.8
HDC	Heredia	2.69	118	eP	Pn	15 47 16.1	+2.8
TGUH	Tegucigalpa,Un	2.86	345	Pn	Pn	15 47 18.0	+2.3
OCM	Ochomogo	2.87	118	eP	Pn	15 47 17.6	+1.7
LCR2	La Lucha 2	2.91	121	eP	Pn	15 47 16.9	+0.5
HAYA	Volcan Irazu	2.94	116	eP	Pn	15 47 20.2	+3.2
RIMA	Rio Macho	3.02	119		Pn	15 47 18.1	+0.2
RIMA	Rio Macho	3.02	119	eP	Pn	15 47 18.6	+0.7
CDM	Cerro de Muert	3.21	122	eP	Pn	15 47 21.8	+1.0
EDDO	Dominical	3.30	127	eP	Pn	15 47 25.9	+4.3
BATAN	Batan	3.31	110	Pn	Pn	15 47 22.5	+0.8
MRVA	Moravia de Chi	3.36	115	eP	Pn	15 47 24.9	+2.3
PEZE	Perez Zeledon,	3.38	124	eP	Pn	15 47 25.3	+2.6
SRBA	San Rafael, Bu	3.72	123		Pn	15 47 28.7	+1.2
SRBA	San Rafael, Bu	3.72	123	eP	Pn	15 47 28.8	+1.3
EDPN	Palmar Norte	3.80	127	eP	Pn	15 47 31.6	+3.1
POTG	Potrero Grande	4.02	123	eP	Pn	15 47 33.9	+2.4
PIRO	Carate, Puerto	4.25	132	eP	Pn	15 47 35.9	+1.4
CTCR	Cotoan	4.40	122	eP	Pn	15 47 38.5	+1.6
BRU2	Volcan	4.51	123	Pn	Pn	15 47 39.8	+1.4
BRU2	Volcan	4.51	123	eP	Pn	15 47 40.3	+1.9
CMIG	Matias Romero	9.95	306	Pn	Pn	15 48 55.9	+3.0
	0.8nm,0.3s,baz=156,slow=9.7,SNR=7.1						
CMIG				LR	LR	15 53 22.2	
	comp=Z,419nm,21.0s,baz=144,slow=40						
	1.9nm,0.3s						
ROSC	El Rosal	13.67	117	LR	LR	15 54 43.2	
	comp=Z,245nm,21.7s,baz=39,slow=37						
SDV	Santo Domingo	15.83	97	Pn	Pn	15 50 12.8	+0.3
	0.8nm,0.3s,baz=271,slow=4.1,SNR=9.9						
SDV				LR	LR	15 56 52.3	
	comp=Z,100nm,20.9s,baz=300,slow=40						
BAUV	El Baul	18.35	96		P	15 50 41.9	-1.4
BAUV				IAmb	IAmb	15 50 49.3	
	comp=Z,38nm,1.5s						
ATAH	Atahualpa	20.00	156	LR	LR	15 57 45.9	
	comp=Z,230nm,20.8s,baz=344,slow=34						
833A	Chaparral WMA,	20.81	326	P	P	15 51 07.7	-2.4
833A				IAmb	IAmb	15 51 24.3	
	comp=Z,33nm,1.4s						
SJG	San Juan	20.84	69	LR	LR	15 58 17.9	
	comp=Z,147nm,21.6s,baz=228,slow=35						
PCRV	Puerto La Cruz	21.54	91	LR	LR	16 01 09.0	
	comp=Z,119nm,20.8s,slow=42						
SGCB	S£o Gabriel d	22.44	119	eP	P	15 51 27.7	0.0
Y49A	Blount Mountai	22.48	0	P	P	15 51 25.1	-2.9
CZSB	Cruzeiro do Su	23.36	143	eP	P	15 51 40.7	+3.7
TX31	Lajitas Ar. Si	24.05	321	P	P	15 51 41.9	-1.7
TX31				IAmb	IAmb	15 51 57.8	
	comp=Z,16nm,1.1s						
TX32	Lajitas Array	24.05	321	P	P	15 51 44.8	+1.2
TXAR	Lajitas Array	24.05	321	P	P	15 51 45.3	+1.7
	comp=Z,2.3nm,0.7s,baz=140,slow=9.7,SNR=28						
	comp=Z,2.3nm,0.7s						
TXAR	Lajitas Array	24.05	321	P	P	15 51 43.6	0.0
CPCT	Cooper Cave	24.14	4	P	P	15 51 44.8	+0.6
TKL	Tuckaleechee C	24.41	5	P	P	15 51 46.3	-0.3
	comp=Z,4.9nm,0.9s,baz=194,slow=15,SNR=3.6						
TKL				LR	LR	16 01 28.4	
	comp=Z,132nm,20.2s,baz=192,slow=37						
	comp=Z,4.9nm,0.9s						
GDHS	Morne Mazeau,	24.55	76	P	P	15 51 45.2	-3.0
NNA	Nana	25.03	157	LR	LR	16 00 23.1	
	comp=Z,48nm,20.7s,baz=337,slow=33						
S54A	Dingess, Beckl	26.83	9	P	P	15 52 08.1	-0.5
S54A				IAmb	IAmb	15 52 17.9	
	comp=Z,18nm,0.7s						
S57A	Dark Hollow, R	27.24	13	P	P	15 52 07.8	-4.4
R53A	Hurricane	27.26	8	P	P	15 52 08.2	-4.2
BOAV	Boa Vista	27.26	107	eP	P	15 52 13.7	+1.0
ETMB	Extrema	29.10	135	P	P	15 52 29.2	+0.1
ETMB				IAmb	IAmb	15 52 30.6	
	comp=Z,16nm,0.8s						
ETMB	Extrema	29.10	135	eP	P	15 52 29.6	+0.5
MACA	Manacapuru-AM	29.44	118	eP	P	15 52 32.5	+0.4
LPAZ	La Paz	32.88	146	LR	LR	16 07 04.2	
	comp=Z,58nm,19.7s,baz=330,slow=38						
LPAZ	La Paz	32.88	146	eP	P	15 53 03.1	+0.1
SADO	Sadowa	33.98	9	LR	LR	16 06 33.6	
	comp=Z,115nm,21.7s,baz=186,slow=36						
MDP	Montagnes des	34.08	98	LR	LR	16 08 03.1	
	comp=Z,86nm,19.4s,baz=113,slow=38						
ITTB	Itaituba	34.36	115	eP	P	15 53 14.1	-1.2
VILB	Vilhena	35.52	132	eP	P	15 53 25.6	+0.3
NPGB	Novo Progresso	35.96	119	eP	P	15 53 27.9	-1.2
MCPB	Macapa, AP	36.15	106	eP	P	15 53 29.7	-1.0
PDAR	Pinedale Array	37.23	332	P	P	15 53 39.8	-0.1
	comp=Z,1.6nm,0.8s,baz=107,slow=7.6,SNR=3.6						
PDAR				PcP	PcP	15 56 00.1	+1.1
	comp=Z,0.7nm,0.7s,baz=134,slow=5.2,SNR=4.9						
PDAR				LR	LR	16 12 13.6	
	comp=Z,88nm,18.1s,baz=130,slow=41						
	comp=Z,1.6nm,0.8s						
PDAR	Pinedale Array	37.23	332	P	P	15 53 38.6	-1.2
PDRB	Porto dos Gac	37.33	127	eP	P	15 53 39.7	-1.0
CLDB	Colider	37.64	125	eP	P	15 53 42.2	-1.2
PTLB	Pontes e Lacer	37.95	134	eP	P	15 53 46.1	+0.1
ELK	Elko	38.74	324	LR	LR	16 10 44.4	
	comp=Z,73nm,21.4s,baz=143,slow=37						
NVAR	Mina Array Bea	39.18	319	P	P	15 53 58.5	+2.2
	comp=Z,0.7nm,0.7s,baz=144,slow=7.9,SNR=6.1						
NVAR				PcP	PcP	15 56 07.3	+2.2
	comp=Z,2.6nm,1.0s,baz=141,slow=4.0,SNR=11						
NVAR				pPcP		15 56 18.1	
	comp=Z,1.3nm,0.8s,baz=133,slow=4.8,SNR=5.6						
	comp=Z,0.7nm,0.7s						
ULM	Lac du Bonnet	39.62	351	P	P	15 53 58.4	-1.1
	comp=Z,5.2nm,0.6s,baz=161,slow=8.5,SNR=4.8						
ULM				LR	LR	16 11 08.4	
	comp=Z,68nm,19.2s,baz=98,slow=37						
	comp=Z,5.2nm,0.6s						
SALV	Santo Antonio	40.75	131	eP	P	15 54 08.9	-0.4
SNDB	Serra Nova Dou	41.93	122	eP	P	15 54 19.0	0.0
ARAG	Araguaiana, MT	43.59	127	eP	P	15 54 31.6	-0.8
AQDB	Aquidauana	43.76	136	eP	P	15 54 33.8	0.0
YBH	Yreka Blue Hor	43.83	320	LR	LR	16 13 50.8	
	comp=Z,49nm,18.5s,baz=124,slow=37						
RPN	Rapa Nui	44.12	210	LR	LR	16 08 04.6	
	comp=Z,79nm,21.9s,baz=157,slow=29						
NEW	Newport	44.87	331	LR	LR	16 15 33.4	
	comp=Z,67nm,18.5s,baz=260,slow=39						
SCHQ	Schefferville	46.15	16	P	P	15 54 51.4	-1.0
	comp=Z,2.1nm,0.5s,baz=211,slow=12,SNR=1.6						
SCHQ				LR	LR	16 14 16.3	
	comp=Z,135nm,20.2s,baz=219,slow=36						
	comp=Z,2.1nm,0.5s						
BDFB	Brasilia	46.57	124	P	P	15 54 54.8	-1.6
	comp=Z,4.3nm,0.7s,baz=284,slow=11,SNR=5.9						
	comp=Z,4.3nm,0.7s						
BDFB	Brasilia	46.57	124	eP	P	15 54 56.1	-0.2
CPUP	Villa Florida	46.94	143	P	P	15 54 57.2	-1.7
	comp=Z,3.3nm,0.9s,baz=333,slow=6.8,SNR=6.7						
CPUP				LR	LR	16 13 27.4	
	comp=Z,35nm,20.4s,baz=318,slow=34						
	comp=Z,3.3nm,0.9s						
CPUP	Villa Florida	46.94	143	eP	P	15 54 59.1	+0.3
SDBA	SAO DESIDERIO	47.55	118	eP	P	15 55 02.9	-1.0
PCMB	Pacaembu	47.61	133	eP	P	15 55 04.0	-0.2
IPMB	Ipameri, GO	47.71	127	eP	P	15 55 04.3	-0.8
PTGB	Pitanga	49.10	137	eP	P	15 55 14.3	-1.4
BB19B	Bebedouro	49.27	131	eP	P	15 55 16.4	-0.6
JANB	Januaria	49.33	121	eP	P	15 55 18.2	+0.6
PMNB	Patos De Minas	49.41	126	eP	P	15 55 17.9	-0.3
MC01	Montes Claros	50.46	123	eP	P	15 55 25.8	-0.4
ITAB	Concordia	50.78	140	eP	P	15 55 28.4	+0.1
DIAM	Diamantina, MG	51.49	124	eP	P	15 55 33.0	-1.1
VAO	Valinhos	51.58	131	eP	P	15 55 33.9	-0.7
CPSB	Cacapava Do Su	52.25	143	eP	P	15 55 38.9	-0.4
RCBR	Riachuelo	53.16	106	LR	LR	16 19 35.3	
	comp=Z,107nm,19.6s,baz=90,slow=38						
FRB	Frobisher Bay	53.92	10	LR	LR	16 19 09.7	
	comp=Z,154nm,20.2s,baz=204,slow=36						
YKA	Yellowknife Ar	54.98	345	LR	LR	16 21 41.4	
	comp=Z,70nm,18.4s,baz=253,slow=38						
SFJD	Kangerlussuaq	60.60	15	LR	LR	16 23 19.9	
	comp=Z,126nm,18.9s,baz=188,slow=37						
INK	Inuvik	64.59	342	P	P	15 57 04.4	-0.4
	comp=Z,2.9nm,0.9s,baz=119,slow=12,SNR=6.9						
INK				pP	pP	15 57 14.8	-2.9
	comp=Z,2.9nm,1.1s,baz=148,slow=6.6,SNR=2.6						
INK				LR	LR	16 29 05.9	
	comp=Z,47nm,20.8s,baz=273,slow=40						
	comp=Z,2.9nm,0.9s						
ILAR	Eielson Array	67.46	336	P	P	15 57 23.1	-0.2
	comp=Z,1.2nm,0.7s,baz=117,slow=4.6,SNR=10						
ILAR				pP	pP	15 57 34.1	-2.2
	comp=Z,0.9nm,0.7s,baz=131,slow=4.2,SNR=5.5						
ILAR				PP	PP	15 59 52.7	+0.5
	comp=Z,0.5nm,1.0s,baz=100,slow=5.4,SNR=4.1						
ILAR				LR	LR	16 29 24.6	
	comp=Z,44nm,21.1s,baz=109,slow=38						
	comp=Z,1.2nm,0.7s						
BORG	Borgarnes	69.40	25	LR	LR	16 26 52.1	
	comp=Z,39nm,19.3s,baz=199,slow=35						
MDT	Midelt	77.24	59	LR	LR	16 28 30.7	
	comp=Z,86nm,20.0s,baz=322,slow=33						
SPITS	Spitsbergen Ar	81.67	12	LR	LR	16 35 17.7	
	comp=Z,72nm,19.9s,baz=255,slow=36						
NOA	NORSAR Array B	83.95	29	LR	LR	16 35 13.7	
	comp=Z,25nm,19.1s,baz=0.0,slow=35						
DAVOX	Davos/Dischmat	86.23	43	LR	LR	16 32 52.4	
	comp=Z,57nm,19.0s,baz=264,slow=32						
ARCES	ARCESS Array B	87.00	19	LR	LR	16 38 11.4	
	comp=Z,33nm,18.3s,baz=298,slow=36						
GERES	GERESS Array B	88.24	41	LR	LR	16 32 16.4	
	comp=Z,68nm,21.8s,baz=313,slow=31						
VRAC	Vranov	89.94	40	LR	LR	16 37 17.0	
	comp=Z,81nm,18.4s,baz=280,slow=34						
FINES	FINESS Array B	90.62	26	LR	LR	16 36 17.5	
	comp=Z,46nm,21.2s,baz=308,slow=33						
TIXI	Tiksi	93.96	349	P	P	15 59 45.3	+0.2
	comp=Z,0.3nm,0.3s,baz=31,slow=1.5,SNR=4.7						
	comp=Z,0.3nm,0.3s						
PETK	Petropavlovsk-	95.87	327	P	P	15 59 54.1	-0.1
	comp=Z,7.0nm,1.0s,baz=72,slow=9.5,SNR=3.6						
MA2	Magadan	95.89	334	LR	LR	16 52 05.6	
	comp=Z,29nm,19.0s,baz=106,slow=41						
AKASG	Malin Array Be	96.96	35	LR	LR	16 42 38.3	
	comp=Z,44nm,18.2s,baz=220,slow=35						
MSVF	Nonsavu	98.46	254	LR	LR	16 37 46.9	
	comp=Z,60nm,18.1s,baz=52,slow=31						
ASAR	Alice Springs	139.65	247	PKP	PKPdf	16 05 56.9	+0.8
	comp=Z,0.6nm,0.7s,baz=108,slow=1.9,SNR=9.5						
ASAR				pPKP	pPKPdf	16 06 08.2	-1.9
	comp=Z,1.0nm,0.7s,baz=111,slow=1.8,SNR=6.2						
WRA	Warramunga Arr	139.79	252	PKP	PKPdf	16 05 57.1	+0.7
	comp=Z,1.2nm,0.8s,baz=91,slow=2.3,SNR=12						
WRA				pPKP	pPKPdf	16 06 09.0	-1.3
	comp=Z,1.4nm,0.8s,baz=89,slow=2.2,SNR=7.7						
CMAR	Chiang Mai Arr	149.97	350	PKP	PKPdf	16 06 14.8	+0.8
	comp=Z,2.5nm,0.9s,baz=286,slow=2.1,SNR=5.9						
CMAR				PKPbc	PKPbc	16 06 19.4	+0.5
	comp=Z,2.5nm,0.9s,baz=338,slow=3.2,SNR=14						

IDC 11 15:47:43.7±31.0, 22°.47S×175°.43W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=570.0km s-min=153.0km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.72	267	P	P	15 54 46.2	+1.8
	0.7nm,0.3s,baz=108,slow=13,SNR=1.3						
	0.7nm,0.3s						
STKA	Stephens Creek	39.15	247	P	P	15 55 12.2	-1.1
	0.8nm,0.3s,baz=79,slow=10,SNR=4.4						
	0.8nm,0.3s						
ASAR	Alice Springs	46.43	258	P	P	15 56 11.9	-0.7
	0.3nm,0.5s,baz=97,slow=7.7,SNR=11						
	0.3nm,0.5s						
WRA	Warramunga Arr	46.73	263	P	P	15 56 14.9	0.0
	0.2nm,0.4s,baz=97,slow=8.0,SNR=15						
	0.2nm,0.4s						

KRSC 11 15:58:13.9±1.1, 55°.90N×164°.39E, h15km±22km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.94	290	eP	Pb	15 58 30.8	-1.0
KBTR				eS	Sb	15 58 43.1	-1.0
KBG	Krutoberegovo	1.01	291	eP	Pb	15 58 31.9	-1.2
KBG				eS	Sg	15 58 46.6	-0.1
BKI	Bering	1.14	127	eP	Pn	15 58 35.5	+0.2
BKI				S	Sg	15 58 51.0	+0.4
SMKR	Semkarok	1.77	294	eP	Pn	15 58 44.7	+0.6
SMKR				eS	Sb	15 59 07.3	-0.9
BDR	Baidarnaya	1.90	292	eP	Pn	15 58 46.4	+0.5
BDR				eS	Sn	15 59 09.6	0.0
SRKR	Sorokina	1.95	294	eP	Pn	15 58 47.0	+0.4
ZLN	Zelenaya	2.02	275	eP	Pn	15 58 48.8	+1.2
BZGR	Bezymyannyi-Gr	2.08	273	eP	Pb	15 58 50.1	-1.3
BZGR				eS	Sb	15 59 16.4	-0.7
KLY	Klyuchi	2.14	283	eP	Pn	15 58 48.8	-0.2
KLY				eS	Sn	15 59 14.9	-0.3
KRSR	Krestovskiy	2.17	280	eP	Pn	15 58 51.0	+1.4
KRSR				eS	Sn	15 59 17.6	+1.3
BZWR	Bezymyannyi-We	2.19	273	eP	Pb	15 58 52.2	-1.2
BZWR				eS	Sb	15 59 20.3	-0.1
BZMR	Bezymyannaya	2.20	273	eP	Pb	15 58 51.9	-1.5
BZMR				eS	Sb	15 59 19.9	-0.6
KIRR	Kirishev	2.28	273	eP	Pb	15 58 53.5	-1.4
KIRR				eS	Sb	15 59 22.6	-0.3
KPT	Kopyto	2.35	273	eP	Pb	15 58 54.6	-1.4
KPT				eS	Sb	15 59 24.1	-0.7
KMNR	Kamenistaya	2.35	268	eP	Pb	15 58 55.0	-1.0
TUMD	Tumrok D	2.37	255	eP	Pb	15 58 54.8	-1.6
TUMD				eS	Sb	15 59 24.8	-0.7
TUMR	Tumrok	2.49	257	eP	Pb	15 58 56.8	-1.6
KOZ	Kozyrevsk	2.54	275	eP	Pb	15 58 57.4	-1.9
SRDR	Sredinnyy	2.65	281	eP	Pn	15 58 58.5	+2.3
SRDR				eS	Sb	15 59 31.3	-2.2
KRMR	Karymshinskiy	4.78	233	eS	Sn	16 00 23.8	+3.3
MTVR	Mutnovka	5.00	229	eP	Pn	15 59 32.0	+3.5
MTVR				S	Sn	16 00 28.2	+2.1

IDC 11 16:14:36.2±2.1, 15°.23S×167°.53E, h0km, mb3.4/3, mbtmp3.5/4, ML3.7/1, MS3.2/6, Error ellipse: s-maj=51.3km s-min=31.6km az=110.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.88	188	Pn	Pn	16 16 18.4	0.0
	1.5nm,0.3s,baz=178,slow=18,SNR=14						
DZM				Sn	Sn	16 17 37.1	-0.4
	1.1nm,0.3s,baz=186,slow=23,SNR=2.2						
	3.5nm,0.3s						
HNR	Honiara	9.39	307	LR	LR	16 20 09.4	
	comp=Z,2μm,20.2s,baz=132,slow=36						
MSVF	Nonsavu	10.39	105	LR	LR	16 20 32.7	
	comp=Z,44nm,20.7s,baz=268,slow=34						
PMG	Port Moresby	20.72	284	LR	LR	16 26 07.8	
	comp=Z,70nm,18.8s,baz=76,slow=33						
CTA	Charters Tower	20.83	254	LR	LR	16 26 15.9	
	comp=Z,88nm,21.0s,baz=88,slow=34						
WRA	Warramunga Arr	31.95	257	P	P	16 21 03.9	-0.2
	0.1nm,0.5s,baz=84,slow=8.7,SNR=1.4						
WRA				LR	LR	16 33 33.7	
	comp=Z,103nm,19.0s,baz=90,slow=36						
	0.1nm,0.5s						
ASAR	Alice Springs	32.73	250	P	P	16 21 11.1	+0.1
	0.9nm,0.8s,baz=78,slow=9.0,SNR=11						
ASAR				LR	LR	16 33 53.5	
	comp=Z,65nm,20.2s,baz=118,slow=35						
	0.9nm,0.8s						
GUMO	Guam	36.37	321	LR	LR	16 38 11.6	
	comp=Z,21nm,18.2s,baz=158,slow=39						
ILAR	Eielson Array	86.93	18	P	P	16 27 22.7	0.0
	0.3nm,0.8s,baz=235,slow=6.4,SNR=2.0						
	0.3nm,0.8s						

IDC 11 16:16:29.2±2.0, 21°.41S×178°.61W, h449km±19km, mb3.3/12, mbtmp4.1/13, Error ellipse: s-maj=23.6km s-min=14.9km az=145.0

ISC 11 16:16:29.3±0.8, 21°.4S±0°.2×178°.6W±0°.1, h450km, n19, σ1s.05/20, mb3.7/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.87	319	P	P	16 17 53.3	+0.7
	35nm,0.7s,baz=100,slow=24,SNR=76						
STKA	Stephens Creek	36.90	245	P	P	16 22 57.6	-0.8
	1.8nm,0.7s,baz=96,slow=13,SNR=4.6						
	1.8nm,0.7s						
ASAR	Alice Springs	43.79	258	P	P	16 23 53.2	-0.7
	0.6nm,0.4s,baz=95,slow=8.7,SNR=22						
ASAR				PcP	PcP	16 25 29.9	-1.3
	0.4nm,0.5s,baz=105,slow=4.1,SNR=4.5						
ASAR				ScP	ScP	16 28 41.5	+2.1
	0.2nm,0.8s,baz=108,slow=4.6,SNR=4.4						
	0.6nm,0.4s						
WRA	Warramunga Arr	43.95	263	P	P	16 23 53.9	-1.4
	0.4nm,0.3s,baz=96,slow=8.1,SNR=39						
	0.4nm,0.3s						
SIJI	Sorong	52.97	286	P	P	16 25 02.4	-0.5
	5.2nm,0.7s,baz=116,slow=6.1,SNR=3.6						
	5.2nm,0.7s						
VNDA	Vanda	56.93	185	P	P	16 25 31.0	+1.3
	0.5nm,0.6s,baz=0.7,slow=6.5,SNR=5.9						
	0.5nm,0.6s						
MJAR	Matsushiro Arr	70.65	324	P	P	16 26 59.1	+0.7
	1.5nm,0.7s,baz=180,slow=4.4,SNR=3.2						
	1.5nm,0.7s						
LEM	Lembang	72.49	269	P	P	16 27 10.9	+1.0
	24nm,0.6s,baz=145,slow=6.2,SNR=5.8						
USRK	Ussuriysk Ar.	79.44	326	P	P	16 27 48.7	+1.0
	2.2nm,0.8s,baz=137,slow=3.0,SNR=4.1						
	2.2nm,0.8s						
NVAR	Mina Array Bea	82.07	44	P	P	16 28 01.8	0.0
	0.9nm,0.7s,baz=224,slow=9.1,SNR=7.8						
	0.9nm,0.7s						
TXAR	Lajitas Array	88.01	58	P	P	16 28 31.0	+0.2
	0.9nm,0.9s,baz=224,slow=5.2,SNR=7.5						
	0.9nm,0.9s						
ILAR	Eielson Array	89.35	13	P	P	16 28 35.3	-0.8
	1.2nm,1.0s,baz=213,slow=5.4,SNR=7.8						
	1.2nm,1.0s						
CMAR	Chiang Mai Arr	89.93	290	P	P	16 28 40.6	+0.7
	1.9nm,0.9s,baz=121,slow=3.3,SNR=12						
	1.9nm,0.9s						
PDAR	Pinedale Array	90.01	43	P	P	16 28 39.3	-0.7
	1.6nm,1.0s,baz=220,slow=3.2,SNR=7.8						
	1.6nm,1.0s						
ARCES	ARCESS Array B	129.75	349	PKP	PKPdf	16 34 44.7	-1.0
	1.0nm,0.4s,baz=48,slow=1.8,SNR=9.5						
FINES	FINESS Array B	136.52	343	PKP	PKPdf	16 34 58.7	+0.1
	2.2nm,1.0s,baz=116,slow=4.4,SNR=3.8						
AKASG	Malin Array Be	143.57	330	PKP	PKPab	16 35 09.0	-0.9
	1.0nm,0.3s,baz=44,slow=4.1,SNR=13						
BRTR	Keskin Array B	147.06	311	PKPbc	PKPbc	16 35 19.8	-1.3
	0.8nm,0.6s,baz=158,slow=5.3,SNR=6.1						
GERES	GERESS Array B	150.95	343	PKPbc	PKPbc	16 35 29.8	-0.5
	0.7nm,0.5s,baz=48,slow=2.0,SNR=6.7						

NEIC 11 16:20:10.4±1.1, 7°.2N±0°.1×92°.0E±0°.1, h29km±7km, mb4.1/18, Error ellipse: s-maj=16.7km s-min=15.3km az=122.0

NDI 11 16:20:11.4±3.8, 7°.19N×91°.90E, h30km, ML3.5, mb4.1(NEIC)

IDC 11 16:20:11.8±4.2, 7°.11N×91°.86E, h40km±38km, mb3.8/12, mbtmp4.0/14, ML4.0/2, MS3.2/8, Error ellipse: s-maj=30.3km s-min=18.0km az=49.0

ISC 11 16:20:09.3±0.8, 7°.18N±0°.08×92°.01E±0°.09, h23km, n57, σ1s.53/49, mb4.1/19, MS3.2/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBA	Port Blair	4.51	9	Pn	Pn	16 21 14.1	-2.2
PBA	Port Blair	4.51	9	eP	Pn	16 21 15.1	-1.2
PBA				eS	Sn	16 22 05.3	-2.8
PBA				IAML		16 22 11.3	
	comp=E,114nm,0.6s						
PBA				IAML		16 22 21.3	
	comp=N,120nm,0.4s						
DGPR	DIGLIPUR	6.03	9	eP	Pn	16 21 39.8	+2.6
DGPR				eS	Sn	16 22 41.1	-4.5
DGPR				IAML		16 23 00.7	
	comp=E,69nm,0.8s						
PALK	Pallekele	11.21	271	Pn	Pn	16 22 47.1	-1.4
	comp=E,1.1nm,0.3s,baz=190,slow=16,SNR=9.1						
PALK				Sn	Sn	16 24 37.7	-16
	comp=E,5.8nm,0.3s,baz=102,slow=23,SNR=12						
PALK				LR	LR	16 26 38.2	
	comp=E,102nm,19.2s,baz=189,slow=35						
	comp=E,3.1nm,0.3s						
PALK	Pallekele	11.21	271	Pn	Pn	16 22 48.4	-0.1
CMAR	Chiang Mai Arr	13.09	30	Pn	Pn	16 23 17.6	+3.6
	comp=E,0.3nm,0.3s,baz=234,slow=14,SNR=16						
CMAR				LR	LR	16 27 53.2	
	comp=E,27nm,21.6s,baz=210,slow=35						
	comp=E,0.9nm,0.8s						
SALM	Salem	14.32	289	eP	Pn	16 23 32.0	+1.1
SALM				eS	Sn	16 25 54.8	-14
RAGD	RAYAGADA	14.59	326	eP	Pn	16 23 34.9	+0.3
RAGD				eS	Sn	16 26 04.0	-12
KOD	Kodaikanal	14.69	283	eP	Pn	16 23 36.6	+0.5
KOD				eS	Sn	16 26 01.4	-17
PCHI	Peechi	15.83	283	eP	Pn	16 23 48.7	-2.2
PCHI				eS	Sn	16 26 26.1	-20
SHL	Shillong	18.29	360		P	16 24 20.6	-1.3
SHL				IAmb	IAmb	16 24 26.8	
	comp=Z,13nm,1.2s						
KAAM	Kaadhehdhoo	20.09	252	P	P	16 24 40.2	-1.4
RAMN	Ramite	20.32	346	eP	Pn	16 24 47.2	+0.8
	comp=Z,32nm,0.7s						
SBUM	Sibu	20.68	102		P	16 24 46.8	-1.1
LEM	Lembang	20.88	131	LR	LR	16 33 48.0	
	comp=Z,65nm,19.2s,baz=240,slow=39						
JIRN	Jiri	21.11	346	eP	P	16 24 55.2	+2.4
	comp=Z,58nm,0.7s						
PKI	Pulchoki	21.23	344	eP	P	16 24 56.4	+2.3
	comp=Z,20nm,1.0s						
PKIN	Phulchoki	21.23	344	eP	P	16 24 56.5	+2.4
	comp=Z,7.1nm,0.5s						
DMN	Daman	21.35	343	eP	P	16 24 57.5	+2.2
	comp=Z,8.1nm,0.5s						
GUN	Gumba	21.42	345	eP	P	16 24 58.3	+2.1
	comp=Z,42nm,0.7s						
H08S3	Diego Garcia H	24.40	233	T	T	16 51 52.0	
	baz=53,slow=76,SNR=22						
H08S2	Diego Garcia H	24.40	233	T	T	16 51 46.5	
	baz=53,slow=76,SNR=19						
H08S1	Diego Carcia H	24.42	233	T	T	16 51 48.4	
	baz=53,slow=76,SNR=5.3						
TARG	Taragay, Kyrgy	36.65	342	P	P	16 27 14.1	-0.6
TARG				IAmb	IAmb	16 27 17.2	
	comp=Z,1.7nm,0.7s						
BOOM	Boomskoye usch	37.93	341	P	P	16 27 24.9	-0.3
BOOM				IAmb	IAmb	16 27 36.5	
	comp=Z,3.8nm,0.9s						
AAK	Ala-Archa	38.55	339	LR	LR	16 45 55.2	
	comp=Z,28nm,18.6s,baz=65,slow=40						
MKAR	Makanchi Array	40.34	350	P	P	16 27 45.6	+0.4
	comp=Z,2.3nm,0.6s,baz=170,slow=7.4,SNR=11						
	comp=Z,2.3nm,0.6s						
KK31	Karatay Array	40.47	336	P	P	16 27 46.8	+0.5
KK31				IAmb	IAmb	16 27 48.4	
	comp=Z,2.4nm,0.8s						
KKAR	Karatay Array	40.47	336	P	P	16 27 46.6	+0.3

KKAR				IAmb	IAmb	16 27 48.4	
	comp=Z,2.4nm,0.8s						
KKAR	**Karatay Array**	**40.47**	**336**	P	**P**	**16 27 47.1**	**+0.8**
SONM	**Songino Array**	**42.33**	**14**	P	**P**	**16 28 01.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=189,slow=6.8,SNR=12						
	comp=Z,1.8nm,0.8s						
SONM	**Songino Array**	**42.33**	**14**	P	**P**	**16 28 01.7**	**+0.1**
GEYT	**Alibeck**	**43.34**	**320**	P	**P**	**16 28 09.9**	**0.0**
	comp=Z,3.3nm,0.8s,baz=132,slow=8.2,SNR=5.5						
	comp=Z,3.3nm,0.8s						
KURBB	**Kurchatov Arra**	**44.74**	**348**	P	**P**	**16 28 21.8**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=173,slow=7.0,SNR=22						
	comp=Z,3.2nm,0.8s						
KURK	**Kurchatov**	**44.81**	**348**	P	**P**	**16 28 19.0**	**-2.3**
ZAA0	**Zalesovo Array**	**47.00**	**354**	P	**P**	**16 28 38.5**	**0.0**
ZAA0				IAmb	IAmb	16 28 41.4	
	comp=Z,2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**47.00**	**354**	P	**P**	**16 28 39.2**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=173,slow=7.5,SNR=11						
	comp=Z,2.1nm,0.5s						
ZALV	**Zalesovo Beam**	**47.00**	**354**	P	**P**	**16 28 38.9**	**+0.3**
BVAR	**Borovoye Array**	**48.99**	**343**	P	**P**	**16 28 54.8**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=147,slow=7.7,SNR=11						
	comp=Z,1.8nm,0.7s						
BRVK	**Borovoye**	**49.05**	**343**	P	**P**	**16 28 54.1**	**-0.4**
BRVK				IAmb	IAmb	16 28 56.6	
	comp=Z,2.3nm,0.9s						
WB0	**Warramunga Arr**	**49.57**	**123**	P	**P**	**16 28 58.2**	**-0.8**
WRA	**Warramunga Arr**	**49.61**	**124**	P	**P**	**16 28 59.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=300,slow=9.1,SNR=2.9						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**49.61**	**124**	P	**P**	**16 28 58.1**	**-1.3**
ABKAR	**Akbulak array**	**49.85**	**333**	P	**P**	**16 29 00.8**	**+0.2**
ABKAR				IAmb	IAmb	16 29 02.4	
	comp=Z,2.8nm,0.7s						
ABKAR	**Akbulak array**	**49.85**	**333**	P	**P**	**16 29 00.9**	**+0.2**
ASAR	**Alice Springs**	**51.12**	**128**	P	**P**	**16 29 11.8**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.6,SNR=12						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**51.12**	**128**	P	**P**	**16 29 09.5**	**-1.3**
AS31	**Alice Springs**	**51.12**	**128**	P	**P**	**16 29 10.4**	**-0.4**
GUMO	**Guam**	**52.30**	**78**	LR	LR	16 53 38.7	
	comp=Z,22nm,18.6s,baz=164,slow=38						
KMBO	**Kilima Mbogo**	**55.24**	**264**	LR	LR	16 48 33.3	
	comp=Z,18nm,21.0s,baz=90,slow=31						
ARU	**Arti**	**55.72**	**338**	P	**P**	**16 29 44.2**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=127,slow=3.9,SNR=3.2						
	comp=Z,1.5nm,0.3s						
BRTR	**Keskin Array B**	**61.29**	**312**	P	**P**	**16 30 22.8**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=87,slow=6.3,SNR=4.8						
	comp=Z,0.7nm,0.7s						
MBAR	**Mbarara**	**61.60**	**265**	LR	LR	16 54 49.5	
	comp=Z,47nm,18.7s,baz=98,slow=34						
LSZ	**Lusaka**	**67.04**	**250**	LR	LR	16 56 37.2	
	comp=Z,49nm,20.5s,baz=163,slow=33						
TIXI	**Tiksi**	**68.33**	**12**	P	**P**	**16 31 09.1**	**+0.7**
FINES	**FINESS Array B**	**72.34**	**333**	P	**P**	**16 31 32.7**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=91,slow=7.6,SNR=6.5						
	comp=Z,0.5nm,0.4s						
GERES	**GERESS Array B**	**76.94**	**318**	P	**P**	**16 32 00.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=90,slow=7.3,SNR=6.3						
	comp=Z,0.7nm,0.7s						

---

*IDC **11** 16:44:00.7±1.4, 30°.33S×178°.95E, h536^{km}±15^{km}, mb3.5/5, mbtmp4.5/7, Error ellipse: s-maj=21.7km s-min=19.1km az=9.0*

ISC 11 16:44:01.0±0.8**, 30°.4S**±0°.1×**179°.1E**±0°.2**, h550**^{km}**, n16, σ1^{s}04**/17**, mb3.9**/5**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.86**	**67**	P	**P**	**16 45 14.0**	**-1.2**
	296nm,0.3s,baz=192,slow=22,SNR=6.6						
RPZ	**Rata Peaks**	**14.74**	**203**	P	**P**	**16 47 05.8**	**-1.8**
	14nm,0.4s,baz=229,slow=1.4,SNR=17						
STKA	**Stephens Creek**	**32.00**	**258**	P	**P**	**16 49 43.4**	**+0.8**
	3.6nm,0.3s,baz=100,slow=11,SNR=27						
	3.6nm,0.3s						
ASAR	**Alice Springs**	**40.57**	**268**	P	**P**	**16 50 52.6**	**-0.7**
	1.2nm,0.3s,baz=106,slow=7.2,SNR=55						
ASAR				ScP	**ScP**	**16 55 40.4**	**+1.0**
	0.3nm,0.8s,baz=114,slow=4.5,SNR=4.3						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**41.56**	**274**	P	**P**	**16 51 00.6**	**-0.7**
	3.1nm,0.4s,baz=113,slow=7.1,SNR=106						
	3.1nm,0.4s						
QSPA	**South Pole Qui**	**59.71**	**180**	P	**P**	**16 53 14.0**	**+1.4**
	3.1nm,0.8s,baz=301,slow=0.8,SNR=18						
	3.1nm,0.8s						
TROLL	**Troll, Antarti**	**77.85**	**181**	P	**P**	**16 55 02.6**	**+0.9**
SNAA	**Sanae**	**78.21**	**179**	P	**P**	**16 55 04.2**	**+0.7**
VNA3	**Neumayer Olymp**	**78.46**	**177**	P	**P**	**16 55 05.7**	**+0.9**
VNA2	**Neumayer--Watz**	**78.86**	**178**	P	**P**	**16 55 07.7**	**+0.7**
PETK	**Petropavlovsk-**	**85.21**	**347**	P	**P**	**16 55 40.4**	**+1.2**
	2.1nm,0.7s,baz=138,slow=10.0,SNR=4.9						
	2.1nm,0.7s						
FINES	**FINESS Array B**	**144.23**	**338**	PKP	**PKPab**	**17 02 33.9**	**0.0**
	7.1nm,0.5s,baz=56,slow=3.9,SNR=65						
NB2	**NORSAR Subarra**	**148.31**	**349**	PKP	**PKiKP**	**17 02 45.1**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=20,slow=2.7						
NOA	**NORSAR Array B**	**148.31**	**349**	PKPbc	**PKiKP**	**17 02 45.0**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=16,slow=4.2,SNR=4.7						
AKASG	**Malin Array Be**	**149.72**	**321**	PKPbc	**PKiKP**	**17 02 49.0**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=47,slow=3.7,SNR=4.3						
BRTR	**Keskin Array B**	**150.36**	**298**	PKPbc	**PKiKP**	**17 02 51.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=132,slow=4.0,SNR=3.9						

---

*JMA **11** 17:10:54.9±0.2, 24°N±4°×122°.5E±0°.7, h65^{km}±4^{km}, MV2.0/10, NW OFF ISHIGAKIJIMA IS*

*TAP **11** 17:10:55.0, 24°.21N×122°.53E, h56^{km}±1^{km}, ML2.6, D*

ISC 11 17:10:55.6±1.3**, 24°.17N**±0°.04×**122°.51E**±0°.02**, h52**^{km}±14^{km}**, n62, σ0^{s}78**/103**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.49**	**55**	P	**Pn**	**17 11 07.2**	**+0.4**
JYNG				*e*S	**Sn**	**17 11 15.9**	**+0.9**
YOJ	**Yonaguni jima**	**0.55**	**57**	P	**Pn**	**17 11 07.0**	**-0.6**
	baz=51						
YOJ				*e*S	**Sn**	**17 11 15.7**	**-0.4**
	baz=51						
YOJ	**Yonaguni jima**	**0.55**	**57**	P	**Pn**	**17 11 07.8**	**+0.3**
YOJ				*e*S	**Sn**	**17 11 16.8**	**+0.7**
TWC	**Suao**	**0.74**	**307**	*e*P	**Pn**	**17 11 09.8**	**-0.1**
	baz=295						
TWC				*e*S	**Sn**	**17 11 20.7**	**+0.2**
	baz=295						
ENA	**Nanau**	**0.75**	**291**	*e*P	**Pn**	**17 11 10.3**	**+0.3**
	baz=287						
ENA				*e*S	**Sn**	**17 11 20.7**	**+0.2**
	baz=287						
NACB	**Ninganchiao**	**0.83**	**271**	P	**Pn**	**17 11 10.4**	**-0.7**
	baz=268						
NACB				*e*S	**Sn**	**17 11 22.3**	**-0.2**
	baz=268						
TWD	**Chiawan**	**0.84**	**264**	*e*P	**Pn**	**17 11 10.8**	**-0.3**
	baz=252						
TWD				*e*S	**Sn**	**17 11 22.4**	**-0.2**
	baz=252						
ETLH	**Xiulin Townshi**	**0.94**	**273**	P	**Pn**	**17 11 12.2**	**-0.4**
	baz=270						
ETLH				*e*S	**Sn**	**17 11 24.8**	**-0.3**
	baz=270						
LATG	**Datong**	**0.97**	**293**	P	**Pn**	**17 11 13.1**	**+0.1**
	baz=289						
LATG				*e*S	**Sn**	**17 11 25.8**	**0.0**
	baz=289						
ENTT	**Nioudou**	**0.98**	**299**	*e*P	**Pn**	**17 11 12.6**	**-0.4**
	baz=287						
ENTT				*e*S	**Sn**	**17 11 25.2**	**-0.7**
	baz=287						
NDT	**Datong Townshi**	**1.00**	**296**	*e*P	**Pn**	**17 11 13.8**	**+0.4**
	baz=285						
TIPB	**Shuangxi**	**1.01**	**322**	*e*P	**Pn**	**17 11 13.1**	**-0.5**
	baz=319						
TIPB				*e*S	**Sn**	**17 11 25.8**	**-1.1**
	baz=319						
FUSB	**Fushanzhiwuyua**	**1.02**	**305**	P	**Pn**	**17 11 14.6**	**+0.9**
	baz=312						
FUSB				*e*S	**Sn**	**17 11 27.8**	**+0.6**
	baz=312						
ESL	**Shilin**	**1.04**	**251**	*e*P	**Pn**	**17 11 13.4**	**-0.5**
	baz=242						
ESL				*e*S	**Sn**	**17 11 27.7**	**+0.3**
	baz=242						
NNSB	**Datong**	**1.06**	**285**	*e*P	**Pn**	**17 11 13.4**	**-0.8**
	baz=281						
NNSB				*e*S	**Sn**	**17 11 27.7**	**-0.3**
	baz=281						
NNS	**Nan Shan**	**1.07**	**285**	*e*P	**Pn**	**17 11 15.0**	**+0.6**
	baz=282						
NNS				*e*S	**Sn**	**17 11 27.2**	**-1.1**
	baz=282						
SXI1	**Grass Mountain**	**1.09**	**328**	*e*P	**Pn**	**17 11 14.0**	**-0.6**
	baz=332						
SXI1				*e*S	**Sn**	**17 11 27.6**	**-1.1**
	baz=332						
EGFH	**Guangfu**	**1.10**	**244**	*e*P	**Pn**	**17 11 14.4**	**-0.3**
	baz=242						
EGFH				*e*S	**Sn**	**17 11 29.3**	**+0.3**
	baz=242						
IRIF	**Iriomote-Funau**	**1.13**	**81**	P	**Pn**	**17 11 15.0**	**0.0**
IRIF				S	**Sn**	**17 11 29.7**	**+0.1**
WHF	**Hehuan Shan**	**1.13**	**269**	*e*P	**Pn**	**17 11 15.9**	**+0.3**
	baz=257						
WHF				*e*S	**Sn**	**17 11 29.8**	**-0.5**
	baz=257						
YHNB	**Yeheng**	**1.15**	**296**	P	**Pn**	**17 11 15.2**	**-0.1**
	baz=284						
YHNB				*e*S	**Sn**	**17 11 29.8**	**-0.3**
	baz=284						
FUSS	**Fushou**	**1.16**	**274**	*e*P	**Pn**	**17 11 15.9**	**+0.3**
	baz=272						
FUSS				*e*S	**Sn**	**17 11 31.0**	**+0.4**
	baz=272						
NSK	**Sanguang**	**1.16**	**296**	*e*P	**Pn**	**17 11 15.3**	**-0.3**
	baz=284						
NSK				*e*S	**Sn**	**17 11 29.6**	**-0.9**
	baz=284						
HATJ	**Hateruma jima**	**1.19**	**95**	S	**Sn**	**17 11 32.3**	**+1.2**
HGSD	**Ruisui**	**1.20**	**236**	*e*P	**Pn**	**17 11 15.5**	**-0.5**
	baz=235						
TWT	**Tachien**	**1.22**	**274**	*e*P	**Pn**	**17 11 17.3**	**+0.9**
	baz=272						
TWT				*e*S	**Sn**	**17 11 32.6**	**+0.6**
	baz=272						
CHGB	**Renai**	**1.22**	**265**	*e*P	**Pn**	**17 11 16.4**	**-0.1**
	baz=254						
CHGB				*e*S	**Sn**	**17 11 32.1**	**0.0**
	baz=254						
TDCB	**Techi**	**1.23**	**274**	*e*P	**Pn**	**17 11 16.9**	**+0.3**
	baz=272						
TDCB				*e*S	**Sn**	**17 11 31.6**	**-0.8**
	baz=272						
EHY	**Hungye**	**1.27**	**239**	*e*P	**Pn**	**17 11 16.6**	**-0.4**
	baz=248						
EHY				*e*S	**Sn**	**17 11 32.3**	**-0.6**
	baz=248						
WUSB	**Renai**	**1.28**	**263**	*e*P	**Pn**	**17 11 17.3**	**+0.1**
	baz=260						
WUSB				*e*S	**Sn**	**17 11 33.3**	**-0.2**
	baz=260						
VWDT	**VWDT**	**1.31**	**252**	*e*P	**Pn**	**17 11 17.6**	**+0.1**
	baz=251						
VWDT				*e*S	**Sn**	**17 11 34.1**	**+0.1**
	baz=251						
NFF	**Wufeng Townshi**	**1.35**	**290**	*e*P	**Pn**	**17 11 17.9**	**-0.2**
	baz=287						
NFF				*e*S	**Sn**	**17 11 35.4**	**+0.4**
	baz=287						
YULB	**Yu-li**	**1.35**	**235**	*e*P	**Pn**	**17 11 17.8**	**-0.3**
	baz=246						
YULB				*e*S	**Sn**	**17 11 34.2**	**-0.7**
	baz=246						
EYUL	**Yuli**	**1.36**	**233**	*e*P	**Pn**	**17 11 18.1**	**-0.1**
	baz=226						
EYUL				*e*S	**Sn**	**17 11 35.4**	**+0.3**
	baz=226						
JKRS	**Kuro-shima**	**1.37**	**87**	P	**Pn**	**17 11 18.9**	**+0.6**
JKRS				*e*S	**Sn**	**17 11 36.0**	**+0.6**
LIOB	**Emei**	**1.44**	**290**	*e*P	**Pn**	**17 11 20.1**	**+0.8**
	baz=287						
WCS	**Beigang Elemen**	**1.46**	**266**	*e*P	**Pn**	**17 11 19.2**	**-0.3**
	baz=260						
SSLB	**Suanglung**	**1.47**	**255**	*e*P	**Pn**	**17 11 19.8**	**+0.1**
	baz=254						
SSLB				*e*S	**Sn**	**17 11 36.8**	**-1.1**
	baz=254						
FULB	**Fuli**	**1.47**	**229**	*e*P	**Pn**	**17 11 19.1**	**-0.7**
	baz=221						
FULB				*e*S	**Sn**	**17 11 37.9**	**+0.1**
	baz=221						
CHKT	**Chengkung**	**1.49**	**225**	*e*P	**Pn**	**17 11 18.1**	**-1.8**
	baz=224						
SMLT	**Sun Moon Lake**	**1.50**	**259**	*e*P	**Pn**	**17 11 20.8**	**+0.6**
	baz=258						
SMLT				*e*S	**Sn**	**17 11 38.9**	**+0.3**
	baz=258						
JIJ	**Ishigaki jima**	**1.51**	**82**	P	**Pn**	**17 11 19.9**	**-0.3**
JIJ				S	**Sn**	**17 11 37.8**	**-0.9**
TYC	**Yuchr**	**1.53**	**261**	*e*P	**Pn**	**17 11 21.3**	**+0.8**
	baz=252						
TYC				*e*S	**Sn**	**17 11 39.5**	**+0.2**
	baz=252						
YUS	**Yu-Shan**	**1.57**	**245**	*e*P	**Pn**	**17 11 22.2**	**+0.6**
	baz=244						
YUS				*e*S	**Sn**	**17 11 40.1**	**-1.0**
	baz=244						
WHYT	**Xinyi Township**	**1.58**	**253**	*e*P	**Pn**	**17 11 22.3**	**+1.1**
	baz=247						
EDH	**Donghe**	**1.62**	**223**	*e*P	**Pn**	**17 11 20.9**	**-0.9**
	baz=218						
EDH				*e*S	**Sn**	**17 11 40.0**	**-1.5**
	baz=218						
ELDTW	**Lidau**	**1.68**	**235**	*e*P	**Pn**	**17 11 22.1**	**-0.6**
	baz=234						
ALS	**Alishan**	**1.69**	**248**	*e*P	**Pn**	**17 11 24.3**	**+1.4**
	baz=246						
ALS				*e*S	**Sn**	**17 11 44.8**	**+1.1**
	baz=246						
WNT	**Mingjian**	**1.69**	**261**	*e*P	**Pn**	**17 11 24.2**	**+1.5**
	baz=260						
JISG	**Ishigakijimahi**	**1.70**	**75**	P	**Pn**	**17 11 22.5**	**-0.3**
JISG				*e*S	**Sn**	**17 11 42.4**	**-1.0**
STYH	**Taoyuan**	**1.87**	**238**	*e*P	**Pn**	**17 11 24.8**	**-0.4**
	baz=231						
TWGBT	**Beinan**	**1.88**	**225**	*e*P	**Pn**	**17 11 24.7**	**-0.6**
	baz=233						
TWG	**Pinlang**	**1.88**	**225**	*e*P	**Pn**	**17 11 24.5**	**-0.7**
	baz=233						
WCKO	**Fanlu**	**1.89**	**248**	*e*P	**Pn**	**17 11 25.1**	**-0.3**
	baz=247						
TPUB	**Ta-pu**	**1.92**	**244**	*e*P	**Pn**	**17 11 27.9**	**+2.0**
	baz=243						
CHN4	**Tsaushan**	**1.93**	**246**	*e*P	**Pn**	**17 11 26.8**	**+0.8**
	baz=245						
WTP	**Ta-pu**	**1.96**	**243**	*e*P	**Pn**	**17 11 28.0**	**+1.6**
	baz=242						
TWK	**Hsinying**	**2.06**	**245**	*e*P	**Pn**	**17 11 29.0**	**+1.3**
	baz=244						
JTJ	**Tarama**	**2.06**	**76**	*e*S	**Sn**	**17 11 51.4**	**-0.7**
CHN1	**Nanshi**	**2.06**	**242**	*e*P	**Pn**	**17 11 29.9**	**+2.1**
	baz=242						
SGST	**Jiashian**	**2.07**	**239**	*e*P	**Pn**	**17 11 28.6**	**+0.7**
	baz=232						
SCST	**Cishan**	**2.24**	**236**	*e*P	**Pn**	**17 11 32.8**	**+2.6**
	baz=227						

---

*IDC **11** 17:12:05.5±0.6, 4°.33S×133°.94E, h0^{km}, mb4.2/13, mbtmp4.3/17, ML4.7/4, MS3.6/27, Error ellipse: s-maj=25.1km s-min=13.1km az=75.0*

*NEIC **11** 17:12:07.8±2.0, 4°.41S±0°.05×133°.92E±0°.07, h19^{km}±4^{km}, mb4.7/57, Error ellipse: s-maj=10.8km s-min=7.4km az=74.0*

*DJA **11** 17:12:08.8±0.2, 4°S±3°×13°4E±°, h55^{km}±11^{km}, M4.7/24, mb5.0/24, mB5.1/12, MLv4.9/13, Mw(mB)4.5/12*

ISC 11 17:12:07.8±0.3**, 4°.46S**±0°.04×**133°.97E**±0°.04**, h21**^{km}**, n190, σ1^{s}79**/175**, mb4.5**/40**, MS3.6**/23**, 2C, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.30**	**312**	Pn	**Pn**	**17 12 44.0**	**-0.5**
FAKI	**Fak Fak**	**2.30**	**312**	P	**Pn**	**17 12 43.6**	**-0.9**
FAKI	**Fak Fak**	**2.30**	**312**	P	**Pn**	**17 12 44.5**	**0.0**
RKPI	**Ransiki, Papua**	**2.93**	**4**	P	**Pn**	**17 12 52.0**	**-1.3**
RKPI				S	**Sn**	**17 13 25.4**	**-2.5**
SRPI	**Serui, Papua**	**3.43**	**42**	P	**Pn**	**17 12 59.3**	**-0.8**
BNDI	**Bandanaira**	**4.05**	**269**	P	**Pn**	**17 13 09.9**	**+1.3**
BNDI	**Bandanaira**	**4.05**	**269**	P	**Pn**	**17 13 10.8**	**+2.2**
SAUI	**Saumlaki**	**4.39**	**217**	Pn	**Pn**	**17 13 13.5**	**+0.2**
SAUI	**Saumlaki**	**4.39**	**217**	P	**Pn**	**17 13 15.2**	**+1.8**
SAUI	**Saumlaki**	**4.39**	**217**	P	**Pn**	**17 13 16.6**	**+3.2**
SIJI	**Sorong**	**4.47**	**323**	Pn	**Pn**	**17 13 12.7**	**-1.8**
	16nm,0.3s,baz=187,slow=22,SNR=54						
SIJI				Sn	**Sn**	**17 14 01.8**	**-4.0**
	31nm,0.3s,baz=111,slow=16,SNR=3.9						
SIJI				LR	LR	17 15 21.5	
	comp=Z,537nm,21.3s,baz=140,slow=45						
	57nm,0.4s						
SIJI	**Sorong**	**4.47**	**323**	P	**Pn**	**17 13 13.1**	**-1.3**
MSAI	**Masohi**	**5.15**	**282**	P	**Pn**	**17 13 24.0**	**+0.3**
	0.4nm1μm106nm,0.6s						
SMPI	**Sarmi**	**5.33**	**63**	P	**Pn**	**17 13 24.9**	**-1.3**
	0.5nm55nm,0.5s						
SMPI				S	**Sn**	**17 14 24.8**	**-2.3**
	0.5nm55nm,0.5s						
KRAI	**Karang Ratu**	**5.67**	**281**	P	**Pn**	**17 13 31.5**	**+0.5**
	152nm,0.7s						
AAI	**Ambon**	**5.81**	**277**	P	**Pn**	**17 13 33.6**	**+0.8**
	1.1nm4μm274nm,0.5s						
GENI	**Genyem**	**6.46**	**74**	P	**Pn**	**17 13 40.6**	**-1.2**
	0.5nm85nm,0.5s						
GENI	**Genyem**	**6.46**	**74**	P	**Pn**	**17 13 42.3**	**+0.5**
NLAI	**Namlea**	**6.96**	**280**	P	**Pn**	**17 13 49.3**	**+0.7**
	0.3nm57nm,0.6s						
LBMI	**Labuha**	**7.49**	**300**	P	**Pn**	**17 13 55.8**	**-0.1**
	0.5nm1μm201nm,0.8s						
KDU	**Kakadu**	**8.31**	**190**	P	**Pn**	**17 14 09.4**	**+2.2**
SANI	**Sanana**	**8.32**	**286**	P	**Pn**	**17 14 06.3**	**-1.0**
	1μm123nm,0.6s						
SANI	**Sanana**	**8.32**	**286**	P	**Pn**	**17 14 06.4**	**-0.9**
TNTI	**Ternate**	**8.39**	**308**	Pn	**Pn**	**17 14 08.6**	**+0.2**
TNTI	**Ternate**	**8.39**	**308**	P	**Pn**	**17 14 08.0**	**-0.3**
	22nm,0.7s						
MTN	**Manton Dam**	**8.79**	**198**	Pn	**Pn**	**17 14 14.6**	**+0.8**
MTN				Sn	**Sn**	**17 15 51.3**	**-1.0**
MTN	**Manton Dam**	**8.79**	**198**	P	**Pn**	**17 14 16.1**	**+2.3**
SOEI	**Soe**	**10.97**	**241**	Pn	**Pn**	**17 14 44.1**	**+0.3**
SOEI				Sn	**Sn**	**17 16 44.2**	**-1.8**
SOEI	**Soe**	**10.97**	**241**	P	**Pn**	**17 14 45.1**	**+1.3**
	127nm,0.7s						
SOEI	**Soe**	**10.97**	**241**	P	**Pn**	**17 14 46.4**	**+2.6**
BBSI	**Bau Bau**	**11.40**	**264**	P	**Pn**	**17 14 50.6**	**+1.0**
	17μm52nm,1.2s						
LUWI	**Luwuk**	**11.69**	**287**		**Pn**	**17 14 52.1**	**-1.3**
LUWI				Sn	**Sn**	**17 17 02.5**	**-0.8**
LUWI	**Luwuk**	**11.69**	**287**	P	**Pn**	**17 14 52.7**	**-0.8**
	866nm82nm,0.8s						
BATI	**Baumata**	**11.71**	**240**	Pn	**Pn**	**17 14 53.4**	**-0.4**
	15nm,0.3s,baz=94,slow=2.6,SNR=15						
	31nm,0.5s						
BATI	**Baumata**	**11.71**	**240**	P	**Pn**	**17 14 54.9**	**+1.1**
	77nm,0.6s						
KNRA	**Kununurra**	**12.27**	**204**	Pn	**Pn**	**17 15 00.6**	**-0.9**
KNRA				Sn	**Sn**	**17 17 11.8**	**-5.8**
KNRA	**Kununurra**	**12.27**	**204**	P	**Pn**	**17 15 01.4**	**0.0**
APSI	**Ampana**	**12.80**	**286**	P	**Pn**	**17 15 08.5**	**-0.2**
	850nm94nm,0.7s						
MRSI	**Marisa**	**12.98**	**292**	P	**Pn**	**17 15 10.1**	**-1.0**
	501nm49nm,1.1s						
COEN	**Coen**	**13.10**	**137**	Pn	**Pn**	**17 15 09.8**	**-3.0**
COEN	**Coen**	**13.10**	**137**	P	**Pn**	**17 15 10.6**	**-2.2**
BSSI	**Bau Bau, Buton**	**13.52**	**262**	P	**Pn**	**17 15 20.3**	**+1.7**
	522nm33nm,1.2s						
MANU	**Manus Island**	**13.59**	**80**	Pn	**Pn**	**17 15 18.6**	**-0.9**
BNSI	**Bone**	**13.82**	**270**	P	**Pn**	**17 15 23.8**	**+1.1**
	13nm,1.0s						
BKSI	**Bulukumba**	**13.82**	**266**	P	**Pn**	**17 15 23.5**	**+0.8**
	22nm,1.0s						
PMG	**Port Moresby**	**13.98**	**111**	Pn	**Pn**	**17 15 24.4**	**-0.5**
	6.3nm,0.3s,baz=174,slow=2.7,SNR=11						
PMG				LR	LR	17 22 33.5	
	comp=Z,540nm,18.0s,baz=317,slow=45						
PMG	**Port Moresby**	**13.98**	**111**	Pn	**Pn**	**17 15 23.3**	**-1.6**
PMG	**Port Moresby**	**13.98**	**111**	P	**Pn**	**17 15 24.5**	**-0.4**
	38nm,0.8s						
PMG	**Port Moresby**	**13.98**	**111**	P	**Pn**	**17 15 23.8**	**-1.2**
PMG	**Port Moresby**	**13.98**	**111**	P	**Pn**	**17 15 23.7**	**-1.2**
SPSI	**Sidrap Palu**	**14.17**	**271**	P	**Pn**	**17 15 28.1**	**+0.7**
	23nm,1.0s						
DAV	**Davao City (W)**	**14.18**	**324**	LR	LR	17 21 32.7	
	comp=Z,118nm,18.4s,baz=139,slow=40						
TOLI2	**Tolitoli**	**14.29**	**292**		**Pn**	**17 15 27.2**	**-1.9**
TOLI2	**Tolitoli**	**14.29**	**292**	P	**Pn**	**17 15 30.7**	**+1.6**
MPSI	**Mapaga**	**14.84**	**288**	P	**Pn**	**17 15 37.1**	**+0.5**
	304nm21nm,1.0s						
WB0	**Warramunga Arr**	**15.22**	**178**	Pn	**Pn**	**17 15 38.2**	**-3.5**
WB0				IAmb	IAmb	17 15 49.4	
	comp=Z,46nm,0.8s						
WRAB	**Tennant Creek**	**15.39**	**179**		**Pn**	**17 15 40.7**	**-3.2**
WRAB	**Tennant Creek**	**15.39**	**179**	P	**Pn**	**17 15 42.5**	**-1.4**
WRA	**Warramunga Arr**	**15.40**	**179**	Pn	**Pn**	**17 15 41.4**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=356,slow=13,SNR=45						
WRA				Sn	**Sn**	**17 18 28.0**	**-6.1**
	comp=Z,1.2nm,0.3s,baz=0.6,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**15.40**	**179**	Pn	**Pn**	**17 15 40.7**	**-3.3**
WB2	**Warramunga Arr**	**15.40**	**179**		**Pn**	**17 15 41.0**	**-3.0**
WR0	**Warramunga Arr**	**15.42**	**178**		**Pn**	**17 15 41.0**	**-3.3**
PLAI	**Plampang**	**16.66**	**254**	P	**Pn**	**17 15 59.6**	**-0.6**
QIS	**Mount Isa**	**16.92**	**162**	P	**Pn**	**17 16 03.0**	**-0.5**
MTSU	**Mount Surprise**	**16.95**	**144**	P	**Pn**	**17 16 02.0**	**-1.9**
KRVT	**Keravat (AS076**	**18.01**	**90**	LR	LR	17 23 37.2	
	comp=Z,311nm,19.4s,baz=52,slow=38						
MYLDM	**Lahad Datu**	**18.17**	**302**	P	**Pn**	**17 16 17.4**	**-1.7**
MYLDM				IAmb	IAmb	17 16 56.1	
	comp=Z,37nm,1.0s						
MYLDM	**Lahad Datu**	**18.17**	**302**	P	P	17 16 28.9	+10
AS01	**Alice Springs**	**19.10**	**180**	P	**Pn**	**17 16 30.5**	**+0.2**
AS31	**Alice Springs**	**19.10**	**180**	P	**P**	**17 16 28.3**	**-1.0**
AS31				IAmb	IAmb	17 16 35.9	
	comp=Z,21nm,0.7s						
ASAR	**Alice Springs**	**19.10**	**180**	P	**Pn**	**17 16 32.1**	**+1.8**
	comp=Z,3.9nm,0.3s,baz=5.3,slow=8.8,SNR=394						
ASAR				S	**Sn**	**17 19 58.5**	**-5.3**
	comp=Z,6.1nm,0.8s,baz=2.5,slow=29,SNR=5.7						
ASAR	**Alice Springs**	**19.10**	**180**	P	**P**	**17 16 29.3**	**-0.1**
BBKI	**Banjar Baru**	**19.11**	**272**	P	Pn	17 16 39.0	+8.6
TV1H	**Townsville Har**	**19.32**	**141**	P	**Pn**	**17 16 33.4**	**+0.5**
MTKI	**Muara Teweh, K**	**19.36**	**280**	P	Pn	17 16 41.1	+7.6
CTA	**Charters Tower**	**19.61**	**143**	P	**Pn**	**17 16 37.5**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=326,slow=11,SNR=20						
CTA				LR	LR	17 24 57.5	
	comp=Z,281nm,19.2s,baz=320,slow=39						
	comp=Z,27nm,1.0s						
CTA	**Charters Tower**	**19.61**	**143**	P	**Pn**	**17 16 37.1**	**+0.7**
CTAO	**Charters Tower**	**19.61**	**143**	P	**P**	**17 16 35.4**	**+0.4**
CTAO				IAmb	IAmb	17 16 49.1	
	comp=Z,25nm,0.8s						
CTAO	**Charters Tower**	**19.61**	**143**	P	**Pn**	**17 16 37.2**	**+0.8**
JAGI	**Jajag, Banyuwa**	**20.09**	**258**	P	**P**	**17 16 40.0**	**-0.3**
JAGI				IAmb	IAmb	17 17 15.3	
	comp=Z,38nm,1.2s						
KKM	**Kota Kinabalu**	**20.57**	**300**	P	**P**	**17 16 43.5**	**-2.1**
KKM				IAmb	IAmb	17 16 58.1	
	comp=Z,66nm,1.2s						
GUMO	**Guam**	**20.94**	**31**	LR	LR	17 24 48.6	
	comp=Z,92nm,18.8s,baz=214,slow=37						
WRKA	**Warakurna**	**21.18**	**194**	P	**P**	**17 16 53.8**	**+1.8**
MBWA	**Marble Bar**	**21.61**	**219**	P	**P**	**17 16 55.6**	**-1.0**
MBWA				IAmb	IAmb	17 16 59.6	
	comp=Z,42nm,0.7s						
MBWA	**Marble Bar**	**21.61**	**219**		**P**	**17 16 55.8**	**-0.8**
MBWA	**Marble Bar**	**21.61**	**219**	P	**P**	**17 16 58.7**	**+2.1**
PSA00	**Pilbara Seismi**	**21.85**	**218**	P	**P**	**17 16 58.9**	**-0.3**
PSA00				IAmb	IAmb	17 17 02.2	
	comp=Z,32nm,0.8s						
PSA00	**Pilbara Seismi**	**21.85**	**218**	P	**P**	**17 16 58.3**	**-0.9**
PSA00				IAmb	IAmb	17 17 02.2	
	comp=Z,14nm,0.8s						
PSA00	**Pilbara Seismi**	**21.85**	**218**	P	**P**	**17 17 01.5**	**+2.3**
SBUM	**Sibu**	**22.79**	**287**	P	**P**	**17 17 08.0**	**-1.4**
SBUM	**Sibu**	**22.79**	**287**	P	**P**	**17 17 16.0**	**+6.7**
OOD	**Oodnadatta**	**23.27**	**176**	P	**P**	**17 17 15.7**	**+1.6**
INKA	**Innaminka**	**24.04**	**165**	P	**P**	**17 17 23.7**	**+2.2**
KSM	**Kuching**	**24.36**	**283**	P	**P**	**17 17 22.6**	**-2.1**
KSM				IAmb	IAmb	17 17 34.1	
	comp=Z,18nm,0.9s						
KSM	**Kuching**	**24.36**	**283**	P	P	17 17 33.2	+8.5
MULG	**Mulgathing**	**25.69**	**180**	P	**P**	**17 17 38.1**	**+1.6**
LCRK	**Leigh Creek**	**26.16**	**172**	P	**P**	**17 17 42.0**	**+1.2**
HNR	**Honiara**	**26.25**	**102**	LR	LR	17 28 51.6	
	comp=Z,2μm,21.7s,baz=242,slow=38						
GIRL	**Giralia**	**26.29**	**225**	P	**P**	**17 17 42.1**	**0.0**
FORT	**Forrest**	**26.77**	**191**	P	**P**	**17 17 46.1**	**-0.2**
FORT	**Forrest**	**26.77**	**191**	P	**P**	**17 17 48.0**	**+1.7**

STKA	Stephens Creek	28.20	166	P	P	17 18 00.3	+1.1
	comp=Z,5.1nm,0.9s,baz=346,slow=9.2,SNR=5.5						
	comp=Z,5.1nm,0.9s						
STKA	Stephens Creek	28.20	166	P	P	17 17 59.9	+0.8
STKA	Stephens Creek	28.20	166	P	P	17 18 00.0	+0.8
BBOO	Buckleboo	28.28	176	P	P	17 17 58.4	-1.5
BBOO				IAmb	IAmb	17 18 34.5	
	comp=Z,43nm,1.4s						
BBOO	Buckleboo	28.28	176	P	P	17 18 01.0	+1.2
MORW	Morawa	29.80	213	P	P	17 18 12.6	-0.8
MORW				IAmb	IAmb	17 18 34.3	
	comp=Z,32nm,1.4s						
MORW	Morawa	29.80	213	P	P	17 18 14.7	+1.3
BLDU	Ballidu	30.69	210	P	P	17 18 23.7	+2.4
ARMA	Armidale	30.73	149	P	P	17 18 22.8	+1.0
ARMA				IAmb	IAmb	17 18 57.5	
	comp=Z,8.0nm,1.1s						
MNAI	Manna	30.92	269	P	P	17 18 20.7	-2.8
KLBR	Kellerberrin	30.99	208	P	P	17 18 25.1	+1.2
YHNB	Yeheng	31.44	338	P	P	17 18 26.6	-1.4
JOW	Kunigami	31.59	350	LR	LR	17 29 14.3	
	comp=Z,253nm,21.8s,baz=136,slow=33						
NWAO	Narrogin (SRO)	32.35	207	P	P	17 18 37.2	+1.3
	comp=Z,13nm,0.8s,baz=252,slow=24,SNR=4.0						
	comp=Z,13nm,0.8s						
NWAO	Narrogin (SRO)	32.35	207	P	P	17 18 36.8	+1.0
SDSI	Sungai Dareh	32.69	275	P	P	17 18 52.8	+14
HKPS	Hong Kong Po S	32.90	325	P	P	17 18 39.1	-1.6
ARPS	Mount Arapiles	32.96	168	P	P	17 18 42.2	+1.1
CAN	Canberra	33.71	158	P	P	17 18 49.2	+1.4
CAN				IAmb	IAmb	17 19 23.1	
	comp=Z,26nm,1.5s						
TOO	Toolangi	34.60	164	P	P	17 18 56.0	+0.5
TOO				IAmb	IAmb	17 18 58.3	
	comp=Z,8.9nm,1.1s						
KULM	Kulim	34.66	286	P	P	17 18 55.5	-0.7
KULM				IAmb	IAmb	17 19 05.6	
	comp=Z,15nm,1.3s						
JHJ	Hachijo jima 2	37.77	8	LR	LR	17 32 19.9	
	comp=Z,121nm,20.5s,baz=208,slow=32						
NJ2	Nanjing	39.05	339	eP	P	17 19 37.8	+4.5
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
PHRA	Phrae	40.32	305	P	P	17 19 43.5	-0.6
MJAR	Matsushiro Arr	40.98	5	LR	LR	17 34 05.1	
	comp=Z,128nm,19.1s,baz=176,slow=32						
CM31	Chiang Mai Arr	41.35	304	P	P	17 19 51.6	-1.0
CMAR	Chiang Mai Arr	41.35	304	P	P	17 19 53.0	+0.3
	comp=Z,1.1nm,0.7s,baz=136,slow=7.4,SNR=14						
	comp=Z,1.1nm,0.7s						
CMAR	Chiang Mai Arr	41.35	304	P	P	17 19 51.5	-1.1
CHTO	Chiang Mai	41.53	305	P	P	17 19 52.5	-1.6
ENH	Enshi	41.73	327	P	P	17 19 54.9	-0.7
ENH				IAmb	IAmb	17 19 55.9	
	comp=Z,13nm,1.4s						
KSAR	Wonju Array Be	42.07	353	P	P	17 19 58.3	+0.1
KSRS	Korea Array	42.07	353	LR	LR	17 35 58.6	
	comp=Z,77nm,20.8s,baz=155,slow=34						
KS19	Wonju Array Si	42.13	353	P	P	17 19 58.0	-0.7
KS19				IAmb	IAmb	17 20 11.8	
	comp=Z,28nm,1.4s						
PZH	PanZhiHua	43.82	316	P	P	17 20 12.9	+0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,80nm,4.5s						
XAN	Xi'an	45.00	330	⇑P	P	17 20 21.6	-0.4
XAN				pP	pP	17 20 28.4	+0.3
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MSVF	Nonsavu	45.09	111	LR	LR	17 39 28.6	
	comp=Z,138nm,18.1s,baz=293,slow=36						
TNCH	TengChong	45.22	312	⇑P	P	17 20 24.1	+0.1
TNCH				pP	pP	17 20 30.1	-0.2
TNCH				sP	sP	17 20 33.5	+0.6
TNCH				S	S	17 27 08.9	+5.5
TNCH				sS	sS	17 27 21.1	+6.9
TNCH				pmax	pmax		
	comp=Z,11nm,2.4s						
TNCH				pmax	pmax		
	comp=Z,110nm,4.2s						
USRK	Ussuriysk Ar.	48.47	358	P	P	17 20 49.5	+0.7
	comp=Z,1.4nm,0.8s,baz=179,slow=8.6,SNR=1.7						
	comp=Z,1.4nm,0.8s						
ASAJ	Asahikawa	48.97	8	LR	LR	17 40 43.7	
	comp=Z,35nm,19.3s,baz=169,slow=35						
HHC	Hu-ho-hao-te	49.54	338	eP	P	17 20 59.7	+2.4
HHC				pmax	pmax		
	comp=Z,33nm,0.5s						
HHC				pmax	pmax		
	comp=Z,150nm,6.7s						
SHL	Shillong	50.56	308	P	P	17 21 04.5	-0.9
SHL				IAmb	IAmb	17 21 13.8	
	comp=Z,12nm,1.0s						
RPZ	Rata Peaks	50.96	146	LR	LR	17 43 42.9	
	comp=Z,137nm,18.5s,baz=306,slow=37						
TUWZ	Tuamarina	51.29	142	P	P	17 21 09.4	-1.0
BKZ	Black Stump Fm	51.70	138	P	P	17 21 13.4	-0.3
KLR	Kul'dur	53.50	358	P	P	17 21 27.6	+0.9
	comp=Z,1.6nm,0.9s,baz=186,slow=4.1,SNR=4.8						
KLR				LR	LR	17 42 21.6	
	comp=Z,26nm,20.9s,baz=174,slow=34						
	comp=Z,1.6nm,0.9s						
GTA	Gaotai	53.82	327	eP	P	17 21 30.8	+1.5
GTA				pP	pP	17 21 36.2	+0.7
GTA				sP	sP	17 21 40.0	+1.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MCQ	Macquarie Isla	53.86	162	P	P	17 21 31.3	+2.1
AFI	Afiamalu	54.27	104	LR	LR	17 44 46.5	
	comp=Z,42nm,18.5s,baz=272,slow=36						
PALK	Pallekele	54.42	282	LR	LR	17 45 53.2	
	comp=Z,28nm,21.6s,baz=208,slow=37						
HEH	HeiHe	54.78	355	eP	P	17 21 39.3	+3.3
HEH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HEH				pmax	pmax		
	comp=Z,200nm,3.8s						
ULN	Ulaanbaatar	57.21	339	P	P	17 21 52.7	-0.9
SONM	Songino Array	57.42	338	P	P	17 21 55.1	0.0
	comp=Z,0.8nm,0.5s,baz=155,slow=7.2,SNR=7.3						
SONM				LR	LR	17 45 56.3	
	comp=Z,35nm,20.8s,baz=146,slow=35						
	comp=Z,0.8nm,0.5s						
SONM	Songino Array	57.42	338	P	P	17 21 55.5	+0.4
PEA0B	Petropavlovsk-	60.75	16	P	P	17 22 17.6	-0.3
PETK	Petropavlovsk-	60.75	16	P	P	17 22 19.4	+1.5
	comp=Z,1.7nm,0.7s,baz=198,slow=8.8,SNR=2.0						
	comp=Z,1.7nm,0.7s						
PETK	Petropavlovsk-	60.75	16	P	P	17 22 18.7	+0.8
WMQ	Urumqi	63.54	324	eP	P	17 22 38.7	+1.8
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK	Yakutsk	66.38	358	P	P	17 22 55.0	+0.2
MKAR	Makanchi Array	68.36	325	P	P	17 23 07.7	-0.2
	comp=Z,1.7nm,0.5s,baz=100,slow=5.0,SNR=16						
	comp=Z,1.7nm,0.5s						
ZAA0	Zalesovo Array	71.14	332	P	P	17 23 24.0	-0.7
ZAA0				IAmb	IAmb	17 23 39.6	
	comp=Z,3.0nm,1.1s						
ZALV	Zalesovo Beam	71.14	332	P	P	17 23 24.3	-0.5
	comp=Z,0.7nm,0.5s,baz=116,slow=3.4,SNR=8.0						
ZALV				LR	LR	17 58 11.9	
	comp=Z,14nm,18.3s,baz=114,slow=39						
	comp=Z,0.7nm,0.5s						
ZALV	Zalesovo Beam	71.14	332	P	P	17 23 23.9	-0.9
AAK	Ala-Archa	71.24	318	P	P	17 23 26.4	+0.6
KURK	Kurchatov	72.49	327	P	P	17 23 32.6	-0.3
KURK				IAmb	IAmb	17 23 40.6	
	comp=Z,4.1nm,0.8s						
GAR	Garm	72.76	313	P	P	17 23 34.2	-0.7
GAR				IAmb	IAmb	17 23 44.4	
	comp=Z,11nm,1.1s						
KK31	Karatay Array	74.11	317	P	P	17 23 41.1	-1.6
KK31				IAmb	IAmb	17 23 58.8	
	comp=Z,5.9nm,1.4s						
KKAR	Karatay Array	74.11	317	P	P	17 23 41.4	-1.4
KKAR	Karatay Array	74.11	317	P	P	17 23 41.2	-1.5
KKAR				IAmb	IAmb	17 23 58.8	
	comp=Z,5.9nm,1.4s						
VNDA	Vanda	74.51	174	P	P	17 23 45.2	+0.8
	comp=Z,1.2nm,0.9s,baz=312,slow=5.6,SNR=7.4						
VNDA				LR	LR	17 53 29.5	
	comp=Z,46nm,21.4s,baz=350,slow=33						
	comp=Z,1.2nm,0.9s						
VNDA	Vanda	74.51	174	P	P	17 23 45.3	+0.9
SBA	Scott Base	75.35	173	P	P	17 23 51.2	+2.0
TIXI	Tiksi	76.03	358	P	P	17 23 54.2	+1.1
TIXI				IAmb	IAmb	17 24 00.7	
	comp=Z,3.4nm,0.8s						
BVAR	Borovoye Array	78.08	326	LR	LR	18 01 40.8	
	comp=Z,16nm,18.5s,baz=35,slow=38						
BRVK	Borovoye	78.16	326	P	P	17 24 04.4	-1.1
BRVK				IAmb	IAmb	17 24 13.6	
	comp=Z,4.3nm,0.8s						
MAW	Mawson	78.75	202	P	P	17 24 11.9	+3.4
	comp=Z,9.5nm,0.9s,baz=84,slow=4.4,SNR=8.3						
	comp=Z,9.5nm,0.9s						
MAW	Mawson	78.75	202	P	P	17 24 10.5	+2.0
NRIK	Noril'sk	80.11	345	LR	LR	18 03 26.5	
	comp=Z,79nm,18.4s,baz=146,slow=38						
GEYT	Alibeck	81.64	309	P	P	17 24 25.8	+1.0
	comp=Z,1.6nm,0.6s,baz=206,slow=6.3,SNR=2.4						
	comp=Z,1.6nm,0.6s						
GEYT	Alibeck	81.64	309	P	P	17 24 25.1	+0.4
GEYT				IAmb	IAmb	17 24 36.6	
	comp=Z,3.1nm,0.8s						
ABKAR	Akbulak array	83.02	321	P	P	17 24 30.9	-0.8
ABKAR	Akbulak array	83.02	321	P	P	17 24 30.6	-1.0
ABKAR				IAmb	IAmb	17 24 47.5	
	comp=Z,1.9nm,0.8s						
ARU	Arti	85.68	327	LR	LR	18 09 44.1	
	comp=Z,12nm,19.3s,baz=71,slow=40						
ILAR	Eielson Array	89.39	25	P	P	17 25 01.6	-1.1
	comp=Z,0.4nm,0.7s,baz=252,slow=3.7,SNR=5.5						
ILAR				LR	LR	18 03 14.6	
	comp=Z,31nm,19.2s,baz=246,slow=34						
	comp=Z,0.4nm,0.7s						
GNI	Garni	92.25	310	LR	LR	18 11 58.9	
	comp=Z,14nm,19.5s,baz=48,slow=39						
KVAR	Kislovodsk Arr	93.98	314	LR	LR	18 13 47.3	
	comp=Z,37nm,20.1s,baz=86,slow=39						
DLBC	Dease Lake	96.92	32	LR	LR	18 12 44.3	
	comp=Z,58nm,18.1s,baz=190,slow=38						
OBN	Obninsk	97.87	325	LR	LR	18 13 32.6	
	comp=Z,22nm,20.3s,baz=326,slow=38						
CPUP	Villa Florida	147.50	161	PKPbc	PKPab	17 31 52.3	-0.8
	comp=Z,2.6nm,0.8s,baz=217,slow=2.9,SNR=5.3						
LPAZ	La Paz	149.96	134	PKPbc	PKiKP	17 32 00.4	+1.0
	comp=Z,1.7nm,0.9s,baz=301,slow=2.2,SNR=6.6						

MAN 11 17:40:51.0, 17°.57N×122°.57E, h33km, mb3.9, ML2.6, MS2.2, 4D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGCP	Gonzaga	0.83	323⇓	eP	Pn	17 41 06.4	0.0
SGCP				eS	Sb	17 41 17.8	-0.1
SAMP	Sagada Mountai	1.67	253⇓	eP	Pn	17 41 18.5	+0.6
SAMP				eS	Sn	17 41 38.8	+0.6
BALP	Baler	2.06	208⇓	eP	Pn	17 41 24.1	+0.8
BALP				eS	Sn	17 41 47.0	-0.8
SMPP	San Manuel, Pa	2.30	232⇓	eP	Pn	17 41 27.2	+0.6
SMPP				eS	Sn	17 41 53.1	-0.7

*TIF **11** 17:43:49.5, 42°.07N×46°.05E, h24km±2km*
*MOS **11** 17:43:50.3±0.0, 42°.11N×46°.09E, h24km, MPVA3.4*
*NORS **11** 17:43:50.7±0.0, 42°.11N×46°.14E, h12km, MPVA3.4*
*DRS **11** 17:43:51.3±0.0, 42°.07N×45°.95E, h16km*
ISC 11 17:43:50.5±1.0, **42°.06N**±0°.02×**46°.01E**±0°.02, **h11**km±9km, **n26**, σ**0s.73**/51, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LGD	Lagodekhi	0.28	142	P	Pg	17 43 56.8	+0.6
LGD				S	Sb	17 44 01.4	-0.9
DDFL	Dedoflistskaro	0.61	173	P	Pn	17 44 04.9	-0.3
DDFL				S	Sn	17 44 17.7	+2.6
BTLR	Botlikh	0.63	14	ePg	Pg	17 44 02.6	-0.1
BTLR				eSg	Sg	17 44 11.2	+0.3
DGRG	David-gareji	0.77	219	P	Pg	17 44 05.1	-0.3
DGRG				S	Sn	17 44 18.5	-0.5
GNBR	Gunib	0.78	64	ePg	Pg	17 44 05.4	-0.2
GNBR				eSg	Sg	17 44 15.8	0.0
KMKR	Kumukh	0.81	84	ePg	Pg	17 44 06.1	-0.1
KMKR				eSg	Sg	17 44 16.9	+0.1
SHTL	Shatili	0.88	314	P	Pg	17 44 06.3	-1.1
UNCR	Uncukul	0.88	41	ePg	Pg	17 44 07.3	-0.1
UNCR				eSg	Sb	17 44 19.1	-0.3
DVE	Vedeno	0.90	5	ePg	Pg	17 44 08.0	0.0
DVE				eSg	Sb	17 44 20.1	-0.2
ARKR	Arakani	0.91	53	ePg	Pg	17 44 08.0	0.0
ARKR				eSg	Sg	17 44 19.9	0.0
SEAG	Tbilisi Sea	0.95	253	P	Pb	17 44 08.5	-0.5
SEAG				S	Sb	17 44 22.2	+0.6
KRNR	Karanay	1.01	40	ePg	Pb	17 44 09.8	-0.3
KRNR				eSg	Sb	17 44 23.1	-0.5
DBC	Dubki	1.14	32	ePg	Pb	17 44 12.0	-0.2
DBC				eSg	Sg	17 44 27.2	+0.1
GROC	Groznyy	1.16	352	ePg	Pg	17 44 12.8	+0.1
GROC				eSg	Sn	17 44 28.3	-0.1
PNSH	Pansheti	1.19	300	P	Pn	17 44 12.8	-0.4
PNSH				S	Sb	17 44 28.6	0.0
KMGR	Komgaron	1.31	320	ePg	Pg	17 44 15.8	+0.1
KMGR				eSg	Sg	17 44 33.8	+1.0
AKT	Akhty	1.41	114	ePg	Pb	17 44 16.8	0.0
AKT				eSg	Sg	17 44 35.6	-0.2
LACR	Lac	1.49	302	ePg	Pg	17 44 18.9	-0.2
LACR				eSg	Sg	17 44 39.3	+1.0
DMNI	Dmanisi	1.55	243	P	Pn	17 44 17.2	-0.9
DMNI				S	Sn	17 44 37.9	-0.4
ZEI	Tsey	1.73	296	ePg	Pb	17 44 22.6	+0.3
ZEI				i Sg	Sg	17 44 46.1	+0.1
ALIG	Mtskhetisjvari	1.76	272	P	Pn	17 44 21.2	+0.2
ALIG				S	Sn	17 44 44.0	+0.6
KORR	Kora	1.77	306	ePg	Pb	17 44 22.8	-0.1
KORR				eSg	Sg	17 44 47.1	-0.3
ONI	Oni	1.97	287	P	Pn	17 44 25.0	+1.1
ONI				S	Sb	17 44 52.1	+1.0
DIGR	Digorskoe uzhe	1.99	296	ePg	Pb	17 44 26.4	-0.3
DIGR				eSg	Sb	17 44 53.2	+1.6
TKB	Tkibuli	2.26	278	P	Pb	17 44 30.0	-1.4
TKB				S	Sb	17 44 58.5	-0.9
ABS	Abastumani	2.41	264	P	Pb	17 44 32.5	-1.4
ABS				S	Sb	17 45 04.7	+1.0

*NEIC **11** 18:14:57.7±1.6, 8°.3S±0°.1×159°.3E±0°.1, h108km±9km, mb4.3/19, Error ellipse: s-maj=22.2km s-min=9.7km az=55.0*
*IDC **11** 18:14:58.8±0.7, 8°.44S×159°.09E, h105km±5km, mb3.6/10, mbtmp4.0/12, Error ellipse: s-maj=16.5km s-min=8.1km az=44.0*
ISC 11 18:14:58.8±0.6, **8°.41S**±0°.07×**159°.16E**±0°.08, **h111**km, **n45**, σ**1s.01**/41, **mb4.0**/19, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.28	143	P	Pn	18 15 22.4	-0.7
	8μm,0.3s,baz=216,slow=4.9,SNR=71						
HNR				LR	LR	18 15 40.6	
	comp=Z,468nm,21.9s,baz=318,slow=32						
HNR				S	Sn	18 15 41.1	-0.4
	36μm,0.6s,baz=181,slow=22,SNR=31						
HNR	Honiara	1.28	143		Pn	18 15 22.1	-1.0
HNR				Sn	Sn	18 15 41.3	-0.3
RABL	Rabaul	8.12	301		Pn	18 16 55.6	+1.7
RABL				Sn	Sn	18 18 23.2	-0.9
KRVT	Keravat (AS076	8.18	299	P	Pn	18 16 55.5	+0.8
	12nm,0.4s,baz=225,slow=1.6,SNR=5.1						
KRVT				S	Sn	18 18 25.8	+0.3
	57nm,0.7s,baz=311,slow=20,SNR=6.5						
PATS	Pohnpei	15.17	357		Pn	18 18 26.0	-1.2
PATS				IAmb	IAmb	18 18 32.7	
	comp=Z,68nm,1.2s						
CTA	Charters Tower	17.05	226	P	Pn	18 18 51.8	+1.3
	comp=Z,3.6nm,0.5s,baz=56,slow=12,SNR=13						
CTAO	Charters Tower	17.05	226	P	Pn	18 18 51.6	+1.1
CTAO				IAmb	IAmb	18 19 13.9	
	comp=Z,17nm,1.4s						
EIDS	Eidsvold	18.54	204	P	P	18 19 07.0	+0.2
EIDS				IAmb	IAmb	18 19 10.1	
	comp=Z,7.9nm,0.9s						
MSVF	Nonsavu	20.59	119	P	Pn	18 19 31.9	-0.5
	comp=Z,2.1nm,0.6s,baz=155,slow=19,SNR=6.0						
	comp=Z,2.1nm,0.6s						
ARMA	Armidale	23.00	197	P	P	18 19 56.0	+1.7
ARMA				IAmb	IAmb	18 19 56.7	
	comp=Z,14nm,0.9s						
WR0	Warramunga Arr	26.44	242	P	P	18 20 25.1	-0.5
WR0				IAmb	IAmb	18 20 55.9	
	comp=Z,7.8nm,1.4s						
WB0	Warramunga Arr	26.50	242	P	P	18 20 25.4	-0.7
WB0				IAmb	IAmb	18 20 26.3	
	comp=Z,4.4nm,0.9s						
WB2	Warramunga Arr	26.60	242	P	P	18 20 26.7	-0.3
WB2				IAmb	IAmb	18 20 37.7	
	comp=Z,11nm,1.5s						
WRA	Warramunga Arr	26.61	242	P	P	18 20 26.9	-0.2
	comp=Z,1.2nm,0.4s,baz=65,slow=9.0,SNR=36						
WRA				pP	pP	18 20 50.7	-0.2
	comp=Z,1.0nm,0.6s,baz=66,slow=9.4,SNR=4.5						
	comp=Z,1.2nm,0.4s						
WRA	Warramunga Arr	26.61	242	P	P	18 20 25.9	-1.2
H11S3	WAKE ISLAND Hy	27.74	15	T	T	18 49 27.8	
	baz=196,slow=76,SNR=44						
H11S2	WAKE ISLAND Hy	27.75	16	T	T	18 49 29.7	
	baz=196,slow=76,SNR=80						
H11S1	WAKE ISLAND Hy	27.76	16	T	T	18 49 28.6	
	baz=196,slow=76,SNR=17						
STKA	Stephens Creek	28.50	213	P	P	18 20 43.6	-0.1
	comp=Z,1.8nm,0.6s,baz=56,slow=14,SNR=7.3						
	comp=Z,1.8nm,0.6s						
STKA	Stephens Creek	28.50	213	P	P	18 20 42.2	-1.6
AS31	Alice Springs	28.55	235	P	P	18 20 43.6	-0.8
ASAR	Alice Springs	28.55	235	P	P	18 20 43.6	-0.7
	comp=Z,2.1nm,0.5s,baz=62,slow=10.0,SNR=79						
	comp=Z,2.1nm,0.5s						
ASAR	Alice Springs	28.55	235	P	P	18 20 43.8	-0.5
H11N1	WAKE ISLAND Hy	28.96	15	T	T	18 50 57.9	
	baz=196,slow=76,SNR=103						
H11N3	WAKE ISLAND Hy	28.97	15	T	T	18 51 02.4	
	baz=196,slow=76,SNR=172						
H11N2	WAKE ISLAND Hy	28.98	15	T	T	18 50 58.5	
	baz=196,slow=76,SNR=14						
KNRA	Kununurra	30.56	253	P	P	18 21 01.7	-0.5
BBOO	Buckleboo	32.36	218	P	P	18 21 17.6	-0.1
BBOO				IAmb	IAmb	18 21 22.5	
	comp=Z,20nm,1.2s						
TUWZ	Tuamarina	35.40	161	P	P	18 21 44.3	+0.3
FORT	Forrest	36.57	228	P	P	18 21 54.0	-0.1
MORW	Morawa	45.38	237	P	P	18 23 06.5	+0.1
MORW				IAmb	IAmb	18 23 13.8	
	comp=Z,19nm,1.4s						
YOJ	Yonaguni jima	48.07	314	P	P	18 23 24.7	-2.7
CMAR	Chiang Mai Arr	65.12	295	pP	pP	18 25 55.8	+0.7
	comp=Z,0.5nm,0.6s,baz=127,slow=4.7,SNR=2.8						
VNDA	Vanda	69.10	179	P	P	18 25 52.9	+0.5
	comp=Z,0.5nm,0.7s,baz=326,slow=5.4,SNR=7.8						
	comp=Z,0.5nm,0.7s						
VNDA	Vanda	69.10	179	P	P	18 25 52.4	0.0
VNDA				IAmb	IAmb	18 26 12.7	
	comp=Z,3.3nm,1.5s						
SBA	Scott Base	69.53	178	P	P	18 25 55.1	+0.1
SONM	Songino Array	72.78	326	P	P	18 26 15.5	+0.2
	comp=Z,1.1nm,0.6s,baz=138,slow=5.6,SNR=6.6						
SONM				pP	pP	18 26 41.4	-1.4
	comp=Z,2.0nm,0.5s,baz=135,slow=5.0,SNR=8.0						
	comp=Z,1.1nm,0.6s						
SONM	Songino Array	72.78	326	P	P	18 26 17.8	+2.5
SONM				IAmb	IAmb	18 26 46.8	
	comp=Z,1.9nm,0.6s						
QSPA	South Pole Qui	81.58	180	P	P	18 27 04.6	+0.5
	comp=Z,0.7nm,0.6s,baz=253,slow=1.3,SNR=6.4						
	comp=Z,0.7nm,0.6s						
TIXI	Tiksi	82.37	351	pP	pP	18 27 37.5	+1.0
	comp=Z,0.8nm,0.3s,baz=333,slow=0.5,SNR=3.2						
ILAR	Eielson Array	83.21	20	P	P	18 27 13.9	+1.6
	comp=Z,0.5nm,0.5s,baz=242,slow=5.2,SNR=10.0						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	87.20	318	P	P	18 27 32.9	+0.2
	comp=Z,0.5nm,0.5s,baz=114,slow=4.6,SNR=2.3						
MKAR				pP	pP	18 28 01.4	+0.1
	comp=Z,1.2nm,0.6s,baz=86,slow=5.9,SNR=4.7						
	comp=Z,0.5nm,0.5s						
NVAR	Mina Array Bea	89.37	51	P	P	18 27 43.8	+0.4
	comp=Z,0.3nm,0.6s,baz=260,slow=3.3,SNR=2.3						
	comp=Z,0.3nm,0.6s						
KURBB	Kurchatov Arra	90.53	321	pP	pP	18 28 16.0	-0.9
	comp=Z,0.4nm,0.4s,baz=103,slow=4.0,SNR=2.5						
BVAR	Borovoye Array	95.91	323	pP	pP	18 28 42.0	+0.3
	comp=Z,0.7nm,0.5s,baz=90,slow=3.0,SNR=4.5						

*IDC **11** 18:20:40.0±1.3, 0°.82N×146°.51E, h0km, mb3.9/8, mbtmp3.9/8, MS3.0/5, Error ellipse: s-maj=47.2km s-min=20.9km az=107.0*
*NEIC **11** 18:20:42.4±2.7, 0°.57N±0°.10×146°.5E±0°.1, h15km±5km, mb4.4/13, Error ellipse: s-maj=21.1km s-min=13.9km az=96.0*
ISC 11 18:20:44.5±0.7, **0°.6N**±0°.1×**146°.6E**±0°.1, **h35**km, **n30**, σ**1s.48**/25, **mb4.0**/13, **MS3.1**/4, **Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	2.72	164		Pn	18 21 25.9	+0.1
RABL	Rabaul	7.31	131	Pn	Pn	18 22 28.7	-0.2
PMG	Port Moresby	9.94	177	LR	LR	18 26 44.7	
	comp=Z,53nm,21.4s,baz=63,slow=36						
PATS	Pohnpei	13.23	62	Pn	Pn	18 23 49.7	-0.3
MTN	Manton Dam	20.33	228	P	P	18 25 12.0	-5.9
MTN				IAmb	IAmb	18 25 43.6	
	comp=Z,14nm,1.1s						
WB0	Warramunga Arr	23.50	210	P	P	18 25 51.0	-0.4
WR0	Warramunga Arr	23.59	209	P	P	18 25 51.9	-0.4
WR0				IAmb	IAmb	18 26 25.6	
	comp=Z,9.7nm,1.5s						
WRA	Warramunga Arr	23.68	210	P	P	18 25 53.9	+0.8
	comp=Z,1.3nm,0.6s,baz=32,slow=11,SNR=24						
	comp=Z,1.3nm,0.6s						
WRA	Warramunga Arr	23.68	210	P	P	18 25 52.1	-1.0
KNRA	Kununurra	23.91	227	P	P	18 25 55.8	+0.5
AS31	Alice Springs	27.08	206	P	P	18 26 21.7	-2.3
ASAR	Alice Springs	27.08	206	P	P	18 26 27.1	+3.1
	comp=Z,1.1nm,0.9s,baz=28,slow=13,SNR=8.2						
ASAR				LR	LR	18 36 25.8	
	comp=Z,52nm,19.1s,baz=56,slow=35						
	comp=Z,1.1nm,0.9s						
ASAR	Alice Springs	27.08	206	P	P	18 26 22.3	-1.8
STKA	Stephens Creek	32.63	188	LR	LR	18 42 24.9	
	comp=Z,16nm,18.8s,baz=26,slow=40						
ASAJ	Asahikawa	43.49	356	LR	LR	18 46 23.4	
	comp=Z,23nm,19.3s,baz=142,slow=36						
CMAR	Chiang Mai Arr	50.02	294	P	P	18 29 36.6	+0.7
	comp=Z,0.6nm,0.3s,baz=116,slow=6.2,SNR=5.9						
	comp=Z,0.6nm,0.3s						
KLR	Kul'dur	50.11	347	LR	LR	18 48 02.4	
	comp=Z,31nm,20.4s,baz=81,slow=33						
PEA0B	Petropavlovsk-	53.15	8	P	P	18 29 57.4	-1.4
PETK	Petropavlovsk-	53.15	8	P	P	18 29 58.7	-0.1
	comp=Z,1.7nm,0.7s,baz=150,slow=6.7,SNR=6.5						
	comp=Z,1.7nm,0.7s						
PETK	Petropavlovsk-	53.15	8	P	P	18 29 58.4	-0.4
MKAR	Makanchi Array	72.23	319	P	P	18 32 04.6	-1.6
	comp=Z,0.7nm,0.7s,baz=99,slow=8.9,SNR=2.3						
	comp=Z,0.7nm,0.7s						
ZALV	Zalesovo Beam	73.28	327	P	P	18 32 11.0	-1.3
	comp=Z,0.4nm,0.5s,baz=132,slow=6.4,SNR=2.2						
	comp=Z,0.4nm,0.5s						
J20K	Nowinta River	76.53	23	P	P	18 32 32.5	+1.7
J20K				IAmb	IAmb	18 33 04.8	
	comp=Z,13nm,1.5s						
IMAR	Indian Mountai	77.52	21	P	P	18 32 38.1	+1.7
I21K	Tanana	77.81	22	P	P	18 32 40.2	+2.3
I21K				IAmb	IAmb	18 33 20.7	
	comp=Z,6.7nm,1.3s						
SML	Sawmill	77.93	26	P	P	18 32 40.5	+1.7
COLD	Coldfoot	79.35	21	P	P	18 32 48.6	+2.2
COLD				IAmb	IAmb	18 33 31.8	
	comp=Z,4.5nm,1.2s						
ILAR	Eielson Array	79.63	24	P	P	18 32 48.1	+0.1
	comp=Z,0.9nm,0.7s,baz=256,slow=5.7,SNR=8.6						
	comp=Z,0.9nm,0.7s						
H24K	Noodor Dome	79.64	22	P	P	18 32 49.5	+1.4
H24K				IAmb	IAmb	18 32 59.9	
	comp=Z,6.3nm,1.4s						
BVAR	Borovoye Array	81.25	324	P	P	18 32 56.4	-0.6
	comp=Z,1.2nm,0.7s,baz=116,slow=6.6,SNR=6.4						
	comp=Z,1.2nm,0.7s						

IDC 11 18:21:36.5±10.0, 27°.98S×176°.97W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=185.0km s-min=33.0km az=97.0

NEIC 11 18:21:39.5±1.9, 28°.36S±0°.08×176°.89W±0°.04, h35km±2km, mb4.3/14, Error ellipse: s-maj=14.0km s-min=6.1km az=194.0

ISC 11 18:21:39.0±1.5, 28°.4S±0°.1×176°.8W±0°.2, h35km, n22, σ2s01/22, mb4.2/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.30	228	Pn	Pn	18 22 04.6	+4.1
	154nm,0.3s,baz=86,slow=20,SNR=9.5						
RAO				Sn	Sn	18 22 25.7	+9.1
	285nm,0.3s,baz=122,slow=22,SNR=8.3						
RAO	Raoul Island	1.30	228	Pn	Pn	18 22 00.9	+0.3
RAO	Raoul Island	1.30	228	Sn	Sn	18 22 16.4	-0.2
PLWZ	Palliser	14.66	204	Pn	Pn	18 25 02.4	-1.3
TUWZ	Tuamarina	15.04	208	Pn	Pn	18 25 05.5	-3.4
THZ	Tophouse	15.76	209	Pn	Pn	18 25 17.8	-0.4
OUENC	Ouen Island, N	15.92	288	Pn	Pn	18 25 18.6	-1.7
OUENC				IAmb	IAmb	18 25 24.5	
	comp=Z,33nm,1.3s						
KHZ	Kahutara	16.04	207	Pn	Pn	18 25 18.6	-3.1
KHZ				IAmb	IAmb	18 25 55.2	
	comp=Z,30nm,1.1s						
TOO	Toolangi	32.74	244	P	P	18 28 07.3	-1.2
CTAO	Charters Tower	34.57	276	P	P	18 28 24.4	-0.1
STKA	Stephens Creek	35.99	254	P	P	18 28 40.6	+4.0
	comp=Z,2.5nm,1.0s,baz=95,slow=12,SNR=3.1						
	comp=Z,2.5nm,1.0s						
STKA	Stephens Creek	35.99	254	P	P	18 28 36.3	-0.3
COEN	Coen	39.78	283	P	P	18 29 08.8	0.0
COEN				IAmb	IAmb	18 29 35.1	
	comp=Z,7.4nm,1.4s						
ASAR	Alice Springs	44.30	264	P	P	18 29 46.9	+1.3
	comp=Z,0.5nm,0.6s,baz=103,slow=7.0,SNR=5.8						
	comp=Z,0.5nm,0.6s						
WR0	Warramunga Arr	44.92	270	P	P	18 29 48.5	-2.2
WR0				IAmb	IAmb	18 30 05.6	
	comp=Z,8.5nm,1.4s						
WB2	Warramunga Arr	45.10	270	P	P	18 29 50.6	-1.4
WB2				IAmb	IAmb	18 30 34.7	
	comp=Z,8.4nm,1.5s						
WRA	Warramunga Arr	45.11	270	P	P	18 29 53.4	+1.3
	comp=Z,0.5nm,0.5s,baz=108,slow=7.8,SNR=13						
	comp=Z,0.5nm,0.5s						
WRA	Warramunga Arr	45.11	270	P	P	18 29 51.3	-0.8
WB0	Warramunga Arr	45.12	270	P	P	18 29 52.3	0.0
WB0				IAmb	IAmb	18 30 18.0	
	comp=Z,5.0nm,1.4s						
SBA	Scott Base	50.11	184	P	P	18 30 30.7	+0.6
SBA				IAmb	IAmb	18 31 02.9	
	comp=Z,4.2nm,1.4s						
VNDA	Vanda	50.19	186	P	P	18 30 28.9	-1.8
QSPA	South Pole Qui	61.71	180	P	P	18 31 55.0	+1.5
QSPA				IAmb	IAmb	18 32 12.7	
	comp=Z,2.7nm,1.3s						

PRU 11 19:07:19.1±0.0, 51°.56N×16°.16E, h0km

VIE 11 19:07:20.3±0.7, 51°.47N×16°.20E, h0km, mb2.0/1, ml2.6/1, Error ellipse: s-maj=9.4km s-min=4.5km az=72.0 71 km NW of Wroclaw Suspected Mining induced.

ISC 11 19:07:17.8±1.3, 51°.60N±0°.06×16°.20E±0°.03, h0km, n20, σ0s72/41, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.76	176	ePg	Pb	19 07 33.3	-0.5
KSP				eSg	Sg	19 07 42.6	+0.5
CHVC	Chvalec	1.01	185	ePG	Pb	19 07 38.3	+0.1
CHVC				eSG	Sg	19 07 50.6	+0.3
OSTC	Ostas	1.04	180	ePG	Pb	19 07 38.9	+0.2
OSTC				eSG	Sg	19 07 51.8	+0.6
	comp=Z,18nm,0.3s						
UPC	Upice	1.10	186	ePG	Pb	19 07 39.5	-0.1
UPC				eSG	Sg	19 07 52.9	-0.1
	comp=Z,40nm,0.3s						
DPC	Dobruska-Polom	1.25	176	ePG	Pb	19 07 42.1	-0.2
DPC				eSG	Sg	19 07 58.2	+0.3
	comp=Z,19nm,0.5s						
PVCC	Panska Ves	1.49	225	ePG	Pg	19 07 46.5	+0.2
PVCC				eSG	Sg	19 08 05.5	0.0
	comp=Z,75nm,0.6s						
KRLC	Kraliky	1.57	166	ePG	Pg	19 07 47.8	0.0
KRLC				eSG	Sg	19 08 08.3	+0.2
	comp=Z,16nm,0.2s						
BRG	Berggiesshubel	1.59	244	Pg	Pg	19 07 48.9	+0.5
BRG				Sg	Sg	19 08 09.2	+0.2
BRG				Amp		19 08 10.2	
	comp=Z,32nm,0.3s						
GOPC	GO Pecny, Ondr	1.91	209	ePG	Pg	19 07 54.1	-0.3
GOPC				eSG	Sb	19 08 17.9	0.0
PRU	Pruhonice	1.93	214	ePG	Pb	19 07 53.1	-0.6
PRU				eSG	Sb	19 08 18.3	0.0
	comp=Z,15nm,0.4s						
MORC	Moravsky Berou	2.01	154	ePN	Pn	19 07 53.8	+0.8
MORC				eSG	Sb	19 08 21.4	+0.6
CLL	Collm	2.02	263	i Pn	Pn	19 07 53.5	+0.4
CLL				i Pg	Pg	19 07 56.5	0.0
CLL				ex	x	19 08 01.0	
CLL				eSg	Sg	19 08 23.0	+0.3
	comp=Z,12nm,0.4s						
OKC	Ostrava-Krasne	2.15	144	eSG	Sg	19 08 27.4	+0.5
	comp=Z,11nm,0.4s						
VRAC	Vranov	2.31	174	ePN	Pn	19 07 58.0	+1.0
VRAC				eSG	Sb	19 08 30.1	+0.9
KRUC	Moravsky	2.54	177	ePN	Pn	19 08 01.4	+1.1
KRUC				eSG	Sg	19 08 39.1	-0.3
OJC	Ojcow	2.66	120	ePg	Pg	19 08 08.5	-0.3
OJC				eSn	Sn	19 08 32.6	-2.3
OJC				eSg	Sg	19 08 43.4	+0.2
KHC	Kasperske Hory	2.99	215	ePN	Pn	19 08 06.9	+0.5
KHC				ePG	Pb	19 08 12.5	+0.6
KHC				eSG	Sg	19 08 51.9	-1.8
	comp=Z,5.1nm,0.5s						
CKRC	Cesky Krumlov	3.03	204	ePN	Pn	19 08 07.4	+0.3
CKRC				eSG	Sg	19 08 53.5	-1.7
	comp=Z,4.7nm,0.3s						
MODS	Modra-Piesok	3.30	167	eSG	Sg	19 09 03.3	-0.5
CONA	Conrad Observa	3.68	184	i Pn	Pn	19 08 16.7	+0.8
	comp=Z,0.2nm,0.1s						
CONA				Sg	Sg	19 09 16.0	+0.1
	comp=Z,3.4nm,0.2s						

IDC 11 19:34:42.3±1.1, 37°.48N×70°.18E, h0km, mb3.8/13, mbtmp3.8/19, ML3.2/6, MS2.9/6, Error ellipse: s-maj=19.3km s-min=13.1km az=154.0

NNC 11 19:34:48.2±2.7, 37°.99N×69°.81E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=25.6km s-min=12.5km az=156.0

NEIC 11 19:34:50.6±1.5, 37°.76N±0°.04×70°.12E±0°.03, h48km±10km, mb4.2/14, Error ellipse: s-maj=5.5km s-min=2.9km az=202.0

ISC 11 19:34:45.1±0.4, 37°.71N±0°.03×70°.08E±0°.03, h10km, n84, σ1s95/98, mb3.9/18, MS3.0/4, 8C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	Chuyangaron	1.19	323		Pg	19 35 10.7	+2.7
CHGR				Sn	Sn	19 35 26.9	+2.7
GAR	Garm	1.31	8	Pn	Pg	19 35 12.7	+2.5
GAR				Sn	Sn	19 35 27.4	+0.3
DRK	Karamyk	2.23	37		Pb	19 35 25.3	-0.3
DRK				Sn	Sn	19 35 48.4	-1.6
BTK	Batken	2.42	14		Pb	19 35 28.7	0.0
KBL	Kabul	3.27	195		Pb	19 35 42.8	-0.5
TAS	Tashkent	3.66	351		Pn	19 35 45.2	+3.4
CEP	Cherat	4.15	158	P	Pb	19 35 56.3	-2.0
CHCP	Chirah Chowk	4.80	146	P	Pn	19 36 02.4	+4.9
CHCP				S	Sg	19 37 18.0	-1.2
NIL	Nilore	4.80	146	Pn	Pn	19 36 01.1	+3.6
KSH	Kashi	4.96	67	Pn	Pn	19 35 59.0	-0.7
KSH				Sn	Sn	19 36 48.0	-9.2
KSH				pmax	pmax		
	comp=Z,26nm,0.7s						
KSH				smax	smax		
	comp=N,120nm,1.1s						
KSH				smax	smax		
	comp=E,85nm,0.6s						
AML	Almayashu	5.22	31	P	Pn	19 36 07.4	+3.8
	SNR=7.0						
KK31	Karatay Array	5.40	3		Pn	19 36 08.0	+2.3
KK31	Karatay Array	5.40	3	Pn	Pn	19 36 08.0	+2.3
	comp=E,2.5nm,0.5s,baz=194,slow=13,SNR=58						
KK31				⇑Pg	Pg	19 36 24.8	-3.7
	comp=E,5.0nm,0.5s						
KK31				⇓Sn	Sn	19 37 08.0	0.0
	comp=E,6.8nm,0.3s						
KK31				⇑Lg	Lg	19 37 33.5	
	comp=E,15nm,0.5s,baz=190,slow=27						
KKAR	Karatay Array	5.40	3	Pn	Pn	19 36 07.7	+2.0
KKAR	Karatay Array	5.40	3		Pn	19 36 08.1	+2.4
UCH	Uchtor	5.66	36	P	Pn	19 36 13.1	+3.5
	SNR=6.8						
NRN	Naryn	5.90	49	Pn	Pn	19 36 14.4	+1.6
AAK	Ala-Archa	5.97	33	P	Pn	19 36 17.5	+3.8
	SNR=7.1						
AAK	Ala-Archa	5.97	33	Pn	Pn	19 36 16.9	+3.2
	comp=E,1.7nm,0.3s,baz=201,slow=6.4,SNR=16						
AAK				Sn	Sn	19 37 21.0	-1.2
	comp=E,3.0nm,0.3s,baz=220,slow=9.0,SNR=6.2						
AAK				Lg	Lg	19 37 54.3	
	comp=E,2.1nm,0.3s,baz=150,slow=24,SNR=5.2						
	comp=E,2.6nm,0.3s						
AAK	Ala-Archa	5.97	33	Pn	Pn	19 36 17.2	+3.5
JMU	Jammu	6.35	140	eP	Pn	19 36 22.5	+3.8
JMU				eS	Sn	19 37 31.8	+0.4
CHMS	Chumysh	6.38	33	P	Pn	19 36 22.8	+3.7
	SNR=6.2						
CHMS	Chumysh	6.38	33	⇓Pn	Pn	19 36 21.8	+2.7
	comp=E,11nm,0.7s						
CHMS				⇑Sn	Sn	19 37 32.1	+0.1
	comp=E,16nm,0.5s						
USP	Ospenovka	6.50	30	P	Pn	19 36 25.5	+4.8
	SNR=6.3						
BOOM	Boomskoye usch	6.56	41	Pn	Pn	19 36 24.4	+2.7
TKM2	Tokmak 2	6.70	37	P	Pn	19 36 26.8	+3.1
	SNR=5.0						
TKM2	Tokmak 2	6.70	37	⇓Pn	Pn	19 36 26.5	+2.7
	comp=E,1.8nm,0.4s						
TKM2				⇓Sn	Sn	19 37 41.4	+1.2
	comp=E,10nm,1.0s						
TKM2				⇑Lg	Lg	19 38 16.7	
	comp=E,12nm,0.7s						
SGDS	Sogindy	6.70	30	Pg	Pg	19 36 52.2	-1.2
	comp=E,7.2nm,0.5s						
SGDS				Lg	Lg	19 38 17.1	
	comp=E,15nm,0.9s						
THN	Thein Dam	7.00	137	eP	Pn	19 36 32.1	+4.4
THN				eS	Sn	19 37 49.3	+2.0
DGS	Degeres	7.03	36	Pg	Pg	19 36 58.6	-1.1
	comp=E,7.0nm,0.6s						
DGS				Lg	Lg	19 38 27.9	
	comp=E,14nm,0.9s						
HRA	Herat	7.16	245	Pn	Pn	19 36 33.8	+3.8
TARG	Taragay, Kyrgy	7.18	54	Pn	Pn	19 36 29.9	-0.7
KRBS	Karabastau	7.34	34	Pg	Pg	19 37 04.8	-0.7
	comp=E,2.7nm,0.4s						
KRBS				Lg	Lg	19 38 38.2	
	comp=E,9.7nm,1.2s						
TNSS	Tian-Shan	7.47	42	Pg	Pg	19 37 06.5	-1.7
	comp=E,3.9nm,0.6s						
TNSS				Lg	Lg	19 38 41.5	
	comp=E,5.9nm,1.0s						
SMLA	Simla	8.79	136	eP	Pn	19 36 56.2	+4.0
SMLA				eS	Sn	19 38 31.9	+0.5
SMLA				IAML		19 38 45.7	
	comp=E,24nm,0.4s						
GEYT	Alibeck	9.47	275	Pn	Pn	19 37 02.5	+1.0
	comp=E,2.3nm,0.3s,baz=107,slow=7.9,SNR=14						
GEYT				Sn	Sn	19 38 43.5	-4.5
	comp=E,4.5nm,0.3s,baz=106,slow=15,SNR=3.5						
GEYT				LR	LR	19 41 37.7	
	comp=E,64nm,19.1s,baz=146,slow=43						
	comp=E,4.6nm,0.4s						
GEYT	Alibeck	9.47	275	Pn	Pn	19 37 01.6	+0.1
GYA0B	ALIBECK ARRAY	9.47	275	Pn	Pn	19 37 01.2	-0.3
GYA0B	ALIBECK ARRAY	9.47	275	⇑Pn	Pn	19 37 02.4	+0.9
GYA0B				⇑Sn	Sn	19 38 46.4	-1.6
PTH	Pithoragarh	11.72	131	eP	Pn	19 37 32.6	0.0
PTH				eS	Sn	19 39 42.5	-1.0
MKAR	Makanchi Array	12.81	41	Pn	Pn	19 37 48.1	+1.0
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=5.6						
	comp=E,1.3nm,0.7s						
MKAR	Makanchi Array	12.81	41	Pn	Pn	19 37 45.6	-1.6
AB31	Akbulak array	13.67	331	Pn	Pn	19 37 57.4	-1.5
	comp=E,2.3nm,0.5s,baz=154,slow=13,SNR=144						
AB31				⇑Sn	Sn	19 40 30.8	0.0
	comp=E,0.6nm,0.3s						
ABKAR	Akbulak array	13.67	331	Pn	Pn	19 37 57.2	-1.7
ABKAR	Akbulak array	13.67	331		Pn	19 37 57.2	-1.7
KURBB	Kurchatov Arra	14.25	22	Pn	Pn	19 38 05.0	-1.8
	baz=204,slow=13,SNR=1.4						
KURBB				Lg	Lg	19 42 19.4	
	baz=226,slow=30						
	comp=E,0.3nm,0.3s						
WMQ	Urumqi	14.67	60	eP	P	19 38 16.1	-2.9
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
BVAR	Borovoye Array	15.32	1	Pn	Pn	19 38 20.1	-1.2
	baz=164,slow=12,SNR=12						
BVAR				LR	LR	19 45 06.5	
	comp=Z,24nm,21.4s,baz=83,slow=40						
	comp=Z,1.3nm,0.6s						
BRVK	Borovoye	15.35	0	Pn	Pn	19 38 20.4	-1.3
AKTO	Aktyubinsk	15.37	330	⇓Pn	Pn	19 38 20.7	-1.2
	comp=Z,7.7nm,0.8s						
AKTO				⇑Sn	Sn	19 41 10.8	-1.3
	comp=Z,3.5nm,1.2s						
VLK	Valmikinagar	15.56	128	eP	P	19 38 29.1	+0.2
ZAA0	Zalesovo Array	19.15	27	P	P	19 39 07.0	-1.3
ZALV	Zalesovo Beam	19.15	27	P	P	19 39 07.4	-0.9
	comp=Z,0.3nm,0.3s,baz=221,slow=10,SNR=8.3						
	comp=Z,1.3nm,0.5s						
LSA	Lhasa	19.24	108	P	P	19 39 10.0	0.0
LSA				IAmb	IAmb	19 39 14.0	
	comp=Z,6.1nm,0.7s						
ARU	Arti	20.25	341	P	P	19 39 20.2	-0.1
	comp=Z,1.9nm,0.4s,baz=187,slow=10,SNR=7.5						
ARU				LR	LR	19 48 17.9	
	comp=Z,22nm,18.5s,baz=136,slow=40						
	comp=Z,1.9nm,0.4s						
ARU	Arti	20.25	341	P	P	19 39 20.4	0.0
ARU				IAmb	IAmb	19 39 23.2	
	comp=Z,15nm,1.4s						
ONI	Oni	20.89	292	P	P	19 39 28.1	+0.6
ONI				IAmb	IAmb	19 39 31.8	
	comp=Z,9.8nm,1.4s						
KBZ	Khabaz	21.41	295	P	P	19 39 32.2	-0.7
	comp=Z,2.6nm,0.7s,baz=106,slow=8.8,SNR=8.4						
	comp=Z,2.6nm,0.7s						
BELG	Belogornoye	21.49	320	P	P	19 39 34.1	+0.4
	comp=Z,14nm,0.5s,baz=301,slow=2.0,SNR=10						
	comp=Z,14nm,0.5s						
KIV	Kislovodsk	21.59	295	P	P	19 39 35.9	+0.9
KIV				IAmb	IAmb	19 39 57.3	
	comp=Z,5.4nm,0.7s						
SHL	Shillong	22.10	117	P	P	19 39 40.3	-0.5
SHL				IAmb	IAmb	19 39 43.4	
	comp=Z,4.0nm,0.7s						
GTA	Gaotai	23.27	77	⇓P	P	19 39 53.2	+0.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TNCH	TengChong	27.26	109	eP	P	19 40 31.3	+1.5
TNCH				pP	sP	19 40 44.0	+9.0
TNCH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	Songino Array	28.28	57	P	P	19 40 38.4	-0.2
	comp=Z,0.4nm,0.5s,baz=268,slow=9.0,SNR=4.6						
	comp=Z,0.4nm,0.5s						
BRTR	Keskin Array B	28.38	285	P	P	19 40 41.0	+1.4
	comp=Z,0.3nm,0.5s,baz=102,slow=7.7,SNR=2.0						
	comp=Z,0.3nm,0.5s						
PZH	PanZhiHua	28.93	103	P	P	19 40 45.2	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
AKASG	Malin Array Be	31.62	308	P	P	19 41 08.8	+0.9
	comp=Z,0.1nm,0.2s,baz=79,slow=7.8,SNR=6.0						
	comp=Z,0.1nm,0.2s						
HHC	Hu-ho-hao-te	32.06	71	eP	P	19 41 14.2	+2.1
HHC				pmax	pmax		
	comp=Z,110nm,6.3s						
BURAR	Bucovina Array	34.02	301	P	P	19 41 29.8	+0.7
FIA1	FINESS Array S	36.07	325	P	P	19 41 47.1	+0.6
FINES	FINESS Array B	36.07	325	P	P	19 41 47.2	+0.7
	comp=Z,0.8nm,0.4s,baz=108,slow=8.6,SNR=8.7						
	comp=Z,0.8nm,0.4s						
FINES	FINESS Array B	36.07	325	P	P	19 41 47.0	+0.5
ARCES	ARCESS Array B	39.75	337	P	P	19 42 18.1	+0.6
	comp=Z,4.2nm,1.0s,baz=99,slow=7.7,SNR=5.6						
ARCES				LR	LR	19 59 44.9	
	comp=Z,36nm,20.4s,baz=123,slow=38						
	comp=Z,4.2nm,1.0s						
NC405	NORSAR Array S	42.74	322	P	P	19 42 41.7	-0.5
NC303	NORSAR Array S	42.92	323	P	P	19 42 43.7	+0.1
NC303				IAmb	IAmb	19 43 11.7	
	comp=Z,16nm,1.4s						
NB2	NORSAR Subarra	42.97	322	P	P	19 42 44.1	0.0
	comp=Z,1.0nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	42.97	322	P	P	19 42 44.2	+0.1
	comp=Z,1.3nm,0.6s,baz=105,slow=7.2,SNR=7.4						
NOA				LR	LR	20 02 13.5	
	comp=Z,11nm,18.5s,baz=325,slow=38						
	comp=Z,1.3nm,0.6s						
NC204	NORSAR Array S	43.21	323	P	P	19 42 46.3	+0.2
TIXI	Tiksi	44.94	23	P	P	19 42 60.0	+0.3
	comp=Z,0.3nm,0.3s,baz=42,slow=0.3,SNR=1.8						
	comp=Z,0.3nm,0.3s						
SENIN	Lac Senin/Sane	46.32	302	P	P	19 43 11.9	+0.7
ESDC	Sonseca Array	56.25	297	P	P	19 44 25.8	+0.2
	comp=Z,0.6nm,0.8s,baz=55,slow=7.1,SNR=4.4						
	comp=Z,0.6nm,0.8s						
SIJI	Sorong	68.10	109	LR	LR	20 16 43.5	
	comp=Z,15nm,20.1s,baz=143,slow=37						
WRA	Warramunga Arr	83.25	121	P	P	19 47 09.4	-2.6
	comp=Z,0.3nm,0.7s,baz=327,slow=5.1,SNR=3.0						
	comp=Z,0.3nm,0.7s						
ASAR	Alice Springs	85.55	124	P	P	19 47 21.5	-2.1
	comp=Z,0.3nm,0.6s,baz=318,slow=4.7,SNR=5.1						
	comp=Z,0.3nm,0.6s						

IDC 11 20:01:03.8±3.0, 30°.52S×177°.36W, h0km, mb3.4/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=59.1km s-min=30.2km az=92.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.35	339	Pn	Pb	20 01 30.0	0.0
	51nm,0.3s,baz=90,slow=20,SNR=2.1						
RAO				Sn	Sn	20 01 49.1	+0.5
	94nm,0.3s,baz=76,slow=19,SNR=4.9						
DZM	Mont Dzumac	16.77	296	Pn	P	20 05 01.5	-1.1
	0.1nm,0.3s,baz=131,slow=20,SNR=3.1						
	8.5nm,1.1s						
ASAR	Alice Springs	43.66	267	P	P	20 09 11.0	+0.5
	0.2nm,0.6s,baz=110,slow=7.6,SNR=2.0						
	0.2nm,0.6s						
WRA	Warramunga Arr	44.66	272	P	P	20 09 17.5	-1.0
	0.9nm,0.8s,baz=111,slow=7.5,SNR=5.3						
	0.9nm,0.8s						
FINES	FINESS Array B	145.44	340	PKPbc	PKPbc	20 20 42.3	-0.7
	4.2nm,1.1s,baz=12,slow=2.0,SNR=4.9						

ROM 11 20:17:11.6±0.1, 42°.804N±0°.004×13°.099E±0°.004, h11km, ML1.4/3, 2C-4D, Error ellipse: s-maj=0.4km s-min=0.3km az=328.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.03	21	P	Pg	20 17 14.0	+0.3
NRCA				S	Sg	20 17 15.2	0.0
NRCA				AML	AML		
	comp=E,4185µm,0.2s						
NRCA				AML	AML		
	comp=N,4005µm,0.1s						
NRCA				AML	AML		
	comp=E,4190µm,0.2s						
NRCA				AML	AML		
	comp=N,4255µm,0.1s						
NRCA				AML	AML		
	comp=E,4955µm,0.2s						
T1245	Castelsantange	0.08	51	P	Pg	20 17 14.7	+0.4
T1245				S	Sg	20 17 16.6	+0.5
T1245				AML	AML		
	comp=E,1650µm,0.2s						
T1245				AML	AML		
	comp=N,1590µm,0.4s						
T1216	Preci, Frazion	0.10	326	AML	AML		
	comp=E,646µm,0.4s						
T1216				AML	AML		
	comp=N,858µm,0.7s						
T1218	Civita (PG)	0.14	175	P	Pg	20 17 15.3	+0.5
T1218				S	Sg	20 17 17.9	+0.7
T1215	Vallo di Nera,	0.17	269	P	Pg	20 17 15.8	+0.5
T1215				S	Sg	20 17 18.7	+0.8
MMO1	Montemonaco	0.19	60	P	Pg	20 17 16.3	+0.6
MMO1				S	Sg	20 17 19.9	+1.2
LNSS	Leonessa	0.21	192	⇓P	Pg	20 17 16.5	+0.5
LNSS				S	Sg	20 17 20.1	+1.1
LNSS				AML	AML		
	comp=E,197µm,0.8s						
LNSS				AML	AML		
	comp=N,719µm,0.4s						
SMA1	SAN MARTINO	0.25	135	P	Pg	20 17 17.2	+0.5
SMA1				S	Sg	20 17 21.7	+1.6
T1241	Roccafluvione,	0.25	78	P	Pg	20 17 17.2	+0.5
T1241				S	Sb	20 17 21.5	-1.1
T1243	Rocca Santa Ma	0.28	113	⇓P	Pg	20 17 17.7	+0.4
T1243				S	Sg	20 17 22.0	+0.9
RM33	Pellescritta (	0.31	164	⇓P	Pg	20 17 18.2	+0.4
RM33				S	Sb	20 17 23.2	-1.1
T1211	Morro Reatino	0.33	214	⇑P	Pg	20 17 18.6	+0.5
T1211				S	Sb	20 17 23.8	-0.9
T1211				AML	AML		
	comp=N,107µm,0.5s						
T1211				AML	AML		
	comp=E,175µm,0.8s						
ARRO	Arrone	0.33	228	P	Pg	20 17 18.7	+0.5
ARRO				S	Sb	20 17 24.5	-0.4
ARRO				AML	AML		
	comp=E,95µm,2.5s						
ARRO				AML	AML		
	comp=N,61µm,0.8s						
TERO	Teramo	0.41	116	P	Pg	20 17 19.8	0.0
TERO				S	Sb	20 17 26.5	-0.8
TERO				AML	AML		
	comp=E,75µm,0.5s						
TERO				AML	AML		
	comp=N,79µm,0.8s						
FIAM	Fiamignano	0.54	179	⇓P	Pg	20 17 21.4	-0.6
LAV9	Lanuvio	1.16	195	⇑P	Pb	20 17 33.6	-0.1
LRP	Arpino	1.21	162	P	Pn	20 17 27.1	-7.4
GATE	Gambatesa	1.86	133	S	Sg	20 18 14.0	+2.5
PAOL	Paolisi	2.08	148	S	Sb	20 18 14.0	-1.3
MRB1	Monte Rocchett	2.18	140	P	Pb	20 17 50.7	-0.4
MCRV	Calabrutti - M	2.54	142	S	Sg	20 18 37.0	+3.7
GAGG	Gaggia	3.62	336	S	Sn	20 18 46.0	-4.6

LJU 11 20:18:12.7, 46°.39N×15°.07E, h0km, Confirmed Rockburst

PRU 11 20:18:14.7±0.0, 46°.47N×15°.02E, h0km

VIE 11 20:18:12.6±0.2, 46°.37N×15°.05E, h0km, mb1.8/5, ml1.8/5, Error ellipse: s-maj=1.7km s-min=1.2km az=28.0 22 km NW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	Soboth	0.31	358	ePg	Pg	20 18 18.5	0.0
	9.4nm,0.3s,SNR=29						
SOKA				eSg	Sg	20 18 23.2	+0.7
	18nm,0.3s						
OBKA	Obir	0.37	292	ePg	Pg	20 18 19.9	+0.1
	13nm,0.3s,SNR=16						
OBKA				eSg	Sg	20 18 25.3	+0.7
	33nm,0.2s						
ARSA	Arzberg	0.94	20	Pg	Pg	20 18 29.6	-0.9
	4.9nm,0.2s,SNR=11						
ARSA	Arzberg	0.94	20	P	Pg	20 18 29.7	-0.9
CONA	Conrad Observa	1.65	19	ePn	Pb	20 18 43.8	-0.2
	1.5nm,0.3s						
ABTA	Abfaltersbach	1.79	283	Pn	Pn	20 18 44.5	-0.4
	1.6nm,0.3s						
CKRC	Cesky Krumlov	2.50	349	ePG	Pb	20 18 58.3	-0.1
CKRC				eSG	Sb	20 19 30.8	+1.0
KHC	Kasperske Hory	2.94	341	ePG	Pb	20 19 05.5	-0.3
KHC				eSG	Sb	20 19 40.0	-2.2

JMA 11 20:21:08.9±0.1,37°.2N±0°.5×136°.8E±0°.7,h291km±1km, MV3.1/36,NOTO PENINSULA REGION
IDC 11 20:21:09.2±0.6,37°.21N×136°.64E,h285km±7km,mb3.2/11, mbtmp3.7/14,Error ellipse: s-maj=17.2km s-min=13.1km az=21.0
ISC 11 20:21:09.0±0.7,37°.17N±0°.07×136°.70E±0°.06,h286km±6km, n31,σ0s.76/42,mb3.5/11,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSZ	Suzu	0.59	62	P	Pn	20 21 46.9	+0.7
JSZ				S	S	20 22 16.1	+0.4
JKG	Kaga	0.94	199	P	Pn	20 21 48.0	+0.3
MAT	Matsushiro	1.36	117	*i* P	Pn	20 21 50.2	+0.2
MAT				*e*S	S	20 22 23.0	+0.6
MJAR	Matsushiro Arr	1.36	117	P	Pn	20 21 50.4	+0.4
	24nm,0.6s,baz=305,slow=6.5,SNR=54						
MJAR				S	S	20 22 23.8	+1.3
	5.8nm,0.8s,baz=314,slow=13,SNR=5.1						
JSD	Sado	1.51	55	P	Pn	20 21 51.3	+0.5
JSD				*e*S	S	20 22 23.6	-0.3
JYTA	Yamagatataniai	1.58	179	*i* P	Pn	20 21 51.8	+0.4
JYTA				S	S	20 22 24.9	-0.1
JRY	Ryogami san	2.11	122	*e*P	Pn	20 21 55.6	+0.1
JRY				*e*S	S	20 22 31.7	-0.9
JWT	Wachi	2.16	210	*i* P	Pn	20 21 56.0	+0.1
JWT				*e*S	S	20 22 32.0	-1.3
JNS	Sasagawa	2.18	72	P	Pn	20 21 56.4	+0.4
JYN	Shimob	2.24	138	P	Pn	20 21 56.7	0.0
JYN				*e*S	S	20 22 34.8	+0.1
JAG	Ashikaga	2.33	108	P	Pn	20 21 56.9	-0.5
JAG				*e*S	S	20 22 34.7	-1.2
JAW	Awa shima	2.39	57	*e*P	Pn	20 21 58.3	+0.5
JOD2	Odawara 2	2.71	134	P	Pn	20 22 01.2	+0.2
JOD2				*e*S	S	20 22 42.0	-0.4
JIE	Ise	2.78	180	P	Pn	20 22 02.5	+0.9
JIE				S	S	20 22 43.3	-0.3
JOI	OKI	2.91	253	P	Pn	20 22 03.7	+0.8
JWY	Kouya	3.08	197	*i* P	Pn	20 22 05.3	+0.5
JTNC	Tanabenakahech	3.46	195	P	Pn	20 22 08.9	+0.2
KSRS	Korea Array	7.00	275	P	Pn	20 22 52.0	+2.0
	2.7nm,0.6s,baz=97,slow=12,SNR=8.2						
USRK	Ussuriysk Ar.	7.88	334	P	Pn	20 23 01.8	+1.0
	1.4nm,0.8s,baz=152,slow=9.4,SNR=2.0						
KLR	Kul'dur	12.58	345	P	Pn	20 23 57.4	-1.2
	0.9nm,0.5s,baz=158,slow=19,SNR=4.7						
SONM	Songino Array	24.60	305	P	P	20 26 02.7	-1.0
	1.0nm,0.6s,baz=112,slow=10,SNR=8.1						
	1.0nm,0.6s						
MKAR	Makanchi Array	40.84	301	P	P	20 28 22.5	-0.7
	0.9nm,0.7s,baz=76,slow=11,SNR=5.0						
	0.9nm,0.7s						
KURBB	Kurchatov Arra	42.94	307	P	P	20 28 39.4	-0.5
	0.6nm,0.6s,baz=82,slow=8.5,SNR=12						
	0.6nm,0.6s						
ILAR	Eielson Array	51.39	32	P	P	20 29 45.1	+0.6
	0.7nm,0.7s,baz=277,slow=5.5,SNR=10						
	0.7nm,0.7s						
INK	Inuvik	55.96	27	P	P	20 30 16.7	-0.7
	0.9nm,0.4s,baz=286,slow=5.5,SNR=4.6						
	0.9nm,0.4s						
WRA	Warramunga Arr	56.85	183	P	P	20 30 24.7	+0.4
	0.2nm,0.4s,baz=358,slow=7.5,SNR=8.9						
	0.2nm,0.4s						
GEYT	Alibeck	60.44	297	P	P	20 30 49.1	+0.2
	1.0nm,0.5s,baz=45,slow=4.3,SNR=2.1						
	1.0nm,0.5s						
FINES	FINESS Array B	66.89	331	P	P	20 31 30.0	-0.3
	3.6nm,1.1s,baz=46,slow=8.2,SNR=3.9						
	3.6nm,1.1s						
NVAR	Mina Array Bea	77.87	51	P	P	20 32 37.0	+1.5
	0.6nm,0.6s,baz=294,slow=4.7,SNR=4.7						
	0.6nm,0.6s						
PDAR	Pinedale Array	80.20	43	P	P	20 32 47.9	-0.2
	0.2nm,0.5s,baz=320,slow=3.5,SNR=4.0						
	0.2nm,0.5s						
TXAR	Lajitas Array	92.96	49	P	P	20 33 51.0	+0.7
	0.5nm,0.7s,baz=298,slow=1.9,SNR=7.1						
	0.5nm,0.7s						

TRN 11 20:46:40.8,14°.70N×59°.14W,h88km,MD3.7,Windward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBGH	Gun Hill	1.60	195	*e*P	Pn	20 47 10.2	+2.4
BBGH				*e*S	Sn	20 47 29.7	+1.5
BBSP	Saint Philip	1.62	191	*e*S	Sn	20 47 30.5	+2.0
ILAM	Ilet Lapin Mar	1.68	273	*e*P	Pn	20 47 11.2	+2.5
MPOM	Morne Pois Mar	1.68	261	*e*P	Pn	20 47 09.9	+1.1
MPOM	Morne Pois Mar	1.68	261	*e*	Pn	20 47 20.2	+11
MPOM				*e*S	Sn	20 47 32.1	+2.1
MVM	Montagne Vaucl	1.70	265	*e*P	Pn	20 47 10.2	+1.1
LPMF	Morne Lapointe	1.77	266	*e*P	Pn	20 47 10.9	+0.9
ZAM	Aeronautique	1.83	266	*e*P	Pn	20 47 11.5	+0.8
TRMF	Trois Ilets	1.85	265	*e*P	Pn	20 47 12.2	+1.1
BIM	Bigot	1.87	265	*e*P	Pn	20 47 12.8	+1.4
BIM				*e*S	Sn	20 47 34.8	+0.2
SLBI	Saint Lucia, B	1.90	249	*e*P	Pn	20 47 13.1	+1.5
SLBI				*e*S	Sn	20 47 37.2	+2.1
BAMF	Morne Balai	1.94	274	*e*P	Pn	20 47 13.6	+1.3
FDF	Fort de France	1.94	271	*e*P	Pn	20 47 13.6	+1.4
FDF	Fort de France	1.94	271	*e*	Pn	20 47 24.6	+12
FDF				*e*S	Sn	20 47 38.0	+1.8
GBMF	Grand Be	1.96	273	*e*P	Pn	20 47 13.8	+1.3
CXM	Morne La Croix	1.96	273	*e*P	Pn	20 47 13.2	+0.6
SVN	Savane Anatole	1.96	274	*e*P	Pn	20 47 13.8	+1.3
PML	Morne Lenard	1.98	273	*e*P	Pn	20 47 14.2	+1.5
MCLT	Moule a Chique	2.00	241	*e*P	Pn	20 47 14.2	+1.2
MCLT				*e*S	Sn	20 47 39.1	+1.6
PCM	Pelee Case Pet	2.00	274	*e*P	Pn	20 47 14.3	+1.2
SLB	Belfond	2.03	245	*e*P	Pn	20 47 14.2	+0.8
SLB				*e*S	Sn	20 47 40.2	+1.8
DSLB	Salisbury	2.32	289	*e*P	Pn	20 47 18.9	+1.6
DSLB				*e*S	Sn	20 47 46.8	+1.7
MAGL	Barre de l'ile	2.41	301	*e*P	Pn	20 47 20.4	+2.0
SSV	Crater Summit	2.41	236	*e*P	Pn	20 47 20.4	+1.8
SVB	Belmont	2.49	235	*e*P	Pn	20 47 20.6	+1.0
SVB				*e*S	Sn	20 47 50.9	+1.6
TDBA	Terre de Bas,	2.66	296	*e*P	Pn	20 47 23.8	+2.0
CBE	Ff, Capester	2.74	300	*e*P	Pn	20 47 24.7	+1.9
CBE				*e*S	Sn	20 47 57.1	+2.0
ABD	La Joyeuse, An	2.87	308	*e*P	Pn	20 47 27.1	+2.6
GCMP	Grenada, Carri	3.13	225	*e*P	Pn	20 47 30.2	+2.2
GCMP				*e*S	Sn	20 48 04.7	+0.3
ANBD	Bethesda, Anti	3.44	313	*e*P	Pn	20 47 33.4	+1.2
ANBD				*e*S	Sn	20 48 13.1	+1.2
GRGR	Grenville	3.53	224	*e*P	Pn	20 47 35.2	+1.7
ANWB	Willy Bob	3.89	320	*e*P	Pn	20 47 38.8	+0.4
ANWB				*e*S	Sn	20 48 22.4	-0.6
AOPR	Arecibo Observ	8.15	297	*e*P	Pn	20 48 37.9	+1.4

IDC 11 20:50:06.8±7.0,16°.22N×84°.85W,h0km,mb3.3/3, mbtmp3.4/3,MS3.0/6,Error ellipse: s-maj=225.9km s-min=40.9km az=16.0
INET 11 20:50:14.7±1.4,16°.44N×84°.71W,h34km±999km,MW3.9
ISC 11 20:50:13.0±1.1,16°.47N±0°.09×84°.7W±0°.2,h35km,n14, σ1s.19/9,mb3.7/3,MS3.2/3,North of Honduras

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOAB	BOACO BROADBAN	4.11	194	*e*P	Pn	20 51 12.1	-1.4
CRIN	San Cristobal	4.41	212	*e*P	Pn	20 51 19.2	+1.7
MOMN	Momotombo	4.43	205	*e*P	Pn	20 51 18.0	+0.2
ACON	Acoyapa	4.50	187	*e*P	Pn	20 51 19.2	+0.4
ACON				*e*S	Sn	20 52 09.7	-0.2
CMIG	Matias Romero	9.82	275	LR	LR	20 56 19.1	
	comp=Z,83nm,20.0s,baz=113,slow=39						
ROSC	El Rosal	15.37	138	LR	LR	21 01 54.4	
	comp=Z,39nm,19.2s,baz=52,slow=46						
SJG	San Juan	17.74	82	LR	LR	21 00 21.8	
	comp=Z,35nm,19.1s,baz=270,slow=34						
TXAR	Lajitas Array	21.66	310	P	P	20 54 59.9	-0.9
	0.2nm,0.6s,baz=123,slow=9.8,SNR=3.3						
	0.2nm,0.6s						
MDP	Montagnes des	33.35	106	LR	LR	21 12 26.7	
	comp=Z,25nm,18.1s,baz=289,slow=40						
PDAR	Pinedale Array	33.76	326	LR	LR	21 13 02.6	
	comp=Z,39nm,18.8s,baz=269,slow=41						
LPAZ	La Paz	36.40	153	LR	LR	21 14 21.9	
	comp=Z,35nm,18.1s,baz=122,slow=40						
ILAR	Eielson Array	63.51	335	P	P	21 00 39.2	-0.3
	0.6nm,0.9s,baz=134,slow=5.1,SNR=4.9						
	0.6nm,0.9s						
ESDC	Sonseca Array	72.60	53	P	P	21 01 38.5	+1.3
	0.7nm,0.8s,baz=289,slow=5.9,SNR=4.8						
	0.7nm,0.8s						
CMAR	Chiang Mai Arr	145.12	354	PKPbc	PKPbc	21 09 46.1	-1.0
	0.7nm,0.9s,baz=337,slow=4.3,SNR=4.5						

NNC 11 20:53:16.5±8.1,36°.85N×71°.19E,h0km,mb3.8,mpv3.6, 3C-2D,Error ellipse: s-maj=63.4km s-min=49.1km az=176.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.27	355	P	Pn	20 54 52.3	+2.1
	2.4nm,0.3s,baz=179,slow=13,SNR=94						
KK31				⇑S	Sn	20 56 04.9	+2.3
	1.1nm,0.2s,baz=186,slow=23,SNR=8.9						
TKM2	Tokmak 2	6.94	28	⇑P	Pn	20 54 59.5	-0.2
	2.0nm,0.6s						
TKM2				⇓S	Sn	20 56 19.1	-0.4
	2.3nm,0.8s						
AB31	Akbulak array	14.86	330	⇓P	Pn	20 56 44.8	-3.0
	0.2nm,0.3s,baz=158,slow=11,SNR=21						
AB31				⇑S	Sn	20 59 31.1	-1.9
	0.7nm,0.6s,baz=153,slow=23,SNR=4.9						

DJA 11 21:01:23.4±1.6,2°N±4°×12°7E±°,h27km±18km,M4.0/14, mb4.2/9,mB5.1/2,MLv4.0/14,Mw(mB)4.5/2
NEIC 11 21:01:26.5±1.3,2°.13N±0°.07×127°.06E±0°.10,h86km±5km, mb4.5/15,Error ellipse: s-maj=15.7km s-min=7.2km az=60.0
IDC 11 21:01:27.1±5.5,2°.24N×127°.24E,h104km±55km,mb3.9/4, mbtmp4.2/5,Error ellipse: s-maj=77.1km s-min=21.8km az=67.0
ISC 11 21:01:25.7±0.7,2°.36N±0°.07×127°.25E±0°.08,h100km,n49, σ1s.62/49,mb4.3/12,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAMI	Galela, Maluku	0.75	133	P	Pn	21 01 39.3	-4.3
TNTI	Ternate	1.58	176	Pn	Pn	21 01 50.5	-2.5
TNTI	Ternate	1.58	176	P	Pn	21 01 50.4	-2.5
SGSI	Sangihe	2.17	308	P	Pn	21 01 56.4	-4.1
LBMI	Labuha	2.98	175	P	Pn	21 02 09.5	-1.8
SANI	Sanana	4.55	196	P	Pn	21 02 30.7	-1.7
GTOI	Gorontalo	4.56	248	P	Pn	21 02 30.8	-1.8
SIJI	Sorong	5.14	129	P	Pn	21 02 41.3	+0.9
	3.9nm,0.3s,baz=162,slow=23,SNR=5.9						
SIJI				S	Sn	21 03 39.0	+0.6
	1.7nm,0.5s,baz=121,slow=23,SNR=1.0						
SIJI	Sorong	5.14	129	P	Pn	21 02 40.1	-0.3
	0.1nm5.0nm,0.5s						
NLAI	Namlea	5.56	182	P	Pn	21 02 45.0	-1.1
	0.1nm7.9nm,0.6s						
LUWI	Luwuk	5.60	233	P	Pn	21 02 44.5	-2.1
	0.3nm2μm49nm,0.4s						
MRSI	Marisa	5.62	251	P	Pn	21 02 44.6	-2.3
	0.5nm1μm125nm,0.6s						
MSAI	Masohi	5.91	163	P	Pn	21 02 49.9	-0.9
	0.1nm4.5nm,0.7s						
AAI	Ambon	6.08	171	P	Pn	21 02 52.3	-0.8
	0.1nm19nm,0.8s						
APSI	Ampana	6.47	240	P	Pn	21 02 56.2	-2.2
	0.1nm34nm,0.9s						
TOLI2	Tolitoli	6.58	259	Pn	Pn	21 02 57.2	-2.7
FAKI	Fak Fak	7.24	136	Pn	Pn	21 03 09.8	+0.8
MPSI	Mapaga	7.61	255	P	Pn	21 03 13.1	-0.9
MYLDM	Lahad Datu	9.17	288	Pn	Pn	21 03 35.6	+0.5
SBUM	Sibu	15.01	271	P	P	21 04 54.6	-1.1
KNRA	Kununurra	17.98	175	P	Pn	21 05 28.0	-1.3
KNRA	Kununurra	17.98	175	P	Pn	21 05 28.3	-1.0
WB0	Warramunga Arr	23.08	163	P	P	21 06 22.5	-0.4
WB0				IAmb	IAmb	21 06 23.6	
	comp=Z,17nm,1.2s						
WRAB	Tennant Creek	23.22	163	P	P	21 06 24.0	-0.3
WRAB				IAmb	IAmb	21 06 24.7	
	comp=Z,10nm,0.6s						
WRAB	Tennant Creek	23.22	163	P	P	21 06 24.1	-0.2
WRA	Warramunga Arr	23.23	163	P	P	21 06 23.8	-0.5
	comp=Z,7.3nm,0.5s,baz=344,slow=11,SNR=113						
	comp=Z,7.3nm,0.5s						
WRA	Warramunga Arr	23.23	163	P	P	21 06 23.2	-1.2
WB2	Warramunga Arr	23.23	163	P	P	21 06 24.1	-0.2
WB2				IAmb	IAmb	21 06 24.7	
	comp=Z,10nm,0.7s						
WR0	Warramunga Arr	23.30	162	P	P	21 06 24.6	-0.4
WR0				IAmb	IAmb	21 06 25.5	
	comp=Z,9.2nm,0.6s						
QIS	Mount Isa	25.79	153	P	P	21 06 48.4	+0.8
AS31	Alice Springs	26.66	166	P	P	21 06 55.6	+0.2
ASAR	Alice Springs	26.66	166	P	P	21 06 55.5	+0.1
	comp=Z,2.0nm,0.4s,baz=346,slow=7.6,SNR=43						
ASAR				PcP	PcP	21 10 18.1	+1.2
	comp=Z,0.3nm,0.5s,baz=352,slow=2.5,SNR=4.3						
	comp=Z,2.0nm,0.4s						
ASAR	Alice Springs	26.66	166	P	P	21 06 55.9	+0.5
AS01	Alice Springs	26.67	166	P	P	21 06 55.9	+0.4
WRKA	Warakurna	27.25	178	P	P	21 07 00.9	+0.2
PHRA	Phrae	30.95	303	P	P	21 07 32.8	-0.7
OOD	Oodnadatta	31.06	165	P	P	21 07 34.6	+0.3
MULG	Mulgathing	33.10	169	P	P	21 07 52.7	+0.5
BBOO	Buckleboo	35.95	167	P	P	21 08 17.4	+0.6
BBOO				IAmb	IAmb	21 08 36.5	
	comp=Z,34nm,1.4s						
NWAO	Narrogin (SRO)	36.35	194	P	P	21 08 20.9	+0.8
NWAO				IAmb	IAmb	21 08 30.8	
	comp=Z,29nm,1.2s						
STKA	Stephens Creek	36.67	159	P	P	21 08 22.7	-0.2
	comp=Z,5.5nm,0.8s,baz=328,slow=8.9,SNR=15						
	comp=Z,5.5nm,0.8s						
STKA	Stephens Creek	36.67	159	P	P	21 08 23.8	+0.9
STKA				IAmb	IAmb	21 08 24.1	
	comp=Z,3.0nm,1.2s						
JTM	Tenmabayashi	40.25	16	P	P	21 08 57.3	+4.6
MKAR	Makanchi Array	58.97	325	P	P	21 11 16.1	+1.2
	comp=Z,0.4nm,0.4s,baz=110,slow=7.7,SNR=5.6						
	comp=Z,0.4nm,0.4s						
MKAR	Makanchi Array	58.97	325	P	P	21 11 16.8	+2.0
BKZ	Black Stump Fm	61.22	138	P	P	21 11 27.3	-3.0
KBL	Kabul	62.77	308	P	P	21 11 44.5	+3.5
KBL				IAmb	IAmb	21 11 47.6	
	comp=Z,4.7nm,0.3s						
KURK	Kurchatov	63.17	328	P	P	21 11 45.6	+2.5
KURK				IAmb	IAmb	21 11 46.0	
	comp=Z,2.2nm,0.7s						
ABKAR	Akbulak array	73.53	321	P	P	21 12 50.0	+2.2

IDC 11 21:12:33.8±1.3,6°.83S×122°.24E,h0km,mb3.5/3, mbtmp3.4/6,ML3.1/2,Error ellipse: s-maj=65.6km s-min=18.0km az=55.0
ISC 11 21:12:35.3±1.0,6°.8S±0°.2×122°.3E±0°.2,h10km,n6,σ1s.23/8, Flores Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI	Kappang	3.05	305	Pn	Pn	21 13 22.3	-1.3
	1.8nm,0.3s,baz=122,slow=9.5,SNR=8.6						
KAPI				Sn	Sn	21 14 01.6	+1.4
	6.1nm,0.3s,baz=129,slow=14,SNR=5.4						
	5.0nm,0.2s						
BATI	Baumata	3.67	158	Pn	Pn	21 13 32.5	+0.3
	6.5nm,0.4s,baz=338,slow=19,SNR=0.9						
BATI				Sn	Sn	21 14 16.1	+0.6
	1.8nm,0.3s,baz=354,slow=17,SNR=1.1						
WRA	Warramunga Arr	17.57	139	P	Pn	21 16 39.1	-1.4
	0.1nm,0.3s,baz=316,slow=12,SNR=4.8						
	0.4nm,0.6s						
ASAR	Alice Springs	20.17	148	P	P	21 17 09.3	-0.8
	0.6nm,0.7s,baz=328,slow=12,SNR=5.1						
	0.6nm,0.7s						
SONM	Songino Array	56.17	347	P	P	21 22 16.2	+0.8
	0.5nm,0.7s,baz=160,slow=8.2,SNR=2.2						
	0.5nm,0.7s						
MKAR	Makanchi Array	64.05	331	P	P	21 23 09.9	+0.6
	0.8nm,0.7s,baz=132,slow=8.6,SNR=4.1						
	0.8nm,0.7s						

NNC 11 21:36:29.0±3.2,38°.80N×70°.39E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=24.3km s-min=17.2km az=10.0
ISC 11 21:36:28.8±3.4,38°.7N±0°.2×70°.3E±0°.1,h10km,n11, σ1s.28/16,5C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.33	36	P	Pn	21 37 34.2	-0.8
	SNR=20						
KK31	Karatay Array	4.42	2	⇓Pn	Pn	21 37 36.3	+0.5
	1.4nm,0.3s,baz=186,slow=13,SNR=71						
KK31				⇓Pg	Pb	21 37 46.1	-0.3
	0.8nm,0.3s,baz=177,slow=11,SNR=5.1						
KK31				⇓Sn	Sn	21 38 29.2	+1.9
	4.1nm,0.4s						
KK31				⇑Lg	Lg	21 38 42.0	
	5.6nm,0.5s,baz=181,slow=30,SNR=6.9						
EKS2	Erkin-Say	4.79	33	P	Pn	21 37 43.2	+2.2
	SNR=7.0						
UCH	Uchtor	4.80	41	P	Pn	21 37 42.4	+0.9
	SNR=20						
AAK	Ala-Archa	5.09	38	P	Pn	21 37 46.8	+1.5
	SNR=8.3						
KBK	Karagaybulak	5.33	40	P	Pn	21 37 50.0	+1.5
	SNR=11						
CHMS	Chumysh	5.49	37	⇑Pn	Pn	21 37 50.0	-0.6
	6.0nm,0.5s						
CHMS				⇑Sn	Sn	21 38 53.3	-0.5
	12nm,0.9s						
USP	Ospenovka	5.59	34	P	Pn	21 37 51.4	-0.6
	SNR=20						
TKM2	Tokmak 2	5.86	42	P	Pn	21 37 57.5	+1.7
	SNR=12						
TKM2	Tokmak 2	5.86	42	⇓Pn	Pn	21 37 55.9	+0.1
	5.4nm,0.4s						
TKM2				⇑Sn	Sn	21 39 01.7	-1.4
	3.4nm,0.6s						
AB31	Akbulak array	12.90	328	Pn	Pn	21 39 31.7	-0.4
	0.3nm,0.3s,baz=140,slow=12,SNR=15						
AB31				⇑Sn	Sn	21 41 54.8	-0.8
	0.8nm,0.5s,baz=144,slow=24,SNR=3.5						

JMA 11 21:41:02.6±0.1,32°.6N±0°.4×130°.7E±0°.4,h12km±1km, MV-0.2/9,SOUTHERN KUMAMOTO PREF,Kyushu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.06	104	P	Pg	21 41 05.0	0.0
JIU3				*e*S	Sg	21 41 06.2	-0.5

JMA 11 21:42:04.4±0.2,39°.1N±0°.5×14°2E±°,h34km±2km,MV0.8/9, E OFF IWATE PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.54	268	P	Pn	21 42 15.2	-0.3
OFUJ				S	Sb	21 42 23.1	-0.3
MIYJ	Miyakonagasawa	0.63	319	P	Pn	21 42 16.5	-0.4
MIYJ				S	Sn	21 42 25.4	-0.4

MOS 11 21:42:57.6±0.9,38°.51N×141°.57E,h45km,mb5.8/87, MS5.6/62,Error ellipse: s-maj=5.7km s-min=3.5km az=103.9
NEIC 11 21:42:59.3,38°.50N×141°.56E,h46km,Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr1.63; Mθθ0.46; Mφφ-2.09; Mrθ0.51; Mθφ-0.16; Mφr1.38; Fault plane solution: M0 2.41000×10^18 NP1:φs167.67000°, δ28.17000°,λ64.79000°. NP2:φs15.77000°,δ64.72000°, λ102.85000°. Principal axes: T 2.1949, Plg68.0000°, Azm310.0000°; N 0.3850, Plg12.0000°, Azm190.0000°; P -2.5799, Plg19.0000°, Azm96.0000°;
NEIC 11 21:42:59.6±2.1,38°.50N±0°.05×141°.57E±0°.07,h42km±3km, mb5.6/557,Ms_20 5.6/318,Mwb6.2/80,Mwc6.2/40,Mww6.1 Error ellipse: s-maj=8.2km s-min=7.1km az=90.0
JMA 11 21:43:00.7±0.1,38°.5N±0°.2×141°.6E±0°.4,h58km,MD5.9/40, MW6.1/40,KINKAZAN REGION
JMA Felt IV J1 at KINKAZAN REGION .
IDC 11 21:43:00.8±1.5,38°.49N×141°.51E,h55km±14km,mb4.9/46, mbtmp5.1/52,MS5.4/88,Error ellipse: s-maj=9.9km s-min=7.6km az=101.0
NIED 11 21:43:00.7,38°.46N×141°.61E,h58km,MW6.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^18Nm; Mrr0.79; Mθθ0.00; Mφφ-0.79; Mrθ0.39; Mθφ-0.26; Mφr1.22; Fault plane solution: M0 1.52000×10^18 NP1: φs196.00000°,δ17.00000°,λ88.00000°. NP2:φs18.00000°, δ73.00000°,λ91.00000°.
BJI 11 21:43:01.4±0.0,38°.66N×141°.53E,h75km,mb5.5/82, mB5.6/70,Ms5.6/96,Ms7 5.5/92
KEA 11 21:43:02.4,38°.80N×141°.62E,h21km,MS4.6/4
GCMT 11 21:43:05.7±0.1,38°.46N×141°.76E,h54km,MW6.2/174, Moment Tensor Solution. s169,c413; s174,c622; Duration: 2s.9 Moment tensor: Scale 10^18Nm; Mrr1.65±.01; Mθθ-0.06±.01; Mφφ-1.59±.01; Mrθ0.44±.01; Mθφ-0.41±.01; Mφr1.37±.01; Best double couple: M0 2.20600×10^18 NP1:φs17.00000°,δ65.00000°, λ92.00000°. NP2:φs191.00000°,δ25.00000°,λ85.00000°. Principal axes: T 2.1870, Plg70.0000°, Azm291.0000°; N 0.0450, Plg2.0000°, Azm196.0000°; P -2.2260, Plg20.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
NEIC 11 21:43:08,38°.50N×141°.56E,h50km,Moment Tensor Solution. Duration: 18s.0 Moment tensor: Scale 10^18Nm; Mrr1.37; Mθθ-0.35; Mφφ-1.02; Mrθ0.37; Mθφ-0.28; Mφr1.42; Fault plane solution: M0 1.94000×10^18 NP1: φs202.00000°,δ20.00000°,λ95.00000°. NP2:φs16.00000°, δ70.00000°,λ88.00000°. Principal axes: T 2.0522, Plg65.0000°, Azm283.0000°; N -0.2564, Plg2.0000°, Azm17.0000°; P -1.7958, Plg25.0000°, Azm108.0000°;
NEIC 11 21:43:18.8,38°.57N×142°.29E,h59km,Moment Tensor Solution. Duration: 6s.7 Moment tensor: Scale 10^18Nm; Mrr1.69; Mθθ-0.01; Mφφ-1.67; Mrθ0.29; Mθφ-0.33; Mφr1.34; Fault plane solution: M0 2.19000×10^18 NP1: φs189.83000°,δ25.68000°,λ88.17000°. NP2:φs11.86000°, δ64.33000°,λ90.88000°. Principal axes: T 2.1677, Plg71.0000°, Azm284.0000°; N 0.0487, Plg1.0000°, Azm191.0000°; P -2.2165, Plg19.0000°, Azm101.0000°;
ISC 11 21:43:00.9±0.3,38°.47N±0°.02×141°.59E±0°.02,h60km±1km, h59km:pP-P,n2174,σ1s.67/1952,mb5.6/522,MS5.6/314, 184C-133D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.18	211	*i* P	Pn	21 43 09.9	-0.3
JIKH				S	Sn	21 43 16.3	-0.6
JIKH	Ishinomakikobu	0.18	211	A	A	21 43 09.9	
	comp=E,4μm,3.5s,comp=E,2μm,2.4s						
JIO	Ouri	0.19	266	*i* P	Pn	21 43 10.0	-0.2
JIO				S	Sn	21 43 16.3	-0.7
JIO	Ouri	0.19	266	A	A	21 43 10.0	
	comp=E,2μm,2.5s,comp=E,967nm,3.6s						
JKMT	Kesennumamotoy	0.35	345	⇓*i*P	Pn	21 43 11.2	-0.2
JKMT				⇓S	Sn	21 43 18.4	-0.6
JKMT	Kesennumamotoy	0.35	345	A	A	21 43 11.2	
	comp=E,2μm,4.0s,comp=E,623nm,0.3s						
JOFO	Osakifurukawao	0.55	284	⇓*i*P	Pn	21 43 13.4	+0.1
JOFO				⇓S	Sn	21 43 23.3	+1.0
JOFO	Osakifurukawao	0.55	284	A	A	21 43 13.4	
	comp=E,3μm,3.8s,comp=E,3μm,2.6s						
JMK	Ichinoseki	0.56	329	⇓*i*P	Pn	21 43 13.5	0.0
JMK				⇓S	Sn	21 43 22.6	-0.1
JMK	Ichinoseki	0.56	329	A	A	21 43 13.5	
	comp=E,790nm,1.9s,comp=E,634nm,4.4s						
OFUJ	Ofunato	0.61	6	*i* P	Pn	21 43 13.7	-0.4
OFUJ				S	Sn	21 43 23.0	-0.7
OFUJ	Ofunato	0.61	6	A	A	21 43 13.7	
	comp=E,697nm,2.2s,comp=E,676nm,2.1s						
JOU	Okura	0.73	262	⇓*i*P	Pn	21 43 15.5	0.0
JOU				⇓S	Sn	21 43 26.6	+0.4
JOU	Okura	0.73	262	A	A	21 43 15.5	
	comp=E,651nm,3.1s,comp=E,509nm,1.7s						
JMM	Marumori	0.87	226	Pn	Pn	21 43 16.7	-0.5
JMM	Marumori	0.87	226	P	Pn	21 43 17.3	+0.1
JMM	Marumori	0.87	226	⇓*i*P	Pn	21 43 16.7	-0.5
JMM				⇓S	Sn	21 43 28.6	-0.6

JMM Marumori 0.87 226 A A 21 43 16.7
comp=E,365nm,3.5s,comp=E,448nm,4.0s
JMST Minamisoumatoc 0.93 217 A A 21 43 17.9
comp=E,458nm,0.9s,comp=E,567nm,2.7s
JOM Ohasama 1.03 347 *i*P **Pn 21 43 19.2 -0.1**
JOM ⇓S **Sn 21 43 32.6 -0.3**
JOM Ohasama 1.03 347 A A 21 43 19.2
comp=E,560nm,4.7s,comp=E,322nm,4.7s
JYK Kaneyama 1.06 295 ⇓*i*P **Pn 21 43 19.9 +0.2**
JYK Kaneyama 1.06 295 A A 21 43 19.9
comp=E,266nm,5.6s,comp=E,332nm,4.4s
MIYJ Miyakonagasawa 1.12 9 A A 21 43 20.5
comp=E,250nm,2.5s,comp=E,322nm,4.0s
JRG Rokugo 1.19 322 ⇓*i*P **Pn 21 43 21.7 +0.3**
JRG Rokugo 1.19 322 A A 21 43 21.7
comp=E,381nm,4.3s,comp=E,397nm,4.8s
JYS Shirataka 1.22 259 ⇓*i*P **Pn 21 43 22.2 +0.3**
JYS ⇓S **Sn 21 43 37.8 +0.3**
JYS Shirataka 1.22 259 A A 21 43 22.2
comp=E,406nm,2.1s,comp=E,401nm,3.5s
JFK Kawauchi 1.24 207 *i*P **Pn 21 43 21.8 -0.2**
JFK S **Sn 21 43 37.2 -0.6**
JFK Kawauchi 1.24 207 A A 21 43 21.8
comp=E,300nm,3.3s,comp=E,433nm,4.6s
JYAR Yonezawaarcadi 1.27 244 A A 21 43 22.7
comp=E,415nm,2.4s,comp=E,368nm,1.1s
JSZI Iwateshizukuis 1.36 339 A A 21 43 24.0
comp=E,497nm,3.1s,comp=E,645nm,3.1s
JYYZ Yamagatayuza 1.41 293 A A 21 43 24.7
comp=E,731nm,4.5s,comp=E,471nm,6.6s
JYA Atsumi 1.48 275 ⇓*i*P **Pn 21 43 25.6 +0.4**
JYA Atsumi 1.48 275 A A 21 43 25.6
comp=E,292nm,1.8s,comp=E,241nm,1.1s
JTH Tanohata 1.48 8 A A 21 43 25.6
comp=E,204nm,4.2s,comp=E,129nm,4.8s
JYW Yuwa 1.52 315 A A 21 43 26.3
comp=E,452nm,5.5s,comp=E,696nm,3.4s
JKZ Kuzumaki 1.53 353 A A 21 43 26.3
comp=E,259nm,4.2s,comp=E,243nm,3.1s
JFFD Fukushimafurud 1.60 211 A A 21 43 27.2
comp=E,207nm,3.4s,comp=E,153nm,6.3s
JKEN Kujiedanarisaw 1.74 3 A A 21 43 29.2
comp=E,374nm,0.4s,comp=E,343nm,0.5s
JTB Tobi-shima 1.74 295 A A 21 43 29.5
comp=E,222nm,3.8s,comp=E,185nm,5.3s
JFY Yanaizu 1.83 235 A A 21 43 30.6
comp=E,187nm,3.4s,comp=E,129nm,5.2s
JAW Awa shima 1.84 270 A A 21 43 30.8
comp=E,178nm,4.4s,comp=E,143nm,4.4s
JAH Hinai 1.87 337 A A 21 43 31.2
comp=E,198nm,3.8s,comp=E,254nm,2.8s
JANG Nango 1.90 358 A A 21 43 31.6
comp=E,123nm,4.3s,comp=E,111nm,3.5s
JNS Sasagawa 1.90 251 A A 21 43 31.7
comp=E,146nm,3.3s,comp=E,118nm,6.5s
JSB Shiboa 2.00 222 A A 21 43 32.9
comp=E,401nm,4.1s,comp=E,422nm,2.5s
JHO Hitachi 2.02 204 A A 21 43 33.2
comp=E,84nm,1.7s,comp=E,100nm,3.1s
JNTW Noshirotokiwa 2.11 329 A A 21 43 34.6
comp=E,828nm,2.6s,comp=E,554nm,2.9s
JHYU Hitachinakayam 2.27 201 A A 21 43 36.7
comp=E,98nm,2.8s,comp=E,101nm,5.0s
JTM Tenmabayashi 2.35 350 Pn **Pn 21 43 37.3 +0.2**
JTM Tenmabayashi 2.35 350 P **Pn 21 43 38.6 +1.5**
JTM Tenmabayashi 2.35 350 A A 21 43 37.9
comp=E,192nm,3.0s,comp=E,115nm,3.0s
JTM Tenmabayashi 2.35 350 ⇓P **Pn 21 43 37.5 +0.5**
JUON Uonuma 2.37 239 A A 21 43 38.2
comp=E,86nm,3.6s,comp=E,70nm,4.9s
JHHS Hirosakihyakuz 2.38 337 A A 21 43 38.4
comp=E,361nm,6.9s,comp=E,325nm,3.0s
JOG3 Oga3 2.43 307 A A 21 43 33.1
comp=E,275nm,2.5s,comp=E,255nm,2.8s
JIW Iwasaki 2.45 331 A A 21 43 39.4
comp=E,139nm,6.3s,comp=E,124nm,4.0s
JIZZ Izumozaki 2.46 249 A A 21 43 39.5
comp=E,374nm,3.9s,comp=E,439nm,5.2s
JYT Yasato 2.50 207 A A 21 43 39.9
comp=E,141nm,0.4s,comp=E,114nm,2.5s
JARK Aomorirokkasho 2.54 356 A A 21 43 40.6
comp=E,147nm,4.7s,comp=E,100nm,4.1s
JIHU Itakohorinouch 2.64 199 A A 21 43 41.9
comp=E,560nm,2.2s,comp=E,966nm,3.9s
JAG Ashikaga 2.65 220 A A 21 43 42.2
comp=E,95nm,4.3s,comp=E,93nm,5.4s
JSD Sado 2.66 262 Pn **Pn 21 43 41.1 -0.1**
JSD Sado 2.66 262 P **Pn 21 43 42.2 +1.0**
JSD Sado 2.66 262 A A 21 43 42.3
comp=E,64nm,2.9s,comp=E,64nm,6.3s
JSD Sado 2.66 262 ⇓P **Pn 21 43 41.3 +0.1**
JSI2 Shiura 2 2.74 341 A A 21 43 43.5
comp=E,170nm,3.1s,comp=E,122nm,3.5s
JAHD Aomorihigashid 2.80 356 A A 21 43 44.2
comp=E,149nm,0.9s,comp=E,175nm,1.4s
CHOJ Chosi 2.82 192 A A 21 43 44.4
comp=E,144nm,4.1s,comp=E,113nm,5.5s
JOT Ohata 2.94 357 A A 21 43 46.3
comp=E,114nm,4.4s,comp=E,87nm,3.6s
JSMT Sammumatsuo 2.96 198 A A 21 43 46.5
comp=E,386nm,4.4s,comp=E,451nm,4.2s
JGK Kuni 3.02 232 A A 21 43 47.4
comp=E,118nm,2.9s,comp=E,81nm,5.0s
JJN Nakama 3.04 244 A A 21 43 47.7
comp=E,137nm,4.5s,comp=E,104nm,5.5s
TOK Tokyo 3.14 208 A A 21 43 49.0
comp=E,330nm,3.2s,comp=E,364nm,4.3s
JSR Shiriuchi 3.19 344 A A 21 43 49.8
comp=E,183nm,3.4s,comp=E,124nm,4.1s
JHU Hanno 3.20 216 A A 21 43 49.8
comp=E,98nm,7.0s,comp=E,97nm,3.5s
JCN Nagara 3.24 200 A A 21 43 50.3
comp=E,472nm,3.4s,comp=E,314nm,3.0s
JRY Ryogami san 3.25 222 A A 21 43 50.6
comp=E,86nm,5.2s,comp=E,105nm,3.8s
JOMM Oshimamatsumae 3.29 330 A A 21 43 51.1
comp=E,47nm,4.7s,comp=E,56nm,4.4s
MJAR Matsushiro Arr 3.30 235 P **Pn 21 43 50.8 +0.6**
492nm,0.9s,baz=40,slow=12,SNR=588
MJAR S **Sn 21 44 31.0 +2.7**
1µm,0.7s,baz=46,slow=16,SNR=5.5
MAJO Matsushiro 3.31 235 Pn **Pn 21 43 50.9 +0.8**
MAJO Matsushiro 3.31 235 P **Pn 21 43 52.6 +2.4**
MAJO Matsushiro 3.31 235 ⇓P **Pn 21 43 51.9 +1.7**
MAJO Matsushiro 3.31 235*d i*P **Pn 21 43 52.1 +1.9**
MJB9 Matsu-Tunnel 3.31 236 Pn **Pn 21 43 51.9 +1.8**
JSGW Sagamiharawaka 3.44 214 A A 21 43 53.2
comp=E,99nm,5.5s,comp=E,64nm,1.8s
JKB Kayabe 3.44 353 A A 21 43 53.3
comp=E,82nm,6.2s,comp=E,55nm,2.4s
JNG Nsakai 3.46 235 A A 21 43 53.5
comp=E,49nm,5.3s,comp=E,72nm,3.7s
JKUC kamogawauchiur 3.48 199 A A 21 43 53.8
comp=E,209nm,4.3s,comp=E,193nm,3.7s
JSZ Suzu 3.49 254 A A 21 43 54.1
comp=E,31nm,3.7s,comp=E,43nm,4.1s
JYO Yokosk 3.59 206 A A 21 43 55.2
comp=E,177nm,2.9s,comp=E,261nm,4.7s
TATJ Tateyama 2 3.69 202 A A 21 43 56.7
comp=E,434nm,3.2s,comp=E,271nm,2.8s
JHG Hegura jima 3.73 262 A A 21 43 57.5
comp=E,41nm,4.9s,comp=E,38nm,6.2s
ERM Erimo 3.74 18 Pn **Pn 21 43 55.6 -0.5**
ERM Erimo 3.74 18 P **Pn 21 43 57.8 +1.7**
ERM Erimo 3.74 18 ⇑P **Pn 21 43 55.6 -0.5**
ERM Erimo 3.74 18*ce*P **Pn 21 43 55.3 -0.8**
JEM Erimo 3.74 18 A A 21 43 57.4
comp=E,53nm,6.0s,comp=E,78nm,3.2s
JYM2 Yakumo 2 3.76 346 A A 21 43 57.8
comp=E,45nm,3.7s,comp=E,68nm,2.2s
JOD2 Odawara 2 3.77 213 A A 21 43 57.9
comp=E,117nm,3.0s,comp=E,93nm,4.7s
JNT Takato 3.78 228 A A 21 43 58.1
comp=E,57nm,3.5s,comp=E,93nm,4.2s
JYN Shimob 3.84 220 A A 21 43 58.8
comp=E,139nm,3.2s,comp=E,107nm,3.0s
JTT Ttatey 3.86 242 A A 21 43 59.2
comp=E,82nm,3.5s,comp=E,81nm,4.2s
JNBK Urakawa-nobuka 3.91 13 A A 21 43 59.8
comp=E,110nm,3.4s,comp=E,130nm,3.9s
JOSM Okushiri--Mats 3.96 337 A A 21 44 00.6
comp=E,65nm,4.3s,comp=E,44nm,3.6s
JSHD Hidakashinhida 3.99 9 A A 21 44 01.0
comp=E,127nm,3.3s,comp=E,124nm,2.7s
JFNN Fujinakano 4.01 216 A A 21 44 01.3
comp=E,200nm,4.2s,comp=E,153nm,5.1s
JNB Noboribetsu 4.02 354 A A 21 44 01.4
comp=E,36nm,2.9s,comp=E,20nm,4.3s
JTHR Tokachihiroo 4.04 18 A A 21 44 01.5
comp=E,46nm,3.1s,comp=E,36nm,2.3s
JHTM Izuhatsuma 4.07 211 A A 21 44 02.1
comp=E,113nm,5.6s,comp=E,140nm,3.8s
JGN Niukaw 4.08 238 A A 21 44 02.2
comp=E,39nm,4.7s,comp=E,38nm,5.5s
JJH Hakui 4.11 249 A A 21 44 02.8
comp=E,40nm,6.4s,comp=E,46nm,4.4s
JIM2 Oshima 3 4.13 206 A A 21 44 02.8
comp=E,126nm,2.5s,comp=E,101nm,6.7s
JIAM Iburiatsuma 4.16 3 A A 21 44 03.3
comp=E,122nm,3.2s,comp=E,96nm,2.8s
JHST Hiyamasetana 4.16 342 A A 21 44 03.4
comp=E,112nm,3.6s,comp=E,51nm,4.5s
JNY Yasuok 4.31 225 A A 21 44 05.4
comp=E,105nm,3.0s,comp=E,87nm,1.7s
JIZS Izushimoda 4.33 211 A A 21 44 05.7
comp=E,43nm,4.8s,comp=E,35nm,2.4s
JSH Shimam 4.33 345 A A 21 44 05.8
comp=E,36nm,3.5s,comp=E,27nm,4.0s
SHZ3 Shizuoka 3 4.34 220 A A 21 44 05.9
comp=E,66nm,3.6s,comp=E,80nm,3.9s
JBT2 Biratori 2 4.35 8 A A 21 44 05.9
comp=E,51nm,3.6s,comp=E,34nm,3.3s
JTHY Toshimahigashi 4.35 206 A A 21 44 06.0
comp=E,131nm,4.9s,comp=E,92nm,3.4s
JCH Churui 4.36 18 A A 21 44 06.0
comp=E,75nm,2.6s,comp=E,66nm,3.3s
JEW Eniwo 4.37 359 A A 21 44 06.3
comp=E,67nm,3.4s,comp=E,66nm,3.8s
JGF Kuroka 4.43 231 **Pn 21 44 07.5 +1.9**
JGF Kuroka 4.43 231 P **Pn 21 44 10.2 +4.6**
JGF Kuroka 4.43 231 A A 21 44 07.2
comp=E,41nm,3.4s,comp=E,46nm,4.1s
JGF Kuroka 4.43 231 ⇓P **Pn 21 44 08.2 +2.6**
JNIO Niijimaoohara 4.51 205 A A 21 44 08.2
comp=E,97nm,3.4s,comp=E,79nm,2.9s
JSKK Shikinejimakit 4.55 206 A A 21 44 08.7
comp=E,82nm,4.1s,comp=E,50nm,6.1s
JSG Sagara 4.67 217 A A 21 44 10.5
comp=E,120nm,3.6s,comp=E,92nm,3.6s
JMYK Miyake Tsubota 4.70 201 A A 21 44 10.8
comp=E,69nm,4.7s,comp=E,78nm,4.6s
JKKS Kakegawashinom 4.71 219 A A 21 44 11.0
comp=E,144nm,4.1s,comp=E,120nm,3.7s
JKO Kozu shima 4.71 206 A A 21 44 11.0
comp=E,132nm,3.4s,comp=E,73nm,3.2s
JAO Obara 4.72 229 A A 21 44 11.2
comp=E,46nm,4.6s,comp=E,47nm,5.1s
JKG Kaga 4.72 244 A A 21 44 11.3
comp=E,25nm,7.6s,comp=E,28nm,4.6s
JOB Onbets 4.75 20 A A 21 44 11.5
comp=E,71nm,2.3s,comp=E,143nm,3.1s
JFR Furan 4.75 9 A A 21 44 11.6
comp=E,25nm,5.4s,comp=E,30nm,4.7s
HMMJ Hamamatsu 2 4.76 222 A A 21 44 11.7
comp=E,32nm,4.1s,comp=E,34nm,3.7s
JISS Ishikarishitsu 4.80 359 A A 21 44 12.3
comp=E,81nm,4.2s,comp=E,80nm,5.3s
INU Inuyama 4.81 231 **Pn 21 44 12.7 +2.0**
INU Inuyama 4.81 231 P **Pn 21 44 14.0 +3.3**
INU Inuyama 4.81 231 ⇑P **Pn 21 44 13.0 +2.3**
JYTA Yamagatataniai 4.83 235 A A 21 44 12.7
comp=E,32nm,5.6s,comp=E,44nm,3.0s
JSSY Shinshiroyabe 4.83 224 A A 21 44 12.7
comp=E,32nm,5.3s,comp=E,30nm,3.3s
JMKN Mikurajimanish 4.84 200 A A 21 44 12.8
comp=E,31nm,3.8s,comp=E,40nm,9.3s
JICN Ichinomiyachia 4.94 232 A A 21 44 14.4
comp=E,45nm,3.9s,comp=E,72nm,3.0s
JSK Shakotan 4.95 351 A A 21 44 14.5
comp=E,27nm,4.7s,comp=E,25nm,3.6s
JAB Ashibetsu 5.05 5 A A 21 44 15.8
comp=E,73nm,3.0s,comp=E,47nm,4.0s
JAR Ashorobuto 5.10 18 A A 21 44 16.4
comp=E,35nm,5.2s,comp=E,40nm,2.5s
JAK Akkeshi 5.10 27 A A 21 44 16.4
comp=E,46nm,2.7s,comp=E,55nm,3.2s
JAA Atsumi 5.24 224 A A 21 44 18.5
comp=E,29nm,3.8s,comp=E,53nm,4.7s
TTO5 TONANKAI O.B.S 5.24 218 A A 21 44 18.5
comp=E,153nm,4.2s,comp=E,151nm,5.3s
JHR Hokuryu 5.27 1 A A 21 44 18.9
comp=E,40nm,1.8s,comp=E,50nm,4.4s
JEG Eigenji 5.33 233 A A 21 44 19.8
comp=E,27nm,5.0s,comp=E,22nm,4.3s
JKHN Kushirohamanak 5.35 29 A A 21 44 19.8
comp=E,45nm,2.6s,comp=E,41nm,2.8s
JFM Mihama 5.36 239 A A 21 44 20.2
comp=E,22nm,4.7s,comp=E,31nm,4.5s
JKK2 Kamakawa 2 5.47 9 A A 21 44 21.6
comp=E,22nm,2.6s,comp=E,24nm,4.1s
JHJ Hachijo jima 2 5.54 196 P **Pn 21 44 20.9 +0.2**
442nm,0.3s,baz=46,slow=17,SNR=35
JHJ S **Sn 21 45 23.1 +0.1**
3µm,0.4s,baz=66,slow=20,SNR=2.5
JHJ LR LR 21 45 58.4
comp=Z,12µm,21.8s,baz=6.5,slow=32
JHJ2 Mitsune 5.54 196 Pn **Pn 21 44 20.9 +0.2**
JHJ2 Mitsune 5.54 196 P **Pn 21 44 22.4 +1.7**
JHJ2 Mitsune 5.54 196 A A 21 44 22.5
comp=E,42nm,3.2s,comp=E,33nm,3.5s
JHJ2 Mitsune 5.54 196 ⇑P **Pn 21 44 20.6 -0.1**
JHCJ Hachijojimakas 5.58 196 A A 21 44 23.1
comp=E,30nm,3.5s,comp=E,23nm,6.0s
TSUJ Tsu 2 5.60 230 A A 21 44 23.5
comp=E,21nm,4.1s,comp=E,28nm,5.8s
JNK Nakash 5.63 24 A A 21 44 23.8
comp=E,16nm,4.1s,comp=E,19nm,3.3s
JIE Ise 5.66 226 A A 21 44 24.3
comp=E,20nm,4.5s,comp=E,41nm,4.3s
JMP Matuseppu 5.69 13 A A 21 44 24.7
comp=E,21nm,3.9s,comp=E,19nm,2.1s
ASAJ Asahikawa 5.69 7 A A 21 44 24.8
comp=E,23nm,3.8s,comp=E,19nm,4.4s
ASAJ Asahikawa 5.69 7 P **Pn 21 44 21.3 -1.5**
JKA Kamikawa-asahi 5.69 7 Pn **Pn 21 44 21.3 -1.5**
JKA Kamikawa-asahi 5.69 7 ⇑S **Pn 21 44 21.9 -1.0**
TTO3 TONANKAI O.B.S 5.71 218 A A 21 44 25.0
comp=E,136nm,3.6s,comp=E,110nm,6.7s
JTKR Abashiri--Toko 5.77 17 A A 21 44 25.8
comp=E,14nm,4.3s,comp=E,15nm,2.5s
NMR Nemuro--Hokkai 5.81 31 ⇓*i*P **Pn 21 44 21.8 -2.6**
NMR *i* S **Sn 21 45 23.9 -5.8**
NEM2 Nemuro 2 5.82 31 A A 21 44 26.4
comp=E,20nm,3.7s,comp=E,15nm,2.0s
JWT Wachi 5.89 239 A A 21 44 27.6
comp=E,22nm,3.3s,comp=E,19nm,5.4s
JNSB Nemuroshibetsu 5.90 25 A A 21 44 27.5
comp=E,45nm,3.0s,comp=E,66nm,3.0s
JKY Yasaka 5.91 243 A A 21 44 27.9
comp=E,30nm,4.4s,comp=E,26nm,4.3s
JSS Shosan 5.93 2 A A 21 44 28.1
comp=E,36nm,4.7s,comp=E,35nm,5.6s
JYG Yagishiri 5.96 359 A A 21 44 28.5
comp=E,16nm,5.8s,comp=E,18nm,4.4s
JKN2 Miekihoku 6.02 227 A A 21 44 29.3
comp=E,14nm,5.3s,comp=E,14nm,3.6s
JRA Rausu 6.08 25 A A 21 44 30.1
comp=E,19nm,3.4s,comp=E,19nm,2.6s
JHE Heguri 6.09 233 A A 21 44 30.4
comp=E,22nm,3.7s,comp=E,27nm,5.3s
JAOM Aogashimamukai 6.17 194 A A 21 44 31.4
comp=E,42nm,3.4s,comp=E,35nm,3.8s
JNTK Naratenkawa 6.22 229 A A 21 44 32.2
comp=E,16nm,4.0s,comp=E,19nm,4.7s
JKSM Kasumi 6.24 245 A A 21 44 32.5
comp=E,16nm,5.3s,comp=E,13nm,4.7s
RUSJ Misakicho 6.27 25 *e*P **Pn 21 44 29.6 -1.1**
RUSJ *e*S **Sn 21 45 39.8 -1.1**
YUK Yuzh-Kuril'sk 6.42 29 *e*P **Pn 21 44 31.4 -1.4**
YUK *e*S **Sn 21 45 39.5 -5.2**
YUK pmax pmax
comp=N,549nm,0.3s
YUK pmax pmax
comp=Z,2µm,0.3s
YUK pmax pmax
comp=E,547nm,0.2s
YUK smax smax
comp=E,6µm,0.4s
YUK smax smax
comp=N,15µm,0.5s
YUK MLR MLR
comp=Z,25µm,15.0s
YUK MLR MLR
comp=E,15µm,11.0s
YUK MLR MLR
comp=N,8µm,8.0s
TEY Ternei 7.54 332⇑*e*P **Pn 21 44 51.3 +3.2**
TEY pmax pmax
comp=N,130nm,1.1s
TEY pmax pmax
comp=E,60nm,1.1s
TEY pmax pmax
comp=Z,130nm,1.1s
JHS Saijyo 7.63 246 Pn **Pn 21 44 51.6 +2.2**
JHS Saijyo 7.63 246 P **Pn 21 44 53.3 +3.9**
JHS Saijyo 7.63 246 ⇓P **Pn 21 44 52.8 +3.3**
JMN Monobe 7.83 235 Pn **Pn 21 44 51.9 -0.2**
JMN Monobe 7.83 235 P **Pn 21 44 55.0 +2.9**
JMN Monobe 7.83 235 ⇓P **Pn 21 44 53.5 +1.4**
KUR Kuril'sk 8.22 33 *e*P **Pn 21 44 55.9 -1.5**
KUR *e*S **Sn 21 46 27.0 -1.8**
KUR pmax pmax
comp=Z,771nm,0.7s
KUR pmax pmax
comp=E,394nm,0.3s
KUR pmax pmax
comp=N,202nm,0.4s
KUR pmax pmax
comp=Z,5µm,3.5s
KUR smax smax
comp=N,3µm,0.7s
KUR smax smax
comp=E,1µm,0.4s
KUR smax smax
comp=N,15µm,2.7s
KUR smax smax
comp=E,8µm,3.2s
KUR MLR MLR
comp=E,21µm,15.0s
KUR MLR MLR
comp=N,20µm,13.0s
YSS Yuzh-Sakhalins 8.52 5 Pn **Pn 21 44 59.5 -2.0**
YSS Yuzh-Sakhalins 8.52 5 P **Pn 21 45 01.9 +0.4**
YSS Yuzh-Sakhalins 8.52 5 ⇓P **Pn 21 45 01.1 -0.5**
YSS Yuzh-Sakhalins 8.52 5⇓*e*P **Pn 21 45 01.1 -0.5**
YSS *e*S **Sn 21 46 38.4 +2.3**
YSS pmax pmax
comp=Z,400nm,1.1s
YSS pmax pmax
comp=Z,1µm,8.3s
YSS smax smax
comp=E,330nm,1.7s
YSS MLR MLR
comp=Z,19µm,15.0s
MSHR Mys Shultsa 8.94 301*c i*P **Pn 21 45 07.8 +0.6**
USA0B Ussuriysk Arra 9.21 311 Pn **Pn 21 45 10.8 -0.2**
USA0B Ussuriysk Arra 9.21 311*ce*P **Pn 21 45 12.1 +1.2**
USRK Ussuriysk Ar. 9.21 311 P **Pn 21 45 11.6 +0.6**
comp=Z,66nm,0.4s,baz=128,slow=14,SNR=186
USRK LR LR 21 48 54.7
comp=Z,18µm,18.6s,baz=103,slow=39
USRK Ussuriysk Ar. 9.21 311 Pn **Pn 21 45 11.0 +0.1**
JNU Nakatsue 10.20 242 Pn **Pn 21 45 24.9 +0.3**
JNU Nakatsue 10.20 242 P **Pn 21 45 26.8 +2.2**
JTU Tsushima 10.57 252 Pn **Pn 21 45 31.0 +1.5**
JTU Tsushima 10.57 252 P **Pn 21 45 31.6 +2.0**
JTU Tsushima 10.57 252 ⇑P **Pn 21 45 33.0 +3.4**
UGL Uglegorsk 10.61 2 *e*P **Pn 21 45 27.6 -2.4**
UGL *e*S **Sn 21 47 27.9 +0.7**
UGL smax smax
comp=N,200nm,0.9s
UGL smax smax
comp=E,200nm,0.9s
UGL MLR MLR
comp=N,17µm,15.0s
UGL MLR MLR
comp=E,10µm,15.0s
UGL MLR MLR
comp=Z,14µm,14.0s
KSRS Korea Array 10.84 269 P **Pn 21 45 36.5 +3.3**
comp=Z,24nm,0.4s,baz=81,slow=14,SNR=57
KSRS LR LR 21 49 44.7
comp=Z,22µm,19.5s,baz=80,slow=37
KSAR Wonju Array Be 10.87 269 Pn **Pn 21 45 36.1 +2.5**
KSAR Wonju Array Be 10.87 269 P **Pn 21 45 36.1 +2.5**
KS19 Wonju Array Si 10.87 269 Pn **Pn 21 45 36.1 +2.4**
MDJ Mudanjiang 10.88 308 Pn **Pn 21 45 36.1 +2.3**
MDJ Mudanjiang 10.88 308 P **Pn 21 45 35.1 +1.3**
MDJ pmax pmax
comp=Z,40nm,1.1s
MDJ pmax pmax
comp=Z,830nm,3.6s
MDJ LR LR
comp=Z,22µm,24.9s
MDJ LR LR
comp=Z,23µm,21.1s
MDJ LR LR
comp=Z,65µm,24.8s
HHU Hamhung 11.01 282 P **Pn 21 45 38.2 +2.7**
HHU sP 21 45 46.3
HHU S **Sn 21 47 41.6 +4.6**
HHU AMS AMS
comp=N,3µm,13.3s
HHU AMS AMS
comp=E,685nm,2.9s
HHU AMS AMS
comp=Z,633nm,2.7s
JCJ Chichijima 11.35 177 P **Pn 21 45 36.5 -3.8**
comp=Z,86nm,0.3s,baz=65,slow=16,SNR=24
JCJ S **Sn 21 47 37.0 -8.5**
comp=Z,654nm,0.7s,baz=225,slow=21,SNR=3.4
JCJ Chichijima 11.35 177 Pn **Pn 21 45 36.9 -3.4**
JSU Suzuyama 11.47 236 Pn **Pn 21 45 43.3 +1.4**
JSU Suzuyama 11.47 236 P **Pn 21 45 44.4 +2.5**
JSU Suzuyama 11.47 236 ⇑P **Pn 21 45 43.6 +1.7**
TJN Taejon 11.50 264 Pn **Pn 21 45 44.3 +2.0**
TJN Taejon 11.50 264 P **Pn 21 45 45.1 +2.8**
TJN Taejon 11.50 264⇑*e*P **Pn 21 45 45.3 +3.0**
INCN Inchon 11.85 270 Pn **Pn 21 45 50.9 +3.9**
INCN Inchon 11.85 270 P **Pn 21 45 49.9 +2.9**
INCN Inchon 11.85 270 P **Pn 21 45 50.9 +3.9**
PYAG Pyongyang 12.37 278 P **Pn 21 45 56.8 +2.6**
PYAG sP **P 21 46 04.8 +0.5**
PYAG S **Sn 21 48 16.8 +6.5**
PYAG AMS AMS
comp=N,11µm,3.1s
PYAG AMS AMS
comp=E,8µm,2.2s
PYAG AMS AMS
comp=Z,98µm,26.9s
TYV Tymovskoe 12.42 3 *e*P **Pn 21 45 54.5 -0.2**
TYV *e*S **Sn 21 48 11.9 +0.7**
TYV pmax pmax
comp=Z,1µm,5.2s
TYV pmax pmax
comp=Z,50nm,0.8s
TYV smax smax
comp=N,1µm,5.7s
TYV smax smax
comp=E,2µm,5.7s
HJU Haeju 12.48 273 P **Pn 21 45 58.4 +2.7**
HJU sP **P 21 46 06.3 +0.8**
HJU S **Sn 21 48 16.1 +3.2**
HJU AMS AMS
comp=N,5µm,1.5s
HJU AMS AMS
comp=E,26µm,8.4s
HJU AMS AMS
comp=Z,59µm,19.1s
BNX BinXian 12.78 309 ⇑P **Pn 21 46 00.4 +0.7**
BNX PP P 21 46 17.1 +8.3
BNX S **Sn 21 48 23.8 +3.5**
BNX pmax pmax
comp=Z,20nm,1.2s
BNX pmax pmax
comp=Z,2µm,4.1s
BNX LR LR
comp=Z,7µm,15.7s
BNX LR LR
comp=Z,10µm,16.2s
BNX LR LR
comp=Z,14µm,16.9s
GRNR Gornyy 12.83 345 ⇓*i*P **Pn 21 45 57.7 -2.7**
GRNR *e*S **Sn 21 48 18.9 -2.5**
GRNR pmax pmax
comp=E,4.0nm,0.7s
GRNR pmax pmax
comp=N,3.0nm,0.5s

GRNR pmax pmax
comp=E,8.0nm,0.9s
GRNR smax smax
comp=E,8.0nm,0.6s
KLR Kul'dur 12.88 330 P **Pn** **21 46 00.6 -0.3**
comp=E,8.8nm,0.8s,baz=126,slow=12,SNR=16
KLR LR LR 21 51 02.5
comp=E,28μm,20.9s,baz=142,slow=38
KLR Kul'dur 12.88 330⇑*eP* **Pn** **21 46 00.2 -0.7**
KLR pmax pmax
comp=Z,29nm,1.3s
CN2 Changchun 13.28 299 P **Pn** **21 46 05.6 -0.8**
CN2 sP P 21 46 24.4 +10
CN2 S **Sn** **21 48 31.2 -1.1**
CN2 pmax pmax
comp=Z,50nm,1.1s
CN2 LR LR
comp=Z,8μm,25.0s
CN2 LR LR
comp=Z,16μm,25.0s
CN2 LR LR
comp=Z,20μm,25.0s
SUJ Sinuiju 13.35 282 P **Pn** **21 46 09.1 +1.7**
SUJ sP **P** **21 46 18.4 +3.3**
SUJ S **Sn** **21 48 36.0 +2.0**
SUJ AMS AMS
comp=N,9μm,2.9s
SUJ AMS AMS
comp=E,20μm,6.4s
SUJ AMS AMS
comp=Z,55μm,17.7s
SNY Shenyang 14.18 289⇑P **Pn** **21 46 19.2 +0.7**
SNY PP **PnPn** **21 46 32.0 +5.2**
SNY sP P 21 46 37.9 +14
SNY S **Sn** **21 48 54.0 -0.2**
SNY sS **S** **21 49 08.7 -3.2**
SNY SS **SnSn** **21 49 14.0 +6.9**
SNY pmax pmax
comp=Z,20nm,1.1s
SNY LR LR
comp=Z,10μm,15.1s
SNY LR LR
comp=Z,26μm,22.0s
SNY LR LR
comp=Z,72μm,30.5s
HEH HeiHe 15.51 324 *e*P **Pn** **21 46 33.0 -2.7**
HEH S **Sn** **21 49 20.0 -6.4**
HEH pmax pmax
comp=Z,42nm,1.2s
HEH pmax pmax
comp=Z,1μm,3.9s
HEH LR LR
comp=Z,11μm,21.6s
HEH LR LR
comp=Z,13μm,19.5s
HEH LR LR
comp=Z,32μm,23.3s
DL2 Dalian 15.60 278 P **Pn** **21 46 38.2 +1.3**
DL2 sP **pP** **21 46 56.4 +3.6**
DL2 S **Sn** **21 49 30.7 +2.0**
DL2 pmax pmax
comp=Z,660nm,1.1s
DL2 pmax pmax
comp=Z,2μm,3.7s
DL2 LR LR
comp=Z,5μm,13.1s
DL2 LR LR
comp=Z,8μm,15.1s
DL2 LR LR
comp=Z,11μm,13.9s
SKR Severo-Kuril's 15.97 35 *e*P **P** **21 46 44.0 -0.1**
SKR pmax pmax
comp=Z,300nm,4.5s
SKR pmax pmax
comp=Z,116nm,1.1s
SKR MLR MLR
comp=Z,6μm,14.0s
JOW Kunigami 16.11 228 P **Pn** **21 46 44.0 +0.4**
comp=Z,26nm,0.4s,baz=64,slow=12,SNR=8.3
JOW LR LR 21 52 34.4
comp=Z,7μm,19.2s,baz=50,slow=36
JOW Kunigami 16.11 228 Pn **Pn** **21 46 41.3 -2.3**
JOW Kunigami 16.11 228 P **P** **21 46 46.4 +0.5**
JOW Kunigami 16.11 228⇑P **Pn** **21 46 42.0 -1.5**
ZEA Zeya 18.17 332*ce*P **P** **21 47 06.6 -1.7**
ZEA *e*S Sn 21 50 19.2 -11
ZEA pmax pmax
comp=E,80nm,1.1s
ZEA pmax pmax
comp=N,170nm,0.8s
ZEA pmax pmax
comp=Z,250nm,0.9s
ZEA pmax pmax
comp=E,900nm,7.2s
ZEA pmax pmax
comp=N,1μm,7.6s
ZEA pmax pmax
comp=Z,2μm,7.7s
ZEA smax smax
comp=N,1μm,15.1s
SSE Sheshan 18.28 252 P **Pn** **21 47 11.2 +0.9**
SSE S **Sn** **21 50 34.5 +0.8**
SSE pmax pmax
comp=N,170nm,1.2s
SSE pmax pmax
comp=N,910nm,6.7s
PEA0B Petropavlovsk- 18.39 32 P **P** **21 47 09.0 -1.8**
PEA0B Petropavlovsk- 18.39 32 P **P** **21 47 09.0 -1.8**
PEA0B pmax pmax
comp=Z,90nm,1.3s
PETK Petropavlovsk- 18.39 32 P **P** **21 47 09.9 -0.9**
comp=Z,23nm,0.9s,baz=205,slow=9.2,SNR=13
PETK LR LR 21 55 16.3
comp=Z,12μm,19.3s,baz=217,slow=40
PETK Petropavlovsk- 18.39 32 P **P** **21 47 08.6 -2.2**
PET Petropavlovsk 18.73 33 P **P** **21 47 14.1 -0.4**
PET Petropavlovsk 18.73 33 P **Pn** **21 47 15.9 +0.4**
PET Petropavlovsk 18.73 33⇑P **Pn** **21 47 16.4 +0.9**
PET Petropavlovsk 18.73 33 *e*P **Pn** **21 47 16.0 +0.4**
PET *e*S **Sn** **21 50 39.9 -4.4**
PET pmax pmax
comp=Z,2μm,10.2s
PET pmax pmax
comp=Z,147nm,0.9s
PET pmax pmax
comp=Z,1μm,8.4s
PET MLR MLR
comp=Z,20μm,19.0s
TIA Tai'an 19.57 271⇓P **P** **21 47 23.0 -0.9**
TIA sP **sP** **21 47 47.5 +3.2**
TIA pmax pmax
comp=Z,150nm,1.1s
TIA pmax pmax
comp=Z,2μm,10.3s
TIA LR LR
comp=Z,8μm,17.7s
TIA LR LR
comp=Z,14μm,22.9s
TIA LR LR
comp=Z,26μm,28.6s
NJ2 Nanjing 19.61 258⇓*i*P **P** **21 47 23.5 -0.8**
NJ2 S **S** **21 50 57.3 -5.2**
NJ2 SS **SnSn** **21 51 27.6 +6.9**
NJ2 pmax pmax
comp=Z,150nm,1.0s
NJ2 pmax pmax
comp=Z,9μm,11.9s
NJ2 LR LR
comp=Z,8μm,21.6s
NJ2 LR LR
comp=Z,12μm,20.8s
NJ2 LR LR
comp=Z,16μm,25.0s
BJI Beijing 19.73 283 P **P** **21 47 23.8 -1.7**
BJI S **S** **21 51 02.2 -2.4**
BJI pmax pmax
comp=Z,1μm,7.1s
BJI LR LR
comp=Z,2μm,22.6s
BJI LR LR
comp=Z,8μm,25.6s
BJI LR LR
comp=Z,25μm,32.3s
BJT Baijiatuau 19.73 282 P **P** **21 47 24.1 -1.5**
BJT Baijiatuau 19.73 282 P **P** **21 47 24.1 -1.5**
BJT pmax pmax
comp=Z,104nm,0.7s
XLT XiLinHaoTe 19.91 294⇑*i*P **P** **21 47 24.9 -2.7**
XLT PP **PnPn** **21 47 45.9 +0.4**
XLT S S 21 50 56.2 -12
XLT PcP **PcP** **21 51 39.8 -2.6**
XLT pmax pmax
comp=Z,120nm,0.9s
XLT pmax pmax
comp=Z,2μm,4.0s
XLT LR LR
comp=Z,12μm,22.7s
XLT LR LR
comp=Z,29μm,24.4s
YOJ Yonaguni jima 21.06 234 P **P** **21 47 40.4 +0.3**
YOJ Yonaguni jima 21.06 234 P **P** **21 47 42.4 +2.3**
YOJ Yonaguni jima 21.06 234 P **P** **21 47 40.4 +0.3**
YOJ pmax pmax
comp=Z,177nm,1.2s
HNS HongShan 21.21 276⇑P **P** **21 47 38.0 -3.5**
HNS PP **PnPn** **21 48 03.8 +0.7**
HNS S **S** **21 51 23.2 -11**
HNS pmax pmax
comp=Z,69nm,1.0s
HNS LR LR
comp=Z,6μm,18.4s
HNS LR LR
comp=Z,15μm,20.6s
HNS LR LR
comp=Z,19μm,20.6s
TATO Taipei 21.69 238 P **P** **21 47 45.6 -1.2**
TATO IAmb IAmb 21 47 55.5
comp=Z,162nm,0.9s
TATO Taipei 21.69 238 IAMs_20 IAMs_20 21 56 21.8
comp=Z,22μm,22.0s
TATO Taipei 21.69 238 P **P** **21 47 45.0 -1.8**
TATO P **P** **21 47 45.0 -1.8**
TATO S **S** **21 51 33.2 -11**
TATO S **S** **21 51 33.2 -11**
TATO Taipei 21.69 238 P **P** **21 47 49.0 +2.2**
MA2 Magadan 21.93 13 P **P** **21 47 49.0 0.0**
comp=Z,128nm,0.8s,baz=196,slow=8.6,SNR=25
MA2 LR LR 21 56 13.6
comp=Z,9μm,21.6s,baz=198,slow=36
comp=Z,128nm,0.8s
MA2 Magadan 21.93 13 P **P** **21 47 48.6 -0.4**
MA2 IAmb IAmb 21 47 58.0
comp=Z,280nm,0.7s
MA2 Magadan 21.93 13 P **P** **21 47 49.2 +0.2**
MA2 Magadan 21.93 13⇓P **P** **21 47 49.2 +0.2**
MA2 Magadan 21.93 13*ce*P **P** **21 47 48.8 -0.2**
MA2 pmax pmax
comp=Z,211nm,1.0s
MA2 MLR MLR
comp=Z,18μm,24.0s
YHNB Yeheng 21.98 237 P **P** **21 47 47.3 -2.6**
YHNB IAmb IAmb 21 48 08.2
comp=Z,100nm,0.6s
YHNB Yeheng 21.98 237 P **P** **21 47 49.2 -0.8**
NACB Ninganchiao 22.18 236 P **P** **21 47 49.2 -2.9**
NACB Ninganchiao 22.18 236 P **P** **21 47 50.5 -1.5**
SSLB Suanglung 22.86 236 P **P** **21 47 56.6 -2.8**
SSLB IAmb IAmb 21 48 22.5
comp=Z,186nm,0.8s
SSLB IAMs_20 IAMs_20 21 57 24.0
comp=Z,19μm,21.0s
SSLB Suanglung 22.86 236 P **P** **21 47 57.9 -1.5**
TIY Taiyuan 22.92 277 *e*P **P** **21 47 56.8 -3.1**
TIY S **S** **21 51 57.0 -8.4**
TIY pmax pmax
comp=Z,240nm,0.6s
TIY pmax pmax
comp=Z,1μm,6.1s
TIY LR LR
comp=Z,6μm,15.5s
TIY LR LR
comp=Z,10μm,26.7s
TIY LR LR
comp=Z,23μm,29.6s
YULB Yu-li 22.92 235 P **P** **21 47 58.0 -2.0**
YULB IAmb IAmb 21 48 10.9
comp=Z,104nm,0.6s
YULB Yu-li 22.92 235 P **P** **21 47 58.7 -1.2**
HHC Hu-ho-hao-te 23.18 285 *e*P **P** **21 48 00.7 -1.8**
HHC PP **PnPn** **21 48 31.6 +1.4**
HHC S **S** **21 52 09.4 -0.3**
HHC pmax pmax
comp=Z,42nm,0.5s
HHC pmax pmax
comp=Z,2μm,7.9s
HHC LR LR
comp=Z,6μm,12.4s
HHC LR LR
comp=Z,16μm,17.7s
HHC LR LR
comp=Z,39μm,18.6s
TPUB Ta-pu 23.42 236 P **P** **21 48 02.8 -2.0**
TPUB IAmb IAmb 21 48 13.4
comp=Z,362nm,0.9s
TPUB Ta-pu 23.42 236 P **P** **21 48 02.8 -2.0**
TWGBT Beinan 23.47 234 P **P** **21 48 05.3 +0.1**
TWG Pinlang 23.47 234 P **P** **21 48 03.0 -2.2**
QZH Quanzhou 23.68 242⇑*i*P **P** **21 48 04.8 -2.3**
QZH S **S** **21 52 16.5 -1.2**
QZH pmax pmax
comp=Z,1μm,7.6s
QZH LR LR
comp=Z,4μm,13.3s
QZH LR LR
comp=Z,11μm,19.9s
QZH LR LR
comp=Z,11μm,22.3s
LYN LuoYang 23.68 269⇓P **P** **21 48 04.3 -2.8**
LYN sP sP 21 48 28.2 -0.2
LYN S **S** **21 52 10.2 -7.5**
LYN pmax pmax
comp=Z,40nm,1.0s
LYN LR LR
comp=Z,4μm,16.8s
LYN LR LR
comp=Z,12μm,21.6s
LYN LR LR
comp=Z,16μm,26.0s
WHN Wuhan 23.74 259⇑P **P** **21 48 06.9 -0.7**
WHN S **S** **21 52 13.7 -4.8**
WHN LR LR
comp=Z,22μm,19.2s
WHN LR LR
comp=Z,24μm,16.8s
WHN LR LR
comp=Z,75μm,36.3s
CIT Chita 23.76 314 *e*P **P** **21 48 07.8 +0.1**
CIT *e* 21 48 15.0
CIT *e* 21 48 28.0
CIT *e* 21 51 57.3
BTO Baotou 24.37 285 *e*P **P** **21 48 13.1 -0.4**
BTO S **S** **21 52 30.7 +1.8**
BTO LR LR
comp=Z,16μm,15.5s
BTO LR LR
comp=Z,48μm,24.1s
YAK Yakutsk 24.70 347 P **P** **21 48 15.5 -0.6**
comp=Z,68nm,0.6s,baz=146,slow=0.7,SNR=63
YAK LR LR 21 58 33.2
comp=Z,15μm,19.2s,baz=157,slow=38
comp=Z,68nm,0.6s
YAK Yakutsk 24.70 347 P **P** **21 48 15.1 -1.0**
YAK Yakutsk 24.70 347⇑P **P** **21 48 14.5 -1.6**
YAK Yakutsk 24.70 347*c i*P **P** **21 48 13.9 -2.2**
YAK *e**PP **pP** **21 48 32.1 +1.3**
YAK *e*S **S** **21 52 30.4 -3.1**
YAK *e*SS **SnSn** **21 53 25.3 +0.5**
YAK pmax pmax
comp=Z,437nm,1.1s
YAK pmax pmax
comp=N,140nm,1.1s
YAK pmax pmax
comp=E,96nm,1.1s
YAK smax smax
comp=N,6μm,6.4s
YAK smax smax
comp=E,992nm,1.6s
YAK MLR MLR
comp=Z,16μm,21.0s
YAK MLR MLR
comp=N,7μm,18.0s
YAK MLR MLR
comp=E,4μm,21.0s
GUMO Guam 24.95 172 P **P** **21 48 18.1 -0.6**
comp=E,22nm,0.4s,baz=4.8,slow=12,SNR=1.8
GUMO LR LR 21 58 09.2
comp=E,5μm,21.7s,baz=16,slow=36
comp=E,22nm,0.4s
SEY Seymchan 25.36 12 P **P** **21 48 22.9 +0.9**
comp=E,102nm,1.0s,baz=204,slow=7.4,SNR=57
SEY LR LR 21 58 35.2
comp=E,8μm,20.7s,baz=186,slow=37
comp=E,102nm,1.0s
SEY Seymchan 25.36 12⇑*eP* **P** **21 48 23.2 +1.2**
SEY pmax pmax
comp=Z,129nm,1.0s
SEY MLR MLR
comp=Z,13μm,22.0s
CNSH ChangSha 25.96 255⇑P **P** **21 48 27.5 -0.3**
CNSH S **S** **21 52 51.3 -2.7**
CNSH pmax pmax
comp=Z,93nm,1.1s
CNSH LR LR
comp=Z,6μm,20.4s
CNSH LR LR
comp=Z,4μm,22.3s
CNSH LR LR
comp=Z,14μm,34.8s
BOD Bodaibo 26.40 326 *e*P **P** **21 48 30.7 -0.8**
BOD pmax pmax
comp=Z,191nm,1.2s
SHEM Shemya Is, Ala 26.57 47 LR LR 21 57 41.0
comp=Z,6μm,21.6s,baz=256,slow=33
XAN Xi'an 26.63 271⇑P **P** **21 48 32.1 -1.8**
XAN S **S** **21 53 02.2 -2.5**
XAN PcS **PcS** **21 55 36.7 -1.2**
XAN pmax pmax
comp=Z,260nm,0.9s
XAN pmax pmax
comp=Z,2μm,8.0s
XAN LR LR
comp=Z,9μm,17.2s
XAN LR LR
comp=Z,5μm,18.6s
XAN LR LR
comp=Z,23μm,35.0s
ULN Ulaanbaatar 26.69 302 P **P** **21 48 33.0 -1.4**
ULN pP 21 48 33.5 -16
ULN IAmb IAmb 21 48 59.5
comp=Z,347nm,1.7s
ULN Ulaanbaatar 26.69 302 P **P** **21 48 33.3 -1.2**
ULN S **S** **21 53 05.6 0.0**
ULN Ulaanbaatar 26.69 302 P **P** **21 48 34.6 +0.1**
comp=Z,130μmcomp=Z,11μmcomp=Z,357nm,1.0s
ULN Ulaanbaatar 26.69 302⇑P **P** **21 48 33.4 -1.1**
ULN Ulaanbaatar 26.69 302*ce*P **P** **21 48 33.7 -0.8**
ULN pmax pmax
comp=Z,44nm,1.3s
SONM Songino Array 27.12 302 P **P** **21 48 38.0 -0.3**
comp=Z,10nm,0.7s,baz=90,slow=8.8,SNR=30
SONM PcP **PcP** **21 51 58.2 +0.6**
comp=Z,6.4nm,0.8s,baz=130,slow=3.3,SNR=1.7
SONM ScP **ScP** **21 55 33.6 +0.9**
comp=Z,7.0nm,1.1s,baz=61,slow=4.0,SNR=3.7
SONM LR LR 22 00 18.9
comp=Z,8μm,18.0s,baz=106,slow=38
comp=Z,10nm,0.7s
SONM Songino Array 27.12 302 P **P** **21 48 37.9 -0.5**
HKPS Hong Kong Po S 28.51 243 P **P** **21 48 50.8 +0.1**
HKPS IAmb IAmb 21 49 18.3
comp=Z,231nm,0.9s
H11N2 WAKE ISLAND Hy 28.79 123 T T 22 19 11.4
baz=316,slow=75,SNR=1741
H11N1 WAKE ISLAND Hy 28.80 123 T T 22 19 23.3
baz=316,slow=75,SNR=3013
H11N3 WAKE ISLAND Hy 28.81 123 T T 22 19 24.1
baz=316,slow=75,SNR=1519
WAKE Wake Island 28.95 124 IAMs_20 IAMs_20 21 57 54.8
comp=Z,18μm,21.0s
IRK Irkutsk 29.26 310 *e*P **P** **21 48 57.0 -0.1**
IRK pmax pmax
comp=Z,288nm,2.7s
GULI GuiLin 29.44 253⇓P **P** **21 48 55.7 -3.2**
GULI S **S** **21 53 41.4 -7.5**
GULI pmax pmax
comp=Z,420nm,1.2s
GULI LR LR
comp=N,17μm,15.6s
GULI LR LR
comp=E,17μm,14.1s
GULI LR LR
comp=Z,87μm,33.6s
ZAK Zakamensk 29.51 306 *e*P P 21 49 07.1 +7.6
ZAK pmax pmax
comp=Z,119nm,1.1s
H11S1 WAKE ISLAND Hy 29.55 125 T T 22 20 03.7
baz=318,slow=76,SNR=1281
H11S3 WAKE ISLAND Hy 29.55 125 T T 22 20 11.5
baz=318,slow=76,SNR=2027
H11S2 WAKE ISLAND Hy 29.56 125 T T 22 20 11.6
baz=318,slow=76,SNR=1158
LZH Lanzhou 29.99 277⇑*i*P **P** **21 49 02.4 -1.6**
LZH PP **PnPn** **21 50 02.9 +0.2**
LZH S **S** **21 53 57.0 -0.8**
LZH pmax pmax
comp=Z,250nm,1.0s
LZH pmax pmax
comp=Z,840nm,5.0s
LZH LR LR
comp=Z,5μm,15.6s
LZH LR LR
comp=Z,12μm,17.2s
LZH LR LR
comp=Z,23μm,18.0s
MOY Mondy 31.14 308 *e*P P 21 49 06.6 -7.3
MOY pmax pmax
comp=Z,160nm,1.7s
GYA Guiyang 31.62 258⇑*i*P **P** **21 49 17.3 -1.1**
GYA PP **PP** **21 50 27.3 -3.3**
GYA S **S** **21 54 18.8 -4.6**
GYA sS sS 21 54 48.6 +0.2
GYA pmax pmax
comp=Z,120nm,1.2s
GYA LR LR
comp=Z,4μm,17.0s
GYA LR LR
comp=Z,6μm,23.2s
GYA LR LR
comp=Z,10μm,23.0s
CD2 Chengdu 31.84 268 P **P** **21 49 19.3 -0.8**
CD2 S **S** **21 54 23.1 -3.4**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,690nm,7.5s
CD2 LR LR
comp=Z,3μm,15.2s
CD2 LR LR
comp=Z,4μm,15.2s
CD2 LR LR
comp=Z,11μm,24.0s
ADK Adak 31.87 51 IAMs_20 IAMs_20 21 59 55.3
comp=Z,14μm,21.0s
GTA Gaotai 32.30 285⇑P **P** **21 49 22.6 -1.6**
GTA S **S** **21 54 32.6 -1.1**
GTA pmax pmax
comp=Z,77nm,1.0s
GTA pmax pmax
comp=Z,1μm,10.9s
GTA LR LR
comp=Z,7μm,24.7s
GTA LR LR
comp=Z,14μm,24.0s
GTA LR LR
comp=Z,25μm,24.9s
BILL Bilibino 32.62 17 P **P** **21 49 25.5 -1.0**
BILL IAmb IAmb 21 50 09.9
comp=Z,58nm,0.8s
BILL Bilibino 32.62 17*c i*P **P** **21 49 26.7 +0.2**
BILL *i* 21 49 45.4
BILL *i* SS SS 21 56 35.4 -24
BILL pmax pmax
comp=Z,31nm,1.3s
BILL MLR MLR
comp=Z,4μm,20.0s
QIZ Qiongzhong 33.66 244 P **P** **21 49 37.2 +1.1**
QIZ S **S** **21 54 56.8 +1.9**

QIZ pmax pmax
comp=E,81nm,1.1s
QIZ pmax pmax
comp=E,2µm,9.6s
QIZ LR LR
comp=E,6µm,22.2s
QIZ LR LR
comp=E,7µm,25.5s
QIZ LR LR
comp=E,9µm,39.8s
QIZ Qiongzhong 33.66 244 P **P** **21 49 37.0 +0.8**
TIXI Tiksi 33.88 353 P **P** **21 49 37.2 -0.3**
comp=E,14nm,0.6s,baz=225,slow=0.1,SNR=80
TIXI LR LR 22 04 38.4
comp=E,8µm,20.6s,baz=222,slow=38
comp=E,14nm,0.6s
TIXI Tiksi 33.88 353 P **P** **21 49 36.2 -1.3**
TIXI Tiksi 33.88 353 ⇑P **P** **21 49 36.6 -0.9**
TIXI Tiksi 33.88 353 *c iP* **P** **21 49 36.4 -1.1**
TIXI pmax pmax
comp=E,33nm,1.3s
TIXI MLR MLR
comp=E,8µm,21.0s
TIXI Tiksi 33.88 353 P **P** **21 49 36.5 -0.9**
DAV Davao City (W) 34.45 209 LR LR 22 03 29.7
comp=E,3µm,20.9s,baz=52,slow=36
DAV Davao City (W) 34.45 209 P P 21 49 49.7 +6.8
PATS Pohnpei 34.94 150 P **P** **21 49 46.2 -1.0**
PATS Pohnpei 34.94 150 P **P** **21 49 48.5 +1.4**
KMI Kunming 35.34 259 ⇑P **P** **21 49 50.2 -0.6**
KMI PP **PP** **21 51 10.8 -1.1**
KMI S **S** **21 55 21.3 +0.2**
KMI pmax pmax
comp=E,63nm,1.4s
KMI pmax pmax
comp=E,1µm,6.7s
KMI LR LR
comp=E,7µm,17.8s
KMI LR LR
comp=E,6µm,22.6s
KMI LR LR
comp=E,12µm,32.0s
KMI Kunming 35.34 259 P **P** **21 49 50.2 -0.6**
PZH PanZhiHua 35.41 262 P **P** **21 49 50.6 -0.7**
PZH PP **PP** **21 51 15.7 +3.2**
PZH S **S** **21 55 21.8 -0.2**
PZH SS **SnSn** **21 57 40.4 -5.4**
PZH pmax pmax
comp=E,120nm,0.9s
PZH pmax pmax
comp=E,1µm,5.0s
PZH LR LR
comp=E,3µm,18.6s
PZH LR LR
comp=E,5µm,19.1s
PZH LR LR
comp=E,8µm,18.6s
MIDW Midway 35.53 94 P **P** **21 49 52.4 +0.3**
SPIA Saint Paul Isl 36.42 43 P **P** **21 49 59.4 +0.1**
baz=260
GOMU GeErMu 36.95 281 P **P** **21 50 04.8 +0.1**
GOMU S **S** **21 55 40.8 -5.1**
GOMU sS sS 21 56 21.4 +10
GOMU pmax pmax
comp=E,51nm,1.1s
GOMU pmax pmax
comp=E,980nm,4.2s
GOMU LR LR
comp=E,2µm,17.0s
GOMU LR LR
comp=E,2µm,14.3s
GOMU LR LR
comp=E,2µm,16.9s
SGSI Sangihe 37.59 207 P **P** **21 50 10.0 +0.2**
comp=E,353nm,0.6s
GAMI Galela, Maluku 38.59 202 P **P** **21 50 18.9 +0.8**
comp=E,7µmcomp=Z,3µmcomp=Z,183nm,1.0s
TNCH TengChong 38.66 263 ⇑P **P** **21 50 19.0 0.0**
TNCH S **S** **21 56 09.4 -2.1**
TNCH pmax pmax
comp=E,110nm,1.5s
TNCH pmax pmax
comp=E,2µm,4.3s
TNCH LR LR
comp=E,1µm,13.6s
TNCH LR LR
comp=E,2µm,18.1s
TNCH LR LR
comp=E,6µm,37.5s
NONG Nongkai 39.12 250 P **P** **21 50 23.6 +1.0**
MYLDM Lahad Datu 39.22 218 P **P** **21 50 23.9 +0.5**
MYLDM Lahad Datu 39.22 218 P **P** **21 50 23.6 +0.2**
comp=E,13µmcomp=Z,7µmcomp=Z,180nm,1.0s
MYLDM Lahad Datu 39.22 218 ⇑P **P** **21 50 25.3 +1.9**
UBPT Khong Chiam 39.27 244 P **P** **21 50 23.2 -0.6**
comp=E,4µmcomp=Z,132nm,1.6s
UBPT Khong Chiam 39.27 244 P **P** **21 50 26.8 +3.0**
DLV T Lat 39.56 237 P **P** **21 50 27.6 +1.0**
DLV T Lat 39.56 237 ⇑P **P** **21 50 27.3 +0.7**
LKP Lekhapani 39.62 268 *eP* **P** **21 50 27.1 +0.4**
KKM Kota Kinabalu 39.63 222 P **P** **21 50 26.0 -1.0**
comp=E,11µmcomp=Z,4µmcomp=Z,79nm,1.4s
KKM Kota Kinabalu 39.63 222 ⇑P **P** **21 50 27.8 +0.8**
DGZ Jazzator, Alta 39.68 304 *c iP* **P** **21 50 27.9 +0.7**
DGZ pmax pmax
comp=E,205nm,1.1s
DGZ MLR MLR
comp=E,11µm,17.0s
TNTI Ternate 39.72 203 IAmb IAmb 21 50 52.7
comp=E,120nm,0.9s
TNTI Ternate 39.72 203 P **P** **21 50 28.3 +0.7**
comp=E,3µmcomp=Z,2µmcomp=Z,144nm,1.0s
TNTI Ternate 39.72 203 P P 21 50 33.5 +5.9
comp=E,145nm,1.0s
MWPI Manokwari, Pap 39.82 192 P **P** **21 50 30.2 +1.8**
comp=E,148nm,1.4s
SWI Sorong 40.28 196 P **P** **21 50 33.7 +1.5**
comp=E,2µmcomp=Z,158nm,0.9s
SIJI Sorong 40.28 196 P **P** **21 50 32.5 +0.2**
comp=E,18nm,0.8s,baz=6.4,slow=10,SNR=17
SIJI LR LR 22 07 32.1
comp=E,993nm,18.6s,baz=2.0,slow=36
comp=E,18nm,0.8s
SIJI Sorong 40.28 196 P **P** **21 50 33.4 +1.1**
comp=E,5µmcomp=Z,2µmcomp=Z,120nm,0.8s
WMQ Urumqi 40.33 295 ⇑P **P** **21 50 33.5 +0.9**
WMQ PcP **PcP** **21 52 32.6 -2.3**
WMQ S **S** **21 56 33.8 -2.3**
WMQ sS sS 21 57 05.7 +4.1
WMQ pmax pmax
comp=E,520nm,0.9s
WMQ pmax pmax
comp=E,2µm,8.3s
WMQ LR LR
comp=E,3µm,19.5s
WMQ LR LR
comp=E,7µm,20.3s
WMQ LR LR
comp=E,16µm,22.3s
WMQ Urumqi 40.33 295 P **P** **21 50 33.3 +0.7**
RKPI Ransiki, Papua 40.37 191 P **P** **21 50 33.7 +0.8**
comp=E,4µmcomp=Z,160nm,0.8s
SRPI Serui, Papua 40.44 188 P **P** **21 50 35.3 +1.7**
comp=E,3µmcomp=Z,6µmcomp=Z,190nm,1.1s
MANU Manus Island 40.66 171 P **P** **21 50 34.4 -1.0**
MANU Manus Island 40.66 171 P **P** **21 50 35.0 -0.4**
GENI Genyem 40.88 182 P **P** **21 50 39.2 +2.1**
comp=E,6µmcomp=Z,5µmcomp=Z,257nm,0.9s
GENI Genyem 40.88 182 P **P** **21 50 39.0 +1.9**
PHRA Phrae 41.02 253 P **P** **21 50 37.1 -1.3**
LBMI Labuha 41.02 202 P **P** **21 50 39.2 +0.8**
comp=E,4µmcomp=Z,324nm,0.9s
ZALV Zalesovo Beam 41.06 311 P **P** **21 50 37.9 -0.4**
comp=E,73nm,0.9s,baz=87,slow=7.6,SNR=188
ZALV PcP **PcP** **21 52 37.0 0.0**
comp=E,35nm,0.8s,baz=86,slow=3.6,SNR=2.1
ZALV LR LR 22 08 44.2
comp=E,6µm,18.2s,baz=76,slow=38
comp=E,73nm,0.9s
ZALV Zalesovo Beam 41.06 311 P **P** **21 50 37.5 -0.8**
ZIRO ZIRO 41.09 269 *eP* **P** **21 50 39.2 +0.1**
MOKO MOKOCHONG 41.15 267 *eP* **P** **21 50 39.8 +0.2**
JORH JORHAT 41.15 268 *eP* **P** **21 50 40.1 +0.7**
GTOI Gorontalo 41.34 209 P **P** **21 50 38.9 -2.0**
comp=E,1µmcomp=Z,95nm,0.9s
ITAN ITANAGAR 41.37 269 *eP* **P** **21 50 43.2 +2.0**

ZSN Zaisan 41.64 301 ⇑*iP* **P** **21 50 43.8 +0.5**
comp=E,100nm,0.9s,baz=301
ZSN *i* S **S** **21 56 56.7 +1.4**
comp=E,364nm,5.4s,baz=301
ZSN Zaisan 41.64 301 *c iP* **P** **21 50 43.7 +0.5**
ZSN *i* S **S** **21 56 56.7 +1.4**
ZSN pmax pmax
comp=E,100nm,0.9s
ZSN smax smax
comp=E,364nm,5.4s
KOHI KOHIMA 41.76 267 *eP* **P** **21 50 43.5 -1.1**
TOLI2 Tolitoli 41.79 212 P **P** **21 50 43.9 -0.8**
TOLI2 Tolitoli 41.79 212 P **P** **21 50 44.9 +0.2**
CHTO Chiang Mai 41.80 254 P **P** **21 50 43.7 -1.0**
CHTO Chiang Mai 41.80 254 P **P** **21 50 43.7 -1.0**
MRSI Marisa 41.89 210 P **P** **21 50 45.0 -0.5**
comp=E,8µmcomp=E,4µmcomp=E,242nm,1.2s
CM31 Chiang Mai Arr 42.01 254 P **P** **21 50 46.4 -0.1**
SNR=14
CM31 S **S** **21 56 53.3 -8.0**
CMAR Chiang Mai Arr 42.01 254 P **P** **21 50 47.1 +0.6**
comp=E,2.1nm,0.5s,baz=56,slow=4.7,SNR=14
CMAR PcP **PcP** **21 52 41.9 +1.2**
comp=E,5.9nm,0.8s,baz=45,slow=1.2,SNR=1.7
CMAR LR LR 22 09 45.5
comp=E,4µm,20.1s,baz=50,slow=38
comp=E,2.1nm,0.5s
CMAR Chiang Mai Arr 42.01 254 P **P** **21 50 46.0 -0.5**
NRIK Noril'sk 42.03 335 P **P** **21 50 45.5 -0.6**
comp=E,18nm,0.5s,baz=112,slow=9.6,SNR=22
NRIK LR LR 22 09 27.6
comp=E,15µm,20.1s,baz=106,slow=38
comp=E,18nm,0.5s
NRIK Noril'sk 42.03 335 P **P** **21 50 45.0 -1.0**
NRIK IAmb IAmb 21 51 08.0
comp=Z,297nm,1.7s
NRIK Noril'sk 42.03 335 *c iP* **P** **21 50 45.3 -0.7**
NRIK pmax pmax
comp=E,41nm,1.3s
NRIK MLR MLR
comp=E,15µm,20.0s
FAKI Fak Fak 42.08 194 P **P** **21 50 46.1 -0.8**
FAKI IAmb IAmb 21 50 55.0
comp=E,156nm,0.7s
FAKI IAMs_20 IAMs_20 22 05 17.9
comp=E,7µm,21.0s
FAKI Fak Fak 42.08 194 P **P** **21 50 48.5 +1.5**
comp=E,6µmcomp=Z,4µmcomp=Z,264nm,0.8s
FAKI Fak Fak 42.08 194 P **P** **21 50 47.6 +0.6**
MND Mandalay 42.12 261 P **P** **21 50 47.3 -0.1**
RDOG Red Dog Mine 42.17 27 P **P** **21 50 46.2 -1.0**
baz=255
CHNA Chernabura Isl 42.23 47 P **P** **21 50 48.2 +0.3**
baz=272
LSA Lhasa 42.23 274 P **P** **21 50 49.5 +0.7**
LSA sP **sP** **21 51 16.9 +6.0**
LSA pmax pmax
comp=E,47nm,1.1s
LSA LR LR
comp=E,4µm,22.8s
LSA LR LR
comp=E,7µm,28.5s
LSA LR LR
comp=E,18µm,24.2s
LSA Lhasa 42.23 274 P **P** **21 50 49.8 +1.0**
LSA Lhasa 42.23 274 P **P** **21 50 49.7 +0.9**
LSA Lhasa 42.23 274 P **P** **21 50 49.8 +1.0**
TEZP TEZPUR 42.35 269 *eP* **P** **21 50 48.0 -1.1**
N16K Nishlik Lake 42.72 39 P **P** **21 50 53.2 +1.4**
baz=267
SANI Sanana 42.81 203 P **P** **21 50 52.0 -1.0**
comp=Z,6µmcomp=Z,3µmcomp=Z,310nm,0.8s
SANI Sanana 42.81 203 P **P** **21 50 52.5 -0.5**
MPSI Mapaga 42.86 213 P **P** **21 50 53.6 +0.2**
comp=E,8µmcomp=Z,1µmcomp=Z,54nm,1.1s
NAYO Nakonayok 42.88 247 P **P** **21 50 55.0 +1.5**
LUWI Luwuk 42.97 208 P **P** **21 50 52.5 -1.7**
LUWI IAmb IAmb 21 51 30.3
comp=E,185nm,0.8s
LUWI Luwuk 42.97 208 P **P** **21 50 50.9 -3.3**
comp=E,202nm,0.8s
LUWI Luwuk 42.97 208 P **P** **21 50 53.1 -1.1**
O16K Kokwok River B 43.02 40 P **P** **21 50 55.1 +0.9**
baz=268
P16K Nushagak River 43.06 41 P **P** **21 50 55.5 +1.0**
baz=269
MSAI Masohi 43.22 199 P P 21 51 05.1 +8.8
APSI Ampana 43.28 210 P **P** **21 50 56.5 -0.2**
comp=Z,4µmcomp=Z,282nm,1.0s
KRAI Karang Ratu 43.33 199 P **P** **21 50 58.6 +1.4**
comp=Z,496nm,1.0s
GUWA GUWAHATI 43.42 269 *eP* **P** **21 50 57.5 -0.3**
MKAR Makanchi Array 43.49 301 P **P** **21 50 57.9 -0.3**
comp=E,76nm,0.9s,baz=76,slow=11,SNR=163
comp=E,78nm,0.9s
MKAR Makanchi Array 43.49 301 P **P** **21 50 58.3 0.0**
MKAR Makanchi Array 43.49 301 *i* P **P** **21 50 58.2 0.0**
MKAR pmax pmax
comp=E,79nm,0.9s
O17K Koliganek Bris 43.53 40 P **P** **21 50 59.4 +1.1**
baz=269
RABL Rabaul 43.56 165 P P 21 51 05.4 +6.4
comp=Z,117nm,0.8s
SHL Shillong 43.58 268 IAmb IAmb 21 51 24.0
comp=Z,177nm,0.8s
SHL Shillong 43.58 268 P **P** **21 50 58.8 -0.6**
SNR=26
SHL Shillong 43.58 268 *eP* **P** **21 50 58.2 -1.2**
SHL IAmb IAmb 21 51 23.8
comp=E,147nm,0.8s
SHL Shillong 43.58 268 ⇑P **P** **21 50 58.6 -0.8**
NLAI Namlea 43.61 201 P **P** **21 51 03.6 +4.2**
comp=Z,7µmcomp=Z,71nm,1.1s
KRVT Kevat (AS076 43.65 165 P **P** **21 51 00.8 +1.1**
comp=E,81nm,0.8s,baz=263,slow=7.0,SNR=8.0
KRVT LR LR 22 09 04.8
comp=E,2µm,20.3s,baz=119,slow=36
comp=E,81nm,0.8s
MAKZ Makanchi 43.70 301 P **P** **21 50 59.3 -0.6**
MAKZ Makanchi 43.70 301 ⇑P **P** **21 50 59.8 -0.1**
MAKZ Makanchi 43.70 301 P **P** **21 50 59.3 -0.6**
MAKZ pmax pmax
comp=E,281nm,1.0s
MAKZ MLR MLR
comp=E,2µm,21.0s
MAKZ Makanchi 43.70 301 P **P** **21 50 60.0 +0.1**
AAI Ambon 43.74 200 P **P** **21 51 00.4 0.0**
comp=E,8µmcomp=Z,3µmcomp=Z,276nm,0.8s
Q16K King Salmon 43.75 42 P **P** **21 51 00.5 +0.4**
baz=271
P17K Kvichak River 43.86 41 P **P** **21 51 02.4 +1.5**
baz=270
GCSA Galena City Sc 43.94 33 P **P** **21 51 01.5 0.0**
baz=264
BNDI Bandanaira 44.12 197 P **P** **21 51 06.3 +2.8**
comp=Z,7µmcomp=Z,11µmcomp=Z,717nm,1.6s
BNDI Bandanaira 44.12 197 P **P** **21 51 04.9 +1.4**
comp=Z,725nm,1.6s
N18K Kilae Creek 44.15 39 P **P** **21 51 03.2 -0.1**
N18K Kilae Creek 44.15 39 P **P** **21 51 04.2 +0.9**
baz=269
Q17K Contact Creek 44.17 42 P **P** **21 51 03.8 +0.2**
baz=272
TTA Tatalina 44.17 36 P **P** **21 51 04.7 +1.2**
TTA Tatalina 44.17 36 P **P** **21 51 04.3 +0.8**
baz=267
TTA Tatalina 44.17 36 P **P** **21 51 04.7 +1.2**
TTA pmax pmax
comp=Z,94nm,1.6s
SAIH SAIHA 44.30 263 *eP* **P** **21 51 04.6 -0.5**
CHIR Chirikof Islan 44.44 46 IAMs_20 IAMs_20 22 08 12.3
comp=Z,8µm,21.0s
P18K Big Mountain, 44.48 41 P **P** **21 51 07.3 +1.4**
baz=271
O18K Koktuh Hills 44.48 40 P **P** **21 51 05.9 -0.1**
baz=271
Q18K Katmai Hardscr 44.62 42 P **P** **21 51 07.4 +0.2**
baz=272
L19K White Mountain 44.68 37 P **P** **21 51 08.4 +0.9**
L19K IAmb IAmb 21 51 34.1
comp=Z,154nm,1.8s
L19K White Mountain 44.68 37 P **P** **21 51 09.9 +2.4**
baz=269
SBUM Sibu 44.78 224 P **P** **21 51 07.5 -1.3**
comp=Z,659nmcomp=Z,22nm,1.0s
SBUM Sibu 44.78 224 ⇑P **P** **21 51 09.0 +0.2**

N19K Bonanza Creek 44.84 39 P **P** **21 51 09.7 +0.8**
N19K Bonanza Creek 44.84 39 P **P** **21 51 09.1 +0.2**
baz=270
M19K Big River Lodg 44.89 37 P **P** **21 51 10.6 +1.4**
M19K Big River Lodg 44.89 37 P **P** **21 51 10.6 +1.4**
baz=269
O19K Port Alsworth 44.93 40 IAmb IAmb 21 52 01.4
comp=Z,106nm,1.4s
O19K Port Alsworth 44.93 40 P **P** **21 51 11.9 +2.5**
baz=271
J20K Nowinta River 45.07 34 IAmb IAmb 21 51 40.1
comp=Z,64nm,1.1s
J20K Nowinta River 45.07 34 P **P** **21 51 12.5 +2.0**
baz=267
K20K Telida 45.07 35 IAmb IAmb 21 51 38.1
comp=Z,234nm,1.9s
K20K Telida 45.07 35 P **P** **21 51 12.0 +1.4**
baz=268
A21K Barrow 45.09 24 P **P** **21 51 10.5 0.0**
baz=258
L20K Farewell, AK 45.14 36 P **P** **21 51 12.0 +0.8**
baz=269
KURK Kurchatov 45.17 307 P **P** **21 51 10.3 -1.2**
KURK Kurchatov 45.17 307 P **P** **21 51 11.3 -0.2**
KURK P **P** **21 51 11.3 -0.2**
KURK S **S** **21 57 43.0 -3.6**
KURK S **S** **21 57 43.0 -3.6**
KURK Kurchatov 45.17 307 ⇑P **P** **21 51 11.0 -0.5**
KURK Kurchatov 45.17 307 *c iP* **P** **21 51 11.2 -0.3**
KURK pmax pmax
comp=Z,253nm,0.9s
KURK MLR MLR
comp=E,12µm,24.0s
KURK Kurchatov 45.17 307 P **P** **21 51 11.3 -0.2**
SII Sitkinak Islan 45.18 45 IAMs_20 IAMs_20 22 09 11.9
comp=E,10µm,21.0s
SII Sitkinak Islan 45.18 45 P **P** **21 51 12.9 +1.4**
baz=275
KURBB Kurchatov Arra 45.24 307 P **P** **21 51 11.8 -0.3**
comp=Z,169nm,0.8s,baz=81,slow=8.1,SNR=872
KURBB LR LR 22 11 45.4
comp=E,3µm,19.2s,baz=73,slow=38
comp=E,169nm,0.8s
BRDH Bariadhala 45.25 265 P **P** **21 51 12.4 -0.1**
comp=Z,92nm,0.3s,baz=69,slow=7.8,SNR=13
BRDH LR LR 22 13 58.3
comp=E,5µm,18.1s,baz=53,slow=41
comp=E,92nm,0.3s
GTK Tadong 45.31 272 *eP* **P** **21 51 13.6 +0.5**
Q19K Cape Douglas, 45.31 41 P **P** **21 51 13.9 +1.3**
baz=273
M20K Styx River 45.48 37 P **P** **21 51 16.3 +2.3**
baz=270
P19K Oil Pt 45.49 40 P **P** **21 51 15.3 +1.3**
baz=272
G21K Allakaket 45.49 31 P **P** **21 51 15.3 +1.4**
baz=266
F21K Alatna River 45.56 30 P **P** **21 51 15.8 +1.4**
baz=265
OHAK Old Harbor 45.62 44 P **P** **21 51 13.7 -1.2**
baz=275
H21K Melozitna Rive 45.72 32 P **P** **21 51 15.1 -0.6**
baz=267
O20K Slope Mountain 45.78 40 P **P** **21 51 16.0 -0.3**
baz=273
CHUM Lake Minchumin 45.87 34 P **P** **21 51 18.8 +1.9**
baz=269,SNR=5.5
PPLA Purkeypile 45.92 36 IAmb IAmb 21 52 32.5
comp=Z,100nm,1.1s
PPLA Purkeypile 45.92 36 P **P** **21 51 17.8 +0.4**
baz=270
N20K Mount Spurr 45.94 38 P **P** **21 51 19.2 +1.6**
baz=272,SNR=10
SPCR Spurr Chakacha 45.94 38 P **P** **21 51 19.5 +2.0**
baz=272,SNR=7.7
KDAK Kodiak Island 45.95 43 P **P** **21 51 17.3 -0.2**
comp=E,17nm,0.7s,baz=293,slow=6.9,SNR=6.2
KDAK LR LR 22 10 06.7
comp=E,12µm,21.9s,baz=264,slow=35
comp=E,17nm,0.7s
KDAK Kodiak Island 45.95 43 P **P** **21 51 19.5 +1.9**
baz=275
KDAK Kodiak Island 45.95 43 ⇑*eP* **P** **21 51 17.6 +0.1**
KDAK pmax pmax
comp=E,135nm,3.0s
KDAK MLR MLR
comp=E,18µm,21.0s
KDAK Kodiak Island 45.95 43 P **P** **21 51 16.9 -0.7**
CAST Castle Rocks 45.97 35 IAmb IAmb 21 51 45.5
comp=E,260nm,1.9s
CAST Castle Rocks 45.97 35 P **P** **21 51 19.2 +1.5**
baz=270,SNR=6.0
Q20K Shuyak Island 45.98 42 P **P** **21 51 15.6 -2.2**
baz=274
TAPN Taplejung 45.99 273 *eP* **P** **21 51 19.0 +0.3**
comp=Z,582nm,1.0s
SPU Mount Spurr 46.02 38 P **P** **21 51 18.9 +0.8**
I21K Tanana 46.04 33 P **P** **21 51 19.2 +1.0**
I21K Tanana 46.04 33 P **P** **21 51 17.5 -0.7**
baz=268
F22K John River 46.09 29 P **P** **21 51 17.9 -0.7**
baz=266
SKT Skwentna 46.24 37 P **P** **21 51 20.7 +0.9**
SKT Skwentna 46.24 37 P **P** **21 51 17.5 -2.3**
baz=272
KKSI Kolaka, Sulawe 46.27 208 P **P** **21 51 21.1 +0.6**
comp=E,9µmcomp=Z,3µmcomp=Z,163nm,1.4s
E22K Anaktuvuk Pass 46.27 28 P **P** **21 51 20.6 +0.5**
baz=266
MTKI Muara Teweh, K 46.28 218 P **P** **21 51 21.2 +0.6**
comp=E,9µmcomp=Z,5µmcomp=Z,169nm,1.1s
SHLS Shalkode 46.31 297 ⇑*iP* **P** **21 51 18.3 -2.5**
baz=296
SHLS *eS* **S** **21 58 03.1 -0.4**
baz=296
SHLS Shalkode 46.31 297 *c iP* **P** **21 51 18.3 -2.5**
SHLS *eS* **S** **21 58 03.1 -0.4**
G22K Bettles 46.31 30 P **P** **21 51 22.0 +1.8**
baz=267
H22K Ishtalitna Cre 46.32 32 P **P** **21 51 20.9 +0.5**
baz=268,SNR=8.9
BPAW Bear Paw Mtn. 46.45 34 P **P** **21 51 21.8 +0.3**
baz=270
TDK Taldyqorghan 46.54 299 ⇑*iP* **P** **21 51 22.5 +0.1**
comp=Z,236nm,1.7s,baz=299
TDK *eS* **S** **21 58 05.8 -0.9**
baz=299
TDK *eLR* LR 22 09 53.1
comp=E,6µm,26.0s,baz=299
TDK Taldyqorghan 46.54 299 *c iP* **P** **21 51 22.5 +0.1**
TDK *eS* **S** **21 58 05.7 -0.9**
TDK pmax pmax
comp=E,237nm,1.7s
TDK MLR MLR
comp=E,6µm,26.0s
MLY Manley 46.57 33 P **P** **21 51 23.0 +0.6**
MLY Manley 46.57 33 P **P** **21 51 22.3 -0.1**
baz=270,SNR=14
UZB Uzynbulak 46.62 297 *eP* **P** **21 51 22.6 -0.6**
baz=296
UZB *eS* **S** **21 58 11.2 +3.1**
baz=296
UZB Uzynbulak 46.62 297 *eP* **P** **21 51 22.6 -0.6**
UZB *eS* **S** **21 58 11.1 +3.1**
SUA Susitna One 46.63 38 IAmb IAmb 21 52 01.9
comp=Z,69nm,0.9s
SUA Susitna One 46.63 38 P **P** **21 51 20.1 -2.9**
baz=273
KSM Kuching 46.65 226 P **P** **21 51 21.1 -2.4**
comp=Z,10µmcomp=Z,2µmcomp=Z,76nm,0.8s
KSM Kuching 46.65 226 P **P** **21 51 24.2 +0.7**
KSM Kuching 46.65 226 ⇑P **P** **21 51 24.2 +0.7**
PMSI Majene 46.73 212 P **P** **21 51 25.8 +1.6**
comp=E,6µmcomp=Z,3µmcomp=Z,194nm,0.9s
BRSE Bradley Lake S 46.75 40 P **P** **21 51 24.3 +0.5**
baz=274
D23K Nanushuk River 46.75 27 P **P** **21 51 24.1 +0.4**
baz=266
KPKS Kokpek 46.76 297 ⇑*iP* **P** **21 51 24.1 -0.2**
baz=297
KPKS *eS* **S** **21 58 16.5 +6.5**
baz=297
KPKS Kokpek 46.76 297 *c iP* **P** **21 51 24.1 -0.2**
KPKS *eS* **S** **21 58 16.5 +6.5**
TRF Thorofare Moun 46.77 35 P **P** **21 51 24.7 +0.5**
TRF IAmb IAmb 21 52 56.2
comp=E,64nm,1.2s

TRF	**Thorofare Moun**	**46.77**	**35**	P	**P**	**21 51 22.7**	**-1.4**
	baz=271						
TARA	**Tarawa**	**46.78**	**134**	P	**P**	**21 51 24.4**	**-0.2**
TARA	**Tarawa**	**46.78**	**134**	P	**P**	**21 51 26.6**	**+2.1**
SPSI	**Sidrap Palu**	**46.80**	**211**	P	**P**	**21 51 26.4**	**+1.7**
	comp=Z,6µmcomp=Z,2µmcomp=Z,103nm,1.0s						
CUT	**Chulitna**	**46.82**	**36**	P	**P**	**21 51 24.5**	**+0.2**
CUT	**Chulitna**	**46.82**	**36**	P	**P**	**21 51 24.2**	**-0.1**
	baz=272						
COLD	**Coldfoot**	**46.84**	**30**	P	**P**	**21 51 24.7**	**+0.3**
COLD	**Coldfoot**	**46.84**	**30**	P	**P**	**21 51 23.2**	**-1.2**
	baz=268						
C23K	**Itkillik River**	**46.85**	**26**	P	**P**	**21 51 26.4**	**+2.0**
	baz=265						
G23K	**Bananza Creek**	**46.89**	**30**	P	**P**	**21 51 23.1**	**-1.8**
	baz=269						
ZHN	**Zhinishke**	**47.02**	**297**	*e*P	**P**	**21 51 24.4**	**-2.0**
	baz=297						
ZHN				*e*S	**S**	**21 58 13.4**	**-0.3**
	baz=297						
ZHN	**Zhinishke**	**47.02**	**297**	*e*P	**P**	**21 51 24.3**	**-2.0**
ZHN				*e*S	**S**	**21 58 13.4**	**-0.3**
JIRN	**Jiri**	**47.04**	**274**	*e*P	**P**	**21 51 27.3**	**+0.3**
	comp=Z,689nm,1.1s						
RAMN	**Ramite**	**47.05**	**273**	*e*P	**P**	**21 51 27.1**	**+0.1**
	comp=Z,1µm,1.1s						
BNSI	**Bone**	**47.07**	**210**	P	**P**	**21 51 25.6**	**-1.2**
	comp=Z,4µmcomp=Z,2µmcomp=Z,134nm,1.1s						
H23K	**Yukon River**	**47.07**	**32**	P	**P**	**21 51 27.4**	**+1.1**
H23K				IAmb	IAmb	21 52 19.8	
	comp=Z,94nm,1.1s						
H23K	**Yukon River**	**47.07**	**32**	P	**P**	**21 51 26.8**	**+0.5**
	baz=270						
SATY	**Saty**	**47.08**	**297**⇑	*i*P	**P**	**21 51 26.6**	**-0.2**
	baz=296						
SATY				*e*S	**S**	**21 58 14.6**	**+0.1**
	baz=296						
SATY	**Saty**	**47.08**	**297***c*	*i*P	**P**	**21 51 26.6**	**-0.2**
SATY				*e*S	**S**	**21 58 14.6**	**+0.1**
E23K	**Chandalar**	**47.09**	**29**	P	**P**	**21 51 26.8**	**+0.3**
	baz=268						
BWN	**Browne**	**47.12**	**34**	P	**P**	**21 51 28.2**	**+1.6**
TOLK	**Toolik Lake Re**	**47.14**	**28**	P	**P**	**21 51 27.4**	**+0.6**
TOLK				IAmb	IAmb	21 51 54.8	
	comp=Z,71nm,1.1s						
TOLK	**Toolik Lake Re**	**47.14**	**28**	P	**P**	**21 51 28.5**	**+1.7**
	baz=267,SNR=7.9						
RC01	**Rabbit Creek A**	**47.14**	**38**	P	**P**	**21 51 27.3**	**+0.4**
RC01				IAmb	IAmb	21 52 01.0	
	comp=Z,80nm,0.9s						
RC01				IAMs_20	IAMs_20	22 08 40.7	
	comp=Z,6µm,22.0s						
RC01	**Rabbit Creek A**	**47.14**	**38**	P	**P**	**21 51 25.6**	**-1.3**
	baz=274						
I23K	**Minto, Yukon-K**	**47.15**	**33**	P	**P**	**21 51 28.1**	**+1.2**
I23K				IAmb	IAmb	21 51 54.6	
	comp=Z,187nm,1.8s						
I23K	**Minto, Yukon-K**	**47.15**	**33**	P	**P**	**21 51 28.4**	**+1.5**
	baz=271,SNR=8.2						
BBSI	**Bau Bau**	**47.16**	**206**	P	**P**	**21 51 29.1**	**+1.6**
	comp=Z,3µmcomp=Z,106nm,1.1s						
GUN	**Gumba**	**47.17**	**274**	*e*P	**P**	**21 51 28.3**	**+0.4**
	comp=Z,999nm,0.8s						
O22K	**Cooper Landing**	**47.20**	**39**	P	**P**	**21 51 27.6**	**+0.3**
O22K	**Cooper Landing**	**47.20**	**39**	P	**P**	**21 51 25.5**	**-1.7**
	baz=275						
SAUI	**Saumlaki**	**47.20**	**194**	P	**P**	**21 51 28.0**	**+0.3**
SAUI	**Saumlaki**	**47.20**	**194**	P	**P**	**21 51 27.6**	**-0.1**
	comp=Z,8µmcomp=Z,7µmcomp=Z,230nm,1.1s						
SAUI	**Saumlaki**	**47.20**	**194**	P	**P**	**21 51 32.2**	**+4.5**
	comp=Z,230nm,1.2s						
NEA2	**Nenana**	**47.28**	**33**	IAmb	IAmb	21 51 54.5	
	comp=Z,206nm,1.6s						
NEA2	**Nenana**	**47.28**	**33**	P	**P**	**21 51 29.2**	**+1.2**
	baz=271,SNR=11						
SEW	**Seward**	**47.36**	**39**	P	**P**	**21 51 26.3**	**-2.2**
	baz=275						
MCK	**McKinley**	**47.37**	**34**	P	**P**	**21 51 28.0**	**-0.7**
MCK				IAmb	IAmb	21 51 55.4	
	comp=Z,150nm,1.6s						
MCK	**McKinley**	**47.37**	**34**	P	**P**	**21 51 28.5**	**-0.1**
	baz=272,SNR=6.6						
MCK	**McKinley**	**47.37**	**34**	P	**P**	**21 51 28.0**	**-0.7**
MCK				pmax	pmax		
	comp=Z,150nm,1.6s						
PMR	**Palmer**	**47.40**	**37**	IAmb	IAmb	21 52 15.0	
	comp=Z,74nm,1.0s						
PMR	**Palmer**	**47.40**	**37**	P	**P**	**21 51 29.5**	**+0.7**
	baz=274,SNR=5.7						
RND	**Reindeer**	**47.42**	**35**	IAmb	IAmb	21 52 29.9	
	comp=Z,53nm,1.0s						
D24K	**Happy Valley**	**47.43**	**27**	P	**P**	**21 51 30.2**	**+1.2**
	baz=267						
C24K	**Franklin Bluff**	**47.50**	**26**	P	**P**	**21 51 31.1**	**+1.6**
	baz=267,SNR=13						
E24K	**Your Creek**	**47.52**	**29**	P	**P**	**21 51 30.2**	**+0.5**
	baz=269						
WAT1	**Susitna Watana**	**47.59**	**36**	P	**P**	**21 51 28.6**	**-1.8**
	baz=274						
SURA	**Surathani**	**47.59**	**243**	P	**P**	**21 51 32.0**	**+1.1**
MDM	**Murphy Dome**	**47.63**	**33**	IAmb	IAmb	21 52 06.9	
	comp=Z,82nm,0.9s						
PKI	**Pulchoki**	**47.69**	**274**	*e*P	**P**	**21 51 31.9**	**-0.1**
	comp=Z,184nm,0.7s						
PKIN	**Phulchoki**	**47.70**	**274**	*e*P	**P**	**21 51 31.9**	**-0.1**
	comp=Z,279nm,0.7s						
KNK	**Knik Glacier**	**47.73**	**38**	IAmb	IAmb	21 52 06.0	
	comp=Z,152nm,1.4s						
KNK	**Knik Glacier**	**47.73**	**38**	P	**P**	**21 51 30.2**	**-1.3**
	baz=275						
F24K	**Squaw Lake**	**47.74**	**29**	P	**P**	**21 51 33.1**	**+1.7**
	baz=270						
H24K	**Noodor Dome**	**47.76**	**32**	P	**P**	**21 51 32.6**	**+1.0**
H24K				IAmb	IAmb	21 52 03.3	
	comp=Z,40nm,0.8s						
H24K	**Noodor Dome**	**47.76**	**32**	P	**P**	**21 51 31.5**	**-0.1**
	baz=271,SNR=14						
SML	**Sawmill**	**47.76**	**37**	P	**P**	**21 51 32.5**	**+0.8**
SML				IAmb	IAmb	21 52 40.9	
	comp=Z,87nm,0.9s						
SML				IAMs_20	IAMs_20	22 12 26.9	
	comp=Z,6µm,22.0s						
SML	**Sawmill**	**47.76**	**37**	P	**P**	**21 51 31.5**	**-0.3**
	baz=275						
KAPI	**Kappang**	**47.77**	**210**	P	**P**	**21 51 31.6**	**-0.6**
KAPI	**Kappang**	**47.77**	**210**	P	**P**	**21 51 33.3**	**+1.1**
KAPI				S	**S**	**21 58 25.2**	**+0.7**
KAPI	**Kappang**	**47.77**	**210**	P	**P**	**21 51 31.2**	**-1.0**
	comp=Z,6µmcomp=Z,3µmcomp=Z,175nm,1.4s						
KAPI	**Kappang**	**47.77**	**210**	P	**P**	**21 51 33.0**	**+0.8**
KAPI	**Kappang**	**47.77**	**210**	⇑P	**P**	**21 51 32.7**	**+0.5**
KAPI	**Kappang**	**47.77**	**210***c*	*i*P	**P**	**21 51 32.7**	**+0.5**
KAPI				pmax	pmax		
	comp=Z,71nm,1.2s						
KAPI				MLR	MLR		
	comp=Z,1µm,21.0s						
KAPI	**Kappang**	**47.77**	**210**	P	**P**	**21 51 32.9**	**+0.7**
TCOL	**CIGO, UAF Yank**	**47.79**	**33**	P	**P**	**21 51 32.6**	**+0.8**
TCOL				IAmb	IAmb	21 52 02.3	
	comp=Z,58nm,0.8s						
TCOL	**CIGO, UAF Yank**	**47.79**	**33**	P	**P**	**21 51 29.6**	**-2.2**
	baz=272						
COLA	**College**	**47.80**	**33**	P	**P**	**21 51 32.4**	**+0.5**
COLA				IAmb	IAmb	21 52 02.3	
	comp=Z,56nm,0.7s						
COLA	**College**	**47.80**	**33**	P	**P**	**21 51 29.6**	**-2.3**
	baz=272						
COLA	**College**	**47.80**	**33**	P	**P**	**21 51 33.3**	**+1.5**
COLA	**College**	**47.80**	**33**	⇓P	**P**	**21 51 33.3**	**+1.5**
COLA	**College**	**47.80**	**33***c*	*i*P	**P**	**21 51 32.9**	**+1.1**
COLA				pmax	pmax		
	comp=Z,11nm,1.0s						
COLA				MLR	MLR		
	comp=Z,3µm,20.0s						
COLA	**College**	**47.80**	**33**	P	**P**	**21 51 33.0**	**+1.1**
CHKK	**Chushkaly**	**47.83**	**298**⇑	*i*P	**P**	**21 51 32.0**	**-0.6**
	baz=298						
CHKK	**Chushkaly**	**47.83**	**298**⇑	*i*P	**P**	**21 51 31.9**	**-0.6**
PWL	**Port Wells**	**47.84**	**38**	P	**P**	**21 51 32.2**	**-0.2**
PWL				IAmb	IAmb	21 52 20.7	
	comp=Z,94nm,1.0s						
PWL				IAMs_20	IAMs_20	22 13 11.1	
	comp=Z,6µm,20.0s						
PWL	**Port Wells**	**47.84**	**38**	P	**P**	**21 51 29.9**	**-2.4**
	baz=276						
G24K	**Hadweenzic Riv**	**47.90**	**30**	P	**P**	**21 51 34.4**	**+1.7**
	baz=271,SNR=18						
BKSI	**Bulukumba**	**47.91**	**209**	P	**P**	**21 51 31.4**	**-1.9**
	comp=Z,6µmcomp=Z,2µmcomp=Z,124nm,1.3s						
PMG	**Port Moresby**	**47.91**	**173**	LR	LR	22 10 04.5	
	comp=Z,3µm,21.7s,baz=338,slow=34						
PMG	**Port Moresby**	**47.91**	**173**	P	**P**	**21 51 33.4**	**+0.1**
PMG				IAmb	IAmb	21 53 07.2	
	comp=Z,148nm,1.4s						
PMG	**Port Moresby**	**47.91**	**173**	P	P	21 51 40.0	+6.8
	comp=Z,6µmcomp=Z,2µmcomp=Z,56nm,1.0s						
PMG	**Port Moresby**	**47.91**	**173**	P	**P**	**21 51 36.4**	**+3.2**
PMG	**Port Moresby**	**47.91**	**173**	P	**P**	**21 51 36.5**	**+3.2**
PMG	**Port Moresby**	**47.91**	**173***de*	P	**P**	**21 51 34.2**	**+1.0**
PMG				pmax	pmax		
	comp=Z,26nm,0.8s						
PMG				MLR	MLR		
	comp=Z,2µm,22.0s						
DMN	**Daman**	**47.91**	**275**	*e*P	**P**	**21 51 33.7**	**+0.1**
	comp=Z,82nm,0.7s						
POKR	**Poker Plat Res**	**47.97**	**33**	P	**P**	**21 51 35.2**	**+2.0**
	baz=272,SNR=12						
WAT6	**Susitna Watana**	**47.98**	**36**	P	**P**	**21 51 32.1**	**-1.5**
	baz=274						
MDOK	**Medeo**	**47.99**	**297**	*i* P	**P**	**21 51 34.1**	**+0.2**
	baz=297						
MDOK				*e*S	**S**	**21 58 26.6**	**-1.1**
	baz=297						
MDOK	**Medeo**	**47.99**	**297**	*i* P	**P**	**21 51 34.1**	**+0.2**
MDOK				*e*S	**S**	**21 58 26.5**	**-1.1**
SRIT	**Nakonsritamara**	**48.01**	**243**	P	**P**	**21 51 34.8**	**+0.7**
SRIT	**Nakonsritamara**	**48.01**	**243**	P	**P**	**21 51 35.2**	**+1.1**
	comp=Z,189nm,0.7s						
M23K	**Glacier View**	**48.05**	**37**	P	**P**	**21 51 32.6**	**-1.3**
	baz=275						
AAA	**Alma-Ata**	**48.07**	**297**	*e*P	**P**	**21 51 33.9**	**-0.5**
	baz=297						
AAA	**Alma-Ata**	**48.07**	**297**	*e*P	**P**	**21 51 33.9**	**-0.5**
TNSS	**Tian-Shan**	**48.10**	**297**	*i* P	**P**	**21 51 35.5**	**+0.4**
	baz=297						
TNSS	**Tian-Shan**	**48.10**	**297**	*i* P	**P**	**21 51 35.5**	**+0.4**
DHY	**Denali Highway**	**48.11**	**35**	P	**P**	**21 51 35.1**	**+0.5**
DHY				IAmb	IAmb	21 52 46.9	
	comp=Z,59nm,1.1s						
DHY	**Denali Highway**	**48.11**	**35**	P	**P**	**21 51 33.1**	**-1.4**
	baz=274						
HDA	**Harding Lake**	**48.21**	**34**	IAmb	IAmb	21 52 05.2	
	comp=Z,47nm,0.8s						
HDA	**Harding Lake**	**48.21**	**34**	P	**P**	**21 51 33.8**	**-1.2**
	baz=273,SNR=12						
IL31		**48.21**	**33**	IAmb	IAmb	21 52 05.3	
	comp=Z,62nm,0.8s						
ILAR	**Eielson Array**	**48.21**	**33**	P	**P**	**21 51 34.7**	**-0.4**
	comp=Z,14nm,0.9s,baz=270,slow=6.0,SNR=85						
ILAR				ScP	**ScP**	**21 56 57.1**	**+6.3**
	comp=Z,1.4nm,0.9s,baz=260,slow=5.3,SNR=2.1						
ILAR				LR	LR	22 13 15.2	
	comp=Z,3µm,21.7s,baz=264,slow=38						
	comp=Z,14nm,0.9s						
ILAR	**Eielson Array**	**48.21**	**33**	P	**P**	**21 51 35.3**	**+0.2**
ILAR	**Eielson Array**	**48.21**	**33**	P	**P**	**21 51 35.3**	**+0.2**
SCM	**Sheep Creek Mo**	**48.23**	**37**	IAmb	IAmb	21 52 45.9	
	comp=Z,105nm,1.0s						
SCM				IAMs_20	IAMs_20	22 13 34.3	
	comp=Z,6µm,21.0s						
SCM	**Sheep Creek Mo**	**48.23**	**37**	P	**P**	**21 51 35.6**	**+0.2**
	baz=275						
KUU	**Kurty**	**48.27**	**298**⇑	*i*P	**P**	**21 51 35.2**	**-0.7**
	comp=Z,70nm,0.7s,baz=298						
KUU				*e*S	**S**	**21 58 36.4**	**+5.2**
	baz=298						
KUU	**Kurty**	**48.27**	**298***c*	*i*P	**P**	**21 51 35.2**	**-0.7**
KUU				*e*S	**S**	**21 58 36.4**	**+5.2**
KUU				pmax	pmax		
	comp=Z,70nm,0.7s						
D25K	**Kavik River**	**48.31**	**27**	P	**P**	**21 51 34.1**	**-1.8**
	baz=270						
SKLT	**Songkhla**	**48.32**	**241**	P	P	21 51 44.2	+7.7
SKLT	**Songkhla**	**48.32**	**241**	P	**P**	**21 51 37.7**	**+1.2**
P23K	**Montague Islan**	**48.40**	**39**	P	**P**	**21 51 36.4**	**-0.2**
	baz=277						
G25K	**Bearman Lake**	**48.45**	**30**	P	**P**	**21 51 38.9**	**+2.0**
	baz=272,SNR=10						
BBKI	**Banjar Baru**	**48.50**	**217**	P	**P**	**21 51 37.0**	**-0.9**
	comp=Z,9µmcomp=Z,5µmcomp=Z,218nm,1.2s						
BSSI	**Bau Bau, Buton**	**48.52**	**209**	P	**P**	**21 51 36.0**	**-2.0**
	comp=Z,7µmcomp=Z,3µmcomp=Z,112nm,1.1s						
H25L	**Birch Creek**	**48.58**	**31**	P	**P**	**21 51 39.4**	**+1.5**
	baz=273						
F25K	**Christian Rive**	**48.60**	**29**	P	**P**	**21 51 38.0**	**-0.1**
	baz=272						
E25K	**Arctic Village**	**48.61**	**29**	P	**P**	**21 51 40.0**	**+1.9**
	baz=271,SNR=9.8						
DANN	**Dangsing**	**48.62**	**276**	*e*P	**P**	**21 51 39.6**	**+0.5**
	comp=Z,446nm,0.7s						
PRP	**Porcupine Dome**	**48.74**	**32**	IAmb	IAmb	21 52 10.5	
	comp=Z,53nm,1.0s						
PRP	**Porcupine Dome**	**48.74**	**32**	P	**P**	**21 51 40.9**	**+1.5**
	baz=274,SNR=12						
M24K	**Tolsona, Glenn**	**48.75**	**37**	P	**P**	**21 51 40.4**	**+1.0**
M24K	**Tolsona, Glenn**	**48.75**	**37**	P	**P**	**21 51 40.3**	**+1.0**
	baz=276						
K24K	**Donnelly Dome**	**48.77**	**34**	P	**P**	**21 51 40.1**	**+0.7**
	baz=275,SNR=5.4						
HIN	**Hinchinbrook I**	**48.79**	**39**	IAMs_20	IAMs_20	22 11 38.4	
	comp=Z,9µm,22.0s						
FYU	**Fort Yukon**	**48.80**	**31**	P	**P**	**21 51 41.2**	**+1.7**
FYU				IAmb	IAmb	21 52 56.4	
	comp=Z,120nm,1.0s						
C26K	**Camden Bay**	**48.82**	**26**	P	**P**	**21 51 40.9**	**+1.2**
	baz=270						
J25K	**Salcha River,**	**48.88**	**33**	P	**P**	**21 51 39.0**	**-1.3**
	baz=275						
KLU	**Klutina**	**48.94**	**37**	P	**P**	**21 51 41.9**	**+1.1**
KLU				IAmb	IAmb	21 52 51.5	
	comp=Z,75nm,1.0s						
KLU				IAMs_20	IAMs_20	22 13 59.2	
	comp=Z,6µm,21.0s						
KLU	**Klutina**	**48.94**	**37**	P	**P**	**21 51 40.6**	**-0.2**
	baz=277,SNR=5.5						
PAX	**Paxson**	**48.98**	**35**	P	**P**	**21 51 42.6**	**+1.5**
PAX				IAmb	IAmb	21 53 14.3	
	comp=Z,52nm,1.1s						
PAX	**Paxson**	**48.98**	**35**	P	**P**	**21 51 40.3**	**-0.9**
	baz=276						
PAX	**Paxson**	**48.98**	**35**	P	**P**	**21 51 42.7**	**+1.5**
PAX				pmax	pmax		
	comp=Z,52nm,1.1s						
BMAR	**Burnt Mountain**	**49.01**	**29**	P	**P**	**21 51 42.5**	**+1.2**
VLK	**Valmikinagar**	**49.02**	**275**	*e*P	**P**	**21 51 42.1**	**+0.3**
BRZS	**Berezniki**	**49.04**	**307**⇑	*i*P	**P**	**21 51 41.0**	**-0.7**
	comp=Z,40nm,0.7s,baz=307						
BRZS				*e*S	**S**	**21 58 48.0**	**+6.0**
	baz=307						
BRZS	**Berezniki**	**49.04**	**307***c*	*i*P	**P**	**21 51 41.0**	**-0.7**
BRZS				*e*S	**S**	**21 58 47.9**	**+6.0**
BRZS				pmax	pmax		
	comp=Z,40nm,0.7s						
TKM2	**Tokmak 2**	**49.08**	**297**	P	**P**	**21 51 43.1**	**+0.7**
	SNR=73						
EYAK	**Cordova Ski Ar**	**49.14**	**39**	P	**P**	**21 51 41.5**	**-0.7**
	baz=278						
F26K	**Sheenjek River**	**49.17**	**29**	P	**P**	**21 51 42.9**	**+0.5**
	baz=273						
BOK	**Bokaro**	**49.18**	**270**	*e*P	**P**	**21 51 42.9**	**-0.2**
BOK				IAmb	IAmb	21 52 10.5	
	comp=Z,119nm,0.9s						
RIDG	**Independent Ri**	**49.18**	**34**	P	**P**	**21 51 41.8**	**-0.8**
	baz=276						
HARP	**HAARP**	**49.19**	**36**	P	**P**	**21 51 42.4**	**-0.3**
	baz=277						
C27K	**Jago River**	**49.24**	**26**	P	**P**	**21 51 41.7**	**-1.2**
	baz=272						
NRN	**Naryn**	**49.28**	**295**	IAmb	IAmb	21 52 11.3	
	comp=Z,58nm,0.9s						
G26K	**Porcupine Rive**	**49.35**	**30**	P	**P**	**21 51 44.7**	**+0.9**
	baz=274						
PBKI	**Pangkalan Bun**	**49.41**	**221**	P	**P**	**21 51 47.3**	**+2.4**
	comp=Z,4µmcomp=Z,139nm,1.0s						
BTLS	**Baital**	**49.49**	**300**⇑	*i*P	**P**	**21 51 44.6**	**-0.6**
	comp=Z,61nm,1.4s,baz=300						
BTLS				*e*S	**S**	**21 58 48.9**	**+0.5**
	comp=Z,140nm,5.6s,baz=300						
BTLS	**Baital**	**49.49**	**300***c*	*i*P	**P**	**21 51 44.6**	**-0.6**
BTLS				*e*S	**S**	**21 58 48.8**	**+0.5**
BTLS				pmax	pmax		
	comp=Z,61nm,1.4s						
BTLS				smax	smax		
	comp=E,140nm,5.6s						
SCRK	**Sand Creek**	**49.54**	**34**	IAmb	IAmb	21 52 26.8	
	comp=Z,66nm,1.0s						
SCRK	**Sand Creek**	**49.54**	**34**	P	**P**	**21 51 44.0**	**-1.4**
	baz=276,SNR=16						
N25K	**Chitina, Valde**	**49.55**	**37**	P	**P**	**21 51 46.6**	**+1.1**
N25K				IAmb	IAmb	21 52 49.4	
	comp=Z,54nm,1.1s						
N25K				IAMs_20	IAMs_20	22 13 57.2	
	comp=Z,6µm,21.0s						
N25K	**Chitina, Valde**	**49.55**	**37**	P	**P**	**21 51 46.7**	**+1.2**
	baz=278						
SGDS	**Sogindy**	**49.59**	**298**⇑	*i*P	**P**	**21 51 45.7**	**-0.4**
	comp=Z,90nm,2.4s,baz=298						
SGDS				*e*S	**S**	**21 58 49.5**	**-0.3**
	baz=298						
SGDS	**Sogindy**	**49.59**	**298***c*	*i*P	**P**	**21 51 45.6**	**-0.4**
SGDS				*e*S	**S**	**21 58 49.4**	**-0.3**
SGDS				pmax	pmax		
	comp=Z,90nm,2.4s						
KBK	**Karagaybulak**	**49.62**	**297**	P	**P**	**21 51 46.8**	**+0.3**
	SNR=71						
BMRM	**Bremner River**	**49.64**	**38**	IAmb	IAmb	21 52 18.0	
	comp=Z,87nm,0.8s						
BMRM	**Bremner River**	**49.64**	**38**	P	**P**	**21 51 46.0**	**-0.2**
	baz=278						
CHMS	**Chumysh**	**49.65**	**298**	P	**P**	**21 51 46.6**	**+0.1**
	SNR=12						
J26L	**Joseph Creek**	**49.66**	**33**	P	**P**	**21 51 44.4**	**-1.9**
	baz=276						
KULM	**Kulim**	**49.67**	**239**	P	**P**	**21 51 46.0**	**-0.9**
KULM				IAmb	IAmb	21 51 55.0	
	comp=Z,74nm,0.8s						
KULM				IAMs_20	IAMs_20	22 12 13.9	
	comp=Z,7µm,22.0s						
KULM	**Kulim**	**49.67**	**239**	P	**P**	**21 51 44.2**	**-2.6**
	comp=Z,11µmcomp=Z,2µmcomp=Z,130nm,1.0s						
KULM	**Kulim**	**49.67**	**239**	⇑P	**P**	**21 51 47.3**	**+0.5**
RAGM	**Ragged Mountai**	**49.69**	**39**	IAMs_20	IAMs_20	22 12 24.2	
	comp=Z,8µm,22.0s						
BVAR	**Borovoye Array**	**49.72**	**311**	LR	LR	22 14 13.2	
	comp=Z,4µm,18.2s,baz=74,slow=38						
USP	**Ospenovka**	**49.73**	**298**	P	**P**	**21 51 47.2**	**+0.1**
	SNR=24						
I26K	**Coal Creek Min**	**49.75**	**32**	P	**P**	**21 51 46.6**	**-0.2**
	baz=276						
BRVK	**Borovoye**	**49.77**	**312**	P	**P**	**21 51 47.0**	**-0.2**
BRVK	**Borovoye**	**49.77**	**312**	IAMs_20	IAMs_20	22 13 20.1	
	comp=Z,5µm,22.0s						
BRVK	**Borovoye**	**49.77**	**312**	P	**P**	**21 51 47.1**	**-0.2**
BRVK				P	**P**	**21 51 47.1**	**-0.2**
BRVK				S	**S**	**21 58 48.7**	**-3.3**
BRVK				S	**S**	**21 58 48.7**	**-3.3**
BRVK	**Borovoye**	**49.77**	**312**	⇑P	**P**	**21 51 47.0**	**-0.2**
BRVK	**Borovoye**	**49.77**	**312**	P	**P**	**21 51 47.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,156nm,0.9s						
BRVK				MLR	MLR		
	comp=Z,5µm,22.0s						
BRVK	**Borovoye**	**49.77**	**312**	P	**P**	**21 51 47.0**	**-0.2**
MENT	**Mentasta**	**49.78**	**35**	IAmb	IAmb	21 52 32.5	
	comp=Z,50nm,0.9s						
DGPR	**DIGLIPUR**	**49.80**	**253**	*e*P	**P**	**21 51 48.7**	**+0.8**
L26K	**Log Cabin Wild**	**49.94**	**35**	IAmb	IAmb	21 52 40.7	
	comp=Z,68nm,0.9s						
L26K	**Log Cabin Wild**	**49.94**	**35**	P	**P**	**21 51 48.2**	**-0.1**
	baz=278,SNR=15						
AAK	**Ala-Archa**	**49.94**	**297**	P	**P**	**21 51 49.0**	**+0.2**
	SNR=19						
AAK	**Ala-Archa**	**49.94**	**297**	LR	LR	22 15 12.6	
	comp=Z,2µm,19.4s,baz=72,slow=39						
AAK	**Ala-Archa**	**49.94**	**297**	P	**P**	**21 51 49.0**	**+0.2**
AAK	**Ala-Archa**	**49.94**	**297**	P	**P**	**21 51 48.7**	**-0.2**
AAK	**Ala-Archa**	**49.94**	**297**	P	**P**	**21 51 49.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,107nm,0.9s						
AAK				MLR	MLR		
	comp=Z,3µm,21.0s						
AAK	**Ala-Archa**	**49.94**	**297**	P	**P**	**21 51 48.9**	**0.0**
GLB	**Gilahina Butte**	**49.95**	**37**	P	**P**	**21 51 49.6**	**+1.1**
GLB				IAmb	IAmb	21 52 41.4	
	comp=Z,56nm,1.1s						
KSH	**Kashi**	**49.96**	**293**	P	**P**	**21 51 53.3**	**+4.3**
KSH				sP	sP	21 52 16.1	+4.7
KSH				S	**S**	**21 58 59.9**	**+4.7**
KSH				SS	**SS**	**22 02 31.4**	**+3.0**
KSH				pmax	pmax		
	comp=Z,54nm,1.0s						
KSH				pmax	pmax		
	comp=Z,2µm,6.2s						
KSH				LR	LR		
	comp=Z,3µm,21.8s						
KSH				LR	LR		
	comp=Z,5µm,21.8s						
KSH				LR	LR		
	comp=Z,10µm,30.4s						
IPM	**Ipoh**	**50.01**	**238**	IAMs_20	IAMs_20	22 13 06.0	
	comp=Z,7µm,21.0s						
UCH	**Uchtor**	**50.06**	**297**	P	**P**	**21 51 50.3**	**+0.1**
	SNR=12						
E27K	**Coleen River**	**50.09**	**28**	P	**P**	**21 51 49.2**	**-0.2**
	baz=275						
VRDI	**Verde Repeater**	**50.15**	**37**	IAmb	IAmb	21 53 01.1	
	comp=Z,78nm,1.2s						
VRDI				IAMs_20	IAMs_20	22 13 17.3	
	comp=Z,6µm,22.0s						
M26K	**Nabesna, AK**	**50.19**	**36**	P	**P**	**21 51 51.2**	**+1.0**
M26K				IAmb	IAmb	21 52 38.9	
	comp=Z,91nm,1.1s						
M26K				IAMs_20	IAMs_20	22 14 11.7	
	comp=Z,5µm,22.0s						
M26K	**Nabesna, AK**	**50.19**	**36**	P	**P**	**21 51 51.3**	**+1.0**
	baz=279,SNR=6.0						
G27K	**Doyon Strip**	**50.20**	**30**	P	**P**	**21 51 52.0**	**+1.7**
	baz=276,SNR=10						
MMRI	**Maumere**	**50.21**	**205**	P	P	21 51 45.8	-5.1
MMRI	**Maumere**	**50.21**	**205**	P	**P**	**21 51 51.2**	**+0.3**
MYKOM	**Kota Tinggi**	**50.23**	**233**	P	**P**	**21 51 51.7**	**+0.6**
MYKOM				IAmb	IAmb	21 52 17.8	
	comp=Z,64nm,0.8s						
MYKOM				IAMs_20	IAMs_20	22 12 05.0	
	comp=Z,5µm,21.0s						
MYKOM	**Kota Tinggi**	**50.23**	**233**	P	**P**	**21 51 49.6**	**-1.5**
	comp=Z,10µmcomp=Z,2µmcomp=Z,99nm,2.6s						
H27K	**Steamboat Moun**	**50.32**	**31**	P	**P**	**21 51 52.2**	**+1.0**
	baz=277						
MCARA	**McCarthy VSAT**	**50.33**	**37**	P	**P**	**21 51 51.5**	**+0.2**
MCARA	**McCarthy VSAT**	**50.33**	**37**	P	**P**	**21 51 50.0**	**-1.3**
	baz=279						
I27K	**Kandik River**	**50.36**	**32**	P	**P**	**21 51 51.2**	**-0.3**
	baz=277						
K27K	**Chicken**	**50.37**	**34**	IAmb	IAmb	21 52 29.1	
	comp=Z,82nm,0.9s						
K27K	**Chicken**	**50.37**	**34**	P	**P**	**21 51 51.4**	**-0.1**
	baz=278						
EKS2	**Erkin-Say**	**50.43**	**298**	P	**P**	**21 51 52.6**	**0.0**
	SNR=20						
TPRI	**Tanjung Pinang**	**50.49**	**231**	P	**P**	**21 51 52.3**	**-0.8**
	comp=Z,9µmcomp=Z,3µmcomp=Z,140nm,1.3s						
WAX	**Waxell Ridge**	**50.57**	**38**	P	**P**	**21 51 54.2**	**+0.9**
WAX				IAmb	IAmb	21 52 22.6	
	comp=Z,102nm,1.1s						
WAX				IAMs_20	IAMs_20	22 11 45.5	
	comp=Z,7µm,22.0s						
L27K	**Beaver Creek,**	**50.62**	**35**	P	**P**	**21 51 54.5**	**+1.0**
L27K				IAmb	IAmb	21 52 23.1	
	comp=Z,158nm,1.6s						
L27K	**Beaver Creek,**	**50.62**	**35**	P	**P**	**21 51 53.2**	**-0.3**
	baz=279						
SOEI	**Soe**	**50.62**	**202**	P	**P**	**21 51 53.5**	**-0.6**
SOEI	**Soe**	**50.62**	**202**	P	**P**	**21 51 58.6**	**+4.5**
	comp=Z,8µmcomp=Z,5µmcomp=Z,330nm,0.9s						
SOEI	**Soe**	**50.62**	**202**	P	**P**	**21 51 57.9**	**+3.8**
BCAR	**Beaver Creek A**	**50.64**	**35**	P	**P**	**21 51 54.8**	**+1.1**
HNR	**Honiara**	**50.64**	**156**	P	**P**	**21 51 55.4**	**+1.3**
	comp=Z,475nm,0.3s,baz=356,slow=16,SNR=1.6						
HNR	**Honiara**	**50.64**	**156**	P	**P**	**21 51 55.0**	**+0.9**
EGAK	**Eagle**	**50.66**	**33**	IAmb	IAmb	21 52 20.5	
	comp=Z,34nm,0.8s						
EGAK	**Eagle**	**50.66**	**33**	P	**P**	**21 51 52.4**	**-1.3**
	baz=278						
AML	**Almayashu**	**50.67**	**297**	P	**P**	**21 51 55.3**	**+0.7**
	SNR=40						
M27K	**Edge Creek, AK**	**50.71**	**36**	P	**P**	**21 51 55.2**	**+0.9**
M27K				IAmb	IAmb	21 52 57.1	
	comp=Z,70nm,1.1s						

M27K IAMs_20 IAMs_20 22 13 57.6
comp=Z,6µm,22.0s
M27K Edge Creek, AK 50.71 36 P **P** **21 51 53.4 -0.9**
baz=280
PTH Pithoragarh 50.82 279 *e*P **P** **21 51 55.3 -0.4**
LGTI Lohaghat 50.85 279 *e*P **P** **21 51 55.5 -0.1**
PBA Port Blair 50.92 252 P **P** **21 51 56.2 -0.1**
PBA Port Blair 50.92 252 P **P** **21 51 55.7 -0.6**
BARN Barnard Glacie 51.04 38 P **P** **21 51 58.1 +1.2**
BARN IAmb IAmb 21 53 08.0
comp=Z,99nm,1.3s
BWNR Bhubaneshwar 51.10 266 *e*P **P** **21 51 58.5 +0.9**
YAH Yahtse 51.13 38 IAMs_20 IAMs_20 22 14 58.8
comp=Z,5µm,21.0s
BVCY Beaver Creek 51.17 36 P **P** **21 51 59.3 +1.7**
baz=280,SNR=7.5
BATI Baumata 51.23 203 LR LR 22 12 53.2
comp=Z,1µm,21.8s,baz=44,slow=35
BATI Baumata 51.23 203 P **P** **21 52 01.4 +2.8**
comp=Z,5µmcomp=Z,4µmcomp=Z,215nm,1.0s
YUK3 Moose Creek 51.47 36 P **P** **21 52 00.6 +0.5**
baz=281
DAWY Dawson 51.53 33 P **P** **21 51 58.4 -1.9**
baz=280
DSRI Dabo 51.56 230 P **P** **21 51 58.0 -3.1**
comp=Z,9µmcomp=Z,2µmcomp=Z,83nm,2.4s
KDU Kakadu 51.60 191 P **P** **21 52 01.6 +0.4**
KDU Kakadu 51.60 191 ⇑P **P** **21 52 00.5 -0.8**
ALBI Allahabad 51.61 274 *e*P **P** **21 52 00.0 -1.4**
I29M Ogilvie Camp, 51.76 32 IAmb IAmb 21 52 30.6
comp=Z,5nm,0.9s
I29M Ogilvie Camp, 51.76 32 P **P** **21 52 01.2 -0.7**
baz=280,SNR=20
O28M Mount Upton 51.80 38 P **P** **21 52 02.2 -0.5**
baz=282
YUK8 Steele Glacier 51.90 37 P **P** **21 52 05.2 +1.9**
baz=282
PINM Pinnacle 51.91 39 P **P** **21 51 59.3 -4.0**
baz=283
MTN Manton Dam 51.97 193 P **P** **21 52 04.3 +0.3**
MTN Manton Dam 51.97 193 ⇓P **P** **21 52 04.4 +0.4**
PPBI Pangkal Pinang 51.99 227 P **P** **21 52 01.5 -2.8**
comp=Z,2µmcomp=Z,77nm,1.2s
PLAI Plampang 52.02 210 P **P** **21 52 00.1 -4.4**
PLAI Plampang 52.02 210 P **P** **21 52 03.1 -1.4**
DZA Taraz 52.05 299⇑ *i*P **P** **21 52 03.9 -0.6**
comp=Z,52nm,1.3s,baz=298
DZA *e*S **S** **21 59 23.7 -0.2**
baz=298
DZA Taraz 52.05 299*c i*P **P** **21 52 03.9 -0.6**
DZA *e*S **S** **21 59 23.6 -0.2**
DZA pmax pmax
comp=Z,52nm,1.3s
KMMI Kalianget 52.06 216 P **P** **21 52 03.4 -1.4**
comp=Z,7µmcomp=Z,3µmcomp=Z,166nm,1.1s
LASI Langsa, Aceh 52.09 241 P P 21 52 13.7 +8.7
COEN Coen 52.17 178 P **P** **21 52 06.5 +1.0**
COEN Coen 52.17 178 ⇑P **P** **21 52 06.2 +0.7**
EPYK Eagle Plains 52.22 30 P **P** **21 52 06.7 +1.3**
EPYK IAmb IAmb 21 52 29.2
comp=Z,95nm,0.8s
EPYK Eagle Plains 52.22 30 P **P** **21 52 07.6 +2.2**
baz=281,SNR=31
LHMI Lhok Sumawe 52.24 242 P **P** **21 52 07.2 +1.0**
LHMI Lhok Sumawe 52.24 242 P P 21 52 11.6 +5.4
LHMI Lhok Sumawe 52.24 242 P **P** **21 52 07.4 +1.2**
M29M Somme Creek 52.26 35 P **P** **21 52 09.6 +3.8**
baz=282
L29M L29M 52.27 35 P **P** **21 52 07.4 +1.6**
baz=282
G30M tAoh Zraii Nji 52.30 30 P **P** **21 52 04.1 -1.9**
baz=281
TWSI Taliwang, Sumb 52.30 211 P **P** **21 52 03.1 -3.4**
comp=Z,6µmcomp=Z,2µmcomp=Z,108nm,1.1s
KLNI Mataram 52.35 213 P **P** **21 52 04.3 -2.6**
comp=Z,8µmcomp=Z,345nm,1.2s
K29M Barlow Dome 52.38 34 P **P** **21 52 06.3 -0.4**
baz=282
YUK4 Talbot Arm 52.41 37 P **P** **21 52 06.2 -0.9**
baz=283
SRBI Singaraja 52.42 214 P **P** **21 52 08.0 +0.6**
comp=Z,6µmcomp=Z,5µmcomp=Z,171nm,0.8s
SMLA Simla 52.46 283 *e*P **P** **21 52 07.2 -0.5**
KK31 Karatay Array 52.54 299 IAmb IAmb 21 52 35.3
comp=Z,95nm,0.8s
KKAR Karatay Array 52.54 299 P **P** **21 52 07.9 -0.2**
KKAR Karatay Array 52.54 299 IAmb IAmb 21 52 35.3
comp=Z,95nm,0.8s
KKAR Karatay Array 52.54 299 ⇑P **P** **21 52 07.8 -0.2**
KKAR Karatay Array 52.54 299 P **P** **21 52 07.9 -0.2**
ABJI Asem Bagus 52.60 215 P **P** **21 52 06.5 -2.2**
comp=Z,7µmcomp=Z,5µmcomp=Z,110nm,0.9s
YUK6 Outpost Mounta 52.63 37 P **P** **21 52 08.2 -0.6**
baz=283
GRJI Gresik 52.64 217 P **P** **21 52 11.0 +2.0**
comp=Z,4µmcomp=Z,5µmcomp=Z,219nm,1.8s
PSI Prapat 52.65 238 P **P** **21 52 06.0 -3.4**
comp=Z,12µmcomp=Z,2µmcomp=Z,127nm,0.8s
PSI Prapat 52.65 238 P **P** **21 52 09.3 -0.1**
PSI Prapat 52.65 238 ⇑P **P** **21 52 09.2 -0.1**
O29M Mount Kennedy 52.68 38 P **P** **21 52 09.9 +0.9**
baz=284
RPSI Rantau Prapat 52.73 238 IAmb IAmb 21 52 16.8
comp=Z,77nm,0.7s
RPSI IAMs_20 IAMs_20 22 14 10.2
comp=Z,7µm,22.0s
RTBI Rangdo, Negare 52.88 214 P **P** **21 52 07.0 -3.8**
comp=Z,5µmcomp=Z,256nm,1.0s
BHK Bhakra 52.90 283 *e*P **P** **21 52 11.5 +0.5**
KCSI Kotacane, Aceh 52.90 240 P **P** **21 52 12.6 +1.5**
comp=Z,1µmcomp=Z,72nm,0.8s
M30M Minto, Yukon 52.98 35 P **P** **21 52 11.5 +0.4**
M30M IAmb IAmb 21 52 38.2
comp=Z,256nm,2.0s
M30M IAMs_20 IAMs_20 22 14 37.6
comp=Z,6µm,22.0s
M30M Minto, Yukon 52.98 35 P **P** **21 52 13.2 +2.1**
baz=284
THN Thein Dam 52.98 285 *e*P **P** **21 52 11.2 -0.3**
BLSP Bilaspur 52.99 270 *e*P **P** **21 52 11.2 -0.5**
INK Inuvik 53.05 28 P **P** **21 52 12.3 +0.9**
comp=Z,31nm,0.9s,baz=280,slow=6.5,SNR=56
INK LR LR 22 15 59.0
comp=Z,4µm,20.7s,baz=278,slow=37
comp=Z,31nm,0.9s
INK Inuvik 53.05 28 IAmb IAmb 21 53 14.5
comp=Z,85nm,1.4s
INK Inuvik 53.05 28 P **P** **21 52 12.4 +1.0**
baz=282,SNR=24
INK Inuvik 53.05 28 ⇑P **P** **21 52 12.3 +0.9**
HYT Haines Junctio 53.07 37 P **P** **21 52 12.5 +0.6**
HYT Haines Junctio 53.07 37 P **P** **21 52 14.5 +2.6**
baz=284,SNR=11
N30M Aishikik Lake 53.11 36 P **P** **21 52 10.1 -2.0**
baz=284
BKNI Bangkinang 53.13 234 P **P** **21 52 13.7 +1.0**
comp=Z,10µmcomp=Z,7µmcomp=Z,485nm,1.0s
BKNI Bangkinang 53.13 234 P **P** **21 52 13.8 +1.0**
MAYO Mayo, Yukon 53.14 34 P **P** **21 52 11.7 -0.6**
MAYO IAmb IAmb 21 53 32.1
comp=Z,96nm,0.9s
MAYO Mayo, Yukon 53.14 34 P **P** **21 52 12.1 -0.2**
baz=284
F31M Tsiigehtchic 53.15 29 P **P** **21 52 12.7 +0.5**
baz=282,SNR=22
IUG luznay 53.21 298⇑ *i*P **P** **21 52 13.2 -0.1**
baz=298
IUG *e*S **S** **21 59 45.6 +5.7**
baz=298
IUG luznay 53.21 298*c i*P **P** **21 52 13.1 -0.1**
IUG *e*S **S** **21 59 45.5 +5.7**
JAGI Jajag, Banyuwa 53.23 215 P **P** **21 52 13.3 -0.1**
JAGI IAmb IAmb 21 52 40.0
comp=Z,87nm,1.0s
P29M Windy Craggy 53.26 39 P **P** **21 52 14.0 +0.8**
P29M IAMs_20 IAMs_20 22 13 50.6
comp=Z,4µm,21.0s
P29M Windy Craggy 53.26 39 P **P** **21 52 12.8 -0.3**
baz=285
MLSI Meulaboh, Aceh 53.30 242 P **P** **21 52 13.6 -0.4**
comp=Z,122nm,0.6s
P30M Million Dollar 53.51 38 P **P** **21 52 12.1 -3.0**
baz=285
RAGD RAYAGADA 53.52 266 *e*P **P** **21 52 16.3 +0.7**
N31M Braeburn, Yuko 53.71 36 P **P** **21 52 17.2 +0.7**
N31M IAmb IAmb 21 53 20.7
comp=Z,95nm,1.1s
N31M Braeburn, Yuko 53.71 36 P **P** **21 52 17.4 +1.0**
baz=285,SNR=6.7
MNSI Mandailing Nat 53.72 236 P **P** **21 52 16.6 -0.4**
comp=Z,8µmcomp=Z,2µmcomp=Z,113nm,0.8s
SMRI Semarang 53.75 220 P **P** **21 52 17.6 +0.4**
SMRI Semarang 53.75 220 P P 21 52 24.0 +6.8
SMRI Semarang 53.75 220 P **P** **21 52 18.3 +1.1**
O30N Mendenhall 53.76 37 P **P** **21 52 13.8 -3.0**
baz=285
SDSI Sungai Dareh 53.85 233 P **P** **21 52 18.2 +0.2**
comp=Z,9µmcomp=Z,6µmcomp=Z,342nm,0.9s
PLBC Pleasant Camp 53.98 39 P **P** **21 52 18.1 -0.3**
baz=286
TAS Tashkent 54.03 298 **P** **21 52 19.7 +0.6**
TAS Tashkent 54.03 298 P **P** **21 52 19.7 +0.6**
TAS pmax pmax
comp=Z,123nm,0.7s
JHNI Jhansi 54.09 276 *e*P **P** **21 52 17.8 -1.9**
KIP Kipapa 54.11 90⇓ *e*P **P** **21 52 18.3 -1.6**
KIP pmax pmax
comp=Z,33nm,1.1s
JBP Jabalpur 54.13 273⇓ *e*P **P** **21 52 18.7 -1.3**
JBP IAmb IAmb 21 52 27.7
comp=Z,274nm,1.1s
M31M Drury Creek, Y 54.16 35 P **P** **21 52 20.7 +1.0**
M31M IAMs_20 IAMs_20 22 16 39.9
comp=Z,4µm,21.0s
M31M Drury Creek, Y 54.16 35 P **P** **21 52 21.4 +1.6**
baz=286,SNR=8.1
SVE Sverdlovsk 54.17 318*d i*P **P** **21 52 20.1 +0.3**
SVE *e*S **S** **21 59 53.0 +0.9**
SVE pmax pmax
comp=Z,364nm,1.1s
SVE MLR MLR
comp=E,8µm,22.0s
SVE MLR MLR
comp=Z,10µm,22.0s
NIL Nilore 54.31 287 P **P** **21 52 21.4 +0.2**
NIL Nilore 54.31 287 P **P** **21 52 21.9 +0.6**
NIL P **P** **21 52 21.9 +0.6**
NIL Nilore 54.31 287 P **P** **21 52 21.4 +0.2**
NIL pmax pmax
comp=Z,335nm,0.9s
NIL Nilore 54.31 287 P **P** **21 52 21.9 +0.6**
CTJI Waduk Cacaban 54.35 221 P **P** **21 52 21.7 +0.1**
comp=Z,7µmcomp=Z,6µmcomp=Z,197nm,1.2s
WHY Whitehorse 54.36 37 P **P** **21 52 22.4 +1.1**
baz=286
PDSI Padang 54.45 234 P **P** **21 52 22.5 +0.1**
comp=Z,5µmcomp=Z,1µmcomp=Z,77nm,0.8s
UGM Wanagama 54.45 219 P P 21 52 28.4 +6.0
UGM Wanagama 54.45 219 P **P** **21 52 21.6 -0.8**
VIS Vishakhapatnam 54.48 265 *e*P **P** **21 52 23.0 +0.4**
VIS IAmb IAmb 21 52 31.8
comp=Z,174nm,1.1s
FARO Faro, Yukon 54.62 35 P **P** **21 52 24.2 +1.2**
FARO Faro, Yukon 54.62 35 P **P** **21 52 25.1 +2.0**
baz=286,SNR=6.9
GSI Gunungsitoli 54.66 238 IAMs_20 IAMs_20 22 16 37.3
comp=Z,6µm,20.0s
GSI Gunungsitoli 54.66 238 P **P** **21 52 24.2 +0.3**
comp=Z,11µmcomp=Z,13µmcomp=Z,681nm,1.6s
GSI Gunungsitoli 54.66 238 P **P** **21 52 24.8 +0.9**
SNSI Sinabang, Aceh 54.70 240 P P 21 52 31.2 +7.0
A36M Sachs Harbour 54.88 22 IAmb IAmb 21 53 03.4
comp=Z,79nm,0.8s
A36M IAMs_20 IAMs_20 22 19 54.5
comp=Z,5µm,22.0s
A36M Sachs Harbour 54.88 22 P **P** **21 52 26.5 +1.8**
baz=287,SNR=30
KLI Kotabumi 54.92 227 P **P** **21 52 25.6 -0.1**
comp=Z,7µmcomp=Z,8µmcomp=Z,430nm,0.9s
LEM Lembang 55.02 223 LR LR 22 16 54.1
comp=Z,1µm,20.9s,baz=14,slow=37
MASI Maura Aman, Be 55.08 231 P **P** **21 52 28.3 +1.3**
comp=Z,4µmcomp=Z,3µmcomp=Z,329nm,1.2s
CBJI Citeko 55.09 224 P P 21 52 34.6 +7.7
BLSI Bandar Lampung 55.11 226 P **P** **21 52 26.8 -0.3**
comp=Z,3µmcomp=Z,189nm,0.8s
KNRA Kununurra 55.19 195 P **P** **21 52 28.0 +0.5**
P32M Atlin 55.23 38 P **P** **21 52 26.6 -0.9**
baz=288
R32K Eaglecrest 55.24 40 P **P** **21 52 26.2 -1.3**
baz=288
KSI Kapahiang 55.27 230 P P 21 52 40.8 +12
SIMJ Simiganj 55.29 295 P **P** **21 52 28.1 -0.3**
JIS Juneau Island 55.31 40 IAMs_20 IAMs_20 22 14 10.4
comp=Z,4µm,20.0s
ARU Arti 55.38 318 LR LR 22 19 01.7
comp=Z,8µm,18.8s,baz=67,slow=39
ARU Arti 55.38 318 P **P** **21 52 28.4 -0.2**
ARU Arti 55.38 318⇑P **P** **21 52 28.4 -0.2**
ARU Arti 55.38 318*c i*P **P** **21 52 28.4 -0.2**
ARU *PP **pP** **21 52 45.0 +0.6**
ARU 21 53 28.7
ARU 21 54 28.6
ARU PPP PPP 21 55 42.1
ARU S **S** **22 00 09.8 +1.4**
ARU *SS **sS** **22 00 31.9 -3.1**
ARU 22 02 14.2
ARU SSS SSS 22 05 51.9
ARU pmax pmax
comp=Z,193nm,1.2s
ARU MLR MLR
comp=Z,10µm,21.0s
ARU Arti 55.38 318 P **P** **21 52 28.4 -0.2**
MMPY Sheldon Lake, 55.43 34 P **P** **21 52 31.2 +2.3**
baz=288,SNR=8.3
P33M Teslin, Yukon 55.47 37 P **P** **21 52 29.8 +0.5**
P33M IAmb IAmb 21 52 55.6
comp=Z,67nm,1.1s
P33M IAMs_20 IAMs_20 22 15 28.6
comp=Z,4µm,20.0s
P33M Teslin, Yukon 55.47 37 P **P** **21 52 29.6 +0.3**
baz=288,SNR=7.8
LWLI Liwa 55.50 227 P **P** **21 52 29.5 -0.6**
comp=Z,7µmcomp=Z,4µmcomp=Z,319nm,0.8s
KASI Kota Agung 55.66 227 P **P** **21 52 29.4 -1.7**
comp=Z,86nm,0.8s
NGP Nagpur 55.93 271 *e*P **P** **21 52 32.4 -0.6**
C36M Paulatuk 56.07 25 P **P** **21 52 34.1 +0.8**
C36M IAmb IAmb 21 53 10.6
comp=Z,45nm,0.9s
C36M Paulatuk 56.07 25 P **P** **21 52 34.2 +0.9**
baz=289,SNR=6.8
BHPL Bhopal 56.10 274 *e*P **P** **21 52 32.0 -2.3**
BHPL IAmb IAmb 21 52 57.4
comp=Z,167nm,1.3s
Q32M Nakina River 56.14 39 P **P** **21 52 32.6 -1.6**
baz=290
MTSU Mount Surprise 56.36 177 P **P** **21 52 37.0 +1.1**
comp=Z,54nm,0.8s
AJM Ajmer 56.61 279 *e*P **P** **21 52 37.5 -0.4**
R33M Jennings River 56.62 38 P **P** **21 52 37.6 0.0**
baz=290
CRAG Craig 56.91 43 P **P** **21 52 41.6 +2.2**
baz=291
KBL Kabul 57.04 290 P **P** **21 52 39.7 -1.3**
KBL Kabul 57.04 290 P **P** **21 52 40.7 -0.3**
SNR=129
KBL P **P** **21 52 40.7 -0.3**
SNR=129
KBL S **S** **22 00 27.7 -3.8**
KBL S **S** **22 00 27.7 -3.8**
KBL Kabul 57.04 290 P **P** **21 52 39.7 -1.3**
KBL pmax pmax
comp=Z,219nm,0.9s
S34M Telegraph Cree 57.06 39 P **P** **21 52 41.8 +1.3**
baz=291
TGTN Hyland Airport 57.12 35 P **P** **21 52 42.8 +1.8**
baz=291,SNR=12
ABKAR Akbulak array 57.13 309 P **P** **21 52 40.0 -1.1**
ABKAR Akbulak array 57.13 309 ⇑P **P** **21 52 40.6 -0.5**
DLBC Dease Lake 57.42 39 P **P** **21 52 44.9 +1.8**
comp=Z,11nm,0.9s,baz=281,slow=9.7,SNR=8.9
DLBC LR LR 22 16 36.0
comp=Z,3µm,21.9s,baz=300,slow=35
comp=Z,11nm,0.9s
DLBC Dease Lake 57.42 39 P **P** **21 52 43.5 +0.4**
DLBC IAmb IAmb 21 53 48.7
comp=Z,55nm,1.2s
DLBC Dease Lake 57.42 39 P **P** **21 52 43.8 +0.6**
baz=291
TV1H Townsville Har 57.63 174 P P 21 52 50.6 +5.7
AKL Akola 57.77 272 *e*P **P** **21 52 45.8 -0.3**
T35M Bob Quinn 57.85 40 P **P** **21 52 46.3 +0.2**
baz=292
HYBB Hyderabad (bro 58.39 268⇑ *e*P **P** **21 52 50.1 -0.4**
HYBB *e*sP **pP** **21 53 08.4 +2.0**
HYBB IVmBBB 21 53 16.9
comp=Z,1µm,2.4s
HYBB *e*PcP **PcP** **21 53 41.5 +0.7**
HYBB *e*ScP **ScP** **21 57 37.2 +1.3**
HYBB *e*PcS **PcS** **21 57 42.2 -0.5**
HYBB *e*S **S** **22 00 52.3 +3.2**
HYBB *e*SS **SS** **22 04 41.9 0.0**
HYBB IVMs_BB IVMs_BB 22 20 03.6
comp=Z,453nm,21.3s
HYB Hyderabad 58.39 268 *e*P **P** **21 52 49.9 -0.6**
CTA Charters Tower 58.41 175 LR LR 22 15 58.3
comp=Z,844nm,21.8s,baz=350,slow=34
CTA Charters Tower 58.41 175 P **P** **21 52 52.6 +2.3**
CTAO Charters Tower 58.41 175 P **P** **21 52 49.4 -0.9**
CTAO IAmb IAmb 21 53 15.7
comp=Z,89nm,1.4s
CTAO Charters Tower 58.41 175 P **P** **21 52 52.6 +2.3**
CTAO Charters Tower 58.41 175 ⇓P **P** **21 52 50.6 +0.2**
CTAO Charters Tower 58.41 175 P **P** **21 52 49.4 -0.9**
CTAO pmax pmax
comp=Z,89nm,1.5s
CTAO Charters Tower 58.41 175 P **P** **21 52 50.4 +0.1**
WRAB Tennant Creek 58.49 188 P **P** **21 52 49.6 -1.3**
WRAB Tennant Creek 58.49 188 P **P** **21 52 50.2 -0.6**
WRAB Tennant Creek 58.49 188 ⇑P **P** **21 52 50.2 -0.6**
WRAB Tennant Creek 58.49 188*c i*P **P** **21 52 50.3 -0.6**
WRAB pmax pmax
comp=Z,28nm,0.7s
WRAB Tennant Creek 58.49 188 P **P** **21 52 50.3 -0.6**
WRA Warramunga Arr 58.50 188 P **P** **21 52 50.3 -0.7**
comp=Z,24nm,0.5s,baz=4.9,slow=6.8,SNR=150
WRA LR LR 22 15 26.2
comp=Z,4µm,21.9s,baz=2.0,slow=33
WRA PKP2bc P"P"bc 22 22 40.7
comp=Z,3.0nm,1.0s,baz=190,slow=2.1,SNR=9.0
WRA PKP2ab P"P"ab 22 22 56.6
comp=Z,3.2nm,1.2s,baz=198,slow=2.8,SNR=4.6
comp=Z,24nm,0.5s
WRA Warramunga Arr 58.50 188 **P** **21 52 50.5 -0.5**
WRA Warramunga Arr 58.50 188 P **P** **21 52 50.5 -0.5**
WRA pmax pmax
comp=Z,14nm,0.8s
WRGLY Wrigley 58.56 32 P **P** **21 52 52.9 +2.0**
baz=294,SNR=6.0
ALE Alert 58.67 4 P **P** **21 52 51.9 +0.4**
HOPEN Hopen 58.68 346 *e*P **P** **21 52 51.7 +0.1**
HOPEN IVmB_BB 21 53 09.7
comp=Z,3µm,3.4s
HOPEN *e*S **S** **22 00 52.5 +1.3**
QIS Mount Isa 58.74 182 P **P** **21 52 52.5 -0.2**
EUNU Eureka 58.75 9 IAmb IAmb 21 53 00.6
comp=Z,54nm,0.8s
LIRD Liard River Hi 58.92 37 P **P** **21 52 54.3 +0.7**
baz=294
SPA0 Spitsbergen Ar 59.15 349 *e*P **P** **21 52 54.8 0.0**
SPA0 IVmB_BB 21 53 00.9
comp=Z,2µm,2.7s
SPA0 *e*S **S** **22 00 58.9 +1.6**
SPITS Spitsbergen Ar 59.15 349 LR LR 22 20 17.3
comp=Z,5µm,21.8s,baz=11,slow=38
KIRV Kirov 59.19 322 LR LR 22 22 10.4
comp=Z,3µm,18.6s,baz=70,slow=40
KIRV Kirov 59.19 322*c i*P **P** **21 52 55.0 -0.3**
KBS Kingsbay 59.27 350 P **P** **21 52 55.9 +0.2**
KBS IAmb IAmb 21 53 22.2
comp=Z,88nm,0.9s
KBS Kingsbay 59.27 350 *i*P **P** **21 52 56.6 +1.0**
KBS Kingsbay 59.27 350 P **P** **21 52 55.9 +0.2**
KBS pmax pmax
comp=Z,89nm,1.0s
KBS MLR MLR
comp=Z,2µm,20.0s
KBS Kingsbay 59.27 350 *e*P **P** **21 52 56.8 +1.2**
KBS IVmBBB 21 53 03.2
comp=Z,2µm,3.7s
KBS *e*S **S** **22 01 01.3 +2.5**
KBS Kingsbay 59.27 350 P **P** **21 52 55.9 +0.2**
JASL Jaisalmer 59.28 281 *e*P **P** **21 52 56.0 -0.5**
MDRS Chennai 59.60 262 *e*P **P** **21 52 59.8 +1.0**
MDRS IAmb IAmb 21 53 08.6
comp=Z,94nm,0.9s
NOR Nord 59.63 356 *i*P **P** **21 52 58.5 +0.4**
PRGR Permogore 59.64 327 *e*P **P** **21 52 57.8 -0.6**
PRGR *e*PP **pP** **21 53 13.5 -0.9**
PRGR *e* 21 53 43.9
PRGR *e*S **S** **22 01 01.5 -2.5**
FLDN Fort Liard 59.79 35 P **P** **21 52 59.1 -0.3**
baz=295
HSPB Hornsund (broa 60.08 348 *e*P **P** **21 53 01.6 +0.4**
HSPB *e*L L 22 17 11.9
comp=Z,5µm,26.5s
LVZ Lovozero 60.86 336 P **P** **21 53 05.0 -1.8**
LVZ IAmb IAmb 21 53 27.6
comp=Z,62nm,0.9s
LVZ IAMs_20 IAMs_20 22 22 18.6
comp=Z,6µm,20.0s
LVZ Lovozero 60.86 336⇓ *e*P **P** **21 53 05.8 -0.9**
LVZ pmax pmax
comp=Z,22nm,0.8s
LVZ MLR MLR
comp=Z,7µm,23.0s
LVZ Lovozero 60.86 336 P **P** **21 53 06.3 -0.4**
BBB Bella Bella 60.95 45 LR LR 22 17 40.5
comp=Z,2µm,20.9s,baz=296,slow=34
BJO1 Bjornoya 61.12 345 *e*P **P** **21 53 08.7 +0.4**
BJO1 IVmB_BB 21 53 26.6
comp=Z,2µm,2.7s
BJO1 *e*S **S** **22 01 24.8 +2.2**
RES Resolute Bay 61.18 15 P **P** **21 53 08.6 -0.2**
comp=Z,29nm,0.9s,baz=321,slow=4.3,SNR=53
comp=Z,29nm,0.9s
RES Resolute Bay 61.18 15 P **P** **21 53 07.8 -0.9**
RES IAmb IAmb 21 53 34.5
comp=Z,48nm,0.8s
RES Resolute Bay 61.18 15 ⇑P **P** **21 53 08.5 -0.2**
RTV Rentapao 61.37 151 P **P** **21 53 13.5 +2.9**
APA Apatity 61.44 335⇓ *i*P **P** **21 53 08.4 -2.2**
APA *i* 21 53 29.0
APA *i* PPP PPP 21 57 00.0
APA *i*S **S** **22 01 24.0 -2.8**
APA *i*PS **PnS** **22 01 56.0 +7.6**
APA *i* 22 02 56.0
APA *i*SS **SS** **22 05 37.0 +9.4**
KAD Karad 61.88 270 *e*P **P** **21 53 13.6 -0.8**
SALM Salem 62.05 263 *e*P **P** **21 53 15.4 0.0**
HRA Herat 62.07 293 P **P** **21 53 15.4 -0.3**
RK1H Rockhampton Ha 62.09 171 P **P** **21 53 16.3 +0.9**
KEV Kevo 62.15 339 P **P** **21 53 14.6 -0.7**
KEV IAmb IAmb 21 53 43.9
comp=Z,117nm,1.3s
KEV Kevo 62.15 339 ⇑P **P** **21 53 15.7 +0.3**
KEV Kevo 62.15 339 P **P** **21 53 14.6 -0.7**
KEV pmax pmax
comp=Z,117nm,1.3s
KEV MLR MLR
comp=Z,7µm,19.0s
KEV Kevo 62.15 339 P **P** **21 53 15.4 +0.1**
BHUJ Bhuj 62.15 279 *e*P **P** **21 53 16.3 +0.2**
BHUJ IAmb IAmb 21 53 25.1
comp=Z,115nm,0.7s
AS01 Alice Springs 62.22 188 P **P** **21 53 16.3 0.0**
AS31 Alice Springs 62.22 188 P **P** **21 53 16.0 -0.3**
AS31 IAmb IAmb 21 53 23.9
comp=Z,23nm,0.7s
ASAR Alice Springs 62.23 188 P **P** **21 53 16.1 -0.2**
comp=Z,17nm,0.7s,baz=12,slow=6.1,SNR=154
ASAR LR LR 22 20 04.0
comp=Z,3µm,21.8s,baz=359,slow=36
ASAR PKP2bc 22 22 28.6
comp=Z,1.0nm,0.8s,baz=182,slow=2.0,SNR=6.3
ASAR PKP2ab 22 22 36.5
comp=Z,2.2nm,0.7s,baz=186,slow=1.9,SNR=14
comp=Z,17nm,0.7s
ASAR Alice Springs 62.23 188 P **P** **21 53 15.8 -0.6**
KOUNC Koumac, New Ca 62.45 156 P **P** **21 53 20.6 +2.7**
YKA Yellowknife Ar 62.50 31 P **P** **21 53 17.6 -0.1**
comp=Z,15nm,0.8s,baz=295,slow=6.8,SNR=13
YKA LR LR 22 21 53.9
comp=Z,1µm,21.8s,baz=297,slow=37
comp=Z,15nm,0.8s
HAMF Hammerfest 62.51 341 *e*P **P** **21 53 17.9 +0.1**

HAMF IVmB_BB 21 53 47.9
comp=Z,1µm,3.8s
HAMF eS **S** **22 01 42.4 +2.2**
KLMR Klimovskoe 62.62 327 eP **P** **21 53 18.5 -0.1**
KLMR eP **P** **21 53 18.5 -0.1**
KLMR eP **P** **21 53 18.5 -0.1**
KLMR AMP 21 53 27.7
comp=Z,145nm,1.5s
KLMR epP **pP** **21 53 37.4 +2.7**
KLMR ePcP **PcP** **21 53 57.7 +0.7**
KLMR epP **PP** **21 55 36.2 -0.2**
KLMR S **S** **22 01 41.0 -0.9**
KLMR S **S** **22 01 41.0 -0.9**
KLMR SS **SS** **22 05 50.6 +4.3**
KLMR SS **SS** **22 05 50.6 +4.3**
KLMR LQ LQ 22 14 34.8
KLMR LQ LQ 22 14 34.8
KLMR LR LR 22 16 00.3
KLMR AMP 22 22 53.2
comp=Z,5µm,18.0s
KLMR Klimovskoe 62.62 327 eP **P** **21 53 18.4 -0.1**
KLMR e*PP **pP** **21 53 37.3 +2.6**
KLMR e 21 53 57.6
KLMR e 21 55 36.1
KLMR S **S** **22 01 40.9 -0.9**
KLMR SS **SS** **22 05 50.5 +4.3**
KLMR pmax pmax
comp=Z,145nm,1.5s
KLMR MLR MLR
comp=Z,5µm,18.0s
ARA0 ARCESS Array S 62.71 339 eP **P** **21 53 19.6 +0.5**
ARA0 IVmB_BB 21 54 04.0
comp=Z,2µm,3.1s
ARA0 eS **S** **22 01 44.1 +1.3**
ARCES ARCESS Array B 62.71 339 P **P** **21 53 19.3 +0.2**
comp=Z,8.5nm,0.7s,baz=55,slow=8.0,SNR=50
ARCES LR LR 22 25 40.2
comp=Z,3µm,18.2s,baz=45,slow=41
comp=Z,8.5nm,0.7s
ARCES ARCESS Array B 62.71 339 P **P** **21 53 18.6 -0.5**
ARCES IAmb IAmb 21 53 42.2
comp=Z,125nm,1.4s
MBWA Marble Bar 62.76 203 P **P** **21 53 18.7 -1.2**
MBWA Marble Bar 62.76 203 P **P** **21 53 19.9 -0.1**
MBWA S **S** **22 01 42.6 -1.8**
MBWA Marble Bar 62.76 203 P **P** **21 53 19.8 -0.1**
MBWA Marble Bar 62.76 203 ⇓P **P** **21 53 19.8 -0.1**
MBWA Marble Bar 62.76 203 P **P** **21 53 19.2 -0.8**
PALK Pallekele 62.82 257 LR LR 22 22 32.6
comp=Z,2µm,20.5s,baz=158,slow=38
PALK Pallekele 62.82 257 P **P** **21 53 19.9 -0.8**
PALK IAmb IAmb 21 53 47.0
comp=Z,70nm,0.9s
PALK Pallekele 62.82 257 P **P** **21 53 20.9 +0.2**
PALK S **S** **22 01 43.8 -1.9**
PALK Pallekele 62.82 257 P **P** **21 53 21.2 +0.5**
comp=Z,9µmcomp=Z,2µmcomp=Z,95nm,1.8s
PALK Pallekele 62.82 257 ⇑P **P** **21 53 20.6 0.0**
PALK Pallekele 62.82 257*c* *i*P **P** **21 53 20.6 0.0**
PALK pmax pmax
comp=Z,25nm,1.0s
PALK MLR MLR
comp=Z,2µm,20.0s
PALK Pallekele 62.82 257 P **P** **21 53 20.8 +0.1**
BELG Belogornoye 62.85 317 LR LR 22 22 54.9
comp=Z,5µm,18.9s,baz=59,slow=38
BELG Belogornoye 62.85 317*c* *i*P **P** **21 53 20.0 -0.2**
BELG pmax pmax
comp=Z,23nm,0.9s
BELG MLR MLR
comp=Z,1µm,24.0s
PSA00 Pilbara Seismi 63.11 203 P **P** **21 53 20.9 -1.4**
PSA00 IAmb IAmb 21 53 46.8
comp=Z,92nm,1.3s
PSA00 Pilbara Seismi 63.11 203 P **P** **21 53 21.9 -0.4**
PSA00 IAmb IAmb 21 53 46.8
comp=Z,49nm,1.2s
PSA00 Pilbara Seismi 63.11 203 P **P** **21 53 21.7 -0.6**
GOA Goa 63.20 269 eP **P** **21 53 22.7 -0.4**
GEYT Alibeck 63.27 298 P **P** **21 53 23.5 +0.1**
comp=Z,9.9nm,0.5s,baz=56,slow=3.6,SNR=23
GEYT LR LR 22 22 35.0
comp=Z,5µm,21.4s,baz=64,slow=38
comp=Z,9.9nm,0.5s
GEYT Alibeck 63.27 298 P **P** **21 53 23.4 +0.1**
KOD Kodaikanal 63.48 262 eP **P** **21 53 25.4 +0.1**
HILA High Level 63.49 35 P **P** **21 53 24.4 0.0**
LIFNC LIFOU 63.66 153 P **P** **21 53 28.9 +3.0**
TULEG Thule 63.66 8 P **P** **21 53 24.2 -1.1**
TULEG IAmb IAmb 21 53 33.3
comp=Z,73nm,0.7s
TULEG Thule 63.66 8 *i* P **P** **21 53 24.4 -0.8**
TULEG IAmb IAmb 21 53 25.3
comp=Z,39nm,0.9s
TULEG Thule 63.66 8 ⇑P **P** **21 53 24.6 -0.6**
KTK1 Kautokeino 63.66 339 eP **P** **21 53 25.6 +0.2**
KTK1 IVmB_BB 21 53 32.4
comp=Z,2µm,3.6s
KTK1 eS **S** **22 01 54.5 -0.2**
JETT Jettan, Norway 64.07 340 eP **P** **21 53 27.6 -0.5**
JETT IVmBBB 21 53 35.2
comp=Z,1µm,2.2s
JETT eS **S** **22 02 00.5 +0.6**
NEEM North Greenlan 64.09 3 *i* P **P** **21 53 27.4 -1.0**
NEEM IAmb IAmb 21 53 29.0
comp=Z,64nm,1.0s
EIDS Eidsvold 64.12 170 P **P** **21 53 28.9 +0.1**
EIDS IAmb IAmb 21 53 53.6
comp=Z,37nm,0.8s
EIDS Eidsvold 64.12 170 P **P** **21 53 29.6 +0.8**
EIDS Eidsvold 64.12 170 ⇓P **P** **21 53 29.8 +1.0**
WAPA Wapiti River 64.16 39 P **P** **21 53 29.3 +0.3**
WAPA IAmb IAmb 21 53 56.9
comp=Z,86nm,0.8s
PCHI Peechi 64.17 263⇑eP **P** **21 53 29.1 -0.3**
DAG Danmarks Havn 64.36 355 *i* P **P** **21 53 29.4 -0.4**
DAG IAmb IAmb 21 53 30.0
comp=Z,25nm,0.9s
DAG Danmarks Havn 64.36 355 P **P** **21 53 29.4 -0.4**
WRKA Warakurna 64.39 193 P **P** **21 53 30.8 +0.1**
WRKA Warakurna 64.39 193 ⇓P **P** **21 53 30.8 +0.1**
TRO Tromso 64.41 341 eP **P** **21 53 29.9 -0.3**
TRO IVmB_BB 21 53 56.6
comp=Z,2µm,3.3s
TRO eS **S** **22 02 05.0 +1.2**
NOUC Port Laguerre 64.56 155 P **P** **21 53 33.2 +1.5**
DZM Mont Dzumac 64.58 154 eP **P** **21 53 33.4 +1.4**
comp=Z,246nm,1.1s
DZM eS **S** **22 02 08.8 +1.6**
comp=Z,4µm,29.1s
DZM eSS **SS** **22 06 20.9 +1.7**
comp=Z,3µm,27.5s
DZM eLR LR 22 12 55.2
comp=Z,20µm,21.6s
DZM Mont Dzumac 64.58 154 LR LR 22 18 56.6
comp=Z,12µm,21.4s,baz=337,slow=33
DZM Mont Dzumac 64.58 154 P **P** **21 53 31.4 -0.6**
DZM IAmb IAmb 21 53 57.2
comp=Z,96nm,1.0s
DZM Mont Dzumac 64.58 154 P **P** **21 53 34.4 +2.4**
DZM Mont Dzumac 64.58 154 ⇓P **P** **21 53 34.1 +2.1**
DZM Mont Dzumac 64.58 154 P **P** **21 53 33.7 +1.7**
QLP Quilpie 64.76 177 P **P** **21 53 33.0 +0.1**
comp=Z,222nm,0.8s
QLP Quilpie 64.76 177 ⇑P **P** **21 53 33.1 +0.1**
ONTNC Ouen Toro 64.80 155 P **P** **21 53 36.6 +3.3**
TRD Trivandrum 64.93 261 eP **P** **21 53 32.3 -2.1**
RMQ Roma 64.96 173 P **P** **21 53 35.1 +0.8**
OUENC Ouen Island, N 65.04 154 P **P** **21 53 37.6 +2.7**
LLLB Lillooet 65.13 44 IAmb IAmb 21 54 01.8
comp=Z,67nm,1.2s
MSVF Nonsavu 65.53 142 LR LR 22 16 38.6
comp=Z,10µm,21.9s,baz=309,slow=31
MSVF Nonsavu 65.53 142 P **P** **21 53 41.4 +3.1**
MSVF IAmb IAmb 21 53 57.2
comp=Z,150nm,1.5s
MSVF Nonsavu 65.53 142 P **P** **21 53 41.2 +2.9**
MSVF Nonsavu 65.53 142 ⇑P **P** **21 53 41.5 +3.1**
MSVF Nonsavu 65.53 142 P **P** **21 53 41.4 +3.1**
MSVF Nonsavu 65.53 142 P **P** **21 53 40.9 +2.6**
BRLDA Berland Lookou 65.65 39 P **P** **21 53 37.5 -1.2**
BRLDA IAmb IAmb 21 54 44.6
comp=Z,64nm,1.2s
NLWA Neilton Lookou 65.65 48 IAmb IAmb 21 54 02.1
comp=Z,64nm,0.9s
NLWA Neilton Lookou 65.65 48 ⇑P **P** **21 53 40.6 +1.9**
AUBSH Beerwah State 65.85 169 P **P** **21 53 42.7 +2.7**
INKA Innaminka 65.87 181 P **P** **21 53 42.7 +2.6**
OOD Oodnadatta 66.15 186 P **P** **21 53 42.2 +0.3**
MOS Moscow 66.18 323 eP **P** **21 53 41.3 -0.6**
MOS e 21 54 00.6
MOS e 21 56 08.0
MOS eS **S** **22 02 28.1 +2.1**
MOS pmax pmax
comp=Z,168nm,1.2s
MOS pmax pmax
comp=Z,1µm,3.9s
MOS pmax pmax
comp=N,800nm,3.6s
MOS pmax pmax
comp=E,800nm,3.7s
MOS pmax pmax
comp=E,98nm,1.1s
MOS pmax pmax
comp=N,122nm,1.2s
MOS MLR MLR
comp=Z,3µm,18.0s
STEI Steigen 66.56 341 eP **P** **21 53 43.2 -0.9**
STEI IVmB_BB 21 54 37.1
comp=Z,1µm,4.5s
STEI eS **S** **22 02 30.4 +0.2**
VRH Novokhopyorsk 66.61 318 eP **P** **21 53 43.3 -1.5**
VRH pmax pmax
comp=Z,140nm,1.0s
VRH MLR MLR
comp=Z,5µm,18.0s
LOF Lofoten 66.85 341 eP **P** **21 53 45.8 -0.2**
LOF IVmBBB 21 53 57.5
comp=Z,1µm,3.6s
LOF eS **S** **22 02 34.2 +0.5**
FAUS Fauske 66.95 340 eP **P** **21 53 48.4 +1.8**
FAUS IVmB_BB 21 54 14.0
comp=Z,1µm,1.4s
FAUS eS **S** **22 02 36.0 +1.1**
PUL Pulkovo 67.03 329⇓e*P* **P** **21 53 47.5 +0.3**
PUL pmax pmax
comp=Z,64nm,1.0s
PUL MLR MLR
comp=Z,7µm,22.0s
OBN Obninsk 67.03 323 LR LR 22 26 41.1
comp=Z,916nm,18.0s,baz=54,slow=39
OBN Obninsk 67.03 323 P **P** **21 53 46.5 -0.8**
OBN IAMs_20 IAMs_20 22 25 36.1
comp=Z,3µm,20.0s
OBN Obninsk 67.03 323 ⇑P **P** **21 53 47.0 -0.4**
OBN Obninsk 67.03 323*c* *i*P **P** **21 53 46.7 -0.6**
OBN *i* 21 54 07.9
OBN *i* 21 54 16.0
OBN *e* 21 56 21.4
OBN eS **S** **22 02 34.2 -2.0**
OBN eSS **SS** **22 06 50.7 -4.3**
OBN pmax pmax
comp=Z,61nm,1.1s
OBN MLR MLR
comp=Z,3µm,17.0s
OBN Obninsk 67.03 323 P **P** **21 53 46.9 -0.4**
PNT Penticton 67.05 45 ⇓P **P** **21 53 48.7 +1.1**
PNT Penticton 67.05 45 ⇓P **P** **21 53 48.7 +1.1**
LON Longmire 67.19 48 IAmb IAmb 21 54 16.4
comp=Z,53nm,1.4s
LPSR Galich'ya Gora 67.29 320 eP **P** **21 53 48.3 -0.8**
LPSR pmax pmax
comp=Z,90nm,0.9s
LPSR MLR MLR
comp=Z,6µm,21.0s
LTY Liberty 67.57 47 IAmb IAmb 21 55 07.5
comp=Z,77nm,1.5s
FINES FINESS Array B 67.61 332 P **P** **21 53 50.4 -0.5**
comp=Z,18nm,0.6s,baz=49,slow=8.6,SNR=60
FINES LR LR 22 26 14.3
comp=Z,3µm,18.4s,baz=50,slow=38
comp=Z,18nm,0.6s
FINES FINESS Array B 67.61 332 P **P** **21 53 50.5 -0.4**
FINES FINESS Array B 67.61 332 *i* P **P** **21 53 51.0 +0.1**
FINES pmax pmax
comp=Z,18nm,0.6s
VORR Voronezh 67.67 319 eP **P** **21 53 51.3 -0.2**
VORR pmax pmax
comp=Z,90nm,0.8s
MAK Makhachkala 67.69 308 eP **P** **21 53 50.5 -1.2**
MAK e*PP **pP** **21 54 06.7 -1.3**
MAK e*SP **sP** **21 54 14.0 -0.6**
MAK e 21 56 23.9
MAK ePPP PPP 21 57 58.6
MAK eS **S** **22 02 42.4 -2.1**
MAK e*SS **sS** **22 03 11.6 -0.5**
MAK eSS **SS** **22 07 09.6 +3.8**
MAK pmax pmax
comp=Z,137nm,1.6s
AULRC Lightning Ridg 67.81 174 P **P** **21 53 53.4 +1.0**
comp=Z,58nm,1.2s
VSR Storozhevoye 67.95 318 eP **P** **21 53 51.6 -1.6**
VSR pmax pmax
comp=Z,80nm,1.0s
VSR MLR MLR
comp=Z,6µm,18.0s
AFI Afiamalu 67.95 130 LR LR 22 17 31.8
comp=Z,5µm,21.7s,baz=312,slow=30
HOOD Mount Hood Mea 68.05 49 P **P** **21 53 54.6 +0.5**
HOOD IAmb IAmb 21 54 22.9
comp=Z,105nm,1.1s
MOR8 Moi Rana 68.07 340 eP **P** **21 53 52.7 -1.1**
MOR8 IVmBBB 21 54 08.1
comp=Z,697nm,1.2s
MOR8 eS **S** **22 02 46.0 -2.4**
H04A Detroit Lake 68.07 50 P **P** **21 53 54.8 +0.6**
H04A IAmb IAmb 21 54 22.8
comp=Z,72nm,1.1s
MNCI Minicoy 68.10 263 P **P** **21 53 54.2 -0.5**
MNCI Minicoy 68.10 263 ⇑P **P** **21 53 54.9 +0.2**
MNCY Minicoy 68.13 263 eP **P** **21 53 55.1 +0.3**
EDM Edmonton 68.14 39 P **P** **21 53 54.7 +0.2**
EDM IAmb IAmb 21 54 22.4
comp=Z,62nm,1.0s
EDM Edmonton 68.14 39 P **P** **21 53 54.7 +0.2**
EDM pmax pmax
comp=Z,62nm,1.0s
AKT Akhty 68.34 306 eP **P** **21 53 55.5 -0.5**
AKT e*PP **pP** **21 54 12.5 +0.2**
AKT *e* 21 54 20.6
AKT pmax pmax
comp=Z,119nm,1.0s
GROC Groznyy 68.61 309 eP **P** **21 53 56.8 -0.7**
GROC e*PP **pP** **21 54 12.9 -0.9**
GROC e*SP **sP** **21 54 20.0 -0.5**
GROC *e* 21 56 29.5
GROC eS **S** **22 02 55.0 -0.6**
GROC pmax pmax
comp=Z,294nm,1.3s
C09A Chrisman Ranch 68.63 45 P **P** **21 53 58.3 +0.7**
C09A IAmb IAmb 21 54 42.4
comp=Z,72nm,1.2s
LCRK Leigh Creek 68.63 183 P **P** **21 54 00.0 +2.4**
D08A Wollman Farm, 68.68 46 IAmb IAmb 21 54 25.6
comp=Z,218nm,2.0s
G06A Carlson Farm, 68.69 49 P **P** **21 53 59.2 +1.2**
G06A IAmb IAmb 21 55 15.1
comp=Z,115nm,1.7s
HAWA Hanford 68.70 47 IAmb IAmb 21 55 15.8
comp=Z,85nm,1.6s
HUMO Hull Mountain 68.73 52 P **P** **21 53 58.8 +0.4**
MULG Mulgathing 68.76 187 P **P** **21 54 01.1 +2.8**
JMIC Jan Mayen 68.76 350 LR LR 22 27 38.8
comp=Z,1µm,18.8s,baz=50,slow=39
SEKA Sheki 68.82 306 P **P** **21 53 57.1 -1.9**
E08A Dider Farm, El 68.92 47 IAmb IAmb 21 54 27.2
comp=Z,154nm,2.0s
ZKTA Zakatala 68.95 307 P **P** **21 53 57.8 -1.9**
NEW Newport 69.01 45 P **P** **21 54 00.8 +0.8**
comp=Z,19nm,1.0s,baz=308,slow=4.0,SNR=12
NEW LR LR 22 20 15.6
comp=Z,1µm,21.7s,baz=294,slow=32
comp=Z,19nm,1.0s
NEW Newport 69.01 45 P **P** **21 54 00.6 +0.6**
NEW Newport 69.01 45 P **P** **21 54 00.3 +0.3**
baz=305,SNR=9.7
MEF Metsahovi 69.04 332 eP **P** **21 53 58.5 -1.4**
MNGR Mingechevir, A 69.13 306 P **P** **21 53 59.9 -0.9**
LKRN Lenkeran, Azer 69.16 303 P **P** **21 54 00.8 -0.2**
ARMA Armidale 69.17 171 P **P** **21 54 01.7 +0.6**
ARMA IAmb IAmb 21 54 29.2
comp=Z,54nm,1.1s
ARMA Armidale 69.17 171 P **P** **21 54 03.2 +2.1**
ARMA Armidale 69.17 171 ⇑P **P** **21 54 03.1 +2.0**
GOF Gofitskoye 69.25 311⇓*i*P **P** **21 54 01.6 +0.2**
GOF eS **S** **22 03 02.4 -0.6**
GOF pmax pmax
comp=Z,161nm,0.8s
SUMG Summit 69.25 0 *i* P **P** **21 54 02.0 +0.5**
SUMG IAmb IAmb 21 54 02.7
comp=Z,51nm,0.9s
VSU Vasula 69.29 329 eP **P** **21 54 00.5 -0.9**
VSU Vasula 69.29 329*c* *i*P **P** **21 54 01.3 -0.1**
VSU pmax pmax
comp=Z,116nm,1.0s
VSU MLR MLR
comp=Z,13µm,21.0s
PINE Pine Mountain 69.31 50 P **P** **21 54 03.2 +1.1**
PINE IAmb IAmb 21 54 31.2
comp=Z,83nm,1.0s
YBH Yreka Blue Hor 69.36 53 P **P** **21 54 03.5 +1.1**
comp=Z,6.0nm,0.9s,baz=308,slow=4.8,SNR=10.0
YBH LR LR 22 19 51.6
comp=Z,2µm,20.6s,baz=299,slow=32
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 69.36 53 P **P** **21 54 02.5 +0.2**
E09A Wood Farm, Sta 69.42 47 IAmb IAmb 21 55 15.3
comp=Z,64nm,1.2s
RAF Rauma 69.45 333 eP **P** **21 54 01.9 -0.5**
G08A Pilot Rock 69.65 48 P **P** **21 54 02.9 -1.2**
GANJ Ganja 69.69 306 P **P** **21 54 04.5 +0.2**
CMSA Cobar Meteorol 69.75 176 P **P** **21 54 05.2 +0.7**
AUPHS Peel High Scho 69.75 172 P **P** **21 54 07.8 +3.3**
K05A Summer Lake 69.93 51 P **P** **21 54 06.2 +0.2**
K05A IAmb IAmb 21 54 35.2
comp=Z,129nm,1.0s
STKA Stephens Creek 69.99 180 P **P** **21 54 06.0 +0.1**
comp=Z,2.7nm,0.5s,baz=3.8,slow=5.9,SNR=10
STKA LR LR 22 22 48.3
comp=Z,2µm,21.6s,baz=19,slow=34
comp=Z,2.7nm,0.5s
STKA Stephens Creek 69.99 180 P **P** **21 54 07.9 +2.0**
STKA Stephens Creek 69.99 180⇑eP **P** **21 54 06.3 +0.4**
ZEI Tsey 70.00 309 eP **P** **21 54 04.4 -2.0**
ZEI pmax pmax
comp=Z,85nm,1.4s
I07A Izee 70.01 49 P **P** **21 54 06.4 +0.1**
FORT Forrest 70.04 192 P **P** **21 54 06.6 +0.4**
FORT Forrest 70.04 192 ⇓P **P** **21 54 06.6 +0.4**
KVAR Kislovodsk Arr 70.07 311 LR LR 22 27 00.1
comp=Z,3µm,21.8s,baz=264,slow=38
KIV Kislovodsk 70.08 311 P **P** **21 54 06.6 -0.1**
KIV Kislovodsk 70.08 311 P **P** **21 54 07.2 +0.5**
KIV P **P** **21 54 07.2 +0.5**
KIV S **S** **22 03 11.6 -1.4**
KIV S **S** **22 03 11.6 -1.4**
KIV Kislovodsk 70.08 311 *i* P **P** **21 54 05.8 -0.8**
SNR=65
KIV Kislovodsk 70.08 311 ⇑P **P** **21 54 06.9 +0.1**
KIV Kislovodsk 70.08 311 eP **P** **21 54 06.8 +0.1**
KIV *e* 21 56 42.7
KIV eS **S** **22 03 14.7 +1.7**
KIV eSS **SS** **22 07 44.5 +1.8**
KIV pmax pmax
comp=Z,155nm,4.1s
KIV pmax pmax
comp=Z,363nm,1.1s
KIV MLR MLR
comp=Z,2µm,17.0s
KBZ Khabaz 70.08 310 P **P** **21 54 06.7 +0.1**
comp=Z,40nm,0.9s,baz=66,slow=5.2,SNR=94
KBZ LR LR 22 27 18.2
comp=Z,3µm,22.0s,baz=48,slow=38
comp=Z,40nm,0.9s
F10A Beach Ranch, E 70.26 47 P **P** **21 54 08.0 +0.2**
F10A IAmb IAmb 21 54 52.9
comp=Z,110nm,1.8s
MTSE Matsula 70.27 331 eP **P** **21 54 06.3 -1.1**
WALA Waterton Lakes 70.29 43 IAmb IAmb 21 55 09.1
comp=Z,57nm,1.1s
WALA Waterton Lakes 70.29 43 ⇓P **P** **21 54 09.1 +1.2**
ONI Oni 70.39 309 IAmb IAmb 21 54 29.3
comp=Z,90nm,1.1s
NEY Neytrino 70.45 310*de*P **P** **21 54 10.1 +1.0**
NEY pmax pmax
comp=Z,6.0nm,0.9s
NEY MLR MLR
comp=Z,1µm,20.0s
WSAR Wadi Sarin 70.63 285 LR LR 22 30 21.8
comp=Z,454nm,21.0s,baz=82,slow=40
WSAR Wadi Sarin 70.63 285 P **P** **21 54 10.8 +0.5**
SNR=14
WSAR S **S** **22 03 19.3 -0.6**
AUDCS Dubbo College 70.64 174 P **P** **21 54 10.8 +0.9**
HOPS Hopland Field 70.65 55 IAMs_20 IAMs_20 22 16 15.1
comp=Z,5µm,22.0s
WBK Wadi Bani Khal 70.73 284 P **P** **21 54 11.5 +0.6**
SNR=24
WBK S **S** **22 03 22.5 +1.4**
BIDO Bidbid 70.86 285 P **P** **21 54 12.1 +0.4**
SNR=29
BIDO S **S** **22 03 25.1 +2.6**
BMO Blue Mountains 70.86 48 IAMs_20 IAMs_20 22 19 51.0
comp=Z,3µm,22.0s
BANOM Banah 70.89 288 P **P** **21 54 11.8 -0.1**
SNR=31
BANOM S **S** **22 03 22.3 -0.6**
BANOM Banah 70.89 288 *i* P **P** **21 54 11.5 -0.4**
SNR=14
SHME Shamm 70.93 288 P **P** **21 54 12.0 -0.1**
SNR=19
SHME P **P** **21 54 12.0 -0.1**
SNR=19
SHME S **S** **22 03 20.4 -2.9**
SHME S **S** **22 03 20.4 -2.9**
SHME Shamm 70.93 288 *i* P **P** **21 54 11.9 -0.1**
SNR=7.8
GDXM Geysers 70.94 55 P **P** **21 54 12.8 +0.8**
GNI Garni 70.96 306 LR LR 22 28 54.7
comp=Z,2µm,20.7s,baz=60,slow=39
GNI Garni 70.96 306 P **P** **21 54 11.8 -0.4**
GNI Garni 70.96 306 P **P** **21 54 13.0 +0.7**
GNI S **S** **22 03 29.8 +6.2**
GNI Garni 70.96 306 P **P** **21 54 12.9 +0.6**
GNI Garni 70.96 306 ⇑P **P** **21 54 12.9 +0.6**
GNI Garni 70.96 306*c* *i*P **P** **21 54 12.9 +0.6**
GNI pmax pmax
comp=Z,28nm,1.2s
GNI MLR MLR
comp=Z,4µm,25.0s
GNI Garni 70.96 306 P **P** **21 54 12.7 +0.4**
J08A Circle Bar Ran 71.03 49 P **P** **21 54 13.6 +1.1**
J08A IAmb IAmb 21 54 40.8
comp=Z,102nm,1.3s
BBOO Buckleboo 71.10 185 P **P** **21 54 12.8 +0.1**
BBOO IAmb IAmb 21 54 35.3
comp=Z,130nm,1.4s
BBOO Buckleboo 71.10 185 P **P** 21 54 18.5 +5.8
SMDO Samad 71.18 285 P **P** **21 54 13.8 +0.1**
SNR=31
SMDO S **S** **22 03 25.9 -0.5**
WHYH Whyalla 71.24 184 P **P** **21 54 15.1 +1.6**
MASF Masafi 71.30 288 P **P** **21 54 14.6 +0.2**
SNR=15
MASF P **P** **21 54 14.6 +0.2**
SNR=15
MASF S **S** **22 03 25.2 -2.5**
MASF S **S** **22 03 25.2 -2.5**
MORW Morawa 71.30 203 IAmb IAmb 21 54 39.7
comp=Z,88nm,1.2s
MORW Morawa 71.30 203 P **P** **21 54 13.7 -0.3**
MORW Morawa 71.30 203 ⇓P **P** **21 54 14.1 +0.1**
MSFE Esma-Masafi 71.31 288 *i* P **P** **21 54 14.3 -0.1**
SNR=8.8
ORV Oroville 71.34 54 IAMs_20 IAMs_20 22 20 36.3
comp=Z,3µm,19.0s
MNK Minsk 71.39 326 *i* P **P** **21 54 13.5 -0.8**
comp=E,4.0nm,0.9s
MNK *i* P **P** **21 54 13.5 -0.8**
comp=N,24nm,0.9s
MNK *i* P **P** **21 54 13.5 -0.8**
comp=Z,72nm,0.9s,baz=49
MNK *i* pP **pP** **21 54 30.0 -0.7**
MNK *i* sP **sP** **21 54 36.9 -0.4**

MNK *i* PP **PP** 21 56 51.5 -1.2
MNK *i* PPP PPP 21 58 34.9
MNK *i* S **S** 22 03 25.9 -1.7
MNK *i* sS **sS** 22 03 54.3 -1.0
MNK *i* SS **SS** 22 08 01.2 -0.9
MNK *i* LRM MLR 22 27 49.6
comp=E,555nm,18.9s
MNK *i* LRM MLR 22 28 06.4
comp=N,4µm,18.9s
MNK *i* LRM MLR 22 28 28.3
comp=Z,6µm,18.9s
MNK Minsk 71.39 326 *i* P **P** 21 54 13.5 -0.8
MNK *i* *PP **pP** 21 54 29.9 -0.7
MNK *i* *SP **sP** 21 54 36.9 -0.4
MNK *i* 21 56 51.4
MNK *i* PPP PPP 21 58 34.8
MNK *i* S **S** 22 03 25.9 -1.7
MNK *i* *SS **sS** 22 03 54.2 -1.0
MNK *i* SS **SS** 22 08 01.1 -0.9
MNK pmax pmax
comp=N,24nm,0.9s
MNK pmax pmax
comp=Z,72nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=E,555nm,19.0s
MNK MLR MLR
comp=N,4µm,19.0s
MNK MLR MLR
comp=Z,6µm,19.0s
HOQ Hoqain 71.44 286 P **P** 21 54 14.8 -0.4
SNR=32
HOQ S **S** 22 03 33.4 +4.1
ISAL Salakas 71.44 327 *e*P **P** 21 54 13.8 -0.8
WVOR Wild Horse Val 71.47 50 P **P** 21 54 16.1 +0.9
WVOR IAmb IAmb 21 55 25.4
comp=Z,105nm,1.6s
WVOR Wild Horse Val 71.47 50 ⇓P **P** 21 54 16.7 +1.5
WVOR Wild Horse Val 71.47 50 P **P** 21 54 16.1 +0.9
WVOR pmax pmax
comp=Z,105nm,1.7s
PLID Pearl Lake 71.47 47 IAMs_20 IAMs_20 22 20 47.3
comp=Z,3µm,21.0s
UOSS Minazif 71.51 287 P **P** 21 54 14.9 -0.7
UOSS IAmb IAmb 21 54 24.4
comp=Z,185nm,1.4s
UOSS Minazif 71.51 287 P **P** 21 54 15.2 -0.4
UOSS S **S** 22 03 31.0 +1.0
UOSS Minazif 71.51 287 *i* P **P** 21 54 15.0 -0.5
SNR=14
UOSS Minazif 71.51 287 ⇑P **P** 21 54 15.1 -0.5
UOSS Minazif 71.51 287 P **P** 21 54 15.1 -0.4
JMDO Jabal Madar 71.53 284 P **P** 21 54 15.6 -0.1
SNR=27
JMDO S **S** 22 03 35.7 +5.4
IIGN Ignalina 71.55 327 *e*P **P** 21 54 15.2 -0.1
HTT Hallett 71.58 182 P **P** 21 54 18.6 +3.0
MSO Missoula 71.60 44 P **P** 21 54 16.3 +0.4
MSO Missoula 71.60 44 P **P** 21 54 16.9 +1.0
baz=307,SNR=6.1
SLIT Slitere, Latvi 71.60 330 *e*P **P** 21 54 13.8 -1.7
NACGM Naroch 71.61 326 ⇑*i*P **P** 21 54 15.6 0.0
comp=Z,132nm,1.1s,baz=49
HATD Hatta, Dubai 71.63 287 P **P** 21 54 16.1 -0.2
SNR=36
HATD S **S** 22 03 36.0 +4.7
HATD Hatta, Dubai 71.63 287 *i* P **P** 21 54 16.1 -0.2
SNR=23
KARS Kars 71.73 308 P **P** 21 54 17.4 +0.5
KARS Kars 71.73 308 P **P** 21 54 17.4 +0.5
KARS pmax pmax
comp=Z,504nm,1.3s
ASHO Ashiyiah 71.76 287 P **P** 21 54 17.4 +0.3
SNR=27
ASHO S **S** 22 03 37.4 +4.4
ASHO Ashiyiah 71.76 287 *i* P **P** 21 54 16.4 -0.8
SNR=16
MGCD Mangrove Creek 71.86 172 P **P** 21 54 19.8 +2.5
BEKR Beckworth 71.89 53 P **P** 21 54 18.9 +1.1
BEKR IAmb IAmb 21 54 46.0
comp=Z,54nm,1.1s
NAZ Nazwa, Dubai 71.89 288 P **P** 21 54 18.0 +0.2
SNR=7.1
NAZ S **S** 22 03 35.5 +1.1
NAZ Nazwa, Dubai 71.89 288 *i* P **P** 21 54 17.6 -0.2
SNR=6.3
PLTX Planet X, Gerl 71.96 52 P **P** 21 54 19.8 +1.6
PLTX IAmb IAmb 21 54 46.9
comp=Z,59nm,0.9s
BSY Bisya 72.00 285 P **P** 21 54 18.4 -0.2
SNR=32
BSY S **S** 22 03 38.8 +3.0
SOC Sochi 72.05 312 *c* *i*P **P** 21 54 17.6 -0.9
SOC *e**PP **pP** 21 54 33.1 -1.8
SOC *e**SP **sP** 21 54 40.1 -1.4
SOC *e* 21 56 55.8
SOC *e*PPP PPP 21 58 39.8
SOC *e*S **S** 22 03 36.0 +0.4
SOC *e**SS **sS** 22 04 00.3 -2.9
SOC *e*SS **SS** 22 08 10.9 -1.8
SOC pmax pmax
comp=Z,102nm,0.9s
SOC MLR MLR
comp=Z,3µm,20.0s
FAQ Al Faqa, Dubai 72.08 288 P **P** 21 54 18.6 -0.3
FAQ S **S** 22 03 35.8 -0.8
FAQ Al Faqa, Dubai 72.08 288 *i* P **P** 21 54 18.5 -0.5
SNR=8.1
VSVD Vaisvydziai 72.08 328 *e*P **P** 21 54 17.2 -1.2
ARQ Araqi 72.18 286 P **P** 21 54 19.8 +0.1
SNR=41
ARQ S **S** 22 03 39.1 +1.3
ILULI Ilulissat 72.22 5 P **P** 21 54 19.5 +0.4
ILULI IAMs_20 IAMs_20 22 30 01.3
comp=Z,2µm,20.0s
ILULI Ilulissat 72.22 5 P **P** 21 54 19.5 +0.4
ILULI pmax pmax
comp=Z,415nm,2.0s
ILULI MLR MLR
comp=Z,2µm,20.0s
ASUD Al Ashush, Dub 72.34 288 P **P** 21 54 20.6 +0.1
SNR=6.1
ASUD S **S** 22 03 38.8 -0.7
ASUD Al Ashush, Dub 72.34 288 *i* P **P** 21 54 20.6 +0.1
SNR=5.1
ALNE Al Ain 72.35 287 P **P** 21 54 20.6 0.0
SNR=23
ALNE S **S** 22 03 40.7 +1.1
ALNE Al Ain 72.35 287 *i* P **P** 21 54 19.8 -0.8
SNR=8.9
SYDH Sydney Hard Ro 72.37 172 P **P** 21 54 22.5 +2.3
PABE Paberze 72.39 328 IAMs_20 IAMs_20 22 27 20.6
comp=Z,4µm,22.0s
PABE Paberze 72.39 328 *e*P **P** 21 54 18.6 -1.7
MHTO MHTO 72.42 283 P **P** 21 54 21.0 -0.1
SNR=75
MHTO S **S** 22 03 38.9 -1.6
MPK Martis Peak 72.42 54 P **P** 21 54 22.7 +1.5
MPK IAmb IAmb 21 54 40.9
comp=Z,65nm,1.0s
FFC Flin Flon 72.43 33 P **P** 21 54 20.1 -0.5
FFC IAmb IAmb 21 55 11.4
comp=Z,68nm,1.1s
FFC Flin Flon 72.43 33 ⇓P **P** 21 54 21.0 +0.4
FFC Flin Flon 72.43 33 P **P** 21 54 20.1 -0.5
FFC pmax pmax
comp=Z,68nm,1.1s
FFC MLR MLR
comp=Z,2µm,19.0s
BLDU Ballidu 72.54 202 P **P** 21 54 21.2 -0.2
EMB Emerald Bay 72.56 54 P **P** 21 54 23.1 +1.1
MFID Camas Ranch 72.56 48 P **P** 21 54 22.5 +0.8
PAHR Pah Rah Range 72.59 53 P **P** 21 54 22.8 +0.8
ANN Anapa 72.64 314 *e*P **P** 21 54 21.5 -0.5
ANN *e**PP **pP** 21 54 38.2 -0.2
ANN *e* 21 54 44.0
ANN *e* 21 57 12.0
ANN *e*S **S** 22 03 45.2 +2.9
ANN pmax pmax
comp=Z,145nm,0.9s
ANN MLR MLR
comp=Z,3µm,20.0s
ANN MLR MLR
comp=E,2µm,19.0s
ANN MLR MLR
comp=N,1µm,17.0s
VCNR Virginia City 72.66 53 P **P** 21 54 22.8 +0.3
ICESG Greenland Ices 72.75 0 *i* P **P** 21 54 22.2 -0.4
ICESG IAmb IAmb 21 54 24.0
comp=Z,41nm,0.7s
ICESG Greenland Ices 72.75 0 ⇓P **P** 21 54 23.6 +1.0
HFS Hagfors 72.84 336 LR LR 22 29 16.8
comp=Z,10µm,20.4s,baz=42,slow=38
PBUR Paburge 72.87 329 *e*P **P** 21 54 22.7 -0.4
NB2 NORSAR Subarra 72.92 337 P **P** 21 54 19.7 -3.7
NB2 NORSAR Subarra 72.92 337 P **P** 21 54 23.3 -0.1
comp=Z,543nm,3.3s,baz=39,slow=6.2
NOA NORSAR Array B 72.92 337 P **P** 21 54 23.1 -0.3
comp=Z,32nm,0.9s,baz=38,slow=5.9,SNR=66
NOA LR LR 22 29 09.0
comp=Z,7µm,21.6s,baz=35,slow=38
comp=Z,32nm,0.9s
CMB Columbia Colle 72.93 55 IAmb IAmb 21 54 48.4
comp=Z,110nm,1.7s
CMB IAMs_20 IAMs_20 22 19 14.3
comp=Z,4µm,21.0s
KAAM Kaadhehdhoo 73.03 257 P **P** 21 54 24.4 -0.3
KAAM Kaadhehdhoo 73.03 257 P P 21 54 31.3 +6.6
KAAM Kaadhehdhoo 73.03 257 P P 21 54 32.5 +7.7
NC602 NORSAR Array S 73.06 337 IAmb IAmb 21 54 44.8
comp=Z,111nm,1.1s
NORES NORESS Array B 73.06 337 P **P** 21 54 24.5 +0.3
EGMT Eagleton 73.11 42 IAmb IAmb 21 54 48.5
comp=Z,57nm,0.8s
EGMT IAMs_20 IAMs_20 22 23 21.1
comp=Z,3µm,22.0s
EGMT Eagleton 73.11 42 P **P** 21 54 25.7 +0.9
baz=309,SNR=8.4
KLBR Kellerberrin 73.15 201 P **P** 21 54 24.8 -0.2
AKASG Malin Array Be 73.25 322 P **P** 21 54 24.9 -0.5
comp=Z,14nm,0.4s,baz=46,slow=6.5,SNR=145
AKASG LR LR 22 30 37.9
comp=Z,3µm,19.3s,baz=54,slow=39
comp=Z,14nm,0.4s
AKASG Malin Array Be 73.25 322 P **P** 21 54 25.0 -0.5
AKASG IAmb IAmb 21 54 48.4
comp=Z,118nm,1.0s
AKASG Malin Array Be 73.25 322 P **P** 21 54 25.0 -0.5
AKASG pmax pmax
comp=Z,118nm,1.0s
AKBB Malin Array Si 73.25 322 *c* *i*P **P** 21 54 24.9 -0.6
HLID Hailey 73.30 47 P **P** 21 54 27.5 +1.3
baz=308,SNR=9.8
DQM DQM 73.35 282 P **P** 21 54 26.3 -0.3
SNR=16
DQM S **S** 22 03 49.7 -1.5
UMZA Um Al Zommool 73.56 286 P **P** 21 54 26.9 -0.8
UMZA S **S** 22 03 53.4 0.0
GURO Guroymak-BITLI 73.60 306 IAmb IAmb 21 54 37.9
comp=Z,77nm,1.0s
BOZ Bozeman (W) 73.62 44 IAmb IAmb 21 54 49.7
comp=Z,43nm,0.9s
BOZ Bozeman (W) 73.62 44 P **P** 21 54 28.9 +0.9
baz=309,SNR=26
KOPT Kop Dagi 73.69 308 IAmb IAmb 21 54 56.1
comp=Z,72nm,0.9s
CAN Canberra 73.74 174 IAMs_20 IAMs_20 22 26 42.3
comp=Z,3µm,22.0s
CAN Canberra 73.74 174 P P 21 54 34.4 +6.0
CAN Canberra 73.74 174 P **P** 21 54 30.4 +2.0
CNB Canberra Magne 73.77 173 P **P** 21 54 32.7 +4.1
KVN Kaiserville 73.78 53 IAmb IAmb 21 55 05.7
comp=Z,50nm,1.1s
MZWR Madinat Zayed 73.92 288 P **P** 21 54 29.0 -0.9
MZWR S **S** 22 03 55.8 -1.6
LHV Little Huntoon 74.00 54 IAmb IAmb 21 55 12.1
comp=Z,80nm,1.1s
JRN Qarnain Island 74.01 289 P **P** 21 54 29.1 -1.2
JRN S **S** 22 03 55.9 -2.5
NVAR Mina Array Bea 74.02 54 P **P** 21 54 31.8 +1.2
comp=Z,5.3nm,0.8s,baz=285,slow=6.0,SNR=34
NVAR LR LR 22 25 27.3
comp=Z,2µm,18.4s,baz=296,slow=34
comp=Z,5.3nm,0.8s
NVAR Mina Array Bea 74.02 54 P **P** 21 54 30.5 -0.1
SIM Simferopol' 74.40 315 *e*P **P** 21 54 32.1 -0.3
SIM *e*S **S** 22 04 00.4 -1.9
SIM *e*SS **SS** 22 08 51.0 +2.5
SIM pmax pmax
comp=Z,90nm,1.0s
SIM pmax pmax
comp=N,650nm,21.0s
SIM MLR MLR
comp=Z,4µm,25.0s
SFJD Kangerlussuaq 74.45 5 LR LR 22 28 18.5
comp=Z,3µm,21.8s,baz=348,slow=36
SFJD Kangerlussuaq 74.45 5 P **P** 21 54 31.9 -0.3
SFJD IAmb IAmb 21 54 41.2
comp=Z,66nm,0.9s
SFJD Kangerlussuaq 74.45 5 IAMs_20 IAMs_20 22 28 17.1
comp=Z,4µm,22.0s
SFJD Kangerlussuaq 74.45 5 *i* P **P** 21 54 32.6 +0.5
SFJD Kangerlussuaq 74.45 5 ⇓P **P** 21 54 32.7 +0.5
SFJD Kangerlussuaq 74.45 5 P **P** 21 54 31.9 -0.3
SFJD pmax pmax
comp=Z,66nm,1.0s
SFJD MLR MLR
comp=Z,4µm,22.0s
KONO Kongsberg 74.51 337 P **P** 21 54 31.3 -1.4
KONO IAmb IAmb 21 54 54.4
comp=Z,52nm,1.1s
KONO Kongsberg 74.51 337 ⇓P **P** 21 54 33.1 +0.4
KONO Kongsberg 74.51 337 *ce*P **P** 21 54 32.7 0.0
KONO pmax pmax
comp=Z,38nm,1.3s
KONO MLR MLR
comp=Z,8µm,23.0s
ELK Elko 74.52 50 P **P** 21 54 34.0 +0.6
comp=Z,4.2nm,0.8s,baz=317,slow=5.9,SNR=19
ELK LR LR 22 26 32.9
comp=Z,2µm,19.5s,baz=308,slow=35
comp=Z,4.2nm,0.8s
ELK Elko 74.52 50 IAMs_20 IAMs_20 22 21 06.2
comp=Z,3µm,22.0s
GHWR Ruwais 74.55 288 P **P** 21 54 32.7 -0.8
GHWR P **P** 21 54 32.7 -0.8
GHWR S **SKiKP** 22 03 57.4 +3.3
GHWR S **SKiKP** 22 03 57.4 +3.3
NWAO Narrogin (SRO) 74.56 201 LR LR 22 26 45.8
comp=Z,458nm,21.9s,baz=247,slow=35
NWAO Narrogin (SRO) 74.56 201 P **P** 21 54 33.0 -0.2
NWAO IAmb IAmb 21 54 55.4
comp=Z,74nm,1.1s
NWAO Narrogin (SRO) 74.56 201 P **P** 21 54 33.4 +0.2
NWAO Narrogin (SRO) 74.56 201 P **P** 21 54 33.0 -0.2
NWAO pmax pmax
comp=Z,74nm,1.1s
NWAO MLR MLR
comp=Z,1µm,22.0s
KLNR Kaliningrad 74.57 329 *de*P **P** 21 54 33.0 -0.1
KLNR pmax pmax
comp=Z,61nm,1.0s
KLNR MLR MLR
comp=Z,7µm,22.0s
MZR Muzera 74.66 287 P **P** 21 54 33.8 -0.4
SNR=15
MZR Muzera 74.66 287 *i* P **P** 21 54 33.7 -0.5
SNR=10
YNR Norris Junctio 74.70 45 IAmb IAmb 21 54 57.6
comp=Z,63nm,1.2s
ARPS Mount Arapiles 74.87 180 P P 21 54 40.3 +5.5
SHMA Al-Shehemyia 74.87 291 P **P** 21 54 34.8 -0.6
SHMA S **S** 22 04 01.9 -6.1
H17A Grant Village 74.96 45 IAmb IAmb 21 55 00.0
comp=Z,48nm,0.9s
H17A Grant Village 74.96 45 P **P** 21 54 37.7 +1.8
baz=309,SNR=14
YMP Mirror Lake Pl 74.97 44 IAmb IAmb 21 55 15.0
comp=Z,97nm,1.5s
VES Vestal, Richgr 75.06 56 P **P** 21 54 36.7 +0.4
baz=307
FLWY Flagg Ranch 75.08 45 IAmb IAmb 21 55 23.0
comp=Z,126nm,1.5s
SAKB Bahrain 75.11 291 P **P** 21 54 35.6 -1.2
SAKB S **S** 22 04 03.9 -6.8
PKM Mcpherson Peak 75.15 57 P **P** 21 54 37.4 +0.3
baz=307,SNR=9.9
DY2G Dye2 75.21 3 *i* P **P** 21 54 37.3 +0.4
DY2G IAmb IAmb 21 54 37.7
comp=Z,62nm,1.0s
RLMT Red Lodge 75.21 44 P **P** 21 54 38.7 +1.4
baz=310,SNR=15
FRB Frobisher Bay 75.35 13 P **P** 21 54 37.3 -0.2
comp=Z,58nm,0.9s,baz=334,slow=6.1,SNR=19
FRB LR LR 22 31 07.4
comp=Z,3µm,20.4s,baz=346,slow=38
comp=Z,58nm,0.9s
FRB Frobisher Bay 75.35 13 ⇑P **P** 21 54 37.2 -0.2
CWC Cottonwood Cre 75.35 55 P **P** 21 54 39.4 +1.2
baz=307
GMN Gold Mountain 75.36 54 IAmb IAmb 21 55 07.4
comp=Z,112nm,1.9s
SLWR Sila 75.37 289 P **P** 21 54 37.8 -0.5
SLWR S **S** 22 04 10.5 -3.1
SORM Soroca 75.37 320 ⇑P **P** 21 54 37.2 -0.6
SORM Soroca 75.37 320 P **P** 21 54 37.2 -0.6
BCW Bitter Crk WRg 75.38 57 IAmb IAmb 21 55 08.4
comp=Z,52nm,1.0s
REDW Red Top Meadow 75.46 46 IAMs_20 IAMs_20 22 23 20.6
comp=Z,2µm,20.0s
MILA Mila 75.47 174 P **P** 21 54 39.7 +1.3
MILA Mila 75.47 174 ⇑P **P** 21 54 39.9 +1.4
GRAC Grapevine Rang 75.48 54 IAmb IAmb 21 55 17.9
comp=Z,48nm,0.9s
GRAC Grapevine Rang 75.48 54 P **P** 21 54 37.5 -1.3
baz=307
SBC Santa Barbara 75.48 58 P **P** 21 54 39.1 +0.4
baz=307
ISA Isabella, Lake 75.57 56 P **P** 21 54 39.6 +0.2
baz=307
SMRA Abu-Samra 75.62 290 P **P** 21 54 38.9 -0.8
SMRA S S 22 04 07.2 -9.1
DGMT Dagmar 75.63 39 IAmb IAmb 21 55 02.7
comp=Z,85nm,1.2s
DGMT Dagmar 75.63 39 IAMs_20 IAMs_20 22 24 42.8
comp=Z,3µm,22.0s
DGMT Dagmar 75.63 39 P **P** 21 54 39.9 +0.4
baz=312
DGMT Dagmar 75.63 39 P **P** 21 54 37.5 -2.0
baz=312
PURM Purcari 75.66 319 ⇓P **P** 21 54 39.2 -0.3
AHID Auburn Hatcher 75.69 47 IAMs_20 IAMs_20 22 23 34.9
comp=Z,3µm,22.0s
TOO Toolangi 75.75 177 P **P** 21 54 42.4 +2.4
R11A Troy Canyon, C 75.77 52 P **P** 21 54 41.7 +1.1
baz=308,SNR=18
LAO LASA Array 75.80 41 IAmb IAmb 21 55 02.9
comp=Z,60nm,0.9s
LAO IAMs_20 IAMs_20 22 27 29.4
comp=Z,3µm,21.0s
LAO LASA Array 75.80 41 P **P** 21 54 41.7 +1.2
baz=312
LAO LASA Array 75.80 41 P **P** 21 54 41.3 +0.9
baz=312,SNR=13
SPUT South Promonto 75.83 48 IAmb IAmb 21 55 09.2
comp=Z,79nm,1.5s
KIS Kishinev 75.89 319 ⇑*i*P **P** 21 54 40.0 -0.9
comp=Z,300nm,6.1s
KIS *e*pP **sP** 21 55 03.0 -1.0
TOKA Tokat 75.94 310 IAmb IAmb 21 54 51.2
comp=Z,125nm,1.2s
MILM Milestii Mici 75.95 319 ⇑*i*P **P** 21 54 40.0 -1.2
comp=Z,800nm,6.5s
MILM *e*pP **sP** 21 55 04.0 -0.3
MILM Milestii Mici 75.95 319 ⇑P **P** 21 54 40.4 -0.8
MILM Milestii Mici 75.95 319 *c* *i*P **P** 21 54 40.0 -1.2
MILM *e*S S 22 04 10.0 -9.3
MILM *e* 22 04 48.0
MILM pmax pmax
comp=Z,800nm,6.5s
MPMC Manual Prospec 75.97 55 P **P** 21 54 40.9 -0.9
baz=308,SNR=12
OSI Osito Audit: C 76.03 57 P **P** 21 54 40.7 -1.3
baz=307
FURC Furnace Creek, 76.12 54 P **P** 21 54 42.9 +0.6
baz=308
SPR3 Spring Creek 3 76.14 51 IAmb IAmb 21 55 11.6
comp=Z,56nm,1.3s
CCAC Calif City Air 76.17 56 IAmb IAmb 21 55 12.7
comp=Z,55nm,0.8s
LRMC Laurel Mtn Rad 76.19 56 P **P** 21 54 43.9 +0.9
baz=308,SNR=7.6
TPNV Topopah Spring 76.21 54 IAmb IAmb 21 55 12.9
comp=Z,80nm,1.1s
TPNV IAMs_20 IAMs_20 22 22 30.2
comp=Z,4µm,21.0s
TPNV Topopah Spring 76.21 54 P **P** 21 54 43.2 +0.1
baz=308
BORG Borgarnes 76.25 353 P **P** 21 54 43.2 +0.6
comp=Z,42nm,0.9s,baz=7.1,slow=3.0,SNR=4.0
BORG LR LR 22 29 21.0
comp=Z,1µm,21.6s,baz=9.6,slow=36
comp=Z,42nm,0.9s
ANGG Ammassalik, Gr 76.25 360 IAMs_20 IAMs_20 22 32 55.6
comp=Z,3µm,19.0s
BSD Bornholm Skovb 76.25 332 *e*P **P** 21 54 41.8 -0.9
BSD Bornholm Skovb 76.25 332 *i* P **P** 21 54 42.7 0.0
BSD IAmb IAmb 21 54 43.4
comp=Z,72nm,1.1s
BSD Bornholm Skovb 76.25 332 ⇑P **P** 21 54 42.4 -0.3
BSD Bornholm Skovb 76.25 332 P **P** 21 54 40.1 -2.6
LVV L'vov 76.30 324 *e*P **P** 21 54 43.4 +0.2
LVV *e*S **S** 22 04 23.0 -0.1
DUG Dugway, Tooele 76.32 49 IAmb IAmb 21 55 05.7
comp=Z,36nm,0.8s
DUG Dugway, Tooele 76.32 49 P **P** 21 54 43.9 +0.3
baz=309,SNR=22
BEL Belsk 76.32 327 *e*P **P** 21 54 43.8 +0.6
BEL *e*L L 22 28 13.9
comp=Z,6µm,24.5s
BEL Belsk 76.32 327 ⇑P **P** 21 54 43.8 +0.6
BEL Belsk 76.32 327 ⇓P **P** 21 54 43.8 +0.6
EDW2 Edwards Air Fo 76.35 56 P **P** 21 54 44.9 +1.1
baz=308,SNR=9.8
IAS Iasi 76.41 320 ⇑P **P** 21 54 43.7 -0.1
IAS Iasi 76.41 320 P **P** 21 54 43.7 -0.1
GWY Greenwater Val 76.41 55 IAmb IAmb 21 55 05.8
comp=Z,40nm,0.8s
QSM Queen of Sheba 76.42 55 IAmb IAmb 21 55 09.4
comp=Z,60nm,0.9s
DECC Green Verdugo 76.51 57 P **P** 21 54 45.0 +0.3
baz=308
TCUT Toone Canyon 76.56 48 IAmb IAmb 21 55 13.4
comp=Z,53nm,0.7s
BW06 Boulder Array 76.57 46 IAmb IAmb 21 55 07.9
comp=Z,73nm,1.4s
BW06 IAMs_20 IAMs_20 22 23 56.9
comp=Z,3µm,20.0s
BW06 Boulder Array 76.57 46 P **P** 21 54 45.8 +0.6
baz=310,SNR=21
PD31 Pinedale Array 76.57 46 IAmb IAmb 21 55 07.9
comp=Z,54nm,1.2s
PD31 Pinedale Array 76.57 46 ⇑P **P** 21 54 45.5 +0.4
PDAR Pinedale Array 76.57 46 P **P** 21 54 45.0 -0.1
comp=Z,10nm,0.8s,baz=272,slow=2.1,SNR=92
PDAR LR LR 22 26 33.7
comp=Z,1µm,21.5s,baz=323,slow=34
comp=Z,10nm,0.8s
PDAR Pinedale Array 76.57 46 P **P** 21 54 45.4 +0.3
CTU Camp Tracy 76.63 48 IAmb IAmb 21 55 13.6
comp=Z,44nm,1.0s
DMTO DMTO 76.63 282 P **P** 21 54 44.9 -0.6
DMTO S **S** 22 04 30.2 +2.5
PASC Pasadena Art C 76.66 57 IAMs_20 IAMs_20 22 24 20.1
comp=Z,4µm,20.0s
VASR Vaslui 76.66 320 ⇑P **P** 21 54 45.4 +0.2
PRN Pahroc Range 76.69 53 IAmb IAmb 21 55 14.0
comp=Z,55nm,1.1s
PRN Pahroc Range 76.69 53 ⇓P **P** 21 54 47.5 +1.8
DOK Doka 76.73 283 P **P** 21 54 45.6 -0.4
SNR=6.2
DOK S **S** 22 04 27.4 -1.3
GOET G??ttrup 76.73 335 *i* P **P** 21 54 46.0 +0.6
GOET IAmb IAmb 21 54 46.6
comp=Z,56nm,0.8s
GKP Gorka Klasztor 76.75 329 *e*P **P** 21 54 45.8 +0.2
GKP *e*L L 22 30 51.1
comp=Z,9µm,23.1s
GKP Gorka Klasztor 76.75 329 *e*P **P** 21 54 44.6 -1.0
SHOC Shoshone, Teco 76.84 55 P **P** 21 54 46.8 +0.3
baz=308
JLU Jordanelle 76.86 48 IAmb IAmb 21 55 15.0
comp=Z,66nm,1.5s
GSC Goldstone, Bar 76.87 55 P **P** 21 54 47.5 +0.7
baz=308

BFSC Mount Baldy Ra 76.96 57 P P 21 54 47.5 +0.2
baz=308
CIS Catalina Islan 76.97 58 P P 21 54 49.2 +1.9
baz=308
BIR Birlad 76.99 319 ⇓P P 21 54 48.2 +1.1
BIR Birlad 76.99 319 P P 21 54 48.2 +1.1
VLDR Vladesti 77.05 319 ⇑P P 21 54 47.7 +0.3
LLD Lille Linde 77.06 333 *i*P P 21 54 48.2 +0.9
MPU Maple Canyon 77.13 49 IAmb IAmb 21 55 10.2
comp=Z,32nm,0.7s
NUUK Nuuk 77.15 6 *i*P P 21 54 49.0 +1.4
SCTR Scanteiesti 77.20 319 ⇓P P 21 54 48.6 +0.3
MUD Monsted U'grnd 77.21 335 *i*P P 21 54 48.7 +0.6
MUD IAmb IAmb 21 54 49.4
comp=Z,32nm,1.1s
MUD Monsted U'grnd 77.21 335 ⇓P P 21 54 48.8 +0.6
MUD Monsted U'grnd 77.21 335 ⇓P P 21 54 48.8 +0.7
TATR Tatarca 77.23 319 ⇑P P 21 54 48.9 +0.5
BNN Bunyan 77.25 310 ⇑P P 21 54 48.3 -0.6
GHRR 77.25 319 ⇑P P 21 54 49.3 +0.7
BUR08 Bucovina Ar. S 77.26 322 IAmb IAmb 21 55 19.9
comp=Z,53nm,0.9s
RAO Raoul Island 77.26 144 LR LR 22 25 44.2
comp=Z,5μm,20.2s,baz=354,slow=33
BURAR Bucovina Array 77.27 322 ⇑P P 21 54 49.0 +0.1
BURAR Bucovina Array 77.27 322 P P 21 54 48.9 +0.1
BURAR IAmb IAmb 21 55 15.9
comp=Z,46nm,0.8s
BURAR Bucovina Array 77.27 322 P P 21 54 48.9 +0.1
TESR Tescani 77.32 320 ⇑P P 21 54 49.0 +0.1
RBK Rabkut 77.33 282 P P 21 54 48.8 -0.7
RBK S S 22 04 32.6 -2.7
TUQ Turquoise Moun 77.35 55 P P 21 54 50.5 +1.0
baz=308,SNR=7.5
JURR Jurilovca 77.36 318 ⇑P P 21 54 49.3 +0.2
SLCR Slobozia Conac 77.38 319 ⇑P P 21 54 49.7 +0.4
IZVR Izvoarele 77.41 319 ⇑P P 21 54 49.8 +0.4
TUDR 77.43 319 ⇑P P 21 54 50.2 +0.6
HEC Hector,Ludlow 77.46 55 P P 21 54 51.4 +1.4
baz=308,SNR=9.9
WTNK Soaring Height 77.47 54 IAmb IAmb 21 55 18.1
comp=Z,12nm,1.1s
CFR Carcaliu 77.47 318 ⇓P P 21 54 49.2 -0.6
CFR Carcaliu 77.47 318 P P 21 54 49.2 -0.6
ELS Elsinore Mount 77.47 57 IAmb IAmb 21 55 15.5
comp=Z,144nm,1.9s
PANC Panciu 77.51 319 ⇓P P 21 54 50.8 +0.8
TCRU Three Creeks R 77.53 50 IAmb IAmb 21 55 22.5
comp=Z,36nm,0.8s
TPGR Topolog 77.53 318 ⇑P P 21 54 50.5 +0.3
ODBI Odobesti 77.63 319 ⇓P P 21 54 52.4 +1.7
CCUT Cedar City 77.64 52 IAmb IAmb 21 55 19.6
comp=Z,86nm,1.5s
MURC Murrieta 77.66 57 P P 21 54 51.4 +0.3
baz=308
VRI Vrincioaia 77.73 320 ⇑P P 21 54 52.3 +1.1
VRI Vrincioaia 77.73 320 P P 21 54 52.3 +1.1
KOLS Kolonicke sedl 77.74 324 *e*P P 21 54 51.4 +0.1
KOLS Kolonicke sedl 77.74 324 *e*P P 21 54 51.4 +0.1
PLOR Plostina 77.78 320 ⇓P P 21 54 51.8 +0.3
PLOR Plostina 77.78 320 P P 21 54 51.8 +0.3
V12A Nelson 77.86 54 IAmb IAmb 21 55 21.5
comp=Z,120nm,1.8s
STHS Stebnicka Huta 77.87 325 *e*P P 21 54 52.0 0.0
STHS *e* 21 54 59.5
STHS Stebnicka Huta 77.87 325 *e*P P 21 54 52.0 0.0
STHS *e* 21 54 59.5
HARR Harsova 77.90 318 ⇑P P 21 54 52.4 +0.2
HARR Harsova 77.90 318 P P 21 54 52.4 +0.2
GMRC Granite Mounta 77.92 55 P P 21 54 53.8 +1.1
baz=309,SNR=11
OJC Ojcow 77.93 326 *e*P P 21 54 50.2 -2.1
OJC *e*L L 22 32 27.3
comp=Z,6μm,19.1s
OJC Ojcow 77.93 326 ⇑P P 21 54 49.0 -3.3
GRER 77.93 319 ⇑P P 21 54 54.2 +1.8
TLBR Topalu 77.94 318 ⇑P P 21 54 52.7 +0.3
EFOR EFORIE 77.95 317 ⇓P P 21 54 53.1 +0.7
UZH Uzhgorod 77.95 324 *e*P P 21 54 52.0 -0.4
UZH *e* 21 54 59.2
UZH *e* 21 55 06.8
UZH *i* 21 55 12.6
UZH *i* 21 57 51.4
UZH *e*S S 22 04 38.0 -3.0
UZH *e*SS SS 22 09 45.0 +3.2
UZH MLR MLR
comp=Z,400nm,15.0s
RDMU Red Mountain 77.98 47 IAmb IAmb 21 55 15.5
comp=Z,82nm,0.9s
MFTR Murfatlar 77.99 317 ⇓P P 21 54 52.6 -0.1
COVR Voineasa-Covas 78.00 320 ⇓P P 21 54 53.0 +0.2
BR131 Keskin Array S 78.01 311 IAmb IAmb 21 55 19.2
comp=Z,96nm,1.1s
BR131 Keskin Array S 78.01 311 P P 21 54 52.8 -0.3
SNR=37
BR131 P P 21 54 52.8 -0.3
SNR=37
BR131 S S 22 04 43.8 +1.5
BR131 S S 22 04 43.8 +1.5
BR131 Keskin Array S 78.01 311 *c*iP P 21 54 52.6 -0.5
BRTR Keskin Array B 78.01 311 P P 21 54 53.0 -0.1
comp=Z,8.6nm,0.8s,baz=73,slow=4.3,SNR=49
BRTR LR LR 22 35 54.4
comp=Z,1μm,18.8s,baz=42,slow=41
comp=Z,8.6nm,0.8s
BRTR Keskin Array B 78.01 311 P P 21 54 53.0 -0.1
P17A Butcher Ranch, 78.01 49 IAmb IAmb 21 55 15.2
comp=Z,47nm,0.7s
OZUR 78.04 320 ⇑P P 21 54 54.2 +1.2
MTPU Mount Pierson 78.06 51 IAmb IAmb 21 55 22.4
comp=Z,99nm,1.4s
LCMT Little Creek M 78.06 52 IAmb IAmb 21 55 23.6
comp=Z,46nm,1.1s
ARCR ARCALIA 78.06 322 ⇑P P 21 54 54.5 +1.4
BMR Baia Mare 78.06 322 ⇑P P 21 54 53.6 +0.5
Q16A Castle Valley 78.11 50 IAmb IAmb 21 55 23.1
comp=Z,109nm,1.5s
ABTO Aybut 78.11 283 P P 21 54 53.5 -0.4
SNR=6.4
ABTO S S 22 04 42.5 -1.3
PFO Pinyon Flats O 78.13 57 P P 21 54 53.3 -0.6
PFO Pinyon Flats O 78.13 57 IAMs_20 IAMs_20 22 25 27.3
comp=Z,4μm,20.0s
PFO Pinyon Flats O 78.13 57 P P 21 54 53.1 -0.8
baz=308
PFO Pinyon Flats O 78.13 57 P P 21 54 53.3 -0.6
PFO pmax pmax
comp=Z,22nm,1.0s
PFO MLR MLR
comp=Z,4μm,20.0s
TPFO Pinon Flats 78.14 57 P P 21 54 53.7 -0.2
baz=308
CRVS Cervenica-Dubn 78.14 324 *e*P P 21 54 53.8 +0.3
CRVS *e* 21 55 00.5
CRVS Cervenica-Dubn 78.14 324 *e*P P 21 54 53.8 +0.3
CRVS *e* 21 55 00.5
PMD Palm Desert 78.16 56 IAmb IAmb 21 55 18.9
comp=Z,28nm,1.2s
BELC Belle Mtn. Jos 78.19 56 P P 21 54 54.7 +0.5
baz=309,SNR=5.5
ULM Lac du Bonnet 78.23 34 P P 21 54 54.0 +0.1
comp=Z,17nm,1.0s,baz=306,slow=6.7,SNR=7.2
ULM LR LR 22 29 49.3
comp=Z,2μm,22.0s,baz=322,slow=36
comp=Z,17nm,1.0s
ULM Lac du Bonnet 78.23 34 IAmb IAmb 21 55 31.9
comp=Z,63nm,1.4s
ULM Lac du Bonnet 78.23 34 ⇓P P 21 54 54.1 +0.1
NEHR Nehoiu 78.25 319 ⇓P P 21 54 55.8 +1.6
AMRR Amara 78.27 318 ⇑P P 21 54 55.0 +0.8
MDND Maddock 78.28 37 IAmb IAmb 21 55 18.4
comp=Z,91nm,1.0s
MDND Maddock 78.28 37 P P 21 54 54.8 +0.5
baz=316
MDND Maddock 78.28 37 P P 21 54 54.4 +0.1
baz=316
KNB Kanab 78.32 52 IAmb IAmb 21 55 23.5
comp=Z,148nm,1.3s
K22A Casper 78.33 44 IAmb IAmb 21 55 30.5
comp=Z,199nm,1.9s
K22A Casper 78.33 44 P P 21 54 55.4 +0.5
baz=312
K22A Casper 78.33 44 P P 21 54 55.0 +0.2
baz=312

DOPR Dopca 78.33 320 ⇑P P 21 54 55.8 +1.2
ISR Istrita 78.33 319 ⇓P P 21 54 55.5 +0.7
ISR Istrita 78.33 319 P P 21 54 55.4 +0.7
ICOR Ion Corvin 78.36 318 ⇓P P 21 54 55.1 +0.3
SRU San Rafael Swe 78.37 49 IAmb IAmb 21 55 16.9
comp=Z,138nm,1.5s
MLR Muntele Rosu 78.38 320 ⇑P P 21 54 55.2 +0.1
MLR ⇑P PcP 21 54 55.6 -8.6
MLR Muntele Rosu 78.38 320 LR LR 22 32 10.5
comp=Z,6μm,21.9s,baz=46,slow=38
MLR Muntele Rosu 78.38 320 IAmb IAmb 21 55 27.5
comp=Z,170nm,1.4s
MLR Muntele Rosu 78.38 320 P P 21 54 55.5 +0.5
ANTO Ankara 78.41 312 ⇑P P 21 54 55.6 +0.4
ANTO Ankara 78.41 312 P P 21 54 54.7 -0.5
ANTO IAmb IAmb 21 55 22.1
comp=Z,81nm,0.8s
ANTO Ankara 78.41 312 P P 21 54 55.9 +0.7
ANTO P P 21 54 55.9 +0.7
ANTO S S 22 04 45.1 -1.3
ANTO S S 22 04 45.1 -1.3
ANTO Ankara 78.41 312 P P 21 54 54.7 -0.5
ANTO pmax pmax
comp=Z,81nm,0.8s
BR231 Keskin MP Arra 78.44 312 IAmb IAmb 21 55 22.3
comp=Z,107nm,0.9s
DGAR Diego Garcia 78.59 251 P P 21 54 55.1 -1.2
DGAR Diego Garcia 78.59 251 P P 21 54 55.2 -1.2
DGAR pmax pmax
comp=Z,610nm,1.6s
RWWY Rawlins 78.59 45 IAmb IAmb 21 55 26.8
comp=Z,57nm,1.0s
RWWY IAMs_20 IAMs_20 22 24 43.5
comp=Z,2μm,21.0s
MONP2 Monument Peak 78.60 57 P P 21 54 56.3 -0.3
baz=309
SECR 78.63 319 ⇓P P 21 54 56.9 +0.6
RASA Rasa 78.64 318 ⇓P P 21 54 56.8 +0.5
IRM Iron Mountain 78.65 55 P P 21 54 58.0 +1.4
baz=309,SNR=8.6
E28A Huff 78.66 39 IAmb IAmb 21 55 32.8
comp=Z,64nm,1.1s
E28A Huff 78.66 39 P P 21 54 57.3 +0.8
baz=315
RSSD Black Hills 78.67 42 P P 21 54 55.9 -0.9
RSSD Black Hills 78.67 42 IAMs_20 IAMs_20 22 27 40.4
comp=Z,2μm,21.0s
RSSD Black Hills 78.67 42 P P 21 54 57.2 +0.5
baz=313
RSSD Black Hills 78.67 42 P P 21 54 56.7 -0.1
baz=313
RSSD Black Hills 78.67 42 ⇓P P 21 54 57.5 +0.7
RSSD Black Hills 78.67 42 P P 21 54 55.9 -0.9
RSSD pmax pmax
comp=Z,36nm,1.0s
RSSD MLR MLR
comp=Z,2μm,21.0s
CBBR Cluj-Babes-Bol 78.68 322 ⇑P P 21 54 57.7 +1.2
CJR Cluj-Napoca 78.69 322 ⇑P P 21 54 57.7 +1.1
CJR Cluj-Napoca 78.69 322 P P 21 54 57.7 +1.1
MESR Meseseni 78.70 322 ⇓P P 21 54 57.6 +1.0
RUE Ruedersdorf 78.71 330 *e*P P 21 54 55.1 -1.3
BC3 Big Chuckawall 78.76 56 P P 21 54 57.1 -0.2
baz=309,SNR=5.6
VOIR 78.87 320 ⇓P P 21 54 58.2 +0.5
VOIR 78.87 320 P P 21 54 58.2 +0.5
OKC Ostrava-Krasne 78.93 327 *e*P P 21 54 58.5 +0.7
OKC *e*PCP PcP 21 55 04.9 -1.4
OKC AMS AMS 22 32 50.0
comp=Z,4μm,17.5s
OKC Ostrava-Krasne 78.93 327 *e*P P 21 54 58.5 +0.7
OKC *e* 21 55 04.9
OKC MLR MLR
comp=Z,4μm,17.5s
MDUB Mudurnu 78.94 313 ⇑P P 21 54 57.2 -0.9
KSP Ksiaz 78.96 328 *e*P P 21 54 58.5 +0.6
KSP *e*L L 22 31 37.4
comp=Z,5μm,23.4s
KSP Ksiaz 78.96 328 ⇑P P 21 54 58.3 +0.4
KSP Ksiaz 78.96 328 P P 21 54 57.7 -0.2
IKP In-Ko-Pah, Jac 78.96 57 P P 21 54 58.3 -0.1
baz=309
SWSC Sam W. Stewart 78.98 57 P P 21 54 57.2 -1.2
baz=309
U15A North Rim 79.02 52 IAmb IAmb 21 55 27.4
comp=Z,46nm,1.0s
O20A White River Ci 79.03 47 P P 21 54 59.6 +0.8
baz=312,SNR=7.1
ARR Arges 79.13 320 ⇓P P 21 55 00.3 +1.2
PRD Provadia 79.20 317 *i*P P 21 54 59.7 +0.3
PDMCI Parker Dam,Lak 79.20 55 P P 21 54 59.9 +0.4
baz=309
OSTC Ostas 79.21 328 *e*P P 21 54 59.7 +0.4
OSTC *e*PCP PcP 21 55 06.5 -1.0
OSTC AMS AMS 22 36 10.0
comp=Z,5μm,19.1s
MORC Moravsky Berou 79.23 327 ⇑P P 21 54 60.0 +0.4
MORC Moravsky Berou 79.23 327 IAmb IAmb 21 55 23.5
comp=Z,64nm,1.0s
MORC Moravsky Berou 79.23 327 *e*P P 21 54 59.8 +0.3
MORC Moravsky Berou 79.23 327 P P 21 54 59.9 +0.4
BLYC Blythe 79.30 55 IAmb IAmb 21 55 25.6
comp=Z,40nm,0.8s
DPC Dobruska-Polom 79.32 328 *e*P P 21 55 00.6 +0.6
DPC *e*PCP PcP 21 55 07.3 -0.7
DPC AMS AMS 22 31 30.0
comp=Z,4μm,23.4s
DPC Dobruska-Polom 79.32 328 *e*P P 21 55 00.6 +0.6
DPC *e* 21 55 07.3
DPC MLR MLR
comp=Z,4μm,23.4s
UPC Upice 79.33 328 *e*P P 21 55 00.5 +0.5
UPC AMS AMS 22 36 10.0
comp=Z,5μm,19.2s
UPC Upice 79.33 328 *e*P P 21 55 00.5 +0.5
UPC MLR MLR
comp=Z,5μm,19.2s
KRLC Kraliky 79.33 327 *e*P P 21 55 00.5 +0.4
KRLC *e*PCP PcP 21 55 07.3 -0.8
KRLC *e*S S 22 04 56.4 +0.5
KRLC AMS AMS 22 32 40.0
comp=Z,3μm,20.7s
KRLC Kraliky 79.33 327 *e*P P 21 55 00.5 +0.4
KRLC *e* 21 55 07.3
KRLC *e*S S 22 04 56.4 +0.5
KRLC MLR MLR
comp=Z,3μm,20.7s
MAUC Maruska 79.42 326 *e*P P 21 55 01.3 +0.8
MAUC *e*PCP PcP 21 55 08.3 -0.2
MAUC AMS AMS 22 33 20.0
comp=Z,7μm,17.0s
RAZG Razgrad 79.42 318 ⇓P P 21 55 00.6 0.0
GLA Glamis 79.55 56 P P 21 55 02.9 +1.4
baz=309
PSZ Piszkesteto 79.57 324 IAmb IAmb 21 55 28.6
comp=Z,137nm,1.2s
PSZ Piszkesteto 79.57 324 P P 21 55 01.6 +0.2
PSZ Piszkesteto 79.57 324 P P 21 55 01.6 +0.2
DEV Deva 79.62 321 ⇑P P 21 55 02.9 +1.3
DEV Deva 79.62 321 P P 21 55 02.9 +1.3
VYHS Vyhne 79.62 325 *e*P P 21 55 02.2 +0.6
VYHS *e* 21 55 09.0
VYHS Vyhne 79.62 325 *e*P P 21 55 02.2 +0.6
VYHS *e* 21 55 09.0
VYHS pmax pmax
comp=Z,72nm,1.3s
AGMN Agassiz Nation 79.68 35 IAMs_20 IAMs_20 22 29 43.6
comp=Z,3μm,22.0s
AGMN Agassiz Nation 79.68 35 P P 21 55 01.4 -0.5
baz=318
AGMN Agassiz Nation 79.68 35 P P 21 55 00.5 -1.4
baz=318
PV23 Carpenter Ridg 79.69 49 IAmb IAmb 21 55 28.3
comp=Z,66nm,0.8s
COPA Copaceanca 79.70 319 ⇓P P 21 55 01.7 -0.4
PV10 Paradox Valley 79.73 49 IAmb IAmb 21 55 25.8
comp=Z,110nm,0.8s
BORA Eskisehir 79.75 313 IAmb IAmb 21 55 25.9
comp=Z,89nm,1.2s
N23A Red Feather La 79.83 45 IAmb IAmb 21 55 28.8
comp=Z,43nm,0.9s
N23A Red Feather La 79.83 45 P P 21 55 04.6 +1.4
baz=313,SNR=17
BSZH Besenyszg 79.85 324 P P 21 55 04.0 +1.2

PV11 David Mesa, Pa 79.88 49 IAmb IAmb 21 55 31.7
comp=Z,53nm,0.7s
BRG Berggiesshubel 79.89 329 *i*P P 21 55 03.1 +0.1
BRG Amp 21 55 04.4
comp=Z,28nm,1.0s
BRG *ex* x 21 55 10.0
BRG Amp 21 55 12.3
comp=Z,40nm,0.9s
BRG *ex* x 21 55 24.1
BRG Amp 21 55 26.8
comp=Z,69nm,1.1s
BRG Berggiesshubel 79.89 329 *i*P P 21 55 03.1 +0.1
BRG *e* 21 55 10.0
BRG *e* 21 55 24.1
BRG S S 22 05 03.0 +1.4
BRG pmax pmax
comp=Z,28nm,1.0s
BRG pmax pmax
comp=Z,40nm,0.9s
BRG MLR MLR
comp=E,7μm,20.2s
BRG MLR MLR
comp=Z,3μm,20.2s
PVCC Panska Ves 79.91 329 *e*P P 21 55 03.8 +0.7
PVCC AMS AMS 22 32 30.0
comp=Z,7μm,21.4s
PVCC Panska Ves 79.91 329 *e*P P 21 55 03.8 +0.7
PVCC MLR MLR
comp=Z,7μm,21.4s
CLL Collm 79.92 330 IAmb IAmb 21 55 26.5
comp=Z,79nm,0.9s
CLL Collm 79.92 330 ⇑*i*P P 21 55 02.9 -0.3
comp=Z,101nm,1.2s
CLL *i* PcP PcP 21 55 09.1 -1.4
CLL *i* pP pP 21 55 18.0 -1.8
comp=Z,58nm,0.9s
CLL *i* sP sP 21 55 23.4 -3.0
comp=Z,97nm,1.1s
CLL *e*PP PP 21 58 06.0 +1.3
CLL *es*PPP 22 00 12.0
CLL *e*S S 22 05 05.0 +3.1
CLL *es*S sS 22 05 30.0 0.0
CLL *e*PPS PPS 22 06 11.0
CLL *es*SS 22 10 36.0
CLL *es*SSS 22 14 06.0
CLL LmV 22 33 00.0
comp=Z,5μm,20.4s
CLL Collm 79.92 330 ⇑*i*P P 21 55 02.9 -0.3
CLL *e*S S 22 05 09.0 +7.1
CLL pmax pmax
comp=Z,101nm,1.2s
CLL MLR MLR
comp=Z,5μm,20.4s
SZH Strazhica 79.93 318 *i*P P 21 55 02.5 -0.9
VRAC Vranov 79.99 327 ⇓P P 21 55 04.2 +0.6
VRAC Vranov 79.99 327 *e*P P 21 55 04.1 +0.5
VRAC Vranov 79.99 327 P P 21 55 04.2 +0.6
PV13 Radium Mtn., P 80.00 49 IAmb IAmb 21 55 29.9
comp=Z,62nm,0.9s
GZR Gura Zlata 80.03 321 ⇑P P 21 55 04.1 +0.1
GZR Gura Zlata 80.03 321 P P 21 55 04.0 +0.1
PV15 Paradox Valley 80.08 49 IAmb IAmb 21 55 25.7
comp=Z,100nm,1.6s
JMB Yambol 80.14 317 *i*P P 21 55 03.8 -0.7
WUAZ Wupatki 80.17 52 IAmb IAmb 21 55 33.4
comp=Z,56nm,1.1s
WUAZ Wupatki 80.17 52 P P 21 55 06.5 +1.4
baz=311,SNR=11
WUAZ Wupatki 80.17 52 ⇓P P 21 55 06.7 +1.6
RAYN Ar Rayn 80.24 292 P P 21 55 04.7 -0.7
RAYN IAmb IAmb 21 55 13.3
comp=Z,172nm,1.4s
RAYN Ar Rayn 80.24 292 P P 21 55 05.3 -0.1
RAYN S S 22 05 07.7 +1.4
RAYN Ar Rayn 80.24 292 *i*P P 21 55 04.8 -0.6
SNR=42
RAYN Ar Rayn 80.24 292 ⇑P P 21 55 05.0 -0.4
RAYN Ar Rayn 80.24 292 P P 21 55 04.7 -0.7
RAYN pmax pmax
comp=Z,172nm,1.4s
KRUC Moravsky 80.27 327 *e*P P 21 55 05.4 +0.3
GOPC GO Pecny, Ondr 80.29 328 *e*P P 21 55 05.5 +0.3
GOPC *e*PCP PcP 21 55 12.4 +0.2
GOPC AMS AMS 22 32 40.0
comp=Z,6μm,20.9s
GOPC GO Pecny, Ondr 80.29 328 *e*P P 21 55 05.5 +0.3
GOPC MLR MLR
comp=Z,6μm,20.9s
BUD Budapest 80.29 325 P P 21 55 05.6 +0.4
PRU Pruhonice 80.33 328 *e*P P 21 55 05.8 +0.4
PRU *e*PCP PcP 21 55 12.7 +0.3
PRU *e*S S 22 05 04.8 -1.5
PRU AMS AMS 22 32 50.0
comp=Z,6μm,22.3s
PRU Pruhonice 80.33 328 *e*P P 21 55 05.8 +0.4
PRU *e*S S 22 05 04.8 -1.5
PRU MLR MLR
comp=Z,6μm,22.3s
SRO Srobarova 80.37 325 *e*P P 21 55 06.8 +1.2
SRO *e* 21 55 13.4
SRO Srobarova 80.37 325 *e*P P 21 55 06.8 +1.2
SRO pmax pmax
comp=Z,100nm,1.2s
SMCO Snowmass 80.40 47 IAMs_20 IAMs_20 22 25 45.5
comp=Z,2μm,22.0s
SMCO Snowmass 80.40 47 ⇑P P 21 55 07.5 +1.0
MODS Modra-Piesok 80.41 326 *e*P P 21 55 06.7 +0.8
MODS *e* 21 55 13.4
MODS Modra-Piesok 80.41 326 *e*P P 21 55 06.7 +0.8
MODS pmax pmax
comp=Z,203nm,1.4s
BZS Buzias 80.44 322 ⇓P P 21 55 05.9 -0.2
BZS Buzias 80.44 322 P P 21 55 05.8 -0.2
TREC Trest 80.47 328 AMS AMS 22 37 20.0
comp=Z,3μm,20.2s
B35A Bob, Littlefor 80.58 34 P P 21 55 06.6 -0.2
baz=319
HERR Herculane 80.58 321 ⇑P P 21 55 06.7 -0.1
ZST Bratislava 80.61 326 *e*P P 21 55 08.1 +1.2
ZST *e* 21 55 14.7
ZST Bratislava 80.61 326 *e*P P 21 55 08.1 +1.2
ZST pmax pmax
comp=Z,193nm,1.5s
DJES Djerdap 80.68 321 ⇑P P 21 55 07.9 +0.5
CSKK Cskako 80.73 325 P P 21 55 07.8 +0.2
BAIL Bailesti 80.73 320 ⇓P P 21 55 09.0 +1.4
MVCO Mesa Verde 80.82 49 P P 21 55 08.6 0.0
baz=312
ASF Jabal al Asfar 80.82 304 LR LR 22 35 05.0
comp=Z,1μm,21.7s,baz=56,slow=39
RAR Rarotonga 80.89 126 LR LR 22 23 36.6
comp=Z,5μm,22.0s,baz=312,slow=30
BRIGG Briggsdale 80.94 45 IAmb IAmb 21 55 40.5
comp=Z,45nm,0.8s
MDVR Moldovita 81.00 321 ⇓P P 21 55 09.4 +0.2
SUSD Miller 81.04 39 P P 21 55 07.3 -2.0
baz=316
EGYH Egyhazaskeszo 81.10 325 P P 21 55 10.8 +1.2
TAU Tasmania Unive 81.17 176 IAMs_20 IAMs_20 22 27 47.9
comp=Z,2μm,20.0s
MPLH Magyarpolny 81.19 325 P P 21 55 09.8 -0.2
SOP Sopron 81.24 326 P P 21 55 09.9 -0.4
SOP Sopron 81.24 326 P P 21 55 11.2 +0.9
MMAI Mount Meron Ar 81.25 305 LR LR 22 35 27.2
comp=Z,1μm,18.9s,baz=264,slow=39
CSS Mathiatis 81.29 308 IAmb IAmb 21 55 36.7
comp=Z,126nm,1.2s
F33A 5 Mile Ranch, 81.30 37 IAmb IAmb 21 55 39.8
comp=Z,83nm,1.4s
F33A 5 Mile Ranch, 81.30 37 P P 21 55 10.9 +0.3
baz=318
KDZ Kurdzhali 81.33 317 *i*P P 21 55 11.2 +0.3
CKRC Cesky Krumlov 81.33 328 *e*P P 21 55 11.1 +0.3
CKRC *ex* PcP 21 55 17.8 +1.0
CKRC AMS AMS 22 33 20.0
comp=Z,4μm,22.4s
RONA Rosalia, Austr 81.34 326 *i*P P 21 55 11.8 +0.9
comp=Z,80nm,1.1s,SNR=9.3
BLKB Belogradchik 81.36 320 ⇓P P 21 55 11.3 +0.2
PGB Panagyurishte 81.36 318 *i*P P 21 55 10.9 -0.2
CONA Conrad Observa 81.36 326 *i*P P 21 55 11.9 +0.9
comp=Z,101nm,1.6s,SNR=6.1
PIX Pinacate 81.39 57 P P 21 55 12.0 +0.7
KHC Kasperske Hory 81.39 328 IAmb IAmb 21 55 21.1

KHC **Kasperske Hory** 81.39 328 *e*P **P** 21 55 11.3 +0.2
comp=Z,90nm,1.1s
KHC *e*PCP **PcP** 21 55 18.7 +1.6
KHC *es*P **sP** 21 55 32.0 -2.4
KHC AMS AMS 22 33 10.0
comp=Z,6µm,20.9s
KHC **Kasperske Hory** 81.39 328 ⇑P **P** 21 55 11.4 +0.2
KHC **Kasperske Hory** 81.39 328 *e*P **P** 21 55 11.3 +0.2
KHC *e* 21 55 32.0
KHC MLR MLR
comp=Z,6µm,20.9s
MORH Mrgy, Hungar 81.41 324 P **P** 21 55 10.4 -0.8
S22A 4UR Ranch, Cre 81.44 48 P **P** 21 55 12.2 +0.2
S22A 4UR Ranch, Cre 81.44 48 P **P** 21 55 13.4 +1.4
baz=313,SNR=13
214A Organ Pipe Nat 81.56 56 P **P** 21 55 13.1 +0.8
baz=310
GERES GERESS Array B 81.57 328 P **P** 21 55 11.7 -0.4
comp=Z,9.2nm,0.8s,baz=42,slow=2.2,SNR=53
GERES LR LR 22 36 34.2
comp=Z,4µm,18.1s,baz=33,slow=39
comp=Z,9.2nm,0.8s
Q24A Divide 81.59 46 P **P** 21 55 14.1 +1.4
baz=313
RDO Rodhopi 81.62 317 IAmb IAmb 21 55 38.8
comp=Z,137nm,1.3s
RDO Rodhopi 81.62 317 ⇑P **P** 21 55 12.5 +0.1
FRGS Fruska Gora 81.64 323 *e*P **P** 21 55 12.2 -0.3
X18A Snowflake 81.70 52 IAmb IAmb 21 55 41.6
comp=Z,85nm,1.7s
KOVH Kovagotottos 81.75 324 P **P** 21 55 12.3 -0.7
VTS Vitosha 81.79 319 ⇑P **P** 21 55 14.0 +0.5
VTS Vitosha 81.79 319 IAmb IAmb 21 55 37.7
comp=Z,62nm,0.8s
VTS Vitosha 81.79 319 *i*P **P** 21 55 13.1 -0.4
VTS Vitosha 81.79 319 ⇑P **P** 21 55 14.0 +0.5
VTS Vitosha 81.79 319 P **P** 21 55 14.0 +0.5
EKA Eskdalemuir Ar 81.83 341 LR LR 22 35 03.2
comp=Z,3µm,21.3s,baz=32,slow=38
EKA Eskdalemuir Ar 81.83 341 P **P** 21 55 13.1 -0.1
ESK Eskdalemuir 81.85 341 P **P** 21 55 13.8 +0.4
ESK IAmb IAmb 21 56 54.8
comp=Z,80nm,1.3s
ESK Eskdalemuir 81.85 341 IAMs_20 IAMs_20 22 34 50.2
comp=Z,3µm,20.0s
ESK Eskdalemuir 81.85 341 P **P** 21 55 13.8 +0.4
ESK pmax pmax
comp=Z,80nm,1.3s
ESK MLR MLR
comp=Z,3µm,20.0s
EYMN Ely 81.86 33 IAmb IAmb 21 56 04.4
comp=Z,84nm,1.5s
EYMN Ely 81.86 33 IAMs_20 IAMs_20 22 33 17.1
comp=Z,2µm,22.0s
EYMN Ely 81.86 33 P **P** 21 55 13.4 -0.2
baz=321
EYMN Ely 81.86 33 P **P** 21 55 13.7 +0.1
baz=321
GRFO Grafenberg 81.90 330 P **P** 21 55 14.0 +0.3
GRFO Grafenberg 81.90 330 P **P** 21 55 14.0 +0.3
GRFO pmax pmax
comp=Z,223nm,1.3s
GRFO MLR MLR
comp=Z,4µm,21.0s
ARSA Arzberg 82.03 326 *i*P **P** 21 55 13.4 -1.1
comp=Z,55nm,1.4s
ARSA Arzberg 82.03 326 ⇓P **P** 21 55 15.1 +0.6
MOA Molln 82.11 327 *e*P **P** 21 55 15.4 +0.5
comp=Z,68nm,1.4s
ELL Elmali 82.17 311 P **P** 21 55 18.2 +2.6
SDCO Great Sand Dun 82.22 47 IAMs_20 IAMs_20 22 28 14.7
comp=Z,2µm,20.0s
SDCO Great Sand Dun 82.22 47 P **P** 21 55 17.1 +1.1
baz=313
SDCO Great Sand Dun 82.22 47 P **P** 21 55 17.2 +1.1
baz=313,SNR=11
GHAJ Ghor Haditha 82.25 304 IAmb IAmb 21 55 25.5
comp=Z,112nm,1.1s
MMB Musomiste 82.27 318 *i*P **P** 21 55 15.9 0.0
DKL Dikili 82.31 314 ⇑P **P** 21 55 15.7 -0.4
DIVS Divibare 82.34 322 *e*P **P** 21 55 14.7 -1.6
DIVS Divibare 82.34 322 ⇑P **P** 21 55 16.1 -0.2
KKB Krupnik 82.41 319 *i*P **P** 21 55 17.1 +0.5
K31A O'Neill 82.45 40 IAmb IAmb 21 56 00.6
comp=Z,92nm,0.8s
K31A O'Neill 82.45 40 P **P** 21 55 17.4 +0.6
baz=317
BIOA Bad Ischl, Aus 82.49 327 *i*P **P** 21 55 17.2 +0.2
comp=Z,45nm,0.8s
TUC Tucson 82.63 54 P **P** 21 55 18.2 +0.2
TUC IAmb IAmb 21 55 46.2
comp=Z,67nm,1.8s
TUC Tucson 82.63 54 IAMs_20 IAMs_20 22 26 01.2
comp=Z,3µm,20.0s
TUC Tucson 82.63 54 P **P** 21 55 18.2 +0.2
baz=311
TUC Tucson 82.63 54 ⇓P **P** 21 55 19.3 +1.3
TUC Tucson 82.63 54 P **P** 21 55 18.2 +0.2
TUC pmax pmax
comp=Z,67nm,1.8s
TUC MLR MLR
comp=Z,2µm,20.0s
PERS Pernice 82.68 326 *i*P **P** 21 55 17.9 -0.1
SOKA Soboth 82.68 326 *i*P **P** 21 55 18.1 +0.1
comp=Z,180nm,1.3s,SNR=6.2
ECSD EROS Data Cent 82.71 38 IAMs_20 IAMs_20 22 29 01.9
comp=Z,3µm,22.0s
ECSD EROS Data Cent 82.71 38 P **P** 21 55 17.7 -0.4
baz=318
ECSD EROS Data Cent 82.71 38 P **P** 21 55 18.2 +0.2
baz=318,SNR=12
BBLS Lazići 82.80 322 *e*P **P** 21 55 18.4 -0.2
HAPS Han Pijesak,Bl 82.85 322 *e*P **P** 21 55 18.1 -0.9
E38A The Farm, Brul 82.87 34 P **P** 21 55 18.6 -0.2
baz=321,SNR=5.6
STIP Stip 83.00 319 *i*P **P** 21 55 19.2 -0.4
OBKA Obir 83.02 326 *e*P **P** 21 55 19.4 -0.4
OBKA Obir 83.02 326 *e*P **P** 21 55 19.5 -0.4
comp=Z,22nm,0.7s
BEBN Eben Emael 83.05 334 *d*P **P** 21 55 19.4 -0.2
comp=Z,82nm,0.7s
BEBN *dx* **PcP** 21 55 26.2 +2.0
VAY Valandovo 83.07 318 *i*P **P** 21 55 20.2 +0.2
BTNL Ternell 83.07 333 *d*P **P** 21 55 19.8 -0.1
comp=Z,36nm,1.0s
MEM Membach 83.09 333 *d*P **P** 21 55 20.0 +0.1
comp=Z,49nm,0.9s
MEM *dx* x 21 55 28.4
KBA Koelnbreinsper 83.10 327 *e*P **P** 21 55 20.6 +0.3
comp=Z,84nm,0.8s
KBA Koelnbreinsper 83.10 327 ⇓P **P** 21 55 20.9 +0.7
KBA Koelnbreinsper 83.10 327 ⇓P **P** 21 55 20.9 +0.7
A051A Mrakovica 83.12 324 *e*P **P** 21 55 19.3 -1.0
CRES Cresnjev 83.15 325 *e*P **P** 21 55 17.6 -2.7
SKO Skopje 83.18 320 *i*P **P** 21 55 21.1 +0.6
BLY Banja Luka 83.19 324 *e*P **P** 21 55 18.7 -1.8
T25A Trinidad 83.27 47 IAmb IAmb 21 56 05.1
comp=Z,67nm,1.2s
T25A Trinidad 83.27 47 P **P** 21 55 22.8 +1.4
baz=314,SNR=11
BSTI Sart Tilman 83.27 334 *d*P **P** 21 55 20.9 +0.1
BSTI *dx* **PcP** 21 55 25.9 +0.7
BHOU Houvegnez 83.31 333 *d*P **P** 21 55 21.1 +0.1
MYKA Terra Mystica 83.32 327 *e*P **P** 21 55 20.8 -0.5
comp=Z,38nm,0.6s
SPMN Marine on St. 83.38 35 P **P** 21 55 21.7 +0.1
baz=320
SPMN Marine on St. 83.38 35 P **P** 21 55 20.7 -0.8
baz=320
STU Stuttgart 83.43 331 IAmb IAmb 21 55 30.8
comp=Z,69nm,0.7s
STU IAMs_20 IAMs_20 22 35 38.3
comp=Z,3µm,21.0s
STU Stuttgart 83.43 331 P **P** 21 55 22.2 +0.5
MGRS Mrkonjic Grad 83.49 324 *e*P **P** 21 55 22.3 +0.2
BOJS Bojanci 83.49 325 *e*P P 21 55 27.9 +5.8
BCLA Clavier 83.50 334 *d*P **P** 21 55 21.7 -0.3
comp=Z,33nm,0.9s
BCLA *dx* x 21 55 28.4
BCLA *dx* x 21 55 29.7
ANMO Albuquerque 83.56 50 P **P** 21 55 23.8 +0.9
comp=Z,9.3nm,1.1s,baz=306,slow=7.1,SNR=15
ANMO LR LR 22 27 21.2
comp=Z,2µm,21.4s,baz=314,slow=32
comp=Z,9.3nm,1.1s
ANMO Albuquerque 83.56 50 P **P** 21 55 23.1 +0.2
baz=313
ANMO Albuquerque 83.56 50 P **P** 21 55 24.0 +1.1
baz=313
ANMO Albuquerque 83.56 50 P **P** 21 55 22.9 0.0
baz=313
ANMO Albuquerque 83.56 50 ⇑P **P** 21 55 24.1 +1.1
ANMO Albuquerque 83.56 50*c* *i*P **P** 21 55 24.2 +1.3
ANMO pmax pmax
comp=Z,11nm,1.1s
ARG Arkhangelos 83.59 312 ⇑P **P** 21 55 22.7 0.0
ARG Arkhangelos 83.59 312 ⇑P **P** 21 55 22.7 0.0
BGES Gesves 83.60 334 *d*P **P** 21 55 21.9 -0.7
comp=Z,27nm,1.0s
BGES *dx* x 21 55 29.2
BGES *dx* x 21 55 32.2
PTCC Patocco-Chiusa 83.62 327 ⇓P **P** 21 55 21.9 -0.9
WATA Walderalm 83.63 328 *i*P **P** 21 55 22.8 -0.1
comp=Z,37nm,1.0s,SNR=7.0
BGNE Belgrade 83.65 41 P **P** 21 55 23.9 +0.8
baz=317
WTTA Wattenberg 83.67 328 *e*P **P** 21 55 23.2 0.0
comp=Z,22nm,0.7s
CEY Cerknica 83.68 326 *e*P **P** 21 55 21.8 -1.3
A050A Klekovaca 83.69 324 *e*P **P** 21 55 21.2 -2.0
ABTA Abfaltersbach 83.71 328 *e*P **P** 21 55 22.1 -1.2
comp=Z,46nm,1.2s
EIL Elat 83.71 303 LR LR 22 37 21.6
comp=Z,2µm,20.6s,baz=60,slow=39
SRKY Kupres RS 83.71 323 *e*P **P** 21 55 23.3 -0.1
JAVS Javornik 83.72 326 *i*P **P** 21 55 22.2 -1.1
RCHB Rochefort 83.75 333 *d*P **P** 21 55 22.7 -0.6
RCHB *dx* x 21 55 29.8
SNF Seneffe 83.78 334 *d*P **P** 21 55 23.2 -0.2
SNF *dx* x 21 55 30.0
BMRD Maredsous 83.78 334 *d*P **P** 21 55 23.3 -0.1
comp=Z,41nm,1.2s
BMRD *dx* x 21 55 30.0
CLUD Cludinico 83.78 327 IAmb IAmb 21 55 49.6
comp=Z,61nm,0.8s
MOTA Moosalm 83.82 329 *i*P **P** 21 55 23.8 -0.2
comp=Z,92nm,1.2s,SNR=8.1
WLF Walferdange 83.83 333 *d*P **P** 21 55 24.1 +0.4
WLF Walferdange 83.83 333 P **P** 21 55 24.5 +0.8
RETA Reutte 83.85 329 *i*P **P** 21 55 24.2 +0.2
comp=Z,165nm,1.4s,SNR=11
Y22F Passeal Instru 83.87 51 P **P** 21 55 23.6 -0.9
baz=313
SQTA Sankt Quirin 83.88 329 *i*P **P** 21 55 24.2 0.0
comp=Z,50nm,0.7s,SNR=13
SCHQ Schefferville 83.92 16 P **P** 21 55 24.7 +0.6
comp=Z,20nm,0.8s,baz=325,slow=6.8,SNR=12
comp=Z,20nm,0.8s
GIVF Givet 83.93 334 *e*P **P** 21 55 23.6 -0.6
GIVF pmax pmax
comp=Z,66nm,1.4s
PDG Podgorica 83.94 321 IAMs_20 IAMs_20 22 38 14.3
comp=Z,2µm,21.0s
PDG Podgorica 83.94 321 ⇓P **P** 21 55 24.6 +0.3
Y22A Socorro 83.94 51 P **P** 21 55 26.1 +1.3
baz=313
STAL STALIGIAL 84.01 327 IAmb IAmb 21 55 32.3
comp=Z,62nm,0.6s
DOU Dourbes 84.02 334 *d*P **P** 21 55 24.5 -0.2
comp=Z,22nm,1.1s
DOU *dx* x 21 55 30.1
I37A Lemond, Waseca 84.03 36 IAmb IAmb 21 55 49.0
comp=Z,117nm,1.2s
I37B Waseca 84.03 36 P **P** 21 55 25.3 +0.4
baz=320
FNA Florina 84.08 319 ⇓P **P** 21 55 25.2 -0.1
FNA Florina 84.08 319 ⇓P **P** 21 55 25.2 -0.1
CIMO Cimolais 84.09 327 IAmb IAmb 21 55 32.6
comp=Z,34nm,0.7s
BFO Black Forest 84.12 331 P **P** 21 55 24.4 -0.9
BFO IAMs_20 IAMs_20 22 36 36.6
comp=Z,3µm,21.0s
BFO Black Forest 84.12 331 ⇑P **P** 21 55 25.0 -0.3
BFO Black Forest 84.12 331 P **P** 21 55 24.4 -0.9
BFO pmax pmax
comp=Z,128nm,1.0s
BFO MLR MLR
comp=Z,3µm,21.0s
OHR Ohrid 84.14 319 *i*P **P** 21 55 26.2 +0.7
DRME Dracevica, Mon 84.15 321 *e*P **P** 21 55 25.3 -0.2
TREB Trebinje 84.17 322 *e*P **P** 21 55 25.6 0.0
BAIF Baives 84.18 334 *e*P **P** 21 55 25.0 -0.5
BAIF pmax pmax
comp=Z,34nm,0.9s
319A Douglas 84.21 54 IAmb IAmb 21 55 52.3
comp=Z,68nm,0.8s
FETA Feichten 84.23 329 *i*P **P** 21 55 26.0 -0.1
comp=Z,55nm,1.2s,SNR=6.8
COWI Conover 84.31 33 IAMs_20 IAMs_20 22 35 23.9
comp=Z,2µm,22.0s
DAVA Damuels 84.36 329 *i*P **P** 21 55 26.7 0.0
comp=Z,114nm,1.1s,SNR=14
DAVA Damuels 84.36 329 ⇑P **P** 21 55 26.5 -0.2
STON Ston 84.36 322 *e*P **P** 21 55 23.2 -3.3
121A Cookes Peak, D 84.38 53 IAmb IAmb 21 55 53.2
comp=Z,46nm,0.9s
121A Cookes Peak, D 84.38 53 P **P** 21 55 28.6 +1.5
baz=313
121A Cookes Peak, D 84.38 53 P **P** 21 55 27.4 +0.3
baz=313,SNR=13
CDF Champ du Feu 84.45 331 *e*P **P** 21 55 26.6 -0.4
CDF pmax pmax
comp=Z,77nm,1.0s
G40A Rib Lake 84.50 34 P **P** 21 55 26.1 -1.1
baz=322,SNR=5.8
DSB Dublin 84.53 341 IAmb IAmb 21 55 54.2
comp=Z,49nm,0.7s
DSB IAMs_20 IAMs_20 22 36 47.0
comp=Z,2µm,20.0s
CTI Castel Tesino 84.63 328 IAmb IAmb 21 55 56.1
comp=Z,57nm,0.9s
ECH Echery 84.66 331 IAmb IAmb 21 55 36.8
comp=Z,62nm,0.8s
ECH IAMs_20 IAMs_20 22 36 05.8
comp=Z,4µm,22.0s
ECH Echery 84.66 331 ⇓P **P** 21 55 26.7 -1.3
ECH Echery 84.66 331 ⇓P **P** 21 55 26.7 -1.3
CBKS Cedar Bluff 84.69 44 IAmb IAmb 21 55 53.8
comp=Z,77nm,1.4s
CBKS Cedar Bluff 84.69 44 P **P** 21 55 28.1 -0.3
baz=316
DAVOX Damos/Dischmat 84.77 329 LR LR 22 37 11.2
comp=Z,5µm,19.4s,baz=20,slow=38
THZ Tophouse 84.80 157 IAMs_20 IAMs_20 22 30 28.2
comp=Z,2µm,19.0s
AGG Agios Georgios 84.86 317 ⇑P **P** 21 55 27.1 -2.1
HINF Hinteralfeld 85.11 331 *e*P **P** 21 55 29.4 -0.9
HINF pmax pmax
comp=Z,26nm,1.0s
HAU Haudompre 85.14 332 *e*P **P** 21 55 29.6 -0.8
HAU pmax pmax
comp=Z,50nm,0.7s
PPT Papeete 85.15 117 LR LR 22 27 38.4
comp=Z,2µm,19.9s,baz=298,slow=31
PPT2 Papeete2 85.17 117 *e*P **P** 21 55 32.1 +1.2
comp=Z,879nm,24.2s
PPT2 Papeete2 85.17 117 *e*S **S** 22 05 57.2 +0.8
comp=Z,2µm,25.8s
PPT2 Papeete2 85.17 117 *e*LR LR 22 22 27.2
comp=Z,22µm,25.0s
PPT2 *e*LR LR 22 22 27.5
comp=Z,16µm,25.8s
PPT2 Papeete2 85.17 117 *e*T T 23 29 26.3
comp=Z,32nm,0.3s
TEOL Teolo 85.17 327 IAmb IAmb 21 56 06.6
comp=Z,46nm,0.7s
PAE Paea 85.21 117 *e*T T 23 29 30.0
comp=Z,6.4nm,0.3s
TUE Stuetta 85.24 329 P **P** 21 55 31.2 +0.1
TUE IAmb IAmb 21 55 42.6
comp=Z,54nm,0.8s
TIAR Tiarei 85.31 117 *e*T T 23 29 37.8
comp=Z,10nm,0.3s
N35A Tabor 85.33 40 P **P** 21 55 32.4 +1.0
baz=319
I40A Norwalk 85.40 35 IAmb IAmb 21 56 15.0
comp=Z,36nm,1.1s
SALO Salr 85.44 328 ⇓P **P** 21 55 31.6 -0.4
R32A Long Quarter, 85.53 43 P **P** 21 55 32.5 -0.1
baz=317
SCIA State Center 85.73 38 IAmb IAmb 21 55 57.2
comp=Z,47nm,0.9s
SCIA State Center 85.73 38 P **P** 21 55 33.0 -0.4
baz=320
RPZ Rata Peaks 86.05 159 LR LR 22 29 25.0
comp=Z,4µm,22.0s,baz=342,slow=32
E46A Sault Ste Mari 86.06 30 IAmb IAmb 21 56 07.0
comp=Z,37nm,0.9s
E46A Sault Ste Mari 86.06 30 P **P** 21 55 34.9 -0.1
baz=326
IDI Anoyia 86.11 313 LR LR 22 38 10.1
comp=Z,914nm,21.1s,baz=16,slow=38
IDI Anoyia 86.11 313 ⇑P **P** 21 55 34.4 -1.2
KSU1 Kansas State U 86.14 42 IAmb IAmb 21 56 04.1
comp=Z,61nm,1.0s
KSU1 Kansas State U 86.14 42 IAMs_20 IAMs_20 22 37 04.1
comp=Z,2µm,20.0s
KSU1 Kansas State U 86.14 42 P **P** 21 55 35.6 +0.1
baz=318
KSU1 Kansas State U 86.14 42 P **P** 21 55 35.7 +0.1
baz=318
I42A Draeger Farm, 86.16 34 IAmb IAmb 21 55 54.9
comp=Z,24nm,0.8s
I42A Draeger Farm, 86.16 34 P **P** 21 55 35.7 +0.2
baz=323
JFWS Jewell Farm 86.33 35 IAMs_20 IAMs_20 22 32 32.7
comp=Z,3µm,20.0s
JFWS Jewell Farm 86.33 35 S **S** 22 06 03.5 -3.7
baz=322
JFWS Jewell Farm 86.33 35 P **P** 21 55 34.4 -2.0
baz=322
TAOE Nuku Hiva Isla 86.39 104 *e*P **P** 21 55 37.7 +0.6
comp=Z,717nm,24.2s
TAOE Nuku Hiva Isla 86.39 104 *e*S **S** 22 06 08.4 -0.2
comp=Z,3µm,28.2s
TAOE Nuku Hiva Isla 86.39 104 *e*LR LR 22 23 00.2
comp=Z,20µm,30.1s
TAOE Nuku Hiva Isla 86.39 104 *e*T T 23 30 59.4
comp=Z,78nm,0.2s
CABF La Chapelle 86.40 331 *e*P **P** 21 55 36.1 -0.7
CABF pmax pmax
comp=Z,19nm,0.8s
ITM Ithomi 86.42 316 ⇑P **P** 21 55 35.7 -1.2
AMTX Amarillo 86.42 47 P **P** 21 55 38.3 +1.2
baz=316
AMTX S **S** 22 06 09.7 +1.2
baz=316
AMTX Amarillo 86.42 47 P **P** 21 55 37.8 +0.6
baz=316
MEH Mehetia 86.42 116 *e*T T 23 31 09.8
comp=Z,320nm,0.3s
LBZ Lake Benmore 86.43 160 **P** 21 55 36.5 0.0
MSTX Muleshoe 86.43 49 IAmb IAmb 21 56 02.5
comp=Z,58nm,1.4s
MSTX Muleshoe 86.43 49 P **P** 21 55 37.7 +0.5
baz=315
MSTX S **S** 22 06 07.9 -0.8
baz=315
MSTX Muleshoe 86.43 49 P **P** 21 55 36.3 -0.9
baz=315
L40A Anamosa 86.55 36 IAmb IAmb 21 56 43.8
comp=Z,46nm,1.1s
L40A Anamosa 86.55 36 P **P** 21 55 37.6 +0.1
baz=321
N38A Joes South For 86.57 38 IAmb IAmb 21 56 01.5
comp=Z,69nm,0.9s
N38A Joes South For 86.57 38 P **P** 21 55 37.9 +0.3
baz=320
N38A S **S** 22 06 06.3 -3.3
baz=320
CLF Chambon-Foret 86.59 334 ⇑P **P** 21 55 38.2 +0.7
G45A Suttons Bay 86.61 31 S **S** 22 06 06.9 -2.9
baz=325
G45A S **S** 22 06 06.9 -2.9
baz=325
DCZ Deep Cove 86.66 162 IAMs_20 IAMs_20 22 30 21.4
comp=Z,2µm,20.0s
LOR Lormes 86.67 333 *e*P **P** 21 55 37.4 -0.6
LOR pmax pmax
comp=Z,86nm,1.0s
MLZ Mavora Lakes 86.81 162 IAMs_20 IAMs_20 22 28 53.2
comp=Z,3µm,22.0s
OSSC Osservatorio P 86.82 326 IAmb IAmb 21 56 06.5
comp=Z,124nm,1.7s
ELIS Ellis County 86.86 45 IAmb IAmb 21 56 10.2
comp=Z,102nm,1.4s
FLN La Foliniere 86.86 336 *e*P **P** 21 55 38.3 -0.5
FLN pmax pmax
comp=Z,58nm,0.9s
U32A Winter Ranch, 86.86 45 S **S** 22 06 13.1 +0.5
baz=317
MGAB Montegabbione 86.92 325 ⇑P **P** 21 55 39.5 +0.2
OK038 West end E0370 86.93 45 IAmb IAmb 21 56 09.0
comp=Z,56nm,1.2s
OK038 IAMs_20 IAMs_20 22 35 19.1
comp=Z,2µm,22.0s
SSF Saint Saulge 86.97 333 *e*P **P** 21 55 38.9 -0.5
SSF pmax pmax
comp=Z,53nm,1.0s
JSA Saint Aubin 87.01 337 ⇓P **P** 21 55 40.0 +0.5
LPL La Plagne 87.06 330 *e*P **P** 21 55 39.7 -0.5
LPL pmax pmax
comp=Z,51nm,1.1s
LPG La Plagne 87.07 330 *e*P **P** 21 55 39.9 -0.4
LPG pmax pmax
comp=Z,30nm,0.8s
SMF Signal de Mont 87.21 332 *e*P **P** 21 55 40.2 -0.4
SMF pmax pmax
comp=Z,84nm,1.2s
GLMI Grayling 87.21 31 IAMs_20 IAMs_20 22 37 27.6
comp=Z,2µm,21.0s
GLMI Grayling 87.21 31 P **P** 21 55 40.3 -0.3
baz=326
PYZ Puysegur Point 87.21 163 IAMs_20 IAMs_20 22 31 10.0
comp=Z,2µm,22.0s
WHZ Wether Hill Ro 87.26 162 IAMs_20 IAMs_20 22 29 54.1
comp=Z,3µm,22.0s
AVF Avril sur Loir 87.26 333 *e*P **P** 21 55 40.4 -0.4
AVF pmax pmax
comp=Z,104nm,0.8s
GRR Gorron 87.31 336 *e*P **P** 21 55 40.7 -0.3
GRR pmax pmax
comp=Z,94nm,1.0s
P38A Dawn 87.32 39 P **P** 21 55 41.2 -0.1
baz=320,SNR=11
P38A S **S** 22 06 15.0 -1.8
baz=320
TIP Timpagrande 87.63 320 ⇑P P 21 55 49.0 +6.1
BGF Bois d'Agland 87.64 333 *e*P **P** 21 55 42.2 -0.5
BGF pmax pmax
comp=Z,23nm,0.8s
MBDF Montbardon 87.70 330 *e*P **P** 21 55 41.6 -1.6
MBDF pmax pmax
comp=Z,12nm,0.6s
N41A Harden Midland 87.78 37 P **P** 21 55 43.5 0.0
N41A IAmb IAmb 21 56 30.7
comp=Z,83nm,1.2s
N41A Harden Midland 87.78 37 P **P** 21 55 44.0 +0.5
baz=322
N41A S **S** 22 06 18.5 -2.7
baz=322
T35A Sooner Cattle 87.82 43 **P** 21 55 44.3 +0.5
T35A IAmb IAmb 21 56 09.5
comp=Z,57nm,1.3s
T35B Sooner Cattle 87.82 43 P **P** 21 55 44.1 +0.3
baz=318
T35B S **S** 22 06 19.8 -1.9
baz=318
ORIF Oris-en-Rattie 87.89 330 *e*P **P** 21 55 44.0 0.0
ORIF pmax pmax
comp=Z,23nm,0.7s
OK045 Pawnee Station 87.94 43 P **P** 21 55 44.9 +0.5
OK045 IAmb IAmb 21 56 13.6
comp=Z,48nm,1.3s
OK050 Pawnee Station 87.95 44 IAMs_20 IAMs_20 22 35 19.2
comp=Z,2µm,22.0s
SGMF Saint Gilles 87.96 337 *e*P **P** 21 55 44.0 -0.1
SGMF pmax pmax
comp=Z,120nm,1.5s
OK048 Pawnee Station 87.96 44 IAmb IAmb 21 56 13.8
comp=Z,61nm,1.4s
OK048 IAMs_20 IAMs_20 22 32 57.3
comp=Z,2µm,22.0s
L44A Lake County Fo 87.97 34 P **P** 21 55 43.4 -0.8
baz=324
OK046 Pawnee Station 87.99 43 IAMs_20 IAMs_20 22 35 21.2
comp=Z,2µm,21.0s
OK044 Pawnee Station 88.07 43 IAmb IAmb 21 56 14.2
comp=Z,65nm,1.4s
OK044 IAMs_20 IAMs_20 22 35 34.3

comp=Z,2µm,22.0s
TCF Toulx Ste Croi 88.10 333 *e*P **P 21 55 44.6 -0.3**
TCF pmax pmax
comp=Z,53nm,1.3s
ROSF Rostrenen 88.10 337 *e*P **P 21 55 44.7 -0.1**
ROSF pmax pmax
comp=Z,61nm,1.0s
SSB Saint Sauveur 88.10 331 IAmb IAmb 21 55 54.3
comp=Z,27nm,0.8s
SSB Saint Sauveur 88.10 331 IAMs_20 IAMs_20 22 39 16.9
comp=Z,4µm,22.0s
SSB Saint Sauveur 88.10 331 ⇓P **P 21 55 45.2 +0.3**
SSB Saint Sauveur 88.10 331 ⇓P **P 21 55 45.2 +0.3**
P40A Paris 88.12 39 P **P 21 55 45.2 +0.1**
baz=321,SNR=14
P40A S **S 22 06 22.5 -2.0**
baz=321
OK029 Liberty Lake 88.14 44 IAmb IAmb 21 56 14.7
comp=Z,56nm,1.0s
WMOK Wichita Mounta 88.18 46 IAMs_20 IAMs_20 22 34 22.3
comp=Z,2µm,20.0s
WMOK Wichita Mounta 88.18 46 P **P 21 55 46.0 +0.5**
baz=317
WMOK S **S 22 06 23.4 -1.8**
baz=317
WMOK Wichita Mounta 88.18 46 P **P 21 55 46.0 +0.5**
baz=317,SNR=7.4
WMOK Wichita Mounta 88.18 46 ⇓P **P 21 55 46.2 +0.7**
WMOK Wichita Mounta 88.18 46 ⇓P **P 21 55 46.2 +0.7**
OK033 Mehan 88.24 44 IAmb IAmb 21 56 15.0
comp=Z,37nm,1.0s
OK033 IAMs_20 IAMs_20 22 35 18.6
comp=Z,3µm,21.0s
QUOK Quay 88.27 44 IAmb IAmb 21 56 15.2
comp=Z,69nm,1.4s
HQIL Hanson Quary C 88.30 35 IAMs_20 IAMs_20 22 31 55.6
comp=Z,2µm,21.0s
OK053 SW of W Deep R 88.34 44 IAMs_20 IAMs_20 22 35 31.5
comp=Z,2µm,22.0s
OK052 Battle Ridge R 88.35 44 IAMs_20 IAMs_20 22 35 22.6
comp=Z,2µm,21.0s
LPIG La Paz 88.36 60 LR LR 22 29 52.5
comp=Z,2µm,19.8s,baz=312,slow=32
OK031 S. Brethren Rd 88.36 44 IAmb IAmb 21 55 54.0
comp=Z,70nm,1.4s
OK031 IAMs_20 IAMs_20 22 35 20.9
comp=Z,2µm,20.0s
OK025 Westminster Rd 88.36 44 IAmb IAmb 21 56 15.7
comp=Z,58nm,0.9s
OK034 N. Norfolk Rd. 88.38 44 IAMs_20 IAMs_20 22 37 18.6
comp=Z,2µm,21.0s
OK030 Cody Creek RV 88.41 44 IAMs_20 IAMs_20 22 35 22.2
comp=Z,2µm,20.0s
VIVF Saint-Julien-l 88.41 331 *e*P **P 21 55 46.1 -0.3**
VIVF pmax pmax
comp=Z,20nm,0.8s
QUIF Quistinic 88.44 337 *e*P **P 21 55 46.9 +0.5**
QUIF pmax pmax
comp=Z,23nm,0.8s
M44A Midewin, Midew 88.54 35 S **S 22 06 26.2 -2.1**
baz=323
DEOK Depew 88.62 44 IAmb IAmb 21 55 55.2
comp=Z,140nm,1.8s
HDIL Hopedale 88.63 36 IAMs_20 IAMs_20 22 34 07.6
comp=Z,3µm,21.0s
HDIL Hopedale 88.63 36 P **P 21 55 48.2 +0.7**
baz=323
HDIL Hopedale 88.63 36 P **P 21 55 48.1 +0.7**
baz=323
MFF Saint Martin d 88.64 335 *e*P **P 21 55 47.3 -0.1**
MFF pmax pmax
comp=Z,57nm,1.0s
X34A Smith Ranch, M 88.81 45 sP 21 56 05.5 -6.3
S39A Bolivar 88.90 40 IAmb IAmb 21 56 17.1
comp=Z,19nm,0.9s
S39A Bolivar 88.90 40 P **P 21 55 48.2 -0.6**
baz=320
S39A S **S 22 06 27.8 -4.2**
baz=320
TUL1 Leonard 88.95 43 IAMs_20 IAMs_20 22 36 34.7
comp=Z,2µm,22.0s
TUL1 Leonard 88.95 43 P **P 21 55 49.7 +0.7**
baz=319
TUL1 S **S 22 06 28.6 -3.9**
baz=319
TUL1 Leonard 88.95 43 P **P 21 55 49.3 +0.2**
baz=319
R40A Maddies Statio 88.97 39 IAmb IAmb 21 56 12.7
comp=Z,28nm,0.7s
R40A Maddies Statio 88.97 39 P **P 21 55 48.9 -0.2**
baz=321,SNR=12
R40A S **S 22 06 30.5 -2.1**
baz=321
TX31 Lajitas Ar. Si 89.14 52 P **P 21 55 51.1 +0.9**
baz=315,SNR=17
TX32 Lajitas Array 89.14 52 IAmb IAmb 21 56 11.8
comp=Z,18nm,0.7s
TXAR Lajitas Array 89.14 52 P **P 21 55 50.7 +0.5**
comp=Z,7.0nm,0.7s,baz=295,slow=3.4,SNR=88
TXAR PP **PP 21 59 22.2 +1.8**
comp=Z,0.4nm,0.4s,baz=328,slow=4.5,SNR=4.1
TXAR LR LR 22 33 55.5
comp=Z,2µm,19.3s,baz=314,slow=34
comp=Z,7.0nm,0.7s
TXAR Lajitas Array 89.14 52 P **P 21 55 50.4 +0.2**
TBI Tubuai 89.14 121 *e*P **P 21 55 51.3 +1.4**
comp=Z,3µm,26.0s
TBI Tubuai 89.14 121 *e*S **S 22 06 34.2 0.0**
comp=Z,10µm,26.8s
TBI Tubuai 89.14 121 *e*LR LR 22 24 17.6
comp=Z,162µm,22.5s
TBI *e*LR LR 22 24 17.7
comp=Z,46µm,29.8s
TBI Tubuai 89.14 121 *e*T T 23 34 25.0
comp=Z,499nm,0.3s
RLO Rose Lookout 89.17 43 IAmb IAmb 21 56 15.8
comp=Z,26nm,1.0s
RJF Les Rejaudoux 89.19 333 *e*P **P 21 55 49.8 -0.2**
RJF pmax pmax
comp=Z,28nm,0.9s
ABTX Abilene, Hawle 89.22 48 P **P 21 55 51.4 +1.0**
baz=317
ABTX S **S 22 06 34.2 -1.0**
baz=317
ABTX Abilene, Hawle 89.22 48 P **P 21 55 50.1 -0.3**
baz=317
U38A Gravette 89.30 42 IAmb IAmb 21 56 19.6
comp=Z,37nm,1.0s
U38A Gravette 89.30 42 P **P 21 55 50.5 -0.3**
baz=320,SNR=5.7
U38A S **S 22 06 33.9 -1.8**
baz=320
CAF Calviac 89.32 333 *e*P **P 21 55 50.9 +0.2**
CAF pmax pmax
comp=Z,27nm,0.7s
SADO Sadowa 89.36 28 P **P 21 55 51.1 +0.3**
comp=Z,16nm,1.0s,baz=301,slow=4.0,SNR=4.2
SADO LR LR 22 37 08.8
comp=Z,2µm,21.9s,baz=355,slow=36
comp=Z,16nm,1.0s
ATD Arta Tunnel 89.65 284 LR LR 22 39 24.7
comp=Z,795nm,21.6s,baz=48,slow=38
ATD Arta Tunnel 89.65 284 IAmb IAmb 21 56 02.0
comp=Z,55nm,1.0s
ATD Arta Tunnel 89.65 284 P **P 21 55 53.6 +0.8**
SNR=5.7
HHAR Hobbs 89.66 42 IAmb IAmb 21 56 17.7
comp=Z,18nm,0.8s
HHAR Hobbs 89.66 42 P **P 21 55 52.4 0.0**
baz=320
HHAR S **S 22 06 35.8 -3.2**
baz=320
CCM Cathedral Cave 89.66 39 P **P 21 55 51.2 -1.2**
CCM IAmb IAmb 21 56 21.5
comp=Z,47nm,0.9s
CCM Cathedral Cave 89.66 39 P **P 21 55 52.6 +0.2**
baz=321,SNR=18
CCM S **S 22 06 37.1 -1.9**
baz=321
CCM Cathedral Cave 89.66 39 P **P 21 55 52.5 +0.2**
baz=321
CCM Cathedral Cave 89.66 39 ⇓P **P 21 55 51.4 -1.0**
CCM Cathedral Cave 89.66 39 P **P 21 55 51.2 -1.2**
CCM pmax pmax
comp=Z,47nm,1.0s
CCM MLR MLR
comp=Z,2µm,22.0s
L48A N Adams 89.66 32 P **P 21 55 53.1 +0.8**
baz=326
L48A P **P 21 55 53.1 +0.8**
baz=326
AAM Ann Arbor 89.69 32 IAMs_20 IAMs_20 22 41 54.3
comp=Z,2µm,22.0s
AAM Ann Arbor 89.69 32 P **P 21 55 50.9 -1.5**
baz=326
SLM Saint Louis 89.70 38 IAmb IAmb 21 55 53.8
comp=Z,38nm,0.8s
SLM Saint Louis 89.70 38 P **P 21 55 53.1 +0.6**
baz=322
SFIN Lafayette 89.78 35 P **P 21 55 53.4 +0.6**
baz=324
SFIN S **S 22 06 37.8 -2.1**
baz=324
SFIN Lafayette 89.78 35 P **P 21 55 51.4 -1.4**
baz=324
LFF La Frestale 89.78 333 *e*P **P 21 55 52.8 0.0**
LFF pmax pmax
comp=Z,39nm,0.8s
MGMO Mountain Grove 89.85 40 IAmb IAmb 21 56 21.9
comp=Z,36nm,1.0s
N47A Urbana 89.99 34 IAmb IAmb 21 56 24.4
comp=Z,54nm,1.1s
Z35A Perchaven, San 90.07 46 P **P 21 55 54.6 +0.3**
baz=318,SNR=5.2
Q44A Meer Farm, Va 90.07 37 IAmb IAmb 21 56 11.2
comp=Z,56nm,1.2s
Q44A Meyer Farm, Va 90.07 37 P **P 21 55 55.0 +0.8**
baz=323
VAE Valguarnera 90.11 321 LR LR 22 39 44.4
comp=Z,2µm,20.9s,baz=40,slow=38
FVM French Village 90.12 39 P **P 21 55 55.1 +0.6**
baz=322
X37A Clayton 90.17 44 P **P 21 55 55.3 +0.5**
baz=319
X37A S **S 22 06 43.6 -0.3**
baz=319
P46A Rosedale 90.34 36 IAmb IAmb 21 56 43.0
comp=Z,41nm,0.9s
P46A Rosedale 90.34 36 P **P 21 55 55.8 +0.3**
baz=324
T42A Van Buren 90.54 40 IAmb IAmb 21 56 25.5
comp=Z,53nm,1.2s
T42A Van Buren 90.54 40 P **P 21 55 56.4 0.0**
baz=322
N49A Columbus Grove 90.61 33 IAmb IAmb 21 56 28.7
comp=Z,33nm,1.0s
OLIL Olney 90.64 37 P **P 21 55 57.6 +0.7**
baz=323
JCT Junction City 90.68 49 IAmb IAmb 21 56 19.6
comp=Z,27nm,0.8s
JCT IAMs_20 IAMs_20 22 31 24.8
comp=Z,3µm,21.0s
JCT Junction City 90.68 49 P **P 21 55 57.8 +0.5**
baz=317,SNR=6.0
JCT S **S 22 06 49.2 +0.5**
baz=317
JCT Junction City 90.68 49 P **P 21 55 58.1 +0.8**
baz=317,SNR=6.0
O48B Farmland 90.74 34 S **S 22 06 47.0 -1.8**
baz=325
O48B Farmland 90.74 34 P **P 21 55 54.7 -2.7**
baz=325
TEND Ethiopian Broa 90.88 286 *e*P **P 21 55 54.0 -4.4**
FCAR Ozark Folk Cen 90.90 41 IAmb IAmb 21 56 26.8
comp=Z,27nm,0.9s
S44A Carbondale 90.92 38 IAmb IAmb 21 56 29.3
comp=Z,47nm,1.1s
S44A Carbondale 90.92 38 P **P 21 55 58.4 +0.3**
baz=323
S44A S **S 22 06 49.5 -1.0**
baz=323
WHTX Lake Whitney, 90.94 47 P **P 21 55 59.1 +0.6**
baz=318,SNR=5.8
WHTX Lake Whitney, 90.94 47 P **P 21 55 59.6 +1.2**
baz=318,SNR=5.8
PBMO Poplar Bluff 91.06 39 S **S 22 06 52.1 +0.2**
baz=322
LONY Lake Ozonia 91.08 25 IAMs_20 IAMs_20 22 37 53.7
comp=Z,3µm,22.0s
LONY Lake Ozonia 91.08 25 P **P 21 55 57.3 -1.6**
baz=332
O49A Covington 91.15 33 S **S 22 06 55.3 +2.6**
baz=326
O49A S **S 22 06 55.3 +2.6**
baz=326
MIAR Mount Ida 91.17 43 IAmb IAmb 21 56 25.3
comp=Z,38nm,0.9s
MIAR IAMs_20 IAMs_20 22 39 31.3
comp=Z,3µm,21.0s
MIAR Mount Ida 91.17 43 P **P 21 55 59.8 +0.4**
baz=320,SNR=13
MIAR S **S 22 06 52.7 -0.3**
baz=320
MIAR Mount Ida 91.17 43 P **P 21 56 00.1 +0.6**
baz=320,SNR=13
MIAR Mount Ida 91.17 43 ⇑P **P 21 56 00.0 +0.6**
LCAR Lake Charles 91.25 40 IAmb IAmb 21 56 25.3
comp=Z,47nm,1.4s
LCAR Lake Charles 91.25 40 P **P 21 56 00.3 +0.5**
baz=322
LCAR S **S 22 06 53.3 -0.4**
baz=322
M52A Chesterland 91.27 31 S **S 22 06 51.3 -2.4**
baz=328
M52A S **S 22 06 51.3 -2.4**
baz=328
P48A Milroy 91.27 35 S **S 22 06 51.6 -2.1**
baz=325
P48A S **S 22 06 51.6 -2.1**
baz=325
ERPA Erie 91.31 30 IAMs_20 IAMs_20 22 41 33.1
comp=Z,2µm,21.0s
F62A Pittston Farm, 91.36 21 P **P 21 56 00.9 +0.8**
baz=336
F62A P **P 21 56 00.9 +0.8**
baz=336
P49A Miami Univ. Ec 91.52 34 IAmb IAmb 21 56 31.8
comp=Z,26nm,0.8s
P49A Miami Univ. Ec 91.52 34 P **P 21 56 01.3 +0.3**
baz=326
P49A S **S 22 06 58.9 +2.8**
baz=326
P49A Miami Univ. Ec 91.52 34 P **P 21 56 00.1 -0.9**
baz=326
EPF Esparros 91.58 333 *e*P **P 21 56 04.9 +3.6**
EPF pmax pmax
comp=Z,15nm,1.2s
M53A WI Miller and 91.62 30 IAMs_20 IAMs_20 22 36 05.3
comp=Z,2µm,22.0s
ACSO Alum Creek Sta 91.69 33 IAMs_20 IAMs_20 22 37 52.3
comp=Z,2µm,22.0s
ACSO Alum Creek Sta 91.69 33 P **P 21 56 02.4 +0.7**
baz=327
ACSO Alum Creek Sta 91.69 33 P **P 21 55 59.3 -2.5**
baz=327
435B Jarrell 91.76 48 IAMs_20 IAMs_20 22 32 11.3
comp=Z,2µm,20.0s
NCB Newcomb 91.78 25 IAmb IAmb 21 56 31.1
comp=Z,44nm,1.2s
NCB Newcomb 91.78 25 P **P 21 56 02.5 +0.4**
baz=333
WCI Wyandotte Cave 91.88 36 IAMs_20 IAMs_20 22 36 27.6
comp=Z,2µm,20.0s
WCI Wyandotte Cave 91.88 36 P **P 21 56 00.6 -2.1**
baz=324
VT1 Waterbury 91.93 24 IAMs_20 IAMs_20 22 41 53.3
comp=Z,2µm,20.0s
ETSF Etsaut 92.02 333 *e*P **P 21 56 03.3 0.0**
ETSF pmax pmax
comp=Z,11nm,0.8s
WLAR White Oak Lake 92.07 43 P **P 21 56 04.1 +0.5**
PKME Peaks-Kenny Pk 92.13 21 IAMs_20 IAMs_20 22 38 28.2
comp=Z,3µm,22.0s
H62A Milan 92.21 23 P **P 21 56 05.2 +1.1**
baz=335
H62A P **P 21 56 05.2 +1.1**
baz=335
DESE Dese 92.34 286 *e*P P 21 56 14.0 +8.4
DESE Dese 92.34 286 *e*P **P 21 56 05.1 -0.4**
O53A New Philadelph 92.41 31 IAMs_20 IAMs_20 22 36 38.3
comp=Z,2µm,22.0s
O53A New Philadelph 92.41 31 P **P 21 56 03.6 -1.5**
baz=328
833A Chaparral WMA, 92.48 51 P **P 21 56 03.7 -1.9**
baz=317
T47A Sharon Grove 92.51 37 IAmb IAmb 21 56 36.6
comp=Z,22nm,0.9s
T47A Sharon Grove 92.51 37 P **P 21 56 05.8 +0.3**
baz=324
P52A Corning 92.55 32 IAMs_20 IAMs_20 22 45 27.0
comp=Z,2µm,20.0s
HNH Hanover 92.64 24 IAMs_20 IAMs_20 22 42 13.8
comp=Z,3µm,20.0s
WVL Waterville 92.66 22 IAMs_20 IAMs_20 22 39 39.2
comp=Z,2µm,21.0s
BINY Binghamton 92.73 27 IAMs_20 IAMs_20 22 39 00.5
comp=Z,3µm,22.0s
BINY Binghamton 92.73 27 P **P 21 56 04.6 -2.0**
baz=332
MAHO Mahon 92.76 329 P **P 21 56 07.4 +0.7**
MAHO S **S 22 07 05.4 -1.7**
WVT Waverly 92.85 38 P **P 21 56 07.3 +0.2**
WVT Waverly 92.85 38 IAMs_20 IAMs_20 22 37 08.4
comp=Z,3µm,22.0s
WVT Waverly 92.85 38 P **P 21 56 07.4 +0.2**
baz=324
WVT Waverly 92.85 38 P **P 21 56 05.7 -1.5**
baz=324
WVT Waverly 92.85 38 P **P 21 56 07.3 +0.2**
WVT pmax pmax
comp=Z,13nm,1.0s
WVT MLR MLR
comp=Z,3µm,22.0s
TRY Troy 93.06 25 IAMs_20 IAMs_20 22 38 42.0
comp=Z,3µm,22.0s
EMMW East Machias 93.15 20 IAMs_20 IAMs_20 22 37 57.1
comp=Z,3µm,22.0s
ANKE Ethiopia-Afar 93.24 285 *e*P **P 21 56 06.0 -3.8**
ANKE Ethiopia-Afar 93.24 285 *e*P **P 21 56 09.3 -0.4**
ANKE Ethiopia-Afar 93.24 285 *e*P **P 21 56 11.4 +1.6**
OXF Oxford 93.36 40 IAMs_20 IAMs_20 22 36 30.5
comp=Z,2µm,21.0s
OXF Oxford 93.36 40 P **P 21 56 09.3 -0.3**
baz=322
HKT Hockley 93.39 47 IAMs_20 IAMs_20 22 32 18.1
comp=Z,3µm,22.0s
HKT Hockley 93.39 47⇓ *e*P **P 21 56 10.8 +1.1**
HKT pmax pmax
comp=Z,4.0nm,1.0s
MCWV Mont Chateau 93.47 31 IAMs_20 IAMs_20 22 44 36.2
comp=Z,2µm,22.0s
U49A Red Boiling Sp 93.52 36 IAmb IAmb 21 56 56.9
comp=Z,23nm,1.1s
U49A Red Boiling Sp 93.52 36 P **P 21 56 09.5 -0.8**
baz=325
CLTN Cedars of Leba 93.60 37 IAmb IAmb 21 56 40.9
comp=Z,28nm,1.4s
L61B Northampton 93.64 25 IAMs_20 IAMs_20 22 40 07.4
comp=Z,3µm,21.0s
PLAL Pickwick Lake 93.65 39 IAMs_20 IAMs_20 22 37 43.6
comp=Z,2µm,20.0s
QUA2 Belchertown 93.90 25 IAMs_20 IAMs_20 22 40 13.2
comp=Z,2µm,22.0s
HRV Adam Dziewonsk 93.95 24 IAMs_20 IAMs_20 22 42 40.6
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 93.95 24 P **P 21 56 12.6 +0.5**
baz=335
KEST Kesra 93.97 323 P **P 21 56 11.5 -0.9**
comp=Z,5.0nm,0.9s,baz=24,slow=8.9,SNR=3.9
KEST LR LR 22 43 49.2
comp=Z,5µm,19.4s,baz=332,slow=39
comp=Z,5.0nm,0.9s
WES Weston 94.14 24 IAMs_20 IAMs_20 22 42 55.4
comp=Z,2µm,20.0s
BCX Boston College 94.23 24 IAMs_20 IAMs_20 22 38 43.9
comp=Z,3µm,21.0s
AAE Adis Abeba 94.33 285 *e*P **P 21 56 15.7 +1.0**
ZAIG Zacatecas 94.44 56 IAmb IAmb 21 56 41.2
comp=Z,49nm,1.5s
FURI Furi 94.48 285 *e*P **P 21 56 12.0 -3.4**
FURI Furi 94.48 285 *e*P P 21 56 27.3 +12
SWET Sewanee 94.50 37 IAmb IAmb 21 56 45.0
comp=Z,20nm,1.0s
PAL Palisades 94.52 26 IAMs_20 IAMs_20 22 44 49.6
comp=Z,2µm,20.0s
WSPT Westport, CT 94.57 26 IAMs_20 IAMs_20 22 39 13.0
comp=Z,2µm,22.0s
YLE Yale 94.57 25 IAMs_20 IAMs_20 22 39 25.1
comp=Z,3µm,22.0s
VBMS Vicksburg 94.59 42 IAMs_20 IAMs_20 22 41 51.7
comp=Z,2µm,20.0s
W50A Signal Mountai 94.80 37 IAmb IAmb 21 56 37.7
comp=Z,20nm,0.8s
PBRG Braganca 95.05 337 *e*P **P 21 56 19.9 +2.7**
TKL Tuckaleechee C 95.14 36 P **P 21 56 17.2 -0.5**
comp=Z,10nm,0.9s,baz=326,slow=8.6,SNR=4.6
TKL LR LR 22 42 19.0
comp=Z,2µm,20.1s,baz=330,slow=37
comp=Z,10nm,0.9s
UCM Universidad Co 95.25 334 P **P 21 56 18.8 +0.6**
UCM S S 22 07 16.6 -12
BLA Blacksburg 95.31 32 IAMs_20 IAMs_20 22 38 31.2
comp=Z,2µm,21.0s
PGAV Gavieira, Arco 95.37 338 *e*PP **PP 22 00 13.2 +4.5**
PGAV *e*SKS **S 22 07 24.6 -5.4**
PGAV Gavieira, Arco 95.37 338 *e*LQ LQ 22 25 03.4
PGAV *e*LR LR 22 28 18.0
comp=Z,2µm,22.0s
CBN Corbin Frederi 95.70 30 IAMs_20 IAMs_20 22 41 16.2
comp=Z,3µm,21.0s
MVO Moncorvo 95.72 337 *e*P P 21 56 28.9 +8.5
comp=Z,38nm,1.6s
MVO Moncorvo 95.72 337 *e*PP **PP 22 00 16.3 +4.8**
MVO *e*SKS **S 22 07 27.6 -5.5**
MVO Moncorvo 95.72 337 *e*LR LR 22 28 30.6
comp=Z,5µm,22.0s
LRAL Lakeview Retre 95.74 39 IAMs_20 IAMs_20 22 42 09.9
comp=Z,2µm,21.0s
POLO Lamas de Olo 95.77 337 *e*P **P 21 56 21.5 +0.9**
comp=Z,17nm,1.6s
PVRL Vila Real 95.83 337 *e*P P 21 56 27.1 +6.3
comp=Z,25nm,1.2s
ESDC Sonseca Array 96.06 334 P **P 21 56 20.9 -1.0**
comp=Z,2.4nm,0.8s,baz=15,slow=4.0,SNR=18
ESDC LR LR 22 44 27.4
comp=Z,6µm,21.1s,baz=16,slow=38
comp=Z,2.4nm,0.8s
BG3 Lake Jocassee 96.08 35 IAmb IAmb 21 56 48.7
comp=Z,27nm,1.3s
DILA Dilla 96.34 283 *e*P P 21 56 31.9 +8.2
DILA Dilla 96.34 283 *e*P **P 21 56 24.7 +0.9**
MTE Manteigas 96.58 337 *e*P **P 21 56 28.4 +4.1**
comp=Z,24nm,1.5s
MTE Manteigas 96.58 337 *e*PP **PP 22 00 18.0 -0.1**
MTE *e*SKS S 22 07 31.5 -9.0
MTE Manteigas 96.58 337 *e*LQ LQ 22 25 00.2
MTE *e*LR LR 22 29 42.4
comp=Z,4µm,22.0s
CART Cartagena 96.84 331 IAMs_20 IAMs_20 22 44 10.1
comp=Z,2µm,22.0s
GOGA Godfrey 97.14 37 IAMs_20 IAMs_20 22 43 42.9
comp=Z,2µm,22.0s
BRAL Brewton 97.21 40 IAMs_20 IAMs_20 22 38 56.1
comp=Z,2µm,22.0s
PMRV Marv??o 97.42 336 *e*P Pdif 21 56 33.2 +5.1
comp=Z,30nm,1.8s
PMRV Marv??o 97.42 336 *e*PP PP 22 00 34.9 +10
PMRV *e*SKS S 22 07 35.2 -12
PMRV Marv??o 97.42 336 *e*LQ LQ 22 25 46.1
PMRV *e*LR LR 22 29 52.6
comp=Z,4µm,24.0s
CNNC Cliffs of the 98.06 32 IAMs_20 IAMs_20 22 39 56.7
comp=Z,2µm,21.0s
EVO Evora 98.43 336 P Pdif 21 56 33.4 +0.9
EVO S S 22 07 34.8 -21
PBAR Barrancos 98.45 335 *e*P Pdif 21 56 41.0 +8.4
comp=Z,15nm,1.4s
LIS Lisbon 98.61 337 *e*PP **PP 22 00 34.0 +0.4**
LIS IAMs_20 IAMs_20 22 36 06.4
comp=E,7µm,23.4s
TIGA Tifton 98.71 38 P **P 21 56 29.1 -4.8**
baz=326
MESJ Messejana 99.13 336 *e*PP **PP 22 00 37.9 +0.3**
MESJ IAMs_20 IAMs_20 22 42 11.6
comp=Z,6µm,14.5s
ARNO Arenosillo 99.32 335 P **Pdif 21 56 34.5 -2.0**
ARNO S S 22 07 35.2 -29
PVAQ Vaqueiros 99.37 336 *e*PP **PP 22 00 44.9 +5.5**
PVAQ *e*SKS S 22 07 36.1 -28
PVAQ Vaqueiros 99.37 336 *e*LQ LQ 22 26 38.5
PVAQ *e*LR LR 22 30 02.6
comp=Z,7µm,22.0s
CHAS Isla Isabel II 99.50 331 P **Pdif 21 56 33.8 -3.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHAS				S	S	22 07 41.0	-24
WMELI	**Melilla**	**99.58**	**331**	P	**Pdif**	**21 56 36.7**	**-1.0**
WMELI				S	S	22 07 37.6	-28
MORF	**Marmelete**	**99.76**	**336**	*e*PP	PKiKP	22 00 42.6	-24
MORF				IAMs_20	IAMs_20	22 42 43.1	
	comp=Z,8μm,27.1s						
CEU	**Ceuta**	**99.94**	**333**	P	**Pdif**	**21 56 37.3**	**-2.0**
CEU				S	S	22 07 38.8	-30
PVLZ	**Peæn de**	**100.20**	**332**	P	**Pdif**	**21 56 38.8**	**-1.6**
PVLZ				S		22 07 36.4	
LODK	**Lodwar**	**100.50**	**283**	*e*P	**Pdif**	**21 56 45.9**	**+3.6**
KMBO	**Kilima Mbogo**	**101.91**	**278**	P	**Pdif**	**21 56 48.4**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=46,slow=13,SNR=2.3						
KMBO				PP	**PP**	**22 00 59.0**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=53,slow=5.9,SNR=3.3						
KMBO	**Kilima Mbogo**	**101.91**	**278**	*e*P	**Pdif**	**21 56 49.9**	**+1.1**
KMBO	**Kilima Mbogo**	**101.91**	**278**	*i* P	**Pdif**	**21 56 54.2**	**+5.4**
	SNR=7.6						
DWPF	**Disney Wildern**	**102.51**	**38**	IAMs_20	IAMs_20	22 45 21.1	
	comp=Z,3μm,21.0s						
AVE	**Averroes**	**103.00**	**334**	P	**Pdif**	**21 56 52.4**	**-0.6**
AVE				S		22 07 57.6	
AVE	**Averroes**	**103.00**	**334**	IAMs_20	IAMs_20	22 47 35.2	
	comp=Z,3μm,22.0s						
TEIG	**Tepich**	**105.20**	**48**	IAMs_20	IAMs_20	22 49 54.5	
	comp=Z,2μm,21.0s						
PMOZ	**Porto Moniz, M**	**106.38**	**341**	*e*LR	LR	22 33 22.1	
	comp=Z,2μm,22.0s						
TAM	**Tamanrasset**	**106.44**	**318**	IAMs_20	IAMs_20	22 53 22.3	
	comp=Z,2μm,19.0s						
TGUH	**Tegucigalpa,Un**	**110.59**	**51**	IAMs_20	IAMs_20	22 43 46.3	
	comp=Z,2μm,21.0s						
GTBY	**Guantanamo Bay**	**112.47**	**37**	IAMs_20	IAMs_20	22 50 56.0	
	comp=Z,2μm,22.0s						
MTDJ	**Mount Denham**	**112.72**	**41**	IAMs_20	IAMs_20	22 48 59.8	
	comp=Z,2μm,22.0s						
SDDR	**Presa de Saban**	**115.06**	**35**	IAMs_20	IAMs_20	22 53 37.2	
	comp=Z,2μm,21.0s						
VNDA	**Vanda**	**116.39**	**175**	PKP	**PKPdf**	**22 01 35.8**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=345,slow=2.8,SNR=6.1						
VNDA				PKKPab	**PKKPbc**	**22 12 10.7**	**+3.9**
	comp=Z,1.1nm,0.9s,baz=216,slow=2.2,SNR=4.9						
VNDA	**Vanda**	**116.39**	**175**		**PKPdf**	**22 01 35.2**	**-1.1**
SJG	**San Juan**	**117.99**	**30**	IAMs_20	IAMs_20	22 54 17.6	
	comp=Z,1μm,22.0s						
SEUS	**St. Eustatius**	**119.75**	**27**	IAMs_20	IAMs_20	22 52 27.9	
	comp=Z,2μm,21.0s						
ANWB	**Willy Bob**	**120.01**	**26**	IAMs_20	IAMs_20	22 52 54.6	
	comp=Z,1μm,22.0s						
MAW	**Mawson**	**120.89**	**206**	PKP	**PKiKP**	**22 01 46.0**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=59,slow=4.8,SNR=5.3						
MAW	**Mawson**	**120.89**	**206**	PKIKP	**PKiKP**	**22 01 46.0**	**+0.6**
ABD	**La Joyeuse, An**	**121.22**	**26**	IAMs_20	IAMs_20	23 00 27.7	
	comp=Z,1μm,20.0s						
GDSD	**La Dsirade Is**	**121.51**	**26**	IAMs_20	IAMs_20	22 56 42.5	
	comp=Z,1μm,22.0s						
MAGL	**Barre de l'ile**	**121.78**	**26**	IAMs_20	IAMs_20	22 55 48.5	
	comp=Z,2μm,21.0s						
HATO	**Hato, Curacao**	**122.08**	**36**	IAMs_20	IAMs_20	22 55 46.4	
	comp=Z,1μm,21.0s						
SVN	**Savane Anatole**	**122.84**	**26**	IAMs_20	IAMs_20	22 54 58.8	
	comp=Z,1μm,22.0s						
FDF	**Fort de France**	**122.95**	**26**	IAMs_20	IAMs_20	22 54 48.6	
	comp=Z,2μm,22.0s						
ILAM	**Ilet Lapin Mar**	**123.01**	**26**	IAMs_20	IAMs_20	22 54 40.1	
	comp=Z,1μm,21.0s						
BIM	**Bigot**	**123.18**	**26**	IAMs_20	IAMs_20	22 54 53.7	
	comp=Z,2μm,22.0s						
MPOM	**Morne Pois Mar**	**123.32**	**26**	IAMs_20	IAMs_20	22 54 58.3	
	comp=Z,2μm,22.0s						
SDV	**Santo Domingo**	**124.14**	**40**	PKPdf	**PKiKP**	**22 01 53.8**	**0.0**
SDV	**Santo Domingo**	**124.14**	**40**	IAMs_20	IAMs_20	22 58 55.2	
	comp=Z,1μm,21.0s						
SDV	**Santo Domingo**	**124.14**	**40**	*e*P	**PKPdf**	**22 01 53.6**	**+0.1**
GRGR	**Grenville**	**125.17**	**28**	IAMs_20	IAMs_20	22 53 48.6	
	comp=Z,1μm,22.0s						
DBIC	**Dimbokro**	**125.33**	**318**	PKP	**PKPdf**	**22 01 55.4**	**-0.2**
	comp=Z,4.9nm,0.7s,baz=50,slow=1.0,SNR=5.2						
BAUV	**El Baul**	**125.34**	**37**	PKPdf	**PKPdf**	**22 01 53.9**	**-1.6**
ROSC	**El Rosal**	**125.57**	**46**	PKP	**PKiKP**	**22 01 57.3**	**+0.4**
	comp=Z,6.9nm,0.5s,baz=118,slow=20,SNR=1.4						
PCRV	**Puerto La Cruz**	**125.77**	**32**	PKP	**PKiKP**	**22 01 57.6**	**+0.8**
	comp=Z,7.1nm,0.6s,baz=356,slow=14,SNR=1.9						
IMBA	**Imbabura, San**	**126.89**	**53**	PKPdf	**PKPdf**	**22 01 56.4**	**-2.6**
BOSA	**Boshof**	**126.96**	**260**	PKP	**PKPdf**	**22 01 58.2**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=72,slow=4.4,SNR=6.1						
QSPA	**South Pole Qui**	**128.21**	**180**	PKPdf	**PKPdf**	**22 01 58.7**	**-0.7**
QSPA	**South Pole Qui**	**128.21**	**180**	IAMs_20	IAMs_20	22 54 29.5	
	comp=Z,2μm,22.0s						
ATAH	**Atahualpa**	**132.32**	**60**	PKP	**PKiKP**	**22 02 10.8**	**+0.4**
	comp=Z,4.5nm,0.6s,baz=329,slow=7.1,SNR=6.0						
SGCB	**S£o Gabriel d**	**133.66**	**41**	*e*P	**PKiKP**	**22 02 12.2**	**-0.5**
TROLL	**Troll, Antarti**	**140.63**	**199**	PKPdf	**PKPdf**	**22 02 16.3**	**-6.3**
MALB	**Monte Alegre**	**140.77**	**26**	*e*P	**PKiKP**	**22 02 25.8**	**-1.2**
SNAA	**Sanae**	**142.16**	**197**	PKPdf	**PKPdf**	**22 02 19.6**	**-5.7**
SNAA	**Sanae**	**142.16**	**197**	PKPpre	PKPpre	22 02 18.2	
SNAA				IAMs_20	IAMs_20	23 08 16.0	
	comp=Z,1μm,20.0s						
SNAA	**Sanae**	**142.16**	**197**	PKHKP	PKPpre	22 02 18.2	
SNAA				MLR	MLR		
	comp=Z,1μm,20.0s						
TMAB	**Tom-Au,PA,Br**	**143.00**	**16**	*e*P	**PKPdf**	**22 02 30.0**	**+1.6**
VNA2	**Neumayer--Watz**	**143.73**	**197**	PKPdf	PKPab	22 02 25.2	+0.3
	baz=114,slow=2.9						
VNA3	**Neumayer Olymp**	**143.98**	**195**	PKPdf	PKPab	22 02 25.6	-0.3
VNA1	**Neumayer--Stat**	**144.13**	**197**	PKPdf	**PKPab**	**22 02 26.4**	**0.0**
ROSB	**Rosrio**	**144.21**	**10**	*e*P	PKPbc	22 02 29.2	+0.5
NPGB	**Novo Progresso**	**145.16**	**30**	*e*P	**PKPbc**	**22 02 31.9**	**+0.1**
LPAZ	**La Paz**	**145.83**	**58**	PKPbc	**PKPbc**	**22 02 34.6**	**0.0**
	comp=Z,34nm,0.9s,baz=344,slow=4.0,SNR=84						
LPAZ	**La Paz**	**145.83**	**58**	*e*P	**PKPbc**	**22 02 34.5**	**-0.1**
PRPB	**Parauapebas**	**146.23**	**21**	*e*P	**PKPbc**	**22 02 35.1**	**-0.1**
H03N2	**Juan Fernandez**	**147.01**	**94**	T	T	00 47 09.9	
	baz=292,slow=76						
H03N3	**Juan Fernandez**	**147.02**	**94**	T	T	00 47 09.4	
	baz=292,slow=76						
H03N1	**Juan Fernandez**	**147.03**	**94**	T	T	00 47 12.6	
	baz=292,slow=76						
H03S2	**Juan Fernandez**	**147.15**	**95**	T	T	00 47 24.5	
	baz=287,slow=73						
H03S3	**Juan Fernandez**	**147.16**	**95**	T	T	00 47 24.0	
	baz=287,slow=73						
H03S1	**Juan Fernandez**	**147.17**	**95**	T	T	00 47 22.0	
	baz=287,slow=73						
RCBR	**Riachuelo**	**147.43**	**355**	PKPbc	**PKPbc**	**22 02 38.6**	**0.0**
	comp=Z,39nm,1.0s,baz=128,slow=4.2,SNR=8.3						
RCBR	**Riachuelo**	**147.43**	**355**	IAMs_20	IAMs_20	23 10 31.2	
	comp=Z,853nm,21.0s						
RCBR	**Riachuelo**	**147.43**	**355**	*e*P	**PKPdf**	**22 02 36.9**	**+0.8**
VILB	**Vilhena**	**148.06**	**43**	*e*P	**PKPdf**	**22 02 38.5**	**+1.5**
CLDB	**Colider**	**148.43**	**34**	*e*P	**PKPdf**	**22 02 38.5**	**+0.9**
PB04	**IPOC Station P**	**148.45**	**69**		**PKPdf**	**22 02 38.9**	**+1.2**
PDRB	**Porto dos Gac**	**148.66**	**36**	*e*P	**PKPdf**	**22 02 39.1**	**+1.1**
SMTB	**Santa Maria do**	**149.39**	**18**	*e*P	**PKPdf**	**22 02 40.0**	**+0.8**
LVC	**Limon Verde**	**149.52**	**68**	PKPbc	**PKPbc**	**22 02 44.3**	**+0.1**
	comp=Z,10nm,0.7s,baz=297,slow=3.0,SNR=9.0						
LVC	**Limon Verde**	**149.52**	**68**	*e*P	**PKPdf**	**22 02 41.4**	**+1.7**
PMSA	**Palmer Station**	**149.66**	**158**		**PKPbc**	**22 02 42.6**	**-0.1**
PMSA	**Palmer Station**	**149.66**	**158**	*e*P	**PKPdf**	**22 02 39.3**	**+1.3**
SIV	**San Ignacio**	**150.03**	**48**	PKP	**PKPdf**	**22 02 41.0**	**+0.8**
	comp=Z,27nm,1.0s,baz=353,slow=2.9,SNR=18						
SIV				PKPbc	**PKiKP**	**22 02 45.8**	**-0.2**
	comp=Z,26nm,0.9s,baz=302,slow=2.3,SNR=37						
PTLB	**Pontes e Lacer**	**150.69**	**44**	*e*P	**PKPdf**	**22 02 42.1**	**+1.0**
SNDB	**Serra Nova Dou**	**151.22**	**27**	*e*P	**PKPdf**	**22 02 42.9**	**+0.8**
BBSD	**Serra de San D**	**151.25**	**49**	*e*P	**PKPdf**	**22 02 42.7**	**+0.7**
LCO	**Las Campanas**	**151.66**	**80**		**PKiKP**	**22 02 49.4**	**0.0**
LCO	**Las Campanas**	**151.66**	**80**	PKIKP	**PKiKP**	**22 02 49.4**	**0.0**
LCO				MLR	MLR		
	comp=Z,3μm,21.0s						
SALV	**Santo Antonio**	**152.86**	**39**	*e*P	**PKPdf**	**22 02 46.4**	**+2.0**
SDBA	**SAO DESIDERIO**	**153.41**	**14**	*e*P	**PKPdf**	**22 02 48.5**	**+3.2**
COYC	**Coyhaique**	**154.14**	**117**		**PKPdf**	**22 02 45.6**	**+0.2**
ARAG	**Araguaiana, MT**	**154.44**	**31**	*e*P	**PKPdf**	**22 02 47.9**	**+1.2**
PLCA	**Paso Flores**	**155.21**	**105**	PKP	**PKPdf**	**22 02 49.7**	**+2.6**
	comp=Z,3.4nm,1.2s,baz=252,slow=3.2,SNR=1.3						
PLCA	**Paso Flores**	**155.21**	**105**	*e*P	**PKPdf**	**22 02 47.0**	**-0.1**
BDFB	**Brasilia**	**155.74**	**23**	PKPab	**PKPab**	**22 03 15.2**	**+0.1**
	comp=Z,13nm,0.7s,baz=315,slow=1.0,SNR=13						
JANB	**Januaria**	**156.11**	**14**	*e*P	**PKPdf**	**22 02 50.7**	**+1.7**
MURT	**Porto Murtinho**	**156.48**	**50**	*e*P	**PKPdf**	**22 02 49.9**	**+0.6**
CPUP	**Villa Florida**	**160.00**	**58**	PKPab	**PKPab**	**22 03 33.1**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=315,slow=1.4,SNR=3.7						

ROM 11 21:51:25.7±0.1**,42°.803N**±0°.003×**13°.128E**±0°.004**, h11**km**,ML1.8**/2**,4C-4D,Error ellipse: s-maj=0.3km s-min=0.3km az=319.0,Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**342**	⇓P	Pg	21 51 28.1	+0.2
NRCA	**Norcia**	**0.03**	**342**	⇓P	Pg	21 51 28.1	+0.2
NRCA				S	Sg	21 51 29.2	-0.1
NRCA				AML	AML		
	comp=E,8155μm,0.2s						
NRCA				AML	AML		
	comp=N,4570μm,1.6s						
NRCA				AML	AML		
	comp=E,8695μm,0.1s						
NRCA				AML	AML		
	comp=N,5065μm,1.6s						
NRCA				AML	AML		
	comp=E,8155μm,0.1s						
NRCA				AML	AML		
	comp=N,4570μm,1.6s						
NRCA				AML	AML		
	comp=E,8695μm,0.1s						
NRCA				AML	AML		
	comp=N,5065μm,1.6s						
NRCA				AML	AML		
	comp=N,4570μm,1.6s						
NRCA				AML	AML		
	comp=N,5065μm,1.6s						
NRCA				AML	AML		
	comp=E,8155μm,0.2s						
NRCA				AML	AML		
	comp=E,8695μm,0.1s						
T1245	**Castelsantange**	**0.07**	**40**	P	Pg	21 51 28.6	+0.4
T1245				S	Sg	21 51 30.1	+0.1
T1245				AML	AML		
	comp=E,1280μm,0.5s						
T1245				AML	AML		
	comp=N,1108μm,0.4s						
T1245				AML	AML		
	comp=N,1205μm,0.3s						
T1245				AML	AML		
	comp=E,1280μm,0.5s						
T1245				AML	AML		
	comp=N,1105μm,0.3s						
T1245				AML	AML		
	comp=E,1165μm,0.5s						
T1245	**Castelsantange**	**0.07**	**40**	⇓P	Pg	21 51 28.6	+0.4
T1245				S	Sg	21 51 30.2	+0.2
T1245				AML	AML		
	comp=E,1280μm,0.5s						
T1245				AML	AML		
	comp=N,1108μm,0.4s						
T1245				AML	AML		
	comp=E,1165μm,0.5s						
T1245				AML	AML		
	comp=N,1205μm,0.3s						
T1245				AML	AML		
	comp=E,1920μm,1.2s						
T1245				AML	AML		
	comp=N,3440μm,0.7s						
T1245				AML	AML		
	comp=E,1665μm,0.8s						
T1245				AML	AML		
	comp=N,3430μm,0.7s						
T1245				AML	AML		
	comp=E,1920μm,1.2s						
T1245				AML	AML		
	comp=E,1665μm,0.8s						
T1245				AML	AML		
	comp=N,3430μm,0.7s						
T1245				AML	AML		
	comp=N,3440μm,0.7s						
T1216	**Preci, Frazion**	**0.12**	**318**	P	Pg	21 51 29.2	+0.5
T1216				S	Sg	21 51 31.4	+0.6
T1216				AML	AML		
	comp=E,615μm,0.4s						
T1216				AML	AML		
	comp=N,750μm,0.8s						
T1216	**Preci, Frazion**	**0.12**	**318**	P	Pg	21 51 29.2	+0.5
T1216				S	Sg	21 51 31.5	+0.6
T1218	**Civita (PG)**	**0.13**	**184**	P	Pg	21 51 29.6	+0.6
T1218				S	Sg	21 51 32.0	+0.7
T1218				AML	AML		
	comp=E,354μm,0.1s						
T1218				AML	AML		
	comp=N,494μm,0.2s						
T1218	**Civita (PG)**	**0.13**	**184**	P	Pg	21 51 29.5	+0.5
T1218				S	Sg	21 51 32.0	+0.8
MMO1	**Montemonaco**	**0.17**	**57**	P	Pg	21 51 30.2	+0.6
MMO1				S	Sg	21 51 33.3	+1.0
MMO1	**Montemonaco**	**0.17**	**57**	P	Pg	21 51 30.2	+0.6
MMO1				S	Sg	21 51 33.4	+1.1
T1215	**Vallo di Nera,**	**0.19**	**270**	P	Pg	21 51 30.4	+0.6
T1215				S	Sg	21 51 33.9	+1.2
T1215	**Vallo di Nera,**	**0.19**	**270**	P	Pg	21 51 30.4	+0.5
T1215				S	Sg	21 51 33.6	+1.0
T1256	**Bolognola (MC)**	**0.21**	**20**	S	Sg	21 51 35.0	+1.5
T1256	**Bolognola (MC)**	**0.21**	**20**	S	Sg	21 51 35.0	+1.5
T1241	**Roccafluvione,**	**0.23**	**77**	P	Pg	21 51 31.1	+0.6
T1241				S	Sg	21 51 35.2	+1.4
T1241	**Roccafluvione,**	**0.23**	**77**	P	Pg	21 51 31.1	+0.6
T1241				S	Sg	21 51 35.2	+1.4
T1241				AML	AML		
	comp=E,296μm,0.1s						
T1241				AML	AML		
	comp=N,222μm,0.7s						
T1241				AML	AML		
	comp=E,296μm,0.1s						
T1241				AML	AML		
	comp=N,222μm,0.7s						
T1241				AML	AML		
	comp=E,296μm,0.1s						
T1241				AML	AML		
	comp=N,222μm,0.7s						
SMA1	**SAN MARTINO**	**0.23**	**138**	P	Pg	21 51 31.3	+0.7
SMA1				S	Sg	21 51 35.0	+1.2
SMA1	**SAN MARTINO**	**0.23**	**138**	P	Pg	21 51 31.1	+0.6
SMA1				S	Sg	21 51 35.0	+1.2
FDMO	**Fiordimonte**	**0.23**	**353**	P	Pb	21 51 35.1	+3.1
FDMO				S	Sg	21 51 39.7	+5.8
T1243	**Rocca Santa Ma**	**0.26**	**114**	P	Pg	21 51 31.6	+0.5
T1243				S	Sg	21 51 35.8	+1.1
T1243	**Rocca Santa Ma**	**0.26**	**114**	⇓P	Pg	21 51 31.6	+0.5
T1243				S	Sb	21 51 35.9	-1.1
CESI	**CESI - Serrava**	**0.26**	**321**	⇑P	Pg	21 51 31.5	+0.4
CESI				S	Sb	21 51 36.1	-1.0
CESI				AML	AML		
	comp=E,158μm,0.3s						
CESI				AML	AML		
	comp=N,258μm,0.5s						
CESI				AML	AML		
	comp=E,158μm,0.3s						
CESI				AML	AML		
	comp=N,258μm,0.5s						
CESI				AML	AML		
	comp=E,158μm,0.3s						
CESI				AML	AML		
	comp=N,258μm,0.5s						
CESI	**CESI - Serrava**	**0.26**	**321**	⇑P	Pg	21 51 31.5	+0.4
T1219	**Muccia, Frazio**	**0.27**	**341**	⇑P	Pg	21 51 31.8	+0.6
T1219				S	Sg	21 51 36.1	+1.2
T1219	**Muccia, Frazio**	**0.27**	**341**	⇑P	Pg	21 51 31.8	+0.6
CSP1	**Cessapalombo**	**0.29**	**11**	P	Pg	21 51 31.8	+0.1
CSP1				S	Sb	21 51 37.2	-0.9
T1247	**Pizzolo (AQ)**	**0.38**	**161**	S	Sb	21 51 41.0	+0.4
T1247	**Pizzolo (AQ)**	**0.38**	**161**	S	Sb	21 51 41.0	+0.4
TERO	**Teramo**	**0.40**	**117**	P	Pg	21 51 33.6	+0.1
TERO				S	Sb	21 51 40.2	-0.7
TERO	**Teramo**	**0.40**	**117**	P	Pg	21 51 33.8	+0.3
TERO				S	Sb	21 51 40.0	-0.9
EL6	**Elcito**	**0.53**	**358**	P	Pb	21 51 36.9	-0.2
EL6				S	Sb	21 51 44.8	+0.1
MMUR	**Monte Murano**	**0.65**	**352**	P	Pb	21 51 39.4	+0.3
MMUR	**Monte Murano**	**0.65**	**352**	P	Pb	21 51 39.4	+0.3

*DRS **11** 21:55:20.5±0.0,39°.28N×50°.20E,h25km*
*MOS **11** 21:55:21.4±0.0,39°.60N×49°.56E,h20km±6km,MPVA3.6*
*AZER **11** 21:55:22.1±0.0,39°.25N×49°.12E,h53km±1km,Error ellipse: s-maj=0.9km s-min=0.7km az=279.0*
ISC 11 21:55:22.9±1.8**,39°.22N**±0°.04×**49°.19E**±0°.07**,h67**km±13km**, n43,**σ**0s.90**/86**,Caspian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.60**	**212**	P	**Pn**	**21 55 36.1**	**-0.4**
	SNR=35						
LKRN				S	**Sn**	**21 55 46.8**	**+0.2**
GLBA	**Clilabad**	**0.62**	**272**	P	**Pn**	**21 55 35.6**	**-1.1**
	SNR=430						
GLBA				S	**Sn**	**21 55 46.3**	**-0.6**
ASTR	**Astara**	**0.73**	**206**	P	**Pn**	**21 55 37.7**	**-0.2**
	SNR=262						
ASTR				S	**Sn**	**21 55 49.4**	**+0.4**
ALIB	**Äli-Bayra**	**0.75**	**349**	P	**Pn**	**21 55 38.0**	**-0.1**
	SNR=54						
ALIB				S	**Sn**	**21 55 51.6**	**+2.2**
YRD	**Yardimli**	**0.80**	**248**	P	**Pn**	**21 55 38.6**	**-0.4**
	SNR=2290						
YRD				S	**Sn**	**21 55 50.2**	**-0.7**
SAAT	**Saatly**	**0.87**	**317**	P	**Pn**	**21 55 40.1**	**+0.5**
SAAT				S	**Sn**	**21 55 53.8**	**+1.7**
LRK	**Lerik**	**0.88**	**229**	P	**Pn**	**21 55 40.0**	**+0.1**
	SNR=192						
LRK				S	**Sn**	**21 55 52.6**	**0.0**
GBS	**Qobustan**	**1.32**	**352**	P	**Pn**	**21 55 46.0**	**+0.4**
GBS				S	**Sn**	**21 56 02.3**	**-0.2**
BLQ	**Beylaqan**	**1.36**	**292**	P	**Pn**	**21 55 45.4**	**-0.5**
	SNR=30						
BLQ				S	**Sn**	**21 56 02.3**	**-0.9**
KDMR	**Kurdemir**	**1.39**	**326**	Pn	**Pn**	**21 55 46.0**	**-0.3**
	SNR=22						
KDMR				Sn	**Sn**	**21 56 04.0**	**+0.1**
QRD	**Qoradiz**	**1.47**	**280**	Pn	**Pn**	**21 55 47.4**	**0.0**
	SNR=20						
QRD				Sn	**Sn**	**21 56 05.6**	**-0.2**
ZRD	**Zardab**	**1.57**	**313**	Pn	**Pn**	**21 55 48.6**	**0.0**
	SNR=28						
ZRD				Sn	**Sn**	**21 56 09.0**	**+0.9**
PQL	**Pirkuli**	**1.63**	**344**	Pn	**Pn**	**21 55 49.4**	**-0.2**
	SNR=8.5						
PQL				Sn	**Sn**	**21 56 11.3**	**+1.4**
ATGJ	**Altiaghaj**	**1.65**	**353**	Pn	**Pn**	**21 55 47.9**	**-1.9**
ATGJ				Sn	**Sn**	**21 56 09.9**	**-0.3**
IML	**Ismayilli**	**1.75**	**334**	Pn	**Pn**	**21 55 50.4**	**-0.7**
	SNR=42						
IML				Sn	**Sn**	**21 56 10.9**	**-1.7**
AGDM	**Agdam**	**1.84**	**299**	Pn	**Pn**	**21 55 52.0**	**-0.2**
	SNR=9.9						
AGDM				Sn	**Sn**	**21 56 14.9**	**+0.3**
SIZA	**Siyzn**	**1.86**	**353**	Pn	**Pn**	**21 55 52.9**	**+0.2**
	SNR=4.9						
SIZA				Sn	**Sn**	**21 56 14.4**	**-1.0**
BRDA	**Brd**	**1.87**	**304**	Pn	**Pn**	**21 55 53.3**	**+0.6**
BRDA				Sn	**Sn**	**21 56 15.7**	**+0.4**
QBL	**Gabala**	**2.01**	**329**	Pn	**Pn**	**21 55 54.1**	**-0.5**
	SNR=27						
QBL				Sn	**Sn**	**21 56 17.1**	**-1.8**
XNQ	**Khinaliq**	**2.11**	**338**	Pn	**Pn**	**21 55 55.6**	**-0.5**
	SNR=19						
XNQ				Sn	**Sn**	**21 56 21.5**	**+0.1**
QUBA	**Quba, Azerbaij**	**2.20**	**346**	Pn	**Pn**	**21 55 57.0**	**-0.2**
QUBA				Sn	**Sn**	**21 56 22.3**	**-1.1**
MNGR	**Mingechevir, A**	**2.24**	**314**	Pn	**Pn**	**21 55 58.1**	**+0.4**
	SNR=5.2						
MNGR				Sn	**Sn**	**21 56 23.5**	**-0.7**
QSAR	**Qusar**	**2.40**	**343**	Pn	**Pn**	**21 55 60.0**	**+0.1**
	SNR=9.0						
QSAR				Sn	**Sn**	**21 56 27.5**	**-0.7**
SEKA	**Sheki**	**2.50**	**323**	Pn	**Pn**	**21 56 00.8**	**-0.5**
	SNR=24						
SEKA				Sn	**Sn**	**21 56 28.5**	**-2.3**
ORD	**Ordubad**	**2.51**	**264**	Pn	**Pn**	**21 56 01.7**	**+0.3**
ORD				Sn	**Sn**	**21 56 30.8**	**-0.1**
KSMR	**Kasumkent**	**2.51**	**341**	*e*Pn	**Pn**	**21 56 01.1**	**-0.4**
KSMR				*e*Sn	**Sn**	**21 56 30.3**	**-0.7**
AKT	**Akhty**	**2.52**	**334**	*e*Pn	**Pn**	**21 56 02.1**	**+0.6**
AKT				*e*Sn	**Sn**	**21 56 31.9**	**+0.7**
GANJ	**Ganja**	**2.63**	**304**	Pn	**Pn**	**21 56 02.4**	**-0.5**
	SNR=11						
GANJ				Sn	**Sn**	**21 56 32.0**	**-1.7**
SBZ	**Shahbuz**	**2.83**	**275**	Pn	**Pn**	**21 56 07.5**	**+1.7**
SBZ				Sn	**Sn**	**21 56 39.2**	**+0.4**
DRN	**Derbent**	**2.88**	**347**	*e*Pn	**Pn**	**21 56 05.6**	**-0.7**
DRN				*e*Sn	**Sn**	**21 56 37.9**	**-1.9**
GDB	**GEDABAY**	**3.04**	**301**	Pn	**Pn**	**21 56 08.7**	**0.0**
	SNR=49						
GDB				Sn	**Sn**	**21 56 41.3**	**-2.6**
ZKTA	**Zakatala**	**3.11**	**322**	Pn	**Pn**	**21 56 10.0**	**+0.5**
	SNR=20						
ZKTA				Sn	**Sn**	**21 56 44.5**	**-1.0**
URKR	**Urkarakh**	**3.17**	**339**	*e*Pn	**Pn**	**21 56 10.3**	**-0.2**
URKR				*e*Sn	**Sn**	**21 56 46.7**	**-0.4**
KMKR	**Kumukh**	**3.31**	**332**	*e*Pn	**Pn**	**21 56 13.2**	**+0.7**
KMKR				*e*Sn	**Sn**	**21 56 51.5**	**+0.7**
QZX	**Qazax, Azerbai**	**3.46**	**303**	Pn	**Pn**	**21 56 14.5**	**+0.3**
	SNR=11						
QZX				Sn	**Sn**	**21 56 53.3**	**-0.7**
GNBR	**Gunib**	**3.59**	**333**	*e*Pn	**Pn**	**21 56 17.0**	**+0.9**
GNBR				*e*Sn	**Sn**	**21 56 57.9**	**+0.7**
ARKR	**Arakani**	**3.77**	**334**	*e*Pn	**Pn**	**21 56 19.1**	**+0.6**
ARKR				*e*Sn	**Sn**	**21 57 02.0**	**+0.4**
BUJR	**Buynaksk**	**3.93**	**337**	*e*Pn	**Pn**	**21 56 21.0**	**+0.3**
BUJR				*e*Sn	**Sn**	**21 57 05.5**	**0.0**
UNCR	**Uncukul**	**3.93**	**333**	*e*Pn	**Pn**	**21 56 21.3**	**+0.5**
UNCR				*e*Sn	**Sn**	**21 57 06.4**	**+0.7**
KRNR	**Karanay**	**4.00**	**335**	*e*Pn	**Pn**	**21 56 22.3**	**+0.6**
KRNR				*e*Sn	**Sn**	**21 57 07.7**	**+0.4**
BTLR	**Botlikh**	**4.11**	**328**	*e*Pn	**Pn**	**21 56 24.4**	**+1.2**
BTLR				*e*Sn	**Sn**	**21 57 11.6**	**+1.6**
DBC	**Dubki**	**4.19**	**336**	*e*Pn	**Pn**	**21 56 24.7**	**+0.4**
DBC				*e*Sn	**Sn**	**21 57 12.4**	**+0.3**
DVE	**Vedeno**	**4.39**	**329**	*e*Pn	**Pn**	**21 56 27.6**	**+0.5**
DVE				*e*Sn	**Sn**	**21 57 17.8**	**+0.8**

MAN 11 21:55:42.6,7°.27N×126°.33E,h20km,mb3.7,ML2.4,MS1.9, 1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.33**	**192**	⇓*e*P	Pn	21 55 51.1	-1.2
MATI				*e*S	Sn	21 56 00.0	+1.5
BIPH	**Bislig**	**0.91**	**2**	⇑*e*P	Pb	21 55 59.9	+0.2
BIPH				*i* S	Sn	21 56 14.4	+1.6
DDMP	**Don Marcelino,**	**1.31**	**208**	⇓*e*P	Pn	21 56 04.3	-1.5
DDMP				*e*S	Sb	21 56 23.7	+0.7

*IDC **11** 22:03:10.8±44.0,23°.53S×174°.43W,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=821.6km s-min=173.1km az=88.0*
*NEIC **11** 22:03:18.6±0.6,24°.52S±0°.09×175°.0W±0°.2,h10km±2km, mb4.1/10,Error ellipse: s-maj=33.3km s-min=14.3km az=84.0*
ISC 11 22:03:15.5±14.0**,24°.4S**±0°.9×**17°5W**±°**,h10**km**,n15,** σ**0s.60**/15**,mb4.1**/9**,South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WKZ	**Wanaka**	**24.32**	**209**	P	**P**	**22 08 34.3**	**+0.9**
WHZ	**Wether Hill Ro**	**25.62**	**209**	P	**P**	**22 08 44.0**	**-1.1**
WHZ				IAmb	IAmb	22 08 47.9	
	comp=Z,9.2nm,1.0s						
ARMA	**Armidale**	**30.39**	**251**	P	**P**	**22 09 28.2**	**+0.1**
ARMA				IAmb	IAmb	22 09 37.4	
	comp=Z,1.5nm,0.8s						
EIDS	**Eidsvold**	**30.98**	**261**	P	**P**	**22 09 33.0**	**-0.2**
EIDS				IAmb	IAmb	22 09 46.8	
	comp=Z,1.5nm,0.8s						
STKA	**Stephens Creek**	**39.03**	**249**	P	**P**	**22 10 42.9**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=90,slow=11,SNR=4.5						
	comp=Z,1.3nm,0.4s						
STKA	**Stephens Creek**	**39.03**	**249**	P	**P**	**22 10 42.5**	**0.0**
BBOO	**Buckleboo**	**43.70**	**247**	P	**P**	**22 11 20.8**	**-0.1**
AS31	**Alice Springs**	**46.69**	**260**	P	**P**	**22 11 45.1**	**+0.2**
ASAR	**Alice Springs**	**46.69**	**260**	P	**P**	**22 11 45.2**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=91,slow=7.8,SNR=22						
	comp=Z,0.7nm,0.4s						
ASAR	**Alice Springs**	**46.69**	**260**	P	**P**	**22 11 44.8**	**0.0**
WR0	**Warramunga Arr**	**46.98**	**265**	P	**P**	**22 11 45.9**	**-1.2**
WR0				IAmb	IAmb	22 11 46.2	
	comp=Z,1.1nm,0.9s						
WB2	**Warramunga Arr**	**47.15**	**265**	P	**P**	**22 11 48.6**	**+0.2**
WB2				IAmb	IAmb	22 11 49.6	
	comp=Z,3.0nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WB0	**Warramunga Arr**	**47.16**	**265**	P	**P**	**22 11 49.1**	**+0.6**
WB0				IAmb	IAmb	22 11 56.8	
	comp=Z,3.5nm,1.1s						
WRA	**Warramunga Arr**	**47.16**	**265**	P	**P**	**22 11 48.6**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=102,slow=7.5,SNR=21						
	comp=Z,0.9nm,0.4s						
WRA	**Warramunga Arr**	**47.16**	**265**	P	**P**	**22 11 48.9**	**+0.4**

*BJI **11** 22:25:27.9±0.0, 24.°11N×122.°38E, h13km, mb4.9/67, mB5.1/29, ML4.8/13, Ms4.8/52, Ms7 4.7/50*
*MOS **11** 22:25:30.6±1.0, 24.°21N×122.°50E, h38km, mb5.4/84, MS4.7/4, Error ellipse: s-maj=7.1km s-min=4.1km az=122.2*
*JMA **11** 22:25:31.5±0.1, 24°N±1°×122.°4E±0.°4, h30km±3km, MD5.2/15, MV5.0/15, NW OFF ISHIGAKIJIMA IS*
JMA Felt II J1 at NW OFF ISHIGAKIJIMA IS .
*NEIC **11** 22:25:31.4±1.4, 24.°09N±0.°07×122.°48E±0.°07, h28km±4km, mb5.2/250, Mwr4.9/24, ML5.1(TAP), Error ellipse: s-maj=11.6km s-min=8.0km az=149.0*
*TAP **11** 22:25:31.3, 24.°07N×122.°43E, h31km, ML5.3, D*
*NIED **11** 22:25:31.5, 24.°07N×122.°43E, h30km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.85; $M_{\theta\theta}$-2.86; $M_{\phi\phi}$0.00; $M_{r\theta}$1.74; $M_{\theta\phi}$0.08; $M_{\phi r}$0.13; Fault plane solution: $M_0$3.35000×10^{16} NP1: ϕ_s275.00000°, δ29.00000°, λ95.00000°. NP2: ϕ_s89.00000°, δ61.00000°, λ87.00000°.*
*NEIC **11** 22:25:31.2, 24.°05N×122.°53E, h31km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.89; $M_{\theta\theta}$-1.98; $M_{\phi\phi}$0.10; $M_{r\theta}$1.50; $M_{\theta\phi}$-0.27; $M_{\phi r}$0.34; Fault plane solution: $M_0$2.49000×10^{16} NP1: ϕ_s266.38000°, δ26.03000°, λ96.43000°. NP2: ϕ_s79.23000°, δ64.14000°, λ86.87000°. Principal axes: T 2.4225, Plg71.0000°, Azm343.0000°; N 0.1247, Plg3.0000°, Azm81.0000°; P -2.5472, Plg19.0000°, Azm172.0000°;*
*IDC **11** 22:25:32.7±1.9, 24.°27N×122.°56E, h42km±17km, mb4.6/32, mbtmp4.8/36, ML4.2/3, MS4.5/23 Error ellipse: s-maj=12.1km s-min=9.4km az=55.0*
*GCMT **11** 22:25:32.5±0.5, 24.°04N±0.°03×122.°34E±0.°04, h36km, MW5.1/46, Moment Tensor Solution. s31,c36; s46,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}7.02±.57; $M_{\theta\theta}$-5.40±.30; $M_{\phi\phi}$-1.62±.31; $M_{r\theta}$1.62±.22; $M_{\theta\phi}$0.53±.18; $M_{\phi r}$1.02±.35; Best double couple: $M_0$6.50200×10^{16} NP1: ϕ_s89.00000°, δ52.00000°, λ80.00000°. NP2: ϕ_s284.00000°, δ39.00000°, λ102.00000°. Principal axes: T 7.3580, Plg80.0000°, Azm317.0000°; N -1.7110, Plg8.0000°, Azm95.0000°; P -5.6470, Plg7.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 22:25:30.9±0.4**, 24.°06N**±0.°02×**122.°42E**±0.°02**, h30**km±2km**, h30**km**:pP-P, n817,** σ1.s30/939**, mb5.1**/249**, MS4.6**/26**, 100C-71D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.62**	**51**	P	**Pb**	**22 25 43.2**	**-0.1**
JYNG				S	**Sb**	**22 25 51.3**	**-0.4**
JYNG	**Yonagunijimaku**	**0.62**	**51**	A	A	22 25 43.2	
	comp=E,578nm,1.0s,comp=E,255nm,1.3s						
YOJ	**Yonaguni jima**	**0.67**	**53**		**Pb**	**22 25 44.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.67**	**53**	P	**Pn**	**22 25 44.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.67**	**53**	⇓iP	**Pn**	**22 25 44.4**	**-0.1**
	baz=53						
YOJ				S	**Sb**	**22 25 52.9**	**-0.4**
	baz=53						
YOJ	**Yonaguni jima**	**0.67**	**53**	P	**Pn**	**22 25 44.3**	**-0.1**
YOJ				S	**Sb**	**22 25 53.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.67**	**53**	A	A	22 25 44.3	
	comp=E,397nm,1.3s,comp=E,174nm,3.5s						
YOJ	**Yonaguni jima**	**0.67**	**53**	P	**Pb**	**22 25 44.1**	**-0.1**
ENA	**Nanau**	**0.72**	**301**	eP	**Pn**	**22 25 45.2**	**+0.2**
	baz=308						
ENA				S	**Sn**	**22 25 54.9**	**-0.1**
	baz=308						
HWA	**Hwalien**	**0.75**	**264**	eP	**Pb**	**22 25 46.0**	**+0.6**
	baz=263						
HWA				eS	**Sn**	**22 25 57.5**	**+1.8**
	baz=263						
TWD	**Chiawan**	**0.75**	**272**	eP	**Pn**	**22 25 45.4**	**-0.1**
	baz=271						
TWD				eS	**Sn**	**22 25 55.7**	**-0.1**
	baz=271						
TWC	**Suao**	**0.75**	**317**	⇓iP	**Pb**	**22 25 45.5**	**0.0**
	baz=316						
TWC				i S	**Sb**	**22 25 55.4**	**-0.1**
	baz=316						
NACB	**Ninganchiao**	**0.76**	**279**		**Pb**	**22 25 46.0**	**+0.3**
NACB	**Ninganchiao**	**0.76**	**279**	P	**Pn**	**22 25 44.9**	**-0.7**
NACB	**Ninganchiao**	**0.76**	**279**	⇑iP	**Pb**	**22 25 45.9**	**+0.3**
	baz=264						
NACB				S	**Sb**	**22 25 55.5**	**-0.2**
	baz=264						
TEYL	**Yanliau Villag**	**0.77**	**256**	eP	**Pb**	**22 25 45.9**	**+0.1**
	baz=247						
TEYL				eS	**Sn**	**22 25 56.2**	**-0.1**
	baz=247						
ETM	**Tongmen**	**0.85**	**264**	P	**Pn**	**22 25 47.0**	**+0.1**
	baz=253						
ETM				eS	**Sb**	**22 25 57.3**	**-1.0**
	baz=253						
ETLH	**Xiulin Townshi**	**0.87**	**280**	⇑iP	**Pb**	**22 25 47.6**	**+0.1**
	baz=267						
ETLH				S	**Sn**	**22 25 60.0**	**+1.1**
	baz=267						
TEGC	**Jichi Village**	**0.88**	**247**	eP	**Pb**	**22 25 47.4**	**-0.1**
	baz=246						
TEGC				eS	**Sb**	**22 25 59.4**	**+0.5**
	baz=246						
EGS		**0.90**	**331**	⇓iP	**Pb**	**22 25 48.5**	**+0.6**
	baz=318						
EGS				S	**Sb**	**22 25 59.5**	**-0.1**
	baz=318						
ILA	**Ilan**	**0.93**	**319**	⇓P	**Pb**	**22 25 49.3**	**+0.8**
	baz=312						
ILA				eS	**Sb**	**22 26 01.8**	**+1.3**
	baz=312						
ESL	**Shilin**	**0.93**	**255**	⇓iP	**Pn**	**22 25 47.6**	**-0.4**
	baz=245						
ESL				eS	**Sn**	**22 25 60.0**	**-0.4**
	baz=245						
LATG	**Datong**	**0.94**	**300**	⇑iP	**Pb**	**22 25 49.1**	**+0.3**
	baz=299						
LATG				eS	**Sb**	**22 26 01.6**	**+0.6**
	baz=299						
TWE	**Neicheng**	**0.95**	**314**	⇓iP	**Pb**	**22 25 49.2**	**+0.4**
	baz=313						
TWE				eS	**Sb**	**22 26 01.1**	**0.0**
	baz=313						
NTC	**Toucheng**	**0.96**	**326**	eP	**Pb**	**22 25 49.5**	**+0.6**
	baz=325						
NTC				eS	**Sb**	**22 26 02.9**	**+1.7**
	baz=325						
ENTT	**Nioudou**	**0.97**	**307**	⇑iP	**Pn**	**22 25 48.7**	**+0.3**
	baz=293						
ENTT				eS	**Sn**	**22 26 01.2**	**0.0**
	baz=293						
EGFH	**Guangfu**	**0.98**	**247**	⇓P	**Pn**	**22 25 48.5**	**-0.2**
	baz=246						
EGFH				eS	**Sn**	**22 26 01.2**	**-0.4**
	baz=246						
NDT	**Datong Townshi**	**0.99**	**303**	⇑eP	**Pn**	**22 25 47.8**	**-0.9**
	baz=302						
NNSB	**Datong**	**1.01**	**292**	⇑iP	**Pb**	**22 25 50.1**	**+0.2**
	baz=279						
NNSB				S	**Sb**	**22 26 03.4**	**+0.4**
	baz=279						
NNSH	**Datong**	**1.01**	**292**	⇑P	**Pn**	**22 25 49.1**	**-0.1**
	baz=290						
NNSH				eS	**Sn**	**22 26 02.7**	**+0.2**
	baz=290						
TWB1	**Santiao Chiao**	**1.02**	**338**	⇓iP	**Pb**	**22 25 49.8**	**-0.2**
	baz=353						
TWB1				eS	**Sb**	**22 26 03.5**	**+0.4**
	baz=353						
NNS	**Nan Shan**	**1.02**	**292**	⇑iP	**Pn**	**22 25 49.3**	**-0.1**
	baz=291						
NNS				eS	**Sb**	**22 26 03.3**	**0.0**
	baz=291						
FUSB	**Fushanzhiwuyua**	**1.03**	**313**	⇑iP	**Pb**	**22 25 51.0**	**+0.8**
	baz=312						
FUSB				eS	**Sb**	**22 26 03.7**	**+0.3**
	baz=312						
TIPB	**Shuangxi**	**1.06**	**329**	⇑iP	**Pb**	**22 25 50.7**	**+0.1**
	baz=328						
TIPB				S	**Sb**	**22 26 05.0**	**+0.9**
	baz=328						
WHF	**Hehuan Shan**	**1.06**	**275**	⇑iP	**Pb**	**22 25 50.5**	**-0.4**
	baz=262						
WHF				eS	**Sn**	**22 26 03.8**	**-0.2**
	baz=262						
HGSD	**Ruisui**	**1.07**	**238**	⇓iP	**Pn**	**22 25 49.8**	**-0.1**
	baz=238						
HGSD				eS	**Sn**	**22 26 03.3**	**-0.4**
	baz=238						
FUSS	**Fushou**	**1.09**	**280**	⇑P	**Pb**	**22 25 51.2**	**-0.1**
	baz=279						
FUSS				eS	**Sb**	**22 26 05.6**	**+0.4**
	baz=279						
NWLT	**Wulai**	**1.10**	**311**	⇑iP	**Pb**	**22 25 50.9**	**-0.5**
	baz=309						
NWLT				eS	**Sb**	**22 26 06.4**	**+1.1**
	baz=309						
YHNB	**Yeheng**	**1.13**	**303**	Pn	**Pb**	**22 25 52.1**	**+0.3**
YHNB	**Yeheng**	**1.13**	**303**	P	**Pb**	**22 25 52.4**	**+0.5**
YHNB	**Yeheng**	**1.13**	**303**	⇑iP	**Pb**	**22 25 52.1**	**+0.3**
	baz=290						
YHNB				eS	**Sb**	**22 26 06.8**	**+0.6**
	baz=290						
CHGB	**Renai**	**1.14**	**270**	⇑iP	**Pb**	**22 25 51.9**	**-0.1**
	baz=258						
CHGB				S	**Sn**	**22 26 05.9**	**+0.2**
	baz=258						
SXI1	**Grass Mountain**	**1.14**	**335**	⇑iP	**Pb**	**22 25 52.0**	**-0.2**
	baz=333						
SXI1				eS	**Sb**	**22 26 06.3**	**-0.3**
	baz=333						
NSK	**Sanguang**	**1.14**	**303**	⇑iP	**Pn**	**22 25 51.2**	**+0.3**
	baz=290						
NSK				eS	**Sn**	**22 26 05.2**	**-0.5**
	baz=290						
TWT	**Tachien**	**1.15**	**280**	eP	**Pb**	**22 25 52.4**	**+0.1**
	baz=268						
TWT				eS	**Sb**	**22 26 06.8**	**-0.1**
	baz=268						
ECBN	**Changbin**	**1.15**	**230**	⇓iP	**Pn**	**22 25 50.1**	**-0.9**
	baz=229						
ECBN				eS	**Sn**	**22 26 04.7**	**-1.0**
	baz=229						
NWF	**Wu-fen Shan**	**1.16**	**330**	⇑iP	**Pb**	**22 25 52.4**	**-0.1**
	baz=329						
NWF				eS	**Sb**	**22 26 08.5**	**+1.3**
	baz=329						
WFSB	**Wu-fen Shan**	**1.16**	**330**	⇑iP	**Pb**	**22 25 52.4**	**0.0**
	baz=329						
WFSB				eS	**Sb**	**22 26 08.6**	**+1.4**
	baz=329						
TDCB	**Techi**	**1.17**	**280**	⇑iP	**Pb**	**22 25 52.4**	**-0.1**
	baz=268						
TDCB				eS	**Sn**	**22 26 06.6**	**+0.3**
	baz=268						
TWA	**Mucha**	**1.19**	**321**	⇑iP	**Pb**	**22 25 53.1**	**+0.3**
	baz=319						
TWA				eS	**Sb**	**22 26 09.3**	**+1.4**
	baz=319						
WUSB	**Renai**	**1.19**	**267**	P	**Pb**	**22 25 52.5**	**-0.5**
	baz=266						
WUSB				eS	**Sn**	**22 26 06.0**	**-0.8**
	baz=266						
VWDT	**VWDT**	**1.21**	**256**	⇓iP	**Pb**	**22 25 52.5**	**-0.6**
	baz=255						
VWDT				eS	**Sn**	**22 26 07.2**	**+0.1**
	baz=255						
NHDH	**Xindian Distri**	**1.21**	**318**	⇑P	**Pb**	**22 25 53.6**	**+0.4**
	baz=316						
NHDH				i S	**Sb**	**22 26 10.2**	**+1.7**
	baz=316						
YULB	**Yu-li**	**1.22**	**237**		**Pn**	**22 25 52.2**	**+0.2**
YULB	**Yu-li**	**1.22**	**237**	P	**Pn**	**22 25 52.4**	**+0.4**
YULB	**Yu-li**	**1.22**	**237**	⇓iP	**Pn**	**22 25 52.2**	**+0.2**
	baz=251						
YULB				eS	**Sn**	**22 26 07.7**	**+0.3**
	baz=251						
EYUL	**Yuli**	**1.23**	**235**	⇓iP	**Pn**	**22 25 52.6**	**+0.5**
	baz=234						
EYUL				eS	**Sn**	**22 26 08.4**	**+0.7**
	baz=234						
IRIF	**Iriomote-Funau**	**1.23**	**77**	P	**Pb**	**22 25 52.8**	**-0.7**
IRIF				S	**Sb**	**22 26 09.6**	**+0.6**
IRIF	**Iriomote-Funau**	**1.23**	**77**	A	A	22 25 52.8	
	comp=E,81nm,1.6s,comp=E,104nm,1.8s						
TNOU	**National Taiwa**	**1.23**	**332**	⇑iP	**Pn**	**22 25 52.8**	**+0.7**
	baz=330						
TNOU				eS	**Sb**	**22 26 08.6**	**-0.6**
	baz=330						
NHY	**Taipei**	**1.24**	**322**	eP	**Pb**	**22 25 53.9**	**+0.1**
	baz=336						
NHY				eS	**Sb**	**22 26 11.3**	**+1.9**
	baz=336						
TATO	**Taipei**	**1.24**	**317**	Pn	**Pb**	**22 25 53.9**	**+0.1**
TATO	**Taipei**	**1.24**	**317**	P	**Pb**	**22 25 54.8**	**+1.0**
TATO	**Taipei**	**1.24**	**317**	⇑iP	**Pb**	**22 25 53.9**	**+0.1**
	baz=316						
TATO				eS	**Sb**	**22 26 11.1**	**+1.6**
	baz=316						
TWF1	**Yuli**	**1.24**	**236**	⇓iP	**Pn**	**22 25 52.4**	**+0.1**
	baz=224						
TWF1				eS	**Sn**	**22 26 08.3**	**+0.3**
	baz=224						
HATJ	**Hateruma jima**	**1.27**	**90**	P	**Pb**	**22 25 53.6**	**-0.6**
HATJ				S	**Sn**	**22 26 09.3**	**+0.7**
HATJ	**Hateruma jima**	**1.27**	**90**	A	A	22 25 53.6	
	comp=E,140nm,2.2s,comp=E,117nm,1.9s						
BACT	**New Taipei Cit**	**1.29**	**317**	eP	**Pb**	**22 25 54.8**	**+0.3**
	baz=315						
BACT				eS	**Sb**	**22 26 11.6**	**+0.9**
	baz=315						
NFF	**Wufeng Townshi**	**1.31**	**296**	⇑iP	**Pn**	**22 25 53.9**	**+0.6**
	baz=294						
NFF				eS	**Sb**	**22 26 11.0**	**-0.5**
	baz=294						
YM01	**YM01**	**1.33**	**325**	⇑iP	**Pb**	**22 25 54.5**	**-0.8**
	baz=338						
YM01				eS	**Sb**	**22 26 12.3**	**+0.4**
	baz=338						
NWRT	**Kuosheng**	**1.33**	**329**	eP	**Pb**	**22 25 56.1**	**+0.9**
	baz=327						
WPL	**Puli Township**	**1.33**	**268**	eP	**Pb**	**22 25 55.0**	**-0.3**
	baz=258						
WPL				eS	**Sb**	**22 26 12.3**	**+0.3**
	baz=258						
FULB	**Fuli**	**1.34**	**230**	⇓iP	**Pn**	**22 25 53.3**	**-0.3**
	baz=219						
FULB				eS	**Sn**	**22 26 09.4**	**-1.0**
	baz=219						
YM08	**YM08**	**1.35**	**326**	eP	**Pn**	**22 25 54.3**	**+0.5**
	baz=325						
CHKT	**Chengkung**	**1.36**	**225**	⇓iP	**Pn**	**22 25 53.3**	**-0.5**
	baz=224						
CHKT				eS	**Sn**	**22 26 10.0**	**-0.8**
	baz=224						
WHP	**Taichung City**	**1.36**	**280**	⇑iP	**Pb**	**22 25 55.8**	**0.0**
	baz=269						
SSLB	**Suanglung**	**1.36**	**259**	Pn	**Pn**	**22 25 54.3**	**+0.4**
SSLB	**Suanglung**	**1.36**	**259**	P	**Pb**	**22 25 55.9**	**+0.1**
WCS	**Beigang Elemen**	**1.38**	**270**	eP	**Pn**	**22 25 54.7**	**+0.6**
	baz=269						
WCS				eS	**Sb**	**22 26 13.3**	**+0.1**
	baz=269						
TWS1	**Kuangyinshan**	**1.38**	**319**	⇑P	**Pb**	**22 25 55.7**	**-0.4**
	baz=335						
TWS1				eS	**Sb**	**22 26 14.1**	**+0.8**
	baz=335						
NTY	**Taoyuan**	**1.38**	**313**	eP	**Pb**	**22 25 56.3**	**+0.1**
	baz=311						
NTY				eS	**Sb**	**22 26 14.4**	**+1.0**
	baz=311						
ANP	**Anpu**	**1.39**	**324**	eP	**Pn**	**22 25 55.1**	**+0.8**
	baz=322						
SMLT	**Sun Moon Lake**	**1.40**	**263**	⇓iP	**Pb**	**22 25 55.8**	**-0.6**
	baz=262						
SMLT				eS	**Sb**	**22 26 13.7**	**-0.3**
	baz=262						
LIOB	**Emei**	**1.41**	**295**	⇑iP	**Pb**	**22 25 56.9**	**+0.4**
	baz=293						
LIOB				eS	**Sb**	**22 26 15.6**	**+1.5**
	baz=293						
NTST	**Danshui**	**1.41**	**322**	eP	**Pb**	**22 25 56.0**	**-0.6**
	baz=335						
NTST				eS	**Sb**	**22 26 16.0**	**+1.9**
	baz=335						
NSTT	**Nanjuang**	**1.41**	**294**	⇑iP	**Pb**	**22 25 56.9**	**+0.3**
	baz=293						
NSTT				eS	**Sb**	**22 26 15.0**	**+0.8**
	baz=293						
TWY	**Chenhua**	**1.42**	**329**	eP	**Pn**	**22 25 55.6**	**+0.9**
	baz=327						
TWY				eS	**Sb**	**22 26 15.2**	**+0.7**
	baz=327						
TYC	**Yuchr**	**1.44**	**264**	eP	**Pb**	**22 25 56.3**	**-0.7**
	baz=263						
TYC				eS	**Sn**	**22 26 13.8**	**+1.0**
	baz=263						
NCU	**National Centr**	**1.44**	**309**	eP	**Pb**	**22 25 56.9**	**-0.2**
	baz=307						
NCU				eS	**Sb**	**22 26 15.9**	**+0.9**
	baz=307						
NCUH	**Zhongli**	**1.44**	**309**	eP	**Pb**	**22 25 56.9**	**-0.2**
	baz=307						
YUS	**Yu-Shan**	**1.46**	**247**	P	**Pn**	**22 25 56.4**	**+0.8**
	baz=246						
YUS				eS	**Sn**	**22 26 14.3**	**+0.4**
	baz=246						
JKRS	**Kuro-shima**	**1.47**	**83**	P	**Pb**	**22 25 56.6**	**-0.9**
JKRS				S	**Sb**	**22 26 15.4**	**-0.4**
JKRS	**Kuro-shima**	**1.47**	**83**	A	A	22 25 56.6	
	comp=E,120nm,1.8s,comp=E,124nm,2.6s						
WHYT	**Xinyi Township**	**1.48**	**256**	⇓P	**Pb**	**22 25 57.1**	**-0.6**
	baz=244						
WHYT				eS	**Sn**	**22 26 14.7**	**+0.9**
	baz=244						
EDH	**Donghe**	**1.49**	**224**	eP	**Pn**	**22 25 55.6**	**0.0**
	baz=214						
EDH				eS	**Sn**	**22 26 13.0**	**-1.0**
	baz=214						
SBCB	**Hsinchu**	**1.50**	**300**	eP	**Pb**	**22 25 57.8**	**-0.2**
	baz=297						
SBCB				eS	**Sb**	**22 26 18.3**	**+1.7**
	baz=297						
HSN	**Hsinchu**	**1.51**	**300**	eP	**Pb**	**22 25 57.1**	**-1.2**
	baz=299						
HSN				eS	**Sb**	**22 26 16.6**	**-0.5**
	baz=299						
TWQ1	**Liyutan**	**1.53**	**281**	⇑iP	**Pb**	**22 25 58.8**	**+0.2**
	baz=279						
TWQ1				eS	**Sb**	**22 26 17.5**	**-0.1**
	baz=279						
ELDTW	**Lidau**	**1.55**	**236**	⇓iP	**Pn**	**22 25 56.6**	**+0.1**
	baz=235						
NSY	**Sanyi**	**1.55**	**284**	⇑iP	**Pb**	**22 25 59.2**	**+0.2**
	baz=282						
NMLH	**Miaoli**	**1.56**	**288**	⇑P	**Pb**	**22 25 59.1**	**0.0**
	baz=286						
NMLH				eS	**Sb**	**22 26 18.9**	**+0.5**
	baz=286						
WJS	**Zhushan**	**1.56**	**262**	eP	**Pb**	**22 25 59.2**	**0.0**
	baz=260						
WJS				eS	**Sb**	**22 26 18.9**	**+0.3**
	baz=260						
ALS	**Alishan**	**1.57**	**250**	⇓iP	**Pb**	**22 25 58.5**	**-1.0**
	baz=249						
ALS				eS	**Sn**	**22 26 16.1**	**-0.5**
	baz=249						
TCU	**Taichung**	**1.59**	**274**	⇑eP	**Pb**	**22 25 59.8**	**+0.1**
	baz=272						
TCU				eS	**Sb**	**22 26 20.4**	**+0.9**
	baz=272						
PCYT	**Pengchaiyu**	**1.59**	**349**	eP	**Pn**	**22 25 58.0**	**+0.9**
	baz=349						
PCYT				eS	**Sb**	**22 26 18.5**	**-1.0**
	baz=349						
WNT	**Mingjian**	**1.59**	**264**	eP	**Pb**	**22 26 00.1**	**+0.3**
	baz=262						
WNT				eS	**Sb**	**22 26 20.3**	**+0.8**
	baz=262						
JIJ	**Ishigaki jima**	**1.60**	**79**	P	**Pn**	**22 25 57.8**	**+0.6**
JIJ				S	**Sn**	**22 26 17.7**	**+0.8**
JIJ	**Ishigaki jima**	**1.60**	**79**	A	A	22 25 57.8	
	comp=E,27nm,1.2s,comp=E,35nm,1.6s						
LDUT	**Ludao**	**1.63**	**212**	⇓iP	**Pn**	**22 25 57.1**	**-0.4**
	baz=211						
LDUT				eS	**Sn**	**22 26 15.3**	**-2.3**
	baz=211						
LONT	**Longtian**	**1.65**	**226**	⇓P	**Pn**	**22 25 58.0**	**+0.3**
	baz=237						
LONT				eS	**Sn**	**22 26 18.6**	**+0.7**
	baz=237						
WDJ	**Dajia District**	**1.65**	**280**	⇑iP	**Pb**	**22 26 00.3**	**-0.3**
	baz=278						
WDJ				eS	**Sb**	**22 26 21.5**	**+0.5**
	baz=278						
CHN5	**Tsauling**	**1.66**	**254**	eP	**Pb**	**22 25 59.5**	**-1.3**
	baz=243						
CHN5				eS	**Sb**	**22 26 21.8**	**+0.4**
	baz=243						
WCHH	**Zhanghua**	**1.70**	**271**	eP	**Pb**	**22 26 01.0**	**-0.5**
	baz=269						
WCHH				eS	**Sb**	**22 26 24.1**	**+1.7**
	baz=269						
TWGBT	**Beinan**	**1.74**	**225**	P	**Pn**	**22 25 59.0**	**-0.1**
TWGBT	**Beinan**	**1.74**	**225**	⇓iP	**Pn**	**22 25 59.0**	**-0.1**
	baz=235						
TWGBT				eS	**Sn**	**22 26 19.6**	**-0.7**
	baz=235						
TWG	**Pinlang**	**1.75**	**225**	Pn	**Pn**	**22 25 58.7**	**-0.4**
TWG	**Pinlang**	**1.75**	**225**	⇓iP	**Pn**	**22 25 59.0**	**-0.1**
	baz=235						
TWG				eS	**Sn**	**22 26 19.0**	**-1.3**
	baz=235						
STYH	**Taoyuan**	**1.75**	**240**	eP	**Pn**	**22 25 59.6**	**+0.4**
	baz=230						
STYH				eS	**Sn**	**22 26 20.6**	**+0.3**
	baz=230						
TTN	**Taitung**	**1.75**	**222**	eP	**Pn**	**22 25 59.4**	**+0.3**
	baz=221						
TTN				eS	**Sn**	**22 26 21.1**	**+0.7**
	baz=221						
WDLH	**Douliu**	**1.76**	**258**	eP	**Pb**	**22 26 02.1**	**-0.4**
	baz=257						
WDLH				eS	**Sb**	**22 26 24.5**	**+0.4**
	baz=257						
WCKO	**Fanlu**	**1.77**	**250**	⇓P	**Pb**	**22 26 01.3**	**-1.4**
	baz=249						
WCKO				S	**Sb**	**22 26 24.4**	**-0.2**
	baz=249						
TPUB	**Ta-pu**	**1.80**	**246**	Pn	**Pb**	**22 26 01.9**	**-1.3**
TPUB	**Ta-pu**	**1.80**	**246**	P	**Pb**	**22 26 02.4**	**-0.9**
TPUB	**Ta-pu**	**1.80**	**246**	⇓iP	**Pb**	**22 26 02.0**	**-1.3**
	baz=244						
TPUB				S	**Sb**	**22 26 24.2**	**-1.3**
	baz=244						
JISG	**Ishigakijimahi**	**1.81**	**73**	P	**Pn**	**22 26 00.4**	**+0.4**
JISG				S	**Sn**	**22 26 23.1**	**+1.2**
JISG	**Ishigakijimahi**	**1.81**	**73**	A	A	22 26 00.4	
	comp=E,32nm,0.8s,comp=E,33nm,1.6s						
CHN4	**Tsaushan**	**1.81**	**248**	⇓iP	**Pn**	**22 26 01.4**	**+1.3**
	baz=246						
CHN4				eS	**Sb**	**22 26 25.6**	**-0.1**
	baz=246						
WTP	**Ta-pu**	**1.84**	**244**	⇓iP	**Pb**	**22 26 02.6**	**-1.3**
	baz=243						
WTP				eS	**Sb**	**22 26 25.6**	**-1.0**
	baz=243						
CHN2	**Minshiung**	**1.85**	**254**	eP	**Pb**	**22 26 03.6**	**-0.5**
	baz=252						
CHN2				eS	**Sb**	**22 26 28.3**	**+1.4**
	baz=252						
WRL	**Guolierlin Hig**	**1.87**	**266**	⇑eP	**Pb**	**22 26 02.8**	**-1.6**
	baz=277						
WRL				eS	**Sb**	**22 26 25.7**	**-1.7**
	baz=277						
CHY	**Chiayi**	**1.91**	**253**	eP	**Pb**	**22 26 05.2**	**+0.2**
	baz=252						
CHY				eS	**Sb**	**22 26 28.8**	**+0.3**
	baz=252						
TWK	**Hsinying**	**1.94**	**246**	⇓iP	**Pb**	**22 26 04.0**	**-1.5**
	baz=245						
TWK				S	**Sb**	**22 26 29.0**	**-0.3**
	baz=245						
CHN1	**Nanshi**	**1.94**	**244**	⇓iP	**Pb**	**22 26 04.2**	**-1.4**
	baz=242						
CHN1				eS	**Sb**	**22 26 28.5**	**-0.9**
	baz=242						
SGST	**Jiashian**	**1.94**	**240**	⇓iP	**Pn**	**22 26 03.2**	**+1.3**
	baz=230						
SGST				eS	**Sb**	**22 26 27.7**	**-1.8**
	baz=230						

WTCT Ta-ch'eng 1.96 265 *e*P Pb 22 26 04.9 -1.0
baz=276
WTCT eS Sb 22 26 29.5 -0.6
baz=276
ECL Taimali 1.98 223 ⇓*i*P Pn 22 26 02.0 -0.4
baz=221
ECL eS Sn 22 26 25.3 -0.9
baz=221
WSF Szhu 2.05 259 *e*P Pb 22 26 05.9 -1.6
baz=257
WSF eS Sb 22 26 31.7 -0.9
baz=257
WSL Shuilin Townsh 2.08 256 *e*P Pn 22 26 05.5 +1.8
baz=254
WSL eS Sb 22 26 32.2 -1.0
baz=254
ICHU Yijhu 2.08 251 *e*P Pb 22 26 06.5 -1.4
baz=250
ICHU eS Sb 22 26 33.0 -0.3
baz=250
SSD Sandimen 2.10 232 P Pn 22 26 04.7 +0.8
baz=225
SSD eS Sn 22 26 30.6 +1.5
baz=225
TSMG Majia 2.11 231 *e*P Pn 22 26 05.4 +1.2
baz=224
TSMG eS Sn 22 26 30.2 +0.7
baz=224
SCST Cishan 2.12 237 *e*P Pb 22 26 07.3 -1.3
baz=223
SCST S Sb 22 26 33.6 -0.9
baz=223
CHN3 Shinhua 2.12 243 *e*P Pb 22 26 06.9 -1.8
baz=241
CHN3 eS Sb 22 26 35.1 +0.5
baz=241
CHN8 Yiju 2.14 251 P Pn 22 26 06.8 +2.2
baz=250
CHN8 eS Sb 22 26 33.6 -1.6
baz=250
SSHA Shanhua 2.16 245 *e*P Pb 22 26 08.4 -0.9
baz=244
SSHA eS Sb 22 26 35.6 0.0
baz=244
SHHT Tainan City 2.16 242 *e*P Pb 22 26 07.6 -1.7
baz=240
SHHT eS Sb 22 26 36.2 +0.5
baz=240
JTJ Tarama 2.16 74 P Pn 22 26 05.3 +0.5
JTJ eS Sn 22 26 31.6 +0.9
JTJ Tarama 2.16 74 A A 22 26 05.3
comp=E,43nm,2.1s,comp=E,71nm,1.7s
LAY Lan-yu 2.16 202 *e*P Pn 22 26 04.2 -0.8
baz=201
MASBT Mashibuluo 2.18 229 *e*P Pn 22 26 06.8 +1.7
baz=223
MASBT eS Sn 22 26 31.1 -0.1
baz=223
LYUB Lan-yu 2.19 201 P Pn 22 26 03.7 -1.5
baz=200
EAST Anshuo 2.21 221 *e*P Pn 22 26 05.4 -0.1
baz=220
TWM1 Shoushan 2.21 237 *e*P Pb 22 26 09.6 -0.5
baz=236
TWM1 eS Sb 22 26 38.5 +1.4
baz=236
TAWH Dawu Township 2.21 220 *e*P Pn 22 26 04.7 -0.9
baz=227
TAWH eS Sn 22 26 31.5 -0.5
baz=227
SCLT Jiali 2.22 247 *e*P Pb 22 26 08.1 -2.2
baz=246
SCLT eS Sb 22 26 35.8 -1.6
baz=246
TAI1 Yung-k'ang 2.25 244 *e*P Pn 22 26 07.1 +1.1
baz=242
TSCK Chigu Township 2.32 247 *e*P Pn 22 26 08.3 +1.3
baz=246
SCZT Fangliau 2.36 225 *e*P Pn 22 26 08.8 +1.2
baz=217
SCZT eS Sn 22 26 37.4 +2.0
baz=217
SLIU Shizi 2.36 219 *e*P Pn 22 26 08.1 +0.5
baz=226
SLIU eS Sn 22 26 35.5 -0.1
baz=226
KAU Kaohsiung 2.44 233 *e*P Pb 22 26 11.6 -2.5
baz=232
SMST Manzhou Townsh 2.50 216 *e*P Pn 22 26 10.1 +0.6
baz=214
SMST eS Sn 22 26 39.0 0.0
baz=214
HEN Hengchun 2.56 217 *e*P Pn 22 26 12.8 +2.4
baz=215
HEN eS Sn 22 26 42.0 +1.5
baz=215
TSEB Hengchuen, Pin 2.56 213 *e*P Pn 22 26 11.2 +0.9
baz=220
TSEB eS Sn 22 26 42.3 +1.7
baz=220
TWKBT Hengchun 2.58 215 *e*P Pn 22 26 11.0 +0.4
baz=213
TWKBT eS Sn 22 26 41.9 +1.1
baz=213
TWK1 Hengchun 2.58 216 *e*P Pn 22 26 11.2 +0.6
baz=213
TWK1 eS Sn 22 26 41.5 +0.6
baz=213
JIRB Irabujima 2.63 72 P Pn 22 26 12.9 +1.7
JIRB eS Sn 22 26 43.6 +1.5
JIRB Irabujima 2.63 72 A A 22 26 12.9
comp=E,22nm,2.9s,comp=E,22nm,3.5s
WDGT Dungji 2.65 253 *e*P Pn 22 26 13.5 +2.0
baz=241
WDGT eS Sn 22 26 43.9 +1.2
baz=241
PHUB P'eng-hu 2.66 259 *e*P Pn 22 26 13.5 +1.7
baz=271
PHUB eS Sn 22 26 43.5 +0.5
baz=271
PNG Penghu 2.67 260 *e*P Pn 22 26 13.3 +1.5
baz=258
PNG eS Sn 22 26 44.7 +1.6
baz=258
JIKM Ikemajima 2.72 71 *e*P Pn 22 26 14.2 +1.7
JIKM eS Sn 22 26 45.6 +1.2
JIKM Ikemajima 2.72 71 A A 22 26 14.2
comp=E,30nm,2.6s,comp=E,34nm,3.5s
JMJ Miyako jima 2 2.73 73 P Pn 22 26 14.8 +2.1
JMJ2 Miyako jima3 2.74 75 P Pn 22 26 15.0 +2.1
JMJ2 eS Sn 22 26 46.6 +1.7
JMJ2 Miyako jima3 2.74 75 A A 22 26 15.0
comp=E,35nm,3.6s,comp=E,34nm,3.1s
JOGS Gusukube 2.81 75 P Pn 22 26 15.6 +1.8
JOGS eS Sn 22 26 48.3 +1.6
JOGS Gusukube 2.81 75 A A 22 26 15.6
comp=E,33nm,3.3s,comp=E,37nm,2.8s
VWUC VWUC 2.86 290 *e*P Pn 22 26 15.2 +0.7
baz=287
VCHM Qimei 2.87 253 *e*P Pn 22 26 16.6 +2.0
baz=251
VCHM eS Sn 22 26 48.7 +0.6
baz=251
MATB Ma-tsu 3.06 313 *e*P Pn 22 26 17.1 -0.1
baz=299
PTMZ Houxiangcun 3.16 289 *e*P Pn 22 26 19.3 +0.8
baz=286
LYJJ Jianjiangzhen 3.46 316 *e*P Pn 22 26 22.7 0.0
baz=313
XPSS Dashiqiu 3.50 325 *e*P Pn 22 26 23.3 +0.1
baz=322
QZH Quanzhou 3.59 285 ⇑*i*Pn Pn 22 26 25.2 +0.6
QZH Sn Sn 22 27 04.0 -2.0
QZH smax smax
comp=N,2μm,1.0s
QZH smax smax
comp=E,920nm,1.1s
KNM Kinmen 3.65 276 *e*P Pn 22 26 27.8 +2.4
baz=273
MHZQ Yeshan 3.68 304 *e*P Pn 22 26 26.3 +0.5
baz=301
KNMB Chin-men Tao 3.70 277 Pn 22 26 26.7 +0.7
AXDP Jialang 4.14 283 *e*P Pn 22 26 33.0 +0.9
baz=269
ZPLA Ao Xicun 4.27 269 *e*P Pn 22 26 34.3 +0.4
baz=267
DSXP Dongshan 4.58 267 *e*P Pn 22 26 39.5 +1.3
baz=264

SXFK Yanhouchang 4.91 299 *e*P Pn 22 26 43.3 +0.6
baz=295
JAGN Aguni-jima 5.04 59 A A 22 26 47.2
comp=E,4.0nm,5.0s,comp=E,3.0nm,5.6s
JJT3 Tamagusuku3 5.29 66 A A 22 26 50.7
comp=E,13nm,4.6s,comp=E,12nm,2.9s
JOW Kunigami 5.97 61 P Pn 22 26 56.0 -1.2
15nm,0.3s,baz=161,slow=12,SNR=37
JOW S Sn 22 28 02.5 -2.1
52nm,0.7s,baz=143,slow=20,SNR=1.5
JOW LR LR 22 28 20.5
comp=Z,748nm,20.0s,baz=210,slow=29
32nm,0.3s
JOW Kunigami 5.97 61 Pn Pn 22 26 56.5 -0.8
JOW Kunigami 5.97 61 P Pn 22 26 56.7 -0.6
SSE Sheshan 7.09 351 Pn Pn 22 27 13.3 +0.6
SSE Sn Sn 22 28 34.0 +1.7
SSE smax smax
comp=N,120nm,1.4s
SSE smax smax
comp=E,170nm,1.2s
SSE LR LR
comp=N,2μm,16.1s
HKPS Hong Kong Po S 7.82 259 Pn Pn 22 27 22.9 +0.3
GZH Guangzhou 8.38 265 P Pn 22 27 27.2 -3.1
GZH S Sn 22 28 57.9 -6.0
GZH smax smax
comp=N,370nm,1.0s
GZH smax smax
comp=E,260nm,1.0s
NJ2 Nanjing 8.56 339 ⇓*i*P Pn 22 27 32.5 -0.3
NJ2 S Sn 22 29 06.9 -1.5
NJ2 pmax pmax
comp=Z,31nm,0.6s
NJ2 smax smax
comp=N,460nm,0.9s
NJ2 smax smax
comp=E,520nm,1.0s
NJ2 LR LR
comp=N,6μm,8.5s
NJ2 LR LR
comp=E,4μm,9.7s
NJ2 LR LR
comp=Z,8μm,13.1s
CNSH ChangSha 9.46 298 ⇑P Pn 22 27 45.6 +0.5
CNSH S Sn 22 29 27.1 -3.4
CNSH smax smax
comp=N,860nm,1.7s
CNSH smax smax
comp=E,790nm,1.1s
WHN Wuhan 9.65 314 ⇑P Pn 22 27 50.2 +2.5
WHN S Sn 22 29 31.4 -3.7
WHN LR LR
comp=N,9μm,5.6s
WHN LR LR
comp=E,4μm,6.5s
WHN LR LR
comp=Z,7μm,17.0s
LQP Lukban 9.93 185 ⇑*e*P Pn 22 27 42.6 -9.2
JNU Nakatsue 11.69 38 Pn Pn 22 28 16.2 +0.5
JTU Tsushima 12.07 29 Pn Pn 22 28 21.2 +0.3
JTU Tsushima 12.07 29 P Pn 22 28 20.5 -0.4
QIZ Qiongzhong 12.72 249 P Pn 22 28 30.0 +0.1
QIZ S Sn 22 30 55.8 +5.2
QIZ LR LR
comp=N,1μm,19.8s
QIZ LR LR
comp=E,1μm,19.2s
QIZ LR LR
comp=Z,1μm,20.2s
TIA Tai'an 12.95 341 ⇑P P 22 28 38.7 -4.4
TIA S Sn 22 31 24.0 +28
TIA pmax pmax
comp=Z,23nm,0.8s
TIA pmax pmax
comp=Z,780nm,11.0s
TIA LR LR
comp=N,3μm,13.8s
TIA LR LR
comp=E,980nm,10.4s
TIA LR LR
comp=Z,5μm,13.5s
TJN Taejon 13.00 18 Pn Pn 22 28 34.6 +1.1
TJN Taejon 13.00 18 P Pn 22 28 34.6 +1.1
ENH Enshi 13.06 301 Pn Pn 22 28 35.7 +1.2
LYN LuoYang 13.58 323 ⇑P P 22 28 52.8 +2.7
LYN S S 22 31 39.6 +5.7
LYN pmax pmax
comp=Z,50nm,0.9s
LYN LR LR
comp=N,4μm,16.2s
LYN LR LR
comp=E,2μm,13.2s
LYN LR LR
comp=Z,4μm,16.2s
KSAR Wonju Array Be 14.14 18 Pn Pn 22 28 51.5 +2.4
KSAR Wonju Array Be 14.14 18 P Pn 22 28 51.5 +2.4
KSRS Korea Array 14.16 18 P Pn 22 28 46.6 -2.8
comp=Z,0.3nm,0.3s,baz=202,slow=13,SNR=4.3
KSRS LR LR 22 34 48.2
comp=Z,2μm,18.9s,baz=195,slow=40
comp=Z,2.3nm,0.8s
KS19 Wonju Array Si 14.19 18 P P 22 28 56.1 -0.8
JHS Saijyo 14.33 38 P Pn 22 28 49.1 -2.6
TBP Tagbilaran 14.36 174 ⇓*e*P Pn 22 28 54.2 +2.0
GYA Guiyang 14.45 283 ⇓P Pn 22 28 55.6 +2.0
GYA pP P 22 29 03.4 +3.4
GYA S Sn 22 31 32.4 -0.5
GYA pmax pmax
comp=Z,14nm,0.8s
GYA LR LR
comp=Z,2μm,12.4s
GYA LR LR
comp=Z,2μm,18.7s
GYA LR LR
comp=Z,3μm,13.3s
HNS HongShan 14.85 335 ⇓P Pn 22 29 00.6 +1.9
HNS pP P 22 29 06.0 +1.8
HNS eS Sn 22 31 45.4 +3.2
HNS pmax pmax
comp=Z,13nm,1.2s
HNS LR LR
comp=Z,3μm,14.1s
HNS LR LR
comp=Z,3μm,13.5s
HNS LR LR
comp=Z,5μm,14.6s
XAN Xi'an 15.42 313 ⇑P Pn 22 29 07.3 +1.0
XAN pP P 22 29 12.9 +2.3
XAN sP pP 22 29 16.3 -1.8
XAN S Sn 22 31 55.6 -0.6
XAN pmax pmax
comp=Z,96nm,1.2s
XAN LR LR
comp=Z,1μm,13.1s
XAN LR LR
comp=Z,2μm,17.2s
XAN LR LR
comp=Z,2μm,16.2s
JWT Wachi 15.87 42 P P 22 29 15.8 +0.3
BJT Baijiatuau 16.76 343 P P 22 29 25.9 +0.5
BJT Baijiatuau 16.76 343 P P 22 29 25.9 +0.5
BJT pmax pmax
comp=Z,39nm,1.2s
BJI Beijing 16.78 343 P Pn 22 29 24.2 +0.6
BJI S Sn 22 32 25.3 -3.8
BJI pmax pmax
comp=Z,10.0nm,1.3s
BJI LR LR
comp=Z,590nm,13.2s
BJI LR LR
comp=Z,780nm,11.6s
BJI LR LR
comp=Z,3μm,14.2s
INU Inuyama 16.93 45 P Pn 22 29 26.2 +0.6
DAV Davao City (W) 17.16 169 LR LR 22 36 37.6
comp=Z,629nm,18.1s,baz=9.5,slow=38
DAV Davao City (W) 17.16 169 P P 22 29 34.1 +4.1
JGF Kuroka 17.31 45 Pn Pn 22 29 28.7 -1.6
JHJ Hachijo jima 2 17.70 55 LR LR 22 35 30.2
comp=Z,809nm,19.1s,baz=222,slow=34
SNY Shenyang 17.75 3 ⇓P P 22 29 37.7 +1.4
SNY pmax pmax
comp=Z,84nm,0.8s
CD2 Chengdu 17.89 297 P P 22 29 38.9 +0.8
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 LR LR
comp=Z,3μm,4.9s
CD2 LR LR
comp=Z,2μm,5.7s
CD2 LR LR
comp=Z,3μm,13.9s
KMI Kunming 17.93 277 ⇑P P 22 29 42.1 +3.4
KMI pmax pmax
comp=Z,13nm,1.0s
JCJ Chichijima 18.09 76 P Pn 22 29 39.2 -0.8
comp=Z,1.9nm,0.3s,baz=263,slow=16,SNR=2.5
JCJ LR LR 22 36 12.4
comp=Z,1μm,19.4s,baz=245,slow=36
comp=Z,73nm,0.9s
UBPT Khong Chiam 18.18 244 P Pn 22 29 38.2 -2.9
comp=Z,27nm,1.2s
MAJO Matsushiro 18.43 44 ⇓*e*P P 22 29 42.9 -1.0
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MJAR Matsushiro Arr 18.43 44 P P 22 29 42.0 -1.9
comp=Z,3.6nm,0.6s,baz=246,slow=10,SNR=9.8
MJAR LR LR 22 37 23.6
comp=Z,1μm,18.8s,baz=208,slow=39
PZH PanZhiHua 18.85 282 P Pn 22 29 51.5 +2.0
PZH pP sP 22 29 58.8 -0.6
PZH S Sn 22 33 20.4 +0.7
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax
comp=Z,480nm,11.0s
PZH LR LR
comp=Z,2μm,13.3s
PZH LR LR
comp=Z,1μm,14.1s
PZH LR LR
comp=Z,2μm,16.7s
KKM Kota Kinabalu 18.88 199 P P 22 29 48.5 -0.5
KKM Kota Kinabalu 18.88 199 P Pn 22 29 52.5 +2.7
comp=Z,997nmcomp=Z,52nm,1.1s
HHC Hu-ho-hao-te 19.05 334 *e*P Pn 22 29 54.6 +2.8
HHC pmax pmax
comp=Z,33nm,0.7s
HHC pmax pmax
comp=Z,1μm,7.0s
HHC LR LR
comp=Z,5μm,11.5s
HHC LR LR
comp=Z,2μm,12.5s
HHC LR LR
comp=Z,5μm,17.2s
MYLDM Lahad Datu 19.14 192 P Pn 22 29 53.4 +0.6
MYLDM Lahad Datu 19.14 192 P Pn 22 29 56.3 +3.4
comp=Z,43nm,0.9s
MSHR Mys Shultsa 19.84 19 *ce*P P 22 29 59.5 +0.2
MSHR pmax pmax
comp=Z,51nm,0.8s
CN2 Changchun 19.85 6 P P 22 29 59.6 +0.2
CN2 sP sP 22 30 13.2 +2.3
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,800nm,15.0s
CN2 LR LR
comp=Z,3μm,15.0s
LZH Lanzhou 20.01 311 *e*P Pn 22 30 04.1 +0.9
LZH pP pwP 22 30 10.6 +1.6
LZH sP sP 22 30 15.4 +2.8
LZH S Sn 22 33 47.2 -0.4
LZH pmax pmax
comp=Z,96nm,1.1s
LZH LR LR
comp=Z,2μm,12.5s
LZH LR LR
comp=Z,2μm,10.8s
LZH LR LR
comp=Z,3μm,15.5s
XLT XiLinHaoTe 20.46 347 *e*P P 22 30 06.7 +0.6
XLT pP sP 22 30 17.1 -0.2
XLT sP pP 22 30 18.5 +4.8
XLT PP **PnPn** 22 30 28.0 +4.1
XLT S **S** 22 33 48.4 -5.3
XLT sS Sn 22 34 01.0 +2.8
XLT pmax pmax
comp=Z,49nm,1.1s
XLT pmax pmax
comp=Z,540nm,9.8s
XLT LR LR
comp=Z,230nm,14.3s
XLT LR LR
comp=Z,1μm,16.0s
XLT LR LR
comp=Z,4μm,14.7s
SGSI Sangihe 20.48 171 P Pn 22 30 10.1 +1.5
comp=Z,15μmcomp=Z,237nm,0.5s
MDJ Mudanjiang 21.33 14 P P 22 30 15.1 -0.2
MDJ Mudanjiang 21.33 14 P P 22 30 15.4 +0.1
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,700nm,4.8s
PHRA Phrae 21.39 259 P P 22 30 18.1 +1.8
PHRA IAmb IAmb 22 30 27.0
comp=Z,234nm,1.1s
USA0B Ussuriysk Arra 21.57 19 P P 22 30 16.4 -1.4
USA0B Ussuriysk Arra 21.57 19 *de*P P 22 30 16.5 -1.4
USRK Ussuriysk Ar. 21.57 19 P P 22 30 16.3 -1.6
comp=Z,35nm,0.8s,baz=205,slow=10,SNR=92
USRK LR LR 22 39 02.1
comp=Z,2μm,18.1s,baz=202,slow=38
comp=Z,35nm,0.8s
USRK Ussuriysk Ar. 21.57 19 P P 22 30 16.1 -1.7
USRK Ussuriysk Ar. 21.57 19 P P 22 30 16.2 -1.7
TNCH TengChong 21.76 278 P P 22 30 22.7 +2.4
TNCH pP sP 22 30 29.7 -1.3
TNCH sP pwP 22 30 33.5 +2.1
TNCH PP **PnPn** 22 30 47.3 +5.5
TNCH S **S** 22 34 14.8 -4.9
TNCH sS Sn 22 34 28.1 -1.6
TNCH pmax pmax
comp=Z,61nm,1.0s
TNCH pmax pmax
comp=Z,490nm,9.1s
TNCH LR LR
comp=Z,560nm,10.0s
TNCH LR LR
comp=Z,2μm,14.7s
TNCH LR LR
comp=Z,3μm,15.1s
BNX BinXian 22.00 9 ⇓P P 22 30 20.3 -2.3
BNX pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 22.45 261 P P 22 30 29.3 +1.6
CHTO Chiang Mai 22.45 261 P P 22 30 29.3 +1.6
CHTO pmax pmax
comp=Z,17nm,1.1s
CM31 Chiang Mai Arr 22.56 260 P P 22 30 30.2 +1.3
CMAR Chiang Mai Arr 22.56 260 P P 22 30 31.0 +2.2
comp=Z,4.4nm,0.8s,baz=61,slow=8.7,SNR=36
CMAR PcP **PcP** 22 34 23.1 +1.3
comp=Z,4.8nm,0.7s,baz=38,slow=0.9,SNR=19
CMAR LR LR 22 40 19.3
comp=Z,471nm,20.2s,baz=280,slow=39
comp=Z,4.4nm,0.8s
CMAR Chiang Mai Arr 22.56 260 P P 22 30 30.2 +1.3
GAMI Galela, Maluku 22.69 166 P P 22 30 33.9 +3.7
comp=Z,2μmcomp=Z,119nm,1.0s
JTM Tenmabayashi 22.86 39 P P 22 30 28.3 -3.4
comp=Z,79nm,2.6s
TOLI2 Tolitoli 22.87 184 P P 22 30 33.1 +1.1
GTOI Gorontalo 23.29 178 P P 22 30 39.4 +3.1
comp=Z,371nmcomp=Z,28nm,1.9s
MRSI Marisa 23.45 181 P P 22 30 41.9 +4.1
comp=Z,944nmcomp=Z,40nm,1.4s
GUMO Guam 23.63 112 P P 22 30 40.4 +0.8
comp=Z,65nm,0.8s,baz=315,slow=13,SNR=4.0
GUMO LR LR 22 39 44.8
comp=Z,614nm,19.5s,baz=348,slow=36
comp=Z,65nm,0.8s
SBUM Sibu 23.64 206 P P 22 30 39.7 0.0
SBUM Sibu 23.64 206 P P 22 30 40.1 +0.4
comp=Z,17nm,0.8s
TNTI Ternate 23.64 168 P P 22 30 39.0 -0.8
TNTI IAmb IAmb 22 30 59.3

comp=Z,96nm,1.0s
TNTI Ternate 23.64 168 P **P** 22 30 41.8 +2.1
comp=Z,1μmcomp=Z,103nm,1.0s
MPSI Mapaga 23.71 186 P **P** 22 30 41.6 +1.3
comp=Z,572nmcomp=Z,40nm,0.9s
GTA Gaotai 24.48 314 ⇑P **P** 22 30 47.8 +0.3
GTA PcP **PcP** 22 34 26.4 +0.7
GTA ScP **ScP** 22 38 02.5 +0.1
GTA pmax pmax
comp=Z,88nm,0.8s
GTA pmax pmax
comp=Z,400nm,9.8s
GTA LR LR
comp=Z,740nm,17.5s
GTA LR LR
comp=Z,1μm,16.4s
GTA LR LR
comp=Z,2μm,16.4s
APSI Ampana 24.83 182 P P 22 30 58.0 +7.3
comp=Z,805nmcomp=Z,68nm,1.0s
ERM Erimo 24.85 39 P **P** 22 30 46.6 -4.1
JEM Erimo 24.85 39 P **P** 22 30 46.6 -4.1
LBMI Labuha 25.04 168 P **P** 22 30 55.5 +2.9
comp=Z,56μmcomp=Z,3μmcomp=Z,185nm,1.0s
HIA Hailar 25.25 356 P **P** 22 30 54.4 +0.1
HIA Hailar 25.25 356 P **P** 22 30 54.4 +0.1
HIA pmax pmax
comp=Z,17nm,0.9s
KSM Kuching 25.33 209 P **P** 22 30 56.0 +0.8
KSM Kuching 25.33 209 P **P** 22 30 58.8 +3.6
comp=Z,13μmcomp=Z,448nmcomp=Z,28nm,1.4s
MTKI Muara Teweh, K 25.90 197 P **P** 22 31 02.3 +1.9
comp=Z,78nm,0.8s
ASAJ Asahikawa 25.94 35 LR LR 22 40 39.8
comp=Z,644nm,19.9s,baz=206,slow=35
KLR Kul'dur 26.17 14 P **P** 22 31 01.1 -1.5
comp=Z,5.1nm,0.7s,baz=201,slow=14,SNR=16
KLR PcP **PcP** 22 34 28.5 -0.6
comp=Z,6.8nm,0.8s,baz=262,slow=2.9,SNR=9.8
KLR LR LR 22 42 32.6
comp=Z,1μm,18.6s,baz=204,slow=39
comp=Z,5.1nm,0.7s
KLR Kul'dur 26.17 14⇑*eP* **P** 22 31 01.8 -0.8
KLR pmax pmax
comp=Z,27nm,2.5s
SANI Sanana 26.18 172 P P 22 31 11.2 +8.2
SWI Sorong 26.22 160 P **P** 22 31 05.2 +1.9
SWI pmax pmax
comp=Z,21nm,0.8s
SIJI Sorong 26.23 160 P **P** 22 31 04.8 +1.4
comp=Z,11nm,0.7s,baz=346,slow=14,SNR=6.7
SIJI PcP **PcP** 22 34 29.3 -0.5
comp=Z,3.6nm,0.5s,baz=218,slow=23,SNR=2.5
SIJI LR LR 22 42 03.9
comp=Z,562nm,18.9s,baz=57,slow=38
comp=Z,11nm,0.7s
SIJI Sorong 26.23 160 P **P** 22 31 07.4 +4.0
comp=Z,16nm,0.9s
HEH HeiHe 26.44 7 *eP* **P** 22 31 03.2 -1.7
HEH pmax pmax
comp=Z,23nm,0.8s
GOMU GeErMu 26.67 303 P **P** 22 31 08.8 +1.1
GOMU pmax pmax
comp=Z,16nm,0.9s
ULN Ulaanbaatar 26.71 337 P **P** 22 31 06.9 -0.8
ULN Ulaanbaatar 26.71 337 P **P** 22 31 07.0 -0.7
comp=Z,117nm,0.8s
ULN Ulaanbaatar 26.71 337*c iP* **P** 22 31 07.1 -0.7
ULN pmax pmax
comp=Z,55nm,1.7s
SONM Songino Array 26.93 336 P **P** 22 31 08.7 -1.0
comp=Z,28nm,0.8s,baz=150,slow=9.8,SNR=149
SONM PcP **PcP** 22 34 30.9 -0.2
comp=Z,4.6nm,1.0s,baz=145,slow=1.8,SNR=4.8
SONM ScP **ScP** 22 38 08.0 -1.3
comp=Z,1.2nm,0.9s,baz=187,slow=1.4,SNR=3.5
SONM LR LR 22 42 59.8
comp=Z,2μm,19.6s,baz=137,slow=39
comp=Z,28nm,0.8s
SONM Songino Array 26.93 336 P **P** 22 31 08.4 -1.2
SONM IAmb IAmb 22 31 10.2
comp=Z,35nm,0.8s
SONM Songino Array 26.93 336 P **P** 22 31 08.4 -1.2
SONM pmax pmax
comp=Z,35nm,0.8s
NLAI Namlea 27.51 170 P **P** 22 31 19.8 +4.9
comp=Z,40nm,0.9s
SHL Shillong 27.73 280 P **P** 22 31 17.3 +0.2
SHL IAmb IAmb 22 31 34.7
comp=Z,30nm,1.0s
SHL Shillong 27.73 280 P **P** 22 31 17.3 +0.2
SHL pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 28.05 30 P **P** 22 31 19.7 +0.2
YSS IAmb IAmb 22 31 21.4
comp=Z,32nm,0.9s
YSS Yuzh-Sakhalins 28.05 30 *eP* **P** 22 31 19.6 +0.1
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,600nm,8.6s
BBKI Banjar Baru 28.33 196 P P 22 31 37.4 +15
IPM Ipoh 28.35 230 P **P** 22 31 22.8 +0.3
LSA Lhasa 28.40 288 P **P** 22 31 24.8 +1.4
LSA Lhasa 28.40 288 P **P** 22 31 25.0 +1.7
LSA pP **pP** 22 31 30.6 -0.7
LSA S **S** 22 36 07.2 -1.7
LSA pmax pmax
comp=Z,16nm,0.8s
LSA LR LR
comp=Z,410nm,12.8s
LSA LR LR
comp=Z,730nm,14.2s
LSA LR LR
comp=Z,1μm,14.2s
LSA Lhasa 28.40 288 P **P** 22 31 25.2 +1.9
LSA Lhasa 28.40 288 P **P** 22 31 24.8 +1.4
LSA pmax pmax
comp=Z,16nm,0.8s
FAKI Fak Fak 28.47 159 P **P** 22 31 24.0 +0.5
FAKI IAmb IAmb 22 31 30.1
comp=Z,26nm,0.9s
FAKI Fak Fak 28.47 159 P **P** 22 31 26.9 +3.4
ZEA Zeya 29.86 6 *eP* **P** 22 31 34.3 -1.2
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZAK Zakamensk 30.19 335 *eP* P 22 31 31.4 -7.2
PSI Prapat 31.01 231 P **P** 22 31 48.6 +2.4
comp=Z,111nm,0.9s
PSI Prapat 31.01 231 P **P** 22 31 47.4 +1.2
PSI pmax pmax
comp=Z,22nm,1.3s
RPSI Rantau Prapat 31.09 230 P **P** 22 31 47.4 +0.7
MOY Mondy 32.10 335 *eP* **P** 22 31 54.1 -1.3
MOY pmax pmax
comp=Z,30nm,2.4s
JAGI Jajag, Banyuwa 33.32 195 P **P** 22 32 05.1 -1.2
JAGI IAmb IAmb 22 32 31.0
comp=Z,75nm,1.7s
BJII Banjamegara 33.58 203 P **P** 22 32 12.1 +3.5
comp=Z,373nmcomp=Z,17nm,0.7s
WMQ Urumqi 34.56 313 *eP* **P** 22 32 18.1 +1.2
WMQ pP sP 22 32 27.4 -0.6
WMQ pmax pmax
comp=Z,52nm,0.7s
DGZ Jazzator, Alta 37.38 322*d iP* **P** 22 32 41.2 +0.1
DGZ pmax pmax
comp=Z,12nm,1.0s
MTN Manton Dam 37.65 166 P **P** 22 32 42.6 -0.9
MTN IAmb IAmb 22 33 00.7
comp=Z,58nm,1.4s
ZSN Zaisan 37.85 318 *eP* **P** 22 32 43.5 -1.4
comp=Z,7.4nm,0.8s,baz=316
ZSN Zaisan 37.85 318 *eP* **P** 22 32 43.5 -1.4
ZSN pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 38.28 6 LR LR 22 49 05.9
comp=Z,664nm,19.7s,baz=258,slow=37
YAK Yakutsk 38.28 6 P **P** 22 32 45.6 -2.6
YAK IAmb IAmb 22 32 47.1
comp=Z,74nm,0.9s
YAK Yakutsk 38.28 6*d iP* **P** 22 32 46.1 -2.1
YAK *e**PP **pP** 22 32 57.2 +0.5
YAK *e* 22 34 11.3
YAK *e* 22 34 59.8
YAK *eS* **S** 22 38 37.4 -2.8
YAK *e**SS **sS** 22 38 57.2 +2.8
YAK *eSS* **SnSn** 22 41 20.2 -5.9
YAK *eSSS* SSS 22 41 43.0
YAK *e* 22 42 54.0
YAK pmax pmax
comp=Z,74nm,0.9s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=E,12nm,1.0s
YAK pmax pmax
comp=Z,519nm,10.6s
YAK pmax pmax
comp=N,285nm,5.2s
YAK pmax pmax
comp=E,169nm,4.8s
YAK smax smax
comp=E,124nm,3.5s
YAK smax smax
comp=N,122nm,3.5s
MKAR Makanchi Array 39.21 316 P **P** 22 32 56.6 +0.2
comp=N,62nm,0.9s,baz=93,slow=10,SNR=200
MKAR PcP **PcP** 22 35 04.5 -0.7
comp=N,8.3nm,0.8s,baz=116,slow=3.4,SNR=5.7
comp=N,62nm,0.9s
MKAR Makanchi Array 39.21 316 P **P** 22 32 56.4 0.0
MKAR PcP **PcP** 22 35 05.4 +0.2
MKAR Makanchi Array 39.21 316 *i* P **P** 22 32 56.5 +0.2
MKAR pmax pmax
comp=Z,64nm,0.9s
PETK Petropavlovsk- 39.35 33 P **P** 22 32 54.2 -3.1
comp=Z,1.5nm,0.4s,baz=224,slow=8.1,SNR=4.9
comp=Z,1.5nm,0.4s
MAKZ Makanchi 39.42 315 P **P** 22 32 57.9 -0.2
MAKZ IAmb IAmb 22 32 59.5
comp=Z,100nm,1.1s
MAKZ Makanchi 39.42 315 P **P** 22 32 57.9 -0.2
MAKZ pmax pmax
comp=Z,100nm,1.1s
SHLS Shalkode 40.01 309⇑*iP* **P** 22 33 01.6 -1.6
comp=Z,29nm,0.8s,baz=308
SHLS Shalkode 40.01 309*c iP* **P** 22 33 01.6 -1.6
SHLS pmax pmax
comp=Z,29nm,0.8s
UZB Uzynbulak 40.32 309 *eP* **P** 22 33 06.0 +0.2
comp=Z,17nm,1.2s,baz=308
UZB Uzynbulak 40.32 309 *eP* **P** 22 33 06.0 +0.2
UZB pmax pmax
comp=Z,17nm,1.2s
KRVT Keravat (AS076 40.33 130 LR LR 22 49 37.7
comp=Z,356nm,18.0s,baz=134,slow=36
KPKS Kokpek 40.64 309⇑*iP* **P** 22 33 08.8 +0.4
comp=Z,28nm,0.9s,baz=308
KPKS Kokpek 40.64 309*c iP* **P** 22 33 08.7 +0.4
KPKS pmax pmax
comp=Z,28nm,0.9s
SATY Saty 40.74 309⇑*iP* **P** 22 33 10.3 +1.0
comp=Z,16nm,0.7s,baz=308
SATY Saty 40.74 309*c iP* **P** 22 33 10.2 +1.0
SATY pmax pmax
comp=Z,17nm,0.7s
TARG Taragay, Kyrgy 40.89 307 P **P** 22 33 12.2 +1.3
TARG IAmb IAmb 22 33 14.0
comp=Z,49nm,1.2s
TARG Taragay, Kyrgy 40.89 307 P **P** 22 33 12.2 +1.3
TARG pmax pmax
comp=Z,49nm,1.2s
ZAA0 Zalesovo Array 40.96 327 P **P** 22 33 09.5 -1.3
ZAA0 IAmb IAmb 22 33 11.1
comp=Z,53nm,0.8s
ZALV Zalesovo Beam 40.96 327 P **P** 22 33 09.0 -1.8
comp=Z,60nm,0.8s,baz=112,slow=7.8,SNR=199
ZALV PcP **PcP** 22 35 09.5 -1.1
comp=Z,5.9nm,0.7s,baz=102,slow=3.6,SNR=5.7
ZALV LR LR 22 50 55.4
comp=Z,485nm,18.3s,baz=84,slow=37
comp=Z,60nm,0.8s
ZALV Zalesovo Beam 40.96 327 P **P** 22 33 09.5 -1.3
ZALV Zalesovo Beam 40.96 327 *i* P **P** 22 33 09.5 -1.3
ZALV pmax pmax
comp=Z,60nm,0.8s
PMG Port Moresby 41.12 141 P **P** 22 33 13.1 +0.7
comp=Z,3.3nm,0.3s,baz=322,slow=12,SNR=1.3
comp=Z,3.3nm,0.3s
PMG Port Moresby 41.12 141 P **P** 22 33 11.9 -0.5
PMG Port Moresby 41.12 141⇓*eP* **P** 22 33 12.6 +0.2
PMG pmax pmax
comp=Z,14nm,1.5s
TDK Taldyqorghan 41.22 312⇑*iP* **P** 22 33 14.2 +1.1
comp=Z,101nm,0.8s,baz=311
TDK Taldyqorghan 41.22 312*c iP* **P** 22 33 14.1 +1.0
TDK pmax pmax
comp=Z,101nm,0.8s
MDOK Medeo 41.73 309 *eP* **P** 22 33 17.9 +0.4
baz=308
MDOK Medeo 41.73 309 *eP* **P** 22 33 17.8 +0.4
KSH Kashi 41.91 303 P **P** 22 33 23.7 +4.8
KSH pP pwP 22 33 30.6 -0.1
KSH pmax pmax
comp=Z,52nm,0.9s
CHKK Chushkaly 41.93 310 *eP* **P** 22 33 19.2 +0.3
baz=308
CHKK Chushkaly 41.93 310 *eP* **P** 22 33 19.1 +0.3
ULHL Ulahol 42.13 307 P **P** 22 33 22.7 +1.8
SNR=6.1
NRN Naryn 42.17 306 P **P** 22 33 22.4 +1.1
NRN Naryn 42.17 306 P **P** 22 33 22.4 +1.1
NRN pmax pmax
comp=Z,98nm,0.9s
KUU Kurty 42.39 309⇑*iP* **P** 22 33 23.4 +0.7
comp=Z,52nm,0.8s,baz=308
KUU Kurty 42.39 309*c iP* **P** 22 33 23.4 +0.7
KUU pmax pmax
comp=Z,52nm,0.8s
BOOM Boomskoye usch 42.40 307 P **P** 22 33 23.6 +0.7
BOOM Boomskoye usch 42.40 307 P **P** 22 33 23.6 +0.7
BOOM pmax pmax
comp=Z,20nm,0.9s
TKM2 Tokmak 2 42.73 308 P **P** 22 33 27.3 +1.7
SNR=95
COEN Coen 42.88 150 P **P** 22 33 25.9 -1.0
KURK Kurchatov 42.91 320 P **P** 22 33 25.8 -0.9
KURK IAmb IAmb 22 33 28.0
comp=Z,54nm,0.9s
KURK Kurchatov 42.91 320*c iP* **P** 22 33 26.2 -0.5
KURK pmax pmax
comp=Z,59nm,0.8s
KURBB Kurchatov Arra 42.93 320 P **P** 22 33 26.4 -0.4
comp=Z,39nm,0.9s,baz=109,slow=8.1,SNR=159
KURBB PcP **PcP** 22 35 16.3 -0.8
comp=Z,7.1nm,0.8s,baz=113,slow=4.0,SNR=8.0
comp=Z,39nm,0.9s
KBK Karagaybulak 43.15 307 P **P** 22 33 30.8 +1.8
SNR=39
PALK Pallekele 43.29 254 P **P** 22 33 32.4 +2.2
comp=Z,5.0nm,0.9s,baz=59,slow=5.9,SNR=1.4
PALK PcP **PcP** 22 35 19.8 +0.8
comp=Z,2.4nm,0.6s,baz=90,slow=1.0,SNR=1.8
comp=Z,5.0nm,0.9s
CHMS Chumysh 43.35 308 P **P** 22 33 31.8 +1.3
SNR=43
UCH Uchtor 43.40 307 P **P** 22 33 33.6 +2.3
SNR=84
AAK Ala-Archa 43.48 307 P **P** 22 33 33.1 +1.5
SNR=27
AAK Ala-Archa 43.48 307 P **P** 22 33 32.8 +1.2
comp=Z,23nm,0.8s,baz=119,slow=5.9,SNR=60
AAK PcP **PcP** 22 35 19.2 -0.2
comp=Z,3.8nm,0.7s,baz=90,slow=3.0,SNR=2.9
comp=Z,23nm,0.8s
AAK Ala-Archa 43.48 307 P **P** 22 33 32.6 +1.0
AAK IAmb IAmb 22 33 34.1
comp=Z,31nm,0.9s
AAK Ala-Archa 43.48 307 P **P** 22 33 33.0 +1.3
AAK Ala-Archa 43.48 307 P **P** 22 33 32.6 +1.0
AAK pmax pmax
comp=Z,31nm,1.0s
SGDS Sogindy 43.52 308⇑*iP* **P** 22 33 31.9 +0.1
comp=Z,13nm,1.2s,baz=308
SGDS Sogindy 43.52 308*c iP* **P** 22 33 31.9 +0.1
SGDS pmax pmax
comp=Z,13nm,1.2s
USP Ospenovka 43.58 308 P **P** 22 33 33.5 +1.2
SNR=20
SEY Seymchan 43.72 19 LR LR 22 53 06.6
comp=Z,699nm,21.1s,baz=144,slow=38
NIL Nilore 43.76 294 P **P** 22 33 34.2 +0.3
NIL IAmb IAmb 22 33 36.0
comp=Z,40nm,1.0s
NIL Nilore 43.76 294 P **P** 22 33 34.2 +0.3
NIL pmax pmax
comp=Z,40nm,1.0s
AML Almayashu 43.98 306 P **P** 22 33 38.0 +2.0
SNR=72
EKS2 Erkin-Say 44.00 307 P **P** 22 33 37.2 +1.4
SNR=26
BTLS Baital 44.24 311⇑*iP* **P** 22 33 37.8 +0.2
comp=Z,18nm,0.9s,baz=310
BTLS Baital 44.24 311*c iP* **P** 22 33 37.7 +0.2
BTLS pmax pmax
comp=Z,18nm,0.9s
WB0 Warramunga Arr 45.10 164 P **P** 22 33 44.8 +0.3
WB0 IAmb IAmb 22 34 02.6
comp=Z,16nm,0.8s
WRAB Tennant Creek 45.25 164⇑*eP* **P** 22 33 47.0 +1.3
WRAB pmax pmax
comp=Z,25nm,2.1s
WRA Warramunga Arr 45.25 164 P **P** 22 33 46.6 +0.8
comp=Z,5.6nm,0.8s,baz=344,slow=8.5,SNR=38
WRA PcP **PcP** 22 35 25.4 -0.1
comp=Z,5.8nm,0.9s,baz=348,slow=3.9,SNR=5.4
comp=Z,5.6nm,0.8s
WRA Warramunga Arr 45.25 164 P **P** 22 33 45.6 -0.2
WRA Warramunga Arr 45.25 164 P **P** 22 33 45.6 -0.2
WRA pmax pmax
comp=Z,1.0nm,1.0s
WB2 Warramunga Arr 45.26 164 P **P** 22 33 46.4 +0.6
WB2 IAmb IAmb 22 34 03.9
comp=Z,18nm,0.9s
WR0 Warramunga Arr 45.32 164 P **P** 22 33 46.3 0.0
WR0 IAmb IAmb 22 34 04.4
comp=Z,18nm,0.8s
PSA00 Pilbara Seismi 45.43 183 P **P** 22 33 47.2 +0.1
DZA Taraz 45.82 307 *eP* **P** 22 33 50.3 +0.2
baz=306
DZA Taraz 45.82 307 *eP* **P** 22 33 50.3 +0.2
BTK Batken 45.92 303 P **P** 22 33 51.8 +0.7
BTK IAmb IAmb 22 33 53.4
comp=Z,74nm,1.4s
BTK Batken 45.92 303 P **P** 22 33 51.8 +0.7
BTK pmax pmax
comp=Z,74nm,1.4s
BRZS Berezniki 46.29 317⇑*iP* **P** 22 33 53.6 -0.2
comp=Z,14nm,0.7s,baz=316
BRZS Berezniki 46.29 317*c iP* **P** 22 33 53.5 -0.2
BRZS pmax pmax
comp=Z,14nm,0.7s
KK31 Karatay Array 46.44 307 IAmb IAmb 22 33 57.2
comp=Z,20nm,0.8s
KKAR Karatay Array 46.44 307 IAmb IAmb 22 33 57.2
comp=Z,20nm,0.8s
IUG luzhnay 46.69 306⇑*iP* **P** 22 33 58.4 +1.2
baz=305
IUG luzhnay 46.69 306*c iP* **P** 22 33 58.3 +1.2
TAS Tashkent 47.17 305 P **P** 22 34 02.0 +1.2
TAS Tashkent 47.17 305 P **P** 22 34 02.0 +1.2
TAS pmax pmax
comp=Z,89nm,0.8s
KBL Kabul 47.23 296 P **P** 22 34 02.6 +1.0
KBL Kabul 47.23 296 P **P** 22 34 02.6 +1.0
KBL pmax pmax
comp=Z,62nm,0.9s
TIXI Tiksi 47.76 3 LR LR 22 56 37.4
comp=Z,2μm,19.2s,baz=52,slow=39
TIXI Tiksi 47.76 3 P **P** 22 34 02.5 -2.3
TIXI IAmb IAmb 22 34 03.7
comp=Z,14nm,0.8s
TIXI Tiksi 47.76 3⇓*eP* **P** 22 34 02.6 -2.3
TIXI pmax pmax
comp=Z,17nm,0.8s
BVAR Borovoye Array 48.48 321 P **P** 22 34 10.3 -0.4
comp=Z,18nm,0.7s,baz=109,slow=11,SNR=63
BVAR PcP **PcP** 22 35 36.0 -0.5
comp=Z,19nm,0.7s,baz=108,slow=3.5,SNR=14
comp=Z,18nm,0.7s
BRVK Borovoye 48.55 321 P **P** 22 34 11.0 -0.3
BRVK IAmb IAmb 22 34 12.6
comp=Z,38nm,0.8s
BRVK Borovoye 48.55 321 P **P** 22 34 11.0 -0.3
BRVK pmax pmax
comp=Z,38nm,0.8s
AS31 Alice Springs 48.73 166 P **P** 22 34 13.8 +0.9
ASAR Alice Springs 48.73 166 P **P** 22 34 14.7 +1.7
comp=Z,3.4nm,0.6s,baz=343,slow=6.9,SNR=21
comp=Z,3.4nm,0.6s
ASAR Alice Springs 48.73 166 P **P** 22 34 13.4 +0.4
ASAR Alice Springs 48.73 166 P **P** 22 34 13.4 +0.4
NRIK Noril'sk 49.82 345 P **P** 22 34 18.6 -2.1
comp=Z,7.7nm,0.7s,baz=121,slow=9.0,SNR=11
NRIK PcP **PcP** 22 35 39.9 -1.1
comp=Z,8.9nm,0.8s,baz=132,slow=3.3,SNR=5.0
comp=Z,7.7nm,0.7s
NRIK Noril'sk 49.82 345 IAmb IAmb 22 35 41.6
comp=Z,18nm,1.1s
NRIK Noril'sk 49.82 345*de*P **P** 22 34 18.6 -2.1
NRIK pmax pmax
comp=Z,11nm,0.9s
BILL Bilibino 51.42 19 *i* P **P** 22 34 31.0 -1.8
BILL *i* 22 35 46.4
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,686nm,15.0s
HRA Herat 52.85 296 P **P** 22 34 44.8 +0.6
ABKAR Akbulak array 54.33 314 IAmb IAmb 22 34 55.9
comp=Z,34nm,0.7s
SVE Sverdlovsk 54.81 324*de*P **P** 22 34 57.4 -0.5
SVE pmax pmax
comp=Z,32nm,0.9s
GEYT Alibeck 55.83 301 P **P** 22 35 07.4 +1.8
comp=Z,77nm,0.8s,baz=79,slow=3.2,SNR=186
comp=Z,77nm,0.8s
GEYT Alibeck 55.83 301 P **P** 22 35 07.2 +1.5
GYA0B ALIBECK ARRAY 55.83 301 P **P** 22 35 07.2 +1.5
ARU Arti 55.88 323 P **P** 22 35 04.4 -1.2
ARU IAmb IAmb 22 35 05.6
comp=Z,22nm,0.8s
ARU Arti 55.88 323*c iP* **P** 22 35 04.5 -1.2
ARU 22 35 59.4
ARU 22 37 12.2
ARU S **S** 22 42 51.7 +0.6
ARU SS **SS** 22 46 41.2 +4.4
ARU pmax pmax
comp=Z,25nm,0.8s
ARU MLR MLR
comp=Z,676nm,18.0s
STKA Stephens Creek 58.57 161 P **P** 22 35 25.8 +0.9
comp=Z,7.6nm,0.8s,baz=339,slow=7.5,SNR=10
comp=Z,7.6nm,0.8s
STKA Stephens Creek 58.57 161 P **P** 22 35 25.3 +0.5
STKA Stephens Creek 58.57 161 P **P** 22 35 25.3 +0.5
STKA pmax pmax
comp=Z,3.0nm,1.0s
BANOM Banah 59.37 287 *i* P **P** 22 35 32.1 +1.4
SNR=8.7
SHME Shamm 59.47 287 P **P** 22 35 32.6 +1.2
MSFE Esma-Masafi 59.62 286 P **P** 22 35 34.1 +1.6
UOSS Minazif 59.69 286 P **P** 22 35 33.2 +0.3
UOSS Minazif 59.69 286 P **P** 22 35 33.7 +0.8
HATD Hatta, Dubai 59.78 286 *i* P **P** 22 35 34.8 +1.3
SNR=8.5
HATD P **pP** 22 35 35.1 -6.8
ASHO Ashiyiah 59.88 286 *i* P **P** 22 35 35.5 +1.3
SNR=11
NAZ Nazwa, Dubai 60.15 286 P **P** 22 35 37.3 +1.2
FAQ Al Faqa, Dubai 60.27 286 P **P** 22 35 38.0 +1.1
ALNE Al Ain 60.31 285 *i* P **P** 22 35 38.4 +1.2
SNR=11
ASUD Al Ashush, Dub 60.53 286 P **P** 22 35 40.3 +1.6
KIRV Kirov 60.97 325*ce*P **P** 22 35 39.8 -1.2
BELG Belogornoye 62.14 318*d iP* **P** 22 35 48.6 -0.5
BELG pmax pmax
comp=Z,6.0nm,0.9s
DZM Mont Dzumac 62.73 134 LR LR 22 58 35.2
comp=Z,318nm,21.4s,baz=222,slow=32
PRGR Permogore 62.87 329 *eP* **P** 22 35 51.8 -2.0
PRGR *e* 22 36 29.7
PRGR pmax pmax
comp=Z,45nm,1.0s
MAK Makhachkala 63.26 307 *eP* **P** 22 35 56.8 +0.1
MAK *eS* **S** 22 44 28.1 +1.4
MAK pmax pmax
comp=Z,41nm,0.9s

AKT Akhty 63.33 306 *e*P P 22 35 57.9 +0.5
AKT *e* 22 36 33.9
AKT *e* 22 38 17.7
AKT pmax pmax
comp=Z,46nm,0.8s
SEKA Sheki 63.77 306 P P 22 36 01.0 +0.8
MNGR Mingechevir, A 63.93 305 P P 22 36 02.9 +1.7
ZKTA Zakatala 64.12 306 P P 22 36 03.9 +1.4
GROC Groznyy 64.46 308 *e*P P 22 36 04.2 -0.4
GROC *e**PP pwP 22 36 17.3 +0.5
GROC *e* 22 36 36.3
GROC pmax pmax
comp=Z,119nm,1.1s
GANJ Ganja 64.52 305 P P 22 36 06.4 +1.3
NAX Nakhchivan 65.43 304 P P 22 36 11.5 +0.4
O18K Koktuh Hills 65.72 33 IAmb IAmb 22 36 14.7
comp=Z,15nm,0.8s
J20K Nowinta River 65.78 28 IAmb IAmb 22 36 22.3
comp=Z,13nm,1.0s
IMAR Indian Mountai 65.79 26 P P 22 36 11.4 -1.5
GNI Garni 65.80 305 P P 22 36 14.0 +0.4
GNI IAmb IAmb 22 36 23.9
comp=Z,28nm,0.8s
GNI Garni 65.80 305 P P 22 36 14.9 +1.3
GNI Garni 65.80 305 *c* *i*P P 22 36 15.1 +1.5
GNI pmax pmax
comp=Z,63nm,1.7s
KLMR Klimovskoe 65.87 328 *e*P P 22 36 10.1 -3.3
KLMR AMP 22 36 13.2
comp=Z,17nm,1.0s
KLMR *e*PcP PcP 22 36 41.1 -3.1
KLMR Klimovskoe 65.87 328 *e*P P 22 36 10.1 -3.3
KLMR *e* 22 36 41.1
KLMR pmax pmax
comp=Z,17nm,1.0s
ZEI Tsey 65.90 308 *e*P P 22 36 10.0 -4.2
ZEI pmax pmax
comp=Z,40nm,1.0s
VRH Novokhopyorsk 65.91 317 *e*P P 22 36 11.0 -2.9
VRH pmax pmax
comp=Z,20nm,0.9s
GOF Gofitskoye 66.08 310⇑ *e*P P 22 36 15.6 +0.5
H21K Melozitna Rive 66.21 27 P P 22 36 15.4 -0.1
H21K IAmb IAmb 22 36 23.5
comp=Z,9.6nm,0.8s
ONI Oni 66.26 308 P P 22 36 17.9 +1.5
ONI IAmb IAmb 22 36 19.1
comp=Z,44nm,1.0s
ONI Oni 66.26 308 P P 22 36 17.9 +1.5
ONI pmax pmax
comp=Z,44nm,1.0s
KBZ Khabaz 66.44 309 P P 22 36 17.8 +0.4
comp=Z,25nm,0.9s,baz=92,slow=4.5,SNR=54
comp=Z,25nm,0.9s
KBZ Khabaz 66.44 309 *c* *e*P P 22 36 18.2 +0.8
KIV Kislovodsk 66.54 309 ⇑P P 22 36 19.2 +0.9
KIV Kislovodsk 66.54 309 P P 22 36 18.2 0.0
KIV Kislovodsk 66.54 309 *i* P P 22 36 19.1 +0.9
SNR=30
KIV Kislovodsk 66.54 309 *e*P P 22 36 19.1 +0.9
KIV pmax pmax
comp=Z,57nm,1.0s
CAST Castle Rocks 66.78 29 IAmb IAmb 22 36 27.2
comp=Z,9.4nm,0.8s
TOLK Toolik Lake Re 67.12 23 IAmb IAmb 22 36 22.3
comp=Z,13nm,0.8s
VORR Voronezh 67.39 318 *e*P P 22 36 22.3 -1.0
VORR pmax pmax
comp=Z,20nm,0.6s
LPSR Galich'ya Gora 67.39 319 *e*P P 22 36 21.7 -1.6
LPSR pmax pmax
comp=Z,10.0nm,0.7s
GEVA Gevas 67.47 303 P P 22 36 25.5 +1.2
VSR Storozhevoye 67.50 317 *e*P P 22 36 21.4 -2.6
VSR pmax pmax
comp=Z,20nm,1.2s
H23K Yukon River 67.52 26 IAmb IAmb 22 36 25.6
comp=Z,16nm,0.8s
MOS Moscow 67.59 322 *e*P P 22 36 22.9 -1.6
NEA2 Nenana 67.92 28 IAmb IAmb 22 36 28.5
comp=Z,23nm,1.2s
GURO Guroymak-BITLI 68.20 304 IAmb IAmb 22 36 31.3
comp=Z,30nm,0.8s
MDM Murphy Dome 68.21 27 IAmb IAmb 22 36 30.1
comp=Z,17nm,1.0s
RND Reindeer 68.22 29 IAmb IAmb 22 36 29.7
comp=Z,15nm,0.9s
OBN Obninsk 68.30 322 *c* *e*P P 22 36 29.0 +0.1
OBN *i* 22 36 54.3
OBN *e* 22 38 58.5
OBN pmax pmax
comp=Z,28nm,2.5s
OBN MLR MLR
comp=Z,562nm,17.0s
POKR Poker Plat Res 68.51 27 IAmb IAmb 22 36 32.0
comp=Z,12nm,0.7s
SOC Sochi 68.72 309 *e*P P 22 36 30.2 -1.6
SOC *e*S S 22 45 32.3 -0.9
SOC *e*SS SS 22 49 57.5 -0.3
SOC pmax pmax
comp=Z,30nm,0.9s
ILAR Eielson Array 68.81 27 P P 22 36 30.3 -1.7
comp=Z,1.3nm,0.7s,baz=295,slow=9.7,SNR=19
comp=Z,1.3nm,0.7s
BMAR Burnt Mountain 69.18 24 P P 22 36 33.4 -0.9
RAYN Ar Rayn 69.46 287 *i* P P 22 36 37.5 +0.6
SNR=29
RAYN Ar Rayn 69.46 287 ⇑P P 22 36 37.5 +0.6
SPA0 Spitsbergen Ar 69.84 348 *e*P P 22 36 37.1 -1.1
SPA0 IAmb IAmb 22 36 38.4
comp=Z,34nm,1.0s
SPITS Spitsbergen Ar 69.84 348 P P 22 36 37.2 -1.0
SPITS pmax pmax
comp=Z,28nm,0.9s
RIDG Independent Ri 69.90 28 P P 22 36 38.6 -0.2
RIDG IAmb IAmb 22 37 02.4
comp=Z,18nm,0.9s
ANN Anapa 70.03 311 *e*P P 22 36 46.2 +6.3
ANN pmax pmax
comp=Z,118nm,1.0s
ARA0 ARCESS Array S 70.07 338 *e*P P 22 36 39.4 -0.4
ARCES ARCESS Array B 70.07 338 P P 22 36 39.0 -0.8
comp=Z,8.3nm,0.9s,baz=74,slow=7.6,SNR=13
comp=Z,8.3nm,0.9s
J26L Joseph Creek 70.26 27 IAmb IAmb 22 36 41.8
comp=Z,10nm,0.8s
KBS Kingsbay 70.37 349 *e*P P 22 36 48.9 +7.5
L26K Log Cabin Wild 70.73 29 IAmb IAmb 22 38 01.8
comp=Z,49nm,1.9s
KTK1 Kautokeino 71.00 338 *e*P P 22 36 44.6 -0.8
K27K Chicken 71.01 28 IAmb IAmb 22 36 48.0
comp=Z,9.7nm,0.8s
M26K Nabesna, AK 71.05 29 IAmb IAmb 22 37 08.1
comp=Z,17nm,1.1s
JETT Jettan, Norway 71.78 339 *e*P P 22 36 50.0 -0.1
TOKA Tokat 71.89 307 P P 22 36 51.8 +0.4
TOKA IAmb IAmb 22 36 53.1
comp=Z,30nm,0.9s
FIA1 FINESS Array S 72.12 330 IAmb IAmb 22 36 53.1
comp=Z,24nm,1.0s
FINES FINESS Array B 72.12 330 P P 22 36 51.9 -0.3
comp=Z,18nm,0.8s,baz=56,slow=5.7,SNR=55
FINES LR LR 23 11 59.7
comp=Z,1µm,18.9s,baz=123,slow=39
comp=Z,18nm,0.8s
FINES FINESS Array B 72.12 330 P P 22 36 51.7 -0.6
I29M Ogilvie Camp, 72.17 26 P P 22 36 53.1 +0.6
GAZ Gaziantep 72.25 303 P P 22 36 54.7 +1.1
SIM Simferopol' 72.26 312 *e*P P 22 36 54.3 +0.9
SIM *e* 22 37 12.0
SIM *e* 22 39 36.0
SIM pmax pmax
comp=Z,42nm,0.9s
DIKM Dikmen 72.40 308 ⇓P P 22 36 54.7 +0.4
EPYK Eagle Plains 72.45 25 IAmb IAmb 22 37 12.7
comp=Z,14nm,0.9s
J29M Klondike Camp 72.50 27 IAmb IAmb 22 37 01.0
comp=Z,16nm,0.8s
NOR Nord 72.58 354 *e*P P 22 36 54.1 -0.6
VSU Vasula 72.70 327 *e*P P 22 36 55.9 +0.1
MEF Metsahovi 73.29 329 *e*P P 22 36 59.8 +0.6
MNK Minsk 73.31 323 *i* P P 22 36 58.9 -0.6
comp=E,1.0nm,0.9s
MNK *i* P P 22 36 58.9 -0.6
comp=N,14nm,0.9s
MNK *i* P P 22 36 58.9 -0.6
comp=Z,15nm,0.9s,baz=72
MNK *i* PcP PcP 22 37 14.8 -1.0
MNK *i* PP PP 22 39 26.0 -17
MNK *i* PPP PPP 22 41 12.3
MNK *i* S S 22 46 26.1 0.0
MNK *i* SS SS 22 51 09.6 +1.9
MNK *i* LQ LQ 23 04 21.4
MNK *i* LR LR 23 07 24.9
MNK *i* LRM MLR 23 12 04.7
comp=E,57nm,17.4s
MNK *i* LRM MLR 23 12 09.7
comp=N,230nm,17.4s
MNK *i* LRM MLR 23 12 09.8
comp=Z,308nm,17.4s
MNK Minsk 73.31 323 *i* P P 22 36 58.8 -0.6
MNK *i* 22 37 14.7
MNK *i* S S 22 46 26.1 0.0
MNK *i* SS SS 22 51 09.5 +1.9
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=E,57nm,17.0s
MNK MLR MLR
comp=N,230nm,17.0s
MNK MLR MLR
comp=Z,308nm,17.0s
ILGA Ilgaz 73.69 308 P P 22 37 02.7 +0.5
ILGA IAmb IAmb 22 37 04.0
comp=Z,40nm,1.0s
AKASG Malin Array Be 73.71 319 P P 22 37 01.2 -0.7
comp=Z,2.2nm,0.5s,baz=59,slow=6.3,SNR=29
comp=Z,2.2nm,0.5s
AKASG Malin Array Be 73.71 319 P P 22 37 01.4 -0.5
AKASG Malin Array Be 73.71 319 P P 22 37 01.4 -0.5
AKASG pmax pmax
comp=Z,10.0nm,1.2s
KIEV Kiev 73.72 319 P P 22 37 00.0 -1.9
M30M Minto, Yukon 73.73 28 P P 22 37 01.2 -0.7
M30M IAmb IAmb 22 37 46.4
comp=Z,21nm,1.4s
NACGM Naroch 73.79 323 *e*P P 22 37 03.0 +0.7
comp=Z,30nm,0.9s,baz=71
ISAL Salakas 73.93 324 *e*P P 22 37 03.4 +0.3
IIGN Ignalina 73.95 324 *e*P P 22 37 04.2 +1.0
MTSE Matsula 74.07 328 *e*P P 22 37 03.2 -0.6
STEI Steigen 74.14 338 *e*P P 22 37 03.7 -0.3
BRTR Keskin Array B 74.15 307 P P 22 37 05.1 +0.2
comp=Z,34nm,0.9s,baz=84,slow=3.4,SNR=165
BRTR PP PP 22 39 52.2 +1.8
comp=Z,2.0nm,1.0s,baz=105,slow=4.2,SNR=4.1
comp=Z,34nm,0.9s
RAF Rauma 74.23 330 *e*P P 22 37 03.6 -1.1
FAUS Fauske 74.35 337 *e*P P 22 37 05.2 -0.1
ANTO Ankara 74.72 307 ⇑P P 22 37 08.7 +0.6
ANTO Ankara 74.72 307 P P 22 37 08.1 0.0
ANTO Ankara 74.72 307 P P 22 37 08.1 0.0
ANTO pmax pmax
comp=Z,51nm,0.9s
BR231 Keskin MP Arra 74.75 307 P P 22 37 08.1 -0.2
BR231 IAmb IAmb 22 37 09.7
comp=Z,56nm,1.1s
VSVD Vaisvydziai 74.96 325 *e*P P 22 37 08.9 -0.1
SORM Soroca 75.07 316 ⇓P P 22 37 08.4 -1.5
SORM Soroca 75.07 316 ⇓P P 22 37 08.4 -1.5
PABE Paberze 75.11 324 P P 22 37 09.0 -0.9
PABE IAmb IAmb 22 37 10.7
comp=Z,27nm,0.8s
PABE Paberze 75.11 324 *e*P P 22 37 09.9 +0.1
FARO Faro, Yukon 75.35 28 P P 22 37 11.2 -0.1
FARO IAmb IAmb 22 37 12.8
comp=Z,15nm,1.0s
GHAJ Ghor Haditha 75.37 298 P P 22 37 12.7 +0.8
C36M Paulatuk 75.54 20 P P 22 37 12.2 +0.1
ATD Arta Tunnel 75.95 276 P P 22 37 15.6 0.0
ATD IAmb IAmb 22 37 18.2
comp=Z,14nm,1.0s
PBUR Paburge 75.99 325 *e*P P 22 37 15.0 +0.1
VLDR Vladesti 76.02 314 ⇑P P 22 37 15.6 +0.3
KMPD K-Podol'skiy 76.11 317 P P 22 37 14.0 -1.8
TPGR Topolog 76.13 313 ⇓P P 22 37 15.6 -0.5
CFR Carcaliu 76.21 313 ⇓P P 22 37 15.8 -0.6
CFR Carcaliu 76.21 313 ⇓P P 22 37 15.8 -0.6
TIRR Tirgusor 76.28 313 P P 22 37 15.8 -1.0
TIRR IAmb IAmb 22 37 17.6
comp=Z,25nm,0.9s
TIRR Tirgusor 76.28 313 P P 22 37 15.8 -1.0
TIRR pmax pmax
comp=Z,25nm,0.9s
BORA Eskisehir 76.42 308 IAmb IAmb 22 37 18.6
comp=Z,34nm,0.9s
TLBR Topalu 76.49 313 ⇓P P 22 37 18.5 +0.4
HARR Harsova 76.52 313 ⇑P P 22 37 18.2 0.0
HARR Harsova 76.52 313 ⇑P P 22 37 18.2 0.0
DAG Danmarks Havn 76.66 351 *i* P P 22 37 16.0 -2.4
DAG Danmarks Havn 76.66 351 P P 22 37 17.5 -0.9
DAG pmax pmax
comp=Z,10.0nm,0.8s
TESR Tescani 76.72 315 ⇑P P 22 37 19.1 -0.2
ICOR Ion Corvin 76.81 312 ⇓P P 22 37 20.4 +0.6
NSS Namsos 76.85 335 *e*P P 22 37 19.6 0.0
VRI Vrincioaia 76.90 314 ⇓P P 22 37 21.2 +0.8
VRI Vrincioaia 76.90 314 ⇓P P 22 37 21.2 +0.8
PLOR Plostina 76.95 314 ⇑P P 22 37 20.8 +0.1
PLOR Plostina 76.95 314 ⇑P P 22 37 20.8 +0.1
BISRR Bisoca 77.02 314 ⇑P P 22 37 21.7 +0.5
ISP Isparta 77.08 306 P P 22 37 20.9 -0.7
ISP Isparta 77.08 306 P P 22 37 20.9 -0.7
ISP pmax pmax
comp=Z,61nm,1.1s
LVV L'vov 77.14 319 *e*P P 22 37 17.3 -4.3
BURAR Bucovina Array 77.23 317 ⇑P P 22 37 21.9 -0.4
BURAR Bucovina Array 77.23 317 ⇑P P 22 37 21.9 -0.4
COVR Voineasa-Covas 77.25 315 ⇑P P 22 37 21.0 -1.4
OZUR 77.43 315 ⇑P P 22 37 23.6 +0.3
MLR Muntele Rosu 77.55 314 ⇓P P 22 37 24.8 +0.6
MLR Muntele Rosu 77.55 314 IAmb IAmb 22 37 25.2
comp=Z,14nm,1.0s
MLR Muntele Rosu 77.55 314 ⇓P P 22 37 24.8 +0.6
DOPR Dopca 77.73 315 ⇑P P 22 37 25.4 +0.3
BEL Belsk 78.25 322 *e*P P 22 37 27.6 -0.1
BMR Baia Mare 78.29 317 P P 22 37 29.2 +1.2
AKAS Kas 78.33 304 P P 22 37 26.3 -2.4
AKAS IAmb IAmb 22 37 27.5
comp=Z,44nm,1.0s
ARR Arges 78.45 315 ⇑P P 22 37 28.9 -0.2
DLBC Dease Lake 78.48 31 P P 22 37 29.2 +0.2
DLBC IAmb IAmb 22 37 30.5
comp=Z,16nm,0.9s
HUMR Humele 78.54 314 ⇑P P 22 37 29.1 -0.4
CJR Cluj-Napoca 78.59 316 ⇑P P 22 37 30.8 +1.0
RES Resolute Bay 78.60 9 P P 22 37 27.8 -1.5
RES IAmb IAmb 22 38 02.9
comp=Z,40nm,1.9s
RES Resolute Bay 78.60 9 P P 22 37 27.8 -1.5
RES pmax pmax
comp=Z,40nm,1.9s
NC405 NORSAR Array S 78.61 332 IAmb IAmb 22 37 29.9
comp=Z,42nm,1.1s
NEEM North Greenlan 78.64 359 *e*P P 22 37 29.9 0.0
UZH Uzhgorod 78.65 318 *e*P P 22 37 31.3 +1.3
UZH *i* 22 37 36.0
UZH *i* 22 37 47.2
NC303 NORSAR Array S 78.70 333 P P 22 37 29.2 -0.9
NC303 IAmb IAmb 22 37 30.7
comp=Z,15nm,1.0s
TRPA Tarpa 78.70 318 ⇑P P 22 37 31.1 +0.8
TRPA Tarpa 78.70 318 P P 22 37 30.5 +0.2
TRPA Tarpa 78.70 318 P P 22 37 30.7 +0.4
NB2 NORSAR Subarra 78.86 332 P P 22 37 29.8 -1.2
baz=59,slow=5.6
NB2 NORSAR Subarra 78.86 332 P P 22 37 29.8 -1.2
comp=Z,10nm,0.9s,baz=59,slow=5.6
NOA NORSAR Array B 78.86 332 P P 22 37 29.7 -1.3
comp=Z,9.8nm,0.9s,baz=59,slow=5.6,SNR=21
NOA PP PP 22 40 30.5 +1.3
comp=Z,1.0nm,0.8s,baz=68,slow=8.2,SNR=4.1
NOA LR LR 23 16 21.2
comp=Z,566nm,18.2s,baz=205,slow=39
comp=Z,9.8nm,0.9s
DBG Daneborg 78.91 350 *e*P P 22 37 30.4 -0.6
CRVS Cervenica-Dubn 79.05 319 *e*P P 22 37 33.1 +0.9
CRVS Cervenica-Dubn 79.05 319 *e*P P 22 37 33.1 +0.9
CRVS pmax pmax
comp=Z,14nm,1.1s
JMIC Jan Mayen 79.24 345 LR LR 23 16 39.8
comp=Z,410nm,18.9s,baz=216,slow=39
DEV Deva 79.36 315 P P 22 37 34.7 +0.7
ABAH Abaujker 79.43 318 P P 22 37 34.8 +0.5
ABAH Abaujker 79.43 318 P P 22 37 34.4 +0.1
ARG Arkhangelos 79.45 305 IAmb IAmb 22 37 35.6
comp=Z,46nm,1.0s
ARG Arkhangelos 79.45 305 S PcP 22 37 41.6 -1.0
ARG Arkhangelos 79.45 305 P P 22 37 35.7 +1.1
ARG Arkhangelos 79.45 305 P P 22 37 41.4 +6.8
RDO Rodhopi 79.45 310 IAmb IAmb 22 37 36.2
comp=Z,59nm,2.0s
OJC Ojcow 79.49 320 *e*P P 22 37 32.0 -2.6
OJC Ojcow 79.49 320 IAmb IAmb 22 37 33.3
comp=Z,16nm,0.9s
OJC Ojcow 79.49 320 P P 22 37 32.5 -2.1
DIB Dawson Inlet, 79.60 36 P P 22 37 35.1 0.0
HERR Herculane 80.08 315 ⇓P P 22 37 38.1 +0.2
RUBB Prince Rupert 80.27 35 IAmb IAmb 22 37 39.4
comp=Z,31nm,0.9s
PSZ Piszkesteto 80.41 318 P P 22 37 39.7 0.0
PSZ Piszkesteto 80.41 318 P P 22 37 40.2 +0.5
PSZ Piszkesteto 80.41 318 P P 22 37 39.7 0.0
PSZ pmax pmax
comp=Z,15nm,1.2s
BLKB Belogradchik 80.42 313 ⇑P P 22 37 39.9 0.0
VTS Vitosha 80.45 312 ⇓P P 22 37 40.4 +0.3
VTS Vitosha 80.45 312 IAmb IAmb 22 37 41.7
comp=Z,17nm,0.8s
VTS Vitosha 80.45 312 ⇓P P 22 37 40.4 +0.3
GRNB Grenville Isla 80.64 35 P P 22 37 40.9 +0.1
GRNB IAmb IAmb 22 37 41.6
comp=Z,24nm,0.7s
VYHS Vyhne 80.80 319 *e*P P 22 37 42.2 +0.5
VYHS Vyhne 80.80 319 *e*P P 22 37 42.3 +0.5
VYHS pmax pmax
comp=Z,18nm,1.1s
RPZ Rata Peaks 80.86 147 P P 22 37 41.1 -0.8
MORC Moravsky Berou 80.99 321 P P 22 37 42.6 -0.2
MORC Moravsky Berou 80.99 321 P P 22 37 42.6 -0.2
MORC pmax pmax
comp=Z,5.0nm,1.0s
KRLC Kraliky 81.30 321 *e*P P 22 37 44.5 +0.1
KRLC *e*pP sP 22 37 55.2 -1.1
KRLC Kraliky 81.30 321 *e*P P 22 37 44.5 +0.1
KRLC *e* 22 37 55.2
SANT Santorini 81.37 306 P P 22 37 42.9 -2.1
OSTC Ostas 81.40 322 *e*P P 22 37 45.3 +0.4
DPC Dobruska-Polom 81.44 322 *e*P P 22 37 45.5 +0.4
DPC *e*pP sP 22 37 56.8 -0.3
DPC Dobruska-Polom 81.44 322 *e*P P 22 37 45.5 +0.4
DPC *e* 22 37 56.8
CSKK Cskako 81.64 318 P P 22 37 46.5 +0.3
MORH Mrgy, Hungar 81.92 317 ⇑P P 22 37 46.0 -1.6
MORH Mrgy, Hungar 81.92 317 P P 22 37 47.5 -0.1
MPLH Magyarpolny 82.17 318 P P 22 37 49.3 +0.4
IDI Anoyia 82.23 305 ⇑P P 22 37 48.5 -1.1
IDI Anoyia 82.23 305 IAmb IAmb 22 37 53.9
comp=Z,30nm,1.2s
IDI Anoyia 82.23 305 P P 22 37 49.0 -0.6
BRG Berggiesshubel 82.52 323 *e*P P 22 37 52.5 +1.8
BRG Amp 22 37 54.5
comp=Z,6.9nm,1.1s
BRG Berggiesshubel 82.52 323 *e*P P 22 37 52.5 +1.8
BRG pmax pmax
comp=Z,7.0nm,1.1s
PRU Pruhonice 82.62 322 *e*P P 22 37 51.5 +0.3
PRU Pruhonice 82.62 322 *e*P P 22 37 51.5 +0.3
YKA Yellowknife Ar 82.64 23 P P 22 37 50.2 -1.0
comp=Z,10nm,0.7s,baz=312,slow=5.1,SNR=17
comp=Z,10nm,0.7s
YKA Yellowknife Ar 82.64 23 P P 22 37 50.0 -1.1
YKA Yellowknife Ar 82.64 23 *i* P P 22 37 50.4 -0.7
YKA pmax pmax
comp=Z,11nm,0.7s
SUMG Summit 82.74 354 *i* P P 22 37 51.0 -1.0
CLL Collm 82.83 323 ⇑ *i* P P 22 37 53.4 +1.1
comp=Z,7.0nm,1.0s
CLL Collm 82.83 323 ⇑ *i* P P 22 37 53.4 +1.1
CLL pmax pmax
comp=Z,7.0nm,1.0s
CONA Conrad Observa 82.83 319 *e*P P 22 37 52.7 +0.2
comp=Z,9.4nm,1.1s
IMMV Iera Moni Meta 82.84 306 P P 22 37 52.5 -0.2
CKRC Cesky Krumlov 83.31 321 *e*P P 22 37 55.0 +0.1
KHC Kasperske Hory 83.58 321 IAmb IAmb 22 37 57.5
comp=Z,14nm,1.3s
KHC Kasperske Hory 83.58 321 *e*P P 22 37 56.5 +0.2
KHC Kasperske Hory 83.58 321 *e*P P 22 37 56.5 +0.2
GERES GERESS Array B 83.65 321 P P 22 37 56.5 -0.2
comp=Z,3.0nm,0.8s,baz=64,slow=3.1,SNR=22
GERES PP PP 22 41 09.5 +0.3
comp=Z,0.8nm,0.8s,baz=52,slow=8.8,SNR=3.5
comp=Z,3.0nm,0.8s
MOA Molln 83.81 320 *i* P P 22 37 58.4 +0.9
comp=Z,13nm,0.8s,SNR=9.5
SOKA Soboth 83.92 319 *i* P P 22 37 57.7 -0.5
comp=Z,13nm,1.1s,SNR=5.0
BIOA Bad Ischl, Aus 84.26 320 *i* P P 22 37 59.2 -0.6
comp=Z,8.6nm,1.1s
ABPO Ambohimpanom 84.85 247 P P 22 38 03.2 -0.2
ABPO IAmb IAmb 22 38 06.2
comp=Z,10nm,0.9s
ABPO Ambohimpanom 84.85 247 P P 22 38 03.2 -0.2
ABPO pmax pmax
comp=Z,10.0nm,1.0s
ABTA Abfaltersbach 85.39 320 *e*P P 22 38 04.3 -1.3
comp=Z,11nm,1.0s
WATA Walderalm 85.64 320 *e*P P 22 38 06.1 -0.8
comp=Z,10nm,1.2s
WTTA Wattenberg 85.64 320 *i* P P 22 38 06.3 -0.6
comp=Z,19nm,1.0s
KIBK Kibwezi 85.81 266 P P 22 38 08.6 +0.4
KIBK IAmb IAmb 22 38 11.1
comp=Z,37nm,1.6s
MOTA Moosalm 85.91 321 *e*P P 22 38 06.8 -1.5
comp=Z,12nm,1.3s,SNR=4.9
SQTA Sankt Quirin 85.92 320 *e*P P 22 38 07.6 -0.7
comp=Z,13nm,1.1s
LODK Lodwar 85.93 272 P P 22 38 09.2 +0.4
LODK IAmb IAmb 22 38 11.8
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 86.04 267 P P 22 38 10.6 +1.0
comp=Z,7.4nm,1.0s,baz=51,slow=14,SNR=15
comp=Z,7.4nm,1.0s
KMBO Kilima Mbogo 86.04 267 P P 22 38 10.4 +0.9
KMBO IAmb IAmb 22 38 12.5
comp=Z,17nm,1.2s
KMBO Kilima Mbogo 86.04 267 *i* P P 22 38 11.3 +1.8
SNR=11
KMBO Kilima Mbogo 86.04 267 *i* P P 22 38 11.1 +1.6
KMBO pmax pmax
comp=Z,7.0nm,1.0s
FETA Feichten 86.30 320 *e*P P 22 38 09.1 -1.1
comp=Z,16nm,2.0s,SNR=5.1
LLLB Lillooet 86.57 35 P P 22 38 11.6 +0.3
LLLB IAmb IAmb 22 38 12.5
comp=Z,19nm,0.8s
TEOL Teolo 86.61 319 P P 22 38 12.0 +0.4
BRLDA Berland Lookou 86.74 31 P P 22 38 11.8 -0.3
FUORN Ofenpass-Fuorn 86.78 320 P P 22 38 12.4 -0.3
FUORN IAmb IAmb 22 38 14.4
comp=Z,7.3nm,0.8s
PGC Sidney 86.81 37 P P 22 38 12.2 -0.2
PGC IAmb IAmb 22 38 14.2
comp=Z,24nm,0.9s
BTNL Ternell 86.89 325 *d*P P 22 38 12.5 -0.3
MEM Membach 86.94 325 *d*P P 22 38 12.7 -0.3
MEM *d*PcP PcP 22 38 15.3 +0.1
B04A Port Angeles 87.11 38 P P 22 38 13.7 -0.2
B04A IAmb IAmb 22 38 15.6
comp=Z,21nm,0.9s
NLWA Neilton Lookou 87.27 39 P P 22 38 15.3 +0.6
NLWA IAmb IAmb 22 38 16.6
comp=Z,25nm,0.9s
A05A Maple Falls 87.37 37 P P 22 38 14.9 -0.2
A05A IAmb IAmb 22 38 16.2
comp=Z,31nm,1.1s
CEL Celeste 87.40 311 P P 22 38 15.7 +0.1

WLF Walferdange 87.40 324 P P 22 38 15.1 -0.2
WLF IAmb IAmb 22 38 16.5
comp=Z,18nm,1.0s
WLF Walferdange 87.40 324 dP P 22 38 15.6 +0.3
comp=Z,11nm,1.1s
WLF Walferdange 87.40 324 P P 22 38 15.1 -0.2
WLF pmax pmax
comp=Z,18nm,1.0s
BCLA Clavier 87.42 325 dP P 22 38 15.5 +0.2
CDF Champ du Feu 87.50 323 eP P 22 38 14.3 -1.6
CDF pmax pmax
comp=Z,13nm,1.1s
RCHB Rochefort 87.61 325 dP P 22 38 15.6 -0.7
BMRD Maredsous 87.76 325 dP P 22 38 16.6 -0.3
SNF Seneffe 87.89 326 dP P 22 38 17.0 -0.6
comp=Z,6.9nm,1.2s
E03A Lebam 87.91 39 P P 22 38 18.5 +0.8
B06A Marblemount 87.97 37 P P 22 38 18.1 +0.1
DOU Dourbes 87.97 325 dP P 22 38 19.4 +1.4
comp=Z,6.2nm,1.0s
HINF Hinteralfeld 88.07 323 eP P 22 38 19.6 +1.0
HINF pmax pmax
comp=Z,28nm,1.9s
HAU Haudompre 88.25 323 eP P 22 38 18.3 -1.1
HAU pmax pmax
comp=Z,21nm,1.4s
F03A Seaside 88.25 40 P P 22 38 19.9 +0.4
EKA Eskdalemuir Ar 88.35 332 LR LR 23 22 34.2
comp=Z,544nm,19.7s,baz=76,slow=39
D05A Enumclaw 88.45 38 P P 22 38 20.5 +0.2
LON Longmire 88.80 38 P P 22 38 22.0 -0.1
LON IAmb IAmb 22 38 23.8
comp=Z,22nm,0.9s
LON Longmire 88.80 38 P P 22 38 22.0 -0.1
LON pmax pmax
comp=Z,22nm,0.9s
EDM Edmonton 89.16 30 P P 22 38 23.6 0.0
EDM Edmonton 89.16 30 P P 22 38 23.6 0.0
EDM pmax pmax
comp=Z,39nm,0.9s
LPG La Plagne 89.44 321 eP P 22 38 25.0 -0.4
LPG pmax pmax
comp=Z,8.0nm,0.7s
LPL La Plagne 89.44 321 eP P 22 38 24.8 -0.5
LPL pmax pmax
comp=Z,14nm,0.9s
BUCK Buck Mountain 89.54 41 P P 22 38 26.1 +0.4
HOOD Mount Hood Mea 89.70 39 P P 22 38 26.7 +0.2
H04A Detroit Lake 89.75 40 P P 22 38 26.3 -0.2
H04A IAmb IAmb 22 38 27.8
comp=Z,24nm,1.2s
SBF Sospel 89.96 319 eP P 22 38 26.4 -1.2
SBF pmax pmax
comp=Z,27nm,1.2s
C09A Chrisman Ranch 90.13 36 P P 22 38 28.3 0.0
D08A Wollman Farm, 90.23 37 P P 22 38 28.6 -0.1
HAWA Hanford 90.28 38 P P 22 38 29.6 +0.6
G06A Carlson Farm, 90.33 39 P P 22 38 29.8 +0.5
G06A IAmb IAmb 22 38 31.1
comp=Z,26nm,1.0s
F07A Phinny Hill Vi 90.35 38 P P 22 38 29.7 +0.5
SSF Saint Saulge 90.36 323 eP P 22 38 29.4 +0.1
SSF pmax pmax
comp=Z,14nm,1.3s
SMF Signal de Mont 90.42 323 eP P 22 38 28.8 -0.8
SMF pmax pmax
comp=Z,24nm,1.2s
E08A Dider Farm, El 90.49 37 P P 22 38 30.4 +0.5
AVF Avril sur Loir 90.61 323 eP P 22 38 29.6 -0.8
AVF pmax pmax
comp=Z,21nm,1.2s
E09A Wood Farm, Sta 90.98 37 P P 22 38 32.9 +0.8
PINE Pine Mountain 90.99 40 P P 22 38 33.0 +0.4
VIVF Saint-Julien-l 91.01 321 eP P 22 38 31.7 -0.7
VIVF pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 91.09 43 P P 22 38 32.2 -0.7
YBH IAmb IAmb 22 38 35.3
comp=Z,13nm,1.2s
YBH Yreka Blue Hor 91.09 43 P P 22 38 32.2 -0.7
YBH pmax pmax
comp=Z,13nm,1.3s
G08A Pilot Rock 91.26 38 P P 22 38 33.7 0.0
G08A IAmb IAmb 22 38 35.4
comp=Z,14nm,1.1s
WALA Waterton Lakes 91.61 33 P P 22 38 35.4 +0.2
K05A Summer Lake 91.63 41 P P 22 38 35.4 -0.2
K05A IAmb IAmb 22 38 37.5
comp=Z,25nm,1.1s
I07A Izee 91.66 40 P P 22 38 36.4 +0.8
I07A IAmb IAmb 22 38 37.5
comp=Z,13nm,1.1s
MBAR Mbarara 91.78 270 P P 22 38 36.8 +0.1
MBAR IAmb IAmb 22 38 38.6
comp=Z,7.7nm,1.1s
MBAR Mbarara 91.78 270 P P 22 38 36.8 +0.1
MBAR pmax pmax
comp=Z,8.0nm,1.1s
F10A Beach Ranch, E 91.81 37 IAmb IAmb 22 38 39.3
comp=Z,9.8nm,0.8s
CAF Calviac 92.45 322 eP P 22 38 39.0 -0.1
CAF pmax pmax
comp=Z,16nm,1.1s
BMO Blue Mountains 92.46 38 IAmb IAmb 22 38 41.0
comp=Z,16nm,0.9s
MOD Modoc Plateau 92.47 42 IAmb IAmb 22 38 40.8
comp=Z,15nm,1.0s
RJF Les Rejaudoux 92.53 323 eP P 22 38 39.3 -0.1
RJF pmax pmax
comp=Z,32nm,1.2s
J08A Circle Bar Ran 92.69 40 P P 22 38 40.6 +0.2
FFC Flin Flon 92.79 24 P P 22 38 39.8 -0.6
FFC Flin Flon 92.79 24 P P 22 38 39.8 -0.6
FFC pmax pmax
comp=Z,24nm,0.8s
MSO Missoula 93.04 35 IAmb IAmb 22 38 43.2
comp=Z,14nm,1.0s
PLID Pearl Lake 93.04 37 IAmb IAmb 22 38 45.6
comp=Z,11nm,0.8s
ORV Oroville 93.07 44 IAmb IAmb 22 38 47.5
comp=Z,5.9nm,0.8s
WVOR Wild Horse Val 93.15 40 P P 22 38 42.4 -0.1
WVOR IAmb IAmb 22 38 44.7
comp=Z,12nm,1.2s
WVOR Wild Horse Val 93.15 40 P P 22 38 42.4 -0.1
WVOR pmax pmax
comp=Z,12nm,1.2s
KEST Kesra 93.20 311 P P 22 38 42.2 -0.5
comp=Z,9.2nm,0.8s,baz=74,slow=7.4,SNR=8.6
comp=Z,9.2nm,0.8s
KEST Kesra 93.20 311 P P 22 38 42.3 -0.5
KEST IAmb IAmb 22 38 44.1
comp=Z,13nm,0.9s
BEKR Beckworth 93.61 43 P P 22 38 44.5 -0.2
BEKR IAmb IAmb 22 38 45.6
comp=Z,8.4nm,0.9s
AFDM Forest Hills D 93.75 44 P P 22 38 45.5 +0.2
MFID Camas Ranch 94.18 38 P P 22 38 47.3 +0.1
MFID IAmb IAmb 22 38 49.5
comp=Z,12nm,0.9s
PAHR Pah Rah Range 94.32 43 P P 22 38 47.7 -0.2
EGMT Eagleton 94.35 32 P P 22 38 47.8 0.0
EGMT IAmb IAmb 22 38 49.0
comp=Z,16nm,0.8s
VCNR Virginia City 94.39 43 P P 22 38 48.2 -0.1
VCNR IAmb IAmb 22 38 56.1
comp=Z,6.0nm,0.8s
PNTR Pine Nut 94.54 44 P P 22 38 48.4 -0.7
PNTR IAmb IAmb 22 39 17.0
comp=Z,5.9nm,0.8s
CMB Columbia Colle 94.66 45 IAmb IAmb 22 38 50.2
comp=Z,5.0nm,0.8s
YERR Yerington 94.83 44 P P 22 38 49.8 -0.5
YERR IAmb IAmb 22 38 50.5
comp=Z,14nm,1.5s
HLID Hailey 94.89 38 IAmb IAmb 22 38 53.0
comp=Z,9.0nm,0.9s
MCMT McKenzie Canyo 94.92 36 P P 22 38 51.1 +0.4
BCYI Bear Canyon 94.96 37 P P 22 38 52.3 +1.4
WAKR Walker 94.99 44 P P 22 38 51.3 +0.1
WAKR IAmb IAmb 22 39 43.6
comp=Z,18nm,1.9s
BOZ Bozeman (W) 95.06 35 P P 22 38 50.7 -0.5
BOZ Bozeman (W) 95.06 35 P P 22 38 50.7 -0.5
BOZ pmax pmax
comp=Z,4.0nm,1.0s
BMN Battle Mountai 95.21 41 P P 22 38 52.0 0.0
BMN IAmb IAmb 22 38 53.1
comp=Z,6.6nm,1.2s
BMN Battle Mountai 95.21 41 P P 22 38 52.0 0.0
BMN pmax pmax
comp=Z,7.0nm,1.2s
PMPB Monarch Peak 95.43 46 P P 22 38 53.3 +0.3
PMPB IAmb IAmb 22 38 55.2
comp=Z,9.6nm,1.0s
RYN Ryan 95.49 43 P P 22 38 53.1 -0.2
RYN IAmb IAmb 22 38 57.2
comp=Z,4.6nm,0.8s
KVN Kaiserville 95.51 43 P P 22 38 53.0 -0.4
KVN IAmb IAmb 22 38 54.6
comp=Z,5.9nm,0.9s
KVN Kaiserville 95.51 43 P P 22 38 53.1 -0.4
KVN pmax pmax
comp=Z,6.0nm,0.9s
QLMT Earthquake Lak 95.68 35 P P 22 38 54.7 +0.6
LHV Little Huntoon 95.73 44 IAmb IAmb 22 38 56.1
comp=Z,5.7nm,1.0s
NVAR Mina Array Bea 95.75 44 P P 22 38 54.2 -0.4
comp=Z,3.5nm,0.7s,baz=293,slow=4.8,SNR=26
comp=Z,3.5nm,0.7s
YHL Hebgen Lake 95.79 35 IAmb IAmb 22 38 56.8
comp=Z,9.6nm,1.0s
NV11 Mina Array Sit 95.84 43 P P 22 38 54.3 -0.7
NV11 IAmb IAmb 22 40 22.9
comp=Z,11nm,1.9s
YHB Horse Butte 95.85 35 P P 22 38 54.0 -1.0
YHB IAmb IAmb 22 38 57.0
comp=Z,9.1nm,0.9s
GCMT Greycliff 95.94 34 P P 22 38 55.6 +0.4
YMR Madison River 96.03 35 P P 22 38 55.8 0.0
YMR IAmb IAmb 22 38 57.3
comp=Z,7.6nm,1.1s
ELK Elko 96.20 40 P P 22 38 57.4 +0.8
ELK Elko 96.20 40 P P 22 38 57.4 +0.8
ELK pmax pmax
comp=Z,6.0nm,1.4s
H17A Grant Village 96.42 35 P P 22 38 58.0 +0.4
H17A IAmb IAmb 22 39 00.5
comp=Z,5.1nm,1.0s
IMW Indian Meadow 96.56 36 P P 22 38 58.3 +0.1
FLWY Flagg Ranch 96.57 35 P P 22 38 59.1 +0.9
FLWY IAmb IAmb 22 39 00.6
comp=Z,5.5nm,0.8s
DGMT Dagmar 96.62 29 P P 22 38 58.0 -0.1
TPH Tonopah 96.64 43 P P 22 38 58.7 0.0
TPH Tonopah 96.64 43 P P 22 38 58.7 0.0
TPH pmax pmax
comp=Z,36nm,1.1s
LCH Last Change Ra 96.89 44 P P 22 38 59.5 -0.2
HVU Hansel Valley 96.96 38 P P 22 39 00.1 +0.2
HVU IAmb IAmb 22 39 02.8
comp=Z,6.1nm,1.1s
HVU Hansel Valley 96.96 38 P P 22 39 00.1 +0.2
HVU pmax pmax
comp=Z,6.0nm,1.1s
LAO LASA Array 97.00 31 P P 22 39 00.3 +0.4
LAO IAmb IAmb 22 39 01.8
comp=Z,13nm,1.2s
GMN Gold Mountain 97.09 44 P Pdif 22 39 00.8 0.0
R11A Troy Canyon, C 97.49 42 P Pdif 22 39 02.7 +0.1
BW06 Boulder Array 98.07 36 P P 22 39 04.6 -0.5
BW06 IAmb IAmb 22 39 05.6
comp=Z,15nm,1.9s
PDAR Pinedale Array 98.07 36 P P 22 39 03.9 -1.2
comp=Z,1.1nm,1.0s,baz=321,slow=1.9,SNR=5.3
comp=Z,1.1nm,1.0s
PDAR Pinedale Array 98.07 36 P P 22 39 04.6 -0.5
GWY Greenwater Val 98.14 45 P P 22 39 05.0 -0.4
GWY IAmb IAmb 22 41 11.3
comp=Z,14nm,1.9s
PSUT Pine Spring 98.43 41 P P 22 39 05.5 -1.2
DBIC Dimbokro 120.21 294 PKP PKPdf 22 44 19.5 -0.3
comp=Z,6.1nm,0.7s,baz=61,slow=3.4,SNR=6.3
KIC Kosan Boka 120.28 293⇑ePKIKP PKPdf 22 44 19.5 -0.5
comp=Z,2.1nm,0.4s
TIC Toumodi 120.36 294⇑ePKIKP PKPdf 22 44 19.4 -0.8
comp=Z,11nm,0.7s
LIC Lamto 120.59 294⇑ePKIKP PKPdf 22 44 19.6 -1.0
comp=Z,28nm,0.9s
TROLL Troll, Antarti 121.80 198 PKPdf PKiKP 22 44 21.7 +0.2
SNAA Sanae 123.47 198 PKPdf PKPdf 22 44 24.0 -0.5
VNA2 Neumayer--Watz 125.12 198 PKPdf PKPdf 22 44 27.8 +0.2
baz=87,slow=2.4
VNA1 Neumayer--Stat 125.51 198 PKPdf PKPdf 22 44 27.7 -0.6
VNA3 Neumayer Olymp 125.58 197 PKPdf PKPdf 22 44 28.3 -0.2
ROSC El Rosal 146.97 32 PKPbc PKPbc 22 45 12.5 +0.6
comp=Z,23nm,0.7s,baz=98,slow=9.4,SNR=7.9
PLCA Paso Flores 160.13 150 PKPab PKPab 22 46 08.1 +0.6
comp=Z,1.9nm,0.8s,baz=198,slow=9.6,SNR=4.1
LPAZ La Paz 167.44 54 PKP PKPdf 22 45 36.1 +0.5
comp=Z,5.6nm,0.6s,baz=23,slow=3.3,SNR=7.5
LPAZ PKPab PKPab 22 46 39.5 -1.5
comp=Z,3.1nm,0.8s,baz=18,slow=9.5,SNR=2.1
BDFB Brasilia 167.71 311 PKP PKPdf 22 45 34.7 -0.4
comp=Z,9.4nm,1.0s,baz=106,slow=4.5,SNR=6.9
BDFB PKPab PKPab 22 46 41.0 -0.5
comp=Z,7.7nm,0.8s,baz=76,slow=3.6,SNR=10

---

*THE **11** 22:37:27.5,36°.25N×27°.67E,h0km±1km,ML1.7/1,Error ellipse: s-maj=1.8km s-min=0.5km az=331.0*
ATH 11 22:37:15.8,36°.94N×26°.39E,h29km±16km,ML2.3/1,Error ellipse: s-maj=17.8km s-min=2.9km az=353.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.70**	**281**	P	Pb	22 37 28.2	-1.4
KARP	**Karpathos**	**1.53**	**156**	P	Pb	22 37 43.5	0.0
KARP				S	Sn	22 37 56.5	-3.5
	62nm,0.1s						
KARP	**Karpathos**	**1.53**	**156**	P	Pn	22 37 39.9	-1.2
KARP				S	Sn	22 37 57.3	-2.7
KARP				AML	AML	22 37 59.7	
	comp=E,157μm,0.1s						
KARP				AML	AML	22 38 01.1	
	comp=N,136μm,0.1s						
YER	**Yerkesik**	**1.53**	**82**	P	Pb	22 37 47.2	+3.7
ARG	**Arkhangelos**	**1.57**	**117**	S	Sn	22 37 59.9	-1.3
IDI	**Anoyia**	**2.05**	**217**	S	Sn	22 38 12.4	-0.6
KSL	**Kastellorizon**	**2.69**	**106**	P	Pn	22 37 58.0	+0.9

MAN 11 22:39:37.7,8°.70N×126°.29E,h90km,mb3.8,ML2.5,MS2.0, 3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.52**	**173**	⇓iP	Pn	22 39 54.2	+1.5
BIPH				i S	Sn	22 40 06.0	+2.3
GLSP	**General Luna,**	**1.09**	**351**	⇓eP	Pn	22 39 59.5	+1.0
GLSP				eS	Sn	22 40 14.7	+0.7
BUKP	**Musuan**	**1.47**	**236**	⇓eP	Pn	22 40 03.1	0.0
BUKP				eS	Sn	22 40 23.6	+1.3

---

*UPA **11** 23:05:40.9±1.1,9°.53N×82°.70W,h10km±5km,MW3.2*
*UCR **11** 23:05:41.2±1.6,9°.67N×82°.55W,h34km±3km,MW3.7*
ISC 11 23:05:35.7±2.0,9°.76N±0°.07×82°.39W±0°.09,h18km±10km, n23,σ0s.94/34,4D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGM0	**Gandoca**	**0.28**	**232**	eP	**Pn**	**23 05 45.5**	**+0.6**
RGM0				eS	**Sn**	**23 05 51.3**	**+0.6**
CNI2	**El Empalme, Bo**	**0.35**	**194**	⇓iP	**Pn**	**23 05 46.0**	**+0.1**
CNI2				eS	**Sb**	**23 05 49.4**	**+0.8**
CTCR	**Cotoan**	**0.94**	**203**	eP	Pn	23 06 05.9	+12
BC3P	**Paso Ancho**	**0.96**	**193**	⇓eP	**Pn**	**23 05 54.8**	**+0.2**
BC3P				eS	**Sb**	**23 06 06.8**	**+0.2**
BRU2	**Volcan**	**1.01**	**197**	⇓iP	**Pg**	**23 05 55.5**	**+0.2**
BRU2				eS	**Sb**	**23 06 07.7**	**-0.1**
BATAN	**Batan**	**1.03**	**289**	eP	**Pg**	**23 05 57.3**	**+1.6**
BATAN				eS	**Sn**	**23 06 10.2**	**+0.9**
BCO2	**Palmira**	**1.05**	**188**	⇓iP	**Pg**	**23 05 56.3**	**+0.2**
BCO2				eS	**Sb**	**23 06 09.7**	**+0.8**
PTAR3	**Potrerillos Ar**	**1.07**	**186**	eP	**Pg**	**23 05 56.7**	**+0.3**
PTAR3				eS	**Sb**	**23 06 09.7**	**+0.2**
SRBA	**San Rafael, Bu**	**1.10**	**241**	eP	**Pg**	**23 05 56.9**	**0.0**
SRBA				eS	**Sb**	**23 06 10.0**	**-0.3**
EDSV	**San Vito**	**1.10**	**212**	eP	**Pg**	**23 05 57.8**	**+0.8**
CDITO	**Canoas**	**1.27**	**202**	eP	**Pn**	**23 05 58.6**	**-0.1**
CDITO				eS	**Sn**	**23 06 12.8**	**-2.6**
DVD	**David**	**1.32**	**183**	eP	**Pg**	**23 06 01.4**	**+0.2**
DVD				eS	**Sb**	**23 06 17.6**	**+1.0**
EDPN	**Palmar Norte**	**1.32**	**233**	eP	**Pg**	**23 06 01.6**	**+0.3**
EDPN				eS	**Sb**	**23 06 18.6**	**+1.9**
CDM	**Cerro de Muert**	**1.37**	**261**	eP	**Pg**	**23 06 01.8**	**-0.5**
HAYA	**Volcan Irazu**	**1.45**	**279**	eP	**Pg**	**23 06 03.8**	**0.0**
RIMA	**Rio Macho**	**1.46**	**270**	eP	**Pg**	**23 06 02.9**	**-1.0**
CCOL	**Caracol de Cor**	**1.47**	**203**	eP	**Pg**	**23 06 03.4**	**-0.6**
EDDO	**Dominical**	**1.54**	**251**	eP	**Pg**	**23 06 05.2**	**-0.2**
LCR2	**La Lucha 2**	**1.60**	**269**	eP	**Pb**	**23 06 05.0**	**+0.2**
PIRO	**Carate, Puerto**	**1.64**	**215**	eP	**Pb**	**23 06 06.0**	**+0.5**
JACO	**JACO, Garabito**	**2.24**	**268**	eP	**Pb**	**23 06 15.1**	**-0.6**
JTS	**Las Juntas de**	**2.58**	**282**	eP	**Pb**	**23 06 19.8**	**-1.7**
JTS	**Las Juntas de**	**2.58**	**282**	eP	**Pb**	**23 06 19.9**	**-1.7**
JTS				eS	**Sn**	**23 06 48.4**	**+0.6**

---

*IDC **11** 23:21:18.3±2.6,11°.54S×65°.95E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=84.2km s-min=39.3km az=48.0*
ISC 11 23:21:19.0±2.3,11°.7S±0°.4×65°.8E±0°.4,h12km,n12, σ0s.25/6,mb3.9/5,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.75**	**59**	T	T	23 30 28.2	
	baz=237						
H08S2	**Diego Garcia H**	**7.77**	**59**	T	T	23 30 15.6	
	baz=237,slow=74						
H08S3	**Diego Garcia H**	**7.77**	**59**	T	T	23 30 20.0	
	baz=237,slow=74						
H01W3	**Cape Leeuwin H**	**49.48**	**126**	T	T	00 22 42.3	
	baz=287,slow=75						
H01W2	**Cape Leeuwin H**	**49.48**	**126**	T	T	00 22 42.6	
	baz=287,slow=75						
H01W1	**Cape Leeuwin H**	**49.50**	**126**	T	T	00 22 45.0	
	baz=287,slow=75						
BRTR	**Keskin Array B**	**59.25**	**331**	P	**P**	**23 31 20.5**	**0.0**
	0.2nm,0.4s,baz=123,slow=6.7,SNR=1.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.09**	**13**	P	**P**	**23 31 25.9**	**-0.2**
	0.8nm,0.7s,baz=182,slow=7.2,SNR=3.1						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**63.07**	**9**	P	**P**	**23 31 45.7**	**-0.3**
	0.8nm,0.9s,baz=206,slow=7.1,SNR=5.3						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**66.11**	**107**	P	**P**	**23 32 06.6**	**-0.1**
	1.6nm,1.3s,baz=274,slow=5.6,SNR=2.4						
	1.6nm,1.3s						
SONM	**Songino Array**	**69.41**	**28**	P	**P**	**23 32 27.2**	**+0.3**
	0.4nm,0.6s,baz=216,slow=7.1,SNR=3.7						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**148.79**	**353**	PKPbc	**PKiKP**	**23 41 08.6**	**+0.1**
	0.2nm,0.6s,baz=19,slow=3.3,SNR=1.9						

---

*HVO **11** 23:25:17.1±0.6,19°.34N±0°.06×155°.19W±0°.01,h7km±2km, ML3.3/44,ML3.1/42(NEIC),Error ellipse: s-maj=8.5km s-min=1.6km az=187.0*
NEIC 11 23:25:17.2±1.3,19°.41N±0°.02×155°.175W±0°.009, h10km±2km,Error ellipse: s-maj=2.9km s-min=1.1km az=164.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.03**	**170**		Pg	23 25 19.1	-0.1
PUH	**Pauahi**	**0.05**	**226**	Pg	Pg	23 25 19.0	-0.4
PUH				Sg	Sg	23 25 20.3	-0.7
NPOC	**North of Pu‘u**	**0.07**	**107**	Pg	Pg	23 25 19.2	-0.3
NPOC				Sg	Sg	23 25 21.1	0.0
NPOC				IAML		23 25 21.8	
	comp=E,8μm,0.2s						
NPOC				IAML		23 25 22.0	
	comp=N,18μm,0.5s						
JCUZ	**Jacuzzi**	**0.07**	**112**		Pg	23 25 19.6	+0.1
JCUZ				IAML		23 25 22.0	
	comp=N,10μm,0.3s						
JCUZ	**Jacuzzi**	**0.07**	**112**		Sg	23 25 21.7	+0.4
BYL	**Byron's Ledge**	**0.08**	**270**		Pg	23 25 19.4	-0.3
BYL				Sg	Sg	23 25 21.4	0.0
BYL				IAML		23 25 22.2	
	comp=N,8μm,0.5s						
HATHI	**Halema‘uma‘u T**	**0.08**	**278**		Pg	23 25 19.7	+0.1
HATHI				Sg	Sg	23 25 21.8	+0.4
HATHI				IAML		23 25 22.1	
	comp=N,9μm,0.2s						
HATHI				IAML		23 25 22.6	
	comp=E,8μm,0.6s						
KKO	**Keanakako`i**	**0.09**	**261**		Pg	23 25 19.7	-0.1
KKO				IAML		23 25 21.8	
	comp=E,10μm,0.3s						
KKO				IAML		23 25 21.8	
	comp=N,8μm,0.3s						
KKO				Sg	Sg	23 25 24.5	+2.9
SBLHI	**Steaming Bluff**	**0.09**	**280**		Pg	23 25 19.8	+0.1
SBLHI				IAML		23 25 22.2	
	comp=E,7μm,0.6s						
SBLHI	**Steaming Bluff**	**0.09**	**280**		Sg	23 25 21.9	+0.2
RIM	**Rim**	**0.10**	**260**		Pg	23 25 19.4	-0.4
RIM				Sg	Sg	23 25 20.6	-1.1
RIM				IAML		23 25 21.8	
	comp=E,15μm,0.3s						
RIM				IAML		23 25 22.1	
	comp=N,8μm,0.2s						
UWB	**Uwekahuna B**	**0.10**	**278**		Pg	23 25 19.8	0.0
UWB					Sg	23 25 21.9	+0.1
NPH	**North Pit**	**0.10**	**270**		Pg	23 25 19.8	-0.2
NPH				Sg	Sg	23 25 21.9	+0.1
OBL	**Observatory Le**	**0.10**	**273**		Pg	23 25 19.7	-0.2
OBL				Sg	Sg	23 25 21.4	-0.5
OBL				IAML		23 25 22.5	
	comp=E,12μm,0.4s						
OBL				IAML		23 25 23.0	
	comp=N,16μm,0.5s						
RSD	**Rainshed**	**0.11**	**298**		Pg	23 25 20.4	+0.4
RSD					Sg	23 25 23.0	+0.9
UWE	**Uwekahuna**	**0.11**	**275**		Pg	23 25 20.1	+0.1
UWE	**Uwekahuna**	**0.11**	**275**	Sg	Sg	23 25 22.1	0.0
UWE				IAML		23 25 23.2	
	comp=E,8μm,0.6s						
UWE				IAML		23 25 23.2	
	comp=N,6μm,0.9s						
SDHHI	**Sand Hill**	**0.11**	**259**		Pg	23 25 19.9	-0.3
SDHHI				Sg	Sg	23 25 21.7	-0.5
SDHHI				IAML		23 25 22.7	
	comp=E,10μm,0.6s						
WRMHI	**West Rim**	**0.12**	**268**		Pg	23 25 20.0	-0.2
JOKA	**Jonika Flow**	**0.16**	**82**		Pg	23 25 21.1	+0.3
HLP	**Hilina Pali**	**0.17**	**227**		Pg	23 25 20.1	-0.8
HLP					Sg	23 25 22.4	-1.1
HLP	**Hilina Pali**	**0.17**	**227**	IAML		23 25 22.7	
	comp=N,12μm,0.3s						
HLP				IAML		23 25 22.7	
	comp=E,12μm,0.2s						
MLH	**Mauna Loa**	**0.21**	**292**		Pg	23 25 22.1	+0.3
MLH	**Mauna Loa**	**0.21**	**292**	Sg	Sg	23 25 25.5	+0.6
MLH				IAML		23 25 27.3	
	comp=N,2μm,0.3s						
MLH				IAML		23 25 29.4	
	comp=E,2μm,0.3s						
AIN	**Ainahou**	**0.27**	**262**		Pg	23 25 22.4	-0.3
AIN	**Ainahou**	**0.27**	**262**		Sg	23 25 27.0	+0.6
AIN				IAML		23 25 28.2	
	comp=E,10μm,0.3s						
AIN				IAML		23 25 28.4	
	comp=N,13μm,0.3s						
HTC	**Hot Caves**	**0.27**	**231**		Pg	23 25 21.9	-0.8
PHO	**Puu Honuaula**	**0.28**	**75**		Pb	23 25 23.9	-0.4
HMH	**Humu‘ula Sheep**	**0.35**	**303**		Pg	23 25 24.4	+0.2
HMH					Sb	23 25 30.9	-0.5
MLOA	**Mauna Loa Obse**	**0.40**	**288**		Pg	23 25 25.4	+0.2
MLOA					Sb	23 25 31.8	-1.2
MWH	**Moku‘aweowe**	**0.41**	**280**		Pg	23 25 25.3	-0.1
MWH	**Moku‘aweowe**	**0.41**	**280**		Sb	23 25 32.0	-1.2
MWH				IAML		23 25 32.5	
	comp=N,9μm,0.3s						
MWH				IAML		23 25 32.5	
	comp=E,9μm,0.6s						
KHU	**Kahuku**	**0.45**	**248**		Pg	23 25 25.0	-1.0
KHU					Sg	23 25 31.3	-0.7
KHU	**Kahuku**	**0.45**	**248**	IAML		23 25 32.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,2µm,0.6s						
KHU				IAML		23 25 38.5	
	comp=N,2µm,0.5s						
ALEP	**Alea Permanent**	**0.46**	**286**		Pg	23 25 26.2	-0.1
ALEP					Sg	23 25 33.2	+0.8
HPO	**Honuapo**	**0.48**	**228**		Pg	23 25 25.1	-1.5
POHA	**Pohakuloa**	**0.48**	**316**	IAML		23 25 35.4	
	comp=N,3µm,0.6s						
POHA	**Pohakuloa**	**0.48**	**316**		Pg	23 25 26.9	+0.2
POHA					Sb	23 25 34.5	-0.6
HUH	**Hualalai**	**0.68**	**294**		Pg	23 25 30.8	+0.3
HUH				Sg	Sb	23 25 41.4	+0.5
CPH	**Captain Cook**	**0.70**	**276**		Pg	23 25 30.0	-0.9
CPH					Sg	23 25 40.1	0.0

MAN 11 23:26:17.4, 8°.86N×125°.68E, h9km, mb3.9, ML2.6, MS2.2, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.94**	**135**	⇓ *i*P	Pg	23 26 33.4	-2.2
BIPH				*i* S	Sg	23 26 47.8	-0.1
GLSP	**General Luna,**	**1.02**	**25**	⇓ *e*P	Pg	23 26 36.3	-0.7
GLSP				*e*S	Sn	23 26 55.7	+3.4
CGP	**Cagayan de Oro**	**1.06**	**248**	⇓ *e*P	Pg	23 26 36.9	-0.8
CGP				*e*S	Sn	23 26 52.9	-0.3
BUKP	**Musuan**	**1.15**	**212**	⇑ *e*P	Pb	23 26 39.1	-0.4

IDC 11 23:35:37.2±1.1, 27°.26S×63°.34W, h556km±14km, mb3.1/5, mbtmp4.1/11, Error ellipse: s-maj=20.5km s-min=16.1km az=63.0
NEIC 11 23:35:37.9±1.1, 27°.3S±0°.1×63°.4W±0°.2, h573km±8km, mb4.2/8, Error ellipse: s-maj=20.5km s-min=15.7km az=87.0
VAO 11 23:35:38.1±0.5, 27°.27S×63°.33W, h565km±4km, mb3.9
ISC 11 23:35:36.9±0.5, 27°.29S±0°.07×63°.44W±0°.08, h562km, n128, σ1s.13/130, mb3.8/7, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC02	**Maricunga**	**5.09**	**274**	P	**P**	**23 37 11.8**	**+3.0**
CPUP	**Villa Florida**	**5.54**	**81**	P	**P**	**23 37 12.3**	**+0.3**
	23nm,0.5s,baz=248,slow=9.0,SNR=90						
CPUP	**Villa Florida**	**5.54**	**81**	P	**P**	**23 37 13.0**	**+0.9**
CPUP	**Villa Florida**	**5.54**	**81**	*e*P	**P**	**23 37 12.8**	**+0.8**
GO02	**Mina Guanaco**	**5.92**	**290**	P	**P**	**23 37 18.5**	**+2.7**
GO03	**Copiap**	**6.05**	**266**	P	**P**	**23 37 18.5**	**+1.9**
AF01	**San Pedro de A**	**6.09**	**314**	P	**P**	**23 37 18.8**	**+1.4**
AC06	**Mina Casimiro**	**6.15**	**268**	P	**P**	**23 37 18.7**	**+1.2**
AC05	**El Transito**	**6.23**	**254**	P	**P**	**23 37 20.1**	**+1.8**
ZON	**Zonda**	**6.24**	**226**	P	**P**	**23 37 19.6**	**+1.4**
CO01	**Juntas del Tor**	**6.43**	**244**	P	**P**	**23 37 22.9**	**+2.7**
ITQB	**Itaqui**	**6.45**	**113**	P	**P**	**23 37 20.9**	**+0.8**
ITQB	**Itaqui**	**6.45**	**113**	*e*P	**P**	**23 37 21.1**	**+1.0**
AC01	**Pan de Azucar**	**6.50**	**278**	P	**P**	**23 37 22.4**	**+1.6**
LCO	**Las Campanas**	**6.64**	**253**	P	**P**	**23 37 24.1**	**+1.9**
AZCA	**Azaras, Argent**	**6.66**	**99**	*e*P	**P**	**23 37 22.9**	**+0.8**
PB14	**IPOC Station P**	**6.81**	**291**	P	**P**	**23 37 25.0**	**+1.1**
PB15	**IPOC Station P**	**6.81**	**305**	P	**P**	**23 37 25.2**	**+1.3**
LVC	**Limon Verde**	**6.81**	**312**	P	**P**	**23 37 25.4**	**+1.4**
	31nm,0.3s,baz=133,slow=5.5,SNR=91						
LVC				S	**S**	**23 38 50.2**	**-1.4**
	25nm,0.3s,baz=326,slow=21,SNR=20						
LVC	**Limon Verde**	**6.81**	**312**	P	**P**	**23 37 25.2**	**+1.2**
LVC	**Limon Verde**	**6.81**	**312**	*e*P	**P**	**23 37 25.2**	**+1.2**
AC04	**Llanos de Chal**	**6.83**	**261**	P	**P**	**23 37 25.6**	**+1.9**
GO04	**Tololo Observa**	**7.07**	**244**	P	**P**	**23 37 27.1**	**+0.8**
PB06	**IPOC Station P**	**7.20**	**308**	P	**P**	**23 37 28.7**	**+1.2**
CO03	**El Pedregal**	**7.26**	**239**	P	**P**	**23 37 29.7**	**+1.8**
PB10	**IPOC Station P**	**7.45**	**299**	P	**P**	**23 37 31.1**	**+1.4**
UNIS	**Unistalda (Bra**	**7.59**	**105**	*e*P	**P**	**23 37 31.7**	**+0.7**
PB09	**IPOC Station P**	**7.60**	**315**	P	**P**	**23 37 32.6**	**+1.2**
CO02	**Combarbal**	**7.67**	**238**	P	**P**	**23 37 33.3**	**+1.5**
MURT	**Porto Murtinho**	**7.72**	**45**	*e*P	**P**	**23 37 33.0**	**+0.7**
PB03	**IPOC Station P**	**7.76**	**311**	P	**P**	**23 37 34.0**	**+1.1**
PB04	**IPOC Station P**	**7.84**	**308**	P	**P**	**23 37 34.9**	**+1.2**
RODS	**Rosario do Sul**	**7.84**	**115**	*e*P	**P**	**23 37 34.8**	**+1.4**
CO06	**Fray Jorge**	**7.93**	**243**		**P**	**23 37 35.4**	**+1.1**
PB07	**IPOC Station P**	**8.07**	**312**	P	**P**	**23 37 36.8**	**+0.8**
VA03	**San Esteban**	**8.23**	**227**	P	**P**	**23 37 38.2**	**+0.9**
PB01	**IPOC Station P**	**8.31**	**317**	P	**P**	**23 37 39.1**	**+0.8**
CRSM	**Crissiumal (Br**	**8.35**	**94**	*e*P	**P**	**23 37 39.1**	**+0.6**
PB02	**IPOC Station P**	**8.37**	**314**	P	**P**	**23 37 39.2**	**+0.4**
ANTJ	**Antonio Joao (**	**8.57**	**54**	*e*P	**P**	**23 37 41.4**	**+0.7**
VA06	**Catapilco**	**8.61**	**230**	P	**P**	**23 37 41.4**	**+0.6**
ROC1	**El Roble**	**8.67**	**227**	P	**P**	**23 37 42.5**	**+0.7**
PB08	**IPOC Station P**	**8.83**	**322**	P	**P**	**23 37 44.9**	**+1.1**
PATCX	**Punta Patache**	**8.89**	**315**	P	**P**	**23 37 45.1**	**+1.0**
MCR1	**Marechal Candi**	**8.92**	**74**	*e*P	**P**	**23 37 44.7**	**+0.5**
MT02	**Curacav**	**8.93**	**226**	P	**P**	**23 37 44.0**	**-0.1**
BO04	**La Punta**	**9.09**	**221**	P	**P**	**23 37 46.8**	**+1.0**
TA01	**Diego Aracena**	**9.10**	**316**	P	**P**	**23 37 47.5**	**+1.4**
MT09	**Talagante**	**9.17**	**223**	P	**P**	**23 37 47.0**	**+0.3**
GO01	**Chusmiza**	**9.24**	**324**	P	**P**	**23 37 49.3**	**+1.3**
TA02	**Huaiquique**	**9.29**	**317**	P	**P**	**23 37 48.9**	**+0.9**
CPSB	**Cacapava Do Su**	**9.30**	**112**	*e*P	**P**	**23 37 48.0**	**+0.1**
ALGR	**Alto Alegre (B**	**9.32**	**102**	*e*P	**P**	**23 37 48.7**	**+0.5**
FRBT	**Francisco Belt**	**9.38**	**84**	*e*P	**P**	**23 37 49.2**	**+0.4**
MT01	**Popeta**	**9.39**	**224**	P	**P**	**23 37 49.1**	**+0.3**
PB11	**IPOC Station P**	**9.41**	**321**	P	**P**	**23 37 50.3**	**+0.9**
BBRB	**Robore, Bolivi**	**9.57**	**21**	*e*P	**P**	**23 37 51.5**	**+0.6**
PLTB	**Pedras Altas**	**9.65**	**120**	P	**P**	**23 37 51.5**	**+0.1**
PLTB	**Pedras Altas**	**9.65**	**120**	*e*P	**P**	**23 37 51.3**	**-0.1**
BO01	**Tunca**	**9.66**	**221**	P	**P**	**23 37 52.4**	**+1.0**
BO02	**Sierra Bellavi**	**9.78**	**218**	P	**P**	**23 37 53.5**	**+0.9**
AQDB	**Aquidauana**	**9.80**	**48**	P	**P**	**23 37 53.6**	**+0.5**
AQDB	**Aquidauana**	**9.80**	**48**	*e*P	**P**	**23 37 53.6**	**+0.5**
PSGCX	**Pisagua**	**9.81**	**320**	P	**P**	**23 37 53.9**	**+0.5**
MNMC	**Minye Minye**	**9.90**	**324**	P	**P**	**23 37 56.1**	**+1.7**
ITAB	**Concordia**	**10.06**	**92**	*e*P	**P**	**23 37 55.5**	**-0.2**
BBSD	**Serra de San D**	**10.39**	**15**	*e*P	**P**	**23 37 59.8**	**+0.7**
PB16	**IPOC Station P**	**10.52**	**327**	P	**P**	**23 38 03.4**	**+2.3**
PTGB	**Pitanga**	**10.55**	**78**	*e*P	**P**	**23 38 00.8**	**+0.1**
PB12	**IPOC Station P**	**10.71**	**322**	P	**P**	**23 38 02.9**	**+0.3**
TRQA	**Tornquist**	**10.81**	**174**	P	**P**	**23 38 02.6**	**-0.4**
CNLB	**Canela**	**11.27**	**103**	*e*P	**P**	**23 38 08.1**	**0.0**
SIV	**San Ignacio**	**11.46**	**12**	P	**P**	**23 38 10.7**	**+0.7**
	1.6nm,0.7s,baz=188,slow=8.1,SNR=7.7						
LPAZ	**La Paz**	**11.78**	**337**	P	**P**	**23 38 14.6**	**+0.5**
	0.8nm,0.3s,baz=160,slow=8.0,SNR=9.2						
LPAZ				S	**S**	**23 40 21.7**	**-1.4**
	0.5nm,0.5s,baz=235,slow=21,SNR=1.7						
LPAZ	**La Paz**	**11.78**	**337**	P	**P**	**23 38 14.0**	**-0.1**
LPAZ	**La Paz**	**11.78**	**337**	*e*P	**P**	**23 38 14.7**	**+0.6**
PTLB	**Pontes e Lacer**	**12.44**	**20**	*e*P	**P**	**23 38 21.1**	**+1.0**
PCMB	**Pacaembu**	**12.45**	**66**	*e*P	**P**	**23 38 20.0**	**-0.2**
BI05	**Punta Hualpn**	**12.54**	**219**	P	**P**	**23 38 21.0**	**+0.1**
FRTB	**Fartura**	**13.15**	**76**	*e*P	**P**	**23 38 27.2**	**-0.2**
GO06	**Curarrehue**	**13.97**	**207**	P	**P**	**23 38 35.2**	**-0.4**
VILB	**Vilhena**	**14.58**	**13**	*e*P	**P**	**23 38 43.1**	**+1.0**
PLCA	**Paso Flores**	**14.64**	**202**	P	**P**	**23 38 42.2**	**-0.2**
	3.0nm,0.8s,baz=32,slow=9.4,SNR=5.7						
PLCA	**Paso Flores**	**14.64**	**202**	P	**P**	**23 38 41.7**	**-0.7**
PET01	**Itanhaem-SP**	**14.86**	**82**	*e*P	**P**	**23 38 45.1**	**+0.3**
BB19B	**Bebedouro**	**14.95**	**69**	*e*P	**P**	**23 38 44.8**	**-0.9**
RCLB	**Rio Claro- Sao**	**15.23**	**75**	*e*P	**P**	**23 38 48.8**	**+0.2**
LL04	**Puerto Octay**	**15.47**	**206**	P	**P**	**23 38 50.4**	**-0.3**
LL04				IAmb	IAmb	23 38 58.6	
	comp=Z,15nm,1.3s						
VAO	**Valinhos**	**15.51**	**78**	*e*P	**P**	**23 38 50.9**	**-0.6**
IPMB	**Ipameri, GO**	**16.82**	**60**	*e*P	**P**	**23 39 03.9**	**+0.2**
PDRB	**Porto dos Gac**	**16.82**	**23**	*e*P	**P**	**23 39 03.9**	**+0.3**
LL06	**Loncomilla**	**17.06**	**207**	P	**P**	**23 39 04.5**	**-0.9**
LL06				IAmb	IAmb	23 39 29.1	
	comp=Z,91nm,1.2s						
ETMB	**Extrema**	**17.58**	**351**	P	**P**	**23 39 09.5**	**-1.0**
ETMB				IAmb	IAmb	23 39 21.9	
	comp=Z,2.4nm,1.4s						
CLDB	**Colider**	**17.84**	**25**	*e*P	**P**	**23 39 13.7**	**+0.7**
PMNB	**Patos De Minas**	**17.90**	**64**	*e*P	**P**	**23 39 13.9**	**+0.3**
BDFB	**Brasilia**	**18.43**	**54**	P	**P**	**23 39 18.4**	**0.0**
	comp=Z,3.8nm,0.4s,baz=225,slow=7.3,SNR=9.8						
SNDB	**Serra Nova Dou**	**19.03**	**39**	*e*P	**P**	**23 39 23.7**	**-0.1**
DIAM	**Diamantina, MG**	**20.28**	**68**	*e*P	**P**	**23 39 35.7**	**+0.4**
CAM01	**Campos-RJ**	**20.53**	**79**	*e*P	**P**	**23 39 37.4**	**+0.1**
NPGB	**Novo Progresso**	**21.55**	**22**	*e*P	**P**	**23 39 47.9**	**+1.4**
JANB	**Januaria**	**21.56**	**59**	*e*P	**P**	**23 39 46.5**	**-0.2**
SDBA	**SAO DESIDERIO**	**22.82**	**53**	*e*P	**P**	**23 39 58.3**	**+0.4**
SMTB	**Santa Maria do**	**23.68**	**42**	*e*P	**P**	**23 40 05.4**	**-0.1**
BOAV	**Boa Vista**	**29.64**	**6**	P	**P**	**23 40 57.7**	**-0.1**
BOAV				IAmb	IAmb	23 40 58.9	
	comp=Z,3.8nm,1.0s						
BOAV	**Boa Vista**	**29.64**	**6**	*e*P	**P**	**23 40 58.1**	**+0.3**
MLPR	**Magueyes Islan**	**45.12**	**355**	P	**P**	**23 43 04.0**	**+0.1**
VNA2	**Neumayer--Watz**	**53.55**	**160**	P	**P**	**23 44 06.5**	**+1.3**
	baz=284,slow=5.7						
SNAA	**Sanae**	**55.19**	**160**	P	**P**	**23 44 17.8**	**+1.0**
SNAA	**Sanae**	**55.19**	**160**	P	**P**	**23 44 17.4**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=299,slow=6.4,SNR=12						
	comp=Z,0.8nm,0.6s						
SNAA	**Sanae**	**55.19**	**160**	P	**P**	**23 44 17.5**	**+0.7**
TROLL	**Troll, Antarti**	**56.90**	**160**	P	**P**	**23 44 30.0**	**+1.4**
V55A	**Taylorsville**	**65.00**	**344**	P	**P**	**23 45 22.2**	**+0.2**
V55A				IAmb	IAmb	23 45 31.5	
	comp=Z,10nm,1.3s						
DBIC	**Dimbokro**	**65.91**	**68**	P	**P**	**23 45 27.2**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=247,slow=4.6,SNR=12						
	comp=Z,1.9nm,0.3s						
DBIC	**Dimbokro**	**65.91**	**68**	P	**P**	**23 45 27.5**	**-0.6**
DBIC				IAmb	IAmb	23 45 49.3	
	comp=Z,22nm,1.4s						
BOSA	**Boshof**	**76.40**	**115**	P	**P**	**23 46 29.6**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=250,slow=6.8,SNR=8.0						
	comp=Z,1.3nm,0.4s						
PDAR	**Pinedale Array**	**81.62**	**328**	P	**P**	**23 46 58.3**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=133,slow=7.5,SNR=2.0						
	comp=Z,0.2nm,0.5s						
ESDC	**Sonseca Array**	**86.62**	**42**	P	**P**	**23 47 21.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=240,slow=4.9,SNR=1.9						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**129.99**	**202**	PKP	**PKiKP**	**23 53 44.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=163,slow=1.7,SNR=8.3						
BVAR	**Borovoye Array**	**137.37**	**40**	PKP	**PKiKP**	**23 53 58.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=282,slow=1.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**142.95**	**41**	PKP	**PKPdf**	**23 54 05.8**	**-0.9**
	comp=Z,1.0nm,0.2s,baz=290,slow=3.5,SNR=7.5						
NRN	**Naryn**	**144.00**	**56**		**PKPab**	**23 54 09.1**	**+0.2**
KSH	**Kashi**	**144.27**	**60**	PKP	**PKPab**	**23 54 09.9**	**+0.1**
ZAA0	**Zalesovo Array**	**144.61**	**32**	PKPdf	**PKPab**	**23 54 10.9**	**+0.5**
ZALV	**Zalesovo Beam**	**144.61**	**32**	PKP	**PKPab**	**23 54 10.6**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=309,slow=2.6,SNR=15						
ZALV	**Zalesovo Beam**	**144.61**	**32**	PKPdf	**PKPab**	**23 54 10.7**	**+0.2**
MKAR	**Makanchi Array**	**146.79**	**45**	PKPbc	**PKPbc**	**23 54 17.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=316,slow=2.8,SNR=17						
TNTI	**Ternate**	**151.67**	**203**	PKPdf	**PKPdf**	**23 54 18.2**	**-3.9**
PZH	**PanZhiHua**	**166.75**	**90**	PKP	**PKPdf**	**23 54 34.3**	**-4.7**

JMA 11 23:52:14.4±0.3, 25°N±2°×12°2E±°, h2km±3km, MV2.3/5, TAIWAN REGION
TAP 11 23:52:14.0, 24°.82N×122°.34E, h16km, ML2.9, C
ISC 11 23:52:14.1±1.0, 24°.78N±0°.03×122°.35E±0°.02, h20km±5km, n47, σ0s.50/78, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.39**	**280**	*e*P	**Pg**	**23 52 22.2**	**-0.1**
	baz=266						
EGS				*e*S	**Sg**	**23 52 27.6**	**-0.2**
	baz=266						
TWB1	**Santiao Chiao**	**0.40**	**305**	P	**Pg**	**23 52 22.1**	**-0.4**
	baz=301						
TWB1				*e*S	**Sg**	**23 52 27.2**	**-1.0**
	baz=301						
TWC	**Suao**	**0.49**	**250**	P	**Pb**	**23 52 24.0**	**+0.1**
	baz=250						
TWC				*e*S	**Sg**	**23 52 29.6**	**-1.0**
	baz=250						
TIPB	**Shuangxi**	**0.52**	**292**	*e*P	**Pb**	**23 52 24.5**	**0.0**
	baz=288						
TIPB				*e*S	**Sg**	**23 52 32.3**	**+0.7**
	baz=288						
SXI1	**Grass Mountain**	**0.54**	**306**	*e*P	**Pb**	**23 52 24.9**	**0.0**
	baz=303						
SXI1				*e*S	**Sb**	**23 52 31.4**	**-0.7**
	baz=303						
NWF	**Wu-fen Shan**	**0.59**	**300**	*e*P	**Pg**	**23 52 26.7**	**+0.6**
	baz=296						
NWF				*e*S	**Sg**	**23 52 34.7**	**+0.6**
	baz=296						
TWE	**Neicheng**	**0.62**	**265**	P	**Pb**	**23 52 26.3**	**0.0**
	baz=260						
TWE				*e*S	**Sb**	**23 52 33.5**	**-1.2**
	baz=260						
JYNG	**Yonagunijimaku**	**0.63**	**121**	P	**Pg**	**23 52 27.2**	**+0.6**
JYNG				*e*S	**Sn**	**23 52 36.5**	**-0.9**
ENA	**Nanau**	**0.66**	**238**	*e*P	**Pb**	**23 52 27.1**	**+0.3**
	baz=234						
ENA				*e*S	**Sb**	**23 52 35.5**	**0.0**
	baz=234						
YOJ	**Yonaguni jima**	**0.68**	**117**	P	**Pg**	**23 52 27.7**	**+0.2**
	baz=106						
YOJ				S	**Sg**	**23 52 36.5**	**-0.1**
	baz=106						
YOJ	**Yonaguni jima**	**0.68**	**117**	P	**Pn**	**23 52 28.1**	**-0.5**
YOJ				*e*S	**Sg**	**23 52 37.1**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.69**	**269**	P	**Pb**	**23 52 27.6**	**+0.1**
	baz=265						
FUSB				*e*S	**Sb**	**23 52 36.7**	**0.0**
	baz=265						
TWA	**Mucha**	**0.73**	**286**	*e*P	**Pg**	**23 52 28.7**	**+0.3**
	baz=283						
ENTT	**Nioudou**	**0.73**	**259**	P	**Pb**	**23 52 27.8**	**-0.3**
	baz=255						
ENTT				*e*S	**Sb**	**23 52 37.4**	**-0.2**
	baz=255						
NWLT	**Wulai**	**0.77**	**270**	*e*P	**Pb**	**23 52 28.4**	**-0.5**
	baz=267						
NWLT				*e*S	**Sb**	**23 52 37.9**	**-1.1**
	baz=267						
NHDH	**Xindian Distri**	**0.77**	**284**	*e*P	**Pn**	**23 52 29.9**	**0.0**
	baz=281						
NDT	**Datong Townshi**	**0.78**	**257**	*e*P	**Pb**	**23 52 28.4**	**-0.7**
	baz=254						
LATG	**Datong**	**0.79**	**252**	P	**Pb**	**23 52 29.6**	**+0.4**
	baz=235						
LATG				*e*S	**Sb**	**23 52 39.3**	**-0.2**
	baz=235						
YM01	**YM01**	**0.80**	**298**	P	**Pb**	**23 52 29.7**	**+0.4**
	baz=295						
YM01				*e*S	**Sg**	**23 52 40.9**	**+0.4**
	baz=295						
TWY	**Chenhua**	**0.84**	**306**	*e*P	**Pb**	**23 52 30.3**	**+0.2**
	baz=304						
TWY				*e*S	**Sg**	**23 52 42.0**	**+0.2**
	baz=304						
PCYT	**Pengchaiyu**	**0.89**	**343**	*e*P	**Pb**	**23 52 31.0**	**+0.2**
	baz=343						
YHNB	**Yeheng**	**0.89**	**263**	P	**Pb**	**23 52 31.5**	**+0.5**
	baz=269						
YHNB				*e*S	**Sb**	**23 52 42.2**	**-0.3**
	baz=269						
NSK	**Sanguang**	**0.91**	**264**	P	**Pb**	**23 52 30.6**	**-0.6**
	baz=271						
NACB	**Ninganchiao**	**0.91**	**229**	P	**Pn**	**23 52 31.7**	**-0.1**
	baz=236						
NACB				*e*S	**Sb**	**23 52 43.4**	**+0.4**
	baz=236						
NNSB	**Datong**	**0.95**	**249**	P	**Pn**	**23 52 32.6**	**+0.3**
	baz=235						
NNSB				*e*S	**Sb**	**23 52 44.4**	**+0.3**
	baz=235						
NNS	**Nan Shan**	**0.95**	**250**	*e*P	**Pb**	**23 52 31.8**	**-0.2**
	baz=235						
NNS				*e*S	**Sb**	**23 52 44.3**	**+0.1**
	baz=235						
ETLH	**Xiulin Townshi**	**0.97**	**235**	*e*P	**Pn**	**23 52 32.9**	**+0.2**
	baz=232						
ETLH				*e*S	**Sb**	**23 52 44.9**	**+0.1**
	baz=232						
TWD	**Chiawan**	**0.98**	**225**	*e*P	**Pg**	**23 52 34.4**	**+1.3**
	baz=228						
NFF	**Wufeng Townshi**	**1.13**	**263**	*e*P	**Pn**	**23 52 34.8**	**-0.1**
	baz=260						
NFF				*e*S	**Sg**	**23 52 51.0**	**0.0**
	baz=260						
FUSS	**Fushou**	**1.14**	**243**	*e*P	**Pg**	**23 52 36.7**	**+0.5**
	baz=240						
FUSS				*e*S	**Sn**	**23 52 50.6**	**+0.3**
	baz=240						
WHF	**Hehuan Shan**	**1.17**	**238**	P	**Pg**	**23 52 36.8**	**-0.1**
	baz=235						
WHF				*e*S	**Sg**	**23 52 52.3**	**-0.1**
	baz=235						
TWT	**Tachien**	**1.19**	**244**	*e*P	**Pg**	**23 52 37.9**	**+0.7**
	baz=233						
TWT				*e*S	**Sg**	**23 52 53.5**	**+0.7**
	baz=233						
TDCB	**Techi**	**1.21**	**245**	*e*P	**Pg**	**23 52 37.7**	**+0.2**
	baz=233						
TDCB				*e*S	**Sn**	**23 52 52.5**	**+0.7**
	baz=233						
LIOB	**Emei**	**1.22**	**264**	*e*P	**Pg**	**23 52 38.4**	**+0.6**
	baz=262						
NSTT	**Nanjuang**	**1.24**	**264**	*e*P	**Pg**	**23 52 39.1**	**+1.1**
	baz=280						
CHGB	**Renai**	**1.29**	**237**	P	**Pg**	**23 52 39.1**	**+0.1**
	baz=234						
CHGB				*e*S	**Sn**	**23 52 53.9**	**-0.1**
	baz=234						
IRIF	**Iriomote-Funau**	**1.33**	**109**	P	**Pg**	**23 52 39.8**	**0.0**
IRIF				S	**Sg**	**23 52 57.7**	**+0.5**
WUSB	**Renai**	**1.37**	**235**	P	**Pg**	**23 52 40.6**	**0.0**
	baz=241						
WUSB				*e*S	**Sg**	**23 52 57.9**	**-0.7**
	baz=241						
WHP	**Taichung City**	**1.37**	**249**	*e*P	**Pg**	**23 52 40.9**	**+0.2**
	baz=247						
WCS	**Beigang Elemen**	**1.50**	**242**	*e*P	**Pb**	**23 52 41.5**	**+0.3**
	baz=239						
VWDT	**VWDT**	**1.50**	**228**	*e*P	**Pg**	**23 52 43.0**	**-0.1**
	baz=209						
VWDT				*e*S	**Sb**	**23 53 00.6**	**+0.7**
	baz=209						
HGSD	**Ruisui**	**1.53**	**214**	*e*P	**Pn**	**23 52 40.1**	**-0.3**
	baz=198						
SMLT	**Sun Moon Lake**	**1.59**	**236**	*e*P	**Pg**	**23 52 44.3**	**-0.6**
	baz=220						
SSLB	**Suanglung**	**1.61**	**233**	*e*P	**Pb**	**23 52 42.6**	**-0.6**
	baz=230						
TYC	**Yuchr**	**1.62**	**238**	*e*P	**Pg**	**23 52 44.7**	**-0.6**
	baz=235						
YULB	**Yu-li**	**1.68**	**215**	*e*P	**Pb**	**23 52 44.3**	**-0.1**
	baz=213						
WHYT	**Xinyi Township**	**1.74**	**232**	*e*P	**Pg**	**23 52 47.0**	**-0.6**
	baz=216						

IDC 11 23:58:41.1±1.8, 17°.58N×101°.11W, h0km, mb3.5/5, mbtmp3.3/8, ML3.1/3, Error ellipse: s-maj=35.1km s-min=19.7km az=26.0
MEX 11 23:58:47.4±0.4, 17°.51N×101°.28W, h34km±5km, MD4.3
ISC 11 23:58:45.2±0.9, 17°.54N±0°.03×101°.22W±0°.02, h26km±6km, n67, σ2s.14/116, mb3.5/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.24**	**285**	*e*P	**Pn**	**23 58 52.5**	**-0.5**
ZIIG				*e*S	**Sn**	**23 58 57.1**	**+1.2**
UON	**La Union**	**0.71**	**307**	*e*P	**Pb**	**23 58 58.7**	**-0.3**
UON				*e*S	**Sb**	**23 59 07.7**	**-0.6**
CAIG	**El Cayaco**	**1.03**	**118**	*e*P	**Pn**	**23 59 04.5**	**+0.5**
ARIG	**Puente Sto Nin**	**1.11**	**48**	*e*P	**Pb**	**23 59 05.5**	**-0.2**
ARIG				*e*S	**Sn**	**23 59 19.9**	**+0.4**
ACP2	**Acapulco**	**1.44**	**117**	*e*P	**Pb**	**23 59 10.5**	**-0.8**
ACP2				*e*S	**Sn**	**23 59 26.8**	**-0.8**
VNTA	**La Mica**	**1.48**	**115**	*e*P	**Pn**	**23 59 10.7**	**+0.6**
VNTA				*e*S	**Sn**	**23 59 28.9**	**+0.4**
MEIG	**Mezcala**	**1.57**	**76**	*e*P	**Pb**	**23 59 13.2**	**-0.4**
DAIG	**Los Arroyos**	**1.59**	**109**	*e*P	**Pb**	**23 59 13.5**	**-0.4**
TEJU	**Tejupilco**	**1.69**	**36**	*e*P	**Pb**	**23 59 14.8**	**-0.8**
TEJU				*e*S	**Sb**	**23 59 35.8**	**-0.8**
PLIG	**Platanillo**	**1.84**	**62**	*e*P	**Pb**	**23 59 16.8**	**-1.4**
MOIG	**Morelia**	**2.12**	**1**	*e*P	**Pn**	**23 59 20.6**	**+1.4**
MOIG				*e*S	**Sn**	**23 59 41.5**	**-3.4**
CRIG	**Cruz Grande**	**2.15**	**112**	*i* P	**Pn**	**23 59 20.7**	**+1.3**
CRIG				*e*S	**Sn**	**23 59 44.0**	**-1.2**
MMIG	**Aquila**	**2.16**	**290**	*i* P	**Pn**	**23 59 18.9**	**-0.5**
MMIG				*e*S	**Sn**	**23 59 42.2**	**-3.1**
MAVM	**Malinalco, Edo**	**2.16**	**49**	*e*P	Pb	23 59 28.6	+4.9
MAVM				*e*S	**Sb**	**23 59 54.8**	**+4.6**
TOVM	**TOLUCA**	**2.27**	**40**	*e*P	**Pn**	**23 59 21.7**	**+0.5**
TOVM				*e*S	**Sb**	**23 59 53.4**	**0.0**
YAIG	**Yautepec**	**2.43**	**57**	*e*P	**Pn**	**23 59 24.6**	**+1.2**
YAIG				*e*S	**Sb**	**23 59 56.2**	**-1.7**
INVM	**La Marquesa**	**2.46**	**45**	*e*P	**Pn**	**23 59 25.1**	**+1.1**
INVM				*e*S	**Sb**	**23 59 58.9**	**-0.2**
AOVM	**Tlapan**	**2.49**	**46**	*e*P	**Pn**	**23 59 26.7**	**+2.3**
AOVM				*e*S	**Sb**	**00 00 00.6**	**+0.7**
MGIG	**Malinaltepec**	**2.49**	**97**	*e*P	**Pb**	**23 59 26.7**	**-2.6**
MGIG				*e*S	**Sn**	**23 59 53.6**	**-0.1**
TLIG	**Tlapa**	**2.53**	**89**	*e*P	**Pn**	**23 59 27.0**	**+2.3**
TLIG				*e*S	**Sn**	**23 59 54.5**	**-0.3**
ACAM	**Acambaro**	**2.53**	**11**	*e*P	**Pb**	**23 59 27.4**	**-2.7**
ACAM				*e*S	**Sb**	**23 59 59.6**	**-1.3**
HMTT	**Tlapaneco**	**2.55**	**84**	*e*P	**Pn**	**23 59 26.2**	**+1.3**
HMTT				*e*S	**Sn**	**23 59 55.1**	**-0.1**
TLVM	**San Miguel Top**	**2.57**	**49**	*e*P	**Pb**	**23 59 28.0**	**-2.8**
TLVM				*e*S	**Sb**	**00 00 02.8**	**+0.7**
XCVM	**Xochimilco**	**2.62**	**49**	*e*P	**Pb**	**23 59 30.6**	**-1.1**
XCVM				*e*S	**Sb**	**00 00 04.0**	**+0.5**
UNM	**Universidad Na**	**2.63**	**47**	*e*P	**Pn**	**23 59 27.4**	**+1.2**
UNM				*e*S	**Sb**	**00 00 02.2**	**-1.6**
BJVM	**Benito Juarez**	**2.67**	**47**	*e*P	**Pn**	**23 59 27.2**	**+0.5**
BJVM				*e*S	**Sn**	**23 59 55.3**	**-2.9**
MPVM	**San Francisco**	**2.67**	**51**	*e*P	**Pn**	**23 59 29.2**	**+2.5**
MPVM				*i* S	**Sb**	**00 00 06.4**	**+1.6**
ACIG	**Acambay**	**2.74**	**27**	*e*S	**Sb**	**00 00 07.8**	**+1.0**
THVM	**De Xico**	**2.76**	**50**	*e*P	**Pn**	**23 59 30.5**	**+2.5**
THVM				*e*S	**Sb**	**00 00 05.3**	**-2.4**
GMVM	**Gustavo A Made**	**2.79**	**46**	*e*P	**Pb**	**23 59 33.0**	**-1.5**
GMVM				*e*S	**Sb**	**00 00 11.5**	**+3.2**
AMVM	**AMECAMECA**	**2.80**	**55**	*e*P	**Pn**	**23 59 26.3**	**-2.2**
AMVM				*i* S	**Sb**	**00 00 07.0**	**-1.8**
COIG	**Colima**	**2.86**	**305**	*e*P	**Pn**	**23 59 30.0**	**+0.9**
COIG				*i* S	**Sn**	**00 00 03.8**	**+1.0**
PPM	**Popocatepetl**	**2.89**	**58**	*e*P	**Pn**	**23 59 31.2**	**+1.2**
PPM				*e*S	**Sb**	**00 00 07.8**	**-3.8**
EZ5V		**2.97**	**311**	*e*P	**Pn**	**23 59 32.4**	**+1.5**
EZ5V				*e*S	**Sn**	**00 00 08.8**	**+3.0**
JUBC	**Volcan de Coli**	**2.97**	**312**	*e*P	**Pn**	**23 59 33.0**	**+2.1**
JUBC				*e*S	**Sb**	**00 00 14.2**	**+0.6**
MNGA	**Volcan de Coli**	**2.98**	**310**	*e*P	**Pn**	**23 59 32.4**	**+1.5**
MNGA				*e*S	**Sb**	**00 00 13.2**	**-0.5**
CDAR	**Ciudad de Arme**	**3.00**	**298**	*e*P	**Pn**	**23 59 31.0**	**0.0**
CDAR				*i* S	**Sn**	**00 00 07.2**	**+1.2**
INCO	**Volcan de Coli**	**3.00**	**311**	*e*P	**Pn**	**23 59 32.2**	**+0.8**
INCO				*i* S	**Sn**	**00 00 10.4**	**+3.6**
ZUVM	**ZUMPANGO**	**3.05**	**41**	*e*P	**Pn**	**23 59 32.9**	**+1.0**
ZUVM				*i* S	**Sb**	**00 00 11.8**	**-4.0**
R15V		**3.08**	**302**	*e*P	**Pn**	**23 59 32.9**	**+0.7**
R15V				*e*S	**Sn**	**00 00 09.0**	**+0.7**
PNIG	**Pinotepa**	**3.17**	**111**	*e*P	**Pb**	**23 59 39.9**	**-1.0**
PNIG				*e*S	**Sb**	**00 00 20.0**	**+0.8**
HLIG	**Huajuapan de L**	**3.27**	**84**	*e*P	**Pn**	**23 59 38.4**	**+3.4**
HLIG				*e*S	**Sn**	**00 00 11.1**	**-2.0**
TXIG	**Tlaxiaco**	**3.31**	**94**	*i* P	**Pn**	**23 59 37.5**	**+2.0**
TXIG				*e*S	**Sn**	**00 00 15.5**	**+1.3**
DEIG	**Demacu**	**3.44**	**37**	*e*P	**Pn**	**23 59 38.4**	**+1.2**
DEIG				*e*S	**Sb**	**00 00 25.6**	**-1.3**
YOIG	**Yosondua**	**3.58**	**100**	*e*P	**Pn**	**23 59 42.4**	**+3.2**
YOIG				*e*S	**Sb**	**00 00 27.5**	**-3.6**
CIHU	**Emiliano Zapat**	**3.75**	**298**	*e*P	**Pn**	**23 59 41.0**	**-0.4**
CIHU				*e*S	**Sn**	**00 00 22.4**	**-2.3**
TPIG	**Tehuac#an**	**3.77**	**76**	*e*P	**Pn**	**23 59 44.5**	**+2.6**
TPIG				*e*S	**Sb**	**00 00 31.7**	**-4.9**
TOIG	**Toxpalan**	**4.00**	**81**	*e*P	**Pn**	**23 59 49.0**	**+4.1**
TOIG				*e*S	**Sn**	**00 00 36.3**	**+5.4**
CJM	**Chamela**	**4.12**	**299**	*e*P	**Pn**	**23 59 48.0**	**+1.6**
CJM				*i* S	**Sn**	**00 00 32.3**	**-1.4**
PEIG	**Puerto Escondi**	**4.19**	**111**	*e*P	**Pn**	**23 59 49.2**	**+1.8**
PEIG				*e*S	**Sn**	**00 00 35.0**	**-0.6**
VHO	**Vista Hermosa**	**4.31**	**96**	*e*P	**Pn**	**23 59 52.0**	**+2.7**
VHO				*e*S	**Sn**	**00 00 41.5**	**+2.7**
CXUV	**Coxquihui**	**4.32**	**52**	*e*P	**Pn**	**23 59 50.1**	**+0.9**
ESTA	**Talpa de Allen**	**4.45**	**310**	*e*P	**Pn**	**23 59 53.2**	**+2.0**
ESTA				*e*S	**Sn**	**00 00 44.8**	**+2.6**
JAUV	**Jalcomulco**	**4.57**	**66**	*e*P	**Pn**	**23 59 55.6**	**+3.0**
JAUV				*e*S	**Sn**	**00 00 51.1**	**+6.2**
NEUV	**Arroyo Zacate**	**5.17**	**87**	*e*P	**Pn**	**00 00 03.6**	**+2.7**
NEUV				*e*S	**Sn**	**00 00 59.9**	**+0.2**
CMIG	**Matias Romero**	**6.07**	**93**	Pn	**Pn**	**00 00 12.6**	**-0.6**
	0.3nm,0.3s,baz=217,slow=14,SNR=1.5						
CMIG				Sn	**Sn**	**00 01 20.0**	**-1.9**
	2.0nm,0.3s,baz=282,slow=19,SNR=4.4						
CMIG				Lg	Lg	00 01 50.7	
	2.1nm,0.3s,baz=351,slow=22,SNR=4.1						
	1.2nm,0.4s						

PATR	El Naranjo	8.96	104	eP	Pn	00 00 57.4	+4.3
PAVE	Pavencul	8.99	104	eP	Pn	00 00 57.9	+4.3
CHUJ	Union Juarez	9.08	104	eP	Pn	00 00 59.3	+4.5
TXAR	Lajitas Array	11.95	350	Pn	Pn	00 01 34.8	+0.8
	baz=169,slow=15,SNR=1.4						
TXAR				Lg	Lg	00 05 00.6	
	baz=172,slow=30,SNR=3.9						
	0.1nm,0.5s						
ANMO	Albuquerque	17.95	346	P	P	00 02 53.9	+0.3
	0.1nm,0.3s,baz=163,slow=11,SNR=1.8						
	0.7nm,0.7s						
TKL	Tuckaleechee C	23.78	37	P	P	00 03 53.2	-2.5
	2.2nm,0.7s,baz=209,slow=11,SNR=2.4						
	2.2nm,0.7s						
NVAR	Mina Array Bea	25.62	328	P	P	00 04 12.3	-0.5
	0.1nm,0.3s,baz=149,slow=11,SNR=1.7						
	0.1nm,0.3s						
PDAR	Pinedale Array	26.13	346	P	P	00 04 16.3	-1.0
	0.5nm,1.0s,baz=147,slow=11,SNR=2.0						
	0.5nm,1.0s						
INK	Inuvik	54.70	346	P	P	00 08 11.6	-0.1
	0.9nm,0.8s,baz=120,slow=8.1,SNR=2.0						
	0.9nm,0.8s						
ILAR	Eielson Array	56.19	338	P	P	00 08 23.6	+1.1
	0.5nm,1.0s,baz=152,slow=6.0,SNR=3.5						
	0.5nm,1.0s						
WRA	Warramunga Arr	127.53	258	PKP	PKPdf	00 17 48.9	+0.2
	0.5nm,0.9s,baz=71,slow=2.3,SNR=5.1						

*NEIC **12** 00:00:55.2±1.5, 18°.8N±0°.2×69°.03W±0°.07, h125km±9km, Error ellipse: s-maj=27.2km s-min=8.3km az=190.0*
*RSPR **12** 00:00:56.2, 18°.63N×68°.99W, h131km±2km, MD3.7/6*
ISC 12 00:00:54.8±1.4**, 18°.8N**±0°.2×**69°.03W**±0°.07**, h129km, n35, σ0s.67**/36**, 8C-2D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.68	115	⇓eP	Pn	00 01 14.8	-0.1
PCDR	Punta Cana, DR	0.68	115	eS	Sn	00 01 30.1	0.0
PCDR	Punta Cana, DR	0.68	115		Pn	00 01 14.2	-0.7
PCDR	Punta Cana, DR	0.68	115		Sn	00 01 30.1	0.0
IDE	Isla Desecheo	1.53	105	⇓eP	Pn	00 01 23.9	+0.8
IDE	Isla Desecheo	1.53	105	eS	Sn	00 01 45.3	+0.5
SC01	Santiago de lo	1.72	291	Pn	Pn	00 01 24.8	-0.5
SC01				IAML		00 02 01.7	
	comp=E,53nm,0.5s						
SC01				IAML		00 02 34.7	
	comp=N,54nm,2.5s						
AGPR	Aguadilla, PR	1.85	100	⇑eP	Pn	00 01 27.5	+0.6
AGPR	Aguadilla, PR	1.85	100		Pn	00 01 26.3	-0.6
AGPR				IAML		00 01 53.7	
	comp=E,56nm,2.3s						
AGPR				IAML		00 02 16.5	
	comp=N,65nm,3.2s						
LSP	Las Mesas	1.95	108	⇑eP	Pn	00 01 28.9	+0.8
LSP	Las Mesas	1.95	108	eS	Sn	00 01 54.2	+0.6
CRPR	Cabo Rojo, PR	1.99	113	⇑eP	Pn	00 01 28.2	-0.4
CRPR	Cabo Rojo, PR	1.99	113	eS	Sn	00 01 54.4	0.0
CRPR	Cabo Rojo, PR	1.99	113		Pn	00 01 28.2	-0.4
CRPR	Cabo Rojo, PR	1.99	113		Sn	00 01 52.1	-2.3
CRPR				IAML		00 02 18.1	
	comp=N,35nm,2.9s						
MLPR	Magueyes Islan	2.06	113	Pn	Pn	00 01 30.3	+0.9
MLPR				IAML		00 01 57.0	
	comp=N,28nm,2.6s						
MLPR				IAML		00 02 23.5	
	comp=E,23nm,2.1s						
SDDR	Presa de Saban	2.15	275	Pn	Pn	00 01 31.3	+0.8
AOPR	Arecibo Observ	2.21	102	⇑eP	Pn	00 01 31.2	-0.1
AOPR	Arecibo Observ	2.21	102	eS	Sn	00 01 59.1	-0.2
AOPR	Arecibo Observ	2.21	102		Pn	00 01 31.2	-0.1
AOPR	Arecibo Observ	2.21	102		Sn	00 01 59.9	+0.6
EMPR	Esperanza - Ma	2.39	97	Pn	Pn	00 01 34.1	+0.5
CELP	Cerrillos	2.44	107	⇑eP	Pn	00 01 34.6	+0.5
CELP	Cerrillos	2.44	107		Pn	00 01 34.5	+0.3
CELP				IAML		00 02 48.5	
	comp=N,20nm,2.8s						
CBYP	Canovanas	3.06	99	⇑eP	Pn	00 01 42.5	+0.3
CBYP	Canovanas	3.06	99	eS	Sn	00 02 18.3	-0.5
CBYP	Canovanas	3.06	99		Pn	00 01 42.5	+0.3
CBYP					Sn	00 02 18.3	-0.5
HUMP	Col San Antoni	3.09	102	⇑eP	Pn	00 01 42.7	+0.2
HUMP	Col San Antoni	3.09	102	eS	Sn	00 02 19.0	-0.3
HUMP	Col San Antoni	3.09	102		Pn	00 01 42.6	0.0
HUMP				IAML		00 02 26.6	
	comp=E,15nm,0.2s						
HUMP				IAML		00 02 43.1	
	comp=N,9.9nm,2.0s						
HUMP	Col San Antoni	3.09	102		Sn	00 02 19.0	-0.3
CUPR	Culebra, Puert	3.59	97	Pn	Pn	00 01 47.9	-1.2
CUPR				IAML		00 03 36.9	
	comp=N,6.5nm,1.1s						
CUPR				IAML		00 03 39.3	
	comp=E,6.0nm,1.4s						
SJVI	Gifft Hill Sch	4.07	96	⇑eP	Pn	00 01 56.0	+0.6
SJVI	Gifft Hill Sch	4.07	96	eS	Sn	00 02 42.7	+0.2
SJVI	Gifft Hill Sch	4.07	96		Pn	00 01 56.0	+0.6

*IDC **12** 00:18:46.4±5.2, 46°.69N×152°.33E, h83km±45km, mb3.4/7, mbtmp3.7/8, ML2.3/1, Error ellipse: s-maj=38.7km s-min=33.1km az=68.0*
ISC 12 00:18:39.0±1.8**, 46°.2N**±0°.2×**152°.2E**±0°.2**, h35km, n14, σ0s.95**/8**, mb3.8**/7**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.81	25	P	Pn	00 20 30.1	+0.1
	0.3nm,0.3s,baz=180,slow=9.7,SNR=8.2						
PETK				S	Sn	00 21 57.5	+0.4
	0.8nm,0.5s,baz=231,slow=22,SNR=1.7						
	2.7nm,0.7s						
H11N2	WAKE ISLAND Hy	28.99	151	T	T	00 56 05.8	
	baz=340,slow=76,SNR=100						
H11N1	WAKE ISLAND Hy	29.00	151	T	T	00 56 07.6	
	baz=340,slow=76,SNR=70						
H11N3	WAKE ISLAND Hy	29.00	150	T	T	00 56 07.7	
	baz=340,slow=76,SNR=60						
H11S1	WAKE ISLAND Hy	30.06	152	T	T	00 57 17.8	
	baz=340,slow=76,SNR=53						
H11S3	WAKE ISLAND Hy	30.07	152	T	T	00 57 14.7	
	baz=340,slow=76,SNR=63						
H11S2	WAKE ISLAND Hy	30.08	152	T	T	00 57 14.6	
	baz=340,slow=76,SNR=58						
MKAR	Makanchi Array	46.67	297	P	P	00 27 05.1	+1.1
	0.3nm,0.6s,baz=70,slow=7.4,SNR=1.4						
	0.3nm,0.6s						
FINES	FINESS Array B	64.32	334	P	P	00 29 09.7	-0.8
	1.5nm,0.7s,baz=44,slow=5.8,SNR=8.0						
	1.5nm,0.7s						
NOA	NORSAR Array B	68.59	341	P	P	00 29 37.0	-0.9
	0.6nm,0.6s,baz=28,slow=6.5,SNR=4.1						
	0.6nm,0.6s						
ASAR	Alice Springs	71.45	198	P	P	00 30 00.9	+5.2
	0.2nm,0.6s,baz=17,slow=6.8,SNR=1.6						
	0.2nm,0.6s						
AKASG	Malin Array Be	71.70	326	P	P	00 29 55.8	-1.1
	0.7nm,0.4s,baz=34,slow=6.0,SNR=3.9						
	0.7nm,0.4s						
TXAR	Lajitas Array	78.32	60	P	P	00 30 35.9	+0.2
	0.2nm,0.7s,baz=299,slow=3.7,SNR=2.3						
	0.2nm,0.7s						
MMAI	Mount Meron Ar	82.75	311	P	P	00 31 00.0	+0.7
	0.7nm,0.5s,baz=46,slow=6.2,SNR=5.1						
	0.7nm,0.5s						

*HVO **12** 00:36:59.2±0.8, 19°.30N±0°.02×155°.501W±0°.009, h5km±3km, ML2.7/32, ML2.6/46(NEIC), Error ellipse: s-maj=2.2km s-min=1.3km az=187.0*
NEIC 12 00:36:58.9±0.3**, 19°.30N**±0°.01×**155°.51W**±0°.01**, h12km**±3km**, Error ellipse: s-maj=2.0km s-min=1.1km az=212.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AIN	Ainahou	0.09	36		Pg	00 37 01.9	+0.2
AIN	Ainahou	0.09	36		Sg	00 37 03.9	+0.1
KHU	Kahuku	0.11	240		Pg	00 37 02.2	+0.1
KHU					Sg	00 37 04.5	+0.1
KHU				IAML		00 37 05.0	
	comp=E,3μm,0.2s						
HTC	Hot Caves	0.12	121		Pg	00 37 02.1	0.0
HLP	Hilina Pali	0.19	92		Pg	00 37 03.3	+0.1
HLP					Sg	00 37 06.6	+0.5
HLP	Hilina Pali	0.19	92	IAML		00 37 07.7	
	comp=E,2μm,0.4s						
HLP				IAML		00 37 08.4	
	comp=N,2μm,0.3s						
MWH	Moku‘aweowe	0.20	336		Pg	00 37 03.4	-0.2
MWH				IAML		00 37 08.2	
	comp=E,922nm,0.4s						
MWH				IAML		00 37 09.6	
	comp=N,1μm,0.5s						
MWH	Moku‘aweowe	0.20	336		Sg	00 37 06.8	0.0
SDHHI	Sand Hill	0.22	67		Pg	00 37 03.6	-0.1
SDHHI	Sand Hill	0.22	67		Sg	00 37 07.0	0.0
SDHHI	Sand Hill	0.22	67	IAML		00 37 09.1	
	comp=E,2μm,0.1s						
SDHHI				IAML		00 37 10.1	
	comp=N,3μm,0.2s						
MLH	Mauna Loa	0.23	32		Pg	00 37 03.8	0.0
MLH	Mauna Loa	0.23	32	IAML		00 37 09.8	
	comp=E,277nm,0.1s						
MLH				IAML		00 37 10.3	
	comp=N,381nm,0.2s						
WRMHI	West Rim	0.23	62		Pg	00 37 03.8	0.0
WRMHI					Sg	00 37 07.2	+0.1
UWE	Uwekahuna	0.24	60		Pg	00 37 03.9	-0.1
UWE	Uwekahuna	0.24	60		Sg	00 37 08.0	+0.5
UWE	Uwekahuna	0.24	60	IAML		00 37 11.5	
	comp=N,1μm,0.3s						
UWE				IAML		00 37 11.6	
	comp=E,2μm,0.4s						
MLOA	Mauna Loa Obse	0.24	345		Pg	00 37 04.3	+0.1
MLOA					Sg	00 37 07.7	-0.1
MLOA	Mauna Loa Obse	0.24	345	IAML		00 37 07.9	
	comp=E,882nm,0.3s						
MLOA				IAML		00 37 08.0	
	comp=N,1μm,0.3s						
RIM	Rim	0.24	67		Pg	00 37 04.0	-0.1
RIM					Sg	00 37 07.5	-0.1
RIM	Rim	0.24	67	IAML		00 37 10.5	
	comp=N,1μm,0.4s						
RIM				IAML		00 37 10.6	
	comp=E,863nm,0.3s						
NPH	North Pit	0.24	63		Sg	00 37 08.7	+1.1
NPH	North Pit	0.24	63	Pg	Pg	00 37 03.5	-0.6
NPH	North Pit	0.24	63	IAML		00 37 09.1	
	comp=E,524nm,0.4s						
NPH				IAML		00 37 10.9	
	comp=N,740nm,0.2s						
OBL	Observatory Le	0.24	62		Pg	00 37 04.0	-0.1
OBL	Observatory Le	0.24	62	IAML		00 37 10.0	
	comp=E,2μm,0.2s						
OBL				IAML		00 37 11.9	
	comp=N,3μm,0.3s						
KKO	Keanakako`i	0.25	68		Pg	00 37 04.1	-0.1
KKO					Sg	00 37 07.8	0.0
KKO	Keanakako`i	0.25	68	IAML		00 37 09.3	
	comp=E,1μm,0.3s						
KKO				IAML		00 37 11.4	
	comp=N,1μm,0.5s						
UWB	Uwekahuna B	0.25	61		Pg	00 37 03.5	-0.7
BYL	Byron's Ledge	0.26	65		Pg	00 37 04.4	0.0
SBLHI	Steaming Bluff	0.26	62		Pg	00 37 04.2	-0.2
SBLHI	Steaming Bluff	0.26	62		Sg	00 37 08.7	+0.6
SBLHI				IAML		00 37 09.6	
	comp=E,1μm,0.4s						
SBLHI				IAML		00 37 09.6	
	comp=N,2μm,0.3s						
HATHI	Halema‘uma‘u T	0.27	63		Pg	00 37 04.3	-0.2
HATHI	Halema‘uma‘u T	0.27	63		Sg	00 37 08.9	+0.7
HATHI				IAML		00 37 09.5	
	comp=N,1μm,0.2s						
HATHI				IAML		00 37 10.2	
	comp=E,1μm,0.7s						
ALEP	Alea Permanent	0.27	332		Pg	00 37 04.5	-0.1
ALEP					Sg	00 37 08.8	+0.2
RSD	Rainshed	0.27	54		Pg	00 37 04.6	0.0
PUH	Pauahi	0.29	76		Pg	00 37 04.6	-0.3
PUH	Pauahi	0.29	76		Sg	00 37 09.7	+0.8
PUH				IAML		00 37 09.9	
	comp=E,2μm,0.3s						
PUH				IAML		00 37 10.0	
	comp=N,1μm,0.3s						
HMH	Humu‘ula Sheep	0.30	5		Pg	00 37 05.3	+0.1
HMH					Sg	00 37 09.9	+0.5
HMH	Humu‘ula Sheep	0.30	5	IAML		00 37 12.2	
	comp=E,746nm,0.4s						
HMH				IAML		00 37 12.5	
	comp=N,559nm,0.2s						
KNHH	Kane Nui o Ham	0.33	77		Pg	00 37 05.2	-0.5
NPOC	North of Pu‘u	0.39	77		Pg	00 37 06.7	-0.1
NPOC	North of Pu‘u	0.39	77		Sg	00 37 12.2	+0.2
NPOC				IAML		00 37 12.7	
	comp=E,1μm,0.7s						
NPOC				IAML		00 37 12.9	
	comp=N,1μm,0.4s						
JCUZ	Jacuzzi	0.40	78	Pg	Pg	00 37 06.7	-0.2
JCUZ					Sg	00 37 12.5	+0.4
JCUZ				IAML		00 37 12.7	
	comp=E,847nm,0.5s						
JCUZ				IAML		00 37 13.4	
	comp=N,834nm,1.0s						
CPH	Captain Cook	0.43	296		Pg	00 37 07.3	-0.1
POHA	Pohakuloa	0.45	358		Pg	00 37 08.0	0.0
POHA					Sg	00 37 14.8	+0.8
POHA	Pohakuloa	0.45	358	IAML		00 37 18.3	
	comp=N,557nm,0.3s						
POHA				IAML		00 37 19.5	
	comp=N,730nm,0.3s						
KHLU	Kahalu`u	0.46	309		Pg	00 37 08.1	0.0
KHLU					Sb	00 37 15.4	-0.5
KHLU	Kahalu`u	0.46	309	IAML		00 37 15.8	
	comp=N,955nm,0.3s						
KHLU				IAML		00 37 15.9	
	comp=E,670nm,0.4s						
HUH	Hualalai	0.49	321		Pg	00 37 09.0	+0.4
JOKA	Jonika Flow	0.50	75		Pg	00 37 08.3	-0.4
JOKA					Sg	00 37 14.9	-0.4
HPAH	Hawaii Prepara	0.74	346	Sg	Sg	00 37 21.5	-1.7
HLK	Haleakala	1.61	335	Pn	Pn	00 37 28.0	+0.6

*MDD **12** 01:15:23.5±1.1, 37°.39N×13°.45W, h0km, Mb3.9/7, M_mb3.3/7, Error ellipse: s-maj=9.6km s-min=8.3km az=2.0*
*INMG **12** 01:15:26.7±1.6, 37°.26N×13°.77W, h10km, ML2.2, Error ellipse: s-maj=10.3km s-min=8.7km az=96.0*
ISC 12 01:15:25.4±3.8**, 37°.5N**±0°.1×**13°.3W**±0°.2**, h10km, n27, σ1s.36**/48**, 7C, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMAFR	Mafra	3.47	64	ePn	Pn	01 16 20.9	+1.4
PMAFR				eSn	Sn	01 17 02.3	+1.6
PMAFR				A	A	01 17 12.0	
	11nm,0.7s						
PFVI	Vila Bisbo	3.56	94	ePn	Pn	01 16 20.7	0.0
PFVI				eSn	Sn	01 17 01.0	-1.9
PFVI				A	A	01 17 09.7	
	4.4nm,0.8s						
PTEO	Sao Teotonio	3.62	88	ePn	Pn	01 16 23.6	+2.1
PTEO				eSn	Sn	01 17 05.6	+1.3
PTEO				A	A	01 17 14.3	
	4.5nm,0.8s						
PACT	Alcochete	3.73	69	eSn	Sn	01 17 09.0	+2.0
PNCL	Nicolau / Gran	3.81	79	ePn	Pn	01 16 26.2	+2.1
PNCL				eSn	Sn	01 17 08.8	-0.2
PNCL				A	A	01 17 12.5	
	2.2nm,0.6s						
PSBE	So Bento	4.06	59	ePn	Pn	01 16 30.3	+2.7
PSBE				eSn	Sn	01 17 17.3	+2.1
PSBE				A	A	01 17 26.7	
	5.0nm,0.6s						
PCVE	Castro Verde	4.17	86	eSn	Sn	01 17 18.0	+0.3
PCVE				A	A	01 17 21.7	
	1.5nm,0.5s						
PMTG	Montargil	4.28	67	ePn	Pn	01 16 31.3	+0.7
PMTG				eSn	Sn	01 17 21.1	+0.6
PMTG				A	A	01 17 24.2	
	1.1nm,0.2s						
PBEJ	Beja	4.32	81	eSn	Sn	01 17 20.0	-1.6
PBEJ				A	A	01 17 25.3	
	1.6nm,0.2s						
PVAQ	Vaqueiros	4.42	89	ePn	Pn	01 16 33.7	+1.1
PVAQ				eSn	Sn	01 17 23.1	-1.0
PVAQ				A	A	01 17 27.4	
	1.6nm,0.1s						
PCAS	Casmilo, Conde	4.53	54	ePn	Pn	01 16 35.1	+1.1
PCAS				eSn	Sn	01 17 26.8	0.0
PCAS				A	A	01 17 31.4	
	1.6nm,0.5s						
EGRO	El Granado	4.61	88	P	Pn	01 16 36.4	+1.4
EGRO				⇑iVmb_V		01 16 37.5	
	80nm,SNR=1.1						
EGRO				S	Sn	01 17 27.3	-1.4
PESTR	Estremoz	4.69	71	ePn	Pn	01 16 37.1	+0.9
PESTR				eSn	Sn	01 17 30.6	-0.1
PESTR				A	A	01 17 34.8	
	1.6nm,0.7s						
PBAR	Barrancos	4.99	80	ePn	Pn	01 16 42.1	+1.8
PBAR				eSn	Sn	01 17 36.5	-1.5
PBAR				A	A	01 17 49.8	
	1.1nm,0.8s						
PMRV	Marv??o	5.01	65	ePn	Pn	01 16 41.8	+1.2
PMRV				eSn	Sn	01 17 37.2	-1.4
PMRV				A	A	01 17 38.4	
	0.9nm,0.3s						
EBAD	Badajoz	5.10	74	P	Pn	01 16 41.9	+0.1
EBAD				⇑iVmb_V		01 16 43.2	
	74nm,SNR=1.7						
EBAD				S	Sn	01 17 39.2	-1.5
PCBR	Castelo Branco	5.11	61	eSn	Sn	01 17 41.0	-0.1
EMIN	Mina Concepcio	5.25	85	P	Pn	01 16 44.1	+0.2
EMIN				⇑iVmb_V		01 16 46.0	
	76nm,SNR=1.8						
EMIN				S	Sn	01 17 43.0	-1.5
PVIS	Viseu	5.29	51	eSn	Sn	01 17 45.4	-0.1
POLO	Lamas de Olo	5.75	46	ePn	Pn	01 16 51.7	+0.8
POLO				eSn	Sn	01 17 55.2	-1.8
PCAB	Cabril	5.85	42	ePn	Pn	01 16 53.1	+0.9
PGAV	Gavieira, Arco	5.91	39	ePn	Pn	01 16 53.7	+0.6
PGAV				eSn	Sn	01 18 00.1	-0.8
ELOB	Lobios	5.95	41	P	Pn	01 16 53.2	-0.3
ELOB				⇑iVmb_V		01 16 56.8	
	149nm,SNR=1.5						
ELOB				S	Sn	01 17 59.2	-2.6
MVO	Moncorvo	6.08	51	ePn	Pn	01 16 53.5	-1.9
MVO				eSn	Sn	01 18 03.6	-1.4
MVO				A	A	01 18 06.2	
	1.7nm,0.7s						
EPLA	Plasencia	6.19	63	P	Pn	01 16 56.6	-0.2
EPLA				⇑iVmb_V		01 16 59.1	
	104nm,SNR=1.3						
EPLA				S	Sn	01 18 06.7	-0.9
ECAB	El Cabril	6.25	82	P	Pn	01 16 57.8	+0.1
ECAB				⇑iVmb_V		01 17 00.7	
	39nm,SNR=0.6						
ECAB				S	Sn	01 18 07.7	-1.6
EADA	Adamuz	6.92	82	P	Pn	01 17 06.1	-0.8
EADA				⇑iVmb_V		01 17 11.2	
	41nm,SNR=0.7						
EADA				S	Sn	01 18 24.4	-1.3

*IDC **12** 01:18:46.4±1.2, 4°.84S×151°.22E, h97km±15km, mb3.5/4, mbtmp3.9/5, Error ellipse: s-maj=98.0km s-min=15.3km az=133.0*
ISC 12 01:18:46.7±1.0**, 4°.8S**±0°.4×**151°.3E**±0°.3**, h100km, n7, σ0s.99**/8**, mb3.6**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.91	59	P	Pn	01 19 05.6	-0.6
	362nm,0.3s,baz=324,slow=1.8,SNR=70						
KRVT				S	Sn	01 19 21.7	+0.9
	681nm,0.3s,baz=86,slow=23,SNR=11						
PMG	Port Moresby	6.13	221	P	Pn	01 20 15.2	+0.4
	34nm,0.4s,baz=49,slow=7.4,SNR=13						
WRA	Warramunga Arr	22.32	226	P	P	01 23 35.2	-1.1
	1.8nm,0.5s,baz=52,slow=10,SNR=19						
	1.8nm,0.5s						
ASAR	Alice Springs	25.14	220	P	P	01 24 01.5	-1.2
	0.7nm,0.3s,baz=53,slow=8.9,SNR=16						
	0.7nm,0.3s						
ILAR	Eielson Array	82.73	22	P	P	01 30 58.9	-0.3
	0.2nm,0.5s,baz=241,slow=6.2,SNR=5.9						
	0.2nm,0.5s						
NVAR	Mina Array Bea	93.29	52	P	P	01 31 51.5	+0.6
	0.7nm,0.8s,baz=258,slow=6.5,SNR=5.5						
	0.7nm,0.8s						
GERES	GERESS Array B	123.23	328	PKP	PKiKP	01 37 33.1	+0.7
	0.3nm,0.5s,baz=146,slow=2.6,SNR=4.4						

*IDC **12** 01:23:33.1±2.5, 18°.30S×178°.13W, h626km±23km, mb3.0/7, mbtmp4.0/8, Error ellipse: s-maj=86.2km s-min=18.2km az=150.0*
ISC 12 01:23:30.4±1.5**, 18°.7S**±0°.4×**177°.8W**±0°.2**, h600km, n8, σ1s.23**/8**, mb4.0**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.08	283	P	P	01 24 58.3	+1.7
	8.7nm,0.5s,baz=136,slow=20,SNR=23						
CTA	Charters Tower	33.90	262	P	P	01 29 25.1	-0.3
	2.2nm,0.5s,baz=87,slow=4.6,SNR=4.2						
	2.2nm,0.5s						
STKA	Stephens Creek	38.76	242	P	P	01 30 05.3	+0.3
	1.9nm,0.4s,baz=109,slow=8.6,SNR=4.8						
	1.9nm,0.4s						
WRA	Warramunga Arr	45.07	260	P	P	01 30 53.6	-1.0
	2.6nm,0.4s,baz=98,slow=7.1,SNR=86						
	2.6nm,0.4s						
ASAR	Alice Springs	45.14	255	P	P	01 30 54.4	-0.8
	4.3nm,0.5s,baz=89,slow=7.8,SNR=78						
	4.3nm,0.5s						
NVAR	Mina Array Bea	79.61	43	P	P	01 34 37.1	+0.2
	0.4nm,0.7s,baz=210,slow=8.6,SNR=4.0						
	0.4nm,0.7s						
TXAR	Lajitas Array	85.94	57	P	P	01 35 09.3	+0.7
	0.3nm,0.6s,baz=216,slow=6.2,SNR=4.8						
	0.3nm,0.6s						
ILAR	Eielson Array	86.55	13	P	P	01 35 09.0	-1.5
	0.4nm,0.9s,baz=226,slow=4.9,SNR=6.0						
	0.4nm,0.9s						

*HVO **12** 01:36:51.7±1.2, 19°.33N±0°.01×155°.14W±0°.01, h5km±3km, ML2.8/39, ML2.7/42(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=143.0*
NEIC 12 01:36:51.6±0.8**, 19°.34N**±0°.02×**155°.15W**±0°.01**, h12km**±1km**, Error ellipse: s-maj=2.8km s-min=1.4km az=159.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNHH	Kane Nui o Ham	0.05	332		Pg	01 36 53.7	-0.4
JCUZ	Jacuzzi	0.06	43		Pg	01 36 55.2	+1.1
JCUZ	Jacuzzi	0.06	43	IAML		01 36 55.4	
	comp=N,6μm,0.4s						
JCUZ				IAML		01 36 55.5	
	comp=E,5μm,0.7s						
NPOC	North of Pu‘u	0.06	32		Pg	01 36 55.5	+1.3
NPOC	North of Pu‘u	0.06	32	IAML		01 36 55.7	
	comp=N,9μm,0.5s						
NPOC				IAML		01 36 55.8	
	comp=E,9μm,0.3s						
PUH	Pauahi	0.07	298	Pg	Pg	01 36 53.9	-0.4
PUH				IAML		01 36 56.2	
	comp=N,4μm,0.5s						
KKO	Keanakako`i	0.13	298		Pg	01 36 54.9	-0.1
KKO					Sg	01 36 57.3	-0.1
KKO	Keanakako`i	0.13	298	IAML		01 36 57.7	
	comp=E,2μm,0.8s						
KKO				IAML		01 36 58.2	
	comp=N,2μm,0.9s						
BYL	Byron's Ledge	0.13	304		Pg	01 36 54.9	-0.1
BYL					Sg	01 36 57.5	+0.1
BYL	Byron's Ledge	0.13	304	IAML		01 36 57.9	
	comp=E,4μm,0.7s						
BYL				IAML		01 36 57.9	
	comp=N,3μm,0.9s						
RIM	Rim	0.13	295		Pg	01 36 55.0	-0.1
RIM					Sg	01 36 57.4	-0.1
RIM	Rim	0.13	295	IAML		01 36 57.8	
	comp=E,2μm,0.6s						
RIM				IAML		01 36 58.2	
	comp=N,2μm,0.8s						
HATHI	Halema‘uma‘u T	0.14	308		Pg	01 36 55.0	-0.1
HATHI					Sg	01 36 57.6	0.0

HATHI	Halema'uma'u T	0.14	308	IAML		01 36 58.6	
	comp=N,2μm,0.7s						
HATHI				IAML		01 36 59.1	
	comp=E,3μm,0.8s						
SBLHI	Steaming Bluff	0.14	307		Pg	01 36 55.1	-0.2
SBLHI					Sg	01 36 57.7	-0.1
SBLHI	Steaming Bluff	0.14	307	IAML		01 36 58.1	
	comp=E,2μm,0.8s						
SBLHI				IAML		01 36 58.6	
	comp=N,2μm,0.5s						
NPH	North Pit	0.15	300		Pg	01 36 55.2	0.0
NPH	North Pit	0.15	300	IAML		01 36 58.2	
	comp=N,622nm,0.6s						
NPH				IAML		01 36 58.8	
	comp=E,628nm,1.2s						
SDHHI	Sand Hill	0.15	290		Pg	01 36 55.2	-0.1
SDHHI	Sand Hill	0.15	290	IAML		01 36 58.5	
	comp=N,2μm,0.8s						
SDHHI				IAML		01 36 59.5	
	comp=E,2μm,0.6s						
UWB	Uwekahuna B	0.15	305		Pg	01 36 55.2	-0.1
UWB					Sg	01 36 57.7	-0.2
UWB	Uwekahuna B	0.15	305	IAML		01 36 58.2	
	comp=E,1μm,1.1s						
UWB				IAML		01 36 58.4	
	comp=N,820nm,0.8s						
OBL	Observatory Le	0.15	301		Pg	01 36 55.5	+0.2
OBL	Observatory Le	0.15	301	IAML		01 36 58.6	
	comp=N,3μm,0.6s						
OBL				IAML		01 36 59.9	
	comp=E,3μm,0.7s						
HLP	Hilina Pali	0.16	255		Pg	01 36 55.6	+0.2
HLP					Sg	01 36 58.5	+0.4
HLP	Hilina Pali	0.16	255	IAML		01 36 58.9	
	comp=N,2μm,0.3s						
HLP				IAML		01 36 59.6	
	comp=E,1μm,0.5s						
UWE	Uwekahuna	0.16	301		Pg	01 36 55.8	+0.3
UWE				IAML		01 36 59.2	
	comp=N,2μm,1.0s						
WRMHI	West Rim	0.16	295		Pg	01 36 55.4	0.0
WRMHI					Sg	01 36 58.4	+0.3
JOKA	Jonika Flow	0.16	55		Pg	01 36 55.1	-0.3
JOKA					Sg	01 36 57.8	-0.3
RSD	Rainshed	0.18	315		Pg	01 36 55.8	+0.1
RSD					Sg	01 36 58.7	+0.1
HTC	Hot Caves	0.26	247		Pg	01 36 57.5	+0.4
MLH	Mauna Loa	0.27	304		Pg	01 36 57.4	0.0
MLH					Sb	01 37 02.8	-0.6
MLH	Mauna Loa	0.27	304	IAML		01 37 03.4	
	comp=E,459nm,0.3s						
MLH				IAML		01 37 03.6	
	comp=N,863nm,0.8s						
PHO	Puu Honuaula	0.28	59		Pb	01 36 58.1	-0.6
PHO					Sb	01 37 03.2	-0.2
AIN	Ainahou	0.30	277		Pg	01 36 58.1	+0.3
AIN					Sb	01 37 03.9	-0.1
AIN	Ainahou	0.30	277	IAML		01 37 04.7	
	comp=E,4μm,0.3s						
AIN				IAML		01 37 05.0	
	comp=N,3μm,0.3s						
HMH	Humu'ula Sheep	0.41	310		Pg	01 36 59.9	-0.1
HMH					Sb	01 37 07.0	-0.4
HMH	Humu'ula Sheep	0.41	310	IAML		01 37 07.5	
	comp=N,3μm,0.4s						
HMH				IAML		01 37 07.6	
	comp=E,2μm,0.4s						
MWH	Moku'aweowe	0.45	289		Pg	01 37 00.6	-0.1
MWH					Sb	01 37 08.4	-0.3
MWH	Moku'aweowe	0.45	289	IAML		01 37 09.2	
	comp=E,2μm,0.8s						
MWH				IAML		01 37 14.4	
	comp=N,1μm,0.7s						
MLOA	Mauna Loa Obse	0.45	296		Pg	01 37 00.8	+0.1
MLOA					Sg	01 37 07.7	+0.9
MLOA	Mauna Loa Obse	0.45	296	IAML		01 37 08.3	
	comp=N,1μm,0.7s						
MLOA				IAML		01 37 08.4	
	comp=E,911nm,0.7s						
KHU	Kahuku	0.45	258		Pg	01 37 00.3	-0.4
KHU					Sb	01 37 07.8	-0.7
KHU	Kahuku	0.45	258	IAML		01 37 12.4	
	comp=N,801nm,0.7s						
KHU				IAML		01 37 12.5	
	comp=E,513nm,0.5s						
ALEP	Alea Permanent	0.51	293		Pg	01 37 01.4	-0.4
ALEP					Sg	01 37 09.3	+0.7
POHA	Pohakuloa	0.55	319		Pg	01 37 02.2	-0.3
POHA	Pohakuloa	0.55	319		Sg	01 37 10.3	+0.4
HUH	Hualalai	0.74	298		Pg	01 37 06.0	+0.1
CPH	Captain Cook	0.74	282		Pg	01 37 05.8	-0.3
CPH					Sb	01 37 16.6	-0.1
KHLU	Kahalu`u	0.75	290		Pg	01 37 05.8	-0.4
HPAH	Hawaii Prepara	0.86	323		Pg	01 37 08.0	-0.3
HPAH	Hawaii Prepara	0.86	323		Sg	01 37 19.8	+0.1

*ISN **12** 02:10:36.5±3.0, 37°.34N×43°.70E, h8km, ML2.9*
*DDA **12** 02:10:38.8±0.0, 36°.99N×44°.77E, h4km±5km, ML2.7*
*ISK **12** 02:10:45.6, 37°.28N×44°.15E, h9km, ML2.7/9*
ISC 12 02:10:43.2±1.8**, 37°.21N**±0°.05×**44°.24E**±0°.05**, h3**km±12km**,** **n22,** σ**2s.38**/34**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOVA	Hakkari_Yksek	0.38	6	P	Pg	02 10 48.0	-2.6
YOVA				S	Sg	02 10 53.2	-2.3
HAKT	HAKKARI	0.55	309	P	Pg	02 10 52.8	-1.1
HAKT				S	Sb	02 11 01.7	-2.4
GEVA	Gevas	1.45	320	P	Pg	02 11 12.1	+1.2
GEVA				S	Sg	02 11 35.2	+5.5
GEVA				*i* AML	AML	02 11 37.0	
	comp=N,26nm,0.4s						
GEVA				*i* AML	AML	02 11 41.0	
	comp=E,36nm,0.7s						
OZAP	Van, Ozalp-Mer	1.46	352	P	Pn	02 11 09.7	-1.1
OZAP				S	Sg	02 11 38.4	+8.2
AKDM	Akdamar-Van	1.50	318	PN	Pb	02 11 11.9	+0.1
AKDM				SN	Sg	02 11 31.1	-0.3
VANB	Van	1.54	334	PN	Pn	02 11 11.3	-0.4
VANB				SN	Sn	02 11 30.2	-2.1
PERV	Siirt/Pervari-	1.54	299	P	Pn	02 11 11.7	-0.1
PERV				S	Sg	02 11 36.5	+3.8
PERV				*i* AML	AML	02 11 40.0	
	comp=Z,94nm,0.6s						
PERV				*i* AML	AML	02 11 40.0	
	comp=N,224nm,0.5s						
PERV				*i* AML	AML	02 11 42.0	
	comp=E,170nm,0.4s						
IKRK	Kirkuk	1.81	177	*e*Pg	Pn	02 11 10.0	-5.3
	baz=345						
IKRK				*e*Sg	Sn	02 11 40.0	+1.2
IKRK				AML	AML	02 11 47.9	
	comp=E,146nm,0.6s						
IKRK				AML	AML	02 11 56.0	
	comp=N,113nm,0.7s						
CLDR	Caldiran	1.94	353	PN	Pn	02 11 18.6	+1.2
BLIS	Bitlis-Merkez	2.07	306	P	Pb	02 11 21.9	+0.3
BLIS				S	Sg	02 11 51.7	+1.9
GURO	Guroymak-BITLI	2.20	308	PN	Pn	02 11 21.9	+1.0
MIDY	Mardin/Midyat-	2.28	276	P	Pn	02 11 22.6	+0.7
MIDY				S	Sg	02 11 56.4	0.0
MIDY				*i* AML	AML	02 12 02.0	
	comp=N,44nm,0.5s						
MIDY				*i* AML	AML	02 12 03.0	
	comp=N,31nm,0.6s						
MIDY				*i* AML	AML	02 12 09.0	
	comp=N,32nm,0.4s						
MLAZ	Malazgirt-MUS	2.34	326	PN	Pn	02 11 24.3	+1.5
BTMN	Batman	2.46	287	P	Pb	02 11 27.4	-0.7
BTMN				S	Sg	02 12 01.8	-0.4
BTMN				*i* AML	AML	02 12 11.0	
	comp=N,34nm,0.7s						
BTMN				*i* AML	AML	02 12 17.0	
	comp=N,27nm,0.7s						
BTMN				*i* AML	AML	02 12 19.0	
	comp=N,52nm,1.3s						
AGRB	Hanur-Agry	2.56	338	PN	Pn	02 11 27.5	+1.7
SVAN	Silvan-Diyarba	2.59	292	PN	Pn	02 11 27.6	+1.5
MUSM	Mu-Merkez	2.63	306	P	Pb	02 11 29.3	-1.9
MUSM				S	Sg	02 12 06.9	-0.9
MUSM				*i* AML	AML	02 12 16.0	
	comp=N,9.6nm,1.0s						
IGDI	IGDIR	2.66	357	P	Pb	02 11 31.3	-0.2
KOTA	Agri, Merkez-K	2.71	343	P	Pb	02 11 30.9	-1.6
MARD	Mardin	2.77	273	P	Pg	02 11 35.7	-0.6
MARD				S	Sg	02 12 11.4	-0.6
GNI	Garni	2.96	7	PN	Pn	02 11 33.4	+2.1
MAZI	Mazidag	3.04	276	PN	Pn	02 11 34.2	+1.9

*IDC **12** 02:15:29.7±1.9, 6°.22S×147°.93E, h50km±19km, mb4.0/11, mbtmp4.4/15, ML4.7/3, MS3.9/47, Error ellipse: s-maj=20.3km s-min=13.2km az=93.0*
*NEIC **12** 02:15:31.3±1.6, 6°.33S±0°.07×148°.06E±0°.09, h63km±6km, mb4.4/22, Error ellipse: s-maj=12.5km s-min=9.5km az=107.0*
*DJA **12** 02:15:32.7±0.4, 6°S±3°×14°8E±°, h54km±6km, M4.9/15, mB5.5/6, mb4.7/15, MLv4.9/3, Mw(mB)4.9/6*
*GCMT **12** 02:15:34.3±0.4, 6°.35S±0°.02×147°.82E±0°.03, h42km±2km, MW5.0/71, Moment Tensor Solution. s23,c26; s71,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.21±.39; $M_{\theta\theta}$-0.19±.25; $M_{\phi\phi}$1.40±.28; $M_{r\theta}$1.20±.17; $M_{\theta\phi}$3.87±.15; $M_{\phi r}$-0.77±.20; Best double couple: $M_0$4.30700×10^{16} NP1:ϕ_s261.00000°, δ73.00000°, λ-21.00000°. NP2: ϕ_s357.00000°, δ70.00000°, λ-162.00000°. Principal axes: T 4.5620, Plg2.0000°, Azm310.0000°; N -0.5070, Plg63.0000°, Azm43.0000°; P -4.0520, Plg27.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 02:15:30.1±0.5**, 6°.28S**±0°.05×**147°.99E**±0°.07**, h50**km**, n144,** σ**1s.41**/98**, mb4.6**/29**, MS3.9**/40**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.21	195	P	Pn	02 16 18.5	+0.3
	134nm,0.4s,baz=8.8,slow=7.0,SNR=28						
PMG				S	Sn	02 16 56.3	+1.1
	721nm,0.8s,baz=35,slow=14,SNR=11						
PMG				LR	LR	02 18 04.1	
	comp=Z,2μm,20.6s,baz=36,slow=47						
PMG	Port Moresby	3.21	195	Pn	Pn	02 16 18.3	+0.2
PMG	Port Moresby	3.21	195	P	Pn	02 16 18.8	+0.7
PMG				S	Sn	02 16 56.9	+1.7
PMG	Port Moresby	3.21	195	P	Pn	02 16 19.2	+1.1
PMG	Port Moresby	3.21	195	P	Pn	02 16 19.3	+1.1
MANU	Manus Island	4.25	352	Pn	Pn	02 16 34.5	+2.0
KRVT	Keravat (AS076	4.47	64	P	Pn	02 16 35.5	0.0
	24nm,0.3s,baz=44,slow=5.3,SNR=3.3						
KRVT				LR	LR	02 18 19.0	
	comp=Z,2μm,20.7s,baz=30,slow=38						
	162nm,0.6s						
RABL	Rabaul	4.65	64	Pn	Pn	02 16 38.8	+0.9
GENI	Genyem	8.61	295	P	Pn	02 17 35.8	+3.6
	3μm212nm,0.9s						
COEN	Coen	8.98	211	P	Pn	02 17 34.4	-2.9
	baz=8.9,SNR=5.6						
COEN	Coen	8.98	211	Pn	Pn	02 17 35.8	-1.5
COEN	Coen	8.98	211	P	Pn	02 17 37.6	+0.3
HNR	Honiara	12.26	106	LR	LR	02 21 53.8	
	comp=Z,4μm,21.4s,baz=282,slow=31						
MTSU	Mount Surprise	12.32	197	P	Pn	02 18 20.7	-2.2
	baz=12,SNR=22						
MTSU	Mount Surprise	12.32	197	P	Pn	02 18 24.2	+1.3
CTA	Charters Tower	13.83	187	LR	LR	02 24 04.3	
	comp=Z,919nm,20.8s,baz=354,slow=37						
RKPI	Ransiki, Papua	14.56	288	P	P	02 18 56.3	-2.5
	7μm117nm,1.0s						
MWPI	Manokwari, Pap	14.89	290	P	P	02 19 01.3	-1.1
	84nm,0.6s						
FAKI	Fak Fak	16.04	281		P	02 19 20.3	+5.2
FAKI				IAmb	IAmb	02 19 27.0	
	comp=Z,14nm,0.7s						
FAKI	Fak Fak	16.04	281	P	P	02 19 25.4	+10
QIS	Mount Isa	16.36	209	P	Pn	02 19 15.2	-1.3
	baz=16,SNR=14						
QIS	Mount Isa	16.36	209	P	Pn	02 19 17.4	+0.9
KDU	Kakadu	16.57	246	P	Pn	02 19 17.9	-1.3
	baz=16,SNR=21						
KDU	Kakadu	16.57	246	P	Pn	02 19 17.8	-1.3
SIJI	Sorong	17.52	287	P	P	02 19 30.7	-1.0
	comp=Z,2.1nm,0.3s,baz=90,slow=9.1,SNR=8.4						
SIJI				LR	LR	02 27 49.6	
	comp=Z,357nm,18.8s,baz=43,slow=42						
	comp=Z,16nm,0.7s						
SIJI	Sorong	17.52	287	P	P	02 19 31.9	+0.3
	comp=Z,28nm,0.8s						
SWI	Sorong	17.53	287	P	P	02 19 33.1	+1.4
	comp=Z,48nm,0.7s						
MTN	Manton Dam	17.84	247	P	Pn	02 19 33.7	-1.2
	baz=18,SNR=4.5						
MTN	Manton Dam	17.84	247		Pn	02 19 34.3	-0.7
WRAB	Tennant Creek	18.97	223	P	P	02 19 46.5	-1.0
WRAB				IAmb	IAmb	02 19 50.8	
	comp=Z,19nm,0.6s						
WRAB	Tennant Creek	18.97	223	P	P	02 19 46.5	-1.0
WB2	Warramunga Arr	18.97	223	P	P	02 19 46.5	-1.0
WB2				IAmb	IAmb	02 19 51.2	
	comp=Z,17nm,0.6s						
WRA	Warramunga Arr	18.98	223	P	P	02 19 46.2	-1.4
	comp=Z,2.7nm,0.3s,baz=45,slow=11,SNR=133						
WRA				LR	LR	02 27 35.3	
	comp=Z,376nm,18.7s,baz=41,slow=38						
	comp=Z,12nm,0.6s						
WRA	Warramunga Arr	18.98	223	P	P	02 19 45.9	-1.7
EIDS	Eidsvold	19.21	171	P	P	02 19 49.9	-0.2
	baz=19,SNR=4.3						
EIDS	Eidsvold	19.21	171		P	02 19 50.0	-0.2
KRAI	Karang Ratu	19.74	278	P	Pn	02 19 58.1	+0.3
	comp=Z,23nm,0.9s						
GUMO	Guam	19.98	351	LR	LR	02 27 38.7	
	comp=Z,229nm,18.6s,baz=152,slow=37						
RMQ	Roma	20.11	178	P	P	02 20 00.2	+0.4
	baz=20,SNR=5.8						
RMQ	Roma	20.11	178	P	Pn	02 20 02.5	+0.4
QLP	Quilpie	20.51	190	P	P	02 20 05.5	+1.3
	baz=20,SNR=15						
QLP	Quilpie	20.51	190	P	P	02 20 05.7	+1.5
KNRA	Kununurra	21.04	242	P	P	02 20 08.8	-1.1
	baz=21,SNR=18						
KNRA	Kununurra	21.04	242	P	P	02 20 10.2	+0.3
KNRA				IAmb	IAmb	02 20 29.7	
	comp=Z,18nm,0.8s						
KNRA	Kununurra	21.04	242	P	P	02 20 09.7	-0.3
LBMI	Labuha	21.19	285	P	P	02 20 26.5	+15
AS01	Alice Springs	21.93	217	P	P	02 20 19.3	-0.3
AS31	Alice Springs	21.96	217	P	P	02 20 19.3	-0.6
AS31				IAmb	IAmb	02 20 26.2	
	comp=Z,10.0nm,0.9s						
ASAR	Alice Springs	21.96	217	P	P	02 20 19.3	-0.6
	comp=Z,12nm,0.5s,baz=49,slow=9.3,SNR=133						
ASAR				LR	LR	02 30 03.1	
	comp=Z,248nm,18.9s,baz=52,slow=40						
	comp=Z,12nm,0.5s						
SANI	Sanana	22.33	280	P	P	02 20 27.5	+3.6
	comp=Z,20nm,0.8s						
SOEI	Soe	23.73	260	P	P	02 20 37.4	-0.8
SOEI				IAmb	IAmb	02 20 55.1	
	comp=Z,24nm,0.8s						
SOEI	Soe	23.73	260	P	P	02 20 47.8	+10
DZM	Mont Dzumac	23.76	133	P	P	02 20 39.5	+1.2
	comp=Z,15nm,1.2s,baz=321,slow=18,SNR=4.5						
	comp=Z,15nm,1.2s						
ARMA	Armidale	24.26	172	P	P	02 20 43.0	+0.3
	baz=24,SNR=4.9						
ARMA	Armidale	24.26	172	P	P	02 20 41.7	-1.0
ARMA				IAmb	IAmb	02 20 45.5	
	comp=Z,16nm,1.1s						
ARMA	Armidale	24.26	172	P	P	02 20 45.3	+2.6
	comp=Z,32nm,1.5s						
OOD	Oodnadatta	24.38	207	P	P	02 20 43.7	0.0
	comp=Z,66nm,2.0s						
BATI	Baumata	24.38	259	P	P	02 20 44.1	+0.2
	comp=Z,44nm,0.6s,baz=85,slow=2.0,SNR=9.0						
BATI				LR	LR	02 32 53.6	
	comp=Z,596nm,18.9s,baz=96,slow=43						
	comp=Z,44nm,0.6s						
BATI	Baumata	24.38	259	P	P	02 20 45.5	+1.6
	comp=Z,1μmcomp=Z,42nm,0.6s						
CMSA	Cobar Meteorol	25.22	185	P	P	02 20 54.3	+2.9
	baz=25,SNR=6.9						
CMSA	Cobar Meteorol	25.22	185	P	P	02 20 53.8	+2.5
	comp=Z,32nm,2.8s						
LCRK	Leigh Creek	25.74	200	P	P	02 20 57.7	+1.7
GTOI	Gorontalo	25.86	285	P	P	02 21 08.0	+11
DAV	Davao City (W)	25.99	300	LR	LR	02 31 15.2	
	comp=Z,94nm,18.9s,baz=165,slow=36						
STKA	Stephens Creek	26.16	192	P	P	02 20 59.8	-0.1
	comp=Z,25nm,1.1s,baz=9.6,slow=12,SNR=9.9						
STKA				LR	LR	02 32 16.2	
	comp=Z,356nm,19.7s,baz=12,slow=38						
	comp=Z,25nm,1.1s						
STKA	Stephens Creek	26.16	192	P	P	02 21 00.0	+0.2
	baz=26,SNR=6.6						
STKA	Stephens Creek	26.16	192	P	P	02 21 00.0	+0.2
STKA				IAmb	IAmb	02 21 03.0	
	comp=Z,10.0nm,1.2s						
STKA	Stephens Creek	26.16	192	P	P	02 21 01.6	+1.7
WRKA	Warakurna	26.52	223	P	P	02 21 02.2	-1.1
	baz=26,SNR=107						
WRKA	Warakurna	26.52	223	P	P	02 21 03.3	0.0
MULG	Mulgathing	27.23	207	P	P	02 21 10.2	+0.6
KAPI	Kappang	28.12	271	LR	LR	02 35 33.6	
	comp=Z,188nm,18.3s,baz=96,slow=43						
TOLI2	Tolitoli	28.13	284	P	P	02 21 24.5	+6.7
TOLI2				IAmb	IAmb	02 21 38.5	
	comp=Z,6.2nm,0.9s						
HTT	Hallett	28.30	196	P	P	02 21 20.1	+0.9
	baz=28,SNR=4.2						
HTT	Hallett	28.30	196	P	P	02 21 20.0	+0.9
H11S3	WAKE ISLAND Hy	30.76	37	T	T	02 53 45.3	
	baz=220,slow=74,SNR=15						
H11S2	WAKE ISLAND Hy	30.77	37	T	T	02 53 49.4	
	baz=220,slow=74,SNR=7.2						
H11S1	WAKE ISLAND Hy	30.78	37	T	T	02 53 48.3	
	baz=220,slow=74,SNR=9.2						
MBWA	Marble Bar	31.10	239	P	P	02 21 43.4	-0.6
MBWA	Marble Bar	31.10	239	P	P	02 21 43.1	-0.9
	comp=Z,18nm,0.7s						
PSA00	Pilbara Seismi	31.17	238	P	P	02 21 44.1	-0.5
PSA00				IAmb	IAmb	02 21 45.3	
	comp=Z,7.7nm,0.8s						
PSA00	Pilbara Seismi	31.17	238	P	P	02 21 44.1	-0.5
	comp=Z,28nm,0.7s						
MSVF	Nonsavu	31.48	114	LR	LR	02 34 09.4	
	comp=Z,86nm,18.1s,baz=267,slow=36						
H11N1	WAKE ISLAND Hy	31.83	35	T	T	02 55 11.1	
	baz=218,slow=76,SNR=11						
H11N3	WAKE ISLAND Hy	31.85	35	T	T	02 55 12.2	
	baz=218,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	31.85	35	T	T	02 55 12.4	
	baz=218,slow=76,SNR=16						
JCJ	Chichijima	33.65	351	LR	LR	02 34 58.0	
	comp=Z,78nm,19.3s,baz=142,slow=35						
KMBL	Kambalda	34.93	221	P	P	02 22 17.2	-0.1
	baz=35,SNR=4.7						
KMBL	Kambalda	34.93	221	P	P	02 22 17.1	-0.2
	comp=Z,33nm,0.7s						
MORW	Morawa	37.73	229	P	P	02 22 41.2	0.0
	baz=38,SNR=3.9						
MORW	Morawa	37.73	229	P	P	02 22 41.5	+0.3
MORW	Morawa	37.73	229	P	P	02 22 41.2	0.0
	comp=Z,20nm,1.4s						
KLBR	Kellerberrin	37.85	224	P	P	02 22 41.6	-0.7
	baz=38,SNR=16						
KLBR	Kellerberrin	37.85	224	P	P	02 22 41.5	-0.7
	comp=Z,84nm,0.7s						
JOW	Kunigami	38.05	331	LR	LR	02 35 14.3	
	comp=Z,206nm,20.8s,baz=297,slow=31						
NWAO	Narrogin (SRO)	38.99	223	LR	LR	02 39 39.0	
	comp=Z,233nm,20.1s,baz=296,slow=37						
NWAO	Narrogin (SRO)	38.99	223	P	P	02 22 51.1	-0.7
JHJ	Hachijo jima 2	39.95	349	LR	LR	02 39 07.2	
	comp=Z,146nm,19.6s,baz=113,slow=36						
LEM	Lembang	40.10	267	LR	LR	02 43 17.0	
	comp=Z,73nm,18.5s,baz=74,slow=42						
AFI	Afiamalu	40.28	104	LR	LR	02 36 10.6	
	comp=Z,214nm,21.3s,baz=210,slow=31						
RPZ	Rata Peaks	42.44	155	LR	LR	02 39 12.6	
	comp=Z,412nm,19.8s,baz=317,slow=34						
MJAR	Matsushiro Arr	43.57	349	P	P	02 23 28.5	-0.8
	comp=Z,5.4nm,0.8s,baz=167,slow=8.8,SNR=7.6						
MJAR				LR	LR	02 40 28.9	
	comp=Z,62nm,19.0s,baz=153,slow=34						
	comp=Z,5.4nm,0.8s						
KSRS	Korea Array	47.37	338	P	P	02 23 59.0	-0.2
	comp=Z,1.2nm,0.7s,baz=144,slow=11,SNR=4.6						
KSRS				LR	LR	02 42 50.9	
	comp=Z,96nm,19.4s,baz=155,slow=35						
	comp=Z,1.2nm,0.7s						
RPSI	Rantau Prapat	49.79	279	P	P	02 24 17.8	-0.5
ASAJ	Asahikawa	50.40	355	LR	LR	02 42 14.6	
	comp=Z,52nm,21.9s,baz=172,slow=32						
USRK	Ussuriysk Ar.	52.28	345	LR	LR	02 45 04.9	
	comp=Z,37nm,18.4s,baz=162,slow=34						
HNS	HongShan	53.41	327	⇑P	P	02 24 50.3	+5.4
HNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMAR	Chiang Mai Arr	54.24	298	LR	LR	02 47 08.0	
	comp=Z,36nm,21.7s,baz=105,slow=35						
PZH	PanZhiHua	55.40	308	P	P	02 25 02.5	+2.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.7s						
HHC	Hu-ho-hao-te	57.59	328	*e*P	P	02 25 18.5	+3.4
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,6.9s						
PETK	Petropavlovsk-	59.73	7	LR	LR	02 47 30.3	
	comp=Z,99nm,22.0s,baz=191,slow=32						
PETK	Petropavlovsk-	59.73	7	P	P	02 25 30.3	+0.7
HIA	Hailar	60.56	339	P	P	02 25 34.7	-0.7
SHEM	Shemya Is, Ala	62.83	18	LR	LR	02 49 02.8	
	comp=Z,51nm,21.0s,baz=354,slow=32						
SONM	Songino Array	65.12	330	P	P	02 26 04.9	-1.0
	comp=Z,1.2nm,1.0s,baz=123,slow=5.5,SNR=5.4						
SONM				LR	LR	02 53 52.9	
	comp=Z,96nm,19.9s,baz=137,slow=35						
	comp=Z,1.2nm,1.0s						
MA2	Magadan	65.68	2	LR	LR	02 51 01.1	
	comp=Z,31nm,21.9s,baz=160,slow=32						
PALK	Pallekele	68.46	280	LR	LR	03 00 31.2	
	comp=Z,34nm,20.2s,baz=220,slow=40						
YAK	Yakutsk	69.56	351	LR	LR	02 57 47.9	
	comp=Z,38nm,18.4s,baz=88,slow=36						
VNDA	Vanda	71.58	177	P	P	02 26 45.9	+0.3
	comp=Z,1.2nm,0.6s,baz=334,slow=6.7,SNR=16						
VNDA				LR	LR	02 56 27.2	
	comp=Z,125nm,19.1s,baz=349,slow=34						
	comp=Z,1.2nm,0.6s						
VNDA	Vanda	71.58	177	P	P	02 26 46.0	+0.3
VNDA				IAmb	IAmb	02 26 47.5	
	comp=Z,5.4nm,1.4s						
WMQ	Urumqi	73.64	319	*e*P	P	02 27 01.0	+2.4
WMQ				pP	pP	02 27 09.6	-2.8
WMQ				pmax	pmax		
	comp=Z,34nm,1.1s						
MKAR	Makanchi Array	78.33	320	P	P	02 27 24.4	-0.8
	comp=Z,1.1nm,0.8s,baz=104,slow=5.1,SNR=4.1						
	comp=Z,1.1nm,0.8s						
MKAR	Makanchi Array	78.33	320	P	P	02 27 24.5	-0.7
MAKZ	Makanchi	78.54	320	P	P	02 27 25.4	-1.0
MAKZ				IAmb	IAmb	02 27 42.5	
	comp=Z,11nm,1.5s						
KDAK	Kodiak Island	79.68	28	LR	LR	02 55 24.9	
	comp=Z,132nm,20.7s,baz=262,slow=30						
ZALV	Zalesovo Beam	79.77	328	P	P	02 27 31.2	-1.6
	comp=Z,0.4nm,0.3s,baz=102,slow=6.6,SNR=2.3						
ZALV				LR	LR	03 01 48.1	
	comp=Z,71nm,21.3s,baz=86,slow=35						
	comp=Z,0.4nm,0.3s						
MAW	Mawson	82.37	203	LR	LR	03 05 12.0	
	comp=Z,115nm,18.2s,baz=82,slow=36						
QSPA	South Pole Qui	83.69	180	LR	LR	03 04 17.4	
	comp=Z,80nm,20.2s,baz=8.5,slow=35						
KK31	Karatay Array	85.19	314	P	P	02 27 59.1	-2.3
KKAR	Karatay Array	85.19	314	P	P	02 28 00.1	-1.2
ILAR	Eielson Array	85.35	23	P	P	02 27 59.2	-2.5
	comp=Z,0.6nm,0.7s,baz=262,slow=5.1,SNR=3.0						
ILAR				LR	LR	02 59 57.5	
	comp=Z,71nm,20.5s,baz=230,slow=31						
	comp=Z,0.6nm,0.7s						
BVAR	Borovoye Array	87.57	324	LR	LR	03 08 05.1	
	comp=Z,38nm,21.1s,baz=81,slow=36						
DLBC	Dease Lake	91.12	31	LR	LR	03 04 00.3	
	comp=Z,91nm,19.0s,baz=190,slow=32						
BBB	Bella Bella	91.18	38	LR	LR	03 00 47.7	
	comp=Z,100nm,19.9s,baz=240,slow=30						
INK	Inuvik	91.55	21	LR	LR	03 04 56.4	
	comp=Z,92nm,21.7s,baz=285,slow=32						
ABKAR	Akbulak array	93.43	319	P	P	02 28 38.3	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YBH	Yreka Blue Hor	93.61	49	LR	LR	03 04 07.0	
	comp=Z,84nm,19.8s,baz=306,slow=31						
GEYT	Alibeck	93.71	308	LR	LR	03 12 12.8	
	comp=Z,40nm,21.7s,baz=138,slow=36						
NEW	Newport	97.90	42	LR	LR	03 07 34.9	
	comp=Z,60nm,19.1s,baz=256,slow=32						
ELK	Elko	99.19	50	LR	LR	03 07 36.1	
	comp=Z,57nm,18.7s,baz=296,slow=32						
KIRV	Kirov	99.80	328	LR	LR	03 14 20.3	
	comp=Z,106nm,21.2s,baz=81,slow=35						
SNAA	Sanae	99.88	189	LR	LR	03 13 32.6	
	comp=Z,249nm,21.4s,baz=188,slow=35						
PLCA	Paso Flores	121.35	146	PKP	PKiKP	02 34 18.7	+0.2
	comp=Z,1.3nm,0.8s,baz=212,slow=5.1,SNR=4.2						
BDFB	Brasilia	153.07	144	PKPbc	PKPbc	02 35 23.3	-0.1
	comp=Z,6.2nm,0.7s,baz=215,slow=3.9,SNR=9.8						

*IDC **12** 02:22:03.3±6.1, 22°.19S×178°.08W, h360km±46km, mb3.5/5, mbtmp4.1/6, Error ellipse: s-maj=92.4km s-min=21.9km az=143.0*

ISC 12 02:22:05.1±1.3**, 22°.0S**±0°.2×**178°.2W**±0°.2**, h373km, n10, σ1ˢ06**/9**, mb3.5**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.54	320	P	Pn	02 23 31.5	-0.3
	5.5nm,0.7s,baz=127,slow=14,SNR=7.0						
STKA	Stephens Creek	36.98	246	P	P	02 28 40.4	-0.1
	3.6nm,0.8s,baz=88,slow=9.6,SNR=6.2						
	3.6nm,0.8s						
ASAR	Alice Springs	44.01	258	P	P	02 29 37.2	-0.3
	1.7nm,0.7s,baz=93,slow=8.5,SNR=12						
	1.7nm,0.7s						
WRA	Warramunga Arr	44.23	264	P	P	02 29 38.7	-0.5
	1.3nm,0.4s,baz=96,slow=8.4,SNR=66						
	1.3nm,0.4s						
NVAR	Mina Array Bea	82.26	43	P	P	02 33 46.2	+0.2
	0.6nm,0.9s,baz=250,slow=8.8,SNR=3.8						
	0.6nm,0.9s						
CMAR	Chiang Mai Arr	90.45	290	P	P	02 34 27.8	+2.1
	1.9nm,0.3s,baz=116,slow=4.1,SNR=4.1						
	1.9nm,0.3s						
ARCES	ARCESS Array B	130.38	349	PKP	PKPdf	02 40 29.9	-1.1
	3.5nm,1.0s,baz=352,slow=1.8,SNR=3.7						
AKASG	Malin Array Be	144.25	330	PKP	PKPbc	02 40 55.0	-1.2
	1.0nm,0.4s,baz=43,slow=4.0,SNR=6.7						
BRTR	Keskin Array B	147.71	310	PKPbc	PKPbc	02 41 05.8	-0.8
	0.3nm,0.5s,baz=129,slow=3.3,SNR=3.6						
GERES	GERESS Array B	151.61	343	PKPbc	PKPbc	02 41 15.6	-0.1
	0.2nm,0.4s,baz=58,slow=2.6,SNR=2.0						

IDC 12 02:22:46.1±4.5**, 11°.22S×166°.67E, h0km, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=225.9km s-min=32.0km az=139.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.27	250	P	P	02 29 17.2	+0.4
	0.2nm,0.6s,baz=82,slow=8.9,SNR=6.0						
	0.2nm,0.6s						
ASAR	Alice Springs	33.52	244	P	P	02 29 27.2	-0.5
	0.3nm,0.4s,baz=66,slow=10,SNR=5.0						
	0.3nm,0.4s						
ILAR	Eielson Array	83.40	18	P	P	02 35 14.9	0.0
	0.6nm,0.6s,baz=234,slow=5.5,SNR=9.5						
	0.6nm,0.6s						

*TEH **12** 02:41:57.9, 28°.89N×57°.23E, h20km, ML3.0*
*DSN **12** 02:41:59.8±0.7, 28°.74N×56°.95E, h10km, ML2.9/7, Error ellipse: s-maj=38.8km s-min=5.7km az=102.0*
*OMAN **12** 02:42:02.7±0.1, 28°.51N×57°.22E, h10km, ml3.2/8, Error ellipse: s-maj=4.9km s-min=2.1km az=304.0*

ISC 12 02:41:57.0±0.9**, 28°.86N**±0°.03×**57°.23E**±0°.05**, h10km, n35, σ1ˢ71**/50**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NGRK	Negar Kerman	0.89	331	ePg	Pn	02 42 15.8	-0.1
NGRK				e		02 42 30.5	
	comp=Z,9μm,0.2s						
KHNJ	Kahnooj	1.01	155	ePg	Pg	02 42 18.0	+1.7
CHMN	Cheshme madani	1.03	15	ePg	Pg	02 42 17.2	+0.3
KBAM	BAM	1.11	76	ePg	Pb	02 42 19.0	+0.7
KBAM				eSg	Sb	02 42 34.9	+2.1
KRBR	Kerman	1.19	340	ePg	Pg	02 42 19.2	-0.6
TVBK	TV Kerman	1.19	340	ePg	Pg	02 42 19.6	-0.3
TVBK				eSg	Sn	02 42 37.3	+0.9
TVBK				e		02 42 38.7	
	comp=Z,5μm,0.2s						
IBND	Bandar-abas	1.54	203	ePg	Pb	02 42 26.6	+1.1
IBND				e		02 42 26.9	
	comp=Z,2μm,0.2s						
SHME	Shamm	2.96	199	P	Pn	02 42 44.5	+0.5
	SNR=22						
SHME				S	Sn	02 43 18.8	-0.9
SHME	Shamm	2.96	199	eP	Pn	02 42 44.6	+0.5
	SNR=22						
SHME				S	Sn	02 43 18.9	-0.9
JASK	Jask - Hormozg	3.04	169	ePn	Pn	02 42 46.0	+0.9
BANOM	Banah	3.04	196	P	Pn	02 42 45.7	+0.5
	SNR=60						
BANOM				S	Sn	02 43 20.9	-0.8
BANOM	Banah	3.04	196	eP	Pn	02 42 45.6	+0.4
	SNR=6.0						
BANOM				S	Sn	02 43 21.6	-0.2
ZHSF	Zahedan	3.19	76	ePn	Pn	02 42 47.9	+0.5
BSRN	Basiran	3.50	27	ePn	Pn	02 42 48.5	-3.1
MASF	Masafi	3.61	196	P	Pn	02 42 54.0	+1.0
	SNR=6.1						
MASF				S	Sn	02 43 34.7	-0.9
MSFE	Esma-Masafi	3.62	195	i P	Pn	02 42 54.4	+1.2
	SNR=6.1						
UOSS	Minazif	4.01	193	P	Pn	02 42 59.4	+0.9
UOSS				S	Sn	02 43 41.9	-3.6
NAZ	Nazwa, Dubai	4.11	200	P	Pn	02 43 00.7	+0.9
	SNR=6.8						
NAZ				S	Sn	02 43 47.6	-0.3
NAZ	Nazwa, Dubai	4.11	200	i P	Pn	02 43 00.2	+0.4
	SNR=6.8						
HATD	Hatta, Dubai	4.14	194	P	Pn	02 43 01.6	+1.3
HATD				S	Sn	02 43 48.6	-0.2
HATD	Hatta, Dubai	4.14	194	P	Pn	02 43 00.6	+0.3
YZKH	Yazd	4.18	328	ePn	Pn	02 43 01.9	+0.9
FAQ	Al Faqa, Dubai	4.35	200	P	Pn	02 43 03.8	+0.6
	SNR=6.8						
FAQ				S	Sn	02 43 52.0	-2.0
FAQ	Al Faqa, Dubai	4.35	200	i P	Pn	02 43 03.2	-0.1
	SNR=6.8						
CHBR	Chabahar	4.36	138	ePn	Pn	02 43 02.0	-1.3
ASUD	Al Ashush, Dub	4.55	202	P	Pn	02 43 06.9	+1.0
	SNR=18						
ASUD				S	Sn	02 43 55.6	-3.3
ASUD	Al Ashush, Dub	4.55	202	i P	Pn	02 43 06.6	+0.7
	SNR=18						
TABS	Tabas	4.77	359	ePn	Pn	02 43 09.8	+0.8
HOQ	Hoqain	5.26	179	P	Pn	02 43 14.4	-1.3
HOQ				S	Sn	02 44 11.0	-5.4
ARQ	Araqi	5.54	187	P	Pn	02 43 20.4	+0.9
	SNR=13						
ARQ				S	Sn	02 44 21.6	-1.8
WSAR	Wadi Sarin	5.74	167	P	Pn	02 43 21.7	-0.6
	SNR=11						
WSAR				S	Sn	02 44 23.3	-5.0
SMDO	Samad	5.83	173	P	Pn	02 43 24.5	+0.9
BSY	Bisya	6.09	180	P	Pn	02 43 28.9	+1.7
MHTO	MHTO	7.87	175	P	Pn	02 43 52.4	+0.9
	SNR=6.4						
ABTO	Aybut	12.01	198	P	Pn	02 44 45.4	-3.0
	SNR=7.8						

*IDC **12** 03:15:11.5±1.3, 28°.14N×87°.84E, h0km, mb3.8/7, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=58.6km s-min=18.1km az=62.0*

ISC 12 03:15:16.9±1.6**, 28°.2N**±0°.2×**87°.9E**±0°.4**, h35km, n8, σ0ˢ27**/8**, mb3.8**/7**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	19.08	348	P	P	03 19 36.3	-0.1
	0.4nm,0.3s,baz=161,slow=10,SNR=8.9						
	1.1nm,0.5s						
KURBB	Kurchatov Arra	23.50	345	P	P	03 20 23.8	+0.4
	2.3nm,0.7s,baz=166,slow=9.2,SNR=19						
	2.3nm,0.7s						
SONM	Songino Array	24.34	31	P	P	03 20 31.5	+0.1
	1.1nm,0.9s,baz=214,slow=10,SNR=5.1						
	1.1nm,0.9s						
ZALV	Zalesovo Beam	25.83	356	P	P	03 20 44.4	-0.3
	0.6nm,0.4s,baz=170,slow=9.0,SNR=3.9						
	0.6nm,0.4s						
FINES	FINESS Array B	52.22	328	P	P	03 24 24.1	0.0
	1.0nm,0.7s,baz=123,slow=9.4,SNR=4.0						
	1.0nm,0.7s						
ARCES	ARCESS Array B	54.27	337	P	P	03 24 38.8	-0.2
	4.5nm,1.0s,baz=104,slow=7.9,SNR=5.8						
	4.5nm,1.0s						
WRA	Warramunga Arr	65.63	132	P	P	03 25 57.7	0.0
	0.3nm,0.5s,baz=327,slow=6.6,SNR=16						
	0.3nm,0.5s						
ASAR	Alice Springs	68.02	135	P	P	03 26 12.8	0.0
	0.4nm,0.5s,baz=318,slow=6.3,SNR=6.9						
	0.4nm,0.5s						

MAN 12 04:05:17.5, 6°.86N×125°.73E, h18km, mb3.8, ML2.5, MS2.0, 6C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.54	80	⇓eP	Pb	04 05 28.9	+0.5
MATI				eS	Sn	04 05 37.6	-1.2
KCP	Kidapawan	0.65	283	⇓iP	Pb	04 05 29.5	-0.8
KCP				i S	Sb	04 05 38.2	-0.9
DDMP	Don Marcelino,	0.75	181	⇑eP	Pg	04 05 32.1	-0.1
DDMP				eS	Sn	04 05 45.1	+1.0
BUKP	Musuan	1.21	327	⇑eP	Pn	04 05 39.2	-0.4
BUKP				eS	Sn	04 05 55.7	+0.1
SKMP	Bagumbayan, Su	1.22	254	⇑eP	Pn	04 05 38.3	-1.4
SKMP				eS	Sb	04 05 48.2	-7.4
BIPH	Bislig	1.46	25	⇑iP	Pn	04 05 42.3	-0.7
BIPH				i S	Sn	04 06 00.7	-1.0
CTBH	Cotabato--PC H	1.51	284	⇑iP	Pn	04 05 43.2	-0.5
GLSP	General Luna,	2.94	8	⇑eP	Pn	04 06 04.4	+1.1
GLSP				eS	Sn	04 06 40.8	+2.6

*IDC **12** 04:24:47.0±5.6, 18°.68S×177°.92W, h629km±33km, mb3.6/2, mbtmp4.6/2, Error ellipse: s-maj=176.9km s-min=31.7km az=146.0*

ISC 12 04:24:41.2±1.8**, 19°.6S**±0°.5×**177°.1W**±0°.3**, h600km, n7, σ0ˢ86**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.95	291	P	P	04 26 14.3	+0.5
	3.9nm,0.7s,baz=135,slow=17,SNR=4.0						
ASAR	Alice Springs	45.57	256	P	P	04 32 09.0	-0.1
	6.5nm,0.7s,baz=87,slow=8.1,SNR=80						
ASAR				PcP	PcP	04 33 35.8	+1.0
	0.6nm,0.5s,baz=103,slow=3.5,SNR=5.1						
	6.5nm,0.7s						
WRA	Warramunga Arr	45.58	261	P	P	04 32 08.3	-1.0
	3.7nm,0.4s,baz=99,slow=6.2,SNR=183						
WRA				PcP	PcP	04 33 35.7	+0.9
	0.3nm,0.4s,baz=99,slow=3.2,SNR=2.4						
	3.7nm,0.4s						
ARCES	ARCESS Array B	128.16	350	PKP	PKPdf	04 42 39.8	+0.3
	2.8nm,0.9s,baz=5.7,slow=0.9,SNR=3.9						
FINES	FINESS Array B	135.11	344	PKP	PKiKP	04 42 53.6	-0.8
	1.4nm,0.9s,baz=279,slow=2.7,SNR=1.1						
BRTR	Keskin Array B	146.83	314	PKPbc	PKPbc	04 43 16.7	-0.8
	0.4nm,0.6s,baz=119,slow=0.7,SNR=3.1						
GERES	GERESS Array B	149.52	346	PKPbc	PKPbc	04 43 24.0	+0.2
	0.1nm,0.3s,baz=48,slow=1.5,SNR=4.4						

*IDC **12** 04:32:14.4±1.4, 6°.86S×122°.27E, h0km, mb3.8/3, mbtmp3.8/5, ML3.3/2, Error ellipse: s-maj=83.3km s-min=22.8km az=54.0*
*DJA **12** 04:32:18.7±0.8, 7°S±7°×12°2E±1°1, h150km±15km, M3.7/7, mb3.8/2, MLv3.6/7*

ISC 12 04:32:16.3±0.8**, 6°.82S**±0°.08×**122°.08E**±0°.09**, h10km, n16, σ1ˢ84**/14**, Flores Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBSI	Bau Bau	1.42	20	P	Pn	04 32 34.0	-8.2
BSSI	Bau Bau, Buton	1.72	293	P	Pn	04 32 46.2	-0.1
BSSI				S	Sb	04 33 10.0	+0.3
MMRI	Maumere	1.81	175	P	Pg	04 32 53.1	+2.1
BKSI	Bulukumba	2.45	307	P	Pn	04 32 56.0	-0.4
KKSI	Kolaka, Sulawe	2.67	351	P	Pn	04 33 01.2	+1.8
KAPI	Kappang	2.93	308	Pn	Pn	04 33 03.5	+0.4
	4.1nm,0.3s,baz=126,slow=13,SNR=10						
	11nm,0.4s						
KAPI	Kappang	2.93	308	P	Pn	04 33 03.2	+0.2
BNSI	Bone	3.11	321	P	Pn	04 33 04.0	-1.4
SOEI	Soe	3.63	144	P	Pb	04 33 21.5	+0.8
SPSI	Sidrap Palu	3.66	321	P	Pn	04 33 10.9	-2.1
PBKI	Pangkalan Bun	11.15	291	P	Pn	04 35 01.9	+5.9
WRA	Warramunga Arr	17.65	139	P	Pn	04 36 18.1	-4.4
	0.1nm,0.3s,baz=315,slow=12,SNR=9.5						
	1.7nm,0.8s						
ASAR	Alice Springs	20.24	147	P	P	04 36 50.6	-1.3
	1.6nm,0.7s,baz=323,slow=11,SNR=14						
	1.6nm,0.7s						
PPI	Padang Panjang	22.53	285	P	P	04 37 27.4	+11
SONM	Songino Array	56.16	347	P	P	04 41 57.0	+0.6
	1.1nm,0.8s,baz=167,slow=9.0,SNR=5.6						
	1.1nm,0.8s						
MKAR	Makanchi Array	63.99	331	P	P	04 42 50.7	+0.7
	1.2nm,0.7s,baz=134,slow=8.7,SNR=4.8						
	1.2nm,0.7s						

*NEIC **12** 04:38:27.9±1.9, 23°.43S±0°.08×66°.8W±0°.1, h214km±10km, mb4.4/9, ML4.6(GUC), Error ellipse: s-maj=15.5km s-min=12.1km az=89.0*
*IDC **12** 04:38:29.2±1.3, 23°.24S×66°.65W, h191km±10km, mb3.0/3, mbtmp3.7/8, Error ellipse: s-maj=24.4km s-min=14.9km az=4.0*
*GUC **12** 04:38:29.5±0.6, 23°.28S×67°.08W, h237km±6km, ML4.6*
*VAO **12** 04:38:33.7±0.8, 22°.97S×66°.56W, h232km±6km, mb4.1*

ISC 12 04:38:28.7±0.7**, 23°.33S**±0°.05×**66°.95W**±0°.06**, h219km**±8km**, n84, σ1ˢ35**/93**, mb3.3**/5**, 14C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.20	288		Pn	04 39 02.9	+0.9
AF01	San Pedro de A	1.20	288	eP	Pn	04 39 03.0	+0.9
LVC	Limon Verde	1.95	291	P	Pn	04 39 09.2	+0.7
	337nm,0.6s,baz=117,slow=6.8,SNR=534						
LVC				S	S	04 39 40.6	+1.3
	73nm,0.4s,baz=192,slow=23,SNR=10						
LVC	Limon Verde	1.95	291	⇑iP	Pn	04 39 09.2	+0.7
LVC				i S	S	04 39 39.6	+0.2
PB15	IPOC Station P	2.33	272		Pn	04 39 12.9	+0.6
PB15	IPOC Station P	2.33	272	⇑iP	Pn	04 39 12.8	+0.6
PB15				i S	S	04 39 46.5	+0.6
PB06	IPOC Station P	2.50	284		Pn	04 39 14.7	+0.8
PB06	IPOC Station P	2.50	284	⇑iP	Pn	04 39 14.8	+0.8
PB06				i S	S	04 39 48.6	-0.4
PB06				IAML		04 39 52.8	
	comp=N,548nm,0.1s						
PB09	IPOC Station P	2.61	305		Pn	04 39 16.6	+1.3
PB09	IPOC Station P	2.61	305	⇑iP	Pn	04 39 16.5	+1.3
PB09				i S	S	04 39 51.5	+0.1
PB09				IAML		04 39 54.5	
	comp=N,400nm,0.5s						
PB03	IPOC Station P	2.89	296		Pn	04 39 18.9	+0.6
PB03	IPOC Station P	2.89	296	⇑iP	Pn	04 39 18.9	+0.6
PB03				i S	S	04 39 56.1	-0.7
PB03				IAML		04 39 56.8	
	comp=N,1μm,0.4s						
GO02	Mina Guanaco	3.03	232		Pn	04 39 19.9	-0.1
GO02	Mina Guanaco	3.03	232	⇑iP	Pn	04 39 19.8	-0.2
GO02				i S	S	04 39 59.0	-1.0
PB04	IPOC Station P	3.12	288		Pn	04 39 21.5	+0.6
PB04	IPOC Station P	3.12	288	⇑iP	Pn	04 39 21.4	+0.6
PB04				i S	S	04 40 00.7	-0.8
PB04				IAML		04 40 04.1	
	comp=E,453nm,0.3s						
PB07	IPOC Station P	3.15	300		Pn	04 39 21.6	+0.3
PB07	IPOC Station P	3.15	300	⇑iP	Pn	04 39 21.9	+0.6
PB07				i S	S	04 40 01.1	-1.1
PB07				IAML		04 40 02.3	
	comp=E,1μm,0.3s						
PB01	IPOC Station P	3.27	313		Pn	04 39 23.1	+0.5
PB01	IPOC Station P	3.27	313	⇑iP	Pn	04 39 23.1	+0.5
PB01				i S	S	04 40 04.3	-0.4
PB01				IAML		04 40 06.3	
	comp=E,527nm,0.2s						
PB10	IPOC Station P	3.32	266		Pn	04 39 23.6	+0.5
PB10	IPOC Station P	3.32	266	⇑iP	Pn	04 39 23.6	+0.5
PB10				i S	S	04 40 03.4	-2.1
PB10				IAML		04 40 09.2	
	comp=N,318nm,0.4s						
PB02	IPOC Station P	3.38	306		Pn	04 39 24.3	+0.3
PB02	IPOC Station P	3.38	306	⇑iP	Pn	04 39 24.2	+0.3
PB02				i S	S	04 40 05.7	-1.4
PB02				IAML		04 40 07.6	
	comp=E,763nm,0.3s						
PB14	IPOC Station P	3.42	247		Pn	04 39 24.4	-0.1
PB14	IPOC Station P	3.42	247	⇑iP	Pn	04 39 24.4	-0.1
PB14				i S	S	04 40 06.2	-1.8
PB14				IAML		04 40 07.7	
	comp=E,436nm,0.5s						
PB08	IPOC Station P	3.78	327		Pn	04 39 30.2	+1.2
PB08	IPOC Station P	3.78	327	⇑iP	Pn	04 39 30.3	+1.4
PB08				i S	S	04 40 16.0	0.0
PB08				IAML		04 40 20.2	
	comp=N,303nm,0.5s						
PATCX	Punta Patache	3.88	309		Pn	04 39 30.0	+0.1
PATCX	Punta Patache	3.88	309	⇑iP	Pn	04 39 29.7	-0.2
PATCX				i S	S	04 40 15.7	-2.1
PATCX				IAML		04 40 22.0	
	comp=N,346nm,0.5s						
AC02	Maricunga	4.02	209		Pn	04 39 31.4	-0.5
TA01	Diego Aracena	4.07	312		Pn	04 39 32.2	+0.1
AC01	Pan de Azucar	4.35	229		Pn	04 39 34.2	-1.3
PSGCX	Pisagua	4.75	321		Pn	04 39 39.4	-1.1
MNMC	Minye Minye	4.85	329		Pn	04 39 42.2	+0.2
AC06	Mina Casimiro	5.06	217		Pn	04 39 42.1	-2.2
GO03	Copiap	5.18	214		Pn	04 39 44.1	-1.9
PB12	IPOC Station P	5.66	325		Pn	04 39 52.1	+0.1
LPAZ	La Paz	7.09	351	P	Pn	04 40 11.9	+1.0
	comp=N,2.5nm,0.3s,baz=162,slow=6.8,SNR=34						
LPAZ				S	S	04 41 30.0	-2.2
	comp=N,2.7nm,0.9s,baz=246,slow=23,SNR=1.1						
LPAZ	La Paz	7.09	351	eP	Pn	04 40 12.2	+1.3
CO01	Juntas del Tor	7.20	202	Pn	Pn	04 40 10.0	-1.8
GO04	Tololo Observa	7.64	206	Pn	Pn	04 40 15.1	-2.4
SIV	San Ignacio	9.16	38	P	Pn	04 40 34.3	-2.7
	comp=N,1.7nm,0.7s,baz=210,slow=14,SNR=8.2						
CPUP	Villa Florida	9.23	111	P	Pn	04 40 34.9	-2.9
	comp=N,1.9nm,0.8s,baz=282,slow=11,SNR=4.3						
PTLB	Pontes e Lacer	10.75	45		Pn	04 40 54.8	-2.6
PTLB	Pontes e Lacer	10.75	45	eP	Pn	04 40 54.7	-2.6
UNIS	Unistalda (Bra	12.09	121	eP	Pn	04 41 17.4	+3.1
RODS	Rosario do Sul	12.60	126	eP	Pn	04 41 23.6	+3.0
FRBT	Francisco Belt	12.90	105	eP	Pn	04 41 26.5	+2.1
ETMB	Extrema	13.45	3	Pn	Pn	04 41 29.6	-1.7
H03N1	Juan Fernandez	14.56	224	T	T	04 54 22.4	
	baz=44,slow=72,SNR=3.9						
H03N2	Juan Fernandez	14.58	224	T	T	04 54 24.5	
	baz=44,slow=72,SNR=1.8						
H03N3	Juan Fernandez	14.58	224	T	T	04 54 18.2	
	baz=44,slow=72,SNR=3.7						
PCMB	Pacaembu	14.60	86	eP	Pn	04 41 46.7	+1.3
ITRB	Iturama	15.85	80	eP	P	04 42 00.1	+0.2
ARAG	Araguaiana, MT	16.15	65	eP	P	04 42 03.6	+0.5
CZSB	Cruzeiro do Su	16.46	339	P	P	04 42 05.5	-1.2
CZSB				IAmb	IAmb	04 42 10.3	
	comp=Z,7.1nm,0.8s						
IPMB	Ipameri, GO	18.31	77	eP	P	04 42 26.3	-0.6
VAO	Valinhos	18.38	93	eP	P	04 42 26.1	-1.4
TBTG	Tabatinga, AM	19.24	351	P	Pn	04 42 38.3	-2.3
TBTG				IAmb	IAmb	04 42 42.1	
	comp=Z,45nm,1.2s						
BDFB	Brasilia	19.40	70	P	P	04 42 38.4	-0.2
	comp=Z,13nm,0.8s,baz=236,slow=10,SNR=16						
BDFB	Brasilia	19.40	70	P	P	04 42 36.5	-2.1
BDFB				IAmb	IAmb	04 42 39.3	
	comp=Z,15nm,0.9s						
BDFB	Brasilia	19.40	70	eP	P	04 42 37.9	-0.8
PMNB	Patos De Minas	19.73	80	eP	P	04 42 41.4	-0.8
MACA	Manacapuru-AM	20.94	18	P	P	04 42 54.1	-0.8
MACA				IAmb	IAmb	04 42 54.9	
	comp=Z,6.3nm,0.7s						
MACA	Manacapuru-AM	20.94	18	eP	P	04 42 54.5	-0.5
MCRA	Macar, Loja	22.65	324	P	P	04 43 13.5	+2.0
MCRA				IAmb	IAmb	04 43 17.0	
	comp=Z,11nm,0.9s						
BOSC	San Juan Bosco	22.96	329	P	P	04 43 16.2	+1.8
BOSC				IAmb	IAmb	04 43 31.5	
	comp=Z,10nm,0.7s						
SGCB	S£o Gabriel d	23.07	360	eP	P	04 43 15.9	+0.8
SMTB	Santa Maria do	23.46	55	eP	P	04 43 18.2	-0.6
SDBA	SAO DESIDERIO	23.59	66	eP	P	04 43 18.9	-1.1
PRPB	Parauapebas	23.73	47	eP	P	04 43 20.4	-0.8
MALB	Monte Alegre	24.63	32	eP	P	04 43 28.5	-0.9
VNA3	Neumayer Olymp	57.77	161	P	P	04 47 57.9	+1.3
VNA2	Neumayer--Watz	58.33	161	P	P	04 48 01.7	+1.3
	baz=252,slow=9.0						
SNAA	Sanae	59.97	161	P	P	04 48 12.8	+1.1
TROLL	Troll, Antarti	61.68	161	P	P	04 48 24.9	+1.6
TXAR	Lajitas Array	63.16	324	P	P	04 48 37.1	+3.4
	comp=Z,0.3nm,0.7s,baz=156,slow=6.9,SNR=2.6						
	comp=Z,0.3nm,0.7s						
ACSO	Alum Creek Sta	64.97	347	P	P	04 48 45.3	+0.2
PDAR	Pinedale Array	76.60	329	P	P	04 50 00.1	+4.9
	comp=Z,0.5nm,0.7s,baz=156,slow=4.9,SNR=4.4						
	comp=Z,0.5nm,0.7s						
NVAR	Mina Array Bea	78.05	321	P	P	04 50 06.6	+3.2
	comp=Z,0.2nm,0.5s,baz=108,slow=4.8,SNR=3.8						
	comp=Z,0.2nm,0.5s						
HLID	Hailey	79.55	327	P	P	04 50 14.1	+2.6
PLID	Pearl Lake	81.44	327	P	P	04 50 23.6	+2.1
PZH	PanZhiHua	169.26	71	PKP	PKPdf	04 58 08.2	-2.1

*DJA **12** 04:39:32.5±0.6, 7°S±6°×12°1E±1°0, h240km±6km, M4.1/8, mb4.3/3, MLv3.9/8*
*IDC **12** 04:39:34.2±1.2, 6°.60S×122°.43E, h0km, mb4.0/4, mbtmp4.0/6, ML3.5/2, MS3.0/4, Error ellipse: s-maj=59.9km s-min=18.2km az=51.0*

ISC 12 04:39:34.8±0.8**, 6°.59S**±0°.04×**122°.56E**±0°.09**, h10km, n23, σ2ˢ03**/20**, mb4.2**/3**, Flores Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBSI	Bau Bau	1.09	0	P	Pb	04 39 55.0	-0.8
MMRI	Maumere	2.06	189	P	Pb	04 40 11.9	-0.4
MMRI				S	Sg	04 40 44.0	+3.0
BSSI	Bau Bau, Buton	2.11	282	P	Pn	04 40 07.1	-3.1
KKSI	Kolaka, Sulawe	2.57	339	P	Pg	04 40 24.9	+0.8
BKSI	Bulukumba	2.74	297	P	Pn	04 40 16.1	-2.7
BKSI				S	Sn	04 40 50.0	-1.9
KAPI	Kappang	3.21	299	Pn	Pn	04 40 24.0	-1.3
	7.5nm,0.3s,baz=115,slow=11,SNR=22						
KAPI				Sn	Sn	04 41 01.4	-2.2
	12nm,0.3s,baz=40,slow=22,SNR=6.3						
KAPI				LR	LR	04 41 42.7	
	comp=Z,274nm,18.2s,baz=126,slow=42						
	30nm,0.5s						
KAPI	Kappang	3.21	299	P	Pn	04 40 24.3	-1.0
BNSI	Bone	3.27	312	P	Pn	04 40 24.5	-1.7
BNSI				S	Sn	04 41 05.5	+0.3
SOEI	Soe	3.57	152	P	Pb	04 40 35.2	-2.9
BATI	Baumata	3.75	163	LR	LR	04 42 14.1	
	comp=Z,289nm,21.4s,baz=324,slow=42						
BATI	Baumata	3.75	163	P	Pn	04 40 33.8	+0.9
SPSI	Sidrap Palu	3.81	313	P	Pn	04 40 30.4	-3.2
PMSI	Majene	4.76	310	P	Pn	04 40 40.6	-6.0
LUWI	Luwuk	5.51	2	P	Pn	04 40 59.1	+2.1
APSI	Ampana	5.71	351	P	Pb	04 41 06.7	-7.9
SMKI	Samarinda	8.11	319	P	Pn	04 41 22.9	-10
	1.0nm252nm,1.0s						
LEM	Lembang	14.85	268	LR	LR	04 50 51.1	
	comp=Z,73nm,18.7s,baz=96,slow=46						
WRA	Warramunga Arr	17.52	140	P	Pn	04 43 39.1	-0.2
	0.1nm,0.3s,baz=316,slow=12,SNR=9.6						
	2.3nm,0.8s						
ASAR	Alice Springs	20.18	148	P	Pn	04 44 11.6	0.0
	3.3nm,0.7s,baz=323,slow=11,SNR=22						
	3.3nm,0.7s						
STKA	Stephens Creek	30.80	147	P	P	04 45 52.6	+1.7
	5.2nm,0.8s,baz=332,slow=9.7,SNR=4.7						
	5.2nm,0.8s						
KSRS	Korea Array	44.10	6	LR	LR	05 06 27.9	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,5.7nm,19.5s,baz=45,slow=37						
SONM	Songino Array	56.04	347	P	P	04 49 15.3	+1.4
	1.0nm,0.7s,baz=175,slow=7.4,SNR=4.8						
	1.0nm,0.7s						
MKAR	Makanchi Array	64.03	330	P	P	04 50 09.4	+0.7
	0.9nm,0.5s,baz=141,slow=6.2,SNR=5.4						
	0.9nm,0.5s						

IDC 12 04:43:58.9±1.5, 6°.43S×122°.59E, h0km, mb3.6/3, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=72.0km s-min=23.6km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	3.16	296	Pn	Pn	04 44 49.0	-0.9
	7.5nm,0.3s,baz=116,slow=9.1,SNR=5.0						
	18nm,0.4s						
WRA	Warramunga Arr	17.62	141	P	Pn	04 48 04.7	-1.4
	0.1nm,0.3s,baz=317,slow=12,SNR=8.5						
	1.2nm,0.7s						
ASAR	Alice Springs	20.30	149	P	P	04 48 37.1	+0.5
	1.4nm,0.7s,baz=323,slow=11,SNR=10						
	1.4nm,0.7s						
SONM	Songino Array	55.89	347	P	P	04 53 38.9	+0.3
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.4						
	0.3nm,0.4s						
MKAR	Makanchi Array	63.90	330	P	P	04 54 33.7	+0.1
	1.0nm,0.7s,baz=128,slow=5.8,SNR=3.5						
	1.0nm,0.7s						

IDC 12 04:56:41.7±2.5, 17°.69S×178°.84W, h566km±19km, mb3.0/4, mbtmp3.8/5, Error ellipse: s-maj=111.2km s-min=25.0km az=152.0

ISC 12 04:56:39.5±1.6, 18°.1S±0°.6×178°.5W±0°.3, h550km, n7, σ1.31/7, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.35	276	P	P	04 57 58.2	+1.4
	5.3nm,0.7s,baz=108,slow=7.3,SNR=7.5						
STKA	Stephens Creek	38.49	241	P	P	05 03 15.6	+0.6
	1.3nm,0.5s,baz=80,slow=11,SNR=3.3						
	1.3nm,0.5s						
WRA	Warramunga Arr	44.55	260	P	P	05 04 01.3	-1.8
	0.5nm,0.6s,baz=98,slow=6.9,SNR=18						
	0.5nm,0.6s						
ASAR	Alice Springs	44.69	254	P	P	05 04 03.4	-0.8
	5.8nm,0.6s,baz=89,slow=8.2,SNR=103						
	5.8nm,0.6s						
TXAR	Lajitas Array	86.14	58	P	P	05 08 23.1	0.0
	0.2nm,0.6s,baz=236,slow=4.2,SNR=2.4						
	0.2nm,0.6s						
BRTR	Keskin Array B	144.90	315	PKP	PKPdf	05 15 15.0	+0.4
	0.2nm,0.4s,baz=17,slow=2.0,SNR=2.0						
GERES	GERESS Array B	147.80	345	PKPbc	PKPbc	05 15 22.0	-0.9
	0.2nm,0.6s,baz=35,slow=4.9,SNR=4.2						

JSN 12 06:00:45.5±1.6, 18°.64N×74°.03W, h0km±107km, MD4.2
IDC 12 06:00:46.5±1.2, 18°.47N×74°.00W, h0km, mb3.7/5, mbtmp4.0/9, ML3.4/4, MS2.9/5, Error ellipse: s-maj=37.2km s-min=20.6km az=46.0
NEIC 12 06:00:47.4±1.6, 18°.35N±0°.06×74°.20W±0°.02, h12km±6km, mb4.4/14, Error ellipse: s-maj=8.5km s-min=2.6km az=187.0
OSPL 12 06:00:49.0±9.5, 18°.40N×74°.21W, h5km±77km, ML3.7
SSNC 12 06:00:50.0±2.5, 18°.37N×74°.16W, h30km±42km, MD3.8, ML3.8

ISC 12 06:00:46.9±1.7, 18°.39N±0°.04×74°.13W±0°.03, h12km±11km, n79, σ1.82/88, mb4.3/12, MS2.8/3, 4C, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LGNH	Logne	1.46	85		Pb	06 01 13.6	-0.3
LGNH					Sg	06 01 33.5	-0.3
LGNH	Logne	1.46	85	iP	Pb	06 01 13.5	-0.4
LGNH				eS	Sg	06 01 34.3	+0.5
LGNH				IAML		06 01 38.2	
	comp=Z,447nm,0.8s						
PAPH	Port-au-Prince	1.75	85	Pn	Pb	06 01 18.2	-0.7
PAPH	Port-au-Prince	1.75	85	iP	Pb	06 01 18.3	-0.6
PAPH				eS	Sg	06 01 42.9	-0.2
PAPH				IAML		06 01 45.3	
	comp=Z,1μm,0.3s						
MASC	Masc	1.78	357	eP	Pn	06 01 17.3	-0.2
MASC				eS	Sn	06 01 38.1	-1.9
MASC				IAML		06 01 41.8	
	comp=N,346nm,0.4s						
MASC				IAML		06 01 42.1	
	comp=E,768nm,0.3s						
MASC	Masc	1.78	357	iP	Pn	06 01 17.3	-0.2
MASC				IAML		06 01 44.5	
	comp=Z,301nm,0.7s						
GTBY	Guantanamo Bay	1.79	329	Pn	Pb	06 01 17.8	-1.9
GTBY				Sn	Sn	06 01 39.5	-0.7
GTBY	Guantanamo Bay	1.79	329	eP	Pb	06 01 17.8	-1.9
GTBY				eS	Sn	06 01 39.4	-0.8
GTBY	Guantanamo Bay	1.79	329	iP	Pb	06 01 17.8	-1.9
GTBY				eS	Sn	06 01 39.9	-0.3
GTBY				IAML		06 01 43.1	
	comp=Z,419nm,0.8s						
NQUSE	US Embassy, Po	1.80	84	Pn	Pb	06 01 18.7	-1.1
CMJ	Castle Mountai	2.14	264	⇑iP	Pb	06 01 23.8	-1.8
LOPE2	Hotel El Peder	2.30	99	iP	Pn	06 01 26.1	+1.5
LOPE2				eS	Sn	06 01 54.9	+2.1
LOPE2				IAML		06 02 00.1	
	comp=Z,484nm,0.4s						
MOAC	Moa	2.39	341	eP	Pn	06 01 25.8	-0.1
MOAC				eS	Sn	06 01 53.7	-1.4
MOAC				IAML		06 01 59.9	
	comp=E,653nm,0.4s						
MOAC				IAML		06 02 01.1	
	comp=N,408nm,0.4s						
GWJ	Greenwich	2.49	263	iP	Pn	06 01 27.5	+0.2
HOJ	Hope	2.52	262	⇑iP	Pn	06 01 29.0	+1.4
STH	Stony Hill	2.56	263	iP	Pn	06 01 28.3	0.0
LODA1	ITESIL, Dajabo	2.57	63	iP	Pb	06 01 31.6	-1.3
LODA1				IAML		06 02 06.6	
	comp=Z,1μm,1.5s						
SDDR	Presa de Saban	2.76	77	Pn	Pn	06 01 32.8	+1.8
SDDR	Presa de Saban	2.76	77	eP	Pn	06 01 33.0	+2.0
SDDR	Presa de Saban	2.76	77	iP	Pn	06 01 32.9	+1.9
SDDR				IAML		06 02 18.2	
	comp=Z,297nm,0.6s						
PCJ	Portland Cotta	2.95	258	iP	Pn	06 01 34.8	+1.2
HLGC	Holguin	3.08	324	eP	Pn	06 01 37.0	+1.6
LMGC	Las Mercedes	3.19	302	eP	Pn	06 01 35.2	-1.6
LMGC				IAML		06 02 13.0	
	comp=N,323nm,0.3s						
LMGC				IAML		06 02 13.5	
	comp=E,216nm,0.3s						
MTDJ	Mount Denham	3.23	268	Pn	Pn	06 01 37.2	-0.4
MTDJ	Mount Denham	3.23	268	eP	Pn	06 01 37.6	0.0
SC01	Santiago de lo	3.39	72		Pb	06 01 43.1	-3.8
SC01	Santiago de lo	3.39	72	iP	Pb	06 01 43.4	-3.5
SC01				eS	Sb	06 02 29.5	+1.5
SC01				IAML		06 02 49.2	
	comp=Z,212nm,0.6s						
MCJ	Malvern	3.41	263	⇑iP	Pn	06 01 41.7	+1.7
MCJ				⇑iS	Sn	06 02 22.6	+2.2
SDD	Santo Domingo	4.01	88	Pn	Pn	06 01 51.1	+3.0
GRTK	Grand Turk	4.20	42	Pn	Pn	06 01 52.0	+1.2
GRTK	Grand Turk	4.20	42	eP	Pn	06 01 51.9	+1.1
GRTK	Grand Turk	4.20	42	iP	Pn	06 01 52.1	+1.4
GRTK				eS	Sn	06 02 38.7	-1.0
GRTK				IAML		06 02 43.3	
	comp=Z,53nm,0.5s						
CCCC	Cccc	4.42	310	eP	Pn	06 01 50.2	-3.5
MGV	Manicaragua	6.62	305	eP	Pn	06 02 24.7	+0.7
CRPR	Cabo Rojo, PR	6.69	92	Pn	Pn	06 02 25.7	+0.7
CRPR	Cabo Rojo, PR	6.69	92	iP	Pn	06 02 26.5	+1.6
MLPR	Magueyes Islan	6.75	92	Pn	Pn	06 02 26.0	+0.1
URIC	Uribia, Colomb	6.96	162	Pn	Pn	06 02 28.5	-0.2
CELP	Cerrillos	7.19	91	Pn	Pn	06 02 32.6	+0.8
SJG	San Juan	7.59	91	Pn	Pn	06 02 36.2	-1.2
	comp=Z,0.2nm,0.3s,baz=281,slow=16,SNR=2.1						
	comp=Z,8.5nm,0.9s						
SJG	San Juan	7.59	91	Pn	Pn	06 02 38.4	+1.0
GCPR	Guaynabo City	7.64	89	Pn	Pn	06 02 40.4	+2.2
CBYP	Canovanas	7.86	90	Pn	Pn	06 02 42.4	+1.2
HUMP	Col San Antoni	7.87	90	Pn	Pn	06 02 42.9	+1.6
CUPR	Culebra, Puert	8.41	89	Pn	Pn	06 02 50.2	+1.6
SOR	Soroa	9.39	299	Pn	Pn	06 03 01.8	-0.4
SDV	Santo Domingo	10.04	160	Pn	Pn	06 03 12.6	+1.4
	comp=Z,4.3nm,0.3s,baz=19,slow=12,SNR=23						
SDV				Sn	Sn	06 04 56.9	-7.0
	comp=Z,1.4nm,0.3s,baz=327,slow=22,SNR=1.7						
	comp=Z,19nm,0.5s						
SDV	Santo Domingo	10.04	160		Pn	06 03 11.0	-0.1
BCIP	Isla Barro Col	10.71	212		Pn	06 03 18.9	-1.3
BAUV	El Baul	11.10	147		Pn	06 03 25.4	-0.1
GDHS	Morne Mazeau,	12.00	98	Pn	Pn	06 03 37.9	0.0
PCRV	Puerto La Cruz	12.30	130	Pn	Pn	06 03 42.6	+0.7
	comp=Z,1.3nm,0.3s,baz=300,slow=1.3,SNR=22						
PCRV				Sn	Sn	06 05 51.5	-7.5
	comp=Z,0.7nm,0.3s,baz=118,slow=6.8,SNR=2.6						
	comp=Z,6.4nm,0.5s						
MATN	Matagalpa	12.58	246		Pn	06 03 44.3	-1.6
JTS	Las Juntas de	13.21	234	LR	LR	06 08 45.3	
	comp=Z,41nm,21.2s,baz=148,slow=36						
ROSC	El Rosal	13.47	181	Pn	Pn	06 04 01.0	+2.8
	comp=Z,1.9nm,0.3s,baz=43,slow=22,SNR=4.7						
	comp=Z,4.3nm,0.3s						
152A	Waverly Hall	17.11	328	Pn	Pn	06 04 45.8	-0.2
CNNC	Cliffs of the	17.11	349	Pn	Pn	06 04 46.1	+0.1
CNNC				IAmb	IAmb	06 05 06.5	
	comp=Z,19nm,0.9s						
TKL	Tuckaleechee C	19.21	336	LR	LR	06 13 08.9	
	comp=Z,32nm,20.2s,baz=113,slow=39						
X48A	Hartselle	19.71	327	P	Pn	06 05 16.7	-1.0
W45A	Hickory Valley	21.39	324	P	P	06 05 34.0	-0.4
FCAR	Ozark Folk Cen	23.60	321	P	P	06 05 59.1	+1.4
FCAR				IAmb	IAmb	06 06 01.7	
	comp=Z,5.3nm,0.8s						
M53A	WI Miller and	23.65	348	P	P	06 06 00.1	+2.0
UNM	Universidad Na	23.71	276	P	P	06 06 00.1	+0.8
435B	Jarrell	24.58	305	P	P	06 06 07.8	+0.9
435B				IAmb	IAmb	06 06 10.7	
	comp=Z,10nm,0.9s						
CCM	Cathedral Cave	24.65	326	P	P	06 06 08.4	+1.0
WHTX	Lake Whitney,	25.01	307	P	P	06 06 11.6	+0.9
WHTX				IAmb	IAmb	06 06 13.8	
	comp=Z,8.5nm,1.1s						
MACA	Manacapuru-AM	25.18	147	P	P	06 06 12.9	+0.6
MACA				IAmb	IAmb	06 06 21.6	
	comp=Z,5.9nm,0.7s						
Z35A	Perchaven, San	25.50	310	P	P	06 06 15.8	+0.7
Z35A				IAmb	IAmb	06 06 19.9	
	comp=Z,12nm,0.7s						
S39A	Bolivar	25.53	323	P	P	06 06 15.1	-0.3
S39A				IAmb	IAmb	06 06 20.2	
	comp=Z,11nm,1.2s						
TUL1	Leonard	25.90	317	P	P	06 06 20.1	+1.2
TUL1				IAmb	IAmb	06 06 24.4	
	comp=Z,13nm,0.9s						
TXAR	Lajitas Array	29.05	298	P	P	06 06 48.9	+1.7
	comp=Z,0.3nm,0.7s,baz=107,slow=11,SNR=3.6						
	comp=Z,0.3nm,0.7s						
NNA	Nana	30.30	185	LR	LR	06 19 36.2	
	comp=Z,21nm,18.0s,baz=342,slow=37						
ANMO	Albuquerque	33.07	306	LR	LR	06 21 17.4	
	comp=Z,12nm,19.9s,baz=280,slow=37						
PDAR	Pinedale Array	38.56	317	P	P	06 08 11.1	+1.3
	comp=Z,0.2nm,0.6s,baz=107,slow=10,SNR=2.6						
	comp=Z,0.2nm,0.6s						
NVAR	Mina Array Bea	43.20	307	P	P	06 08 50.2	+2.1
	comp=Z,0.4nm,0.7s,baz=107,slow=6.0,SNR=6.1						
	comp=Z,0.4nm,0.7s						
YKA	Yellowknife Ar	52.19	338	P	P	06 09 58.2	+1.0
	comp=Z,3.1nm,0.7s,baz=130,slow=8.3,SNR=6.5						
	comp=Z,3.1nm,0.7s						
ARCES	ARCESS Array B	76.26	21	P	P	06 12 36.7	+1.6
	comp=Z,2.2nm,0.8s,baz=293,slow=4.7,SNR=1.9						
	comp=Z,2.2nm,0.8s						
VAE	Valguarnera	77.93	54	LR	LR	06 43 44.0	
	comp=Z,17nm,20.1s,baz=332,slow=33						
PZH	PanZhiHua	135.20	5	PKP	PKPdf	06 20 06.5	-0.8

KOLA 12 06:06:43.1, 67°.49N×19°.69E, h0km, ML2.6
NAO 12 06:06:43.5±1.4, 67°.37N×19°.83E, h16km±10km, ML2.7
IDC 12 06:06:44.7±2.0, 67°.35N×20°.04E, h20km±14km, mbtmp3.3/5, ML2.2/4, Error ellipse: s-maj=14.8km s-min=7.0km az=112.0
HEL 12 06:06:45.5±0.1, 67°.39N×19°.65E, h35km, ML2.3, ML2.7(UPP), Confirmed Earthquake
UPP 12 06:06:45.2±0.1, 67°.39N×19°.65E, h35km±1km, ML2.7, Confirmed Earthquake
BER 12 06:06:46.6±1.9, 67°.39N×19°.69E, h18km±4km, ML2.2, ML2.7(UPP), Confirmed Earthquake

ISC 12 06:06:44.7±1.1, 67°.38N±0°.02×19°.69E±0°.02, h33km±4km, n74, σ1.18/135, 5C-19D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.43	127	⇓P	Pn	06 06 55.0	+0.4
DUNU	Dundret	0.43	127	⇓iP	Pn	06 06 55.0	+0.4
DUNU	Dundret	0.43	127	⇓P	Pn	06 06 55.0	+0.4
RATU	Laukkuluspa	0.45	355	⇓P	Pn	06 06 54.8	0.0
RATU				S	Sn	06 07 02.0	+0.3
RATU	Laukkuluspa	0.45	355	⇓iP	Pn	06 06 54.8	0.0
RATU				iS	Sn	06 07 02.0	+0.3
RATU	Laukkuluspa	0.45	355	⇓P	Pn	06 06 54.8	0.0
RATU				S	Sn	06 07 02.0	+0.3
SALU	Saltoluokta	0.46	271	⇓P	Pb	06 06 54.8	+0.2
SALU				S	Sn	06 07 02.3	+0.3
SALU	Saltoluokta	0.46	271	⇓iP	Pb	06 06 54.8	+0.2
SALU				iS	Sn	06 07 02.3	+0.3
SALU	Saltoluokta	0.46	271	⇓P	Pb	06 06 54.8	+0.2
SALU				S	Sn	06 07 02.3	+0.3
NIKU	Nikkaluokta	0.55	333	⇓P	Pb	06 06 56.1	0.0
NIKU				S	Sn	06 07 04.4	+0.2
NIKU	Nikkaluokta	0.55	333	⇓iP	Pb	06 06 56.1	0.0
NIKU				iS	Sn	06 07 04.4	+0.2
NIKU	Nikkaluokta	0.55	333	⇓P	Pb	06 06 56.1	0.0
NIKU				S	Sn	06 07 04.4	+0.2
KUA	Kurravaara	0.63	23	⇑P	Pn	06 06 57.4	+0.2
KUA				S	Sn	06 07 06.6	+0.4
KUA	Kurravaara	0.63	23	⇑iP	Pn	06 06 57.4	+0.2
KUA				iS	Sn	06 07 06.6	+0.4
KUA	Kurravaara	0.63	23	⇑P	Pn	06 06 57.4	+0.2
KUA				S	Sn	06 07 06.6	+0.4
MASU	Masugnsbyn	0.89	84	P	Pb	06 07 01.7	0.0
MASU				S	Sb	06 07 14.2	+0.9
MASU	Masugnsbyn	0.89	84	eP	Pb	06 07 01.7	0.0
MASU				eS	Sb	06 07 14.2	+0.9
MASU	Masugnsbyn	0.89	84	P	Pb	06 07 01.7	0.0
MASU				S	Sb	06 07 14.2	+0.9
LANU	Lannavaara	1.10	51	⇑P	Pb	06 07 04.9	-0.4
LANU				S	Sb	06 07 19.9	+0.6
LANU	Lannavaara	1.10	51	eP	Pb	06 07 04.8	-0.4
LANU				eS	Sb	06 07 19.4	+0.1
LANU	Lannavaara	1.10	51	⇑P	Pb	06 07 04.9	-0.4
LANU				S	Sb	06 07 19.9	+0.6
ERTU	Ertsjaerv	1.28	129	⇓P	Pb	06 07 07.7	-0.6
ERTU				S	Sb	06 07 25.0	+0.7
ERTU	Ertsjaerv	1.28	129	eP	Pb	06 07 07.6	-0.6
ERTU	Ertsjaerv	1.28	129	⇓P	Pb	06 07 07.7	-0.6
ERTU				S	Sb	06 07 25.0	+0.7
HARU	Harads	1.32	157	⇓P	Pb	06 07 08.2	-0.7
HARU				S	Sb	06 07 25.7	+0.3
HARU	Harads	1.32	157	⇓eP	Pb	06 07 08.2	-0.7
HARU				eS	Sb	06 07 25.7	+0.3
HARU	Harads	1.32	157	⇓P	Pb	06 07 08.2	-0.7
HARU				S	Sb	06 07 25.7	+0.3
PAJU	Pajala	1.38	103	⇓P	Pb	06 07 08.8	-1.1
PAJU				S	Sb	06 07 27.0	-0.1
PAJU	Pajala	1.38	103	eP	Pb	06 07 08.8	-1.1
PAJU				eSB	Sb	06 07 27.0	-0.1
PAJU	Pajala	1.38	103	⇓P	Pb	06 07 08.8	-1.1
PAJU				S	Sb	06 07 27.0	-0.1
KLF	Kolari	1.66	93	eP	Pn	06 07 12.8	+1.4
KLF				eS	Sb	06 07 33.6	-1.6
KLF	Kolari	1.66	93	eP	Pn	06 07 12.8	+1.4
KLF				eS	Sb	06 07 33.6	-1.6
KIF	Kilpisjarvi	1.69	14	Pn	Pn	06 07 13.2	+1.4
KIF				Sn	Sb	06 07 34.0	-1.8
KIF	Kilpisjarvi	1.69	14	eP	Pn	06 07 13.0	+1.3
KIF				eS	Sn	06 07 33.6	+1.5
KIF				MSG		06 07 38.4	
	comp=Z,32nm,0.1s						
FAUS	Fauske	1.70	272	eP	Pn	06 07 13.2	+1.2
FAUS				eS	Sb	06 07 35.8	-0.6
FAUS				IAML		06 07 38.8	
	comp=Z,57nm,0.4s						
STEI	Steigen	1.79	290	Pn	Pn	06 07 13.2	0.0
STEI				Sn	Sb	06 07 38.3	-0.5
STEI	Steigen	1.79	290	eP	Pn	06 07 13.5	+0.3
STEI				eSB	Sb	06 07 38.3	-0.5
STEI	Steigen	1.79	290	eP	Pn	06 07 13.8	+0.6
STEI				eS	Sn	06 07 34.8	+0.1
STEI				IAML		06 07 39.8	
	comp=Z,25nm,0.3s						
HEF	Hetta	1.82	54	Pn	Pn	06 07 15.0	+1.4
HEF				Sn	Sb	06 07 38.1	-1.6
HEF	Hetta	1.82	54	eP	Pn	06 07 15.0	+1.4
HEF				eS	Sb	06 07 37.9	-1.8
HEF				MSG		06 07 40.2	
	comp=Z,46nm,0.1s						
KTK1	Kautokeino	2.11	37	Pn	Pn	06 07 19.0	+1.4
KTK1				Sn	Sn	06 07 44.2	+1.6
KTK1	Kautokeino	2.11	37	eP	Pn	06 07 18.9	+1.4
KTK1				eS	Sn	06 07 44.2	+1.6
KTK1	Kautokeino	2.11	37	eP	Pn	06 07 19.0	+1.4
KTK1				eS	Sn	06 07 44.0	+1.4
KTK1				IAML		06 07 55.0	
	comp=Z,22nm,0.5s						
JETT	Jettan, Norway	2.21	7	Pn	Pn	06 07 19.7	+0.8
JETT				Sn	Sn	06 07 45.2	+0.2
JETT				Lg	Lg	06 07 53.9	
JETT	Jettan, Norway	2.21	7	eP	Pn	06 07 20.4	+1.4
JETT				eS	Sn	06 07 45.5	+0.4
JETT				IAML		06 07 58.6	
	comp=Z,77nm,0.4s						
TOF	Tornio	2.25	123	eP	Pn	06 07 20.5	+1.0
TOF				eS	Sn	06 07 47.6	+1.5
TOF				MSG		06 07 56.8	
	comp=Z,8.6nm,0.1s						
TRO	Tromso	2.28	353	Pn	Pn	06 07 21.3	+1.4
TRO				Sn	Sn	06 07 47.4	+0.5
TRO	Tromso	2.28	353	eP	Pn	06 07 21.4	+1.4
TRO				eS	Sn	06 07 47.0	+0.1
MOR8	Moi Rana	2.41	242	Pn	Pn	06 07 21.7	0.0
MOR8				Sn	Sn	06 07 52.9	+2.9
MOR8				Lg	Lg	06 08 00.7	
MOR8	Moi Rana	2.41	242	eP	Pn	06 07 21.7	0.0
MOR8				e		06 07 53.7	
MOR8				IAML		06 08 01.2	
	comp=Z,24nm,0.2s						
RNF	Rovaniemi	2.60	104	eP	Pn	06 07 25.3	+1.0
SGF	Sodankyl	2.64	85	eP	Pn	06 07 25.2	+0.4
SGF				eS	Sn	06 07 57.0	+1.3
BURU	Burvik	2.89	165	eP	Pn	06 07 30.6	+2.4
ARA0	ARCESS Array S	3.05	42	Pn	Pn	06 07 30.7	+0.2
	baz=228,slow=14						
ARA0				Sn	Sn	06 08 06.5	+0.8
	baz=228,slow=28						
ARA0				Lg	Lg	06 08 19.1	
	baz=218,slow=22						
ARA0	ARCESS Array S	3.05	42	eP	Pn	06 07 30.7	+0.2
ARCES	ARCESS Array B	3.05	42	Pn	Pn	06 07 30.6	+0.2
	comp=Z,0.5nm,0.3s,baz=223,slow=14,SNR=64						
ARCES				Sn	Sn	06 08 05.9	+0.1
	comp=Z,1.4nm,0.3s,baz=221,slow=22,SNR=3.2						
ARCES				Lg	Lg	06 08 18.8	
	comp=Z,3.3nm,0.3s,baz=225,slow=23,SNR=5.6						
	comp=Z,1.3nm,0.3s						
ARCES	ARCESS Array B	3.05	42	P	Pn	06 07 30.7	+0.2
ARCES				S	Sn	06 08 07.3	+1.6
UMAU	Umeaa	3.53	173	eP	Pn	06 07 38.5	+1.4
HAMF	Hammerfest	3.58	22	Pn	Pn	06 07 39.0	+1.3
HAMF				Pg	Pb	06 07 48.5	+1.3
HAMF				Sn	Sn	06 08 19.4	+0.6
HAMF				Lg	Lg	06 08 35.7	
KEV	Kevo	3.59	45	Pn	Pn	06 07 38.3	+0.4
KEV				Pg	Pb	06 07 47.1	-0.3
KEV				Sn	Sn	06 08 18.2	-0.9
KEV				Lg	Lg	06 08 32.0	
NSS	Namsos	4.26	231	eP	Pn	06 07 48.2	+1.1
NSS				eS	Sn	06 08 36.1	+0.5
APA0	Apatity Array	5.12	81	Pn	Pn	06 07 57.8	-1.0
	baz=290,slow=11						
APA0				Sn	Sn	06 08 52.9	-3.7
	baz=270,slow=22						
APA0				Lg	Lg	06 09 22.4	
	baz=284,slow=28						
APA0	Apatity Array	5.12	81	P	Pn	06 07 59.3	+0.5
APA0				S	Sn	06 08 57.5	+0.9
APA	Apatity	5.28	82	S	Sn	06 09 01.0	+0.4
TERR	Teriberka	6.00	65	S	Sn	06 09 14.9	-3.5
FIA0	FINESS Array S	6.56	152	Pn	Pn	06 08 19.8	+1.0
	baz=341,slow=14						
FIA0				Sn	Sn	06 09 29.7	-2.6
	baz=345,slow=28						
FIA0				Lg	Lg	06 10 06.3	
	baz=340,slow=37						
FINES	FINESS Array B	6.56	152	Pn	Pn	06 08 19.7	+1.0
	comp=Z,0.2nm,0.3s,baz=344,slow=12,SNR=12						
FINES				Sn	Sn	06 09 30.7	-1.5
	comp=Z,0.5nm,0.3s,baz=344,slow=23,SNR=5.8						
FINES				Lg	Lg	06 10 06.8	
	comp=Z,0.5nm,0.3s,baz=341,slow=28,SNR=3.5						
	comp=Z,1.6nm,0.8s						
NB2	NORSAR Subarra	7.35	214	Pn	Pn	06 08 30.0	+0.4
NB2				Sn	Sn	06 09 46.9	-4.8
NOA	NORSAR Array B	7.35	214	Pn	Pn	06 08 29.5	0.0
	baz=27,slow=14,SNR=1.2						
NOA				Lg	Lg	06 10 36.8	
	comp=Z,0.1nm,0.3s,baz=42,slow=25,SNR=4.5						
	comp=Z,0.6nm,0.9s						
NRA0	NORESS Array S	7.56	212	Pn	Pn	06 08 32.6	+0.3
	baz=26,slow=14						
NRA0				Sn	Sn	06 09 52.7	-4.0
	baz=26,slow=28						
HFS	Hagfors	7.74	203	Pn	Pn	06 08 34.8	-0.1
	baz=16,slow=12						
HFS	Hagfors	7.74	203	Pn	Pn	06 08 34.9	+0.1
	comp=Z,0.2nm,0.3s,baz=15,slow=13,SNR=1.1						
HFS				Sn	Sn	06 09 58.2	-3.0
	comp=Z,0.4nm,0.3s,baz=17,slow=26,SNR=5.9						
HFS				Lg	Lg	06 10 42.7	
	comp=Z,0.4nm,0.3s,baz=14,slow=24,SNR=2.3						
	comp=Z,0.4nm,0.3s						
SPA0	Spitsbergen Ar	10.90	356	Pn	Pn	06 09 17.7	-0.4
	baz=166,slow=12						
SPITS	Spitsbergen Ar	10.90	356	Pn	Pn	06 09 17.8	-0.2
	comp=Z,9.7nm,0.9s,baz=163,slow=15,SNR=2.1						

TAP 12 06:11:20.9, 24°.14N×122°.12E, h41km, ML2.7, C
JMA 12 06:11:20.7±0.1, 24°N±2°×122°.1E±0°.3, h38km, MV2.0/9, TAIWAN REGION

ISC 12 06:11:20.9±1.0, 24°.08N±0°.03×122°.11E±0°.02, h32km±9km, n37, σ0.62/71, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EHP	Heping Village	0.41	304	eP	Pb	06 11 30.2	+0.2
	baz=296						
TWD	Chiawan	0.47	270	P	Pb	06 11 31.1	+0.1
	baz=255						
TWD				iS	Sn	06 11 38.9	+0.4
	baz=255						
NACB	Ninganchiao	0.48	281	P	Pb	06 11 30.8	-0.3
	baz=266						
NACB				S	Sn	06 11 39.3	+0.5
	baz=266						
ENA	Nanau	0.48	316	iP	Pb	06 11 31.2	0.0
	baz=319						
ENA				S	Sb	06 11 39.0	+0.8
	baz=319						
ETM	Tongmen	0.57	258	P	Pb	06 11 32.5	-0.2
	baz=250						
ETM				S	Sb	06 11 41.3	+0.6
	baz=250						
TWC	Suao	0.58	336	P	Pb	06 11 32.0	-0.6
	baz=339						
TWC				eS	Sb	06 11 39.4	-1.4
	baz=339						
ETLH	Xiulin Townshi	0.59	282	P	Pb	06 11 32.6	-0.3
	baz=277						
ETLH				S	Sb	06 11 41.5	+0.4
	baz=277						
ESL	Shilin	0.67	247	iP	Pb	06 11 34.1	-0.2
	baz=242						
ESL				S	Sb	06 11 43.4	0.0
	baz=242						
LATG	Datong	0.70	310	P	Pb	06 11 34.6	-0.1
	baz=306						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LATG				S	Sb	06 11 44.0	-0.3
	baz=306						
ENTT	Nioudou	0.74	318	P	Pb	06 11 34.8	-0.7
	baz=307						
ENTT				S	Sb	06 11 44.9	-0.5
	baz=307						
EGFH	Guangfu	0.75	237	P	Pb	06 11 34.5	-1.0
	baz=226						
EGFH				S	Sb	06 11 45.9	+0.5
	baz=226						
NNSB	Datong	0.75	298	P	Pb	06 11 35.3	-0.3
	baz=293						
NNSB				S	Sb	06 11 45.8	+0.2
	baz=293						
NNSH	Datong	0.75	298	eP	Pb	06 11 34.2	-1.4
	baz=293						
NNSH				eS	Sb	06 11 44.8	-0.8
	baz=293						
TWE	Neicheng	0.75	328	P	Pb	06 11 35.5	-0.1
	baz=325						
TWE				eS	Sn	06 11 46.5	+0.9
	baz=325						
NNS	Nan Shan	0.76	298	P	Pb	06 11 35.0	-0.9
	baz=294						
NNS				S	Sb	06 11 45.1	-0.9
	baz=294						
WHF	Hehuan Shan	0.77	275	P	Pb	06 11 35.9	-0.4
	baz=260						
WHF				i S	Sb	06 11 46.9	+0.2
	baz=260						
FUSB	Fushanzhiwuyua	0.82	325	i P	Pb	06 11 36.9	0.0
	baz=315						
FUSB				S	Sb	06 11 47.7	-0.1
	baz=315						
JYNG	Yonagunijimaku	0.85	64	P	Pn	06 11 36.6	0.0
JYNG				eS	Sb	06 11 47.9	-0.4
CHGB	Renai	0.85	269	P	Pb	06 11 37.1	-0.4
	baz=255						
CHGB				S	Sb	06 11 48.6	-0.2
	baz=255						
HGSD	Ruisui	0.86	227	P	Pn	06 11 37.4	+0.6
	baz=218						
HGSD				i S	Sb	06 11 48.6	0.0
	baz=218						
NWLT	Wulai	0.89	321	i P	Pn	06 11 36.9	-0.3
	baz=318						
NWLT				S	Sb	06 11 48.5	-0.9
	baz=318						
YHNB	Yeheng	0.89	311	P	Pn	06 11 37.5	+0.2
	baz=308						
YHNB				S	Sb	06 11 48.7	-0.8
	baz=308						
YOJ	Yonaguni jima	0.91	65	i P	Pn	06 11 37.4	0.0
	baz=68						
YOJ				S	Sb	06 11 49.3	-0.6
	baz=68						
YOJ	Yonaguni jima	0.91	65	P	Pn	06 11 37.4	0.0
YOJ				eS	Sb	06 11 49.5	-0.4
WUSB	Renai	0.91	265	P	Pn	06 11 37.9	+0.3
	baz=261						
WUSB				S	Sb	06 11 49.8	-0.5
	baz=261						
EHY	Hungye	0.92	232	i P	Pn	06 11 37.6	0.0
	baz=229						
EHY				S	Sb	06 11 50.2	-0.1
	baz=229						
TIPB	Shuangxi	0.92	344	P	Pn	06 11 38.2	+0.5
	baz=347						
TIPB				eS	Sb	06 11 50.1	-0.4
	baz=347						
VWDT	VWDT	0.94	250	eP	Pn	06 11 38.6	+0.7
	baz=237						
VWDT				S	Sb	06 11 51.0	0.0
	baz=237						
ECBN	Changbin	0.97	218	eP	Pn	06 11 37.1	-1.3
	baz=207						
ECBN				eS	Sn	06 11 49.9	-1.1
	baz=207						
YULB	Yu-li	1.01	227	P	Pn	06 11 38.6	-0.3
	baz=237						
YULB				S	Sn	06 11 52.0	0.0
	baz=237						
SSLB	Suanglung	1.10	255	P	Pn	06 11 40.6	+0.5
	baz=252						
SSLB				i S	Sn	06 11 54.4	+0.3
	baz=252						
WHYT	Xinyi Township	1.21	252	eP	Pn	06 11 43.2	+1.5
	baz=241						
WHYT				eS	Sb	06 11 58.8	+0.1
	baz=241						
IRIF	Iriomote-Funau	1.50	80	eP	Pn	06 11 45.8	+0.2
IRIF				eS	Sn	06 12 04.6	+0.5
HATJ	Hateruma jima	1.55	91	eS	Sn	06 12 06.4	+1.1
JKRS	Kuro-shima	1.74	85	P	Pn	06 11 49.9	+1.0
JKRS				eS	Sn	06 12 11.4	+1.4
JIJ	Ishigaki jima	1.88	81	P	Pn	06 11 51.1	+0.3
JIJ				eS	Sn	06 12 13.2	-0.2
JISG	Ishigakijimahi	2.07	76	S	Sn	06 12 18.3	+0.1

*INET **12** 06:20:14.1±0.5, 12°.37N×86°.50W, h5km±1km, MW3.5*
*SNET **12** 06:20:15.1±1.2, 12°.31N×86°.57W, h10km±12km, ML3.3*
ISC 12 06:20:14.1±1.2**, 12°.40N**±0°.04×**86°.47W**±0°.03**, h8**km±8km**, n21,** σ**0^{s}78**/26**, Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOMN	Momotombo	0.07	278	eP	Pg	06 20 16.1	+0.1
CNGN	Cerro Negro	0.24	294	eP	Pg	06 20 19.6	+0.6
COPN	Copaltepe	0.25	209	eP	Pg	06 20 19.0	-0.1
HUEN		0.30	102	eP	Pg	06 20 21.3	+1.3
MGAN	Managua	0.33	139	eP	Pg	06 20 21.0	+0.4
MGAN				eP	Pg	06 20 21.0	+0.4
BRAN	Las Pilas	0.34	20	eP	Pg	06 20 19.9	-0.8
WILN	Americas 2	0.36	131	eP	Pg	06 20 21.9	+0.6
CRUN	El Crucero	0.45	158	eP	Pg	06 20 17.5	-5.2
CRIN	San Cristobal	0.64	298	eP	Pg	06 20 26.6	+0.1
MATN	Matagalpa	0.75	45	eP	Pg	06 20 28.8	+0.3
BOAB	BOACO BROADBAN	0.79	86	eP	Pg	06 20 29.2	0.0
ACON	Acoyapa	1.34	109	eP	Pn	06 20 37.5	-1.5
CNCH	Conchagua	1.59	303	eP	Pn	06 20 42.0	-0.6
CNCH				eS	Sg	06 21 04.7	-0.5
CNCH				IAML		06 21 09.1	
	comp=Z,1μm,0.4s						
LCND	La Caada	1.65	303	eP	Pn	06 20 42.7	-0.7
LCND				IAML		06 21 11.0	
	comp=Z,248nm,0.3s						
TGUH	Tegucigalpa,Un	1.82	335	eP	Pn	06 20 46.7	+0.8
TGUH				eS	Sn	06 21 11.0	+1.7
ALJI	Alcalda de J	2.25	294	eS	Sn	06 21 19.9	+0.4
COEG	Centro de Oper	2.64	298	eP	Pn	06 20 57.7	+0.6
COEG				eS	Sn	06 21 29.4	0.0
COEG				IAML		06 21 37.1	
	comp=Z,69nm,0.5s						
P5NO	Presa 5 de nov	2.73	306	eP	Pn	06 20 57.8	-0.4
PAVA	Las Pavas	2.73	299	eP	Pn	06 20 58.6	+0.2
SJTE	Alcalda de S	2.75	296	eP	Pn	06 20 59.1	+0.5
SJTE				eS	Sn	06 21 32.4	+0.3
NUBE	Las Nubes	3.55	295	eP	Pn	06 21 09.5	-0.2
NUBE				eS	Sn	06 21 50.8	-1.2

*OSPL **12** 06:39:05.9±1.4, 18°.47N×74°.17W, h0km±16km, ML2.0*
*SSNC **12** 06:39:09.7±2.7, 18°.50N×74°.26W, h7km±180km, MD3.0, ML1.8*
ISC 12 06:39:03.0±2.2**, 18°.5N**±0°.1×**74°.19W**±0°.08**, h8**km±16km**, n9,** σ**0^{s}49**/14**, Haiti region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LGNH	Logne	1.50	90	i P	Pb	06 39 31.3	+0.1
LGNH				eS	Sb	06 39 50.6	+0.2
LGNH				IAML		06 39 55.0	
	comp=Z,14nm,1.0s						
MASC	Masc	1.66	359	eP	Pb	06 39 34.1	+0.3
MASC				eS	Sb	06 39 54.1	-0.7
MASC				IAML		06 39 58.5	
	comp=N,7.5nm,0.4s						
MASC				IAML		06 39 58.9	
	comp=E,12nm,0.3s						
MASC	Masc	1.66	359	i P	Pb	06 39 34.3	+0.5
MASC				eS	Sg	06 39 55.9	-0.3
MASC				IAML		06 40 00.7	
	comp=Z,15nm,1.5s						
GTBY	Guantanamo Bay	1.66	328	eP	Pg	06 39 34.5	-0.3
GTBY	Guantanamo Bay	1.66	328	i P	Pg	06 39 34.8	+0.1
GTBY				eS	Sg	06 39 57.0	+0.7
GTBY				IAML		06 39 59.1	
	comp=Z,10nm,1.1s						
PAPH	Port-au-Prince	1.79	89	i P	Pb	06 39 35.8	-0.3
PAPH				eS	Sb	06 39 59.1	+0.3
PAPH				IAML		06 40 02.3	
	comp=Z,21nm,0.5s						
MOAC	Moa	2.26	341	eP	Pb	06 39 44.5	+0.4
LOPE2	Hotel El Peder	2.37	101	eS	Sn	06 40 12.0	+0.5
LOPE2				IAML		06 40 18.7	
	comp=Z,12nm,0.7s						
CCCC	Cccc	4.30	309	eP	Pn	06 40 08.3	-0.5

*NIED **12** 07:01:07.2, 38°.71N×142°.25E, h38km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.14; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$-1.68; $M_{r\theta}$0.98; $M_{\theta\phi}$-0.69; $M_{\phi r}$1.77; Fault plane solution: $M_0$2.90000×10^{14} NP1: ϕ_s202.00000°, δ23.00000°, λ85.00000°. NP2:ϕ_s28.00000°, δ67.00000°, λ92.00000°.*
JMA 12 07:01:07.2±0.1**, 38°.7N**±0°.3×**142°.3E**±0°.7**, h38**km±1km**, MV3.8**/32**, 12D, E OFF MIYAGI PREF, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.58	309	⇓iP	Pn	07 01 19.0	-0.1
OFUJ				⇓S	Sn	07 01 27.2	-0.1
JKMT	Kesennumamotoy	0.61	279	⇓iP	Pn	07 01 19.4	-0.1
JKMT				⇓S	Sn	07 01 27.7	-0.3
JIKH	Ishinomakikobu	0.73	237	⇓iP	Pn	07 01 20.9	-0.1
JIKH				⇓iS	Sn	07 01 30.6	-0.4
JIO	Ouri	0.75	250	⇓iP	Pn	07 01 21.1	-0.1
JIO				⇓S	Sn	07 01 30.7	-0.6
JMK	Ichinoseki	0.84	287	⇓iP	Pn	07 01 22.7	+0.3
JMK				⇓eS	Sn	07 01 33.7	+0.2
JOM	Ohasama	1.06	316	⇓iP	Pn	07 01 26.0	+0.5
JOM				⇓S	Sn	07 01 39.6	+0.6
JOU	Okura	1.29	255	P	Pn	07 01 29.1	+0.5

*MAN **12** 07:28:09.5, 8°.85N×126°.40E, h5km, mb4.8, ML3.7, MS3.6*
*IDC **12** 07:28:16.6±3.0, 8°.79N×126°.35E, h90km±31km, mb3.7/10, mbtmp4.1/10, MS3.1/10, Error ellipse: s-maj=43.0km s-min=19.2km az=77.0*
ISC 12 07:28:07.0±1.6**, 8°.84N**±0°.03×**126°.41E**±0°.06**, h6**km±10km**, n46,** σ**1^{s}47**/42**, mb4.1**/11**, MS2.9**/8**, 12C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.66	184	⇑iP	Pn	07 28 22.1	-0.8
BIPH				i S	Sb	07 28 30.0	-0.3
GLSP	General Luna,	0.97	344	⇑iP	Pn	07 28 27.3	0.0
GLSP				eS	Sn	07 28 41.5	0.0
CGP	Cagayan de Oro	1.74	257	⇑iP	Pg	07 28 40.2	-0.2
CGP				i S	Sg	07 29 02.8	-0.1
MATI	Mati	1.89	184	⇑eP	Pb	07 28 41.6	-0.4
MATI				eS	Sg	07 29 07.7	-0.2
DAV	Davao City (W)	1.94	205	P	Pg	07 28 45.6	+1.2
	346nm,0.5s,baz=348,slow=4.1,SNR=5.2						
DAV				S	Sg	07 29 11.1	+1.6
	421nm,0.3s,baz=271,slow=21,SNR=6.0						
MSLP	Maasin	1.99	310	⇓eP	Pg	07 28 45.2	-0.1
MSLP				eS	Sg	07 29 11.5	+0.3
KCP	Kidapawan	2.24	216	⇑iP	Pb	07 28 48.2	+0.2
KCP				i S	Sb	07 29 16.7	+0.7
TBP	Tagbilaran	2.65	289	⇓eP	Pb	07 28 53.1	-1.8
TBP				i S	Sb	07 29 26.3	-1.4
CTBH	Cotabato--PC H	2.68	233	⇓eP	Pb	07 28 54.2	-1.2
DDMP	Don Marcelino,	2.81	194	⇑iP	Pb	07 28 56.2	-1.4
DDMP				eS	Sb	07 29 33.0	+0.8
LLP	Lapu-Lapu	2.82	302	eP	Pb	07 28 57.7	-0.1
LLP				eS	Sb	07 29 31.5	-1.0
OCLP	Ormoc	2.82	321	⇑iP	Pb	07 28 56.9	-0.9
SKMP	Bagumbayan, Su	2.96	219	⇑iP	Pg	07 29 01.8	-2.0
PAGZ	Pagadian	3.15	252	⇓eP	Pb	07 29 02.0	-1.5
SNPH	Sibulan	3.17	279	eP	Pn	07 28 58.5	+0.9
SNPH				eS	Sn	07 29 37.9	+2.1
CNOP	Candoni, Negro	3.84	285	⇓eP	Pn	07 29 10.0	+3.2
CNP	Catarman	4.03	335	⇑eP	Pn	07 29 11.5	+2.2
CNP				eS	Sn	07 29 55.2	-1.6
RCP	Roxas	4.50	307	⇑eP	Pn	07 29 20.5	+4.7
PVCP	Virac	5.21	335	⇑eP	Pn	07 29 29.9	+4.3
PVCP				eS	Sn	07 30 26.7	+0.6
OTRP	Odiongan	5.55	309	⇑eP	Pn	07 29 34.7	+4.4
I39PW	PALAU INFRASON	8.16	99	I		08 20 10.0	
	baz=280,slow=298,SNR=0.5						
KAPI	Kappang	15.28	206	LR	LR	07 37 58.5	
	comp=Z,54nm,21.7s,baz=71,slow=38						
JOW	Kunigami	17.98	5	LR	LR	07 37 55.0	
	comp=Z,58nm,19.9s,baz=356,slow=32						
LEM	Lembang	24.35	231	LR	LR	07 43 03.5	
	comp=Z,35nm,19.5s,baz=210,slow=36						
JHJ	Hachijo jima 2	27.14	25	LR	LR	07 43 28.2	
	comp=Z,42nm,20.8s,baz=284,slow=34						
KSRS	Korea Array	28.52	3	LR	LR	07 47 23.1	
	comp=Z,25nm,18.4s,baz=165,slow=40						
WRA	Warramunga Arr	29.65	165	P	P	07 34 12.6	-1.0
	0.6nm,0.8s,baz=348,slow=9.4,SNR=3.1						
WRA				LR	LR	07 47 00.7	
	comp=Z,20nm,19.9s,baz=268,slow=38						
	0.6nm,0.8s						
ASAR	Alice Springs	33.13	167	P	P	07 34 43.9	-0.4
	0.3nm,0.7s,baz=348,slow=6.9,SNR=5.1						
	0.3nm,0.7s						
USRK	Ussuriysk Ar.	35.56	7	P	P	07 35 05.8	+0.7
	5.2nm,0.8s,baz=192,slow=8.6,SNR=12						
	5.2nm,0.8s						
H11S3	WAKE ISLAND Hy	40.22	72	T	T	08 18 40.5	
	baz=262,slow=75,SNR=433						
H11S1	WAKE ISLAND Hy	40.23	72	T	T	08 18 40.9	
	baz=262,slow=75,SNR=222						
H11S2	WAKE ISLAND Hy	40.23	72	T	T	08 18 41.6	
	baz=262,slow=75,SNR=255						
KLR	Kul'dur	40.50	5	LR	LR	07 51 41.7	
	comp=Z,17nm,21.3s,baz=146,slow=35						
H11N1	WAKE ISLAND Hy	40.59	70	T	T	08 19 15.6	
	baz=266,slow=75,SNR=95						
H11N2	WAKE ISLAND Hy	40.60	70	T	T	08 19 15.4	
	baz=266,slow=75,SNR=76						
H11N3	WAKE ISLAND Hy	40.61	70	T	T	08 19 16.2	
	baz=266,slow=75,SNR=147						
STKA	Stephens Creek	43.02	161	P	P	07 36 10.5	+3.0
	1.3nm,0.5s,baz=304,slow=9.0,SNR=3.8						
MKAR	Makanchi Array	53.24	323	P	P	07 37 25.4	-1.1
	1.6nm,0.7s,baz=134,slow=6.9,SNR=8.2						
	1.6nm,0.7s						
ZALV	Zalesovo Beam	55.94	332	P	P	07 37 44.3	-1.6
	0.5nm,0.4s,baz=120,slow=8.5,SNR=2.1						
	0.5nm,0.4s						
AAK	Ala-Archa	56.43	316	LR	LR	08 05 35.2	
	comp=Z,28nm,18.4s,baz=112,slow=40						
TIXI	Tiksi	62.77	1	P	P	07 38 32.5	-0.4
	2.3nm,0.3s,baz=50,slow=0.8,SNR=5.2						
	2.3nm,0.3s						
NRIK	Noril'sk	65.42	346	P	P	07 38 49.3	-1.0
	1.4nm,0.4s,baz=161,slow=5.3,SNR=4.4						
NRIK				LR	LR	08 11 09.7	
	comp=Z,26nm,18.8s,baz=126,slow=39						
	1.4nm,0.4s						
ILAR	Eielson Array	80.66	26	P	P	07 40 20.4	-0.2
	0.4nm,0.6s,baz=241,slow=5.0,SNR=5.0						
	0.4nm,0.6s						
ARCES	ARCESS Array B	85.57	340	P	P	07 40 45.8	-0.2
	2.1nm,0.8s,baz=80,slow=6.9,SNR=2.0						
	2.1nm,0.8s						
FINES	FINESS Array B	87.20	332	P	P	07 40 53.3	-0.8
	2.9nm,1.0s,baz=71,slow=6.5,SNR=7.1						
	2.9nm,1.0s						
NOA	NORSAR Array B	94.09	334	LR	LR	08 28 56.7	
	comp=Z,16nm,18.3s,baz=305,slow=39						

IDC 12 08:22:01.2±5.8**, 3°.94S**×**142°.52E, h0**km**, mb3.6**/2**, mbtmp3.7**/3**, ML3.6**/1**, Error ellipse: s-maj=205.5km s-min=56.5km az=130.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.80	206	P	Pn	08 26 10.7	+0.2
	0.2nm,0.3s,baz=25,slow=12,SNR=15						
	1.4nm,0.6s						
ASAR	Alice Springs	21.31	202	P	P	08 26 50.0	+0.3
	1.5nm,0.7s,baz=30,slow=10.0,SNR=18						
	1.5nm,0.7s						
VNDA	Vanda	74.25	176	P	P	08 33 39.3	-0.4
	0.6nm,0.6s,baz=329,slow=5.1,SNR=8.2						
	0.6nm,0.6s						
LPAZ	La Paz	143.64	124	PKP	PKPdf	08 41 40.7	+0.7
	0.8nm,0.6s,baz=190,slow=6.1,SNR=4.3						

*IDC **12** 08:47:25.1±1.0, 28°.12N×139°.13E, h511km±29km, mb3.0/5, mbtmp3.9/8, Error ellipse: s-maj=72.7km s-min=13.2km az=73.0*
*JMA **12** 08:47:26.6±0.2, 28°N±1°×14°0E±°, h528km, MV3.7/47, W OFF OGASAWARA*
ISC 12 08:47:25.9±0.9**, 28°.2N**±0°.1×**139°.7E**±0°.2**, h550**km**, n23,** σ**1^{s}21**/26**, mb3.6**/5**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.45	115	P	P	08 48 37.6	-0.2
CBIJ				S	S	08 49 34.3	-2.0
JCJ	Chichijima	2.45	115	P	P	08 48 37.3	-0.5
	31nm,0.5s,baz=3.7,slow=23,SNR=12						
JCJ				S	S	08 49 33.9	-2.4
	53nm,0.5s,baz=100,slow=24,SNR=8.0						
JHH2	Haha-jima-NKT2	2.68	124	P	P	08 48 39.5	+0.4
JHH2				S	S	08 49 37.2	-1.3
JHJ	Hachijo jima 2	4.95	1	P	P	08 48 53.6	-1.5
	125nm,0.8s,baz=74,slow=13,SNR=1.5						
BSO1	Boso 1	6.57	9	P	P	08 49 09.5	+0.5
BSO3	Boso 3	6.66	6	P	P	08 49 10.8	+0.6
JIE	Ise	6.72	338	P	P	08 49 11.1	0.0
JKN2	Miekihoku	6.73	335	P	P	08 49 10.4	-0.8
JOD2	Odawara 2	7.11	356	P	P	08 49 14.2	-0.6
JNY	Yasuok	7.35	348	P	P	08 49 17.0	-0.2
JAO	Obara	7.39	344	P	P	08 49 17.7	+0.1
JHU	Hanno	7.68	357	P	P	08 49 19.0	-1.3
JRY	Ryogami san	7.87	355	P	P	08 49 21.4	-0.8
JAG	Ashikaga	8.25	359	P	P	08 49 24.6	-1.4
MJAR	Matsushiro Arr	8.46	352	P	P	08 49 26.3	-1.7
	3.3nm,0.5s,baz=173,slow=11,SNR=13						
JHO	Hitachi	8.46	5	P	P	08 49 28.6	+0.5
JFK	Kawauchi	9.24	6	P	P	08 49 37.2	+1.3
JMK	Ichinoseki	10.84	6	P	P	08 49 54.1	+1.9
MKAR	Makanchi Array	48.10	309	P	P	08 55 15.2	-0.7
	0.4nm,0.6s,baz=90,slow=11,SNR=2.6						
	0.4nm,0.6s						
WRA	Warramunga Arr	48.10	187	P	P	08 55 17.3	+1.2
	0.8nm,0.4s,baz=1.1,slow=7.6,SNR=29						
	0.8nm,0.4s						
KURBB	Kurchatov Arra	50.72	314	P	P	08 55 34.5	-0.6
	1.3nm,0.5s,baz=91,slow=7.9,SNR=13						
	1.3nm,0.5s						
ASAR	Alice Springs	51.82	187	P	P	08 55 44.8	+1.4
	0.3nm,0.5s,baz=0.5,slow=4.9,SNR=9.4						
	0.3nm,0.5s						
FINES	FINESS Array B	76.01	333	P	P	08 58 17.7	+1.1
	3.7nm,1.1s,baz=59,slow=5.5,SNR=7.0						
	3.7nm,1.1s						

*IDC **12** 08:47:56.8±0.7, 28°.10N×139°.22E, h515km±16km, mb3.1/8, mbtmp4.0/12, Error ellipse: s-maj=36.6km s-min=11.7km az=77.0*
*JMA **12** 08:47:57.3±0.2, 28°N±1°×14°0E±°, h542km, MV3.9/50, W OFF OGASAWARA*
ISC 12 08:47:57.5±0.8**, 28°.1N**±0°.1×**139°.6E**±0°.1**, h550**km**, n27,** σ**1^{s}40**/30**, mb3.6**/8**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.54	113	P	P	08 49 09.4	-0.5
CBIJ				S	S	08 50 07.3	-1.5
JCJ	Chichijima	2.54	113	P	P	08 49 09.0	-0.9
	58nm,0.5s,baz=268,slow=24,SNR=8.3						
JCJ				S	S	08 50 05.2	-3.6
	77nm,0.4s,baz=302,slow=23,SNR=8.2						
JHH2	Haha-jima-NKT2	2.75	122	P	P	08 49 10.9	-0.2
JHH2				S	S	08 50 10.0	-1.0
JHJ	Hachijo jima 2	4.99	2	P	P	08 49 26.7	-0.4
	93nm,0.6s,baz=92,slow=22,SNR=6.2						
JTNC	Tanabenakahech	6.62	330	P	P	08 49 40.5	-1.2
JIE	Ise	6.72	339	P	P	08 49 42.8	+0.2
JKN2	Miekihoku	6.72	336	P	P	08 49 42.0	-0.6
JOD2	Odawara 2	7.14	357	P	P	08 49 45.1	-1.6
JNY	Yasuok	7.37	349	P	P	08 49 48.2	-0.7
JAO	Obara	7.39	345	P	P	08 49 49.2	+0.1
JTO	Tosashimizu	7.51	311	P	P	08 49 48.2	-2.0
JHU	Hanno	7.72	358	P	P	08 49 50.5	-1.7
JRY	Ryogami san	7.90	356	P	P	08 49 53.1	-1.0
JYT	Yasato	8.11	4	P	P	08 49 54.8	-1.2
JAG	Ashikaga	8.29	359	P	P	08 49 56.1	-1.8
MJAR	Matsushiro Arr	8.48	353	P	P	08 49 57.9	-2.0
	5.4nm,0.4s,baz=173,slow=11,SNR=19						
JHO	Hitachi	8.51	5	P	P	08 50 00.1	0.0
JFK	Kawauchi	9.29	6	P	P	08 50 08.7	+0.6
USRK	Ussuriysk Ar.	17.16	341	P	P	08 51 28.2	+0.8
	4.2nm,0.6s,baz=164,slow=9.4,SNR=11						
KLR	Kul'dur	21.92	346	P	P	08 52 12.3	+1.7
	1.0nm,0.5s,baz=182,slow=2.7,SNR=5.3						
	1.0nm,0.5s						
CMAR	Chiang Mai Arr	38.38	264	P	P	08 54 31.2	-1.0
	2.6nm,0.2s,baz=72,slow=6.7,SNR=4.0						
	2.6nm,0.2s						
MKAR	Makanchi Array	48.03	309	P	P	08 55 46.6	-0.4
	0.4nm,0.4s,baz=96,slow=7.6,SNR=2.7						
	0.4nm,0.4s						
WRA	Warramunga Arr	48.04	187	P	P	08 55 49.0	+1.7
	0.7nm,0.3s,baz=1.5,slow=7.6,SNR=16						
	0.7nm,0.3s						
KURBB	Kurchatov Arra	50.66	314	P	P	08 56 05.8	-0.4
	1.0nm,0.3s,baz=92,slow=7.3,SNR=11						
	1.0nm,0.3s						
ASAR	Alice Springs	51.77	187	P	P	08 56 16.2	+1.7
	0.2nm,0.3s,baz=0.9,slow=5.1,SNR=7.9						
	0.2nm,0.3s						
FINES	FINESS Array B	76.00	333	P	P	08 58 49.5	+1.4
	0.8nm,0.3s,baz=72,slow=5.2,SNR=9.7						
	0.8nm,0.3s						
NOA	NORSAR Array B	81.79	337	P	P	08 59 20.1	+1.2
	0.6nm,0.7s,baz=38,slow=5.0,SNR=1.4						
	0.6nm,0.7s						

KRSC 12 08:48:39.3±0.9**, 54°.47N**×**162°.70E, h44**km±22km**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	1.52	300	eP	Pn	08 49 05.2	+1.2
TUMD				eS	Sn	08 49 23.9	+1.3
TUMR	Tumrok	1.69	300	eP	Pn	08 49 08.2	+1.8
TUMR				eS	Sn	08 49 29.0	+2.2
KBTR	Krutoberegovo	1.75	2	eP	Pn	08 49 08.6	+1.5
KBG	Krutoberegovo	1.79	0	eP	Pn	08 49 11.3	+3.6
BZGR	Bezymyannyi-Gr	1.87	323	eP	Pn	08 49 11.0	+2.1
BZGR				eS	Sn	08 49 33.6	+2.3
ZLN	Zelenaya	1.89	326	eP	Pn	08 49 11.6	+2.4
ZLN				eS	Sn	08 49 34.4	+2.5
KMNR	Kamenistaya	1.91	313	eP	Pn	08 49 11.7	+2.2
KMNR				eS	Sn	08 49 35.8	+3.4
BZMR	Bezymyannaya	1.94	320	eP	Pn	08 49 11.6	+1.7
BZMR				eS	Sn	08 49 35.3	+2.2
BZWR	Bezymyannyi-We	1.96	321	eP	Pn	08 49 12.4	+2.2
BZWR				eS	Sn	08 49 36.2	+2.6
CIRR	Tsirk	1.99	327	eP	Pn	08 49 13.1	+2.5
CIRR				eS	Sn	08 49 37.8	+3.4
KIRR	Kirishev	2.01	319	eP	Pn	08 49 13.5	+2.7
KIRR				eS	Sn	08 49 38.6	+3.8
BKI	Bering	2.03	67	eS	Sn	08 49 36.7	+1.6
KPT	Kopyto	2.06	318	eP	Pn	08 49 13.9	+2.3
SPN	Mys Shipunski	2.10	230	eP	Pn	08 49 14.1	+2.2
SPN				eS	Sn	08 49 38.0	+1.3
KRSR	Krestovskiy	2.13	326	eP	Pn	08 49 14.7	+2.2
KLY	Klyuchi	2.19	329	eP	Pn	08 49 14.8	+1.7
KLY				eS	Sn	08 49 40.5	+1.6
SMKR	Semkarok	2.23	342	eP	Pn	08 49 16.5	+2.7
SMKR				eS	Sn	08 49 43.8	+3.6
BDR	Baidarnaya	2.27	339	eP	Pn	08 49 17.4	+3.1
BDR				eS	Sn	08 49 45.7	+4.6
KOZ	Kozyrevsk	2.27	316	eP	Pn	08 49 17.2	+2.9
KOZ				eS	Sn	08 49 45.0	+4.0
SRKR	Sorokina	2.36	339	eP	Pn	08 49 18.4	+2.9

NLC	**Nalytchevo**	**2.37**	**238**	*e*S		Sn	08 49 45.7 +2.2
SRDR	**Sredinnyy**	**2.51**	**319**	*e*P		Pn	08 49 20.1 +2.4
SRDR				*e*S		Sn	08 49 49.8 +2.7
SDLR	**Sedlovina**	**2.55**	**244**	*e*P		Pn	08 49 21.6 +3.3
SDLR				*e*S		Sn	08 49 51.8 +3.7
SMAR	**Somma**	**2.60**	**244**	*e*P		Pn	08 49 22.1 +3.0
SMAR				*e*S		Sn	08 49 52.8 +3.3
KRER	**Koryakskii**	**2.61**	**245**	*e*P		Pn	08 49 22.5 +3.4
KRER				*e*S		Sn	08 49 53.2 +3.5
UGLR	**Uglovaya**	**2.62**	**243**	*e*P		Pn	08 49 22.7 +3.5
UGLR				*e*S		Sn	08 49 53.5 +3.8
AVH	**Avacha**	**2.63**	**244**	*e*P		Pn	08 49 23.3 +3.9
AVH				*e*S		Sn	08 49 54.0 +3.9
KOK	**Koryaka**	**2.68**	**246**	*e*P		Pn	08 49 23.6 +3.6
ESO	**Esso**	**2.72**	**304**	*e*P		Pn	08 49 22.5 +2.1
DALK	**Dalny**	**2.75**	**240**	*e*P		Pn	08 49 24.2 +3.4
DALK				*e*S		Sn	08 49 56.0 +3.3
PET	**Petropavlovsk**	**2.80**	**241**	P		Pn	08 49 25.0 +3.4
PET				S		Sn	08 49 57.3 +3.2
GNL	**Ganaly**	**2.91**	**256**	*e*P		Pn	08 49 26.9 +3.8
KRMR	**Karymshinskiy**	**3.17**	**241**	P		Pn	08 49 30.4 +3.7
KRMR				S		Sn	08 50 07.3 +4.1
RUS	**Russkaya**	**3.23**	**233**	S		Sn	08 50 07.4 +2.9
MTVR	**Mutnovka**	**3.35**	**235**	*e*P		Pn	08 49 32.6 +3.4
MTVR				S		Sn	08 50 10.8 +3.0
GRL	**Gorelyy**	**3.36**	**237**	*e*P		Pn	08 49 33.2 +3.8
ASAK	**Asacha**	**3.55**	**236**	P		Pn	08 49 36.1 +4.2
ASAK				S		Sn	08 50 17.5 +4.9
APC	**Apacha**	**3.64**	**247**	P		Pn	08 49 37.7 +4.7
OSSR	**Ossora**	**4.80**	**2**	P		Pn	08 49 52.9 +4.0

PRU ***12*** *09:04:08.7±0.0, 42°.83N×13°.86E, h10km*
ROM 12 09:04:07.9±0.1, 42°.901N±0°.003×13°.176E±0°.005, h8km, ML3.2/47, 7C-16D, Error ellipse: s-maj=0.4km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.05**	**168**	⇑P		Pg	09 04 09.8	0.0
T1245				S		Sg	09 04 11.0	-0.1
T1245				AML		AML		
T1245				AML		AML		
NRCA	**Norcia**	**0.08**	**214**	⇑P		Pg	09 04 10.5	+0.4
NRCA				S		Sg	09 04 12.3	+0.6
NRCA				AML		AML		
	comp=N,99500μm,0.3s							
NRCA				AML		AML		
	comp=E,75750μm,0.8s							
NRCA				AML		AML		
	comp=E,79500μm,1.1s							
NRCA				AML		AML		
	comp=N,99550μm,0.3s							
NRCA				AML		AML		
NRCA				AML		AML		
	comp=E,75750μm,0.8s							
MMO1	**Montemonaco**	**0.11**	**91**	P		Pg	09 04 10.9	+0.3
MMO1				S		Sg	09 04 12.9	+0.6
T1256	**Bolognola (MC)**	**0.11**	**19**	P		Pg	09 04 10.7	+0.1
T1256				S		Sg	09 04 12.9	+0.4
T1256				AML		AML		
	comp=E,25500μm,0.8s							
T1256				AML		AML		
	comp=N,25950μm,0.5s							
T1256				AML		AML		
	comp=N,24300μm,0.5s							
T1256				AML		AML		
	comp=N,24250μm,0.5s							
T1256				AML		AML		
	comp=N,26000μm,0.5s							
T1256				AML		AML		
	comp=E,25550μm,0.8s							
T1256				AML		AML		
	comp=E,26050μm,0.8s							
T1216	**Preci, Frazion**	**0.12**	**265**	⇓P		Pg	09 04 11.1	+0.6
T1216				S		Sg	09 04 13.4	+1.0
T1216				AML		AML		
	comp=E,79750μm,0.3s							
T1216				AML		AML		
	comp=N,51650μm,0.4s							
T1216				AML		AML		
	comp=E,79800μm,0.3s							
T1216				AML		AML		
	comp=N,51650μm,0.4s							
CSP1	**Cessapalombo**	**0.19**	**6**	AML		AML		
	comp=E,10850μm,1.3s							
CSP1				AML		AML		
	comp=N,12225μm,1.5s							
T1241	**Roccafluvione,**	**0.19**	**103**	⇑P		Pg	09 04 12.6	+0.7
T1241				S		Sg	09 04 16.0	+1.4
T1241				AML		AML		
	comp=E,19050μm,0.5s							
T1241				AML		AML		
	comp=N,15650μm,0.7s							
T1241				AML		AML		
	comp=N,14350μm,0.7s							
T1241				AML		AML		
	comp=E,19050μm,0.7s							
T1241				AML		AML		
	comp=N,15700μm,0.7s							
T1219	**Muccia, Frazio**	**0.20**	**321**	⇓P		Pg	09 04 12.4	+0.5
T1219				S		Sg	09 04 16.5	+1.7
T1219				AML		AML		
	comp=N,9110μm,0.4s							
T1219				AML		AML		
	comp=N,9090μm,0.4s							
T1219				AML		AML		
	comp=E,8215μm,0.3s							
GUMA	**Gualdo di Mace**	**0.20**	**36**	⇑P		Pg	09 04 12.8	+0.8
GUMA				S		Sg	09 04 16.8	+2.0
GUMA				AML		AML		
	comp=N,31700μm,0.9s							
GUMA				AML		AML		
	comp=E,31950μm,0.7s							
GUMA				AML		AML		
	comp=N,29200μm,0.4s							
GUMA				AML		AML		
	comp=E,25950μm,0.4s							
CESI	**CESI - Serrava**	**0.22**	**298**	⇓P		Pg	09 04 13.0	+0.6
CESI				S		Sg	09 04 17.0	+1.4
CESI				AML		AML		
	comp=N,17200μm,0.5s							
CESI				AML		AML		
	comp=E,8275μm,1.1s							
T1218	**Civita (PG)**	**0.23**	**191**	P		Pg	09 04 13.4	+0.7
T1218				S		Sg	09 04 17.8	+1.9
T1218				AML		AML		
	comp=E,10300μm,1.3s							
T1218				AML		AML		
	comp=E,10700μm,1.3s							
T1218				AML		AML		
	comp=N,10900μm,0.7s							
T1218				AML		AML		
	comp=N,11200μm,0.7s							
T1218				AML		AML		
	comp=E,10670μm,1.3s							
T1218				AML		AML		
	comp=N,10935μm,0.7s							
T1218				AML		AML		
	comp=E,10690μm,1.3s							
T1218				AML		AML		
	comp=N,11150μm,0.7s							
T1215	**Vallo di Nera,**	**0.25**	**246**	⇓P		Pg	09 04 13.6	+0.7
T1215				S		Sg	09 04 18.0	+1.9
T1215				AML		AML		
	comp=E,5915μm,1.2s							
T1215				AML		AML		
	comp=N,4685μm,0.6s							
T1215				AML		AML		
	comp=N,4390μm,1.1s							
T1215				AML		AML		
	comp=N,4680μm,0.6s							
T1215				AML		AML		
	comp=N,4400μm,1.1s							
T1215				AML		AML		
	comp=N,4390μm,1.1s							
T1215				AML		AML		
	comp=E,5950μm,1.2s							
SMA1	**SAN MARTINO**	**0.29**	**156**	⇓P		Pg	09 04 14.3	+0.6
SMA1				S		Sb	09 04 19.5	-1.0
SMA1				AML		AML		
	comp=E,12900μm,0.4s							
SMA1				AML		AML		
	comp=N,12950μm,0.4s							
SMA1				AML		AML		
	comp=E,12950μm,0.4s							
LNSS	**Leonessa**	**0.31**	**199**	⇓P		Pg	09 04 14.8	+0.6
LNSS				S		Sb	09 04 20.5	-0.6
LNSS				AML		AML		
	comp=E,3065μm,0.2s							
LNSS				AML		AML		
	comp=N,6715μm,0.3s							
OFFI	**Offida**	**0.38**	**85**	⇑P		Pb	09 04 16.8	0.0
OFFI				AML		AML		
	comp=E,6335μm,0.9s							
OFFI				AML		AML		
	comp=N,8520μm,0.4s							
OFFI				AML		AML		
	comp=E,6340μm,0.9s							
RM33	**Pellescritta (**	**0.39**	**176**	⇓P		Pg	09 04 16.1	+0.5
RM33				S		Sb	09 04 22.8	-0.6
RM33				AML		AML		
	comp=E,4590μm,1.3s							
RM33				AML		AML		
	comp=N,3955μm,0.7s							
RM33				AML		AML		
	comp=E,4540μm,1.3s							
RM33				AML		AML		
	comp=N,3835μm,0.7s							
RM33				AML		AML		
	comp=E,4595μm,1.3s							
SNTG	**Esanatoglia**	**0.39**	**334**	⇑P		Pg	09 04 15.9	+0.3
SNTG				S		Sb	09 04 22.4	-0.9
SNTG				AML		AML		
	comp=E,2950μm,0.6s							
SNTG				AML		AML		
	comp=E,2955μm,0.6s							
SNTG				AML		AML		
	comp=N,2890μm,1.1s							
SNTG				AML		AML		
	comp=E,2825μm,0.6s							
SNTG				AML		AML		
	comp=N,3100μm,1.0s							
CAMP	**Campotosto**	**0.40**	**155**	⇓P		Pg	09 04 16.1	+0.3
CAMP				S		Sb	09 04 22.9	-0.8
CAMP				AML		AML		
	comp=E,3345μm,0.7s							
CAMP				AML		AML		
	comp=N,4470μm,0.3s							
ASSB	**Assisi San Ben**	**0.41**	**291**	⇓P		Pg	09 04 16.2	+0.4
ASSB				S		Sb	09 04 22.8	-0.9
ASSB				AML		AML		
	comp=E,3300μm,0.5s							
ASSB				AML		AML		
	comp=N,3565μm,1.6s							
TERO	**Teramo**	**0.42**	**131**	⇓P		Pg	09 04 16.4	+0.3
TERO				S		Sb	09 04 23.7	-0.4
TERO				AML		AML		
	comp=N,10200μm,0.4s							
TERO				AML		AML		
	comp=E,7295μm,0.3s							
TERO				AML		AML		
	comp=E,7025μm,0.3s							
TERO				AML		AML		
	comp=N,10230μm,0.4s							
TERO				AML		AML		
	comp=E,7020μm,0.3s							
TERO				AML		AML		
	comp=N,10550μm,0.5s							
TERO				AML		AML		
	comp=N,10235μm,0.4s							
EL6	**Elcito**	**0.43**	**353**	⇓P		Pg	09 04 16.5	+0.2
EL6				S		Sb	09 04 24.1	-0.4
EL6				AML		AML		
	comp=E,5845μm,1.5s							
EL6				AML		AML		
	comp=N,8220μm,0.4s							
EL6				AML		AML		
	comp=E,5840μm,1.5s							
T1211	**Morro Reatino**	**0.44**	**213**	⇓P		Pg	09 04 16.9	+0.5
T1211				S		Sb	09 04 24.6	0.0
T1211				AML		AML		
	comp=N,4525μm,1.1s							
T1211				AML		AML		
	comp=E,2544μm,1.1s							
T1211				AML		AML		
	comp=N,4460μm,1.1s							
T1211				AML		AML		
	comp=E,2540μm,1.1s							
T1211				AML		AML		
	comp=E,2546μm,1.1s							
T1211				AML		AML		
	comp=N,4457μm,1.1s							
T1211				AML		AML		
	comp=N,4465μm,1.1s							
T1211				AML		AML		
	comp=N,4530μm,1.1s							
ARRO	**Arrone**	**0.44**	**223**	⇓P		Pg	09 04 17.1	+0.6
ARRO				AML		AML		
	comp=E,1890μm,1.6s							
ARRO				AML		AML		
	comp=N,1580μm,1.6s							
ARRO				AML		AML		
	comp=N,1895μm,1.6s							
T1247	**Pizzolo (AQ)**	**0.47**	**169**	⇓P		Pg	09 04 17.5	+0.5
T1247				S		Sb	09 04 25.7	+0.3
T1247				AML		AML		
	comp=N,3865μm,0.4s							
T1247				AML		AML		
	comp=E,4120μm,0.3s							
CING	**Cingoli**	**0.47**	**2**	⇑P		Pg	09 04 17.4	+0.3
CING				S		Sb	09 04 25.5	-0.2
CING				AML		AML		
	comp=E,2750μm,1.2s							
CING				AML		AML		
	comp=N,2610μm,0.6s							
ATCC	**AVT- Casa Cast**	**0.48**	**306**	⇓P		Pg	09 04 17.7	+0.4
ATCC				S		Sb	09 04 26.1	+0.2
ATCC				AML		AML		
	comp=E,3130μm,1.5s							
ATCC				AML		AML		
	comp=N,3465μm,1.1s							
ATCC				AML		AML		
	comp=N,3470μm,1.1s							
FOSV	**Fossato di Vic**	**0.50**	**322**	⇓P		Pg	09 04 17.4	-0.1
FOSV				S		Sb	09 04 26.0	-0.3
FOSV				AML		AML		
	comp=E,3335μm,0.3s							
FOSV				AML		AML		
	comp=N,3885μm,1.1s							
FOSV				AML		AML		
	comp=N,3880μm,1.1s							
GIGS	**Gran Sasso**	**0.54**	**147**	AML		AML		
	comp=E,876μm,0.4s							
GIGS				AML		AML		
	comp=N,713μm,0.3s							
TRTR	**Tortoreto Alta**	**0.55**	**99**	AML		AML		
	comp=N,11850μm,0.3s							
TRTR				AML		AML		
	comp=E,8010μm,0.4s							
AQU	**L'Aquila**	**0.57**	**163**	AML		AML		
	comp=E,2025μm,1.0s							
AQU				AML		AML		
	comp=N,1970μm,1.5s							
AQU				AML		AML		
	comp=E,1975μm,1.1s							
AQU				AML		AML		
	comp=N,1845μm,0.5s							
PP3	**Marolino**	**0.57**	**34**	AML		AML		
	comp=N,6085μm,1.1s							
PP3				AML		AML		
	comp=E,5720μm,0.3s							
MURB	**Monte Urbino**	**0.60**	**307**	AML		AML		
	comp=E,3795μm,1.0s							
MURB				AML		AML		
	comp=N,3880μm,1.6s							
MURB				AML		AML		
	comp=E,3985μm,0.3s							
MURB				AML		AML		
	comp=N,3620μm,1.5s							
MURB				AML		AML		
	comp=N,3885μm,1.6s							
SSFR	**Montelago di S**	**0.61**	**332**	AML		AML		
	comp=N,4185μm,0.3s							
SSFR				AML		AML		
	comp=E,3445μm,0.2s							
SSFR				AML		AML		
	comp=N,4005μm,1.0s							
SSFR				AML		AML		
	comp=E,3915μm,0.2s							
ARVD	**Arcevia**	**0.62**	**344**	AML		AML		
	comp=E,1850μm,0.2s							
ARVD				AML		AML		
	comp=N,762μm,0.5s							
FIAM	**Fiamignano**	**0.63**	**184**	AML		AML		
	comp=N,1215μm,0.3s							
FIAM				AML		AML		
	comp=E,1475μm,0.5s							
FIAM				AML		AML		
	comp=N,1220μm,0.3s							
ATFO	**Monte Foce - G**	**0.64**	**317**	AML		AML		
	comp=E,1530μm,1.2s							
ATFO				AML		AML		
	comp=N,1145μm,1.1s							
FAGN	**Fagnano**	**0.70**	**154**	AML		AML		
	comp=N,3195μm,1.6s							
FAGN				AML		AML		
	comp=E,3100μm,0.5s							
VCEL	**Villa Celiera**	**0.70**	**136**	AML		AML		
	comp=E,1905μm,0.5s							
VCEL				AML		AML		
	comp=N,2540μm,1.1s							
AOI	**Ancona**	**0.72**	**26**	AML		AML		
	comp=E,1600μm,1.4s							
AOI				AML		AML		
	comp=N,1530μm,0.8s							
ATVO	**AVT- Monte Val**	**0.74**	**311**	AML		AML		
	comp=E,1007μm,1.6s							
ATVO				AML		AML		
	comp=N,1010μm,0.9s							
ATVO				AML		AML		
	comp=E,1006μm,1.6s							
ATVO				AML		AML		
	comp=N,1011μm,0.9s							
MGAB	**Montegabbione**	**0.78**	**271**	AML		AML		
	comp=N,1670μm,1.0s							
MGAB				AML		AML		
	comp=E,1140μm,1.6s							
MGAB				AML		AML		
	comp=N,1845μm,1.0s							
MGAB				AML		AML		
	comp=E,1390μm,1.6s							
ATPI	**Pietralunga -**	**0.79**	**314**	AML		AML		
	comp=N,800μm,0.6s							
ATPI				AML		AML		
	comp=E,910μm,0.7s							
ATPI				AML		AML		
	comp=N,802μm,0.6s							
MPAG	**Monte Paganucc**	**0.79**	**337**	AML		AML		
	comp=E,1405μm,0.8s							
MPAG				AML		AML		
	comp=N,1300μm,0.7s							
ATMI	**Monte Miggiano**	**0.79**	**303**	AML		AML		
	comp=N,2265μm,0.7s							
ATMI				AML		AML		
	comp=E,1880μm,0.6s							
T0110	**Collepietro**	**0.81**	**146**	AML		AML		
	comp=N,2385μm,0.4s							
T0110				AML		AML		
	comp=E,2600μm,0.4s							
T0110				AML		AML		
	comp=E,2595μm,0.4s							
NARO	**Abbazia di Nar**	**0.83**	**329**	AML		AML		
	comp=N,482μm,1.6s							
NARO				AML		AML		
	comp=E,634μm,1.1s							
PE3	**Peglio**	**0.94**	**328**	AML		AML		
	comp=E,7μm,0.1s							
PE3				AML		AML		
	comp=E,7μm,0.5s							
PE3				AML		AML		
	comp=N,8μm,0.0s							
PE3				AML		AML		
	comp=N,14μm,0.1s							
CERT	**Cerreto**	**0.96**	**189**	AML		AML		
	comp=E,998μm,0.6s							
CERT				AML		AML		
	comp=N,852μm,0.7s							
CAFI	**Castiglion Fio**	**0.98**	**296**	AML		AML		
	comp=E,449μm,0.7s							
CAFI				AML		AML		
	comp=N,516μm,0.7s							
LPEL	**Lama dei Pelig**	**1.13**	**139**	AML		AML		
	comp=N,571μm,0.5s							
LPEL				AML		AML		
	comp=E,720μm,1.1s							
TOLF	**Tolfa**	**1.21**	**226**	AML		AML		
	comp=E,378μm,1.0s							
TOLF				AML		AML		
	comp=N,286μm,0.5s							
OBKA	**Obir**	**3.74**	**15**	*i* Pn		Pn	09 05 07.4	+1.5
	comp=N,1.6nm,0.3s							
MYKA	**Terra Mystica**	**3.74**	**5**	*i* Pn		Pn	09 05 07.7	+1.8
	comp=N,3.9nm,0.3s							
MYKA				*i* Sn		Sn	09 05 51.7	+1.5
	comp=N,6.1nm,0.3s							
ABTA	**Abfaltersbach**	**3.88**	**353**	*i* Pn		Pn	09 05 09.6	+1.9
	comp=N,11nm,0.3s,SNR=32							
ABTA				*i* Sn		Sn	09 05 54.7	+1.2
	comp=N,11nm,0.5s							
SOKA	**Soboth**	**4.00**	**19**	*i* Pn		Pn	09 05 11.3	+1.7
	comp=N,0.8nm,0.3s							
SOKA				*i* Sn		Sn	09 05 58.1	+1.5
	comp=N,4.8nm,0.6s							
KBA	**Koelnbreinsper**	**4.18**	**2**	*i* Pn		Pn	09 05 13.5	+1.5
	comp=N,4.9nm,0.3s							
FETA	**Feichten**	**4.47**	**338**	*i* Pn		Pn	09 05 19.5	+3.4
	comp=N,3.4nm,0.4s							
FETA				*e*Sn		Sn	09 06 12.2	+3.9
	comp=N,4.2nm,0.5s							
WTTA	**Wattenberg**	**4.50**	**347**	*e*Pn		Pn	09 05 19.7	+3.3
	comp=N,5.2nm,0.4s,SNR=5.3							
WTTA				*e*Sn		Sn	09 06 12.8	+3.9
	comp=N,7.2nm,0.3s							
SQTA	**Sankt Quirin**	**4.54**	**343**	*i* Pn		Pn	09 05 20.7	+3.8
	comp=N,6.4nm,0.3s,SNR=8.9							
SQTA				*i* Sn		Sn	09 06 13.3	+3.5
	comp=N,12nm,0.4s							
WATA	**Walderalm**	**4.58**	**346**	*i* Pn		Pn	09 05 20.9	+3.4
	comp=N,6.5nm,0.5s							
WATA				*e*Sn		Sn	09 06 14.5	+3.6
	comp=N,4.5nm,0.2s							
ARSA	**Arzberg**	**4.66**	**20**	*i* Sn		Sn	09 06 11.2	-1.5
	comp=N,4.8nm,0.5s							
MOTA	**Moosalm**	**4.68**	**342**	*i* Pn		Pn	09 05 22.3	+3.4
	comp=N,3.3nm,0.5s							
MOTA				*i* Sn		Sn	09 06 16.2	+2.8
	comp=N,5.7nm,0.4s							
BIOA	**Bad Ischl, Aus**	**4.80**	**4**	*e*Pn		Pn	09 05 22.3	+1.9
	comp=N,4.5nm,0.3s							
BIOA				*i* Sn		Sn	09 06 17.2	+1.0
	comp=N,4.3nm,0.3s							
DAVA	**Damuels**	**4.97**	**333**	*i* Pn		Pn	09 05 24.3	+1.5
	comp=N,3.5nm,0.3s							
DAVA				*e*Sn		Sn	09 06 24.2	+3.7
	comp=N,12nm,0.5s							
MOA	**Molln**	**5.01**	**8**	*i* Pn		Pn	09 05 25.3	+2.1
	comp=N,0.9nm,0.3s							
MOA				*e*Sn		Sn	09 06 22.9	+1.6
	comp=N,2.5nm,0.3s							
CONA	**Conrad Observa**	**5.37**	**20**	*i* Pn		Pn	09 05 29.6	+1.3
	comp=N,0.3nm,0.1s							
CONA				*i* Sn		Sn	09 06 29.9	-0.4
	comp=N,1.2nm,0.3s							
CKRC	**Cesky Krumlov**	**5.97**	**7**	*e*SN		Sn	09 06 43.4	-1.7
KHC	**Kasperske Hory**	**6.24**	**2**	*e*PN		Pn	09 05 40.4	+0.2
KHC				*e*SN		Sn	09 06 49.7	-1.9

NEIC ***12*** *09:34:37.9±1.5, 17°.87N±0°.09×145°.8E±0°.2, h484km±13km, mb3.8/6, Error ellipse: s-maj=30.8km s-min=5.2km az=113.0*
IDC ***12*** *09:34:40.1±1.4, 17°.64N×145°.62E, h486km±18km, mb2.7/6, mbtmp3.6/7, Error ellipse: s-maj=37.6km s-min=19.5km az=104.0*
ISC 12 09:34:39.5±1.0, 17°.6N±0°.1×145°.7E±0°.2, h500km, n16, σ1§60/16, mb3.2/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.10**	**191**	P		**P**	**09 36 00.1**	**+1.3**
	31nm,0.4s,baz=292,slow=4.8,SNR=7.0							
GUMO				S		**S**	**09 37 01.4**	**-2.0**
	67nm,0.7s,baz=211,slow=21,SNR=2.3							
GUMO	**Guam**	**4.10**	**191**	P		**P**	**09 35 58.0**	**-0.9**
JMZ	**Minamidaito 2**	**15.68**	**304**	P		**P**	**09 37 54.4**	**-2.4**
JMZ				IAmb		IAmb	09 38 20.6	
	comp=Z,0.6nm,1.2s							
WB0	**Warramunga Arr**	**38.79**	**197**	P		**P**	**09 41 21.0**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WB0				IAmb	IAmb	09 41 24.5	
	comp=Z,8.6nm,1.4s						
WR0	**Warramunga Arr**	**38.93**	**197**	P	**P**	**09 41 23.0**	**+1.1**
WR0				IAmb	IAmb	09 41 36.2	
	comp=Z,5.8nm,1.2s						
WB2	**Warramunga Arr**	**38.97**	**197**	P	**P**	**09 41 23.0**	**+0.8**
WB2				IAmb	IAmb	09 41 44.6	
	comp=Z,9.5nm,1.5s						
WRA	**Warramunga Arr**	**38.97**	**197**	P	**P**	**09 41 23.8**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=1.6,slow=8.4,SNR=8.3						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**38.97**	**197**	P	**P**	**09 41 22.5**	**+0.3**
ASAR	**Alice Springs**	**42.63**	**196**	P	**P**	**09 41 52.3**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=10,slow=6.8,SNR=1.4						
	comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**59.17**	**314**	P	**P**	**09 43 54.3**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=84,slow=12,SNR=4.7						
	comp=Z,0.4nm,0.5s						
ILSW	**Iliamna Southw**	**60.57**	**30**	P	**P**	**09 43 58.3**	**-2.6**
ILSW				IAmb	IAmb	09 44 10.7	
	comp=Z,21nm,1.3s						
ILAR	**Eielson Array**	**64.60**	**26**	P	**P**	**09 44 28.3**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=250,slow=6.2,SNR=8.1						
	comp=Z,0.4nm,0.6s						
ABKAR	**Akbulak array**	**74.09**	**317**	P	**P**	**09 45 23.3**	**-0.8**
NVAR	**Mina Array Bea**	**83.81**	**52**	P	P	09 46 19.9	+3.5
	comp=Z,0.3nm,0.6s,baz=262,slow=4.5,SNR=4.4						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**87.83**	**335**	P	**P**	**09 46 34.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=46,slow=6.0,SNR=6.0						
	comp=Z,1.1nm,0.8s						
FINES	**FINESS Array B**	**87.83**	**335**	P	**P**	**09 46 35.5**	**+0.6**

*JMA **12** 10:01:50.4±0.1, 24°.2N±0°.4×121°.8E±0°.4, h48km, MV2.6/12, TAIWAN REGION*

*TAP **12** 10:01:50.0, 24°.21N×121°.73E, h52km, ML3.2, C*

ISC 12 10:01:51.2±1.2**, 24°.21N**±0°.02×**121°.75E**±0°.02**, h44**km±4km**, n122,** σ1ˢ.09/216**, 17C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**354**	P	**Pn**	**10 01 58.7**	**+0.4**
	baz=10.0						
EHP				*i* S	**Sn**	**10 02 05.0**	**+1.7**
	baz=10.0						
NACB	**Ninganchiao**	**0.15**	**255**	P	**Pn**	**10 01 58.1**	**-0.4**
NACB	**Ninganchiao**	**0.15**	**255**	⇑*i*P	**Pn**	**10 01 58.2**	**-0.4**
	baz=253						
NACB				*i* S	**Sn**	**10 02 03.9**	**+0.2**
	baz=253						
TWD	**Chiawan**	**0.19**	**227**	⇑*i*P	**Pn**	**10 01 58.5**	**-0.3**
	baz=233						
TWD				S	**Sn**	**10 02 04.4**	**+0.3**
	baz=233						
ENA	**Nanau**	**0.21**	**357**	*i* P	**Pn**	**10 01 59.0**	**0.0**
	baz=359						
ENA				S	**Sn**	**10 02 06.4**	**+1.9**
	baz=359						
ETLH	**Xiulin Townshi**	**0.25**	**269**	⇑*e*P	**Pn**	**10 01 58.9**	**-0.5**
	baz=263						
ETLH				*e*S	**Sn**	**10 02 04.9**	**-0.2**
	baz=263						
HWA	**Hwalien**	**0.27**	**210**	*i* P	**Pn**	**10 01 59.5**	**0.0**
	baz=213						
HWA				*e*S	**Sn**	**10 02 07.6**	**+2.3**
	baz=213						
ETM	**Tongmen**	**0.34**	**224**	P	**Pn**	**10 01 59.4**	**-0.9**
	baz=230						
ETM				*e*S	**Sn**	**10 02 05.8**	**-0.7**
	baz=230						
TEYL	**Yanliau Villag**	**0.37**	**202**	*e*P	**Pn**	**10 02 00.4**	**-0.1**
	baz=192						
TEYL				*e*S	**Sn**	**10 02 08.4**	**+1.4**
	baz=192						
LATG	**Datong**	**0.38**	**327**	⇑*i*P	**Pn**	**10 02 00.4**	**-0.4**
	baz=326						
LATG				S	**Sn**	**10 02 07.6**	**0.0**
	baz=326						
NNSB	**Datong**	**0.40**	**303**	⇑*i*P	**Pn**	**10 02 00.5**	**-0.5**
	baz=304						
NNSB				S	**Sn**	**10 02 07.5**	**-0.4**
	baz=304						
NNSH	**Datong**	**0.40**	**303**	⇑P	**Pn**	**10 01 59.5**	**-1.5**
	baz=304						
NNSH				*e*S	**Sn**	**10 02 06.5**	**-1.4**
	baz=304						
TWC	**Suao**	**0.41**	**13**	⇓*i*P	**Pn**	**10 02 01.2**	**+0.2**
	baz=20						
TWC				S	**Sn**	**10 02 09.4**	**+1.6**
	baz=20						
NNS	**Nan Shan**	**0.41**	**303**	⇑*e*P	**Pn**	**10 01 59.6**	**-1.5**
	baz=305						
NNS				*e*S	**Sn**	**10 02 07.3**	**-0.9**
	baz=305						
WHF	**Hehuan Shan**	**0.45**	**262**	⇑*i*P	**Pn**	**10 02 01.2**	**-0.6**
	baz=258						
WHF				*e*S	**Sn**	**10 02 08.7**	**-0.8**
	baz=258						
ENTT	**Nioudou**	**0.46**	**338**	⇑*i*P	**Pn**	**10 02 00.3**	**-1.3**
	baz=339						
ENTT				*e*S	**Sn**	**10 02 08.1**	**-0.9**
	baz=339						
FUSS	**Fushou**	**0.47**	**274**	⇑*i*P	**Pn**	**10 02 01.6**	**-0.3**
	baz=274						
FUSS				*e*S	**Sn**	**10 02 09.7**	**+0.2**
	baz=274						
ESL	**Shilin**	**0.49**	**216**	P	**Pn**	**10 02 00.6**	**-1.4**
	baz=222						
ESL				*e*S	**Sn**	**10 02 08.4**	**-1.3**
	baz=222						
TWE	**Neicheng**	**0.51**	**351**	P	**Pn**	**10 02 02.0**	**-0.2**
	baz=350						
TWE				*e*S	**Sn**	**10 02 11.2**	**+1.1**
	baz=350						
TEGC	**Jichi Village**	**0.54**	**201**	*e*P	**Pn**	**10 02 03.0**	**+0.5**
	baz=190						
TEGC				*e*S	**Sn**	**10 02 13.8**	**+3.2**
	baz=190						
TDCB	**Techi**	**0.54**	**274**	⇑*i*P	**Pn**	**10 02 02.6**	**-0.2**
	baz=275						
TDCB				*e*S	**Sn**	**10 02 11.2**	**+0.1**
	baz=275						
CHGB	**Renai**	**0.55**	**254**	⇑P	**Pn**	**10 02 02.5**	**-0.4**
	baz=250						
CHGB				*e*S	**Sn**	**10 02 11.2**	**-0.1**
	baz=250						
ILA	**Ilan**	**0.55**	**360**	*e*P	**Pn**	**10 02 03.7**	**+0.9**
	baz=358						
ILA				*e*S	**Sn**	**10 02 13.7**	**+2.7**
	baz=358						
FUSB	**Fushanzhiwuyua**	**0.57**	**345**	⇑P	**Pn**	**10 02 02.7**	**-0.4**
	baz=347						
FUSB				*e*S	**Sn**	**10 02 11.6**	**+0.1**
	baz=347						
YHNB	**Yeheng**	**0.57**	**323**	P	**Pn**	**10 02 02.9**	**-0.2**
YHNB	**Yeheng**	**0.57**	**323**	⇑*i*P	**Pn**	**10 02 02.7**	**-0.4**
	baz=325						
YHNB				*e*S	**Sn**	**10 02 11.0**	**-0.6**
	baz=325						
NSK	**Sanguang**	**0.58**	**322**	⇑*e*P	**Pn**	**10 02 01.8**	**-1.5**
	baz=324						
NSK				*e*S	**Sn**	**10 02 10.4**	**-1.5**
	baz=324						
NWLT	**Wulai**	**0.61**	**338**	*e*P	**Pn**	**10 02 02.3**	**-1.3**
	baz=331						
NWLT				*e*S	**Sn**	**10 02 11.2**	**-1.2**
	baz=331						
EGFH	**Guangfu**	**0.62**	**209**	*e*P	**Pn**	**10 02 02.0**	**-1.6**
	baz=215						
EGFH				*e*S	**Sn**	**10 02 11.4**	**-1.1**
	baz=215						
WUSB	**Renai**	**0.62**	**249**	⇑P	**Pn**	**10 02 03.3**	**-0.5**
	baz=245						
WUSB				*e*S	**Sn**	**10 02 12.2**	**-0.6**
	baz=245						
EGS		**0.65**	**15**	P	**Pn**	**10 02 04.6**	**+0.5**
	baz=28						
EGS				*e*S	**Sn**	**10 02 15.4**	**+2.1**
	baz=28						
NFF	**Wufeng Townshi**	**0.71**	**306**	*e*P	**Pn**	**10 02 03.9**	**-1.1**
	baz=305						
NFF				*e*S	**Sn**	**10 02 13.8**	**-1.2**
	baz=305						
VWDT	**VWDT**	**0.72**	**231**	⇑P	**Pn**	**10 02 04.5**	**-0.5**
	baz=223						
VWDT				*e*S	**Sn**	**10 02 14.5**	**-0.4**
	baz=223						
WHP	**Taichung City**	**0.74**	**275**	*e*P	**Pn**	**10 02 05.6**	**+0.3**
	baz=275						
WHP				*e*S	**Sn**	**10 02 16.2**	**+0.7**
	baz=275						
WPL	**Puli Township**	**0.75**	**255**	*e*P	**Pn**	**10 02 05.1**	**-0.3**
	baz=251						
TIPB	**Shuangxi**	**0.76**	**5**	P	**Pn**	**10 02 06.0**	**+0.4**
	baz=2.0						
TIPB				*e*S	**Sn**	**10 02 17.1**	**+1.2**
	baz=2.0						
NHDH	**Xindian Distri**	**0.78**	**345**	*e*P	**Pn**	**10 02 05.8**	**+0.1**
	baz=337						
NHDH				*e*S	**Sn**	**10 02 16.4**	**+0.1**
	baz=337						
HGSD	**Ruisui**	**0.78**	**203**	P	**Pn**	**10 02 05.0**	**-0.8**
	baz=210						
HGSD				*e*S	**Sn**	**10 02 17.1**	**+0.8**
	baz=210						
TWA	**Mucha**	**0.78**	**349**	*e*P	**Pn**	**10 02 06.0**	**+0.1**
	baz=340						
TWA				*e*S	**Sn**	**10 02 16.6**	**+0.2**
	baz=340						
WCS	**Beigang Elemen**	**0.78**	**259**	*e*P	**Pn**	**10 02 04.8**	**-1.1**
	baz=258						
WCS				*e*S	**Sn**	**10 02 16.9**	**+0.4**
	baz=258						
TATO	**Taipei**	**0.80**	**342**	P	**Pn**	**10 02 09.2**	**+3.2**
TATO	**Taipei**	**0.80**	**342**	*e*P	**Pn**	**10 02 05.7**	**-0.4**
	baz=344						
TATO				*e*S	**Sn**	**10 02 17.0**	**+0.2**
	baz=344						
LIOB	**Emei**	**0.80**	**303**	*e*P	**Pn**	**10 02 06.2**	**+0.1**
	baz=308						
LIOB				*e*S	**Sn**	**10 02 18.1**	**+1.2**
	baz=308						
NJD	**Zhudong**	**0.80**	**311**	*e*P	**Pn**	**10 02 07.1**	**+1.0**
	baz=312						
NJD				*e*S	**Sn**	**10 02 18.8**	**+1.9**
	baz=312						
NSTT	**Nanjuang**	**0.80**	**302**	*e*P	**Pn**	**10 02 06.2**	**+0.1**
	baz=302						
NSTT				*e*S	**Sn**	**10 02 17.4**	**+0.5**
	baz=302						
EHY	**Hungye**	**0.81**	**209**	*e*P	**Pn**	**10 02 04.5**	**-1.6**
	baz=206						
EHY				*e*S	**Sn**	**10 02 15.3**	**-1.7**
	baz=206						
TWB1	**Santiao Chiao**	**0.82**	**15**	*e*P	**Pn**	**10 02 07.0**	**+0.6**
	baz=26						
TWB1				*e*S	**Sn**	**10 02 19.3**	**+1.9**
	baz=26						
SSLB	**Suanglung**	**0.84**	**240**	P	**Pn**	**10 02 06.5**	**-0.2**
SSLB	**Suanglung**	**0.84**	**240**	*e*P	**Pn**	**10 02 05.9**	**-0.8**
	baz=236						
SSLB				*e*S	**Sn**	**10 02 19.1**	**+1.1**
	baz=236						
SMLT	**Sun Moon Lake**	**0.84**	**247**	*e*P	**Pn**	**10 02 06.5**	**-0.2**
	baz=240						
SMLT				*e*S	**Sn**	**10 02 19.7**	**+1.6**
	baz=240						
NWF	**Wu-fen Shan**	**0.86**	**2**	*e*P	**Pn**	**10 02 07.0**	**0.0**
	baz=355						
NWF				*e*S	**Sn**	**10 02 18.7**	**+0.4**
	baz=355						
WFSB	**Wu-fen Shan**	**0.86**	**2**	*e*P	**Pn**	**10 02 07.0**	**+0.1**
	baz=355						
WFSB				*e*S	**Sn**	**10 02 18.8**	**+0.6**
	baz=355						
TYC	**Yuchr**	**0.87**	**250**	*e*P	**Pn**	**10 02 06.8**	**-0.3**
	baz=243						
TYC				*e*S	**Sn**	**10 02 19.9**	**+1.2**
	baz=243						
SXI1	**Grass Mountain**	**0.89**	**7**	*e*P	**Pn**	**10 02 07.7**	**+0.4**
	baz=357						
SXI1				*e*S	**Sn**	**10 02 20.3**	**+1.2**
	baz=357						
NTY	**Taoyuan**	**0.89**	**332**	*e*P	**Pn**	**10 02 06.7**	**-0.6**
	baz=333						
NTY				*e*S	**Sn**	**10 02 20.4**	**+1.4**
	baz=333						
TWQ1	**Liyutan**	**0.90**	**279**	*e*P	**Pn**	**10 02 07.6**	**+0.1**
	baz=278						
TWQ1				*e*S	**Sn**	**10 02 20.3**	**+0.9**
	baz=278						
SBCB	**Hsinchu**	**0.91**	**310**	*e*P	**Pn**	**10 02 08.1**	**+0.6**
	baz=310						
SBCB				*e*S	**Sn**	**10 02 20.8**	**+1.3**
	baz=310						
NCUH	**Zhongli**	**0.91**	**326**	*e*P	**Pn**	**10 02 07.6**	**0.0**
	baz=326						
NCUH				*e*S	**Sn**	**10 02 20.2**	**+0.6**
	baz=326						
NCU	**National Centr**	**0.91**	**326**	*e*P	**Pn**	**10 02 07.6**	**0.0**
	baz=326						
NCU				*e*S	**Sn**	**10 02 20.7**	**+1.1**
	baz=326						
YULB	**Yu-li**	**0.92**	**207**	P	**Pn**	**10 02 07.3**	**-0.4**
YULB	**Yu-li**	**0.92**	**207**	*e*P	**Pn**	**10 02 05.9**	**-1.7**
	baz=205						
YULB				*e*S	**Sn**	**10 02 18.8**	**-1.0**
	baz=205						
HSN	**Hsinchu**	**0.92**	**310**	*e*P	**Pn**	**10 02 08.4**	**+0.7**
	baz=312						
HSN				*e*S	**Sn**	**10 02 20.4**	**+0.6**
	baz=312						
NSY	**Sanyi**	**0.93**	**283**	*e*P	**Pn**	**10 02 08.1**	**+0.2**
	baz=282						
NSY				*e*S	**Sn**	**10 02 21.0**	**+1.0**
	baz=282						
ECBN	**Changbin**	**0.93**	**197**	*e*P	**Pn**	**10 02 07.8**	**-0.1**
	baz=204						
TNOU	**National Taiwa**	**0.93**	**1**	*e*P	**Pn**	**10 02 08.7**	**+0.8**
	baz=350						
NMLH	**Miaoli**	**0.94**	**290**	*e*P	**Pn**	**10 02 07.9**	**0.0**
	baz=290						
NMLH				*e*S	**Sn**	**10 02 21.2**	**+1.0**
	baz=290						
TWS1	**Kuangyinshan**	**0.94**	**341**	*e*P	**Pn**	**10 02 07.8**	**-0.1**
	baz=343						
TWS1				*e*S	**Sn**	**10 02 20.6**	**+0.4**
	baz=343						
YM01	**YM01**	**0.94**	**350**	*e*P	**Pn**	**10 02 07.5**	**-0.6**
	baz=341						
YM01				*e*S	**Sn**	**10 02 20.0**	**-0.4**
	baz=341						
EYUL	**Yuli**	**0.95**	**205**	*e*P	**Pn**	**10 02 07.9**	**-0.2**
	baz=211						
TWF1	**Yuli**	**0.95**	**206**	*e*P	**Pn**	**10 02 06.4**	**-1.8**
	baz=211						
WHYT	**Xinyi Township**	**0.97**	**238**	*e*P	**Pn**	**10 02 08.4**	**0.0**
	baz=236						
WHYT				*e*S	**Sn**	**10 02 22.2**	**+1.2**
	baz=236						
WWF	**Wufeng**	**0.98**	**260**	*e*P	**Pn**	**10 02 08.1**	**-0.4**
	baz=259						
WWF				*e*S	**Sn**	**10 02 22.2**	**+1.0**
	baz=259						
YM08	**YM08**	**0.98**	**351**	*e*P	**Pn**	**10 02 07.8**	**-0.8**
	baz=341						
TCU	**Taichung**	**0.98**	**266**	*e*P	**Pn**	**10 02 08.9**	**+0.4**
	baz=265						
TCU				*e*S	**Sn**	**10 02 23.2**	**+1.9**
	baz=265						
NTST	**Danshui**	**0.99**	**344**	*e*P	**Pn**	**10 02 09.5**	**+0.9**
	baz=345						
ANP	**Anpu**	**0.99**	**348**	*e*P	**Pn**	**10 02 09.2**	**+0.4**
	baz=349						
WJS	**Zhushan**	**1.01**	**248**	*e*P	**Pn**	**10 02 09.6**	**+0.7**
	baz=246						
WJS				*e*S	**Sn**	**10 02 23.5**	**+1.4**
	baz=246						
NHW	**Xinwu Township**	**1.02**	**321**	*e*P	**Pn**	**10 02 09.8**	**+0.7**
	baz=321						
NHW				*e*S	**Sn**	**10 02 23.1**	**+0.9**
	baz=321						
WDJ	**Dajia District**	**1.02**	**278**	*e*P	**Pn**	**10 02 09.4**	**+0.3**
	baz=277						
WDJ				*e*S	**Sn**	**10 02 23.1**	**+0.8**
	baz=277						
YUS	**Yu-Shan**	**1.03**	**226**	*e*P	**Pn**	**10 02 09.1**	**-0.5**
	baz=218						
YUS				*e*S	**Sn**	**10 02 23.1**	**0.0**
	baz=218						
WNT	**Mingjian**	**1.03**	**251**	*e*P	**Pn**	**10 02 10.3**	**+1.1**
	baz=250						
WNT				*e*S	**Sn**	**10 02 24.8**	**+2.3**
	baz=250						
TWY	**Chenhua**	**1.07**	**353**	*e*P	**Pn**	**10 02 10.5**	**+0.8**
	baz=343						
FULB	**Fuli**	**1.09**	**203**	*e*P	**Pn**	**10 02 09.8**	**-0.3**
	baz=208						
WCHH	**Zhanghua**	**1.10**	**263**	*e*P	**Pn**	**10 02 10.2**	**+0.1**
	baz=262						
WCHH				*e*S	**Sn**	**10 02 25.2**	**+1.1**
	baz=262						
ALS	**Alishan**	**1.11**	**231**	*e*P	**Pn**	**10 02 10.8**	**+0.2**
	baz=221						
ALS				*e*S	**Sn**	**10 02 26.7**	**+1.8**
	baz=221						
JYNG	**Yonagunijimaku**	**1.11**	**77**	*e*P	**Pn**	**10 02 10.0**	**-0.3**
JYNG				S	**Sn**	**10 02 24.6**	**0.0**
CHKT	**Chengkung**	**1.16**	**198**	*e*P	**Pn**	**10 02 10.9**	**-0.1**
	baz=204						
CHKT				*e*S	**Sn**	**10 02 24.7**	**-1.0**
	baz=204						
YOJ	**Yonaguni jima**	**1.18**	**78**	P	**Pn**	**10 02 11.1**	**-0.1**
YOJ	**Yonaguni jima**	**1.18**	**78**	*e*P	**Pn**	**10 02 10.9**	**-0.2**
	baz=79						
YOJ				*e*S	**Sn**	**10 02 26.1**	**+0.1**
	baz=79						
YOJ	**Yonaguni jima**	**1.18**	**78**	P	**Pn**	**10 02 10.9**	**-0.2**
YOJ				*e*S	**Sn**	**10 02 25.8**	**-0.2**
ELDTW	**Lidau**	**1.22**	**214**	*e*P	**Pn**	**10 02 10.7**	**-1.2**
	baz=203						
ELDTW				*e*S	**Sn**	**10 02 26.0**	**-1.3**
	baz=203						
WDLH	**Douliu**	**1.23**	**245**	*e*P	**Pn**	**10 02 12.8**	**+1.0**
	baz=244						
WDLH				*e*S	**Sn**	**10 02 29.3**	**+2.0**
	baz=244						
WRL	**Guolierlin Hig**	**1.29**	**256**	*e*P	**Pn**	**10 02 11.4**	**-1.4**
	baz=256						
WRL				*e*S	**Sn**	**10 02 28.4**	**-0.5**
	baz=256						
EDH	**Donghe**	**1.30**	**199**	*e*P	**Pn**	**10 02 12.3**	**-0.6**
	baz=204						
WCKO	**Fanlu**	**1.30**	**234**	*e*P	**Pn**	**10 02 13.0**	**0.0**
	baz=232						
WCKO				*e*S	**Sn**	**10 02 30.8**	**+1.6**
	baz=232						
WTK	**Tuku**	**1.35**	**248**	*e*P	**Pn**	**10 02 13.7**	**+0.1**
	baz=260						
WTK				*e*S	**Sn**	**10 02 30.8**	**+0.4**
	baz=260						
CHN4	**Tsaushan**	**1.36**	**231**	*e*P	**Pn**	**10 02 13.7**	**-0.1**
	baz=229						
CHN4				*e*S	**Sn**	**10 02 32.5**	**+1.8**
	baz=229						
STYH	**Taoyuan**	**1.37**	**221**	*e*P	**Pn**	**10 02 14.1**	**+0.2**
	baz=218						
STYH				*e*S	**Sn**	**10 02 31.0**	**+0.2**
	baz=218						
TPUB	**Ta-pu**	**1.37**	**229**	P	**Pn**	**10 02 15.1**	**+1.2**
TPUB	**Ta-pu**	**1.37**	**229**	*e*P	**Pn**	**10 02 14.6**	**+0.7**
	baz=219						
TPUB				*e*S	**Sn**	**10 02 33.1**	**+2.3**
	baz=219						
STYT	**Tauyuan**	**1.39**	**221**	*e*P	**Pn**	**10 02 15.2**	**+1.0**
	baz=218						
STYT				*e*S	**Sn**	**10 02 33.0**	**+1.7**
	baz=218						
WTP	**Ta-pu**	**1.42**	**228**	*e*P	**Pn**	**10 02 15.2**	**+0.7**
	baz=225						
WTP				*e*S	**Sn**	**10 02 34.1**	**+2.0**
	baz=225						
TWK	**Hsinying**	**1.49**	**231**	*e*P	**Pn**	**10 02 16.5**	**+0.9**
	baz=229						
TWK				*e*S	**Sn**	**10 02 35.7**	**+1.8**
	baz=229						
CHN1	**Nanshi**	**1.52**	**228**	*e*P	**Pn**	**10 02 16.6**	**+0.7**
	baz=225						
CHN1				*e*S	**Sn**	**10 02 35.9**	**+1.4**
	baz=225						
TWG	**Pinlang**	**1.52**	**204**	*e*P	**Pn**	**10 02 16.2**	**+0.3**
	baz=192						
TWGBT	**Beinan**	**1.52**	**204**	P	**Pn**	**10 02 16.1**	**+0.2**
TWGBT	**Beinan**	**1.52**	**204**	*e*P	**Pn**	**10 02 15.2**	**-0.7**
	baz=192						
SGST	**Jiashian**	**1.55**	**224**	*e*P	**Pn**	**10 02 16.2**	**-0.2**
	baz=213						
SGST				*e*S	**Sn**	**10 02 36.6**	**+1.2**
	baz=213						
WSL	**Shuilin Townsh**	**1.56**	**244**	*e*P	**Pn**	**10 02 15.5**	**-0.9**
	baz=254						
WSL				*e*S	**Sn**	**10 02 36.0**	**+0.6**
	baz=254						
SSD	**Sandimen**	**1.79**	**215**	*e*P	**Pn**	**10 02 20.7**	**+1.1**
	baz=225						
SSD				*e*S	**Sn**	**10 02 43.6**	**+2.5**
	baz=225						
IRIF	**Iriomote-Funau**	**1.81**	**86**	S	**Sn**	**10 02 40.8**	**-0.8**
HATJ	**Hateruma jima**	**1.88**	**94**	*e*S	**Sn**	**10 02 43.9**	**+0.5**
MASBT	**Mashibuluo**	**1.90**	**213**	*e*P	**Pn**	**10 02 22.3**	**+1.2**
	baz=209						
MASBT				*e*S	**Sn**	**10 02 46.0**	**+2.2**
	baz=209						
EAST	**Anshuo**	**2.00**	**205**	*e*P	**Pn**	**10 02 22.9**	**+0.3**
	baz=193						
JKRS	**Kuro-shima**	**2.06**	**89**	S	**Sn**	**10 02 47.9**	**+0.1**
PHUB	**P'eng-hu**	**2.11**	**251**	*e*P	**Pn**	**10 02 22.7**	**-1.4**
	baz=250						
JIJ	**Ishigaki jima**	**2.19**	**86**	P	**Pn**	**10 02 24.6**	**-0.5**
JIJ				S	**Sn**	**10 02 49.5**	**-1.4**
VWUC	**VWUC**	**2.23**	**291**	*e*P	**Pn**	**10 02 24.0**	**-1.7**
	baz=289						
VWUC				*e*S	**Sn**	**10 02 48.8**	**-3.3**
	baz=289						
JISG	**Ishigakijimahi**	**2.36**	**80**	P	**Pn**	**10 02 27.0**	**-0.4**
JISG				*e*S	**Sn**	**10 02 53.2**	**-2.0**
PTMZ	**Houxiangcun**	**2.53**	**290**	*e*P	**Pn**	**10 02 28.0**	**-1.8**
	baz=288						
PTMZ				*e*S	**Sn**	**10 02 55.8**	**-3.6**
	baz=288						
JTJ	**Tarama**	**2.72**	**80**	*e*S	**Sn**	**10 03 03.2**	**-0.9**
JIRB	**Irabujima**	**3.17**	**78**	*e*S	**Sn**	**10 03 15.0**	**-0.3**

DJA 12 10:49:49.9±1.2**, 0°S**±4°×**12°4E**±°**, h10**km±10km**, M3.9**/8**, mb4.4**/1**, MLv3.7**/8**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.22**	**306**	P	Pg	10 50 14.8	+1.4
GTOI				S	Sn	10 50 35.6	+5.9
LUWI	**Luwuk**	**1.55**	**232**	P	Pn	10 50 15.5	-2.1
LUWI				S	Sn	10 50 38.0	+0.2
MRSI	**Marisa**	**2.13**	**285**	P	Pn	10 50 26.0	+0.4
MRSI				S	Sn	10 50 52.5	+0.3
APSI	**Ampana**	**2.49**	**251**	P	Pn	10 50 30.2	-0.3
APSI				S	Sn	10 51 02.1	+1.2
SANI	**Sanana**	**2.78**	**134**	P	Pn	10 50 34.7	+0.2
LBMI	**Labuha**	**3.54**	**99**	P	Pn	10 50 45.1	+0.1
MPSI	**Mapaga**	**4.12**	**276**	P	Pn	10 50 53.7	+0.7
NLAI	**Namlea**	**4.40**	**135**	P	Pn	10 50 56.4	-0.4
SPSI	**Sidrap Palu**	**5.72**	**228**	P	Pn	10 51 14.3	-0.6

*JMA **12** 10:51:23.4±0.3, 24°N±1°×121°.9E±0°.7, h24km, MV2.9/14, TAIWAN REGION*

*TAP **12** 10:51:23.7, 23°.47N×121°.89E, h39km, ML3.6, C*

ISC 12 10:51:23.1±1.0**, 23°.47N**±0°.02×**121°.93E**±0°.02**, h29**km±9km**, n136,** σ0ˢ.**82**/258**, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.43**	**304**	*e*P	**Pb**	**10 51 32.6**	**+0.3**
	baz=316						
TEGC				*e*S	**Sb**	**10 51 38.9**	**+0.3**
	baz=316						
HGSD	**Ruisui**	**0.46**	**273**	*i* P	**Pb**	**10 51 32.8**	**-0.1**
	baz=279						
HGSD				S	**Sb**	**10 51 39.0**	**-0.6**
	baz=279						
EGFH	**Guangfu**	**0.50**	**293**	*i* P	**Pb**	**10 51 33.4**	**-0.1**
	baz=301						
EGFH				*i* S	**Sb**	**10 51 41.0**	**+0.5**
	baz=301						
EHY	**Hungye**	**0.56**	**274**	P	**Pb**	**10 51 34.6**	**+0.2**
	baz=273						
EHY				S	**Sb**	**10 51 42.1**	**0.0**
	baz=273						
ESL	**Shilin**	**0.57**	**307**	P	**Pb**	**10 51 34.1**	**-0.5**
	baz=310						
ESL				S	**Sb**	**10 51 41.2**	**-1.2**
	baz=310						

EYUL	**Yuli**	**0.57 258**	P	**Pb**	**10 51 34.8 +0.1**
	baz=249				
EYUL			S	**Sb**	**10 51 42.8 +0.2**
	baz=249				
HWA	**Hwalien**	**0.58 330**	*e*P	**Pb**	**10 51 34.6 -0.2**
	baz=338				
HWA			*e*S	**Sb**	**10 51 42.9 0.0**
	baz=338				
YULB	**Yu-li**	**0.58 262**	P	**Pn**	**10 51 35.4 -0.1**
YULB	**Yu-li**	**0.58 262**	P	**Pb**	**10 51 34.9 0.0**
	baz=261				
YULB			*e*S	**Sb**	**10 51 43.2 +0.3**
	baz=261				
CHKT	**Chengkung**	**0.64 235**	*e*P	**Pb**	**10 51 35.4 -0.3**
	baz=224				
CHKT			*e*S	**Sb**	**10 51 43.7 -0.6**
	baz=224				
FULB	**Fuli**	**0.64 245**	P	**Pb**	**10 51 35.4 -0.4**
	baz=234				
FULB			S	**Sb**	**10 51 44.0 -0.6**
	baz=234				
TWD	**Chiawan**	**0.68 333**	P	**Pb**	**10 51 36.0 -0.4**
	baz=337				
TWD			S	**Sb**	**10 51 44.7 -0.8**
	baz=337				
NACB	**Ninganchiao**	**0.76 336**	P	**Pn**	**10 51 37.4 -0.5**
NACB	**Ninganchiao**	**0.76 336**	*i* P	**Pn**	**10 51 37.2 -0.8**
	baz=345				
NACB			*i* S	**Sb**	**10 51 46.7 -1.2**
	baz=345				
VWDT	**VWDT**	**0.78 291**	P	**Pn**	**10 51 38.1 0.0**
	baz=292				
VWDT			S	**Sb**	**10 51 47.4 -0.8**
	baz=292				
ETLH	**Xiulin Townshi**	**0.84 331**	P	**Pn**	**10 51 38.5 -0.5**
	baz=340				
ETLH			S	**Sn**	**10 51 49.0 -1.5**
	baz=340				
ELDTW	**Lidau**	**0.88 252**	P	**Pn**	**10 51 38.8 -0.9**
	baz=240				
ELDTW			S	**Sn**	**10 51 49.5 -2.1**
	baz=240				
YUS	**Yu-Shan**	**0.90 271**	P	**Pn**	**10 51 40.2 0.0**
	baz=280				
YUS			S	**Sn**	**10 51 50.8 -1.7**
	baz=280				
LDUT	**Ludao**	**0.90 208**	P	**Pn**	**10 51 38.8 -1.0**
	baz=206				
LDUT			S	**Sn**	**10 51 49.8 -2.1**
	baz=206				
WHF	**Hehuan Shan**	**0.91 318**	*i* P	**Pn**	**10 51 39.8 -0.5**
	baz=320				
WHF			*i* S	**Sn**	**10 51 51.1 -1.5**
	baz=320				
CHGB	**Renai**	**0.91 310**	P	**Pn**	**10 51 40.0 -0.2**
	baz=312				
CHGB			S	**Sn**	**10 51 51.1 -1.3**
	baz=312				
WUSB	**Renai**	**0.91 305**	P	**Pn**	**10 51 39.9 -0.1**
	baz=306				
WUSB			S	**Sn**	**10 51 51.1 -1.1**
	baz=306				
LONT	**Longtian**	**0.93 233**	*e*P	**Pn**	**10 51 39.9 -0.3**
	baz=240				
LONT			*e*S	**Sn**	**10 51 52.0 -0.5**
	baz=240				
SSLB	**Suanglung**	**0.95 290**	P	**Pn**	**10 51 40.4 -0.1**
SSLB	**Suanglung**	**0.95 290**	P	**Pn**	**10 51 40.3 -0.2**
	baz=290				
SSLB			*e*S	**Sn**	**10 51 51.6 -1.5**
	baz=290				
ENA	**Nanau**	**0.97 350**	P	**Pn**	**10 51 40.7 -0.1**
	baz=360				
ENA			*e*S	**Sn**	**10 51 52.6 -0.9**
	baz=360				
FUSS	**Fushou**	**0.99 321**	P	**Pn**	**10 51 41.4 +0.1**
	baz=332				
FUSS			S	**Sn**	**10 51 53.8 -0.8**
	baz=332				
WHYT	**Xinyi Township**	**1.01 283**	P	**Pb**	**10 51 42.0 0.0**
	baz=279				
WHYT			S	**Sb**	**10 51 54.7 -0.3**
	baz=279				
TTN	**Taitung**	**1.01 225**	*e*P	**Pn**	**10 51 40.8 -0.6**
	baz=216				
TTN			*e*S	**Sn**	**10 51 53.9 -0.8**
	baz=216				
TWGBT	**Beinan**	**1.02 230**	P	**Pn**	**10 51 41.4 0.0**
TWGBT	**Beinan**	**1.02 230**	P	**Pn**	**10 51 41.1 -0.3**
	baz=241				
TWGBT			*e*S	**Sn**	**10 51 53.8 -0.9**
	baz=241				
TWG	**Pinlang**	**1.02 231**	*e*P	**Pn**	**10 51 41.1 -0.4**
	baz=241				
TWG			*e*S	**Sn**	**10 51 54.2 -0.7**
	baz=241				
SMLT	**Sun Moon Lake**	**1.03 294**	P	**Pn**	**10 51 42.0 +0.3**
	baz=299				
SMLT			*e*S	**Sn**	**10 51 55.0 -0.2**
	baz=299				
ALS	**Alishan**	**1.03 272**	P	**Pb**	**10 51 42.5 0.0**
	baz=279				
ALS			S	**Sb**	**10 51 55.7 -0.1**
	baz=279				
TWT	**Tachien**	**1.04 319**	P	**Pb**	**10 51 42.5 -0.1**
	baz=319				
TWT			S	**Sn**	**10 51 55.1 -0.5**
	baz=319				
TDCB	**Techi**	**1.05 318**	P	**Pb**	**10 51 42.5 -0.3**
	baz=319				
TDCB			S	**Sn**	**10 51 54.5 -1.3**
	baz=319				
TYC	**Yuchr**	**1.07 294**	P	**Pn**	**10 51 42.5 +0.3**
	baz=295				
TYC			S	**Sb**	**10 51 57.1 +0.4**
	baz=295				
NNSB	**Datong**	**1.08 332**	P	**Pn**	**10 51 42.5 +0.2**
	baz=334				
NNSB			S	**Sn**	**10 51 55.4 -1.0**
	baz=334				
NNS	**Nan Shan**	**1.09 332**	P	**Pn**	**10 51 41.8 -0.8**
	baz=334				
NNS			S	**Sn**	**10 51 55.0 -1.8**
	baz=334				
WCS	**Beigang Elemen**	**1.10 302**	P	**Pn**	**10 51 42.0 -0.5**
	baz=310				
WCS			*e*S	**Sn**	**10 51 56.1 -0.7**
	baz=310				
STYH	**Taoyuan**	**1.10 254**	*e*P	**Pn**	**10 51 42.3 -0.2**
	baz=249				
STYH			*e*S	**Sn**	**10 51 55.6 -1.2**
	baz=249				
LATG	**Datong**	**1.12 341**	P	**Pn**	**10 51 43.0 0.0**
	baz=343				
LATG			S	**Sn**	**10 51 57.0 -0.5**
	baz=343				
TWC	**Suao**	**1.14 356**	*e*P	**Pn**	**10 51 43.4 +0.4**
	baz=358				
TWC			*e*S	**Sb**	**10 51 57.8 -0.7**
	baz=358				
WJS	**Zhushan**	**1.16 288**	*e*P	**Pb**	**10 51 44.8 +0.4**
	baz=288				
WJS			*e*S	**Sn**	**10 51 58.1 0.0**
	baz=288				
TPUB	**Ta-pu**	**1.21 262**	P	**Pb**	**10 51 45.7 +0.4**
TPUB	**Ta-pu**	**1.21 262**	P	**Pn**	**10 51 44.3 +0.3**
	baz=262				
TPUB			S	**Sn**	**10 51 60.0 +0.5**
	baz=262				
WHP	**Taichung City**	**1.21 312**	P	**Pb**	**10 51 45.1 -0.2**
	baz=313				
WHP			S	**Sn**	**10 51 58.7 -0.8**
	baz=313				
ENTT	**Nioudou**	**1.21 344**	P	**Pn**	**10 51 43.7 -0.4**
	baz=346				
ENTT			S	**Sn**	**10 51 58.7 -0.8**
	baz=346				
WNT	**Mingjian**	**1.21 290**	*e*P	**Pb**	**10 51 45.2 -0.2**
	baz=290				
WNT			*e*S	**Sb**	**10 52 01.7 +1.1**
	baz=290				
WCKO	**Fanlu**	**1.22 269**	P	**Pn**	**10 51 44.9 +0.7**
	baz=268				
WCKO			S	**Sb**	**10 52 00.3 -0.5**
	baz=268				
WTP	**Ta-pu**	**1.23 260**	P	**Pb**	**10 51 45.6 -0.1**
	baz=259				
WTP			*e*S	**Sb**	**10 52 01.2 0.0**
	baz=259				
CHN4	**Tsaushan**	**1.23 265**	P	**Pn**	**10 51 45.0 +0.6**
	baz=264				
CHN4			S	**Sb**	**10 52 00.7 -0.6**
	baz=264				
ECL	**Taimali**	**1.25 226**	*e*P	**Pn**	**10 51 44.8 +0.2**
	baz=224				
ECL			*e*S	**Sn**	**10 51 59.1 -1.3**
	baz=224				
TWE	**Neicheng**	**1.27 349**	*e*P	**Pn**	**10 51 45.3 +0.5**
	baz=343				
TWE			*e*S	**Sn**	**10 52 00.6 -0.3**
	baz=343				
WDLH	**Douliu**	**1.29 280**	*e*P	**Pn**	**10 51 45.5 +0.3**
	baz=280				
WDLH			*e*S	**Sn**	**10 52 01.7 +0.1**
	baz=280				
SGST	**Jiashian**	**1.30 253**	P	**Pn**	**10 51 45.9 +0.6**
	baz=245				
SGST			*e*S	**Sn**	**10 52 02.1 +0.5**
	baz=245				
YHNB	**Yeheng**	**1.30 337**	P	**Pb**	**10 51 46.2 -0.7**
YHNB	**Yeheng**	**1.30 337**	P	**Pn**	**10 51 45.9 +0.6**
	baz=338				
YHNB			S	**Sn**	**10 52 01.2 -0.6**
	baz=338				
NSK	**Sanguang**	**1.31 337**	P	**Pn**	**10 51 45.2 -0.3**
	baz=338				
NSK			S	**Sn**	**10 52 00.5 -1.5**
	baz=338				
CHN1	**Nanshi**	**1.32 258**	P	**Pb**	**10 51 47.3 +0.1**
	baz=257				
CHN1			S	**Sb**	**10 52 05.0 +1.2**
	baz=257				
FUSB	**Fushanzhiwuyua**	**1.32 346**	P	**Pn**	**10 51 46.2 +0.6**
	baz=348				
FUSB			S	**Sn**	**10 52 02.2 -0.2**
	baz=348				
TCU	**Taichung**	**1.33 301**	*e*P	**Pb**	**10 51 47.1 -0.3**
	baz=301				
TCU			*e*S	**Sb**	**10 52 04.0 0.0**
	baz=301				
CHN2	**Minshiung**	**1.33 273**	*e*P	**Pb**	**10 51 47.2 -0.2**
	baz=273				
CHN2			*e*S	**Sb**	**10 52 04.5 +0.3**
	baz=273				
TWK	**Hsinying**	**1.34 262**	P	**Pb**	**10 51 47.4 -0.2**
	baz=261				
TWK			*e*S	**Sb**	**10 52 04.7 +0.4**
	baz=261				
EGS		**1.37 0**	*e*P	**Pn**	**10 51 46.8 +0.5**
	baz=12				
EGS			*e*S	**Sn**	**10 52 03.7 +0.3**
	baz=12				
TWQ1	**Liyutan**	**1.37 310**	P	**Pb**	**10 51 48.1 0.0**
	baz=324				
TWQ1			*e*S	**Sb**	**10 52 05.3 +0.1**
	baz=324				
NFF	**Wufeng Townshi**	**1.37 327**	P	**Pn**	**10 51 46.6 +0.2**
	baz=329				
NFF			S	**Sn**	**10 52 02.9 -0.8**
	baz=329				
CHY	**Chiayi**	**1.38 271**	*e*P	**Pb**	**10 51 48.5 +0.3**
	baz=271				
CHY			*e*S	**Sb**	**10 52 05.8 +0.3**
	baz=271				
WCHH	**Zhanghua**	**1.39 296**	*e*P	**Pb**	**10 51 48.4 -0.1**
	baz=296				
WCHH			*e*S	**Sb**	**10 52 06.8 +0.9**
	baz=296				
SSD	**Sandimen**	**1.40 239**	*e*P	**Pb**	**10 51 48.5 0.0**
	baz=236				
SSD			*e*S	**Sn**	**10 52 05.2 +1.1**
	baz=236				
YOJ	**Yonaguni jima**	**1.40 45**	P	**Pb**	**10 51 47.9 -0.6**
YOJ	**Yonaguni jima**	**1.40 45**	*e*P	**Pb**	**10 51 48.0 -0.6**
	baz=57				
YOJ			*e*S	**Sb**	**10 52 05.3 -0.7**
	baz=57				
YOJ	**Yonaguni jima**	**1.40 45**	P	**Pb**	**10 51 47.9 -0.6**
YOJ			*e*S	**Sn**	**10 52 04.9 +0.8**
TSMG	**Majia**	**1.41 237**	*e*P	**Pn**	**10 51 46.9 +0.1**
	baz=235				
TSMG			*e*S	**Sn**	**10 52 03.8 -0.6**
	baz=235				
NSY	**Sanyi**	**1.42 312**	*e*P	**Pb**	**10 51 49.3 +0.3**
	baz=326				
NSY			*e*S	**Sb**	**10 52 06.2 -0.5**
	baz=326				
NSTT	**Nanjuang**	**1.43 324**	P	**Pb**	**10 51 48.9 -0.2**
	baz=333				
NSTT			*e*S	**Sb**	**10 52 06.1 -0.9**
	baz=333				
LIOB	**Emei**	**1.44 325**	*e*P	**Pb**	**10 51 49.1 -0.1**
	baz=334				
LIOB			*e*S	**Sb**	**10 52 06.7 -0.4**
	baz=334				
SCST	**Cishan**	**1.44 246**	*e*P	**Pb**	**10 51 49.2 -0.1**
	baz=246				
SCST			*e*S	**Sb**	**10 52 08.1 +0.8**
	baz=246				
WDJ	**Dajia District**	**1.47 307**	*e*P	**Pb**	**10 51 49.1 -0.6**
	baz=321				
WDJ			*e*S	**Sb**	**10 52 07.6 -0.3**
	baz=321				
LAY	**Lan-yu**	**1.47 194**	*e*P	**Pn**	**10 51 46.0 -1.6**
	baz=192				
LAY			*e*S	**Sn**	**10 52 04.5 -1.4**
	baz=192				
MASBT	**Mashibuluo**	**1.47 235**	*e*P	**Pn**	**10 51 48.3 +0.6**
	baz=232				
MASBT			*e*S	**Sn**	**10 52 06.0 +0.1**
	baz=232				
EAST	**Anshuo**	**1.47 223**	*e*P	**Pn**	**10 51 47.1 -0.6**
	baz=221				
EAST			*e*S	**Sn**	**10 52 04.4 -1.6**
	baz=221				
TAWH	**Dawu Township**	**1.48 221**	*e*P	**Pn**	**10 51 47.2 -0.5**
	baz=226				
TAWH			*e*S	**Sn**	**10 52 04.8 -1.4**
	baz=226				
WRL	**Guolierlin Hig**	**1.48 287**	*e*P	**Pn**	**10 51 48.1 +0.2**
	baz=277				
WRL			*e*S	**Sn**	**10 52 06.0 -0.3**
	baz=277				
NMLH	**Miaoli**	**1.49 316**	*e*P	**Pn**	**10 51 48.5 +0.7**
	baz=317				
NMLH			*e*S	**Sn**	**10 52 06.0 -0.4**
	baz=317				
LYUB	**Lan-yu**	**1.50 192**	*e*P	**Pn**	**10 51 46.0 -2.1**
	baz=191				
LYUB			*e*S	**Sn**	**10 52 03.0 -3.6**
	baz=191				
TIPB	**Shuangxi**	**1.50 356**	*e*P	**Pb**	**10 51 49.7 -0.5**
	baz=5.0				
TIPB			*e*S	**Sn**	**10 52 06.8 +0.2**
	baz=5.0				
ICHU	**Yijhu**	**1.52 266**	*e*P	**Pb**	**10 51 50.3 -0.3**
	baz=266				
ICHU			*e*S	**Sb**	**10 52 08.9 -0.5**
	baz=266				
TWM1	**Shoushan**	**1.53 245**	*e*P	**Pb**	**10 51 50.8 0.0**
	baz=244				
TWM1			*e*S	**Sb**	**10 52 10.8 +1.0**
	baz=244				
NHDH	**Xindian Distri**	**1.53 346**	*e*P	**Pb**	**10 51 49.6 -1.2**
	baz=338				
NHDH			*e*S	**Sn**	**10 52 07.2 -0.2**
	baz=338				
TWB1	**Santiao Chiao**	**1.53 2**	*e*P	**Pn**	**10 51 49.1 +0.6**
	baz=3.0				
TWB1			*e*S	**Sn**	**10 52 07.6 +0.1**
	baz=3.0				
TWA	**Mucha**	**1.54 348**	*e*P	**Pn**	**10 51 48.7 +0.1**
	baz=341				
TWA			*e*S	**Sn**	**10 52 07.0 -0.5**
	baz=341				
TATO	**Taipei**	**1.55 345**	P	**Pb**	**10 51 50.6 -0.5**
WTCT	**Ta-ch'eng**	**1.56 285**	*e*P	**Pn**	**10 51 49.0 +0.1**
	baz=274				
WTCT			*e*S	**Sn**	**10 52 07.7 -0.4**
	baz=274				
WSL	**Shuilin Townsh**	**1.56 272**	*e*P	**Pn**	**10 51 49.5 +0.6**
	baz=272				
WSL			*e*S	**Sn**	**10 52 08.4 +0.2**
	baz=272				
CHN8	**Yiju**	**1.58 266**	*e*P	**Pb**	**10 51 51.0 -0.7**
	baz=266				
CHN8			*e*S	**Sb**	**10 52 10.7 -0.6**
	baz=266				
NWF	**Wu-fen Shan**	**1.60 355**	*e*P	**Pb**	**10 51 50.9 -1.1**
	baz=356				
NWF			*e*S	**Sb**	**10 52 10.6 -1.3**
	baz=356				
SXI1	**Grass Mountain**	**1.62 358**	*e*P	**Pb**	**10 51 51.2 -1.1**
	baz=14				
SXI1			*e*S	**Sn**	**10 52 10.7 +1.0**
	baz=14				
SLIU	**Shizi**	**1.63 220**	*e*P	**Pn**	**10 51 51.2 +1.4**
	baz=219				
SLIU			*e*S	**Sn**	**10 52 11.7 +1.9**
	baz=219				
SCZT	**Fangliau**	**1.63 228**	*e*P	**Pn**	**10 51 50.6 +0.7**
	baz=223				
SCZT			*e*S	**Sn**	**10 52 10.0 +0.2**
	baz=223				
NCUH	**Zhongli**	**1.64 336**	*e*P	**Pb**	**10 51 51.8 -0.9**
	baz=337				
NCUH			*e*S	**Sb**	**10 52 12.6 -0.3**
	baz=337				
NCU	**National Centr**	**1.64 336**	*e*S	**Sb**	**10 52 11.9 -1.0**
	baz=337				
TWS1	**Kuangyinshan**	**1.69 344**	*e*P	**Pn**	**10 51 50.8 +0.2**
	baz=345				
TWS1			*e*S	**Sn**	**10 52 10.9 -0.4**
	baz=345				
YM01	**YM01**	**1.70 349**	*e*P	**Pn**	**10 51 52.0 +1.1**
	baz=337				
YM01			*e*S	**Sn**	**10 52 11.7 0.0**
	baz=337				
TSCK	**Chigu Township**	**1.72 260**	*e*P	**Pn**	**10 51 52.0 +0.8**
	baz=259				
TSCK			*e*S	**Sn**	**10 52 12.7 +0.5**
	baz=259				
SMST	**Manzhou Townsh**	**1.76 215**	*e*P	**Pn**	**10 51 50.8 -0.9**
	baz=214				
SMST			*e*S	**Sn**	**10 52 12.5 -0.6**
	baz=214				
HATJ	**Hateruma jima**	**1.82 71**	P	**Pn**	**10 51 53.2 +0.8**
HATJ			S	**Sn**	**10 52 14.4 0.0**
TWY	**Chenhua**	**1.82 351**	*e*S	**Sn**	**10 52 14.5 -0.1**
	baz=338				
HEN	**Hengchun**	**1.83 217**	*e*P	**Pn**	**10 51 53.7 +1.2**
	baz=209				
HEN			*e*S	**Sn**	**10 52 15.0 +0.3**
	baz=209				
TSEB	**Hengchuen, Pin**	**1.83 211**	*e*S	**Sn**	**10 52 16.8 +2.1**
	baz=211				
TWKBT	**Hengchun**	**1.84 214**	*e*P	**Pn**	**10 51 53.3 +0.6**
	baz=213				
TWKBT			*e*S	**Sn**	**10 52 16.0 +1.0**
	baz=213				
TWK1	**Hengchun**	**1.84 215**	*e*P	**Pn**	**10 51 53.6 +0.9**
	baz=213				
TWK1			*e*S	**Sn**	**10 52 15.6 +0.6**
	baz=213				
IRIF	**Iriomote-Funau**	**1.86 62**	P	**Pn**	**10 51 54.2 +1.2**
IRIF			S	**Sn**	**10 52 16.8 +1.2**
JKRS	**Kuro-shima**	**2.05 68**	P	**Pn**	**10 51 56.9 +1.2**
JKRS			S	**Sn**	**10 52 21.3 +1.0**
WDGT	**Dungji**	**2.10 265**	*e*P	**Pn**	**10 51 57.1 +0.9**
	baz=264				
WDGT			*e*S	**Sn**	**10 52 21.4 0.0**
	baz=264				
PHUB	**P'eng-hu**	**2.16 272**	*e*P	**Pn**	**10 51 58.0 +0.8**
	baz=259				
PHUB			*e*S	**Sn**	**10 52 23.0 -0.1**
	baz=259				
PNG	**Penghu**	**2.18 273**	*e*P	**Pn**	**10 51 58.5 +1.1**
	baz=273				
PNG			*e*S	**Sn**	**10 52 23.4 -0.1**
	baz=273				
JIJ	**Ishigaki jima**	**2.21 66**	P	**Pn**	**10 51 58.4 +0.6**
JIJ			S	**Sn**	**10 52 23.9 -0.4**
VCHM	**Qimei**	**2.31 264**	*e*P	**Pn**	**10 51 59.9 +0.7**
	baz=264				
VCHM			*e*S	**Sn**	**10 52 26.8 +0.1**
	baz=264				
JISG	**Ishigakijimahi**	**2.44 63**	P	**Pn**	**10 52 01.6 +0.5**
JISG			S	**Sn**	**10 52 28.8 -1.2**
VWUC	**VWUC**	**2.72 304**	*e*P	**Pn**	**10 52 05.6 +0.7**
	baz=304				
VWUC			*e*S	**Sn**	**10 52 36.4 -0.5**
	baz=304				
JTJ	**Tarama**	**2.79 65**	P	**Pn**	**10 52 06.7 +0.9**
JTJ			S	**Sn**	**10 52 38.7 +0.2**
PTMZ	**Houxiangcun**	**3.00 302**	*e*S	**Sn**	**10 52 43.2 -0.5**
	baz=302				
MATB	**Ma-tsu**	**3.22 326**	*e*P	**Pn**	**10 52 12.6 +0.9**
	baz=326				
MATB			*e*S	**Sn**	**10 52 49.8 +0.7**
	baz=326				
JIRB	**Irabujima**	**3.26 65**	*e*P	**Pn**	**10 52 13.1 +0.9**
JIRB			*e*S	**Sn**	**10 52 50.1 0.0**
KNM	**Kinmen**	**3.33 287**	*e*P	**Pn**	**10 52 15.8 +2.5**
	baz=286				
KNM			*e*S	**Sn**	**10 52 54.3 +2.4**
	baz=286				
JMJ	**Miyako jima 2**	**3.35 66**	P	**Pn**	**10 52 15.4 +1.9**
JMJ2	**Miyako jima3**	**3.35 67**	P	**Pn**	**10 52 14.6 +1.0**
JMJ2			*e*S	**Sn**	**10 52 52.5 +0.1**
KNMB	**Chin-men Tao**	**3.38 288**	*e*P	**Pn**	**10 52 14.9 +0.9**
	baz=287				
KNMB			*e*S	**Sn**	**10 52 52.9 -0.3**
	baz=287				
JOGS	**Gusukube**	**3.43 67**	P	**Pn**	**10 52 15.8 +1.2**
JOGS			*e*S	**Sn**	**10 52 54.4 +0.2**
LYJJ	**Jianjiangzhen**	**3.64 328**	*e*P	**Pn**	**10 52 19.1 +1.5**
	baz=318				
LYJJ			*e*S	**Sn**	**10 53 00.5 +0.9**
	baz=318				
MHZQ	**Yeshan**	**3.71 315**	*e*P	**Pn**	**10 52 19.2 +0.7**
	baz=316				
MHZQ			*e*S	**Sn**	**10 53 01.3 0.0**
	baz=316				
XPSS	**Dashiqiu**	**3.79 336**	*e*P	**Pn**	**10 52 20.5 +1.0**
	baz=345				
XPSS			*e*S	**Sn**	**10 53 03.5 +0.4**
	baz=345				
ZPLA	**Ao Xicun**	**3.86 278**	*e*P	**Pn**	**10 52 21.5 +1.1**
	baz=277				
ZPLA			*e*S	**Sn**	**10 53 03.9 -1.0**
	baz=277				
AXDP	**Jialang**	**3.88 292**	*e*P	**Pn**	**10 52 22.1 +1.2**
	baz=292				
AXDP			*e*S	**Sn**	**10 53 04.2 -1.3**
	baz=292				
SXFK	**Yanhouchang**	**4.86 308**	*e*P	**Pn**	**10 52 35.2 +0.9**
	baz=307				

RSNC 12 11:10:28.3±0.9, 6.81N×73.15W, h145km±4km, ML3.5, Mw3.9, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**188**	‖ *i*P		Pn		11 10 47.9	-0.4
BARC				*e*S		Sn		11 11 02.8	-0.8
BARC				IAML				11 11 04.5	
	comp=Z,1μm,0.6s								
BRRC	**Barranca, Sant**	**0.63**	**298**	*e*P		Pn		11 10 49.7	-0.2
BRRC				*e*S		Sn		11 11 06.6	+0.4
BRRC				IAML				11 11 09.3	
	comp=Z,260nm,0.3s								
PAMC	**Pamplona, Colo**	**0.69**	**40**	⇑ *i*P		Pn		11 10 50.6	-0.2
PAMC				*e*S		Sn		11 11 07.2	-0.7
PAMC				IAML				11 11 10.2	
	comp=Z,624nm,0.6s								
PTBC	**PUERTO BERRIO,**	**1.32**	**259**	*e*P		Pn		11 10 54.3	-1.4
PTBC				*e*S		Sn		11 11 15.7	-0.8
PTBC				IAML				11 11 23.2	
	comp=Z,488nm,0.4s								
TAMC	**Tame, Arauca**	**1.40**	**105**	⇑ *i*P		Pn		11 10 56.2	-0.3
TAMC				IAML				11 11 17.0	
	comp=Z,280nm,0.4s								
TAMC				*e*S		Sn		11 11 17.7	-0.3
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	*e*P		Pn		11 11 00.4	-0.7
ZARC				*e*S		Sn		11 11 25.9	-0.4
ZARC				IAML				11 11 32.6	
	comp=Z,378nm,0.3s								
NORC	**Norcasia**	**2.11**	**234**	⇑ *e*P		Pn		11 11 03.9	-0.6
NORC				*e*S		Sn		11 11 32.1	-0.1
NORC				IAML				11 11 37.2	
	comp=Z,412nm,0.5s								
CHIC	**Chingaza**	**2.24**	**195**	*e*P		Pn		11 11 05.8	-0.6

CHIC				*e*S	Sn	11 11 35.7	0.0
CHIC				IAML		11 11 42.5	
	comp=Z,199nm,0.3s						
ROSC	**El Rosal**	**2.27**	**211**	⇓*i*P	Pn	11 11 07.7	+0.9
ROSC				*e*S	Sn	11 11 37.8	+1.4
ROSC				IAML		11 11 44.0	
	comp=Z,433nm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**292**	*e*P	Pn	11 11 07.5	-2.3
UREC				*e*S	Sn	11 11 38.6	-3.1
UREC				IAML		11 11 50.9	
	comp=Z,152nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.75**	**352**	*e*P	Pn	11 11 13.3	+1.0
LL1C				*e*S	Sn	11 11 46.8	+0.5
PTGC	**Puerto Gaitan,**	**2.78**	**159**	⇓*i*P	Pn	11 11 11.0	-1.8
PTGC				*e*S	Sn	11 11 44.0	-3.1
PTGC				IAML		11 11 44.4	
	comp=Z,177nm,0.4s						
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*e*P	Pn	11 11 15.6	0.0
CBOC				*e*S	Sn	11 11 50.4	-1.6
CBOC				IAML		11 12 01.7	
	comp=Z,102nm,0.5s						
DBBC	**Dabeiba**	**3.04**	**274**	*e*P	Pn	11 11 15.6	-0.5
DBBC				*e*S	Sn	11 11 48.5	-4.5
ANIL	**Santa Ana**	**3.21**	**224**	*e*P	Pn	11 11 18.7	+0.3
ANIL				*e*S	Sn	11 11 59.3	+2.1
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*P	Pn	11 11 18.4	0.0
ARGC				*e*S	Sn	11 11 56.5	-0.6
ARGC				IAML		11 12 04.4	
	comp=Z,55nm,0.3s						
ORTC	**Ortega, Tolima**	**3.55**	**216**	⇑*i*P	Pn	11 11 22.2	-0.4
ORTC				*e*S	Sn	11 12 05.1	+0.2
ORTC				IAML		11 12 12.2	
	comp=Z,162nm,0.5s						
PLMC	**San Jos del P**	**3.64**	**239**	*e*P	Pn	11 11 23.6	-0.3
PLMC				*e*S	Sn	11 12 05.5	-1.4
PLMC				IAML		11 12 12.7	
	comp=Z,106nm,0.5s						
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P	Pn	11 11 21.9	-2.3
SJCC				*e*S	Sn	11 12 03.1	-4.4
SJCC				IAML		11 12 06.6	
	comp=Z,76nm,0.3s						
LCBC	**Los crdobas,**	**3.78**	**303**	*e*P	Pn	11 11 24.6	-1.0
LCBC				*e*S	Sn	11 12 10.2	+0.2
LCBC				IAML		11 12 14.2	
	comp=Z,62nm,0.5s						
CRJC	**Cerrejon, Guaj**	**4.20**	**4**	*e*P	Pn	11 11 28.1	-3.0
CRJC				*e*S	Sn	11 12 14.2	-5.8
CRJC				IAML		11 12 20.9	
	comp=Z,45nm,0.2s						
YOTC	**Yotoco, Valle**	**4.24**	**229**	*e*P	Pn	11 11 30.7	-1.0
YOTC				*e*S	Sn	11 12 16.2	-4.8
YOTC				IAML		11 12 32.8	
	comp=Z,24nm,0.7s						
GUVC	**San Jose del G**	**4.26**	**173**	*e*P	Pn	11 11 29.8	-2.2
GUVC				*e*S	Sn	11 12 18.7	-2.8
GUVC				IAML		11 12 26.9	
	comp=Z,83nm,0.3s						
MALC	**Bahia Malaga**	**5.00**	**237**	*e*P	Pn	11 11 42.3	+0.5
MALC				IAML		11 12 54.1	
	comp=Z,24nm,0.7s						
GARC	**Garzon, Huila**	**5.15**	**207**	*e*P	Pn	11 11 41.6	-2.3
GARC				*e*S	Sn	11 12 38.0	-4.8
GARC				IAML		11 12 41.0	
	comp=Z,62nm,0.3s						
FLOC	**Florencia**	**5.76**	**206**	*e*P	Pn	11 11 50.6	-1.2
FLOC				*e*S	Sn	11 12 54.0	-3.1
FLOC				IAML		11 12 58.8	
	comp=Z,8.6nm,0.5s						

---

*IDC **12** 11:20:46.9±1.1,26°.72N×144°.01E,h0km,mb3.6/4, mbtmp3.6/5,ML2.9/1,Error ellipse: s-maj=30.1km s-min=22.0km az=29.0*

*JMA **12** 11:20:50.4±0.2,27°N±2°×144°.0E±0°.7,h28km,MV4.0/13, NEAR CHICHIJIMA ISLAND*

ISC 12 11:20:52.2±1.1**,26°.99N**±0°.09×**144°.00E**±0°.09**,h35**km**,n13, σ1s.42**/16**,mb3.7**/4**,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.62**	**274**	P	**Pn**	**11 21 17.5**	**-0.9**
CBIJ				*e*S	**Sn**	**11 21 37.5**	**-0.5**
JCJ	**Chichijima**	**1.62**	**274**	Pn	**Pn**	**11 21 17.7**	**-0.6**
	10.0nm,0.3s,baz=96,slow=23,SNR=7.7						
JCJ				Sn	**Sn**	**11 21 39.1**	**+1.1**
	63nm,0.3s,baz=303,slow=23,SNR=13						
JHH2	**Haha-jima-NKT2**	**1.67**	**258**	*e*S	**Sn**	**11 21 39.8**	**+0.7**
JHU	**Hanno**	**9.71**	**337**	*e*P	**Pn**	**11 23 09.0**	**-0.4**
JHU				S	**Sn**	**11 24 55.8**	**-1.5**
JRY	**Ryogami san**	**10.00**	**335**	*e*P	**Pn**	**11 23 13.0**	**-0.4**
JHO	**Hitachi**	**10.03**	**344**	*e*S	**Sn**	**11 25 02.8**	**-2.1**
JAG	**Ashikaga**	**10.17**	**339**	*e*P	**Pn**	**11 23 14.9**	**-0.8**
MJAR	**Matsushiro Arr**	**10.72**	**334**	Pn	**Pn**	**11 23 23.5**	**+0.2**
	0.1nm,0.3s,baz=154,slow=13,SNR=5.7						
	0.8nm,0.5s						
SONM	**Songino Array**	**35.92**	**316**	P	**P**	**11 27 52.0**	**+2.8**
	0.5nm,0.7s,baz=104,slow=6.1,SNR=2.5						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**47.58**	**192**	P	**P**	**11 29 22.3**	**-2.4**
	0.4nm,0.5s,baz=14,slow=8.5,SNR=9.8						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**50.63**	**319**	P	**P**	**11 29 48.8**	**+1.2**
	0.3nm,0.3s,baz=115,slow=9.7,SNR=2.0						
	0.3nm,0.3s						
NVAR	**Mina Array Bea**	**79.31**	**52**	P	**P**	**11 32 55.3**	**+0.6**
	0.6nm,0.7s,baz=282,slow=5.4,SNR=4.9						
	0.6nm,0.7s						
LPAZ	**La Paz**	**148.38**	**77**	PKPbc	**PKPbc**	**11 40 36.8**	**+0.4**
	1.0nm,0.7s,baz=214,slow=3.6,SNR=4.3						

---

*IDC **12** 11:43:58.5±1.1,28°.30N×66°.33E,h0km,mb3.7/10, mbtmp3.7/11,ML3.7/1,MS3.2/20,Error ellipse: s-maj=25.2km s-min=23.1km az=87.0*

*OMAN **12** 11:44:23.3±8.9,27°.37N×64°.53E,h10km,mb5.4/9,ms2.8/4, Error ellipse: s-maj=97.8km s-min=13.3km az=65.0*

ISC 12 11:43:59.6±0.8**,28°.2N**±0°.1×**66°.2E**±0°.1**,h10**km**,n37, σ1s.77**/27**,mb3.6**/10**,MS3.2**/19**,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.44**	**235**	Pn	**Pn**	**11 46 02.9**	**+0.9**
	0.9nm,0.3s,baz=106,slow=5.5,SNR=10.0						
WSAR				Sn	**Sn**	**11 47 33.5**	**-3.8**
	0.9nm,0.3s,baz=15,slow=2.1,SNR=2.8						
	2.3nm,0.3s						
WSAR	**Wadi Sarin**	**8.44**	**235**	P	**Pn**	**11 46 02.6**	**+0.6**
WBK	**Wadi Bani Khal**	**8.60**	**231**	P	**Pn**	**11 46 04.8**	**+0.6**
BANOM	**Banah**	**9.11**	**258**	P	**Pn**	**11 46 12.8**	**+1.6**
SHME	**Shamm**	**9.21**	**259**	P	**Pn**	**11 46 15.0**	**+2.5**
	SNR=5.2						
SHME				P	**Pn**	**11 46 15.0**	**+2.5**
	SNR=5.2						
JMDO	**Jabal Madar**	**9.36**	**233**	P	**Pn**	**11 46 15.3**	**+0.6**
	SNR=6.4						
JMDO				P	**Pn**	**11 46 15.3**	**+0.6**
	SNR=6.4						
UOSS	**Minazif**	**9.52**	**252**	P	**Pn**	**11 46 14.9**	**-1.9**
HATD	**Hatta, Dubai**	**9.62**	**252**	P	**Pn**	**11 46 18.3**	**+0.1**
ASHO	**Ashiyiah**	**9.74**	**251**	P	**Pn**	**11 46 21.0**	**+1.1**
	SNR=8.8						
BSY	**Bisya**	**9.79**	**238**	P	**Pn**	**11 46 22.8**	**+2.2**
	SNR=9.1						
ARQ	**Araqi**	**9.98**	**243**	P	**Pn**	**11 46 23.9**	**+0.7**
	SNR=9.7						
ARQ				P	**Pn**	**11 46 23.9**	**+0.7**
	SNR=9.7						
MHTO	**MHTO**	**10.39**	**228**	P	**Pn**	**11 46 32.1**	**+3.3**
MHTO				P	**Pn**	**11 46 32.1**	**+3.3**
AAK	**Ala-Archa**	**15.86**	**23**	LR	LR	11 55 25.7	
	comp=Z,80nm,20.2s,baz=211,slow=44						
GNI	**Garni**	**21.28**	**309**	LR	LR	11 58 18.9	
	comp=Z,47nm,18.4s,baz=108,slow=40						
MKAR	**Makanchi Array**	**22.42**	**30**	P	**P**	**11 48 56.0**	**-2.4**
	0.7nm,0.5s,baz=220,slow=12,SNR=6.6						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**24.23**	**19**	P	**P**	**11 49 15.3**	**-1.2**
	1.0nm,0.6s,baz=210,slow=9.3,SNR=8.3						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**24.95**	**6**	P	**P**	**11 49 23.6**	**+0.6**
	0.6nm,0.4s,baz=176,slow=8.4,SNR=5.5						
BVAR				LR	LR	11 59 34.7	
	comp=Z,18nm,21.4s,baz=212,slow=38						
	0.6nm,0.4s						
PALK	**Pallekele**	**24.97**	**144**	LR	LR	12 00 27.3	
	comp=Z,49nm,18.1s,baz=66,slow=40						
BELG	**Belogornoye**	**27.80**	**335**	LR	LR	12 04 28.7	
	comp=Z,37nm,18.2s,baz=126,slow=44						
ARU	**Arti**	**28.69**	**351**	LR	LR	12 01 37.7	
	comp=Z,30nm,20.9s,baz=117,slow=37						
ZALV	**Zalesovo Beam**	**29.09**	**23**	P	**P**	**11 49 59.0**	**-1.1**
	0.8nm,0.4s,baz=227,slow=11,SNR=5.3						
ZALV				LR	LR	12 02 35.6	
	comp=Z,58nm,20.9s,baz=260,slow=38						
	0.8nm,0.4s						
BRTR	**Keskin Array B**	**29.16**	**302**	LR	LR	12 03 31.9	
	comp=Z,48nm,18.2s,baz=124,slow=40						
CMAR	**Chiang Mai Arr**	**31.53**	**101**	LR	LR	12 03 46.8	
	comp=Z,25nm,20.7s,baz=265,slow=38						
KIRV	**Kirov**	**32.49**	**344**	LR	LR	12 05 21.6	
	comp=Z,49nm,19.0s,baz=169,slow=40						
AKASG	**Malin Array Be**	**35.74**	**319**	LR	LR	12 08 57.9	
	comp=Z,24nm,18.1s,baz=198,slow=42						
SONM	**Songino Array**	**36.70**	**47**	P	**P**	**11 51 06.6**	**-0.2**
	0.8nm,0.7s,baz=230,slow=9.5,SNR=3.9						
SONM				LR	LR	12 09 11.0	
	comp=Z,52nm,18.6s,baz=208,slow=41						
	0.8nm,0.7s						
FINES	**FINESS Array B**	**42.51**	**333**	P	**P**	**11 51 55.9**	**+0.9**
	0.7nm,0.6s,baz=118,slow=11,SNR=6.0						
FINES				LR	LR	12 12 51.2	
	comp=Z,29nm,18.5s,baz=16,slow=41						
	0.7nm,0.6s						
VRAC	**Vranov**	**43.09**	**313**	LR	LR	12 12 55.6	
	comp=Z,20nm,18.4s,baz=230,slow=40						
GERES	**GERESS Array B**	**44.90**	**312**	P	**P**	**11 52 15.2**	**+0.7**
	0.2nm,0.4s,baz=114,slow=6.0,SNR=3.7						
	0.2nm,0.4s						
NOA	**NORSAR Array B**	**48.87**	**328**	LR	LR	12 16 58.8	
	comp=Z,21nm,18.2s,baz=350,slow=40						
KSRS	**Korea Array**	**51.87**	**63**	P	**P**	**11 53 08.0**	**-0.2**
	1.1nm,0.8s,baz=269,slow=8.5,SNR=3.5						
KSRS				LR	LR	12 18 36.2	
	comp=Z,23nm,18.3s,baz=60,slow=40						
	1.1nm,0.8s						
YAK	**Yakutsk**	**53.07**	**32**	LR	LR	12 17 39.6	
	comp=Z,41nm,19.2s,baz=265,slow=38						
MDT	**Midelt**	**60.11**	**293**	LR	LR	12 23 34.0	
	comp=Z,30nm,19.6s,baz=164,slow=40						
MA2	**Magadan**	**63.41**	**35**	LR	LR	12 23 28.8	
	comp=Z,24nm,19.2s,baz=177,slow=38						
BORG	**Borgarnes**	**63.79**	**331**	LR	LR	12 24 16.9	
	comp=Z,25nm,18.3s,baz=86,slow=38						
WRA	**Warramunga Arr**	**81.42**	**118**	P	**P**	**11 56 17.5**	**+0.3**
	1.3nm,1.1s,baz=314,slow=4.5,SNR=5.4						
	1.3nm,1.1s						
ASAR	**Alice Springs**	**83.18**	**121**	P	**P**	**11 56 26.1**	**-0.2**
	0.7nm,0.6s,baz=305,slow=5.0,SNR=7.7						
	0.7nm,0.6s						

---

*IDC **12** 11:55:21.4±1.5,23°.80S×179°.98E,h523km±16km,mb3.1/5, mbtmp3.9/6,Error ellipse: s-maj=23.1km s-min=19.9km az=62.0*

*NEIC **12** 11:55:21.5±2.5,23°.7S±0°.1×179°.9W±0°.1,h541km±15km, mb4.6/23,Error ellipse: s-maj=20.9km s-min=12.5km az=142.0*

ISC 12 11:55:21.6±0.6**,23°.64S**±0°.09×**179°.8W**±0°.1**,h550**km**,n43, σ1s.70**/44**,mb4.1**/15**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.85**	**163**	P	**P**	**11 56 57.2**	**-1.5**
	263nm,0.3s,baz=59,slow=11,SNR=6.2						
RAO	**Raoul Island**	**5.85**	**163**	P	**P**	**11 56 57.0**	**-1.7**
MSVF	**Nonsavu**	**6.20**	**341**	P	**P**	**11 57 02.5**	**+0.2**
	2.1nm,0.5s,baz=241,slow=22,SNR=5.2						
MSVF	**Nonsavu**	**6.20**	**341**	P	**P**	**11 57 01.2**	**-1.1**
NIUE	**Niue**	**10.28**	**66**	P	**P**	**11 57 43.2**	**+0.7**
AFI	**Afiamalu**	**12.31**	**40**	P	**P**	**11 58 00.6**	**-3.0**
	13nm,0.5s,baz=86,slow=9.1,SNR=5.8						
AFI	**Afiamalu**	**12.31**	**40**	P	**P**	**11 58 01.6**	**-2.1**
HIZ	**Hauiti**	**15.51**	**196**	P	**P**	**11 58 39.5**	**+3.4**
BKZ	**Black Stump Fm**	**15.79**	**191**	P	**P**	**11 58 35.7**	**-3.3**
BKZ				IAmb	IAmb	11 58 39.6	
	comp=Z,35nm,1.2s						
QRZ	**Quartz Range**	**18.30**	**199**	P	**P**	**11 59 00.7**	**-1.4**
NNZ	**Nelson**	**18.43**	**196**	P	**P**	**11 59 01.1**	**-2.1**
TUWZ	**Tuamarina**	**18.49**	**195**	P	**P**	**11 59 01.7**	**-2.1**
THZ	**Tophouse**	**19.07**	**197**	P	**P**	**11 59 07.7**	**-1.4**
LTZ	**Lake Taylor**	**20.18**	**197**	P	**P**	**11 59 17.9**	**-1.3**
MQZ	**McQueen's Vall**	**20.95**	**195**	P	**P**	**11 59 27.4**	**+1.4**
MQZ				IAmb	IAmb	11 59 49.0	
	comp=Z,56nm,1.4s						
RPZ	**Rata Peaks**	**21.39**	**198**	P	**P**	**11 59 28.8**	**-1.2**
	comp=Z,4.1nm,0.4s,baz=23,slow=4.9,SNR=6.8						
	comp=Z,4.1nm,0.4s						
RPZ	**Rata Peaks**	**21.39**	**198**	P	**P**	**11 59 29.8**	**-0.2**
RPZ				IAmb	IAmb	11 59 54.5	
	comp=Z,63nm,1.5s						
CTAO	**Charters Tower**	**31.63**	**270**	P	**P**	**12 01 01.0**	**+0.8**
CTAO				IAmb	IAmb	12 01 18.6	
	comp=Z,30nm,1.4s						
TOO	**Toolangi**	**32.72**	**237**	P	**P**	**12 01 09.3**	**0.0**
TOO				IAmb	IAmb	12 01 09.7	
	comp=Z,52nm,1.4s						
BBOO	**Buckleboo**	**39.69**	**247**	P	**P**	**12 02 05.5**	**-1.3**
BBOO				IAmb	IAmb	12 02 31.6	
	comp=Z,37nm,1.3s						
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**12 02 27.1**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=97,slow=7.2,SNR=18						
	comp=Z,1.0nm,0.4s						
WR0	**Warramunga Arr**	**42.39**	**266**	P	**P**	**12 02 27.9**	**-0.5**
WR0				IAmb	IAmb	12 02 51.4	
	comp=Z,9.4nm,1.5s						
WB2	**Warramunga Arr**	**42.57**	**266**	P	**P**	**12 02 29.5**	**-0.3**
WB0	**Warramunga Arr**	**42.57**	**266**	P	**P**	**12 02 29.5**	**-0.3**
WRAB	**Tennant Creek**	**42.57**	**266**	P	**P**	**12 02 29.4**	**-0.3**
WRAB				IAmb	IAmb	12 02 42.5	
	comp=Z,7.2nm,1.3s						
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**12 02 29.6**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=97,slow=8.4,SNR=153						
WRA				ScP	**ScP**	**12 07 14.2**	**+5.9**
	comp=Z,0.5nm,0.7s,baz=101,slow=3.6,SNR=7.0						
	comp=Z,1.5nm,0.3s						
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**12 02 29.4**	**-0.5**
FORT	**Forrest**	**46.55**	**249**	P	**P**	**12 02 59.4**	**-0.8**
FORT				IAmb	IAmb	12 02 59.6	
	comp=Z,25nm,0.8s						
KNRA	**Kununurra**	**48.84**	**269**	P	**P**	**12 03 17.4**	**-0.2**
KNRA				IAmb	IAmb	12 03 36.7	
	comp=Z,43nm,1.5s						
SBA	**Scott Base**	**54.65**	**183**	P	**P**	**12 03 59.8**	**+1.5**
VNDA	**Vanda**	**54.65**	**185**	P	**P**	**12 03 59.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=22,slow=6.1,SNR=6.2						
	comp=Z,0.4nm,0.6s						
VNDA	**Vanda**	**54.65**	**185**	P	**P**	**12 03 59.0**	**+0.7**
MORW	**Morawa**	**57.11**	**250**	P	**P**	**12 04 16.3**	**0.0**
MORW				IAmb	IAmb	12 04 39.4	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**66.44**	**180**	P	**P**	**12 05 17.5**	**+1.0**
QSPA				IAmb	IAmb	12 05 17.6	
	comp=Z,3.8nm,0.7s						
TROLL	**Troll, Antarti**	**84.59**	**181**	P	**P**	**12 06 56.7**	**-0.2**
SNAA	**Sanae**	**84.92**	**179**	P	**P**	**12 06 57.8**	**-0.7**
SNAA	**Sanae**	**84.92**	**179**	P	**P**	**12 06 57.8**	**-0.7**
SNAA				IAmb	IAmb	12 07 38.9	
	comp=Z,5.8nm,1.4s						
VNA3	**Neumayer Olymp**	**85.13**	**177**	P	**P**	**12 06 58.2**	**-1.2**
VNA2	**Neumayer--Watz**	**85.55**	**178**	P	**P**	**12 06 59.5**	**-2.0**
	baz=182,slow=3.0						
TXAR	**Lajitas Array**	**90.16**	**58**	P	**P**	**12 07 26.7**	**+2.8**
	comp=Z,0.4nm,0.7s,baz=209,slow=7.2,SNR=4.8						
	comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**131.66**	**348**	PKP	**PKiKP**	**12 13 32.4**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=11,slow=1.2,SNR=3.6						
FINES	**FINESS Array B**	**138.25**	**342**	PKP	**PKiKP**	**12 13 46.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=20,slow=4.4,SNR=4.2						
AKASG	**Malin Array Be**	**144.84**	**328**	PKP	**PKPab**	**12 13 57.6**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=43,slow=2.7,SNR=1.9						

---

*NNC **12** 12:04:55.4±1.5,40°.06N×76°.05E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=9.6km s-min=9.2km az=171.0*

*SOME **12** 12:04:55.5,40°.05N×76°.17E,h10km*

*KRNET **12** 12:04:58.7±0.1,39°.81N×76°.17E,mb3.6*

ISC 12 12:05:00.2±1.8**,40°.01N**±0°.09×**76°.26E**±0°.03**,h10**km**,n66, σ2s.17**/101**,16C-17D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**2.08**	**34**	⇑*i*P	**Pb**	**12 05 36.6**	**-1.7**
	baz=32						
TARG				⇑*i*S	**Sb**	**12 06 04.2**	**-0.1**
	baz=32						
ULHL	**Ulahol**	**2.23**	**360**	⇑*i*P	**Pn**	**12 05 38.6**	**+1.1**
	baz=1.0						
ULHL				⇑*i*S	**Sb**	**12 06 07.8**	**-0.7**
	baz=1.0						
ARLS	**Aral**	**2.36**	**322**	⇑*i*P	**Pn**	**12 05 39.2**	**0.0**
	baz=26						
ARLS				⇑*i*S	**Sn**	**12 06 08.8**	**+0.6**
	baz=26						
BOOM	**Boomskoye usch**	**2.48**	**355**	⇑*i*P	**Pn**	**12 05 42.5**	**+1.6**
	baz=56						
BOOM				⇑*i*S	**Sn**	**12 06 14.0**	**+2.6**
	baz=56						
UCH	**Uchtor**	**2.58**	**330**	P	**Pn**	**12 05 43.9**	**+1.5**
	SNR=37						
UCH	**Uchtor**	**2.58**	**330**	⇓*i*P	**Pn**	**12 05 42.8**	**+0.4**
	baz=33						
UCH				⇓*i*S	**Sn**	**12 06 14.7**	**+0.7**
	baz=33						
KBK	**Karagaybulak**	**2.82**	**340**	P	**Pb**	**12 05 48.4**	**-2.4**
	SNR=17						
KBK	**Karagaybulak**	**2.82**	**340**	⇓*i*P	**Pn**	**12 05 46.6**	**+1.1**
	baz=42						
KBK				⇓*i*S	**Sn**	**12 06 21.2**	**+1.6**
	baz=42						
AML	**Almayashu**	**2.87**	**318**	P	**Pn**	**12 05 46.3**	**-0.1**
	SNR=17						
AAK	**Ala-Archa**	**2.94**	**334**	P	**Pb**	**12 05 50.6**	**-2.2**
	SNR=16						
AAK	**Ala-Archa**	**2.94**	**334**	⇓*i*P	**Pn**	**12 05 47.9**	**+0.7**
	baz=36						
AAK				⇓*i*S	**Sn**	**12 06 23.2**	**+0.6**
	baz=36						
TKM2	**Tokmak 2**	**2.95**	**350**	P	**Pn**	**12 05 48.5**	**+1.2**
	SNR=23						
TKM2	**Tokmak 2**	**2.95**	**350**	⇓*i*P	**Pn**	**12 05 48.4**	**+1.1**
	baz=52						
TKM2				⇓*i*S	**Sn**	**12 06 24.8**	**+1.9**
	baz=52						
TKM2	**Tokmak 2**	**2.95**	**350**	⇑Pn	**Pn**	**12 05 48.1**	**+0.8**
	31nm,0.9s						
TKM2				⇑Pg	**Pg**	**12 05 56.1**	**-0.6**
	31nm,0.9s						
TKM2				⇑Lg	Lg	12 06 28.0	
	24nm,0.7s						
KST	**Kastek**	**3.04**	**356**	*e*P	**Pn**	**12 05 50.0**	**+1.5**
	16nm,0.7s						
KST				*e*S	**Sb**	**12 06 29.2**	**-2.3**
	41nm,0.6s						
KST	**Kastek**	**3.04**	**356**	Pg	**Pn**	**12 05 49.7**	**+1.3**
	16nm,0.7s						
KST				Lg	Lg	12 06 31.0	
	41nm,0.6s						
TNSS	**Tian-Shan**	**3.06**	**9**	*e*P	**Pn**	**12 05 50.2**	**+1.1**
	6.8nm,0.7s						
TNSS				*e*S	**Sb**	**12 06 30.0**	**-2.7**
	23nm,0.8s						
TNSS	**Tian-Shan**	**3.06**	**9**	Pg	**Pn**	**12 05 50.2**	**+1.1**
	9.8nm,0.5s						
TNSS				Lg	Lg	12 06 31.9	
	23nm,0.8s						
MTBS	**Maitube**	**3.12**	**2**	*e*P	**Pn**	**12 05 51.1**	**+1.6**
	14nm,0.5s						
MTBS				*e*S	**Sn**	**12 06 30.9**	**+4.1**
	41nm,0.6s						
MTBS	**Maitube**	**3.12**	**2**	Pg	**Pn**	**12 05 51.4**	**+1.9**
	14nm,0.5s						
MTBS				Lg	Lg	12 06 33.7	
	41nm,0.6s						
CHMS	**Chumysh**	**3.19**	**340**	⇓*i*P	**Pn**	**12 05 51.3**	**+0.8**
	baz=42						
CHMS				⇓*i*S	**Sn**	**12 06 29.5**	**+0.9**
	baz=42						
CHMS	**Chumysh**	**3.19**	**340**	⇑Pn	**Pn**	**12 05 51.7**	**+1.2**
	19nm,0.8s						
CHMS				⇓Lg	Lg	12 06 34.1	
	43nm,0.9s						
MDOK	**Medeo**	**3.20**	**10**	*e*P	**Pb**	**12 05 54.4**	**-2.9**
	16nm,0.5s						
MDOK				*e*S	**Sb**	**12 06 36.8**	**+0.4**
	73nm,0.7s						
MDOK	**Medeo**	**3.20**	**10**	Pg	**Pn**	**12 05 53.6**	**+2.8**
	16nm,0.5s						
MDOK				⇓Pn	**Pb**	**12 05 55.6**	**-1.7**
	15nm,0.6s						
MDOK				⇓Lg	Lg	12 06 36.4	
	75nm,0.7s						
MDOK				Lg	Lg	12 06 36.8	
	73nm,0.7s						
AAA	**Alma-Ata**	**3.23**	**9**	Pg	**Pb**	**12 05 54.7**	**-3.1**
	29nm,0.1s						
AAA				Lg	Lg	12 06 38.7	
	84nm,0.3s						
EKS2	**Erkin-Say**	**3.24**	**326**	P	**Pn**	**12 05 52.3**	**+1.1**
	SNR=7.6						
EKS2	**Erkin-Say**	**3.24**	**326**	⇓*i*P	**Pn**	**12 05 51.5**	**+0.3**
	baz=28						
EKS2				⇓*i*S	**Sn**	**12 06 30.0**	**+0.1**
	baz=28						
DGS	**Degeres**	**3.25**	**354**	*e*P	**Pn**	**12 05 52.8**	**+1.4**
	25nm,0.6s						
DGS				*e*S	**Sn**	**12 06 34.3**	**+4.2**
	34nm,0.6s						
DGS	**Degeres**	**3.25**	**354**	Pg	**Pn**	**12 05 52.9**	**+1.6**
	25nm,0.6s						
DGS				Lg	Lg	12 06 36.5	
	34nm,0.6s						
KOTS	**Kotyrbulak**	**3.28**	**11**	*e*P	**Pb**	**12 05 56.0**	**-2.6**
	4.7nm,0.4s						
KOTS				*e*S	**Sb**	**12 06 39.8**	**+1.1**
	126nm,0.6s						
KOTS	**Kotyrbulak**	**3.28**	**11**	Pg	**Pn**	**12 05 54.6**	**+2.7**
	4.7nm,0.4s						
KOTS				Lg	Lg	12 06 39.5	
	126nm,0.6s						
SATY	**Saty**	**3.44**	**27**	*e*P	**Pb**	**12 05 58.9**	**-2.5**
	17nm,0.6s						
SATY				*e*S	**Sb**	**12 06 44.4**	**+1.0**
	48nm,0.8s						
SATY	**Saty**	**3.44**	**27**	Pg	**Pb**	**12 05 58.2**	**-3.2**
	17nm,0.6s						
SATY				Lg	Lg	12 06 44.7	
	48nm,0.8s						
USP	**Ospenovka**	**3.51**	**338**	P	**Pn**	**12 05 55.5**	**+0.7**
	SNR=5.9						
USP	**Ospenovka**	**3.51**	**338**	⇑*i*P	**Pn**	**12 05 55.7**	**+0.8**
	baz=41						
USP				⇑*i*S	**Sn**	**12 06 37.2**	**+0.8**
	baz=41						
ZHN	**Zhinishke**	**3.55**	**27**	*e*P	**Pb**	**12 06 01.3**	**-1.8**
	8.6nm,0.2s						
ZHN				*e*S	**Sb**	**12 06 48.6**	**+2.3**
	70nm,0.2s						
ZHN	**Zhinishke**	**3.55**	**27**	Pg	**Pb**	**12 06 00.5**	**-2.7**
	9.1nm,0.1s						
ZHN				Lg	Lg	12 06 49.3	
	70nm,0.2s						
MRKS	**Merke**	**3.56**	**321**	*e*P	**Pb**	**12 05 59.9**	**-3.4**
	10nm,0.7s						
MRKS				*e*S	**Sb**	**12 06 45.9**	**-0.6**
	25nm,0.9s						
SGDS	**Sogindy**	**3.65**	**341**	*e*P	**Pb**	**12 06 01.9**	**-2.9**
	6.3nm,0.4s						
SGDS				*e*S	**Sb**	**12 06 49.3**	**+0.2**
	28nm,0.5s						
SGDS	**Sogindy**	**3.65**	**341**	Pg	**Pb**	**12 06 01.1**	**-3.7**
	6.3nm,0.4s						
SGDS				Lg	Lg	12 06 49.2	
	28nm,0.5s						
KRBS	**Karabastau**	**3.71**	**353**	*e*P	**Pb**	**12 06 02.6**	**-3.2**
	12nm,0.6s						
KRBS				*e*S	**Sb**	**12 06 51.1**	**+0.3**
	17nm,0.7s						
KRBS	**Karabastau**	**3.71**	**353**	Pg	**Pb**	**12 06 01.9**	**-3.9**
	12nm,0.6s						
KRBS				Lg	Lg	12 06 51.3	
	17nm,0.7s						
KURS	**Kuram**	**3.75**	**22**	*e*P	**Pb**	**12 06 04.2**	**-2.5**
	6.8nm,1.1s						
KURS				*e*S	**Sb**	**12 06 53.7**	**+1.5**
	32nm,1.2s						
KURS	**Kuram**	**3.75**	**22**	Pg	**Pb**	**12 06 03.5**	**-3.2**
	6.8nm,1.1s						
KURS				Lg	Lg	12 06 53.9	
	32nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UZB	Uzynbulak	3.75	33	eP	Pb	12 06 05.0	-1.6
	3.1nm,0.4s						
UZB				eS	Sb	12 06 55.0	+2.7
	23nm,0.5s						
UZB	Uzynbulak	3.75	33	Pg	Pb	12 06 04.4	-2.3
	3.1nm,0.4s						
UZB				Lg	Lg	12 06 55.0	
	23nm,0.5s						
CHKK	Chushkaly	3.88	8	eP	Pb	12 06 06.5	-2.2
	3.8nm,0.3s						
CHKK				eS	Sb	12 06 57.3	+1.7
	23nm,0.2s						
CHKK	Chushkaly	3.88	8	Pg	Pb	12 06 05.3	-3.3
	3.8nm,0.3s						
CHKK				Lg	Lg	12 06 57.3	
	23nm,0.2s						
KUU	Kurty	3.88	1	eP	Pb	12 06 05.5	-3.3
	23nm,1.0s						
KUU				eS	Sb	12 06 56.0	+0.3
	45nm,0.8s						
KUU	Kurty	3.88	1	Pg	Pb	12 06 05.4	-3.3
	23nm,1.0s						
KUU				Lg	Lg	12 06 56.7	
	45nm,0.8s						
KPKS	Kokpek	3.90	27	eP	Pb	12 06 07.4	-1.7
	3.5nm,0.5s						
KPKS				eS	Sb	12 06 59.2	+2.9
	103nm,0.7s						
KPKS	Kokpek	3.90	27	Pg	Pb	12 06 06.6	-2.5
	3.5nm,0.5s						
KPKS				Lg	Lg	12 06 59.4	
	103nm,0.7s						
SHLS	Shalkode	3.95	36	eP	Pg	12 06 12.7	-3.3
	5.8nm,0.3s						
SHLS				eS	Sg	12 07 08.5	+1.4
	17nm,0.5s						
SHLS	Shalkode	3.95	36	Pg	Pg	12 06 12.9	-3.0
	5.8nm,0.3s						
PDGK	Podgornoye	4.10	35	Pg	Pb	12 06 11.0	-1.6
	3.8nm,0.8s						
PDGK				Lg	Lg	12 07 06.7	
	17nm,1.0s						
PDGK	Podgornoye	4.10	35	⇓Pn	Pn	12 06 03.1	0.0
	3.5nm,1.1s						
PDGK				⇑Pg	Pg	12 06 16.3	-2.5
	7.7nm,0.7s						
PDGK				⇓Lg	Lg	12 07 03.7	
	48nm,0.9s						
ARXS	Arharly	4.36	15	eP	Pb	12 06 15.4	-1.5
	7.9nm,1.0s						
ARXS				eS	Sb	12 07 12.7	+3.2
	23nm,0.8s						
ARXS	Arharly	4.36	15	Pg	Pb	12 06 14.3	-2.5
	7.9nm,0.5s						
ARXS				Lg	Lg	12 07 12.9	
	23nm,0.8s						
BLB	Baldybastay	4.40	21	eP	Pb	12 06 16.0	-1.8
	17nm,0.6s						
BLB				eS	Sb	12 07 13.6	+2.7
	26nm,0.4s						
BLB	Baldybastay	4.40	21	Pg	Pb	12 06 14.8	-2.9
	17nm,0.6s						
BLB				Lg	Lg	12 07 13.5	
	26nm,0.4s						
DJR	Jarkent	5.05	30	eP	Pb	12 06 26.9	-1.9
	3.2nm,0.3s						
DJR				eS	Sb	12 07 32.4	+2.9
	8.9nm,0.4s						
DJR	Jarkent	5.05	30	Pg	Pb	12 06 26.6	-2.1
	3.2nm,0.3s						
DJR				Lg	Lg	12 07 33.7	
	8.9nm,0.4s						
IUG	Iuzhnay	5.17	296	eP	Pb	12 06 29.6	-1.1
	50nm,0.5s						
IUG				eS	Sb	12 07 37.6	+4.8
	10nm,0.8s						
IUG	Iuzhnay	5.17	296	Pg	Pb	12 06 25.7	-5.0
	30nm,0.2s						
BTLS	Baital	5.28	343	eP	Pb	12 06 31.0	-1.7
	1.3nm,0.6s						
BTLS				eS	Sb	12 07 39.4	+3.3
	5.9nm,0.6s						
KK31	Karatay Array	5.30	307	Pg	Pb	12 06 32.8	-0.2
	0.8nm,0.5s,baz=135,slow=17,SNR=4.2						
KK31				⇑Lg	Lg	12 07 37.8	
	8.6nm,0.8s						

IDC 12 12:05:58.0±4.5, 6.36S×130.66E, h131km±62km, mb3.4/1, mbtmp3.5/4, Error ellipse: s-maj=149.2km s-min=24.0km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.49	6	P	Pn	12 07 17.8	+0.1
	7.0nm,0.3s,baz=156,slow=18,SNR=27						
SIJI				S	Sn	12 08 16.1	-3.7
	15nm,0.2s,baz=263,slow=23,SNR=13						
WRA	Warramunga Arr	13.97	166	P	Pn	12 09 08.9	-1.4
	0.2nm,0.7s,baz=348,slow=13,SNR=10						
WRA				S	Sn	12 11 35.2	-10
	0.5nm,0.4s,baz=340,slow=20,SNR=7.8						
ASAR	Alice Springs	17.49	170	P	Pn	12 09 54.6	+0.7
	0.6nm,0.9s,baz=348,slow=11,SNR=4.4						
MKAR	Makanchi Array	68.06	326	P	P	12 16 43.3	-0.1
	0.4nm,0.4s,baz=120,slow=8.5,SNR=6.1						
	0.4nm,0.4s						

PGC 12 12:12:19.6±7.3, 50.66N×130.40W, h10km, MLSn3.0/15, Mw3.6/15, 210km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.44	90	Pn	Pn	12 12 43.4	-2.4
HOLB				Sn	Sn	12 13 00.6	-4.2
HG4B	Hotspring	1.71	343	Pn	Pn	12 12 46.9	-2.5
HG4B				Sn	Sn	12 13 07.7	-3.6
PACB	Port Alice, BC	1.87	96	Pn	Pn	12 12 49.5	-2.1
PACB				Sn	Sn	12 13 11.2	-3.9
MAYB	Maynard	2.07	96	Pn	Pn	12 12 52.9	-1.7
MAYB				Sn	Sn	12 13 16.5	-4.0
BBB	Bella Bella	2.09	42	Pn	Pn	12 12 53.0	-1.6
BBB				Sn	Sn	12 13 16.1	-4.5
BNB	Barry Inlet	2.09	337	Pn	Pn	12 12 52.5	-2.3
EDB	Eliza Dome	2.25	109	Pn	Pn	12 12 55.3	-1.5
WOSB	Woss	2.50	100	Pn	Pn	12 12 59.1	-1.3
MOBC	Moresby Island	2.67	339	Pn	Pn	12 13 00.6	-2.1
BNKB	Banks Island	2.69	6	Pn	Pn	12 13 00.8	-2.1
BNKB				Sn	Sn	12 13 31.1	-4.5
NCRB	Newcastle Ridg	2.78	94	Pn	Pn	12 13 02.7	-1.6
BNAB	Bonilla	2.84	357	Pn	Pn	12 13 02.8	-2.2
DIB	Dawson Inlet,	2.85	334	Pn	Pn	12 13 04.3	-0.8
GDR	Gold River	2.94	106	Pn	Pn	12 13 04.7	-1.6
HWKB	Hawksbury Isla	3.04	14	Pn	Pn	12 13 06.0	-1.8
HWKB				Sn	Sn	12 13 40.9	-3.2
GRNB	Grenville Isla	3.20	5	Pn	Pn	12 13 08.2	-1.7
KITB	Kitimat	3.58	17	Pn	Pn	12 13 14.0	-1.2
KITB				Sn	Sn	12 13 54.8	-2.8
RUBB	Prince Rupert	3.67	1	Pn	Pn	12 13 15.3	-1.1
TXB	Texada	3.95	102	Pn	Pn	12 13 19.4	-0.8
MGB	Mount Grey	4.05	112	Pn	Pn	12 13 21.9	+0.2
SHB	Sechelt	4.33	102	Pn	Pn	12 13 24.8	-0.7

*PDG **12** 12:25:57.9±0.1, 42.87N×17.46E, h0km, MD3.4/5, ML3.4/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*PRU **12** 12:25:57.6±0.0, 42.71N×17.46E, h0km*
*LDG **12** 12:25:58.2±0.2, 42.74N×17.40E, h10km, Ml3.3/17, Error ellipse: s-maj=8.6km s-min=3.0km az=13.0*
*RHSSO **12** 12:25:58.8±0.4, 42.81N×17.46E, h4km±2km, ML3.4/13*
*BEO **12** 12:25:59.5±0.6, 42.88N×17.51E, h7km±2km, ML3.1/16*
ISC 12 12:25:57.7±1.1, 42.81N±0.02×17.43E±0.02, h4km±9km, n121, σ1.17/201, 27C-16D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.21	73	⇓iPg	Pg	12 26 01.2	-0.6
STON				eSg	Sg	12 26 04.9	+0.4
STON	Ston	0.21	73	ePg	Pg	12 26 01.1	-0.6
STON				Sg	Sg	12 26 04.8	+0.2
STON	Ston	0.21	73	ePg	Pg	12 26 01.2	-0.6
STON				eSg	Sg	12 26 05.3	+0.8
LSTV	Lastovo	0.40	264	ePg	Pg	12 26 05.0	-0.3
LSTV				Sg	Sg	12 26 09.9	-0.5
DBRK	Dubrovnik	0.55	105	ePg	Pg	12 26 07.6	-0.6
DBRK				Sg	Sb	12 26 17.5	-0.7
MAKA	Makarska	0.56	328	ePg	Pg	12 26 08.1	-0.4
MAKA				Sg	Sg	12 26 17.0	+1.2
TREB	Trebinje	0.69	98	ePg	Pg	12 26 10.7	-0.2
TREB				eSg	Sg	12 26 20.3	+0.5
TREB	Trebinje	0.69	98	ePg	Pg	12 26 10.6	-0.3
TREB				eSg	Sb	12 26 21.5	-0.6
RICI	Ricice	0.71	343	ePg	Pg	12 26 10.6	-0.8
RICI				Sg	Sg	12 26 21.5	+0.8
HVAR	Hvar	0.81	297	ePg	Pg	12 26 12.7	-0.4
HVAR				Sg	Sg	12 26 24.4	+0.9
BRY	Bratogost	0.82	83	⇓iPg	Pg	12 26 12.4	-1.0
BRY				eSg	Sb	12 26 25.1	-1.1
BRY	Bratogost	0.82	83	⇑iPg	Pg	12 26 12.5	-1.0
BRY				i Sg	Sb	12 26 25.3	-0.9
HCY	Herceg Novi	0.87	114	ePg	Pg	12 26 14.1	-0.3
HCY				eSg	Sg	12 26 26.1	+0.5
HCY	Herceg Novi	0.87	114	⇑iPg	Pg	12 26 14.0	-0.3
HCY				i Sg	Sb	12 26 28.0	+0.7
NKME	Niksic	1.12	92	⇓iPg	Pg	12 26 18.2	-1.1
NKME				i Sg	Sn	12 26 35.9	-0.3
CEME	Cevo	1.13	103	ePg	Pg	12 26 18.6	-0.8
CEME				i Sg	Sn	12 26 36.5	+0.1
UPM	Unac-Piva	1.15	70	ePg	Pg	12 26 19.3	-0.5
UPM				eSg	Sb	12 26 35.2	-0.5
UPM	Unac-Piva	1.15	70	⇓iPg	Pg	12 26 18.4	-1.4
UPM				i Sg	Sb	12 26 36.2	+0.5
BUM	Brajici-Budva	1.20	115	⇓iPg	Pg	12 26 20.1	-0.6
BUM				i Sg	Sn	12 26 39.3	+1.2
SRKY	Kupres RS	1.27	351	ePg	Pg	12 26 21.6	-0.5
SRKY				eSg	Sb	12 26 40.0	+1.0
PDG	Podgorica	1.40	105	⇓P	Pg	12 26 24.6	0.0
PDG				⇓S	Sn	12 26 43.6	+0.5
PDG	Podgorica	1.40	105	ePg	Pn	12 26 24.1	+0.1
PDG				eSg	Sn	12 26 43.5	+0.5
TTG	Podgorica	1.40	105	⇑iPg	Pn	12 26 23.6	-0.4
TTG				i Sg	Sn	12 26 45.1	+2.1
KIJV	Kijevo	1.41	328	ePn	Pn	12 26 24.5	+0.4
KIJV				Sg	Sg	12 26 43.9	+1.0
DRME	Dracevica, Mon	1.44	115	⇑iPg	Pn	12 26 24.8	+0.2
DRME				eSg	Sn	12 26 44.3	+0.3
DRME	Dracevica, Mon	1.44	115	⇑iPg	Pn	12 26 24.5	-0.1
DRME				i Sg	Sn	12 26 47.2	+3.2
PLE	Pljevlja	1.53	70	⇓iPg	Pn	12 26 25.3	-0.6
PLE				i Sg	Sg	12 26 49.0	+2.2
KOME	Kolasin	1.54	88	ePg	Pn	12 26 25.7	-0.3
KOME				i Sg	Sg	12 26 49.9	+2.8
ULC	Ulcinj	1.59	122	⇓iPn	Pn	12 26 27.0	+0.3
ULC				i Sn	Sg	12 26 52.8	+4.0
MGRS	Mrkonjic Grad	1.62	351	⇑iPn	Pb	12 26 28.7	+0.4
MGRS				eSg	Sg	12 26 50.7	+0.8
HAPS	Han Pijesak,Bl	1.69	41	⇑iPn	Pb	12 26 29.1	-0.3
HAPS				eSn	Sb	12 26 51.3	+0.2
BBLS	Lazići	1.79	53	ePn	Pn	12 26 30.3	+0.9
BBLS				eSn	Sn	12 26 52.0	-0.6
A050A	Klekovaca	1.79	339	⇑iPn	Pb	12 26 31.1	0.0
A050A				eSn	Sb	12 26 54.4	+0.4
IVA	Berane	1.82	87	⇑iPn	Pb	12 26 30.9	-0.6
IVA				i Sn	Sg	12 26 57.3	+1.3
PVY	Plav	1.88	96	⇓iPn	Pb	12 26 31.9	-0.8
PVY				i Sn	Sg	12 26 59.2	+1.1
SJES	Sjenica	1.92	76	ePn	Pb	12 26 32.9	-0.5
SJES				eSn	Sn	12 26 54.5	-1.5
BLY	Banja Luka	1.94	355	ePn	Pn	12 26 32.9	+1.4
BLY				eSn	Sn	12 26 57.2	+0.8
BLY	Banja Luka	1.94	355	ePn	Pn	12 26 33.1	+1.6
BLY				eSn	Sn	12 26 56.9	+0.5
DUGI	Dugi Otok	2.09	305	ePn	Pn	12 26 34.0	+0.5
UDBI	Udbina	2.10	325	ePn	Pn	12 26 35.3	+1.6
IVAS	Ivanjica	2.13	68	ePn	Pn	12 26 34.7	+0.5
IVAS				eSn	Sn	12 27 00.9	-0.3
PRIJ	Prijedor	2.22	347	eSn	Sn	12 27 04.1	+0.8
MATE	Matera	2.23	194	⇑P	Pn	12 26 33.7	-1.7
A051A	Mrakovica	2.23	351	ePn	Pn	12 26 36.7	+1.2
A051A				eSn	Sn	12 27 04.6	+1.0
DIVS	Divibare	2.27	55	⇑iPn	Pn	12 26 36.2	+0.2
DIVS				eSn	Sn	12 27 04.1	-0.4
DIVS	Divibare	2.27	55	ePn	Pn	12 26 36.6	+0.6
DIVS				eSn	Sn	12 27 03.8	-0.7
VIRC	Vir	2.27	311	ePn	Pn	12 26 36.6	+0.6
TEKS	Tekeris	2.31	41	ePn	Pn	12 26 36.6	0.0
TEKS				eSn	Sn	12 27 05.9	+0.4
TEKS	Tekeris	2.31	41	ePn	Pn	12 26 36.2	-0.4
TEKS				eSn	Sn	12 27 04.9	-0.6
TIR	Tirane	2.33	128	⇑P	Pn	12 26 36.8	0.0
BLJ	Bijeljina	2.38	33	ePn	Pn	12 26 37.1	-0.4
BLJ				eSn	Sn	12 27 06.8	-0.3
NVLJ	Novalja	2.55	314	ePn	Pn	12 26 40.2	+0.4
TRUS	Trudelj	2.59	56	ePn	Pn	12 26 40.8	+0.5
TRUS				eSn	Sn	12 27 11.2	-1.0
GRUS	Gruza	2.63	65	ePn	Pn	12 26 41.4	+0.5
GRUS				eSn	Sn	12 27 12.7	-0.6
SELS	Selova	2.74	80	ePn	Pn	12 26 43.0	+0.5
SELS				eSn	Sn	12 27 15.1	-0.9
FRGS	Fruska Gora	2.91	35	⇑iPn	Pn	12 26 44.8	0.0
FRGS				eSn	Sn	12 27 20.5	+0.3
FRGS	Fruska Gora	2.91	35	ePn	Pn	12 26 44.8	0.0
FRGS				eSn	Sn	12 27 18.5	-1.7
BOJS	Bojanci	3.11	331	ePn	Pn	12 26 48.4	+0.8
BOJS				eSn	Sn	12 27 26.5	+1.3
BARS	Barje	3.23	88	ePn	Pn	12 26 48.7	-0.5
KOVH	Kovagotottos	3.31	8	P	Pn	12 26 50.6	+0.3
KOVH				S	Sn	12 27 30.2	+0.1
CRES	Cresnjev	3.33	336	ePn	Pn	12 26 51.6	+1.1
CRES				eSn	Sn	12 27 31.2	+0.7
MORH	Mrgy, Hungar	3.51	14	⇑P	Pn	12 26 53.3	+0.2
MORH				⇓S	Sn	12 27 35.0	0.0
MORH	Mrgy, Hungar	3.51	14	P	Pn	12 26 53.3	+0.2
MORH				S	Sn	12 27 34.0	-1.0
CEY	Cerknica	3.63	325	ePn	Pn	12 26 55.3	+0.5
CEY				eSn	Sn	12 27 38.2	+0.1
CEY	Cerknica	3.63	325	i Pn	Pn	12 26 55.6	+0.8
ZAGS	Zajecar	3.65	72	ePn	Pn	12 26 54.8	-0.1
ZAGS				eSn	Sn	12 27 36.2	-2.2
TIP	Timpagrande	3.67	188	⇑P	Pn	12 26 54.4	-0.8
MDVR	Moldovita	3.67	56	⇓S	Sn	12 27 40.7	+1.6
GBAS	Gorenja Brezov	3.79	327	i Pn	Pn	12 26 57.7	+0.8
ZAPS	Zavoj	3.84	81	ePn	Pn	12 26 58.4	+0.7
BLKB	Belogradchik	3.92	76	⇑P	Pn	12 26 58.8	0.0
BLKB				⇑S	Sn	12 27 46.0	+0.8
VOJS	Vojsko	4.10	323	i Pn	Pn	12 27 01.4	+0.2
BZS	Buzias	4.12	46	⇑P	Pn	12 27 00.8	-0.5
BZS				⇓S	Sn	12 27 50.9	+0.9
HERR	Herculane	4.16	58	⇑P	Pn	12 27 01.6	-0.3
HERR				⇑S	Sn	12 27 51.6	+0.6
SOKA	Soboth	4.22	337	i Pn	Pn	12 27 03.9	+1.0
	7.1nm,0.4s						
SOKA				i Sn	Sn	12 27 54.0	+1.3
	6.7nm,0.4s						
VTS	Vitosha	4.29	91	⇑P	Pn	12 27 03.6	-0.2
VTS				⇑S	Sn	12 27 55.7	+1.3
MPLH	Magyarpolny	4.36	1	P	Pn	12 27 06.1	+1.4
MPLH				S	Sn	12 27 57.3	+1.4
SIRR	Siria	4.59	40	⇓P	Pn	12 27 08.0	+0.1
GZR	Gura Zlata	4.64	54	⇑P	Pn	12 27 08.6	0.0
GZR				⇑S	Sn	12 28 03.6	+0.7
ARSA	Arzberg	4.64	344	i Pn	Pn	12 27 09.6	+1.0
	8.1nm,0.4s						
ARSA				i Sn	Sn	12 28 03.1	+0.2
	8.3nm,0.6s						
RONA	Rosalia, Austr	4.95	351	i Pn	Pn	12 27 14.7	+1.8
	5.3nm,0.3s						
RONA				i Sn	Sn	12 28 10.9	+0.3
	7.2nm,0.3s						
CONA	Conrad Observa	5.23	348	i Pn	Pn	12 27 18.6	+1.9
	1.6nm,0.2s						
CONA				i Sn	Sn	12 28 18.1	+0.5
	7.5nm,0.4s						
ABTA	Abfaltersbach	5.26	320	i Pn	Pn	12 27 17.3	+0.1
	0.5nm,0.2s						
ABTA				eSn	Sn	12 28 17.6	-0.8
	7.7nm,0.5s						
LOT	Lotru	5.27	58	⇑S	Sn	12 28 20.1	+1.5
PSZ	Piszkesteto	5.39	18	P	Pn	12 27 19.6	+0.6
MOA	Molln	5.51	337	i Pn	Pn	12 27 22.5	+2.0
	3.0nm,0.2s						
MOA				i Sn	Sn	12 28 26.6	+2.3
	11nm,0.6s						
BIOA	Bad Ischl, Aus	5.56	333	i Pn	Pn	12 27 22.4	+1.1
	8.9nm,0.3s						
BIOA				eSn	Sn	12 28 28.1	+2.5
	4.3nm,0.4s						
MODS	Modra-Piesok	5.56	359	ePN	Pn	12 27 22.9	+1.6
MODS				eSN	Sn	12 28 24.4	-1.2
VYHS	Vyhne	5.77	9	ePN	Pn	12 27 26.2	+2.1
VYHS				eSN	Sn	12 28 31.0	+0.3
ARR	Arges	5.79	61	⇑P	Pn	12 27 24.9	+0.5
ARR				⇓S	Sn	12 28 32.3	+1.1
WTTA	Wattenberg	6.05	319	i Pn	Pn	12 27 29.1	+0.9
	1.6nm,0.2s						
WTTA				eSn	Sn	12 28 38.3	+0.4
	7.6nm,0.3s						
KECS	Kecovo	6.06	20	ePN	Pn	12 27 29.7	+1.6
KECS				eSN	Sn	12 28 35.1	-2.8
VOIR		6.08	62	⇓P	Pn	12 27 28.3	-0.1
WATA	Walderalm	6.13	320	i Pn	Pn	12 27 30.5	+1.3
	1.7nm,0.2s						
WATA				eSn	Sn	12 28 39.4	-0.4
	3.9nm,0.2s						
PGF	Pioggiola	6.22	270	ePn	Pn	12 27 28.4	-1.9
PGF				eSn	Sn	12 28 32.6	-9.3
	2.3nm,0.4s						
SQTA	Sankt Quirin	6.23	317	ePn	Pn	12 27 30.4	-0.1
	1.8nm,0.2s						
SQTA				i Sn	Sn	12 28 41.2	-1.0
	11nm,0.4s						
KRUC	Moravsky	6.29	354	ePN	Pn	12 27 32.1	+0.9
KRUC				eSN	Sn	12 28 42.6	-0.9
MOTA	Moosalm	6.37	318	i Pn	Pn	12 27 33.1	+0.7
	1.4nm,0.2s						
MOTA				i Sn	Sn	12 28 44.8	-0.9
	16nm,0.6s						
CKRC	Cesky Krumlov	6.39	341	ePN	Pn	12 27 34.4	+1.8
CKRC				eSN	Sn	12 28 45.3	-0.7
MLR	Muntele Rosu	6.69	63	⇑P	Pn	12 27 36.4	-0.4
KHC	Kasperske Hory	6.86	338	ePN	Pn	12 27 38.8	-0.3
KHC				eSN	Sn	12 28 57.3	-0.4
KRLC	Kraliky	7.28	357	eSN	Sn	12 29 07.1	-0.8
SBF	Sospel	7.36	282	ePn	Pn	12 27 44.4	-1.6
SBF				eSn	Sn	12 29 00.0	-10
	7.0nm,0.3s						
DPC	Dobruska-Polom	7.58	355	eSN	Sn	12 29 14.4	-0.9
MBDF	Montbardon	7.95	288	ePn	Pn	12 27 51.8	-2.3
MBDF	Montbardon	7.95	288	eP	Pn	12 27 56.3	+2.2
MBDF				eSn	Sn	12 29 14.4	-10
	2.3nm,0.4s						
LMR	La Mourre	8.01	277	ePn	Pn	12 27 53.9	-0.9
LMR				eSn	Sn	12 29 15.5	-10
	1.1nm,0.3s						
LPG	La Plagne	8.13	293	ePn	Pn	12 27 54.2	-2.6
LPG	La Plagne	8.13	293	eP	Pn	12 27 59.5	+2.7
LPG				eSn	Sn	12 29 18.4	-11
	2.8nm,0.3s						
LPL	La Plagne	8.15	293	ePn	Pn	12 27 55.5	-1.4
LPL	La Plagne	8.15	293	eP	Pn	12 27 59.5	+2.6
LPL				eSn	Sn	12 29 19.2	-10
	3.7nm,0.3s						
ORIF	Oris-en-Rattie	8.60	288	ePn	Pn	12 28 00.9	-2.2
ORIF	Oris-en-Rattie	8.60	288	eP	Pn	12 28 06.2	+3.1
ORIF				eSn	Sn	12 29 30.3	-10
	1.8nm,0.3s						
SMRF	Simiane la Rot	8.71	282	eSn	Sn	12 29 32.2	-11
	0.9nm,0.3s						
CABF	La Chapelle	8.92	299	ePn	Pn	12 28 05.7	-1.7
CABF				eSn	Sn	12 29 37.8	-11
	1.1nm,0.3s						
HINF	Hinteralfeld	8.97	308	ePn	Pn	12 28 07.2	-0.8
HINF				eSn	Sn	12 29 39.0	-11
	1.4nm,0.2s						
CDF	Champ du Feu	9.05	312	ePn	Pn	12 28 08.0	-1.1
CDF				eSn	Sn	12 29 42.7	-8.8
	1.7nm,0.5s						
HAU	Haudompre	9.36	307	ePn	Pn	12 28 13.1	-0.2
HAU				eSn	Sn	12 29 49.1	-10
	2.3nm,0.2s						
SMF	Signal de Mont	10.40	296	ePn	Pn	12 28 24.5	-3.0
SMF				eSn	Sn	12 30 15.0	-9.5
	1.4nm,0.2s						
LOR	Lormes	10.58	300	ePn	Pn	12 28 28.5	-1.6
	baz=111						
LOR				eSn	Sn	12 30 18.2	-11
	2.6nm,0.3s						
CAF	Calviac	11.29	286	ePn	Pn	12 28 36.1	-3.7

*NEIC **12** 12:31:36.6±2.1, 17.5S±0.1×178.6W±0.1, h509km±6km, mb4.8/89, Error ellipse: s-maj=16.0km s-min=14.8km az=98.0*
*IDC **12** 12:31:37.9±0.9, 17.45S×178.78W, h519km±9km, mb4.1/25, mbtmp5.0/27, Error ellipse: s-maj=10.8km s-min=8.8km az=148.0*
*BJI **12** 12:31:37.8±0.0, 17.28S×178.47W, h535km, mb4.8/46, mB4.8/25*
*NOU **12** 12:31:38.9, 17.56S×178.65W, h541km, mb5.0/93, Fiji Islands Region*
ISC 12 12:31:38.6±0.5, 17.48S±0.05×178.75W±0.05, h534km±4km, h535km:pP-P, n623, σ1.07/655, mb4.8/96, 40C-32D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.06	265	P	P	12 32 56.0	+3.2
	1μm,0.8s,baz=109,slow=4.1,SNR=1100						
MSVF	Nonsavu	3.06	265		P	12 32 55.9	+3.0
MSVF	Nonsavu	3.06	265	P	P	12 32 56.2	+3.4
FUTU	Fugatoga	3.21	11	P	P	12 32 55.8	+2.0
AFI	Afiamalu	7.59	63	P	P	12 33 30.5	-1.5
	166nm,0.5s,baz=148,slow=0.6,SNR=38						
AFI	Afiamalu	7.59	63	P	P	12 33 30.0	-2.0
AFI	Afiamalu	7.59	63	P	P	12 33 30.6	-1.4
NIUE	Niue	8.53	102	P	P	12 33 41.9	+0.7
	baz=8.3,SNR=16						
NIUE	Niue	8.53	102		P	12 33 41.9	+0.7
FUNA	Funafuti	9.12	347	P	P	12 33 48.0	+0.6
FUNA	Funafuti	9.12	347	P	P	12 33 48.4	+1.0
RTV	Rentapao	12.23	267	P	P	12 34 20.4	+0.8
DVP	Devils Point	12.46	267	P	P	12 34 22.7	+0.7
MARNC	Mare, Loyalty	13.09	250		P	12 34 26.4	-2.0
LIFNC	LIFOU	13.64	254	P	P	12 34 32.9	-1.4
OUENC	Ouen Island, N	14.41	248	P	P	12 34 41.5	-0.7
OUENC	Ouen Island, N	14.41	248	P	P	12 34 42.3	+0.1
DZM	Mont Dzumac	14.66	249	ePn	P	12 34 44.0	-1.0
	51nm,0.8s						
DZM				eSn	S	12 37 17.4	-1.3
	26nm,1.1s						
DZM	Mont Dzumac	14.66	249	P	P	12 34 44.4	-0.6
	14nm,0.8s,baz=76,slow=16,SNR=11						
DZM	Mont Dzumac	14.66	249	P	P	12 34 44.6	-0.4
ONTNC	Ouen Toro	14.72	249	P	P	12 34 49.6	+4.1
ONTNC	Ouen Toro	14.72	249	P	P	12 34 46.2	+0.7
KOUNC	Koumac, New Ca	16.33	257	P	P	12 35 02.2	+0.3
KOUNC	Koumac, New Ca	16.33	257	P	P	12 35 02.0	+0.1
GRZ	Great Barrier	19.39	194	P	P	12 35 31.0	+1.2
KUZ	Kuaotunu	19.81	193	P	P	12 35 34.5	+0.9
KUZ	Kuaotunu	19.81	193	P	P	12 35 34.7	+1.1
MBAZ	Motutapu North	20.02	195	P	P	12 35 37.7	+2.2
HBAZ	Herne Bay Bore	20.14	195	P	P	12 35 39.1	+2.5
ETAZ	East Tamaki Re	20.19	195	P	P	12 35 38.8	+1.7
MKAZ	Moumakai	20.28	194	P	P	12 35 39.0	+1.1
AWAZ	Awhitu Peninsu	20.36	195	P	P	12 35 40.1	+1.4
TARA	Tarawa	20.43	335	P	P	12 35 40.5	+0.9
	119nm,1.1s						
PKGZ	Pakihiroa	20.52	187	P	P	12 35 39.6	-0.5
TGRZ	Tauranga	20.65	191	P	P	12 35 42.4	+1.2
RUGZ	Raukumara Rang	20.65	188	P	P	12 35 40.4	-1.0
KMRZ	Kaimai	20.82	192	P	P	12 35 35.6	-7.2
URZ	Urewera	21.02	189	P	P	12 35 42.2	-2.4
HNR	Honiara	22.19	288	P	P	12 35 56.1	+0.7
	1μm,0.7s,baz=171,slow=3.0,SNR=6.7						
HNR	Honiara	22.19	288	P	P	12 35 57.9	+2.5
	116nm,0.8s						
BFZ	Birch Farm	23.52	190	P	P	12 36 05.2	-1.8
QRZ	Quartz Range	24.45	196	P	P	12 36 15.1	-0.1
THZ	Tophouse	25.24	195	P	P	12 36 20.8	-1.5
RPZ	Rata Peaks	27.54	196	P	P	12 36 41.3	-1.1
	22nm,0.6s,baz=23,slow=3.2,SNR=19						
	22nm,0.6s						
FOZ	Fox Glacier	27.72	198	P	P	12 36 43.2	-0.8
PPT	Papeete	27.81	95	P	P	12 36 45.9	+0.8
	33nm,0.6s,baz=239,slow=21,SNR=6.4						
	33nm,0.6s						

AUWSH **Wavell State H** 27.82 244 P **P** 12 36 45.8 +0.7
JCZ **Jackson Bay** 28.52 199 P **P** 12 36 50.5 -0.6
EIDS **Eidsvold** 29.11 249 P **P** 12 36 56.1 -0.3
baz=29,SNR=12
EIDS **Eidsvold** 29.11 249 P **P** 12 36 56.2 -0.2
EIDS **Eidsvold** 29.11 249 P **P** 12 36 56.2 -0.2
RK1H **Rockhampton Ha** 29.38 253 P **P** 12 36 58.6 -0.1
ARMA **Armidale** 29.88 239 P **P** 12 37 03.7 +0.6
baz=30,SNR=35
ARMA **Armidale** 29.88 239 P **P** 12 37 04.0 +0.9
ARMA IAmb IAmb 12 37 04.5
comp=Z,32nm,0.7s
ARMA **Armidale** 29.88 239 P **P** 12 37 03.3 +0.2
DCZ **Deep Cove** 30.29 200 P **P** 12 37 05.7 -0.5
DCZ IAmb IAmb 12 37 09.6
comp=Z,22nm,0.7s
WHZ **Wether Hill Ro** 30.42 199 P **P** 12 37 07.6 +0.2
AUPHS **Peel High Scho** 30.70 238 P **P** 12 37 10.8 +0.7
RMQ **Roma** 31.36 248 P **P** 12 37 16.4 +0.6
baz=32,SNR=32
RMQ **Roma** 31.36 248 P **P** 12 37 16.3 +0.5
RABL **Rabaul** 31.40 291 P **P** 12 37 16.5 +0.2
comp=Z,132nm,0.5s
KRVT **Keravat (AS076** 31.47 291 P **P** 12 37 15.9 -1.0
comp=Z,133nm,0.7s,baz=356,slow=0.5,SNR=15
comp=Z,133nm,0.7s
AULRC **Lightning Ridg** 32.64 243 P **P** 12 37 26.6 -0.1
AUDCS **Dubbo College** 32.89 237 P **P** 12 37 30.0 +1.3
comp=Z,27nm,1.1s
CTA **Charters Tower** 33.20 260 P **P** 12 37 31.0 -0.5
comp=Z,36nm,0.8s,baz=93,slow=9.7,SNR=35
CTA ScP **ScP** 12 42 54.6 +2.2
comp=Z,13nm,1.0s,baz=100,slow=7.2,SNR=5.5
comp=Z,36nm,0.8s
CTA **Charters Tower** 33.20 260 P **P** 12 37 31.3 -0.2
CTAO **Charters Tower** 33.20 260 P **P** 12 37 31.3 -0.2
CTAO IAmb IAmb 12 37 32.1
comp=Z,37nm,0.8s
CTAO **Charters Tower** 33.20 260 P **P** 12 37 31.3 -0.2
CTAO **Charters Tower** 33.20 260 P **P** 12 37 30.7 -0.8
CTAO pP **pP** 12 38 56.6 -4.7
CTAO ScP **ScP** 12 42 54.7 +2.2
CNB **Canberra Magne** 33.43 232 P **P** 12 37 34.1 +0.8
baz=34,SNR=20
PMG **Port Moresby** 34.07 279 P **P** 12 37 39.8 +0.9
comp=Z,94nm,0.8s,baz=76,slow=5.8,SNR=68
PMG ScP **ScP** 12 42 56.7 +1.1
comp=Z,6.7nm,0.9s,baz=21,slow=8.7,SNR=4.2
comp=Z,94nm,0.8s
PMG **Port Moresby** 34.07 279 P **P** 12 37 40.5 +1.6
PMG **Port Moresby** 34.07 279 P **P** 12 37 39.4 +0.5
comp=Z,1µmcomp=Z,137nm,1.1s
PMG **Port Moresby** 34.07 279 P **P** 12 37 39.8 +0.9
PMG **Port Moresby** 34.07 279 P **P** 12 37 39.9 +1.0
PMG **Port Moresby** 34.07 279 P **P** 12 37 39.7 +0.9
PMG pP **pP** 12 39 09.6 +0.3
PMG ScP **ScP** 12 42 56.2 +0.6
CMSA **Cobar Meteorol** 35.08 240 P **P** 12 37 42.7 +0.1
baz=35,SNR=30
CMSA **Cobar Meteorol** 35.08 240 P **P** 12 37 47.3 +0.1
MTSU **Mount Surprise** 35.13 263 P **P** 12 37 47.5 -0.3
baz=35,SNR=7.1
MTSU **Mount Surprise** 35.13 263 P **P** 12 37 47.6 -0.2
QLP **Quilpie** 35.38 249 P **P** 12 37 49.4 -0.3
baz=36,SNR=20
QLP **Quilpie** 35.38 249 P **P** 12 37 49.8 +0.1
MANU **Manus Island** 36.64 291 P **P** 12 38 01.8 +1.5
MANU **Manus Island** 36.64 291 P **P** 12 38 01.8 +1.5
COEN **Coen** 36.78 270 P **P** 12 38 01.7 +0.3
baz=37,SNR=102
COEN **Coen** 36.78 270 P **P** 12 38 01.9 +0.5
COEN **Coen** 36.78 270 P **P** 12 38 02.1 +0.7
TOO **Toolangi** 37.19 230 P **P** 12 38 05.2 +0.7
baz=37,SNR=5.6
TOO **Toolangi** 37.19 230 P **P** 12 38 05.4 +0.9
TOO IAmb IAmb 12 38 06.0
comp=Z,26nm,1.0s
STKA **Stephens Creek** 38.55 241 P **P** 12 38 16.4 +0.7
comp=Z,31nm,0.7s,baz=90,slow=10,SNR=40
comp=Z,31nm,0.7s
STKA **Stephens Creek** 38.55 241 P **P** 12 38 16.2 +0.5
baz=39,SNR=20
STKA **Stephens Creek** 38.55 241 P **P** 12 38 16.2 +0.5
STKA **Stephens Creek** 38.55 241 P **P** 12 38 16.5 +0.8
INKA **Innaminka** 38.61 247 P **P** 12 38 17.2 +1.0
QIS **Mount Isa** 39.42 259 P **P** 12 38 22.0 -0.9
baz=40,SNR=7.7
QIS **Mount Isa** 39.42 259 P **P** 12 38 22.3 -0.5
comp=Z,11nm,0.8s
HTT **Hallett** 41.09 239 P **P** 12 38 36.5 +0.5
baz=41,SNR=14
HTT **Hallett** 41.09 239 P **P** 12 38 36.4 +0.4
LCRK **Leigh Creek** 41.15 244 P **P** 12 38 36.6 +0.1
WHYH **Whyalla** 42.12 240 P **P** 12 38 44.3 +0.2
GENI **Genyem** 42.94 285 P **P** 12 38 51.3 +0.5
comp=Z,5µmcomp=Z,376nm,0.7s
GENI **Genyem** 42.94 285 P **P** 12 38 52.6 +1.8
OOD **Oodnadatta** 43.08 248 P **P** 12 38 52.2 +0.5
BBOO **Buckleboo** 43.33 241 P **P** 12 38 53.6 -0.1
baz=44,SNR=30
BBOO **Buckleboo** 43.33 241 P **P** 12 38 53.6 -0.1
BBOO **Buckleboo** 43.33 241 P **P** 12 38 53.9 +0.2
WR0 **Warramunga Arr** 44.20 259 P **P** 12 38 59.5 -1.0
WR0 IAmb IAmb 12 39 00.6
comp=Z,32nm,1.3s
WB0 **Warramunga Arr** 44.36 259 P **P** 12 39 00.6 -1.2
WB0 IAmb IAmb 12 39 01.7
comp=Z,33nm,1.1s
WB2 **Warramunga Arr** 44.38 259 P **P** 12 39 00.7 -1.3
WB2 IAmb IAmb 12 39 01.9
comp=Z,25nm,0.8s
WRAB **Tennant Creek** 44.38 259 P **P** 12 39 00.8 -1.2
WRAB IAmb IAmb 12 39 01.8
comp=Z,21nm,0.8s
WRAB **Tennant Creek** 44.38 259 P **P** 12 39 01.0 -1.0
WRAB **Tennant Creek** 44.38 259 P **P** 12 39 00.6 -1.4
WRAB pP **PcP** 12 40 34.6 +0.2
WRAB sP **sP** 12 41 34.4 -3.2
WRAB ScP **ScP** 12 43 37.1 +1.4
WB1 **Warramunga Ar.** 44.38 259 P **P** 12 39 00.9 -1.1
WRA **Warramunga Arr** 44.39 259 P **P** 12 39 00.6 -1.5
comp=Z,18nm,0.7s,baz=96,slow=7.3,SNR=218
WRA ScP **ScP** 12 43 37.2 +1.5
comp=Z,6.1nm,1.0s,baz=88,slow=3.9,SNR=9.1
WRA S **S** 12 44 52.2 -5.9
comp=Z,1.3nm,0.9s,baz=91,slow=14,SNR=5.3
comp=Z,18nm,0.7s
WRA **Warramunga Arr** 44.39 259 P **P** 12 39 00.6 -1.5
SMPI **Sarmi** 44.51 285 P **P** 12 39 03.0 0.0
comp=Z,112nm,0.8s
AS01 **Alice Springs** 44.55 254 P **P** 12 39 02.9 -0.4
AS31 **Alice Springs** 44.59 254 P **P** 12 39 03.2 -0.5
ASAR **Alice Springs** 44.60 254 P **P** 12 39 03.1 -0.5
comp=Z,131nm,0.6s,baz=87,slow=8.1,SNR=1881
ASAR ScP **ScP** 12 43 38.3 +1.7
comp=Z,4.4nm,0.8s,baz=98,slow=4.0,SNR=10
ASAR S **S** 12 44 56.9 -4.0
comp=Z,6.2nm,1.0s,baz=87,slow=16,SNR=19
comp=Z,131nm,0.6s
ASAR **Alice Springs** 44.60 254 P **P** 12 39 03.0 -0.6
MULG **Mulgathing** 44.70 244 P **P** 12 39 04.4 +0.1
KDU **Kakadu** 47.24 269 P **P** 12 39 23.3 -0.5
baz=48,SNR=103
KDU **Kakadu** 47.24 269 P **P** 12 39 23.6 -0.2
GUMO **Guam** 47.35 308 P **P** 12 39 25.1 +0.5
comp=Z,200nm,0.6s,baz=345,slow=23,SNR=12
GUMO **Guam** 47.35 308 P **P** 12 39 25.4 +0.8
MTN **Manton Dam** 48.49 268 P **P** 12 39 32.4 -0.7
baz=49,SNR=34
MTN **Manton Dam** 48.49 268 P **P** 12 39 32.4 -0.7
MTN **Manton Dam** 48.49 268 P **P** 12 39 32.8 -0.3
RKPI **Ransiki, Papua** 48.88 284 P **P** 12 39 36.0 -0.1
comp=Z,5µmcomp=Z,100nm,0.8s
MWPI **Manokwari, Pap** 49.23 284 P **P** 12 39 38.9 +0.3
comp=Z,92nm,0.7s
SAUI **Saumlaki** 49.50 274 P **P** 12 39 41.0 +0.3
SAUI **Saumlaki** 49.50 274 P **P** 12 39 41.0 +0.3
SAUI **Saumlaki** 49.50 274 P **P** 12 39 42.1 +1.4
comp=Z,180nm,1.0s
WRKA **Warakurna** 49.67 252 P **P** 12 39 41.5 -0.3
baz=50,SNR=78
WRKA **Warakurna** 49.67 252 P **P** 12 39 41.9 +0.1
FORT **Forrest** 49.90 244 P **P** 12 39 42.9 -0.5
baz=50,SNR=12
FORT **Forrest** 49.90 244 P **P** 12 39 42.9 -0.5

FORT **Forrest** 49.90 244 P **P** 12 39 43.0 -0.3
FAKI **Fak Fak** 50.18 281 P **P** 12 39 45.4 -0.3
FAKI IAmb IAmb 12 39 46.6
comp=Z,71nm,1.4s
FAKI **Fak Fak** 50.18 281 P **P** 12 39 45.6 0.0
KNRA **Kununurra** 50.21 264 P **P** 12 39 45.3 -0.5
baz=50,SNR=61
KNRA **Kununurra** 50.21 264 P **P** 12 39 45.5 -0.3
KNRA **Kununurra** 50.21 264 P **P** 12 39 45.4 -0.4
BNDI **Bandanaira** 51.85 278 P **P** 12 39 58.3 +0.5
comp=Z,149nm,0.7s
SOEI **Soe** 55.74 270 P **P** 12 40 26.6 +1.1
SOEI **Soe** 55.74 270 P **P** 12 40 27.2 +1.7
DRV **Dumont d'Urvil** 55.97 198 P **P** 12 40 26.0 +0.1
DRV ScP **ScP** 12 44 28.5 +4.1
TNTI **Ternate** 56.05 283 P **P** 12 40 28.1 +0.7
SANI **Sanana** 56.35 279 P **P** 12 40 29.4 -0.1
PSA00 **Pilbara Seismi** 57.70 255 P **P** 12 40 38.2 -0.5
PSA00 IAmb IAmb 12 40 39.0
comp=Z,46nm,0.7s
PSA00 **Pilbara Seismi** 57.70 255 P **P** 12 40 37.9 -0.8
PSA00 IAmb IAmb 12 40 39.0
comp=Z,24nm,0.8s
PSA00 **Pilbara Seismi** 57.70 255 P **P** 12 40 38.1 -0.5
MBWA **Marble Bar** 57.86 256 P **P** 12 40 39.5 -0.3
MBWA IAmb IAmb 12 40 39.6
comp=Z,26nm,0.8s
MBWA **Marble Bar** 57.86 256 P **P** 12 40 39.4 -0.3
MBWA **Marble Bar** 57.86 256 P **P** 12 40 39.2 -0.6
MMRI **Maumere** 57.97 271 P **P** 12 40 39.9 -0.7
MMRI IAmb IAmb 12 40 40.9
comp=Z,59nm,0.7s
MMRI **Maumere** 57.97 271 P **P** 12 40 40.7 +0.1
MEEK **Meekatharra** 58.28 249 P **P** 12 40 41.6 -1.0
baz=58,SNR=16
MEEK **Meekatharra** 58.28 249 P **P** 12 40 41.9 -0.7
KLBR **Kellerberrin** 58.73 243 P **P** 12 40 44.6 -0.9
baz=59,SNR=13
KLBR **Kellerberrin** 58.73 243 P **P** 12 40 44.8 -0.7
BLDU **Ballidu** 59.67 244 P **P** 12 40 51.1 -0.7
baz=60,SNR=12
LUWI **Luwuk** 59.72 279 P **P** 12 40 52.7 +0.4
MUN **Mundaring** 60.03 243 P **P** 12 40 54.2 0.0
baz=60,SNR=3.3
MORW **Morawa** 60.36 246 P **P** 12 40 55.8 -0.6
baz=60,SNR=11
MORW **Morawa** 60.36 246 P **P** 12 40 55.8 -0.6
MORW IAmb IAmb 12 43 14.1
comp=Z,71nm,1.7s
SBA **Scott Base** 60.83 183 P **P** 12 41 00.1 +1.5
SBA IAmb IAmb 12 41 01.5
comp=Z,29nm,0.9s
SBA **Scott Base** 60.83 183 P **P** 12 41 00.3 +1.7
SBA ScP **ScP** 12 44 50.2 +4.4
VNDA **Vanda** 60.84 185 P **P** 12 40 59.6 +0.9
comp=Z,6.1nm,0.7s,baz=355,slow=7.6,SNR=51
comp=Z,6.1nm,0.7s
VNDA **Vanda** 60.84 185 P **P** 12 40 59.4 +0.7
VNDA **Vanda** 60.84 185 P **P** 12 40 59.5 +0.7
VNDA ScP **ScP** 12 44 47.0 +1.1
KAPI **Kappang** 61.34 274 P **P** 12 41 03.0 0.0
KAPI IAmb IAmb 12 41 03.8
comp=Z,53nm,1.4s
KAPI **Kappang** 61.34 274 P **P** 12 41 03.3 +0.3
KAPI **Kappang** 61.34 274 P **P** 12 41 03.0 0.0
PLAI **Plampang** 62.17 269 P **P** 12 41 08.1 -0.4
TOLI2 **Tolitoli** 62.32 281 P **P** 12 41 09.7 +0.2
TOLI2 IAmb IAmb 12 41 10.1
comp=Z,20nm,0.9s
TOLI2 **Tolitoli** 62.32 281 P **P** 12 41 09.6 +0.2
GIRL **Giralia** 62.71 253 P **P** 12 41 12.7 +0.9
baz=63,SNR=5.1
GIRL **Giralia** 62.71 253 P **P** 12 41 12.7 +0.9
CCD **Concordia, Ant** 65.21 194 P **P** 12 41 27.5 +0.2
JAGI **Jajag, Banyuwa** 65.73 268 P **P** 12 41 29.9 -1.2
JAGI **Jajag, Banyuwa** 65.73 268 P **P** 12 41 30.0 -1.2
MYLDM **Lahad Datu** 65.89 284 P **P** 12 41 33.6 +1.5
MYLDM IAmb IAmb 12 41 35.9
comp=Z,51nm,1.1s
JGF **Kuroka** 67.20 322 P **P** 12 41 39.6 -0.2
JGF IAmb IAmb 12 41 40.7
comp=Z,20nm,0.7s
JGF **Kuroka** 67.20 322 P **P** 12 41 39.9 +0.1
INU **Inuyama** 67.22 322 P **P** 12 41 40.2 +0.3
INU IAmb IAmb 12 41 41.0
comp=Z,24nm,1.2s
INU **Inuyama** 67.22 322 P **P** 12 41 41.0 +1.1
MJAR **Matsushiro Arr** 67.37 323 P **P** 12 41 40.4 -0.4
comp=Z,23nm,0.7s,baz=157,slow=6.4,SNR=59
comp=Z,23nm,0.7s
MAJO **Matsushiro** 67.37 323 P **P** 12 41 40.7 -0.1
MAJO IAmb IAmb 12 41 41.6
comp=Z,33nm,0.9s
MAJO **Matsushiro** 67.37 323 P **P** 12 41 41.2 +0.4
MAJO **Matsushiro** 67.37 323 P **P** 12 41 40.7 -0.1
MJB9 **Matsu-Tunnel** 67.37 323 P **P** 12 41 42.0 +1.1
MJB9 IAmb IAmb 12 41 42.6
comp=Z,32nm,0.9s
JMN **Monobe** 68.06 319 P **P** 12 41 46.3 +1.2
KKM **Kota Kinabalu** 68.32 284 P **P** 12 41 47.3 +0.1
KKM IAmb IAmb 12 41 48.2
comp=Z,32nm,0.7s
JSD **Sado** 68.40 325 P **P** 12 41 47.6 +0.6
JHS **Saijyo** 69.36 319 P **P** 12 41 53.8 +0.9
JHS **Saijyo** 69.36 319 P **P** 12 41 53.9 +0.9
JNU **Nakatsue** 69.60 316 P **P** 12 41 54.2 -0.2
JNU **Nakatsue** 69.60 316 P **P** 12 41 54.8 +0.3
comp=Z,27nm,1.1s
YOJ **Yonaguni jima** 70.43 305 P **P** 12 41 59.9 +0.4
YOJ **Yonaguni jima** 70.43 305 P **P** 12 41 59.9 +0.4
JKA **Kamikawa-asahi** 70.74 332 P **P** 12 42 02.4 +1.5
JKA IAmb IAmb 12 42 03.3
comp=Z,29nm,0.7s
SBUM **Sibu** 70.82 279 P **P** 12 42 02.6 +0.6
YULB **Yu-li** 71.26 303 P **P** 12 42 03.7 -0.7
NACB **Ninganchiao** 71.41 304 P **P** 12 42 05.1 -0.2
NACB **Ninganchiao** 71.41 304 P **P** 12 42 04.9 -0.3
SSLB **Suanglung** 71.73 303 P **P** 12 42 06.3 -0.9
SSLB IAmb IAmb 12 42 07.2
comp=Z,34nm,0.6s
SSLB **Suanglung** 71.73 303 P **P** 12 42 06.7 -0.5
TPUB **Ta-pu** 71.75 302 P **P** 12 42 06.4 -0.9
UNV **Unalaska Valle** 71.81 8 P **P** 12 42 05.6 -1.2
baz=192
BBJI **Bungbulang** 72.20 268 P **P** 12 42 09.7 -0.5
KSM **Kuching** 72.31 277 P **P** 12 42 11.4 +0.6
KSM **Kuching** 72.31 277 P **P** 12 42 11.7 +1.0
QSPA **South Pole Qui** 72.58 180 P **P** 12 42 11.3 -0.2
QSPA IAmb IAmb 12 42 12.9
comp=Z,54nm,1.0s
PET **Petropavlovsk** 72.88 346 P **P** 12 42 12.7 -0.4
PET IAmb IAmb 12 42 31.5
comp=Z,86nm,1.6s
PEA0B **Petropavlovsk-** 73.18 345 P **P** 12 42 15.1 +0.2
PETK **Petropavlovsk-** 73.18 345 P **P** 12 42 14.2 -0.7
comp=Z,24nm,0.8s,baz=139,slow=8.0,SNR=52
comp=Z,24nm,0.8s
KSRS **Korea Array** 74.16 318 P **P** 12 42 21.7 +0.9
comp=Z,6.4nm,0.7s,baz=125,slow=6.3,SNR=22
comp=Z,6.4nm,0.7s
QZH **Quanzhou** 74.17 303 eP **P** 12 42 22.2 +1.1
KSAR **Wonju Array Be** 74.18 318 P **P** 12 42 21.5 +0.6
USA0B **Ussuriysk Arra** 76.08 326 P **P** 12 42 33.3 +2.0
USRK **Ussuriysk Ar.** 76.08 326 P **P** 12 42 32.0 +0.7
comp=Z,7.9nm,0.9s,baz=114,slow=5.4,SNR=16
comp=Z,7.9nm,0.9s
USRK **Ussuriysk Ar.** 76.08 326 P **P** 12 42 32.7 +1.4
OHAK **Old Harbor** 77.39 14 P **P** 12 42 37.0 -1.2
baz=205
NJ2 **Nanjing** 77.42 310 ⇓P **P** 12 42 39.9 +1.0
NJ2 pmax pmax
comp=Z,23nm,0.6s
BFSC **Mount Baldy Ra** 77.58 48 P **P** 12 42 37.2 -2.8
baz=239
MDJ **Mudanjiang** 77.65 325 P **P** 12 42 41.2 +1.3
MDJ pmax pmax
comp=Z,50nm,0.9s
MDJ pmax pmax
comp=Z,240nm,3.8s
EDW2 **Edwards Air Fo** 77.68 47 P **P** 12 42 38.2 -2.2
baz=238
MONP2 **Monument Peak** 77.78 50 P **P** 12 42 38.4 -2.8
baz=240
Q17K **Contact Creek** 77.79 12 P **P** 12 42 39.9 -0.6

baz=202
Q16K **King Salmon** 78.03 12 P **P** 12 42 41.0 -0.6
baz=201
KDAK **Kodiak Island** 78.06 14 P **P** 12 42 42.1 +0.3
comp=Z,13nm,0.7s,baz=212,slow=4.6,SNR=8.2
comp=Z,13nm,0.7s
KDAK **Kodiak Island** 78.06 14 P **P** 12 42 41.3 -0.5
baz=205
LRMC **Laurel Mtn Rad** 78.21 47 P **P** 12 42 41.7 -1.6
baz=238
Q18K **Katmai Hardscr** 78.33 12 P **P** 12 42 42.6 -0.8
baz=203
MYKOM **Kota Tinggi** 78.53 276 P **P** 12 42 45.5 +0.1
MYKOM IAmb IAmb 12 42 46.8
comp=Z,33nm,1.2s
P17K **Kvichak River** 78.55 11 P **P** 12 42 43.8 -0.5
baz=202
O16K **Kokwok River B** 78.62 11 P **P** 12 42 43.6 -1.2
baz=200
MPMC **Manual Prospec** 78.64 46 P **P** 12 42 44.8 -0.9
baz=238
O17K **Koliganek Bris** 78.97 11 P **P** 12 42 46.4 -0.2
baz=201
P18K **Big Mountain,** 78.97 12 P **P** 12 42 46.0 -0.7
baz=203
N16K **Nishlik Lake** 79.34 10 P **P** 12 42 49.2 +0.6
baz=199
NVAR **Mina Array Bea** 79.34 44 P **P** 12 42 50.5 +1.1
comp=Z,1.1nm,0.7s,baz=224,slow=8.4,SNR=13
comp=Z,1.1nm,0.7s
O18K **Koktuh Hills** 79.40 12 P **P** 12 42 49.1 +0.2
baz=203,SNR=8.3
CN2 **Changchun** 79.48 322 eP **P** 12 42 50.7 +1.0
CN2 pmax pmax
comp=Z,40nm,1.0s
BNX **BinXian** 79.56 325 ⇑P **P** 12 42 50.8 +0.7
BNX pmax pmax
comp=Z,51nm,0.7s
BNX pmax pmax
comp=Z,170nm,3.8s
P19K **Oil Pt** 79.62 13 P **P** 12 42 50.1 -0.1
baz=204
O19K **Port Alsworth** 79.89 12 P **P** 12 42 51.2 -0.2
O19K IAmb IAmb 12 42 52.0
comp=Z,36nm,0.8s
O19K **Port Alsworth** 79.89 12 P **P** 12 42 51.3 -0.2
baz=203,SNR=9.8
ILSW **Iliamna Southw** 79.94 13 P **P** 12 42 51.6 -0.3
ILSW IAmb IAmb 12 42 52.1
comp=Z,22nm,0.8s
N18K **Kilae Creek** 80.04 11 P **P** 12 42 52.3 0.0
baz=202
WHN **Wuhan** 80.09 306 ⇑P **P** 12 42 54.2 +1.0
BRSE **Bradley Lake S** 80.25 14 P **P** 12 42 53.2 -0.2
baz=207
N19K **Bonanza Creek** 80.43 12 P **P** 12 42 54.2 -0.2
baz=203
MA2 **Magadan** 80.70 345 P **P** 12 42 55.4 -0.3
comp=Z,11nm,0.6s,baz=131,slow=6.3,SNR=7.6
comp=Z,11nm,0.6s
TIA **Tai'an** 80.72 312 eP **P** 12 42 56.6 +0.2
TIA pmax pmax
comp=Z,12nm,0.9s
SEW **Seward** 80.87 14 P **P** 12 42 56.5 -0.1
baz=208
O22K **Cooper Landing** 81.14 14 P **P** 12 42 58.2 +0.3
baz=208
N20K **Mount Spurr** 81.24 13 P **P** 12 42 58.3 -0.3
baz=205
SPCR **Spurr Chakacha** 81.24 13 P **P** 12 42 58.4 -0.2
baz=205
P23K **Montague Islan** 81.28 15 P **P** 12 42 58.6 -0.1
baz=210
M19K **Big River Lodg** 81.45 11 P **P** 12 42 59.5 -0.1
M19K **Big River Lodg** 81.45 11 P **P** 12 42 60.0 +0.4
baz=203
L19K **White Mountain** 81.62 11 P **P** 12 43 00.8 +0.4
L19K IAmb IAmb 12 43 02.4
comp=Z,73nm,1.9s
L19K **White Mountain** 81.62 11 P **P** 12 43 01.0 +0.6
baz=203
SMAI **San Martin Ant** 81.67 159 P **P** 12 43 01.7 +1.0
SMAI IAmb IAmb 12 43 02.3
comp=Z,23nm,0.7s
M20K **Styx River** 81.67 12 P **P** 12 43 00.4 -0.4
baz=204
TUC **Tucson** 81.70 52 P **P** 12 43 01.0 -0.6
baz=243
SUA **Susitna One** 81.79 13 P **P** 12 43 01.2 -0.3
baz=207
PWL **Port Wells** 81.80 14 P **P** 12 43 00.8 -0.6
baz=209
L20K **Farewell, AK** 82.07 11 P **P** 12 43 03.0 +0.2
baz=204
TTA **Tatalina** 82.11 10 P **P** 12 43 03.2 +0.2
baz=202
EYAK **Cordova Ski Ar** 82.18 16 P **P** 12 43 02.1 -1.1
baz=211
M22K **Willow** 82.18 13 P **P** 12 43 03.1 -0.1
baz=207,SNR=5.2
KNK **Knik Glacier** 82.26 14 P **P** 12 43 03.8 +0.1
baz=209
PMR **Palmer** 82.26 14 P **P** 12 43 03.9 +0.2
baz=208
HEH **HeiHe** 82.38 328 eP **P** 12 43 04.7 +0.2
HEH pmax pmax
comp=Z,18nm,1.1s
HEH pmax pmax
comp=Z,80nm,5.8s
BELA **Belgrano 2** 82.63 173 P **P** 12 43 05.0 -0.5
BELA IAmb IAmb 12 43 05.9
comp=Z,47nm,0.8s
KULM **Kulim** 82.65 278 P **P** 12 43 07.6 +0.8
KULM IAmb IAmb 12 43 08.3
comp=Z,21nm,0.9s
CUT **Chulitna** 82.73 13 P **P** 12 43 05.7 -0.3
baz=207
V35K **Ketchikan** 82.76 25 P **P** 12 43 05.9 -0.4
baz=225
M23K **Glacier View** 82.76 14 P **P** 12 43 05.6 -0.6
baz=210
BMRM **Bremner River** 82.83 16 P **P** 12 43 06.8 +0.1
BMRM **Bremner River** 82.83 16 P **P** 12 43 06.4 -0.3
baz=212
K20K **Telida** 82.84 11 P **P** 12 43 06.4 -0.2
K20K IAmb IAmb 12 43 07.5
comp=Z,21nm,0.8s
K20K **Telida** 82.84 11 P **P** 12 43 06.2 -0.4
baz=204
SCM **Sheep Creek Mo** 82.89 14 P **P** 12 43 07.0 +0.1
SCM IAmb IAmb 12 43 07.6
comp=Z,35nm,0.8s
SCM **Sheep Creek Mo** 82.89 14 P **P** 12 43 06.6 -0.4
baz=210
MESA **MESA** 82.91 18 P **P** 12 43 07.3 +0.1
baz=215
KLU **Klutina** 82.94 15 P **P** 12 43 06.9 -0.3
baz=211
HNS **HongShan** 82.99 313 ⇓P **P** 12 43 08.8 +0.9
HNS pmax pmax
comp=Z,13nm,1.4s
BJI **Beijing** 83.25 315 P **P** 12 43 09.4 +0.3
BJI pmax pmax
comp=Z,20nm,0.9s
CAST **Castle Rocks** 83.27 12 P **P** 12 43 07.2 -1.5
CAST IAmb IAmb 12 43 08.6
comp=Z,21nm,0.7s
CAST **Castle Rocks** 83.27 12 P **P** 12 43 07.4 -1.3
baz=205,SNR=16
TABL **Table Mountain** 83.36 18 P **P** 12 43 09.9 +0.4
N25K **Chitina, Valde** 83.38 16 P **P** 12 43 09.4 +0.1
N25K IAmb IAmb 12 43 10.2
comp=Z,23nm,0.7s
N25K **Chitina, Valde** 83.38 16 P **P** 12 43 09.1 -0.3
baz=212
M24K **Tolsona, Glenn** 83.41 15 P **P** 12 43 10.2 +0.7
M24K IAmb IAmb 12 43 10.7
comp=Z,30nm,0.7s
M24K **Tolsona, Glenn** 83.41 15 P **P** 12 43 09.6 +0.1
baz=211
WAT6 **Susitna Watana** 83.45 14 P **P** 12 43 09.3 -0.5
baz=210,SNR=8.5
WAT1 **Susitna Watana** 83.48 13 P **P** 12 43 09.6 -0.2
baz=209
J20K **Nowinta River** 83.59 11 P **P** 12 43 10.1 -0.2
J20K **Nowinta River** 83.59 11 P **P** 12 43 10.5 +0.2
baz=203

MCARA **McCarthy VSAT** 83.60 16 P P 12 43 10.5 +0.1
baz=214
TRF **Thorofare Moun** 83.66 12 P P 12 43 10.3 -0.5
baz=207,SNR=14
GCSA **Galena City Sc** 83.67 9 P P 12 43 10.5 -0.1
baz=201
P29M **Windy Craggy** 83.75 20 P P 12 43 11.8 +0.6
baz=219
O28M **Mount Upton** 83.90 18 P P 12 43 12.4 +0.1
baz=216
HARP **HAARP** 83.91 15 P P 12 43 11.9 0.0
baz=212
DHY **Denali Highway** 83.96 14 P P 12 43 12.2 -0.2
baz=210
O29M **Mount Kennedy** 84.02 19 P P 12 43 13.1 +0.4
baz=218
PLBC **Pleasant Camp** 84.06 20 P P 12 43 13.6 +0.9
baz=220
BPAW **Bear Paw Mtn.** 84.10 12 P P 12 43 12.4 -0.5
baz=206
MAW **Mawson** 84.15 200 P P 12 43 14.2 +1.1
comp=Z,10nm,0.6s,baz=140,slow=5.5,SNR=27
comp=Z,10nm,0.6s
MAW **Mawson** 84.15 200 P P 12 43 11.3 -1.9
baz=84,SNR=19
MAW **Mawson** 84.15 200 P P 12 43 14.0 +0.8
MCK **McKinley** 84.19 13 P P 12 43 13.5 +0.2
baz=208,SNR=7.8
PAX **Paxson** 84.32 15 P P 12 43 13.6 -0.5
PAX **Paxson** 84.32 15 P P 12 43 13.7 -0.3
baz=212
GSI **Gunungsitoli** 84.35 273 P P 12 43 15.7 +0.4
P30M **Million Dollar** 84.38 20 P P 12 43 14.5 +0.2
baz=220
SKAG **Skagway** 84.41 21 P P 12 43 15.3 +0.9
baz=221
YUK8 **Steele Glacier** 84.44 18 P P 12 43 15.2 +0.3
baz=217
M26K **Nabesna, AK** 84.46 16 P P 12 43 14.9 +0.3
M26K IAmb IAmb 12 43 16.2
comp=Z,16nm,0.9s
M26K **Nabesna, AK** 84.46 16 P P 12 43 15.0 +0.3
baz=214
T35M **Bob Quinn** 84.47 24 P P 12 43 15.1 +0.3
baz=226
HLID **Hailey** 84.52 41 P P 12 43 15.6 0.0
baz=240
NONG **Nongkai** 84.54 291 ⇑P P 12 43 16.9 +0.9
GYA **Guiyang** 84.54 300 ⇑*i*P P 12 43 17.1 +1.1
GYA pmax pmax
comp=Z,18nm,0.9s
YUK6 **Outpost Mounta** 84.58 19 P P 12 43 16.4 +0.8
baz=218
YUK3 **Moose Creek** 84.63 17 P P 12 43 16.5 +0.7
baz=216
SRIT **Nakosritamara** 84.68 281 P P 12 43 18.6 +1.8
comp=Z,62nm,0.8s
M27K **Edge Creek, AK** 84.72 16 P P 12 43 16.6 +0.5
M27K IAmb IAmb 12 43 17.4
comp=Z,21nm,1.0s
M27K **Edge Creek, AK** 84.72 16 P P 12 43 16.6 +0.5
baz=215
MENT **Mentasta** 84.72 15 P P 12 43 16.0 +0.1
HYT **Haines Junctio** 84.75 19 P P 12 43 16.7 +0.4
baz=219
S34M **Telegraph Cree** 84.78 23 P P 12 43 17.0 +0.7
baz=225
SURA **Surathani** 84.83 281 P P 12 43 19.3 +1.8
L26K **Log Cabin Wild** 84.89 15 P P 12 43 17.1 +0.3
L26K **Log Cabin Wild** 84.89 15 P P 12 43 17.1 +0.3
baz=214
I21K **Tanana** 84.89 11 P P 12 43 17.1 +0.5
baz=205
NEA2 **Nenana** 84.93 12 P P 12 43 16.2 -0.6
baz=208
K24K **Donnelly Dome** 84.96 14 P P 12 43 16.9 -0.2
baz=211,SNR=10
MLY **Manley** 84.99 12 P P 12 43 16.2 -1.0
MLY **Manley** 84.99 12 P P 12 43 16.6 -0.6
baz=206
BVCY **Beaver Creek** 85.04 17 P P 12 43 17.3 -0.2
baz=216
P32M **Atlin** 85.06 21 P P 12 43 16.9 -0.7
baz=222
Q32M **Nakina River** 85.11 22 P P 12 43 17.9 -0.2
baz=224
RIDG **Independent Ri** 85.12 14 P P 12 43 17.6 -0.3
RIDG IAmb IAmb 12 43 18.5
comp=Z,15nm,0.9s
RIDG **Independent Ri** 85.12 14 P P 12 43 18.1 +0.2
baz=212
O30N **Mendenhall** 85.16 19 P P 12 43 18.3 +0.2
baz=220
H21K **Melozitna Rive** 85.18 10 P P 12 43 18.1 +0.1
baz=205
XLT **XiLinHaoTe** 85.21 319 ⇑*i*P P 12 43 19.6 +0.8
XLT pmax pmax
comp=Z,25nm,0.7s
XLT pmax pmax
comp=Z,190nm,5.9s
HDA **Harding Lake** 85.22 13 P P 12 43 18.0 -0.3
baz=210,SNR=7.5
L27K **Beaver Creek,** 85.31 16 P P 12 43 18.9 +0.1
baz=215
IMAR **Indian Mountai** 85.31 10 P P 12 43 18.6 -0.1
BCAR **Beaver Creek A** 85.32 16 P P 12 43 19.2 +0.4
NEW **Newport** 85.36 36 P P 12 43 18.7 -0.7
baz=237
TCOL **CIGO, UAF Yank** 85.42 13 P P 12 43 18.5 -0.7
baz=209,SNR=5.3
COLA **College** 85.43 13 P P 12 43 18.7 -0.5
baz=209
COLA **College** 85.43 13 P P 12 43 18.6 -0.6
WHY **Whitehorse** 85.46 20 P P 12 43 19.7 0.0
baz=221
SCRK **Sand Creek** 85.53 15 P P 12 43 19.9 0.0
SCRK **Sand Creek** 85.53 15 P P 12 43 20.0 +0.1
baz=213,SNR=6.4
IL31 85.54 13 P P 12 43 18.8 -0.9
IL31 IAmb IAmb 12 43 19.9
comp=Z,34nm,1.6s
ILAR **Eielson Array** 85.54 13 P P 12 43 18.8 -1.0
comp=Z,3.4nm,0.4s,baz=224,slow=5.0,SNR=62
ILAR pP pP 12 45 16.4 +0.7
comp=Z,1.2nm,0.9s,baz=232,slow=7.3,SNR=4.2
comp=Z,3.4nm,0.4s
DLBC **Dease Lake** 85.57 23 P P 12 43 20.4 +0.3
baz=226
H22K **Ishtalitna Cre** 85.64 11 P P 12 43 20.7 +0.4
baz=206
POKR **Poker Plat Res** 85.73 13 P P 12 43 20.0 -0.7
POKR **Poker Plat Res** 85.73 13 P P 12 43 19.8 -0.9
baz=210
M29M **Somme Creek** 85.74 18 P P 12 43 21.1 +0.1
baz=218
XAN **Xi'an** 85.74 307 ⇑P P 12 43 22.2 +0.6
XAN pmax pmax
comp=Z,58nm,1.0s
J25K **Salcha River,** 85.74 14 P P 12 43 20.7 -0.2
J25K **Salcha River,** 85.74 14 P P 12 43 20.1 -0.8
baz=212
N31M **Braeburn, Yuko** 85.80 19 P P 12 43 21.0 -0.2
baz=220
P33M **Teslin, Yukon** 85.82 21 P P 12 43 21.1 -0.3
baz=223
G21K **Allakaket** 85.84 10 P P 12 43 21.1 -0.2
baz=204
R33M **Jennings River** 85.89 22 P P 12 43 21.6 -0.1
baz=225
K27K **Chicken** 86.04 15 P P 12 43 22.2 0.0
baz=215
TXAR **Lajitas Array** 86.04 58 P P 12 43 25.2 +2.1
comp=Z,2.3nm,0.8s,baz=216,slow=5.9,SNR=23
comp=Z,3nm,0.8s
J26L **Joseph Creek** 86.07 14 P P 12 43 22.6 +0.1
baz=213,SNR=13
M30M **Minto, Yukon** 86.33 18 P P 12 43 23.5 -0.1
baz=220
L29M **L29M** 86.36 17 P P 12 43 24.0 +0.2
baz=218
PRP **Porcupine Dome** 86.48 13 P P 12 43 23.9 -0.6
PRP **Porcupine Dome** 86.48 13 P P 12 43 24.1 -0.3
baz=211
F21K **Alatna River** 86.50 10 P P 12 43 24.4 0.0
baz=204
G22K **Bettles** 86.55 10 P P 12 43 24.5 -0.1
baz=206

G23K **Bananza Creek** 86.62 11 P P 12 43 24.7 -0.3
baz=207
HHC **Hu-ho-hao-te** 86.74 315 *e*P P 12 43 27.4 +1.2
HHC pmax pmax
comp=Z,44nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.5s
DAWY **Dawson** 86.77 16 P P 12 43 25.9 +0.1
DAWY IAmb IAmb 12 44 49.8
comp=Z,36nm,1.9s
DAWY **Dawson** 86.77 16 P P 12 43 25.6 -0.1
baz=217
M31M **Drury Creek, Y** 86.78 19 P P 12 43 25.6 -0.2
baz=222
I26K **Coal Creek Min** 86.84 14 P P 12 43 26.2 +0.2
I26K **Coal Creek Min** 86.84 14 P P 12 43 25.7 -0.3
baz=214,SNR=5.1
EGAK **Eagle** 86.89 15 P P 12 43 26.3 +0.1
EGAK **Eagle** 86.89 15 P P 12 43 26.3 +0.1
baz=216
F22K **John River** 86.97 10 P P 12 43 26.3 -0.2
baz=205
COLD **Coldfoot** 87.05 11 P P 12 43 27.5 +0.6
COLD **Coldfoot** 87.05 11 P P 12 43 26.9 0.0
baz=207
G24K **Hadweenzic Riv** 87.10 12 P P 12 43 26.7 -0.5
baz=210
K29M **Barlow Dome** 87.10 17 P P 12 43 27.4 0.0
baz=219
FARO **Faro, Yukon** 87.12 20 P P 12 43 26.9 -0.5
baz=223
BW06 **Boulder Array** 87.26 44 P P 12 43 27.0 -1.8
baz=243
PDAR **Pinedale Array** 87.27 44 P P 12 43 28.8 0.0
comp=Z,0.9nm,0.8s,baz=208,slow=2.4,SNR=7.4
PDAR pP pwP 12 45 28.6 +1.0
comp=Z,0.7nm,0.9s,baz=222,slow=4.0,SNR=4.0
comp=Z,0.9nm,0.8s
KMI **Kunming** 87.35 297 ⇑P P 12 43 30.8 +1.2
KMI pmax pmax
comp=Z,27nm,0.8s
MAYO **Mayo, Yukon** 87.37 18 P P 12 43 29.5 +0.9
baz=220
G25K **Bearman Lake** 87.43 12 P P 12 43 28.2 -0.5
baz=211
I27K **Kandik River** 87.45 15 P P 12 43 28.4 -0.5
baz=215
E22K **Anaktuvuk Pass** 87.59 10 P P 12 43 29.6 0.0
baz=206
LIRD **Liard River Hi** 87.73 24 P P 12 43 29.9 -0.4
baz=229
F24K **Squaw Lake** 87.73 11 P P 12 43 30.5 +0.3
baz=209
E23K **Chandalar** 87.90 11 P P 12 43 31.2 +0.2
baz=208
H27K **Steamboat Moun** 87.98 14 P P 12 43 31.6 +0.2
baz=215
G26K **Porcupine Rive** 88.07 13 P P 12 43 32.3 +0.6
baz=213
MMPY **Sheldon Lake,** 88.08 20 P P 12 43 32.7 +0.8
baz=224
I29M **Ogilvie Camp,** 88.08 16 P P 12 43 31.4 -0.4
baz=218
E24K **Your Creek** 88.11 11 P P 12 43 32.2 +0.2
baz=209
F25K **Christian Rive** 88.23 12 P P 12 43 32.9 +0.3
baz=211
BMAR **Burnt Mountain** 88.31 13 P P 12 43 33.5 +0.6
TGTN **Hyland Airport** 88.33 22 P P 12 43 33.4 +0.3
baz=227
TOLK **Toolik Lake Re** 88.42 10 P P 12 43 33.1 -0.3
baz=208
G27K **Doyon Strip** 88.43 14 P P 12 43 33.0 -0.4
baz=215
CMAR **Chiang Mai Arr** 88.43 290 P P 12 43 35.6 +1.1
comp=Z,8.9nm,0.9s,baz=106,slow=2.9,SNR=58
CMAR PP PP 12 47 12.8 +0.4
comp=Z,0.4nm,0.3s,baz=122,slow=6.1,SNR=5.1
comp=Z,8.9nm,0.9s
T25A **Trinidad** 88.48 50 P P 12 43 33.6 -1.1
baz=247
MSTX **Muleshoe** 88.50 54 P P 12 43 33.5 -1.2
baz=248
RLMT **Red Lodge** 88.51 42 P P 12 43 33.6 -1.0
baz=243
D23K **Nanushuk River** 88.53 10 P P 12 43 34.0 +0.2
baz=206
F26K **Sheenjek River** 88.62 13 P P 12 43 34.4 +0.1
baz=213
PZH **PanZhiHua** 88.67 298 P P 12 43 36.5 +0.9
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,90nm,4.3s
E25K **Arctic Village** 88.70 12 P P 12 43 35.4 +0.7
baz=211
D24K **Happy Valley** 89.00 10 P P 12 43 36.0 0.0
baz=208
EPYK **Eagle Plains** 89.28 16 P P 12 43 36.9 -0.5
baz=220
C23K **Itkillik River** 89.32 9 P P 12 43 37.5 +0.1
baz=207
C24K **Franklin Bluff** 89.53 10 P P 12 43 38.4 0.0
baz=208
E27K **Coleen River** 89.57 13 P P 12 43 38.9 +0.2
baz=215
D25K **Kavik River** 89.58 11 P P 12 43 38.6 -0.1
baz=211
G30M **tAoh Zraii Nji** 89.88 15 P P 12 43 40.0 -0.1
baz=220
C27K **Jago River** 90.34 12 P P 12 43 42.3 +0.1
baz=213
LZH **Lanzhou** 90.37 308 *e*P P 12 43 45.0 +1.7
LZH pP pP 12 45 42.8 +1.7
LZH sP sP 12 46 36.4 +1.5
TROLL **Troll, Antarti** 90.73 180 PcP P 12 43 43.7 -0.6
F31M **Tsiigehtchic** 90.86 16 P P 12 43 44.6 +0.1
baz=222,SNR=6.4
SNAA **Sanae** 91.03 179 PcP P 12 43 44.3 -1.4
SNAA **Sanae** 91.03 179 P P 12 43 45.0 -0.7
SNAA IAmb IAmb 12 43 45.8
comp=Z,19nm,1.2s
VNA3 **Neumayer Olymp** 91.19 176 PcP P 12 43 45.7 -0.6
INK **Inuvik** 91.56 15 P P 12 43 47.4 -0.4
comp=Z,4.4nm,0.8s,baz=228,slow=2.7,SNR=15
comp=Z,4.4nm,0.8s
INK **Inuvik** 91.56 15 P P 12 43 47.5 -0.3
INK IAmb IAmb 12 43 48.6
comp=Z,8.1nm,1.1s
INK **Inuvik** 91.56 15 P P 12 43 47.4 -0.4
baz=222
VNA2 **Neumayer--Watz** 91.62 177 PcP P 12 43 47.9 -0.3
baz=179,slow=3.0
VNA1 **Neumayer--Stat** 91.85 177 PcP P 12 43 48.9 -0.4
PLCA **Paso Flores** 91.86 134 P P 12 43 51.2 +1.1
comp=Z,1.7nm,0.7s,baz=257,slow=5.0,SNR=4.5
comp=Z,1.7nm,0.7s
SONM **Songino Array** 93.01 319 P P 12 43 54.9 -0.2
comp=Z,1.8nm,0.6s,baz=133,slow=5.2,SNR=11
comp=Z,1.8nm,0.6s
SONM **Songino Array** 93.01 319 P P 12 43 55.3 +0.1
DGMT **Dagmar** 93.07 40 P P 12 43 54.2 -1.1
baz=247
YKA **Yellowknife Ar** 94.08 25 P P 12 43 59.2 -0.2
comp=Z,2.8nm,0.7s,baz=236,slow=4.4,SNR=4.9
comp=Z,2.8nm,0.7s
GTA **Gaotai** 94.51 310 *e*P P 12 44 02.6 +0.4
GTA pmax pmax
comp=Z,6.0nm,0.8s
A36M **Sachs Harbour** 96.15 15 P P 12 44 08.3 -0.3
baz=230
ZALV **Zalesovo Beam** 107.69 322 PKiKP PKiKP 12 49 03.4 -1.5
comp=Z,1.2nm,0.6s,baz=92,slow=0.4,SNR=5.6
ZALV PKKPbc PKKPbc 13 00 19.6 -2.1
comp=Z,0.5nm,0.5s,baz=262,slow=2.6,SNR=3.5
MKAR **Makanchi Array** 108.60 314 PKiKP PKiKP 12 49 05.6 -1.2
comp=Z,1.0nm,0.5s,baz=262,slow=1.9,SNR=8.6
MKAR PKKPbc PKKPbc 13 00 17.6 -1.2
comp=Z,0.9nm,0.9s,baz=284,slow=4.9,SNR=3.9
ARU **Arti** 122.31 326 PKPdf 12 49 32.4 -0.3
ABKAR **Akbulak array** 123.40 318 PKPdf 12 49 34.7 -0.3
ARCES **ARCESS Array B** 125.83 350 PKP PKPdf 12 49 38.8 -0.3
comp=Z,3.0nm,0.8s,baz=0.8,slow=0.5,SNR=7.2
GEYT **Alibeck** 126.53 305 PKP PKPdf 12 49 41.5 0.0
comp=Z,4.1nm,0.7s,baz=174,slow=3.0,SNR=5.6
GEYT PP PP 12 51 44.4 -1.9
comp=Z,1.9nm,0.6s,baz=113,slow=12,SNR=3.9
BOSA **Boshof** 128.63 207 SKPbc SKPbc 12 52 17.1

comp=Z,3.5nm,0.8s,baz=148,slow=3.8,SNR=4.6
BELG **Belogornoye** 129.75 325 PKP PKPdf 12 49 47.3 +0.3
comp=Z,16nm,0.8s,baz=90,slow=6.0,SNR=4.4
BELG SKPbc SKPab 12 52 20.5 +0.8
comp=Z,63nm,0.9s,baz=129,slow=0.9,SNR=14
FINES **FINESS Array B** 132.69 344 PKhKP PKPpre 12 49 37.2
comp=Z,4.0nm,1.2s,baz=333,slow=2.6,SNR=4.1
FINES PKP PKiKP 12 49 52.9 -0.6
comp=Z,0.8nm,0.4s,baz=108,slow=3.0,SNR=6.5
FINES SKPbc SKPab 12 52 31.0 -1.0
comp=Z,3.3nm,0.5s,baz=68,slow=2.8,SNR=18
NB2 **NORSAR Subarra** 135.91 353 PKP PKPpre 12 49 47.3
comp=Z,0.8nm,0.7s,baz=17,slow=2.6
NOA **NORSAR Array B** 135.91 353 PKP PKPdf 12 49 58.8 +0.4
comp=Z,0.5nm,0.6s,baz=8.8,slow=3.2,SNR=3.7
NOA SKPab SKPab 12 52 47.7 +1.5
comp=Z,1.5nm,0.8s,baz=15,slow=3.1,SNR=4.5
KBZ **Khabaz** 136.27 316 SKPbc SKPbc 12 52 42.8 +1.1
comp=Z,3.1nm,0.9s,baz=26,slow=1.4,SNR=4.1
MNK **Minsk** 137.74 337 *i* PKP PKPdf 12 49 59.2 -2.7
comp=E,3.0nm,0.8s
MNK *i* PKP PKPdf 12 49 59.2 -2.7
comp=N,37nm,0.9s
MNK *i* PKP PKPdf 12 49 59.2 -2.7
comp=Z,9.0nm,0.8s,baz=40
MNK *i* PP PP 12 52 54.6 -1.3
MNK *i* PPP PPP 12 56 01.4
MNK *i* SKS SKSdf 12 56 17.6 -4.3
MNK *i* SKKS SKKSdf 13 05 52.1 -7.2
MNK *i* SS SS 13 10 22.3 -0.2
MNK *i* SSS SSS 13 15 40.7
MNK *i* LR LR 13 48 10.9
MNK *i* LRM MLR 13 50 52.4
comp=E,80nm,20.6s
MNK *i* LRM MLR 13 50 54.9
comp=Z,39nm,20.0s
MNK *i* LRM MLR 13 51 12.6
comp=N,222nm,17.4s
AKASG **Malin Array Be** 140.03 332 PKhKP PKPpre 12 49 58.5
comp=N,1.1nm,0.4s,baz=43,slow=4.1,SNR=11
AKASG SKPbc SKPbc 12 52 52.2 +0.3
comp=N,4.4nm,0.8s,baz=36,slow=3.6,SNR=12
AKASG SKPab SKPab 12 53 05.2 +0.6
comp=N,1.2nm,0.6s,baz=46,slow=5.3,SNR=4.7
SORM **Soroca** 142.26 330 ⇑P PKPdf 12 50 06.6 -3.6
VASR **Vaslui** 143.57 329 ⇓P PKPbc 12 50 12.0 +0.6
LODK **Lodwar** 143.76 251 PKPbc 12 50 13.4 +0.4
VLDR **Vladesti** 143.98 328 ⇓P PKPdf 12 50 13.6 +0.3
VARL **Varlezi** 144.06 328 ⇑P PKPdf 12 50 13.8 +0.4
BURAR **Bucovina Array** 144.08 332 ⇑P PKPdf 12 50 13.8 +0.2
BURAR **Bucovina Array** 144.08 332 PKPab 12 50 13.4 +0.1
OJC **Ojcow** 144.10 340 *e*PKP PKPbc 12 50 10.7 -2.2
OJC **Ojcow** 144.10 340 PKPbc 12 50 10.7 -2.2
SCTR **Scanteiesti** 144.14 327 ⇑P PKPdf 12 50 14.4 +0.7
GHRR 144.17 328 ⇑P PKPdf 12 50 14.8 +1.1
TESR **Tescani** 144.22 330 ⇑P PKPdf 12 50 13.9 +0.1
BR131 **Keskin Array S** 144.25 315 PKPbc 12 50 13.9 0.0
BRTR **Keskin Array B** 144.25 315 PKP PKPbc 12 50 13.8 -0.1
comp=N,8.2nm,0.5s,baz=126,slow=3.8,SNR=40
BRTR SKPbc SKPbc 12 53 03.0 0.0
comp=N,2.4nm,1.1s,baz=150,slow=2.7,SNR=4.1
BRTR SKKPbc SKKPab 13 01 09.2 +0.1
comp=N,1.4nm,0.8s,baz=237,slow=4.1,SNR=6.3
BRTR **Keskin Array B** 144.25 315 PKPbc 12 50 13.9 0.0
STHS **Stebnicka Huta** 144.27 338 *e*PKP PKPbc 12 50 13.3 -0.2
KOLS **Kolonicke sedl** 144.28 336 *e*PKP PKPab 12 50 14.1 +0.2
IZVR **Izvoarele** 144.34 327 ⇑P PKPab 12 50 15.4 +1.2
CFR **Carcaliu** 144.40 327 ⇓P PKPab 12 50 14.4 0.0
PANC **Panciu** 144.43 328 ⇑P PKPab 12 50 15.4 +0.9
TPGR **Topolog** 144.46 326 ⇓P PKPab 12 50 15.6 +0.9
ODBI **Odobesti** 144.55 328 ⇑P PKPab 12 50 16.0 +1.0
KSP **Ksiaz** 144.61 343 *e*PKP PKPab 12 50 15.2 +0.1
CRVS **Cervenica-Dubn** 144.61 337 *e*PKP PKPab 12 50 15.2 0.0
VRI **Vrincioaia** 144.64 329 ⇑P PKPab 12 50 15.2 -0.1
ASF **Jabal al Asfar** 144.68 301 PKP PKPab 12 50 15.8 -0.2
comp=N,24nm,0.9s,baz=85,slow=1.3,SNR=7.0
ASF SKPbc SKiKP 12 53 04.6 -0.1
comp=N,2.3nm,0.5s,baz=21,slow=10,SNR=3.9
PLOR **Plostina** 144.69 329 ⇑P PKPab 12 50 15.3 -0.3
ANTO **Ankara** 144.75 316 ⇑P PKPdf 12 50 15.0 0.0
ANTO **Ankara** 144.75 316 PKPbc 12 50 15.6 +0.2
BMR **Baia Mare** 144.79 334 ⇑P PKPab 12 50 15.8 0.0
TRPA **Tarpa** 144.82 335 ⇑P PKPab 12 50 15.6 -0.3
TRPA **Tarpa** 144.82 335 PKP PKPbc 12 50 15.2 0.0
HARR **Harsova** 144.83 326 ⇑P PKPab 12 50 16.0 -0.1
ARCR **ARCALIA** 144.87 332 ⇓P PKPab 12 50 16.2 0.0
OSTC **Ostas** 144.89 343 *e*PKP PKPab 12 50 16.1 -0.1
COVR **Voineasa-Covas** 144.92 329 ⇓P PKPbc 12 50 15.8 +0.1
OKC **Ostrava-Krasne** 144.96 341 *e*PKP PKPbc 12 50 16.0 +0.4
CLL **Collm** 144.97 347 PKPbc 12 50 15.7 +0.1
CLL **Collm** 144.97 347 ⇓*i*PKPbc PKPbc 12 50 15.6 0.0
comp=Z,44nm,0.7s
CLL *e*SKPbc SKiKP 12 53 06.0 +1.5
comp=Z,16nm,1.3s
UPC **Upice** 144.99 344 *e*PKP PKPab 12 50 16.1 -0.4
DPC **Dobruska-Polom** 145.04 343 *e*PKP PKPab 12 50 16.6 -0.2
KRLC **Kraliky** 145.16 342 *e*PKP PKPbc 12 50 16.6 +0.3
NEHR **Nehoiu** 145.17 329 ⇑P PKPab 12 50 17.4 -0.1
BRG **Berggiesshubel** 145.17 346 *i* PKP PKPbc 12 50 16.5 +0.3
BRG Amp 12 50 17.7
comp=Z,23nm,0.7s
ABAH **Abaujker** 145.20 336 PKP PKPbc 12 50 16.7 +0.4
MORC **Moravsky Berou** 145.20 341 ⇑P PKPab 12 50 17.0 -0.4
MORC **Moravsky Berou** 145.20 341 PKPbc 12 50 16.6 +0.1
MORC **Moravsky Berou** 145.20 341 *e*PKP PKPbc 12 50 16.5 +0.1
DOPR **Dopca** 145.22 330 ⇑P PKPab 12 50 17.3 -0.3
ISR **Istrita** 145.26 328 ⇑P PKPab 12 50 17.4 -0.4
MLR **Muntele Rosu** 145.30 329 ⇑P PKPbc 12 50 17.1 +0.1
MLR **Muntele Rosu** 145.30 329 PKPbc PKPbc 12 50 17.0 +0.1
comp=Z,10nm,0.6s,baz=303,slow=1.7,SNR=13
MLR **Muntele Rosu** 145.30 329 PKPbc 12 50 17.2 +0.2
PVCC **Panska Ves** 145.34 345 *e*PKP PKPab 12 50 17.4 -0.5
CBBR **Cluj-Babes-Bol** 145.46 333 ⇓P PKPbc 12 50 17.8 +0.6
MAUC **Maruska** 145.47 341 *e*PKP PKPab 12 50 17.9 -0.6
CJR **Cluj-Napoca** 145.49 332 ⇓P PKPab 12 50 18.0 -0.6
SECR 145.56 328 ⇑P PKPbc 12 50 17.6 0.0
MMAI **Mount Meron Ar** 145.63 303 PKPbc PKPbc 12 50 18.6 +0.4
comp=Z,30nm,0.7s,baz=79,slow=5.2,SNR=38
VOIR 145.77 330 ⇑P PKPbc 12 50 18.6 +0.3
PRU **Pruhonice** 145.84 345 *e*PKP PKPbc 12 50 18.5 +0.3
GOPC **GO Pecny, Ondr** 145.85 344 *e*PKP PKPbc 12 50 18.7 +0.5
VYHS **Vyhne** 145.90 339 *e*PKP PKPbc 12 50 18.8 +0.4
VRAC **Vranov** 145.90 342 ⇑P PKPbc 12 50 19.0 +0.7
VRAC **Vranov** 145.90 342 PKPbc PKPbc 12 50 18.9 +0.5
comp=Z,16nm,1.0s,baz=14,slow=2.4,SNR=12
VRAC **Vranov** 145.90 342 *e*PKP PKPbc 12 50 18.9 +0.5
PSZ **Piszkesteto** 146.01 337 ⇑P PKPbc 12 50 19.4 +0.6
PSZ **Piszkesteto** 146.01 337 PKP PKPbc 12 50 19.3 +0.5
ARR **Arges** 146.02 330 ⇑P PKPbc 12 50 19.1 +0.2
KRUC **Moravsky** 146.18 342 *e*PKP PKPbc 12 50 19.2 +0.1
BORA **Eskisehir** 146.27 317 PKPbc 12 50 19.7 -0.1
RAZG **Razgrad** 146.35 326 P PKPdf 12 50 15.7 -1.8
LOT **Lotru** 146.37 331 P PKPbc 12 50 20.1 +0.2
MODS **Modra-Piesok** 146.52 341 *e*PKP PKPbc 12 50 21.1 +1.0
CSS **Mathiatis** 146.56 308 PKPbc 12 50 19.6 -1.1
SRO **Srobarova** 146.66 339 *e*PKP PKiKP 12 50 21.6 -1.0
SIRR **Siria** 146.67 334 ⇑P PKPbc 12 50 19.7 -0.9
BUD **Budapest** 146.70 338 PKP PKPbc 12 50 21.3 +0.7
MEM **Membach** 146.73 354 *d*PKPbc PKPdf 12 50 19.2 +1.3
MEM *d*PKiKP PKPbc 12 50 20.8 +0.2
BTNL **Ternell** 146.74 354 *d*PKiKP PKPbc 12 50 20.9 +0.2
BSTI **Sart Tilman** 146.79 355 *d*PKiKP PKPbc 12 50 21.2 +0.5
GZR **Gura Zlata** 146.87 332 ⇓P PKPbc 12 50 20.8 -0.4
GRA1 **Grafenberg Arr** 146.87 348 PKPbc 12 50 21.8 +0.8
SURR **Surduc** 146.88 333 ⇑P PKPdf 12 50 18.7 +0.4
KHC **Kasperske Hory** 146.88 345 PKPbc 12 50 21.5 +0.4
KHC **Kasperske Hory** 146.88 345 *e*PKP PKPbc 12 50 21.4 +0.3
EIL **Elat** 146.94 298 PKPbc PKPbc 12 50 21.9 +0.1
comp=Z,20nm,1.0s,baz=349,slow=4.6,SNR=9.5
SNF **Seneffe** 146.96 356 *d*PKiKP PKPbc 12 50 21.1 -0.1
SNF *d*PP PKPab 12 50 24.1 -0.2
BCLA **Clavier** 146.97 355 *d*PKPbc PKPbc 12 50 20.3 -0.9
BCLA *d*PKiKP PKiKP 12 50 21.8 -1.4
BCLA *d*PKPab PKPab 12 50 22.7 -1.7
BCLA *d*PKP PKPdf 12 50 23.9 +5.6
BHOU **Houvegnez** 146.98 354 *d*PKP PKPbc 12 50 21.2 -0.1
CKRC **Cesky Krumlov** 146.98 344 *e*PKP PKPbc 12 50 21.6 +0.2
BGES **Gesves** 147.03 355 *d*PKPbc PKPbc 12 50 20.0 -1.4
CSKK **Cskako** 147.07 339 PKP PKPbc 12 50 21.8 +0.2
GEC2 **GERESS Array S** 147.11 345 PKPbc 12 50 22.3 +0.4
GERES **GERESS Array B** 147.11 345 PKPbc PKPbc 12 50 21.9 +0.1
comp=Z,2.2nm,0.7s,baz=25,slow=3.2,SNR=81
BMRD **Maredsous** 147.13 356 *d*PKiKP PKPbc 12 50 21.6 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BZS	**Buzias**	**147.20**	**333**	⇑P	**PKPdf**	**12 50 19.7**	**+0.8**
RCHB	**Rochefort**	**147.24**	**355**	*d*PKPbc	**PKPdf**	**12 50 19.8**	**+1.1**
RCHB				*d*PKiKP	**PKPbc**	**12 50 21.8**	**-0.2**
RCHB				*d*PKP	**PKPab**	**12 50 25.6**	**+0.1**
DOU	**Dourbes**	**147.35**	**356**	*d*PKiKP	**PKPbc**	**12 50 22.2**	**0.0**
CONA	**Conrad Observa**	**147.35**	**342**	*i* P	**PKPbc**	**12 50 23.0**	**+0.6**
	comp=Z,22nm,0.6s,SNR=10						
HERR	**Herculane**	**147.42**	**332**	⇑P	**PKPbc**	**12 50 22.7**	**+0.1**
RONA	**Rosalia, Austr**	**147.43**	**341**	*i* P	**PKPbc**	**12 50 23.0**	**+0.4**
	comp=Z,20nm,0.7s,SNR=7.5						
PLVB	**Pleven**	**147.46**	**327**	⇑P	**PKPdf**	**12 50 20.0**	**+0.7**
MPLH	**Magyarpolny**	**147.49**	**339**	PKP	**PKPbc**	**12 50 23.3**	**+0.6**
WLF	**Walferdange**	**147.65**	**354**	*d*PKiKP	**PKPbc**	**12 50 23.8**	**+0.7**
MDVR	**Moldovita**	**147.82**	**332**	⇑P	**PKPdf**	**12 50 21.3**	**+1.3**
MOA	**Molln**	**147.88**	**343**	*e*P	**PKPbc**	**12 50 23.8**	**+0.1**
	comp=Z,9.3nm,0.8s						
MORH	**Mrgy, Hungar**	**147.91**	**337**	⇑P	**PKPbc**	**12 50 21.9**	**-1.9**
MORH	**Mrgy, Hungar**	**147.91**	**337**	PKP	**PKPbc**	**12 50 23.9**	**+0.1**
ARSA	**Arzberg**	**148.06**	**341**	*e*P	**PKPbc**	**12 50 22.7**	**-1.5**
	comp=Z,13nm,1.4s						
BIOA	**Bad Ischl, Aus**	**148.19**	**344**	*e*P	**PKPbc**	**12 50 24.3**	**-0.2**
	comp=Z,10nm,0.9s						
KOVH	**Kovagotottos**	**148.22**	**337**	PKP	**PKPbc**	**12 50 24.7**	**+0.2**
BLKB	**Belogradchik**	**148.26**	**330**	⇓P	**PKPbc**	**12 50 24.3**	**-0.6**
RDO	**Rodhopi**	**148.50**	**324**	PKPdf	**PKPdf**	**12 50 19.9**	**-1.2**
RDO					**PKPbc**	**12 50 25.4**	**0.0**
RDO					**PKPab**	**12 50 31.9**	**+1.0**
VTS	**Vitosha**	**148.72**	**328**	⇓P	**PKPdf**	**12 50 20.6**	**-1.0**
SOKA	**Soboth**	**148.72**	**342**	*e*P	**PKPbc**	**12 50 25.5**	**-0.4**
	comp=Z,7.8nm,0.7s						
AKAS	**Kas**	**148.73**	**312**		**PKPbc**	**12 50 25.0**	**-1.3**
KBA	**Koelnbreinsper**	**148.84**	**344**	*e*P	**PKPbc**	**12 50 25.6**	**-0.8**
	comp=Z,11nm,0.5s						
WATA	**Walderalm**	**149.03**	**346**	*e*P	**PKPbc**	**12 50 26.5**	**-0.3**
	comp=Z,15nm,0.5s						
RETA	**Reutte**	**149.06**	**347**	*e*P	**PKPbc**	**12 50 26.8**	**0.0**
	comp=Z,7.8nm,0.5s						
WTTA	**Wattenberg**	**149.09**	**346**	*i* P	**PKPbc**	**12 50 26.9**	**0.0**
	comp=Z,26nm,0.5s,SNR=8.0						
MOTA	**Moosalm**	**149.13**	**347**	*e*P	**PKPbc**	**12 50 26.7**	**-0.3**
	comp=Z,18nm,0.9s						
MYKA	**Terra Mystica**	**149.17**	**343**	*e*P	**PKPbc**	**12 50 26.1**	**-0.9**
	comp=Z,14nm,0.5s						
SQTA	**Sankt Quirin**	**149.22**	**347**	*i* P	**PKPbc**	**12 50 27.1**	**-0.1**
	comp=Z,20nm,0.5s,SNR=8.7						
GCIS	**Gornji Cirnik**	**149.26**	**340**	*i* PKPbc	**PKPbc**	**12 50 27.3**	**+0.1**
ABTA	**Abfaltersbach**	**149.36**	**345**	*i* P	**PKPbc**	**12 50 26.9**	**-0.6**
	comp=Z,21nm,0.6s,SNR=6.2						
PRED	**Cave del Predi**	**149.36**	**343**	PKPbc	**PKPbc**	**12 50 26.2**	**-1.3**
PRED					**PKPab**	**12 50 34.0**	**-0.3**
DAVA	**Damuels**	**149.43**	**348**	*i* P	**PKPbc**	**12 50 27.7**	**0.0**
	comp=Z,18nm,0.8s,SNR=6.9						
LJU	**Ljubljana**	**149.45**	**342**	*i* PKPbc	**PKPbc**	**12 50 27.5**	**-0.1**
CRNS	**Crni Vrh**	**149.50**	**342**	*i* PKPbc	**PKPbc**	**12 50 27.4**	**-0.4**
FETA	**Feichten**	**149.51**	**347**	*i* P	**PKPbc**	**12 50 28.0**	**+0.1**
	comp=Z,13nm,0.7s,SNR=6.6						
CIMO	**Cimolais**	**149.78**	**344**		**PKPbc**	**12 50 27.8**	**-0.7**
DAVOX	**Davos/Dischmat**	**149.92**	**348**	PKPbc	**PKiKP**	**12 50 29.3**	**-0.3**
	comp=Z,40nm,0.7s,baz=323,slow=5.1,SNR=79						
FUORN	**Ofenpass-Fuorn**	**149.99**	**348**		**PKiKP**	**12 50 29.9**	**+0.1**
FUORN				PKPab	**PKPab**	**12 50 36.8**	**-0.4**
CTI	**Castel Tesino**	**150.23**	**345**		**PKPbc**	**12 50 29.3**	**-0.3**
CTI				PKPab	**PKPab**	**12 50 37.4**	**-0.6**
SENIN	**Lac Senin/Sane**	**150.76**	**351**		**PKiKP**	**12 50 31.5**	**+0.1**
SENIN				PKPab	**PKPab**	**12 50 40.5**	**+0.1**
KARP	**Karpathos**	**150.79**	**313**		**PKPbc**	**12 50 30.9**	**-0.2**
FNA	**Florina**	**151.01**	**327**		**PKPbc**	**12 50 31.2**	**-0.3**
SANT	**Santorini**	**151.50**	**316**	⇑P	**PKPdf**	**12 50 22.7**	**-3.3**
IDI	**Anoyia**	**152.49**	**315**	⇑P	**PKiKP**	**12 50 35.1**	**0.0**
IDI	**Anoyia**	**152.49**	**315**	PKPbc	**PKiKP**	**12 50 35.4**	**+0.3**
	comp=Z,8.0nm,0.6s,baz=342,slow=9.0,SNR=10						
IDI	**Anoyia**	**152.49**	**315**		**PKiKP**	**12 50 35.7**	**+0.6**
PGAV	**Gavieira, Arco**	**154.27**	**17**	*e*PKPab	**PKPab**	**12 50 54.8**	**-0.5**
POLO	**Lamas de Olo**	**154.95**	**16**	*e*PKPab	**PKPab**	**12 50 56.8**	**-1.4**
PVRL	**Vila Real**	**155.06**	**16**	*e*PKPab	**PKPab**	**12 50 59.2**	**+0.6**
MVO	**Moncorvo**	**155.34**	**15**	*e*PKPab	**PKPab**	**12 51 00.5**	**+0.7**
PVIS	**Viseu**	**155.53**	**17**	*e*PKPab	**PKPab**	**12 51 01.1**	**+0.4**
PMRV	**Marv??o**	**156.87**	**17**	*e*PKPab	**PKPab**	**12 51 05.8**	**-0.6**
ESDC	**Sonseca Array**	**157.42**	**11**	PKPab	**PKPab**	**12 51 08.6**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=339,slow=4.0,SNR=9.9						
PNCL	**Nicolau / Gran**	**157.72**	**21**	*e*PKPab	**PKPab**	**12 51 09.9**	**-0.2**
PBAR	**Barrancos**	**158.14**	**18**	*e*PKPab	**PKPab**	**12 51 12.0**	**+0.1**
PTEO	**Sao Teotonio**	**158.17**	**22**	*e*PKPab	**PKPab**	**12 51 05.0**	**-7.1**
MDT	**Midelt**	**163.84**	**18**	PKPab	**PKPab**	**12 51 38.5**	**+1.3**
	comp=Z,4.9nm,1.2s,baz=330,slow=6.8,SNR=7.2						

---

*ROM **12** 12:34:11.6±0.0, 42.°996N±0.°001×13.°140E±0.°003, $h9^{km}$, ML3.8/108, Error ellipse: s-maj=0.2km s-min=0.0km az=258.0*

*MED_RC **12** 12:34:11.0±0.9, 43.°00N×13.°14E, $h10^{km}$, MW4.3/7, Moment Tensor Solution.Mantle waves: s7,c8; Duration: 1.s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.79±.43; $M_{\theta\theta}$0.69±.46; $M_{\phi\phi}$2.10±.22; $M_{r\theta}$-0.54±.94; $M_{\theta\phi}$-1.78±.39; $M_{\phi r}$1.05±.81; Best double couple: $M_0$3.27000×10^{15} NP1:ϕ_s149.00000°,δ56.00000°,λ-86.00000°. NP2: ϕ_s322.00000°,δ35.00000°,λ-95.00000°. Principal axes: T 3.5300, Plg11.0000°, Azm236.0000°; N -0.5100, Plg3.0000°, Azm327.0000°; P -3.0200, Plg79.0000°, Azm73.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

*STR **12** 12:34:11.1±1.9, 43°N±9°×1°3E±1°5, $h10^{km}$, MLv3.9/23 Error ellipse: s-maj=0.0km s-min=0.0km az=106.4, preliminary*

*PDG **12** 12:34:12.5±0.6, 43.°01N×13.°16E, $h11^{km}$, ML4.0/13, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*

*LDG **12** 12:34:12.1±0.1, 43.°01N×13.°12E, $h10^{km}$, Md3.2/1, Ml3.2/28, Error ellipse: s-maj=3.0km s-min=2.3km az=53.0*

*IDC **12** 12:34:12.8±1.6, 43.°14N×13.°21E, $h0^{km}$, mb4.0/5, mbtmp3.9/11, ML3.5/6, MS3.1/23, Error ellipse: s-maj=28.6km s-min=13.9km az=71.0*

*PRU **12** 12:34:13.5±0.0, 42.°98N×13.°24E, $h10^{km}$*

ISC 12 12:34:12.0±0.7, **42.°99N**±0.°01×**13.°12E**±0.°01, **h7**^{km}±4^{km}, **n305**, σ**2.s23**/388, **mb4.1**/5, **MS3.2**/11, **22C-33D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.05**	**332**	⇑P	**Pg**	**12 34 13.6**	**-0.2**
FDMO				S	**Sg**	**12 34 14.7**	**-0.2**
FDMO				AML	AML		
FDMO				AML	AML		
FEMA	**Monte Fema**	**0.06**	**243**	⇑P	**Pg**	**12 34 14.2**	**+0.3**
FEMA				S	**Sg**	**12 34 16.0**	**+0.8**
FEMA				AML	AML		
FEMA				AML	AML		
T1256	**Bolognola (MC)**	**0.08**	**77**	⇑P	**Pg**	**12 34 13.8**	**-0.3**
T1256				S	**Sg**	**12 34 15.3**	**-0.3**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1219	**Muccia, Frazio**	**0.11**	**308**	⇑P	**Pg**	**12 34 14.7**	**+0.2**
T1219				S	**Sg**	**12 34 16.9**	**+0.7**
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
CSP1	**Cessapalombo**	**0.12**	**31**	⇑P	**Pg**	**12 34 14.6**	**-0.2**
CSP1				S	**Sg**	**12 34 16.6**	**0.0**
CSP1				AML	AML		
CSP1				AML	AML		
CSP1				AML	AML		
T1220	**Camerino, Fraz**	**0.12**	**349**	P	**Pg**	**12 34 14.8**	**0.0**
T1220				S	**Sg**	**12 34 16.8**	**+0.2**
T1216	**Preci, Frazion**	**0.12**	**218**	⇓P	**Pg**	**12 34 15.4**	**+0.7**
T1216				S	**Sg**	**12 34 18.1**	**+1.5**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1245	**Castelsantange**	**0.14**	**160**	⇓P	**Pg**	**12 34 15.4**	**+0.4**
T1245				S	**Sg**	**12 34 18.1**	**+0.9**
T1245				AML	AML		
T1245				AML	AML		
NRCA	**Norcia**	**0.16**	**182**	⇓P	**Pg**	**12 34 15.7**	**+0.5**
NRCA				S	**Sg**	**12 34 19.0**	**+1.5**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
CESI	**CESI - Serrava**	**0.16**	**276**	⇑P	**Pg**	**12 34 16.0**	**+0.6**
CESI				S	**Sg**	**12 34 19.3**	**+1.6**
CESI				AML	AML		
CESI				AML	AML		
GUMA	**Gualdo di Mace**	**0.17**	**65**	⇑P	**Pg**	**12 34 15.9**	**+0.3**
GUMA				S	**Sg**	**12 34 18.8**	**+0.8**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
SEF1	**Sefro**	**0.20**	**321**	P	**Pg**	**12 34 16.6**	**+0.5**
SEF1				S	**Sg**	**12 34 20.4**	**+1.5**
SEF1				AML	AML		
	comp=E,63150µm,1.4s						
SEF1				AML	AML		
	comp=N,62100µm,0.3s						
SEF1				AML	AML		
	comp=E,63200µm,1.4s						
MDAR	**Monte D'Aria**	**0.20**	**4**	P	**Pg**	**12 34 16.3**	**+0.1**
MDAR				S	**Sg**	**12 34 19.5**	**+0.5**
MDAR				AML	AML		
	comp=E,36400µm,1.6s						
MDAR				AML	AML		
	comp=N,36950µm,1.5s						
MDAR				AML	AML		
	comp=N,36950µm,1.5s						
MDAR				AML	AML		
	comp=E,36400µm,1.6s						
PIO1	**Pioraco**	**0.21**	**332**	P	**Pg**	**12 34 16.8**	**+0.4**
PIO1				S	**Sg**	**12 34 20.7**	**+1.4**
T1221	**Campello sul C**	**0.24**	**238**	⇓P	**Pg**	**12 34 17.6**	**+0.8**
T1221				S	**Sg**	**12 34 22.1**	**+2.1**
FIU1	**Fiuminata**	**0.24**	**325**	P	**Pg**	**12 34 17.2**	**+0.4**
FIU1				S	**Sg**	**12 34 21.3**	**+1.1**
SSM1	**San Severino M**	**0.24**	**10**	P	**Pg**	**12 34 17.1**	**+0.3**
SSM1				S	**Sg**	**12 34 21.0**	**+0.9**
T1212	**Cascia, Frazio**	**0.24**	**194**	⇓P	**Pg**	**12 34 17.5**	**+0.6**
T1212				S	**Sg**	**12 34 22.0**	**+1.8**
T1241	**Roccafluvione,**	**0.26**	**120**	P	**Pg**	**12 34 17.6**	**+0.3**
T1241				S	**Sg**	**12 34 22.0**	**+1.2**
T1241				AML	AML		
	comp=N,53450µm,0.5s						
T1241				AML	AML		
	comp=E,71200µm,0.4s						
T1241				AML	AML		
	comp=N,53400µm,0.5s						
T1241				AML	AML		
	comp=E,71150µm,0.4s						
T1213	**Norcia, Frazio**	**0.26**	**179**	⇓P	**Pg**	**12 34 17.6**	**+0.3**
T1213				S	**Sg**	**12 34 22.0**	**+1.2**
T1215	**Vallo di Nera,**	**0.26**	**225**	⇓P	**Pg**	**12 34 18.0**	**+0.7**
T1215				S	**Sg**	**12 34 22.7**	**+1.9**
T1215				AML	AML		
	comp=E,28350µm,1.2s						
T1215				AML	AML		
	comp=N,18950µm,0.5s						
T1215				AML	AML		
	comp=E,28300µm,1.2s						
T1215				AML	AML		
	comp=E,28800µm,1.6s						
T1215				AML	AML		
	comp=N,19000µm,0.5s						
T1215				AML	AML		
	comp=N,20650µm,0.5s						
T1244	**Arquata del Tr**	**0.27**	**151**	P	**Pg**	**12 34 17.7**	**+0.4**
T1244				S	**Sb**	**12 34 22.4**	**-1.6**
MNTP	**Montappone**	**0.29**	**60**	P	**Pb**	**12 34 18.6**	**-1.1**
MNTP				AML	AML		
	comp=E,84700µm,0.9s						
MNTP				AML	AML		
	comp=N,61300µm,0.9s						
MNTP				AML	AML		
	comp=E,84650µm,0.9s						
MNTP				AML	AML		
	comp=N,61250µm,0.9s						
SNTG	**Esanatoglia**	**0.30**	**334**	P	**Pg**	**12 34 17.9**	**0.0**
SNTG				S	**Sg**	**12 34 23.1**	**+1.2**
SNTG				AML	AML		
	comp=E,11300µm,0.6s						
SNTG				AML	AML		
	comp=N,12850µm,1.5s						
SNTG				AML	AML		
	comp=N,12800µm,1.5s						
SNTG				AML	AML		
	comp=E,11300µm,0.7s						
SNTG				AML	AML		
	comp=N,13240µm,1.0s						
SNTG				AML	AML		
	comp=E,11300µm,0.6s						
T1218	**Civita (PG)**	**0.32**	**181**	⇓P	**Pg**	**12 34 18.7**	**+0.4**
T1218				S	**Sg**	**12 34 24.0**	**+1.4**
T1218				AML	AML		
	comp=E,36400µm,0.8s						
T1218				AML	AML		
	comp=E,36450µm,0.8s						
T1218				AML	AML		
	comp=N,42450µm,1.5s						
T1218				AML	AML		
	comp=E,36350µm,0.8s						
T1218				AML	AML		
	comp=N,42550µm,1.5s						
T1218				AML	AML		
	comp=E,36500µm,0.8s						
T1218				AML	AML		
	comp=N,42400µm,1.5s						
T1218				AML	AML		
	comp=N,42650µm,1.5s						
EL6	**Elcito**	**0.34**	**358**	P	**Pg**	**12 34 18.9**	**+0.1**
EL6				S	**Sg**	**12 34 24.2**	**+0.9**
EL6				AML	AML		
	comp=E,27600µm,0.9s						
EL6				AML	AML		
	comp=N,31500µm,1.5s						
EL6				AML	AML		
	comp=E,27650µm,0.9s						
T1204	**Amatrice, Fraz**	**0.34**	**155**	⇓P	**Pg**	**12 34 19.1**	**+0.3**
T1204				S	**Sb**	**12 34 24.9**	**-1.4**
T1201	**Domo (RI)**	**0.34**	**164**	⇓P	**Pg**	**12 34 19.4**	**+0.6**
T1201				S	**Sb**	**12 34 25.2**	**-1.1**
T1243	**Rocca Santa Ma**	**0.38**	**140**	⇓P	**Pg**	**12 34 19.4**	**0.0**
T1243				S	**Sb**	**12 34 25.7**	**-1.5**
CING	**Cingoli**	**0.39**	**8**	P	**Pg**	**12 34 19.5**	**-0.2**
CING				S	**Sb**	**12 34 25.8**	**-1.8**
LNSS	**Leonessa**	**0.39**	**189**	⇑P	**Pg**	**12 34 20.2**	**+0.5**
LNSS				S	**Sg**	**12 34 26.1**	**+1.3**
LNSS				AML	AML		
	comp=E,14450µm,0.3s						
LNSS				AML	AML		
	comp=N,32150µm,0.5s						
SMA1	**SAN MARTINO**	**0.39**	**156**	⇓P	**Pg**	**12 34 19.8**	**+0.1**
SMA1				S	**Sg**	**12 34 25.9**	**+1.1**
SMA1				AML	AML		
	comp=N,45750µm,0.5s						
SMA1				AML	AML		
	comp=E,56650µm,0.6s						
SMA1				AML	AML		
	comp=N,45800µm,0.5s						
ATCC	**AVT- Casa Cast**	**0.40**	**299**	⇓P	**Pg**	**12 34 20.3**	**+0.4**
ATCC				S	**Sb**	**12 34 27.2**	**-0.7**
ATCC				AML	AML		
	comp=E,29200µm,0.5s						
ATCC				AML	AML		
	comp=N,37500µm,1.3s						
FOSV	**Fossato di Vic**	**0.40**	**319**	⇑P	**Pg**	**12 34 20.2**	**+0.3**
FOSV				S	**Sg**	**12 34 26.6**	**+1.4**
FOSV				AML	AML		
	comp=N,17950µm,0.3s						
FOSV				AML	AML		
	comp=N,17900µm,0.3s						
FOSV				AML	AML		
	comp=E,12650µm,1.4s						
OFFI	**Offida**	**0.42**	**97**	P	**Pb**	**12 34 21.0**	**-0.7**
OFFI				AML	AML		
	comp=E,41350µm,0.8s						
OFFI				AML	AML		
	comp=N,77000µm,0.7s						
MMUR	**Monte Murano**	**0.46**	**349**	P	**Pg**	**12 34 21.2**	**+0.2**
MMUR				S	**Sb**	**12 34 28.6**	**-1.0**
RM33	**Pellescritta (**	**0.48**	**172**	⇓P	**Pg**	**12 34 21.5**	**+0.1**
RM33				S	**Sg**	**12 34 29.1**	**+1.3**
RM33				AML	AML		
	comp=E,19950µm,1.5s						
RM33				AML	AML		
	comp=N,20000µm,0.6s						
RM33				AML	AML		
	comp=N,20050µm,0.6s						
RM33				AML	AML		
	comp=N,19750µm,0.6s						
RM33				AML	AML		
	comp=E,20500µm,1.5s						
ARRO	**Arrone**	**0.49**	**213**	P	**Pg**	**12 34 21.9**	**+0.5**
ARRO				S	**Sg**	**12 34 29.0**	**+1.2**
ARRO				AML	AML		
	comp=E,9815µm,0.9s						
ARRO				AML	AML		
	comp=N,8900µm,1.0s						
ARRO				AML	AML		
	comp=E,9800µm,0.9s						
ARRO				AML	AML		
	comp=N,8905µm,1.0s						
T1246	**Crognaleto (TE**	**0.49**	**146**	P	**Pg**	**12 34 21.4**	**-0.1**
T1246				S	**Sg**	**12 34 28.8**	**+0.9**
T1211	**Morro Reatino**	**0.50**	**203**	⇓P	**Pg**	**12 34 21.9**	**+0.3**
T1211				S	**Sg**	**12 34 29.7**	**+1.6**
T1211				AML	AML		
	comp=E,15050µm,0.6s						
T1211				AML	AML		
	comp=N,28550µm,0.5s						
T1211				AML	AML		
	comp=N,28200µm,0.6s						
T1211				AML	AML		
	comp=N,28550µm,0.6s						
T1211				AML	AML		
	comp=E,15200µm,0.6s						
T1211				AML	AML		
	comp=N,28250µm,0.5s						
CAMP	**Campotosto**	**0.50**	**155**	⇓P	**Pg**	**12 34 21.6**	**-0.1**
CAMP				S	**Sb**	**12 34 29.5**	**-1.3**
CAMP				AML	AML		
	comp=N,24550µm,0.3s						
CAMP				AML	AML		
	comp=E,26050µm,0.3s						
TERO	**Teramo**	**0.51**	**136**	⇓P	**Pg**	**12 34 21.7**	**-0.2**
TERO				S	**Sb**	**12 34 29.8**	**-1.2**
TERO				AML	AML		
	comp=E,23950µm,0.7s						
TERO				AML	AML		
	comp=N,21900µm,0.3s						
TERO				AML	AML		
	comp=N,22700µm,0.3s						
TERO				AML	AML		
	comp=E,24700µm,0.7s						
CADA	**Capodarco di F**	**0.51**	**66**	P	**Pb**	**12 34 22.8**	**-0.6**
CIMA	**Civitanova Mar**	**0.51**	**52**	P	**Pg**	**12 34 21.8**	**-0.1**
SSFR	**Montelago di S**	**0.51**	**331**	P	**Pg**	**12 34 22.0**	**+0.1**
SSFR				AML	AML		
	comp=N,17500µm,0.3s						
SSFR				AML	AML		
	comp=E,27750µm,0.2s						
SSFR				AML	AML		
	comp=N,15750µm,0.9s						
SSFR				AML	AML		
	comp=E,29700µm,0.2s						
MURB	**Monte Urbino**	**0.52**	**302**	P	**Pg**	**12 34 22.3**	**+0.3**
MURB				AML	AML		
	comp=N,26800µm,1.0s						
MURB				AML	AML		
	comp=E,38400µm,0.3s						
MURB				AML	AML		
	comp=E,35950µm,0.3s						
MURB				AML	AML		
	comp=N,26050µm,1.0s						
ARVD	**Arcevia**	**0.53**	**346**	P	**Pg**	**12 34 22.1**	**-0.1**
ARVD				S	**Sb**	**12 34 30.4**	**-1.0**
ARVD				AML	AML		
	comp=N,6525µm,0.2s						
ARVD				AML	AML		
	comp=E,10100µm,0.6s						
PP3	**Marolino**	**0.53**	**42**	P	**Pg**	**12 34 21.8**	**-0.4**
PP3				AML	AML		
	comp=E,28400µm,0.8s						
PP3				AML	AML		
	comp=N,30400µm,0.7s						
PP3				AML	AML		
	comp=E,27500µm,0.7s						
PP3				AML	AML		
	comp=N,32500µm,0.7s						
PP3				AML	AML		
	comp=N,30350µm,0.7s						
PP3				AML	AML		
	comp=E,28350µm,0.8s						
PP3				AML	AML		
	comp=E,27550µm,0.7s						
ATFO	**Monte Foce - G**	**0.55**	**313**	P	**Pg**	**12 34 22.8**	**+0.1**
ATFO				AML	AML		
	comp=E,8510µm,0.7s						
ATFO				AML	AML		
	comp=N,8505µm,0.9s						
T1247	**Pizzolo (AQ)**	**0.56**	**167**	⇓P	**Pg**	**12 34 22.9**	**0.0**
T1247				S	**Sb**	**12 34 31.6**	**-0.9**
T1247				AML	AML		
	comp=E,20600µm,0.7s						
T1247				AML	AML		
	comp=N,18550µm,0.2s						
ATTE	**AVT- Monte Tez**	**0.60**	**291**	AML	AML		
	comp=N,5245µm,1.0s						
ATTE				AML	AML		
	comp=E,4860µm,1.4s						
FRON	**Frontone**	**0.60**	**331**	⇓P	**Pg**	**12 34 23.4**	**-0.2**
FRON				S	**Sb**	**12 34 32.8**	**-0.9**
FRON				AML	AML		
	comp=N,9825µm,0.6s						
FRON				AML	AML		
	comp=N,9805µm,0.6s						
FRON				AML	AML		
	comp=E,6710µm,0.6s						
TRTR	**Tortoreto Alta**	**0.61**	**107**	P	**Pb**	**12 34 24.9**	**-0.2**
TRTR				AML	AML		
	comp=N,35350µm,0.5s						
TRTR				AML	AML		
	comp=E,54050µm,0.5s						
ATLO	**AVT- Montelove**	**0.62**	**302**	P	**Pg**	**12 34 23.9**	**0.0**
GIGS	**Gran Sasso**	**0.63**	**148**	P	**Pg**	**12 34 23.9**	**-0.3**
GIGS				S	**Sg**	**12 34 33.1**	**+0.6**
GIGS				AML	AML		
	comp=E,4775µm,0.3s						
GIGS				AML	AML		
	comp=N,6425µm,0.3s						
COR1	**Corinaldo**	**0.65**	**352**	P	**Pb**	**12 34 25.0**	**-0.7**
COR1				AML	AML		
	comp=E,16750µm,0.4s						
COR1				AML	AML		
	comp=N,18700µm,0.5s						
COR1				AML	AML		
	comp=E,9165µm,0.4s						
COR1				AML	AML		
	comp=N,17600µm,0.5s						
COR1				AML	AML		
	comp=E,16800µm,0.4s						
COR1				AML	AML		
	comp=N,18750µm,0.5s						
COR1				AML	AML		
	comp=E,9150µm,0.4s						
ATVO	**AVT- Monte Val**	**0.65**	**307**	P	**Pg**	**12 34 24.6**	**-0.1**
ATVO				AML	AML		
	comp=E,4980µm,1.2s						
ATVO				AML	AML		
	comp=N,5480µm,0.9s						
AOI	**Ancona**	**0.66**	**32**	P	**Pg**	**12 34 24.7**	**-0.1**
AOI				AML	AML		
	comp=E,4350µm,1.3s						
AOI				AML	AML		
	comp=N,4660µm,1.6s						
AOI				AML	AML		
	comp=E,4355µm,1.3s						
AOI				AML	AML		
	comp=N,4665µm,1.6s						

AQU	**L'Aquila**	**0.67**	**162**	P	**Pg**	**12 34 24.6**	**-0.3**
AQU				AML	AML		
	comp=E,8955µm,0.6s						
AQU				AML	AML		
	comp=N,12650µm,0.9s						
AQU				AML	AML		
	comp=E,8955µm,0.6s						
AQU				AML	AML		
	comp=N,12255µm,0.9s						
MPAG	**Monte Paganucc**	**0.69**	**338**	P	**Pg**	**12 34 25.3**	**-0.1**
MPAG				AML	AML		
	comp=N,5525µm,0.5s						
MPAG				AML	AML		
	comp=N,5525µm,0.5s						
MPAG				AML	AML		
	comp=N,5415µm,0.9s						
MPAG				AML	AML		
	comp=E,6575µm,0.8s						
MPAG				AML	AML		
	comp=E,6315µm,0.8s						
ATPI	**Pietralunga -**	**0.70**	**311**	P	**Pg**	**12 34 25.3**	**-0.2**
ATPI				AML	AML		
	comp=E,5340µm,1.6s						
ATPI				AML	AML		
	comp=N,5265µm,0.9s						
ATPI				AML	AML		
	comp=E,5335µm,1.6s						
ATPI				AML	AML		
	comp=N,5260µm,0.9s						
ATMI	**Monte Miggiano**	**0.71**	**299**	P	**Pg**	**12 34 26.4**	**+0.6**
ATMI				AML	AML		
	comp=N,11600µm,1.0s						
ATMI				AML	AML		
	comp=E,12300µm,0.8s						
SENI	**Senigallia**	**0.72**	**6**	P	**Pg**	**12 34 25.1**	**-0.8**
SENI				AML	AML		
	comp=E,23750µm,0.3s						
SENI				AML	AML		
	comp=N,17550µm,0.8s						
FIAM	**Fiamignano**	**0.72**	**180**	P	**Pg**	**12 34 25.4**	**-0.5**
FIAM				AML	AML		
	comp=E,6920µm,1.5s						
FIAM				AML	AML		
	comp=N,6015µm,0.9s						
MGAB	**Montegabbione**	**0.74**	**264**	⇑P	**Pg**	**12 34 26.6**	**+0.2**
MGAB				AML	AML		
	comp=N,13450µm,0.9s						
MGAB				AML	AML		
	comp=E,10200µm,0.5s						
MGAB				AML	AML		
	comp=N,13800µm,0.9s						
MGAB				AML	AML		
	comp=E,7925µm,0.4s						
FSSB	**Fossombrone**	**0.75**	**340**	P	**Pg**	**12 34 26.2**	**-0.2**
FSSB				AML	AML		
	comp=N,48250µm,0.4s						
FSSB				AML	AML		
	comp=E,21700µm,0.3s						
VCEL	**Villa Celiera**	**0.80**	**138**	AML	AML		
	comp=E,14850µm,0.7s						
VCEL				AML	AML		
	comp=E,14900µm,0.7s						
VCEL				AML	AML		
	comp=N,17550µm,0.6s						
VCEL				AML	AML		
	comp=N,17600µm,0.6s						
FAGN	**Fagnano**	**0.80**	**155**	P	**Pg**	**12 34 26.9**	**-0.5**
FAGN				AML	AML		
	comp=E,20550µm,0.4s						
FAGN				AML	AML		
	comp=N,22950µm,0.4s						
BADI	**Badiali**	**0.83**	**309**	AML	AML		
	comp=N,2945µm,1.0s						
BADI				AML	AML		
	comp=E,310µm,1.6s						
PE3	**Peglio**	**0.84**	**327**	P	**Pg**	**12 34 28.2**	**0.0**
PE3				AML	AML		
	comp=N,31µm,0.4s						
PE3				AML	AML		
	comp=E,37µm,0.4s						
SRES	**S.Oreste - Sor**	**0.88**	**211**	⇑P	**Pg**	**12 34 28.7**	**-0.2**
SRES				AML	AML		
	comp=N,6460µm,0.8s						
SRES				AML	AML		
	comp=E,7120µm,1.2s						
SACS	**San Casciano d**	**0.90**	**261**	P	**Pg**	**12 34 29.5**	**+0.1**
SACS				AML	AML		
	comp=N,6165µm,0.8s						
SACS				AML	AML		
	comp=E,4625µm,1.6s						
SACS				AML	AML		
	comp=E,4365µm,1.6s						
SACS				AML	AML		
	comp=N,5955µm,0.8s						
T0110	**Collepietro**	**0.90**	**147**	⇓P	**Pg**	**12 34 28.4**	**-1.0**
T0110				AML	AML		
	comp=E,13200µm,0.5s						
T0110				AML	AML		
	comp=N,19050µm,0.5s						
CAFI	**Castiglion Fio**	**0.91**	**292**	⇑P	**Pg**	**12 34 29.5**	**-0.1**
CAFI				AML	AML		
	comp=N,3510µm,1.6s						
CAFI				AML	AML		
	comp=E,4155µm,1.1s						
CAFI				AML	AML		
	comp=N,3590µm,1.6s						
CAFI				AML	AML		
	comp=E,4075µm,1.1s						
SSP9	**Sansepolcro**	**0.93**	**309**	P	**Pg**	**12 34 29.3**	**-0.6**
SSP9				AML	AML		
	comp=E,4480µm,1.5s						
SSP9				AML	AML		
	comp=N,4890µm,1.4s						
PESA	**Pesaro**	**0.97**	**348**	P	**Pb**	**12 34 31.2**	**-0.1**
PESA				AML	AML		
	comp=E,7310µm,0.3s						
PESA				AML	AML		
	comp=N,7995µm,0.3s						
CPGN	**Carpegna, Ital**	**1.00**	**325**	P	**Pg**	**12 34 30.6**	**-0.7**
CPGN				AML	AML		
	comp=E,5925µm,1.6s						
CPGN				AML	AML		
	comp=N,5035µm,1.6s						
CPGN				AML	AML		
	comp=E,5610µm,0.9s						
CPGN				AML	AML		
	comp=N,4920µm,1.1s						
MTCE	**Montecelio**	**1.01**	**196**	P	**Pg**	**12 34 30.4**	**-1.0**
MTCE				AML	AML		
	comp=E,5200µm,1.3s						
MTCE				AML	AML		
	comp=N,3585µm,0.5s						
LATE	**Laterza**	**1.04**	**249**	P	**Pg**	**12 34 31.1**	**-0.9**
CERT	**Cerreto**	**1.04**	**186**	P	**Pg**	**12 34 31.2**	**-0.8**
CERT				AML	AML		
	comp=N,4530µm,1.1s						
CERT				AML	AML		
	comp=E,6245µm,0.5s						
MCIV	**Monte Civitell**	**1.08**	**259**	P	**Pb**	**12 34 31.9**	**-1.2**
MCIV				AML	AML		
	comp=N,1820µm,0.6s						
MCIV				AML	AML		
	comp=E,1735µm,1.0s						
SF04	**Casetta**	**1.08**	**262**	P	**Pb**	**12 34 33.1**	**0.0**
SF04				AML	AML		
	comp=E,2145µm,1.3s						
SF04				AML	AML		
	comp=N,2070µm,1.5s						
SF04				AML	AML		
	comp=E,2172µm,1.3s						
SF04				AML	AML		
	comp=N,2196µm,1.6s						
SF01	**Poggio Pratacc**	**1.16**	**262**	P	**Pb**	**12 34 34.5**	**+0.1**
SF01				AML	AML		
	comp=N,3320µm,0.9s						
SF01				AML	AML		
	comp=E,2330µm,1.1s						
VVLD	**Villa Vallelon**	**1.18**	**162**	P	**Pb**	**12 34 33.5**	**-1.2**
VVLD				AML	AML		
	comp=E,3750µm,0.8s						
VVLD				AML	AML		
	comp=N,5415µm,1.5s						
CAFR	**Castel Frentan**	**1.18**	**130**	P	**Pg**	**12 34 35.8**	**+1.1**
CAFR				AML	AML		
	comp=E,3535µm,0.4s						
CAFR				AML	AML		
	comp=N,4950µm,0.6s						
GUAR	**Guarcino**	**1.20**	**173**	P	**Pb**	**12 34 33.6**	**-1.6**
GUAR				AML	AML		
	comp=N,5375µm,0.6s						
GUAR				AML	AML		
	comp=E,4450µm,0.9s						
ARCI	**Arcidosso**	**1.22**	**264**	P	**Pn**	**12 34 35.2**	**-0.3**
ARCI				AML	AML		
	comp=E,1130µm,1.4s						
ARCI				AML	AML		
	comp=N,898µm,1.0s						
LPEL	**Lama dei Pelig**	**1.23**	**140**	P	**Pn**	**12 34 34.3**	**-1.4**
LPEL				AML	AML		
	comp=E,5650µm,0.8s						
LPEL				AML	AML		
	comp=N,4230µm,0.4s						
TOLF	**Tolfa**	**1.24**	**222**	P	**Pn**	**12 34 35.2**	**-0.6**
TOLF				AML	AML		
	comp=E,3300µm,0.8s						
TOLF				AML	AML		
	comp=N,1915µm,0.6s						
ASQU	**Asqua**	**1.26**	**310**	P	**Pn**	**12 34 36.1**	**-0.1**
ASQU				AML	AML		
	comp=N,1635µm,1.3s						
ASQU				AML	AML		
	comp=E,1810µm,1.3s						
SFI	**Santa Sofia**	**1.30**	**315**	P	**Pn**	**12 34 35.1**	**-1.6**
SFI				AML	AML		
	comp=N,2470µm,1.0s						
SFI				AML	AML		
	comp=N,2470µm,1.1s						
SFI				AML	AML		
	comp=E,1965µm,0.9s						
SFI				AML	AML		
	comp=E,1945µm,0.9s						
POFI	**Posta Fibreno**	**1.34**	**161**	P	**Pn**	**12 34 36.4**	**-0.8**
POFI				AML	AML		
	comp=E,2680µm,1.3s						
POFI				AML	AML		
	comp=N,2370µm,1.6s						
POFI				AML	AML		
	comp=N,2360µm,1.5s						
POFI				AML	AML		
	comp=E,2895µm,1.3s						
FROS	**Frosini**	**1.46**	**279**	P	**Pn**	**12 34 38.0**	**-0.8**
FROS				AML	AML		
	comp=E,1590µm,1.1s						
FROS				AML	AML		
	comp=N,1275µm,1.0s						
OSSC	**Osservatorio P**	**1.47**	**292**	P	**Pn**	**12 34 38.1**	**-0.9**
OSSC				AML	AML		
	comp=E,1200µm,1.4s						
OSSC				AML	AML		
	comp=N,1500µm,1.2s						
LMD	**Lutirano**	**1.50**	**317**	P	**Pb**	**12 34 40.5**	**+0.3**
LMD				AML	AML		
	comp=N,1330µm,1.1s						
LMD				AML	AML		
	comp=E,1240µm,1.1s						
CERA	**Filignano**	**1.54**	**154**	P	**Pb**	**12 34 40.3**	**-0.7**
CERA				AML	AML		
	comp=E,3490µm,0.9s						
CERA				AML	AML		
	comp=N,2940µm,0.7s						
CERA				AML	AML		
	comp=E,3425µm,0.9s						
CERA				AML	AML		
	comp=N,2810µm,0.7s						
MAON	**Monte Argentar**	**1.57**	**250**	P	**Pn**	**12 34 40.1**	**-0.2**
MAON				AML	AML		
	comp=E,744µm,1.3s						
MAON				AML	AML		
	comp=N,626µm,1.1s						
MIDA	**Miranda**	**1.59**	**148**	P	**Pn**	**12 34 40.1**	**-0.5**
MIDA				AML	AML		
	comp=E,2435µm,0.8s						
MIDA				AML	AML		
	comp=N,1825µm,0.9s						
TRIV	**Trivento**	**1.62**	**139**	AML	AML		
	comp=E,3970µm,0.7s						
TRIV				AML	AML		
	comp=N,2835µm,0.8s						
TRIF	**Trifonti**	**1.63**	**275**	AML	AML		
	comp=E,776µm,1.4s						
TRIF				AML	AML		
	comp=N,661µm,0.9s						
SEI	**Scarperia**	**1.67**	**310**	P	**Pn**	**12 34 41.5**	**-0.2**
SEI				AML	AML		
	comp=N,2380µm,0.7s						
SEI				AML	AML		
	comp=E,1385µm,0.6s						
CASP	**Castiglione de**	**1.67**	**264**	P	**Pn**	**12 34 41.5**	**-0.2**
CASP				AML	AML		
	comp=N,399µm,1.0s						
CASP				AML	AML		
	comp=E,386µm,1.6s						
VAGA	**Valle Agricola**	**1.78**	**152**	P	**Pb**	**12 34 43.9**	**-1.1**
VAGA				AML	AML		
	comp=N,1810µm,0.7s						
VAGA				AML	AML		
	comp=E,1153µm,0.8s						
VAGA				AML	AML		
	comp=N,1860µm,0.7s						
VAGA				AML	AML		
	comp=E,1181µm,0.8s						
BSSO	**Busso**	**1.81**	**142**	P	**Pb**	**12 34 45.8**	**+0.3**
BSSO				AML	AML		
	comp=E,723µm,1.4s						
BSSO				AML	AML		
	comp=E,1925µm,1.4s						
BSSO				AML	AML		
	comp=N,782µm,1.2s						
BSSO				AML	AML		
	comp=N,1850µm,0.9s						
MTCR	**Monte La Croce**	**1.86**	**305**	P	**Pn**	**12 34 44.4**	**-0.1**
MELA	**Melanico ??? S**	**1.96**	**130**	P	**Pn**	**12 34 45.3**	**-0.4**
MELA				AML	AML		
	comp=N,3905µm,1.0s						
MELA				AML	AML		
	comp=N,3760µm,0.6s						
MELA				AML	AML		
	comp=E,4180µm,0.6s						
MELA				AML	AML		
	comp=E,4090µm,0.6s						
BRJN	**Brijuni**	**1.97**	**13**	P	**Pn**	**12 34 45.9**	**+0.2**
PII	**Pisa**	**2.03**	**292**	P	**Pb**	**12 34 49.2**	**0.0**
APRC	**Apricena**	**2.18**	**124**	P	**Pn**	**12 34 48.9**	**+0.2**
APRC				AML	AML		
	comp=E,1840µm,0.4s						
APRC				AML	AML		
	comp=N,1955µm,0.8s						
SGRT	**San Giovanni R**	**2.30**	**122**	P	**Pn**	**12 34 51.3**	**+0.8**
SGRT				AML	AML		
	comp=N,1495µm,1.1s						
SGRT				AML	AML		
	comp=E,1790µm,0.6s						
MSAG	**Monte S. Angel**	**2.43**	**121**	P	**Pn**	**12 34 51.9**	**-0.3**
MSAG				AML	AML		
	comp=N,3235µm,0.6s						
MSAG				AML	AML		
	comp=E,3015µm,0.7s						
SKDS	**Skadanscina**	**2.64**	**14**	*i* Pn	**Pn**	**12 34 54.5**	**-0.5**
MORSI	**Morsiglia**	**2.76**	**271**	P	**Pn**	**12 34 57.8**	**+1.1**
A050A	**Klekovaca**	**2.89**	**58**	*e*Pn	**Pn**	**12 34 59.5**	**+1.0**
CEY	**Cerknica**	**2.90**	**18**	*e*Pn	**Pn**	**12 34 58.6**	**-0.1**
BOJS	**Bojanci**	**2.94**	**31**	*e*Pn	**Pn**	**12 34 59.4**	**+0.2**
BOJS	**Bojanci**	**2.94**	**31**	P	**Pn**	**12 34 58.9**	**-0.3**
BOJS				AML	AML		
	comp=E,2860µm,1.1s						
BOJS				AML	AML		
	comp=N,1785µm,1.1s						
SMPL	**Sampolo**	**2.97**	**254**	P	**Pn**	**12 35 01.3**	**+1.6**
CDRU	**Civita di Ruta**	**2.98**	**146**	P	**Pn**	**12 35 01.6**	**+1.7**
SABO	**M.te Sabotino**	**3.01**	**6**	P	**Pn**	**12 35 00.1**	**0.0**
SABO				AML	AML		
	comp=E,3655µm,0.8s						
SABO				AML	AML		
	comp=N,3640µm,0.6s						
SABO				AML	AML		
	comp=E,850µm,0.7s						
SABO				AML	AML		
	comp=N,980µm,0.6s						
ROVR	**Rover Verones**	**3.04**	**332**	P	**Pn**	**12 35 00.5**	**-0.1**
ROVR				AML	AML		
	comp=N,200µm,1.0s						
ROVR				AML	AML		
	comp=E,145µm,0.5s						
CGRP	**Cima Grappa**	**3.04**	**342**	P	**Pn**	**12 35 00.3**	**-0.4**
CGRP				AML	AML		
	comp=N,983µm,0.6s						
CGRP				AML	AML		
	comp=N,1002µm,0.6s						
CGRP				AML	AML		
	comp=E,922µm,0.7s						
CGRP				AML	AML		
	comp=E,905µm,0.7s						
PGF	**Pioggiola**	**3.07**	**263**	*e*P	**Pn**	**12 35 01.9**	**+0.9**
PGF				*e*Sn	**Sn**	**12 35 33.3**	**-4.7**
	comp=E,6.6nm,0.3s						
PGF	**Pioggiola**	**3.07**	**263**	P	**Pn**	**12 35 02.0**	**+0.9**
VARN	**Col Varnada, M**	**3.09**	**347**	P	**Pn**	**12 35 01.2**	**-0.1**
VARN				AML	AML		
	comp=N,728µm,1.3s						
VARN				AML	AML		
	comp=N,701µm,1.3s						
VARN				AML	AML		
	comp=E,994µm,1.3s						
VARN				AML	AML		
	comp=E,1006µm,1.3s						
GBAS	**Gorenja Brezov**	**3.09**	**17**	*i* Pn	**Pn**	**12 35 01.5**	**+0.2**
SRKY	**Kupres RS**	**3.13**	**68**	*e*Pn	**Pb**	**12 35 05.0**	**-3.1**
DOSS	**Dosso del Somm**	**3.21**	**335**	P	**Pn**	**12 35 02.7**	**-0.3**
DOSS				AML	AML		
	comp=N,390µm,1.0s						
DOSS				AML	AML		
	comp=E,387µm,1.0s						
DOSS				AML	AML		
	comp=N,450µm,0.7s						
DOSS				AML	AML		
	comp=E,455µm,1.6s						
MGRS	**Mrkonjic Grad**	**3.21**	**62**	*e*Pn	**Pn**	**12 35 04.0**	**+1.1**
LJU	**Ljubljana**	**3.21**	**18**	P	**Pn**	**12 35 02.7**	**-0.3**
LJU				AML	AML		
	comp=N,4020µm,0.8s						
LJU				AML	AML		
	comp=E,4020µm,1.1s						
SALO	**Salr**	**3.22**	**326**	P	**Pn**	**12 35 04.7**	**+1.6**
SALO				AML	AML		
	comp=N,554µm,0.8s						
SALO				AML	AML		
	comp=E,576µm,1.2s						
SALO				AML	AML		
	comp=E,594µm,1.2s						
SALO				AML	AML		
	comp=N,582µm,0.8s						
CTI	**Castel Tesino**	**3.23**	**342**	P	**Pn**	**12 35 04.0**	**+0.6**
CTI				AML	AML		
	comp=N,434µm,0.3s						
CTI				AML	AML		
	comp=E,596µm,1.4s						
MPRI	**Monte Prat**	**3.25**	**358**	P	**Pn**	**12 35 03.8**	**+0.2**
MPRI				AML	AML		
	comp=E,722µm,0.8s						
MPRI				AML	AML		
	comp=N,750µm,1.2s						
CADS	**Cadrg**	**3.27**	**8**	*i* Pn	**Pn**	**12 35 03.4**	**-0.3**
STAL	**STALIGIAL**	**3.28**	**355**	P	**Pn**	**12 35 03.5**	**-0.5**
STAL				AML	AML		
	comp=N,468µm,1.1s						
STAL				AML	AML		
	comp=E,674µm,1.3s						
STAL				AML	AML		
	comp=N,439µm,1.6s						
STAL				AML	AML		
	comp=E,549µm,1.2s						
CRES	**Cresnjev**	**3.29**	**30**	*e*Pn	**Pn**	**12 35 04.1**	**+0.1**
LUSI	**Trento, Gardas**	**3.35**	**333**	P	**Pn**	**12 35 04.9**	**0.0**
LUSI				AML	AML		
	comp=E,369µm,1.2s						
LUSI				AML	AML		
	comp=N,386µm,1.2s						
CIMO	**Cimolais**	**3.36**	**352**	P	**Pn**	**12 35 04.9**	**0.0**
CIMO				AML	AML		
	comp=N,238µm,1.4s						
CIMO				AML	AML		
	comp=E,188µm,1.5s						
CIMO				AML	AML		
	comp=N,226µm,1.4s						
CIMO				AML	AML		
	comp=E,189µm,1.5s						
STON	**Ston**	**3.36**	**90**	*e*Pn	**Pn**	**12 35 04.5**	**-0.5**
AGOR	**Agordo**	**3.38**	**347**	P	**Pn**	**12 35 05.6**	**+0.3**
AGOR				AML	AML		
	comp=E,342µm,1.6s						
AGOR				AML	AML		
	comp=E,263µm,1.6s						
AGOR				AML	AML		
	comp=N,233µm,1.3s						
AGOR				AML	AML		
	comp=N,368µm,1.1s						
AJAC	**Base Areonaval**	**3.40**	**253**	P	**Pn**	**12 35 07.2**	**+1.9**
A051A	**Mrakovica**	**3.40**	**52**	*e*Pn	**Pn**	**12 35 06.3**	**+0.8**
BLY	**Banja Luka**	**3.42**	**58**	*e*Pn	**Pn**	**12 35 07.3**	**+1.5**
GAGG	**Gaggia**	**3.46**	**334**	P	**Pn**	**12 35 07.7**	**+1.2**
GAGG				AML	AML		
	comp=N,554µm,0.9s						
GAGG				AML	AML		
	comp=E,648µm,1.0s						
CLUD	**Cludinico**	**3.47**	**357**	P	**Pn**	**12 35 06.7**	**+0.2**
CLUD				AML	AML		
	comp=N,292µm,0.8s						
CLUD				AML	AML		
	comp=E,472µm,1.2s						
MATE	**Matera**	**3.55**	**130**	⇑P	**Pn**	**12 35 08.7**	**+1.2**
ACOM	**Acomizza, Ital**	**3.57**	**4**	P	**Pn**	**12 35 08.1**	**+0.1**
ACOM				AML	AML		
	comp=N,623µm,0.9s						
ACOM				AML	AML		
	comp=E,620µm,0.8s						
ACOM				AML	AML		
	comp=N,616µm,0.9s						
ACOM				AML	AML		
	comp=E,622µm,0.8s						
ZOU	**Zoufplan**	**3.57**	**358**	P	**Pn**	**12 35 07.9**	**-0.1**
ZOU				AML	AML		
	comp=N,529µm,1.6s						
ZOU				AML	AML		
	comp=E,400µm,0.8s						
ZOU				AML	AML		
	comp=N,488µm,1.6s						
ZOU				AML	AML		
	comp=E,418µm,0.8s						
FVI	**Forni Avoltri**	**3.62**	**356**	P	**Pn**	**12 35 08.2**	**-0.3**
FVI				AML	AML		
	comp=E,328µm,0.8s						
FVI				AML	AML		
	comp=N,254µm,1.2s						
MYKA	**Terra Mystica**	**3.66**	**6**	*i* Pn	**Pn**	**12 35 09.9**	**+0.8**
	comp=N,30nm,0.6s,SNR=8.7						
MYKA				*i* Sn	**Sn**	**12 35 53.2**	**+0.7**
	comp=N,21nm,0.3s						
OBKA	**Obir**	**3.66**	**16**	*e*Pn	**Pn**	**12 35 09.3**	**+0.1**
OBKA	**Obir**	**3.66**	**16**	*i* Pn	**Pn**	**12 35 09.3**	**+0.1**
	comp=N,8.6nm,0.4s						
KOSI	**Kohlern**	**3.69**	**341**	P	**Pn**	**12 35 11.1**	**+1.5**
KOSI				AML	AML		
	comp=E,546µm,1.1s						
KOSI				AML	AML		
	comp=N,426µm,1.0s						
DGI	**Dorgali Grotta**	**3.75**	**226**	P	**Pn**	**12 35 11.4**	**+1.1**
ABTA	**Abfaltersbach**	**3.78**	**354**	*i* Pn	**Pn**	**12 35 11.9**	**+1.1**
	comp=N,113nm,0.5s,SNR=39						
ABTA				*e*Sn	**Sn**	**12 35 57.8**	**+2.2**
	comp=N,91nm,0.6s						
TREB	**Trebinje**	**3.85**	**92**	*e*Pn	**Pn**	**12 35 12.7**	**+1.0**
SOKA	**Soboth**	**3.93**	**20**	*i* Pn	**Pn**	**12 35 13.3**	**+0.4**
	comp=N,2.8nm,0.4s						
BRY	**Bratogost**	**3.98**	**89**	*e*Pn	**Pn**	**12 35 15.0**	**+1.4**
BRY	**Bratogost**	**3.98**	**89**	*i* Pn	**Pn**	**12 35 14.6**	**+1.0**
BRY				*i* Sn	**Sn**	**12 36 00.9**	**+0.4**
HCY	**Herceg Novi**	**4.00**	**96**	⇓*i* Pn	**Pn**	**12 35 14.8**	**+1.1**
HCY				*i* Sn	**Sn**	**12 36 01.3**	**+0.6**
KBA	**Koelnbreinsper**	**4.09**	**2**	*e*Pn	**Pn**	**12 35 16.2**	**+1.1**
	comp=N,40nm,0.6s,SNR=9.5						
KBA				*i* Sn	**Sn**	**12 36 02.8**	**-0.6**
	comp=N,47nm,0.6s						
MUGIO	**Muggio**	**4.14**	**317**	P	**Pn**	**12 35 16.3**	**+0.6**
MUGIO				AML	AML		
	comp=N,123µm,0.6s						
MUGIO				AML	AML		
	comp=E,95µm,1.4s						
SAOF	**Saorge**	**4.17**	**286**	P	**Pn**	**12 35 19.8**	**+3.7**
SBF	**Sospel**	**4.23**	**284**	*e*P	**Pn**	**12 35 16.6**	**-0.4**

SBF				eSn	Sn	12 36 01.3	-5.4
	comp=E,21nm,0.4s						
UPM	Unac-Piva	4.24	85	ePn	Pn	12 35 19.8	+2.6
UPM	Unac-Piva	4.24	85	⇓iPn	Pn	12 35 18.2	+1.0
UPM				iSn	Sn	12 36 07.3	+0.3
VARE	Varese	4.24	314	P	Pn	12 35 18.8	+1.7
VARE				AML	AML		
	comp=N,184μm,0.7s						
VARE				AML	AML		
	comp=E,243μm,0.9s						
CEME	Cevo	4.29	94	⇓iPn	Pn	12 35 19.0	+1.2
CEME				iSn	Sn	12 36 08.5	+0.4
NKME	Niksic	4.29	91	ePn	Pn	12 35 19.0	+1.2
NKME				iSn	Sn	12 36 08.6	+0.5
BUM	Brajici-Budva	4.31	97	⇓iPn	Pn	12 35 19.3	+1.2
BUM				iSn	Sn	12 36 09.2	+0.5
FETA	Feichten	4.37	338	iPn	Pn	12 35 21.1	+2.1
	comp=E,22nm,0.5s,SNR=17						
FETA				eSn	Sn	12 36 12.6	+2.3
	comp=E,33nm,1.1s						
HAPS	Han Pijesak,Bl	4.38	74	ePn	Pn	12 35 19.9	+0.9
WTTA	Wattenberg	4.40	347	iPn	Pn	12 35 21.6	+2.2
	comp=E,46nm,0.8s,SNR=14						
WTTA				eSn	Sn	12 36 11.9	+0.9
	comp=E,166nm,0.8s						
SPIF	crte de Spivo	4.41	286	P	Pn	12 35 22.0	+2.5
DAVOX	Davos/Dischmat	4.44	330	Pn	Pn	12 35 22.2	+2.3
	comp=E,9.1nm,0.3s,baz=147,slow=14,SNR=49						
DAVOX				Sn	Sn	12 36 13.9	+2.0
	comp=E,2.4nm,0.3s,baz=121,slow=23,SNR=1.3						
DAVOX				LR	LR	12 37 38.0	
	comp=E,185nm,20.0s,baz=88,slow=47						
	comp=E,39nm,0.5s						
SQTA	Sankt Quirin	4.44	343	iPn	Pn	12 35 21.9	+2.0
	comp=E,25nm,0.3s,SNR=22						
SQTA				iSn	Sn	12 36 12.0	+0.1
	comp=E,31nm,0.5s						
WATA	Walderalm	4.48	346	iPn	Pn	12 35 23.0	+2.5
	comp=E,44nm,0.5s,SNR=21						
WATA				eSn	Sn	12 36 14.0	+1.1
	comp=E,44nm,0.7s						
VSL	Villasalto	4.49	220	P	Pn	12 35 22.1	+1.7
DRME	Dracevica, Mon	4.55	98	ePn	Pn	12 35 22.0	+0.8
DRME	Dracevica, Mon	4.55	98	⇓iPn	Pn	12 35 22.5	+1.2
DRME				iSn	Sn	12 36 14.8	+0.5
PDG	Podgorica	4.55	95	⇓P	Pn	12 35 21.8	+0.5
PDG				⇓S	Sn	12 36 13.6	-0.9
TTG	Podgorica	4.55	95	⇓iPn	Pn	12 35 22.6	+1.3
TTG				iSn	Sn	12 36 15.0	+0.5
ISO	Isola	4.57	287	P	Pn	12 35 24.5	+2.8
MOTA	Moosalm	4.58	343	iPn	Pn	12 35 24.1	+2.2
	comp=E,28nm,0.5s,SNR=14						
MOTA				iSn	Sn	12 36 16.4	+1.0
	comp=E,25nm,0.5s						
CALF	Calern	4.58	282	P	Pn	12 35 22.4	+0.5
ARSA	Arzberg	4.59	21	iPn	Pn	12 35 22.1	+0.3
	comp=E,6.0nm,0.4s						
ARSA				iSn	Sn	12 36 14.8	-0.6
	comp=E,7.3nm,0.3s						
ARSA	Arzberg	4.59	21	P	Pn	12 35 22.1	+0.3
PLE	Pljevlja	4.60	84	⇑iPn	Pn	12 35 23.2	+1.2
PLE				iSn	Sn	12 36 16.0	+0.3
TRAV	Traversella	4.61	305	P	Pn	12 35 22.6	+0.4
TRAV				AML	AML		
	comp=E,79μm,0.8s						
TRAV				AML	AML		
	comp=N,62μm,1.1s						
ULC	Ulcinj	4.64	101	⇓iPn	Pn	12 35 23.9	+1.3
ULC				iSn	Sn	12 36 17.2	+0.5
TIP	Timpagrande	4.70	143	⇑P	Pn	12 35 26.7	+3.4
KOME	Kolasin	4.70	90	⇑iPn	Pn	12 35 24.6	+1.2
KOME				iSn	Sn	12 36 18.5	+0.3
FUSIO	Fusio	4.70	319	P	Pn	12 35 23.6	+0.1
BIOA	Bad Ischl, Aus	4.72	4	iPn	Pn	12 35 24.1	+0.5
	comp=N,11nm,0.3s,SNR=17						
BIOA				iSn	Sn	12 36 19.7	+1.1
	comp=N,34nm,0.5s						
KOVH	Kovagotottos	4.72	47	P	Pn	12 35 22.8	-0.8
RETA	Reutte	4.80	340	iPn	Pn	12 35 27.1	+2.4
	comp=N,7.8nm,0.3s,SNR=9.3						
RETA				iSn	Sn	12 36 21.9	+1.3
	comp=N,16nm,0.5s						
SURF	Saint Ours	4.81	290	P	Pn	12 35 27.2	+2.2
JAUF	Jausiers	4.84	289	P	Pn	12 35 27.4	+2.0
LMR	La Mourre	4.85	276	eP	Pn	12 35 25.1	-0.3
LMR				eSn	Sn	12 36 15.8	-6.0
	comp=N,2.8nm,0.3s						
DAVA	Damuels	4.87	333	iPn	Pn	12 35 28.4	+2.6
	comp=N,23nm,0.4s,SNR=11						
DAVA				eSn	Sn	12 36 24.4	+1.9
	comp=N,45nm,0.5s						
MBDF	Montbardon	4.91	293	eP	Pn	12 35 27.7	+1.3
MBDF				eSn	Sn	12 36 17.5	-6.0
	comp=N,5.6nm,0.4s						
MOA	Molln	4.93	9	iPn	Pn	12 35 27.3	+0.8
	comp=N,7.3nm,0.4s						
MOA				iSn	Sn	12 36 24.6	+0.8
	comp=N,27nm,0.5s						
TRIGF	Trigance	4.95	281	P	Pn	12 35 28.9	+2.0
CREF	Crivoux	4.96	291	P	Pn	12 35 30.7	+3.6
EMBD	Embd, Matterta	4.97	312	P	Pn	12 35 28.7	+1.6
IVA	Berane	4.97	89	⇓iPn	Pn	12 35 28.4	+1.2
IVA				iSn	Sn	12 36 25.2	+0.2
PVY	Plav	5.05	92	⇓iPn	Pn	12 35 29.4	+1.2
PVY				iSn	Sn	12 36 27.0	+0.2
MORH	Mrgy, Hungar	5.09	49	⇑P	Pn	12 35 28.1	-0.6
MORH	Mrgy, Hungar	5.09	49	P	Pn	12 35 32.1	+3.4
DIVS	Divibare	5.12	75	ePn	Pn	12 35 28.7	-0.4
DIX	Grande Dixence	5.12	309	P	Pn	12 35 31.2	+1.8
RONA	Rosalia, Austr	5.21	24	iPn	Pn	12 35 31.1	+0.6
	comp=N,6.8nm,0.4s,SNR=5.9						
LPG	La Plagne	5.22	301	eP	Pn	12 35 32.9	+2.2
LPG				eSn	Sn	12 36 25.1	-6.2
	comp=N,7.6nm,0.3s						
MPLH	Magyarpolny	5.22	35	P	Pn	12 35 31.1	+0.6
LPL	La Plagne	5.24	301	eP	Pn	12 35 32.1	+1.1
LPL				eSn	Sn	12 36 25.3	-6.4
	comp=N,6.8nm,0.3s						
SOP	Sopron	5.28	26	P	Pn	12 35 32.3	+1.0
FRGS	Fruska Gora	5.28	63	ePn	Pb	12 35 44.1	-0.6
CONA	Conrad Observa	5.30	20	iPn	Pn	12 35 31.9	+0.2
	comp=N,5.8nm,0.3s,SNR=8.0						
RSL	Roselend	5.38	302	P	Pn	12 35 35.8	+2.9
OGSI	Sixt	5.49	306	P	Pn	12 35 37.4	+3.1
AIGLE	Aigle	5.53	309	P	Pn	12 35 37.2	+2.4
AIGLE	Aigle	5.53	309	S	Sn	12 36 43.3	+4.7
ORIF	Oris-en-Rattie	5.57	293	eP	Pn	12 35 38.7	+3.3
ORIF				eSn	Sn	12 36 33.2	-6.5
	comp=N,5.0nm,0.4s						
SMRF	Simiane la Rot	5.58	283	eP	Pn	12 35 37.5	+2.0
SMRF				eSn	Sn	12 36 33.3	-6.5
	comp=N,2.0nm,0.3s						
RUSF	Rustrel	5.64	282	P	Pn	12 35 39.2	+2.9
SLE	Schleitheim	5.78	327	P	Pn	12 35 39.1	+0.9
TORNY	Torny/Romont	5.79	313	P	Pn	12 35 40.7	+2.4
BALST	Balsthal	5.80	320	P	Pn	12 35 39.8	+1.3
BALST	Balsthal	5.80	320	S	Sn	12 36 44.6	-0.6
GERES	GERESS Array B	5.87	4	Pn	Pn	12 35 39.0	-0.6
	comp=N,2.2nm,0.3s,baz=173,slow=13,SNR=40						
GERES				Sn	Sn	12 36 45.9	-1.2
	comp=N,4.0nm,0.3s,baz=172,slow=22,SNR=8.0						
GERES				LR	LR	12 38 37.6	
	comp=N,132nm,18.1s,baz=166,slow=46						
	comp=N,2.9nm,0.3s						
CKRC	Cesky Krumlov	5.89	8	ePN	Pn	12 35 39.2	-0.5
CKRC				eSN	Sn	12 36 45.8	-1.6
ZST	Bratislava	5.91	27	eSN	Sn	12 36 46.6	-1.2
OGSM	Saint Maurice	5.94	299	P	Pn	12 35 44.3	+3.9
GIMEL	St. Georges /	6.03	308	P	Pn	12 35 43.7	+1.9
FELD	Feldberg im Sc	6.07	325	P	Pn	12 35 43.0	+0.7
MODS	Modra-Piesok	6.12	27	ePN	Pn	12 35 43.6	+0.7
MODS				eSN	Sn	12 36 52.2	-0.9
BRANT	Les Verrieres	6.15	312	P	Pn	12 35 45.3	+1.9
KHC	Kasperske Hory	6.15	3	ePN	Pn	12 35 42.9	-0.4
KHC				eSN	Sn	12 36 51.7	-2.2
KIZ	Kirchzarten	6.17	325	P	Pn	12 35 45.0	+1.4
CABF	La Chapelle	6.18	308	eP	Pn	12 35 45.8	+2.1
CABF				eSn	Sn	12 36 47.6	-7.0
	comp=N,3.4nm,0.3s						
OG35	Corcelles	6.20	302	P	Pn	12 35 45.9	+1.8
RIVEL	MONT RIVEL	6.35	309	P	Pn	12 35 47.7	+1.6
RIVEL				S	Sn	12 36 58.9	0.0
VOGT	Vogtsburg - To	6.37	325	P	Pn	12 35 47.2	+0.9
VIVF	Saint-Julien-l	6.38	290	eP	Pn	12 35 48.5	+2.0
VIVF				eSn	Sn	12 36 52.5	-7.1
	comp=N,1.2nm,0.3s						
MOF	Molkenrain	6.43	321	P	Pn	12 35 48.0	+0.8
KRUC	Moravsky	6.49	19	ePN	Pn	12 35 47.6	-0.3
HINF	Hinteralfeld	6.54	320	eP	Pn	12 35 49.0	+0.4
HINF				eSn	Sn	12 36 56.2	-7.2
	comp=N,11nm,0.3s						
BZS	Buzias	6.64	64	⇑P	Pn	12 35 49.4	-0.5
ECH	Echery	6.69	323	P	Pn	12 35 51.3	+0.6
ECH				S	Sn	12 37 08.9	+1.7
VRAC	Vranov	6.76	20	Pn	Pn	12 35 51.5	-0.2
	comp=N,0.4nm,0.3s,baz=204,slow=10,SNR=4.3						
VRAC				LR	LR	12 39 14.4	
	comp=N,97nm,20.6s,baz=201,slow=46						
	comp=N,1.8nm,0.4s						
VRAC	Vranov	6.76	20	ePN	Pn	12 35 51.7	0.0
CDF	Champ du Feu	6.79	325	eP	Pn	12 35 53.0	+0.8
CDF				eSn	Sn	12 37 02.3	-7.5
	comp=N,7.0nm,0.3s						
VYHS	Vyhne	6.80	34	ePN	Pn	12 35 52.7	+0.5
VYHS				eSN	Sn	12 37 07.3	-2.6
LASF	Ste Croix	6.82	282	eP	Pn	12 35 53.0	+0.5
LASF				eSn	Sn	12 37 03.0	-7.4
	comp=N,0.9nm,0.3s						
HAU	Haudompre	6.91	319	eP	Pn	12 35 54.3	+0.5
HAU				eSn	Sn	12 37 05.2	-7.4
	comp=N,27nm,0.4s						
BLKB	Belogradchik	7.00	82	⇑P	Pn	12 35 55.6	+0.6
GOPC	GO Pecny, Ondr	7.02	9	ePN	Pn	12 35 55.4	+0.2
PRU	Pruhonice	7.07	7	ePN	Pn	12 35 56.3	+0.4
GZR	Gura Zlata	7.34	68	⇑P	Pn	12 35 59.1	-0.6
MORC	Moravsky Berou	7.44	23	⇓P	Pn	12 36 01.1	0.0
VTS	Vitosha	7.45	89	⇓P	Pn	12 36 01.1	-0.1
KRLC	Kraliky	7.52	18	ePN	Pn	12 36 02.0	-0.1
SMF	Signal de Mont	7.54	302	eP	Pn	12 36 04.4	+2.0
SMF				eSn	Sn	12 37 20.4	-7.7
	comp=N,5.2nm,0.4s						
PAGF	Fort de Pagny	7.59	320	eP	Pn	12 36 04.4	+1.3
PAGF				eSn	Sn	12 37 21.4	-8.0
	comp=N,3.7nm,0.3s						
SFTF	Sexfontaines	7.70	315	eP	Pn	12 36 05.7	+1.2
SFTF				eSn	Sn	12 37 23.9	-8.1
	comp=N,11nm,0.5s						
KEST	Kesra	7.81	203	Pn	Pn	12 36 10.1	+3.9
	comp=N,0.7nm,0.3s,baz=344,slow=6.3,SNR=3.9						
KEST				LR	LR	12 39 28.8	
	comp=N,149nm,18.3s,baz=230,slow=40						
	comp=N,7.5nm,0.8s						
LOR	Lormes	7.82	306	eP	Pn	12 36 07.9	+1.7
LOR				eSn	Sn	12 37 27.0	-8.0
	comp=N,7.8nm,0.3s						
LOR	Lormes	7.82	306	P	Pn	12 36 07.9	+1.7
MEZF	Maizieres J'vi	7.89	317	eP	Pn	12 36 09.4	+2.3
BRG	Berggiesshubel	7.91	4	eP	Pn	12 36 07.6	+0.3
BRG				Amp		12 36 14.5	
	comp=Z,2.1nm,0.5s						
BRG				ex	x	12 37 33.3	
BRG				ex	x	12 38 41.2	
BRG				Amp		12 39 00.1	
	comp=Z,79nm,1.6s						
AVF	Avril sur Loir	7.91	302	eP	Pn	12 36 08.7	+1.3
AVF				eSn	Sn	12 37 28.7	-8.4
	comp=Z,1.1nm,0.3s						
SAVF	Savonnieres en	7.93	318	eP	Pn	12 36 10.4	+2.8
SAVF				eSn	Sn	12 37 29.2	-8.3
	comp=Z,3.0nm,0.3s						
SSF	Saint Saulge	7.93	304	eP	Pn	12 36 08.9	+1.2
SSF				eSn	Sn	12 37 29.6	-8.1
	comp=Z,2.9nm,0.3s						
MTLF	Montolieu	7.98	276	eP	Pn	12 36 10.0	+1.6
MTLF				eSn	Sn	12 37 30.5	-8.4
	comp=Z,0.3nm,0.3s						
BGF	Bois d'Agland	8.13	300	eP	Pn	12 36 13.0	+2.5
BGF				eSn	Sn	12 37 34.4	-8.2
	comp=Z,4.5nm,0.4s						
CAF	Calviac	8.21	287	eP	Pn	12 36 14.1	+2.5
CAF				eSn	Sn	12 37 36.1	-8.5
	comp=Z,0.5nm,0.1s						
CLL	Collm	8.32	359	iPn	Pn	12 36 12.8	-0.2
CLL				eSn	Sn	12 37 30.0	-17
CLL				eSg	Sg	12 38 47.0	+8.0
	comp=Z,45nm,1.3s						
TRPA	Tarpa	8.37	49	P	Pn	12 36 17.5	+3.8
STHS	Stebnicka Huta	8.54	38	ePN	Pn	12 36 16.4	+0.3
ARR	Arges	8.61	70	⇑P	Pn	12 36 17.0	0.0
GIVF	Givet	9.12	324	ePn	Pn	12 36 22.7	-1.3
BAIF	Baives	9.36	322	ePn	Pn	12 36 26.9	-0.4
MLR	Muntele Rosu	9.54	70	LR	LR	12 41 26.2	
	comp=Z,288nm,19.4s,baz=250,slow=46						
ETSF	Etsaut	10.04	274	ePn	Pn	12 36 34.0	-2.6
IDI	Anoyia	11.93	126	LR	LR	12 43 54.7	
	comp=Z,42nm,18.3s,baz=327,slow=49						
ESDC	Sonseca Array	13.26	261	LR	LR	12 42 32.9	
	comp=Z,84nm,18.8s,baz=90,slow=38						
AKASG	Malin Array Be	13.43	49	LR	LR	12 43 18.6	
	comp=Z,53nm,20.7s,baz=190,slow=41						
BRTR	Keskin Array B	15.74	95	Pn	P	12 37 57.3	-1.0
	baz=271,slow=11,SNR=3.5						
BRTR				LR	LR	12 45 03.7	
	comp=Z,126nm,19.7s,baz=300,slow=42						
	comp=Z,0.7nm,0.5s						
HFS	Hagfors	17.17	1	LR	LR	12 45 33.6	
	comp=Z,74nm,20.5s,baz=246,slow=40						
MDT	Midelt	17.26	240	LR	LR	12 43 57.6	
	comp=Z,30nm,19.3s,baz=56,slow=34						
NOA	NORSAR Array B	18.12	357	LR	LR	12 45 46.6	
	comp=Z,32nm,18.7s,baz=300,slow=39						
FINES	FINESS Array B	20.04	18	P	Pn	12 38 45.9	-1.2
	comp=Z,0.1nm,0.3s,baz=204,slow=9.9,SNR=2.4						
FINES				LR	LR	12 47 53.8	
	comp=Z,46nm,20.5s,baz=203,slow=41						
	comp=Z,1.7nm,0.7s						
MMAI	Mount Meron Ar	20.13	112	LR	LR	12 48 26.0	
	comp=Z,44nm,18.3s,baz=106,slow=42						
KBZ	Khabaz	21.61	78	P	P	12 39 04.6	+2.2
	comp=Z,6.7nm,0.9s,baz=310,slow=5.2,SNR=11						
KBZ				LR	LR	12 48 55.8	
	comp=Z,38nm,18.7s,baz=320,slow=41						
	comp=Z,6.7nm,0.9s						
EIL	Elat	21.96	120	LR	LR	12 51 11.4	
	comp=Z,15nm,18.1s,baz=7.0,slow=46						
GNI	Garni	23.75	86	LR	LR	12 51 50.2	
	comp=Z,25nm,19.3s,baz=314,slow=45						
DBIC	Dimbokro	39.50	209	LR	LR	12 58 57.7	
	comp=Z,46nm,18.7s,baz=51,slow=37						
WSAR	Wadi Sarin	42.31	103	LR	LR	13 03 52.1	
	comp=Z,33nm,18.1s,baz=62,slow=42						
AAK	Ala-Archa	44.12	69	LR	LR	13 05 18.9	
	comp=Z,38nm,20.1s,baz=342,slow=42						
NRIK	Noril'sk	45.16	29	LR	LR	13 03 07.0	
	comp=Z,38nm,18.1s,baz=58,slow=38						
ZALV	Zalesovo Beam	46.83	50	P	P	12 42 42.5	+0.3
	comp=Z,0.4nm,0.3s,baz=282,slow=10,SNR=3.5						
ZALV				LR	LR	13 04 31.1	
	comp=Z,28nm,18.4s,baz=257,slow=39						
	comp=Z,0.4nm,0.3s						
MKAR	Makanchi Array	47.71	60	P	P	12 42 49.8	+0.6
	comp=Z,3.0nm,0.7s,baz=305,slow=10,SNR=3.6						
	comp=Z,3.0nm,0.7s						
SONM	Songino Array	61.72	50	P	P	12 44 32.6	+1.7
	comp=Z,1.3nm,1.0s,baz=286,slow=10,SNR=3.6						
	comp=Z,1.3nm,1.0s						
CMAR	Chiang Mai Arr	74.66	79	P	P	12 45 53.0	+0.6
	comp=Z,1.5nm,0.7s,baz=308,slow=7.5,SNR=9.7						
	comp=Z,1.5nm,0.7s						
CMIG	Matias Romero	91.06	295	LR	LR	13 28 47.8	
	comp=Z,26nm,19.6s,baz=262,slow=36						

*BER **12** 12:35:22.1±1.7, 66°.96N×21°.04E, h0km, ML1.4, Suspected explosion*

HEL 12 12:35:21.4±0.0**, 67°.12N×20°.59E, h0km, ML1.5, ML0.9**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.01	273	iP	Pg	12 35 21.6	+0.1
DUNU				iS	Sg	12 35 22.8	+1.2
MASU	Masugnsbyn	0.64	58	iP	Pg	12 35 33.0	-0.7
ERTU	Ertsjaerv	0.85	131	eP	Pg	12 35 36.3	-1.4
ERTU				eSB	Sg	12 35 48.9	+0.3
SALU	Saltoluokta	0.85	289	iP	Pg	12 35 36.5	-1.2
NIKU	Nikkaluokta	0.96	322	eP	Pg	12 35 38.8	-1.0
PAJU	Pajala	0.99	94	eP	Pg	12 35 39.3	-1.1
LANU	Lannavaara	1.08	29	eP	Pg	12 35 40.9	-1.1
LANU				eSB	Sg	12 35 55.3	-0.6
KLF	Kolari	1.32	83	ePB	Pg	12 35 45.3	-1.4
KLF				eSB	Sg	12 36 02.4	-1.4
KALU	Kalix	1.68	138	eS	Sn	12 36 11.1	-3.1
HEF	Hetta	1.74	41	eP	Pn	12 35 52.3	-0.6
HEF				MSG		12 36 13.6	
	comp=Z,2.2nm,0.2s						
HEF				eS	Sn	12 36 14.4	-1.3
HEF	Hetta	1.74	41	eP	Pn	12 35 52.4	-0.5
HEF				eS	Sn	12 36 13.8	-1.9
TOF	Tornio	1.82	123	ePG	Pn	12 35 54.4	+0.5
	baz=305						
TOF				MSG		12 36 15.9	
	comp=Z,2.3nm,0.2s						
TOF				eSN	Sb	12 36 19.0	+0.2
KIF	Kilpisjarvi	1.89	2	ePN	Pn	12 35 55.6	+0.7
KIF				MSG		12 36 18.5	
	comp=Z,3.4nm,0.2s						
KIF				eSN	Sb	12 36 20.2	-0.7
KIF	Kilpisjarvi	1.89	2	eP	Pn	12 35 55.3	+0.4
KIF				eS	Sb	12 36 21.2	+0.3
FAUS	Fauske	2.08	280	eP	Pn	12 35 58.0	+0.6
FAUS				eS	Sg	12 36 27.4	-0.7
FAUS				IAML		12 36 31.9	
	comp=Z,5.5nm,0.8s						
KTK1	Kautokeino	2.14	26	ePG	Pn	12 35 59.5	+1.1
KTK1				eSB	Sn	12 36 26.3	+0.6
KTK1	Kautokeino	2.14	26	eP	Pn	12 35 58.7	+0.3
KTK1				eS	Sn	12 36 25.7	+0.1
KTK1				IAML		12 36 28.3	
	comp=Z,3.2nm,0.5s						
RNF	Rovaniemi	2.20	101	ePG	Pb	12 36 00.8	-1.2
RNF				eSG	Sb	12 36 29.4	-0.4
SGF	Sodankyl	2.33	79	ePG	Pb	12 36 02.8	-1.4
	baz=263						
SGF				eSG	Sb	12 36 32.7	-0.7
JETT	Jettan, Norway	2.45	359	eS	Sn	12 36 34.6	+1.4
TRO	Tromso	2.60	347	eSG	Sb	12 36 41.9	+0.7
ARA0	ARCESS Array S	3.03	35	eP	Pn	12 36 11.2	+0.6
ARA0				eS	Sn	12 36 49.2	+1.6
KEV	Kevo	3.55	39	eS	Sn	12 36 59.3	-1.0
VAF	Ylistaro	4.19	167	eSG	Sb	12 37 31.1	+4.2

*IDC **12** 12:39:35.4±5.1, 39°.90N×75°.82E, h0km, mb3.6/3, mbtmp3.5/5, ML3.1/2, MS3.2/5, Error ellipse: s-maj=139.8km s-min=28.2km az=102.0*

*SOME **12** 12:39:39.7, 40°.13N×76°.07E, h15km*

*KRNET **12** 12:39:40.4±0.1, 40°.15N×76°.18E, h19km, mb4.3*

*MOS **12** 12:39:43.8±1.0, 40°.13N×76°.18E, h58km, mb4.1/2, Error ellipse: s-maj=9.4km s-min=4.6km az=96.3*

*NNC **12** 12:39:45.7±1.1, 40°.38N×76°.22E, h4km±6km, mb4.6, mpv4.3, Error ellipse: s-maj=7.2km s-min=5.5km az=175.0*

ISC 12 12:39:42.1±1.3**, 40°.17N**±0°.04×**76°.12E**±0°.03**, h3**km±8km**, n132, σ1s.78**/190**, mb3.8**/7**, MS3.5**/3**, 36C-29D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.66	190	Pg	Pn	12 40 00.5	+2.0
KSH				Sg	Sn	12 40 15.2	+5.8
KSH				pmax	pmax		
	comp=Z,550nm,0.8s						
KSH				smax	smax		
	comp=N,990nm,0.7s						
KSH				smax	smax		
	comp=E,950nm,0.7s						
NRN	Naryn	1.27	356	⇓iP	Pn	12 40 04.0	-3.1
	baz=53						
NRN				⇓iS	Sb	12 40 21.2	-2.6
	baz=53						
NRN	Naryn	1.27	356	⇓iP	Pn	12 40 04.0	-3.1
NRN				iS	Sb	12 40 21.2	-2.6
TARG	Taragay, Kyrgy	2.02	39	⇑iP	Pn	12 40 16.9	-0.5
	baz=37						
TARG				⇑iS	Sn	12 40 43.2	-0.1
	baz=37						
TARG	Taragay, Kyrgy	2.02	39	iPN	Pn	12 40 16.9	-0.5
TARG				iS	Sn	12 40 43.2	-0.1
ULHL	Ulahol	2.08	2	P	Pn	12 40 18.9	+0.8
	SNR=5.3						
ULHL	Ulahol	2.08	2	⇑iP	Pn	12 40 17.8	-0.3
	baz=1.0						
ULHL				⇑iS	Sn	12 40 44.8	+0.2
	baz=1.0						
ULHL	Ulahol	2.08	2	iPN	Pn	12 40 17.8	-0.3
ULHL				iS	Sn	12 40 44.8	+0.2
ARLS	Aral	2.17	322	⇓iP	Pn	12 40 19.4	+0.1
	baz=21						
ARLS				⇓iS	Sn	12 40 46.9	+0.1
	baz=21						
ARLS	Aral	2.17	322	⇓iPN	Pn	12 40 19.4	+0.1
ARLS				iS	Sn	12 40 46.9	+0.1
BOOM	Boomskoye usch	2.33	357	⇓iP	Pn	12 40 21.4	-0.1
	baz=56						
BOOM				⇓iS	Sn	12 40 50.4	-0.3
	baz=56						
BOOM	Boomskoye usch	2.33	357	⇓iPN	Pn	12 40 21.4	-0.1
BOOM				iS	Sn	12 40 50.4	-0.3
UCH	Uchtor	2.39	330	P	Pn	12 40 23.4	+0.8
	SNR=41						
UCH	Uchtor	2.39	330	⇑iP	Pn	12 40 22.5	-0.1
	baz=29						
UCH				⇑iS	Sn	12 40 52.6	0.0
	baz=29						
UCH	Uchtor	2.39	330	iPN	Pn	12 40 22.5	-0.1
UCH				iS	Sn	12 40 52.6	0.0
OHH	Osh	2.58	279	⇑iP	Pn	12 40 25.0	+0.2
	baz=79						
OHH				⇑iS	Sn	12 40 57.1	+0.5
	baz=79						
OHH	Osh	2.58	279	iPN	Pn	12 40 25.9	+1.1
OHH				iS	Sn	12 40 57.1	+0.5
KBK	Karagaybulak	2.64	341	P	Pb	12 40 29.6	-0.6
	SNR=68						
KBK	Karagaybulak	2.64	341	⇑iP	Pn	12 40 25.7	-0.1
	baz=40						
KBK				⇑iS	Sn	12 40 58.5	+0.1
	baz=40						
KBK	Karagaybulak	2.64	341	iPN	Pn	12 40 25.7	-0.1
KBK				iS	Sn	12 40 58.5	+0.1
AML	Almayashu	2.69	318	P	Pn	12 40 27.0	+0.4
	SNR=28						
AML	Almayashu	2.69	318	iPN	Pn	12 40 26.7	+0.1
AML				iS	Sn	12 40 59.7	-0.1
AAK	Ala-Archa	2.76	334	P	Pn	12 40 28.6	+1.3
	SNR=19						
AAK	Ala-Archa	2.76	334	LR	LR	12 41 50.0	
	comp=E,232nm,20.0s,baz=206,slow=46						
AAK	Ala-Archa	2.76	334	⇓iP	Pn	12 40 27.5	+0.1
	baz=34						
AAK				⇓iS	Sn	12 41 01.2	0.0
	baz=34						
AAK	Ala-Archa	2.76	334	iPN	Pn	12 40 28.6	+1.3
TKM2	Tokmak 2	2.78	352	P	Pn	12 40 29.2	+1.5
	SNR=79						
TKM2	Tokmak 2	2.78	352	⇑iP	Pn	12 40 27.6	-0.1
	baz=51						
TKM2				⇑iS	Sn	12 41 01.7	-0.2
	baz=51						
TKM2	Tokmak 2	2.78	352	⇑Pn	Pn	12 40 29.1	+1.4
	comp=E,104nm,0.7s						
TKM2				⇓Pg	Pg	12 40 37.1	+1.7
	comp=E,277nm,0.9s						
TKM2				⇓Lg	Lg	12 41 08.1	
	comp=E,166nm,0.7s						
TKM2	Tokmak 2	2.78	352	ePN	Pn	12 40 27.0	-0.7
FRU1	Bishkek	2.87	338	⇑iP	Pn	12 40 29.4	+0.6
	baz=37						
FRU1				⇑iS	Sn	12 41 04.3	+0.4
	baz=37						
FRU1	Bishkek	2.87	338	iPN	Pn	12 40 29.4	+0.6
FRU1				iS	Sn	12 41 04.3	+0.4
KST	Kastek	2.88	358	eP	Pb	12 40 33.4	-0.8
	comp=E,182nm,0.6s						
KST				eS	Sb	12 41 11.9	+2.1
	comp=E,225nm,0.7s						
KST	Kastek	2.88	358	Pg	Pb	12 40 34.6	+0.4
	comp=E,182nm,0.6s						
KST				Lg	Lg	12 41 11.6	
	comp=E,225nm,0.7s						
TNSS	Tian-Shan	2.94	12	eP	Pb	12 40 33.7	-1.6
	comp=E,71nm,0.5s						
TNSS				eS	Sb	12 41 13.3	+1.5
	comp=E,230nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TNSS	Tian-Shan	2.94	12	Pg	Pb	12 40 35.0	-0.3
	comp=E,71nm,0.5s						
TNSS				Lg	Lg	12 41 12.9	
	comp=E,230nm,0.5s						
MTBS	Maitube	2.97	4	eP	Pb	12 40 34.5	-1.3
	comp=E,93nm,0.6s						
MTBS				eS	Sb	12 41 13.7	+1.2
	comp=E,179nm,0.6s						
MTBS	Maitube	2.97	4	Pg	Pb	12 40 35.9	+0.2
	comp=E,132nm,0.6s						
MTBS				Lg	Lg	12 41 13.7	
	comp=E,179nm,0.6s						
CHMS	Chumysh	3.01	340	P	Pn	12 40 32.0	+1.3
	SNR=23						
CHMS	Chumysh	3.01	340	⇑iP	Pn	12 40 30.9	+0.2
	baz=40						
CHMS				⇑iS	Sn	12 41 06.9	-0.4
	baz=40						
CHMS	Chumysh	3.01	340	⇑Pn	Pn	12 40 31.9	+1.1
	comp=E,48nm,0.7s						
CHMS				⇓Pg	Pg	12 40 39.2	-0.6
	comp=E,160nm,0.8s						
CHMS				⇓Lg	Lg	12 41 15.9	
	comp=E,376nm,0.8s						
CHMS	Chumysh	3.01	340	ePN	Pn	12 40 30.9	+0.2
EKS2	Erkin-Say	3.05	326	P	Pn	12 40 32.9	+1.5
	SNR=10						
EKS2	Erkin-Say	3.05	326	⇑iP	Pn	12 40 31.5	+0.1
	baz=25						
EKS2				⇑iS	Sn	12 41 08.3	-0.2
	baz=25						
EKS2	Erkin-Say	3.05	326	ePN	Pn	12 40 31.5	+0.1
MDOK	Medeo	3.07	13	eP	Pb	12 40 37.1	-0.4
	comp=E,139nm,0.6s						
MDOK				eS	Sb	12 41 17.0	+1.5
	comp=E,253nm,0.7s						
MDOK	Medeo	3.07	13	⇓Pn	Pn	12 40 32.5	+0.7
	comp=E,72nm,0.6s						
MDOK				Pg	Pb	12 40 37.2	-0.3
	comp=E,139nm,0.6s						
MDOK				⇑Pg	Pg	12 40 41.5	+0.5
	comp=E,134nm,0.6s						
MDOK				Lg	Lg	12 41 16.8	
	comp=E,253nm,0.7s						
MDOK				⇑Lg	Lg	12 41 17.3	
	comp=E,644nm,0.8s						
MDOK	Medeo	3.07	13	PN	Pn	12 40 32.4	+0.7
DGS	Degeres	3.08	355	eP	Pb	12 40 38.2	+0.5
	comp=E,169nm,0.7s						
DGS				eS	Sb	12 41 18.6	+2.8
	comp=E,228nm,0.8s						
DGS	Degeres	3.08	355	Pg	Pb	12 40 37.9	+0.2
	comp=E,169nm,0.7s						
DGS				Lg	Lg	12 41 18.3	
	comp=E,228nm,0.8s						
AAA	Alma-Ata	3.10	11	eP	Pb	12 40 37.5	-0.4
	comp=E,120nm,0.4s						
AAA				eS	Sb	12 41 18.8	+2.7
	comp=E,625nm,0.7s						
AAA	Alma-Ata	3.10	11	Pg	Pb	12 40 38.4	+0.5
	comp=E,120nm,0.4s						
AAA				Lg	Lg	12 41 18.5	
	comp=E,625nm,0.7s						
KNDC	Almaty	3.11	11	⇓Pn	Pn	12 40 33.9	+1.7
	comp=E,245nm,0.9s						
KNDC				⇑Lg	Lg	12 41 19.3	
	comp=E,1μm,0.8s						
KNDC	Almaty	3.11	11	PN	Pn	12 40 33.9	+1.7
KOTS	Kotyrbulak	3.15	13	eP	Pb	12 40 39.3	+0.5
	comp=E,129nm,0.7s						
KOTS				eS	Sb	12 41 20.5	+2.7
	comp=E,773nm,0.6s						
KOTS	Kotyrbulak	3.15	13	Pg	Pb	12 40 39.4	+0.5
	comp=E,129nm,0.7s						
KOTS				Lg	Lg	12 41 19.8	
	comp=E,773nm,0.6s						
USP	Ospenovka	3.33	339	P	Pn	12 40 36.3	+1.2
	SNR=18						
USP	Ospenovka	3.33	339	⇓iP	Pn	12 40 35.2	+0.1
	baz=39						
USP				⇓iS	Sn	12 41 14.7	-0.5
	baz=39						
USP	Ospenovka	3.33	339	⇓iPN	Pn	12 40 35.2	+0.1
USP				iS	Sn	12 41 14.7	-0.5
SATY	Saty	3.36	30	eP	Pb	12 40 42.6	+0.2
	comp=E,176nm,0.9s						
SATY				eS	Sb	12 41 25.6	+1.9
	comp=E,240nm,0.8s						
SATY	Saty	3.36	30	Pg	Pb	12 40 43.6	+1.2
	comp=E,176nm,0.9s						
SATY				Lg	Lg	12 41 26.8	
	comp=E,240nm,0.8s						
MRKS	Merke	3.37	321	eP	Pb	12 40 42.2	-0.4
	comp=E,44nm,0.6s						
MRKS				eS	Sb	12 41 26.4	+2.4
	comp=E,69nm,0.6s						
DRK	Karamyk	3.40	260	⇑iP	Pn	12 40 36.9	+0.6
	baz=60						
DRK				⇑iS	Sn	12 41 17.3	+0.1
	baz=60						
ZHN	Zhinishke	3.46	29	eP	Pb	12 40 43.7	-0.5
	comp=E,12nm,0.2s						
ZHN				eS	Sb	12 41 29.3	+2.6
	comp=E,261nm,0.5s						
ZHN	Zhinishke	3.46	29	Pg	Pb	12 40 45.4	+1.2
	comp=E,12nm,0.2s						
ZHN				Lg	Lg	12 41 29.9	
	comp=E,261nm,0.5s						
SGDS	Sogindy	3.47	342	eP	Pb	12 40 43.5	-0.7
	comp=E,58nm,0.9s						
SGDS				eS	Sb	12 41 30.0	+3.2
	comp=E,121nm,0.6s						
SGDS	Sogindy	3.47	342	Pg	Pb	12 40 44.3	+0.1
	comp=E,58nm,0.9s						
SGDS				Lg	Lg	12 41 28.1	
	comp=E,121nm,0.6s						
SGDS	Sogindy	3.47	342	ePN	Pn	12 40 39.3	+2.2
KRBS	Karabastau	3.54	355	eP	Pb	12 40 45.0	-0.5
	comp=E,221nm,0.6s						
KRBS				eS	Sb	12 41 32.0	+3.1
	comp=E,107nm,0.8s						
KRBS	Karabastau	3.54	355	Pg	Pb	12 40 46.3	+0.8
	comp=E,221nm,0.6s						
KRBS				Lg	Lg	12 41 31.6	
	comp=E,107nm,0.8s						
KURS	Kuram	3.66	24	eP	Pb	12 40 47.8	+0.4
	comp=E,42nm,0.9s						
KURS				eS	Sb	12 41 35.0	+2.9
	comp=E,244nm,1.0s						
KURS	Kuram	3.66	24	Pg	Pb	12 40 47.6	+0.2
	comp=E,42nm,0.9s						
KURS				Lg	Lg	12 41 33.8	
	comp=E,244nm,1.0s						
UZB	Uzynbulak	3.69	35	eP	Pb	12 40 47.8	-0.2
	comp=E,46nm,0.7s						
UZB				eS	Sb	12 41 36.6	+3.5
	comp=E,121nm,0.8s						
UZB	Uzynbulak	3.69	35	Pg	Pb	12 40 49.2	+1.2
	comp=E,46nm,0.7s						
UZB				Lg	Lg	12 41 36.4	
	comp=E,121nm,0.8s						
UZB	Uzynbulak	3.69	35	ePN	Pn	12 40 42.8	+2.7
KUU	Kurty	3.73	2	eP	Pb	12 40 48.3	-0.3
	comp=E,172nm,1.0s						
KUU				eS	Sb	12 41 38.0	+3.8
	comp=E,446nm,1.1s						
KUU	Kurty	3.73	2	Pg	Pb	12 40 49.8	+1.2
	comp=E,172nm,1.0s						
KUU				Lg	Lg	12 41 37.7	
	comp=E,446nm,1.1s						
CHKK	Chushkaly	3.74	10	eP	Pb	12 40 48.8	0.0
	comp=E,87nm,0.7s						
CHKK				eS	Sb	12 41 38.0	+3.4
	comp=E,146nm,0.7s						
CHKK	Chushkaly	3.74	10	Pg	Pb	12 40 49.7	+0.9
	comp=E,87nm,0.7s						
CHKK				Lg	Lg	12 41 37.7	
	comp=E,146nm,0.7s						
KPKS	Kokpek	3.81	29	eP	Pb	12 40 50.0	-0.2
	comp=E,84nm,0.6s						
KPKS				eS	Sb	12 41 39.4	+2.6
	comp=E,420nm,0.5s						
KPKS	Kokpek	3.81	29	Pg	Pb	12 40 50.4	+0.3
	comp=E,84nm,0.6s						
KPKS				Lg	Lg	12 41 38.6	
	comp=E,420nm,0.5s						
KPKS	Kokpek	3.81	29	ePN	Pb	12 40 46.2	-3.9
SHLS	Shalkode	3.90	39	eP	Pg	12 40 55.8	-1.0
	comp=E,73nm,0.5s						
SHLS				eS	Sg	12 41 51.0	+3.7
	comp=E,131nm,0.6s						
SHLS	Shalkode	3.90	39	Pg	Pg	12 40 56.5	-0.3
	comp=E,73nm,0.5s						
SHLS				Lg	Lg	12 41 49.1	
	comp=E,131nm,0.6s						
SHLS	Shalkode	3.90	39	ePN	Pb	12 40 51.8	+0.2
TRKS	Terek-Say	4.02	291	⇑iP	Pn	12 40 44.4	-0.3
	baz=91						
TRKS				⇑iS	Sn	12 41 30.8	-1.5
	baz=91						
TRKS	Terek-Say	4.02	291	iPN	Pn	12 40 44.4	-0.3
PDGK	Podgornoye	4.04	37	Pg	Pb	12 40 55.3	+1.2
	comp=E,39nm,0.8s						
PDGK				Lg	Lg	12 41 46.9	
	comp=E,147nm,0.9s						
PDGK	Podgornoye	4.04	37	⇑Pn	Pn	12 40 44.2	-0.8
	comp=E,22nm,0.7s						
PDGK				⇑Pg	Pg	12 40 58.1	-1.5
	comp=E,95nm,0.8s						
PDGK				⇑Lg	Lg	12 41 46.4	
	comp=E,468nm,1.0s						
PDGK	Podgornoye	4.04	37	PN	Pn	12 40 44.2	-0.8
BTK	Batken	4.07	270	⇓iP	Pn	12 40 45.8	+0.5
	baz=70						
BTK				⇓iS	Sn	12 41 33.3	-0.2
	baz=70						
BTK	Batken	4.07	270	⇓iPN	Pn	12 40 45.8	+0.5
BTK				iS	Sn	12 41 33.3	-0.2
ARXS	Arharly	4.24	17	eP	Pb	12 40 58.7	+1.4
	comp=E,52nm,0.8s						
ARXS				eS	Sb	12 41 53.4	+4.5
	comp=E,135nm,0.9s						
ARXS	Arharly	4.24	17	Pg	Pb	12 40 58.3	+1.0
	comp=E,139nm,0.7s						
ARXS				Lg	Lg	12 41 52.6	
	comp=E,135nm,0.9s						
ARXS	Arharly	4.24	17	ePN	Pb	12 40 53.6	-3.7
BLB	Baldybastay	4.30	23	eP	Pb	12 40 59.0	+0.6
	comp=E,119nm,0.9s						
BLB				eS	Sb	12 41 54.0	+3.2
	comp=E,153nm,0.7s						
BLB	Baldybastay	4.30	23	Pg	Pb	12 40 59.1	+0.6
	comp=E,119nm,0.9s						
BLB				Lg	Lg	12 41 53.9	
	comp=E,153nm,0.7s						
DJR	Jarkent	4.97	32	eP	Pb	12 41 11.4	+1.5
	comp=E,19nm,0.5s						
DJR				eS	Sb	12 42 14.4	+4.3
	comp=E,39nm,0.7s						
DJR	Jarkent	4.97	32	Pg	Pb	12 41 11.9	+2.0
	comp=E,19nm,0.5s						
DJR				Lg	Lg	12 42 15.7	
	comp=E,52nm,0.9s						
IUG	Iuzhnay	5.00	295	ePN	Pb	12 41 05.5	-4.9
BTLS	Baital	5.11	343	eP	Pb	12 41 12.2	+0.1
	comp=E,15nm,0.8s						
BTLS				eS	Sb	12 42 19.2	+5.4
	comp=E,57nm,0.6s						
BTLS	Baital	5.11	343	Pg	Pb	12 41 13.7	+1.6
	comp=E,15nm,0.8s						
BTLS				Lg	Lg	12 42 18.8	
	comp=E,57nm,0.6s						
BTLS	Baital	5.11	343	ePN	Pb	12 41 09.3	-2.8
TDK	Taldyqorghan	5.12	18	eP	Pb	12 41 13.3	+1.0
	comp=E,95nm,0.7s						
TDK				eS	Sb	12 42 19.4	+5.3
	comp=E,214nm,0.8s						
TDK	Taldyqorghan	5.12	18	Pg	Pb	12 41 14.1	+1.8
	comp=E,95nm,0.7s						
TDK				Lg	Lg	12 42 19.2	
	comp=E,214nm,0.8s						
KK31	Karatay Array	5.13	307	Pn	Pn	12 41 01.0	+1.2
	comp=E,0.6nm,0.5s,baz=116,slow=12,SNR=6.0						
KK31				⇑Pg	Pg	12 41 18.0	-2.4
	comp=E,10nm,0.8s,baz=133,slow=17,SNR=19						
KK31				⇑Lg	Lg	12 42 19.1	
	comp=E,31nm,0.8s,baz=116,slow=28						
KK31	Karatay Array	5.13	307	PN	Pn	12 41 01.4	+1.6
CEP	Cherat	7.17	209	P	Pn	12 41 27.2	-0.8
MAKZ	Makanchi	7.88	31	⇓Pn	Pn	12 41 37.0	-0.7
	comp=E,4.5nm,0.9s						
MAKZ				⇑Pg	Pg	12 42 10.6	-2.4
	comp=E,9.3nm,1.2s						
MAKZ				⇓Lg	Lg	12 43 46.6	
	comp=E,33nm,1.6s						
MAKZ	Makanchi	7.88	31	P	Pn	12 41 37.0	-0.7
MKAR	Makanchi Array	8.00	32	Pn	Pn	12 41 38.5	-0.7
	comp=E,0.2nm,0.3s,baz=212,slow=14,SNR=8.3						
	comp=E,1.0nm,0.6s						
OTUK	Ortayu	8.52	343	⇑Pn	Pn	12 41 45.0	-1.4
	comp=E,5.5nm,1.4s						
OTUK				⇓Lg	Lg	12 44 06.9	
	comp=E,50nm,1.0s						
OTUK	Ortayu	8.52	343	P	Pn	12 41 45.0	-1.4
WMQ	Urumqi	9.36	63	ePn	Pn	12 41 55.1	-2.8
WMQ				Sn	Sn	12 43 40.3	-3.4
WMQ				smax	smax		
	comp=N,16nm,1.1s						
WMQ				smax	smax		
	comp=E,18nm,0.7s						
KURBB	Kurchatov Arra	10.59	8	⇑Pn	Pn	12 42 14.8	+0.1
	comp=E,2.4nm,1.1s						
KURBB				⇑Lg	Lg	12 45 14.7	
	comp=E,41nm,0.8s						
KURBB	Kurchatov Arra	10.59	8	P	Pn	12 42 14.8	+0.1
DGZ	Jazzator, Alta	12.44	36	iP	Pn	12 42 34.4	-5.7
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	Borovoye Array	13.45	345	LR	LR	12 48 12.6	
	comp=Z,110nm,18.8s,baz=173,slow=38						
BRVK	Borovoye	13.50	345	iP	Pn	12 42 54.7	+0.3
ZALV	Zalesovo Beam	14.99	20	Pn	Pn	12 43 11.6	-3.2
	comp=Z,0.3nm,0.3s,baz=206,slow=13,SNR=5.6						
ZALV				LR	LR	12 49 15.2	
	comp=Z,79nm,18.9s,baz=253,slow=38						
	comp=Z,0.8nm,0.5s						
ARU	Arti	19.93	331	d iP	P	12 44 15.2	+0.3
ARU				S	S	12 47 54.2	-5.3
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	22.98	60	P	P	12 44 45.0	-2.9
	comp=Z,1.2nm,0.6s,baz=267,slow=7.2,SNR=3.4						
	comp=Z,1.2nm,0.6s						
SONM	Songino Array	22.98	60	P	P	12 44 45.0	-2.9
BELG	Belogornoye	23.01	312	iP	P	12 44 52.8	+4.8
BELG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	Ulaanbaatar	23.42	61	iP	P	12 44 49.3	-3.1
ULN				pmax	pmax		
	comp=Z,6.0nm,2.1s						
XAN	Xi'an	26.77	93	⇓P	P	12 45 24.2	+1.0
XAN				sP	sP	12 45 32.7	+7.3
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MNK	Minsk	34.96	311	iP	P	12 46 37.1	+1.9
	comp=E,2.0nm,0.8s						
MNK				iP	P	12 46 37.1	+1.9
	comp=N,35nm,0.8s						
MNK				iP	P	12 46 37.1	+1.9
	comp=Z,8.0nm,0.7s,baz=273						
MNK				iPP	PP	12 47 54.1	0.0
MNK				iPPP	PPP	12 48 06.7	
MNK				iS	S	12 52 10.0	+2.7
MNK				iSS	SnSn	12 54 26.6	+5.1
MNK				iSSS	SSS	12 54 42.8	
MNK				iLR	LR	13 00 10.9	
MNK				iLRM	MLR	13 01 46.0	
	comp=Z,55nm,18.4s						
MNK				iLRM	MLR	13 02 28.6	
	comp=N,277nm,19.7s						
MNK				iLRM	MLR	13 02 35.2	
	comp=E,37nm,18.4s						
YAK	Yakutsk	38.63	37	LR	LR	13 03 51.1	
	comp=E,59nm,18.0s,baz=268,slow=37						
KSRS	Korea Array	39.99	77	LR	LR	13 06 41.3	
	comp=E,16nm,18.4s,baz=140,slow=40						
TIXI	Tiksi	40.86	23	⇓P	P	12 47 21.0	-3.7
WRA	Warramunga Arr	80.69	126	P	P	12 51 50.6	-6.0
	comp=E,0.5nm,1.0s,baz=325,slow=4.6,SNR=2.3						
	comp=E,0.5nm,1.0s						
ASAR	Alice Springs	83.22	129	P	P	12 52 03.9	-6.0
	comp=E,0.4nm,0.9s,baz=328,slow=6.4,SNR=4.8						
	comp=E,0.4nm,0.9s						

DDA 12 12:48:08.5±0.0**, 40°.18N×33°.18E, h7^{km}**±2^{km}**, ML1.6, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELDT	Eldivan	0.36	31	P	Pg	12 48 15.4	-0.3
ELDT				i AML	AML	12 48 20.0	
	comp=N,86nm,0.8s						
ELDT				i AML	AML	12 48 20.0	
	comp=E,62nm,1.0s						
ELDT				S	Sg	12 48 21.3	+0.9
KKUL	Konya-Kulu	1.03	192	P	Pn	12 48 29.7	+0.3
KKUL				S	Sn	12 48 45.8	+1.7
KIBS	BOLU	1.04	284	P	Pg	12 48 28.8	+0.2
KIBS				S	Sb	12 48 43.2	+0.3
BCAM	Yenicaga	1.06	307	P	Pg	12 48 29.0	+0.1
BCAM				S	Sn	12 48 45.5	+0.4
CDAG	Cicekdag	1.07	121	P	Pg	12 48 29.2	+0.1
CDAG				S	Sn	12 48 48.6	+3.5
CDAG				i AML	AML	12 48 50.0	
	comp=Z,13nm,0.4s						
CDAG				i AML	AML	12 48 50.0	
	comp=N,15nm,0.4s						
CDAG				i AML	AML	12 48 51.0	
	comp=E,17nm,0.3s						
PELI	Kastamonı-Ara	1.12	5	P	Pn	12 48 31.1	+0.4
PELI				S	Sn	12 48 47.4	+0.8
KIRS	Kirsehir-Merke	1.19	151	P	Pn	12 48 31.7	+0.1
KIRS				S	Sn	12 48 50.7	+2.6
AUMIH	MIHALICIK	1.34	257	P	Pg	12 48 34.4	+0.2

DDA 12 12:55:15.3±0.0**, 40°.66N×29°.27E, h17^{km}**±1^{km}**, ML2.0, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURT	Yalova, Merkez	0.09	213	P	Pg	12 55 18.9	+0.3
KURT				S	Sg	12 55 21.6	+0.7
ESNK	Esenk¶ly	0.23	261	P	Pg	12 55 18.4	-2.2
IGD	Bursa	0.40	188	P	Pg	12 55 23.6	0.0
IGD				S	Sb	12 55 30.5	+0.7
ULDT	Uludag	0.53	191	P	Pb	12 55 26.5	+0.2
ULDT				S	Sb	12 55 34.0	+0.3
ULDT				i AML	AML	12 55 35.0	
	comp=N,81nm,1.3s						
ANDZ	Kutahya, Merke	1.25	157	P	Pg	12 55 46.9	+7.4
ANDZ				S	Sb	12 55 53.3	-1.0
ANDZ				i AML	AML	12 56 39.0	
	comp=Z,21nm,2.3s						
ANDZ				i AML	AML	12 56 39.0	
	comp=N,33nm,1.4s						
USAK	Uak-Merkez	1.96	186	P	Pg	12 56 00.4	+7.5
USAK				S	Sb	12 56 15.8	+1.2
USAK				i AML	AML	12 57 23.0	
	comp=N,20nm,2.5s						
USAK				i AML	AML	12 57 23.0	
	comp=E,52nm,2.4s						

*ISK **12** 12:55:38.6, 39°.66N×29°.47E, h0^{km}, ML2.1/8, Suspected Mining explosion.*

ISC 12 12:55:39.1±1.1**, 39°.67N**±0°.04×**29°.50E**±0°.06**, h0^{km}, n9, σ0ˢ71**/11**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.22	187	PG	Pg	12 55 43.2	-0.2
TVSB				SG	Sg	12 55 47.5	+1.3
AUBOZ	BOZOYUK	0.48	60	PG	Pg	12 55 49.0	+0.7
BORA	Eskisehir	0.77	74	PG	Pb	12 55 54.9	-0.5
ADVT	Abdulvahap	0.78	14	PG	Pb	12 55 55.0	-0.6
YLV	Yalova	0.90	354	PG	Pb	12 55 57.3	-0.4
YLV				SG	Sb	12 56 11.0	+0.8
SRCK	Saricakaya, Es	0.95	67	PG	Pn	12 55 59.0	-0.7
AUMIH	MIHALICIK	1.54	82	PN	Pg	12 56 08.9	+0.2
SVRH	Sivrihisar-ESK	1.58	97	PN	Pg	12 56 09.3	-0.2
AUSIV	SIVRIHISAR	1.60	98	PN	Pb	12 56 09.4	-0.2

*ROM **12** 12:59:18.7±0.0, 42°.997N±0°.001×13°.138E±0°.003, h9^{km}, ML3.7/80, Error ellipse: s-maj=0.2km s-min=0.1km az=258.0*
*IDC **12** 12:59:20.8±1.2, 43°.14N×13°.33E, h0^{km}, mb3.7/6, mbtmp3.8/11, ML3.6/5, MS2.9/11, Error ellipse: s-maj=25.5km s-min=15.7km az=80.0*
*LDG **12** 12:59:20.4±0.1, 42°.89N×13°.22E, h10^{km}, Ml3.5/21, Error ellipse: s-maj=3.5km s-min=2.4km az=48.0*
*PRU **12** 12:59:21.5±0.0, 43°.00N×13°.31E, h10^{km}*

ISC 12 12:59:19.7±0.3**, 43°.00N**±0°.01×**13°.09E**±0°.01**, h8^{km}**±1^{km}**, n260, σ1ˢ48**/287**, mb3.8**/6**, MS3.0**/4**, 13C-10D, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.04	353	⇑P	Pg	12 59 20.7	-0.8
FDMO				S	Sg	12 59 21.6	-1.1
FDMO				AML	AML		
FDMO				AML	AML		
FEMA	Monte Fema	0.05	225	⇑P	Pg	12 59 21.3	-0.2
FEMA				S	Sg	12 59 23.2	+0.3
FEMA				AML	AML		
FEMA				AML	AML		
T1219	Muccia, Frazio	0.09	314	⇑P	Pg	12 59 21.9	-0.1
T1219				S	Sg	12 59 23.9	+0.2
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1256	Bolognola (MC)	0.10	83	⇑P	Pg	12 59 20.9	-1.3
T1256				S	Sg	12 59 22.3	-1.6
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1220	Camerino, Fraz	0.12	358	P	Pg	12 59 21.9	-0.4
T1220				S	Sg	12 59 24.3	+0.1
T1216	Preci, Frazion	0.12	208	P	Pg	12 59 22.4	+0.1
T1216				S	Sg	12 59 24.9	+0.7
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
CSP1	Cessapalombo	0.13	40	⇑P	Pg	12 59 21.7	-0.9
CSP1				S	Sg	12 59 23.7	-0.9
CSP1				AML	AML		
CSP1				AML	AML		
CESI	CESI - Serrava	0.14	274	⇑P	Pg	12 59 23.1	+0.4
CESI				S	Sg	12 59 26.2	+1.4
CESI				AML	AML		
	comp=N,90600μm,0.5s						
CESI				AML	AML		
T1245	Castelsantange	0.15	153	⇓P	Pg	12 59 22.5	-0.5
T1245				S	Sg	12 59 25.2	-0.2
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
NRCA	Norcia	0.16	175	P	Pg	12 59 22.9	-0.2
SEF1	Sefro	0.19	325	P	Pg	12 59 23.6	+0.1
SEF1				S	Sg	12 59 27.3	+1.1
SEF1				AML	AML		
	comp=E,53700μm,0.4s						
SEF1				AML	AML		
	comp=N,51100μm,0.3s						
SEF1				AML	AML		
	comp=N,51100μm,0.3s						
SEF1				AML	AML		
	comp=E,53750μm,0.4s						
GUMA	Gualdo di Mace	0.19	69	⇑P	Pg	12 59 23.1	-0.5
GUMA				S	Sg	12 59 26.1	-0.2
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
MDAR	Monte D'Aria	0.20	10	P	Pg	12 59 23.3	-0.5
MDAR				S	Sg	12 59 26.8	+0.1
T1221	Campello sul C	0.23	234	P	Pg	12 59 24.7	+0.5
T1221				S	Sg	12 59 29.1	+1.7
FIU1	Fiuminata	0.23	329	P	Pg	12 59 24.3	0.0

FIU1 S Sg 12 59 28.6 +1.2
SSM1 San Severino M 0.24 15 P Pg 12 59 24.1 -0.5
SSM1 S Sg 12 59 28.1 +0.3
T1212 Cascia, Frazio 0.25 189 ⇓P Pg 12 59 24.6 0.0
T1212 S Sg 12 59 29.1 +1.2
T1215 Vallo di Nera, 0.25 221 P Pg 12 59 25.0 +0.3
T1215 S Sg 12 59 29.7 +1.5
T1215 AML AML
comp=E,19550µm,1.0s
T1215 AML AML
comp=N,14250µm,0.5s
T1215 AML AML
comp=E,19150µm,0.4s
T1215 AML AML
comp=N,13550µm,1.0s
T1215 AML AML
comp=N,14250µm,0.5s
T1215 AML AML
comp=E,19550µm,1.0s
T1215 AML AML
comp=N,14300µm,0.5s
T1215 AML AML
comp=N,13550µm,1.0s
T1213 Norcia, Frazio 0.27 175 P Pg 12 59 24.9 -0.2
T1213 S Sg 12 59 29.4 +0.7
T1244 Arquata del Tr 0.28 148 ⇓P Pg 12 59 24.8 -0.5
T1244 S Sg 12 59 29.7 +0.6
SNTG Esanatoglia 0.28 337 P Pg 12 59 25.1 -0.2
SNTG S Sg 12 59 30.2 +1.1
SNTG AML AML
comp=E,8220µm,0.5s
SNTG AML AML
comp=N,9995µm,1.3s
SNTG AML AML
comp=E,8215µm,0.5s
SNTG AML AML
comp=N,9715µm,1.3s
SNTG AML AML
comp=E,7720µm,0.5s
T1241 Roccafluvione, 0.28 119 P Pg 12 59 24.7 -0.7
T1241 S Sg 12 59 28.9 -0.2
T1241 AML AML
comp=N,24550µm,0.4s
T1241 AML AML
comp=E,31800µm,0.4s
T1241 AML AML
comp=E,31450µm,0.4s
T1241 AML AML
comp=N,25600µm,0.4s
T1241 AML AML
comp=N,24550µm,0.4s
T1241 AML AML
comp=E,31400µm,0.4s
MNTP Montappone 0.31 62 P Pg 12 59 25.6 -0.2
T1218 Civita (PG) 0.33 177 ⇓P Pg 12 59 25.8 -0.4
T1218 S Sg 12 59 31.2 +0.8
T1218 AML AML
comp=E,24600µm,0.4s
T1218 AML AML
comp=N,22500µm,1.5s
T1218 AML AML
comp=E,23300µm,0.4s
T1218 AML AML
comp=E,24600µm,0.4s
T1218 AML AML
comp=N,22450µm,1.5s
T1218 AML AML
comp=N,22700µm,1.5s
T1218 AML AML
comp=E,23300µm,0.4s
EL6 Elcito 0.34 1 P Pg 12 59 25.9 -0.4
EL6 S Sg 12 59 31.1 +0.3
T1201 Domo (RI) 0.36 161 ⇑P Pg 12 59 26.5 -0.2
T1201 S Sb 12 59 32.4 -1.6
T1204 Amatrice, Fraz 0.36 153 ⇓P Pg 12 59 26.2 -0.6
T1204 S Sb 12 59 32.1 -2.1
ATCC AVT- Casa Cast 0.38 300 ⇓P Pg 12 59 27.4 +0.3
ATCC AML AML
comp=E,21500µm,1.1s
ATCC AML AML
comp=N,30450µm,0.5s
FOSV Fossato di Vic 0.39 321 P Pg 12 59 27.1 -0.1
FOSV S Sg 12 59 33.5 +1.1
FOSV AML AML
comp=E,11200µm,0.9s
FOSV AML AML
comp=N,17150µm,0.8s
FOSV AML AML
comp=E,11150µm,0.9s
CING Cingoli 0.39 11 P Pg 12 59 26.8 -0.5
CING S Sg 12 59 32.9 +0.5
CING AML AML
comp=E,14000µm,0.6s
CING AML AML
comp=N,8855µm,0.4s
LNSS Leonessa 0.39 186 P Pg 12 59 27.1 -0.3
LNSS AML AML
comp=N,17300µm,0.4s
LNSS AML AML
comp=E,8885µm,0.6s
T1243 Rocca Santa Ma 0.40 139 P Pg 12 59 26.5 -0.9
T1243 S Sg 12 59 32.6 0.0
SMA1 SAN MARTINO 0.41 154 P Pg 12 59 26.9 -0.7
SMA1 AML AML
comp=E,32550µm,0.7s
SMA1 AML AML
comp=N,29800µm,0.5s
OFFI Offida 0.44 98 P Pg 12 59 28.2 0.0
OFFI AML AML
comp=N,38250µm,0.7s
OFFI AML AML
comp=E,24950µm,0.8s
ARRO Arrone 0.48 210 P Pg 12 59 28.9 0.0
ARRO AML AML
comp=E,6020µm,0.9s
ARRO AML AML
comp=N,5845µm,0.3s
RM33 Pellescritta (0.49 170 P Pg 12 59 28.5 -0.7
RM33 AML AML
comp=E,10435µm,0.3s
RM33 AML AML
comp=E,9920µm,0.3s
RM33 AML AML
comp=N,10800µm,0.6s
RM33 AML AML
comp=E,9930µm,0.3s
RM33 AML AML
comp=E,9965µm,0.3s
RM33 AML AML
comp=N,10600µm,0.6s
RM33 AML AML
comp=E,10405µm,0.3s
T1211 Morro Reatino 0.49 201 P Pg 12 59 29.5 +0.3
T1211 AML AML
comp=E,26950µm,0.6s
T1211 AML AML
comp=E,11350µm,0.6s
T1211 AML AML
comp=N,17800µm,0.4s
T1211 AML AML
comp=N,17800µm,0.4s
T1211 AML AML
comp=E,11300µm,0.6s
T1211 AML AML
comp=N,17750µm,0.5s
MURB Monte Urbino 0.50 303 P Pg 12 59 29.5 +0.2
MURB AML AML
comp=N,22850µm,0.9s
MURB AML AML
comp=N,21400µm,0.9s
MURB AML AML
comp=E,30950µm,0.4s
MURB AML AML
comp=N,22850µm,0.9s
MURB AML AML
comp=E,33700µm,0.4s
MURB AML AML
comp=N,22900µm,0.9s
SSFR Montelago di S 0.50 333 P Pg 12 59 29.4 0.0
T1246 Crognaleto (TE 0.51 144 ⇓P Pg 12 59 28.6 -0.9
T1246 S Sg 12 59 36.1 0.0
CAMP Campotosto 0.51 153 P Pg 12 59 28.7 -1.0
CAMP S Sg 12 59 36.4 0.0
CAMP AML AML
comp=N,13700µm,0.3s
CAMP AML AML
comp=E,12135µm,0.3s
ARVD Arcevia 0.52 348 P Pg 12 59 29.7 0.0
CIMA Civitanova Mar 0.52 53 P Pg 12 59 29.3 -0.5
CADA Capodarco di F 0.53 68 P Pg 12 59 29.2 -0.7
TERO Teramo 0.53 135 P Pg 12 59 28.8 -1.1
TERO AML AML
comp=N,11600µm,0.3s
TERO AML AML
comp=E,12400µm,0.7s
TERO AML AML
comp=N,11900µm,0.3s
TERO AML AML
comp=E,12800µm,0.7s
ATFO Monte Foce - G 0.53 314 ⇑P Pg 12 59 30.0 0.0
ATFO AML AML
comp=N,6720µm,0.9s
ATFO AML AML
comp=E,7175µm,0.8s
PP3 Marolino 0.54 44 P Pg 12 59 29.4 -0.7
PP3 AML AML
comp=E,18350µm,1.1s
PP3 AML AML
comp=N,16800µm,0.8s
PP3 AML AML
comp=N,16800µm,0.8s
PP3 AML AML
comp=N,16550µm,0.7s
PP3 AML AML
comp=E,18400µm,1.1s
PP3 AML AML
comp=N,16850µm,0.8s
PP3 AML AML
comp=N,16500µm,0.7s
PP3 AML AML
comp=E,19100µm,1.1s
T1247 Pizzolo (AQ) 0.57 165 P Pg 12 59 29.8 -0.9
T1247 AML AML
comp=N,10210µm,0.2s
T1247 AML AML
comp=E,11550µm,0.7s
ATTE AVT- Monte Tez 0.58 291 AML AML
comp=E,3535µm,1.3s
ATTE AML AML
comp=N,5260µm,1.3s
ATTE AML AML
comp=N,5255µm,1.3s
FRON Frontone 0.59 333 ⇑P Pg 12 59 30.6 -0.4
FRON AML AML
comp=N,8855µm,0.5s
FRON AML AML
comp=E,4360µm,1.4s
FRON AML AML
comp=E,4365µm,1.4s
ATLO AVT- Montelove 0.60 303 ⇑P Pg 12 59 31.2 0.0
TB01 Gubbio 0.62 309 P Pg 12 59 31.0 -0.6
TRTR Tortoreto Alta 0.63 107 P Pg 12 59 31.4 -0.4
TRTR AML AML
comp=E,28200µm,0.5s
TRTR AML AML
comp=N,19250µm,0.5s
ATVO AVT- Monte Val 0.64 308 ⇓P Pg 12 59 31.7 -0.2
ATVO AML AML
comp=E,3255µm,0.6s
ATVO AML AML
comp=N,4290µm,1.0s
COR1 Corinaldo 0.64 354 P Pg 12 59 31.8 -0.2
COR1 AML AML
comp=N,10275µm,0.4s
COR1 AML AML
comp=E,13650µm,0.5s
COR1 AML AML
comp=E,7190µm,0.5s
COR1 AML AML
comp=N,9215µm,0.4s
COR1 AML AML
comp=N,10265µm,0.4s
GIGS Gran Sasso 0.65 147 ⇓P Pg 12 59 31.1 -1.1
GIGS S Sg 12 59 40.6 0.0
GIGS AML AML
comp=E,2560µm,0.3s
GIGS AML AML
comp=N,3485µm,0.3s
ATVA AVT- Monte Val 0.66 296 P Pg 12 59 32.4 0.0
AOI Ancona 0.67 34 P Pg 12 59 31.5 -1.0
AOI AML AML
comp=E,3145µm,0.6s
AOI AML AML
comp=N,2845µm,0.4s
ATPC Poggio Castell 0.67 316 P Pg 12 59 32.0 -0.6
AQU L'Aquila 0.68 160 ⇓P Pg 12 59 31.7 -1.1
AQU AML AML
comp=E,5525µm,0.6s
AQU AML AML
comp=N,7295µm,0.8s
AQU AML AML
comp=N,7300µm,0.8s
AQU AML AML
comp=E,5495µm,0.6s
AQU AML AML
comp=N,7105µm,0.8s
MPAG Monte Paganucc 0.68 339 P Pg 12 59 32.4 -0.4
MPAG AML AML
comp=E,4355µm,1.3s
MPAG AML AML
comp=N,3545µm,0.8s
MPAG AML AML
comp=E,4495µm,1.2s
MPAG AML AML
comp=E,4355µm,1.3s
MPAG AML AML
comp=N,3595µm,1.0s
MPAG AML AML
comp=N,3540µm,0.8s
MPAG AML AML
comp=E,4500µm,1.2s
ATPI Pietralunga - 0.68 312 ⇑P Pg 12 59 32.7 -0.1
ATPI AML AML
comp=E,3330µm,1.1s
ATPI AML AML
comp=N,3075µm,1.6s
ATPI AML AML
comp=N,3070µm,1.6s
PCRO Pietralacroce 0.69 27 P Pg 12 59 31.7 -1.3
ATMI Monte Miggiano 0.69 300 P Pg 12 59 32.7 -0.3
SENI Senigallia 0.72 8 P Pg 12 59 32.5 -1.0
FIAM Fiamignano 0.73 179 P Pg 12 59 32.8 -0.9
FIAM AML AML
comp=E,4530µm,0.6s
FIAM AML AML
comp=N,3580µm,0.7s
MGAB Montegabbione 0.73 264 P Pg 12 59 34.5 +0.8
FSSB Fossombrone 0.73 342 P Pg 12 59 33.3 -0.5
FSSB AML AML
comp=E,19300µm,0.4s
FSSB AML AML
comp=N,28050µm,0.3s
APEC Apecchio 0.75 319 P Pg 12 59 33.8 -0.3
ATMC Monte Cedrone 0.80 305 P Pg 12 59 35.0 -0.1
FAGN Fagnano 0.81 153 P Pg 12 59 34.3 -1.0
FAGN AML AML
comp=E,12400µm,0.4s
FAGN AML AML
comp=N,12650µm,0.4s
VCEL Villa Celiera 0.81 137 AML AML
comp=N,8635µm,0.5s
VCEL AML AML
comp=E,8725µm,0.5s
VCEL AML AML
comp=E,8730µm,0.5s
PE3 Peglio 0.83 328 P Pg 12 59 34.9 -0.7
SRES S.Oreste - Sor 0.87 210 P Pg 12 59 35.9 -0.5
SRES AML AML
comp=E,4140µm,1.2s
SRES AML AML
comp=N,3960µm,0.6s
SACS San Casciano d 0.88 261 P Pg 12 59 35.6 -1.0
SACS AML AML
comp=E,3315µm,1.6s
SACS AML AML
comp=N,4475µm,0.8s
SACS AML AML
comp=E,3065µm,1.6s
SACS AML AML
comp=N,4480µm,0.8s
SACS AML AML
comp=N,4450µm,0.8s
SACS AML AML
comp=E,3320µm,1.6s
CAFI Castiglion Fio 0.89 292 P Pg 12 59 36.2 -0.6
SSP9 Sansepolcro 0.91 310 P Pg 12 59 36.8 -0.4
T0110 Collepietro 0.92 146 ⇑P Pg 12 59 35.8 -1.5
T0110 AML AML
comp=E,6950µm,0.4s
T0110 AML AML
comp=N,10535µm,0.5s
T0110 AML AML
comp=E,6945µm,0.4s
PESA Pesaro 0.96 349 P Pg 12 59 38.5 +0.3
PESA AML AML
comp=N,5130µm,1.1s
PESA AML AML
comp=E,4995µm,0.3s
CPGN Carpegna, Ital 0.98 325 P Pg 12 59 38.9 +0.3
CPGN AML AML
comp=N,3415µm,1.0s
CPGN AML AML
comp=E,3795µm,0.7s
MTCE Montecelio 1.00 195 P Pg 12 59 37.6 -1.3
MTCE AML AML
comp=E,2825µm,1.5s
MTCE AML AML
comp=N,2175µm,0.8s
LATE Laterza 1.02 249 P Pg 12 59 39.6 +0.3
RSM Repubblica di 1.05 334 P Pb 12 59 40.9 +0.8
SF11 Podere del Sol 1.05 264 P Pg 12 59 39.4 -0.4
CERT Cerreto 1.05 185 P Pg 12 59 38.5 -1.3
SF03 Valle Cupa 1.05 260 P Pg 12 59 39.5 -0.4
MCIV Monte Civitell 1.06 259 P Pg 12 59 39.0 -1.0
MCIV AML AML
comp=N,1227µm,0.9s
MCIV AML AML
comp=N,1226µm,0.9s
MCIV AML AML
comp=E,1330µm,1.5s
SF04 Casetta 1.06 262 P Pg 12 59 39.6 -0.5
SF13 Bagnolo 1.10 261 P Pg 12 59 39.6 -1.1
SF14 Selvena 1.11 258 P Pg 12 59 40.3 -0.7
SF01 Poggio Pratacc 1.14 261 P Pg 12 59 40.0 -1.5
RCAV Rocca di Cave 1.15 186 P Pg 12 59 40.8 -1.0
VVLD Villa Vallelon 1.19 161 P Pg 12 59 40.7 -1.8
ARCI Arcidosso 1.20 264 P Pg 12 59 41.3 -1.3
CAFR Castel Frentan 1.20 129 P Pg 12 59 40.5 -2.3
CAFR AML AML
comp=E,2215µm,0.5s
CAFR AML AML
comp=N,2940µm,0.6s
GUAR Guarcino 1.21 172 P Pg 12 59 41.2 -1.7
RMP Rome, Mte Porz 1.22 194 P Pg 12 59 41.4 -1.7
TOLF Tolfa 1.23 221 P Pb 12 59 42.6 -0.6
TOLF AML AML
comp=N,1295µm,0.6s
TOLF AML AML
comp=E,2195µm,0.8s
LPEL Lama dei Pelig 1.24 139 P Pg 12 59 41.8 -1.7
LPEL AML AML
comp=N,2395µm,0.4s
LPEL AML AML
comp=E,3035µm,0.8s
ASQU Asqua 1.24 311 P Pn 12 59 43.4 0.0
MA9 Marino 1.27 195 P Pn 12 59 42.9 -0.7
VIVA Pratoni del Vi 1.27 191 AML AML
comp=N,4920µm,1.6s
VIVA AML AML
comp=E,5010µm,0.6s
SAMA S.Maria delle 1.27 197 P Pn 12 59 41.9 -1.8
SFI Santa Sofia 1.28 315 P Pn 12 59 43.9 -0.1
SFI AML AML
comp=E,1535µm,0.6s
SFI AML AML
comp=N,1795µm,0.8s
SFI AML AML
comp=N,1775µm,0.8s
SFI AML AML
comp=E,1510µm,0.6s
A309A Martorano (FC) 1.33 333 P Pn 12 59 43.3 -1.1
POFI Posta Fibreno 1.36 160 P Pn 12 59 43.0 -1.9
LRP Arpino 1.40 165 P Pg 12 59 47.0 +0.5
RUFI Rufina 1.43 307 P Pn 12 59 45.1 -0.8
FROS Frosini 1.44 279 P Pn 12 59 45.4 -0.6
GIUL Giuliano Di Ro 1.44 175 P Pn 12 59 44.8 -1.2
GIUL AML AML
comp=E,938µm,0.6s
GIUL AML AML
comp=N,1685µm,0.7s
OSSC Osservatorio P 1.45 292 P Pn 12 59 46.1 0.0
LMD Lutirano 1.48 318 P Pn 12 59 46.1 -0.5
LATB Latina 1.50 184 P Pn 12 59 46.5 -0.4
RNI2 Rionero Sannit 1.51 148 P Pn 12 59 45.5 -1.5
RNI2 AML AML
comp=N,2340µm,1.2s
RNI2 AML AML
comp=E,1675µm,1.2s
RNI2 AML AML
comp=E,1705µm,1.2s
RNI2 AML AML
comp=N,2290µm,1.2s
MAON Monte Argentar 1.55 249 P Pn 12 59 47.4 -0.1
MAON AML AML
comp=E,469µm,1.3s
MAON AML AML
comp=N,398µm,0.6s
CERA Filignano 1.56 154 P Pn 12 59 47.0 -0.7
CERA AML AML
comp=E,1945µm,0.8s
CERA AML AML
comp=E,1950µm,0.7s
CERA AML AML
comp=N,1540µm,0.7s
CERA AML AML
comp=N,1605µm,0.7s
TRIF Trifonti 1.61 275 AML AML
comp=E,602µm,0.5s
TRIF AML AML
comp=N,504µm,0.5s
BRIS BRISIGHELLA 1.63 316 P Pn 12 59 47.3 -1.4
BRIS AML AML
comp=E,1940µm,0.6s
BRIS AML AML
comp=N,1790µm,0.8s
CASP Castiglione de 1.65 264 P Pn 12 59 48.4 -0.5
CASP AML AML
comp=E,243µm,1.6s
CASP AML AML
comp=N,266µm,1.0s
IMOL Imola, Italy 1.68 325 P Pn 12 59 49.0 -0.3
CRMI Carmignano 1.74 298 P Pn 12 59 50.0 -0.2
MPPT Montemurlo 1.75 304 P Pn 12 59 50.0 -0.3
MPPT AML AML
comp=N,626µm,1.1s
MPPT AML AML
comp=E,786µm,1.0s
MTCR Monte La Croce 1.84 305 P Pn 12 59 51.4 -0.2
A318A Donoratico (LI 1.85 275 P Pn 12 59 51.8 +0.1
APRC Apricena 2.20 123 P Pn 12 59 55.8 -0.7
APRC AML AML
comp=N,1026µm,0.3s
APRC AML AML
comp=E,1024µm,0.4s
SARO Sassorosso 2.29 302 AML AML
comp=N,818µm,0.6s
SARO AML AML
comp=E,536µm,1.6s
SGRT San Giovanni R 2.32 121 P Pn 12 59 57.2 -1.0
SGRT AML AML
comp=N,829µm,0.7s
SGRT AML AML
comp=E,1078µm,1.2s
EQUI Equi 2.44 300 P Pn 12 59 59.4 -0.3
EQUI AML AML
comp=N,203µm,0.7s
EQUI AML AML
comp=E,162µm,0.9s
A050A Klekovaca 2.90 58 *e*Pn Pn 13 00 06.8 +0.6
CEY Cerknica 2.91 19 *e*Pn Pn 13 00 05.1 -1.1
BOJS Bojanci 2.95 31 *e*Pn Pn 13 00 07.6 +0.9
BOJS Bojanci 2.95 31 P Pn 13 00 06.0 -0.8
BOJS AML AML
comp=N,958µm,1.3s
BOJS AML AML
comp=E,1595µm,1.2s
ROVR Rover Verones 3.02 332 P Pn 13 00 07.8 -0.1
ROVR AML AML

comp=E,99µm,0.5s
ROVR AML AML
comp=N,136µm,0.5s
CGRP Cima Grappa 3.03 343 P **Pn 13 00 07.7 -0.3**
CGRP AML AML
comp=N,634µm,0.7s
CGRP AML AML
comp=E,634µm,0.7s
CGRP AML AML
comp=N,650µm,0.7s
CGRP AML AML
comp=E,651µm,0.5s
PGF Pioggiola 3.05 263 *e*Pn **Pn 13 00 09.6 +1.4**
PGF *e*Sn **Sn 13 00 43.6 -1.3**
comp=E,12nm,0.4s
SRKY Kupres RS 3.15 69 *e*Pn **Pn 13 00 12.0 +2.4**
DOSS Dosso del Somm 3.19 335 P **Pn 13 00 09.9 -0.3**
DOSS AML AML
comp=E,464µm,0.6s
DOSS AML AML
comp=N,334µm,0.5s
DOSS AML AML
comp=N,468µm,0.6s
DOSS AML AML
comp=E,328µm,0.5s
SALO Salr 3.21 326 P **Pn 13 00 10.1 -0.2**
SALO AML AML
comp=N,374µm,1.0s
SALO AML AML
comp=E,362µm,1.0s
CTI Castel Tesino 3.22 342 P **Pn 13 00 09.9 -0.8**
CTI AML AML
comp=N,247µm,1.5s
CTI AML AML
comp=E,312µm,1.2s
MGRS Mrkonjic Grad 3.22 62 *e*Pn **Pn 13 00 11.9 +1.3**
MPRI Monte Prat 3.25 359 P **Pn 13 00 10.6 -0.3**
MPRI AML AML
comp=N,615µm,0.6s
MPRI AML AML
comp=E,489µm,0.8s
STAL STALIGIAL 3.28 355 P **Pn 13 00 10.7 -0.6**
STAL AML AML
comp=E,390µm,0.5s
STAL AML AML
comp=N,300µm,0.7s
STAL AML AML
comp=E,440µm,0.8s
STAL AML AML
comp=N,314µm,0.6s
CRES Cresnjev 3.30 30 *e*Pn **Pn 13 00 11.8 +0.2**
LUSI Trento, Gardas 3.34 333 P **Pn 13 00 11.5 -0.6**
LUSI AML AML
comp=E,242µm,0.8s
LUSI AML AML
comp=N,246µm,1.1s
CIMO Cimolais 3.35 352 P **Pn 13 00 12.0 -0.3**
CIMO AML AML
comp=N,147µm,1.3s
CIMO AML AML
comp=N,148µm,1.3s
CIMO AML AML
comp=E,105µm,1.3s
CIMO AML AML
comp=E,104µm,1.4s
STON Ston 3.38 91 *e*Pn **Pn 13 00 10.6 -2.1**
A051A Mrakovica 3.41 52 *e*Pn **Pn 13 00 13.6 +0.4**
PTCC Patocco-Chiusa 3.42 3 P **Pn 13 00 12.8 -0.4**
PTCC AML AML
comp=E,214µm,0.7s
PTCC AML AML
comp=N,176µm,0.7s
BLY Banja Luka 3.44 58 *e*Pn **Pn 13 00 13.2 -0.3**
CLUD Cludinico 3.46 358 P **Pn 13 00 13.3 -0.6**
CLUD AML AML
comp=N,204µm,0.8s
CLUD AML AML
comp=E,317µm,1.6s
ACOM Acomizza, Ital 3.57 5 P **Pn 13 00 14.8 -0.6**
ACOM AML AML
comp=E,425µm,1.5s
ACOM AML AML
comp=E,394µm,1.6s
ACOM AML AML
comp=N,370µm,0.7s
ACOM AML AML
comp=N,376µm,0.7s
MYKA Terra Mystica 3.66 6 *i* Pn **Pn 13 00 17.0 +0.4**
comp=N,8.2nm,0.3s
OBKA Obir 3.66 16 *e*Pn **Pn 13 00 13.1 -3.6**
OBKA Obir 3.66 16 *e*Pn **Pn 13 00 15.5 -1.2**
comp=N,4.4nm,0.2s
KOSI Kohlern 3.68 341 P **Pn 13 00 16.2 -0.8**
KOSI AML AML
comp=E,397µm,0.7s
KOSI AML AML
comp=N,251µm,1.5s
ABTA Abfaltersbach 3.77 354 *i* Pn **Pn 13 00 19.0 +0.8**
comp=N,43nm,0.5s,SNR=20
ABTA *i* Sn **Sn 13 01 03.9 +1.1**
comp=N,54nm,0.7s
BRES Bressanone 3.83 346 AML AML
comp=E,258µm,0.7s
BRES AML AML
comp=N,270µm,1.6s
SOKA Soboth 3.93 20 *i* Pn **Pn 13 00 20.6 +0.3**
comp=N,2.8nm,0.2s
RISI Rein 4.02 350 P **Pn 13 00 21.0 -0.6**
RISI AML AML
comp=N,621µm,0.4s
RISI AML AML
comp=E,506µm,0.5s
KBA Koelnbreinsper 4.09 2 *e*Pn **Pn 13 00 23.3 +0.7**
comp=E,16nm,0.3s,SNR=6.6
KBA *e*Sn **Sn 13 01 11.3 +0.6**
comp=E,36nm,0.5s
MUGIO Muggio 4.12 317 P **Pn 13 00 22.5 -0.4**
MUGIO AML AML
comp=N,64µm,0.7s
MUGIO AML AML
comp=E,66µm,0.4s
SBF Sospel 4.21 284 *e*Pn **Pn 13 00 25.5 +1.3**
SBF *e*Sn **Sn 13 01 12.0 -1.6**
comp=E,34nm,0.6s
UPM Unac-Piva 4.26 85 *e*Pn **Pn 13 00 26.1 +1.1**
FETA Feichten 4.36 338 *i* Pn **Pn 13 00 28.2 +1.8**
comp=E,16nm,0.4s,SNR=13
FETA *e*Sn **Sn 13 01 21.5 +4.1**
comp=E,20nm,0.6s
WTTA Wattenberg 4.39 347 *i* Pn **Pn 13 00 28.6 +1.9**
comp=E,11nm,0.3s,SNR=6.6
WTTA *e*Sn **Sn 13 01 21.1 +3.0**
comp=E,122nm,0.8s
WTTA Wattenberg 4.39 347 P **Pn 13 00 28.4 +1.7**
HAPS Han Pijesak,BI 4.39 74 *e*Pn **Pn 13 00 27.6 +0.9**
DAVOX Davos/Dischmat 4.42 330 Pn **Pn 13 00 29.8 +2.7**
comp=E,10nm,0.3s,baz=147,slow=16,SNR=45
DAVOX Sn **Sn 13 01 25.5 +6.6**
comp=E,2.8nm,0.3s,baz=254,slow=10,SNR=3.7
DAVOX LR LR 13 02 31.7
comp=E,68nm,19.4s,baz=286,slow=44
comp=E,34nm,0.3s
SQTA Sankt Quirin 4.43 343 *i* Pn **Pn 13 00 28.9 +1.7**
comp=E,18nm,0.4s,SNR=15
SQTA *i* Sn **Sn 13 01 21.1 +2.1**
comp=E,40nm,0.5s
WATA Walderalm 4.47 347 *i* Pn **Pn 13 00 30.0 +2.2**
comp=E,24nm,0.4s,SNR=11
WATA *i* Sn **Sn 13 01 23.1 +3.1**
comp=E,23nm,0.4s
MOTA Moosalm 4.57 343 *i* Pn **Pn 13 00 31.1 +2.0**
comp=E,30nm,0.8s,SNR=8.2
MOTA *e*Sn **Sn 13 01 24.6 +2.0**
comp=E,34nm,0.7s
ARSA Arzberg 4.59 21 *i* Pn **Pn 13 00 28.9 -0.4**
comp=E,6.0nm,0.3s,SNR=5.6
RUDO Rudo 4.62 80 *e*Pn **Pn 13 00 28.2 -1.6**
BIOA Bad Ischl, Aus 4.71 4 *i* Pn **Pn 13 00 31.9 +0.9**
comp=E,19nm,0.3s,SNR=16
BIOA *e*Sn **Sn 13 01 26.5 +0.7**
comp=E,29nm,0.4s
KOVH Kovagotottos 4.73 47 P **Pn 13 00 30.0 -1.2**
RETA Reutte 4.79 341 *i* Pn **Pn 13 00 34.4 +2.4**
comp=E,4.2nm,0.3s
LMR La Mourre 4.83 276 *e*Pn **Pn 13 00 32.8 +0.2**
LMR La Mourre 4.83 276 *e*P **Pn 13 00 36.7 +4.1**
LMR *e*Sn **Sn 13 01 26.6 -2.0**
comp=E,2.1nm,0.3s
DAVA Damuels 4.86 333 *i* Pn **Pn 13 00 35.0 +1.9**
comp=E,24nm,0.6s,SNR=5.0
MBDF Montbardon 4.89 293 *e*Pn **Pn 13 00 34.8 +1.3**
MBDF Montbardon 4.89 293 *e*P Pn 13 00 38.2 +4.7
MBDF *e*Sn **Sn 13 01 29.7 -0.7**
comp=E,16nm,0.6s
MOA Molln 4.92 9 *i* Pn **Pn 13 00 34.6 +0.7**
comp=E,2.4nm,0.2s
MOA *i* Sn **Sn 13 01 32.9 +1.9**
comp=E,16nm,0.5s
DIVS Divibare 5.13 75 *e*Pn **Pn 13 00 34.4 -2.5**
LPG La Plagne 5.20 301 *e*Pn **Pn 13 00 38.7 +0.8**
LPG La Plagne 5.20 301 *e*P Pn 13 00 42.7 +4.8
LPG *e*Sn **Sn 13 01 36.8 -1.4**
comp=E,20nm,0.6s
LPL La Plagne 5.22 301 *e*Pn **Pn 13 00 38.8 +0.7**
LPL La Plagne 5.22 301 *e*P Pn 13 00 42.5 +4.4
LPL *e*Sn **Sn 13 01 35.7 -2.9**
comp=E,16nm,0.5s
RONA Rosalia, Austr 5.22 25 *i* Pn **Pn 13 00 38.3 +0.3**
comp=E,1.3nm,0.2s
MPLH Magyarpolny 5.23 35 P **Pn 13 00 37.5 -0.6**
CONA Conrad Observa 5.30 21 *i* Pn **Pn 13 00 38.9 -0.2**
comp=E,5.3nm,0.3s,SNR=6.3
CONA *i* Sn **Sn 13 01 41.3 +0.8**
comp=E,8.0nm,0.5s
ORIF Oris-en-Rattie 5.55 293 *e*Pn **Pn 13 00 43.3 +0.7**
ORIF Oris-en-Rattie 5.55 293 *e*P Pn 13 00 47.0 +4.4
ORIF *e*Sn **Sn 13 01 43.8 -2.8**
comp=E,18nm,0.7s
SMRF Simiane la Rot 5.56 283 *e*Pn **Pn 13 00 43.6 +1.0**
SMRF Simiane la Rot 5.56 283 *e*P **Pn 13 00 46.8 +4.2**
GERES GERESS Array B 5.87 4 Pn **Pn 13 00 46.4 -0.6**
comp=E,2.6nm,0.3s,baz=175,slow=13,SNR=46
GERES Sn **Sn 13 01 52.8 -1.5**
comp=E,2.7nm,0.3s,baz=192,slow=34,SNR=7.9
comp=E,2.6nm,0.3s
CKRC Cesky Krumlov 5.89 8 *e*PN **Pn 13 00 45.9 -1.2**
CKRC *e*SN **Sn 13 01 52.0 -2.8**
ZST Bratislava 5.91 27 *e*PN **Pn 13 00 49.2 +1.8**
MODS Modra-Piesok 6.12 27 *e*PN **Pn 13 00 50.7 +0.3**
KHC Kasperske Hory 6.15 3 *e*PN **Pn 13 00 50.0 -0.7**
KHC *e*SN **Sn 13 02 00.3 -0.9**
CABF La Chapelle 6.16 308 *e*Pn **Pn 13 00 52.0 +1.1**
CABF La Chapelle 6.16 308 *e*P Pn 13 00 55.9 +5.0
CABF *e*Sn **Sn 13 01 59.7 -1.8**
comp=E,26nm,0.8s
VIVF Saint-Julien-l 6.36 290 *e*Pn **Pn 13 00 55.3 +1.7**
VIVF Saint-Julien-l 6.36 290 *e*P Pn 13 00 58.2 +4.6
KRUC Moravsky 6.49 20 *e*PN **Pn 13 00 55.6 +0.2**
HINF Hinteralfeld 6.52 320 *e*Pn **Pn 13 00 56.0 +0.1**
HINF Hinteralfeld 6.52 320 *e*P Pn 13 01 00.9 +5.0
HINF *e*Sn **Sn 13 02 08.1 -2.3**
comp=E,20nm,0.5s
VRAC Vranov 6.77 20 LR LR 13 04 21.1
comp=E,56nm,19.9s,baz=173,slow=46
CDF Champ du Feu 6.78 325 *e*Pn **Pn 13 00 59.7 +0.3**
CDF Champ du Feu 6.78 325 *e*P Pn 13 01 04.1 +4.7
CDF *e*Sn **Sn 13 02 14.3 -2.4**
comp=E,9.7nm,0.5s
LASF Ste Croix 6.80 282 *e*Pn **Pn 13 00 59.2 -0.5**
LASF Ste Croix 6.80 282 *e*P Pn 13 01 04.3 +4.6
VYHS Vyhne 6.81 34 *e*PN **Pn 13 01 01.8 +2.0**
STIP Stip 6.86 98 *i* Pn **Pn 13 01 02.9 +2.4**
HAU Haudompre 6.90 319 *e*Pn **Pn 13 01 01.5 +0.5**
HAU Haudompre 6.90 319 *e*P Pn 13 01 06.7 +5.7
HAU *e*Sn **Sn 13 02 16.0 -3.6**
comp=E,35nm,0.5s
PRU Pruhonice 7.07 8 *e*PN **Pn 13 01 03.6 +0.3**
VAY Valandovo 7.24 100 *i* Pn Pn 13 01 11.8 +6.2
SMF Signal de Mont 7.52 302 *e*Pn **Pn 13 01 09.8 +0.2**
SMF Signal de Mont 7.52 302 *e*P Pn 13 01 14.8 +5.2
SMF *e*Sn **Sn 13 02 31.0 -4.0**
comp=E,11nm,0.6s
PAGF Fort de Pagny 7.58 320 *e*Pn **Pn 13 01 10.4 +0.1**
PAGF Fort de Pagny 7.58 320 *e*P Pn 13 01 15.8 +5.5
PAGF *e*Sn **Sn 13 02 33.0 -3.3**
comp=E,20nm,0.8s
SFTF Sexfontaines 7.68 315 *e*Pn **Pn 13 01 12.1 +0.3**
SFTF Sexfontaines 7.68 315 *e*P Pn 13 01 17.0 +5.2
SFTF *e*Sn **Sn 13 02 32.5 -6.4**
comp=E,7.4nm,0.4s
LOR Lormes 7.80 306 *e*Pn **Pn 13 01 13.7 +0.3**
LOR Lormes 7.80 306 *e*P Pn 13 01 19.0 +5.6
LOR *e*Sn **Sn 13 02 38.0 -3.9**
comp=E,8.2nm,0.5s
KEST Kesra 7.81 203 Pn **Pn 13 01 17.9 +4.2**
comp=E,1.1nm,0.3s,baz=327,slow=2.0,SNR=6.9
comp=E,8.1nm,0.7s
OSTC Ostas 7.86 15 *e*PN **Pn 13 01 14.3 +0.1**
MEZF Maizieres J'vi 7.87 317 *e*Pn **Pn 13 01 14.5 +0.2**
MEZF Maizieres J'vi 7.87 317 *e*P Pn 13 01 20.0 +5.7
MEZF *e*Sn **Sn 13 02 40.0 -3.5**
comp=E,15nm,0.7s
AVF Avril sur Loir 7.89 302 *e*Pn **Pn 13 01 14.9 +0.3**
AVF Avril sur Loir 7.89 302 *e*P Pn 13 01 19.7 +5.1
AVF *e*Sn **Sn 13 02 39.2 -4.7**
comp=E,3.6nm,0.6s
BRG Berggiesshubel 7.90 4 *e*P **Pn 13 01 15.1 +0.3**
BRG Amp 13 01 21.4
comp=Z,2.1nm,0.5s
BRG *e*x x 13 02 37.1
BRG *e*x x 13 03 13.1
BRG *e*x x 13 03 48.6
BRG Amp 13 04 07.1
comp=Z,58nm,1.8s
SAVF Savonnieres en 7.91 318 *e*Pn **Pn 13 01 14.8 0.0**
SAVF Savonnieres en 7.91 318 *e*P Pn 13 01 20.7 +5.9
SSF Saint Saulge 7.91 304 *e*Pn **Pn 13 01 15.0 +0.1**
SSF Saint Saulge 7.91 304 *e*P Pn 13 01 19.5 +4.6
SSF *e*Sn **Sn 13 02 40.0 -4.6**
comp=Z,4.0nm,0.4s
MTLF Montolieu 7.96 276 *e*Pn **Pn 13 01 15.4 -0.2**
MTLF Montolieu 7.96 276 *e*P Pn 13 01 20.1 +4.5
BGF Bois d'Agland 8.11 300 *e*Pn **Pn 13 01 18.2 +0.5**
BGF Bois d'Agland 8.11 300 *e*P Pn 13 01 23.1 +5.4
BGF *e*Sn **Sn 13 02 44.6 -4.9**
comp=Z,8.2nm,0.5s
CAF Calviac 8.19 287 *e*Pn **Pn 13 01 18.1 -0.6**
CAF Calviac 8.19 287 *e*P Pn 13 01 24.4 +5.7
CLL Collm 8.32 360 *e*Pn **Pn 13 01 21.0 +0.6**
CLL *i* Sn **Sn 13 02 52.5 -2.0**
CLL *i* Sg Sg 13 04 02.3 +16
comp=Z,22nm,1.2s
MLR Muntele Rosu 9.56 70 LR LR 13 06 09.2
comp=Z,122nm,19.7s,baz=254,slow=44
ETSF Etsaut 10.02 274 *e*Pn **Pn 13 01 43.2 -0.6**
ESDC Sonseca Array 13.24 261 LR LR 13 07 09.1
comp=Z,46nm,20.0s,baz=87,slow=35
AKASG Malin Array Be 13.45 49 LR LR 13 07 23.5
comp=Z,36nm,20.5s,baz=187,slow=36
BRTR Keskin Array B 15.77 95 LR LR 13 10 09.6
comp=Z,52nm,18.7s,baz=282,slow=42
EKA Eskdalemuir Ar 16.24 325 Pn **P 13 03 11.0 0.0**
baz=137,slow=14
comp=Z,2.0nm,0.8s
MDT Midelt 17.24 240 LR LR 13 10 25.1
comp=Z,29nm,18.2s,baz=96,slow=38
FINES FINESS Array B 20.04 18 P Pn 13 03 54.8 +0.2
comp=Z,0.1nm,0.3s,baz=244,slow=15,SNR=4.0
comp=Z,2.7nm,0.9s
KBZ Khabaz 21.63 78 P **P 13 04 12.0 +1.9**
comp=Z,3.5nm,0.8s,baz=305,slow=4.3,SNR=7.5
comp=Z,3.5nm,0.8s
BELG Belogornoye 24.86 56 LR LR 13 16 09.3
comp=Z,36nm,18.6s,baz=166,slow=41
BVAR Borovoye Array 38.65 54 LR LR 13 23 54.5
comp=Z,24nm,19.4s,baz=294,slow=38
AAK Ala-Archa 44.13 69 LR LR 13 27 06.3
comp=Z,25nm,20.2s,baz=306,slow=38
ZALV Zalesovo Beam 46.84 50 P **P 13 07 50.0 +0.4**
comp=Z,0.6nm,0.5s,baz=276,slow=8.2,SNR=3.3
ZALV LR LR 13 29 46.3
comp=Z,18nm,20.7s,baz=103,slow=39
comp=Z,0.6nm,0.5s
MKAR Makanchi Array 47.72 60 P **P 13 07 57.2 +0.4**
comp=Z,0.6nm,0.6s,baz=305,slow=4.3,SNR=4.5
comp=Z,0.6nm,0.6s
ILAR Eielson Array 71.43 351 P **P 13 10 43.1 +3.1**
comp=Z,0.5nm,0.8s,baz=1.4,slow=7.2,SNR=5.1
comp=Z,0.5nm,0.8s
CMAR Chiang Mai Arr 74.68 79 P **P 13 11 00.3 +0.5**
comp=Z,0.8nm,0.8s,baz=302,slow=7.3,SNR=5.4
comp=Z,0.8nm,0.8s
TXAR Lajitas Array 87.55 309 P **P 13 12 10.5 +2.1**
comp=Z,0.4nm,0.9s,baz=46,slow=5.2,SNR=3.7
comp=Z,0.4nm,0.9s

IDC 12 13:07:53.3±5.0, 4°53S×153°66E, *h*129km±32km, mb3.0/3, mbtmp3.5/4, Error ellipse: s-maj=59.8km s-min=26.7km az=103.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.64**	**278**	P		Pn	13 08 22.4	-0.5
	33nm,0.4s,baz=120,slow=20,SNR=17							
KRVT				S		Sn	13 08 45.8	+0.2
	37nm,0.5s,baz=24,slow=20,SNR=13							
PMG	**Port Moresby**	**8.07**	**233**	P		Pn	13 09 47.9	+0.3
	5.9nm,0.4s,baz=38,slow=9.4,SNR=7.3							
PMG				S		Sn	13 11 15.8	-1.5
	1.2nm,0.4s,baz=275,slow=24,SNR=0.9							
WRA	**Warramunga Arr**	**24.26**	**229**	P		P	13 12 59.6	+0.9
	0.3nm,0.5s,baz=55,slow=9.9,SNR=5.6							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**26.93**	**223**	P		P	13 13 22.6	-0.1
	0.2nm,0.5s,baz=54,slow=8.8,SNR=8.8							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**80.69**	**319**	P		P	13 19 51.6	-0.5
	0.3nm,0.6s,baz=101,slow=6.0,SNR=1.8							
	0.3nm,0.6s							

---

*SOME **12** 13:08:01.5, 41°.68N×73°.08E, h15km*
*KRNET **12** 13:08:01.4±0.1, 41°.65N×73°.03E, h19km, mb3.0*
*KNET **12** 13:08:03.2±0.5, 41°.75N×73°.10E, h14km±2km, ml2.1, Error ellipse: s-maj=4.0km s-min=2.1km az=110.0*
*NNC **12** 13:08:03.8±1.7, 41°.71N×73°.08E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=18.5km s-min=5.3km az=174.0*

ISC 12 13:07:59.2±1.4, 41°.54N±0°.06×73°.09E±0°.02, *h*3km±11km, n41, σ1s00/71, 27C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
AML	**Almayashu**	**0.74**	**37**	⇑P		**Pb**	**13 08 14.9**	**-0.1**
	17nm,0.1s,SNR=79							
AML				⇑S		**Sb**	**13 08 24.3**	**-1.4**
	70nm,0.2s							
ARLS	**Aral**	**0.98**	**70**	⇑*i*P		**Pn**	**13 08 19.9**	**0.0**
	baz=77							
ARLS				⇑*i*S		**Sn**	**13 08 33.5**	**-0.8**
	baz=77							
EKS2	**Erkin-Say**	**1.23**	**24**	⇑P		**Pg**	**13 08 23.1**	**+0.2**
	3.0nm,0.1s,SNR=9.5							
EKS2				⇑S		**Sb**	**13 08 38.1**	**-1.4**
	8.0nm,0.1s							
EKS2	**Erkin-Say**	**1.23**	**24**	⇓*i*P		**Pg**	**13 08 23.0**	**+0.2**
	baz=28							
EKS2				⇓*i*S		**Sb**	**13 08 38.7**	**-0.8**
	baz=28							
UCH	**Uchtor**	**1.26**	**57**	⇓P		**Pg**	**13 08 24.9**	**+1.5**
	12nm,0.1s,SNR=48							
UCH	**Uchtor**	**1.26**	**57**	⇑*i*P		**Pg**	**13 08 24.8**	**+1.3**
	baz=62							
UCH				⇑*i*S		**Sn**	**13 08 41.3**	**-0.6**
	baz=62							
TRKS	**Terek-Say**	**1.46**	**270**	⇓*i*P		**Pg**	**13 08 27.4**	**+0.1**
	baz=63							
TRKS				⇓*i*S		**Sg**	**13 08 46.4**	**+0.2**
	baz=63							
AAK	**Ala-Archa**	**1.51**	**43**	⇓P		**Pg**	**13 08 28.8**	**+0.6**
	5.1nm,0.2s,SNR=6.6							
AAK				⇑S		**Sg**	**13 08 48.1**	**+0.2**
	9.2nm,0.2s							
AAK	**Ala-Archa**	**1.51**	**43**	⇑*i*P		**Pg**	**13 08 28.8**	**+0.6**
	baz=47							
AAK				⇑*i*S		**Sg**	**13 08 48.6**	**+0.8**
	baz=47							
KBK	**Karagaybulak**	**1.77**	**51**	⇑P		**Pg**	**13 08 34.0**	**+0.8**
	12nm,0.2s,SNR=15							
KBK				⇑S		**Sg**	**13 08 57.4**	**+1.2**
	10nm,0.1s							
KBK	**Karagaybulak**	**1.77**	**51**	⇑*i*P		**Pg**	**13 08 33.5**	**+0.3**
	baz=54							
KBK				⇑*i*S		**Sg**	**13 08 56.7**	**+0.5**
	baz=54							
CHMS	**Chumysh**	**1.91**	**40**	⇑P		**Pg**	**13 08 35.9**	**+0.1**
	11nm,0.3s,SNR=6.1							
CHMS				⇑S		**Sg**	**13 09 00.5**	**0.0**
	13nm,0.2s							
CHMS	**Chumysh**	**1.91**	**40**	⇑*i*P		**Pg**	**13 08 35.5**	**-0.3**
	baz=43							
CHMS				⇑*i*S		**Sg**	**13 08 59.9**	**-0.6**
	baz=43							
CHMS	**Chumysh**	**1.91**	**40**	⇓Pn		**Pg**	**13 08 35.8**	**+0.1**
	3.8nm,0.3s							
CHMS				⇓Sn		**Sg**	**13 09 00.3**	**-0.2**
	8.8nm,0.4s							
USP	**Ospenovka**	**2.02**	**31**	⇓P		**Pb**	**13 08 36.8**	**+0.4**
	5.3nm,0.3s,SNR=8.9							
USP				⇑S		**Sg**	**13 09 02.6**	**-1.3**
	35nm,0.3s							
USP	**Ospenovka**	**2.02**	**31**	⇑*i*P		**Pb**	**13 08 36.7**	**+0.2**
	baz=33							
USP				⇑*i*S		**Sb**	**13 09 02.2**	**+0.2**
	baz=33							
SGDS	**Sogindy**	**2.22**	**30**	*e*P		**Pb**	**13 08 40.4**	**+0.3**
	2.8nm,0.2s							
SGDS				*e*S		**Sb**	**13 09 08.5**	**+0.5**
	11nm,0.2s							
SGDS	**Sogindy**	**2.22**	**30**	Pg		**Pg**	**13 08 41.2**	**-0.6**
	2.8nm,0.2s							
SGDS				Lg		Lg	13 09 08.5	
	11nm,0.2s							
TKM2	**Tokmak 2**	**2.32**	**53**	⇓P		**Pg**	**13 08 42.6**	**-1.0**
	4.5nm,0.1s,SNR=12							
TKM2	**Tokmak 2**	**2.32**	**53**	⇑*i*P		**Pb**	**13 08 41.6**	**-0.1**
	baz=55							
TKM2				⇑*i*S		**Sb**	**13 09 10.6**	**-0.2**
	baz=55							
TKM2	**Tokmak 2**	**2.32**	**53**	⇓Pn		**Pg**	**13 08 42.8**	**-0.7**
	4.0nm,0.5s							
TKM2				⇑Sn		**Sg**	**13 09 13.3**	**-0.3**
	13nm,0.8s							
BOOM	**Boomskoye usch**	**2.33**	**65**	⇓*i*P		**Pb**	**13 08 41.9**	**+0.1**
	baz=68							
BOOM				⇓*i*S		**Sb**	**13 09 11.2**	**+0.2**
	baz=68							
IUG	**luzhnay**	**2.37**	**286**	*e*P		**Pg**	**13 08 44.2**	**-0.3**
	132nm,0.2s							
IUG				*e*S		**Sg**	**13 09 15.5**	**+0.4**
	59nm,0.4s							
IUG	**luzhnay**	**2.37**	**286**	Pg		**Pg**	**13 08 44.2**	**-0.3**
	132nm,0.2s							
IUG				Lg		Lg	13 09 13.5	
	59nm,0.4s							
ULHL	**Ulahol**	**2.46**	**72**	⇓P		**Pb**	**13 08 45.1**	**+1.0**
	3.2nm,0.2s,SNR=15							
ULHL	**Ulahol**	**2.46**	**72**	⇓*i*P		**Pb**	**13 08 43.9**	**-0.2**
	baz=75							
ULHL				⇓*i*S		**Sb**	**13 09 14.9**	**+0.1**
	baz=75							
KK31	**Karatay Array**	**2.47**	**310**	⇑Pn		**Pb**	**13 08 44.1**	**-0.1**
	0.5nm,0.2s,baz=120,slow=17,SNR=21							
KK31				⇑Sn		**Sb**	**13 09 15.1**	**+0.1**
	2.8nm,0.3s,baz=124,slow=28							
KST	**Kastek**	**2.61**	**54**	*e*P		**Pg**	**13 08 48.6**	**-0.6**
	5.4nm,0.4s							
KST				*e*S		**Sg**	**13 09 22.4**	**-0.5**
	8.7nm,0.5s							
KST	**Kastek**	**2.61**	**54**	Pg		**Pg**	**13 08 49.5**	**+0.4**
	5.4nm,0.4s							
KST				Lg		Lg	13 09 22.4	
	8.7nm,0.5s							
DGS	**Degeres**	**2.61**	**49**	*e*P		**Pb**	**13 08 47.9**	**+1.2**
	4.1nm,0.4s							
DGS				*e*S		**Sg**	**13 09 21.6**	**-1.6**
	11nm,0.4s							
DGS	**Degeres**	**2.61**	**49**	Pg		**Pg**	**13 08 48.7**	**-0.5**
	4.1nm,0.4s							
DGS				Lg		Lg	13 09 21.6	
	11nm,0.4s							
KRBS	**Karabastau**	**2.88**	**41**	*e*P		**Pb**	**13 08 52.0**	**+0.9**
	1.8nm,0.4s							
KRBS				*e*S		**Sb**	**13 09 28.7**	**+2.0**
	7.2nm,0.6s							
KRBS	**Karabastau**	**2.88**	**41**	Pg		**Pb**	**13 08 52.6**	**+1.5**
	1.8nm,0.4s							
KRBS				Lg		Lg	13 09 27.7	
	7.2nm,0.6s							
MTBS	**Maitube**	**2.94**	**56**	*e*P		**Pg**	**13 08 55.0**	**-0.6**

	3.3nm,0.3s							
MTBS					*e*S	**Sg**	13 09 33.4	**-0.3**
	5.6nm,0.3s							
MTBS	**Maitube**	**2.94**	**56**	Pg	**Pg**	13 08 55.8	**+0.3**	
	3.3nm,0.3s							
MTBS				Lg	Lg	13 09 33.0		
	5.6nm,0.3s							
MDOK	**Medeo**	**3.35**	**60**	*e*P	**Pg**	13 09 01.5	**-1.9**	
	2.1nm,0.4s							
MDOK				*e*S	**Sg**	13 09 45.1	**-1.7**	
	4.5nm,1.3s							
KUU	**Kurty**	**3.35**	**44**	*e*P	**Pb**	13 09 00.4	**+1.1**	
	4.3nm,0.1s							
KUU				*e*S	**Sb**	13 09 43.0	**+2.6**	
	9.1nm,0.5s							
KUU	**Kurty**	**3.35**	**44**	Pg	**Pg**	13 09 01.5	**-1.9**	
	4.3nm,0.1s							
KUU				Lg	Lg	13 09 43.0		
	9.1nm,0.5s							
BTLS	**Baital**	**3.57**	**11**	*e*P	**Pb**	13 09 03.3	**+0.4**	
	0.8nm,0.4s							
BTLS				*e*S	**Sb**	13 09 48.1	**+1.5**	
	2.3nm,0.5s							
CHKK	**Chushkaly**	**3.69**	**50**	*e*P	**Pb**	13 09 06.2	**+1.2**	
	0.6nm,0.1s							
CHKK				*e*S	**Sb**	13 09 53.1	**+3.1**	
	2.2nm,0.2s							
KPKS	**Kokpek**	**4.56**	**63**	Pg	**Pg**	13 09 24.6	**-2.0**	
	2.3nm,0.6s							
KPKS				Lg	Lg	13 10 22.7		
	2.8nm,0.3s							

JMA ***12*** *13:42:11.9±0.2,31°.3N±0°.9×14°.2E±°, h46km, MV3.4/22, NEAR TORISHIMA IS*
IDC ***12*** *13:42:13.0±4.6,30°.76N×140°.72E, h0km, mb3.6/2, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=270.4km s-min=33.5km az=80.0*
ISC 12 13:42:13.2±1.4,31°.27N±0°.08×142°.4E±0°.2, h35km, n12, σ1§13/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.55**	**298**	*e*S	**Sn**	**13 43 20.6**	**-1.2**
BSO1	**Boso 1**	**3.58**	**341**	*e*P	**Pn**	**13 43 06.8**	**+1.1**
CBIJ	**Chichi jima**	**4.17**	**183**	*e*P	**Pn**	**13 43 14.2**	**-0.1**
JOD2	**Odawara 2**	**4.86**	**326**	*e*P	**Pn**	**13 43 25.3**	**+1.5**
JHU	**Hanno**	**5.26**	**331**	*e*P	**Pn**	**13 43 30.6**	**+1.3**
JYT	**Yasato**	**5.28**	**340**	*e*S	**Sn**	**13 44 28.0**	**-1.0**
JHO	**Hitachi**	**5.54**	**344**	*e*P	**Pn**	**13 43 33.2**	**+0.1**
JHO				*e*S	**Sn**	**13 44 34.6**	**-0.9**
JRY	**Ryogami san**	**5.56**	**329**	*e*P	**Pn**	**13 43 35.1**	**+1.6**
JAG	**Ashikaga**	**5.70**	**335**	*e*P	**Pn**	**13 43 35.8**	**+0.5**
MJAR	**Matsushiro Arr**	**6.31**	**328**	Pn	**Pn**	**13 43 44.6**	**+0.9**
	0.1nm,0.3s,baz=160,slow=11,SNR=8.8						
MJAR				Sn	Sn	13 44 43.8	-11
	baz=338,slow=20,SNR=1.1						
	2.7nm,1.0s						
WRA	**Warramunga Arr**	**51.51**	**190**	P	**P**	**13 51 15.0**	**-0.5**
	0.2nm,0.3s,baz=6.2,slow=7.6,SNR=2.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**55.23**	**190**	P	**P**	**13 51 42.5**	**-0.3**
	0.3nm,0.4s,baz=4.1,slow=5.2,SNR=7.6						
	0.3nm,0.4s						

MAN 12 13:57:38.1,7°.25N×125°.37E, h34km, mb3.8, ML2.6, MS2.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.93**	**109**	*e*P	Pb	13 57 55.4	-0.5
DDMP	**Don Marcelino,**	**1.18**	**163**	*i*P	Pn	13 57 58.2	0.0
DDMP				*e*S	Sn	13 58 09.9	-3.3
CGP	**Cagayan de Oro**	**1.38**	**331**	*e*P	Pn	13 58 01.1	+0.2

IDC 12 14:01:55.5±3.2,16°.85S×179°.16W, h548km±19km, mb3.1/3, mbtmp3.9/4, Error ellipse: s-maj=129.3km s-min=39.3km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.81**	**251**	P	P	14 03 09.3	0.0
	5.8nm,0.7s,baz=108,slow=9.0,SNR=7.3						
STKA	**Stephens Creek**	**38.52**	**240**	P	P	14 08 30.8	-0.6
	1.2nm,0.4s,baz=90,slow=8.1,SNR=4.3						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**44.13**	**259**	P	P	14 09 15.9	0.0
	0.3nm,0.3s,baz=88,slow=8.1,SNR=2.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.40**	**253**	P	P	14 09 18.0	0.0
	5.6nm,0.7s,baz=90,slow=7.9,SNR=130						
ASAR				PcP	PcP	14 10 49.3	-0.6
	0.2nm,0.4s,baz=105,slow=4.2,SNR=4.5						
	5.6nm,0.7s						
GERES	**GERESS Array B**	**146.41**	**345**	PKPbc	PKPbc	14 20 34.7	-0.6
	0.2nm,0.3s,baz=4.6,slow=4.9,SNR=1.2						

ROM 12 14:03:24.9±0.1,42°.781N±0°.003×13°.170E±0°.005, h11km, ML1.7/6, Error ellipse: s-maj=0.4km s-min=0.0km az=276.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.07**	**322**	P	Pg	14 03 27.6	+0.3
NRCA				S	Sg	14 03 29.1	0.0
NRCA				AML	AML		
	comp=E,2520μm,0.3s						
NRCA				AML	AML		
	comp=N,2820μm,0.1s						
NRCA				AML	AML		
	comp=E,2950μm,0.2s						
NRCA				AML	AML		
	comp=N,3005μm,0.1s						
NRCA				AML	AML		
	comp=E,2520μm,0.3s						
NRCA				AML	AML		
	comp=N,2820μm,0.1s						
NRCA				AML	AML		
	comp=E,2950μm,0.2s						
NRCA				AML	AML		
	comp=N,3005μm,0.1s						
NRCA				AML	AML		
	comp=N,2820μm,0.1s						
NRCA				AML	AML		
	comp=N,3005μm,0.1s						
NRCA				AML	AML		
	comp=E,2520μm,0.3s						
NRCA				AML	AML		
	comp=E,2950μm,0.2s						
T1245	**Castelsantange**	**0.08**	**10**	P	Pg	14 03 27.8	+0.3
T1245				S	Sg	14 03 29.5	0.0
T1245				AML	AML		
	comp=N,2395μm,0.7s						
T1245				AML	AML		
	comp=E,1525μm,1.3s						
T1245	**Castelsantange**	**0.08**	**10**	P	Pg	14 03 27.8	+0.3
T1245				S	Sg	14 03 29.6	+0.2
T1245				AML	AML		
	comp=E,1525μm,1.3s						
T1245				AML	AML		
	comp=N,2395μm,0.7s						
T1245				AML	AML		
	comp=E,1525μm,1.3s						
T1245				AML	AML		
	comp=N,2395μm,0.7s						
T1245				AML	AML		
	comp=N,2395μm,0.7s						
T1245				AML	AML		
	comp=E,1525μm,1.3s						
T1218	**Civita (PG)**	**0.12**	**200**	P	Pg	14 03 28.3	+0.4
T1218				S	Sg	14 03 30.6	+0.5
T1218	**Civita (PG)**	**0.12**	**200**	P	Pg	14 03 28.3	+0.4
T1218				S	Sg	14 03 30.7	+0.5
T1216	**Preci, Frazion**	**0.16**	**315**	P	Pg	14 03 29.0	+0.6
T1216				S	Sg	14 03 31.8	+0.8
T1216	**Preci, Frazion**	**0.16**	**315**	P	Pg	14 03 29.0	+0.6
T1216				S	Sg	14 03 31.8	+0.8
T1216				AML	AML		
	comp=E,303μm,1.4s						
T1216				AML	AML		
	comp=N,487μm,1.4s						
MMO1	**Montemonaco**	**0.17**	**44**	P	Pg	14 03 29.1	+0.5
MMO1				S	Sg	14 03 32.1	+0.8
MMO1	**Montemonaco**	**0.17**	**44**	P	Pg	14 03 29.1	+0.5
MMO1				S	Sg	14 03 32.2	+0.9
SMA1	**SAN MARTINO**	**0.19**	**141**	P	Pb	14 03 30.0	-0.5
LNSS	**Leonessa**	**0.20**	**208**	P	Pg	14 03 29.8	+0.5
LNSS	**Leonessa**	**0.20**	**208**	P	Pg	14 03 29.7	+0.5
LNSS				S	Sg	14 03 33.3	+1.1
T1241	**Roccafluvione,**	**0.21**	**69**	P	Pg	14 03 29.8	+0.5
T1241				S	Sg	14 03 33.3	+0.9
T1241				AML	AML		
	comp=E,464μm,1.4s						
T1241				AML	AML		
	comp=N,294μm,0.4s						
T1241				AML	AML		
	comp=N,294μm,0.4s						
T1241				AML	AML		
	comp=E,464μm,1.4s						
T1241	**Roccafluvione,**	**0.21**	**69**	P	Pg	14 03 29.8	+0.5
T1241				S	Sg	14 03 33.3	+1.0
T1241				AML	AML		
	comp=E,464μm,1.4s						
T1241				AML	AML		
	comp=N,294μm,0.4s						
T1241				AML	AML		
	comp=E,464μm,1.4s						
T1241				AML	AML		
	comp=N,294μm,0.4s						
T1241				AML	AML		
	comp=N,294μm,0.4s						
T1241				AML	AML		
	comp=E,464μm,1.4s						
T1243	**Rocca Santa Ma**	**0.22**	**112**	P	Pg	14 03 30.2	+0.7
T1243	**Rocca Santa Ma**	**0.22**	**112**	P	Pg	14 03 30.0	+0.4
T1243				S	Sg	14 03 33.4	+0.6
T1215	**Vallo di Nera,**	**0.22**	**275**	P	Pg	14 03 30.1	+0.5
T1215				S	Sg	14 03 33.8	+1.1
T1215	**Vallo di Nera,**	**0.22**	**275**	P	Pg	14 03 30.1	+0.5
T1215				S	Sg	14 03 33.6	+0.9
T1256	**Bolognola (MC)**	**0.23**	**10**	P	Pg	14 03 30.2	+0.5
T1256				S	Sg	14 03 34.2	+1.1
T1256				AML	AML		
	comp=E,202μm,0.3s						
T1256				AML	AML		
	comp=N,212μm,0.6s						
T1256				AML	AML		
	comp=E,201μm,0.3s						
T1256	**Bolognola (MC)**	**0.23**	**10**	P	Pg	14 03 30.2	+0.5
T1256				S	Sg	14 03 34.1	+1.0
RM33	**Pellescritta (**	**0.27**	**173**	P	Pg	14 03 31.0	+0.5
RM33				S	Sg	14 03 35.3	+1.0
CESI	**CESI - Serrava**	**0.30**	**319**	P	Pg	14 03 31.5	+0.6
CESI				S	Sb	14 03 36.3	-0.9
CESI				AML	AML		
	comp=E,142μm,1.4s						
CESI				AML	AML		
	comp=N,258μm,0.3s						
CESI				AML	AML		
	comp=N,259μm,0.3s						
CESI	**CESI - Serrava**	**0.30**	**319**	P	Pg	14 03 31.5	+0.5
CESI				AML	AML		
	comp=E,109μm,0.1s						
CESI				AML	AML		
	comp=N,186μm,0.1s						
T1219	**Muccia, Frazio**	**0.30**	**337**	P	Pg	14 03 30.4	-0.6
CAMP	**Campotosto**	**0.30**	**144**	P	Pg	14 03 31.4	+0.4
CAMP				S	Sg	14 03 35.9	+0.8
CSP1	**Cessapalombo**	**0.31**	**5**	P	Pg	14 03 31.8	+0.5
CSP1	**Cessapalombo**	**0.31**	**5**	P	Pg	14 03 31.7	+0.5
CSP1				S	Sb	14 03 36.9	-0.8
T1211	**Morro Reatino**	**0.34**	**223**	P	Pg	14 03 32.1	+0.4
T1211				S	Sg	14 03 37.3	+1.1
TERO	**Teramo**	**0.36**	**116**	P	Pb	14 03 32.7	-0.5
TERO				AML	AML		
	comp=E,98μm,1.2s						
TERO				AML	AML		
	comp=N,100μm,1.6s						
ARRO	**Arrone**	**0.36**	**236**	P	Pg	14 03 32.6	+0.6
EL6	**Elcito**	**0.55**	**355**	S	Sb	14 03 46.0	+1.5
EL6	**Elcito**	**0.55**	**355**	S	Sb	14 03 46.0	+1.5
VCEL	**Villa Celiera**	**0.63**	**128**	AML	AML		
	comp=E,244μm,1.6s						
VCEL				AML	AML		
	comp=N,262μm,0.9s						

JMA ***12*** *14:34:39.0±0.3,25°.7N±0°.8×12°.5E±°, h25km±4km, MV3.4/12, NW OFF MIYAKOJIMA ISLAND*
IDC ***12*** *14:34:43.9±3.2,25°.80N×125°.23E, h48km±32km, mb3.2/4, mbtmp3.4/5, ML2.7/1, MS2.6/1, Error ellipse: s-maj=28.1km s-min=22.9km az=67.0*
ISC 12 14:34:40.9±1.8,25°.66N±0°.08×125°.15E±0°.07, h28km±13km, n17, σ0§96/26, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.73**	**173**	*i*P	**Pb**	**14 34 54.4**	**-0.7**
JIKM				S	**Sb**	**14 35 05.3**	**+0.5**
JIRB	**Irabujima**	**0.82**	**178**	*i*P	**Pb**	**14 34 55.6**	**-1.0**
JIRB				S	**Sb**	**14 35 07.0**	**-0.4**
JOGS	**Gusukube**	**0.92**	**165**	*i*P	**Pn**	**14 34 57.6**	**-0.4**
JOGS				S	**Sb**	**14 35 11.0**	**+0.8**
JMJ2	**Miyako jima3**	**0.93**	**170**	*i*P	**Pn**	**14 34 57.7**	**-0.3**
JMJ2				S	**Sb**	**14 35 10.9**	**+0.7**
JTJ	**Tarama**	**1.09**	**202**	P	**Pn**	**14 34 59.0**	**-1.3**
JTJ				*e*S	**Sn**	**14 35 13.7**	**-0.8**
JISG	**Ishigakijimahi**	**1.31**	**216**	P	**Pn**	**14 35 02.6**	**-0.7**
JISG				*e*S	**Sn**	**14 35 19.6**	**-0.2**
JIJ	**Ishigaki jima**	**1.58**	**216**	P	**Pn**	**14 35 06.4**	**-0.6**
JIJ				*e*S	**Sn**	**14 35 26.1**	**-0.4**
JKE	**Kume jima 2**	**1.62**	**65**	*e*P	**Pn**	**14 35 06.4**	**-1.1**
JKRS	**Kuro-shima**	**1.75**	**216**	P	**Pn**	**14 35 09.6**	**+0.2**
JKRS				*e*S	**Sn**	**14 35 31.1**	**+0.3**
IRIF	**Iriomote-Funau**	**1.84**	**225**	P	**Pn**	**14 35 10.5**	**-0.1**
HATJ	**Hateruma jima**	**2.01**	**218**	P	**Pn**	**14 35 13.7**	**+0.8**
JOW	**Kunigami**	**3.04**	**67**	P	**Pn**	**14 35 27.8**	**+0.6**
	1.9nm,0.3s,baz=255,slow=12,SNR=10						
JOW				S	**Sn**	**14 36 02.2**	**-0.4**
	8.5nm,0.3s,baz=300,slow=9.8,SNR=3.7						
	15nm,0.6s						
KSRS	**Korea Array**	**12.00**	**11**	LR	LR	14 42 35.2	
	comp=Z,26nm,19.1s,baz=185,slow=40						
MKAR	**Makanchi Array**	**39.88**	**313**	P	**P**	**14 42 12.5**	**+0.3**
	0.3nm,0.6s,baz=98,slow=8.9,SNR=2.5						
MKAR				ScP	**ScP**	**14 48 02.3**	**-2.4**
	0.4nm,0.8s,baz=106,slow=5.1,SNR=2.6						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**41.06**	**324**	P	**P**	**14 42 21.9**	**+0.1**
	0.5nm,0.5s,baz=109,slow=7.5,SNR=3.6						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**46.20**	**168**	P	**P**	**14 43 04.9**	**+1.4**
	0.4nm,0.7s,baz=350,slow=9.0,SNR=3.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**49.76**	**169**	P	**P**	**14 43 32.8**	**+1.8**
	0.4nm,0.7s,baz=355,slow=7.0,SNR=7.5						
	0.4nm,0.7s						

ROM ***12*** *14:43:33.9±0.0,42°.719N±0°.002×13°.206E±0°.002, h10km, ML4.2/127, Mw4.1, Error ellipse: s-maj=0.2km s-min=0.1km az=239.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-1.69; Mθθ0.23; Mφφ1.45; Mrθ0.28; Mrφ-0.55; Mθφ-0.03; Fault plane solution: M0 1.69881×10¹⁵ NP1:φ167.00000°, δ43.00000°, λ-78.00000°. NP2:φ331.00000°, δ48.00000°, λ-101.00000°.*
IDC ***12*** *14:43:33.9±0.6,42°.81N×13°.09E, h0km, mb4.1/23, mbtmp4.1/32, ML3.7/10, MS3.4/36 Error ellipse: s-maj=11.7km s-min=9.7km az=89.0*
MED_RC ***12*** *14:43:33.0±0.6,42°.72N×13°.21E, h10km, MW4.2/9, Moment Tensor Solution. Mantle waves: s9,c10; Duration: 1§0 Moment tensor: Scale 10¹⁵Nm; Mrr-2.59±.24; Mθθ-0.16±.35; Mφφ2.75±.19; Mrθ0.69±.78; Mθφ-0.68±.16; Mφr-0.69±.64; Best double couple: M0 2.92000×10¹⁵ NP1:φ336.00000°, δ54.00000°, λ-104.00000°. NP2: φ179.00000°, δ38.00000°, λ-71.00000°. Principal axes: T 3.0200, Plg8.0000°, Azm76.0000°; N -0.2000, Plg11.0000°, Azm344.0000°; P -2.8200, Plg76.0000°, Azm202.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***12*** *14:43:33.8, 42°.72N×13°.21E, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-1.89; Mθθ0.29; Mφφ1.60; Mrθ0.21; Mθφ-0.54; Mφr0.03; Fault plane solution: M0 1.85000×10¹⁵ NP1:φ334.26000°, δ46.03000°, λ-98.35000°. NP2:φ166.20000°, δ44.60000°, λ-81.44000°. Principal axes: T 1.7904, Plg1.0000°, Azm70.0000°; N 0.1188, Plg6.0000°, Azm340.0000°; P -1.9092, Plg84.0000°, Azm167.0000°;*
PDG ***12*** *14:43:34.7±0.7, 42°.73N×13°.20E, h11km, ML4.4/13 Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
MOS ***12*** *14:43:34.5±1.1, 42°.79N×13°.20E, h13km, mb4.8/18, Error ellipse: s-maj=3.9km s-min=2.7km az=97.7*
NEIC ***12*** *14:43:35.8±1.7, 42°.77N±0°.06×13°.17E±0°.07, h10km±1km, Error ellipse: s-maj=11.0km s-min=7.4km az=213.0*
LDG ***12*** *14:43:35.9±0.1, 42°.62N×13°.27E, h10km, Ml3.9/28, Error ellipse: s-maj=4.0km s-min=2.2km az=41.0*
BEO ***12*** *14:43:36.0±0.7, 42°.72N×13°.22E, h11km±2km, ML4.3/12*
PRU ***12*** *14:43:36.1±0.0, 42°.72N×13°.44E, h10km, M4.4*
STR ***12*** *14:43:41.5±3.1, 43°N±45°×1°3E±2°.7, h10km, mb4.7/7*
ISC 12 14:43:35.0±0.6, 42°.73N±0°.01×13°.18E±0°.01, h9km±3km, n605, σ1§65/699, mb4.4/46, MS3.4/26, 56C-37D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1213	**Norcia, Frazio**	**0.04**	**270**	⇑P	**Pg**	**14 43 36.2**	**-0.6**
T1213				S	**Sg**	**14 43 37.7**	**-0.4**
T1218	**Civita (PG)**	**0.07**	**220**	⇑P	**Pg**	**14 43 36.7**	**-0.5**
T1218				S	**Sg**	**14 43 38.7**	**-0.1**
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1201	**Domo (RI)**	**0.09**	**141**	⇑P	**Pg**	**14 43 36.7**	**-0.7**
T1201				S	**Sg**	**14 43 38.5**	**-0.6**
T1244	**Arquata del Tr**	**0.10**	**70**	⇑P	**Pg**	**14 43 36.6**	**-0.9**
T1244				S	**Sg**	**14 43 38.5**	**-0.8**
T1212	**Cascia, Frazio**	**0.10**	**285**	⇑P	**Pg**	**14 43 37.3**	**-0.2**
T1212				S	**Sg**	**14 43 39.7**	**+0.3**
T1204	**Amatrice, Fraz**	**0.11**	**115**	⇑P	**Pg**	**14 43 36.9**	**-0.9**
T1204				S	**Sg**	**14 43 38.7**	**-1.1**
NRCA	**Norcia**	**0.12**	**337**		**Pg**	**14 43 37.2**	**-0.7**
NRCA				Sg	**Sg**	**14 43 39.5**	**-0.3**
NRCA	**Norcia**	**0.12**	**337**	P	**Pg**	**14 43 37.4**	**-0.5**
NRCA				S	**Sg**	**14 43 39.6**	**-0.3**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	**Castelsantange**	**0.13**	**3**	P	**Pg**	**14 43 37.5**	**-0.6**
T1245				S	**Sg**	**14 43 40.0**	**-0.3**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
SMA1	**SAN MARTINO**	**0.15**	**129**	⇑P	**Pg**	**14 43 37.5**	**-0.9**
SMA1				S	**Sg**	**14 43 40.0**	**-0.7**
SMA1				AML	AML		
SMA1				AML	AML		
LNSS	**Leonessa**	**0.16**	**220**	⇑P	**Pg**	**14 43 38.3**	**-0.2**
LNSS				S	**Sg**	**14 43 41.4**	**+0.6**
T1216	**Preci, Frazion**	**0.20**	**325**	P	**Pg**	**14 43 38.9**	**-0.4**
T1216				S	**Sg**	**14 43 42.5**	**+0.4**
RM33	**Pellescritta (**	**0.22**	**173**	P	**Pg**	**14 43 39.0**	**-0.5**
RM33				S	**Sg**	**14 43 43.0**	**+0.4**
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
T1241	**Roccafluvione,**	**0.23**	**55**	⇑P	**Pg**	**14 43 38.8**	**-0.9**
T1241				S	**Sg**	**14 43 42.4**	**-0.4**
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1241				AML	AML		
T1215	**Vallo di Nera,**	**0.24**	**289**	⇑P	**Pg**	**14 43 39.7**	**-0.2**
T1215				S	**Sg**	**14 43 44.1**	**+0.9**
T1215				AML	AML		
	comp=N,60400μm,1.0s						
T1215				AML	AML		
	comp=E,59850μm,1.2s						
T1215				AML	AML		
	comp=N,56050μm,0.9s						
T1215				AML	AML		
	comp=E,53750μm,1.0s						
T1215				AML	AML		
	comp=E,59900μm,1.2s						
T1215				AML	AML		
	comp=N,56050μm,0.9s						
T1215				AML	AML		
	comp=N,60400μm,0.9s						
T1215				AML	AML		
	comp=E,53800μm,1.0s						
CAMP	**Campotosto**	**0.26**	**138**	Pg	**Pg**	**14 43 39.3**	**-0.9**
CAMP				Sg	**Sg**	**14 43 43.4**	**-0.3**
CAMP	**Campotosto**	**0.26**	**138**	P	**Pg**	**14 43 39.2**	**-0.9**
CAMP				S	**Sg**	**14 43 43.3**	**-0.3**
CAMP				AML	AML		
CAMP				AML	AML		
	comp=E,65050μm,0.2s						
FEMA	**Monte Fema**	**0.26**	**339**	P	**Pg**	**14 43 39.8**	**-0.4**
FEMA				S	**Sg**	**14 43 44.2**	**+0.5**
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,78500μm,1.4s						
FEMA				AML	AML		
T1246	**Crognaleto (TE**	**0.27**	**121**	P	**Pg**	**14 43 39.5**	**-1.0**
T1246				S	**Sg**	**14 43 43.5**	**-0.7**
T1221	**Campello sul C**	**0.28**	**299**	⇑P	**Pg**	**14 43 40.5**	**-0.1**
T1221				S	**Sb**	**14 43 45.8**	**-1.4**
T1256	**Bolognola (MC)**	**0.28**	**7**	⇑P	**Pg**	**14 43 40.1**	**-0.7**
T1256				S	**Sg**	**14 43 45.0**	**+0.3**
T1256				AML	AML		
	comp=N,75700μm,0.6s						
T1256				AML	AML		
	comp=E,88750μm,0.5s						
T1256				AML	AML		
	comp=N,75750μm,0.6s						
T1256				AML	AML		
	comp=N,81450μm,0.6s						
T1256				AML	AML		
	comp=E,89950μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.30**	**162**	⇓P	**Pg**	**14 43 40.2**	**-0.7**
T1247				S	**Sg**	**14 43 45.1**	**+0.2**
T1247				AML	AML		
T1247				AML	AML		
T1211	**Morro Reatino**	**0.30**	**231**	⇑P	**Pg**	**14 43 40.8**	**-0.3**
T1211				S	**Sb**	**14 43 46.2**	**-1.7**
T1211				AML	AML		
T1211				AML	AML		
T1211				AML	AML		
	comp=E,57700μm,0.7s						
T1211				AML	AML		
	comp=E,59600μm,1.4s						
FDMO	**Fiordimonte**	**0.32**	**348**		**Pg**	**14 43 40.8**	**-0.6**
FDMO				Sg	**Sg**	**14 43 46.0**	**+0.3**
FDMO	**Fiordimonte**	**0.32**	**348**	P	**Pg**	**14 43 40.8**	**-0.6**
FDMO				S	**Sg**	**14 43 46.3**	**+0.6**
FDMO				AML	AML		
	comp=E,51650μm,1.0s						
FDMO				AML	AML		
	comp=N,46350μm,0.2s						
TERO	**Teramo**	**0.33**	**108**	⇑P	**Pg**	**14 43 40.3**	**-1.3**
TERO				S	**Sg**	**14 43 45.3**	**-0.7**
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
TERO				AML	AML		
ARRO	**Arrone**	**0.34**	**245**	⇑P	**Pg**	**14 43 41.4**	**-0.3**
ARRO				S	**Sb**	**14 43 47.4**	**-1.3**
ARRO				AML	AML		
	comp=N,37400μm,1.1s						
ARRO				AML	AML		
	comp=E,55750μm,0.9s						
ARRO				AML	AML		
	comp=N,37450μm,1.1s						
CESI	**CESI - Serrava**	**0.34**	**325**	P	**Pg**	**14 43 41.5**	**-0.4**

CESI S **Sb** 14 43 47.3 -1.7
CESI AML AML
comp=E,69650µm,0.4s
CESI AML AML
T1219 Muccia, Frazio 0.35 339 ⇑P **Pg** 14 43 41.4 -0.6
T1219 S **Sb** 14 43 47.5 -1.8
T1219 AML AML
comp=N,69000µm,0.8s
T1219 AML AML
comp=E,51850µm,0.2s
T1219 AML AML
comp=N,65200µm,0.8s
T1219 AML AML
comp=E,56350µm,0.2s
GUMA Gualdo di Mace 0.36 19 ⇑P **Pg** 14 43 41.7 -0.4
GUMA S **Sg** 14 43 47.9 +1.1
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
CSP1 Cessapalombo 0.37 3 ⇑P **Pg** 14 43 41.6 -0.7
CSP1 S **Sg** 14 43 47.8 +0.6
CSP1 AML AML
comp=E,85250µm,0.4s
CSP1 AML AML
CSP1 AML AML
comp=E,85300µm,0.4s
T1220 Camerino, Fraz 0.39 350 ⇑P **Pg** 14 43 42.1 -0.6
T1220 S **Sb** 14 43 48.9 -1.4
GIGS Gran Sasso 0.40 133 ⇑P **Pg** 14 43 41.4 -1.4
GIGS S **Sg** 14 43 47.2 -0.9
GIGS AML AML
comp=N,17150µm,0.5s
GIGS AML AML
comp=E,28100µm,0.5s
AQU L'Aquila 0.41 156 Pg **Pg** 14 43 41.9 -1.0
AQU Sg **Sg** 14 43 48.3 0.0
AQU L'Aquila 0.41 156 ⇓P **Pg** 14 43 42.0 -1.0
AQU S **Sg** 14 43 48.3 0.0
AQU AML AML
comp=E,62850µm,1.1s
AQU AML AML
comp=N,60200µm,0.7s
AQU AML AML
comp=E,62800µm,1.1s
AQU AML AML
comp=N,58150µm,0.7s
AQU AML AML
comp=E,61450µm,1.1s
OFFI Offida 0.43 61 ⇑P **Pg** 14 43 43.1 -0.3
OFFI AML AML
comp=E,83800µm,0.7s
OFFI AML AML
comp=N,93700µm,0.7s
SEF1 Sefro 0.45 338 P **Pg** 14 43 43.2 -0.7
SEF1 S **Sb** 14 43 50.7 -1.5
SEF1 AML AML
comp=N,47600µm,1.2s
SEF1 AML AML
comp=E,63300µm,0.2s
FIAM Fiamignano 0.46 186 P **Pg** 14 43 43.2 -0.8
FIAM S **Sg** 14 43 50.3 +0.3
FIAM AML AML
comp=E,44100µm,0.7s
FIAM AML AML
comp=N,33700µm,0.6s
FIAM AML AML
comp=N,33750µm,0.6s
MNTP Montappone 0.47 27 ⇑P **Pg** 14 43 43.7 -0.4
MDAR Monte D'Aria 0.47 357 P **Pg** 14 43 43.5 -0.7
MDAR S **Sg** 14 43 51.0 +0.7
MDAR AML AML
comp=E,37950µm,0.4s
MDAR AML AML
comp=N,46750µm,1.2s
MDAR AML AML
comp=E,37950µm,0.3s
PIO1 Pioraco 0.47 343 P **Pg** 14 43 43.6 -0.7
PIO1 S **Sb** 14 43 51.5 -1.2
FIU1 Fiuminata 0.50 339 P **Pg** 14 43 44.1 -0.6
FIU1 S **Sb** 14 43 52.2 -1.1
SSM1 San Severino M 0.50 360 P **Pg** 14 43 44.1 -0.7
SSM1 S **Sg** 14 43 52.1 +0.7
FAGN Fagnano 0.55 147 ⇓P **Pg** 14 43 44.2 -1.4
FAGN S **Sg** 14 43 53.3 +0.4
FAGN AML AML
FAGN AML AML
comp=N,94650µm,1.4s
TRTR Tortoreto Alta 0.55 81 ⇑P **Pg** 14 43 45.6 -0.1
TRTR AML AML
TRTR AML AML
comp=N,99500µm,0.6s
SNTG Esanatoglia 0.56 342 ⇑P **Pg** 14 43 45.0 -0.8
SNTG S **Sb** 14 43 53.9 -1.3
SNTG AML AML
comp=E,11750µm,0.9s
SNTG AML AML
comp=N,12300µm,0.2s
SNTG AML AML
comp=N,12300µm,0.2s
SNTG AML AML
comp=E,11550µm,0.8s
SNTG AML AML
comp=N,13400µm,0.2s
SNTG AML AML
comp=E,11750µm,1.0s
VCEL Villa Celiera 0.59 124 AML AML
comp=N,87750µm,0.5s
VCEL AML AML
comp=E,77150µm,0.4s
VCEL AML AML
comp=N,87700µm,0.5s
ATCC AVT- Casa Cast 0.61 320 ⇑P **Pg** 14 43 46.1 -0.7
ATCC S **Sb** 14 43 55.9 -0.6
ATCC AML AML
comp=N,25500µm,0.9s
ATCC AML AML
comp=N,25550µm,0.9s
ATCC AML AML
comp=E,23200µm,1.0s
EL6 Elcito 0.61 355 ⇑P **Pg** 14 43 45.8 -1.0
EL6 AML AML
comp=E,30550µm,0.4s
EL6 AML AML
comp=N,42900µm,1.1s
CADA Capodarco di F 0.64 42 P **Pg** 14 43 47.5 +0.2
FOSV Fossato di Vic 0.65 332 ⇑P **Pg** 14 43 46.7 -0.9
FOSV AML AML
comp=E,12700µm,0.5s
FOSV AML AML
comp=N,15000µm,0.7s
CING Cingoli 0.65 1 ⇑P **Pg** 14 43 46.6 -1.0
CING AML AML
comp=E,27850µm,1.2s
CING AML AML
comp=N,17500µm,0.4s
T0110 Collepietro 0.67 138 ⇓P **Pg** 14 43 46.2 -1.7
T0110 AML AML
comp=E,96200µm,0.5s
T0110 AML AML
comp=N,65700µm,0.5s
CIMA Civitanova Mar 0.68 32 P **Pg** 14 43 48.0 -0.2
SRES S.Oreste - Sor 0.69 226 ⇑P **Pg** 14 43 47.3 -1.1
SRES AML AML
comp=E,11650µm,0.6s
SRES AML AML
comp=N,11200µm,0.8s
MURB Monte Urbino 0.72 319 Pg **Pg** 14 43 48.0 -0.9
MURB Monte Urbino 0.72 319 ⇑P **Pg** 14 43 48.2 -0.8
MURB AML AML
comp=N,43600µm,1.0s
MURB AML AML
comp=E,44900µm,1.2s
MURB AML AML
comp=N,43550µm,1.0s
MURB AML AML
comp=N,44750µm,1.0s
MURB AML AML
comp=E,42650µm,1.2s
PTQR Pietraquaria 0.72 167 ⇓P **Pg** 14 43 47.2 -1.7
PTQR AML AML
comp=E,7410µm,1.1s
PTQR AML AML
comp=N,8710µm,1.0s
PP3 Marolino 0.73 26 P **Pg** 14 43 48.2 -0.8
PP3 AML AML
comp=E,79000µm,0.7s
PP3 AML AML
comp=N,49450µm,0.6s
PP3 AML AML
comp=N,49000µm,0.6s
PP3 AML AML
comp=E,79000µm,0.6s
PP3 AML AML
comp=E,78100µm,0.8s
PP3 AML AML
comp=N,49050µm,0.6s
MMUR Monte Murano 0.73 350 P **Pg** 14 43 48.0 -1.1
MMUR AML AML
comp=E,29550µm,0.3s
MMUR AML AML
comp=N,20250µm,0.6s
MMUR AML AML
comp=E,29500µm,0.3s
ATTE AVT- Monte Tez 0.77 308 AML AML
comp=N,9495µm,1.6s
ATTE AML AML
comp=N,9490µm,1.6s
ATTE AML AML
comp=E,8325µm,1.2s
SSFR Montelago di S 0.77 338 P **Pg** 14 43 48.8 -1.0
SSFR AML AML
comp=N,33600µm,0.2s
SSFR AML AML
comp=N,31400µm,0.2s
SSFR AML AML
comp=E,40600µm,0.2s
SSFR AML AML
comp=E,39250µm,0.2s
MTCE Montecelio 0.77 205 ⇑P **Pg** 14 43 48.3 -1.6
MTCE AML AML
comp=N,12100µm,1.2s
MTCE AML AML
comp=E,13550µm,1.5s
ATFO Monte Foce - G 0.78 326 ⇑P **Pg** 14 43 49.2 -0.9
ATFO AML AML
comp=E,12950µm,1.1s
ATFO AML AML
comp=N,10015µm,1.1s
CERT Cerreto 0.79 191 ⇑P **Pg** 14 43 48.6 -1.6
CERT AML AML
comp=E,27450µm,0.6s
CERT AML AML
comp=N,20200µm,0.5s
ARVD Arcevia 0.79 347 ⇑P **Pg** 14 43 49.2 -1.1
ARVD AML AML
comp=E,9610µm,0.7s
ARVD AML AML
comp=E,9615µm,0.7s
ARVD AML AML
comp=N,6870µm,0.8s
MGAB Montegabbione 0.81 284 P **Pg** 14 43 49.8 -0.7
MGAB AML AML
comp=E,33950µm,1.3s
MGAB AML AML
comp=E,32250µm,1.3s
MGAB AML AML
comp=N,16000µm,1.0s
MGAB AML AML
comp=N,16250µm,1.1s
ATLO AVT- Montelove 0.82 317 P **Pg** 14 43 49.6 -1.2
TB01 Gubbio 0.85 321 P **Pg** 14 43 50.4 -1.1
ATVA AVT- Monte Val 0.86 311 P **Pg** 14 43 50.4 -1.1
FRON Frontone 0.86 338 ⇑P **Pg** 14 43 50.2 -1.3
FRON AML AML
comp=N,11450µm,0.6s
FRON AML AML
comp=E,8515µm,1.5s
ATVO AVT- Monte Val 0.87 320 P **Pg** 14 43 50.3 -1.4
ATVO AML AML
comp=N,10615µm,0.7s
ATVO AML AML
comp=E,9650µm,1.6s
AOI Ancona 0.88 21 P **Pg** 14 43 50.7 -1.3
AOI AML AML
comp=N,11100µm,1.0s
AOI AML AML
comp=E,12900µm,0.4s
RCAV Rocca di Cave 0.89 191 P **Pg** 14 43 50.5 -1.7
ATMI Monte Miggiano 0.90 313 P **Pg** 14 43 52.0 -0.4
ATMI AML AML
comp=E,26100µm,0.5s
ATMI AML AML
comp=N,19450µm,0.4s
VVLD Villa Vallelon 0.92 159 P **Pg** 14 43 50.6 -2.0
VVLD AML AML
comp=E,11650µm,1.3s
VVLD AML AML
comp=N,16650µm,1.4s
COR1 Corinaldo 0.92 352 P **Pg** 14 43 51.9 -0.7
COR1 AML AML
comp=E,17750µm,0.6s
COR1 AML AML
comp=N,28100µm,1.3s
PCRO Pietralacroce 0.92 16 P **Pg** 14 43 51.8 -0.9
PCRO AML AML
comp=E,47800µm,0.9s
PCRO AML AML
comp=N,37300µm,0.5s
ATPC Poggio Castell 0.92 325 P **Pg** 14 43 51.6 -1.1
ATPI Pietralunga - 0.92 322 P **Pg** 14 43 51.6 -1.1
ATPI AML AML
comp=N,9765µm,1.2s
ATPI AML AML
comp=E,8460µm,1.4s
ATPI AML AML
comp=N,9775µm,1.2s
GUAR Guarcino 0.94 174 P **Pg** 14 43 51.9 -1.1
GUAR AML AML
comp=E,16100µm,0.7s
GUAR AML AML
comp=N,23800µm,0.8s
SACS San Casciano d 0.94 278 P **Pg** 14 43 52.4 -0.8
SACS AML AML
comp=N,11500µm,0.9s
SACS AML AML
comp=E,13950µm,1.2s
SACS AML AML
comp=E,13400µm,1.2s
SACS AML AML
comp=N,11250µm,0.6s
MPAG Monte Paganucc 0.95 341 P **Pg** 14 43 52.2 -1.2
MPAG AML AML
comp=E,8205µm,1.5s
MPAG AML AML
comp=N,7570µm,1.2s
MPAG AML AML
comp=N,7710µm,1.2s
MPAG AML AML
comp=N,7565µm,1.2s
MPAG AML AML
comp=E,8215µm,1.5s
RMP Rome, Mte Porz 0.98 201 P **Pg** 14 43 51.9 -1.9
RMP AML AML
comp=E,15000µm,1.0s
RMP AML AML
comp=N,18900µm,0.8s
RMP Rome, Mte Porz 0.98 201 ⇓P **Pb** 14 43 53.8 -0.4
SENI Senigallia 0.98 2 P **Pg** 14 43 52.7 -1.2
SENI AML AML
comp=E,49500µm,0.3s
SENI AML AML
comp=N,14550µm,0.9s
SENI AML AML
comp=E,15850µm,1.0s
SENI AML AML
comp=N,41750µm,0.4s
CAFR Castel Frentan 1.00 119 P **Pg** 14 43 52.7 -1.5
CAFR AML AML
comp=E,11760µm,0.7s
CAFR AML AML
comp=N,12450µm,0.6s
LPEL Lama dei Pelig 1.01 132 P **Pg** 14 43 51.7 -2.7
LPEL AML AML
comp=N,9335µm,0.8s
LPEL AML AML
comp=E,14900µm,0.5s
FSSB Fossombrone 1.01 343 P **Pg** 14 43 53.0 -1.4
FSSB AML AML
comp=N,24050µm,0.4s
FSSB AML AML
comp=E,29850µm,0.4s
LATE Laterza 1.02 264 Pg **Pg** 14 43 53.8 -0.9
LATE Laterza 1.02 264 P **Pg** 14 43 52.8 -1.8
ATMC Monte Cedrone 1.02 315 P **Pg** 14 43 53.6 -1.1
BADI Badiali 1.04 319 AML AML
comp=E,404µm,1.6s
BADI AML AML
comp=N,8745µm,0.8s
CAFI Castiglion Fio 1.07 305 P **Pg** 14 43 54.5 -1.1
CAFI AML AML
comp=E,5800µm,1.3s
CAFI AML AML
comp=N,7330µm,1.2s
CAFI AML AML
comp=N,7480µm,1.1s
CAFI AML AML
comp=E,5695µm,1.3s
POFI Posta Fibreno 1.08 158 P **Pb** 14 43 53.4 -2.5
POFI AML AML
comp=N,5620µm,0.8s
POFI AML AML
comp=E,10700µm,1.5s
POFI AML AML
comp=N,5090µm,0.8s
POFI AML AML
comp=E,10220µm,0.8s
PE3 Peglio 1.09 333 P **Pb** 14 43 55.0 -1.1
TOLF Tolfa 1.09 233 ⇑P **Pb** 14 43 54.6 -1.5
TOLF AML AML
comp=E,6755µm,0.5s
TOLF AML AML
comp=N,7015µm,1.3s
MCIV Monte Civitell 1.11 273 P **Pb** 14 43 55.0 -1.3
MCIV AML AML
comp=N,4160µm,1.2s
MCIV AML AML
comp=E,5120µm,0.5s
LRP Arpino 1.12 164 P **Pb** 14 43 55.2 -1.4
LRP AML AML
comp=N,8430µm,1.0s
LRP AML AML
comp=E,6225µm,0.7s
SSP9 Sansepolcro 1.14 318 P **Pb** 14 43 55.4 -1.6
SSP9 AML AML
comp=E,7270µm,1.1s
SSP9 AML AML
comp=N,6490µm,1.5s
GIUL Giuliano Di Ro 1.17 177 P **Pb** 14 43 55.9 -1.5
GIUL AML AML
comp=N,10515µm,0.7s
GIUL AML AML
comp=E,6295µm,0.8s
SF01 Poggio Pratacc 1.19 275 P **Pb** 14 43 56.6 -1.3
SF01 AML AML
comp=N,11450µm,0.7s
SF01 AML AML
comp=E,7335µm,1.0s
LATB Latina 1.24 187 P **Pn** 14 43 56.2 -2.3
LATB AML AML
comp=N,2475µm,0.8s
LATB AML AML
comp=E,3420µm,1.2s
PESA Pesaro 1.24 349 P **Pn** 14 43 57.7 -0.9
PESA AML AML
comp=E,14600µm,0.3s
PESA AML AML
comp=N,10915µm,1.1s
CPGN Carpegna, Ital 1.25 330 P **Pn** 14 43 57.9 -0.9
CPGN AML AML
comp=E,11485µm,0.6s
CPGN AML AML
comp=N,8695µm,0.7s
LIK San Giovanni I 1.25 167 AML AML
comp=E,10250µm,0.7s
LIK AML AML
comp=N,12000µm,0.7s
RNI2 Rionero Sannit 1.25 144 P **Pn** 14 43 56.3 -2.5
RNI2 AML AML
comp=N,10945µm,0.8s
RNI2 AML AML
comp=E,11750µm,1.2s
RNI2 AML AML
comp=N,11160µm,0.9s
RNI2 AML AML
comp=E,11600µm,1.2s
ARCI Arcidosso 1.26 276 P **Pn** 14 43 57.9 -1.0
ARCI AML AML
comp=N,2275µm,1.5s
ARCI AML AML
comp=E,2710µm,1.0s
CERA Filignano 1.29 151 P **Pn** 14 43 57.0 -2.3
CERA AML AML
comp=E,10860µm,0.7s
CERA AML AML
comp=N,9895µm,0.7s
CERA AML AML
comp=N,10300µm,0.7s
CERA AML AML
comp=E,10655µm,0.7s
MIDA Miranda 1.35 143 P **Pn** 14 43 57.8 -2.3
MIDA AML AML
comp=N,5405µm,0.7s
MIDA AML AML
comp=E,8085µm,1.0s
MIDA AML AML
comp=E,8265µm,1.0s
MIDA AML AML
comp=N,5105µm,1.3s
TRIV Trivento 1.40 133 AML AML
comp=N,9800µm,1.5s
TRIV AML AML
comp=E,9790µm,1.6s
ASQU Asqua 1.48 317 P **Pn** 14 44 01.0 -0.9
ASQU AML AML
comp=E,3265µm,1.1s
ASQU AML AML
comp=N,3175µm,0.8s
VAGA Valle Agricola 1.53 149 P **Pn** 14 44 01.6 -0.9
VAGA AML AML
comp=E,4405µm,0.9s
VAGA AML AML
comp=E,4530µm,0.8s
VAGA AML AML
comp=N,6185µm,0.7s
VAGA AML AML
comp=N,6345µm,0.7s
SFI Santa Sofia 1.53 321 P **Pn** 14 44 01.9 -0.7
SFI AML AML
comp=N,2745µm,0.7s
SFI AML AML
comp=E,2690µm,1.0s
SFI AML AML
comp=E,2715µm,1.0s
SFI AML AML
comp=N,2705µm,1.3s
SFI Santa Sofia 1.53 321 ⇓P **Pg** 14 44 04.5 +0.2
BSSO Busso 1.58 138 P **Pb** 14 44 05.0 +0.6
OSSC Osservatorio P 1.62 300 **Pb** 14 44 03.8 -1.4
OSSC Osservatorio P 1.62 300 P **Pn** 14 44 03.5 -0.3
OSSC AML AML
comp=E,1980µm,1.3s
OSSC AML AML
comp=N,1905µm,1.0s
OSSC AML AML
comp=N,1980µm,1.3s
OSSC AML AML
comp=E,1860µm,1.0s
RUFI Rufina 1.65 313 P **Pn** 14 44 03.5 -0.7
RUFI AML AML
comp=E,1944µm,1.4s
RUFI AML AML
comp=N,2435µm,1.2s
CIGN Sant'Elia a Pi 1.67 129 P **Pn** 14 44 03.4 -1.1
CIGN AML AML
comp=N,4190µm,1.0s
CIGN AML AML
comp=E,3470µm,0.7s
PTRJ Pietraroja 1.69 143 P **Pn** 14 44 05.6 +0.8
PIGN Pignataro Magg 1.70 154 P **Pn** 14 44 04.5 -0.4
PIGN AML AML
comp=E,2510µm,1.0s
PIGN AML AML
comp=N,2450µm,0.8s
PIGN AML AML
comp=E,2565µm,0.9s
PIGN AML AML
comp=N,2375µm,0.8s
CASP Castiglione de 1.70 273 **Pn** 14 44 04.3 -0.6

CASP	**Castiglione de**	**1.70**	**273**	P	**Pn**	**14 44 03.9**	**-1.1**
CASP				AML	AML		
	comp=E,895µm,0.8s						
CASP				AML	AML		
	comp=N,914µm,1.1s						
TRIF	**Trifonti**	**1.72**	**284**	AML	AML		
	comp=E,1465µm,0.7s						
TRIF				AML	AML		
	comp=N,1610µm,0.9s						
LMD	**Lutirano**	**1.73**	**322**	P	**Pn**	**14 44 04.9**	**-0.4**
LMD				AML	AML		
	comp=N,2070µm,1.2s						
LMD				AML	AML		
	comp=E,1970µm,0.6s						
SACR	**S. Croce Del S**	**1.75**	**139**	P	**Pb**	**14 44 06.6**	**-0.7**
MELA	**Melanico ??? S**	**1.77**	**124**	AML	AML		
	comp=E,9710µm,0.6s						
MELA				AML	AML		
	comp=N,14200µm,0.6s						
MELA				AML	AML		
	comp=E,9485µm,0.8s						
MELA				AML	AML		
	comp=N,13700µm,0.6s						
SEI	**Scarperia**	**1.88**	**316**	P	**Pn**	**14 44 07.2**	**-0.2**
SEI				AML	AML		
	comp=N,4980µm,0.6s						
SEI				AML	AML		
	comp=E,3070µm,0.5s						
VITU	**Vitulano (BN)**	**1.88**	**144**	P	**Pb**	**14 44 08.6**	**-1.0**
PSB1	**Pescosannita**	**1.93**	**140**	P	**Pn**	**14 44 07.6**	**-0.5**
PSB1				AML	AML		
	comp=N,2565µm,1.0s						
PSB1				AML	AML		
	comp=E,3080µm,1.5s						
PSB1				AML	AML		
	comp=N,2650µm,1.0s						
PSB1				AML	AML		
	comp=E,3115µm,1.5s						
MPPT	**Montemurlo**	**1.96**	**310**	P	**Pn**	**14 44 07.8**	**-0.7**
MPPT				AML	AML		
	comp=N,1233µm,1.4s						
MPPT				AML	AML		
	comp=E,1865µm,1.1s						
PAOL	**Paolisi**	**1.98**	**148**		**Pn**	**14 44 09.0**	**+0.1**
PAOL	**Paolisi**	**1.98**	**148**	P	**Pn**	**14 44 08.6**	**-0.3**
APRC	**Apricena**	**2.00**	**118**	P	**Pn**	**14 44 08.9**	**-0.2**
APRC				AML	AML		
	comp=E,4095µm,0.7s						
APRC				AML	AML		
	comp=N,6645µm,0.6s						
MTCR	**Monte La Croce**	**2.05**	**310**	P	**Pn**	**14 44 09.2**	**-0.7**
MTCR				AML	AML		
	comp=N,1660µm,1.2s						
MTCR				AML	AML		
	comp=E,1546µm,1.6s						
VBKN	**Vesuvio Bunker**	**2.11**	**153**	AML	AML		
	comp=N,4005µm,0.8s						
VBKN				AML	AML		
	comp=E,4155µm,1.1s						
SGRT	**San Giovanni R**	**2.14**	**116**		**Pn**	**14 44 11.0**	**0.0**
SGRT	**San Giovanni R**	**2.14**	**116**	P	**Pn**	**14 44 10.6**	**-0.4**
SGRT				AML	AML		
	comp=E,3685µm,0.6s						
SGRT				AML	AML		
	comp=N,4010µm,0.6s						
PII	**Pisa**	**2.18**	**298**	P	**Pn**	**14 44 10.4**	**-1.0**
PII				AML	AML		
	comp=N,953µm,0.7s						
PII				AML	AML		
	comp=E,1336µm,1.6s						
PII	**Pisa**	**2.18**	**298**	⇑P	**Pb**	**14 44 12.5**	**-2.1**
CELB	**S.Piero in Cam**	**2.19**	**272**	AML	AML		
	comp=N,435µm,1.3s						
CELB				AML	AML		
	comp=E,359µm,0.9s						
CAFE	**Carife**	**2.29**	**137**	P	**Pn**	**14 44 14.4**	**+1.4**
MAIM	**Mastiano**	**2.29**	**302**	P	**Pn**	**14 44 12.6**	**-0.5**
MAIM				AML	AML		
	comp=N,790µm,0.7s						
MAIM				AML	AML		
	comp=E,988µm,0.6s						
BDI	**Bagni Di Lucca**	**2.31**	**306**	P	**Pn**	**14 44 12.7**	**-0.6**
BDI				AML	AML		
	comp=N,832µm,0.7s						
BDI				AML	AML		
	comp=E,352µm,0.5s						
BDI				AML	AML		
	comp=N,358µm,0.8s						
BDI				AML	AML		
	comp=E,935µm,0.5s						
BDI	**Bagni Di Lucca**	**2.31**	**306**	⇓P	**Pn**	**14 44 12.0**	**-1.3**
CARD	**Cardoso**	**2.36**	**304**	P	**Pn**	**14 44 13.6**	**-0.4**
CARD				AML	AML		
	comp=E,1239µm,1.1s						
CARD				AML	AML		
	comp=N,1100µm,0.6s						
VLC	**Villacollemand**	**2.49**	**306**		**Pn**	**14 44 15.0**	**-0.7**
VLC	**Villacollemand**	**2.49**	**306**	P	**Pn**	**14 44 15.1**	**-0.7**
VLC				AML	AML		
	comp=E,502µm,1.4s						
VLC				AML	AML		
	comp=N,672µm,1.2s						
VLC				AML	AML		
	comp=E,486µm,1.3s						
VLC				AML	AML		
	comp=N,671µm,1.2s						
SARO	**Sassorosso**	**2.49**	**307**	AML	AML		
	comp=E,1350µm,0.7s						
SARO				AML	AML		
	comp=N,1820µm,0.5s						
CAPA	**Cerignola FG**	**2.52**	**128**	P	**Pn**	**14 44 15.0**	**-1.1**
CAPA				AML	AML		
	comp=E,4390µm,0.8s						
CAPA				AML	AML		
	comp=N,5710µm,1.1s						
VULT	**Monte Vulture**	**2.54**	**133**	P	**Pn**	**14 44 17.5**	**+1.0**
VULT				AML	AML		
	comp=E,2145µm,0.8s						
VULT				AML	AML		
	comp=N,3340µm,0.5s						
VULT				AML	AML		
	comp=E,2185µm,0.8s						
VULT				AML	AML		
	comp=N,3500µm,0.6s						
EQUI	**Equi**	**2.63**	**304**	P	**Pn**	**14 44 17.3**	**-0.4**
EQUI				AML	AML		
	comp=N,507µm,0.7s						
EQUI				AML	AML		
	comp=E,404µm,1.0s						
PALZ	**Palazzo San Ge**	**2.74**	**130**	P	**Pn**	**14 44 19.9**	**+0.7**
PALZ				AML	AML		
	comp=N,3955µm,0.7s						
PALZ				AML	AML		
	comp=E,4730µm,1.1s						
PLMA	**Palmaria, Port**	**2.76**	**300**	AML	AML		
	comp=E,401µm,0.6s						
PLMA				AML	AML		
	comp=N,480µm,1.6s						
MRVN	**Minervino Murg**	**2.80**	**125**	P	**Pn**	**14 44 19.5**	**-0.6**
MRVN				AML	AML		
	comp=N,994µm,0.6s						
MRVN				AML	AML		
	comp=E,877µm,0.8s						
TEOL	**Teolo**	**2.85**	**338**		**Pn**	**14 44 21.5**	**+0.8**
GRAM	**Graiana**	**2.87**	**309**	P	**Pn**	**14 44 21.5**	**+0.5**
GRAM				AML	AML		
	comp=E,940µm,0.6s						
GRAM				AML	AML		
	comp=N,1164µm,0.8s						
KNDS	**Knezji Dol**	**2.93**	**17**	*i* Pn	**Pn**	**14 44 21.4**	**-0.6**
SMPL	**Sampolo**	**2.95**	**259**	P	**Pn**	**14 44 21.5**	**-0.6**
SMPL				AML	AML		
	comp=N,154µm,0.7s						
SMPL				AML	AML		
	comp=E,149µm,1.1s						
A050A	**Klekovaca**	**3.00**	**53**	*e*Pn	**Pn**	**14 44 23.4**	**+0.5**
PTRP	**Pietrapertosa**	**3.08**	**135**	P	**Pn**	**14 44 22.6**	**-1.4**
PTRP				AML	AML		
	comp=E,1645µm,1.4s						
PTRP				AML	AML		
	comp=N,1645µm,1.0s						
PGF	**Pioggiola**	**3.09**	**268**	*e*Pn	**Pn**	**14 44 24.3**	**+0.2**
PGF	**Pioggiola**	**3.09**	**268**	*e*P	**Pb**	**14 44 26.8**	**-3.4**
PGF				*e*Sn	**Sn**	**14 44 59.7**	**-1.5**
	comp=N,108nm,0.8s						
PGF	**Pioggiola**	**3.09**	**268**	AML	AML		
	comp=N,142µm,1.4s						
PGF				AML	AML		
	comp=E,164µm,0.8s						
PGF	**Pioggiola**	**3.09**	**268**	⇑P	**Pn**	**14 44 24.2**	**+0.2**
MSSA	**Maissana**	**3.10**	**302**	Pn	**Pn**	**14 44 24.1**	**-0.1**
MSSA	**Maissana**	**3.10**	**302**	P	**Pn**	**14 44 23.1**	**-1.1**
MSSA				AML	AML		
	comp=E,312µm,0.7s						
MSSA				AML	AML		
	comp=N,440µm,1.2s						
CEY	**Cerknica**	**3.14**	**16**	*e*Pn	**Pn**	**14 44 23.8**	**-1.0**
BOJS	**Bojanci**	**3.15**	**28**	*e*Pn	**Pn**	**14 44 24.5**	**-0.4**
BOJS	**Bojanci**	**3.15**	**28**	P	**Pn**	**14 44 24.5**	**-0.4**
BOJS				AML	AML		
	comp=E,3660µm,1.1s						
BOJS				AML	AML		
	comp=N,2760µm,1.0s						
SRKY	**Kupres RS**	**3.20**	**64**	*e*Pn	**Pn**	**14 44 27.0**	**+1.4**
SABO	**M.te Sabotino**	**3.27**	**5**	Pn	**Pn**	**14 44 25.8**	**-0.7**
SABO	**M.te Sabotino**	**3.27**	**5**	P	**Pn**	**14 44 25.8**	**-0.7**
SABO				AML	AML		
	comp=N,8950µm,1.0s						
SABO				AML	AML		
	comp=E,1590µm,1.4s						
SABO				AML	AML		
	comp=N,2175µm,1.0s						
SABO				AML	AML		
	comp=E,6280µm,1.4s						
ROVR	**Rover Verones**	**3.29**	**333**	P	**Pn**	**14 44 27.1**	**+0.2**
ROVR				AML	AML		
	comp=N,968µm,0.8s						
ROVR				AML	AML		
	comp=E,711µm,0.9s						
ROVR				AML	AML		
	comp=N,372µm,0.8s						
ROVR				AML	AML		
	comp=E,268µm,0.8s						
MGRS	**Mrkonjic Grad**	**3.31**	**58**	*e*Pn	**Pn**	**14 44 28.2**	**+1.2**
CGRP	**Cima Grappa**	**3.31**	**343**	P	**Pn**	**14 44 27.4**	**+0.3**
CGRP				AML	AML		
	comp=E,1590µm,1.1s						
CGRP				AML	AML		
	comp=N,1545µm,0.5s						
CGRP				AML	AML		
	comp=N,1490µm,0.5s						
CGRP				AML	AML		
	comp=E,1545µm,1.1s						
STON	**Ston**	**3.33**	**86**	*e*Pn	**Pn**	**14 44 25.8**	**-1.5**
STON	**Ston**	**3.33**	**86**	*e*Pn	**Pn**	**14 44 25.8**	**-1.5**
STON				*e*Sn	**Sn**	**14 45 05.3**	**-1.7**
STON	**Ston**	**3.33**	**86**	AML	AML		
	comp=N,692µm,0.8s						
STON				AML	AML		
	comp=E,758µm,0.4s						
VARN	**Col Varnada, M**	**3.36**	**347**	P	**Pn**	**14 44 27.8**	**0.0**
VARN				AML	AML		
	comp=N,1220µm,1.4s						
VARN				AML	AML		
	comp=E,1550µm,0.7s						
VARN				AML	AML		
	comp=E,1570µm,0.7s						
VARN				AML	AML		
	comp=N,1225µm,1.4s						
MATE	**Matera**	**3.36**	**127**	⇓P	**Pn**	**14 44 28.2**	**+0.5**
MATE				⇓S	**Sn**	**14 45 07.6**	**-0.1**
AJAC	**Base Areonaval**	**3.37**	**258**	P	**Pn**	**14 44 27.4**	**-0.3**
AJAC				AML	AML		
	comp=E,424µm,0.9s						
AJAC				AML	AML		
	comp=N,404µm,1.6s						
CUC	**Castrocucco**	**3.38**	**143**	Pn	**Pn**	**14 44 29.5**	**+1.6**
LTRZ	**Laterza**	**3.46**	**127**	P	**Pn**	**14 44 29.6**	**+0.5**
LTRZ				AML	AML		
	comp=N,1031µm,1.6s						
LTRZ				AML	AML		
	comp=E,954µm,0.8s						
LJU	**Ljubljana**	**3.46**	**16**	*i* Pn	**Pn**	**14 44 29.1**	**0.0**
LJU	**Ljubljana**	**3.46**	**16**	P	**Pn**	**14 44 28.5**	**-0.5**
LJU				AML	AML		
	comp=N,7175µm,0.6s						
LJU				AML	AML		
	comp=E,5630µm,0.8s						
DOSS	**Dosso del Somm**	**3.46**	**336**	P	**Pn**	**14 44 29.2**	**-0.1**
DOSS				AML	AML		
	comp=E,1008µm,0.9s						
DOSS				AML	AML		
	comp=N,789µm,1.4s						
DOSS				AML	AML		
	comp=E,798µm,1.4s						
DOSS				AML	AML		
	comp=N,1000µm,0.9s						
SALO	**Salr**	**3.47**	**327**	Pn	**Pn**	**14 44 30.1**	**+0.9**
SALO	**Salr**	**3.47**	**327**	P	**Pn**	**14 44 29.0**	**-0.2**
SALO				AML	AML		
	comp=E,1310µm,1.0s						
SALO				AML	AML		
	comp=N,1088µm,0.7s						
SALO				AML	AML		
	comp=E,1215µm,1.1s						
SALO				AML	AML		
	comp=N,1150µm,0.7s						
CTI	**Castel Tesino**	**3.50**	**342**		**Pn**	**14 44 30.0**	**+0.3**
CTI	**Castel Tesino**	**3.50**	**342**	P	**Pn**	**14 44 29.8**	**+0.1**
CTI				AML	AML		
	comp=N,715µm,0.8s						
CTI				AML	AML		
	comp=E,1290µm,1.2s						
CTI	**Castel Tesino**	**3.50**	**342**	P	**Pn**	**14 44 30.0**	**+0.3**
CRES	**Cresnjev**	**3.51**	**27**	*e*Pn	**Pn**	**14 44 29.3**	**-0.4**
MPRI	**Monte Prat**	**3.52**	**358**	P	**Pn**	**14 44 29.6**	**-0.4**
MPRI				AML	AML		
	comp=E,969µm,1.1s						
MPRI				AML	AML		
	comp=N,1484µm,1.2s						
MPRI				AML	AML		
	comp=E,1255µm,1.1s						
MPRI				AML	AML		
	comp=N,1945µm,1.2s						
CADS	**Cadrg**	**3.53**	**6**	*i* Pn	**Pn**	**14 44 29.2**	**-0.9**
A051A	**Mrakovica**	**3.54**	**48**	*e*Pn	**Pn**	**14 44 30.2**	**0.0**
BLY	**Banja Luka**	**3.54**	**54**	*e*Pn	**Pn**	**14 44 32.9**	**+2.7**
BLY	**Banja Luka**	**3.54**	**54**	*e*Pn	**Pn**	**14 44 30.7**	**+0.5**
BLY				*e*Sn	**Sn**	**14 45 12.2**	**+0.1**
STAL	**STALIGIAL**	**3.55**	**355**		**Pn**	**14 44 29.7**	**-0.7**
STAL	**STALIGIAL**	**3.55**	**355**	P	**Pn**	**14 44 29.7**	**-0.7**
STAL				AML	AML		
	comp=E,900µm,0.3s						
STAL				AML	AML		
	comp=N,938µm,1.4s						
STAL				AML	AML		
	comp=N,978µm,1.0s						
STAL				AML	AML		
	comp=E,962µm,0.6s						
DGI	**Dorgali Grotta**	**3.60**	**229**	P	**Pn**	**14 44 30.3**	**-0.7**
LUSI	**Trento, Gardas**	**3.61**	**334**	P	**Pn**	**14 44 29.9**	**-1.3**
LUSI				AML	AML		
	comp=N,944µm,1.2s						
LUSI				AML	AML		
	comp=E,855µm,1.0s						
CIMO	**Cimolais**	**3.62**	**352**	Pn	**Pn**	**14 44 30.9**	**-0.5**
CIMO	**Cimolais**	**3.62**	**352**	P	**Pn**	**14 44 30.8**	**-0.5**
CIMO				AML	AML		
	comp=N,313µm,0.9s						
CIMO				AML	AML		
	comp=E,290µm,0.6s						
CIMO				AML	AML		
	comp=N,320µm,0.9s						
CIMO				AML	AML		
	comp=E,282µm,0.6s						
PTCC	**Patocco-Chiusa**	**3.68**	**2**	P	**Pn**	**14 44 31.3**	**-0.9**
PTCC				AML	AML		
	comp=E,429µm,0.9s						
PTCC				AML	AML		
	comp=N,394µm,1.2s						
GAGG	**Gaggia**	**3.71**	**335**	P	**Pn**	**14 44 32.5**	**-0.3**
GAGG				AML	AML		
	comp=E,684µm,1.2s						
GAGG				AML	AML		
	comp=E,1285µm,1.2s						
GAGG				AML	AML		
	comp=N,724µm,1.0s						
GAGG				AML	AML		
	comp=N,1274µm,1.2s						
PRED	**Cave del Predi**	**3.73**	**4**	Pn	**Pn**	**14 44 32.7**	**-0.2**
CLUD	**Cludinico**	**3.74**	**357**	Pn	**Pn**	**14 44 32.7**	**-0.2**
CLUD	**Cludinico**	**3.74**	**357**	P	**Pn**	**14 44 32.4**	**-0.6**
CLUD				AML	AML		
	comp=E,1008µm,1.0s						
CLUD				AML	AML		
	comp=N,670µm,0.9s						
CLUD				AML	AML		
	comp=N,670µm,0.9s						
CLUD				AML	AML		
	comp=E,990µm,1.0s						
TAR1	**Taranto**	**3.78**	**124**	AML	AML		
	comp=N,1064µm,0.7s						
TAR1				AML	AML		
	comp=E,818µm,1.2s						
TREB	**Trebinje**	**3.81**	**88**	*e*Pn	**Pn**	**14 44 33.9**	**0.0**
TREB	**Trebinje**	**3.81**	**88**	*e*Pn	**Pn**	**14 44 33.8**	**-0.1**
TREB				*e*Sn	**Sn**	**14 45 17.4**	**-1.5**
PCP	**Piancastagn**	**3.82**	**300**	P	**Pn**	**14 44 34.2**	**+0.1**
ACOM	**Acomizza, Ital**	**3.83**	**3**	P	**Pn**	**14 44 33.4**	**-0.9**
ACOM				AML	AML		
	comp=E,1210µm,0.9s						
ACOM				AML	AML		
	comp=N,795µm,0.8s						
ACOM				AML	AML		
	comp=E,1230µm,0.9s						
ACOM				AML	AML		
	comp=N,859µm,0.9s						
ZOU	**Zoufplan**	**3.83**	**358**	P	**Pn**	**14 44 34.0**	**-0.4**
ZOU				AML	AML		
	comp=N,1105µm,1.4s						
ZOU				AML	AML		
	comp=E,840µm,1.2s						
ZOU				AML	AML		
	comp=E,832µm,1.1s						
ZOU				AML	AML		
	comp=N,1125µm,1.4s						
MABI	**Malga Bissina**	**3.84**	**331**	P	**Pn**	**14 44 35.4**	**+0.9**
MABI				AML	AML		
	comp=N,253µm,0.8s						
MABI				AML	AML		
	comp=E,216µm,0.7s						
FVI	**Forni Avoltri**	**3.88**	**356**	P	**Pn**	**14 44 34.7**	**-0.3**
FVI				AML	AML		
	comp=N,618µm,0.9s						
FVI				AML	AML		
	comp=E,540µm,1.4s						
FVI	**Forni Avoltri**	**3.88**	**356**	⇑P	**Pn**	**14 44 35.4**	**+0.4**
OBKA	**Obir**	**3.91**	**14**	*e*Pn	**Pn**	**14 44 35.0**	**-0.3**
OBKA	**Obir**	**3.91**	**14**	*i* Pn	**Pn**	**14 44 35.0**	**-0.3**
	comp=E,10nm,0.4s						
MYKA	**Terra Mystica**	**3.92**	**5**	*i* Pn	**Pn**	**14 44 35.3**	**-0.1**
	comp=E,14nm,0.3s,SNR=11						
MYKA				*i* Sn	**Sn**	**14 45 22.5**	**+0.9**
	comp=E,29nm,0.3s						
HCY	**Herceg Novi**	**3.94**	**92**	*e*Pn	**Pn**	**14 44 35.5**	**-0.1**
HCY	**Herceg Novi**	**3.94**	**92**	⇓*i*Pn	**Pn**	**14 44 35.9**	**+0.3**
HCY				*i* Sn	**Sn**	**14 45 22.2**	**+0.3**
HCY	**Herceg Novi**	**3.94**	**92**	P	**Pn**	**14 44 36.3**	**+0.7**
BRY	**Bratogost**	**3.95**	**86**	*e*Pn	**Pn**	**14 44 36.1**	**+0.2**
BRY	**Bratogost**	**3.95**	**86**	⇑*i*Pn	**Pn**	**14 44 36.4**	**+0.5**
BRY				*i* Sn	**Sn**	**14 45 22.6**	**+0.2**
BRY	**Bratogost**	**3.95**	**86**	P	**Pn**	**14 44 36.9**	**+1.0**
KOSI	**Kohlern**	**3.95**	**342**	P	**Pn**	**14 44 37.4**	**+1.4**
KOSI				AML	AML		
	comp=E,1265µm,0.9s						
KOSI				AML	AML		
	comp=N,822µm,1.3s						
APPI	**Appiano**	**4.00**	**340**	P	**Pn**	**14 44 37.5**	**+0.9**
APPI				AML	AML		
	comp=N,493µm,0.4s						
APPI				AML	AML		
	comp=E,550µm,1.2s						
ABTA	**Abfaltersbach**	**4.05**	**354**	*i* Pn	**Pn**	**14 44 37.7**	**+0.4**
	comp=E,103nm,0.5s,SNR=48						
ABTA				*e*Sn	**Sn**	**14 45 25.5**	**+0.6**
	comp=E,153nm,0.6s						
SOKA	**Soboth**	**4.17**	**18**	*i* Pn	**Pn**	**14 44 38.4**	**-0.4**
	comp=E,7.0nm,0.2s						
SOKA				*i* Sn	**Sn**	**14 45 28.7**	**+1.0**
	comp=E,33nm,0.5s						
UPM	**Unac-Piva**	**4.23**	**82**	*e*Pn	**Pn**	**14 44 40.7**	**+0.8**
UPM	**Unac-Piva**	**4.23**	**82**	⇑*i*Pn	**Pn**	**14 44 40.4**	**+0.5**
UPM				*i* Sn	**Sn**	**14 45 29.5**	**0.0**
CEME	**Cevo**	**4.24**	**90**	⇓*i*Pn	**Pn**	**14 44 40.5**	**+0.7**
CEME				*i* Sn	**Sn**	**14 45 29.7**	**+0.2**
BUM	**Brajici-Budva**	**4.25**	**94**	⇓*i*Pn	**Pn**	**14 44 40.6**	**+0.6**
BUM				*i* Sn	**Sn**	**14 45 29.9**	**+0.2**
NKME	**Niksic**	**4.25**	**87**	⇓*i*Pn	**Pn**	**14 44 40.7**	**+0.7**
NKME				*i* Sn	**Sn**	**14 45 30.1**	**+0.3**
SAOF	**Saorge**	**4.29**	**289**	P	**Pn**	**14 44 41.6**	**+1.1**
SAOF				AML	AML		
	comp=N,178µm,1.3s						
SAOF				AML	AML		
	comp=E,151µm,1.1s						
SAOF	**Saorge**	**4.29**	**289**	P	**Pn**	**14 44 42.1**	**+1.6**
RISI	**Rein**	**4.29**	**350**	P	**Pn**	**14 44 40.8**	**+0.1**
RISI				AML	AML		
	comp=E,1275µm,1.6s						
RISI				AML	AML		
	comp=N,1030µm,0.4s						
VSL	**Villasalto**	**4.32**	**223**	P	**Pn**	**14 44 41.0**	**+0.1**
VSL				AML	AML		
	comp=N,184µm,0.6s						
VSL				AML	AML		
	comp=E,158µm,0.8s						
MOSI	**Grossmontoni**	**4.32**	**335**	P	**Pn**	**14 44 41.1**	**0.0**
SBF	**Sospel**	**4.34**	**287**	*e*Pn	**Pn**	**14 44 41.4**	**+0.1**
SBF				*e*Sn	**Sn**	**14 45 30.6**	**-1.5**
	comp=E,99nm,0.4s						
KBA	**Koelnbreinsper**	**4.36**	**2**	*i* Pn	**Pn**	**14 44 42.3**	**+0.7**
	comp=E,40nm,0.4s,SNR=12						
KBA				*e*Sn	**Sn**	**14 45 33.0**	**+0.5**
	comp=E,106nm,0.5s						
KBA	**Koelnbreinsper**	**4.36**	**2**	P	**Pn**	**14 44 40.1**	**-1.4**
MUGIO	**Muggio**	**4.36**	**319**	P	**Pn**	**14 44 41.3**	**-0.2**
ROSI	**Rosskopf**	**4.39**	**344**	P	**Pn**	**14 44 41.9**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**4.41**	**333**	Pn	**Pn**	**14 44 44.2**	**+1.8**
HAPS	**Han Pijesak,Bl**	**4.42**	**70**	*e*Pn	**Pn**	**14 44 43.0**	**+0.6**
VARE	**Varese**	**4.46**	**316**	P	**Pn**	**14 44 44.4**	**+1.5**
TIP	**Timpagrande**	**4.46**	**141**	⇓P	**Pn**	**14 44 44.9**	**+2.0**
TIP	**Timpagrande**	**4.46**	**141**	Pn	**Pn**	**14 44 45.7**	**+2.8**
DRME	**Dracevica, Mon**	**4.48**	**95**	*e*Pn	**Pn**	**14 44 43.3**	**+0.2**
DRME	**Dracevica, Mon**	**4.48**	**95**	*e*Pn	**Pn**	**14 44 43.8**	**+0.7**
DRME				*i* Sn	**Sn**	**14 45 35.5**	**+0.2**
PDG	**Podgorica**	**4.50**	**92**	⇓P	**Pn**	**14 44 44.1**	**+0.7**
PDG				⇑S	**Sn**	**14 45 33.0**	**-2.8**
PDG	**Podgorica**	**4.50**	**92**	Pn	**Pn**	**14 44 44.0**	**+0.7**
PDG	**Podgorica**	**4.50**	**92**	*e*Pn	**Pn**	**14 44 43.5**	**+0.2**
PDG				*e*Sn	**Sn**	**14 45 34.3**	**-1.4**
TTG	**Podgorica**	**4.50**	**92**	⇓*i*Pn	**Pn**	**14 44 44.0**	**+0.7**
TTG				*i* Sn	**Sn**	**14 45 36.0**	**+0.3**
ULC	**Ulcinj**	**4.56**	**98**	⇑*i*Pn	**Pn**	**14 44 44.9**	**+0.7**
ULC				*i* Sn	**Sn**	**14 45 37.6**	**+0.2**
PLE	**Pljevlja**	**4.59**	**80**	⇓*i*Pn	**Pn**	**14 44 45.4**	**+0.6**
PLE				*i* Sn	**Sn**	**14 45 38.3**	**0.0**
VDL	**Val di Lei**	**4.61**	**326**	P	**Pn**	**14 44 46.1**	**+1.1**
RUDO	**Rudo**	**4.62**	**77**	*e*Pn	**Pn**	**14 44 45.1**	**+0.1**
FETA	**Feichten**	**4.63**	**339**	*i* Pn	**Pn**	**14 44 47.1**	**+1.7**
	comp=E,57nm,0.9s,SNR=29						
FETA				*e*Sn	**Sn**	**14 45 41.7**	**+2.4**
	comp=E,44nm,0.6s						
TUE	**Stuetta**	**4.64**	**325**	Pn	**Pn**	**14 44 45.2**	**-0.3**
KOME	**Kolasin**	**4.67**	**86**	⇓*i*Pn	**Pn**	**14 44 46.4**	**+0.7**
KOME				*i* Sn	**Sn**	**14 45 40.1**	**0.0**
WTTA	**Wattenberg**	**4.67**	**347**	*i* Pn	**Pn**	**14 44 47.3**	**+1.4**
	comp=E,40nm,0.6s,SNR=19						
WTTA				*i* Sn	**Sn**	**14 45 40.9**	**+0.7**
	comp=E,160nm,0.7s						
WTTA	**Wattenberg**	**4.67**	**347**	P	**Pn**	**14 44 47.6**	**+1.7**
WTTA	**Wattenberg**	**4.67**	**347**	⇓P	**Pn**	**14 44 47.9**	**+2.0**
DAVOX	**Davos/Dischmat**	**4.69**	**331**	Pn	**Pn**	**14 44 48.3**	**+2.2**
	comp=E,10nm,0.3s,baz=160,slow=19,SNR=106						
DAVOX				Sn	**Sn**	**14 45 43.6**	**+2.9**
	comp=E,6.5nm,0.3s,baz=90,slow=20,SNR=2.8						
DAVOX	**Davos/Dischmat**	**4.69**	**331**	P	**Pn**	**14 44 48.2**	**+2.1**
BBLS	**Lazići**	**4.69**	**74**	*e*Pn	**Pn**	**14 44 46.9**	**+0.9**
BBLS				*e*Sn	**Sn**	**14 45 38.5**	**-2.0**
SQTA	**Sankt Quirin**	**4.71**	**343**		**Pn**	**14 44 47.8**	**+1.5**
SQTA					**Sn**	**14 45 41.9**	**+0.8**
SQTA	**Sankt Quirin**	**4.71**	**343**	*i* Pn	**Pn**	**14 44 47.8**	**+1.5**
	comp=E,29nm,0.3s,SNR=29						
SQTA				*i* Sn	**Sn**	**14 45 41.9**	**+0.8**
	comp=E,44nm,0.3s						
SQTA	**Sankt Quirin**	**4.71**	**343**	P	**Pn**	**14 44 47.8**	**+1.5**
SQTA						14 45 41.9	
PZZ	**Stroppo**	**4.75**	**294**	P	**Pn**	**14 44 49.5**	**+2.6**

WATA Walderalm 4.75 347 Pn 14 44 49.0 +2.1
WATA Sn 14 45 44.0 +1.8
WATA Walderalm 4.75 347 i Pn Pn 14 44 49.0 +2.1
comp=E,68nm,0.7s,SNR=27
WATA i Sn Sn 14 45 44.0 +1.8
comp=E,82nm,0.5s
WATA Walderalm 4.75 347 P Pn 14 44 49.0 +2.1
WATA 14 45 44.0
SCTE Santa Cesarea 4.78 122 Pn 14 44 48.3 +1.1
ARSA Arzberg 4.82 19 i Pn Pn 14 44 47.1 -0.7
comp=E,18nm,0.5s,SNR=6.4
ARSA eSn Sn 14 45 41.3 -2.5
comp=E,54nm,0.8s
MOTA Moosalm 4.85 343 Pn 14 44 50.3 +2.0
MOTA Sn 14 45 47.2 +2.6
MOTA Moosalm 4.85 343 i Pn Pn 14 44 50.3 +2.0
comp=E,69nm,0.7s,SNR=36
MOTA eSn Sn 14 45 47.2 +2.6
comp=E,106nm,0.7s
MOTA Moosalm 4.85 343 P Pn 14 44 50.3 +2.0
MOTA 14 45 47.2
KOVH Kovagotottos 4.87 45 P Pn 14 44 47.6 -0.9
KOVH S Sn 14 45 42.7 -2.3
LMR La Mourre 4.93 279 ePn Pn 14 44 48.9 -0.3
LMR eSn Sn 14 45 43.8 -2.5
comp=E,17nm,0.6s
LMR La Mourre 4.93 279 P Pn 14 44 48.8 -0.4
FUSIO Fusio 4.93 321 P Pn 14 44 50.2 +0.8
IVA Berane 4.94 86 ⇑ i Pn Pn 14 44 50.3 +0.7
IVA i Sn Sn 14 45 46.9 0.0
TEKS Tekeris 4.96 66 ePn Pn 14 44 48.0 -1.7
BIOA Bad Ischl, Aus 4.98 4 Pn 14 44 50.3 +0.4
BIOA Sn 14 45 48.8 +1.2
BIOA Bad Ischl, Aus 4.98 4 i Pn Pn 14 44 50.3 +0.4
comp=E,18nm,0.3s,SNR=22
BIOA eSn Sn 14 45 48.8 +1.2
comp=E,88nm,0.5s
MMK Mattmark 5.00 313 P Pn 14 44 51.6 +1.1
PVY Plav 5.00 89 ⇓ i Pn Pn 14 44 51.1 +0.7
PVY i Sn Sn 14 45 48.4 0.0
SJES Sjenica 5.01 82 ePn Pn 14 44 51.5 +1.0
SJES eSn Sn 14 45 45.9 -2.8
MBDF Montbardon 5.05 296 ePn Pn 14 44 51.3 +0.2
MBDF Montbardon 5.05 296 eP Pn 14 44 55.5 +4.4
MBDF eSn Sn 14 45 47.9 -1.8
comp=E,49nm,0.6s
RETA Reutte 5.06 341 i Pn Pn 14 44 53.8 +2.7
comp=E,9.4nm,0.2s,SNR=8.3
DAVA Damuels 5.12 334 i Pn Pn 14 44 54.4 +2.3
comp=E,62nm,0.6s,SNR=62
DAVA i Sn Sn 14 45 53.3 +1.9
comp=E,104nm,0.5s
DIVS Divibare 5.15 72 Pn Pn 14 44 53.5 +1.1
DIVS Divibare 5.15 72 ePn Pn 14 44 51.5 -0.9
DIVS Divibare 5.15 72 ePn Pn 14 44 52.5 +0.1
DIVS eSn Sn 14 45 50.0 -2.0
TIR Tirane 5.17 103 Pn Pn 14 44 52.3 -0.2
TIR Tirane 5.17 103 ePn Pn 14 44 52.7 +0.2
TIR eSn Sn 14 45 50.0 -2.3
TIR Tirane 5.17 103 P Pn 14 44 52.3 -0.2
IVAS Ivanjica 5.17 78 ePn Pn 14 44 52.7 0.0
IVAS eSn Sn 14 45 49.3 -3.2
MOA Molln 5.18 8 ePn Pn 14 44 52.5 -0.3
MOA eSn Sn 14 45 51.3 -1.4
MOA Molln 5.18 8 ePn Pn 14 44 52.6 -0.1
comp=E,16nm,0.3s
MOA i Sn Sn 14 45 54.1 +1.5
comp=E,44nm,0.4s
MORH Mrgy, Hungar 5.24 46 ⇓P Pn 14 44 54.6 +1.1
MORH Mrgy, Hungar 5.24 46 P Pn 14 44 51.7 -1.8
VLO Vlora 5.25 113 Pn 14 44 56.5 +2.9
VLO Vlora 5.25 113 P Pn 14 44 56.5 +2.9
BNALP Bannalp 5.35 322 P Pn 14 44 56.8 +1.6
FRGS Fruska Gora 5.37 61 ePn Pn 14 44 54.3 -1.1
FRGS Fruska Gora 5.37 61 ePn Pn 14 44 54.4 -1.0
LPG La Plagne 5.39 303 ePn Pn 14 44 57.0 +1.1
LPG La Plagne 5.39 303 eP Pn 14 45 00.4 +4.5
LPG eSn Sn 14 45 55.4 -2.8
comp=E,45nm,0.6s
LPG La Plagne 5.39 303 P Pn 14 44 56.2 +0.3
LPG S Sn 14 45 59.8 +1.6
LPL La Plagne 5.41 303 ePn Pn 14 44 57.7 +1.6
LPL La Plagne 5.41 303 eP Pn 14 45 00.6 +4.5
LPL eSn Sn 14 45 55.3 -3.4
comp=E,35nm,0.5s
LPL La Plagne 5.41 303 P Pn 14 44 57.7 +1.6
MPLH Magyarpolny 5.42 33 P Pn 14 44 55.5 -0.5
RONA Rosalia, Austr 5.44 23 Pn 14 44 56.0 -0.3
RONA Rosalia, Austr 5.44 23 i Pn Pn 14 44 56.0 -0.3
comp=E,23nm,0.4s,SNR=11
TRUS Trudelj 5.47 72 ePn Pn 14 44 55.6 -1.1
TRUS eSn Sn 14 45 57.8 -1.9
SOP Sopron 5.50 25 P Pn 14 44 55.8 -1.3
SOP S Sn 14 45 59.6 -0.9
SOP Sopron 5.50 25 P Pn 14 44 55.6 -1.5
CONA Conrad Observa 5.54 19 i Pn Pn 14 44 57.5 -0.2
comp=E,31nm,0.5s,SNR=49
CONA eSn Sn 14 45 58.7 -2.8
comp=E,35nm,0.5s
SENIN Lac Senin/Sane 5.56 313 Pn Pn 14 44 59.7 +1.7
RSL Roselend 5.56 304 P Pn 14 45 00.6 +2.5
RSL pmax pmax
comp=Z,28nm,0.8s
FUR Furstenfeldbru 5.60 347 P Pn 14 45 01.0 +2.5
FUR pmax pmax
comp=Z,103nm,0.7s
GRUS Gruza 5.62 76 ePn Pn 14 44 58.8 0.0
SMRF Simiane la Rot 5.68 285 ePn Pn 14 45 01.3 +1.6
ORIF Oris-en-Rattie 5.72 295 ePn Pn 14 45 02.9 +2.7
ORIF Oris-en-Rattie 5.72 295 P Pn 14 45 03.6 +3.4
KEK Kerkira 5.83 119 Pn Pn 14 45 02.5 +0.9
SELS Selova 5.85 82 ePn Pn 14 45 01.8 -0.1
OHR Ohrid 5.91 103 i Pn Pn 14 45 04.2 +1.4
OHR Ohrid 5.91 103 P Pn 14 45 05.8 +3.0
OHR pmax pmax
comp=Z,160nm,0.9s
SLE Schleitheim 6.03 328 P Pn 14 45 04.7 +0.3
SLE S Sn 14 46 13.3 -0.2
KBN Korca 6.07 108 P Pn 14 45 03.8 -1.3
ZST Bratislava 6.13 25 ePN Pn 14 45 04.8 -0.9
ZST eSN Sn 14 46 15.2 -0.7
ZST Bratislava 6.13 25 eP Pn 14 45 04.8 -0.9
ZST e 14 46 15.2
GEC2 GERESS Array S 6.13 3 Pn 14 45 05.0 -0.9
GEC2 GERESS Array S 6.13 3 P Pn 14 45 05.3 -0.6
GEC2 pmax pmax
comp=Z,16nm,0.7s
GERES GERESS Array B 6.13 3 Pn Pn 14 45 04.4 -1.5
comp=Z,2.0nm,0.3s,baz=175,slow=12,SNR=36
GERES Sn Sn 14 46 14.2 -2.0
comp=Z,7.9nm,0.3s,baz=208,slow=38,SNR=10
GERES LR LR 14 48 02.7
comp=Z,190nm,19.0s,baz=186,slow=44
comp=Z,2.9nm,0.4s
CKRC Cesky Krumlov 6.15 7 ePN Pn 14 45 05.1 -0.9
CKRC eSN Sn 14 46 14.2 -2.2
SKO Skopje 6.17 94 i Pn Pn 14 45 07.1 +0.8
IGT Igoumenitsa 6.27 118 P Pn 14 45 09.1 +1.4
IGT pmax pmax
comp=Z,141nm,1.0s
MODS Modra-Piesok 6.34 26 ePN Pn 14 45 07.8 -0.8
MODS Modra-Piesok 6.34 26 eP Pn 14 45 07.8 -0.8
BARS Barje 6.36 86 ePn Pn 14 45 08.8 -0.1
CABF La Chapelle 6.38 310 ePn Pn 14 45 09.1 -0.1
CABF La Chapelle 6.38 310 eP Pn 14 45 13.9 +4.7
CABF eSn Sn 14 46 20.2 -1.9
comp=Z,45nm,0.8s
CABF La Chapelle 6.38 310 P Pn 14 45 09.2 0.0
KHC Kasperske Hory 6.41 2 Pn Pn 14 45 09.2 -0.5
KHC Kasperske Hory 6.41 2 ePN Pn 14 45 09.2 -0.5
KHC eSN Sn 14 46 18.9 -4.1
KHC Kasperske Hory 6.41 2 i P Pn 14 45 08.6 -1.1
WET Wettzell 6.42 358 P Pn 14 45 10.2 +0.4
WET pmax pmax
comp=Z,25nm,1.0s
FNA Florina 6.43 105 Pn 14 45 11.7 +1.7
FNA Florina 6.43 105 P Pn 14 45 11.7 +1.7
VIVF Saint-Julien-l 6.51 292 ePn Pn 14 45 11.1 0.0
VIVF eSn Sn 14 46 21.8 -3.7
comp=Z,19nm,0.9s
VIVF Saint-Julien-l 6.51 292 P Pn 14 45 12.2 +1.1
VIVF S Sn 14 46 25.3 -0.2
MDVR Moldovita 6.51 69 ⇓P Pn 14 45 10.9 -0.2

BFO Black Forest 6.56 330 Pn 14 45 11.3 -0.4
BFO Black Forest 6.56 330 P Pn 14 45 13.4 +1.8
BFO Black Forest 6.56 330 P Pn 14 45 11.3 -0.4
ZAGS Zajecar 6.70 78 ePn Pn 14 45 13.1 -0.5
BZS Buzias 6.72 62 ⇑P Pn 14 45 13.4 -0.4
BZS Buzias 6.72 62 P Pn 14 45 14.1 +0.2
BZS pmax pmax
comp=Z,21nm,1.0s
KRUC Moravsky 6.72 18 ePN Pn 14 45 13.1 -0.8
KRUC eSN Sn 14 46 28.6 -2.0
KRUC Moravsky 6.72 18 P Pn 14 45 13.5 -0.4
KRUC pmax pmax
comp=Z,13nm,0.6s
GRB1 Grafenberg Arr 6.75 352 P Pn 14 45 14.9 +0.6
GRB1 pmax pmax
comp=Z,34nm,0.8s
HINF Hinteralfeld 6.77 321 ePn Pn 14 45 14.5 -0.1
HINF eSn Sn 14 46 29.0 -2.8
comp=Z,92nm,0.5s
HINF Hinteralfeld 6.77 321 P Pn 14 45 11.9 -2.7
HINF S Sn 14 46 28.1 -3.6
STIP Stip 6.77 96 i Pn Pn 14 45 16.6 +2.1
LASF Ste Croix 6.92 284 ePn Pn 14 45 17.3 +0.6
LASF eSn Sn 14 46 30.2 -5.3
comp=Z,4.0nm,0.6s
ECH Echery 6.93 324 Pn Pn 14 45 16.1 -0.7
ECH Echery 6.93 324 P Pn 14 45 16.1 -0.7
ZAPS Zavoj 6.96 82 ePn Pn 14 45 17.6 +0.5
VRAC Vranov 7.00 19 Pn Pn 14 45 17.1 -0.6
comp=Z,1.0nm,0.3s,baz=210,slow=15,SNR=10
VRAC Sn Sn 14 46 37.8 +0.4
comp=Z,1.5nm,0.3s,baz=283,slow=18,SNR=3.4
VRAC LR LR 14 47 41.4
comp=Z,64nm,20.5s,baz=210,slow=36
comp=Z,4.7nm,0.4s
VRAC Vranov 7.00 19 ePN Pn 14 45 15.1 -2.6
VRAC eSN Sn 14 46 35.0 -2.4
VYHS Vyhne 7.00 33 ePN Pn 14 45 17.7 0.0
VYHS Vyhne 7.00 33 eP Pn 14 45 17.7 0.0
BLKB Belogradchik 7.00 79 ⇓P Pn 14 45 18.0 +0.2
BLKB ⇑S Sn 14 46 35.0 -2.6
SIRR Siria 7.02 57 ⇑P Pn 14 45 18.9 +0.9
PSZ Piszkesteto 7.03 40 P Pn 14 45 21.3 +3.1
CDF Champ du Feu 7.03 326 ePn Pn 14 45 18.0 -0.2
CDF Champ du Feu 7.03 326 eP Pn 14 45 22.3 +4.1
CDF eSn Sn 14 46 35.3 -3.0
comp=Z,24nm,0.4s
CDF Champ du Feu 7.03 326 P Pn 14 45 17.2 -1.0
GRF Grafenberg Arr 7.10 350 P Pn 14 45 22.2 +3.1
GRF pmax pmax
comp=Z,30nm,0.9s
GRFO Grafenberg 7.10 350 P Pn 14 45 22.2 +3.2
GRFO pmax pmax
comp=Z,28nm,1.1s
GRG Griva 7.11 101 P Pn 14 45 19.9 +0.6
GRG pmax pmax
comp=Z,77nm,0.9s
VAY Valandovo 7.13 98 i Pn Pn 14 45 19.8 +0.2
VAY Valandovo 7.13 98 P Pn 14 45 19.8 +0.2
HAU Haudompre 7.14 320 ePn Pn 14 45 19.4 -0.2
HAU eSn Sn 14 46 37.3 -3.6
comp=Z,52nm,0.4s
HAU Haudompre 7.14 320 P Pn 14 45 21.4 +1.8
GOPC GO Pecny, Ondr 7.28 8 ePN Pn 14 45 20.8 -0.7
GOPC eSN Sn 14 46 41.3 -2.9
GOPC GO Pecny, Ondr 7.28 8 eP Pn 14 45 20.8 -0.7
GOPC e 14 46 41.3
PRU Pruhonice 7.33 7 ePN Pn 14 45 22.5 +0.3
PRU eSN Sn 14 46 42.2 -3.2
PRU Pruhonice 7.33 7 eP Pn 14 45 22.5 +0.3
PRU e 14 46 42.2
GZR Gura Zlata 7.41 66 ⇑P Pn 14 45 23.3 -0.1
KNT Kendrikon 7.41 99 P Pn 14 45 24.6 +1.2
KNT pmax pmax
comp=Z,41nm,0.8s
VTS Vitosha 7.41 87 ⇓P Pn 14 45 24.1 +0.6
VTS ⇓S Sn 14 46 44.9 -2.9
VTS Vitosha 7.41 87 Pn Pn 14 45 23.3 -0.2
VTS Vitosha 7.41 87 P Pn 14 45 23.3 -0.2
KEST Kesra 7.59 204 Pn Pn 14 45 30.6 +4.7
comp=Z,1.0nm,0.3s,baz=345,slow=13,SNR=9.1
KEST Sn Sn 14 46 54.3 +2.2
baz=53,slow=20
KEST LR LR 14 48 34.5
comp=Z,368nm,18.2s,baz=5.0,slow=39
DEV Deva 7.66 62 P Pn 14 45 28.5 +1.8
DEV pmax pmax
comp=Z,37nm,0.6s
MORC Moravsky Berou 7.67 22 ⇓P Pn 14 45 29.6 +2.6
MORC Moravsky Berou 7.67 22 Pn Pn 14 45 26.3 -0.7
MORC Moravsky Berou 7.67 22 ePN Pn 14 45 26.4 -0.6
MORC Moravsky Berou 7.67 22 P Pn 14 45 26.3 -0.7
SMF Signal de Mont 7.72 304 ePn Pn 14 45 28.1 +0.5
SMF Signal de Mont 7.72 304 eP Pn 14 45 32.7 +5.1
SMF eSn Sn 14 46 51.0 -4.1
comp=Z,29nm,0.6s
SMF Signal de Mont 7.72 304 P Pn 14 45 27.9 +0.3
KRLC Kraliky 7.76 17 ePN Pn 14 45 27.1 -1.1
KRLC Kraliky 7.76 17 eP Pn 14 45 27.1 -1.1
PAGF Fort de Pagny 7.82 321 ePn Pn 14 45 29.1 +0.1
PAGF Fort de Pagny 7.82 321 eP Pn 14 45 33.7 +4.7
PAGF eSn Sn 14 46 53.1 -4.6
comp=Z,102nm,1.0s
SOH Sokhos 7.84 101 P Pn 14 45 32.2 +2.9
SOH pmax pmax
comp=Z,18nm,0.7s
AGG Agios Georgios 7.86 115 P Pn 14 45 32.5 +3.0
AGG pmax pmax
comp=Z,11nm,0.8s
OKC Ostrava-Krasne 7.90 24 P Pn 14 45 33.3 +3.3
OKC pmax pmax
comp=Z,15nm,1.3s
SFTF Sexfontaines 7.92 317 ePn Pn 14 45 30.2 -0.1
SFTF Sexfontaines 7.92 317 eP Pn 14 45 35.4 +5.1
SFTF eSn Sn 14 46 55.8 -4.2
comp=Z,24nm,0.5s
DPC Dobruska-Polom 7.93 15 ePN Pn 14 45 30.3 -0.2
DPC Dobruska-Polom 7.93 15 eP Pn 14 45 30.3 -0.2
SRS Serrai 7.93 98 P Pn 14 45 31.0 +0.5
SRS pmax pmax
comp=Z,41nm,0.7s
ABAH Abaujker 7.94 43 P Pn 14 45 29.7 -0.9
MOX Moxa 8.00 353 P Pn 14 45 32.2 +0.9
MOX pmax pmax
comp=Z,19nm,0.9s
LOR Lormes 8.01 308 ePn Pn 14 45 31.2 -0.4
baz=130
LOR Lormes 8.01 308 eP Pn 14 45 36.4 +4.8
LOR eSn Sn 14 46 57.8 -4.5
comp=Z,19nm,0.5s
LOR Lormes 8.01 308 P Pn 14 45 31.4 -0.2
UPC Upice 8.03 13 P Pn 14 45 34.3 +2.5
MTLF Montolieu 8.05 278 ePn Pn 14 45 32.6 +0.4
AVF Avril sur Loir 8.09 304 ePn Pn 14 45 32.6 0.0
AVF Avril sur Loir 8.09 304 eP Pn 14 45 37.7 +5.1
AVF eSn Sn 14 46 59.8 -4.3
comp=Z,28nm,1.0s
AVF Avril sur Loir 8.09 304 P Pn 14 45 32.9 +0.3
OSTC Ostas 8.11 14 ePN Pn 14 45 32.9 0.0
OSTC Ostas 8.11 14 P Pn 14 45 33.7 +0.8
MEZF Maizieres J'vi 8.11 318 ePn Pn 14 45 33.0 +0.1
MEZF Maizieres J'vi 8.11 318 eP Pn 14 45 38.2 +5.3
MEZF eSn Sn 14 46 59.9 -4.8
comp=Z,27nm,0.7s
SSF Saint Saulge 8.12 306 ePn Pn 14 45 33.4 +0.4
SSF Saint Saulge 8.12 306 eP Pn 14 45 38.4 +5.4
SSF eSn Sn 14 47 00.9 -4.0
comp=Z,6.5nm,0.4s
SSF Saint Saulge 8.12 306 P Pn 14 45 33.9 +0.9
SSF S Sn 14 47 01.7 -3.2
SAVF Savonnieres en 8.15 319 ePn Pn 14 45 34.1 +0.6
SAVF Savonnieres en 8.15 319 eP Pn 14 45 39.3 +5.8
SAVF eSn Sn 14 47 01.7 -4.0
comp=Z,32nm,0.7s
BRG Berggiesshubel 8.17 3 eP Pn 14 45 36.3 +2.6
BRG Amp 14 45 45.7
comp=Z,5.6nm,0.5s
BRG ex x 14 46 59.1
BRG ex x 14 47 57.7
BRG Amp 14 48 31.3
comp=Z,80nm,1.5s
BRG Amp 14 49 05.0
comp=E,0.3nm,12.5s

BRG Amp 14 49 10.0
comp=N,0.1nm,14.2s
BRG Amp 14 49 13.0
comp=Z,0.4nm,16.5s
BRG Berggiesshubel 8.17 3 eP Pn 14 45 36.3 +2.6
BRG e 14 46 59.0
BRG pmax pmax
comp=Z,6.0nm,0.5s
BRG MLR MLR
comp=E,335nm,12.5s
BRG MLR MLR
comp=N,128nm,14.2s
BRG MLR MLR
comp=Z,367nm,16.5s
TNS Taunus Mts 8.18 338 P Pn 14 45 34.9 +1.0
TNS pmax pmax
comp=Z,29nm,0.8s
BGF Bois d'Agland 8.30 301 ePn Pn 14 45 36.2 +0.6
BGF Bois d'Agland 8.30 301 eP Pn 14 45 41.0 +5.4
BGF eSn Sn 14 47 05.0 -4.4
comp=Z,16nm,0.4s
BGF Bois d'Agland 8.30 301 P Pn 14 45 35.4 -0.2
BGF S Sn 14 47 08.7 -0.7
CAF Calviac 8.33 289 ePn Pn 14 45 36.9 +0.9
CAF Calviac 8.33 289 P Pn 14 45 37.7 +1.7
KSP Ksiaz 8.40 14 P Pn 14 45 37.6 +0.8
KSP pmax pmax
comp=Z,9.0nm,1.0s
PLVB Pleven 8.41 82 ⇑P Pn 14 45 37.5 +0.5
WLF Walferdange 8.48 327 dx Pn 14 45 41.5 +3.6
TRPA Tarpa 8.52 47 ⇑P Pn 14 45 39.4 +1.0
TRPA Tarpa 8.52 47 P Pn 14 45 41.2 +2.8
PLD Plovdiv 8.55 90 P Pn 14 45 42.0 +3.0
PLD pmax pmax
comp=Z,139nm,0.6s
CLL Collm 8.59 359 Pn Pn 14 45 39.3 -0.2
CLL Collm 8.59 359 i Pn Pn 14 45 40.0 +0.6
comp=Z,5.0nm,0.8s
CLL i Sn Sn 14 47 14.1 -2.3
CLL eSb Sg 14 47 42.0 -28
CLL i x x 14 47 59.8
CLL eSg Sg 14 48 09.0 -1.4
comp=N,100nm,19.3s
CLL eSg Sg 14 48 09.0 -1.4
comp=E,300nm,21.8s
CLL i Sgmax 14 48 17.1
comp=Z,88nm,1.5s
CLL Collm 8.59 359 i P Pn 14 45 40.0 +0.6
CLL i 14 47 14.1
CLL pmax pmax
comp=Z,5.0nm,0.8s
TCF Toulx Ste Croi 8.61 298 ePn Pn 14 45 40.3 +0.5
TCF eSn Sn 14 47 12.3 -4.7
comp=Z,7.1nm,0.5s
ARR Arges 8.66 68 ⇓P Pn 14 45 40.8 +0.2
UZH Uzhgorod 8.69 44 eP Pn 14 45 48.7 +7.8
STHS Stebnicka Huta 8.73 37 ePN Pn 14 45 41.6 +0.2
STHS Stebnicka Huta 8.73 37 eP Pn 14 45 41.6 +0.2
RJF Les Rejaudoux 8.79 291 ePn Pn 14 45 44.4 +2.1
RJF eSn Sn 14 47 16.6 -4.8
comp=Z,3.4nm,0.5s
VOIR 8.97 68 ⇓P Pn 14 45 45.3 +0.6
VOIR 8.97 68 P Pn 14 45 47.2 +2.5
VOIR pmax pmax
comp=Z,18nm,0.9s
LFF La Frestale 9.26 288 ePn Pn 14 45 48.1 -0.6
MEM Membach 9.30 331 dx Pn 14 45 59.8 +11
CLZ Clausthal 9.32 349 P Pn 14 45 51.0 +1.5
CLZ pmax pmax
comp=Z,10.0nm,0.7s
RDO Rodhopi 9.35 96 Pn Pn 14 45 50.5 +0.6
GIVF Givet 9.36 325 ePn Pn 14 45 49.5 -0.6
GIVF eSn Sn 14 47 29.9 -5.5
comp=Z,3.7nm,0.3s
BCLA Clavier 9.41 328 dx Pn 14 46 04.6 +14
BSTI Sart Tilman 9.44 329 dx Pn 14 46 03.4 +12
DOU Dourbes 9.45 324 dx Pn 14 46 08.3 +17
BGES Gesves 9.47 327 dx Pn 14 46 04.6 +13
BMRD Maredsous 9.54 326 dx Pn 14 46 10.4 +18
MLR Muntele Rosu 9.59 69 ⇓P Pn 14 45 54.0 +0.6
MLR Muntele Rosu 9.59 69 Pn Pn 14 45 55.7 +2.4
comp=Z,1.3nm,0.3s,baz=299,slow=10,SNR=15
MLR LR LR 14 50 27.0
comp=Z,541nm,20.4s,baz=247,slow=43
comp=Z,11nm,0.8s
BAIF Baives 9.60 323 ePn Pn 14 45 53.6 +0.3
BAIF eSn Sn 14 47 35.6 -5.6
comp=Z,5.2nm,0.6s
BUR01 Bucovina Ar. S 9.80 56 ⇑P Pn 14 45 56.6 +0.3
ETSF Etsaut 10.10 276 ePn Pn 14 46 05.6 +5.3
VRI Vrincioaia 10.21 67 ⇑P Pn 14 46 01.2 -0.5
VRI Vrincioaia 10.21 67 P Pn 14 46 01.2 -0.5
IDI Anoyia 11.75 125 Pn Pn 14 46 24.8 +2.0
comp=Z,1.1nm,0.3s,baz=331,slow=15,SNR=8.6
IDI Sn Sn 14 48 23.1 -11
comp=Z,0.3nm,0.3s,baz=282,slow=20,SNR=2.8
IDI LR LR 14 52 08.8
comp=Z,51nm,18.8s,baz=280,slow=44
comp=Z,6.3nm,0.5s
ESDC Sonseca Array 13.26 262 Pn Pn 14 46 43.0 -0.5
comp=Z,0.1nm,0.3s,baz=68,slow=14,SNR=11
ESDC LR LR 14 51 54.1
comp=Z,129nm,18.7s,baz=76,slow=38
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 13.58 48 Pn Pn 14 46 47.7 +0.1
comp=Z,0.6nm,0.3s,baz=242,slow=11,SNR=2.8
AKASG LR LR 14 52 34.3
comp=Z,150nm,18.4s,baz=233,slow=40
MDUB Mudurnu 13.68 93 Pn Pn 14 46 49.6 +0.4
ELL Elmali 14.18 109 Pn Pn 14 46 57.0 +0.8
ELL Elmali 14.18 109 P Pn 14 46 57.0 +0.8
NACGM Naroch 15.09 31 i P Pn 14 47 02.3 -6.0
comp=Z,19nm,1.2s,baz=222
MNK Minsk 15.24 34 i P Pn 14 47 05.2 -5.0
comp=E,2.0nm,0.7s
MNK i P Pn 14 47 05.2 -5.0
comp=N,31nm,0.9s
MNK i P Pn 14 47 05.2 -5.0
comp=Z,22nm,0.7s,baz=226
MNK i PP P 14 47 13.2 -2.0
MNK i PPP PPP 14 47 20.9
MNK i S Sn 14 49 50.5 -8.5
MNK i SS SnSn 14 50 04.3 -7.3
MNK i SSS SSS 14 50 17.0
MNK i LQ LQ 14 51 26.4
MNK i LR LR 14 52 29.7
MNK i LRM MLR 14 53 27.4
comp=E,16nm,18.7s
MNK i LRM MLR 14 53 27.4
comp=N,248nm,16.8s
MNK i LRM MLR 14 53 40.6
comp=Z,148nm,19.3s
MNK Minsk 15.24 34 i P Pn 14 47 05.2 -5.0
MNK i S Sn 14 49 50.5 -8.5
MNK pmax pmax
comp=Z,22nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,31nm,0.9s
MNK MLR MLR
comp=N,248nm,17.0s
MNK MLR MLR
comp=E,16nm,19.0s
MNK MLR MLR
comp=Z,148nm,19.0s
BRTR Keskin Array B 15.68 94 Pn P 14 47 18.6 -1.8
comp=Z,0.1nm,0.3s,baz=308,slow=8.8,SNR=4.2
BRTR LR LR 14 54 23.1
comp=Z,237nm,19.2s,baz=294,slow=41
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 15.68 94 Pn 14 47 16.7 +0.4
EKA Eskdalemuir Ar 16.50 326 Pn P 14 47 27.6 -1.6
baz=139,slow=13
HFS Hagfors 17.44 1 P P 14 47 39.2 -0.3
comp=Z,0.2nm,0.3s,baz=178,slow=12,SNR=6.8
HFS LR LR 14 55 01.7
comp=Z,76nm,21.1s,baz=212,slow=40
comp=Z,2.1nm,0.6s
VSU Vasula 17.89 24 eP P 14 47 44.5 -0.1
NB2 NORSAR Subarra 18.38 357 P P 14 47 50.8 +0.8
comp=Z,5.4nm,0.8s,baz=175,slow=11
NOA NORSAR Array B 18.38 357 P Pn 14 47 49.2 -0.7
baz=176,slow=11,SNR=3.8
NOA LR LR 14 56 35.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,56nm,18.2s,baz=180,slow=43						
	comp=Z,1.5nm,0.9s						
VSR	Storozhevoye	19.58	55	eP	P	14 48 02.1	-1.1
VSR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
OBN	Obninsk	19.63	43	P	P	14 48 03.2	-0.4
	comp=Z,0.3nm,0.3s,baz=252,slow=20,SNR=1.4						
	comp=Z,2.2nm,0.3s						
OBN	Obninsk	19.63	43⇑	iP	P	14 48 03.6	0.0
OBN				eS	S	14 51 37.6	-7.4
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,127nm,20.0s						
VORR	Voronezh	19.73	54	eP	Pn	14 48 06.5	+0.2
VORR				pmax	pmax		
	comp=Z,40nm,0.4s						
LPSR	Galich'ya Gora	19.86	51	eP	Pn	14 48 07.9	+0.1
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MMAI	Mount Meron Ar	20.00	112	P	P	14 48 08.6	+0.7
	comp=Z,4.9nm,0.6s,baz=317,slow=9.5,SNR=6.9						
MMAI				LR	LR	14 57 43.8	
	comp=Z,61nm,18.6s,baz=170,slow=42						
	comp=Z,4.9nm,0.6s						
FINES	FINESS Array B	20.28	18	P	P	14 48 10.4	-0.3
	comp=Z,5.6nm,0.7s,baz=198,slow=8.7,SNR=15						
FINES				LR	LR	14 56 58.7	
	comp=Z,88nm,20.2s,baz=206,slow=40						
	comp=Z,5.6nm,0.7s						
FINES	FINESS Array B	20.28	18	P	P	14 48 10.9	+0.2
FINES	FINESS Array B	20.28	18	P	P	14 48 10.9	+0.2
FIA1	FINESS Array S	20.28	18	P	P	14 48 11.2	+0.4
FIA1				IAmb	IAmb	14 48 17.7	
	comp=Z,43nm,1.5s						
MOS	Moscow	20.46	42	eP	Pn	14 48 14.2	-0.6
VRH	Novokhopyorsk	21.14	56	eP	P	14 48 19.3	-0.7
VRH				pmax	pmax		
	comp=Z,20nm,1.0s						
KIV	Kislovodsk	21.45	77	P	P	14 48 24.0	+0.4
KIV				IAmb	IAmb	14 48 29.4	
	comp=Z,20nm,0.9s						
KIV	Kislovodsk	21.45	77	P	P	14 48 27.5	+3.9
KIV	Kislovodsk	21.45	77	eP	P	14 48 26.6	+3.0
KIV				pmax	pmax		
	comp=Z,25nm,1.0s						
KIV				MLR	MLR		
	comp=Z,19nm,14.0s						
SHA1	Shidzhatmaz	21.46	77	iP	P	14 48 26.4	+2.6
ASF	Jabal al Asfar	21.51	112	P	P	14 48 25.6	+1.2
	comp=Z,1.9nm,0.6s,baz=315,slow=1.4,SNR=2.1						
	comp=Z,1.9nm,0.6s						
NEY	Neytrino	21.57	78	iP	P	14 48 26.9	+1.9
NEY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	Khabaz	21.63	77	P	P	14 48 26.3	+0.9
	comp=Z,9.8nm,1.0s,baz=306,slow=6.5,SNR=14						
KBZ				LR	LR	14 57 53.4	
	comp=Z,59nm,20.5s,baz=302,slow=40						
	comp=Z,9.8nm,1.0s						
KBZ	Khabaz	21.63	77⇑	iP	P	14 48 27.5	+2.1
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
EIL	Elat	21.80	120	LR	LR	15 00 24.5	
	comp=Z,21nm,18.6s,baz=167,slow=46						
ONI	Oni	22.21	80	P	P	14 48 31.8	0.0
ONI	Oni	22.21	80	P	P	14 48 31.8	0.0
ONI				pmax	pmax		
	comp=Z,19nm,0.3s						
GURO	Guroymak-BITLI	22.24	91	P	P	14 48 33.0	+0.8
ZEI	Tsey	22.50	79	eP	P	14 48 37.8	+2.8
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GNI	Garni	23.73	85	P	P	14 48 48.8	+1.2
	comp=Z,2.2nm,0.3s,baz=319,slow=19,SNR=1.5						
GNI				LR	LR	15 01 15.4	
	comp=Z,32nm,19.3s,baz=310,slow=45						
	comp=Z,2.2nm,0.3s						
GNI	Garni	23.73	85	P	P	14 49 00.5	+13
KLMR	Klimovskoe	24.11	32	eP	P	14 48 51.6	+0.8
KLMR				AMP		14 49 00.0	
	comp=Z,41nm,1.7s						
KLMR	Klimovskoe	24.11	32	eP	P	14 48 51.6	+0.8
KLMR				pmax	pmax		
	comp=Z,41nm,1.7s						
BELG	Belogornoye	24.96	55	P	P	14 48 59.5	+0.9
	comp=Z,32nm,0.9s,baz=186,slow=2.3,SNR=6.1						
BELG				LR	LR	14 59 41.0	
	comp=Z,119nm,20.8s,baz=314,slow=39						
	comp=Z,32nm,0.9s						
BELG	Belogornoye	24.96	55	iP	P	14 48 58.6	0.0
BELG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKT	Akhty	25.57	81	eP	P	14 49 07.5	+3.2
AKT				e		14 49 44.0	
AKT				pmax	pmax		
	comp=Z,13nm,0.8s						
KIRV	Kirov	27.48	42	LR	LR	15 01 23.2	
	comp=Z,114nm,19.3s,baz=250,slow=39						
ARCES	ARCESS Array B	27.62	9	P	P	14 49 22.4	0.0
	comp=Z,1.6nm,0.7s,baz=185,slow=9.8,SNR=4.1						
ARCES				LR	LR	15 00 13.7	
	comp=Z,48nm,18.3s,baz=80,slow=36						
	comp=Z,1.6nm,0.7s						
ARU	Arti	31.83	49	LR	LR	15 04 02.3	
	comp=Z,70nm,18.1s,baz=134,slow=39						
ARU	Arti	31.83	49	P	P	14 49 59.6	-0.2
ARU	Arti	31.83	49c	iP	P	14 49 59.4	-0.4
ARU						14 52 56.5	
ARU				S	S	14 55 09.1	-1.0
ARU				SS	SnSn	14 56 52.8	-4.5
ARU				pmax	pmax		
	comp=Z,16nm,0.9s						
ARU				MLR	MLR		
	comp=Z,139nm,16.0s						
SVE	Sverdlovsk	33.01	48	eP	P	14 50 11.1	+0.9
SVE				pmax	pmax		
	comp=Z,18nm,1.3s						
GEYT	Alibeck	34.28	83	P	P	14 50 22.2	+0.7
	comp=Z,2.1nm,0.6s,baz=286,slow=11,SNR=4.2						
GEYT				LR	LR	15 08 51.5	
	comp=Z,32nm,18.5s,baz=348,slow=44						
	comp=Z,2.1nm,0.6s						
GYA0B	ALIBECK ARRAY	34.28	83	P	P	14 50 22.2	+0.7
GYA0B				IAmb	IAmb	14 50 25.0	
	comp=Z,5.6nm,1.1s						
BBTS	Babate	37.86	231	LR	LR	15 05 27.6	
	comp=Z,67nm,21.5s,baz=46,slow=35						
BRVK	Borovoye	38.69	54	P	P	14 50 59.5	+0.6
BRVK				IAmb	IAmb	14 51 02.5	
	comp=Z,13nm,0.8s						
BRVK	Borovoye	38.69	54	P	P	14 51 00.4	+1.5
BRVK	Borovoye	38.69	54	iP	P	14 50 59.6	+0.6
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s						
BVAR	Borovoye Array	38.76	54	LR	LR	15 07 54.3	
	comp=Z,93nm,20.2s,baz=282,slow=38						
DBIC	Dimbokro	39.28	209	P	P	14 51 04.5	+0.2
	comp=Z,3.8nm,0.8s,baz=87,slow=11,SNR=2.4						
DBIC				LR	LR	15 08 15.0	
	comp=Z,50nm,19.6s,baz=358,slow=38						
	comp=Z,3.8nm,0.8s						
KKAR	Karatay Array	41.27	69	P	P	14 51 21.6	+1.0
KKAR	Karatay Array	41.27	69	P	P	14 51 21.6	+1.0
CHGR	Chuyangaron	41.98	76	P	P	14 51 26.9	+0.4
CHGR				IAmb	IAmb	14 51 30.5	
	comp=Z,9.3nm,0.9s						
CHGR	Chuyangaron	41.98	76	P	P	14 51 26.9	+0.4
CHGR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WSAR	Wadi Sarin	42.21	103	LR	LR	15 13 00.3	
	comp=Z,33nm,18.3s,baz=335,slow=42						
AAK	Ala-Archa	44.17	68	LR	LR	15 14 21.8	
	comp=Z,76nm,18.1s,baz=332,slow=42						
AAK	Ala-Archa	44.17	68	P	P	14 51 44.4	+0.2
AAK	Ala-Archa	44.17	68	P	P	14 51 47.7	+3.4
AAK	Ala-Archa	44.17	68c	eP	P	14 51 47.0	+2.7
AAK				pmax	pmax		
	comp=Z,13nm,1.0s						
NRIK	Noril'sk	45.38	29	P	P	14 51 54.2	+0.9
	comp=Z,1.1nm,0.3s,baz=251,slow=1.8,SNR=2.8						
	comp=Z,1.1nm,0.3s						
NRIK	Noril'sk	45.38	29	P	P	14 51 54.7	+1.5
NRIK				IAmb	IAmb	14 51 57.3	
	comp=Z,7.2nm,1.1s						
NRIK	Noril'sk	45.38	29	iP	P	14 51 55.9	+2.6
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KSH	Kashi	46.45	72	P	P	14 52 04.3	+2.0
KSH				pmax	pmax		
	comp=Z,11nm,1.0s						
ZALV	Zalesovo Beam	46.96	50	P	P	14 52 04.5	-1.4
	comp=Z,0.6nm,0.3s,baz=294,slow=7.6,SNR=7.8						
ZALV				PP	PP	14 53 56.2	+0.1
	comp=Z,0.7nm,0.5s,baz=317,slow=10,SNR=2.8						
ZALV				LR	LR	15 13 31.7	
	comp=Z,70nm,18.1s,baz=260,slow=38						
	comp=Z,0.6nm,0.3s						
NIL	Nilore	47.20	80	P	P	14 52 08.6	+0.5
NIL	Nilore	47.20	80	P	P	14 52 12.3	+4.2
NIL	Nilore	47.20	80	P	P	14 52 08.6	+0.5
NIL				pmax	pmax		
	comp=Z,12nm,1.1s						
MAKZ	Makanchi	47.60	60	P	P	14 52 11.0	0.0
MAKZ	Makanchi	47.60	60	P	P	14 52 14.9	+3.9
MAKZ	Makanchi	47.60	60	P	P	14 52 11.0	0.0
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	47.80	60	P	P	14 52 11.2	-1.5
	comp=Z,2.6nm,0.7s,baz=308,slow=4.5,SNR=15						
	comp=Z,2.6nm,0.7s						
MKAR	Makanchi Array	47.80	60	P	P	14 52 12.2	-0.5
MKAR	Makanchi Array	47.80	60	P	P	14 52 12.2	-0.5
EUNU	Eureka	49.88	347	P	P	14 52 28.9	+0.7
EUNU				IAmb	IAmb	14 52 34.2	
	comp=Z,5.2nm,0.9s						
TIXI	Tiksi	57.31	20	LR	LR	15 20 49.4	
	comp=Z,24nm,18.2s,baz=324,slow=39						
TIXI	Tiksi	57.31	20	P	P	14 53 27.9	+5.3
TIXI	Tiksi	57.31	20	iP	P	14 53 24.7	+2.0
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.4s						
SONM	Songino Array	61.86	50	P	P	14 53 55.9	+1.3
	comp=Z,4.3nm,0.9s,baz=287,slow=6.8,SNR=16						
SONM				LR	LR	15 22 43.6	
	comp=Z,51nm,19.8s,baz=320,slow=38						
	comp=Z,4.3nm,0.9s						
SONM	Songino Array	61.86	50	P	P	14 53 55.6	+1.1
SONM				IAmb	IAmb	14 53 58.3	
	comp=Z,5.3nm,1.1s						
A36M	Sachs Harbour	61.90	346	P	P	14 53 55.0	+0.7
ULN	Ulaanbaatar	62.21	49	iP	P	14 53 58.0	+1.0
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
YAK	Yakutsk	63.82	28	iP	P	14 54 08.9	+1.7
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	Inuvik	66.51	347	P	P	14 54 23.6	-1.0
	comp=Z,2.3nm,0.9s,baz=23,slow=7.0,SNR=4.6						
	comp=Z,2.3nm,0.9s						
BRDH	Bariadhala	66.72	80	LR	LR	15 30 56.4	
	comp=Z,65nm,18.2s,baz=90,slow=43						
YKA	Yellowknife Ar	67.10	337	P	P	14 54 28.2	-0.2
	comp=Z,5.1nm,1.0s,baz=39,slow=6.5,SNR=5.1						
	comp=Z,5.1nm,1.0s						
HEH	HeiHe	71.08	38	eP	P	14 54 53.1	-0.3
HEH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	Eielson Array	71.71	351	P	P	14 54 57.4	+0.5
	comp=Z,1.4nm,1.0s,baz=12,slow=4.1,SNR=7.7						
	comp=Z,1.4nm,1.0s						
BOSA	Boshof	71.85	169	P	P	14 54 59.3	+1.1
	comp=Z,2.9nm,1.0s,baz=331,slow=6.6,SNR=3.2						
	comp=Z,2.9nm,1.0s						
MA2	Magadan	72.24	21	LR	LR	15 31 52.2	
	comp=Z,37nm,19.5s,baz=327,slow=40						
KLR	Kul'dur	73.77	37	LR	LR	15 30 43.7	
	comp=Z,37nm,19.6s,baz=334,slow=38						
CMAR	Chiang Mai Arr	74.67	79	P	P	14 55 14.4	-0.7
	comp=Z,1.3nm,0.7s,baz=308,slow=6.8,SNR=12						
CMAR				LR	LR	15 35 52.4	
	comp=Z,10nm,18.2s,baz=150,slow=42						
	comp=Z,1.3nm,0.7s						
EGMT	Eagleton	76.58	325	P	P	14 55 26.8	+1.1
NJ2	Nanjing	79.17	56	eP	P	14 55 44.4	+4.1
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PETK	Petropavlovsk-	79.77	21	LR	LR	15 35 33.3	
	comp=Z,33nm,19.5s,baz=52,slow=39						
YSS	Yuzh-Sakhalins	80.16	32	eP	P	14 55 46.3	+0.9
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
C09A	Chrisman Ranch	80.19	329	P	P	14 55 46.1	+0.5
C09A				IAmb	IAmb	14 55 49.3	
	comp=Z,7.3nm,1.1s						
PDAR	Pinedale Array	80.56	321	P	P	14 55 48.1	+0.1
	comp=Z,0.5nm,0.7s,baz=56,slow=5.5,SNR=4.0						
	comp=Z,0.5nm,0.7s						
KSRS	Korea Array	80.57	47	P	P	14 55 48.6	+0.9
	comp=Z,1.2nm,0.9s,baz=316,slow=3.5,SNR=4.7						
KSRS				LR	LR	15 33 39.0	
	comp=Z,12nm,19.1s,baz=40,slow=37						
	comp=Z,1.2nm,0.9s						
BDFB	Brasilia	80.74	239	P	P	14 55 49.5	+0.5
	comp=Z,2.7nm,0.6s,baz=56,slow=13,SNR=3.6						
	comp=Z,2.7nm,0.6s						
SRU	San Rafael Swe	83.88	319	P	P	14 56 05.6	+0.2
SRU				IAmb	IAmb	14 56 10.1	
	comp=Z,2.9nm,0.8s						
SRU	San Rafael Swe	83.88	319	P	P	14 56 05.6	+0.2
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR	Matsushiro Arr	86.55	41	LR	LR	15 38 59.6	
	comp=Z,43nm,18.4s,baz=2.5,slow=38						
TXAR	Lajitas Array	87.77	309	P	P	14 56 26.0	+1.3
	comp=Z,0.2nm,0.6s,baz=66,slow=9.0,SNR=4.0						
	comp=Z,0.2nm,0.6s						
NVAR	Mina Array Bea	87.99	324	P	P	14 56 26.0	+0.3
	comp=Z,0.1nm,0.3s,baz=14,slow=1.9,SNR=2.9						
	comp=Z,0.1nm,0.3s						
JHJ	Hachijo jima 2	90.06	42	LR	LR	15 44 03.5	
	comp=Z,30nm,19.6s,baz=281,slow=40						
ASAR	Alice Springs	127.96	88	PKP	PKPdf	15 02 40.6	-0.9
	comp=Z,0.2nm,0.5s,baz=313,slow=1.3,SNR=8.7						

*IDC **12** 15:18:59.9±2.5, 7°.28S×110°.80E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=155.3km s-min=22.6km az=51.0*

*DJA **12** 15:19:27.5±1.7, 8°S±12°×11°2E±°, h234km±16km, M2.8/7, MLv2.8/7*

ISC 12 15:19:27.2±1.0**, 7°.2S**±0°.1×**111°.47E**±0°.08**, h240**km±9km**,**
n20, σ1°.38/21**, mb3.6**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NGJI	Ngawi	0.15	184	P	Pn	15 19 59.3	+1.1
PWJI	Pagerwojo	0.86	158	P	Pn	15 19 59.9	-0.5
PCJI	Pacitan	1.01	197	P	Pn	15 20 00.4	-0.8
SMRI	Semarang	1.04	279	P	Pn	15 20 01.7	+0.3
SMRI	Semarang	1.04	279	P	Pn	15 20 01.9	+0.5
GRJI	Gresik	1.04	73	P	Pn	15 20 00.6	-0.8
UGM	Wanagama	1.17	234	P	Pn	15 20 02.2	0.0
UGM	Wanagama	1.17	234	P	Pn	15 20 02.5	+0.3
YOGI	Yogyakarta	1.31	243	P	Pn	15 20 03.4	+0.3
YOGI				S	S	15 20 31.4	+0.1
KRKI	Karangkates	1.35	134	P	Pn	15 20 00.5	-2.9
KMMI	Kalianget	2.48	86	P	Pn	15 20 13.0	-0.5
JAGI	Jajag, Banyuwa	2.93	115	P	Pn	15 20 14.7	-3.6
JAGI	Jajag, Banyuwa	2.93	115	P	Pn	15 20 18.3	0.0
BBJI	Bungbulang	3.80	266	P	Pn	15 20 27.8	-0.5
PLAI	Plampang	6.45	105	P	Pn	15 21 01.5	+0.7
MNAI	Manna	8.94	288	P	Pn	15 21 31.9	-0.6
WRA	Warramunga Arr	25.53	122	P	P	15 24 34.7	+0.4
	0.2nm,0.4s,baz=294,slow=11,SNR=9.8						
	0.2nm,0.4s						
ASAR	Alice Springs	27.04	130	P	P	15 24 48.7	+1.0
	0.6nm,0.5s,baz=303,slow=8.2,SNR=21						
	0.6nm,0.5s						
STKA	Stephens Creek	37.28	135	P	P	15 26 17.8	+1.4
	0.9nm,0.3s,baz=312,slow=11,SNR=5.7						
	0.9nm,0.3s						
MKAR	Makanchi Array	59.70	337	P	P	15 29 04.9	-1.8
	0.6nm,0.3s,baz=147,slow=7.2,SNR=17						
	0.6nm,0.3s						

*CNRM **12** 15:24:59.0, 36°.40N×6°.14W, h0km, ml3.0*

*INMG **12** 15:24:58.4±2.2, 36°.18N×5°.91W, h13km±6km, ML3.2, Error ellipse: s-maj=5.6km s-min=4.4km az=170.0*

*MDD **12** 15:24:59.1±0.2, 36°.36N×5°.97W, h11km, mb_Lg3.2/32, Error ellipse: s-maj=2.2km s-min=1.4km az=22.0*

*LDG **12** 15:25:00.0±0.2, 36°.54N×5°.76W, h10km, Ml3.0/3, Error ellipse: s-maj=5.9km s-min=3.5km az=6.0*

*SFS **12** 15:25:00.0, 38°.30N×5°.90W, h12km, ML3.9, CHICLANA (CADIZ)*

ISC 12 15:24:59.2±0.9**, 36°.42N**±0°.02×**5°.89W**±0°.02**, h18**km±2km**,**
n96, σ1°.59/204**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNIL	Conil	0.14	250	P	Pg	15 25 03.2	-0.2
CNIL				S	Sb	15 25 04.7	+0.6
ALJ	Aljibe	0.22	60	P	Pg	15 25 05.9	+1.3
ALJ				S	Sg	15 25 12.3	+4.1
SFS	San Fernando	0.26	280	P	Pb	15 25 06.1	+0.9
SFS				S	Sb	15 25 11.1	+1.9
EJIF	Jimena Fronter	0.34	85	Pg	Pg	15 25 06.7	+0.2
EJIF				Sg	Sb	15 25 12.6	+0.7
ESPR	Espera	0.45	3	Pg	Pg	15 25 09.3	+0.9
ESPR				Sg	Sg	15 25 15.7	+1.1
ESPR				i Vmb_Lg		15 25 27.2	
LIJA	Lijar	0.62	39	P	Pn	15 25 13.8	+0.5
LIJA				S	Sn	15 25 25.6	+2.8
ECEU	Ceuta	0.67	141	Pg	Pn	15 25 13.6	-0.1
ECEU				Sg	Sg	15 25 20.9	-0.4
ECEU				i Vmb_Lg		15 25 29.5	
CEU	Ceuta	0.67	141	P	Pn	15 25 13.6	-0.1
CEU				S	Sn	15 25 22.7	-1.0
EMIJ	Mijas	0.91	81	Pg	Pn	15 25 17.6	+0.4
EMIJ				Sg	Sn	15 25 29.9	+0.1
EMIJ				i Vmb_Lg		15 25 38.1	
ARNO	Arenosillo	0.96	315	P	Pb	15 25 18.0	+0.7
ARNO				S	Sb	15 25 30.0	+0.4
CHEFC	Chefchaouen	1.38	161	P	Pg	15 25 26.0	0.0
EMIN	Mina Concepcio	1.48	335	Pn	Pn	15 25 24.8	-0.3
EMIN				Pg	Pb	15 25 26.2	-0.1
EMIN				Sn	Sn	15 25 43.6	-0.3
EMIN				Sg	Sb	15 25 45.8	+1.1
EMIN				i Vmb_Lg		15 25 50.8	
EGOR	Sierra Gorda,	1.59	64	Pn	Pn	15 25 27.7	+1.1
EGOR				Sn	Sn	15 25 47.6	+0.9
EGOR				i Vmb_Lg		15 26 11.9	
EGRO	El Granado	1.69	312	Pn	Pn	15 25 27.2	-0.6
EGRO				Sn	Sn	15 25 47.8	-1.3
EGRO				i Vmb_Lg		15 26 01.6	
ECAB	El Cabril	1.69	13	Pn	Pn	15 25 27.9	-0.1
ECAB				Pg	Pb	15 25 30.0	+0.1
ECAB				Sn	Sn	15 25 49.5	+0.4
ECAB				Sg	Sb	15 25 53.3	+2.4
ECAB				i Vmb_Lg		15 25 59.4	
PVAQ	Vaqueiros	1.76	304	ePn	Pn	15 25 28.4	-0.5
PVAQ				eSn	Sn	15 25 51.5	+0.7
PVAQ				A	A	15 25 53.5	
	126nm,0.7s						
PVAQ	Vaqueiros	1.76	304	P	Pn	15 25 28.6	-0.3
PVLZ	Peæn de	1.79	133	P	Pb	15 25 31.0	-0.5
PVLZ				S	Sn	15 25 51.6	+0.1
ELGU	Los Guajares,	1.87	76	Pn	Pn	15 25 30.9	+0.5
ELGU				Sn	Sn	15 25 54.2	+0.6
ELGU				i Vmb_Lg		15 26 23.4	
PBAR	Barrancos	1.98	333	ePn	Pn	15 25 31.6	-0.2
PBAR	Barrancos	1.98	333	ePg	Pg	15 25 39.3	+2.1
PBAR				eSn	Sn	15 25 57.9	+1.8
PBAR				eSg	Sg	15 26 04.2	+1.3
PBAR				A	A	15 26 09.6	
	122nm,0.6s						
EADA	Adamuz	2.03	31	Pn	Pn	15 25 33.0	+0.4
EADA				Sn	Sn	15 25 58.0	+0.4
EADA				Sg	Sg	15 26 04.6	-0.1
EADA				i Vmb_Lg		15 26 14.9	
PCVE	Castro Verde	2.10	306	ePn	Pn	15 25 33.1	-0.4
PCVE				eSn	Sn	15 25 59.6	+0.4
PCVE				A	A	15 26 12.1	
	49nm,0.4s						
EQUE	Quentar	2.12	68	Pn	Pn	15 25 34.9	+1.1
EQUE				Sn	Sn	15 26 00.0	+0.3
EQUE				Sg	Sg	15 26 08.1	+0.7
EQUE				i Vmb_Lg		15 26 25.7	
PBEJ	Beja	2.25	316	ePn	Pn	15 25 35.4	-0.1
PBEJ				eSn	Sn	15 26 04.0	+1.2
PBEJ				A	A	15 26 16.4	
	41nm,0.6s						
MESJ	Messejana	2.34	308	eP	Pn	15 25 36.4	-0.4
MESJ				eS	Sn	15 26 03.4	-1.7
MESJ				IAML		15 26 11.9	
	comp=N,81nm,0.3s						
MESJ	Messejana	2.34	308	ePn	Pn	15 25 36.5	-0.3
MESJ				eSn	Sn	15 26 05.8	+0.7
MESJ				A	A	15 26 22.4	
	comp=N,56nm,0.6s						
EALB	Alboran	2.36	101	Pn	Pn	15 25 37.6	+0.6
EALB				Sn	Sn	15 26 05.2	-0.3
EALB				i Vmb_Lg		15 26 35.4	
MORF	Marmelete	2.39	293	eP	Pn	15 25 36.8	-0.7
MORF				eS	Sn	15 26 03.9	-2.4
MORF				IAML		15 26 09.5	
	comp=N,95nm,0.6s						
EBER	Berja	2.46	78	Pn	Pn	15 25 39.7	+1.1
EBER				Sn	Sn	15 26 08.7	+0.4
EBER				Sg	Sg	15 26 17.1	-1.3
EBER				i Vmb_Lg		15 26 49.8	
PFVI	Vila Bisbo	2.46	288	ePn	Pn	15 25 37.8	-0.7
PFVI				eSn	Sn	15 26 07.2	-0.9
PFVI				A	A	15 26 12.9	
	comp=N,44nm,0.6s						
PFVI	Vila Bisbo	2.46	288	P	Pn	15 25 37.7	-0.8
EBAD	Badajoz	2.50	339	Pn	Pn	15 25 38.7	-0.2
EBAD				Sn	Sn	15 26 07.7	-1.2
EBAD				Sg	Sg	15 26 19.9	+0.3
EBAD				i Vmb_Lg		15 26 27.5	
PTEO	Sao Teotonio	2.53	297	ePn	Pn	15 25 39.5	+0.1
PTEO				eSn	Sn	15 26 10.5	+0.7
PTEO				A	A	15 26 17.9	
	comp=N,47nm,0.5s						
EQES	Quesada	2.64	58	Pn	Pn	15 25 41.2	+0.1
EQES				Sn	Sn	15 26 12.4	-0.2
EQES				i Vmb_Lg		15 26 41.1	
PNCL	Nicolau / Gran	2.70	310	ePn	Pn	15 25 41.4	-0.3
PNCL				eSn	Sn	15 26 14.5	+0.6
PNCL				A	A	15 26 19.5	
	comp=N,31nm,0.6s						
EVO	Evora	2.70	322	P	Pn	15 25 41.7	-0.1
EVO				S	Sn	15 26 14.0	0.0
PESTR	Estremoz	2.79	332	ePn	Pn	15 25 43.7	+0.7
PESTR				eSn	Sn	15 26 18.4	+2.2
PESTR				eSg	Sg	15 26 29.9	+0.9
PESTR				A	A	15 26 41.9	
	comp=N,53nm,0.6s						
PESTR	Estremoz	2.79	332	P	Pn	15 25 44.3	+1.3
ENIJ	Nijar	3.01	78	Pn	Pn	15 25 45.7	-0.3
ENIJ				Sn	Sn	15 26 21.0	-0.7
ENIJ				i Vmb_Lg		15 27 07.6	
CHAS	Isla Isabel II	3.07	113	P	Pn	15 25 46.3	-0.5
CHAS				S	Sn	15 26 22.5	-0.5
PMTG	Montargil	3.23	326	ePn	Pn	15 25 49.2	+0.2
PMTG				eSn	Sn	15 26 27.6	+0.7
PMTG				A	A	15 26 54.1	
	comp=N,62nm,0.6s						
PMRV	Marv??o	3.23	339	ePn	Pn	15 25 49.2	+0.2
PMRV				eSn	Sn	15 26 26.4	-0.6
PMRV				eSg	Sg	15 26 42.3	-0.7
PMRV				A	A	15 26 47.6	
	comp=N,74nm,0.5s						
PACT	Alcochete	3.31	316	ePn	Pn	15 25 50.9	+0.8
PACT				eSn	Sn	15 26 31.9	+2.9
PACT				A	A	15 26 59.0	
	comp=N,59nm,0.5s						
PAB	San Pablo	3.35	21	Pn	Pn	15 25 51.3	+0.5
PAB				Sn	Sn	15 26 28.9	-1.1
PAB				Sg	Sg	15 26 45.7	-1.2
PAB				i Vmb_Lg		15 26 55.9	
AVE	Averroes	3.36	202	P	Pn	15 25 51.0	+0.2
AVE				S	Sn	15 26 28.0	-2.2
JBK	JBK	3.42	126	P	Pn	15 25 55.0	+3.2
PMST	Lisbon--Monsan	3.49	312	eSn	Sn	15 26 35.2	+1.7
PMST				A	A	15 27 19.3	
	comp=N,33nm,0.7s						
ESDC	Sonseca Array	3.59	24	Pn	Pn	15 25 54.6	+0.6
ESDC				Sn	Sn	15 26 35.4	-0.4
ESDC				Sg	Sg	15 26 55.5	+1.0
PCBR	Castelo Branco	3.64	340	ePn	Pn	15 25 55.5	+0.9
PCBR				eSn	Sn	15 26 36.8	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PCBR				eSg	Sg	15 26 56.8	+0.7
PCBR				A	A	15 27 04.9	
	comp=N,41nm,0.8s						
EPLA	Plasencia	3.64	358	Pn	Pn	15 25 55.4	+0.7
EPLA				Sn	Sn	15 26 35.8	-1.4
EPLA				Sg	Sg	15 26 55.6	-0.6
EPLA				i Vmb_Lg		15 27 02.3	
EZAR	Zarzadilla de	3.65	65	Pn	Pn	15 25 56.3	+1.4
EZAR				Sn	Sn	15 26 37.7	+0.1
EZAR				i Vmb_Lg		15 27 24.9	
PMAFR	Mafra	3.69	314	ePn	Pn	15 25 55.8	+0.4
PMAFR				eSn	Sn	15 26 38.6	+0.1
PMAFR				A	A	15 27 13.4	
	comp=N,51nm,0.6s						
PSBE	So Bento	3.85	324	ePn	Pn	15 25 58.0	+0.4
PSBE				eSn	Sn	15 26 44.3	+2.0
PSBE				eSg	Sg	15 27 03.1	+0.2
PSBE				A	A	15 27 17.9	
	comp=N,44nm,0.5s						
EMUR	La Murta	3.98	68	Pn	Pn	15 26 01.2	+1.9
EMUR				Sn	Sn	15 26 46.2	+0.7
EMUR				i Vmb_Lg		15 27 44.5	
CART	Cartagena	4.08	72	P	Pn	15 26 01.6	+0.9
CART				S	Sg	15 27 08.7	-1.6
ETOB	Tobarra	4.10	56	Pn	Pn	15 26 01.0	-0.1
ETOB				Sn	Sn	15 26 49.3	+0.7
ETOB				i Vmb_Lg		15 27 36.9	
PCAS	Casmilo, Conde	4.17	331	ePn	Pn	15 26 02.9	+1.0
PCAS				eSn	Sn	15 26 50.2	+0.1
PCAS				eSg	Sg	15 27 15.6	+2.5
PCAS				A	A	15 27 21.0	
	comp=N,48nm,0.6s						
MTE	Manteigas	4.18	342	ePn	Pn	15 26 03.2	+1.1
MTE				eSn	Sn	15 26 50.8	+0.3
MTE				eSg	Sg	15 27 14.0	+0.5
MTE				A	A	15 27 21.9	
	comp=N,127nm,0.6s						
UCM	Universidad Co	4.40	27	P	Pn	15 26 06.4	+1.2
UCM				S	Sn	15 26 55.0	-1.0
GUD	Guadarrama	4.43	17	Pn	Pn	15 26 06.4	+0.7
GUD				Sn	Sn	15 26 55.9	-0.9
GUD				Sg	Sg	15 27 22.0	+0.5
GUD				i Vmb_Lg		15 27 35.5	
PVIS	Viseu	4.57	340	ePn	Pn	15 26 10.4	+2.9
PVIS				eSn	Sn	15 26 59.7	-0.4
PVIS				eSg	Sg	15 27 26.9	+1.0
PVIS				A	A	15 27 36.9	
	comp=N,26nm,0.5s						
AFON	Font Roja	4.80	61	Pn	Pn	15 26 10.9	+0.1
AFON				Sn	Sn	15 27 05.0	-1.0
AFON				i Vmb_Lg		15 27 59.0	
MVO	Moncorvo	4.82	350	ePn	Pn	15 26 11.6	+0.7
MVO				eSn	Sn	15 27 04.0	-2.3
MVO				eSg	Sg	15 27 37.8	+3.8
MVO				A	A	15 27 47.1	
	comp=N,52nm,0.7s						
PVRL	Vila Real	5.05	344	ePn	Pn	15 26 13.7	-0.4
PVRL				eSn	Sn	15 27 10.1	-1.9
PVRL				eSg	Sg	15 27 41.5	+0.1
PVRL				A	A	15 27 46.1	
	comp=N,29nm,0.6s						
POLO	Lamas de Olo	5.17	344	ePn	Pn	15 26 15.8	+0.1
POLO				eSn	Sn	15 27 13.4	-1.4
POLO				eSg	Sg	15 27 43.5	-1.5
POLO				A	A	15 27 57.5	
	comp=N,16nm,0.6s						
PTO	Porto	5.17	337	eSn	Sn	15 27 14.7	0.0
ETOR	Torete	5.32	33	Pn	Pn	15 26 18.3	+0.5
ETOR				Sn	Sn	15 27 17.9	-0.8
ETOR				Sg	Sg	15 27 47.8	-2.2
PBRG	Braganca	5.42	353	ePn	Pn	15 26 19.9	+0.8
PBRG				eSn	Sn	15 27 19.4	-1.6
PBRG				eSg	Sg	15 27 52.7	-0.4
PBRG				A	A	15 27 53.5	
	comp=N,10nm,0.6s						
OUK	Oukaimeden	5.45	198	P	Pn	15 26 21.0	+1.1
PCAB	Cabril	5.54	343	eSn	Sn	15 27 21.6	-2.4
PCAB				eSg	Sg	15 27 55.1	-1.9
PCAB				A	A	15 28 02.7	
	comp=N,45nm,0.6s						
ECAL	Calabor	5.55	353	Pn	Pn	15 26 21.0	0.0
ECAL				Sn	Sn	15 27 21.8	-2.6
ECAL				Sg	Sg	15 27 54.1	-3.4
ECAL				i Vmb_Lg		15 28 10.1	
ELOB	Lobios	5.70	343	Pn	Pn	15 26 22.7	-0.3
ELOB				Sn	Sn	15 27 25.6	-2.3
ELOB				Sg	Sg	15 27 59.4	-2.6
ELOB				i Vmb_Lg		15 28 11.1	
EMOS	Mosqueruela	5.80	46	Pn	Pn	15 26 25.0	+0.6
EMOS				Sn	Sn	15 27 29.5	-1.1
EMOS				Sg	Sg	15 28 02.9	-2.4
EMOS				i Vmb_Lg		15 28 14.2	
PGAV	Gavieira, Arco	5.84	342	ePn	Pn	15 26 25.6	+0.7
PGAV				eSg	Sg	15 28 05.7	-0.9
PGAV				A	A	15 28 21.8	
	comp=N,26nm,0.6s						
EZAM	Zamans	6.12	340	Pn	Pn	15 26 29.2	+0.5
EZAM				Sn	Sn	15 27 35.8	-2.5
EZAM				Sg	Sg	15 28 12.8	-2.8
ESAC	San Caprasio	6.77	37	Pn	Pn	15 26 38.7	+1.1
ESAC				Sn	Sn	15 27 52.3	-2.0
ESAC				i Vmb_Lg		15 28 42.7	
EARI	Arriondas	6.89	4	Pn	Pn	15 26 39.9	+0.5
EARI				Sn	Sn	15 27 53.5	-3.8
EARI				Sg	Sg	15 28 37.4	-2.9
EMAZ	Mazaricos	6.94	341	Pn	Pn	15 26 40.2	+0.2
EMAZ				Sn	Sn	15 27 53.1	-5.4
EMAZ				Sg	Sg	15 28 36.9	-5.0
EMAZ				i Vmb_Lg		15 28 51.2	
EPON	Pontenova	6.97	352	Pn	Pn	15 26 40.9	+0.5
EPON				Sn	Sn	15 27 54.7	-4.4
EPON				Sg	Sg	15 28 37.8	-4.9
ELAN	Lanestosa	7.06	15	Pn	Pn	15 26 42.4	+0.8
ELAN				Sn	Sn	15 27 58.5	-2.9
ELAN				Sg	Sg	15 28 40.9	-4.8
EALK	Alkurruntz	7.58	25	Pn	Pn	15 26 49.0	+0.1
EALK				Sn	Sn	15 28 10.8	-3.5
EALK				i Vmb_Lg		15 29 28.7	
SJPF	Ste Jean	7.59	27	eP	Pn	15 26 50.0	+1.1
SJPF				eSn	Sn	15 28 05.9	-8.5
	comp=N,1.4nm,0.3s						
ETSF	Etsaut	7.66	31	eP	Pn	15 26 50.5	+0.5
ETSF				eSn	Sn	15 28 07.7	-8.6
	comp=N,2.2nm,0.4s						
ECHI	Chisagues Biel	7.81	35	Pn	Pn	15 26 52.3	+0.3
ECHI				Sn	Sn	15 28 16.9	-3.1
ECHI				Sg	Sb	15 28 49.6	+2.9
EPF	Esparros	8.16	34	eP	Pn	15 26 58.2	+1.4
EPF				eSn	Sn	15 28 19.1	-9.4
	comp=N,1.5nm,0.3s						
MTLF	Montolieu	9.30	40	ePn	Pn	15 27 09.3	-3.1
MTLF	Montolieu	9.30	40	eP	Pn	15 27 14.7	+2.3
CAF	Calviac	10.42	33	ePn	Pn	15 27 24.7	-3.0
MFF	Saint Martin d	11.04	21	ePn	Pn	15 27 33.7	-2.5
QUIF	Quistinic	11.66	9	ePn	Pn	15 27 43.4	-1.2
ROSF	Rostrenen	12.06	8	ePn	Pn	15 27 49.3	-0.8
SGMF	Saint Gilles	12.08	11	ePn	Pn	15 27 48.0	-2.3
GRR	Gorron	12.52	16	ePn	Pn	15 27 55.1	-1.3
LDF	La Druitiere	12.88	17	ePn	Pn	15 27 59.1	-2.2
FLN	La Foliniere	12.96	16	ePn	Pn	15 28 00.2	-2.1

*SKHL **12** 15:26:29.3±0.3, 44°00N×145°50E, h161km±3km, mb4.5/8, msha5.2/7*
*JMA **12** 15:26:30.6±0.2, 44°0N±0°8×14°6E±°, h161km±1km, MV3.4/39, NEAR KUNASHIRI ISLAND*
*IDC **12** 15:26:38.5±3.5, 44°60N×145°32E, h215km±36km, mb3.5/10, mbtmp3.9/12, Error ellipse: s-maj=31.3km s-min=15.5km az=154.0*
ISC 12 15:26:30.3±0.7**, 44°03N**±0°05×**145°54E**±0°05**, h162**km±5km**, n40,** σ**0.78**/52**, mb3.8**/10**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.23	88	i P	Pn	15 26 52.4	+0.4
YUK				AMB	AMB	15 26 53.9	
	380nm,0.4s						
YUK				AMB	AMB	15 26 53.9	
	280nm,0.4s						
YUK				AMB	AMB	15 26 53.9	
	900nm,0.4s						
YUK				i S	Sn	15 27 09.6	+1.0
YUK				A	A	15 27 13.8	
	510nm,0.6s						
YUK				A	A	15 27 13.8	
	610nm,0.6s						
JRA	Rausu	0.32	254	eP	Pn	15 26 52.4	+0.1
JRA				eS	Sn	15 27 09.4	+0.4
JNSB	Nemuroshibetsu	0.46	237	P	Pn	15 26 53.2	+0.4
JNSB				eS	Sn	15 27 10.7	+0.7
NMR	Nemuro--Hokkai	0.67	168	i P	Pn	15 26 53.8	-0.1
NMR				AMB	AMB	15 26 54.7	
	400nm,0.4s						
NMR				i S	Sn	15 27 11.3	-0.6
NMR				A	A	15 27 11.9	
	1µm,0.4s						
NMR				A	A	15 27 11.9	
	800nm,0.4s						
NEM2	Nemuro 2	0.68	167	P	Pn	15 26 53.7	-0.2
NEM2				eS	Sn	15 27 11.2	-0.8
JNK	Nakash	0.74	234	P	Pn	15 26 54.6	+0.3
JNK				eS	Sn	15 27 12.9	+0.2
JKHN	Kushirohamanak	0.98	196	i P	Pn	15 26 56.1	+0.1
JKHN				eS	Sn	15 27 15.1	-0.7
AKK	Akkeshi	1.13	207	i P	Pn	15 26 57.3	0.0
AKK				AMB	AMB	15 26 58.0	
	260nm,0.5s						
AKK				i S	Sn	15 27 17.2	-0.8
AKK				A	A	15 27 18.2	
	690nm,0.3s						
AKK				A	A	15 27 18.2	
	1µm,0.3s						
JTKR	Abashiri--Toko	1.18	268	P	Pn	15 26 57.9	+0.2
JTKR				eS	Sn	15 27 18.4	-0.3
JAK	Akkeshi	1.20	211	P	Pn	15 26 58.0	+0.2
JAK				eS	Sn	15 27 18.2	-0.8
JAR	Ashorobuto	1.48	241	eP	Pn	15 27 01.5	+0.9
JAR				eS	Sn	15 27 24.6	+0.8
JMP	Maruseppu	1.57	270	P	Pn	15 27 01.6	+0.1
JMP				eS	Sn	15 27 25.2	-0.4
JOB	Onbets	1.68	228	eP	Pn	15 27 03.1	+0.6
JOB				eS	Sn	15 27 27.0	-0.4
JKK2	Kamakawa 2	2.02	267	eP	Pn	15 27 06.8	+0.4
JKK2				eS	Sn	15 27 34.6	+0.3
KUR	Kuril'sk	2.05	53	eP	Pn	15 27 07.3	+0.7
KUR				AMB	AMB	15 27 07.6	
	130nm,0.5s						
KUR				eS	Sn	15 27 36.0	+1.2
KUR				A	A	15 27 36.6	
	80nm,0.6s						
KUR				A	A	15 27 36.6	
	120nm,0.6s						
ASAJ	Asahikawa	2.12	273	eP	Pn	15 27 08.1	+0.6
ASAJ				eS	Sn	15 27 36.9	+0.6
JCH	Churui	2.13	229	eP	Pn	15 27 07.9	+0.3
JCH				eS	Sn	15 27 34.9	-1.4
JFR	Furan	2.31	249	eP	Pn	15 27 10.6	+0.9
JSE	Soyaes	2.31	295	P	Pn	15 27 09.4	-0.3
JAB	Ashibetsu	2.46	259	eP	Pn	15 27 12.7	+1.3
YSS	Yuzh-Sakhalins	3.52	327	i P	Pn	15 27 24.1	-0.5
YSS				AMB	AMB	15 27 29.6	
	30nm,0.8s						
YSS				eS	Sn	15 28 06.7	-0.2
YSS				A	A	15 28 10.5	
	40nm,0.8s						
YSS				A	A	15 28 10.5	
	10.0nm,0.8s						
MJAR	Matsushiro Arr	9.34	219	P	Pn	15 28 54.9	+14
	0.7nm,0.7s,baz=42,slow=15,SNR=2.6						
SEY	Seymchan	19.35	9	P	P	15 30 40.5	-2.5
	1.1nm,0.7s,baz=188,slow=12,SNR=1.9						
SONM	Songino Array	27.29	292	P	P	15 31 59.8	+0.2
	2.7nm,0.8s,baz=84,slow=8.7,SNR=9.9						
	2.7nm,0.8s						
H11N2	WAKE ISLAND Hy	30.09	137	T	T	16 03 46.7	
	baz=328,slow=76,SNR=33						
H11N1	WAKE ISLAND Hy	30.10	137	T	T	16 03 47.6	
	baz=328,slow=76,SNR=27						
H11N3	WAKE ISLAND Hy	30.10	137	T	T	16 03 47.9	
	baz=328,slow=76,SNR=28						
H11S1	WAKE ISLAND Hy	31.03	138	T	T	16 05 06.9	
	baz=329,slow=76,SNR=51						
H11S3	WAKE ISLAND Hy	31.04	138	T	T	16 05 02.0	
	baz=329,slow=76,SNR=45						
H11S2	WAKE ISLAND Hy	31.05	138	T	T	16 05 02.8	
	baz=329,slow=76,SNR=33						
ILAR	Eielson Array	41.95	36	P	P	15 34 04.8	+0.2
	1.0nm,0.8s,baz=253,slow=5.8,SNR=8.3						
	1.0nm,0.8s						
MKAR	Makanchi Array	43.42	297	P	P	15 34 16.6	-0.2
	0.7nm,0.6s,baz=74,slow=10.0,SNR=12						
MKAR				PcP	PcP	15 36 02.6	+0.6
	0.3nm,0.5s,baz=84,slow=4.5,SNR=2.5						
	0.7nm,0.6s						
CMAR	Chiang Mai Arr	46.50	252	P	P	15 34 42.8	+1.5
	0.3nm,0.3s,baz=23,slow=7.2,SNR=2.0						
	0.3nm,0.3s						
INK	Inuvik	46.75	30	P	P	15 34 42.5	-0.1
	1.2nm,0.6s,baz=302,slow=9.2,SNR=7.2						
	1.2nm,0.6s						
FINES	FINESS Array B	64.09	332	P	P	15 36 45.6	-0.9
	4.1nm,0.5s,baz=46,slow=8.1,SNR=45						
	4.1nm,0.5s						
KBZ	Khabaz	68.74	311	P	P	15 37 16.9	+0.6
	2.3nm,0.7s,baz=72,slow=5.2,SNR=7.8						
	2.3nm,0.7s						
NB2	NORSAR Subarra	68.92	338	P	P	15 37 16.4	-0.8
	comp=Z,3.0nm,0.8s,baz=36,slow=6.2						
NOA	NORSAR Array B	68.92	338	P	P	15 37 16.1	-1.1
	comp=Z,1.1nm,0.7s,baz=33,slow=6.1,SNR=4.6						
	comp=Z,1.1nm,0.7s						
AKASG	Malin Array Be	70.66	323	P	P	15 37 27.0	-0.9
	comp=Z,1.2nm,0.5s,baz=39,slow=6.3,SNR=11						
	comp=Z,1.2nm,0.5s						
TXAR	Lajitas Array	83.45	55	P	P	15 38 40.9	+1.1
	comp=Z,0.5nm,0.8s,baz=287,slow=3.1,SNR=5.7						
	comp=Z,0.5nm,0.8s						

*LDG **12** 15:26:55.5±0.2, 36°40N×6°08W, h2km, Ml3.1/3, Error ellipse: s-maj=3.5km s-min=2.2km az=31.0*
*SFS **12** 15:26:56.0, 36°30N×6°00W, h6km, ML3.0, CHICLANA (CADIZ)*
*MDD **12** 15:26:56.8±0.3, 36°39N×6°04W, h12km, mb_Lg3.0/24, Error ellipse: s-maj=2.7km s-min=1.6km az=24.0*
*INMG **12** 15:26:56.1±2.0, 36°31N×5°94W, h13km±6km, ML2.9, Error ellipse: s-maj=6.2km s-min=3.9km az=14.0*
ISC 12 15:26:56.5±0.9**, 36°46N**±0°03×**5°91W**±0°02**, h14**km±7km**, n67,** σ**1.72**/111**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNIL	Conil	0.14	233	P	Pg	15 27 00.2	+0.2
CNIL				S	Sg	15 27 01.6	-0.9
ALJ	Aljibe	0.23	71	P	Pb	15 27 03.0	+0.6
SFS	San Fernando	0.24	273	P	Pg	15 27 02.0	+0.4
SFS				S	Sb	15 27 08.5	+1.8
EJIF	Jimena Fronter	0.36	90	Pg	Pg	15 27 03.4	-0.3
EJIF				Sg	Sb	15 27 11.5	+1.3
ESPR	Espera	0.41	6	Pg	Pg	15 27 05.0	+0.3
ESPR				Sg	Sb	15 27 12.4	+0.5
ESPR				i Vmb_Lg		15 27 18.0	
LIJA	Lijar	0.61	42	S	Sn	15 27 26.0	+5.4
ECEU	Ceuta	0.71	142	Pg	Pg	15 27 10.5	+0.3
ECEU				Sg	Sg	15 27 19.2	-0.3
ECEU				i Vmb_Lg		15 27 26.0	
CEU	Ceuta	0.71	142	P	Pg	15 27 10.7	+0.5
CEU				S	Sg	15 27 17.5	-2.0
ARNO	Arenosillo	0.92	315	P	Pg	15 27 14.8	+0.5
ARNO				S	Sn	15 27 27.7	-0.4
EMIJ	Mijas	0.93	83	Pg	Pb	15 27 13.6	-0.8
EMIJ				Sg	Sn	15 27 29.3	+1.0
EMIJ				i Vmb_Lg		15 27 35.4	
EMAL	Malaga-Limoner	1.23	75	P	Pn	15 27 18.6	-0.7
EMAL				S	Sg	15 27 38.3	+2.0
EMIN	Mina Concepcio	1.44	335	Pg	Pn	15 27 22.5	+0.2
EMIN				Sg	Sn	15 27 40.8	-0.2
EMIN				i Vmb_Lg		15 27 48.3	
EGOR	Sierra Gorda,	1.59	65	Pg	Pb	15 27 26.3	+0.6
EGOR				Sn	Sb	15 27 46.7	+1.0
EGOR				i Vmb_Lg		15 28 00.6	
EGRO	El Granado	1.66	311	Pg	Pn	15 27 23.7	-1.4
EGRO				Sg	Sn	15 27 46.8	+0.5
EGRO				i Vmb_Lg		15 27 57.9	
ECAB	El Cabril	1.67	14	Pg	Pn	15 27 26.7	+1.3
ECAB				Sn	Sn	15 27 46.4	-0.2
ECAB				i Vmb_Lg		15 27 56.1	
PVAQ	Vaqueiros	1.73	304	ePn	Pn	15 27 25.2	-1.0
PVAQ				eSn	Sn	15 27 47.8	-0.2
PVAQ				A	A	15 28 08.2	
	33nm,0.6s						
ELGU	Los Guajares,	1.88	77	Pn	Pn	15 27 28.7	+0.4
ELGU				Sn	Sb	15 27 53.9	-0.3
ELGU				i Vmb_Lg		15 28 12.9	
PBAR	Barrancos	1.94	333	ePn	Pn	15 27 28.3	-0.7
PBAR				eSn	Sb	15 27 55.9	+0.3
PBAR				eSg	Sg	15 28 00.3	+1.5
PBAR				A	A	15 28 04.4	
	57nm,0.7s						
EADA	Adamuz	2.01	32	Pn	Pn	15 27 29.5	-0.7
EADA				Sn	Sn	15 27 56.1	+1.0
EADA				i Vmb_Lg		15 28 06.6	
PCVE	Castro Verde	2.07	305	ePn	Pn	15 27 29.9	-0.9
EQUE	Quentar	2.12	69	Pn	Pn	15 27 31.7	0.0
EQUE				Sn	Sb	15 28 00.9	-0.1
EQUE				i Vmb_Lg		15 28 27.2	
PBEJ	Beja	2.21	316	eSn	Sn	15 28 01.1	+1.1
MESJ	Messejana	2.30	308	eP	Pn	15 27 33.1	-1.0
MESJ	Messejana	2.30	308	ePn	Pn	15 27 33.1	-1.0
MESJ				eSn	Sn	15 28 02.3	0.0
MESJ				A	A	15 28 20.0	
	29nm,0.6s						
MORF	Marmelete	2.35	292	eP	Pn	15 27 33.4	-1.4
EALB	Alboran	2.38	102	Pn	Pn	15 27 35.8	+0.6
EALB				Sn	Sn	15 28 05.4	+1.2
PFVI	Vila Bisbo	2.43	287	ePn	Pn	15 27 35.0	-0.9
PFVI				eSn	Sn	15 28 03.9	-1.6
PFVI				A	A	15 28 20.4	
	16nm,0.5s						
EBAD	Badajoz	2.46	340	Pn	Pn	15 27 35.3	-0.8
EBAD				Sn	Sn	15 28 04.1	-1.9
EBAD				i Vmb_Lg		15 28 25.8	
EBER	Berja	2.47	79	Pn	Pn	15 27 37.7	+1.1
EBER				Sn	Sn	15 28 06.9	+0.3
EBER				i Vmb_Lg		15 28 31.3	
PTEO	Sao Teotonio	2.50	297	ePn	Pn	15 27 36.7	-0.1
PTEO				eSn	Sn	15 28 08.3	+1.2
PTEO				A	A	15 28 40.6	
	22nm,0.5s						
EQES	Quesada	2.64	59	Pn	Pn	15 27 39.3	+0.5
EQES				Sn	Sn	15 28 12.3	+1.6
EQES				i Vmb_Lg		15 28 28.1	
EVO	Evora	2.66	322	P	Pn	15 27 38.7	-0.3
EVO				S	Sn	15 28 09.9	-1.2
PNCL	Nicolau / Gran	2.66	309	ePn	Pn	15 27 38.4	-0.6
PNCL				eSn	Sn	15 28 10.7	-0.4
PNCL				A	A	15 28 42.3	
	18nm,0.7s						
PESTR	Estremoz	2.75	332	ePn	Pn	15 27 41.8	+1.6
PESTR				eSn	Sn	15 28 14.0	+0.7
PESTR				A	A	15 28 32.2	
	30nm,0.5s						
PMTG	Montargil	3.19	326	ePn	Pn	15 27 45.9	-0.3
PMTG				A	A	15 28 50.6	
	29nm,0.6s						
PMRV	Marv??o	3.19	339	eSn	Sn	15 28 26.1	+1.9
PMRV				A	A	15 28 52.2	
	38nm,0.4s						
PACT	Alcochete	3.27	316	eSn	Sn	15 28 27.6	+1.5
PAB	San Pablo	3.32	21	Sn	Sn	15 28 28.5	+0.9
PAB				i Vmb_Lg		15 28 57.8	
ESDC	Sonseca Array	3.56	25	Pn	Pn	15 27 51.6	+0.2
ESDC				Sn	Sn	15 28 33.9	+0.5
ESDC				Sg	Sg	15 28 49.5	-1.4
ESDC				i Vmb_Lg		15 28 57.2	
PCBR	Castelo Branco	3.60	340	ePn	Pn	15 27 52.3	+0.4
PCBR				eSn	Sn	15 28 34.3	+0.1
PCBR				eSg	Sg	15 28 53.8	+1.8
PCBR				A	A	15 28 55.3	
	17nm,0.5s						
EPLA	Plasencia	3.61	358	Pn	Pn	15 27 52.3	+0.3
EPLA				Sn	Sn	15 28 33.7	-0.7
EPLA				i Vmb_Lg		15 28 58.5	
EZAR	Zarzadilla de	3.66	66	Pn	Pn	15 27 54.4	+1.7
EZAR				Sn	Sn	15 28 34.8	-0.9
EZAR				i Vmb_Lg		15 29 09.7	
PSBE	So Bento	3.81	324	ePn	Pn	15 27 55.4	+0.6
ETOB	Tobarra	4.10	56	Pn	Pn	15 27 59.3	+0.5
ETOB				Sn	Sn	15 28 46.8	+0.1
PCAS	Casmilo, Conde	4.13	331	eSg	Sg	15 29 12.3	+3.3
PCAS				A	A	15 29 17.1	
	25nm,0.6s						
MTE	Manteigas	4.14	342	eSg	Sg	15 29 11.4	+2.0
MTE				A	A	15 29 18.3	
	70nm,0.6s						
GUD	Guadarrama	4.40	18	Pn	Pn	15 28 01.6	-1.4
GUD				Sn	Sn	15 28 52.9	-1.3
GUD				Sg	Sg	15 29 14.1	-3.7
GUD				i Vmb_Lg		15 29 29.0	
PVIS	Viseu	4.53	341	eSg	Sg	15 29 24.3	+2.5
MVO	Moncorvo	4.78	350	eSg	Sg	15 29 34.2	+4.2
AFON	Font Roja	4.80	61	Pn	Pn	15 28 10.0	+1.4
AFON				Sn	Sn	15 29 04.2	+0.1
AFON				i Vmb_Lg		15 29 42.9	
PVRL	Vila Real	5.01	344	eSn	Sn	15 29 08.5	-0.7
POLO	Lamas de Olo	5.13	344	eSg	Sg	15 29 39.9	-1.1
PBRG	Braganca	5.38	353	eSg	Sg	15 29 49.3	+0.1
PCAB	Cabril	5.50	343	eSg	Sg	15 29 53.4	+0.4
ECAL	Calabor	5.52	354	Sn	Sn	15 29 18.6	-3.0
ECAL				Sg	Sg	15 29 50.8	-2.7
ECAL				i Vmb_Lg		15 29 59.1	
ELOB	Lobios	5.66	343	Sn	Sn	15 29 22.9	-2.1
ELOB				Sg	Sg	15 29 53.3	-4.7
ELOB				i Vmb_Lg		15 30 01.6	
EMOS	Mosqueruela	5.79	46	Sn	Sn	15 29 26.2	-2.2
EMOS				Sg	Sg	15 30 00.6	-1.6
PGAV	Gavieira, Arco	5.80	342	eSg	Sg	15 30 03.5	+0.9
ECOL	Islas Columbre	6.23	55	Sn	Sn	15 29 35.1	-4.0
SJPF	Ste Jean	7.56	27	ePn	Pn	15 28 46.4	0.0
SJPF	Ste Jean	7.56	27	eP	Pn	15 28 50.3	+3.9
SJPF				eSn	Sn	15 30 08.0	-3.9
	1.3nm,0.4s						
ETSF	Etsaut	7.64	31	ePn	Pn	15 28 47.4	-0.1
ETSF	Etsaut	7.64	31	eP	Pn	15 28 51.8	+4.3
ETSF				eSn	Sn	15 30 09.6	-4.4
	1.6nm,0.4s						
EPF	Esparros	8.14	34	ePn	Pn	15 28 54.6	+0.3
EPF	Esparros	8.14	34	eP	Pn	15 28 59.5	+5.2
EPF				eSn	Sn	15 30 22.1	-4.1
	4.0nm,0.3s						
QUIF	Quistinic	11.63	9	ePn	Pn	15 29 41.1	-0.9
ROSF	Rostrenen	12.03	8	ePn	Pn	15 29 45.8	-1.7

*NOU **12** 15:29:41.7, 37°89S×177°79E, h105km, MLv4.0/14, Off E. Coast of N. Island, N.Z.*
*WEL **12** 15:29:45.7±0.7, 38°S±6°×17°7E±°, h47km±9km, M3.4/14, ML3.8/14, MLv3.4/14, Error ellipse: s-maj=0.0km s-min=0.0km az=166.3*
ISC 12 15:29:43.8±1.6**, 37°83S**±0°05×**177°56E**±0°04**, h81**km±9km**, n144,** σ**1.94**/153**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUGZ	Raukumara Rang	0.17	145	P	Pn	15 29 55.1	-0.6
RUGZ				S	Sn	15 30 03.0	-1.5
HAZ	Te Kaha	0.19	69	P	Pn	15 29 55.1	-0.4
HAZ				S	Sn	15 30 03.0	-1.2
PKGZ	Pakihiroa	0.42	99	P	Pn	15 29 57.4	+0.4
PKGZ				S	Sn	15 30 07.0	+0.2
WIZ	White Island	0.42	316	P	Pn	15 29 56.1	-0.8
WHRZ	Whale Island	0.46	266	P	Pn	15 29 57.4	+0.2
TWGZ	Tauwhareparae	0.48	136	P	Pn	15 29 59.2	+1.7
MWZ	Matawai	0.51	182	P	Pn	15 29 58.7	+1.0
MWZ				S	Sn	15 30 09.1	+1.0
URZ	Urewera	0.56	219	P	Pn	15 29 58.5	+0.4
URZ	Urewera	0.56	219	P	Pn	15 29 58.6	+0.6
URZ				S	Sn	15 30 09.0	+0.3
PUZ	Puketiti	0.61	114	P	Pn	15 29 59.6	+1.0
MXZ	Matakaoa Point	0.65	66	P	Pn	15 30 00.0	+1.0
MXZ	Matakaoa Point	0.65	66	P	Pn	15 29 59.9	+1.0
MXZ				S	Sn	15 30 11.4	+1.2
TKGZ	Te Karaka	0.66	159	P	Pn	15 30 00.7	+1.7
RAGZ	Rawiri	0.68	189	P	Pn	15 30 01.1	+1.7
WMGZ	Waiomatatini S	0.68	90	P	Pn	15 30 00.3	+1.1
WMGZ				S	Sn	15 30 12.1	+1.4

EDRZ	**Edgecumbe**	**0.70**	**246**	P	**Pn**	**15 30 00.3**	**+0.7**
MARZ	**Manawahe**	**0.71**	**257**	P	**Pn**	**15 30 00.1**	**+0.4**
OPRZ	**Ohinepanea**	**0.79**	**268**	P	**Pn**	**15 30 00.5**	**+0.1**
CNGZ	**Carnagh Statio**	**0.83**	**142**	P	**Pn**	**15 30 02.8**	**+1.9**
RIGZ	**Rimuhau**	**0.89**	**170**	P	**Pn**	**15 30 03.6**	**+2.0**
MUGZ	**Murupara**	**0.90**	**223**	P	**Pn**	**15 30 02.6**	**+0.9**
MUGZ				S	**Sn**	**15 30 15.9**	**+0.9**
RTZ	**Ruatahuna**	**0.91**	**210**	P	**Pn**	**15 30 03.0**	**+1.2**
RTZ				S	**Sn**	**15 30 16.9**	**+1.5**
TARZ	**Mount Tarawera**	**0.93**	**243**	P	**Pn**	**15 30 03.4**	**+1.4**
LIRZ	**Lichensteins R**	**0.94**	**259**	P	**Pn**	**15 30 03.0**	**+0.8**
RRRZ	**Republican Roa**	**0.97**	**238**	P	**Pn**	**15 30 03.6**	**+1.2**
OMRZ	**Omania**	**0.98**	**253**	P	**Pn**	**15 30 03.8**	**+1.2**
TGRZ	**Tauranga**	**1.03**	**275**	P	**Pn**	**15 30 03.3**	**+0.2**
HLRZ	**Highlands Stat**	**1.04**	**246**	P	**Pn**	**15 30 04.7**	**+1.3**
KARZ	**Kaharoa**	**1.05**	**259**	P	**Pn**	**15 30 04.2**	**+0.7**
NGRZ	**Ngongotaha**	**1.12**	**255**	P	**Pn**	**15 30 06.0**	**+1.7**
HSRZ	**Hossack Road**	**1.14**	**244**	P	**Pn**	**15 30 06.2**	**+1.6**
RAHZ	**Arahi**	**1.15**	**199**	P	**Pn**	**15 30 06.9**	**+2.2**
HRRZ	**Handcock Road**	**1.15**	**240**	P	**Pn**	**15 30 06.2**	**+1.5**
MTHZ	**Maungataniwha**	**1.17**	**209**	P	**Pn**	**15 30 06.6**	**+1.7**
MYRZ	**Mayor Island**	**1.18**	**297**	P	**Pn**	**15 30 05.3**	**+0.3**
KNZ	**Kokohu**	**1.20**	**176**	P	**Pn**	**15 30 06.8**	**+1.6**
ALRZ	**Allen Road**	**1.21**	**232**	P	**Pn**	**15 30 06.6**	**+1.3**
GRRZ	**Galatos Road**	**1.25**	**245**	P	**Pn**	**15 30 07.6**	**+1.6**
WHHZ	**Waihua**	**1.27**	**191**	P	**Pn**	**15 30 08.4**	**+2.2**
MHGZ	**Mahia Peninsul**	**1.35**	**168**	P	**Pn**	**15 30 09.0**	**+1.8**
NMHZ	**Naumai**	**1.40**	**205**	P	**Pn**	**15 30 10.5**	**+2.6**
ARHZ	**Aropaoanui**	**1.50**	**197**	P	**Pn**	**15 30 11.1**	**+2.0**
BKZ	**Black Stump Fm**	**1.58**	**212**	P	**Pn**	**15 30 11.8**	**+1.7**
BKZ	**Black Stump Fm**	**1.58**	**212**	P	**Pn**	**15 30 11.9**	**+1.7**
TOZ	**Tahuroa Road**	**1.63**	**273**	P	**Pn**	**15 30 11.4**	**+0.6**
TLZ	**Tolley Road**	**1.67**	**252**	P	**Pn**	**15 30 12.5**	**+1.2**
RATZ	**Rangitukua**	**1.75**	**233**	P	**Pn**	**15 30 14.4**	**+2.0**
MCHZ	**McNeill Hill**	**1.75**	**202**	P	**Pn**	**15 30 14.2**	**+1.8**
KUZ	**Kuaotunu**	**1.82**	**306**	P	**Pn**	**15 30 12.9**	**-0.3**
KUZ	**Kuaotunu**	**1.82**	**306**	P	**Pn**	**15 30 12.9**	**-0.3**
KWHZ	**Kaweka Forest**	**1.83**	**209**	P	**Pn**	**15 30 15.1**	**+1.7**
CKHZ	**Cape Kidnapper**	**1.87**	**191**	P	**Pn**	**15 30 15.0**	**+1.1**
TMVZ	**Te Maari**	**1.94**	**228**	P	**Pn**	**15 30 17.1**	**+2.1**
NTVZ	**North Tongarir**	**1.95**	**229**	P	**Pn**	**15 30 17.3**	**+2.2**
ETVZ	**East Tongariro**	**1.95**	**227**	P	**Pn**	**15 30 17.2**	**+2.0**
KRVZ	**Karewarewa**	**1.97**	**229**	P	**Pn**	**15 30 17.5**	**+2.2**
OTVZ	**Oturere**	**2.00**	**227**	P	**Pn**	**15 30 18.0**	**+2.2**
NNVZ	**North Ngauruho**	**2.00**	**229**	P	**Pn**	**15 30 18.2**	**+2.3**
WTVZ	**West Tongariro**	**2.01**	**230**	P	**Pn**	**15 30 18.3**	**+2.4**
SNVZ	**South Ngauruho**	**2.03**	**227**	P	**Pn**	**15 30 18.3**	**+2.1**
BHHZ	**Black Hill Sta**	**2.03**	**215**	P	**Pn**	**15 30 18.0**	**+1.9**
KAHZ	**Kahuranaki**	**2.04**	**195**	P	**Pn**	**15 30 17.4**	**+1.2**
MKAZ	**Moumakai**	**2.04**	**290**	P	**Pn**	**15 30 16.6**	**+0.5**
NGZ	**Ngauruhoe**	**2.04**	**228**	P	**Pn**	**15 30 18.6**	**+2.3**
TUVZ	**Tukino**	**2.07**	**225**	P	**Pn**	**15 30 18.9**	**+2.2**
TWVZ	**Taurewa**	**2.08**	**233**	P	**Pn**	**15 30 18.7**	**+2.0**
MOVZ	**Moawhango**	**2.12**	**221**	P	**Pn**	**15 30 18.8**	**+1.5**
WHVZ	**Whangaehu Hut**	**2.12**	**226**	P	**Pn**	**15 30 19.6**	**+2.1**
FWVZ	**Far West T-bar**	**2.12**	**227**	P	**Pn**	**15 30 19.8**	**+2.3**
WNVZ	**Wahianoa**	**2.15**	**225**	P	**Pn**	**15 30 19.6**	**+1.8**
TRVZ	**Turoa**	**2.15**	**226**	P	**Pn**	**15 30 20.0**	**+2.1**
HIZ	**Hauiti**	**2.24**	**251**	P	**Pn**	**15 30 20.8**	**+2.0**
HIZ	**Hauiti**	**2.24**	**251**	P	**Pn**	**15 30 20.8**	**+2.0**
MTVZ	**Mangateitei**	**2.26**	**226**	P	**Pn**	**15 30 21.2**	**+2.1**
PKVZ	**Pokaka**	**2.27**	**229**	P	**Pn**	**15 30 21.7**	**+2.4**
ETAZ	**East Tamaki Re**	**2.27**	**292**	P	**Pn**	**15 30 20.1**	**+0.9**
PXZ	**Pawanui**	**2.27**	**194**	P	**Pn**	**15 30 19.5**	**+0.3**
GRZ	**Great Barrier**	**2.30**	**312**	P	**Pn**	**15 30 19.8**	**+0.1**
PNHZ	**Pukenui**	**2.34**	**206**	P	**Pn**	**15 30 20.8**	**+0.5**
MBAZ	**Motutapu North**	**2.37**	**296**	P	**Pn**	**15 30 21.5**	**+0.9**
WPHZ	**Waipukurau**	**2.40**	**201**	P	**Pn**	**15 30 21.4**	**+0.4**
EPAZ	**Eden Park BICE**	**2.43**	**292**	P	**Pn**	**15 30 23.6**	**+2.2**
AWAZ	**Awhitu Peninsu**	**2.44**	**287**	P	**Pn**	**15 30 23.1**	**+1.6**
HBAZ	**Herne Bay Bore**	**2.45**	**293**	P	**Pn**	**15 30 23.7**	**+2.0**
PRHZ	**Porangahau**	**2.54**	**196**	P	**Pn**	**15 30 23.1**	**+0.2**
VRZ	**Vera Road**	**2.55**	**239**	P	**Pn**	**15 30 25.6**	**+2.6**
TSZ	**Takapari Road**	**2.55**	**209**	P	**Pn**	**15 30 23.3**	**+0.2**
RVAZ	**Riverhead Bore**	**2.60**	**293**	P	**Pn**	**15 30 25.5**	**+1.9**
DVHZ	**Dannevirke**	**2.70**	**203**	P	**Pn**	**15 30 24.6**	**-0.4**
ANWZ	**Angora Road**	**2.76**	**197**	P	**Pn**	**15 30 25.8**	**-0.1**
WAZ	**Wanganui**	**2.78**	**225**	P	**Pn**	**15 30 28.2**	**+2.1**
MHEZ	**Mangahewa**	**2.83**	**243**	P	**Pn**	**15 30 30.7**	**+3.9**
POWZ	**Post Office Ro**	**2.92**	**208**	P	**Pn**	**15 30 28.1**	**+0.1**
OHWZ	**Ohakea**	**2.95**	**216**	P	**Pn**	**15 30 29.8**	**+1.4**
LREZ	**Lake Rotokare**	**2.96**	**236**	P	**Pn**	**15 30 31.4**	**+2.9**
DREZ	**Durham Road**	**2.96**	**242**	P	**Pn**	**15 30 32.1**	**+3.5**
PRWZ	**Pori Road**	**2.99**	**204**	P	**Pn**	**15 30 28.9**	**0.0**
BFZ	**Birch Farm**	**3.03**	**199**	P	**Pn**	**15 30 28.9**	**-0.6**
NEZ	**North Egmont**	**3.07**	**241**	P	**Pn**	**15 30 34.0**	**+3.8**
PKE	**Pukeiti**	**3.12**	**243**	P	**Pn**	**15 30 34.1**	**+3.4**
WCZ	**Waipu Caves**	**3.19**	**305**	P	**Pn**	**15 30 33.6**	**+1.9**
CPWZ	**Castlepoint**	**3.25**	**198**	P	**Pn**	**15 30 32.4**	**-0.1**
OUZ	**Omahuta**	**4.12**	**308**	P	**Pn**	**15 30 46.3**	**+2.1**
OUZ	**Omahuta**	**4.12**	**308**	P	**Pn**	**15 30 46.3**	**+2.1**
SNZO	**South Karori**	**4.12**	**211**	P	**Pn**	**15 30 43.2**	**-1.0**
TCW	**Tory Channel**	**4.22**	**216**	P	**Pn**	**15 30 44.1**	**-1.6**
TCW	**Tory Channel**	**4.22**	**216**	P	**Pn**	**15 30 44.1**	**-1.6**
TUWZ	**Tuamarina**	**4.55**	**217**	P	**Pn**	**15 30 48.2**	**-1.9**
TUWZ	**Tuamarina**	**4.55**	**217**	P	**Pn**	**15 30 48.2**	**-1.9**
NNZ	**Nelson**	**4.68**	**222**	P	**Pn**	**15 30 50.4**	**-1.4**
NNZ	**Nelson**	**4.68**	**222**	P	**Pn**	**15 30 50.4**	**-1.4**
TKNZ	**Takaka Hill**	**4.79**	**227**	P	**Pn**	**15 30 52.8**	**-0.6**
TKNZ	**Takaka Hill**	**4.79**	**227**	P	**Pn**	**15 30 52.8**	**-0.6**
BSWZ	**Blackbirch Sta**	**4.81**	**215**	P	**Pn**	**15 30 51.6**	**-2.0**
BSWZ	**Blackbirch Sta**	**4.81**	**215**	P	**Pn**	**15 30 51.6**	**-2.0**
QRZ	**Quartz Range**	**4.92**	**231**	P	**Pn**	**15 30 54.3**	**-0.8**
MRNZ	**Matariki Terra**	**5.14**	**225**	P	**Pn**	**15 30 56.6**	**-1.7**
MRNZ	**Matariki Terra**	**5.14**	**225**	P	**Pn**	**15 30 56.6**	**-1.7**
THZ	**Tophouse**	**5.32**	**221**	P	**Pn**	**15 30 58.9**	**-1.8**
THZ	**Tophouse**	**5.32**	**221**	P	**Pn**	**15 30 58.9**	**-1.8**
KHZ	**Kahutara**	**5.52**	**213**	P	**Pn**	**15 31 01.3**	**-2.1**
KHZ	**Kahutara**	**5.52**	**213**	P	**Pn**	**15 31 01.4**	**-1.9**
KHZ	**Kahutara**	**5.52**	**213**	P	**Pn**	**15 31 01.4**	**-1.9**
GVZ	**Greta Valley S**	**6.19**	**212**	P	**Pn**	**15 31 09.4**	**-3.1**
GVZ	**Greta Valley S**	**6.19**	**212**	P	**Pn**	**15 31 09.4**	**-3.1**
LTZ	**Lake Taylor**	**6.39**	**218**	P	**Pn**	**15 31 11.8**	**-3.5**
LTZ	**Lake Taylor**	**6.39**	**218**	P	**Pn**	**15 31 11.8**	**-3.5**
AMCZ	**Amberley**	**6.52**	**213**	P	**Pn**	**15 31 14.6**	**-2.4**
AMCZ	**Amberley**	**6.52**	**213**	P	**Pn**	**15 31 14.6**	**-2.4**
INZ	**Inchbonnie**	**6.76**	**222**	P	**Pn**	**15 31 18.2**	**-2.1**
INZ	**Inchbonnie**	**6.76**	**222**	P	**Pn**	**15 31 18.2**	**-2.1**
OKCZ	**Okains Bay**	**6.81**	**209**	P	**Pn**	**15 31 17.2**	**-3.8**
OKCZ	**Okains Bay**	**6.81**	**209**	P	**Pn**	**15 31 17.2**	**-3.8**
OXZ	**Oxford**	**6.91**	**216**	P	**Pn**	**15 31 18.2**	**-4.2**
OXZ	**Oxford**	**6.91**	**216**	P	**Pn**	**15 31 18.2**	**-4.2**
MQZ	**McQueen's Vall**	**6.95**	**211**	P	**Pn**	**15 31 18.5**	**-4.4**
MQZ	**McQueen's Vall**	**6.95**	**211**	P	**Pn**	**15 31 18.5**	**-4.4**
AKCZ	**Akaroa Harbour**	**6.99**	**209**	P	**Pn**	**15 31 20.3**	**-3.2**
AKCZ	**Akaroa Harbour**	**6.99**	**209**	P	**Pn**	**15 31 20.3**	**-3.2**
CTZ	**Chatham Island**	**7.37**	**145**	P	**Pn**	**15 31 31.2**	**+2.6**
RPZ	**Rata Peaks**	**7.68**	**218**	P	**Pn**	**15 31 31.5**	**-1.3**
ODZ	**Otahua Downs**	**8.88**	**214**	P	**Pn**	**15 31 46.6**	**-2.6**
JCZ	**Jackson Bay**	**9.11**	**224**	P	**Pn**	**15 31 51.2**	**-1.2**
SYZ	**Scrubby Hill**	**10.71**	**213**	P	**Pn**	**15 32 12.3**	**-1.7**

---

*JMA **12** 15:46:12.2±0.1, 38°.9N±0°.3×141°.9E±0°.6, h51km, MV3.5/32, KINKAZAN REGION*

JMA Felt I J1 at KINKAZAN REGION .

*NIED **12** 15:46:12.2, 38°.92N×141°.93E, h51km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.76; Mθθ0.03; Mφφ-1.79; Mrθ0.58; Mθφ-1.48; Mφr2.04; Fault plane solution: M0 3.07000×10^14 NP1: φs228.00000°, δ25.00000°, λ119.00000°. NP2: φs17.00000°, δ68.00000°, λ77.00000°.*

*IDC **12** 15:46:15.5±7.8, 38°.83N×141°.81E, h85km±53km, mb3.4/5, mbtmp3.7/7, ML2.3/2 Error ellipse: s-maj=99.3km s-min=20.3km az=73.0*

ISC 12 15:46:11.5±1.6**, 38°.88N**±0°.06×**142°.0E**±0°.1**, h50**km±9km**, n20,** σ**0s95**/21**, mb3.7**/5**, 14D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.33**	**308**	⇓*i*P	**Pn**	**15 46 21.1**	**+0.3**
OFUJ				⇓S	**Sn**	**15 46 27.2**	**-0.3**
JKMT	**Kesennumamotoy**	**0.42**	**261**	⇓*i*P	**Pn**	**15 46 22.0**	**+0.3**
JKMT				⇓S	**Sn**	**15 46 28.7**	**-0.4**
JMK	**Ichinoseki**	**0.61**	**277**	⇓*i*P	**Pn**	**15 46 24.1**	**0.0**
JMK				⇓S	**Sn**	**15 46 32.5**	**-0.7**
JIO	**Ouri**	**0.66**	**231**	⇓*i*P	**Pn**	**15 46 25.0**	**+0.3**
JIO				⇓S	**Sn**	**15 46 33.8**	**-0.5**
JOM	**Ohasama**	**0.81**	**317**	⇓*i*P	**Pn**	**15 46 26.6**	**-0.1**
JOM				⇓S	**Sn**	**15 46 37.1**	**-0.6**
JOU	**Okura**	**1.17**	**244**	⇓P	**Pn**	**15 46 31.5**	**0.0**
JOU				⇓S	**Sn**	**15 46 46.1**	**-0.1**
JRG	**Rokugo**	**1.18**	**296**	⇓P	**Pn**	**15 46 31.4**	**-0.3**
JRG				⇓*e*S	**Sn**	**15 46 46.0**	**-0.7**
MJAR	**Matsushiro Arr**	**3.81**	**233**	P	**Pn**	**15 47 09.4**	**+1.8**
	0.4nm,0.3s,baz=37,slow=12,SNR=36 2.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**9.20**	**309**	P	**Pn**	**15 48 24.4**	**+3.1**
	0.2nm,0.3s,baz=115,slow=15,SNR=5.4 3.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	16 22 28.3	
	baz=317,slow=76,SNR=44						
H11N1	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	16 22 39.4	
	baz=317,slow=76,SNR=50						
H11N3	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	16 22 40.0	
	baz=317,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	16 23 35.8	
	baz=318,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.53**	**126**	T	T	16 23 36.8	
	baz=318,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.54**	**126**	T	T	16 23 29.9	
	baz=318,slow=76,SNR=7.6						
ZALV	**Zalesovo Beam**	**41.04**	**311**	P	**P**	**15 53 49.5**	**-0.1**
	1.0nm,0.6s,baz=93,slow=7.4,SNR=4.4 1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.56**	**301**	P	**P**	**15 54 09.9**	**-0.4**
	0.7nm,0.5s,baz=71,slow=9.9,SNR=11 0.7nm,0.5s						
WRA	**Warramunga Arr**	**58.95**	**188**	P	**P**	**15 56 05.3**	**-0.3**
	0.3nm,0.4s,baz=6.1,slow=7.1,SNR=8.2 0.3nm,0.4s						
ASAR	**Alice Springs**	**62.68**	**188**	P	**P**	**15 56 31.1**	**+0.1**
	0.2nm,0.7s,baz=355,slow=4.1,SNR=2.1 0.2nm,0.7s						
FINES	**FINESS Array B**	**67.40**	**332**	P	**P**	**15 57 01.0**	**-0.2**
	2.2nm,0.9s,baz=35,slow=5.1,SNR=3.4 2.2nm,0.9s						

---

*IDC **12** 16:03:53.1±7.5, 16°.55N×148°.52E, h39km±57km, mb3.4/9, mbtmp3.7/10, ML3.8/1, Error ellipse: s-maj=72.9km s-min=19.1km az=85.0*

ISC 12 16:03:53.5±1.6**, 16°.5N**±0°.1×**148°.3E**±0°.2**, h35**km**, n10,** σ**1s12**/11**, mb3.7**/9**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.40**	**229**	Pn	**Pn**	**16 04 58.6**	**+0.8**
	4.8nm,0.3s,baz=65,slow=19,SNR=1.7						
GUMO				Sn	**Sn**	**16 05 46.4**	**-1.4**
	7.3nm,0.3s,baz=197,slow=15,SNR=2.2 54nm,0.8s						
MJAR	**Matsushiro Arr**	**21.87**	**338**	P	**P**	**16 08 44.5**	**+1.2**
	0.5nm,0.4s,baz=161,slow=8.8,SNR=5.8 0.5nm,0.4s						
KSRS	**Korea Array**	**27.54**	**323**	P	**P**	**16 09 36.5**	**-0.5**
	0.8nm,0.8s,baz=144,slow=9.8,SNR=2.7 0.8nm,0.8s						
WRA	**Warramunga Arr**	**38.73**	**201**	P	**P**	**16 11 15.2**	**+0.7**
	0.7nm,0.6s,baz=26,slow=9.2,SNR=14 0.7nm,0.6s						
ASAR	**Alice Springs**	**42.33**	**200**	P	**P**	**16 11 44.5**	**+0.2**
	0.2nm,0.6s,baz=24,slow=6.4,SNR=4.3 0.2nm,0.6s						
SONM	**Songino Array**	**46.39**	**322**	P	**P**	**16 12 17.0**	**+0.4**
	0.4nm,0.4s,baz=120,slow=5.8,SNR=3.4 0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**47.00**	**280**	P	**P**	**16 12 22.6**	**+0.9**
	0.8nm,0.8s,baz=70,slow=6.3,SNR=8.2 0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**61.25**	**323**	P	**P**	**16 14 04.9**	**-0.1**
	1.0nm,0.6s,baz=113,slow=11,SNR=4.4 1.0nm,0.6s						
MKAR	**Makanchi Array**	**61.76**	**315**	P	**P**	**16 14 08.5**	**-0.1**
	0.4nm,0.5s,baz=79,slow=11,SNR=4.1 0.4nm,0.5s						
FINES	**FINESS Array B**	**89.89**	**336**	P	**P**	**16 16 46.6**	**-2.0**
	0.7nm,0.8s,baz=69,slow=7.6,SNR=6.0 0.7nm,0.8s						

---

*MOS **12** 16:15:49.6±0.7, 24°.92S×178°.67E, h554km, mb5.5/27, Error ellipse: s-maj=9.0km s-min=7.8km az=115.1*

*NEIC **12** 16:15:50.0±2.5, 24°.97S±0°.09×178°.79E±0°.09, h548km±1km, mb5.3/237, Mwb5.9/43, Mww5.9, Error ellipse: s-maj=14.5km s-min=14.3km az=132.0*

*IDC **12** 16:15:50.5±0.3, 24°.87S×178°.72E, h554km±3km, mb4.6/26, mbtmp5.5/28, Error ellipse: s-maj=8.5km s-min=7.7km az=39.0*

*NOU **12** 16:15:50.8, 24°.95S×178°.86E, h566km, ML5.3/165, South of Fiji Islands*

*BJI **12** 16:15:50.4±0.0, 24°.71S×178°.65E, h558km, mb5.2/73, mB5.6/61*

*NEIC **12** 16:15:52.4, 25°.01S×178°.66E, h553km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-4.55; Mθθ4.46; Mφφ0.09; Mrθ-4.04; Mθφ-4.65; Mφr-3.45; Fault plane solution: M0 8.38000×10^17 NP1: φs334.13000°, δ49.25000°, λ-34.58000°. NP2: φs88.35000°, δ64.54000°, λ-133.70000°. Principal axes: T 7.6661, Plg9.0000°, Azm208.0000°; N 1.2801, Plg39.0000°, Azm111.0000°; P -8.9462, Plg50.0000°, Azm309.0000°;*

*GCMT **12** 16:15:54.0±0.1, 24°.87S±0°.01×178°.64E±0°.01, h566km, MW5.9/152, Moment Tensor Solution. s152,c291; s89,c97; Duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr-4.57±.06; Mθθ4.21±.10; Mφφ0.35±.10; Mrθ-3.76±.09; Mθφ-4.92±.08; Mφr-3.37±.09; Best double couple: M0 8.25700×10^17 NP1: φs91.00000°, δ63.00000°, λ-136.00000°. NP2: φs337.00000°, δ51.00000°, λ-36.00000°. Principal axes: T 7.7120, Plg7.0000°, Azm211.0000°; N 1.0870, Plg39.0000°, Azm115.0000°; P -8.8020, Plg50.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

*NEIC **12** 16:15:56, 24°.86S×178°.77E, h570km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^17Nm; Mrr-4.60; Mθθ4.97; Mφφ-0.37; Mrθ-4.39; Mθφ-5.17; Mφr-3.21; Fault plane solution: M0 8.91000×10^17 NP1: φs334.00000°, δ49.00000°, λ-32.00000°. NP2: φs87.00000°, δ66.00000°, λ-133.00000°. Principal axes: T 8.5132, Plg11.0000°, Azm207.0000°; N 0.7450, Plg40.0000°, Azm108.0000°; P -9.2582, Plg49.0000°, Azm309.0000°;*

ISC 12 16:15:51.1±0.2**, 24°.93S**±0°.03×**178°.71E**±0°.03**, h564**km±1km**, h565**km**:pP-P, n1490,** σ**1s34**/1654**, mb5.3**/197**, 81C-87D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.24**	**146**	P	**P**	**16 17 24.7**	**+1.1**
RAO	**Raoul Island**	**5.25**	**146**	P	**P**	**16 17 23.6**	**-0.1**
	7µm,0.5s,baz=88,slow=23,SNR=44						
RAO				S	**S**	**16 18 36.7**	**-2.7**
	814nm,0.4s,baz=80,slow=22,SNR=0.6						
RAO	**Raoul Island**	**5.25**	**146**	P	**P**	**16 17 23.4**	**-0.3**
RAO	**Raoul Island**	**5.25**	**146**	P	**P**	**16 17 24.7**	**+1.0**
RAO	**Raoul Island**	**5.25**	**146**	P	**P**	**16 17 23.4**	**-0.3**
RAO	**Raoul Island**	**5.25**	**146**	P	**P**	**16 17 24.7**	**+1.0**
MSVF	**Nonsavu**	**7.19**	**355**	P	**P**	**16 17 40.7**	**-0.9**
	314nm,0.4s,baz=150,slow=8.0,SNR=692						
MSVF				S	**S**	**16 19 10.6**	**-1.4**
	354nm,0.9s,baz=94,slow=22,SNR=6.1						
MSVF	**Nonsavu**	**7.19**	**355**		**P**	**16 17 40.9**	**-0.7**
MSVF	**Nonsavu**	**7.19**	**355**	P	**P**	**16 17 41.8**	**+0.2**
MSVF	**Nonsavu**	**7.19**	**355**	*c i*P	**P**	**16 17 40.5**	**-1.1**
MARNC	**Mare, Loyalty**	**10.41**	**287**	P	**P**	**16 18 13.8**	**+0.4**
MARNC	**Mare, Loyalty**	**10.41**	**287**	P	**P**	**16 18 14.3**	**+0.9**
NFK	**Norfolk Island**	**10.44**	**245**	P	**P**	**16 18 15.8**	**+2.2**
	baz=11,SNR=5.2						
NFK	**Norfolk Island**	**10.44**	**245**	P	**P**	**16 18 16.7**	**+3.1**
FUTU	**Fugatoga**	**10.98**	**16**	P	**P**	**16 18 19.3**	**0.0**
OUENC	**Ouen Island, N**	**11.16**	**281**	P	**P**	**16 18 21.3**	**+0.3**
OUENC	**Ouen Island, N**	**11.16**	**281**	P	**P**	**16 18 23.1**	**+2.0**
OUZ	**Omahuta**	**11.17**	**202**	P	**P**	**16 18 21.8**	**+0.9**
OUZ	**Omahuta**	**11.17**	**202**	P	**P**	**16 18 22.8**	**+1.9**
OUZ	**Omahuta**	**11.17**	**202**	P	**P**	**16 18 23.2**	**+2.3**
YATNC	**Mamie plateau,**	**11.22**	**282**	P	**P**	**16 18 23.7**	**+2.0**
LIFNC	**LIFOU**	**11.36**	**289**	P	**P**	**16 18 22.6**	**-0.5**
LIFNC	**LIFOU**	**11.36**	**289**	P	**P**	**16 18 23.4**	**+0.3**
ONTNC	**Ouen Toro**	**11.54**	**281**	P	**P**	**16 18 25.7**	**+0.7**
ONTNC	**Ouen Toro**	**11.54**	**281**	P	**P**	**16 18 26.9**	**+2.0**
WCZ	**Waipu Caves**	**11.60**	**198**	P	**P**	**16 18 27.9**	**+2.6**
DZM	**Mont Dzumac**	**11.61**	**282**	*e*Pn	**P**	**16 18 26.0**	**+0.2**
	2µm,1.2s						
DZM				*e*Sn	**S**	**16 20 33.7**	**+0.6**
	1µm,1.5s						
DZM	**Mont Dzumac**	**11.61**	**282**	P	**P**	**16 18 26.6**	**+0.8**
	396nm,0.5s,baz=111,slow=11,SNR=356						
DZM				S	**S**	**16 20 35.3**	**+2.2**
	354nm,1.3s,baz=194,slow=22,SNR=8.7						
DZM	**Mont Dzumac**	**11.61**	**282**	P	**P**	**16 18 26.8**	**+0.9**
DZM	**Mont Dzumac**	**11.61**	**282**	P	**P**	**16 18 27.8**	**+2.0**
GRZ	**Great Barrier**	**11.62**	**193**	P	**P**	**16 18 27.0**	**+1.4**
RTV	**Rentapao**	**11.93**	**305**	P	**P**	**16 18 29.5**	**+0.5**
NIUE	**Niue**	**12.04**	**63**	P	**P**	**16 18 29.0**	**-1.2**
	baz=12,SNR=82						
NIUE				S	**S**	**16 20 42.3**	**+1.3**
	baz=12						
NIUE	**Niue**	**12.04**	**63**	P	**P**	**16 18 28.9**	**-1.2**
NIUE	**Niue**	**12.04**	**63**	P	**P**	**16 18 28.3**	**-1.8**
	1µm,0.8s						
KUZ	**Kuaotunu**	**12.05**	**192**	P	**P**	**16 18 30.8**	**+0.8**
KUZ	**Kuaotunu**	**12.05**	**192**	P	**P**	**16 18 30.9**	**+0.9**
ABAZ	**Army Bay**	**12.10**	**195**	P	**P**	**16 18 32.9**	**+2.4**
DVP	**Devils Point**	**12.14**	**304**	P	**P**	**16 18 32.4**	**+1.2**
MBAZ	**Motutapu North**	**12.24**	**195**	P	**P**	**16 18 34.2**	**+2.3**
RVAZ	**Riverhead Bore**	**12.32**	**196**	P	**P**	**16 18 34.5**	**+1.8**
MXZ	**Matakaoa Point**	**12.60**	**181**	P	**P**	**16 18 32.6**	**-2.9**
MXZ	**Matakaoa Point**	**12.60**	**181**	P	**P**	**16 18 33.1**	**-2.5**
MXZ	**Matakaoa Point**	**12.60**	**181**	P	**P**	**16 18 33.8**	**-1.8**
MXZ				S	**S**	**16 20 43.1**	**-7.9**
HAZ	**Te Kaha**	**12.81**	**183**	P	**P**	**16 18 35.9**	**-1.8**
HAZ				S	**S**	**16 20 47.1**	**-7.9**
URZ	**Urewera**	**13.36**	**185**	P	**P**	**16 18 40.5**	**-2.9**
HIZ	**Hauiti**	**13.93**	**193**	P	**P**	**16 18 49.8**	**+0.4**
HIZ	**Hauiti**	**13.93**	**193**	P	**P**	**16 18 49.7**	**+0.4**
KOUNC	**Koumac, New Ca**	**14.00**	**285**	P	**P**	**16 18 51.6**	**+1.3**
AFI	**Afiamalu**	**14.16**	**41**	P	P	16 18 47.1	-5.0
	347nm,0.6s,baz=68,slow=1.0,SNR=69						
AFI				S	**S**	**16 21 14.7**	**-6.0**
	99nm,0.6s,baz=22,slow=22,SNR=2.8						
AFI	**Afiamalu**	**14.16**	**41**		**P**	**16 18 47.3**	**-4.7**
AFI	**Afiamalu**	**14.16**	**41**	P	**P**	**16 18 47.4**	**-4.6**
AFI	**Afiamalu**	**14.16**	**41**	P	**P**	**16 18 47.3**	**-4.7**
BKZ	**Black Stump Fm**	**14.32**	**187**	P	**P**	**16 18 49.2**	**-4.1**
BKZ	**Black Stump Fm**	**14.32**	**187**	P	**P**	**16 18 49.9**	**-3.4**
KHEZ	**Kahui Hut**	**14.86**	**194**	P	**P**	**16 19 00.8**	**+2.1**
BFZ	**Birch Farm**	**15.84**	**187**	P	**P**	**16 19 05.0**	**-3.3**
BFZ	**Birch Farm**	**15.84**	**187**	P	**P**	**16 19 05.5**	**-2.8**
FUNA	**Funafuti**	**16.32**	**2**	P	**P**	**16 19 09.9**	**-3.2**
DUWZ	**D'Urville Isla**	**16.33**	**193**	P	**P**	**16 19 12.0**	**-0.8**
DUWZ				S	**S**	**16 21 56.3**	**-1.1**
WEL	**Wellington**	**16.64**	**190**	P	**P**	**16 19 14.7**	**-0.9**
WEL				S	**S**	**16 21 58.8**	**-3.5**
WEL	**Wellington**	**16.64**	**190**	P	**P**	**16 19 14.7**	**-0.9**
WEL				S	**S**	**16 21 58.8**	**-3.5**
TCW	**Tory Channel**	**16.65**	**192**	P	**P**	**16 19 14.7**	**-1.0**
QRZ	**Quartz Range**	**16.67**	**197**	P	**P**	**16 19 15.5**	**-0.5**
QRZ	**Quartz Range**	**16.67**	**197**	P	**P**	**16 19 16.8**	**+0.8**
QRZ	**Quartz Range**	**16.67**	**197**	P	**P**	**16 19 16.0**	**0.0**
SNZO	**South Karori**	**16.67**	**191**	P	**P**	**16 19 12.9**	**-3.0**
SNZO	**South Karori**	**16.67**	**191**	P	**P**	**16 19 13.7**	**-2.2**
MSWZ	**Moikau Station**	**16.69**	**189**	P	**P**	**16 19 12.8**	**-3.4**
TKNZ	**Takaka Hill**	**16.76**	**195**	P	**P**	**16 19 16.2**	**-0.6**
NNZ	**Nelson**	**16.84**	**194**	P	**P**	**16 19 15.3**	**-2.1**
NNZ	**Nelson**	**16.84**	**194**	P	**P**	**16 19 16.0**	**-1.5**
NNZ				S	**S**	**16 22 03.8**	**-1.8**
PLWZ	**Palliser**	**16.84**	**189**	P	**P**	**16 19 14.2**	**-3.3**
TUWZ	**Tuamarina**	**16.93**	**192**	P	**P**	**16 19 16.2**	**-2.0**
TUWZ	**Tuamarina**	**16.93**	**192**	P	**P**	**16 19 16.5**	**-1.7**
TUWZ				S	**S**	**16 22 04.1**	**-2.9**
MRNZ	**Matariki Terra**	**17.16**	**195**	P	**P**	**16 19 19.6**	**-0.7**
CMWZ	**Cape Campbell**	**17.18**	**191**	P	**P**	**16 19 19.1**	**-1.5**
CMWZ	**Cape Campbell**	**17.18**	**191**	P	**P**	**16 19 19.8**	**-0.8**
CMWZ				S	**S**	**16 22 09.9**	**-1.4**
BSWZ	**Blackbirch Sta**	**17.21**	**192**	P	**P**	**16 19 19.0**	**-1.9**
BSWZ	**Blackbirch Sta**	**17.21**	**192**	P	**P**	**16 19 20.3**	**-0.6**
THZ	**Tophouse**	**17.47**	**195**	P	**P**	**16 19 21.7**	**-1.5**
THZ	**Tophouse**	**17.47**	**195**	P	**P**	**16 19 22.3**	**-0.9**
KHZ	**Kahutara**	**17.96**	**193**	P	**P**	**16 19 25.8**	**-1.8**
KHZ	**Kahutara**	**17.96**	**193**	P	**P**	**16 19 26.1**	**-1.5**
KHZ	**Kahutara**	**17.96**	**193**	P	**P**	**16 19 26.1**	**-1.5**
LHI	**Lord Howe Isla**	**18.50**	**245**	P	**P**	**16 19 35.6**	**+2.8**
	baz=19,SNR=12						
LHI	**Lord Howe Isla**	**18.50**	**245**	P	**P**	**16 19 34.1**	**+1.3**
LHI	**Lord Howe Isla**	**18.50**	**245**	P	**P**	**16 19 35.6**	**+2.8**
LTZ	**Lake Taylor**	**18.58**	**195**	P	**P**	**16 19 31.7**	**-1.7**
LTZ	**Lake Taylor**	**18.58**	**195**	P	**P**	**16 19 31.6**	**-1.7**
GVZ	**Greta Valley S**	**18.59**	**193**	P	**P**	**16 19 30.7**	**-2.7**
AMCZ	**Amberley**	**18.87**	**194**	P	**P**	**16 19 34.9**	**-1.0**
CTZ	**Chatham Island**	**19.14**	**170**	P	**P**	**16 19 38.0**	**-0.4**
OXZ	**Oxford**	**19.15**	**195**	P	**P**	**16 19 36.6**	**-1.9**
MQZ	**McQueen's Vall**	**19.38**	**193**	P	**P**	**16 19 38.6**	**-1.9**
RPZ	**Rata Peaks**	**19.76**	**197**	P	**P**	**16 19 42.1**	**-2.0**
	172nm,0.6s,baz=27,slow=4.0,SNR=45						
RPZ	**Rata Peaks**	**19.76**	**197**	P	**P**	**16 19 42.6**	**-1.5**
FOZ	**Fox Glacier**	**19.94**	**199**	P	**P**	**16 19 44.5**	**-1.1**
RAR	**Rarotonga**	**20.13**	**84**	P	**P**	**16 19 46.3**	**-1.4**
	36nm,0.8s,baz=244,slow=12,SNR=5.6 36nm,0.8s						
RAR	**Rarotonga**	**20.13**	**84**	P	**P**	**16 19 45.7**	**-2.1**
RAR	**Rarotonga**	**20.13**	**84**	P	**P**	**16 19 45.7**	**-2.1**
LBZ	**Lake Benmore**	**20.61**	**198**	P	**P**	**16 19 49.4**	**-2.4**
JCZ	**Jackson Bay**	**20.74**	**201**	P	**P**	**16 19 52.5**	**-0.6**
ODZ	**Otahua Downs**	**21.11**	**196**	P	**P**	**16 19 54.4**	**-1.8**
ODZ	**Otahua Downs**	**21.11**	**196**	P	**P**	**16 19 54.5**	**-1.7**
WKZ	**Wanaka**	**21.35**	**199**	P	**P**	**16 19 56.5**	**-1.9**
MLZ	**Mavora Lakes**	**22.11**	**200**	P	**P**	**16 20 04.3**	**-0.9**
DCZ	**Deep Cove**	**22.51**	**202**	P	**P**	**16 20 07.8**	**-1.0**
WHZ	**Wether Hill Ro**	**22.64**	**200**	P	**P**	**16 20 08.8**	**-1.1**
SYZ	**Scrubby Hill**	**22.88**	**197**	P	**P**	**16 20 11.2**	**-0.8**
PYZ	**Puysegur Point**	**23.29**	**201**	P	**P**	**16 20 14.4**	**-1.2**
PYZ	**Puysegur Point**	**23.29**	**201**	P	**P**	**16 20 14.6**	**-1.1**
HNR	**Honiara**	**23.59**	**308**	P	**P**	**16 20 17.9**	**-0.9**
	5µm,0.6s,baz=158,slow=2.1,SNR=35						
HNR	**Honiara**	**23.59**	**308**	P	**P**	**16 20 18.3**	**-0.5**
ARMA	**Armidale**	**24.57**	**251**	P	**P**	**16 20 29.2**	**+1.8**
	baz=25,SNR=36						
ARMA	**Armidale**	**24.57**	**251**	P	**P**	**16 20 26.9**	**-0.6**
ARMA	**Armidale**	**24.57**	**251**	P	**P**	**16 20 29.4**	**+2.0**
EIDS	**Eidsvold**	**25.00**	**263**	P	**P**	**16 20 31.8**	**+0.7**
	baz=25,SNR=44						
EIDS	**Eidsvold**	**25.00**	**263**	P	**P**	**16 20 31.9**	**+0.7**
EIDS	**Eidsvold**	**25.00**	**263**	P	**P**	**16 20 32.2**	**+1.1**
RIV	**Riverview**	**25.54**	**243**	P	**P**	**16 20 37.5**	**+1.8**
	baz=26,SNR=4.2						
RIV	**Riverview**	**25.54**	**243**	P	**P**	**16 20 36.0**	**+0.3**
RK1H	**Rockhampton Ha**	**25.78**	**268**	P	**P**	**16 20 39.2**	**+1.2**
SYDH	**Sydney Hard Ro**	**25.86**	**244**	P	**P**	**16 20 40.4**	**+1.8**
TARA	**Tarawa**	**26.73**	**347**	P	**P**	**16 20 45.8**	**-0.6**
TARA	**Tarawa**	**26.73**	**347**	P	**P**	**16 20 46.9**	**+0.5**
RMQ	**Roma**	**27.01**	**260**	P	**P**	**16 20 50.3**	**+1.5**
	baz=27,SNR=28						
RMQ	**Roma**	**27.01**	**260**	P	**P**	**16 20 50.7**	**+1.9**
CNB	**Canberra Magne**	**27.32**	**241**	P	**P**	**16 20 53.1**	**+1.6**
	baz=27,SNR=88						
CNB	**Canberra Magne**	**27.32**	**241**	P	**P**	**16 20 53.2**	**+1.7**
CAN	**Canberra**	**27.61**	**241**	P	**P**	**16 20 54.4**	**+0.4**
CAN	**Canberra**	**27.61**	**241**	P	**P**	**16 20 55.8**	**+1.8**
CAN	**Canberra**	**27.61**	**241**	P	**P**	**16 20 54.4**	**+0.4**
MILA	**Mila**	**27.95**	**237**	P	**P**	**16 20 58.3**	**+1.3**
	baz=28,SNR=71						
MILA	**Mila**	**27.95**	**237**	P	**P**	**16 20 58.5**	**+1.5**
TBI	**Tubuai**	**29.05**	**94**	*e*P	**P**	**16 21 07.6**	**+1.0**
	238nm,1.0s						
TBI				*e*S	**S**	**16 25 21.7**	**+2.5**
	1µm,28.8s						
TBI	**Tubuai**	**29.05**	**94**	*e*T	T	16 47 06.4	
	6.6nm,0.4s						
CMSA	**Cobar Meteorol**	**29.75**	**250**	P	**P**	**16 21 13.1**	**+0.5**
	baz=30,SNR=130						
CMSA	**Cobar Meteorol**	**29.75**	**250**	P	**P**	**16 21 13.4**	**+0.8**
TV1H	**Townsville Har**	**30.06**	**274**	P	**P**	**16 21 16.4**	**+1.0**
GLAD	**Gladstone**	**30.13**	**230**	P	**P**	**16 21 16.7**	**+1.0**
CTA	**Charters Tower**	**30.33**	**273**	P	**P**	**16 21 18.2**	**+0.5**
	191nm,0.5s,baz=98,slow=9.8,SNR=593						
CTA				S	**S**	**16 25 39.6**	**+0.7**
	6.1nm,0.7s,baz=354,slow=23,SNR=14 191nm,0.5s						
CTA	**Charters Tower**	**30.33**	**273**	P	**P**	**16 21 18.6**	**+0.9**
CTAO	**Charters Tower**	**30.33**	**273**	P	**P**	**16 21 18.2**	**+0.5**

CTAO **Charters Tower** 30.33 273 P **P** 16 21 18.4 +0.7
CTAO **Charters Tower** 30.33 273 P **P** 16 21 18.2 +0.5
CTAO pmax pmax
comp=Z,233nm,0.7s
CTAO **Charters Tower** 30.33 273 P **P** 16 21 18.4 +0.7
CTAO pP **pP** 16 22 49.9 +1.1
CTAO PP **PP** 16 22 57.8 +0.4
CTAO sP **sP** 16 23 53.2 -0.6
CTAO ScP **ScP** 16 26 53.3 +4.0
PAE Paea 30.36 82 *e*P **P** 16 21 17.5 -0.5
comp=Z,23nm,1.2s
PAE Paea 30.36 82 *e*T T 16 46 56.5
comp=Z,5.5nm,0.3s
PPT2 Papeete2 30.39 82 *e*P **P** 16 21 18.2 -0.1
comp=Z,80nm,1.1s
PPT2 *e*pP **pP** 16 22 50.0 +1.3
comp=Z,84nm,1.5s
PPT2 *e*S **S** 16 25 42.5 +2.5
comp=Z,499nm,25.2s
PPT2 Papeete2 30.39 82 *e*T T 16 47 01.1
comp=Z,4.1nm,0.3s
PPT Papeete 30.40 82 P **P** 16 21 18.2 -0.1
comp=Z,83nm,1.0s,baz=225,slow=4.3,SNR=5.9
comp=Z,83nm,1.0s
PPTF Pamatai, Papee 30.40 82 P **P** 16 21 18.4 0.0
PPTF Pamatai, Papee 30.40 82 P **P** 16 21 19.4 +1.0
PPTF Pamatai, Papee 30.40 82 P **P** 16 21 19.1 +0.7
PPTF ScP **ScP** 16 26 51.7 +2.0
TIAR Tiarei 30.61 82 *e*P **P** 16 21 20.7 +0.6
comp=Z,22nm,1.1s
TIAR *e*pP **pP** 16 22 52.7 +2.0
comp=Z,7.8nm,0.9s
TOO Toolangi 30.91 238 P **P** 16 21 23.4 +0.9
baz=31,SNR=108
TOO Toolangi 30.91 238 P **P** 16 21 22.9 +0.5
TOO IAmb IAmb 16 21 24.5
comp=Z,69nm,0.6s
TOO Toolangi 30.91 238 P **P** 16 21 23.5 +1.0
TOO Toolangi 30.91 238 P **P** 16 21 22.9 +0.5
TOO pmax pmax
comp=Z,69nm,0.6s
CORO Coronation Par 30.91 230 P **P** 16 21 24.3 +1.9
QLP Quilpie 31.04 259 P **P** 16 21 24.1 +0.3
baz=31,SNR=69
QLP Quilpie 31.04 259 P **P** 16 21 24.2 +0.5
MOO Moorlands 31.27 228 P **P** 16 21 26.7 +1.3
baz=31,SNR=6.1
MOO Moorlands 31.27 228 P **P** 16 21 26.8 +1.3
TAU Tasmania Unive 31.38 227 P **P** 16 21 26.9 +0.6
TAU IAmb IAmb 16 21 28.3
comp=Z,89nm,0.8s
TAU Tasmania Unive 31.38 227 P **P** 16 21 27.4 +1.1
TAU Tasmania Unive 31.38 227 P **P** 16 21 26.9 +0.6
TAU pmax pmax
comp=Z,89nm,0.8s
TAU Tasmania Unive 31.38 227 P **P** 16 21 27.2 +0.9
MEH Mehetia 31.66 84 *e*P **P** 16 21 29.7 +0.6
comp=Z,49nm,1.2s
GEXS Deakin Univers 31.98 237 P **P** 16 21 33.2 +1.7
BRAT Ballarat 32.11 239 P **P** 16 21 34.5 +1.9
MTSU Mount Surprise 32.64 275 P **P** 16 21 38.2 +0.8
baz=33,SNR=929
MTSU Mount Surprise 32.64 275 P **P** 16 21 38.6 +1.2
RABL Rabaul 32.81 305 P **P** 16 21 38.1 -0.8
RABL Rabaul 32.81 305 P **P** 16 21 38.4 -0.5
KRVT Keravat (AS076 32.84 304 P **P** 16 21 37.7 -1.4
comp=Z,821nm,0.5s,baz=178,slow=2.3,SNR=281
VAH Vaihoa 32.97 79 *e*P **P** 16 21 40.0 -0.2
comp=Z,95nm,1.2s
MCQ Macquarie Isla 32.98 201 P **P** 16 21 40.2 +0.6
baz=33,SNR=6.4
MCQ Macquarie Isla 32.98 201 P **P** 16 21 40.3 +0.6
STKA Stephens Creek 33.26 249 P **P** 16 21 43.2 +0.8
comp=Z,56nm,0.5s,baz=92,slow=9.8,SNR=217
STKA S **S** 16 26 22.1 -1.2
comp=Z,17nm,1.1s,baz=195,slow=21,SNR=7.3
comp=Z,56nm,0.5s
STKA Stephens Creek 33.26 249 P **P** 16 21 43.1 +0.6
baz=33,SNR=180
STKA Stephens Creek 33.26 249 P **P** 16 21 42.6 +0.2
STKA Stephens Creek 33.26 249 P **P** 16 21 43.0 +0.6
STKA Stephens Creek 33.26 249 *i* P **P** 16 21 42.7 +0.2
ARPS Mount Arapiles 33.59 241 P **P** 16 21 45.8 +0.7
baz=34,SNR=44
ARPS Mount Arapiles 33.59 241 P **P** 16 21 46.0 +0.8
PMG Port Moresby 33.75 292 P **P** 16 21 47.0 +0.3
comp=Z,248nm,0.6s,baz=107,slow=7.4,SNR=235
PMG S **S** 16 26 29.8 -1.4
comp=Z,4.1nm,0.8s,baz=349,slow=20,SNR=1.3
comp=Z,248nm,0.6s
PMG Port Moresby 33.75 292 P **P** 16 21 47.0 +0.3
PMG Port Moresby 33.75 292 P **P** 16 21 47.1 +0.3
comp=Z,5µmcomp=Z,404nm,0.8s
PMG Port Moresby 33.75 292 P **P** 16 21 47.1 +0.3
PMG Port Moresby 33.75 292 P **P** 16 21 47.0 +0.3
PMG pmax pmax
comp=Z,333nm,1.0s
PMG Port Moresby 33.75 292 P **P** 16 21 46.6 -0.2
PMG pP **pP** 16 23 21.6 +1.8
INKA Innaminka 34.05 257 P **P** 16 21 50.7 +1.5
COEN Coen 35.14 281 P **P** 16 21 59.1 +0.7
baz=35,SNR=378
COEN Coen 35.14 281 P **P** 16 21 59.0 +0.7
COEN Coen 35.14 281 P **P** 16 21 59.2 +0.8
XMAS Kiritimati 35.41 44 P **P** 16 22 01.6 +1.1
HTT Hallett 35.59 247 P **P** 16 22 02.2 +0.3
baz=36,SNR=73
HTT Hallett 35.59 247 P **P** 16 22 02.2 +0.3
LCRK Leigh Creek 36.14 252 P **P** 16 22 06.7 +0.2
QIS Mount Isa 36.24 269 P **P** 16 22 07.6 +0.1
baz=36,SNR=66
QIS Mount Isa 36.24 269 P **P** 16 22 07.8 +0.3
PTPS Port Pirie 36.35 247 P **P** 16 22 09.1 +1.0
WHYH Whyalla 36.70 248 P **P** 16 22 11.7 +0.7
PATS Pohnpei 37.31 325 P **P** 16 22 16.2 0.0
baz=37,SNR=11
MANU Manus Island 37.84 302 P **P** 16 22 20.5 -0.1
MANU PcP **PcP** 16 24 23.9 +1.9
MANU Manus Island 37.84 302 P **P** 16 22 21.0 +0.4
BBOO Buckleboo 37.97 248 P **P** 16 22 20.9 -0.5
baz=38,SNR=99
BBOO Buckleboo 37.97 248 P **P** 16 22 20.9 -0.5
BBOO Buckleboo 37.97 248 P **P** 16 22 20.8 -0.6
OOD Oodnadatta 38.51 256 P **P** 16 22 26.6 +0.7
MULG Mulgathing 39.74 252 P **P** 16 22 35.6 -0.1
AS01 Alice Springs 40.68 262 P **P** 16 22 43.6 +0.2
AS31 Alice Springs 40.72 262 P **P** 16 22 43.4 -0.3
ASAR Alice Springs 40.72 262 P **P** 16 22 43.6 0.0
comp=Z,42nm,0.4s,baz=94,slow=6.7,SNR=552
ASAR pP **pP** 16 24 21.9 +1.0
comp=Z,13nm,0.9s,baz=90,slow=7.4,SNR=1.7
ASAR S **S** 16 28 11.8 -2.4
comp=Z,20nm,0.8s,baz=101,slow=16,SNR=26
ASAR ScS **ScS** 16 31 44.3 -0.8
comp=Z,2.5nm,0.9s,baz=106,slow=6.8,SNR=4.5
ASAR P3KPbc 16 52 11.2
comp=Z,0.4nm,0.9s,baz=283,slow=3.8,SNR=6.2
comp=Z,42nm,0.4s
ASAR Alice Springs 40.72 262 P **P** 16 22 43.4 -0.3
WR0 Warramunga Arr 40.99 268 P **P** 16 22 45.2 -0.6
WB1 Warramunga Ar. 41.17 268 P **P** 16 22 46.9 -0.4
WB2 Warramunga Arr 41.17 268 P **P** 16 22 46.9 -0.4
baz=41
WB2 Warramunga Arr 41.17 268 P **P** 16 22 46.5 -0.8
WRAB Tennant Creek 41.17 268 P **P** 16 22 46.5 -0.7
WRAB Tennant Creek 41.17 268 P **P** 16 22 46.9 -0.4
WRAB Tennant Creek 41.17 268 *ce*P **P** 16 22 46.7 -0.5
WRAB pmax pmax
comp=Z,213nm,0.8s
WRAB Tennant Creek 41.17 268 P **P** 16 22 46.8 -0.5
WRAB sP **sP** 16 25 26.2 -1.7
WB0 Warramunga Arr 41.18 268 P **P** 16 22 46.6 -0.7
WRA Warramunga Arr 41.18 268 P **P** 16 22 46.8 -0.6
comp=Z,164nm,0.5s,baz=105,slow=7.9,SNR=780
WRA PcP **PcP** 16 24 32.2 -0.7
comp=Z,6.6nm,0.8s,baz=106,slow=3.3,SNR=4.7
WRA S **S** 16 28 17.5 -3.4
comp=Z,31nm,1.1s,baz=101,slow=13,SNR=16
WRA P4KPbc 17 00 42.8
comp=Z,0.3nm,0.6s,baz=93,slow=4.3,SNR=9.2
comp=Z,164nm,0.5s
WRA Warramunga Arr 41.18 268 P **P** 16 22 47.1 -0.2
WRA Warramunga Arr 41.18 268 P **P** 16 22 47.1 -0.2
WRA pmax pmax
comp=Z,22nm,0.7s

TAOE Nuku Hiva Isla 42.28 75 *e*P **P** 16 22 55.9 -0.3
comp=Z,253nm,1.1s
TAOE *e*S **S** 16 28 38.8 +1.9
comp=Z,731nm,25.0s
TAOE Nuku Hiva Isla 42.28 75 P **P** 16 22 56.7 +0.5
TAOE IAmb IAmb 16 22 58.2
comp=Z,73nm,0.8s
TAOE Nuku Hiva Isla 42.28 75 P **P** 16 22 57.1 +0.9
GENI Genyem 43.26 295 P **P** 16 23 03.9 +0.2
comp=Z,5µmcomp=Z,9µmcomp=Z,558nm,1.7s
GENI Genyem 43.26 295 P **P** 16 23 04.0 +0.2
SMPI Sarmi 44.80 294 P **P** 16 23 15.7 +0.1
comp=Z,3µmcomp=Z,4µmcomp=Z,234nm,1.4s
FORT Forrest 44.86 251 P **P** 16 23 14.9 -0.9
baz=45,SNR=88
FORT Forrest 44.86 251 P **P** 16 23 15.0 -0.9
FORT PcP **PcP** 16 24 45.4 +0.1
FORT Forrest 44.86 251 P **P** 16 23 14.9 -0.9
KDU Kakadu 45.23 277 P **P** 16 23 18.0 -0.8
baz=45,SNR=91
KDU Kakadu 45.23 277 P **P** 16 23 17.9 -0.9
WRKA Warakurna 45.48 259 P **P** 16 23 20.3 -0.4
baz=46,SNR=153
WRKA Warakurna 45.48 259 P **P** 16 23 20.5 -0.2
WAKE Wake Island 45.49 344 P **P** 16 23 20.9 +0.3
WAKE Wake Island 45.49 344 P **P** 16 23 21.2 +0.6
PTCN Pitcairn Islan 46.16 102 P **P** 16 23 24.8 -1.0
MTN Manton Dam 46.38 276 P **P** 16 23 26.8 -0.8
baz=46,SNR=32
MTN Manton Dam 46.38 276 P **P** 16 23 26.6 -0.9
MTN IAmb IAmb 16 23 28.7
comp=Z,59nm,0.9s
MTN Manton Dam 46.38 276 P **P** 16 23 27.3 -0.3
SRPI Serui, Papua 46.93 293 P **P** 16 23 32.3 +0.6
comp=Z,6µmcomp=Z,547nm,1.0s
KNRA Kununurra 47.52 271 P **P** 16 23 36.0 -0.1
baz=48,SNR=331
KNRA Kununurra 47.52 271 P **P** 16 23 35.9 -0.3
KNRA Kununurra 47.52 271 P **P** 16 23 36.4 +0.3
DRV Dumont d'Urvil 48.18 200 P **P** 16 23 39.8 -0.4
DRV pP **pP** 16 25 24.1 +1.7
DRV pwP **pwP** 16 25 33.7 +5.6
DRV sP **sP** 16 26 23.1 -1.2
DRV ScP **ScP** 16 27 57.0 -0.5
SAUI Saumlaki 48.21 282 P **P** 16 23 41.5 +0.2
SAUI Saumlaki 48.21 282 P **P** 16 23 42.3 +0.9
comp=Z,8µmcomp=Z,586nm,1.7s
SAUI Saumlaki 48.21 282 P **P** 16 23 42.9 +1.5
RKPI Ransiki, Papua 48.86 291 P **P** 16 23 46.0 -0.1
comp=Z,3µmcomp=Z,3µmcomp=Z,122nm,1.8s
MWPI Manokwari, Pap 49.28 292 P **P** 16 23 49.8 +0.5
comp=Z,4µmcomp=Z,207nm,1.4s
FAKI Fak Fak 49.78 289 P **P** 16 23 51.9 -1.0
FAKI Fak Fak 49.78 289 P **P** 16 23 52.3 -0.6
FAKI Fak Fak 49.78 289 P **P** 16 23 52.3 -0.6
KMBL Kambalda 50.06 249 P **P** 16 23 53.9 -0.8
baz=50,SNR=9.6
KMBL Kambalda 50.06 249 P **P** 16 23 54.3 -0.4
GUMO Guam 50.55 315 P **P** 16 23 57.6 -0.9
comp=Z,198nm,0.5s,baz=132,slow=5.6,SNR=21
comp=Z,198nm,0.5s
GUMO Guam 50.55 315 P **P** 16 23 57.7 -0.7
GUMO Guam 50.55 315 P **P** 16 23 58.0 -0.4
GUMO Guam 50.55 315 P **P** 16 23 57.7 -0.7
GUMO pmax pmax
comp=Z,370nm,0.8s
GUMO Guam 50.55 315 P **P** 16 23 57.8 -0.6
KHLU Kahalu`u 50.69 32 P **P** 16 23 59.6 +0.1
KHLU IAmb IAmb 16 24 01.4
comp=Z,200nm,1.4s
PUH Pauahi 50.83 32 P **P** 16 23 59.8 -0.7
MLH Mauna Loa 50.85 32 P **P** 16 24 01.9 +1.1
MLH IAmb IAmb 16 24 02.8
comp=Z,92nm,0.8s
HMH Humu'ula Sheep 50.89 32 P **P** 16 24 01.7 +0.5
HMH IAmb IAmb 16 24 03.5
comp=Z,205nm,1.0s
KEKH Kekaha 51.13 26 P **P** 16 24 02.9 +0.4
KEKH IAmb IAmb 16 24 04.7
comp=Z,334nm,1.7s
HPAH Hawaii Prepara 51.16 31 P **P** 16 24 02.1 -0.7
HPAH IAmb IAmb 16 24 04.3
comp=Z,128nm,0.8s
SIJI Sorong 51.67 290 P **P** 16 24 06.3 -0.3
comp=Z,335nm,0.6s,baz=80,slow=9.6,SNR=416
SIJI S **S** 16 30 45.0 -1.5
comp=Z,1.9nm,0.5s,baz=269,slow=23,SNR=1.7
comp=Z,335nm,0.6s
VNDA Vanda 53.26 185 P **P** 16 24 17.5 +0.5
comp=Z,12nm,0.5s,baz=6.4,slow=8.1,SNR=194
VNDA S **S** 16 31 04.3 -1.5
comp=Z,0.8nm,0.9s,baz=34,slow=8.3,SNR=1.7
comp=Z,12nm,0.5s
VNDA Vanda 53.26 185 P **P** 16 24 17.1 +0.2
VNDA Vanda 53.26 185 P **P** 16 24 17.8 +0.8
VNDA pP **pP** 16 26 02.6 +0.1
VNDA ScP **ScP** 16 28 19.6 +0.3
SBA Scott Base 53.29 183 P **P** 16 24 18.3 +1.2
SBA IAmb IAmb 16 24 21.2
comp=Z,219nm,1.4s
SBA Scott Base 53.29 183 P **P** 16 24 18.3 +1.2
SBA pmax pmax
comp=Z,219nm,1.4s
SBA Scott Base 53.29 183 P **P** 16 24 19.0 +1.8
SBA ScP **ScP** 16 28 20.4 +1.0
KLBR Kellerberrin 53.51 248 P **P** 16 24 18.7 -0.9
baz=54,SNR=50
KLBR Kellerberrin 53.51 248 P **P** 16 24 19.2 -0.4
MEEK Meekatharra 53.70 254 P **P** 16 24 19.7 -1.2
baz=54,SNR=29
MEEK Meekatharra 53.70 254 P **P** 16 24 20.5 -0.5
RKGY Rocky Gully 53.73 244 P **P** 16 24 21.1 +0.1
baz=54,SNR=8.7
RKGY Rocky Gully 53.73 244 P **P** 16 24 21.3 +0.3
NWAO Narrogin (SRO) 53.74 246 S **S** 16 31 10.9 -2.8
comp=Z,6.9nm,1.0s,baz=236,slow=15,SNR=1.6
NWAO Narrogin (SRO) 53.74 246 P **P** 16 24 21.0 -0.1
baz=54,SNR=8.9
NWAO P **P** 16 24 21.0 -0.1
baz=54,SNR=8.9
NWAO Narrogin (SRO) 53.74 246 P **P** 16 24 20.5 -0.7
NWAO Narrogin (SRO) 53.74 246 P **P** 16 24 18.7 -2.5
NWAO Narrogin (SRO) 53.74 246 P **P** 16 24 21.1 -0.1
NWAO Narrogin (SRO) 53.74 246 P **P** 16 24 20.5 -0.7
NWAO pmax pmax
comp=Z,141nm,1.7s
SOEI Soe 53.77 276 P **P** 16 24 22.6 +0.8
SOEI Soe 53.77 276 P **P** 16 24 22.9 +1.1
PSA00 Pilbara Seismi 53.83 261 P **P** 16 24 20.8 -1.2
PSA00 Pilbara Seismi 53.83 261 P **P** 16 24 20.4 -1.5
PSA00 IAmb IAmb 16 24 23.1
comp=Z,139nm,1.8s
PSA00 PcP **PcP** 16 25 18.8 +0.1
PSA00 Pilbara Seismi 53.83 261 P **P** 16 24 21.3 -0.7
MBWA Marble Bar 54.05 261 P **P** 16 24 22.5 -1.0
MBWA IAmb IAmb 16 24 24.4
comp=Z,49nm,0.5s
MBWA Marble Bar 54.05 261 P **P** 16 24 20.7 -2.7
MBWA Marble Bar 54.05 261 P **P** 16 24 22.5 -1.0
MBWA Marble Bar 54.05 261 P **P** 16 24 22.7 -0.7
MBWA pP **pP** 16 26 08.8 -0.3
MBWA sP **sP** 16 27 09.7 0.0
BATI Baumata 54.14 275 S **S** 16 31 18.1 -1.3
comp=Z,3.5nm,0.4s,baz=234,slow=20,SNR=1.2
BLDU Ballidu 54.56 249 P **P** 16 24 26.2 -0.7
baz=55,SNR=81
BLDU Ballidu 54.56 249 P **P** 16 24 25.9 -1.1
MUN Mundaring 54.75 247 P **P** 16 24 27.8 -0.4
baz=55,SNR=23
MUN Mundaring 54.75 247 P **P** 16 24 28.0 -0.2
MORW Morawa 55.42 251 P **P** 16 24 32.4 -0.6
baz=56,SNR=46
MORW Morawa 55.42 251 P **P** 16 24 32.2 -0.8
MORW Morawa 55.42 251 P **P** 16 24 32.2 -0.8
SANI Sanana 55.64 286 P **P** 16 24 34.1 -0.6
TNTI Ternate 55.84 289 P **P** 16 24 35.4 -0.6
TNTI IAmb IAmb 16 24 38.4
comp=Z,248nm,1.2s
TNTI Ternate 55.84 289 P **P** 16 24 36.3 +0.2
MMRI Maumere 56.06 276 P **P** 16 24 36.7 -0.8
MMRI Maumere 56.06 276 P **P** 16 24 37.7 +0.1
CCD Concordia, Ant 57.44 195 P **P** 16 24 46.1 -0.4
CCD pP **pP** 16 26 34.6 +0.3
CCD pwP **pwP** 16 26 42.6 +3.2

CCD sP **sP** 16 27 34.8 +0.3
CCD ScP **ScP** 16 28 38.1 -0.1
GIRL Giralia 58.54 258 P **P** 16 24 54.9 +0.6
baz=59,SNR=4.6
GIRL Giralia 58.54 258 P **P** 16 24 53.6 -0.7
GIRL Giralia 58.54 258 P **P** 16 24 55.1 +0.7
CASY Casey 58.67 206 P **P** 16 24 53.8 -0.7
CASY IAmb IAmb 16 24 55.4
comp=Z,130nm,1.1s
CASY Casey 58.67 206 P **P** 16 24 54.1 -0.4
LUWI Luwuk 58.94 285 P **P** 16 24 56.9 -0.3
LUWI Luwuk 58.94 285 P **P** 16 24 57.5 +0.4
KAPI Kappang 59.82 279 P **P** 16 25 02.8 -0.3
KAPI IAmb IAmb 16 25 05.8
comp=Z,252nm,1.4s
KAPI Kappang 59.82 279 P **P** 16 25 03.1 +0.1
KAPI Kappang 59.82 279 P **P** 16 25 03.3 +0.3
KAPI Kappang 59.82 279 *d* iP **P** 16 25 02.7 -0.3
KAPI *e* 16 27 27.3
KAPI pmax pmax
comp=Z,212nm,1.5s
KAPI Kappang 59.82 279 P **P** 16 25 02.9 -0.1
KAPI pP **pP** 16 26 53.9 +1.9
KAPI sP **sP** 16 27 52.1 +0.5
PLAI Plampang 60.01 274 P **P** 16 25 04.3 0.0
DAV Davao City (W) 60.70 294 P **P** 16 25 07.9 -0.9
KCP Kidapawan 61.07 294 *e*P **P** 16 25 10.7 -0.6
TOLI2 Tolitoli 61.71 286 P **P** 16 25 14.3 -1.2
TOLI2 IAmb IAmb 16 25 16.4
comp=Z,151nm,0.8s
TOLI2 Tolitoli 61.71 286 P **P** 16 25 14.7 -0.7
CTBH Cotabato--PC H 61.89 294 *i* iP **P** 16 25 16.6 +0.1
CGP Cagayan de Oro 62.20 295 *e*P **P** 16 25 18.6 0.0
JCJ Chichijima 62.58 323 P **P** 16 25 19.9 -0.8
JCJ Chichijima 62.58 323 P **P** 16 25 20.5 -0.3
PAGZ Pagadian 62.95 294 *e*P **P** 16 25 22.5 -0.8
JAGI Jajag, Banyuwa 63.44 273 P **P** 16 25 25.2 -1.4
JAGI IAmb IAmb 16 25 26.2
comp=Z,104nm,0.8s
JAGI Jajag, Banyuwa 63.44 273 P **P** 16 25 25.5 -1.1
BKB Balikpapan 64.03 281 P **P** 16 25 30.6 +0.2
BKB IAmb IAmb 16 25 34.0
comp=Z,123nm,1.0s
CNOP Candoni, Negro 64.64 295 *e*P **P** 16 25 31.9 -2.2
QSPA South Pole Qui 65.16 180 P **P** 16 25 37.5 +0.7
comp=Z,116nm,0.9s,baz=16,slow=1.8,SNR=444
QSPA pP **pP** 16 27 30.3 +1.7
comp=Z,21nm,0.9s,baz=39,slow=5.1,SNR=5.3
QSPA S **S** 16 33 34.8 -0.8
comp=Z,2.4nm,0.9s,baz=67,slow=23,SNR=7.6
comp=Z,116nm,0.9s
QSPA South Pole Qui 65.16 180 P **P** 16 25 37.4 +0.7
QSPA IAmb IAmb 16 25 40.3
comp=Z,129nm,0.9s
QSPA South Pole Qui 65.16 180 P **P** 16 25 37.3 +0.6
QSPA pP **pP** 16 27 29.5 +0.8
RCP Roxas 65.51 297 *e*P **P** 16 25 39.2 -0.4
MYLDM Lahad Datu 65.69 288 P **P** 16 25 41.3 +0.5
UGM Wanagama 66.95 272 P **P** 16 25 48.2 -0.4
UGM Wanagama 66.95 272 P **P** 16 25 48.2 -0.4
LQP Lukban 67.92 298 *e*P **P** 16 25 55.5 +0.8
KKM Kota Kinabalu 68.09 288 P **P** 16 25 55.7 0.0
JHJ2 Mitsune 68.58 326 P **P** 16 26 58.2 +0.1
BBJI Bungbulang 69.74 271 P **P** 16 26 04.6 -1.0
SBUM Sibu 69.88 283 P **P** 16 26 05.8 -0.5
SGCP Gonzaga 69.90 302 *e*P **P** 16 26 05.9 -0.3
XMI Christmas Isla 70.35 267 P **P** 16 26 09.2 +0.1
JOW Kunigami 70.82 313 IAmb IAmb 16 26 13.8
comp=Z,128nm,0.9s
JOW Kunigami 70.82 313 P **P** 16 26 11.7 +0.1
KSM Kuching 71.14 281 IAmb IAmb 16 26 14.5
comp=Z,92nm,0.7s
KSM Kuching 71.14 281 P **P** 16 26 13.7 0.0
INU Inuyama 71.78 325 P **P** 16 26 17.0 0.0
INU IAmb IAmb 16 26 19.1
comp=Z,100nm,1.1s
INU Inuyama 71.78 325 P **P** 16 26 17.5 +0.6
INU Inuyama 71.78 325 P **P** 16 26 16.9 0.0
INU sP **sP** 16 29 09.0 -0.6
JGF Kuroka 71.79 325 IAmb IAmb 16 26 18.8
comp=Z,203nm,1.6s
JGF Kuroka 71.79 325 P **P** 16 26 16.8 -0.3
JMM Marumori 71.90 329 IAmb IAmb 16 26 19.8
comp=Z,54nm,0.8s
JMM Marumori 71.90 329 P **P** 16 26 18.1 +0.5
MJAR Matsushiro Arr 72.09 327 P **P** 16 26 18.1 -0.6
comp=Z,65nm,1.0s,baz=156,slow=6.0,SNR=125
MJAR pP **pP** 16 28 13.4 -0.4
comp=Z,2.9nm,0.8s,baz=155,slow=6.2,SNR=3.1
comp=Z,65nm,1.0s
MAJO Matsushiro 72.10 327 P **P** 16 26 18.8 0.0
MAJO IAmb IAmb 16 26 20.7
comp=Z,129nm,1.1s
MAJO Matsushiro 72.10 327 P **P** 16 26 18.8 0.0
MAJO Matsushiro 72.10 327 *d* iP **P** 16 26 18.1 -0.7
MAJO pmax pmax
comp=Z,126nm,1.1s
JMN Monobe 72.25 322 IAmb IAmb 16 26 22.3
comp=Z,240nm,1.5s
JMN Monobe 72.25 322 P **P** 16 26 20.3 +0.6
JSU Suzuyama 72.64 318 P **P** 16 26 21.9 -0.1
JSU Suzuyama 72.64 318 P **P** 16 26 22.1 0.0
YOJ Yonaguni jima 72.93 308 P **P** 16 26 23.4 -0.4
JSD Sado 73.24 328 IAmb IAmb 16 26 28.3
comp=Z,181nm,1.2s
JSD Sado 73.24 328 P **P** 16 26 25.9 +0.6
TWGBT Beinan 73.33 306 P **P** 16 26 24.4 -1.8
TWG Pinlang 73.34 306 IAmb IAmb 16 26 25.3
comp=Z,57nm,0.6s
YULB Yu-li 73.52 306 P **P** 16 26 25.8 -1.4
JNU Nakatsue 73.53 320 IAmb IAmb 16 26 29.0
comp=Z,176nm,1.4s
JNU Nakatsue 73.53 320 P **P** 16 26 27.1 0.0
JHS Saijyo 73.61 322 P **P** 16 26 28.0 +0.5
NACB Ninganchiao 73.77 307 IAmb IAmb 16 26 30.2
comp=Z,89nm,0.9s
NACB Ninganchiao 73.77 307 P **P** 16 26 29.1 +0.5
TPUB Ta-pu 73.95 306 P **P** 16 26 27.9 -1.8
SSLB Suanglung 74.00 306 IAmb IAmb 16 26 30.1
comp=Z,156nm,1.2s
SSLB Suanglung 74.00 306 P **P** 16 26 28.4 -1.6
JTM Tenmabayashi 74.15 331 P **P** 16 26 31.3 +0.9
YHNB Yeheng 74.23 307 IAmb IAmb 16 26 33.3
comp=Z,83nm,1.0s
YHNB Yeheng 74.23 307 P **P** 16 26 31.2 -0.1
ERM Erimo 74.28 333 P **P** 16 26 30.8 -0.2
ERM IAmb IAmb 16 26 35.8
comp=Z,190nm,1.6s
ERM Erimo 74.28 333 P **P** 16 26 31.2 +0.1
ERM Erimo 74.28 333 P **P** 16 26 30.8 -0.2
ERM pmax pmax
comp=Z,190nm,1.7s
JEM Erimo 74.28 333 P **P** 16 26 33.5 +2.4
TATO Taipei 74.33 308 P **P** 16 26 31.1 -0.6
TATO Taipei 74.33 308 P **P** 16 26 29.7 -2.1
TATO Taipei 74.33 308 P **P** 16 26 31.3 -0.5
MNAI Manna 75.26 272 P **P** 16 26 35.9 -1.4
MNAI Manna 75.26 272 P **P** 16 26 37.2 -0.1
JTU Tsushima 75.39 320 P **P** 16 26 37.4 -0.1
JTU Tsushima 75.39 320 P **P** 16 26 37.4 -0.1
BELA Belgrano 2 75.56 173 P **P** 16 26 37.3 -0.5
BELA IAmb IAmb 16 28 40.7
comp=Z,203nm,2.0s
JKA Kamikawa-asahi 76.26 334 IAmb IAmb 16 26 46.2
comp=Z,99nm,0.9s
MAW Mawson 76.38 201 P **P** 16 26 43.3 +0.9
comp=Z,23nm,0.5s,baz=134,slow=4.7,SNR=84
MAW pP **pP** 16 28 39.2 -0.1
comp=Z,3.6nm,0.6s,baz=128,slow=11,SNR=2.7
comp=Z,23nm,0.5s
MAW Mawson 76.38 201 P **P** 16 26 43.3 +0.9
baz=76,SNR=65
MAW Mawson 76.38 201 P **P** 16 26 43.5 +1.1
MAW Mawson 76.38 201 P **P** 16 26 43.5 +1.1
MAW pmax pmax
comp=Z,13nm,1.3s
QZH Quanzhou 76.42 306 *i* iP **P** 16 26 43.6 +0.3
QZH sP **sP** 16 29 37.3 -0.1
QZH S **S** 16 35 47.0 +3.5
QZH pmax pmax
comp=Z,66nm,0.9s
QZH pmax pmax
comp=Z,700nm,5.9s
ADK Adak 76.59 3 P **P** 16 26 43.9 +0.3

ADK	Adak	76.59	3	P	P	16 26 43.8	+0.2
ADK	Adak	76.59	3	P	P	16 26 43.9	+0.3
ADK				pmax	pmax		
	comp=Z,266nm,1.2s						
MYKOM	Kota Tinggi	77.06	278	P	P	16 26 46.9	-0.2
MYKOM				IAmb	IAmb	16 26 50.0	
	comp=Z,318nm,2.0s						
SHEM	Shemya Is, Ala	77.43	357	P	P	16 26 48.3	+0.1
	comp=Z,91nm,0.8s,baz=268,slow=21,SNR=3.7						
	comp=Z,91nm,0.8s						
TJN	Taejon	77.87	320	P	P	16 26 51.4	+0.4
TJN	Taejon	77.87	320	P	P	16 26 51.4	+0.4
TJN	Taejon	77.87	320	*d i*P	P	16 26 51.2	+0.2
KSRS	Korea Array	78.29	321	P	P	16 26 53.8	+0.6
	comp=Z,32nm,0.8s,baz=132,slow=6.3,SNR=109						
KSRS				pP	pP	16 28 51.1	+0.3
	comp=Z,1.0nm,0.8s,baz=139,slow=5.9,SNR=1.9						
KSRS				PP	PP	16 30 01.4	+0.5
	comp=Z,4.1nm,1.0s,baz=141,slow=8.6,SNR=4.9						
	comp=Z,32nm,0.8s						
SSE	Sheshan	78.30	312	P	P	16 26 53.4	0.0
SSE				sP	sP	16 29 47.4	-0.6
SSE				S	S	16 36 04.6	+1.5
SSE				pmax	pmax		
	comp=Z,22nm,0.7s						
SSE				pmax	pmax		
	comp=Z,350nm,5.0s						
KSAR	Wonju Array Be	78.31	321	P	P	16 26 53.7	+0.4
KSAR	Wonju Array Be	78.31	321	P	P	16 26 53.7	+0.4
NIKH	Nikolski High	78.33	8	P	P	16 26 52.7	-0.3
NIKH	Nikolski High	78.33	8	P	P	16 26 52.6	-0.3
	baz=192						
KS19	Wonju Array Si	78.36	321	P	P	16 26 53.2	-0.4
PMSA	Palmer Station	78.42	157	pP	pP	16 28 53.0	+1.5
	comp=Z,6.3nm,0.9s,baz=234,slow=8.7,SNR=1.6						
PMSA	Palmer Station	78.42	157	*e*P	P	16 26 57.4	+3.9
YSS	Yuzh-Sakhalins	78.58	336	P	P	16 26 55.9	+1.4
YSS				IAmb	IAmb	16 26 58.2	
	comp=Z,121nm,0.8s						
YSS	Yuzh-Sakhalins	78.58	336	P	P	16 26 56.2	+1.8
YSS	Yuzh-Sakhalins	78.58	336	κ *i*P	P	16 26 56.3	+1.8
YSS				*e**PP	pP	16 28 53.5	+1.2
YSS				*e**SP	sP	16 29 49.7	+0.4
YSS				*e*S	S	16 36 12.3	+7.0
YSS				*e*		16 36 27.9	
YSS				*e*SS	SS	16 41 25.7	-0.4
YSS				pmax	pmax		
	comp=Z,2μm,3.4s						
YSS				pmax	pmax		
	comp=Z,150nm,1.1s						
YSS				smax	smax		
	comp=E,1μm,5.8s						
INCN	Inchon	79.06	320	P	P	16 26 57.2	-0.1
UNV	Unalaska Valle	79.48	9	P	P	16 26 59.0	0.0
UNV				IAmb	IAmb	16 27 01.4	
	comp=Z,80nm,0.8s						
UNV	Unalaska Valle	79.48	9	P	P	16 26 58.6	-0.5
	baz=194						
UNV	Unalaska Valle	79.48	9	P	P	16 26 58.9	-0.2
TEY	Ternei	79.52	331	⇓*e*P	P	16 27 00.0	+0.5
TEY				*e*		16 29 54.6	
TEY				pmax	pmax		
	comp=N,100nm,3.6s						
TEY				pmax	pmax		
	comp=Z,200nm,4.4s						
PET	Petropavlovsk	79.57	348	P	P	16 26 59.9	+0.4
PET				IAmb	IAmb	16 27 02.8	
	comp=Z,161nm,1.6s						
PET	Petropavlovsk	79.57	348	P	P	16 26 59.9	+0.4
PET	Petropavlovsk	79.57	348	*e*P	P	16 26 59.8	+0.3
PET				*e*S	S	16 36 16.9	+1.7
PET				*e*SS	SS	16 41 45.5	+4.9
PET				*e*SSS	SSS	16 45 08.7	
PET				pmax	pmax		
	comp=Z,73nm,0.7s						
PET				pmax	pmax		
	comp=Z,800nm,16.5s						
PEA0B	Petropavlovsk-	79.83	347	P	P	16 27 01.7	+0.7
PEA0B				IAmb	IAmb	16 27 04.5	
	comp=Z,254nm,1.4s						
PEA0B	Petropavlovsk-	79.83	347	P	P	16 27 01.7	+0.7
PEA0B				pmax	pmax		
	comp=Z,254nm,1.4s						
PETK	Petropavlovsk-	79.83	347	P	P	16 27 00.9	-0.1
	comp=Z,46nm,0.6s,baz=130,slow=6.4,SNR=192						
PETK				pP	pP	16 29 00.3	+1.0
	comp=Z,5.8nm,0.9s,baz=134,slow=8.2,SNR=3.4						
PETK				PKiKP	PKiKP	16 32 24.5	-1.4
	comp=Z,1.1nm,0.5s,baz=77,slow=6.5,SNR=6.8						
	comp=Z,46nm,0.6s						
PETK	Petropavlovsk-	79.83	347	P	P	16 27 01.1	+0.1
PETK	Petropavlovsk-	79.83	347	P	P	16 27 01.1	+0.1
AKUT	Akutan	79.87	9	P	P	16 27 00.6	-0.5
QIZ	Qiongzhong	79.99	296	P	P	16 27 03.1	+0.5
QIZ				pP	pP	16 29 01.6	+0.8
QIZ				sP	sP	16 29 59.0	+1.3
QIZ				S	S	16 36 22.2	+1.1
QIZ				pmax	pmax		
	comp=Z,29nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,630nm,8.3s						
HHU	Hamhung	80.23	323	P	P	16 27 04.3	+0.9
NJ2	Nanjing	80.46	312	⇓*i*P	P	16 27 05.5	+0.8
NJ2				PP	PP	16 30 17.0	-1.8
NJ2				S	S	16 36 30.0	+4.7
NJ2				pmax	pmax		
	comp=Z,25nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,1μm,3.6s						
UGL	Uglegorsk	80.61	337	*e*P	P	16 27 04.5	-0.6
UGL				*e*S	S	16 36 18.2	-7.8
UGL				pmax	pmax		
	comp=Z,2μm,5.5s						
UGL				pmax	pmax		
	comp=Z,120nm,0.9s						
UGL				smax	smax		
	comp=E,2μm,7.0s						
UGL				smax	smax		
	comp=N,550nm,8.0s						
PYAG	Pyongyang	80.63	321	P	P	16 27 06.3	+0.9
USA0B	Ussuriysk Arra	81.00	328	P	P	16 27 08.1	+0.9
USA0B	Ussuriysk Arra	81.00	328	*d i*P	P	16 27 08.3	+1.0
USRK	Ussuriysk Ar.	81.00	328	P	P	16 27 07.9	+0.7
	comp=N,35nm,0.6s,baz=130,slow=3.7,SNR=196						
USRK				pP	pP	16 29 06.0	+0.1
	comp=N,6.9nm,1.0s,baz=145,slow=5.3,SNR=4.2						
	comp=N,35nm,0.6s						
USRK	Ussuriysk Ar.	81.00	328	P	P	16 27 08.0	+0.7
USRK	Ussuriysk Ar.	81.00	328	P	P	16 27 08.0	+0.7
KULM	Kulim	81.45	280	P	P	16 27 10.2	-0.1
KULM				IAmb	IAmb	16 27 12.4	
	comp=Z,212nm,1.6s						
CNBA	Chernabura Isl	81.59	12	P	P	16 27 10.2	+0.2
CNBA				IAmb	IAmb	16 27 12.4	
	comp=Z,165nm,1.3s						
CHNA	Chernabura Isl	81.60	12	P	P	16 27 11.1	+1.1
	baz=200						
TYV	Tymovskoe	81.90	338	*e*P	P	16 27 13.2	+1.5
TYV				*e*S	S	16 36 33.3	-5.6
TYV				pmax	pmax		
	comp=Z,1μm,3.0s						
TYV				pmax	pmax		
	comp=Z,64nm,1.1s						
TYV				smax	smax		
	comp=N,400nm,5.6s						
TYV				smax	smax		
	comp=E,700nm,5.6s						
SDPT	Sand Point	81.92	12	P	P	16 27 12.4	+0.8
	baz=199						
SUJ	Sinuiju	82.06	321	P	P	16 27 12.8	0.0
SUJ				pP	pwP	16 29 14.8	-2.7
SUJ				S	S	16 36 40.4	-0.6
SUJ				AmB			
	comp=Z,2μm,6.0s						
SUJ				AMS	AMS		
	comp=N,114nm,2.5s						
SUJ				AMS	AMS		
	comp=E,110nm,2.4s						
SUJ				AMS	AMS		
	comp=Z,231nm,5.0s						
SKLT	Songkhla	82.30	282	P	P	16 27 15.3	+0.7
MDJ	Mudanjiang	82.48	327	P	P	16 27 15.3	+0.5
MDJ				IAmb	IAmb	16 27 18.0	
	comp=Z,141nm,1.2s						
MDJ	Mudanjiang	82.48	327	P	P	16 27 15.5	+0.7

MDJ				S	S	16 36 42.3	-2.7
MDJ				pmax	pmax		
	comp=Z,69nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,1μm,5.0s						
GSI	Gunungsitoli	82.51	275	P	P	16 27 16.4	+0.7
GSI	Gunungsitoli	82.51	275	P	P	16 27 16.4	+0.7
WHN	Wuhan	82.71	308	⇓P	P	16 27 16.9	+0.6
WHN				sP	sP	16 30 11.7	-0.5
WHN				S	S	16 36 44.0	-3.9
WHN				pmax	pmax		
	comp=Z,14nm,0.9s						
WHN				pmax	pmax		
	comp=Z,2μm,3.0s						
GULI	GuiLin	82.81	302	⇓P	P	16 27 14.8	-2.1
GULI				sP	sP	16 30 08.8	-4.0
GULI				S	SKSac	16 36 42.4	-2.7
GULI				pmax	pmax		
	comp=Z,50nm,1.0s						
SCZ2	Santa Cruz Isl	82.83	47	P	P	16 27 17.0	+0.1
	baz=234						
SCI2	San Clemente I	82.97	49	P	P	16 27 17.9	+0.3
	baz=234						
PKM	Mcpherson Peak	83.24	47	P	P	16 27 20.4	+1.3
	baz=233						
TROLL	Troll, Antarti	83.28	181	P	P	16 27 18.6	-0.1
TROLL	Troll, Antarti	83.28	181	pP	pP	16 29 19.2	+1.0
CIS	Catalina Islan	83.30	49	P	P	16 27 20.7	+1.4
	baz=234						
CHIR	Chirikof Islan	83.35	14	P	P	16 27 20.9	+2.1
	baz=203						
SMMC	Simmler	83.37	46	P	P	16 27 20.9	+1.4
	baz=233						
BCW	Bitter Crk WRg	83.53	47	P	P	16 27 21.8	+1.4
BCW				IAmb	IAmb	16 27 24.2	
	comp=Z,60nm,1.1s						
FMP	Fort Macarthur	83.57	48	P	P	16 27 20.8	+0.4
	baz=234						
SNAA	Sanae	83.65	180	P	P	16 27 19.9	-0.6
SNAA	Sanae	83.65	180	pP	pP	16 29 20.0	-0.3
SNAA	Sanae	83.65	180	P	P	16 27 19.9	-0.6
	comp=Z,4.8nm,0.4s,baz=181,slow=9.8,SNR=3.3						
SNAA				pP	pP	16 29 19.9	-0.3
	comp=Z,19nm,1.2s,baz=197,slow=6.5,SNR=5.2						
SNAA				S	SKSac	16 36 46.6	-2.7
	comp=Z,0.5nm,0.2s,baz=305,slow=23,SNR=28						
	comp=Z,4.8nm,0.4s						
SNAA	Sanae	83.65	180	P	P	16 27 20.1	-0.3
SNAA	Sanae	83.65	180	*i* P	P	16 27 19.6	-0.8
SNAA				pmax	pmax		
	comp=Z,15nm,1.1s						
HOPS	Hopland Field	83.69	42	P	P	16 27 22.0	+1.0
HOPS				IAmb	IAmb	16 27 27.2	
	comp=Z,88nm,1.4s						
SNY	Shenyang	83.72	322	⇓P	P	16 27 21.5	+0.5
SNY				sP	sP	16 30 14.2	-3.1
SNY				SKS	SKSac	16 36 47.8	-2.3
SNY				S	SKKSac	16 36 53.0	-3.8
SNY				pmax	pmax		
	comp=Z,58nm,1.2s						
SNY				pmax	pmax		
	comp=Z,1μm,4.5s						
DECC	Green Verdugo	83.85	48	P	P	16 27 22.7	+0.8
	baz=234						
109C	Camp Elliot, M	83.91	50	P	P	16 27 23.4	+1.2
	baz=235						
VNA3	Neumayer Olymp	83.91	177	P	P	16 27 21.1	-0.6
VNA3	Neumayer Olymp	83.91	177	pP	pP	16 29 19.5	-2.1
KMPM	Mount Pierce	83.97	40	P	P	16 27 23.2	+0.8
KMPM				IAmb	IAmb	16 27 28.0	
	comp=Z,98nm,1.4s						
CN2	Changchun	84.03	324	*e*P	P	16 27 22.9	+0.4
CN2				*e*S	S	16 36 58.8	-1.4
CN2				pmax	pmax		
	comp=Z,100nm,1.2s						
SURA	Surathani	84.06	283	P	P	16 27 24.8	+1.4
BAR	Barrett	84.09	50	P	P	16 27 23.6	+0.5
TIA	Tai'an	84.10	314	P	P	16 27 24.0	+0.9
TIA				S	SKSac	16 36 52.5	-0.3
TIA				pmax	pmax		
	comp=Z,73nm,0.6s						
TIA				pmax	pmax		
	comp=Z,1μm,5.9s						
NVL	N'lazarevskaya	84.12	184	⇓*i*P	P	16 27 21.3	-1.3
NVL				*e**PP	pP	16 29 24.8	+2.4
NVL				pmax	pmax		
	comp=Z,81nm,1.6s						
ESJX	Sierra Juarez	84.22	51	P	P	16 27 23.8	-0.1
MURC	Murrieta	84.25	49	P	P	16 27 24.6	+0.7
	baz=235,SNR=7.7						
VES	Vestal, Richgr	84.28	46	P	P	16 27 24.5	+0.5
	baz=234						
BFSC	Mount Baldy Ra	84.30	48	P	P	16 27 25.7	+1.4
	baz=235,SNR=13						
VNA2	Neumayer--Watz	84.31	178	P	P	16 27 23.4	-0.2
	baz=173,slow=5.0						
VNA2	Neumayer--Watz	84.31	178	pP	pP	16 29 21.6	-2.0
	baz=164,slow=5.0						
SLBS	Sierra La Lagu	84.33	61	P	P	16 27 25.5	+0.9
SLBS				IAmb	IAmb	16 27 28.4	
	comp=Z,114nm,1.8s						
SII	Sitkinak Islan	84.36	15	P	P	16 27 24.5	+0.7
BNX	BinXian	84.36	327	⇓P	P	16 27 23.9	-0.2
BNX				pmax	pmax		
	comp=Z,61nm,0.8s						
BNX				pmax	pmax		
	comp=Z,950nm,3.8s						
MONP2	Monument Peak	84.38	50	P	P	16 27 25.4	+0.6
	baz=236,SNR=26						
EDW2	Edwards Air Fo	84.44	48	P	P	16 27 26.1	+1.2
	baz=234,SNR=22						
IKP	In-Ko-Pah, Jac	84.47	50	P	P	16 27 26.8	+1.7
	baz=236,SNR=19						
VNA1	Neumayer--Stat	84.56	178	P	P	16 27 24.6	-0.2
ISA	Isabella, Lake	84.58	47	P	P	16 27 26.7	+1.2
	baz=234,SNR=30						
YUH	Yuha Desert	84.59	50	P	P	16 27 26.8	+1.2
PFO	Pinyon Flats O	84.76	49	P	P	16 27 27.3	+0.8
PFO	Pinyon Flats O	84.76	49	P	P	16 27 27.6	+1.0
	baz=236,SNR=13						
PFO	Pinyon Flats O	84.76	49	*ce*P	P	16 27 28.2	+1.7
TPFO	Pinon Flats	84.76	49	P	P	16 27 27.4	+0.9
	baz=236,SNR=12						
BBRC	Big Bear Solar	84.81	49	P	P	16 27 28.2	+1.2
	baz=235						
SWSC	Sam W. Stewart	84.85	50	P	P	16 27 27.8	+1.0
	baz=236,SNR=12						
KLR	Kul'dur	84.86	331	*d i*P	P	16 27 27.0	+0.6
KLR				pmax	pmax		
	comp=Z,144nm,1.7s						
NAYO	Nakonayok	84.89	288	P	P	16 27 28.6	+1.2
LRMC	Laurel Mtn Rad	85.00	47	P	P	16 27 27.7	0.0
	baz=235,SNR=19						
NONG	Nongkai	85.06	292	P	P	16 27 29.5	+1.4
RRX	Edison Barstow	85.11	48	P	P	16 27 29.3	+1.2
	baz=235						
OHAK	Old Harbor	85.17	15	P	P	16 27 29.0	+1.3
	baz=205						
CWC	Cottonwood Cre	85.29	46	P	P	16 27 30.1	+1.1
	baz=234						
BELC	Belle Mtn. Jos	85.30	49	P	P	16 27 30.2	+1.1
	baz=236,SNR=28						
MPMC	Manual Prospec	85.46	47	P	P	16 27 31.3	+1.4
	baz=235,SNR=13						
BC3	Big Chuckawall	85.48	50	P	P	16 27 31.2	+1.2
	baz=236,SNR=14						
GSC	Goldstone, Bar	85.48	48	P	P	16 27 29.9	-0.1
GSC	Goldstone, Bar	85.48	48	P	P	16 27 31.6	+1.7
	baz=235,SNR=17						
GSC	Goldstone, Bar	85.48	48	P	P	16 27 29.9	-0.1
GSC				pmax	pmax		
	comp=Z,37nm,1.3s						
HEC	Hector,Ludlow	85.53	48	P	P	16 27 31.8	+1.6
	baz=236,SNR=35						
Q17K	Contact Creek	85.55	13	P	P	16 27 30.0	+0.3
	baz=203						
TIN	Tinemaha, Big	85.55	46	P	P	16 27 31.4	+1.1
	baz=234						
GLA	Glamis	85.58	51	P	P	16 27 31.7	+1.3
	baz=236,SNR=9.0						
YBH	Yreka Blue Hor	85.62	40	P	P	16 27 31.1	+0.6
YBH				IAmb	IAmb	16 27 34.3	
	comp=Z,106nm,1.8s						
YBH	Yreka Blue Hor	85.62	40	P	P	16 27 31.1	+0.6
YBH				pmax	pmax		
	comp=Z,106nm,1.8s						

Q16K	King Salmon	85.78	13	P	P	16 27 30.9	+0.3
	baz=202,SNR=8.3						
P16K	Nushagak River	85.85	12	P	P	16 27 31.3	+0.4
	baz=201						
PNTR	Pine Nut	85.88	43	IAmb	IAmb	16 27 34.6	
	comp=Z,31nm,0.8s						
GMRC	Granite Mounta	85.97	49	P	P	16 27 32.6	+0.3
	baz=236,SNR=9.2						
IRM	Iron Mountain	85.97	49	P	P	16 27 34.0	+1.8
	baz=236,SNR=22						
HUMO	Hull Mountain	86.03	39	IAmb	IAmb	16 27 37.1	
	comp=Z,68nm,1.4s						
GWY	Greenwater Val	86.08	47	P	P	16 27 33.7	+0.9
GRAC	Grapevine Rang	86.08	46	P	P	16 27 34.1	+1.5
GRAC				IAmb	IAmb	16 27 36.0	
	comp=Z,57nm,1.3s						
GRAC	Grapevine Rang	86.08	46	P	P	16 27 33.9	+1.2
	baz=235,SNR=16						
ENH	Enshi	86.08	306	P	P	16 27 33.5	+0.7
Q18K	Katmai Hardscr	86.08	13	P	P	16 27 32.2	0.0
	baz=204,SNR=9.3						
TUQ	Turquoise Moun	86.15	48	P	P	16 27 34.9	+1.7
	baz=236,SNR=12						
SHOC	Shoshone, Teco	86.18	48	P	P	16 27 33.7	+0.6
	baz=235,SNR=7.2						
LYN	LuoYang	86.26	311	⇓*i*P	P	16 27 34.6	+1.1
LYN				sP	sP	16 30 29.4	-1.1
LYN				sS	sS	16 40 56.1	-2.0
LYN				pmax	pmax		
	comp=Z,60nm,1.3s						
LYN				pmax	pmax		
	comp=Z,1μm,3.5s						
GYA	Guiyang	86.27	301	⇓*i*P	P	16 27 34.3	+0.4
GYA				sP	sP	16 30 30.6	-0.2
GYA				PP	PP	16 31 04.6	-1.1
GYA				SKS	SKSac	16 37 07.2	+0.3
GYA				S	S	16 37 22.0	-0.8
GYA				sS	sS	16 40 58.8	-0.2
GYA				pmax	pmax		
	comp=Z,29nm,1.2s						
GYA				pmax	pmax		
	comp=Z,710nm,4.0s						
LL02	Futaleuf	86.28	136	P	P	16 27 33.4	-0.3
LL02				IAmb	IAmb	16 29 43.3	
	comp=Z,167nm,1.9s						
P17K	Kvichak River	86.30	13	P	P	16 27 33.6	+0.5
	baz=202						
NVAR	Mina Array Bea	86.31	45	P	P	16 27 34.6	+0.6
	comp=Z,8.4nm,0.6s,baz=224,slow=8.1,SNR=103						
NVAR				pP	pP	16 29 35.4	0.0
	comp=Z,1.1nm,0.8s,baz=217,slow=7.4,SNR=2.0						
	comp=Z,8.4nm,0.6s						
O16K	Kokwok River B	86.36	12	P	P	16 27 33.4	0.0
	baz=201						
HNS	HongShan	86.37	314	⇓P	P	16 27 35.2	+1.3
HNS				sP	sP	16 30 30.8	0.0
HNS				PP	PP	16 31 05.0	-1.1
HNS				SKS	SKSac	16 37 06.0	-0.7
HNS				S	SKKSac	16 37 17.7	+0.9
HNS				sS	sS	16 40 57.9	-1.1
HNS				pmax	pmax		
	comp=Z,74nm,1.3s						
HNS				pmax	pmax		
	comp=Z,1μm,6.4s						
PAHR	Pah Rah Range	86.38	43	IAmb	IAmb	16 27 37.3	
	comp=Z,68nm,1.6s						
214A	Organ Pipe Nat	86.42	52	IAmb	IAmb	16 27 39.2	
	comp=Z,76nm,1.7s						
214A	Organ Pipe Nat	86.42	52	P	P	16 27 34.9	+0.5
	baz=238						
Q20K	Shuyak Island	86.62	15	P	P	16 27 35.1	+0.5
	baz=206						
O17K	Koliganek Bris	86.71	12	P	P	16 27 34.9	-0.1
	baz=202						
P18K	Big Mountain,	86.72	13	P	P	16 27 34.7	-0.4
	baz=204						
PDMCI	Parker Dam,Lak	86.75	50	P	P	16 27 35.9	+0.1
	baz=237						
TPNV	Topopah Spring	86.79	47	P	P	16 27 36.2	0.0
	baz=235,SNR=25						
BJI	Beijing	86.97	317	P	P	16 27 37.4	+0.7
BJI				pP	pP	16 29 38.6	+1.0
BJI				sP	sP	16 30 33.3	-0.5
BJI				SKS	SKSac	16 37 04.6	-5.6
BJI				S	S	16 37 29.1	+0.7
BJI				SS	SS	16 43 32.5	+3.3
BJI				pmax	pmax		
	comp=Z,52nm,1.8s						
BJI				pmax	pmax		
	comp=Z,1μm,4.6s						
N16K	Nishlik Lake	87.06	11	P	P	16 27 37.8	+1.1
	baz=200						
O18K	Koktuh Hills	87.15	13	P	P	16 27 37.0	-0.1
	baz=204,SNR=9.8						
MA2	Magadan	87.29	346	P	P	16 27 37.3	-0.5
MA2				IAmb	IAmb	16 27 38.7	
	comp=Z,47nm,1.0s						
MA2	Magadan	87.29	346	*d i*P	P	16 27 37.6	-0.1
MA2				pmax	pmax		
	comp=Z,224nm,2.0s						
K05A	Summer Lake	87.30	40	P	P	16 27 39.6	+1.2
K05A				IAmb	IAmb	16 27 42.2	
	comp=Z,132nm,1.4s						
P19K	Oil Pt	87.38	14	P	P	16 27 38.0	-0.3
P19K	Oil Pt	87.38	14	P	P	16 27 39.1	+0.8
	baz=205						
HEH	HeiHe	87.54	330	⇓P	P	16 27 39.2	+0.1
HEH				pP	pP	16 29 42.8	+2.3
HEH				PP	PP	16 31 12.1	-3.0
HEH				SKS	SKSac	16 37 11.6	-1.5
HEH				S	S	16 37 34.0	+0.7
HEH				pmax	pmax		
	comp=Z,72nm,1.8s						
HEH				pmax	pmax		
	comp=Z,950nm,7.1s						
O19K	Port Alsworth	87.64	13	P	P	16 27 38.9	-0.4
	baz=204,SNR=14						
ILSW	Iliamna Southw	87.70	14	IAmb	IAmb	16 27 42.2	
	comp=Z,97nm,1.0s						
CNPM	China Poot	87.72	15	IAmb	IAmb	16 27 43.1	
	comp=Z,98nm,1.5s						
N18K	Kilae Creek	87.78	12	IAmb	IAmb	16 27 42.2	
	comp=Z,93nm,1.9s						
N18K	Kilae Creek	87.78	12	P	P	16 27 40.5	+0.4
	baz=203						
O20K	Slope Mountain	87.90	14	P	P	16 27 41.0	+0.3
	baz=206						
BRLK	Bradley Lake	88.01	15	P	P	16 27 41.6	+0.5
BRLK				IAmb	IAmb	16 27 43.5	
	comp=Z,68nm,1.2s						
R11A	Troy Canyon, C	88.01	46	P	P	16 27 42.6	+0.7
	baz=236,SNR=8.5						
BRSE	Bradley Lake S	88.02	15	P	P	16 27 41.3	+0.1
	baz=208						
TIY	Taiyuan	88.03	313	P	P	16 27 43.1	+1.2
TIY				sP	sP	16 30 34.9	-4.3
TIY				S	S	16 37 37.3	-1.3
TUC	Tucson	88.07	53	P	P	16 27 43.1	+0.9
	baz=239						
TUC	Tucson	88.07	53	P	P	16 27 44.7	+2.5
BMN	Battle Mountai	88.15	43	P	P	16 27 43.3	+0.8
BMN				IAmb	IAmb	16 27 46.4	
	comp=Z,62nm,1.2s						
BMN	Battle Mountai	88.15	43	P	P	16 27 43.3	+0.8
BMN				pmax	pmax		
	comp=Z,62nm,1.2s						
N19K	Bonanza Creek	88.18	13	P	P	16 27 41.5	-0.5
N19K	Bonanza Creek	88.18	13	P	P	16 27 41.4	-0.6
	baz=204						
RSO	Redoubt South	88.22	14	P	P	16 27 42.4	0.0
PLCA	Paso Flores	88.38	135	P	P	16 27 44.2	+0.6
	comp=Z,1.8nm,0.5s,baz=236,slow=4.7,SNR=14						
PLCA				pP	pwP	16 29 48.0	-0.2
	comp=Z,30nm,1.3s,baz=234,slow=6.4,SNR=11						
PLCA				PKKPbc	PKKPbc	16 45 22.2	-1.1
	comp=Z,1.4nm,0.6s,baz=47,slow=1.7,SNR=8.5						
	comp=Z,1.8nm,0.5s						
PLCA	Paso Flores	88.38	135	P	P	16 27 42.8	-0.8
PLCA	Paso Flores	88.38	135	*e*P	P	16 27 47.6	+3.9
XAN	Xi'an	88.46	309	⇓P	P	16 27 45.0	+1.1
XAN				pP	pwP	16 29 51.6	+0.4
XAN				sP	sP	16 30 41.0	-0.4
XAN				PP	PP	16 31 18.8	-4.0
XAN				SKS	SKSac	16 37 19.0	-0.5
XAN				S	S	16 37 43.7	+1.0
XAN				pmax	pmax		

comp=Z,85nm,1.3s
XAN pmax pmax
comp=Z,970nm,7.2s
DIB Dawson Inlet, 88.58 27 P P 16 27 45.1 +1.2
DIB IAmb IAmb 16 27 47.8
comp=Z,46nm,1.1s
SEW Seward 88.65 15 P P 16 27 43.9 -0.1
baz=209
KMI Kunming 88.71 298 ⇓P P 16 27 46.8 +1.3
KMI pP pP 16 29 48.6 +1.7
KMI sP sP 16 30 42.9 -0.1
KMI PP PP 16 31 26.1 +0.9
KMI SKS SKSac 16 37 23.5 +1.8
KMI S ScS 16 37 47.8 -1.2
KMI pmax pmax
comp=Z,66nm,1.7s
KMI pmax pmax
comp=Z,510nm,7.4s
CM31 Chiang Mai Arr 88.79 291 P P 16 27 44.3 -1.4
CM31 IAmb IAmb 16 27 50.1
comp=Z,70nm,1.1s
CM31 Chiang Mai Arr 88.79 291 P P 16 27 47.1 +1.4
SNR=32
CMAR Chiang Mai Arr 88.79 291 P P 16 27 46.8 +1.1
comp=Z,20nm,0.9s,baz=140,slow=3.4,SNR=108
CMAR pP pP 16 29 46.8 -0.4
comp=Z,3.3nm,1.1s,baz=122,slow=3.3,SNR=4.0
CMAR PP PP 16 31 24.1 -1.4
comp=Z,6.6nm,1.0s,baz=126,slow=5.8,SNR=8.9
CMAR PKKPbc PKKPbc 16 45 22.2 +0.6
comp=Z,0.8nm,0.6s,baz=286,slow=4.6,SNR=6.6
comp=Z,20nm,0.9s
CMAR Chiang Mai Arr 88.79 291 P P 16 27 43.8 -1.9
O22K Cooper Landing 88.92 15 P P 16 27 44.8 -0.5
baz=208
CHTO Chiang Mai 88.95 291 P P 16 27 47.4 +0.9
CHTO Chiang Mai 88.95 291 P P 16 27 47.4 +0.9
CHTO pmax pmax
comp=Z,2.0nm,0.9s
N20K Mount Spurr 89.00 14 P P 16 27 44.7 -1.1
baz=206,SNR=7.2
SPCR Spurr Chakacha 89.00 14 P P 16 27 44.4 -1.4
baz=206,SNR=6.4
SPU Mount Spurr 89.02 14 P P 16 27 44.7 -1.2
CCUT Cedar City 89.04 47 P P 16 27 47.2 +0.4
CCUT IAmb IAmb 16 27 51.3
comp=Z,32nm,1.3s
J08A Circle Bar Ran 89.10 40 IAmb IAmb 16 27 50.7
comp=Z,43nm,1.1s
KNB Kanab 89.11 48 IAmb IAmb 16 27 51.4
comp=Z,64nm,1.5s
U15A North Rim 89.16 49 IAmb IAmb 16 27 50.1
comp=Z,19nm,0.7s
M19K Big River Lodg 89.19 12 P P 16 27 47.0 +0.4
baz=204,SNR=6.9
PSUT Pine Spring 89.25 46 P P 16 27 48.6 +0.9
LON Longmire 89.27 36 IAmb IAmb 16 27 51.0
comp=Z,87nm,1.9s
XLT XiLinHaoTe 89.31 320⇓*i*P P 16 27 48.3 +0.6
XLT sP sP 16 30 44.9 -0.4
XLT SKS SKSac 16 37 20.8 -3.2
XLT S ScS 16 37 53.4 +0.6
XLT pmax pmax
comp=Z,85nm,1.0s
XLT pmax pmax
comp=Z,670nm,6.7s
WUAZ Wupatki 89.32 50 P P 16 27 47.1 -1.0
baz=238
L19K White Mountain 89.36 12 IAmb IAmb 16 27 50.7
comp=Z,45nm,0.8s
L19K White Mountain 89.36 12 P P 16 27 47.5 +0.1
baz=204
M20K Styx River 89.42 13 P P 16 27 48.7 +1.0
baz=205
RC01 Rabbit Creek A 89.45 15 P P 16 27 48.2 +0.4
baz=208
SUA Susitna One 89.55 14 P P 16 27 48.8 +0.3
SUA IAmb IAmb 16 27 49.7
comp=Z,51nm,0.8s
SUA Susitna One 89.55 14 P P 16 27 48.0 -0.4
baz=208
PWL Port Wells 89.58 15 P P 16 27 48.8 +0.3
baz=210
PKCU Pink Cliffs 89.69 48 P P 16 27 51.4 +1.5
PKCU IAmb IAmb 16 27 54.8
comp=Z,65nm,1.2s
L20K Farewell, AK 89.82 12 P P 16 27 50.2 +0.7
baz=205
TTA Tatalina 89.84 11 P P 16 27 49.5 -0.1
baz=203,SNR=7.2
TTA Tatalina 89.84 11 P P 16 27 50.6 +1.0
SKT Skwentna 89.84 14 P P 16 27 48.7 -0.9
SKT Skwentna 89.84 14 P P 16 27 48.7 -0.9
baz=207
M22K Willow 89.95 14 P P 16 27 49.9 -0.1
baz=208
G08A Pilot Rock 89.96 39 P P 16 27 50.3 -0.4
G08A IAmb IAmb 16 30 01.3
comp=Z,31nm,1.2s
EYAK Cordova Ski Ar 89.96 17 P P 16 27 50.2 0.0
baz=212
EYAK Cordova Ski Ar 89.96 17 P P 16 27 50.9 +0.8
SEY Seymchan 90.03 348 PKKPbc PKKPbc 16 45 18.9 -1.5
comp=Z,1.7nm,0.6s,baz=42,slow=3.3,SNR=5.6
SEY Seymchan 90.03 348 *i* P P 16 27 50.4 0.0
SEY pmax pmax
comp=Z,66nm,1.4s
KNK Knik Glacier 90.03 15 IAmb IAmb 16 27 53.5
comp=Z,58nm,1.4s
KNK Knik Glacier 90.03 15 P P 16 27 51.2 +0.7
baz=210,SNR=5.1
PMR Palmer 90.03 15 IAmb IAmb 16 27 52.5
comp=Z,35nm,1.1s
PMR Palmer 90.03 15 P P 16 27 50.5 +0.1
baz=209,SNR=7.6
ZEA Zeya 90.07 332*d i*P P 16 27 51.8 +1.0
ZEA *e**SP sP 16 30 52.3 +3.8
ZEA *e* 16 37 28.9
ZEA *e*S S 16 37 58.3 +2.1
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA smax smax
comp=E,200nm,12.2s
ZEA smax smax
comp=N,400nm,12.9s
MTPU Mount Pierson 90.09 48 IAmb IAmb 16 27 55.9
comp=Z,54nm,1.4s
PZH PanZhiHua 90.15 299 ⇓P P 16 27 52.5 +0.5
PZH pP pwP 16 30 00.4 +0.6
PZH sP sP 16 30 50.6 +0.9
PZH PP PP 16 31 40.8 +4.5
PZH SKS SKSac 16 37 28.5 -1.2
PZH S S 16 37 56.6 -1.8
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,390nm,7.0s
LTY Liberty 90.20 36 IAmb IAmb 16 30 01.5
comp=Z,34nm,1.4s
GHO Glory Hole Cre 90.24 15 IAmb IAmb 16 27 54.3
comp=Z,48nm,0.9s
W18A Petrified Fore 90.26 51 P P 16 27 53.3 +0.9
baz=239
BGLC Bering Glacier 90.27 18 P P 16 27 53.3 +1.7
baz=214
HHC Hu-ho-hao-te 90.33 316 *e*P P 16 27 53.6 +1.1
HHC sP sP 16 30 46.4 -3.8
HHC SKS SKSac 16 37 31.0 +1.0
HHC S ScS 16 38 06.4 +4.9
HHC pmax pmax
comp=Z,100nm,1.1s
HHC pmax pmax
comp=Z,650nm,5.5s
MSU Marysvale 90.34 47 P P 16 27 52.4 -0.4
MSU Marysvale 90.34 47 P P 16 27 52.4 -0.4
121A Cookes Peak, D 90.38 54 P P 16 27 54.3 +1.3
baz=240
121A Cookes Peak, D 90.38 54 P P 16 27 53.1 +0.1
baz=240
SML Sawmill 90.41 15 P P 16 27 53.4 +1.1
baz=210
U33K Whale Pass 90.46 25 P P 16 27 53.9 +1.4

baz=222
V35K Ketchikan 90.47 26 P P 16 27 53.9 +1.3
baz=224
CUT Chulitna 90.50 14 P P 16 27 52.7 +0.2
baz=208,SNR=8.3
PPLA Purkeypile 90.53 13 P P 16 27 52.7 -0.3
baz=206
M23K Glacier View 90.54 15 P P 16 27 53.0 +0.2
baz=210
K20K Telida 90.58 12 P P 16 27 52.6 -0.4
baz=205
BMRM Bremner River 90.62 17 P P 16 27 53.5 +0.2
baz=213
SCM Sheep Creek Mo 90.67 15 IAmb IAmb 16 27 54.8
comp=Z,34nm,0.6s
SCM Sheep Creek Mo 90.67 15 P P 16 27 53.7 +0.2
baz=210,SNR=5.1
CD2 Chengdu 90.67 304 P P 16 27 55.5 +1.3
CD2 sP sP 16 30 52.0 +0.1
CD2 PP PP 16 31 44.4 +4.2
CD2 SKS SKSac 16 37 30.6 -1.7
CD2 S S 16 38 02.8 +0.1
CD2 sS sS 16 41 43.2 +1.6
CD2 SS SS 16 44 25.4 +2.8
CD2 pmax pmax
comp=Z,90nm,1.0s
CD2 pmax pmax
comp=Z,550nm,4.3s
MESA MESA 90.69 18 P P 16 27 54.5 +0.7
baz=215
KLU Klutina 90.72 16 IAmb IAmb 16 29 49.1
comp=Z,70nm,1.8s
KLU Klutina 90.72 16 P P 16 27 53.5 -0.2
baz=212
DUG Dugway, Tooele 90.82 45 P P 16 27 54.6 -0.2
baz=238,SNR=11
WRAK Wrangell Islan 90.98 25 P P 16 27 55.9 +1.0
baz=223
CAST Castle Rocks 91.02 13 P P 16 27 53.9 -1.2
CAST IAmb IAmb 16 27 55.9
comp=Z,21nm,0.7s
CAST Castle Rocks 91.02 13 P P 16 27 53.7 -1.4
baz=206,SNR=14
PNL Peninsula 91.04 20 P P 16 27 55.0 -0.2
baz=217
PNL Peninsula 91.04 20 P P 16 27 55.9 +0.7
BGU Big Grassy Mou 91.07 45 P P 16 27 55.3 -0.7
PINM Pinnacle 91.12 19 P P 16 27 56.3 +0.6
baz=217
N25K Chitina, Valde 91.16 17 P P 16 27 56.5 +0.8
N25K Chitina, Valde 91.16 17 P P 16 27 56.1 +0.3
baz=213,SNR=6.1
NLU North Lily Min 91.17 46 P P 16 27 56.7 +0.1
NLU IAmb IAmb 16 27 59.8
comp=Z,35nm,1.6s
BTO Baotou 91.18 315 *e*P P 16 27 57.1 +0.7
M24K Tolsona, Glenn 91.19 16 P P 16 27 55.4 -0.4
baz=212
WAT6 Susitna Watana 91.22 15 P P 16 27 55.5 -0.7
baz=210,SNR=9.9
Q16A Castle Valley 91.22 47 P P 16 27 58.1 +1.3
Q16A IAmb IAmb 16 28 01.4
comp=Z,74nm,1.7s
GLB Gilahina Butte 91.23 17 P P 16 27 56.5 +0.4
GLB IAmb IAmb 16 27 58.4
comp=Z,63nm,1.6s
WAT1 Susitna Watana 91.25 14 P P 16 27 56.1 -0.1
baz=209
J20K Nowinta River 91.32 12 IAmb IAmb 16 27 59.4
comp=Z,50nm,1.4s
J20K Nowinta River 91.32 12 P P 16 27 56.3 -0.1
baz=204
GCSA Galena City Sc 91.38 10 P P 16 27 56.4 -0.1
baz=202
KTH Kantishna Hill 91.38 13 IAmb IAmb 16 30 24.4
comp=Z,36nm,1.4s
MCARA McCarthy VSAT 91.39 17 P P 16 27 55.7 -1.1
baz=214
CHUM Lake Minchumin 91.40 12 P P 16 27 56.2 -0.5
baz=206
TRF Thorofare Moun 91.42 13 IAmb IAmb 16 28 00.5
comp=Z,82nm,1.7s
TRF Thorofare Moun 91.42 13 P P 16 27 56.9 -0.1
baz=208,SNR=10
BARN Barnard Glacie 91.50 18 IAmb IAmb 16 27 59.9
comp=Z,83nm,1.7s
P29M Windy Craggy 91.53 20 P P 16 27 57.8 +0.3
baz=219
PLID Pearl Lake 91.55 40 IAmb IAmb 16 30 22.1
comp=Z,43nm,1.8s
HLID Hailey 91.64 42 P P 16 27 58.4 -0.2
baz=237,SNR=9.4
SPUT South Promonto 91.65 45 IAmb IAmb 16 28 01.7
comp=Z,32nm,1.2s
Y22A Socorro 91.66 53 P P 16 28 00.2 +1.3
baz=241
HARP HAARP 91.69 16 P P 16 27 58.2 +0.1
baz=212
O28M Mount Upton 91.69 19 P P 16 27 57.6 -0.9
baz=217
RND Reindeer 91.69 14 IAmb IAmb 16 30 08.1
comp=Z,46nm,1.4s
HVU Hansel Valley 91.69 44 IAmb IAmb 16 28 02.7
comp=Z,67nm,1.7s
DHY Denali Highway 91.73 15 IAmb IAmb 16 30 08.0
comp=Z,32nm,1.4s
DHY Denali Highway 91.73 15 P P 16 27 58.4 -0.1
baz=210
SRU San Rafael Swe 91.76 47 P P 16 27 59.7 +0.4
SRU IAmb IAmb 16 28 02.8
comp=Z,25nm,1.1s
SRU San Rafael Swe 91.76 47 P P 16 27 59.7 +0.4
SRU pmax pmax
comp=Z,25nm,1.1s
O29M Mount Kennedy 91.80 20 P P 16 27 59.8 +1.0
baz=218
BPAW Bear Paw Mtn. 91.85 13 P P 16 27 59.5 +0.7
baz=207
MCK McKinley 91.96 14 IAmb IAmb 16 30 33.6
comp=Z,56nm,1.4s
MCK McKinley 91.96 14 P P 16 27 59.2 -0.1
baz=209,SNR=6.1
TX31 Lajitas Ar. Si 91.97 59 P P 16 27 59.6 -0.7
TX31 Lajitas Ar. Si 91.97 59 P P 16 28 01.8 +1.5
baz=242
TX32 Lajitas Array 91.97 59 IAmb IAmb 16 30 13.1
comp=Z,39nm,1.7s
TXAR Lajitas Array 91.97 59 P P 16 28 01.7 +1.4
comp=Z,4.9nm,0.8s,baz=213,slow=6.4,SNR=44
TXAR pP pP 16 30 03.9 +0.3
comp=Z,3.5nm,1.0s,baz=216,slow=5.6,SNR=8.0
TXAR PKKPbc PKKPbc 16 45 14.5 +0.3
comp=Z,0.8nm,0.5s,baz=97,slow=2.3,SNR=6.0
comp=Z,4.9nm,0.8s
TXAR Lajitas Array 91.97 59 P P 16 28 01.4 +1.1
TXAR Lajitas Array 91.97 59 P P 16 28 01.4 +1.1
TNCH TengChong 92.07 297 ⇓P P 16 28 01.6 +0.6
TNCH sP sP 16 30 58.4 -0.3
TNCH PP PP 16 31 52.5 +1.2
TNCH SKS SKSac 16 37 40.8 +0.2
TNCH S ScS 16 38 16.4 -0.4
TNCH SS SS 16 44 46.5 +3.6
TNCH pmax pmax
comp=Z,29nm,2.0s
TNCH pmax pmax
comp=Z,290nm,6.2s
PAX Paxson 92.09 16 P P 16 27 59.5 -0.6
baz=212
P30M Million Dollar 92.16 20 P P 16 28 01.3 +0.9
baz=219
MVCO Mesa Verde 92.17 50 P P 16 28 00.5 -0.8
MVCO Mesa Verde 92.17 50 P P 16 28 01.3 0.0
baz=240
YUK8 Steele Glacier 92.22 19 P P 16 28 01.5 +0.6
baz=217,SNR=6.4
M26K Nabesna, AK 92.24 17 P P 16 28 00.6 -0.1
baz=214
YUK3 Moose Creek 92.42 18 P P 16 28 01.9 +0.2
baz=216,SNR=12
MENT Mentasta 92.50 16 P P 16 28 01.8 -0.1
MENT IAmb IAmb 16 31 45.5
comp=Z,12nm,0.5s
M27K Edge Creek, AK 92.50 17 P P 16 28 02.8 +0.8
M27K IAmb IAmb 16 28 05.6
comp=Z,30nm,1.1s
M27K Edge Creek, AK 92.50 17 P P 16 28 02.4 +0.4
baz=215,SNR=11

ANMO Albuquerque 92.51 53 P P 16 28 03.8 +1.0
baz=241
ANMO Albuquerque 92.51 53 P P 16 28 02.6 -0.3
baz=241
ANMO Albuquerque 92.51 53 *i* P P 16 28 02.8 0.0
ANMO pmax pmax
comp=Z,8.0nm,1.4s
S34M Telegraph Cree 92.52 24 P P 16 28 02.4 +0.4
baz=224
HYT Haines Junctio 92.54 20 P P 16 28 02.4 +0.2
baz=219
YUK4 Talbot Arm 92.60 19 P P 16 28 03.2 +0.6
baz=218
I21K Tanana 92.63 12 P P 16 28 00.7 -1.6
I21K IAmb IAmb 16 30 11.7
comp=Z,44nm,1.4s
I21K Tanana 92.63 12 P P 16 28 02.3 0.0
baz=206
L26K Log Cabin Wild 92.67 16 P P 16 28 02.0 -0.6
L26K IAmb IAmb 16 28 05.5
comp=Z,26nm,1.6s
L26K Log Cabin Wild 92.67 16 P P 16 28 03.4 +0.8
baz=214
NEA2 Nenana 92.68 13 P P 16 28 02.4 -0.3
baz=209
NEW Newport 92.72 37 P P 16 28 02.7 -0.5
baz=235
K24K Donnelly Dome 92.73 15 P P 16 28 02.8 -0.1
baz=212
MLY Manley 92.73 12 P P 16 28 02.0 -0.9
MLY Manley 92.73 12 P P 16 28 02.5 -0.4
baz=208
BVCY Beaver Creek 92.82 18 P P 16 28 04.4 +1.0
baz=216,SNR=5.7
P32M Atlin 92.83 22 P P 16 28 03.5 +0.1
baz=222
Q32M Nakina River 92.87 23 P P 16 28 04.3 +0.4
baz=223
RIDG Independent Ri 92.90 15 IAmb IAmb 16 30 13.4
comp=Z,35nm,1.5s
RIDG Independent Ri 92.90 15 P P 16 28 04.3 +0.7
baz=213
H21K Melozitna Rive 92.91 11 IAmb IAmb 16 28 07.0
comp=Z,43nm,1.8s
H21K Melozitna Rive 92.91 11 P P 16 28 04.2 +0.5
baz=206
O30N Mendenhall 92.94 20 P P 16 28 03.8 -0.1
baz=220
HDA Harding Lake 92.98 14 IAmb IAmb 16 30 14.8
comp=Z,33nm,1.4s
HDA Harding Lake 92.98 14 P P 16 28 03.9 -0.1
baz=211
CCB Clear Creek Bu 93.00 14 IAmb IAmb 16 30 13.5
comp=Z,35nm,1.2s
DOT Dot Lake 93.01 16 IAmb IAmb 16 30 23.8
comp=Z,18nm,1.2s
LZH Lanzhou 93.09 308 *e*P P 16 28 07.0 +1.6
LZH pP pP 16 30 08.9 +1.5
LZH sP sP 16 31 04.2 +1.0
LZH PP PP 16 31 57.7 -1.2
LZH SKS SKSac 16 37 45.8 +0.2
LZH S ScS 16 38 31.0 +6.2
LZH sS sS 16 42 05.5 +1.4
LZH pmax pmax
comp=Z,50nm,1.1s
LZH pmax pmax
comp=Z,460nm,5.7s
L27K Beaver Creek, 93.09 17 IAmb IAmb 16 31 45.5
comp=Z,37nm,1.8s
L27K Beaver Creek, 93.09 17 P P 16 28 05.2 +0.6
baz=215
I23K Minto, Yukon-K 93.11 13 P P 16 28 04.5 0.0
baz=209
BILL Bilibino 93.15 355 P P 16 28 05.6 +0.9
BILL Bilibino 93.15 355*ce*P P 16 28 05.3 +0.6
BILL *PP pP 16 30 06.0 -1.0
BILL *e**SP sP 16 31 06.6 +3.9
BILL PPP PPP 16 34 13.0
BILL *e* 16 39 41.6
BILL *e*SS SS 16 45 00.8 +4.6
BILL pmax pmax
comp=Z,50nm,1.4s
N30M Aishikik Lake 93.16 20 P P 16 28 05.5 +0.6
baz=219
TCOL CIGO, UAF Yank 93.18 14 P P 16 28 04.8 0.0
baz=210
COLA College 93.19 14 P P 16 28 04.4 -0.5
baz=210
COLA College 93.19 14 P P 16 28 04.3 -0.5
COLA College 93.19 14 *i* P P 16 28 04.5 -0.4
COLA pmax pmax
comp=Z,28nm,1.3s
WHY Whitehorse 93.24 21 P P 16 28 05.0 -0.4
baz=221
SCRK Sand Creek 93.30 16 IAmb IAmb 16 30 37.7
comp=Z,46nm,1.8s
SCRK Sand Creek 93.30 16 P P 16 28 06.1 +0.4
baz=213
DLBC Dease Lake 93.31 24 P P 16 28 05.6 -0.1
baz=225
IL31 93.31 14 P P 16 28 04.5 -0.9
IL31 IAmb IAmb 16 30 15.1
comp=Z,29nm,1.2s
ILAR Eielson Array 93.31 14 P P 16 28 04.8 -0.7
comp=Z,3.5nm,0.6s,baz=224,slow=5.2,SNR=62
ILAR pP pP 16 30 07.7 -0.2
comp=Z,2.3nm,0.9s,baz=218,slow=5.7,SNR=4.7
ILAR PKiKP PKiKP 16 32 47.4 -0.5
comp=Z,0.7nm,0.6s,baz=258,slow=3.2,SNR=5.4
ILAR PKKPbc PKKPdf 16 45 09.2 -1.4
comp=Z,0.3nm,0.5s,baz=3.2,slow=2.8,SNR=5.3
comp=Z,3.5nm,0.6s
ILAR Eielson Array 93.31 14 P P 16 28 04.1 -1.3
H22K Ishtalitna Cre 93.38 12 P P 16 28 06.1 +0.3
baz=207
POKR Poker Plat Res 93.49 14 P P 16 28 06.7 +0.4
baz=210
J25K Salcha River, 93.51 15 IAmb IAmb 16 28 09.2
comp=Z,39nm,1.6s
J25K Salcha River, 93.51 15 P P 16 28 06.8 +0.3
baz=212
M29M Somme Creek 93.52 18 P P 16 28 06.9 +0.3
baz=218
G21K Allakaket 93.56 11 P P 16 28 07.1 +0.5
baz=205
N31M Braeburn, Yuko 93.58 20 P P 16 28 07.3 +0.5
baz=220
S22A 4UR Ranch, Cre 93.59 50 IAmb IAmb 16 30 19.0
comp=Z,28nm,1.4s
S22A 4UR Ranch, Cre 93.59 50 P P 16 28 07.4 -0.4
baz=241
R33M Jennings River 93.64 23 P P 16 28 07.2 -0.1
baz=224
H23K Yukon River 93.67 13 P P 16 28 07.6 +0.5
baz=209
REDW Red Top Meadow 93.73 44 IAmb IAmb 16 30 31.7
comp=Z,31nm,1.4s
O20A White River Ci 93.80 47 P P 16 28 08.0 -0.6
baz=240
SNOW Snow King Moun 93.84 43 IAmb IAmb 16 30 24.8
comp=Z,39nm,1.6s
J26L Joseph Creek 93.84 15 IAmb IAmb 16 28 11.4
comp=Z,19nm,0.9s
J26L Joseph Creek 93.84 15 P P 16 28 09.1 +1.0
baz=214
CMIG Matias Romero 93.90 73 P P 16 28 08.6 -0.7
comp=Z,2.2nm,0.7s,baz=274,slow=14,SNR=2.0
comp=Z,2.2nm,0.7s
H24K Noodor Dome 94.02 13 P P 16 28 10.0 +1.2
baz=210
M30M Minto, Yukon 94.11 19 IAmb IAmb 16 28 11.6
comp=Z,13nm,0.8s
M30M Minto, Yukon 94.11 19 P P 16 28 09.9 +0.7
baz=220
L29M L29M 94.14 18 P P 16 28 10.0 +0.7
baz=218
FLWY Flagg Ranch 94.20 43 IAmb IAmb 16 30 21.9
comp=Z,27nm,1.4s
F21K Alatna River 94.21 10 P P 16 28 09.9 +0.3
baz=205
BW06 Boulder Array 94.24 45 P P 16 28 10.2 -0.4
baz=240
PDAR Pinedale Array 94.25 45 P P 16 28 10.4 -0.1
comp=Z,1.5nm,0.6s,baz=209,slow=2.9,SNR=15
PDAR pP pP 16 30 12.8 -0.8
comp=Z,1.3nm,0.9s,baz=199,slow=2.5,SNR=3.3
PDAR PKKPbc PKKPdf 16 45 08.1 -0.3

comp=Z,0.3nm,0.6s,baz=93,slow=4.6,SNR=3.8
comp=Z,1.5nm,0.6s
PRP Porcupine Dome 94.25 14 IAmb IAmb 16 30 21.2
comp=Z,31nm,1.4s
PRP Porcupine Dome 94.25 14 P **P** **16 28 10.4 +0.5**
baz=212
G22K Bettles 94.28 11 P **P** **16 28 10.0 +0.2**
baz=207
G23K Bananza Creek 94.36 12 P **P** **16 28 10.7 +0.4**
baz=208
BOZ Bozeman (W) 94.41 41 IAmb IAmb 16 30 36.7
comp=Z,40nm,2.0s
BOZ Bozeman (W) 94.41 41 P **P** **16 28 12.1 +0.9**
baz=239
H17A Grant Village 94.43 43 P **P** **16 28 12.1 +0.6**
baz=239
SDCO Great Sand Dun 94.52 50 IAmb IAmb 16 28 14.7
comp=Z,26nm,1.7s
SDCO Great Sand Dun 94.52 50 P **P** **16 28 12.8 +0.8**
baz=242
SDCO Great Sand Dun 94.52 50 P **P** **16 28 12.0 0.0**
baz=242
DAWY Dawson 94.55 17 P **P** **16 28 11.8 +0.6**
baz=218,SNR=9.3
I26K Coal Creek Min 94.61 15 IAmb IAmb 16 30 22.2
comp=Z,24nm,1.2s
I26K Coal Creek Min 94.61 15 P **P** **16 28 11.6 +0.2**
baz=214
EGAK Eagle 94.67 16 IAmb IAmb 16 28 13.9
comp=Z,33nm,1.6s
EGAK Eagle 94.67 16 P **P** **16 28 12.3 +0.7**
baz=216
F22K John River 94.69 11 P **P** **16 28 12.5 +0.8**
baz=206
COLD Coldfoot 94.79 12 IAmb IAmb 16 30 22.5
comp=Z,30nm,1.4s
COLD Coldfoot 94.79 12 P **P** **16 28 12.4 +0.2**
baz=208
G24K Hadweenzic Riv 94.85 13 P **P** **16 28 13.0 +0.5**
baz=210
833A Chaparral WMA, 94.88 61 P **P** **16 28 13.0 -0.5**
baz=244
K29M Barlow Dome 94.89 18 P **P** **16 28 12.6 -0.2**
baz=219
FARO Faro, Yukon 94.91 20 P **P** **16 28 13.2 +0.4**
baz=223
WTLY Watson Lake, Y 94.93 24 P **P** **16 28 13.5 +0.4**
baz=226
T25A Trinidad 95.01 51 P **P** **16 28 14.5 +0.4**
baz=242
YAK Yakutsk 95.11 339 P **P** **16 28 12.3 -1.4**
YAK Yakutsk 95.11 339 *d* iP **P** **16 28 13.3 -0.4**
YAK *e**PP **pwP** **16 30 20.7 -0.7**
YAK *e* 16 32 09.1
YAK *e*S **SKSac** **16 37 56.2 +1.5**
YAK *e*SS **SS** **16 45 32.5 +8.7**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,251nm,3.0s
YAK pmax pmax
comp=N,135nm,3.2s
YAK pmax pmax
comp=E,128nm,3.2s
YAK smax smax
comp=N,125nm,3.4s
YAK smax smax
comp=E,52nm,2.7s
MAYO Mayo, Yukon 95.16 19 P **P** **16 28 14.6 +0.7**
baz=220
G25K Bearman Lake 95.19 13 P **P** **16 28 14.5 +0.6**
baz=212
I27K Kandik River 95.22 15 P **P** **16 28 14.9 +0.6**
baz=216
E22K Anaktuvuk Pass 95.31 11 P **P** **16 28 14.7 +0.1**
baz=207
Q24A Divide 95.33 49 P **P** **16 28 15.1 -0.6**
baz=242
TRQA Tornquist 95.36 136 *e*P **P** **16 28 19.4 +3.7**
CIT Chita 95.39 326 *e*P **P** **16 28 15.4 +0.1**
CIT *e* 16 30 13.6
CIT *e* 16 31 16.4
CIT pmax pmax
comp=Z,82nm,2.5s
F24K Squaw Lake 95.48 12 P **P** **16 28 14.7 -0.7**
baz=210
SAIH SAIHA 95.56 292 *ex* **P** **16 28 15.2 -1.6**
RLMT Red Lodge 95.60 43 P **P** **16 28 15.4 -1.3**
baz=240
E23K Chandalar 95.63 11 P **P** **16 28 16.3 +0.3**
baz=209
N23A Red Feather La 95.69 47 P **P** **16 28 16.3 -1.0**
baz=242
H27K Steamboat Moun 95.76 15 P **P** **16 28 17.3 +0.6**
baz=216
G26K Porcupine Rive 95.84 14 P **P** **16 28 18.0 +1.1**
baz=214
E24K Your Creek 95.85 12 P **P** **16 28 17.1 +0.1**
baz=210
MMPY Sheldon Lake, 95.86 21 P **P** **16 28 17.9 +0.8**
baz=224
MOKO MOKOCHONG 95.88 296 *ex* **P** **16 28 17.6 -0.7**
KOHI KOHIMA 95.97 295 *ex* **P** **16 28 22.7 +4.1**
F25K Christian Rive 95.99 13 P **P** **16 28 18.2 +0.5**
baz=212
TGTN Hyland Airport 96.09 23 P **P** **16 28 19.1 +0.8**
baz=227
K22A Casper 96.14 46 P **P** **16 28 18.6 -0.5**
baz=242
TOLK Toolik Lake Re 96.15 11 P **P** **16 28 18.3 0.0**
baz=209
G27K Doyon Strip 96.20 15 P **P** **16 28 19.3 +0.7**
baz=216
D23K Nanushuk River 96.25 11 P **P** **16 28 19.1 +0.4**
baz=208
F26K Sheenjek River 96.38 13 P **P** **16 28 20.3 +0.9**
baz=214
E25K Arctic Village 96.45 13 P **P** **16 28 19.0 -0.7**
baz=212
D24K Happy Valley 96.73 11 P **P** **16 28 21.1 +0.3**
baz=209
ULN Ulaanbaatar 96.75 320 *d* iP **P** **16 28 21.7 0.0**
ULN pmax pmax
comp=Z,29nm,1.4s
EGMT Eagleton 96.76 40 P **P** **16 28 20.8 -0.7**
baz=240
C23K Itkillik River 97.03 10 P **P** **16 28 22.7 +0.5**
baz=208
EPYK Eagle Plains 97.06 17 P **P** **16 28 23.0 +0.6**
baz=220
KSCO Kaye Shedlock' 97.11 50 P **P** **16 28 22.8 -0.6**
baz=244
SONM Songino Array 97.12 320 P Pdif 16 28 23.1 -0.2
comp=Z,5.2nm,0.7s,baz=121,slow=6.1,SNR=20
SONM pP pP 16 30 25.0 -0.7
comp=Z,0.8nm,0.7s,baz=151,slow=3.3,SNR=1.5
SONM PP **PP** **16 32 24.8 -4.6**
comp=Z,3.3nm,1.0s,baz=118,slow=5.4,SNR=7.1
comp=Z,5.2nm,0.7s
C24K Franklin Bluff 97.25 11 P **P** **16 28 23.5 +0.4**
baz=210
D25K Kavik River 97.32 12 P **P** **16 28 24.0 +0.5**
baz=212
E27K Coleen River 97.34 14 P **P** **16 28 23.9 +0.3**
baz=216
GTA Gaotai 97.45 310 ⇓P **P** **16 28 25.7 +0.7**
GTA pP pwP 16 30 32.7 -0.5
GTA SKS **SKSac** **16 38 07.0 -1.2**
GTA pmax pmax
comp=Z,15nm,1.1s
GTA pmax pmax
comp=Z,160nm,7.3s
G30M tAoh Zraii Nji 97.66 16 P **P** **16 28 25.5 +0.4**
baz=220
C27K Jago River 98.09 12 P **P** **16 28 27.0 0.0**
baz=214
RSSD Black Hills 98.43 45 P Pdif 16 28 28.9 -0.4
baz=244
F31M Tsiigehtchic 98.64 17 P Pdif 16 28 29.3 0.0
baz=223
CBKS Cedar Bluff 99.06 51 P **Pdif** **16 28 31.8 -0.2**
baz=245
LVC Limon Verde 99.16 120 *e*P **Pdif** **16 28 36.5 +3.2**
INK Inuvik 99.34 16 P **Pdif** **16 28 32.7 +0.3**
baz=223
GOMU GeErMu 99.70 305 P **Pdif** **16 28 36.8 +1.5**
GOMU pmax pmax
comp=Z,6.0nm,1.2s
GOMU pmax pmax
comp=Z,77nm,4.8s
PALK Pallekele 100.27 273 P **Pdif** **16 28 39.3 +1.3**
YKA Yellowknife Ar 101.80 26 PKKPbc PKKPbc 16 44 46.5 -2.1
comp=Z,1.2nm,0.6s,baz=40,slow=2.4,SNR=6.1
RAMN Ramite 102.64 294 *e*P **PKiKP** **16 33 06.8 +0.9**
LPAZ La Paz 103.06 115 PKKPbc PKKPbc 16 44 42.5 -2.1
comp=Z,0.9nm,0.6s,baz=45,slow=1.4,SNR=4.0
JIRN Jiri 103.24 294 *e*P **PKiKP** **16 33 07.6 +0.5**
comp=Z,9.6nm,0.5s
GUN Gumba 103.59 295 *e*P **PKiKP** **16 33 08.9 +1.2**
PKI Pulchoki 103.85 294 *e*P **PKiKP** **16 33 07.9 -0.3**
PKIN Phulchoki 103.87 294 *e*P **PKiKP** **16 33 07.9 -0.3**
A36M Sachs Harbour 103.92 15 P **Pdif** **16 28 53.8 +1.0**
baz=231
ITQB Itaqui 104.06 132 *e*P **Pdif** **16 28 58.7 +4.1**
PCHI Peechi 105.50 275 *e*P **PKiKP** **16 33 17.4 +6.2**
PCHI *ex* **Sdif** **16 40 09.2 +0.3**
SIV San Ignacio 108.95 119 PKKPbc PKKPbc 16 44 24.7 -1.5
comp=Z,0.7nm,0.4s,baz=4.7,slow=2.6,SNR=5.2
ZSN Zaisan 110.44 314 *e*PKiKP **PKiKP** **16 33 18.8 -0.7**
baz=314
ZSN *e*PP **PP** **16 34 03.6 -3.1**
baz=314
ZSN Zaisan 110.44 314 *i* PKiKP **PKiKP** **16 33 18.8 -0.7**
ZSN *e* 16 34 03.5
MKAR Makanchi Array 111.98 313 Pdiff **Pdif** **16 29 31.1 +1.8**
comp=Z,2.1nm,0.5s,baz=82,slow=7.1,SNR=19
MKAR PKiKP **PKiKP** **16 33 21.7 -0.7**
comp=Z,3.8nm,0.5s,baz=48,slow=2.1,SNR=23
MKAR SKiKP **SKiKP** **16 36 06.5 +1.8**
comp=Z,2.0nm,0.8s,baz=64,slow=2.8,SNR=3.9
MKAR PKKPbc **PKKPbc** **16 44 16.3 -0.5**
comp=Z,0.5nm,0.5s,baz=274,slow=5.6,SNR=5.6
MKAR PKKPab **PKKPab** **16 44 26.9 +1.1**
comp=Z,0.4nm,0.5s,baz=263,slow=5.7,SNR=4.2
ZALV Zalesovo Beam 112.00 321 Pdiff **Pdif** **16 29 29.0 -0.1**
comp=Z,0.6nm,0.5s,baz=72,slow=4.7,SNR=2.3
ZALV PKiKP **PKiKP** **16 33 21.3 -0.9**
comp=Z,4.1nm,0.5s,baz=141,slow=1.3,SNR=23
ZALV PP **PP** **16 34 18.7 +1.2**
comp=Z,0.9nm,0.7s,baz=91,slow=5.8,SNR=3.5
MAKZ Makanchi 112.20 313 PKiKP **PKiKP** **16 33 21.7 -1.2**
SHLS Shalkode 113.11 308 *e*PKiKP **PKiKP** **16 33 23.6 -1.3**
baz=308
SHLS *e*PP **PP** **16 34 22.3 -3.5**
baz=308
SHLS Shalkode 113.11 308 *i* PKiKP **PKiKP** **16 33 23.5 -1.3**
SHLS *e* 16 34 22.2
UZB Uzynbulak 113.42 308 *e*PP **PP** **16 34 25.8 -2.2**
baz=308
NRIK Noril'sk 113.48 337 PKiKP **PKiKP** **16 33 24.1 -0.4**
comp=Z,4.6nm,0.6s,baz=52,slow=3.0,SNR=8.5
NRIK PP **PP** **16 34 22.9 -4.4**
comp=Z,1.4nm,0.3s,baz=101,slow=7.1,SNR=5.4
KPKS Kokpek 113.73 308 *e*PKiKP **PKiKP** **16 33 24.9 -1.1**
baz=308
KPKS *e*PP **PP** **16 34 27.9 -2.2**
baz=308
KPKS Kokpek 113.73 308 *i* PKiKP **PKiKP** **16 33 24.9 -1.1**
KPKS *e* 16 34 27.8
SATY Saty 113.84 308 *e*PKiKP **PKiKP** **16 33 25.8 -0.5**
baz=308
SATY *e*PP **PP** **16 34 29.2 -1.7**
baz=308
SATY Saty 113.84 308 *i* PKiKP **PKiKP** **16 33 25.8 -0.5**
SATY *e* 16 34 29.1
TDK Taldyqorghan 114.25 310 *e*PKiKP PKPdf 16 33 25.8 -1.0
baz=310
TDK Taldyqorghan 114.25 310 *i* PKiKP PKPdf 16 33 25.8 -1.0
MDOK Medeo 114.84 308 *e*PKiKP PKPdf 16 33 27.2 -1.0
baz=308
MDOK *e*PP **PP** **16 34 35.9 -1.9**
baz=308
MDOK Medeo 114.84 308 *i* PKiKP PKPdf 16 33 27.1 -1.1
MDOK *e* 16 34 35.8
KSH Kashi 114.87 304 PKP PKPdf 16 33 28.3 -0.1
KSH PP **PP** **16 34 40.0 +1.9**
KSH SKKS 16 40 40.9
KSH AMB AMB
comp=Z,350nm,6.8s
TNSS Tian-Shan 114.89 308 *e*PKiKP PKPdf 16 33 28.0 -0.7
baz=308
TNSS Tian-Shan 114.89 308 *i* PKiKP PKPdf 16 33 27.9 -0.7
CHKK Chushkaly 115.02 309 *e*PKiKP **PKPdf** **16 33 27.0 -1.3**
baz=309
CHKK Chushkaly 115.02 309 *i* PKiKP **PKPdf** **16 33 27.0 -1.3**
KURK Kurchatov 115.13 316 **PKPdf** **16 33 27.6 -0.7**
KURK Kurchatov 115.13 316 PKiKP **PKPdf** **16 33 27.6 -0.7**
KURBB Kurchatov Arra 115.17 316 PKP **PKPdf** **16 33 27.6 -0.8**
comp=Z,9.0nm,0.7s,baz=103,slow=1.9,SNR=60
KURBB PP **PP** **16 34 35.0 -4.7**
comp=Z,4.0nm,0.9s,baz=100,slow=7.4,SNR=7.9
KURBB PKKPbc **PKKPbc** **16 44 06.0 -0.3**
comp=Z,0.2nm,0.3s,baz=279,slow=4.1,SNR=5.2
KURBB Kurchatov Arra 115.17 316 PKiKP **PKPdf** **16 33 27.3 -1.1**
EUNU Eureka 115.23 11 PKPdf **PKPdf** **16 33 27.2 -0.6**
KUU Kurty 115.48 309 *e*PKiKP **PKPdf** **16 33 28.1 -1.2**
baz=309
KUU Kurty 115.48 309 *i* PKiKP **PKPdf** **16 33 28.0 -1.2**
SSPA Spanning Stone 115.60 55 P **PKPdf** **16 33 28.4 -1.2**
baz=255
TKM2 Tokmak 2 115.83 307 P **PKPdf** **16 33 29.6 -0.6**
SNR=9.1
TKM2 Tokmak 2 115.83 307 PKiKP **PKPdf** **16 33 29.5 -0.7**
OPO Ambohidratompo 115.99 232 PKP **PKPdf** **16 33 30.5 -0.8**
comp=Z,3.1nm,0.5s,baz=164,slow=7.4,SNR=9.6
KBK Karagaybulak 116.25 307 P **PKPdf** **16 33 31.0 0.0**
SNR=7.2
CHMS Chumysh 116.46 307 P **PKPdf** **16 33 30.6 -0.6**
SNR=7.0
UCH Uchtor 116.49 306 P **PKiKP** **16 33 32.3 +0.4**
SNR=8.7
AAK Ala-Archa 116.58 307 PKP **PKPdf** **16 33 30.6 -1.0**
comp=Z,2.1nm,0.5s,baz=175,slow=3.3,SNR=10
AAK PKKPbc **PKKPbc** **16 44 01.3 -0.2**
comp=Z,0.5nm,0.3s,baz=75,slow=5.0,SNR=3.6
AAK Ala-Archa 116.58 307 PKPdf **PKPdf** **16 33 31.1 -0.5**
AAK Ala-Archa 116.58 307 *i* PKiKP **PKPdf** **16 33 30.5 -1.1**
SGDS Sogindy 116.62 308 *e*PKiKP **PKPdf** **16 33 30.5 -1.1**
baz=308
SGDS *e*PP **PP** **16 34 47.8 -2.2**
baz=308
SGDS Sogindy 116.62 308 *i* PKiKP **PKPdf** **16 33 30.4 -1.1**
SGDS *e* 16 34 47.7
USP Ospenovka 116.69 308 P **PKPdf** **16 33 31.4 -0.3**
SNR=7.8
AML Almayashu 117.08 306 P **PKiKP** **16 33 33.1 +0.2**
SNR=12
BINY Binghamton 117.30 54 P **PKPdf** **16 33 32.0 -0.8**
baz=260
BTLS Baital 117.30 309 *e*PKiKP **PKPdf** **16 33 31.8 -0.9**
baz=310
BTLS *e*PP **PP** **16 34 53.7 -0.8**
baz=310
BTLS Baital 117.30 309 *i* PKiKP **PKPdf** **16 33 31.8 -0.9**
BTLS *e* 16 34 53.6
PAL Palisades 118.64 55 P **PKPdf** **16 33 34.1 -1.3**
baz=261
LONY Lake Ozonia 118.67 51 P **PKPdf** **16 33 34.4 -1.0**
baz=262
BRZS Berezniki 118.82 315 *e*PKiKP **PKPdf** **16 33 34.0 -1.4**
baz=315
BRZS *e*PP **PP** **16 35 03.1 -1.6**
baz=315
BRZS Berezniki 118.82 315 *i* PKiKP **PKPdf** **16 33 34.0 -1.4**
BRZS *e* 16 35 03.0
OTUK Ortayu 118.87 313 PKiKP **PKPdf** **16 33 34.8 -0.8**
DZA Taraz 118.92 307 *e*PKiKP **PKPdf** **16 33 35.3 -0.7**
baz=307
DZA Taraz 118.92 307 *i* PKiKP **PKPdf** **16 33 35.2 -0.7**
GAR Garm 119.08 302 **PKiKP** **16 33 36.6 0.0**
BDFB Brasilia 119.16 127 PKP **PKPdf** **16 33 36.2 -1.1**
comp=Z,3.4nm,0.7s,baz=343,slow=1.9,SNR=5.0
BDFB PKKPbc **PKKPbc** **16 43 52.8 +0.4**
comp=Z,4.9nm,0.7s,baz=149,slow=3.1,SNR=7.1
SUR Sutherland 119.23 201 PKP **PKPdf** **16 33 36.9 -0.3**
comp=Z,13nm,0.7s,baz=56,slow=3.3,SNR=9.5
TULEG Thule 119.26 14 *i* P **PKPdf** **16 33 35.1 -0.4**
KBL Kabul 119.27 297 PKPdf **PKiKP** **16 33 37.6 +0.5**
KBL Kabul 119.27 297 P **PKiKP** **16 33 37.5 +0.3**
SNR=11
KBL Kabul 119.27 297 PKiKP **PKiKP** **16 33 37.7 +0.5**
KK31 Karatay Array 119.55 307 **PKPdf** **16 33 37.0 -0.1**
KK31 Karatay Array 119.55 307 *i* PKiKP **PKPdf** **16 33 36.1 -1.0**
KKAR Karatay Array 119.55 307 PKPdf **PKPdf** **16 33 37.0 -0.1**
KKAR Karatay Array 119.55 307 PKiKP **PKPdf** **16 33 37.0 -0.1**
L61B Northampton 119.76 54 P **PKPdf** **16 33 36.6 -0.8**
baz=262
IUG Iuzhnay 119.77 306 *e*PKiKP **PKPdf** **16 33 37.3 -0.4**
baz=306
IUG Iuzhnay 119.77 306 *i* PKiKP **PKPdf** **16 33 37.3 -0.4**
HUMP Col San Antoni 120.04 83 **PKPdf** **16 33 37.9 -0.8**
BVA0 Borovoye Array 120.43 318 PKiKP **PKPdf** **16 33 37.8 -0.7**
BVAR Borovoye Array 120.43 318 PKP **PKPdf** **16 33 38.0 -0.4**
BRVK Borovoye 120.50 318 PKPdf **PKPdf** **16 33 38.4 -0.2**
BRVK Borovoye 120.50 318 P **PKPdf** **16 33 38.4 -0.2**
BRVK Borovoye 120.50 318 PKiKP **PKPdf** **16 33 38.4 -0.2**
LBNH Lisbon 120.52 52 P **PKPdf** **16 33 37.8 -1.1**
baz=264
BOSA Boshof 120.96 207 PKP **PKPdf** **16 33 40.4 -0.1**
comp=Z,4.4nm,0.6s,baz=170,slow=4.0,SNR=12
BOSA PKKPbc **PKKPbc** **16 43 45.1 -1.4**
comp=Z,3.9nm,0.9s,baz=315,slow=5.7,SNR=5.5
MC01 Montes Claros 121.34 131 *e*P **PKiKP** **16 33 45.6 +4.0**
SJMB Sao Joao De Ma 121.78 134 *e*P **PKiKP** **16 33 46.6 +4.3**
JANB Januaria 122.21 129 *e*P **PKiKP** **16 33 47.5 +4.2**
PKME Peaks-Kenny Pk 122.47 51 P **PKPdf** **16 33 41.3 -1.3**
baz=266
NEEM North Greenlan 122.50 11 *i* P **PKPdf** **16 33 41.9 -0.3**
KULLO Kullorsuaq 122.68 15 *i* P **PKPdf** **16 33 41.9 -0.3**
NAN01 Guarapari, ES 123.09 135 *e*P **PKiKP** **16 33 48.4 +3.5**
UPNV Upernavik 123.77 17 *i* P **PKPdf** **16 33 43.9 -0.4**
LBTB Lobatse 123.95 210 PKP **PKPdf** **16 33 46.2 -0.1**
comp=Z,7.1nm,0.6s,baz=158,slow=2.9,SNR=15
NUUG Nuugaatsiaq 125.15 18 *i* P **PKPdf** **16 33 46.6 -0.3**
WBK Wadi Bani Khal 125.20 281 P **PKPdf** **16 33 47.3 -1.3**
KBS Kingsbay 125.60 357 *i* P **PKiKP** **16 33 48.3 +0.1**
KBS Kingsbay 125.60 357 *e*PKPdf **PKiKP** **16 33 48.4 +0.3**
MHTO MHTO 125.66 279 P **PKPdf** **16 33 48.9 -0.5**
SNR=5.1
WSAR Wadi Sarin 125.67 282 P **PKPdf** **16 33 48.8 -0.6**
DQM DQM 125.75 277 P **PKPdf** **16 33 49.8 +0.2**
JMDO Jabal Madar 125.91 280 P **PKPdf** **16 33 49.8 -0.1**
SPA0 Spitsbergen Ar 126.06 356 *e*PKPdf **PKiKP** **16 33 49.1 0.0**
SPA0 IAmb IAmb 16 33 51.4
comp=Z,112nm,1.3s
SPITS Spitsbergen Ar 126.06 356 PKP **PKPdf** **16 33 48.6 0.0**
comp=Z,40nm,0.7s,baz=82,slow=3.1,SNR=33
SMDO Samad 126.14 281 P **PKPdf** **16 33 50.4 0.0**
SQUM Sultan Qaboos 126.16 282 P **PKiKP** **16 33 52.7 +1.9**
BSY Bisya 126.81 281 P **PKPdf** **16 33 51.9 +0.3**
ARU Arti 127.01 323 PKP **PKPdf** **16 33 50.7 -0.3**
comp=Z,32nm,0.5s,baz=90,slow=1.2,SNR=71
ARU PP **PP** **16 35 55.1 -3.6**
comp=Z,2.4nm,0.6s,baz=153,slow=2.3,SNR=2.1
ARU Arti 127.01 323 *i* PKiKP **PKPdf** **16 33 50.9 0.0**
ARU 16 35 55.6
ARU 16 40 07.8
AB31 Akbulak array 127.08 314 *i* PKiKP **PKPdf** **16 33 51.0 -0.3**
TMAB Tom-Au,PA,Br 127.13 114 *e*P **PKiKP** **16 33 57.3 +4.2**
DAG Danmarks Havn 127.41 5 *i* P **PKPdf** **16 33 50.0 -1.2**
DMTO DMTO 127.43 274 P **PKPdf** **16 33 52.7 -0.2**
ARQ Araqi 127.57 281 P **PKPdf** **16 33 52.7 -0.4**
SUMG Summit 128.15 13 *i* P **PKiKP** **16 33 53.6 -0.3**
SFJD Kangerlussuaq 128.17 22 PKP **PKPdf** **16 33 53.0 +0.2**
comp=Z,6.5nm,0.5s,baz=160,slow=3.3,SNR=8.0
SFJD Kangerlussuaq 128.17 22 PKiKP **PKPdf** **16 33 53.0 +0.2**
AKTO Aktyubinsk 128.22 316 PKiKP **PKPdf** **16 33 52.8 -0.6**
UOSS Minazif 128.22 283 PKPdf **PKPdf** **16 33 53.1 -1.2**
UOSS Minazif 128.22 283 P **PKPdf** **16 33 53.9 -0.3**
UOSS Minazif 128.22 283 PKPdf **PKPdf** **16 33 53.5 -0.7**
HATD Hatta, Dubai 128.26 283 P **PKPdf** **16 33 54.1 -0.2**
SNR=5.0
HATD Hatta, Dubai 128.26 283 *i* PKiKP **PKPdf** **16 33 54.2 -0.2**
SNR=10
ASHO Ashiyiah 128.30 283 P **PKPdf** **16 33 54.2 -0.3**
SNR=5.8
ASHO Ashiyiah 128.30 283 *i* PKiKP **PKPdf** **16 33 54.3 -0.2**
SNR=6.8
BANOM Banah 128.35 284 P **PKPdf** **16 33 54.5 0.0**
BANOM Banah 128.35 284 PKiKP **PKPdf** **16 33 54.3 -0.2**
MASF Masafi 128.36 283 P **PKPdf** **16 33 54.2 -0.3**
ALNE Al Ain 128.43 282 P **PKPdf** **16 33 54.5 -0.2**
SNR=6.0
DOK Doka 128.44 275 P **PKiKP** **16 33 55.3 -0.2**
GEYT Alibeck 128.46 300 PKP **PKPdf** **16 33 54.6 +0.3**
comp=Z,9.4nm,0.7s,baz=232,slow=1.7,SNR=19
GEYT PP **PP** **16 36 07.0 -1.8**
comp=Z,2.1nm,0.8s,baz=59,slow=5.6,SNR=4.2
GYA0 ALIBECK ARRAY 128.46 300 PKiKP **PKPdf** **16 33 54.2 -0.2**
SHME Shamm 128.52 284 P **PKPdf** **16 33 54.7 -0.1**
UMZA Um Al Zommool 128.63 280 P **PKPdf** **16 33 55.3 +0.2**
NAZ Nazwa, Dubai 128.71 283 P **PKPdf** **16 33 54.9 -0.3**
NAZ Nazwa, Dubai 128.71 283 PKPdf **PKPdf** **16 33 54.5 -0.7**
FAQ Al Faqa, Dubai 128.72 283 P **PKPdf** **16 33 55.4 +0.2**
FAQ Al Faqa, Dubai 128.72 283 PKiKP **PKPdf** **16 33 54.9 -0.3**
ABTO Aybut 128.81 273 P **PKiKP** **16 33 56.2 -0.2**
UMQ Umm Al-Quwin 128.83 284 P **PKiKP** **16 33 56.9 +0.8**
ASUD Al Ashush, Dub 128.93 282 P **PKiKP** **16 33 56.2 -0.1**
ASUD Al Ashush, Dub 128.93 282 PKiKP **PKPdf** **16 33 55.3 -0.2**
DY2G Dye2 129.92 22 *i* P **PKiKP** **16 33 57.0 -0.3**
MZWR Madinat Zayed 130.02 281 P **PKiKP** **16 33 58.3 +0.2**
ROSB Rosrio 130.08 117 *e*P **PKiKP** **16 34 00.5 +1.5**
MZR Muzera 130.20 280 P **PKiKP** **16 33 59.3 +0.4**
MZR Muzera 130.20 280 *i* PKiKP **PKiKP** **16 33 58.9 0.0**
SNR=9.8
ICESG Greenland Ices 130.30 17 *i* P **PKPdf** **16 33 56.9 -0.4**
LSZ Lusaka 130.77 219 PKP **PKiKP** **16 34 00.2 -0.3**
comp=Z,6.8nm,0.5s,baz=177,slow=1.3,SNR=14
LSZ pPKP **pPKPdf** **16 36 07.4 -2.1**
comp=Z,1.5nm,0.3s,baz=0.0,slow=1.0,SNR=5.6
LSZ SKPbc **SKPab** **16 36 32.0 0.0**
comp=Z,19nm,0.9s,baz=172,slow=2.2,SNR=11
GHWR Ruwais 130.96 281 P **PKiKP** **16 33 60.0 -0.5**
KIRV Kirov 131.17 327 PKP **PKPdf** **16 33 58.7 0.0**
comp=Z,32nm,0.5s,baz=73,slow=0.9,SNR=13
KIRV SKPbc **SKPab** **16 36 31.9 -0.3**
comp=Z,23nm,0.8s,baz=73,slow=5.2,SNR=6.1
KIRV Kirov 131.17 327 *i* PKiKP **PKPdf** **16 33 59.0 +0.3**
JRN Qarnain Island 131.20 282 P **PKPdf** **16 34 00.3 +0.4**
VADS Vadso 131.38 347 *e*PKPdf **PKiKP** **16 33 59.6 -0.3**
PRGR Permogore 131.64 332 *e*PKiKP **PKPdf** **16 33 58.6 -0.9**
PRGR *e* 16 36 30.5
HAMF Hammerfest 132.04 349 *e*PKPdf **PKPdf** **16 33 59.9 -0.2**
HAMF IAmb IAmb 16 34 02.8
comp=Z,33nm,0.9s
SLWR Sila 132.04 281 P **PKPdf** **16 34 01.8 +0.4**
APA Apatity 132.34 343 ⇓*i* PKiKP **PKPdf** **16 34 01.3 +0.6**
APA *i* 16 36 34.8
APA pmax pmax
comp=Z,10.0nm,0.7s
TSUM Tsumeb 132.44 204 PKP **PKiKP** **16 34 03.9 0.0**
comp=Z,5.7nm,0.6s,baz=166,slow=4.6,SNR=10
TSUM SKPbc **SKPab** **16 36 38.6 -0.6**
comp=Z,12nm,1.1s,baz=130,slow=4.3,SNR=4.8
ARA0 ARCESS Array S 132.64 348 *e*PKPdf **PKPdf** **16 34 01.5 +0.2**
ARCES ARCESS Array B 132.64 348 PKhKP PKPpre 16 33 49.6
comp=Z,3.5nm,0.5s,baz=335,slow=0.8,SNR=16
ARCES PKP **PKPdf** **16 34 00.8 -0.5**
comp=Z,25nm,0.6s,baz=66,slow=1.4,SNR=46
ARCES SKPbc **SKPab** **16 36 37.5 -0.8**
comp=Z,6.7nm,0.5s,baz=31,slow=3.2,SNR=12
ARCES SKKPbc **SKKPbc** **16 45 57.2 -5.1**
comp=Z,1.8nm,0.8s,baz=299,slow=2.5,SNR=3.6
ARCES ARCESS Array B 132.64 348 PKPdf **PKPdf** **16 34 01.6 +0.3**
ARCES ARCESS Array B 132.64 348 PKiKP **PKPdf** **16 34 01.6 +0.3**
SMRA Kau-Samra 132.96 281 P **PKPdf** **16 34 03.5 +0.4**
SHMA Al-Shehemyia 133.05 283 P **PKiKP** **16 34 04.0 -0.6**
KIBK Kibwezi 133.21 240 P **PKPdf** **16 34 04.7 +0.5**
SAKB Bahrain 133.45 283 P **PKPdf** **16 34 04.4 +0.3**
KTK1 Kautokeino 133.52 348 *e* PKPpre 16 33 54.2
KTK1 *e*PKPdf **PKPdf** **16 34 02.7 -0.2**
JETT Jettan, Norway 133.54 350 *e*PKPdf **PKPdf** **16 34 03.0 0.0**
TRO Tromso 133.71 350 *e*PKPdf **PKPdf** **16 34 03.0 -0.2**
JMIC Jan Mayen 133.73 3 *e*PKPdf **PKPdf** **16 34 03.5 +0.2**
BELG Belogornoye 134.18 320 PKhKP PKPpre 16 33 55.4
comp=Z,8.4nm,0.4s,baz=349,slow=2.9,SNR=9.5
BELG PKP **PKPdf** **16 34 03.5 -1.0**
comp=Z,65nm,0.7s,baz=301,slow=4.5,SNR=14
BELG SKPbc **SKPbc** **16 36 42.1 +0.6**
comp=Z,50nm,0.9s,baz=116,slow=2.7,SNR=6.1
BELG Belogornoye 134.18 320 *i* PKiKP **PKPdf** **16 34 03.7 -0.9**
RCBR Riachuelo 134.52 128 SKPbc **SKPbc** **16 36 44.1 +0.1**
comp=Z,7.5nm,0.5s,baz=46,slow=6.1,SNR=9.7

RCBR Riachuelo 134.52 128 eP PKiKP 16 34 11.1 +3.1
KMBO Kilima Mbogo 134.57 241 PKP PKPdf 16 34 07.3 +0.4
comp=Z,3.9nm,0.9s,baz=359,slow=1.9,SNR=6.8
KMBO SKPbc SKPbc 16 36 46.1 +1.6
comp=Z,5.2nm,0.9s,baz=51,slow=2.2,SNR=7.9
KMBO Kilima Mbogo 134.57 241 PKiKP PKPdf 16 34 07.5 +0.6
KLMR Klimovskoe 134.58 333 ePKPdf PKPpre 16 33 57.5
KLMR AMP 16 34 06.8
comp=Z,21nm,0.8s
KLMR epPKPdf pPKPdf 16 36 19.9 +4.7
KLMR ePP PP 16 36 41.4 -5.1
KLMR Klimovskoe 134.58 333 ePKHKP PKPpre 16 33 57.5
KLMR pmax pmax
comp=Z,21nm,0.8s
STEI Steigen 135.81 351 e PKPpre 16 33 59.7
STEI ePKPdf PKPdf 16 34 07.9 +0.7
LOF Lofoten 135.85 352 e PKPpre 16 34 01.0
FAUS Fauske 136.31 351 e PKPpre 16 34 00.9
MAK Makhachkala 136.36 307 i P Pdif 16 31 17.6 -0.1
MAK i 16 34 09.1
MAK e 16 36 54.5
MAK ePPP PPP 16 39 59.3
MAK pmax pmax
comp=Z,90nm,1.1s
AKT Akhty 136.39 305 ePKHKP PKPpre 16 34 02.8
AKT e 16 34 08.1
AKT e 16 36 56.5
AKT pmax pmax
comp=Z,30nm,1.3s
KONS Konsvik 137.45 352 e PKPpre 16 34 03.9
RAYN Ar Rayn 137.47 278 PKPpre 16 34 03.9
RAYN Ar Rayn 137.47 278 PKiKP PKPdf 16 34 12.4 +0.7
RAYN Ar Rayn 137.47 278 ⇓PKiKP PKiKP 16 34 13.8 0.0
GROC Groznyy 137.56 307 ePKIKP PKPdf 16 34 11.5 +0.3
GROC e 16 37 03.3
GROC e 16 37 16.5
GROC pmax pmax
comp=Z,40nm,0.6s
MOR8 Moi Rana 137.57 351 e PKPpre 16 34 01.6
VRH Novokhoyorsk 138.03 320 ePKIKP PKPdf 16 34 08.8 -3.0
VRH pmax pmax
comp=Z,40nm,0.6s
MOS Moscow 138.18 328 i PKIKP PKPdf 16 34 12.7 +0.8
MOS e 16 36 13.5
MOS e 16 37 04.4
MOS pmax pmax
comp=Z,35nm,1.3s
GNI Garni 138.80 303 PKhKP PKPpre 16 34 07.4
comp=Z,6.8nm,0.7s,baz=320,slow=3.1,SNR=5.6
GNI SKPbc SKiKP 16 36 58.6 -0.4
comp=Z,2.6nm,0.4s,baz=333,slow=22,SNR=2.1
GNI Garni 138.80 303 PKPdf PKPdf 16 34 08.8 -5.0
ZEI Tsey 139.00 307 i PKHKP PKPpre 16 34 06.2
ZEI pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 139.02 327 PKhKP PKPpre 16 34 05.6
comp=Z,4.6nm,0.5s,baz=88,slow=4.2,SNR=5.1
OBN SKPbc SKPbc 16 36 56.9 +1.2
comp=Z,2.0nm,0.4s,baz=172,slow=9.7,SNR=3.4
OBN Obninsk 139.02 327 d PKIKP PKPdf 16 34 12.9 -0.5
OBN e 16 37 18.0
OBN 16 40 26.0
OBN e 16 46 43.1
OBN e 16 48 36.5
OBN i SS SS 16 54 50.7 +4.8
OBN i SSS SSS 17 00 16.4
OBN pmax pmax
comp=Z,54nm,1.5s
FIA1 FINESS Array S 139.03 340 PKPpre 16 34 04.8
LPSR Galich'ya Gora 139.03 323 ePKIKP PKPdf 16 34 10.8 -2.8
LPSR pmax pmax
comp=Z,30nm,1.0s
FINES FINESS Array B 139.03 340 PKhKP PKPpre 16 34 04.8
comp=Z,4.2nm,0.3s,baz=48,slow=4.1,SNR=10
FINES PKP PKPdf 16 34 13.8 +0.5
comp=Z,12nm,0.5s,baz=64,slow=3.2,SNR=9.6
FINES SKPbc SKPbc 16 36 55.6 0.0
comp=Z,4.7nm,0.6s,baz=11,slow=1.9,SNR=4.6
FINES SKKPbc SKKPbc 16 45 36.1 -1.9
comp=Z,1.4nm,0.7s,baz=329,slow=2.2,SNR=5.5
FINES FINESS Array B 139.03 340 PKPpre 16 34 03.7
VORR Voronezh 139.28 322 ePKIKP PKPdf 16 34 14.5 +0.5
VORR pmax pmax
comp=Z,127nm,2.2s
NSS Namsos 139.47 351 e PKPpre 16 34 07.8
VSR Storozhevoye 139.50 321 ePKIKP PKPdf 16 34 12.7 -1.8
VSR pmax pmax
comp=Z,30nm,0.8s
KBZ Khabaz 139.53 309 PKhKP PKPpre 16 34 08.0
comp=Z,1.4nm,0.5s,baz=112,slow=3.3,SNR=6.4
KBZ SKPbc SKPbc 16 36 58.6 +1.1
comp=Z,5.2nm,0.7s,baz=77,slow=2.8,SNR=8.5
KIV Kislovodsk 139.62 309 i PKPdf PKPdf 16 34 12.8 -2.3
SNR=6.2
KIV Kislovodsk 139.62 309 ePKIKP PKPdf 16 34 13.9 -1.2
KIV e 16 37 15.4
KIV eSS SS 16 54 48.0 -6.3
KIV pmax pmax
comp=Z,19nm,1.1s
MBAR Mbarara 139.93 235 PKhKP PKPpre 16 34 12.1
comp=Z,3.4nm,0.2s,baz=117,slow=4.7,SNR=4.9
MBAR PKP PKiKP 16 34 18.5 -0.8
comp=Z,7.1nm,0.2s,baz=321,slow=20,SNR=8.3
MBAR SKPbc SKPbc 16 36 59.7 -0.2
comp=Z,3.7nm,0.3s,baz=214,slow=22,SNR=1.4
MEF Metsahovi 140.51 340 eP PKPpre 16 34 09.5
RAF Rauma 140.62 343 eP PKPdf 16 34 11.5 -4.6
TBLU Trondheim 140.93 352 ePKPdf PKPdf 16 34 15.7 -1.0
VSU Vasula 141.07 337 eP PKPdf 16 34 12.3 -4.7
SOC Sochi 141.80 310 i PKHKP PKPpre 16 34 14.0
SOC e 16 37 27.5
SOC ePPP PPP 16 40 51.9
MTSE Matsula 141.87 339 eP PKPdf 16 34 14.5 -3.9
KOPT Kop Dagi 142.03 304 PKPdf PKPdf 16 34 18.0 -1.7
MARD Mardin 142.22 299 PKPdf PKPdf 16 34 17.1 -2.9
DOMB Dombas 142.25 352 ePKPdf PKPdf 16 34 15.7 -3.4
AKN Aaknes 142.35 354 ePKPdf PKPdf 16 34 16.5 -2.8
KTUT Trabzon 142.39 305 ⇑P PKPdf 16 34 17.5 -2.5
MAZI Mazidag 142.47 300 eP PKPdf 16 34 17.5 -2.9
DYBB Diyarbakir 142.64 300 eP PKPdf 16 34 18.5 -2.1
NC303 NORSAR Array S 142.70 350 PKPdf 16 34 17.8 -2.1
NC204 NORSAR Array S 142.75 350 PKPdf PKPdf 16 34 17.5 -2.6
NC405 NORSAR Array S 142.75 350 PKPdf PKPdf 16 34 17.5 -2.5
KOVA Elazig, Kovanc 142.78 302 P PKPdf 16 34 19.0 -1.9
NB201 NORSAR Array S 142.88 350 PKPdf 16 34 18.1 -2.2
NB2 NORSAR Subarra 142.90 350 PKPab PKPdf 16 34 17.6 -2.7
baz=16,slow=3.2
NB2 NORSAR Subarra 142.90 350 PKP PKPdf 16 34 17.6 -2.7
comp=Z,51nm,0.8s,baz=16,slow=3.2
NB2 SKPa 16 37 07.0
comp=Z,4.2nm,0.7s,baz=19,slow=2.6
NOA NORSAR Array B 142.90 350 PKP PKPdf 16 34 17.9 -2.4
comp=Z,63nm,0.6s,baz=16,slow=4.8,SNR=298
NOA SKPbc SKiKP 16 37 06.5 -0.1
comp=Z,5.9nm,0.7s,baz=15,slow=4.2,SNR=5.9
NOA SKKPbc SKKPbc 16 45 22.6 -0.1
comp=Z,2.1nm,0.9s,baz=249,slow=1.6,SNR=3.8
NBO00 NORSAR Array S 142.98 350 PKPdf 16 34 18.4 -2.1
ANN Anapa 143.00 312 i PKHKP PKPpre 16 34 17.9
ANN pmax pmax
comp=Z,153nm,1.1s
PTK Pertek 143.08 302 eP PKPdf 16 34 20.7 -0.8
FOO Floro 143.09 355 ePKPbc PKPab 16 34 18.4 +0.1
NC602 NORSAR Array S 143.14 350 PKPab 16 34 18.5 0.0
NC602 NORSAR Array S 143.14 350 ePKPbc PKPab 16 34 18.5 -0.1
NAO01 NORSAR Array S 143.14 350 PKPab 16 34 18.7 +0.2
SLIT Slitere, Latvi 143.23 339 eP PKPab 16 34 19.0 0.0
HFS Hagfors 143.31 347 PKP PKPab 16 34 18.7 -0.5
comp=Z,208nm,0.5s,baz=63,slow=4.6,SNR=784
ISAL Salakas 143.40 334 eP PKPdf 16 34 20.9 -0.3
MNK Minsk 143.41 332 i PKP PKPbc 16 34 20.6 +0.7
comp=E,10.0nm,0.9s
MNK i PKP PKPbc 16 34 20.6 +0.7
comp=N,62nm,0.8s
MNK i PKP PKPbc 16 34 20.6 +0.7
comp=Z,289nm,0.8s,baz=228
MNK i pPKP pPKPdf 16 36 33.4 +1.8
MNK i PP PP 16 37 39.8 -0.3
MNK i SKS SKSdf 16 40 36.2 -1.2
MNK i PPP PPP 16 40 56.3
MNK i SKKS SKKSdf 16 49 51.5 -3.0
MNK i SS SS 16 55 36.4 +0.3
MNK i SSS SSS 17 01 09.8
MNK i LR LR 17 35 41.2
MNK i LRM MLR 17 38 25.6
comp=E,16nm,13.5s
MNK i LRM MLR 17 38 43.6
comp=N,216nm,16.1s
MNK i LRM MLR 17 38 55.5
comp=Z,70nm,13.5s
MNK Minsk 143.41 332 i PKIKP PKPbc 16 34 20.6 +0.6
MNK i 16 37 39.7
MNK i 16 40 36.2
MNK i PPP PPP 16 40 56.3
MNK i SS SS 16 55 36.3 +0.3
MNK i SSS SSS 17 01 09.8
MNK pmax pmax
comp=Z,289nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=N,62nm,0.9s
MNK MLR MLR
comp=E,16nm,14.0s
MNK MLR MLR
comp=N,216nm,16.0s
MNK MLR MLR
comp=Z,70nm,14.0s
HYA Hoyanger 143.42 354 ePKPbc PKPab 16 34 19.5 -0.1
ELZG Elazig 143.46 302 P PKPdf 16 34 22.1 -0.1
ELZG S PKiKP 16 34 25.0 -0.8
IIGN Ignalina 143.51 334 eP PKPbc 16 34 20.7 +0.5
NACGM Naroch 143.60 333 ⇓iPKP PKPbc 16 34 21.0 +0.5
comp=Z,555nm,0.8s,baz=46
SUE Sulen 143.65 355 ePKPab PKPbc 16 34 20.5 0.0
SANL SANLIURFA_Mer 143.66 299 P PKPbc 16 34 21.9 +0.5
SKAR Skarslia 143.66 352 ePKPab PKPbc 16 34 20.6 0.0
URFA Urfa 143.75 300 eP PKPbc 16 34 18.0 -3.7
ARPR Arapgir-MALATY 143.85 303 eP PKPdf 16 34 23.4 +0.6
VSVD Vaisvydziai 143.94 336 eP PKPdf 16 34 22.1 -0.1
SURC SANLIURFA_SURC 144.00 299 P PKPdf 16 34 22.9 -0.1
OSL Oslo 144.03 350 ePKPab PKPab 16 34 22.0 +0.1
ASK Askoy 144.18 355 ePKPdf PKPbc 16 34 22.2 0.0
BER Bergen 144.27 354 ePKPdf PKPdf 16 34 22.5 -0.1
PABE Paberze 144.28 335 PKPab 16 34 23.1 0.0
PABE Paberze 144.28 335 eP PKPab 16 34 23.0 0.0
AKCD Akcadag 144.31 301 P PKPab 16 34 24.3 +0.3
AKCD S PKiKP 16 34 28.8 +1.3
RSDY Resadiye-TOKAT 144.33 305 eP PKPab 16 34 24.5 +0.7
KONO Kongsberg 144.48 350 PKPdf PKPbc 16 34 23.3 +0.2
KONO Kongsberg 144.48 350 PKiKP PKPbc 16 34 23.3 +0.2
KONO Kongsberg 144.48 350 ePKPbc PKPbc 16 34 23.1 0.0
DARE Darende-Malaty 144.60 302 eP PKPab 16 34 25.6 +0.6
ODD1 Odda 144.61 353 ePKPab PKPbc 16 34 23.8 +0.2
PBUR Paburge 144.62 338 eP PKPbc 16 34 23.7 0.0
SVSK Karacayir 144.69 304 eP PKPab 16 34 25.7 +0.6
STRU Stroemstad 144.80 349 i P PKPbc 16 34 24.1 0.0
TOKT Tokat 144.93 305 eP PKPab 16 34 25.9 -0.3
GAZ Gaziantep 145.06 300 eP PKPab 16 34 26.5 -0.3
BLS5 Blasjo 145.10 353 ePKPbc PKPbc 16 34 25.3 +0.2
SIM Simferopol' 145.15 314 ePKP2 PKPab 16 34 26.5 -0.3
SIM pmax pmax
comp=Z,440nm,1.1s
AKASG Malin Array Be 145.18 326 PKPbc PKPdf 16 34 23.7 -0.8
comp=Z,58nm,0.6s,baz=44,slow=4.4,SNR=204
AKASG pPKPbc pPKPab 16 36 31.1 -0.9
comp=Z,1.9nm,0.5s,baz=45,slow=4.0,SNR=2.0
AKASG SKPbc SKiKP 16 37 13.0 +1.4
comp=Z,5.1nm,0.7s,baz=46,slow=3.2,SNR=4.3
AKASG SKKPbc SKKPab 16 45 10.2 -0.8
comp=Z,1.1nm,0.6s,baz=248,slow=3.5,SNR=4.4
AKASG Malin Array Be 145.18 326 PKPbc 16 34 25.5 0.0
AKASG Malin Array Be 145.18 326 PKP2 PKPbc 16 34 25.5 0.0
AKBB Malin Array Si 145.18 326 PKPdf PKPbc 16 34 25.3 -0.2
AKBB Malin Array Si 145.18 326 PKiKP PKPbc 16 34 25.3 -0.2
KAHM Kahramanmaras, 145.18 300 P PKPbc 16 34 26.2 +0.2
KUZU Kuzuini 145.23 299 P PKPbc 16 34 26.8 +0.6
KMRS Kahramanmaras 145.25 300 eP PKPab 16 34 26.9 -0.6
SARI SarD1z-Kayseri 145.45 302 eP PKPbc 16 34 26.7 -0.3
KAMA Osmaniye 145.49 300 P PKPbc 16 34 26.9 -0.1
KAMA S PKiKP 16 34 28.6 -1.3
KAMA i AML AML 16 34 30.0
comp=Z,31nm,0.7s
DIKM Dikmen 145.50 308 ⇑P PKPdf 16 34 23.3 -2.0
TJOU Tjoern 145.66 348 i P PKPbc 16 34 26.3 -0.4
ANDN Andirin 145.67 301 P PKPdf 16 34 26.5 +0.6
BNN Bunyan 145.80 303 eP PKPbc 16 34 27.4 -0.5
BORU Boraas 145.80 347 i P PKPbc 16 34 26.5 -0.6
ASF Jabal al Asfar 145.82 291 PKPbc PKPbc 16 34 28.9 +0.8
comp=Z,65nm,0.9s,baz=132,slow=3.0,SNR=50
ASF pPKPbc pPKPdf 16 36 36.4 -0.2
comp=Z,9.6nm,1.0s,baz=112,slow=3.1,SNR=3.1
HOMB Homborsund 145.96 351 i P PKPbc 16 34 28.1 +0.6
HOMB Homborsund 145.96 351 ePKPbc PKPbc 16 34 27.4 -0.1
TAHT Tahtakopru-Hat 146.00 299 eP PKPbc 16 34 29.1 +0.7
YOZ Yozgat 146.01 305 eP PKPbc 16 34 28.8 +0.3
SNART Snartemo 146.07 352 i P PKPbc 16 34 28.0 +0.2
SNART Snartemo 146.07 352 ePKPbc PKPbc 16 34 28.0 +0.2
KOZT Kozan 146.09 301 eP PKPbc 16 34 28.8 +0.2
YAYL Yayladag 146.12 298 eP PKPbc 16 34 28.9 +0.1
YAYL Yayladag 146.12 298 P PKPbc 16 34 29.0 +0.1
ONAU Onsala 146.20 347 i P PKPbc 16 34 27.7 -0.4
BLEU Blekinge 146.27 343 i P PKPbc 16 34 27.7 -0.7
BZK Bozkurt 146.30 309 ⇑P PKPdf 16 34 25.5 -1.2
BZK Bozkurt 146.30 309 PKPbc 16 34 28.1 -0.9
FABU Falkenberg 146.40 346 i P PKPbc 16 34 28.6 -0.1
BIGH Upper Bighouse 146.41 2 eP PKPbc 16 34 28.6 -0.1
HWQ Hawqa 146.47 295 eP PKPbc 16 34 28.4 +1.0
LEWI Lewis, Hebride 146.57 5 eP PKPbc 16 34 28.2 -1.0
OVD Ostervraa, Den 146.60 349 i P PKPbc 16 34 29.7 +0.5
DEL Delary 146.62 345 i P PKPbc 16 34 29.0 -0.4
LINV Loch Inver, As 146.69 4 eP PKPbc 16 34 29.3 -0.2
CMRD Camardi-Nigde 146.71 301 eP PKPbc 16 34 31.1 +0.7
SHBL Chebaa 146.72 293 eP PKPdf 16 34 28.9 +1.0
KARA Karaisali 146.74 300 eP PKPbc 16 34 29.4 -1.0
BHL Bhannes 146.75 294 eP PKPdf 16 34 28.4 +0.6
GOET G??ttrup 147.04 349 i P PKPbc 16 34 31.2 +0.8
PURM Purcari 147.10 319 ⇑P PKPbc 16 34 31.4 +0.4
BJUU Bjuv 147.18 345 i P PKPbc 16 34 30.8 0.0
MERS Mersin 147.23 300 eP PKPbc 16 34 32.4 +0.6
BR131 Keskin Array S 147.24 305 PKPbc PKPbc 16 34 31.7 -0.1
BR131 Keskin Array S 147.24 305 P PKPdf 16 34 28.6 0.0
SNR=32
BR131 Keskin Array S 147.24 305 PKP2 PKPbc 16 34 31.7 -0.1
BRTR Keskin Array B 147.24 305 PKP PKPdf 16 34 27.8 -0.7
comp=Z,23nm,0.6s,baz=137,slow=2.7,SNR=38
BRTR PKPbc PKPbc 16 34 31.9 0.0
comp=Z,25nm,0.6s,baz=139,slow=4.5,SNR=52
BRTR pPKPbc pPKPdf 16 36 38.4 -0.5
comp=Z,2.3nm,0.9s,baz=75,slow=1.6,SNR=2.4
YAYX Yaylak 147.32 304 eP PKPbc 16 34 31.6 -0.4
KAC Achnashellach 147.33 4 eP PKPbc 16 34 31.4 +0.1
MCD Coleburn Disti 147.34 2 eP PKPbc 16 34 30.6 -0.7
MDO Dochfour 147.44 3 eP PKPbc 16 34 31.2 -0.3
KPL Plockton 147.47 4 eP PKPbc 16 34 31.6 0.0
LUNU Lund 147.48 344 i P PKPbc 16 34 31.8 +0.1
KIS Kininev 147.48 320 ePKP PKPbc 16 34 31.0 -1.0
comp=Z,450nm,4.5s
KIS Kishinev 147.48 320 ePKIKP PKPbc 16 34 31.0 -1.0
KIS i 16 34 36.0
KIS e 16 37 32.0
KIS pmax pmax
comp=Z,450nm,4.5s
SERE Sereflikochisa 147.50 304 eP PKPbc 16 34 32.5 0.0
MILM Milestii Mici 147.53 320 ⇓iPKP PKPbc 16 34 31.7 -0.4
comp=Z,800nm,2.0s
MILM Milestii Mici 147.53 320 ⇑P PKPbc 16 34 32.4 +0.4
MILM Milestii Mici 147.53 320 d iPKP2 PKPbc 16 34 31.7 -0.4
MILM pmax pmax
comp=Z,800nm,2.0s
EIL Elat 147.54 287 PKPbc PKPbc 16 34 31.7 -1.0
comp=Z,49nm,0.8s,baz=348,slow=3.2,SNR=40
EIL pPKPbc pPKPdf 16 36 39.8 +0.1
comp=Z,13nm,0.9s,baz=21,slow=3.0,SNR=4.0
BSD Bornholm Skovb 147.56 343 eP PKPdf 16 34 29.0 +0.7
BSD Bornholm Skovb 147.56 343 i P PKPbc 16 34 32.0 +0.1
BSD i P PKPbc 16 34 32.0 +0.1
MUD Monsted U'grnd 147.60 349 i P PKiKP 16 34 33.0 -0.4
KIZK Mersin 147.60 299 eP PKPbc 16 34 32.8 +0.2
YESY Yesilyurt 147.65 302 eP PKPbc 16 34 32.5 -0.4
COP Copenhagen 147.67 345 i P PKPbc 16 34 32.7 +0.5
SULT Sultanhani-AKS 147.73 303 eP PKPbc 16 34 33.0 0.0
EREN Erenkoy 147.75 298 eP PKPbc 16 34 33.4 +0.4
SILI Silifke-Mersin 147.80 299 eP PKPbc 16 34 33.5 +0.4
ANTO Ankara 147.82 306 ⇓P PKPdf 16 34 25.0 -4.3
ANTO Ankara 147.82 306 PKPbc 16 34 33.6 +0.4
ANTO Ankara 147.82 306 P PKPdf 16 34 29.0 -0.4
ANTO Ankara 147.82 306 PKP2 PKPbc 16 34 33.6 +0.4
KEBE Keben-Mersin 147.95 299 eP PKPbc 16 34 33.7 +0.1
IKL Isikli 148.01 299 eP PKPbc 16 34 33.8 +0.1
DRUM Mains of Drumt 148.04 1 eP PKPbc 16 34 32.8 -0.3
LLD Lille Linde 148.04 345 i P PKiKP 16 34 33.8 -0.6
AKKU Akkuyu-Mersin 148.13 299 eP PKiKP 16 34 33.9 -0.1
KRMN Karaman 148.16 301 eP PKiKP 16 34 35.4 0.0
TEVE Tevekalti-Mers 148.17 299 eP PKPbc 16 34 34.5 +0.3
BEL Belsk 148.30 334 ePKP PKiKP 16 34 34.9 -0.2
LVV L'vov 148.32 328 i PKP2 PKPbc 16 34 34.0 0.0
LVV e 16 40 40.5
EDU Dundee 148.39 2 eP PKPbc 16 34 33.8 -0.1
GKP Gorka Klasztor 148.45 339 ePKP PKiKP 16 34 34.9 -0.4
GKP Gorka Klasztor 148.45 339 eP PKPdf 16 34 30.7 +0.9
INVG Invergeldie, C 148.47 3 eP PKPbc 16 34 34.1 0.0
CSS Mathiatis 148.52 297 PKPbc 16 34 35.3 +0.3
VLDR Vladesti 148.52 319 ⇓P PKiKP 16 34 36.3 +0.6
LAWE Loch Awe, Argy 148.56 4 eP PKPbc 16 34 34.5 +0.1
SCTR Scanteiesti 148.66 319 ⇓P PKiKP 16 34 35.4 +0.5
TATR Tatarca 148.67 319 ⇓P PKiKP 16 34 35.9 -0.1
MDUB Mudurnu 148.79 308 PKPbc 16 34 35.2 -0.4
GHRR 148.81 320 ⇑P PKiKP 16 34 36.6 +0.3
TPGR Topolog 148.82 317 ⇑P PKPbc 16 34 34.3 -1.1
CFR Carcaliu 148.83 318 ⇑P PKPbc 16 34 35.3 -0.1
CFR Carcaliu 148.83 318 ⇑PKHKP PKPbc 16 34 35.3 -0.1
SLCR Slobozia Conac 148.84 319 ⇓P PKiKP 16 34 36.6 +0.2
SCHL Schela 148.85 319 ⇓P PKiKP 16 34 36.1 -0.3
IZVR Izvoarele 148.87 319 ⇑P PKiKP 16 34 36.4 0.0
TUDR 148.90 319 ⇑P PKiKP 16 34 36.4 0.0
TESR Tescani 149.00 321 ⇑P PKiKP 16 34 36.6 -0.1
ESSY Stoneypath 149.03 1 eP PKPbc 16 34 35.2 -0.1
PANC Panciu 149.06 320 ⇑P PKiKP 16 34 36.4 -0.4
EFOR EFORIE 149.06 316 ⇑P PKPbc 16 34 33.9 -2.1
PGBU Glenifferbraes 149.06 4 eP PKPbc 16 34 35.4 -0.2
KWP Kalwaria Pacla 149.07 329 ePKP PKiKP 16 34 36.6 -0.1
KWP Kalwaria Pacla 149.07 329 PKiKP 16 34 36.6 -0.1
KWP Kalwaria Pacla 149.07 329 PKP2 PKiKP 16 34 36.7 -0.1
BUR08 Bucovina Ar. S 149.13 324 PKiKP 16 34 37.3 +0.2
BURAR Bucovina Array 149.14 324 ⇑P PKiKP 16 34 38.2 +1.1
BURAR Bucovina Array 149.14 324 PKiKP 16 34 37.4 +0.3
BURAR Bucovina Array 149.14 324 ⇑PKP2 PKiKP 16 34 38.2 +1.1
MFTR Murfatlar 149.15 316 ⇓P PKPbc 16 34 35.2 -1.0
EBL Broad Law 149.16 2 eP PKPbc 16 34 36.0 +0.1
ODBI Odobesti 149.17 320 ⇑P PKiKP 16 34 36.9 -0.2
HARR Harsova 149.20 317 ⇑P PKiKP 16 34 34.0 -2.3
HARR Harsova 149.20 317 ⇑PKHKP PKPbc 16 34 34.0 -2.3
TLBR Topalu 149.21 317 ⇑P PKPbc 16 34 36.3 0.0
MANR Mangalia 149.21 315 ⇑P PKPbc 16 34 34.0 -2.3
VRI Vrincioaia 149.31 320 ⇑P PKiKP 16 34 37.5 +0.1
VRI Vrincioaia 149.31 320 ⇑PKP2 PKiKP 16 34 37.5 +0.1
PLOR Plostina 149.36 320 ⇓P PKiKP 16 34 37.6 +0.1
PLOR Plostina 149.36 320 ⇓PKP2 PKiKP 16 34 37.6 +0.1
BISRR Bisoca 149.49 319 ⇓P PKiKP 16 34 37.8 -0.1
BORA Eskisehir 149.53 307 PKPbc 16 34 37.7 +0.3
PSN Preselentsi 149.54 315 i P PKiKP 16 34 38.1 +0.2
EKA Eskdalemuir Ar 149.60 2 PKP PKPdf 16 34 30.9 -0.7
comp=Z,1.2nm,0.6s,baz=334,slow=1.9,SNR=3.0
EKA PKPbc PKPbc 16 34 36.3 -0.6
comp=Z,11nm,0.5s,baz=358,slow=2.4,SNR=27
EKA pPKPbc pPKPdf 16 36 42.5 +0.3
comp=Z,7.3nm,1.0s,baz=347,slow=2.9,SNR=2.5
ESK Eskdalemuir 149.62 2 eP PKPbc 16 34 36.6 -0.3
ESK Eskdalemuir 149.62 2 PKPbc 16 34 36.8 -0.2
ESK Eskdalemuir 149.62 2 PKHKP PKPbc 16 34 36.8 -0.2
COVR Voineasa-Covas 149.62 320 ⇑P PKiKP 16 34 38.3 +0.2
CLGH Cloghs, Cushen 149.67 5 eP PKPbc 16 34 36.8 -0.3
OZUR 149.72 321 ⇑P PKiKP 16 34 38.6 +0.4
KOLS Kolonicke sedl 149.76 328 ePKP PKiKP 16 34 39.0 +0.8
KOLS Kolonicke sedl 149.76 328 ePKP2 PKiKP 16 34 39.0 +0.8
NEWG New Galloway 149.77 3 eP PKPbc 16 34 37.0 -0.3
NEHR Nehoiu 149.80 320 ⇓P PKiKP 16 34 38.3 -0.1
ISR Istrita 149.82 319 ⇑P PKiKP 16 34 37.6 -0.3
ISR Istrita 149.82 319 ⇑PKHKP PKPbc 16 34 37.6 -0.3
STHS Stebnicka Huta 149.90 330 ePKP PKiKP 16 34 38.2 -0.2
STHS Stebnicka Huta 149.90 330 ePKHKP PKiKP 16 34 38.3 -0.2
ARCR ARCALIA 149.93 324 ⇑P PKiKP 16 34 39.2 +0.6
OJC Ojcow 149.93 333 ePKP PKPbc 16 34 36.2 -1.7
UZH Uzhgorod 149.96 328 ePKHKP PKPdf 16 34 45.2 +1.2
UZH e 16 34 45.4
MLR Muntele Rosu 149.97 320 ⇑P PKPbc 16 34 38.1 -0.2
MLR Muntele Rosu 149.97 320 PKP PKPdf 16 34 33.6 +0.9
comp=Z,20nm,1.0s,baz=95,slow=7.0,SNR=3.3
MLR PKPbc PKPbc 16 34 38.1 -0.2
comp=Z,46nm,0.6s,baz=15,slow=3.1,SNR=40
MLR pPKPbc pPKPdf 16 36 44.9 +1.6
comp=Z,2.7nm,0.4s,baz=360,slow=10,SNR=1.7
MLR Muntele Rosu 149.97 320 PKiKP 16 34 38.8 -0.2
GAL1 Galloway 149.99 4 eP PKPbc 16 34 37.8 -0.1
LEHL Lehliu 150.00 318 ⇑P PKPbc 16 34 36.4 -1.8
BMR Baia Mare 150.00 325 ⇑P PKiKP 16 34 39.2 +0.5
BMR Baia Mare 150.00 325 ⇑PKHKP PKiKP 16 34 39.2 +0.5
DOPR Dopca 150.02 321 ⇑P PKiKP 16 34 39.3 +0.4
EDMD Edmundbyers 150.13 1 eP PKPbc 16 34 37.9 -0.2
SECR 150.15 319 ⇑P PKPbc 16 34 37.6 -1.0
CRVS Cervenica-Dubn 150.16 329 ePKP PKiKP 16 34 39.3 +0.3
CRVS Cervenica-Dubn 150.16 329 ePKIKP PKiKP 16 34 39.3 +0.3
TRPA Tarpa 150.18 327 ⇑P PKPbc 16 34 38.7 +0.2
TRPA Tarpa 150.18 327 PKP PKPbc 16 34 38.7 +0.2
RUE Ruedersdorf 150.21 341 eP PKPdf 16 34 33.8 +1.2
SULR 150.23 318 ⇑P PKPbc 16 34 37.4 -1.3
PRD Provadia 150.27 315 i P PKiKP 16 34 39.9 +0.5
MDB Medias 150.49 322 ⇑P PKiKP 16 34 40.5 +0.7
MDB Medias 150.49 322 ⇑PKIKP PKiKP 16 34 40.5 +0.7
GMM Mts of Mourne 150.52 6 eP PKPbc 16 34 38.9 -0.2
VOIR 150.52 321 ⇑P PKPbc 16 34 39.6 +0.1
VOIR 150.52 321 ⇑PKIKP PKiKP 16 34 39.6 +0.1
GDLE Glaisdale, N Y 150.54 359 eP PKPbc 16 34 39.2 +0.1
CBBR Cluj-Babes-Bol 150.55 324 ⇑P PKiKP 16 34 40.5 +0.6
CJR Cluj-Napoca 150.56 324 ⇓P PKiKP 16 34 40.5 +0.5
IOMK Kirk Michael 150.60 4 eP PKPbc 16 34 39.1 -0.2
MESR Meseseni 150.62 325 ⇑P PKiKP 16 34 40.9 +0.8
RAZG Razgrad 150.65 316 ⇑P PKPbc 16 34 36.9 -2.9
ABAH Abaujker 150.70 328 PKP PKiKP 16 34 40.4 +0.2
WIM Isle of Man 150.71 4 eP PKPbc 16 34 39.5 -0.1
KSP Ksiaz 150.80 337 ePKP PKiKP 16 34 40.9 +0.7
ARR Arges 150.80 321 ⇑P PKiKP 16 34 40.5 -0.1
ELL Elmali 150.87 301 PKPbc PKPbc 16 34 40.5 -0.1
ELL Elmali 150.87 301 PKiKP PKPbc 16 34 40.6 -0.1
OKC Ostrava-Krasne 150.91 334 ⇑ePKP PKiKP 16 34 40.7 +0.2
OKC Ostrava-Krasne 150.91 334 ePKIKP PKiKP 16 34 40.7 +0.2
LTVH Ltavrtes, Hu 151.00 326 ⇑P PKiKP 16 34 41.8 +1.1
LTVH Ltavrtes, Hu 151.00 326 PKP PKiKP 16 34 41.5 +0.8
HPK Haverah Park 151.01 0 eP PKPbc 16 34 40.3 +0.1
OSTC Ostas 151.06 337 ⇑ePKP PKiKP 16 34 41.5 +0.6
OSTC epPKP pPKPbc 16 36 50.0 +0.8
HUMR Humele 151.08 319 ⇑P PKiKP 16 34 39.2 +1.5
CHVC Chvalec 151.09 337 ⇑ePKP PKiKP 16 34 41.5 +0.6
CHVC epPKP pPKPbc 16 36 50.8 +0.9
COPA Copaceanca 151.15 318 ⇑P PKPbc 16 34 38.7 -2.1
SZH Strazhica 151.17 316 i P PKiKP 16 34 41.4 +0.1
UPC Upice 151.18 337 ePKPDF PKPdf 16 34 34.8 +0.6
UPC ⇑ePKP PKiKP 16 34 41.4 +0.3
UPC Upice 151.18 337 ePKIKP PKPdf 16 34 34.8 +0.6
UPC e 16 34 41.4
DPC Dobruska-Polom 151.19 336 ePKPDF PKPdf 16 34 34.6 +0.3
DPC ⇑ePKP PKiKP 16 34 41.7 +0.5
DPC Dobruska-Polom 151.19 336 ePKIKP PKPdf 16 34 34.6 +0.3
DPC e 16 34 41.7
MORC Moravsky Berou 151.19 334 ⇑P PKiKP 16 34 42.0 +0.9
MORC Moravsky Berou 151.19 334 ePKP PKPdf 16 34 34.8 +0.5
MORC e 16 34 41.4
MORC e 16 36 51.0
MORC e 16 36 56.5
MORC Moravsky Berou 151.19 334 PKIKP PKiKP 16 34 41.6 +0.4
AKAS Kas 151.23 300 PKPbc 16 34 40.3 -1.2
LOT Lotru 151.25 322 ⇑P PKPbc 16 34 40.8 -0.4
KRLC Kraliky 151.25 335 ⇑ePKP PKiKP 16 34 41.6 +0.3
KRLC epPKAB PKPab 16 34 52.2 +0.6
KRLC epPKP pPKPbc 16 36 50.8 +0.5
KRLC Kraliky 151.25 335 ePKIKP PKiKP 16 34 41.6 +0.3
KRLC e 16 34 52.2
KRLC e 16 36 50.8
BORR Bors 151.26 326 ⇑P PKiKP 16 34 42.6 +1.3
MAUC Maruska 151.40 333 ePKPDF PKPdf 16 34 34.0 -0.6
MAUC ⇑ePKP PKiKP 16 34 42.3 +0.7
DEV Deva 151.46 323 ⇓P PKiKP 16 34 42.7 +0.9
WPS Cemaes, Angles 151.47 4 eP PKPbc 16 34 40.6 -0.6
CLL Collm 151.47 341 PKPbc PKiKP 16 34 41.7 +0.1
CLL Collm 151.47 341 ePKPdf PKPdf 16 34 34.0 -0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,25nm,1.3s						
CLL				⇓*i*PKPbc	**PKiKP**	**16 34 42.0**	**+0.4**
	comp=Z,105nm,0.7s						
CLL				*i* PKiKP	**PKPbc**	**16 34 43.5**	**+2.2**
	comp=Z,128nm,1.0s						
CLL				*i* PKPab	**PKPab**	**16 34 53.2**	**+0.8**
	comp=Z,68nm,0.6s						
CLL				*i* pPKPdf	**pPKPbc**	**16 36 48.7**	**-2.0**
CLL				*i* pPKPbc	**pPKPab**	**16 36 51.4**	**-5.1**
CLL				*i* pPKPab	**pPKPab**	**16 36 56.7**	**+0.2**
	comp=Z,112nm,1.1s						
CLL				*e*sPKPbc	**sPKPbc**	**16 37 44.0**	**-0.9**
CLL				*e*PP	**PP**	**16 38 28.0**	**+1.7**
CLL				*e*sSKPdf		16 41 14.0	
CLL				*e*PPP	PPP	16 41 58.0	
CLL				*e*SKKSac	SKKSac	16 44 24.0	+3.4
CLL				*e*SKSP		16 47 45.0	
CLL				*e*sSKKSac		16 48 14.0	
CLL				*e*PSKS		16 48 49.0	
CLL				*e*x	x	16 50 18.0	
CLL				*e*PPS	PPS	16 51 35.0	
CLL				*e*x	x	16 52 54.0	
CLL				*e*sSKKSdf		16 53 30.0	
CLL				*e*sPPS		16 54 18.0	
CLL				*e*SS	**SS**	**16 57 05.0**	**-0.2**
CLL				*e*SSS	SSS	17 02 57.0	
CLL				*e*sSSS		17 06 00.0	
CLL				*e*SSSS		17 06 48.0	
CLL				*e*SPSrev		17 08 00.0	
CLL				*e*sSSSS		17 10 12.0	
CLL	**Collm**	**151.47**	**341**	⇓*e*PKIKP	**PKPdf**	**16 34 34.0**	**-0.6**
CLL				*i*		16 34 42.0	
CLL				*i*		16 34 53.2	
CLL				pmax	pmax		
	comp=Z,25nm,1.3s						
CLL				pmax	pmax		
	comp=Z,105nm,0.7s						
CLL				pmax	pmax		
	comp=Z,681nm,0.6s						
WME	**Myndd Eilian**	**151.48**	**4**	*e*P	**PKPbc**	**16 34 40.8**	**-0.5**
BRG	**Berggiesshubel**	**151.56**	**340**	*e*PKIKP	**PKPdf**	**16 34 34.5**	**-0.3**
BRG				pmax	pmax		
	comp=Z,28nm,1.4s						
BRG	**Berggiesshubel**	**151.56**	**340**	⇓*e*PKPf		16 34 34.6	
BRG	**Berggiesshubel**	**151.56**	**340**	Amp		16 34 37.9	
	comp=Z,28nm,1.4s						
BRG	**Berggiesshubel**	**151.56**	**340**	⇑*i*PKP	**PKiKP**	**16 34 42.3**	**+0.4**
BRG	**Berggiesshubel**	**151.56**	**340**	Amp		16 34 42.9	
	comp=Z,70nm,0.7s						
BRG	**Berggiesshubel**	**151.56**	**340**	*e*PKPab	**PKPab**	**16 34 53.9**	**+1.0**
BRG	**Berggiesshubel**	**151.56**	**340**	Amp		16 34 56.0	
	comp=Z,72nm,1.0s						
BRG	**Berggiesshubel**	**151.56**	**340**	pPKP	pPKPdf	16 36 51.8	+6.4
BRG	**Berggiesshubel**	**151.56**	**340**	Amp		16 36 52.7	
	comp=Z,51nm,1.3s						
BRG	**Berggiesshubel**	**151.56**	**340**	*e*x	x	16 36 57.8	
BRG	**Berggiesshubel**	**151.56**	**340**	Amp		16 36 59.3	
	comp=Z,95nm,1.3s						
WLF1	**Llynfaes**	**151.58**	**4**	*e*P	**PKPbc**	**16 34 41.1**	**-0.4**
PSZ	**Piszkesteto**	**151.60**	**329**	⇓P	**PKiKP**	**16 34 42.5**	**+0.4**
PSZ	**Piszkesteto**	**151.60**	**329**	PKP	**PKiKP**	**16 34 42.4**	**+0.3**
PSZ	**Piszkesteto**	**151.60**	**329**	⇓PKIKP	**PKiKP**	**16 34 42.5**	**+0.4**
YRC	**Rhoscolyn**	**151.61**	**4**	*e*P	**PKPbc**	**16 34 40.9**	**-0.6**
VYHS	**Vyhne**	**151.65**	**331**	*e*PKP	**PKPdf**	**16 34 34.9**	**-0.1**
VYHS				*e*		16 34 42.3	
VYHS				*e*		16 34 53.8	
VYHS				*e*		16 36 57.1	
VYHS	**Vyhne**	**151.65**	**331**	*e*PKIKP	**PKPdf**	**16 34 34.9**	**-0.1**
VYHS				*e*		16 34 42.3	
VYHS				*e*		16 34 53.8	
PVCC	**Panska Ves**	**151.66**	**338**	⇑*e*PKP	**PKiKP**	**16 34 42.6**	**+0.6**
PVCC	**Panska Ves**	**151.66**	**338**	*e*PKIKP	**PKiKP**	**16 34 42.6**	**+0.6**
VLAD	**Vladila**	**151.72**	**319**	⇑P	**PKPbc**	**16 34 39.3**	**-2.9**
GZR	**Gura Zlata**	**151.83**	**323**	⇓P	**PKiKP**	**16 34 42.7**	**0.0**
GZR	**Gura Zlata**	**151.83**	**323**	⇓PKIKP	**PKiKP**	**16 34 42.7**	**0.0**
SIRR	**Siria**	**151.87**	**325**	⇓P	**PKiKP**	**16 34 43.4**	**+0.7**
PLVB	**Pleven**	**151.92**	**317**	⇑P	**PKPdf**	**16 34 38.7**	**+3.2**
VRAC	**Vranov**	**151.94**	**335**	PKP	**PKPdf**	**16 34 36.4**	**+1.0**
	comp=Z,1.4nm,0.2s,baz=304,slow=3.6,SNR=3.7						
VRAC				PKPbc	**PKPbc**	**16 34 42.2**	**-0.3**
	comp=Z,7.5nm,0.7s,baz=21,slow=1.0,SNR=7.7						
VRAC				PKPab	**PKPab**	**16 34 55.3**	**+0.8**
	comp=Z,13nm,0.5s,baz=68,slow=4.8,SNR=9.3						
VRAC				pPKPbc	**pPKPbc**	**16 36 49.2**	**-2.7**
	comp=Z,2.0nm,0.3s,baz=44,slow=19,SNR=1.6						
VRAC	**Vranov**	**151.94**	**335**	*e*PKP	**PKPdf**	**16 34 35.2**	**-0.2**
VRAC				*e*		16 34 43.0	
VRAC				*e*		16 34 55.3	
VRAC				*e*		16 36 53.0	
VRAC				*e*		16 36 57.5	
SURR	**Surduc**	**151.96**	**324**	⇓P	**PKiKP**	**16 34 42.9**	**0.0**
DIM	**Dimitrovgrad**	**152.03**	**314**	*i* P	**PKiKP**	**16 34 43.4**	**+0.3**
SRE	**Strehaia**	**152.04**	**321**	⇑P	**PKPbc**	**16 34 41.5**	**-1.3**
SRE	**Strehaia**	**152.04**	**321**	⇑PKIKP	**PKPbc**	**16 34 41.5**	**-1.3**
FOEL	**Foel Wylfa**	**152.04**	**2**	*e*P	**PKPbc**	**16 34 41.5**	**-1.1**
LLW	**Llanuwychllyn**	**152.06**	**3**	*e*P	**PKPbc**	**16 34 41.3**	**-1.3**
GOPC	**GO Pecny, Ondr**	**152.10**	**338**	⇑*e*PKP	**PKiKP**	**16 34 43.4**	**+0.4**
GOPC				*e*pPKP	**pPKPbc**	**16 36 52.5**	**+0.2**
GOPC	**GO Pecny, Ondr**	**152.10**	**338**	*e*PKIKP	**PKiKP**	**16 34 43.4**	**+0.4**
GOPC				*e*		16 36 52.5	
PRU	**Pruhonice**	**152.13**	**338**	⇑*e*PKP	**PKPbc**	**16 34 42.8**	**-0.1**
PRU				*e*pPKP	**pPKPbc**	**16 36 52.3**	**0.0**
PRU	**Pruhonice**	**152.13**	**338**	*e*PKIKP	**PKPbc**	**16 34 42.8**	**-0.1**
PRU				*e*		16 36 52.3	
WACR	**West Acre**	**152.21**	**358**	*e*P	**PKPbc**	**16 34 42.7**	**-0.2**
KRUC	**Moravsky**	**152.22**	**335**	*e*PKP	**PKPdf**	**16 34 35.7**	**-0.1**
KRUC				*e*		16 34 43.3	
KRUC				*e*		16 34 56.4	
KRUC				*e*		16 36 53.4	
KRUC				*e*		16 36 58.4	
SMOL	**Smolenice**	**152.24**	**333**	*e*PKIKP	**PKiKP**	**16 34 44.4**	**+1.1**
SMOL				*e*		16 34 57.2	
BUD	**Budapest**	**152.32**	**330**	PKP	**PKiKP**	**16 34 44.6**	**+1.1**
BZS	**Buzias**	**152.32**	**324**	⇑P	**PKiKP**	**16 34 44.0**	**+0.4**
BZS	**Buzias**	**152.32**	**324**	⇑PKIKP	**PKiKP**	**16 34 44.0**	**+0.4**
HERR	**Herculane**	**152.35**	**322**	⇑P	**PKPbc**	**16 34 42.7**	**-0.8**
SRO	**Srobarova**	**152.39**	**331**	*e*PKP	**PKiKP**	**16 34 44.2**	**+0.6**
SRO				*e*		16 34 57.5	
SRO	**Srobarova**	**152.39**	**331**	*e*PKIKP	**PKiKP**	**16 34 44.2**	**+0.6**
SRO				*e*		16 34 57.5	
MODS	**Modra-Piesok**	**152.41**	**333**	*e*PKP	**PKPdf**	**16 34 36.7**	**+0.6**
MODS				*e*		16 34 44.5	
MODS				*e*		16 34 57.9	
MODS				*e*		16 37 00.4	
MODS	**Modra-Piesok**	**152.41**	**333**	*e*PKIKP	**PKPdf**	**16 34 36.7**	**+0.6**
MODS				*e*		16 34 44.5	
MODS				*e*		16 34 57.9	
HLM1	**Long Mynd**	**152.43**	**2**	*e*P	**PKPbc**	**16 34 43.2**	**-0.2**
RDO	**Rodhopi**	**152.46**	**313**		**PKPbc**	**16 34 43.7**	**-0.1**
MPEP	**Malo Peshtene**	**152.47**	**318**	*i* P	**PKiKP**	**16 34 44.4**	**+0.4**
ZST	**Bratislava**	**152.62**	**333**	*e*PKP	**PKiKP**	**16 34 44.8**	**+0.7**
ZST	**Bratislava**	**152.62**	**333**	*e*PKIKP	**PKiKP**	**16 34 44.8**	**+0.7**
LPW	**Lampeter**	**152.77**	**4**	*e*P	**PKPbc**	**16 34 43.9**	**-0.3**
MDVR	**Moldovita**	**152.80**	**322**	⇓P	**PKPbc**	**16 34 44.1**	**-0.5**
RSBS	**Rosebush, Pemb**	**152.89**	**5**	*e*P	**PKPbc**	**16 34 43.8**	**-0.6**
BLKB	**Belogradchik**	**152.96**	**320**	⇑P	**PKPbc**	**16 34 41.5**	**-3.4**
MONM	**Monmouth**	**153.11**	**2**	*e*P	**PKPbc**	**16 34 44.4**	**-0.5**
KHC	**Kasperske Hory**	**153.19**	**338**		**PKiKP**	**16 34 45.8**	**+0.5**
KHC				PKPab	**PKPab**	**16 35 01.1**	**+1.2**
KHC	**Kasperske Hory**	**153.19**	**338**	*e*PKPDF	**PKPdf**	**16 34 37.2**	**-0.1**
KHC				⇑*e*PKP	**PKiKP**	**16 34 45.8**	**+0.5**
KHC				*e*PKPAB	**PKPab**	**16 35 00.0**	**+0.1**
KHC				*e*pPKP	**pPKPbc**	**16 36 55.2**	**+0.4**
KHC	**Kasperske Hory**	**153.19**	**338**	*e*PKIKP	**PKPdf**	**16 34 37.2**	**-0.1**
KHC				*e*		16 34 45.8	
KHC				*e*		16 35 00.0	
VTS	**Vitosha**	**153.19**	**317**	⇑P	**PKPdf**	**16 34 38.6**	**+1.0**
VTS	**Vitosha**	**153.19**	**317**	PKPbc	**PKiKP**	**16 34 46.2**	**+0.5**
VTS				PKPab	**PKPab**	**16 35 02.0**	**+1.7**
VTS	**Vitosha**	**153.19**	**317**	⇑PKIKP	**PKPdf**	**16 34 38.6**	**+1.0**
CKRC	**Cesky Krumlov**	**153.19**	**337**	*e*PKPDF	**PKPdf**	**16 34 37.4**	**+0.1**
CKRC				⇑*e*PKP	**PKiKP**	**16 34 45.7**	**+0.4**
CKRC				*e*PKPAB	**PKPab**	**16 35 00.6**	**+0.7**
KARP	**Karpathos**	**153.33**	**300**		**PKiKP**	**16 34 46.1**	**0.0**
CONA	**Conrad Observa**	**153.34**	**334**	*i* P	**PKPdf**	**16 34 37.7**	**+0.1**
	comp=Z,18nm,1.6s						
CONA				*e*P	**PKiKP**	**16 34 46.3**	**+0.6**
	comp=Z,15nm,0.6s						
CONA				*i* P	**PKPab**	**16 35 02.0**	**+1.3**
	comp=Z,22nm,0.6s						
CONA				*e*P	**pPKPbc**	**16 36 56.4**	**+1.1**
	comp=Z,44nm,1.3s						
RONA	**Rosalia, Austr**	**153.34**	**333**	*i* P	**PKiKP**	**16 34 46.3**	**+0.6**
	comp=Z,25nm,0.6s						
RONA				*i* P	**PKPab**	**16 35 02.0**	**+1.4**
	comp=Z,48nm,1.2s						
RONA				*e*P	**pPKPbc**	**16 36 56.4**	**+1.2**
	comp=Z,34nm,1.3s						
GERES	**GERESS Array B**	**153.39**	**338**	PKP	**PKPdf**	**16 34 37.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=53,slow=0.7,SNR=4.9						
GERES				PKPbc	**PKiKP**	**16 34 46.0**	**+0.2**
	comp=Z,11nm,0.9s,baz=48,slow=2.0,SNR=14						
GERES				PKPab	**PKPab**	**16 35 01.2**	**+0.4**
	comp=Z,8.0nm,0.9s,baz=34,slow=5.0,SNR=6.2						
GERES				pPKP	**pPKPdf**	**16 36 48.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=47,slow=8.6,SNR=1.9						
GERES				pPKPbc	**pPKPbc**	**16 36 54.5**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=46,slow=3.9,SNR=4.1						
MMB	**Musomiste**	**153.43**	**315**	*i* P	**PKPbc**	**16 34 45.4**	**-0.6**
BEBN	**Eben Emael**	**153.62**	**350**	*d*PKP	**PKPab**	**16 35 01.8**	**+0.3**
MEM	**Membach**	**153.75**	**349**	*d*PKP	**PKPdf**	**16 34 39.1**	**+1.2**
MEM				*d*PKiKP	**PKPbc**	**16 34 46.2**	**-0.2**
MEM				*d*PKPab	**PKPab**	**16 35 02.0**	**-0.1**
BTNL	**Ternell**	**153.75**	**349**	*d*PKPdf	**PKPdf**	**16 34 37.6**	**-0.3**
BTNL				*d*PKiKP	**PKiKP**	**16 34 46.7**	**+0.3**
BTNL				*d*PKPab	**PKPab**	**16 35 03.1**	**+0.9**
BTNL				*d*pPKP	**pPKPab**	**16 37 02.1**	**-3.9**
BSTI	**Sart Tilman**	**153.85**	**350**	*d*PKiKP	**PKiKP**	**16 34 46.9**	**+0.4**
BSTI				*d*PKPab	**PKPab**	**16 35 02.9**	**+0.3**
BHOU	**Houvegnez**	**154.00**	**349**	*d*PKP	**PKPab**	**16 35 03.9**	**+0.7**
ARSA	**Arzberg**	**154.02**	**333**	*i* P	**PKPab**	**16 35 04.4**	**+0.9**
	comp=Z,14nm,0.8s						
ARSA				*e*P	**pPKPbc**	**16 36 57.3**	**+0.6**
	comp=Z,12nm,1.4s						
MOA	**Molln**	**154.02**	**336**	*i* P	**PKiKP**	**16 34 47.5**	**+0.4**
	comp=Z,6.1nm,0.7s						
MOA				*i* P	**PKPab**	**16 35 04.6**	**+1.2**
	comp=Z,45nm,1.4s						
BCLA	**Clavier**	**154.05**	**350**	*d*PKiKP	**PKPbc**	**16 34 45.8**	**-1.1**
BCLA				*d*PKPab	**PKPab**	**16 35 02.6**	**-0.8**
SNF	**Seneffe**	**154.10**	**352**	*d*PKiKP	**PKiKP**	**16 34 47.4**	**+0.3**
SNF				*d*PKPab	**PKPab**	**16 35 03.8**	**+0.2**
BGES	**Gesves**	**154.11**	**351**	*d*PKiKP	**PKiKP**	**16 34 48.3**	**+1.2**
BGES				*d*PKP	**PKPab**	**16 35 05.6**	**+1.9**
BMRD	**Maredsous**	**154.24**	**351**	*d*PKPdf	**PKPdf**	**16 34 38.3**	**-0.3**
BMRD				*d*PKiKP	**PKPbc**	**16 34 47.6**	**+0.3**
BMRD				*d*PKPab	**PKPab**	**16 35 04.4**	**+0.2**
RCHB	**Rochefort**	**154.31**	**350**	*d*PKiKP	**PKPbc**	**16 34 47.8**	**+0.2**
RCHB				*d*PKPab	**PKPab**	**16 35 04.9**	**+0.4**
BIOA	**Bad Ischl, Aus**	**154.39**	**336**	*e*P	**PKPdf**	**16 34 38.9**	**-0.1**
	comp=Z,15nm,1.7s						
BIOA				*i* P	**PKPab**	**16 35 06.2**	**+1.1**
	comp=Z,68nm,1.4s						
BIOA				*e*P	**pPKPbc**	**16 36 59.0**	**+1.5**
	comp=Z,30nm,1.5s						
DOU	**Dourbes**	**154.47**	**351**	*d*PKiKP	**PKPbc**	**16 34 48.1**	**+0.2**
DOU				*d*PKPab	**PKPab**	**16 35 04.3**	**-0.9**
SOKA	**Soboth**	**154.68**	**333**	*i* P	**PKPdf**	**16 34 39.0**	**-0.5**
	comp=Z,16nm,1.3s						
SOKA				*i* P	**PKPab**	**16 35 07.0**	**+0.6**
	comp=Z,19nm,0.9s						
KBA	**Koelnbreinsper**	**155.01**	**336**	*i* P	**PKPab**	**16 35 08.9**	**+0.9**
	comp=Z,7.3nm,0.4s						
OBKA	**Obir**	**155.01**	**334**	*e*P	**PKPab**	**16 35 07.2**	**-0.7**
	comp=Z,18nm,1.0s						
IDI	**Anoyia**	**155.18**	**301**	⇑P	PKPdf	16 34 31.4	-9.1
IDI	**Anoyia**	**155.18**	**301**	PKP	**PKPdf**	**16 34 41.4**	**+0.9**
	comp=Z,7.4nm,1.0s,baz=283,slow=5.3,SNR=3.1						
IDI				PKPbc	PKPbc	16 34 50.6	
	comp=Z,9.4nm,0.6s,baz=277,slow=10.0,SNR=7.1						
IDI				PKPab	**PKPab**	**16 35 07.2**	**-1.8**
	comp=Z,20nm,0.5s,baz=78,slow=6.5,SNR=14						
IDI				pPKP	**pPKPdf**	**16 36 49.4**	**-1.9**
	comp=Z,7.0nm,0.9s,baz=61,slow=19,SNR=2.0						
MYKA	**Terra Mystica**	**155.27**	**335**	*i* P	**PKPab**	**16 35 08.6**	**-0.4**
	comp=Z,19nm,0.6s						
LJU	**Ljubljana**	**155.40**	**333**	*i* PKPdf	**PKPdf**	**16 34 40.0**	**-0.3**
LJU				*i*		16 34 50.2	
LJU				*i* PKPab	**PKPab**	**16 35 09.1**	**-0.3**
WATA	**Walderalm**	**155.41**	**339**	*i* P	**PKPdf**	**16 34 40.3**	**-0.2**
	comp=Z,12nm,1.3s						
WATA				*i* P	**PKPab**	**16 35 10.5**	**+0.9**
	comp=Z,31nm,1.2s,SNR=5.4						
BFO	**Black Forest**	**155.44**	**344**		**PKPab**	**16 35 10.3**	**+0.7**
BFO	**Black Forest**	**155.44**	**344**	PKP2	**PKPab**	**16 35 10.3**	**+0.7**
WTTA	**Wattenberg**	**155.45**	**338**	*i* P	**PKPdf**	**16 34 40.6**	**0.0**
	comp=Z,22nm,1.2s						
WTTA				*e*P	**PKPab**	**16 35 10.9**	**+1.1**
	comp=Z,53nm,1.3s						
RETA	**Reutte**	**155.54**	**340**	*i* P	**PKPdf**	**16 34 40.7**	**+0.1**
	comp=Z,14nm,1.3s						
RETA				*e*P	**PKPab**	**16 35 11.1**	**+1.1**
	comp=Z,79nm,1.5s,SNR=8.0						
MOTA	**Moosalm**	**155.56**	**339**	*i* P	**PKPdf**	**16 34 40.6**	**-0.1**
	comp=Z,16nm,1.0s						
MOTA				*i* P	**PKPab**	**16 35 11.0**	**+0.8**
	comp=Z,54nm,1.3s						
ABTA	**Abfaltersbach**	**155.59**	**337**	*i* P	**PKPdf**	**16 34 40.2**	**-0.5**
	comp=Z,12nm,1.0s						
ABTA				*i* P	**PKPab**	**16 35 10.3**	**0.0**
	comp=Z,52nm,1.4s						
SQTA	**Sankt Quirin**	**155.63**	**339**	*i* P	**PKPdf**	**16 34 40.7**	**-0.1**
	comp=Z,14nm,1.0s						
SQTA				*e*P	**PKPab**	**16 35 11.4**	**+0.9**
	comp=Z,31nm,0.8s						
FETA	**Feichten**	**155.96**	**340**	*e*P	**PKPdf**	**16 34 41.5**	**+0.2**
	comp=Z,27nm,1.2s						
FETA				*e*P	**PKPab**	**16 35 13.0**	**+1.0**
	comp=Z,37nm,1.2s						
DAVA	**Damuels**	**155.98**	**341**	*i* P	**PKPab**	**16 35 13.2**	**+1.1**
	comp=Z,71nm,1.0s,SNR=12						
DAVOX	**Davos/Dischmat**	**156.44**	**341**	PKP	**PKPdf**	**16 34 42.4**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=314,slow=2.6,SNR=6.7						
DAVOX				PKPbc	PKPbc	16 34 56.3	
	comp=Z,8.6nm,0.5s,baz=239,slow=7.7,SNR=10.0						
DAVOX				PKPab	**PKPab**	**16 35 15.3**	**+1.1**
	comp=Z,34nm,0.6s,baz=291,slow=1.6,SNR=16						
FUORN	**Ofenpass-Fuorn**	**156.47**	**340**	PKPab	**PKPab**	**16 35 15.8**	**+1.5**
CLF	**Chambon-Foret**	**156.78**	**354**	PKPab	**PKPab**	**16 35 15.9**	**+0.7**
SENIN	**Lac Senin/Sane**	**157.53**	**344**	PKPab	**PKPab**	**16 35 19.9**	**+1.0**
TIP	**Timpagrande**	**159.18**	**317**		**PKPab**	**16 35 27.6**	**+1.4**
DBIC	**Dimbokro**	**161.52**	**169**	PKP	**PKPdf**	**16 34 48.1**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=196,slow=2.3,SNR=3.6						
DBIC				PKPab	**PKPab**	**16 35 37.0**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=241,slow=3.0,SNR=3.6						
DBIC				pPKPab	**pPKPab**	**16 37 37.0**	**-2.8**
	comp=Z,5.2nm,1.0s,baz=199,slow=8.7,SNR=2.7						
PGAV	**Gavieira, Arco**	**162.05**	**17**	*e*PKPdf	**PKPdf**	**16 34 48.1**	**-0.2**
PCAB	**Cabril**	**162.35**	**17**	*e*PKPab	**PKPab**	**16 35 39.9**	**0.0**
PBRG	**Braganca**	**162.57**	**14**	*e*PKPab	**PKPab**	**16 35 41.1**	**+0.3**
POLO	**Lamas de Olo**	**162.73**	**17**	*e*PKPdf	**PKPdf**	**16 34 50.0**	**+1.0**
POLO	**Lamas de Olo**	**162.73**	**17**	*e*PKPab	**PKPab**	**16 35 42.4**	**+0.8**
PVRL	**Vila Real**	**162.84**	**17**	*e*PKPdf	**PKPdf**	**16 34 49.7**	**+0.6**
PVRL	**Vila Real**	**162.84**	**17**	*e*PKPab	**PKPab**	**16 35 43.1**	**+1.1**
MVO	**Moncorvo**	**163.12**	**15**	*e*PKPdf	**PKPdf**	**16 34 50.8**	**+1.4**
MVO	**Moncorvo**	**163.12**	**15**	*e*PKPab	**PKPab**	**16 35 43.7**	**+0.4**
PVIS	**Viseu**	**163.32**	**18**	*e*PKPdf	**PKPdf**	**16 34 49.7**	**+0.2**
PVIS	**Viseu**	**163.32**	**18**	*e*PKPab	**PKPab**	**16 35 45.1**	**+0.9**
MTE	**Manteigas**	**163.71**	**17**	*e*PKPdf	**PKPdf**	**16 34 51.2**	**+1.3**
MTE	**Manteigas**	**163.71**	**17**	*e*PKPab	**PKPab**	**16 35 46.8**	**+0.9**
PCAS	**Casmilo, Conde**	**163.75**	**20**	*e*PKPdf	**PKPdf**	**16 34 50.7**	**+0.8**
PCBR	**Castelo Branco**	**164.25**	**18**	*e*PKPdf	**PKPdf**	**16 34 51.6**	**+1.3**
PCBR	**Castelo Branco**	**164.25**	**18**	*e*PKPab	**PKPab**	**16 35 49.1**	**+0.9**
PMPST	**Porto Santo, M**	**164.55**	**55**	*e*PKPdf	**PKPdf**	**16 34 52.6**	**+1.8**
PMRV	**Marv??o**	**164.66**	**18**	*e*PKPdf	**PKPdf**	**16 34 50.7**	**0.0**
PMRV	**Marv??o**	**164.66**	**18**	*e*PKPab	**PKPab**	**16 35 50.8**	**+0.7**
PESTR	**Estremoz**	**165.12**	**19**	*e*PKPdf	**PKPdf**	**16 34 51.7**	**+0.6**
PESTR	**Estremoz**	**165.12**	**19**	*e*PKPab	**PKPab**	**16 35 52.4**	**+0.3**
ESDC	**Sonseca Array**	**165.13**	**8**	PKP	**PKPdf**	**16 34 51.8**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=351,slow=2.6,SNR=11						
ESDC				PKPab	**PKPab**	**16 35 52.5**	**+0.3**
	comp=Z,6.8nm,0.8s,baz=344,slow=3.9,SNR=27						
ESDC				pPKP	**pPKPdf**	**16 37 01.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=285,slow=2.0,SNR=1.2						
ESDC				pPKPab	**sPKPdf**	**16 37 56.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=2.0,slow=3.4,SNR=3.1						
ESDC	**Sonseca Array**	**165.13**	**8**		**PKPab**	**16 35 52.6**	**+0.5**
PAB	**San Pablo**	**165.20**	**9**	PKPab	**PKPab**	**16 35 52.7**	**+0.2**
PAB	**San Pablo**	**165.20**	**9**	PKP2	**PKPab**	**16 35 52.7**	**+0.2**
PNCL	**Nicolau / Gran**	**165.49**	**23**	*e*PKPdf	**PKPdf**	**16 34 52.6**	**+1.2**
PNCL	**Nicolau / Gran**	**165.49**	**23**	*e*PKPab	**PKPab**	**16 35 54.0**	**+0.3**
PBEJ	**Beja**	**165.80**	**22**	*e*PKPdf	**PKPdf**	**16 34 53.7**	**+2.0**
MESJ	**Messejana**	**165.84**	**23**	*e*PKPdf	**PKPdf**	**16 34 51.6**	**-0.1**
MESJ				*e*PP	**PP**	**16 39 44.8**	**+1.4**
MESJ	**Messejana**	**165.84**	**23**	*e*PKPdf	**PKPdf**	**16 34 53.1**	**+1.4**
KEST	**Kesra**	**165.86**	**322**	PKPab	**PKPab**	**16 35 56.1**	**+0.5**
	comp=Z,12nm,0.6s,baz=304,slow=1.4,SNR=14						
KEST	**Kesra**	**165.86**	**322**	PKPab	**PKPab**	**16 35 56.9**	**+1.3**
PBAR	**Barrancos**	**165.92**	**19**	*e*PKPdf	**PKPdf**	**16 34 52.0**	**+0.2**
PBAR	**Barrancos**	**165.92**	**19**	*e*PKPab	**PKPab**	**16 35 56.4**	**+0.8**
PCVE	**Castro Verde**	**166.09**	**23**	*e*PKPdf	**PKPdf**	**16 34 53.2**	**+1.3**
MORF	**Marmelete**	**166.15**	**25**	*e*PKPdf	**PKPdf**	**16 34 51.8**	**-0.3**
PVAQ	**Vaqueiros**	**166.41**	**22**	*e*PKPab	**PKPab**	**16 35 58.7**	**+0.9**
MDT	**Midelt**	**171.62**	**20**	PKP	**PKPdf**	**16 34 56.4**	**+0.8**
	comp=Z,15nm,1.2s,baz=320,slow=0.6,SNR=13						
MDT				PKPab	**PKPab**	**16 36 22.1**	**+0.9**
	comp=Z,19nm,1.1s,baz=355,slow=5.1,SNR=12						
MDT				pPKP	**pPKPdf**	**16 37 05.7**	**-1.7**
	comp=Z,2.3nm,0.9s,baz=1.2,slow=4.1,SNR=1.6						

MAN 12 16:19:37.8, 12°.95N×124°.74E, h1km, mb4.1, ML2.9, MS2.5, 5C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.45**	**189**	⇑*i*P	Pg	16 19 47.1	+0.8
CNP				*e*S	Sb	16 19 54.6	-1.0
PVCP	**Virac**	**0.85**	**319**	⇑*i*P	Pg	16 19 54.4	+0.3
PVCP				*e*S	Sn	16 20 09.8	-0.3
JCNP	**Jose Panganiba**	**2.38**	**304**	⇑*i*P	Pn	16 20 19.6	+1.6
JCNP				*e*S	Sb	16 20 52.5	+0.9
RCP	**Roxas**	**2.39**	**235**	⇑*e*P	Pn	16 20 18.3	+0.2
RCP				*e*S	Sn	16 20 48.3	+0.3
MSLP	**Maasin**	**2.80**	**178**	⇑*i*P	Pn	16 20 24.9	+1.1
MSLP				*e*S	Sb	16 21 04.9	+1.3
LQP	**Lukban**	**3.31**	**291**	⇓*e*P	Pn	16 20 28.1	-2.9
GLSP	**General Luna,**	**3.43**	**156**	⇓*e*P	Pn	16 20 32.0	-0.5
GLSP				*e*S	Sn	16 21 09.8	-4.0

PRU ***12*** *16:31:02.6±0.0, 51°.45N×16°.25E, h0km*
DNK ***12*** *16:31:03.0±1.3, 51°.57N×16°.04E, h0km, ML1.7(UPP), Suspected explosion*
VIE ***12*** *16:31:03.3±0.7, 51°.40N×16°.24E, h0km, mb2.7/3, ml3.1/3, Error ellipse: s-maj=8.5km s-min=4.3km az=57.0 64 km NW of Wroclaw Suspected Mining induced.*
IDC ***12*** *16:31:03.4±0.8, 51°.44N×16°.01E, h0km, mbtmp3.3/8, ML2.9/8, Error ellipse: s-maj=13.6km s-min=7.5km az=107.0*
IPEC ***12*** *16:31:03.3±0.2, 51°.42N×16°.26E, h1km, ML2.6/5, Error ellipse: s-maj=1.7km s-min=1.0km az=31.0*
UPP ***12*** *16:31:06.1±3.0, 51°.67N×15°.68E, h0km, ML1.7, Suspected explosion*
ISC 12 16:31:01.1±0.7**, 51°.54N**±0°.03×**16°.23E**±0°.03**, h0km, n57, σ1s.28**/99**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**177**	*i* Pg	**Pg**	**16 31 14.7**	**+0.4**
KSP				*e*Sg	**Sg**	**16 31 22.7**	**-0.7**
CHVC	**Chvalec**	**0.96**	**187**	*e*PG	**Pg**	**16 31 19.7**	**+0.4**
CHVC				*e*SG	**Sg**	**16 31 30.8**	**-0.9**
OSTC	**Ostas**	**0.98**	**181**	*e*PG	**Pg**	**16 31 20.2**	**+0.4**
OSTC				*e*SG	**Sg**	**16 31 31.1**	**-1.4**
	comp=Z,84nm,0.7s						
UPC	**Upice**	**1.04**	**188**	*e*PG	**Pg**	**16 31 20.9**	**0.0**
UPC				*e*SG	**Sg**	**16 31 33.1**	**-1.3**
	comp=Z,236nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**177**	*e*PG	**Pg**	**16 31 23.5**	**-0.3**
DPC				*e*SG	**Sg**	**16 31 37.7**	**-1.5**
	comp=Z,84nm,0.5s						
PVCC	**Panska Ves**	**1.46**	**227**	*e*PG	**Pb**	**16 31 29.2**	**+0.2**
PVCC				*e*SG	**Sb**	**16 31 48.0**	**0.0**
	comp=Z,299nm,0.4s						
KRLC	**Kraliky**	**1.50**	**166**	*e*PG	**Pn**	**16 31 29.1**	**-0.2**
KRLC				*e*SG	**Sg**	**16 31 47.6**	**-1.7**
	comp=Z,42nm,0.4s						
BRG	**Berggiesshubel**	**1.58**	**246**	Pn	**Pn**	**16 31 30.4**	**0.0**
BRG				Pg	**Pg**	**16 31 32.2**	**+0.8**
BRG				Sg	**Sg**	**16 31 52.4**	**+0.5**
BRG				Amp		16 31 55.5	
	comp=Z,60nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.86**	**210**	*e*SG	**Sn**	**16 31 59.0**	**+0.5**
PRU	**Pruhonice**	**1.88**	**215**	*e*PN	**Pn**	**16 31 33.6**	**-0.9**
PRU				*e*PG	**Pb**	**16 31 36.3**	**0.0**
PRU				*e*SG	**Sn**	**16 31 59.7**	**+0.8**
	comp=Z,65nm,0.6s						
MORC	**Moravsky Berou**	**1.95**	**154**	*e*PN	**Pn**	**16 31 35.5**	**0.0**
MORC				*e*SG	**Sn**	**16 32 00.8**	**+0.2**
MORC	**Moravsky Berou**	**1.95**	**154**	*e*Pn	**Pn**	**16 31 35.4**	**0.0**
	baz=334						
MORC				*e*Sg	**Sn**	**16 32 00.8**	**+0.2**
	comp=Z,33nm,0.4s,baz=334						
CLL	**Collm**	**2.03**	**265**	*i* Pn	**Pn**	**16 31 36.8**	**+0.3**
CLL				*i* Pg	**Pg**	**16 31 39.8**	**-0.2**
CLL				*i* x	x	16 31 43.6	
CLL				*i* Sg	**Sg**	**16 32 07.6**	**+1.3**
	comp=Z,31nm,0.5s						
OKC	**Ostrava-Krasne**	**2.09**	**144**	*e*PG	**Pg**	**16 31 40.5**	**-0.6**
OKC				*e*SG	**Sb**	**16 32 06.4**	**0.0**
	comp=Z,52nm,0.5s						
VRAC	**Vranov**	**2.24**	**174**	Pn	**Pn**	**16 31 40.3**	**+0.8**
	comp=Z,3.2nm,0.3s,baz=348,slow=14,SNR=8.4						
VRAC				Lg	Lg	16 32 09.4	
	comp=Z,8.7nm,0.3s,baz=123,slow=8.6,SNR=9.0						
	comp=Z,9.2nm,0.4s						
VRAC	**Vranov**	**2.24**	**174**	*e*PN	**Pn**	**16 31 39.6**	**+0.2**
VRAC				*e*SG	**Sb**	**16 32 09.8**	**-0.9**
VRAC	**Vranov**	**2.24**	**174**	*e*Pn	**Pn**	**16 31 39.6**	**+0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**16 32 09.8**	**-0.9**
	comp=Z,26nm,0.3s,baz=354						
MAUC	**Maruska**	**2.40**	**154**	*e*PG	**Pg**	**16 31 46.6**	**-0.4**
KRUC	**Moravsky**	**2.48**	**177**	*e*PN	**Pn**	**16 31 43.1**	**+0.4**
KRUC				*e*PG	**Pb**	**16 31 46.2**	**-0.2**
KRUC				*e*SG	**Sb**	**16 32 17.1**	**-0.5**
KRUC	**Moravsky**	**2.48**	**177**	*e*Pn	**Pn**	**16 31 43.1**	**+0.4**
	baz=358						
KRUC	**Moravsky**	**2.48**	**177**	*e*Pg	**Pb**	**16 31 46.2**	**-0.2**
	baz=358						
KRUC				*e*Sg	**Sb**	**16 32 17.0**	**-0.5**
	comp=Z,34nm,0.7s,baz=358						
OJC	**Ojcow**	**2.62**	**119**	*e*Pn	**Pn**	**16 31 41.8**	**-2.8**
OJC				*e*Pg	**Pb**	**16 31 49.2**	**+0.4**
OJC				*e*Sg	**Sg**	**16 32 23.6**	**-1.4**
KHC	**Kasperske Hory**	**2.95**	**216**	*e*PN	**Pn**	**16 31 49.0**	**-0.1**
KHC				*e*PG	**Pb**	**16 31 55.7**	**+1.3**
KHC				*e*SG	**Sb**	**16 32 32.4**	**+1.4**
	comp=Z,17nm,0.3s						
CKRC	**Cesky Krumlov**	**2.99**	**205**	*e*PN	**Pn**	**16 31 50.8**	**+1.1**
CKRC				*e*PG	**Pb**	**16 31 56.3**	**+1.2**
CKRC				*e*SG	**Sb**	**16 32 33.8**	**+1.7**
	comp=Z,26nm,0.6s						
GERES	**GERESS Array B**	**3.15**	**212**	Pn	**Pn**	**16 31 51.9**	**0.0**
	comp=Z,0.9nm,0.3s,baz=30,slow=13,SNR=30						
GERES				Pg	**Pb**	**16 31 58.6**	**+0.8**
	comp=Z,8.9nm,0.3s,baz=31,slow=17,SNR=61						
GERES				Lg	Lg	16 32 38.0	
	comp=Z,9.0nm,0.3s,baz=26,slow=29,SNR=7.8						
	comp=Z,1.6nm,0.4s						
MODS	**Modra-Piesok**	**3.24**	**168**	*e*PG	**Pg**	**16 32 03.0**	**-0.1**
MODS				*e*SG	**Sg**	**16 32 44.4**	**-0.6**
ZST	**Bratislava**	**3.39**	**170**	*e*PG	**Pg**	**16 32 05.2**	**-0.8**
ZST				*e*SG	**Sg**	**16 32 48.1**	**-1.8**
VYHS	**Vyhne**	**3.48**	**150**	*e*PG	**Pg**	**16 32 09.1**	**+1.4**
VYHS				*e*SG	**Sg**	**16 32 52.9**	**+0.2**
CONA	**Conrad Observa**	**3.62**	**184**	*i* Pn	**Pn**	**16 31 59.1**	**+0.7**
	comp=Z,1.5nm,0.5s						
CONA				*e*Sg	**Sg**	**16 32 55.1**	**-2.1**
	comp=Z,30nm,0.6s						
BSD	**Bornholm Skovb**	**3.67**	**348**	*i* P	**Pn**	**16 32 00.0**	**+1.0**
BSD				*e*S	**Sn**	**16 32 41.5**	**-1.5**
BSD				IAML		16 32 46.1	
	comp=Z,2.4nm,0.2s						
STHS	**Stebnicka Huta**	**3.84**	**122**	*e*PG	**Pg**	**16 32 16.6**	**+2.0**
STHS				*e*SG	**Sg**	**16 33 10.3**	**+5.9**
MOA	**Molln**	**3.90**	**200**	*i* Pn	**Pn**	**16 32 02.9**	**+0.6**
	comp=Z,2.5nm,0.2s,SNR=8.4						
MOA				*e*Sg	**Sg**	**16 33 05.3**	**-1.1**
	comp=Z,14nm,0.4s						
ARSA	**Arzberg**	**4.32**	**186**	*i* Pn	**Pn**	**16 32 10.1**	**+2.2**
	comp=Z,1.0nm,0.2s						
ARSA				*e*Sg	**Sg**	**16 33 19.3**	**-0.3**
	comp=Z,8.7nm,0.4s						
LUNU	**Lund**	**4.43**	**339**	*i* P	**Pn**	**16 32 09.8**	**+0.4**
LUNU				*e*S	**Sn**	**16 33 01.2**	**-0.4**
LUNU	**Lund**	**4.43**	**339**	P	**Pn**	**16 32 09.9**	**+0.5**
LUNU				S	**Sn**	**16 33 00.9**	**-0.7**
LUNU	**Lund**	**4.43**	**339**	P	**Pn**	**16 32 09.9**	**+0.5**

LUNU				S	Sn	16 33 00.9	-0.7
BLEU	Blekinge	4.78	357	*i* P	Pn	16 32 16.4	+2.1
BLEU				*e*S	Sn	16 33 08.4	-2.0
BLEU	Blekinge	4.78	357	P	Pn	16 32 16.2	+1.9
BLEU				S	Sn	16 33 08.8	-1.5
BLEU	Blekinge	4.78	357	P	Pn	16 32 16.2	+1.9
BLEU				S	Sn	16 33 08.8	-1.5
BJUU	Bjuv	4.93	339	*e*S	Sn	16 33 11.4	-2.5
BJUU	Bjuv	4.93	339	P	Pn	16 32 17.0	+0.8
BJUU	Bjuv	4.93	339	P	Pn	16 32 17.0	+0.8
DEL	Delary	5.14	345	*i* P	Pn	16 32 21.0	+1.9
DEL	Delary	5.14	345	P	Pn	16 32 20.4	+1.3
DEL	Delary	5.14	345	P	Pn	16 32 20.4	+1.3
FABU	Falkenberg	5.85	341	P	Pn	16 32 30.2	+1.3
FABU	Falkenberg	5.85	341	P	Pn	16 32 30.2	+1.3
GNOU	Gnosjoe	5.94	347	P	Pn	16 32 31.8	+1.5
GNOU	Gnosjoe	5.94	347	P	Pn	16 32 31.8	+1.5
VSTU	Vaestervik	6.14	2	P	Pn	16 32 35.1	+2.2
VSTU	Vaestervik	6.14	2	P	Pn	16 32 35.1	+2.2
DAVOX	Davos/Dischmat	6.32	224	Pn	Pn	16 32 34.7	-1.0
	comp=Z,0.2nm,0.3s,baz=33,slow=17,SNR=2.2						
DAVOX				Lg	Lg	16 34 19.1	
	comp=Z,0.4nm,0.3s,baz=191,slow=22,SNR=2.6						
	comp=Z,0.9nm,0.4s						
AKASG	Malin Array Be	8.22	91	Pn	Pn	16 33 02.6	+1.1
	comp=Z,0.7nm,0.3s,baz=281,slow=12,SNR=3.3						
	comp=Z,0.2nm,0.2s						
HFS	Hagfors	8.73	352	Pn	Pn	16 33 09.2	+0.7
	comp=Z,0.2nm,0.3s,baz=171,slow=19,SNR=1.6						
	comp=Z,3.4nm,1.0s						
NOA	NORSAR Array B	9.92	346	Pn	Pn	16 33 25.0	+0.2
	baz=162,slow=12,SNR=2.1						
	comp=Z,0.7nm,0.9s						
FINES	FINESS Array B	11.31	25	Pn	Pn	16 33 43.4	-0.3
	comp=Z,0.2nm,0.3s,baz=206,slow=11,SNR=10						
	comp=Z,1.5nm,0.5s						
EKA	Eskdalemuir Ar	12.16	296	Pn	Pn	16 33 54.5	-0.9
	baz=101,slow=14						
	comp=Z,1.1nm,0.7s						

---

*VIE **12** 17:04:08.8±0.5, 49°.81N×18°.66E, h0^{km}, mb2.4/4, ml2.6/3, Error ellipse: s-maj=6.1km s-min=3.9km az=160.0 29 km E of Ostrava Suspected Mining induced.*
*PRU **12** 17:04:09.5±0.0, 49°.83N×18°.56E, h0^{km}, Mining Induced Event Csm, E=6.2e+05*
*IPEC **12** 17:04:10.3±0.3, 49°.81N×18°.56E, h1^{km}±3^{km}, ML2.3/4, Error ellipse: s-maj=2.1km s-min=1.6km az=78.0*
ISC 12 17:04:09.1±0.8, **49°.85N**±0°.03×**18°.54E**±0°.02, **h0**^{km}, **n31**, σ**0^{s}87**/57, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.26	267	*e*PG	Pb	17 04 15.9	-0.7
OKC				*e*SG	Sg	17 04 18.5	+1.2
	comp=Z,115nm,0.5s						
RAC	Raciborz	0.32	316	*e*PG	Pb	17 04 17.8	+0.1
RAC				*e*SG	Sb	17 04 23.7	+0.2
MORC	Moravsky Berou	0.65	264	*e*PG	Pb	17 04 23.0	-0.4
MORC				*e*SG	Sg	17 04 31.1	+1.1
MORC	Moravsky Berou	0.65	264	*e*Pg	Pb	17 04 22.9	-0.4
	baz=87						
MORC				*e*Sg	Sg	17 04 31.0	+1.1
	73nm,0.4s,baz=87						
MAUC	Maruska	0.67	224	*e*PG	Pb	17 04 23.1	-0.6
OJC	Ojcow	0.89	65	*e*Pg	Pg	17 04 24.3	-1.8
OJC				*e*Sg	Sg	17 04 36.7	-1.0
JAVC	Velka Javorina	1.15	210	*e*Pg	Pb	17 04 31.7	-0.1
	baz=31						
KRLC	Kraliky	1.16	282	*e*PG	Pg	17 04 31.5	+0.2
KRLC				*e*SG	Sb	17 04 47.1	-0.5
	comp=Z,49nm,0.3s						
VYHS	Vyhne	1.37	172	*e*PG	Pb	17 04 35.4	-0.2
VYHS				*e*SG	Sn	17 04 54.2	-0.2
VYHS				*e*LG	Lg	17 04 55.9	
VRAC	Vranov	1.38	248	*e*PG	Pb	17 04 35.9	+0.1
VRAC				*e*SG	Sg	17 04 53.4	0.0
VRAC	Vranov	1.38	248	*e*Pg	Pb	17 04 35.8	0.0
	baz=68						
VRAC				*e*Sg	Sg	17 04 53.3	-0.1
	29nm,0.2s,baz=68						
DPC	Dobruska-Polom	1.51	290	*e*PG	Pb	17 04 37.7	-0.4
DPC				*e*SG	Sn	17 04 58.3	+0.4
	comp=Z,33nm,0.3s						
KRUC	Moravsky	1.61	241	*e*PG	Pb	17 04 39.3	-0.3
KRUC				*e*SG	Sn	17 05 00.4	+0.2
KRUC	Moravsky	1.61	241	*e*Pg	Pb	17 04 39.3	-0.3
	baz=61						
KRUC				*e*Sg	Sn	17 05 00.4	+0.2
	22nm,0.2s,baz=61						
OSTC	Ostas	1.65	296	*e*PG	Pb	17 04 40.3	-0.1
OSTC				*e*SG	Sb	17 05 01.9	+0.1
MODS	Modra-Piesok	1.70	210	*e*PG	Pb	17 04 40.7	-0.5
MODS				*e*SG	Sn	17 05 02.2	-0.2
KSP	Ksiaz	1.75	305	*e*Pg	Pb	17 04 41.2	-0.8
KSP				*e*Sg	Sg	17 05 05.9	+0.7
UPC	Upice	1.75	293	*e*PG	Pg	17 04 42.5	-0.2
UPC				*e*SG	Sg	17 05 05.6	+0.2
	comp=Z,22nm,0.4s						
CHVC	Chvalec	1.76	296	*e*SG	Sg	17 05 05.9	+0.3
	34nm,0.4s						
STHS	Stebnicka Huta	1.81	103	*e*SN	Sg	17 05 09.2	+2.0
STHS				*e*LG	Lg	17 05 15.9	
KECS	Kecovo	1.87	136	*e*PN	Pb	17 04 43.3	-0.8
KECS				*e*SN	Sb	17 05 07.1	-1.0
KECS				*e*LG	Lg	17 05 10.4	
GOPC	GO Pecny, Ondr	2.43	273	*e*SG	Sg	17 05 26.1	-1.0
	comp=Z,11nm,0.4s						
PRU	Pruhonice	2.59	275	*e*SG	Sb	17 05 29.9	+1.2
	comp=Z,7.6nm,0.4s						
KOLS	Kolonicke sedl	2.61	109	*e*PG	Pg	17 05 00.7	+1.7
CONA	Conrad Observa	2.61	224	*e*Pn	Pn	17 04 52.5	-0.1
	2.8nm,0.3s						
CONA				Sn	Sn	17 05 24.7	-0.4
	2.9nm,0.3s						
RONA	Rosalia, Austr	2.62	215	*i* Pn	Pn	17 04 53.6	+0.9
	2.1nm,0.3s						
RONA				*i* Sn	Sn	17 05 25.4	+0.3
	2.9nm,0.2s						
CKRC	Cesky Krumlov	2.95	251	*e*PN	Pn	17 04 58.9	+1.6
CKRC				*e*PG	Pb	17 05 03.5	+0.9
CKRC				*e*SG	Sg	17 05 42.6	-1.3
	comp=Z,13nm,0.5s						
BRG	Berggiesshubel	3.12	291	Pg	Pg	17 05 07.5	-1.3
BRG				Sg	Sg	17 05 48.4	-0.8
BRG				Amp		17 05 53.7	
	comp=Z,8.1nm,0.7s						
BRG				Amp		17 07 28.0	
	comp=Z,0.3nm,17.4s						
BRG				Amp		17 07 30.0	
	comp=N,0.3nm,18.5s						
BRG				Amp		17 07 31.0	
	comp=E,0.2nm,23.3s						
KHC	Kasperske Hory	3.31	259	*e*PN	Pn	17 05 03.6	+1.4
KHC				*e*PG	Pg	17 05 11.0	-1.6
KHC				*e*SG	Sg	17 05 53.4	-2.1
	comp=E,11nm,0.4s						
MOA	Molln	3.46	236	*i* Pn	Pn	17 05 04.1	-0.2
	comp=E,0.4nm,0.2s						
MOA				*i* Sn	Sn	17 05 45.3	-0.6
	comp=E,2.4nm,0.4s						
CLL	Collm	3.82	295	*i* Pg	Pg	17 05 22.1	-0.1
CLL				*i* Sg	Sg	17 06 11.9	+0.2
	comp=Z,12nm,0.8s						

---

*IDC **12** 17:16:18.9±1.1, 53°.31N×108°.04E, h0^{km}, mb3.5/4, mbtmp3.4/7, ML2.9/3, MS3.3/1, Error ellipse: s-maj=25.7km s-min=19.2km az=108.0*
*BYKL **12** 17:16:22.3±0.1, 53°.26N×108°.43E, h20^{km}±2^{km}*
ISC 12 17:16:19.2±0.9, **53°.34N**±0°.02×**108°.37E**±0°.02, **h4**^{km}±7^{km}, **n39**, σ**2^{s}28**/99, **mb3.4**/3, **4C**, **Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXMB	Maximikha	0.24	109	⇑*i*Pg	Pb	17 16 26.7	+2.8
MXMB				*e*Sg	Sb	17 16 30.1	+3.1
KELR	Kotokel	0.61	197	⇑*i*Pg	Pb	17 16 32.2	-0.2
KELR				*e*Sg	Sg	17 16 40.2	+1.5
SYVR	Suvo	1.03	71	⇑*i*Pg	Pn	17 16 40.8	+0.5
SYVR				*e*Pb	Pb	17 16 42.4	+2.9
SYVR				*e*Sg	Sn	17 16 54.8	-0.3
SYVR				*e*Sb	Sb	17 16 57.5	+4.2
SYVR				Pmax			
	252nm,0.5s						
SYVR				max			
	2µm,0.6s						
ZRHB	Zarechye	1.08	223	*e*Pg	Pn	17 16 41.6	+0.6
ZRHB				*e*Sg	Sn	17 16 56.5	+0.1
ZRHB				*e*Sb	Sb	17 16 57.7	+2.9
ZRHB				Pmax			
	343nm,0.5s						
ZRHB				max			
	2µm,0.8s						
TRG	Tyrgan	1.35	245	⇑*i*Pg	Pg	17 16 45.8	+0.7
TRG				*e*Pb	Pb	17 16 46.6	+1.6
TRG				*e*Sg	Sg	17 17 04.5	+1.9
TRG				*e*Sb	Sn	17 17 05.6	+2.4
TRG				max			
	202nm,0.4s						
TRG				max			
	2µm,0.3s						
FFNB	Fofonovo	1.62	218	*e*Pg	Pg	17 16 50.5	+0.2
FFNB				*e*Sg	Sg	17 17 12.3	+1.0
KAB	Kabansk	1.66	220	*e*Pg	Pg	17 16 52.5	+1.5
KAB				*e*Sg	Sg	17 17 14.0	+1.5
KAB				Pmax			
	290nm,0.5s						
KAB				Smax			
	1µm,0.7s						
STDB	Stepnoy Dvoret	1.69	227	*e*Pn	Pb	17 16 50.9	+0.1
STDB				*e*Pg	Pg	17 16 53.0	+1.4
STDB				*e*Sg	Sg	17 17 14.3	+0.8
BGT	Bolshoye Golou	2.22	235	*e*Pn	Pn	17 16 57.7	+1.0
BGT				*e*Pg	Pg	17 17 01.5	-0.2
BGT				*e*Sn	Sn	17 17 24.3	-0.3
BGT				*e*Sg	Sg	17 17 31.2	+0.7
BGT				Pmax			
	29nm,0.3s						
BGT				Smax			
	340nm,0.5s						
NIZ	Nizh Angarsk	2.53	15	*e*Pn	Pb	17 17 03.7	-1.5
NIZ				*e*Pg	Pg	17 17 09.2	+1.5
NIZ				*e*PgPg	PbPb	17 17 13.3	+5.0
NIZ				*e*Sn	Sb	17 17 35.2	-1.4
NIZ				*e*Sg	Sg	17 17 42.7	+2.2
NIZ				max			
	43nm,0.4s						
NIZ				Smax			
	258nm,0.4s						
LSTR	Listvyanka	2.61	237	*e*Pn	Pn	17 17 03.2	+1.1
LSTR				*e*Pg	Pg	17 17 09.2	0.0
LSTR				*e*		17 17 12.5	
LSTR				*e*Sn	Sn	17 17 34.4	+0.2
LSTR				*e*Sg	Sg	17 17 43.2	+0.2
LSTR				max			
	33nm,0.5s						
LSTR				Smax			
	156nm,0.4s						
IRK	Irkutsk	2.72	248	*e*Pg	Pg	17 17 11.2	-0.1
IRK				*e*Sg	Sg	17 17 46.1	-0.4
IRK				Pmax			
	116nm,0.2s						
IRK				Smax			
	680nm,0.4s						
IVK	Ivanovka	2.86	239	*e*Pn	Pn	17 17 06.9	+1.3
IVK				*e*Pg	Pg	17 17 13.9	-0.1
IVK				*e*Sn	Sn	17 17 40.1	-0.3
IVK				*e*Sg	Sg	17 17 50.9	-0.2
IVK				Pmax			
	13nm,0.2s						
IVK				Smax			
	300nm,0.8s						
KMO	Kumora	3.04	32	*e*Pn	Pb	17 17 10.7	-3.1
KMO				*e*Pg	Pg	17 17 17.2	-0.1
KMO				*e*Sn	Sn	17 17 45.5	+0.8
KMO				*e*Sg	Sg	17 17 58.1	+1.4
KMO				Pmax			
	73nm,0.4s						
KMO				Smax			
	364nm,1.0s						
TLY	Talaya	3.33	242	*e*Pn	Pn	17 17 13.3	+1.3
TLY				*e*Pg	Pg	17 17 21.6	-1.4
TLY				*e*		17 17 26.9	
TLY				*e*Sg	Sg	17 18 06.2	+0.1
TLY				max			
	35nm,0.7s						
TLY				Smax			
	139nm,0.6s						
YOA	Uoyan	3.41	33	*e*Pg	Pg	17 17 25.2	+0.8
YOA				*e*Sg	Sg	17 18 10.1	+1.5
YOA				Pmax			
	74nm,0.6s						
YOA				Smax			
	863nm,1.3s						
CIT	Chita	3.42	111	*e*Pn	Pn	17 17 14.3	+1.0
CIT				*e*Pg	Pg	17 17 23.0	-1.7
CIT				*e*PgPg	PbPb	17 17 25.8	+2.3
CIT				*e*Sg	Sg	17 18 07.1	-2.0
CIT				Pmax			
	141nm,0.3s						
CIT				Smax			
	899nm,0.2s						
UKT	Uakit	3.75	53	*e*Pn	Pn	17 17 20.2	+2.3
UKT				*e*Pg	Pg	17 17 30.2	-0.8
UKT				*e*		17 17 34.6	
UKT				*e*Sg	Sg	17 18 19.5	-0.1
UKT				max			
	14nm,0.9s						
UKT				Smax			
	127nm,1.2s						
ARS	Arshan	3.89	251	*e*Pn	Pn	17 17 21.9	+2.1
ARS				*e*Pg	Pg	17 17 31.9	-1.8
ARS				*e*Sn	Sn	17 18 04.5	-1.4
ARS				*e*Sg	Sg	17 18 23.5	-0.6
ARS				Pmax			
	32nm,0.5s						
ARS				Smax			
	711nm,0.9s						
ZAK	Zakamensk	4.33	229	*e*Pn	Pn	17 17 27.9	+2.1
ZAK				*e*Pg	Pg	17 17 39.3	-2.7
ZAK				*e*Sn	Sn	17 18 16.9	+0.3
ZAK				*e*Sg	Sg	17 18 35.8	-2.3
ZAK				Pmax			
	8.0nm,0.4s						
ZAK				Smax			
	89nm,0.8s						
KPC	Khapcheranga	4.42	144	*e*Pn	Pn	17 17 26.5	-0.5
KPC				*e*Pg	Pb	17 17 40.6	+3.2
KPC				*e*		17 17 43.1	
KPC				*e*Sn	Sn	17 18 16.1	-2.9
KPC				*e*Sg	Sg	17 18 36.5	-4.6
KPC				max			
	27nm,0.6s						
KPC				Smax			
	165nm,0.6s						
MOY	Mondy	4.81	253	*e*Pn	Pn	17 17 36.1	+3.7
MOY				*e*Pg	Pg	17 17 48.7	-2.5
MOY				*e*		17 17 55.5	
MOY				*e*Sn	Sn	17 18 28.6	+0.1
MOY				*e*Sg	Sg	17 18 51.0	-2.5
MOY				max			
	25nm,1.0s						
MOY				Smax			
	208nm,1.1s						
ORL	Orlik	5.24	265	*e*Pn	Pn	17 17 40.3	+2.0
ORL				*e*		17 17 41.9	
ORL				*e*		17 17 48.7	
ORL				*e*Pg	Pg	17 17 57.5	-2.0
ORL				*e*Sn	Sn	17 18 39.6	+0.5
ORL				*e*Sg	Sg	17 19 06.3	-1.0
ORL				max			
	24nm,0.6s						
ORL				Smax			
	133nm,1.0s						
NLYR	Nelyaty	5.28	50	*e*Pg	Pg	17 17 58.0	-2.2
NLYR				*e*Sg	Sg	17 19 07.3	-1.3
NLYR				Pmax			
	9.0nm,0.5s						
NLYR				Smax			
	115nm,1.4s						
BOD	Bodaibo	5.51	33	*e*Pn	Pn	17 17 44.7	+2.8
BOD				*e*Pg	Pg	17 18 02.1	-2.5
BOD				*e*Sn	Sn	17 18 46.1	+0.5
BOD				*e*Sg	Sg	17 19 14.1	-1.8
BOD				Pmax			
	1.0nm,0.2s						
BOD				Smax			
	53nm,1.1s						
SONM	Songino Array	5.66	194	Pn	Pn	17 17 45.1	+1.1
	0.4nm,0.3s,baz=4.7,slow=14,SNR=12						
SONM				Lg	Lg	17 19 17.3	
	10.0nm,0.3s,baz=29,slow=19,SNR=7.0						
	0.8nm,0.3s						
VTMR	Vitim	6.54	19	*e*Sg	Sg	17 19 47.1	-1.8
CRS	Chara	6.70	54	*e*Pn	Pn	17 18 02.6	+4.3
CRS				*e*Pg	Pg	17 18 23.7	-3.8
CRS				*e*		17 18 32.4	
CRS				*e*Sg	Sg	17 19 50.7	-3.6
CRS				max			
	16nm,1.5s						
CRS				Smax			
	64nm,1.8s						
TUP	Tupik	6.94	76	*e*Pn	Pn	17 18 03.4	+1.9
TUP				*e*Pg	Pg	17 18 26.3	-5.7
TUP				*e*Sg	Sg	17 19 56.2	-5.6
TUP				Pmax			
	4.0nm,0.8s						
TUP				Smax			
	234nm,1.5s						
KNGR	Kungurtug, Tuv	7.24	252	*e*Pg	Pg	17 18 33.7	-4.1
KNGR				*e*Sg	Sg	17 20 07.2	-4.3
KHNR	Khani	7.56	57	*e*Sg	Sg	17 20 16.2	-5.5
YKLR	Yuktali	8.31	62	*e*Sg	Sg	17 20 39.7	-6.0
ZALV	Zalesovo Beam	13.97	282	Pn	Pn	17 19 37.0	-0.6
	0.1nm,0.3s,baz=80,slow=14,SNR=2.5						
ZALV				Lg	Lg	17 23 34.9	
	0.1nm,0.3s,baz=86,slow=26,SNR=5.1						
	0.2nm,0.3s						
MKAR	Makanchi Array	17.91	259	Pn	Pn	17 20 24.3	-4.7
	0.1nm,0.3s,baz=54,slow=15,SNR=2.2						
	0.3nm,0.7s						
TIXI	Tiksi	20.45	19	P	Pn	17 20 58.5	-0.7
	1.3nm,0.6s,baz=30,slow=0.9,SNR=10						
	1.3nm,0.6s						
PETK	Petropavlovsk-	29.07	70	LR	LR	17 34 04.0	
	comp=Z,55nm,19.4s,baz=114,slow=36						
ILAR	Eielson Array	48.88	33	P	P	17 25 07.3	+1.9
	0.2nm,0.5s,baz=296,slow=7.0,SNR=2.6						
	0.2nm,0.5s						
WRA	Warramunga Arr	76.36	155	P	P	17 28 09.5	+0.2
	0.3nm,0.5s,baz=347,slow=6.5,SNR=7.0						
	0.3nm,0.5s						
ASAR	Alice Springs	79.83	156	P	P	17 28 28.7	+0.2
	0.3nm,0.6s,baz=352,slow=5.4,SNR=5.0						
	0.3nm,0.6s						

---

*IDC **12** 17:43:47.1±2.6, 16°.51N×148°.50E, h0^{km}, mb3.6/7, mbtmp3.7/8, ML3.9/1, MS3.2/1, Error ellipse: s-maj=68.1km s-min=26.5km az=97.0*
*NEIC **12** 17:43:51.6±1.2, 16°.5N±0°.1×148°.4E±0°.1, h40^{km}±7^{km}, mb4.2/7, Error ellipse: s-maj=24.6km s-min=13.9km az=131.0*
ISC 12 17:43:51.6±1.5, **16°.5N**±0°.1×**148°.4E**±0°.2, **h35**^{km}, **n17**, σ**1^{s}33**/18, **mb3.8**/12, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.44	231	Pn	Pn	17 44 57.2	+0.6
	5.6nm,0.3s,baz=356,slow=19,SNR=1.6						
GUMO				Sn	Sn	17 45 47.9	+0.8
	6.4nm,0.3s,baz=0.0,slow=20,SNR=2.2						
	44nm,0.7s						
GUMO	Guam	4.44	231	Pn	Pn	17 44 56.4	-0.2
GUMO				Sn	Sn	17 45 46.4	-0.8
JGF	Kuroka	21.47	335	P	P	17 48 37.7	+0.5
JGF				IAmb	IAmb	17 48 46.9	
	comp=Z,16nm,1.4s						
MJAR	Matsushiro Arr	21.96	338	P	P	17 48 43.6	+1.2
	comp=Z,0.9nm,0.8s,baz=164,slow=8.7,SNR=4.8						
	comp=Z,0.9nm,0.8s						
MAJO	Matsushiro	21.96	338	P	P	17 48 40.8	-1.7
MJB9	Matsu-Tunnel	21.97	338	P	P	17 48 41.0	-1.6
MJB9				IAmb	IAmb	17 49 20.3	
	comp=Z,4.5nm,1.1s						
YHNB	Yeheng	26.56	292	P	P	17 49 24.5	-2.0
SSLB	Suanglung	26.75	290	P	P	17 49 27.1	-1.2
SSLB				IAmb	IAmb	17 49 53.2	
	comp=Z,6.3nm,0.9s						
CTA	Charters Tower	36.37	183	LR	LR	18 04 31.0	
	comp=Z,38nm,20.4s,baz=66,slow=34						
WB0	Warramunga Arr	38.53	201	P	P	17 51 09.5	-1.5
WB0				IAmb	IAmb	17 51 38.8	
	comp=Z,6.8nm,1.3s						
WR0	Warramunga Arr	38.66	201	P	P	17 51 11.0	-1.1
WR0				IAmb	IAmb	17 51 15.7	
	comp=Z,3.3nm,0.9s						
WRA	Warramunga Arr	38.72	201	P	P	17 51 14.7	+2.2
	comp=Z,0.7nm,0.6s,baz=26,slow=9.2,SNR=1.7						
	comp=Z,0.7nm,0.6s						
SONM	Songino Array	46.50	322	P	P	17 52 16.7	+1.0
	comp=Z,0.4nm,0.5s,baz=129,slow=5.9,SNR=2.4						
	comp=Z,0.4nm,0.5s						
CMAR	Chiang Mai Arr	47.11	280	P	P	17 52 21.0	+0.3
	comp=Z,0.5nm,0.7s,baz=73,slow=7.7,SNR=6.1						
	comp=Z,0.5nm,0.7s						
ZALV	Zalesovo Beam	61.36	323	P	P	17 54 04.8	+1.0
	comp=Z,0.5nm,0.5s,baz=87,slow=8.5,SNR=3.6						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	61.87	315	P	P	17 54 08.8	+1.2
	comp=Z,0.4nm,0.7s,baz=87,slow=8.7,SNR=1.4						
	comp=Z,0.4nm,0.7s						
FINES	FINESS Array B	89.98	336	P	P	17 56 46.4	-0.8
	comp=Z,2.0nm,1.0s,baz=56,slow=5.7,SNR=4.8						
	comp=Z,2.0nm,1.0s						

---

*IDC **12** 18:01:43.5±1.3, 1°.70N×83°.29W, h0^{km}, mb3.5/5, mbtmp3.7/7, ML3.7/2, MS3.1/13, Error ellipse: s-maj=49.5km s-min=20.0km az=54.0*
*IGQ **12** 18:01:46±1.3, 1°N±8°×8°4W±1°1, h6^{km}*
ISC 12 18:01:44.4±0.9, **1°.36N**±0°.09×**83°.9W**±0°.1, **h10**^{km}, **n51**, σ**1^{s}46**/40, **mb3.5**/5, **MS3.2**/8, **Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISPT	Isla de la Pla	3.80	133	P	Pn	18 02 41.0	-2.1
CABP	Cabo Pasado	3.83	117	P	Pn	18 02 42.0	-1.5
CABP				S	Sn	18 03 28.0	-0.7
PPLP	Puerto Lpez	4.21	133	P	Pn	18 02 46.0	-2.8
MAG1	Magdalena	4.31	109	P	Pn	18 02 50.0	-0.2
FLF1	Flavio Alfaro-	4.35	113	P	Pn	18 02 51.0	+0.3
TERV	Terraza Guagua	5.46	106	P	Pn	18 03 06.0	-0.4
JUA2	San Juan 2	5.47	107	P	Pn	18 03 08.0	+1.5
CUSE	Cuicocha Este	5.55	101	P	Pn	18 03 08.0	+0.5
CUIC	Cuicocha-Domo	5.58	101	P	Pn	18 03 09.0	+1.0
URCU	Urcuqui	5.67	99	P	Pn	18 03 10.0	+0.9
BNAS	Cotopaxi Volca	5.73	111	P	Pn	18 03 11.0	+0.9
SLOR	San Lorenzo -	5.74	111	P	Pn	18 03 11.0	+0.8
IMBA	Imbabura, San	5.75	101	P	Pn	18 03 12.0	+1.7
BREF	Cotopaxi Volca	5.77	110	P	Pn	18 03 12.0	+1.2
BMOR	Cotopaxi Volca	5.77	111	P	Pn	18 03 12.0	+1.2
BVC2	Cotopaxi Volca	5.79	110	P	Pn	18 03 12.0	+1.0
PORT	Chimborazo Vol	5.79	119	P	Pn	18 03 12.0	+0.9
CHMA	Chilma	5.80	95	P	Pn	18 03 12.0	+1.1
BTAM	Cotopaxi Volca	5.81	110	P	Pn	18 03 13.0	+1.7
TAMH	Tambohuasha Ch	5.83	120	P	Pn	18 03 12.0	+0.6
TAMB	Tambo	5.85	110	P	Pn	18 03 13.0	+1.3
LNGL	El Angel-Carch	5.88	96	P	Pn	18 03 12.0	-0.1
ANTG	Antisana-Guama	5.89	108	P	Pn	18 03 13.0	+0.7
ECEN	Cerro Negro	5.90	95	P	Pn	18 03 12.0	-0.5
CHL1	Volc¡n Chiles	5.93	95	P	Pn	18 03 13.0	+0.2
ANTI	Antisana	5.96	107	P	Pn	18 03 15.0	+1.6
CAYR	Refugio Cayamb	5.99	103	P	Pn	18 03 16.0	+2.2
CAYA	Cayambe	5.99	102	P	Pn	18 03 16.0	+2.2
RETU	Refugio	6.08	117	P	Pn	18 03 17.0	+2.1
BOSC	San Juan Bosco	6.98	130	P	Pn	18 03 29.0	+2.1
ZUMB	Zumba	7.76	143	P	Pn	18 03 40.0	+2.3
ATAH	Atahualpa	10.04	147	Pn	Pn	18 04 10.2	+1.0
	2.9nm,0.3s,baz=343,slow=7.5,SNR=15						
ATAH				Sn	Sn	18 06 04.0	+1.8
	0.3nm,0.3s,baz=347,slow=23,SNR=1.5						
ATAH				LR	LR	18 07 49.2	
	comp=Z,149nm,18.5s,baz=310,slow=36						
	13nm,0.5s						
ROSC	El Rosal	10.12	70	LR	LR	18 07 02.3	
	comp=Z,49nm,21.9s,baz=216,slow=34						
NNA	Nana	14.97	152	LR	LR	18 10 58.4	
	comp=Z,41nm,18.4s,baz=344,slow=37						
SDV	Santo Domingo	15.13	60	Pn	Pn	18 05 10.3	-8.3
	0.7nm,0.3s,baz=299,slow=12,SNR=1.5						

SDV				LR	LR	18 10 00.3		
	comp=Z,18nm,19.0s,baz=212,slow=34 2.1nm,0.3s							
CMIG	**Matias Romero**	**19.04**	**326**	LR	LR	18 11 49.5		
	comp=Z,49nm,21.1s,baz=186,slow=32							
LPAZ	**La Paz**	**23.41**	**139**	P	**P**	**18 06 54.2**	**-0.4**	
	1.5nm,0.7s,baz=330,slow=14,SNR=5.2							
LPAZ				LR	LR	18 17 20.1		
	comp=Z,97nm,21.0s,baz=348,slow=40 1.5nm,0.7s							
SJG	**San Juan**	**24.07**	**45**	LR	LR	18 16 06.5		
	comp=Z,39nm,20.9s,baz=132,slow=37							
LVC	**Limon Verde**	**27.92**	**149**	LR	LR	18 17 38.3		
	comp=Z,35nm,21.8s,baz=16,slow=34							
SIV	**San Ignacio**	**28.34**	**128**	LR	LR	18 20 46.0		
	comp=Z,29nm,18.8s,baz=86,slow=41							
TXAR	**Lajitas Array**	**33.62**	**328**	P	**P**	**18 08 27.1**	**+1.7**	
	0.4nm,0.7s,baz=142,slow=10,SNR=4.9							
TXAR				LR	LR	18 21 14.0		
	comp=Z,45nm,18.0s,baz=122,slow=35 0.4nm,0.7s							
LPIG	**La Paz**	**34.16**	**314**	LR	LR	18 19 35.7		
	comp=Z,49nm,18.4s,baz=20,slow=31							
H03N2	**Juan Fernandez**	**34.92**	**173**	T	T	18 45 42.0		
	baz=351,slow=76,SNR=9.9							
H03N1	**Juan Fernandez**	**34.92**	**173**	T	T	18 45 41.8		
	baz=351,slow=76,SNR=20							
H03N3	**Juan Fernandez**	**34.94**	**173**	T	T	18 45 40.6		
	baz=351,slow=76,SNR=24							
RPN	**Rapa Nui**	**37.47**	**219**	LR	LR	18 19 46.3		
	comp=Z,80nm,21.6s,baz=163,slow=28							
CPUP	**Villa Florida**	**37.59**	**139**	LR	LR	18 26 25.0		
	comp=Z,38nm,19.9s,baz=22,slow=40							
PDAR	**Pinedale Array**	**47.22**	**334**	P	**P**	**18 10 18.7**	**+0.8**	
	0.1nm,0.4s,baz=136,slow=9.4,SNR=2.1 0.1nm,0.4s							
NVAR	**Mina Array Bea**	**48.55**	**324**	P	**P**	**18 10 27.8**	**-0.4**	
	0.1nm,0.3s,baz=140,slow=7.1,SNR=3.6 0.1nm,0.3s							
ESDC	**Sonseca Array**	**81.35**	**50**	P	**P**	**18 13 58.8**	**-2.8**	
	0.7nm,0.8s,baz=263,slow=5.7,SNR=5.5 0.7nm,0.8s							
WRA	**Warramunga Arr**	**138.35**	**241**	PKP	**PKiKP**	**18 21 12.6**	**-0.6**	
	0.3nm,0.9s,baz=109,slow=2.5,SNR=2.3							

MAN 12 18:07:13.3, 7.75N×125.27E, h1km, mb3.6, ML2.3, MS1.7, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.91**	**321**	⇓*e*P	Pg	18 07 31.0	+0.2
CGP				*e*S	Sn	18 07 53.8	+6.8
BIPH	**Bislig**	**1.16**	**68**	⇓*e*P	Pg	18 07 34.5	-1.1
BIPH				*i* S	Sg	18 07 43.3	-7.5

*MOS **12** 18:08:51.8±0.0, 42.86N×47.55E, h20km, MPVA3.6*
*DRS **12** 18:08:53.3±0.0, 42.83N×47.55E, h11km*
ISC 12 18:08:52.5±1.2, 42.86N±0.04×47.64E±0.04, h10km±7km, n25, σ0.71/48, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.14**	**314**	*i* Pg	**Pg**	**18 08 55.7**	**+0.1**
MAK				*e*Sg	**Sg**	**18 08 57.9**	**0.0**
BUJR	**Buynaksk**	**0.39**	**265**	*i* Pg	**Pg**	**18 09 00.5**	**+0.2**
BUJR				*e*Sg	**Sg**	**18 09 05.7**	**+0.3**
KRNR	**Karanay**	**0.54**	**266**	*e*Pg	**Pg**	**18 09 03.0**	**0.0**
KRNR				*e*Sg	**Sg**	**18 09 10.5**	**+0.3**
ARKR	**Arakani**	**0.54**	**242**	*e*Pg	**Pg**	**18 09 03.5**	**+0.4**
ARKR				*e*Sg	**Sg**	**18 09 10.6**	**+0.4**
DBC	**Dubki**	**0.62**	**285**	*e*Pg	**Pg**	**18 09 04.4**	**0.0**
DBC				*e*Sg	**Sg**	**18 09 12.6**	**0.0**
UNCR	**Uncukul**	**0.64**	**257**	*e*Pg	**Pg**	**18 09 05.1**	**+0.2**
UNCR				*e*Sg	**Sg**	**18 09 13.8**	**+0.5**
GNBR	**Gunib**	**0.69**	**227**	*e*Pg	**Pg**	**18 09 06.1**	**+0.3**
GNBR				*e*Sg	**Sb**	**18 09 15.4**	**-0.8**
URKR	**Urkarakh**	**0.70**	**181**	*e*Pg	**Pn**	**18 09 07.4**	**-1.2**
URKR				*e*Sg	**Sn**	**18 09 17.5**	**-2.0**
DLMR	**Dylym**	**0.77**	**286**	*e*Pg	**Pg**	**18 09 07.6**	**+0.2**
DLMR				*e*Sg	**Sg**	**18 09 17.8**	**+0.4**
KMKR	**Kumukh**	**0.83**	**209**	*e*Pg	**Pb**	**18 09 09.2**	**0.0**
KMKR				*e*Sg	**Sb**	**18 09 20.7**	**+0.1**
DRN	**Derbent**	**0.98**	**148**	*e*Pg	**Pn**	**18 09 12.8**	**+0.5**
DRN				*e*Sg	**Sn**	**18 09 26.9**	**+0.7**
BTLR	**Botlikh**	**1.06**	**260**	*i* Pg	**Pb**	**18 09 12.4**	**-0.7**
BTLR				*i* Sg	**Sg**	**18 09 26.9**	**+0.2**
DVE	**Vedeno**	**1.12**	**275**	*e*Pg	**Pb**	**18 09 12.9**	**-1.0**
DVE				*e*Sg	**Sb**	**18 09 27.3**	**-1.4**
KSMR	**Kasumkent**	**1.31**	**164**	*e*Pg	**Pg**	**18 09 17.8**	**+0.1**
KSMR				*e*Sg	**Sg**	**18 09 35.9**	**+1.2**
AKT	**Akhty**	**1.38**	**177**	*e*Pg	**Pg**	**18 09 18.8**	**-0.3**
AKT				*e*Sg	**Sg**	**18 09 37.7**	**+0.7**
GROC	**Groznyy**	**1.40**	**285**	*e*Pg	**Pn**	**18 09 17.9**	**-0.2**
GROC				*e*Sg	**Sn**	**18 09 36.2**	**-0.3**
LGD	**Lagodekhi**	**1.46**	**226**	P	**Pg**	**18 09 21.0**	**+0.5**
SHTL	**Shatili**	**1.84**	**264**	P	**Pg**	**18 09 27.6**	**-0.3**
SHTL				S	**Sg**	**18 09 51.1**	**-0.7**
KMGR	**Komgaron**	**2.05**	**276**	*e*Pg	**Pn**	**18 09 27.4**	**+0.4**
KMGR				*e*Sg	**Sn**	**18 09 53.6**	**+0.9**
PNSH	**Pansheti**	**2.24**	**265**	P	**Pg**	**18 09 35.7**	**+0.2**
BTKR	**Batakoyurt**	**2.33**	**284**	*e*Pn	**Pn**	**18 09 31.4**	**+0.5**
BTKR				*e*Sn	**Sn**	**18 10 01.0**	**+1.4**
LACR	**Lac**	**2.46**	**270**	*e*Pn	**Pn**	**18 09 33.2**	**+0.3**
LACR				*e*Sn	**Sn**	**18 10 04.4**	**+1.4**
DIGR	**Digorskoe uzhe**	**2.98**	**272**	*e*Pn	**Pn**	**18 09 40.5**	**+0.4**
DIGR				*e*Sn	**Sn**	**18 10 16.8**	**+0.7**
NEY	**Neytrino**	**3.63**	**278**	*e*Pn	**Pn**	**18 09 49.0**	**+0.1**
NEY				*e*Sn	**Sn**	**18 10 32.7**	**+0.9**
SHA1	**Shidzhatmaz**	**3.74**	**285**	*e*Pn	**Pn**	**18 09 50.8**	**+0.3**
SHA1				*e*Sn	**Sn**	**18 10 35.8**	**+1.0**

IDC 12 18:22:12.1±7.4, 30.73S×179.23W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=304.8km s-min=57.6km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.03**	**268**	P	P	18 30 05.5	-0.1
	0.4nm,0.3s,baz=107,slow=7.3,SNR=17 0.4nm,0.3s						
WRA	**Warramunga Arr**	**43.05**	**273**	P	P	18 30 13.6	-0.3
	1.1nm,0.3s,baz=113,slow=7.5,SNR=6.8 1.1nm,0.3s						
FINES	**FINESS Array B**	**145.08**	**339**	PKPbc	PKPbc	18 41 49.3	-0.8
	3.6nm,1.1s,baz=55,slow=5.3,SNR=5.9						

*LDG **12** 18:32:40.8±0.4, 42.87N×13.33E, h10km, Ml2.9/9, Error ellipse: s-maj=12.3km s-min=7.3km az=57.0*
*ROM **12** 18:32:40.4±0.1, 42.937N±0.003×13.205E±0.004, h8km, ML3.0/48, Error ellipse: s-maj=0.3km s-min=0.3km az=260.0*
*PRU **12** 18:32:43.0±0.0, 43.10N×13.80E, h0km*
ISC 12 18:32:41.0±0.8, 42.91N±0.02×13.20E±0.02, h11km±4km, n84, σ1.955/127, 17C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantangе**	**0.05**	**189**	⇓P	**Pg**	**18 32 43.1**	**-0.3**
T1245				S	**Sg**	**18 32 44.9**	**-0.2**
T1245				AML	AML		
	comp=E,46650μm,0.3s						
T1245				AML	AML		
	comp=N,46300μm,0.7s						
T1245				AML	AML		
	comp=N,47050μm,0.3s						
T1245				AML	AML		
	comp=E,46650μm,0.3s						
T1245				AML	AML		
	comp=N,46250μm,0.7s						
T1245				AML	AML		
	comp=E,45300μm,0.3s						
MMO1	**Montemonaco**	**0.09**	**96**	P	**Pg**	**18 32 43.1**	**-0.6**
MMO1				S	**Sg**	**18 32 45.1**	**-0.7**
NRCA	**Norcia**	**0.10**	**220**	P	**Pg**	**18 32 43.7**	**0.0**
NRCA				AML	AML		
	comp=E,13200μm,1.0s						
NRCA				AML	AML		
	comp=N,13050μm,1.3s						
NRCA				AML	AML		
	comp=E,13700μm,1.0s						
NRCA				AML	AML		
	comp=E,13200μm,1.0s						
NRCA				AML	AML		
	comp=N,13100μm,1.3s						
NRCA				AML	AML		
	comp=N,13900μm,1.3s						
NRCA				AML	AML		
	comp=E,13150μm,1.0s						
T1256	**Bolognola (MC)**	**0.10**	**11**	P	**Pg**	**18 32 42.5**	**-1.4**
T1256				AML	AML		
	comp=E,38350μm,0.5s						
T1256				AML	AML		
	comp=N,79500μm,0.5s						
T1256				AML	AML		
	comp=E,42100μm,0.5s						
T1256				AML	AML		
	comp=E,38350μm,0.5s						
T1256				AML	AML		
	comp=N,79500μm,0.4s						
T1256				AML	AML		
	comp=N,75550μm,0.4s						
T1216	**Preci, Frazion**	**0.13**	**262**	P	**Pg**	**18 32 43.9**	**-0.3**
T1216				AML	AML		
	comp=E,7170μm,0.5s						
T1216				AML	AML		
	comp=N,7265μm,0.6s						
T1216				AML	AML		
	comp=E,7175μm,0.5s						
T1216				AML	AML		
	comp=N,7260μm,0.6s						
T1216				AML	AML		
	comp=E,7180μm,0.5s						
T1216				AML	AML		
	comp=N,7270μm,0.6s						
FDMO	**Fiordimonte**	**0.15**	**327**	P	**Pg**	**18 32 43.6**	**-0.9**
FDMO				S	**Sg**	**18 32 46.3**	**-0.7**
FDMO				AML	AML		
	comp=E,12550μm,0.7s						
FDMO				AML	AML		
	comp=N,13150μm,0.3s						
T1241	**Roccafluvione,**	**0.18**	**107**	P	**Pg**	**18 32 44.8**	**-0.1**
T1241				S	**Sg**	**18 32 48.1**	**+0.4**
T1241				AML	AML		
	comp=E,17100μm,0.5s						
T1241				AML	AML		
	comp=N,8995μm,0.4s						
T1241				AML	AML		
	comp=E,17050μm,0.5s						
T1241				AML	AML		
	comp=N,9000μm,0.4s						
T1241				AML	AML		
	comp=N,8995μm,0.4s						
T1241				AML	AML		
	comp=E,17000μm,0.5s						
T1241				AML	AML		
	comp=N,8260μm,0.5s						
T1241				AML	AML		
	comp=E,17100μm,0.5s						
CSP1	**Cessapalombo**	**0.18**	**1**	P	**Pg**	**18 32 44.2**	**-0.9**
CSP1				S	**Sg**	**18 32 47.0**	**-1.0**
CSP1				AML	AML		
	comp=N,14850μm,1.6s						
CSP1				AML	AML		
	comp=E,9160μm,1.0s						
GUMA	**Gualdo di Mace**	**0.18**	**33**	P	**Pg**	**18 32 44.5**	**-0.5**
GUMA				S	**Sg**	**18 32 47.7**	**-0.1**
GUMA				AML	AML		
	comp=E,40700μm,1.4s						
GUMA				AML	AML		
	comp=E,52400μm,0.5s						
GUMA				AML	AML		
	comp=N,43350μm,0.4s						
GUMA				AML	AML		
	comp=N,41150μm,0.4s						
GUMA				AML	AML		
	comp=E,40750μm,1.4s						
T1219	**Muccia, Frazio**	**0.20**	**316**	P	**Pg**	**18 32 44.8**	**-0.6**
T1219				S	**Sg**	**18 32 48.3**	**-0.1**
T1219				AML	AML		
	comp=E,7410μm,1.2s						
T1219				AML	AML		
	comp=N,8785μm,0.8s						
T1219				AML	AML		
	comp=E,7335μm,1.2s						
T1219				AML	AML		
	comp=N,8955μm,0.8s						
T1219				AML	AML		
	comp=N,8785μm,0.8s						
T1219				AML	AML		
	comp=E,7330μm,1.2s						
T1219				AML	AML		
	comp=N,8975μm,0.8s						
T1219				AML	AML		
	comp=E,7405μm,1.2s						
CESI	**CESI - Serrava**	**0.24**	**294**	P	**Pg**	**18 32 45.5**	**-0.5**
CESI				S	**Sg**	**18 32 50.2**	**+0.8**
CESI				AML	AML		
	comp=E,6860μm,0.7s						
CESI				AML	AML		
	comp=N,10300μm,0.5s						
T1218	**Civita (PG)**	**0.25**	**195**	P	**Pg**	**18 32 46.8**	**+0.6**
T1218				S	**Sb**	**18 32 51.7**	**+2.1**
T1218				AML	AML		
	comp=N,3355μm,0.7s						
T1218				AML	AML		
	comp=E,3165μm,1.6s						
T1218				AML	AML		
	comp=N,3368μm,0.7s						
T1218				AML	AML		
	comp=N,3360μm,0.7s						
T1218				AML	AML		
	comp=N,3366μm,0.7s						
T1218				AML	AML		
	comp=E,3165μm,1.6s						
T1218				AML	AML		
	comp=E,3070μm,1.6s						
T1215	**Vallo di Nera,**	**0.27**	**246**	P	**Pg**	**18 32 43.1**	**-3.3**
T1215				AML	AML		
	comp=N,1775μm,0.7s						
T1215				AML	AML		
	comp=E,1450μm,1.6s						
T1215				AML	AML		
	comp=N,1710μm,0.9s						
T1215				AML	AML		
	comp=E,1420μm,1.6s						
T1215				AML	AML		
	comp=N,1770μm,0.8s						
T1215				AML	AML		
	comp=N,1775μm,0.8s						
T1243	**Rocca Santa Ma**	**0.28**	**139**	P	**Pg**	**18 32 46.9**	**+0.1**
T1243				S	**Sb**	**18 32 52.4**	**-0.4**
SMA1	**SAN MARTINO**	**0.29**	**160**	P	**Pg**	**18 32 47.3**	**+0.3**
SMA1				S	**Sb**	**18 32 52.8**	**-0.4**
SMA1				AML	AML		
	comp=N,3395μm,0.8s						
SMA1				AML	AML		
	comp=E,3365μm,0.8s						
SEF1	**Sefro**	**0.30**	**322**	P	**Pg**	**18 32 46.8**	**-0.3**
SEF1				S	**Sg**	**18 32 51.7**	**+0.5**
SEF1				AML	AML		
	comp=E,11265μm,0.3s						
SEF1				AML	AML		
	comp=N,9480μm,0.5s						
SEF1				AML	AML		
	comp=N,9485μm,0.4s						
SEF1				AML	AML		
	comp=E,11265μm,0.3s						
MNTP	**Montappone**	**0.30**	**41**	P	**Pg**	**18 32 47.2**	**+0.1**
MNTP				AML	AML		
	comp=E,11285μm,0.9s						
MNTP				AML	AML		
	comp=N,11400μm,0.9s						
MNTP				AML	AML		
	comp=E,11330μm,0.9s						
MNTP				AML	AML		
	comp=N,11350μm,0.9s						
LNSS	**Leonessa**	**0.33**	**201**	P	**Pg**	**18 32 48.2**	**+0.6**
LNSS				S	**Sb**	**18 32 54.5**	**+0.3**
LNSS				AML	AML		
	comp=E,2065μm,0.2s						
LNSS				AML	AML		
	comp=N,3845μm,0.2s						
OFFI	**Offida**	**0.36**	**86**	P	**Pb**	**18 32 48.9**	**-0.5**
OFFI				AML	AML		
	comp=N,8150μm,0.9s						
OFFI				AML	AML		
	comp=E,4735μm,0.6s						
SNTG	**Esanatoglia**	**0.40**	**331**	⇑P	**Pg**	**18 32 48.1**	**-0.7**
SNTG				AML	AML		
	comp=E,2530μm,0.4s						
SNTG				AML	AML		
	comp=N,2135μm,0.8s						
SNTG				AML	AML		
	comp=E,2490μm,0.4s						
SNTG				AML	AML		
	comp=N,2310μm,0.8s						
RM33	**Pellescritta (**	**0.40**	**178**	P	**Pg**	**18 32 49.3**	**+0.4**
RM33				S	**Sb**	**18 32 56.6**	**+0.3**
RM33				AML	AML		
	comp=N,1520μm,1.3s						
RM33				AML	AML		
	comp=N,1475μm,1.4s						
RM33				AML	AML		
	comp=E,1925μm,0.9s						
RM33				AML	AML		
	comp=E,1885μm,0.9s						
CAMP	**Campotosto**	**0.40**	**157**	P	**Pg**	**18 32 49.2**	**+0.2**
CAMP				S	**Sb**	**18 32 56.2**	**-0.1**
CAMP				AML	AML		
	comp=E,1365μm,0.9s						
CAMP				AML	AML		
	comp=N,1405μm,0.7s						
TERO	**Teramo**	**0.41**	**134**	P	**Pg**	**18 32 49.0**	**-0.1**
TERO				S	**Sb**	**18 32 56.3**	**-0.3**
TERO				AML	AML		
	comp=E,2540μm,0.8s						
TERO				AML	AML		
	comp=E,2650μm,0.8s						
TERO				AML	AML		
	comp=N,1895μm,0.6s						
TERO				AML	AML		
	comp=N,1860μm,0.6s						
ASSB	**Assisi San Ben**	**0.42**	**289**	⇑P	**Pg**	**18 32 49.0**	**-0.2**
ASSB				AML	AML		
	comp=E,2480μm,0.6s						
ASSB				AML	AML		
	comp=N,1875μm,1.0s						
EL6	**Elcito**	**0.43**	**350**	⇑P	**Pg**	**18 32 48.6**	**-0.8**
EL6				AML	AML		
	comp=E,3505μm,0.4s						
EL6				AML	AML		
	comp=N,3945μm,0.3s						
T1211	**Morro Reatino**	**0.45**	**214**	⇑P	**Pg**	**18 32 46.8**	**-3.1**
T1211				S	**Sb**	**18 32 59.0**	**+1.2**
T1211				AML	AML		
	comp=E,822μm,1.0s						
T1211				AML	AML		
	comp=E,818μm,1.0s						
T1211				AML	AML		
	comp=N,1965μm,0.4s						
ARRO	**Arrone**	**0.46**	**224**	⇑P	**Pg**	**18 32 50.3**	**+0.4**
ARRO				AML	AML		
	comp=E,991μm,1.3s						
ARRO				AML	AML		
	comp=N,805μm,1.1s						
ARRO				AML	AML		
	comp=E,994μm,1.3s						
ARRO				AML	AML		
	comp=N,804μm,1.1s						
CING	**Cingoli**	**0.47**	**360**	⇓P	**Pg**	**18 32 49.5**	**-0.7**
CING				AML	AML		
	comp=N,1550μm,1.1s						
CING				AML	AML		
	comp=E,2390μm,1.1s						
T1247	**Pizzolo (AQ)**	**0.47**	**171**	P	**Pg**	**18 32 50.7**	**+0.5**
T1247				S	**Sb**	**18 32 58.3**	**0.0**
T1247				AML	AML		
	comp=E,1815μm,0.7s						
T1247				AML	AML		
	comp=N,1625μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.49**	**304**	⇑P	**Pg**	**18 32 50.4**	**-0.3**
ATCC				S	**Sb**	**18 32 59.0**	**+0.1**
ATCC				AML	AML		
	comp=E,2735μm,0.9s						
ATCC				AML	AML		
	comp=N,2625μm,0.5s						
ATCC				AML	AML		
	comp=E,2740μm,0.9s						
ATCC				AML	AML		
	comp=N,2630μm,0.5s						
FOSV	**Fossato di Vic**	**0.50**	**320**	⇑P	**Pg**	**18 32 50.0**	**-0.8**
FOSV				S	**Sb**	**18 32 59.0**	**-0.2**
FOSV				AML	AML		
	comp=E,2150μm,0.7s						
FOSV				AML	AML		
	comp=N,4060μm,1.5s						
FOSV				AML	AML		
	comp=N,4055μm,1.5s						
GIGS	**Gran Sasso**	**0.53**	**149**	P	**Pg**	**18 32 51.4**	**0.0**
GIGS				S	**Sb**	**18 33 00.5**	**+0.5**
GIGS				AML	AML		
	comp=E,310μm,0.5s						
GIGS				AML	AML		
	comp=N,272μm,0.6s						
TRTR	**Tortoreto Alta**	**0.54**	**101**	⇓P	**Pb**	**18 32 52.7**	**+0.3**
TRTR				AML	AML		
	comp=E,5625μm,0.6s						
TRTR				AML	AML		
	comp=N,5445μm,0.5s						
PP3	**Marolino**	**0.56**	**32**	⇓P	**Pb**	**18 32 52.2**	**-0.5**
PP3				AML	AML		
	comp=E,3170μm,1.0s						
PP3				AML	AML		
	comp=E,3225μm,1.0s						
PP3				AML	AML		
	comp=N,4675μm,0.4s						
PP3				AML	AML		
	comp=N,4940μm,0.4s						
MURB	**Monte Urbino**	**0.61**	**306**	⇑P	**Pg**	**18 32 52.4**	**-0.4**
MURB				S	**Sb**	**18 33 04.0**	**+1.8**
MURB				AML	AML		
	comp=E,2685μm,0.3s						
MURB				AML	AML		
	comp=N,2765μm,0.3s						
MURB				AML	AML		
	comp=E,2765μm,0.3s						
MURB				AML	AML		
	comp=N,2875μm,0.3s						
MURB				AML	AML		
	comp=N,2760μm,0.3s						
SSFR	**Montelago di S**	**0.61**	**330**	P	**Pg**	**18 32 52.1**	**-0.7**
SSFR				S	**Sb**	**18 33 03.0**	**+0.7**
SSFR				AML	AML		
	comp=E,2640μm,1.2s						
SSFR				AML	AML		
	comp=N,2565μm,0.3s						
SSFR				AML	AML		
	comp=N,2630μm,0.7s						
SSFR				AML	AML		
	comp=E,2865μm,1.2s						
ARVD	**Arcevia**	**0.62**	**342**	P	**Pg**	**18 32 52.4**	**-0.6**
ARVD				S	**Sb**	**18 33 03.0**	**+0.5**
ARVD				AML	AML		
	comp=E,1485μm,0.2s						
ARVD				AML	AML		
	comp=N,807μm,1.6s						
FIAM	**Fiamignano**	**0.64**	**185**	⇓P	**Pg**	**18 32 53.5**	**+0.1**
FIAM				AML	AML		
	comp=E,532μm,0.8s						
FIAM				AML	AML		
	comp=N,640μm,1.1s						
ATFO	**Monte Foce - G**	**0.65**	**315**	⇑P	**Pg**	**18 32 53.0**	**-0.6**
ATFO				S	**Sb**	**18 33 04.0**	**+0.6**
ATFO				AML	AML		
	comp=E,1935μm,1.1s						
ATFO				AML	AML		
	comp=N,926μm,1.0s						
ATTE	**AVT- Monte Tez**	**0.68**	**295**	⇑P	**Pn**	**18 32 56.6**	**0.0**
ATTE				AML	AML		
	comp=N,553μm,0.9s						
ATTE				AML	AML		
	comp=E,538μm,1.4s						
VCEL	**Villa Celiera**	**0.70**	**137**	⇓P	**Pg**	**18 32 54.5**	**0.0**
VCEL				AML	AML		
	comp=N,1055μm,0.9s						
VCEL				AML	AML		
	comp=E,1200μm,0.6s						
FRON	**Frontone**	**0.70**	**331**	⇓P	**Pg**	**18 32 53.7**	**-0.8**
FRON				AML	AML		
	comp=E,1400μm,1.6s						
FRON				AML	AML		
	comp=N,1885μm,0.4s						
FAGN	**Fagnano**	**0.70**	**156**	⇓P	**Pg**	**18 32 54.6**	**+0.1**
FAGN				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,1235µm,0.4s						
FAGN				AML	AML		
	comp=E,1305µm,0.5s						
AOI	Ancona	0.70	25	⇑P	Pg	18 32 54.5	-0.2
AOI				AML	AML		
	comp=E,758µm,0.4s						
AOI				AML	AML		
	comp=N,1075µm,0.3s						
COR1	Corinaldo	0.74	349	P	Pb	18 32 55.7	-0.1
COR1				S	Sn	18 33 09.0	+0.5
ATVO	AVT- Monte Val	0.75	309	⇑P	Pg	18 32 54.7	-0.8
ATVO				S	Sb	18 33 08.0	+1.7
ATVO				AML	AML		
	comp=E,676µm,0.6s						
ATVO				AML	AML		
	comp=N,785µm,1.1s						
MPAG	Monte Paganucc	0.79	336	⇑P	Pg	18 32 55.6	-0.6
MPAG				AML	AML		
	comp=N,838µm,0.5s						
MPAG				AML	AML		
	comp=E,978µm,1.5s						
ATPI	Pietralunga -	0.80	313	⇑P	Pg	18 32 56.3	0.0
ATPI				S	Sb	18 33 09.0	+1.4
ATPI				AML	AML		
	comp=N,612µm,1.1s						
ATPI				AML	AML		
	comp=E,946µm,0.5s						
MGAB	Montegabbione	0.80	271	P	Pg	18 32 56.2	-0.2
MGAB				AML	AML		
	comp=N,936µm,0.4s						
MGAB				AML	AML		
	comp=E,629µm,1.5s						
MGAB				AML	AML		
	comp=N,890µm,0.5s						
MGAB				AML	AML		
	comp=E,685µm,0.3s						
ATMI	Monte Miggiano	0.80	302	⇑P	Pn	18 32 59.2	+1.0
ATMI				AML	AML		
	comp=E,880µm,0.5s						
ATMI				AML	AML		
	comp=N,1185µm,0.6s						
T0110	Collepietro	0.81	148	⇑P	Pg	18 32 56.2	-0.3
T0110				AML	AML		
	comp=E,862µm,0.5s						
T0110				AML	AML		
	comp=N,951µm,1.3s						
FSSB	Fossombrone	0.84	339	⇑P	Pg	18 32 56.5	-0.7
FSSB				AML	AML		
	comp=E,2050µm,0.4s						
FSSB				AML	AML		
	comp=N,6700µm,0.4s						
BADI	Badiali	0.92	311	⇓P	Pg	18 32 58.2	-0.5
BADI				S	Sn	18 33 13.0	-0.1
CERT	Cerreto	0.97	190	S	Pn	18 33 02.0	+1.4
MCIV	Monte Civitell	1.13	264	P	Pn	18 33 03.6	+0.9
MCIV				AML	AML		
	comp=N,220µm,1.3s						
MCIV				AML	AML		
	comp=E,147µm,0.8s						
MIDA	Miranda	1.49	148	P	Pn	18 33 04.7	-3.0
MIDA				AML	AML		
	comp=E,246µm,1.3s						
MIDA				AML	AML		
	comp=N,180µm,1.4s						
IMOL	Imola, Italy	1.79	324	S	Sn	18 33 33.0	-1.6
GSCL	Gusciola	2.38	308	P	Pn	18 33 19.4	-0.5
PGF	Pioggiola	3.12	265	ePn	Pn	18 33 31.6	+1.5
ABTA	Abfaltersbach	3.87	353	i Pn	Pn	18 33 41.5	+1.1
	comp=N,9.1nm,0.5s,SNR=15						
ABTA				eSn	Sn	18 34 26.0	+0.1
	comp=N,6.5nm,0.5s						
SBF	Sospel	4.31	285	eSn	Sn	18 34 36.2	-0.5
	comp=N,7.6nm,0.5s						
FETA	Feichten	4.47	338	ePn	Pn	18 33 50.9	+2.2
	comp=N,2.0nm,0.4s						
WTTA	Wattenberg	4.49	346	ePn	Pn	18 33 51.1	+2.0
	comp=N,1.4nm,0.2s,SNR=4.8						
SQTA	Sankt Quirin	4.54	343	ePn	Pn	18 33 51.8	+2.2
	comp=N,8.0nm,0.4s,SNR=12						
SQTA				i Sn	Sn	18 34 45.2	+2.8
	comp=N,7.0nm,0.4s						
MOTA	Moosalm	4.68	342	i Pn	Pn	18 33 53.6	+2.0
	comp=N,5.4nm,0.6s						
MOTA				eSn	Sn	18 34 48.2	+2.3
	comp=N,3.2nm,0.4s						
BIOA	Bad Ischl, Aus	4.79	4	i Pn	Pn	18 33 54.9	+1.9
	comp=N,1.6nm,0.3s						
BIOA				i Sn	Sn	18 34 50.8	+2.2
	comp=N,4.7nm,0.4s						
LMR	La Mourre	4.92	277	ePn	Pn	18 33 55.8	+1.1
DAVA	Damuels	4.97	333	eSn	Sn	18 34 55.9	+2.9
	comp=N,4.0nm,0.6s						
MBDF	Montbardon	4.99	294	ePn	Pn	18 33 57.2	+1.3
MBDF				eSn	Sn	18 34 51.9	-1.8
	comp=N,2.3nm,0.6s						
MOA	Molln	5.00	8	i Pn	Pn	18 33 56.7	+0.8
	comp=N,0.7nm,0.3s						
MOA				i Sn	Sn	18 34 54.2	+0.6
	comp=N,1.2nm,0.3s						
LPG	La Plagne	5.31	301	ePn	Pn	18 34 01.6	+1.2
LPG				eSn	Sn	18 34 59.6	-2.0
	comp=N,4.1nm,0.5s						
LPL	La Plagne	5.33	301	ePn	Pn	18 34 01.7	+1.1
LPL				eSn	Sn	18 34 59.0	-3.1
	comp=N,2.2nm,0.4s						
CONA	Conrad Observa	5.36	20	i Pn	Pn	18 34 01.6	+0.7
	comp=N,0.8nm,0.2s						
CONA				i Sn	Sn	18 35 01.2	-1.4
	comp=N,2.4nm,0.6s						
SMRF	Simiane la Rot	5.65	283	ePn	Pn	18 34 07.1	+2.2
ORIF	Oris-en-Rattie	5.66	293	ePn	Pn	18 34 08.0	+3.0
KHC	Kasperske Hory	6.23	2	ePN	Pn	18 34 12.5	-0.3
KHC				eSN	Sn	18 35 19.7	-4.2
CABF	La Chapelle	6.27	309	ePn	Pn	18 34 15.0	+1.6
CABF				eSn	Sn	18 35 22.4	-2.7
	comp=N,2.3nm,0.6s						
HINF	Hinteralfeld	6.64	320	ePn	Pn	18 34 15.6	-2.8
HINF	Hinteralfeld	6.64	320	eP	Pn	18 34 22.2	+3.8
HINF				eSn	Sn	18 35 32.5	-1.5
	comp=N,2.3nm,0.3s						
CDF	Champ du Feu	6.89	325	ePn	Pn	18 34 23.1	+1.2
CDF	Champ du Feu	6.89	325	eP	Pn	18 34 25.8	+3.9
CDF				eSn	Sn	18 35 35.8	-4.5
	comp=N,3.5nm,0.6s						
HAU	Haudompre	7.01	319	ePn	Pn	18 34 22.4	-1.1
HAU	Haudompre	7.01	319	eP	Pn	18 34 27.9	+4.4
HAU				eSn	Sn	18 35 41.1	-2.1
	comp=N,4.1nm,0.4s						
LOR	Lormes	7.92	307	eSn	Sn	18 36 00.8	-4.6
	comp=N,2.0nm,0.5s						

MAN 12 18:41:05.2, 9°.78N×125°.41E, h34km, mb3.6, ML2.3, MS1.8, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.08	90	⇓iP	Pb	18 41 10.5	-0.5
SCPH				i S	Sb	18 41 14.9	-0.1
MSLP	Maasin	0.64	303	⇑eP	Pb	18 41 18.7	+0.5
MSLP				eS	Sb	18 41 28.4	+1.3
GLSP	General Luna,	0.71	90	⇑eP	Pb	18 41 20.4	+1.1
GLSP				eS	Sb	18 41 29.9	+1.0

MAN 12 19:10:19.1, 13°.60N×120°.46E, h33km, mb3.5, ML2.2, MS1.7, Mindoro

LDG 12 19:18:59.4±0.1, 43°.10N×0°.39W, h3km, Md3.0/2, Ml2.8/16, Error ellipse: s-maj=1.2km s-min=1.1km az=1.0
STR 12 19:18:60.0±0.3, 43°N±3°×°±°, h8km, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=18.0, preliminary
ISC 12 19:18:59.4±0.8, 43°.16N±0°.02×0°.37W±0°.02, h0km±8km, n53, σ2s.16/84, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYLO	Lourdes	0.24	105	Pg	Pg	19 19 04.3	+0.3
PYLO				Sg	Sg	19 19 08.3	+1.1
ATE	Arette	0.25	253	Pg	Pg	19 19 04.2	0.0
ATE				Sg	Sg	19 19 07.4	-0.1
ETSF	Etsaut	0.30	208	ePg	Pg	19 19 04.0	-1.0
ETSF				eSg	Sg	19 19 07.0	-1.9
	176nm,0.3s						
VIEF	Viey	0.40	134	Pg	Pg	19 19 06.5	-0.6
VIEF				Sg	Sg	19 19 11.6	-0.6
CANF	Canfranc	0.41	195	Pg	Pg	19 19 06.1	-1.1
CANF				Sg	Sg	19 19 10.9	-1.7
EPF	Esparros	0.54	104	ePg	Pg	19 19 09.7	+0.1
EPF				eSg	Sg	19 19 17.6	+1.0
	68nm,0.2s						
SJPF	Ste Jean	0.63	266	ePg	Pg	19 19 11.0	-0.4
SJPF				eSg	Sg	19 19 18.5	-1.0
	30nm,0.2s						
ECHI	Chisagues Biel	0.65	140	Pg	Pg	19 19 10.8	-1.0
ECHI	Chisagues Biel	0.65	140	Sg	Sg	19 19 18.5	-1.6
OSSF	Osses	0.66	279	Pg	Pg	19 19 12.1	+0.1
OSSF				Sg	Sg	19 19 21.5	+0.9
TERF	Tercis-les-Bai	0.75	314	Pg	Pg	19 19 15.3	+1.5
TERF				Sg	Sg	19 19 25.9	+2.4
EALK	Alkurruntz	0.83	274	Sg	Sg	19 19 26.0	-0.1
EALK	Alkurruntz	0.83	274	Pg	Pg	19 19 14.5	-0.8
MLS	Moulis	1.09	100	Pg	Pg	19 19 20.3	0.0
MLS				Sg	Sb	19 19 36.0	+0.1
PAND	Andorre	1.55	114	Pn	Pn	19 19 27.2	-1.1
PAND				Sn	Sn	19 19 47.9	-1.3
LRVF	chteau la Riv	1.79	1	Pn	Pn	19 19 31.9	+0.5
LRVF				Sn	Sn	19 19 55.9	+1.1
FNEB	Nbias	1.83	97	Pn	Pn	19 19 31.9	-0.2
FNEB				Sn	Sn	19 19 55.4	-0.6
MTLF	Montolieu	1.90	84	ePg	Pb	19 19 35.3	+0.4
MTLF				eSg	Sb	19 19 59.3	+0.2
	13nm,0.2s						
MTLF	Montolieu	1.90	84	Pn	Pn	19 19 32.8	-0.2
MTLF				Sn	Sn	19 19 57.8	+0.2
LFF	La Frestale	1.95	24	ePn	Pn	19 19 32.4	-1.3
LFF	La Frestale	1.95	24	ePg	Pb	19 19 37.1	+1.4
LFF				eSg	Sb	19 20 03.0	+2.4
	24nm,0.3s						
CAF	Calviac	2.49	44	ePn	Pn	19 19 40.7	-0.4
CAF	Calviac	2.49	44	ePg	Pg	19 19 47.9	+0.8
CAF				eSn	Sn	19 20 09.4	-2.8
CAF				eSg	Sb	19 20 19.4	+3.3
	8.7nm,0.2s						
RJF	Les Rejaudoux	2.54	32	ePn	Pn	19 19 39.9	-1.9
RJF	Les Rejaudoux	2.54	32	ePg	Pb	19 19 47.8	+2.1
RJF				eSn	Sn	19 20 10.6	-2.7
RJF				eSg	Sb	19 20 20.6	+3.1
	12nm,0.2s						
LASF	Ste Croix	3.20	72	ePn	Pn	19 19 49.9	-1.0
LASF	Ste Croix	3.20	72	ePg	Pb	19 19 59.7	+2.6
LASF				eSn	Sn	19 20 26.3	-3.5
LASF				eSg	Sg	19 20 41.0	-1.2
	4.0nm,0.3s						
MFF	Saint Martin d	3.44	3	ePn	Pn	19 19 52.7	-1.5
MFF	Saint Martin d	3.44	3	ePg	Pb	19 20 04.6	+3.4
MFF				eSg	Sb	19 20 48.0	+4.4
	5.8nm,0.3s						
TCF	Toulx Ste Croi	3.63	30	ePn	Pn	19 19 55.5	-1.3
TCF	Toulx Ste Croi	3.63	30	ePg	Pb	19 20 07.9	+3.6
TCF				eSg	Sg	19 20 55.1	-0.8
	6.1nm,0.3s						
VIVF	Saint-Julien-l	4.01	63	ePn	Pn	19 20 01.2	-0.9
VIVF	Saint-Julien-l	4.01	63	ePg	Pg	19 20 15.0	-1.3
VIVF				eSn	Sn	19 20 45.6	-4.2
VIVF				eSg	Sg	19 21 06.3	-2.0
	1.5nm,0.3s						
BGF	Bois d'Agland	4.09	33	ePn	Pn	19 20 02.2	-1.0
BGF	Bois d'Agland	4.09	33	ePg	Pb	19 20 16.0	+3.7
BGF				eSg	Sg	19 21 09.7	-1.2
	19nm,0.4s						
AVF	Avril sur Loir	4.49	35	ePn	Pn	19 20 07.7	-0.9
AVF	Avril sur Loir	4.49	35	ePg	Pg	19 20 24.0	-1.4
AVF				eSg	Sg	19 21 21.0	-2.5
	2.3nm,0.4s						
SMF	Signal de Mont	4.59	39	eSg	Sg	19 21 24.6	-2.2
	1.0nm,0.2s						
HYF	Humbligny	4.62	26	eSg	Sg	19 21 26.7	-1.2
SSF	Saint Saulge	4.77	34	ePn	Pn	19 20 09.9	-2.5
SSF	Saint Saulge	4.77	34	ePg	Pb	19 20 28.4	+4.6
SSF				eSg	Sg	19 21 30.2	-2.3
	2.9nm,0.4s						
LOR	Lormes	5.08	35	eSn	Sn	19 21 11.5	-4.5
LOR				eSg	Sg	19 21 39.6	-2.9
	2.7nm,0.4s						
QUIF	Quistinic	5.15	339	ePn	Pn	19 20 16.3	-1.3
QUIF	Quistinic	5.15	339	ePg	Pb	19 20 35.1	+4.9
QUIF				eSg	Sg	19 21 41.5	-3.1
GRR	Gorron	5.24	356	ePn	Pn	19 20 17.8	-1.1
GRR	Gorron	5.24	356	ePg	Pg	19 20 37.3	-2.4
GRR				eSn	Sn	19 21 14.2	-5.7
GRR				eSg	Sg	19 21 45.8	-1.8
SGMF	Saint Gilles	5.32	344	ePg	Pb	19 20 38.0	+4.9
SGMF				eSg	Sg	19 21 47.2	-3.0
LDF	La Druitiere	5.44	2	ePn	Pn	19 20 19.9	-1.7
LDF	La Druitiere	5.44	2	ePg	Pb	19 20 39.7	+4.6
LDF				eSg	Sg	19 21 50.4	-3.5
ROSF	Rostrenen	5.56	340	ePn	Pn	19 20 21.3	-2.0
ROSF	Rostrenen	5.56	340	ePg	Pb	19 20 42.5	+5.3
ROSF				eSg	Sg	19 21 54.6	-3.3
FLN	La Foliniere	5.60	359	eSg	Sg	19 21 56.5	-2.8
CLL	Collm	12.19	43	ePn	Pn	19 21 48.0	-6.1
CLL				ex	x	19 22 37.0	

MOS 12 19:28:57.6±1.1, 46°.59N×150°.12E, h184km, mb4.1/11, Error ellipse: s-maj=9.7km s-min=7.1km az=76.3
SKHL 12 19:28:58.1±0.3, 46°.50N×150°.10E, h167km±10km, mb4.8/9, msha5.5/4
NEIC 12 19:28:59.3±1.5, 46°.6N±0°.1×150°.1E±0°.2, h180km±8km, mb4.1/43, Error ellipse: s-maj=18.6km s-min=12.4km az=135.0
IDC 12 19:29:01.1±2.1, 46°.63N×150°.03E, h200km±20km, mb3.5/21, mbtmp4.0/28, Error ellipse: s-maj=13.7km s-min=10.5km az=133.0
JMA 12 19:29:01.1±0.8, 46°N±4°×15°0E±°, h147km, MV4.0/13, KURILE ISLANDS REGION
ISC 12 19:28:59.7±0.5, 46°.37N±0°.07×150°.09E±0°.07, h200km, n147, σ1s.83/151, mb4.0/46, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.93	235	i P	Pn	19 29 36.1	-1.3
KUR				AMB	AMB	19 29 36.6	
	180nm,0.4s						
KUR				eS	Sn	19 30 06.0	-0.7
KUR				A	A	19 30 08.6	
	340nm,0.4s						
KUR				A	A	19 30 08.6	
	460nm,0.4s						
KUR	Kuril'sk	1.93	235c	iPN	Pn	19 29 36.1	-1.3
KUR				S	Sn	19 30 06.3	-0.4
KUR				pmax	pmax		
	comp=Z,184nm,0.5s						
KUR				smax	smax		
	comp=E,458nm,0.4s						
KUR				smax	smax		
	comp=N,443nm,0.3s						
YUK	Yuzh-Kuril'sk	3.79	234	i P	Pn	19 29 58.1	-0.8
YUK				AMB	AMB	19 29 59.2	
	comp=N,250nm,0.3s						
YUK				i S	Sn	19 30 44.7	-0.6
YUK				A	A	19 30 47.4	
	comp=N,290nm,0.5s						
YUK				A	A	19 30 47.4	
	comp=N,320nm,0.5s						
YUK	Yuzh-Kuril'sk	3.79	234c	iPN	Pn	19 29 58.3	-0.6
YUK				i S	Sn	19 30 44.7	-0.6
YUK				pmax	pmax		
	comp=N,81nm,0.2s						
YUK				pmax	pmax		
	comp=E,73nm,0.2s						
YUK				pmax	pmax		
	comp=Z,311nm,0.2s						
YUK				smax	smax		
	comp=E,362nm,0.4s						
YUK				smax	smax		
	comp=N,292nm,0.3s						
RUSJ	Misakicho	4.11	238	⇑iPN	Pn	19 30 04.0	+1.3
RUSJ				i S	Sn	19 30 56.5	+4.3
JRA	Rausu	4.28	237	eP	Pn	19 30 04.4	-0.4
NEM2	Nemuro 2	4.31	227	eP	Pn	19 30 02.6	-2.7
NEM2				eS	Sn	19 30 50.1	-6.8
NMR	Nemuro--Hokkai	4.32	228	i P	Pn	19 30 02.5	-2.9
NMR				AMB	AMB	19 30 03.9	
	comp=N,30nm,0.3s						
NMR	Nemuro--Hokkai	4.32	228	⇑iPN	Pn	19 30 02.5	-2.9
JNK	Nakash	4.72	236	eP	Pn	19 30 09.8	-0.7
JTKR	Abashiri--Toko	4.99	243	eP	Pn	19 30 14.3	+0.4
AKK	Akkeshi	5.03	230	eP	Pn	19 30 11.8	-2.6
AKK				AMB	AMB	19 30 13.2	
	comp=N,30nm,0.3s						
JAK	Akkeshi	5.12	231	eP	Pn	19 30 13.4	-2.1
JAK				eS	Sn	19 31 09.5	-5.8
JAR	Ashorobuto	5.45	238	eP	Pn	19 30 20.9	+1.2
JAR				eS	Sn	19 31 21.5	-1.5
JOB	Onbets	5.65	234	eP	Pn	19 30 21.2	-1.2
JOB				eS	Sn	19 31 23.3	-4.5
JKA	Kamikawa-asahi	5.75	250	Pn	Pn	19 30 24.3	+0.6
JKA	Kamikawa-asahi	5.75	250	eP	Pn	19 30 24.3	+0.6
ASAJ	Asahikawa	5.75	250	PN	Pn	19 30 24.3	+0.6
JKK2	Kamakawa 2	5.77	247	eP	Pn	19 30 25.2	+1.3
SKR	Severo-Kuril's	5.88	41	eP	Pn	19 30 22.9	-2.3
SKR				AMB	AMB	19 30 23.8	
	comp=N,30nm,0.4s						
JCH	Churui	6.11	234	eP	Pn	19 30 26.6	-1.7
JCH				eS	Sn	19 31 31.7	-6.6
ERM	Erimo	6.62	231	Pn	Pn	19 30 33.6	-1.3
ERM	Erimo	6.62	231	PN	Pn	19 30 33.6	-1.3
JNBK	Urakawa-nobuka	6.67	235	eP	Pn	19 30 33.0	-2.5
JNBK				eS	Sn	19 31 41.2	-10
PAU	Pauzhetka	6.75	38	eP	Pn	19 30 33.4	-3.1
PAU				AMB	AMB	19 30 36.3	
	comp=N,20nm,0.4s						
PEA0B	Petropavlovsk-	8.35	33	Pn	Pn	19 30 53.5	-3.8
PEA0B	Petropavlovsk-	8.35	33	PN	Pn	19 30 53.5	-3.8
PETK	Petropavlovsk-	8.35	33	P	Pn	19 30 54.6	-2.6
	comp=N,3.8nm,0.6s,baz=178,slow=10,SNR=31						
PETK	Petropavlovsk-	8.35	33	Pn	Pn	19 30 53.1	-4.2
JTM	Tenmabayashi	8.60	233	Pn	Pn	19 30 57.5	-3.2
JANG	Nango	8.65	229	eP	Pn	19 30 57.6	-3.8
JANG				eS	Sn	19 32 27.5	-11
JTH	Tanohata	8.80	226	eS	Sn	19 32 31.8	-10
JMM	Marumori	10.94	222	Pn	Pn	19 31 28.8	-2.2
KLR	Kul'dur	12.66	290	P	Pn	19 31 51.6	-1.1
	comp=N,2.8nm,0.9s,baz=111,slow=12,SNR=5.8						
USRK	Ussuriysk Ar.	12.94	267	P	Pn	19 31 57.3	+1.1
	comp=N,0.8nm,0.3s,baz=69,slow=10,SNR=7.2						
MJB9	Matsu-Tunnel	13.25	226		P	19 32 05.7	+2.6
MAJO	Matsushiro	13.25	226		P	19 32 05.3	+2.2
MAJO	Matsushiro	13.25	226	PN	P	19 32 05.3	+2.2
MJAR	Matsushiro Arr	13.25	226	P	P	19 32 04.2	+1.1
	comp=N,0.7nm,0.6s,baz=30,slow=10,SNR=5.1						
SEY	Seymchan	16.65	4	P	P	19 32 39.3	-1.0
	comp=N,3.6nm,0.7s,baz=180,slow=10,SNR=18						
KSRS	Korea Array	18.70	249	P	Pn	19 33 07.2	+1.4
	comp=N,0.9nm,0.7s,baz=50,slow=11,SNR=4.1						
YAK	Yakutsk	19.57	331	P	P	19 33 12.0	-0.1
	comp=N,6.2nm,0.3s,baz=127,slow=4.3,SNR=16						
YAK	Yakutsk	19.57	331	P	P	19 33 11.3	-0.7
YAK	Yakutsk	19.57	331	eP	P	19 33 12.0	-0.1
YAK	Yakutsk	19.57	331	P	P	19 33 12.0	-0.1
TIXI	Tiksi	27.28	346	P	P	19 34 23.2	-1.8
	comp=N,2.1nm,0.5s,baz=141,slow=0.6,SNR=22						
	comp=N,2.1nm,0.5s						
TIXI	Tiksi	27.28	346	P	P	19 34 22.7	-2.3
TIXI				IAmb	IAmb	19 34 24.0	
	comp=Z,2.6nm,0.5s						
SONM	Songino Array	29.49	289	P	P	19 34 44.9	-0.2
	comp=Z,0.3nm,0.5s,baz=86,slow=9.4,SNR=2.7						
	comp=Z,0.3nm,0.5s						
H11N2	WAKE ISLAND Hy	29.94	147	T	T	20 06 10.8	
	baz=335,slow=76,SNR=54						
H11N1	WAKE ISLAND Hy	29.95	147	T	T	20 06 13.1	
	baz=335,slow=76,SNR=43						
H11N3	WAKE ISLAND Hy	29.96	147	T	T	20 06 11.7	
	baz=335,slow=76,SNR=44						
H11S1	WAKE ISLAND Hy	30.99	148	T	T	20 07 33.5	
	baz=336,slow=76,SNR=77						
H11S3	WAKE ISLAND Hy	30.99	148	T	T	20 07 29.7	
	baz=336,slow=76,SNR=31						
H11S2	WAKE ISLAND Hy	31.00	148	T	T	20 07 29.7	
	baz=336,slow=76,SNR=49						
K20K	Telida	34.98	41	P	P	19 35 33.7	+1.2
K20K				IAmb	IAmb	19 35 46.4	
	comp=Z,5.6nm,1.4s						
IMAR	Indian Mountai	35.30	36	P	P	19 35 35.4	+0.2
I21K	Tanana	35.97	38	P	P	19 35 41.7	+0.8
I21K				IAmb	IAmb	19 35 45.1	
	comp=Z,11nm,1.4s						
COLD	Coldfoot	36.82	34	P	P	19 35 48.7	+0.7
MDM	Murphy Dome	37.56	38	P	P	19 35 54.9	+0.6
MDM				IAmb	IAmb	19 35 56.3	
	comp=Z,2.7nm,0.8s						
H24K	Noodor Dome	37.70	36	P	P	19 35 56.2	+0.8
IL31		38.14	38	P	P	19 35 59.3	+0.3
IL31				IAmb	IAmb	19 36 20.0	
	comp=Z,7.7nm,1.5s						
ILAR	Eielson Array	38.14	38	P	P	19 35 59.4	+0.3
	comp=Z,0.7nm,0.6s,baz=268,slow=7.4,SNR=14						
	comp=Z,0.7nm,0.6s						
ILAR	Eielson Array	38.14	38	P	P	19 35 59.2	+0.1
ILAR	Eielson Array	38.14	38	P	P	19 35 59.2	+0.1
FYU	Fort Yukon	38.76	35	P	P	19 36 05.3	+1.1
BMAR	Burnt Mountain	39.00	34	P	P	19 36 07.6	+1.3
BCAR	Beaver Creek A	40.55	41	P	P	19 36 20.3	+1.2
EGAK	Eagle	40.58	38	P	P	19 36 19.0	-0.2
EGAK				IAmb	IAmb	19 36 31.8	
	comp=Z,6.6nm,1.4s						
ZALV	Zalesovo Beam	41.14	305	P	P	19 36 24.8	+0.9
	comp=Z,0.3nm,0.4s,baz=72,slow=9.3,SNR=2.2						
	comp=Z,0.3nm,0.4s						
INK	Inuvik	43.08	32	P	P	19 36 40.0	+0.7
	comp=Z,1.1nm,0.4s,baz=143,slow=28,SNR=5.6						
	comp=Z,1.1nm,0.4s						
A36M	Sachs Harbour	45.11	26	P	P	19 36 55.9	+0.5
A36M				IAmb	IAmb	19 36 57.9	
	comp=Z,4.7nm,0.8s						
MKAR	Makanchi Array	45.25	296	P	P	19 36 57.7	+0.7
	comp=Z,1.6nm,0.6s,baz=69,slow=7.3,SNR=12						
	comp=Z,1.6nm,0.6s						
MKAR	Makanchi Array	45.25	296	P	P	19 36 57.2	+0.3
MAKZ	Makanchi	45.44	297	P	P	19 36 58.5	+0.1
MAKZ	Makanchi	45.44	297	P	P	19 36 58.5	+0.1
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KURK	Kurchatov	45.83	303	P	P	19 37 01.4	+0.1
KURK	Kurchatov	45.83	303	eP	P	19 37 01.4	+0.1
KURK	Kurchatov	45.83	303	P	P	19 37 01.4	+0.1
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
C36M	Paulatuk	46.18	29	P	P	19 37 04.3	+0.5
C36M				IAmb	IAmb	19 37 24.4	
	comp=Z,9.7nm,1.3s						
LSA	Lhasa	48.21	271	P	P	19 37 22.8	+2.2
LSA				IAmb	IAmb	19 37 24.9	
	comp=Z,3.6nm,0.6s						
LSA	Lhasa	48.21	271	eP	P	19 37 22.8	+2.2
LSA	Lhasa	48.21	271	P	P	19 37 22.8	+2.2
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GRNB	Grenville Isla	49.25	50	P	P	19 37 28.3	+0.7
BRVK	Borovoye	49.52	309	P	P	19 37 30.0	+0.3
BRVK	Borovoye	49.52	309	eP	P	19 37 30.0	+0.3
BRVK	Borovoye	49.52	309	P	P	19 37 30.0	+0.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
EUNU	Eureka	49.90	11	P	P	19 37 31.9	-0.3
BOOM	Boomskoye usch	51.29	294	P	P	19 37 43.7	+0.4
BOOM				IAmb	IAmb	19 37 45.8	
	comp=Z,3.3nm,0.6s						
BOOM	Boomskoye usch	51.29	294	P	P	19 37 43.7	+0.4
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
RES	Resolute Bay	51.85	18	P	P	19 37 46.6	-0.1
	comp=Z,5.6nm,0.7s,baz=270,slow=7.1,SNR=4.6						
	comp=Z,5.6nm,0.7s						
RES	Resolute Bay	51.85	18	P	P	19 37 47.2	+0.5
RES				IAmb	IAmb	19 38 06.5	
	comp=Z,8.5nm,1.4s						
AAK	Ala-Archa	52.12	295	P	P	19 37 50.6	+1.2
AAK				IAmb	IAmb	19 37 52.3	
	comp=Z,2.7nm,0.8s						
AAK	Ala-Archa	52.12	295	eP	P	19 37 50.6	+1.2
AAK	Ala-Archa	52.12	295	P	P	19 37 50.6	+1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	Yellowknife Ar	52.46	36	P	P	19 37 51.7	+0.4
	comp=Z,0.9nm,0.5s,baz=299,slow=7.1,SNR=4.1						
	comp=Z,0.9nm,0.5s						
ARU	Arti	53.87	317	P	P	19 38 01.0	-0.7

comp=Z,1.4nm,0.3s,baz=25,slow=5.5,SNR=6.7
comp=Z,1.4nm,0.3s
ARU Arti 53.87 317 P **P 19 38 01.0 -0.7**
ARU IAmb IAmb 19 38 02.5
comp=Z,6.4nm,1.0s
ARU Arti 53.87 317 *e*P **P 19 38 01.0 -0.7**
ARU Arti 53.87 317 P **P 19 38 01.0 -0.7**
KK31 Karatay Array 54.34 298 P **P 19 38 06.1 +0.7**
KK31 Karatay Array 54.34 298 P **P 19 38 06.1 +0.7**
KK31 pmax pmax
comp=Z,1.0nm,0.8s
KKAR Karatay Array 54.34 298 P **P 19 38 05.8 +0.4**
KKAR Karatay Array 54.34 298 P **P 19 38 05.8 +0.4**
BTK Batken 55.85 294 P **P 19 38 17.5 +1.2**
BTK IAmb IAmb 19 38 19.0
comp=Z,3.6nm,0.6s
BTK Batken 55.85 294 P **P 19 38 17.5 +1.2**
BTK pmax pmax
comp=Z,4.0nm,0.6s
GAR Garm 56.77 294 P **P 19 38 24.5 +1.6**
ABKAR Akbulak array 57.05 309 P **P 19 38 24.6 +0.1**
ARCES ARCESS Array B 57.51 340 P **P 19 38 25.0 -2.4**
comp=Z,1.3nm,0.7s,baz=21,slow=7.7,SNR=1.3
comp=Z,1.3nm,0.7s
CHGR Chuyangaron 57.71 294 P **P 19 38 30.6 +1.2**
CHGR Chuyangaron 57.71 294 P **P 19 38 30.6 +1.2**
CHGR pmax pmax
comp=Z,23nm,0.4s
COEN Coen 60.37 188 P **P 19 38 50.0 +2.3**
COEN IAmb IAmb 19 39 09.2
comp=Z,7.2nm,1.3s
SUMG Summit 61.20 3 *i* P **P 19 38 53.0 -0.1**
FIA1 FINESS Array S 63.47 334 P **P 19 39 06.6 -1.2**
FINES FINESS Array B 63.47 334 P **P 19 39 06.9 -0.8**
comp=Z,2.4nm,0.6s,baz=5.7,slow=5.7,SNR=19
comp=Z,2.4nm,0.6s
GEYT Alibeck 64.99 299 P **P 19 39 19.8 +1.6**
comp=Z,2.0nm,0.5s,baz=44,slow=6.8,SNR=4.9
comp=Z,2.0nm,0.5s
PD31 Pinedale Array 66.64 52 P **P 19 39 30.0 +1.2**
PDAR Pinedale Array 66.64 52 P **P 19 39 30.1 +1.3**
comp=Z,0.4nm,0.7s,baz=259,slow=0.9,SNR=5.3
comp=Z,0.4nm,0.7s
PDAR Pinedale Array 66.64 52 P **P 19 39 29.5 +0.7**
WB0 Warramunga Arr 67.34 196 P **P 19 39 34.6 +1.6**
WB0 IAmb IAmb 19 39 56.4
comp=Z,2.1nm,1.0s
WRA Warramunga Arr 67.52 196 P **P 19 39 35.9 +1.7**
comp=Z,0.5nm,0.5s,baz=10,slow=6.4,SNR=7.3
comp=Z,0.5nm,0.5s
NC405 NORSAR Array S 67.70 340 P **P 19 39 35.3 +0.4**
NB2 NORSAR Subarra 67.89 340 P **P 19 39 35.3 -0.8**
comp=Z,1.0nm,0.6s,baz=30,slow=6.5
NOA NORSAR Array B 67.89 340 P **P 19 39 35.6 -0.5**
comp=Z,1.1nm,0.5s,baz=29,slow=6.7,SNR=8.1
comp=Z,1.1nm,0.5s
KBZ Khabaz 69.60 312 P **P 19 39 48.0 +1.2**
comp=Z,0.7nm,0.5s,baz=153,slow=5.0,SNR=5.4
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 70.68 325 P **P 19 39 53.0 -0.3**
comp=Z,1.1nm,0.4s,baz=36,slow=6.3,SNR=9.3
comp=Z,1.1nm,0.4s
AKASG Malin Array Be 70.68 325 P **P 19 39 53.0 -0.3**
AKBB Malin Array Si 70.68 325 P **P 19 39 52.6 -0.7**
AKBB IAmb IAmb 19 40 14.1
comp=Z,5.1nm,1.1s
AKBB Malin Array Si 70.68 325 P **P 19 39 52.6 -0.7**
AKBB pmax pmax
comp=Z,5.0nm,1.2s
AS31 Alice Springs 71.23 196 P **P 19 39 59.6 +2.8**
ASAR Alice Springs 71.23 196 P **P 19 39 59.9 +3.0**
comp=Z,0.9nm,0.5s,baz=9.0,slow=5.6,SNR=17
comp=Z,0.9nm,0.5s
ASAR Alice Springs 71.23 196 P **P 19 39 59.3 +2.4**
BUR08 Bucovina Ar. S 74.71 325 P **P 19 40 17.5 +0.3**
BUR08 IAmb IAmb 19 40 19.1
comp=Z,5.8nm,1.1s
BURAR Bucovina Array 74.73 325 P **P 19 40 17.6 +0.3**
MORC Moravsky Berou 75.77 330 P **P 19 40 23.6 +0.5**
MORC IAmb IAmb 19 40 25.5
comp=Z,2.6nm,0.7s
MORC Moravsky Berou 75.77 330 P **P 19 40 23.6 +0.5**
MORC pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 75.92 334 *i* P **P 19 40 23.9 0.0**
comp=Z,10.0nm,1.3s
CLL *i* pP **pP 19 41 04.8 -5.7**
VYHS Vyhne 76.41 329 *e* **P 19 40 28.8 +2.1**
VYHS Vyhne 76.41 329 *e*P **P 19 40 28.8 +2.1**
BRTR Keskin Array B 77.21 315 P **P 19 40 30.6 -0.9**
comp=Z,0.5nm,0.7s,baz=29,slow=6.6,SNR=2.4
comp=Z,0.5nm,0.7s
KHC Kasperske Hory 77.64 332 P **P 19 40 34.3 +0.7**
KHC IAmb IAmb 19 40 36.2
comp=Z,2.9nm,0.9s
KHC Kasperske Hory 77.64 332 P **P 19 40 34.3 +0.7**
KHC pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 77.85 332 P **P 19 40 35.1 +0.3**
comp=Z,0.7nm,0.7s,baz=36,slow=5.0,SNR=8.1
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 79.48 59 P **P 19 40 45.0 +0.9**
comp=Z,0.3nm,0.8s,baz=292,slow=3.2,SNR=3.6
comp=Z,0.3nm,0.8s
TXAR Lajitas Array 79.48 59 P **P 19 40 45.0 +0.9**
VTS Vitosha 79.62 323 P **P 19 40 45.4 +0.7**
VTS IAmb IAmb 19 40 48.3
comp=Z,9.7nm,1.4s
VTS Vitosha 79.62 323 P **P 19 40 45.4 +0.7**
VTS pmax pmax
comp=Z,10.0nm,1.4s
FUORN Ofenpass-Fuorn 80.91 333 P **P 19 40 52.5 +0.9**
FUORN IAmb IAmb 19 40 53.1
comp=Z,4.2nm,1.2s

---

*IDC **12** 19:30:27.8±1.7, 17°.08N×147°.45E, h0km, mb3.8/10, mbtmp3.9/11, ML3.8/1, MS3.5/3, Error ellipse: s-maj=54.5km s-min=17.2km az=93.0*
*NEIC **12** 19:30:31.7±1.9, 17°.16N±0°.03×147°.3E±0°.2, h22km±11km, mb4.3/9, Error ellipse: s-maj=27.4km s-min=4.0km az=86.0*
ISC 12 19:30:33.8±1.1**, 17°.13N**±0°.08×**147°.3E**±0°.2**, h41km, n28, σ1s09**/26**, mb4.1**/13**, MS3.0**/3**, Mariana Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
GUMO Guam 4.22 214 Pn **Pn 19 31 35.3 -0.3**
5.2nm,0.3s,baz=200,slow=23,SNR=1.2
GUMO Sn **Sn 19 32 24.8 +1.2**
1.1nm,0.3s,baz=8.5,slow=19,SNR=1.5
20nm,0.3s
GUMO Guam 4.22 214 Pn **Pn 19 31 34.5 -1.1**
JOW Kunigami 20.08 302 LR LR 19 41 46.0
comp=Z,70nm,19.9s,baz=57,slow=34
JGF Kuroka 20.41 336 P **P 19 35 04.5 -3.0**
JGF IAmb IAmb 19 35 04.6
comp=Z,7.6nm,1.1s
MJAR Matsushiro Arr 20.95 339 P **P 19 35 12.4 -0.8**
comp=Z,1.0nm,0.7s,baz=166,slow=10.0,SNR=3.0
comp=Z,1.0nm,0.7s
SIJI Sorong 23.86 223 P **P 19 35 42.2 -1.4**
comp=Z,3.5nm,0.5s,baz=28,slow=15,SNR=3.6
comp=Z,3.5nm,0.5s
KSRS Korea Array 26.48 324 LR LR 19 45 37.7
comp=Z,35nm,20.7s,baz=145,slow=34
HNR Honiara 29.20 154 LR LR 19 48 10.2
comp=Z,647nm,18.7s,baz=154,slow=36
COEN Coen 31.15 188 P **P 19 36 49.7 +0.8**
COEN IAmb IAmb 19 36 49.9
comp=Z,9.4nm,1.3s
WR0 Warramunga Arr 38.92 199 P **P 19 37 54.7 -1.1**
WR0 IAmb IAmb 19 37 56.5
comp=Z,13nm,1.4s
WRA Warramunga Arr 38.97 200 P **P 19 37 56.0 -0.2**
comp=Z,1.9nm,0.7s,baz=37,slow=9.6,SNR=28
comp=Z,1.9nm,0.7s
KSM Kuching 39.55 251 P **P 19 38 00.4 -0.8**
KSM IAmb IAmb 19 38 21.8
comp=Z,7.3nm,1.1s
AS31 Alice Springs 42.60 198 P **P 19 38 25.6 -0.5**
ASAR Alice Springs 42.60 198 P **P 19 38 26.3 +0.2**
comp=Z,0.2nm,0.4s,baz=20,slow=8.2,SNR=11
comp=Z,0.2nm,0.4s
ASAR Alice Springs 42.60 198 P **P 19 38 25.9 -0.3**
SONM Songino Array 45.31 322 P **P 19 38 49.3 +1.5**
comp=Z,0.3nm,0.5s,baz=129,slow=5.4,SNR=4.0
comp=Z,0.3nm,0.5s
SONM Songino Array 45.31 322 P **P 19 38 47.9 +0.2**
CMAR Chiang Mai Arr 45.95 279 P **P 19 38 54.6 +1.5**
comp=Z,0.3nm,0.5s,baz=76,slow=7.9,SNR=2.1
comp=Z,0.3nm,0.5s
BBOO Buckleboo 50.80 192 P **P 19 39 30.2 0.0**
GSI Gunungsitoli 51.34 258 P **P 19 39 34.4 -0.1**
ZAA0 Zalesovo Array 60.18 323 P **P 19 40 37.6 +0.3**
ZAA0 IAmb IAmb 19 40 56.8
comp=Z,2.3nm,1.1s
ZALV Zalesovo Beam 60.18 323 P **P 19 40 38.0 +0.7**
comp=Z,0.8nm,0.5s,baz=116,slow=7.4,SNR=4.3
comp=Z,0.8nm,0.5s
ZALV Zalesovo Beam 60.18 323 P **P 19 40 37.6 +0.3**
MKAR Makanchi Array 60.64 314 P **P 19 40 41.8 +1.2**
comp=Z,0.4nm,0.7s,baz=79,slow=7.9,SNR=2.6
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 60.64 314 P **P 19 40 41.1 +0.5**
ABKAR Akbulak array 75.52 317 P **P 19 42 13.6 -0.4**
ARCES ARCESS Array B 84.44 343 P **P 19 43 03.4 +1.6**
comp=Z,5.1nm,1.1s,baz=46,slow=5.5,SNR=2.4
comp=Z,5.1nm,1.1s
FINES FINESS Array B 88.94 336 P **P 19 43 23.1 -0.7**
comp=Z,2.3nm,1.0s,baz=101,slow=8.0,SNR=4.5
comp=Z,2.3nm,1.0s

ROM 12 19:38:50.6±0.0**, 42°.827N**±0°.002×**13°.055E**±0°.003**, h11km, ML1.5**/3**, 6C-1D, Error ellipse: s-maj=0.1km s-min=0.1km az=267.0, Central Italy**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
NRCA Norcia 0.04 82 P Pg 19 38 53.1 +0.3
NRCA S Sg 19 38 54.7 +0.2
NRCA AML AML
comp=N,1102µm,0.2s
NRCA AML AML
comp=N,1101µm,0.2s
NRCA AML AML
comp=E,785µm,0.1s
T1216 Preci, Frazion 0.07 338 P Pg 19 38 53.4 +0.4
T1216 AML AML
comp=E,444µm,0.4s
T1216 AML AML
comp=N,350µm,0.3s
T1245 Castelsantange 0.10 73 P Pg 19 38 54.0 +0.4
T1245 S Sg 19 38 56.1 +0.5
T1245 AML AML
comp=E,686µm,1.5s
T1245 AML AML
comp=N,872µm,0.8s
T1245 AML AML
comp=N,870µm,0.8s
T1245 AML AML
comp=E,11600µm,1.6s
T1245 AML AML
comp=N,870µm,0.8s
T1245 AML AML
comp=N,871µm,0.8s
T1245 AML AML
comp=E,630µm,1.1s
T1215 Vallo di Nera, 0.14 260 ⇑P Pg 19 38 54.5 +0.6
T1215 S Sg 19 38 57.1 +0.8
T1218 Civita (PG) 0.16 164 P Pg 19 38 54.9 +0.6
T1218 S Sg 19 38 57.9 +0.9
CESI CESI - Serrava 0.21 328 ⇑P Pg 19 38 55.7 +0.6
CESI S Sg 19 38 59.2 +1.0
CESI AML AML
comp=E,91µm,1.0s
CESI AML AML
comp=N,134µm,1.1s
CESI AML AML
comp=E,91µm,1.0s
CESI AML AML
comp=N,134µm,1.1s
FDMO Fiordimonte 0.21 7 ⇑P Pg 19 38 55.8 +0.6
FDMO S Sg 19 38 59.4 +1.2
MMO1 Montemonaco 0.21 70 P Pg 19 38 55.7 +0.5
MMO1 S Sg 19 38 59.2 +0.9
T1256 Bolognola (MC) 0.22 35 P Pg 19 38 55.9 +0.5
T1256 S Sg 19 38 59.6 +1.0
T1219 Muccia, Frazio 0.23 351 P Pg 19 38 56.0 +0.5
T1219 S Sg 19 38 59.8 +1.0
T1241 Roccafluvione, 0.28 84 ⇓P Pg 19 38 56.9 +0.5
CSP1 Cessapalombo 0.29 23 ⇑P Pg 19 38 57.0 +0.4
CSP1 S Sg 19 39 01.6 +1.1
T1243 Rocca Santa Ma 0.32 114 P Pg 19 38 56.8 -0.3
ARRO Arrone 0.33 221 ⇑P Pg 19 38 57.8 +0.6
ARRO S Sg 19 39 02.6 +1.0
T1211 Morro Reatino 0.33 207 S Sb 19 39 03.0 -0.9
ASSB Assisi San Ben 0.36 307 P Pg 19 38 58.2 +0.3
ASSB S Sb 19 39 04.0 -0.8
TERO Teramo 0.45 117 ⇑P Pg 19 38 59.8 +0.3
TERO S Sb 19 39 06.7 -0.8
TERO AML AML
comp=E,79µm,1.4s
TERO AML AML
comp=N,81µm,1.5s

---

*DJA **12** 19:42:09.9±0.2, 1°S±2°×12°2E±°, h10km, M4.0/14, mb4.3/4, mB4.4/1, MLv3.9/14, Mw(mB)3.5/1*
*IDC **12** 19:42:09.5±1.1, 0°.74S×122°.02E, h0km, mb3.4/6, mbtmp3.6/8, ML3.9/1, MS2.6/1, Error ellipse: s-maj=32.7km s-min=19.2km az=68.0*
ISC 12 19:42:10.2±0.7**, 0°.66S**±0°.05×**122°.02E**±0°.05**, h10km, n25, σ1s32**/25**, mb3.5**/6**, Minahassa Peninsula, Sulawesi**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
APSI Ampana 0.45 236 P **Pg 19 42 19.0 0.0**
LUWI Luwuk 0.84 117 P **Pg 19 42 26.7 +0.3**
MRSI Marisa 1.13 356 P **Pb 19 42 29.9 -2.0**
GTOI Gorontalo 1.62 37 P **Pn 19 42 37.2 -1.7**
MPSI Mapaga 2.34 295 P **Pn 19 42 47.6 -1.2**
KKSI Kolaka, Sulawe 3.51 186 P **Pn 19 43 04.3 -0.5**
SPSI Sidrap Palu 3.98 214 P **Pn 19 43 12.1 +0.8**
BNSI Bone 4.18 207 P **Pn 19 43 15.1 +1.0**
PMSI Majene 4.20 228 P **Pn 19 43 13.3 -1.0**
SANI Sanana 4.20 109 P **Pn 19 43 13.0 -1.3**
BBSI Bau Bau 4.83 174 P **Pn 19 43 23.9 +0.9**
KAPI Kappang 4.88 208 Pn **Pn 19 43 24.2 +0.4**
4.9nm,0.3s,baz=26,slow=5.3,SNR=23
KAPI Sn **Sn 19 44 18.0 -2.4**
2.5nm,0.3s,baz=10,slow=23,SNR=6.6
KAPI LR LR 19 45 38.2
comp=Z,64nm,21.7s,baz=26,slow=43
34nm,0.6s
KAPI Kappang 4.88 208 P **Pn 19 43 24.2 +0.4**
BKSI Bulukumba 5.00 202 P **Pn 19 43 25.5 +0.1**
0.1nm358nm29nm,0.7s
LBMI Labuha 5.48 90 P Pn 19 43 38.6 +6.7
SGSI Sangihe 5.56 39 P **Pb 19 43 44.7 -2.8**
BSSI Bau Bau, Buton 5.66 196 P **Pn 19 43 34.7 +0.3**
0.1nm18nm,0.6s
MYLDM Lahad Datu 6.79 329 P **Pn 19 43 50.0 +0.1**
SIJI Sorong 9.24 91 Pn **Pn 19 44 25.2 +1.5**
2.8nm,0.5s,baz=270,slow=8.1,SNR=1.5
WRA Warramunga Arr 22.64 149 P **P 19 47 11.2 -0.4**
1.7nm,0.9s,baz=331,slow=9.7,SNR=7.8
1.7nm,0.9s
ASAR Alice Springs 25.61 154 P **P 19 47 40.2 +0.2**
0.4nm,0.9s,baz=345,slow=15,SNR=4.6
0.4nm,0.9s
CMAR Chiang Mai Arr 29.59 311 P **P 19 48 16.0 +0.3**
0.2nm,0.8s,baz=146,slow=6.6,SNR=2.4
0.2nm,0.8s
MJAR Matsushiro Arr 39.95 20 P **P 19 49 46.0 +1.0**
1.2nm,0.9s,baz=184,slow=9.5,SNR=4.4
1.2nm,0.9s
SONM Songino Array 50.18 346 P **P 19 51 07.8 +1.6**
0.4nm,0.4s,baz=148,slow=5.8,SNR=3.7
0.4nm,0.4s
MKAR Makanchi Array 58.67 329 P **P 19 52 10.0 +2.1**
0.4nm,0.6s,baz=126,slow=9.1,SNR=1.8
0.4nm,0.6s

---

*DDA **12** 19:57:41.9±0.0, 37°.07N×28°.80E, h7km±2km, ML2.8*
*THE **12** 19:57:42.5, 37°.20N×28°.82E, h1km, ML2.9/8, Error ellipse: s-maj=1.6km s-min=0.7km az=38.0*
*ATH **12** 19:57:43.3, 37°.20N×28°.92E, h16km±6km, ML2.8/4, Error ellipse: s-maj=7.5km s-min=2.1km az=41.0*
ISC 12 19:57:42.1±1.3**, 37°.17N**±0°.02×**28°.78E**±0°.02**, h0km**±11km**, n35, σ0s96**/56**, Turkey**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
TAVA DENIZLI_Tavas 0.32 19 P **Pb 19 57 49.5 -1.2**
TAVA S **Sb 19 57 55.8 -0.6**
TAVA *i* AML AML 19 57 56.0
comp=E,1µm,0.5s
MULA Mugla, Merkez- 0.38 284 P **Pg 19 57 50.8 +1.5**
YER Yerkesik 0.40 266 P **Pg 19 57 51.2 +1.4**
YER S **Sb 19 57 58.3 -0.5**
CAEL Denizli, Camel 0.43 95 P **Pg 19 57 50.4 +0.1**
TURN Turunc 0.58 228 P **Pg 19 57 52.6 -0.6**
GOLH Golhisar 0.62 83 P **Pg 19 57 54.1 +0.1**
AYDN Tasoluk 0.87 305 P **Pb 19 58 00.2 +0.1**
AYDN S **Sb 19 58 13.0 +0.5**
AYDN *i* AML AML 19 58 18.0
comp=N,228nm,0.3s
AYDN *i* AML AML 19 58 18.0
comp=E,275nm,0.8s
BDRM Kayabasi 1.07 265 P **Pg 19 58 03.6 +0.9**
ARG Arkhangelos 1.08 209 P **Pg 19 58 03.6 +0.7**
ARG S **Sb 19 58 19.8 +1.4**
215nm,0.4s
ARG Arkhangelos 1.08 209 P **Pg 19 58 03.5 +0.6**
ARG S **Sb 19 58 19.2 +0.8**
ARG AML AML 19 58 27.5
comp=E,511µm,0.4s
ARG AML AML 19 58 27.6
comp=N,315µm,0.7s
BRDR BURDUR-Merkez 1.15 62 P **Pn 19 58 05.5 0.0**
BRDR S **Sn 19 58 24.3 +2.3**
BODT Bodrum 1.18 265 P **Pg 19 58 04.8 0.0**
BODT S **Sb 19 58 21.9 +0.6**
KSL Kastellorizon 1.20 147 P **Pb 19 58 04.4 -1.3**
KSL S **Sn 19 58 22.2 -0.9**
comp=N,418nm,0.7s
KSL Kastellorizon 1.20 147 P **Pb 19 58 04.2 -1.4**
KSL S **Sg 19 58 19.9 -0.7**
KSL AML AML 19 58 27.3
comp=N,787µm,1.0s
KSL AML AML 19 58 28.9
comp=E,808µm,0.5s
KORT Korkueli 1.26 97 P **Pn 19 58 08.0 +0.9**
KORT S **Sn 19 58 27.3 +2.4**
PASA Karahalli, USA 1.31 25 P **Pn 19 58 06.6 -1.1**
MANT Manisa 1.33 352 P **Pg 19 58 09.0 +1.3**
NIS1 Nisyros Isl. 1.40 247 P **Pn 19 58 08.6 -0.3**
NIS1 S **Sn 19 58 28.2 0.0**
comp=E,882nm,0.6s
NIS1 Nisyros Isl. 1.40 247 P **Pn 19 58 08.8 -0.1**
NIS1 S **Sn 19 58 28.2 0.0**
NIS1 AML AML 19 58 35.4
comp=N,1994µm,0.6s
NIS1 AML AML 19 58 37.6
comp=E,1533µm,0.7s
NISR Nisiros 1.44 248 P **Pn 19 58 09.0 -0.4**
NISR S **Sb 19 58 29.3 +0.7**
comp=E,385nm,0.7s
NISR Nisiros 1.44 248 P **Pn 19 58 09.8 +0.5**
NISR S **Sn 19 58 28.3 -0.7**
AKUM Antalya-Kumluc 1.51 123 P **Pg 19 58 11.7 +0.7**
KZIL AFYON_Kizioren 1.53 44 P **Pg 19 58 11.9 +0.5**
USAK Uak-Merkez 1.56 7 P **Pg 19 58 12.6 +0.7**
SMG Samos 1.64 290 P **Pn 19 58 11.2 -1.0**
SMG S **Sn 19 58 33.8 -0.2**
comp=E,162nm,0.7s
SMG Samos 1.64 290 P **Pn 19 58 11.6 -0.6**
SMG S **Sn 19 58 33.8 -0.2**
SMG AML AML 19 58 50.6
comp=N,355µm,1.0s
SMG AML AML 19 58 51.0
comp=E,304µm,0.9s
KARP Karpathos 2.08 220 P **Pn 19 58 17.8 -0.4**
KARP S **Sn 19 58 44.8 0.0**
comp=E,182nm,0.5s
KARP Karpathos 2.08 220 P **Pn 19 58 19.1 +0.9**
KARP S **Sn 19 58 43.1 -1.8**
YVAC Isparta, Yalva 2.24 60 P **Pb 19 58 23.0 -0.5**
CHOS Chios island 2.48 300 P **Pn 19 58 21.9 -1.9**
CHOS S **Sn 19 58 53.6 -1.3**
comp=E,132nm,1.8s
CHOS Chios island 2.48 300 P **Pn 19 58 24.2 +0.4**
ZKR Zakros 2.92 226 P **Pn 19 58 29.9 +0.2**
ZKR S **Sn 19 59 06.2 +0.7**
comp=E,65nm,0.8s
ZKR Zakros 2.92 226 P **Pn 19 58 31.0 +1.3**
STIA Sitia Lasithi 2.93 229 P **Pn 19 58 29.9 0.0**
STIA S **Sn 19 59 06.4 +0.6**
STIA Sitia Lasithi 2.93 229 P **Pn 19 58 30.6 +0.7**

---

*IDC **12** 20:08:44.2±0.6, 5°.97N×82°.80W, h0km, mb4.5/17, mbtmp4.6/23, ML4.0/6, MS4.8/59, Error ellipse: s-maj=21.6km s-min=11.4km az=55.0*
*UPA **12** 20:08:45.0±1.2, 6°.08N×82°.65W, h10km±10km, MW4.7*
*NEIC **12** 20:08:46.8±2.1, 6°.11N±0°.06×82°.59W±0°.07, h10km±1km, mb5.0/166, Ms_20 5.0/241, Mwb5.6/52, Error ellipse: s-maj=12.0km s-min=9.0km az=249.0*
*INET **12** 20:08:48.7±2.4, 6°.30N×82°.59W, h5km, ML5.0*
*NEIC **12** 20:08:48.8, 6°.12N×82°.58W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.29; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$0.40; $M_{r\theta}$1.74; $M_{\theta\phi}$2.21; $M_{\phi r}$-0.85; Fault plane solution: $M_0$2.96000×10^{17} NP1:ϕ_s264.69000°, δ78.17000°, λ-34.49000°. NP2:ϕ_s2.70000°, δ56.35000°, λ-165.75000°. Principal axes: T 2.5049, Plg14.0000°, Azm318.0000°; N 0.7600, Plg54.0000°, Azm68.0000°; P -3.2649, Plg32.0000°, Azm218.0000°;*
*GCMT **12** 20:08:49.8±0.1, 5°.91N±0°.01×82°.67W±0°.01, h24km, MW5.7/163, Moment Tensor Solution. s139,c252; s163,c346; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.21±.04; $M_{\theta\theta}$-0.05±.04; $M_{\phi\phi}$0.26±.04; $M_{r\theta}$0.55±.06; $M_{\theta\phi}$4.07±.04; $M_{\phi r}$0.19±.06; Best double couple: $M_0$4.11300×10^{17} NP1:ϕ_s89.00000°, δ88.00000°, λ8.00000°. NP2:ϕ_s359.00000°, δ82.00000°, λ178.00000°. Principal axes: T 4.2400, Plg7.0000°, Azm314.0000°; N -0.2550, Plg82.0000°, Azm102.0000°; P -3.9850, Plg4.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UCR **12** 20:08:59.5±1.8, 7°.10N×83°.03W, h5km, MW4.8, mb4.6(NEIC)*
ISC 12 20:08:46.6±0.3**, 6°.04N**±0°.04×**82°.58W**±0°.04**, h10km, n811, σ1s65**/676**, mb5.0**/90**, MS5.0**/189**, 2C-5D, South of Panama**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CHIR3 Chiriqui UPA, 2.35 6 *e*P **Pn 20 09 22.4 -2.9**
CHIR3 *e*S **Sn 20 09 52.0 -2.3**
DVD David 2.38 3 *e*P **Pn 20 09 22.5 -3.2**
DVD *e*S **Sn 20 09 51.8 -3.3**
CCOL Caracol de Cor 2.38 351 *e*P **Pn 20 09 22.4 -3.3**
RSUS3 Rio de Jesus, 2.39 36 *i* P **Pn 20 09 23.7 -2.1**
RSUS3 *e*S **Sn 20 09 53.0 -2.2**
PIRO Carate, Puerto 2.46 342 *e*P **Pn 20 09 22.9 -3.9**
CDITO Canoas 2.53 353 Pn **Pn 20 09 24.3 -3.5**
CDITO Canoas 2.53 353 *e*P **Pn 20 09 24.6 -3.2**
CDITO *e*S **Sn 20 09 58.4 -0.4**
PTAR3 Potrerillos Ar 2.63 2 *e*P **Pn 20 09 26.8 -2.6**
PTAR3 *e*S **Sn 20 09 59.2 -2.3**
BCO2 Palmira 2.66 1⇑*e*P **Pn 20 09 27.2 -2.6**
BCO2 *e*S **Sn 20 10 00.1 -2.1**
BRU2 Volcan 2.73 358 Pn **Pn 20 09 28.1 -2.7**
BRU2 Volcan 2.73 358 *e*P **Pn 20 09 28.3 -2.5**
BRU2 *e*S **Sn 20 10 01.5 -2.5**
ACHO3 Achotines, Los 2.75 60⇓*e*P **Pn 20 09 28.5 -2.3**
ACHO3 *e*S **Sn 20 10 03.4 -0.8**
BC3P Paso Ancho 2.75 359⇓*e*P **Pn 20 09 28.4 -2.6**
BC3P *e*S **Sn 20 10 02.1 -2.4**
EDSV San Vito 2.79 352 *e*P **Pn 20 09 29.5 -1.9**
CTCR Cotoan 2.84 356 *e*P **Pn 20 09 29.4 -2.9**
CHIT3 Chitre 2.87 48 *e*P **Pn 20 09 30.8 -1.6**
CHIT3 *e*S **Sn 20 10 05.2 -1.8**
PEDA3 Pedasi 2.93 60 *e*P **Pn 20 09 31.1 -2.3**
PEDA3 *e*S **Sn 20 10 07.1 -1.6**
EDPN Palmar Norte 3.03 343 *e*P **Pn 20 09 31.7 -3.0**

SRBA San Rafael, Bu 3.26 346 Pn 20 09 34.6 -3.4
CNI2 El Empalme, Bo 3.36 2 eP Pn 20 09 38.0 -1.3
CNI2 eS Sn 20 10 15.8 -3.4
EDDO Dominical 3.43 338 eP Pn 20 09 37.0 -3.2
PEZE Perez Zeledon, 3.49 342 Pn 20 09 38.0 -3.1
PEZE Perez Zeledon, 3.49 342 eP Pn 20 09 38.0 -3.1
PEZE Perez Zeledon, 3.49 342 eP Pn 20 09 38.2 -2.9
PEZE eS Sn 20 10 19.3 -3.3
PEZE IAML 20 10 26.1
comp=N,4μm,0.5s
RGM0 Gandoca 3.52 360 eP Pn 20 09 41.6 +0.2
CDM Cerro de Muert 3.68 341 eP Pn 20 09 41.0 -3.1
CDM Cerro de Muert 3.68 341 eP Pn 20 09 41.1 -2.9
CDM eS Sn 20 10 25.2 -2.6
RIMA Rio Macho 3.91 341 Pn 20 09 44.0 -3.0
LCR2 La Lucha 2 3.94 339 eP Pn 20 09 44.1 -3.3
BATAN Batan 4.11 349 Pn Pn 20 09 47.5 -2.0
BATAN Batan 4.11 349 iP Pn 20 09 49.0 -0.5
BATAN eS Sn 20 10 33.9 -3.7
HAYA Volcan Irazu 4.11 342 eP Pn 20 09 47.9 -2.0
CVTR Volcan Turrial 4.12 344 Pn Pn 20 09 47.6 -2.5
BCIP Isla Barro Col 4.12 41 Pn 20 09 48.1 -1.7
BCIP Isla Barro Col 4.12 41 eP Pn 20 09 48.5 -1.2
BCIP eS Sn 20 10 35.4 -2.7
BCIP Isla Barro Col 4.12 41 eP Pn 20 09 48.5 -1.2
JACO JACO, Garabito 4.14 330 Pn 20 09 46.0 -4.0
JACO JACO, Garabito 4.14 330 eP Pn 20 09 45.9 -4.1
JACO JACO, Garabito 4.14 330 eP Pn 20 09 46.4 -3.7
UPA Univ. de Panam 4.20 46 eP Pn 20 09 50.0 -0.8
UPA eS Sn 20 10 37.6 -2.4
HDC Heredia 4.21 339 Pn Pn 20 09 48.9 -2.2
HDC Heredia 4.21 339 eP Pn 20 09 48.9 -2.2
HDC Heredia 4.21 339 eP Pn 20 09 49.4 -1.8
HDC eS Sn 20 10 36.9 -3.7
HDC3 Heredia 3 4.21 339 eP Pn 20 09 49.1 -2.0
INDI Punta indio, G 4.78 323 eP Pn 20 09 55.1 -3.6
JTS Las Juntas de 4.83 331 LR LR 20 10 42.8
comp=N,6μm,21.6s,baz=232,slow=25
JTS Las Juntas de 4.83 331 Pn 20 09 55.5 -3.9
JTS Las Juntas de 4.83 331 eP Pn 20 09 56.1 -3.3
JTS Las Juntas de 4.83 331 eP Pn 20 09 56.6 -2.8
JTS eS Sn 20 10 50.2 -5.3
JTS Las Juntas de 4.83 331 eP Pn 20 09 56.3 -3.2
CASO Castillo 4.86 334 eP Pn 20 09 58.2 -1.7
FORC Fortuna 4.86 335 eP Pn 20 09 58.1 -1.8
PTAC Punta Ardita, 4.87 77 eP Pn 20 09 59.6 -0.4
PTAC eS Sn 20 10 54.2 -2.2
CEDE Laguna Cedeo 4.89 335 iP Pn 20 09 59.5 -0.9
DUNO Dulce Nombre, 4.94 324 Pn Pn 20 09 57.7 -3.3
DUNO Dulce Nombre, 4.94 324 eP Pn 20 09 58.2 -2.7
COVE Coope Vega, Sa 4.98 339 Pn Pn 20 09 59.5 -2.1
COVE Coope Vega, Sa 4.98 339 eP Pn 20 09 59.0 -2.5
SAJU San Juanillo, 5.06 322 eP Pn 20 09 59.2 -3.4
ORTG Ortega, Santa 5.15 327 Pn Pn 20 10 00.8 -3.1
ORTG Ortega, Santa 5.15 327 eP Pn 20 10 01.3 -2.6
ORTG Ortega, Santa 5.15 327 eP Pn 20 10 01.5 -2.5
ACAL Aguas Claras 5.17 332 eP Pn 20 10 02.5 -1.6
PTEN Parque Tenorio 5.22 333 eP Pn 20 10 03.3 -1.5
CUI Cuipilapa 5.25 331 eP Pn 20 10 02.6 -2.6
COLC Colonia 5.28 331 eP Pn 20 10 04.4 -1.2
VERA Finca Concepci 5.29 335 eP Pn 20 10 04.2 -1.5
HORNC Hornillas 5.30 331 eP Pn 20 10 04.2 -1.9
GUAB Guayabo de Bag 5.32 331 eP Pn 20 10 04.4 -1.9
MESS Mesas 5.34 331 eP Pn 20 10 04.6 -1.8
VMAR Armenia, Volca 5.36 332 eP Pn 20 10 04.9 -2.0
GPS2 Hotel Rincn d 5.42 330 eP Pn 20 10 06.7 -0.9
GPS3 Bodega del ICE 5.43 330 eP Pn 20 10 06.9 -0.9
LAPC Finca la Perla 5.48 329 eP Pn 20 10 06.7 -1.7
BUEV Buena Vista 5.49 330 eP Pn 20 10 07.0 -1.6
GBS3 Finca Las Img 5.50 329 eP Pn 20 10 07.3 -1.4
GB1A Borinquen Arpi 5.50 330 eP Pn 20 10 07.6 -1.2
BUAI Buenos Aires 5.52 331 eP Pn 20 10 07.3 -1.7
GBS2 Las Lilas 5.55 329 eP Pn 20 10 08.3 -1.1
TUMC Tumaco 5.69 137 Pn Pn 20 10 10.8 -0.5
ACON Acoyapa 6.42 337 Pn 20 10 18.8 -2.5
ACON Acoyapa 6.42 337 eP Pn 20 10 19.2 -2.1
BOAB BOACO BROADBAND 6.06 335 Pn Pn 20 10 27.6 -2.4
TULM Tulcn-Chalpat 7.13 138 Pn 20 10 30.8 -0.7
IMBA Imbabura, San 7.21 142 Pn 20 10 31.8 -0.8
PULU Pululahua 7.24 146 Pn 20 10 30.9 -2.0
PRLC Isla de Provid 7.38 9 Pn Pn 20 10 31.9 -2.7
MOMN Momotombo 7.43 329 eP Pn 20 10 34.2 -1.1
CNGN Cerro Negro 7.59 328 Pn 20 10 37.0 -0.5
MATN Matagalpa 7.60 335 Pn 20 10 35.2 -2.4
SLOR San Lorenzo - 7.87 149 Pn Pn 20 10 41.6 -0.1
ROSC El Rosal 8.31 98 Pn Pn 20 10 51.0 +3.4
comp=N,14nm,0.3s,baz=273,slow=8.4,SNR=30
ROSC Sn Sn 20 12 30.2 +8.4
comp=N,0.6nm,0.3s,baz=205,slow=22,SNR=1.1
ROSC LR LR 20 13 48.4
comp=N,8μm,19.1s,baz=289,slow=36
comp=N,53nm,0.4s
CHSH Refugio Sur-Vo 8.35 154 Pn 20 10 49.3 +0.8
PORT Chimborazo Vol 8.37 153 Pn 20 10 49.3 +0.6
COHC Cochancay 9.08 158 Pn 20 10 56.7 -1.2
TGUH Tegucigalpa,Un 9.21 330 Pn 20 10 58.5 -1.2
ARNL Arenillas 9.85 165 Pn 20 11 07.6 -0.8
BOSC San Juan Bosco 10.00 156 Pn 20 11 11.9 +1.2
SNET Serv Nac Est T 10.03 320 Pn Pn 20 11 09.9 -1.1
PAYG Puerto Ayora 10.18 229 Pn Pn 20 11 12.8 -0.3
MTO3 Montecristo 10.65 322 Pn 20 11 18.5 -1.1
MCRA Macar, Loja 10.67 166 Pn Pn 20 11 19.2 -0.6
ESQI Esquipulas 10.76 322 Pn 20 11 21.5 +0.4
SDV Santo Domingo 12.18 76 Pn Pn 20 11 42.8 +2.3
comp=N,2.3nm,0.3s,baz=247,slow=10,SNR=20
SDV LR LR 20 16 27.9
comp=N,4μm,19.6s,baz=239,slow=37
comp=N,18nm,0.6s
SDV Santo Domingo 12.18 76 Pn Pn 20 11 41.2 +0.7
MTDJ Mount Denham 13.07 22 Pn Pn 20 11 50.4 -2.2
ATAH Atahualpa 13.74 162 Pn Pn 20 12 02.1 0.0
comp=N,0.6nm,0.3s,baz=340,slow=12,SNR=12
ATAH LR LR 20 16 46.2
comp=N,16μm,20.5s,baz=337,slow=35
comp=N,16nm,0.9s
CCIG Comitan 13.83 318 Pn 20 12 03.2 +0.2
BAUV El Baul 14.70 78 Pn Pn 20 12 13.6 -1.2
TEIG Tepich 15.14 339 Pn 20 12 20.8 0.0
LGNH Logne 15.75 37 Pn Pn 20 12 27.7 -1.0
PAPH Port-au-Prince 15.95 38 Pn Pn 20 12 30.6 -0.7
TBTG Tabatinga, AM 16.23 128 Pn 20 12 32.0 -2.9
TBTG IAmb IAmb 20 12 42.8
comp=Z,178nm,1.2s
TBTG Tabatinga, AM 16.23 128 eP Pn 20 12 33.0 -1.9
CMIG Matias Romero 16.29 313 Pn Pn 20 12 34.4 -1.3
comp=Z,1.2nm,0.3s,baz=124,slow=12,SNR=13
CMIG LR LR 20 18 01.9
comp=Z,6μm,19.8s,baz=124,slow=34
comp=Z,13nm,0.9s
SGCB S?o Gabriel d 16.69 111 eP Pn 20 12 39.1 -1.7
CZSB Cruzeiro do Su 16.86 144 Pn 20 12 40.6 -2.3
CZSB IAmb IAmb 20 12 47.4
comp=Z,177nm,1.1s
CZSB Cruzeiro do Su 16.86 144 eP Pn 20 12 40.7 -2.3
SDDR Presa de Saban 16.92 40 Pn Pn 20 12 41.3 -2.5
SDDR IAmb IAmb 20 12 51.0
comp=Z,191nm,1.7s
SDD Santo Domingo 17.46 44 Pn 20 12 49.5 -0.9
PCRV Puerto La Cruz 18.23 76 P P 20 13 02.8 +2.6
comp=Z,1.0nm,0.3s,baz=213,slow=2.2,SNR=5.0
PCRV LR LR 20 21 03.8
comp=Z,2μm,19.4s,slow=40
comp=Z,15nm,0.8s
NNA Nana 18.80 162 P P 20 13 06.0 -0.5
comp=Z,1.2nm,0.3s,baz=336,slow=8.1,SNR=26
NNA LR LR 20 19 38.4
comp=Z,3μm,19.2s,baz=318,slow=35
comp=Z,101nm,0.9s
NNA Nana 18.80 162 P P 20 13 06.4 -0.1
NNA IAmb IAmb 20 13 10.5
comp=Z,133nm,1.0s
CRPR Cabo Rojo, PR 19.22 50 P Pn 20 13 11.0 -1.0
CRPR IAmb IAmb 20 13 22.4
comp=Z,66nm,1.0s
MLPR Magueyes Islan 19.25 51 P Pn 20 13 11.3 -1.1
MLPR IAmb IAmb 20 13 17.1
comp=Z,92nm,1.1s
TLIG Tlapa 19.37 308 P P 20 13 11.9 -0.9
AOPR Arecibo Observ 19.69 50 P P 20 13 15.5 -0.8
061Z Ochoppi 19.78 4 S Sn 20 17 08.8 +7.9
baz=185
SJG San Juan 20.02 52 P Pn 20 13 22.0 +0.4
comp=Z,112nm,1.2s,baz=254,slow=7.7,SNR=15
SJG LR LR 20 20 29.0
comp=Z,3μm,21.7s,baz=222,slow=35
comp=Z,112nm,1.2s
SJG San Juan 20.02 52 P P 20 13 17.9 -1.9
SJG IAmb IAmb 20 13 24.0
comp=Z,120nm,1.1s
GCPR Guaynabo City 20.19 51 P 20 13 21.0 -0.6
GCPR IAmb IAmb 20 13 25.3
comp=Z,101nm,0.9s
HUMP Col San Antoni 20.28 52 P 20 13 21.7 -0.9
UNM Universidad Na 20.86 311 IAMs_20 IAMs_20 20 20 10.5
comp=Z,5μm,21.0s
060A Indiantown 20.98 6 S Sn 20 17 28.0 -2.0
baz=186
STVI Saint Thomas 21.10 53 P P 20 13 29.6 -1.9
STVI IAmb IAmb 20 13 38.2
comp=Z,113nm,1.2s
DWPF Disney Wildern 21.97 3 P P 20 13 41.1 +0.3
DWPF IAmb IAmb 20 13 45.1
comp=Z,74nm,1.0s
DWPF Disney Wildern 21.97 3 S Sn 20 17 48.4 -5.3
baz=183
DWPF Disney Wildern 21.97 3 P P 20 13 41.3 +0.5
baz=183
BOAV Boa Vista 22.29 98 P P 20 13 43.6 -0.8
BOAV IAmb IAmb 20 13 54.1
comp=Z,49nm,1.0s
BOAV Boa Vista 22.29 98 eP P 20 13 44.3 -0.1
MOIG Morelia 22.61 309 P P 20 13 46.4 -1.6
MOIG IAmb IAmb 20 13 55.8
comp=Z,82nm,1.2s
ETMB Extrema 22.67 134 P P 20 13 46.8 -1.7
ETMB IAmb IAmb 20 13 51.3
comp=Z,130nm,1.1s
ETMB Extrema 22.67 134 eP P 20 13 46.7 -1.7
MACA Manacapuru-AM 23.70 112 eP P 20 13 58.4 -0.5
BBGH Gun Hill 23.75 71 IAMs_20 IAMs_20 20 19 28.7
comp=Z,6μm,18.0s
TIGA Tifton 25.28 358 P P 20 14 13.9 +0.6
TIGA Tifton 25.28 358 P P 20 14 14.5 +1.2
baz=178
BRAL Brewton 25.34 351 P P 20 14 13.1 -0.8
BRAL Brewton 25.34 351 P P 20 14 15.1 +1.2
baz=170
352A Blakely 25.40 355 P P 20 14 13.6 -0.7
ZAIG Zacatecas 25.46 313 P P 20 14 19.4 -0.4
ZAIG IAmb IAmb 20 14 20.5
comp=Z,40nm,1.2s
KVTX Kingsville 25.87 327 IAMs_20 IAMs_20 20 24 37.6
comp=Z,3μm,21.0s
250A Grady 26.03 353 P P 20 14 19.2 -0.9
baz=172,SNR=6.9
LPAZ La Paz 26.40 147 P P 20 14 23.4 -0.8
comp=Z,34nm,1.3s,baz=335,slow=10,SNR=17
LPAZ LR LR 20 25 52.1
comp=Z,12μm,19.9s,baz=310,slow=39
comp=Z,34nm,1.3s
LPAZ La Paz 26.40 147 P P 20 14 23.5 -0.7
HKT Hockley 26.86 334 P P 20 14 26.9 -0.6
HKT IAmb IAmb 20 14 37.4
comp=Z,48nm,1.9s
NHSC New Hope 27.02 4 P P 20 14 30.4 +1.4
baz=185
LRAL Lakeview Retre 27.17 352 P P 20 14 31.3 +0.9
baz=170
GOGA Godfrey 27.24 358 S S 20 19 18.6 +8.5
baz=178
GOGA Godfrey 27.24 358 P P 20 14 31.5 +0.5
baz=178
833A Chaparral WMA, 27.30 326 P P 20 14 32.2 +0.7
baz=141
PB12 IPOC Station P 27.32 154 P P 20 14 31.1 -0.8
PB12 IAmb IAmb 20 14 35.7
comp=Z,38nm,1.1s
PB16 IPOC Station P 27.44 152 P P 20 14 32.9 -0.7
PB16 IAmb IAmb 20 14 42.4
comp=Z,44nm,1.0s
Z47A Carrollton 27.50 350 P P 20 14 31.8 -1.5
Y52A Lilburn 27.72 357 S S 20 19 24.6 +6.9
baz=177
Y52A S S 20 19 24.6 +6.9
baz=177
NATX Nacogdoches 27.97 338 P P 20 14 37.2 -0.4
NATX IAmb IAmb 20 14 39.8
comp=Z,30nm,1.2s
NATX Nacogdoches 27.97 338 P P 20 14 37.5 -0.1
baz=154
MNMC Minye Minye 28.10 153 P P 20 14 38.2 -0.9
PSGCX Pisagua 28.28 155 P P 20 14 40.4 -0.1
435B Jarrell 28.36 332 S S 20 19 34.9 +7.0
baz=147
435B Jarrell 28.36 332 P P 20 14 41.0 0.0
baz=147
FPAL Fort Paine 28.50 355 P P 20 14 41.3 -1.0
FPAL IAmb IAmb 20 14 43.3
comp=Z,31nm,1.6s
PB08 IPOC Station P 28.62 154 P P 20 14 42.6 -1.1
PB11 IAmb IAmb 20 15 20.8
comp=Z,40nm,1.0s
ITTB Itaituba 28.73 110 eP P 20 14 44.3 -0.3
GO01 Chusmiza 28.75 153 P P 20 14 44.9 -0.2
TA02 Huaiquique 28.87 155 P P 20 14 45.3 -0.3
KMSC Kings Mountain 28.98 2 P P 20 14 46.6 +0.1
baz=183
TA01 Diego Aracena 29.11 156 P P 20 14 47.6 -0.2
VILB Vilhena 29.16 130 P P 20 14 46.8 -1.6
VILB IAmb IAmb 20 14 59.9
comp=Z,42nm,0.9s
VILB Vilhena 29.16 130 eP P 20 14 48.2 -0.2
PB08 IPOC Station P 29.18 153 P P 20 14 47.8 -1.0
PB08 IAmb IAmb 20 15 20.3
comp=Z,58nm,1.6s
JCT Junction City 29.21 328 P P 20 14 47.7 -1.0
JCT Junction City 29.21 328 P P 20 14 48.0 -0.6
baz=143
WHTX Lake Whitney, 29.32 334 P P 20 14 49.8 +0.2
baz=149
MALB Monte Alegre 29.34 105 eP P 20 14 50.6 +0.6
PATCX Punta Patache 29.36 156 P P 20 14 48.7 -1.4
PATCX IAmb IAmb 20 14 55.1
comp=Z,42nm,1.2s
TKL Tuckaleechee C 29.49 358 LR LR 20 27 05.6
comp=Z,2μm,18.3s,baz=180,slow=37
MDP Mognes des 29.81 90 LR LR 20 28 35.8
comp=Z,2μm,18.1s,baz=278,slow=40
PB01 IPOC Station P 29.83 155 P P 20 14 54.0 -0.3
PB01 IAmb IAmb 20 15 05.6
comp=Z,65nm,1.8s
NPGB Novo Progresso 30.11 115 eP P 20 14 54.3 -2.6
MIAR Mount Ida 30.13 342 P P 20 14 55.6 -1.1
MIAR IAmb IAmb 20 15 10.0
comp=Z,30nm,1.6s
MIAR Mount Ida 30.13 342 P P 20 14 56.8 +0.1
baz=158
HPIG 30.25 316 P P 20 14 57.8 -0.3
WVT Waverly 30.33 352 P P 20 14 56.0 -2.5
WVT Waverly 30.33 352 P P 20 14 58.5 +0.1
baz=170
TZTN Tazewell 30.37 358 P P 20 14 58.5 -0.3
TZTN IAmb IAmb 20 15 26.3
comp=Z,48nm,1.6s
TZTN Tazewell 30.37 358 P P 20 14 59.1 +0.3
baz=178
WHAR Wooly Hollow 30.45 344 P P 20 14 56.5 -3.0
WHAR IAmb IAmb 20 14 59.8
comp=Z,19nm,1.1s
SIV San Ignacio 30.54 136 LR LR 20 27 29.0
comp=Z,7μm,18.3s,baz=308,slow=37
TX32 Lajitas Array 30.55 322 P P 20 14 59.3 -1.3
TXAR Lajitas Array 30.55 322 P P 20 15 00.4 -0.2
comp=Z,3.7nm,1.1s,baz=148,slow=7.4,SNR=18
TXAR PcP PcP 20 17 56.5 -3.0
comp=Z,0.2nm,0.7s,baz=169,slow=0.5,SNR=1.3
TXAR LR LR 20 27 41.2
comp=Z,1μm,19.3s,baz=122,slow=37
comp=Z,3.7nm,1.1s
TXAR Lajitas Array 30.55 322 P P 20 14 59.5 -1.1
TX31 Lajitas Ar. Si 30.55 322 P P 20 15 00.2 -0.4
baz=135,SNR=6.3
PB09 IPOC Station P 30.60 155 P P 20 15 00.7 -0.5
PB09 IAmb IAmb 20 15 12.5
comp=Z,43nm,1.3s
PB03 IPOC Station P 30.62 156 P P 20 15 00.7 -0.6
PB03 IAmb IAmb 20 15 08.3
comp=Z,26nm,1.0s
ABTX Abilene, Hawle 30.86 331 P P 20 15 01.4 -1.8
ABTX Abilene, Hawle 30.86 331 P P 20 15 03.1 -0.2
baz=145
LCAR Lake Charles 30.90 346 P P 20 15 01.2 -2.3
LCAR IAmb IAmb 20 15 03.8
comp=Z,24nm,1.0s
LCAR Lake Charles 30.90 346 P P 20 15 01.8 -1.8
baz=163,SNR=7.5
FCAR Ozark Folk Cen 30.97 345 P P 20 15 01.8 -2.4
BLA Blacksburg 31.09 3 IAMs_20 IAMs_20 20 26 02.9
comp=Z,3μm,22.0s
MCPB Macapa, AP 31.13 101 eP P 20 15 07.0 +1.2
PDRB Porto dos Gac 31.13 124 eP P 20 15 04.5 -1.3
PB06 IPOC Station P 31.28 156 P P 20 15 06.5 -0.7
PB06 IAmb IAmb 20 15 11.6
comp=Z,27nm,1.1s
LVC Limon Verde 31.46 155 P P 20 15 09.6 +0.6
comp=Z,23nm,1.1s,baz=314,slow=6.4,SNR=9.3
comp=Z,23nm,1.1s
LVC Limon Verde 31.46 155 P P 20 15 08.2 -0.8
LVC IAmb IAmb 20 15 13.7
comp=Z,28nm,1.1s
LVC Limon Verde 31.46 155 IAMs_20 IAMs_20 20 29 30.1
comp=Z,3μm,21.0s
S51A Beattyville 31.46 358 P P 20 15 07.8 -0.7
baz=178
S51A P P 20 15 07.8 -0.7
baz=178
CLDB Colider 31.52 122 eP P 20 15 07.4 -1.8
PTLB Pontes e Lacer 31.55 133 P P 20 15 08.0 -1.4
PTLB IAmb IAmb 20 15 11.2
comp=Z,15nm,1.1s
PTLB Pontes e Lacer 31.55 133 eP P 20 15 08.9 -0.5
SLBS Sierra La Lagu 31.63 307 P P 20 15 09.4 -0.8
SLBS IAmb IAmb 20 15 13.6
comp=Z,33nm,1.2s
SLBS Sierra La Lagu 31.63 307 IAMs_20 IAMs_20 20 24 51.8
comp=Z,2μm,22.0s
PB15 IPOC Station P 31.77 157 P P 20 15 11.7 +0.2
PB15 IAmb IAmb 20 15 36.8
comp=Z,14nm,0.9s
CGM3 Cape Girardeau 31.77 349 P P 20 15 09.4 -1.8
CGM3 IAmb IAmb 20 15 11.6
comp=Z,20nm,1.1s
AF01 San Pedro de A 32.08 154 P P 20 15 14.8 +0.5
TUL1 Leonard 32.11 340 P P 20 15 12.9 -1.2
TUL1 Leonard 32.11 340 P P 20 15 13.4 -0.7
baz=155
LPIG La Paz 32.12 307 LR LR 20 25 27.9
comp=Z,2μm,20.4s,baz=126,slow=31
U38A Gravette 32.13 342 P P 20 15 13.7 -0.7
baz=158
R50A Paris 32.13 357 P P 20 15 13.4 -0.9
baz=177
R50A P P 20 15 13.4 -0.9
baz=177
R49A Shelbyville 32.19 356 P P 20 15 13.9 -0.9
baz=175
R49A P P 20 15 13.9 -0.9
baz=175
WCI Wyandotte Cave 32.22 355 P P 20 15 13.4 -1.6
WCI IAmb IAmb 20 15 27.3
comp=Z,22nm,1.2s
WCI Wyandotte Cave 32.22 355 P P 20 15 14.4 -0.6
baz=173
WMOK Wichita Mounta 32.24 334 P P 20 15 14.0 -1.3
WMOK Wichita Mounta 32.24 334 P P 20 15 14.8 -0.5
baz=149
WMOK Wichita Mounta 32.24 334 P P 20 15 15.1 -0.3
baz=149
OK031 S. Brethren Rd 32.52 338 P P 20 15 16.5 -1.3
OK031 IAmb IAmb 20 15 18.0
comp=Z,31nm,1.3s
OK053 SW of W Deep R 32.56 338 P 20 15 16.5 -1.6
OK053 IAmb IAmb 20 15 17.7
comp=Z,16nm,0.8s
PB14 IPOC Station P 32.71 159 P P 20 15 20.2 +0.3
PB14 IAmb IAmb 20 15 26.9
comp=Z,26nm,1.3s
HTMS Hat Mesa 32.82 326 P P 20 15 19.2 -1.4
CCM Cathedral Cave 32.83 347 P P 20 15 18.2 -2.2
CCM IAmb IAmb 20 15 20.4
comp=Z,18nm,1.0s
CCM Cathedral Cave 32.83 347 P P 20 15 18.6 -1.8
baz=164,SNR=7.5
CCM Cathedral Cave 32.83 347 P P 20 15 19.1 -1.3
baz=164
Q51A Peebles 32.84 359 P P 20 15 19.9 -0.6
baz=179
Q51A P P 20 15 19.9 -0.6
baz=179
OLIL Olney 32.92 352 P P 20 15 21.2 -0.1
baz=170
S39A Bolivar 32.99 344 P P 20 15 21.4 -0.5
baz=160
GDL2 Guadalupe Moun 33.03 325 P P 20 15 21.6 -0.8
R40A Maddies Statio 33.28 346 P P 20 15 23.2 -1.2
baz=162
P52A Corning 33.44 1 IAMs_20 IAMs_20 20 29 11.4
comp=Z,2μm,19.0s
P52A Corning 33.44 1 P P 20 15 25.3 -0.5
baz=181
GO02 Mina Guanaco 33.49 158 P P 20 15 26.3 -0.4
MSTX Muleshoe 33.50 329 P P 20 15 25.5 -1.0
MSTX IAmb IAmb 20 15 27.7
comp=Z,28nm,1.4s
MSTX Muleshoe 33.50 329 P P 20 15 26.3 -0.2
baz=142
MSTX Muleshoe 33.50 329 P P 20 15 26.5 -0.1
baz=142
MCWV Mont Chateau 33.56 4 IAMs_20 IAMs_20 20 27 19.3
comp=Z,2μm,22.0s
MCWV Mont Chateau 33.56 4 P P 20 15 26.5 -0.2
baz=185
AMTX Amarillo 33.68 331 P P 20 15 26.6 -1.5
AMTX IAmb IAmb 20 15 29.0
comp=Z,15nm,0.9s
AMTX IAMs_20 IAMs_20 20 30 49.4
comp=Z,2μm,20.0s
AMTX Amarillo 33.68 331 P P 20 15 26.7 -1.4
baz=144
AMTX Amarillo 33.68 331 P P 20 15 27.8 -0.3
baz=144
OK035 E0210 Rd and N 33.90 336 IAMs_20 IAMs_20 20 31 16.0
comp=Z,2μm,21.0s
EPT El Paso 34.00 322 IAMs_20 IAMs_20 20 29 52.0
comp=Z,2μm,22.0s
ACSO Alum Creek Sta 34.04 359 P 20 15 30.7 -0.3
ACSO IAmb IAmb 20 15 32.3
comp=Z,21nm,0.8s
ACSO IAMs_20 IAMs_20 20 29 46.2
comp=Z,2μm,18.0s
ACSO Alum Creek Sta 34.04 359 P P 20 15 31.2 +0.2
baz=179
AC01 Pan de Azucar 34.05 161 P P 20 15 31.0 -0.2
O53A New Philadelph 34.08 2 IAMs_20 IAMs_20 20 29 07.2
comp=Z,2μm,19.0s
O53A New Philadelph 34.08 2 P P 20 15 31.4 +0.1
baz=182
O48B Farmland 34.14 356 P P 20 15 31.6 -0.3
baz=176
O48B Farmland 34.14 356 P P 20 15 31.3 -0.6
baz=176
SALV Santo Antonio 34.41 130 eP P 20 15 32.1 -2.4
SFIN Lafayette 34.43 354 P P 20 15 33.3 -1.0
baz=172
SSPA Standing Stone 34.70 6 P P 20 15 36.1 -0.5
baz=188
PRPB Parauapebas 34.88 110 eP P 20 15 40.1 +1.5
HDIL Hopedale 34.89 351 P P 20 15 36.9 -1.4
HDIL Hopedale 34.89 351 P P 20 15 37.4 -0.9
baz=168
AC02 Maricunga 35.19 159 P P 20 15 41.4 -0.2
AC06 Mina Casimiro 35.25 161 P P 20 15 41.0 -0.6
AC06 IAmb IAmb 20 15 54.1
comp=Z,22nm,1.1s
KSU1 Kansas State U 35.27 341 P P 20 15 39.7 -1.9
KSU1 IAmb IAmb 20 15 46.3
comp=Z,15nm,0.7s
KSU1 Kansas State U 35.27 341 P P 20 15 40.7 -1.0
baz=155
M53A WI Miller and 35.29 2 IAMs_20 IAMs_20 20 28 35.1
comp=Z,2μm,21.0s
M53A WI Miller and 35.29 2 P P 20 15 41.3 -0.5
baz=183
N41A Harden Midland 35.30 349 P P 20 15 39.9 -2.0

N41A Harden Midland 35.30 349 P P 20 15 41.3 -0.5
baz=166
121A Cookes Peak, D 35.31 322 P P 20 15 42.2 -0.1
121A Cookes Peak, D 35.31 322 P P 20 15 43.9 +1.6
baz=133,SNR=23
121A Cookes Peak, D 35.31 322 P P 20 15 42.8 +0.5
baz=133,SNR=23
R32A Long Quarter, 35.40 338 P P 20 15 41.5 -1.3
baz=152
TMAB Tom-Au,PA,Br 35.44 103 eP P 20 15 44.5 +1.1
M57A Sunshine Farm, 35.48 7 P P 20 15 42.0 -1.5
baz=189
M57A P P 20 15 42.0 -1.5
baz=189
319A Douglas 35.50 319 P P 20 15 44.3 +0.4
319A IAmb IAmb 20 16 00.8
comp=Z,21nm,1.1s
Y22A Socorro 35.79 324 P P 20 15 47.9 +1.5
baz=136,SNR=34
Y22D IRIS PASSCAL I 35.86 324 P P 20 15 47.9 +0.9
Y22D IRIS PASSCAL I 35.86 324 P P 20 15 47.1 +0.1
baz=136
Y22F Passcal Instru 35.86 324 P P 20 15 47.0 0.0
baz=136
N38A Joes South For 35.89 346 P P 20 15 44.8 -2.2
baz=162,SNR=6.9
SNDB Serra Nova Dou 35.90 120 eP P 20 15 46.7 -0.6
WSPT Westport, CT 35.94 12 IAMs_20 IAMs_20 20 29 20.5
comp=Z,2µm,21.0s
ERPA Erie 36.00 3 IAMs_20 IAMs_20 20 29 08.9
comp=Z,2µm,21.0s
AAM Ann Arbor 36.12 359 IAMs_20 IAMs_20 20 31 40.2
comp=Z,2µm,20.0s
CBKS Cedar Bluff 36.13 337 P P 20 15 48.0 -1.2
CBKS IAmb IAmb 20 15 50.1
comp=Z,34nm,1.3s
ANMO Albuquerque 36.23 326 LR LR 20 32 22.9
comp=Z,2µm,19.5s,baz=130,slow=39
ANMO Albuquerque 36.23 326 IAMs_20 IAMs_20 20 32 02.9
comp=Z,2µm,20.0s
ANMO Albuquerque 36.23 326 P P 20 15 51.1 +1.0
baz=137,SNR=24
ANMO Albuquerque 36.23 326 P P 20 15 50.4 +0.3
baz=137
BINY Binghamton 36.48 8 P P 20 15 52.2 +0.2
BINY IAMs_20 IAMs_20 20 29 32.7
comp=Z,2µm,21.0s
BINY Binghamton 36.48 8 P P 20 15 51.8 -0.1
baz=191
AC05 El Transito 36.65 162 P P 20 15 53.8 +0.1
LCO Las Campanas 36.68 162 P P 20 15 54.8 +0.7
LCO IAmb IAmb 20 16 05.2
comp=Z,44nm,1.8s
L40A Anamosa 36.68 349 P P 20 15 51.3 -2.4
baz=166,SNR=7.6
T25A Trinidad 36.81 330 P P 20 15 54.7 -0.4
T25A IAmb IAmb 20 15 58.0
comp=Z,36nm,1.1s
T25A Trinidad 36.81 330 P P 20 15 55.7 +0.6
baz=142,SNR=9.5
SCIA State Center 36.95 347 P P 20 15 54.4 -1.5
TUC Tucson 37.08 318 P P 20 15 56.6 -0.8
TUC Tucson 37.08 318 P P 20 15 58.6 +1.3
baz=129
AQDB Aquidauana 37.31 136 P P 20 15 57.7 -1.6
AQDB IAmb IAmb 20 16 00.8
comp=Z,37nm,1.2s
AQDB Aquidauana 37.31 136 eP P 20 15 57.4 -1.9
JFWS Jewell Farm 37.34 351 P P 20 15 58.1 -1.1
JFWS IAmb IAmb 20 16 02.5
comp=Z,17nm,0.6s
JFWS Jewell Farm 37.34 351 P P 20 15 59.1 -0.1
baz=167
ARAG Araguaiana, MT 37.35 126 eP P 20 15 57.6 -2.1
KSCO Kaye Shedlock' 37.49 334 P P 20 15 59.4 -1.5
KSCO IAmb IAmb 20 16 02.6
comp=Z,27nm,0.9s
J58A Remsen 37.72 9 P P 20 16 00.8 -1.7
SDCO Great Sand Dun 37.83 330 P P 20 16 03.5 -0.3
SDCO IAmb IAmb 20 16 06.8
comp=Z,37nm,1.2s
SDCO Great Sand Dun 37.83 330 P P 20 16 04.5 +0.6
baz=141,SNR=34
SDCO Great Sand Dun 37.83 330 P P 20 16 03.8 -0.1
baz=141,SNR=34
SMTB Santa Maria do 37.89 113 eP P 20 16 04.0 -0.4
X18A Snowflake 37.98 322 P P 20 16 04.6 -0.5
214A Organ Pipe Nat 38.23 316 P P 20 16 08.0 +0.9
baz=126,SNR=5.5
W18A Petrified Fore 38.25 323 P P 20 16 07.7 +0.4
W18A Petrified Fore 38.25 323 P P 20 16 08.3 +0.9
baz=139,SNR=16
CO03 El Pedregal 38.40 163 P P 20 16 08.9 +0.5
CO03 IAmb IAmb 20 16 19.7
comp=Z,32nm,1.2s
S22A 4UR Ranch, Cre 38.50 328 P P 20 16 10.0 +0.4
S22A 4UR Ranch, Cre 38.50 328 P P 20 16 11.1 +1.6
baz=139,SNR=20
Q24A Divide 38.61 331 P P 20 16 10.2 -0.2
baz=142,SNR=6.2
CO02 Combarbal 38.66 164 P P 20 16 10.1 -0.6
CO02 IAmb IAmb 20 16 21.9
comp=Z,53nm,1.1s
SADO Sadowa 38.69 4 LR LR 20 30 52.2
comp=Z,1µm,21.7s,baz=185,slow=34
OGNE Ogallala 38.87 336 P P 20 16 13.2 +0.8
baz=148
MVCO Mesa Verde 39.00 326 P P 20 16 13.7 0.0
MVCO IAmb IAmb 20 16 15.9
comp=Z,28nm,1.1s
MVCO IAMs_20 IAMs_20 20 34 00.1
comp=Z,2µm,18.0s
MVCO Mesa Verde 39.00 326 P P 20 16 14.7 +0.9
baz=136,SNR=9.2
113A Mohawk Valley, 39.36 317 P P 20 16 15.9 -0.6
ROSB Rosrio 39.41 102 eP P 20 16 18.9 +1.7
H03N2 Juan Fernandez 39.42 175 T T 20 57 55.1
baz=355,slow=74
H03N1 Juan Fernandez 39.42 175 T T 20 57 55.6
baz=355
H03N3 Juan Fernandez 39.44 175 T T 20 57 54.9
baz=355,slow=74
WUAZ Wupatki 39.51 322 P P 20 16 18.4 +0.5
WUAZ IAMs_20 IAMs_20 20 32 21.0
comp=Z,2µm,19.0s
WUAZ Wupatki 39.51 322 P P 20 16 18.4 +0.5
baz=131,SNR=14
ECSD EROS Data Cent 39.52 344 P P 20 16 16.3 -1.4
baz=158
SMCO Snowmass 39.66 330 P P 20 16 19.1 -0.3
ZON Zonda 39.67 161 P P 20 16 19.9 +0.9
ZON IAmb IAmb 20 16 26.1
comp=Z,80nm,1.8s
PV15 Paradox Valley 39.82 328 P P 20 16 20.4 -0.1
PV15 IAmb IAmb 20 16 26.6
comp=Z,37nm,1.1s
SPMN Marine on St. 40.03 349 P P 20 16 19.6 -2.3
baz=164
GLA Glamis 40.26 316 P 20 16 24.2 +0.2
GLA Glamis 40.26 316 P P 20 16 24.1 +0.2
baz=125
ROC1 El Roble 40.33 165 P P 20 16 25.4 +0.6
ROC1 IAmb IAmb 20 16 39.7
comp=Z,40nm,1.3s
CPUP Villa Florida 40.44 144 P P 20 16 23.4 -2.1
comp=Z,5.3nm,1.0s,baz=335,slow=11,SNR=6.5
CPUP LR LR 20 34 37.5
comp=Z,2µm,19.5s,baz=321,slow=38
comp=Z,5.3nm,1.0s
CPUP Villa Florida 40.44 144 P P 20 16 24.4 -1.1
BDFB Brasilia 40.45 123 P P 20 16 24.2 -1.6
comp=Z,9.3nm,1.1s,baz=313,slow=4.6,SNR=6.3
BDFB LR LR 20 34 11.7
comp=Z,3µm,18.0s,baz=299,slow=38
comp=Z,9.3nm,1.1s
BDFB Brasilia 40.45 123 P P 20 16 24.8 -1.1
ESJX Sierra Juarez 40.46 314 P P 20 16 25.6 -0.3
N23A Red Feather La 40.51 332 P P 20 16 26.4 +0.2
baz=143
PDMCI Parker Dam,Lak 40.52 318 P P 20 16 26.5 +0.5
baz=127
PHWY Pilot Hill 40.61 333 IAMs_20 IAMs_20 20 35 42.7
comp=Z,1µm,21.0s
SWSC Sam W. Stewart 40.87 315 P P 20 16 30.0 +1.0
baz=124
IKP In-Ko-Pah, Jac 40.93 315 P P 20 16 30.2 +0.7
baz=123
O20A White River Ci 41.03 330 P P 20 16 30.9 +0.5
baz=139
BC3 Big Chuckawall 41.03 316 P P 20 16 30.5 +0.1
baz=125
MT09 Talagante 41.10 165 P P 20 16 32.5 +1.5
MT09 IAmb IAmb 20 16 42.4
comp=Z,72nm,1.6s
IRM Iron Mountain 41.11 317 P P 20 16 31.7 +0.7
baz=126
MONP2 Monument Peak 41.28 315 P P 20 16 33.1 +0.5
baz=123
PKCU Pink Cliffs 41.35 323 P P 20 16 33.5 +0.2
PKCU IAmb IAmb 20 16 36.8
comp=Z,50nm,1.3s
BO04 La Punta 41.40 165 P P 20 16 34.4 +1.1
SRU San Rafael Swe 41.48 327 P P 20 16 33.7 -0.4
SRU IAmb IAmb 20 16 39.6
comp=Z,27nm,0.9s
IPMB Ipameri, GO 41.48 126 eP P 20 16 32.5 -1.7
BELC Belle Mtn. Jos 41.60 316 P P 20 16 35.9 +0.8
baz=124,SNR=6.8
TPFO Pinon Flats 41.69 316 P P 20 16 35.7 -0.2
baz=124
PFO Pinyon Flats O 41.70 316 P P 20 16 35.8 -0.2
PFO Pinyon Flats O 41.70 316 IAMs_20 IAMs_20 20 33 07.1
comp=Z,2µm,20.0s
PFO Pinyon Flats O 41.70 316 P P 20 16 35.9 -0.1
baz=124
SDBA SAO DESIDERIO 41.70 116 eP P 20 16 35.2 -0.9
RWWY Rawlins 41.72 332 P P 20 16 36.3 +0.2
RWWY IAmb IAmb 20 16 38.7
RWWY comp=Z,48nm,1.2s IAMs_20 IAMs_20 20 36 27.0
comp=Z,1µm,18.0s
109C Camp Elliot, M 41.76 314 P P 20 16 36.6 +0.3
baz=122
GMRC Granite Mounta 41.82 318 P P 20 16 36.8 -0.1
baz=126
V12A Nelson 41.84 319 P P 20 16 36.6 -0.4
RPN Rapa Nui 41.92 217 LR LR 20 29 30.7
comp=Z,2µm,18.5s,baz=38,slow=30
MVU Marysvale 42.01 325 P P 20 16 38.6 0.0
K22A Casper 42.17 334 P P 20 16 39.4 -0.3
K22A Casper 42.17 334 P P 20 16 40.0 +0.3
baz=143
MURC Murrieta 42.21 315 P P 20 16 40.0 0.0
baz=123
HEC Hector,Ludlow 42.30 317 P P 20 16 40.8 0.0
baz=125
RSSD Black Hills 42.34 337 P P 20 16 40.9 -0.2
RSSD Black Hills 42.34 337 P P 20 16 41.6 +0.4
baz=147,SNR=6.0
RSSD Black Hills 42.34 337 P P 20 16 41.5 +0.4
baz=147
TUQ Turquoise Moun 42.37 318 P P 20 16 42.2 +0.7
baz=126
PTGB Pitanga 42.63 137 eP P 20 16 43.7 +0.1
SHOC Shoshone, Teco 42.87 319 P P 20 16 45.8 +0.4
baz=126
BFSC Mount Baldy Ra 42.88 316 P P 20 16 45.8 +0.2
baz=123
GSC Goldstone, Bar 42.88 317 P P 20 16 46.0 +0.4
baz=125,SNR=6.2
ML02 Panimavida 42.89 167 P P 20 16 46.1 +0.7
BB19B Bebedouro 42.93 130 eP P 20 16 46.9 +0.9
CIS Catalina Islan 42.97 314 P P 20 16 46.7 +0.5
baz=121
PSUT Pine Spring 42.99 323 P P 20 16 45.9 -0.6
PMNB Patos De Minas 43.20 125 eP P 20 16 48.6 +0.3
PASC Pasadena Art C 43.21 315 P P 20 16 46.3 -1.8
PASC Pasadena Art C 43.21 315 IAMs_20 IAMs_20 20 33 53.1
comp=Z,2µm,20.0s
QSM Queen of Sheba 43.30 318 P P 20 16 48.1 -0.8
JANB Januaria 43.34 119 eP P 20 16 48.9 -0.6
ITQB Itaqui 43.39 146 P P 20 16 48.0 -1.5
ITQB Itaqui 43.39 146 eP P 20 16 47.9 -1.7
EDW2 Edwards Air Fo 43.46 316 P P 20 16 50.6 +0.4
baz=123
TPNV Topopah Spring 43.48 320 P P 20 16 50.5 +0.1
TPNV IAMs_20 IAMs_20 20 34 09.0
comp=Z,3µm,20.0s
TPNV Topopah Spring 43.48 320 P P 20 16 51.6 +1.1
baz=127
DUG Dugway, Tooele 43.50 326 P P 20 16 50.2 -0.3
DUG Dugway, Tooele 43.50 326 P P 20 16 51.6 +1.1
baz=133
LRMC Laurel Mtn Rad 43.57 317 P P 20 16 51.8 +0.7
baz=124,SNR=6.0
FURC Furnace Creek, 43.59 319 P P 20 16 51.6 +0.5
baz=126
AGMN Agassiz Nation 43.60 347 P P 20 16 49.0 -2.0
AGMN IAmb IAmb 20 16 50.6
comp=Z,25nm,1.1s
AGMN Agassiz Nation 43.60 347 P P 20 16 51.6 +0.6
baz=161
BW06 Boulder Array 43.66 331 P P 20 16 51.2 -0.8
BW06 IAmb IAmb 20 16 53.9
comp=Z,40nm,1.5s
BW06 IAMs_20 IAMs_20 20 36 45.6
comp=Z,2µm,20.0s
BW06 Boulder Array 43.66 331 P P 20 16 51.6 -0.3
baz=139,SNR=12
PDAR Pinedale Array 43.66 331 P P 20 16 51.4 -0.5
comp=Z,15nm,1.2s,baz=134,slow=8.5,SNR=28
PDAR PcP PcP 20 18 36.6 -2.5
comp=Z,0.8nm,0.9s,baz=134,slow=2.6,SNR=1.9
PDAR LR LR 20 36 59.0
comp=Z,2µm,19.7s,baz=144,slow=39
comp=Z,15nm,1.2s
PDAR Pinedale Array 43.66 331 P P 20 16 50.9 -1.1
MPMC Manual Prospec 43.77 318 P P 20 16 52.3 -0.5
baz=125
HWUT Hardware Ranch 43.81 328 P P 20 16 52.1 -1.0
HWUT IAmb IAmb 20 16 58.1
comp=Z,19nm,0.9s
HWUT IAMs_20 IAMs_20 20 36 03.7
comp=Z,2µm,20.0s
R11A Troy Canyon, C 43.91 322 P P 20 16 53.8 -0.1
baz=129,SNR=14
MDND Maddock 44.12 344 P P 20 16 55.5 +0.2
baz=155
SCZ2 Santa Cruz Isl 44.14 314 P P 20 16 56.2 +0.6
baz=121
ISA Isabella, Lake 44.21 317 P P 20 16 56.7 +0.4
baz=123
CWC Cottonwood Cre 44.38 318 P P 20 16 58.5 +0.8
baz=124
MC01 Montes Claros 44.39 121 eP P 20 16 57.1 -0.8
AHID Auburn Hatcher 44.42 330 IAMs_20 IAMs_20 20 36 51.6
comp=Z,1µm,20.0s
REDW Red Top Meadow 44.74 331 P P 20 17 00.0 -0.5
REDW IAMs_20 IAMs_20 20 37 25.0
comp=Z,2µm,20.0s
ECR Eagle Creek 44.77 330 P P 20 16 59.6 -1.1
TPH Tonopah 44.77 320 P P 20 17 00.2 -0.6
LOHW Long Hollow 44.80 331 IAMs_20 IAMs_20 20 37 50.7
comp=Z,2µm,20.0s
TPAW Teton Pass 44.88 331 IAMs_20 IAMs_20 20 37 29.8
comp=Z,2µm,20.0s
MOOW Moose Ponds 44.97 331 IAMs_20 IAMs_20 20 37 57.1
comp=Z,2µm,19.0s
FXWY Fox Creek 45.03 331 IAMs_20 IAMs_20 20 37 55.7
comp=Z,2µm,19.0s
IMW Indian Meadow 45.18 331 IAMs_20 IAMs_20 20 38 12.4
comp=Z,2µm,20.0s
FLWY Flagg Ranch 45.20 331 IAMs_20 IAMs_20 20 38 17.3
comp=Z,1µm,19.0s
ELK Elko 45.24 325 LR LR 20 36 10.8
comp=Z,2µm,21.2s,baz=134,slow=36
ELK Elko 45.24 325 P P 20 17 03.9 -0.7
LAO LASA Array 45.33 337 IAMs_20 IAMs_20 20 38 37.4
comp=Z,1µm,19.0s
LAO LASA Array 45.33 337 P P 20 17 05.2 +0.2
baz=146
RLMT Red Lodge 45.34 333 P P 20 17 04.3 -0.9
RLMT IAmb IAmb 20 17 06.9
comp=Z,33nm,1.4s
RLMT IAMs_20 IAMs_20 20 37 10.7
comp=Z,2µm,22.0s
RLMT Red Lodge 45.34 333 P P 20 17 05.8 +0.6
baz=141
DIAM Diamantina, MG 45.36 123 eP P 20 17 05.9 +0.2
H17A Grant Village 45.38 332 P P 20 17 05.7 0.0
baz=139
ULM Lac du Bonnet 45.45 348 P P 20 17 03.2 -2.6
comp=Z,16nm,0.8s,baz=151,slow=7.1,SNR=11
comp=Z,16nm,0.8s
ULM Lac du Bonnet 45.45 348 P P 20 17 03.0 -2.8
ULM IAmb IAmb 20 17 04.9
comp=Z,21nm,0.8s
NV11 Mina Array Sit 45.57 320 P P 20 17 07.0 -0.1
NVAR Mina Array Bea 45.66 320 P P 20 17 07.7 -0.3
comp=Z,3.4nm,0.8s,baz=134,slow=6.7,SNR=20
NVAR PcP PcP 20 18 45.5 -0.6
comp=Z,0.7nm,0.6s,baz=117,slow=3.1,SNR=1.5
NVAR LR LR 20 36 50.3
comp=Z,2µm,18.5s,baz=128,slow=37
comp=Z,3.4nm,0.8s
CPSB Cacapava Do Su 45.75 144 eP P 20 17 08.6 +0.2
YMR Madison River 45.77 332 P P 20 17 07.8 -0.8
YMR IAmb IAmb 20 17 18.0
comp=Z,32nm,1.2s
BMN Battle Mountai 46.20 323 P P 20 17 11.2 -0.9
PLTB Pedras Altas 46.66 145 P P 20 17 14.7 -1.0
PLTB Pedras Altas 46.66 145 eP P 20 17 14.2 -1.4
HLID Hailey 46.68 328 P P 20 17 15.0 -0.8
HLID IAmb IAmb 20 17 25.7
comp=Z,22nm,1.8s
HLID Hailey 46.68 328 P P 20 17 16.5 +0.7
baz=134
BOZ Bozeman (W) 46.77 332 P P 20 17 16.0 -0.5
BOZ IAMs_20 IAMs_20 20 39 09.8
comp=Z,2µm,21.0s
BOZ Bozeman (W) 46.77 332 P P 20 17 16.8 +0.3
baz=139,SNR=13
PAHR Pah Rah Range 47.09 321 P P 20 17 17.8 -1.2
PAHR IAmb IAmb 20 17 40.4
comp=Z,24nm,1.7s
LRM Limekiln Ridge 47.33 332 P P 20 17 20.1 -0.8
MFID Camas Ranch 47.34 327 IAMs_20 IAMs_20 20 37 16.9
comp=Z,2µm,20.0s
SJMB Sao Joao De Ma 47.64 122 eP P 20 17 24.2 +0.8
LL04 Puerto Octay 47.65 170 P P 20 17 24.1 +0.9
LL04 IAmb IAmb 20 17 34.6
comp=Z,23nm,1.2s
EGMT Eagleton 47.82 336 P P 20 17 24.7 +0.1
baz=142
PLCA Paso Flores 47.84 168 P P 20 17 25.3 +0.6
comp=Z,2.7nm,1.0s,baz=338,slow=14,SNR=3.7
comp=Z,2.7nm,1.0s
PLCA Paso Flores 47.84 168 P P 20 17 25.5 +0.8
PLCA IAmb IAmb 20 17 35.5
comp=Z,26nm,1.4s
TRQA Tornquist 47.88 158 P P 20 17 24.7 -0.3
TRQA IAMs_20 IAMs_20 20 40 52.9
comp=Z,1µm,19.0s
RCBR Riachuelo 48.06 103 LR LR 20 37 43.3
comp=Z,1µm,18.2s,baz=84,slow=36
RCBR Riachuelo 48.06 103 IAMs_20 IAMs_20 20 38 21.1
comp=Z,2µm,21.0s
WVOR Wild Horse Val 48.28 324 P P 20 17 27.3 -0.9
ORV Oroville 48.35 319 IAMs_20 IAMs_20 20 37 44.2
comp=Z,2µm,18.0s
MSO Missoula 48.77 332 P P 20 17 31.3 -0.6
MSO IAmb IAmb 20 17 33.6
comp=Z,18nm,1.3s
MSO Missoula 48.77 332 P P 20 17 31.9 0.0
baz=137
BMO Blue Mountains 49.09 328 IAMs_20 IAMs_20 20 38 12.2
comp=Z,2µm,22.0s
LL02 Futaleuf 49.96 170 P P 20 17 40.2 -0.7
LL02 IAmb IAmb 20 17 48.5
comp=Z,27nm,1.2s
SCHQ Schefferville 50.27 12 LR LR 20 40 56.4
comp=Z,489nm,19.7s,baz=163,slow=38
YBH Yreka Blue Hor 50.32 321 LR LR 20 38 57.5
comp=Z,2µm,21.6s,baz=135,slow=36
WALA Waterton Lakes 50.39 334 P P 20 17 43.2 -1.0
WALA IAmb IAmb 20 18 13.5
comp=Z,46nm,1.8s
NEW Newport 51.30 331 LR LR 20 40 41.8
comp=Z,2µm,21.5s,baz=130,slow=37
NEW Newport 51.30 331 IAMs_20 IAMs_20 20 40 19.8
comp=Z,2µm,22.0s
NEW Newport 51.30 331 P P 20 17 51.0 -0.1
baz=134
COYC Coyhaique 52.24 171 P P 20 17 58.3 +0.4
COYC IAmb IAmb 20 18 18.3
comp=Z,25nm,1.2s
EDM Edmonton 53.32 337 P P 20 18 04.5 -1.4
BRLDA Berland Lookou 55.57 336 P P 20 18 21.5 -0.8
FRB Frobisher Bay 58.48 7 LR LR 20 44 33.9
comp=Z,1µm,20.3s,baz=200,slow=37
HILA High Level 58.73 340 P P 20 18 43.5 -1.0
BBB Bella Bella 59.25 329 LR LR 20 46 38.9
comp=Z,599nm,19.1s,baz=134,slow=38
TAOE Nuku Hiva Isla 59.26 256 eS S 20 27 00.8 +3.0
comp=Z,400nm,28.1s
TAOE eLR LR 20 36 19.5
comp=Z,2µm,26.4s
YKA Yellowknife Ar 61.05 344 P P 20 18 58.9 -1.5
comp=Z,8.4nm,0.9s,baz=141,slow=6.5,SNR=14
YKA LR LR 20 48 07.3
comp=Z,587nm,20.0s,baz=138,slow=39
comp=Z,8.4nm,0.9s
KOTAN Kotaneelee Air 62.38 338 P P 20 19 10.1 +0.6
baz=132
LIRD Liard River Hi 62.70 337 P P 20 19 11.2 -0.3
baz=130
V35K Ketchikan 62.72 331 P P 20 19 11.7 +0.1
baz=122
T35M Bob Quinn 62.99 333 P P 20 19 13.8 +0.2
baz=124
WRAK Wrangell Islan 63.65 332 P P 20 19 18.1 +0.3
baz=122
DLBC Dease Lake 63.72 334 LR LR 20 50 28.8
comp=Z,2µm,18.6s,baz=116,slow=39
DLBC Dease Lake 63.72 334 P P 20 19 18.6 +0.2
baz=125
U33K Whale Pass 63.85 331 P P 20 19 20.1 +0.9
baz=121
WTLY Watson Lake, Y 64.20 336 P P 20 19 22.0 +0.4
baz=127
WRGLY Wrigley 64.29 341 P P 20 19 22.5 +0.5
baz=134
SFJD Kangerlussuaq 64.67 13 LR LR 20 47 44.7
comp=Z,879nm,20.9s,baz=219,slow=36
R33M Jennings River 64.67 335 P P 20 19 24.9 +0.2
baz=125
BBTS Babate 65.35 77 LR LR 20 46 01.2
comp=Z,515nm,20.6s,baz=254,slow=34
SIT Sitka 65.38 331 P P 20 19 29.7 +0.5
baz=120
P33M Teslin, Yukon 65.91 335 P P 20 19 33.1 +0.5
baz=123
P32M Atlin 65.95 334 P P 20 19 34.0 +1.1
baz=122
PMOZ Porto Moniz, M 66.09 57 eLR LR 20 39 18.8
comp=Z,338nm,20.0s
MMPY Sheldon Lake, 66.65 338 P P 20 19 38.6 +1.2
baz=126
PMPS Porto Santo 66.85 57 eP PcP 20 20 09.3 +1.4
comp=Z,147nm,1.5s
PMPST Porto Santo, M 66.85 57 eP PcP 20 20 13.9 +6.0
comp=Z,197nm,1.7s
FARO Faro, Yukon 67.23 337 P P 20 19 41.9 +0.8
baz=123
M31M Drury Creek, Y 67.63 337 IAMs_20 IAMs_20 20 51 35.1
comp=Z,1µm,21.0s
M31M Drury Creek, Y 67.63 337 P P 20 19 44.1 +0.5
baz=122
P30M Million Dollar 67.63 334 P P 20 19 43.9 +0.2
baz=119
P29M Windy Craggy 67.74 333 P P 20 19 45.6 +1.3
baz=118
N31M Braeburn, Yuko 67.81 335 P P 20 19 46.0 +1.3
baz=121
HYT Haines Junctio 68.21 334 P P 20 19 48.4 +1.0
baz=119
N30M Aishikik Lake 68.34 335 P P 20 19 49.2 +1.1
baz=119
O29M Mount Kennedy 68.43 334 P P 20 19 49.7 +0.9
baz=118
C36M Paulatuk 68.77 345 P P 20 19 51.5 +0.9
baz=135
M30M Minto, Yukon 68.78 336 IAMs_20 IAMs_20 20 52 21.5
comp=Z,1µm,19.0s
M30M Minto, Yukon 68.78 336 P P 20 19 51.1 +0.4
baz=120
RES Resolute Bay 68.96 357 LR LR 20 51 04.0
comp=Z,742nm,18.7s,baz=166,slow=37
O28M Mount Upton 69.36 334 P P 20 19 54.7 0.0
baz=116

M29M	Somme Creek	69.39	336	P	P	20 19 54.7	0.0
	baz=118						
YUK8	Steele Glacier	69.40	334	P	P	20 19 55.5	+0.5
	baz=117						
L29M	L29M	69.58	336	P	P	20 19 56.3	+0.6
	baz=119						
TABL	Table Mountain	69.63	333	IAMs_20	IAMs_20	20 52 09.3	
	comp=Z,1µm,22.0s						
K29M	Barlow Dome	69.70	337	P	P	20 19 57.3	+0.7
	baz=120						
PPT	Papeete	70.16	249	LR	LR	20 42 38.5	
	comp=Z,979nm,19.8s,baz=55,slow=29						
PPT2	Papeete2	70.17	249	*e*P	P	20 20 03.9	+3.7
	comp=Z,40nm,22.0s						
PPT2				*e*S	S	20 29 14.6	+2.4
	comp=Z,322nm,25.2s						
PPT2				*e*SS	SS	20 33 46.5	+4.1
	comp=Z,203nm,26.2s						
PPT2				*e*LR	LR	20 41 22.8	
	comp=Z,1µm,26.5s						
PPT2				*e*LR	LR	20 41 23.0	
	comp=Z,2µm,24.8s						
ISLE	Juniper Island	70.24	333	IAMs_20	IAMs_20	20 51 16.3	
	comp=Z,1µm,21.0s						
J29M	Klondike Camp	70.27	338	IAMs_20	IAMs_20	20 53 31.8	
	comp=Z,961nm,21.0s						
F31M	Tsiigehtchic	70.30	341	P	P	20 20 00.8	+0.8
	baz=125						
BVCY	Beaver Creek	70.37	335	P	P	20 20 01.4	+0.8
	baz=116						
BGLC	Bering Glacier	70.48	332	P	P	20 20 02.2	+1.0
	baz=113						
DAWY	Dawson	70.53	337	P	P	20 20 00.9	-0.6
DAWY				IAmb	IAmb	20 20 12.7	
	comp=Z,12nm,1.2s						
DAWY	Dawson	70.53	337	P	P	20 20 01.4	-0.1
	baz=118						
EPYK	Eagle Plains	70.70	340	P	P	20 20 02.3	-0.2
	baz=121						
INK	Inuvik	70.73	342	LR	LR	20 54 26.8	
	comp=Z,1µm,18.8s,baz=116,slow=39						
INK	Inuvik	70.73	342	P	P	20 20 02.2	-0.4
INK	Inuvik	70.73	342	P	P	20 20 02.6	0.0
	baz=125,SNR=19						
I29M	Ogilvie Camp,	70.75	338	IAMs_20	IAMs_20	20 52 34.4	
	comp=Z,1µm,22.0s						
I29M	Ogilvie Camp,	70.75	338	P	P	20 20 03.0	+0.1
	baz=120,SNR=6.2						
M27K	Edge Creek, AK	70.77	335	IAMs_20	IAMs_20	20 53 20.3	
	comp=Z,1µm,20.0s						
M27K	Edge Creek, AK	70.77	335	P	P	20 20 03.3	+0.1
	baz=115						
G30M	tAoh Zraii Nji	70.85	340	P	P	20 20 03.6	+0.1
	baz=122						
MCARA	McCarthy VSAT	70.86	334	P	P	20 20 03.7	+0.1
	baz=114						
A36M	Sachs Harbour	70.92	347	P	P	20 20 02.9	-0.8
	baz=134,SNR=37						
BCAR	Beaver Creek A	71.04	336	P	P	20 20 04.7	+0.1
L27K	Beaver Creek,	71.05	336	IAMs_20	IAMs_20	20 49 33.6	
	comp=Z,829nm,20.0s						
L27K	Beaver Creek,	71.05	336	P	P	20 20 04.5	-0.3
	baz=115						
GLB	Gilahina Butte	71.23	334	IAMs_20	IAMs_20	20 54 37.6	
	comp=Z,984nm,20.0s						
M26K	Nabesna, AK	71.26	335	P	P	20 20 06.5	+0.4
	baz=114						
BMRM	Bremner River	71.41	333	P	P	20 20 07.1	+0.2
	baz=112						
TBI	Tubuai	71.48	243	*e*S	S	20 29 30.0	+2.9
	comp=Z,2µm,28.0s						
TBI				*e*SS	SS	20 34 06.4	+4.2
	comp=Z,1µm,38.2s						
TBI				*e*LR	LR	20 41 59.3	
	comp=Z,12µm,30.5s						
TBI				*e*LR	LR	20 41 59.8	
	comp=Z,30µm,26.8s						
EGAK	Eagle	71.54	337	P	P	20 20 07.1	-0.5
EGAK				IAmb	IAmb	20 20 20.0	
	comp=Z,15nm,1.2s						
EGAK				IAMs_20	IAMs_20	20 53 36.4	
	comp=Z,1µm,21.0s						
EGAK	Eagle	71.54	337	P	P	20 20 07.9	+0.3
	baz=116						
N25K	Chitina, Valde	71.64	334	IAMs_20	IAMs_20	20 54 27.4	
	comp=Z,1µm,21.0s						
SUMG	Summit	71.65	13	*i* P	P	20 20 05.0	-3.6
L26K	Log Cabin Wild	71.67	335	P	P	20 20 08.3	-0.1
	baz=114						
EYAK	Cordova Ski Ar	71.78	332	P	P	20 20 08.7	-0.4
	baz=111						
I27K	Kandik River	72.08	338	P	P	20 20 11.1	+0.2
	baz=116,SNR=8.7						
KLU	Klutina	72.19	333	P	P	20 20 11.7	0.0
	baz=111						
SCRK	Sand Creek	72.31	336	IAMs_20	IAMs_20	20 56 28.0	
	comp=Z,886nm,18.0s						
SCRK	Sand Creek	72.31	336	P	P	20 20 12.3	-0.1
	baz=114						
H27K	Steamboat Moun	72.33	339	P	P	20 20 12.7	+0.3
	baz=117,SNR=8.9						
J26L	Joseph Creek	72.36	337	IAMs_20	IAMs_20	20 52 46.1	
	comp=Z,992nm,20.0s						
J26L	Joseph Creek	72.36	337	P	P	20 20 12.9	+0.2
	baz=114						
M24K	Tolsona, Glenn	72.53	334	P	P	20 20 14.1	+0.5
	baz=111						
I26K	Coal Creek Min	72.53	337	P	P	20 20 14.0	+0.5
	baz=115						
PAX	Paxson	72.54	335	P	P	20 20 14.1	+0.3
	baz=112						
BORG	Borgarnes	72.56	23	LR	LR	20 48 43.1	
	comp=Z,388nm,20.4s,baz=250,slow=33						
RIDG	Independent Ri	72.57	336	IAMs_20	IAMs_20	20 54 50.8	
	comp=Z,1µm,20.0s						
RIDG	Independent Ri	72.57	336	P	P	20 20 13.8	-0.1
	baz=113						
G27K	Doyon Strip	72.64	339	P	P	20 20 14.1	-0.1
	baz=117						
SCM	Sheep Creek Mo	72.94	333	IAMs_20	IAMs_20	20 53 55.7	
	comp=Z,1µm,22.0s						
M23K	Glacier View	73.10	333	P	P	20 20 17.1	+0.1
	baz=109						
J25K	Salcha River,	73.12	336	P	P	20 20 16.7	-0.4
J25K				IAmb	IAmb	20 20 29.4	
	comp=Z,11nm,1.1s						
J25K				IAMs_20	IAMs_20	20 54 31.2	
	comp=Z,1µm,21.0s						
J25K	Salcha River,	73.12	336	P	P	20 20 16.8	-0.3
	baz=112						
E27K	Coleen River	73.24	340	P	P	20 20 17.9	+0.2
	baz=117						
KNK	Knik Glacier	73.31	333	IAMs_20	IAMs_20	20 54 27.5	
	comp=Z,1µm,22.0s						
KNK	Knik Glacier	73.31	333	P	P	20 20 18.6	+0.3
	baz=109						
SEW	Seward	73.37	331	P	P	20 20 18.9	+0.4
	baz=107						
WAT6	Susitna Watana	73.38	334	P	P	20 20 18.1	-0.7
	baz=110						
SML	Sawmill	73.38	333	P	P	20 20 19.1	+0.4
	baz=109						
DHY	Denali Highway	73.39	335	IAMs_20	IAMs_20	20 53 25.4	
	comp=Z,855nm,20.0s						
DHY	Denali Highway	73.39	335	P	P	20 20 19.3	+0.5
	baz=110						
G26K	Porcupine Rive	73.45	339	P	P	20 20 19.0	0.0
	baz=115						
PRP	Porcupine Dome	73.53	337	IAMs_20	IAMs_20	20 54 08.0	
	comp=Z,1µm,22.0s						
PRP	Porcupine Dome	73.53	337	P	P	20 20 19.2	-0.4
	baz=112						
PMR	Palmer	73.67	333	P	P	20 20 19.6	-0.8
	baz=108						
HDA	Harding Lake	73.68	336	P	P	20 20 19.5	-0.9
HDA				IAmb	IAmb	20 20 30.9	
	comp=Z,16nm,1.2s						
HDA				IAMs_20	IAMs_20	20 55 35.0	
	comp=Z,1µm,20.0s						
HDA	Harding Lake	73.68	336	P	P	20 20 20.2	-0.1
	baz=111						
IL31		73.78	336	P	P	20 20 19.9	-1.0
ILAR	Eielson Array	73.78	336	P	P	20 20 19.7	-1.3
	comp=Z,3.5nm,1.0s,baz=117,slow=4.1,SNR=22						
ILAR				LR	LR	20 56 20.0	
	comp=Z,841nm,19.4s,baz=104,slow=39						
	comp=Z,3.5nm,1.0s						
ILAR	Eielson Array	73.78	336	P	P	20 20 19.5	-1.4
RC01	Rabbit Creek A	73.80	332	IAMs_20	IAMs_20	20 53 37.5	
	comp=Z,1µm,21.0s						
RC01	Rabbit Creek A	73.80	332	P	P	20 20 20.3	-0.8
	baz=107						
F26K	Sheenjek River	73.89	340	P	P	20 20 21.3	-0.3
	baz=114						
BMAR	Burnt Mountain	73.94	339	P	P	20 20 21.0	-0.9
PCAS	Casmilo, Conde	73.95	50	*e*LQ	LQ	20 20 31.7	
COI	Coimbra	74.03	50	IAMs_20	IAMs_20	20 46 57.4	
	comp=Z,820nm,21.0s						
CCB	Clear Creek Bu	74.11	336	IAMs_20	IAMs_20	20 53 47.4	
	comp=Z,1µm,22.0s						
POKR	Poker Plat Res	74.12	337	IAMs_20	IAMs_20	20 54 14.8	
	comp=Z,819nm,20.0s						
POKR	Poker Plat Res	74.12	337	P	P	20 20 23.1	+0.1
	baz=111						
RND	Reindeer	74.13	335	IAMs_20	IAMs_20	20 53 15.1	
	comp=Z,557nm,19.0s						
M22K	Willow	74.17	333	IAMs_20	IAMs_20	20 57 47.3	
	comp=Z,915nm,18.0s						
COLA	College	74.20	336	IAMs_20	IAMs_20	20 53 52.1	
	comp=Z,991nm,20.0s						
TCOL	CIGO, UAF Yank	74.21	336	IAMs_20	IAMs_20	20 53 52.1	
	comp=Z,1µm,20.0s						
G25K	Bearman Lake	74.22	338	P	P	20 20 23.7	+0.3
	baz=112						
MCK	McKinley	74.27	335	IAMs_20	IAMs_20	20 55 44.7	
	comp=Z,887nm,20.0s						
MCK	McKinley	74.27	335	P	P	20 20 23.9	+0.1
	baz=109						
HOM	Homer	74.30	330	P	P	20 20 24.0	-0.1
	baz=105						
KDAK	Kodiak Island	74.31	328	LR	LR	20 54 51.7	
	comp=Z,469nm,19.1s,baz=122,slow=37						
AVE	Averroes	74.31	57	IAMs_20	IAMs_20	20 48 10.3	
	comp=Z,610nm,21.0s						
PGAV	Gavieira, Arco	74.32	48	*e*S	S	20 30 04.8	+5.6
PGAV	Gavieira, Arco	74.32	48	*e*LR	LR	20 43 55.3	
	comp=Z,540nm,20.0s						
PVAQ	Vaqueiros	74.33	53	*e*S	S	20 30 11.9	+13
PVAQ	Vaqueiros	74.33	53	*e*LR	LR	20 43 41.0	
	comp=Z,536nm,20.0s						
CAPN	Captain Cook N	74.37	332	P	P	20 20 24.2	-0.2
	baz=106						
SUA	Susitna One	74.38	332	IAMs_20	IAMs_20	20 53 44.7	
	comp=Z,1µm,22.0s						
SUA	Susitna One	74.38	332	P	P	20 20 24.8	+0.2
	baz=106						
F25K	Christian Rive	74.38	339	P	P	20 20 24.1	-0.3
	baz=113						
MDM	Murphy Dome	74.39	336	IAMs_20	IAMs_20	20 53 45.8	
	comp=Z,1µm,20.0s						
CUT	Chulitna	74.43	333	IAMs_20	IAMs_20	20 57 59.1	
	comp=Z,942nm,19.0s						
CUT	Chulitna	74.43	333	P	P	20 20 24.6	-0.1
	baz=107						
PVIS	Viseu	74.48	50	*e*P	P	20 20 26.1	+0.5
	comp=Z,24nm,1.4s						
H24K	Noodor Dome	74.55	337	IAMs_20	IAMs_20	20 55 54.0	
	comp=Z,1µm,21.0s						
H24K	Noodor Dome	74.55	337	P	P	20 20 25.3	-0.2
	baz=110						
E25K	Arctic Village	74.56	340	P	P	20 20 25.2	-0.3
	baz=113						
C27K	Jago River	74.57	341	P	P	20 20 25.1	-0.4
	baz=115						
NEA2	Nenana	74.60	336	P	P	20 20 25.6	-0.2
	baz=109						
G24K	Hadweenzic Riv	74.70	338	P	P	20 20 26.9	+0.5
	baz=111						
MTE	Manteigas	74.71	50	*e*S	S	20 30 12.6	+9.0
MTE	Manteigas	74.71	50	*e*LQ	LQ	20 40 26.5	
MTE				*e*LR	LR	20 43 48.8	
	comp=Z,748nm,22.0s						
MTE	Manteigas	74.71	50	IAMs_20	IAMs_20	20 47 17.4	
	comp=Z,835nm,21.0s						
PCBR	Castelo Branco	74.72	50	*e*LQ	LQ	20 20 35.2	
PMRV	Marv??o	74.75	51	*e*S	S	20 30 13.7	+10
PMRV	Marv??o	74.75	51	*e*LR	LR	20 43 36.2	
	comp=Z,491nm,24.0s						
TRF	Thorofare Moun	74.75	334	P	P	20 20 26.5	-0.4
	baz=108						
SMAI	San Martin Ant	74.80	174	P	P	20 20 28.4	+1.6
SMAI				IAmb	IAmb	20 20 33.1	
	comp=Z,28nm,1.2s						
SKT	Skwentna	74.88	333	IAMs_20	IAMs_20	20 59 25.0	
	comp=Z,918nm,20.0s						
SKT	Skwentna	74.88	333	P	P	20 20 26.9	-0.5
	baz=106						
I23K	Minto, Yukon-K	74.90	336	P	P	20 20 27.6	+0.1
	baz=109						
PBAR	Barrancos	74.92	52	*e*P	P	20 20 27.6	-0.6
	comp=Z,14nm,1.8s						
N20K	Mount Spurr	74.98	332	P	P	20 20 27.6	-0.5
	baz=105						
C26K	Camden Bay	75.07	342	P	P	20 20 27.8	-0.6
	baz=114,SNR=6.4						
P19K	Oil Pt	75.08	330	P	P	20 20 28.8	+0.1
	baz=104						
F24K	Squaw Lake	75.15	339	P	P	20 20 28.8	-0.1
	baz=111						
MVO	Moncorvo	75.17	49	*e*LQ	LQ	20 20 37.4	
MVO				*e*S	S	20 30 18.4	+10
MVO	Moncorvo	75.17	49	*e*LQ	LQ	20 40 30.8	
MVO				*e*LR	LR	20 44 19.5	
MVO				A	A	20 48 02.3	
	comp=Z,561nm,22.0s						
H23K	Yukon River	75.19	337	IAMs_20	IAMs_20	20 55 36.0	
	comp=Z,870nm,20.0s						
H23K	Yukon River	75.19	337	P	P	20 20 28.5	-0.6
	baz=109						
BPAW	Bear Paw Mtn.	75.24	335	P	P	20 20 29.7	+0.1
	baz=107						
D25K	Kavik River	75.30	341	P	P	20 20 30.1	+0.4
	baz=113						
MLY	Manley	75.42	336	IAMs_20	IAMs_20	20 56 46.1	
	comp=Z,887nm,20.0s						
MLY	Manley	75.42	336	P	P	20 20 30.3	-0.2
	baz=108						
PPLA	Purkeypile	75.42	334	P	P	20 20 30.8	+0.1
	baz=106						
PBRG	Braganca	75.44	49	*e*LQ	LQ	20 20 37.4	
SFS	San Fernando	75.48	54	IAMs_20	IAMs_20	20 45 35.9	
	comp=Z,429nm,18.0s						
CAST	Castle Rocks	75.52	334	P	P	20 20 31.4	+0.3
	baz=106						
CHIR	Chirikof Islan	75.52	326	P	P	20 20 31.2	0.0
	baz=101						
E24K	Your Creek	75.56	339	P	P	20 20 31.7	+0.5
	baz=110						
M20K	Styx River	75.58	333	IAMs_20	IAMs_20	20 54 44.6	
	comp=Z,1µm,21.0s						
M20K	Styx River	75.58	333	P	P	20 20 31.9	+0.3
	baz=104						
G23K	Bananza Creek	75.66	338	P	P	20 20 33.0	+1.2
	baz=109						
CHUM	Lake Minchumin	75.75	335	P	P	20 20 33.1	+0.8
	baz=106						
Q18K	Katmai Hardscr	75.75	329	P	P	20 20 32.5	-0.1
	baz=102						
COLD	Coldfoot	75.89	338	P	P	20 20 33.7	+0.5
	baz=108						
H22K	Ishtalitna Cre	75.93	337	P	P	20 20 33.7	+0.3
	baz=107						
E23K	Chandalar	75.95	339	P	P	20 20 34.1	+0.5
	baz=109						
N19K	Bonanza Creek	75.96	331	P	P	20 20 33.8	0.0
	baz=103						
I21K	Tanana	75.97	336	IAMs_20	IAMs_20	20 57 22.5	
	comp=Z,667nm,20.0s						
I21K	Tanana	75.97	336	P	P	20 20 33.8	+0.2
	baz=106						
D24K	Happy Valley	76.05	340	P	P	20 20 33.7	-0.3
	baz=110						
L20K	Farewell, AK	76.07	333	P	P	20 20 34.3	0.0
	baz=104						
O18K	Koktuh Hills	76.10	330	P	P	20 20 35.0	+0.5
	baz=102						
Q17K	Contact Creek	76.13	329	P	P	20 20 34.7	-0.1
	baz=101						
TOLK	Toolik Lake Re	76.13	340	P	P	20 20 34.9	+0.3
	baz=110						
M19K	Big River Lodg	76.17	332	P	P	20 20 35.1	+0.2
	baz=103						
C24K	Franklin Bluff	76.21	341	P	P	20 20 34.9	0.0
	baz=110						
G22K	Bettles	76.29	338	P	P	20 20 35.7	+0.3
	baz=107						
K20K	Telida	76.37	334	P	P	20 20 36.9	+0.9
	baz=104						
H21K	Melozitna Rive	76.43	336	IAMs_20	IAMs_20	20 57 36.7	
	comp=Z,780nm,21.0s						
H21K	Melozitna Rive	76.43	336	P	P	20 20 36.3	0.0
	baz=106						
L19K	White Mountain	76.44	333	IAMs_20	IAMs_20	20 59 18.3	
	comp=Z,886nm,19.0s						
L19K	White Mountain	76.44	333	P	P	20 20 37.0	+0.6
	baz=103						
P17K	Kvichak River	76.59	329	P	P	20 20 37.8	+0.6
	baz=101						
J20K	Nowinta River	76.60	335	P	P	20 20 37.7	+0.5
	baz=104						
Q16K	King Salmon	76.60	329	P	P	20 20 37.8	+0.5
	baz=100						
N18K	Kilae Creek	76.61	331	P	P	20 20 37.7	+0.3
	baz=102						
D23K	Nanushuk River	76.62	340	P	P	20 20 37.7	+0.5
	baz=108						
MDT	Midelt	76.65	58	LR	LR	20 50 06.4	
	comp=Z,454nm,20.8s,baz=287,slow=32						
F22K	John River	76.71	338	P	P	20 20 38.2	+0.4
	baz=107						
E22K	Anaktuvuk Pass	76.76	339	P	P	20 20 38.3	+0.2
	baz=107						
C23K	Itkillik River	76.87	341	P	P	20 20 39.5	+0.9
	baz=109						
IMAR	Indian Mountai	76.89	337	P	P	20 20 37.7	-1.2
G21K	Allakaket	76.93	337	P	P	20 20 39.8	+0.7
	baz=105						
O17K	Koliganek Bris	77.02	330	P	P	20 20 40.2	+0.5
	baz=100						
PAB	San Pablo	77.11	51	IAMs_20	IAMs_20	20 47 31.7	
	comp=Z,532nm,21.0s						
F21K	Alatna River	77.11	338	P	P	20 20 40.8	+0.7
	baz=105						
TTA	Tatalina	77.13	333	P	P	20 20 41.2	+0.8
	baz=102						
CHGN	Chignik	77.14	326	P	P	20 20 41.1	+0.7
	baz=98						
DBIC	Dimbokro	77.17	85	P	P	20 20 43.0	+1.6
	comp=Z,3.6nm,0.9s,baz=284,slow=7.5,SNR=2.1						
DBIC				LR	LR	20 52 01.2	
	comp=Z,469nm,20.8s,baz=276,slow=34						
	comp=Z,3.6nm,0.9s						
P16K	Nushagak River	77.35	329	P	P	20 20 42.2	+0.7
	baz=100						
ESDC	Sonseca Array	77.41	51	P	P	20 20 44.1	+1.7
	comp=Z,1.2nm,1.0s,baz=266,slow=5.6,SNR=5.5						
	comp=Z,1.2nm,1.0s						
ESDC	Sonseca Array	77.41	51	P	P	20 20 43.0	+0.6
EKA	Eskdalemuir Ar	79.04	35	LR	LR	20 48 56.4	
	comp=Z,456nm,22.0s,baz=274,slow=30						
JMIC	Jan Mayen	79.15	19	LR	LR	20 54 33.0	
	comp=Z,283nm,20.6s,baz=250,slow=35						
RAR	Rarotonga	80.33	247	LR	LR	20 47 21.0	
	comp=Z,678nm,21.6s,baz=82,slow=29						
WLF	Walferdange	84.62	41	IAMs_20	IAMs_20	20 51 53.1	
	comp=Z,911nm,21.0s						
ECH	Echery	85.37	42	IAMs_20	IAMs_20	20 52 34.6	
	comp=Z,536nm,22.0s						
TAM	Tamanrasset	85.95	68	IAMs_20	IAMs_20	20 53 25.4	
	comp=Z,479nm,22.0s						
SPITS	Spitsbergen Ar	85.96	12	LR	LR	21 00 54.7	
	comp=Z,571nm,20.6s,baz=252,slow=36						
BFO	Black Forest	86.14	42	IAMs_20	IAMs_20	20 52 33.0	
	comp=Z,788nm,20.0s						
NOA	NORSAR Array B	86.60	29	P	P	20 21 29.4	-0.7
	comp=Z,2.3nm,0.9s,baz=277,slow=4.6,SNR=4.0						
NOA				LR	LR	20 56 18.4	
	comp=Z,211nm,21.3s,baz=275,slow=33						
	comp=Z,2.3nm,0.9s						
STU	Stuttgart	86.67	41	IAMs_20	IAMs_20	20 52 50.1	
	comp=Z,585nm,21.0s						
TUE	Stuetta	86.99	44	IAMs_20	IAMs_20	21 00 37.7	
	comp=Z,506nm,18.0s						
DAVOX	Davos/Dischmat	87.33	43	P	P	20 21 34.3	0.0
	comp=Z,1.9nm,1.0s,baz=146,slow=3.6,SNR=2.8						
DAVOX				LR	LR	20 57 34.4	
	comp=Z,285nm,18.9s,baz=272,slow=34						
	comp=Z,1.9nm,1.0s						
BELA	Belgrano 2	87.79	171	P	P	20 21 35.2	-0.3
BELA				IAmb	IAmb	20 22 05.2	
	comp=Z,8.8nm,1.2s						
HFS	Hagfors	87.93	30	LR	LR	20 56 35.7	
	comp=Z,218nm,21.7s,baz=274,slow=33						
KEST	Kesra	88.07	54	LR	LR	20 56 38.3	
	comp=Z,188nm,21.2s,baz=226,slow=33						
CLL	Collm	88.81	39	IAMs_20	IAMs_20	20 55 29.9	
	comp=Z,560nm,21.0s						
CLL	Collm	88.81	39	*i* P	P	20 21 43.8	+2.9
CLL				*e*SKSac	SKSac	20 32 13.0	+2.4
CLL				*e*S	S	20 32 30.0	+1.5
CLL				*e*PS	PS	20 33 34.0	+0.6
CLL				*e*x	x	20 34 18.0	
CLL				*e*x	x	20 35 19.0	
CLL				*e*SS	SS	20 38 21.0	+0.9
CLL				*e*SSS	SSS	20 41 55.0	
CLL				LmV		20 57 00.0	
	comp=Z,500nm,20.9s						
KHC	Kasperske Hory	89.50	41	*e*P	P	20 21 47.9	+3.6
KHC				*e*x	x	20 21 53.4	
KHC				AMS	AMS	20 53 50.0	
	comp=Z,1µm,23.8s						
GERES	GERESS Array B	89.62	41	P	P	20 21 45.6	+0.7
	comp=Z,1.0nm,0.8s,baz=304,slow=2.6,SNR=6.8						
GERES				LR	LR	20 56 01.0	
	comp=Z,399nm,21.9s,baz=273,slow=32						
	comp=Z,1.0nm,0.8s						
PVCC	Panska Ves	89.91	39	AMS	AMS	20 56 10.0	
	comp=Z,900nm,22.1s						
PRU	Pruhonice	89.98	40	AMS	AMS	20 55 20.0	
	comp=Z,1µm,23.1s						
CKRC	Cesky Krumlov	90.02	41	AMS	AMS	20 53 50.0	
	comp=Z,800nm,18.2s						
GOPC	GO Pecny, Ondr	90.15	40	AMS	AMS	20 56 20.0	
	comp=Z,1µm,23.3s						
VNA3	Neumayer Olymp	90.25	162	pP	pP	20 21 53.8	+4.5
AQU	L'Aquila	90.38	47	IAMs_20	IAMs_20	20 57 09.1	
	comp=Z,395nm,20.0s						
ARCES	ARCESS Array B	90.61	20	LR	LR	20 56 34.7	
	comp=Z,119nm,21.1s,baz=289,slow=32						
AFI	Afiamalu	90.66	256	LR	LR	20 53 36.2	
	comp=Z,358nm,20.8s,baz=83,slow=30						
TREC	Trest	90.70	40	AMS	AMS	20 54 30.0	
	comp=Z,1µm,24.1s						
VNA2	Neumayer--Watz	90.87	161	pP	pP	20 21 52.8	+0.7
	baz=297,slow=4.0						
OSTC	Ostas	90.94	39	*e*P	P	20 21 54.1	+3.1
OSTC				AMS	AMS	20 56 20.0	
	comp=Z,600nm,17.2s						
DPC	Dobruska-Polom	91.05	39	*e*P	P	20 21 55.3	+3.8
DPC				*e*x	x	20 22 00.8	
DPC				AMS	AMS	20 56 50.0	
	comp=Z,900nm,19.5s						
KRLC	Kraliky	91.39	39	*e*P	P	20 22 03.0	+10
KRLC				AMS	AMS	20 57 20.0	
	comp=Z,800nm,19.0s						
VRAC	Vranov	91.42	40	LR	LR	20 57 31.1	
	comp=Z,767nm,21.6s,baz=292,slow=32						
VAE	Valguarnera	91.89	52	LR	LR	20 58 07.5	
	comp=Z,308nm,21.0s,baz=228,slow=32						
MAUC	Maruska	92.19	40	AMS	AMS	20 56 10.0	
	comp=Z,1µm,19.8s						
OKC	Ostrava-Krasne	92.30	40	AMS	AMS	20 56 50.0	
	comp=Z,800nm,18.7s						
SNAA	Sanae	92.47	162	LR	LR	21 03 42.8	
	comp=Z,284nm,20.1s,baz=302,slow=36						
SNAA	Sanae	92.47	162	IAMs_20	IAMs_20	21 02 17.1	
	comp=Z,514nm,22.0s						
TIP	Timpagrande	93.42	50	IAMs_20	IAMs_20	20 57 18.4	
	comp=Z,767nm,22.0s						
FINES	FINESS Array B	93.51	27	LR	LR	21 05 05.0	
	comp=Z,169nm,18.1s,baz=284,slow=36						
TROLL	Troll, Antarti	94.19	162	pP	P	20 22 07.0	+1.4
QSPA	South Pole Qui	96.05	180	P	P	20 22 14.9	+0.8
MNK	Minsk	96.77	33	*i* P	P	20 22 15.0	-2.5
	comp=E,2.0nm,1.1s						
MNK				*i* P	P	20 22 15.0	-2.5
	comp=N,37nm,0.9s						
MNK				*i* P	P	20 22 15.0	-2.5
	comp=Z,4.0nm,1.0s,baz=110						
MNK				*i* PP	PP	20 26 09.7	-2.4
MNK				*i* PPP	PPP	20 28 13.2	
MNK				*i* S	SKSac	20 32 51.8	-2.9
MNK				*i* PS	PS	20 34 59.2	-1.8

MNK				*i* SS	**SS**	**20 40 12.9**	**-0.8**
MNK				*i* SSS	SSS	20 43 57.9	
MNK				*i* LQ	LQ	20 56 51.5	
MNK				*i* LR	LR	21 03 51.4	
MNK				*i* LRM	MLR	21 06 32.5	
	comp=N,252nm,19.4s						
MNK				*i* LRM	MLR	21 06 35.7	
	comp=E,30nm,18.7s						
MNK				*i* LRM	MLR	21 06 35.7	
	comp=Z,242nm,20.6s						
RAO	**Raoul Island**	**97.57**	**241**	LR	LR	20 55 55.4	
	comp=Z,377nm,20.6s,baz=150,slow=29						
MLR	**Muntele Rosu**	**98.51**	**42**	LR	LR	21 01 34.5	
	comp=Z,195nm,21.5s,baz=284,slow=32						
MLR	**Muntele Rosu**	**98.51**	**42**	IAMs_20	IAMs_20	21 13 15.2	
	comp=Z,357nm,20.0s						
AKASG	**Malin Array Be**	**98.87**	**37**	LR	LR	21 03 32.9	
	comp=Z,252nm,19.9s,baz=287,slow=33						
TIXI	**Tiksi**	**99.76**	**350**	LR	LR	21 13 35.9	
	comp=Z,302nm,18.0s,baz=256,slow=39						
TIXI	**Tiksi**	**99.76**	**350**	IAMs_20	IAMs_20	21 16 19.9	
	comp=Z,501nm,19.0s						
MA2	**Magadan**	**102.25**	**335**	IAMs_20	IAMs_20	21 11 33.2	
	comp=Z,612nm,22.0s						
H11N3	**WAKE ISLAND Hy**	**107.05**	**293**	T	T	22 23 18.6	
	baz=79,slow=75,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**107.06**	**293**	T	T	22 23 20.0	
	baz=79,slow=75,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**107.07**	**293**	T	T	22 23 20.2	
	baz=79,slow=75,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**107.51**	**291**	T	T	22 23 20.9	
	baz=77,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**107.51**	**291**	T	T	22 23 21.0	
	baz=77,slow=75,SNR=34						
H11S3	**WAKE ISLAND Hy**	**107.53**	**291**	T	T	22 23 22.1	
	baz=77,slow=75,SNR=31						
YAK	**Yakutsk**	**107.71**	**345**	IAMs_20	IAMs_20	21 15 41.0	
	comp=Z,445nm,20.0s						
KIV	**Kislovodsk**	**110.02**	**39**	IAMs_20	IAMs_20	21 09 06.9	
	comp=Z,307nm,21.0s						
DZM	**Mont Dzumac**	**111.67**	**249**	*e*SS	SS	20 43 44.2	+3.2
	comp=Z,262nm,28.4s						
DZM	**Mont Dzumac**	**111.67**	**249**	*e*LR	LR	21 00 37.0	
	comp=Z,556nm,26.7s						
BRVK	**Borovoye**	**116.80**	**18**	IAMs_20	IAMs_20	21 13 00.1	
	comp=Z,533nm,22.0s						
HEH	**HeiHe**	**118.21**	**339**	PKP	**PKiKP**	**20 27 39.5**	**+5.2**
HEH				LR	LR		
	comp=Z,290nm,22.3s						
HEH				LR	LR		
	comp=Z,460nm,23.8s						
HEH				LR	LR		
	comp=Z,640nm,23.8s						
FURI	**Furi**	**119.59**	**76**	IAMs_20	IAMs_20	21 16 44.7	
	comp=Z,409nm,20.0s						
KIBK	**Kibwezi**	**120.69**	**89**	IAMs_20	IAMs_20	21 30 05.6	
	comp=Z,429nm,18.0s						
RAYN	**Ar Rayn**	**121.44**	**58**	IAMs_20	IAMs_20	21 17 33.3	
	comp=Z,266nm,20.0s						
MDJ	**Mudanjiang**	**121.87**	**333**	IAMs_20	IAMs_20	21 28 38.4	
	comp=Z,364nm,18.0s						
ATD	**Arta Tunnel**	**122.97**	**72**	IAMs_20	IAMs_20	21 26 12.7	
	comp=Z,301nm,21.0s						
MKAR	**Makanchi Array**	**125.71**	**13**	PKP	**PKPdf**	**20 27 46.5**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=29,slow=3.3,SNR=2.7						
SONM	**Songino Array**	**125.77**	**353**	PKP	**PKPdf**	**20 27 47.9**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=333,slow=1.1,SNR=4.8						
KSRS	**Korea Array**	**128.21**	**329**	PKP	**PKPdf**	**20 27 52.7**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=27,slow=3.1,SNR=5.1						
INCN	**Inchon**	**128.84**	**330**	IAMs_20	IAMs_20	21 30 09.6	
	comp=Z,403nm,20.0s						
UOSS	**Minazif**	**129.44**	**51**	IAMs_20	IAMs_20	21 19 16.3	
	comp=Z,261nm,22.0s						
WMQ	**Urumqi**	**129.59**	**9**	*e*PKP	**PKiKP**	**20 27 58.3**	**+1.2**
WMQ				LR	LR		
	comp=Z,280nm,21.1s						
WMQ				LR	LR		
	comp=Z,460nm,22.7s						
WMQ				LR	LR		
	comp=Z,680nm,22.7s						
BJT	**Baijiatuau**	**131.01**	**341**	IAMs_20	IAMs_20	21 31 21.6	
	comp=Z,363nm,21.0s						
HHC	**Hu-ho-hao-te**	**131.56**	**346**	*e*PKP	**PKPdf**	**20 27 56.9**	**-3.4**
NIL	**Nilore**	**134.36**	**29**	IAMs_20	IAMs_20	21 29 39.1	
	comp=Z,316nm,22.0s						
GTA	**Gaotai**	**134.72**	**357**	*e*PKP	**PKiKP**	**20 28 09.8**	**+2.1**
GTA				SS	SS	20 48 31.1	+1.5
GTA				LR	LR		
	comp=Z,260nm,20.0s						
GTA				LR	LR		
	comp=Z,240nm,20.4s						
GTA				LR	LR		
	comp=Z,370nm,22.2s						
SSE	**Sheshan**	**136.64**	**330**	PKP	**PKPdf**	**20 28 09.7**	**-0.2**
SSE				PP	**PP**	**20 30 53.1**	**+2.5**
SSE				SS	SS	20 48 54.0	+0.6
SSE				AMB	AMB		
	comp=Z,19nm,5.5s						
SSE				LR	LR		
	comp=Z,89nm,22.5s						
SSE				LR	LR		
	comp=Z,200nm,22.7s						
NJ2	**Nanjing**	**136.96**	**333**	*e*PKP	**PKPdf**	**20 28 11.4**	**+1.0**
XAN	**Xi'an**	**138.68**	**345**	PKP	**PKiKP**	**20 28 15.0**	**-0.8**
XAN				LR	LR		
	comp=Z,440nm,23.4s						
XAN				LR	LR		
	comp=Z,210nm,19.2s						
XAN				LR	LR		
	comp=Z,630nm,23.4s						
ASAR	**Alice Springs**	**140.80**	**240**	PKP	**PKPdf**	**20 28 14.3**	**-3.5**
	comp=Z,1.7nm,0.8s,baz=119,slow=3.3,SNR=8.1						
ASAR	**Alice Springs**	**140.80**	**240**	PKPdf	**PKPdf**	**20 28 16.0**	**-1.7**
WB2	**Warramunga Arr**	**141.57**	**245**	PKPdf	**PKPdf**	**20 28 16.7**	**-2.5**
WB0	**Warramunga Arr**	**141.58**	**246**	PKPdf	**PKPdf**	**20 28 16.3**	**-2.9**
WRA	**Warramunga Arr**	**141.58**	**245**	PKP	**PKPdf**	**20 28 15.5**	**-3.7**
	comp=Z,2.5nm,0.9s,baz=108,slow=2.4,SNR=12						
NACB	**Ninganchiao**	**141.82**	**323**	IAMs_20	IAMs_20	21 36 14.2	
	comp=Z,267nm,20.0s						
ENH	**Enshi**	**142.08**	**343**	IAMs_20	IAMs_20	21 43 19.3	
	comp=Z,270nm,21.0s						
LSA	**Lhasa**	**143.96**	**9**	PKPdf	**PKPdf**	**20 28 23.3**	**-0.5**
LSA				IAMs_20	IAMs_20	21 32 54.2	
	comp=Z,270nm,22.0s						
LSA	**Lhasa**	**143.96**	**9**	PKP	**PKPdf**	**20 28 25.2**	**+1.4**
MTN	**Manton Dam**	**146.09**	**256**		**PKPdf**	**20 28 26.4**	**-0.8**
GYA	**Guiyang**	**146.47**	**345**	PKPbc	**PKPbc**	**20 28 29.3**	**+0.2**
PZH	**PanZhiHua**	**147.38**	**353**	PKPbc	**PKPdf**	**20 28 30.2**	**+0.9**
PZH				PP	**PP**	**20 31 57.3**	**+1.8**
PZH				SS	SS	20 51 04.8	+7.4
PZH				AMB	AMB		
	comp=Z,90nm,6.3s						
PZH				LR	LR		
	comp=Z,170nm,21.1s						
PZH				LR	LR		
	comp=Z,270nm,21.6s						
PZH				LR	LR		
	comp=Z,280nm,23.0s						
H01W1	**Cape Leeuwin H**	**147.40**	**206**	T	T	23 13 17.0	
	baz=150,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**147.40**	**206**	T	T	23 13 17.5	
	baz=150,slow=76,SNR=16						
H01W3	**Cape Leeuwin H**	**147.42**	**206**	T	T	23 13 18.5	
	baz=150,slow=76,SNR=13						
SHL	**Shillong**	**148.12**	**9**		**PKPdf**	**20 28 31.0**	**+0.4**
TNCH	**TengChong**	**149.10**	**358**	PKPbc	**PKPbc**	**20 28 35.9**	**-0.4**
TNCH				PP	**PP**	**20 32 06.8**	**+1.3**
TNCH				AMB	AMB		
	comp=Z,73nm,4.1s						
TNCH				LR	LR		
	comp=Z,190nm,23.2s						
TNCH				LR	LR		
	comp=Z,170nm,16.1s						
TNCH				LR	LR		
	comp=Z,390nm,23.3s						
QIZ	**Qiongzhong**	**152.24**	**334**	PKPbc	**PKPdf**	**20 28 36.8**	**-0.2**
QIZ				PP	**PP**	**20 32 24.2**	**+0.3**
QIZ				LR	LR		
	comp=Z,200nm,33.1s						
QIZ				LR	LR		
	comp=Z,360nm,22.6s						
QIZ				LR	LR		
	comp=Z,410nm,29.2s						
PCHI	**Peechi**	**153.33**	**52**	*e*P	**PKPdf**	**20 28 31.8**	**-6.9**
PCHI				*e*x	x	20 39 25.9	
CMAR	**Chiang Mai Arr**	**155.61**	**356**	PKP	**PKPdf**	**20 28 41.2**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=319,slow=2.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	**155.61**	**356**	PKPdf	**PKPdf**	**20 28 41.0**	**-0.7**
TOLI2	**Tolitoli**	**155.62**	**286**	IAMs_20	IAMs_20	21 26 13.2	
	comp=Z,288nm,22.0s						
KKM	**Kota Kinabalu**	**157.73**	**302**	IAMs_20	IAMs_20	21 28 05.9	
	comp=Z,273nm,20.0s						

*SNET **12** 20:10:34.8±1.2, 12°.28N×87°.55W, h0^{km}±719^{km}, ML3.1*
*GCG **12** 20:11:23.5±0.3, 14°.36N×90°.24W, h59^{km}±49^{km}, MD3.5*
ISC 12 20:10:44.8±9.6**, 12°.8N**±0°.5×**87°.9W**±0°.4**, h10^{km}, n10, σ0^{s}96**/10**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.54**	**2**	*e*P	**Pg**	**20 10 55.4**	**0.0**
LCND				IAML		20 11 03.0	
	comp=Z,229nm,0.3s						
PQSS	**Presa 15 de Se**	**1.06**	**324**	*e*P	**Pb**	**20 11 05.7**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.23**	**320**	*e*P	**Pn**	**20 11 07.3**	**-0.7**
SJTE	**Alcalda de S**	**1.36**	**308**	*e*P	**Pn**	**20 11 08.8**	**-1.2**
SJTE				IAML		20 11 15.9	
	comp=Z,276nm,0.3s						
PAVA	**Las Pavas**	**1.37**	**313**	*e*P	**Pb**	**20 11 10.3**	**-0.3**
CEVE	**Cerro Verde**	**1.97**	**303**	*e*P	**Pn**	**20 11 18.1**	**-0.4**
NBG	**Las Nubes**	**2.98**	**308**	*e*P	**Pn**	**20 11 34.1**	**+1.7**
PCG	**Pacaya**	**3.08**	**302**	*e*P	**Pn**	**20 11 34.9**	**+1.1**
FUG	**Fuego 3**	**3.30**	**301**	*e*P	**Pn**	**20 11 36.9**	**+0.1**
STG3	**Santiaguito 3,**	**4.05**	**299**	*e*P	**Pn**	**20 11 46.6**	**-0.4**

*JSN **12** 20:20:47.6±1.5, 18°.15N×76°.69W, h2^{km}±7^{km}, MD2.5*
*SSNC **12** 20:20:48.4±1.3, 18°.30N×76°.72W, h7^{km}±11^{km}, MD3.0, ML2.0, MW3.2*
ISC 12 20:20:43.8±1.4**, 18°.39N**±0°.04×**76°.69W**±0°.04**, h4^{km}**±16^{km}**, n11, σ0^{s}88**/17**, 4D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNJ	**Bonny Gate**	**0.25**	**255**	⇓*i*P	**Pn**	**20 20 53.5**	**-0.8**
GWJ	**Greenwich**	**0.31**	**186**	⇓*i*P	**Pg**	**20 20 50.1**	**+0.3**
STH	**Stony Hill**	**0.33**	**200**	⇓*i*P	**Pg**	**20 20 50.5**	**+0.4**
HOJ	**Hope**	**0.38**	**188**	*i* P	**Pg**	**20 20 50.8**	**-0.4**
CMJ	**Castle Mountai**	**0.39**	**129**	*i* P	**Pb**	**20 20 54.0**	**+0.7**
PCJ	**Portland Cotta**	**0.78**	**215**	*i* P	**Pg**	**20 20 57.9**	**-0.9**
MTDJ	**Mount Denham**	**0.81**	**259**	*e*P	**Pb**	**20 21 01.4**	**+0.9**
MTDJ				*e*S	**Sb**	**20 21 12.4**	**+0.4**
MTDJ				IAML		20 21 14.2	
	comp=Z,55nm,0.2s						
MTDJ				IAML		20 21 14.6	
	45nm,0.2s						
MCJ	**Malvern**	**1.05**	**244**	⇓*i*P	**Pb**	**20 21 04.6**	**+0.1**
MCJ				*i* S	**Sb**	**20 21 19.4**	**+0.7**
LMGC	**Las Mercedes**	**1.70**	**350**	*e*P	**Pg**	**20 21 16.5**	**+0.1**
LMGC				*e*S	**Sb**	**20 21 37.5**	**+0.2**
LMGC				IAML		20 21 39.5	
	comp=E,33nm,0.1s						
LMGC				IAML		20 21 39.5	
	comp=N,63nm,0.1s						
RCC	**Rio Carpintero**	**1.86**	**30**	*e*P	**Pg**	**20 21 19.4**	**0.0**
RCC				*e*S	**Sg**	**20 21 43.3**	**-0.3**
RCC				*e*Sg	**Sb**	**20 21 44.1**	**+2.2**
RCC				IAML		20 21 44.5	
	comp=N,4.2nm,0.1s						
RCC				IAML		20 21 44.6	
	comp=E,3.7nm,0.1s						
GTBY	**Guantanamo Bay**	**2.14**	**44**	*e*P	**Pb**	**20 21 22.9**	**-0.3**
GTBY				*e*S	**Sb**	**20 21 49.0**	**-1.1**

*NIC **12** 20:23:20.3±0.0, 31°.87N×31°.67E, h10^{km}±2^{km}, Ml3.0/6*
*HLW **12** 20:23:22.1, 31°.70N×31°.17E, h28^{km}±6^{km}, Md3.0*
*GII **12** 20:23:24.5±0.4, 31°.68N×31°.45E, h60^{km}, Mm2.2/2*
ISC 12 20:23:16.5±1.4**, 31°.67N**±0°.03×**31°.58E**±0°.04**, h13^{km}**±11^{km}**, n40, σ1^{s}44**/58**, 1C, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSC2	**CSNet OBS 4**	**1.52**	**22**	P	**Pb**	**20 23 44.4**	**-0.1**
OSC2				S	**Sn**	**20 24 03.0**	**0.0**
KOT	**Kottamia**	**1.75**	**173**	P	**Pg**	**20 23 51.6**	**+1.5**
	baz=162						
KOT				S	**Sg**	**20 24 13.1**	**+0.3**
	baz=162						
OSC1	**CSNet OBS 1**	**1.84**	**352**	⇑*i*P	**Pb**	**20 23 50.5**	**+0.4**
OSC1				S	**Sn**	**20 24 11.7**	**+0.7**
HSAF	**As Saff**	**2.04**	**181**	P	**Pb**	**20 23 55.3**	**+1.8**
	baz=170						
GLL	**Jalalah**	**2.09**	**177**	P	**Pg**	**20 23 56.2**	**-0.4**
	baz=167						
SUZ	**Suez**	**2.12**	**149**	P	**Pg**	**20 23 58.6**	**+1.5**
	baz=141						
KZIT	**Kziot**	**2.53**	**107**	S	**Sb**	**20 24 33.6**	**+0.8**
KZIT				AML	AML	20 24 37.6	
	0.1nm,0.4s						
KZIT				AML	AML	20 24 37.8	
	0.1nm,0.2s						
KZIT	**Kziot**	**2.53**	**107**	Pn	**Pg**	**20 24 05.1**	**+0.1**
KZIT				Sn	**Sg**	**20 24 36.3**	**-1.5**
RYAN	**Fayoum**	**2.81**	**204**	P	**Pn**	**20 24 03.5**	**+2.4**
	baz=197						
RYAN				S	**Sn**	**20 24 33.7**	**-1.3**
	baz=197						
AMAZ	**Amatzia**	**2.85**	**92**	P	**Pb**	**20 24 05.1**	**-2.2**
AMAZ				AML	AML	20 24 48.2	
	0.1nm,0.2s						
AMAZ				AML	AML	20 24 49.9	
	0.1nm,0.3s						
YTIR	**Yattir**	**3.03**	**95**	Pn	**Pb**	**20 24 11.9**	**+1.4**
YTIR				Sn	**Sb**	**20 24 48.8**	**+1.4**
OFRI	**\`Ofer**	**3.04**	**71**	Pn	**Pb**	**20 24 11.6**	**+1.1**
OFRI				Sn	**Sb**	**20 24 47.3**	**-0.2**
NBNS	**Bani Suef**	**3.05**	**185**	P	**Pb**	**20 24 08.6**	**-2.0**
	baz=177						
NBNS				S	**Sn**	**20 24 42.1**	**+1.3**
	baz=177						
KRMI	**Paran Flat**	**3.11**	**119**	Pn	**Pb**	**20 24 12.4**	**+0.6**
KRMI				Sn	**Sb**	**20 24 49.7**	**0.0**
NATA	**Nata**	**3.21**	**15**	S	**Sn**	**20 24 45.6**	**+0.8**
NATA				AML	AML	20 24 53.5	
	0.2nm,0.9s						
NATA				AML	AML	20 24 53.7	
	0.2nm,1.4s						
PRNI	**Paran**	**3.22**	**113**	Pn	**Pb**	**20 24 14.2**	**+0.6**
PRNI				Sn	**Sb**	**20 24 52.7**	**0.0**
DSI	**Dead Sea**	**3.24**	**91**	Pn	**Pb**	**20 24 14.8**	**+0.9**
DSI				Sn	**Sb**	**20 24 54.2**	**+0.9**
SZAC	**Souni**	**3.27**	**19**	S	**Sn**	**20 24 46.3**	**+0.1**
SZAC				AML	AML	20 24 54.6	
	0.1nm,0.3s						
SZAC				AML	AML	20 24 56.4	
	0.1nm,0.2s						
MMLI	**Mount Malkishu**	**3.35**	**76**	S	**Sb**	**20 24 52.4**	**-4.1**
MMLI	**Mount Malkishu**	**3.35**	**76**	Pn	**Pb**	**20 24 15.9**	**+0.1**
MMLI				Sn	**Sb**	**20 24 56.0**	**-0.5**
HNTI	**Hanita**	**3.35**	**64**	Pn	**Pb**	**20 24 15.4**	**-0.4**
HNTI				Sn	**Sb**	**20 24 55.6**	**-0.9**
HRFI	**Mount Harif**	**3.39**	**118**	Pn	**Pb**	**20 24 16.7**	**+0.2**
HRFI				Sn	**Sb**	**20 24 56.6**	**-1.0**
AKMS	**Akamas**	**3.40**	**10**	S	**Sn**	**20 24 50.6**	**+1.2**
AKMS				AML	AML	20 25 01.0	
	0.1nm,1.0s						
AKMS				AML	AML	20 25 01.3	
	0.1nm,1.9s						
HMDT	**Nahal Hemdat**	**3.40**	**79**	Pn	**Pb**	**20 24 16.7**	**0.0**
HMDT				Sn	**Sb**	**20 24 57.3**	**-0.7**
ASGA	**Asgata**	**3.41**	**24**	S	**Sn**	**20 24 49.9**	**+0.2**
ASGA				AML	AML	20 25 02.1	
	0.1nm,0.4s						
ASGA				AML	AML	20 25 05.2	
	0.1nm,0.7s						
MBRI	**Mt Berech**	**3.42**	**122**	Pn	**Pb**	**20 24 17.6**	**+0.5**
TROD	**Troodos**	**3.44**	**18**	S	**Sn**	**20 24 50.9**	**+0.1**
MMA0B	**Mount Meron ar**	**3.50**	**66**	Pn	**Pb**	**20 24 17.8**	**-0.6**
MMA0B				Sn	**Sb**	**20 24 59.5**	**-1.4**
EIL	**Elat**	**3.52**	**124**	Pn	**Pb**	**20 24 18.5**	**-0.2**
ALFC	**Alefka**	**3.58**	**13**	S	**Sn**	**20 24 54.0**	**+0.1**
CSS	**Mathiatis**	**3.60**	**24**	S	**Sn**	**20 24 55.3**	**+1.0**
TR2	**Tor 2**	**3.76**	**150**	P	**Pb**	**20 24 20.5**	**-2.3**
	baz=145						
HKAT	**Jabal Katrina**	**3.77**	**146**	P	**Pb**	**20 24 21.1**	**-1.9**
	baz=141						
GEM	**Giv'at Ha'Em**	**3.78**	**65**	Pn	**Pb**	**20 24 21.8**	**-1.3**
GEM				Sn	**Sb**	**20 25 06.4**	**-2.4**
NATI	**Neve Ativ**	**3.85**	**65**	Pn	**Pb**	**20 24 23.4**	**-1.0**
NATI				Sn	**Sb**	**20 25 08.7**	**-2.2**
TR1	**Tor 1**	**4.19**	**150**	P	**Pb**	**20 24 26.3**	**-3.8**
	baz=146						
HHRG	**Al Ghardaqah**	**4.76**	**158**	P	**Pb**	**20 24 36.8**	**-3.1**
	baz=154						
HFRF	**Wahat Farafira**	**5.33**	**213**	P	**Pn**	**20 24 37.5**	**+1.7**
	baz=210						
SLUM	**Salum**	**5.44**	**270**	P	**Pn**	**20 24 36.8**	**-0.4**
	baz=270						
SWA2		**5.81**	**247**	P	**Pn**	**20 24 41.9**	**-0.5**
	baz=246						

KRSC 12 20:23:36.8±1.4**, 51°.00N**×**158°.17E, h42^{km}**±19^{km}**, ML4.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.81**	**356**	*e*P	Pn	20 23 53.1	+1.4
KDTR				*e*S	Sn	20 24 03.9	+1.3
PAU	**Pauzhetka**	**0.97**	**299**	*e*P	Pn	20 23 55.0	+1.0
PAU				*e*S	Sn	20 24 07.1	+0.5
SKR	**Severo-Kuril's**	**1.34**	**257**	*e*P	Pn	20 23 59.5	+0.5
SKR				*e*S	Sn	20 24 15.7	+0.1
ASAK	**Asacha**	**1.39**	**353**	*e*P	Pn	20 24 01.7	+1.9
ASAK				*e*S	Sn	20 24 18.6	+1.6
RUS	**Russkaya**	**1.45**	**8**	P	Pn	20 24 01.9	+1.4
RUS				*e*S	Sn	20 24 19.3	+1.1
MTVR	**Mutnovka**	**1.48**	**0**	P	Pn	20 24 03.1	+2.0
MTVR				*e*S	Sn	20 24 21.0	+1.7
GRL	**Gorelyy**	**1.55**	**358**	*e*P	Pn	20 24 04.3	+2.3
GRL				*e*S	Sn	20 24 23.1	+2.1
KRMR	**Karymshinskiy**	**1.83**	**359**	*e*P	Pn	20 24 08.0	+2.3
KRMR				*e*S	Sn	20 24 31.9	+4.3
APC	**Apacha**	**2.02**	**342**	*e*P	Pn	20 24 10.7	+2.3
PET	**Petropavlovsk**	**2.04**	**8**	P	Pn	20 24 11.0	+2.3
PET				*e*S	Sn	20 24 35.3	+2.4
DALK	**Dalny**	**2.06**	**10**	*e*P	Pn	20 24 10.9	+2.0
DALK				*e*S	Sn	20 24 35.2	+1.9
UGLR	**Uglovaya**	**2.25**	**10**	P	Pn	20 24 14.4	+2.9
UGLR				*e*S	Sn	20 24 41.6	+3.6
NLC	**Nalytchevo**	**2.29**	**18**	*e*P	Pn	20 24 13.5	+1.5
NLC				*e*S	Sn	20 24 39.8	+0.9
AVH	**Avacha**	**2.29**	**9**	P	Pn	20 24 15.3	+3.2
AVH				*e*S	Sn	20 24 43.8	+4.7
SMAR	**Somma**	**2.30**	**10**	P	Pn	20 24 15.3	+3.0
SMAR				*e*S	Sn	20 24 43.7	+4.2
KOK	**Koryaka**	**2.31**	**7**	P	Pn	20 24 16.0	+3.6
SDLR	**Sedlovina**	**2.32**	**11**	P	Pn	20 24 15.0	+2.4
SDLR				*e*S	Sn	20 24 41.9	+2.0
KRER	**Koryakskii**	**2.33**	**9**	*e*P	Pn	20 24 16.0	+3.2
KRER				*e*S	Sn	20 24 44.5	+4.2
SPN	**Mys Shipunski**	**2.39**	**28**	*e*P	Pn	20 24 16.1	+2.7
SPN				*e*S	Sn	20 24 44.7	+3.3
GNL	**Ganaly**	**2.70**	**357**	*e*P	Pn	20 24 21.4	+3.6
TUMR	**Tumrok**	**4.45**	**15**	*e*P	Pn	20 24 46.9	+5.1
KMNR	**Kamenistaya**	**4.92**	**14**	P	Pn	20 24 53.6	+5.4
KBTR	**Krutoberegovo**	**5.90**	**26**	*e*P	Pn	20 25 05.2	+3.6

NNC 12 20:23:55.0±4.3**, 37°.63N**×**73°.08E, h0^{km}, mb3.9, mpv3.6, 2C, Error ellipse: s-maj=35.9km s-min=20.4km az=164.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.08**	**333**	Pg	Pb	20 25 26.4	+1.6
	111nm,0.6s						
IUG				Lg	Lg	20 26 36.9	
	24nm,1.0s						
KK31	**Karatay Array**	**5.80**	**341**	P	Pn	20 25 23.1	+0.7
	0.5nm,0.3s,baz=144,slow=11,SNR=48						
KK31				⇑S	Sn	20 26 28.0	-1.6
	3.5nm,0.5s,baz=141,slow=22						
DGS	**Degeres**	**5.96**	**19**	Pg	Pb	20 25 42.5	+2.6
	1.8nm,0.9s						
DGS				Lg	Lg	20 27 05.3	
	3.0nm,0.8s						
KRBS	**Karabastau**	**6.37**	**17**	Pg	Pg	20 25 53.8	-3.2
	1.0nm,0.4s						
KOTS	**Kotyrbulak**	**6.38**	**28**	Pg	Pb	20 25 50.7	+3.7
	1.2nm,0.6s						
KOTS				Lg	Lg	20 27 18.1	
	4.4nm,0.7s						
CHKK	**Chushkaly**	**6.88**	**24**	Pg	Pb	20 25 59.7	+4.2
	0.3nm,0.0s						
CHKK				Lg	Lg	20 27 33.8	
	1.2nm,0.2s						
AB31	**Akbulak array**	**15.01**	**325**	⇑P	Pn	20 27 23.4	-4.8
	1.1nm,0.9s,baz=137,slow=12,SNR=7.2						

*UPA **12** 20:51:06.2±1.1, 6°.00N×82°.17W, h10^{km}±999^{km}, MW4.3*
*NEIC **12** 20:51:07.8±1.8, 6°.09N±0°.05×82°.70W±0°.05, h10^{km}±1^{km}, mb4.4/10, Error ellipse: s-maj=10.4km s-min=6.0km az=136.0*
ISC 12 20:51:07.8±0.7**, 6°.06N**±0°.06×**82°.67W**±0°.08**, h14^{km}, n57, σ0^{s}81**/61**, mb4.5**/4**, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHIR3	**Chiriqui UPA,**	**2.35**	**8**	*e*P	**Pn**	**20 51 45.6**	**-0.4**
CCOL	**Caracol de Cor**	**2.36**	**353**	*e*P	**Sn**	**20 52 13.9**	**-1.0**
DVD	**David**	**2.38**	**5**	*e*P	**Pn**	**20 51 46.1**	**-0.2**
DVD				*e*S	**Sn**	**20 52 14.8**	**-0.5**
CDITO	**Canoas**	**2.51**	**355**	Pn	**Pn**	**20 51 46.9**	**-1.3**
PTAR3	**Potrerillos Ar**	**2.63**	**4**	*e*P	**Pn**	**20 51 49.5**	**-0.4**
PTAR3				*e*S	**Sn**	**20 52 22.0**	**+0.3**
BCO2	**Palmira**	**2.65**	**3**	*e*P	**Pn**	**20 51 49.7**	**-0.7**
BCO2				*e*S	**Sn**	**20 52 23.4**	**+1.0**
BRU2	**Volcan**	**2.72**	**360**		**Pn**	**20 51 50.7**	**-0.6**
BRU2	**Volcan**	**2.72**	**360**	*e*P	**Pn**	**20 51 51.1**	**-0.2**
BRU2				*e*S	**Sn**	**20 52 23.9**	**-0.3**
SRBA	**San Rafael, Bu**	**3.23**	**348**		**Pn**	**20 51 57.4**	**-0.8**
EDDO	**Dominical**	**3.39**	**340**	*e*P	**Pn**	**20 52 00.1**	**-0.3**
PEZE	**Perez Zeledon,**	**3.45**	**343**		**Pn**	**20 52 01.2**	**-0.1**
PEZE	**Perez Zeledon,**	**3.45**	**343**	*e*P	**Pn**	**20 52 00.9**	**-0.4**
CDM	**Cerro de Muert**	**3.64**	**343**	*e*P	**Pn**	**20 52 03.9**	**-0.3**
RIMA	**Rio Macho**	**3.87**	**342**		**Pn**	**20 52 06.9**	**-0.3**
LCR2	**La Lucha 2**	**3.90**	**340**	*e*P	**Pn**	**20 52 07.0**	**-0.5**
HAYA	**Volcan Irazu**	**4.07**	**343**	*e*P	**Pn**	**20 52 10.8**	**+0.7**
BATAN	**Batan**	**4.08**	**350**	Pn	**Pn**	**20 52 10.5**	**+0.7**
CVTR	**Volcan Turrial**	**4.08**	**345**	Pn	**Pn**	**20 52 09.8**	**-0.5**
JACO	**JACO, Garabito**	**4.09**	**331**		**Pn**	**20 52 09.0**	**-1.0**
JACO	**JACO, Garabito**	**4.09**	**331**	*e*P	**Pn**	**20 52 08.9**	**-1.0**
BCIP	**Isla Barro Col**	**4.17**	**42**	Pn	**Pn**	**20 52 11.2**	**+0.1**
HDC	**Heredia**	**4.17**	**340**		**Pn**	**20 52 11.0**	**-0.3**
HDC	**Heredia**	**4.17**	**340**	*e*P	**Pn**	**20 52 11.6**	**+0.4**
JTS	**Las Juntas de**	**4.78**	**332**	Pn	**Pn**	**20 52 19.1**	**-0.3**
JTS	**Las Juntas de**	**4.78**	**332**	*e*P	**Pn**	**20 52 19.2**	**-0.3**
DUNO	**Dulce Nombre,**	**4.88**	**325**		**Pn**	**20 52 20.4**	**-0.5**
COVE	**Coope Vega, Sa**	**4.94**	**340**	Pn	**Pn**	**20 52 21.4**	**-0.3**
SAJU	**San Juanillo,**	**5.00**	**323**	*e*P	**Pn**	**20 52 22.9**	**+0.4**
ORTG	**Ortega, Santa**	**5.09**	**327**	Pn	**Pn**	**20 52 22.5**	**-1.3**
ACON	**Acoyapa**	**6.38**	**337**		**Pn**	**20 52 40.4**	**-1.0**
BOAB	**BOACO BROADBAN**	**7.01**	**335**	Pn	**Pn**	**20 52 49.6**	**-0.5**
TULM	**Tulcn-Chalpat**	**7.20**	**137**	Pn	**Pn**	**20 52 53.9**	**+0.7**
IMBA	**Imbabura, San**	**7.27**	**142**	Pn	**Pn**	**20 52 53.3**	**-0.8**
PULU	**Pululahua**	**7.29**	**145**		**Pn**	**20 52 54.8**	**+0.4**
SLOR	**San Lorenzo -**	**7.92**	**148**	Pn	**Pn**	**20 53 04.6**	**+1.5**
PRAC	**Prado**	**8.10**	**106**	Pn	**Pn**	**20 53 06.4**	**+1.3**
CHSH	**Refugio Sur-Vo**	**8.40**	**153**		**Pn**	**20 53 11.7**	**+1.8**
PORT	**Chimborazo Vol**	**8.42**	**152**		**Pn**	**20 53 11.9**	**+1.9**
COHC	**Cochancay**	**9.12**	**158**	Pn	**Pn**	**20 53 19.2**	**+0.1**
BOSC	**San Juan Bosco**	**10.05**	**155**	Pn	**Pn**	**20 53 33.5**	**+1.4**
MCRA	**Macar, Loja**	**10.70**	**165**	Pn	**Pn**	**20 53 41.7**	**+0.8**
URIC	**Uribia, Colomb**	**11.94**	**61**		**Pn**	**20 53 58.8**	**+1.0**
SDV	**Santo Domingo**	**12.26**	**76**	Pn	**Pn**	**20 54 01.4**	**-0.9**
BAUV	**El Baul**	**14.78**	**78**		**Pn**	**20 54 36.1**	**-0.5**
CZSB	**Cruzeiro do Su**	**16.92**	**144**	Pn	**Pn**	**20 55 03.1**	**-1.3**
CZSB				IAmb	IAmb	20 55 06.8	
	comp=Z,20nm,1.1s						
GCPR	**Guaynabo City**	**20.25**	**52**	P	**P**	**20 55 43.0**	**0.0**
CBYP	**Canovanas**	**20.41**	**52**	P	**P**	**20 55 44.4**	**-0.3**
CBYP				IAmb	IAmb	20 55 54.5	
	comp=Z,19nm,1.0s						
BOAV	**Boa Vista**	**22.38**	**98**		**P**	**20 56 06.3**	**+0.4**
BOAV				IAmb	IAmb	20 56 28.3	
	comp=Z,4.6nm,1.1s						
ETMB	**Extrema**	**22.75**	**134**	P	**P**	**20 56 08.4**	**-1.4**
ETMB				IAmb	IAmb	20 56 12.4	
	comp=Z,23nm,1.4s						
LPAZ	**La Paz**	**26.45**	**147**	P	**P**	**20 56 45.1**	**-0.2**

PB16	**IPOC Station P**	**27.49**	**152**	P	**P**	**20 56 54.8**	**+0.1**
PB16				IAmb	IAmb	20 57 00.7	
	comp=Z,4.8nm,0.9s						
121A	**Cookes Peak, D**	**35.24**	**322**	P	**P**	**20 58 01.8**	**-0.5**
121A				IAmb	IAmb	20 58 09.3	
	comp=Z,8.8nm,1.1s						
W18A	**Petrified Fore**	**38.19**	**323**	P	**P**	**20 58 27.5**	**+0.2**
MT01	**Popeta**	**41.15**	**166**	P	**P**	**20 58 51.2**	**-0.6**
MT01				IAmb	IAmb	20 59 16.7	
	comp=Z,13nm,1.1s						
PDAR	**Pinedale Array**	**43.61**	**331**	P	**P**	**20 59 12.7**	**+0.6**
BCAR	**Beaver Creek A**	**70.99**	**336**	P	**P**	**21 02 25.3**	**+0.4**
BMAR	**Burnt Mountain**	**73.89**	**339**	P	**P**	**21 02 43.6**	**+1.4**

IDC ***12*** *20:55:58.5±7.8,21°.70N×142°.98E,h294km±46km,mb3.2/8, mbtmp4.0/9,Error ellipse: s-maj=76.5km s-min=34.7km az=170.0*

ISC 12 20:55:59.5±1.8,**21°.8N**±0°.2×**143°.0E**±0°.3,**h300**km,**n9,** σ1§**11**/**10**,**mb3.8/7,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.36**	**352**	P	**Pn**	**20 57 22.2**	**+1.1**
JCJ	65nm,0.8s,baz=223,slow=14,SNR=1.4			S	**S**	**20 58 25.1**	**-1.6**
	111nm,1.1s,baz=259,slow=20,SNR=1.3						
KSRS	**Korea Array**	**20.35**	**324**	P	**P**	**21 00 14.3**	**+0.5**
	0.9nm,0.6s,baz=141,slow=8.8,SNR=7.3						
	0.9nm,0.6s						
KLR	**Kul'dur**	**28.82**	**345**	P	**P**	**21 01 30.9**	**+0.5**
	1.8nm,0.5s,baz=181,slow=8.0,SNR=8.6						
	1.8nm,0.5s						
MA2	**Magadan**	**38.18**	**6**	P	**P**	**21 02 51.5**	**+1.1**
	2.9nm,0.3s,baz=140,slow=17,SNR=6.9						
	2.9nm,0.3s						
ZALV	**Zalesovo Beam**	**54.04**	**322**	P	**P**	**21 04 53.3**	**+0.1**
	0.3nm,0.5s,baz=109,slow=7.8,SNR=1.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.51**	**313**	P	**P**	**21 04 56.1**	**-0.7**
	0.7nm,1.0s,baz=99,slow=8.9,SNR=1.7						
	0.7nm,1.0s						
ILAR	**Eielson Array**	**62.06**	**27**	P	**P**	**21 05 47.4**	**-1.1**
	0.2nm,0.6s,baz=261,slow=5.9,SNR=2.3						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**78.80**	**341**	P	**P**	**21 07 29.1**	**+0.2**
	3.4nm,1.1s,baz=55,slow=8.2,SNR=6.0						
	3.4nm,1.1s						
FINES	**FINESS Array B**	**83.04**	**334**	P	**P**	**21 07 50.2**	**-1.1**
	1.5nm,0.9s,baz=63,slow=5.5,SNR=9.1						
	1.5nm,0.9s						

TRN ***12*** *20:57:00.9,10°.49N×62°.94W,h20km,MD4.3*
NEIC ***12*** *20:57:01.4±2.0,10°.57N±0°.06×62°.75W±0°.04,h8km±7km, mb4.3/4,Mwr3.7(CAR),Error ellipse: s-maj=10.2km s-min=4.8km az=156.0*
FUNV ***12*** *20:57:01.9,10°.57N×62°.75W,h2km,MW3.7*
IDC ***12*** *20:57:01.7±1.1,10°.47N×62°.66W,h0km,mb3.9/5, mbtmp3.9/7,ML3.1/2,MS3.6/1,Error ellipse: s-maj=24.0km s-min=22.0km az=175.0*
CAR ***12*** *20:57:02.5±2.0,10°.62N±0°.06×62°.75W±0°.06,h5km±5km, Error ellipse: s-maj=9.3km s-min=8.3km az=151.0*

ISC 12 20:57:01.4±1.3,**10°.61N**±0°.04×**62.78W**±0°.03,**h9**km±9km, **n69**,σ1§**52**/**79**,**mb4.0/7,1D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.45**	**279**⇓	*e*P	**Pg**	**20 57 09.8**	**-0.4**
CRUV				*e*S	**Sg**	**20 57 16.6**	**+0.4**
TRN	**Trinidad (W)**	**1.36**	**88**	*e*	**Pn**	**20 57 26.0**	**-0.5**
TRN	**Trinidad (W)**	**1.36**	**88**	*e*P	**Pg**	**20 57 27.7**	**+0.2**
TRN				*e*S	**Sn**	**20 57 47.0**	**+2.3**
TBH	**Brigand Hill**	**1.69**	**94**	*e*P	**Pb**	**20 57 32.3**	**-0.4**
GRFF	**Grenada Fort F**	**1.76**	**35**	*e*P	**Pn**	**20 57 33.7**	**+1.5**
PCRV	**Puerto La Cruz**	**1.87**	**257**	Pn	**Pb**	**20 57 37.0**	**+1.2**
	47nm,0.3s,baz=91,slow=10,SNR=134						
PCRV				Sn	**Sb**	**20 58 00.6**	**+1.2**
	22nm,0.3s,baz=193,slow=20,SNR=10						
PCRV	**Puerto La Cruz**	**1.87**	**257**	*e*P	**Pn**	**20 57 34.6**	**+0.9**
PCRV				*e*S	**Sn**	**20 57 58.9**	**+1.4**
GRGR	**Grenville**	**1.88**	**36**		**Pn**	**20 57 34.2**	**+0.5**
GRGR				Sn	**Sn**	**20 57 58.5**	**+0.9**
GRGR	**Grenville**	**1.88**	**36**	*e*P	**Pn**	**20 57 34.7**	**+1.0**
TPR	**Prospect**	**2.05**	**73**	*e*P	**Pn**	**20 57 36.6**	**+0.5**
TPR				*e*S	**Sb**	**20 58 03.8**	**-0.8**
BOT	**Bacolet**	**2.10**	**74**	*e*P	**Pn**	**20 57 38.1**	**+1.3**
GCMP	**Grenada, Carri**	**2.29**	**35**	*e*P	**Pn**	**20 57 40.4**	**+1.0**
GCMP				*e*S	**Sn**	**20 58 10.6**	**+2.8**
TOSP	**Speyside**	**2.31**	**72**		**Pn**	**20 57 40.0**	**+0.3**
TOSP	**Speyside**	**2.31**	**72**	*e*P	**Pn**	**20 57 41.1**	**+1.4**
TOSP				*e*S	**Sb**	**20 58 10.6**	**-1.4**
PRGV	**PARIAGUAN**	**2.59**	**225**	*e*P	**Pn**	**20 57 44.9**	**+1.3**
PRGV				*e*S	**Sn**	**20 58 15.2**	**-0.1**
SVB	**Belmont**	**3.04**	**29**		**Pn**	**20 57 48.6**	**-1.2**
SVB	**Belmont**	**3.04**	**29**	*e*P	**Pn**	**20 57 52.1**	**+2.3**
MCLT	**Moule a Chique**	**3.57**	**30**	Pn	**Pn**	**20 57 58.1**	**+1.1**
MCLT	**Moule a Chique**	**3.57**	**30**	*e*P	**Pn**	**20 57 58.0**	**+0.9**
MCLT				*e*S	**Sn**	**20 58 40.6**	**+1.2**
MERV	**Las Mercedes**	**3.71**	**249**	*e*P	**Pn**	**20 57 59.5**	**+0.5**
MERV				*e*S	**Sn**	**20 58 41.1**	**-1.8**
SLBI	**Saint Lucia, B**	**3.83**	**27**	*e*P	**Pn**	**20 58 02.0**	**+1.4**
SLBI				*e*S	**Sn**	**20 58 46.7**	**+1.0**
FUNV	**FUNVISIS**	**3.96**	**268**	*e*P	**Pn**	**20 58 03.0**	**+0.5**
TACV	**Tcata**	**4.20**	**264**	*e*P	**Pn**	**20 58 05.9**	**+0.2**
BIM	**Bigot**	**4.23**	**23**		**Pn**	**20 58 06.1**	**0.0**
BIM	**Bigot**	**4.23**	**23**	*e*P	**Pn**	**20 58 07.6**	**+1.5**
BIM	**Bigot**	**4.23**	**23**	*e*S	**Sn**	**20 58 56.3**	**+0.5**
MPOM	**Morne Pois Mar**	**4.25**	**26**	Pn	**Pn**	**20 58 06.5**	**+0.1**
FDF	**Fort de France**	**4.40**	**21**		**Pn**	**20 58 07.9**	**-0.6**
SVN	**Savane Anatole**	**4.50**	**20**		**Pn**	**20 58 09.5**	**-0.3**
ILAM	**Ilet Lapin Mar**	**4.54**	**24**	Pn	**Pn**	**20 58 10.6**	**+0.2**
BENV	**Beln**	**4.78**	**263**	*e*P	**Pn**	**20 58 14.3**	**+0.5**
CACV	**CAICARA DEL OR**	**4.78**	**231**	*e*P	Pn	20 58 08.4	-5.3
TURV	**Turiamo**	**4.97**	**269**	*e*P	**Pn**	**20 58 16.9**	**+0.6**
DSLB	**Salisbury**	**4.98**	**15**	*e*P	**Pn**	**20 58 18.3**	**+1.8**
MDCT	**Cottage Hill,**	**5.14**	**14**	*e*P	**Pn**	**20 58 20.4**	**+1.8**
BAUV	**El Baul**	**5.44**	**253**		**Pn**	**20 58 22.5**	**-0.3**
BAUV	**El Baul**	**5.44**	**253**	*e*P	**Pn**	**20 58 19.3**	**-3.4**
BAUV	**El Baul**	**5.44**	**253**	*e*S	Sn	20 59 17.2	-8.3
BAUV	**El Baul**	**5.44**	**253**	*e*P	**Pn**	**20 58 22.2**	**-0.5**
BAUV				*e*S	**Sn**	**20 59 21.5**	**-4.0**
MAGL	**Barre de l'ile**	**5.51**	**15**	Pn	**Pn**	**20 58 23.9**	**+0.3**
MAGL	**Barre de l'ile**	**5.51**	**15**	*e*P	**Pn**	**20 58 25.1**	**+1.4**
MAGL	**Barre de l'ile**	**5.51**	**15**	*e*S	**Sn**	**20 59 26.7**	**-0.6**
CBE	**Ff, Capester**	**5.55**	**12**	Pn	**Pn**	**20 58 24.7**	**+0.4**
CBE	**Ff, Capester**	**5.55**	**12**	*e*P	**Pn**	**20 58 25.9**	**+1.6**
CBE	**Ff, Capester**	**5.55**	**12**	*e*S	**Sn**	**20 59 27.6**	**-0.7**
MAPV	**Macapo**	**5.64**	**263**	*e*P	**Pn**	**20 58 25.3**	**-0.2**
ABD	**La Joyeuse, An**	**5.97**	**12**	*e*P	**Pn**	**20 58 31.4**	**+1.5**
ANBD	**Bethesda, Anti**	**6.48**	**9**	*e*P	**Pn**	**20 58 38.3**	**+1.3**
ANDO	**Antigua, Disas**	**6.53**	**8**	*e*P	Pn	20 58 30.2	-7.6
PAYV	**Puerto Ayacuch**	**7.06**	**223**	*e*P	**Pn**	**20 58 43.8**	**-1.2**
SDV	**Santo Domingo**	**7.92**	**258**	Pn	**Pn**	**20 58 58.0**	**+0.9**
	1.5nm,0.3s,baz=49,slow=9.3,SNR=4.4						
SDV				Sn	**Sn**	**21 00 22.8**	**-4.2**
	1.9nm,0.3s,baz=53,slow=19,SNR=2.7						
	2.4nm,0.3s						
CUPR	**Culebra, Puert**	**8.03**	**343**	Pn	**Pn**	**20 58 57.5**	**-0.9**
SJG	**San Juan**	**8.14**	**337**	Sn	**Sn**	**21 00 27.9**	**-4.2**
	1.3nm,0.3s,baz=341,slow=21,SNR=1.5						
BOAV	**Boa Vista**	**8.46**	**164**	Pn	**Pn**	**20 59 03.8**	**-0.4**
AOPR	**Arecibo Observ**	**8.60**	**334**	Pn	**Pn**	**20 59 06.9**	**+0.7**
URIC	**Uribia, Colomb**	**9.10**	**278**	Pn	**Pn**	**20 59 11.4**	**-1.7**
MDP	**Montagnes des**	**11.44**	**118**	Pn	**Pn**	**20 59 42.7**	**-2.3**
	0.2nm,0.3s,baz=295,slow=10,SNR=1.7						
MDP				Sn	Sn	21 01 42.3	-11
	0.7nm,0.3s,baz=39,slow=18,SNR=4.7						
	5.2nm,1.0s						
ROSC	**El Rosal**	**12.78**	**244**	LR	LR	21 04 52.4	
	comp=Z,237nm,18.3s,baz=58,slow=37						
PRAC	**Prado**	**13.82**	**241**	Pn	**Pn**	**21 00 16.9**	**-0.8**
MCRA	**Macar, Loja**	**22.66**	**230**	P	**P**	**21 02 02.7**	**-0.6**
MTO3	**Montecristo**	**26.21**	**281**	P	**P**	**21 02 34.8**	**-2.3**
LPAZ	**La Paz**	**27.24**	**191**	P	**P**	**21 02 48.0**	**+1.3**
	1.0nm,0.7s,baz=0.0,slow=5.1,SNR=5.8						
	1.0nm,0.7s						
MNMC	**Minye Minye**	**30.30**	**193**	P	**P**	**21 03 12.6**	**-1.0**
MNMC				IAmb	IAmb	21 03 17.0	
	comp=Z,3.8nm,0.8s						
TXAR	**Lajitas Array**	**42.43**	**302**	P	**P**	**21 04 58.9**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=125,slow=9.2,SNR=7.0						
	comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	**42.43**	**302**	P	**P**	**21 04 57.1**	**+0.3**
TX31	**Lajitas Ar. Si**	**42.43**	**302**	P	**P**	**21 04 57.0**	**+0.2**
TX31				IAmb	IAmb	21 05 03.8	
	comp=Z,5.5nm,1.1s						
PLCA	**Paso Flores**	**51.58**	**188**	P	**P**	**21 06 08.5**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=356,slow=13,SNR=1.8						
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**77.97**	**334**	P	**P**	**21 09 03.2**	**+3.4**
	comp=Z,1.1nm,0.6s,baz=92,slow=4.8,SNR=19						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**80.23**	**29**	P	**P**	**21 09 14.3**	**+2.1**
	comp=Z,1.6nm,0.8s,baz=258,slow=5.4,SNR=4.9						
	comp=Z,1.6nm,0.8s						

CRAAG ***12*** *21:06:22.9,36°.02N×4°.07E,Ml3.8*
MDD ***12*** *21:06:24.4±0.6,35°.87N×4°.15E,h9km±9km,Mb4.0/24, M_mb3.4/26,Error ellipse: s-maj=12.6km s-min=2.7km az=138.0*
IDC ***12*** *21:06:24.7±2.0,36°.25N×4°.00E,h0km,mb3.3/2, mbtmp3.3/6,ML3.4/4,Error ellipse: s-maj=45.6km s-min=25.0km az=168.0*
CNRM ***12*** *21:06:25.1,36°.05N×3°.88E,h0km,ml3.4*
LDG ***12*** *21:06:27.4±0.2,35°.96N×4°.04E,h10km,Ml3.0/15,Error ellipse: s-maj=3.9km s-min=2.3km az=155.0*

ISC 12 21:06:24.6±1.2,**36°.07N**±0°.06×**4°.04E**±0°.03,**h12**km±9km, **n66**,σ1§**79**/103,**20C,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.13**	**260**	P	**Pg**	**21 06 27.5**	**-0.5**
ATAF	**Djebel Tarf**	**0.27**	**135**	P	**Pg**	**21 06 28.7**	**-1.6**
ADJB	**Djebel Djouab**	**0.49**	**281**	P	**Pg**	**21 06 35.0**	**+0.6**
CKHR	**Kef el Ahmar**	**1.20**	**92**	P	**Pn**	**21 06 47.7**	**+0.3**
DFRA	**Djebel Bou Aff**	**1.56**	**72**	P	**Pg**	**21 06 54.8**	**+0.2**
CTEI	**Djebel Teioual**	**1.92**	**89**	P	**Pg**	**21 07 01.4**	**0.0**
CASM	**Ain Smara**	**1.99**	**84**	P	**Pb**	**21 07 01.0**	**+0.1**
CKFL	**Kef-Lekhel**	**2.19**	**81**	P	**Pg**	**21 07 06.5**	**-0.2**
ETOS	**Mallorca**	**3.82**	**346**	P	**Pn**	**21 07 24.2**	**+0.8**
ETOS				⇑*i*Vmb_V		21 07 24.7	
	180nm,SNR=0.5						
ETOS				S	**Sn**	**21 08 06.3**	**-1.9**
CART	**Cartagena**	**4.32**	**292**	P	**Pn**	**21 07 30.9**	**+0.7**
CART				S	**Sn**	**21 08 20.8**	**+0.3**
CART	**Cartagena**	**4.32**	**292**	P	**Pn**	**21 07 30.4**	**+0.3**
KEST	**Kesra**	**4.32**	**93**	Pn	**Pn**	**21 07 33.3**	**+3.0**
	1.0nm,0.3s,baz=77,slow=1.8,SNR=19						
KEST				Sn	**Sn**	**21 08 20.0**	**-0.7**
	0.8nm,0.3s,baz=275,slow=18,SNR=1.8						
	9.2nm,0.6s						
AFON	**Font Roja**	**4.47**	**307**	P	**Pn**	**21 07 32.2**	**-0.2**
AFON				⇑*i*Vmb_V		21 07 32.6	
	180nm,SNR=1.4						
AFON				S	**Sn**	**21 08 25.2**	**+0.7**
EMUR	**La Murta**	**4.58**	**294**	P	**Pn**	**21 07 34.2**	**+0.4**
EMUR				⇑*i*Vmb_V		21 07 35.0	
	226nm,SNR=3.0						
EMUR				S	**Sn**	**21 08 26.6**	**-0.5**
ECOL	**Islas Columbre**	**4.65**	**326**	P	**Pn**	**21 07 35.8**	**+1.0**
ECOL				S	**Sn**	**21 08 27.5**	**-1.2**
EZAR	**Zarzadilla de**	**4.93**	**293**	P	**Pn**	**21 07 39.0**	**+0.3**
EZAR				⇑*i*Vmb_V		21 07 39.3	
	373nm,SNR=5.4						
EZAR				S	**Sn**	**21 08 35.2**	**-0.5**
ENIJ	**Nijar**	**5.11**	**282**	P	**Pn**	**21 07 40.4**	**-0.7**
ENIJ				⇑*i*Vmb_V		21 07 42.3	
	171nm,SNR=2.4						
ENIJ				S	**Sn**	**21 08 38.2**	**-1.9**
ETOB	**Tobarra**	**5.14**	**302**	P	**Pn**	**21 07 43.2**	**+1.6**
ETOB				⇑*i*Vmb_V		21 07 45.9	
	72nm,SNR=0.9						
ETOB				S	**Sn**	**21 08 40.1**	**-0.8**
TAF	**Taforalt**	**5.42**	**259**	P	**Pn**	**21 07 45.6**	**+0.3**
EMOS	**Mosqueruela**	**5.57**	**322**	P	**Pn**	**21 07 49.0**	**+1.5**
EMOS				⇑*i*Vmb_V		21 07 50.6	
	70nm,SNR=1.0						
EMOS				S	**Sn**	**21 08 49.0**	**-2.5**
EBER	**Berja**	**5.64**	**280**	P	**Pn**	**21 07 48.7**	**+0.1**
EBER				⇑*i*Vmb_V		21 07 51.1	
	72nm,SNR=1.3						
EBER				S	**Sn**	**21 08 52.5**	**-1.0**
ERTA	**Horta de San J**	**5.68**	**330**	P	**Pn**	**21 07 49.6**	**+0.7**
ERTA				⇑*i*Vmb_V		21 07 50.5	
	11nm,SNR=0.2						
ERTA				S	**Sn**	**21 08 50.8**	**-3.3**
JBK	**JBK**	**5.68**	**254**	P	**Pn**	**21 07 49.5**	**+0.4**
EPOB	**Poblet**	**5.76**	**337**	P	**Pn**	**21 07 50.7**	**+0.6**
EPOB				⇑*i*Vmb_V		21 07 52.4	
	65nm,SNR=0.9						
EPOB				S	**Sn**	**21 08 55.2**	**-1.0**
FIGM	**Figuig**	**5.89**	**230**	P	**Pn**	**21 07 52.3**	**+0.3**
EQES	**Quesada**	**5.95**	**289**	P	**Pn**	**21 07 54.8**	**+2.1**
EQES				⇑*i*Vmb_V		21 07 57.0	
	96nm,SNR=2.0						
EQES				S	**Sn**	**21 09 02.2**	**+1.2**
EQUE	**Quentar**	**6.12**	**283**	P	**Pn**	**21 07 56.2**	**+1.2**
EQUE				⇑*i*Vmb_V		21 07 57.3	
	106nm,SNR=1.7						
EQUE				S	**Sn**	**21 09 02.1**	**-3.0**
EMIR	**Miracle**	**6.16**	**342**	P	**Pn**	**21 07 56.7**	**+1.2**
EMIR				⇑*i*Vmb_V		21 07 59.5	
	390nm,SNR=1.8						
EMIR				S	**Sn**	**21 09 06.0**	**+0.1**
ELGU	**Los Guajares,**	**6.23**	**280**	P	**Pn**	**21 07 56.8**	**+0.3**
ELGU				⇑*i*Vmb_V		21 07 58.2	
	70nm,SNR=1.9						
ELGU				S	**Sn**	**21 09 05.8**	**-1.9**
EJON	**La Jonquera**	**6.43**	**352**	P	**Pn**	**21 08 00.7**	**+1.4**
EJON				⇑*i*Vmb_V		21 08 04.9	
	126nm,SNR=1.1						
EJON				S	**Sn**	**21 09 11.2**	**-1.4**
EGOR	**Sierra Gorda,**	**6.64**	**281**	P	**Pn**	**21 08 04.6**	**+2.4**
EGOR				⇑*i*Vmb_V		21 08 06.0	
	42nm,SNR=1.3						
EGOR				S	**Sn**	**21 09 15.3**	**-2.6**
AKLM	**AKL**	**6.65**	**259**	P	**Pn**	**21 08 03.1**	**+0.8**
ESAC	**San Caprasio**	**6.65**	**329**	P	**Pn**	**21 08 04.1**	**+1.9**
ESAC				⇑*i*Vmb_V		21 08 06.9	
	185nm,SNR=1.0						
ETOR	**Torete**	**6.74**	**317**	P	**Pn**	**21 08 06.8**	**+3.3**
EMIJ	**Mijas**	**7.13**	**277**	P	**Pn**	**21 08 07.4**	**-1.4**
EMIJ				⇑*i*Vmb_V		21 08 10.1	
	25nm,SNR=0.7						
EMIJ				S	**Sn**	**21 09 27.2**	**-2.7**
ESDC	**Sonseca Array**	**7.28**	**302**	Pn	**Pn**	**21 08 12.2**	**+1.3**
	0.3nm,0.3s,baz=116,slow=13,SNR=13						
ESDC				Sn	**Sn**	**21 09 30.8**	**-2.8**
	baz=115,slow=26						
	0.9nm,0.5s						
ESDC	**Sonseca Array**	**7.28**	**302**	P	**Pn**	**21 08 13.4**	**+2.5**
ESDC				S	**Sn**	**21 09 33.2**	**-0.4**
MTLF	**Montolieu**	**7.40**	**350**	*e*Pn	**Pn**	**21 08 14.7**	**+2.2**
MTLF				*e*Sn	**Sn**	**21 09 35.5**	**-0.8**
	2.0nm,0.5s						
PAB	**San Pablo**	**7.49**	**300**	P	**Pn**	**21 08 15.1**	**+1.2**
PAB				⇑*i*Vmb_V		21 08 16.1	
	32nm,SNR=0.7						
PAB				S	**Sn**	**21 09 36.5**	**-2.3**
LMR	**La Mourre**	**7.50**	**14**	*e*Pn	**Pn**	**21 08 15.6**	**+1.7**
LMR				*e*Sn	**Sn**	**21 09 35.9**	**-2.9**
	1.1nm,0.3s						
EPF	**Esparros**	**7.52**	**339**	*e*Pn	**Pn**	**21 08 16.4**	**+2.3**
EPF				*e*Sn	**Sn**	**21 09 38.5**	**-0.8**
	2.2nm,0.4s						
PGF	**Pioggiola**	**7.53**	**29**	*e*Pn	**Pn**	**21 08 16.0**	**+1.7**
PGF				*e*Sn	**Sn**	**21 09 37.2**	**-2.4**
	1.3nm,0.2s						
ETSF	**Etsaut**	**7.69**	**334**	*e*Pn	**Pn**	**21 08 18.7**	**+2.2**
ETSF				*e*Sn	**Sn**	**21 09 42.7**	**-0.9**
	1.0nm,0.4s						
ECAB	**El Cabril**	**7.82**	**288**	P	**Pn**	**21 08 18.5**	**+0.2**
ECAB				⇑*i*Vmb_V		21 08 18.7	
	20nm,SNR=0.4						
ECAB				S	**Sn**	**21 09 42.8**	**-4.0**
MDT	**Midelt**	**7.84**	**248**	Pn	**Pn**	**21 08 19.5**	**+0.8**
	0.2nm,0.3s,baz=66,slow=15,SNR=9.6						
MDT				Lg	Lg	21 10 30.6	
	0.2nm,0.3s,baz=276,slow=5.0,SNR=1.6						
	1.7nm,0.5s						
MDT	**Midelt**	**7.84**	**248**	P	**Pn**	**21 08 19.6**	**+0.9**
MD31	**MD31**	**7.94**	**249**	P	**Pn**	**21 08 20.2**	**+0.2**
SMRF	**Simiane la Rot**	**7.99**	**8**	*e*Pn	**Pn**	**21 08 22.3**	**+1.7**
SMRF				*e*Sn	**Sn**	**21 09 49.3**	**-1.5**

	1.6nm,0.6s						
LASF	**Ste Croix**	**8.00**	**359**	*e*Pn	**Pn**	**21 08 23.1**	**+2.4**
LASF				*e*Sn	**Sn**	**21 09 49.7**	**-1.5**
	1.9nm,0.6s						
SJPF	**Ste Jean**	**8.12**	**332**	*e*Pn	**Pn**	**21 08 24.3**	**+1.9**
SJPF				*e*Sn	**Sn**	**21 09 52.2**	**-2.0**
	1.1nm,0.4s						
SBF	**Sospel**	**8.21**	**17**	*e*Pn	**Pn**	**21 08 25.3**	**+1.7**
SBF				*e*Sn	**Sn**	**21 09 53.4**	**-3.0**
	3.6nm,0.3s						
VIVF	**Saint-Julien-l**	**8.79**	**3**	*e*Pn	**Pn**	**21 08 32.6**	**+1.0**
VIVF				*e*Sn	**Sn**	**21 10 08.4**	**-2.2**
	1.0nm,0.4s						
MBDF	**Montbardon**	**8.89**	**13**	*e*Pn	**Pn**	**21 08 34.7**	**+1.6**
ORIF	**Oris-en-Rattie**	**8.95**	**8**	*e*Pn	**Pn**	**21 08 35.4**	**+1.6**
ORIF				*e*Sn	**Sn**	**21 10 11.7**	**-2.9**
	0.3nm,0.3s						
CAF	**Calviac**	**8.97**	**351**	*e*Pn	**Pn**	**21 08 36.8**	**+2.7**
LFF	**La Frestale**	**9.21**	**345**	*e*Pn	**Pn**	**21 08 38.9**	**+1.6**
LPG	**La Plagne**	**9.64**	**11**	*e*Pn	**Pn**	**21 08 45.5**	**+2.0**
LPL	**La Plagne**	**9.66**	**11**	*e*Pn	**Pn**	**21 08 45.8**	**+2.2**
LPL				*e*Sn	**Sn**	**21 10 28.9**	**-3.2**
	0.4nm,0.4s						
TCF	**Toulx Ste Croi**	**10.30**	**353**	*e*Pn	**Pn**	**21 08 54.1**	**+1.8**
SMF	**Signal de Mont**	**10.57**	**359**	*e*Pn	**Pn**	**21 08 57.5**	**+1.6**
MFF	**Saint Martin d**	**10.98**	**345**	*e*Pn	**Pn**	**21 09 03.7**	**+2.1**
QUIF	**Quistinic**	**12.99**	**338**	*e*Pn	**Pn**	**21 09 30.3**	**+1.4**
QUIF				*e*Sn	**Sn**	**21 11 48.2**	**-5.1**
	1.3nm,0.4s						
ROSF	**Rostrenen**	**13.39**	**338**	*e*Pn	**Pn**	**21 09 35.9**	**+1.4**
GERES	**GERESS Array B**	**14.61**	**26**	Pn	**Pn**	**21 09 49.6**	**-1.6**
	0.1nm,0.3s,baz=204,slow=14,SNR=1.9						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**23.27**	**43**	P	**P**	**21 11 31.3**	**-0.7**
	0.3nm,0.5s,baz=241,slow=11,SNR=1.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**57.37**	**53**	P	**P**	**21 16 14.5**	**+1.7**
	0.4nm,0.8s,baz=286,slow=6.8,SNR=2.0						
	0.4nm,0.8s						

DJA ***12*** *21:07:31.1±0.6,6°.S±6°×10°.4E±°,h10km,M4.5/18,mb4.7/4, MLv4.5/18*
NEIC ***12*** *21:07:33.0±1.4,6°.36S±0°.07×103°.56E±0°.07,h35km±2km, mb4.6/46,Error ellipse: s-maj=13.2km s-min=10.9km az=235.0*
IDC ***12*** *21:07:35.7±0.8,6°.16S×103°.72E,h49km±4km,mb4.0/13, mbtmp4.3/14,Error ellipse: s-maj=22.8km s-min=9.9km az=35.0*

ISC 12 21:07:32.8±0.6,**6°.37S**±0°.07×**103°.59E**±0°.05,**h38**km±1km, **h38**km:**pP-P,n121**,σ1§**35**/126,**mb4.6**/42,**2C,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.23**	**47**	P	**Pn**	**21 07 53.5**	**0.0**
LWLI	**Liwa**	**1.42**	**19**	P	**Pn**	**21 07 56.4**	**+0.2**
BLSI	**Bandar Lampung**	**1.93**	**59**	P	**Pn**	**21 08 05.5**	**+2.4**
KLI	**Kotabumi**	**1.96**	**40**	P	**Pn**	**21 08 05.3**	**+1.8**
MNAI	**Manna**	**2.09**	**343**	Pn	**Pn**	**21 08 06.2**	**+0.9**
MNAI	**Manna**	**2.09**	**343**	P	**Pn**	**21 08 06.7**	**+1.4**
MNAI	**Manna**	**2.09**	**343**	P	**Pn**	**21 08 06.9**	**+1.6**
SBJI	**Serang**	**2.54**	**85**	P	**Pn**	**21 08 14.8**	**+3.3**
KSI	**Kapahiang**	**2.87**	**340**	P	**Pn**	**21 08 17.5**	**+1.4**
UBSI	**University, Be**	**2.90**	**333**	P	**Pn**	**21 08 16.4**	**-0.1**
SKJI	**Sukabumi**	**3.02**	**102**	P	**Pn**	**21 08 21.4**	**+3.3**
CBJI	**

ENH	**Enshi**	**36.87**	**9**	P	**P**	**21 14 37.0**	**-0.7**
ENH				IAmb	IAmb	21 14 38.5	
	comp=Z,6.1nm,0.7s						
LSA	**Lhasa**	**37.80**	**342**	P	**P**	**21 14 46.1**	**-0.1**
LSA				IAmb	IAmb	21 14 48.2	
	comp=Z,8.6nm,1.0s						
COEN	**Coen**	**39.65**	**104**	P	**P**	**21 15 01.3**	**-0.1**
XAN	**Xi'an**	**40.50**	**7**	P	P	21 15 18.0	+10
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PMG	**Port Moresby**	**43.25**	**97**	P	**P**	**21 15 30.0**	**-0.9**
PMG				IAmb	IAmb	21 15 32.2	
	comp=Z,14nm,0.8s						
GTA	**Gaotai**	**45.68**	**356**	*e*P	**P**	**21 15 50.9**	**+0.8**
GTA				sP	sP	21 16 04.1	-0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,60nm,5.5s						
GTA				LR	LR		
	comp=N,350nm,19.3s						
GTA				LR	LR		
	comp=E,240nm,18.5s						
GTA				LR	LR		
	comp=Z,430nm,19.6s						
JTU	**Tsushima**	**47.42**	**29**	P	**P**	**21 16 02.9**	**-0.8**
HHC	**Hu-ho-hao-te**	**47.55**	**8**	*e*P	**P**	**21 16 07.9**	**+3.2**
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,6.2s						
BJT	**Baijiatuau**	**47.59**	**13**	P	**P**	**21 16 03.5**	**-1.4**
BJT				IAmb	IAmb	21 16 05.9	
	comp=Z,6.9nm,0.8s						
BJI	**Beijing**	**47.62**	**13**	P	**P**	**21 16 05.4**	**+0.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KSAR	**Wonju Array Be**	**49.13**	**26**	P	**P**	**21 16 16.6**	**-0.2**
KSRS	**Korea Array**	**49.16**	**26**	P	**P**	**21 16 17.2**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=220,slow=7.7,SNR=14						
KSRS				pP	**sP**	**21 16 30.7**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=223,slow=8.5,SNR=5.5						
	comp=Z,3.3nm,0.8s						
KS19	**Wonju Array Si**	**49.18**	**26**	P	**P**	**21 16 16.6**	**-0.6**
JHS	**Saijyo**	**49.68**	**32**	P	**P**	**21 16 20.9**	**-0.2**
JHS				IAmb	IAmb	21 16 38.0	
	comp=Z,8.2nm,0.8s						
WMQ	**Urumqi**	**51.98**	**345**	⇑*i*P	**P**	**21 16 40.2**	**+1.9**
WMQ				pP	sP	21 16 52.9	0.0
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
KSH	**Kashi**	**52.31**	**333**	P	**P**	**21 16 41.0**	**+0.1**
KSH				pP	sP	21 16 54.6	-1.0
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
JGF	**Kuroka**	**52.45**	**35**	P	**P**	**21 16 41.0**	**-0.9**
JGF				IAmb	IAmb	21 16 56.6	
	comp=Z,7.8nm,1.0s						
MJAR	**Matsushiro Arr**	**53.60**	**35**	P	**P**	**21 16 48.5**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=218,slow=6.8,SNR=5.9						
MJAR				pP	**pP**	**21 17 02.0**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=208,slow=8.2,SNR=4.3						
	comp=Z,1.3nm,0.7s						
CN2	**Changchun**	**53.71**	**20**	*e*P	**P**	**21 16 47.7**	**-3.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NRN	**Naryn**	**53.86**	**334**	P	**P**	**21 16 51.8**	**-0.7**
NRN				IAmb	IAmb	21 17 07.5	
	comp=Z,5.8nm,0.9s						
SONM	**Songino Array**	**54.03**	**2**	P	**P**	**21 16 54.2**	**+0.8**
	comp=Z,5.6nm,0.7s,baz=179,slow=9.2,SNR=47						
SONM				pP	**sP**	**21 17 07.3**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=177,slow=8.8,SNR=9.1						
	comp=Z,5.6nm,0.7s						
SONM	**Songino Array**	**54.03**	**2**	P	**P**	**21 16 53.6**	**+0.2**
SONM				IAmb	IAmb	21 16 55.2	
	comp=Z,6.0nm,0.8s						
DRK	**Karamyk**	**54.26**	**330**	P	**P**	**21 16 55.2**	**-0.3**
BOOM	**Boomskoye usch**	**54.76**	**335**	P	**P**	**21 16 58.6**	**-0.2**
BOOM				IAmb	IAmb	21 17 00.8	
	comp=Z,3.2nm,0.7s						
CHGR	**Chuyangaron**	**55.02**	**327**	P	**P**	**21 17 00.8**	**0.0**
CHGR				IAmb	IAmb	21 17 16.5	
	comp=Z,9.0nm,0.9s						
BTK	**Batken**	**55.19**	**330**	P	**P**	**21 17 03.0**	**+1.1**
BTK				IAmb	IAmb	21 17 17.7	
	comp=Z,4.6nm,1.1s						
AAK	**Ala-Archa**	**55.49**	**334**	P	**P**	**21 17 03.7**	**-0.5**
MKAR	**Makanchi Array**	**56.21**	**343**	P	**P**	**21 17 09.4**	**+0.3**
	comp=Z,5.7nm,0.7s,baz=152,slow=8.1,SNR=30						
MKAR				pP	**sP**	**21 17 23.6**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=159,slow=7.4,SNR=5.6						
	comp=Z,5.7nm,0.7s						
MKAR	**Makanchi Array**	**56.21**	**343**	P	**P**	**21 17 09.2**	**+0.1**
MAKZ	**Makanchi**	**56.31**	**342**	P	**P**	**21 17 09.1**	**-0.7**
USA0B	**Ussuriysk Arra**	**56.48**	**24**	P	**P**	**21 17 10.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**56.48**	**24**	P	**P**	**21 17 11.1**	**+0.1**
	comp=Z,8.6nm,0.7s,baz=209,slow=5.2,SNR=23						
USRK				pP	**pwP**	**21 17 24.0**	**-0.2**
	comp=Z,7.9nm,0.7s,baz=216,slow=7.2,SNR=10						
	comp=Z,8.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**56.48**	**24**	P	**P**	**21 17 10.9**	**0.0**
KK31	**Karatay Array**	**57.66**	**332**	P	**P**	**21 17 19.6**	**+0.2**
KKAR	**Karatay Array**	**57.66**	**332**	P	**P**	**21 17 19.8**	**+0.4**
HEH	**HeiHe**	**60.05**	**17**	*e*P	**P**	**21 17 35.2**	**-0.6**
HEH				pP	**pwP**	**21 17 48.8**	**-0.3**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,93nm,4.6s						
KURK	**Kurchatov**	**60.81**	**342**	P	**P**	**21 17 40.6**	**-0.3**
KURK				IAmb	IAmb	21 17 55.7	
	comp=Z,7.0nm,1.1s						
JKA	**Kamikawa-asahi**	**61.33**	**31**	P	**P**	**21 17 44.0**	**-0.6**
ZAA0	**Zalesovo Array**	**62.13**	**348**	P	**P**	**21 17 49.5**	**-0.4**
ZALV	**Zalesovo Beam**	**62.13**	**348**	P	**P**	**21 17 49.8**	**-0.1**
	comp=Z,6.0nm,0.4s,baz=154,slow=5.7,SNR=44						
ZALV				pP	**pwP**	**21 18 03.4**	**+0.1**
	comp=Z,6.5nm,0.8s,baz=158,slow=4.8,SNR=6.7						
	comp=Z,6.0nm,0.4s						
ZALV	**Zalesovo Beam**	**62.13**	**348**	P	**P**	**21 17 49.4**	**-0.5**
DZM	**Mont Dzumac**	**62.50**	**111**	P	**P**	**21 17 50.9**	**-2.2**
BRVK	**Borovoye**	**65.57**	**339**	P	**P**	**21 18 12.1**	**-0.4**
BRVK				IAmb	IAmb	21 18 13.1	
	comp=Z,2.6nm,0.6s						
ABKAR	**Akbulak array**	**67.17**	**331**	P	**P**	**21 18 23.3**	**+0.5**
ARU	**Arti**	**72.62**	**336**	P	**P**	**21 18 55.7**	**-0.5**
ARU				IAmb	IAmb	21 18 57.7	
	comp=Z,7.4nm,1.1s						
KBZ	**Khabaz**	**73.93**	**319**	P	**P**	**21 19 05.7**	**+1.5**
	comp=Z,3.3nm,0.8s,baz=110,slow=4.3,SNR=9.7						
	comp=Z,3.3nm,0.8s						
BR131	**Keskin Array S**	**78.89**	**312**	P	**P**	**21 19 33.3**	**+0.7**
BRTR	**Keskin Array B**	**78.89**	**312**	P	**P**	**21 19 33.8**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=140,slow=7.1,SNR=6.6						
BRTR				pP	**sP**	**21 19 48.6**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=149,slow=8.0,SNR=3.7						
	comp=Z,0.8nm,0.7s						
BRTR	**Keskin Array B**	**78.89**	**312**	P	**P**	**21 19 33.1**	**+0.5**
AKASG	**Malin Array Be**	**85.10**	**322**	P	**P**	**21 20 06.0**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=89,slow=4.7,SNR=5.6						
	comp=Z,0.4nm,0.4s						
AKBB	**Malin Array Si**	**85.10**	**322**	P	**P**	**21 20 05.0**	**+0.2**
AKBB				IAmb	IAmb	21 20 30.3	
	comp=Z,8.1nm,1.2s						
BURAR	**Bucovina Array**	**86.88**	**318**		**P**	**21 20 15.6**	**+1.8**
BURAR				IAmb	IAmb	21 20 17.8	
	comp=Z,2.6nm,0.7s						
BUR08	**Bucovina Ar. S**	**86.90**	**318**	P	**P**	**21 20 15.9**	**+2.0**
BUR08				IAmb	IAmb	21 20 32.2	
	comp=Z,7.1nm,1.3s						
FINES	**FINESS Array B**	**89.62**	**332**	P	**P**	**21 20 28.1**	**+1.8**
	comp=Z,3.0nm,1.0s,baz=90,slow=3.8,SNR=7.0						
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**89.62**	**332**	P	**P**	**21 20 27.4**	**+1.0**
TXAR	**Lajitas Array**	**145.61**	**45**	PKPbc	**PKPab**	**21 27 09.9**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=298,slow=1.4,SNR=37						
TXAR				pPKPbc	sPKPab	21 27 23.6	-0.2
	comp=Z,1.6nm,0.7s,baz=275,slow=1.8,SNR=7.8						

*NEIC **12** 21:09:20.7±2.0,6.5S±0.1×103.5E±0.1,h35km±2km, mb4.3/10,Error ellipse: s-maj=30.6km s-min=12.2km az=229.0*
*IDC **12** 21:09:22.9±2.0,6.29S×103.58E,h49km±7km,mb3.6/7, mbtmp3.8/7,Error ellipse: s-maj=77.1km s-min=15.3km az=51.0*

ISC 12 21:09:20.8±1.0,6.4S±0.2×103.5E±0.2,h35km,n23, σ1800/29,mb4.1/10,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**2.10**	**345**	Pn	**Pn**	**21 09 55.8**	**+2.2**
JAGI	**Jajag, Banyuwa**	**10.76**	**102**	Pn	**Pn**	**21 11 52.6**	**+0.1**
TOLI2	**Tolitoli**	**18.80**	**67**	P	**P**	**21 13 36.8**	**-0.7**
BATI	**Baumata**	**20.30**	**102**	P	**P**	**21 13 53.9**	**-0.1**
	31nm,0.5s,baz=214,slow=2.2,SNR=3.6						
SOEI	**Soe**	**20.83**	**101**	P	**P**	**21 13 58.8**	**-0.9**
SOEI				IAmb	IAmb	21 14 20.5	
	comp=Z,18nm,0.6s						
CM31	**Chiang Mai Arr**	**25.11**	**350**	P	**P**	**21 14 41.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**25.11**	**350**	P	**P**	**21 14 42.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=182,slow=9.3,SNR=6.6						
CMAR				pP	**pwP**	**21 14 55.4**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=183,slow=9.1,SNR=3.7						
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**25.11**	**350**	P	**P**	**21 14 41.6**	**-0.9**
WB0	**Warramunga Arr**	**32.81**	**117**	P	**P**	**21 15 50.0**	**-1.2**
WB0				IAmb	IAmb	21 16 17.6	
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**32.82**	**117**	P	**P**	**21 15 52.2**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=293,slow=10,SNR=1.1						
WRA				pP	**sP**	**21 16 05.0**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=291,slow=10,SNR=3.7						
	comp=Z,0.1nm,0.4s						
ASAR	**Alice Springs**	**33.89**	**124**	P	**P**	**21 16 01.5**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=310,slow=9.6,SNR=1.4						
ASAR				pP	**pwP**	**21 16 12.3**	**+2.0**
	comp=Z,0.5nm,0.4s,baz=300,slow=7.7,SNR=3.7						
	comp=Z,0.6nm,0.9s						
KSRS	**Korea Array**	**49.23**	**26**	P	**P**	**21 18 05.1**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=214,slow=8.0,SNR=3.5						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**54.07**	**2**	P	**P**	**21 18 41.9**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=181,slow=8.2,SNR=4.6						
	comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**54.07**	**2**	P	**P**	**21 18 42.0**	**0.0**
SONM				IAmb	IAmb	21 18 43.2	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**56.22**	**343**	P	**P**	**21 18 56.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=126,slow=6.2,SNR=4.8						
MKAR				pP	**sP**	**21 19 11.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=167,slow=5.9,SNR=2.6						
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**56.22**	**343**	P	**P**	**21 18 56.7**	**-0.7**
ZAA0	**Zalesovo Array**	**62.15**	**348**	P	**P**	**21 19 37.1**	**-1.2**
ZAA0				IAmb	IAmb	21 19 52.7	
	comp=Z,2.7nm,1.0s						
ZALV	**Zalesovo Beam**	**62.15**	**348**	P	**P**	**21 19 37.6**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=152,slow=5.7,SNR=7.1						
ZALV				pP	**pwP**	**21 19 51.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=160,slow=4.7,SNR=3.1						
	comp=Z,1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**62.15**	**348**	P	**P**	**21 19 37.4**	**-1.0**
ABKAR	**Akbulak array**	**67.16**	**331**	P	**P**	**21 20 11.1**	**-0.1**
KARS	**Kars**	**72.45**	**316**	P	**P**	**21 20 42.0**	**-2.0**
BURAR	**Bucovina Array**	**86.85**	**318**		**P**	**21 22 02.9**	**+0.9**
BURAR				IAmb	IAmb	21 22 05.8	
	comp=Z,1.3nm,0.8s						
TXAR	**Lajitas Array**	**145.70**	**45**	PKPbc	**PKPab**	**21 28 58.0**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=319,slow=0.4,SNR=4.3						
TXAR				pPKPbc	**sPKPdf**	**21 29 11.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=182,slow=1.5,SNR=4.5						

*LDG **12** 21:10:59.1±0.1,44.54N×6.62E,h10km,Md1.2/2,Ml0.6/1, Error ellipse: s-maj=1.6km s-min=1.1km az=85.0*

STR 12 21:10:59.5±0.6,45.7N±3.7°×±°,h8km,MLv0.3/5,Error ellipse: s-maj=0.0km s-min=0.0km az=73.5,preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CREF	**Crivoux**	**0.01**	**20**	Pg	Pg	21 11 01.1	-0.1
CREF				Sg	Sg	21 11 02.2	-0.2
OGAG	**Argentiere**	**0.10**	**213**	Pg	Pg	21 11 04.6	+2.7
OGAG				Sg	Sg	21 11 08.2	+4.6
JAUF	**Jausiers**	**0.14**	**138**	Pg	Pg	21 11 02.6	-0.1
JAUF				Sg	Sg	21 11 04.8	-0.1
SURF	**Saint Ours**	**0.15**	**111**	Pg	Pg	21 11 02.7	0.0
SURF				Sg	Sg	21 11 05.0	0.0
MBDF	**Montbardon**	**0.22**	**30**	*e*Pg	Pg	21 11 04.1	+0.1
MBDF				*e*Sg	Sg	21 11 07.0	-0.1
	0.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.65**	**306**	*e*Pg	Pg	21 11 12.5	+0.5
ORIF				*e*Sn	Sb	21 11 22.1	-0.3
	0.4nm,0.2s						
LPL	**La Plagne**	**0.98**	**5**	*e*Sg	Sg	21 11 30.5	-0.7
	0.1nm,0.2s						

STR 12 21:11:08.8±1.2,45.7N±8.7°×±°,h8km,MLv0.7/5,Error ellipse: s-maj=0.0km s-min=0.0km az=12.9,preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CREF	**Crivoux**	**0.02**	**256**	Pg	Pg	21 11 10.4	-0.1
CREF				Sg	Sg	21 11 11.4	-0.3
SURF	**Saint Ours**	**0.14**	**121**	Pg	Pg	21 11 12.0	0.0
SURF				Sg	Sg	21 11 14.6	+0.4
JAUF	**Jausiers**	**0.14**	**149**	Pg	Pg	21 11 11.8	-0.2
JAUF				Sg	Sg	21 11 14.1	-0.1
MBDF	**Montbardon**	**0.20**	**27**	*e*S	Sg	21 11 15.0	-0.7
TURF	**col de Turini**	**0.79**	**137**	Sg	Sg	21 11 34.1	-0.2

NNC 12 21:13:18.4±22.0,37.96N×71.13E,h0km,mb4.1,mpv3.5, 1C,Error ellipse: s-maj=191.6km s-min=183.2km az=174.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**4.27**	**349**	Pg	Pn	21 14 28.5	+3.7
	17nm,0.3s						
IUG				Lg	Lg	21 15 19.9	
	3.9nm,0.2s						
KK31	**Karatay Array**	**5.16**	**355**	P	Pn	21 14 37.0	0.0
	0.6nm,0.2s,baz=176,slow=13,SNR=55						
KK31				⇑S	Sn	21 15 38.4	+1.2
	1.6nm,0.3s,baz=174,slow=24						
SGDS	**Sogindy**	**6.10**	**25**	Pg	Pn	21 14 49.6	-0.3
	0.5nm,0.2s						
SGDS				Lg	Lg	21 15 55.7	
	2.6nm,0.4s						

*JMA **12** 21:16:13.6±0.1,24.0N±0.4×121.6E±0.6,h0km,MV3.2/11, TAIWAN REGION*
*TAP **12** 21:16:15.9,24.11N×121.68E,h12km,ML3.6,C*

ISC 12 21:16:16.1±0.8,24.13N±0.01×121.71E±0.02,h11km±5km, n162,σ0991/242,3C-35D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.11**	**291**	⇓*i*P	**Pg**	**21 16 18.8**	**-0.1**
	baz=308						
NACB				*i* S	**Sg**	**21 16 20.6**	**-0.4**
	baz=308						
TWD	**Chiawan**	**0.12**	**243**	P	**Pg**	**21 16 18.6**	**-0.4**
	baz=245						
TWD				*i* S	**Sg**	**21 16 20.3**	**-0.8**
	baz=245						
EHP	**Heping Village**	**0.18**	**9**	*i* P	**Pg**	**21 16 20.6**	**+0.6**
	baz=15						
EHP				S	**Sg**	**21 16 23.9**	**+1.2**
	baz=15						
HWA	**Hwalien**	**0.18**	**212**	*e*P	**Pg**	**21 16 20.2**	**+0.2**
	baz=206						
HWA				*e*S	**Sg**	**21 16 23.0**	**+0.3**
	baz=206						
ETLH	**Xiulin Townshi**	**0.22**	**289**	⇓*i*P	**Pg**	**21 16 20.7**	**-0.1**
	baz=297						
ETLH				S	**Sg**	**21 16 23.5**	**-0.4**
	baz=297						
ETM	**Tongmen**	**0.26**	**230**	P	**Pg**	**21 16 20.8**	**-0.6**
	baz=230						
ETM				S	**Sg**	**21 16 24.0**	**-1.0**
	baz=230						
TEYL	**Yanliau Villag**	**0.28**	**201**	*e*P	**Pg**	**21 16 21.5**	**-0.3**
	baz=207						
ENA	**Nanau**	**0.29**	**6**	⇓*i*P	**Pb**	**21 16 22.6**	**-0.8**
	baz=9.0						
ENA				S	**Sb**	**21 16 26.9**	**-1.5**
	baz=9.0						
EWUT	**Wuta**	**0.32**	**11**	*e*P	**Pg**	**21 16 21.8**	**-0.7**
	baz=14						
ESL	**Shilin**	**0.41**	**219**	⇓*i*P	**Pg**	**21 16 23.4**	**-0.7**
	baz=225						
WHF	**Hehuan Shan**	**0.41**	**272**	⇓*i*P	**Pg**	**21 16 23.9**	**-0.3**
	baz=275						
WHF				S	**Sg**	**21 16 29.1**	**-0.6**
	baz=275						
NNSB	**Datong**	**0.42**	**315**	⇓*i*P	**Pb**	**21 16 24.7**	**-0.9**
	baz=319						
NNSB				S	**Sb**	**21 16 30.3**	**-1.7**
	baz=319						
NNSH	**Datong**	**0.42**	**315**	⇓*i*P	**Pg**	**21 16 23.7**	**-0.7**
	baz=318						
NNSH				*i* S	**Sg**	**21 16 29.2**	**-0.8**
	baz=318						
NNS	**Nan Shan**	**0.43**	**315**	⇓*i*P	**Pg**	**21 16 24.0**	**-0.7**
	baz=319						
NNS				S	**Sg**	**21 16 30.1**	**-0.4**
	baz=319						
LATG	**Datong**	**0.43**	**337**	⇓*i*P	**Pb**	**21 16 25.1**	**-0.8**
	baz=340						
LATG				S	**Sb**	**21 16 31.1**	**-1.3**
	baz=340						
FUSS	**Fushou**	**0.44**	**285**	⇓*i*P	**Pb**	**21 16 24.9**	**-1.1**
	baz=289						
FUSS				S	**Sg**	**21 16 31.2**	**+0.5**
	baz=289						
TEGC	**Jichi Village**	**0.45**	**200**	*e*P	**Pb**	**21 16 25.7**	**-0.4**
	baz=188						
TWC	**Suao**	**0.49**	**15**	*e*P	**Pb**	**21 16 26.5**	**-0.2**
	baz=10.0						
TWC				*e*S	**Sb**	**21 16 33.3**	**-0.6**
	baz=10.0						
CHGB	**Renai**	**0.49**	**262**	⇓*i*P	**Pg**	**21 16 25.7**	**-0.1**
	baz=258						
CHGB				*i* S	**Sg**	**21 16 31.9**	**-0.6**
	baz=258						
TWT	**Tachien**	**0.50**	**284**	⇓*i*P	**Pb**	**21 16 26.3**	**-0.7**
	baz=286						
TWT				*e*S	**Sg**	**21 16 33.0**	**+0.4**
	baz=286						
TDCB	**Techi**	**0.52**	**283**	⇓*i*P	**Pb**	**21 16 26.4**	**-0.9**
	baz=286						
TDCB				S	**Sg**	**21 16 32.9**	**-0.2**
	baz=286						
ENTT	**Nioudou**	**0.52**	**345**	⇓*i*P	**Pb**	**21 16 25.9**	**-1.4**
	baz=348						
ENTT				S	**Sb**	**21 16 33.3**	**-1.6**
	baz=348						
EGFH	**Guangfu**	**0.53**	**209**	⇓*e*P	**Pg**	**21 16 26.1**	**-0.3**
	baz=215						
WUSB	**Renai**	**0.56**	**256**	⇓*i*P	**Pg**	**21 16 26.8**	**-0.2**
	baz=257						
WUSB				*i* S	**Sg**	**21 16 33.5**	**-1.0**
	baz=257						
TWE	**Neicheng**	**0.59**	**356**	⇓*i*P	**Pb**	**21 16 28.3**	**-0.1**
	baz=359						
TWE				S	**Sb**	**21 16 36.2**	**-0.6**
	baz=359						
YHNB	**Yeheng**	**0.61**	**330**	⇓*i*P	**Pb**	**21 16 28.6**	**-0.4**
	baz=333						
YHNB				S	**Sb**	**21 16 36.3**	**-1.3**
	baz=333						
NSK	**Sanguang**	**0.63**	**329**	⇓*i*P	**Pg**	**21 16 27.6**	**-0.7**
	baz=332						
NSK				S	**Sg**	**21 16 35.8**	**-0.8**
	baz=332						
ILA	**Ilan**	**0.63**	**3**	*e*P	**Pb**	**21 16 29.2**	**+0.1**
	baz=358						
ILA				*e*S	**Sb**	**21 16 38.1**	**+0.1**
	baz=358						
FUSB	**Fushanzhiwuyua**	**0.63**	**350**	⇓*i*P	**Pb**	**21 16 29.1**	**-0.2**
	baz=351						
FUSB				S	**Sb**	**21 16 37.5**	**-0.7**
	baz=351						
VWDT	**VWDT**	**0.64**	**234**	⇓*i*P	**Pg**	**21 16 28.2**	**-0.4**
	baz=235						
VWDT				*e*S	**Sg**	**21 16 36.6**	**-0.4**
	baz=235						
NWLT	**Wulai**	**0.67**	**344**	⇑*e*P	**Pb**	**21 16 28.9**	**-0.9**
	baz=334						
NWLT				*e*S	**Sg**	**21 16 37.4**	**-0.5**
	baz=334						
HGSD	**Ruisui**	**0.69**	**202**	*e*P	**Pb**	**21 16 29.7**	**-0.4**
	baz=215						
HGSD				*e*S	**Sb**	**21 16 40.4**	**+0.7**
	baz=215						
WPL	**Puli Township**	**0.70**	**260**	P	**Pg**	**21 16 29.4**	**-0.2**
	baz=253						
WPL				S	**Sg**	**21 16 38.2**	**-0.6**
	baz=253						
WHP	**Taichung City**	**0.71**	**282**	⇓*i*P	**Pb**	**21 16 30.3**	**-0.3**
	baz=284						
WHP				*e*S	**Sb**	**21 16 39.5**	**-1.0**
	baz=284						
EHY	**Hungye**	**0.72**	**210**	*e*P	**Pg**	**21 16 29.0**	**-0.9**
	baz=218						
EHY				*e*S	**Sg**	**21 16 37.7**	**-1.7**
	baz=218						
NFF	**Wufeng Townshi**	**0.73**	**313**	⇓*e*P	**Pg**	**21 16 29.8**	**-0.5**
	baz=306						
NFF				*e*S	**Sg**	**21 16 39.2**	**-0.7**
	baz=306						
WCS	**Beigang Elemen**	**0.73**	**264**	⇓P	**Pg**	**21 16 29.2**	**-1.1**
	baz=266						
EGS		**0.74**	**16**	⇓*e*P	**Pn**	**21 16 31.8**	**-0.7**
	baz=24						
SSLB	**Suanglung**	**0.77**	**244**	⇓*i*P	**Pg**	**21 16 30.5**	**-0.5**
	baz=255						
SSLB				S	**Sg**	**21 16 39.1**	**-2.1**
	baz=255						
SMLT	**Sun Moon Lake**	**0.78**	**252**	⇓*i*P	**Pg**	**21 16 30.9**	**-0.3**
	baz=253						
SMLT				*e*S	**Sg**	**21 16 40.0**	**-1.4**
	baz=253						
LIOB	**Emei**	**0.81**	**309**	⇓P	**Pb**	**21 16 32.5**	**+0.3**
	baz=311						
LIOB				*e*S	**Sb**	**21 16 43.6**	**+0.4**
	baz=311						
TYC	**Yuchr**	**0.81**	**254**	⇓*i*P	**Pg**	**21 16 31.3**	**-0.5**
	baz=255						
TYC				*e*S	**Sg**	**21 16 40.2**	**-2.1**
	baz=255						
NSTT	**Nanjuang**	**0.81**	**308**	⇓*i

TWB1				*eS*	**Sb**	**21 16 46.2**	**+0.2**
	baz=8.0						
NSY	**Sanyi**	**0.91**	**288**	⇓*iP*	**Pn**	**21 16 34.8**	**-0.1**
	baz=290						
TAP1	**Taipei**	**0.92**	**349**	*eP*	**Pn**	**21 16 35.2**	**+0.3**
	baz=341						
TAP1				*eS*	**Sb**	**21 16 47.2**	**+1.0**
	baz=341						
TAP	**Taipei**	**0.92**	**348**	*eP*	**Pn**	**21 16 35.1**	**+0.1**
	baz=341						
TAP				*eS*	**Sb**	**21 16 47.0**	**+0.6**
	baz=341						
WWF	**Wufeng**	**0.93**	**265**	*eP*	**Pb**	**21 16 34.2**	**0.0**
	baz=261						
WWF				*eS*	**Sb**	**21 16 47.1**	**+0.5**
	baz=261						
NMLH	**Miaoli**	**0.93**	**296**	*eP*	**Pn**	**21 16 35.2**	**0.0**
	baz=297						
SBCB	**Hsinchu**	**0.93**	**315**	*eP*	**Pn**	**21 16 35.7**	**+0.5**
	baz=317						
NWF	**Wu-fen Shan**	**0.94**	**4**	*eP*	**Pn**	**21 16 35.2**	**-0.1**
	baz=356						
NWF				*eS*	**Sb**	**21 16 46.5**	**-0.4**
	baz=356						
WFSB	**Wu-fen Shan**	**0.94**	**4**	*eP*	**Pn**	**21 16 35.0**	**-0.2**
	baz=356						
WFSB				S	**Sb**	**21 16 46.9**	**0.0**
	baz=356						
NTY	**Taoyuan**	**0.94**	**337**	*eP*	**Pn**	**21 16 35.7**	**+0.4**
	baz=333						
TCU	**Taichung**	**0.94**	**271**	*eP*	**Pn**	**21 16 35.6**	**+0.3**
	baz=266						
TCU				*eS*	**Sn**	**21 16 49.8**	**+0.9**
	baz=266						
YUS	**Yu-Shan**	**0.94**	**227**	⇑*iP*	**Pg**	**21 16 33.9**	**-0.5**
	baz=217						
YUS				*eS*	**Sg**	**21 16 46.5**	**-0.3**
	baz=217						
HSN	**Hsinchu**	**0.95**	**315**	*eP*	**Pn**	**21 16 35.5**	**+0.2**
	baz=319						
HSN				*eS*	**Sn**	**21 16 49.1**	**+0.2**
	baz=319						
WJS	**Zhushan**	**0.95**	**251**	*eP*	**Pn**	**21 16 35.3**	**-0.1**
	baz=247						
WJS				*eS*	**Sb**	**21 16 47.7**	**+0.5**
	baz=247						
NCUH	**Zhongli**	**0.96**	**330**	*eP*	**Pn**	**21 16 36.3**	**+0.8**
	baz=336						
NCU	**National Centr**	**0.96**	**330**	*eP*	**Pn**	**21 16 36.4**	**+0.8**
	baz=332						
NCU				*eS*	**Sn**	**21 16 50.0**	**+0.8**
	baz=332						
SXI1	**Grass Mountain**	**0.97**	**9**	⇓*iP*	**Pn**	**21 16 35.5**	**-0.3**
	baz=2.0						
SXI1				*eS*	**Sb**	**21 16 47.6**	**-0.2**
	baz=2.0						
WNT1	**Nantou City**	**0.97**	**257**	*eP*	**Pn**	**21 16 35.8**	**+0.1**
	baz=258						
WNT	**Mingjian**	**0.97**	**255**	*eP*	**Pn**	**21 16 35.8**	**+0.1**
	baz=252						
WNT				*eS*	**Sb**	**21 16 48.4**	**+0.6**
	baz=252						
TWS1	**Kuangyinshan**	**1.00**	**345**	*eP*	**Pn**	**21 16 36.6**	**+0.6**
	baz=345						
TWS1				*eS*	**Sn**	**21 16 50.5**	**+0.3**
	baz=345						
WDJ	**Dajia District**	**1.00**	**283**	*eP*	**Pn**	**21 16 36.9**	**+0.8**
	baz=293						
WDJ				*eS*	**Sn**	**21 16 51.1**	**+0.9**
	baz=293						
FULB	**Fuli**	**1.01**	**202**	*eP*	**Pg**	**21 16 35.2**	**-0.2**
	baz=217						
TNOU	**National Taiwa**	**1.01**	**3**	*eP*	**Pn**	**21 16 36.0**	**-0.3**
	baz=3.0						
YM01	**YM01**	**1.02**	**353**	*eP*	**Pn**	**21 16 36.7**	**+0.3**
	baz=1.0						
YM01				*eS*	**Sb**	**21 16 49.7**	**+0.5**
	baz=1.0						
ALS	**Alishan**	**1.03**	**233**	P	**Pg**	**21 16 35.6**	**-0.5**
	baz=224						
ALS				S	**Sg**	**21 16 49.5**	**0.0**
	baz=224						
WYL	**Yuanlin Townsh**	**1.05**	**261**	*eP*	**Pn**	**21 16 37.1**	**+0.4**
	baz=262						
WYL				*eS*	**Sn**	**21 16 52.2**	**+0.9**
	baz=262						
NTST	**Danshui**	**1.05**	**347**	*eP*	**Pn**	**21 16 37.7**	**+0.8**
	baz=347						
WCHH	**Zhanghua**	**1.05**	**267**	*eP*	**Pn**	**21 16 37.2**	**+0.4**
	baz=269						
WCHH				*eS*	**Sn**	**21 16 53.1**	**+1.6**
	baz=269						
YM08	**YM08**	**1.06**	**354**	*eP*	**Pn**	**21 16 37.2**	**+0.3**
	baz=5.0						
NHW	**Xinwu Township**	**1.06**	**325**	*eP*	**Pn**	**21 16 37.5**	**+0.6**
	baz=327						
ANP	**Anpu**	**1.06**	**351**	*eP*	**Pn**	**21 16 37.2**	**+0.2**
	baz=351						
CHKT	**Chengkung**	**1.08**	**197**	*eP*	**Pg**	**21 16 35.1**	**-1.7**
	baz=180						
CHN5	**Tsauling**	**1.08**	**241**	*eP*	**Pg**	**21 16 36.5**	**-0.5**
	baz=242						
ECS	**Chishang**	**1.13**	**204**	*eP*	**Pn**	**21 16 38.6**	**+0.8**
	baz=217						
ELDTW	**Lidau**	**1.14**	**214**	*eP*	**Pg**	**21 16 36.6**	**-1.4**
	baz=225						
ELDTW				*eS*	**Sg**	**21 16 52.3**	**-0.4**
	baz=225						
WGK	**Gukeng**	**1.14**	**247**	*eP*	**Pn**	**21 16 38.6**	**+0.6**
	baz=248						
TWY	**Chenhua**	**1.14**	**355**	*eP*	**Pn**	**21 16 39.6**	**+1.6**
	baz=5.0						
WDLH	**Douliu**	**1.16**	**248**	*eP*	**Pn**	**21 16 38.8**	**+0.5**
	baz=249						
JYNG	**Yonagunijimaku**	**1.17**	**74**	P	**Pn**	**21 16 38.4**	**0.0**
JYNG				S	**Sn**	**21 16 55.9**	**+1.4**
EDH	**Donghe**	**1.21**	**198**	*eP*	**Pg**	**21 16 38.1**	**-1.3**
	baz=183						
WCKO	**Fanlu**	**1.23**	**236**	*eP*	**Pg**	**21 16 38.8**	**-0.9**
	baz=232						
WCKO				*eS*	**Sb**	**21 16 55.6**	**+0.4**
	baz=232						
YOJ	**Yonaguni jima**	**1.23**	**74**	P	**Pn**	**21 16 39.4**	**+0.2**
	baz=84						
YOJ	**Yonaguni jima**	**1.23**	**74**	*eP*	**Pn**	**21 16 39.5**	**+0.2**
YOJ				S	**Sn**	**21 16 57.5**	**+1.6**
WRL	**Guolierlin Hig**	**1.24**	**260**	*eP*	**Pg**	**21 16 39.0**	**-0.9**
	baz=261						
CHN2	**Minshiung**	**1.28**	**242**	*eP*	**Pn**	**21 16 41.0**	**+1.1**
	baz=244						
CHN2				*eS*	**Sn**	**21 16 58.5**	**+1.4**
	baz=244						
STYH	**Taoyuan**	**1.28**	**222**	*eP*	**Pg**	**21 16 38.0**	**-2.8**
	baz=223						
CHN4	**Tsaushan**	**1.29**	**233**	P	**Pg**	**21 16 39.4**	**-1.4**
	baz=227						
CHN4				S	**Sb**	**21 16 57.9**	**+1.0**
	baz=227						
WTK	**Tuku**	**1.29**	**250**	*eP*	**Pn**	**21 16 40.8**	**+0.8**
	baz=251						
TPUB	**Ta-pu**	**1.29**	**230**	⇑*iP*	**Pg**	**21 16 40.2**	**-0.7**
	baz=224						
TPUB				*eS*	**Sb**	**21 16 58.0**	**+0.9**
	baz=224						
STYT	**Tauyuan**	**1.30**	**222**	⇓*iP*	**Pg**	**21 16 39.9**	**-1.2**
	baz=223						
LONT	**Longtian**	**1.33**	**204**	*eP*	**Pn**	**21 16 39.9**	**-0.8**
	baz=214						
WTCT	**Ta-ch'eng**	**1.33**	**259**	*eP*	**Pb**	**21 16 41.3**	**+0.2**
	baz=260						
WTCT				*eS*	**Sn**	**21 16 59.9**	**+1.5**
	baz=260						
CHY	**Chiayi**	**1.34**	**242**	*eP*	**Pb**	**21 16 41.8**	**+0.6**
	baz=243						
WTP	**Ta-pu**	**1.34**	**229**	*eP*	**Pg**	**21 16 41.1**	**-0.7**
	baz=230						
WTP				*eS*	**Sn**	**21 17 00.8**	**+2.2**
	baz=230						
TWK	**Hsinying**	**1.41**	**233**	⇓*iP*	**Pg**	**21 16 42.7**	**-0.5**
	baz=235						
TWK				*eS*	**Sn**	**21 17 01.7**	**+1.2**
	baz=235						
TWG	**Pinlang**	**1.43**	**204**	*eP*	**Pn**	**21 16 39.3**	**-2.8**
	baz=187						
TWGBT	**Beinan**	**1.43**	**204**	*eP*	**Pn**	**21 16 39.1**	**-3.0**
	baz=187						
SNST	**Tainan City**	**1.44**	**231**	*eP*	**Pg**	**21 16 44.7**	**+1.0**
	baz=222						
CHN1	**Nanshi**	**1.44**	**229**	*eP*	**Pb**	**21 16 43.1**	**+0.2**
	baz=225						
CHN1				*eS*	**Sn**	**21 17 03.2**	**+2.2**
	baz=225						
WSF	**Szhu**	**1.45**	**250**	*eP*	**Pb**	**21 16 43.0**	**-0.1**
	baz=251						
LDUT	**Ludao**	**1.47**	**189**	*eP*	**Pn**	**21 16 40.1**	**-2.5**
	baz=176						
SGST	**Jiashian**	**1.47**	**225**	*eP*	**Pn**	**21 16 42.3**	**-0.3**
	baz=227						
SGST				*eS*	**Sb**	**21 17 03.0**	**+0.7**
	baz=227						
WSL	**Shuilin Townsh**	**1.49**	**246**	*eP*	**Pn**	**21 16 43.0**	**+0.2**
	baz=247						
SLGT	**Liugui**	**1.50**	**221**	*eP*	**Pn**	**21 16 43.6**	**+0.7**
	baz=222						
ICHU	**Yijhu**	**1.52**	**240**	*eP*	**Pb**	**21 16 44.3**	**0.0**
	baz=253						
ICHU				*eS*	**Sg**	**21 17 05.8**	**+0.8**
	baz=253						
PCYT	**Pengchaiyu**	**1.52**	**12**	*eP*	**Pg**	**21 16 45.6**	**+0.2**
	baz=9.0						
CHN8	**Yiju**	**1.58**	**241**	*eP*	**Pn**	**21 16 44.6**	**+0.5**
	baz=253						
CHN8				*eS*	**Sg**	**21 17 06.9**	**-0.1**
	baz=253						
CHN3	**Shinhua**	**1.62**	**230**	*eP*	**Pg**	**21 16 46.5**	**-0.7**
	baz=232						
SHHT	**Tainan City**	**1.67**	**229**	*eP*	**Pn**	**21 16 46.2**	**+0.9**
	baz=231						
SCST	**Cishan**	**1.67**	**222**	*eP*	**Pb**	**21 16 46.8**	**-0.1**
	baz=224						
ECL	**Taimali**	**1.68**	**205**	*eP*	**Pn**	**21 16 46.0**	**+0.6**
	baz=189						
SCLT	**Jiali**	**1.69**	**236**	*eP*	**Pg**	**21 16 48.0**	**-0.5**
	baz=237						
SSD	**Sandimen**	**1.70**	**216**	*eP*	**Pn**	**21 16 46.3**	**+0.6**
	baz=230						
SSD				*eS*	**Sb**	**21 17 09.9**	**+1.1**
	baz=230						
TSMG	**Majia**	**1.73**	**215**	*eP*	**Pb**	**21 16 47.6**	**-0.2**
	baz=228						
TWM1	**Shoushan**	**1.76**	**222**	*eP*	**Pb**	**21 16 48.6**	**+0.1**
	baz=224						
MASBT	**Mashibuluo**	**1.81**	**213**	*eP*	**Pn**	**21 16 48.2**	**+1.0**
	baz=206						
IRIF	**Iriomote-Funau**	**1.85**	**83**	P	**Pn**	**21 16 48.1**	**+0.3**
IRIF				S	**Sb**	**21 17 13.7**	**+0.4**
EAST	**Anshuo**	**1.91**	**205**	*eP*	**Pn**	**21 16 48.6**	**-0.1**
	baz=190						
HATJ	**Hateruma jima**	**1.92**	**92**	P	**Pn**	**21 16 49.1**	**+0.4**
HATJ				S	**Sb**	**21 17 14.8**	**-0.2**
SCZT	**Fangliau**	**2.02**	**210**	*eP*	**Pn**	**21 16 51.2**	**+1.1**
	baz=203						
PNG	**Penghu**	**2.05**	**254**	*eP*	**Pn**	**21 16 51.4**	**+0.9**
	baz=257						
PHUB	**P'eng-hu**	**2.05**	**253**	*eP*	**Pn**	**21 16 51.1**	**+0.5**
	baz=255						
WDGT	**Dungji**	**2.07**	**246**	*eP*	**Pn**	**21 16 51.5**	**+0.6**
	baz=248						
SLIU	**Shizi**	**2.08**	**204**	*eP*	**Pb**	**21 16 53.6**	**-0.4**
	baz=190						
LAY	**Lan-yu**	**2.09**	**184**	*eP*	**Pn**	**21 16 49.2**	**-1.9**
	baz=183						
JKRS	**Kuro-shima**	**2.10**	**87**	P	**Pn**	**21 16 51.8**	**+0.5**
JKRS				S	**Sb**	**21 17 20.1**	**-0.3**
LYUB	**Lan-yu**	**2.12**	**183**	*eP*	**Pn**	**21 16 47.8**	**-3.8**
	baz=183						
VWUC	**VWUC**	**2.23**	**293**	*eP*	**Pn**	**21 16 53.0**	**0.0**
	baz=294						
JIJ	**Ishigaki jima**	**2.23**	**84**	P	**Pn**	**21 16 53.1**	**+0.1**
JIJ				S	**Sn**	**21 17 21.0**	**+0.3**
SMST	**Manzhou Townsh**	**2.25**	**201**	*eP*	**Pn**	**21 16 54.8**	**+1.5**
	baz=187						
VCHM	**Qimei**	**2.28**	**247**	*eP*	**Pn**	**21 16 54.3**	**+0.5**
	baz=233						
HEN	**Hengchun**	**2.30**	**203**	*eP*	**Pn**	**21 16 55.9**	**+1.9**
	baz=191						
TWK1	**Hengchun**	**2.33**	**201**	*eP*	**Pn**	**21 16 54.5**	**0.0**
	baz=187						
TWKBT	**Hengchun**	**2.33**	**201**	*eP*	**Pn**	**21 16 54.4**	**0.0**
	baz=187						
JISG	**Ishigakijimahi**	**2.42**	**79**	P	**Pn**	**21 16 55.9**	**+0.3**
JISG				S	**Sn**	**21 17 25.6**	**+0.5**
PTMZ	**Houxiangcun**	**2.52**	**291**	*eP*	**Pn**	**21 16 56.9**	**-0.2**
	baz=293						
MATB	**Ma-tsu**	**2.57**	**322**	*eP*	**Pn**	**21 16 57.3**	**-0.4**
	baz=321						
JTJ	**Tarama**	**2.77**	**79**	P	**Pn**	**21 17 01.5**	**+1.0**
JTJ				S	**Sn**	**21 17 37.0**	**+3.0**
LYJJ	**Jianjiangzhen**	**2.98**	**324**	*eP*	**Pn**	**21 17 03.3**	**-0.1**
	baz=323						
KNM	**Kinmen**	**3.00**	**276**	*eP*	**Pn**	**21 17 05.3**	**+1.7**
	baz=277						
KNMB	**Chin-men Tao**	**3.05**	**277**	*eP*	**Pn**	**21 17 04.1**	**-0.2**
	baz=278						
XPSS	**Dashiqiu**	**3.10**	**334**	*eP*	**Pn**	**21 17 05.1**	**0.0**
	baz=332						
MHZQ	**Yeshan**	**3.12**	**309**	*eP*	**Pn**	**21 17 05.3**	**+0.1**
	baz=309						
AXDP	**Jialang**	**3.49**	**283**	*eP*	**Pn**	**21 17 10.5**	**+0.1**
	baz=285						
DSXP	**Dongshan**	**3.94**	**265**	*eP*	**Pn**	**21 17 15.9**	**-0.7**
	baz=266						
SXFK	**Yanhouchang**	**4.32**	**302**	*eP*	**Pn**	**21 17 21.7**	**0.0**
	baz=304						

TAP 12 21:18:12.2, 24°.13N × 121°.67E, h9km, ML2.5, 8D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.08**	**235**	⇓*iP*	Pg	21 18 15.0	+0.6
	baz=232						
NACB	**Ninganchiao**	**0.08**	**304**	⇓*iP*	Pg	21 18 15.2	+0.8
	baz=304						
ETLH	**Xiulin Townshi**	**0.19**	**295**	⇓*iP*	Pg	21 18 17.1	+0.9
	baz=295						
TEYL	**Yanliau Villag**	**0.27**	**194**	*eP*	Pg	21 18 17.6	+0.1
	baz=195						
ENA	**Nanau**	**0.31**	**12**	P	Pb	21 18 19.1	-0.8
	baz=13						
WHF	**Hehuan Shan**	**0.37**	**273**	⇓*iP*	Pg	21 18 20.3	+0.7
	baz=272						
ESL	**Shilin**	**0.38**	**215**	*eP*	Pg	21 18 19.9	+0.3
	baz=213						
NNSB	**Datong**	**0.40**	**319**	⇓*iP*	Pb	21 18 21.1	-0.4
	baz=318						
FUSS	**Fushou**	**0.41**	**287**	*eP*	Pb	21 18 21.2	-0.5
	baz=287						
LATG	**Datong**	**0.43**	**342**	⇓*iP*	Pb	21 18 21.4	-0.6
	baz=342						
CHGB	**Renai**	**0.46**	**262**	⇓*iP*	Pb	21 18 22.1	-0.4
	baz=261						
WUSB	**Renai**	**0.52**	**255**	⇓*iP*	Pb	21 18 23.3	-0.3
	baz=255						
TWE	**Neicheng**	**0.59**	**360**	*eP*	Pb	21 18 24.7	0.0
	baz=1.0						

JMA ***12*** *21:18:14.0±0.1, 24°.0N±0°.1 × 121°.6E±0°.3, h2km, MV2.6/10, TAIWAN REGION*

TAP ***12*** *21:18:14.4, 24°.10N × 121°.66E, h12km, ML3.1, C*

ISC 12 21:18:14.7±0.8, 24°.12N±0°.01 × 121°.64E±0°.02, h10km±4km, n121, s0 0 75/165, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.06**	**224**	*i* P	**Pg**	**21 18 16.7**	**-0.1**
	baz=251						
TWD				*i* S	**Sg**	**21 18 18.5**	**+0.2**
	baz=251						
TWD	**Chiawan**	**0.06**	**224**	*i* S	**Pg**	**21 18 16.7**	**-0.1**
	baz=232						
NACB	**Ninganchiao**	**0.07**	**323**	*i* P	**Pg**	**21 18 17.1**	**+0.2**
	baz=322						
NACB				*i* S	**Sg**	**21 18 18.8**	**+0.2**
	baz=322						
NACB	**Ninganchiao**	**0.07**	**323**	*i* S	**Pg**	**21 18 17.0**	**0.0**
	baz=304						
HWA	**Hwalien**	**0.15**	**192**	*eP*	**Pg**	**21 18 18.5**	**+0.5**
	baz=199						
ETLH	**Xiulin Townshi**	**0.17**	**301**	⇓P	**Pg**	**21 18 18.9**	**+0.5**
	baz=304						
ETLH				S	**Sg**	**21 18 21.8**	**+0.8**
	baz=304						
ETLH	**Xiulin Townshi**	**0.17**	**301**	*eS*	**Pg**	**21 18 19.4**	**+1.0**
	baz=295						
ETM	**Tongmen**	**0.20**	**221**	*eP*	**Pg**	**21 18 19.4**	**+0.4**
	baz=229						
ETM				*eS*	**Sg**	**21 18 22.5**	**+0.5**
	baz=229						
TEYL	**Yanliau Villag**	**0.25**	**189**	*eP*	**Pb**	**21 18 20.9**	**-0.5**
	baz=201						
ENA	**Nanau**	**0.32**	**17**	*eP*	**Pg**	**21 18 20.9**	**-0.2**
	baz=14						
WHF	**Hehuan Shan**	**0.34**	**274**	*eP*	**Pg**	**21 18 22.4**	**+0.7**
	baz=277						
WHF				*eS*	**Sg**	**21 18 27.3**	**+1.0**
	baz=277						
ESL	**Shilin**	**0.36**	**212**	*eP*	**Pg**	**21 18 21.8**	**0.0**
	baz=223						
FUSS	**Fushou**	**0.38**	**289**	*eP*	**Pb**	**21 18 23.4**	**-0.3**
	baz=291						
FUSS				*eS*	**Sb**	**21 18 28.8**	**-0.9**
	baz=291						
NNSB	**Datong**	**0.39**	**323**	P	**Pg**	**21 18 22.9**	**+0.5**
	baz=322						
NNSB				S	**Sg**	**21 18 28.5**	**+1.0**
	baz=322						
NNSH	**Datong**	**0.39**	**323**	P	**Pg**	**21 18 21.9**	**-0.5**
	baz=321						
NNSH				*eS*	**Sg**	**21 18 27.7**	**+0.1**
	baz=321						
NNS	**Nan Shan**	**0.40**	**323**	*eP*	**Pg**	**21 18 22.2**	**-0.4**
	baz=329						
TEGC	**Jichi Village**	**0.42**	**192**	*eP*	**Pb**	**21 18 24.4**	**+0.2**
	baz=185						
LATG	**Datong**	**0.42**	**346**	*eP*	**Pg**	**21 18 23.1**	**0.0**
	baz=344						
LATG				*eS*	**Sg**	**21 18 29.4**	**+0.6**
	baz=344						
CHGB	**Renai**	**0.43**	**262**	*eP*	**Pb**	**21 18 23.9**	**-0.6**
	baz=259						
CHGB				*eS*	**Sb**	**21 18 30.0**	**-1.1**
	baz=259						
TWT	**Tachien**	**0.44**	**287**	*eP*	**Pb**	**21 18 24.5**	**-0.2**
	baz=288						
TWT				*eS*	**Sb**	**21 18 31.4**	**-0.1**
	baz=288						
TDCB	**Techi**	**0.46**	**287**	*eP*	**Pb**	**21 18 24.8**	**-0.2**
	baz=289						
TDCB				*eS*	**Sb**	**21 18 31.4**	**-0.5**
	baz=289						
EGFH	**Guangfu**	**0.49**	**203**	*eP*	**Pg**	**21 18 24.3**	**+0.1**
	baz=213						
WUSB	**Renai**	**0.49**	**255**	*eP*	**Pb**	**21 18 25.2**	**-0.3**
	baz=258						
WUSB				S	**Sb**	**21 18 31.7**	**-1.1**
	baz=258						
ENTT	**Nioudou**	**0.52**	**353**	*eP*	**Pg**	**21 18 24.1**	**-0.8**
	baz=351						
TWC	**Suao**	**0.52**	**21**	*eP*	**Pg**	**21 18 24.8**	**-0.1**
	baz=11						
TWC				*eS*	**Sg**	**21 18 31.7**	**-0.1**
	baz=11						
VWDT	**VWDT**	**0.58**	**231**	*eP*	**Pb**	**21 18 26.9**	**-0.1**
	baz=240						
YHNB	**Yeheng**	**0.60**	**336**	*eP*	**Pg**	**21 18 27.0**	**+0.6**
	baz=335						
YHNB				*eS*	**Sg**	**21 18 35.0**	**+0.8**
	baz=335						
TWE	**Neicheng**	**0.60**	**2**	*eP*	**Pg**	**21 18 26.3**	**0.0**
	baz=1.0						
TWE				*eS*	**Sg**	**21 18 33.4**	**-0.8**
	baz=1.0						
NSK	**Sanguang**	**0.61**	**335**	*eP*	**Pg**	**21 18 26.1**	**-0.4**
	baz=334						
NSK				*eS*	**Sg**	**21 18 33.7**	**-0.9**
	baz=334						
WPL	**Puli Township**	**0.63**	**260**	*eP*	**Pb**	**21 18 28.0**	**+0.2**
	baz=254						
WPL				*eS*	**Sb**	**21 18 36.7**	**0.0**
	baz=254						
FUSB	**Fushanzhiwuyua**	**0.64**	**356**	*eP*	**Pg**	**21 18 27.2**	**+0.1**
	baz=354						
FUSB				*eS*	**Sg**	**21 18 35.9**	**+0.4**
	baz=354						
ILA	**Ilan**	**0.65**	**9**	*eP*	**Pg**	**21 18 26.5**	**-0.8**
	baz=7.0						
WHP	**Taichung City**	**0.65**	**284**	*eP*	**Pb**	**21 18 28.6**	**+0.3**
	baz=285						
HGSD	**Ruisui**	**0.66**	**198**	*eP*	**Pn**	**21 18 28.8**	**-1.2**
	baz=214						
NWLT	**Wulai**	**0.67**	**349**	*eP*	**Pg**	**21 18 27.2**	**-0.4**
	baz=337						
WCS	**Beigang Elemen**	**0.67**	**265**	*eP*	**Pb**	**21 18 27.9**	**-0.5**
	baz=267						
EHY	**Hungye**	**0.68**	**205**	*eP*	**Pb**	**21 18 28.1**	**-0.5**
	baz=217						
EHY				*eS*	**Sb**	**21 18 38.4**	**+0.3**
	baz=217						
NFF	**Wufeng Townshi**	**0.70**	**317**	*eP*	**Pg**	**21 18 27.9**	**-0.3**
	baz=317						
SSLB	**Suanglung**	**0.71**	**242**	*eP*	**Pb**	**21 18 28.9**	**-0.3**
	baz=253						
SSLB				*eS*	**Sb**	**21 18 37.9**	**-1.0**
	baz=253						
SMLT	**Sun Moon Lake**	**0.72**	**251**	*eP*	**Pb**	**21 18 29.5**	**+0.2**
	baz=253						
SMLT				*eS*	**Sb**	**21 18 38.5**	**-0.7**
	baz=253						
TYC	**Yuchr**	**0.75**	**253**	*eP*	**Pb**	**21 18 30.0**	**+0.3**
	baz=256						
TYC				*eS*	**Sb**	**21 18 39.3**	**-0.7**
	baz=256						
EGS		**0.77**	**20**	*eP*	**Pg**	**21 18 30.0**	**+0.5**
	baz=27						
LIOB	**Emei**	**0.77**	**313**	*eP*	**Pn**	**21 18 31.0**	**-0.7**
	baz=313						
NSTT	**Nanjuang**	**0.77**	**311**	*eP*	**Pn**	**21 18 30.9**	**-0.7**
	baz=312						
YULB	**Yu-li**	**0.79**	**203**	*eP*	**Pg**	**21 18 29.9**	**-0.1**
	baz=206						
ECBN	**Changbin**	**0.82**	**192**	*eP*	**Pg**	**21 18 29.8**	**-0.8**
	baz=185						
ECBN				*eS*	**Sn**	**21 18 43.8**	**-0.6**
	baz=185						
TWQ1	**Liyutan**	**0.82**	**286**	*eP*	**Pn**	**21 18 31.8**	**-0.6**
	baz=287						
EYUL	**Yuli**	**0.82**	**201**	*eP*	**Pn**	**21 18 31.6**	**-0.7**
	baz=214						
TWF1	**Yuli**	**0.83**	**202**	*eP*	**Pb**	**21 18 31.2**	**+0.1**
	baz=214						
TWF1				*eS*	**Sn**	**21 18 42.9**	**-1.7**
	baz=214						
WHYT	**Xinyi Township**	**0.83**	**240**	*eP*	**Pn**	**21 18 32.2**	**-0.3**
	baz=242						
NSY	**Sanyi**	**0.85**	**290**	*eP*	**Pn**	**21 18 32.6**	**-0.1**
	baz=291						
TWA	**Mucha**	**0.86**	**357**	*eP*	**Pb**	**21 18 32.1**	**+0.4**
	baz=356						
TATO	**Taipei**	**0.86**	**351**	*eP*	**Pg**	**21 18 32.0**	**+0.6**
	baz=349						
WWF	**Wufeng**	**0.86**	**265**	*eP*	**Pn**	**21 18 32.6**	**-0.3**
	baz=261						
TIPB	**Shuangxi**	**0.86**	**11**	*eP*	**Pg**	**21 18 31.4**	**0.0**
TIPB				*eS*	**Sg**	**21 18 42.0**	**-0.7**
HSN1	**Hsinchu**	**0.86**	**319**	*eP*	**Pn**	**21 18 34.1**	**+1.2**
	baz=319						
NMLH	**Miaoli**	**0.88**	**298**	*eP*	**Pn**	**21 18 34.0**	**+0.9**
	baz=299						
TCU	**Taichung**	**0.88**	**272**	*eP*	**Pn**	**21 18 33.1**	**0.0**
	baz=266						
WJS	**Zhushan**	**0.89**	**251**	*eP*	**Pn**	**21 18 33.1**	**0.0**
	baz=246						
YUS	**Yu-Shan**	**0.

	baz=338								
NWF	**Wu-fen Shan**	**0.95**	**8**	*e*P		**Pb**	**21 18 33.2**	**-0.2**
	baz=6.0								
WFSB	**Wu-fen Shan**	**0.95**	**8**	*e*P		**Pb**	**21 18 33.1**	**-0.3**
	baz=357								
WFSB				*e*S		**Sb**	**21 18 45.5**	**-0.5**
	baz=357								
FULB	**Fuli**	**0.97**	**199**	*e*P		**Pn**	**21 18 34.6**	**+0.2**
	baz=214								
ALS	**Alishan**	**0.98**	**232**	*e*P		**Pn**	**21 18 34.1**	**-0.6**
	baz=223								
ALS				*e*S		**Sn**	**21 18 48.0**	**-0.8**
	baz=223								
SXI1	**Grass Mountain**	**0.99**	**12**	*e*P		**Pb**	**21 18 34.1**	**+0.1**
	baz=359								
TWS1	**Kuangyinshan**	**1.00**	**348**	*e*P		**Pn**	**21 18 34.9**	**+0.2**
	baz=347								
CHN5	**Tsauling**	**1.02**	**240**	*e*P		**Pn**	**21 18 34.8**	**-0.3**
	baz=242								
YM01	**YM01**	**1.02**	**356**	*e*P		**Pg**	**21 18 35.0**	**+0.6**
	baz=5.0								
CHKT	**Chengkung**	**1.05**	**194**	*e*P		**Pb**	**21 18 34.2**	**-0.7**
	baz=212								
CHKT				*e*S		**Sn**	**21 18 50.3**	**+0.3**
	baz=212								
NTST	**Danshui**	**1.05**	**351**	*e*P		**Pg**	**21 18 36.1**	**+1.1**
	baz=349								
YM08	**YM08**	**1.06**	**358**	*e*P		**Pb**	**21 18 35.5**	**+0.3**
	baz=6.0								
WGK	**Gukeng**	**1.08**	**247**	*e*P		**Pn**	**21 18 37.9**	**+2.1**
	baz=249								
ELDTW	**Lidau**	**1.09**	**212**	*e*P		**Pb**	**21 18 35.2**	**-0.5**
	baz=204								
ECS	**Chishang**	**1.09**	**201**	*e*P		**Pn**	**21 18 36.7**	**+0.7**
	baz=214								
WDLH	**Douliu**	**1.10**	**247**	*e*P		**Pg**	**21 18 37.4**	**+1.6**
	baz=249								
WCKO	**Fanlu**	**1.17**	**235**	*e*P		**Pg**	**21 18 37.8**	**+0.7**
	baz=237								
WCKO				*e*S		**Sn**	**21 18 54.7**	**+1.7**
	baz=237								
WRL	**Guolierlin Hig**	**1.17**	**260**	*e*P		**Pg**	**21 18 37.4**	**+0.1**
	baz=261								
EDH	**Donghe**	**1.18**	**195**	*e*P		**Pn**	**21 18 36.9**	**-0.4**
	baz=199								
EDH				*e*S		**Sn**	**21 18 54.0**	**+0.6**
	baz=199								
CHN2	**Minshiung**	**1.22**	**241**	*e*P		**Pg**	**21 18 39.0**	**+0.9**
	baz=244								
CHN4	**Tsaushan**	**1.23**	**232**	*e*P		**Pb**	**21 18 37.8**	**-0.1**
	baz=222								
CHN4				*e*S		**Sg**	**21 18 56.2**	**+2.0**
	baz=222								
STYH	**Taoyuan**	**1.23**	**220**	*e*P		**Pn**	**21 18 36.5**	**-1.4**
	baz=222								
TPUB	**Ta-pu**	**1.23**	**229**	*e*P		**Pg**	**21 18 39.5**	**+1.1**
	baz=219								
TPUB				*e*S		**Sg**	**21 18 56.5**	**+2.0**
	baz=219								
JYNG	**Yonagunijimaku**	**1.24**	**74**	P		**Pg**	**21 18 39.3**	**+0.8**
JYNG				S		**Sg**	**21 18 56.5**	**+2.0**
STYT	**Tauyuan**	**1.25**	**220**	*e*P		**Pg**	**21 18 39.1**	**+0.3**
	baz=223								
STYT				*e*S		**Sg**	**21 18 56.0**	**+1.0**
	baz=223								
CHY	**Chiayi**	**1.27**	**241**	*e*P		**Pg**	**21 18 39.2**	**0.0**
	baz=243								
WTP	**Ta-pu**	**1.28**	**227**	*e*P		**Pg**	**21 18 39.9**	**+0.6**
	baz=218								
WTP				*e*S		**Sg**	**21 18 56.8**	**+0.9**
	baz=218								
LONT	**Longtian**	**1.30**	**201**	*e*P		**Pb**	**21 18 39.1**	**-0.1**
	baz=203								
YOJ	**Yonaguni jima**	**1.30**	**75**	P		**Pg**	**21 18 40.0**	**+0.4**
YOJ				S		**Sg**	**21 18 58.2**	**+1.8**
TWK	**Hsinying**	**1.35**	**231**	*e*P		**Pg**	**21 18 41.2**	**+0.4**
	baz=233								
CHN1	**Nanshi**	**1.38**	**228**	*e*P		**Pg**	**21 18 41.1**	**-0.1**
	baz=220								
CHN1				*e*S		**Sg**	**21 19 00.2**	**+1.1**
	baz=220								
TWG	**Pinlang**	**1.40**	**202**	*e*P		**Pb**	**21 18 40.2**	**-0.7**
	baz=204								
TWGBT	**Beinan**	**1.40**	**202**	*e*P		**Pn**	**21 18 40.0**	**-0.2**
	baz=204								
SGST	**Jiashian**	**1.42**	**223**	*e*P		**Pb**	**21 18 40.4**	**-0.8**
	baz=225								
WSL	**Shuilin Townsh**	**1.42**	**246**	*e*P		**Pb**	**21 18 40.9**	**-0.4**
	baz=248								
SLGT	**Liugui**	**1.45**	**219**	*e*P		**Pb**	**21 18 41.2**	**-0.5**
	baz=222								
ICHU	**Yihu**	**1.46**	**239**	*e*P		**Pb**	**21 18 42.0**	**+0.1**
	baz=241								
ECL	**Taimali**	**1.64**	**203**	*e*P		**Pb**	**21 18 44.9**	**-0.2**
	baz=188								
SSD	**Sandimen**	**1.65**	**214**	*e*P		**Pb**	**21 18 44.1**	**-1.1**
	baz=228								
TSMG	**Majia**	**1.68**	**213**	*e*P		**Pb**	**21 18 45.5**	**-0.2**
	baz=227								
TSCK	**Chigu Township**	**1.72**	**236**	*e*P		**Pb**	**21 18 45.5**	**-0.9**
	baz=239								
MASBT	**Mashibuluo**	**1.76**	**212**	*e*P		**Pb**	**21 18 45.9**	**-1.2**
	baz=214								
EAST	**Anshuo**	**1.88**	**203**	*e*P		**Pb**	**21 18 48.7**	**-0.4**
	baz=189								
IRIF	**Iriomote-Funau**	**1.92**	**83**	*e*P		**Pb**	**21 18 49.4**	**-0.3**
IRIF				S		**Sb**	**21 19 14.9**	**+1.1**
SCZT	**Fangliau**	**1.98**	**209**	*e*P		**Pb**	**21 18 49.9**	**-0.8**
	baz=204								
HATJ	**Hateruma jima**	**1.98**	**91**	P		**Pb**	**21 18 50.3**	**-0.5**
HATJ				S		**Sb**	**21 19 16.1**	**+0.6**
PNG	**Penghu**	**1.99**	**254**	*e*P		**Pb**	**21 18 49.9**	**-1.0**
	baz=257								
PHUB	**P'eng-hu**	**1.99**	**253**	*e*P		**Pb**	**21 18 49.9**	**-1.0**
	baz=256								
WDGT	**Dungji**	**2.01**	**245**	*e*P		**Pb**	**21 18 49.7**	**-1.6**
	baz=248								
JKRS	**Kuro-shima**	**2.17**	**86**	P		**Pb**	**21 18 52.7**	**-1.3**
JKRS				S		**Sb**	**21 19 21.5**	**+0.6**
VWUC	**VWUC**	**2.17**	**294**	*e*P		**Pn**	**21 18 51.1**	**+0.2**
	baz=295								
JIJ	**Ishigaki jima**	**2.30**	**83**	P		**Pb**	**21 18 55.2**	**-1.0**
JIJ				S		**Sb**	**21 19 25.1**	**+0.4**
PTMZ	**Houxiangcun**	**2.47**	**292**	*e*P		**Pn**	**21 18 55.4**	**+0.4**
	baz=293								
JISG	**Ishigakijimahi**	**2.48**	**79**	P		**Pb**	**21 18 57.6**	**-1.7**
JISG				S		**Sb**	**21 19 29.5**	**-0.4**

TAP 12 21:20:29.7, 24°12N×121°63E, h8km, ML0.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**218**	*i* P	Pg	21 20 31.8	+0.4
	baz=211						
TWD				*i* S	Sg	21 20 33.5	+0.8
	baz=211						
NACB	**Ninganchiao**	**0.06**	**326**	P	Pg	21 20 32.0	+0.4
	baz=325						
NACB				S	Sg	21 20 33.8	+0.9
	baz=325						
ETLH	**Xiulin Townshi**	**0.16**	**301**	P	Pg	21 20 34.1	+0.9
	baz=301						
ETLH				S	Sg	21 20 37.0	+1.5
	baz=301						

JMA 12 21:20:56.0±0.2, 24°N±1°×123°7E±0°7, h38km±1km, MV0.4/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.06**	**157**	P	Pn	21 21 02.1	-0.1
IRIF				*e*S	Sn	21 21 06.2	-0.3
JKRS	**Kuro-shima**	**0.31**	**118**	P	Pn	21 21 04.1	-0.2
JKRS				*e*S	Sn	21 21 10.1	-0.8
JIJ	**Ishigaki jima**	**0.40**	**93**	P	Pn	21 21 05.0	-0.1
JIJ				*e*S	Sn	21 21 11.6	-0.2
JISG	**Ishigakijimahi**	**0.59**	**70**	*e*P	Pn	21 21 08.0	+0.1
JISG				*e*S	Sn	21 21 17.1	+0.9

TAP 12 21:28:25.4, 24°51N×121°41E, h7km±1km, ML0.9, 2C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.08**	**202**	*i* P	Pg	21 28 27.7	+0.3
	baz=196						
NNS				*i* S	Sg	21 28 29.5	+0.6
	baz=196						
NNSB	**Datong**	**0.09**	**194**	*e*P	Pg	21 28 28.7	+1.2
	baz=194						
NNSB				*e*S	Sg	21 28 30.5	+1.4
	baz=194						
NNSH	**Datong**	**0.09**	**193**	*i* P	Pg	21 28 27.7	+0.2
	baz=193						
NNSH				S	Sg	21 28 29.4	+0.4
	baz=193						
LATG	**Datong**	**0.11**	**79**	*i* P	Pg	21 28 28.6	+0.7
	baz=79						
LATG				*i* S	Sg	21 28 30.3	+0.6
	baz=79						
NDT	**Datong Townshi**	**0.13**	**48**	*e*P	Pg	21 28 26.9	-1.3
	baz=48						
NDT				*e*S	Sg	21 28 28.4	-1.7
	baz=48						
YHNB	**Yeheng**	**0.16**	**350**	*i* P	Pg	21 28 29.3	+0.7
	baz=350						
YHNB				*e*S	Sg	21 28 30.9	0.0
	baz=350						
NSK	**Sanguang**	**0.17**	**345**	*e*P	Pg	21 28 28.5	-0.3
	baz=348						
NSK				*e*S	Sg	21 28 30.7	-0.5
	baz=348						
ENTT	**Nioudou**	**0.19**	**49**	*e*P	Pg	21 28 28.8	-0.5
	baz=51						
ENTT				*e*S	Sg	21 28 31.0	-0.9
	baz=51						
NWLT	**Wulai**	**0.28**	**19**	*e*P	Pg	21 28 30.6	-0.3
	baz=19						
NFF	**Wufeng Townshi**	**0.29**	**294**	*e*P	Pg	21 28 31.4	+0.4
	baz=294						
NFF				*e*S	Sg	21 28 35.3	+0.4
	baz=294						
FUSB	**Fushanzhiwuyua**	**0.30**	**34**	P	Pg	21 28 31.4	+0.1
	baz=34						
FUSB				*e*S	Sg	21 28 34.9	-0.3
	baz=34						
FUSS	**Fushou**	**0.30**	**209**	*e*P	Pb	21 28 32.5	-0.7
	baz=209						
FUSS				*e*S	Sb	21 28 37.1	-1.4
	baz=209						
TWE	**Neicheng**	**0.32**	**49**	*e*P	Pg	21 28 32.0	+0.5
	baz=51						
TWE				*e*S	Sg	21 28 36.2	+0.5
	baz=51						
TDCB	**Techi**	**0.34**	**221**	*e*P	Pb	21 28 33.4	-0.5
	baz=221						
EWUT	**Wuta**	**0.35**	**101**	*e*P	Pg	21 28 31.9	-0.2
	baz=101						
EWUT				*e*S	Sg	21 28 35.3	-1.5
	baz=101						
SMPP	**San Manuel, Pa**	**8.35**	**185**	*e*P	Pn	21 30 30.1	+3.2
SMPP				*e*S	Sn	21 31 03.5	-58

BJI **12** *21:52:33.5±0.0, 57.°02N×157.°74W, h14km, mb4.8/64, mB5.2/41, Ms5.0/51, Ms7 4.6/46*

AEIC **12** *21:52:36.7±2.1, 57.°07N±0.°04×157.°66W±0.°08, h10km±3km, ML5.2, mb5.2/247(NEIC), ML5.4/42(NEIC), Mwr4.9/51(NEIC), Mww4.9(NEIC), Error ellipse: s-maj=6.6km s-min=5.4km az=127.0*

NEIC **12** *21:52:36.3±2.0, 57.°08N±0.°04×157.°72W±0.°08, h7km±3km, Error ellipse: s-maj=6.7km s-min=5.4km az=123.0*

NEIC **12** *21:52:37, 57.°07N×157.°71W, h9km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.98; Mθθ-1.92; Mϕϕ-0.06; Mrθ0.78; Mrϕ-0.63; Mθϕ1.14; Fault plane solution: M₀2.48000×10¹⁶ NP1:ϕs270.90000°, δ33.86000°, λ122.40000°. NP2:ϕs53.50000°, δ61.94000°, λ70.22000°. Principal axes: T 2.5427, Plg67.0000°, Azm286.0000°; N -0.1385, Plg17.0000°, Azm63.0000°; P -2.4042, Plg15.0000°, Azm158.0000°;*

GCMT **12** *21:52:38.7±0.2, 57.°20N±0.°01×157.°52W±0.°04, h15km, MW5.0/109, Moment Tensor Solution. s50,c62; s109,c168; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.73±.17; Mθθ-3.35±.12; Mϕϕ-0.38±.10; Mrθ-0.77±.21; Mθϕ-1.29±.07; Mϕr-0.66±.24; Best double couple: M₀3.91500×10¹⁶ NP1:ϕs244.00000°, δ52.00000°, λ84.00000°. NP2:ϕs75.00000°, δ38.00000°, λ98.00000°. Principal axes: T 3.8800, Plg81.0000°, Azm123.0000°; N 0.0670, Plg5.0000°, Azm248.0000°; P -3.9510, Plg7.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS **12** *21:52:38.1±0.8, 57.°18N×157.°75W, h34km, mb5.2/116, MS4.2/9 Error ellipse: s-maj=7.6km s-min=3.9km az=90.8*

NEIC **12** *21:52:40, 56.°97N×157.°66W, h12km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10¹⁶Nm; Mrr2.92; Mθθ-2.88; Mϕϕ-0.04; Mrθ0.83; Mθϕ-1.39; Mϕr0.06; Fault plane solution: M₀3.32000×10¹⁶ NP1: ϕs242.00000°, δ38.00000°, λ81.00000°. NP2:ϕs73.00000°, δ52.00000°, λ97.00000°. Principal axes: T 3.0375, Plg81.0000°, Azm18.0000°; N 0.5054, Plg6.0000°, Azm249.0000°; P -3.5429, Plg7.0000°, Azm158.0000°;*

IDC **12** *21:52:42.2±1.7, 57.°25N×157.°79W, h48km±16km, mb4.6/30, mbtmp4.8/35, ML4.3/5, MS4.0/73 Error ellipse: s-maj=15.2km s-min=8.9km az=14.0*

ISC 12 21:52:36.6±0.7, 57.°09N±0.°02×157.°71W±0.°03, h12km±4km, n1333, σ1§37/1379, mb5.1/323, MS4.1/96, 45C-22D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R16K	**Pilot Point**	**0.48**	**9**	P	**Pb**	**21 52 47.0**	**+0.1**
	baz=185,SNR=368						
R16K				S	**Sb**	**21 52 54.5**	**+0.7**
	baz=185						
CHGN	**Chignik**	**0.89**	**206**	Pg	**Pg**	**21 52 52.2**	**-1.4**
CHGN	**Chignik**	**0.89**	**206**	P	**Pg**	**21 52 52.3**	**-1.3**
	baz=29,SNR=319						
CHGN				S	**Sg**	**21 53 04.0**	**-1.1**
	baz=29						
Q17K	**Contact Creek**	**1.53**	**39**	P	**Pn**	**21 53 03.7**	**0.0**
	baz=219,SNR=1000						
Q17K				S	**Sn**	**21 53 24.6**	**+1.2**
	baz=219						
Q16K	**King Salmon**	**1.68**	**19**	P	**Pn**	**21 53 06.5**	**+0.7**
	baz=199,SNR=695						
Q16K				S	**Sb**	**21 53 29.2**	**+0.8**
	baz=199						
CHIR	**Chirikof Islan**	**1.72**	**137**	Pn	**Pn**	**21 53 06.9**	**+0.7**
CHIR					**Sn**	**21 53 29.2**	**+1.1**
CHIR				IAML		21 53 34.0	
	comp=N,28μm,2.1s						
CHIR				IAML		21 53 34.3	
	comp=E,24μm,1.1s						
CHIR	**Chirikof Islan**	**1.72**	**137**	P	**Pn**	**21 53 07.2**	**+1.0**
	baz=318,SNR=169						
CHIR				S	**Sb**	**21 53 30.3**	**+0.7**
	baz=318						
P16K	**Nushagak River**	**1.95**	**356**	P	**Pn**	**21 53 10.2**	**+0.8**
	baz=175,SNR=444						
P16K				S	**Sb**	**21 53 36.3**	**+0.2**
	baz=175						
SII	**Sitkinak Islan**	**2.01**	**104**	Pn	**Pn**	**21 53 11.0**	**+0.8**
SII				IAML		21 53 45.8	
	comp=N,34μm,0.6s						
SII				IAML		21 53 49.2	
	comp=E,34μm,0.7s						
SII	**Sitkinak Islan**	**2.01**	**104**	P	**Pb**	**21 53 12.7**	**-0.2**
	baz=286,SNR=280						
SII				S	**Sb**	**21 53 38.7**	**+0.8**
	baz=286						
SII	**Sitkinak Islan**	**2.01**	**104**	P	**Pb**	**21 53 12.8**	**-0.2**
Q18K	**Katmai Hardscr**	**2.12**	**42**	P	**Pn**	**21 53 12.4**	**+0.5**
	baz=223,SNR=354						
Q18K				S	**Sb**	**21 53 41.9**	**+0.7**
	baz=223						
P17K	**Kvichak River**	**2.21**	**17**	P	**Pn**	**21 53 13.8**	**+0.9**
	baz=197,SNR=82						
SDPT	**Sand Point**	**2.33**	**223**	Pn	**Pn**	**21 53 15.0**	**+0.3**
SDPT	**Sand Point**	**2.33**	**223**	P	**Pn**	**21 53 14.9**	**+0.2**
	baz=42,SNR=49						
OHAK	**Old Harbor**	**2.41**	**85**	Pn	**Pn**	**21 53 16.8**	**+1.1**
OHAK				IAML		21 54 08.2	
	comp=N,10μm,1.0s						
OHAK	**Old Harbor**	**2.41**	**85**	P	**Pn**	**21 53 16.8**	**+1.1**
	baz=268,SNR=207						
OHAK				S	**Sb**	**21 53 49.5**	**0.0**
	baz=268						
CHNA	**Chernabura Isl**	**2.50**	**206**	P	**Pn**	**21 53 16.9**	**-0.1**
	baz=25,SNR=87						
CNBA	**Chernabura Isl**	**2.51**	**206**	Pn	**Pn**	**21 53 17.0**	**-0.1**
CNBA				IAML		21 54 06.9	
	comp=E,8μm,0.8s						
O16K	**Kokwok River B**	**2.52**	**356**	P	**Pn**	**21 53 17.8**	**+0.7**
	baz=175,SNR=422						
O16K				Sb	**Sg**	**21 53 55.6**	**-1.7**
	baz=175						
P18K	**Big Mountain,**	**2.65**	**29**		**Pn**	**21 53 19.4**	**+0.3**
P18K				IAML		21 54 00.1	
	comp=E,14μm,0.8s						
P18K				IAML		21 54 04.5	
	comp=N,10μm,1.1s						
P18K	**Big Mountain,**	**2.65**	**29**	P	**Pn**	**21 53 19.7**	**+0.6**
	baz=210,SNR=51						
O17K	**Koliganek Bris**	**2.71**	**7**	P	**Pn**	**21 53 20.6**	**+0.8**
	baz=186,SNR=324						
KDAK	**Kodiak Island**	**2.85**	**74**	P	**Pn**	**21 53 23.4**	**+1.6**
	comp=N,206nm,0.3s,baz=269,slow=7.1,SNR=533						
KDAK				S	**Sb**	**21 54 00.0**	**-2.1**
	comp=N,2μm,0.8s,baz=261,slow=23,SNR=4.4						
KDAK				LR	LR	21 54 07.6	
	comp=N,268nm,20.4s,baz=230,slow=30 comp=N,3μm,0.9s						
KDAK	**Kodiak Island**	**2.85**	**74**	Pn	**Pn**	**21 53 22.7**	**+0.9**
KDAK				IAML		21 54 11.2	
	comp=N,7μm,1.1s						
KDAK	**Kodiak Island**	**2.85**	**74**	P	**Pn**	**21 53 23.2**	**+1.4**
	baz=257						
KDAK	**Kodiak Island**	**2.85**	**74**	*c* *i*P	**Pn**	**21 53 23.1**	**+1.3**
O18K	**Koktuh Hills**	**3.06**	**24**		**Pn**	**21 53 25.2**	**+0.5**
O18K				IAML		21 54 17.5	
	comp=E,12μm,0.9s						
O18K				IAML		21 54 19.2	
	comp=N,15μm,0.8s						
O18K	**Koktuh Hills**	**3.06**	**24**	P	**Pn**	**21 53 25.6**	**+0.9**
	baz=206,SNR=92						
Q20K	**Shuyak Island**	**3.22**	**60**	P	**Pn**	**21 53 28.7**	**+1.9**
	baz=243,SNR=31						
N16K	**Nishlik Lake**	**3.44**	**351**	P	**Pn**	**21 53 31.0**	**+1.2**
	baz=170						
N16K				Sb	**Sb**	**21 54 23.2**	**+4.3**
	baz=170						
P19K	**Oil Pt**	**3.48**	**41**		**Pn**	**21 53 31.5**	**+1.0**
P19K				IAML		21 54 34.7	
	comp=N,15μm,0.9s						
P19K	**Oil Pt**	**3.48**	**41**	P	**Pn**	**21 53 31.5**	**+1.0**
	baz=224						
O19K	**Port Alsworth**	**3.58**	**28**		**Pn**	**21 53 32.2**	**+0.5**
O19K	**Port Alsworth**	**3.58**	**28**	P	**Pn**	**21 53 32.8**	**+1.0**
	baz=210,SNR=80						
N18K	**Kilae Creek**	**3.72**	**14**		**Pn**	**21 53 34.5**	**+0.8**
N18K				IAML		21 54 48.0	
	comp=E,6μm,1.3s						
N18K				IAML		21 54 50.1	
	comp=N,6μm,1.0s						
N18K	**Kilae Creek**	**3.72**	**14**	P	**Pn**	**21 53 34.9**	**+1.2**
	baz=195						
N18K				S	**Sn**	**21 54 20.0**	**+2.6**
	baz=195						
ILSW	**Iliamna Southw**	**3.76**	**38**		**Pn**	**21 53 35.1**	**+0.8**
ILSW				IAML		21 54 34.4	
	comp=E,7μm,1.1s						
ILSW				IAML		21 54 39.0	
	comp=N,4μm,0.6s						
FALS	**False Pass**	**3.91**	**237**		**Pn**	**21 53 37.4**	**+1.0**
FALS	**False Pass**	**3.91**	**237**	P	**Pn**	**21 53 36.6**	**+0.3**
	baz=53						
FALS	**False Pass**	**3.91**	**237**	P	**Pn**	**21 53 40.6**	**+4.3**
O20K	**Slope Mountain**	**4.01**	**39**	P	**Pn**	**21 53 39.3**	**+1.6**
	baz=223,SNR=10						
O20K				Sb	**Sg**	**21 54 41.4**	**-3.7**
	baz=223						
N19K	**Bonanza Creek**	**4.09**	**23**		**Pn**	**21 53 40.0**	**+1.2**
N19K				IAML		21 54 44.1	
	comp=N,6μm,0.6s						
N19K	**Bonanza Creek**	**4.09**	**23**	P	**Pn**	**21 53 39.9**	**+1.1**
	baz=205						
N19K				Sb	**Sb**	**21 54 41.8**	**+4.1**
	baz=205						
HOM	**Homer**	**4.10**	**49**		**Pn**	**21 53 40.3**	**+1.4**
HOM				IAML		21 54 52.3	
	comp=E,8μm,0.9s						
HOM	**Homer**	**4.10**	**49**	P	**Pn**	**21 53 41.1**	**+2.2**
	baz=233,SNR=9.1						
HOM				Sb	**Sb**	**21 54 43.2**	**+5.3**
	baz=233						
CNPM	**China Poot**	**4.20**	**52**		**Pn**	**21 53 42.0**	**+1.8**
CNPM				IAML		21 55 02.4	
	comp=E,2μm,1.8s						
RSO	**Redoubt South**	**4.25**	**35**		**Pn**	**21 53 42.5**	**+1.4**
BRLK	**Bradley Lake**	**4.47**	**50**		**Pn**	**21 53 45.3**	**+1.2**
BRSE	**Bradley Lake S**	**4.52**	**51**		**Pn**	**21 53 46.0**	**+1.2**
BRSE	**Bradley Lake S**	**4.52**	**51**	P	**Pn**	**21 53 47.8**	**+3.0**
	baz=236,SNR=10.0						
N20K	**Mount Spurr**	**5.00**	**32**	P	**Pn**	**21 53 52.8**	**+1.5**
	baz=216,SNR=63						
N20K				Sb	**Sb**	**21 55 08.4**	**+4.5**
	baz=216						
SPCR	**Spurr Chakacha**	**5.00**	**32**	P	**Pn**	**21 53 53.3**	**+2.0**
	baz=216,SNR=52						
SPCR				Sb	**Sb**	**21 55 08.8**	**+5.0**
	baz=216						
CAPN	**Captain Cook N**	**5.01**	**40**	P	**Pn**	**21 53 54.7**	**+3.4**
	baz=225						
CAPN				Sb	**Sg**	**21 55 12.6**	**-4.6**
	baz=225						
SPU	**Mount Spurr**	**5.03**	**33**		**Pn**	**21 53 53.4**	**+1.7**
M19K	**Big River Lodg**	**5.11**	**18**		**Pn**	**21 53 54.1**	**+1.3**
M19K				IAML		21 55 36.4	
	comp=N,2μm,1.1s						
M19K	**Big River Lodg**	**5.11**	**18**	P	**Pn**	**21 53 54.3**	**+1.5**
	baz=200						
SEW	**Seward**	**5.27**	**52**		**Pn**	**21 53 56.9**	**+2.0**
SEW	**Seward**	**5.27**	**52**	P	**Pn**	**21 53 57.8**	**+2.9**
	baz=238						
L19K	**White Mountain**	**5.30**	**15**		**Pn**	**21 53 56.3**	**+0.8**
L19K				IAML		21 55 35.7	
	comp=N,3μm,1.1s						
L19K	**White Mountain**	**5.30**	**15**	P	**Pn**	**21 53 57.1**	**+1.7**
	baz=197						
M20K	**Styx River**	**5.34**	**24**		**Pn**	**21 53 57.5**	**+1.5**
M20K				IAML		21 55 35.2	
	comp=N,3μm,1.2s						
M20K	**Styx River**	**5.34**	**24**	P	**Pn**	**21 53 58.1**	**+2.1**
	baz=207						
O22K	**Cooper Landing**	**5.36**	**47**		**Pn**	**21 53 57.2**	**+1.0**
O22K	**Cooper Landing**	**5.36**	**47**	P	**Pn**	**21 53 59.1**	**+2.9**
	baz=234,SNR=8.1						
AKUT	**Akutan**	**5.45**	**240**	Pn	**Pn**	**21 53 58.9**	**+1.5**
SUA	**Susitna One**	**5.65**	**36**		**Pn**	**21 54 02.6**	**+2.3**
SUA	**Susitna One**	**5.65**	**36**	P	**Pn**	**21 54 02.4**	**+2.1**
	baz=222,SNR=45						
L20K	**Farewell, AK**	**5.74**	**18**	P	**Pn**	**21 54 02.5**	**+1.1**
	baz=201,SNR=282						
RC01	**Rabbit Creek A**	**5.74**	**42**		**Pn**	**21 54 03.1**	**+1.7**
RC01	**Rabbit Creek A**	**5.74**	**42**	P	**Pn**	**21 54 03.9**	**+2.5**
	baz=229,SNR=7.0						
SKT	**Skwentna**	**5.82**	**30**		**Pn**	**21 54 04.2**	**+1.6**
SKT	**Skwentna**	**5.82**	**30**	P	**Pn**	**21 54 05.1**	**+2.6**
	baz=215,SNR=35						
TTA	**Tatalina**	**5.92**	**8**		**Pn**	**21 54 04.2**	**+0.3**
TTA	**Tatalina**	**5.92**	**8**	P	**Pn**	**21 54 04.5**	**+0.6**

Q23K	Middleton Isla	6.43	64	P		Pn	21 54 12.6 +1.7
	baz=253						
MID	Middleton Isla	6.44	64	Pn		Pn	21 54 11.6 +0.6
MID	Middleton Isla	6.44	64	P		Pn	21 54 11.6 +0.6
PPLA	Purkeypile	6.44	23			Pn	21 54 13.2 +2.0
PPLA	Purkeypile	6.44	23	P		Pn	21 54 12.9 +1.7
	baz=208,SNR=80						
GHO	Glory Hole Cre	6.48	40			Pn	21 54 12.4 +0.7
CUT	Chulitna	6.52	32			Pn	21 54 14.8 +2.8
CUT	Chulitna	6.52	32	P		Pn	21 54 13.7 +1.7
	baz=218,SNR=42						
K20K	Telida	6.54	15			Pn	21 54 13.0 +0.6
K20K	Telida	6.54	15	P		Pn	21 54 13.0 +0.6
	baz=197						
SML	Sawmill	6.72	41			Pn	21 54 15.6 +0.7
SML	Sawmill	6.72	41	P		Pn	21 54 17.0 +2.2
	baz=229,SNR=17						
SPIA	Saint Paul Isl	6.83	276			Pn	21 54 17.8 +1.5
SPIA	Saint Paul Isl	6.83	276	P		Pn	21 54 16.3 0.0
	baz=86,SNR=5.9						
SPIA	Saint Paul Isl	6.83	276	P		Pn	21 54 18.2 +1.9
M23K	Glacier View	6.93	43	P		Pn	21 54 19.3 +1.5
	baz=231,SNR=18						
CAST	Castle Rocks	6.93	21	Pn		Pn	21 54 18.9 +1.2
CAST	Castle Rocks	6.93	21	P		Pn	21 54 19.0 +1.2
	baz=206,SNR=72						
SCM	Sheep Creek Mo	7.11	44			Pn	21 54 21.0 +0.8
SCM	Sheep Creek Mo	7.11	44	P		Pn	21 54 22.3 +2.1
	baz=232,SNR=16						
SCM	Sheep Creek Mo	7.11	44	P		Pn	21 54 21.0 +0.8
EYAK	Cordova Ski Ar	7.11	56			Pn	21 54 20.8 +0.6
EYAK	Cordova Ski Ar	7.11	56	P		Pn	21 54 21.8 +1.7
	baz=246						
EYAK	Cordova Ski Ar	7.11	56	P		Pn	21 54 21.0 +0.9
	comp=N,115nm,1.0s						
WAT7	Susitna Watana	7.27	34			Pn	21 54 24.1 +1.7
KTH	Kantishna Hill	7.30	25			Pn	21 54 24.6 +1.8
CHUM	Lake Minchumin	7.31	19	P		Pn	21 54 23.8 +0.9
	baz=203,SNR=88						
J20K	Nowinta River	7.32	12	Pn		Pn	21 54 23.6 +0.6
J20K	Nowinta River	7.32	12	P		Pn	21 54 23.9 +0.8
	baz=195,SNR=33						
DIV	Divide	7.35	52			Pn	21 54 25.1 +1.5
WAT1	Susitna Watana	7.36	35			Pn	21 54 24.8 +1.2
WAT1	Susitna Watana	7.36	35	P		Pn	21 54 25.7 +2.1
	baz=222						
TRF	Thorofare Moun	7.36	27			Pn	21 54 26.6 +2.8
TRF	Thorofare Moun	7.36	27	P		Pn	21 54 26.9 +3.1
	baz=213,SNR=132						
WAT6	Susitna Watana	7.44	38			Pn	21 54 25.4 +0.5
WAT6	Susitna Watana	7.44	38	P		Pn	21 54 26.3 +1.4
	baz=226,SNR=53						
KLU	Klutina	7.47	49			Pn	21 54 25.3 +0.1
KLU	Klutina	7.47	49	P		Pn	21 54 27.0 +1.8
	baz=239,SNR=18						
KAIM	Kayak Island	7.51	62			Pn	21 54 27.4 +1.6
KAIM	Kayak Island	7.51	62	P		Pn	21 54 28.4 +2.7
	baz=253						
GOAT	Goat Mountain	7.58	57			Pn	21 54 27.8 +1.0
GCSA	Galena City Sc	7.69	3	P		Pn	21 54 29.6 +1.5
	baz=183						
M24K	Tolsona, Glenn	7.71	45			Pn	21 54 29.5 +1.0
M24K	Tolsona, Glenn	7.71	45	P		Pn	21 54 30.5 +2.0
	baz=234						
RND	Reindeer	7.71	31	Pn		Pn	21 54 30.6 +2.2
RND	Reindeer	7.71	31	P		Pn	21 54 30.6 +2.2
HMT	Hamilton	7.72	59	Pn		Pn	21 54 29.5 +1.0
BPAW	Bear Paw Mtn.	7.76	22			Pn	21 54 29.9 +0.8
BPAW	Bear Paw Mtn.	7.76	22	P		Pn	21 54 31.2 +2.0
	baz=208,SNR=96						
BMRM	Bremner River	7.79	55			Pn	21 54 30.9 +1.3
BMRM	Bremner River	7.79	55	P		Pn	21 54 31.5 +1.9
	baz=246						
DHY	Denali Highway	7.91	36			Pn	21 54 32.1 +0.8
DHY	Denali Highway	7.91	36	P		Pn	21 54 33.2 +1.9
	baz=225,SNR=15						
MCK	McKinley	7.94	29			Pn	21 54 34.1 +2.5
MCK	McKinley	7.94	29	P		Pn	21 54 34.1 +2.5
	baz=217,SNR=49						
MCK	McKinley	7.94	29	P		Pn	21 54 34.1 +2.5
BERG	Berg Lake	8.00	60			Pn	21 54 33.1 +0.8
N25K	Chitina, Valde	8.08	51			Pn	21 54 34.5 +1.0
N25K	Chitina, Valde	8.08	51	P		Pn	21 54 35.4 +1.9
	baz=241						
BGLC	Bering Glacier	8.12	62	P		Pn	21 54 36.6 +2.6
	baz=254						
BWN	Browne	8.17	26			Pn	21 54 36.6 +1.9
HARP	HAARP	8.27	45	P		Pn	21 54 38.7 +2.7
	baz=235						
GLB	Gilahina Butte	8.34	53			Pn	21 54 38.1 +1.0
SNH	Sunshine Point	8.35	62			Pn	21 54 38.4 +1.2
ANM	Nome	8.37	337			Pn	21 54 38.9 +1.4
ANM	Nome	8.37	337	P		Pn	21 54 38.7 +1.2
	baz=150						
ANM	Nome	8.37	337	P		Pn	21 54 38.9 +1.4
VRDI	Verde Repeater	8.41	55	Pn		Pn	21 54 38.6 +0.4
WAX	Waxell Ridge	8.42	60			Pn	21 54 39.0 +0.8
PAX	Paxson	8.49	41			Pn	21 54 40.4 +1.2
PAX	Paxson	8.49	41	P		Pn	21 54 41.5 +2.3
	baz=231,SNR=34						
PAX	Paxson	8.49	41	P		Pn	21 54 40.4 +1.2
I21K	Tanana	8.57	16			Pn	21 54 41.2 +1.0
I21K	Tanana	8.57	16	P		Pn	21 54 42.3 +2.1
	baz=201						
NEA2	Nenana	8.62	26			Pn	21 54 41.8 +1.0
NEA2	Nenana	8.62	26	P		Pn	21 54 43.0 +2.2
	baz=213,SNR=42						
MLY	Manley	8.64	20			Pn	21 54 41.9 +0.7
MLY	Manley	8.64	20	P		Pn	21 54 42.8 +1.5
	baz=206,SNR=71						
MCARA	McCarthy VSAT	8.66	54	Pn		Pn	21 54 43.1 +1.6
MCARA	McCarthy VSAT	8.66	54	P		Pn	21 54 43.2 +1.8
	baz=246						
ISLE	Juniper Island	8.70	60			Pn	21 54 42.9 +0.7
WRH	Wood River Hil	8.76	28			Pn	21 54 44.2 +1.4
MESA	MESA	8.78	63			Pn	21 54 44.1 +0.9
MESA	MESA	8.78	63	P		Pn	21 54 45.0 +1.8
	baz=256,SNR=9.1						
BAGL	Bagley Icefiel	8.79	61			Pn	21 54 44.9 +1.7
KIAG	Kiagna River	8.79	58			Pn	21 54 44.2 +0.8
H21K	Melozitna Rive	8.91	13			Pn	21 54 45.5 +0.7
H21K	Melozitna Rive	8.91	13	P		Pn	21 54 45.8 +1.0
	baz=197						
YAH	Yahtse	8.92	62			Pn	21 54 45.8 +0.5
K24K	Donnelly Dome	8.93	36	P		Pn	21 54 47.9 +2.6
	baz=226,SNR=16						
CCB	Clear Creek Bu	8.97	28			Pn	21 54 46.8 +1.1
HDA	Harding Lake	9.02	31			Pn	21 54 47.3 +0.9
HDA	Harding Lake	9.02	31	P		Pn	21 54 47.9 +1.5
	baz=220,SNR=32						
I23K	Minto, Yukon-K	9.02	23			Pn	21 54 47.5 +1.1
I23K	Minto, Yukon-K	9.02	23	P		Pn	21 54 48.2 +1.8
	baz=210,SNR=65						
IMAR	Indian Mountai	9.12	10			Pn	21 54 48.1 +0.4
MENT	Mentasta	9.12	44			Pn	21 54 49.0 +1.3
MDM	Murphy Dome	9.12	26			Pn	21 54 49.1 +1.3
M26K	Nabesna, AK	9.12	48			Pn	21 54 49.5 +1.6
M26K	Nabesna, AK	9.12	48	P		Pn	21 54 49.4 +1.5
	baz=241,SNR=22						
TCOL	CIGO, UAF Yank	9.14	27	P		Pn	21 54 49.8 +1.8
	baz=216,SNR=22						
COLA	College	9.14	27			Pn	21 54 49.2 +1.2
COLA	College	9.14	27	P		Pn	21 54 49.5 +1.4
	baz=216						
COLA	College	9.14	27	P		Pn	21 54 50.4 +2.4
	comp=N,169nm,1.0s						
COLA	College	9.14	27	*i* P		Pn	21 54 49.4 +1.4
BARN	Barnard Glacie	9.16	58			Pn	21 54 49.8 +1.3
RIDG	Independent Ri	9.20	38			Pn	21 54 50.2 +1.3
RIDG	Independent Ri	9.20	38	P		Pn	21 54 51.1 +2.2
	baz=229,SNR=28						
TABL	Table Mountain	9.23	62			Pn	21 54 50.5 +1.1
L26K	Log Cabin Wild	9.31	44	P		Pn	21 54 52.3 +2.0
	baz=236,SNR=13						
IL31		9.31	30			Pn	21 54 51.0 +0.7
ILAR	Eielson Array	9.31	30	P		Pn	21 54 51.0 +0.6
	comp=N,2.1nm,0.3s,baz=219,slow=13,SNR=49						
	comp=N,16nm,0.7s						
H22K	Ishtalitna Cre	9.33	16	P		Pn	21 54 52.1 +1.5
	baz=202,SNR=117						
DOT	Dot Lake	9.41	40			Pn	21 54 53.3 +1.6
POKR	Poker Plat Res	9.45	27			Pn	21 54 53.7 +1.5
POKR	Poker Plat Res	9.45	27	P		Pn	21 54 53.7 +1.5
	baz=216,SNR=31						
M27K	Edge Creek, AK	9.56	50			Pn	21 54 54.9 +1.0
M27K	Edge Creek, AK	9.56	50	P		Pn	21 54 55.3 +1.3
	baz=243						
H23K	Yukon River	9.58	21			Pn	21 54 55.2 +1.1
H23K	Yukon River	9.58	21	P		Pn	21 54 55.5 +1.5
	baz=208,SNR=204						
PINM	Pinnacle	9.59	64	P		Pn	21 54 55.4 +1.1
	baz=259,SNR=8.4						
J25K	Salcha River,	9.63	33	P		Pn	21 54 56.2 +1.4
	baz=224						
SCRK	Sand Creek	9.64	39			Pn	21 54 55.4 +0.4
SCRK	Sand Creek	9.64	39	P		Pn	21 54 57.1 +2.0
	baz=230,SNR=14						
G21K	Allakaket	9.66	10	P		Pn	21 54 56.3 +1.2
	baz=194						
O28M	Mount Upton	9.77	61	P		Pn	21 54 57.7 +0.8
	baz=255						
BCPM	Bancas Point	9.87	66			Pn	21 54 59.0 +1.0
L27K	Beaver Creek,	9.92	46	P		Pn	21 55 00.3 +1.6
	baz=240						
BCAR	Beaver Creek A	9.94	46	Pn		Pn	21 55 00.1 +1.1
H24K	Noodor Dome	9.94	24	P		Pn	21 55 00.5 +1.6
	baz=212						
YUK3	Moose Creek	9.95	55	P		Pn	21 55 00.8 +1.5
	baz=249,SNR=32						
PNL	Peninsula	9.95	67			Pn	21 54 59.1 0.0
PNL	Peninsula	9.95	67	P		Pn	21 54 59.9 +0.7
	baz=263						
PNL	Peninsula	9.95	67	P		Pn	21 54 59.7 +0.5
	comp=N,170nm,0.7s						
BVCY	Beaver Creek	10.02	51	P		Pn	21 55 02.0 +1.9
	baz=245						
YUK8	Steele Glacier	10.11	58	P		Pn	21 55 03.3 +1.8
	baz=253,SNR=23						
J26L	Joseph Creek	10.12	37			Pn	21 55 02.6 +1.0
J26L	Joseph Creek	10.12	37	P		Pn	21 55 02.7 +1.2
	baz=229,SNR=46						
PRP	Porcupine Dome	10.26	30	Pn		Pn	21 55 05.1 +1.6
PRP	Porcupine Dome	10.26	30	P		Pn	21 55 04.7 +1.2
	baz=220,SNR=21						
G22K	Bettles	10.28	14	P		Pn	21 55 04.8 +1.2
	baz=199						
G23K	Bananza Creek	10.30	17	P		Pn	21 55 05.3 +1.4
	baz=204						
F21K	Alatna River	10.35	9	P		Pn	21 55 05.5 +0.9
	baz=193						
O29M	Mount Kennedy	10.45	64	P		Pn	21 55 07.2 +1.1
	baz=260						
YUK4	Talbot Arm	10.64	58	P		Pn	21 55 11.5 +2.8
	baz=254,SNR=12						
YUK6	Outpost Mounta	10.68	61	P		Pn	21 55 10.9 +1.6
	baz=257						
COLD	Coldfoot	10.75	16	P		Pn	21 55 12.5 +2.5
	baz=202,SNR=182						
F22K	John River	10.76	11	P		Pn	21 55 12.0 +1.9
	baz=196						
G24K	Hadweenzic Riv	10.76	22	P		Pn	21 55 11.9 +1.7
	baz=211,SNR=36						
P29M	Windy Craggy	10.78	68	Pn		Pn	21 55 10.8 +0.3
P29M	Windy Craggy	10.78	68	P		Pn	21 55 12.0 +1.4
	baz=265						
I26K	Coal Creek Min	10.79	34			Pn	21 55 12.0 +1.4
I26K	Coal Creek Min	10.79	34	P		Pn	21 55 12.3 +1.7
	baz=227						
M29M	Somme Creek	11.06	53	P		Pn	21 55 16.3 +1.9
	baz=249,SNR=39						
HYT	Haines Junctio	11.06	62			Pn	21 55 15.3 +0.9
HYT	Haines Junctio	11.06	62	P		Pn	21 55 17.0 +2.5
	baz=259						
EGAK	Eagle	11.11	39			Pn	21 55 15.0 +0.1
EGAK	Eagle	11.11	39	P		Pn	21 55 16.3 +1.4
	baz=234						
G25K	Bearman Lake	11.11	24	P		Pn	21 55 16.1 +1.1
	baz=214,SNR=8.9						
FYU	Fort Yukon	11.15	27			Pn	21 55 16.8 +1.3
P30M	Million Dollar	11.22	66	P		Pn	21 55 17.8 +1.2
	baz=263						
RDOG	Red Dog Mine	11.25	350	P		Pn	21 55 18.0 +1.1
	baz=165						
DAWY	Dawson	11.36	45	Pn		Pn	21 55 18.7 +0.2
DAWY	Dawson	11.36	45	P		Pn	21 55 20.1 +1.6
	baz=240,SNR=10						
F24K	Squaw Lake	11.39	19	P		Pn	21 55 20.9 +2.0
	baz=208,SNR=15						
N30M	Aishikik Lake	11.39	59	P		Pn	21 55 20.0 +1.0
	baz=256						
E22K	Anaktuvuk Pass	11.40	11	P		Pn	21 55 21.8 +2.8
	baz=196						
L29M	L29M	11.45	50	P		Pn	21 55 21.5 +1.9
	baz=247,SNR=11						
I27K	Kandik River	11.47	35	P		Pn	21 55 21.7 +1.8
	baz=229						
PLBC	Pleasant Camp	11.47	69	P		Pn	21 55 22.6 +2.6
	baz=267,SNR=14						
S31K	Pelican	11.57	77	P		Pn	21 55 21.0 -0.3
	baz=275						
E23K	Chandalar	11.60	15	P		Pn	21 55 24.5 +2.7
	baz=202,SNR=129						
O30N	Mendenhall	11.74	63	P		Pn	21 55 25.1 +1.5
	baz=261						
E24K	Your Creek	11.79	17	P		Pn	21 55 26.2 +1.9
	baz=205						
G26K	Porcupine Rive	11.81	28	P		Pn	21 55 25.1 +0.6
	baz=220						
M30M	Minto, Yukon	11.83	54			Pn	21 55 26.1 +1.2
M30M	Minto, Yukon	11.83	54	P		Pn	21 55 26.2 +1.2
	baz=252						
F25K	Christian Rive	11.90	23	P		Pn	21 55 26.3 +0.5
	baz=213						
H27K	Steamboat Moun	11.91	33	P		Pn	21 55 26.6 +0.6
	baz=227						
K29M	Barlow Dome	12.00	47	P		Pn	21 55 28.3 +1.1
	baz=245						
BMAR	Burnt Mountain	12.00	25			Pn	21 55 26.7 -0.5
SKAG	Skagway	12.00	69			Pn	21 55 28.0 +0.9
SKAG	Skagway	12.00	69	P		Pn	21 55 29.1 +2.0
	baz=268,SNR=12						
N31M	Braeburn, Yuko	12.01	59			Pn	21 55 27.8 +0.4
N31M	Braeburn, Yuko	12.01	59	P		Pn	21 55 29.1 +1.7
	baz=258						
TOLK	Toolik Lake Re	12.15	14	Pn		Pn	21 55 30.5 +1.3
TOLK	Toolik Lake Re	12.15	14	P		Pn	21 55 30.8 +1.6
	baz=201,SNR=13						
SIT	Sitka	12.17	81	Pn		Pn	21 55 28.6 -0.8
SIT	Sitka	12.17	81	P		Pn	21 55 31.4 +2.0
	baz=279						
SIT	Sitka	12.17	81	P		Pn	21 55 28.6 -0.8
ADK	Adak	12.19	253	Pn		Pn	21 55 31.5 +1.8
ADK	Adak	12.19	253	P		Pn	21 55 31.5 +1.8
BESE	Bessie Mountai	12.25	73			Pn	21 55 31.9 +1.2
G27K	Doyon Strip	12.28	31	P		Pn	21 55 32.0 +1.1
	baz=225						
WHY	Whitehorse	12.31	64			Pn	21 55 31.9 +0.4
WHY	Whitehorse	12.31	64	P		Pn	21 55 33.3 +1.8
	baz=263,SNR=13						
F26K	Sheenjek River	12.31	25	P		Pn	21 55 33.5 +2.0
	baz=217,SNR=11						
D23K	Nanushuk River	12.32	12	P		Pn	21 55 32.5 +1.0
	baz=198						
E25K	Arctic Village	12.36	22	P		Pn	21 55 33.7 +1.6
	baz=212,SNR=18						
I29M	Ogilvie Camp,	12.44	40	P		Pn	21 55 34.3 +1.2
	baz=237						
KIWB	Kanaga Island	12.45	253	Pn		Pn	21 55 34.0 +0.7
R32K	Eaglecrest	12.45	75	P		Pn	21 55 33.8 +0.5
	baz=274						
S32K	Killisnoo	12.51	79	P		Pn	21 55 34.8 +0.7
	baz=278						
JIS	Juneau Island	12.52	75			Pn	21 55 34.8 +0.5
JIS	Juneau Island	12.52	75	P		Pn	21 55 36.8 +2.6
	comp=N,78nm,1.2s						
MAYO	Mayo, Yukon	12.57	50	P		Pn	21 55 36.0 +1.2
	baz=249,SNR=8.4						
D24K	Happy Valley	12.73	15	P		Pn	21 55 38.7 +1.6
	baz=202						
M31M	Drury Creek, Y	12.81	57			Pn	21 55 37.2 -1.0
M31M	Drury Creek, Y	12.81	57	P		Pn	21 55 39.8 +1.6
	baz=257						
P32M	Atlin	12.82	69	P		Pn	21 55 40.3 +1.8
	baz=269						
C23K	Itkillik River	13.16	11	P		Pn	21 55 44.2 +1.2
	baz=197						
N32M	Quiet Lake	13.24	62	P		Pn	21 55 46.2 +2.0
	baz=263						
D25K	Kavik River	13.26	18	P		Pn	21 55 46.2 +1.9
	baz=208						
C24K	Franklin Bluff	13.28	14	P		Pn	21 55 47.0 +2.6
	baz=202						
FARO	Faro, Yukon	13.29	57			Pn	21 55 45.2 +0.3
FARO	Faro, Yukon	13.29	57	P		Pn	21 55 47.6 +2.7
	baz=258,SNR=13						
P33M	Teslin, Yukon	13.30	66	Pn		Pn	21 55 45.2 +0.3
P33M	Teslin, Yukon	13.30	66	P		Pn	21 55 47.3 +2.4
	baz=267,SNR=11						
E27K	Coleen River	13.30	27	P		Pn	21 55 47.1 +2.2
	baz=221						
EPYK	Eagle Plains	13.53	38			Pn	21 55 48.1 +0.1
EPYK	Eagle Plains	13.53	38	P		Pn	21 55 49.1 +1.0
	baz=236,SNR=34						
U33K	Whale Pass	13.56	84	P		Pn	21 55 50.0 +1.7
	baz=284						
Q32M	Nakina River	13.58	71	P		Pn	21 55 50.2 +1.3
	baz=273						
CRAG	Craig	13.73	86	Pn		Pn	21 55 49.8 -0.9
CRAG	Craig	13.73	86	P		Pn	21 55 52.1 +1.3
	baz=287						
WRAK	Wrangell Islan	13.90	82			Pn	21 55 52.6 -0.5
WRAK	Wrangell Islan	13.90	82	P		Pn	21 55 54.0 +0.9
	baz=283						
C27K	Jago River	14.00	21	P		Pn	21 55 55.2 +0.9
	baz=213						
C26K	Camden Bay	14.03	18	P		Pn	21 55 55.8 +1.1
	baz=210						
G30M	tAoh Zraii Nji	14.04	36	P		Pn	21 55 55.4 +0.4
	baz=235						
R33M	Jennings River	14.23	69	P		Pn	21 55 58.8 +1.1
	baz=272						
S34M	Telegraph Cree	14.28	76	P		Pn	21 55 59.5 +1.3
	baz=278,SNR=20						
A21K	Barrow	14.29	1			Pn	21 55 59.2 +0.8
A21K	Barrow	14.29	1	P		Pn	21 55 58.8 +0.5
	baz=182						
MMPY	Sheldon Lake,	14.32	56	P		Pn	21 56 01.3 +2.4
	baz=259,SNR=25						
AMKA	Amchitka	14.57	257	Pn		Pn	21 56 02.1 -0.1
V35K	Ketchikan	14.60	86	P		Pn	21 56 03.8 +1.2
	baz=288						
DLBC	Dease Lake	14.79	73	P		Pn	21 56 06.6 +1.3
	comp=N,0.3nm,0.3s,baz=274,slow=10,SNR=25						
DLBC					LR	LR	22 01 41.4
	comp=N,802nm,18.5s,baz=282,slow=36						
	comp=N,43nm,1.1s						
DLBC	Dease Lake	14.79	73			Pn	21 56 05.6 +0.3
DLBC	Dease Lake	14.79	73	P		Pn	21 56 06.6 +1.3
	baz=276,SNR=25						
DIB	Dawson Inlet,	14.90	94			Pn	21 56 07.1 +0.3
T35M	Bob Quinn	14.91	79	P		Pn	21 56 09.5 +2.6
	baz=282,SNR=20						
F31M	Tsiigehtchic	15.10	37	P		Pn	21 56 07.9 -1.4
	baz=238,SNR=9.2						
MOBC	Moresby Island	15.21	94	Pn		Pn	21 56 10.4 -0.4
MOBC				IAmb		IAmb	21 56 12.4
	comp=Z,111nm,1.4s						
WTLY	Watson Lake, Y	15.30	67	P		Pn	21 56 13.6 +1.5
	baz=271						
TGTN	Hyland Airport	15.59	61	P		Pn	21 56 17.7 +1.8
	baz=266,SNR=49						
INK	Inuvik	15.64	34	P		Pn	21 56 16.1 -0.4
	comp=Z,1.2nm,0.3s,baz=219,slow=14,SNR=16						
INK					LR	LR	22 02 10.2
	comp=Z,998nm,18.8s,baz=234,slow=36						
	comp=Z,19nm,1.0s						
INK	Inuvik	15.64	34	Pn		Pn	21 56 15.2 -1.2
INK	Inuvik	15.64	34	P		Pn	21 56 16.5 +0.1
	baz=236,SNR=9.6						
INK	Inuvik	15.64	34	P		Pn	21 56 15.2 -1.2
INK				pmax		pmax	
	comp=Z,24nm,1.0s						
RUBB	Prince Rupert	15.67	89			Pn	21 56 16.2 -0.6
GRNB	Grenville Isla	16.02	90	Pn		Pn	21 56 21.1 -0.3
LIRD	Liard River Hi	16.71	69	P		Pn	21 56 31.5 +1.3
	baz=276,SNR=15						
KOTAN	Kotaneelee Air	17.68	66	P		P	21 56 44.6 +1.5
	baz=275,SNR=27						
BBB	Bella Bella	17.74	93	P		P	21 56 44.1 +0.3
	comp=Z,0.5nm,0.3s,baz=298,slow=12,SNR=4.4						
BBB					LR	LR	22 02 29.4
	comp=Z,378nm,18.4s,baz=230,slow=33						
	comp=Z,33nm,1.0s						
BBB	Bella Bella	17.74	93	Pn		Pn	21 56 42.1 -0.8
WRGLY	Wrigley	17.94	56	P		P	21 56 47.2 +1.2
	baz=266,SNR=15						
C36M	Paulatuk	19.16	37	P		P	21 56 57.9 -1.4
C36M	Paulatuk	19.16	37	P		P	21 56 58.7 -0.6
	baz=247						
BILL	Bilibino	19.54	319	P		P	21 57 03.9 +0.4
BILL				IAmb		IAmb	21 57 14.1
	comp=Z,138nm,1.3s						
BILL	Bilibino	19.54	319	‖ *e*P		Pn	21 57 04.7 -0.1
BILL				pmax		pmax	
	comp=Z,114nm,1.2s						
BILL				MLR		MLR	
	comp=Z,1μm,16.0s						
A36M	Sachs Harbour	20.02	29	P		P	21 57 06.0 -2.6
A36M				IAmb		IAmb	21 57 23.1
	comp=Z,56nm,0.8s						
A36M	Sachs Harbour	20.02	29	P		P	21 57 07.1 -1.5
	baz=239,SNR=25						
WAPA	Wapiti River	21.32	79	P		P	21 57 22.9 -0.1
HILA	High Level	21.49	69	P		P	21 57 24.6 -0.1
MANA	Manning	21.63	74	P		P	21 57 26.7 +0.5
LLLB	Lillooet	21.91	92	P		P	21 57 29.8 +0.4
LLLB				IAmb		IAmb	21 57 38.4
	comp=Z,63nm,1.0s						
YKA	Yellowknife Ar	22.01	58	P		P	21 57 30.9 +0.7
	comp=Z,31nm,0.8s,baz=273,slow=10.0,SNR=64						
YKA				PcP		PcP	22 01 28.0 +0.2
	comp=Z,4.9nm,0.7s,baz=278,slow=2.1,SNR=11						
YKA					LR	LR	22 07 35.4
	comp=Z,428nm,18.6s,baz=289,slow=41						
	comp=Z,31nm,0.8s						
YKA	Yellowknife Ar	22.01	58	P		P	21 57 31.1 +0.9
YKA	Yellowknife Ar	22.01	58	*i* P		P	21 57 30.8 +0.6
YKA				pmax		pmax	
	comp=Z,34nm,0.9s						

NEW	Newport	25.79	93	P		P		21 58 08.2	+1.1
	baz=305,SNR=16								
NEW	Newport	25.79	93	P		P		21 58 09.0	+1.9
NEW				pmax		pmax			
	comp=Z,32nm,1.5s								
MA2	Magadan	26.61	297	P		P		21 58 15.8	+1.5
	comp=Z,36nm,0.8s,baz=85,slow=12,SNR=11								
MA2				LR		LR		22 08 35.2	
	comp=Z,159nm,21.3s,baz=98,slow=36								
	comp=Z,36nm,0.8s								
MA2	Magadan	26.61	297	P		P		21 58 15.6	+1.3
MA2				IAmb		IAmb		21 58 17.0	
	comp=Z,39nm,0.9s								
MA2	Magadan	26.61	297	*i* P		P		21 58 14.4	+0.1
MA2				pmax		pmax			
	comp=Z,40nm,0.9s								
YBH	Yreka Blue Hor	27.09	109	P		P		21 58 22.1	+3.2
	comp=Z,11nm,1.0s,baz=342,slow=8.3,SNR=11								
YBH				LR		LR		22 06 49.9	
	comp=Z,224nm,18.5s,baz=314,slow=31								
	comp=Z,11nm,1.0s								
WALA	Waterton Lakes	27.09	88	P		P		21 58 18.4	-0.6
WALA				IAmb		IAmb		21 58 22.6	
	comp=Z,94nm,1.6s								
MSO	Missoula	28.38	92	P		P		21 58 31.3	+0.8
	baz=307								
WVOR	Wild Horse Val	28.72	104	P		P		21 58 36.2	+2.7
WVOR				pmax		pmax			
	comp=Z,32nm,0.9s								
RES	Resolute Bay	29.07	29	P		P		21 58 37.0	+0.9
	comp=Z,1.5nm,0.9s,baz=247,slow=7.7,SNR=1.6								
RES				PcP		PcP		22 01 44.0	+0.4
	comp=Z,5.3nm,0.7s,baz=58,slow=0.3,SNR=3.5								
RES				LR		LR		22 10 45.6	
	comp=Z,302nm,18.2s,baz=204,slow=37								
ORV	Oroville	29.32	111	P		P		21 58 38.2	-0.5
ORV	Oroville	29.32	111	P		P		21 58 38.2	-0.5
ORV				pmax		pmax			
	comp=Z,18nm,1.1s								
LRM	Limekiln Ridge	29.81	93	P		P		21 58 43.8	+0.4
EGMT	Eagleton	29.95	87	P		P		21 58 44.8	+0.4
EGMT				IAmb		IAmb		21 58 50.4	
	comp=Z,29nm,0.7s								
EGMT	Eagleton	29.95	87	P		P		21 58 44.9	+0.6
	baz=306,SNR=18								
HLID	Hailey	30.21	98	P		P		21 58 48.6	+1.8
	baz=312,SNR=18								
BCYI	Bear Canyon	30.26	96	P		P		21 58 48.6	+1.3
BOZ	Bozeman (W)	30.40	92	P		P		21 58 50.0	+1.6
	baz=309,SNR=7.2								
FFC	Flin Flon	30.59	70	P		P		21 58 50.5	+0.7
FFC				IAmb		IAmb		21 58 51.5	
	comp=Z,27nm,1.2s								
FFC	Flin Flon	30.59	70	P		P		21 58 50.5	+0.7
FFC				pmax		pmax			
	comp=Z,27nm,1.2s								
BMN	Battle Mountai	30.89	105	P		P		21 58 53.3	+0.6
BMN				IAmb		IAmb		21 58 56.5	
	comp=Z,37nm,1.5s								
BMN	Battle Mountai	30.89	105	P		P		21 58 53.3	+0.6
BMN				pmax		pmax			
	comp=Z,37nm,1.5s								
YHB	Horse Butte	31.18	93	P		P		21 58 55.9	+0.5
YHB				IAmb		IAmb		21 59 01.8	
	comp=Z,33nm,1.1s								
ELK	Elko	31.71	103	LR		LR		22 09 46.9	
	comp=Z,195nm,18.8s,baz=309,slow=32								
ELK	Elko	31.71	103	P		P		21 59 00.8	+0.7
ELK				IAmb		IAmb		21 59 06.2	
	comp=Z,24nm,1.1s								
ELK	Elko	31.71	103	P		P		21 59 00.8	+0.7
ELK				pmax		pmax			
	comp=Z,24nm,1.1s								
H17A	Grant Village	31.75	93	P		P		21 59 03.2	+2.8
	baz=310,SNR=9.3								
NVAR	Mina Array Bea	31.80	109	P		P		21 59 03.5	+2.6
	comp=Z,22nm,0.9s,baz=300,slow=8.7,SNR=104								
NVAR				PcP		PcP		22 01 52.1	+0.4
	comp=Z,1.2nm,0.6s,baz=222,slow=31,SNR=6.9								
	comp=Z,22nm,0.9s								
NVAR	Mina Array Bea	31.80	109	P		P		21 59 02.4	+1.5
RLMT	Red Lodge	31.99	91	P		P		21 59 04.7	+2.2
	baz=310,SNR=11								
FXWY	Fox Creek	32.00	95	P		P		21 59 03.8	+1.2
MLAC	Mammoth, Mammo	32.13	110	P		P		21 59 07.3	+3.5
	baz=320,SNR=8.5								
TPAW	Teton Pass	32.14	95	P		P		21 59 03.9	+0.1
TIXI	Tiksi	32.43	326	LR		LR		22 12 54.5	
	comp=Z,267nm,18.6s,baz=39,slow=38								
TIXI	Tiksi	32.43	326	P		P		21 59 06.3	+0.6
TIXI				IAmb		IAmb		21 59 08.0	
	comp=Z,25nm,0.7s								
TIXI	Tiksi	32.43	326	*ce* P		P		21 59 06.6	+0.9
TIXI				pmax		pmax			
	comp=Z,40nm,1.0s								
AHID	Auburn Hatcher	32.54	96	P		P		21 59 07.7	+0.3
TPH	Tonopah	32.63	108	P		P		21 59 09.1	+1.0
TPH	Tonopah	32.63	108	P		P		21 59 09.1	+1.0
TPH				pmax		pmax			
	comp=Z,133nm,1.0s								
LAO	LASA Array	32.68	86	P		P		21 59 09.3	+1.0
LAO				IAmb		IAmb		21 59 10.8	
	comp=Z,24nm,0.9s								
LAO	LASA Array	32.68	86	P		P		21 59 10.5	+2.2
	baz=308,SNR=5.7								
LAO	LASA Array	32.68	86	P		P		21 59 10.0	+1.7
	baz=308,SNR=5.7								
FCC	Fort Churchill	32.70	60	P		P		21 59 09.2	+1.0
FCC	Fort Churchill	32.70	60	P		P		21 59 09.2	+1.0
FCC				pmax		pmax			
	comp=Z,61nm,1.0s								
DGMT	Dagmar	32.71	82	P		P		21 59 08.4	-0.1
DGMT				IAmb		IAmb		21 59 14.1	
	comp=Z,32nm,0.8s								
DGMT	Dagmar	32.71	82	P		P		21 59 09.9	+1.3
	baz=306,SNR=6.4								
DGMT	Dagmar	32.71	82	P		P		21 59 09.8	+1.3
	baz=306,SNR=6.4								
SPUT	South Promonto	32.81	99	P		P		21 59 10.0	+0.3
SPUT				IAmb		IAmb		21 59 15.4	
	comp=Z,20nm,1.1s								
VOG	Valley Oaks Go	32.87	113	P		P		21 59 12.6	+2.6
	baz=322								
TIN	Tinemaha, Big	32.88	110	P		P		21 59 13.8	+3.6
	baz=320								
R11A	Troy Canyon, C	33.28	106	P		P		21 59 15.7	+2.0
	baz=318,SNR=44								
SMMC	Simmler	33.35	114	P		P		21 59 16.8	+2.5
	baz=323								
GRAC	Grapevine Rang	33.37	110	P		P		21 59 17.2	+2.8
	baz=320,SNR=19								
BW06	Boulder Array	33.38	94	P		P		21 59 16.3	+1.6
	baz=312,SNR=20								
PD31	Pinedale Array	33.38	94	P		P		21 59 15.7	+1.0
PDAR	Pinedale Array	33.38	94	P		P		21 59 16.1	+1.5
	comp=Z,22nm,1.0s,baz=312,slow=5.2,SNR=65								
PDAR				LR		LR		22 10 54.5	
	comp=Z,132nm,20.2s,baz=319,slow=33								
	comp=Z,22nm,1.0s								
PDAR	Pinedale Array	33.38	94	P		P		21 59 15.2	+0.6
VES	Vestal, Richgr	33.39	113	P		P		21 59 16.7	+2.2
	baz=322								
DUG	Dugway, Tooele	33.40	101	P		P		21 59 16.9	+2.1
	baz=316,SNR=16								
DUG	Dugway, Tooele	33.40	101	P		P		21 59 16.9	+2.1
DUG				pmax		pmax			
	comp=Z,17nm,1.3s								
CWC	Cottonwood Cre	33.43	111	P		P		21 59 17.5	+2.4
	baz=321								
PKM	Mcpherson Peak	33.78	115	P		P		21 59 20.6	+2.4
	baz=323,SNR=12								
ISA	Isabella, Lake	33.84	112	P		P		21 59 20.6	+2.1
	baz=322,SNR=20								
TPNV	Topopah Spring	33.98	108	P		P		21 59 20.9	+1.0
TPNV	Topopah Spring	33.98	108	P		P		21 59 22.5	+2.6
	baz=320,SNR=68								
TPNV	Topopah Spring	33.98	108	P		P		21 59 20.9	+1.0
TPNV				pmax		pmax			
	comp=Z,63nm,1.0s								
MPMC	Manual Prospec	34.03	111	P		P		21 59 22.7	+2.4
	baz=321,SNR=12								
FURC	Furnace Creek,	34.03	110	P		P		21 59 22.2	+2.1
	baz=320								
ARVC	Arvin	34.08	113	P		P		21 59 22.2	+1.6
	baz=322								
LRMC	Laurel Mtn Rad	34.38	112	P		P		21 59 25.7	+2.4
	baz=322,SNR=34								
CCAC	Calif City Air	34.47	112	P		P		21 59 24.6	+0.6
CCAC				IAmb		IAmb		22 00 31.7	
	comp=Z,17nm,0.9s								
OSI	Osito Audit: C	34.54	114	P		P		21 59 26.7	+2.1
	baz=323								
EDW2	Edwards Air Fo	34.69	113	P		P		21 59 27.6	+1.6
	baz=322,SNR=9.7								
SHOC	Shoshone, Teco	34.77	110	P		P		21 59 29.2	+2.6
	baz=321,SNR=17								
MVU	Marysvale	34.95	102	P		P		21 59 29.2	+0.9
GSC	Goldstone, Bar	34.97	111	P		P		21 59 30.8	+2.4
	baz=322,SNR=30								
DECC	Green Verdugo	35.02	114	P		P		21 59 30.9	+2.1
	baz=323								
K22A	Casper	35.11	92	P		P		21 59 30.3	+0.7
K22A	Casper	35.11	92	P		P		21 59 30.9	+1.3
	baz=312								
K22A	Casper	35.11	92	P		P		21 59 30.6	+1.0
	baz=312								
RRX	Edison Barstow	35.20	112	P		P		21 59 32.0	+1.7
	baz=322								
SNCC	San Nicolas Is	35.24	116	P		P		21 59 32.3	+1.7
	baz=324								
TUQ	Turquoise Moun	35.31	110	P		P		21 59 33.7	+2.3
	baz=321,SNR=22								
YAK	Yakutsk	35.33	309	LR		LR		22 15 51.4	
	comp=Z,546nm,18.2s,baz=86,slow=40								
YAK	Yakutsk	35.33	309	P		P		21 59 31.1	+0.1
YAK	Yakutsk	35.33	309	*ci* P		P		21 59 31.1	+0.1
YAK				*e*				22 00 51.1	
YAK				*e*				22 02 02.3	
YAK				*eS*		S		22 05 05.1	+0.6
YAK				*e*				22 09 52.8	
YAK				pmax		pmax			
	comp=Z,94nm,1.1s								
YAK				pmax		pmax			
	comp=N,19nm,1.1s								
YAK				pmax		pmax			
	comp=E,33nm,1.1s								
YAK				pmax		pmax			
	comp=Z,128nm,3.3s								
YAK				pmax		pmax			
	comp=E,109nm,2.5s								
YAK				pmax		pmax			
	comp=N,121nm,2.5s								
YAK				smax		smax			
	comp=E,163nm,3.2s								
YAK				smax		smax			
	comp=N,129nm,3.3s								
YAK				MLR		MLR			
	comp=Z,688nm,17.0s								
YAK				MLR		MLR			
	comp=E,445nm,17.0s								
YAK				MLR		MLR			
	comp=N,437nm,18.0s								
BFSC	Mount Baldy Ra	35.37	113	P		P		21 59 34.2	+2.4
	baz=323,SNR=22								
FMP	Fort Macarthur	35.47	114	P		P		21 59 34.3	+1.7
	baz=323								
RSSD	Black Hills	35.49	88	P		P		21 59 33.9	+1.0
RSSD				IAmb		IAmb		21 59 35.5	
	comp=Z,41nm,0.7s								
RSSD	Black Hills	35.49	88	P		P		21 59 34.6	+1.7
	baz=311,SNR=43								
RSSD	Black Hills	35.49	88	P		P		21 59 34.2	+1.3
	baz=311								
RSSD	Black Hills	35.49	88	P		P		21 59 33.9	+1.0
RSSD				pmax		pmax			
	comp=Z,41nm,0.7s								
MDND	Maddock	35.55	80	P		P		21 59 35.1	+1.9
	baz=307,SNR=7.2								
MDND	Maddock	35.55	80	P		P		21 59 34.8	+1.6
	baz=307,SNR=7.2								
HEC	Hector,Ludlow	35.58	111	P		P		21 59 35.5	+1.9
	baz=322,SNR=14								
CIS	Catalina Islan	35.66	115	P		P		21 59 35.2	+0.9
	baz=324								
BBRC	Big Bear Solar	35.72	112	P		P		21 59 36.4	+1.4
	baz=322								
E28A	Huff	35.75	82	P		P		21 59 35.6	+0.7
E28A	Huff	35.75	82	P		P		21 59 36.9	+2.0
	baz=308,SNR=6.4								
O20A	White River Ci	35.91	97	P		P		21 59 37.3	+0.8
O20A				IAmb		IAmb		21 59 42.0	
	comp=Z,52nm,0.8s								
O20A	White River Ci	35.91	97	P		P		21 59 38.2	+1.7
	baz=315,SNR=30								
GMRC	Granite Mounta	35.96	110	P		P		21 59 38.9	+2.0
	baz=322,SNR=25								
MURC	Murrieta	36.11	113	P		P		21 59 39.6	+1.5
	baz=323								
ULM	Lac du Bonnet	36.11	74	P		P		21 59 39.0	+1.1
	comp=Z,20nm,0.5s,baz=303,slow=8.4,SNR=16								
ULM				LR		LR		22 14 31.8	
	comp=Z,319nm,18.8s,baz=310,slow=36								
	comp=Z,20nm,0.5s								
ULM	Lac du Bonnet	36.11	74	P		P		21 59 38.6	+0.7
ULM				IAmb		IAmb		21 59 40.1	
	comp=Z,59nm,1.1s								
ULM	Lac du Bonnet	36.11	74	P		P		21 59 38.6	+0.7
ULM				pmax		pmax			
	comp=Z,59nm,1.1s								
BELC	Belle Mtn. Jos	36.40	111	P		P		21 59 42.3	+1.6
	baz=322,SNR=24								
U15A	North Rim	36.45	105	P		P		21 59 42.0	+0.7
U15A				IAmb		IAmb		21 59 45.0	
	comp=Z,76nm,2.0s								
PFO	Pinyon Flats O	36.47	112	P		P		21 59 42.1	+0.9
PFO				IAmb		IAmb		21 59 51.0	
	comp=Z,32nm,1.1s								
PFO	Pinyon Flats O	36.47	112	P		P		21 59 43.0	+1.7
	baz=323,SNR=10								
PFO	Pinyon Flats O	36.47	112	P		P		21 59 42.2	+0.9
PFO				pmax		pmax			
	comp=Z,32nm,1.2s								
TPFO	Pinon Flats	36.48	112	P		P		21 59 43.0	+1.6
	baz=323,SNR=13								
NEE2	Needles Airpor	36.51	109	P		P		21 59 43.6	+2.2
	baz=321								
N23A	Red Feather La	36.63	94	P		P		21 59 42.9	+0.2
N23A				IAmb		IAmb		21 59 49.1	
	comp=Z,23nm,0.9s								
N23A	Red Feather La	36.63	94	P		P		21 59 43.8	+1.1
	baz=314,SNR=20								
PV23	Carpenter Ridg	36.70	99	P		P		21 59 44.0	+0.6
PV23				IAmb		IAmb		21 59 49.4	
	comp=Z,28nm,0.9s								
IRM	Iron Mountain	36.71	110	P		P		21 59 45.8	+2.5
	baz=322,SNR=45								
109C	Camp Elliot, M	36.73	114	P		P		21 59 43.9	+0.6
109C				IAmb		IAmb		21 59 49.8	
	comp=Z,34nm,0.8s								
109C	Camp Elliot, M	36.73	114	P		P		21 59 45.8	+2.5
	baz=324								
YSS	Yuzh-Sakhalins	36.87	280	*eP*		P		21 59 47.6	+3.2
YSS				*eS*		S		22 05 33.3	+4.9
YSS				*eSS*		SS		22 08 21.5	+12
YSS				pmax		pmax			
	comp=Z,20nm,1.0s								
PV11	David Mesa, Pa	36.89	99	P		P		21 59 45.5	+0.6
PV11				IAmb		IAmb		21 59 51.5	
	comp=Z,26nm,0.8s								
BC3	Big Chuckawall	36.95	111	P		P		21 59 47.2	+1.8
	baz=322,SNR=11								
MONP2	Monument Peak	37.06	113	P		P		21 59 48.7	+2.2
	baz=323,SNR=12								
BAR	Barrett	37.11	113	P		P		21 59 47.8	+1.2
BAR				IAmb		IAmb		21 59 52.9	
	comp=Z,30nm,0.9s								
PDMCI	Parker Dam,Lak	37.11	109	P		P		21 59 48.8	+2.2
	baz=322								
AGMN	Agassiz Nation	37.28	76	P		P		21 59 48.2	+0.3
AGMN				IAmb		IAmb		21 59 49.9	
	comp=Z,58nm,0.8s								
AGMN	Agassiz Nation	37.28	76	P		P		21 59 48.9	+1.0
	baz=307,SNR=20								
AGMN	Agassiz Nation	37.28	76	P		P		21 59 48.9	+1.0
	baz=307,SNR=20								
SMCO	Snowmass	37.28	97	P		P		21 59 48.4	0.0
SWSC	Sam W. Stewart	37.34	112	P		P		21 59 50.5	+2.0
	baz=323								
BLYC	Blythe	37.35	110	P		P		21 59 50.5	+2.0
BLYC				IAmb		IAmb		21 59 54.5	
	comp=Z,64nm,0.9s								
CBX	Cerro Bola	37.41	114	P		P		21 59 50.9	+1.6
IKP	In-Ko-Pah, Jac	37.42	113	P		P		21 59 51.8	+2.5
	baz=324,SNR=8.8								
RMX	La Rumorosa	37.47	113	P		P		21 59 50.8	+0.9
WUAZ	Wupatki	37.62	105	P		P		21 59 51.9	+0.7
WUAZ	Wupatki	37.62	105	P		P		21 59 53.2	+2.1
	baz=320,SNR=9.3								
BRIGG	Briggsdale	37.73	93	P		P		21 59 51.9	0.0
BRIGG				IAmb		IAmb		21 59 58.5	
	comp=Z,24nm,0.8s								
GLA	Glamis	37.74	111	P		P		21 59 54.0	+2.0
	baz=323,SNR=7.9								
KHU	Kahuku	37.82	177	P		P		21 59 53.2	+0.3
KHU	Kahuku	37.82	177	P		P		21 59 53.3	+0.3
KHU				pmax		pmax			
	comp=Z,231nm,1.4s								
MVCO	Mesa Verde	37.88	100	P		P		21 59 54.0	+0.6
MVCO	Mesa Verde	37.88	100	P		P		21 59 54.7	+1.3
	baz=318,SNR=9.3								
Y14A	Wickenburg	37.98	108	P		P		21 59 54.7	+0.7
ESJX	Sierra Juarez	38.02	113	P		P		21 59 54.7	+0.2
SUSD	Miller	38.05	84	P		P		21 59 55.7	+1.2
	baz=311								
SUSD	Miller	38.05	84	P		P		21 59 55.3	+0.9
	baz=311								
B35A	Bob, Littlefor	38.37	75	P		P		21 59 58.0	+0.9
	baz=308,SNR=11								
S22A	4UR Ranch, Cre	38.39	98	P		P		21 59 59.2	+1.4
	baz=317,SNR=12								
Q24A	Divide	38.42	95	P		P		21 59 59.9	+1.9
	baz=316,SNR=12								
113A	Mohawk Valley,	38.51	110	P		P		21 59 59.2	+0.8
F33A	5 Mile Ranch,	38.58	80	P		P		21 59 59.6	+0.7
	baz=310								
OGNE	Ogallala	38.73	90	P		P		22 00 00.7	+0.5
OGNE				IAmb		IAmb		22 00 06.0	
	comp=Z,64nm,0.9s								
OGNE	Ogallala	38.73	90	P		P		22 00 02.0	+1.8
	baz=314								
OGNE	Ogallala	38.73	90	P		P		22 00 01.8	+1.6
	baz=314								
JKA	Kamikawa-asahi	38.77	277	P		P		22 00 00.5	+0.1
JKA				IAmb		IAmb		22 00 05.8	
	comp=Z,33nm,1.1s								
ASAJ	Asahikawa	38.77	277	LR		LR		22 17 26.0	
	comp=Z,190nm,19.5s,baz=26,slow=38								
ASAJ	Asahikawa	38.77	277	P		P		22 00 00.5	0.0
ASAJ				pmax		pmax			
	comp=Z,33nm,1.1s								
W18A	Petrified Fore	38.79	104	P		P		22 00 02.9	+1.9
	baz=320								
SDCO	Great Sand Dun	39.11	97	P		P		22 00 04.8	+1.1
SDCO	Great Sand Dun	39.11	97	P		P		22 00 05.6	+1.8
	baz=317,SNR=14								
SDCO	Great Sand Dun	39.11	97	P		P		22 00 05.4	+1.6
	baz=317,SNR=14								
X18A	Snowflake	39.13	104	P		P		22 00 04.4	+0.6
X18A				IAmb		IAmb		22 00 07.6	
	comp=Z,74nm,1.8s								
PIX	Pinacate	39.63	111	P		P		22 00 08.4	+0.6
214A	Organ Pipe Nat	39.65	110	P		P		22 00 10.2	+2.2
	baz=323,SNR=19								
KSCO	Kaye Shedlock'	39.76	93	P		P		22 00 11.1	+2.1
	baz=316,SNR=17								
KSCO	Kaye Shedlock'	39.76	93	P		P		22 00 10.6	+1.6
	baz=316,SNR=17								
ECSD	EROS Data Cent	39.78	83	P		P		22 00 09.2	+0.2
ECSD	EROS Data Cent	39.78	83	P		P		22 00 09.2	+0.2
	baz=312,SNR=12								
ECSD	EROS Data Cent	39.78	83	P		P		22 00 09.2	+0.2
	baz=312,SNR=12								
EYMN	Ely	39.80	74	P		P		22 00 09.5	+0.4
EYMN	Ely	39.80	74	P		P		22 00 10.4	+1.4
	baz=309,SNR=15								
EYMN	Ely	39.80	74	P		P		22 00 10.0	+1.0
	baz=309,SNR=15								
ERM	Erimo	39.88	274	P		P		22 00 09.9	+0.2
ERM				IAmb		IAmb		22 00 20.1	
	comp=Z,96nm,1.6s								
ERM	Erimo	39.88	274	P		P		22 00 09.9	+0.2
ERM				pmax		pmax			
	comp=Z,96nm,1.6s								
F36A	Milaca	40.05	78	P		P		22 00 11.9	+0.7
F36A				IAmb		IAmb		22 00 16.0	
	comp=Z,53nm,1.1s								
F36A	Milaca	40.05	78	P		P		22 00 12.2	+1.0
	baz=310,SNR=15								
T25A	Trinidad	40.15	96	P		P		22 00 13.0	+0.7
T25A	Trinidad	40.15	96	P		P		22 00 13.9	+1.6
	baz=317,SNR=13								
TUC	Tucson	40.41	107	P		P		22 00 14.8	+0.4
TUC	Tucson	40.41	107	P		P		22 00 16.7	+2.3
	baz=322								
TUC	Tucson	40.41	107	P		P		22 00 14.8	+0.4
TUC				pmax		pmax			
	comp=Z,13nm,1.0s								
BGNE	Belgrade	40.52	86	P		P		22 00 15.8	+0.6
BGNE	Belgrade	40.52	86	P		P		22 00 16.8	+1.7
	baz=314								
BGNE	Belgrade	40.52	86	P		P		22 00 16.3	+1.2
	baz=314								
E38A	The Farm, Brul	40.62	76	P		P		22 00 16.8	+0.9
	baz=310,SNR=13								
ANMO	Albuquerque	40.67	101	LR		LR		22 15 30.5	
	comp=Z,92nm,20.3s,baz=308,slow=34								
ANMO	Albuquerqu	40.67	101	P		P		22 00 17.1	+0.4
ANMO	Albuquerque	40.67	101	P		P		22 00 18.2	+1.5
	baz=319,SNR=9.5								
ANMO	Albuquerque	40.67	101	P		P		22 00 18.2	+1.5
	baz=319								
ANMO	Albuquerque	40.67	101	*ce* P		P		22 00 17.3	+0.6
ANMO				pmax		pmax			
	comp=Z,13nm,1.3s								
ZEA	Zeya	40.74	298	*eP*		P		22 00 16.6	-0.1
ZEA				*eS*		S		22 06 28.7	+2.2
ZEA				pmax		pmax			
	comp=Z,200nm,5.5s								
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
ZEA				smax		smax			
	comp=N,200nm,6.7s								
ZEA				MLR		MLR			
	comp=Z,300nm,11.0s								
SPMN	Marine on St.	40.85	78	P		P		22 00 19.1	+1.3
	baz=311,SNR=17								
SPMN	Marine on St.	40.85	78	P		P		22 00 18.7	+0.9
	baz=311,SNR=17								
Y22D	IRIS PASSCAL I	41.09	102	P		P		22 00 20.9	+0.9
	baz=320								
Y22F	Passcal Instru	41.09	102	P		P		22 00 21.0	+1.0
	baz=320								
Y22A	Socorro	41.17	102	P		P		22 00 23.0	+2.2
	baz=320,SNR=10								
BNM	Barren Site	41.19	102	P		P		22 00 22.0	+1.1
KLR

comp=Z,13nm,1.3s
HEH pmax pmax
comp=Z,180nm,4.8s
HEH LR LR
comp=Z,350nm,13.7s
HEH LR LR
comp=Z,620nm,13.3s
HEH LR LR
comp=Z,750nm,13.1s
SCIA State Center 42.86 82 P **P 22 00 34.3 +0.1**
SCIA IAmb IAmb 22 00 36.2
comp=Z,145nm,1.6s
SCIA State Center 42.86 82 P **P 22 00 34.2 -0.1**
baz=314
I40A Norwalk 42.90 78 P **P 22 00 35.6 +1.0**
baz=312,SNR=23
HSIG 42.95 111 P **P 22 00 36.2 +1.0**
HSIG IAmb IAmb 22 00 40.5
comp=Z,29nm,1.0s
KSU1 Kansas State U 42.98 88 P **P 22 00 35.2 0.0**
KSU1 IAmb IAmb 22 00 39.7
comp=Z,43nm,1.0s
KSU1 Kansas State U 42.98 88 P **P 22 00 36.0 +0.8**
baz=316
KSU1 Kansas State U 42.98 88 P **P 22 00 35.7 +0.4**
baz=316
E43A Lone Tree Farm 43.16 73 P **P 22 00 37.5 +0.8**
baz=311,SNR=9.3
AMTX Amarillo 43.30 96 P **P 22 00 38.2 +0.2**
AMTX IAmb IAmb 22 00 40.5
comp=Z,173nm,2.0s
AMTX Amarillo 43.30 96 P **P 22 00 39.6 +1.6**
baz=319,SNR=11
AMTX Amarillo 43.30 96 P **P 22 00 39.0 +1.0**
baz=319
MSTX Muleshoe 43.40 98 P **P 22 00 40.2 +1.4**
baz=320,SNR=9.9
MSTX Muleshoe 43.40 98 P **P 22 00 39.9 +1.0**
baz=320,SNR=9.9
OK035 E0210 Rd and N 43.56 92 **P 22 00 40.3 +0.3**
N38A Joes South For 43.62 83 P **P 22 00 41.6 +1.2**
baz=314
U32A Winter Ranch, 43.65 92 P **P 22 00 41.9 +1.2**
baz=318,SNR=7.6
JFWS Jewell Farm 43.77 79 P **P 22 00 41.4 -0.1**
JFWS IAmb IAmb 22 00 45.4
comp=Z,58nm,0.8s
JFWS Jewell Farm 43.77 79 P **P 22 00 41.8 +0.3**
baz=313,SNR=16
JFWS Jewell Farm 43.77 79 P **P 22 00 41.4 -0.1**
baz=313,SNR=16
JFWS Jewell Farm 43.77 79 P **P 22 00 41.4 -0.1**
JFWS pmax pmax
comp=Z,58nm,0.8s
I42A Draeger Farm, 43.81 77 P **P 22 00 42.6 +0.8**
baz=313,SNR=10
L40A Anamosa 43.83 80 P **P 22 00 42.5 +0.5**
baz=314,SNR=18
DAG Danmarks Havn 43.91 13 *i*P **P 22 00 41.0 -1.3**
DAG Danmarks Havn 43.91 13 P **P 22 00 39.9 -2.4**
H43A Windswept, Lux 44.03 75 P **P 22 00 43.9 +0.3**
JMM Marumori 44.09 271 P **P 22 00 45.5 +1.4**
JMM IAmb IAmb 22 01 43.4
comp=Z,71nm,1.7s
CLNB Carlsbad 44.10 101 P **P 22 00 45.3 +0.8**
BOD Bodaibo 44.23 310 *e*P **P 22 00 43.8 -1.3**
BOD pmax pmax
comp=Z,44nm,1.6s
P38A Dawn 44.28 85 P **P 22 00 46.1 +0.4**
baz=315,SNR=21
USRK Ussuriysk Ar. 44.40 285 P **P 22 00 47.6 +1.0**
comp=Z,0.9nm,0.6s,baz=33,slow=10.0,SNR=1.1
USRK PcP **PP 22 02 30.4 +0.5**
comp=Z,1.8nm,0.6s,baz=34,slow=2.8,SNR=4.3
USRK LR LR 22 20 12.9
comp=Z,246nm,20.1s,baz=39,slow=37
E46A Sault Ste Mari 44.56 71 P **P 22 00 48.5 +0.7**
T35B Sooner Cattle 44.61 90 P **P 22 00 48.7 +0.3**
baz=317,SNR=6.9
L42A Oliver, Polo 44.70 79 P **P 22 00 48.9 -0.1**
baz=314
SPITS Spitsbergen Ar 44.93 2 LR LR 22 19 42.3
comp=Z,284nm,18.6s,baz=328,slow=36
K43A Burlington 44.93 78 P **P 22 00 51.0 +0.1**
baz=314,SNR=7.5
N41A Harden Midland 44.97 82 P **P 22 00 51.2 0.0**
baz=315,SNR=12
SFJD Kangerlussuaq 44.97 32 LR LR 22 20 13.7
comp=Z,195nm,19.2s,baz=323,slow=37
WMOK Wichita Mounta 44.98 94 **P 22 00 51.9 +0.5**
WMOK IAmb IAmb 22 00 56.9
comp=Z,54nm,1.1s
WMOK Wichita Mounta 44.98 94 P **P 22 00 52.6 +1.2**
baz=319,SNR=42
WMOK Wichita Mounta 44.98 94 P **P 22 00 52.4 +0.9**
baz=319,SNR=42
WMOK Wichita Mounta 44.98 94 P **P 22 00 51.9 +0.5**
WMOK pmax pmax
comp=Z,54nm,1.1s
P40A Paris 45.16 84 P **P 22 00 52.9 +0.2**
baz=316,SNR=14
NRIK Noril'sk 45.39 333 P **P 22 00 55.1 +1.0**
comp=Z,27nm,0.9s,baz=57,slow=7.3,SNR=22
NRIK LR LR 22 24 39.9
comp=Z,255nm,18.5s,baz=38,slow=42
comp=Z,27nm,0.9s
NRIK Noril'sk 45.39 333 P **P 22 00 54.6 +0.5**
NRIK IAmb IAmb 22 00 56.8
comp=Z,22nm,0.8s
NRIK Noril'sk 45.39 333 *ce*P **P 22 00 53.7 -0.4**
NRIK pmax pmax
comp=Z,23nm,0.8s
GLMI Grayling 45.44 73 P **P 22 00 55.3 +0.4**
GLMI Grayling 45.44 73 P **P 22 00 56.0 +1.1**
baz=313
GLMI Grayling 45.44 73 P **P 22 00 55.7 +0.8**
baz=313
L44A Lake County Fo 45.52 78 P **P 22 00 55.9 +0.4**
baz=314
L44A Lake County Fo 45.52 78 P **P 22 00 55.5 -0.1**
baz=314
TUL1 Leonard 45.74 90 **P 22 00 57.5 +0.2**
TUL1 IAmb IAmb 22 01 01.6
comp=Z,27nm,0.8s
TUL1 Leonard 45.74 90 P **P 22 00 57.6 +0.2**
baz=318,SNR=8.7
TUL1 Leonard 45.74 90 P **P 22 00 57.5 +0.2**
baz=318,SNR=8.7
BNX BinXian 45.75 289 ⇑P **P 22 00 56.9 -0.4**
BNX pmax pmax
comp=Z,11nm,1.4s
BNX pmax pmax
comp=Z,260nm,5.2s
S39A Bolivar 45.79 86 P **P 22 00 56.5 -1.2**
baz=317
HDIL Hopedale 45.92 80 P **P 22 00 58.6 -0.1**
HDIL Hopedale 45.92 80 P **P 22 00 59.1 +0.4**
baz=315,SNR=6.7
HDIL Hopedale 45.92 80 P **P 22 00 59.0 +0.3**
baz=315,SNR=6.7
R40A Maddies Statio 45.93 85 P **P 22 00 58.3 -0.5**
baz=316,SNR=13
M44A Midewin, Midew 46.00 79 P **P 22 00 58.9 -0.4**
baz=315
ABTX Abilene, Hawle 46.12 96 P **P 22 01 00.7 +0.3**
ABTX IAmb IAmb 22 01 05.2
comp=Z,42nm,0.9s
ABTX Abilene, Hawle 46.12 96 P **P 22 01 01.1 +0.7**
baz=320,SNR=22
ABTX Abilene, Hawle 46.12 96 P **P 22 01 01.4 +1.0**
baz=320,SNR=22
U38A Gravette 46.12 88 P **P 22 00 59.9 -0.4**
baz=318,SNR=19
MAJO Matsushiro 46.46 272 P **P 22 01 02.6 -0.4**
MAJO IAmb IAmb 22 01 06.5
comp=Z,18nm,0.9s
MAJO Matsushiro 46.46 272 P **P 22 01 03.1 +0.1**
comp=Z,23nm,1.1s
MAJO Matsushiro 46.46 272 *i* P **P 22 01 02.7 -0.4**
MAJO pmax pmax
comp=Z,20nm,1.0s
MJAR Matsushiro Arr 46.46 272 P **P 22 01 02.7 -0.3**
comp=Z,4.1nm,0.7s,baz=33,slow=6.0,SNR=11
MJAR LR LR 22 19 34.5
comp=Z,132nm,20.2s,baz=135,slow=35
comp=Z,4.1nm,0.7s

HHAR Hobbs 46.48 88 P **P 22 01 02.3 -0.9**
HHAR IAmb IAmb 22 01 06.6
comp=Z,16nm,0.8s
HHAR Hobbs 46.48 88 P **P 22 01 02.5 -0.7**
baz=318
TX31 Lajitas Ar. Si 46.51 103 P **P 22 01 04.3 +0.8**
TX31 IAmb IAmb 22 01 05.8
comp=Z,40nm,0.9s
TX31 Lajitas Ar. Si 46.51 103 P **P 22 01 05.2 +1.7**
baz=323,SNR=24
TXAR Lajitas Array 46.51 103 P **P 22 01 05.1 +1.5**
comp=Z,14nm,0.9s,baz=312,slow=5.8,SNR=88
TXAR PcP **PcP 22 02 38.6 +0.7**
comp=Z,1.8nm,0.7s,baz=325,slow=0.8,SNR=3.6
TXAR LR LR 22 18 46.9
comp=Z,180nm,20.9s,baz=308,slow=34
comp=Z,14nm,0.9s
TXAR Lajitas Array 46.51 103 P **P 22 01 04.5 +0.9**
TXAR Lajitas Array 46.51 103 P **P 22 01 04.5 +0.9**
Z35A Perchaven, San 46.88 94 P **P 22 01 06.2 -0.1**
Z35A Perchaven, San 46.88 94 P **P 22 01 07.2 +0.8**
baz=320,SNR=9.5
X37A Clayton 46.95 91 P **P 22 01 08.0 +1.1**
baz=319,SNR=19
SFIN Lafayette 47.22 79 P **P 22 01 09.2 +0.3**
baz=316
SCHQ Schefferville 47.27 52 P **P 22 01 09.0 -0.1**
comp=Z,16nm,1.0s,baz=326,slow=7.5,SNR=8.7
SCHQ LR LR 22 19 54.0
comp=Z,115nm,18.0s,baz=6.0,slow=35
comp=Z,16nm,1.0s
SCHQ Schefferville 47.27 52 P **P 22 01 09.4 +0.3**
LPIG La Paz 47.32 114 LR LR 22 18 09.6
comp=Z,143nm,20.4s,baz=356,slow=32
HPIG 47.37 107 P **P 22 01 10.9 +0.5**
L48A N Adams 47.53 76 P **P 22 01 12.0 +0.6**
baz=315
L48A P **P 22 01 12.0 +0.6**
baz=315
N47A Urbana 47.62 78 P **P 22 01 11.7 -0.3**
baz=315,SNR=20
N47A P **P 22 01 11.7 -0.3**
baz=315,SNR=20
JGF Kuroka 47.62 272 P **P 22 01 12.4 +0.3**
JGF IAmb IAmb 22 02 00.7
comp=Z,33nm,1.5s
JCT Junction City 47.68 98 P **P 22 01 13.4 +0.8**
JCT Junction City 47.68 98 P **P 22 01 13.5 +0.8**
baz=321,SNR=26
JCT Junction City 47.68 98 P **P 22 01 13.8 +1.1**
baz=321,SNR=26
JCT Junction City 47.68 98 P **P 22 01 13.4 +0.8**
JCT pmax pmax
comp=Z,57nm,0.9s
AAM Ann Arbor 47.69 75 P **P 22 01 13.1 +0.5**
baz=315
WHTX Lake Whitney, 47.79 95 P **P 22 01 14.5 +1.2**
baz=320,SNR=7.9
WHTX Lake Whitney, 47.79 95 P **P 22 01 14.6 +1.2**
baz=320,SNR=7.9
MIAR Mount Ida 47.97 90 P **P 22 01 15.1 +0.3**
MIAR Mount Ida 47.97 90 P **P 22 01 14.8 0.0**
baz=319,SNR=24
MIAR Mount Ida 47.97 90 P **P 22 01 15.3 +0.5**
baz=319,SNR=24
MIAR Mount Ida 47.97 90 P **P 22 01 15.1 +0.3**
MIAR pmax pmax
comp=Z,42nm,1.0s
S44A Carbondale 48.00 83 P **P 22 01 15.3 +0.4**
baz=317
CN2 Changchun 48.10 289 *e*P **P 22 01 15.3 -0.4**
CN2 S **S 22 08 10.4 -3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.1s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,200nm,16.0s
WHAR Wooly Hollow 48.12 88 P **P 22 01 15.6 -0.3**
WHAR IAmb IAmb 22 02 26.1
comp=Z,23nm,1.3s
SADO Sadowa 48.30 69 LR LR 22 22 40.5
comp=Z,272nm,19.9s,baz=353,slow=37
O48B Farnell 48.35 78 P **P 22 01 16.7 -1.0**
baz=316,SNR=9.4
N49A Columbus Grove 48.39 76 P **P 22 01 17.9 -0.1**
baz=316,SNR=13
N49A P **P 22 01 17.9 -0.1**
baz=316,SNR=13
PARMO Parma 48.48 85 P **P 22 01 18.7 0.0**
435B Jarrell 48.65 96 P **P 22 01 20.6 +0.6**
435B Jarrell 48.65 96 P **P 22 01 21.0 +1.0**
baz=321
P49A Miami Univ. Ec 49.10 78 P **P 22 01 22.5 -1.0**
baz=316
WCI Wyandotte Cave 49.20 80 P **P 22 01 24.2 0.0**
baz=317
DELO Deloro Mine 49.26 68 P **P 22 01 24.6 +0.1**
DELO IAmb IAmb 22 01 26.2
comp=Z,50nm,1.1s
HALT Halls 49.26 85 P **P 22 01 24.1 -0.6**
N51A Ashland 49.35 75 P **P 22 01 25.4 0.0**
baz=316
N51A P **P 22 01 25.4 0.0**
baz=316
NATX Nacogdoches 49.49 93 P **P 22 01 26.9 +0.4**
NATX Nacogdoches 49.49 93 P **P 22 01 27.9 +1.4**
baz=320,SNR=7.9
NATX Nacogdoches 49.49 93 P **P 22 01 27.1 +0.6**
baz=320,SNR=7.9
ACSO Alum Creek Sta 49.52 76 P **P 22 01 26.8 +0.1**
baz=316,SNR=6.6
ACSO Alum Creek Sta 49.52 76 P **P 22 01 26.7 +0.1**
baz=316,SNR=6.6
833A Chaparral WMA, 49.59 100 P **P 22 01 28.4 +1.1**
baz=322
TRQ Mont Tremblant 49.59 65 P **P 22 01 26.9 -0.4**
J54A Appleton 49.62 70 P **P 22 01 28.2 +0.9**
baz=315
J54A P **P 22 01 28.2 +0.9**
baz=315
ERPA Erie 49.74 72 P **P 22 01 28.9 +0.6**
ERPA Erie 49.74 72 P **P 22 01 29.3 +1.0**
baz=316
ERPA Erie 49.74 72 P **P 22 01 28.2 -0.1**
baz=316
M53A WI Miller and 49.87 73 P **P 22 01 29.5 +0.2**
baz=316,SNR=16
WVT Waverly 49.92 83 P **P 22 01 29.5 -0.2**
WVT IAmb IAmb 22 01 34.0
comp=Z,41nm,0.9s
WVT Waverly 49.92 83 P **P 22 01 30.1 +0.4**
baz=318
WVT Waverly 49.92 83 P **P 22 01 29.5 -0.2**
WVT pmax pmax
comp=Z,41nm,1.0s
ALLY Alegheny Colle 50.00 73 P **P 22 01 30.3 0.0**
ALLY Alegheny Colle 50.00 73 P **P 22 01 30.9 +0.7**
baz=316,SNR=17
O52A Adamsville 50.21 75 P **P 22 01 32.1 +0.1**
baz=316,SNR=11
O52A P **P 22 01 32.1 +0.1**
baz=316,SNR=11
R50A Paris 50.22 79 P **P 22 01 32.5 +0.4**
baz=317,SNR=7.7
R50A P **P 22 01 32.5 +0.4**
baz=317,SNR=7.7
N53A Lisbon 50.24 74 P **P 22 01 32.1 0.0**
baz=316,SNR=11
N53A P **P 22 01 32.1 0.0**
baz=316,SNR=11
HKT Hockley 50.24 95 P **P 22 01 32.7 +0.5**
HKT IAmb IAmb 22 01 35.0
comp=Z,70nm,1.6s
HKT Hockley 50.24 95 P **P 22 01 33.5 +1.4**
baz=321
HKT Hockley 50.24 95 *c i*P **P 22 01 33.2 +1.0**
HKT pmax pmax
comp=Z,49nm,1.6s
WVNY West Valley, N 50.25 71 P **P 22 01 32.1 -0.1**
WVNY West Valley, N 50.25 71 P **P 22 01 32.7 +0.5**
baz=316,SNR=14
OXF Oxford 50.27 86 P **P 22 01 32.4 0.0**

OXF Oxford 50.27 86 P **P 22 01 33.0 +0.6**
baz=319
OXF Oxford 50.27 86 P **P 22 01 32.8 +0.4**
baz=319
OXF Oxford 50.27 86 P **P 22 01 32.4 0.0**
OXF pmax pmax
comp=Z,179nm,1.0s
JMIC Jan Mayen 50.36 13 LR LR 22 24 22.1
comp=Z,148nm,19.5s,baz=74,slow=38
JHS Saijyo 50.38 275 P **P 22 01 33.0 -0.3**
JHS IAmb IAmb 22 02 06.6
comp=Z,30nm,1.3s
P52A Corning 50.41 76 P **P 22 01 32.7 -0.7**
baz=317
O53A New Philadelph 50.45 75 P **P 22 01 33.3 -0.4**
baz=316
SNY Shenyang 50.47 288 ⇑P **P 22 01 33.8 0.0**
SNY S **S 22 08 45.7 -1.2**
SNY pmax pmax
comp=Z,21nm,0.9s
SNY pmax pmax
comp=Z,190nm,4.1s
SNY LR LR
comp=Z,260nm,8.4s
SNY LR LR
comp=Z,580nm,11.0s
SNY LR LR
comp=Z,300nm,11.8s
WCNY West Carthage 50.63 68 P **P 22 01 35.5 +0.5**
baz=316,SNR=6.6
Y45A Yeager Farm, C 50.68 87 P **P 22 01 36.1 +0.6**
baz=319
LONY Lake Ozonia 50.71 66 P **P 22 01 35.0 -0.7**
LONY Lake Ozonia 50.71 66 P **P 22 01 35.2 -0.4**
baz=316
Q52A Bidwell 50.82 77 P **P 22 01 36.0 -0.6**
baz=317
Q52A P **P 22 01 36.0 -0.6**
baz=317
M55A Ridgway 50.84 72 P **P 22 01 37.1 +0.4**
baz=316,SNR=20
M55A P **P 22 01 37.1 +0.4**
baz=316,SNR=20
P53A Whipple 50.91 76 P **P 22 01 37.1 -0.1**
baz=317,SNR=8.0
P53A P **P 22 01 37.1 -0.1**
baz=317,SNR=8.0
L56A Greenwood 50.98 71 P **P 22 01 38.6 +0.8**
baz=316,SNR=25
L56A P **P 22 01 38.6 +0.8**
baz=316,SNR=25
342B Flagon Creek P 51.05 91 P **P 22 01 39.5 +1.2**
baz=320
441A DeRidder 51.06 92 P **P 22 01 40.3 +1.8**
baz=321
PSDB Penn State Uni 51.10 72 P **P 22 01 39.1 +0.5**
baz=317
J58A Remsen 51.26 68 P **P 22 01 40.4 +0.6**
baz=316,SNR=9.5
J58A P **P 22 01 40.4 +0.6**
baz=316,SNR=9.5
KS19 Wonju Array Si 51.35 281 P **P 22 01 40.8 +0.3**
KS19 IAmb IAmb 22 01 44.8
comp=Z,28nm,1.1s
NCB Newcomb 51.36 67 P **P 22 01 40.0 -0.5**
baz=316
KSRS Korea Array 51.36 281 P **P 22 01 41.5 +0.9**
comp=Z,16nm,1.0s,baz=46,slow=7.0,SNR=42
KSRS LR LR 22 24 19.6
comp=Z,107nm,19.4s,baz=55,slow=37
comp=Z,16nm,1.0s
KSAR Wonju Array Be 51.39 281 P **P 22 01 40.8 0.0**
KSAR Wonju Array Be 51.39 281 P **P 22 01 40.8 0.0**
VBMS Vicksburg 51.40 89 P **P 22 01 40.8 -0.1**
VBMS Vicksburg 51.40 89 P **P 22 01 42.1 +1.2**
baz=320
VBMS Vicksburg 51.40 89 P **P 22 01 41.1 +0.2**
baz=320
R53A Hurricane 51.45 77 P **P 22 01 41.0 -0.3**
baz=318
R53A P **P 22 01 41.0 -0.3**
baz=318
Q54A Coxs Mills 51.57 76 P **P 22 01 41.9 -0.2**
baz=317
Q54A P **P 22 01 41.9 -0.2**
baz=317
J59A Piesco 51.58 67 P **P 22 01 42.4 +0.1**
baz=316
J59A P **P 22 01 42.4 +0.1**
baz=316
MCWV Mont Chateau 51.59 74 P **P 22 01 42.3 0.0**
MCWV IAmb IAmb 22 01 46.2
comp=Z,37nm,0.8s
MCWV Mont Chateau 51.59 74 P **P 22 01 42.2 -0.2**
baz=317,SNR=9.8
MCWV Mont Chateau 51.59 74 P **P 22 01 42.0 -0.3**
baz=317,SNR=9.8
X48A Hartselle 51.60 84 P **P 22 01 41.7 -0.7**
baz=319
BINY Binghamton 51.75 69 P **P 22 01 43.7 +0.2**
BINY Binghamton 51.75 69 P **P 22 01 44.2 +0.7**
baz=317,SNR=15
BINY Binghamton 51.75 69 P **P 22 01 44.1 +0.6**
baz=317,SNR=15
E62A Clayton Lake 51.76 61 P **P 22 01 43.4 0.0**
baz=316
E62A P **P 22 01 43.4 0.0**
baz=316
M57A Sunshine Farm, 51.79 71 P **P 22 01 44.1 +0.4**
baz=317,SNR=9.1
M57A P **P 22 01 44.1 +0.4**
baz=317,SNR=9.1
VT1 Waterbury 51.83 65 P **P 22 01 43.5 -0.6**
baz=316
344A Westbrook Farm 51.87 90 P **P 22 01 45.6 +1.2**
baz=320
146A Union 51.87 87 P **P 22 01 45.2 +0.8**
baz=320,SNR=15
SSPA Standing Stone 51.90 72 P **P 22 01 44.3 -0.3**
SSPA Standing Stone 51.90 72 P **P 22 01 45.0 +0.4**
baz=317,SNR=13
SSPA Standing Stone 51.90 72 P **P 22 01 44.8 +0.2**
baz=317
TZTN Tazewell 51.92 80 P **P 22 01 44.8 0.0**
baz=318
Z47A Carrollton 51.98 86 P **P 22 01 45.5 +0.2**
baz=320,SNR=18
S54A Dingess, Beckl 52.19 77 P **P 22 01 46.9 +0.1**
baz=318
S54A P **P 22 01 46.9 +0.1**
baz=318
HCNY Howe Caverns 52.19 68 P **P 22 01 47.5 +0.8**
baz=317,SNR=16
L59A Walton 52.23 69 P **P 22 01 47.8 +0.7**
baz=317,SNR=14
L59A P **P 22 01 47.8 +0.7**
baz=317,SNR=14
LBNH Lisbon 52.31 65 P **P 22 01 47.3 -0.3**
baz=317
KSPA Keystone Colle 52.33 70 P **P 22 01 48.0 +0.3**
KSPA IAmb IAmb 22 01 48.9
comp=Z,41nm,1.0s
KSPA Keystone Colle 52.33 70 P **P 22 01 47.9 +0.2**
baz=317,SNR=5.9
N58A Sunbury 52.36 71 P **P 22 01 48.6 +0.6**
baz=317,SNR=7.4
N58A P **P 22 01 48.6 +0.6**
baz=317,SNR=7.4
ZAIG Zacatecas 52.38 107 P **P 22 01 48.9 +0.2**
Y49A Blount Mountai 52.39 84 P **P 22 01 47.8 -0.5**
baz=319
H62A Milan 52.45 64 P **P 22 01 48.7 +0.1**
baz=317
H62A P **P 22 01 48.7 +0.1**
baz=317
TJN Taejon 52.46 281 P **P 22 01 49.2 +0.5**
TJN Taejon 52.46 281 P **P 22 01 49.3 +0.5**
comp=Z,139nm,2.1s
TJN Taejon 52.46 281 *ce*P **P 22 01 48.6 -0.2**
TKL Tuckaleechee C 52.46 81 LR LR 22 24 07.8
comp=Z,214nm,18.1s,baz=332,slow=36
TKL Tuckaleechee C 52.46 81 P **P 22 01 48.4 -0.4**
TKL Tuckaleechee C 52.46 81 P **P 22 01 48.4 -0.4**
TKL pmax pmax
comp=Z,93nm,1.5s
P57A Homestead Farm 52.68 73 P **P 22 01 50.4 -0.1**
baz=318,SNR=12

P57A P P 22 01 50.4 -0.1
baz=318,SNR=12
LRAL Lakeview Retre 52.69 85 P P 22 01 49.4 -1.2
baz=320,SNR=5.6
LRAL Lakeview Retre 52.69 85 P P 22 01 50.4 -0.2
baz=320,SNR=5.6
JTU Tsushima 52.75 278 P P 22 01 51.1 +0.1
JTU IAmb IAmb 22 01 52.1
comp=Z,48nm,0.9s
XLT XiLinHaoTe 52.77 295 *eP* P 22 01 51.8 +0.7
XLT pP sP 22 01 55.8 -0.9
XLT PcP PcP 22 03 01.0 +0.5
XLT pmax pmax
comp=Z,16nm,0.9s
XLT pmax pmax
comp=Z,260nm,5.0s
XLT LR LR
comp=Z,530nm,12.7s
XLT LR LR
comp=Z,470nm,10.7s
PKME Peaks-Kenny Pk 52.85 62 P P 22 01 51.4 -0.1
baz=317
V53A Saluda 52.97 80 P P 22 01 53.2 +0.5
baz=319,SNR=11
V53A P P 22 01 53.2 +0.5
baz=319,SNR=11
JNU Nakatsue 53.01 275 P P 22 01 52.5 -0.5
NPNY Mohonk Preserv 53.01 69 P P 22 01 53.3 +0.5
baz=317,SNR=9.2
BLA Blacksburg 53.10 77 P P 22 01 53.1 -0.5
BLA IAmb IAmb 22 01 58.9
comp=Z,35nm,0.7s
BLA Blacksburg 53.10 77 P P 22 01 53.5 -0.1
baz=318
BLA Blacksburg 53.10 77 P P 22 01 53.1 -0.5
BLA pmax pmax
comp=Z,35nm,0.7s
MVL Millersville 53.17 72 P P 22 01 54.1 +0.2
MVL IAmb IAmb 22 01 55.3
comp=Z,41nm,1.3s
L61B Northampton 53.24 67 P P 22 01 54.4 -0.1
baz=317
ODNJ Ogdensburg 53.27 69 P P 22 01 55.0 +0.3
baz=318,SNR=10
K62A Royalston 53.30 66 P P 22 01 55.0 0.0
baz=317,SNR=7.0
K62A P P 22 01 55.0 0.0
baz=317,SNR=7.0
BRNY Black Rk. Fore 53.33 69 P P 22 01 55.7 +0.6
baz=318,SNR=15
SDMD Soldier's Deli 53.35 72 P P 22 01 55.5 +0.1
baz=318
KEV Kevo 53.41 358 P P 22 01 55.2 -0.1
KEV Kevo 53.41 358 P P 22 01 55.2 -0.1
KEV pmax pmax
comp=Z,232nm,2.0s
S57A Dark Hollow, R 53.47 75 P P 22 01 56.4 +0.2
baz=318
S57A P P 22 01 56.4 +0.2
baz=318
JETT Jettan, Norway 53.65 1 *eP* P 22 01 58.6 +1.5
TUPA Temple Univers 53.65 71 P P 22 01 57.1 -0.4
baz=318,SNR=17
ARA0 ARCESS Array S 53.65 359 *eP* P 22 01 57.0 -0.2
ARCES ARCESS Array B 53.65 359 P P 22 01 56.5 -0.6
comp=Z,5.2nm,0.8s,baz=21,slow=6.7,SNR=10
ARCES LR LR 22 25 37.2
comp=Z,109nm,19.0s,baz=46,slow=37
comp=Z,5.2nm,0.8s
ARCES ARCESS Array B 53.65 359 P P 22 01 56.6 -0.6
Y52A Lilburn 53.66 82 P P 22 01 57.7 0.0
baz=320
Y52A P P 22 01 57.7 0.0
baz=320
PAL Palisades 53.68 69 P P 22 01 58.4 +0.7
baz=318,SNR=5.8
PAL Palisades 53.68 69 P P 22 01 57.8 +0.1
baz=318,SNR=5.8
PSUB Penn St. - Bra 53.69 71 P P 22 01 58.6 +0.8
baz=318
HRV Adam Dziewonsk 53.76 66 P P 22 01 58.6 +0.3
baz=318
U56A King 53.76 78 P P 22 01 58.8 +0.4
baz=319,SNR=8.4
U56A P P 22 01 58.8 +0.4
baz=319,SNR=8.4
FOR Fordham 53.80 69 P P 22 01 59.4 +0.8
baz=318,SNR=6.0
R58B Mineral 53.88 74 P P 22 01 59.2 -0.1
baz=318,SNR=6.7
R58B P P 22 01 59.2 -0.1
baz=318,SNR=6.7
ZAK Zakamensk 53.92 309 *eP* P 22 01 59.1 -0.4
ZAK pmax pmax
comp=Z,7.0nm,1.2s
CBN Corbin Frederi 53.97 74 P P 22 01 59.7 -0.1
baz=318
WES Weston 53.97 66 P P 22 01 59.0 -0.8
WES IAmb IAmb 22 01 59.6
comp=Z,44nm,1.0s
WES Weston 53.97 66 P P 22 01 59.0 -0.8
WES pmax pmax
comp=Z,44nm,1.0s
BRAL Brewton 54.09 87 P P 22 02 01.1 +0.2
baz=321
ULN Ulaanbaatar 54.13 304 P P 22 02 01.4 +0.2
ULN Ulaanbaatar 54.13 304 P P 22 01 57.1 -4.1
comp=Z,46nm,1.1s
ULN Ulaanbaatar 54.13 304 *ceP* P 22 02 00.9 -0.3
ULN pmax pmax
comp=Z,11nm,1.0s
KMSC Kings Mountain 54.16 79 P P 22 02 01.3 0.0
baz=319,SNR=6.2
KMSC Kings Mountain 54.16 79 P P 22 02 01.0 -0.3
baz=319,SNR=6.2
KTK1 Kautokeino 54.20 360 *eP* P 22 02 01.8 +0.6
BRYW Bryant College 54.20 67 P P 22 02 00.8 -0.7
BRYW IAmb IAmb 22 02 05.3
comp=Z,36nm,1.1s
152A Waverly Hall 54.21 84 P P 22 02 00.9 -0.8
baz=320
GOGA Godfrey 54.32 82 P P 22 02 01.9 -0.6
baz=320
GOGA Godfrey 54.32 82 P P 22 02 01.8 -0.7
GOGA pmax pmax
comp=Z,20nm,0.9s
M63A Gales Ferry 54.33 67 P P 22 02 03.0 +0.6
baz=318,SNR=6.5
M63A P P 22 02 03.0 +0.6
baz=318,SNR=6.5
SONM Songino Array 54.45 305 P P 22 02 04.3 +0.9
comp=Z,13nm,0.7s,baz=43,slow=6.5,SNR=71
SONM PcP PcP 22 03 07.4 +0.5
comp=Z,8.7nm,0.7s,baz=75,slow=2.0,SNR=7.2
SONM LR LR 22 27 24.3
comp=Z,388nm,18.8s,baz=42,slow=38
comp=Z,13nm,0.7s
SONM Songino Array 54.45 305 P P 22 02 04.3 +0.9
SONM IAmb IAmb 22 02 07.9
comp=Z,13nm,0.8s
JSU Suzuyama 54.47 274 P P 22 02 03.7 0.0
JSU IAmb IAmb 22 03 49.5
comp=Z,20nm,1.0s
T59A Double "B" Far 54.79 75 P P 22 02 06.1 +0.3
baz=319,SNR=6.7
T59A P P 22 02 06.1 +0.3
baz=319,SNR=6.7
JSC Jenkinsville 54.85 80 P P 22 02 06.0 -0.3
JSC IAmb IAmb 22 02 10.5
comp=Z,29nm,1.1s
JSC Jenkinsville 54.85 80 P P 22 02 06.0 -0.3
JSC pmax pmax
comp=Z,29nm,1.1s
V58A Windy Hill, Pi 54.85 77 P P 22 02 06.4 +0.1
baz=319,SNR=8.2
V58A P P 22 02 06.4 +0.1
baz=319,SNR=8.2
U59A Littleton 55.13 76 P P 22 02 08.9 +0.5
baz=319,SNR=6.3
U59A P P 22 02 08.9 +0.5
baz=319,SNR=6.3
APA Apatity 55.38 355 ⇓ *i*P P 22 02 03.7 -5.9
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,1μm,11.0s
BJI Beijing 55.58 292 P P 22 02 11.3 -0.2
BJI pP **pP** 22 02 14.5 -1.0
BJI S **S** 22 09 51.4 -5.2
BJI pmax pmax
comp=Z,4.0nm,1.1s
BJI LR LR
comp=Z,42nm,11.6s
BJI LR LR
comp=Z,280nm,12.0s
BJI LR LR
comp=Z,320nm,12.9s
BJT Baijiatuau 55.60 292 P P 22 02 10.9 -0.7
BJT IAmb IAmb 22 03 12.3
comp=Z,9.0nm,0.4s
BJT Baijiatuau 55.60 292 P P 22 02 10.9 -0.7
BJT pmax pmax
comp=Z,9.0nm,0.4s
SGF Sodankyl 55.74 358 P P 22 02 11.5 -0.7
SGF pmax pmax
comp=Z,33nm,0.9s
CNNC Cliffs of the 55.92 77 P P 22 02 14.3 +0.3
baz=320
HHC Hu-ho-hao-te 57.27 296 *eP* P 22 02 26.6 +2.9
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.5s
HHC LR LR
comp=Z,810nm,14.9s
HHC LR LR
comp=Z,810nm,14.3s
HHC LR LR
comp=Z,770nm,14.4s
TIA Tai'an 57.99 288 *eP* P 22 02 27.8 -0.9
TIA S **S** 22 10 27.0 -1.7
TIA pmax pmax
comp=Z,3.0nm,0.6s
TIA pmax pmax
comp=Z,73nm,4.1s
TIA LR LR
comp=Z,120nm,18.5s
TIA LR LR
comp=Z,250nm,17.1s
TIA LR LR
comp=Z,140nm,12.8s
ZAA0 Zalesovo Array 58.20 322 P P 22 02 29.4 -0.5
ZAA0 IAmb IAmb 22 02 36.2
comp=Z,22nm,1.3s
ZALV Zalesovo Beam 58.20 322 P P 22 02 30.2 +0.3
comp=Z,1.9nm,0.5s,baz=26,slow=6.6,SNR=17
ZALV LR LR 22 30 12.6
comp=Z,344nm,19.1s,baz=30,slow=39
comp=Z,1.9nm,0.5s
ZALV Zalesovo Beam 58.20 322 P P 22 02 29.8 -0.1
HNS HongShan 58.33 291 ⇓ P P 22 02 31.7 +0.7
HNS S **S** 22 10 30.2 -2.7
HNS pmax pmax
comp=Z,13nm,1.1s
HNS pmax pmax
comp=Z,210nm,7.6s
HNS LR LR
comp=Z,120nm,11.8s
HNS LR LR
comp=Z,490nm,13.5s
HNS LR LR
comp=Z,360nm,15.7s
TLIG Tlapa 58.78 107 P P 22 02 35.1 +0.6
TLIG IAmb IAmb 22 02 36.6
comp=Z,24nm,1.0s
DWPF Disney Wildern 59.53 85 P P 22 02 39.7 +0.3
baz=322
NJ2 Nanjing 60.30 284 ⇓ P P 22 02 44.6 -0.1
NJ2 pmax pmax
comp=Z,13nm,0.7s
DOMB Dombas 60.75 7 *eP* P 22 02 47.8 +0.4
DGZ Jazzator, Alta 60.77 318 *i*P P 22 02 47.8 -0.1
DGZ pmax pmax
comp=Z,21nm,1.6s
CMIG Matias Romero 61.11 104 LR LR 22 27 55.8
comp=Z,66nm,20.2s,baz=324,slow=34
GUMO Guam 61.22 249 LR LR 22 27 43.0
comp=Z,88nm,20.4s,baz=90,slow=34
KLMR Klimovskoe 61.61 351 *eP* P 22 02 51.4 -1.8
KLMR AMP 22 02 53.6
comp=Z,33nm,1.3s
KLMR Klimovskoe 61.61 351 *eP* P 22 02 51.3 -1.9
KLMR pmax pmax
comp=Z,33nm,1.3s
NC204 NORSAR Array S 61.62 6 P P 22 02 52.6 -0.7
LYN LuoYang 61.68 290 ⇓ P P 22 02 54.8 +0.7
LYN pmax pmax
comp=Z,10.0nm,0.6s
FIA1 FINESS Array S 61.76 358 P P 22 02 53.2 -1.0
FIA1 IAmb IAmb 22 02 54.5
comp=Z,21nm,0.9s
FINES FINESS Array B 61.76 358 P P 22 02 53.7 -0.5
comp=Z,16nm,0.8s,baz=7.8,slow=8.4,SNR=43
FINES LR LR 22 30 11.6
comp=Z,113nm,19.9s,baz=38,slow=36
comp=Z,16nm,0.8s
NB2 NORSAR Subarra 61.88 6 P P 22 02 54.5 -0.6
baz=354,slow=6.9
NB2 NORSAR Subarra 61.88 6 P P 22 02 54.5 -0.6
comp=Z,3.4nm,0.7s,baz=354,slow=6.9
NOA NORSAR Array B 61.88 6 P P 22 02 54.8 -0.3
comp=Z,6.9nm,0.8s,baz=353,slow=6.8,SNR=21
NOA LR LR 22 31 30.0
comp=Z,89nm,18.4s,baz=355,slow=38
comp=Z,6.9nm,0.8s
TEIG Tepich 62.09 96 P P 22 02 56.5 -0.5
NC602 NORSAR Array S 62.21 6 *eP* P 22 02 56.9 -0.3
RAF Rauma 62.22 0 *eP* P 22 02 56.7 -0.6
SVE Sverdlovsk 62.32 337 *eP* P 22 02 58.5 +0.5
KIRV Kirov 62.66 344 LR LR 22 33 31.2
comp=Z,292nm,19.8s,baz=7.4,slow=39
KIRV Kirov 62.66 344 *ceP* P 22 02 59.0 -1.2
HFS Hagfors 62.92 5 LR LR 22 27 45.1
comp=Z,62nm,21.0s,baz=24,slow=34
KURK Kurchatov 62.97 324 P P 22 03 02.2 -0.3
KURK IAmb IAmb 22 03 08.7
comp=Z,50nm,2.0s
KURK Kurchatov 62.97 324 P P 22 03 02.2 -0.3
KURK pmax pmax
comp=Z,50nm,2.0s
MEF Metsahovi 63.02 359 *eP* P 22 03 02.2 -0.4
ARU Arti 63.11 338 LR LR 22 33 29.7
comp=Z,260nm,18.6s,baz=16,slow=39
ARU Arti 63.11 338 P P 22 03 01.9 -1.4
ARU IAmb IAmb 22 03 24.4
comp=Z,11nm,0.9s
ARU Arti 63.11 338 *d iP* P 22 03 02.3 -1.0
ARU 22 03 34.5
ARU S **S** 22 11 34.8 +1.2
ARU SS **SS** 22 15 31.1 -7.2
ARU pmax pmax
comp=Z,18nm,1.3s
ARU MLR MLR
comp=Z,277nm,18.0s
KONO Kongsberg 63.17 7 P P 22 03 03.6 0.0
KONO Kongsberg 63.17 7 P P 22 03 03.6 0.0
KONO pmax pmax
comp=Z,62nm,1.5s
KONO Kongsberg 63.17 7 *eP* P 22 03 03.9 +0.3
CCIG Comitan 63.24 102 P P 22 03 04.7 -0.2
PUL Pulkovo 63.30 355 *ceP* P 22 03 04.6 +0.1
PUL pmax pmax
comp=Z,102nm,0.4s
BRVK Borovoye 63.41 330 P P 22 03 05.0 -0.3
BRVK Borovoye 63.41 330 *ceP* P 22 03 04.7 -0.7
BRVK pmax pmax
comp=Z,15nm,1.7s
BVAR Borovoye Array 63.41 330 LR LR 22 33 45.3
comp=Z,236nm,18.1s,baz=18,slow=39
ZSN Zaisan 63.59 318 *eP* P 22 03 06.8 +0.1
comp=Z,15nm,1.3s,baz=318
ZSN Zaisan 63.59 318 *eP* P 22 03 06.8 +0.1
ZSN pmax pmax
comp=Z,15nm,1.3s
XAN Xi'an 63.88 293 ⇑ P P 22 03 08.3 -0.5
XAN pP sP 22 03 18.1 +3.7
XAN PcP **PcP** 22 03 43.7 -0.8
XAN pmax pmax
comp=Z,10.0nm,1.3s
XAN LR LR
comp=Z,280nm,14.4s
XAN LR LR
comp=Z,470nm,15.8s
XAN LR LR
comp=Z,410nm,16.5s
PETF Flores 63.94 99 P P 22 03 08.5 -0.8
PETF IAmb IAmb 22 03 12.9
comp=Z,37nm,1.3s
GTA Gaotai 63.99 303 ⇑ P P 22 03 09.1 -0.5
GTA pP sP 22 03 13.8 -1.4
GTA sP pP 22 03 16.9 +3.2
GTA PcP **PcP** 22 03 45.0 0.0
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,140nm,7.3s
GTA LR LR
comp=Z,410nm,21.8s
GTA LR LR
comp=Z,500nm,20.4s
GTA LR LR
comp=Z,350nm,20.0s
MTSE Matsula 64.53 359 *eP* P 22 03 11.8 -0.7
VSU Vasula 64.74 357 *eP* P 22 03 13.7 -0.3
VSU Vasula 64.74 357 *i*P P 22 03 12.7 -1.2
VSU pmax pmax
comp=Z,82nm,0.8s
LZH Lanzhou 64.76 298 *eP* P 22 03 14.3 -0.4
LZH pP pP 22 03 18.1 -0.7
LZH sP sP 22 03 20.9 +0.6
LZH pmax pmax
comp=Z,22nm,1.1s
LZH LR LR
comp=Z,530nm,16.8s
LZH LR LR
comp=Z,880nm,15.8s
LZH LR LR
comp=Z,630nm,17.3s
BBSR BB Station 65.03 69 P P 22 03 16.2 0.0
NACB Ninganchiao 65.05 276 P P 22 03 15.8 -0.7
NACB IAmb IAmb 22 03 42.9
comp=Z,15nm,0.9s
MKAR Makanchi Array 65.08 319 P P 22 03 16.0 -0.5
comp=Z,4.8nm,0.7s,baz=48,slow=10.0,SNR=15
comp=Z,4.8nm,0.7s
MKAR Makanchi Array 65.08 319 P P 22 03 15.6 -0.9
MKAR Makanchi Array 65.08 319 *i*P P 22 03 18.1 +1.6
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 65.18 319 P P 22 03 16.6 -0.5
MAKZ Makanchi 65.18 319 P P 22 03 16.6 -0.5
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
BRZS Berezniki 65.47 327 *eP* P 22 03 17.3 -1.6
baz=327
BRZS Berezniki 65.47 327 *eP* P 22 03 17.3 -1.6
WMQ Urumqi 65.56 314 *eP* P 22 03 23.9 +4.2
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ LR LR
comp=Z,490nm,14.7s
WMQ LR LR
comp=Z,84nm,10.5s
WMQ LR LR
comp=Z,300nm,22.1s
SLIT Slitere, Latvi 65.63 0 *eP* P 22 03 19.3 -0.4
SSLB Suanglung 65.71 277 P P 22 03 20.0 -0.8
SSLB Suanglung 65.71 277 P P 22 03 20.0 -0.8
comp=Z,39nm,1.1s
YULB Yu-li 65.84 276 P P 22 03 22.1 +0.4
YULB IAmb IAmb 22 03 26.7
comp=Z,13nm,0.6s
EKA Eskdalemuir Ar 66.04 16 LR LR 22 31 54.1
comp=Z,111nm,20.6s,baz=2.5,slow=36
MTO3 Montecristo 66.28 100 P P 22 03 24.1 -0.7
MTO3 IAmb IAmb 22 03 29.8
comp=Z,18nm,1.0s
ENH Enshi 66.60 290 P P 22 03 25.2 -1.3
ENH IAmb IAmb 22 03 58.7
comp=Z,16nm,1.2s
MOS Moscow 66.84 351 *eP* P 22 03 26.0 -1.5
VSVD Vaisvydziai 67.27 359 *eP* P 22 03 30.0 -0.3
TAOE Nuku Hiva Isla 67.29 161 *eLR* LR 22 23 45.7
comp=Z,438nm,23.7s
OBN Obninsk 67.55 351 P P 22 03 30.4 -1.6
OBN IAmb IAmb 22 03 32.5
comp=Z,20nm,1.1s
OBN Obninsk 67.55 351 *ceP* P 22 03 30.9 -1.1
OBN *i* 22 03 36.2
OBN *e* 22 04 02.4
OBN S **S** 22 12 23.0 -4.8
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,164nm,18.0s
ISAL Salakas 67.65 358 *eP* P 22 03 33.3 +0.6
TGUH Tegucigalpa,Un 67.69 99 P P 22 03 32.1 -1.5
PABE Paberze 67.75 359 P P 22 03 32.6 -0.7
PABE Paberze 67.75 359 *eP* P 22 03 33.1 -0.2
IIGN Ignalina 67.87 358 *eP* P 22 03 34.3 +0.3
TDK Taldyqorghan 68.00 321 *eP* P 22 03 34.2 -0.9
baz=320
TDK Taldyqorghan 68.00 321 *eP* P 22 03 34.2 -0.9
NACGM Naroch 68.30 357 *eP* P 22 03 36.8 0.0
comp=Z,44nm,1.2s,baz=2.6
MNK Minsk 68.67 357 *i*P P 22 03 39.1 0.0
comp=E,3.0nm,1.0s
MNK *i*P P 22 03 39.1 0.0
comp=N,23nm,1.0s
MNK *i*P P 22 03 39.1 0.0
comp=Z,37nm,0.8s,baz=183
MNK *i* PP PP 22 06 10.5 +0.5
MNK *i* PPP PPP 22 07 45.9
MNK *i* S **S** 22 12 42.8 +1.4
MNK *i* SS **SS** 22 17 03.9 -0.6
MNK *i* SSS SSS 22 20 24.6
MNK *i* LR LR 22 33 19.4
MNK *i* LRM MLR 22 35 15.1
comp=N,279nm,14.4s
MNK *i* LRM MLR 22 35 19.8
comp=Z,70nm,13.2s
MNK *i* LRM MLR 22 35 21.9
comp=E,11nm,12.7s
MNK Minsk 68.67 357 *i*P P 22 03 39.1 0.0
MNK *i* 22 06 10.4
MNK *i* PPP PPP 22 07 45.8
MNK *i* S **S** 22 12 42.7 +1.4
MNK *i* SS **SS** 22 17 03.9 -0.6
MNK pmax pmax
comp=Z,37nm,0.8s
MNK pmax pmax
comp=N,23nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK MLR MLR
comp=N,279nm,14.0s
MNK MLR MLR
comp=Z,70nm,13.0s
MNK MLR MLR
comp=E,11nm,13.0s
BELG Belogornoye 68.91 344 LR LR 22 37 22.8
comp=E,368nm,19.4s,baz=33,slow=39
BELG Belogornoye 68.91 344 *i*P P 22 03 39.7 -0.9
BELG pmax pmax
comp=Z,8.0nm,1.5s
CD2 Chengdu 68.98 294 P P 22 03 41.7 +0.2
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=Z,130nm,12.6s
CD2 LR LR
comp=Z,180nm,12.8s
CD2 LR LR
comp=Z,280nm,15.7s
SHLS Shalkode 69.24 319 *eP* P 22 03 40.5 -2.6
comp=Z,4.8nm,0.7s,baz=318
SHLS Shalkode 69.24 319 *eP* P 22 03 40.4 -2.6
SHLS pmax pmax
comp=Z,5.0nm,0.7s
KPKS Kokpek 69.24 320 *eP* P 22 03 42.2 -0.8
comp=Z,12nm,1.7s,baz=320
KPKS Kokpek 69.24 320 *eP* P 22 03 42.2 -0.8
KPKS pmax pmax
comp=Z,12nm,1.7s
MATN Matagalpa 69.35 98 P P 22 03 43.5 -0.5
MATN IAmb IAmb 22 03 48.9
comp=Z,17nm,0.9s
BTLS Baital 69.43 324 *eP* P 22 03 42.4 -1.7

baz=323
BTLS Baital 69.43 324 *e*P **P 22 03 42.3 -1.7**
ABKAR Akbulak array 69.52 335 P **P 22 03 43.7 -0.8**
KUU Kurty 69.68 321 *e*P **P 22 03 43.7 -2.0**
baz=321
KUU Kurty 69.68 321 *e*P **P 22 03 43.6 -2.0**
SATY Saty 69.70 320 *e*P **P 22 03 43.5 -2.4**
baz=320
SATY Saty 69.70 320 *e*P **P 22 03 43.4 -2.4**
LPSR Galich'ya Gora 69.82 349 *e*P **P 22 03 43.5 -2.7**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
GKP Gorka Klasztor 69.92 3 *e*P **P 22 03 46.9 0.0**
GULI GuiLin 70.16 286 ⇑P **P 22 03 45.6 -3.2**
RUE Ruedersdorf 70.56 6 *e*P **P 22 03 51.2 +0.4**
SGDS Sogindy 70.65 322 *e*P **P 22 03 50.7 -1.0**
baz=322
SGDS Sogindy 70.65 322 *e*P **P 22 03 50.6 -1.0**
VORR Voronezh 70.71 349 *e*P **P 22 03 54.6 +2.9**
VORR pmax pmax
comp=Z,20nm,0.6s
VRH Novokhopyorsk 70.89 347 *e*P **P 22 03 49.0 -3.8**
VRH pmax pmax
comp=Z,10.0nm,1.2s
BOOM Boomskoye usch 71.06 321 P **P 22 03 54.4 +0.1**
BOOM IAmb IAmb 22 04 01.3
comp=Z,7.3nm,0.7s
BOOM Boomskoye usch 71.06 321 P **P 22 03 54.4 +0.1**
BOOM pmax pmax
comp=Z,7.0nm,0.7s
TARG Taragay, Kyrgy 71.08 319 P **P 22 03 54.8 +0.1**
TARG Taragay, Kyrgy 71.08 319 P **P 22 03 54.8 +0.1**
TARG pmax pmax
comp=Z,8.0nm,1.1s
GYA Guiyang 71.14 289 ⇓*i*P **P 22 03 55.1 +0.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,210nm,4.6s
VSR Storozhevoye 71.16 349 *e*P **P 22 03 50.6 -3.9**
VSR pmax pmax
comp=Z,20nm,1.4s
AAK Ala-Archa 71.42 322 LR LR 22 38 16.7
comp=Z,359nm,18.3s,baz=25,slow=38
AAK Ala-Archa 71.42 322 P **P 22 03 55.6 -0.9**
AAK Ala-Archa 71.42 322 *ce*P **P 22 03 57.1 +0.7**
AAK pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 71.69 6 P **P 22 03 56.7 -0.9**
CLL Collm 71.69 6 ⇑*i*P **P 22 03 57.0 -0.7**
comp=Z,11nm,1.0s
CLL LmV 22 40 00.0
comp=Z,100nm,19.0s
CLL Collm 71.69 6 ⇑*i*P **P 22 03 57.0 -0.7**
CLL pmax pmax
comp=Z,11nm,1.0s
MEM Membach 71.82 11 *d*P **P 22 03 58.3 -0.2**
comp=Z,9.2nm,1.0s
BTNL Ternell 71.86 11 *d*P **P 22 03 59.2 +0.4**
comp=Z,11nm,1.1s
BCLA Clavier 71.94 11 *d*P **P 22 03 58.7 -0.4**
BGES Gesves 71.95 11 *d*P **P 22 03 58.0 -1.3**
comp=Z,7.7nm,1.0s
BGES *d*pP **pP 22 04 01.6 -1.8**
NRN Naryn 71.97 320 P **P 22 03 59.2 -0.8**
NRN Naryn 71.97 320 P **P 22 03 59.2 -0.8**
NRN pmax pmax
comp=Z,9.0nm,1.2s
BMRD Maredsous 71.99 12 *d*P **P 22 03 59.3 -0.2**
comp=Z,14nm,1.0s
JTS Las Juntas de 72.06 99 LR LR 22 38 28.0
comp=Z,39nm,18.5s,baz=32,slow=38
BHOU Houvegnez 72.07 11 *d*P **P 22 03 59.7 -0.4**
BAIF Baives 72.17 12 *e*P **P 22 04 00.3 -0.3**
BAIF pmax pmax
comp=Z,44nm,1.4s
BRG Berggiesshubel 72.18 6 *i*P **P 22 04 00.3 -0.4**
BRG Amp 22 04 01.5
comp=Z,22nm,1.1s
BRG Berggiesshubel 72.18 6 *i*P **P 22 04 00.2 -0.4**
BRG pmax pmax
comp=Z,22nm,1.2s
DOU Dourbes 72.18 12 *d*P **P 22 03 59.5 -1.1**
comp=Z,6.0nm,0.9s
RCHB Rochefort 72.19 11 *d*P **P 22 04 00.4 -0.2**
comp=Z,8.8nm,1.1s
GIVF Givet 72.20 12 *e*P **P 22 04 01.1 +0.4**
GIVF pmax pmax
comp=Z,36nm,1.4s
KK31 Karatay Array 72.29 325 P **P 22 04 01.0 -0.5**
KK31 Karatay Array 72.29 325 P **P 22 04 01.0 -0.5**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 72.29 325 P **P 22 04 00.8 -0.7**
KKAR Karatay Array 72.29 325 P **P 22 04 00.8 -0.7**
KSP Ksiaz 72.31 4 *e*P **P 22 04 01.1 -0.4**
KSP Ksiaz 72.31 4 P **P 22 04 01.4 0.0**
SDDR Presa de Saban 72.35 82 P **P 22 04 01.2 -1.0**
SDDR IAmb IAmb 22 04 03.6
comp=Z,44nm,1.4s
AKASG Malin Array Be 72.42 355 P **P 22 04 00.8 -1.2**
comp=Z,11nm,0.7s,baz=6.6,slow=5.9,SNR=56
AKASG LR LR 22 38 52.6
comp=Z,107nm,20.1s,baz=40,slow=38
comp=Z,11nm,0.7s
AKASG Malin Array Be 72.42 355 P **P 22 04 00.4 -1.6**
AKBB Malin Array Si 72.42 355 P **P 22 03 60.0 -2.0**
AKBB IAmb IAmb 22 04 01.8
comp=Z,24nm,0.9s
AKBB Malin Array Si 72.42 355 P **P 22 04 00.0 -2.0**
AKBB pmax pmax
comp=Z,24nm,0.9s
VAH Vaihoa 72.55 170 *e*P **P 22 04 05.9 +2.9**
comp=Z,22nm,0.9s
OSTC Ostas 72.60 4 *e*P **P 22 04 02.6 -0.6**
UPC Upice 72.64 4 *e*P **P 22 04 03.3 -0.1**
UPC Upice 72.64 4 *e*P **P 22 04 03.3 -0.1**
HDC Heredia 72.76 98 *e*P **P 22 04 04.9 +0.2**
WLF Walferdange 72.77 11 *d*P **P 22 04 04.7 +0.5**
DPC Dobruska-Polom 72.81 4 *e*P **P 22 04 04.4 0.0**
DPC Dobruska-Polom 72.81 4 *e*P **P 22 04 04.4 0.0**
OJC Ojcow 73.03 2 P **P 22 04 02.8 -2.9**
OJC Ojcow 73.03 2 P **P 22 04 03.5 -2.2**
PRU Pruhonice 73.09 5 *e*P **P 22 04 05.9 -0.2**
PRU Pruhonice 73.09 5 *e*P **P 22 04 05.9 -0.2**
KRLC Kraliky 73.10 4 *e*P **P 22 04 06.0 -0.2**
KRLC Kraliky 73.10 4 *e*P **P 22 04 06.0 -0.2**
GOPC GO Pecny, Ondr 73.18 5 *e*P **P 22 04 07.0 +0.4**
GOPC GO Pecny, Ondr 73.18 5 *e*P **P 22 04 07.0 +0.4**
IUG luzhnay 73.31 325 *e*P **P 22 04 07.2 -0.4**
baz=325
IUG luzhnay 73.31 325 *e*P **P 22 04 07.2 -0.4**
OKC Ostrava-Krasne 73.38 3 *e*P **P 22 04 07.5 -0.3**
OKC Ostrava-Krasne 73.38 3 *e*P **P 22 04 07.5 -0.3**
KRVT Keravat (AS076 73.42 233 LR LR 22 29 35.5
comp=Z,50nm,21.6s,baz=189,slow=30
MORC Moravsky Berou 73.42 3 ⇑P **P 22 04 07.6 -0.6**
MORC Moravsky Berou 73.42 3 P **P 22 04 06.9 -1.2**
MORC Moravsky Berou 73.42 3 *e*P **P 22 04 07.5 -0.6**
MORC Moravsky Berou 73.42 3 P **P 22 04 06.9 -1.2**
MORC pmax pmax
comp=Z,10.0nm,1.0s
LVV L'vov 73.44 359 *e*P **P 22 04 07.4 -0.7**
MANU Manus Island 73.51 239 P **P 22 04 09.3 +0.3**
MANU Manus Island 73.51 239 P **P 22 04 10.1 +1.1**
PZH PanZhiHua 73.60 293 P **P 22 04 09.3 -0.3**
PZH S **SKiKP 22 13 36.3 -2.8**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,170nm,4.8s
PZH LR LR
comp=Z,330nm,14.3s
PZH LR LR
comp=Z,580nm,14.5s
PZH LR LR
comp=Z,450nm,16.5s
H07N1 FLORES T-PHASE 73.62 40 *e*P **P 22 04 11.0 +1.6**
comp=Z,152nm,1.2s
KSH Kashi 73.68 320 P **P 22 04 13.9 +4.0**
KSH PcP **PcP 22 04 30.7 +5.0**
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH LR LR
comp=Z,440nm,18.2s
KSH LR LR
comp=Z,770nm,17.5s
KSH LR LR
comp=Z,550nm,14.9s
MAUC Maruska 73.84 3 *e*P **P 22 04 10.5 -0.1**
STHS Stebnicka Huta 73.85 1 *e*P **P 22 04 09.8 -0.8**
STHS Stebnicka Huta 73.85 1 *e*P **P 22 04 09.9 -0.7**
STHS pmax pmax
comp=Z,19nm,0.9s
VRAC Vranov 73.86 4 ⇑P **P 22 04 10.6 0.0**
VRAC Vranov 73.86 4 *e*P **P 22 04 10.5 -0.1**
VRAC Vranov 73.86 4 P **P 22 04 10.6 0.0**
H07S1 FLORES T-PHASE 73.87 40 *e*P **P 22 04 12.7 +1.8**
comp=Z,234nm,1.6s
KHC Kasperske Hory 73.89 6 P **P 22 04 10.7 -0.2**
KHC IAmb IAmb 22 04 12.1
comp=Z,16nm,0.9s
KHC Kasperske Hory 73.89 6 *e*P **P 22 04 11.1 +0.2**
KHC Kasperske Hory 73.89 6 *e*P **P 22 04 11.1 +0.2**
KRUC Moravsky 74.10 4 *e*P **P 22 04 11.4 -0.6**
CDF Champ du Feu 74.12 10 *e*P **P 22 04 11.6 -0.7**
CDF pmax pmax
comp=Z,21nm,1.3s
GEC2 GERESS Array S 74.19 6 P **P 22 04 12.0 -0.6**
GERES GERESS Array B 74.19 6 P **P 22 04 12.6 -0.1**
comp=Z,5.7nm,0.8s,baz=3.7,slow=4.1,SNR=50
GERES PKPPKP **P'P'df 22 31 49.3 -2.0**
comp=Z,0.9nm,0.8s,baz=264,slow=3.5,SNR=4.8
comp=Z,5.7nm,0.8s
GERES GERESS Array B 74.19 6 P **P 22 04 12.0 -0.6**
GERES GERESS Array B 74.19 6 P **P 22 04 12.0 -0.6**
KMI Kunming 74.24 292 ⇑P **P 22 04 16.3 +2.8**
KMI pP sP 22 04 19.9 +0.8
KMI pmax pmax
KMI comp=Z,11nm,1.2s
KMI LR LR
KMI comp=Z,210nm,18.8s
KMI LR LR
KMI comp=Z,230nm,19.1s
KMI LR LR
comp=Z,220nm,25.4s
CKRC Cesky Krumlov 74.24 5 *e*P **P 22 04 12.5 -0.4**
BFO Black Forest 74.30 10 P **P 22 04 12.8 -0.4**
BFO Black Forest 74.30 10 P **P 22 04 12.8 -0.4**
BFO pmax pmax
comp=Z,6.0nm,0.9s
ECH Echery 74.31 10 P **P 22 04 12.9 -0.4**
ECH IAmb IAmb 22 04 14.0
comp=Z,17nm,1.0s
ECH Echery 74.31 10 P **P 22 04 12.9 -0.4**
ECH pmax pmax
comp=Z,17nm,1.0s
KOLS Kolonicke sedl 74.34 0 *e*P **P 22 04 14.0 +0.6**
KOLS Kolonicke sedl 74.34 0 *e*P **P 22 04 14.0 +0.6**
KOLS pmax pmax
comp=Z,16nm,0.9s
HAU Haudompre 74.43 11 *e*P **P 22 04 13.3 -0.7**
HAU pmax pmax
comp=Z,12nm,0.9s
UZH Uzhgorod 74.64 360 ⇑*i*P **P 22 04 14.8 -0.3**
UZH *i* 22 04 26.7
HINF Hinteralfeld 74.67 11 *e*P **P 22 04 14.6 -0.8**
HINF pmax pmax
comp=Z,19nm,1.4s
PPT Papeete 74.69 172 LR LR 22 28 33.7
comp=Z,191nm,21.8s,baz=344,slow=29
TIAR Tiarei 74.69 172 *e*P **P 22 04 18.6 +2.9**
comp=Z,7.9nm,1.0s
PPT2 Papeete2 74.71 172 *e*LR LR 22 27 12.0
comp=Z,323nm,31.8s
PPT2 *e*LR LR 22 27 12.4
comp=Z,357nm,26.5s
VYHS Vyhne 74.74 2 *e*P **P 22 04 15.3 -0.5**
VYHS Vyhne 74.74 2 *e*P **P 22 04 15.3 -0.5**
VYHS pmax pmax
comp=Z,20nm,1.1s
MODS Modra-Piesok 74.82 3 *e*P **P 22 04 14.8 -1.4**
MODS Modra-Piesok 74.82 3 *e*P **P 22 04 16.2 0.0**
MODS Modra-Piesok 74.82 3 *e*P **P 22 04 14.8 -1.4**
HNR Honiara 74.83 224 LR LR 22 30 14.0
comp=Z,769nm,20.4s,baz=348,slow=30
LOR Lormes 74.88 13 *e*P **P 22 04 15.9 -0.7**
LOR pmax pmax
comp=Z,16nm,1.2s
BTK Batken 74.95 323 P **P 22 04 17.1 -0.1**
BTK IAmb IAmb 22 04 20.3
comp=Z,15nm,1.1s
BTK Batken 74.95 323 P **P 22 04 17.1 -0.1**
BTK pmax pmax
comp=Z,15nm,1.1s
MFF Saint Martin d 74.99 16 *e*P **P 22 04 16.8 -0.4**
MFF pmax pmax
comp=Z,23nm,1.3s
SORM Soroca 75.02 356 ⇓P **P 22 04 16.4 -1.0**
SORM Soroca 75.02 356 P **P 22 04 16.3 -1.0**
SSF Saint Saulge 75.04 13 *e*P **P 22 04 17.0 -0.5**
SSF pmax pmax
comp=Z,24nm,1.1s
TRPA Tarpa 75.14 360 ⇓P **P 22 04 18.1 +0.1**
DRK Karamyk 75.15 322 P **P 22 04 17.6 -1.0**
CONA Conrad Observa 75.21 4 *i*P **P 22 04 18.6 0.0**
comp=Z,12nm,0.9s,SNR=5.5
MOA Molln 75.21 6 *e*P **P 22 04 18.9 +0.4**
comp=Z,15nm,1.4s
AVF Avril sur Loir 75.28 13 *e*P **P 22 04 18.2 -0.7**
AVF pmax pmax
comp=Z,24nm,1.2s
BIOA Bad Ischl, Aus 75.33 6 *e*P **P 22 04 18.9 -0.3**
comp=Z,8.5nm,1.2s
PSZ Piszkesteto 75.34 2 ⇑P **P 22 04 20.0 +0.7**
PSZ Piszkesteto 75.34 2 P **P 22 04 19.2 -0.1**
PSZ IAmb IAmb 22 04 20.5
comp=Z,18nm,1.1s
PSZ Piszkesteto 75.34 2 P **P 22 04 19.2 -0.1**
PSZ pmax pmax
comp=Z,18nm,1.1s
PCED Cedros 75.41 39 *e*P **P 22 04 21.5 +1.7**
comp=Z,87nm,1.4s
CALA Caldeira 75.46 39 *e*P **P 22 04 21.9 +1.8**
comp=Z,142nm,1.8s
SMF Signal de Mont 75.49 13 *e*P **P 22 04 19.3 -0.8**
SMF pmax pmax
comp=Z,21nm,1.0s
ROSA Rosais 75.49 39 *e*P **P 22 04 21.9 +1.7**
comp=Z,82nm,1.7s
MOTA Moosalm 75.51 8 *e*P **P 22 04 19.5 -0.9**
comp=Z,15nm,1.0s,SNR=6.2
HOR Horta 75.53 39 *e*P **P 22 04 19.5 -0.9**
comp=Z,116nm,1.2s
WATA Walderalm 75.56 8 *e*P **P 22 04 20.4 -0.3**
comp=Z,22nm,0.9s,SNR=7.7
BMR Baia Mare 75.59 359 ⇑P **P 22 04 21.0 +0.3**
BMR Baia Mare 75.59 359 P **P 22 04 21.0 +0.3**
BUR08 Bucovina Ar. S 75.60 358 P **P 22 04 20.3 -0.6**
PMAN Manadas 75.62 39 *e*P **P 22 04 22.4 +1.4**
comp=Z,105nm,1.4s
BURAR Bucovina Array 75.63 358 ⇓P **P 22 04 20.1 -0.9**
BURAR Bucovina Array 75.63 358 P **P 22 04 20.2 -0.8**
BURAR Bucovina Array 75.63 358 P **P 22 04 20.1 -0.9**
WTTA Wattenberg 75.63 7 *e*P **P 22 04 21.2 +0.1**
comp=Z,26nm,1.0s,SNR=6.1
SQTA Sankt Quirin 75.64 8 *i*P **P 22 04 21.0 -0.1**
GCPR Guaynabo City 75.70 79 P **P 22 04 21.4 -0.3**
GCPR IAmb IAmb 22 04 26.9
comp=Z,33nm,0.9s
PPNO Prainha do Nor 75.70 39 *e*P **P 22 04 21.8 +0.3**
comp=Z,75nm,1.3s
PID Ribeirinha 75.78 39 *e*P **P 22 04 23.1 +1.2**
comp=Z,75nm,1.5s
FETA Feichten 75.81 8 *i*P **P 22 04 21.9 -0.2**
comp=Z,17nm,1.0s,SNR=6.4
SJG San Juan 75.83 79 LR LR 22 41 23.9
comp=Z,86nm,18.2s,baz=326,slow=38
ARSA Arzberg 75.87 5 *i*P **P 22 04 21.6 -0.7**
comp=Z,7.1nm,0.9s
KBA Koelnbreinsper 75.93 6 *i*P **P 22 04 23.2 +0.4**
comp=Z,32nm,1.2s
DAVOX Davos/Dischmat 75.98 9 LR LR 22 41 32.7
comp=Z,62nm,18.5s,baz=47,slow=39
LSA Lhasa 76.01 303 P **P 22 04 23.4 -0.5**
LSA Lhasa 76.01 303 P **P 22 04 23.4 -0.5**
LSA pmax pmax
comp=Z,9.0nm,0.9s
GAR Garm 76.07 323 P **P 22 04 23.0 -0.7**
GAR IAmb IAmb 22 04 29.4
comp=Z,32nm,1.1s
FUORN Ofenpass-Fuorn 76.17 9 P **P 22 04 24.4 +0.1**
ABTA Abfaltersbach 76.20 7 *i*P **P 22 04 23.7 -0.6**
comp=Z,12nm,1.1s
MILM Milestii Mici 76.21 355 ⇑P **P 22 04 23.5 -0.8**
MILM Milestii Mici 76.21 355 P **P 22 04 23.4 -0.8**
SOKA Soboth 76.42 5 *i*P **P 22 04 25.2 -0.3**
comp=Z,18nm,1.2s
TNCH TengChong 76.43 295 ⇑P **P 22 04 26.0 0.0**
TNCH pP pP 22 04 28.7 -1.4
TNCH sP sP 22 04 31.7 0.0
TNCH PcP **PcP 22 04 38.1 +0.4**
TNCH PP **PP 22 07 21.3 +4.0**
TNCH S **S 22 14 11.2 0.0**
TNCH pmax pmax
comp=Z,11nm,1.2s
TNCH pmax pmax
comp=Z,150nm,5.0s
TNCH LR LR
comp=Z,140nm,16.1s
TNCH LR LR
comp=Z,220nm,15.3s
TNCH LR LR
comp=Z,140nm,15.5s
RJF Les Rejaudoux 76.50 15 *e*P **P 22 04 25.2 -0.7**
RJF pmax pmax
comp=Z,33nm,1.5s
CJR Cluj-Napoca 76.56 359 ⇑P **P 22 04 25.9 -0.4**
CJR Cluj-Napoca 76.56 359 P **P 22 04 25.8 -0.4**
OBKA Obir 76.56 5 *i*P **P 22 04 26.2 -0.1**
comp=Z,27nm,0.8s
GOF Gofitskoye 76.74 345 ⇑*e*P **P 22 04 27.0 -0.3**
LFF La Frestale 76.74 16 *e*P **P 22 04 26.8 -0.4**
LFF pmax pmax
comp=Z,22nm,0.8s
CHGR Chuyangaron 76.76 324 P **P 22 04 27.3 -0.3**
CHGR Chuyangaron 76.76 324 P **P 22 04 27.3 -0.3**
CHGR pmax pmax
comp=Z,40nm,0.8s
DAV Davao City (W) 76.88 263 LR LR 22 36 10.7
comp=Z,55nm,20.0s,baz=47,slow=34
DAV Davao City (W) 76.88 263 P **P 22 04 29.4 +1.0**
LPL La Plagne 76.93 11 *e*P **P 22 04 29.7 +1.1**
LPL pmax pmax
comp=Z,7.0nm,1.1s
CAF Calviac 76.94 15 *e*P **P 22 04 27.9 -0.6**
CAF pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 76.95 11 *e*P **P 22 04 29.0 +0.2**
LPG pmax pmax
comp=Z,13nm,1.2s
MORH Mrgy, Hungar 77.01 3 ⇑P **P 22 04 28.3 -0.5**
PSET Sete Cidades 77.14 37 *e*P **P 22 04 31.2 +1.5**
comp=Z,96nm,1.9s
MSVF Nonsavu 77.25 204 LR LR 22 30 35.7
comp=Z,160nm,20.6s,baz=345,slow=29
MSVF Nonsavu 77.25 204 P **P 22 04 30.7 +0.3**
MSVF IAmb IAmb 22 04 35.3
comp=Z,27nm,1.0s
MSVF Nonsavu 77.25 204 P **P 22 04 32.0 +1.7**
comp=Z,33nm,1.1s
MSVF Nonsavu 77.25 204 P **P 22 04 30.7 +0.3**
MSVF pmax pmax
comp=Z,27nm,1.0s
CMLA Cha da Macela 77.26 37 *e*P **P 22 04 32.9 +2.6**
comp=Z,133nm,1.7s
DOPR Dopca 77.27 358 ⇑P **P 22 04 30.9 +0.7**
VIVF Saint-Julien-l 77.35 13 *e*P **P 22 04 30.3 -0.4**
VIVF pmax pmax
comp=Z,9.0nm,1.0s
PLOR Plostina 77.36 357 ⇑P **P 22 04 31.0 +0.2**
PLOR Plostina 77.36 357 P **P 22 04 30.9 +0.2**
BART Pico Bartolome 77.37 37 *e*P **P 22 04 31.3 +0.3**
comp=Z,114nm,1.2s
COVR Voineasa-Covas 77.38 357 ⇓P **P 22 04 31.6 +0.7**
BNI Bardonecchia 77.39 11 P **P 22 04 30.6 -0.4**
BNI IAmb IAmb 22 04 33.0
comp=Z,35nm,0.9s
BNI Bardonecchia 77.39 11 P **P 22 04 30.7 -0.4**
BNI pmax pmax
comp=Z,35nm,1.0s
ORIF Oris-en-Rattie 77.43 12 *e*P **P 22 04 30.8 -0.4**
ORIF pmax pmax
comp=Z,14nm,1.2s
GENI Genyem 77.45 245 P **P 22 04 31.4 -0.2**
comp=Z,29nm,0.8s
SURR Surduc 77.52 0 ⇑P **P 22 04 31.1 -0.5**
TEOL Teolo 77.53 8 P **P 22 04 31.0 -0.7**
BZS Buzias 77.66 0 ⇓P **P 22 04 31.9 -0.5**
BZS Buzias 77.66 0 P **P 22 04 31.8 -0.5**
MBDF Montbardon 77.72 11 *e*P **P 22 04 34.2 +1.3**
MBDF pmax pmax
comp=Z,11nm,0.9s
MLR Muntele Rosu 77.74 357 ⇑P **P 22 04 33.8 +0.8**
KVAR Kislovodsk Arr 77.87 345 LR LR 22 41 55.6
comp=Z,130nm,21.6s,baz=258,slow=38
KIV Kislovodsk 77.87 345 ⇑P **P 22 04 34.0 +0.2**
KIV Kislovodsk 77.87 345 P **P 22 04 33.2 -0.6**
KIV Kislovodsk 77.87 345 *e*P **P 22 04 33.1 -0.6**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,101nm,18.0s
GZR Gura Zlata 77.88 360 ⇑P **P 22 04 33.1 -0.6**
GZR Gura Zlata 77.88 360 P **P 22 04 33.1 -0.6**
ARR Arges 77.89 358 ⇑P **P 22 04 34.2 +0.5**
URIC Uribia, Colomb 77.95 87 P **P 22 04 33.9 -0.5**
URIC IAmb IAmb 22 04 39.4
comp=Z,12nm,0.9s
RAR Rarotonga 78.02 182 LR LR 22 30 09.7
comp=Z,110nm,21.6s,baz=319,slow=29
KBZ Khabaz 78.07 345 P **P 22 04 34.6 -0.1**
comp=Z,7.6nm,1.0s,baz=316,slow=3.6,SNR=11
KBZ LR LR 22 41 57.5
comp=Z,189nm,21.8s,baz=13,slow=38
comp=Z,7.6nm,1.0s
KBZ Khabaz 78.07 345 *ce*P **P 22 04 34.6 -0.1**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
MAK Makhachkala 78.09 341 *e*P P 22 04 30.2 -4.6
MAK *e* 22 07 26.1
MAK *e*PPP PPP 22 09 15.1
MAK *e*S **S 22 14 20.9 -7.3**
MAK *e*SS **SS 22 19 28.8 +0.5**
MAK pmax pmax
comp=Z,75nm,1.4s
MSSA Maissana 78.39 9 P **P 22 04 35.4 -1.1**
MSSA IAmb IAmb 22 04 39.2
comp=Z,19nm,0.9s
PBRG Braganca 78.48 22 *e*P **P 22 04 41.2 +4.1**
comp=Z,18nm,1.5s
MTLF Montolieu 78.52 15 *e*P **P 22 04 36.8 -0.4**
MTLF pmax pmax
comp=Z,13nm,0.9s
ETSF Etsaut 78.54 17 *e*P **P 22 04 37.4 0.0**
ETSF pmax pmax
comp=Z,8.0nm,0.8s
EPF Esparros 78.55 16 *e*P **P 22 04 36.4 -1.1**
EPF pmax pmax
comp=Z,14nm,1.3s
SBF Sospel 78.64 11 *e*P **P 22 04 37.1 -0.8**
SBF pmax pmax
comp=Z,12nm,0.8s
PVRL Vila Real 78.79 23 *e*P **P 22 04 42.5 +3.7**
comp=Z,39nm,1.4s
SRPI Serui, Papua 78.80 249 P **P 22 04 39.7 +0.7**
ZEI Tsey 78.84 344 *e*P **P 22 04 38.2 -1.0**
ZEI pmax pmax
comp=Z,9.0nm,1.6s
MVO Moncorvo 79.04 22 *e*P **P 22 04 40.9 +0.7**
comp=Z,22nm,1.5s
MVO Moncorvo 79.04 22 *e*LR LR 22 32 40.8
comp=Z,121nm,22.0s
MWPI Manokwari, Pap 79.12 251 P **P 22 04 39.5 -1.3**
comp=Z,74nm,1.5s
SHL Shillong 79.18 300 P **P 22 04 39.4 -1.9**
SHL IAmb IAmb 22 07 36.2
comp=Z,15nm,0.3s
SHL Shillong 79.18 300 P **P 22 04 39.4 -1.9**
SHL pmax pmax
comp=Z,15nm,0.3s
WAMI Wamena 79.28 245 P **P 22 04 42.9 +1.2**
comp=Z,72nm,0.6s
PVIS Viseu 79.29 23 *e*P **P 22 04 42.3 +0.7**

comp=Z,34nm,1.5s
AKT Akhty 79.48 341 *e*P **P 22 04 41.9 -0.8**
AKT *e* 22 04 49.5
AKT pmax pmax
comp=Z,8.0nm,1.0s
RKPI Ransiki, Papua 79.55 251 P **P 22 04 43.9 +0.7**
comp=Z,27nm,1.1s
TAPN Taplejung 79.58 305 *e*P **P 22 04 43.5 -0.1**
comp=Z,16nm,0.5s
MTE Manteigas 79.67 23 *e*P **P 22 04 43.8 +0.2**
comp=Z,46nm,1.4s
MTE Manteigas 79.67 23 *e*LR LR 22 32 47.9
comp=Z,90nm,18.0s
SGSI Sangihe 79.73 261 P **P 22 04 42.4 -1.8**
PCAS Casmilo, Conde 79.80 24 *e*P **P 22 04 43.8 -0.5**
comp=Z,57nm,1.6s
NONG Nongkai 79.88 287 P **P 22 04 44.9 -0.1**
comp=Z,14nm,1.1s
NIL Nilore 79.90 319 P **P 22 04 44.4 -0.6**
NIL IAmb IAmb 22 04 50.2
comp=Z,18nm,1.1s
NIL Nilore 79.90 319 P **P 22 04 44.4 -0.6**
NIL pmax pmax
comp=Z,18nm,1.1s
GUN Gumba 79.91 306 *e*P **P 22 04 45.3 -0.2**
comp=Z,37nm,1.1s
JIRN Jiri 79.98 306 *e*P **P 22 04 45.9 0.0**
comp=Z,39nm,0.5s
GAMI Galela, Maluku 80.07 258 P **P 22 04 45.3 -0.7**
comp=Z,35nm,0.5s
PMG Port Moresby 80.11 235 P **P 22 04 45.5 -0.6**
PMG IAmb IAmb 22 04 50.0
comp=Z,25nm,1.1s
PMG Port Moresby 80.11 235 P **P 22 04 46.6 +0.5**
comp=Z,418nmcomp=Z,22nm,1.1s
PMG Port Moresby 80.11 235 *ce*P **P 22 04 46.5 +0.5**
PMG pmax pmax
comp=Z,22nm,1.0s
MND Mandalay 80.14 295 P **P 22 04 45.1 -1.3**
comp=Z,11nm,1.2s
PCBR Castelo Branco 80.22 23 *e*P **P 22 04 47.0 +0.5**
comp=Z,22nm,1.2s
PSBE So Bento 80.25 24 *e*P **P 22 04 47.3 +0.6**
comp=Z,64nm,1.5s
PKI Pulchoki 80.41 307 *e*P **P 22 04 47.6 -0.5**
PKIN Phulchoki 80.41 307 *e*P **P 22 04 47.6 -0.5**
RAMN Ramite 80.42 305 *e*P **P 22 04 47.7 -0.4**
comp=Z,39nm,0.8s
TBI Tubual 80.43 172 *e*LR LR 22 29 50.6
comp=Z,2µm,30.5s
TBI *e*LR LR 22 29 50.8
comp=Z,4µm,28.5s
DANN Dangsing 80.44 308 *e*P **P 22 04 48.3 0.0**
comp=Z,31nm,0.7s
DMN Daman 80.50 307 *e*P **P 22 04 48.4 -0.2**
comp=Z,12nm,0.4s
SIJI Sorong 80.51 253 LR LR 22 37 34.4
comp=Z,54nm,18.7s,baz=30,slow=33
GEYT Alibeck 80.62 332 P **P 22 04 49.4 +0.6**
comp=Z,2.3nm,0.6s,baz=331,slow=5.8,SNR=7.7
GEYT LR LR 22 45 29.6
comp=Z,211nm,19.2s,baz=36,slow=39
comp=Z,2.3nm,0.6s
GEYT Alibeck 80.62 332 P **P 22 04 48.6 -0.2**
GYA0B ALIBECK ARRAY 80.62 332 P **P 22 04 48.3 -0.5**
PMRV Marv??o 80.63 23 *e*P **P 22 04 50.1 +1.3**
comp=Z,21nm,1.5s
PMAFR Mafra 80.67 24 *e*P **P 22 04 45.5 -3.5**
comp=Z,67nm,1.9s
PMTG Montargil 80.80 24 *e*P **P 22 04 49.7 +0.1**
comp=Z,15nm,1.3s
PACT Alcochete 80.95 24 *e*P **P 22 04 52.7 +2.3**
comp=Z,158nm,1.6s
UBPT Khong Chiam 80.97 284 P **P 22 04 50.5 -0.4**
UBPT IAmb IAmb 22 04 52.0
comp=Z,23nm,0.9s
UBPT Khong Chiam 80.97 284 P **P 22 04 51.3 +0.4**
comp=Z,31nm,1.6s
SDV Santo Domingo 81.02 88 LR LR 22 43 09.5
comp=Z,40nm,18.7s,baz=339,slow=37
SDV Santo Domingo 81.02 88 P **P 22 04 50.6 -0.7**
SDV Santo Domingo 81.02 88 *e*P **P 22 04 51.3 -0.1**
PHRA Phrae 81.03 290 P **P 22 04 50.3 -0.8**
ESBB Sonseca Array 81.08 20 P **P 22 04 51.2 -0.1**
ESBB IAmb IAmb 22 04 55.5
comp=Z,24nm,1.4s
ESDC Sonseca Array 81.08 20 P **P 22 04 51.5 +0.3**
comp=Z,8.2nm,0.9s,baz=343,slow=5.2,SNR=35
ESDC PKKPbc **PKKPbc 22 23 24.4 -0.5**
comp=Z,1.0nm,1.0s,baz=194,slow=2.0,SNR=4.9
ESDC PKPPKP **P'P'df 22 31 32.9 -5.5**
comp=Z,0.5nm,0.9s,baz=112,slow=1.4,SNR=4.2
ESDC LR LR 22 40 50.3
comp=Z,80nm,21.8s,baz=348,slow=36
comp=Z,8.2nm,0.9s
ESDC Sonseca Array 81.08 20 P **P 22 04 51.4 +0.1**
ESDC IAmb IAmb 22 04 55.5
comp=Z,21nm,1.4s
PESTR Estremoz 81.13 23 *e*P **P 22 04 51.7 +0.3**
comp=Z,20nm,1.5s
TNTI Ternate 81.19 258 P **P 22 04 51.5 -0.5**
TNTI IAmb IAmb 22 04 52.4
comp=Z,23nm,0.9s
TNTI Ternate 81.19 258 P **P 22 04 52.3 +0.3**
comp=Z,31nm,0.9s
GNI Garni 81.29 343 LR LR 22 46 08.9
comp=Z,218nm,19.6s,baz=12,slow=40
CHTO Chiang Mai 81.42 291 P **P 22 04 52.1 -1.2**
CHTO Chiang Mai 81.42 291 P **P 22 04 52.1 -1.2**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
PNCL Nicolau / Gran 81.65 24 *e*P **P 22 04 54.8 +0.6**
comp=Z,30nm,1.1s
CM31 Chiang Mai Arr 81.72 291 P **P 22 04 54.0 -0.9**
CM31 IAmb IAmb 22 04 55.7
comp=Z,34nm,1.2s
CMAR Chiang Mai Arr 81.72 291 P **P 22 04 54.6 -0.3**
comp=Z,14nm,0.9s,baz=16,slow=5.5,SNR=81
CMAR LR LR 22 45 33.8
comp=Z,72nm,18.1s,baz=10.0,slow=39
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 81.72 291 P **P 22 04 53.8 -1.0**
CMAR Chiang Mai Arr 81.72 291 *i* P **P 22 04 54.5 -0.3**
CMAR pmax pmax
comp=Z,17nm,0.9s
FAKI Fak Fak 81.74 252 P **P 22 04 53.8 -1.1**
FAKI IAmb IAmb 22 04 58.6
comp=Z,40nm,1.0s
FAKI Fak Fak 81.74 252 P **P 22 04 55.4 +0.5**
comp=Z,45nm,1.2s
FAKI Fak Fak 81.74 252 P **P 22 04 55.0 +0.1**
comp=Z,45nm,1.2s
PBAR Barrancos 81.91 23 *e*P **P 22 04 56.0 +0.4**
comp=Z,57nm,1.6s
PTEO Sao Teotonio 82.15 24 *e*P **P 22 04 58.6 +1.8**
comp=Z,45nm,1.7s
MYLDM Lahad Datu 82.30 268 P **P 22 04 57.5 -0.4**
MYLDM Lahad Datu 82.30 268 P **P 22 04 56.8 -1.1**
comp=Z,688nmcomp=Z,23nm,1.4s
LBMI Labuha 82.30 257 P **P 22 04 57.8 -0.1**
comp=Z,56nm,1.0s
BAUV El Baul 82.38 85 P **P 22 04 57.1 -1.2**
PVAQ Vaqueiros 82.51 24 *e*P **P 22 04 59.6 +0.9**
comp=Z,40nm,1.5s
PVAQ Vaqueiros 82.51 24 *e*LR LR 22 36 00.5
comp=Z,99nm,20.0s
PVAQ Vaqueiros 82.51 24 P **P 22 04 58.7 0.0**
HRA Herat 82.82 328 P **P 22 04 59.9 -0.7**
HRA IAmb IAmb 22 05 05.6
comp=Z,26nm,1.9s
KKM Kota Kinabalu 82.83 270 P **P 22 05 00.1 -0.7**
ANTO Ankara 83.00 352 ⇑P **P 22 05 00.2 -1.1**
ANTO Ankara 83.00 352 P **P 22 05 00.8 -0.5**
ANTO IAmb IAmb 22 05 02.5
comp=Z,40nm,1.4s
ANTO Ankara 83.00 352 P **P 22 05 00.8 -0.5**
ANTO pmax pmax
comp=Z,40nm,1.5s
BR131 Keskin Array S 83.07 351 P **P 22 05 01.3 -0.4**
BR131 IAmb IAmb 22 05 03.7
comp=Z,9.0nm,0.9s
BR131 Keskin Array S 83.07 351 P **P 22 05 01.3 -0.4**
BR131 pmax pmax
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 83.07 351 P **P 22 05 01.4 -0.5**
comp=Z,10nm,1.1s,baz=29,slow=2.8,SNR=20
BRTR LR LR 22 45 46.9
comp=Z,58nm,21.8s,baz=34,slow=38
comp=Z,10nm,1.1s
BRTR Keskin Array B 83.07 351 P **P 22 05 01.0 -0.8**
BRTR Keskin Array B 83.07 351 *i* P **P 22 05 01.3 -0.5**
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BORA Eskisehir 83.14 354 P **P 22 05 00.9 -1.2**
BORA IAmb IAmb 22 05 02.9
comp=Z,25nm,1.3s
GURO Guroymak-BITLI 83.27 345 P **P 22 05 02.6 -0.2**
GTOI Gorontalo 83.64 261 P **P 22 05 02.6 -2.2**
comp=Z,7.5nm,1.2s
KOUNC Koumac, New Ca 83.65 215 P **P 22 05 05.0 +0.5**
KOUNC IAmb IAmb 22 05 11.2
comp=Z,22nm,1.1s
KOUNC Koumac, New Ca 83.65 215 P **P 22 05 04.4 -0.1**
BNN Bunyan 83.73 349 P **P 22 05 04.7 -0.5**
SANI Sanana 84.30 257 P **P 22 05 06.4 -1.7**
comp=Z,38nm,1.2s
SANI Sanana 84.30 257 P **P 22 05 07.3 -0.8**
comp=Z,38nm,1.2s
BNDI Bandanaira 84.32 253 P **P 22 05 08.5 +0.3**
MRSI Marisa 84.35 262 P **P 22 05 07.0 -1.4**
comp=Z,1µmcomp=Z,44nm,1.6s
DZM Mont Dzumac 84.41 213 *e*P **P 22 05 09.4 +0.8**
comp=Z,60nm,1.4s
DZM Mont Dzumac 84.41 213 P **P 22 05 09.8 +1.2**
TOLI2 Tolitoli 84.45 263 P **P 22 05 07.0 -2.0**
TOLI2 Tolitoli 84.45 263 P **P 22 05 08.0 -0.9**
comp=Z,33nm,1.4s
OUENC Ouen Island, N 84.62 213 P **P 22 05 10.3 +0.9**
OUENC IAmb IAmb 22 05 18.2
comp=Z,29nm,1.3s
MARD Mardin 84.66 345 P **P 22 05 09.7 -0.3**
MARD IAmb IAmb 22 05 38.7
comp=Z,28nm,1.5s
LUWI Luwuk 85.17 261 P **P 22 05 10.6 -2.0**
LUWI Luwuk 85.17 261 P **P 22 05 10.8 -1.8**
comp=Z,7µmcomp=Z,92nm,1.0s
LUWI Luwuk 85.17 261 P **P 22 05 11.3 -1.3**
comp=Z,92nm,1.0s
CHSH Refugio Sur-Vo 85.19 100 P **P 22 05 13.7 +0.3**
CHSH IAmb IAmb 22 05 21.5
comp=Z,30nm,0.8s
GAZ Gaziantep 85.25 348 P **P 22 05 12.7 -0.2**
GAZ IAmb IAmb 22 05 16.6
comp=Z,13nm,1.2s
VAE Valguarnera 85.55 6 LR LR 22 45 03.5
comp=Z,42nm,19.2s,baz=2.0,slow=37
MPSI Mapaga 85.58 264 P **P 22 05 13.5 -1.1**
comp=Z,741nmcomp=Z,63nm,1.0s
APSI Ampana 85.67 262 P **P 22 05 13.5 -1.5**
comp=Z,811nmcomp=Z,81nm,1.1s
COHC Cochancay 85.79 101 P **P 22 05 15.2 -0.5**
COEN Coen 85.92 237 P **P 22 05 15.6 -0.5**
COEN IAmb IAmb 22 05 19.8
comp=Z,25nm,1.1s
COEN Coen 85.92 237 P **P 22 05 16.4 +0.2**
comp=Z,24nm,1.1s
SAUI Saumlaki 86.53 250 P **P 22 05 19.4 +0.2**
SAUI Saumlaki 86.53 250 P **P 22 05 19.6 +0.3**
comp=Z,134nm,0.9s
BOSC San Juan Bosco 86.78 101 P **P 22 05 20.9 +0.2**
BOSC IAmb IAmb 22 05 25.7
comp=Z,8.8nm,0.7s
KEST Kesra 86.88 11 P **P 22 05 21.1 +0.1**
comp=Z,8.1nm,0.9s,baz=301,slow=3.0,SNR=5.8
comp=Z,8.1nm,0.9s
MDT Midelt 87.59 22 LR LR 22 45 21.5
comp=Z,50nm,20.9s,baz=3.0,slow=36
CSS Mathiatis 87.82 351 P **P 22 05 24.5 -0.9**
CSS IAmb IAmb 22 05 28.0
comp=Z,18nm,1.0s
BKB Balikpapan 88.54 265 P **P 22 05 27.9 -1.1**
BBSI Bau Bau 89.00 258 P **P 22 05 33.6 +2.5**
MTSU Mount Surprise 89.08 234 P **P 22 05 32.1 +0.8**
comp=Z,15nm,1.0s
SPSI Sidrap Palu 89.24 262 P **P 22 05 30.4 -1.8**
comp=Z,25nm,1.0s
PMSI Majene 89.31 263 P **P 22 05 29.5 -3.1**
comp=Z,789nmcomp=Z,71nm,1.1s
BNSI Bone 89.42 261 P **P 22 05 31.4 -1.7**
comp=Z,11nm,1.1s
MMAI Mount Meron Ar 89.56 349 LR LR 22 49 15.0
comp=Z,41nm,21.7s,baz=261,slow=38
SRIT Nakonsritamara 89.67 285 P **P 22 05 33.9 -0.4**
SRIT IAmb IAmb 22 05 35.5
comp=Z,32nm,1.2s
CTAO Charters Tower 89.97 231 P **P 22 05 35.6 +0.2**
CTAO Charters Tower 89.97 231 P **P 22 05 35.6 +0.2**
CTAO pmax pmax
comp=Z,60nm,1.5s
KAPI Kappang 90.12 261 LR LR 22 43 36.6
comp=Z,31nm,19.4s,baz=80,slow=34
KAPI Kappang 90.12 261 P **P 22 05 35.2 -1.2**
KAPI Kappang 90.12 261 P **P 22 05 35.8 -0.6**
KAPI Kappang 90.12 261 P **P 22 05 35.2 -1.2**
KAPI pmax pmax
comp=Z,70nm,1.3s
BKSI Bulukumba 90.18 261 P **P 22 05 34.7 -1.9**
comp=Z,28nm,1.0s
SGCB SÉo Gabriel d 90.47 89 *e*P **P 22 05 37.5 -0.6**
BSSI Bau Bau, Buton 90.67 260 P **P 22 05 39.1 +0.2**
comp=Z,22nm,0.8s
MMRI Maumere 91.82 257 P **P 22 05 41.9 -2.3**
BOAV Boa Vista 91.92 83 *e*P **P 22 05 45.1 +0.4**
TBTG Tabatinga, AM 92.28 94 *e*P **P 22 05 46.8 +0.3**
IPM Ipoh 92.37 282 P **P 22 05 45.9 -1.0**
IPM IAmb IAmb 22 05 50.0
comp=Z,11nm,0.8s
BATI Baumata 92.38 255 LR LR 22 41 49.5
comp=Z,46nm,20.1s,baz=168,slow=32
EIL Elat 92.91 349 LR LR 22 53 08.7
comp=Z,57nm,19.7s,baz=13,slow=39
RPN Rapa Nui 93.26 138 LR LR 22 37 32.2
comp=Z,94nm,21.0s,baz=312,slow=29
CZSB Cruzeiro do Su 93.72 98 *e*P **P 22 05 52.7 -0.3**
MDP Montagnes des 93.86 75 LR LR 22 46 23.2
comp=Z,79nm,21.7s,baz=359,slow=34
WSAR Wadi Sarin 94.34 327 LR LR 22 55 45.5
comp=Z,74nm,18.4s,baz=0.5,slow=40
NNA Nana 95.06 104 LR LR 22 49 09.3
comp=Z,25nm,18.1s,baz=310,slow=36
WRAB Tennant Creek 95.23 241 *ce*P **P 22 05 58.1 -1.7**
WRAB pmax pmax
comp=Z,16nm,1.7s
WRA Warramunga Arr 95.24 241 P **P 22 05 59.1 -0.7**
comp=Z,4.3nm,1.0s,baz=38,slow=5.1,SNR=17
WRA LR LR 22 46 21.0
comp=Z,52nm,19.9s,baz=32,slow=34
comp=Z,4.3nm,1.0s
WRA Warramunga Arr 95.24 241 P **P 22 05 58.0 -1.8**
MACA Manacapuru-AM 96.46 86 *e*P **P 22 06 06.8 +1.2**
RAYN Ar Rayn 97.35 339 P **P 22 06 09.1 -0.5**
RAYN pmax pmax
comp=Z,11nm,1.7s
LEM Lembang 98.23 270 LR LR 22 53 47.5
comp=Z,22nm,19.6s,baz=20,slow=37
ASAR Alice Springs 98.63 240 P **P 22 06 14.9 -0.2**
comp=Z,1.8nm,0.9s,baz=30,slow=3.9,SNR=8.4
ASAR PKKP **PKKPdf 22 22 45.9 +0.2**
comp=Z,0.7nm,0.9s,baz=204,slow=3.0,SNR=4.7
comp=Z,1.8nm,0.9s
PCHI Peechi 99.38 306 *e*P **Pdif 22 06 25.3 +6.6**
AQDB Aquidauana 113.44 92 *e*P **Pdif 22 07 21.1 +0.1**
BDFB Brasilia 113.69 82 *e*P **Pdif 22 07 23.1 +0.7**
VAO Valinhos 120.24 86 *e*P **PKPdf 22 11 26.7 -0.5**
PLCA Paso Flores 121.61 117 PKP **PKPdf 22 11 28.9 -0.3**
comp=Z,1.8nm,1.0s,baz=336,slow=8.5,SNR=3.5
KMBO Kilima Mbogo 122.93 342 PKP **PKPdf 22 11 33.5 +0.6**
comp=Z,4.3nm,0.9s,baz=32,slow=5.6,SNR=8.6
PLTB Pedras Altas 123.52 98 *e*P **PKiKP 22 11 34.6 +1.2**
BOSA Boshof 151.46 355 PKP **PKPdf 22 12 23.9 0.0**
comp=Z,21nm,0.8s,baz=342,slow=3.2,SNR=4.1
BOSA PKPbc **PKPbc 22 12 29.5 -0.4**
comp=Z,15nm,0.6s,baz=16,slow=2.2,SNR=42
MAW Mawson 158.88 224 PKPab **PKPab 22 13 09.6 +0.9**
comp=Z,17nm,1.0s,baz=103,slow=4.8,SNR=12
VNA3 Neumayer Olymp 160.50 149 PKPab **PKPab 22 13 14.8 -1.0**
VNA2 Neumayer--Watz 161.30 149 PKPab **PKPab 22 13 18.3 -1.0**
baz=238,slow=5.0
SNAA Sanae 162.03 154 PKPab **PKPab 22 13 21.1 -1.4**
TROLL Troll, Antarti 162.95 159 PKPab **PKPab 22 13 25.8 -0.8**

*LDG **12** 22:32:22.5±0.2, 42.79N×13.21E, h10km, Md3.9/1,*

Ml3.2/31, Error ellipse: s-maj=3.7km s-min=2.7km az=84.0
*NEIC **12** 22:32:23.8±1.9, 42.75N±0.05×13.02E±0.06, h10km±1km, Error ellipse: s-maj=9.6km s-min=6.3km az=44.0*
*ROM **12** 22:32:23.7±0.0, 42.795N±0.002×13.132E±0.003, h9km, ML3.8/8, Mw3.5, Error ellipse: s-maj=0.2km s-min=0.1km az=251.0, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=2.01; Mθθ=0.03; Mφφ=1.98; Mrθ=0.10; Mrφ=-0.20; Mθφ=0.48; Fault plane solution: M0=2.06189×10^14 NP1:φs=350.00000°, δ=39.00000°, λ=-97.00000°. NP2:φs=178.00000°, δ=52.00000°, λ=-85.00000°.*
*IDC **12** 22:32:25.1±1.3, 42.99N×13.14E, h0km, mb3.6/5, mbtmp3.6/11, ML3.4/5 Error ellipse: s-maj=24.5km s-min=13.6km az=86.0*
*PRU **12** 22:32:26.4±0.0, 42.82N×13.47E, h10km, M4.4*
*GEN **12** 22:32:44.3, 43.59N×11.67E, h26km±7km, Ml2.3*
ISC 12 22:32:24.2±0.6, **42.78N**±0.01×**13.10E**±0.02, **h11**km±3km, **n296**, σ2s**05**/386, **mb3.8**/7, **21C-3D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1212	**Cascia, Frazio**	**0.05**	**232**	⇑P	**Pg**	**22 32 26.5**	**+0.1**
T1212				S	**Sg**	**22 32 28.3**	**+0.4**
NRCA	**Norcia**	**0.05**	**14**	Pg	**Pg**	**22 32 25.2**	**-1.2**
NRCA	**Norcia**	**0.05**	**14**	⇓P	**Pg**	**22 32 25.8**	**-0.6**
NRCA				S	**Sg**	**22 32 27.0**	**-1.2**
T1213	**Norcia, Frazio**	**0.06**	**158**	⇓P	**Pg**	**22 32 26.2**	**-0.3**
T1213				S	**Sg**	**22 32 27.9**	**-0.2**
T1245	**Castelsantange**	**0.10**	**42**	P	**Pg**	**22 32 26.4**	**-0.6**
T1245				S	**Sg**	**22 32 28.1**	**-1.1**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1218	**Civita (PG)**	**0.11**	**173**	P	**Pg**	**22 32 27.2**	**+0.1**
T1218				S	**Sg**	**22 32 29.5**	**+0.3**
T1218				AML	AML		
	comp=E,53050µm,0.3s						
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
	comp=E,55400µm,0.3s						
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
	comp=E,55350µm,0.3s						
T1216	**Preci, Frazion**	**0.12**	**333**	P	**Pg**	**22 32 27.2**	**-0.1**
T1216				S	**Sg**	**22 32 29.4**	**0.0**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1244	**Arquata del Tr**	**0.15**	**99**	⇑P	**Pg**	**22 32 27.3**	**-0.4**
T1244				S	**Sg**	**22 32 30.2**	**+0.1**
T1201	**Domo (RI)**	**0.17**	**137**	⇑P	**Pg**	**22 32 28.0**	**+0.1**
T1201				S	**Sg**	**22 32 31.6**	**+1.0**
T1215	**Vallo di Nera,**	**0.17**	**277**	P	**Pg**	**22 32 28.4**	**+0.4**
T1215				S	**Sg**	**22 32 31.8**	**+1.3**
T1215				AML	AML		
	comp=E,15800µm,1.1s						
T1215				AML	AML		
	comp=E,16300µm,1.1s						
T1215				AML	AML		
	comp=N,17050µm,0.8s						
T1215				AML	AML		
	comp=E,15750µm,1.1s						
T1215				AML	AML		
	comp=N,17150µm,0.8s						
T1215				AML	AML		
	comp=N,16950µm,0.8s						
T1215				AML	AML		
	comp=N,17100µm,0.8s						
T1215				AML	AML		
	comp=E,16250µm,1.1s						
T1215				AML	AML		
	comp=N,15256µm,0.4s						
T1215				AML	AML		
	comp=E,14146µm,0.0s						
T1215				AML	AML		
	comp=N,15702µm,0.5s						
LNSS	**Leonessa**	**0.18**	**193**	P	**Pg**	**22 32 28.7**	**+0.5**
LNSS				S	**Sg**	**22 32 32.3**	**+1.4**
FEMA	**Monte Fema**	**0.18**	**349**	P	**Pg**	**22 32 28.1**	**-0.1**
FEMA				S	**Sg**	**22 32 31.1**	**0.0**
T1221	**Campello sul C**	**0.20**	**294**	⇑P	**Pg**	**22 32 28.9**	**+0.4**
T1221				S	**Sg**	**22 32 32.9**	**+1.4**
SMA1	**SAN MARTINO**	**0.23**	**130**	P	**Pg**	**22 32 28.8**	**-0.3**
SMA1				S	**Sg**	**22 32 32.9**	**+0.5**
SMA1				AML	AML		
	comp=N,66050µm,0.5s						
SMA1				AML	AML		
	comp=E,62900µm,1.5s						
SMA1				AML	AML		
	comp=E,60387µm,0.2s						
T1256	**Bolognola (MC)**	**0.24**	**23**	P	**Pg**	**22 32 28.9**	**-0.4**
T1256				S	**Sg**	**22 32 32.6**	**-0.1**
FDMO	**Fiordimonte**	**0.26**	**359**	Pg	**Pg**	**22 32 28.5**	**-0.9**
FDMO				Sg	**Sg**	**22 32 33.1**	**+0.1**
FDMO	**Fiordimonte**	**0.26**	**359**	P	**Pg**	**22 32 29.3**	**-0.2**
FDMO				S	**Sg**	**22 32 33.3**	**+0.3**
T1241	**Roccafluvione,**	**0.26**	**73**	P	**Pg**	**22 32 28.8**	**-0.6**
T1241				S	**Sg**	**22 32 32.8**	**-0.3**
T1241				AML	AML		
	comp=N,54200µm,0.2s						
T1241				AML	AML		
	comp=E,45800µm,0.9s						
T1241				AML	AML		
	comp=N,52250µm,0.2s						
T1241				AML	AML		
	comp=E,46000µm,0.9s						
T1241				AML	AML		
	comp=N,52200µm,0.2s						
T1241				AML	AML		
	comp=N,54200µm,0.2s						
T1241				AML	AML		
	comp=E,46000µm,0.9s						
CESI	**CESI - Serrava**	**0.26**	**328**	P	**Pg**	**22 32 29.7**	**+0.1**
CESI				S	**Sg**	**22 32 34.4**	**+1.1**
T1219	**Muccia, Frazio**	**0.28**	**347**	P	**Pg**	**22 32 29.8**	**-0.2**
T1219				S	**Sg**	**22 32 34.2**	**+0.4**
RM33	**Pellescritta (**	**0.28**	**162**	P	**Pg**	**22 32 30.0**	**0.0**
RM33				S	**Sg**	**22 32 35.3**	**+1.4**
RM33				AML	AML		
	comp=E,12500µm,0.6s						
RM33				AML	AML		
	comp=N,12150µm,0.4s						
RM33				AML	AML		
	comp=N,12150µm,0.4s						
RM33				AML	AML		
	comp=E,12400µm,0.6s						
RM33				AML	AML		
	comp=N,12200µm,0.4s						
RM33				AML	AML		
	comp=N,12450µm,0.4s						
RM33				AML	AML		
	comp=E,12350µm,0.6s						
RM33				AML	AML		
	comp=E,12550µm,0.6s						
T1211	**Morro Reatino**	**0.30**	**216**	P	**Pg**	**22 32 30.8**	**+0.4**
T1211				S	**Sg**	**22 32 36.6**	**+2.1**
ARRO	**Arrone**	**0.32**	**231**	P	**Pg**	**22 32 31.0**	**+0.5**
ARRO				S	**Sg**	**22 32 36.8**	**+2.1**
CSP1	**Cessapalombo**	**0.32**	**14**	P	**Pg**	**22 32 30.4**	**-0.3**
CSP1				S	**Sg**	**22 32 35.3**	**+0.3**
T1220	**Camerino, Fraz**	**0.33**	**359**	⇑P	**Pg**	**22 32 30.4**	**-0.4**
T1220				S	**Sg**	**22 32 35.9**	**+0.7**
GUMA	**Gualdo di Mace**	**0.33**	**32**	P	**Pg**	**22 32 30.7**	**-0.1**
GUMA				S	**Sg**	**22 32 35.9**	**-1.6**
CAMP	**Campotosto**	**0.34**	**137**	Pg	**Pg**	**22 32 30.5**	**-0.4**
CAMP				Sg	**Sg**	**22 32 36.0**	**+0.5**
CAMP	**Campotosto**	**0.34**	**137**	P	**Pg**	**22 32 30.5**	**-0.4**
CAMP				S	**Sg**	**22 32 36.0**	**+0.5**
T1246	**Crognaleto (TE**	**0.35**	**124**	⇑P	**Pg**	**22 32 30.7**	**-0.5**
T1246				S	**Sg**	**22 32 36.3**	**+0.3**
T1247	**Pizzolo (AQ)**	**0.37**	**156**	P	**Pg**	**22 32 31.5**	**-0.1**
SEF1	**Sefro**	**0.38**	**343**	P	**Pg**	**22 32 31.6**	**-0.2**
SEF1				S	**Sg**	**22 32 37.6**	**+0.8**
PIO1	**Pioraco**	**0.41**	**348**	P	**Pg**	**22 32 31.9**	**-0.3**
PIO1				S	**Sg**	**22 32 38.4**	**+0.8**
TERO	**Teramo**	**0.41**	**113**	P	**Pg**	**22 32 31.4**	**-0.8**
TERO				S	**Sg**	**22 32 37.6**	**0.0**

TERO AML AML
comp=E,18350µm,1.0s
TERO AML AML
comp=N,17050µm,0.4s
TERO AML AML
comp=E,19050µm,1.0s
TERO AML AML
comp=N,17000µm,0.4s
TERO AML AML
comp=N,17700µm,0.4s
TERO AML AML
comp=E,18300µm,1.0s

MDAR Monte D'Aria 0.41 5 P Pg 22 32 32.0 -0.3
MDAR S Sg 22 32 38.5 +0.6
FIU1 Fiuminata 0.42 344 P Pg 22 32 32.3 -0.3
FIU1 S Sg 22 32 39.0 +0.8
MNTP Montappone 0.45 37 P Pg 22 32 33.1 +0.1
SSM1 San Severino M 0.45 8 P Pg 22 32 32.7 -0.3
SSM1 S Sb 22 32 39.7 -1.2
OFFI Offida 0.46 70 P Pg 22 32 33.2 +0.1
GIGS Gran Sasso 0.48 133 P Pg 22 32 32.8 -0.8
GIGS S Sg 22 32 40.0 0.0
AQU L'Aquila 0.48 152 Pg Pg 22 32 33.2 -0.4
AQU L'Aquila 0.48 152 P Pg 22 32 33.5 -0.1
AQU S Sg 22 32 42.0 +2.0
SNTG Esanatoglia 0.49 347 P Pg 22 32 33.4 -0.3
SNTG S Sg 22 32 41.1 +0.9
FIAM Fiamignano 0.51 178 P Pg 22 32 34.2 0.0
FIAM S Sg 22 32 43.1 +2.2
ATCC AVT- Casa Cast 0.53 321 P Pg 22 32 34.5 +0.1
ATCC S Sb 22 32 43.1 0.0
EL6 Elcito 0.55 0 P Pg 22 32 34.5 -0.4
FOSV Fossato di Vic 0.57 335 P Pg 22 32 34.9 -0.3
FOSV S Sb 22 32 44.0 -0.4
CING Cingoli 0.60 7 P Pg 22 32 35.4 -0.4
CING S Sb 22 32 44.6 -0.6
TRTR Tortoreto Alta 0.60 87 P Pg 22 32 36.2 +0.3
FAGN Fagnano 0.63 145 P Pg 22 32 35.7 -0.6
MURB Monte Urbino 0.64 319 Pg 22 32 35.9 -0.7
MURB Sg Sb 22 32 46.5 +0.2
MURB Monte Urbino 0.64 319 P Pg 22 32 36.5 -0.1
CADA Capodarco di F 0.64 50 P Pb 22 32 37.2 -0.2
MMUR Monte Murano 0.67 354 P Pg 22 32 36.8 -0.3
CIMA Civitanova Mar 0.67 39 P Pg 22 32 37.5 +0.3
SSFR Montelago di S 0.69 341 P Pg 22 32 37.2 -0.4
SRES S.Oreste - Sor 0.69 219 P Pg 22 32 37.7 +0.1
ATFO Monte Foce - G 0.70 327 P Pg 22 32 37.3 -0.4
ATFO S Sb 22 32 48.1 0.0
PP3 Marolino 0.70 32 P Pg 22 32 37.9 +0.1
ARVD Arcevia 0.73 351 P Pg 22 32 37.5 -0.7
ARVD S Sb 22 32 48.8 -0.1
MGAB Montegabbione 0.73 281 P Pg 22 32 38.6 +0.2
T0110 Collepietro 0.75 137 P Pg 22 32 38.0 -0.7
T0110 S Sg 22 32 48.7 +0.2
ATVO AVT- Monte Val 0.79 320 P Pg 22 32 38.9 -0.5
FRON Frontone 0.79 340 P Pg 22 32 38.2 -0.7
PTQR Pietraquaria 0.79 163 P Pg 22 32 39.2 +0.2
MTCE Montecelio 0.80 199 P Pg 22 32 39.0 -0.7
ATMI Monte Miggiano 0.82 313 P Pg 22 32 39.9 -0.2
CERT Cerreto 0.84 186 P Pg 22 32 39.5 -0.8
ATPI Pietralunga - 0.84 323 P Pg 22 32 39.7 -0.7
AOI Ancona 0.85 26 P Pg 22 32 40.0 -0.6
COR1 Corinaldo 0.85 355 P Pg 22 32 40.5 -0.1
SACS San Casciano d 0.88 275 P Pg 22 32 41.1 +0.1
MPAG Monte Paganucc 0.88 344 P Pg 22 32 40.5 -0.7
PCRO Pietralacroce 0.89 21 P Pg 22 32 41.2 0.0
ATMC Monte Cedrone 0.94 315 P Pg 22 32 41.5 -0.8
FSSB Fossombrone 0.94 346 P Pg 22 32 41.5 -0.8
RCAV Rocca di Cave 0.94 187 P Pg 22 32 42.6 +0.3
LATE Laterza 0.97 260 Pg 22 32 42.6 -0.1
LATE Laterza 0.97 260 P Pg 22 32 43.0 +0.3
VVLD Villa Vallelon 0.99 157 P Pg 22 32 42.4 -0.8
CAFI Castiglion Fio 0.99 304 ⇑P Pg 22 32 42.8 -0.5
GUAR Guarcino 1.00 171 P Pg 22 32 44.1 +0.7
RMP Rome, Mte Porz 1.01 197 P Pg 22 32 43.8 +0.2
PE3 Peglio 1.01 335 P Pg 22 32 43.4 -0.3
MCIV Monte Civitell 1.04 270 P Pg 22 32 44.3 +0.1
SF04 Casetta 1.06 273 P Pg 22 32 44.8 +0.2
SSP9 Sansepolcro 1.06 319 P Pg 22 32 43.8 -0.8
CAFR Castel Frentan 1.08 120 P Pg 22 32 43.3 -1.6
TOLF Tolfa 1.08 229 P Pb 22 32 44.7 -0.2
LPEL Lama dei Pelig 1.09 132 P Pg 22 32 43.6 -1.5
SF01 Poggio Pratacc 1.13 272 P Pb 22 32 45.9 +0.2
POFI Posta Fibreno 1.16 157 P Pb 22 32 45.2 -1.0
CPGN Carpegna, Ital 1.17 331 P Pb 22 32 46.4 -0.1
PESA Pesaro 1.18 351 P Pb 22 32 46.4 -0.1
LRP Arpino 1.19 162 P Pn 22 32 46.7 -0.1
ARCI Arcidosso 1.19 274 P Pn 22 32 47.2 +0.3
GIUL Giuliano Di Ro 1.23 174 P Pn 22 32 46.7 -0.6
RNI2 Rionero Sannit 1.33 144 P Pn 22 32 48.4 -0.4
CERA Filignano 1.37 150 P Pn 22 32 48.4 -0.8
ASQU Asqua 1.39 317 P Pn 22 32 48.9 -0.7
MIDA Miranda 1.43 143 P Pn 22 32 48.9 -1.2
SFI Santa Sofia 1.45 321 P Pn 22 32 50.2 -0.1
OSSC Osservatorio P 1.54 299 Pn 22 32 51.8 +0.2
OSSC Osservatorio P 1.54 299 P Pn 22 32 52.4 +0.7
OSSC Osservatorio P 1.54 299 P Pn 22 32 52.0 +0.4
RUFI Rufina 1.57 313 P Pn 22 32 51.8 -0.1
RUFI Rufina 1.57 313 P Pn 22 32 51.8 -0.1
VAGA Valle Agricola 1.61 148 P Pn 22 32 52.9 +0.4
CASP Castiglione de 1.64 271 Pn 22 32 53.1 +0.2
LMD Lutirano 1.64 323 P Pn 22 32 53.2 +0.2
LMD Lutirano 1.64 323 P Pn 22 32 53.2 +0.2
BSSO Busso 1.66 137 P Pb 22 32 55.4 +0.5
BRIS BRISIGHELLA 1.79 320 P Pn 22 32 55.2 +0.2
SEI Scarperia 1.80 316 P Pn 22 32 55.3 +0.2
CRMI Carmignano 1.85 304 P Pn 22 32 56.9 +1.0
CRMI Carmignano 1.85 304 P Pn 22 32 57.5 +1.6
GATE Gambatesa 1.85 133 P Pn 22 32 58.7 +0.7
MELA Melanico ??? S 1.85 125 P Pn 22 32 57.0 +1.2
IMOL Imola, Italy 1.86 329 P Pb 22 32 58.6 +0.4
MPPT Montemurlo 1.88 309 P Pn 22 32 56.2 -0.1
MTCR Monte La Croce 1.97 310 P Pn 22 32 57.5 -0.1
MTCR Monte La Croce 1.97 310 P Pn 22 32 57.6 -0.1
PAOL Paolisi 2.06 147 Pn 22 32 59.0 +0.2
APRC Apricena 2.08 119 P Pn 22 32 59.9 +0.7
PII Pisa 2.10 297 P Pn 22 32 59.8 +0.6
ZCCA Zocca 2.20 316 Pn 22 33 02.1 +1.4
MAIM Mastiano 2.21 302 P Pn 22 33 01.4 +0.6
SGRT San Giovanni R 2.22 117 Pn 22 33 01.7 +0.8
SGRT San Giovanni R 2.22 117 P Pn 22 33 01.9 +0.9
CARD Cardoso 2.27 304 P Pn 22 33 01.9 +0.2
MSAG Monte S. Angel 2.35 116 P Pn 22 33 03.7 +1.0
VLC Villacollemand 2.41 306 Pn 22 33 03.3 -0.2
VLC Villacollemand 2.41 306 P Pn 22 33 03.4 -0.1
SARO Sassorosso 2.41 306 P Pn 22 33 03.3 -0.3
EQUI Equi 2.55 304 P Pn 22 33 05.8 +0.3
PLMA Palmaria, Port 2.68 299 P Pn 22 33 08.0 +0.7
TEOL Teolo 2.78 339 Pn 22 33 09.0 +0.5
TEOL Teolo 2.78 339 P Pn 22 33 09.6 +1.0
PRMA PARMA 2.83 315 Pn 22 33 09.8 +0.5
SKDS Skadanscina 2.84 13 *i* Pn Pn 22 33 09.1 -0.4
KNDS Knezji Dol 2.90 18 *i* Pn Pn 22 33 10.4 +0.1
A050A Klekovaca 3.02 55 *e*Pn Pn 22 33 12.9 +0.9
MSSA Maissana 3.02 302 Pn 22 33 12.4 +0.4
MSSA Maissana 3.02 302 P Pn 22 33 12.8 +0.8
PGF Pioggiola 3.03 267 *e*P Pn 22 33 13.1 +0.9
PGF *e*Sn Sn 22 33 44.9 -3.6
comp=E,13nm,0.3s
CEY Cerknica 3.11 17 *e*Pn Pn 22 33 12.7 -0.5
BOJS Bojanci 3.13 29 *e*Pn Pn 22 33 14.2 +0.7
ROVR Rover Verones 3.21 334 P Pn 22 33 15.9 +1.2
SABO M.te Sabotino 3.22 6 Pn 22 33 14.6 -0.1
SABO M.te Sabotino 3.22 6 P Pn 22 33 14.7 0.0
SRKY Kupres RS 3.23 65 *e*Pn Pn 22 33 16.9 +2.0
CGRP Cima Grappa 3.23 344 P Pn 22 33 16.0 +0.9
MGRS Mrkonjic Grad 3.33 59 *e*Pn Pn 22 33 18.2 +2.0
SALO Salr 3.39 328 Pn 22 33 18.7 +1.7
STON Ston 3.39 87 *e*Pn Pn 22 33 15.2 -1.7
DRE Drenchia 3.42 6 P Pn 22 33 17.3 -0.1
CTI Castel Tesino 3.43 343 Pn 22 33 18.3 +0.7
MATE Matera 3.44 127 ⇑P Pn 22 33 19.5 +1.8
MATE ⇑S Sn 22 34 01.7 +3.3
BAD Bernadia 3.46 2 P Pn 22 33 17.9 -0.1
MPRI Monte Prat 3.46 359 P Pn 22 33 18.5 +0.5
CADS Cadrg 3.48 7 *i* Pn Pn 22 33 18.1 -0.2
CRES Cresnjev 3.48 28 *e*Pn Pn 22 33 18.7 +0.4
STAL STALIGIAL 3.49 356 Pn 22 33 18.7 +0.4
STAL STALIGIAL 3.49 356 P Pn 22 33 18.8 +0.4
A051A Mrakovica 3.54 50 *e*Pn Pn 22 33 19.4 +0.2

BLY Banja Luka 3.56 55 *e*Pn Pn 22 33 20.8 +1.5
CIMO Cimolais 3.56 353 Pn 22 33 19.3 0.0
CIMO Cimolais 3.56 353 P Pn 22 33 19.6 +0.2
GORS Gorjuse 3.59 10 *i* Pn Pn 22 33 19.6 -0.3
PTCC Patocco-Chiusa 3.63 3 P Pn 22 33 20.2 -0.1
PRED Cave del Predi 3.68 5 Pn 22 33 21.1 +0.1
CLUD Cludinico 3.68 358 Pn 22 33 21.1 +0.1
CLUD Cludinico 3.68 358 P Pn 22 33 21.4 +0.4
ACOM Acomizza, Ital 3.78 4 P Pn 22 33 23.1 +0.6
MYKA Terra Mystica 3.87 6 *i* Pn Pn 22 33 24.6 +0.9
comp=E,13nm,0.4s,SNR=12
MYKA *i* Sn Sn 22 34 10.5 +1.4
comp=E,16nm,0.3s
OBKA Obir 3.87 15 *e*Pn Pn 22 33 23.9 +0.2
OBKA Obir 3.87 15 *i* Pn Pn 22 33 24.0 +0.3
comp=E,6.0nm,0.2s
TREB Trebinje 3.87 89 *e*Pn Pn 22 33 23.5 -0.1
KOSI Kohlern 3.88 342 P Pn 22 33 25.8 +1.9
APPI Appiano 3.93 341 P Pn 22 33 26.1 +1.6
ABTA Abfaltersbach 3.99 354 *i* Pn Pn 22 33 26.6 +1.3
comp=E,26nm,0.4s,SNR=54
ABTA *i* Sn Sn 22 34 12.9 +0.8
comp=E,36nm,0.5s
HCY Herceg Novi 4.00 93 *e*Pn Pn 22 33 26.3 +0.9
BRY Bratogost 4.00 86 *e*Pn Pn 22 33 26.5 +0.9
SOKA Soboth 4.13 19 *i* Pn Pn 22 33 28.0 +0.7
comp=E,0.6nm,0.2s
BRMO Bormio 4.17 333 P Pn 22 33 30.4 +2.5
MOSI Grossmontoni 4.24 336 P Pn 22 33 31.7 +2.8
SBF Sospel 4.27 287 *e*P Pn 22 33 30.1 +0.9
SBF *e*Sn Sn 22 34 14.2 -4.8
comp=E,16nm,0.3s
UPM Unac-Piva 4.28 82 *e*Pn Pn 22 33 29.8 +0.4
KBA Koelnbreinsper 4.30 2 *i* Pn Pn 22 33 31.1 +1.5
comp=E,12nm,0.3s
KBA *i* Sn Sn 22 34 21.7 +1.7
comp=E,42nm,0.5s
FUORN Ofenpass-Fuorn 4.34 333 Pn 22 33 31.9 +1.7
HAPS Han Pijesak,Bl 4.46 71 *e*Pn Pn 22 33 33.1 +1.3
DRME Dracevica, Mon 4.54 95 *e*Pn Pn 22 33 33.9 +1.1
TIP Timpagrande 4.54 141 Pn Pn 22 33 34.8 +1.8
TUE Stuetta 4.56 325 Pn 22 33 33.5 +0.3
PDG Podgorica 4.56 92 ⇓P Pn 22 33 35.4 +2.3
PDG ⇑S Sn 22 34 26.2 +0.1
PDG Podgorica 4.56 92 Pn 22 33 34.6 +1.5
FETA Feichten 4.56 339 *i* Pn Pn 22 33 35.8 +2.6
comp=E,5.2nm,0.3s,SNR=15
FETA *e*Sn Sn 22 34 28.7 +2.4
comp=E,13nm,0.5s
WTTA Wattenberg 4.60 348 *i* Pn Pn 22 33 36.6 +2.7
comp=E,5.7nm,0.2s,SNR=16
WTTA *i* Sn Sn 22 34 29.4 +2.1
comp=E,42nm,0.5s
DAVOX Davos/Dischmat 4.61 331 Pn Pn 22 33 35.7 +1.7
comp=E,17nm,0.4s,baz=155,slow=19
DAVOX Sn Sn 22 34 28.4 +0.9
comp=E,1.0nm,0.3s,baz=272,slow=22,SNR=2.3
SQTA Sankt Quirin 4.64 344 *i* Pn Pn 22 33 37.0 +2.7
comp=E,12nm,0.3s,SNR=13
SQTA *i* Sn Sn 22 34 30.4 +2.3
comp=E,50nm,0.4s
RUDO Rudo 4.66 78 *e*Pn Pn 22 33 30.7 -3.8
WATA Walderalm 4.68 347 *i* Pn Pn 22 33 37.6 +2.8
comp=E,6.1nm,0.2s,SNR=33
WATA *i* Sn Sn 22 34 31.8 +2.6
comp=E,21nm,0.3s
MOTA Moosalm 4.78 344 *i* Pn Pn 22 33 39.2 +3.0
comp=E,3.1nm,0.2s,SNR=11
MOTA *e*Sn Sn 22 34 34.6 +2.9
comp=E,20nm,0.5s
ARSA Arzberg 4.79 20 *e*Pn Pn 22 33 36.2 -0.1
comp=E,2.3nm,0.2s
ARSA *e*Sn Sn 22 34 29.7 -2.0
comp=E,17nm,0.6s
LMR La Mourre 4.86 279 *e*P Pn 22 33 37.6 +0.4
LMR *e*Sn Sn 22 34 28.5 -4.9
comp=E,2.9nm,0.3s
SCTE Santa Cesarea 4.86 122 Pn Pn 22 33 38.2 +1.0
BIOA Bad Ischl, Aus 4.93 4 *i* Pn Pn 22 33 38.9 +0.8
comp=E,7.9nm,0.2s,SNR=25
BIOA *i* Sn Sn 22 34 36.7 +1.6
comp=E,59nm,0.7s
MBDF Montbardon 4.98 295 *e*P Pn 22 33 40.1 +1.1
MBDF *e*Sn Sn 22 34 31.1 -5.5
comp=E,5.5nm,0.4s
RETA Reutte 4.99 341 *i* Pn Pn 22 33 41.7 +2.7
comp=E,4.9nm,0.2s
DAVA Damuels 5.05 334 *i* Pn Pn 22 33 42.8 +2.8
comp=E,4.9nm,0.2s,SNR=9.2
DAVA *e*Sn Sn 22 34 40.7 +2.4
comp=E,17nm,0.4s
MOA Molln 5.14 9 *i* Pn Pn 22 33 41.7 +0.7
comp=E,4.0nm,0.2s,SNR=20
MOA *i* Sn Sn 22 34 41.5 +1.3
comp=E,11nm,0.3s
BNI Bardonecchia 5.16 298 Pn Pn 22 33 43.1 +1.6
DIVS Divibare 5.19 73 Pn Pn 22 33 43.0 +1.1
DIVS Divibare 5.19 73 *e*Pn Pn 22 33 41.7 -0.1
TIR Tirane 5.24 104 ⇑P Pn 22 33 45.0 +2.6
TIR Tirane 5.24 104 Pn Pn 22 33 42.8 +0.4
MORH Mrgy, Hungar 5.25 47 ⇑P Pn 22 33 43.4 +0.9
LPG La Plagne 5.31 303 *e*P Pn 22 33 46.3 +2.6
LPG *e*Sn Sn 22 34 39.3 -5.7
comp=E,9.6nm,0.5s
VLO Vlora 5.32 114 Pn Pn 22 33 43.5 -0.1
LPL La Plagne 5.33 303 *e*P Pn 22 33 46.2 +2.3
LPL *e*Sn Sn 22 34 39.8 -5.6
comp=E,8.0nm,0.4s
FRGS Fruska Gora 5.40 62 *e*Pn Pn 22 33 43.3 -1.3
SENIN Lac Senin/Sane 5.47 313 Pn 22 33 47.3 +1.2
CONA Conrad Observa 5.50 20 *i* Pn Pn 22 33 46.3 +0.1
comp=E,3.3nm,0.2s
CONA *i* Sn Sn 22 34 49.6 +0.1
comp=E,16nm,0.6s
SMRF Simiane la Rot 5.61 285 *e*P Pn 22 33 49.8 +2.2
SMRF *e*Sn Sn 22 34 46.1 -5.9
comp=E,1.7nm,0.3s
ORIF Oris-en-Rattie 5.64 295 *e*P Pn 22 33 50.9 +2.9
ORIF *e*Sn Sn 22 34 46.7 -6.1
comp=E,2.4nm,0.3s
KEK Kerkira 5.91 119 Pn Pn 22 33 51.1 -0.5
OHR Ohrid 5.98 104 *i* Pn Pn 22 33 54.4 +1.7
GEC2 GERESS Array S 6.08 4 Pn 22 33 51.6 -2.4
GERES GERESS Array B 6.08 4 Pn Pn 22 33 53.3 -0.7
comp=E,1.2nm,0.3s,baz=174,slow=13,SNR=36
GERES Sn Sn 22 35 02.3 -1.3
comp=E,4.6nm,0.3s,baz=178,slow=26,SNR=9.8
comp=E,1.7nm,0.3s
GERES GERESS Array B 6.08 4 Pn 22 33 53.2 -0.8
CKRC Cesky Krumlov 6.10 8 *e*PN Pn 22 33 54.6 +0.4
KBN Korca 6.15 108 Pn Pn 22 33 54.9 -0.1
CABF La Chapelle 6.29 310 *e*P Pn 22 33 59.1 +2.1
CABF *e*Sn Sn 22 35 02.4 -6.5
comp=E,12nm,0.7s
MODS Modra-Piesok 6.32 26 *e*PN Pn 22 33 59.5 +2.3
MODS *e*SN Sn 22 35 09.6 +0.3
KHC Kasperske Hory 6.36 3 Pn Pn 22 33 57.2 -0.6
KHC Kasperske Hory 6.36 3 *e*PN Pn 22 33 57.9 +0.1
KHC *e*SN Sn 22 35 08.4 -2.1
VIVF Saint-Julien-l 6.44 292 *e*P Pn 22 34 01.2 +2.3
VIVF *e*Sn Sn 22 35 05.9 -6.5
comp=E,1.4nm,0.4s
BFO Black Forest 6.48 331 Pn 22 33 58.6 -0.9
SSB Saint Sauveur 6.65 295 Pn Pn 22 34 01.6 -0.2
HINF Hinteralfeld 6.69 321 *e*P Pn 22 34 03.3 +1.0
HINF *e*Sn Sn 22 35 11.5 -7.0
comp=E,29nm,0.5s
KRUC Moravsky 6.69 19 *e*PN Pn 22 34 01.8 -0.5
BZS Buzias 6.75 62 ⇑P Pn 22 34 04.3 +1.1
STIP Stip 6.83 96 *i* Pn Pn 22 34 07.4 +3.1
ECH Echery 6.85 325 Pn 22 34 04.1 -0.5
LASF Ste Croix 6.85 284 *e*P Pn 22 34 05.8 +1.2
LASF *e*Sn Sn 22 35 15.8 -6.7
comp=E,0.8nm,0.4s
CDF Champ du Feu 6.95 326 *e*P Pn 22 34 06.3 +0.3
CDF *e*Sn Sn 22 35 17.8 -7.3
comp=E,6.6nm,0.3s
VRAC Vranov 6.97 19 ⇑P Pn 22 34 08.1 +1.9
VRAC Vranov 6.97 19 Pn Pn 22 34 05.6 -0.5
comp=E,0.3nm,0.3s,baz=196,slow=12,SNR=3.9
VRAC Sn Sn 22 35 22.9 -2.4
comp=E,0.5nm,0.3s,baz=87,slow=18,SNR=2.1
comp=E,1.1nm,0.4s
VRAC Vranov 6.97 19 *e*PN Pn 22 34 05.6 -0.5
VYHS Vyhne 6.99 33 *e*PN Pn 22 34 10.6 +4.2

BLKB Belogradchik 7.05 80 ⇑P Pn 22 34 08.7 +1.3
BLKB ⇑S Sn 22 35 26.6 -0.9
HAU Haudompre 7.06 320 *e*P Pn 22 34 07.9 +0.5
HAU *e*Sn Sn 22 35 20.3 -7.3
comp=E,32nm,0.4s
HERR Herculane 7.06 70 ⇑P Pn 22 34 07.8 +0.4
GZR Gura Zlata 7.44 66 ⇑P Pn 22 34 14.3 +1.6
VTS Vitosha 7.47 88 ⇑P Pn 22 34 15.1 +1.9
VTS Vitosha 7.47 88 Pn Pn 22 34 13.3 +0.1
KEST Kesra 7.62 204 Pn Pn 22 34 20.8 +5.7
comp=E,0.2nm,0.3s,baz=320,slow=4.3,SNR=1.5
comp=E,2.0nm,0.6s
SMF Signal de Mont 7.64 304 *e*P Pn 22 34 16.9 +1.5
SMF *e*Sn Sn 22 35 34.7 -7.2
comp=E,10nm,0.6s
MORC Moravsky Berou 7.64 22 ⇑P Pn 22 34 17.2 +1.7
MORC Moravsky Berou 7.64 22 Pn Pn 22 34 14.8 -0.7
PAGF Fort de Pagny 7.74 321 *e*P Pn 22 34 18.5 +1.7
baz=135
PAGF *e*Sn Sn 22 35 36.8 -7.6
comp=E,4.8nm,0.3s
SFTF Sexfontaines 7.84 317 *e*P Pn 22 34 19.2 +1.1
baz=132
SFTF *e*Sn Sn 22 35 39.0 -7.7
comp=E,6.1nm,0.5s
LOR Lormes 7.93 308 *e*P Pn 22 34 19.7 +0.3
baz=124
LOR *e*Sn Sn 22 35 41.2 -7.9
comp=E,3.8nm,0.3s
MTLF Montolieu 7.99 278 *e*P Pn 22 34 22.0 +1.9
MTLF *e*Sn Sn 22 35 43.2 -7.3
comp=E,0.5nm,0.3s
AVF Avril sur Loir 8.01 303 *e*P Pn 22 34 22.0 +1.6
AVF *e*Sn Sn 22 35 43.0 -7.8
comp=E,1.4nm,0.4s
MEZF Maizieres J'vi 8.03 318 *e*P Pn 22 34 23.3 +2.6
MEZF *e*Sn Sn 22 35 43.8 -7.6
comp=E,3.5nm,0.4s
SSF Saint Saulge 8.04 305 *e*P Pn 22 34 21.6 +0.8
SSF *e*Sn Sn 22 35 43.9 -7.8
comp=E,5.3nm,0.5s
OSTC Ostas 8.07 14 *e*PN Pn 22 34 21.4 +0.2
SAVF Savonnieres en 8.07 319 *e*P Pn 22 34 24.0 +2.8
SAVF *e*Sn Sn 22 35 44.5 -7.9
comp=E,4.6nm,0.4s
BRG Berggiesshubel 8.12 4 *e*P Pn 22 34 26.3 +4.5
BRG Amp 22 34 31.0
comp=Z,1.6nm,0.4s
BRG *ex* x 22 35 48.6
BRG *ex* x 22 36 51.0
BRG Amp 22 37 21.0
comp=Z,9.4nm,1.1s
BRG Amp 22 41 37.0
comp=Z,0.2nm,17.4s
BGF Bois d'Agland 8.22 301 *e*P Pn 22 34 26.3 +3.0
BGF *e*Sn Sn 22 35 48.5 -7.7
comp=Z,3.1nm,0.3s
CAF Calviac 8.26 289 *e*P Pn 22 34 26.1 +2.2
CAF *e*Sn Sn 22 35 49.4 -7.7
comp=Z,1.0nm,0.5s
TCF Toulx Ste Croi 8.53 298 *e*P Pn 22 34 30.3 +2.7
TCF *e*Sn Sn 22 35 55.7 -8.1
comp=Z,0.8nm,0.3s
CLL Collm 8.53 360 Pn Pn 22 34 26.2 -1.3
CLL Collm 8.53 360 *i* Pn Pn 22 34 26.9 -0.6
CLL *i* Sn Sn 22 36 00.6 -3.1
CLL *i* Sg Sg 22 37 04.5 +6.8
comp=Z,25nm,1.5s
RJF Les Rejaudoux 8.71 291 *e*P Pn 22 34 33.2 +3.1
ITM Ithomi 8.79 127 Pn Pn 22 34 31.3 +0.2
LFF La Frestale 9.18 288 *e*P Pn 22 34 38.8 +2.3
GIVF Givet 9.28 325 *e*P Pn 22 34 40.2 +2.4
RDO Rodhopi 9.41 96 Pn Pn 22 34 38.9 -0.8
MLR Muntele Rosu 9.63 69 ⇑P Pn 22 34 43.9 +1.2
BURAR Bucovina Array 9.82 56 Pn Pn 22 34 45.8 +0.5
MFF Saint Martin d 10.17 297 *e*P Pn 22 34 52.7 +2.6
MFF *e*Sn Sn 22 36 35.6 -8.5
comp=Z,0.6nm,0.4s
SANT Santorini 11.48 120 Pn Pn 22 35 05.4 -2.7
IDI Anoyia 11.83 125 Pn Pn 22 35 15.3 +2.5
comp=Z,0.2nm,0.3s,baz=358,slow=20,SNR=1.4
IDI Sn Sn 22 37 20.5 -4.3
comp=Z,0.2nm,0.3s,baz=299,slow=19,SNR=2.2
comp=Z,3.3nm,0.9s
ESDC Sonseca Array 13.21 262 Pn Pn 22 35 32.7 +1.0
baz=68,slow=15,SNR=2.7
comp=Z,0.4nm,0.7s
FINES FINESS Array B 20.25 18 P P 22 36 59.2 0.0
comp=Z,3.2nm,1.0s,baz=205,slow=8.4,SNR=2.0
comp=Z,3.2nm,1.0s
FINES FINESS Array B 20.25 18 P P 22 36 59.0 -0.2
KBZ Khabaz 21.68 77 P P 22 37 17.4 +2.6
comp=Z,1.0nm,0.8s,baz=264,slow=9.2,SNR=2.4
comp=Z,1.0nm,0.8s
ARU Arti 31.84 49 P P 22 38 48.6 -0.1
ARU IAmb IAmb 22 38 58.1
comp=Z,13nm,1.5s
GYA0B ALIBECK ARRAY 34.34 83 P P 22 39 09.7 -1.1
GYA0B IAmb IAmb 22 39 16.5
comp=Z,3.4nm,0.7s
BRVK Borovoye 38.71 54 P P 22 39 48.1 +0.2
BRVK IAmb IAmb 22 39 51.7
comp=Z,2.5nm,0.6s
KKAR Karatay Array 41.31 69 P 22 40 09.3 -0.3
ZALV Zalesovo Beam 46.97 50 P P 22 40 55.6 +0.8
comp=Z,0.5nm,0.6s,baz=297,slow=9.5,SNR=2.2
comp=Z,0.5nm,0.6s
ZALV Zalesovo Beam 46.97 50 P P 22 40 54.7 -0.1
SONM Songino Array 61.87 50 P P 22 42 45.1 +1.7
comp=Z,0.5nm,0.7s,baz=284,slow=5.8,SNR=4.0
comp=Z,0.5nm,0.7s
CMAR Chiang Mai Arr 74.72 79 P P 22 44 07.7 +3.5
comp=Z,0.3nm,0.3s,baz=306,slow=7.7,SNR=4.2
comp=Z,0.3nm,0.3s

NEIC ***12*** *22:35:15.1±1.8,52.°5N±0.°2×174.°3W±0.°1,h140km±10km, mb4.3/53,ML3.8(AEIC),Error ellipse: s-maj=28.1km s-min=8.9km az=169.0*
AEIC ***12*** *22:35:16.2±3.0,52.°1N±0.°2×174.°1W±0.°1,h127km±7km, Error ellipse: s-maj=24.7km s-min=8.6km az=170.0*
IDC ***12*** *22:35:16.0±5.1,52.°62N×174.°25W,h146km±44km, mb3.6/10,mbtmp4.1/13,MS3.5/2,Error ellipse: s-maj=25.5km s-min=16.2km az=14.0*

ISC 12 22:35:15.6±0.6, 52.°5N±0.°1×174.°19W±0.°06, h150km, n92, σ1°09/95, mb4.2/24, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSTR	**Great Sitkin T**	**1.21**	**253**	Pn	Pn	22 35 40.3	-1.9
ADK	**Adak**	**1.64**	**251**	Pn	Pn	22 35 44.8	-1.8
ADK				Sn	Sn	22 36 07.5	-2.8
KIWB	**Kanaga Island**	**1.92**	**253**		Pn	22 35 48.8	-1.0
NIKH	**Nikolski High**	**3.29**	**79**		Pn	22 36 04.6	-1.9
AMKA	**Amchitka**	**4.17**	**258**	Pn	Pn	22 36 17.3	-0.7
UNV	**Unalaska Valle**	**4.83**	**70**	Pn	Pn	22 36 25.8	-0.7
AKUT	**Akutan**	**5.32**	**68**	Pn	Pn	22 36 32.0	-1.0
SDPT	**Sand Point**	**8.60**	**65**	Pn	Pn	22 37 14.2	-2.5
CNBA	**Chernabura Isl**	**8.99**	**69**	Pn	Pn	22 37 19.0	-3.0
O18K	**Koktuh Hills**	**12.88**	**47**		P	22 38 16.6	-1.4
KDAK	**Kodiak Island**	**13.44**	**58**	P	Pn	22 38 19.4	-0.6
	12nm,0.3s,baz=303,slow=4.5,SNR=29						
KDAK				S	Sn	22 40 36.9	-12
	12nm,1.0s,baz=119,slow=19,SNR=1.5						
CNPM	**China Poot**	**14.61**	**52**	Pn	Pn	22 38 35.0	+0.2
BRLK	**Bradley Lake**	**14.86**	**51**	Pn	Pn	22 38 37.7	-0.3
SEW	**Seward**	**15.65**	**51**	Pn	Pn	22 38 46.3	-1.3
RC01	**Rabbit Creek A**	**15.86**	**47**		Pn	22 38 50.1	-0.1
CAST	**Castle Rocks**	**15.97**	**38**	P	P	22 38 52.7	+0.5
CAST				IAmb	IAmb	22 38 57.5	
	comp=Z,15nm,1.3s						
KTH	**Kantishna Hill**	**16.48**	**39**	P	P	22 38 58.4	+0.5
KTH				IAmb	IAmb	22 39 02.4	
	comp=Z,17nm,0.9s						
KNK	**Knik Glacier**	**16.55**	**47**		P	22 38 58.4	-0.2
TRF	**Thorofare Moun**	**16.67**	**39**		Pn	22 39 00.6	+0.3
TRF				IAmb	IAmb	22 39 18.3	
	comp=Z,17nm,1.5s						
BPAW	**Bear Paw Mtn.**	**16.75**	**37**	P	Pn	22 39 02.7	+1.6
BPAW				IAmb	IAmb	22 39 05.2	
	comp=Z,17nm,1.3s						
SML	**Sawmill**	**16.76**	**46**	P	P	22 39 00.5	-0.4
SML				IAmb	IAmb	22 39 12.8	
	comp=Z,28nm,1.4s						

PEA0B	**Petropavlovsk-**	**16.98**	**283**	P	**P**	**22 39 02.7**	**-0.7**
PEA0B				IAmb	IAmb	22 39 14.7	
	comp=Z,18nm,1.2s						
PETK	**Petropavlovsk-**	**16.98**	**283**	P	**Pn**	**22 39 04.2**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=93,slow=16,SNR=4.8						
IMAR	**Indian Mountai**	**17.00**	**29**	P	**Pn**	**22 39 05.0**	**+1.0**
MCK	**McKinley**	**17.34**	**40**	P	**Pn**	**22 39 07.8**	**-0.3**
MCK				IAmb	IAmb	22 39 08.8	
	comp=Z,14nm,1.1s						
BWN	**Browne**	**17.36**	**38**	P	**Pn**	**22 39 08.9**	**+0.6**
BWN				IAmb	IAmb	22 39 11.1	
	comp=Z,22nm,1.2s						
MLY	**Manley**	**17.37**	**34**	P	**Pn**	**22 39 09.6**	**+1.1**
DHY	**Denali Highway**	**17.67**	**43**	P	**P**	**22 39 11.2**	**+0.2**
DHY				IAmb	IAmb	22 39 40.2	
	comp=Z,11nm,1.0s						
I23K	**Minto, Yukon-K**	**17.92**	**35**	P	**Pn**	**22 39 15.2**	**+0.3**
I23K				IAmb	IAmb	22 39 16.2	
	comp=Z,15nm,1.0s						
WRH	**Wood River Hil**	**18.03**	**38**	P	**P**	**22 39 14.3**	**-0.4**
CCB	**Clear Creek Bu**	**18.22**	**38**	P	**P**	**22 39 16.3**	**-0.5**
MDM	**Murphy Dome**	**18.22**	**37**	P	**P**	**22 39 17.0**	**+0.1**
H23K	**Yukon River**	**18.24**	**33**	P	**Pn**	**22 39 18.4**	**-0.4**
PAX	**Paxson**	**18.43**	**44**	P	**P**	**22 39 18.9**	**-0.3**
HDA	**Harding Lake**	**18.43**	**39**	P	**P**	**22 39 18.7**	**-0.4**
IL31		**18.62**	**38**	P	**P**	**22 39 20.3**	**-0.8**
ILAR	**Eielson Array**	**18.62**	**38**	P	**P**	**22 39 19.6**	**-1.6**
	comp=Z,1.8nm,0.4s,baz=237,slow=10,SNR=55						
ILAR	**Eielson Array**	**18.62**	**38**	P	**P**	**22 39 20.4**	**-0.8**
H24K	**Noodor Dome**	**18.81**	**34**	P	**P**	**22 39 23.8**	**+0.5**
H24K				IAmb	IAmb	22 39 26.1	
	comp=Z,12nm,0.9s						
COLD	**Coldfoot**	**18.89**	**29**		**Pn**	**22 39 25.3**	**-1.0**
RIDG	**Independent Ri**	**18.98**	**42**	P	**P**	**22 39 25.1**	**-0.1**
RIDG				IAmb	IAmb	22 39 29.1	
	comp=Z,12nm,1.0s						
J25K	**Salcha River,**	**19.13**	**39**	P	**P**	**22 39 25.5**	**-1.3**
L26K	**Log Cabin Wild**	**19.36**	**45**	P	**P**	**22 39 29.3**	**0.0**
SCRK	**Sand Creek**	**19.42**	**42**	P	**P**	**22 39 29.9**	**-0.2**
J26L	**Joseph Creek**	**19.80**	**41**	P	**P**	**22 39 33.9**	**-0.2**
TOLK	**Toolik Lake Re**	**20.00**	**27**	P	**P**	**22 39 37.0**	**+1.0**
TOLK				IAmb	IAmb	22 39 40.4	
	comp=Z,9.8nm,0.7s						
I26K	**Coal Creek Min**	**20.28**	**39**	P	**P**	**22 39 38.6**	**-0.5**
I26K				IAmb	IAmb	22 39 51.3	
	comp=Z,19nm,1.5s						
BMAR	**Burnt Mountain**	**20.78**	**33**	P	**P**	**22 39 45.5**	**+1.1**
EGAK	**Eagle**	**20.86**	**41**	P	**P**	**22 39 45.3**	**0.0**
EGAK				IAmb	IAmb	22 39 47.7	
	comp=Z,10nm,0.9s						
DAWY	**Dawson**	**21.36**	**44**	P	**P**	**22 39 50.8**	**+0.1**
DAWY				IAmb	IAmb	22 39 53.6	
	comp=Z,23nm,1.5s						
I29M	**Ogilvie Camp,**	**22.20**	**41**	P	**P**	**22 39 58.8**	**-0.5**
EPYK	**Eagle Plains**	**23.14**	**39**	P	**P**	**22 40 07.8**	**-0.3**
EPYK				IAmb	IAmb	22 40 08.8	
	comp=Z,14nm,1.4s						
INK	**Inuvik**	**24.94**	**35**	P	**P**	**22 40 23.9**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=244,slow=9.8,SNR=18						
	comp=Z,2.5nm,0.6s						
A36M	**Sachs Harbour**	**28.75**	**29**	P	**P**	**22 40 59.0**	**+0.6**
A36M				IAmb	IAmb	22 41 00.1	
	comp=Z,6.0nm,0.7s						
TIXI	**Tiksi**	**31.14**	**329**	P	**P**	**22 41 20.9**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=165,slow=0.1,SNR=1.5						
	comp=Z,0.3nm,0.3s						
KHMM	**Horse Mountain**	**35.80**	**88**	P	**P**	**22 42 02.8**	**+2.4**
NEW	**Newport**	**35.83**	**73**	LR	LR	22 55 55.9	
	comp=Z,76nm,18.3s,baz=306,slow=35						
WVOR	**Wild Horse Val**	**38.01**	**83**	P	**P**	**22 42 20.6**	**+1.7**
WVOR				IAmb	IAmb	22 42 46.3	
	comp=Z,7.9nm,1.4s						
PNTR	**Pine Nut**	**39.41**	**88**	P	**P**	**22 42 32.9**	**+2.1**
BCYI	**Bear Canyon**	**40.09**	**77**	P	**P**	**22 42 36.7**	**+0.3**
NVAR	**Mina Array Bea**	**40.61**	**87**	P	**P**	**22 42 42.5**	**+1.8**
	comp=Z,2.4nm,0.7s,baz=296,slow=7.7,SNR=13						
NVAR				PcP	**PcP**	**22 44 41.2**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=305,slow=3.2,SNR=4.2						
	comp=Z,2.4nm,0.7s						
NVAR	**Mina Array Bea**	**40.61**	**87**	P	**P**	**22 42 40.9**	**+0.2**
PDAR	**Pinedale Array**	**43.27**	**76**	P	**P**	**22 43 02.8**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=299,slow=2.7,SNR=16						
	comp=Z,1.6nm,0.6s						
GSC	**Goldstone, Bar**	**43.55**	**90**	P	**P**	**22 43 05.8**	**+1.5**
GSC				IAmb	IAmb	22 43 06.7	
	comp=Z,6.4nm,0.9s						
U15A	**North Rim**	**45.57**	**85**	P	**P**	**22 43 22.1**	**+1.6**
U15A				IAmb	IAmb	22 43 23.1	
	comp=Z,8.0nm,1.2s						
PV13	**Radium Mtn., P**	**46.55**	**81**	P	**P**	**22 43 28.5**	**+0.3**
PV13				IAmb	IAmb	22 43 30.1	
	comp=Z,3.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**50.11**	**288**	*e*P	**P**	**22 43 55.4**	**+0.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,6.2s						
TX31	**Lajitas Ar. Si**	**55.69**	**85**	P	**P**	**22 44 37.0**	**+0.8**
TXAR	**Lajitas Array**	**55.69**	**85**	P	**P**	**22 44 37.1**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=296,slow=4.8,SNR=30						
TXAR				pP	**pP**	**22 45 09.5**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=321,slow=4.0,SNR=2.1						
TXAR				PcP	**PcP**	**22 45 35.2**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=274,slow=1.3,SNR=9.1						
	comp=Z,3.1nm,0.8s						
TXAR	**Lajitas Array**	**55.69**	**85**	P	**P**	**22 44 37.0**	**+0.8**
KEV	**Kevo**	**57.12**	**351**	P	**P**	**22 44 44.5**	**-1.1**
ARCES	**ARCESS Array B**	**57.47**	**352**	P	**P**	**22 44 48.4**	**+0.2**
	comp=Z,6.6nm,1.1s,baz=9.2,slow=7.3,SNR=2.2						
ARCES				PcP	**PcP**	**22 45 39.5**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=14,slow=4.1,SNR=1.5						
	comp=Z,6.6nm,1.1s						
FCAR	**Ozark Folk Cen**	**57.98**	**72**	P	**P**	**22 44 50.8**	**-1.4**
FCAR				IAmb	IAmb	22 45 06.5	
	comp=Z,4.5nm,1.1s						
MIAR	**Mount Ida**	**58.07**	**74**	P	**P**	**22 44 52.5**	**-0.4**
LCAR	**Lake Charles**	**58.42**	**71**	P	**P**	**22 44 53.8**	**-1.4**
LCAR				IAmb	IAmb	22 45 08.4	
	comp=Z,5.7nm,1.5s						
KURK	**Kurchatov**	**60.30**	**316**	P	**P**	**22 45 07.2**	**-0.7**
KURK				IAmb	IAmb	22 45 28.0	
	comp=Z,3.7nm,1.4s						
WMQ	**Urumqi**	**61.11**	**305**	*e*P	**P**	**22 45 16.0**	**+2.4**
MKAR	**Makanchi Array**	**61.55**	**311**	P	**P**	**22 45 15.0**	**-1.5**
SSPA	**Standing Stone**	**62.49**	**59**	P	**P**	**22 45 22.8**	**+0.1**
ARU	**Arti**	**63.14**	**330**	P	**P**	**22 45 26.6**	**-0.2**
ARU				IAmb	IAmb	22 45 27.2	
	comp=Z,3.2nm,1.1s						
KRVT	**Keravat (AS076**	**63.37**	**218**	LR	LR	23 07 31.7	
	comp=Z,36nm,20.9s,baz=259,slow=30						
FINES	**FINESS Array B**	**65.31**	**349**	P	**P**	**22 45 40.3**	**-0.5**
	comp=Z,2.4nm,1.1s,baz=3.3,slow=7.2,SNR=1.5						
	comp=Z,2.4nm,1.1s						
PZH	**PanZhiHua**	**65.94**	**283**	P	**P**	**22 45 47.3**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,80nm,5.4s						
ABKAR	**Akbulak array**	**68.74**	**325**	P	**P**	**22 46 02.8**	**+0.1**
KKAR	**Karatay Array**	**69.70**	**315**	P	**P**	**22 46 08.5**	**-0.2**
GAR	**Garm**	**73.11**	**313**	P	**P**	**22 46 29.4**	**0.0**
AKASG	**Malin Array Be**	**75.33**	**345**	P	**P**	**22 46 40.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=15,slow=6.1,SNR=3.5						
	comp=Z,0.4nm,0.4s						
BNI	**Bardonecchia**	**82.87**	**359**	P	**P**	**22 47 23.8**	**+0.7**
BNI				IAmb	IAmb	22 47 42.4	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**84.81**	**228**	P	**P**	**22 47 32.9**	**0.0**
	comp=Z,0.3nm,0.7s,baz=34,slow=6.6,SNR=2.2						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**88.25**	**226**	P	**P**	**22 47 50.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=32,slow=4.7,SNR=4.7						
	comp=Z,0.5nm,0.6s						
MAW	**Mawson**	**149.10**	**219**	PKPbc	**PKiKP**	**22 54 46.3**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=117,slow=2.3,SNR=1.6						
BOSA	**Boshof**	**152.15**	**321**	PKPbc	**PKPbc**	**22 54 52.9**	**-0.2**
	comp=Z,3.2nm,1.1s,baz=34,slow=3.6,SNR=1.4						

TAP 12 22:36:01.6,24°.13N×121°.66E,h12km,ML1.2,1D,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.07**	**303**	⇓P	Pg	22 36 04.9	+0.7
	baz=303						
TWD	**Chiawan**	**0.08**	**228**	P	Pg	22 36 04.7	+0.4
	baz=224						
TWD				S	Sg	22 36 06.4	+0.2
	baz=224						
ETLH	**Xiulin Townshi**	**0.18**	**294**	P	Pb	22 36 06.8	-0.1
	baz=293						
ETLH				S	Sg	22 36 10.0	+1.3
	baz=293						
ETM	**Tongmen**	**0.23**	**223**	*e*P	Pb	22 36 07.1	-0.6
	baz=222						
ETM				*e*S	Sg	22 36 10.2	+0.4
	baz=222						
NNSB	**Datong**	**0.39**	**319**	P	Pb	22 36 10.8	+0.3
	baz=319						
NNSB				S	Sb	22 36 16.6	+0.1
	baz=319						
NNSH	**Datong**	**0.39**	**319**	*e*P	Pg	22 36 09.8	+0.4
	baz=319						
NNSH				*e*S	Sg	22 36 15.4	+0.7
	baz=319						
FUSS	**Fushou**	**0.40**	**287**	*e*S	Sb	22 36 17.1	+0.2
	baz=286						
NNS	**Nan Shan**	**0.40**	**319**	*e*S	Sb	22 36 16.1	-0.9
	baz=319						
LATG	**Datong**	**0.42**	**343**	*e*S	Sb	22 36 16.9	-0.5
	baz=342						
CHGB	**Renai**	**0.45**	**261**	P	Pb	22 36 11.9	+0.2
	baz=260						
CHGB				S	Sb	22 36 18.3	-0.1
	baz=260						
NDT	**Datong Townshi**	**0.49**	**344**	*e*S	Sg	22 36 18.0	+0.3
	baz=343						
WUSB	**Renai**	**0.52**	**254**	*e*P	Pb	22 36 12.9	+0.2
	baz=254						
WUSB				*e*S	Sb	22 36 19.7	-0.4
	baz=254						
YHNB	**Yeheng**	**0.59**	**334**	*e*P	Pb	22 36 14.8	+0.8
	baz=334						
YHNB				*e*S	Sb	22 36 22.8	+0.4
	baz=334						
NSK	**Sanguang**	**0.61**	**333**	*e*S	Sb	22 36 22.2	-0.5
	baz=333						
VWDT	**VWDT**	**0.61**	**232**	*e*S	Sb	22 36 23.4	+0.7
	baz=231						
FUSB	**Fushanzhiwuyua**	**0.63**	**354**	*e*S	Sb	22 36 23.6	+0.2
	baz=353						
SSLB	**Suanglung**	**0.73**	**242**	*e*P	Pb	22 36 16.8	+0.5
	baz=241						
SSLB				*e*S	Sb	22 36 26.4	+0.1
	baz=241						

JMA 12 22:36:18.0±0.1,24°.4N±0°.4×123°.6E±0°.2,h16km,MV0.7/7, NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**110**	P	Pg	22 36 21.6	-0.1
IRIF				S	Sg	22 36 24.3	+0.1
HATJ	**Hateruma jima**	**0.37**	**149**	P	Pg	22 36 25.5	-0.2
HATJ				S	Sg	22 36 30.9	0.0
JKRS	**Kuro-shima**	**0.40**	**110**	P	Pg	22 36 26.0	-0.2
JKRS				S	Sg	22 36 31.5	-0.3
JIJ	**Ishigaki jima**	**0.50**	**92**	P	Pg	22 36 27.9	-0.1
JIJ				S	Sg	22 36 34.4	-0.3
YOJ	**Yonaguni jima**	**0.54**	**279**	P	Pg	22 36 28.7	0.0
YOJ				S	Sg	22 36 36.2	+0.2

*IDC **12** 22:43:19.1±0.6,36°.91N×142°.02E,h0km,mb4.0/23, mbtmp4.0/27,ML2.8/3,MS3.1/6,Error ellipse: s-maj=15.2km s-min=13.3km az=125.0*

*JMA **12** 22:43:21.5±0.3,37°.0N±0°.7×14°.2E±°, h43km,MD4.5/39, MV4.1/39,E OFF FUKUSHIMA PREF*

*NEIC **12** 22:43:21.2±1.4,37°.03N±0°.06×142°.06E±0°.09,h11km±5km, mb4.6/23,Mwr4.0/17,Error ellipse: s-maj=10.1km s-min=8.6km az=87.0*

*NEIC **12** 22:43:21.2,37°.03N×142°.06E,h14km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=1.27; Mθθ=0.03; Mϕϕ=1.23; Mrθ=0.11; Mθϕ=0.46; Mϕr=0.13; Fault plane solution: M₀1.34000×10¹⁵ NP1:ϕs201.78000°, δ48.58000°, λ-85.95000°. NP2:ϕs15.68000°, δ41.58000°, λ-94.57000°. Principal axes: T 1.4008, Plg4.0000°, Azm289.0000°; N -0.1211, Plg3.0000°, Azm19.0000°; P -1.2797, Plg85.0000°, Azm150.0000°;*

*NIED **12** 22:43:21.5,37°.00N×142°.01E,h43km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=2.01; Mθθ=0.36; Mϕϕ=1.66; Mrθ=0.30; Mθϕ=0.57; Mϕr=0.04; Fault plane solution: M₀1.96000×10¹⁵ NP1:ϕs14.00000°, δ43.00000°, λ-100.00000°. NP2:ϕs207.00000°, δ47.00000°, λ-81.00000°.*

ISC 12 22:43:23.5±3.3,37°.03N±0°.05×142°.02E±0°.06,h28km±23km, n125,σ1ᵗ36/118,mb4.3/39,MS3.5/8,1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.98**	**291**	*i* P	**Pn**	**22 43 38.9**	**-2.5**
JFK				*e*S	**Sn**	**22 43 51.3**	**-3.1**
JMST	**Minamisoumatoc**	**1.14**	**308**	P	**Pn**	**22 43 41.5**	**-2.2**
JMST				S	**Sn**	**22 43 56.2**	**-2.1**
JFFD	**Fukushimafurud**	**1.17**	**274**	*i* P	**Pn**	**22 43 41.5**	**-2.5**
JHO	**Hitachi**	**1.24**	**251**	*i* P	**Pn**	**22 43 42.1**	**-2.9**
JMM	**Marumori**	**1.29**	**311**		**Pn**	**22 43 43.8**	**-1.9**
JMM				Sn	**Sn**	**22 44 02.9**	**+1.0**
JMM	**Marumori**	**1.29**	**311**	P	**Pn**	**22 43 43.9**	**-1.8**
JMM	**Marumori**	**1.29**	**311**	*i* P	**Pn**	**22 43 43.8**	**-1.9**
JIO	**Ouri**	**1.52**	**340**	P	**Pn**	**22 43 46.8**	**-2.1**
JIO				*e*S	**Sn**	**22 44 05.0**	**-2.7**
JSB	**Shiboa**	**1.68**	**269**	A	A	22 43 49.2	
	comp=E,12nm,1.4s,comp=E,14nm,1.2s						
JOU	**Okura**	**1.72**	**322**	P	**Pn**	**22 43 50.4**	**-1.1**
JOU	**Okura**	**1.72**	**322**	A	A	22 43 50.4	
	comp=E,11nm,1.2s,comp=E,12nm,1.8s						
JYAR	**Yonezawaarcadi**	**1.74**	**301**	A	A	22 43 50.1	
	comp=E,16nm,1.0s,comp=E,19nm,1.4s						
JOFO	**Osakifurukawao**	**1.80**	**331**	A	A	22 43 51.2	
	comp=E,23nm,1.7s,comp=E,26nm,2.0s						
JFY	**Yanaizu**	**1.89**	**282**	*i* P	**Pn**	**22 43 53.0**	**-0.9**
JYS	**Shirataka**	**1.96**	**308**	P	**Pn**	**22 43 54.5**	**-0.3**
JYS	**Shirataka**	**1.96**	**308**	A	A	22 43 54.5	
	comp=E,7.0nm,1.8s,comp=E,7.0nm,4.8s						
JMK	**Ichinoseki**	**2.02**	**342**	P	**Pn**	**22 43 54.4**	**-1.4**
JAG	**Ashikaga**	**2.15**	**255**	*i* P	**Pn**	**22 43 55.8**	**-1.7**
JAG				*e*S	**Sn**	**22 44 21.8**	**-1.5**
JKT	**Katashina**	**2.24**	**264**	P	**Pn**	**22 43 58.2**	**-0.6**
JYA	**Atsumi**	**2.41**	**311**	A	A	22 43 59.8	
	comp=E,3.0nm,0.9s,comp=E,4.0nm,4.9s						
JRG	**Rokugo**	**2.61**	**336**	A	A	22 44 02.8	
	comp=E,4.0nm,4.7s,comp=E,4.0nm,1.0s						
JSZI	**Iwateshizukuis**	**2.84**	**343**	A	A	22 44 06.1	
	comp=E,6.0nm,2.4s,comp=E,7.0nm,2.8s						
JYW	**Yuwa**	**2.89**	**331**	A	A	22 44 06.8	
	comp=E,6.0nm,1.8s,comp=E,7.0nm,2.7s						
MJAR	**Matsushiro Arr**	**3.10**	**262**	Pn	**Pn**	**22 44 10.0**	**-0.6**
	2.1nm,0.3s,baz=88,slow=15,SNR=62						
MJAR				Sn	**Sn**	**22 44 47.3**	**+0.6**
	1.4nm,0.3s,baz=74,slow=29,SNR=2.6						
MJAR				LR	LR	22 45 03.6	
	comp=Z,114nm,18.4s,baz=114,slow=34						
	35nm,0.6s						
MAJO	**Matsushiro**	**3.10**	**262**	Pn	**Pn**	**22 44 10.3**	**-0.3**
MAJO	**Matsushiro**	**3.10**	**262**	P	**Pn**	**22 44 10.8**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.10**	**262**		**Pn**	**22 44 10.1**	**-0.6**
JSD	**Sado**	**3.16**	**290**	Pn	**Pn**	**22 44 10.1**	**-1.2**
JSD	**Sado**	**3.16**	**290**	P	**Pn**	**22 44 12.0**	**+0.7**
JTM	**Tenmabayashi**	**3.83**	**349**	Pn	**Pn**	**22 44 20.6**	**+0.1**
JGF	**Kuroka**	**4.03**	**251**	Pn	**Pn**	**22 44 23.2**	**-0.2**
JGF	**Kuroka**	**4.03**	**251**	P	**Pn**	**22 44 24.1**	**+0.7**
JHJ2	**Mitsune**	**4.30**	**205**	P	**Pn**	**22 44 27.0**	**-0.1**
JHJ	**Hachijo jima 2**	**4.31**	**206**	Pn	**Pn**	**22 44 26.2**	**-1.0**
	129nm,0.5s,baz=38,slow=19,SNR=12						
JHJ				Sn	**Sn**	**22 45 14.1**	**-2.5**
	28nm,0.3s,baz=101,slow=22,SNR=1.3						
INU	**Inuyama**	**4.38**	**249**	Pn	**Pn**	**22 44 28.4**	**+0.2**
INU	**Inuyama**	**4.38**	**249**	P	**Pn**	**22 44 29.8**	**+1.6**
ERM	**Erimo**	**5.06**	**10**		**Pn**	**22 44 35.9**	**-1.6**
JKA	**Kamikawa-asahi**	**7.09**	**3**	Pn	**Pn**	**22 45 03.6**	**-1.8**
JMN	**Monobe**	**7.42**	**246**	Pn	**Pn**	**22 45 11.7**	**+1.7**
JMN	**Monobe**	**7.42**	**246**	P	**Pn**	**22 45 12.5**	**+2.5**
JHS	**Saijyo**	**7.50**	**257**	Pn	**Pn**	**22 45 11.9**	**+0.9**
JHS	**Saijyo**	**7.50**	**257**	P	**Pn**	**22 45 13.9**	**+2.9**
JCJ	**Chichijima**	**9.90**	**179**	Pn	Pn	22 45 38.0	-6.0
	3.5nm,0.3s,baz=317,slow=19,SNR=1.0						
JCJ				Sn	Sn	22 47 22.0	-12
	4.3nm,0.3s,baz=266,slow=18,SNR=2.0						
JNU	**Nakatsue**	**9.93**	**250**		**Pn**	**22 45 45.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**10.46**	**316**	Pn	**Pn**	**22 45 54.3**	**+2.8**
	0.2nm,0.3s,baz=130,slow=12,SNR=4.6						
KSRS	**Korea Array**	**11.25**	**276**	Pn	**Pn**	**22 46 05.7**	**+3.3**
	0.2nm,0.3s,baz=93,slow=12,SNR=5.8						
KSRS				LR	LR	22 50 21.0	
	comp=Z,157nm,18.3s,baz=90,slow=37						
MDJ	**Mudanjiang**	**12.08**	**313**	P	**P**	**22 46 23.4**	**-2.8**
MDJ				pmax	pmax		
	comp=Z,27nm,4.9s						
MDJ				pmax	pmax		
	comp=Z,400nm,5.9s						
KLR	**Kul'dur**	**14.30**	**332**	Pn	**Pn**	**22 46 44.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=125,slow=15,SNR=1.9						
	comp=Z,0.5nm,0.6s						
HEH	**HeiHe**	**16.89**	**326**	*e*P	**Pn**	**22 47 19.1**	**+1.4**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HEH				pmax	pmax		
	comp=Z,120nm,3.8s						
PETK	**Petropavlovsk-**	**19.45**	**29**	P	**P**	**22 47 48.4**	**+0.6**
	baz=210,slow=8.3,SNR=2.7						
	comp=Z,3.9nm,1.0s						
XLT	**XiLinHaoTe**	**20.85**	**297**	*e*P	**P**	**22 48 02.9**	**-0.2**
XLT				pP	Pn	22 48 08.4	+2.7
XLT				sP	pP	22 48 11.0	+0.5
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,130nm,3.8s						
XLT				LR	LR		
	comp=N,13nm,12.3s						
XLT				LR	LR		
	comp=E,250nm,16.0s						
XLT				LR	LR		
	comp=Z,230nm,14.0s						
HNS	**HongShan**	**21.73**	**279**	⇓P	**P**	**22 48 10.3**	**-2.3**
HNS				PP	**PnPn**	**22 48 32.7**	**-1.1**
HNS				*e*S	**S**	**22 52 10.5**	**-1.1**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HNS				LR	LR		
	comp=E,230nm,17.5s						
HNS				LR	LR		
	comp=Z,170nm,13.1s						
HHC	**Hu-ho-hao-te**	**23.94**	**289**	*e*P	**P**	**22 48 34.4**	**-0.9**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,95nm,6.2s						
YAK	**Yakutsk**	**26.18**	**347**	P	**P**	**22 48 55.8**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=124,slow=1.8,SNR=1.7						
YAK				LR	LR	22 58 42.7	
	comp=Z,25nm,18.8s,baz=267,slow=35						
	comp=Z,1.9nm,0.3s						
YAK	**Yakutsk**	**26.18**	**347**	P	**P**	**22 48 54.3**	**-1.1**
YAK				IAmb	IAmb	22 49 12.0	
	comp=Z,18nm,0.8s						
SEY	**Seymchan**	**26.71**	**11**	P	**P**	**22 49 02.4**	**+2.3**
	comp=Z,2.4nm,0.7s,baz=191,slow=19,SNR=1.9						
	comp=Z,2.4nm,0.7s						
XAN	**Xi'an**	**27.03**	**274**	P	**P**	**22 49 08.0**	**+4.6**
XAN				sP	sP	22 49 14.6	+0.3
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XAN				LR	LR		
	comp=E,140nm,13.7s						
H11N2	**WAKE ISLAND Hy**	**27.73**	**122**	T	T	23 18 10.8	
	baz=314,slow=75,SNR=283						
H11N1	**WAKE ISLAND Hy**	**27.74**	**122**	T	T	23 18 10.8	
	baz=314,slow=75,SNR=245						
H11N3	**WAKE ISLAND Hy**	**27.75**	**122**	T	T	23 18 12.2	
	baz=314,slow=75,SNR=264						
ENH	**Enshi**	**27.82**	**266**	P	**P**	**22 49 10.5**	**0.0**
ENH				IAmb	IAmb	22 49 13.2	
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**28.19**	**304**	P	**P**	**22 49 14.2**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=102,slow=8.5,SNR=11						
	comp=Z,2.3nm,0.8s						
SONM	**Songino Array**	**28.19**	**304**	P	**P**	**22 49 13.9**	**+0.2**
H11S1	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	23 19 03.6	
	baz=316,slow=76,SNR=117						
H11S3	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	23 18 58.6	
	baz=316,slow=76,SNR=115						
H11S2	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	23 19 04.5	
	baz=316,slow=76,SNR=138						
GTA	**Gaotai**	**33.03**	**287**	*e*P	**P**	**22 49 58.4**	**+1.8**
GTA				pP	pP	22 50 04.7	+0.3
GTA				sP	sP	22 50 08.6	+1.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,27nm,5.5s						
GTA				LR	LR		
	comp=N,67nm,12.4s						
GTA				LR	LR		
	comp=E,92nm,13.5s						
GTA				LR	LR		
	comp=Z,57nm,16.4s						
PZH	**PanZhiHua**	**35.59**	**265**	P	**P**	**22 50 20.4**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0

GAR				IAmb	IAmb	22 53 16.3		
	comp=Z,7.6nm,1.2s							
CHGR	**Chuyangaron**	**56.11**	**296**	P	**P**	**22 52 60.0**	**-0.5**	
ARU	**Arti**	**56.69**	**319**	P	**P**	**22 53 04.7**	**+0.5**	
	comp=Z,2.2nm,0.6s,baz=63,slow=9.0							
	comp=Z,2.2nm,0.6s							
ARU	**Arti**	**56.69**	**319**	P	**P**	**22 53 04.3**	**+0.1**	
ARU				IAmb	IAmb	22 53 20.7		
	comp=Z,5.7nm,1.0s							
WB0	**Warramunga Arr**	**56.94**	**189**	P	**P**	**22 53 04.9**	**-1.5**	
WB0				IAmb	IAmb	22 53 18.7		
	comp=Z,7.5nm,1.3s							
WR0	**Warramunga Arr**	**57.12**	**188**	P	**P**	**22 53 06.1**	**-1.4**	
WR0				IAmb	IAmb	22 53 26.6		
	comp=Z,15nm,1.5s							
WRA	**Warramunga Arr**	**57.12**	**189**	P	**P**	**22 53 05.5**	**-2.1**	
	comp=Z,1.7nm,0.5s,baz=7.1,slow=7.1,SNR=41							
	comp=Z,1.7nm,0.5s							
WRA	**Warramunga Arr**	**57.12**	**189**	P	**P**	**22 53 06.4**	**-1.2**	
C36M	**Paulatuk**	**57.23**	**25**	P	**P**	**22 53 07.8**	**0.0**	
KBL	**Kabul**	**57.87**	**291**	P	**P**	**22 53 11.8**	**-1.3**	
KBL				IAmb	IAmb	22 53 23.7		
	comp=Z,4.9nm,1.2s							
ABKAR	**Akbulak array**	**58.32**	**310**	P	**P**	**22 53 15.3**	**-0.4**	
EUNU	**Eureka**	**60.12**	**9**	P	**P**	**22 53 27.2**	**-0.6**	
EUNU				IAmb	IAmb	22 53 53.0		
	comp=Z,7.1nm,1.4s							
ASAR	**Alice Springs**	**60.85**	**189**	P	**P**	**22 53 32.5**	**-0.9**	
	comp=Z,1.5nm,0.7s,baz=13,slow=7.3,SNR=17							
	comp=Z,1.5nm,0.7s							
ASAR	**Alice Springs**	**60.85**	**189**	P	**P**	**22 53 32.7**	**-0.8**	
YKA	**Yellowknife Ar**	**63.57**	**30**	P	**P**	**22 53 52.7**	**+1.5**	
	comp=Z,0.6nm,0.7s,baz=301,slow=6.6,SNR=1.4							
	comp=Z,0.6nm,0.7s							
BELG	**Belogornoye**	**64.14**	**317**	P	**P**	**22 53 55.0**	**-0.1**	
	comp=Z,4.5nm,0.8s,baz=112,slow=11,SNR=3.5							
	comp=Z,4.5nm,0.8s							
MSVF	**Nonsavu**	**64.19**	**141**	LR	LR	23 17 42.2		
	comp=Z,24nm,19.2s,baz=12,slow=32							
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**22 54 26.1**	**-0.2**	
	comp=Z,2.7nm,0.8s,baz=37,slow=9.5,SNR=5.5							
	comp=Z,2.7nm,0.8s							
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**22 54 26.2**	**-0.1**	
KBZ	**Khabaz**	**71.28**	**311**	P	**P**	**22 54 40.6**	**+0.4**	
	comp=Z,2.2nm,1.0s,baz=348,slow=0.9,SNR=5.1							
	comp=Z,2.2nm,1.0s							
HFS	**Hagfors**	**74.29**	**336**	P	**P**	**22 54 57.8**	**0.0**	
	comp=Z,2.8nm,0.9s,baz=64,slow=9.8,SNR=1.9							
	comp=Z,2.8nm,0.9s							
NOA	**NORSAR Array B**	**74.38**	**338**	P	**P**	**22 54 58.7**	**+0.3**	
	comp=Z,0.9nm,0.8s,baz=39,slow=5.8,SNR=1.7							
NOA				LR	LR	23 31 57.0		
	comp=Z,23nm,18.2s,baz=125,slow=39							
	comp=Z,0.9nm,0.8s							
AKASG	**Malin Array Be**	**74.60**	**323**	P	**P**	**22 54 59.6**	**-0.2**	
	comp=Z,0.7nm,0.5s,baz=47,slow=6.9,SNR=5.5							
	comp=Z,0.7nm,0.5s							
NVAR	**Mina Array Bea**	**74.60**	**53**	P	**P**	**22 55 01.4**	**+1.0**	
	comp=Z,0.6nm,0.7s,baz=281,slow=5.9,SNR=6.0							
	comp=Z,0.6nm,0.7s							
NVAR	**Mina Array Bea**	**74.60**	**53**	P	**P**	**22 55 00.3**	**-0.1**	
PDAR	**Pinedale Array**	**77.32**	**46**	P	**P**	**22 55 16.1**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=280,slow=2.7,SNR=3.8							
	comp=Z,0.2nm,0.5s							
PDAR	**Pinedale Array**	**77.32**	**46**	P	**P**	**22 55 15.7**	**-0.1**	
BRTR	**Keskin Array B**	**79.22**	**312**	P	**P**	**22 55 27.3**	**+1.0**	
	comp=Z,1.2nm,1.0s,baz=38,slow=5.4,SNR=5.2							
	comp=Z,1.2nm,1.0s							
TXAR	**Lajitas Array**	**89.74**	**53**	P	**P**	**22 56 19.4**	**-0.2**	
	comp=Z,0.5nm,0.8s,baz=299,slow=3.6,SNR=6.7							
	comp=Z,0.5nm,0.8s							
LPAZ	**La Paz**	**146.28**	**60**	PKPbc	**PKPbc**	**23 03 02.8**	**+0.1**	
	comp=Z,2.8nm,0.8s,baz=354,slow=4.9,SNR=11							
PLCA	**Paso Flores**	**154.46**	**108**	PKPab	**PKPab**	**23 03 35.7**	**-0.1**	
	comp=Z,1.4nm,0.8s,baz=301,slow=5.9,SNR=3.5							

*IDC **12** 23:06:42.5±2.4, 6.˚48S×129.˚97E, h157km±23km, mb3.4/5, mbtmp4.0/8, Error ellipse: s-maj=38.1km s-min=22.4km az=107.0*

*NEIC **12** 23:06:42.1±2.2, 6.˚43S±0.˚07×129.˚9E±0.˚1, h161km±25km, mb4.1/5, Error ellipse: s-maj=20.6km s-min=9.8km az=95.0.*

ISC 12 23:06:40.8±0.6, **6.˚50S**±0.˚05×**129.˚89E**±0.˚06, **h146**km, **n34**, σ**2.˚28**/39, **mb3.6**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.03**	**137**		**Pn**	**23 07 18.8**	**+2.7**
SAUI				Sn	**Sn**	**23 07 46.5**	**+3.4**
SAUI	**Saumlaki**	**2.03**	**137**	P	**Pn**	**23 07 19.6**	**+3.5**
FAKI	**Fak Fak**	**4.26**	**34**		**Pn**	**23 07 45.8**	**+1.4**
FAKI				Sn	**Sn**	**23 08 33.1**	**-0.8**
FAKI	**Fak Fak**	**4.26**	**34**	P	**Pn**	**23 07 46.0**	**+1.6**
SIJI	**Sorong**	**5.76**	**14**	P	**Pn**	**23 08 05.8**	**+1.5**
	7.5nm,0.2s,baz=219,slow=18,SNR=26						
SIJI				S	**Sn**	**23 09 07.2**	**-2.3**
	15nm,0.2s,baz=214,slow=23,SNR=12						
MTN	**Manton Dam**	**6.42**	**169**		**Pn**	**23 08 14.2**	**+1.0**
MTN	**Manton Dam**	**6.42**	**169**	P	**Pn**	**23 08 14.8**	**+1.6**
SOEI	**Soe**	**6.44**	**239**	Pn	**Pn**	**23 08 16.3**	**+2.7**
SOEI	**Soe**	**6.44**	**239**	P	**Pn**	**23 08 16.9**	**+3.4**
KDU	**Kakadu**	**6.66**	**158**	P	**Pn**	**23 08 16.7**	**+0.4**
BATI	**Baumata**	**7.18**	**239**	P	**Pn**	**23 08 25.9**	**+2.5**
	24nm,0.3s,baz=74,slow=6.6,SNR=9.5						
BATI				S	**Sn**	**23 09 42.6**	**-1.1**
	17nm,0.6s,baz=216,slow=20,SNR=1.7						
KNRA	**Kununurra**	**9.19**	**187**		**Pn**	**23 08 49.2**	**-0.9**
WB0	**Warramunga Arr**	**13.90**	**162**	Pn	**Pn**	**23 09 48.4**	**-3.3**
WRA	**Warramunga Arr**	**14.05**	**163**	P	**Pn**	**23 09 50.5**	**-3.1**
	3.0nm,0.3s,baz=346,slow=11,SNR=20						
WRA				S	Sn	23 12 16.2	-13
	3.3nm,0.6s,baz=337,slow=22,SNR=14						
WRA	**Warramunga Arr**	**14.05**	**163**	Pn	**Pn**	**23 09 50.0**	**-3.6**
COEN	**Coen**	**15.02**	**121**	P	**Pn**	**23 10 05.1**	**-0.7**
	3.6nm,1.0s						
MYLDM	**Lahad Datu**	**16.24**	**315**	Pn	**Pn**	**23 10 18.5**	**-2.4**
MYLDM				IAmb	IAmb	23 10 46.4	
	comp=Z,13nm,1.2s						
QIS	**Mount Isa**	**16.85**	**147**	P	**Pn**	**23 10 27.7**	**-0.6**
AS31	**Alice Springs**	**17.50**	**168**	P	**Pn**	**23 10 35.8**	**-0.2**
ASAR	**Alice Springs**	**17.50**	**168**	P	**Pn**	**23 10 36.1**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=341,slow=9.5,SNR=24						
ASAR				S	**S**	**23 13 41.7**	**-8.1**
	comp=Z,1.0nm,0.5s,baz=349,slow=24,SNR=6.0						
ASAR	**Alice Springs**	**17.50**	**168**	P	**Pn**	**23 10 36.4**	**+0.4**
AS01	**Alice Springs**	**17.51**	**168**	P	**Pn**	**23 10 36.2**	**+0.1**
MBWA	**Marble Bar**	**17.59**	**213**	P	**P**	**23 10 36.1**	**+0.2**
MBWA				IAmb	IAmb	23 11 05.2	
	comp=Z,14nm,1.2s						
PSA00	**Pilbara Seismi**	**17.86**	**212**	P	**P**	**23 10 39.2**	**+0.3**
PSA00	**Pilbara Seismi**	**17.86**	**212**	P	**P**	**23 10 38.6**	**-0.3**
PSA00				IAmb	IAmb	23 10 40.4	
	comp=Z,7.2nm,1.3s						
PSA00	**Pilbara Seismi**	**17.86**	**212**	P	**Pn**	**23 10 40.4**	**+0.1**
WRKA	**Warakurna**	**18.50**	**185**	P	**P**	**23 10 47.1**	**+1.2**
OOD	**Oodnadatta**	**21.88**	**166**	P	**P**	**23 11 21.8**	**-0.4**
MULG	**Mulgathing**	**23.98**	**171**	P	**P**	**23 11 42.7**	**+0.8**
	comp=Z,18nm,1.3s						
CMAR	**Chiang Mai Arr**	**39.33**	**310**	P	**P**	**23 13 57.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=128,slow=7.1,SNR=4.3						
	comp=Z,0.4nm,0.3s						
USRK	**Ussuriysk Ar.**	**50.50**	**2**	P	**P**	**23 15 24.4**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=180,slow=6.0,SNR=2.2						
	comp=Z,0.8nm,0.6s						
SONM	**Songino Array**	**57.93**	**342**	P	**P**	**23 16 18.6**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=164,slow=5.8,SNR=2.0						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.75**	**327**	P	**P**	**23 17 23.9**	**+1.2**
	comp=Z,3.0nm,0.5s,baz=114,slow=7.0,SNR=43						
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**71.09**	**334**	P	**P**	**23 17 42.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.4,SNR=2.7						
	comp=Z,0.4nm,0.4s						

*ROM **12** 23:10:02.5±0.0, 42.˚761N±0.˚002×13.˚061E±0.˚004, h10km, ML2.7/43, Error ellipse: s-maj=0.3km s-min=0.0km az=254.0*

*PRU **12** 23:10:08.9±0.0, 42.˚98N×13.˚82E, h10km*

ISC 12 23:10:03.1±0.8, **42.˚77N**±0.˚02×**13.˚08E**±0.˚02, **h12**km±4km, **n59**, σ**1.˚03**/82, **23C-17D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.07**	**23**	⇓P	**Pg**	**23 10 05.4**	**-0.4**
NRCA					S	**Sg**	**23 10 07.1**	**-0.6**
NRCA					AML	AML		
	comp=E,30550μm,0.2s							
NRCA					AML	AML		
	comp=N,30550μm,0.2s							
NRCA					AML	AML		
	comp=E,30600μm,0.2s							
NRCA					AML	AML		
	comp=N,28750μm,0.2s							
NRCA					AML	AML		
	comp=E,31800μm,0.2s							
NRCA					AML	AML		
	comp=E,30550μm,0.2s							
T1218	**Civita (PG)**	**0.10**	**164**	⇓P		**Pb**	**23 10 05.7**	**-1.3**
T1218					S	**Sb**	**23 10 08.0**	**-0.2**
T1218					AML	AML		
	comp=E,8295μm,0.4s							
T1218					AML	AML		
	comp=N,20000μm,0.4s							
T1218					AML	AML		
	comp=E,7885μm,0.3s							
T1218					AML	AML		
	comp=N,19600μm,0.4s							
T1218					AML	AML		
	comp=E,8295μm,0.4s							
T1218					AML	AML		
	comp=E,7885μm,0.4s							
T1218					AML	AML		
	comp=N,19600μm,0.4s							
T1218					AML	AML		
	comp=E,8300μm,0.4s							
T1218					AML	AML		
	comp=N,20050μm,0.4s							
T1218					AML	AML		
	comp=N,19550μm,0.4s							
T1218					AML	AML		
	comp=E,8300μm,0.4s							
T1218					AML	AML		
	comp=E,7890μm,0.4s							
T1245	**Castelsantange**	**0.12**	**43**	⇑P		**Pb**	**23 10 06.2**	**-1.2**
T1245					S	**Sg**	**23 10 08.8**	**0.0**
T1245					AML	AML		
	comp=E,22050μm,0.5s							
T1245					AML	AML		
	comp=N,28050μm,0.8s							
T1216	**Preci, Frazion**	**0.13**	**341**	⇑P		**Pb**	**23 10 06.1**	**-1.4**
T1216					S	**Sb**	**23 10 08.6**	**-0.2**
T1216					AML	AML		
	comp=E,7060μm,1.1s							
T1216					AML	AML		
	comp=N,9205μm,0.3s							
T1216					AML	AML		
	comp=E,7060μm,1.2s							
T1216					AML	AML		
	comp=N,9210μm,0.3s							
T1216					AML	AML		
	comp=N,9205μm,0.3s							
T1216					AML	AML		
	comp=E,7070μm,1.2s							
T1215	**Vallo di Nera,**	**0.16**	**283**	⇑P		**Pb**	**23 10 06.4**	**-1.6**
T1215					S	**Sb**	**23 10 09.1**	**-0.3**
T1215					AML	AML		
	comp=E,3680μm,1.3s							
T1215					AML	AML		
	comp=E,3605μm,0.3s							
T1215					AML	AML		
	comp=N,4485μm,0.3s							
T1215					AML	AML		
	comp=N,4660μm,0.3s							
T1215					AML	AML		
	comp=E,3610μm,0.3s							
T1215					AML	AML		
	comp=E,3605μm,0.3s							
T1215					AML	AML		
	comp=N,4485μm,0.3s							
T1215					AML	AML		
	comp=E,3665μm,1.3s							
T1215					AML	AML		
	comp=N,4660μm,0.3s							
LNSS	**Leonessa**	**0.17**	**189**	P		**Pb**	**23 10 06.7**	**-1.5**
LNSS					S	**Sb**	**23 10 09.6**	**-0.1**
LNSS					AML	AML		
	comp=E,2965μm,0.3s							
LNSS					AML	AML		
	comp=N,10055μm,0.4s							
LNSS					AML	AML		
	comp=E,2960μm,0.3s							
LNSS					AML	AML		
	comp=N,10060μm,0.4s							
MMO1	**Montemonaco**	**0.23**	**54**	⇑P		**Pb**	**23 10 07.9**	**-1.3**
MMO1					S	**Sb**	**23 10 12.0**	**+0.7**
SMA1	**SAN MARTINO**	**0.23**	**126**	⇑P		**Pb**	**23 10 08.2**	**-1.2**
SMA1					S	**Sb**	**23 10 12.7**	**+1.1**
SMA1					AML	AML		
	comp=N,3830μm,0.4s							
SMA1					AML	AML		
	comp=E,4750μm,0.5s							
SMA1					AML	AML		
	comp=N,3835μm,0.4s							
SMA1					AML	AML		
	comp=E,4745μm,0.5s							
T1256	**Bolognola (MC)**	**0.26**	**25**	⇑P		**Pb**	**23 10 08.5**	**-1.4**
T1256					S	**Sb**	**23 10 12.9**	**-1.5**
T1256					AML	AML		
	comp=E,2400μm,0.3s							
T1256					AML	AML		
	comp=N,2500μm,0.5s							
T1256					AML	AML		
	comp=E,2380μm,0.3s							
T1256					AML	AML		
	comp=E,2395μm,0.3s							
T1256					AML	AML		
	comp=N,2335μm,0.5s							
T1256					AML	AML		
	comp=N,2505μm,0.5s							
CESI	**CESI - Serrava**	**0.27**	**332**	⇓P		**Pg**	**23 10 08.5**	**-0.2**
CESI					S	**Sg**	**23 10 12.9**	**+0.4**
CESI					AML	AML		
	comp=E,1820μm,0.5s							
CESI					AML	AML		
	comp=N,4040μm,0.2s							
T1241	**Roccafluvione,**	**0.28**	**71**	P		**Pg**	**23 10 08.8**	**0.0**
T1241					S	**Sg**	**23 10 13.7**	**+1.1**
T1241					AML	AML		
	comp=E,6770μm,0.7s							
T1241					AML	AML		
	comp=E,6765μm,0.7s							
T1241					AML	AML		
	comp=N,4495μm,0.3s							
T1241					AML	AML		
	comp=N,3950μm,1.4s							
T1241					AML	AML		
	comp=E,7095μm,0.7s							
RM33	**Pellescritta (**	**0.28**	**159**	⇓P		**Pg**	**23 10 08.6**	**-0.3**
RM33					S	**Sg**	**23 10 13.2**	**+0.4**
RM33					AML	AML		
	comp=E,1800μm,0.9s							
RM33					AML	AML		
	comp=N,1760μm,0.3s							
RM33					AML	AML		
	comp=E,1915μm,0.9s							
RM33					AML	AML		
	comp=N,1765μm,0.3s							
T1243	**Rocca Santa Ma**	**0.28**	**104**	⇑P		**Pg**	**23 10 08.8**	**-0.2**
T1243					S	**Sg**	**23 10 13.4**	**+0.5**
T1211	**Morro Reatino**	**0.29**	**215**	⇑P		**Pg**	**23 10 08.6**	**-0.4**
T1211					AML	AML		
	comp=N,2765μm,1.4s							
T1211					AML	AML		
	comp=E,2162μm,1.5s							
T1211					AML	AML		
	comp=N,2780μm,0.4s							
T1211					AML	AML		
	comp=E,2095μm,1.5s							
T1211					AML	AML		
	comp=N,2760μm,1.4s							
T1219	**Muccia, Frazio**	**0.29**	**350**	P		**Pg**	**23 10 08.8**	**-0.3**
T1219					AML	AML		
	comp=E,1825μm,0.7s							
T1219					AML	AML		
	comp=N,1795μm,0.3s							
T1219					AML	AML		
	comp=E,1830μm,0.2s							
T1219					AML	AML		
	comp=N,1865μm,1.2s							
T1219					AML	AML		
	comp=N,1790μm,0.3s							
ARRO	**Arrone**	**0.30**	**231**	⇑P		**Pg**	**23 10 08.8**	**-0.4**
ARRO					AML	AML		
	comp=E,1415μm,0.2s							
ARRO					AML	AML		
	comp=N,1635μm,0.2s							
CAMP	**Campotosto**	**0.34**	**133**	⇓P		**Pg**	**23 10 09.8**	**-0.2**
CAMP					AML	AML		
	comp=E,814μm,1.2s							
CAMP					AML	AML		
	comp=N,683μm,0.7s							
CSP1	**Cessapalombo**	**0.34**	**16**	⇑P		**Pg**	**23 10 09.8**	**-0.2**
CSP1					AML	AML		
	comp=N,2874μm,0.5s							
CSP1					AML	AML		
	comp=N,2874μm,0.5s							
CSP1					AML	AML		
	comp=N,2871μm,0.5s							
CSP1					AML	AML		
	comp=E,1805μm,0.3s							
GUMA	**Gualdo di Mace**	**0.35**	**33**	⇑P		**Pg**	**23 10 10.4**	**+0.2**
GUMA					AML	AML		
	comp=N,3760μm,0.5s							
GUMA					AML	AML		
	comp=E,4875μm,0.4s							
GUMA					AML	AML		
	comp=E,4750μm,0.4s							
GUMA					AML	AML		
	comp=N,4705μm,0.3s							
GUMA					AML	AML		
	comp=N,3755μm,0.5s							
T1247	**Pizzolo (AQ)**	**0.36**	**153**	⇑P		**Pg**	**23 10 10.3**	**-0.2**
T1247					AML	AML		
	comp=E,1335μm,0.5s							
T1247					AML	AML		
	comp=N,1310μm,1.5s							
T1247					AML	AML		
	comp=E,1340μm,0.5s							
T1247					AML	AML		
	comp=N,1315μm,1.5s							
ASSB	**Assisi San Ben**	**0.41**	**312**	P		**Pg**	**23 10 10.9**	**-0.4**
ASSB					S	**Sg**	**23 10 17.3**	**+0.5**
TERO	**Teramo**	**0.41**	**110**	P		**Pg**	**23 10 11.0**	**-0.3**
TERO					AML	AML		
	comp=E,1325μm,1.0s							
TERO					AML	AML		
	comp=E,1430μm,1.4s							
TERO					AML	AML		
	comp=N,1995μm,0.3s							
TERO					AML	AML		
	comp=N,2245μm,0.3s							
TERO					AML	AML		
	comp=E,1330μm,1.0s							
OFFI	**Offida**	**0.48**	**69**	⇑P		**Pg**	**23 10 13.2**	**+0.7**
OFFI					AML	AML		
	comp=N,3130μm,0.7s							
OFFI					AML	AML		
	comp=E,2685μm,0.6s							
GIGS	**Gran Sasso**	**0.48**	**131**	⇓P		**Pg**	**23 10 12.2**	**-0.4**
GIGS					AML	AML		
	comp=N,216μm,0.3s							
GIGS					AML	AML		
	comp=E,198μm,0.6s							
GIGS					AML	AML		
	comp=N,217μm,0.3s							
SNTG	**Esanatoglia**	**0.50**	**348**	⇓P		**Pg**	**23 10 12.5**	**-0.4**
SNTG					S	**Sg**	**23 10 20.4**	**+0.9**
SNTG					AML	AML		
	comp=N,652μm,0.4s							
SNTG					AML	AML		
	comp=E,708μm,0.8s							
SNTG					AML	AML		
	comp=N,647μm,0.7s							
SNTG					AML	AML		
	comp=E,780μm,0.8s							
SNTG					AML	AML		
	comp=N,651μm,0.4s							
FIAM	**Fiamignano**	**0.50**	**177**	⇑P		**Pg**	**23 10 12.3**	**-0.7**
FIAM					S	**Sg**	**23 10 19.7**	**+0.2**
FIAM					AML	AML		
	comp=N,441μm,1.1s							
FIAM					AML	AML		
	comp=E,580μm,0.9s							
ATCC	**AVT- Casa Cast**	**0.53**	**323**	⇓P		**Pg**	**23 10 13.0**	**-0.4**
ATCC					S	**Sg**	**23 10 21.4**	**+1.0**
ATCC					AML	AML		
	comp=E,886μm,0.4s							
ATCC					AML	AML		
	comp=N,1036μm,0.4s							
ATCC					AML	AML		
	comp=E,886μm,0.4s							
ATCC					AML	AML		
	comp=N,1038μm,0.4s							
EL6	**Elcito**	**0.56**	**2**	⇑P		**Pg**	**23 10 13.7**	**-0.4**
EL6					S	**Sb**	**23 10 22.8**	**-0.2**
EL6					AML	AML		
	comp=E,1037μm,1.0s							
EL6					AML	AML		
	comp=N,1200μm,0.2s							
EL6					AML	AML		
	comp=E,1036μm,1.2s							
EL6					AML	AML		
	comp=N,1206μm,0.2s							
FOSV	**Fossato di Vic**	**0.57**	**336**	P		**Pb**	**23 10 13.9**	**-1.3**
FOSV					S	**Sb**	**23 10 23.3**	**0.0**
FOSV					AML	AML		
	comp=N,642μm,0.5s							
FOSV					AML	AML		
	comp=E,449μm,0.3s							
CING	**Cingoli**	**0.61**	**8**	P		**Pb**	**23 10 14.6**	**-1.2**
FAGN	**Fagnano**	**0.63**	**143**	⇓P		**Pb**	**23 10 14.9**	**-1.1**
FAGN					AML	AML		
	comp=E,1075μm,0.5s							
FAGN					AML	AML		
	comp=N,720μm,0.4s							
FAGN					AML	AML		
	comp=E,1070μm,0.5s							
MURB	**Monte Urbino**	**0.64**	**321**	P		**Pb**	**23 10 15.2**	**-1.0**
MURB					AML	AML		
	comp=N,2955μm,0.4s							
MURB					AML	AML		
	comp=E,2065μm,0.3s							
MURB					AML	AML		
	comp=N,2795μm,0.3s							
MURB					AML	AML		
	comp=E,2120μm,0.3s							
SRES	**S.Oreste - Sor**	**0.68**	**219**	P		**Pb**	**23 10 14.9**	**-1.9**
SRES					AML	AML		
	comp=N,358μm,0.4s							
SRES					AML	AML		
	comp=E,260μm,0.4s							
VCEL	**Villa Celiera**	**0.68**	**123**	P		**Pb**	**23 10 16.3**	**-0.6**
VCEL					AML	AML		
	comp=N,1009μm,0.4s							
VCEL					AML	AML		
	comp=N,1006μm,0.4s							
VCEL					AML	AML		
	comp=E,1095μm,0.4s							
SSFR	**Montelago di S**	**0.70**	**342**	⇓P		**Pb**	**23 10 16.4**	**-0.9**
SSFR					AML	AML		
	comp=E,1014μm,0.2s							
SSFR					AML	AML		
	comp=N,852μm,0.2s							
SSFR					AML	AML		
	comp=E,920μm,0.2s							
SSFR					AML	AML		
	comp=N,892μm,0.2s							
ATFO	**Monte Foce - G**	**0.70**	**328**	⇓P		**Pb**	**23 10 16.4**	**-0.9**
ATFO					AML	AML		
	comp=N,402μm,0.4s							
ATFO					AML	AML		
	comp=E,422μm,0.4s							
ATFO					AML	AML		
	comp=N,402μm,0.4s							
MGAB	**Montegabbione**	**0.72**	**282**	⇑P		**Pb**	**23 10 16.8**	**-0.9**
MGAB					AML	AML		
	comp=E,1080μm,1.4s							
MGAB					AML	AML		
	comp=N,1036μm,0.5s							
MGAB					AML	AML		
	comp=N,1038μm,0.5s							
MGAB					AML	AML		
	comp=N,972μm,0.5s							
MGAB					AML	AML		
	comp=E,1079μm,1.4s							
MGAB					AML	AML		
	comp=E,1074μm,1.5s							
PP3	**Marolino**	**0.72**	**32**	⇓P		**Pg**	**23 10 17.9**	**+0.8**

PP3				AML	AML			
	comp=E,1020μm,1.3s							
PP3				AML	AML			
	comp=N,1890μm,0.6s							
PP3				AML	AML			
	comp=E,1068μm,0.6s							
PP3				AML	AML			
	comp=N,1890μm,0.6s							
PP3				AML	AML			
	comp=E,1065μm,0.6s							
ARVD	**Arcevia**	**0.74**	**352**	⇓P	**Pb**	**23 10 16.9**	**-1.0**	
ARVD				S	**Sn**	**23 10 29.0**	**-1.5**	
ARVD				AML	AML			
	comp=E,524μm,0.6s							
ARVD				AML	AML			
	comp=N,388μm,1.0s							
T0110	**Collepietro**	**0.75**	**136**	⇑P	**Pb**	**23 10 16.8**	**-1.3**	
T0110				AML	AML			
	comp=N,564μm,0.6s							
T0110				AML	AML			
	comp=E,756μm,0.7s							
MTCE	**Montecelio**	**0.79**	**199**	P	**Pb**	**23 10 17.4**	**-1.3**	
MTCE				AML	AML			
	comp=E,320μm,0.5s							
MTCE				AML	AML			
	comp=E,320μm,0.5s							
MTCE				AML	AML			
	comp=N,176μm,1.6s							
ATVO	**AVT- Monte Val**	**0.79**	**322**	⇑P	**Pb**	**23 10 17.6**	**-1.2**	
ATVO				AML	AML			
	comp=E,298μm,0.5s							
ATVO				AML	AML			
	comp=N,248μm,1.0s							
ATVO				AML	AML			
	comp=E,298μm,0.5s							
FRON	**Frontone**	**0.79**	**341**	⇑P	**Pb**	**23 10 18.2**	**-0.6**	
FRON				AML	AML			
	comp=E,250μm,0.5s							
FRON				AML	AML			
	comp=N,419μm,1.2s							
ATMI	**Monte Miggiano**	**0.82**	**314**	⇓P	**Pb**	**23 10 19.4**	**+0.1**	
ATMI				AML	AML			
	comp=E,1310μm,0.5s							
ATMI				AML	AML			
	comp=N,1155μm,0.5s							
CERT	**Cerreto**	**0.82**	**185**	P	**Pb**	**23 10 18.3**	**-1.0**	
CERT				AML	AML			
	comp=E,680μm,0.6s							
CERT				AML	AML			
	comp=N,262μm,0.5s							
ATPI	**Pietralunga -**	**0.84**	**324**	P	**Pb**	**23 10 19.0**	**-0.7**	
ATPI				AML	AML			
	comp=N,360μm,0.5s							
ATPI				AML	AML			
	comp=E,244μm,0.5s							
SACS	**San Casciano d**	**0.86**	**276**	⇑P	**Pb**	**23 10 19.0**	**-1.0**	
SACS				AML	AML			
	comp=E,352μm,0.5s							
SACS				AML	AML			
	comp=N,366μm,0.6s							
SACS				AML	AML			
	comp=E,348μm,1.6s							
SACS				AML	AML			
	comp=N,367μm,0.6s							
MPAG	**Monte Paganucc**	**0.89**	**345**	P	**Pb**	**23 10 18.9**	**-1.6**	
FSSB	**Fossombrone**	**0.95**	**347**	P	**Pb**	**23 10 20.7**	**-0.8**	
FSSB				AML	AML			
	comp=E,1187μm,1.5s							
FSSB				AML	AML			
	comp=N,1205μm,0.3s							
LATE	**Laterza**	**0.95**	**261**	⇓P	**Pg**	**23 10 22.9**	**+1.4**	
CAFI	**Castiglion Fio**	**0.99**	**305**	P	**Pb**	**23 10 21.2**	**-0.9**	
CAFI				S	**Sn**	**23 10 37.0**	**+0.3**	
CAFI				AML	AML			
	comp=E,231μm,0.7s							
CAFI				AML	AML			
	comp=N,289μm,0.4s							
PE3	**Peglio**	**1.02**	**336**	⇑P	**Pb**	**23 10 21.1**	**-1.6**	
VIVA	**Pratoni del Vi**	**1.04**	**193**	S	**Sn**	**23 10 38.0**	**0.0**	
TOLF	**Tolfa**	**1.06**	**229**	⇑P	**Pb**	**23 10 22.2**	**-1.2**	
TOLF				AML	AML			
	comp=N,134μm,0.4s							
TOLF				AML	AML			
	comp=E,144μm,0.6s							
LPEL	**Lama dei Pelig**	**1.09**	**131**	⇓P	**Pn**	**23 10 24.5**	**+0.3**	
LPEL				S	**Sg**	**23 10 40.0**	**+1.7**	
ARCI	**Arcidosso**	**1.18**	**275**	⇓P	**Pb**	**23 10 26.2**	**+0.7**	
GIUL	**Giuliano Di Ro**	**1.22**	**174**	⇑P	**Pg**	**23 10 27.2**	**+0.7**	
ABTA	**Abfaltersbach**	**4.00**	**354**	*i* Pn	**Pn**	**23 11 06.2**	**+1.9**	
	comp=E,2.9nm,0.3s							
ABTA				*i* Sn	**Sn**	**23 11 53.2**	**+2.2**	
	comp=E,3.8nm,0.5s							
KHC	**Kasperske Hory**	**6.37**	**3**	*e*PN	Pn	23 11 39.3	+2.5	
KHC				*e*SN	**Sn**	**23 12 46.3**	**-3.2**	

MOS ***12*** *23:11:13.7±0.0, 41.67N×47.94E, h20km, MPVA4.4*
DRS ***12*** *23:11:16.4±0.0, 41.65N×47.96E, h16km, ML3.4/5*
ISC 12 23:11:15.8±1.0, 41.70N±0.03×47.95E±0.03, h10km±8km, n31, σ1§67/57, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.16**	**125**	*e*Pg	**Pg**	**23 11 19.5**	**0.0**
KSMR				*e*Sg	**Sg**	**23 11 22.6**	**+0.6**
AKT	**Akhty**	**0.27**	**218**	*e*Pg	**Pb**	**23 11 21.4**	**-1.5**
AKT				*e*Sg	**Sb**	**23 11 25.1**	**-2.5**
AKT				*i* AML	AML	23 11 25.7	
	10μm,0.2s						
DRN	**Derbent**	**0.44**	**40**	*e*Pg	**Pb**	**23 11 25.2**	**-0.4**
DRN				*e*Sg	**Sb**	**23 11 32.0**	**-0.3**
URKR	**Urkarakh**	**0.53**	**333**	*e*Pg	**Pb**	**23 11 26.9**	**-0.3**
URKR				*e*Sg	**Sb**	**23 11 34.5**	**-0.4**
KMKR	**Kumukh**	**0.77**	**305**	*e*Pg	**Pg**	**23 11 30.8**	**0.0**
KMKR				*e*Sg	**Sg**	**23 11 41.8**	**+1.0**
GNBR	**Gunib**	**1.01**	**314**	*e*Pg	**Pg**	**23 11 35.0**	**-0.3**
GNBR				*e*Sg	**Sn**	**23 11 49.1**	**-1.3**
ARKR	**Arakani**	**1.15**	**322**	*e*Pg	**Pg**	**23 11 37.6**	**-0.4**
ARKR				*e*Sg	**Sg**	**23 11 53.4**	**+0.5**
LGD	**Lagodekhi**	**1.29**	**277**	P	**Pb**	**23 11 39.3**	**-0.8**
LGD				S	**Sg**	**23 11 59.3**	**+2.1**
BUJR	**Buynaksk**	**1.29**	**331**	*e*Pg	**Pb**	**23 11 39.8**	**-0.4**
BUJR				*e*Sg	**Sg**	**23 11 57.5**	**+0.1**
MAK	**Makhachkala**	**1.31**	**345**	*e*Pg	**Pb**	**23 11 39.9**	**-0.5**
MAK				*e*Sg	**Sg**	**23 11 57.8**	**-0.1**
UNCR	**Uncukul**	**1.33**	**320**	*e*Pg	**Pb**	**23 11 40.5**	**-0.4**
UNCR				*e*Sg	**Sg**	**23 11 58.8**	**+0.1**
KRNR	**Karanay**	**1.37**	**326**	*e*Pg	**Pb**	**23 11 41.1**	**-0.5**
KRNR				*e*Sg	**Sg**	**23 11 59.8**	**-0.1**
KRNR				*i* AML	AML	23 12 01.1	
	178nm,0.4s						
DDFL	**Dedoflistskaro**	**1.40**	**260**	P	**Pg**	**23 11 44.1**	**+1.4**
DDFL				S	**Sg**	**23 12 07.3**	**+6.5**
DBC	**Dubki**	**1.56**	**328**	*e*Pg	**Pb**	**23 11 44.0**	**-0.9**
DBC				*e*Sg	**Sb**	**23 12 05.0**	**+0.3**
DBC				*i* AML	AML	23 12 07.5	
	256nm,0.5s						
BTLR	**Botlikh**	**1.61**	**308**	*e*Pg	**Pb**	**23 11 44.7**	**-0.9**
BTLR				*e*Sg	**Sg**	**23 12 06.4**	**-1.2**
BTLR				*i* AML	AML	23 12 09.8	
	128nm,0.5s						
DLMR	**Dylym**	**1.69**	**325**	*e*Pg	**Pb**	**23 11 46.0**	**-1.0**
DLMR				*e*Sg	**Sb**	**23 12 08.6**	**+0.4**
DLMR				*i* AML	AML	23 12 13.3	
	1μm,0.4s						
DVE	**Vedeno**	**1.85**	**314**	*e*Pg	**Pb**	**23 11 47.7**	**-2.1**
DVE				*e*Sg	**Sb**	**23 12 12.2**	**-0.8**
DGRG	**David-gareji**	**1.95**	**264**	P	**Pb**	**23 11 50.7**	**-0.7**
DGRG				S	**Sg**	**23 12 18.9**	**+0.4**
GROC	**Groznyy**	**2.19**	**314**	*e*Pg	**Pb**	**23 11 53.0**	**-2.6**
GROC				*e*Sg	**Sb**	**23 12 21.6**	**-1.2**
SHTL	**Shatili**	**2.29**	**296**	P	**Pb**	**23 11 56.4**	**-0.9**
KMGR	**Komgaron**	**2.66**	**302**	*e*Pn	**Pn**	**23 11 59.2**	**+0.5**
KMGR				*e*Sn	**Sb**	**23 12 33.0**	**-3.2**
DMNI	**Dmanisi**	**2.85**	**264**	P	**Pb**	**23 12 02.7**	**-4.1**
LACR	**Lac**	**2.94**	**294**	*e*Pn	**Pn**	**23 12 02.9**	**+0.2**
LACR				*e*Sn	**Sn**	**23 12 39.6**	**+1.6**
BTKR	**Batakoyurt**	**3.02**	**305**	*e*Pn	**Pn**	**23 12 04.0**	**+0.3**
BTKR				*e*Sn	**Sn**	**23 12 41.7**	**+1.6**
ALIG	**Mtskhetisjvari**	**3.24**	**279**	P	**Pb**	**23 12 09.1**	**-4.3**
STDR	**Stavd-Durt**	**3.32**	**301**	*e*Pn	**Pn**	**23 12 08.3**	**+0.4**
STDR				*e*Sn	**Sn**	**23 12 49.1**	**+1.7**
DIGR	**Digorskoe uzhe**	**3.46**	**292**	*e*Pn	**Pn**	**23 12 10.2**	**+0.4**
DIGR				*e*Sn	**Sn**	**23 12 52.3**	**+1.3**
ONI	**Oni**	**3.46**	**286**	P	**Pb**	**23 12 15.8**	**-1.4**
ABS	**Abastumani**	**3.85**	**273**	P	**Pn**	**23 12 17.3**	**+2.1**
NEY	**Neytrino**	**4.17**	**294**	*e*Pn	**Pn**	**23 12 19.6**	**0.0**
NEY				*e*Sn	**Sn**	**23 13 09.8**	**+1.3**
SHA1	**Shidzhatmaz**	**4.40**	**299**	*e*Pn	**Pn**	**23 12 23.0**	**+0.1**
SHA1				*e*Sn	**Sn**	**23 13 15.7**	**+1.4**

MOS ***12*** *23:15:17.0±0.0, 41.69N×47.91E, h21km, MPVA3.9*
DRS ***12*** *23:15:19.9±0.0, 41.72N×47.92E, h14km*
ISC 12 23:15:18.5±0.9, 41.71N±0.04×47.91E±0.03, h14km±9km, n22, σ1§15/41, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.20**	**124**	*e*Pg	**Pg**	**23 15 22.7**	**-0.4**
KSMR				*e*Sg	**Sg**	**23 15 25.8**	**-0.4**
AKT	**Akhty**	**0.27**	**210**	*e*Pg	**Pg**	**23 15 24.5**	**+0.2**
AKT				*e*Sg	**Sg**	**23 15 28.4**	**+0.2**
DRN	**Derbent**	**0.45**	**44**	*e*Pg	**Pb**	**23 15 28.1**	**0.0**
DRN				*e*Sg	**Sb**	**23 15 35.0**	**+0.3**
URKR	**Urkarakh**	**0.50**	**335**	*e*Pg	**Pb**	**23 15 29.2**	**+0.1**
URKR				*e*Sg	**Sb**	**23 15 36.9**	**+0.5**
KMKR	**Kumukh**	**0.74**	**305**	*e*Pg	**Pg**	**23 15 33.3**	**+0.4**
KMKR				*e*Sg	**Sn**	**23 15 44.2**	**-1.6**
GNBR	**Gunib**	**0.98**	**314**	*e*Pg	**Pg**	**23 15 37.6**	**+0.2**
GNBR				*e*Sg	**Sn**	**23 15 51.5**	**-0.1**
ARKR	**Arakani**	**1.12**	**323**	*e*Pg	**Pg**	**23 15 40.2**	**+0.1**
ARKR				*e*Sg	**Sg**	**23 15 55.9**	**+1.2**
LGD	**Lagodekhi**	**1.25**	**276**	P	**Pg**	**23 15 42.6**	**0.0**
LGD				S	**Sg**	**23 16 00.5**	**+1.5**
BUJR	**Buynaksk**	**1.26**	**332**	*e*Pg	**Pb**	**23 15 42.4**	**+0.3**
BUJR				*e*Sg	**Sg**	**23 16 00.1**	**+0.9**
MAK	**Makhachkala**	**1.28**	**347**	*e*Pg	**Pb**	**23 15 42.5**	**0.0**
MAK				*e*Sg	**Sg**	**23 16 00.2**	**+0.3**
UNCR	**Uncukul**	**1.30**	**321**	*e*Pg	**Pb**	**23 15 43.0**	**+0.3**
UNCR				*e*Sg	**Sg**	**23 16 01.2**	**+0.7**
KRNR	**Karanay**	**1.34**	**327**	*e*Pg	**Pb**	**23 15 43.5**	**+0.1**
KRNR				*e*Sg	**Sg**	**23 16 02.4**	**+0.6**
DDFL	**Dedoflistskaro**	**1.37**	**259**	P	**Pg**	**23 15 47.4**	**+2.5**
DBC	**Dubki**	**1.53**	**329**	*e*Pg	**Pb**	**23 15 46.7**	**0.0**
DBC				*e*Sg	**Sg**	**23 16 07.6**	**-0.3**
BTLR	**Botlikh**	**1.57**	**308**	*e*Pg	**Pb**	**23 15 47.3**	**-0.1**
BTLR				*e*Sg	**Sg**	**23 16 08.8**	**-0.5**
DLMR	**Dylym**	**1.66**	**325**	*e*Pg	**Pb**	**23 15 48.3**	**-0.5**
DLMR				*e*Sg	**Sg**	**23 16 11.3**	**-0.5**
DVE	**Vedeno**	**1.82**	**314**	*e*Pg	**Pb**	**23 15 50.4**	**-1.1**
DVE				*e*Sg	**Sb**	**23 16 14.7**	**+0.5**
DGRG	**David-gareji**	**1.92**	**263**	P	**Pb**	**23 15 53.9**	**+0.5**
DGRG				S	**Sg**	**23 16 21.9**	**+1.6**
GROC	**Groznyy**	**2.16**	**314**	*e*Pg	**Pb**	**23 15 55.6**	**-1.8**
GROC				*e*Sg	**Sb**	**23 16 23.9**	**-0.1**
SHTL	**Shatili**	**2.26**	**296**	P	**Pg**	**23 16 00.5**	**-1.3**
LACR	**Lac**	**2.90**	**294**	*e*Pn	**Pn**	**23 16 05.7**	**+1.3**
LACR				*e*Sn	**Sb**	**23 16 42.0**	**-3.5**
ALIG	**Mtskhetisjvari**	**3.21**	**278**	P	**Pb**	**23 16 12.2**	**-3.1**

STR ***12*** *23:19:32.4±4.7, 43.1N×19.1E×3.6, h10km, MLv3.5/19,*
Error ellipse: s-maj=0.1km s-min=0.0km az=116.1,
preliminary
ROM ***12*** *23:19:38.0±0.1, 42.817N±0.003×13.095E±0.005,*
h11km, ML3.2/76, Error ellipse: s-maj=0.4km s-min=0.2km
az=266.0
PRU ***12*** *23:19:40.2±0.0, 42.84N×13.41E, h10km*
ISC 12 23:19:38.7±0.8, 42.81N±0.01×13.12E±0.02, h9km±4km, n185, σ1§30/228, 68C-36D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**348**	P	**Pg**	**23 19 40.3**	**-0.2**
NRCA				S	**Sg**	**23 19 41.7**	**-0.1**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	**Castelsantange**	**0.07**	**44**	P	**Pg**	**23 19 40.9**	**-0.1**
T1245				S	**Sg**	**23 19 42.8**	**+0.2**
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
	comp=E,99900μm,1.5s						
T1216	**Preci, Frazion**	**0.11**	**318**	P	**Pg**	**23 19 41.1**	**-0.4**
T1216				S	**Sg**	**23 19 43.0**	**-0.3**
T1216				AML	AML		
	comp=E,98600μm,0.5s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,98700μm,0.5s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,98450μm,0.5s						
T1218	**Civita (PG)**	**0.14**	**182**	P	**Pg**	**23 19 42.0**	**+0.2**
T1218				S	**Sg**	**23 19 44.9**	**+0.9**
T1218				AML	AML		
	comp=E,32650μm,0.2s						
T1218				AML	AML		
	comp=N,51400μm,0.2s						
T1218				AML	AML		
	comp=E,30850μm,0.2s						
T1218				AML	AML		
	comp=N,52400μm,0.2s						
T1218				AML	AML		
	comp=N,51350μm,0.2s						
T1218				AML	AML		
	comp=N,52450μm,0.2s						
T1218				AML	AML		
	comp=E,32650μm,0.1s						
T1218				AML	AML		
	comp=E,30850μm,0.1s						
FEMA	**Monte Fema**	**0.17**	**341**	P	**Pg**	**23 19 41.9**	**-0.4**
FEMA				S	**Sg**	**23 19 44.6**	**-0.2**
FEMA				AML	AML		
	comp=E,49400μm,0.4s						
FEMA				AML	AML		
	comp=N,36550μm,0.3s						
FEMA				AML	AML		
	comp=E,49400μm,0.3s						
MMO1	**Montemonaco**	**0.18**	**58**	P	**Pg**	**23 19 42.5**	**0.0**
MMO1				S	**Sg**	**23 19 46.0**	**+0.9**
T1215	**Vallo di Nera,**	**0.19**	**269**	P	**Pg**	**23 19 42.3**	**-0.3**
T1215				S	**Sg**	**23 19 45.3**	**0.0**
T1215				AML	AML		
	comp=E,15315μm,0.8s						
T1215				AML	AML		
	comp=N,17150μm,0.2s						
T1215				AML	AML		
	comp=E,15925μm,0.8s						
T1215				AML	AML		
	comp=E,15325μm,0.9s						
T1215				AML	AML		
	comp=N,17200μm,0.2s						
T1215				AML	AML		
	comp=E,15900μm,0.9s						
T1215				AML	AML		
	comp=N,17100μm,0.1s						
LNSS	**Leonessa**	**0.21**	**197**	⇑P	**Pg**	**23 19 43.1**	**+0.1**
LNSS				S	**Sg**	**23 19 47.2**	**+1.2**
LNSS				AML	AML		
	comp=N,34350μm,0.4s						
LNSS				AML	AML		
	comp=E,13600μm,0.3s						
T1256	**Bolognola (MC)**	**0.21**	**21**	⇓P	**Pg**	**23 19 43.0**	**-0.1**
T1256				S	**Sg**	**23 19 46.6**	**+0.4**
T1256				AML	AML		
	comp=E,17000μm,1.0s						
T1256				AML	AML		
	comp=E,17000μm,1.0s						
T1256				AML	AML		
	comp=N,13200μm,0.4s						
T1256				AML	AML		
	comp=N,13200μm,0.4s						
T1256				AML	AML		
	comp=N,12200μm,0.4s						
T1256				AML	AML		
	comp=E,17200μm,1.0s						
T1256				AML	AML		
	comp=E,17050μm,1.0s						
FDMO	**Fiordimonte**	**0.23**	**354**	P	**Pg**	**23 19 43.0**	**-0.4**
FDMO				S	**Sg**	**23 19 46.7**	**+0.1**
FDMO				AML	AML		
	comp=E,9090μm,1.6s						
FDMO				AML	AML		
	comp=N,14750μm,1.1s						
T1241	**Roccafluvione,**	**0.23**	**77**	⇑P	**Pg**	**23 19 43.6**	**+0.2**
T1241				S	**Sg**	**23 19 47.9**	**+1.2**
T1241				AML	AML		
	comp=E,16200μm,0.9s						
T1241				AML	AML		
	comp=N,12850μm,0.7s						
T1241				AML	AML		
	comp=E,16150μm,0.9s						
CESI	**CESI - Serrava**	**0.26**	**321**	P	**Pg**	**23 19 43.4**	**-0.5**
CESI				S	**Sg**	**23 19 47.5**	**+0.2**
CESI				AML	AML		
	comp=E,17950μm,0.3s						
CESI				AML	AML		
	comp=N,20250μm,0.3s						
T1219	**Muccia, Frazio**	**0.26**	**341**	P	**Pg**	**23 19 43.5**	**-0.6**
T1219				S	**Sg**	**23 19 47.5**	**-0.1**
T1219				AML	AML		
	comp=E,18450μm,0.2s						
T1219				AML	AML		
	comp=N,18750μm,0.4s						
T1219				AML	AML		
	comp=E,19000μm,0.2s						
T1219				AML	AML		
	comp=E,18400μm,0.2s						
T1219				AML	AML		
	comp=E,19000μm,0.2s						
T1219				AML	AML		
	comp=N,18650μm,0.4s						
T1243	**Rocca Santa Ma**	**0.26**	**114**	⇑P	**Pg**	**23 19 44.1**	**+0.1**
T1243				S	**Sg**	**23 19 48.9**	**+1.3**
CSP1	**Cessapalombo**	**0.29**	**12**	⇑P	**Pg**	**23 19 44.2**	**-0.4**
CSP1				S	**Sg**	**23 19 48.9**	**+0.4**
CSP1				AML	AML		
	comp=N,11550μm,0.2s						
CSP1				AML	AML		
	comp=N,11600μm,0.2s						
CSP1				AML	AML		
	comp=E,17450μm,0.4s						
GUMA	**Gualdo di Mace**	**0.30**	**31**	⇑P	**Pg**	**23 19 44.8**	**+0.1**
GUMA				S	**Sb**	**23 19 49.9**	**-1.4**
GUMA				AML	AML		
	comp=E,20650μm,0.4s						
GUMA				AML	AML		
	comp=N,15750μm,0.5s						
GUMA				AML	AML		
	comp=E,22150μm,0.3s						
GUMA				AML	AML		
	comp=N,15700μm,0.5s						
GUMA				AML	AML		
	comp=N,15500μm,0.5s						
RM33	**Pellescritta (**	**0.30**	**167**	⇑P	**Pg**	**23 19 44.7**	**0.0**
RM33				S	**Sg**	**23 19 50.1**	**+1.2**
RM33				AML	AML		
	comp=N,7205μm,0.9s						
RM33				AML	AML		
	comp=E,9390μm,1.5s						
RM33				AML	AML		
	comp=N,7325μm,0.9s						
RM33				AML	AML		
	comp=E,9580μm,1.5s						
RM33				AML	AML		
	comp=E,9425μm,1.5s						
RM33				AML	AML		
	comp=N,7210μm,0.9s						
T1211	**Morro Reatino**	**0.34**	**216**	P	**Pg**	**23 19 45.3**	**-0.1**
T1211				S	**Sg**	**23 19 50.6**	**+0.8**
T1211				AML	AML		
	comp=E,7920μm,0.5s						
T1211				AML	AML		
	comp=N,9365μm,1.2s						
T1211				AML	AML		
	comp=E,7985μm,0.5s						
T1211				AML	AML		
	comp=N,9575μm,1.2s						
CAMP	**Campotosto**	**0.34**	**142**	⇑P	**Pg**	**23 19 45.4**	**-0.1**
CAMP				S	**Sb**	**23 19 51.2**	**-1.4**
CAMP				AML	AML		
	comp=N,5155μm,0.3s						
CAMP				AML	AML		
	comp=E,4510μm,0.9s						
ARRO	**Arrone**	**0.35**	**229**	P	**Pg**	**23 19 46.4**	**+0.9**
SEF1	**Sefro**	**0.36**	**339**	⇑P	**Pg**	**23 19 45.2**	**-0.7**
SEF1				S	**Sg**	**23 19 50.9**	**+0.2**
SEF1				AML	AML		
	comp=E,13250μm,0.3s						
SEF1				AML	AML		
	comp=N,14600μm,1.0s						
SEF1				AML	AML		
	comp=N,14650μm,1.0s						
MDAR	**Monte D'Aria**	**0.39**	**2**	⇑P	**Pg**	**23 19 45.8**	**-0.5**
MDAR				AML	AML		
	comp=N,4935μm,0.3s						
MDAR				AML	AML		
	comp=E,4485μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.39**	**160**	⇑P	**Pg**	**23 19 46.2**	**-0.1**
T1247				S	**Sb**	**23 19 53.0**	**-0.8**
T1247				AML	AML		
	comp=N,7075μm,0.2s						
T1247				AML	AML		
	comp=E,6940μm,0.7s						
TERO	**Teramo**	**0.40**	**117**	⇑P	**Pg**	**23 19 46.4**	**-0.2**
TERO				AML	AML		
	comp=N,5670μm,1.1s						
TERO				AML	AML		
	comp=E,8220μm,0.3s						
TERO				AML	AML		
	comp=N,6175μm,1.1s						
TERO				AML	AML		
	comp=N,5675μm,1.1s						
TERO				AML	AML		
	comp=E,7560μm,0.3s						
ASSB	**Assisi San Ben**	**0.41**	**305**	⇑P	**Pg**	**23 19 46.0**	**-0.9**
ASSB				AML	AML		
	comp=E,8195μm,1.3s						
ASSB				AML	AML		
	comp=N,5860μm,0.8s						
MNTP	**Montappone**	**0.42**	**37**	P	**Pg**	**23 19 47.2**	**+0.4**
MNTP				S	**Sb**	**23 19 54.8**	**+0.1**
MNTP				AML	AML		
	comp=N,7300μm,0.4s						
MNTP				AML	AML		
	comp=E,9880μm,0.3s						
MNTP				AML	AML		
	comp=N,7295μm,0.4s						
SSM1	**San Severino M**	**0.42**	**5**	P	**Pg**	**23 19 46.5**	**-0.5**
OFFI	**Offida**	**0.43**	**73**	⇑P	**Pb**	**23 19 47.9**	**-0.6**
OFFI				AML	AML		
	comp=N,9430μm,0.6s						
OFFI				AML	AML		
	comp=E,9655μm,0.7s						
SNTG	**Esanatoglia**	**0.47**	**343**	⇑P	**Pg**	**23 19 46.9**	**-0.9**
SNTG				AML	AML		
	comp=N,2195μm,0.4s						
SNTG				AML	AML		
	comp=E,2630μm,0.1s						
SNTG				AML	AML		
	comp=N,2200μm,0.4s						
SNTG				AML	AML		
	comp=E,2645μm,0.1s						
SNTG				AML	AML		
	comp=N,2420μm,0.4s						
GIGS	**Gran Sasso**	**0.48**	**137**	⇑P	**Pg**	**23 19 47.6**	**-0.5**
GIGS				S	**Sb**	**23 19 55.2**	**-1.4**
GIGS				AML	AML		
	comp=N,1066μm,1.2s						
GIGS				AML	AML		
	comp=E,1300μm,0.2s						
GIGS				AML	AML		
	comp=N,1066μm,1.2s						
AQU	**L'Aquila**	**0.50**	**155**	⇑P	**Pg**	**23 19 48.1**	**-0.2**
AQU				AML	AML		
	comp=N,2285μm,1.3s						
AQU				AML	AML		
	comp=N,2210μm,1.3s						
AQU				AML	AML		
	comp=E,2270μm,0.7s						
AQU				AML	AML		
	comp=E,2260μm,1.6s						
ATCC	**AVT- Casa Cast**	**0.52**	**317**	⇑P	**Pg**	**23 19 47.9**	**-0.8**
ATCC				AML	AML		
	comp=E,5880μm,1.5s						

ATCC AML AML
comp=N,4635µm,0.7s
EL6 Elcito 0.52 358 ⇑P Pg 23 19 48.1 -0.8
EL6 AML AML
comp=E,3805µm,0.2s
EL6 AML AML
comp=N,4080µm,0.3s
EL6 AML AML
comp=N,3990µm,0.3s
EL6 AML AML
comp=E,3695µm,0.5s
FIAM Fiamignano 0.54 180 ⇑P Pg 23 19 48.6 -0.5
FIAM S **Sb 23 19 58.0 -0.2**
FOSV Fossato di Vic 0.56 332 ⇑P Pg 23 19 48.5 -1.0
FOSV AML AML
comp=N,2310µm,0.4s
FOSV AML AML
comp=E,1895µm,0.4s
CING Cingoli 0.57 5 ⇑P Pg 23 19 48.9 -0.8
TRTR Tortoreto Alta 0.58 90 ⇑P Pb 23 19 50.9 -0.1
TRTR AML AML
comp=E,7260µm,0.4s
TRTR AML AML
comp=N,7025µm,0.9s
MURB Monte Urbino 0.63 316 ⇑P Pg 23 19 49.9 -1.0
MURB AML AML
comp=E,12600µm,0.3s
MURB AML AML
comp=E,12650µm,0.3s
MURB AML AML
comp=N,14000µm,0.3s
MURB AML AML
comp=N,13600µm,0.3s
MURB AML AML
comp=E,14150µm,0.3s
FAGN Fagnano 0.64 148 ⇑P Pg 23 19 50.3 -0.7
FAGN AML AML
comp=N,6230µm,0.5s
FAGN AML AML
comp=E,4440µm,0.4s
MMUR Monte Murano 0.64 352 ⇑P Pg 23 19 50.4 -0.7
MMUR S **Sg 23 20 01.0 +1.5**
MMUR AML AML
comp=E,3835µm,0.5s
MMUR AML AML
comp=N,3265µm,0.4s
MMUR AML AML
comp=E,3835µm,0.5s
VCEL Villa Celiera 0.67 128 ⇑P Pg 23 19 51.4 -0.2
VCEL AML AML
comp=E,3070µm,0.4s
VCEL AML AML
comp=N,3520µm,0.3s
PP3 Marolino 0.67 32 ⇓P Pg 23 19 52.0 +0.3
PP3 AML AML
comp=E,5605µm,1.0s
PP3 AML AML
comp=N,4005µm,0.8s
PP3 AML AML
comp=N,4035µm,0.8s
PP3 AML AML
comp=N,4030µm,0.8s
PP3 AML AML
comp=E,5765µm,1.0s
PP3 AML AML
comp=N,4005µm,0.8s
PP3 AML AML
comp=E,5600µm,1.0s
SSFR Montelago di S 0.68 339 ⇓P Pg 23 19 50.6 -1.1
SSFR S **Sb 23 20 03.0 +0.8**
SSFR AML AML
comp=E,5790µm,0.2s
SSFR AML AML
comp=N,4340µm,0.2s
SSFR AML AML
comp=E,5365µm,0.7s
SSFR AML AML
comp=N,3865µm,0.8s
ATTE AVT- Monte Tez 0.69 305 ⇑P Pg 23 19 50.8 -1.2
ATTE AML AML
comp=E,2835µm,0.4s
ATTE AML AML
comp=N,2275µm,0.5s
ATFO Monte Foce - G 0.69 324 ⇑P Pg 23 19 50.9 -1.1
ATFO S **Sg 23 20 03.0 +1.9**
ATFO AML AML
comp=E,2305µm,0.5s
ATFO AML AML
comp=N,4600µm,0.3s
ARVD Arcevia 0.70 349 S **Sg 23 20 03.0 +1.5**
SRES S.Oreste - Sor 0.73 219 ⇓P Pg 23 19 52.1 -0.6
SRES S **Sb 23 20 05.0 +1.4**
SRES AML AML
comp=N,1465µm,0.5s
SRES AML AML
comp=E,1164µm,0.8s
MGAB Montegabbione 0.75 278 ⇑P Pg 23 19 52.1 -1.0
MGAB AML AML
comp=N,3510µm,0.9s
MGAB AML AML
comp=N,3260µm,1.0s
MGAB AML AML
comp=E,3085µm,1.1s
MGAB AML AML
comp=E,3365µm,1.3s
T0110 Collepietro 0.76 140 ⇑P Pg 23 19 52.4 -0.8
T0110 AML AML
comp=E,2610µm,0.7s
T0110 AML AML
comp=N,2635µm,0.4s
FRON Frontone 0.77 338 ⇑P Pg 23 19 52.1 -1.4
FRON AML AML
comp=N,1950µm,0.4s
FRON AML AML
comp=E,1155µm,0.4s
ATVO AVT- Monte Val 0.78 318 ⇑P Pg 23 19 52.3 -1.4
ATVO AML AML
comp=E,1485µm,1.0s
ATVO AML AML
comp=N,1305µm,0.4s
PTQR Pietraquaria 0.81 165 ⇑P Pg 23 19 53.5 -0.7
PTQR AML AML
comp=E,866µm,0.9s
PTQR AML AML
comp=N,772µm,0.6s
ATMI Monte Miggiano 0.82 310 ⇓P Pg 23 19 53.4 -1.1
ATMI AML AML
comp=E,6265µm,0.3s
ATMI AML AML
comp=N,4510µm,1.0s
ATMI AML AML
comp=E,6260µm,0.3s
AOI Ancona 0.82 25 P **Pg 23 19 54.2 -0.3**
AOI AML AML
comp=N,1655µm,0.3s
AOI AML AML
comp=E,1535µm,0.9s
COR1 Corinaldo 0.83 354 ⇓P Pg 23 19 54.4 -0.2
MTCE Montecelio 0.83 200 ⇓P Pg 23 19 53.7 -1.0
MTCE AML AML
comp=N,750µm,0.8s
MTCE AML AML
comp=E,946µm,0.4s
ATPI Pietralunga - 0.83 321 ⇑P Pg 23 19 53.4 -1.4
ATPI AML AML
comp=E,1185µm,0.8s
ATPI AML AML
comp=N,1415µm,0.4s
CERT Cerreto 0.86 187 ⇑P Pg 23 19 54.2 -1.0
CERT AML AML
comp=N,896µm,0.7s
CERT AML AML
comp=E,1390µm,0.5s
MPAG Monte Paganucc 0.86 342 ⇑P Pg 23 19 54.0 -1.4
MPAG AML AML
comp=E,986µm,0.4s
MPAG AML AML
comp=N,1049µm,0.6s
MPAG AML AML
comp=E,988µm,0.4s
SACS San Casciano d 0.89 273 ⇑P Pg 23 19 54.8 -1.1
SACS AML AML
comp=N,1330µm,0.6s
SACS AML AML
comp=E,1182µm,1.1s
SACS AML AML
comp=E,1122µm,1.1s

SACS AML AML
comp=N,1320µm,0.6s
APEC Apecchio 0.91 326 ⇑P Pg 23 19 55.3 -0.9
APEC S **Sg 23 20 10.0 +1.9**
FSSB Fossombrone 0.92 344 ⇑P Pg 23 19 55.1 -1.3
FSSB S **Sb 23 20 11.0 +1.8**
FSSB AML AML
comp=E,3995µm,0.5s
FSSB AML AML
comp=N,4200µm,0.3s
BADI Badiali 0.95 318 ⇓P Pg 23 19 55.8 -1.2
RCAV Rocca di Cave 0.97 188 P **Pg 23 19 56.8 -0.5**
LATE Laterza 0.99 259 ⇓P Pg 23 19 57.0 -0.7
CAFI Castiglion Fio 1.00 302 P **Pg 23 19 56.5 -1.3**
CAFI AML AML
comp=E,706µm,0.5s
CAFI AML AML
comp=N,836µm,0.5s
CAFI AML AML
comp=N,872µm,0.5s
CAFI AML AML
comp=E,705µm,0.5s
PE3 Peglio 1.00 333 ⇓P Pg 23 19 56.8 -1.1
PE3 AML AML
comp=E,8µm,1.2s
PE3 AML AML
comp=N,10µm,0.2s
VVLD Villa Vallelon 1.00 158 ⇑P Pg 23 19 57.1 -0.9
VVLD AML AML
comp=E,636µm,0.5s
VVLD AML AML
comp=N,886µm,0.4s
SSP9 Sansepolcro 1.06 317 ⇓P Pg 23 19 59.4 +0.4
MCIV Monte Civitell 1.06 269 ⇓P Pg 23 19 58.1 -1.0
MCIV S **Sg 23 20 15.0 +2.0**
MCIV AML AML
comp=E,583µm,0.6s
MCIV AML AML
comp=N,555µm,0.7s
CAFR Castel Frentan 1.07 122 ⇓P Pg 23 19 58.3 -1.0
CAFR AML AML
comp=E,1180µm,0.3s
CAFR AML AML
comp=N,784µm,0.7s
SF04 Casetta 1.08 272 P **Pg 23 19 57.8 -1.6**
SF04 S **Sg 23 20 16.0 +2.7**
LPEL Lama dei Pelig 1.09 134 ⇑P Pg 23 19 58.4 -1.2
LPEL S **Sn 23 20 16.0 +0.6**
LPEL AML AML
comp=N,956µm,0.5s
LPEL AML AML
comp=E,1060µm,1.2s
TOLF Tolfa 1.11 229 ⇓P Pg 23 19 58.8 -1.2
TOLF AML AML
comp=E,628µm,1.2s
TOLF AML AML
comp=N,862µm,0.5s
SF01 Poggio Pratacc 1.15 271 ⇑P Pg 23 19 59.8 -0.9
SF01 S **Sg 23 20 18.0 +2.4**
PESA Pesaro 1.15 350 ⇑P Pg 23 20 00.7 -0.1
PESA AML AML
comp=E,1590µm,0.3s
PESA AML AML
comp=N,1340µm,1.1s
CPGN Carpegna, Ital 1.15 330 ⇓P Pg 23 20 00.6 -0.3
CPGN AML AML
comp=E,808µm,0.7s
CPGN AML AML
comp=N,1033µm,0.6s
POFI Posta Fibreno 1.17 158 ⇓P Pg 23 20 00.1 -1.1
LRP Arpino 1.21 163 ⇓P Pn 23 20 03.2 +1.5
LRP AML AML
comp=E,246µm,0.4s
LRP AML AML
comp=N,330µm,1.0s
ARCI Arcidosso 1.21 273 ⇓P Pn 23 20 01.2 -0.7
ARCI AML AML
comp=E,148µm,0.5s
ARCI AML AML
comp=N,176µm,1.2s
GIUL Giuliano Di Ro 1.25 175 ⇑P Pn 23 20 03.0 +0.7
GIUL AML AML
comp=E,280µm,1.6s
GIUL AML AML
comp=N,378µm,0.5s
CERA Filignano 1.38 151 ⇑P Pg 23 20 06.6 +1.5
ASQU Asqua 1.39 316 ⇑P Pn 23 20 03.3 -0.9
BLLA Bellaria 1.42 341 ⇑P Pn 23 20 04.4 -0.2
BLLA AML AML
comp=E,755µm,1.5s
BLLA AML AML
comp=N,900µm,1.4s
MIDA Miranda 1.44 144 ⇑P Pn 23 20 04.2 -0.7
MIDA AML AML
comp=N,271µm,0.9s
MIDA AML AML
comp=E,332µm,1.4s
SFI Santa Sofia 1.44 320 ⇓P Pn 23 20 06.0 +1.0
SFI AML AML
comp=E,252µm,0.8s
SFI AML AML
comp=N,233µm,1.3s
TRIV Trivento 1.48 134 ⇓P Pg 23 20 07.6 +0.4
FROS Frosini 1.50 286 ⇓P Pn 23 20 05.0 -0.7
FROS AML AML
comp=N,208µm,0.4s
FROS AML AML
comp=E,280µm,1.5s
MAON Monte Argentar 1.52 256 ⇓P Pn 23 20 04.7 -1.2
MAON AML AML
comp=E,206µm,0.7s
MAON AML AML
comp=N,118µm,1.2s
RUFI Rufina 1.57 312 P **Pn 23 20 05.9 -0.8**
VAGA Valle Agricola 1.62 149 ⇓P Pg 23 20 09.6 -0.1
LMD Lutirano 1.64 321 ⇓P Pn 23 20 09.7 +2.0
TRIF Trifonti 1.66 281 ⇓P Pn 23 20 07.0 -0.9
TRIF AML AML
comp=E,182µm,0.7s
TRIF AML AML
comp=N,150µm,0.9s
CASP Castiglione de 1.66 270 ⇑P Pn 23 20 06.7 -1.3
CASP AML AML
comp=N,53µm,0.9s
CASP AML AML
comp=E,70µm,1.0s
BRIS BRISIGHELLA 1.78 319 ⇓P Pb 23 20 12.2 +0.7
SEI Scarperia 1.79 315 ⇓P Pb 23 20 13.7 +2.0
MELA Melanico ??? S 1.85 126 ⇓P Pb 23 20 11.9 -0.7
MELA AML AML
comp=N,628µm,1.2s
MELA AML AML
comp=E,482µm,0.4s
MELA AML AML
comp=E,762µm,1.1s
MELA AML AML
comp=N,559µm,1.6s
SGRT San Giovanni R 2.21 117 ⇓P Pn 23 20 16.6 +1.0
SGRT AML AML
comp=N,256µm,1.3s
SGRT AML AML
comp=E,284µm,0.9s
CARD Cardoso 2.28 303 P **Pn 23 20 19.2 +2.8**
EQUI Equi 2.55 303 ⇓P Pn 23 20 19.8 -0.5
MORSI Morsiglia 2.77 274 P **Pn 23 20 23.2 +0.1**
SMPL Sampolo 2.93 257 P **Pn 23 20 26.1 +0.7**
A050A Klekovaca 2.99 55 *e*Pn **Pn 23 20 27.0 +0.7**
PGF Pioggiola 3.05 267 P **Pn 23 20 26.9 -0.3**
CEY Cerknica 3.08 17 *e*Pn **Pn 23 20 26.6 -0.9**
BOJS Bojanci 3.10 29 *e*Pn **Pn 23 20 28.3 +0.5**
SABO M.te Sabotino 3.19 6 ⇑P Pn 23 20 28.8 -0.2
SABO AML AML
comp=N,201µm,0.6s
SABO AML AML
comp=E,120µm,0.7s
ROVR Rover Verones 3.20 333 ⇓P Pn 23 20 29.8 +0.5
ROVR AML AML
comp=N,53µm,0.8s
ROVR AML AML
comp=E,32µm,1.0s
CGRP Cima Grappa 3.22 343 ⇓P Pn 23 20 30.4 +0.9
CGRP AML AML
comp=E,116µm,1.0s
CGRP AML AML
comp=N,132µm,0.5s

MGRS Mrkonjic Grad 3.30 59 *e*Pn **Pn 23 20 32.8 +2.3**
AJAC Base Areonaval 3.35 256 P **Pn 23 20 31.4 +0.3**
STON Ston 3.37 87 *e*Pn **Pn 23 20 30.5 -0.9**
DOSS Dosso del Somm 3.37 336 ⇑P Pn 23 20 32.1 +0.4
DOSS AML AML
comp=N,76µm,0.5s
DOSS AML AML
comp=E,88µm,0.7s
SALO Salr 3.38 327 ⇓P Pn 23 20 32.7 +1.1
SALO AML AML
comp=E,108µm,0.5s
SALO AML AML
comp=N,119µm,0.6s
CTI Castel Tesino 3.41 342 ⇑P Pn 23 20 33.1 +1.1
CTI AML AML
comp=N,115µm,1.1s
CTI AML AML
comp=E,89µm,0.9s
CRES Cresnjev 3.45 28 *e*Pn **Pn 23 20 33.9 +1.3**
STAL STALIGIAL 3.47 355 P **Pn 23 20 32.8 0.0**
STAL AML AML
comp=E,134µm,0.3s
STAL AML AML
comp=N,104µm,1.5s
A051A Mrakovica 3.51 50 *e*Pn **Pn 23 20 36.1 +2.6**
LUSI Trento, Gardas 3.52 334 ⇑P Pn 23 20 34.1 +0.6
LUSI AML AML
comp=N,126µm,0.2s
LUSI AML AML
comp=E,68µm,1.4s
BLY Banja Luka 3.52 55 *e*Pn **Pb 23 20 38.3 -2.9**
CIMO Cimolais 3.54 352 ⇑P Pn 23 20 34.2 +0.5
CIMO AML AML
comp=E,23µm,0.8s
CIMO AML AML
comp=N,27µm,0.8s
NOCI Noci 3.57 123 ⇑P Pn 23 20 35.3 +1.0
GAGG Gaggia 3.62 335 ⇓P Pn 23 20 35.9 +0.8
GAGG AML AML
comp=E,79µm,1.5s
GAGG AML AML
comp=N,62µm,0.8s
ZONE Zone 3.66 325 P **Pn 23 20 35.9 +0.4**
ZONE AML AML
comp=E,77µm,0.4s
ZONE AML AML
comp=N,86µm,0.2s
SARZ Sarezzano 3.68 305 ⇓P Pn 23 20 40.3 +4.6
SARZ ⇑P **Pg 23 20 48.5 -0.6**
SARZ S **Sn 23 21 17.0 -2.2**
ACOM Acomizza, Ital 3.75 4 ⇓P Pn 23 20 37.6 +0.7
ACOM AML AML
comp=E,86µm,1.0s
ACOM AML AML
comp=N,88µm,0.6s
OBKA Obir 3.84 15 *e*Pn **Pn 23 20 38.1 +0.1**
OBKA Obir 3.84 15 *i* Pn **Pn 23 20 38.1 +0.1**
comp=N,1.2nm,0.2s
TREB Trebinje 3.85 90 *e*Pn **Pn 23 20 38.6 +0.6**
KOSI Kohlern 3.86 342 ⇑P Pn 23 20 39.7 +1.4
BOSI Bolzano 3.91 341 S **Sb 23 21 34.0 -1.0**
APPI Appiano 3.91 340 ⇑P Pn 23 20 40.1 +1.1
ABTA Abfaltersbach 3.96 354 *i* Pn **Pn 23 20 40.6 +0.9**
comp=N,3.1nm,0.2s,SNR=15
BRY Bratogost 3.98 87 *e*Pn **Pn 23 20 40.7 +0.7**
SOKA Soboth 4.10 19 *i* Pn **Pn 23 20 42.6 +1.0**
comp=N,1.0nm,0.2s
RISI Rein 4.21 350 ⇑P Pn 23 20 44.8 +1.7
MUGIO Muggio 4.27 318 ⇑P Pn 23 20 43.7 -0.2
MUGIO AML AML
comp=N,32µm,0.5s
MUGIO AML AML
comp=E,24µm,1.6s
ROSI Rosskopf 4.30 344 ⇑P Pn 23 20 46.0 +1.7
VSL Villasalto 4.35 222 ⇑P Pn 23 20 45.8 +0.9
VARE Varese 4.37 316 ⇑P Pn 23 20 46.6 +1.3
HAPS Han Pijesak,Bl 4.43 71 *e*Pn **Pn 23 20 49.1 +2.9**
SPIF crte de Spivo 4.46 288 P **Pn 23 20 49.2 +2.5**
DRME Dracevica, Mon 4.53 96 *e*Pn **Pn 23 20 48.1 +0.8**
FETA Feichten 4.54 339 *i* Pn **Pn 23 20 49.3 +1.6**
comp=E,1.3nm,0.2s,SNR=4.9
FETA *i* Sn **Sn 23 21 41.2 +0.5**
comp=E,4.9nm,0.5s
WTTA Wattenberg 4.58 347 *i* Pn **Pn 23 20 50.2 +2.0**
comp=E,1.6nm,0.2s,SNR=10
SQTA Sankt Quirin 4.62 344 *i* Pn **Pn 23 20 50.8 +2.1**
comp=E,2.7nm,0.2s,SNR=8.4
CALF Calern 4.62 284 P **Pn 23 20 48.6 -0.2**
WATA Walderalm 4.66 347 *e*Pn **Pn 23 20 51.4 +2.1**
comp=E,2.6nm,0.2s,SNR=9.2
WATA *i* Sn **Sn 23 21 44.8 +1.2**
comp=E,7.9nm,0.4s
JOPP Joppolo 4.69 152 ⇑P Pb 23 20 59.8 -1.2
MOTA Moosalm 4.76 343 *i* Pn **Pn 23 20 52.9 +2.3**
comp=E,0.9nm,0.2s
MOTA *e*Sn **Sn 23 21 47.3 +1.4**
comp=E,1.7nm,0.2s
ARSA Arzberg 4.76 20 *i* Sn **Sn 23 21 43.1 -2.7**
comp=E,4.5nm,0.4s
SURF Saint Ours 4.88 292 P **Pn 23 20 53.7 +1.4**
MSRU Castanea 4.89 157 ⇑P Pb 23 21 01.2 -3.2
BIOA Bad Ischl, Aus 4.90 4 *i* Pn **Pn 23 20 53.0 +0.6**
comp=E,1.7nm,0.2s
BIOA *e*Sn **Sn 23 21 50.4 +1.1**
comp=E,6.8nm,0.4s
JAUF Jausiers 4.90 291 P **Pn 23 20 53.3 +0.7**
RETA Reutte 4.97 341 *i* Pn **Pn 23 20 55.1 +1.6**
comp=E,0.9nm,0.2s,SNR=5.3
TRIGF Trigance 4.99 283 P **Pn 23 20 54.1 +0.3**
MSCL Scilla 5.00 155 ⇑P Pn 23 20 57.9 +3.9
CEL Celeste 5.01 154 ⇑P Pn 23 20 56.6 +2.6
CREF Crivoux 5.03 292 P **Pn 23 20 58.1 +3.7**
DAVA Damuels 5.03 334 *e*Pn **Pn 23 20 56.1 +1.7**
comp=E,1.3nm,0.2s
FLAF Flassans-sur-I 5.06 279 P **Pn 23 20 54.4 -0.3**
GMB Gambarie 5.07 155 P **Pn 23 20 57.8 +2.8**
MOA Molln 5.11 9 *i* Pn **Pn 23 20 55.9 +0.6**
comp=E,1.8nm,0.3s
MOA *e*Sn **Sn 23 21 54.4 -0.1**
comp=E,1.8nm,0.3s
DIVS Divibare 5.17 73 *e*Pn **Pn 23 20 57.9 +1.7**
SOI Samo 5.23 154 ⇑P Pn 23 20 58.4 +1.4
DIX Grande Dixence 5.24 311 P **Pn 23 20 58.2 +0.9**
VLO Vlora 5.32 114 P **Pn 23 21 02.4 +4.3**
CONA Conrad Observa 5.47 20 *i* Pn **Pn 23 21 00.9 +0.4**
comp=E,0.8nm,0.2s
RSL Roselend 5.48 304 P **Pn 23 21 02.6 +2.0**
BSTF la Bastide-des 5.56 284 P **Pn 23 21 02.2 +0.7**
AIGLE Aigle 5.65 311 P **Pn 23 21 04.8 +2.0**
TORNY Torny/Romont 5.91 314 P **Pn 23 21 08.0 +1.6**
SLE Schleitheim 5.94 328 P **Pn 23 21 06.9 +0.2**
BALST Balsthal 5.94 322 P **Pn 23 21 07.4 +0.6**
CKRC Cesky Krumlov 6.07 7 *e*PN **Pn 23 21 07.7 -0.9**
CKRC *e*SN **Sn 23 22 14.5 -3.6**
GIMEL St. Georges / 6.15 310 P **Pn 23 21 11.6 +1.9**
BOURR Bourrignon 6.20 320 P **Pn 23 21 11.0 +0.7**
FELD Feldberg im Sc 6.22 326 P **Pn 23 21 10.9 +0.1**
BRANT Les Verrieres 6.28 313 P **Pn 23 21 12.7 +1.2**
KIZ Kirchzarten 6.32 326 P **Pn 23 21 12.0 0.0**
KHC Kasperske Hory 6.33 3 *e*PN **Pn 23 21 12.0 -0.2**
KHC *e*SN **Sn 23 22 22.2 -2.4**
CHMF Charmoille 6.38 316 P **Pn 23 21 13.6 +0.7**
VOGT Vogtsburg - To 6.52 326 P **Pn 23 21 14.9 +0.1**
ECH Echery 6.84 324 P **Pn 23 21 19.3 +0.1**

---

*IDC **12** 23:36:39.1±1.1, 2.°49S×140.°10E, h0km, mb3.7/6, mbtmp3.9/8, ML4.3/1, MS3.4/17, Error ellipse: s-maj=41.1km s-min=22.0km az=79.0*
*NEIC **12** 23:36:41.6±1.5, 2.°45S±0.°04×139.°94E±0.°09, h10km±1km, mb4.1/8, Error ellipse: s-maj=14.7km s-min=6.1km az=102.0*
ISC 12 23:36:43.5±0.7, **2.°46S**±0.°08×**139.°96E**±0.°09, **h25km, n54,** σ**1.s46**/33, **mb4.1**/14, **MS3.4**/11, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**7.41**	**87**	Pn	**Pn**	**23 38 29.8**	**-0.4**
FAKI	**Fak Fak**	**7.71**	**266**	Pn	**Pn**	**23 38 34.8**	**+0.4**
SIJI	**Sorong**	**8.83**	**280**	LR	LR	23 42 54.0	
	comp=Z,324nm,18.1s,baz=80,slow=42						
PMG	**Port Moresby**	**9.95**	**134**	Pn	**Pn**	**23 39 02.7**	**-2.3**

4.2nm,0.4s,baz=348,slow=9.3,SNR=1.4
PMG LR LR 23 43 59.6
comp=Z,224nm,21.2s,baz=314,slow=45
PMG Port Moresby 9.95 134 Pn **Pn 23 39 05.0 0.0**
PMG Port Moresby 9.95 134 P Pn 23 39 14.4 +9.4
15nm,1.4s
PMG Port Moresby 9.95 134 P Pn 23 39 14.1 +9.1
15nm,1.4s
COEN Coen 11.86 165 **Pn 23 39 30.7 -0.5**
COEN Coen 11.86 165 P Pn 23 39 39.6 +8.4
17nm,1.2s
KRVT Keravat (AS076 12.19 99 LR LR 23 43 30.4
comp=Z,150nm,20.4s,baz=47,slow=34
MTN Manton Dam 13.52 220 Pn **Pn 23 39 52.1 -1.8**
GUMO Guam 16.67 17 LR LR 23 45 40.7
comp=Z,80nm,20.7s,baz=155,slow=32
KNRA Kununurra 17.16 219 Pn **Pn 23 40 40.5 -1.2**
DAV Davao City (W) 17.19 303 LR LR 23 47 21.1
comp=Z,59nm,18.0s,baz=7.0,slow=37
SOEI Soe 17.20 244 P Pn 23 40 33.8 -8.6
51nm,0.5s
WB0 Warramunga Arr 18.05 197 P **Pn 23 40 52.7 -0.1**
WRAB Tennant Creek 18.22 197 P **Pn 23 40 55.5 +0.7**
13nm,1.1s
WRA Warramunga Arr 18.23 197 P **Pn 23 40 53.8 -1.2**
0.9nm,0.3s,baz=19,slow=12,SNR=33
WRA S Sn 23 44 08.1 -10
1.5nm,0.9s,baz=15,slow=22,SNR=3.5
1.7nm,0.4s
WRA Warramunga Ar 18.23 197 P **Pn 23 40 53.6 -1.4**
CTA Charters Tower 18.57 161 LR LR 23 48 48.2
comp=Z,248nm,18.3s,baz=350,slow=39
CTAO Charters Tower 18.57 161 P **P 23 40 59.1 +0.3**
CTAO IAmb IAmb 23 41 08.7
comp=Z,14nm,1.2s
KAPI Kappang 20.32 262 LR LR 23 51 12.4
comp=Z,41nm,18.8s,baz=93,slow=43
AS01 Alice Springs 21.87 195 P **P 23 41 36.6 +1.9**
comp=Z,11nm,1.0s
AS31 Alice Springs 21.89 195 P **P 23 41 34.9 0.0**
AS31 IAmb IAmb 23 41 42.3
comp=Z,2.7nm,0.6s
ASAR Alice Springs 21.89 195 P **P 23 41 33.9 -0.9**
comp=Z,3.2nm,0.6s,baz=26,slow=11,SNR=29
ASAR S **S 23 45 35.4 -0.2**
comp=Z,1.5nm,0.9s,baz=22,slow=20,SNR=3.3
comp=Z,3.2nm,0.6s
ASAR Alice Springs 21.89 195 P **P 23 41 33.6 -1.2**
QLP Quilpie 24.34 171 P **P 23 42 02.4 +2.9**
comp=Z,25nm,1.5s
EIDS Eidsvold 25.18 156 P **P 23 42 06.8 -0.4**
EIDS Eidsvold 25.18 156 P **P 23 42 10.2 +3.1**
comp=Z,31nm,1.3s
RMQ Roma 25.34 161 P **P 23 42 12.0 +3.4**
comp=Z,9.6nm,1.6s
STKA Stephens Creek 29.31 177 LR LR 23 54 54.1
comp=Z,111nm,19.1s,baz=8.7,slow=37
CMSA Cobar Meteorol 29.43 170 P **P 23 42 48.4 +3.2**
comp=Z,14nm,1.8s
DZM Mont Dzumac 32.29 129 LR LR 23 56 49.0
comp=Z,62nm,19.1s,baz=229,slow=38
H11N1 WAKE ISLAND Hy 34.42 49 T T 00 19 38.6
baz=233,slow=75,SNR=15
H11N2 WAKE ISLAND Hy 34.44 49 T T 00 19 39.0
baz=233,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 34.44 49 T T 00 19 43.1
baz=233,slow=75,SNR=11
JHJ Hachijo jima 2 35.38 360 LR LR 23 55 08.7
comp=Z,66nm,21.9s,baz=270,slow=31
NWAO Narrogin (SRO) 37.06 213 LR LR 00 00 09.6
comp=Z,78nm,20.1s,baz=219,slow=38
KSRS Korea Array 41.25 345 LR LR 23 58 54.2
comp=Z,25nm,21.1s,baz=190,slow=32
CMAR Chiang Mai Arr 45.40 299 P **P 23 45 01.1 +0.6**
comp=Z,0.5nm,0.3s,baz=126,slow=7.6,SNR=6.2
comp=Z,0.5nm,0.3s
AFI Afiamalu 49.00 106 LR LR 00 04 56.4
comp=Z,45nm,18.1s,baz=296,slow=35
RPZ Rata Peaks 49.48 150 LR LR 00 05 19.0
comp=Z,78nm,21.2s,baz=302,slow=35
SONM Songino Array 58.03 334 P **P 23 46 35.6 +1.1**
comp=Z,0.3nm,0.8s,baz=120,slow=8.5,SNR=1.7
SONM LR LR 00 12 06.3
comp=Z,26nm,18.6s,baz=241,slow=37
comp=Z,0.3nm,0.8s
MA2 Magadan 62.43 6 LR LR 00 13 45.0
comp=Z,11nm,19.2s,baz=91,slow=36
MKAR Makanchi Array 70.35 322 P **P 23 47 55.7 +0.4**
comp=Z,1.0nm,0.7s,baz=92,slow=7.3,SNR=7.2
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 70.35 322 P **P 23 47 55.0 -0.3**
MAKZ Makanchi 70.55 322 P **P 23 47 56.4 -0.1**
MAKZ IAmb IAmb 23 47 58.5
comp=Z,3.7nm,1.2s
PPT Papeete 70.64 108 LR LR 00 17 45.8
comp=Z,22nm,18.0s,baz=351,slow=35
ZALV Zalesovo Beam 72.35 329 P **P 23 48 06.3 -0.8**
comp=Z,0.3nm,0.4s,baz=116,slow=6.6,SNR=2.0
comp=Z,0.3nm,0.4s
VNDA Vanda 75.92 175 P **P 23 48 27.6 0.0**
VNDA IAmb IAmb 23 48 41.9
comp=Z,3.2nm,1.4s
KKAR Karatay Array 76.83 315 P **P 23 48 33.1 -0.3**
ILAR Eielson Array 85.09 24 P **P 23 49 16.2 -0.7**
comp=Z,0.9nm,1.0s,baz=255,slow=4.5,SNR=4.1
comp=Z,0.9nm,1.0s
ABKAR Akbulak array 85.33 320 P **P 23 49 17.6 -1.0**
DBIC Dimbokro 144.69 278 PKP **PKPab 23 56 17.9 -0.1**
comp=Z,3.4nm,0.8s,baz=128,slow=4.4,SNR=6.7

*MDD **13** 00:00:08.3±0.3,35.53N×3.73W,h0km,mb_Lg2.3/15, Error ellipse: s-maj=3.1km s-min=2.1km az=6.0*
*CNRM **13** 00:00:09.4,35.43N×3.86W,h29km,ml2.2*
*INMG **13** 00:00:09.4±2.0,35.62N×3.70W,h0km,ML2.0, Error ellipse: s-maj=5.5km s-min=3.8km az=30.0*
*SFS **13** 00:00:09.0,35.33N×3.73W,h33km,ML2.5,ALBORAN SUR*

ISC 13 00:00:06.9±1.1,35.50N±0.02×3.73W±0.02,h8km±9km,n51, σ1s50/85,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.33**	**211**	P		**Pb**	**00 00 14.7**	**-0.4**
PALE				S		**Sg**	**00 00 18.7**	**+0.9**
PVLZ	**Peæn de**	**0.57**	**235**	P		**Pg**	**00 00 18.3**	**+0.4**
PVLZ				S		**Sg**	**00 00 25.3**	**-0.1**
WMELI	**Melilla**	**0.66**	**106**	P		**Pn**	**00 00 21.9**	**-0.7**
WMELI				S		**Sb**	**00 00 30.6**	**+0.5**
EMEL	**Melilla**	**0.67**	**108**	Pg		**Pn**	**00 00 22.2**	**-0.4**
EMEL				Sg		**Sb**	**00 00 31.2**	**+1.1**
EALB	**Alboran**	**0.71**	**52**	Pg		**Pn**	**00 00 22.9**	**-0.4**
EALB				Sg		**Sb**	**00 00 31.9**	**+0.3**
EALB				*i* Vmb_Lg			00 00 34.7	
AKLM	**AKL**	**1.00**	**186**	P		**Pb**	**00 00 27.1**	**+0.7**
AKLM				S		**Sb**	**00 00 40.7**	**+0.9**
CHAS	**Isla Isabel II**	**1.11**	**106**	P		**Pg**	**00 00 28.1**	**-0.1**
CHAS				S		**Sg**	**00 00 41.7**	**-0.9**
TAF	**Taforalt**	**1.28**	**122**	P		**Pg**	**00 00 31.0**	**-0.4**
TAF				S		**Sn**	**00 00 49.1**	**+0.5**
EMIJ	**Mijas**	**1.35**	**322**	Pn		**Pn**	**00 00 31.1**	**-1.0**
EMIJ				Sg		**Sg**	**00 00 49.6**	**-0.8**
EMIJ				*i* Vmb_Lg			00 00 54.2	
ELGU	**Los Guajares,**	**1.36**	**4**	Pg		**Pn**	**00 00 32.1**	**-0.2**
ELGU				Sg		**Sg**	**00 00 49.5**	**-1.3**
ELGU				*i* Vmb_Lg			00 00 53.1	
CHEFC	**Chefchaouen**	**1.37**	**254**	P		**Pn**	**00 00 32.6**	**+0.1**
EMAL	**Malaga-Limoner**	**1.38**	**336**	P		**Pg**	**00 00 33.6**	**+0.3**
EMAL				S		**Sn**	**00 00 51.4**	**+0.6**
CEU	**Ceuta**	**1.39**	**287**	P		**Pn**	**00 00 31.2**	**-1.4**
CEU				S		**Sn**	**00 00 52.8**	**+1.6**
ECEU	**Ceuta**	**1.40**	**287**	Pn		**Pn**	**00 00 31.9**	**-0.8**
ECEU				Sn		**Sb**	**00 00 48.3**	**-2.9**
ECEU				*i* Vmb_Lg			00 00 52.4	
JBK	**JBK**	**1.51**	**140**	P		**Pn**	**00 00 34.1**	**-0.3**
JBK				S		**Sn**	**00 00 52.5**	**-1.8**
EBER	**Berja**	**1.55**	**26**	Pn		**Pn**	**00 00 35.1**	**+0.1**
EBER				Sg		**Sg**	**00 00 55.7**	**-1.0**
EBER				*i* Vmb_Lg			00 00 57.1	
EGOR	**Sierra Gorda,**	**1.63**	**349**	Pg		**Pg**	**00 00 37.6**	**-0.6**
EGOR				Sg		**Sg**	**00 00 58.9**	**-0.5**
EGOR				*i* Vmb_Lg			00 01 02.8	
EJIF	**Jimena Fronter**	**1.70**	**304**	Pg		**Pg**	**00 00 40.0**	**+0.6**
ENIJ	**Nijar**	**1.91**	**40**	Pn		**Pn**	**00 00 40.0**	**+0.2**
ENIJ				Sn		**Sn**	**00 01 03.0**	**-1.1**
ENIJ				*i* Vmb_Lg			00 01 03.9	
LCRM	**LCR**	**2.04**	**207**	P		**Pb**	**00 00 44.7**	**+0.5**
LCRM				S		**Sn**	**00 01 06.4**	**-1.0**
EQES	**Quesada**	**2.35**	**13**	Pg		**Pb**	**00 00 48.9**	**-0.7**
EQES				Sg		**Sb**	**00 01 19.7**	**+0.8**
EQES				*i* Vmb_Lg			00 01 20.5	
EADA	**Adamuz**	**2.74**	**346**	Pn		**Pn**	**00 00 53.3**	**+2.1**
MD31	**MD31**	**2.77**	**198**	P		**Pn**	**00 00 52.0**	**+0.5**
MDT	**Midelt**	**2.78**	**195**	P		**Pn**	**00 00 53.8**	**+2.0**
EZAR	**Zarzadilla de**	**2.88**	**34**	Pn		**Pn**	**00 00 53.4**	**+0.2**
EZAR				Sn		**Sn**	**00 01 28.5**	**+0.5**
EZAR				*i* Vmb_Lg			00 01 39.8	
ECAB	**El Cabril**	**2.90**	**333**	Pn		**Pb**	**00 00 57.3**	**-1.6**
ECAB				Sn		**Sn**	**00 01 29.6**	**+1.1**
EMUR	**La Murta**	**3.08**	**40**	Sn		**Sn**	**00 01 32.0**	**-0.8**
EMUR				*i* Vmb_Lg			00 01 37.0	
ZHG	**ZHG**	**3.16**	**230**	P		**Pn**	**00 00 57.2**	**+0.2**
ZHG				S		**Sn**	**00 01 31.3**	**-3.7**
EMIN	**Mina Concepcio**	**3.27**	**315**	Sn		**Sn**	**00 01 38.0**	**+0.4**
ETOB	**Tobarra**	**3.59**	**28**	Pn		**Pn**	**00 01 05.0**	**+2.1**
ETOB				Sn		**Sn**	**00 01 47.4**	**+1.9**
ETOB				*i* Vmb_Lg			00 01 51.1	
EGRO	**El Granado**	**3.64**	**305**	Pn		**Pn**	**00 01 03.9**	**+0.4**
EGRO				Sn		**Sn**	**00 01 44.8**	**-1.8**
EGRO				*i* Vmb_Lg			00 01 49.1	
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*Pn		**Pn**	**00 01 06.0**	**+1.2**
PVAQ				*e*Sn		**Sn**	**00 01 46.6**	**-2.3**
PVAQ				A		A	00 01 52.7	
	1.5nm,0.3s							
PVAQ	**Vaqueiros**	**3.73**	**302**	P		**Pn**	**00 01 05.4**	**+0.7**
PBAR	**Barrancos**	**3.76**	**316**	*e*Pn		**Pn**	**00 01 08.7**	**+3.5**
PBAR				*e*Sn		**Sn**	**00 01 49.1**	**-0.5**
PBAR				A		A	00 02 04.8	
	1.4nm,0.7s							
PAB	**San Pablo**	**4.06**	**353**	Pn		**Pn**	**00 01 11.5**	**+2.1**
PAB				*i* Vmb_Lg			00 03 42.3	
PCVE	**Castro Verde**	**4.07**	**303**	*e*Pn		**Pn**	**00 01 13.7**	**+4.3**
PCVE				*e*Sn		**Sn**	**00 01 57.1**	**-0.1**
PCVE				A		A	00 02 00.3	
	1.7nm,0.5s							
PBEJ	**Beja**	**4.17**	**308**	*e*Sn		**Sn**	**00 02 00.9**	**+1.2**
EBAD	**Badajoz**	**4.17**	**322**	Sn		**Sn**	**00 01 59.5**	**-0.2**
EBAD				*i* Vmb_Lg			00 02 07.4	
MESJ	**Messejana**	**4.29**	**304**	*e*P		**Pn**	**00 01 13.3**	**+0.8**
MESJ				*e*S		**Sn**	**00 02 00.4**	**-2.4**
MESJ				IAML			00 02 05.1	
	comp=N,2.7nm,0.3s							
MESJ	**Messejana**	**4.29**	**304**	*e*Pn		**Pn**	**00 01 15.2**	**+2.7**
MESJ				*e*Sn		**Sn**	**00 02 02.4**	**-0.4**
MESJ				A		A	00 02 09.1	
	comp=N,1.8nm,0.7s							
PFVI	**Vila Bisbo**	**4.42**	**293**	*e*Pn		**Pn**	**00 01 15.8**	**+1.5**
PFVI				*e*Sn		**Sn**	**00 02 04.4**	**-1.6**
PFVI				A		A	00 02 11.6	
	comp=N,4.4nm,0.9s							
PFVI	**Vila Bisbo**	**4.42**	**293**	P		**Pn**	**00 01 13.5**	**-0.8**
PTEO	**Sao Teotonio**	**4.51**	**298**	*e*Pn		**Pn**	**00 01 18.5**	**+3.1**
PTEO				*e*Sn		**Sn**	**00 02 07.2**	**-0.8**
PTEO				A		A	00 02 11.4	
	comp=N,4.3nm,0.7s							
PESTR	**Estremoz**	**4.56**	**319**	*e*Pn		**Pn**	**00 01 18.2**	**+2.1**
PESTR				*e*Sn		**Sn**	**00 02 08.9**	**-0.4**
PESTR				A		A	00 02 27.2	
	comp=N,1.3nm,0.6s							
PESTR	**Estremoz**	**4.56**	**319**	P		**Pn**	**00 01 15.7**	**-0.4**
PNCL	**Nicolau / Gran**	**4.65**	**305**	*e*Pn		**Pn**	**00 01 19.4**	**+2.1**
PNCL				*e*Sn		**Sn**	**00 02 11.1**	**-0.4**
PNCL				A		A	00 02 14.7	
	comp=N,1.6nm,0.5s							
PMTG	**Montargil**	**5.05**	**316**	*e*Pn		**Pn**	**00 01 25.0**	**+2.1**
PMTG				*e*Sn		**Sn**	**00 02 19.0**	**-2.4**
PACT	**Alcochete**	**5.22**	**310**	*e*Sn		**Sn**	**00 02 27.4**	**+1.9**
PMAFR	**Mafra**	**5.61**	**310**	*e*Sn		**Sn**	**00 02 33.3**	**-2.0**
PSBE	**So Bento**	**5.68**	**316**	*e*Pn		**Pn**	**00 01 34.9**	**+3.4**
PSBE				*e*Sn		**Sn**	**00 02 37.0**	**+0.1**
MTE	**Manteigas**	**5.74**	**329**	*e*Pn		Pn	00 01 38.4	+5.9

IDC 13 00:23:45.9±12.0,3.91N×96.77E,h0km,mb3.4/2, mbtmp3.5/3,MS2.7/1,Error ellipse: s-maj=360.5km s-min=47.4km az=77.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.62**	**8**	Pn		Pn	00 27 14.1	-0.2
	0.6nm,0.3s,baz=200,slow=10,SNR=4.4							
PALK	**Pallekele**	**16.33**	**283**	LR		LR	00 32 23.0	
	comp=Z,28nm,21.8s,baz=356,slow=32							
H08S2	**Diego Garcia H**	**26.80**	**245**	T		T	00 56 37.4	
	baz=61							
H08S3	**Diego Garcia H**	**26.80**	**245**	T		T	00 56 34.3	
	baz=61							
H08S1	**Diego Carcia H**	**26.82**	**245**	T		T	00 56 53.9	
	baz=61							
WRA	**Warramunga Arr**	**43.86**	**124**	P		P	00 31 54.0	-0.4
	0.4nm,0.8s,baz=302,slow=9.2,SNR=5.6							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**45.39**	**129**	P		P	00 32 06.8	+0.2
	0.3nm,0.6s,baz=298,slow=8.6,SNR=6.4							
	0.3nm,0.6s							

*NEIC **13** 00:30:38.8±1.7,62.15N±0.02×151.22W±0.06,h18km±4km, Error ellipse: s-maj=4.4km s-min=3.2km az=59.0*
*AEIC **13** 00:30:38.3±1.7,62.15N±0.02×151.20W±0.07,h14km±6km, ML3.3,ML3.5/142(NEIC),Error ellipse: s-maj=5.3km s-min=2.7km az=67.0*

ISC 13 00:30:38.4±1.0,62.16N±0.02×151.23W±0.02,h16km±9km, n165,σ0s80/175,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SKT	**Skwentna**	**0.23**	**219**	IAML			00 30 48.0	
	comp=E,12µm,0.2s							
SKT	**Skwentna**	**0.23**	**219**			**Pg**	**00 30 43.7**	**+0.1**
SKT						**Sb**	**00 30 47.8**	**-0.2**
SKT	**Skwentna**	**0.23**	**219**	P		**Pg**	**00 30 43.7**	**+0.1**
	baz=42							
SKT				S		**Sb**	**00 30 47.8**	**-0.2**
	baz=42							
CUT	**Chulitna**	**0.51**	**61**			**Pg**	**00 30 48.4**	**-0.2**
CUT						**Sb**	**00 30 56.0**	**-0.2**
CUT	**Chulitna**	**0.51**	**61**	IAML			00 30 56.5	
	comp=N,5µm,0.5s							
CUT				IAML			00 30 56.7	
	comp=E,6µm,0.5s							
CUT	**Chulitna**	**0.51**	**61**	P		**Pg**	**00 30 48.4**	**-0.2**
	baz=240							
CUT				S		**Sb**	**00 30 56.0**	**-0.2**
	baz=240							
M22K	**Willow**	**0.66**	**127**			**Pg**	**00 30 50.8**	**-0.5**
M22K				IAML			00 31 03.1	
	comp=E,3µm,0.6s							
M22K				IAML			00 31 03.9	
	comp=N,3µm,0.5s							
M22K	**Willow**	**0.66**	**127**	P		**Pg**	**00 30 50.8**	**-0.5**
	baz=309							
M22K				S		**Sb**	**00 31 00.2**	**-0.3**
	baz=309							
SUA	**Susitna One**	**0.73**	**162**			**Pg**	**00 30 52.3**	**-0.5**
SUA						**Sg**	**00 31 02.5**	**0.0**
SUA	**Susitna One**	**0.73**	**162**	P		**Pg**	**00 30 52.3**	**-0.5**
	baz=343							
SUA				S		**Sg**	**00 31 02.4**	**0.0**
	baz=343							
PPLA	**Purkeypile**	**0.87**	**329**			**Pb**	**00 30 55.0**	**-0.2**
PPLA	**Purkeypile**	**0.87**	**329**			**Sb**	**00 31 06.3**	**-0.2**
PPLA	**Purkeypile**	**0.87**	**329**	P		**Pb**	**00 30 54.9**	**-0.2**
	baz=148							
PPLA				S		**Sb**	**00 31 06.3**	**-0.2**
	baz=148							
M20K	**Styx River**	**0.94**	**254**			**Pb**	**00 30 56.1**	**-0.2**
M20K				IAML			00 31 09.5	
	comp=E,2µm,0.2s							
M20K	**Styx River**	**0.94**	**254**	P		**Pb**	**00 30 56.1**	**-0.2**
	baz=73							
M20K				S		**Sb**	**00 31 08.7**	**+0.2**
	baz=73							
SPU	**Mount Spurr**	**1.05**	**202**			**Pb**	**00 30 57.9**	**-0.4**
SPCR	**Spurr Chakacha**	**1.07**	**206**	P		**Pb**	**00 30 58.0**	**-0.5**
	baz=26							
N20K	**Mount Spurr**	**1.07**	**206**	P		**Pb**	**00 30 57.9**	**-0.6**
	baz=26							
N20K				S		**Sb**	**00 31 12.7**	**+0.4**
	baz=26							
FIS	**Fire Island**	**1.12**	**154**			**Pg**	**00 31 00.1**	**0.0**
PMR	**Palmer**	**1.14**	**119**			**Pn**	**00 30 58.8**	**-0.9**
PMR				IAML			00 31 14.5	
	comp=N,738nm,0.4s							
PMR	**Palmer**	**1.14**	**119**	P		**Pn**	**00 30 58.7**	**-0.9**
	baz=301							
PMR				S		**Sb**	**00 31 14.1**	**-0.3**
	baz=301							
GHO	**Glory Hole Cre**	**1.16**	**108**			**Pn**	**00 30 58.9**	**-1.1**
GHO				IAML			00 31 16.2	
	comp=N,2µm,0.5s							
L20K	**Farewell, AK**	**1.28**	**286**	P		**Pn**	**00 31 01.3**	**-0.3**
	baz=104							
RC01	**Rabbit Creek A**	**1.29**	**146**			**Pn**	**00 31 01.0**	**-0.7**
RC01	**Rabbit Creek A**	**1.29**	**146**			**Sb**	**00 31 18.4**	**-0.1**
RC01	**Rabbit Creek A**	**1.29**	**146**	P		**Pn**	**00 31 00.9**	**-0.7**
	baz=328							
RC01				S		**Sb**	**00 31 18.4**	**-0.1**
	baz=328							
WAT7	**Susitna Watana**	**1.30**	**57**			**Pn**	**00 31 01.5**	**-0.5**
CAST	**Castle Rocks**	**1.33**	**343**			**Pn**	**00 31 02.3**	**+0.1**
CAST				IAML			00 31 20.9	
	comp=E,637nm,0.5s							
CAST	**Castle Rocks**	**1.33**	**343**	P		**Pn**	**00 31 02.3**	**+0.1**
	baz=162							
TRF	**Thorofare Moun**	**1.37**	**18**			**Pn**	**00 31 03.1**	**+0.1**
TRF				IAML			00 31 22.6	
	comp=N,770nm,0.8s							
TRF				IAML			00 31 24.3	
	comp=E,604nm,0.6s							
TRF	**Thorofare Moun**	**1.37**	**18**	P		**Pn**	**00 31 03.1**	**+0.1**
	baz=198							
CAPN	**Captain Cook N**	**1.39**	**178**	Pn		**Pg**	**00 31 04.9**	**-0.3**
KTH	**Kantishna Hill**	**1.41**	**6**			**Pn**	**00 31 04.0**	**+0.5**
KTH				IAML			00 31 23.5	
	comp=N,473nm,0.9s							
KTH				IAML			00 31 23.5	
	comp=E,1µm,0.7s							
SML	**Sawmill**	**1.41**	**103**			**Pn**	**00 31 03.1**	**-0.4**
SML				IAML			00 31 23.6	
	comp=N,644nm,0.7s							
SML				IAML			00 31 24.0	
	comp=E,627nm,0.7s							
SML	**Sawmill**	**1.41**	**103**	P		**Pn**	**00 31 03.1**	**-0.4**
	baz=286							
WAT1	**Susitna Watana**	**1.42**	**60**			**Pn**	**00 31 03.0**	**-0.5**
WAT1	**Susitna Watana**	**1.42**	**60**	P		**Pn**	**00 31 03.0**	**-0.5**
	baz=242							
M19K	**Big River Lodg**	**1.51**	**262**			**Pn**	**00 31 05.0**	**+0.1**
M19K	**Big River Lodg**	**1.51**	**262**	P		**Pn**	**00 31 04.9**	**+0.1**
	baz=79							
KNK	**Knik Glacier**	**1.51**	**118**			**Pn**	**00 31 05.0**	**+0.2**
KNK				IAML			00 31 27.8	
	comp=N,657nm,0.5s							
KNK				IAML			00 31 31.7	
	comp=E,730nm,0.4s							
KNK	**Knik Glacier**	**1.51**	**118**	P		**Pn**	**00 31 05.0**	**+0.2**
	baz=301							
RND	**Reindeer**	**1.66**	**40**			**Pn**	**00 31 06.8**	**-0.1**
RND				IAML			00 31 31.5	
	comp=E,715nm,0.6s							
RND				IAML			00 31 31.5	
	comp=N,474nm,0.5s							
WAT6	**Susitna Watana**	**1.68**	**74**			**Pn**	**00 31 06.7**	**-0.6**
WAT6	**Susitna Watana**	**1.68**	**74**	P		**Pn**	**00 31 06.7**	**-0.6**
	baz=257							
L19K	**White Mountain**	**1.70**	**272**			**Pn**	**00 31 07.7**	**+0.4**
L19K				IAML			00 31 31.6	
	comp=E,506nm,0.5s							
L19K				IAML			00 31 31.6	
	comp=N,385nm,0.6s							
L19K	**White Mountain**	**1.70**	**272**	P		**Pn**	**00 31 07.8**	**+0.4**
	baz=89							
SLKM	**Skilak Lake**	**1.73**	**163**			**Pn**	**00 31 07.3**	**-0.4**
RDJH	**Redoubt Jeurge**	**1.74**	**206**			**Pb**	**00 31 09.5**	**-0.6**
K20K	**Telida**	**1.78**	**314**			**Pn**	**00 31 08.3**	**-0.1**
K20K				IAML			00 31 35.3	
	comp=E,306nm,0.9s							
K20K	**Telida**	**1.78**	**314**	P		**Pn**	**00 31 08.6**	**+0.2**
	baz=131							
CHUM	**Lake Minchumin**	**1.80**	**345**			**Pn**	**00 31 08.9**	**+0.1**
CHUM	**Lake Minchumin**	**1.80**	**345**	P		**Pn**	**00 31 08.9**	**+0.1**
	baz=163							
O22K	**Cooper Landing**	**1.83**	**156**			**Pn**	**00 31 08.5**	**-0.6**
RSO	**Redoubt South**	**1.85**	**204**			**Pn**	**00 31 10.7**	**+1.0**
SCM	**Sheep Creek Mo**	**1.87**	**98**			**Pn**	**00 31 10.1**	**+0.4**
SCM				IAML			00 31 44.7	
	comp=N,582nm,0.8s							
SCM	**Sheep Creek Mo**	**1.87**	**98**	P		**Pn**	**00 31 10.2**	**+0.4**
	baz=282							
MCK	**McKinley**	**1.90**	**33**			**Pn**	**00 31 10.2**	**+0.1**
MCK	**McKinley**	**1.90**	**33**	P		**Pn**	**00 31 10.4**	**+0.3**
	baz=214							
PWL	**Port Wells**	**1.90**	**132**			**Pn**	**00 31 10.2**	**+0.1**
PWL				IAML			00 31 49.7	
	comp=N,395nm,0.7s							
PWL				IAML			00 31 50.7	
	comp=E,371nm,0.6s							
PWL	**Port Wells**	**1.90**	**132**	P		**Pn**	**00 31 10.4**	**+0.2**
	baz=315							
BPAW	**Bear Paw Mtn.**	**1.95**	**3**	Pn		**Pn**	**00 31 10.6**	**-0.3**
BPAW				IAML			00 31 38.7	
	comp=E,342nm,0.6s							
BPAW	**Bear Paw Mtn.**	**1.95**	**3**	P		**Pn**	**00 31 10.6**	**-0.3**
	baz=183							
DHY	**Denali Highway**	**2.01**	**61**			**Pn**	**00 31 11.6**	**-0.2**
DHY				IAML			00 31 43.7	
	comp=N,267nm,0.7s							
DHY				IAML			00 31 46.5	
	comp=E,305nm,0.7s							
DHY	**Denali Highway**	**2.01**	**61**	P		**Pn**	**00 31 11.3**	**-0.4**
	baz=244							
N19K	**Bonanza Creek**	**2.06**	**231**			**Pn**	**00 31 12.0**	**-0.5**
N19K				IAML			00 31 46.3	
	comp=E,360nm,0.6s							
N19K				IAML			00 31 55.5	
	comp=N,328nm,0.7s							
N19K	**Bonanza Creek**	**2.06**	**231**	P		**Pn**	**00 31 12.5**	**+0.1**
	baz=48							
BWN	**Browne**	**2.18**	**21**			**Pn**	**00 31 14.8**	**+1.0**
BWN				IAML			00 31 50.9	
	comp=E,320nm,0.8s							
BWN				IAML			00 31 51.8	
	comp=N,436nm,0.8s							
O20K	**Slope Mountain**	**2.19**	**199**	P		**Pn**	**00 31 15.6**	**+1.5**
	baz=18							
SEW	**Seward**	**2.23**	**157**			**Pn**	**00 31 15.8**	**+1.1**
TTA	**Tatalina**	**2.35**	**291**			**Pn**	**00 31 15.9**	**-0.5**
TTA				IAML			00 31 56.9	
	comp=E,185nm,0.9s							
TTA				IAML			00 31 57.2	
	comp=N,191nm,0.9s							
TTA

WRH	Wood River Hil	2.72	30	Pn		Pn	00 31 20.9	-0.4
PAX	Paxson	2.79	70			Pn	00 31 22.7	+0.3
DIV	Divide	2.80	109			Pn	00 31 21.6	-0.9
HARP	HAARP	2.85	82	P		Pn	00 31 25.9	+2.7
	baz=268							
MLY	Manley	2.89	4			Pn	00 31 23.6	-0.2
MLY	Manley	2.89	4	P		Pn	00 31 23.9	+0.1
	baz=184							
CCB	Clear Creek Bu	2.94	30			Pn	00 31 23.9	-0.4
HDA	Harding Lake	2.98	39			Pn	00 31 24.7	-0.2
HDA					IAML		00 32 14.9	
	comp=E,160nm,0.6s							
HDA					IAML		00 32 18.4	
	comp=N,170nm,0.8s							
HDA	Harding Lake	2.98	39	P		Pn	00 31 24.8	-0.1
	baz=222							
O18K	Koktuh Hills	3.02	222			Pn	00 31 26.0	+0.6
O18K					IAML		00 32 14.5	
	comp=E,133nm,0.7s							
O18K					IAML		00 32 19.7	
	comp=N,162nm,0.8s							
O18K	Koktuh Hills	3.02	222	P		Pn	00 31 26.1	+0.6
	baz=38							
I21K	Tanana	3.05	354			Pn	00 31 26.0	+0.1
I21K					IAML		00 32 14.5	
	comp=E,97nm,0.5s							
I21K	Tanana	3.05	354	P		Pn	00 31 26.0	+0.1
	baz=173							
EYAK	Cordova Ski Ar	3.09	119			Pn	00 31 26.6	+0.1
I23K	Minto, Yukon-K	3.12	15			Pn	00 31 26.5	-0.2
I23K					IAML		00 32 17.4	
	comp=N,112nm,0.6s							
I23K	Minto, Yukon-K	3.12	15	P		Pn	00 31 26.6	-0.2
	baz=196							
MDM	Murphy Dome	3.12	24			Pn	00 31 26.8	-0.1
TCOL	CIGO, UAF Yank	3.12	27			Pn	00 31 26.5	-0.3
COLA	College	3.12	28			Pn	00 31 26.7	-0.1
N25K	Chitina, Valde	3.19	97			Pn	00 31 29.5	+1.6
N25K					IAML		00 32 22.3	
	comp=N,126nm,0.8s							
N25K	Chitina, Valde	3.19	97	P		Pn	00 31 29.5	+1.6
	baz=283							
IL31		3.27	35			Pn	00 31 28.7	-0.2
ILAR	Eielson Array	3.27	35			Pn	00 31 28.6	-0.3
RIDG	Independent Ri	3.32	59			Pn	00 31 31.2	+1.6
RIDG					IAML		00 32 28.7	
	comp=N,122nm,1.3s							
RIDG					IAML		00 32 35.9	
	comp=E,148nm,1.0s							
BMRM	Bremner River	3.39	108			Pn	00 31 31.1	+0.6
BMRM	Bremner River	3.39	108	P		Pn	00 31 31.4	+0.8
	baz=294							
POKR	Poker Plat Res	3.42	28			Pn	00 31 30.9	-0.1
MENT	Mentasta	3.57	74			Pn	00 31 34.4	+1.4
H21K	Melozitna Rive	3.58	349			Pn	00 31 33.2	0.0
H21K					IAML		00 32 30.4	
	comp=E,68nm,0.4s							
H21K					IAML		00 32 31.0	
	comp=N,59nm,1.1s							
H21K	Melozitna Rive	3.58	349	P		Pn	00 31 33.4	+0.2
	baz=168							
GLB	Gilahina Butte	3.59	98			Pn	00 31 34.3	+0.9
GLB					IAML		00 32 33.9	
	comp=N,62nm,0.5s							
DOT	Dot Lake	3.60	62			Pn	00 31 34.9	+1.4
Q20K	Shuyak Island	3.61	190	P		Pn	00 31 35.9	+2.4
	baz=8.9							
J25K	Salcha River,	3.61	44			Pn	00 31 33.3	-0.4
J25K					IAML		00 32 33.8	
	comp=E,70nm,1.1s							
J25K					IAML		00 32 39.7	
	comp=N,70nm,0.7s							
O17K	Koliganek Bris	3.73	233	P		Pn	00 31 35.2	0.0
	baz=48							
L26K	Log Cabin Wild	3.75	73			Pn	00 31 36.8	+1.3
H22K	Ishtalitna Cre	3.75	359	P		Pn	00 31 35.9	+0.3
	baz=179							
H23K	Yukon River	3.76	11			Pn	00 31 35.6	0.0
H23K	Yukon River	3.76	11	P		Pn	00 31 35.7	0.0
	baz=192							
SCRK	Sand Creek	3.77	58			Pn	00 31 37.1	+1.2
SCRK					IAML		00 32 39.5	
	comp=E,70nm,0.9s							
SCRK					IAML		00 32 39.0	
	comp=N,126nm,0.9s							
SCRK	Sand Creek	3.77	58	P		Pn	00 31 37.4	+1.5
	baz=244							
VRDI	Verde Repeater	3.82	101			Pn	00 31 38.0	+1.3
VRDI					IAML		00 32 41.4	
	comp=N,74nm,1.0s							
M26K	Nabesna, AK	3.85	83			Pn	00 31 38.2	+1.2
M26K					IAML		00 32 41.7	
	comp=E,66nm,0.7s							
M26K					IAML		00 32 50.8	
	comp=N,88nm,0.7s							
MCARA	McCarthy VSAT	3.98	98	Pn		Pn	00 31 40.0	+1.4
H24K	Noodor Dome	3.98	20			Pn	00 31 38.3	-0.4
H24K	Noodor Dome	3.98	20	P		Pn	00 31 38.5	-0.2
	baz=203							
IMAR	Indian Mountai	4.00	345	Pn		Pn	00 31 39.3	+0.4
J26L	Joseph Creek	4.18	52			Pn	00 31 41.4	-0.1
J26L					IAML		00 32 55.1	
	comp=E,40nm,0.7s							
J26L					IAML		00 33 06.5	
	comp=N,57nm,1.0s							
PRP	Porcupine Dome	4.21	34	Pn		Pn	00 31 42.1	+0.1
PRP					IAML		00 32 51.4	
	comp=N,39nm,0.6s							
PRP					IAML		00 33 08.2	
	comp=E,38nm,0.8s							
PRP	Porcupine Dome	4.21	34	P		Pn	00 31 42.3	+0.3
	baz=219							
M27K	Edge Creek, AK	4.38	83			Pn	00 31 43.6	-0.6
M27K					IAML		00 33 03.1	
	comp=N,43nm,0.9s							
M27K	Edge Creek, AK	4.38	83	P		Pn	00 31 46.7	+2.5
	baz=271							
WAX	Waxell Ridge	4.39	109			Pn	00 31 45.7	+1.4
BALM	Baldy	4.39	101			Pn	00 31 45.4	+0.9
KIAG	Kiagna River	4.42	102			Pn	00 31 45.7	+0.8
L27K	Beaver Creek,	4.44	74			Pn	00 31 45.4	+0.4
KDAK	Kodiak Island	4.44	189	Pn		Pn	00 31 45.6	+0.6
KDAK					IAML		00 32 43.7	
	comp=N,78nm,3.5s							
KDAK					IAML		00 32 52.5	
	comp=N,77nm,3.1s							
BCAR	Beaver Creek A	4.46	74	Pn		Pn	00 31 46.8	+1.5
G21K	Allakaket	4.49	348	P		Pn	00 31 45.8	+0.1
	baz=166							
Q17K	Contact Creek	4.54	213	P		Pn	00 31 47.8	+1.3
	baz=29							
G23K	Bananza Creek	4.60	6	P		Pn	00 31 47.4	+0.1
	baz=187							
BARN	Barnard Glacie	4.70	99			Pn	00 31 49.9	+1.2
BARN					IAML		00 33 08.0	
	comp=E,42nm,1.0s							
BARN					IAML		00 33 11.6	
	comp=N,40nm,1.9s							
I26K	Coal Creek Min	4.78	45	Pn		Pn	00 31 49.6	-0.1
I26K					IAML		00 33 25.3	
	comp=N,64nm,0.8s							
I26K	Coal Creek Min	4.78	45	P		Pn	00 31 49.8	+0.1
	baz=232							
YAH	Yahtse	4.92	107			Pn	00 31 53.2	+1.4
YAH					IAML		00 32 52.0	
	comp=E,56nm,2.9s							
OHAK	Old Harbor	5.06	193	Pn		Pn	00 31 54.9	+1.4
YUK3	Moose Creek	5.10	90	P		Pn	00 31 56.1	+1.9
	baz=279							
COLD	Coldfoot	5.11	4	Pn		Pn	00 31 54.7	+0.5
G25K	Bearman Lake	5.13	23	P		Pn	00 31 54.7	+0.3
	baz=208							
FYU	Fort Yukon	5.13	28	Pn		Pn	00 31 55.3	+0.9
F21K	Alatna River	5.18	350	P		Pn	00 31 55.8	+0.7
	baz=168							
EGAK	Eagle	5.22	55	Pn		Pn	00 31 56.8	+1.0
F24K	Squaw Lake	5.57	13	P		Pn	00 32 00.9	+0.4
	baz=196							
DAWY	Dawson	5.70	65	Pn		Pn	00 32 03.5	+1.1
BMAR	Burnt Mountain	6.00	25	Pn		Pn	00 32 07.0	+0.5
E24K	Your Creek	6.05	10	P		Pn	00 32 07.5	+0.4
	baz=192							
TOLK	Toolik Lake Re	6.55	5	Pn		Pn	00 32 15.9	+1.9
HYT	Haines Junctio	6.71	95	Pn		Pn	00 32 16.8	+0.6
M30M	Minto, Yukon	6.73	80	Pn		Pn	00 32 17.7	+1.2
P29M	Windy Craggy	7.05	105	Pn		Pn	00 32 22.0	+1.2
EPYK	Eagle Plains	7.59	50	Pn		Pn	00 32 29.3	+1.1
WHY	Whitehorse	7.98	94	Pn		Pn	00 32 34.9	+1.2
FARO	Faro, Yukon	8.36	82	Pn		Pn	00 32 39.7	+0.9

IDC ***13*** *00:44:28.2±0.9,45˚.84N×148˚.94E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=42.5km s-min=23.7km az=113.0*
SKHL ***13*** *00:44:45.7±0.2,44˚.70N×150˚.20E, h53km±5km, mb4.3/6*
JMA ***13*** *00:44:48.4±0.5,45˚N±2˚×14˚9E±˚, h148km, MV3.3/12, SE OFF ETOROFU*

ISC 13 00:44:47.3±1.0,45˚.2N±0˚.1×149˚.5E±0˚.1, h150km, n27, σ1f29/29, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.16	273	eP		Pn	00 45 13.2	-0.2
KUR					AMB	AMB	00 45 16.5	
	30nm,0.4s							
KUR					AMB	AMB	00 45 16.5	
	80nm,0.4s							
KUR				eS		Sn	00 45 34.0	+0.6
KUR				A		A	00 45 38.9	
	270nm,0.4s							
KUR				A		A	00 45 38.9	
	180nm,0.4s							
YUK	Yuzh-Kuril'sk	2.85	247	eP		Pn	00 45 33.5	+0.8
YUK					AMB	AMB	00 45 36.2	
	30nm,0.3s							
YUK					AMB	AMB	00 45 36.2	
	90nm,0.3s							
YUK				eS		Sn	00 46 09.2	+1.5
YUK				A		A	00 46 13.6	
	180nm,0.6s							
YUK				A		A	00 46 13.6	
	160nm,0.6s							
NEM2	Nemuro 2	3.26	237	eP		Pn	00 45 38.2	+0.2
NEM2				eS		Sn	00 46 16.1	-1.0
NMR	Nemuro--Hokkai	3.27	237	eP		Pn	00 45 38.0	0.0
NMR					AMB	AMB	00 45 38.4	
	10.0nm,0.3s							
NMR				eS		Sn	00 46 15.9	-1.3
NMR				A		A	00 46 17.6	
	30nm,0.2s							
NMR				A		A	00 46 17.6	
	40nm,0.2s							
JNK	Nakash	3.79	247	eP		Pn	00 45 45.5	+0.8
JNK				eS		Sn	00 46 29.8	+0.5
AKK	Akkeshi	4.00	239	eP		Pn	00 45 48.2	+0.7
AKK					AMB	AMB	00 45 50.0	
	10.0nm,0.2s							
AKK				eS		Sn	00 46 33.9	-0.3
AKK				A		A	00 46 35.7	
	50nm,0.4s							
AKK				A		A	00 46 35.7	
	70nm,0.4s							
JAK	Akkeshi	4.10	239	eP		Pn	00 45 49.0	+0.1
JAK				eS		Sn	00 46 35.3	-1.3
JTKR	Abashiri--Toko	4.18	255	eP		Pn	00 45 49.9	0.0
JAR	Ashorobuto	4.53	247	eP		Pn	00 45 55.5	+1.4
JAR				eS		Sn	00 46 47.2	+0.4
JOB	Onbets	4.68	243	eP		Pn	00 45 57.1	+0.6
JOB				eS		Sn	00 46 49.0	-1.3
JKK2	Kamakawa 2	5.01	257	eP		Pn	00 46 01.2	+0.4
JCH	Churui	5.13	242	eP		Pn	00 46 02.5	+0.1
JCH				eS		Sn	00 46 57.9	-3.1
JWK2	Keihoku	5.37	274	eP		Pn	00 46 05.7	+0.2
JNBK	Urakawa-nobuka	5.69	242	eP		Pn	00 46 09.1	-0.8
JNBK				eS		Sn	00 47 11.7	-2.6
H11N2	WAKE ISLAND Hy	29.19	145	T		T	01 21 50.8	
	baz=335,slow=75,SNR=24							
H11N1	WAKE ISLAND Hy	29.21	145	T		T	01 21 53.7	
	baz=335,slow=75,SNR=18							
H11N3	WAKE ISLAND Hy	29.21	145	T		T	01 21 54.8	
	baz=335,slow=75,SNR=18							
H11S1	WAKE ISLAND Hy	30.22	146	T		T	01 23 09.9	
	baz=336,slow=76							
H11S3	WAKE ISLAND Hy	30.22	146	T		T	01 23 13.4	
	baz=336,slow=76							
H11S2	WAKE ISLAND Hy	30.23	146	T		T	01 23 13.6	
	baz=336,slow=76							
ILAR	Eielson Array	39.33	37	P		P	00 51 57.0	-4.4
	0.7nm,1.0s,baz=264,slow=5.6,SNR=2.4							
	0.7nm,1.0s							
NVAR	Mina Array Bea	65.39	60	P		P	00 55 12.5	-1.5
	0.3nm,0.6s,baz=311,slow=8.2,SNR=2.5							
	0.3nm,0.6s							
WRA	Warramunga Arr	66.27	196	P		P	00 55 20.7	+1.4
	0.3nm,0.6s,baz=15,slow=6.7,SNR=4.9							
	0.3nm,0.6s							
NOA	NORSAR Array B	68.85	340	P		P	00 55 28.8	-6.3
	0.8nm,0.7s,baz=21,slow=5.0,SNR=3.9							
	0.8nm,0.7s							
ASAR	Alice Springs	69.98	195	P		P	00 55 45.5	+3.0
	0.5nm,0.7s,baz=6.4,slow=5.8,SNR=6.8							
	0.5nm,0.7s							
GERES	GERESS Array B	78.70	332	P		P	00 56 28.5	-4.2
	0.2nm,0.5s,baz=40,slow=5.1,SNR=2.2							
	0.2nm,0.5s							
TXAR	Lajitas Array	80.45	58	P		P	00 56 41.8	-0.8
	0.5nm,0.6s,baz=293,slow=4.2,SNR=9.6							
	0.5nm,0.6s							

IDC ***13*** *00:55:46.2±1.3,24˚.92S×179˚.99W, h495km±13km, mb3.9/19, mbtmp4.7/23, Error ellipse: s-maj=14.1km s-min=12.2km az=98.0*
NEIC ***13*** *00:55:46.5±1.9,24˚.95S±0˚.08×180˚.0W±0˚.1, h493km±6km, mb4.6/44, Error ellipse: s-maj=17.6km s-min=8.7km az=63.0*

ISC 13 00:55:46.2±0.4,24˚96S±0˚06×179˚98W±0˚07, h496km, n137, σ1f15/145, mb4.5/43, 9C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.65	157	P		P	00 57 11.4	+1.6
	321nm,0.4s,baz=50,slow=20,SNR=4.3							
RAO				S		S	00 58 14.1	-3.9
	169nm,0.3s,baz=95,slow=22,SNR=1.7							
MSVF	Nonsavu	7.42	345	P		P	00 57 36.1	-0.6
	6.0nm,0.4s,baz=145,slow=13,SNR=27							
MSVF				S		S	00 59 03.6	-3.7
	1.7nm,0.5s,baz=321,slow=23,SNR=1.0							
MSVF	Nonsavu	7.42	345	P		P	00 57 36.0	-0.8
NIUE	Niue	11.00	60	P		P	00 58 13.5	-0.8
MARNC	Mare, Loyalty	11.56	285	P		P	00 58 20.7	+0.6
DZM	Mont Dzumac	12.78	280	P		P	00 58 34.8	+1.5
	8.1nm,0.8s,baz=76,slow=16,SNR=8.5							
DZM				S		S	01 00 54.2	+3.2
	3.7nm,0.9s,baz=337,slow=21,SNR=3.2							
DZM	Mont Dzumac	12.78	280	P		P	00 58 34.6	+1.4
AFI	Afiamalu	13.43	37	P		P	00 58 38.5	-1.7
	16nm,0.8s,baz=248,slow=23,SNR=1.9							
BKZ	Black Stump Fm	14.48	191	P		P	00 58 50.0	-0.9
KOUNC	Koumac, New Ca	15.16	284	P		P	00 59 00.7	+2.4
KOUNC					IAmb	IAmb	00 59 14.8	
	comp=Z,15nm,1.0s							
BFZ	Birch Farm	15.99	190	P		P	00 59 04.4	-2.3
OXZ	Oxford	19.46	198	P		P	00 59 39.0	-0.9
OXZ					IAmb	IAmb	00 59 41.0	
	comp=Z,28nm,1.3s							
LHI	Lord Howe Isla	19.57	246	P		P	00 59 42.6	+1.5
RPZ	Rata Peaks	20.10	199	P		P	00 59 44.6	-1.2
	comp=Z,6.5nm,0.7s,baz=19,slow=16,SNR=2.1							
	comp=Z,6.5nm,0.7s							
ARMA	Armidale	25.69	251	P		P	01 00 37.3	+1.1
ARMA					IAmb	IAmb	01 00 38.4	
	comp=Z,10.0nm,0.8s							
EIDS	Eidsvold	26.18	263	P		P	01 00 40.5	+0.1
EIDS					IAmb	IAmb	01 00 41.9	
	comp=Z,12nm,0.9s							
CAN	Canberra	28.64	242	P		P	01 01 02.4	+0.3
CAN					IAmb	IAmb	01 01 23.7	
	comp=Z,22nm,1.4s							
CTA	Charters Tower	31.52	272	P		P	01 01 27.5	+0.4
	comp=Z,38nm,0.5s,baz=96,slow=10,SNR=94							
	comp=Z,38nm,0.5s							
CTAO	Charters Tower	31.52	272	P		P	01 01 27.4	+0.4
TOO	Toolangi	31.90	238	P		P	01 01 30.6	+0.4
STKA	Stephens Creek	34.36	250	P		P	01 01 51.3	+0.3
	comp=Z,3.8nm,0.5s,baz=97,slow=9.7,SNR=10							
	comp=Z,3.8nm,0.5s							
STKA	Stephens Creek	34.36	250	P		P	01 01 50.9	-0.1
PMG	Port Moresby	34.87	291	P		P	01 01 54.5	-1.0
	comp=Z,16nm,0.6s,baz=129,slow=4.4,SNR=7.4							
	comp=Z,16nm,0.6s							
PMG	Port Moresby	34.87	291	P		P	01 01 55.1	-0.3
PMG					IAmb	IAmb	01 01 56.3	
	comp=Z,26nm,0.9s							
COEN	Coen	36.31	281	P		P	01 02 07.8	+0.3
COEN					IAmb	IAmb	01 02 09.0	
	comp=Z,18nm,0.8s							
BBOO	Buckleboo	39.06	248	P		P	01 02 29.0	-0.8
AS31	Alice Springs	41.89	262	P		P	01 02 52.6	-0.1
ASAR	Alice Springs	41.89	262	P		P	01 02 52.5	-0.2
	comp=Z,9.4nm,0.7s,baz=92,slow=7.2,SNR=102							
ASAR				PcP		PcP	01 04 37.7	+0.7
	comp=Z,0.8nm,0.7s,baz=97,slow=4.0,SNR=2.8							
ASAR				S		S	01 08 32.3	-2.3
	comp=Z,0.9nm,0.8s,baz=100,slow=14,SNR=6.8							
	comp=Z,9.4nm,0.7s							
ASAR	Alice Springs	41.89	262	P		P	01 02 52.1	-0.6
WR0	Warramunga Arr	42.18	267	P		P	01 02 54.3	-0.6
WR0					IAmb	IAmb	01 02 54.6	
	comp=Z,11nm,0.6s							
WB0	Warramunga Arr	42.36	268	P		P	01 02 55.6	-0.8
WRA	Warramunga Arr	42.37	267	P		P	01 02 55.7	-0.7
	comp=Z,15nm,0.5s,baz=103,slow=7.8,SNR=242							
WRA				PcP		PcP	01 04 39.1	+0.4
	comp=Z,1.2nm,0.8s,baz=100,slow=3.1,SNR=4.5							
WRA				ScP		ScP	01 07 41.8	-0.1
	comp=Z,1.4nm,0.9s,baz=104,slow=4.2,SNR=5.2							
WRA				S		S	01 08 37.4	-4.1
	comp=Z,1.8nm,1.0s,baz=99,slow=14,SNR=5.0							
	comp=Z,15nm,0.5s							
WRA	Warramunga Arr	42.37	267	P		P	01 02 54.7	-1.7
FORT	Forrest	45.97	251	P		P	01 03 23.2	-1.0
MTN	Manton Dam	47.56	275	P		P	01 03 35.5	-0.9
MTN					IAmb	IAmb	01 03 40.4	
	comp=Z,37nm,1.5s							
KNRA	Kununurra	48.71	271	P		P	01 03 44.9	-0.2
FAKI	Fak Fak	50.91	288	P		P	01 04 00.3	-1.1
FAKI					IAmb	IAmb	01 04 01.5	
	comp=Z,11nm,0.8s							
SIJI	Sorong	52.80	289	P		P	01 04 14.7	-0.3
	comp=Z,52nm,0.7s,baz=98,slow=4.9,SNR=36							
	comp=Z,52nm,0.7s							
VNDA	Vanda	53.33	185	P		P	01 04 18.4	+0.6
	comp=Z,0.5nm,0.8s,baz=17,slow=6.5,SNR=7.1							
VNDA				PcP		PcP	01 05 17.4	0.0
	comp=Z,0.5nm,0.6s,baz=323,slow=4.4,SNR=4.0							
VNDA	Vanda	53.33	185	P		P	01 04 18.9	+1.2
PSA00	Pilbara Seismi	55.00	260	P		P	01 04 29.3	-1.2
MBWA	Marble Bar	55.22	261	P		P	01 04 30.9	-1.1
MBWA					IAmb	IAmb	01 04 48.2	
	comp=Z,23nm,1.4s							
BATI	Baumata	55.33	275	P		P	01 04 33.9	+1.0
	comp=Z,15nm,0.5s,baz=138,slow=3.1,SNR=3.8							
	comp=Z,15nm,0.5s							
MORW	Morawa	56.54	251	P		P	01 04 39.9	-1.2
MORW					IAmb	IAmb	01 04 40.8	
	comp=Z,23nm,1.2s							
LUWI	Luwuk	60.10	284	P		P	01 05 04.4	-1.0
LUWI					IAmb	IAmb	01 05 06.1	
	comp=Z,23nm,0.8s							
KAPI	Kappang	61.00	278	P		P	01 05 11.0	-0.3
	comp=Z,2.5nm,0.3s,baz=183,slow=0.8,SNR=4.2							
	comp=Z,2.5nm,0.3s							
KAPI	Kappang	61.00	278	P		P	01 05 10.3	-1.1
TOLI2	Tolitoli	62.87	285	P		P	01 05 22.6	-1.0
TOLI2					IAmb	IAmb	01 05 24.9	
	comp=Z,14nm,0.7s							
JAGI	Jajag, Banyuwa	64.63	272	P		P	01 05 33.6	-1.3
QSPA	South Pole Qui	65.13	180	P		P	01 05 38.1	+0.8
UGM	Wanagama	68.14	271	P		P	01 05 56.2	-0.6
KKM	Kota Kinabalu	69.23	287	P		P	01 06 02.9	-0.5
KKM					IAmb	IAmb	01 06 20.2	
	comp=Z,16nm,1.0s							
JOW	Kunigami	71.71	312	P		P	01 06 17.0	-0.7
	comp=Z,21nm,0.7s,baz=123,slow=7.6,SNR=5.2							
	comp=Z,21nm,0.7s							
JOW	Kunigami	71.71	312	P		P	01 06 17.5	-0.2
JOW					IAmb	IAmb	01 06 19.6	
	comp=Z,28nm,1.0s							
KSM	Kuching	72.31	280	P		P	01 06 21.1	-0.4
KSM					IAmb	IAmb	01 06 22.4	
	comp=Z,12nm,0.8s							
JGF	Kuroka	72.50	325	P		P	01 06 22.0	-0.1
MJAR	Matsushiro Arr	72.78	326	P		P	01 06 23.5	-0.1
	comp=Z,6.0nm,0.8s,baz=160,slow=5.7,SNR=15							
	comp=Z,6.0nm,0.8s							
MAJO	Matsushiro	72.78	326	P		P	01 06 23.5	-0.2
MAJO					IAmb	IAmb	01 06 24.7	
	comp=Z,13nm,0.9s							
MJB9	Matsu-Tunnel	72.78	326	P		P	01 06 23.9	+0.2
MJB9					IAmb	IAmb	01 06 24.7	
	comp=Z,13nm,0.9s							
YOJ	Yonaguni jima	73.88	307	P		P	01 06 29.9	-0.4
TPUB	Ta-pu	74.94	305	P		P	01 06 35.0	-1.3
TPUB					IAmb	IAmb	01 06 35.6	
	comp=Z,17nm,0.7s							
MAW	Mawson	76.77	201	P		P	01 06 45.4	-0.2
	comp=Z,3.8nm,0.6s,baz=105,slow=8.1,SNR=9.3							
	comp=Z,3.8nm,0.6s							
MAW	Mawson	76.77	201	P		P	01 06 45.2	-0.5
KSRS	Korea Array	79.07	320	P		P	01 06 59.1	+0.6
	comp=Z,2.5nm,0.7s,baz=130,slow=5.7,SNR=11							
	comp=Z,2.5nm,0.7s							
KSAR	Wonju Array Be	79.08	320	P		P	01 06 58.9	+0.4
PEA0B	Petropavlovsk-	80.13	347	P		P	01 07 04.5	+0.8
PEA0B					IAmb	IAmb	01 07 05.6	
	comp=Z,46nm,1.5s							
PETK	Petropavlovsk-	80.13	347	P		P	01 07 03.0	-0.8
	comp=Z,6.9nm,0.8s,baz=122,slow=7.3,SNR=15							
	comp=Z,6.9nm,0.8s							
PETK	Petropavlovsk-	80.13	347	P		P	01 07 03.7	0.0
NJ2	Nanjing	81.37	311	eP		P	01 07 12.1	+1.4
NJ2				pmax		pmax		
	comp=Z,4.0nm,0.5s							
USRK	Ussuriysk Ar.	81.66	327	P		P	01 07 11.9	0.0
	comp=Z,2.2nm,0.6s,baz=100,slow=3.6,SNR=2.7							
	comp=Z,2.2nm,0.6s							
USRK	Ussuriysk Ar.	81.66	327	P		P	01 07 12.8	+0.9
TROLL	Troll, Antarti	83.28	181	P		P	01 07 20.8	+0.9
SNAA	Sanae	83.61	179	P		P	01

ZALV	**Zalesovo Beam**	**112.78**	**320**	PKiKP		**PKiKP**	**01 13 24.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=96,slow=4.3,SNR=1.7							
MKAR	**Makanchi Array**	**112.88**	**312**	Pdiff		**Pdif**	**01 09 35.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=127,slow=3.8,SNR=1.9							
MKAR				PKiKP		**PKiKP**	**01 13 25.6**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=103,slow=1.3,SNR=4.2							
GEYT	**Alibeck**	**129.51**	**300**	PKP		**PKPdf**	**01 13 57.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=112,slow=1.6,SNR=3.7							
ARCES	**ARCESS Array B**	**132.92**	**348**	PKP		**PKPdf**	**01 14 03.6**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=39,slow=2.3,SNR=7.5							
FINES	**FINESS Array B**	**139.45**	**341**	PKhKP		PKPpre	01 14 07.9	
	comp=Z,1.1nm,0.6s,baz=55,slow=4.5,SNR=15							
KOPT	**Kop Dagi**	**143.04**	**304**			**PKPdf**	**01 14 23.3**	**-0.3**
NB2	**NORSAR Subarra**	**143.12**	**351**	PKP		PKPab	01 14 20.6	+0.3
	comp=Z,2.1nm,0.8s,baz=12,slow=3.1							
NOA	**NORSAR Array B**	**143.12**	**351**	PKP		PKPab	01 14 20.5	+0.2
	comp=Z,2.8nm,0.8s,baz=18,slow=2.8,SNR=8.9							
MARD	**Mardin**	**143.27**	**299**			PKPbc	01 14 22.6	+0.5
NC602	**NORSAR Array S**	**143.37**	**351**	PKPdf		PKPab	01 14 21.1	0.0
NACGM	**Naroch**	**144.16**	**334**	⅄PKP		**PKPab**	**01 14 24.7**	**+0.4**
	comp=Z,60nm,0.8s,baz=42							
KONO	**Kongsberg**	**144.69**	**352**	PKPdf		**PKPdf**	**01 14 25.7**	**+0.2**
PABE	**Paberze**	**144.79**	**336**			PKPbc	01 14 26.5	+0.5
AKASG	**Malin Array Be**	**145.86**	**326**	PKPbc		**PKPbc**	**01 14 29.1**	**-0.2**
	comp=Z,4.9nm,0.5s,baz=46,slow=4.4,SNR=22							
AKASG	**Malin Array Be**	**145.86**	**326**			**PKPbc**	**01 14 28.9**	**-0.5**
AKBB	**Malin Array Si**	**145.86**	**326**			**PKPbc**	**01 14 29.1**	**-0.2**
GAZ	**Gaziantep**	**146.10**	**300**			**PKPbc**	**01 14 30.2**	**-0.4**
BNN	**Bunyan**	**146.81**	**303**			**PKPbc**	**01 14 31.5**	**-1.0**
BR131	**Keskin Array S**	**148.22**	**306**	PKPbc		**PKPbc**	**01 14 35.2**	**-1.1**
BRTR	**Keskin Array B**	**148.22**	**306**	PKPbc		**PKPbc**	**01 14 36.3**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=134,slow=3.2,SNR=16							
BRTR	**Keskin Array B**	**148.22**	**306**			**PKPbc**	**01 14 36.0**	**-0.2**
ANTO	**Ankara**	**148.80**	**306**	PKPbc		**PKPbc**	**01 14 37.9**	**+0.3**
CSS	**Mathiatis**	**149.59**	**297**			**PKPbc**	**01 14 39.6**	**+0.1**
BURAR	**Bucovina Array**	**149.85**	**325**			**PKiKP**	**01 14 40.8**	**+0.2**
KOLS	**Kolonicke sedl**	**150.40**	**330**	*e*PKP		**PKiKP**	**01 14 42.8**	**+1.3**
BORA	**Eskisehir**	**150.49**	**308**	PKPbc		**PKPbc**	**01 14 41.7**	**+0.1**
OJC	**Ojcow**	**150.49**	**334**			**PKPbc**	**01 14 39.5**	**-1.6**
OSTC	**Ostas**	**151.54**	**338**	⅄*e*PKP		**PKiKP**	**01 14 44.6**	**+0.7**
UPC	**Upice**	**151.66**	**338**	⅄*e*PKP		**PKiKP**	**01 14 44.4**	**+0.3**
DPC	**Dobruska-Polom**	**151.68**	**338**	⅄*e*PKP		**PKiKP**	**01 14 44.7**	**+0.5**
DPC				*e*PKPAB		**PKPab**	**01 14 56.4**	**+1.4**
KRLC	**Kraliky**	**151.75**	**337**	⅄*e*PKP		**PKPbc**	**01 14 44.4**	**+0.3**
KRLC				*e*PKPAB		**PKPab**	**01 14 54.5**	**-0.8**
CLL	**Collm**	**151.87**	**343**			**PKiKP**	**01 14 44.6**	**+0.2**
CLL	**Collm**	**151.87**	**343**	*i* PKPdf		**PKPdf**	**01 14 39.6**	**+2.3**
	comp=Z,3.0nm,0.9s							
CLL				*i* PKPbc		**PKiKP**	**01 14 45.0**	**+0.6**
	comp=Z,10.0nm,0.9s							
CLL				*i* PKPab		**PKPab**	**01 14 56.1**	**+0.5**
	comp=Z,3.0nm,1.0s							
ELL	**Elmali**	**151.90**	**302**	PKPbc		**PKPbc**	**01 14 45.3**	**+0.3**
MAUC	**Maruska**	**151.95**	**335**	⅄*e*PKP		**PKPbc**	**01 14 44.0**	**-0.5**
BRG	**Berggiesshubel**	**151.99**	**341**	*e*PKP		**PKiKP**	**01 14 45.3**	**+0.6**
BRG				Amp			01 14 47.7	
	comp=Z,8.5nm,1.3s							
BRG				*ex*		x	01 14 57.1	
BRG				Amp			01 14 57.7	
	comp=Z,4.7nm,0.8s							
PVCC	**Panska Ves**	**152.10**	**340**	*e*PKPAB		**PKPab**	**01 14 57.9**	**+1.2**
VYHS	**Vyhne**	**152.23**	**333**	*e*PKP		**PKiKP**	**01 14 46.1**	**+0.8**
PRU	**Pruhonice**	**152.58**	**339**	*e*PKPAB		**PKPab**	**01 14 59.4**	**+0.7**
KHC	**Kasperske Hory**	**153.64**	**340**	*e*PKPAB		**PKPab**	**01 15 03.7**	**+0.4**
CKRC	**Cesky Krumlov**	**153.67**	**338**	*e*PKPAB		**PKPab**	**01 15 03.8**	**+0.3**
GERES	**GERESS Array B**	**153.85**	**339**	PKPbc		**PKPbc**	**01 14 47.9**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=107,slow=1.4,SNR=4.1							
GERES				PKPab		**PKPab**	**01 15 04.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=48,slow=4.0,SNR=7.3							
CONA	**Conrad Observa**	**153.87**	**335**	*e*P		**PKPab**	**01 15 05.6**	**+1.2**
	comp=Z,5.4nm,1.0s							
BIOA	**Bad Ischl, Aus**	**154.87**	**338**	*e*P		**PKPab**	**01 15 09.8**	**+1.2**
	comp=Z,0.9nm,0.5s							
WTTA	**Wattenberg**	**155.90**	**340**	*i* P		**PKPab**	**01 15 14.2**	**+0.9**
	comp=Z,3.4nm,0.6s							
MOTA	**Moosalm**	**155.98**	**341**	*e*P		**PKPab**	**01 15 14.6**	**+1.0**
	comp=Z,2.4nm,0.8s							
SQTA	**Sankt Quirin**	**156.06**	**341**	*i* P		**PKPab**	**01 15 14.9**	**+1.0**
	comp=Z,0.3nm,0.2s							

JMA 13 00:58:34.9±0.1, 26°N±1°×14°2E±°, h191km, MV3.9/13, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.24**	**25**	P	Pn	00 59 05.7	+0.2
CBIJ				S	Sn	00 59 29.4	-0.1
BSO3	**Boso 3**	**8.86**	**354**	*e*P	Pn	01 00 40.0	+1.0
BSO4	**Boso 4**	**9.06**	**353**	P	Pn	01 00 44.0	+2.2
JAG	**Ashikaga**	**10.59**	**351**	P	Pn	01 01 01.3	-0.4
JHO	**Hitachi**	**10.65**	**356**	*e*P	Pn	01 01 03.1	+0.5

BJI ***13*** *01:01:49.8±0.0,28°.10S×67°.65W,h118km,mB5.2/15*
SJA ***13*** *01:01:50.8±0.7,28°.10S×67°.43W,h158km±5km,ML5.2, MW5.1*
VAO ***13*** *01:01:50.9±0.2,28°.06S×67°.32W,h121km,mb5.3*
MOS ***13*** *01:01:51.8±1.1,28°.07S×67°.33W,h136km,mb5.4/22, Error ellipse: s-maj=10.8km s-min=6.4km az=99.5*
NEIC ***13*** *01:01:51.4±1.3,28°.12S±0°.05×67°.31W±0°.08,h119km±2km, mb5.7/584, Mww5.3,Md5.0(SJA), Error ellipse: s-maj=10.3km s-min=7.0km az=85.0*
IDC ***13*** *01:01:53.1±0.4,28°.03S×67°.26W,h139km±3km,mb4.8/20, mbtmp5.1/25,MS3.9/30,Error ellipse: s-maj=12.5km s-min=9.0km az=79.0*
GCMT ***13*** *01:01:56.4±0.1,28°.24S±0°.01×67°.36W±0°.01,h148km±1km, MW5.3/126,Moment Tensor Solution. s110,c158; s126,c208; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.76±.02; Mθθ-0.35±.03; Mϕϕ1.11±.03; Mrθ-0.65±.01; Mϕϕ0.49±.02; Mϕr-0.18±.02; Best double couple: M=1.28700×10^17 NP1:ϕs48.00000°,δ65.00000°, λ-50.00000°. NP2:ϕs165.00000°,δ46.00000°, λ-144.00000°. Principal axes: T 1.3300, Plg11.0000°, Azm110.0000°; N -0.0860, Plg36.0000°, Azm208.0000°; P -1.2440, Plg52.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *01:01:57,28°.12S×67°.42W,h130km,Moment Tensor Solution. Duration: 12§0 Moment tensor: Scale 10^17Nm; Mrr-0.75; Mθθ-0.20; Mϕϕ0.95; Mrθ-0.54; Mθϕ0.36; Mϕr-0.30; Fault plane solution: M=1.13000×10^17 NP1: ϕs169.00000°,δ39.00000°,λ-135.00000°. NP2: ϕs42.00000°,δ64.00000°,λ-59.00000°. Principal axes: T 1.1644, Plg14.0000°, Azm110.0000°; N -0.0803, Plg27.0000°, Azm207.0000°; P -1.0841, Plg59.0000°, Azm356.0000°;*

ISC 13 01:01:52.5±0.3, 28°.09S±0°.03×67°.42W±0°.03, h138km±2km, h138km:pP-P,n1309,σ1§30/1215, mb5.6/348, **32C-9D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**1.39**	**163**	*e*P	**Pn**	**01 02 20.5**	**+0.3**
ACLC				IAML		01 02 41.9	
	comp=Z,19μm,0.8s						
ACLC				*e*S	**Sn**	**01 02 42.0**	**+0.6**
CYA	**Choya**	**1.47**	**104**	*e*P	**Pn**	**01 02 21.5**	**+0.6**
CYA				IAML		01 02 43.5	
	comp=Z,13μm,1.3s						
CYA				*e*S	**Sn**	**01 02 43.6**	**+1.0**
AC02	**Maricunga**	**1.97**	**309**		**Pn**	**01 02 28.0**	**+1.0**
AC02	**Maricunga**	**1.97**	**309**	⅄*e*P	**Pn**	**01 02 28.7**	**+1.6**
AC02				*e*S	**Sn**	**01 02 56.2**	**+2.9**
AHML	**Horco Molle**	**2.27**	**55**	*e*P	**Pn**	**01 02 30.8**	**+0.6**
AHML				*e*S	**Sn**	**01 02 60.0**	**+0.8**
APLL	**PUNTA DE LOS L**	**2.42**	**161**	*e*P	**Pn**	**01 02 32.1**	**-0.1**
GO03	**Copiap**	**2.54**	**281**		**Pn**	**01 02 33.9**	**+0.3**
GO03	**Copiap**	**2.54**	**281**	⅄*e*P	**Pn**	**01 02 33.9**	**+0.3**
GO03				*e*S	**Sn**	**01 03 04.0**	**-1.2**
GO03				IAML		01 03 06.9	
	comp=N,13μm,0.2s						
GO03	**Copiap**	**2.54**	**281**	*e*P	**Pn**	**01 02 33.7**	**+0.1**
GO03				*e*S	**Sn**	**01 03 04.8**	**-0.4**
ACDV	**Cuesta del Vie**	**2.55**	**215**	*e*P	**Pn**	**01 02 34.3**	**+0.5**
ACDV				*e*S	**Sn**	**01 03 06.4**	**+0.7**
ACDV				IAML		01 03 06.7	
	comp=Z,10μm,0.6s						
AC05	**El Transito**	**2.62**	**253**		**Pn**	**01 02 35.5**	**+0.8**
AC05	**El Transito**	**2.62**	**253**	⅄*e*P	**Pn**	**01 02 35.4**	**+0.7**
AC05				*e*S	**Sn**	**01 03 07.2**	**+0.1**
AC06	**Mina Casimiro**	**2.70**	**285**		**Pn**	**01 02 35.4**	**-0.2**
AC06	**Mina Casimiro**	**2.70**	**285**	⅄*e*P	**Pn**	**01 02 35.4**	**-0.2**
AC06				*e*S	**Sn**	**01 03 07.0**	**-1.8**
AROD	**Rodeo**	**2.74**	**220**	*e*P	Pn	01 02 27.9	-8.5
AROD				*e*P	**Pn**	**01 02 36.8**	**+0.4**
AROD				*e*S	**Sn**	**01 03 08.0**	**-2.2**
ACCO	**Cerro Coronel**	**2.87**	**210**	*e*P	**Pn**	**01 02 38.2**	**+0.2**
CO01	**Juntas del Tor**	**3.00**	**231**		**Pn**	**01 02 40.8**	**+1.1**
CO01	**Juntas del Tor**	**3.00**	**231**	⅄*e*P	**Pn**	**01 02 40.6**	**+1.0**
CO01				*e*S	**Sn**	**01 03 17.5**	**+1.5**
CO01				IAML		01 03 19.1	
	comp=E,22μm,0.6s						
LCO	**Las Campanas**	**3.03**	**252**		**Pn**	**01 02 39.9**	**-0.1**
LCO	**Las Campanas**	**3.03**	**252**	⅄*e*P	**Pn**	**01 02 39.8**	**-0.2**
LCO				*i* S	**Sn**	**01 03 15.2**	**-1.4**
LCO	**Las Campanas**	**3.03**	**252**	P	**Pn**	**01 02 39.9**	**-0.1**
AC04	**Llanos de Chal**	**3.23**	**267**		**Pn**	**01 02 41.6**	**-0.7**
AC04	**Llanos de Chal**	**3.23**	**267**	⅄*e*P	**Pn**	**01 02 41.5**	**-0.7**
AC04				*e*S	**Sn**	**01 03 17.8**	**-3.0**
AC04				IAML		01 03 20.5	
	comp=E,10μm,0.6s						
RTLL	**Cerro Villicun**	**3.35**	**196**	*e*P	**Pn**	**01 02 43.6**	**-0.4**
RTLL				*e*S	**Sn**	**01 03 23.0**	**-0.9**
AC01	**Pan de Azucar**	**3.43**	**304**		**Pn**	**01 02 44.7**	**-0.3**
AC01	**Pan de Azucar**	**3.43**	**304**	⅄*e*P	**Pn**	**01 02 44.7**	**-0.3**
AC01				*e*S	**Sn**	**01 03 22.3**	**-3.3**
AC01				IAML		01 03 28.9	
	comp=E,4μm,0.6s						
GO02	**Mina Guanaco**	**3.50**	**326**		**Pn**	**01 02 46.9**	**+0.7**
GO02	**Mina Guanaco**	**3.50**	**326**	⅄*e*P	**Pn**	**01 02 47.1**	**+0.9**
GO02				*e*S	**Sn**	**01 03 28.0**	**+0.2**
GO02				IAML		01 03 35.1	
	comp=N,5μm,0.4s						
SJA	**San Juan**	**3.56**	**196**	*e*P	**Pn**	**01 02 46.8**	**+0.1**
SJA				*e*P	**Pn**	**01 02 47.0**	**+0.2**
SJA				*e*S	**Sn**	**01 03 27.9**	**-0.9**
SJA				*e*S	**Sn**	**01 03 29.0**	**+0.2**
SJA				IAML		01 03 30.3	
	comp=Z,4μm,1.1s						
GO04	**Tololo Observa**	**3.61**	**234**		**Pn**	**01 02 47.0**	**-0.6**
GO04	**Tololo Observa**	**3.61**	**234**	*e*P	**Pn**	**01 02 46.7**	**-0.8**
GO04				*e*S	**Sn**	**01 03 28.9**	**-1.3**
GO04	**Tololo Observa**	**3.61**	**234**	*e*P	**Pn**	**01 02 47.2**	**-0.4**
GO04				*e*S	**Sn**	**01 03 30.0**	**-0.1**
ZON	**Zonda**	**3.61**	**197**		**Pn**	**01 02 47.0**	**-0.4**
ZON	**Zonda**	**3.61**	**197**	*e*P	**Pn**	**01 02 46.8**	**-0.6**
ZON				*e*P	**Pn**	**01 02 47.0**	**-0.4**
ZON				*e*S	**Sn**	**01 03 28.8**	**-1.1**
ZON				*e*S	**Sn**	**01 03 29.0**	**-0.9**
ZON				IAML		01 03 30.2	
	comp=Z,3μm,0.7s						
ZON	**Zonda**	**3.61**	**197**	P	**Pn**	**01 02 47.0**	**-0.4**
SLA	**San Lorenzo**	**3.77**	**28**	*e*P	**Pn**	**01 02 51.4**	**+1.8**
SLA				*e*S	**Sn**	**01 03 29.0**	**-4.9**
CO05	**La Serena**	**3.81**	**241**		**Pn**	**01 02 48.2**	**-1.7**
CO05	**La Serena**	**3.81**	**241**	⅄*e*P	**Pn**	**01 02 48.1**	**-1.7**
CO05				*e*S	**Sn**	**01 03 30.9**	**-3.5**
RTCV	**Cerro Valdivia**	**3.88**	**194**	*e*P	**Pn**	**01 02 50.4**	**-0.5**
RTCV				*e*S	**Sn**	**01 03 35.0**	**-1.2**
CO03	**El Pedregal**	**3.95**	**225**		**Pn**	**01 02 51.2**	**-0.6**
CO03	**El Pedregal**	**3.95**	**225**	⅄*e*P	**Pn**	**01 02 51.1**	**-0.7**
CO03				*e*S	**Sn**	**01 03 34.8**	**-3.2**
RTLS	**Leoncito**	**4.04**	**203**	*e*P	**Pn**	**01 02 52.7**	**-0.5**
RTLS				*e*S	**Sn**	**01 03 40.8**	**+0.5**
RTLS				IAML		01 03 42.7	
	comp=Z,3μm,0.8s						
PB14	**IPOC Station P**	**4.37**	**322**		**Pn**	**01 02 56.9**	**-0.7**
PB14	**IPOC Station P**	**4.37**	**322**	*e*P	**Pn**	**01 02 57.3**	**-0.3**
PB14				*e*S	**Sn**	**01 03 45.8**	**-2.3**
PB14	**IPOC Station P**	**4.37**	**322**	*e*P	**Pn**	**01 02 57.2**	**-0.4**
PB14				*e*S	**Sn**	**01 03 46.4**	**-1.7**
PB14				IAML		01 03 51.1	
	comp=Z,2μm,0.5s						
CO02	**Combarbal**	**4.40**	**224**		**Pn**	**01 02 56.2**	**-1.5**
CO06	**Fray Jorge**	**4.49**	**234**	Pn	**Pn**	**01 02 56.6**	**-2.2**
CO06	**Fray Jorge**	**4.49**	**234**	⅄*e*P	**Pn**	**01 02 56.5**	**-2.4**
CO06				*e*S	Sn	01 03 40.9	-10
MRA	**San Martin**	**4.56**	**162**	*e*P	**Pn**	**01 02 59.2**	**-0.7**
MRA				*e*P	**Pn**	**01 02 59.4**	**-0.5**
MRA				*e*S	Sn	01 03 37.5	-15
PB15	**IPOC Station P**	**5.20**	**339**		**Pn**	**01 03 08.9**	**+0.3**
PB10	**IPOC Station P**	**5.36**	**328**	Pn	**Pn**	**01 03 10.0**	**-0.5**
VA03	**San Esteban**	**5.38**	**209**		**Pn**	**01 03 09.5**	**-1.4**
VA06	**Catapilco**	**5.57**	**216**		**Pn**	**01 03 10.1**	**-3.2**
LVC	**Limon Verde**	**5.62**	**346**	P	**Pn**	**01 03 15.1**	**+0.7**
	comp=Z,158nm,0.3s,baz=173,slow=9.0,SNR=435							
LVC				S	**Sn**	**01 04 10.7**	**-7.5**
	comp=Z,58nm,0.3s,baz=208,slow=2.6,SNR=5.2							
PEL	**Peldehue**	**5.77**	**208**	*e*S	**Sn**	**01 04 19.1**	**-2.1**
ROC1	**El Roble**	**5.77**	**212**	*e*P	**Pn**	**01 03 13.8**	**-2.4**
ROC1				*e*S	**Sn**	**01 04 18.2**	**-3.4**
PB09	**IPOC Station P**	**6.48**	**345**		**Pn**	**01 03 25.1**	**-0.6**
PB01	**IPOC Station P**	**7.26**	**345**		**Pn**	**01 03 34.1**	**-2.1**
EDS3	**Malargue**	**7.84**	**192**	*e*P	**Pn**	**01 03 42.3**	**-1.6**
GO05	**Huala**	**7.90**	**208**	*e*P	**Pn**	**01 03 40.2**	**-4.3**
GO05				*e*S	**Sn**	**01 05 05.2**	**-7.2**
CPUP	**Villa Florida**	**9.15**	**81**	P	**Pn**	**01 03 59.4**	**-2.0**
	comp=Z,52nm,0.5s,baz=259,slow=12,SNR=129							
CPUP				S	**Sn**	**01 05 50.0**	**+7.2**
	comp=Z,51nm,0.6s,baz=200,slow=13,SNR=1.2							
CPUP				LR	LR	01 08 10.4		
	comp=Z,958nm,18.1s,baz=280,slow=42							
CPUP	**Villa Florida**	**9.15**	**81**	Pn	**Pn**	**01 03 58.7**	**-2.7**
CPUP	**Villa Florida**	**9.15**	**81**	*e*P	**Pn**	**01 03 58.5**	**-2.9**
ITQB	**Itaqui**	**9.60**	**102**	Pn	**Pn**	**01 04 05.2**	**-2.0**
ITQB	**Itaqui**	**9.60**	**102**	*e*P	**Pn**	**01 04 05.3**	**-2.0**
AZCA	**Azaras, Argent**	**10.10**	**93**	*e*P	**Pn**	**01 04 12.4**	**-1.6**
LPA	**La Plata**	**10.57**	**132**	*e*P	Pn	01 04 07.4	-13
LPA				sP		01 04 49.5		
LPA				S	Sn	01 06 03.5	-13
LPA				PCP	**PcP**	**01 10 12.2**	**+1.1**
LPA				SCS	**ScS**	**01 11 09.4**	**+3.6**
LPA				PKiKP	**PKiKP**	**01 18 17.5**	**+7.3**
LPA				SKIKP		01 21 33.8	
LPA				PKIKS		01 21 51.5	
LPA				SKIKS		01 25 01.3	
UNIS	**Unistalda (Bra**	**10.90**	**98**	*e*P	**Pn**	**01 04 22.3**	**-2.3**
RODS	**Rosario do Sul**	**10.91**	**105**	*e*P	**Pn**	**01 04 22.8**	**-2.0**
TRQA	**Tornquist**	**10.93**	**157**	Pn	**Pn**	**01 04 23.0**	**-2.0**
TRQA	**Tornquist**	**10.93**	**157**	*e*P	**Pn**	**01 04 23.0**	**-2.0**
TRQA	**Tornquist**	**10.93**	**157**	P	**Pn**	**01 04 23.0**	**-2.0**
MURT	**Porto Murtinho**	**10.97**	**56**	*e*P	**Pn**	**01 04 24.7**	**-0.9**
H03N1	**Juan Fernandez**	**11.23**	**239**	P	**Pn**	**01 04 26.5**	**-2.2**
	baz=116,slow=19,SNR=27							
H03N2	**Juan Fernandez**	**11.24**	**239**	P	**Pn**	**01 04 26.3**	**-2.5**
	baz=116,slow=19,SNR=23							
H03N3	**Juan Fernandez**	**11.24**	**239**	P	**Pn**	**01 04 26.5**	**-2.4**
	baz=116,slow=19,SNR=24							
VA04	**Juan Fernndez**	**11.25**	**238**	Pn	**Pn**	**01 04 26.1**	**-3.2**
H03S1	**Juan Fernandez**	**11.40**	**237**	P	**Pn**	**01 04 27.4**	**-3.6**
	SNR=19							
LPAZ	**La Paz**	**11.77**	**357**	P	**Pn**	**01 04 36.9**	**+0.1**
	comp=Z,26nm,0.7s,baz=165,slow=6.7,SNR=73							
LPAZ				S	**Sn**	**01 06 43.4**	**-3.5**
	comp=Z,15nm,0.9s,baz=221,slow=21,SNR=1.8							
LPAZ	**La Paz**	**11.77**	**357**	Pn	**Pn**	**01 04 36.1**	**-0.6**
CRSM	**Crissiumal (Br**	**11.86**	**90**	*e*P	**Pn**	**01 04 34.9**	**-2.5**
GO06	**Curarrehue**	**11.95**	**195**	Pn	**Pn**	**01 04 34.7**	**-3.7**
ANTJ	**Antonio Joao (**	**11.99**	**62**	*e*P	**Pn**	**01 04 37.5**	**-1.7**
BBRB	**Robore, Bolivi**	**12.01**	**37**	*e*P	**Pn**	**01 04 36.7**	**-2.6**
CPSB	**Cacapava Do Su**	**12.43**	**104**	*e*P	**Pn**	**01 04 42.4**	**-2.3**
PLTB	**Pedras Altas**	**12.53**	**110**	Pn	**Pn**	**01 04 43.0**	**-3.0**
PLTB	**Pedras Altas**	**12.53**	**110**	*e*P	**Pn**	**01 04 42.6**	**-3.4**
BBSD	**Serra de San D**	**12.54**	**31**	*e*P	**Pn**	**01 04 44.5**	**-1.7**
MCR1	**Marechal Candi**	**12.54**	**76**	*e*P	**Pn**	**01 04 45.0**	**-1.2**
ALGR	**Alto Alegre (B**	**12.69**	**97**	*e*P	**Pn**	**01 04 46.2**	**-2.0**
PLCA	**Paso Flores**	**12.87**	**191**	P	**Pn**	**01 04 47.5**	**-2.9**
	comp=Z,11nm,0.7s,baz=3.0,slow=12,SNR=27							
PLCA	**Paso Flores**	**12.87**	**191**	P	**Pn**	**01 04 47.9**	**-2.5**
PLCA				pmax	pmax			
	comp=Z,97nm,1.7s							
FRBT	**Francisco Belt**	**12.97**	**84**	*e*P	**Pn**	**01 04 51.1**	**-0.7**
AQDB	**Aquidauana**	**13.10**	**57**	Pn	**Pn**	**01 04 51.4**	**-2.1**
AQDB	**Aquidauana**	**13.10**	**57**	*e*P	**Pn**	**01 04 52.3**	**-1.1**
SIV	**San Ignacio**	**13.40**	**27**	P	**Pn**	**01 04 54.9**	**-2.4**
	comp=Z,14nm,0.4s,baz=195,slow=8.8,SNR=91							
LL04	**Puerto Octay**	**13.43**	**196**	Pn	**Pn**	**01 04 52.7**	**-4.8**
ITAB	**Concordia**	**13.58**	**90**	Pn	**Pn**	**01 04 57.5**	**-2.0**
ITAB	**Concordia**	**13.58**	**90**	*e*P	**Pn**	**01 04 56.8**	**-2.7**
PTGB	**Pitanga**	**14.17**	**80**	*e*P	**Pn**	**01 05 06.0**	**-1.1**
CNLB	**Canela**	**14.59**	**99**	*e*P	Pn	01 05 07.4	-5.0
PTLB	**Pontes e Lacer**	**14.74**	**33**	Pn	**Pn**	**01 05 12.9**	**-1.4**
PTLB	**Pontes e Lacer**	**14.74**	**33**	*e*P	**Pn**	**01 05 12.4**	**-1.9**
LL02	**Futaleuf**	**15.49**	**192**	P	**Pn**	**01 05 23.4**	**0.0**
GO07	**Milladeo Hill,**	**15.82**	**197**	IAmb	IAmb	01 05 29.8	
	comp=Z,292nm,0.5s							
PCMB	**Pacaembu**	**16.02**	**70**	*e*P	**Pn**	**01 05 28.7**	**-1.5**
TER01	**Tubaro-SC**	**16.12**	**96**	*e*P	**Pn**	**01 05 28.2**	**-3.1**
SALV	**Santo Antonio**	**16.28**	**44**	*e*P	**Pn**	**01 05 31.3**	**-2.0**
VILB	**Vilhena**	**16.50**	**26**	Pn	**Pn**	**01 05 33.9**	**-2.2**
VILB				IAmb	IAmb	01 05 36.3	
	comp=Z,219nm,0.9s							
VILB	**Vilhena**	**16.50**	**26**	*e*P	**Pn**	**01 05 34.1**	**-2.0**
TIJ01	**Guaruva-PR**	**16.69**	**85**	*e*P	**P**	**01 05 35.1**	**-3.3**
FRTB	**Fartura**	**16.77**	**78**	*e*P	**P**	**01 05 37.4**	**-1.8**
ITRB	**Iturama**	**17.68**	**66**	*e*P	**P**	**01 05 49.2**	**0.0**
COYC	**Coyhaique**	**17.84**	**191**		**P**	**01 05 51.1**	**+0.4**
ETMB	**Extrema**	**18.21**	**4**	P	**P**	**01 05 55.4**	**+0.4**
ETMB				IAmb	IAmb	01 05 58.9	
	comp=Z,237nm,1.0s							
ETMB	**Extrema**	**18.21**	**4**	*e*P	**P**	**01 05 55.8**	**+0.8**
NNA	**Nana**	**18.29**	**329**	P	**Pn**	**01 05 57.1**	**-0.4**
	comp=Z,48nm,1.0s,baz=179,slow=8.7,SNR=16							
NNA	**Nana**	**18.29**	**329**	P	**P**	**01 05 56.5**	**+0.6**
NNA	**Nana**	**18.29**	**329**	*ce*P	**Pn**	**01 05 57.0**	**-0.5**
NNA				pmax	pmax			
	comp=Z,220nm,1.7s							
PET01	**Itanhaem-SP**	**18.47**	**83**	*e*P	**P**	**01 05 57.3**	**-0.5**
BB19B	**Bebedouro**	**18.54**	**72**	*e*P	**P**	**01 05 58.0**	**-0.7**
RCLB	**Rio Claro- Sao**	**18.85**	**77**	*e*P	**P**	**01 06 01.5**	**-0.5**
ARAG	**Araguaiana, MT**	**18.99**	**53**	*e*P	**P**	**01 06 02.5**	**-1.1**
VAO	**Valinhos**	**19.13**	**79**	*e*P	**P**	**01 06 04.6**	**-0.5**
PDRB	**Porto dos Gac**	**19.21**	**34**	*e*P	**P**	**01 06 03.6**	**-2.3**
PARB	**Paraibuna**	**20.20**	**81**	*e*P	**P**	**01 06 14.3**	**-2.3**
CLDB	**Colider**	**20.31**	**35**	*e*P	**P**	**01 06 14.5**	**-3.3**
IPMB	**Ipameri, GO**	**20.31**	**64**	*e*P	**P**	**01 06 16.1**	**-1.7**
CZSB	**Cruzeiro do Su**	**20.86**	**345**	P	**P**	**01 06 24.0**	**+0.3**
CZSB				IAmb	IAmb	01 06 27.6	
	comp=Z,1μm,1.0s							
CZSB	**Cruzeiro do Su**	**20.86**	**345**	*e*P	**P**	**01 06 24.4**	**+0.8**

JTS **Las Juntas de** **41.76 334** *d i* P **P** **01 09 29.8 +1.5**
JTS pmax pmax
comp=Z,151nm,1.7s
JTS **Las Juntas de** **41.76 334** P **P** **01 09 30.5 +2.1**
DUNO **Dulce Nombre,** **41.78 333** IAmb IAmb 01 09 31.8
comp=Z,161nm,1.4s
ORTG **Ortega, Santa** **42.02 333** IAmb IAmb 01 09 34.1
comp=Z,236nm,1.4s
H05S1 **Guadeloupe/Mar** **42.74 9** P **P** **01 09 34.8 -1.4**
SNR=8.8
MPOM **Morne Pois Mar** **42.76 9** *e* P **P** **01 09 36.3 -0.1**
MPOM **Morne Pois Mar** **42.76 9** *e* P 01 09 44.1 +7.7
FDF **Fort de France** **43.00 9** P **P** **01 09 37.1 -1.3**
FDF PcP **PcP** **01 11 26.5 +0.2**
SVN **Savane Anatole** **43.11 9** P **P** **01 09 38.0 -1.3**
PRVC **Isla de Provid** **43.38 340** P **P** **01 09 41.7 +0.4**
DSLB **Salisbury** **43.66 8** *e* P **P** **01 09 42.4 -1.2**
MAGL **Barre de l'ile** **44.18 8** *e* P **P** **01 09 46.3 -1.5**
MAGL **Barre de l'ile** **44.18 8** *e* P 01 09 55.9 +8.1
GDSD **La Dsirade Is** **44.57 9** IAmb IAmb 01 09 50.0
comp=Z,119nm,1.0s
H05N1 **Guadeloupe/Mar** **44.57 9** P **P** **01 09 48.5 -2.3**
SNR=11
ABD **La Joyeuse, An** **44.67 8** *e* P **P** **01 09 49.8 -1.8**
MLPR **Magueyes Islan** **45.79 1** P **P** **01 09 59.2 -1.2**
MLPR IAmb IAmb 01 10 00.5
comp=Z,183nm,1.2s
ANWB **Willy Bob** **45.81 8** P **P** **01 09 58.5 -2.1**
ANWB **Willy Bob** **45.81 8** *e* P **P** **01 09 58.5 -2.1**
ANWB **Willy Bob** **45.81 8** *e* P 01 10 08.0 +7.4
CRPR **Cabo Rojo, PR** **45.83 0** IAmb IAmb 01 10 00.1
comp=Z,153nm,1.1s
CELP **Cerrillos** **45.90 1** IAmb IAmb 01 10 01.3
comp=Z,114nm,0.8s
SJG **San Juan** **45.95 2** P **P** **01 09 60.0 -1.7**
SJG IAmb IAmb 01 10 00.7
comp=Z,96nm,1.1s
SJG **San Juan** **45.95 2** P **P** **01 10 00.0 -1.7**
SJG pmax pmax
comp=Z,96nm,1.1s
SJG **San Juan** **45.95 2** P **P** **01 09 59.6 -2.0**
SMRT **St. Maarten** **46.06 6** IAmb IAmb 01 10 00.9
comp=Z,167nm,1.1s
CBYP **Canovanas** **46.11 2** IAmb IAmb 01 10 02.1
comp=Z,138nm,1.2s
SNET **Serv Nac Est T** **46.60 330** P **P** **01 10 07.8 +0.9**
SNET IAmb IAmb 01 10 09.8
comp=Z,248nm,1.2s
H09W1 **TRISTAN DA CUN** **46.71 116** P **P** **01 10 06.3 -1.2**
SDDR **Presa de Saban** **46.95 355** P **P** **01 10 09.4 -0.1**
MTO3 **Montecristo** **47.28 330** IAmb IAmb 01 10 14.7
comp=Z,156nm,1.0s
GTBY **Guantanamo Bay** **48.31 350** P **P** **01 10 20.1 +0.2**
CCIG **Comitan** **50.19 328** P **P** **01 10 35.1 +0.6**
CCIG IAmb IAmb 01 10 36.4
comp=Z,99nm,1.1s
TEIG **Tepich** **52.10 335** P **P** **01 10 48.2 -0.3**
TEIG **Tepich** **52.10 335** P **P** **01 10 48.1 -0.4**
CMIG **Matias Romero** **52.20 326** LR LR 01 30 59.0
comp=Z,40nm,18.4s,baz=168,slow=33
VNA3 **Neumayer Olymp** **53.44 160** P **P** **01 10 58.0 +0.2**
VNA3 ScS **ScP** **01 15 47.5 -0.4**
VNA1 **Neumayer--Stat** **53.66 159** P **P** **01 11 00.0 +0.7**
VNA2 **Neumayer--Watz** **54.02 159** P **P** **01 11 02.3 +0.3**
baz=296,slow=8.0
VNA2 ScS **ScP** **01 15 49.4 -1.0**
TLIG **Tlapa** **54.49 323** P **P** **01 11 07.3 +1.2**
TLIG IAmb IAmb 01 11 09.4
comp=Z,78nm,1.0s
061Z **Ochoppi** **55.19 345** P **P** **01 11 11.8 +0.9**
baz=165
SNAA **Sanae** **55.64 160** P **P** **01 11 13.8 +0.1**
SNAA **Sanae** **55.64 160** P **P** **01 11 13.8 +0.1**
SNAA **Sanae** **55.64 160** ⇑ *i* P **P** **01 11 13.6 -0.2**
SNAA **Sanae** **55.64 160** *ce* P **P** **01 11 13.6 -0.2**
SNAA pmax pmax
comp=Z,29nm,1.3s
060A **Indiantown** **56.20 346** P **P** **01 11 18.9 +0.8**
baz=166
TROLL **Troll, Antarti** **57.36 160** P **P** **01 11 26.3 +0.3**
TROLL ScS **ScP** **01 16 05.4 +0.1**
DWPF **Disney Wildern** **57.47 345** P **P** **01 11 27.8 +0.8**
DWPF **Disney Wildern** **57.47 345** P **P** **01 11 27.5 +0.4**
baz=165,SNR=6.4
DWPF **Disney Wildern** **57.47 345** P **P** **01 11 27.4 +0.4**
baz=165
DWPF **Disney Wildern** **57.47 345** P **P** **01 11 27.2 +0.2**
656A **Willston** **58.94 345** P **P** **01 11 37.5 +0.3**
baz=164,SNR=12
456A **Hilliard** **60.12 346** P **P** **01 11 45.9 +0.6**
baz=165,SNR=5.4
BBSR **BB Station** **60.19 3** P **P** **01 11 44.8 -0.9**
BBSR IAmb IAmb 01 11 47.1
comp=Z,98nm,1.1s
BBSR **BB Station** **60.19 3** P **P** **01 11 46.3 +0.6**
baz=183,SNR=5.2
BBSR **BB Station** **60.19 3** P **P** **01 11 46.1 +0.4**
NVL **N'lazarevskaya** **60.23 158** *e* P **P** **01 11 45.0 -0.6**
NVL *e* *PP **pP** **01 12 18.5 -0.8**
NVL *eS **S** **01 19 47.5 -0.8**
NVL pmax pmax
comp=Z,29nm,0.7s
ZAIG **Zacatecas** **60.89 323** IAmb IAmb 01 11 54.6
comp=Z,81nm,1.1s
451A **Vernon** **60.94 342** P **P** **01 11 51.3 +0.4**
baz=162,SNR=13
TIGA **Tifton** **61.17 344** IAmb IAmb 01 11 53.5
comp=Z,131nm,1.1s
TIGA **Tifton** **61.17 344** P **P** **01 11 52.5 +0.1**
baz=164,SNR=9.3
TIGA **Tifton** **61.17 344** P **P** **01 11 52.3 -0.1**
baz=164,SNR=9.3
255A **Hazlehurst** **61.38 345** P **P** **01 11 53.9 +0.1**
baz=165
352A **Blakely** **61.54 343** P **P** **01 11 54.9 0.0**
baz=162,SNR=36
BRAL **Brewton** **61.83 341** P **P** **01 11 57.0 +0.2**
baz=160,SNR=20
BRAL **Brewton** **61.83 341** P **P** **01 11 57.0 +0.2**
baz=160,SNR=20
NHSC **New Hope** **62.06 348** P **P** **01 11 59.2 +1.0**
NHSC **New Hope** **62.06 348** P **P** **01 11 59.1 +0.8**
baz=167,SNR=14
NHSC **New Hope** **62.06 348** P **P** **01 11 59.3 +1.0**
baz=167,SNR=14
QSPA **South Pole Qui** **62.13 180** P **P** **01 11 59.5 +0.8**
QSPA **South Pole Qui** **62.13 180** P **P** **01 11 59.4 +0.8**
QSPA pP **pP** **01 12 33.2 +1.0**
QSPA sP **sP** **01 12 48.5 +1.0**
154A **Montrose** **62.18 345** P **P** **01 11 59.3 +0.1**
baz=164,SNR=21
250A **Grady** **62.37 342** P **P** **01 12 00.3 -0.1**
baz=161,SNR=28
KVTX **Kingsville** **62.57 330** P **P** **01 12 03.8 +2.0**
baz=150,SNR=6.7
HAW **Hawthorne Fire** **62.58 347** P **P** **01 12 02.1 +0.3**
baz=166,SNR=28
Y60A **Bolivia** **62.60 350** P **P** **01 12 01.8 -0.1**
baz=169,SNR=6.6
Y60A P **P** **01 12 01.8 -0.1**
baz=169,SNR=6.6
152A **Waverly Hall** **62.62 344** IAmb IAmb 01 12 02.3
comp=Z,57nm,0.8s
152A **Waverly Hall** **62.62 344** P **P** **01 12 01.8 -0.3**
baz=163,SNR=21
Y59A **Loris** **62.69 349** IAmb IAmb 01 12 03.9
comp=Z,112nm,1.0s
Y58A **Scranton** **62.74 349** P **P** **01 12 03.3 +0.5**
baz=168,SNR=11
Y58A P **P** **01 12 03.3 +0.5**
baz=168,SNR=11
346A **Big Creek Wild** **62.77 339** P **P** **01 12 03.5 +0.4**
baz=158,SNR=9.2
Y57A **Sumter** **62.98 348** P **P** **01 12 05.0 +0.6**
baz=167,SNR=16
Y57A P **P** **01 12 05.0 +0.6**
baz=167,SNR=16
GOGA **Godfrey** **63.03 345** IAmb IAmb 01 12 05.6
comp=Z,76nm,0.9s
GOGA **Godfrey** **63.03 345** P **P** **01 12 04.6 -0.2**
baz=164,SNR=20
GOGA **Godfrey** **63.03 345** P **P** **01 12 04.6 -0.2**
baz=164,SNR=20
344A **Westbrook Farm** **63.24 338** P **P** **01 12 06.9 +0.7**
344A IAmb IAmb 01 12 08.2
comp=Z,134nm,1.1s
baz=170,SNR=12
T60A **Surry** **65.47 352** P **P** **01 12 21.3 +0.7**
baz=171,SNR=9.0
T60A P **P** **01 12 21.3 +0.7**
baz=171,SNR=9.0
V51A **Loudon** **65.53 345** IAmb IAmb 01 12 21.8
comp=Z,97nm,0.9s
V51A **Loudon** **65.53 345** P **P** **01 12 20.7 -0.3**
baz=164,SNR=24
237A **Washetta, Mont** **65.58 334** P **P** **01 12 22.8 +1.4**
baz=153,SNR=15
OXF **Oxford** **65.65 340** P **P** **01 12 21.2 -0.6**
baz=159
OXF **Oxford** **65.65 340** P **P** **01 12 21.4 -0.4**
baz=159
U54A **Nelsons Funny** **65.68 347** P **P** **01 12 22.3 +0.2**
baz=166,SNR=30
U54A P **P** **01 12 22.3 +0.2**
baz=166,SNR=30
T57A **Hurt** **65.69 350** IAmb IAmb 01 12 23.8
comp=Z,92nm,1.1s
T57A **Hurt** **65.69 350** P **P** **01 12 22.7 +0.7**
baz=168,SNR=14
T57A P **P** **01 12 22.7 +0.7**
baz=168,SNR=14
PLAL **Pickwick Lake** **65.70 341** IAmb IAmb 01 12 22.7
comp=Z,90nm,0.9s
SLBS **Sierra La Lagu** **65.81 317** P **P** **01 12 24.5 +1.3**
SLBS IAmb IAmb 01 12 26.4
comp=Z,198nm,1.8s
SLBS **Sierra La Lagu** **65.81 317** P **P** **01 12 25.2 +2.0**
SLBS pP **pP** **01 13 01.2 +3.9**
CCAR **Cane Creek** **65.85 338** P **P** **01 12 23.8 +0.7**
baz=156,SNR=21
HPIG **65.89 323** P **P** **01 12 24.3 +0.5**
HPIG IAmb IAmb 01 12 26.6
comp=Z,114nm,1.4s
JCT **Junction City** **65.94 330** IAmb IAmb 01 12 25.8
comp=Z,115nm,0.9s
JCT **Junction City** **65.94 330** P **P** **01 12 24.8 +1.0**
baz=149,SNR=50
JCT **Junction City** **65.94 330** P **P** **01 12 24.8 +1.0**
baz=149,SNR=50
TZTN **Tazewell** **66.06 346** IAmb IAmb 01 12 25.2
comp=Z,193nm,1.5s
TZTN **Tazewell** **66.06 346** P **P** **01 12 24.1 -0.3**
baz=164,SNR=13
TZTN **Tazewell** **66.06 346** P **P** **01 12 24.0 -0.5**
baz=164,SNR=13
V48A **Smith Brothers** **66.07 343** P **P** **01 12 24.6 0.0**
baz=161,SNR=113
BLA **Blacksburg** **66.10 349** IAmb IAmb 01 12 27.6
comp=Z,91nm,1.1s
BLA **Blacksburg** **66.10 349** P **P** **01 12 25.5 +0.8**
baz=167,SNR=11
BLA **Blacksburg** **66.10 349** P **P** **01 12 25.2 +0.5**
baz=167,SNR=11
W45A **Hickory Valley** **66.18 341** P **P** **01 12 25.0 -0.2**
baz=159,SNR=44
WHTX **Lake Whitney,** **66.24 332** P **P** **01 12 26.4 +0.7**
WHTX IAmb IAmb 01 12 27.4
comp=Z,182nm,1.4s
WHTX **Lake Whitney,** **66.24 332** P **P** **01 12 26.4 +0.7**
baz=151,SNR=22
WHTX **Lake Whitney,** **66.24 332** P **P** **01 12 26.2 +0.5**
baz=151,SNR=22
Z38A **Mt. Pleasant** **66.39 335** IAmb IAmb 01 12 28.8
comp=Z,148nm,1.5s
Z38A **Mt. Pleasant** **66.39 335** P **P** **01 12 27.7 +1.2**
baz=154,SNR=9.1
S57A **Dark Hollow, R** **66.39 350** IAmb IAmb 01 12 28.5
comp=Z,209nm,1.4s
S57A **Dark Hollow, R** **66.39 350** P **P** **01 12 27.4 +0.9**
baz=169,SNR=21
S57A P **P** **01 12 27.4 +0.9**
baz=169,SNR=21
R58B **Mineral** **66.44 351** IAmb IAmb 01 12 28.9
comp=Z,143nm,1.2s
R58B **Mineral** **66.44 351** P **P** **01 12 27.8 +1.0**
baz=170,SNR=21
R58B P **P** **01 12 27.8 +1.0**
baz=170,SNR=21
U49A **Red Boiling Sp** **66.54 344** IAmb IAmb 01 12 27.7
comp=Z,72nm,0.8s
U49A **Red Boiling Sp** **66.54 344** P **P** **01 12 27.2 -0.3**
baz=162,SNR=48
CBN **Corbin Frederi** **66.61 351** IAmb IAmb 01 12 29.9
comp=Z,183nm,1.5s
CBN **Corbin Frederi** **66.61 351** P **P** **01 12 28.4 +0.6**
baz=170,SNR=5.2
CBN **Corbin Frederi** **66.61 351** P **P** **01 12 28.6 +0.8**
baz=170,SNR=5.2
WVT **Waverly** **66.71 342** P **P** **01 12 28.3 -0.3**
WVT **Waverly** **66.71 342** P **P** **01 12 28.3 -0.3**
baz=160,SNR=220
WVT **Waverly** **66.71 342** P **P** **01 12 28.3 -0.3**
baz=160
WVT **Waverly** **66.71 342** P **P** **01 12 28.3 -0.3**
WVT pmax pmax
comp=Z,365nm,0.8s
WVT **Waverly** **66.71 342** P **P** **01 12 28.3 -0.3**
WVT pP **pP** **01 13 03.3 +0.8**
T50A **Nancy** **66.80 345** IAmb IAmb 01 12 29.8
comp=Z,83nm,1.1s
T50A **Nancy** **66.80 345** P **P** **01 12 28.7 -0.4**
baz=163
T50A P **P** **01 12 28.7 -0.4**
baz=163
TX31 **Lajitas Ar. Si** **66.81 326** IAmb IAmb 01 12 31.8
comp=Z,244nm,1.6s
TX31 **Lajitas Ar. Si** **66.81 326** P **P** **01 12 30.4 +1.0**
baz=145,SNR=52
TXAR **Lajitas Array** **66.81 326** P **P** **01 12 30.2 +0.7**
comp=Z,20nm,0.9s,baz=149,slow=8.4,SNR=148
comp=Z,20nm,0.9s
TXAR **Lajitas Array** **66.81 326** P **P** **01 12 30.4 +1.0**
TXAR **Lajitas Array** **66.81 326** P **P** **01 12 30.4 +1.0**
UALR **University of** **66.82 338** IAmb IAmb 01 12 30.6
comp=Z,116nm,0.9s
S54A **Dingess, Beckl** **66.83 348** IAmb IAmb 01 12 30.6
comp=Z,160nm,1.1s
S54A **Dingess, Beckl** **66.83 348** P **P** **01 12 29.6 +0.3**
baz=167,SNR=23
S54A P **P** **01 12 29.6 +0.3**
baz=167,SNR=23
HBAR **Harrisburg** **67.00 340** IAmb IAmb 01 12 31.6
comp=Z,131nm,1.2s
MIAR **Mount Ida** **67.03 337** IAmb IAmb 01 12 32.3
comp=Z,108nm,1.0s
MIAR **Mount Ida** **67.03 337** P **P** **01 12 31.1 +0.5**
baz=155,SNR=54
MIAR **Mount Ida** **67.03 337** P **P** **01 12 31.0 +0.4**
baz=155,SNR=54
R55A **Marlinton** **67.09 349** P **P** **01 12 32.2 +1.3**
baz=168,SNR=33
R55A P **P** **01 12 32.2 +1.3**
baz=168,SNR=33
S51A **Beattyville** **67.12 346** IAmb IAmb 01 12 32.0
comp=Z,108nm,1.1s
S51A **Beattyville** **67.12 346** P **P** **01 12 31.0 -0.1**
baz=164,SNR=22
S51A P **P** **01 12 31.0 -0.1**
baz=164,SNR=22
GNAR **Gosnell** **67.18 340** P **P** **01 12 32.3 +0.8**
WHAR **Wooly Hollow** **67.27 338** IAmb IAmb 01 12 33.6
comp=Z,132nm,1.1s
Z35A **Perchaven, San** **67.33 333** P **P** **01 12 33.3 +0.8**
baz=152,SNR=15
T47A **Sharon Grove** **67.33 343** P **P** **01 12 32.1 -0.4**
baz=161,SNR=60
R53A **Hurricane** **67.46 348** IAmb IAmb 01 12 34.4
comp=Z,88nm,1.1s
R53A **Hurricane** **67.46 348** P **P** **01 12 33.4 +0.1**
baz=166,SNR=10
R53A P **P** **01 12 33.4 +0.1**
baz=166,SNR=10
LCAR **Lake Charles** **67.62 339** P **P** **01 12 34.3 0.0**
LCAR **Lake Charles** **67.62 339** P **P** **01 12 34.5 +0.2**
baz=157,SNR=88
ABTX **Abilene, Hawle** **67.70 331** IAmb IAmb 01 12 36.8
comp=Z,179nm,1.2s
ABTX **Abilene, Hawle** **67.70 331** P **P** **01 12 35.6 +0.6**
baz=149,SNR=68
ABTX **Abilene, Hawle** **67.70 331** P **P** **01 12 35.6 +0.6**
baz=149,SNR=68
X37A **Clayton** **67.72 335** P **P** **01 12 35.7 +0.8**
baz=153,SNR=47
SDMD **Soldier's Deli** **67.73 352** P **P** **01 12 35.8 +0.9**
344A **Westbrook Farm** **63.24 338** P **P** **01 12 07.0 +0.7**
baz=157,SNR=21
X58A **Rowland** **63.32 349** P **P** **01 12 07.4 +0.8**
baz=168,SNR=30
X58A P **P** **01 12 07.4 +0.8**
baz=168,SNR=30
JSC **Jenkinsville** **63.40 347** IAmb IAmb 01 12 08.6
comp=Z,121nm,1.0s
JSC **Jenkinsville** **63.40 347** P **P** **01 12 07.6 +0.4**
baz=166,SNR=22
441A **DeRidder** **63.47 335** IAmb IAmb 01 12 10.6
comp=Z,131nm,1.0s
441A **DeRidder** **63.47 335** P **P** **01 12 09.6 +1.8**
baz=155,SNR=8.8
HODGE **Hodges** **63.56 346** IAmb IAmb 01 12 09.5
comp=Z,62nm,0.9s
HODGE **Hodges** **63.56 346** P **P** **01 12 08.5 +0.3**
baz=165,SNR=14
LRAL **Lakeview Retre** **63.57 342** P **P** **01 12 08.0 -0.4**
LRAL IAmb IAmb 01 12 09.2
comp=Z,103nm,1.2s
LRAL **Lakeview Retre** **63.57 342** P **P** **01 12 08.1 -0.2**
baz=161,SNR=28
LRAL **Lakeview Retre** **63.57 342** P **P** **01 12 08.1 -0.2**
baz=161,SNR=28
BIRD **Birdtown, Kers** **63.60 348** P **P** **01 12 09.2 +0.7**
baz=167,SNR=23
Y52A **Lilburn** **63.60 345** IAmb IAmb 01 12 09.5
comp=Z,114nm,0.9s
Y52A **Lilburn** **63.60 345** P **P** **01 12 08.6 0.0**
baz=164,SNR=29
Y52A P **P** **01 12 08.6 0.0**
baz=164,SNR=29
735A **Kenedy** **63.66 330** P **P** **01 12 10.7 +1.6**
baz=150,SNR=12
342B **Flagon Creek P** **63.72 336** P **P** **01 12 11.0 +1.6**
baz=156,SNR=31
CNNC **Cliffs of the** **63.76 350** IAmb IAmb 01 12 11.1
comp=Z,176nm,1.3s
CNNC **Cliffs of the** **63.76 350** P **P** **01 12 09.9 +0.4**
baz=170,SNR=5.9
CNNC **Cliffs of the** **63.76 350** P **P** **01 12 09.9 +0.4**
baz=170,SNR=5.9
HKT **Hockley** **63.78 333** P **P** **01 12 10.7 +1.0**
HKT IAmb IAmb 01 12 12.1
comp=Z,86nm,1.4s
HKT **Hockley** **63.78 333** P **P** **01 12 10.8 +1.0**
baz=152
HKT **Hockley** **63.78 333** *d i* P **P** **01 12 10.4 +0.7**
HKT pmax pmax
comp=Z,99nm,1.7s
HKT **Hockley** **63.78 333** P **P** **01 12 10.6 +0.9**
HKT pP **PcP** **01 12 47.0 +2.5**
146A **Union** **63.80 340** P **P** **01 12 10.3 +0.5**
baz=159,SNR=15
VBMS **Vicksburg** **63.88 338** P **P** **01 12 10.9 +0.5**
baz=157,SNR=5.9
VBMS **Vicksburg** **63.88 338** P **P** **01 12 10.8 +0.5**
baz=157,SNR=5.9
833A **Chaparral WMA,** **63.92 329** P **P** **01 12 12.1 +1.3**
baz=149,SNR=64
833A **Chaparral WMA,** **63.92 329** P **P** **01 12 12.1 +1.3**
baz=149,SNR=64
W57A **Gilead** **64.02 349** P **P** **01 12 11.8 +0.6**
baz=168,SNR=20
W57A P **P** **01 12 11.8 +0.6**
baz=168,SNR=20
Z47A **Carrollton** **64.03 341** IAmb IAmb 01 12 12.2
comp=Z,155nm,1.1s
Z47A **Carrollton** **64.03 341** P **P** **01 12 11.1 -0.3**
baz=160,SNR=25
PAULI **Pauline** **64.04 347** IAmb IAmb 01 12 12.8
comp=Z,169nm,1.2s
PAULI **Pauline** **64.04 347** P **P** **01 12 11.6 +0.3**
baz=166,SNR=23
V61A **Roper** **64.12 352** P **P** **01 12 12.6 +0.7**
baz=171
V61A P **P** **01 12 12.6 +0.7**
baz=171
Y49A **Blount Mountai** **64.19 342** IAmb IAmb 01 12 13.2
comp=Z,104nm,0.9s
Y49A **Blount Mountai** **64.19 342** P **P** **01 12 12.2 -0.2**
baz=161,SNR=29
KMSC **Kings Mountain** **64.25 347** P **P** **01 12 13.1 +0.3**
KMSC IAmb IAmb 01 12 14.2
comp=Z,126nm,1.0s
KMSC **Kings Mountain** **64.25 347** P **P** **01 12 13.0 +0.3**
baz=166,SNR=22
KMSC **Kings Mountain** **64.25 347** P **P** **01 12 13.0 +0.3**
baz=166,SNR=22
BG3 **Lake Jocassee** **64.43 346** IAmb IAmb 01 12 15.3
comp=Z,207nm,1.4s
CASEE **Lake Jocassee** **64.43 346** P **P** **01 12 14.1 +0.1**
baz=165,SNR=23
X51A **Calhoun** **64.47 344** P **P** **01 12 14.4 +0.3**
baz=163,SNR=60
X51A P **P** **01 12 14.4 +0.3**
baz=163,SNR=60
V58A **Windy Hill, Pi** **64.49 349** IAmb IAmb 01 12 15.8
comp=Z,129nm,1.1s
V58A **Windy Hill, Pi** **64.49 349** P **P** **01 12 14.8 +0.5**
baz=168,SNR=18
V58A P **P** **01 12 14.8 +0.5**
baz=168,SNR=18
143A **Socs Landing,** **64.61 338** P **P** **01 12 16.1 +0.9**
baz=157,SNR=41
FPAL **Fort Paine** **64.63 343** P **P** **01 12 15.1 -0.2**
FPAL IAmb IAmb 01 12 16.1
comp=Z,107nm,0.8s
W52A **Murphy** **64.75 345** IAmb IAmb 01 12 17.2
comp=Z,148nm,1.1s
W52A **Murphy** **64.75 345** P **P** **01 12 16.2 +0.2**
baz=164,SNR=29
U59A **Littleton** **64.84 351** IAmb IAmb 01 12 18.2
comp=Z,87nm,1.1s
U59A **Littleton** **64.84 351** P **P** **01 12 17.2 +0.7**
baz=170,SNR=16
U59A P **P** **01 12 17.2 +0.7**
baz=170,SNR=16
V55A **Taylorsville** **64.92 348** P **P** **01 12 17.5 +0.4**
baz=166,SNR=33
V55A P **P** **01 12 17.5 +0.4**
baz=166,SNR=33
X48A **Hartselle** **64.92 342** P **P** **01 12 17.2 +0.2**
baz=161,SNR=74
NATX **Nacogdoches** **64.93 335** P **P** **01 12 18.6 +1.4**
baz=154,SNR=24
NATX **Nacogdoches** **64.93 335** P **P** **01 12 18.6 +1.4**
baz=154,SNR=24
V53A **Saluda** **65.06 346** IAmb IAmb 01 12 19.2
comp=Z,138nm,1.1s
V53A **Saluda** **65.06 346** P **P** **01 12 18.0 -0.1**
baz=165,SNR=31
V53A P **P** **01 12 18.0 -0.1**
baz=165,SNR=31
BBTS **Babate** **65.06 56** LR LR 01 39 31.0
comp=Z,136nm,21.1s,baz=238,slow=35
Y45A **Yeager Farm, C** **65.09 340** P **P** **01 12 18.8 +0.6**
baz=158,SNR=32
W50A **Signal Mountai** **65.18 344** P **P** **01 12 19.1 +0.2**
baz=163,SNR=54
CPCT **Cooper Cave** **65.23 345** IAmb IAmb 01 12 20.1
comp=Z,133nm,0.9s
435B **Jarrell** **65.24 332** IAmb IAmb 01 12 21.1
comp=Z,52nm,0.9s
435B **Jarrell** **65.24 332** P **P** **01 12 20.2 +0.9**
baz=151,SNR=9.1
435B **Jarrell** **65.24 332** P **P** **01 12 20.0 +0.7**
baz=151
U56A **King** **65.25 348** P **P** **01 12 20.1 +0.9**
baz=167,SNR=20
U56A P **P** **01 12 20.1 +0.9**
baz=167,SNR=20
TKL **Tuckaleechee C** **65.26 345** P **P** **01 12 18.9 -0.4**
TKL **Tuckaleechee C** **65.26 345** P **P** **01 12 19.1 -0.2**
baz=164,SNR=28
TKL **Tuckaleechee C** **65.26 345** P **P** **01 12 18.9 -0.4**
TKL pmax pmax
comp=Z,181nm,1.1s
V52A **Sevierville** **65.39 346** IAmb IAmb 01 12 20.9
comp=Z,142nm,0.9s
V52A **Sevierville** **65.39 346** P **P** **01 12 19.9 -0.2**
baz=164,SNR=32
T59A **Double "B" Far** **65.42 351** IAmb IAmb 01 12 22.0
comp=Z,77nm,1.1s
T59A **Double "B" Far** **65.42 351** P **P** **01 12 20.7 +0.4**
baz=170,SNR=12
T59A P **P** **01 12 20.7 +0.4**

	baz=171,SNR=13						
T45B	**Paducah**	**67.77**	**342**	P	**P**	**01 12 34.9**	**-0.2**
	baz=160,SNR=9.8						
LOOK	**Love County**	**67.88**	**334**	IAmb	IAmb	01 12 37.8	
	comp=Z,268nm,1.2s						
Q54A	**Coxs Mills**	**67.89**	**349**	IAmb	IAmb	01 12 37.1	
	comp=Z,89nm,1.1s						
Q54A	**Coxs Mills**	**67.89**	**349**	P	**P**	**01 12 36.1**	**+0.2**
	baz=167,SNR=13						
Q54A				P	**P**	**01 12 36.1**	**+0.2**
	baz=167,SNR=13						
R50A	**Paris**	**67.90**	**346**	IAmb	IAmb	01 12 36.8	
	comp=Z,69nm,0.9s						
R50A	**Paris**	**67.90**	**346**	P	**P**	**01 12 35.8**	**-0.2**
	baz=164,SNR=20						
R50A				P	**P**	**01 12 35.8**	**-0.2**
	baz=164,SNR=20						
P57A	**Homestead Farm**	**67.95**	**351**	IAmb	IAmb	01 12 38.8	
	comp=Z,189nm,1.1s						
P57A	**Homestead Farm**	**67.95**	**351**	P	**P**	**01 12 37.5**	**+1.2**
	baz=170,SNR=30						
P57A				P	**P**	**01 12 37.5**	**+1.2**
	baz=170,SNR=30						
GEDE	**Greenville**	**67.99**	**353**	P	**P**	**01 12 37.2**	**+0.7**
	baz=172,SNR=11						
PBMO	**Poplar Bluff**	**68.06**	**340**	P	**P**	**01 12 37.2**	**+0.2**
	baz=158,SNR=11						
PSUB	**Penn St. - Bra**	**68.08**	**353**	P	**P**	**01 12 37.6**	**+0.5**
	baz=172						
R49A	**Shelbyville**	**68.09**	**345**	IAmb	IAmb	01 12 37.8	
	comp=Z,75nm,0.9s						
R49A	**Shelbyville**	**68.09**	**345**	P	**P**	**01 12 36.9**	**-0.3**
	baz=163						
R49A				P	**P**	**01 12 36.9**	**-0.3**
	baz=163						
WUPA	**West Chester U**	**68.10**	**353**	P	**P**	**01 12 38.2**	**+1.0**
WUPA				IAmb	IAmb	01 12 39.4	
	comp=Z,62nm,1.1s						
Q52A	**Bidwell**	**68.13**	**348**	IAmb	IAmb	01 12 38.5	
	comp=Z,136nm,1.1s						
Q52A	**Bidwell**	**68.13**	**348**	P	**P**	**01 12 37.5**	**+0.1**
	baz=166,SNR=12						
Q52A				P	**P**	**01 12 37.5**	**+0.1**
	baz=166,SNR=12						
MVL	**Millersville**	**68.25**	**353**	IAmb	IAmb	01 12 40.4	
	comp=Z,150nm,1.2s						
TUPA	**Temple Univers**	**68.29**	**354**	P	**P**	**01 12 39.3**	**+0.9**
	baz=173,SNR=22						
WCI	**Wyandotte Cave**	**68.30**	**344**	P	**P**	**01 12 37.7**	**-0.7**
WCI				IAmb	IAmb	01 12 38.9	
	comp=Z,101nm,0.8s						
WCI	**Wyandotte Cave**	**68.30**	**344**	P	**P**	**01 12 37.9**	**-0.6**
	baz=162,SNR=32						
WCI	**Wyandotte Cave**	**68.30**	**344**	P	**P**	**01 12 37.9**	**-0.6**
	baz=162						
WCI	**Wyandotte Cave**	**68.30**	**344**	P	**P**	**01 12 37.7**	**-0.7**
WCI				pmax	pmax		
	comp=Z,101nm,0.9s						
WCI	**Wyandotte Cave**	**68.30**	**344**	P	**P**	**01 12 37.8**	**-0.7**
CGM3	**Cape Girardeau**	**68.31**	**341**	IAmb	IAmb	01 12 39.6	
	comp=Z,427nm,1.8s						
MCWV	**Mont Chateau**	**68.39**	**350**	P	**P**	**01 12 39.8**	**+0.8**
	baz=168,SNR=15						
MCWV	**Mont Chateau**	**68.39**	**350**	P	**P**	**01 12 40.1**	**+1.1**
	baz=168,SNR=15						
USIN	**University of**	**68.39**	**343**	IAmb	IAmb	01 12 39.4	
	comp=Z,255nm,1.4s						
Q51A	**Peebles**	**68.41**	**347**	IAmb	IAmb	01 12 40.1	
	comp=Z,132nm,1.1s						
Q51A	**Peebles**	**68.41**	**347**	P	**P**	**01 12 39.1**	**-0.1**
	baz=165,SNR=26						
Q51A				P	**P**	**01 12 39.1**	**-0.1**
	baz=165,SNR=26						
PANJ	**Princeton**	**68.45**	**354**	P	**P**	**01 12 40.4**	**+1.0**
	baz=173,SNR=6.5						
P53A	**Whipple**	**68.48**	**348**	P	**P**	**01 12 39.9**	**+0.3**
	baz=167,SNR=26						
P53A				P	**P**	**01 12 39.9**	**+0.3**
	baz=167,SNR=26						
S44A	**Carbondale**	**68.57**	**342**	P	**P**	**01 12 40.0**	**-0.1**
	baz=159,SNR=32						
X34A	**Smith Ranch, M**	**68.67**	**333**		**P**	**01 12 41.7**	**+0.8**
HHAR	**Hobbs**	**68.73**	**337**	P	**P**	**01 12 41.7**	**+0.5**
	baz=155						
LUPA	**Lehigh Univers**	**68.74**	**354**	IAmb	IAmb	01 12 43.4	
	comp=Z,102nm,1.2s						
P52A	**Corning**	**68.76**	**348**	IAmb	IAmb	01 12 42.3	
	comp=Z,174nm,1.1s						
P52A	**Corning**	**68.76**	**348**	P	**P**	**01 12 41.2**	**-0.1**
	baz=166,SNR=22						
P51A	**Williamsport**	**68.79**	**347**	IAmb	IAmb	01 12 42.4	
	comp=Z,133nm,1.1s						
P51A	**Williamsport**	**68.79**	**347**	P	**P**	**01 12 41.3**	**-0.2**
	baz=165,SNR=23						
P51A				P	**P**	**01 12 41.3**	**-0.2**
	baz=165,SNR=23						
RLO	**Rose Lookout**	**69.00**	**336**	IAmb	IAmb	01 12 44.0	
	comp=Z,112nm,0.7s						
PAL	**Palisades**	**69.01**	**355**	P	**P**	**01 12 43.5**	**+0.7**
	baz=174						
U38A	**Gravette**	**69.02**	**337**	IAmb	IAmb	01 12 44.0	
	comp=Z,77nm,0.8s						
U38A	**Gravette**	**69.02**	**337**	P	**P**	**01 12 43.5**	**+0.4**
	baz=155,SNR=52						
TUL1	**Leonard**	**69.05**	**336**	IAmb	IAmb	01 12 44.7	
	comp=Z,150nm,0.8s						
TUL1	**Leonard**	**69.05**	**336**	P	**P**	**01 12 43.5**	**+0.3**
	baz=153,SNR=55						
TUL1	**Leonard**	**69.05**	**336**	P	**P**	**01 12 43.5**	**+0.3**
	baz=153,SNR=55						
SSPA	**Standing Stone**	**69.06**	**351**	P	**P**	**01 12 43.9**	**+0.7**
SSPA	**Standing Stone**	**69.06**	**351**	P	**P**	**01 12 43.9**	**+0.7**
	baz=170,SNR=16						
SSPA	**Standing Stone**	**69.06**	**351**	P	**P**	**01 12 44.1**	**+0.9**
	baz=170						
SSPA	**Standing Stone**	**69.06**	**351**	P	**P**	**01 12 43.9**	**+0.7**
FNO	**Franklin**	**69.08**	**334**	IAmb	IAmb	01 12 44.7	
	comp=Z,218nm,1.2s						
LIC	**Lamto**	**69.11**	**71⇑**	*eP*	**P**	**01 12 43.2**	**-0.9**
	comp=Z,48nm,0.6s						
N58A	**Sunbury**	**69.12**	**352**	IAmb	IAmb	01 12 45.8	
	comp=Z,136nm,1.1s						
N58A	**Sunbury**	**69.12**	**352**	P	**P**	**01 12 44.7**	**+1.2**
	baz=171,SNR=21						
N58A				P	**P**	**01 12 44.7**	**+1.2**
	baz=171,SNR=21						
ODNJ	**Ogdensburg**	**69.15**	**354**	P	**P**	**01 12 44.7**	**+1.0**
	baz=173,SNR=12						
WMOK	**Wichita Mounta**	**69.17**	**333**		**P**	**01 12 44.0**	**0.0**
WMOK	**Wichita Mounta**	**69.17**	**333**	P	**P**	**01 12 44.0**	**0.0**
	baz=151,SNR=43						
WMOK	**Wichita Mounta**	**69.17**	**333**	P	**P**	**01 12 44.0**	**0.0**
	baz=151,SNR=43						
WMOK	**Wichita Mounta**	**69.17**	**333**	P	**P**	**01 12 44.0**	**0.0**
WMOK				pmax	pmax		
	comp=Z,82nm,1.3s						
O52A	**Adamsville**	**69.17**	**348**	IAmb	IAmb	01 12 45.0	
	comp=Z,120nm,1.1s						
O52A	**Adamsville**	**69.17**	**348**	P	**P**	**01 12 43.9**	**+0.1**
	baz=166,SNR=16						
O52A				P	**P**	**01 12 43.9**	**+0.1**
	baz=166,SNR=16						
FVM	**French Village**	**69.17**	**341**	P	**P**	**01 12 44.2**	**+0.2**
	baz=158,SNR=79						
P49A	**Miami Univ. Ec**	**69.18**	**346**	IAmb	IAmb	01 12 44.5	
	comp=Z,156nm,1.1s						
P49A	**Miami Univ. Ec**	**69.18**	**346**	P	**P**	**01 12 43.5**	**-0.4**
	baz=164,SNR=22						
P49A	**Miami Univ. Ec**	**69.18**	**346**	P	**P**	**01 12 43.4**	**-0.6**
	baz=164,SNR=22						
O53A	**New Philadelph**	**69.19**	**349**	IAmb	IAmb	01 12 45.4	
	comp=Z,136nm,1.3s						
O53A	**New Philadelph**	**69.19**	**349**	P	**P**	**01 12 44.2**	**+0.2**
	baz=167,SNR=13						
OLIL	**Olney**	**69.23**	**343**	IAmb	IAmb	01 12 44.6	
	comp=Z,261nm,1.4s						
OLIL	**Olney**	**69.23**	**343**	P	**P**	**01 12 43.6**	**-0.6**
	baz=160,SNR=20						
YLE	**Yale**	**69.25**	**356**	IAmb	IAmb	01 12 46.6	
	comp=Z,99nm,1.2s						
DEOK	**Depew**	**69.25**	**335**	IAmb	IAmb	01 12 45.8	
	comp=Z,590nm,1.3s						
BLO	**Bloomington**	**69.25**	**344**	IAmb	IAmb	01 12 44.8	
	comp=Z,87nm,0.7s						
P48A	**Milroy**	**69.27**	**345**	IAmb	IAmb	01 12 44.9	
	comp=Z,185nm,1.5s						
P48A	**Milroy**	**69.27**	**345**	P	**P**	**01 12 43.8**	**-0.7**
	baz=163,SNR=15						
P48A				P	**P**	**01 12 43.8**	**-0.7**
	baz=163,SNR=15						
TIC	**Toumodi**	**69.34**	**70⇓**	*eP*	**P**	**01 12 44.9**	**-0.7**
	comp=Z,23nm,0.5s						
KIC	**Kosan Boka**	**69.42**	**71⇑**	*eP*	**P**	**01 12 45.4**	**-0.6**
	comp=Z,58nm,0.4s						
CCM	**Cathedral Cave**	**69.48**	**340**	P	**P**	**01 12 46.1**	**+0.3**
CCM	**Cathedral Cave**	**69.48**	**340**	P	**P**	**01 12 46.2**	**+0.3**
	baz=159,SNR=159						
CCM	**Cathedral Cave**	**69.48**	**340**	P	**P**	**01 12 46.1**	**+0.3**
	baz=158						
CCM	**Cathedral Cave**	**69.48**	**340**	P	**P**	**01 12 46.1**	**+0.3**
CCM				pmax	pmax		
	comp=Z,297nm,0.8s						
CCM	**Cathedral Cave**	**69.48**	**340**	P	**P**	**01 12 46.0**	**+0.2**
CCM				pP	**pP**	**01 13 21.2**	**+1.2**
DBIC	**Dimbokro**	**69.49**	**70**	P	**P**	**01 12 46.2**	**-0.2**
	comp=Z,23nm,0.4s,baz=240,slow=6.7,SNR=100						
DBIC				LR	LR	01 40 50.1	
	comp=Z,76nm,21.6s,baz=253,slow=34						
	comp=Z,23nm,0.4s						
DBIC	**Dimbokro**	**69.49**	**70**	P	**P**	**01 12 45.7**	**-0.7**
DBIC	**Dimbokro**	**69.49**	**70**	*i*P	**P**	**01 12 46.2**	**-0.2**
DBIC	**Dimbokro**	**69.49**	**70**	P	**P**	**01 12 46.2**	**-0.2**
DBIC				sP	**sP**	**01 13 33.0**	**-2.4**
ACSO	**Alum Creek Sta**	**69.50**	**347**	IAmb	IAmb	01 12 46.9	
	comp=Z,178nm,1.1s						
ACSO	**Alum Creek Sta**	**69.50**	**347**	P	**P**	**01 12 45.8**	**-0.1**
	baz=165,SNR=27						
ACSO	**Alum Creek Sta**	**69.50**	**347**	P	**P**	**01 12 45.8**	**-0.1**
	baz=165,SNR=27						
BCOK	**Bluff Creek, N**	**69.51**	**334**	IAmb	IAmb	01 12 47.4	
	comp=Z,180nm,0.9s						
QUOK	**Quay**	**69.62**	**335**	IAmb	IAmb	01 12 48.4	
	comp=Z,291nm,1.2s						
SBA	**Scott Base**	**69.62**	**191**	P	**P**	**01 12 47.8**	**+1.6**
SBA	**Scott Base**	**69.62**	**191**	P	**P**	**01 12 47.8**	**+1.6**
SBA				pmax	pmax		
	comp=Z,31nm,1.9s						
SBA	**Scott Base**	**69.62**	**191**	P	**P**	**01 12 47.4**	**+1.2**
SBA				pP	**pP**	**01 13 21.7**	**+1.2**
Q44A	**Meyer Farm, Va**	**69.64**	**342**	IAmb	IAmb	01 12 47.0	
	comp=Z,188nm,1.1s						
Q44A	**Meyer Farm, Va**	**69.64**	**342**	P	**P**	**01 12 46.0**	**-0.8**
	baz=160,SNR=18						
M57A	**Sunshine Farm,**	**69.66**	**352**	IAmb	IAmb	01 12 49.0	
	comp=Z,139nm,1.4s						
M57A	**Sunshine Farm,**	**69.66**	**352**	P	**P**	**01 12 47.9**	**+1.0**
	baz=171,SNR=11						
M57A				P	**P**	**01 12 47.9**	**+1.0**
	baz=171,SNR=11						
PSDB	**Penn State Uni**	**69.67**	**351**	P	**P**	**01 12 47.2**	**+0.3**
	baz=169						
N53A	**Lisbon**	**69.67**	**349**	IAmb	IAmb	01 12 48.5	
	comp=Z,122nm,1.2s						
N53A	**Lisbon**	**69.67**	**349**	P	**P**	**01 12 47.1**	**+0.2**
	baz=167,SNR=10						
N53A				P	**P**	**01 12 47.1**	**+0.2**
	baz=167,SNR=10						
KSCT	**Kent School, K**	**69.69**	**355**	P	**P**	**01 12 47.8**	**+0.8**
SLM	**Saint Louis**	**69.72**	**341**	IAmb	IAmb	01 12 48.1	
	comp=Z,176nm,1.1s						
SLM	**Saint Louis**	**69.72**	**341**	P	**P**	**01 12 47.2**	**-0.1**
	baz=159,SNR=11						
KSPA	**Keystone Colle**	**69.73**	**353**	IAmb	IAmb	01 12 49.4	
	comp=Z,123nm,1.3s						
KSPA	**Keystone Colle**	**69.73**	**353**	P	**P**	**01 12 48.2**	**+1.0**
	baz=172,SNR=10						
O49A	**Covington**	**69.73**	**346**	IAmb	IAmb	01 12 48.1	
	comp=Z,182nm,1.1s						
O49A	**Covington**	**69.73**	**346**	P	**P**	**01 12 47.0**	**-0.3**
	baz=164,SNR=24						
O49A				P	**P**	**01 12 47.0**	**-0.3**
	baz=164,SNR=24						
L64A	**Middleborough**	**69.75**	**357**	P	**P**	**01 12 48.2**	**+0.9**
	baz=177						
L64A				P	**P**	**01 12 48.2**	**+0.9**
	baz=177						
BRYW	**Bryant College**	**69.76**	**357**	IAmb	IAmb	01 12 49.5	
	comp=Z,141nm,1.1s						
NPNY	**Mohonk Preserv**	**69.77**	**355**	P	**P**	**01 12 48.8**	**+1.3**
	baz=174,SNR=12						
S39A	**Bolivar**	**69.80**	**338**	P	**P**	**01 12 48.5**	**+0.7**
	baz=156,SNR=138						
P46A	**Rosedale**	**69.84**	**344**	IAmb	IAmb	01 12 48.3	
	comp=Z,181nm,1.0s						
P46A	**Rosedale**	**69.84**	**344**	P	**P**	**01 12 47.3**	**-0.7**
	baz=161,SNR=26						
CSTR	**Hydro, Custer**	**69.92**	**333**	IAmb	IAmb	01 12 50.5	
	comp=Z,28nm,1.2s						
OK051	**E0350 and S346**	**69.96**	**335**		**P**	**01 12 49.4**	**+0.6**
O48B	**Farmland**	**69.97**	**346**	P	**P**	**01 12 48.3**	**-0.4**
	baz=163,SNR=33						
O48B	**Farmland**	**69.97**	**346**	P	**P**	**01 12 48.3**	**-0.4**
	baz=163,SNR=33						
M55A	**Ridgway**	**70.00**	**351**	IAmb	IAmb	01 12 50.7	
	comp=Z,188nm,1.1s						
M55A	**Ridgway**	**70.00**	**351**	P	**P**	**01 12 49.7**	**+0.7**
	baz=169,SNR=25						
M55A				P	**P**	**01 12 49.7**	**+0.7**
	baz=169,SNR=25						
R40A	**Maddies Statio**	**70.01**	**339**	P	**P**	**01 12 49.2**	**+0.1**
	baz=157,SNR=172						
N51A	**Ashland**	**70.05**	**348**	IAmb	IAmb	01 12 50.2	
	comp=Z,92nm,1.1s						
N51A	**Ashland**	**70.05**	**348**	P	**P**	**01 12 49.0**	**-0.3**
	baz=166,SNR=7.9						
N51A				P	**P**	**01 12 49.0**	**-0.3**
	baz=166,SNR=7.9						
QUA2	**Belchertown**	**70.17**	**356**	P	**P**	**01 12 50.7**	**+0.8**
	baz=175						
KIDD	**KIDD Seismic O**	**70.20**	**325**	P	**P**	**01 12 51.2**	**+0.7**
	baz=144,SNR=6.5						
T35A	**Sooner Cattle**	**70.21**	**336**	IAmb	IAmb	01 12 52.1	
	comp=Z,150nm,1.1s						
T35B	**Sooner Cattle**	**70.21**	**336**	P	**P**	**01 12 50.9**	**+0.6**
	baz=153,SNR=32						
MSTX	**Muleshoe**	**70.22**	**329**	IAmb	IAmb	01 12 52.2	
	comp=Z,156nm,0.9s						
MSTX	**Muleshoe**	**70.22**	**329**	P	**P**	**01 12 51.2**	**+0.6**
	baz=147,SNR=78						
MSTX	**Muleshoe**	**70.22**	**329**	P	**P**	**01 12 51.2**	**+0.6**
	baz=147,SNR=78						
M53A	**WI Miller and**	**70.26**	**349**	IAmb	IAmb	01 12 52.0	
	comp=Z,158nm,1.2s						
M53A	**WI Miller and**	**70.26**	**349**	P	**P**	**01 12 50.5**	**0.0**
	baz=168,SNR=7.3						
L59A	**Walton**	**70.28**	**354**	IAmb	IAmb	01 12 52.9	
	comp=Z,104nm,0.9s						
L59A	**Walton**	**70.28**	**354**	P	**P**	**01 12 51.8**	**+1.1**
	baz=173,SNR=20						
L59A				P	**P**	**01 12 51.8**	**+1.1**
	baz=173,SNR=20						
BLOK	**Blackwell**	**70.33**	**335**	IAmb	IAmb	01 12 52.9	
	comp=Z,167nm,1.0s						
HRV	**Adam Dziewonsk**	**70.35**	**357**	P	**P**	**01 12 51.7**	**+0.7**
HRV				IAmb	IAmb	01 12 53.1	
	comp=Z,97nm,1.1s						
HRV	**Adam Dziewonsk**	**70.35**	**357**	P	**P**	**01 12 52.2**	**+1.2**
	baz=176,SNR=7.6						
HRV	**Adam Dziewonsk**	**70.35**	**357**	P	**P**	**01 12 51.8**	**+0.8**
	baz=176						
HRV	**Adam Dziewonsk**	**70.35**	**357**	P	**P**	**01 12 51.7**	**+0.7**
HRV				pmax	pmax		
	comp=Z,97nm,1.1s						
HRV	**Adam Dziewonsk**	**70.35**	**357**	P	**P**	**01 12 51.8**	**+0.8**
L61B	**Northampton**	**70.36**	**356**	P	**P**	**01 12 51.6**	**+0.6**
	baz=175,SNR=8.6						
L61B	**Northampton**	**70.36**	**356**	P	**P**	**01 12 51.9**	**+0.9**
	baz=175,SNR=8.6						
ALLY	**Alegheny Colle**	**70.38**	**350**	IAmb	IAmb	01 12 52.7	
	comp=Z,170nm,1.2s						
ALLY	**Alegheny Colle**	**70.38**	**350**	P	**P**	**01 12 51.7**	**+0.5**
	baz=168,SNR=8.6						
BINY	**Binghamton**	**70.39**	**353**	IAmb	IAmb	01 12 53.4	
	comp=Z,159nm,1.4s						
BINY	**Binghamton**	**70.39**	**353**	P	**P**	**01 12 52.3**	**+1.0**
	baz=172,SNR=9.5						
BINY	**Binghamton**	**70.39**	**353**	P	**P**	**01 12 52.0**	**+0.8**
	baz=172,SNR=9.5						
CROK	**Carrier**	**70.40**	**334**	IAmb	IAmb	01 12 53.0	
	comp=Z,239nm,1.3s						
N49A	**Columbus Grove**	**70.40**	**347**	P	**P**	**01 12 51.3**	**-0.1**
	baz=164,SNR=38						
N49A				P	**P**	**01 12 51.3**	**-0.1**
	baz=164,SNR=38						
HSIG		**70.43**	**320**	IAmb	IAmb	01 12 54.5	
	comp=Z,91nm,1.1s						
P43A	**Skaggs, Pawnee**	**70.46**	**342**	P	**P**	**01 12 51.5**	**-0.2**
	baz=159,SNR=36						
M52A	**Chesterland**	**70.47**	**349**	IAmb	IAmb	01 12 53.0	
	comp=Z,211nm,1.4s						
M52A	**Chesterland**	**70.47**	**349**	P	**P**	**01 12 51.9**	**+0.1**
	baz=167,SNR=7.4						
M52A				P	**P**	**01 12 51.9**	**+0.1**
	baz=167,SNR=7.4						
L56A	**Greenwood**	**70.50**	**352**	IAmb	IAmb	01 12 53.9	
	comp=Z,215nm,1.4s						
L56A	**Greenwood**	**70.50**	**352**	P	**P**	**01 12 52.8**	**+0.8**
	baz=170,SNR=15						
L56A				P	**P**	**01 12 52.8**	**+0.8**
	baz=170,SNR=15						
AMTX	**Amarillo**	**70.51**	**331**	IAmb	IAmb	01 12 54.0	
	comp=Z,72nm,0.9s						
AMTX	**Amarillo**	**70.51**	**331**	P	**P**	**01 12 52.9**	**+0.6**
	baz=148,SNR=26						
AMTX	**Amarillo**	**70.51**	**331**	P	**P**	**01 12 52.7**	**+0.4**
	baz=148						
SFIN	**Lafayette**	**70.53**	**344**	IAmb	IAmb	01 12 52.5	
	comp=Z,164nm,1.0s						
SFIN	**Lafayette**	**70.53**	**344**	P	**P**	**01 12 51.4**	**-0.8**
	baz=162,SNR=30						
SFIN	**Lafayette**	**70.53**	**344**	P	**P**	**01 12 51.4**	**-0.8**
	baz=162,SNR=30						
K62A	**Royalston**	**70.55**	**356**	IAmb	IAmb	01 12 54.5	
	comp=Z,114nm,1.6s						
ELIS	**Ellis County**	**70.58**	**333**	IAmb	IAmb	01 12 54.8	
	comp=Z,197nm,1.0s						
VNDA	**Vanda**	**70.62**	**190**	P	**P**	**01 12 53.6**	**+1.3**
	comp=Z,5.2nm,1.1s,baz=127,slow=5.6,SNR=18						
VNDA				pP	**pP**	**01 13 28.7**	**+2.0**
	comp=Z,5.2nm,0.9s,baz=165,slow=4.6,SNR=8.2						
VNDA				LR	LR	01 41 33.8	
	comp=Z,32nm,20.0s,baz=140,slow=34						
	comp=Z,5.2nm,1.1s						
VNDA	**Vanda**	**70.62**	**190**	P	**P**	**01 12 52.9**	**+0.6**
VNDA	**Vanda**	**70.62**	**190**	P	**P**	**01 12 53.7**	**+1.3**
VNDA				pP	**pP**	**01 13 28.6**	**+1.9**
M50A	**Fremont**	**70.64**	**348**	IAmb	IAmb	01 12 53.8	
	comp=Z,132nm,1.1s						
M50A	**Fremont**	**70.64**	**348**	P	**P**	**01 12 52.4**	**-0.4**
	baz=165,SNR=8.1						
M50A				P	**P**	**01 12 52.4**	**-0.4**
	baz=165,SNR=8.1						
O44A	**Mansfield**	**70.66**	**343**	P	**P**	**01 12 52.1**	**-0.8**
	baz=160,SNR=24						
TAOE	**Nuku Hiva Isla**	**70.68**	**270**	*e*S	**S**	**01 21 59.2**	**+1.9**
	comp=Z,138nm,26.0s						
TAOE	**Nuku Hiva Isla**	**70.68**	**270**	*e*LR	LR	01 34 38.5	
	comp=Z,279nm,27.6s						
U32A	**Winter Ranch,**	**70.68**	**333**	P	**P**	**01 12 53.8**	**+0.6**
	baz=151,SNR=19						
N47A	**Urbana**	**70.69**	**345**	P	**P**	**01 12 52.5**	**-0.6**
	baz=163,SNR=34						
N47A				P	**P**	**01 12 52.5**	**-0.6**
	baz=163,SNR=34						
TRY	**Troy**	**70.71**	**355**	P	**P**	**01 12 54.1**	**+0.9**
TRY				IAmb	IAmb	01 12 55.6	
	comp=Z,176nm,1.2s						
TRY	**Troy**	**70.71**	**355**	P	**P**	**01 12 54.4**	**+1.2**
	baz=174,SNR=14						
HCNY	**Howe Caverns**	**70.73**	**355**	P	**P**	**01 12 54.5**	**+1.2**
	baz=173,SNR=12						
ERPA	**Erie**	**70.82**	**350**	P	**P**	**01 12 53.9**	**0.0**
	baz=168,SNR=8.5						
ERPA	**Erie**	**70.82**	**350**	P	**P**	**01 12 54.7**	**+0.8**
	baz=168,SNR=8.5						
WVNY	**West Valley, N**	**70.90**	**351**	P	**P**	**01 12 55.3**	**+0.9**
WVNY				IAmb	IAmb	01 12 56.4	
	comp=Z,218nm,1.2s						
WVNY	**West Valley, N**	**70.90**	**351**	P	**P**	**01 12 54.7**	**+0.3**
	baz=170,SNR=16						
UNH	**University of**	**70.90**	**357**	P	**P**	**01 12 55.6**	**+1.3**
	baz=177						
K57A	**Scipio Center**	**70.97**	**353**	P	**P**	**01 12 55.2**	**+0.4**
	baz=171,SNR=5.1						
P40A	**Paris**	**71.08**	**340**	P	**P**	**01 12 55.8**	**+0.2**
	baz=157,SNR=81						
MMNY	**Mt. Morris Dam**	**71.13**	**352**	IAmb	IAmb	01 12 57.5	
	comp=Z,295nm,1.5s						
J61A	**Chester**	**71.24**	**356**	IAmb	IAmb	01 12 58.9	
	comp=Z,77nm,1.1s						
J61A	**Chester**	**71.24**	**356**	P	**P**	**01 12 57.5**	**+1.1**
	baz=175,SNR=9.4						
J61A				P	**P**	**01 12 57.5**	**+1.1**
	baz=175,SNR=9.4						
HDIL	**Hopedale**	**71.26**	**343**	P	**P**	**01 12 56.4**	**-0.1**
	baz=160,SNR=23						
HDIL	**Hopedale**	**71.26**	**343**	P	**P**	**01 12 56.5**	**-0.1**
	baz=160,SNR=23						
FFD	**Franklin Falls**	**71.32**	**357**	IAmb	IAmb	01 12 59.3	
	comp=Z,97nm,1.2s						
FFD	**Franklin Falls**	**71.32**	**357**	P	**P**	**01 12 58.4**	**+1.6**
	baz=176,SNR=5.7						
319A	**Douglas**	**71.33**	**323**	IAmb	IAmb	01 13 00.3	
	comp=Z,173nm,1.1s						
L48A	**N Adams**	**71.44**	**347**	IAmb	IAmb	01 12 58.3	
	comp=Z,244nm,1.4s						
L48A	**N Adams**	**71.44**	**347**	P	**P**	**01 12 57.4**	**-0.3**
	baz=164,SNR=14						
L48A				P	**P**	**01 12 57.4**	**-0.3**
	baz=164,SNR=14						
121A	**Cookes Peak, D**	**71.46**	**325**	P	**P**	**01 12 59.7**	**+1.5**
121A				IAmb	IAmb	01 13 01.3	
	comp=Z,114nm,1.0s						
121A	**Cookes Peak, D**	**71.46**	**325**	P	**P**	**01 13 00.2**	**+2.0**
	baz=143,SNR=57						
121A	**Cookes Peak, D**	**71.46**	**325**	P	**P**	**01 13 00.2**	**+2.0**
	baz=143,SNR=57						
J58A	**Remsen**	**71.47**	**354**	P	**P**	**01 12 58.4**	**+0.6**
	baz=173						
J58A				P	**P**	**01 12 58.4**	**+0.6**
	baz=173						
J59A	**Piesco**	**71.50**	**355**	IAmb	IAmb	01 13 00.0	
	comp=Z,118nm,1.1s						
J59A	**Piesco**	**71.50**	**355**	P	**P**	**01 12 58.8**	**+0.8**
	baz=173,SNR=15

baz=162,SNR=12
NCB Newcomb 71.98 355 P **P** **01 13 01.1 +0.3**
baz=174,SNR=5.8
HQIL Hanson Quary C 72.06 344 IAmb IAmb 01 13 02.0
comp=Z,198nm,1.1s
LBNH Lisbon 72.10 357 P **P** **01 13 02.8 +1.3**
baz=176,SNR=8.3
LBNH Lisbon 72.10 357 P **P** **01 13 02.7 +1.3**
baz=176,SNR=8.3
WCNY West Carthage 72.12 354 P **P** **01 13 02.4 +0.8**
baz=172,SNR=9.1
Y22A Socorro 72.17 326 P **P** **01 13 04.1 +1.7**
baz=144,SNR=5.6
KSU1 Kansas State U 72.19 337 IAmb IAmb 01 13 03.4
comp=Z,307nm,1.6s
KSU1 Kansas State U 72.19 337 P **P** **01 13 02.5 +0.3**
baz=153,SNR=21
KSU1 Kansas State U 72.19 337 P **P** **01 13 02.4 +0.3**
baz=153,SNR=21
PECO Prince Edward 72.21 353 P **P** **01 13 02.9 +0.8**
PECO IAmb IAmb 01 13 03.1
comp=Z,60nm,0.8s
Y22D IRIS PASSCAL I 72.26 326 P **P** **01 13 04.7 +1.8**
baz=144
Y22F Passcal Instru 72.26 326 P **P** **01 13 04.6 +1.7**
baz=144
R32A Long Quarter, 72.35 335 P **P** **01 13 04.1 +0.9**
baz=151,SNR=26
H62A Milan 72.39 357 P **P** **01 13 04.7 +1.5**
baz=176
H62A P **P** **01 13 04.7 +1.5**
baz=176
L44A Lake County Fo 72.43 344 IAmb IAmb 01 13 04.3
comp=Z,188nm,1.1s
L44A Lake County Fo 72.43 344 P **P** **01 13 03.4 -0.1**
baz=161,SNR=12
L44A Lake County Fo 72.43 344 P **P** **01 13 03.2 -0.3**
baz=161,SNR=12
EMMW East Machias 72.45 360 P **P** **01 13 04.5 +1.0**
baz=180
HAL Halifax 72.46 3 P **P** **01 13 05.0 +1.5**
HAL Halifax 72.46 3 P **P** **01 13 05.1 +1.5**
HAL pmax pmax
comp=Z,60nm,0.9s
KOMG Komaggas 72.56 115 *e*P **P** **01 13 05.3 +0.6**
N38A Joes South For 72.60 340 P **P** **01 13 04.7 +0.2**
baz=156,SNR=7.4
CER Ceres 72.62 119 *e*P **P** **01 13 05.9 +0.8**
CER IAmb IAmb 01 13 07.4
comp=Z,18nm,0.8s
LONY Lake Ozonia 72.66 355 P **P** **01 13 05.5 +0.7**
baz=173,SNR=8.8
L42A Oliver, Polo 72.71 343 IAmb IAmb 01 13 06.1
comp=Z,168nm,1.4s
L42A Oliver, Polo 72.71 343 P **P** **01 13 05.0 -0.2**
baz=160,SNR=16
TBI Tubuai 72.72 252 *e*LR LR 01 35 34.8
comp=Z,1μm,38.5s
ANMO Albuquerque 72.74 327 LR LR 01 43 07.4
comp=Z,51nm,18.6s,baz=144,slow=34
ANMO Albuquerque 72.74 327 P **P** **01 13 07.3 +1.5**
baz=144,SNR=93
ANMO Albuquerque 72.74 327 P **P** **01 13 07.3 +1.5**
baz=144
ANMO Albuquerque 72.74 327 *ce*P **P** **01 13 06.7 +0.9**
ANMO pmax pmax
comp=Z,82nm,1.3s
J47A Sunmer 72.76 347 IAmb IAmb 01 13 06.2
comp=Z,202nm,1.4s
J47A Sunmer 72.76 347 P **P** **01 13 05.2 -0.3**
baz=164,SNR=9.9
J47A P **P** **01 13 05.2 -0.3**
baz=164,SNR=9.9
TUC Tucson 72.86 323 P **P** **01 13 07.6 +1.2**
TUC Tucson 72.86 323 P **P** **01 13 07.9 +1.5**
baz=141
TUC Tucson 72.86 323 P **P** **01 13 07.6 +1.2**
TUC pmax pmax
comp=Z,82nm,1.4s
BMNY Brushton-Moira 72.87 355 P **P** **01 13 06.8 +0.8**
baz=173,SNR=11
G65A Princeton 72.94 360 P **P** **01 13 07.6 +1.2**
baz=180
G65A P **P** **01 13 07.6 +1.2**
baz=180
G62A West of Eustis 73.01 358 P **P** **01 13 08.4 +1.5**
baz=177,SNR=12
G62A P **P** **01 13 08.4 +1.5**
baz=177,SNR=12
PKME Peaks-Kenny Pk 73.02 359 P **P** **01 13 07.8 +0.9**
baz=178,SNR=6.8
PKME Peaks-Kenny Pk 73.02 359 P **P** **01 13 07.8 +0.9**
baz=178,SNR=6.8
K43A Burlington 73.03 344 P **P** **01 13 07.1 0.0**
baz=161,SNR=16
CBKS Cedar Bluff 73.09 334 P **P** **01 13 08.7 +1.1**
baz=150,SNR=32
CBKS Cedar Bluff 73.09 334 P **P** **01 13 08.7 +1.1**
baz=150,SNR=32
L40A Anamosa 73.18 342 P **P** **01 13 08.0 0.0**
baz=158,SNR=66
SADO Sadowa 73.30 351 LR LR 01 46 24.2
comp=Z,78nm,21.8s,baz=170,slow=36
SADO Sadowa 73.30 351 IAmb IAmb 01 13 09.8
comp=Z,120nm,1.4s
GBN Guysborough 73.34 4 P **P** **01 13 09.7 +1.0**
GBN IAmb IAmb 01 13 10.8
comp=Z,190nm,1.6s
N35A Tabor 73.43 338 P **P** **01 13 09.8 +0.3**
baz=154,SNR=14
MNTQ Montreal, Queb 73.46 355 IAmb IAmb 01 13 11.3
comp=Z,70nm,0.8s
T25A Trinidad 73.60 330 P **P** **01 13 11.8 +0.9**
T25A Trinidad 73.60 330 P **P** **01 13 12.5 +1.7**
baz=146,SNR=81
F64A Sherman 73.61 359 IAmb IAmb 01 13 12.5
comp=Z,93nm,1.1s
F64A Sherman 73.61 359 P **P** **01 13 11.4 +1.1**
baz=179,SNR=11
F64A P **P** **01 13 11.4 +1.1**
baz=179,SNR=11
SCIA State Center 73.61 340 P **P** **01 13 10.9 +0.4**
baz=156,SNR=7.2
SCIA State Center 73.61 340 P **P** **01 13 10.7 +0.2**
baz=156,SNR=7.2
F62A Pittston Farm, 73.67 358 P **P** **01 13 11.7 +1.0**
baz=178,SNR=5.4
F62A P **P** **01 13 11.7 +1.0**
baz=178,SNR=5.4
214A Organ Pipe Nat 73.70 321 IAmb IAmb 01 13 14.5
comp=Z,170nm,1.2s
214A Organ Pipe Nat 73.70 321 P **P** **01 13 13.3 +2.0**
baz=139,SNR=72
CVNA Calvinia 73.71 117 *e*P **P** **01 13 12.4 +0.8**
CVNA IAmb IAmb 01 13 13.7
comp=Z,59nm,0.9s
JFWS Jewell Farm 73.71 343 IAmb IAmb 01 13 12.3
comp=Z,268nm,1.5s
JFWS Jewell Farm 73.71 343 P **P** **01 13 10.8 -0.3**
baz=159,SNR=22
JFWS Jewell Farm 73.71 343 P **P** **01 13 11.2 +0.2**
baz=159,SNR=22
PIX Pinacate 73.77 320 IAmb IAmb 01 13 14.2
comp=Z,208nm,1.9s
N33B J Bar K, Exete 73.94 337 P **P** **01 13 13.3 +0.9**
baz=153,SNR=8.3
K38A Parkersburg 74.16 341 IAmb IAmb 01 13 14.7
comp=Z,297nm,1.5s
K38A Parkersburg 74.16 341 P **P** **01 13 13.7 0.0**
baz=157,SNR=8.6
E63A Oxbow 74.17 359 P **P** **01 13 14.5 +1.0**
baz=179,SNR=5.3
E63A P **P** **01 13 14.5 +1.0**
baz=179,SNR=5.3
SFX San Felipe 74.17 319 P **P** **01 13 15.1 +1.1**
SUR Sutherland 74.17 118 LR LR 01 42 32.6
comp=Z,93nm,18.6s,baz=250,slow=33
GLMI Grayling 74.24 347 IAmb IAmb 01 13 15.1
comp=Z,138nm,1.0s
GLMI Grayling 74.24 347 P **P** **01 13 14.6 +0.5**
baz=164
GLMI Grayling 74.24 347 P **P** **01 13 14.0 -0.1**
baz=164
TRQ Mont Tremblant 74.24 355 IAmb IAmb 01 13 15.5
comp=Z,97nm,1.1s
I42A Draeger Farm, 74.29 344 IAmb IAmb 01 13 15.6
comp=Z,248nm,1.4s
I42A Draeger Farm, 74.29 344 P **P** **01 13 14.7 +0.3**
baz=160,SNR=13
E62A Clayton Lake 74.38 358 IAmb IAmb 01 13 16.7
comp=Z,80nm,0.8s
E62A Clayton Lake 74.38 358 P **P** **01 13 16.0 +1.1**
baz=178,SNR=14
E62A P **P** **01 13 16.0 +1.1**
baz=178,SNR=14
KSCO Kaye Shedlock' 74.41 332 P **P** **01 13 16.8 +1.5**
KSCO Kaye Shedlock' 74.41 332 P **P** **01 13 16.9 +1.5**
baz=148,SNR=20
KSCO Kaye Shedlock' 74.41 332 P **P** **01 13 16.9 +1.5**
baz=148,SNR=20
W18A Petrified Fore 74.50 325 IAmb IAmb 01 13 18.9
comp=Z,170nm,1.2s
W18A Petrified Fore 74.50 325 P **P** **01 13 17.8 +1.8**
baz=142,SNR=37
H43A Windswept, Lux 74.57 345 IAmb IAmb 01 13 17.0
comp=Z,129nm,1.1s
H43A Windswept, Lux 74.57 345 P **P** **01 13 16.4 +0.4**
baz=161,SNR=5.7
SDCO Great Sand Dun 74.59 330 P **P** **01 13 18.2 +1.5**
baz=146,SNR=84
SDCO Great Sand Dun 74.59 330 P **P** **01 13 18.2 +1.5**
baz=146,SNR=84
L34A Svendsen Farm, 74.67 338 P **P** **01 13 16.9 +0.3**
baz=154,SNR=11
I40A Norwalk 74.72 343 IAmb IAmb 01 13 17.9
comp=Z,129nm,1.4s
I40A Norwalk 74.72 343 P **P** **01 13 16.9 0.0**
baz=159,SNR=7.3
BGNE Belgrade 74.77 337 P **P** **01 13 18.2 +0.9**
baz=152,SNR=25
BGNE Belgrade 74.77 337 P **P** **01 13 18.0 +0.7**
baz=152,SNR=25
FRAZ Fraserburg 74.82 118 *e*P **P** **01 13 19.1 +1.0**
FRAZ IAmb IAmb 01 13 20.3
comp=Z,36nm,0.7s
D62A Allapoint, All 74.84 359 IAmb IAmb 01 13 19.5
comp=Z,151nm,1.1s
D62A Allapoint, All 74.84 359 P **P** **01 13 18.6 +1.1**
baz=178,SNR=27
D62A P **P** **01 13 18.6 +1.1**
baz=178,SNR=27
113A Mohawk Valley, 74.84 321 IAmb IAmb 01 13 20.6
comp=Z,166nm,1.9s
BATG Bathurst New B 75.03 1 P **P** **01 13 19.3 +0.7**
BATG IAmb IAmb 01 13 20.8
comp=Z,105nm,1.2s
PPT2 Papeete2 75.18 258 *e*LR LR 01 36 43.0
comp=Z,166nm,23.2s
S22A 4UR Ranch, Cre 75.19 329 P **P** **01 13 21.6 +1.5**
baz=145,SNR=51
GRAN Grantham 75.26 119 *e*P **P** **01 13 21.8 +1.2**
GRAN IAmb IAmb 01 13 22.6
comp=Z,28nm,0.7s
AUGR Augrabies 75.32 115 *e*P **P** **01 13 20.7 -0.2**
AUGR IAmb IAmb 01 13 39.5
comp=Z,3μm,5.0s
Q24A Divide 75.44 330 IAmb IAmb 01 13 24.1
comp=Z,168nm,0.8s
Q24A Divide 75.44 330 P **P** **01 13 23.1 +1.6**
baz=146,SNR=105
CPBX Cerro Prieto 75.45 320 IAmb IAmb 01 13 24.6
comp=Z,207nm,1.6s
MVCO Mesa Verde 75.54 327 IAmb IAmb 01 13 24.8
comp=Z,149nm,1.2s
MVCO Mesa Verde 75.54 327 P **P** **01 13 23.6 +1.6**
baz=143,SNR=82
I37A Lemond, Waseca 75.60 341 IAmb IAmb 01 13 23.2
comp=Z,205nm,1.1s
I37B Waseca 75.60 341 P **P** **01 13 22.3 +0.4**
baz=156,SNR=22
PCED Cedros 75.60 30 *e*P **P** **01 13 24.1 +2.1**
comp=Z,137nm,1.8s
WUAZ Wupatki 75.64 324 P **P** **01 13 23.9 +1.3**
WUAZ IAmb IAmb 01 13 25.8
comp=Z,154nm,1.1s
WUAZ Wupatki 75.64 324 P **P** **01 13 24.6 +2.0**
baz=141,SNR=77
GLA Glamis 75.64 320 IAmb IAmb 01 13 25.5
comp=Z,284nm,1.9s
GLA Glamis 75.64 320 P **P** **01 13 24.1 +1.6**
baz=138,SNR=13
E46A Sault Ste Mari 75.67 348 IAmb IAmb 01 13 23.3
comp=Z,238nm,1.4s
E46A Sault Ste Mari 75.67 348 P **P** **01 13 22.3 0.0**
baz=165,SNR=7.6
KEIM Keimoes 75.78 115 *e*P **P** **01 13 23.7 +0.2**
KEIM IAmb IAmb 01 13 25.9
comp=Z,30nm,0.9s
OGNE Ogallala 75.82 334 IAmb IAmb 01 13 25.6
comp=Z,118nm,0.9s
OGNE Ogallala 75.82 334 P **P** **01 13 24.8 +1.5**
baz=149,SNR=7.2
OGNE Ogallala 75.82 334 P **P** **01 13 24.6 +1.2**
baz=149,SNR=7.2
F42A Maple Grove Fa 75.87 345 IAmb IAmb 01 13 24.6
comp=Z,164nm,1.8s
F42A Maple Grove Fa 75.87 345 P **P** **01 13 23.8 +0.4**
baz=161
PMAN Manadas 75.88 31 *e*P **P** **01 13 24.0 +0.4**
comp=Z,166nm,1.2s
ROSA Rois 75.88 31 *e*P **P** **01 13 25.4 +1.8**
comp=Z,137nm,1.6s
G40A Rib Lake 75.90 344 P **P** **01 13 23.8 +0.2**
baz=159,SNR=8.2
BLYC Blythe 75.99 321 IAmb IAmb 01 13 27.4
comp=Z,105nm,1.1s
PSMN Pico do Norte, 76.00 34 *e*P **P** **01 13 25.8 +1.5**
comp=Z,64nm,1.7s
K31A O'Neill 76.06 337 P **P** **01 13 25.5 +0.9**
baz=152,SNR=24
IKP In-Ko-Pah, Jac 76.08 319 P **P** **01 13 26.7 +1.7**
baz=137,SNR=24
SWSC Sam W. Stewart 76.12 320 P **P** **01 13 26.8 +1.7**
baz=137,SNR=14
PDMCI Parker Dam,Lak 76.19 322 P **P** **01 13 27.0 +1.6**
baz=139,SNR=20
E43A Lone Tree Farm 76.21 346 P **P** **01 13 25.3 0.0**
baz=162,SNR=5.6
TKX Tecate 76.31 319 IAmb IAmb 01 13 29.1
comp=Z,98nm,1.3s
ECSD EROS Data Cent 76.33 339 IAmb IAmb 01 13 27.5
comp=Z,181nm,1.2s
ECSD EROS Data Cent 76.33 339 P **P** **01 13 26.4 +0.4**
baz=154,SNR=50
ECSD EROS Data Cent 76.33 339 P **P** **01 13 26.4 +0.4**
baz=154,SNR=50
CMLA Cha da Macela 76.38 33 *e*P **P** **01 13 28.3 +1.8**
PSCM Serra do Cume 76.38 31 *e*P **P** **01 13 28.7 +2.3**
comp=Z,134nm,1.5s
PAGU Agualva, Azore 76.40 31 *e*P **P** **01 13 28.4 +1.8**
comp=Z,132nm,1.5s
SMCO Snowmass 76.42 329 IAmb IAmb 01 13 30.2
comp=Z,200nm,1.3s
COWI Conover 76.43 345 IAmb IAmb 01 13 28.1
comp=Z,104nm,1.4s
COWI Conover 76.43 345 P **P** **01 13 26.9 +0.3**
baz=160
BAR Barrett 76.43 319 P **P** **01 13 27.7 +0.8**
BAR IAmb IAmb 01 13 29.7
comp=Z,125nm,1.4s
BRIGG Briggsdale 76.43 332 IAmb IAmb 01 13 29.8
comp=Z,230nm,1.2s
MONP2 Monument Peak 76.44 319 P **P** **01 13 28.6 +1.4**
baz=137,SNR=17
PV15 Paradox Valley 76.44 328 IAmb IAmb 01 13 30.2
comp=Z,168nm,1.2s
BC3 Big Chuckawall 76.44 320 P **P** **01 13 28.7 +1.7**
baz=138,SNR=72
SPMN Marine on St. 76.54 342 IAmb IAmb 01 13 28.2
comp=Z,112nm,1.2s
SPMN Marine on St. 76.54 342 P **P** **01 13 27.1 -0.1**
baz=157,SNR=16
SPMN Marine on St. 76.54 342 P **P** **01 13 27.1 -0.1**
baz=157,SNR=16
BART Pico Bartolome 76.56 33 *e*P **P** **01 13 29.1 +1.5**
comp=Z,74nm,1.3s
IRM Iron Mountain 76.64 321 P **P** **01 13 29.8 +1.8**
baz=138,SNR=60
NEE2 Needles Airpor 76.80 322 P **P** **01 13 30.1 +1.2**
baz=138
U15A North Rim 76.82 324 IAmb IAmb 01 13 32.6
comp=Z,136nm,1.1s
109C Camp Elliot, M 76.83 319 P **P** **01 13 30.5 +1.4**
baz=136
TSUM Tsumeb 76.95 105 LR LR 01 42 59.3
comp=Z,122nm,21.4s,baz=250,slow=32
TSUM Tsumeb 76.95 105 P **P** **01 13 30.0 -0.4**
TSUM Tsumeb 76.95 105 *e*P **P** **01 13 31.8 +1.4**
PMD Palm Desert 76.96 320 IAmb IAmb 01 13 32.7
comp=Z,70nm,1.4s
TPFO Pinon Flats 76.97 320 P **P** **01 13 32.0 +1.9**
baz=137,SNR=31
PFO Pinyon Flats O 76.98 320 P **P** **01 13 30.8 +0.7**
PFO Pinyon Flats O 76.98 320 P **P** **01 13 32.0 +1.9**
baz=137,SNR=31
PFO Pinyon Flats O 76.98 320 P **P** **01 13 30.8 +0.7**
PFO pmax pmax
comp=Z,88nm,1.3s
BELC Belle Mtn. Jos 77.00 320 P **P** **01 13 31.9 +1.6**
baz=137,SNR=41
PMAR Madeira 77.20 42 *e*P P 01 13 41.4 +10
comp=Z,109nm,1.4s
D41A Chassel 77.20 345 IAmb IAmb 01 13 32.6
comp=Z,184nm,0.9s
D41A Chassel 77.20 345 P **P** **01 13 31.8 +1.0**
baz=161,SNR=7.4
F36A Milaca 77.33 342 P **P** **01 13 31.5 -0.1**
baz=156,SNR=21
N23A Red Feather La 77.38 331 P **P** **01 13 33.9 +1.6**
baz=146,SNR=38
GMRC Granite Mounta 77.39 321 P **P** **01 13 34.3 +1.9**
baz=138,SNR=105
MURC Murrieta 77.40 319 P **P** **01 13 34.1 +1.8**
baz=136,SNR=21
E38A The Farm, Brul 77.49 343 IAmb IAmb 01 13 33.6
comp=Z,75nm,1.0s
E38A The Farm, Brul 77.49 343 P **P** **01 13 32.5 +0.1**
baz=158,SNR=8.1
DRLN Deer Lake 77.50 7 IAmb IAmb 01 13 34.3
comp=Z,208nm,1.2s
PHWY Pilot Hill 77.51 332 IAmb IAmb 01 13 35.5
comp=Z,138nm,1.4s
PKCU Pink Cliffs 77.61 325 IAmb IAmb 01 13 36.6
comp=Z,62nm,0.9s
V12A Nelson 77.64 322 IAmb IAmb 01 13 36.3
comp=Z,89nm,1.0s
MAW Mawson 77.66 163 P **P** **01 13 34.3 +1.1**
comp=Z,5.4nm,0.9s,baz=209,slow=6.3,SNR=10
MAW pP **pP** **01 14 08.8 +0.5**
comp=Z,19nm,1.1s,baz=228,slow=6.3,SNR=6.5
MAW LR LR 01 49 51.3
comp=Z,45nm,18.1s,baz=226,slow=37
comp=Z,5.4nm,0.9s
BBRC Big Bear Solar 77.72 320 P **P** **01 13 36.4 +2.0**
baz=137
SUSD Miller 77.73 337 P **P** **01 13 34.6 +0.7**
SUSD IAmb IAmb 01 13 35.2
comp=Z,164nm,0.9s
SUSD Miller 77.73 337 P **P** **01 13 34.5 +0.7**
baz=152
SUSD Miller 77.73 337 P **P** **01 13 34.2 +0.3**
baz=152
SCI2 San Clemente I 77.74 318 P **P** **01 13 35.7 +1.5**
baz=135
O20A White River Ci 77.77 329 IAmb IAmb 01 13 37.2
comp=Z,184nm,0.9s
O20A White River Ci 77.77 329 P **P** **01 13 36.1 +1.7**
baz=144,SNR=96
HEC Hector,Ludlow 77.80 321 P **P** **01 13 36.5 +1.9**
baz=137,SNR=71
CIS Catalina Islan 77.97 318 P **P** **01 13 37.0 +1.6**
baz=136
TUQ Turquoise Moun 78.01 321 P **P** **01 13 37.6 +1.7**
baz=138,SNR=70
SRU San Rafael Swe 78.02 327 IAmb IAmb 01 13 38.2
comp=Z,134nm,1.0s
WTNK Soaring Height 78.08 322 IAmb IAmb 01 13 38.6
comp=Z,30nm,1.4s
FMP Fort Macarthur 78.11 319 P **P** **01 13 37.9 +1.7**
baz=136
F33A 5 Mile Ranch, 78.12 340 P **P** **01 13 35.8 -0.1**
baz=154,SNR=11
SZCU Shurtz Canyon 78.12 325 IAmb IAmb 01 13 39.7
comp=Z,93nm,1.2s
BFSC Mount Baldy Ra 78.12 319 P **P** **01 13 37.8 +1.3**
baz=136,SNR=24
Q16A Castle Valley 78.18 327 IAmb IAmb 01 13 39.7
comp=Z,114nm,1.1s
RRX Edison Barstow 78.20 320 P **P** **01 13 38.6 +1.8**
baz=137
CCUT Cedar City 78.23 324 IAmb IAmb 01 13 40.6
comp=Z,147nm,1.0s
P18A Preston Nutter 78.29 328 IAmb IAmb 01 13 40.3
comp=Z,128nm,0.9s
PASC Pasadena Art C 78.38 319 P **P** **01 13 38.7 +1.0**
PASC IAmb IAmb 01 13 40.4
comp=Z,89nm,1.1s
GSC Goldstone, Bar 78.41 321 IAmb IAmb 01 13 40.8
comp=Z,136nm,1.4s
GSC Goldstone, Bar 78.41 321 P **P** **01 13 39.7 +1.7**
baz=137,SNR=49
P17A Butcher Ranch, 78.41 327 IAmb IAmb 01 13 40.5
comp=Z,180nm,1.1s
TMUT Trail Mountain 78.50 327 IAmb IAmb 01 13 41.2
comp=Z,127nm,1.4s
SNCC San Nicolas Is 78.51 318 P **P** **01 13 39.9 +1.4**
baz=135
DECC Green Verdugo 78.52 319 P **P** **01 13 40.2 +1.7**
baz=136,SNR=7.9
SHOC Shoshone, Teco 78.55 321 P **P** **01 13 40.0 +1.4**
baz=137,SNR=14
TCRU Three Creeks R 78.57 326 IAmb IAmb 01 13 42.0
comp=Z,204nm,1.8s
EYMN Ely 78.72 344 IAmb IAmb 01 13 40.4
comp=Z,84nm,1.1s
EYMN Ely 78.72 344 P **P** **01 13 39.6 +0.4**
baz=158,SNR=7.4
EYMN Ely 78.72 344 P **P** **01 13 39.2 -0.1**
baz=158,SNR=7.4
RDMU Red Mountain 78.72 329 IAmb IAmb 01 13 42.1
comp=Z,141nm,0.9s
EDW2 Edwards Air Fo 78.78 320 P **P** **01 13 41.0 +1.0**
baz=136,SNR=36
GWY Greenwater Val 78.97 321 IAmb IAmb 01 13 43.5
comp=Z,88nm,1.1s
PRN Pahroc Range 79.00 323 IAmb IAmb 01 13 44.4
comp=Z,132nm,1.1s
OSI Osito Audit: C 79.01 319 P **P** **01 13 42.4 +1.2**
baz=135
LRMC Laurel Mtn Rad 79.03 320 P **P** **01 13 42.7 +1.3**
baz=136,SNR=56
K22A Casper 79.07 332 IAmb IAmb 01 13 44.2
comp=Z,155nm,1.1s
K22A Casper 79.07 332 P **P** **01 13 42.9 +1.4**
baz=145,SNR=53
K22A Casper 79.07 332 P **P** **01 13 42.9 +1.4**
baz=145,SNR=53
SCZ2 Santa Cruz Isl 79.10 318 P **P** **01 13 43.1 +1.5**
baz=135,SNR=8.0
PSUT Pine Spring 79.23 325 IAmb IAmb 01 13 45.3
comp=Z,85nm,1.0s
BOSA Boshof 79.23 117 P **P** **01 13 43.2 +0.4**
comp=Z,11nm,0.5s,baz=262,slow=3.4,SNR=59
BOSA pP **pP** **01 14 16.1 -1.4**
comp=Z,18nm,0.9s,baz=271,slow=6.2,SNR=4.2
BOSA LR LR 01 44 57.3
comp=Z,93nm,20.9s,baz=215,slow=33
comp=Z,11nm,0.5s
BOSA Boshof 79.23 117 P **P** **01 13 42.3 -0.5**
BOSA Boshof 79.23 117 *e*P **P** **01 13 43.2 +0.4**
BOSA IAmb IAmb 01 13 49.7
comp=Z,236nm,2.5s
MPU Maple Canyon 79.26 327 IAmb IAmb 01 13 45.1
comp=Z,84nm,1.0s
FURC Furnace Creek, 79.29 321 P **P** **01 13 44.4 +1.8**
baz=137,SNR=23
RSSD Black Hills 79.29 334 P **P** **01 13 43.4 +0.6**
RSSD Black Hills 79.29 334 P **P** **01 13 44.0 +1.3**
baz=148,SNR=38
RSSD Black Hills 79.29 334 P **P** **01 13 43.6 +0.9**
baz=148
RSSD Black Hills 79.29 334 P **P** **01 13 43.4 +0.6**
RSSD pmax pmax
comp=Z,59nm,0.9s
TPNV Topopah Spring 79.30 322 IAmb IAmb 01 13 46.0
comp=Z,127nm,1.2s
TPNV Topopah Spring 79.30 322 P **P** **01 13 44.8 +1.9**
baz=138,SNR=83
MPMC Manual Prospec 79.34 321 P **P** **01 13 44.4 +1.2**
baz=136,SNR=35
WCT Wildcat Mounta 79.39 322 IAmb IAmb 01 13 46.4
comp=Z,80nm,1.1s
NLU North Lily Min 79.43 327 IAmb IAmb 01 13 46.3
comp=Z,156nm,1.5s

ARVC Arvin 79.43 319 P **P** **01 13 44.8 +1.4**
baz=135
SBC Santa Barbara 79.46 318 P **P** **01 13 44.9 +1.3**
baz=135
D32A Dogwood Acres, 79.50 340 IAmb IAmb 01 13 45.0
comp=Z,191nm,1.2s
S11A Rachel 79.55 323 IAmb IAmb 01 13 47.6
comp=Z,266nm,1.8s
ISA Isabella, Lake 79.61 320 P **P** **01 13 45.3 +0.8**
ISA Isabella, Lake 79.61 320 P **P** **01 13 46.1 +1.6**
baz=136,SNR=41
ISA Isabella, Lake 79.61 320 P **P** **01 13 45.3 +0.8**
ISA pmax pmax
comp=Z,57nm,1.0s
JLU Jordanelle 79.63 327 IAmb IAmb 01 13 47.1
comp=Z,75nm,0.8s
BCW Bitter Crk WRg 79.64 319 IAmb IAmb 01 13 47.5
comp=Z,148nm,1.3s
B35A Bob, Littlefor 79.68 343 IAmb IAmb 01 13 45.7
comp=Z,108nm,1.0s
B35A Bob, Littlefor 79.68 343 P **P** **01 13 44.7 +0.3**
baz=156,SNR=19
SPR3 Spring Creek 3 79.82 325 IAmb IAmb 01 13 48.3
comp=Z,152nm,1.3s
PKM Mcpherson Peak 79.83 319 P **P** **01 13 47.6 +1.8**
baz=135,SNR=42
SWZ Schweizer 79.92 115 *e*P **P** **01 13 46.4 -0.2**
CWC Cottonwood Cre 79.94 321 P **P** **01 13 47.9 +1.5**
baz=136
GRAC Grapevine Rang 79.95 322 P **P** **01 13 48.0 +1.7**
baz=137,SNR=32
DUG Dugway, Tooele 79.97 326 P **P** **01 13 47.8 +1.4**
baz=140,SNR=79
R11A Troy Canyon, C 79.98 323 P **P** **01 13 48.2 +1.7**
baz=138,SNR=95
VES Vestal, Richgr 80.08 320 P **P** **01 13 48.4 +1.5**
baz=135,SNR=24
E28A Huff 80.19 337 IAmb IAmb 01 13 48.7
comp=Z,137nm,0.8s
E28A Huff 80.19 337 P **P** **01 13 48.1 +0.9**
baz=150,SNR=20
AGMN Agassiz Nation 80.21 341 IAmb IAmb 01 13 48.7
comp=Z,71nm,0.8s
AGMN Agassiz Nation 80.21 341 P **P** **01 13 47.7 +0.4**
baz=155,SNR=29
AGMN Agassiz Nation 80.21 341 P **P** **01 13 47.7 +0.4**
baz=155,SNR=29
SMMC Simmler 80.24 319 P **P** **01 13 49.8 +2.0**
baz=135,SNR=14
TIN Tinemaha, Big 80.47 321 P **P** **01 13 50.9 +1.8**
baz=136,SNR=26
HWUT Hardware Ranch 80.47 328 IAmb IAmb 01 13 51.2
comp=Z,177nm,1.0s
BW06 Boulder Array 80.47 330 P **P** **01 13 49.7 +0.6**
baz=143,SNR=40
PDAR Pinedale Array 80.47 330 P **P** **01 13 49.8 +0.6**
comp=Z,56nm,0.9s,baz=127,slow=7.3,SNR=250
PDAR PKKPbc **PKKPbc** **01 32 28.3 -3.2**
comp=Z,0.5nm,0.5s,baz=35,slow=3.3,SNR=5.2
PDAR PKPPKP **P'P'df** **01 40 33.2 +1.1**
comp=Z,0.3nm,0.9s,baz=270,slow=1.5,SNR=3.7
comp=Z,56nm,0.9s
SPUT South Promonto 80.66 327 IAmb IAmb 01 13 52.3
comp=Z,129nm,1.0s
MDND Maddock 80.94 339 P **P** **01 13 52.3 +1.1**
baz=152,SNR=26
MDND Maddock 80.94 339 P **P** **01 13 52.1 +0.8**
baz=152,SNR=26
LBTB Lobatse 81.10 113 LR LR 01 46 01.7
comp=Z,75nm,19.8s,baz=228,slow=33
LBTB Lobatse 81.10 113 P **P** **01 13 52.4 -0.5**
LBTB Lobatse 81.10 113 *e*P **P** **01 13 53.0 +0.1**
LBTB IAmb IAmb 01 13 54.9
comp=Z,48nm,1.1s
LBTB Lobatse 81.10 113 P **P** **01 13 52.4 -0.5**
LBTB pmax pmax
comp=Z,49nm,1.2s
AHID Auburn Hatcher 81.16 329 IAmb IAmb 01 13 54.8
comp=Z,259nm,1.3s
HVU Hansel Valley 81.17 327 IAmb IAmb 01 13 54.7
comp=Z,80nm,0.8s
Q09A Carvers 81.19 323 IAmb IAmb 01 13 55.5
comp=Z,121nm,0.9s
MLAC Mammoth, Mammo 81.22 321 P **P** **01 13 54.9 +1.7**
baz=136,SNR=17
OMMB Old Mammoth Mi 81.30 321 IAmb IAmb 01 13 56.0
comp=Z,77nm,0.9s
PMPB Monarch Peak 81.34 319 IAmb IAmb 01 13 56.6
comp=Z,106nm,1.3s
NVAR Mina Array Bea 81.50 322 P **P** **01 13 55.8 +1.1**
comp=Z,24nm,0.9s,baz=158,slow=6.2,SNR=123
NVAR PP **PP** **01 17 03.6 +0.4**
comp=Z,1.3nm,0.9s,baz=134,slow=7.7,SNR=3.2
NVAR PKKPbc **PKKPbc** **01 32 27.1 -1.7**
comp=Z,0.4nm,0.6s,baz=347,slow=2.8,SNR=4.3
comp=Z,24nm,0.9s
NVAR Mina Array Bea 81.50 322 P **P** **01 13 55.5 +0.8**
REDW Red Top Meadow 81.52 330 IAmb IAmb 01 13 56.9
comp=Z,104nm,1.2s
ELK Elko 81.59 325 LR LR 01 46 00.0
comp=Z,56nm,19.9s,baz=148,slow=32
PRYS Parys 81.65 116 *e*P **P** **01 13 56.2 +0.4**
BBGB Big Mountain B 81.73 319 IAmb IAmb 01 14 00.3
comp=Z,72nm,0.9s
ULM Lac du Bonnet 81.98 342 P **P** **01 13 56.5 0.0**
comp=Z,56nm,1.0s,baz=158,slow=5.1,SNR=33
comp=Z,56nm,1.0s
ULM Lac du Bonnet 81.98 342 P **P** **01 13 56.6 0.0**
ULM IAmb IAmb 01 13 57.8
comp=Z,115nm,1.2s
ULM Lac du Bonnet 81.98 342 P **P** **01 13 56.6 0.0**
ULM pmax pmax
comp=Z,115nm,1.2s
IMW Indian Meadow 81.98 330 IAmb IAmb 01 13 59.4
comp=Z,94nm,0.9s
FLWY Flagg Ranch 82.02 330 IAmb IAmb 01 13 59.3
comp=Z,80nm,0.7s
WAKR Walker 82.17 321 IAmb IAmb 01 14 01.1
comp=Z,87nm,1.2s
H17A Grant Village 82.21 330 P **P** **01 13 60.0 +1.6**
baz=142,SNR=11
RLMT Red Lodge 82.23 332 P **P** **01 13 59.5 +1.1**
baz=144,SNR=23
RAR Rarotonga 82.26 250 LR LR 01 43 04.9
comp=Z,73nm,21.2s,baz=120,slow=30
LKWY Lake 82.27 331 IAmb IAmb 01 14 03.3
comp=Z,215nm,1.9s
LAO LASA Array 82.29 334 IAmb IAmb 01 14 00.2
comp=Z,136nm,1.2s
LAO LASA Array 82.29 334 P **P** **01 13 59.2 +0.8**
baz=146,SNR=28
LAO LASA Array 82.29 334 P **P** **01 13 58.9 +0.6**
baz=146,SNR=28
YMP Mirror Lake Pl 82.31 331 IAmb IAmb 01 14 16.1
comp=Z,63nm,0.8s
YERR Yerington 82.41 322 IAmb IAmb 01 14 02.0
comp=Z,137nm,1.4s
SCHQ Schefferville 82.58 0 P **P** **01 13 59.6 -0.1**
comp=Z,31nm,1.0s,baz=216,slow=12,SNR=9.6
comp=Z,31nm,1.0s
SCHQ Schefferville 82.58 0 P **P** **01 14 00.0 +0.4**
YMR Madison River 82.60 330 P **P** **01 14 01.4 +1.1**
YMR IAmb IAmb 01 14 03.0
comp=Z,114nm,0.9s
PNTR Pine Nut 82.68 322 IAmb IAmb 01 14 03.4
comp=Z,114nm,0.8s
YHB Horse Butte 82.77 330 IAmb IAmb 01 14 03.8
comp=Z,66nm,1.0s
SLR Silverton 82.93 115 *e*P **P** **01 14 02.8 +0.3**
SLR IAmb IAmb 01 14 04.2
comp=Z,150nm,1.8s
PAHR Pah Rah Range 83.00 322 IAmb IAmb 01 14 05.0
comp=Z,103nm,1.1s
DGMT Dagmar 83.03 336 IAmb IAmb 01 14 04.3
comp=Z,153nm,0.9s
DGMT Dagmar 83.03 336 P **P** **01 14 03.3 +1.2**
baz=148,SNR=36
DGMT Dagmar 83.03 336 P **P** **01 14 03.3 +1.2**
baz=148,SNR=36
MPK Martis Peak 83.06 322 IAmb IAmb 01 14 05.6
comp=Z,169nm,1.3s
NWCL Newcastle 83.27 118 *e*P **P** **01 14 03.8 -0.4**
NWCL IAmb IAmb 01 14 04.8
comp=Z,1μm,3.5s
HLID Hailey 83.31 328 P **P** **01 14 05.1 +1.2**
HLID IAmb IAmb 01 14 06.6
comp=Z,122nm,1.1s
HLID Hailey 83.31 328 P **P** **01 14 05.5 +1.6**
baz=139,SNR=119
AFDM Forest Hills D 83.34 321 IAmb IAmb 01 14 05.8
comp=Z,112nm,1.6s
LEPH Lephalale, Lim 83.41 113 *e*P **P** **01 14 04.6 -0.3**
LEPH IAmb IAmb 01 14 08.2
comp=Z,1μm,3.6s
AVE Averroes 83.46 47 P **P** **01 14 05.4 +0.8**
AVE IAmb IAmb 01 14 07.4
comp=Z,92nm,1.2s
BOZ Bozeman (W) 83.62 330 P **P** **01 14 06.2 +0.8**
baz=142,SNR=19
PLTX Planet X, Gerl 83.76 323 IAmb IAmb 01 14 08.3
comp=Z,76nm,0.8s
MFID Camas Ranch 83.88 327 IAmb IAmb 01 14 09.1
comp=Z,119nm,1.6s
ZHG ZHG 84.05 47 P **P** **01 14 10.0 +2.2**
ORV Oroville 84.05 321 IAmb IAmb 01 14 10.0
comp=Z,109nm,1.2s
WVOR Wild Horse Val 84.56 325 P **P** **01 14 10.8 +0.7**
WVOR Wild Horse Val 84.56 325 P **P** **01 14 10.9 +0.7**
WVOR pmax pmax
comp=Z,58nm,1.5s
EGMT Eagleton 84.76 333 P **P** **01 14 11.2 +0.2**
baz=143,SNR=6.8
MDT Midelt 84.99 49 LR LR 01 52 07.7
comp=Z,48nm,19.6s,baz=242,slow=36
MDT Midelt 84.99 49 P **P** **01 14 14.4 +1.9**
PFVI Vila Bisbo 85.05 43 *e*P **P** **01 14 13.9 +1.3**
comp=Z,80nm,1.5s
PFVI Vila Bisbo 85.05 43 IAmb IAmb 01 14 15.0
comp=Z,84nm,1.3s
MOD Modoc Plateau 85.05 323 IAmb IAmb 01 14 14.8
comp=Z,70nm,1.1s
J08A Circle Bar Ran 85.14 325 IAmb IAmb 01 14 15.5
comp=Z,152nm,1.0s
PLID Pearl Lake 85.21 328 IAmb IAmb 01 14 15.6
comp=Z,88nm,0.9s
MORF Marmelete 85.26 43 *e*P **P** **01 14 14.8 +1.1**
MORF IAmb IAmb 01 14 16.4
comp=Z,44nm,1.1s
KCPM Cahto Peak 85.31 320 IAmb IAmb 01 14 16.3
comp=Z,56nm,1.0s
LCRM LCR 85.36 48 P **P** **01 14 16.0 +1.6**
PTEO Sao Teotonio 85.38 43 *e*P **P** **01 14 15.6 +1.4**
comp=Z,131nm,1.6s
MSO Missoula 85.59 330 P **P** **01 14 16.4 +1.1**
baz=140,SNR=13
KMRM Mail Ridge 85.75 320 IAmb IAmb 01 14 18.8
comp=Z,149nm,1.3s
MUSN Musina, Limpop 85.82 113 *e*P **P** **01 14 18.4 +1.4**
MUSN IAmb IAmb 01 14 20.3
comp=Z,28nm,1.1s
PCVE Castro Verde 85.85 43 *e*P **P** **01 14 17.9 +1.4**
comp=Z,57nm,1.5s
PNCL Nicolau / Gran 85.86 43 *e*P **P** **01 14 17.8 +1.2**
comp=Z,61nm,1.3s
MESJ Messejana 85.87 43 *e*P **P** **01 14 17.8 +1.1**
MESJ IAmb IAmb 01 14 18.8
comp=Z,83nm,1.3s
MESJ *e*SKSac **SKSac** **01 24 31.3 +1.9**
PVAQ Vaqueiros 85.89 44 *e*P **P** **01 14 18.0 +1.2**
comp=Z,77nm,1.7s
PVAQ Vaqueiros 85.89 44 P **P** **01 14 17.1 +0.3**
PVAQ Vaqueiros 85.89 44 P **P** **01 14 18.5 +1.7**
CHEFC Chefchaouen 85.93 47 P **P** **01 14 19.1 +1.9**
KMPM Mount Pierce 86.11 320 IAmb IAmb 01 14 20.5
comp=Z,80nm,0.9s
I07A Izee 86.19 325 IAmb IAmb 01 14 20.6
comp=Z,79nm,1.3s
KHMM Horse Mountain 86.20 321 IAmb IAmb 01 14 20.9
comp=Z,58nm,1.1s
PBEJ Beja 86.20 43 *e*P **P** **01 14 19.4 +1.1**
comp=Z,53nm,1.7s
YBH Yreka Blue Hor 86.22 322 P **P** **01 14 18.2 -0.2**
comp=Z,22nm,0.6s,baz=104,slow=3.0,SNR=73
YBH LR LR 01 50 28.3
comp=Z,55nm,19.5s,baz=140,slow=34
comp=Z,22nm,0.6s
F10A Beach Ranch, E 86.45 328 IAmb IAmb 01 14 22.7
comp=Z,84nm,1.4s
AKLM AKL 86.52 48 P **P** **01 14 22.0 +1.9**
KRPM Rodgers 86.55 321 IAmb IAmb 01 14 22.7
comp=Z,98nm,0.9s
PSBE So Bento 86.62 41 *e*P **P** **01 14 21.4 +1.1**
comp=Z,110nm,1.9s
TAM Tamanrasset 86.63 62 P **P** **01 14 21.2 +0.2**
TAM Tamanrasset 86.63 62 P **P** **01 14 21.2 +0.2**
TAM pmax pmax
comp=Z,6.0nm,0.9s
PMTG Montargil 86.67 42 *e*P **P** **01 14 21.8 +1.3**
comp=Z,79nm,1.7s
PMTG *e*LQ LQ 01 14 57.5
G08A Pilot Rock 86.78 326 P **P** **01 14 21.7 +0.6**
PBAR Barrancos 86.80 43 *e*P **P** **01 14 21.8 +0.6**
comp=Z,33nm,1.8s
FIGM Figuig 86.84 51 P **P** **01 14 23.4 +1.7**
PALE Palemas 86.90 47 P **P** **01 14 25.0 +3.2**
PESTR Estremoz 86.91 43 *e*P **P** **01 14 22.6 +0.9**
comp=Z,41nm,2.1s
PESTR Estremoz 86.91 43 P **P** **01 14 21.9 +0.1**
PCAS Casmilo, Conde 87.14 41 *e*P **P** **01 14 24.6 +1.8**
comp=Z,50nm,1.4s
JBK JBK 87.27 49 P **P** **01 14 25.1 +1.3**
WALA Waterton Lakes 87.29 331 IAmb IAmb 01 14 24.7
comp=Z,71nm,0.8s
PMRV Marv??o 87.39 42 *e*P **P** **01 14 24.9 +0.9**
comp=Z,27nm,1.8s
G06A Carlson Farm, 87.57 326 IAmb IAmb 01 14 27.4
comp=Z,62nm,1.3s
PCBR Cabo Branco 87.60 42 *e*P **P** **01 14 25.9 +0.9**
comp=Z,34nm,1.7s
TAF Taforalt 87.66 48 P **P** **01 14 27.0 +1.5**
FFC Flin Flon 87.68 341 P **P** **01 14 25.1 +0.1**
FFC IAmb IAmb 01 14 26.8
comp=Z,57nm,1.1s
FFC Flin Flon 87.68 341 P **P** **01 14 25.1 +0.1**
FFC pmax pmax
comp=Z,57nm,1.2s
F07A Phinny Hill Vi 87.69 326 IAmb IAmb 01 14 27.8
comp=Z,154nm,1.9s
LSZ Lusaka 87.75 106 LR LR 01 48 49.1
comp=Z,136nm,20.2s,baz=228,slow=32
HAWA Hanford 87.85 327 IAmb IAmb 01 14 28.1
comp=Z,199nm,1.9s
MTE Manteigas 87.92 41 *e*P **P** **01 14 26.8 +0.2**
comp=Z,39nm,1.5s
H04A Detroit Lake 87.97 324 IAmb IAmb 01 14 28.2
comp=Z,63nm,1.0s
BUCK Buck Mountain 88.06 324 IAmb IAmb 01 14 29.2
comp=Z,104nm,0.9s
NEW Newport 88.09 329 P **P** **01 14 27.0 -0.2**
comp=Z,7.2nm,0.7s,baz=149,slow=4.6,SNR=14
NEW pP **pP** **01 15 01.7 -1.2**
comp=Z,5.1nm,0.7s,baz=98,slow=7.1,SNR=3.5
NEW LR LR 01 55 31.5
comp=Z,32nm,20.7s,baz=138,slow=36
comp=Z,7.2nm,0.7s
NEW Newport 88.09 329 P **P** **01 14 26.8 -0.4**
baz=138,SNR=9.0
HOOD Mount Hood Mea 88.14 325 IAmb IAmb 01 14 29.8
comp=Z,102nm,1.4s
C09A Chrisman Ranch 88.28 328 IAmb IAmb 01 14 29.8
comp=Z,63nm,0.9s
PVRL Vila Real 88.39 41 *e*P **P** **01 14 29.6 +0.8**
comp=Z,44nm,1.9s
COR Corvallis 88.49 324 P **P** **01 14 32.1 +3.1**
MVO Moncorvo 88.72 41 *e*P **P** **01 14 30.9 +0.6**
comp=Z,33nm,2.0s
LTY Liberty 89.02 327 IAmb IAmb 01 14 33.2
comp=Z,53nm,1.4s
PAB San Pablo 89.29 44 P **P** **01 14 33.6 +0.5**
PAB San Pablo 89.29 44 P **P** **01 14 34.0 +0.9**
PAB San Pablo 89.29 44 P **P** **01 14 33.6 +0.5**
PAB pmax pmax
comp=Z,12nm,1.0s
ESDC Sonseca Array 89.61 44 P **P** **01 14 35.0 +0.4**
comp=Z,6.9nm,1.1s,baz=241,slow=4.1,SNR=26
ESDC pP **pP** **01 15 10.0 -0.1**
comp=Z,0.8nm,0.7s,baz=231,slow=4.7,SNR=1.8
ESDC PKiKP **PKiKP** **01 19 35.9 +4.7**
comp=Z,0.3nm,0.6s,baz=271,slow=2.4,SNR=4.0
ESDC PKKPbc **PKKPbc** **01 32 07.8 -1.2**
comp=Z,0.3nm,1.0s,baz=21,slow=4.6,SNR=4.2
ESDC LR LR 01 53 28.9
comp=Z,52nm,18.4s,baz=216,slow=35
comp=Z,6.9nm,1.1s
D05A Enumclaw 89.61 326 IAmb IAmb 01 14 35.7
comp=Z,53nm,0.9s
LTZ Lake Taylor 90.64 219 P **P** **01 14 40.1 +0.6**
LTZ IAmb IAmb 01 14 41.5
comp=Z,36nm,0.9s
RPZ Rata Peaks 90.71 218 P **P** **01 14 40.8 +1.0**
comp=Z,30nm,1.0s,baz=205,slow=2.5,SNR=7.6
comp=Z,30nm,1.0s
RPZ Rata Peaks 90.71 218 P **P** **01 14 40.4 +0.7**
RPZ IAmb IAmb 01 14 42.0
comp=Z,34nm,1.0s
THZ Tophouse 90.94 221 P **P** **01 14 42.6 +1.6**
THZ IAmb IAmb 01 14 43.6
comp=Z,36nm,0.9s
LLLB Lillooet 91.94 329 IAmb IAmb 01 14 46.0
comp=Z,32nm,1.3s
BRLDA Berland Lookou 92.51 333 IAmb IAmb 01 14 48.2
comp=Z,38nm,0.9s
SFJD Kangerlussuaq 95.64 7 LR LR 01 59 12.2
comp=Z,26nm,20.6s,baz=180,slow=36
AFI Afiamalu 95.79 251 LR LR 01 50 54.3
comp=Z,55nm,18.2s,baz=158,slow=31
MBAR Mbarara 96.92 94 LR LR 01 54 44.8
comp=Z,62nm,21.9s,baz=226,slow=33
YKA Yellowknife Ar 97.82 340 P Pdif 01 15 11.6 0.0
comp=Z,14nm,0.9s,baz=140,slow=4.4,SNR=31
YKA LR LR 02 02 26.4
comp=Z,49nm,20.9s,baz=250,slow=37
comp=Z,14nm,0.9s
SSB Saint Sauveur 97.97 43 P Pdif 01 15 12.9 +0.1
SSB IAmb IAmb 01 15 14.7
comp=Z,18nm,1.1s
SSB Saint Sauveur 97.97 43 P Pdif 01 15 12.9 +0.2
SSB pmax pmax
comp=Z,18nm,1.1s
FLDN Fort Liard 99.20 335 Pdiff **Pdif** **01 15 18.7 +0.9**
baz=132
BORG Borgarnes 99.22 18 LR LR 01 55 46.1
comp=Z,54nm,19.3s,baz=187,slow=33
KOTAN Kotaneelee Air 99.34 335 Pdiff **Pdif** **01 15 19.3 +0.9**
baz=132
EKA Eskdalemuir Ar 99.51 31 LR LR 01 57 39.0
comp=Z,25nm,18.1s,baz=219,slow=34
T35M Bob Quinn 99.85 330 Pdiff **Pdif** **01 15 21.8 +1.0**
baz=127
WRAK Wrangell Islan 100.45 329 Pdiff **Pdif** **01 15 24.5 +1.1**
baz=126
DLBC Dease Lake 100.64 332 P **Pdif** **01 15 24.0 -0.3**
comp=Z,2.7nm,0.6s,baz=120,slow=4.3,SNR=6.5
DLBC PP **PP** **01 19 34.5 +0.8**
comp=Z,2.1nm,0.8s,baz=111,slow=6.0,SNR=3.5
DLBC Dease Lake 100.64 332 Pdiff **Pdif** **01 15 25.3 +1.0**
baz=127
S34M Telegraph Cree 100.79 331 Pdiff **Pdif** **01 15 25.9 +1.0**
baz=126
WTLY Watson Lake, Y 101.16 333 Pdiff **Pdif** **01 15 27.4 +0.9**
baz=128
R33M Jennings River 101.60 332 Pdiff **Pdif** **01 15 29.5 +0.8**
baz=126
TGTN Hyland Airport 101.82 335 Pdiff **Pdif** **01 15 31.2 +1.6**
baz=128
P33M Teslin, Yukon 102.84 332 Pdiff **Pdif** **01 15 34.9 +0.8**
baz=124
P32M Atlin 102.86 331 Pdiff **Pdif** **01 15 35.1 +1.0**
baz=124
SKAG Skagway 103.48 331 Pdiff **Pdif** **01 15 38.1 +1.3**
baz=123
PLBC Pleasant Camp 103.92 331 Pdiff **Pdif** **01 15 40.3 +1.5**
baz=122
FARO Faro, Yukon 104.19 334 Pdiff **Pdif** **01 15 41.1 +1.1**
baz=124
GERES GERESS Array B 105.17 43 PKiKP **PKiKP** **01 19 58.3 -0.1**
comp=Z,1.0nm,0.6s,baz=180,slow=2.1,SNR=10
GERES PKKPbc **PKKPbc** **01 31 24.7 -1.6**
comp=Z,0.5nm,0.8s,baz=33,slow=3.8,SNR=5.1
YUK4 Talbot Arm 105.86 332 Pdiff **Pdif** **01 15 48.9 +1.2**
baz=120
PINM Pinnacle 105.94 330 Pdiff **Pdif** **01 15 48.7 +0.8**
baz=119
YUK8 Steele Glacier 106.31 331 Pdiff **Pdif** **01 15 51.8 +2.1**
baz=119
L29M L29M 106.53 333 Pdiff **Pdif** **01 15 50.8 +0.4**
baz=120
A36M Sachs Harbour 107.39 344 Pdiff **Pdif** **01 15 53.8 -0.1**
baz=128
INK Inuvik 107.56 339 Pdiff **Pdif** **01 15 54.0 -0.8**
comp=Z,5.3nm,1.0s,baz=135,slow=6.1,SNR=7.9
INK PP **PP** **01 20 25.2 +0.5**
comp=Z,7.7nm,1.2s,baz=100,slow=7.8,SNR=3.7
INK Inuvik 107.56 339 Pdiff **Pdif** **01 15 55.9 +1.1**
baz=122
DZM Mont Dzumac 107.95 232 *e*LR LR 01 51 54.0
comp=Z,127nm,34.1s
GKP Gorka Klasztor 108.97 39 *e*P **PKiKP** **01 20 05.8 +0.7**
ILAR Eielson Array 110.73 333 Pdiff **Pdif** **01 16 09.1 +0.1**
comp=Z,0.3nm,0.8s,baz=137,slow=2.4,SNR=4.4
ILAR PKiKP **PKiKP** **01 20 08.2 0.0**
comp=Z,0.9nm,0.9s,baz=206,slow=1.1,SNR=5.7
ILAR PP **PP** **01 20 49.0 +1.3**
comp=Z,2.3nm,0.9s,baz=100,slow=4.4,SNR=5.3
E25K Arctic Village 111.48 337 PKiKP **PKiKP** **01 20 08.5 -1.1**
baz=112
F24K Squaw Lake 112.09 336 PKiKP **PKiKP** **01 20 11.8 +1.0**
baz=110
H23K Yukon River 112.15 334 PKiKP **PKiKP** **01 20 11.9 +1.0**
baz=109
BPAW Bear Paw Mtn. 112.17 332 PKiKP **PKiKP** **01 20 10.8 -0.1**
baz=108
D25K Kavik River 112.19 338 PKiKP **PKiKP** **01 20 10.5 -0.4**
baz=110
E24K Your Creek 112.50 336 PKiKP **PKiKP** **01 20 11.8 +0.3**
baz=109
G23K Bananza Creek 112.62 335 PKiKP **PKiKP** **01 20 12.4 +0.6**
baz=108
CHUM Lake Minchumin 112.66 331 PKiKP **PKiKP** **01 20 12.1 +0.3**
baz=108
TOLK Toolik Lake Re 113.06 337 PKiKP **PKiKP** **01 20 12.5 0.0**
baz=108
H21K Melozitna Rive 113.38 333 PKiKP **PKiKP** **01 20 13.5 +0.3**
baz=106
PABE Paberze 113.42 38 *e*P **PKiKP** **01 20 12.0 -1.5**
VSVD Vaisvydziai 113.52 38 *e*P **PKiKP** **01 20 13.4 -0.3**
RAF Rauma 113.77 32 *e*P **PKiKP** **01 20 13.2 -0.8**
C23K Itkillik River 113.77 338 PKiKP **PKiKP** **01 20 14.6 +0.8**
baz=106
G21K Allakaket 113.89 334 PKiKP **PKiKP** **01 20 13.8 -0.4**
baz=105
IIGN Ignalina 114.62 39 *e*P **PKiKP** **01 20 16.1 +0.3**
ISAL Salakas 114.62 39 *e*P PKPdf 01 20 14.5 -1.3
NACGM Naroch 114.82 39 *e*PKP **PKiKP** **01 20 16.5 +0.2**
comp=Z,10.0nm,0.8s,baz=257
AKASG Malin Array Be 115.25 44 PKP **PKPdf** **01 20 16.4 -0.7**
comp=Z,5.1nm,0.6s,baz=266,slow=2.6,SNR=30
AKASG PKKPbc **PKKPbc** **01 30 52.9 -0.5**
comp=Z,0.5nm,0.5s,baz=58,slow=3.7,SNR=4.4
AKASG Malin Array Be 115.25 44 *c* PKiKP **PKPdf** **01 20 16.3 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 115.25 44 **PKPdf** **01 20 16.3 -0.8**
AKBB Malin Array Si 115.25 44 *c* PKiKP **PKPdf** **01 20 15.9 -1.3**
MNK Minsk 115.35 40 *i* PKP **PKPdf** **01 20 16.9 -0.3**
comp=E,1.0nm,0.9s
MNK *i* PKP **PKPdf** **01 20 16.9 -0.3**
comp=N,17nm,0.9s
MNK *i* PKP **PKPdf** **01 20 16.9 -0.3**
comp=Z,21nm,0.9s,baz=256
MNK *i* pPKP PP 01 20 59.1 -22
MNK *i* PP **PP** **01 21 19.5 -1.2**
MNK *i* PPP PPP 01 23 46.5
MNK *i* SKS **SKSdf** **01 27 12.3 -3.9**
MNK *i* SS **SS** **01 36 58.0 -10**
MNK *i* SSS SSS 01 41 19.9
MNK *i* LRM MLR 02 09 13.7
comp=E,33nm,14.1s
MNK *i* LRM MLR 02 09 21.1
comp=Z,68nm,10.9s
MNK *i* LRM MLR 02 09 29.7
comp=N,197nm,14.1s
MNK Minsk 115.35 40 *i* PKiKP **PKPdf** **01 20 16.9 -0.3**
MNK *i* 01 21 19.5
MNK *i* 01 23 52.3
MNK *i* 01 27 12.3
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.9s

MNK MLR MLR
comp=E,33nm,14.0s
MNK MLR MLR
comp=Z,68nm,11.0s
MNK MLR MLR
comp=N,197nm,14.0s
BRTR Keskin Array B 115.40 57 PKP **PKPdf 01 20 17.6 -0.4**
comp=N,3.3nm,0.8s,baz=195,slow=2.3,SNR=17
BRTR PKKPbc **PKKPbc 01 30 53.1 +0.4**
comp=N,0.4nm,0.6s,baz=7.6,slow=4.4,SNR=1.4
BRTR Keskin Array B 115.40 57*c i*PKIKP **PKiKP 01 20 18.2 +0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
VSU Vasula 115.60 36 *e*P **PKPdf 01 20 17.0 -0.6**
FINES FINESS Array B 115.89 32 PKP **PKiKP 01 20 18.3 +0.2**
comp=Z,1.1nm,0.5s,baz=116,slow=4.4,SNR=8.3
FINES PKKPbc **PKKPbc 01 30 50.2 -1.3**
comp=Z,2.8nm,1.1s,baz=90,slow=1.9,SNR=5.5
ARCES ARCESS Array B 117.02 23 PKP **PKPdf 01 20 19.9 -0.1**
comp=Z,1.4nm,0.6s,baz=270,slow=0.7,SNR=9.2
ARCES PKKPbc **PKKPbc 01 30 46.1 -1.6**
comp=Z,2.9nm,1.0s,baz=47,slow=2.1,SNR=4.6
ARCES ARCESS Array B 117.02 23 PKIKP **PKPdf 01 20 20.0 -0.1**
APA Apatity 119.75 26⇓*i*PKIKP **PKiKP 01 20 31.3 +5.9**
APA *i* *P*P **sPKPdf 01 21 17.6 +0.6**
APA pmax pmax
comp=E,84nm,1.2s
RAYN Ar Rayn 120.12 78 PKPdf **PKPdf 01 20 27.4 -0.1**
RAYN Ar Rayn 120.12 78 PKIKP **PKPdf 01 20 27.4 -0.1**
OBN Obninsk 120.41 40 PKPdf **PKPdf 01 20 26.9 0.0**
OBN Obninsk 120.41 40 *e*PKIKP **PKPdf 01 20 26.5 -0.4**
OBN *e* 01 21 04.3
OBN *e* 01 21 53.8
OBN pmax pmax
comp=Z,23nm,1.0s
MOS Moscow 121.07 40 *e*PKIKP **PKPdf 01 20 26.5 -1.7**
MOS pmax pmax
comp=Z,42nm,0.8s
VSR Storozhevoye 121.52 45 *e*PKIKP **PKPdf 01 20 26.9 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 121.53 43 *e*PKIKP **PKPdf 01 20 28.5 -0.7**
LPSR pmax pmax
comp=Z,30nm,0.7s
VORR Voronezh 121.60 44 *e*PKIKP **PKPdf 01 20 28.7 -0.7**
VORR pmax pmax
comp=Z,20nm,0.4s
CTA Charters Tower 122.08 218 PKP **PKPdf 01 20 31.1 -0.3**
baz=116,slow=4.3
KLMR Klimovskoe 122.31 34 *e*PKPdf **PKPdf 01 20 30.5 0.0**
KLMR AMP 01 20 31.5
comp=Z,30nm,0.7s
KLMR *e*PP **PP 01 22 03.6 -4.8**
KLMR Klimovskoe 122.31 34 *e*PKIKP **PKPdf 01 20 30.4 0.0**
KLMR pmax pmax
comp=Z,30nm,0.7s
NEY Neytrino 122.83 55 *i* PKIKP **PKiKP 01 20 32.5 0.0**
KIV Kislovodsk 122.91 54 PKPdf **PKPdf 01 20 32.3 0.0**
KIV Kislovodsk 122.91 54 *e*PKIKP **PKPdf 01 20 32.4 +0.1**
KIV pmax pmax
comp=Z,24nm,1.1s
KBZ Khabaz 123.03 54 PKP **PKiKP 01 20 32.7 +0.1**
comp=Z,12nm,0.9s,baz=227,slow=2.9,SNR=24
KBZ Khabaz 123.03 54*c i*PKIKP **PKPdf 01 20 32.3 -0.1**
VRH Novokhopyorsk 123.12 45 *e*PKIKP **PKPdf 01 20 31.6 -0.7**
VRH pmax pmax
comp=Z,30nm,1.0s
NCK Nalchik 123.50 55 *i* PKIKP **PKPdf 01 20 33.2 -0.1**
ZEI Tsey 123.61 55 *i* PKIKP **PKPdf 01 20 32.2 -1.6**
ZEI pmax pmax
comp=Z,12nm,1.2s
GNI Garni 123.80 59 PKPdf **PKiKP 01 20 34.8 +0.3**
GNI Garni 123.80 59*c i*PKIKP **PKiKP 01 20 35.3 +0.8**
GNI pmax pmax
comp=Z,17nm,1.3s
ASAR Alice Springs 124.59 204 PKP **PKPdf 01 20 35.5 -0.7**
comp=Z,17nm,0.5s,baz=134,slow=1.8,SNR=264
ASAR pPKP **pPKPdf 01 21 13.0 -0.4**
comp=Z,4.8nm,0.7s,baz=146,slow=2.0,SNR=6.2
ASAR SKPab SKPab 01 23 32.3
comp=Z,0.8nm,0.9s,baz=142,slow=2.1,SNR=2.5
ASAR SKP 01 23 58.8
comp=Z,1.2nm,0.8s,baz=134,slow=2.7,SNR=4.4
ASAR PKKPbc **PKKPbc 01 30 17.9 -0.8**
comp=Z,1.3nm,0.8s,baz=334,slow=2.7,SNR=13
ASAR PKKP **PKPdf 01 30 58.0 -0.2**
comp=Z,0.4nm,0.6s,baz=350,slow=2.0,SNR=6.3
ASAR SKKPbc **SKKPbc 01 33 54.6 +1.1**
comp=Z,1.4nm,1.1s,baz=352,slow=3.7,SNR=3.9
PRGR Permogore 125.22 33 *e*PKIKP **PKPdf 01 20 35.4 -0.6**
PRGR pmax pmax
comp=Z,61nm,1.1s
AKT Akhty 126.25 57 *e*PKIKP **PKiKP 01 20 39.1 -0.1**
AKT *e* 01 22 35.7
AKT pmax pmax
comp=Z,16nm,0.9s
MAK Makhachkala 126.26 56 *e*P **Pdif 01 17 10.3 -8.2**
MAK *i* 01 20 38.3
MAK *e* 01 21 10.8
MAK *e*PPP PPP 01 25 21.3
MAK *e* 01 27 30.4
MAK *e*SS SS 01 39 22.8 -5.4
MAK *e*SSS SSS 01 44 10.2
MAK pmax pmax
comp=Z,17nm,0.4s
BELG Belogornoye 126.82 44 *i* PKIKP **PKPdf 01 20 38.6 -0.7**
KIRV Kirov 127.44 36*c i*PKIKP **PKiKP 01 20 41.0 +0.1**
WRA Warramunga Arr 127.82 206 PKHKP PKPpre 01 20 23.1
comp=Z,0.2nm,0.6s,baz=136,slow=1.2,SNR=4.8
WRA PKP **PKPdf 01 20 42.0 -0.5**
comp=Z,19nm,0.6s,baz=168,slow=1.7,SNR=105
WRA pPKP pPKPdf 01 21 19.6 -0.1
comp=Z,6.8nm,0.7s,baz=162,slow=1.7,SNR=5.8
WRA SKPab SKPab 01 23 46.6
comp=Z,1.3nm,0.8s,baz=156,slow=3.4,SNR=5.0
WRA SKP 01 24 04.4
comp=Z,1.1nm,0.8s,baz=161,slow=2.3,SNR=3.3
WRA SKKPbc **SKKPbc 01 33 40.2 -2.4**
comp=Z,0.8nm,0.8s,baz=349,slow=5.8,SNR=4.7
WRAB Tennant Creek 127.82 206 PKPdf **PKPdf 01 20 41.6 -0.8**
WRAB Tennant Creek 127.82 206*c i*PKIKP **PKPdf 01 20 42.4 0.0**
WRAB pmax pmax
comp=Z,56nm,1.7s
WB0 Warramunga Arr 127.95 206 PKPdf **PKPdf 01 20 41.9 -0.8**
SHEM Shemya Is, Ala 128.91 317 PKP **PKiKP 01 20 43.8 -0.2**
comp=Z,65nm,0.7s,baz=295,slow=18,SNR=1.7
BILL Bilibino 129.11 337 **PKiKP 01 20 44.1 +0.1**
BILL Bilibino 129.11 337*c i*PKIKP **PKPdf 01 20 43.1 -0.2**
BILL pmax pmax
comp=Z,10.0nm,0.7s
UOSS Minazif 129.84 80 **PKPdf 01 20 45.7 -0.3**
PMG Port Moresby 129.92 227 PKP **PKPdf 01 20 46.5 0.0**
comp=Z,3.1nm,0.3s,baz=104,slow=4.9,SNR=4.3
PSA00 Pilbara Seismi 130.13 189 **PKPdf 01 20 46.3 -0.5**
ARU Arti 132.68 38 PKPdf **PKiKP 01 20 51.0 -0.6**
ARU Arti 132.68 38 *i* PKIKP **PKiKP 01 20 51.4 -0.1**
ARU 01 23 13.7
AKTO Aktyubinsk 133.45 46 PKIKP **PKPdf 01 20 52.3 +0.3**
SVE Sverdlovsk 133.69 37 *e*PKIKP **PKPdf 01 20 52.8 +0.5**
SVE pmax pmax
comp=Z,23nm,1.5s
GEYT Ailbeck 133.85 63 PKP **PKPdf 01 20 53.5 +0.2**
comp=Z,4.3nm,0.6s,baz=251,slow=4.5,SNR=11
GYA0B ALIBECK ARRAY 133.85 63 PKPdf **PKPdf 01 20 53.6 +0.4**
AB31 Akbulak array 134.84 47 *i* PKIKP **PKPdf 01 20 54.6 -0.1**
ABKAR Akbulak array 134.84 47 PKPdf **PKiKP 01 20 55.5 -0.6**
NRIK Noril'sk 136.22 13 PKP **PKPdf 01 20 56.5 -0.1**
comp=Z,2.1nm,0.5s,baz=317,slow=0.9,SNR=5.4
NRIK Noril'sk 136.22 13 PKPdf **PKPdf 01 20 57.2 +0.5**
NRIK Noril'sk 136.22 13*c i*PKIKP **PKiKP 01 20 58.2 -0.2**
SEY Seymchan 136.64 335 PKHKP PKPpre 01 20 46.1
comp=Z,3.7nm,0.8s,baz=143,slow=7.1,SNR=3.5
SEY PKP **PKiKP 01 20 58.5 -0.8**
comp=Z,18nm,0.8s,baz=81,slow=3.5,SNR=5.3
SEY Seymchan 136.64 335*c i*PKIKP **PKiKP 01 20 59.1 -0.3**
SEY pmax pmax
comp=Z,20nm,0.8s
PEA0B Petropavlovsk- 138.55 320*c i*PKIKP **PKiKP 01 21 03.8 +0.2**
PETK Petropavlovsk- 138.55 320 PKHKP PKPpre 01 20 52.3
comp=Z,4.1nm,0.6s,baz=103,slow=9.2,SNR=11
BRVK Borovoye 140.17 39 PKPdf **PKPdf 01 21 05.4 +1.0**
BRVK Borovoye 140.17 39 *i* PKIKP **PKPdf 01 21 03.5 -0.9**
BVA0 Borovoye Array 140.24 39 PKIKP **PKPdf 01 21 04.6 +0.1**
BATI Baumata 140.45 197 PKHKP PKPpre 01 21 02.5
comp=Z,14nm,0.6s,baz=114,slow=20,SNR=2.2

SOEI Soe 140.71 198 PKP **PKPdf 01 21 03.3 -3.4**
KBL Kabul 142.48 69 PKPdf **PKPdf 01 21 06.8 -2.6**
KBL Kabul 142.48 69 PKIKP **PKPdf 01 21 06.8 -2.6**
CHM Chimkent 142.53 56 PKIKP **PKiKP 01 21 16.1 +4.0**
BRZS Berezniki 142.68 43 *e*PKP **PKPdf 01 21 08.5 -0.5**
baz=43
BRZS Berezniki 142.68 43 *e*PKIKP **PKPdf 01 21 08.5 -0.5**
IUG Iuzhnay 142.86 56 *e*PKP **PKPdf 01 21 06.4 -3.3**
baz=56
IUG Iuzhnay 142.86 56 *e*PKIKP **PKPdf 01 21 06.4 -3.3**
OTUK Ortayu 143.05 46 PKIKP PKPbc 01 21 06.6 -0.4
KK31 Karatay Array 143.06 55 *i* PKHKP PKPpre 01 21 06.2
GAR Garm 143.43 62 PKPdf PKPbc 01 21 08.7 +0.3
DZA Taraz 143.69 55 *e*PKP PKPbc 01 21 09.4 +0.4
baz=55
DZA Taraz 143.69 55 *e*PKIKP PKPbc 01 21 09.3 +0.3
FAKI Fak Fak 143.82 215 PKPdf PKPbc 01 21 10.5 +0.4
FAKI Fak Fak 143.82 215 PKP **PKPdf 01 21 12.1 0.0**
YAK Yakutsk 144.21 346*d i*PKIKP PKPbc 01 21 09.8 0.0
YAK pmax pmax
comp=Z,296nm,0.9s
YAK pmax pmax
comp=N,43nm,1.3s
YAK pmax pmax
comp=E,16nm,0.9s
MWPI Manokwari, Pap 144.55 219 PKP **PKPdf 01 21 13.9 +0.5**
MSAI Masohi 145.00 209 PKP **PKPdf 01 21 14.0 -0.2**
SMRI Semarang 145.00 176 **PKPbc 01 21 12.2 -1.5**
AAI Ambon 145.01 208 PKP **PKPbc 01 21 12.5 -1.3**
BTLS Baital 145.12 51 *e*PKP **PKPdf 01 21 13.4 0.0**
baz=50
BTLS Baital 145.12 51 *e*PKIKP **PKPbc 01 21 13.3 +0.1**
BSSI Bau Bau, Buton 145.12 194 PKP **PKPbc 01 21 14.0 -0.1**
BBSI Bau Bau 145.25 198 PKP **PKPbc 01 21 12.4 -2.1**
KRAI Karang Ratu 145.26 209 PKP **PKPdf 01 21 14.6 0.0**
EKS2 Erkin-Say 145.50 55 P **PKPab 01 21 15.7 +0.6**
SNR=109
AML Almayashu 145.55 56 P **PKPab 01 21 16.1 +0.4**
SNR=117
KURBB Kurchatov Arra 145.83 39 PKIKP **PKPdf 01 21 14.4 0.0**
KURK Kurchatov 145.84 39 **PKPdf 01 21 14.7 +0.3**
KURK Kurchatov 145.84 39 PKP2 **PKPdf 01 21 14.7 +0.3**
NLAI Namlea 145.86 206 PKP **PKPdf 01 21 14.7 -0.9**
USP Ospenovka 145.88 53 P **PKPab 01 21 16.3 -0.1**
SNR=37
SGDS Segindy 145.93 53 *e*PKP **PKPdf 01 21 14.8 -0.2**
baz=53
SGDS Segindy 145.93 53 *e*PKIKP **PKPdf 01 21 14.7 -0.2**
NIL Nilore 145.94 71 **PKPbc 01 21 15.9 -0.3**
NIL Nilore 145.94 71 PKP2 **PKPbc 01 21 15.9 -0.3**
BKSI Bulukumba 145.99 194 PKP **PKPbc 01 21 17.0 +0.2**
AAK Ala-Archa 146.03 55 P **PKPab 01 21 17.1 -0.1**
SNR=121
AAK Ala-Archa 146.03 55 PKPbc **PKPbc 01 21 16.4 +0.1**
AAK Ala-Archa 146.03 55 PKP2 **PKPbc 01 21 16.4 +0.1**
SIJI Sorong 146.08 215 PKPbc **PKPdf 01 21 16.5 +0.5**
comp=E,35nm,0.8s,baz=51,slow=1.9,SNR=24
SIJI pPKPbc pPKPbc 01 21 53.8 -0.1
comp=E,9.9nm,0.7s,baz=34,slow=8.1,SNR=1.8
SIJI SKPbc **SKPbc 01 24 43.3 -0.1**
comp=E,2.0nm,0.3s,baz=256,slow=5.9,SNR=3.6
CHMS Chumysh 146.13 54 P **PKPab 01 21 17.0 -0.3**
SNR=31
UCH Uchtor 146.13 55 P **PKPab 01 21 17.6 -0.3**
SNR=56
KBK Karagaybulak 146.35 54 P **PKPbc 01 21 17.6 +0.3**
SNR=66
KAPI Kappang 146.37 193 **PKPbc 01 21 17.5 -0.4**
KAPI Kappang 146.37 193 PKP2 **PKPbc 01 21 17.5 -0.4**
GUMO Guam 146.68 251 PKPbc **PKPbc 01 21 18.2 -0.6**
comp=E,94nm,0.6s,baz=178,slow=9.7,SNR=4.8
GUMO Guam 146.68 251 **PKPbc 01 21 18.8 +0.1**
TKM2 Tokmak 2 146.75 54 P **PKPbc 01 21 17.6 -0.8**
SNR=52
TKM2 Tokmak 2 146.75 54 PKIKP **PKPdf 01 21 17.1 +0.6**
BNSI Bone 146.89 194 PKP **PKPbc 01 21 19.1 -0.3**
HYBB Hyderabad (bro 146.98 101 *e*PKPbc **PKPdf 01 21 18.4 +0.9**
HYBB *e*PKPab **PKPab 01 21 20.6 -0.7**
KUU Kurty 147.01 52 *e*PKP **PKPdf 01 21 16.1 -0.6**
baz=52
KUU Kurty 147.01 52 *e*PKIKP **PKPdf 01 21 16.1 -0.6**
BOOM Boomskoye usch 147.10 54 **PKPbc 01 21 18.9 -0.5**
BOOM Boomskoye usch 147.10 54 PKP2 **PKPbc 01 21 18.9 -0.5**
ZALV Zalesovo Beam 147.14 30 PKPbc **PKPbc 01 21 17.9 -1.0**
comp=E,125nm,0.5s,baz=291,slow=3.1,SNR=160
ZALV pPKPbc **pPKPbc 01 21 55.1 -0.9**
comp=E,14nm,0.7s,baz=308,slow=3.2,SNR=1.2
ZALV SKPbc **SKPbc 01 24 44.4 +0.1**
comp=E,2.9nm,0.7s,baz=302,slow=3.2,SNR=3.2
ZALV Zalesovo Beam 147.14 30 PKPbc **PKPdf 01 21 17.3 +0.8**
ULHL Ulahol 147.37 55 P **PKPbc 01 21 19.8 -0.5**
SNR=16
SANI Saanana 147.38 205 PKP **PKPdf 01 21 18.5 +0.3**
CHKK Chushkaly 147.47 52 *e*PKP **PKPdf 01 21 16.9 -0.6**
baz=52
CHKK Chushkaly 147.47 52 *e*PKIKP **PKPdf 01 21 16.8 -0.6**
AAA Alma-Ata 147.61 53 *e*PKP **PKPdf 01 21 17.9 +0.1**
baz=53
AAA Alma-Ata 147.61 53 *e*PKIKP **PKPdf 01 21 17.8 +0.1**
MDOK Medeo 147.71 53 *e*PKP **PKPdf 01 21 17.3 -0.8**
baz=53
MDOK Medeo 147.71 53 *e*PKIKP **PKPdf 01 21 17.2 -0.8**
KSH Kashi 147.72 60 PKPbc **PKPbc 01 21 19.8 -1.4**
KSH sPKP 01 21 58.4
KSH PP **PP 01 24 48.0 -1.5**
LBMI Labuha 148.05 209 PKP **PKPdf 01 21 19.9 +0.6**
TDK Taldyqorghan 148.07 49 *e*PKP **PKPdf 01 21 18.3 -0.2**
baz=49
TDK Taldyqorghan 148.07 49 *e*PKIKP **PKPdf 01 21 18.2 -0.2**
KPKS Kokpek 148.76 52 *e*PKP **PKPdf 01 21 19.3 -0.4**
baz=52
KPKS Kokpek 148.76 52 *e*PKIKP **PKPdf 01 21 19.3 -0.4**
UZB Uzynbulak 149.10 52 *e*PKP **PKPdf 01 21 20.2 -0.2**
baz=52
UZB Uzynbulak 149.10 52 *e*PKIKP **PKPdf 01 21 20.1 -0.2**
PDGK Podgornoye 149.37 51 PKHKP PKPpre 01 21 21.5
SHLS Shalkode 149.40 52 *e*PKP **PKPdf 01 21 21.4 +0.7**
baz=52
SHLS Shalkode 149.40 52 *e*PKHKP PKPpre 01 21 21.4
LUWI Luwuk 149.43 200 PKPbc **PKPbc 01 21 25.7 -0.3**
LUWI Luwuk 149.43 200 PKP **PKPdf 01 21 22.1 +0.6**
MAKZ Makanchi 149.63 44 PKPdf **PKPdf 01 21 20.8 -0.1**
MAKZ PKPbc **PKiKP 01 21 26.1 -0.5**
MAKZ Makanchi 149.63 44 PKHKP PKPpre 01 21 20.8
GSI Gunungsitoli 149.74 149 PKPbc **PKPbc 01 21 26.6 -0.3**
YSS Yuzh-Sakhalins 149.82 317 **PKPbc 01 21 26.0 0.0**
YSS Yuzh-Sakhalins 149.82 317 *e*PKHKP PKPpre 01 21 25.9
YSS pmax pmax
comp=Z,90nm,1.1s
MKAR Makanchi Array 149.83 44 PKP **PKPdf 01 21 21.5 +0.3**
comp=Z,116nm,0.8s,baz=336,slow=2.7,SNR=124
MKAR PKPbc **PKiKP 01 21 26.8 -0.2**
comp=Z,117nm,0.8s,baz=271,slow=3.1,SNR=262
MKAR pPKPbc **pPKPbc 01 22 02.6 -0.8**
comp=Z,13nm,0.7s,baz=18,slow=5.1,SNR=2.3
MKAR PP **PP 01 25 01.2 +0.1**
comp=Z,1.3nm,0.7s,baz=303,slow=8.0,SNR=2.3
MKAR Makanchi Array 149.83 44 PKPdf **PKPdf 01 21 21.1 -0.1**
MKAR PKPbc **PKPbc 01 21 25.8 -0.3**
MKAR PKPab **PKPab 01 21 32.7 +0.7**
GAMI Galela, Maluku 150.12 212 PKP **PKPbc 01 21 26.8 -1.0**
BOD Bodaibo 150.27 358 *e*PKIKP **PKPdf 01 21 21.4 -0.1**
BOD pmax pmax
comp=Z,83nm,1.1s
GTOI Gorontalo 150.93 202 PKP **PKPdf 01 21 24.8 +0.9**
ZSN Zaisan 151.03 41 *e*PKP **PKPdf 01 21 23.2 +0.1**
baz=41
ZSN Zaisan 151.03 41 *e*PKIKP **PKPdf 01 21 23.1 +0.1**
GRNR Gornyy 151.04 328⇑*i*PKIKP **PKiKP 01 21 29.2 -0.2**
GRNR pmax pmax
comp=Z,30nm,1.0s
MRSI Marisa 151.11 200 PKP **PKPbc 01 21 30.1 0.0**
MPSI Mapaga 151.53 195 PKP **PKPdf 01 21 25.2 +0.4**
TOLI2 Tolitoli 152.05 198 PKPdf **PKPdf 01 21 23.8 -1.8**
TOLI2 **PKPbc 01 21 30.2 -2.0**
TOLI2 PKPab **PKPab 01 21 40.6 -1.4**
ZEA Zeya 152.20 341 *e*PKIKP **PKPdf 01 21 25.1 +0.6**
ZEA *e* 01 21 42.1
ZEA pmax pmax
comp=Z,100nm,2.4s
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.5s

IPM Ipoh 154.07 153 **PKPbc 01 21 35.7 -1.0**
WMQ Urumqi 154.60 45 *e*PKPbc **PKPdf 01 21 29.4 +1.0**
DANN Dangsing 154.63 83 *e*P **PKPdf 01 21 29.9 +0.7**
comp=Z,54nm,0.6s
MOY Mondy 154.89 17 *e*PKIKP **PKiKP 01 21 38.9 +1.5**
MOY pmax pmax
comp=Z,43nm,1.6s
IRK Irkutsk 155.09 12 *e*PKIKP **PKPdf 01 21 26.0 -2.7**
IRK pmax pmax
comp=Z,76nm,2.0s
HEH HeiHe 155.15 337 PKP **PKPdf 01 21 28.6 -0.2**
HEH SS SS 01 45 00.8 -1.9
HEH AMB AMB
comp=Z,180nm,4.1s
DMN Daman 155.72 85 *e*P **PKPdf 01 21 31.0 +0.3**
PKIN Phulchoki 155.97 85 *e*P **PKPdf 01 21 30.8 -0.2**
PKI Pulchoki 155.98 85 *e*P **PKPdf 01 21 31.1 0.0**
GUN Gumba 156.44 84 *e*P **PKPdf 01 21 32.1 +0.4**
ZAK Zakamensk 156.64 15 *e*PKIKP **PKPdf 01 21 32.0 +1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
JIRN Jiri 156.68 85 *e*P **PKPdf 01 21 32.2 +0.1**
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 156.81 298 PKP **PKPdf 01 21 30.9 -0.6**
comp=Z,1.7nm,0.9s,baz=256,slow=1.0,SNR=5.8
MJAR PKPbc PKPbc 01 21 41.9
comp=Z,0.7nm,0.4s,baz=96,slow=2.7,SNR=1.3
MJAR PKPab **PKPab 01 22 02.2 +0.3**
comp=Z,23nm,0.8s,baz=114,slow=2.2,SNR=4.7
MJAR pPKPab **pPKPab 01 22 39.0 +0.9**
comp=Z,2.2nm,0.8s,baz=93,slow=2.5,SNR=1.5
MAJO Matsushiro 156.81 298 PKPdf **PKPdf 01 21 31.7 +0.2**
MAJO PKPab **PKPab 01 22 02.2 +0.3**
MAJO Matsushiro 156.81 298 PKIKP **PKPdf 01 21 31.7 +0.2**
MJB9 Matsu-Tunnel 156.81 298 PKPdf **PKPdf 01 21 31.2 -0.4**
MJB9 **PKPab 01 22 02.2 +0.3**
RAMN Ramite 156.94 87 *e*P **PKPdf 01 21 32.9 +0.6**
comp=Z,33nm,0.7s
USRK Ussuriysk Ar. 157.63 321 PKP **PKPdf 01 21 32.6 +0.3**
comp=Z,2.6nm,0.8s,baz=101,slow=1.9,SNR=5.3
USRK PKPab **PKPab 01 22 05.5 +0.4**
comp=Z,4.9nm,0.7s,baz=215,slow=2.8,SNR=5.7
HIA Hailar 158.15 347 PKPdf **PKPdf 01 21 32.2 -0.6**
HIA **PKPab 01 22 07.2 +0.1**
HIA Hailar 158.15 347 PKIKP **PKPdf 01 21 32.2 -0.6**
HIA 01 22 07.3
BNX BinXian 158.83 330 ⇑P **PKPab 01 22 10.8 +0.6**
BNX pmax pmax
comp=Z,58nm,0.8s
BNX BinXian 158.83 330 PKP **PKPdf 01 21 32.6 -1.1**
SONM Songino Array 159.71 12 PKP **PKPdf 01 21 35.3 +0.5**
comp=Z,10.0nm,1.0s,baz=302,slow=0.3,SNR=34
SONM PKPbc PKPbc 01 21 48.3
comp=Z,2.8nm,0.9s,baz=321,slow=1.8,SNR=4.3
SONM PKPab **PKPab 01 22 14.9 +0.7**
comp=Z,10nm,0.7s,baz=324,slow=4.6,SNR=20
SONM pPKPab **pPKPab 01 22 51.1 +0.8**
comp=Z,1.0nm,0.6s,baz=333,slow=3.7,SNR=1.0
SONM PP **PP 01 25 55.5 0.0**
comp=Z,1.1nm,0.8s,baz=353,slow=4.0,SNR=4.0
ULN Ulaanbaatar 159.79 11 PKPdf **PKPdf 01 21 35.1 +0.2**
ULN PKPab **PKPab 01 22 15.2 +0.7**
ULN Ulaanbaatar 159.79 11 PKIKP **PKPdf 01 21 35.1 +0.2**
ULN 01 22 15.2
CN2 Changchun 161.21 330 *e*P **PKPab 01 22 19.2 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 Changchun 161.21 330 *e*PKP **PKPdf 01 21 34.9 -1.5**
CN2 PP **PP 01 26 05.4 +1.6**
CN2 SKS **SKSdf 01 28 28.7 +0.1**
CN2 SKKS **SKKSac 01 32 43.2 +4.0**
CN2 AMB AMB
comp=Z,120nm,5.0s
MND Mandalay 163.91 108 **PKPdf 01 21 39.5 -0.2**
XLT XiLinHaoTe 163.97 351 *e*PKP **PKPdf 01 21 39.1 -0.2**
XLT PKPab **PKPab 01 22 33.0 +0.2**
XLT PP **PP 01 26 16.2 -1.9**
XLT SS SS 01 46 41.0 +5.6
XLT AMB AMB
comp=Z,330nm,3.9s
KSRS Korea Array 164.09 310 PKP **PKPdf 01 21 39.9 +0.5**
comp=Z,4.1nm,0.8s,baz=129,slow=0.5,SNR=17
KSRS PKPab **PKPab 01 22 35.1 +1.6**
comp=Z,18nm,1.0s,baz=63,slow=4.5,SNR=27
KSAR Wonju Array Be 164.12 310 **PKPdf 01 21 39.4 -0.1**
KSAR PKPab **PKPab 01 22 34.1 +0.4**
KSAR Wonju Array Be 164.12 310 PKIKP **PKPdf 01 21 39.4 -0.1**
KSAR 01 22 34.1
CMAR Chiang Mai Arr 164.24 125 PKP **PKPdf 01 21 40.7 +0.6**
comp=Z,5.2nm,1.0s,baz=259,slow=2.5,SNR=26
CMAR PKPab **PKPab 01 22 35.2 +0.5**
comp=Z,0.9nm,0.3s,baz=243,slow=4.0,SNR=4.4
CMAR pPKPab **pPKPab 01 23 10.2 -0.2**
comp=Z,1.2nm,0.4s,baz=283,slow=3.5,SNR=2.6
CHTO Chiang Mai 164.46 124 **PKPdf 01 21 39.4 -0.9**
CHTO PKPab **PKPab 01 22 35.2 -0.5**
CHTO Chiang Mai 164.46 124 PKIKP **PKPdf 01 21 39.4 -0.9**
CHTO 01 22 35.2
GTA Gaotai 164.52 40 ⇓PKP **PKPdf 01 21 40.7 +0.8**
GTA PKPab **PKPab 01 22 36.8 +1.2**
GTA SS SS 01 46 42.8 +0.3
GTA LR LR
comp=Z,47nm,17.1s
GTA LR LR
comp=Z,84nm,17.1s
GTA LR LR
comp=Z,52nm,17.8s
TNCH TengChong 167.05 100 *e*PKP **PKPdf 01 21 41.6 -0.9**
TNCH pPKP pPKPdf 01 22 14.7 -5.3
HHC Hu-ho-hao-te 167.25 3 *e*PKP **PKPdf 01 21 43.5 +1.4**
BJI Beijing 167.72 347 PKP **PKPdf 01 21 43.1 +0.9**
LZH Lanzhou 169.12 41 ⇑PKP **PKPdf 01 21 45.4 +1.8**
PZH PanZhiHua 170.23 97 PKP **PKPdf 01 21 44.2 -0.2**
PZH PKPab **PKPab 01 23 01.8 +0.5**
PZH PP **PP 01 26 49.8 -2.4**
PZH AMB AMB
comp=Z,310nm,5.0s
HNS HongShan 170.55 350 PKP **PKPdf 01 21 45.3 +1.2**
KMI Kunming 170.71 106 ⇓PKP **PKPdf 01 21 41.8 -3.1**
KMI SS SS 01 47 47.7 +1.0
TIA Tai'an 171.03 336 PKP **PKPdf 01 21 45.0 +0.6**
TIA PP **PP 01 26 53.4 -0.9**
CD2 Chengdu 171.82 68 PKP **PKPdf 01 21 45.3 +0.3**
CD2 PP **PP 01 27 01.0 +1.3**
CD2 SS SS 01 47 58.1 +1.1
CD2 AMB AMB
comp=Z,120nm,6.3s
NJ2 Nanjing 173.28 307 *e*PKP **PKPdf 01 21 48.1 +2.6**
XAN Xi'an 173.29 27 PKP **PKPdf 01 21 46.2 +0.6**
XAN PKPab **PKPab 01 23 14.3 0.0**
LYN LuoYang 173.56 1 PKP **PKPdf 01 21 46.1 +0.5**
LYN PKPab **PKPab 01 23 15.0 -0.3**
LYN PP **PP 01 27 05.5 -0.8**
LYN AMB AMB
comp=Z,180nm,5.3s
GYA Guiyang 174.49 106 PKP **PKPdf 01 21 46.8 +0.5**

IDC ***13*** *01:01:56.7±3.2,16.62N±148.58E,h0km,mb3.6/6, mbtmp3.7/7,ML3.5/1, Error ellipse: s-maj=82.0km s-min=26.9km az=94.0*

ISC 13 01:02:03.8±2.0, 16.6N±0.1×148.2E±0.0, h35km, n7, σ1.9 38/8, mb3.6/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time ISC	h	m	s	Res ISC
GUMO	**Guam**	**4.36**	**227**	Pn	**Pn**	**01 03 08.8**				**+1.2**
	2.0nm,0.3s,baz=14,slow=22,SNR=1.6									
GUMO				Sn	**Sn**	**01 03 55.9**				**-1.4**
	3.8nm,0.3s,baz=12,slow=23,SNR=2.3									
	51nm,0.9s									
MJAR	**Matsushiro Arr**	**21.76**	**338**	P	**P**	**01 06 52.4**				**0.0**
	0.5nm,0.5s,baz=166,slow=9.5,SNR=1.4									
	0.5nm,0.5s									
WRA	**Warramunga Arr**	**38.76**	**201**	P	**P**	**01 09 24.8**				**-0.3**
	0.7nm,0.7s,baz=28,slow=9.5,SNR=3.2									
	0.7nm,0.7s									
SONM	**Songino Array**	**46.26**	**322**	P	**P**	**01 10 26.7**				**+0.7**
	0.5nm,0.6s,baz=120,slow=5.2,SNR=2.2									
	0.5nm,0.6s									
CMAR	**Chiang Mai Arr**	**46.87**	**280**	P	**P**	**01 10 32.1**				**+1.1**
	0.7nm,0.3s,baz=88,slow=7.3,SNR=4.9									
	0.7nm,0.3s									
ZALV	**Zalesovo Beam**	**61.12**	**323**	P	**P**	**01 12 13.6**				**-0.9**

0.3nm,0.4s,baz=93,slow=7.2,SNR=4.0
0.3nm,0.4s
MKAR Makanchi Array 61.62 315 P **P** **01 12 16.1 -1.9**
0.3nm,0.6s,baz=104,slow=6.1,SNR=2.2
0.3nm,0.6s

---

*NEIC **13** 01:06:27.8±1.1, 19°.15N±0°.04×66°.60W±0°.03, h26km±11km, Error ellipse: s-maj=6.7km s-min=3.3km az=148.0*
*RSPR **13** 01:06:28.2, 19°.27N×66°.61W, h28km±11km, MD3.5/15*
ISC 13 01:06:26.4±1.5, 19°.22N±0°.07×66°.60W±0°.03, h28km, n64, σ0.86/70, 10C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.74**	**175**	⇑*iP*		**Pn**	**01 06 41.5**	**+0.4**
EMPR	**Esperanza - Ma**	**0.74**	**175**	*eS*		**Sn**	**01 06 52.1**	**+0.7**
EMPR	**Esperanza - Ma**	**0.74**	**175**			**Pn**	**01 06 41.5**	**+0.4**
EMPR						**Sn**	**01 06 52.1**	**+0.7**
EMPR	**Esperanza - Ma**	**0.74**	**175**	IAML			01 06 53.5	
	comp=E,3µm,0.4s							
AOPR	**Arecibo Observ**	**0.88**	**189**	⇑*iP*		**Pn**	**01 06 43.2**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**189**	*eS*		**Sn**	**01 06 55.0**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**189**			**Pn**	**01 06 43.2**	**+0.2**
AOPR						**Sn**	**01 06 55.0**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**189**	*eP*		**Pb**	**01 06 43.4**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**189**	*e*		Pb	01 06 50.2	+7.0
AGPR	**Aguadilla, PR**	**0.89**	**213**	⇑*eP*		**Pn**	**01 06 43.0**	**-0.1**
AGPR	**Aguadilla, PR**	**0.89**	**213**	*eS*		**Sn**	**01 06 55.3**	**+0.3**
AGPR	**Aguadilla, PR**	**0.89**	**213**			**Pn**	**01 06 43.0**	**-0.1**
AGPR						**Sn**	**01 06 55.3**	**+0.3**
GCPR	**Guaynabo City**	**1.03**	**151**	⇑*eP*		**Pn**	**01 06 45.3**	**+0.3**
GCPR	**Guaynabo City**	**1.03**	**151**	*eS*		**Sb**	**01 06 58.8**	**0.0**
GCPR	**Guaynabo City**	**1.03**	**151**			**Pn**	**01 06 45.3**	**+0.3**
GCPR						**Sb**	**01 06 58.8**	**0.0**
GCPR	**Guaynabo City**	**1.03**	**151**	IAML			01 07 02.6	
	comp=N,583nm,0.6s							
GCPR				IAML			01 07 07.8	
	comp=E,674nm,0.5s							
CELP	**Cerrillos**	**1.14**	**179**	⇑*eP*		**Pb**	**01 06 47.2**	**-0.3**
CELP	**Cerrillos**	**1.14**	**179**	*eS*		**Sb**	**01 07 01.9**	**-0.1**
CELP	**Cerrillos**	**1.14**	**179**			**Pb**	**01 06 47.2**	**-0.3**
CELP						**Sb**	**01 07 01.9**	**-0.1**
CELP	**Cerrillos**	**1.14**	**179**	IAML			01 07 09.0	
	comp=E,493nm,0.5s							
CELP				IAML			01 07 09.7	
	comp=N,505nm,0.5s							
IDE	**Isla Desecheo**	**1.17**	**225**	⇑*eP*		**Pn**	**01 06 47.3**	**+0.4**
IDE	**Isla Desecheo**	**1.17**	**225**	*eS*		**Sn**	**01 07 02.3**	**+0.3**
CBYP	**Canovanas**	**1.18**	**143**	⇑*eP*		**Pn**	**01 06 47.4**	**+0.2**
CBYP	**Canovanas**	**1.18**	**143**	*eS*		**Sn**	**01 07 02.6**	**+0.3**
CBYP	**Canovanas**	**1.18**	**143**			**Pn**	**01 06 47.4**	**+0.2**
CBYP						**Sn**	**01 07 02.6**	**+0.3**
SJG	**San Juan**	**1.18**	**159**			**Pb**	**01 06 47.8**	**-0.4**
SJG				IAML			01 07 06.3	
	comp=N,643nm,0.5s							
SJG				IAML			01 07 09.1	
	comp=N,659nm,0.4s							
HUMP	**Col San Antoni**	**1.29**	**146**	⇓*eP*		**Pn**	**01 06 48.9**	**+0.3**
HUMP	**Col San Antoni**	**1.29**	**146**	*eS*		**Sn**	**01 07 05.0**	**+0.1**
HUP	**Col San Antoni**	**1.29**	**146**			**Pn**	**01 06 48.9**	**+0.3**
HUMP						**Sn**	**01 07 05.0**	**+0.1**
HUMP	**Col San Antoni**	**1.29**	**146**	IAML			01 07 06.4	
	comp=N,1µm,0.2s							
HUMP				IAML			01 07 06.8	
	comp=E,1µm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.30**	**202**	⇑*eP*		**Pn**	**01 06 49.2**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.30**	**202**	*eS*		**Sn**	**01 07 05.8**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.30**	**202**			**Pn**	**01 06 49.2**	**+0.5**
CRPR						**Sn**	**01 07 05.8**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.30**	**202**	IAML			01 07 15.1	
	comp=N,562nm,0.9s							
MLPR	**Magueyes Islan**	**1.31**	**199**	⇑*iP*		**Pn**	**01 06 49.5**	**+0.6**
MLPR	**Magueyes Islan**	**1.31**	**199**	*eS*		**Sn**	**01 07 05.8**	**+0.3**
MLPR	**Magueyes Islan**	**1.31**	**199**			**Pn**	**01 06 49.5**	**+0.6**
MLPR						**Sn**	**01 07 05.8**	**+0.3**
MLPR	**Magueyes Islan**	**1.31**	**199**	IAML			01 07 09.7	
	comp=N,569nm,1.2s							
IGPR	**InterUniversit**	**1.33**	**159**	⇓*eP*		**Pn**	**01 06 50.0**	**+0.8**
IGPR	**InterUniversit**	**1.33**	**159**	*eS*		**Sb**	**01 07 06.8**	**-0.7**
CUPR	**Culebra, Puert**	**1.54**	**126**	⇑*eP*		**Pn**	**01 06 52.2**	**+0.1**
CUPR	**Culebra, Puert**	**1.54**	**126**	*eS*		**Sn**	**01 07 11.2**	**-0.1**
CUPR	**Culebra, Puert**	**1.54**	**126**			**Pn**	**01 06 52.2**	**+0.1**
CUPR						**Sn**	**01 07 11.2**	**-0.1**
STVI	**Saint Thomas**	**1.79**	**119**	⇓*eP*		**Pn**	**01 06 56.1**	**+0.6**
STVI	**Saint Thomas**	**1.79**	**119**	*eS*		**Sn**	**01 07 17.3**	**+0.2**
STVI	**Saint Thomas**	**1.79**	**119**			**Pn**	**01 06 56.1**	**+0.6**
STVI						**Sn**	**01 07 17.3**	**+0.2**
STVI	**Saint Thomas**	**1.79**	**119**	IAML			01 07 21.0	
	comp=E,272nm,0.5s							
STVI				IAML			01 07 27.7	
	comp=N,309nm,0.4s							
PCDR	**Punta Cana, DR**	**1.82**	**248**	Pn		**Pb**	**01 06 58.3**	**-0.9**
PCDR				IAML			01 07 33.1	
	comp=N,301nm,0.8s							
SJVI	**Gifft Hill Sch**	**1.95**	**117**	⇓*eP*		**Pn**	**01 06 58.4**	**+0.7**
SJVI	**Gifft Hill Sch**	**1.95**	**117**	*eS*		**Sn**	**01 07 21.1**	**-0.2**
SJVI	**Gifft Hill Sch**	**1.95**	**117**			**Pn**	**01 06 58.4**	**+0.7**
SJVI						**Sn**	**01 07 21.1**	**-0.2**
SJVI	**Gifft Hill Sch**	**1.95**	**117**	Pn		**Pn**	**01 06 58.5**	**+0.9**
SJVI				IAML			01 07 34.8	
	comp=E,156nm,0.5s							
SJVI				IAML			01 07 36.9	
	comp=N,228nm,0.7s							
TBVI	**Tortola**	**2.04**	**113**	⇑*eP*		**Pn**	**01 07 00.2**	**+1.2**
TBVI	**Tortola**	**2.04**	**113**	*eS*		**Sn**	**01 07 24.7**	**+1.2**
TBVI	**Tortola**	**2.04**	**113**			**Pn**	**01 07 00.2**	**+1.2**
TBVI						**Sn**	**01 07 24.7**	**+1.2**
CDVI	**St. Croix**	**2.27**	**130**	⇑*eP*		**Pb**	**01 07 04.6**	**-2.2**
CDVI	**St. Croix**	**2.27**	**130**	*eS*		**Sb**	**01 07 33.0**	**-1.5**
CDVI	**St. Croix**	**2.27**	**130**			**Pb**	**01 07 04.6**	**-2.2**
CDVI						**Sb**	**01 07 33.0**	**-1.5**
SDDR	**Presa de Saban**	**4.44**	**268**			**Pn**	**01 07 32.9**	**+0.9**
SDDR				IAML			01 08 58.2	
	comp=N,77nm,1.1s							
ANWB	**Willy Bob**	**4.83**	**108**	*eP*		**Pn**	**01 07 39.0**	**+1.8**
ANWB	**Willy Bob**	**4.83**	**108**	*eS*		**Sn**	**01 08 34.3**	**+2.0**
ANBD	**Bethesda, Anti**	**5.08**	**114**	*eP*		**Pn**	**01 07 42.0**	**+1.2**
ANBD	**Bethesda, Anti**	**5.08**	**114**	*eS*		**Sn**	**01 08 40.1**	**+1.5**
MPOM	**Morne Pois Mar**	**7.26**	**130**			**Sn**	**01 09 35.2**	**+2.8**

---

*IDC **13** 01:06:48.7±4.5, 56°.35N×157°.74W, h0km, mb3.2/3, mbtmp3.4/6, ML3.3/3, MS3.4/1, Error ellipse: s-maj=68.3km s-min=30.9km az=85.0*
*AEIC **13** 01:06:52.0±1.7, 57°.06N±0°.06×157°.62W±0°.10, h13km±7km, ML3.4, ML3.6/28(NEIC), Error ellipse: s-maj=10.7km s-min=3.5km az=136.0*
*NEIC **13** 01:06:51.8±1.7, 57°.04N±0°.06×157°.66W±0°.1, h10km±2km, Error ellipse: s-maj=12.7km s-min=6.9km az=307.0*
ISC 13 01:06:51.6±0.9, 57°.04N±0°.04×157°.66W±0°.06, h10km, n53, σ1.9/06/55, mb3.3/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
R16K	**Pilot Point**	**0.53**	**5**	P		**Pg**	**01 07 02.0**	**0.0**
	baz=183							
R16K				S		**Sb**	**01 07 09.7**	**-1.0**
	baz=183							
CHGN	**Chignik**	**0.85**	**210**	Pg		**Pg**	**01 07 07.7**	**-0.2**
CHGN	**Chignik**	**0.85**	**210**	P		**Pg**	**01 07 07.6**	**-0.2**
	baz=30							
Q17K	**Contact Creek**	**1.56**	**37**	P		**Pn**	**01 07 18.6**	**-0.8**
	baz=218							
Q17K				S		**Sn**	**01 07 38.0**	**-1.7**
	baz=218							
CHIR	**Chirikof Islan**	**1.66**	**136**			**Pn**	**01 07 21.9**	**+1.2**
CHIR	**Chirikof Islan**	**1.66**	**136**	IAML			01 07 48.2	
	comp=E,657nm,0.7s							
CHIR				IAML			01 07 48.4	
	comp=N,590nm,0.9s							
CHIR	**Chirikof Islan**	**1.66**	**136**	P		**Pn**	**01 07 21.9**	**+1.2**
	baz=319							
Q16K	**King Salmon**	**1.73**	**18**	P		**Pn**	**01 07 21.0**	**-0.6**
	baz=198							
SII	**Sitkinak Islan**	**1.97**	**103**	Pn		**Pn**	**01 07 23.9**	**-1.1**
SII				IAML			01 07 60.0	
	comp=N,585nm,0.5s							
P16K	**Nushagak River**	**2.01**	**355**	P		**Pn**	**01 07 26.1**	**+0.7**
	baz=174							
Q18K	**Katmai Hardscr**	**2.15**	**40**	P		**Pn**	**01 07 26.8**	**-0.7**
	baz=222							
P17K	**Kvichak River**	**2.26**	**16**	P		**Pn**	**01 07 28.8**	**-0.1**
	baz=197							
SDPT	**Sand Point**	**2.31**	**224**	Pn		**Pn**	**01 07 29.4**	**-0.2**
SDPT				IAML			01 08 05.6	
	comp=E,256nm,2.5s							
SDPT				IAML			01 08 10.2	
	comp=N,257nm,1.3s							
OHAK	**Old Harbor**	**2.39**	**84**	Pn		**Pn**	**01 07 30.6**	**-0.1**
OHAK	**Old Harbor**	**2.39**	**84**	P		**Pn**	**01 07 31.8**	**+1.1**
	baz=268							
CNBA	**Chernabura Isl**	**2.47**	**207**	Pn		**Pn**	**01 07 33.9**	**+2.1**
CNBA				IAML			01 08 17.6	
	comp=N,239nm,1.0s							
CNBA				IAML			01 08 21.0	
	comp=E,212nm,0.8s							
O16K	**Kokwok River B**	**2.57**	**355**	P		**Pn**	**01 07 33.6**	**+0.3**
	baz=174							
P18K	**Big Mountain,**	**2.69**	**28**	Pn		**Pn**	**01 07 35.2**	**+0.3**
P18K				IAML			01 08 16.2	
	comp=E,224nm,0.5s							
O17K	**Koliganek Bris**	**2.76**	**6**	P		**Pn**	**01 07 35.7**	**-0.1**
	baz=186							
KDAK	**Kodiak Island**	**2.85**	**73**	Pn		**Pn**	**01 07 38.4**	**+1.4**
	comp=E,7.4nm,0.3s,baz=250,slow=4.4,SNR=75							
KDAK						Sn	**01 08 16.8**	**-0.4**
	comp=E,4.9nm,0.3s,baz=11,slow=18,SNR=1.5							
	comp=E,21nm,0.4s							
KDAK	**Kodiak Island**	**2.85**	**73**	Pn		**Pn**	**01 07 37.6**	**+0.7**
O18K	**Koktuh Hills**	**3.10**	**23**	Pn		**Pn**	**01 07 39.9**	**-0.7**
O18K				IAML			01 08 28.1	
	comp=N,176nm,0.6s							
O18K				IAML			01 08 32.6	
	comp=E,194nm,0.9s							
O18K	**Koktuh Hills**	**3.10**	**23**	P		**Pn**	**01 07 40.5**	**-0.1**
	baz=205							
N16K	**Nishlik Lake**	**3.50**	**351**	P		**Pn**	**01 07 46.6**	**+0.6**
	baz=170							
N18K	**Kilae Creek**	**3.77**	**13**			**Pn**	**01 07 49.5**	**-0.2**
N18K				IAML			01 08 48.2	
	comp=N,70nm,0.5s							
N18K				IAML			01 08 54.9	
	comp=E,98nm,0.7s							
N18K	**Kilae Creek**	**3.77**	**13**	P		**Pn**	**01 07 49.2**	**-0.5**
	baz=195							
N19K	**Bonanza Creek**	**4.13**	**22**			**Pn**	**01 07 54.7**	**0.0**
N19K	**Bonanza Creek**	**4.13**	**22**	P		**Pn**	**01 07 55.2**	**+0.5**
	baz=205							
SPU	**Mount Spurr**	**5.06**	**32**	Pn		**Pn**	**01 08 06.7**	**-0.8**
M19K	**Big River Lodg**	**5.16**	**17**			**Pn**	**01 08 08.6**	**-0.1**
M19K				IAML			01 09 47.4	
	comp=N,47nm,3.5s							
L19K	**White Mountain**	**5.35**	**14**			**Pn**	**01 08 10.5**	**-0.9**
M20K	**Styx River**	**5.38**	**24**	Pn		**Pn**	**01 08 12.4**	**+0.6**
M20K				IAML			01 09 48.8	
	comp=N,34nm,1.5s							
L20K	**Farewell, AK**	**5.78**	**18**	P		**Pn**	**01 08 18.1**	**+0.8**
	baz=201							
CAST	**Castle Rocks**	**6.97**	**21**	Pn		**Pn**	**01 08 34.2**	**+0.6**
TRF	**Thorofare Moun**	**7.40**	**27**	Pn		**Pn**	**01 08 41.7**	**+2.1**
BMRM	**Bremner River**	**7.80**	**54**	Pn		**Pn**	**01 08 46.7**	**+1.6**
BPAW	**Bear Paw Mtn.**	**7.81**	**22**	Pn		**Pn**	**01 08 44.9**	**-0.2**
N25K	**Chitina, Valde**	**8.09**	**50**	Pn		**Pn**	**01 08 48.8**	**-0.3**
GLB	**Gilahina Butte**	**8.35**	**52**	Pn		**Pn**	**01 08 52.9**	**+0.3**
WAX	**Waxell Ridge**	**8.42**	**60**	Pn		**Pn**	**01 08 52.7**	**-0.8**
H21K	**Melozitna Rive**	**8.96**	**13**	Pn		**Pn**	**01 09 00.2**	**-0.6**
M26K	**Nabesna, AK**	**9.14**	**48**	Pn		**Pn**	**01 09 03.7**	**+0.3**
IMAR	**Indian Mountai**	**9.17**	**10**	Pn		**Pn**	**01 09 03.9**	**+0.2**
TABL	**Table Mountain**	**9.23**	**61**	Pn		**Pn**	**01 09 04.9**	**+0.1**
ILAR	**Eielson Array**	**9.35**	**30**	Pn		**Pn**	**01 09 07.0**	**+0.8**
	comp=N,0.1nm,0.3s,baz=215,slow=13,SNR=7.6							
ILAR						Sn	**01 10 52.1**	**+0.8**
	baz=220,slow=22							
	comp=N,0.7nm,0.6s							
H23K	**Yukon River**	**9.63**	**20**	Pn		**Pn**	**01 09 09.8**	**-0.1**
H24K	**Noodor Dome**	**9.98**	**24**	Pn		**Pn**	**01 09 15.5**	**+0.6**
I26K	**Coal Creek Min**	**10.82**	**34**	Pn		**Pn**	**01 09 26.5**	**+0.1**
INK	**Inuvik**	**15.68**	**34**	Pn		**P**	**01 10 39.2**	**+3.0**
	comp=N,0.1nm,0.3s,baz=238,slow=11,SNR=2.3							
	comp=N,0.5nm,0.4s							
YKA	**Yellowknife Ar**	**22.01**	**58**	P		**P**	**01 11 46.9**	**+1.3**
	comp=N,1.3nm,0.9s,baz=268,slow=9.3,SNR=1.4							
	comp=N,1.3nm,0.9s							
NVAR	**Mina Array Bea**	**31.76**	**109**	P		**P**	**01 13 11.9**	**-4.0**
	comp=N,0.1nm,0.3s,baz=308,slow=9.0,SNR=1.5							
	comp=N,0.1nm,0.3s							
PDAR	**Pinedale Array**	**33.35**	**94**	P		**P**	**01 13 30.3**	**+0.5**
	comp=N,0.2nm,0.5s,baz=323,slow=4.1,SNR=2.2							
	comp=N,0.2nm,0.5s							
TXAR	**Lajitas Array**	**46.47**	**103**	LR		LR	01 33 15.4	
	comp=N,49nm,20.8s,baz=142,slow=34							

---

*NOU **13** 01:07:15.2, 17°.45S×178°.58W, h577km, mb4.6/13, Fiji Islands Region*
*NEIC **13** 01:07:15.4±1.5, 17°.6S±0°.1×178°.6W±0°.1, h558km±5km, mb4.3/14, Error ellipse: s-maj=21.5km s-min=15.6km az=161.0*
*IDC **13** 01:07:16.7±1.5, 17°.53S×178°.81W, h552km±15km, mb3.4/13, mbtmp4.3/15, Error ellipse: s-maj=24.9km s-min=14.2km az=149.0*
ISC 13 01:07:15.0±0.4, 17°.53S±0°.09×178°.51W±0°.07, h550km, n83, σ1.9/43/89, mb4.3/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUTU	**Fugatoga**	**3.23**	**7**	P		**P**	**01 08 33.5**	**+1.9**
MSVF	**Nonsavu**	**3.29**	**266**	P		**P**	**01 08 33.4**	**+1.4**
	34nm,0.6s,baz=100,slow=4.5,SNR=87							
MSVF				S		**S**	**01 09 38.0**	**+3.4**
	17nm,1.0s,baz=5.6,slow=23,SNR=18							
MSVF	**Nonsavu**	**3.29**	**266**	P		**P**	**01 08 33.7**	**+1.7**
MSVF	**Nonsavu**	**3.29**	**266**	P		**P**	**01 08 33.8**	**+1.8**
AFI	**Afiamalu**	**7.42**	**62**	P		**P**	**01 09 07.2**	**0.0**
	27nm,0.5s,baz=26,slow=3.7,SNR=12							
AFI				S		**S**	**01 10 31.6**	**-7.4**
	8.8nm,0.4s,baz=228,slow=6.7,SNR=1.2							
AFI	**Afiamalu**	**7.42**	**62**	P		**P**	**01 09 07.7**	**+0.5**
AFI	**Afiamalu**	**7.42**	**62**	P		**P**	**01 09 07.9**	**+0.7**
	66nm,2.0s							
NIUE	**Niue**	**8.30**	**102**	P		**P**	**01 09 16.4**	**+0.7**
NIUE	**Niue**	**8.30**	**102**	P		**P**	**01 09 18.4**	**+2.7**
	244nm,1.4s							
RTV	**Rentapao**	**12.46**	**267**	P		**P**	**01 09 57.9**	**-0.4**
	143nm,1.0s							
DVP	**Devils Point**	**12.68**	**267**	P		**P**	**01 10 00.2**	**-0.5**
	334nm,1.0s							
DZM	**Mont Dzumac**	**14.86**	**250**	P		**P**	**01 10 21.0**	**-2.2**
	4.9nm,0.5s,baz=83,slow=20,SNR=2.3							
DZM	**Mont Dzumac**	**14.86**	**250**	P		**P**	**01 10 21.2**	**-2.0**
KOUNC	**Koumac, New Ca**	**16.54**	**257**	P		**P**	**01 10 38.7**	**-1.0**
KOUNC	**Koumac, New Ca**	**16.54**	**257**	P		**P**	**01 10 39.1**	**-0.5**
	30nm,0.8s							
NFK	**Norfolk Island**	**16.90**	**225**	P		**P**	**01 10 41.7**	**-1.1**
	105nm,1.4s							
KUZ	**Kuaotunu**	**19.80**	**194**	P		**P**	**01 11 09.5**	**+0.3**
	29nm,1.4s							
URZ	**Urewera**	**21.00**	**190**	P		**P**	**01 11 18.5**	**-1.5**
	26nm,1.0s							
BKZ	**Black Stump Fm**	**21.99**	**190**	P		**P**	**01 11 27.7**	**-1.2**
BFZ	**Birch Farm**	**23.51**	**190**	P		**P**	**01 11 41.8**	**-0.6**
	38nm,2.6s							
LTZ	**Lake Taylor**	**26.36**	**195**	P		**P**	**01 12 06.5**	**-1.1**
RPZ	**Rata Peaks**	**27.55**	**196**	P		**P**	**01 12 14.8**	**-3.2**
	3.9nm,0.5s,baz=333,slow=19,SNR=1.9							
ARMA	**Armidale**	**30.05**	**239**	P		**P**	**01 12 37.8**	**-2.2**
CTAO	**Charters Tower**	**33.41**	**260**	P		**P**	**01 13 07.2**	**-1.6**
CTAO				IAmb		IAmb	01 13 09.1	
	comp=Z,8.4nm,1.0s							
PMG	**Port Moresby**	**34.30**	**279**	P		**P**	**01 13 15.0**	**-1.2**
	comp=Z,7.4nm,0.4s,baz=77,slow=6.7,SNR=7.6							
	comp=Z,7.4nm,0.4s							
PMG	**Port Moresby**	**34.30**	**279**	P		**P**	**01 13 14.5**	**-1.7**
COEN	**Coen**	**37.01**	**270**	P		**P**	**01 13 37.2**	**-1.5**
COEN				IAmb		IAmb	01 13 39.4	
	comp=Z,6.5nm,0.7s							
STKA	**Stephens Creek**	**38.73**	**241**	P		**P**	**01 13 52.0**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=79,slow=10,SNR=6.0							
	comp=Z,1.7nm,0.4s							
STKA	**Stephens Creek**	**38.73**	**241**	P		**P**	**01 13 51.5**	**-0.9**
BBOO	**Buckleboo**	**43.50**	**241**	P		**P**	**01 14 30.1**	**-0.2**
WB2	**Warramunga Arr**	**44.59**	**259**	P		**P**	**01 14 37.4**	**-1.5**
WB2				IAmb		IAmb	01 14 39.5	
	comp=Z,10nm,1.3s							
WRA	**Warramunga Arr**	**44.60**	**259**	P		**P**	**01 14 37.5**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=96,slow=7.0,SNR=41							
WRA				PcP		**PcP**	**01 16 09.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=93,slow=2.9,SNR=2.6							
WRA				ScP		**ScP**	**01 19 10.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=91,slow=3.7,SNR=3.3							
	comp=Z,1.5nm,0.5s							
WRA	**Warramunga Arr**	**44.60**	**259**	P		**P**	**01 14 37.2**	**-1.8**
AS31	**Alice Springs**	**44.80**	**254**	P		**P**	**01 14 39.8**	**-0.7**
AS31				IAmb		IAmb	01 14 40.4	
	comp=Z,5.2nm,0.6s							
ASAR	**Alice Springs**	**44.80**	**254**	P		**P**	**01 14 39.9**	**-0.6**
	comp=Z,15nm,0.5s,baz=88,slow=8.1,SNR=309							
ASAR				PcP		**PcP**	**01 16 11.3**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=98,slow=4.2,SNR=5.3							
ASAR				ScP		**ScP**	**01 19 11.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=88,slow=4.2,SNR=2.5							
	comp=Z,15nm,0.5s							
ASAR	**Alice Springs**	**44.80**	**254**	P		**P**	**01 14 39.2**	**-1.2**
KNRA	**Kununurra**	**50.43**	**264**	P		**P**	**01 15 22.0**	**-0.6**
KNRA				IAmb		IAmb	01 15 23.6	
	comp=Z,34nm,1.5s							
SIJI	**Sorong**	**52.05**	**283**	P		**P**	**01 15 33.8**	**-0.7**
	comp=Z,9.8nm,0.6s,baz=65,slow=7.8,SNR=9.3							
	comp=Z,9.8nm,0.6s							
VNDA	**Vanda**	**60.81**	**185**	P		**P**	**01 16 34.4**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=26,slow=2.7,SNR=3.2							
	comp=Z,1.3nm,0.8s							
QSPA	**South Pole Qui**	**72.52**	**180**	P		**P**	**01 17 46.4**	**+0.2**
QSPA				IAmb		IAmb	01 17 48.0	
	comp=Z,7.4nm,0.8s							
HOPS	**Hopland Field**	**76.46**	**41**	P		**P**	**01 18 08.6**	**0.0**
NBPM	**Berryessa Peak**	**76.83**	**42**	P		**P**	**01 18 09.9**	**-0.6**
GWKM	**Walker Ridge**	**76.86**	**42**	P		**P**	**01 18 09.7**	**-1.1**
NVAR	**Mina Array Bea**	**79.22**	**44**	P		**P**	**01 18 26.6**	**+2.8**
	comp=Z,0.7nm,0.8s,baz=213,slow=6.5,SNR=4.0							
	comp=Z,0.7nm,0.8s							
BELA	**Belgrano 2**	**82.55**	**173**	P		**P**	**01 18 39.7**	**-0.3**
BELA				IAmb		IAmb	01 18 41.5	
	comp=Z,10nm,0.9s							
SEY	**Seymchan**	**83.39**	**347**	P		**P**	**01 18 45.0**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=144,slow=5.9,SNR=4.5							
	comp=Z,1.7nm,0.5s							
MAW	**Mawson**	**84.18**	**200**	P		**P**	**01 18 48.7**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=140,slow=23,SNR=3.2							
	comp=Z,2.0nm,0.5s							
ILAR	**Eielson Array**	**85.55**	**13**	P		**P**	**01 18 55.7**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=224,slow=5.1,SNR=10							
	comp=Z,0.5nm,0.4s							
TXAR	**Lajitas Array**	**85.88**	**58**	P		**P**	**01 18 59.9**	**+2.5**
	comp=Z,1.0nm,0.7s,baz=214,slow=6.6,SNR=9.4							
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**85.88**	**58**	P		**P**	**01 18 56.7**	**-0.6**
PDAR	**Pinedale Array**	**87.15**	**43**	P		**P**	**01 19 05.0**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=224,slow=3.0,SNR=4.8							
	comp=Z,0.4nm,0.5s							
TROLL	**Troll, Antarti**	**90.68**	**180**	P		**P**	**01 19 19.6**	**+0.6**
SNAA	**Sanae**	**90.97**	**179**	P		**P**	**01 19 20.4**	**+0.1**
VNA3	**Neumayer Olymp**	**91.12**	**176**	P		**P**	**01 19 21.7**	**+0.8**
INK	**Inuvik**	**91.55**	**15**	P		**P**	**01 19 24.1**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=223,slow=16,SNR=1.5							
	comp=Z,0.7nm,0.6s							
VNA2	**Neumayer--Watz**	**91.56**	**177**	P		**P**	**01 19 23.5**	**+0.6**
	baz=179,slow=2.0							
VNA1	**Neumayer--Stat**	**91.78**	**177**	P		**P**	**01 19 25.4**	**+1.5**
ARCES	**ARCESS Array B**	**125.93**	**350**	PKP		**PKiKP**	**01 25 14.7**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=79,slow=1.9,SNR=1.4							
BURAR	**Bucovina Array**	**144.24**	**332**	PKPdf		**PKPab**	**01 25 49.4**	**+0.6**
BRTR	**Keskin Array B**	**144.45**	**315**	PKP		**PKPab**

comp=N,256μm,0.8s
CESI AML AML
comp=N,257μm,0.8s
CESI AML AML
comp=E,272μm,1.4s
GUMA Gualdo di Mace 0.19 96 P Pg 01 23 56.0 +1.0
GUMA S Sg 01 23 59.6 +1.9
GUMA AML AML
comp=E,956μm,1.6s
GUMA AML AML
comp=N,804μm,0.3s
GUMA AML AML
comp=E,956μm,1.6s
GUMA AML AML
comp=N,806μm,0.3s
GUMA AML AML
comp=N,891μm,0.5s
GUMA AML AML
comp=E,1019μm,0.2s
T1216 Preci, Frazion 0.20 192 ⇑P Pg 01 23 55.7 +0.6
T1216 S Sg 01 23 59.6 +1.7
SNTG Esanatoglia 0.20 330 ⇓P Pg 01 23 55.8 +0.7
SNTG S Sg 01 23 59.6 +1.7
SNTG AML AML
comp=E,118μm,0.6s
SNTG AML AML
comp=N,105μm,1.4s
SNTG AML AML
comp=E,118μm,0.6s
SNTG AML AML
comp=E,119μm,0.6s
SNTG AML AML
comp=N,105μm,1.4s
T1245 Castelsantange 0.24 160 ⇑P Pg 01 23 56.6 +0.7
T1245 S Sg 01 24 00.9 +1.7
T1245 AML AML
comp=E,261μm,0.6s
T1245 AML AML
comp=N,332μm,0.8s
T1245 AML AML
comp=N,332μm,0.8s
T1245 AML AML
comp=E,260μm,0.6s
EL6 Elcito 0.25 4 ⇑P Pg 01 23 56.6 +0.6
EL6 S Sg 01 24 00.9 +1.5
NRCA Norcia 0.25 174 P Pg 01 23 56.7 +0.7
NRCA AML AML
comp=E,474μm,0.4s
NRCA AML AML
comp=N,422μm,0.2s
MMO1 Montemonaco 0.26 135 ⇓P Pg 01 23 56.8 +0.5
MMO1 S Sb 01 24 01.2 -1.3
CING Cingoli 0.30 17 ⇑P Pg 01 23 57.7 +0.6
CING S Sb 01 24 02.9 -0.9
CING AML AML
comp=E,128μm,0.9s
CING AML AML
comp=N,106μm,1.0s
T1215 Vallo di Nera, 0.32 209 ⇑P Pg 01 23 58.0 +0.7
ATCC AVT- Casa Cast 0.34 288 ⇑P Pb 01 23 58.5 -0.7
ATCC AML AML
comp=E,138μm,1.0s
ATCC AML AML
comp=N,128μm,0.5s
T1241 Roccafluvione, 0.34 131 ⇓P Pg 01 23 58.4 +0.5
SSFR Montelago di S 0.41 329 ⇑P Pg 01 23 59.8 +0.7
SSFR AML AML
comp=E,103μm,1.6s
SSFR AML AML
comp=N,122μm,1.3s
T1218 Civita (PG) 0.41 176 P Pg 01 23 58.6 -0.5
T1218 AML AML
comp=N,280μm,0.2s
T1218 AML AML
comp=E,126μm,1.6s
ARVD Arcevia 0.43 347 ⇑P Pg 01 23 60.0 +0.6
MURB Monte Urbino 0.44 294 ⇓P Pb 01 24 00.5 -0.5
SMA1 SAN MARTINO 0.49 157 AML AML
comp=E,929μm,0.4s
SMA1 AML AML
comp=N,338μm,0.4s
FRON Frontone 0.50 330 ⇓P Pg 01 24 01.3 +0.5
FRON AML AML
comp=E,49μm,1.5s
FRON AML AML
comp=N,69μm,1.5s
ATVO AVT- Monte Val 0.57 302 ⇑P Pb 01 24 02.8 -0.4
TERO Teramo 0.60 140 ⇑P Pg 01 24 02.8 +0.1
GIGS Gran Sasso 0.73 150 ⇑P Pg 01 24 03.8 -1.2
PE3 Peglio 0.74 326 P Pg 01 24 04.7 -0.7
FIAM Fiamignano 0.81 178 ⇓P Pg 01 24 05.1 -1.6
RDP Rocca di Papa 1.35 192 P Pn 01 24 14.2 -1.9

IDC 13 02:05:18.2±3.9, 16°.80N×149°.39E, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/2, Error ellipse: s-maj=154.9km s-min=27.0km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**21.13**	**173**	LR	LR	02 16 53.4	
	comp=Z,24nm,21.0s,baz=252,slow=33						
WRA	**Warramunga Arr**	**39.39**	**203**	P	P	02 12 48.6	-1.2
	0.4nm,0.8s,baz=26,slow=9.3,SNR=3.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**42.97**	**201**	P	P	02 13 20.3	+1.0
	0.2nm,0.8s,baz=26,slow=8.7,SNR=1.6						
	0.2nm,0.8s						
SONM	**Songino Array**	**46.82**	**321**	P	P	02 13 50.0	+0.1
	0.4nm,0.5s,baz=101,slow=7.5,SNR=2.0						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**65.07**	**318**	P	P	02 16 00.4	0.0
	1.3nm,0.7s,baz=99,slow=6.8,SNR=12						
	1.3nm,0.7s						
INK	**Inuvik**	**69.74**	**23**	LR	LR	02 48 07.4	
	comp=Z,46nm,18.3s,baz=318,slow=37						
FINES	**FINESS Array B**	**90.05**	**336**	P	P	02 18 19.4	-0.3
	2.9nm,1.1s,baz=47,slow=8.4,SNR=3.8						
	2.9nm,1.1s						

*IDC **13** 02:09:42.1±0.4, 19°.34N×68°.90W, h0km, mb4.2/26, mbtmp4.3/30, ML3.9/4, MS3.6/33, Error ellipse: s-maj=13.9km s-min=10.1km az=61.0*

*NEIC **13** 02:09:42.8±2.2, 19°.31N±0°.05×68°.89W±0°.05, h5km±4km, Error ellipse: s-maj=8.4km s-min=4.9km az=224.0*

*NEIC **13** 02:09:44.8, 19°.26N×68°.84W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.04; $M_{\theta\theta}$-2.02; $M_{\phi\phi}$-0.01; $M_{r\theta}$-0.63; $M_{\theta\phi}$5.09; $M_{r\phi}$3.91; Fault plane solution: M_o6.77000×10^{15} NP1:φ347.77000°, δ78.70000°, λ138.18000°. NP2:φ87.71000°, δ49.17000°, λ15.01000°. Principal axes: T 6.1789, Plg37.0000°, Azm299.0000°; N 1.0535, Plg47.0000°, Azm155.0000°; P -7.2324, Plg19.0000°, Azm44.0000°;*

*OSPL **13** 02:09:44.0±5.1, 19°.41N×68°.71W, h5km±20km, ML4.7, Fault plane solution: NP1:φ350.00000°, δ54.60000°, λ130.40000°.*

ISC 13 02:09:43.7±1.1, 19°.26N±0°.04×68°.93W±0°.03, h11km±7km, n559, σ1s41/469, mb4.7/126, MS3.6/31, 6C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.90**	**278**	ASPG		02 10 00.9	
	comp=Z,33μm,0.3s						
LONA1				⇓*i*P	**Pb**	**02 10 01.4**	**+0.1**
LONA1				ATPG		02 10 03.0	
	comp=Z,106μm,0.3s						
LONA1				ASSG		02 10 16.5	
	comp=Z,101μm,0.5s						
LONA1				*e*S	**Sn**	**02 10 16.9**	**+1.7**
LONA1				ATSG		02 10 18.4	
	comp=Z,254μm,0.5s						
LONA1				IAML		02 10 27.3	
	comp=Z,23μm,0.6s						
PCDR	**Punta Cana, DR**	**0.90**	**145**		**Pg**	**02 09 59.9**	**-1.2**
PCDR				Sg	**Sg**	**02 10 12.6**	**-0.3**
PCDR				IAML		02 10 18.7	
	comp=N,30μm,0.8s						
PCDR	**Punta Cana, DR**	**0.90**	**145**	ASPG		02 09 59.6	
	comp=Z,6μm,0.3s						
PCDR				⇑*i*P	**Pg**	**02 10 00.0**	**-1.2**
PCDR				ATPG		02 10 01.1	
	comp=Z,21μm,0.3s						
PCDR				ASSG		02 10 13.2	
	comp=Z,39μm,0.3s						
PCDR				*e*S	**Sb**	**02 10 13.6**	**+0.2**
PCDR				ATSG		02 10 15.2	
	comp=Z,84μm,0.5s						
PCDR				IAML		02 10 16.4	
	comp=Z,13μm,0.8s						
SDD	**Santo Domingo**	**1.23**	**230**		**Pn**	**02 10 06.3**	**-0.6**
SDD				IAML		02 10 25.9	
	comp=E,30μm,0.6s						
SDD	**Santo Domingo**	**1.23**	**230**	ASPG		02 10 05.9	
	comp=Z,5μm,0.3s						
SDD				⇓*i*P	**Pn**	**02 10 06.3**	**-0.6**
SDD				ATPG		02 10 07.6	
	comp=Z,17μm,0.3s						
SDD				ASSG		02 10 22.6	
	comp=Z,16μm,0.3s						
SDD				*e*S	**Sb**	**02 10 22.9**	**+0.2**
SDD				ATSG		02 10 24.6	
	comp=Z,41μm,0.3s						
SDD				IAML		02 10 24.8	
	comp=Z,10μm,0.5s						
SC01	**Santiago de Io**	**1.71**	**276**		**Pb**	**02 10 14.9**	**-0.3**
SC01	**Santiago de Io**	**1.71**	**276**	⇑*i*P	**Pg**	**02 10 15.6**	**-1.0**
SC01				*e*S	**Sg**	**02 10 42.4**	**+3.6**
SC01				IAML		02 10 51.8	
	comp=Z,13μm,0.5s						
AGPR	**Aguadilla, PR**	**1.89**	**114**		**Pn**	**02 10 16.0**	**0.0**
AGPR				IAML		02 10 46.4	
	comp=N,7μm,0.7s						
AGPR				IAML		02 10 49.6	
	comp=E,7μm,0.4s						
AGPR	**Aguadilla, PR**	**1.89**	**114**	*i* P	**Pn**	**02 10 16.2**	**+0.2**
AGPR				IAML		02 10 51.0	
	comp=Z,4μm,0.8s						
CRPR	**Cabo Rojo, PR**	**2.12**	**126**		**Pn**	**02 10 19.1**	**0.0**
CRPR				IAML		02 11 03.0	
	comp=N,4μm,0.9s						
CRPR	**Cabo Rojo, PR**	**2.12**	**126**	*i* P	**Pn**	**02 10 18.4**	**-0.8**
CRPR				IAML		02 11 04.2	
	comp=Z,4μm,1.1s						
MLPR	**Magueyes Islan**	**2.20**	**125**	Pn	**Pn**	**02 10 20.6**	**+0.5**
AOPR	**Arecibo Observ**	**2.25**	**113**		**Pn**	**02 10 22.0**	**+1.1**
AOPR				IAML		02 11 00.3	
	comp=N,10μm,0.8s						
AOPR	**Arecibo Observ**	**2.25**	**113**	*e*P	**Pn**	**02 10 21.4**	**+0.5**
SDDR	**Presa de Saban**	**2.25**	**263**	Pn	**Pb**	**02 10 23.5**	**-0.9**
SDDR				IAML		02 11 03.9	
	comp=N,10μm,0.9s						
SDDR	**Presa de Saban**	**2.25**	**263**	*i* P	**Pb**	**02 10 23.6**	**-0.9**
SDDR				*e*S	**Sb**	**02 10 53.6**	**+1.3**
SDDR				*e*Sg	**Sg**	**02 10 58.0**	**+1.9**
SDDR	**Presa de Saban**	**2.25**	**263**	*e*P	**Pb**	**02 10 24.4**	**-0.1**
SDDR	**Presa de Saban**	**2.25**	**263**	⇑*i*P	**Pb**	**02 10 23.7**	**-0.8**
SDDR				*e*S	**Sg**	**02 10 55.4**	**-0.7**
SDDR				IAML		02 11 00.5	
	comp=Z,5μm,1.5s						
EMPR	**Esperanza - Ma**	**2.40**	**108**		**Pn**	**02 10 24.2**	**+1.3**
EMPR				IAML		02 11 09.2	
	comp=N,7μm,0.8s						
CELP	**Cerrillos**	**2.52**	**117**		**Pn**	**02 10 24.9**	**+0.3**
CELP				IAML		02 11 03.4	
	comp=E,5μm,0.7s						
CELP				IAML		02 11 03.6	
	comp=N,5μm,0.8s						
GCPR	**Guaynabo City**	**2.85**	**109**	Pn	**Pn**	**02 10 28.9**	**-0.3**
SJG	**San Juan**	**2.87**	**113**	Pn	**Pn**	**02 10 28.6**	**-0.8**
	comp=N,74nm,0.3s,baz=307,slow=9.4,SNR=104						
SJG				Sn	**Sn**	**02 11 05.6**	**+1.7**
	comp=N,266nm,0.3s,baz=298,slow=24,SNR=8.8						
	comp=N,404nm,0.5s						
SJG	**San Juan**	**2.87**	**113**		**Pn**	**02 10 28.8**	**-0.6**
SJG				IAML		02 11 13.7	
	comp=N,4μm,0.8s						
SJG				IAML		02 11 15.1	
	comp=N,3μm,0.5s						
SJG	**San Juan**	**2.87**	**113**	*e*P	**Pn**	**02 10 30.2**	**+0.8**
LOPE2	**Hotel El Peder**	**2.94**	**246**	*i* P	**Pb**	**02 10 35.0**	**-1.2**
LOPE2				IAML		02 11 28.1	
	comp=Z,6μm,0.9s						
GRTK	**Grand Turk**	**3.05**	**318**	Pn	**Pn**	**02 10 31.5**	**-0.5**
GRTK				IAML		02 11 26.3	
	comp=Z,2μm,0.9s						
GRTK				IAML		02 11 34.9	
	comp=Z,2μm,0.9s						
GRTK	**Grand Turk**	**3.05**	**318**	*e*P	**Pn**	**02 10 31.4**	**-0.5**
GRTK				*e*S	**Sn**	**02 11 07.3**	**-1.2**
GRTK	**Grand Turk**	**3.05**	**318**	⇑*i*P	**Pn**	**02 10 31.5**	**-0.5**
GRTK				*e*S	**Sn**	**02 11 09.8**	**+1.4**
GRTK				IAML		02 11 39.1	
	comp=Z,888nm,0.8s						
CBYP	**Canovanas**	**3.07**	**108**		**Pn**	**02 10 31.4**	**-0.9**
CBYP				IAML		02 11 20.3	
	comp=N,5μm,0.2s						
CBYP				IAML		02 11 20.7	
	comp=E,4μm,0.2s						
HUMP	**Col San Antoni**	**3.12**	**110**	Pn	**Pn**	**02 10 32.6**	**-0.3**
HUMP				IAML		02 11 20.4	
	comp=N,2μm,0.9s						
NQUSE	**US Embassy, Po**	**3.22**	**258**	Pn	**Pn**	**02 10 33.5**	**-0.8**
PAPH	**Port-au-Prince**	**3.28**	**258**	⇑*i*P	**Pn**	**02 10 38.3**	**+3.3**
PAPH				IAML		02 11 36.7	
	comp=Z,2μm,1.0s						
LGNH	**Logne**	**3.56**	**259**		**Pn**	**02 10 40.7**	**+1.8**
LGNH				IAML		02 11 44.3	
	comp=N,3μm,1.0s						
LGNH				IAML		02 11 46.4	
	comp=E,3μm,0.8s						
LGNH	**Logne**	**3.56**	**259**	*e*P	**Pn**	**02 10 41.9**	**+2.9**
LGNH				*e*S	**Sb**	**02 11 27.8**	**-2.3**
LGNH				IAML		02 11 44.5	
	comp=N,1μm,0.9s						
LGNH				IAML		02 11 46.3	
	comp=E,1μm,0.7s						
LGNH	**Logne**	**3.56**	**259**	*i* P	**Pn**	**02 10 42.1**	**+3.1**
LGNH				IAML		02 11 51.1	
	comp=Z,643nm,0.8s						
CUPR	**Culebra, Puert**	**3.58**	**105**	Pn	**Pn**	**02 10 38.0**	**-1.1**
STVI	**Saint Thomas**	**3.87**	**103**		**Pn**	**02 10 41.1**	**-2.1**
STVI				IAML		02 11 56.7	
	comp=N,904nm,0.8s						
CDVI	**St. Croix**	**4.22**	**110**	Pn	**Pn**	**02 10 50.5**	**+2.5**
CDVI	**St. Croix**	**4.22**	**110**	*e*P	**Pn**	**02 10 47.5**	**-0.5**
MASC	**Masc**	**5.08**	**281**	*e*P	**Pn**	**02 10 58.2**	**-1.7**
MASC				*e*S	**Sn**	**02 11 57.5**	**-1.1**
MASC	**Masc**	**5.08**	**281**	⇑*i*P	**Pn**	**02 10 58.2**	**-1.7**
MASC				IAML		02 12 36.6	
	comp=Z,280nm,0.8s						
MOAC	**Moa**	**5.84**	**285**	*e*P	**Pn**	**02 11 07.3**	**-3.0**
MOAC				*e*S	**Sn**	**02 12 13.3**	**-4.1**
GTBY	**Guantanamo Bay**	**5.87**	**278**	Pn	**Pn**	**02 11 10.1**	**-0.6**
GTBY	**Guantanamo Bay**	**5.87**	**278**	*e*P	**Pn**	**02 11 08.8**	**-1.9**
GTBY				*e*S	**Sn**	**02 12 17.6**	**-0.4**
GTBY	**Guantanamo Bay**	**5.87**	**278**	*i* P	**Pn**	**02 11 09.5**	**-1.2**
GTBY				*e*S	**Sn**	**02 12 18.6**	**+0.6**
GTBY				IAML		02 12 43.5	
	comp=Z,120nm,0.8s						
RCC	**Rio Carpintero**	**6.42**	**278**	*e*P	**Pn**	**02 11 15.6**	**-2.8**
RCC				*e*S	**Sn**	**02 12 30.5**	**-1.1**
MBFL	**Flemmings, Mon**	**6.86**	**110**	*e*P	**Pn**	**02 11 26.3**	**+2.0**
HLGC	**Holguin**	**6.90**	**285**	*e*P	**Pn**	**02 11 23.2**	**-1.7**
ANBD	**Bethesda, Anti**	**7.15**	**107**	*e*	**Pg**	**02 11 57.7**	**-3.1**
ANBD	**Bethesda, Anti**	**7.15**	**107**	*e*S	**Sn**	**02 12 50.6**	**+0.9**
ABD	**La Joyeuse, An**	**7.60**	**110**	*e*P	**Pn**	**02 11 36.2**	**+1.6**
LMGC	**Las Mercedes**	**7.66**	**277**	*e*P	**Pn**	**02 11 32.2**	**-3.0**
LMGC				*e*S	**Sn**	**02 13 00.1**	**-2.0**
CBE	**Ff, Capester**	**7.66**	**113**	*e*P	**Pn**	**02 11 38.3**	**+2.9**
MDCT	**Cottage Hill,**	**7.99**	**116**	*e*P	**Pn**	**02 11 44.5**	**+4.6**
MAGL	**Barre de l'ile**	**8.00**	**113**	*e*P	**Pn**	**02 11 41.5**	**+1.6**
H05N1	**Guadeloupe/Mar**	**8.05**	**110**	Pn	**Pn**	**02 11 40.5**	**-0.1**
H05N1				Sn	**Sn**	**02 13 14.8**	**+3.1**
URIC	**Uribia, Colomb**	**8.07**	**202**		**Pn**	**02 11 40.6**	**-0.4**
DSLB	**Salisbury**	**8.11**	**117**	*e*P	**Pn**	**02 11 43.8**	**+2.3**
MTDJ	**Mount Denham**	**8.22**	**264**		**Pn**	**02 11 43.0**	**-0.2**
CCCC	**Cccc**	**8.52**	**285**	*e*P	Pn	02 11 37.9	-9.2
FDF	**Fort de France**	**8.69**	**120**	*e*P	**Pn**	**02 11 50.6**	**+1.0**
BIM	**Bigot**	**8.87**	**121**	*e*P	**Pn**	**02 11 53.9**	**+1.9**
BIM	**Bigot**	**8.87**	**121**	*e*S	**Sn**	**02 13 28.7**	**-3.4**
MPOM	**Morne Pois Mar**	**9.08**	**121**	*e*P	**Pn**	**02 11 56.9**	**+2.0**
H05S1	**Guadeloupe/Mar**	**9.11**	**121**	Pn	**Pn**	**02 11 56.8**	**+1.6**
H05S1				Sn	**Sn**	**02 13 36.3**	**-1.6**
SVB	**Belmont**	**9.47**	**128**		**Pn**	**02 11 58.4**	**-1.8**
GCMP	**Grenada, Carri**	**9.87**	**132**	*e*P	**Pn**	**02 12 04.7**	**-0.8**
PCRV	**Puerto La Cruz**	**9.93**	**155**	Pn	**Pn**	**02 12 09.2**	**+2.6**
	comp=Z,2.3nm,0.3s,baz=283,slow=4.2,SNR=25						
PCRV				Sn	Sn	02 13 49.6	-8.6
	comp=Z,2.6nm,0.3s,baz=328,slow=1.2,SNR=2.0						
	comp=Z,10nm,0.3s						
GRGR	**Grenville**	**9.96**	**134**	Pn	**Pn**	**02 12 06.8**	**-0.1**
GRGR	**Grenville**	**9.96**	**134**	*e*	Pn	02 12 01.2	-5.7
BAUV	**El Baul**	**10.29**	**175**	Pn	**Pn**	**02 12 12.8**	**+1.4**
SDV	**Santo Domingo**	**10.44**	**189**	Pn	**Pn**	**02 12 14.7**	**+1.0**
	comp=Z,6.0nm,0.3s,baz=7.2,slow=8.2,SNR=12						
SDV				Sn	**Sn**	**02 14 02.7**	**-8.1**
	comp=Z,2.6nm,0.3s,baz=3.2,slow=8.6,SNR=2.5						
SDV				LR	LR	02 16 32.7	
	comp=Z,494nm,20.9s,baz=22,slow=39						
	comp=Z,14nm,0.3s						
SDV	**Santo Domingo**	**10.44**	**189**	Pn	**Pn**	**02 12 12.0**	**-1.7**
SDV	**Santo Domingo**	**10.44**	**189**	*e*P	**Pn**	**02 12 15.0**	**+1.3**
MGV	**Manicaragua**	**10.73**	**287**	*e*P	Pn	02 12 12.0	-5.4
MGV				*e*S	**Sn**	**02 14 10.1**	**-7.4**
BBGH	**Gun Hill**	**10.86**	**123**	*e*P	**Pn**	**02 12 23.3**	**+4.2**
TOSP	**Speyside**	**11.32**	**133**	*e*P	**Pn**	**02 12 30.0**	**+4.6**
DWPF	**Disney Wildern**	**14.45**	**310**	P	**Pn**	**02 13 07.3**	**-0.9**
	baz=125						
BCIP	**Isla Barro Col**	**14.57**	**228**	Pn	**Pn**	**02 13 10.7**	**+0.7**
ROSC	**El Rosal**	**15.27**	**201**	Pn	**Pn**	**02 13 21.0**	**+1.3**
	comp=Z,2.6nm,0.3s,baz=18,slow=20,SNR=3.6						
ROSC				Sn	**Sn**	**02 16 05.7**	**-3.4**
	comp=Z,1.1nm,0.3s,baz=354,slow=23,SNR=1.8						
ROSC				LR	LR	02 19 44.9	
	comp=Z,307nm,18.9s,baz=54,slow=39						
	comp=Z,7.1nm,0.4s						
656A	**Willston**	**15.96**	**312**		**Pn**	**02 13 27.1**	**-1.3**
656A				IAmb	IAmb	02 13 28.8	
	comp=Z,36nm,0.5s						
NHSC	**New Hope**	**17.07**	**326**	P	**Pn**	**02 13 42.5**	**0.0**
	baz=141						
SRBA	**San Rafael, Bu**	**17.16**	**237**	Pn	**Pn**	**02 13 42.5**	**-1.3**
HDC	**Heredia**	**17.33**	**240**	*e*P	**P**	**02 13 52.0**	**+4.7**
Y58A	**Scranton**	**17.45**	**329**	P	**Pn**	**02 13 45.9**	**-1.2**
Y58A				IAmb	IAmb	02 13 50.0	
	comp=Z,67nm,0.7s						
BOAB	**BOACO BROADBAN**	**17.46**	**250**		**Pn**	**02 13 47.3**	**-0.1**
BOAB				IAmb	IAmb	02 13 57.0	
	comp=Z,40nm,0.9s						
MATN	**Matagalpa**	**17.50**	**251**	Pn	**Pn**	**02 13 46.0**	**-2.0**
X58A	**Rowland**	**17.82**	**331**	Pn	**Pn**	**02 13 49.0**	**-2.8**
X58A				IAmb	IAmb	02 13 54.3	
	comp=Z,42nm,0.6s						
JTS	**Las Juntas de**	**17.86**	**242**		**Pn**	**02 13 51.7**	**-0.8**
Y57A	**Sumter**	**17.90**	**328**	Pn	**Pn**	**02 13 50.0**	**-2.6**
Y57A				IAmb	IAmb	02 13 53.8	
	comp=Z,37nm,0.6s						
TIGA	**Tifton**	**17.94**	**315**	P	**P**	**02 13 53.5**	**-0.3**
	baz=129						
TGUH	**Tegucigalpa,Un**	**18.32**	**256**		**Pn**	**02 13 55.3**	**-2.8**
154A	**Montrose**	**18.40**	**319**	P	**P**	**02 13 59.7**	**+0.8**
154A				IAmb	IAmb	02 14 02.4	
	comp=Z,86nm,1.1s						
BIRD	**Birdtown, Kers**	**18.43**	**329**	P	**Pn**	**02 13 59.6**	**+0.4**
BIRD				IAmb	IAmb	02 14 06.5	
	comp=Z,35nm,0.5s						
JSC	**Jenkinsville**	**18.55**	**326**	P	**P**	**02 13 58.6**	**-2.0**
JSC				IAmb	IAmb	02 14 02.1	
	comp=Z,26nm,0.5s						
W57A	**Gilead**	**18.62**	**330**	P	**Pn**	**02 14 02.4**	**+0.9**
BOAV	**Boa Vista**	**18.67**	**153**	P	**P**	**02 14 01.3**	**-0.6**
BOAV				IAmb	IAmb	02 14 18.6	
	comp=Z,16nm,0.7s						
BOAV	**Boa Vista**	**18.67**	**153**	*e*P	**P**	**02 14 02.2**	**+0.3**
U59A	**Littleton**	**18.73**	**337**	P	**Pn**	**02 14 03.4**	**+0.5**
V58A	**Windy Hill, Pi**	**18.77**	**333**	P	**P**	**02 14 01.2**	**-1.7**
V58A				IAmb	IAmb	02 14 25.1	
	comp=Z,50nm,1.4s						
352A	**Blakely**	**18.87**	**313**	P	**P**	**02 14 03.4**	**-0.7**
352A				IAmb	IAmb	02 14 23.4	
	comp=Z,42nm,1.3s						
HODGE	**Hodges**	**19.05**	**324**	P	**P**	**02 14 05.1**	**-1.0**
T60A	**Surry**	**19.09**	**341**	P	**P**	**02 14 03.8**	**-2.6**
T60A				IAmb	IAmb	02 14 28.8	
	comp=Z,52nm,0.7s						
GOGA	**Godfrey**	**19.17**	**320**	P	**Pn**	**02 14 08.2**	**+0.1**
GOGA	**Godfrey**	**19.17**	**320**	P	**Pn**	**02 14 07.8**	**-0.3**
	baz=134						
T59A	**Double "B" Far**	**19.20**	**339**	P	**Pn**	**02 14 08.1**	**-0.4**
PAULI	**Pauline**	**19.26**	**326**	P	**P**	**02 14 06.2**	**-2.0**
KMSC	**Kings Mountain**	**19.26**	**328**	P	**P**	**02 14 06.5**	**-1.8**
KMSC				IAmb	IAmb	02 14 25.8	
	comp=Z,20nm,0.7s						
KMSC	**Kings Mountain**	**19.26**	**328**	P	**Pn**	**02 14 08.8**	**-0.6**
	baz=142						
SGCB	**Sto Gabriel d**	**19.35**	**174**	*e*P	**P**	**02 14 09.1**	**-0.2**
152A	**Waverly Hall**	**19.46**	**316**	P	**P**	**02 14 09.5**	**-1.0**
152A				IAmb	IAmb	02 14 12.5	
	comp=Z,21nm,0.7s						
V55A	**Taylorsville**	**19.77**	**329**	P	**P**	**02 14 10.2**	**-3.7**
V55A				IAmb	IAmb	02 14 20.0	
	comp=Z,25nm,0.7s						
U56A	**King**	**19.79**	**332**	P	**P**	**02 14 11.7**	**-2.3**
U56A				IAmb	IAmb	02 14 32.4	
	comp=Z,35nm,1.1s						
Y52A	**Lilburn**	**19.84**	**320**	P	**P**	**02 14 14.4**	**-0.2**
T57A	**Hurt**	**19.86**	**335**	P	**P**	**02 14 14.4**	**-0.5**
JSRW	**J. Sargeant Re**	**19.96**	**339**	P	**P**	**02 14 15.0**	**-1.0**
BG3	**Lake Jocassee**	**19.99**	**324**	P	**P**	**02 14 15.6**	**-0.7**
BG3				IAmb	IAmb	02 14 22.3	
	comp=Z,22nm,0.9s						
PETF	**Flores**	**20.04**	**267**	P	**P**	**02 14 14.8**	**-2.2**
PETF				IAmb	IAmb	02 14 24.4	
	comp=Z,34nm,0.6s						
250A	**Grady**	**20.09**	**312**	P	**P**	**02 14 15.6**	**-1.8**
250A				IAmb	IAmb	02 14 28.8	
	comp=Z,22nm,0.8s						
MTO3	**Montecristo**	**20.14**	**259**	P	**P**	**02 14 17.2**	**-1.1**
MTO3				IAmb	IAmb	02 14 29.8	
	comp=Z,28nm,0.8s						
BRAL	**Brewton**	**20.20**	**309**	P	**P**	**02 14 18.0**	**-0.7**
BRAL				IAmb	IAmb	02 14 45.8	
	comp=Z,90nm,1.5s						
BRAL	**Brewton**	**20.20**	**309**	P	**P**	**02 14 18.7**	**+0.1**
	baz=122						
R58B	**Mineral**	**20.21**	**339**	P	**P**	**02 14 17.6**	**-1.0**
R58B				IAmb	IAmb	02 14 41.3	
	comp=Z,19nm,0.7s						
CBN	**Corbin Frederi**	**20.26**	**340**	P	**P**	**02 14 16.9**	**-2.3**
TULM	**Tulcn-Chalpat**	**20.37**	**206**	P	**P**	**02 14 21.9**	**+0.9**
S57A	**Dark Hollow, R**	**20.41**	**337**	P	**P**	**02 14 18.2**	**-2.6**
S57A				IAmb	IAmb	02 14 45.2	
	comp=Z,15nm,0.6s						
V53A	**Saluda**	**20.43**	**326**	P	**P**	**02 14 19.6**	**-1.6**
V53A				IAmb	IAmb	02 14 29.1	
	comp=Z,44nm,1.0s						
BLA	**Blacksburg**	**20.52**	**333**	IAmb	IAmb	02 14 45.7	
	comp=Z,18nm,0.7s						
BLA	**Blacksburg**	**20.52**	**333**	P	**P**	**02 14 22.8**	**+0.6**
	baz=148						
U54A	**Nelsons Funny**	**20.59**	**329**	IAmb	IAmb	02 14 32.4	
	comp=Z,27nm,0.5s						
IMBA	**Imbabura, San**	**20.94**	**207**	P	Pn	02 14 28.9	-0.8
TKL	**Tuckaleechee C**	**20.95**	**324**	P	**P**	**02 14 27.0**	**+0.3**
	comp=Z,10nm,0.7s,baz=155,slow=11,SNR=14						
TKL				S	S	02 18 03.5	-17
	comp=Z,4.2nm,0.7s,baz=97,slow=10,SNR=1.8						
TKL				LR	LR	02 21 56.6	
	comp=Z,159nm,21.0

TZTN **Tazewell** 21.48 326 IAmb IAmb 02 14 33.9
comp=Z,29nm,0.7s
TZTN **Tazewell** 21.48 326 P **P** **02 14 33.1 +0.7**
baz=139,SNR=7.9
W50A **Signal Mountai** 21.50 321 IAmb IAmb 02 14 40.0
comp=Z,31nm,1.2s
SLOR **San Lorenzo -** 21.97 206 P **P** **02 14 37.4 -0.9**
Z47A **Carrollton** 22.03 313 IAmb IAmb 02 14 45.1
comp=Z,23nm,0.8s
X48A **Hartselle** 22.09 317 IAmb IAmb 02 14 40.1
comp=Z,23nm,0.6s
R53A **Hurricane** 22.12 332 IAmb IAmb 02 14 43.1
comp=Z,34nm,0.7s
Q54A **Coxs Mills** 22.20 335 IAmb IAmb 02 14 44.1
comp=Z,28nm,0.7s
CCIG **Comitan** 22.30 266 P **P** **02 14 41.0 -0.6**
S51A **Beattyville** 22.35 328 IAmb IAmb 02 14 55.5
comp=Z,29nm,0.7s
MCWV **Mont Chateau** 22.41 337 P **P** **02 14 43.9 +1.6**
baz=152
SSPA **Standing Stone** 22.65 342 P **P** **02 14 46.7 +1.7**
baz=158
U49A **Red Boiling Sp** 22.69 323 IAmb IAmb 02 15 02.8
comp=Z,23nm,1.2s
PORT **Chimborazo Vol** 22.75 206 IAmb IAmb 02 15 02.0
comp=Z,19nm,0.7s
V48A **Smith Brothers** 22.78 320 IAmb IAmb 02 14 48.1
comp=Z,20nm,0.8s
CHSH **Refugio Sur-Vo** 22.82 206 P **P** **02 14 46.6 -0.9**
CHSH IAmb IAmb 02 15 14.0
comp=Z,36nm,1.0s
P53A **Whipple** 22.85 335 IAmb IAmb 02 14 48.6
comp=Z,23nm,0.9s
PLAL **Pickwick Lake** 23.08 317 P **P** **02 14 49.8 +0.3**
R50A **Paris** 23.21 328 IAmb IAmb 02 14 53.4
comp=Z,39nm,1.4s
HRV **Adam Dziewonsk** 23.28 355 P **P** **02 14 53.0 +1.5**
baz=174
P52A **Corning** 23.29 333 IAmb IAmb 02 14 52.6
comp=Z,17nm,0.8s
P52A **Corning** 23.29 333 P **P** **02 14 52.0 +0.5**
baz=147
VBMS **Vicksburg** 23.29 308 P **P** **02 14 52.9 +1.4**
baz=118
TBTG **Tabatinga, AM** 23.32 182 *eP* **P** **02 14 54.5 +2.6**
Q51A **Peebles** 23.32 331 IAmb IAmb 02 14 53.2
comp=Z,22nm,0.7s
O53A **New Philadelph** 23.44 336 P **P** **02 14 54.1 +1.1**
baz=150,SNR=7.7
P51A **Williamsport** 23.56 332 IAmb IAmb 02 15 10.0
comp=Z,20nm,0.7s
O52A **Adamsville** 23.57 335 P **P** **02 14 55.4 +1.0**
BINY **Binghamton** 23.64 347 P **P** **02 14 55.9 +0.9**
baz=163
WVT **Waverly** 23.65 319 P **P** **02 14 55.7 +0.6**
WVT **Waverly** 23.65 319 P **P** **02 14 56.3 +1.1**
baz=130
OXF **Oxford** 23.69 314 P **P** **02 14 56.7 +1.1**
baz=125
MACA **Manacapuru-AM** 23.71 159 *eP* **P** **02 14 57.3 +1.5**
L56A **Greenwood** 23.96 344 P **P** **02 14 58.9 +0.8**
L56A IAmb IAmb 02 14 59.7
comp=Z,19nm,0.9s
ACSO **Alum Creek Sta** 24.14 333 P **P** **02 15 00.6 +0.8**
baz=146,SNR=18
143A **Socs Landing,** 24.18 308 IAmb IAmb 02 15 12.5
comp=Z,42nm,1.7s
WCI **Wyandotte Cave** 24.20 325 P **P** **02 15 01.5 +1.2**
WCI IAmb IAmb 02 15 07.2
comp=Z,13nm,0.9s
WCI **Wyandotte Cave** 24.20 325 P **P** **02 15 01.9 +1.5**
baz=137
M53A **WI Miller and** 24.28 338 P **P** **02 15 02.0 +1.0**
baz=152
P49A **Miami Univ. Ec** 24.37 329 IAmb IAmb 02 15 04.1
comp=Z,24nm,0.8s
P49A **Miami Univ. Ec** 24.37 329 P **P** **02 15 03.0 +1.1**
baz=142,SNR=9.4
ERPA **Erie** 24.65 340 P **P** **02 15 06.0 +1.6**
baz=154
P48A **Milroy** 24.66 328 IAmb IAmb 02 15 25.5
comp=Z,33nm,1.4s
CMIG **Matias Romero** 24.75 269 P **P** **02 15 03.5 -2.1**
comp=Z,10nm,0.8s,baz=76,slow=8.4,SNR=7.2
GNAR **Gosnell** 24.94 316 P **P** **02 15 06.1 -0.9**
LBNH **Lisbon** 25.04 355 P **P** **02 15 09.3 +1.4**
baz=173
O48B **Farmland** 25.15 330 P **P** **02 15 10.1 +1.2**
baz=142,SNR=5.9
MALB **Monte Alegre** 25.45 144 *eP* **P** **02 15 11.3 -0.5**
CGM3 **Cape Girardeau** 25.52 319 IAmb IAmb 02 15 27.3
comp=Z,7.0nm,0.7s
MCPB **Macapa, AP** 25.57 138 *eP* **P** **02 15 13.1 +0.1**
P46A **Rosedale** 25.70 326 IAmb IAmb 02 15 17.2
comp=Z,24nm,0.8s
MCRA **Macar, Loja** 25.87 206 IAmb IAmb 02 15 25.2
comp=Z,23nm,0.8s
WLAR **White Oak Lake** 25.90 309 P **P** **02 15 14.5 -1.4**
WLAR IAmb IAmb 02 15 24.2
comp=Z,32nm,1.1s
WHAR **Wooly Hollow** 26.10 312 IAmb IAmb 02 15 27.2
comp=Z,26nm,1.1s
AAM **Ann Arbor** 26.15 335 P **P** **02 15 19.8 +1.9**
baz=147
SFIN **Lafayette** 26.20 327 IAmb IAmb 02 15 21.9
comp=Z,17nm,0.7s
SFIN **Lafayette** 26.20 327 P **P** **02 15 20.4 +1.9**
baz=138
NATX **Nacogdoches** 26.28 303 P **P** **02 15 20.9 +1.7**
baz=112,SNR=10
HKT **Hockley** 26.62 299 P **P** **02 15 22.2 -0.1**
HKT IAmb IAmb 02 15 24.8
comp=Z,20nm,1.1s
MIAR **Mount Ida** 26.64 310 P **P** **02 15 24.0 +1.5**
baz=119
ITTB **Itaituba** 26.83 150 *eP* **P** **02 15 24.2 -0.2**
SADO **Sadowa** 26.83 344 P **P** **02 15 24.3 +0.2**
comp=Z,6.7nm,0.8s,baz=230,slow=3.0,SNR=4.3
comp=Z,6.7nm,0.8s
P43A **Skaggs, Pawnee** 26.98 323 IAmb IAmb 02 15 40.1
comp=Z,14nm,0.8s
CCM **Cathedral Cave** 26.98 319 P **P** **02 15 25.1 -0.5**
CCM **Cathedral Cave** 26.98 319 P **P** **02 15 27.3 +1.8**
baz=128
CZSB **Cruzeiro do Su** 27.07 188 P **P** **02 15 24.9 -1.6**
CZSB IAmb IAmb 02 15 37.6
comp=Z,43nm,1.5s
CZSB **Cruzeiro do Su** 27.07 188 *eP* **P** **02 15 28.1 +1.6**
HHAR **Hobbs** 27.76 313 IAmb IAmb 02 15 43.9
comp=Z,33nm,1.5s
R40A **Maddies Statio** 27.77 318 IAmb IAmb 02 15 40.0
comp=Z,8.9nm,0.8s
ATAH **Atahualpa** 27.84 200 P **P** **02 15 34.5 +0.6**
comp=Z,9.1nm,0.8s,baz=82,slow=2.8,SNR=7.6
ATAH LR LR 02 29 14.7
comp=Z,132nm,18.0s,baz=39,slow=42
comp=Z,9.1nm,0.8s
L44A **Lake County Fo** 27.95 329 P **P** **02 15 35.7 +1.5**
baz=139
435B **Jarrell** 28.31 300 P **P** **02 15 38.7 +1.2**
baz=107
WHTX **Lake Whitney,** 28.58 302 P **P** **02 15 40.7 +0.7**
baz=110,SNR=5.3
TUL1 **Leonard** 28.89 311 **P** **02 15 42.5 -0.1**
TUL1 **Leonard** 28.89 311 P **P** **02 15 43.6 +1.0**
baz=118,SNR=9.2
ETMB **Extrema** 29.01 174 P **P** **02 15 43.9 0.0**
ETMB IAmb IAmb 02 15 52.9
comp=Z,5.9nm,0.9s
ETMB **Extrema** 29.01 174 *eP* **P** **02 15 44.7 +0.9**
833A **Chaparral WMA,** 29.24 294 IAmb IAmb 02 15 46.9
comp=Z,9.4nm,0.8s
833A **Chaparral WMA,** 29.24 294 P **P** **02 15 46.4 +0.6**
baz=101
NPGB **Novo Progresso** 29.36 152 *eP* **P** **02 15 47.3 +0.4**
DEOK **Depew** 29.36 310 **P** **02 15 46.3 -0.5**
DEOK IAmb IAmb 02 15 53.7
comp=Z,38nm,1.3s
OK031 **S. Brethren Rd** 29.66 310 **P** **02 15 48.5 -1.0**
JFWS **Jewell Farm** 29.66 327 P **P** **02 15 50.5 +1.1**
baz=136
QUOK **Quay** 29.66 310 IAmb IAmb 02 15 57.0
comp=Z,13nm,0.7s
OK033 **Mehan** 29.77 310 **P** **02 15 49.1 -1.4**
X34A **Smith Ranch, M** 29.83 307 **P** **02 15 49.4 -1.6**
T35A **Sooner Cattle** 29.87 312 **P** **02 15 50.3 -1.0**
T35A IAmb IAmb 02 15 58.9
comp=Z,10nm,0.6s
JCT **Junction City** 30.07 298 P **P** **02 15 53.8 +0.6**
baz=105,SNR=6.2
BLOK **Blackwell** 30.30 311 IAmb IAmb 02 16 02.6
comp=Z,16nm,0.6s
ABTX **Abilene, Hawle** 30.54 302 P **P** **02 15 57.2 -0.2**
ABTX **Abilene, Hawle** 30.54 302 P **P** **02 15 58.5 +1.1**
baz=108,SNR=20
KAN13 **South Haven SW** 30.60 311 IAmb IAmb 02 16 04.8
comp=Z,20nm,1.1s
WMOK **Wichita Mounta** 30.60 306 P **P** **02 15 58.5 +0.7**
baz=112,SNR=20
CSTR **Hydro, Custer** 30.89 308 IAmb IAmb 02 16 08.3
comp=Z,4.6nm,1.4s
ELIS **Ellis County** 31.60 308 IAmb IAmb 02 16 14.4
comp=Z,32nm,1.2s
NNA **Nana** 32.01 195 LR LR 02 31 59.3
comp=Z,92nm,20.4s,baz=348,slow=42
AMTX **Amarillo** 32.88 305 P **P** **02 16 18.6 +0.6**
baz=110
TXAR **Lajitas Array** 33.11 294 P **P** **02 16 20.5 +0.4**
comp=Z,6.4nm,0.8s,baz=109,slow=9.1,SNR=61
TXAR PcP **PcP** **02 19 03.6 +0.3**
comp=Z,1.1nm,0.7s,baz=140,slow=4.9,SNR=5.7
TXAR ScP **ScP** **02 22 47.2 -0.5**
comp=Z,0.2nm,0.7s,baz=111,slow=5.1,SNR=2.2
TXAR LR LR 02 32 16.1
comp=Z,103nm,21.9s,baz=81,slow=41
comp=Z,6.4nm,0.8s
TXAR **Lajitas Array** 33.11 294 P **P** **02 16 21.2 +1.1**
TX32 **Lajitas Array** 33.11 294 IAmb IAmb 02 16 22.5
comp=Z,7.1nm,0.8s
VILB **Vilhena** 33.14 164 *eP* **P** **02 16 21.9 +1.7**
MSTX **Muleshoe** 33.45 303 P **P** **02 16 23.6 +0.6**
baz=107,SNR=12
ECSD **EROS Data Cent** 33.67 323 P **P** **02 16 25.2 +0.5**
baz=128
CLNB **Carlsbad** 33.88 299 P **P** **02 16 25.9 -0.9**
EYMN **Ely** 33.98 333 P **P** **02 16 28.4 +1.1**
baz=140
GDL2 **Guadalupe Moun** 34.27 299 P **P** **02 16 29.8 -0.4**
SMTB **Santa Maria do** 34.97 141 *eP* **P** **02 16 37.6 +1.4**
KSCO **Kaye Shedlock'** 35.13 311 P **P** **02 16 38.4 +0.9**
baz=114
LPAZ **La Paz** 35.33 179 P **P** **02 16 41.0 +1.1**
comp=Z,4.5nm,0.6s,baz=325,slow=5.0,SNR=23
LPAZ LR LR 02 33 23.8
comp=Z,91nm,19.1s,baz=328,slow=40
comp=Z,4.5nm,0.6s
LPAZ **La Paz** 35.33 179 IAmb IAmb 02 16 58.4
comp=Z,5.9nm,0.8s
LPAZ **La Paz** 35.33 179 *eP* **P** **02 16 41.8 +1.8**
SCHQ **Schefferville** 35.55 2 P **P** **02 16 40.3 -0.4**
comp=Z,2.9nm,0.7s,baz=190,slow=13,SNR=1.4
SCHQ LR LR 02 29 28.2
comp=Z,60nm,19.9s,baz=326,slow=33
comp=Z,2.9nm,0.7s
SNDB **Serra Nova Dou** 35.57 149 *eP* **P** **02 16 42.1 +0.8**
T25A **Trinidad** 35.73 307 IAmb IAmb 02 16 45.9
comp=Z,12nm,1.2s
T25A **Trinidad** 35.73 307 P **P** **02 16 43.4 +0.6**
baz=110
PTLB **Pontes e Lacer** 35.81 164 P **P** **02 16 42.8 -0.6**
PTLB IAmb IAmb 02 16 52.3
comp=Z,3.6nm,0.7s
PTLB **Pontes e Lacer** 35.81 164 *eP* **P** **02 16 45.2 +1.9**
AGMN **Agassiz Nation** 36.25 329 P **P** **02 16 47.3 +0.4**
baz=134
ANMO **Albuquerque** 36.64 303 P **P** **02 16 50.1 -0.6**
comp=Z,4.2nm,0.9s,baz=118,slow=8.2,SNR=12
ANMO LR LR 02 33 53.2
comp=Z,143nm,18.6s,baz=115,slow=40
comp=Z,4.2nm,0.9s
ANMO **Albuquerque** 36.64 303 P **P** **02 16 51.1 +0.5**
baz=105
SDCO **Great Sand Dun** 36.75 308 IAmb IAmb 02 16 59.3
comp=Z,9.5nm,0.7s
SDCO **Great Sand Dun** 36.75 308 P **P** **02 16 52.0 +0.4**
baz=110,SNR=16
Y22D **IRIS PASSCAL I** 36.79 301 P **P** **02 16 52.6 +0.8**
baz=104
Y22F **Passcal Instru** 36.79 301 P **P** **02 16 52.6 +0.8**
baz=104
Q24A **Divide** 36.92 310 IAmb IAmb 02 17 00.4
comp=Z,8.6nm,0.8s
Q24A **Divide** 36.92 310 P **P** **02 16 53.9 +0.8**
baz=112
BBSD **Serra de San D** 37.13 167 *eP* **P** **02 16 56.3 +1.7**
121A **Cookes Peak, D** 37.17 299 IAmb IAmb 02 16 59.2
comp=Z,10nm,0.9s
121A **Cookes Peak, D** 37.17 299 P **P** **02 16 56.2 +1.1**
baz=101,SNR=7.1
SALV **Santo Antonio** 37.28 159 *eP* **P** **02 16 57.3 +1.4**
PB16 **IPOC Station P** 37.36 181 IAmb IAmb 02 16 59.8
comp=Z,7.6nm,0.6s
ULM **Lac du Bonnet** 37.63 332 P **P** **02 16 57.3 -1.2**
comp=Z,2.1nm,0.6s,baz=184,slow=19,SNR=1.5
comp=Z,2.1nm,0.6s
S22A **4UR Ranch, Cre** 37.74 307 P **P** **02 17 01.5 +1.4**
baz=109,SNR=7.2
H07S1 **FLORES T-PHASE** 38.15 50 T T 02 57 11.0
SNR=58
319A **Douglas** 38.22 296 IAmb IAmb 02 17 06.8
comp=Z,11nm,0.9s
SMCO **Snowmass** 38.32 309 IAmb IAmb 02 17 12.9
comp=Z,15nm,1.4s
H07N1 **FLORES T-PHASE** 38.33 50 T T 02 57 25.2
SNR=17
BBRB **Robore, Bolivi** 38.36 166 *eP* **P** **02 17 04.7 -0.4**
ARAG **Araguaiana, MT** 38.61 153 *eP* **P** **02 17 08.7 +1.5**
GO01 **Chusmiza** 38.69 180 P **P** **02 17 07.1 -1.2**
GO01 IAmb IAmb 02 17 09.3
comp=Z,11nm,0.6s
PB11 **IPOC Station P** 38.78 181 IAmb IAmb 02 17 23.6
comp=Z,14nm,1.0s
MVCO **Mesa Verde** 38.85 306 P **P** **02 17 10.2 +0.9**
baz=106
O20A **White River Ci** 39.57 310 IAmb IAmb 02 17 24.3
comp=Z,8.0nm,0.7s
O20A **White River Ci** 39.57 310 P **P** **02 17 16.9 +1.6**
baz=110,SNR=6.9
TUC **Tucson** 39.63 298 P **P** **02 17 15.5 -0.2**
TUC **Tucson** 39.63 298 P **P** **02 17 17.4 +1.7**
baz=99
PB01 **IPOC Station P** 40.06 181 P **P** **02 17 18.1 -1.2**
PB01 IAmb IAmb 02 17 20.3
comp=Z,11nm,0.7s
BDFB **Brasilia** 40.32 148 P **P** **02 17 22.1 +0.5**
comp=Z,1.5nm,0.6s,baz=279,slow=12,SNR=3.0
comp=Z,1.5nm,0.6s
WUAZ **Wupatki** 40.69 302 IAmb IAmb 02 17 27.1
comp=Z,12nm,1.1s
WUAZ **Wupatki** 40.69 302 P **P** **02 17 26.2 +1.7**
baz=102,SNR=6.2
DGMT **Dagmar** 40.71 324 P **P** **02 17 26.2 +1.8**
baz=123
PB07 **IPOC Station P** 40.74 181 P **P** **02 17 23.7 -1.3**
PB07 IAmb IAmb 02 17 27.9
comp=Z,12nm,0.6s
SRU **San Rafael Swe** 40.92 308 IAmb IAmb 02 17 50.6
comp=Z,9.8nm,0.7s
LAO **LASA Array** 40.96 320 P **P** **02 17 27.6 +1.1**
baz=119
RCBR **Riachuelo** 40.98 124 LR LR 02 38 48.9
comp=Z,39nm,18.2s,baz=108,slow=43
P17A **Butcher Ranch,** 41.19 308 IAmb IAmb 02 17 36.4
comp=Z,13nm,0.7s
214A **Organ Pipe Nat** 41.28 297 P **P** **02 17 30.5 +1.1**
baz=97
BW06 **Boulder Array** 41.43 314 P **P** **02 17 31.2 +0.5**
baz=112
PDAR **Pinedale Array** 41.43 314 P **P** **02 17 30.7 0.0**
comp=Z,0.7nm,0.4s,baz=118,slow=9.8,SNR=13
PDAR PcP **PcP** **02 19 28.2 -0.3**
comp=Z,1.2nm,0.5s,baz=112,slow=5.0,SNR=6.9
PDAR LR LR 02 36 07.4
comp=Z,120nm,18.5s,baz=110,slow=38
comp=Z,0.7nm,0.4s
PDAR **Pinedale Array** 41.43 314 P **P** **02 17 29.4 -1.3**
TMUT **Trail Mountain** 41.48 308 IAmb IAmb 02 17 41.7
comp=Z,18nm,0.9s
LVC **Limon Verde** 41.61 180 LR LR 02 36 58.1
comp=Z,77nm,18.2s,baz=354,slow=39
LVC **Limon Verde** 41.61 180 P **P** **02 17 32.0 -0.4**
LVC IAmb IAmb 02 17 33.7
comp=Z,8.2nm,0.7s
LVC **Limon Verde** 41.61 180 *eP* **P** **02 17 32.6 +0.2**
PIX **Pinacate** 41.79 296 P **P** **02 17 32.1 -1.3**
PKCU **Pink Cliffs** 41.85 305 IAmb IAmb 02 17 45.3
comp=Z,12nm,1.2s
MPU **Maple Canyon** 42.00 309 IAmb IAmb 02 17 45.9
comp=Z,8.2nm,0.9s
JLU **Jordanelle** 42.04 310 IAmb IAmb 02 17 43.6
comp=Z,8.2nm,0.7s
MURT **Porto Murtinho** 42.15 164 *eP* **P** **02 17 38.0 +1.7**
RLMT **Red Lodge** 42.16 317 P **P** **02 17 37.9 +1.4**
baz=114
TCUT **Toone Canyon** 42.17 311 IAmb IAmb 02 17 45.3
comp=Z,7.5nm,0.6s
TCRU **Three Creeks R** 42.23 307 IAmb IAmb 02 17 49.3
comp=Z,21nm,1.4s
CTU **Camp Tracy** 42.29 310 IAmb IAmb 02 17 45.2
comp=Z,8.8nm,0.8s
HWUT **Hardware Ranch** 42.43 311 P **P** **02 17 38.5 -0.4**
REDW **Red Top Meadow** 42.53 314 IAmb IAmb 02 17 41.5
comp=Z,12nm,1.3s
PDMCI **Parker Dam,Lak** 42.71 300 P **P** **02 17 42.5 +1.6**
baz=99
FXWY **Fox Creek** 42.75 314 P **P** **02 17 40.5 -0.9**
DUG **Dugway, Tooele** 42.92 309 P **P** **02 17 43.9 +1.1**
baz=106,SNR=8.8
GLA **Glamis** 43.10 298 P **P** **02 17 45.1 +0.9**
baz=97
BGU **Big Grassy Mou** 43.28 310 IAmb IAmb 02 17 53.1
comp=Z,14nm,0.7s
PSUT **Pine Spring** 43.28 306 IAmb IAmb 02 17 54.4
comp=Z,20nm,0.8s
V12A **Nelson** 43.51 302 P **P** **02 17 48.4 +0.8**
V12A IAmb IAmb 02 17 50.4
comp=Z,11nm,0.9s
IRM **Iron Mountain** 43.51 300 P **P** **02 17 48.7 +1.2**
baz=98,SNR=13
PB14 **IPOC Station P** 43.64 182 P **P** **02 17 49.3 +0.5**
BC3 **Big Chuckawall** 43.70 299 P **P** **02 17 50.1 +1.0**
baz=97,SNR=5.2
EGMT **Eagleton** 43.71 321 P **P** **02 17 50.5 +1.5**
baz=117
WTNK **Soaring Height** 43.71 303 IAmb IAmb 02 17 51.8
comp=Z,2.1nm,0.9s
SPR3 **Spring Creek 3** 43.75 307 P **P** **02 17 48.8 -0.9**
SPR3 IAmb IAmb 02 17 58.0
comp=Z,11nm,0.8s
BOZ **Bozeman (W)** 43.87 317 P **P** **02 17 51.8 +1.4**
baz=112
SHPR **Sheep Range** 43.89 303 P **P** **02 17 49.9 -0.7**
SWSC **Sam W. Stewart** 43.91 298 P **P** **02 17 52.2 +1.6**
baz=96
GMRC **Granite Mounta** 44.02 300 P **P** **02 17 53.5 +1.8**
baz=98,SNR=9.4
IKP **In-Ko-Pah, Jac** 44.13 297 P **P** **02 17 53.4 +0.8**
baz=96
BELC **Belle Mtn. Jos** 44.19 299 P **P** **02 17 54.6 +1.5**
baz=97
TUQ **Turquoise Moun** 44.33 301 P **P** **02 17 55.4 +1.3**
baz=98,SNR=15
MONP2 **Monument Peak** 44.42 298 P **P** **02 17 56.0 +1.0**
baz=96,SNR=6.8
FRB **Frobisher Bay** 44.46 0 LR LR 02 34 50.2
comp=Z,69nm,20.7s,baz=180,slow=34
TPFO **Pinon Flats** 44.52 299 P **P** **02 17 57.6 +1.9**
baz=96
PFO **Pinyon Flats O** 44.53 299 P **P** **02 17 57.6 +1.9**
baz=96
S11A **Rachel** 44.56 304 IAmb IAmb 02 18 05.0
comp=Z,14nm,0.8s
R11A **Troy Canyon, C** 44.57 305 IAmb IAmb 02 17 58.8
comp=Z,10nm,1.2s
R11A **Troy Canyon, C** 44.57 305 P **P** **02 17 57.9 +1.7**
baz=102,SNR=9.1
HEC **Hector,Ludlow** 44.57 300 P **P** **02 17 58.1 +2.0**
baz=98
BCYI **Bear Canyon** 44.59 314 P **P** **02 17 55.6 -0.6**
SHOC **Shoshone, Teco** 44.68 302 P **P** **02 17 58.8 +2.0**
baz=99
TPNV **Topopah Spring** 44.83 303 P **P** **02 17 59.7 +1.5**
baz=100,SNR=26
ELK **Elko** 44.85 309 LR LR 02 36 48.3
comp=Z,86nm,19.7s,baz=106,slow=36
BBRC **Big Bear Solar** 44.98 299 P **P** **02 18 01.0 +1.5**
baz=97
109C **Camp Elliot, M** 44.99 298 P **P** **02 18 00.9 +1.6**
baz=95
GSC **Goldstone, Bar** 45.02 301 IAmb IAmb 02 18 02.7
comp=Z,13nm,0.9s
GSC **Goldstone, Bar** 45.02 301 P **P** **02 18 01.2 +1.6**
baz=98,SNR=11
GWY **Greenwater Val** 45.04 302 IAmb IAmb 02 18 02.7
comp=Z,10nm,0.8s
HLID **Hailey** 45.04 313 IAmb IAmb 02 18 08.4
comp=Z,3.7nm,0.6s
HLID **Hailey** 45.04 313 P **P** **02 18 01.1 +1.3**
baz=108,SNR=9.2
RRX **Edison Barstow** 45.12 300 P **P** **02 18 01.8 +1.4**
baz=97
MURC **Murrieta** 45.14 299 P **P** **02 18 01.7 +1.2**
baz=96
QSM **Queen of Sheba** 45.16 302 IAmb IAmb 02 18 03.7
comp=Z,13nm,1.0s
FURC **Furnace Creek,** 45.23 303 P **P** **02 18 02.7 +1.5**
baz=99
ELS **Elsinore Mount** 45.33 299 P **P** **02 18 00.6 -1.6**
BFSC **Mount Baldy Ra** 45.59 299 P **P** **02 18 05.5 +1.3**
baz=96
MPMC **Manual Prospec** 45.67 302 P **P** **02 18 06.7 +1.8**
baz=98,SNR=14
GMN **Gold Mountain** 45.68 304 IAmb IAmb 02 18 07.6
comp=Z,7.2nm,0.9s
GRAC **Grapevine Rang** 45.72 303 P **P** **02 18 06.7 +1.6**
baz=99,SNR=11
LRMC **Laurel Mtn Rad** 45.75 301 P **P** **02 18 07.3 +1.8**
baz=97,SNR=11
MZP **Montezuma Peak** 45.85 304 IAmb IAmb 02 18 08.8
comp=Z,8.6nm,1.0s
EDW2 **Edwards Air Fo** 45.93 300 P **P** **02 18 08.9 +2.0**
baz=97,SNR=14
LCH **Last Change Ra** 45.97 303 IAmb IAmb 02 18 09.9
comp=Z,12nm,1.2s
MFID **Camas Ranch** 45.98 312 IAmb IAmb 02 18 22.2
comp=Z,5.4nm,0.9s
FMP **Fort Macarthur** 46.06 299 P **P** **02 18 09.7 +1.9**
baz=95
CIS **Catalina Islan** 46.13 298 P **P** **02 18 10.4 +2.0**
baz=95
DECC **Green Verdugo** 46.14 299 P **P** **02 18 10.5 +2.0**
baz=96
CWC **Cottonwood Cre** 46.20 302 P **P** **02 18 11.1 +2.0**
baz=98
BMN **Battle Mountai** 46.25 308 IAmb IAmb 02 18 19.9
comp=Z,4.0nm,0.6s
DSP **Deep Springs** 46.25 304 P **P** **02 18 07.8 -1.4**
DSP IAmb IAmb 02 18 12.6
comp=Z,17nm,1.3s
TIN **Tinemaha, Big** 46.41 303 P **P** **02 18 12.3 +1.6**
baz=98
ISA **Isabella, Lake** 46.42 301 P **P** **02 18 12.5 +1.8**
baz=97
PLID **Pearl Lake** 46.59 314 IAmb IAmb 02 18 25.5
comp=Z,6.7nm,1.1s
ARVC **Arvin** 46.64 300 P **P** **02 18 14.1 +1.8**
baz=96,SNR=7.0
NVAR **Mina Array Bea** 46.69 305 P **P** **02 18 13.8 +0.9**
comp=Z,3.9nm,0.5s,baz=95,slow=7.6,SNR=46
comp=Z,3.9nm,0.5s
NVAR **Mina Array Bea** 46.69 305 P **P** **02 18 12.0 -0.9**
CPUP **Villa Florida** 46.69 166 P **P** **02 18 12.6 -0.1**
comp=Z,3.0nm,0.9s,baz=350,slow=7.6,SNR=6.0
comp=Z,3.0nm,0.9s
CPUP **Villa Florida** 46.69 166 *eP* **P** **02 18 13.2 +0.5**
VES **Vestal, Richgr** 46.93 301 P **P** **02 18 17.0 +2.4**
baz=97,SNR=7.9
OMMB **Old Mammoth Mi** 47.10 304 IAmb IAmb 02 18 19.1
comp=Z,11nm,0.9s
VAO **Valinhos** 47.16 152 *eP* **P** **02 18 18.0 +1.5**
MDPB **Devils Postpil** 47.16 304 IAmb IAmb 02 18 19.5
comp=Z,9.6nm,0.8s
SBC **Santa Barbara** 47.30 299 P **P** **02 18 19.9 +2.5**
baz=95
PKM **Mcpherson Peak** 47.42 300 P **P** **02 18 20.7 +2.0**
baz=95
WAKR **Walker** 47.58 305 IAmb IAmb 02 18 37.5
comp=Z,10nm,1.1s
SMMC **Simmler** 47.61 301 P **P** **02 18 22.1 +2.2**
baz=96
WVOR **Wild Horse Val** 47.73 310 IAmb IAmb 02 18 25.4
comp=Z,7.9nm,1.0s

J08A	**Circle Bar Ran**	**47.83**	**312**	P	**P**	**02 18 21.0 -0.6**
J08A	comp=Z,7.4nm,0.9s			IAmb	IAmb	02 18 35.3
PLTX	**Planet X, Gerl**	**47.98**	**308**	IAmb	IAmb	02 18 24.7
	comp=Z,37nm,0.6s					
NEW	**Newport**	**48.34**	**318**	LR	LR	02 39 09.8
	comp=Z,144nm,19.9s,baz=109,slow=37					
NEW	**Newport**	**48.34**	**318**	P	**P**	**02 18 26.1 +0.7**
	baz=110					
I07A	**Izee**	**48.73**	**312**	IAmb	IAmb	02 18 30.7
	comp=Z,10nm,1.2s					
AFDM	**Forest Hills D**	**48.83**	**305**	IAmb	IAmb	02 18 31.1
	comp=Z,3.9nm,0.7s					
SFJD	**Kangerlussuaq**	**49.16**	**9**	P	**P**	**02 18 30.6 -0.7**
	comp=Z,16nm,1.0s,baz=168,slow=15,SNR=3.2					
SFJD				LR	LR	02 37 27.2
	comp=Z,68nm,20.6s,baz=184,slow=34					
	comp=Z,16nm,1.0s					
ORV	**Oroville**	**49.32**	**306**	IAmb	IAmb	02 18 35.5
	comp=Z,5.9nm,0.7s					
BBTS	**Babate**	**50.17**	**87**	LR	LR	02 38 18.2
	comp=Z,38nm,20.8s,baz=287,slow=34					
ZON	**Zonda**	**50.51**	**180**	P	**P**	**02 18 42.5 +0.4**
YBH	**Yreka Blue Hor**	**50.57**	**309**	LR	LR	02 41 32.4
	comp=Z,92nm,18.2s,baz=97,slow=38					
TER01	**Tubaro-SC**	**51.22**	**158**	*e*P	**P**	**02 18 49.0 +1.6**
YKA	**Yellowknife Ar**	**53.36**	**336**	P	**P**	**02 19 02.2 -0.6**
	comp=Z,3.5nm,0.8s,baz=83,slow=7.0,SNR=10					
	comp=Z,3.5nm,0.8s					
SUMG	**Summit**	**56.09**	**11**	*i* P	**P**	**02 19 23.0 0.0**
KOTAN	**Kotaneelee Air**	**56.34**	**330**	P	**P**	**02 19 25.7 +1.1**
	baz=111,SNR=6.3					
LIRD	**Liard River Hi**	**57.07**	**329**	P	**P**	**02 19 30.7 +1.0**
	baz=109					
WRGLY	**Wrigley**	**57.28**	**334**	P	**P**	**02 19 31.7 +0.6**
	baz=114					
TRQA	**Tornquist**	**57.38**	**173**	*e*P	**P**	**02 19 34.4 +2.2**
MDT	**Midelt**	**58.56**	**63**	LR	LR	02 39 27.5
	comp=Z,43nm,22.0s,baz=278,slow=30					
WTLY	**Watson Lake, Y**	**58.58**	**329**	P	**P**	**02 19 40.6 +0.2**
DLBC	**Dease Lake**	**58.74**	**327**	P	**P**	**02 19 42.5 +0.9**
	baz=105					
ESDC	**Sonseca Array**	**58.87**	**55**	P	**P**	**02 19 43.2 +0.4**
	comp=Z,2.4nm,0.9s,baz=274,slow=7.2,SNR=17					
ESDC				LR	LR	02 40 27.7
	comp=Z,97nm,20.3s,baz=272,slow=31					
	comp=Z,2.4nm,0.9s					
ESDC	**Sonseca Array**	**58.87**	**55**	P	**P**	**02 19 42.6 -0.2**
PLCA	**Paso Flores**	**59.70**	**181**	P	**P**	**02 19 50.1 +1.8**
	comp=Z,1.4nm,0.6s,baz=12,slow=8.8,SNR=4.4					
	comp=Z,1.4nm,0.6s					
PLCA	**Paso Flores**	**59.70**	**181**	*e*P	**P**	**02 19 50.8 +2.5**
U33K	**Whale Pass**	**59.87**	**324**	P	**P**	**02 19 48.9 -0.4**
	baz=100					
Q32M	**Nakina River**	**60.00**	**328**	P	**P**	**02 19 49.6 -0.8**
	baz=103					
MMPY	**Sheldon Lake,**	**60.43**	**332**	P	**P**	**02 19 53.0 -0.1**
	baz=106					
P33M	**Teslin, Yukon**	**60.55**	**329**	P	**P**	**02 19 54.8 +0.7**
	baz=103					
EKA	**Eskdalemuir Ar**	**60.62**	**37**	LR	LR	02 43 28.2
	comp=Z,36nm,19.2s,baz=245,slow=34					
P32M	**Atlin**	**60.86**	**328**	P	**P**	**02 19 57.1 +1.0**
	baz=102					
N32M	**Quiet Lake**	**60.89**	**330**	P	**P**	**02 19 56.5 +0.2**
	baz=103					
FARO	**Faro, Yukon**	**61.27**	**331**	P	**P**	**02 19 59.2 +0.3**
	baz=104					
A36M	**Sachs Harbour**	**61.67**	**343**	P	**P**	**02 20 01.4 +0.1**
	baz=117,SNR=12					
M31M	**Drury Creek, Y**	**61.74**	**331**	P	**P**	**02 20 02.2 +0.2**
	baz=103					
PLBC	**Pleasant Camp**	**62.16**	**328**	P	**P**	**02 20 04.2 -0.7**
	baz=99					
N31M	**Braeburn, Yuko**	**62.24**	**330**	P	**P**	**02 20 04.9 -0.5**
	baz=101					
O30N	**Mendenhall**	**62.25**	**329**	P	**P**	**02 20 05.7 +0.1**
	baz=100					
F31M	**Tsiigehtchic**	**62.77**	**337**	P	**P**	**02 20 08.9 +0.1**
	baz=106					
N30M	**Aishikik Lake**	**62.85**	**330**	P	**P**	**02 20 08.6 -0.9**
	baz=100					
P29M	**Windy Craggy**	**62.88**	**328**	P	**P**	**02 20 09.6 -0.1**
	baz=98					
M30M	**Minto, Yukon**	**62.91**	**331**	IAmb	IAmb	02 20 10.9
	comp=Z,4.9nm,0.9s					
M30M	**Minto, Yukon**	**62.91**	**331**	P	**P**	**02 20 09.8 -0.1**
	baz=101					
INK	**Inuvik**	**62.94**	**338**	P	**P**	**02 20 08.7 -1.2**
	comp=Z,3.1nm,0.8s,baz=115,slow=4.1,SNR=11					
	comp=Z,3.1nm,0.8s					
INK	**Inuvik**	**62.94**	**338**	IAmb	IAmb	02 20 15.8
	comp=Z,5.2nm,0.8s					
INK	**Inuvik**	**62.94**	**338**	P	**P**	**02 20 09.6 -0.2**
	baz=107					
HYT	**Haines Junctio**	**62.95**	**329**	P	**P**	**02 20 09.9 -0.3**
	baz=99					
DBIC	**Dimbokro**	**63.37**	**92**	P	**P**	**02 20 13.3 -0.3**
	comp=Z,3.7nm,0.7s,baz=296,slow=7.4,SNR=2.5					
	comp=Z,3.7nm,0.7s					
YUK6	**Outpost Mounta**	**63.38**	**329**	P	**P**	**02 20 12.9 -0.3**
	baz=98					
O29M	**Mount Kennedy**	**63.39**	**329**	P	**P**	**02 20 13.5 +0.3**
	baz=98					
K29M	**Barlow Dome**	**63.47**	**333**	P	**P**	**02 20 13.5 -0.2**
	baz=100					
YUK4	**Talbot Arm**	**63.57**	**330**	P	**P**	**02 20 14.1 -0.4**
	baz=98					
G30M	**tAoh Zraii Nji**	**63.59**	**336**	P	**P**	**02 20 14.3 0.0**
	baz=103					
L29M	**L29M**	**63.61**	**332**	P	**P**	**02 20 14.4 -0.1**
	baz=100					
EPYK	**Eagle Plains**	**63.64**	**335**	IAmb	IAmb	02 20 15.1
	comp=Z,7.1nm,0.9s					
EPYK	**Eagle Plains**	**63.64**	**335**	P	**P**	**02 20 14.2 -0.5**
	baz=102					
M29M	**Somme Creek**	**63.65**	**331**	P	**P**	**02 20 14.5 -0.4**
	baz=99					
PNL	**Peninsula**	**63.72**	**328**	P	**P**	**02 20 15.3 +0.1**
	baz=97					
YUK8	**Steele Glacier**	**64.10**	**330**	P	**P**	**02 20 17.7 -0.4**
	baz=97					
PINM	**Pinnacle**	**64.20**	**328**	P	**P**	**02 20 18.9 +0.4**
	baz=96					
DAWY	**Dawson**	**64.32**	**333**	P	**P**	**02 20 19.7 +0.5**
DAWY	**Dawson**	**64.32**	**333**	P	**P**	**02 20 19.7 +0.5**
	baz=99					
BVCY	**Beaver Creek**	**64.75**	**331**	P	**P**	**02 20 22.6 +0.6**
	baz=97					
EGAK	**Eagle**	**65.18**	**333**	P	**P**	**02 20 25.4 +0.7**
EGAK	**Eagle**	**65.18**	**333**	P	**P**	**02 20 25.7 +1.0**
	baz=98					
M27K	**Edge Creek, AK**	**65.22**	**331**	P	**P**	**02 20 25.6 +0.5**
	baz=96					
L27K	**Beaver Creek,**	**65.27**	**331**	IAmb	IAmb	02 20 26.7
	comp=Z,4.5nm,0.8s					
L27K	**Beaver Creek,**	**65.27**	**331**	P	**P**	**02 20 25.9 +0.6**
	baz=96					
I27K	**Kandik River**	**65.48**	**334**	P	**P**	**02 20 27.0 +0.3**
	baz=98					
H27K	**Steamboat Moun**	**65.53**	**335**	P	**P**	**02 20 27.6 +0.6**
	baz=98					
G27K	**Doyon Strip**	**65.66**	**335**	P	**P**	**02 20 27.8 -0.1**
	baz=98					
MCARA	**McCarthy VSAT**	**65.67**	**329**	P	**P**	**02 20 28.1 +0.2**
	baz=94					
E27K	**Coleen River**	**65.84**	**337**	P	**P**	**02 20 29.3 +0.3**
	baz=99					
L26K	**Log Cabin Wild**	**65.95**	**331**	P	**P**	**02 20 30.3 +0.5**
	baz=95					
I26K	**Coal Creek Min**	**66.08**	**334**	P	**P**	**02 20 31.0 +0.4**
	baz=96					
J26L	**Joseph Creek**	**66.18**	**333**	IAmb	IAmb	02 20 34.2
	comp=Z,14nm,1.4s					
J26L	**Joseph Creek**	**66.18**	**333**	P	**P**	**02 20 31.6 +0.3**
	baz=95					
SCRK	**Sand Creek**	**66.32**	**332**	P	**P**	**02 20 32.9 +0.7**
	baz=95,SNR=7.4					
BMRM	**Bremner River**	**66.41**	**329**	P	**P**	**02 20 33.4 +0.7**
	baz=93					
G26K	**Porcupine Rive**	**66.52**	**336**	P	**P**	**02 20 33.4 +0.1**
	baz=96					
RIDG	**Independent Ri**	**66.68**	**332**	P	**P**	**02 20 34.3 -0.1**
	baz=94					
F26K	**Sheenjek River**	**66.73**	**336**	P	**P**	**02 20 35.0 +0.3**
	baz=96					
C27K	**Jago River**	**66.80**	**338**	P	**P**	**02 20 35.3 +0.2**
	baz=97					

PAX	**Paxson**	**66.92**	**331**	P	**P**	**02 20 36.3 +0.3**
	baz=93					
PRP	**Porcupine Dome**	**67.09**	**334**	P	**P**	**02 20 37.5 +0.4**
PRP				IAmb	IAmb	02 20 43.3
	comp=Z,6.5nm,0.7s					
PRP	**Porcupine Dome**	**67.09**	**334**	P	**P**	**02 20 36.7 -0.4**
	baz=94					
C26K	**Camden Bay**	**67.25**	**339**	P	**P**	**02 20 38.5 +0.6**
	baz=96					
F25K	**Christian Rive**	**67.29**	**336**	P	**P**	**02 20 38.6 +0.3**
	baz=95					
E25K	**Arctic Village**	**67.31**	**337**	P	**P**	**02 20 38.4 0.0**
	baz=95					
G25K	**Bearman Lake**	**67.41**	**335**	P	**P**	**02 20 39.5 +0.6**
	baz=94					
IL31		**67.63**	**333**	IAmb	IAmb	02 20 41.0
	comp=Z,9.8nm,1.4s					
ILAR	**Eielson Array**	**67.63**	**333**	P	**P**	**02 20 39.9 -0.5**
	comp=Z,1.3nm,0.6s,baz=106,slow=3.8,SNR=19					
ILAR				LR	LR	02 51 02.8
	comp=Z,48nm,18.1s,baz=52,slow=37					
	comp=Z,1.3nm,0.6s					
ILAR	**Eielson Array**	**67.63**	**333**	P	**P**	**02 20 40.6 +0.3**
HDA	**Harding Lake**	**67.64**	**333**	P	**P**	**02 20 40.8 +0.4**
	baz=92					
D25K	**Kavik River**	**67.70**	**338**	P	**P**	**02 20 40.9 0.0**
	baz=95					
SCM	**Sheep Creek Mo**	**67.75**	**330**	P	**P**	**02 20 41.2 -0.1**
	baz=91					
P23K	**Montague Islan**	**67.77**	**328**	P	**P**	**02 20 40.9 -0.4**
	baz=90					
DHY	**Denali Highway**	**67.79**	**331**	P	**P**	**02 20 42.3 +0.6**
	baz=91					
POKR	**Poker Plat Res**	**67.87**	**333**	P	**P**	**02 20 42.2 +0.3**
	baz=92					
M23K	**Glacier View**	**67.94**	**330**	P	**P**	**02 20 42.4 0.0**
	baz=90					
WAT6	**Susitna Watana**	**67.95**	**331**	P	**P**	**02 20 42.9 +0.3**
	baz=91					
G24K	**Hadweenzic Riv**	**67.95**	**335**	P	**P**	**02 20 42.2 -0.2**
	baz=93					
COLA	**College**	**68.04**	**333**	P	**P**	**02 20 43.3 +0.4**
	baz=92					
H24K	**Noodor Dome**	**68.08**	**334**	IAmb	IAmb	02 21 06.3
	comp=Z,5.4nm,0.9s					
H24K	**Noodor Dome**	**68.08**	**334**	P	**P**	**02 20 42.9 -0.4**
	baz=92					
F24K	**Squaw Lake**	**68.15**	**336**	P	**P**	**02 20 44.0 +0.4**
	baz=92					
WAT1	**Susitna Watana**	**68.32**	**331**	P	**P**	**02 20 45.0 +0.2**
	baz=90					
E24K	**Your Creek**	**68.40**	**337**	P	**P**	**02 20 44.9 -0.3**
	baz=92					
MCK	**McKinley**	**68.50**	**332**	P	**P**	**02 20 46.0 +0.1**
	baz=90					
C24K	**Franklin Bluff**	**68.55**	**338**	P	**P**	**02 20 45.7 -0.3**
	baz=93					
NEA2	**Nenana**	**68.56**	**333**	P	**P**	**02 20 45.8 -0.4**
	baz=90					
D24K	**Happy Valley**	**68.57**	**338**	P	**P**	**02 20 46.0 -0.1**
	baz=92					
NOA	**NORSAR Array B**	**68.58**	**31**	P	**P**	**02 20 46.5 0.0**
	comp=Z,0.8nm,0.8s,baz=270,slow=6.3,SNR=1.5					
NOA				LR	LR	02 47 02.8
	comp=Z,11nm,19.9s,baz=285,slow=33					
	comp=Z,0.8nm,0.8s					
DAVOX	**Davos/Dischmat**	**68.64**	**46**	LR	LR	02 46 25.3
	comp=Z,32nm,18.7s,baz=262,slow=32					
I23K	**Minto, Yukon-K**	**68.69**	**333**	P	**P**	**02 20 47.3 +0.3**
	baz=90					
H23K	**Yukon River**	**68.77**	**334**	P	**P**	**02 20 47.9 +0.4**
	baz=90					
TOLK	**Tozikk Lake Re**	**68.82**	**337**	P	**P**	**02 20 48.1 +0.2**
	baz=91					
E23K	**Chandalar**	**68.82**	**337**	P	**P**	**02 20 48.3 +0.4**
	baz=91					
G23K	**Bananza Creek**	**68.97**	**335**	P	**P**	**02 20 49.0 +0.2**
	baz=90					
COLD	**Coldfoot**	**69.04**	**336**	P	**P**	**02 20 50.0 +0.9**
	baz=90					
TRF	**Thorofare Moun**	**69.11**	**332**	P	**P**	**02 20 50.2 +0.4**
	baz=89					
CUT	**Chulitna**	**69.12**	**330**	P	**P**	**02 20 50.2 +0.5**
	baz=88					
FETA	**Feichten**	**69.20**	**46**	*e*P	**P**	**02 20 51.4 +0.6**
	comp=Z,1.1nm,0.6s					
C23K	**Itkillik River**	**69.22**	**338**	P	**P**	**02 20 50.1 -0.1**
	baz=91					
D23K	**Nanushuk River**	**69.23**	**338**	P	**P**	**02 20 50.2 -0.2**
	baz=90					
MLY	**Manley**	**69.27**	**333**	P	**P**	**02 20 49.9 -0.8**
	baz=89					
BPAW	**Bear Paw Mtn.**	**69.40**	**332**	P	**P**	**02 20 51.0 -0.5**
	baz=88					
MOTA	**Moosalm**	**69.42**	**46**	*e*P	**P**	**02 20 52.3 +0.3**
	comp=Z,1.9nm,0.7s					
E22K	**Anaktuvuk Pass**	**69.65**	**337**	P	**P**	**02 20 52.5 -0.5**
	baz=89					
KEST	**Kesra**	**69.70**	**58**	P	**P**	**02 20 53.8 -0.2**
	comp=Z,4.3nm,1.1s,baz=235,slow=23,SNR=2.1					
	comp=Z,4.3nm,1.1s					
I21K	**Tanana**	**69.79**	**333**	P	**P**	**02 20 53.3 -0.5**
	baz=88					
F22K	**John River**	**69.80**	**336**	P	**P**	**02 20 53.1 -0.8**
	baz=88					
HFS	**Hagfors**	**69.84**	**32**	LR	LR	02 49 45.4
	comp=Z,34nm,18.6s,baz=252,slow=34					
CAST	**Castle Rocks**	**69.92**	**332**	P	**P**	**02 20 54.0 -0.7**
	baz=87					
CHUM	**Lake Minchumin**	**69.99**	**332**	P	**P**	**02 20 54.1 -1.0**
	baz=87					
H21K	**Melozitna Rive**	**70.12**	**334**	P	**P**	**02 20 55.1 -0.8**
	baz=87					
G21K	**Allakaket**	**70.36**	**335**	P	**P**	**02 20 56.8 -0.6**
	baz=87					
M20K	**Styx River**	**70.50**	**330**	P	**P**	**02 20 57.3 -1.0**
	baz=86					
J20K	**Nowinta River**	**70.78**	**332**	P	**P**	**02 20 59.1 -0.8**
	baz=86					
L20K	**Farewell, AK**	**70.80**	**331**	P	**P**	**02 20 59.7 -0.4**
	baz=85					
K20K	**Telida**	**70.81**	**332**	P	**P**	**02 20 59.3 -0.8**
	baz=85					
GERES	**GERESS Array B**	**70.96**	**44**	P	**P**	**02 21 01.5 0.0**
	comp=Z,0.4nm,0.8s,baz=285,slow=7.8,SNR=4.3					
	comp=Z,0.4nm,0.8s					
A21K	**Barrow**	**71.18**	**340**	P	**P**	**02 21 01.3 -0.9**
	baz=86					
N19K	**Bonanza Creek**	**71.24**	**329**	P	**P**	**02 21 03.2 +0.3**
	baz=84					
O17K	**Koliganek Bris**	**72.66**	**328**	P	**P**	**02 21 11.2 0.0**
	baz=82					
VRAC	**Vranov**	**72.77**	**43**	LR	LR	02 48 59.1
	comp=Z,47nm,20.5s,baz=258,slow=32					
VAE	**Valguarnera**	**73.39**	**56**	LR	LR	02 49 01.5
	comp=Z,67nm,20.5s,baz=145,slow=32					
ARCES	**ARCESS Array B**	**73.67**	**21**	P	**P**	**02 21 17.0 -0.1**
	comp=Z,1.4nm,0.5s,baz=281,slow=4.2,SNR=16					
	comp=Z,1.4nm,0.5s					
CHGN	**Chignik**	**73.93**	**325**	P	**P**	**02 21 18.4 -0.4**
	baz=79					
VYHS	**Vyhne**	**74.38**	**44**	*e*P	P	02 21 27.4 +5.7
FINES	**FINESS Array B**	**75.64**	**30**	P	**P**	**02 21 28.2 -0.4**
	comp=Z,1.5nm,0.8s,baz=225,slow=2.4,SNR=7.5					
	comp=Z,1.5nm,0.8s					
PMSA	**Palmer Station**	**83.85**	**178**	*e*P	**P**	**02 22 15.8 +2.9**
BR131	**Keskin Array S**	**87.12**	**49**	P	**P**	**02 22 28.8 -1.4**
BR131				IAmb	IAmb	02 22 35.7
	comp=Z,6.5nm,1.2s					
BRTR	**Keskin Array B**	**87.12**	**49**	P	**P**	**02 22 30.6 +0.3**
	comp=Z,0.9nm,0.8s,baz=250,slow=2.5,SNR=4.2					
	comp=Z,0.9nm,0.8s					
BRTR	**Keskin Array B**	**87.12**	**49**	P	**P**	**02 22 29.3 -0.9**
TSUM	**Tsumeb**	**93.03**	**109**	LR	LR	02 59 57.1
	comp=Z,26nm,18.1s,baz=331,slow=32					
MA2	**Magadan**	**95.03**	**341**	LR	LR	03 07 27.6
	comp=Z,29nm,22.0s,baz=96,slow=36					
PETK	**Petropavlovsk-**	**97.45**	**334**	LR	LR	03 09 15.8
	comp=Z,32nm,20.9s,baz=75,slow=37					
MBAR	**Mbarara**	**99.32**	**87**	LR	LR	03 10 45.3
	comp=Z,20nm,18.9s,baz=230,slow=37					
SUR	**Sutherland**	**99.85**	**121**	LR	LR	03 05 21.9
	comp=Z,30nm,18.7s,baz=298,slow=33					
BVAR	**Borovoye Array**	**99.87**	**24**	LR	LR	03 07 05.0
	comp=Z,18nm,18.9s,baz=264,slow=34					
PZH	**PanZhiHua**	**133.62**	**12**	PKP	**PKPdf**	**02 28 57.7 -3.6**
CTA	**Charters Tower**	**146.90**	**263**	PKPbc	**PKPdf**	**02 29 26.0 +0.8**
	comp=Z,2.5nm,0.6s,baz=92,slow=2.9,SNR=8.0					
STKA	**Stephens Creek**	**149.85**	**239**	PKP	**PKPdf**	**02 29 29.9 +0.2**
	comp=Z,3.5nm,0.8s,baz=100,slow=7.4,SNR=2.4					
STKA				PKPbc	**PKPbc**	**02 29 34.2 -0.2**
	comp=Z,5.9nm,0.6s,baz=92,slow=10,SNR=4.2					
WRA	**Warramunga Arr**	**158.07**	**264**	PKP	**PKPdf**	**02 29 41.1 -0.5**
	comp=Z,0.4nm,0.8s,baz=24,slow=0.9,SNR=2.7					
WRA				PKPab	**PKPab**	**02 30 14.8 -0.4**
	comp=Z,1.3nm,0.7s,baz=87,slow=3.8,SNR=7.7					
ASAR	**Alice Springs**	**158.31**	**254**	PKP	**PKPdf**	**02 29 41.5 -0.3**
	comp=Z,0.3nm,0.8s,baz=114,slow=2.3,SNR=2.0					
ASAR				PKPab	**PKPab**	**02 30 15.9 -0.2**
	comp=Z,4.6nm,0.6s,baz=105,slow=3.6,SNR=5.1					

IDC 13 02:10:42.8±6.0, 39.44N×92.88E, h46km±61km, mb3.4/2, mbtmp3.8/4, ML3.7/2, MS3.6/1, Error ellipse: s-maj=240.5km s-min=37.7km az=52.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**10.67**	**317**	P	Pn	02 13 13.3	+0.3
	2.7nm,0.3s,baz=136,slow=13,SNR=92						
MKAR				S	Sn	02 15 10.6	-0.3
	1.3nm,0.3s,baz=124,slow=23,SNR=8.3						
	6.2nm,0.4s						
KURBB	**Kurchatov Arra**	**15.07**	**323**	P	Pn	02 14 12.4	-0.1
	0.1nm,0.3s,baz=145,slow=13,SNR=2.1						
	0.3nm,0.3s						
NOA	**NORSAR Array B**	**52.60**	**323**	P	P	02 19 51.8	+0.1
	1.3nm,0.9s,baz=78,slow=6.5,SNR=3.7						
	1.3nm,0.9s						
GERES	**GERESS Array B**	**55.18**	**308**	LR	LR	02 45 03.6	
	comp=Z,52nm,18.3s,baz=294,slow=37						
ASAR	**Alice Springs**	**73.55**	**141**	P	P	02 22 10.8	-0.2
	0.3nm,0.8s,baz=326,slow=4.8,SNR=3.1						
	0.3nm,0.8s						

*IDC **13** 02:20:50.7±0.5, 29.26S×61.06E, h0km, mb4.2/14, mbtmp4.2/15, ML4.6/1, MS3.6/24, Error ellipse: s-maj=20.4km s-min=16.9km az=69.0*
*NEIC **13** 02:20:53.0±1.2, 29.2S±0.1×61.0E±0.2, h10km±1km, mb4.4/17, Error ellipse: s-maj=22.5km s-min=18.5km az=81.0*

ISC 13 02:20:52.6±0.5, 29.18S±0.10×61.0E±0.1, h10km, n67, σ0.86/45, mb4.4/18, MS3.6/23, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOI	**Vohitsoka**	**14.74**	**296**		**Pn**	**02 24 20.3**	**-1.1**
ABPO	**Ambohimpanom**	**16.14**	**306**	Pn	**Pn**	**02 24 38.8**	**-1.1**
OPO	**Ambohidratompo**	**16.47**	**307**	Pn	**Pn**	**02 24 43.3**	**-0.8**
	0.2nm,0.3s,baz=120,slow=12,SNR=8.4						
OPO				Sn	Sn	02 27 33.5	-13
	0.2nm,0.3s,baz=131,slow=16,SNR=4.1						
OPO				LR	LR	02 30 02.1	
	comp=Z,186nm,18.9s,baz=7.5,slow=33						
	3.6nm,0.3s						
H08S1	**Diego Garcia H**	**23.98**	**29**	T	T	02 50 50.1	
	baz=204,slow=76,SNR=6.1						
H08S2	**Diego Garcia H**	**23.99**	**29**	T	T	02 50 50.5	
	baz=204,slow=76,SNR=8.5						
H08S3	**Diego Garcia H**	**24.00**	**29**	T	T	02 50 52.2	
	baz=204,slow=76,SNR=30						
BOSA	**Boshof**	**31.25**	**262**	P	**P**	**02 27 13.0**	**+0.3**
	6.8nm,1.0s,baz=172,slow=6.7,SNR=3.9						
BOSA				LR	LR	02 37 46.6	
	comp=Z,102nm,19.1s,baz=150,slow=32						
	6.8nm,1.0s						
BOSA	**Boshof**	**31.25**	**262**	P	**P**	**02 27 13.8**	**+1.0**
LBTB	**Lobatse**	**31.74**	**269**	LR	LR	02 39 35.9	
	comp=Z,32nm,18.5s,baz=106,slow=35						
LSZ	**Lusaka**	**33.27**	**287**	LR	LR	02 39 03.1	
	comp=Z,53nm,21.9s,baz=128,slow=33						
SUR	**Sutherland**	**34.56**	**254**	LR	LR	02 40 19.7	
	comp=Z,68nm,18.2s,baz=80,slow=34						
KMBO	**Kilima Mbogo**	**35.94**	**317**	LR	LR	02 39 51.8	
	comp=Z,120nm,18.4s,baz=90,slow=32						
MAW	**Mawson**	**38.47**	**179**	LR	LR	02 39 53.7	
	comp=Z,101nm,19.8s,baz=347,slow=30						
MAW	**Mawson**	**38.47**	**179**	P	**P**	**02 28 14.8**	**+0.4**
MBAR	**Mbarara**	**40.52**	**309**	LR	LR	02 43 38.2	
	comp=Z,75nm,19.8s,baz=121,slow=34						
TSUM	**Tsumeb**	**40.66**	**274**	LR	LR	02 44 01.5	
	comp=Z,71nm,19.2s,baz=114,slow=34						
ATD	**Arta Tunnel**	**44.12**	**334**	LR	LR	02 44 44.7	
	comp=Z,122nm,19.1s,baz=128,slow=32						
H01W2	**Cape Leeuwin H**	**44.95**	**111**	T	T	03 17 08.7	
	baz=261,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**44.95**	**111**	T	T	03 17 06.4	
	baz=261,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**44.96**	**111**	T	T	03 17 08.0	
	baz=261,slow=75,SNR=14						
NWAO	**Narrogin (SRO)**	**47.82**	**109**	LR	LR	02 46 25.7	
	comp=Z,71nm,18.1s,baz=138,slow=32						
WSAR	**Wadi Sarin**	**52.17**	**357**	LR	LR	02 47 00.0	
	comp=Z,23nm,20.5s,baz=224,slow=30						
SNAA	**Sanae**	**54.41**	**200**	P	**P**	**02 30 19.0**	**-0.5**
SNAA	**Sanae**	**54.41**	**200**	P	**P**	**02 30 18.4**	**-1.2**
	1.1nm,0.8s,baz=115,slow=8.1,SNR=7.0						
	1.1nm,0.8s						
SNAA	**Sanae**	**54.41**	**200**	P	**P**	**02 30 19.6**	**+0.1**
SNAA				IAmb	IAmb	02 30 31.0	
	comp=Z,4.0nm,1.2s						
VNA2	**Neumayer--Watz**	**55.68**	**202**	P	**P**	**02 30 28.6**	**0.0**
	baz=81,slow=8.0						
BRDH	**Bariadhala**	**59.39**	**33**	LR	LR	02 54 46.4	
	comp=Z,48nm,18.6s,baz=263,slow=34						
CMAR	**Chiang Mai Arr**	**59.85**	**42**	P	**P**	**02 30 58.7**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=231,slow=7.8,SNR=8.3						
CMAR				LR	LR	02 54 37.2	
	comp=Z,16nm,18.1s,baz=180,slow=34						
	comp=Z,2.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**59.85**	**42**	P	**P**	**02 30 57.8**	**-0.9**
CHTO	**Chiang Mai**	**60.13**	**42**	P	**P**	**02 31 00.7**	**+0.2**
CHTO				IAmb	IAmb	02 31 04.9	
	comp=Z,4.5nm,1.2s						
QSPA	**South Pole Qui**	**60.98**	**180**	P	**P**	**02 31 04.

KBZ LR LR 03 03 16.6
comp=Z,76nm,21.3s,baz=154,slow=34
comp=Z,1.3nm,0.9s
MAKZ Makanchi 77.97 15 P **P** **02 32 51.0 +0.3**
MKAR Makanchi Array 78.03 15 P **P** **02 32 50.8 -0.3**
comp=Z,1.5nm,0.7s,baz=176,slow=4.6,SNR=10.0
comp=Z,1.5nm,0.7s
MKAR Makanchi Array 78.03 15 P **P** **02 32 52.2 +1.1**
ABKAR Akbulak array 78.09 359 P **P** **02 32 51.5 +0.2**
KEST Kesra 80.84 320 LR LR 03 10 12.6
comp=Z,71nm,18.5s,baz=284,slow=37
KURK Kurchatov 81.06 11 P **P** **02 33 07.8 +0.4**
KURK IAmb IAmb 02 33 17.1
comp=Z,3.2nm,1.0s
BELG Belogornoye 82.07 352 LR LR 03 12 55.9
comp=Z,23nm,18.2s,baz=173,slow=38
AKASG Malin Array Be 84.36 340 P **P** **02 33 24.3 -0.4**
comp=Z,1.5nm,0.8s,baz=157,slow=4.5,SNR=4.5
comp=Z,1.5nm,0.8s
ARU Arti 85.29 359 P **P** **02 33 30.0 +0.8**
ZALV Zalesovo Beam 85.31 14 P **P** **02 33 30.9 +1.6**
comp=Z,1.9nm,0.7s,baz=214,slow=5.0,SNR=6.2
comp=Z,1.9nm,0.7s
ZALV Zalesovo Beam 85.31 14 P **P** **02 33 29.6 +0.3**
MDT Midelt 87.58 310 LR LR 03 12 21.2
comp=Z,60nm,19.6s,baz=133,slow=35
ESDC Sonseca Array 91.32 316 P **P** **02 33 59.4 +0.8**
comp=Z,0.7nm,0.8s,baz=115,slow=2.1,SNR=5.5
comp=Z,0.7nm,0.8s
NOA NORSAR Array B 98.58 338 LR LR 03 20 34.7
comp=Z,13nm,18.1s,baz=5.0,slow=36
ILAR Eielson Array 140.30 18 PKP **PKPdf** **02 40 21.3 +0.2**
comp=Z,0.4nm,1.0s,baz=345,slow=3.1,SNR=2.7
YKA Yellowknife Ar 146.56 356 PKPbc **PKPbc** **02 40 33.1 -0.5**
comp=Z,0.9nm,0.7s,baz=352,slow=4.2,SNR=4.8
ULM Lac du Bonnet 152.66 327 PKPbc **PKPbc** **02 40 47.9 -1.4**
comp=Z,5.9nm,0.7s,baz=348,slow=2.5,SNR=5.3
PDAR Pinedale Array 164.46 333 PKP **PKPdf** **02 40 56.7 -0.1**
comp=Z,0.7nm,0.8s,baz=111,slow=3.3,SNR=5.7
TXAR Lajitas Array 166.63 274 PKP **PKPdf** **02 40 59.2 +0.3**
comp=Z,0.2nm,0.6s,baz=141,slow=4.2,SNR=5.1
NVAR Mina Array Bea 170.76 357 PKP **PKPdf** **02 41 02.5 +1.0**
comp=Z,0.4nm,0.8s,baz=285,slow=1.8,SNR=3.2

IDC ***13*** *02:34:14.2±2.6, 14°.50N×52°.18E, h0km, mb3.7/7, mbtmp3.7/7, MS3.4/3, Error ellipse: s-maj=66.9km s-min=29.7km az=41.0*
ISC 13 02:34:16.6±2.2, 14°.5N±0°.3×52°.2E±0°.3, h15km, n10, σ0§62/7, mb3.9/7, MS3.7/3, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**30.17**	**347**	P	**P**		**02 40 26.2**	**+0.1**
	1.6nm,0.9s,baz=203,slow=6.2,SNR=4.1							
	1.6nm,0.9s							
AKASG	**Malin Array Be**	**40.59**	**338**	P	**P**		**02 41 54.7**	**-0.9**
	0.1nm,0.3s,baz=142,slow=7.4,SNR=3.0							
	0.1nm,0.3s							
MKAR	**Makanchi Array**	**40.82**	**32**	P	**P**		**02 41 57.8**	**+0.2**
	0.5nm,0.7s,baz=227,slow=8.2,SNR=4.0							
	0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**44.91**	**78**	P	**P**		**02 42 30.8**	**-0.3**
	0.9nm,0.3s,baz=282,slow=11,SNR=5.1							
	0.9nm,0.3s							
ZALV	**Zalesovo Beam**	**46.91**	**26**	P	**P**		**02 42 46.5**	**+0.1**
	0.4nm,0.3s,baz=214,slow=4.9,SNR=2.2							
	0.4nm,0.3s							
BOSA	**Boshof**	**50.18**	**211**	LR	LR		03 02 42.3	
	comp=Z,10nm,21.3s,baz=349,slow=34							
FINES	**FINESS Array B**	**50.48**	**344**	P	**P**		**02 43 14.4**	**+0.8**
	1.5nm,0.7s,baz=118,slow=12,SNR=5.3							
	1.5nm,0.7s							
BBTS	**Babate**	**66.24**	**280**	LR	LR		03 12 31.0	
	comp=Z,56nm,19.2s,baz=129,slow=35							
USRK	**Ussuriysk Ar.**	**72.75**	**48**	LR	LR		03 23 20.1	
	comp=Z,36nm,18.5s,baz=325,slow=40							
ASAR	**Alice Springs**	**88.37**	**115**	P	**P**		**02 47 08.7**	**+0.2**
	0.1nm,0.4s,baz=297,slow=4.9,SNR=1.4							
	0.1nm,0.4s							

IDC ***13*** *02:51:57.1±1.3, 36°.58N×141°.85E, h0km, mb3.5/4, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=34.7km s-min=24.6km az=99.0*
JMA ***13*** *02:51:57.2±0.3, 37°.0N±0°.5×14°.2E±°, h30km±3km, MV3.4/36, E OFF FUKUSHIMA PREF*
ISC 13 02:51:56.9±1.3, 36°.90N±0°.05×141°.98E±0°.08, h19km, n23, σ1§51/22, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.00**	**298**	P	**Pb**		**02 52 15.0**	**-0.7**
JFK				*eS*	**Sb**		**02 52 27.4**	**-1.1**
JFFD	**Fukushimafurud**	**1.16**	**280**	*i* P	**Pn**		**02 52 17.7**	**-0.4**
JHO	**Hitachi**	**1.17**	**256**	P	**Pb**		**02 52 18.4**	**-0.1**
JMST	**Minamisoumatoc**	**1.20**	**314**	*i* P	**Pn**		**02 52 17.6**	**-1.1**
JMST				*eS*	**Sb**		**02 52 32.1**	**-2.1**
JMM	**Marumori**	**1.35**	**316**	*i* P	**Pn**		**02 52 19.9**	**-0.8**
JIO	**Ouri**	**1.63**	**342**	*i* P	**Pn**		**02 52 22.9**	**-1.6**
JOU	**Okura**	**1.80**	**325**	P	**Pn**		**02 52 26.9**	**0.0**
JOU				*eS*	**Sn**		**02 52 48.5**	**-0.7**
JFY	**Yanaizu**	**1.89**	**286**	P	**Pb**		**02 52 29.6**	**-1.2**
JFY				*eS*	**Sb**		**02 52 53.2**	**-0.9**
JYS	**Shirataka**	**2.02**	**311**	P	**Pn**		**02 52 30.8**	**+0.9**
JAG	**Ashikaga**	**2.09**	**258**	P	**Pb**		**02 52 32.3**	**-1.8**
JMK	**Ichinoseki**	**2.14**	**344**	P	**Pn**		**02 52 30.8**	**-0.7**
MJAR	**Matsushiro Arr**	**3.05**	**264**	Pn	**Pn**		**02 52 46.4**	**+2.2**
	0.5nm,0.3s,baz=88,slow=14,SNR=16							
MJAR					Sn		**Sb**	**02 53 26.1**	**-1.4**
	0.2nm,0.3s,baz=75,slow=17,SNR=2.3							
	4.0nm,0.3s							
JHJ	**Hachijo jima 2**	**4.18**	**206**	Pn	**Pn**		**02 52 56.7**	**-2.9**
	22nm,0.3s,baz=56,slow=23,SNR=5.8							
JHJ					Sn		**Sn**	**02 53 47.9**	**0.0**
	7.1nm,0.3s,baz=9.4,slow=23,SNR=5.0							
	134nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**27.69**	**121**	T	T		03 27 00.5	
	baz=314,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**27.69**	**121**	T	T		03 27 12.8	
	baz=314,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**27.70**	**121**	T	T		03 27 06.9	
	baz=314,slow=75,SNR=7.5							
H11S1	**WAKE ISLAND Hy**	**28.40**	**123**	T	T		03 28 08.2	
	baz=315							
H11S3	**WAKE ISLAND Hy**	**28.40**	**124**	T	T		03 28 01.5	
	baz=315							
H11S2	**WAKE ISLAND Hy**	**28.42**	**123**	T	T		03 27 50.2	
	baz=315							
ZALV	**Zalesovo Beam**	**42.34**	**312**	P	**P**		**02 59 52.3**	**+2.9**
	0.3nm,0.3s,baz=104,slow=6.1,SNR=2.5							
	0.3nm,0.3s							
ILAR	**Eielson Array**	**49.36**	**32**	P	P		03 00 50.9	+6.2
	0.6nm,0.8s,baz=249,slow=7.6,SNR=4.3							
	0.6nm,0.8s							
WRA	**Warramunga Arr**	**56.99**	**189**	P	**P**		**03 01 42.1**	**+0.8**
	0.2nm,0.4s,baz=6.5,slow=7.0,SNR=8.4							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**60.72**	**188**	P	**P**		**03 02 08.4**	**+1.3**
	0.3nm,0.8s,baz=4.7,slow=5.7,SNR=2.5							
	0.3nm,0.8s							

IDC ***13*** *03:01:24.4±1.1, 54°.82S×31°.19W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=66.0km s-min=19.7km az=67.0*
NEIC ***13*** *03:01:26.7±0.8, 54°.9S±0°.2×31°.6W±0°.2, h10km±2km, mb4.3/8, Error ellipse: s-maj=32.9km s-min=18.7km az=27.0*
ISC 13 03:01:26.2±0.8, 54°.9S±0°.1×31°.5W±0°.2, h10km, n25, σ1§00/22, mb4.1/6, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.97**	**279**			**Pn**	**03 02 13.4**	**+0.2**
PMSA	**Palmer Station**	**18.91**	**225**	P	**P**	**P**	**03 05 45.9**	**-0.7**
PMSA					IAmb	IAmb	03 05 49.2	
	comp=Z,10nm,0.9s							
VNA3	**Neumayer Olymp**	**18.97**	**158**	P	P	**Pn**	**03 05 49.0**	**+1.1**
VNA2	**Neumayer--Watz**	**19.25**	**156**	P	P	**Pn**	**03 05 53.7**	**+2.4**
	baz=315,slow=11							
SNAA	**Sanae**	**20.85**	**155**	P	P	**P**	**03 06 07.2**	**-0.5**
SNAA	**Sanae**	**20.85**	**155**	P	P	**P**	**03 06 07.3**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=288,slow=13,SNR=12							
	comp=Z,1.8nm,0.6s							
SNAA	**Sanae**	**20.85**	**155**	P	P	**P**	**03 06 07.8**	**0.0**
TROLL	**Troll, Antarti**	**22.42**	**153**	P	**P**		**03 06 23.7**	**-0.9**
BELA	**Belgrano 2**	**23.15**	**182**	P	**P**		**03 06 33.3**	**+1.2**
CPUP	**Villa Florida**	**34.21**	**316**	P	**P**		**03 08 12.6**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=161,slow=13,SNR=2.9							
	comp=Z,1.9nm,0.9s							
QSPA	**South Pole Qui**	**35.40**	**180**	P	**P**		**03 08 21.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=281,slow=3.6,SNR=3.9							
	comp=Z,0.6nm,0.3s							
QSPA	**South Pole Qui**	**35.40**	**180**	P	**P**		**03 08 19.6**	**-2.2**
QSPA					IAmb	IAmb	03 08 27.5	
	comp=Z,5.9nm,1.1s							
AC05	**El Transito**	**38.10**	**297**	P	**P**		**03 08 45.1**	**-0.1**
AC05					IAmb	IAmb	03 08 47.4	
	comp=Z,6.2nm,1.1s							
BDFB	**Brasilia**	**41.18**	**335**	P	**P**		**03 09 10.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=157,slow=13,SNR=1.3							
	comp=Z,1.2nm,0.6s							
GO01	**Chusmiza**	**45.24**	**306**	P	P		**03 09 44.2**	**0.0**
MNMC	**Minye Minye**	**45.90**	**306**	P	P		**03 09 48.8**	**-0.3**
VNDA	**Vanda**	**47.62**	**184**	P	**P**		**03 10 01.2**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=195,slow=7.1,SNR=4.3							
	comp=Z,0.5nm,0.9s							
LPAZ	**La Paz**	**47.70**	**309**	P	**P**		**03 10 04.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=169,slow=7.5,SNR=7.1							
	comp=Z,1.5nm,0.7s							
LPAZ	**La Paz**	**47.70**	**309**	P	**P**		**03 10 04.8**	**+1.2**
LPAZ					IAmb	IAmb	03 10 16.1	
	comp=Z,4.3nm,1.1s							
H10N3	**ASCENSION HYDR**	**48.82**	**23**	T	T		04 03 29.0	
	baz=192							
H10N1	**ASCENSION HYDR**	**48.82**	**23**	T	T		04 03 25.6	
	baz=192							
H10N2	**ASCENSION HYDR**	**48.84**	**23**	T	T		04 03 28.4	
	baz=192							
FINES	**FINESS Array B**	**124.51**	**29**	PKP	**PKPdf**		**03 20 23.2**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=325,slow=2.3,SNR=5.1							
ZALV	**Zalesovo Beam**	**144.06**	**65**	PKP	**PKPdf**		**03 21 00.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=222,slow=5.1,SNR=4.0							
ILAR	**Eielson Array**	**147.51**	**314**	PKPbc	**PKPbc**		**03 21 08.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=125,slow=1.8,SNR=17							

IDC ***13*** *03:30:30.3±10.0, 52°.21N×173°.70W, h0km, mb3.5/4, mbtmp3.5/5, ML4.1/1, MS3.4/1, Error ellipse: s-maj=197.6km s-min=51.4km az=77.0*
NEIC ***13*** *03:30:42.7±2.2, 51°.9N±0°.2×174°.1W±0°.2, h160km±19km, mb4.0/24, ML3.6(AEIC), Error ellipse: s-maj=33.4km s-min=12.3km az=169.0*
AEIC ***13*** *03:30:45±6.8, 51°.3N±0°.2×173°.87W±0°.09, h21km±9km, Error ellipse: s-maj=26.1km s-min=8.1km az=174.0*
ISC 13 03:30:43.9±1.0, 52°.2N±0°.2×174°.21W±0°.08, h150km, n49, σ1§15/44, mb3.6/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.56**	**260**	Pn	**Pn**		**03 31 14.0**	**+0.1**
ADK				Sn	**Sn**		**03 31 36.1**	**-0.9**
KIWB	**Kanaga Island**	**1.85**	**261**	Pn	**Pn**		**03 31 17.2**	**0.0**
KIWB				Sn	**Sn**		**03 31 43.5**	**+0.8**
NIKH	**Nikolski High**	**3.36**	**74**	Pn	**Pn**		**03 31 36.7**	**+1.0**
AMKA	**Amchitka**	**4.11**	**261**	Pn	**Pn**		**03 31 46.6**	**+1.2**
UNV	**Unalaska Valle**	**4.94**	**67**	Pn	**Pn**		**03 31 54.5**	**-1.9**
AKUT	**Akutan**	**5.44**	**66**	Pn	**Pn**		**03 32 04.0**	**+1.0**
OHAK	**Old Harbor**	**13.08**	**59**		**P**		**03 33 46.3**	**-2.2**
N18K	**Kilae Creek**	**13.19**	**43**		**P**		**03 33 49.3**	**-0.4**
KDAK	**Kodiak Island**	**13.59**	**57**	Pn	**Pn**		**03 33 50.2**	**-0.1**
L19K	**White Mountain**	**14.44**	**39**	Pn	**Pn**		**03 34 00.8**	**-0.3**
CNPM	**China Poot**	**14.79**	**51**	Pn	**Pn**		**03 34 03.2**	**-2.2**
SKT	**Skwentna**	**15.66**	**42**		**P**		**03 34 17.2**	**+0.1**
SKT					IAmb	IAmb	03 34 46.4	
	comp=Z,12nm,1.3s							
PPLA	**Purkeypile**	**15.87**	**39**		**P**		**03 34 20.8**	**+1.3**
CAST	**Castle Rocks**	**16.19**	**37**	Pn	**P**		**03 34 24.6**	**+1.7**
CAST					IAmb	IAmb	03 34 46.2	
	comp=Z,11nm,1.4s							
KTH	**Kantishna Hill**	**16.70**	**38**		**P**		**03 34 28.6**	**0.0**
TRF	**Thorofare Moun**	**16.89**	**39**		**P**		**03 34 30.0**	**-0.8**
TRF					IAmb	IAmb	03 34 53.0	
	comp=Z,9.4nm,1.5s							
SML	**Sawmill**	**16.95**	**45**		**P**		**03 34 30.5**	**-0.9**
BPAW	**Bear Paw Mtn.**	**16.98**	**36**		**Pn**		**03 34 32.6**	**+0.5**
BPAW					IAmb	IAmb	03 34 34.2	
	comp=Z,13nm,1.4s							
H21K	**Melozitna Rive**	**17.31**	**31**		**P**		**03 34 36.3**	**+1.1**
H21K					IAmb	IAmb	03 34 44.8	
	comp=Z,12nm,1.5s							
SCM	**Sheep Creek Mo**	**17.41**	**46**		**P**		**03 34 34.6**	**-1.7**
MLY	**Manley**	**17.60**	**34**	P	**P**		**03 34 39.0**	**+0.6**
I23K	**Minto, Yukon-K**	**18.14**	**35**	P	**P**		**03 34 44.1**	**-0.2**
CCB	**Clear Creek Bu**	**18.44**	**37**	P	**P**		**03 34 45.4**	**-2.1**
MDM	**Murphy Dome**	**18.45**	**36**	P	**P**		**03 34 47.6**	**0.0**
MDM					IAmb	IAmb	03 35 26.4	
	comp=Z,12nm,1.5s							
IL31		**18.85**	**38**	P	**P**		**03 34 52.5**	**+0.6**
ILAR	**Eielson Array**	**18.85**	**38**	P	**P**		**03 34 49.0**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=234,slow=10.0,SNR=32							
	comp=Z,0.4nm,0.3s							
H24K	**Noodor Dome**	**19.04**	**34**	P	**P**		**03 34 53.9**	**-0.2**
J25K	**Salcha River,**	**19.35**	**39**	P	**P**		**03 34 56.3**	**-1.2**
DOT	**Dot Lake**	**19.48**	**42**	P	**P**		**03 34 58.1**	**-0.7**
DOT					IAmb	IAmb	03 34 58.5	
	comp=Z,5.2nm,0.8s							
SCRK	**Sand Creek**	**19.63**	**41**	P	**P**		**03 34 59.2**	**-1.4**
SCRK					IAmb	IAmb	03 35 00.4	
	comp=Z,7.9nm,0.8s							
J26L	**Joseph Creek**	**20.01**	**40**	P	**P**		**03 35 03.8**	**-0.9**
TOLK	**Toolik Lake Re**	**20.24**	**26**	P	**P**		**03 35 06.6**	**-0.4**
TOLK					IAmb	IAmb	03 35 10.0	
	comp=Z,7.9nm,1.2s							
BCAR	**Beaver Creek A**	**20.25**	**45**	P	**P**		**03 35 05.7**	**-1.4**
BMAR	**Burnt Mountain**	**21.01**	**32**	P	**P**		**03 35 14.3**	**-0.9**
EGAK	**Eagle**	**21.07**	**41**	P	**P**		**03 35 14.8**	**-1.1**
EGAK					IAmb	IAmb	03 35 56.0	
	comp=Z,9.9nm,1.4s							
DAWY	**Dawson**	**21.57**	**43**	P	**P**		**03 35 21.3**	**+0.1**
DAWY					IAmb	IAmb	03 36 03.1	
	comp=Z,9.8nm,1.5s							
INK	**Inuvik**	**25.16**	**35**	P	**P**		**03 35 55.0**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=36,slow=4.6,SNR=2.6							
	comp=Z,1.3nm,0.9s							
INK	**Inuvik**	**25.16**	**35**	P	**P**		**03 35 54.1**	**-0.6**
INK					IAmb	IAmb	03 35 57.1	
	comp=Z,5.0nm,1.2s							
A36M	**Sachs Harbour**	**29.00**	**29**	P	**P**		**03 36 28.5**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**35.59**	**212**	T	T		04 14 37.5	
	baz=18,slow=76,SNR=5.4							
H11N3	**WAKE ISLAND Hy**	**35.60**	**212**	T	T		04 14 38.2	
	baz=18,slow=76,SNR=5.1							
H11N1	**WAKE ISLAND Hy**	**35.61**	**212**	T	T		04 14 38.7	
	baz=18,slow=76,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**36.80**	**211**	T	T		04 16 52.8	
	baz=17							
H11S2	**WAKE ISLAND Hy**	**36.82**	**211**	T	T		04 16 50.2	
	baz=17							
H11S3	**WAKE ISLAND Hy**	**36.82**	**211**	T	T		04 16 45.2	
	baz=17							
NVAR	**Mina Array Bea**	**40.64**	**87**	P	**P**		**03 38 09.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=295,slow=7.3,SNR=4.5							
	comp=Z,0.5nm,0.8s							
PDAR	**Pinedale Array**	**43.35**	**76**	P	**P**		**03 38 31.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=329,slow=3.3,SNR=5.7							
	comp=Z,0.5nm,0.7s							
SFJD	**Kangerlussuaq**	**53.79**	**24**	LR	LR		04 06 30.2	
	comp=Z,34nm,18.0s,baz=170,slow=40							
TXAR	**Lajitas Array**	**55.73**	**85**	P	**P**		**03 40 06.2**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=308,slow=5.0,SNR=6.1							
	comp=Z,0.4nm,0.6s							

NEIC ***13*** *03:50:58.9±1.4, 19°.9S±0°.2×177°.8W±0°.1, h483km±8km, mb4.5/33, Error ellipse: s-maj=27.1km s-min=15.1km az=143.0*
IDC ***13*** *03:51:03.9±1.4, 19°.99S×177°.92W, h551km±15km, mb3.7/17, mbtmp4.6/19, Error ellipse: s-maj=16.1km s-min=12.2km az=138.0*
ISC 13 03:51:03.5±0.4, 20°.06S±0°.07×177°.87W±0°.07, h550km, n140, σ1§06/144, mb4.5/41, 10C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**300**	P		**P**	**03 52 30.1**	**+0.7**
	49nm,0.5s,baz=129,slow=8.5,SNR=90							
NIUE	**Niue**	**7.55**	**84**	P	**P**		**03 52 56.4**	**-0.4**
AFI	**Afiamalu**	**8.44**	**45**	P	**P**		**03 53 02.0**	**-3.8**
	40nm,0.7s,baz=272,slow=19,SNR=4.3							
AFI					S	S	03 54 37.2	-8.8
	51nm,0.6s,baz=5.5,slow=23,SNR=9.8							
AFI	**Afiamalu**	**8.44**	**45**			**P**	**03 53 03.6**	**-2.2**
RAO	**Raoul Island**	**9.15**	**180**	S		**S**	**03 54 53.8**	**-4.9**
	174nm,0.3s,baz=303,slow=23,SNR=2.0							
DZM	**Mont Dzumac**	**14.78**	**259**	P		**P**	**03 54 10.6**	**-0.2**
	6.8nm,0.5s,baz=87,slow=14,SNR=23							
DZM	**Mont Dzumac**	**14.78**	**259**	P		**P**	**03 54 10.2**	**-0.7**
RAR	**Rarotonga**	**16.98**	**97**	P		**P**	**03 54 30.7**	**-1.3**
	16nm,0.7s,baz=148,slow=22,SNR=2.0							
KUZ	**Kuaotunu**	**17.55**	**197**	P		**P**	**03 54 38.1**	**+1.1**
MBAZ	**Motutapu North**	**17.81**	**199**	P		**P**	**03 54 41.2**	**+1.7**
ETAZ	**East Tamaki Re**	**17.98**	**199**	P		**P**	**03 54 42.5**	**+1.5**
WMGZ	**Waiomatatini S**	**17.99**	**190**	P		**P**	**03 54 42.3**	**+1.2**
HAZ	**Te Kaha**	**18.04**	**191**	P		**P**	**03 54 40.0**	**-1.5**
MKAZ	**Moumakai**	**18.04**	**198**	P		**P**	**03 54 42.6**	**+1.0**
WTAZ	**Waiatarua**	**18.07**	**200**	P		**P**	**03 54 43.6**	**+1.8**
PKGZ	**Pakihiroa**	**18.11**	**190**	P		**P**	**03 54 44.7**	**+2.4**
AWAZ	**Awhitu Peninsu**	**18.16**	**200**	P		**P**	**03 54 43.8**	**+1.1**
RUGZ	**Raukumara Rang**	**18.26**	**191**	P		**P**	**03 54 42.9**	**-0.8**
MWZ	**Matawai**	**18.65**	**191**	P		**P**	**03 54 46.1**	**-1.0**
URZ	**Urewera**	**18.66**	**192**	P		**P**	**03 54 45.5**	**-1.6**
HIZ	**Hauiti**	**19.44**	**197**	P		**P**	**03 54 50.5**	**-3.8**
NMHZ	**Naumai**	**19.52**	**192**	P		**P**	**03 54 54.5**	**-0.6**
RPZ	**Rata Peaks**	**25.35**	**199**	P		**P**	**03 55 47.0**	**-0.1**
	4.6nm,0.4s,baz=131,slow=19,SNR=2.3							
	4.6nm,0.4s							
WHZ	**Wether Hill Ro**	**28.29**	**201**	P		**P**	**03 56 12.9**	**0.0**
WHZ					IAmb	IAmb	03 56 15.4	
	comp=Z,17nm,0.7s							
CTA	**Charters Tower**	**33.66**	**264**	P		**P**	**03 56 59.5**	**+0.2**
	comp=Z,16nm,0.5s,baz=91,slow=11,SNR=11							
	comp=Z,16nm,0.5s							
CTAO	**Charters Tower**	**33.66**	**264**	P		**P**	**03 56 59.2**	**-0.1**
PMG	**Port Moresby**	**35.37**	**282**	P		**P**	**03 57 13.6**	**0.0**
PMG					IAmb	IAmb	03 57 14.9	
	comp=Z,25nm,0.8s							
COEN	**Coen**	**37.68**	**273**	P		**P**	**03 57 32.7**	**+0.1**
COEN					IAmb	IAmb	03 57 34.0	
	comp=Z,15nm,0.8s							
STKA	**Stephens Creek**	**38.09**	**244**	P		**P**	**03 57 35.6**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=81,slow=9.3,SNR=5.1							
STKA					PcP	**PcP**	**03 59 35.7**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=66,slow=14,SNR=2.9							
	comp=Z,2.9nm,0.7s							
WR0	**Warramunga Arr**	**44.60**	**262**	P		**P**	**03 58 27.1**	**-0.3**
WR0					IAmb	IAmb	03 58 28.4	
	comp=Z,22nm,1.2s							
AS31	**Alice Springs**	**44.74**	**256**	P		**P**	**03 58 27.9**	**-0.6**
AS31					IAmb	IAmb	03 58 29.3	
	comp=Z,4.3nm,0.6s							
ASAR	**Alice Springs**	**44.74**	**256**	P		**P**	**03 58 28.6**	**+0.1**
	comp=Z,14nm,0.6s,baz=93,slow=7.7,SNR=272							
ASAR					PcP	**PcP**	**03 59 58.9**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=108,slow=3.6,SNR=7.6							
ASAR					ScP	**ScP**	**04 02 59.5**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=98,slow=4.8,SNR=4.9							
ASAR					S	**S**	**04 04 23.2**	**-2.6**
	comp=Z,1.3nm,0.9s,baz=92,slow=16,SNR=7.9							
	comp=Z,14nm,0.6s							
WB0	**Warramunga Arr**	**44.76**	**262**	P		**P**	**03 58 28.0**	**-0.7**
WB2	**Warramunga Arr**	**44.78**	**262**	P		**P**	**03 58 28.4**	**-0.4**
WB2					IAmb	IAmb	03 58 29.1	
	comp=Z,27nm,1.1s							
WRAB	**Tennant Creek**	**44.78**	**262**	P		**P**	**03 58 28.4**	**-0.4**
WRAB					IAmb	IAmb	03 58 29.1	
	comp=Z,23nm,1.1s							
WRA	**Warramunga Arr**	**44.79**	**262**	P		**P**	**03 58 28.4**	**-0.5**
	comp=Z,8.9nm,0.3s,baz=96,slow=7.7,SNR=538							
WRA					PcP	**PcP**	**03 59 59.0**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=89,slow=2.6,SNR=4.7							
WRA					ScP	**ScP**	**04 03 00.1**	**+0.8**
	comp=Z,0.6nm,1.0s,baz=93,slow=3.6,SNR=2.7							
WRA					S	**S**	**04 04 22.6**	**-3.9**
	comp=Z,1.8nm,0.9s,baz=94,slow=13,SNR=9.1							
	comp=Z,8.9nm,0.3s							
WRA	**Warramunga Arr**	**44.79**	**262**	P		**P**	**03 58 27.9**	**-0.9**
SOEI	**Soe**	**56.61**	**271**	P		**P**	**03 59 55.5**	**+0.4**
PSA00	**Pilbara Seismi**	**57.89**	**257**	P		**P**	**04 00 03.2**	**-0.3**
MBWA	**Marble Bar**	**58.07**	**257**	P		**P**	**04 00 04.7**	**-0.1**
MBWA					IAmb	IAmb	04 00 04.8	
	comp

CHTO				IAmb	IAmb	04 03 08.2		
	comp=Z,7.0nm,0.8s							
PZH	**PanZhiHua**	**90.61**	**298**	P	**P**	**04 03 08.8**	**+0.8**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,80nm,5.7s							
LZH	**Lanzhou**	**92.60**	**307**	*eP*	**P**	**04 03 17.1**	**+0.1**	
LZH				sP	sP	04 06 26.0	+14	
LZH				pmax	pmax			
	comp=Z,16nm,1.4s							
SONM	**Songino Array**	**95.50**	**319**	P	**P**	**04 03 30.8**	**+1.0**	
	comp=Z,2.0nm,0.6s,baz=116,slow=3.4,SNR=2.8							
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**110.23**	**321**	PKiKP	**PKiKP**	**04 08 31.4**	**-1.4**	
	comp=Z,0.4nm,0.5s,baz=48,slow=2.1,SNR=1.6							
MKAR	**Makanchi Array**	**110.99**	**314**	PKiKP	**PKiKP**	**04 08 33.1**	**-1.4**	
	comp=Z,0.7nm,0.6s,baz=92,slow=4.3,SNR=6.5							
ARCES	**ARCESS Array B**	**128.51**	**350**	PKP	**PKPdf**	**04 09 07.4**	**0.0**	
	comp=Z,1.5nm,0.6s,baz=32,slow=3.2,SNR=8.3							
FINES	**FINESS Array B**	**135.38**	**344**	PKhKP	PKPpre	04 09 16.4		
	comp=Z,3.1nm,1.0s,baz=46,slow=5.5,SNR=5.1							
FINES				SKP		04 12 02.0		
	comp=Z,2.8nm,1.0s,baz=48,slow=2.1,SNR=3.4							
NOA	**NORSAR Array B**	**138.56**	**353**	PKhKP	PKPpre	04 09 18.0		
	comp=Z,0.9nm,0.8s,baz=8.7,slow=0.4,SNR=2.3							
AKASG	**Malin Array Be**	**142.69**	**331**	PKhKP	PKPpre	04 09 30.4		
	comp=Z,5.1nm,0.5s,baz=43,slow=4.6,SNR=25							
AKBB	**Malin Array Si**	**142.69**	**331**	PKPdf	**PKPdf**	**04 09 35.1**	**+1.0**	
LODK	**Lodwar**	**143.63**	**247**	PKPdf	**PKPdf**	**04 09 37.1**	**0.0**	
SORM	**Soroca**	**144.89**	**329**	⇓P	**PKPdf**	**04 09 38.3**	**+0.2**	
GAZ	**Gaziantep**	**145.05**	**307**	PKPdf	**PKPdf**	**04 09 39.0**	**+0.2**	
MBAR	**Mbarara**	**145.26**	**237**	PKPbc	**PKPbc**	**04 09 41.8**	**+0.8**	
BNN	**Bunyan**	**145.45**	**310**	PKPbc	**PKPbc**	**04 09 41.0**	**+0.2**	
BR131	**Keskin Array S**	**146.63**	**313**	PKPbc	**PKPbc**	**04 09 44.1**	**0.0**	
BRTR	**Keskin Array B**	**146.63**	**313**	PKPbc	**PKPbc**	**04 09 43.7**	**-0.4**	
	comp=Z,3.3nm,0.6s,baz=146,slow=5.2,SNR=22							
BUR08	**Bucovina Ar. S**	**146.72**	**331**		**PKPbc**	**04 09 44.7**	**+0.7**	
BURAR	**Bucovina Array**	**146.74**	**331**	⇑P	**PKPbc**	**04 09 44.6**	**+0.6**	
GHRR		**146.79**	**327**	⇑P	**PKPbc**	**04 09 44.5**	**+0.4**	
OJC	**Ojcow**	**146.79**	**339**	*e*PKP	**PKPdf**	**04 09 41.5**	**+0.3**	
STHS	**Stebnicka Huta**	**146.96**	**337**	*e*PKP	**PKPbc**	**04 09 44.6**	**+0.1**	
KOLS	**Kolonicke sedl**	**146.96**	**335**	*e*PKP	**PKPbc**	**04 09 45.5**	**+1.0**	
KOLS				*e*		04 09 48.5		
ANTO	**Ankara**	**147.15**	**314**	⇑P	**PKPbc**	**04 09 45.7**	**+0.3**	
VRI	**Vrincioaia**	**147.26**	**327**	⇓P	**PKPbc**	**04 09 45.8**	**+0.4**	
KSP	**Ksiaz**	**147.31**	**343**	*e*PKP	**PKPbc**	**04 09 45.7**	**+0.3**	
ARCR	**ARCALIA**	**147.52**	**331**	⇑P	**PKPab**	**04 09 51.0**	**+0.9**	
OSTC	**Ostas**	**147.59**	**343**	*e*PKP	**PKPbc**	**04 09 46.4**	**+0.3**	
CLL	**Collm**	**147.66**	**347**		**PKPbc**	**04 09 46.3**	**+0.1**	
CLL	**Collm**	**147.66**	**347**	⇓ *i*PKPbc	**PKPbc**	**04 09 46.3**	**+0.1**	
	comp=Z,12nm,0.8s							
CLL				⇑ *i*PKPab	**PKPab**	**04 09 50.1**	**-0.3**	
	comp=Z,6.0nm,0.8s							
UPC	**Upice**	**147.69**	**343**	*e*PKP	**PKPbc**	**04 09 46.7**	**+0.4**	
DPC	**Dobruska-Polom**	**147.74**	**343**	*e*PKP	**PKPbc**	**04 09 46.0**	**-0.5**	
DPC				*ex*	x	04 09 50.8		
DOPR	**Dopca**	**147.86**	**329**	⇑P	**PKPbc**	**04 09 47.5**	**+0.5**	
KRLC	**Kraliky**	**147.86**	**342**	*e*PKP	**PKPbc**	**04 09 46.4**	**-0.4**	
BRG	**Berggiesshubel**	**147.86**	**346**	*i* PKP	**PKPbc**	**04 09 47.2**	**+0.4**	
BRG				Amp		04 09 47.8		
	comp=Z,5.5nm,0.6s							
MORC	**Moravsky Berou**	**147.90**	**341**	⇓P	**PKPdf**	**04 09 45.2**	**+2.1**	
MORC	**Moravsky Berou**	**147.90**	**341**	*e*PKP	**PKPbc**	**04 09 47.2**	**+0.2**	
MLR	**Muntele Rosu**	**147.92**	**328**	⇓P	**PKPbc**	**04 09 46.9**	**-0.3**	
PVCC	**Panska Ves**	**148.04**	**345**	*e*PKP	**PKPbc**	**04 09 47.4**	**+0.2**	
MAUC	**Maruska**	**148.17**	**340**	*e*PKP	**PKPbc**	**04 09 48.0**	**+0.4**	
PRU	**Pruhonice**	**148.54**	**345**	*e*PKP	**PKPbc**	**04 09 48.2**	**-0.3**	
VYHS	**Vyhne**	**148.60**	**338**	*e*PKP	**PKPbc**	**04 09 48.9**	**+0.2**	
VRAC	**Vranov**	**148.60**	**342**	*e*PKP	**PKPbc**	**04 09 49.0**	**+0.3**	
ARR	**Arges**	**148.66**	**329**	⇑P	**PKPbc**	**04 09 49.8**	**+0.8**	
KRUC	**Moravsky**	**148.88**	**342**	*e*PKP	**PKPbc**	**04 09 49.4**	**+0.1**	
KRUC				*e*		04 09 55.6		
TREC	**Trest**	**148.93**	**343**	*e*PKP	**PKPbc**	**04 09 49.3**	**-0.2**	
MODS	**Modra-Piesok**	**149.22**	**340**	*e*PKP	**PKPbc**	**04 09 50.9**	**+0.7**	
KHC	**Kasperske Hory**	**149.57**	**345**	*e*PKP	**PKPbc**	**04 09 50.6**	**-0.5**	
CKRC	**Cesky Krumlov**	**149.68**	**344**	*e*PKP	**PKPbc**	**04 09 51.0**	**-0.3**	
GEC2	**GERESS Array S**	**149.81**	**345**		**PKPbc**	**04 09 51.9**	**+0.2**	
GERES	**GERESS Array B**	**149.81**	**345**	PKPbc	**PKPbc**	**04 09 51.1**	**-0.6**	
	comp=Z,3.1nm,0.8s,baz=38,slow=2.4,SNR=30							
GERES				PKPab	**PKPab**	**04 09 59.3**	**-0.2**	
	comp=Z,0.5nm,0.5s,baz=38,slow=6.8,SNR=5.6							
GERES	**GERESS Array B**	**149.81**	**345**	PKPbc	**PKPbc**	**04 09 51.6**	**-0.1**	
BZS	**Buzias**	**149.87**	**332**	⇑P	**PKPbc**	**04 09 51.6**	**-0.2**	
CONA	**Conrad Observa**	**150.05**	**341**	*e*P	**PKPbc**	**04 09 52.4**	**+0.1**	
	comp=Z,3.2nm,0.6s							
RONA	**Rosalia, Austr**	**150.12**	**341**	*e*P	**PKPbc**	**04 09 52.5**	**+0.1**	
	comp=Z,3.6nm,0.5s,SNR=4.6							
MOA	**Molln**	**150.58**	**343**	*i* P	**PKPbc**	**04 09 53.1**	**-0.3**	
	comp=Z,1.3nm,0.5s							
MORH	**Mrgy, Hungar**	**150.60**	**336**	⇑P	**PKPbc**	**04 09 53.4**	**-0.1**	
VTS	**Vitosha**	**151.33**	**326**	⇑P	**PKPbc**	**04 09 55.6**	**+0.1**	
SOKA	**Soboth**	**151.43**	**341**	*i* P	**PKPbc**	**04 09 54.7**	**-0.8**	
	comp=Z,1.0nm,0.3s							
OBKA	**Obir**	**151.72**	**342**	*i* P	**PKiKP**	**04 09 58.5**	**+2.1**	
	comp=Z,1.9nm,0.4s							
WATA	**Walderalm**	**151.72**	**346**	*i* P	**PKPbc**	**04 09 55.7**	**-0.5**	
	comp=Z,2.1nm,0.5s,SNR=5.0							
WTTA	**Wattenberg**	**151.78**	**346**	*i* P	**PKPbc**	**04 09 56.0**	**-0.4**	
	comp=Z,2.1nm,0.3s,SNR=4.7							
ABTA	**Abfaltersbach**	**152.06**	**345**	*i* P	**PKPbc**	**04 09 56.0**	**-0.8**	
	comp=Z,2.1nm,0.5s,SNR=4.7							
ESDC	**Sonseca Array**	**159.76**	**14**	PKPab	**PKPab**	**04 10 42.1**	**-0.2**	
	comp=Z,0.3nm,0.9s,baz=316,slow=5.4,SNR=1.8							

IDC ***13*** *04:20:20.3±2.4,2°.80S×133°.65E, h0km, mb3.7/2, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=57.6km s-min=16.0km az=60.0*
DJA ***13*** *04:20:25.4±0.7,3°.5±6°×13°.4E±°, h108km±16km, M4.1/6, mb4.5/1, mB5.2/1, MLv3.9/6, Mw(mB)4.5/1*
ISC 13 04:20:25.6±1.1,23°.83S±0°.07×133°.61E±0°.08, h35km, n9, σ1§78/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.36**	**266**	P	**Pn**	**04 20 50.6**	**+2.5**
RKPI	**Ransiki, Papua**	**1.43**	**23**	P	**Pn**	**04 20 49.5**	**+0.5**
RKPI				S	**Sn**	**04 21 09.0**	**+2.5**
MWPI	**Manokwari, Pap**	**1.93**	**13**	P	Pn	04 20 58.6	+2.6
SIJI	**Sorong**	**3.05**	**310**	Pn	**Pn**	**04 21 10.4**	**-0.9**
	15nm,0.3s,baz=151,slow=19,SNR=26						
SIJI				Sn	**Sn**	**04 21 46.7**	**+0.1**
	4.3nm,0.3s,baz=189,slow=22,SNR=1.8						
SIJI				Lg	Lg	04 21 58.0	
	4.2nm,0.3s,baz=191,slow=22,SNR=1.8						
	33nm,0.3s						
SIJI	**Sorong**	**3.05**	**310**	P	**Pn**	**04 21 10.4**	**-0.9**
BNDI	**Bandanaira**	**4.06**	**245**	P	**Pn**	**04 21 26.0**	**+0.7**
WRA	**Warramunga Arr**	**17.02**	**178**	P	**Pn**	**04 24 18.4**	**-2.6**
	0.1nm,0.3s,baz=354,slow=12,SNR=9.7						
WRA				S	**Sn**	**04 27 30.1**	**+0.7**
	0.2nm,0.5s,baz=358,slow=23,SNR=1.5						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**20.72**	**179**	P	Pn	04 25 04.7	-0.9
	5.6nm,0.8s,baz=5.6,slow=12,SNR=57						
	5.6nm,0.8s						
MKAR	**Makanchi Array**	**66.84**	**324**	P	**P**	**04 31 13.7**	**-0.3**
	0.3nm,0.6s,baz=116,slow=6.6,SNR=2.6						
	0.3nm,0.6s						

ROM 13 04:33:20.0±0.1,42°.997N±0°.003×13°.077E±0°.004, h9km, ML1.6/8, 8C-6D, Error ellipse: s-maj=0.3km s-min=0.3km az=138.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.04**	**210**	⇓P	Pg	04 33 22.2	+0.2
FEMA				S	Sg	04 33 23.4	+0.1
FEMA				AML	AML		
	comp=N,4570μm,0.1s						
FEMA				AML	AML		
	comp=N,4575μm,0.1s						
FEMA				AML	AML		
	comp=E,4475μm,0.2s						
FDMO	**Fiordimonte**	**0.04**	**11**	P	Pg	04 33 21.9	0.0
FDMO				S	Sg	04 33 22.9	-0.3
FDMO				AML	AML		
	comp=E,1360μm,0.9s						
FDMO				AML	AML		
	comp=N,1480μm,0.2s						
T1219	**Muccia, Frazio**	**0.08**	**319**	⇑P	Pg	04 33 22.6	+0.3
T1219				S	Sg	04 33 24.2	+0.2
T1219				AML	AML		
	comp=N,916μm,0.2s						
T1219				AML	AML		
	comp=E,606μm,0.1s						
T1219				AML	AML		
	comp=N,916μm,0.2s						
T1219				AML	AML		
	comp=E,606μm,0.1s						
T1256	**Bolognola (MC)**	**0.11**	**85**	⇑P	Pg	04 33 23.2	+0.4
T1256				S	Sg	04 33 25.2	+0.4
T1256				AML	AML		
	comp=E,552μm,1.4s						
T1256				AML	AML		
	comp=N,315μm,0.1s						
T1216	**Preci, Frazion**	**0.11**	**202**	⇑P	Pg	04 33 23.4	+0.6
T1216				S	Sg	04 33 25.7	+1.0
CESI	**CESI - Serrava**	**0.13**	**274**	⇑P	Pg	04 33 23.7	+0.7
CESI				S	Sg	04 33 26.1	+1.1
CESI				AML	AML		
	comp=E,369μm,0.5s						
CESI				AML	AML		
	comp=N,361μm,1.6s						
CESI				AML	AML		
	comp=E,368μm,0.5s						
CESI				AML	AML		
	comp=N,362μm,1.6s						
CSP1	**Cessapalombo**	**0.13**	**45**	⇑P	Pg	04 33 23.6	+0.4
CSP1				S	Sg	04 33 26.0	+0.7
T1245	**Castelsantange**	**0.16**	**150**	⇓P	Pg	04 33 24.2	+0.6
T1245				AML	AML		
	comp=E,265μm,1.5s						
T1245				AML	AML		
	comp=N,232μm,1.1s						
GUMA	**Gualdo di Mace**	**0.20**	**71**	⇑P	Pg	04 33 25.1	+0.9
GUMA				S	Sg	04 33 28.9	+1.8
GUMA				AML	AML		
	comp=E,397μm,0.3s						
GUMA				AML	AML		
	comp=N,396μm,0.6s						
MMO1	**Montemonaco**	**0.21**	**118**	⇑P	Pg	04 33 24.9	+0.5
MMO1				S	Sg	04 33 28.4	+1.2
T1215	**Vallo di Nera,**	**0.25**	**218**	⇓P	Pg	04 33 25.8	+0.8
T1215				S	Sg	04 33 29.9	+1.5
SNTG	**Esanatoglia**	**0.28**	**339**	P	Pg	04 33 26.1	+0.5
SNTG				S	Sb	04 33 30.8	-1.1
SNTG				AML	AML		
	comp=N,77μm,0.5s						
SNTG				AML	AML		
	comp=E,106μm,0.8s						
T1218	**Civita (PG)**	**0.33**	**175**	P	Pg	04 33 26.6	0.0
T1218				S	Sb	04 33 32.5	-1.0
EL6	**Elcito**	**0.33**	**3**	⇓P	Pg	04 33 27.2	+0.6
EL6				S	Sb	04 33 32.7	-0.9
ATCC	**AVT- Casa Cast**	**0.37**	**301**	⇑P	Pb	04 33 28.1	-0.6
CING	**Cingoli**	**0.39**	**13**	⇓P	Pg	04 33 28.2	+0.5
CING				S	Sb	04 33 34.7	-0.5
SMA1	**SAN MARTINO**	**0.41**	**152**	⇓P	Pg	04 33 28.6	+0.5
SSFR	**Montelago di S**	**0.49**	**334**	P	Pb	04 33 30.4	-0.4
SSFR				AML	AML		
	comp=N,65μm,0.2s						
SSFR				AML	AML		
	comp=E,64μm,0.2s						
RM33	**Pellescritta (**	**0.50**	**168**	S	Sb	04 33 39.0	+0.7
ARVD	**Arcevia**	**0.51**	**349**	P	Pg	04 33 30.3	+0.3
TERO	**Teramo**	**0.54**	**134**	P	Pg	04 33 30.7	+0.2
FIAM	**Fiamignano**	**0.73**	**178**	S	Sb	04 33 46.0	+1.0

ROM ***13*** *04:34:50.5±0.1, 44°.648N±0°.006×7°.04E±0°.02, h11km±3km, ML1.1/2, Error ellipse: s-maj=1.3km s-min=0.9km az=252.0*
STR ***13*** *04:34:50.4±0.6, 45°.N±2°×°±°, h2km, MLv1.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=63.0, preliminary*
GEN ***13*** *04:34:50.7, 44°.66N×7°.04E, h6km±1km, Ml0.5*
LDG ***13*** *04:34:51.1±0.0, 44°.65N×7°.03E, h8km, Md1.2/2, Ml1.2/5, Error ellipse: s-maj=1.0km s-min=0.6km az=68.0*
ISC 13 04:34:50.9±0.9, 44°.65N±0°.02×7°.04E±0°.02, h13km±6km, n32, σ0§43/59, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.16**	**159**	P	**Pg**	**04 34 54.5**	**-0.3**
PZZ				S	**Sg**	**04 34 57.2**	**-0.3**
PZZ	**Stroppo**	**0.16**	**159**	P	**Pg**	**04 34 54.6**	**-0.3**
PZZ				S	**Sg**	**04 34 57.2**	**-0.3**
PZZ				AML	AML		
	comp=N,122μm,0.1s						
PZZ				AML	AML		
	comp=E,122μm,0.1s						
MBDF	**Montbardon**	**0.20**	**291**	*e*Pg	**Pg**	**04 34 55.4**	**-0.1**
MBDF				*e*Sg	**Sg**	**04 34 58.2**	**-0.5**
	comp=E,5.3nm,0.2s						
SURF	**Saint Ours**	**0.24**	**223**	P	**Pg**	**04 34 56.1**	**0.0**
SURF				S	**Sg**	**04 34 59.5**	**-0.2**
SURF	**Saint Ours**	**0.24**	**223**	Pg	**Pg**	**04 34 56.1**	**0.0**
SURF				Sg	**Sg**	**04 34 59.4**	**-0.2**
BHB	**Bricherasio**	**0.25**	**41**	P	**Pg**	**04 34 56.4**	**+0.2**
BHB				S	**Sg**	**04 34 59.7**	**0.0**
BHB	**Bricherasio**	**0.25**	**41**	P	**Pg**	**04 34 56.4**	**+0.2**
BHB				S	**Sg**	**04 34 59.8**	**0.0**
JAUF	**Jausiers**	**0.30**	**223**	Pg	**Pg**	**04 34 57.2**	**0.0**
JAUF				Sg	**Sg**	**04 35 01.3**	**-0.2**
CREF	**Crivoux**	**0.32**	**251**	Pg	**Pg**	**04 34 57.2**	**-0.2**
CREF				Sg	**Sg**	**04 35 01.9**	**+0.1**
RRL	**Rocca Remolon**	**0.32**	**327**	P	**Pg**	**04 34 57.6**	**0.0**
RRL				S	**Sg**	**04 35 02.3**	**+0.2**
RRL	**Rocca Remolon**	**0.32**	**327**	⇑P	**Pg**	**04 34 57.6**	**0.0**
RRL				S	**Sg**	**04 35 02.2**	**+0.2**
OGAG	**Argentiere**	**0.41**	**241**	Sg	**Sg**	**04 35 03.6**	**-1.0**
STV	**Sant Anna di V**	**0.46**	**153**	P	**Pg**	**04 34 59.8**	**-0.2**
STV				S	**Sg**	**04 35 05.8**	**-0.3**
STV	**Sant Anna di V**	**0.46**	**153**	P	**Pg**	**04 34 59.8**	**-0.2**
STV				S	**Sg**	**04 35 06.0**	**-0.1**
ISO	**Isola**	**0.47**	**179**	P	**Pb**	**04 35 00.8**	**-0.3**
ISO				S	**Sg**	**04 35 06.7**	**+0.2**
ISO	**Isola**	**0.47**	**179**	Pg	**Pg**	**04 35 00.3**	**+0.1**
ISO				Sg	**Sg**	**04 35 06.3**	**-0.3**
BNI	**Bardonecchia**	**0.47**	**327**	P	**Pg**	**04 35 00.3**	**0.0**
BNI				S	**Sg**	**04 35 06.5**	**-0.1**
ENR	**Entracque**	**0.51**	**147**	P	**Pg**	**04 35 00.7**	**-0.2**
ENR				S	**Sg**	**04 35 07.4**	**-0.3**
ENR	**Entracque**	**0.51**	**147**	⇑P	**Pg**	**04 35 00.8**	**-0.2**
ENR				S	**Sg**	**04 35 07.2**	**-0.5**
ENR				AML	AML		
	comp=E,21μm,0.6s						
ENR				AML	AML		
	comp=N,24μm,1.2s						
OGMO	**Fort Saint-Gob**	**0.61**	**336**	Pg	**Pg**	**04 35 01.2**	**-1.7**
OGMO				Sg	**Sg**	**04 35 10.8**	**-0.2**
SPIF	**crte de Spivo**	**0.61**	**167**	Pg	**Pg**	**04 35 02.1**	**-0.8**
SPIF				Sg	**Sg**	**04 35 10.3**	**-0.8**
TURF	**col de Turini**	**0.72**	**159**	Pg	**Pg**	**04 35 04.0**	**-1.1**
TURF				Sg	**Sg**	**04 35 14.4**	**-0.2**
SBF	**Sospel**	**0.84**	**160**	*e*Pg	**Pg**	**04 35 07.0**	**-0.2**
SBF				*e*Sg	**Sg**	**04 35 18.0**	**-0.2**
	comp=N,1.6nm,0.2s						
ESCA	**l'Escarene**	**0.86**	**164**	Sg	**Sg**	**04 35 18.7**	**0.0**
ORIF	**Oris-en-Rattie**	**0.87**	**288**	*e*Pg	**Pg**	**04 35 07.3**	**-0.4**
ORIF				*e*Sg	**Sg**	**04 35 18.7**	**-0.3**
	comp=N,0.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.87**	**288**	Pg	**Pg**	**04 35 07.2**	**-0.4**
LPG	**La Plagne**	**0.87**	**347**	*e*Pg	**Pb**	**04 35 07.8**	**-0.2**
LPG				*e*Sg	**Sg**	**04 35 19.0**	**-0.2**
	comp=N,1.1nm,0.4s						
LPL	**La Plagne**	**0.89**	**346**	*e*Pg	**Pb**	**04 35 08.2**	**-0.1**
LPL				*e*Sg	**Sb**	**04 35 20.0**	**-0.2**
	comp=N,0.5nm,0.2s						
CALF	**Calern**	**0.91**	**185**	Pg	**Pg**	**04 35 08.1**	**-0.3**
TRIGF	**Trigance**	**1.01**	**207**	Pg	**Pb**	**04 35 10.8**	**+0.4**
TRIGF				Sg	**Sb**	**04 35 24.0**	**+0.3**
SMRF	**Simiane la Rot**	**1.25**	**238**	*e*Pg	**Pn**	**04 35 14.5**	**+0.4**
LMR	**La Mourre**	**1.37**	**196**	*e*Pg	**Pb**	**04 35 16.8**	**+0.3**
LMR				*e*Sg	**Sn**	**04 35 34.6**	**+0.8**
	comp=N,0.4nm,0.2s						

MAN 13 04:35:60.0, 7°.04N×126°.56E, h138km, mb3.8, ML2.5, MS2.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.15**	**350**	⇓ *i*P	Pn	04 36 26.3	+1.3
BIPH				*i* S	Sn	04 36 45.8	+1.7
KCP	**Kidapawan**	**1.46**	**269**	⇑ *e*P	Pn	04 36 33.4	+5.2
KCP				*i* S	Sn	04 36 53.8	+3.9
CGP	**Cagayan de Oro**	**2.32**	**307**	*e*P	Pn	04 36 39.5	+1.2

IDC ***13*** *04:53:43.9±0.6, 31°.13N×141°.49E, h0km, mb4.2/21, mbtmp4.1/25, ML3.7/4, MS3.3/7, Error ellipse: s-maj=20.0km s-min=13.0km az=68.0*
MOS ***13*** *04:53:45.0±1.0, 31°.10N×141°.68E, h24km, mb4.7/20, Error ellipse: s-maj=17.5km s-min=7.3km az=120.0*
NIED ***13*** *04:53:46.7, 31°.28N×141°.82E, h45km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.80; Mθθ0.32; Mϕϕ-1.13; Mrθ2.01; Mθϕ-0.05; Mϕr-0.03; Fault plane solution: M₀2.03000×10¹⁵ NP1: φs231.00000°, δ4.00000°, λ53.00000°. NP2:φs89.00000°, δ87.00000°, λ93.00000°.*
JMA ***13*** *04:53:46.7±0.2, 31°.3N±0°.8×14°.2E±°, h45km, MV4.1/16, NEAR TORISHIMA IS*
NEIC ***13*** *04:53:47.7±2.1, 31°.27N±0°.08×142°.0E±0°.1, h34km±5km, mb4.5/13, Error ellipse: s-maj=17.9km s-min=9.0km az=66.0*
ISC 13 04:53:48.1±0.5, 31°.26N±0°.05×141°.90E±0°.09, h35km, n102, σ1§42/98, mb4.3/41, MS3.3/5, 7C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimakai**	**2.18**	**304**	P	**Pn**	**04 54 20.6**	**-1.2**
JHJ2	**Mitsune**	**2.56**	**317**	Pn	**Pn**	**04 54 25.5**	**-1.5**
JHJ2	**Mitsune**	**2.56**	**317**	P	**Pn**	**04 54 26.1**	**-0.8**
JHJ2				S	**Sn**	**04 54 55.2**	**-1.7**
JHJ	**Hachijo jima 2**	**2.58**	**317**	Pn	**Pn**	**04 54 26.5**	**-0.8**
	25nm,0.3s,baz=26,slow=20,SNR=8.5						
JHJ				Sn	**Sn**	**04 54 55.3**	**-2.2**
	73nm,0.3s,baz=66,slow=24,SNR=6.8						
	119nm,0.8s						
BSO1	**Boso 1**	**3.48**	**347**	P	**Pn**	**04 54 39.1**	**0.0**
CBIJ	**Chichi jima**	**4.15**	**176**	P	**Pn**	**04 54 49.9**	**+0.9**
CBIJ				S	**Sn**	**04 55 36.5**	**+0.3**
JCJ	**Chichijima**	**4.15**	**176**	Pn	**Pn**	**04 54 48.3**	**-0.7**
	20nm,0.3s,baz=119,slow=23,SNR=14						
JCJ				Sn	**Sn**	**04 55 34.0**	**-2.3**
	42nm,0.3s,baz=260,slow=23,SNR=7.6						
	50nm,0.3s						
JCJ	**Chichijima**	**4.15**	**176**	Pn	**Pn**	**04 54 48.6**	**-0.3**
JOD2	**Odawara 2**	**4.64**	**330**	P	**Pn**	**04 54 55.8**	**+0.2**
JIE	**Ise**	**5.37**	**307**	P	**Pn**	**04 55 06.1**	**+0.4**
JAG	**Ashikaga**	**5.54**	**339**	P	**Pn**	**04 55 08.6**	**+0.6**
JGF	**Kuroka**	**5.76**	**320**	Pn	**Pn**	**04 55 11.5**	**+0.5**
INU	**Inuyama**	**5.77**	**316**		**Pn**	**04 55 13.6**	**+2.4**
MJAR	**Matsushiro Arr**	**6.10**	**331**	Pn	**Pn**	**04 55 15.7**	**0.0**
	0.8nm,0.3s,baz=159,slow=11,SNR=43						
MJAR				Sn	**Sn**	**04 56 24.3**	**0.0**
	0.1nm,0.3s,baz=160,slow=19,SNR=4.4						
MJAR				LR	LR	04 57 33.6	
	comp=Z,167nm,19.5s,baz=150,slow=38						
	4.2nm,0.4s						
MAJO	**Matsushiro**	**6.10**	**331**	Pn	**Pn**	**04 55 15.8**	**+0.1**
MAJO	**Matsushiro**	**6.10**	**331**	*i* P	**Pn**	**04 55 17.5**	**+1.8**
MJB9	**Matsu-Tunnel**	**6.10**	**331**		**Pn**	**04 55 14.4**	**-1.3**
JMM	**Marumori**	**6.66**	**352**		**Pn**	**04 55 21.6**	**-1.7**
JOW	**Kunigami**	**12.70**	**253**	LR	LR	05 01 18.7	
	comp=Z,151nm,19.1s,baz=108,slow=37						
KSRS	**Korea Array**	**13.09**	**302**	Pn	**Pn**	**04 56 53.4**	**+2.0**
	0.3nm,0.3s,baz=112,slow=14,SNR=4.3						
KSRS				LR	LR	05 01 54.2	
	comp=Z,139nm,18.3s,baz=115,slow=38						
YSS	**Yuzh-Sakhalins**	**15.69**	**2**	*e*P	**P**	**04 57 27.3**	**-2.7**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
KLR	**Kul'dur**	**19.52**	**340**	P	**Pn**	**04 58 11.9**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=176,slow=8.9,SNR=4.1						
	comp=Z,1.4nm,0.5s						
KLR	**Kul'dur**	**19.52**	**340**	*i* P	**P**	**04 58 11.4**	**-0.9**
SSLB	**Suanglung**	**19.99**	**253**	P	**Pn**	**04 58 17.5**	**-2.0**
SSLB				IAmb	IAmb	04 58 18.3	
	comp=Z,29nm,1.0s						
HEH	**HeiHe**	**21.85**	**334**	*e*P	**P**	**04 58 40.3**	**+2.9**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ZEA	**Zeya**	**24.83**	**339**	*e*P

	comp=Z,4.0nm,0.5s,baz=5.4,slow=7.5,SNR=128							
	comp=Z,4.0nm,0.5s							
WRA	**Warramunga Arr**	**51.42 189**	P		**P**		**05 02 48.2**	**-1.5**
WRA	**Warramunga Arr**	**51.42 189**⇑	*eP*		**P**		**05 02 49.2**	**-0.5**
WRA			pmax	pmax				
	comp=Z,3.0nm,0.4s							
AAK	**Ala-Archa**	**53.75 302**	LR		LR		05 26 53.7	
	comp=Z,35nm,18.3s,baz=38,slow=37							
ILAR	**Eielson Array**	**54.22 30**	P		P		05 03 14.2	+4.3
	comp=Z,0.4nm,0.7s,baz=272,slow=5.0,SNR=4.1							
	comp=Z,0.4nm,0.7s							
BVAR	**Borovoye Array**	**54.86 316**	P		**P**		**05 03 14.3**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=72,slow=6.3,SNR=8.3							
BVAR			PcP		**PcP**		**05 04 17.4**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=90,slow=7.2,SNR=1.9							
BVAR			LR		LR		05 26 04.2	
	comp=Z,27nm,19.3s,baz=47,slow=36							
	comp=Z,1.3nm,0.4s							
BRVK	**Borovoye**	**54.92 316**	*ceP*		**P**		**05 03 15.2**	**0.0**
BRVK			pmax	pmax				
	comp=Z,2.0nm,0.7s							
AS31	**Alice Springs**	**55.14 189**	P		**P**		**05 03 15.8**	**-1.2**
AS31			IAmb	IAmb			05 03 20.3	
	comp=Z,2.5nm,0.4s							
ASAR	**Alice Springs**	**55.14 189**	P		**P**		**05 03 16.8**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=0.3,slow=5.2,SNR=68							
	comp=Z,1.7nm,0.5s							
ASAR	**Alice Springs**	**55.14 189**	P		**P**		**05 03 17.1**	**+0.1**
ASAR	**Alice Springs**	**55.14 189**	P		**P**		**05 03 17.1**	**+0.1**
KK31	**Karatay Array**	**56.51 304**	P		**P**		**05 03 27.1**	**+0.4**
KK31			IAmb	IAmb			05 03 27.9	
	comp=Z,2.9nm,0.7s							
KK31	**Karatay Array**	**56.51 304**	P		**P**		**05 03 27.2**	**+0.4**
KK31			pmax	pmax				
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**56.51 304**	P		**P**		**05 03 27.0**	**+0.2**
KKAR	**Karatay Array**	**56.51 304**	P		**P**		**05 03 27.0**	**+0.2**
NIL	**Nilore**	**56.98 292**	P		**P**		**05 03 31.0**	**+0.7**
NIL			IAmb	IAmb			05 03 31.3	
	comp=Z,4.7nm,0.7s							
NIL	**Nilore**	**56.98 292**	P		**P**		**05 03 31.0**	**+0.7**
NIL			pmax	pmax				
	comp=Z,5.0nm,0.7s							
SVE	**Sverdlovsk**	**59.81 321**	*eP*		**P**		**05 03 50.9**	**+1.3**
SVE			pmax	pmax				
	comp=Z,14nm,1.0s							
ARU	**Arti**	**61.02 321**	P		**P**		**05 03 58.2**	**+0.4**
	comp=Z,6.7nm,0.6s,baz=18,slow=2.5,SNR=14							
	comp=Z,6.7nm,0.6s							
ARU	**Arti**	**61.02 321**	P		**P**		**05 03 57.3**	**-0.5**
ARU	**Arti**	**61.02 321**	*c iP*		**P**		**05 03 58.2**	**+0.4**
ARU							05 06 10.0	
ARU			S		**S**		**05 12 19.0**	**+5.2**
ARU			SS		**SS**		**05 16 08.2**	**-4.9**
ARU			pmax	pmax				
	comp=Z,13nm,0.9s							
PALK	**Pallekele**	**61.68 261**	LR		LR		05 32 25.7	
	comp=Z,20nm,18.3s,baz=93,slow=38							
ABKAR	**Akbulak array**	**62.06 313**	P		**P**		**05 04 05.0**	**+0.1**
YKA	**Yellowknife Ar**	**68.63 29**	P		**P**		**05 04 48.9**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=277,slow=9.0,SNR=2.8							
	comp=Z,1.0nm,0.9s							
AKT	**Akhty**	**72.91 308**	*eP*		**P**		**05 05 14.2**	**+0.4**
AKT			*e*				05 05 31.5	
AKT			pmax	pmax				
	comp=Z,9.0nm,0.7s							
OBN	**Obninsk**	**72.99 325**	*eP*		**P**		**05 05 12.6**	**-1.3**
OBN			*e*				05 05 29.6	
OBN			*e*				05 07 52.6	
OBN			*e*PPP		PPP		05 09 42.8	
OBN			pmax	pmax				
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**74.12 333**	P		**P**		**05 05 20.7**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=49,slow=6.3,SNR=14							
	comp=Z,0.9nm,0.4s							
FINES	**FINESS Array B**	**74.12 333**	*ceP*		**P**		**05 05 22.2**	**+1.8**
FINES			pmax	pmax				
	comp=Z,1.0nm,0.4s							
KBZ	**Khabaz**	**75.02 312**	P		**P**		**05 05 26.1**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=173,slow=1.0,SNR=8.1							
	comp=Z,3.8nm,0.9s							
KBZ	**Khabaz**	**75.02 312**	*ceP*		**P**		**05 05 26.4**	**+0.5**
KBZ			pmax	pmax				
	comp=Z,4.0nm,0.9s							
KIV	**Kislovodsk**	**75.04 312**	*eP*		**P**		**05 05 24.5**	**-1.7**
KIV			pmax	pmax				
	comp=Z,5.0nm,1.1s							
KIV			MLR		MLR			
	comp=Z,34nm,18.0s							
NVAR	**Mina Array Bea**	**78.17 52**	P		P		05 05 47.8	+3.6
	comp=Z,0.7nm,0.6s,baz=295,slow=4.7,SNR=6.4							
	comp=Z,0.7nm,0.6s							
AKASG	**Malin Array Be**	**79.13 323**	P		**P**		**05 05 49.0**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=48,slow=5.7,SNR=7.6							
	comp=Z,0.7nm,0.4s							
HFS	**Hagfors**	**79.52 336**	P		**P**		**05 05 51.7**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=75,slow=6.6,SNR=7.4							
	comp=Z,1.7nm,0.8s							
NB2	**NORSAR Subarra**	**79.67 338**	P		**P**		**05 05 52.3**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=43,slow=5.6							
NOA	**NORSAR Array B**	**79.67 338**	P		**P**		**05 05 52.4**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=45,slow=2.4,SNR=4.4							
	comp=Z,0.7nm,0.8s							
PDAR	**Pinedale Array**	**81.45 45**	P		**P**		**05 06 04.2**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=290,slow=2.7,SNR=2.8							
	comp=Z,0.4nm,0.8s							
PDAR	**Pinedale Array**	**81.45 45**	P		**P**		**05 05 58.2**	**-3.7**
BRTR	**Keskin Array B**	**83.01 312**	P		**P**		**05 06 10.8**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=126,slow=4.0,SNR=6.4							
	comp=Z,1.6nm,0.8s							
BRTR	**Keskin Array B**	**83.01 312**	P		**P**		**05 06 10.6**	**+0.6**
BRTR	**Keskin Array B**	**83.01 312**	*ceP*		**P**		**05 06 11.1**	**+1.1**
BRTR			pmax	pmax				
	comp=Z,2.0nm,0.8s							
RAYN	**Ar Rayn**	**83.26 293**	P		**P**		**05 06 11.6**	**+0.2**
RAYN	**Ar Rayn**	**83.26 293**	P		**P**		**05 06 11.6**	**+0.2**
RAYN			pmax	pmax				
	comp=Z,6.0nm,0.7s							
MMAI	**Mount Meron Ar**	**85.66 306**	P		**P**		**05 06 25.4**	**+1.9**
	comp=Z,0.5nm,0.2s,baz=13,slow=7.6,SNR=2.8							
	comp=Z,0.5nm,0.2s							
VYHS	**Vyhne**	**85.71 326**	*eP*		**P**		**05 06 24.1**	**+0.7**
VYHS	**Vyhne**	**85.71 326**	*eP*		**P**		**05 06 24.1**	**+0.7**
TXAR	**Lajitas Array**	**93.31 53**	P		P		05 07 04.0	+4.3
	comp=Z,1.2nm,0.9s,baz=306,slow=3.6,SNR=10							
	comp=Z,1.2nm,0.9s							
LPAZ	**La Paz**	**148.87 68**	PKPbc		**PKPab**		**05 13 36.1**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=297,slow=4.5,SNR=4.9							

*CRAAG **13** 05:01:59.4, 36°.94N×4°.43E, Ml2.7*
*MDD **13** 05:02:01.5±1.2, 37°.10N×4°.37E, h0km, Mb3.7/8, M_mb2.9/8, Error ellipse: s-maj=9.8km s-min=6.6km az=126.0*

ISC 13 05:01:59.7±2.2,**37°.07N**±0°.08×**4°.3E**±0°.1,**h10**km,**n9,**
σ1§**72**/15,**5C,Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.76**	**245**	P		**Pg**	**05 02 14.3**	**-0.1**
ABA	**Alger-Bouzarea**	**1.08**	**256**	P		**Pb**	**05 02 19.9**	**-0.6**
ADJB	**Djebel Djouab**	**1.17**	**219**	P		**Pb**	**05 02 20.7**	**-1.4**
ETOS	**Mallorca**	**2.94**	**336**	P		**Pn**	**05 02 47.5**	**+0.9**
ETOS				⇑*i*Vmb_V			05 02 48.5	
	196nm,SNR=1.2							
ETOS				S		**Sn**	**05 03 23.9**	**+1.9**
ECOL	**Islas Columbre**	**4.02**	**316**	P		**Pn**	**05 03 02.0**	**+0.7**
ECOL				S		**Sn**	**05 03 47.4**	**-1.1**
ETOB	**Tobarra**	**4.91**	**290**	P		**Pn**	**05 03 16.0**	**+2.3**
ETOB				⇑*i*Vmb_V			05 03 20.7	
	38nm,SNR=0.7							
ETOB				S		**Sn**	**05 04 09.5**	**-1.2**
EPOB	**Poblet**	**4.97**	**330**	P		**Pn**	**05 03 15.3**	**+0.9**
EPOB				⇑*i*Vmb_V			05 03 17.1	
	65nm,SNR=0.9							
EPOB				S		**Sn**	**05 04 09.7**	**-2.3**
EMOS	**Mosqueruela**	**4.99**	**313**	P		**Pn**	**05 03 16.3**	**+1.4**
EMOS				⇑*i*Vmb_V			05 03 16.9	
	42nm,SNR=0.6							
EMOS				S		**Sn**	**05 04 10.7**	**-2.1**
EQES	**Quesada**	**5.94**	**279**	P		**Pn**	**05 03 30.6**	**+2.7**
EQES				⇑*i*Vmb_V			05 03 30.8	
	58nm,SNR=0.9							
EQES				S		**Sn**	**05 04 35.4**	**-0.7**

*IDC **13** 05:15:11.7±0.9, 55°.81S×143°.81W, h0km, mb3.9/7, mbtmp3.9/7, MS4.0/41, Error ellipse: s-maj=34.2km s-min=22.4km az=170.0*
*GCMT **13** 05:15:18.0±0.2, 56°.33S±0°.01×143°.41W±0°.02, h24km±1km, MW5.1/104, Moment Tensor Solution. s55,c72; s104,c157; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.38±.18; Mθθ4.97±.18; Mϕϕ-4.59±.15; Mrθ1.24±.37; Mθϕ3.65±.13; Mϕr0.25±.33; Best double couple: M₀6.13200×10¹⁶ NP1:ϕs117.00000°, δ84.00000°, λ9.00000°. NP2:ϕs26.00000°, δ81.00000°, λ174.00000°. Principal axes: T 6.4360, Plg10.0000°, Azm341.0000°; N -0.6070, Plg79.0000°, Azm152.0000°; P -5.8290, Plg2.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 13 05:15:13.1±1.0,**55°.9S**±0°.2×**143°.7W**±0°.2,**h10**km,**n70,**
σ1§**64**/15,**mb3.9/7,MS4.1**/44,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.61**	**202**	P		**P**	**05 21 11.6**	**+2.7**
VNDA				LR		LR	05 28 40.2	
	comp=Z,197nm,20.6s,baz=76,slow=28							
	0.5nm,0.8s							
RPZ	**Rata Peaks**	**31.08**	**274**	LR		LR	05 31 05.9	
	comp=Z,354nm,21.2s,baz=124,slow=31							
TBI	**Tubuai**	**32.82**	**350**	*e*S		S	05 26 44.3	-19
	673nm,27.8s							
TBI				*e*LR		LR	05 30 07.3	
	comp=Z,6μm,29.8s							
TBI	**Tubuai**	**32.82**	**350**	*e*T		T	05 56 17.0	
	104nm,0.3s							
QSPA	**South Pole Qui**	**34.23**	**180**	P		**P**	**05 21 58.6**	**0.0**
	4.0nm,0.7s,baz=120,slow=1.4,SNR=12							
QSPA				LR		LR	05 32 55.2	
	comp=Z,508nm,22.0s,baz=66,slow=31							
	4.0nm,0.7s							
RAO	**Raoul Island**	**36.05**	**303**	LR		LR	05 32 48.2	
	comp=Z,272nm,21.5s,baz=143,slow=29							
RAR	**Rarotonga**	**36.69**	**334**	LR		LR	05 33 30.3	
	comp=Z,299nm,18.2s,baz=150,slow=30							
PMSA	**Palmer Station**	**37.79**	**137**	LR		LR	05 33 54.7	
	comp=Z,251nm,18.2s,baz=291,slow=30							
RPN	**Rapa Nui**	**37.91**	**55**	LR		LR	05 34 29.2	
	comp=Z,103nm,18.1s,baz=210,slow=30							
MEH	**Mehetia**	**38.13**	**353**	*e*T		T	06 03 05.7	
	46nm,0.3s							
PAE	**Paea**	**38.46**	**351**	*e*T		T	06 03 21.9	
	6.0nm,0.3s							
PPT2	**Papeete2**	**38.53**	**351**	*e*S		S	05 28 12.7	-19
	198nm,27.0s							
PPT2				*e*LR		LR	05 32 45.5	
	comp=Z,826nm,28.5s							
PPT2				*e*LR		LR	05 32 46.4	
	comp=Z,1μm,28.5s							
PPT2	**Papeete2**	**38.53**	**351**	*e*T		T	06 03 22.4	
	11nm,0.3s							
VAH	**Vaihoa**	**40.72**	**354**	*e*T		T	06 06 16.7	
	84nm,0.3s							
TAOE	**Nuku Hiva Isla**	**47.03**	**5**	*e*S		S	05 30 17.7	-19
	117nm,25.7s							
TAOE				*e*LR		LR	05 36 43.7	
	comp=Z,811nm,28.3s							
AFI	**Afiamalu**	**47.19**	**321**	LR		LR	05 37 59.2	
	comp=Z,169nm,21.5s,baz=154,slow=29							
MSVF	**Nonsavu**	**47.82**	**307**	LR		LR	05 39 38.3	
	comp=Z,110nm,20.7s,baz=147,slow=31							
H03S2	**Juan Fernandez**	**48.86**	**91**	T		T	06 16 13.2	
	baz=220,slow=74,SNR=1289							
H03S1	**Juan Fernandez**	**48.87**	**91**	T		T	06 16 14.5	
	baz=220,slow=74,SNR=332							
H03S3	**Juan Fernandez**	**48.88**	**91**	T		T	06 16 11.1	
	baz=220,slow=74,SNR=822							
VNA3	**Neumayer Olymp**	**49.03**	**162**	P		**P**	**05 23 57.1**	**-2.3**
H03N3	**Juan Fernandez**	**49.14**	**91**	T		T	06 16 26.4	
	baz=223,slow=72,SNR=42							
H03N2	**Juan Fernandez**	**49.15**	**91**	T		T	06 16 30.2	
	baz=223,slow=72,SNR=56							
H03N1	**Juan Fernandez**	**49.16**	**91**	T		T	06 16 28.0	
	baz=223,slow=72,SNR=54							
VNA2	**Neumayer--Watz**	**49.70**	**163**	P		**P**	**05 24 02.5**	**-2.0**
	baz=207,slow=8.0							
SNAA	**Sanae**	**49.76**	**165**	P		**P**	**05 24 02.9**	**-2.2**
SNAA	**Sanae**	**49.76**	**165**	LR		LR	05 44 00.8	
	comp=Z,145nm,19.9s,baz=192,slow=35							
VNA1	**Neumayer--Stat**	**49.78**	**162**	P		**P**	**05 24 03.3**	**-1.8**
DZM	**Mont Dzumac**	**49.81**	**292**	*e*LR		LR	05 37 53.2	
	comp=Z,317nm,23.8s							
DZM	**Mont Dzumac**	**49.81**	**292**	LR		LR	05 42 31.0	
	comp=Z,151nm,18.0s,baz=70,slow=33							
TROLL	**Troll, Antarti**	**50.19**	**167**	P		**P**	**05 24 07.1**	**-1.4**
MAW	**Mawson**	**55.21**	**192**	LR		LR	05 46 20.3	
	comp=Z,227nm,18.3s,baz=157,slow=34							
STKA	**Stephens Creek**	**55.91**	**262**	LR		LR	05 44 35.6	
	comp=Z,170nm,20.9s,baz=177,slow=32							
CTA	**Charters Tower**	**62.44**	**275**	LR		LR	05 49 28.4	
	comp=Z,76nm,19.0s,baz=108,slow=33							
LVC	**Limon Verde**	**63.09**	**91**	LR		LR	05 46 46.8	
	comp=Z,83nm,19.2s,baz=22,slow=30							
ASAR	**Alice Springs**	**66.54**	**262**	P		**P**	**05 26 02.9**	**-0.3**
	0.8nm,0.9s,baz=137,slow=6.2,SNR=7.9							
ASAR				LR		LR	05 51 09.2	
	comp=Z,183nm,20.6s,baz=154,slow=32							
	0.8nm,0.9s							
CPUP	**Villa Florida**	**66.62**	**103**	P		**P**	**05 26 04.2**	**+0.6**
	2.9nm,1.0s,baz=225,slow=6.7,SNR=4.3							
CPUP				LR		LR	05 51 09.8	
	comp=Z,79nm,18.8s,baz=220,slow=32							
	2.9nm,1.0s							
NNA	**Nana**	**67.22**	**77**	LR		LR	05 48 12.6	
	comp=Z,194nm,18.9s,baz=200,slow=29							
H01W1	**Cape Leeuwin H**	**68.09**	**240**	T		T	06 41 18.2	
	baz=143,slow=76,SNR=191							
H01W2	**Cape Leeuwin H**	**68.09**	**240**	T		T	06 41 20.7	
	baz=143,slow=76,SNR=188							
H01W3	**Cape Leeuwin H**	**68.10**	**240**	T		T	06 41 19.5	
	baz=143,slow=76,SNR=187							
NWAO	**Narrogin (SRO)**	**68.13**	**243**	LR		LR	05 48 44.0	
	comp=Z,110nm,21.6s,baz=302,slow=30							
LPAZ	**La Paz**	**68.58**	**87**	P		**P**	**05 26 18.2**	**+1.5**
	1.9nm,1.0s,baz=194,slow=6.3,SNR=5.4							
LPAZ				LR		LR	05 50 03.3	
	comp=Z,50nm,20.8s,baz=339,slow=30							
	1.9nm,1.0s							
WRA	**Warramunga Arr**	**69.26**	**265**	P		**P**	**05 26 19.7**	**-0.6**
	0.4nm,0.7s,baz=148,slow=5.6,SNR=3.2							
WRA				LR		LR	05 52 41.1	
	comp=Z,95nm,21.7s,baz=98,slow=32							
	0.4nm,0.7s							
ATAH	**Atahualpa**	**70.40**	**73**	LR		LR	05 50 31.9	
	comp=Z,109nm,18.5s,baz=252,slow=30							
PMG	**Port Moresby**	**70.62**	**282**	LR		LR	05 53 11.8	
	comp=Z,111nm,19.6s,baz=49,slow=32							
KRVT	**Kerwat (AS076**	**72.23**	**289**	LR		LR	05 51 56.7	
	comp=Z,52nm,19.2s,baz=288,slow=31							
SIV	**San Ignacio**	**72.79**	**93**	P		**P**	**05 26 42.6**	**+0.9**
	0.9nm,0.9s,baz=238,slow=5.2,SNR=3.9							
SIV				LR		LR	05 53 14.3	
	comp=Z,65nm,20.9s,baz=215,slow=31							
	0.9nm,0.9s							
ROSC	**El Rosal**	**82.62**	**70**	LR		LR	05 57 17.7	
	comp=Z,125nm,21.5s,baz=106,slow=31							
BATI	**Baumata**	**83.12**	**262**	LR		LR	06 01 46.1	
	comp=Z,179nm,20.6s,baz=181,slow=34							
LPIG	**La Paz**	**84.61**	**30**	LR		LR	05 56 16.5	
	comp=Z,53nm,19.4s,baz=214,slow=29							
SIJI	**Sorong**	**86.50**	**274**	LR		LR	06 04 55.2	
	comp=Z,56nm,19.6s,baz=51,slow=34							
SDV	**Santo Domingo**	**87.98**	**71**	LR		LR	06 00 14.0	
	comp=Z,48nm,21.8s,baz=260,slow=31							
KAPI	**Kappang**	**89.56**	**262**	LR		LR	06 06 14.0	
	comp=Z,96nm,20.1s,baz=142,slow=34							
SUR	**Sutherland**	**91.05**	**167**	LR		LR	06 03 10.9	
	comp=Z,108nm,20.4s,baz=172,slow=32							
GUMO	**Guam**	**91.08**	**293**	LR		LR	06 03 17.7	
	comp=Z,24nm,20.3s,baz=110,slow=32							
TXAR	**Lajitas Array**	**91.52**	**34**	LR		LR	06 03 24.9	
	comp=Z,42nm,18.1s,baz=213,slow=32							
PCRV	**Puerto La Cruz**	**92.28**	**75**	LR		LR	06 03 50.4	
	comp=Z,144nm,21.4s,slow=32							
LEM	**Lembang**	**94.68**	**251**	LR		LR	06 07 44.4	
	comp=Z,47nm,18.1s,baz=206,slow=33							
BOSA	**Boshof**	**95.27**	**170**	LR		LR	06 07 40.0	
	comp=Z,89nm,19.1s,baz=176,slow=33							
ANMO	**Albuquerque**	**95.92**	**30**	LR		LR	06 02 51.2	
	comp=Z,63nm,21.4s,baz=212,slow=30							
LBTB	**Lobatse**	**98.87**	**170**	LR		LR	06 09 40.4	
	comp=Z,104nm,20.3s,baz=182,slow=33							
YBH	**Yreka Blue Hor**	**98.90**	**16**	LR		LR	06 04 33.0	
	comp=Z,116nm,18.1s,baz=184,slow=30							
ELK	**Elko**	**99.29**	**22**	LR		LR	06 05 28.7	
	comp=Z,83nm,18.6s,baz=204,slow=30							
H10N3	**ASCENSION HYDR**	**103.90**	**128**	T		T	07 25 44.2	
	baz=206,slow=74							
H10N1	**ASCENSION HYDR**	**103.91**	**128**	T		T	07 25 33.4	
	baz=206,slow=74							
H10N2	**ASCENSION HYDR**	**103.92**	**128**	T		T	07 25 45.5	
	baz=206,slow=74							
ILAR	**Eielson Array**	**120.39**	**358**	PKP		**PKPdf**	**05 34 02.5**	**-0.5**
	0.2nm,0.6s,baz=188,slow=2.7,SNR=2.5							
ESDC	**Sonseca Array**	**148.98**	**104**	PKPbc		**PKPbc**	**05 34 59.2**	**-1.3**
	0.8nm,1.0s,baz=248,slow=2.4,SNR=4.1							
MKAR	**Makanchi Array**	**150.38**	**272**	PKPbc		**PKiKP**	**05 35 04.3**	**-0.1**
	1.7nm,0.8s,baz=122,slow=5.2,SNR=8.4							

*IDC **13** 05:21:38.4±0.7, 6°.74N×72°.95W, h160km±9km, mb3.2/5, mbtmp3.9/9, Error ellipse: s-maj=26.6km s-min=7.1km az=133.0*
*RSNC **13** 05:21:39.9±0.9, 6°.80N×73°.15W, h144km±3km, ML3.5*

ISC 13 05:21:38.3±0.7,**6°.86N**±0°.03×**73°.10W**±0°.04,**h153**km±6km,
n43,σ1§**52**/79,**mb3.4/5,5C-1D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**196**	⇑*i*P		**Pn**	**05 21 59.5**	**0.0**
BARC				*e*S		**Sn**	**05 22 14.3**	**-1.3**
BARC				IAML			05 22 15.4	
	comp=Z,920nm,0.3s							
PAMC	**Pamplona, Colo**	**0.62**	**40**	⇑*i*P		**Pn**	**05 22 02.2**	**+1.0**
PAMC				*e*S		**Sn**	**05 22 19.0**	**+0.3**
PAMC				IAML			05 22 21.4	
	comp=Z,1μm,0.5s							
BRRC	**Barranca, Sant**	**0.65**	**292**	⇑*i*P		**Pn**	**05 22 01.2**	**+0.4**
BRRC				*e*S		**Sn**	**05 22 18.0**	**+0.1**
BRRC				IAML			05 22 21.3	
	comp=Z,612nm,0.3s							
TAMC	**Tame, Arauca**	**1.37**	**108**	⇑*i*P		**Pn**	**05 22 07.8**	**+1.0**
TAMC				IAML			05 22 28.6	
	comp=Z,206nm,0.3s							
TAMC				*e*S		**Sn**	**05 22 29.2**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	*e*P		**Pn**	**05 22 06.0**	**-0.9**
PTBC				*e*S		**Sn**	**05 22 26.9**	**-1.8**
PTBC				IAML			05 22 33.2	
	comp=Z,355nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*e*P		**Pn**	**05 22 11.8**	**0.0**
ZARC				*e*S		**Sn**	**05 22 37.6**	**-0.1**
ZARC				IAML			05 22 43.1	
	comp=Z,491nm,0.4s							
NORC	**Norcasia**	**2.18**	**234**	*e*P		**Pn**	**05 22 15.7**	**0.0**
NORC				*e*S		**Sn**	**05 22 44.0**	**-0.6**
NORC				IAML			05 22 45.2	
	comp=Z,232nm,0.4s							
CHIC	**Chingaza**	**2.30**	**196**	*e*P		**Pn**	**05 22 17.7**	**+0.1**
CHIC				*e*S		**Sn**	**05 22 46.6**	**-1.2**
CHIC				IAML			05 22 52.4	
	comp=Z,183nm,0.3s							
ROSC	**El Rosal**	**2.34**	**211**	P		**Pn**	**05 22 19.6**	**+1.5**
	comp=Z,115nm,0.3s,baz=318,slow=3.7,SNR=123							
ROSC				S		**Sn**	**05 22 49.2**	**+0.6**
	comp=Z,488nm,0.4s,baz=41,slow=22,SNR=13							
ROSC	**El Rosal**	**2.34**	**211**	*e*P		**Pn**	**05 22 19.2**	**+1.1**
ROSC				*e*S		**Sn**	**05 22 49.7**	**+1.1**
ROSC				IAML			05 22 54.2	
	comp=Z,524nm,0.5s							
UREC	**San Jos de Ur**	**2.57**	**290**	*e*P		**Pn**	**05 22 20.3**	**-0.1**
UREC				*e*S		**Sn**	**05 22 50.4**	**-2.5**
UREC				IAML			05 22 55.4	
	comp=Z,164nm,0.1s							
LL1C	**La Loma 1 Cana**	**2.70**	**351**	*e*P		**Pn**	**05 22 25.8**	**+3.7**
LL1C				*e*S		**Sn**	**05 22 60.0**	**+4.0**
LL1C				IAML			05 23 04.4	
	comp=Z,471nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.81**	**160**	⇑*i*P		**Pn**	**05 22 22.7**	**-0.8**
PTGC				*e*S		**Sn**	**05 22 56.1**	**-2.3**
PTGC				IAML			05 22 58.8	
	comp=Z,188nm,0.5s							
CBOC	**Ciudad Bolivar**	**3.05**	**251**	*e*P		**Pn**	**05 22 27.1**	**+0.5**
CBOC				*e*S		**Sn**	**05 23 03.8**	**-0.2**
CBOC				IAML			05 23 14.6	
	comp=Z,72nm,0.4s							
DBBC	**Dabeiba**	**3.09**	**273**	*e*P		**Pn**	**05 22 27.9**	**+1.0**
DBBC				*e*S		**Sn**	**05 23 03.0**	**-1.6**
SDV	**Santo Domingo**	**3.17**	**50**	P		**Pn**	**05 22 29.0**	**+0.9**
	comp=Z,73nm,0.3s,baz=152,slow=1.7,SNR=63							
SDV				S		**Sn**	**05 23 06.5**	**-0.1**
	comp=Z,110nm,0.4s,baz=255,slow=22,SNR=40							
ARGC	**Ariguani, Magd**	**3.19**	**339**

PDAR	**Pinedale Array**	**48.06**	**324**	P		**P**	**05 30 03.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=142,slow=8.9,SNR=2.4							
	comp=Z,0.2nm,0.6s							
SCHQ	**Schefferville**	**48.10**	**5**	P		**P**	**05 30 03.4**	**+1.0**
	comp=E,1.8nm,0.5s,baz=208,slow=8.6,SNR=5.1							
	comp=Z,1.8nm,0.5s							
NVAR	**Mina Array Bea**	**51.47**	**315**	P		**P**	**05 30 29.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=126,slow=6.8,SNR=3.9							
	comp=Z,0.3nm,0.6s							
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**	**05 31 50.1**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=137,slow=6.4,SNR=5.6							
	comp=Z,1.2nm,0.7s							
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**	**05 41 08.2**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=114,slow=4.2,SNR=5.6							
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc		**PKPbc**	**05 41 11.5**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=108,slow=2.7,SNR=22							

IDC 13 05:23:48.5±1.4, 25.81N×96.13E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=71.0km s-min=22.2km az=62.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**23.42**	**18**	P	P	05 28 59.3	-0.1
	2.5nm,0.5s,baz=188,slow=8.7,SNR=3.2						
	2.5nm,0.5s						
MKAR	**Makanchi Array**	**23.65**	**336**	P	P	05 29 00.5	-1.0
	0.1nm,0.4s,baz=145,slow=9.5,SNR=1.7						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**58.16**	**328**	P	P	05 33 44.5	+0.7
	1.9nm,0.9s,baz=116,slow=6.5,SNR=5.3						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**58.70**	**137**	P	P	05 33 49.3	+1.1
	0.3nm,0.5s,baz=312,slow=7.4,SNR=8.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**61.29**	**140**	P	P	05 34 04.4	-1.6
	0.3nm,0.5s,baz=314,slow=7.2,SNR=5.0						
	0.3nm,0.5s						

NNC ***13*** *05:48:54.5±0.2, 43.12N×75.25E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=2.2km s-min=1.3km az=6.0*
KRNET ***13*** *05:48:54.7±0.1, 43.10N×75.24E, h17km, mb2.5*
KNET ***13*** *05:48:54.8±0.7, 43.06N×75.24E, h18km±3km, ml1.4, Error ellipse: s-maj=5.7km s-min=2.8km az=5.0*
SOME ***13*** *05:48:55.1, 43.10N×75.23E, h15km*
ISC 13 05:48:54.7±0.8, 43.09N±0.02×75.24E±0.01, h17km±7km, n60, σ0.64/111, 15C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.31**	**122**	⇓P	**Pg**	**05 49 01.1**	**-0.4**
	12nm,0.1s,SNR=104						
TKM2				⇑S	**Sg**	**05 49 05.4**	**-0.7**
	67nm,0.1s						
TKM2	**Tokmak 2**	**0.31**	**122**	⇓*i*P	**Pg**	**05 49 00.9**	**-0.6**
	baz=24						
TKM2				⇓*i*S	**Sg**	**05 49 05.8**	**-0.3**
	baz=24						
TKM2	**Tokmak 2**	**0.31**	**122**	⇑P	**Pg**	**05 49 01.1**	**-0.4**
	1.1nm,0.1s						
TKM2				⇓S	**Sg**	**05 49 05.5**	**-0.7**
	37nm,0.3s						
CHMS	**Chumysh**	**0.37**	**256**	⇑P	**Pg**	**05 49 02.3**	**0.0**
	25nm,0.2s,SNR=18						
CHMS				⇑S	**Sg**	**05 49 07.7**	**+0.3**
	47nm,0.1s						
CHMS	**Chumysh**	**0.37**	**256**	⇓*i*P	**Pg**	**05 49 02.1**	**-0.2**
	baz=54						
CHMS				⇓*i*S	**Sg**	**05 49 07.5**	**+0.1**
	baz=54						
CHMS	**Chumysh**	**0.37**	**256**	⇓P	**Pg**	**05 49 02.2**	**0.0**
	4.8nm,0.2s						
CHMS				⇓S	**Sg**	**05 49 07.6**	**+0.1**
	11nm,0.2s						
DGS	**Degeres**	**0.42**	**68**	*e*P	**Pg**	**05 49 03.2**	**-0.1**
	baz=70						
DGS				*e*S	**Sg**	**05 49 08.9**	**-0.3**
	baz=70						
DGS	**Degeres**	**0.42**	**68**	*e*P	**Pg**	**05 49 03.2**	**-0.1**
	10nm,0.1s						
DGS				*e*S	**Sg**	**05 49 08.9**	**-0.3**
	18nm,0.1s						
DGS	**Degeres**	**0.42**	**68**	P	**Pg**	**05 49 03.2**	**-0.1**
	10nm,0.1s						
DGS				S	**Sg**	**05 49 08.9**	**-0.3**
	18nm,0.1s						
KBK	**Karagaybulak**	**0.48**	**206**	⇓P	**Pb**	**05 49 04.9**	**+0.1**
	15nm,0.1s,SNR=6.0						
KBK				⇓S	**Sb**	**05 49 12.0**	**+0.4**
	75nm,0.2s						
KBK	**Karagaybulak**	**0.48**	**206**	⇓*i*P	**Pg**	**05 49 04.3**	**-0.1**
	baz=6.0						
KBK				⇓*i*S	**Sg**	**05 49 11.5**	**+0.6**
	baz=6.0						
KST	**Kastek**	**0.54**	**95**	*e*P	**Pg**	**05 49 05.2**	**-0.2**
	baz=96						
KST				*e*S	**Sg**	**05 49 12.7**	**+0.1**
	baz=96						
KST	**Kastek**	**0.54**	**95**	*e*P	**Pg**	**05 49 05.2**	**-0.2**
	5.5nm,0.1s						
KST				*e*S	**Sg**	**05 49 12.7**	**+0.1**
	24nm,0.2s						
KST	**Kastek**	**0.54**	**95**	P	**Pg**	**05 49 05.2**	**-0.2**
	5.5nm,0.1s						
KST				S	**Sg**	**05 49 12.7**	**+0.1**
	24nm,0.2s						
SGDS	**Sogindy**	**0.57**	**310**	*e*P	**Pg**	**05 49 05.5**	**-0.6**
	6.3nm,0.1s						
SGDS				*e*S	**Sg**	**05 49 13.1**	**-0.6**
	27nm,0.1s						
SGDS	**Sogindy**	**0.57**	**310**	P	**Pg**	**05 49 05.5**	**-0.6**
	6.3nm,0.1s						
SGDS				S	**Sg**	**05 49 13.1**	**-0.6**
	27nm,0.1s						
KRBS	**Karabastau**	**0.69**	**28**	*e*P	**Pg**	**05 49 07.8**	**-0.4**
	baz=28						
KRBS				*e*S	**Sg**	**05 49 16.6**	**-0.7**
	baz=28						
KRBS	**Karabastau**	**0.69**	**28**	*e*P	**Pg**	**05 49 07.8**	**-0.4**
	8.2nm,0.1s						
KRBS				*e*S	**Sg**	**05 49 16.6**	**-0.7**
	55nm,0.1s						
KRBS	**Karabastau**	**0.69**	**28**	P	**Pg**	**05 49 07.8**	**-0.4**
	8.2nm,0.1s						
KRBS				S	**Sg**	**05 49 16.6**	**-0.7**
	55nm,0.1s						
AAK	**Ala-Archa**	**0.71**	**231**	⇑P	**Pg**	**05 49 08.5**	**0.0**
	1.6nm,0.1s,SNR=5.0						
AAK				⇑S	**Sb**	**05 49 18.5**	**+0.3**
	11nm,0.2s						
AAK	**Ala-Archa**	**0.71**	**231**	⇑*i*P	**Pg**	**05 49 08.3**	**-0.3**
	baz=30						
AAK				⇑*i*S	**Sb**	**05 49 18.4**	**+0.3**
	baz=30						
BOOM	**Boomskoye usch**	**0.79**	**139**	⇑*i*P	**Pb**	**05 49 09.5**	**-0.6**
	baz=39						
BOOM				⇑*i*S	**Sb**	**05 49 20.3**	**-0.3**
	baz=39						
MTBS	**Maitube**	**0.88**	**87**	*e*P	**Pb**	**05 49 11.2**	**-0.3**
	baz=88						
MTBS				*e*S	**Sb**	**05 49 22.9**	**-0.1**
	baz=88						
MTBS	**Maitube**	**0.88**	**87**	*e*P	**Pb**	**05 49 11.2**	**-0.3**
	2.0nm,0.2s						
MTBS				*e*S	**Sb**	**05 49 22.8**	**-0.1**
	8.6nm,0.2s						
MTBS	**Maitube**	**0.88**	**87**	P	**Pb**	**05 49 11.2**	**-0.3**
	2.0nm,0.2s						
MTBS				S	**Sb**	**05 49 22.8**	**-0.1**
	8.6nm,0.2s						
IZV	**Izvestkoviy**	**1.01**	**92**	*e*P	**Pb**	**05 49 13.7**	**-0.1**
	baz=93						
IZV				*e*S	**Sg**	**05 49 27.4**	**-0.2**
	baz=93						
IZV	**Izvestkoviy**	**1.01**	**92**	*e*P	**Pb**	**05 49 13.7**	**-0.1**
	1.7nm,0.1s						
IZV				*e*S	**Sg**	**05 49 27.4**	**-0.2**
	13nm,0.2s						
IZV	**Izvestkoviy**	**1.01**	**92**	P	**Pb**	**05 49 13.7**	**-0.1**
	1.7nm,0.1s						
IZV				S	**Sg**	**05 49 27.4**	**-0.2**
	13nm,0.2s						
UCH	**Uchtor**	**1.01**	**212**	⇑P	**Pb**	**05 49 14.2**	**+0.1**
	2.0nm,0.1s,SNR=7.0						
UCH				⇑S	**Sb**	**05 49 27.8**	**+0.6**
	6.6nm,0.2s						
UCH	**Uchtor**	**1.01**	**212**	⇓*i*P	**Pb**	**05 49 13.8**	**-0.2**
	baz=12						
UCH				⇓*i*S	**Sb**	**05 49 27.8**	**+0.6**
	baz=12						
KUU	**Kurty**	**1.14**	**45**	*e*P	**Pn**	**05 49 15.7**	**-0.1**
	baz=45						
KUU				*e*S	**Sb**	**05 49 30.2**	**-0.2**
	baz=45						
KUU	**Kurty**	**1.14**	**45**	*e*P	**Pn**	**05 49 15.7**	**-0.1**
	1.2nm,0.2s						
KUU				*e*S	**Sb**	**05 49 30.2**	**-0.2**
	6.3nm,0.2s						
KUU	**Kurty**	**1.14**	**45**	P	**Pn**	**05 49 15.7**	**-0.1**
	1.2nm,0.2s						
KUU				S	**Sb**	**05 49 30.2**	**-0.2**
	6.3nm,0.2s						
EKS2	**Erkin-Say**	**1.15**	**249**	⇓P	**Pb**	**05 49 16.6**	**+0.4**
	2.1nm,0.1s,SNR=6.9						
TNSS	**Tian-Shan**	**1.25**	**92**	*e*P	**Pb**	**05 49 18.2**	**+0.1**
	baz=92						
TNSS				*e*S	**Sg**	**05 49 35.0**	**-0.4**
	baz=92						
TNSS	**Tian-Shan**	**1.25**	**92**	*e*P	**Pb**	**05 49 18.2**	**+0.1**
	2.7nm,0.2s						
TNSS				*e*S	**Sg**	**05 49 35.0**	**-0.4**
	5.0nm,0.3s						
TNSS	**Tian-Shan**	**1.25**	**92**	P	**Pb**	**05 49 18.2**	**+0.1**
	2.7nm,0.2s						
TNSS				S	**Sg**	**05 49 35.0**	**-0.4**
	5.0nm,0.3s						
MDOK	**Medeo**	**1.33**	**86**	*e*P	**Pb**	**05 49 19.2**	**-0.1**
	baz=87						
MDOK				*e*S	**Sb**	**05 49 36.8**	**+0.7**
	baz=87						
MDOK	**Medeo**	**1.33**	**86**	*e*P	**Pb**	**05 49 19.2**	**-0.1**
	2.6nm,0.2s						
MDOK				*e*S	**Sb**	**05 49 36.8**	**+0.7**
	6.2nm,0.2s						
MDOK	**Medeo**	**1.33**	**86**	Pg	**Pb**	**05 49 19.2**	**-0.1**
	2.6nm,0.2s						
MDOK				Lg	Lg	05 49 36.8	
	6.2nm,0.2s						
KOTS	**Kotyrbulak**	**1.38**	**83**	*e*P	**Pb**	**05 49 20.5**	**+0.4**
	baz=84						
KOTS				*e*S	**Sg**	**05 49 39.0**	**-0.3**
	baz=84						
KOTS	**Kotyrbulak**	**1.38**	**83**	*e*P	**Pb**	**05 49 20.5**	**+0.4**
	1.7nm,0.2s						
KOTS				*e*S	**Sg**	**05 49 39.1**	**-0.3**
	5.4nm,0.3s						
KOTS	**Kotyrbulak**	**1.38**	**83**	P	**Pb**	**05 49 20.5**	**+0.4**
	1.7nm,0.2s						
KOTS				S	**Sg**	**05 49 39.1**	**-0.3**
	5.4nm,0.3s						
ARLS	**Aral**	**1.40**	**209**	⇑*i*P	**Pb**	**05 49 20.6**	**+0.1**
	baz=9.0						
ARLS				⇑*i*S	**Sg**	**05 49 39.6**	**-0.3**
	baz=9.0						
AML	**Almayashu**	**1.49**	**230**	⇓P	**Pb**	**05 49 22.5**	**+0.4**
	0.8nm,0.1s						
AML				⇓S	**Sg**	**05 49 42.6**	**-0.2**
	3.4nm,0.3s						
CHKK	**Chushkaly**	**1.49**	**58**	*e*P	**Pb**	**05 49 22.5**	**+0.6**
	baz=59						
CHKK				*e*S	**Sg**	**05 49 42.0**	**-0.7**
	baz=59						
CHKK	**Chushkaly**	**1.49**	**58**	*e*P	**Pb**	**05 49 22.5**	**+0.6**
	1.6nm,0.0s						
CHKK				*e*S	**Sg**	**05 49 42.0**	**-0.7**
	16nm,0.2s						
CHKK	**Chushkaly**	**1.49**	**58**	P	**Pb**	**05 49 22.5**	**+0.6**
CHKK				S	**Sg**	**05 49 42.0**	**-0.7**
BTLS	**Baital**	**2.13**	**337**	*e*P	**Pb**	**05 49 33.6**	**+0.7**
	2.2nm,0.2s						
BTLS				*e*S	**Sb**	**05 50 00.8**	**+1.7**
	2.2nm,0.2s						
BTLS	**Baital**	**2.13**	**337**	Pg	**Pb**	**05 49 33.6**	**+0.7**
	2.2nm,0.2s						
BTLS				Lg	Lg	05 50 00.8	
	2.2nm,0.2s						
SATY	**Saty**	**2.32**	**90**	*e*P	**Pb**	**05 49 37.2**	**+1.0**
	1.6nm,0.1s						
SATY				*e*S	**Sg**	**05 50 07.8**	**-1.5**
	7.0nm,0.1s						
SATY	**Saty**	**2.32**	**90**	Pg	**Pb**	**05 49 37.2**	**+1.0**
	1.6nm,0.1s						
SATY				Lg	Lg	05 50 07.8	
	7.0nm,0.1s						
KPKS	**Kokpek**	**2.55**	**80**	*e*P	**Pb**	**05 49 40.3**	**+0.3**
	1.6nm,0.2s						
KPKS				*e*S	**Sb**	**05 50 12.6**	**+1.5**
	4.0nm,0.5s						
KPKS	**Kokpek**	**2.55**	**80**	Pg	**Pb**	**05 49 40.3**	**+0.3**
	1.6nm,0.2s						
KPKS				Lg	Lg	05 50 12.6	
	4.0nm,0.5s						
BLB	**Baldybastay**	**2.56**	**66**	*e*P	**Pb**	**05 49 41.1**	**+0.8**
	2.2nm,0.3s						
BLB				*e*S	**Sb**	**05 50 13.4**	**+1.9**
	3.0nm,0.2s						
BLB	**Baldybastay**	**2.56**	**66**	Pg	**Pb**	**05 49 41.1**	**+0.8**
	2.2nm,0.3s						
BLB				Lg	Lg	05 50 13.4	
	3.0nm,0.2s						
UZB	**Uzynbulak**	**2.77**	**87**	*e*P	**Pb**	**05 49 44.2**	**+0.3**
	0.8nm,0.2s						
UZB				*e*S	**Sb**	**05 50 19.4**	**+1.8**
	2.2nm,0.3s						
UZB	**Uzynbulak**	**2.77**	**87**	Pg	**Pb**	**05 49 44.2**	**+0.3**
	0.8nm,0.2s						
UZB				Lg	Lg	05 50 19.4	
	2.2nm,0.3s						
PDGK	**Podgornoye**	**3.12**	**84**	Pg	**Pb**	**05 49 52.1**	**+2.3**
	0.4nm,0.3s						
PDGK				Lg	Lg	05 50 32.8	
	0.7nm,0.6s						
KK31	**Karatay Array**	**3.46**	**272**	Pg	**Pg**	**05 49 58.6**	**-2.3**
	0.5nm,0.5s,baz=90,slow=12,SNR=9.0						
KK31				⇑Lg	Lg	05 50 41.8	
	0.3nm,0.3s,baz=82,slow=30,SNR=6.4						

IDC ***13*** *05:53:47.9±3.4, 1.00N×121.87E, h0km, mb3.8/3, mbtmp3.8/3, MS3.6/5, Error ellipse: s-maj=206.7km s-min=60.9km az=61.0*
DJA ***13*** *05:54:18.3±0.6, 0.7N±4.4×12.2E±, h202km±4km, M3.5/6, mB4.8/1, MLv3.5/6, Mw(mB)4.0/1*
ISC 13 05:54:16.3±1.2, 0.3N±0.1×121.97E±0.10, h217km±7km, n15, σ1.05/15, mb3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.18**	**350**	P	**Pn**	**05 54 45.0**	**+0.3**
MRSI				S	**Sb**	**05 55 05.8**	**-1.2**
GTOI	**Gorontalo**	**1.09**	**72**	P	**Pn**	**05 54 49.1**	**+0.6**
GTOI				S	**S**	**05 55 13.4**	**0.0**
APSI	**Ampana**	**1.24**	**195**	P	**Pn**	**05 54 50.5**	**+0.9**
APSI				S	**S**	**05 55 15.4**	**0.0**
LUWI	**Luwuk**	**1.55**	**149**	P	**Pn**	**05 54 52.4**	**+0.4**
LUWI				S	**S**	**05 55 18.1**	**-1.6**
MPSI	**Mapaga**	**2.08**	**271**	P	**Pn**	**05 54 58.0**	**+1.1**
LBMI	**Labuha**	**5.61**	**100**	P	**Pn**	**05 55 38.8**	**-0.1**
KRAI	**Karang Ratu**	**7.35**	**119**	P	**Pn**	**05 56 03.4**	**+2.1**
WRA	**Warramunga Arr**	**23.48**	**150**	P	**P**	**05 59 06.0**	**-0.8**
	1.6nm,0.6s,baz=326,slow=11,SNR=38						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**26.49**	**155**	P	**P**	**05 59 33.3**	**-0.6**
	0.8nm,0.6s,baz=343,slow=14,SNR=26						
ASAR				PcP	**PcP**	**06 02 52.9**	**-0.2**
	0.2nm,0.3s,baz=345,slow=2.3,SNR=4.5						
	0.8nm,0.6s						
STKA	**Stephens Creek**	**37.00**	**152**	P	**P**	**06 01 05.6**	**+0.3**
	1.2nm,0.6s,baz=333,slow=6.8,SNR=3.2						
	1.2nm,0.6s						
KSRS	**Korea Array**	**37.38**	**8**	LR	LR	06 16 18.8	
	comp=Z,14nm,20.4s,baz=150,slow=37						
GNI	**Garni**	**80.06**	**311**	LR	LR	06 47 13.5	
	comp=Z,87nm,20.5s,baz=211,slow=40						
KBZ	**Khabaz**	**81.90**	**314**	LR	LR	06 48 08.6	
	comp=Z,30nm,19.2s,baz=104,slow=40						
AKASG	**Malin Array Be**	**91.52**	**321**	LR	LR	06 53 22.8	
	comp=Z,63nm,20.2s,baz=62,slow=39						
FINES	**FINESS Array B**	**92.57**	**331**	LR	LR	06 51 20.8	
	comp=Z,55nm,18.1s,baz=292,slow=38						

IDC ***13*** *06:36:28.6±1.6, 9.82N×125.78E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=249.7km s-min=27.3km az=72.0*
MAN ***13*** *06:36:36.2, 9.72N×126.11E, h10km, mb4.3, ML3.1, MS2.8*
ISC 13 06:36:32.4±2.4, 9.75N±0.10×126.34E±0.09, h11km±14km, n14, σ1.81/14, mb3.8/4, 1C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.84**	**272**	⇓*i*P	**Pg**	**06 36 48.6**	**-0.1**
SCPH				*i* S	**Sn**	**06 37 00.9**	**-1.7**
BIPH	**Bislig**	**1.56**	**179**	⇑*i*P	**Pn**	**06 36 59.6**	**-0.5**
BIPH				*i* S	**Sn**	**06 37 18.8**	**-1.5**
CGP	**Cagayan de Oro**	**2.08**	**232**	⇓*e*P	**Pn**	**06 37 07.6**	**+0.4**
CGP				*e*S	**Sn**	**06 37 33.0**	**-0.1**
TBP	**Tagbilaran**	**2.45**	**269**	⇓*e*P	**Pn**	**06 37 13.1**	**+0.7**
TBP				*i* S	**Sb**	**06 37 44.7**	**-2.0**
KCP	**Kidapawan**	**2.99**	**205**	⇓*e*P	**Pn**	**06 37 21.9**	**+2.0**
KCP				*i* S	**Sn**	**06 37 59.5**	**+3.6**
DCPH	**Dipolog City**	**3.17**	**249**	⇓*e*P	**Pn**	**06 37 23.5**	**+1.1**
RCP	**Roxas**	**3.97**	**297**	⇓*e*P	**Pn**	**06 37 35.3**	**+2.0**
WRA	**Warramunga Arr**	**30.54**	**165**	P	**P**	**06 42 45.6**	**-0.5**
	0.2nm,0.7s,baz=344,slow=8.5,SNR=5.2						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**34.03**	**168**	P	**P**	**06 43 16.4**	**-0.3**
	0.1nm,0.4s,baz=350,slow=6.6,SNR=2.0						
	0.1nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**40.35**	**71**	T	T	07 27 23.8	
	baz=262,slow=75,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**40.36**	**71**	T	T	07 27 24.1	
	baz=262,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**40.37**	**71**	T	T	07 27 28.0	
	baz=262,slow=75,SNR=6.1						
ARCES	**ARCESS Array B**	**84.70**	**340**	P	P	06 49 02.8	-3.4
	7.2nm,1.2s,baz=70,slow=5.3,SNR=3.8						
	7.2nm,1.2s						
FINES	**FINESS Array B**	**86.38**	**332**	P	P	06 49 11.1	-3.6
	2.8nm,1.0s,baz=70,slow=4.5,SNR=7.0						
	2.8nm,1.0s						

IDC ***13*** *06:41:26.6±2.5, 34.39N×26.59E, h0km, mb3.7/7, mbtmp3.6/9, ML3.5/2, MS2.9/1, Error ellipse: s-maj=48.7km s-min=14.8km az=15.0*
ISK ***13*** *06:41:28.3, 34.56N×26.43E, h12km, ML3.3/10*
THE ***13*** *06:41:31.9, 34.71N×26.49E, h4km±1km, ML3.1/5, Error ellipse: s-maj=2.3km s-min=1.1km az=355.0*
ATH ***13*** *06:41:33.1, 34.79N×26.47E, h6km±4km, ML3.3/5, Error ellipse: s-maj=5.9km s-min=1.8km az=354.0*
ISC 13 06:41:29.9±1.9, 34.65N±0.07×26.50E±0.03, h7km±10km, n44, σ1.09/54, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.52**	**334**	PG	**Pg**	**06 41 40.5**	**+0.6**
ZKR				SG	**Sb**	**06 41 48.5**	**-0.5**
ZKR	**Zakros**	**0.52**	**334**	P	**Pg**	**06 41 40.8**	**+0.9**
ZKR				S	**Sb**	**06 41 48.3**	**-0.7**
	4μm,0.2s						
ZKR	**Zakros**	**0.52**	**334**	P	**Pg**	**06 41 40.7**	**+0.7**
ZKR				S	**Sg**	**06 41 45.9**	**-0.8**
ZKR				AML	AML	06 41 49.9	
	comp=E,10689μm,0.2s						
ZKR				AML	AML	06 41 50.4	
	comp=N,5766μm,0.3s						
STIA	**Sitia Lasithi**	**0.64**	**329**	P	**Pg**	**06 41 43.0**	**+0.7**
STIA				S	**Sb**	**06 41 52.9**	**+0.3**
STIA	**Sitia Lasithi**	**0.64**	**329**	P	**Pg**	**06 41 42.8**	**+0.4**
STIA				S	**Sg**	**06 41 49.9**	**-0.8**
STIA				AML	AML	06 41 58.7	
	comp=E,6024μm,0.4s						
STIA				AML	AML	06 42 00.5	
	comp=N,9684μm,0.6s						
FRMA	**Ierapetra Chan**	**0.73**	**300**	P	**Pg**	**06 41 43.8**	**-0.1**
FRMA				S	**Sg**	**06 41 53.6**	**+0.2**
	comp=N,2μm,0.3s						
FRMA	**Ierapetra Chan**	**0.73**	**300**	P	**Pg**	**06 41 43.6**	**-0.2**
FRMA				S	**Sg**	**06 41 50.7**	**-2.7**
FRMA				AML	AML	06 41 54.4	
	comp=N,11537μm,0.2s						
FRMA				AML	AML	06 41 56.4	
	comp=E,8405μm,0.4s						
KARP	**Karpathos**	**1.05**	**31**	PN	**Pg**	**06 41 50.7**	**+0.7**
KARP				SN	**Sn**	**06 42 07.5**	**+1.6**
KARP	**Karpathos**	**1.05**	**31**	P	**Pg**	**06 41 50.5**	**+0.5**
KARP				S	**Sb**	**06 42 05.8**	**+1.5**
	comp=E,1μm,0.7s						
KARP	**Karpathos**	**1.05**	**31**	P	**Pg**	**06 41 50.4**	**+0.4**
HRKL	**Herakleio**	**1.32**	**300**	P	**Pn**	**06 41 55.5**	**+0.7**
HRKL				S	**Sb**	**06 42 12.6**	**+0.4**
	comp=E,1μm,0.7s						
HRKL	**Herakleio**	**1.32**	**300**	P	**Pn**	**06 41 55.1**	**+0.3**
HRKL				AML	AML	06 42 29.2	
	comp=E,8429μm,0.7s						
HRKL				AML	AML	06 42 35.2	
	comp=N,11948μm,0.9s						
KSTL	**Kastelli Herak**	**1.34**	**299**	P	Pn	06 41 51.5	-3.5
SIVA	**Sivas**	**1.44**	**285**	P	**Pn**	**06 41 57.9**	**+1.5**
IDI	**Anoyia**	**1.47**	**296**	Pg	**Pn**	**06 41 58.4**	**+1.6**
	comp=N,7.2nm,0.3s,baz=121,slow=17,SNR=29						
IDI				Lg	Lg	06 42 19.5	
	comp=N,27nm,0.3s,baz=118,slow=13,SNR=9.7						
IDI	**Anoyia**	**1.47**	**296**	P	**Pn**	**06 41 57.7**	**+0.9**
IDI				S	**Sb**	**06 42 16.2**	**-0.2**
	comp=N,388nm,0.7s						
IDI	**Anoyia**	**1.47**	**296**	P	**Pn**	**06 41 57.4**	**+0.6**
IDI				AML	AML	06 42 25.5	
	comp=E,466μm,0.6s						
IDI				AML	AML	06 42 30.4	
	comp=N,940μm,0.8s						
GVD	**Gavdhos**	**1.99**	**276**	P	**Pn**	**06 42 07.0**	**+3.0**
NIS1	**Nisyros Isl.**	**2.02**	**16**	PN	**Pn**	**06 42 04.8**	**+0.4**
ARG	**Arkhangelos**	**2.05**	**40**	PN	**Pn**	**06 42 05.0**	**+0.3**
ARG	**Arkhangelos**	**2.05**	**40**	P	**Pn**	**06 42 05.1**	**+0.3**
ARG	**Arkhangelos**	**2.05**	**40**	P	**Pn**	**06 42 06.9**	**+2.2**
KOSK	**Kos Island**	**2.13**	**10**	PN	**Pn**	**06 42 06.4**	**+0.5**
IMMV	**Iera Moni Meta**	**2.22**	**292**	P	**Pn**	**06 42 09.4**	**+2.3**
DAT	**Datca**	**2.25**	**23**	PN	**Pn**	**06 42 08.1**	**+0.4**
TURN	**Turunc**	**2.55**	**33**	PN	**Pn**	**06 42 12.3**	**+0.6**
DALY	**Dalyan (Mula)**	**2.78**	**38**	PN	**Pn**	**06 42 15.6**	**+0.8**
YER	**Yerkesik**	**2.87**	**30**	PN	**Pn**	**06 42 17.0**	**+0.9**
FETY	**Fethiye**	**2.89**	**46**	PN	**Pn**	**06 42 16.8**	**+0.4**
AKAS	**Kas**	**2.99**	**57**	PN	**Pn**	**06 42 18.1**	**+0.3**
CAME	**Cameli-Denizli**	**3.23**	**44**	PN	**

WEL ***13*** *06:50:39.9±0.8, 32°S±14″×17°9E±3′7, h232km±33km, M4.5/12, mB4.6/6, MLv5.0/12, Mw(mB)3.8/6, Error ellipse: s-maj=0.1km s-min=0.0km az=110.7*

ISC 13 06:50:35.0±0.6, 31°81S±0.07″×180°0E±0.1′, h350km, n59, σ1§91/75, mb4.1/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.11**	**36**	P	**Pn**	**06 51 34.9**	**-0.6**
GLKZ				S	**S**	**06 52 22.8**	**-1.3**
RAO	**Raoul Island**	**3.12**	**36**	P	**Pn**	**06 51 33.0**	**-2.5**
	184nm,0.3s,baz=87,slow=20,SNR=4.5						
RAO				S	**S**	**06 52 22.3**	**-2.0**
	417nm,0.2s,baz=94,slow=23,SNR=3.1						
RAO	**Raoul Island**	**3.12**	**36**	Pn	**Pn**	**06 51 33.3**	**-2.3**
RIZ	**Raoul Island**	**3.12**	**36**	P	**Pn**	**06 51 35.6**	**0.0**
MXZ	**Matakaoa Point**	**5.90**	**193**	Pn	**Pn**	**06 52 07.6**	**+3.1**
MXZ	**Matakaoa Point**	**5.90**	**193**	P	**Pn**	**06 52 06.6**	**+2.0**
MXZ				S	**S**	**06 53 15.3**	**-2.0**
WMGZ	**Waiomatatini S**	**6.13**	**192**	P	**Pn**	**06 52 10.5**	**+3.3**
WMGZ				S	**S**	**06 53 19.9**	**-2.2**
HAZ	**Te Kaha**	**6.20**	**196**	P	**Pn**	**06 52 10.1**	**+2.1**
HAZ				S	**S**	**06 53 21.6**	**-1.9**
PKGZ	**Pakihiroa**	**6.26**	**194**	P	**Pn**	**06 52 12.5**	**+3.8**
PKGZ				S	**S**	**06 53 22.6**	**-2.3**
PUZ	**Puketiti**	**6.41**	**192**	P	**Pn**	**06 52 11.8**	**+1.4**
PUZ				S	**S**	**06 53 25.3**	**-2.6**
RUGZ	**Raukumara Rang**	**6.43**	**197**	P	**Pn**	**06 52 13.0**	**+2.2**
RUGZ				S	**S**	**06 53 25.8**	**-2.7**
TWGZ	**Tauwhareparae**	**6.56**	**194**	S	**S**	**06 53 31.2**	**+0.1**
MWZ	**Matawai**	**6.81**	**197**	P	**Pn**	**06 52 17.2**	**+2.1**
MWZ				S	**S**	**06 53 34.4**	**-2.1**
TKGZ	**Te Karaka**	**6.84**	**194**	P	**Pn**	**06 52 16.5**	**+1.1**
TKGZ				S	**S**	**06 53 34.1**	**-2.9**
URZ	**Urewera**	**6.85**	**199**	P	**Pn**	**06 52 17.5**	**+1.9**
URZ				S	**S**	**06 53 33.3**	**-4.0**
RIGZ	**Rimuhau**	**7.12**	**194**	P	**Pn**	**06 52 20.0**	**+1.4**
RIGZ				S	**S**	**06 53 38.2**	**-4.8**
MTHZ	**Maungataniwha**	**7.48**	**199**	P	**Pn**	**06 52 23.7**	**+0.7**
NMHZ	**Naumai**	**7.72**	**199**	P	**Pn**	**06 52 27.8**	**+2.0**
ARHZ	**Aropaoanui**	**7.83**	**197**	P	**Pn**	**06 52 29.1**	**+2.1**
ARHZ				S	**S**	**06 53 54.5**	**-3.7**
BKZ	**Black Stump Fm**	**7.87**	**200**	Pn	**Pn**	**06 52 28.5**	**+1.0**
BKZ	**Black Stump Fm**	**7.87**	**200**	P	**Pn**	**06 52 28.6**	**+1.0**
BKZ				S	**S**	**06 53 55.2**	**-4.2**
MCHZ	**McNeill Hill**	**8.07**	**198**	P	**Pn**	**06 52 31.7**	**+1.8**
MCHZ				S	**S**	**06 54 00.1**	**-3.6**
OTVZ	**Oturere**	**8.14**	**204**	P	**Pn**	**06 52 33.0**	**+2.1**
OTVZ				S	**S**	**06 54 03.4**	**-1.9**
BFZ	**Birch Farm**	**9.35**	**198**	Pn	**Pn**	**06 52 44.9**	**-0.2**
ARMA	**Armidale**	**24.30**	**266**	P	**P**	**06 55 20.7**	**-1.5**
ARMA				IAmb	IAmb	06 55 32.7	
	comp=Z,11nm,1.1s						
CAN	**Canberra**	**26.01**	**254**	P	**P**	**06 55 37.4**	**0.0**
TOO	**Toolangi**	**28.84**	**249**	P	**P**	**06 56 02.5**	**+0.1**
TOO				IAmb	IAmb	06 56 10.5	
	comp=Z,11nm,1.1s						
CTA	**Charters Tower**	**32.38**	**283**	P	**P**	**06 56 34.2**	**+0.9**
	comp=Z,5.6nm,0.3s,baz=110,slow=9.7,SNR=18 comp=Z,5.6nm,0.3s						
CTAO	**Charters Tower**	**32.38**	**283**	P	**P**	**06 56 34.6**	**+1.2**
CTAO				IAmb	IAmb	06 56 35.0	
	comp=Z,9.3nm,0.8s						
STKA	**Stephens Creek**	**32.51**	**260**	P	**P**	**06 56 35.4**	**+1.0**
	comp=Z,4.5nm,0.4s,baz=97,slow=11,SNR=18 comp=Z,4.5nm,0.4s						
STKA	**Stephens Creek**	**32.51**	**260**	P	**P**	**06 56 35.7**	**+1.4**
BBOO	**Buckleboo**	**36.95**	**256**	P	**P**	**06 57 11.9**	**-0.1**
AS31	**Alice Springs**	**41.34**	**269**	P	**P**	**06 57 47.9**	**-0.2**
ASAR	**Alice Springs**	**41.34**	**269**	P	**P**	**06 57 47.9**	**-0.3**
	comp=Z,2.6nm,0.4s,baz=106,slow=7.1,SNR=65 comp=Z,2.6nm,0.4s						
ASAR	**Alice Springs**	**41.34**	**269**	P	**P**	**06 57 47.5**	**-0.6**
WR0	**Warramunga Arr**	**42.29**	**275**	P	**P**	**06 57 55.2**	**-0.5**
WB2	**Warramunga Arr**	**42.45**	**275**	P	**P**	**06 57 56.5**	**-0.5**
WB2				IAmb	IAmb	06 57 56.7	
	comp=Z,7.1nm,0.4s						
WRA	**Warramunga Arr**	**42.47**	**275**	P	**P**	**06 57 56.4**	**-0.8**
	comp=Z,3.3nm,0.3s,baz=112,slow=7.8,SNR=128 comp=Z,3.3nm,0.3s						
WRA	**Warramunga Arr**	**42.47**	**275**	P	**P**	**06 57 56.5**	**-0.6**
WB0	**Warramunga Arr**	**42.49**	**275**	P	**P**	**06 57 56.6**	**-0.8**
WB0				IAmb	IAmb	06 57 57.5	
	comp=Z,7.8nm,0.9s						
FORT	**Forrest**	**44.04**	**257**	P	**P**	**06 58 09.3**	**-0.1**
MTN	**Manton Dam**	**48.54**	**281**	P	**P**	**06 58 43.4**	**-0.9**
MTN				IAmb	IAmb	06 58 54.0	
	comp=Z,22nm,1.2s						
KNRA	**Kununurra**	**49.13**	**277**	P	**P**	**06 58 48.4**	**-0.2**
KNRA				IAmb	IAmb	06 58 52.5	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**58.30**	**180**	P	**P**	**06 59 56.3**	**+2.3**
	comp=Z,3.3nm,0.6s,baz=290,slow=0.6,SNR=29 comp=Z,3.3nm,0.6s						
QSPA	**South Pole Qui**	**58.30**	**180**	P	**P**	**06 59 56.3**	**+2.3**
QSPA				IAmb	IAmb	06 59 57.1	
	comp=Z,3.8nm,0.8s						
GIRL	**Giralia**	**58.42**	**261**	P	**P**	**06 59 56.4**	**+1.1**
TROLL	**Troll, Antarti**	**76.45**	**181**	P	**P**	**07 01 47.2**	**+0.7**
SNAA	**Sanae**	**76.79**	**179**	P	**P**	**07 01 49.0**	**+0.7**
SNAA	**Sanae**	**76.79**	**179**	P	**P**	**07 01 49.3**	**+1.0**
SNAA				IAmb	IAmb	07 01 52.5	
	comp=Z,8.0nm,1.5s						
VNA3	**Neumayer Olymp**	**77.01**	**177**	P	**P**	**07 01 50.3**	**+0.9**
VNA2	**Neumayer--Watz**	**77.42**	**178**	P	**P**	**07 01 52.9**	**+1.2**
	baz=182,slow=6.0						
NVAR	**Mina Array Bea**	**90.44**	**44**	P	**P**	**07 02 59.3**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=223,slow=7.4,SNR=3.8 comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**139.58**	**346**	PKP	**PKiKP**	**07 09 22.0**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=56,slow=2.3,SNR=5.3						
FINES	**FINESS Array B**	**145.84**	**338**	PKPbc	**PKPbc**	**07 09 32.2**	**-0.6**
	comp=Z,3.6nm,0.6s,baz=50,slow=4.7,SNR=29						
NB2	**NORSAR Subarra**	**149.85**	**349**	PKP	**PKiKP**	**07 09 43.2**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.85**	**349**	PKPbc	**PKiKP**	**07 09 43.3**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=16,slow=4.2,SNR=5.5						
AKASG	**Malin Array Be**	**151.32**	**320**	PKPbc	**PKPbc**	**07 09 46.4**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=68,slow=2.1,SNR=4.3						
BRTR	**Keskin Array B**	**151.71**	**296**	PKPbc	**PKPbc**	**07 09 48.0**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=154,slow=2.8,SNR=4.8						
DBIC	**Dimbokro**	**154.58**	**169**	PKPab	**PKPab**	**07 10 10.2**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=358,slow=1.6,SNR=3.5						

IDC 13 07:36:01.8±1.9, 6°26S×151°98E, h0km, mb3.4/3, mbtmp3.6/4, ML1.9/1, Error ellipse: s-maj=66.0km s-min=19.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.94**	**1**	P	Pb	07 36 37.2	-1.0
	31nm,0.3s,baz=229,slow=2.5,SNR=9.4						
KRVT				Sn	Sn	07 37 01.4	0.0
	48nm,0.3s,baz=37,slow=23,SNR=5.7						
PMG	**Port Moresby**	**5.70**	**237**	Pn	Pn	07 37 29.9	+2.1
	2.4nm,0.3s,baz=53,slow=8.5,SNR=7.3						
PMG				Sn	Sn	07 38 32.2	-1.9
	7.7nm,0.3s,baz=45,slow=11,SNR=6.5						
	8.9nm,0.4s						
WRA	**Warramunga Arr**	**21.87**	**230**	P	P	07 40 55.5	-1.0
	0.2nm,0.4s,baz=54,slow=10.0,SNR=2.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**24.52**	**223**	P	P	07 41 23.3	-0.1
	0.7nm,0.8s,baz=53,slow=9.1,SNR=7.3						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**83.82**	**22**	P	P	07 48 32.6	-0.3
	0.9nm,0.8s,baz=235,slow=5.3,SNR=9.1						
	0.9nm,0.8s						

NEIC ***13*** *07:36:24.8±1.9, 26°5N±0°2×140°9E±0°1, h491km±12km, mb4.2/22, Error ellipse: s-maj=29.6km s-min=14.4km az=166.0*

IDC ***13*** *07:36:24.2±0.5, 26°53N×140°80E, h484km±5km, mb3.3/18, mbtmp4.2/22, Error ellipse: s-maj=16.3km s-min=11.5km az=69.0*

MOS ***13*** *07:36:25.0±0.9, 26°60N×140°82E, h508km, mb4.2/20, Error ellipse: s-maj=18.8km s-min=7.4km az=119.2*

JMA ***13*** *07:36:27.2±0.2, 27°N±2°×14°1E±°, h489km, MV5.3/28, NEAR CHICHIJIMA ISLAND*

ISC 13 07:36:25.4±0.6, 26°61N±0°08×140°87E±0°10, h500km, n105, σ1§12/114, mb4.0/38, 4C-8D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.17**	**88**	P	**P**	**07 37 27.3**	**+0.2**
JHH2				S	**S**	**07 38 14.8**	**-2.4**
CBIJ	**Chichi jima**	**1.27**	**67**	P	**P**	**07 37 27.2**	**-0.2**
CBIJ				S	**S**	**07 38 14.4**	**-3.5**
JCJ	**Chichijima**	**1.27**	**67**	P	**P**	**07 37 26.9**	**-0.5**
	386nm,0.3s,baz=1.9,slow=22,SNR=147						
JCJ				S	**S**	**07 38 14.2**	**-3.6**
	256nm,0.3s,baz=260,slow=22,SNR=12						
JCJ	**Chichijima**	**1.27**	**67**	P	**P**	**07 37 27.4**	**0.0**
JCJ				S	**S**	**07 38 14.8**	**-3.1**
JHJ2	**Mitsune**	**6.55**	**352**	P	**P**	**07 38 06.0**	**-0.9**
JHJ	**Hachijo jima 2**	**6.56**	**352**	P	**P**	**07 38 05.5**	**-1.6**
	126nm,0.7s,baz=67,slow=22,SNR=2.4						
BSO1	**Boso 1**	**8.02**	**1**	P	**P**	**07 38 22.8**	**+1.6**
BSO3	**Boso 3**	**8.18**	**358**	P	**P**	**07 38 24.2**	**+1.1**
BSO4	**Boso 4**	**8.37**	**357**	P	**P**	**07 38 26.7**	**+1.4**
JIE	**Ise**	**8.55**	**336**	*e*P	**P**	**07 38 30.5**	**+3.2**
JKN2	**Miekihoku**	**8.58**	**334**	*e*P	**P**	**07 38 29.6**	**+2.0**
JOD2	**Odawara 2**	**8.77**	**350**	*e*P	**P**	**07 38 30.2**	**+0.6**
JHU	**Hanno**	**9.32**	**352**	*e*P	**P**	**07 38 35.6**	**+0.2**
INU	**Inuyama**	**9.32**	**340**	P	**P**	**07 38 36.1**	**+0.7**
JMN	**Monobe**	**9.32**	**321**	P	**P**	**07 38 35.6**	**0.0**
JRY	**Ryogami san**	**9.53**	**350**	P	**P**	**07 38 38.8**	**+1.2**
JAG	**Ashikaga**	**9.86**	**353**	P	**P**	**07 38 41.4**	**+0.2**
JAG				*e*S	**S**	**07 40 29.1**	**-3.7**
JHO	**Hitachi**	**9.98**	**359**	P	**P**	**07 38 43.4**	**+1.1**
JHO				*e*S	**S**	**07 40 33.6**	**-1.5**
MJAR	**Matsushiro Arr**	**10.16**	**348**	P	**P**	**07 38 45.0**	**+0.7**
	0.8nm,0.4s,baz=165,slow=10,SNR=3.1						
MAJO	**Matsushiro**	**10.16**	**348**		**P**	**07 38 46.1**	**+1.8**
MAJO	**Matsushiro**	**10.16**	**348**	P	**P**	**07 38 46.1**	**+1.8**
MJB9	**Matsu-Tunnel**	**10.17**	**348**		**P**	**07 38 46.0**	**+1.7**
JHS	**Saijyo**	**10.69**	**323**		**P**	**07 38 51.5**	**+1.5**
JMM	**Marumori**	**11.23**	**360**		**P**	**07 38 56.9**	**+1.4**
JOW	**Kunigami**	**11.27**	**274**	P	**P**	**07 38 55.8**	**-0.4**
	18nm,0.5s,baz=113,slow=19,SNR=7.7						
JOW	**Kunigami**	**11.27**	**274**		**P**	**07 38 56.1**	**-0.1**
KSRS	**Korea Array**	**15.40**	**318**	P	**P**	**07 39 38.2**	**-1.4**
	2.4nm,0.9s,baz=140,slow=9.2,SNR=4.0						
KS19	**Wonju Array Si**	**15.46**	**318**	P	**P**	**07 39 39.9**	**-0.3**
KLR	**Kul'dur**	**23.67**	**345**	P	**P**	**07 40 58.4**	**+1.6**
	1.6nm,0.5s,baz=184,slow=7.5,SNR=7.0						
	1.6nm,0.5s						
KLR	**Kul'dur**	**23.67**	**345**	*i*P	**P**	**07 40 55.2**	**-1.6**
ZEA	**Zeya**	**28.93**	**343**	*e*P	**P**	**07 41 44.1**	**+1.0**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ULN	**Ulaanbaatar**	**33.88**	**318**	P	**P**	**07 42 26.2**	**+0.3**
ULN				IAmb	IAmb	07 42 27.3	
	comp=Z,4.6nm,0.9s						
ULN	**Ulaanbaatar**	**33.88**	**318**	*i*P	**P**	**07 42 26.5**	**+0.6**
ULN				pmax	pmax		
	comp=Z,11nm,2.5s						
SONM	**Songino Array**	**34.27**	**317**	P	**P**	**07 42 29.8**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=133,slow=8.1,SNR=1.9 comp=Z,3.4nm,0.7s						
YAK	**Yakutsk**	**36.21**	**351**	*e*P	**P**	**07 42 42.8**	**-2.0**
ZAK	**Zakamensk**	**37.22**	**320**	*e*P	**P**	**07 42 53.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SHL	**Shillong**	**43.79**	**280**	P	**P**	**07 43 45.8**	**-0.8**
SHL				IAmb	IAmb	07 43 46.7	
	comp=Z,6.8nm,0.7s						
SHL	**Shillong**	**43.79**	**280**	P	**P**	**07 43 45.8**	**-0.8**
SHL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**46.70**	**188**	P	**P**	**07 44 07.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=6.6,slow=7.9,SNR=12						
WRA				PcP	**PcP**	**07 45 32.4**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=3.8,slow=4.0,SNR=7.1 comp=Z,0.5nm,0.6s						
DGZ	**Jazzator, Alta**	**46.76**	**314**	*i*P	**P**	**07 44 10.0**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ZAA0	**Zalesovo Array**	**49.09**	**320**	P	**P**	**07 44 25.9**	**-0.3**
ZAA0				IAmb	IAmb	07 44 26.6	
	comp=Z,5.3nm,0.5s						
ZALV	**Zalesovo Beam**	**49.09**	**320**	P	**P**	**07 44 26.2**	**+0.1**
	comp=Z,5.6nm,0.3s,baz=103,slow=7.8,SNR=16						
ZALV				PcP	**PcP**	**07 45 40.0**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=98,slow=3.7,SNR=4.1 comp=Z,5.6nm,0.3s						
ZALV	**Zalesovo Beam**	**49.09**	**320**	P	**P**	**07 44 26.0**	**-0.2**
MKAR	**Makanchi Array**	**49.88**	**310**	P	**P**	**07 44 32.5**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=80,slow=10.0,SNR=24						
MKAR				PcP	**PcP**	**07 45 43.4**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=68,slow=8.0,SNR=4.5 comp=Z,4.5nm,0.7s						
MKAR	**Makanchi Array**	**49.88**	**310**	P	**P**	**07 44 31.9**	**-0.3**
MKAR	**Makanchi Array**	**49.88**	**310**	*e*P	**P**	**07 44 32.5**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAKZ	**Makanchi**	**50.10**	**310**	P	**P**	**07 44 34.3**	**+0.5**
MAKZ				IAmb	IAmb	07 44 35.1	
	comp=Z,3.9nm,0.8s						
MAKZ	**Makanchi**	**50.10**	**310**	P	**P**	**07 44 34.3**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**50.43**	**188**	P	**P**	**07 44 36.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=22,slow=12,SNR=2.5 comp=Z,0.2nm,0.6s						
KURK	**Kurchatov**	**52.49**	**315**	P	**P**	**07 44 51.0**	**0.0**
KURK				IAmb	IAmb	07 44 52.0	
	comp=Z,7.8nm,0.8s						
KURK	**Kurchatov**	**52.49**	**315**	P	**P**	**07 44 51.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NRIK	**Noril'sk**	**52.68**	**339**	P	**P**	**07 44 52.6**	**+0.6**
	comp=Z,2.0nm,0.4s,baz=106,slow=10,SNR=6.3 comp=Z,2.0nm,0.4s						
NRIK	**Noril'sk**	**52.68**	**339**	P	**P**	**07 44 52.4**	**+0.3**
NRIK	**Noril'sk**	**52.68**	**339**	*de*P	**P**	**07 44 52.6**	**+0.6**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TARG	**Taragay, Kyrgy**	**53.21**	**304**	P	**P**	**07 44 57.6**	**+0.7**
TARG	**Taragay, Kyrgy**	**53.21**	**304**	P	**P**	**07 44 57.6**	**+0.7**
TARG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**55.57**	**305**	*i*P	**P**	**07 45 13.7**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVA0	**Borovoye Array**	**57.61**	**318**	P	**P**	**07 45 27.3**	**+0.4**
BRVK	**Borovoye**	**57.67**	**318**	P	**P**	**07 45 27.9**	**+0.7**
BRVK				IAmb	IAmb	07 45 28.5	
	comp=Z,6.9nm,0.8s						
BRVK	**Borovoye**	**57.67**	**318**	*d i*P	**P**	**07 45 27.5**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,13nm,1.7s						
MDM	**Murphy Dome**	**58.15**	**28**	P	**P**	**07 45 30.9**	**+0.6**
KK31	**Karatay Array**	**58.42**	**306**	P	**P**	**07 45 33.4**	**+0.8**
KK31				IAmb	IAmb	07 45 33.8	
	comp=Z,5.5nm,0.6s						
KK31	**Karatay Array**	**58.42**	**306**	P	**P**	**07 45 33.4**	**+0.8**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KKAR	**Karatay Array**	**58.42**	**306**	P	**P**	**07 45 33.2**	**+0.6**
KKAR	**Karatay Array**	**58.42**	**306**	P	**P**	**07 45 33.2**	**+0.6**
ILAR	**Eielson Array**	**58.70**	**29**	P	**P**	**07 45 34.8**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=256,slow=5.4,SNR=5.0 comp=Z,0.3nm,0.6s						
GAR	**Garm**	**59.24**	**301**	P	**P**	**07 45 38.7**	**+0.4**
GAR				IAmb	IAmb	07 45 38.9	
	comp=Z,6.6nm,0.5s						
SCRK	**Sand Creek**	**59.93**	**30**	P	**P**	**07 45 44.1**	**+1.6**
CHGR	**Chuyangaron**	**60.20**	**301**	P	**P**	**07 45 45.4**	**+0.7**
CHGR	**Chuyangaron**	**60.20**	**301**	P	**P**	**07 45 45.4**	**+0.7**
CHGR				pmax	pmax		
	comp=Z,18nm,0.7s						
INK	**Inuvik**	**63.96**	**24**	P	**P**	**07 46 09.1**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=269,slow=8.4,SNR=4.5 comp=Z,1.2nm,0.9s						
ARU	**Arti**	**64.09**	**322**	P	**P**	**07 46 10.0**	**+0.5**
ARU				IAmb	IAmb	07 46 10.4	
	comp=Z,6.3nm,0.7s						
ARU	**Arti**	**64.09**	**322**	*d i*P	**P**	**07 46 09.0**	**-0.5**
ARU						07 46 36.2	
ARU						07 48 33.8	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AB31	**Akbulak array**	**64.60**	**314**	P	**P**	**07 46 12.8**	**-0.1**
ABKAR	**Akbulak array**	**64.60**	**314**	P	**P**	**07 46 13.1**	**+0.2**
KIRV	**Kirov**	**68.44**	**326**	*e*P	**P**	**07 46 37.2**	**+0.7**
BELG	**Belogornoye**	**71.28**	**320**	*ce*P	**P**	**07 46 53.8**	**+0.2**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**73.13**	**28**	P	**P**	**07 47 05.5**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=297,slow=5.9,SNR=4.9 comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**73.61**	**341**	P	**P**	**07 47 07.6**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=66,slow=8.3,SNR=15 comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**73.61**	**341**	P	**P**	**07 47 07.8**	**+0.9**
ARCES	**ARCESS Array B**	**73.61**	**341**	*e*P	**P**	**07 47 08.0**	**+1.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN	**Obninsk**	**76.26**	**325**	*e*P	**P**	**07 47 21.8**	**-0.1**
OBN				*e*		07 47 30.3	
OBN				*e*		07 50 19.9	
OBN				*e*PPP	PPP	07 52 11.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NCK	**Nalchik**	**77.11**	**312**	*e*P	**P**	**07 47 26.8**	**-0.1**
NCK				pmax	pmax		
	comp=Z,11nm,0.4s						
KBZ	**Khabaz**	**77.48**	**313**	P	**P**	**07 47 29.5**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=84,slow=4.9,SNR=12 comp=Z,5.2nm,0.8s						
FIA1	**FINESS Array S**	**77.86**	**334**	P	**P**	**07 47 30.7**	**+0.2**
FINES	**FINESS Array B**	**77.86**	**334**	P	**P**	**07 47 30.5**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=70,slow=4.8,SNR=50 comp=Z,2.1nm,0.3s						
FINES	**FINESS Array B**	**77.86**	**334**	P	**P**	**07 47 30.6**	**+0.1**
NVAR	**Mina Array Bea**	**81.74**	**51**	P	**P**	**07 47 52.8**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=285,slow=7.0,SNR=2.6 comp=Z,0.2nm,0.5s						
AKASG	**Malin Array Be**	**82.31**	**323**	P	**P**	**07 47 53.6**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=52,slow=5.4,SNR=15 comp=Z,2.0nm,0.4s						
AKBB	**Malin Array Si**	**82.31**	**323**	P	**P**	**07 47 53.8**	**-0.2**
AKBB				IAmb	IAmb	07 47 54.1	
	comp=Z,4.7nm,0.5s						
AKBB	**Malin Array Si**	**82.31**	**323**	*i*P	**P**	**07 47 53.6**	**-0.5**
AKBB				pmax	pmax		
	comp=Z,15nm,2.1s						
NC405	**NORSAR Array S**	**83.40**	**338**	P	**P**	**07 47 59.2**	**-0.2**
NB201	**NORSAR Array S**	**83.59**	**338**	P	**P**	**07 48 00.0**	**-0.3**
NB2	**NORSAR Subarra**	**83.62**	**338**	P	**P**	**07 47 59.7**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=45,slow=4.8						
NOA	**NORSAR Array B**	**83.62**	**338**	P	**P**	**07 48 00.1**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=54,slow=6.6,SNR=6.0 comp=Z,1.2nm,0.5s						
RAYN	**Ar Rayn**	**84.27**	**293**	P	**P**	**07 48 05.0**	**+0.5**
RAYN				IAmb	IAmb	07 48 05.6	
	comp=Z,4.0nm,0.7s						
RAYN	**Ar Rayn**	**84.27**	**293**	P	**P**	**07 48 05.0**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**85.47**	**312**	P	**P**	**07 48 09.5**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=73,slow=4.3,SNR=4.7 comp=Z,1.4nm,0.8s						
BRTR	**Keskin Array B**	**85.47**	**312**	*e*P	**P**	**07 48 10.5**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BURAR	**Bucovina Array**	**86.23**	**322**	P	**P**	**07 48 13.9**	**+0.4**
GERES	**GERESS Array B**	**91.31**	**328**	P	**P**	**07 48 35.7**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=56,slow=6.0,SNR=4.0 comp=Z,0.3nm,0.4s						
GERES	**GERESS Array B**	**91.31**	**328**	*e*P	**P**	**07 48 37.1**	**-0.1**
PLCA	**Paso Flores**	**150.47**	**126**	PKPbc	**PKiKP**	**07 55 21.0**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=271,slow=2.8,SNR=6.5						
PLCA	**Paso Flores**	**150.47**	**126**	PKIKP	**PKiKP**	**07 55 21.0**	**+0.2**
LPAZ	**La Paz**	**151.18**	**75**	PKPbc	**PKiKP**	**07 55 24.6**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=357,slow=4.2,SNR=8.4						

JMA ***13*** *07:38:44.8±0.3, 35°1N±0°4×14°1E±°, h14km, MV2.6/23, E OFF BOSO PENINSULA*

IDC ***13*** *07:38:50.1±5.7, 35°03N×141°00E, h53km±42km, mb3.4/3, mbtmp3.6/5, ML2.6/2, MS2.9/4, Error ellipse: s-maj=68.7km s-min=17.7km az=84.0*

ISC 13 07:38:45.8±1.5, 35°08N±0°07×141°3E±0°1, h27km, n19, σ0§97/11, mb3.7/3, Near east coast of eastern Honshu

| Code | Station Name | Δ° | A

RPZ	Rata Peaks	27.47 197	P	P	07 48 18.7	-0.6		
	comp=Z,3.3nm,0.3s,baz=31,slow=10,SNR=2.6							
	comp=Z,3.3nm,0.3s							
FOZ	Fox Glacier	27.68 199	P	P	07 48 19.7	-1.3		
EIDS	Eidsvold	29.70 250	P	P	07 48 38.1	-0.8		
	baz=30,SNR=4.9							
EIDS	Eidsvold	29.70 250	P	P	07 48 38.3	-0.7		
ARMA	Armidale	30.36 240	P	P	07 48 44.9	+0.2		
	baz=30,SNR=19							
ARMA	Armidale	30.36 240	P	P	07 48 45.0	+0.3		
MGCD	Mangrove Creek	31.71 235	P	P	07 48 56.3	+0.2		
	baz=32,SNR=7.7							
RMQ	Roma	31.93 248	P	P	07 48 58.1	0.0		
	baz=32,SNR=19							
CNB	Canberra Magne	33.83 232	P	P	07 49 14.3	+0.2		
	baz=34,SNR=46							
PATS	Pohnpei	33.86 314	P	P	07 49 14.4	0.0		
	baz=34,SNR=4.5							
CTA	Charters Tower	33.87 260	P	P	07 49 13.8	-0.8		
	comp=Z,17nm,0.7s,baz=94,slow=9.6,SNR=26							
	comp=Z,17nm,0.7s							
CTAO	Charters Tower	33.87 260	P	P	07 49 13.8	-0.8		
CAN	Canberra	34.11 233	P	P	07 49 16.2	-0.2		
CAN			IAmb	IAmb	07 49 16.8			
	comp=Z,15nm,0.7s							
PMG	Port Moresby	34.84 279	P	P	07 49 22.8	+0.1		
	comp=Z,68nm,0.9s,baz=81,slow=6.5,SNR=26							
	comp=Z,68nm,0.9s							
PMG	Port Moresby	34.84 279	P	P	07 49 22.9	+0.2		
PMG	Port Moresby	34.84 279	P	P	07 49 22.9	+0.2		
	comp=Z,649nmcomp=Z,77nm,0.9s							
CMSA	Cobar Meteorol	35.57 240	P	P	07 49 28.2	-0.3		
	baz=36,SNR=26							
QLP	Quilpie	35.97 249	P	P	07 49 31.2	-0.7		
	baz=36,SNR=9.1							
MANU	Manus Island	37.43 291	P	P	07 49 43.7	-0.4		
MANU			IAmb	IAmb	07 49 45.2			
	comp=Z,20nm,0.8s							
COEN	Coen	37.52 270	P	P	07 49 44.8	0.0		
	baz=38,SNR=12							
COEN	Coen	37.52 270	P	P	07 49 44.5	-0.3		
TOO	Toolangi	37.57 231	P	P	07 49 45.0	0.0		
	baz=38,SNR=21							
TOO	Toolangi	37.57 231	P	P	07 49 44.6	-0.4		
STKA	Stephens Creek	39.05 241	P	P	07 49 57.1	+0.1		
	comp=Z,29nm,0.7s,baz=88,slow=9.8,SNR=47							
	comp=Z,29nm,0.7s							
STKA	Stephens Creek	39.05 241	P	P	07 49 57.2	+0.1		
	baz=39,SNR=20							
STKA	Stephens Creek	39.05 241	P	P	07 49 57.5	+0.4		
STKA			IAmb	IAmb	07 49 58.0			
	comp=Z,8.1nm,0.9s							
ARPS	Mount Arapiles	40.06 234	P	P	07 50 04.6	-0.5		
	baz=40,SNR=6.4							
QIS	Mount Isa	40.08 259	P	P	07 50 04.2	-1.3		
	baz=40,SNR=3.1							
HTT	Hallett	41.57 239	P	P	07 50 16.9	-0.3		
	baz=42,SNR=18							
HMH	Humu'ula Sheep	43.22 32	P	P	07 50 32.0	+1.5		
GENI	Genyem	43.73 285	P	P	07 50 35.3	+1.1		
	comp=Z,69nm,0.9s							
BBOO	Buckleboo	43.83 241	P	P	07 50 34.3	-0.5		
	baz=44,SNR=31							
BBOO	Buckleboo	43.83 241	P	P	07 50 34.6	-0.2		
WR0	Warramunga Arr	44.87 259	P	P	07 50 41.8	-1.2		
WR0			IAmb	IAmb	07 50 45.8			
	comp=Z,9.6nm,0.6s							
WB0	Warramunga Arr	45.03 260	P	P	07 50 43.1	-1.1		
WB2	Warramunga Arr	45.05 259	P	P	07 50 43.3	-1.1		
WRAB	Tennant Creek	45.05 259	P	P	07 50 43.2	-1.2		
WRA	Warramunga Arr	45.06 259	P	P	07 50 42.9	-1.5		
	comp=Z,22nm,0.7s,baz=95,slow=7.2,SNR=323							
WRA			PcP	PcP	07 52 12.9	-0.6		
	comp=Z,2.0nm,0.6s,baz=100,slow=3.0,SNR=5.3							
WRA			S	S	07 56 45.2	+1.4		
	comp=Z,0.5nm,0.6s,baz=97,slow=12,SNR=2.8							
	comp=Z,22nm,0.7s							
WRA	Warramunga Arr	45.06 259	P	P	07 50 43.1	-1.4		
AS31	Alice Springs	45.22 254	P	P	07 50 45.1	-0.6		
ASAR	Alice Springs	45.22 254	P	P	07 50 45.0	-0.7		
	comp=Z,127nm,0.6s,baz=88,slow=8.4,SNR=1663							
ASAR			PcP	PcP	07 52 13.7	-0.5		
	comp=Z,4.1nm,0.5s,baz=114,slow=3.5,SNR=6.4							
ASAR			S	S	07 56 44.3	-1.8		
	comp=Z,0.7nm,0.7s,baz=80,slow=15,SNR=4.7							
ASAR	Alice Springs	45.22 254	P	P	07 50 45.3	-0.4		
KDU	Kakadu	47.97 269	P	P	07 51 05.4	-1.0		
	baz=48,SNR=21							
GUMO	Guam	48.12 308	P	P	07 51 07.8	+0.3		
MTN	Manton Dam	49.21 268	P	P	07 51 14.4	-1.3		
	baz=49,SNR=11							
MTN	Manton Dam	49.21 268	P	P	07 51 14.8	-1.0		
WRKA	Warakurna	50.28 252	P	P	07 51 22.7	-0.8		
	baz=50,SNR=51							
FORT	Forrest	50.44 245	P	P	07 51 23.2	-1.2		
	baz=50,SNR=34							
FORT	Forrest	50.44 245	P	P	07 51 23.4	-1.1		
KNRA	Kununurra	50.91 264	P	P	07 51 27.2	-0.9		
	baz=51,SNR=25							
KNRA	Kununurra	50.91 264	P	P	07 51 27.4	-0.7		
SIJI	Sorong	52.60 283	P	P	07 51 40.2	-0.1		
	comp=Z,60nm,0.7s,baz=111,slow=6.1,SNR=14							
	comp=Z,60nm,0.7s							
SIJI	Sorong	52.60 283	P	P	07 51 40.3	-0.1		
	comp=Z,63nm,0.9s							
SWI	Sorong	52.61 283	P	P	07 51 40.0	-0.4		
	comp=Z,µcomp=Z,107nm,0.8s							
KRAI	Karang Ratu	54.44 279	P	P	07 51 53.1	-0.3		
	comp=Z,11nm,0.5s							
AAI	Ambon	54.51 278	P	P	07 51 53.1	-0.7		
	comp=Z,52nm,0.6s							
NLAI	Namlea	55.68 278	P	P	07 52 01.8	-0.2		
	comp=Z,29nm,0.6s							
KMBL	Kambalda	55.74 244	P	P	07 52 00.9	-1.2		
	baz=56,SNR=5.3							
LBMI	Labuha	56.20 281	P	P	07 52 05.9	+0.3		
	comp=Z,2µmcomp=Z,45nm,1.0s							
SOEI	Soe	56.48 270	P	P	07 52 08.4	+0.7		
	comp=Z,81nm,0.8s							
SANI	Sanana	57.12 279	P	P	07 52 11.0	-1.0		
	comp=Z,839nmcomp=Z,37nm,0.8s							
PSA00	Pilbara Seismi	58.34 255	P	P	07 52 19.2	-0.9		
PSA00			IAmb	IAmb	07 52 19.8			
	comp=Z,26nm,0.7s							
PSA00	Pilbara Seismi	58.34 255	P	P	07 52 19.2	-0.9		
PSA00			IAmb	IAmb	07 52 19.9			
	comp=Z,10nm,0.8s							
MBWA	Marble Bar	58.51 256	P	P	07 52 20.3	-0.9		
MBWA			IAmb	IAmb	07 52 20.9			
	comp=Z,20nm,0.8s							
MEEK	Meekatharra	58.86 249	P	P	07 52 22.3	-1.3		
	baz=59,SNR=10							
KLBR	Kellerberrin	59.26 243	P	P	07 52 24.9	-1.2		
	baz=59,SNR=29							
NWAO	Narrogin (SRO)	59.63 242	P	P	07 52 28.1	-0.5		
NWAO			IAmb	IAmb	07 52 51.4			
	comp=Z,24nm,1.3s							
BLDU	Ballidu	60.21 245	P	P	07 52 31.2	-1.2		
	baz=60,SNR=17							
MUN	Mundaring	60.55 243	P	P	07 52 34.0	-0.6		
	baz=61,SNR=6.6							
SBA	Scott Base	60.58 184	P	P	07 52 35.8	+1.8		
VNDA	Vanda	60.61 185	P	P	07 52 35.2	+0.9		
	comp=Z,1.3nm,0.6s,baz=356,slow=6.3,SNR=24							
	comp=Z,1.3nm,0.6s							
VNDA	Vanda	60.61 185	P	P	07 52 34.9	+0.6		
MORW	Morawa	60.91 246	P	P	07 52 35.6	-1.5		
	baz=61,SNR=4.9							
MORW	Morawa	60.91 246	P	P	07 52 36.0	-1.1		
MORW			IAmb	IAmb	07 52 36.7			
	comp=Z,11nm,0.7s							
BSSI	Bau Bau, Buton	61.06 273	P	P	07 52 37.6	-0.7		
	comp=Z,20nm,0.6s							
KAPI	Kappang	62.09 274	P	P	07 52 44.5	-0.6		
KAPI			IAmb	IAmb	07 52 44.9			
	comp=Z,8.4nm,0.7s							
KAPI	Kappang	62.09 274	P	P	07 52 44.5	-0.6		
	comp=Z,12nm,1.2s							
PLAI	Plampang	62.91 269	P	P	07 52 49.4	-0.9		
	comp=Z,48nm,0.8s							
TOLI2	Tolitoli	63.09 281	P	P	07 52 51.2	-0.3		
TOLI2			IAmb	IAmb	07 52 51.7			
	comp=Z,8.7nm,0.8s							
GIRL	Giralia	63.33 253	P	P	07 52 53.5	+0.6		
MPSI	Mapaga	63.66 279	P	P	07 52 54.7	-0.4		
	comp=Z,20nm,0.7s							
TWSI	Taliwang, Sumb	63.78 269	P	P	07 52 55.1	-0.8		
	comp=Z,40nm,0.7s							
SRBI	Singaraja	65.55 269	P	P	07 53 06.2	-0.8		
	comp=Z,41nm,1.1s							
JAGI	Jajag, Banyuwa	66.45 268	P	P	07 53 11.1	-1.6		
JAGI	Jajag, Banyuwa	66.45 268	P	P	07 53 10.9	-1.8		
JGF	Kuroka	67.89 322	P	P	07 53 21.3	+0.3		
JGF			IAmb	IAmb	07 53 40.8			
	comp=Z,6.5nm,1.1s							
MJAR	Matsushiro Arr	68.05 323	P	P	07 53 21.3	-0.6		
	comp=Z,2.6nm,0.5s,baz=150,slow=5.6,SNR=9.8							
	comp=Z,2.6nm,0.5s							
MAJO	Matsushiro	68.05 323	P	P	07 53 22.1	+0.1		
MAJO			IAmb	IAmb	07 53 24.1			
	comp=Z,7.7nm,1.1s							
MJB9	Matsu-Tunnel	68.05 323	P	P	07 53 22.0	0.0		
MJB9			IAmb	IAmb	07 53 24.0			
	comp=Z,7.6nm,1.1s							
UGM	Wanagama	70.06 268	P	P	07 53 34.1	-0.5		
JHS	Saijyo	70.07 319	P	P	07 53 34.8	+0.6		
JHS			IAmb	IAmb	07 53 35.5			
	comp=Z,14nm,0.7s							
JKA	Kamikawa-asahi	71.36 331	P	P	07 53 43.1	+1.6		
QSPA	South Pole Qui	72.28 180	P	P	07 53 47.6	+0.8		
QSPA			IAmb	IAmb	07 53 48.2			
	comp=Z,8.4nm,0.8s							
KSM	Kuching	73.08 277	P	P	07 53 52.6	+0.4		
KSM			IAmb	IAmb	07 53 53.4			
	comp=Z,29nm,0.9s							
PETK	Petropavlovsk-	73.66 345	P	P	07 53 54.6	0.0		
	comp=Z,9.4nm,0.8s,baz=101,slow=11,SNR=1.6							
	comp=Z,9.4nm,0.8s							
PETK	Petropavlovsk-	73.66 345	P	P	07 53 55.2	+0.7		
KSRS	Korea Array	74.88 318	P	P	07 54 02.3	+0.5		
	comp=Z,1.4nm,0.6s,baz=127,slow=5.7,SNR=5.9							
	comp=Z,1.4nm,0.6s							
PMPB	Monarch Peak	76.16 44	P	P	07 54 11.0	+2.0		
PMPB			IAmb	IAmb	07 54 27.2			
	comp=Z,18nm,1.1s							
HOPS	Hopland Field	76.30 41	P	P	07 54 10.7	+1.0		
HOPS			IAmb	IAmb	07 54 35.6			
	comp=Z,54nm,1.4s							
ISA	Isabella, Lake	77.43 46	P	P	07 54 17.0	+1.0		
CMB	Columbia Colle	77.46 43	P	P	07 54 17.4	+1.4		
OHAK	Old Harbor	77.51 13	P	P	07 54 16.2	+0.4		
RMX	La Rumorosa	77.52 50	IAmb	IAmb	07 54 19.2			
	comp=Z,5.8nm,0.8s							
MDPB	Devils Postpil	78.09 44	P	P	07 54 21.3	+1.5		
OMMB	Old Mammoth Mi	78.14 44	P	P	07 54 21.5	+1.4		
YBH	Yreka Blue Hor	78.16 39	P	P	07 54 21.8	+1.9		
YBH			IAmb	IAmb	07 54 22.3			
	comp=Z,12nm,1.4s							
KDAK	Kodiak Island	78.18 14	P	P	07 54 19.8	+0.4		
	comp=Z,6.7nm,0.6s,baz=284,slow=1.6,SNR=5.3							
	comp=Z,6.7nm,0.6s							
KDAK	Kodiak Island	78.18 14	P	P	07 54 20.6	+1.3		
WAKR	Walker	78.34 43	P	P	07 54 22.7	+1.7		
MPK	Martis Peak	78.41 42	P	P	07 54 22.9	+1.5		
MPK			IAmb	IAmb	07 54 23.6			
	comp=Z,16nm,1.3s							
PNTR	Pine Nut	78.56 43	P	P	07 54 24.0	+1.8		
PNTR			IAmb	IAmb	07 54 24.5			
	comp=Z,10nm,0.9s							
YERR	Yerington	78.74 43	IAmb	IAmb	07 54 24.8			
	comp=Z,6.1nm,0.7s							
NVAR	Mina Array Bea	79.04 44	P	P	07 54 25.9	+1.2		
	comp=Z,3.1nm,0.7s,baz=224,slow=8.6,SNR=35							
	comp=Z,3.1nm,0.7s							
O18K	Koktuh Hills	79.54 11	P	P	07 54 27.0	+0.4		
O18K			IAmb	IAmb	07 54 27.9			
	comp=Z,33nm,1.1s							
MOD	Modoc Plateau	79.72 40	P	P	07 54 29.5	+1.3		
K05A	Summer Lake	79.84 39	P	P	07 54 30.5	+1.7		
K05A			IAmb	IAmb	07 54 41.0			
	comp=Z,10nm,1.2s							
O19K	Port Alsworth	80.03 12	IAmb	IAmb	07 54 29.3			
	comp=Z,21nm,0.7s							
KLR	Kul'dur	80.21 329	P	P	07 54 30.8	+0.5		
	comp=Z,0.8nm,0.5s,baz=124,slow=11,SNR=2.3							
	comp=Z,0.8nm,0.5s							
H04A	Detroit Lake	80.24 37	P	P	07 54 31.5	+0.8		
H04A			IAmb	IAmb	07 54 32.1			
	comp=Z,5.5nm,0.8s							
BMN	Battle Mountai	80.83 42	IAmb	IAmb	07 54 36.9			
	comp=Z,12nm,1.4s							
NLWA	Neilton Lookou	80.97 34	P	P	07 54 35.9	+1.5		
NLWA			IAmb	IAmb	07 54 52.7			
	comp=Z,25nm,1.3s							
WVOR	Wild Horse Val	81.04 40	IAmb	IAmb	07 54 37.2			
	comp=Z,15nm,1.3s							
I07A	Izee	81.45 38	P	P	07 54 38.7	+1.7		
I07A			IAmb	IAmb	07 54 39.2			
	comp=Z,7.0nm,0.9s							
J08A	Circle Bar Ran	81.66 39	IAmb	IAmb	07 54 40.2			
	comp=Z,12nm,1.2s							
U15A	North Rim	82.12 48	IAmb	IAmb	07 54 43.6			
	comp=Z,7.1nm,0.8s							
BELA	Belgrano 2	82.24 173	P	P	07 54 40.5	+0.1		
PMR	Palmer	82.38 13	P	P	07 54 40.8	-0.3		
PMR			IAmb	IAmb	07 54 40.9			
	comp=Z,13nm,1.2s							
G08A	Pilot Rock	82.45 38	P	P	07 54 43.6	+1.4		
G08A			IAmb	IAmb	07 54 44.0			
	comp=Z,12nm,1.3s							
PKCU	Pink Cliffs	82.60 47	IAmb	IAmb	07 54 46.6			
	comp=Z,9.3nm,1.1s							
HAWA	Hanford	82.75 36	P	P	07 54 44.8	+1.3		
HAWA			IAmb	IAmb	07 54 45.0			
	comp=Z,5.7nm,0.7s							
IPM	Ipoh	82.81 277	P	P	07 54 44.7	+0.2		
IPM			IAmb	IAmb	07 54 45.5			
	comp=Z,12nm,0.9s							
CAST	Castle Rocks	83.42 11	P	P	07 54 45.5	-0.9		
CAST			IAmb	IAmb	07 54 46.0			
	comp=Z,12nm,1.0s							
VRDI	Verde Repeater	83.44 16	P	P	07 54 46.9	+0.2		
VRDI			IAmb	IAmb	07 54 47.5			
	comp=Z,9.7nm,1.0s							
N25K	Chitina, Valde	83.46 15	P	P	07 54 47.2	+0.5		
N25K			IAmb	IAmb	07 54 47.7			
	comp=Z,12nm,0.8s							
SEY	Seymchan	83.74 347	P	P	07 54 47.6	-0.3		
	comp=Z,9.8nm,0.5s,baz=162,slow=5.8,SNR=37							
	comp=Z,9.8nm,0.5s							
TRF	Thorofare Moun	83.79 12	IAmb	IAmb	07 54 48.6			
	comp=Z,17nm,0.8s							
F10A	Beach Ranch, E	83.84 38	IAmb	IAmb	07 54 50.5			
	comp=Z,8.1nm,1.1s							
B08A	Colville Reser	84.00 35	P	P	07 54 50.3	+0.6		
RND	Reindeer	84.05 13	IAmb	IAmb	07 54 50.3			
	comp=Z,10nm,0.6s							
PLID	Pearl Lake	84.09 39	P	P	07 54 51.3	+0.8		
MAW	Mawson	84.12 200	P	P	07 54 50.5	+0.6		
	comp=Z,17nm,0.4s,baz=155,slow=3.4,SNR=17							
	comp=Z,17nm,0.4s							
MAW	Mawson	84.12 200	P	P	07 54 50.8	+0.8		
	baz=84,SNR=11							
MAW	Mawson	84.12 200	P	P	07 54 50.7	+0.8		
TMUT	Trail Mountain	84.25 46	IAmb	IAmb	07 54 54.2			
	comp=Z,8.0nm,1.4s							
MCK	McKinley	84.32 13	P	P	07 54 50.9	0.0		
MCK			IAmb	IAmb	07 54 51.2			
	comp=Z,9.9nm,1.2s							
ENH	Enshi	84.54 304	P	P	07 54 53.0	+0.3		
ENH			IAmb	IAmb	07 54 54.3			
	comp=Z,36nm,1.4s							
M27K	Edge Creek, AK	84.80 16	P	P	07 54 54.2	+0.8		
M27K			IAmb	IAmb	07 54 54.9			
	comp=Z,15nm,1.1s							
GSI	Gunungsitoli	85.11 273	P	P	07 54 57.0	+1.1		
GSI			IAmb	IAmb	07 54 57.4			
	comp=Z,16nm,0.8s							
HDA	Harding Lake	85.34 13	IAmb	IAmb	07 54 55.8			
	comp=Z,5.5nm,0.8s							
CCB	Clear Creek Bu	85.36 13	IAmb	IAmb	07 54 56.4			
	comp=Z,16nm,1.4s							
DLBC	Dease Lake	85.55 23	P	P	07 54 57.6	+0.6		
	comp=Z,1.9nm,0.5s,baz=178,slow=22,SNR=3.2							
	comp=Z,1.9nm,0.5s							
TX31	Lajitas Ar. Si	85.58 57	P	P	07 55 00.2	+2.4		
TX31			IAmb	IAmb	07 55 01.0			
	comp=Z,14nm,1.1s							
TX32	Lajitas Array	85.58 57	IAmb	IAmb	07 55 01.0			
	comp=Z,4.8nm,1.1s							
TXAR	Lajitas Array	85.58 57	P	P	07 54 59.8	+1.9		
	comp=Z,2.7nm,0.8s,baz=215,slow=6.1,SNR=37							
	comp=Z,2.7nm,0.8s							
IL31		85.67 13	IAmb	IAmb	07 54 57.6			
	comp=Z,15nm,1.3s							
ILAR	Eielson Array	85.67 13	P	P	07 54 56.5	-0.8		
	comp=Z,1.7nm,0.4s,baz=221,slow=5.3,SNR=56							
	comp=Z,1.7nm,0.4s							
J25K	Salcha River,	85.86 13	IAmb	IAmb	07 54 58.5			
	comp=Z,2.5nm,0.7s							
XAN	Xi'an	86.51 307	⇓P	P	07 55 02.8	+0.7		
XAN			pmax	pmax				
	comp=Z,11nm,1.1s							
IMW	Indian Meadow	86.61 42	IAmb	IAmb	07 55 04.4			
	comp=Z,3.6nm,0.8s							
DAWY	Dawson	86.85 16	P	P	07 55 03.1	+0.1		
DAWY			IAmb	IAmb	07 55 03.8			
	comp=Z,5.3nm,1.2s							
YHL	Hebgen Lake	86.92 41	IAmb	IAmb	07 55 06.8			
	comp=Z,5.6nm,0.9s							
PDAR	Pinedale Array	86.97 43	P	P	07 55 05.0	+0.6		
	comp=Z,1.4nm,0.7s,baz=209,slow=3.7,SNR=14							
	comp=Z,1.4nm,0.7s							
PDAR	Pinedale Array	86.97 43	P	P	07 55 05.2	+0.9		
HHC	Hu-ho-hao-te	87.47 314	*e*P	P	07 55 06.3	-0.3		
HHC			pmax	pmax				
	comp=Z,40nm,0.7s							
HHC			pmax	pmax				
	comp=Z,120nm,6.0s							
BMAR	Burnt Mountain	88.44 12	P	P	07 55 11.2	+0.9		
CMAR	Chiang Mai Arr	89.23 290	P	P	07 55 16.0	+0.9		
	comp=Z,0.9nm,0.3s,baz=105,slow=2.5,SNR=13							
	comp=Z,0.9nm,0.3s							
CMAR	Chiang Mai Arr	89.23 290	P	P	07 55 15.3	+0.2		
TROLL	Troll, Antarti	90.44 180	P	P	07 55 19.7	-0.2		
SNAA	Sanae	90.72 178	P	P	07 55 19.9	-1.2		
VNA3	Neumayer Olymp	90.84 176	P	P	07 55 21.5	-0.1		
LZH	Lanzhou	91.14 308	*e*P	P	07 55 28.9	+5.2		
LZH			pP	pP	07 57 33.4	+8.9		
LZH			sP	sP	07 58 26.8	+7.1		
LZH			pmax	pmax				
	comp=Z,13nm,1.5s							
VNA2	Neumayer--Watz	91.29 177	P	P	07 55 24.0	+0.3		
	baz=176,slow=6.0							
INK	Inuvik	91.65 15	P	P	07 55 24.8	-0.3		
	comp=Z,3.9nm,0.9s,baz=217,slow=4.0,SNR=16							
	comp=Z,3.9nm,0.9s							
YKA	Yellowknife Ar	94.04 25	P	P	07 55 35.8	-0.4		
	comp=Z,1.3nm,0.7s,baz=237,slow=4.8,SNR=6.8							
	comp=Z,1.3nm,0.7s							
MKAR	Makanchi Array	109.34 314	PKiKP	PKiKP	08 00 43.7	-1.3		
	comp=Z,0.5nm,0.5s,baz=278,slow=1.0,SNR=5.2							
GAR	Garm	117.69 305		PKPdf	08 01 01.1	-0.2		
ARCES	ARCESS Array B	126.26 350	PKP	PKPdf	08 01 16.0	-0.7		
	comp=Z,1.6nm,0.4s,baz=35,slow=1.2,SNR=27							
GEYT	Alibeck	127.30 304	PKP	PKPdf	08 01 18.9	-0.7		
	comp=Z,1.2nm,0.5s,baz=204,slow=3.3,SNR=3.5							
FINES	FINESS Array B	133.17 344	PKP	PKPdf	08 01 30.1	+0.2		
	comp=Z,0.7nm,0.4s,baz=35,slow=5.1,SNR=5.3							
NB2	NORSAR Subarra	136.29 354	PKPdf	PKPdf	08 01 36.6	+0.7		
	comp=Z,1.6nm,0.7s,baz=13,slow=1.9							
NOA	NORSAR Array B	136.29 354	PKP	PKPdf	08 01 36.4	+0.5		
	comp=Z,0.3nm,0.5s,baz=59,slow=1.5,SNR=5.3							
AKASG	Malin Array Be	140.63 333	PKhKP	PKPpre	08 01 36.7			
	comp=Z,0.9nm,0.4s,baz=41,slow=4.1,SNR=8.2							
BNN	Bunyan	143.87 313		PKPbc	08 01 48.8	-0.8		
OJC	Ojcow	144.63 340	*e*PKP	PKPdf	08 01 48.9	-2.2		
BUR08	Bucovina Ar. S	144.67 333		PKPab	08 01 52.9	+0.5		
BURAR	Bucovina Array	144.69 333	⇑P	PKPdf	08 01 51.3	-0.1		
BURAR	Bucovina Array	144.69 333	PKPdf	PKPab	08 01 52.9	+0.5		
STHS	Stebnicka Huta	144.82 338	*e*PKP	PKPdf	08 01 51.4	-0.1		
TESR	Tescani	144.85 330	⇑P	PKPab	08 01 52.4	-0.6		
BRTR	Keskin Array B	144.98 315	PKP	PKPbc	08 01 52.5	-0.4		
	comp=Z,4.9nm,0.6s,baz=129,slow=4.6,SNR=21							
KSP	Ksiaz	145.10 344	*e*PKP	PKPab	08 01 53.3	-0.5		
OSTC	Ostas	145.38 344	*e*PKP	PKPbc	08 01 54.0	+0.4		
TRPA	Tarpa	145.40 336	⇓P	PKPdf	08 01 52.4	-0.1		
CLL	Collm	145.42 348		PKPbc	08 01 54.1	+0.4		
CLL	Collm	145.42 348	⇓*i* PKPbc	PKPbc	08 01 53.6	-0.1		
	comp=Z,19nm,0.6s							
UPC	Upice	145.48 344	*e*PKP	PKPbc	08 01 53.8	-0.1		
DPC	Dobruska-Polom	145.54 344	*e*PKP	PKPbc	08 01 53.9	-0.2		
BRG	Berggiesshubel	145.63 347	*i* PKP	PKPbc	08 01 54.7	+0.4		
BRG			Amp		08 01 55.5			
	comp=Z,8.7nm,0.9s							
KRLC	Kraliky	145.66 343	*e*PKP	PKPbc	08 01 53.9	-0.6		
MORC	Moravsky Berou	145.71 342	⇓P	PKPdf	08 01 52.5	-0.5		
MORC	Moravsky Berou	145.71 342		PKPbc	08 01 54.7	+0.1		
MORC	Moravsky Berou	145.71 342	*e*PKP	PKPbc	08 01 54.4	-0.2		
DOPR	Dopca	145.84 330	⇓P	PKPbc	08 01 55.4	+0.2		
MAUC	Maruska	145.99 341	*e*PKP	PKPbc	08 01 55.8	+0.4		
MAUC			*ex*	x	08 01 59.9			
PRU	Pruhonice	146.32 345	*e*PKP	PKPbc	08 01 56.1	-0.2		
VRAC	Vranov	146.41 343	⇑P	PKPbc	08 01 57.2	+0.6		
VRAC	Vranov	146.41 343	*e*PKP	PKPbc	08 01 56.5	-0.1		
VYHS	Vyhne	146.44 340	*e*PKP	PKPbc	08 01 57.1	+0.4

*MOS **13** 07:50:55.8±0.9,54°.75N×163°.72E,h39km,mb4.6/15,Error ellipse: s-maj=6.3km s-min=4.9km az=92.5*
*NEIC **13** 07:50:58.5±1.2,54°.8N±0°.1×163°.5E±0.2,h36km±9km, mb4.5/18,Error ellipse: s-maj=23.0km s-min=10.9km az=137.0*

ISC 13 07:50:53.6±2.2,**54°.76N**±0°.03×**163°.77E**±0°.03,**h11**km±13km, **n156,σ1°36**/191,**mb4.3**/34,**MS3.5**/5,**3C-6D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**1.35**	**70**	*eP*	**Pn**	**Pn**	**07 51 17.7**	**-0.6**
BKI				*eS*	**Sb**	**Sb**	**07 51 33.5**	**-2.6**
BKI	**Bering**	**1.35**	**70**	PN	**Pn**	**Pn**	**07 51 17.7**	**-0.6**
BKI				S	**Sb**	**Sb**	**07 51 33.5**	**-2.6**
KBTR	**Krutoberegovo**	**1.55**	**340**	*eP*	**Pn**	**Pn**	**07 51 19.9**	**-1.3**
KBTR				*eS*	**Sn**	**Sn**	**07 51 39.1**	**-2.2**
KBTR	**Krutoberegovo**	**1.55**	**340**	PN	**Pn**	**Pn**	**07 51 19.9**	**-1.3**
KBTR				S	**Sn**	**Sn**	**07 51 39.1**	**-2.2**
KBG	**Krutoberegovo**	**1.62**	**338**	*eP*	**Pn**	**Pn**	**07 51 21.0**	**-1.1**
KBG				*eS*	**Sn**	**Sn**	**07 51 41.4**	**-1.5**
KBG	**Krutoberegovo**	**1.62**	**338**	PN	**Pn**	**Pn**	**07 51 21.0**	**-1.1**
KBG				S	**Sn**	**Sn**	**07 51 41.4**	**-1.5**
TUMD	**Tumrok D**	**1.99**	**284**	*eP*	**Pn**	**Pn**	**07 51 27.8**	**+0.6**
ZLN	**Zelenaya**	**2.11**	**308**	*eP*	**Pn**	**Pn**	**07 51 30.0**	**+1.0**
ZLN	**Zelenaya**	**2.11**	**308**	PN	**Pn**	**Pn**	**07 51 30.0**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.12**	**305**	*eP*	**Pn**	**Pn**	**07 51 30.0**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.12**	**305**	PN	**Pn**	**Pn**	**07 51 30.0**	**+1.0**
TUMR	**Tumrok**	**2.15**	**286**	*eP*	**Pn**	**Pn**	**07 51 30.4**	**+0.9**
TUMR	**Tumrok**	**2.15**	**286**	PN	**Pn**	**Pn**	**07 51 30.4**	**+0.9**
CIRR	**Tsirk**	**2.19**	**310**	*eP*	**Pb**	**Pb**	**07 51 31.8**	**-1.6**
CIRR	**Tsirk**	**2.19**	**310**	PN	**Pb**	**Pb**	**07 51 31.8**	**-1.6**
LGNR	**Loginova**	**2.20**	**308**	*eP*	**Pb**	**Pb**	**07 51 31.9**	**-1.7**
LGNR	**Loginova**	**2.20**	**308**	PN	**Pb**	**Pb**	**07 51 31.9**	**-1.7**
BZMR	**Bezymyannaya**	**2.21**	**304**	*eP*	**Pn**	**Pn**	**07 51 31.3**	**+0.9**
BZMR	**Bezymyannaya**	**2.21**	**304**	PN	**Pn**	**Pn**	**07 51 31.3**	**+0.9**
BZWR	**Bezymyannyi-We**	**2.23**	**304**	*eP*	**Pn**	**Pn**	**07 51 31.7**	**+1.1**
BZWR	**Bezymyannyi-We**	**2.23**	**304**	PN	**Pn**	**Pn**	**07 51 31.7**	**+1.1**
SMKR	**Semkarok**	**2.25**	**325**	*eP*	**Pn**	**Pn**	**07 51 31.4**	**+0.6**
SMKR				*eS*	**Sn**	**Sn**	**07 51 59.1**	**+0.6**
SMKR	**Semkarok**	**2.25**	**325**	PN	**Pn**	**Pn**	**07 51 31.4**	**+0.6**
SMKR				S	**Sn**	**Sn**	**07 51 59.1**	**+0.6**
KMNR	**Kamenistaya**	**2.26**	**298**	*eP*	**Pn**	**Pn**	**07 51 31.8**	**+0.9**
KMNR	**Kamenistaya**	**2.26**	**298**	PN	**Pn**	**Pn**	**07 51 31.8**	**+0.9**
KIRR	**Kirishev**	**2.29**	**303**	*eP*	**Pn**	**Pn**	**07 51 32.6**	**+1.1**
KIRR	**Kirishev**	**2.29**	**303**	PN	**Pn**	**Pn**	**07 51 32.6**	**+1.1**
BDR	**Baidarnaya**	**2.32**	**322**	*eP*	**Pn**	**Pn**	**07 51 32.6**	**+0.7**
BDR				*eS*	**Sb**	**Sb**	**07 52 02.2**	**-2.1**
BDR	**Baidarnaya**	**2.32**	**322**	PN	**Pn**	**Pn**	**07 51 32.6**	**+0.7**
BDR				S	**Sb**	**Sb**	**07 52 02.2**	**-2.1**
KRSR	**Krestovskiy**	**2.34**	**310**	*eP*	**Pn**	**Pn**	**07 51 32.7**	**+0.6**
KRSR	**Krestovskiy**	**2.34**	**310**	PN	**Pn**	**Pn**	**07 51 32.7**	**+0.6**
KPT	**Kopyto**	**2.36**	**302**	*eP*	**Pn**	**Pn**	**07 51 33.6**	**+1.2**
KPT	**Kopyto**	**2.36**	**302**	PN	**Pn**	**Pn**	**07 51 33.6**	**+1.2**
KLY	**Klyuchi**	**2.36**	**313**	*eP*	**Pn**	**Pn**	**07 51 31.8**	**-0.5**
KLY				*eS*	**Sn**	**Sn**	**07 52 00.1**	**-1.1**
KLY	**Klyuchi**	**2.36**	**313**	PN	**Pn**	**Pn**	**07 51 31.8**	**-0.5**
KLY				S	**Sn**	**Sn**	**07 52 00.1**	**-1.1**
SRKR	**Sorokina**	**2.41**	**323**	*eP*	**Pn**	**Pn**	**07 51 33.4**	**+0.4**
SRKR	**Sorokina**	**2.41**	**323**	PN	**Pn**	**Pn**	**07 51 33.4**	**+0.4**
SPN	**Mys Shipunski**	**2.77**	**235**	*eP*	**Pn**	**Pn**	**07 51 36.9**	**-1.0**
SPN				*eS*	**Sn**	**Sn**	**07 52 07.8**	**-3.5**
SPN	**Mys Shipunski**	**2.77**	**235**	PN	**Pn**	**Pn**	**07 51 36.9**	**-1.0**
SPN				S	**Sn**	**Sn**	**07 52 07.8**	**-3.5**
SRDR	**Sredinnyy**	**2.78**	**306**	*eP*	**Pn**	**Pn**	**07 51 39.3**	**+1.2**
SRDR	**Sredinnyy**	**2.78**	**306**	PN	**Pn**	**Pn**	**07 51 39.3**	**+1.2**
NLC	**Nalytchevo**	**3.06**	**241**	*eP*	**Pn**	**Pn**	**07 51 42.0**	**+0.2**
NLC				*eS*	**Sn**	**Sn**	**07 52 16.5**	**-1.9**
NLC	**Nalytchevo**	**3.06**	**241**	PN	**Pn**	**Pn**	**07 51 42.0**	**+0.2**
NLC				S	**Sn**	**Sn**	**07 52 16.5**	**-1.9**
ESO	**Esso**	**3.12**	**294**	*eP*	**Pn**	**Pn**	**07 51 43.4**	**+0.6**
ESO	**Esso**	**3.12**	**294**	PN	**Pn**	**Pn**	**07 51 43.4**	**+0.6**
SDLR	**Sedlovina**	**3.24**	**245**	*eP*	**Pn**	**Pn**	**07 51 44.8**	**+0.3**
SDLR	**Sedlovina**	**3.24**	**245**	PN	**Pn**	**Pn**	**07 51 44.8**	**+0.3**
SMAR	**Somma**	**3.29**	**245**	*eP*	**Pn**	**Pn**	**07 51 45.8**	**+0.5**
SMAR				*eS*	**Sn**	**Sn**	**07 52 23.0**	**-1.5**
SMAR	**Somma**	**3.29**	**245**	PN	**Pn**	**Pn**	**07 51 45.8**	**+0.5**
SMAR				S	**Sn**	**Sn**	**07 52 23.0**	**-1.5**
KRER	**Koryakskii**	**3.30**	**246**	*eP*	**Pn**	**Pn**	**07 51 46.1**	**+0.8**
KRER				*eS*	**Sn**	**Sn**	**07 52 23.5**	**-1.1**
KRER	**Koryakskii**	**3.30**	**246**	PN	**Pn**	**Pn**	**07 51 46.1**	**+0.8**
KRER				S	**Sn**	**Sn**	**07 52 23.5**	**-1.1**
UGLR	**Uglovaya**	**3.31**	**244**	*eP*	**Pn**	**Pn**	**07 51 45.9**	**+0.5**
UGLR				*eS*	**Sn**	**Sn**	**07 52 23.5**	**-1.2**
UGLR	**Uglovaya**	**3.31**	**244**	PN	**Pn**	**Pn**	**07 51 45.9**	**+0.5**
UGLR				S	**Sn**	**Sn**	**07 52 23.5**	**-1.2**
AVH	**Avacha**	**3.32**	**245**	*eP*	**Pn**	**Pn**	**07 51 46.5**	**+0.9**
AVH				*eS*	**Sn**	**Sn**	**07 52 24.1**	**-1.0**
AVH	**Avacha**	**3.32**	**245**	PN	**Pn**	**Pn**	**07 51 46.5**	**+0.9**
AVH				S	**Sn**	**Sn**	**07 52 24.1**	**-1.0**
KOK	**Koryaka**	**3.36**	**246**	*eP*	**Pn**	**Pn**	**07 51 46.9**	**+0.7**
KOK				*eS*	**Sn**	**Sn**	**07 52 25.7**	**-0.4**
KOK	**Koryaka**	**3.36**	**246**	PN	**Pn**	**Pn**	**07 51 46.9**	**+0.7**
KOK				S	**Sn**	**Sn**	**07 52 25.7**	**-0.4**
DALK	**Dalny**	**3.43**	**242**	*eP*	**Pn**	**Pn**	**07 51 47.2**	**+0.2**
DALK				*eS*	**Sn**	**Sn**	**07 52 24.6**	**-3.0**
DALK	**Dalny**	**3.43**	**242**	PN	**Pn**	**Pn**	**07 51 47.2**	**+0.2**
PET	**Petropavlovsk**	**3.49**	**242**		**Pn**	**Pn**	**07 51 48.6**	**+0.8**
PET				Sn	**Sn**	**Sn**	**07 52 27.8**	**-1.2**
PET	**Petropavlovsk**	**3.49**	**242**	*eP*	**Pn**	**Pn**	**07 51 48.3**	**+0.5**
PET				*eS*	**Sn**	**Sn**	**07 52 26.2**	**-2.4**
PET	**Petropavlovsk**	**3.49**	**242**	PN	**Pn**	**Pn**	**07 51 48.3**	**+0.5**
PET				S	**Sn**	**Sn**	**07 52 26.9**	**-2.1**
PET				pmax	pmax			
	comp=Z,20nm,0.7s							
PET				MLR	MLR			
	comp=Z,30nm,7.0s							
GNL	**Ganaly**	**3.58**	**255**	*eP*	**Pn**	**Pn**	**07 51 50.6**	**+1.4**
GNL	**Ganaly**	**3.58**	**255**	PN	**Pn**	**Pn**	**07 51 50.6**	**+1.4**
KRMR	**Karymshinskiy**	**3.86**	**242**	*eP*	**Pn**	**Pn**	**07 51 54.1**	**+1.2**
KRMR				*eS*	**Sn**	**Sn**	**07 52 37.4**	**-0.8**
KRMR	**Karymshinskiy**	**3.86**	**242**	PN	**Pn**	**Pn**	**07 51 54.1**	**+1.2**
KRMR				S	**Sn**	**Sn**	**07 52 37.4**	**-0.8**
RUS	**Russkaya**	**3.90**	**236**	*eP*	**Pn**	**Pn**	**07 51 53.7**	**+0.3**
RUS				*eS*	**Sn**	**Sn**	**07 52 36.2**	**-3.0**
RUS	**Russkaya**	**3.90**	**236**	PN	**Pn**	**Pn**	**07 51 53.7**	**+0.3**
PEA0B	**Petropavlovsk-**	**3.95**	**248**		**Pn**	**Pn**	**07 51 55.2**	**+1.1**
PEA0B	**Petropavlovsk-**	**3.95**	**248**	*ce*PN	**Pn**	**Pn**	**07 51 55.5**	**+1.4**
PETK	**Petropavlovsk-**	**3.95**	**248**	Pn	**Pn**	**Pn**	**07 51 54.6**	**+0.5**
	comp=Z,14nm,0.5s,baz=81,slow=15,SNR=100							
PETK				Sn	**Sn**	**Sn**	**07 52 41.6**	**+1.2**
	comp=Z,10.0nm,0.3s,baz=89,slow=24,SNR=2.9							
PETK	**Petropavlovsk-**	**3.95**	**248**			**Pn**	**07 51 55.2**	**+1.1**
MTVR	**Mutnovka**	**4.03**	**238**	*eP*		**Pn**	**07 51 55.9**	**+0.6**
MTVR				*eS*		**Sn**	**07 52 39.9**	**-2.7**
MTVR	**Mutnovka**	**4.03**	**238**	PN		**Pn**	**07 51 55.9**	**+0.6**
GRL	**Gorelyy**	**4.04**	**239**	*eP*		**Pn**	**07 51 56.6**	**+1.1**
GRL	**Gorelyy**	**4.04**	**239**	PN		**Pn**	**07 51 56.6**	**+1.1**
ASAK	**Asacha**	**4.23**	**238**	*eP*		**Pn**	**07 51 59.0**	**+1.0**
ASAK				*eS*		**Sn**	**07 52 46.0**	**+1.4**
ASAK	**Asacha**	**4.23**	**238**	PN		**Pn**	**07 51 59.0**	**+1.0**
APC	**Apacha**	**4.32**	**248**	*eP*		**Pn**	**07 52 01.9**	**+2.7**
APC	**Apacha**	**4.32**	**248**	PN		**Pn**	**07 52 01.9**	**+2.7**
KDTR	**Khodutka, Kamc**	**4.51**	**231**	*eP*		**Pn**	**07 52 01.7**	**-0.1**
KDTR				*eS*		**Sn**	**07 52 49.8**	**-4.5**
KDTR	**Khodutka, Kamc**	**4.51**	**231**	PN		**Pn**	**07 52 01.7**	**-0.1**
OSSR	**Ossora**	**4.52**	**355**	*eP*		**Pn**	**07 52 02.5**	**+0.6**
OSSR	**Ossora**	**4.52**	**355**	PN		**Pn**	**07 52 02.5**	**+0.6**
SKR	**Severo-Kuril's**	**6.18**	**232**	*eP*		**Pn**	**07 52 26.0**	**+1.2**
SKR	**Severo-Kuril's**	**6.18**	**232**	*e*PN		**Pn**	**07 52 24.3**	**-0.5**
SKR				pmax	pmax			
	comp=Z,26nm,0.9s							
MA2	**Magadan**	**8.55**	**310**	LR	LR		07 56 46.5	
	comp=Z,89nm,19.1s,baz=90,slow=42							
ASAJ	**Asahikawa**	**17.33**	**241**	LR	LR		08 01 43.6	
	comp=Z,42nm,19.9s,baz=133,slow=38							
ERM	**Erimo**	**18.61**	**235**	P	**P**		**07 55 08.7**	**-2.1**
ERM	**Erimo**	**18.61**	**235**	P	**P**		**07 55 08.7**	**-2.1**
ERM				pmax	pmax			
	comp=Z,97nm,1.2s							
YAK	**Yakutsk**	**19.10**	**306**	P	**P**		**07 55 15.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=88,slow=2.8,SNR=7.1							
YAK				LR	LR		08 03 44.2	
	comp=Z,22nm,18.1s,baz=279,slow=41							
	comp=Z,11nm,0.6s							
YAK	**Yakutsk**	**19.10**	**306**	P	**P**		**07 55 15.5**	**-0.5**
YAK				IAmb	IAmb		07 55 16.2	
	comp=Z,24nm,0.7s							
YAK	**Yakutsk**	**19.10**	**306**	*eP*	**P**		**07 55 15.4**	**-0.5**
YAK				pmax	pmax			
	comp=Z,14nm,0.7s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.3s							
YAK	**Yakutsk**	**19.10**	**306**	P	**P**		**07 55 15.5**	**-0.5**
KLR	**Kul'dur**	**20.36**	**267**	LR	LR		08 03 21.5	
	comp=N,34nm,18.8s,baz=68,slow=37							
TIXI	**Tiksi**	**22.56**	**332**	P	**P**		**07 55 53.9**	**+0.6**
	comp=N,5.0nm,0.5s,baz=242,slow=0.1,SNR=26							
	comp=N,5.0nm,0.5s							
TIXI	**Tiksi**	**22.56**	**332**	P	**P**		**07 55 54.0**	**+0.7**
TIXI				IAmb	IAmb		07 55 55.5	
	comp=Z,6.2nm,0.6s							
TIXI	**Tiksi**	**22.56**	**332**	*ǁeP*	**P**		**07 55 53.7**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
J20K	**Nowinta River**	**22.93**	**49**	P	**P**		**07 55 60.0**	**+2.6**
JMM	**Marumori**	**23.01**	**232**	P	**P**		**07 55 59.5**	**+1.2**
JMM				IAmb	IAmb		07 56 06.1	
	comp=Z,12nm,0.7s							
IMAR	**Indian Mountai**	**23.30**	**44**	P	**P**		**07 56 03.1**	**+2.0**
TRF	**Thorofare Moun**	**24.62**	**51**	P	**P**		**07 56 15.7**	**+1.9**
TRF				IAmb	IAmb		07 56 28.6	
	comp=Z,12nm,0.9s							
H23K	**Yukon River**	**25.00**	**45**	P	**P**		**07 56 18.2**	**+1.2**
MJA0	**Matsu Arr-Jizo**	**25.27**	**234**	*eP*	**P**		**07 56 21.3**	**+1.6**
MJA0				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MAJO	**Matsushiro**	**25.29**	**234**	*ǁeP*	**P**		**07 56 21.2**	**+1.4**
MAJO				pmax	pmax			
	comp=Z,40nm,2.9s							
MJAR	**Matsushiro Arr**	**25.29**	**234**	P	**P**		**07 56 20.7**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=27,slow=7.8,SNR=8.0							
	comp=Z,2.8nm,0.7s							
TOLK	**Toolik Lake Re**	**25.32**	**39**	P	**P**		**07 56 21.6**	**+1.7**
TOLK				IAmb	IAmb		07 56 34.0	
	comp=Z,8.9nm,0.8s							
ILAR	**Eielson Array**	**26.09**	**48**	P	**P**		**07 56 27.5**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=263,slow=7.2,SNR=2.7							
	comp=Z,0.8nm,0.8s							
SCM	**Sheep Creek Mo**	**26.09**	**54**	P	**P**		**07 56 29.2**	**+2.2**
SCM				IAmb	IAmb		07 56 41.9	
	comp=Z,32nm,1.4s							
SCM	**Sheep Creek Mo**	**26.09**	**54**	P	**P**		**07 56 29.2**	**+2.2**
SCM				pmax	pmax			
	comp=Z,32nm,1.4s							
BMAR	**Burnt Mountain**	**27.06**	**42**	P	**P**		**07 56 37.9**	**+2.2**
EGAK	**Eagle**	**28.54**	**47**	P	**P**		**07 56 51.5**	**+2.6**
EGAK				IAmb	IAmb		07 57 05.9	
	comp=Z,11nm,1.5s							
INK	**Inuvik**	**31.21**	**40**	P	**P**		**07 57 13.1**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=306,slow=5.8,SNR=8.3							
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**31.21**	**40**	P	**P**		**07 57 13.5**	**+1.1**
EUNU	**Eureka**	**39.80**	**15**	P	**P**		**07 58 27.6**	**+1.5**
YKA	**Yellowknife Ar**	**40.46**	**45**	P	**P**		**07 58 34.0**	**+2.4**
	comp=Z,0.6nm,0.6s,baz=298,slow=8.2,SNR=3.0							
	comp=Z,0.6nm,0.6s							
YKA	**Yellowknife Ar**	**40.46**	**45**	P	**P**		**07 58 34.0**	**+2.4**
ZALV	**Zalesovo Beam**	**43.70**	**303**	P	**P**		**07 58 56.1**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=60,slow=6.8,SNR=4.7							
	comp=Z,0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**43.70**	**303**	*eP*	**P**		**07 58 57.0**	**-1.2**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
DGZ	**Jazzator, Alta**	**44.88**	**297**	*ǁeP*	**P**		**07 59 07.2**	**-0.7**
DGZ				pmax	pmax			
	comp=Z,9.0nm,0.7s							
KURK	**Kurchatov**	**48.69**	**303**	P	**P**		**07 59 36.7**	**-0.7**
KURK	**Kurchatov**	**48.69**	**303**	P	**P**		**07 59 36.7**	**-0.7**
KURK				pmax	pmax			
	comp=Z,16nm,1.0s							
MKAR	**Makanchi Array**	**49.38**	**296**	P	**P**		**07 59 41.9**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=54,slow=9.1,SNR=17							
	comp=Z,2.4nm,0.7s							
MKAR	**Makanchi Array**	**49.38**	**296**	P	**P**		**07 59 42.1**	**-0.7**
BRVK	**Borovoye**	**51.07**	**309**	P	**P**		**07 59 54.8**	**-0.7**
BRVK				IAmb	IAmb		07 59 56.4	
	comp=Z,2.6nm,0.7s							
BRVK	**Borovoye**	**51.07**	**309**	*ǁeP*	**P**		**07 59 54.6**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ARU	**Arti**	**53.62**	**318**	LR	LR		08 26 10.5	
	comp=Z,37nm,19.2s,baz=89,slow=40							
ARU	**Arti**	**53.62**	**318**	*d iP*	**P**		**08 00 13.6**	**-0.8**
ARU							08 01 18.2	
ARU							08 02 10.8	
ARU				S	**S**		**08 07 44.7**	**-2.8**
ARU				SS	**SKiKP**		**08 11 28.5**	**-0.2**
ARU				pmax	pmax			
	comp=Z,5.0nm,1.2s							
KIRV	**Kirov**	**55.32**	**325**	*ǁeP*	**P**		**08 00 27.3**	**+0.6**
AAK	**Ala-Archa**	**56.26**	**297**	*ǁeP*	**P**		**08 00 33.6**	**-0.4**
AAK				pmax	pmax			
	comp=Z,9.0nm,2.0s							
KK31	**Karatay Array**	**57.95**	**300**	P	**P**		**08 00 45.1**	**-0.6**
KK31				IAmb	IAmb		08 00 46.2	
	comp=Z,2.7nm,0.8s							
KK31	**Karatay Array**	**57.95**	**300**	P	**P**		**08 00 45.1**	**-0.6**
KK31				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KKAR	**Karatay Array**	**57.95**	**300**	P	**P**		**08 00 45.0**	**-0.7**
KKAR	**Karatay Array**	**57.95**	**300**	P	**P**		**08 00 45.0**	**-0.7**
ABKAR	**Akbulak array**	**58.34**	**312**	P	**P**		**08 00 48.2**	**-0.1**
FIA1	**FINESS Array S**	**59.42**	**338**	P	**P**		**08 00 55.9**	**+0.2**
FINES	**FINESS Array B**	**59.42**	**338**	P	**P**		**08 00 55.7**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=30,slow=7.8,SNR=26							
	comp=Z,1.2nm,0.5s							
FINES	**FINESS Array B**	**59.42**	**338**	P	**P**		**08 00 55.9**	**+0.2**
BTK	**Batken**	**60.04**	**298**		**P**		**08 01 00.3**	**0.0**
BTK	**Batken**	**60.04**	**298**	P	**P**		**08 01 00.3**	**0.0**
BTK				IAmb	IAmb		08 01 00.9	
	comp=Z,4.3nm,0.6s							
BTK	**Batken**	**60.04**	**298**	P	**P**		**08 01 00.3**	**0.0**
BTK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**60.63**	**260**	P	**P**		**08 01 06.0**	**+1.5**
	comp=Z,1.9nm,0.5s,baz=19,slow=7.6,SNR=13							
	comp=Z,1.9nm,0.5s							
BELG	**Belogornoye**	**60.83**	**321**	*ǁeP*	**P**		**08 01 05.6**	**+0.2**
BELG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
OBN	**Obninsk**	**62.25**	**329**	*eP*	**P**		**08 01 14.4**	**-0.5**
OBN				*e*			08 01 52.4	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,25nm,11.0s							
NOA	**NORSAR Array B**	**62.52**	**345**	P	**P**		**08 01 16.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=6.0,slow=5.1,SNR=1.6							
	comp=Z,0.6nm,0.6s							
FAKI	**Fak Fak**	**63.11**	**216**	P	**P**		**08 01 22.4**	**+1.3**
GEYT	**Alibeck**	**67.97**	**305**	P	**P**		**08 01 52.5**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=320,slow=4.4,SNR=4.0							
	comp=Z,1.7nm,0.5s							
TXAR	**Lajitas Array**	**68.00**	**70**	P	**P**		**08 01 54.5**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=292,slow=4.0,SNR=6.6							
	comp=Z,0.3nm,0.7s							
AKASG	**Malin Array Be**	**68.26**	**331**	P	**P**		**08 01 53.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=27,slow=6.5,SNR=4.2							
AKASG				LR	LR		08 35 36.0	
	comp=Z,38nm,18.8s,baz=61,slow=39							
	comp=Z,1.0nm,0.5s							
KBZ	**Khabaz**	**69.78**	**318**	P	**P**		**08 02 04.5**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=203,slow=1.8,SNR=6.5							
KBZ				LR	LR		08 36 46.5	
	comp=Z,19nm,20.2s,baz=12,slow=40							
	comp=Z,4.3nm,0.9s							
CLL	**Collm**	**71.53**	**341**	*i P*	**P**		**08 02 10.3**	**-3.8**
CLL				pmax	pmax			
	comp=Z,7.0nm,1.4s							
BRTR	**Keskin Array B**	**76.67**	**323**	P	**P**		**08 02 45.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=39,slow=2.8,SNR=1.6							
	comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	**78.54**	**208**	P	**P**		**08 02 54.9**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=20,slow=5.9,SNR=9.4							
	comp=Z,1.1nm,0.8s							
WRA	**Warramunga Arr**	**78.54**	**208**	*eP*	**P**		**08 02 56.0**	**+1.2**
WRA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
ASAR	**Alice Springs**	**82.20**	**207**	P	**P**		**08 03 15.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=18,slow=5.4,SNR=22							
	comp=Z,1.4nm,0.7s							
ESDC	**Sonseca Array**	**85.35**	**351**	P	**P**		**08 03 31.3**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=359,slow=5.8,SNR=5.8							
	comp=Z,0.9nm,0.8s							

*IDC **13** 08:02:23.6±0.8,5°.19S×150°.32E,h0km,mb4.1/6, mbtmp4.1/8,ML2.0/1,MS3.3/11,Error ellipse: s-maj=42.3km s-min=14.7km az=129.0*
*NEIC **13** 08:02:29.7±0.9,6°.15S±0°.09×151°.47E±0°.07,h60km±10km, mb4.3/12,Error ellipse: s-maj=14.8km s-min=5.9km az=146.0*

ISC 13 08:02:29.1±0.6,**6°.12S**±0°.07×**151°.39E**±0°.10,**h50**km,**n38,** σ1°59/32,**mb4.2**/11,**MS3.3**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	**Keravat (AS076**	**1.91**	**19**	Pn	**Pn**	**Pn**	**08 02 59.0**	**-0.3**
	1μm,0.3s,baz=292,slow=1.9,SNR=223							
KRVT				Sn	**Sn**	**Sn**	**08 03 25.0**	**+2.8**
	772nm,0.3s,baz=162,slow=21,SNR=4.3							
KRVT				LR	LR		08 03 28.5	
	comp=Z,185nm,19.0s,baz=20,slow=34							
RABL	**Rabaul**	**2.07**	**22**		**Pn**	**Pn**	**08 03 01.7**	**+0.3**
PMG	**Port Moresby**	**5.31**	**232**	Pn	**Pn**	**Pn**	**08 03 44.9**	**-1.1**
	3.2nm,0.3s,baz=29,slow=13,SNR=9.1							
PMG				Sn	**Sn**	**Sn**	**08 04 45.8**	**-0.1**
	11nm,0.3s,baz=117,slow=17,SNR=6.8							
	14nm,0.7s							
PMG	**Port Moresby**	**5.31**	**232**			**Pn**	**08 03 46.5**	**+0.6**
MANU	**Manus Island**	**5.70**	**315**			**Pn**	**08 03 52.5**	**+1.2**
CTA	**Charters Tower**	**14.75**	**199**	Pn		**P**	**08 06 03.2**	**+3.3**
	3.0nm,0.6s,baz=12,slow=13,SNR=5.4							
CTA				LR	LR		08 11 35.4	
	comp=Z,100nm,18.2s,baz=40,slow=36							
EIDS	**Eidsvold**	**19.14**	**181**	P		**P**	**08 06 47.5**	**-0.8**
EIDS				IAmb	IAmb		08 06 49.8	
	comp=Z,12nm,1.1s							
MTN	**Manton Dam**	**21.06**	**250**	P		**P**	**08 07 09.1**	**-0.1**
MTN				IAmb	IAmb		08 07 32.0	
	comp=Z,20nm,1.1s							
WB0	**Warramunga Arr**	**21.38**	**229**	P		**P**	**08 07 12.9**	**+0.2**
WB0				IAmb	IAmb		08 07 16.2	
	comp=Z,21nm,1.5s							
WR0	**Warramunga Arr**	**21.38**	**228**	P		**P**	**08 07 12.7**	**0.0**
WB2	**Warramunga Arr**	**21.52**	**229**	P		**P**	**08 07 14.2**	**+0.1**
WB2				IAmb	IAmb		08 07 32.2	
	comp=Z,6.4nm,0.7s							
DZM	**Mont Dzum

ML2.1(UPP), Suspected explosion
ISC 13 08:33:08.1±0.8, **58.99N**±0.02×**18.18E**±0.03, **h0**km, **n62,**
σ1§**06**/79, **Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.73**	**18**	P	**Pg**	**08 33 22.6**	**+0.6**
NRTU				S	**Sg**	**08 33 31.8**	**+0.4**
NRTU	**Norrtaelje**	**0.73**	**18**	P	**Pg**	**08 33 22.6**	**+0.6**
NRTU				S	**Sg**	**08 33 31.8**	**+0.4**
NRTU	**Norrtaelje**	**0.73**	**18**	P	**Pg**	**08 33 22.6**	**+0.6**
NRTU				S	**Sg**	**08 33 31.8**	**+0.4**
VIKU	**Vikbolandet**	**0.91**	**238**	P	**Pb**	**08 33 26.6**	**-0.2**
VIKU				S	**Sb**	**08 33 39.6**	**+0.2**
VIKU	**Vikbolandet**	**0.91**	**238**	P	**Pb**	**08 33 26.6**	**-0.2**
VIKU				S	**Sb**	**08 33 39.6**	**+0.2**
VIKU	**Vikbolandet**	**0.91**	**238**	P	**Pb**	**08 33 26.6**	**-0.2**
VIKU				S	**Sb**	**08 33 39.6**	**+0.2**
ESKU	**Eskilstuna**	**0.95**	**286**	P	**Pg**	**08 33 26.9**	**+0.6**
ESKU				S	**Sg**	**08 33 39.3**	**+0.7**
ESKU	**Eskilstuna**	**0.95**	**286**	P	**Pg**	**08 33 26.9**	**+0.6**
ESKU				S	**Sg**	**08 33 39.3**	**+0.7**
ESKU	**Eskilstuna**	**0.95**	**286**	P	**Pg**	**08 33 26.9**	**+0.6**
ESKU				S	**Sg**	**08 33 39.3**	**+0.7**
FIBU	**Brunna**	**1.01**	**336**	P	**Pg**	**08 33 27.9**	**+0.5**
FIBU				S	**Sg**	**08 33 41.5**	**+1.0**
FIBU	**Brunna**	**1.01**	**336**	P	**Pg**	**08 33 27.9**	**+0.5**
FIBU				S	**Sg**	**08 33 41.5**	**+1.0**
FIBU	**Brunna**	**1.01**	**336**	P	**Pg**	**08 33 27.9**	**+0.5**
FIBU				S	**Sg**	**08 33 41.5**	**+1.0**
BACU	**Backbrunna**	**1.03**	**328**	P	**Pg**	**08 33 28.2**	**+0.4**
BACU	**Backbrunna**	**1.03**	**328**	P	**Pg**	**08 33 28.2**	**+0.4**
BACU	**Backbrunna**	**1.03**	**328**	P	**Pg**	**08 33 28.2**	**+0.4**
FLYU	**Flymyra**	**1.15**	**353**	P	**Pg**	**08 33 30.6**	**+0.4**
FLYU	**Flymyra**	**1.15**	**353**	P	**Pg**	**08 33 30.6**	**+0.4**
FLYU	**Flymyra**	**1.15**	**353**	P	**Pg**	**08 33 30.6**	**+0.4**
GOTU	**Gotland**	**1.32**	**171**	P	**Pg**	**08 33 33.4**	**0.0**
GOTU	**Gotland**	**1.32**	**171**	P	**Pg**	**08 33 33.4**	**0.0**
GOTU	**Gotland**	**1.32**	**171**	P	**Pg**	**08 33 33.4**	**0.0**
OSTU	**Oestersaala**	**1.35**	**337**	P	**Pg**	**08 33 34.2**	**+0.2**
OSTU	**Oestersaala**	**1.35**	**337**	P	**Pg**	**08 33 34.2**	**+0.2**
OSTU	**Oestersaala**	**1.35**	**337**	P	**Pg**	**08 33 34.2**	**+0.2**
GRAU	**Graesoe**	**1.36**	**8**	P	**Pg**	**08 33 34.3**	**+0.1**
GRAU	**Graesoe**	**1.36**	**8**	P	**Pg**	**08 33 34.3**	**+0.1**
GRAU	**Graesoe**	**1.36**	**8**	P	**Pg**	**08 33 34.3**	**+0.1**
FORU	**Forsmark**	**1.40**	**360**	P	**Pn**	**08 33 35.0**	**+0.2**
FORU	**Forsmark**	**1.40**	**360**	P	**Pn**	**08 33 35.0**	**+0.2**
FORU	**Forsmark**	**1.40**	**360**	P	**Pn**	**08 33 35.0**	**+0.2**
AAL	**Aland**	**1.51**	**37**	P	**Pn**	**08 33 36.6**	**+0.3**
VSTU	**Vaestervik**	**1.59**	**214**	P	**Pg**	**08 33 38.6**	**+0.2**
VSTU	**Vaestervik**	**1.59**	**214**	P	**Pg**	**08 33 38.6**	**+0.2**
VSTU	**Vaestervik**	**1.59**	**214**	P	**Pg**	**08 33 38.6**	**+0.2**
LNKU	**Linkoeping**	**1.60**	**242**	P	**Pb**	**08 33 38.7**	**+0.3**
LNKU	**Linkoeping**	**1.60**	**242**	P	**Pb**	**08 33 38.7**	**+0.3**
LNKU	**Linkoeping**	**1.60**	**242**	P	**Pb**	**08 33 38.7**	**+0.3**
NRAU	**Nora**	**1.71**	**291**	P	**Pb**	**08 33 40.6**	**+0.3**
NRAU	**Nora**	**1.71**	**291**	P	**Pb**	**08 33 40.6**	**+0.3**
NRAU	**Nora**	**1.71**	**291**	P	**Pb**	**08 33 40.6**	**+0.3**
SLIT	**Slitere, Latvi**	**2.56**	**120**	*eP*	**Pn**	**08 33 52.7**	**+1.9**
RAF	**Rauma**	**2.72**	**40**	*eP*	**Pb**	**08 33 56.0**	**-1.5**
ARNU	**Arnoeviken**	**2.74**	**352**	P	**Pn**	**08 33 54.2**	**+0.9**
ARNU	**Arnoeviken**	**2.74**	**352**	P	**Pn**	**08 33 54.2**	**+0.9**
ARNU	**Arnoeviken**	**2.74**	**352**	P	**Pn**	**08 33 54.2**	**+0.9**
MTSE	**Matsula**	**2.94**	**93**	*eP*	**Pn**	**08 33 56.8**	**+0.8**
MEF	**Metsahovi**	**3.39**	**66**	*eP*	**Pn**	**08 34 04.2**	**+2.1**
STRU	**Stroemstad**	**3.62**	**274**	*eP*	**Pn**	**08 34 07.6**	**+2.3**
NC602	**NORSAR Array S**	**3.78**	**300**	*eP*	**Pn**	**08 34 09.0**	**+1.5**
NC602				IAML		08 35 31.1	
	comp=Z,4.2nm,0.4s						
NB201	**NORSAR Array S**	**4.03**	**304**	*eP*	**Pn**	**08 34 10.6**	**-0.4**
NB201				IAML		08 35 29.3	
	comp=Z,4.3nm,0.7s						
NOA	**NORSAR Array B**	**4.06**	**303**	Pn	**Pn**	**08 34 11.6**	**+0.2**
	baz=300,slow=19,SNR=1.9						
NOA				Pg	**Pb**	**08 34 20.0**	**-0.3**
	baz=276,slow=17,SNR=1.5						
NOA				Lg	Lg	08 35 17.6	
	comp=Z,0.1nm,0.3s,baz=215,slow=16,SNR=6.1						
	comp=Z,0.8nm,0.9s						
NC303	**NORSAR Array S**	**4.08**	**306**	*eP*	**Pn**	**08 34 13.1**	**+1.5**
NC303				IAML		08 35 30.9	
	comp=Z,4.6nm,0.4s						
NAO01	**NORSAR Array S**	**4.12**	**300**	*eP*	**Pn**	**08 34 13.1**	**+0.9**
NBO00	**NORSAR Array S**	**4.24**	**302**	*eP*	**Pn**	**08 34 14.9**	**+1.0**
BSD	**Bornholm Skovb**	**4.27**	**206**	*eP*	**Pb**	**08 34 22.6**	**-1.3**
NC204	**NORSAR Array S**	**4.36**	**305**	*eP*	**Pn**	**08 34 16.9**	**+1.3**
KONO	**Kongsberg**	**4.45**	**282**	*eP*	**Pn**	**08 34 16.4**	**-0.3**
KONO				*e*Sg	**Sg**	**08 35 28.7**	**-2.1**
KONO				IAML		08 35 45.4	
	comp=Z,4.2nm,0.6s						
VSU	**Vasula**	**4.49**	**93**	*eP*	**Pn**	**08 34 17.8**	**+0.5**
FINES	**FINESS Array B**	**4.64**	**55**	Pn	**Pn**	**08 34 22.1**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=244,slow=12,SNR=8.0						
FINES				Sn	**Sn**	**08 35 15.2**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=244,slow=21,SNR=6.8						
FINES				Lg	Lg	08 35 41.1	
	comp=Z,1.0nm,0.3s,baz=243,slow=20,SNR=7.1						
	comp=Z,1.5nm,0.9s						
SKAR	**Skarslia**	**5.26**	**293**	*eP*	**Pn**	**08 34 29.0**	**+1.1**
SKAR				*e*S	**Sn**	**08 35 25.5**	**-3.7**
SKAR				IAML		08 36 09.0	
	comp=Z,2.4nm,0.6s						
DOMB	**Dombas**	**5.45**	**308**	*e*Pg	**Pb**	**08 34 45.9**	**+1.9**
DOMB				IAML		08 36 04.7	
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**11.04**	**14**	Pn	**Pn**	**08 35 45.7**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=196,slow=13,SNR=5.1						
ARCES				Sn	**Sn**	**08 37 47.5**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=197,slow=20,SNR=1.1						

*NNC **13** 08:42:49.0±0.9, 50°.38N×73°.43E, h0km, mb3.4, mpv3.0,*
Error ellipse: s-maj=10.3km s-min=6.8km az=90.0,
Suspected Mining explosion.
*IDC **13** 08:42:53.2±2.4, 50°.59N×73°.58E, h0km, mbtmp2.7/2,*
ML1.9/2, Error ellipse: s-maj=37.8km s-min=10.1km
az=28.0
ISC 13 08:42:49.3±1.0, **50°.30N**±0°.06×**73°.27E**±0°.07, **h0**km, **n12,**
σ1§**46**/12, **4C-7D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.14**	**197**	⇑Pn	**Pb**	**08 43 28.3**	**-0.6**
	6.6nm,0.4s						
OTUK				⇓Sn	**Sb**	**08 43 57.3**	**+1.3**
	18nm,0.5s						
BVA0	**Borovoye Array**	**3.27**	**328**	⇑Pg	**Pb**	**08 43 48.9**	**+0.8**
BVA0				⇑Lg	Lg	08 44 31.0	
BVAR	**Borovoye Array**	**3.27**	**328**	Pg	**Pb**	**08 43 48.6**	**+0.5**
	0.3nm,0.3s,baz=141,slow=17,SNR=28						
BVAR				Lg	Lg	08 44 32.5	
	0.3nm,0.3s,baz=137,slow=30,SNR=5.1						
BRVK	**Borovoye**	**3.33**	**327**	⇑Pg	**Pb**	**08 43 49.3**	**+0.1**
	2.9nm,0.7s						
BRVK				⇓Lg	Lg	08 44 34.2	
	26nm,0.9s						
KURBB	**Kurchatov Arra**	**3.38**	**82**	Pn	**Pn**	**08 43 43.1**	**-0.1**
	0.1nm,0.3s,baz=268,slow=13,SNR=5.8						
KURBB				Lg	Lg	08 44 32.8	
	0.3nm,0.3s,baz=305,slow=40,SNR=11						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**3.38**	**82**	⇓Pg	**Pb**	**08 43 49.2**	**-0.7**
	5.3nm,0.7s						
KURBB				⇓Lg	Lg	08 44 33.1	
	36nm,0.7s						
MAKZ	**Makanchi**	**6.75**	**118**	⇓Lg	Lg	08 46 16.7	
	3.9nm,0.7s						
MKAR	**Makanchi Array**	**6.94**	**117**	Pg	**Pb**	**08 44 52.4**	**+1.8**
	0.4nm,0.3s,baz=301,slow=17,SNR=12						
MKAR				Lg	Lg	08 46 22.7	
	0.3nm,0.3s,baz=309,slow=25,SNR=7.6						
MK07	**Makanchi Array**	**6.97**	**117**	Lg	Lg	08 46 22.9	
KK31	**Karatay Array**	**7.44**	**196**	⇓Pn	**Pn**	**08 44 39.2**	**+0.2**
	0.2nm,0.3s,baz=17,slow=14,SNR=5.0						
KK31				⇓Sn	**Sn**	**08 46 01.5**	**-2.6**
	0.9nm,0.6s,baz=12,slow=23,SNR=6.0						
I46RU	**ZALESOVO INFRA**	**7.99**	**58**	I		09 27 40.0	
	baz=244,slow=318,SNR=1.1						
ZALV	**Zalesovo Beam**	**7.99**	**58**	Pn	**Pn**	**08 44 48.0**	**+1.5**
	0.2nm,0.3s,baz=249,slow=15,SNR=2.3						
ZALV				Sn	**Sn**	**08 46 15.7**	**-1.9**
	0.3nm,0.3s,baz=246,slow=24,SNR=3.1						
	0.4nm,0.3s						

*NEIC **13** 08:53:26.6±0.7, 4°.6S×150°.1E×0°.1, h105km±8km,*
mb4.1/13, Error ellipse: s-maj=21.9km s-min=13.6km
az=222.0
*IDC **13** 08:53:28.8±5.0, 4°.82S×153°.82E, h102km±35km, mb3.7/5,*
mbtmp4.2/6, MS3.3/3, Error ellipse: s-maj=49.7km
s-min=20.0km az=93.0
ISC 13 08:53:26.6±0.9, **4.73S**±0°.09×**154°.0E**±0°.1, **h100**km, **n26,**
σ1§**03**/26, **mb3.9**/11, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.90**	**286**		**Pn**	**08 53 59.0**	**+1.1**
KRVT	**Keravat (AS076**	**2.00**	**282**	P	**Pn**	**08 53 60.0**	**+0.8**
	226nm,0.3s,baz=222,slow=0.7,SNR=70						
KRVT				S	**Sn**	**08 54 23.1**	**-1.0**
	268nm,0.4s,baz=301,slow=22,SNR=4.6						
HNR	**Honiara**	**7.53**	**129**	LR	LR	08 57 43.9	
	comp=Z,482nm,21.5s,baz=1.5,slow=34						
PMG	**Port Moresby**	**8.21**	**235**	P	**Pn**	**08 55 24.0**	**+0.9**
	56nm,0.4s,baz=45,slow=8.0,SNR=32						
PMG				S	**Sn**	**08 56 53.2**	**-1.1**
	21nm,0.4s,baz=71,slow=13,SNR=5.5						
WB0	**Warramunga Arr**	**24.24**	**230**	P	**P**	**08 58 35.1**	**+0.7**
WB0				IAmb	IAmb	08 58 36.1	
	comp=Z,5.6nm,0.7s						
WR0	**Warramunga Arr**	**24.24**	**230**	P	**P**	**08 58 35.4**	**+1.0**
WR0				IAmb	IAmb	08 59 03.1	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**24.38**	**230**	P	**P**	**08 58 36.5**	**+0.8**
WB2				IAmb	IAmb	08 58 37.6	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**24.39**	**230**	P	**P**	**08 58 36.6**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=54,slow=9.8,SNR=35						
WRA				LR	LR	09 09 08.2	
	comp=Z,23nm,18.6s,baz=76,slow=39						
	comp=Z,3.6nm,0.7s						
WRA	**Warramunga Arr**	**24.39**	**230**	P	**P**	**08 58 35.4**	**-0.4**
ARMA	**Armidale**	**25.65**	**185**	P	**P**	**08 58 47.3**	**+0.1**
ARMA				IAmb	IAmb	08 59 06.8	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**27.01**	**224**	P	**P**	**08 58 59.6**	**+0.2**
ASAR	**Alice Springs**	**27.01**	**224**	P	**P**	**08 58 59.8**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=54,slow=9.0,SNR=15						
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**27.01**	**224**	P	**P**	**08 58 59.2**	**-0.2**
KNRA	**Kununurra**	**27.07**	**244**	P	**P**	**08 58 59.9**	**-0.1**
STKA	**Stephens Creek**	**29.40**	**202**	P	**P**	**08 59 19.8**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=35,slow=16,SNR=4.2						
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**29.40**	**202**	P	**P**	**08 59 20.7**	**+0.1**
STKA				IAmb	IAmb	08 59 30.3	
	comp=Z,2.7nm,1.4s						
FITZ	**Fitzroy Crossi**	**30.73**	**242**	P	**P**	**08 59 31.5**	**-1.0**
JMZ	**Minamidaito 2**	**37.55**	**325**	P	**P**	**09 00 29.4**	**-1.9**
TUWZ	**Tuamarina**	**40.67**	**157**	P	**P**	**09 00 56.4**	**-0.8**
MORW	**Morawa**	**43.31**	**232**	P	**P**	**09 01 19.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**44.28**	**226**	LR	LR	09 20 03.1	
	comp=Z,36nm,18.7s,baz=296,slow=36						
CASY	**Casey**	**68.43**	**197**	P	**P**	**09 04 17.7**	**+0.2**
MKAR	**Makanchi Array**	**81.05**	**319**	P	**P**	**09 05 33.1**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=100,slow=6.7,SNR=4.5						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**81.75**	**326**	P	**P**	**09 05 35.7**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=117,slow=5.7,SNR=1.8						
	comp=Z,0.5nm,0.5s						
QSPA	**South Pole Qui**	**85.23**	**180**	P	**P**	**09 05 51.9**	**0.0**
QSPA				IAmb	IAmb	09 06 15.4	
	comp=Z,1.5nm,1.1s						
BRVK	**Borovoye**	**89.96**	**323**	P	**P**	**09 06 13.3**	**-1.4**
BRVK				IAmb	IAmb	09 06 41.5	
	comp=Z,3.1nm,0.7s						

*NEIC **13** 09:10:33.9±1.8, 12°.6N±0°.1×51°.2E±0°.1, h15km±6km,*
mb4.4/28, Error ellipse: s-maj=24.9km s-min=13.4km
az=138.0
*IDC **13** 09:10:34.2±0.9, 13°.11N×50°.96E, h0km, mb4.1/17,*
mbtmp4.1/18, ML4.7/1, MS3.5/35, Error ellipse:
s-maj=24.3km s-min=17.2km az=24.0
*OMAN **13** 09:10:41.0±0.7, 13°.82N×50°.68E, h30km±10km, mb5.1/2,*
ml4.0/2, ms4.0/1, Error ellipse: s-maj=32.8km s-min=2.1km
az=327.0
ISC 13 09:10:36.4±0.8, **13°.3N**±0°.1×**51°.03E**±0°.08, **h10**km, **n79,**
σ1§**75**/60, **mb4.4**/27, **MS3.6**/32, **Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**4.59**	**28**	P	**Pn**	**09 11 45.1**	**-1.0**
	SNR=10						
ABTO				S	**Sn**	**09 12 35.1**	**-4.5**
RBK	**Rabkut**	**5.19**	**36**	P	**Pn**	**09 11 54.0**	**-0.3**
	SNR=20						
RBK				S	**Sn**	**09 12 51.2**	**-3.0**
DMTO	**DMTO**	**5.80**	**40**	P	**Pn**	**09 12 03.0**	**+0.4**
	SNR=9.9						
DMTO				S	**Sn**	**09 13 08.7**	**-0.5**
DOK	**Doka**	**6.08**	**29**	P	**Pn**	**09 12 05.5**	**-0.9**
	SNR=5.8						
DOK				S	**Sn**	**09 13 12.2**	**-3.9**
ATD	**Arta Tunnel**	**8.18**	**259**	Pn	**Pn**	**09 12 33.7**	**-1.7**
	11nm,0.3s,baz=60,slow=20,SNR=11						
ATD				Sn	**Sn**	**09 14 08.0**	**0.0**
	4.6nm,0.3s,baz=81,slow=19,SNR=4.6						
ATD				LR	LR	09 14 56.2	
	comp=Z,609nm,19.6s,baz=101,slow=32						
	23nm,0.3s						
ATD	**Arta Tunnel**	**8.18**	**259**		**Pn**	**09 12 32.9**	**-2.4**
ATD	**Arta Tunnel**	**8.18**	**259**	P	**Pn**	**09 12 34.8**	**-0.6**
	SNR=6.7						
MHTO	**MHTO**	**10.12**	**40**	P	**Pn**	**09 13 02.1**	**+0.2**
WSAR	**Wadi Sarin**	**12.24**	**35**	LR	LR	09 17 58.1	
	comp=Z,466nm,20.4s,baz=238,slow=36						
UOSS	**Minazif**	**12.58**	**22**	Pn	**Pn**	**09 13 39.3**	**+3.8**
KMBO	**Kilima Mbogo**	**19.79**	**225**	LR	LR	09 22 42.8	
	comp=Z,183nm,18.4s,baz=91,slow=37						
KIBK	**Kibwezi**	**20.18**	**221**	P	P	09 15 02.9	-8.5
EIL	**Elat**	**22.08**	**320**	LR	LR	09 23 30.5	
	comp=Z,108nm,18.7s,baz=63,slow=35						
GHAJ	**Ghor Haditha**	**22.88**	**324**	P	**P**	**09 15 42.0**	**+1.8**
HRA	**Herat**	**23.34**	**24**	P	**P**	**09 15 46.9**	**+1.8**
MMAI	**Mount Meron Ar**	**24.27**	**327**	LR	LR	09 25 37.5	
	comp=Z,64nm,19.7s,baz=72,slow=37						
GEYT	**Alibeck**	**25.34**	**13**	P	**P**	**09 16 05.9**	**+2.3**
	6.8nm,0.9s,baz=204,slow=10,SNR=8.2						
GEYT				LR	LR	09 28 05.2	
	comp=Z,389nm,18.9s,baz=190,slow=41						
	6.8nm,0.9s						
GEYT	**Alibeck**	**25.34**	**13**	P	**P**	**09 16 05.1**	**+1.5**
GEYT				IAmb	IAmb	09 16 13.4	
	comp=Z,11nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**25.34**	**13**	P	**P**	**09 16 05.3**	**+1.8**
GYA0B				IAmb	IAmb	09 16 13.4	
	comp=Z,11nm,1.1s						
MARD	**Mardin**	**25.62**	**341**	P	**P**	**09 16 08.8**	**+2.6**
MARD				IAmb	IAmb	09 16 18.1	
	comp=Z,12nm,1.2s						
GEVA	**Gevas**	**25.91**	**346**	P	**P**	**09 16 11.7**	**+2.8**
GEVA				IAmb	IAmb	09 16 24.3	
	comp=Z,9.3nm,0.9s						
GURO	**Guroymak-BITLI**	**26.39**	**344**	P	**P**	**09 16 15.8**	**+2.5**
KBL	**Kabul**	**26.72**	**35**	P	**P**	**09 16 18.1**	**+1.7**
GAZ	**Gaziantep**	**26.80**	**335**	P	**P**	**09 16 18.5**	**+1.6**
GAZ				IAmb	IAmb	09 16 45.4	
	comp=Z,4.4nm,0.6s						
GNI	**Garni**	**27.32**	**349**	P	**P**	**09 16 24.3**	**+2.6**
	comp=Z,5.3nm,0.5s,baz=150,slow=20,SNR=3.9						
GNI				LR	LR	09 29 29.8	
	comp=Z,187nm,18.4s,baz=174,slow=41						
	comp=Z,5.3nm,0.5s						
GNI	**Garni**	**27.32**	**349**	P	**P**	**09 16 23.0**	**+1.4**
NIL	**Nilore**	**28.63**	**41**	P	**P**	**09 16 32.4**	**-0.8**
NIL				IAmb	IAmb	09 16 59.5	
	comp=Z,3.8nm,0.6s						
PALK	**Pallekele**	**29.79**	**99**	LR	LR	09 27 25.0	
	comp=Z,42nm,18.2s,baz=8.7,slow=34						
ONI	**Oni**	**29.92**	**349**	P	**P**	**09 16 45.9**	**+1.3**
ONI				IAmb	IAmb	09 16 51.8	
	comp=Z,6.4nm,1.3s						
CHGR	**Chuyangaron**	**29.95**	**29**	P	**P**	**09 16 46.4**	**+1.4**
ELL	**Elmali**	**30.06**	**325**	P	**P**	**09 16 47.9**	**+1.9**
BR131	**Keskin Array S**	**30.46**	**333**	P	**P**	**09 16 49.9**	**+0.3**
BRTR	**Keskin Array B**	**30.46**	**333**	P	**P**	**09 16 51.9**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=157,slow=7.8,SNR=2.7						
BRTR				PcP	**PcP**	**09 19 49.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=108,slow=4.7,SNR=2.5						
BRTR				LR	LR	09 30 45.0	
	comp=Z,56nm,19.4s,baz=136,slow=40						
	comp=Z,0.6nm,0.8s						
GAR	**Garm**	**30.77**	**30**	P	**P**	**09 16 53.0**	**+0.6**
GAR				IAmb	IAmb	09 17 07.2	
	comp=Z,10nm,1.3s						
KBZ	**Khabaz**	**31.13**	**349**	P	**P**	**09 16 56.6**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=177,slow=10,SNR=4.9						
KBZ				LR	LR	09 31 56.3	
	comp=Z,147nm,20.4s,baz=158,slow=41						
	comp=Z,2.7nm,0.7s						
KIV	**Kislovodsk**	**31.39**	**348**	P	**P**	**09 16 59.2**	**+1.6**
KIV				IAmb	IAmb	09 17 02.4	
	comp=Z,8.3nm,1.0s						
BTK	**Batken**	**31.84**	**30**	P	**P**	**09 17 03.0**	**+1.4**
BTK				IAmb	IAmb	09 17 10.3	
	comp=Z,4.1nm,0.7s						
OPO	**Ambohidratompo**	**31.89**	**187**	LR	LR	09 28 19.8	
	comp=Z,72nm,21.3s,baz=166,slow=34						
KK31	**Karatay Array**	**34.13**	**26**	P	**P**	**09 17 23.9**	**+2.3**
KKAR	**Karatay Array**	**34.13**	**26**	P	**P**	**09 17 23.7**	**+2.1**
AAK	**Ala-Archa**	**35.59**	**30**	LR	LR	09 34 32.5	
	comp=Z,99nm,21.9s,baz=226,slow=40						
LSZ	**Lusaka**	**36.28**	**219**	LR	LR	09 33 03.2	
	comp=Z,146nm,18.3s,baz=30,slow=37						
ABKAR	**Akbulak array**	**36.61**	**10**	P	**P**	**09 17 43.8**	**+1.0**
TARG	**Taragay, Kyrgy**	**36.67**	**34**	P	**P**	**09 17 46.4**	**+2.5**
BELG	**Belogorsnoye**	**39.10**	**357**	LR	LR	09 38 10.5	
	comp=Z,89nm,18.4s,baz=140,slow=42						
AKASG	**Malin Array Be**	**41.31**	**339**	P	**P**	**09 18 22.0**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=146,slow=6.9,SNR=5.7						
AKASG				PcP	**PcP**	**09 20 20.8**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=130,slow=2.7,SNR=4.2						
AKASG				LR	LR	09 36 22.0	
	comp=Z,34nm,19.1s,baz=62,slow=37						
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**42.46**	**32**	P	**P**	**09 18 32.8**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=223,slow=8.2,SNR=10						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**42.46**	**32**	P	**P**	**09 18 31.5**	**-0.2**
BVAR	**Borovoye Array**	**42.53**	**17**	LR	LR	09 38 57.4	
	comp=Z,89nm,21.3s,baz=203,slow=40						
ARU	**Arti**	**43.44**	**6**	LR	LR	09 39 59.1	
	comp=Z,85nm,18.9s,baz=146,slow=40						
KEST	**Kesra**	**43.58**	**308**	P	**P**	**09 18 40.3**	**-0.6**
KEST				IAmb	IAmb	09 18 42.7	
	comp=Z,12nm,1.2s						
LBTB	**Lobatse**	**45.44**	**213**	LR	LR	09 36 46.6	
	comp=Z,68nm,19.6s,baz=50,slow=35						
TSUM	**Tsumeb**	**46.13**	**226**	LR	LR	09 40 00.1	
	comp=Z,156nm,18.9s,baz=353,slow=38						
CMAR	**Chiang Mai Arr**	**46.27**	**77**	P	**P**	**09 19 02.6**	**0.0**
	comp=Z,2.0nm,0.3s,baz=275,slow=8.5,SNR=14						
CMAR				LR	LR	09 39 35.7	
	comp=Z,11nm,18.7s,baz=265,slow=38						
	comp=Z,2.0nm,0.3s						
GERES	**GERESS Array B**	**46.93**	**327**	P	**P**	**09 19 06.0**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=119,slow=10,SNR=2.2						
GERES				PcP	**PcP**	**09 20 39.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=120,slow=5.8,SNR=2.3						
GERES				LR	LR	09 41 43.7	
	comp=Z,19nm,19.9s,baz=82,slow=40						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**48.51**	**26**	P	**P**	**09 19 19.7**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=229,slow=9.2,SNR=7.3						
	comp=Z,1.7nm,0.6s						
BOSA	**Boshof**	**48.55**	**211**	LR	LR	09 39 18.9	
	comp=Z,51nm,18.7s,baz=25,slow=36						
SLIT	**Slitere, Latvi**	**49.32**	**340**	*eP*	P	09 19 15.6	-10
MTSE	**Matsula**	**49.71**	**342**	*eP*	P	09 19 24.1	-4.4
MEF	**Metsahovi**	**50.77**	**343**	*eP*	**P**	**09 19 33.9**	**-2.7**
FINES	**FINESS Array B**	**51.35**	**345**	P	**P**	**09 19 40.6**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=150,slow=9.0,SNR=20						
FINES				LR	LR	09 45 07.2	
	comp=Z,40nm,20.1s,baz=163,slow=40						
	comp=

MKAR	**Makanchi Array**	**40.78**	**295**	P		**P**	**09 21 30.2**	**+0.9**
	0.5nm,0.5s,baz=61,slow=12,SNR=3.6								
	0.5nm,0.5s								
ILAR	**Eielson Array**	**42.92**	**37**	P		**P**	**09 21 44.9**	**-1.4**
	0.3nm,0.6s,baz=268,slow=5.4,SNR=2.6								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**64.74**	**188**	P		**P**	**09 24 24.4**	**+0.3**
	0.2nm,0.6s,baz=349,slow=6.9,SNR=0.7								
	0.2nm,0.6s								
ASAR	**Alice Springs**	**68.47**	**188**	P		**P**	**09 24 48.6**	**+1.0**
	0.2nm,0.5s,baz=6.6,slow=5.3,SNR=4.9								
	0.2nm,0.5s								
PDAR	**Pinedale Array**	**72.06**	**47**	P		**P**	**09 25 10.4**	**+0.8**
	0.3nm,0.6s,baz=304,slow=1.6,SNR=4.2								
	0.3nm,0.6s								

*MOS **13** 09:18:13.5±0.0,42.˚51N×48.˚33E,h30km,MPVA3.8*
*DRS **13** 09:18:14.3±0.0,42.˚52N×48.˚42E,h14km*
ISC 13 09:18:13.0±2.1,**42.˚55N**±0.˚05×**48.˚44E**±0.˚08,**h13**km±11km,
n17,σ0**942**/34,**Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DRN	**Derbent**	**0.53**	**189**	*e*P	g	**Pb**	**09 18 24.4**	**+0.4**
DRN				*e*Sg		**Sb**	**09 18 31.8**	**+0.3**
URKR	**Urkarakh**	**0.71**	**238**	*e*Pg		**Pb**	**09 18 27.3**	**0.0**
URKR				*e*Sg		**Sg**	**09 18 36.5**	**+0.3**
MAK	**Makhachkala**	**0.80**	**301**	*e*Pg		**Pb**	**09 18 28.7**	**-0.1**
MAK				*e*Sg		**Sg**	**09 18 39.0**	**-0.1**
KSMR	**Kasumkent**	**0.98**	**194**	*e*Pg		**Pn**	**09 18 32.7**	**+0.3**
KSMR				*e*Sg		**Sn**	**09 18 45.7**	**-0.4**
BUJR	**Buynaksk**	**1.02**	**286**	*e*Pg		**Pn**	**09 18 32.7**	**-0.3**
BUJR				*e*Sg		**Sb**	**09 18 46.3**	**+0.5**
ARKR	**Arakani**	**1.07**	**273**	*e*Pg		**Pg**	**09 18 33.7**	**0.0**
ARKR				*e*Sg		**Sb**	**09 18 47.8**	**+0.5**
KMKR	**Kumukh**	**1.08**	**248**	*e*Pg		**Pb**	**09 18 33.6**	**-0.1**
KMKR				*e*Sg		**Sb**	**09 18 47.9**	**+0.2**
GNBR	**Gunib**	**1.10**	**262**	*e*Pg		**Pn**	**09 18 34.0**	**-0.2**
GNBR				*e*Sg		**Sb**	**09 18 48.6**	**+0.3**
KRNR	**Karanay**	**1.17**	**284**	*e*Pg		**Pg**	**09 18 35.4**	**-0.1**
KRNR				*e*Sg		**Sb**	**09 18 50.8**	**+0.7**
AKT	**Akhty**	**1.19**	**207**	*e*Pg		**Pn**	**09 18 34.8**	**-0.7**
AKT				*e*Sg		**Sb**	**09 18 50.8**	**-0.1**
UNCR	**Uncukul**	**1.23**	**278**	*e*Pg		**Pb**	**09 18 36.2**	**+0.2**
UNCR				*e*Sg		**Sb**	**09 18 52.4**	**+0.6**
DBC	**Dubki**	**1.28**	**292**	*e*Pg		**Pb**	**09 18 37.1**	**+0.2**
DBC				*e*Sg		**Sn**	**09 18 53.9**	**+0.4**
DLMR	**Dylym**	**1.43**	**292**	*e*Pg		**Pb**	**09 18 39.7**	**+0.2**
DLMR				*e*Sg		**Sg**	**09 18 58.9**	**-0.2**
BTLR	**Botlikh**	**1.64**	**275**	*e*Pg		**Pb**	**09 18 43.0**	**-0.1**
BTLR				*e*Sg		**Sb**	**09 19 04.7**	**+0.9**
DVE	**Vedeno**	**1.75**	**284**	*e*Pg		**Pb**	**09 18 44.3**	**-0.7**
DVE				*e*Sg		**Sb**	**09 19 07.3**	**+0.3**
LGD	**Lagodekhi**	**1.78**	**247**	P		**Pb**	**09 18 45.2**	**-0.3**
LGD				S		**Sg**	**09 19 10.7**	**+0.3**
SHTL	**Shatili**	**2.43**	**274**	P		**Pb**	**09 18 56.3**	**-0.3**
SHTL				S		**Sb**	**09 19 25.7**	**-0.8**

*UPP **13** 09:18:41.7±0.1,58.˚99N×18.˚20E,h0km,ML2.3,Explosion*
*HEL **13** 09:18:42.5±0.1,58.˚99N×18.˚21E,h0km,ML1.9,*
ML2.3(UPP),Explosion
*HEL **13** 09:18:42.1,59.˚00N×18.˚11E,h0km,ML1.9,Explosion*
*DNK **13** 09:18:42.2±0.5,59.˚00N×18.˚19E,h0km,ML2.3(UPP),*
Explosion
*BER **13** 09:18:43.1±1.6,59.˚01N×18.˚21E,h0km,ML1.6,*
ML2.3(UPP),Suspected explosion
*IDC **13** 09:18:45.6±2.6,59.˚22N×18.˚17E,h0km,mbtmp3.0/3,*
ML1.8/3,Error ellipse: s-maj=34.0km s-min=7.6km
az=180.0
ISC 13 09:18:41.5±0.7,**58.˚99N**±0.˚02×**18.˚21E**±0.˚02,**h0km**,**n82**,
σ1**814**/121,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NRTU	**Norrtaelje**	**0.72**	**17**	P		**Pg**	**09 18 55.2**	**-0.1**
NRTU				S		**Sg**	**09 19 04.5**	**-0.1**
NRTU	**Norrtaelje**	**0.72**	**17**	P		**Pg**	**09 18 55.2**	**-0.1**
NRTU				S		**Sg**	**09 19 04.5**	**-0.1**
NRTU	**Norrtaelje**	**0.72**	**17**	*e*P		**Pg**	**09 18 55.2**	**-0.1**
NRTU				*e*S		**Sg**	**09 19 04.5**	**-0.1**
NRTU	**Norrtaelje**	**0.72**	**17**	P		**Pg**	**09 18 55.2**	**-0.1**
NRTU				S		**Sg**	**09 19 04.5**	**-0.1**
UPP	**Uppsala**	**0.92**	**341**	P		**Pg**	**09 18 58.9**	**-0.2**
UPP	**Uppsala**	**0.92**	**341**	*e*P		**Pg**	**09 18 58.9**	**-0.2**
VIKU	**Vikbolandet**	**0.93**	**239**	P		**Pg**	**09 18 59.2**	**-0.1**
VIKU				S		**Sg**	**09 19 11.5**	**+0.3**
VIKU	**Vikbolandet**	**0.93**	**239**	P		**Pg**	**09 18 59.2**	**-0.1**
VIKU				S		**Sg**	**09 19 11.5**	**+0.3**
VIKU	**Vikbolandet**	**0.93**	**239**	*e*P		**Pg**	**09 18 59.2**	**-0.1**
VIKU				*e*S		**Sg**	**09 19 11.5**	**+0.3**
VIKU	**Vikbolandet**	**0.93**	**239**	P		**Pg**	**09 18 59.2**	**-0.1**
VIKU				S		**Sg**	**09 19 11.5**	**+0.3**
ESKU	**Eskilstuna**	**0.97**	**285**	P		**Pg**	**09 18 59.5**	**-0.5**
ESKU				S		**Sg**	**09 19 12.0**	**-0.5**
ESKU	**Eskilstuna**	**0.97**	**285**	P		**Pg**	**09 18 59.5**	**-0.5**
ESKU				S		**Sg**	**09 19 12.0**	**-0.5**
ESKU	**Eskilstuna**	**0.97**	**285**	*e*P		**Pg**	**09 18 59.5**	**-0.5**
ESKU				*e*S		**Sg**	**09 19 12.0**	**-0.5**
ESKU	**Eskilstuna**	**0.97**	**285**	P		**Pg**	**09 18 59.5**	**-0.5**
ESKU				S		**Sg**	**09 19 12.0**	**-0.5**
FIBU	**Brunna**	**1.01**	**335**	P		**Pg**	**09 19 00.6**	**-0.3**
FIBU	**Brunna**	**1.01**	**335**	P		**Pg**	**09 19 00.6**	**-0.3**
FIBU	**Brunna**	**1.01**	**335**	P		**Pg**	**09 19 00.6**	**-0.3**
BACU	**Backbrunna**	**1.03**	**327**	P		**Pg**	**09 19 00.9**	**-0.4**
BACU	**Backbrunna**	**1.03**	**327**	P		**Pg**	**09 19 00.9**	**-0.4**
BACU	**Backbrunna**	**1.03**	**327**	*e*P		**Pg**	**09 19 00.9**	**-0.4**
BACU	**Backbrunna**	**1.03**	**327**	P		**Pg**	**09 19 00.9**	**-0.4**
FLYU	**Flymyra**	**1.15**	**352**	P		**Pg**	**09 19 03.1**	**-0.4**
FLYU				S		**Sg**	**09 19 18.2**	**-0.3**
FLYU	**Flymyra**	**1.15**	**352**	P		**Pg**	**09 19 03.1**	**-0.4**
FLYU				S		**Sg**	**09 19 18.2**	**-0.3**
FLYU	**Flymyra**	**1.15**	**352**	*e*P		**Pg**	**09 19 03.1**	**-0.4**
FLYU				*e*S		**Sg**	**09 19 18.2**	**-0.3**
FLYU	**Flymyra**	**1.15**	**352**	P		**Pg**	**09 19 03.1**	**-0.4**
FLYU				S		**Sg**	**09 19 18.2**	**-0.3**
GOTU	**Gotland**	**1.32**	**172**	P		**Pg**	**09 19 06.0**	**-0.9**
GOTU	**Gotland**	**1.32**	**172**	P		**Pg**	**09 19 06.0**	**-0.9**
GOTU	**Gotland**	**1.32**	**172**	*e*P		**Pg**	**09 19 05.9**	**-0.9**
GOTU				*e*S		**Sg**	**09 19 23.6**	**-0.3**
GOTU	**Gotland**	**1.32**	**172**	P		**Pg**	**09 19 06.0**	**-0.9**
OSTU	**Oestervaala**	**1.36**	**337**	P		**Pg**	**09 19 06.8**	**-0.7**
OSTU	**Oestervaala**	**1.36**	**337**	P		**Pg**	**09 19 06.8**	**-0.7**
OSTU	**Oestervaala**	**1.36**	**337**	*e*P		**Pg**	**09 19 06.8**	**-0.7**
OSTU	**Oestervaala**	**1.36**	**337**	P		**Pg**	**09 19 06.8**	**-0.7**
GRAU	**Graesoe**	**1.36**	**7**	P		**Pg**	**09 19 06.9**	**-0.6**
GRAU	**Graesoe**	**1.36**	**7**	P		**Pg**	**09 19 06.9**	**-0.6**
GRAU	**Graesoe**	**1.36**	**7**	*e*P		**Pg**	**09 19 06.9**	**-0.6**
GRAU	**Graesoe**	**1.36**	**7**	P		**Pg**	**09 19 06.9**	**-0.6**
FORU	**Forsmark**	**1.40**	**359**	P		**Pg**	**09 19 07.6**	**-0.7**
FORU	**Forsmark**	**1.40**	**359**	P		**Pg**	**09 19 07.6**	**-0.7**
FORU	**Forsmark**	**1.40**	**359**	*e*P		**Pg**	**09 19 07.6**	**-0.7**
FORU	**Forsmark**	**1.40**	**359**	P		**Pg**	**09 19 07.6**	**-0.7**
AAL	**Aland**	**1.50**	**37**	P		**Pn**	**09 19 09.2**	**-0.4**
AAL	**Aland**	**1.50**	**37**	*e*P		**Pn**	**09 19 09.2**	**-0.4**
AAL				*e*S		**Sg**	**09 19 28.1**	**-1.4**
AAL				*e*SB		**Sb**	**09 19 28.8**	**-0.8**
VSTU	**Vaestervik**	**1.60**	**214**	P		**Pn**	**09 19 11.2**	**+0.3**
VSTU	**Vaestervik**	**1.60**	**214**	P		**Pn**	**09 19 11.2**	**+0.3**
VSTU	**Vaestervik**	**1.60**	**214**	*e*P		**Pn**	**09 19 11.2**	**+0.3**
VSTU	**Vaestervik**	**1.60**	**214**	P		**Pn**	**09 19 11.2**	**+0.3**
LNKU	**Linkoeping**	**1.61**	**243**	P		**Pn**	**09 19 11.2**	**+0.1**
LNKU	**Linkoeping**	**1.61**	**243**	P		**Pn**	**09 19 11.2**	**+0.1**
LNKU	**Linkoeping**	**1.61**	**243**	*e*P		**Pn**	**09 19 11.2**	**+0.1**
LNKU	**Linkoeping**	**1.61**	**243**	P		**Pn**	**09 19 11.2**	**+0.1**
NRAU	**Nora**	**1.73**	**291**	P		**Pb**	**09 19 13.2**	**-0.8**
NRAU	**Nora**	**1.73**	**291**	P		**Pb**	**09 19 13.2**	**-0.8**
NRAU	**Nora**	**1.73**	**291**	*e*P		**Pb**	**09 19 13.2**	**-0.8**
NRAU	**Nora**	**1.73**	**291**	P		**Pb**	**09 19 13.2**	**-0.8**
SLIT	**Slitere, Latvi**	**2.55**	**121**	*e*P		**Pn**	**09 19 24.0**	**-0.1**
SLIT				*e*SG		**Sb**	**09 20 02.4**	**+2.4**
HFC2	**Hagfors New Ar**	**2.57**	**298**	*e*P		**Pn**	**09 19 25.6**	**+1.3**
HFC2				*e*SB		**Sb**	**09 20 00.1**	**-0.3**
RAF	**Rauma**	**2.71**	**40**	*e*P		**Pb**	**09 19 29.0**	**-1.8**
RAF	**Rauma**	**2.71**	**40**	*e*P		**Pn**	**09 19 27.2**	**+1.0**
RAF				*e*PB		**Pb**	**09 19 29.0**	**-1.8**
RAF				*e*SG		**Sb**	**09 20 05.8**	**+1.3**
RAF				MSG			09 20 09.0	
	comp=Z,4.5nm,0.1s							

ARNU	**Arnoeviken**	**2.74**	**352**	*e*P		**Pn**	**09 19 26.6**	**-0.1**
ARNU				*e*S		**Sn**	**09 20 00.7**	**+0.3**
ARNU				*e*SB		**Sb**	**09 20 05.1**	**-0.3**
MTSE	**Matsula**	**2.93**	**93**	*e*P		**Pn**	**09 19 30.2**	**+1.0**
MTSE				*e*SG		**Sb**	**09 20 12.7**	**+2.0**
MEF	**Metsahovi**	**3.38**	**66**	*e*P		**Pn**	**09 19 36.4**	**+1.0**
MEF				*e*SG		**Sg**	**09 20 27.9**	**-2.0**
MEF				MSG			09 20 31.0	
	comp=Z,3.6nm,0.2s							
KPF	**Kankaanpaa**	**3.44**	**32**	*e*P		**Pn**	**09 19 37.6**	**+1.4**
KPF				*e*SB		**Sb**	**09 20 25.3**	**-0.1**
NUR	**Nurmijrvi**	**3.60**	**62**	*e*P		**Pn**	**09 19 38.3**	**-0.1**
NUR				*e*S		**Sn**	**09 20 23.1**	**+1.5**
STRU	**Stroemstad**	**3.63**	**274**	*e*P		**Pn**	**09 19 40.1**	**+1.3**
HEMU	**Hemsoen**	**3.70**	**359**	*e*P		**Pn**	**09 19 40.3**	**+0.5**
HEMU				*e*S		**Sn**	**09 20 24.6**	**+0.6**
HEMU				*e*SG		**Sb**	**09 20 34.9**	**+2.0**
NC602	**NORSAR Array S**	**3.79**	**300**	*e*P		**Pn**	**09 19 41.7**	**+0.6**
NC602				IAML			09 20 42.8	
	comp=Z,2.7nm,0.3s							
NB201	**NORSAR Array S**	**4.04**	**304**	*e*P		**Pn**	**09 19 45.1**	**+0.6**
NB201				IAML			09 20 50.6	
	comp=Z,2.9nm,0.4s							
NOA	**NORSAR Array B**	**4.07**	**303**	Pn		**Pn**	**09 19 45.5**	**+0.6**
	baz=126,slow=2.9,SNR=4.7							
NOA				Pg		**Pb**	**09 19 54.3**	**+0.4**
	baz=113,slow=2.9,SNR=5.6							
NOA				Sn		**Sn**	**09 20 31.7**	**-1.5**
	baz=58,slow=9.0,SNR=1.7							
NOA				Lg		Lg	09 20 47.1	
	comp=Z,0.1nm,0.3s,baz=168,slow=18,SNR=5.8							
	comp=Z,0.5nm,0.6s							
NC303	**NORSAR Array S**	**4.09**	**306**	*e*P		**Pn**	**09 19 45.9**	**+0.7**
NC303				IAML			09 20 51.6	
	comp=Z,3.6nm,0.4s							
NAO01	**NORSAR Array S**	**4.13**	**300**	*e*P		**Pn**	**09 19 45.7**	**0.0**
PVF	**Pernaja**	**4.17**	**65**	*e*P		**Pn**	**09 19 47.3**	**+1.0**
PVF				*e*SG		**Sg**	**09 20 51.9**	**-3.5**
PVF				MSG			09 20 56.5	
	comp=Z,1.3nm,0.1s							
NBO00	**NORSAR Array S**	**4.25**	**302**	*e*P		**Pn**	**09 19 47.6**	**+0.1**
BSD	**Bornholm Skovb**	**4.28**	**206**	*e*P		**Pn**	**09 19 46.5**	**-1.4**
NC204	**NORSAR Array S**	**4.37**	**305**	*e*P		**Pn**	**09 19 48.9**	**-0.3**
NC204				IAML			09 20 58.9	
	comp=Z,2.3nm,0.6s							
KONO	**Kongsberg**	**4.46**	**282**	*e*P		**Pn**	**09 19 50.5**	**+0.2**
KONO				IAML			09 21 16.8	
	comp=Z,2.8nm,0.7s							
VSU	**Vasula**	**4.48**	**93**	*e*S		**Sn**	**09 20 43.9**	**+0.7**
VSU				*e*SG		**Sg**	**09 21 01.8**	**-3.4**
KEF	**Keuruu**	**4.58**	**43**	*e*P		**Pn**	**09 19 53.5**	**+1.7**
KEF				*e*SG		**Sb**	**09 21 03.0**	**+4.8**
KEF				MSG			09 21 08.6	
	comp=Z,1.1nm,0.1s							
FIA0	**FINESS Array S**	**4.63**	**55**	*e*P		**Pn**	**09 19 54.3**	**+1.7**
FIA0				*e*SG		**Sb**	**09 21 05.0**	**+5.2**
FIA0				MSG			09 21 14.9	
	comp=Z,1.2nm,0.1s							
FINES	**FINESS Array B**	**4.63**	**55**	Pn		**Pn**	**09 19 54.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=246,slow=12,SNR=17							
FINES				Pg		**Pb**	**09 20 03.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=245,slow=14,SNR=6.6							
FINES				Sn		**Sn**	**09 20 47.7**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=248,slow=21,SNR=11							
FINES				Lg		Lg	09 21 06.9	
	comp=Z,0.7nm,0.3s,baz=241,slow=24,SNR=9.5							
	comp=Z,0.7nm,0.3s							
SKAR	**Skarsla**	**5.27**	**293**	*e*P		**Pn**	**09 20 01.5**	**0.0**
ARCES	**ARCESS Array B**	**11.04**	**13**	Pn		**Pn**	**09 21 17.8**	**-2.6**
	baz=194,slow=13,SNR=7.2							
	comp=Z,2.1nm,0.9s							

*NEIC **13** 09:33:48.6±1.5,4.˚9S±0.˚1×153.˚9E±0.˚1,h94km±8km,*
mb4.2/10,Error ellipse: s-maj=20.5km s-min=16.3km
az=100.0
*IDC **13** 09:33:49.8±4.0,4.˚83S×153.˚71E,h107km±31km,mb3.7/8,*
mbtmp4.1/9,MS3.3/2,Error ellipse: s-maj=42.7km
s-min=16.1km az=103.0
ISC 13 09:33:48.7±0.8,**4.˚81S**±0.˚09×**153.˚8E**±0.˚1,**h100**km,**n26**,
σ0**93**/27,**mb4.0**/13,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.74**	**291**	Pn		**Pn**	**09 34 18.9**	**+1.0**
KRVT	**Keravat (AS076**	**1.83**	**286**	P		**Pn**	**09 34 19.7**	**+0.6**
	277nm,0.3s,baz=114,slow=5.3,SNR=86							
KRVT				S		**Sn**	**09 34 42.4**	**+0.1**
	866nm,0.4s,baz=178,slow=18,SNR=7.5							
KRVT				LR		LR	09 35 14.6	
	comp=Z,158nm,18.9s,baz=232,slow=48							
HNR	**Honiara**	**7.64**	**127**	LR		LR	09 38 04.2	
	comp=Z,733nm,20.1s,baz=336,slow=33							
PMG	**Port Moresby**	**8.01**	**235**	P		**Pn**	**09 35 44.0**	**+1.6**
	57nm,0.4s,baz=55,slow=7.7,SNR=36							
PMG				S		**Sn**	**09 37 13.3**	**+1.9**
	23nm,0.4s,baz=64,slow=15,SNR=5.1							
PMG				LR		LR	09 38 35.9	
	comp=Z,61nm,20.4s,baz=87,slow=36							
PMG	**Port Moresby**	**8.01**	**235**	Pn		**Pn**	**09 35 43.7**	**+1.3**
COEN	**Coen**	**13.86**	**228**	Pn		**Pn**	**09 36 59.1**	**-1.8**
WB0	**Warramunga Arr**	**24.05**	**230**	P		**P**	**09 38 55.3**	**+0.6**
WB0				IAmb		IAmb	09 38 56.0	
	comp=Z,5.7nm,0.8s							
WR0	**Warramunga Arr**	**24.05**	**230**	P		**P**	**09 38 55.8**	**+1.1**
WR0				IAmb		IAmb	09 39 04.9	
	comp=Z,12nm,1.2s							
WB2	**Warramunga Arr**	**24.18**	**230**	P		**P**	**09 38 56.1**	**+0.2**
WB2				IAmb		IAmb	09 38 57.4	
	comp=Z,4.4nm,0.8s							
WRA	**Warramunga Arr**	**24.19**	**230**	P		**P**	**09 38 55.9**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=54,slow=9.9,SNR=29							
	comp=Z,3.4nm,0.7s							
WRA	**Warramunga Arr**	**24.19**	**230**	P		**P**	**09 38 56.2**	**+0.2**
ASAR	**Alice Springs**	**26.82**	**224**	P		**P**	**09 39 19.4**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=56,slow=8.2,SNR=9.5							
	comp=Z,1.4nm,1.0s							
KNRA	**Kununurra**	**26.86**	**244**	P		**P**	**09 39 19.5**	**-0.7**
KNRA				IAmb		IAmb	09 39 51.7	
	comp=Z,11nm,0.8s							
STKA	**Stephens Creek**	**29.26**	**202**	P		**P**	**09 39 40.6**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=31,slow=14,SNR=4.1							
	comp=Z,2.8nm,0.8s							
STKA	**Stephens Creek**	**29.26**	**202**	P		**P**	**09 39 40.7**	**-0.7**
FORT	**Forrest**	**35.41**	**220**	P		**P**	**09 40 34.2**	**-1.0**
MORW	**Morawa**	**43.11**	**232**	P		**P**	**09 41 38.8**	**-0.5**
PETK	**Petropavlovsk-**	**57.79**	**3**	P		**P**	**09 43 31.0**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=180,slow=5.8,SNR=2.0							
	comp=Z,1.5nm,0.8s							
IMAR	**Indian Mountai**	**80.06**	**19**	P		**P**	**09 45 47.1**	**+0.1**
MKAR	**Makanchi Array**	**80.98**	**319**	P		**P**	**09 45 52.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=90,slow=7.4,SNR=4.4							
	comp=Z,0.9nm,0.8s							
MKAR	**Makanchi Array**	**80.98**	**319**	P		**P**	**09 45 53.3**	**+0.9**
ZALV	**Zalesovo Beam**	**81.71**	**326**	P		**P**	**09 45 56.0**	**0.0**
	comp=Z,0.5nm,0.4s,baz=120,slow=5.2,SNR=1.6							
	comp=Z,0.5nm,0.4s							
ILAR	**Eielson Array**	**81.80**	**22**	P		**P**	**09 45 56.4**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=234,slow=4.3,SNR=2.0							
	comp=Z,0.6nm,1.0s							
QSPA	**South Pole Qui**	**85.15**	**180**	P		**P**	**09 46 13.6**	**0.0**
QSPA				IAmb		IAmb	09 46 45.1	
	comp=Z,8.1nm,1.5s							
MAW	**Mawson**	**85.94**	**203**	P		**P**	**09 46 17.2**	**0.0**
	comp=Z,2.1nm,0.7s,baz=84,slow=9.1,SNR=2.7							
	comp=Z,2.1nm,0.7s							
MAW	**Mawson**	**85.94**	**203**	P		**P**	**09 46 17.3**	**0.0**
MAW				IAmb		IAmb	09 46 43.8	
	comp=Z,0.8nm,1.1s							

*MEX **13** 09:38:06.8±0.4,15.˚39N×93.˚92W,h60km±18km,MD4.5*
*NEIC **13** 09:38:06.9±3.4,15.˚52N±0.˚06×93.˚89W±0.˚04,h49km±18km,*
Error ellipse: s-maj=9.4km s-min=6.0km az=186.0
*IDC **13** 09:38:08.8±2.0,15.˚83N×93.˚73W,h69km±8km,mb3.4/6,*
mbtmp3.7/7,Error ellipse: s-maj=57.0km s-min=12.1km
az=39.0
*GCG **13** 09:38:10.7±1.0,15.˚57N×93.˚61W,h37km±546km,MD4.6*
ISC 13 09:38:06.1±0.6,**15.˚48N**±0.˚04×**93.˚91W**±0.˚03,**h59**km±6km,
n126,σ2**810**/197,**mb4.0**/8,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.70**	**72**			**Pn**	**09 38 20.0**	**-0.3**
PCIG						**Sn**	**09 38 30.6**	**-0.1**
PCIG		**0.70**	**72**	*i* P		**Pn**	**09 38 20.0**	**-0.3**
PCIG				*i* S		**Sn**	**09 38 30.6**	**-0.1**
NILT	**Santiago Nilte**	**1.27**	**328**	*e*P		**Pn**	**09 38 27.9**	**+0.2**
NILT				*e*S		**Sn**	**09 38 44.5**	**+0.6**
TGIG		**1.50**	**30**			**Pn**	**09 38 29.9**	**-0.9**
TGIG						**Sn**	**09 38 47.2**	**-2.1**
TGIG		**1.50**	**30**	*e*P		**Pn**	**09 38 29.9**	**-0.9**
TGIG				*e*S		**Sn**	**09 38 47.2**	**-2.1**
PATR	**El Naranjo**	**1.66**	**102**	*e*P		**Pn**	**09 38 32.1**	**-1.0**
PATR				*e*S		**Sn**	**09 38 52.2**	**-1.3**
THIG		**1.69**	**110**			**Pn**	**09 38 32.4**	**-0.9**
THIG						**Sn**	**09 38 52.9**	**-1.0**
THIG		**1.69**	**110**	*e*P		**Pn**	**09 38 32.4**	**-0.9**
THIG				*e*S		**Sn**	**09 38 52.9**	**-1.0**
PAVE	**Pavencul**	**1.70**	**99**	*e*P		**Pn**	**09 38 33.3**	**-0.4**
PAVE				*e*S		**Sn**	**09 38 53.5**	**-1.0**
CHUJ	**Union Juarez**	**1.78**	**102**	*e*P		**Pn**	**09 38 34.1**	**-0.7**
CHUJ				*e*S		**Sn**	**09 38 55.2**	**-1.3**
UXUV	**UXUV**	**1.84**	**353**	*e*P		**Pn**	**09 38 35.7**	**+0.3**
UXUV				*e*S		**Sn**	**09 38 56.9**	**-0.7**
CMIG	**Matias Romero**	**1.85**	**330**	P		**Pn**	**09 38 35.5**	**0.0**
	106nm,0.3s,baz=159,slow=14,SNR=592							
CMIG				S		**Sn**	**09 38 56.6**	**-1.3**
	492nm,0.3s,baz=12,slow=17,SNR=12							
CMIG	**Matias Romero**	**1.85**	**330**			**Pn**	**09 38 35.7**	**+0.1**
CMIG						**Sn**	**09 38 57.6**	**-0.3**
CMIG	**Matias Romero**	**1.85**	**330**	*i* P		**Pn**	**09 38 35.7**	**+0.1**
CMIG				*i* S		**Sn**	**09 38 57.6**	**-0.3**
CCIG	**Comitan**	**1.88**	**65**			**Pn**	**09 38 37.2**	**+1.0**
CCIG	**Comitan**	**1.88**	**65**	*e*P		**Pn**	**09 38 35.6**	**-0.5**
CCIG				*e*S		**Sn**	**09 38 54.8**	**-4.1**
HUIG	**Huatulco**	**2.14**	**278**			**Pn**	**09 38 38.7**	**-0.7**
HUIG						**Sn**	**09 39 01.5**	**-3.3**
HUIG	**Huatulco**	**2.14**	**278**	*e*P		**Pn**	**09 38 38.7**	**-0.7**
HUIG				*e*S		**Sn**	**09 39 01.5**	**-3.3**
HUEH	**Huehuetenango**	**2.33**	**94**			**Pn**	**09 38 42.9**	**+0.6**
RTAL	**Retalhuleu**	**2.34**	**114**			**Pn**	**09 38 42.1**	**-0.1**
STG3	**Santiaguito 3,**	**2.39**	**108**	*e*P		**Pn**	**09 38 43.8**	**+0.8**
STG3				*e*S		**Sn**	**09 39 11.2**	**0.0**
SULM	**Suchitepequez,**	**2.55**	**117**	*e*P		**Pn**	**09 38 46.5**	**+1.4**
MIHL	**Minatitlan**	**2.56**	**346**	*e*P		**Pn**	**09 38 44.6**	**-0.6**
MIHL				*e*S		**Sn**	**09 39 13.1**	**-2.2**
TUIG	**Tuzandepetl**	**2.58**	**349**	*e*P		**Pn**	**09 38 44.3**	**-1.2**
TUIG				*e*S		**Sn**	**09 39 15.6**	**-0.2**
VHSA	**Villahermosa**	**2.66**	**20**	*e*P		**Pn**	**09 38 46.2**	**-0.3**
VHSA				*e*S		**Sn**	**09 39 16.2**	**-1.3**
NEUV	**Arroyo Zacate**	**2.86**	**321**	*i* P		**Pn**	**09 38 49.4**	**0.0**
NEUV				*e*S		**Sn**	**09 39 22.9**	**+0.2**
OXLC	**Oaxaca**	**3.11**	**301**	*e*P		**Pn**	**09

JTS	**Las Juntas de**	**10.14**	**120**	Pn	**Pn**	**09 40 29.6**	**+0.5**
COVE	**Coope Vega, Sa**	**10.40**	**116**	Pn	**Pn**	**09 40 31.9**	**-0.7**
JACO	**JACO, Garabito**	**10.72**	**122**	Pn	**Pn**	**09 40 40.1**	**+3.1**
RIMA	**Rio Macho**	**11.33**	**119**		**Pn**	**09 40 47.6**	**+2.1**
SRBA	**San Rafael, Bu**	**12.03**	**120**		**Pn**	**09 40 57.2**	**+2.2**
SOR	**Soroa**	**12.61**	**53**	Pn	**Pn**	**09 40 58.6**	**-4.1**
833A	**Chaparral WMA,**	**13.75**	**339**		**Pn**	**09 41 18.5**	**+0.3**
JCT	**Junction City**	**15.88**	**341**		**Pn**	**09 41 48.1**	**+2.2**
TXAR	**Lajitas Array**	**16.46**	**329**	P	**Pn**	**09 41 54.7**	**+1.4**
	1.7nm,0.8s,baz=146,slow=12,SNR=23						
TXAR	**Lajitas Array**	**16.46**	**329**	P	**P**	**09 41 55.6**	**+0.4**
TX31	**Lajitas Ar. Si**	**16.46**	**329**	P	**P**	**09 41 56.5**	**+1.3**
TX32	**Lajitas Array**	**16.46**	**329**	P	**P**	**09 41 56.0**	**+0.8**
WHTX	**Lake Whitney,**	**16.75**	**349**	P	**Pn**	**09 41 57.4**	**+0.6**
WHTX				IAmb	IAmb	09 42 21.9	
	comp=Z,7.7nm,0.7s						
656A	**Willston**	**17.35**	**35**	P	**Pn**	**09 42 03.5**	**-0.7**
250A	**Grady**	**17.84**	**22**	P	**Pn**	**09 42 10.9**	**+0.7**
250A				IAmb	IAmb	09 42 27.4	
	comp=Z,11nm,0.8s						
Z47A	**Carrollton**	**18.42**	**16**	P	**P**	**09 42 17.3**	**+0.7**
Z47A				IAmb	IAmb	09 42 44.9	
	comp=Z,14nm,0.9s						
MIAR	**Mount Ida**	**18.98**	**1**	P	**P**	**09 42 22.3**	**-0.6**
X37A	**Clayton**	**19.07**	**356**	P	**Pn**	**09 42 26.9**	**+1.8**
X37A				IAmb	IAmb	09 42 28.8	
	comp=Z,11nm,1.1s						
HTMS	**Hat Mesa**	**19.09**	**334**	P	**P**	**09 42 24.7**	**+0.6**
GDL2	**Guadalupe Moun**	**19.17**	**332**	P	**P**	**09 42 26.1**	**+1.0**
GOGA	**Godfrey**	**20.20**	**26**	P	**P**	**09 42 37.0**	**+0.9**
GOGA				IAmb	IAmb	09 42 38.7	
	comp=Z,13nm,1.0s						
Y52A	**Lilburn**	**20.35**	**24**	P	**P**	**09 42 37.9**	**+0.2**
Y52A				IAmb	IAmb	09 42 41.1	
	comp=Z,15nm,0.9s						
FCAR	**Ozark Folk Cen**	**20.39**	**4**	P	**P**	**09 42 39.0**	**+0.9**
FCAR				IAmb	IAmb	09 42 53.4	
	comp=Z,9.9nm,1.4s						
FPAL	**Fort Paine**	**20.39**	**20**	P	**P**	**09 42 37.6**	**-0.7**
AMTX	**Amarillo**	**20.54**	**342**	P	**P**	**09 42 39.1**	**-0.8**
AMTX				IAmb	IAmb	09 42 41.2	
	comp=Z,10nm,0.7s						
HHAR	**Hobbs**	**20.71**	**360**	P	**P**	**09 42 43.0**	**+1.3**
HHAR				IAmb	IAmb	09 42 49.0	
	comp=Z,5.7nm,0.9s						
W50A	**Signal Mountai**	**21.10**	**20**	P	**P**	**09 42 45.8**	**0.0**
CRNM	**Carthage**	**21.73**	**330**	P	**P**	**09 42 55.2**	**+2.4**
SBM	**South Baldy**	**21.97**	**329**	P	**P**	**09 42 55.8**	**+0.3**
TKL	**Tuckaleechee C**	**22.05**	**22**	P	**P**	**09 42 55.3**	**-0.6**
	comp=Z,8.2nm,1.1s,baz=210,slow=9.3,SNR=2.0						
	comp=Z,8.2nm,1.1s						
ANMO	**Albuquerque**	**22.42**	**332**	P	**P**	**09 42 59.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=139,slow=8.7,SNR=3.3						
	comp=Z,0.4nm,0.5s						
V53A	**Saluda**	**22.42**	**24**	P	**P**	**09 43 03.5**	**+3.5**
V53A				IAmb	IAmb	09 43 06.1	
	comp=Z,8.3nm,0.9s						
T25A	**Trinidad**	**23.50**	**339**	P	**P**	**09 43 13.2**	**+2.2**
T25A				IAmb	IAmb	09 43 16.3	
	comp=Z,5.8nm,1.0s						
NVAR	**Mina Array Bea**	**31.36**	**321**	P	**P**	**09 44 22.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=132,slow=10,SNR=7.9						
NVAR				pP	**sP**	**09 44 40.1**	**-3.0**
	comp=Z,1.0nm,0.8s,baz=144,slow=6.7,SNR=4.2						
	comp=Z,0.7nm,0.6s						
YKA	**Yellowknife Ar**	**49.18**	**347**	P	**P**	**09 46 46.0**	**-2.0**
	comp=Z,1.2nm,0.7s,baz=153,slow=7.1,SNR=7.2						
YKA				pP	**pP**	**09 47 03.3**	**0.0**
	comp=Z,1.1nm,0.6s,baz=155,slow=7.2,SNR=4.5						
	comp=Z,1.2nm,0.7s						
INK	**Inuvik**	**58.51**	**344**	P	**P**	**09 47 54.5**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=122,slow=6.3,SNR=6.6						
INK				pP	**pP**	**09 48 13.4**	**+1.7**
	comp=Z,2.6nm,0.6s,baz=140,slow=5.1,SNR=6.2						
	comp=Z,1.6nm,0.7s						
ILAR	**Eielson Array**	**60.76**	**337**	P	**P**	**09 48 11.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=129,slow=7.1,SNR=4.2						
ILAR				pP	**pP**	**09 48 29.4**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=132,slow=5.2,SNR=3.1						
	comp=Z,0.3nm,0.6s						

*ROM **13** 09:55:38.3±0.1, 42.994N±0.004×13.043E±0.005, h8km, ML2.7/12, Error ellipse: s-maj=0.4km s-min=0.3km az=90.0*

*PRU **13** 09:55:45.1±0.0, 43.12N×14.66E, h10km*

ISC 13 09:55:38.8±0.8, 42.97N±0.02×13.08E±0.02, h9km±5km, n45,σ1s42/50, 5C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.02**	**261**	P	**Pg**	**09 55 39.9**	**-0.8**
FEMA				S	**Sg**	**09 55 40.7**	**-1.3**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FDMO	**Fiordimonte**	**0.07**	**4**	P	**Pg**	**09 55 40.2**	**-0.7**
FDMO				AML	AML		
	comp=N,11765μm,0.6s						
FDMO				AML	AML		
	comp=E,22450μm,0.3s						
FDMO				AML	AML		
	comp=N,11760μm,0.6s						
T1216	**Preci, Frazion**	**0.09**	**211**	P	**Pg**	**09 55 41.2**	**+0.1**
T1216				S	**Sg**	**09 55 43.6**	**+0.7**
T1216				AML	AML		
	comp=N,25450μm,0.2s						
T1216				AML	AML		
	comp=N,25400μm,0.2s						
T1216				AML	AML		
	comp=E,22350μm,0.3s						
T1219	**Muccia, Frazio**	**0.10**	**329**	P	**Pg**	**09 55 40.5**	**-1.0**
T1256	**Bolognola (MC)**	**0.11**	**69**	P	**Pg**	**09 55 41.7**	**+0.1**
CESI	**CESI - Serrava**	**0.14**	**287**	P	**Pg**	**09 55 41.3**	**-0.6**
CESI				S	**Sg**	**09 55 43.5**	**-0.6**
NRCA	**Norcia**	**0.14**	**169**	P	**Pg**	**09 55 42.4**	**+0.6**
NRCA				S	**Sg**	**09 55 45.4**	**+1.4**
NRCA				AML	AML		
	comp=E,10925μm,0.1s						
NRCA				AML	AML		
	comp=N,11615μm,0.8s						
NRCA				AML	AML		
	comp=N,12055μm,0.8s						
NRCA				AML	AML		
	comp=E,10935μm,0.1s						
NRCA				AML	AML		
	comp=N,11635μm,0.8s						
NRCA				AML	AML		
	comp=E,12290μm,0.2s						
NRCA				AML	AML		
	comp=E,10900μm,0.1s						
NRCA				AML	AML		
	comp=N,11650μm,0.8s						
T1245	**Castelsantange**	**0.14**	**144**	⇓P	**Pg**	**09 55 38.9**	**-3.1**
T1245				AML	AML		
	comp=N,15800μm,1.2s						
T1245				AML	AML		
	comp=E,10200μm,0.2s						
CSP1	**Cessapalombo**	**0.15**	**36**	P	**Pg**	**09 55 42.2**	**-0.1**
MMO1	**Montemonaco**	**0.19**	**110**	P	**Pg**	**09 55 43.7**	**+0.9**
MMO1				S	**Sg**	**09 55 47.2**	**+1.6**
SEF1	**Sefro**	**0.20**	**332**	P	**Pg**	**09 55 42.4**	**-0.7**
GUMA	**Gualdo di Mace**	**0.21**	**63**	P	**Pg**	**09 55 43.6**	**+0.4**
T1215	**Vallo di Nera,**	**0.23**	**224**	P	**Pg**	**09 55 43.6**	**+0.2**
T1215				S	**Sg**	**09 55 47.6**	**+1.1**
T1215				AML	AML		
	comp=E,3060μm,0.9s						
T1215				AML	AML		
	comp=N,2185μm,0.3s						
T1215				AML	AML		
	comp=E,2755μm,0.9s						
T1215				AML	AML		
	comp=N,2315μm,0.4s						
T1215				AML	AML		
	comp=E,3055μm,0.9s						
T1215				AML	AML		
	comp=N,2185μm,0.4s						
T1215				AML	AML		
	comp=E,2765μm,0.9s						
T1215				AML	AML		
	comp=N,2318μm,0.4s						
T1218	**Civita (PG)**	**0.30**	**175**	P	**Pg**	**09 55 45.2**	**+0.5**
T1218				AML	AML		
	comp=E,4315μm,0.1s						
T1218				AML	AML		
	comp=E,4020μm,0.1s						
T1218				AML	AML		
	comp=N,10500μm,0.3s						
T1218				AML	AML		
	comp=N,10600μm,0.3s						
T1218				AML	AML		
	comp=N,10480μm,0.3s						
T1218				AML	AML		
	comp=N,10550μm,0.3s						
T1218				AML	AML		
	comp=E,4020μm,0.1s						
T1218				AML	AML		
	comp=E,4315μm,0.1s						
T1218				AML	AML		
	comp=N,10515μm,0.3s						
SNTG	**Esanatoglia**	**0.31**	**340**	P	**Pg**	**09 55 44.5**	**-0.5**
EL6	**Elcito**	**0.36**	**2**	P	**Pg**	**09 55 45.6**	**-0.4**
LNSS	**Leonessa**	**0.36**	**185**	⇓P	**Pg**	**09 55 46.4**	**+0.4**
LNSS				AML	AML		
	comp=E,1670μm,1.3s						
LNSS				AML	AML		
	comp=E,1665μm,1.3s						
LNSS				AML	AML		
	comp=N,3820μm,0.9s						
T1243	**Rocca Santa Ma**	**0.38**	**135**	P	**Pg**	**09 55 43.5**	**-2.8**
SMA1	**SAN MARTINO**	**0.38**	**151**	P	**Pg**	**09 55 43.6**	**-2.7**
SMA1				AML	AML		
	comp=N,2050μm,0.7s						
SMA1				AML	AML		
	comp=E,1590μm,1.0s						
SMA1				AML	AML		
	comp=N,2055μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.39**	**304**	P	**Pb**	**09 55 46.2**	**-1.7**
CING	**Cingoli**	**0.42**	**12**	P	**Pg**	**09 55 46.8**	**-0.2**
OFFI	**Offida**	**0.45**	**94**	P	**Pb**	**09 55 49.2**	**+0.4**
T1211	**Morro Reatino**	**0.46**	**201**	⇓P	**Pg**	**09 55 48.0**	**+0.2**
T1211				S	**Sb**	**09 55 55.8**	**-0.4**
T1211				AML	AML		
	comp=N,2530μm,0.2s						
T1211				AML	AML		
	comp=E,1445μm,1.1s						
T1211				AML	AML		
	comp=E,1445μm,1.0s						
RM33	**Pellescritta (**	**0.47**	**168**	P	**Pg**	**09 55 45.2**	**-2.7**
RM33				AML	AML		
	comp=N,1042μm,0.3s						
RM33				AML	AML		
	comp=N,1040μm,0.3s						
RM33				AML	AML		
	comp=E,1215μm,0.9s						
RM33				AML	AML		
	comp=N,1043μm,0.3s						
CAMP	**Campotosto**	**0.49**	**151**	⇑P	**Pg**	**09 55 45.1**	**-3.3**
CAMP				AML	AML		
	comp=N,492μm,1.5s						
CAMP				AML	AML		
	comp=E,446μm,0.3s						
MURB	**Monte Urbino**	**0.50**	**306**	P	**Pg**	**09 55 48.0**	**-0.6**
TERO	**Teramo**	**0.52**	**132**	P	**Pg**	**09 55 45.5**	**-3.3**
TERO				AML	AML		
	comp=N,1115μm,0.5s						
TERO				AML	AML		
	comp=E,746μm,1.0s						
SSFR	**Montelago di S**	**0.52**	**335**	P	**Pg**	**09 55 48.1**	**-0.7**
ARVD	**Arcevia**	**0.54**	**349**	P	**Pg**	**09 55 48.5**	**-0.8**
ATFO	**Monte Foce - G**	**0.55**	**317**	P	**Pg**	**09 55 48.6**	**-0.8**
PP3	**Marolino**	**0.56**	**43**	⇑P	Pg	09 55 41.5	-8.3
PP3				AML	AML		
	comp=E,1246μm,0.8s						
PP3				AML	AML		
	comp=N,1130μm,0.4s						
PP3				AML	AML		
	comp=E,1142μm,0.8s						
PP3				AML	AML		
	comp=E,1320μm,1.1s						
PP3				AML	AML		
	comp=N,1130μm,0.4s						
PP3				AML	AML		
	comp=N,1150μm,1.2s						
PP3				AML	AML		
	comp=E,1335μm,1.1s						
GIGS	**Gran Sasso**	**0.63**	**145**	S	**Sb**	**09 56 03.0**	**+2.1**
FIAM	**Fiamignano**	**0.70**	**178**	⇑P	**Pg**	**09 55 52.3**	**0.0**
FIAM				S	**Sn**	**09 56 05.0**	**-0.9**
FIAM				AML	AML		
	comp=N,280μm,0.9s						
FIAM				AML	AML		
	comp=E,490μm,0.6s						
APEC	**Apecchio**	**0.76**	**321**	P	Pg	09 55 46.7	-6.8
VCEL	**Villa Celiera**	**0.80**	**135**	⇓P	**Pg**	**09 55 54.5**	**+0.2**
VCEL				AML	AML		
	comp=N,820μm,0.3s						
VCEL				AML	AML		
	comp=E,794μm,0.3s						
BADI	**Badiali**	**0.82**	**312**	S	Sg	09 55 55.0	-10
SRES	**S.Oreste - Sor**	**0.84**	**210**	P	**Pg**	**09 55 54.9**	**-0.1**
SRES				AML	AML		
	comp=E,362μm,1.0s						
SRES				AML	AML		
	comp=N,305μm,0.5s						
T0110	**Collepietro**	**0.90**	**145**	⇑P	**Pg**	**09 55 56.0**	**-0.1**
T0110				AML	AML		
	comp=E,688μm,1.3s						
T0110				AML	AML		
	comp=N,798μm,0.5s						
TOLF	**Tolfa**	**1.20**	**222**	⇑P	**Pg**	**09 56 01.9**	**0.0**
ABTA	**Abfaltersbach**	**3.80**	**354**	*e*Pn	**Pn**	**09 56 37.7**	**+0.1**
	comp=N,1.0nm,0.3s						
WTTA	**Wattenberg**	**4.42**	**347**	*e*Pn	**Pn**	**09 56 47.4**	**+1.3**
	comp=N,0.3nm,0.2s						
WATA	**Walderalm**	**4.50**	**347**	*e*Pn	**Pn**	**09 56 49.5**	**+2.4**
	comp=N,0.4nm,0.2s						
BIOA	**Bad Ischl, Aus**	**4.74**	**5**	*e*Pn	**Pn**	**09 56 52.0**	**+1.6**
	comp=N,0.3nm,0.1s						
CONA	**Conrad Observa**	**5.33**	**21**	*e*Pn	**Pn**	**09 56 56.5**	**-2.1**
	comp=N,0.4nm,0.3s						
KHC	**Kasperske Hory**	**6.18**	**3**	*e*PN	Pn	09 57 14.3	+4.2
KHC				*e*SN	**Sn**	**09 58 21.1**	**+0.3**

RSNC 13 09:56:11.3±0.9, 6.78N×73.15W, h147km±5km, ML2.1, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**189**	*e*P	Pn	09 56 31.0	-0.5
BARC				*e*S	Sn	09 56 45.8	-1.0
BARC				IAML		09 56 48.7	
	comp=Z,42nm,0.3s						
BRRC	**Barranca, Sant**	**0.64**	**300**	⇑*e*P	Pn	09 56 32.8	-0.3
BRRC				*e*S	Sn	09 56 49.5	-0.2
BRRC				IAML		09 56 53.8	
	comp=Z,24nm,0.3s						
PAMC	**Pamplona, Colo**	**0.71**	**39**	*e*P	Pn	09 56 33.9	-0.3
PAMC				*e*S	Sn	09 56 51.1	-0.3
PAMC				IAML		09 56 54.1	
	comp=Z,18nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.32**	**260**	*e*P	Pn	09 56 37.6	-1.2
PTBC				*e*S	Sn	09 56 58.9	-0.8
PTBC				IAML		09 57 01.8	
	comp=Z,12nm,0.2s						
TAMC	**Tame, Arauca**	**1.40**	**104**	⇑*i*P	Pn	09 56 39.4	-0.1
TAMC				*e*S	Sn	09 57 00.8	-0.4
TAMC				IAML		09 57 04.7	
	comp=Z,8.9nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.83**	**293**	*e*P	Pn	09 56 43.4	-0.9
ZARC				*e*S	Sn	09 57 09.3	-0.3
ZARC				IAML		09 57 14.1	
	comp=Z,11nm,0.3s						
NORC	**Norcasia**	**2.09**	**235**	*e*P	Pn	09 56 47.2	-0.2
NORC				*e*S	Sn	09 57 15.0	-0.2
NORC				IAML		09 57 22.7	
	comp=Z,8.5nm,0.2s						
NORC	**Norcasia**	**2.09**	**235**	*e*P	Pn	09 56 47.5	+0.1
NORC				*e*S	Sn	09 57 14.9	-0.2
CHIC	**Chingaza**	**2.22**	**195**	*e*P	Pn	09 56 44.6	-4.6
CHIC				*e*S	Sn	09 57 18.6	+0.2
CHIC				IAML		09 57 28.5	
	comp=Z,5.4nm,0.3s						
CHIC	**Chingaza**	**2.22**	**195**	*e*P	Pn	09 56 44.2	-5.1
ROSC	**El Rosal**	**2.25**	**211**	*e*P	Pn	09 56 51.0	+1.3
ROSC				*e*S	Sn	09 57 22.0	+2.9
ROSC				IAML		09 57 25.6	
	comp=Z,12nm,0.5s						
ROSC	**El Rosal**	**2.25**	**211**	*e*P	Pn	09 56 51.4	+1.7
PTGC	**Puerto Gaitan,**	**2.76**	**158**	*e*P	Pn	09 56 54.1	-1.4
PTGC				*e*S	Sn	09 57 27.5	-2.2
PTGC				IAML		09 57 32.5	
	comp=Z,9.4nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*e*P	Pn	09 56 59.1	+0.6
CBOC				*e*S	Sn	09 57 35.4	+0.4

RSNC 13 09:56:24.1±2.0, 3.67N×74.30W, h13km±10km, ML1.6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAC	**Prado**	**0.59**	**275**	*e*P	Pg	09 56 34.0	-1.6
PRAC				*e*S	Sg	09 56 43.4	-0.2
PRAC				IAML		09 56 43.5	
	comp=Z,12nm,0.3s						
ORTC	**Ortega, Tolima**	**0.98**	**284**	*e*P	Pb	09 56 41.0	-2.0
ORTC				*e*S	Sg	09 56 54.9	-0.9
ORTC				IAML		09 56 58.3	
	comp=Z,9.7nm,0.5s						
ANIL	**Santa Ana**	**1.38**	**307**	*e*S	Sb	09 57 06.6	-0.9
GARC	**Garzon, Huila**	**1.89**	**219**	*e*P	Pn	09 56 55.9	-0.5
GARC				*e*S	Sn	09 57 19.4	-0.9
GARC				IAML		09 57 21.0	
	comp=Z,14nm,0.2s						

*NEIC **13** 11:02:56.3±1.1, 42.74S±0.04×173.05E±0.06, h15km±3km, mb6.8/112, Ms_20 8.1/425, Mww7.8, Error ellipse: s-maj=7.1km s-min=5.1km az=117.0*

*WEL **13** 11:02:56.3±0.3, 43.5±2.1×17.3E±.1, h15km±3km, M7.8/58, mB7.7/18, ML7.8/57, MLv7.4/58, Mw(mB)7.8/37, Error ellipse: s-maj=0.0km s-min=0.0km az=117.8*

*NOU **13** 11:02:57.1, 42.82S×173.15E, h0km, ML7.4/195, South Island, New Zealand*

*MOS **13** 11:02:57.1±1.9, 42.82S×172.73E, h14km, mb6.8/19, MS7.8/32, Error ellipse: s-maj=10.9km s-min=7.8km az=113.5 Broadband fault plane solution: P waves. NP1:φs250.00000°, δ62.00000°, λ124.00000°. NP2: φs15.00000°, δ42.00000°, λ43.00000°. Principal axes: T Plg58.0000°, Azm208.0000°; N Plg29.0000°, Azm53.0000°; P Plg11.0000°, Azm317.0000°;*

*IDC **13** 11:02:58.3±0.3, 42.68S×172.50E, h0km, mb5.6/40, mbtmp5.6/41, ML5.9/1, MS7.8/34 Error ellipse: s-maj=9.8km s-min=7.5km az=42.0*

*BJI **13** 11:02:58.3±0.0, 42.46S×172.97E, h10km, mb6.1/48, mB7.2/53, Ms8.0/86, Ms7 7.9/84*

*GCMT **13** 11:03:52.3±0.1, 42.03S±0.01×173.85E±0.01, h19km, MW7.8/174, Moment Tensor Solution. s100,c173; s174,c595; Duration: 19s8 Moment tensor: Scale 1020 Nm; Mrr3.56±.02; Mθθ1.69±.01; Mφφ-5.25±.01; Mrθ-1.14±.14; Mrφ-2.04±.01; Mθφ4.34±.16; Best double couple: M06.69700×1020 NP1:φs350.00000°, δ70.00000°, λ63.00000°. NP2:φs226.00000°, δ33.00000°, λ141.00000°. Principal axes: T 6.1220, Plg56.0000°, Azm225.0000°; N 1.1510, Plg25.0000°, Azm360.0000°; P -7.2720, Plg21.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function*

*NEIC **13** 11:03:55, 42.28S×173.95E, h16km, Moment Tensor Solution. Duration: 116s0 Moment tensor: Scale 1020 Nm; Mrr4.81; Mθθ1.73; Mφφ-6.54; Mrθ-0.91; Mrφ-2.32; Mθφ2.99; Fault plane solution: M07.04000×1020 NP1: φs219.00000°, δ38.00000°, λ128.00000°. NP2: φs354.00000°, δ61.00000°, λ64.00000°. Principal axes: T 6.0612, Plg64.0000°, Azm219.0000°; N 1.6602, Plg22.0000°, Azm8.0000°; P -7.7214, Plg12.0000°, Azm103.0000°;*

ISC 13 11:02:59.7±0.1, 42.67S±0.01×172.92E±0.01, h16km, h16km:pP-P,n2384,σs80/1968, mb6.6/215, MS8.0/298, 146C-104D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.31**	**165**	P	Pn	11 03 04.6	-5.1
LTZ	**Lake Taylor**	**0.49**	**256**		**Pg**	**11 03 07.7**	**-2.0**
LTZ				Sg	**Sn**	**11 03 17.4**	**-3.1**
LTZ	**Lake Taylor**	**0.49**	**256**	P	**Pg**	**11 03 07.6**	**-2.0**
KHZ	**Kahutara**	**0.52**	**62**	Pg	**Pb**	**11 03 06.1**	**-4.3**
KHZ				Sg	**Sb**	**11 03 14.4**	**-3.3**
KHZ	**Kahutara**	**0.52**	**62**	P	Pg	11 03 05.9	-4.2
KHZ	**Kahutara**	**0.52**	**62**	P	**Pb**	**11 03 06.2**	**-4.3**
AMCZ	**Amberley**	**0.55**	**201**	P	**Pb**	**11 03 09.2**	**-3.5**
NNBS	**New Brighton**	**0.84**	**190**	P	**Pg**	**11 03 12.8**	**-3.4**
THZ	**Tophouse**	**0.90**	**359**		**Pb**	**11 03 13.4**	**-3.6**
THZ	**Tophouse**	**0.90**	**359**	P	**Pb**	**11 03 13.0**	**-4.0**
OXZ	**Oxford**	**0.93**	**224**	Pn	**Pb**	**11 03 14.7**	**-2.7**
OXZ	**Oxford**	**0.93**	**224**	P	**Pb**	**11 03 14.8**	**-2.7**
MQZ	**McQueen's Vall**	**1.06**	**191**		**Pb**	**11 03 16.3**	**-3.4**
MQZ	**McQueen's Vall**	**1.06**	**191**	P	Pb	11 03 15.7	-4.0
MQZ				S	**Sn**	**11 03 32.7**	**-1.6**
OKCZ	**Okains Bay**	**1.06**	**175**	P	Pg	11 03 16.2	-4.1
INZ	**Inchbonnie**	**1.09**	**266**	P	**Pn**	**11 03 17.7**	**-2.7**
BSWZ	**Blackbirch Sta**	**1.19**	**37**		**Pg**	**11 03 18.9**	**-3.7**
BSWZ	**Blackbirch Sta**	**1.19**	**37**	P	**Pn**	**11 03 18.0**	**-3.6**
AKCZ	**Akaroa Harbour**	**1.21**	**180**	P	Pn	11 03 17.9	-4.0
RACZ	**Rakaia**	**1.21**	**208**	P	**Pn**	**11 03 18.4**	**-3.5**
DSZ	**Denniston Nort**	**1.24**	**318**	Pn	**Pn**	**11 03 19.7**	**-2.8**
MRNZ	**Matariki Terra**	**1.27**	**354**	P	**Pn**	**11 03 19.3**	**-3.6**
MHCZ	**Mount Hutt**	**1.32**	**228**	P	**Pn**	**11 03 20.0**	**-3.0**
CMWZ	**Cape Campbell**	**1.33**	**47**		**Pg**	**11 03 21.2**	**-4.1**
CMWZ	**Cape Campbell**	**1.33**	**47**	P	**Pb**	**11 03 20.6**	**-3.7**
TUWZ	**Tuamarina**	**1.45**	**32**		**Pb**	**11 03 22.6**	**-3.7**
TUWZ	**Tuamarina**	**1.45**	**32**	P	**Pn**	**11 03 22.1**	**-3.2**
NNZ	**Nelson**	**1.49**	**13**		**Pn**	**11 03 22.5**	**-3.3**
NNZ	**Nelson**	**1.49**	**13**	P	**Pn**	**11 03 22.5**	**-3.3**
WACZ	**Wakanui South**	**1.50**	**211**	P	**Pn**	**11 03 22.5**	**-3.5**
TKNZ	**Takaka Hill**	**1.63**	**1**	P	**Pn**	**11 03 25.0**	**-2.8**
WVZ	**Waitaha Valley**	**1.66**	**255**	P	**Pn**	**11 03 25.7**	**-2.4**
RPZ	**Rata Peaks**	**1.72**	**232**	Pg	**Pn**	**11 03 25.8**	**-3.2**
	3μm,0.3s,baz=62,slow=13,SNR=2914						
RPZ	**Rata Peaks**	**1.72**	**232**	Pn	**Pn**	**11 03 25.9**	**-3.2**
RPZ	**Rata Peaks**	**1.72**	**232**	P	**Pn**	**11 03 27.3**	**-1.8**
RPZ	**Rata Peaks**	**1.72**	**232**	P	**Pn**	**11 03 25.9**	**-3.2**
TCW	**Tory Channel**	**1.77**	**35**	P	**Pn**	**11 03 26.0**	**-3.7**
ARCZ	**Arundel**	**1.81**	**224**	P	**Pn**	**11 03 26.3**	**-3.5**
QRZ	**Quartz Range**	**1.86**	**351**		**Pn**	**11 03 29.3**	**-1.6**
QRZ	**Quartz Range**	**1.86**	**351**	P	**Pg**	**11 03 32.8**	**-2.7**
QRZ	**Quartz Range**	**1.86**	**351**	P	**Pn**	**11 03 28.0**	**-3.0**
SNZO	**South Karori**	**1.90**	**45**		**Pn**	**11 03 28.0**	**-3.4**
SNZO	**South Karori**	**1.90**	**45**	P	**Pn**	**11 03 29.1**	**-2.3**
SNZO	**South Karori**	**1.90**	**45**	⇓P	**Pn**	**11 03 27.4**	**-4.0**
WEL	**Wellington**	**1.95**	**46**	P	**Pn**	**11 03 28.0**	**-4.2**
DUWZ	**D'Urville Isla**	**2.01**	**22**	P	**Pn**	**11 03 30.6**	**-2.4**
GCSZ	**Gaunt Creek Bo**	**2.01**	**250**	P	**Pn**	**11 03 30.9**	**-2.2**
GCSZ				S	**Sb**	**11 03 58.4**	**-2.3**
PLWZ	**Palliser**	**2.05**	**59**	Pn	Pn	11 03 28.7	-4.9
PLWZ	**Palliser**	**2.05**	**59**	P	Pn	11 03 28.7	-4.9
MSWZ	**Moikau Station**	**2.14**	**55**

BFZ Birch Farm 3.18 53 P Pn 11 03 43.5 -5.6
WAZ Wanganui 3.30 29 P Pn **11 03 48.6 -2.1**
NMEZ Namu Road 3.33 13 P Pn **11 03 49.7 -1.4**
JCZ Jackson Bay 3.33 244 P Pn **11 03 50.2 -1.0**
JCZ Jackson Bay 3.33 244 P Pn **11 03 48.2 -3.1**
LREZ Lake Rotokare 3.39 20 P Pn **11 03 51.0 -1.0**
DVHZ Dannevirke 3.40 47 P Pn 11 03 46.3 -5.7
ANWZ Angora Road 3.46 52 P Pn 11 03 47.7 -5.2
TSZ Takapari Road 3.47 42 P Pn 11 03 48.4 -4.7
KHEZ Kahui Hut 3.47 14 P Pb 11 03 54.8 -6.0
KHEZ Kahui Hut 3.47 14 P Pn **11 03 51.5 -1.7**
NBEZ Newall Road No 3.47 12 P Pn **11 03 51.7 -1.3**
NEZ North Egmont 3.51 15 P Pn **11 03 52.1 -1.6**
PKE Pukeiti 3.56 13 P Pn **11 03 52.9 -1.5**
WKZ Wanaka 3.56 231 Pn **11 03 50.6 -3.7**
WKZ Wanaka 3.56 231 P Pn **11 03 50.4 -4.0**
DREZ Durham Road 3.60 16 P Pn **11 03 53.4 -1.6**
HHSZ Highcliff Hill 3.63 207 P Pn **11 03 51.3 -4.0**
EAZ Earnscleugh 3.66 224 P Pn **11 03 51.8 -3.9**
PRHZ Porangahau 3.68 51 P Pn 11 03 50.3 -5.6
PNHZ Pukenui 3.69 43 P Pn 11 03 50.8 -5.4
WPHZ Waipukurau 3.71 47 P Pn 11 03 51.1 -5.3
MHEZ Mangahewa 3.74 17 P Pn **11 03 55.7 -1.1**
VRZ Vera Road 3.80 22 P Pn **11 03 55.7 -1.9**
MTVZ Mangateitei 3.80 31 P Pn **11 03 55.1 -2.6**
PKVZ Pokaka 3.84 29 P Pn **11 03 55.7 -2.5**
MOVZ Moawhango 3.90 34 P Pn **11 03 54.9 -4.1**
WNVZ Wahianoa 3.90 32 P Pn **11 03 55.9 -3.2**
TRVZ Turoa 3.91 31 P Pn **11 03 56.2 -3.1**
DRZ Dome Shelter 3.93 31 P Pn **11 03 56.8 -2.9**
WHVZ Whangaehu Hut 3.94 32 P Pn **11 03 56.6 -3.1**
FWVZ Far West T-bar 3.94 32 P Pn **11 03 56.7 -3.1**
BHHZ Black Hill Sta 3.96 38 P Pn **11 03 55.6 -4.3**
PXZ Pawanui 3.96 50 P Pn 11 03 54.1 -5.8
TUVZ Tukino 3.97 32 P Pn **11 03 56.8 -3.4**
NGZ Ngauruhoe 4.03 31 P Pn **11 03 57.8 -3.2**
SNVZ South Ngauruho 4.04 32 P Pn **11 03 57.8 -3.3**
TUZ Tuapeka 4.05 215 P Pn **11 03 57.5 -3.5**
TWVZ Taurewa 4.07 29 P Pn **11 03 58.2 -3.2**
OTVZ Oturere 4.07 32 P Pn **11 03 58.0 -3.4**
NNVZ North Ngauruho 4.08 31 P Pn **11 03 58.2 -3.4**
WTVZ West Tongariro 4.08 31 P Pn **11 03 58.4 -3.2**
ETVZ East Tongariro 4.11 32 P Pn **11 03 58.7 -3.3**
KRVZ Karewarewa 4.12 31 P Pn **11 03 59.1 -3.0**
TMVZ Te Maari 4.12 32 P Pn **11 03 58.9 -3.3**
NTVZ North Tongarir 4.13 31 P Pn **11 03 58.9 -3.3**
KAHZ Kahuranaki 4.14 47 P Pn 11 03 56.3 -6.0
MSZ Milford Sound 4.14 239 P Pn **11 03 58.0 -4.3**
KWHZ Kaweka Forest 4.18 40 P Pn 11 03 57.5 -5.4
KAKZ Kakaramea 4.24 31 P Pn **11 04 01.0 -2.8**
MCHZ McNeill Hill 4.30 43 P Pn 11 03 58.8 -5.7
CKHZ Cape Kidnapper 4.34 48 P Pn **11 04 00.7 -4.4**
RATZ Rangitukua 4.37 31 P Pn **11 04 03.1 -2.4**
MLZ Mavora Lakes 4.39 230 Pn Pn 11 04 01.4 -4.4
MLZ Mavora Lakes 4.39 230 P Pn **11 04 01.5 -4.3**
HIZ Hauiti 4.40 20 Pn Pn **11 04 03.7 -2.2**
HIZ Hauiti 4.40 20 P Pn **11 04 03.4 -2.5**
BKZ Black Stump Fm 4.42 39 Pn **11 04 01.8 -4.4**
BKZ Black Stump Fm 4.42 39 P Pn **11 04 04.6 -1.6**
BKZ Black Stump Fm 4.42 39 P Pn 11 04 00.7 -5.5
HATZ Hinemaiaia 4.47 34 P Pn **11 04 04.0 -2.9**
WATZ Wairara 4.49 29 P Pn **11 04 04.0 -3.1**
ARHZ Aropaoanui 4.59 44 P Pn 11 04 03.0 -5.5
WHTZ Whakaora 4.61 31 P Pn **11 04 07.1 -1.8**
NMHZ Naumai 4.62 41 P Pn 11 04 03.4 -5.6
MRHZ Matea Rd 4.66 36 P Pn 11 04 04.0 -5.4
SYZ Scrubby Hill 4.72 214 P Pn **11 04 09.5 -0.7**
SYZ Scrubby Hill 4.72 214 P Pn **11 04 06.5 -3.7**
TLZ Tolley Road 4.77 26 P Pn **11 04 07.4 -3.6**
WHZ Wether Hill Ro 4.81 226 Pn **11 04 08.5 -3.0**
WHZ Wether Hill Ro 4.81 226 P Pn 11 04 06.4 -5.1
MTHZ Maungataniwha 4.83 39 P Pn 11 04 06.6 -5.3
WHHZ Waihua 4.85 44 P Pn 11 04 06.7 -5.4
ALRZ Allen Road 4.86 34 P Pn 11 04 07.0 -5.1
RAHZ Arahi 4.90 42 P Pn 11 04 06.7 -6.1
GRRZ Galatos Road 4.95 30 P Pn **11 04 10.1 -3.4**
HRRZ Handcock Road 4.98 32 P Pn **11 04 10.8 -3.1**
DCZ Deep Cove 5.01 234 Pn **11 04 11.3 -2.9**
DCZ Deep Cove 5.01 234 P Pn **11 04 09.8 -4.4**
HSRZ Hossack Road 5.03 31 P Pn **11 04 11.3 -3.3**
RTZ Ruatahuna 5.09 39 P Pn 11 04 10.2 -5.2
MUGZ Murupara 5.11 36 P Pn 11 04 10.1 -5.5
RRRZ Republican Roa 5.12 34 P Pn **11 04 11.4 -4.3**
KNZ Kokohu 5.12 46 P Pn 11 04 10.5 -5.3
HLZ Highlands Stat 5.15 32 P Pn **11 04 10.7 -0.1**
UTU Utuhina 5.13 30 P Pn **11 04 13.5 -2.4**
MHGZ Mahia Peninsul 5.15 49 P Pn 11 04 10.5 -5.7
NGRZ Ngongotaha 5.20 30 P Pn **11 04 14.1 -2.7**
TARZ Mount Tarawera 5.20 33 P Pn **11 04 13.8 -3.1**
OMRZ Omania 5.26 31 P Pn **11 04 14.7 -3.0**
MKRZ Makatiti 5.27 32 P Pn 11 04 19.9 +2.0
KARZ Kaharoa 5.29 30 P Pn **11 04 14.8 -3.3**
TOZ Tahuroa Road 5.31 23 P Pn **11 04 14.9 -3.4**
KMRZ Kaimai 5.34 27 P Pn **11 04 15.5 -3.3**
LIRZ Lichensteins R 5.36 31 P Pn **11 04 19.3 +0.3**
RAGZ Rawiri 5.39 41 P Pn 11 04 13.4 -6.2
EDRZ Edgecumbe 5.41 34 P Pn **11 04 16.3 -3.4**
URZ Urewera 5.44 37 P Pn **11 04 18.3 -1.8**
URZ Urewera 5.44 37 ⇑P Pn 11 04 13.5 -6.6
URZ Urewera 5.44 37 P Pn 11 04 13.6 -6.6
APZ The Paps 5.45 218 P Pn 11 04 15.7 -4.6
MARZ Manawahe 5.48 33 P Pn **11 04 18.8 -2.0**
TGRZ Tauranga 5.52 23 P Pn **11 04 17.6 -4.1**
OPRZ Ohinepanea 5.56 31 P Pn 11 04 16.8 -4.9
PYZ Puysegur Point 5.68 230 P Pn **11 04 22.8 -0.6**
PYZ Puysegur Point 5.68 230 P Pn 11 04 19.0 -4.4
WHRZ Whale Island 5.72 34 P Pn **11 04 20.3 -3.6**
AWAZ Awhitu Peninsu 5.75 14 P Pn **11 04 22.3 -2.1**
CNGZ Carnagh Statio 5.80 46 P Pn 11 04 20.1 -5.0
MKAZ Moumakai 5.81 18 P Pn **11 04 22.3 -3.0**
WTAZ Waiatarua 5.87 13 P Pn **11 04 24.6 -1.4**
ETAZ East Tamaki Re 5.91 16 P Pn **11 04 24.2 -2.4**
TWGZ Tauwhareparae 5.92 42 P Pn 11 04 20.2 -6.5
RUGZ Raukumara Rang 5.94 39 P Pn 11 04 20.8 -6.3
EPAZ Eden Park BICE 5.95 14 P Pn **11 04 25.6 -1.5**
MYRZ Mayor Island 5.95 26 P Pn **11 04 24.2 -3.0**
HBAZ Herne Bay Bore 5.97 14 P Pn **11 04 26.7 -0.8**
RVAZ Riverhead Bore 6.03 13 P Pn **11 04 26.2 -2.0**
MBAZ Motutapu North 6.08 15 P Pn **11 04 26.8 -2.2**
WIZ White Island 6.09 34 P Pn **11 04 26.5 -2.8**
PUZ Puketiti 6.13 43 P Pn 11 04 23.2 -6.5
HAZ Te Kaha 6.15 39 P Pn 11 04 23.5 -6.4
PKGZ Pakihiroa 6.19 41 Pn Pn **11 04 27.6 -2.9**
PKGZ Pakihiroa 6.19 41 P Pn 11 04 24.0 -6.5
ABAZ Army Bay 6.23 14 P Pn **11 04 28.9 -2.1**
KUZ Kuaotunu 6.29 21 P Pn **11 04 32.0 +0.1**
KUZ Kuaotunu 6.29 21 P Pn **11 04 28.0 -3.9**
WMGZ Waiomatatini S 6.41 43 Pn Pn **11 04 29.3 -4.2**
MXZ Matakaoa Point 6.56 41 Pn Pn **11 04 31.5 -3.9**
MXZ Matakaoa Point 6.56 41 P Pn **11 04 33.0 -2.5**
MXZ Matakaoa Point 6.56 41 P Pn 11 04 29.7 -5.7
GRZ Great Barrier 6.70 18 P Pn **11 04 34.0 -3.4**
WCZ Waipu Caves 6.81 10 P Pn **11 04 39.0 0.0**
OUZ Omahuta 7.45 4 Pn Pn **11 04 46.0 -1.8**
OUZ Omahuta 7.45 4 P Pn **11 04 48.4 +0.6**
OUZ Omahuta 7.45 4 ⇓P Pn **11 04 45.8 -2.0**
OUZ Omahuta 7.45 4 P Pn **11 04 46.5 -1.3**
CTZ Chatham Island 7.72 102 P Pn **11 04 48.7 -2.7**
CTZ Chatham Island 7.72 102 P Pn 11 04 46.4 -5.0
NFK Norfolk Island 14.18 342 P P **11 06 23.7 -3.6**
baz=14,SNR=12
NFK Norfolk Island 14.18 342 P P **11 06 25.5 -1.8**
NFK Norfolk Island 14.18 342 ⇓P P 11 06 21.3 -6.0
MCQ Macquarie Isla 14.98 213 P P **11 06 32.2 -3.9**
baz=15,SNR=6.0
MCQ Macquarie Isla 14.98 213 Pn Pn **11 06 28.3 -2.3**
MCQ Macquarie Isla 14.98 213 P Pn **11 06 29.7 -1.0**
MCQ Macquarie Isla 14.98 213 ⇑P Pn **11 06 29.4 -1.3**
MCQ Macquarie Isla 14.98 213 P Pn **11 06 28.3 -2.3**
RAO Raoul Island 15.29 32 Pn P **11 06 37.5 -2.1**
53nm,0.3s,baz=286,slow=22,SNR=3.7
RAO Sn **Sn** **11 09 15.5 -8.4**
148nm,0.3s,baz=108,slow=19,SNR=2.5
RAO LR LR 11 12 53.2
comp=Z,8417µm,19.6s,baz=196,slow=38
132nm,0.3s
RAO Raoul Island 15.29 32 P P **11 06 35.5 -4.1**
LHI Lord Howe Isla 15.66 311 P P **11 06 40.3 -3.5**
baz=16,SNR=4.7
LHI Lord Howe Isla 15.66 311 P P **11 06 40.5 -3.3**

LHI Lord Howe Isla 15.66 311 P P **11 06 44.7 +0.9**
LHI Lord Howe Isla 15.66 311 ⇓P Pn **11 06 38.5 -1.2**
I05AU HOBART INFRASO 18.58 262 I I 12 43 10.0
0.1nm,0.8s,baz=100,slow=315,SNR=3.0
GLAD Gladstone 18.63 267 P Pn **11 07 19.8 +3.0**
TAU Tasmania Unive 18.78 261 P P **11 07 13.4 -4.7**
TAU Tasmania Unive 18.78 261 P Pn **11 07 20.2 +1.6**
TAU Tasmania Unive 18.78 261 ⇑P Pn **11 07 19.5 +0.9**
TAU Tasmania Unive 18.78 261 P P **11 07 13.4 -4.7**
TAU pmax pmax
comp=Z,306nm,1.1s
AUUHS Ulladulla High 18.88 285 P Pn **11 07 21.2 +1.3**
MOO Moorlands 18.94 262 P Pn **11 07 21.1 +0.5**
baz=19,SNR=23
MOO Moorlands 18.94 262 P Pn **11 07 22.1 +1.5**
MILA Mila 19.06 279 P Pn **11 07 22.2 +0.1**
baz=19,SNR=84
MILA Mila 19.06 279 P Pn **11 07 23.2 +1.0**
MILA Mila 19.06 279 ⇑P Pn **11 07 21.4 -0.8**
AULHS Lilydale High 19.15 266 P Pn **11 07 27.2 +4.1**
CORO Coronation Par 19.16 265 P Pn **11 07 27.2 +4.0**
RIV Riverview 19.20 290 P Pn **11 07 23.2 -0.5**
baz=19,SNR=9.9
RIV Riverview 19.20 290 P Pn **11 07 24.8 +1.1**
RIV Riverview 19.20 290 ⇑P Pn **11 07 25.4 +1.7**
RIV Riverview 19.20 290 ⇑P Pn **11 07 25.4 +1.7**
NTLH Newcastle Hard 19.36 293 P Pn **11 07 26.6 +1.0**
SYDH Sydney Hard Ro 19.52 290 P Pn **11 07 28.6 +1.0**
CNB Canberra Magne 19.69 284 P Pn **11 07 29.3 -0.4**
baz=20,SNR=20
CNB Canberra Magne 19.69 284 P Pn **11 07 31.9 +2.2**
AUSMG Snowy Mountain 19.73 280 P Pn **11 07 30.5 +0.3**
CAN Canberra 19.95 284 P P **11 07 29.0 -2.1**
CAN Canberra 19.95 284 P Pn 11 07 33.4 +0.6
CAN Canberra 19.95 284 ⇑P Pn 11 07 32.8 0.0
CAN Canberra 19.95 284 P P **11 07 29.0 -2.1**
CAN pmax pmax
comp=Z,416nm,1.1s
CAN MLR MLR
comp=Z,4100µm,20.0s
AUSSC Sale College, 20.18 274 P Pn 11 07 37.0 +1.6
OUENC Ouen Island, N 20.82 344 P P **11 07 37.5 -3.0**
OUENC Ouen Island, N 20.82 344 P Pn 11 07 41.8 -1.2
ARMA Armidale 20.96 299 P P **11 07 42.6 +0.5**
baz=21,SNR=11
ARMA Armidale 20.96 299 P P **11 07 40.4 -1.7**
ARMA Armidale 20.96 299 P P **11 07 44.2 +2.1**
ARMA Armidale 20.96 299 ⇑P P **11 07 44.1 +1.9**
AUPHS Peel High Scho 21.00 296 P P **11 07 44.4 +1.9**
ONTNC Ouen Toro 21.01 343 P P **11 07 40.0 -2.6**
ONTNC Ouen Toro 21.01 343 P P **11 07 43.4 +0.9**
ONTNC Ouen Toro 21.01 343 ⇑P P **11 07 43.7 +1.2**
I22FR PORTLAGUERRE I 21.05 344 I I 12 54 50.0
baz=158,slow=320,SNR=1.6
YATNC Mamie plateau, 21.16 344 P P **11 07 45.6 +1.4**
DZM Mont Dzumac 21.24 343 *e*Pn P **11 07 45.1 -0.1**
comp=Z,8µm,1.4s
DZM *e*LR LR 11 12 49.8
comp=Z,5583µm,22.1s
DZM Mont Dzumac 21.24 343 P P **11 07 45.0 -0.1**
comp=Z,177nm,1.0s,baz=152,slow=10,SNR=46
DZM Sn 11 11 44.4 -3.5
comp=Z,57nm,0.9s,baz=185,slow=12,SNR=0.9
DZM LR LR 11 16 29.8
comp=Z,2881µm,18.0s,baz=167,slow=38
comp=Z,177nm,1.0s
DZM Mont Dzumac 21.24 343 P P **11 07 42.6 -2.5**
DZM Mont Dzumac 21.24 343 P P **11 07 46.2 +1.1**
DZM Mont Dzumac 21.24 343 ⇑P P **11 07 45.0 -0.1**
GC1S Gold Coast 1 S 21.37 306 P P **11 07 48.6 +2.2**
MARNC Mare, Loyalty 21.52 347 P P **11 07 45.8 -2.2**
MARNC Mare, Loyalty 21.52 347 P P **11 07 50.7 +2.7**
MARNC Mare, Loyalty 21.52 347 ⇑P P **11 07 49.1 +1.1**
TOO Toolangi 21.54 274 P P **11 07 49.8 +1.5**
baz=21,SNR=34
TOO Toolangi 21.54 274 P P **11 07 45.5 -2.8**
TOO Toolangi 21.54 274 P P **11 07 50.4 +2.1**
TOO Toolangi 21.54 274 ⇑P P **11 07 49.0 +0.7**
TOO Toolangi 21.54 274 P P **11 07 45.5 -2.8**
TOO pmax pmax
comp=Z,955nm,1.4s
AUDCS Dubbo College 21.85 290 P P **11 07 53.9 +2.3**
MLBS Spotswood, Mel 21.88 273 P P **11 07 55.4 +3.6**
GEXS Deakin Univers 22.19 272 P P **11 07 57.5 +2.3**
AUWSH Wavell State H 22.21 307 P P **11 07 57.6 +2.1**
LIFNC LIFOU 22.34 346 P P **11 07 54.0 -2.9**
LIFNC IAMs_20 IAMs_20 11 17 02.4
comp=Z,4983µm,18.0s
LIFNC LIFOU 22.34 346 P P **11 07 58.0 +1.1**
AUBSH Beerwah State 22.67 308 P P **11 08 02.2 +1.8**
AUMAG Moama Anglican 22.68 277 P P **11 08 02.3 +1.9**
BRAT Ballarat 22.70 273 P P **11 08 02.3 +1.7**
KOUNC Koumac, New Ca 23.22 339 P P **11 08 03.5 -2.5**
KOUNC Koumac, New Ca 23.22 339 P P **11 08 07.5 +1.5**
KOUNC Koumac, New Ca 23.22 339 ⇓P P **11 08 05.4 -0.6**
AUHPC Hawkesdale P12 23.68 271 P P **11 08 11.9 +1.4**
AULRC Lightning Ridg 24.00 295 P P **11 08 15.3 +1.6**
CMSA Cobar Meteorol 24.29 288 P P **11 08 15.8 -0.6**
baz=24,SNR=142
CMSA Cobar Meteorol 24.29 288 P P **11 08 16.9 +0.5**
ARPS Mount Arapiles 24.54 273 P P **11 08 18.9 +0.3**
baz=24,SNR=19
ARPS Mount Arapiles 24.54 273 P P **11 08 20.2 +1.6**
EIDS Eidsvold 24.89 307 P P **11 08 21.9 +0.1**
baz=25,SNR=14
EIDS Eidsvold 24.89 307 P P **11 08 20.1 -1.7**
EIDS Eidsvold 24.89 307 P P **11 08 23.2 +1.4**
EIDS Eidsvold 24.89 307 ⇑P P **11 08 22.0 +0.1**
RTV Rentapao 25.09 350 P P **11 08 24.8 +1.2**
DVP Devils Point 25.18 349 P P **11 08 25.8 +1.3**
MSVF Nonsavu 25.23 12 P P **11 08 24.7 -0.3**
comp=Z,107nm,1.0s,baz=153,slow=9.4,SNR=13
MSVF LR LR 11 17 28.2
comp=Z,2384µm,20.5s,baz=190,slow=34
comp=Z,107nm,1.0s
MSVF Nonsavu 25.23 12 P P **11 08 22.1 -2.9**
MSVF IAmb IAmb 11 08 48.1
comp=Z,1µm,0.9s
MSVF Nonsavu 25.23 12 IAMs_20 IAMs_20 11 18 56.8
comp=Z,3854µm,19.0s
MSVF Nonsavu 25.23 12 P P **11 08 24.8 -0.2**
MSVF Nonsavu 25.23 12 ⇓P P **11 08 23.4 -1.6**
MSVF Nonsavu 25.23 12 *c*iP P **11 08 23.5 -1.5**
MSVF pmax pmax
comp=Z,1µm,0.9s
MSVF MLR MLR
comp=Z,3620µm,16.0s
RMQ Roma 25.49 302 P P **11 08 27.8 +0.5**
baz=25,SNR=35
RMQ Roma 25.49 302 P P **11 08 28.8 +1.5**
GD1S Gladstone Soft 26.01 309 P P **11 08 35.5 +3.5**
RK1H Rockhampton Ha 26.75 309 P P **11 08 40.3 +1.6**
STKA Stephens Creek 27.01 283 P P **11 08 40.0 -0.9**
comp=Z,70nm,1.0s,baz=121,slow=11,SNR=31
STKA S S **11 13 17.6 -0.3**
comp=Z,99nm,1.0s,baz=138,slow=17,SNR=1.8
comp=Z,70nm,1.0s
STKA Stephens Creek 27.01 283 P P **11 08 40.5 -0.5**
baz=27,SNR=18
STKA Stephens Creek 27.01 283 P P **11 08 38.5 -2.5**
STKA Stephens Creek 27.01 283 P P **11 08 41.9 +0.9**
STKA Stephens Creek 27.01 283 *c*iP P **11 08 42.7 +1.7**
NIUE Niue 27.63 37 P P 11 08 50.9 +4.3
baz=28,SNR=4.4
NIUE Niue 27.63 37 P P **11 08 42.2 -4.4**
NIUE Niue 27.63 37 P P **11 08 49.6 +3.0**
NIUE Niue 27.63 37 ⇑P P **11 08 47.9 +1.3**
GHSS Government Hou 27.70 275 P P **11 08 50.8 +3.7**
comp=Z,401nm,0.9s
HTT Hallett 28.16 278 P P **11 08 51.8 +0.5**
baz=28,SNR=27
HTT Hallett 28.16 278 P P **11 08 51.7 +0.4**
HTT Hallett 28.16 278 ⇑P P **11 08 52.0 +0.7**
HTT Hallett 28.16 278 P P **11 08 52.4 +1.1**
QLP Quilpie 28.36 295 P P **11 08 53.9 +0.8**
baz=28,SNR=17
QLP Quilpie 28.36 295 P P **11 08 53.2 +0.2**
QLP Quilpie 28.36 295 ⇑P P **11 08 53.3 +0.2**
FUTU Fugatoga 29.30 18 P P **11 09 01.2 -0.2**
WHYH Whyalla 29.34 277 P P **11 09 02.5 +0.8**
INKA Innaminka 30.00 289 P P **11 09 08.3 +0.7**
LCRK Leigh Creek 30.22 282 P P **11 09 09.7 +0.2**
BBOO Buckleboo 30.56 276 P P **11 09 09.7 -2.8**
BBOO IAmb IAmb 11 10 15.7
comp=Z,1µm,1.2s
BBOO Buckleboo 30.56 276 P P **11 09 13.8 +1.2**
RAR Rarotonga 31.30 55 P P 11 09 22.6 +3.5
comp=Z,99nm,1.0s,baz=186,slow=4.5,SNR=7.3
RAR S S 11 14 33.1 +7.8
comp=Z,100nm,1.2s,baz=315,slow=20,SNR=1.9
comp=Z,99nm,1.0s
RAR Rarotonga 31.30 55 P P **11 09 15.0 -4.1**
RAR IAmb IAmb 11 10 21.6
comp=Z,4µm,1.6s
RAR Rarotonga 31.30 55 P P 11 09 21.6 +2.5
RAR Rarotonga 31.30 55 ⇑P P 11 09 22.1 +2.9
RAR Rarotonga 31.30 55 P P **11 09 15.0 -4.1**
RAR pmax pmax
comp=Z,4µm,1.7s
RAR MLR MLR
comp=Z,1427µm,19.0s
AFI Afiamalu 31.55 29 P P 11 09 23.1 +1.6
comp=Z,157nm,0.9s,baz=236,slow=3.6,SNR=9.8
comp=Z,157nm,0.9s
AFI Afiamalu 31.55 29 P P **11 09 17.7 -3.8**
AFI IAmb IAmb 11 10 24.9
comp=Z,1µm,1.4s
AFI Afiamalu 31.55 29 P P **11 09 21.1 -0.4**
AFI Afiamalu 31.55 29 ⇑P P 11 09 23.1 +1.7
AFI Afiamalu 31.55 29 P P **11 09 17.7 -3.8**
AFI pmax pmax
comp=Z,1µm,1.4s
AFI MLR MLR
comp=Z,1611µm,20.0s
CTA Charters Tower 31.78 307 P P **11 09 23.3 -0.1**
comp=Z,51nm,1.0s,baz=142,slow=9.3,SNR=23
comp=Z,51nm,1.0s
CTA Charters Tower 31.78 307 P P **11 09 23.9 +0.5**
CTAO Charters Tower 31.78 307 P P **11 09 20.5 -2.9**
CTAO IAmb IAmb 11 09 54.2
comp=Z,1µm,1.1s
CTAO Charters Tower 31.78 307 IAMs_20 IAMs_20 11 21 17.2
comp=Z,3476µm,22.0s
CTAO Charters Tower 31.78 307 P P **11 09 23.9 +0.5**
CTAO Charters Tower 31.78 307 ⇑P P **11 09 23.3 -0.1**
CTAO Charters Tower 31.78 307 P P **11 09 20.5 -2.9**
CTAO pmax pmax
comp=Z,1µm,1.2s
CTAO MLR MLR
comp=Z,3476µm,22.0s
TV1H Townsville Har 32.11 308 P P **11 09 28.4 +2.1**
MULG Mulgathing 33.32 279 P P **11 09 37.3 +0.5**
OOD Oodnadatta 33.54 284 P P **11 09 38.8 0.0**
FUNA Funafuti 34.45 11 P P **11 09 43.0 -3.6**
HNR Honiara 35.01 337 P P **11 09 53.0 +1.5**
comp=Z,4µm,0.8s,baz=200,slow=6.9,SNR=12
HNR Honiara 35.01 337 P P **11 09 48.0 -3.5**
HNR Honiara 35.01 337 IAMs_20 IAMs_20 11 23 29.1
comp=Z,2331µm,20.0s
HNR Honiara 35.01 337 P P **11 09 53.0 +1.5**
HNR Honiara 35.01 337 ⇑P P **11 09 51.5 +0.1**
HNR Honiara 35.01 337 P P **11 09 53.0 +1.5**
I55US WINDLESS BIGHT 35.25 182 P P **11 09 53.8 +0.8**
baz=24,slow=14,SNR=2.8
VNDA Vanda 35.26 184 P P **11 09 53.2 +0.1**
comp=Z,26nm,1.1s,baz=10,slow=8.8,SNR=33
comp=Z,26nm,1.1s
VNDA Vanda 35.26 184 P P **11 09 49.2 -3.9**
SBA Scott Base 35.39 182 P P **11 09 51.0 -3.2**
SBA IAmb IAmb 11 10 09.3
comp=Z,2µm,1.4s
SBA Scott Base 35.39 182 P P **11 09 51.0 -3.2**
SBA pmax pmax
comp=Z,2µm,1.4s
SBA MLR MLR
comp=Z,1375µm,22.0s
QIS Mount Isa 35.58 298 P P **11 09 55.3 -1.2**
baz=36,SNR=32
QIS Mount Isa 35.58 298 P P **11 09 56.2 -0.3**
TBI Tubuai 36.58 70 *e*P P 11 10 07.2 +2.3
comp=Z,4µm,1.4s
TBI *e*S S **11 15 41.9 -5.0**
comp=Z,6091µm,28.0s
TBI *e*LR LR 11 19 50.7
comp=Z,31012µm,25.5s
TBI *e*LR LR 11 19 50.8
comp=Z,10326µm,29.5s
TBI Tubuai 36.58 70 *e*T T 11 48 04.3
comp=Z,2µm,0.3s
AS01 Alice Springs 37.32 288 P P **11 10 10.3 -1.0**
AS31 Alice Springs 37.35 288 P P **11 10 07.8 -3.8**
ASAR Alice Springs 37.35 288 P P **11 10 08.3 -3.3**
comp=Z,88nm,1.1s,baz=132,slow=8.6,SNR=113
ASAR S S **11 15 57.9 -1.0**
comp=Z,20nm,0.9s,baz=129,slow=9.9,SNR=1.9
ASAR LR LR 11 26 50.9
comp=Z,3304µm,18.2s,baz=137,slow=39
comp=Z,88nm,1.1s
FORT Forrest 37.46 273 P P **11 10 11.6 -0.8**
baz=37,SNR=16
FORT Forrest 37.46 273 P P **11 10 09.8 -2.6**
FORT IAmb IAmb 11 11 07.3
comp=Z,2µm,1.0s
FORT Forrest 37.46 273 P P **11 10 13.4 +1.0**
FORT Forrest 37.46 273 ⇑P P **11 10 11.7 -0.8**
COEN Coen 38.41 309 P P **11 10 19.1 -1.4**
baz=38,SNR=16
COEN Coen 38.41 309 P P **11 10 17.6 -2.9**
COEN Coen 38.41 309 P P **11 10 20.5 -0.1**
COEN Coen 38.41 309 ⇑P P **11 10 19.2 -1.3**
WR0 Warramunga Arr 39.37 293 P P **11 10 25.7 -2.9**
WR0 IAmb IAmb 11 11 34.2
comp=Z,2µm,1.1s
WB2 Warramunga Arr 39.52 293 P P **11 10 26.4 -3.4**
WB2 IAmb IAmb 11 11 35.4
comp=Z,2µm,1.0s
WRAB Tennant Creek 39.52 293 P P **11 10 29.0 -0.9**
WRAB Tennant Creek 39.52 293 ⇑P P **11 10 26.8 -3.1**
WRAB Tennant Creek 39.52 293 *d*iP P **11 10 27.9 -2.0**
WRAB pmax pmax
comp=Z,2µm,1.6s
WRAB MLR MLR
comp=Z,3527µm,17.0s
WRA Warramunga Arr 39.52 293 P P **11 10 28.0 -1.9**
comp=Z,66nm,0.9s,baz=134,slow=7.7,SNR=136
WRA S S **11 16 29.5 -2.2**
comp=Z,6.5nm,0.7s,baz=126,slow=8.3,SNR=1.1
WRA LR LR 11 27 59.0
comp=Z,3430µm,18.5s,baz=123,slow=38
comp=Z,66nm,0.9s
WRA Warramunga Arr 39.52 293 P P **11 10 26.7 -3.1**
WB0 Warramunga Arr 39.61 293 P P **11 10 27.9 -2.7**
WB0 IAmb IAmb 11 11 36.1
comp=Z,2µm,1.1s
PMG Port Moresby 40.09 318 P P **11 10 34.2 -0.2**
comp=Z,453nm,1.2s,baz=124,slow=4.6,SNR=64
comp=Z,453nm,1.2s
PMG Port Moresby 40.09 318 P P **11 10 31.9 -2.6**
PMG Port Moresby 40.09 318 P P **11 10 34.3 -0.2**
comp=Z,50µmcomp=Z,1µm,1.3s
PMG Port Moresby 40.09 318 P P **11 10 36.1 +1.6**
PMG Port Moresby 40.09 318 *d*iP P **11 10 33.6 -0.9**
PMG pmax pmax
comp=Z,1µm,1.1s
PMG MLR MLR
comp=Z,3995µm,16.0s
PAE Paea 40.40 64 *e*P P 11 10 38.4 +1.3
comp=Z,592nm,1.4s
PAE Paea 40.40 64 *e*T T 11 52 56.9
comp=Z,193nm,0.3s
PPT2 Papeete2 40.45 64 *e*P P **11 10 38.4 +0.8**
comp=Z,2µm,1.4s
PPT2 *e*S S **11 16 41.0 -4.7**
comp=Z,1483µm,25.8s
PPT2 *e*LR LR 11 21 38.8
comp=Z,3583µm,28.0s
PPT2 *e*LR LR 11 21 38.9
comp=Z,2526µm,30.2s
PPT2 Papeete2 40.45 64 *e*T T 11 52 58.5
comp=Z,188nm,0.3s
PPTF Pamatai, Papee 40.46 64 P P **11 10 33.2 -4.5**
PPTF IAmb IAmb 11 11 59.0
comp=Z,2µm,1.1s
PPTF Pamatai, Papee 40.46 64 P P **11 10 38.0 +0.3**
PPTF Pamatai, Papee 40.46 64 ⇑P P 11 10 42.8 +5.1
PPT Papeete 40.47 63 P P 11 10 40.3 +2.6
comp=Z,283nm,1.0s,baz=231,slow=3.5,SNR=14

PPT LR LR 11 24 54.2
comp=Z,1125µm,22.0s,baz=232,slow=32
comp=Z,283nm,1.0s
WRKA Warakurna 40.50 281 P **P** **11 10 35.0 -3.0**
baz=40,SNR=165
WRKA Warakurna 40.50 281 P **P** **11 10 37.7 -0.3**
WRKA Warakurna 40.50 281 ⇑P **P** **11 10 35.0 -3.0**
TIAR Tiarei 40.63 64 *e*P P 11 10 40.4 +1.4
comp=Z,222nm,1.0s
TIAR Tiarei 40.63 64 *e*T T 11 53 13.5
comp=Z,24nm,0.2s
CASY Casey 40.90 213 P **P** **11 10 38.3 -2.4**
CASY Casey 40.90 213 IAMs_20 IAMs_20 11 27 32.0
comp=Z,2569µm,18.0s
CASY Casey 40.90 213 ⇑P **P** **11 10 41.4 +0.7**
MEH Mehetia 41.25 65 *e*P **P** **11 10 42.0 -2.2**
comp=Z,387nm,1.3s
MEH Mehetia 41.25 65 *e*T T 11 54 03.9
comp=Z,89nm,0.3s
KMBL Kambalda 41.71 268 P **P** **11 10 46.0 -1.8**
baz=42,SNR=36
KMBL Kambalda 41.71 268 P **P** **11 10 48.4 +0.5**
KRVT Keravat (AS076 42.48 328 P **P** **11 10 54.1 -0.1**
comp=Z,16nm,0.3s,baz=112,slow=3.7,SNR=9.9
comp=Z,16nm,0.3s
RABL Rabaul 42.53 328 P **P** **11 10 51.4 -3.3**
RABL Rabaul 42.53 328 P **P** **11 10 55.9 +1.3**
RABL Rabaul 42.53 328 ⇓P **P** **11 10 53.2 -1.4**
AUALB St Joseph's Co 42.89 261 P **P** **11 10 57.6 +0.2**
VAH Vaihoa 43.44 63 *e*P **P** **11 11 01.4 -0.5**
comp=Z,746nm,1.2s
VAH Vaihoa 43.44 63 *e*T T 11 56 55.7
comp=Z,292nm,0.3s
RKGY Rocky Gully 43.74 261 P **P** **11 11 03.5 -0.8**
baz=44,SNR=16
RKGY Rocky Gully 43.74 261 P **P** **11 11 04.6 +0.3**
TARA Tarawa 43.82 0 P **P** **11 11 01.7 -3.3**
TARA Tarawa 43.82 0 P **P** **11 11 05.6 +0.6**
TARA Tarawa 43.82 0 ⇑P **P** **11 11 02.9 -2.1**
NWAO Narrogin (SRO) 44.36 264 P **P** **11 11 07.8 -1.5**
comp=Z,173nm,1.2s,baz=338,slow=5.6,SNR=13
NWAO LR LR 11 27 18.6
comp=Z,1543µm,21.4s,baz=340,slow=33
comp=Z,173nm,1.2s
NWAO Narrogin (SRO) 44.36 264 P **P** **11 11 07.0 -2.2**
baz=44,SNR=7.0
NWAO P **P** **11 11 07.0 -2.2**
baz=44,SNR=7.0
NWAO Narrogin (SRO) 44.36 264 P **P** **11 11 06.5 -2.8**
NWAO IAmb IAmb 11 12 18.5
comp=Z,1µm,1.6s
NWAO Narrogin (SRO) 44.36 264 P **P** **11 11 07.5 -1.8**
NWAO P **P** **11 11 07.5 -1.8**
NWAO Narrogin (SRO) 44.36 264 P **P** **11 11 09.2 -0.1**
KLBR Kellerberrin 44.64 265 P **P** **11 11 09.6 -1.9**
baz=44,SNR=38
KLBR Kellerberrin 44.64 265 P **P** **11 11 11.5 0.0**
AUHAR St Anne's Scho 45.26 263 P **P** **11 11 17.0 +0.6**
MUN Mundaring 45.58 264 P **P** **11 11 17.4 -1.6**
baz=45,SNR=30
MUN Mundaring 45.58 264 P **P** **11 11 17.7 -1.3**
H01W1 Cape Leeuwin H 45.66 259 T T 11 58 01.6
baz=119,SNR=9.1
H01W2 Cape Leeuwin H 45.67 259 T T 11 58 01.6
baz=119,SNR=14
H01W3 Cape Leeuwin H 45.68 259 T T 11 58 01.6
baz=119,SNR=9.0
BLDU Ballidu 45.91 266 P **P** **11 11 20.0 -1.6**
baz=46,SNR=13
BLDU Ballidu 45.91 266 P **P** **11 11 21.5 -0.1**
MTKN Mount Kenneth 45.92 264 P **P** **11 11 22.5 +0.8**
KDU Kakadu 45.96 298 P **P** **11 11 21.7 -0.4**
baz=46,SNR=27
KDU Kakadu 45.96 298 P **P** **11 11 21.8 -0.4**
KDU Kakadu 45.96 298 ⇑P **P** **11 11 20.8 -1.3**
KNRA Kununurra 46.29 292 P **P** **11 11 23.4 -1.3**
baz=46,SNR=55
KNRA Kununurra 46.29 292 P **P** **11 11 21.9 -2.8**
KNRA Kununurra 46.29 292 P **P** **11 11 24.8 +0.1**
MANU Manus Island 46.45 324 P **P** **11 11 22.7 -3.3**
MANU Manus Island 46.45 324 P **P** **11 11 27.1 +1.1**
MANU Manus Island 46.45 324 ⇑P **P** 11 11 29.2 +3.2
MEEK Meekatharra 46.66 272 P **P** **11 11 24.8 -2.8**
baz=46,SNR=127
MEEK Meekatharra 46.66 272 P **P** **11 11 26.0 -1.6**
MTN Manton Dam 46.73 297 P **P** **11 11 27.6 -0.5**
baz=47,SNR=53
MTN Manton Dam 46.73 297 P **P** **11 11 24.9 -3.2**
MTN Manton Dam 46.73 297 P **P** **11 11 28.4 +0.3**
MTN Manton Dam 46.73 297 ⇑P **P** **11 11 26.6 -1.5**
MORW Morawa 47.22 267 P **P** **11 11 30.2 -1.7**
baz=47,SNR=34
MORW Morawa 47.22 267 P **P** **11 11 28.7 -3.2**
MORW IAmb IAmb 11 12 41.1
comp=Z,3µm,1.9s
MORW Morawa 47.22 267 P **P** **11 11 31.9 0.0**
MORW Morawa 47.22 267 ⇑P **P** **11 11 30.2 -1.7**
QSPA South Pole Qui 47.46 180 P **P** **11 11 33.2 -0.3**
comp=Z,406nm,1.1s,baz=26,slow=8.2,SNR=80
comp=Z,406nm,1.1s
QSPA South Pole Qui 47.46 180 P **P** **11 11 29.6 -3.9**
PSA00 Pilbara Seismi 48.76 278 P **P** **11 11 41.2 -2.6**
PSA00 Pilbara Seismi 48.76 278 P **P** **11 11 41.0 -2.8**
PSA00 IAmb IAmb 11 12 50.0
comp=Z,3µm,1.9s
PSA00 Pilbara Seismi 48.76 278 P **P** **11 11 43.0 -0.9**
MBWA Marble Bar 49.09 279 P **P** **11 11 43.8 -2.6**
MBWA IAmb IAmb 11 13 04.7
comp=Z,765nm,1.0s
MBWA Marble Bar 49.09 279 P **P** **11 11 44.4 -2.1**
MBWA P **P** **11 11 44.4 -2.1**
MBWA P **P** **11 11 44.4 -2.1**
MBWA Marble Bar 49.09 279 P **P** **11 11 46.9 +0.4**
MBWA Marble Bar 49.09 279 ⇑P **P** **11 11 44.3 -2.2**
GENI Genyem 49.46 315 P **P** **11 11 48.9 -0.3**
comp=Z,65µmcomp=Z,2µm,2.5s
GENI Genyem 49.46 315 P P 11 11 51.9 +2.7
PTCN Pitcairn Islan 49.53 88 P P 11 11 45.0 -4.8
PTCN IAmb IAmb 11 13 06.3
comp=Z,1µm,1.2s
PTCN IAMs_20 IAMs_20 11 29 41.1
comp=Z,1209µm,19.0s
SAUI Saumlaki 50.26 301 P **P** **11 11 52.1 -3.3**
SAUI Saumlaki 50.26 301 P **P** **11 11 54.7 -0.7**
comp=Z,77µmcomp=Z,2µm,1.0s
SAUI Saumlaki 50.26 301 P P 11 11 57.9 +2.5
SMPI Sarmi 50.74 313 P **P** **11 11 57.7 -1.2**
comp=Z,35µmcomp=Z,716nm,1.6s
PATS Pohnpei 51.03 341 P **P** **11 12 02.6 +1.5**
baz=51,SNR=11
SRPI Serui, Papua 52.19 311 P **P** **11 12 09.3 -0.5**
comp=Z,645µmcomp=Z,19µmcomp=Z,518nm,0.8s
GIRL Giralia 52.22 273 P **P** **11 12 09.7 -0.3**
baz=52,SNR=9.6
GIRL Giralia 52.22 273 P **P** **11 12 06.5 -3.5**
GIRL Giralia 52.22 273 P **P** **11 12 11.2 +1.2**
GIRL Giralia 52.22 273 ⇑P **P** **11 12 10.4 +0.4**
TAOE Nuku Hiva Isla 53.06 65 *e*P P 11 12 11.5 -4.9
comp=Z,2µm,1.5s
TAOE *e*S **S** **11 19 39.5 -6.5**
comp=Z,1324µm,27.6s
TAOE *e*LR LR 11 27 29.0
comp=Z,2694µm,28.6s
TAOE Nuku Hiva Isla 53.06 65 P P 11 12 11.2 -5.2
TAOE IAmb IAmb 11 13 52.2
comp=Z,2µm,1.4s
TAOE Nuku Hiva Isla 53.06 65 P **P** **11 12 14.5 -1.9**
TAOE Nuku Hiva Isla 53.06 65 ⇑P P 11 12 23.4 +7.0
SOEI Soe 53.56 293 P **P** **11 12 17.3 -2.8**
SOEI Soe 53.56 293 P **P** **11 12 20.1 0.0**
comp=Z,71µmcomp=Z,2µm,1.5s
SOEI Soe 53.56 293 P **P** **11 12 21.1 +1.0**
FAKI Fak Fak 53.64 306 P **P** **11 12 17.2 -3.3**
FAKI IAmb IAmb 11 13 38.0
comp=Z,582nm,0.8s
FAKI Fak Fak 53.64 306 P **P** **11 12 17.9 -2.7**
comp=Z,19µmcomp=Z,611nm,0.8s
FAKI Fak Fak 53.64 306 P **P** **11 12 19.6 -1.0**
RKPI Ransiki, Papua 53.65 309 P **P** **11 12 19.8 -0.8**
comp=Z,35µmcomp=Z,588nm,0.9s
BATI Baumata 53.65 292 P **P** **11 12 19.8 -0.9**
comp=Z,80nm,1.0s,baz=101,slow=10,SNR=4.2
BATI LR LR 11 35 14.8
comp=Z,2249µm,21.4s,baz=150,slow=36
comp=Z,80nm,1.0s
BATI Baumata 53.65 292 P **P** **11 12 20.1 -0.6**
comp=Z,51µmcomp=Z,663nm,1.1s
BNDI Bandanaira 53.81 303 P **P** **11 12 21.3 -0.5**
comp=Z,46µmcomp=Z,1µm,1.8s
BNDI Bandanaira 53.81 303 P **P** **11 12 23.5 +1.7**
MWPI Manokwari, Pap 54.20 309 P **P** **11 12 23.2 -1.4**
comp=Z,780µmcomp=Z,44µmcomp=Z,1µm,1.1s
MSAI Masohi 55.33 303 P **P** **11 12 31.9 -0.9**
comp=Z,2µmcomp=Z,2µmcomp=Z,64nm,0.6s
AAI Ambon 55.52 302 P **P** **11 12 33.7 -0.5**
comp=Z,29µmcomp=Z,453nm,1.8s
AAI Ambon 55.52 302 P **P** **11 12 35.1 +0.9**
AAI pmax pmax
comp=Z,453nm,1.8s
MMRI Maumere 55.75 292 P **P** **11 12 33.2 -2.7**
MMRI Maumere 55.75 292 P **P** **11 12 34.3 -1.6**
comp=Z,39µmcomp=Z,1µm,1.6s
MMRI Maumere 55.75 292 P **P** **11 12 35.9 0.0**
SIJI Sorong 55.86 307 P **P** **11 12 36.2 -0.5**
comp=Z,99nm,0.9s,baz=126,slow=8.6,SNR=32
SIJI LR LR 11 37 26.2
comp=Z,1473µm,22.0s,baz=141,slow=37
comp=Z,99nm,0.9s
SIJI Sorong 55.86 307 P **P** **11 12 35.5 -1.2**
comp=Z,880µmcomp=Z,24µmcomp=Z,730nm,0.9s
NLAI Namlea 56.56 301 P **P** **11 12 40.3 -1.3**
comp=Z,634nm,2.1s
BBSI Bau Bau 57.82 295 P **P** **11 12 49.4 -1.1**
comp=Z,682nm,2.6s
SANI Sanana 58.17 301 P **P** **11 12 51.7 -1.3**
comp=Z,37µmcomp=Z,766nm,2.0s
SANI Sanana 58.17 301 P **P** **11 12 53.0 0.0**
MAW Mawson 58.21 205 P **P** **11 12 53.4 +0.9**
comp=Z,54nm,1.0s,baz=122,slow=8.6,SNR=21
MAW LR LR 11 38 33.4
comp=Z,2912µm,18.4s,baz=108,slow=37
comp=Z,54nm,1.0s
MAW Mawson 58.21 205 P **P** **11 12 53.8 +1.2**
baz=58,SNR=22
MAW Mawson 58.21 205 P **P** **11 12 49.5 -3.1**
MAW Mawson 58.21 205 ⇑P **P** **11 12 52.6 0.0**
LBMI Labuha 58.32 303 P **P** **11 12 53.4 -0.7**
comp=Z,59µmcomp=Z,2µm,2.4s
BELA Belgrano 2 58.55 173 P **P** **11 12 51.5 -3.4**
BELA IAmb IAmb 11 13 13.4
comp=Z,635nm,1.0s
PLAI Plampang 58.70 288 P **P** **11 12 55.6 -1.1**
comp=Z,344µmcomp=Z,633nm,1.1s
PLAI Plampang 58.70 288 P **P** **11 12 57.6 +0.9**
BSSI Bau Bau, Buton 58.74 293 P **P** **11 12 55.6 -1.4**
comp=Z,29µmcomp=Z,940nm,1.7s
TWSI Taliwang, Sumb 59.39 288 P **P** **11 13 00.8 -0.7**
comp=Z,34µmcomp=Z,963nm,1.2s
KKSI Kolaka, Sulawe 59.40 295 P **P** **11 12 59.5 -2.1**
comp=Z,31µmcomp=Z,758nm,1.1s
TNTI Ternate 59.51 304 P **P** **11 13 01.0 -1.3**
comp=Z,558µmcomp=Z,24µmcomp=Z,667nm,2.5s
TNTI Ternate 59.51 304 P **P** **11 13 03.5 +1.2**
BKSI Bulukumba 59.59 293 P **P** **11 13 00.6 -2.3**
comp=Z,27µmcomp=Z,408nm,1.7s
KAPI Kappang 60.06 293 P **P** **11 13 05.8 -0.3**
comp=Z,58nm,1.0s,baz=141,slow=4.3,SNR=16
KAPI LR LR 11 41 25.8
comp=Z,1177µm,19.0s,baz=128,slow=39
comp=Z,58nm,1.0s
KAPI Kappang 60.06 293 P **P** **11 13 03.2 -2.9**
KAPI Kappang 60.06 293 IAMs_20 IAMs_20 11 41 14.5
comp=Z,1510µm,20.0s
KAPI Kappang 60.06 293 P **P** **11 13 06.6 +0.5**
KAPI P **P** **11 13 06.6 +0.5**
KAPI P **P** **11 13 06.6 +0.5**
KAPI Kappang 60.06 293 P **P** **11 13 05.7 -0.4**
comp=Z,38µmcomp=Z,938nm,2.3s
KAPI Kappang 60.06 293 P **P** **11 13 07.1 +1.0**
KAPI Kappang 60.06 293 ⇑P **P** **11 13 06.1 -0.1**
KAPI Kappang 60.06 293 *c* *i*P **P** **11 13 05.9 -0.3**
KAPI pmax pmax
comp=Z,2µm,1.6s
KAPI MLR MLR
comp=Z,1225µm,17.0s
GAMI Galela, Maluku 60.10 305 P **P** **11 13 05.0 -1.4**
comp=Z,870µmcomp=Z,26µmcomp=Z,929nm,1.0s
KLNI Mataram 60.16 287 P **P** **11 13 05.4 -1.4**
comp=Z,32µmcomp=Z,444nm,2.4s
BNSI Bone 60.27 294 P **P** **11 13 07.3 -0.2**
comp=Z,761µmcomp=Z,25µmcomp=Z,664nm,1.9s
DNP Denpasar 60.61 286 P **P** **11 13 10.7 +0.8**
comp=Z,75µmcomp=Z,2µm,1.8s
SMAI San Martin Ant 60.79 158 P **P** **11 13 06.6 -3.8**
SPSI Sidrap Palu 60.81 294 P **P** **11 13 10.3 -1.0**
comp=Z,33µmcomp=Z,795nm,2.1s
RTBI Rangdo, Negare 60.95 286 P **P** **11 13 10.3 -2.0**
comp=Z,34µmcomp=Z,598nm,1.7s
LUWI Luwuk 61.01 299 P **P** **11 13 08.6 -4.0**
LUWI IAMs_20 IAMs_20 11 41 29.6
comp=Z,1318µm,20.0s
LUWI Luwuk 61.01 299 P **P** **11 13 12.0 -0.6**
comp=Z,72µmcomp=Z,4µm,1.0s
LUWI Luwuk 61.01 299 P **P** **11 13 13.0 +0.4**
SRBI Singaraja 61.02 287 P **P** **11 13 11.1 -1.6**
comp=Z,37µmcomp=Z,704nm,1.9s
JOHN Johnston Islan 61.27 19 IAMs_20 IAMs_20 11 37 41.1
comp=Z,1140µm,20.0s
JOHN Johnston Islan 61.27 19 P **P** **11 13 15.0 +0.8**
JAGI Jajag, Banyuwa 61.50 286 IAMs_20 IAMs_20 11 39 24.5
comp=Z,1319µm,21.0s
JAGI Jajag, Banyuwa 61.50 286 P **P** **11 13 15.1 -0.9**
comp=Z,24µmcomp=Z,363nm,1.2s
JAGI Jajag, Banyuwa 61.50 286 P **P** **11 13 17.8 +1.8**
GUMO Guam 61.62 329 P **P** **11 13 17.9 +1.3**
comp=Z,91nm,0.6s,baz=162,slow=7.5,SNR=7.6
GUMO LR LR 11 37 23.3
comp=Z,252µm,21.6s,baz=156,slow=34
comp=Z,91nm,0.6s
GUMO Guam 61.62 329 P P 11 13 18.6 +2.0
GUMO Guam 61.62 329 ⇑P P 11 13 19.1 +2.5
PMSI Majene 61.73 294 P **P** **11 13 17.7 +0.2**
comp=Z,48µmcomp=Z,1µm,2.3s
APSI Ampana 61.83 298 P **P** **11 13 18.4 +0.2**
comp=Z,42µmcomp=Z,934nm,2.3s
WAKE Wake Island 61.91 353 P P 11 13 21.5 +3.1
WAKE Wake Island 61.91 353 ⇓P P 11 13 24.3 +5.9
H11N1 WAKE ISLAND Hy 62.31 354 P P 11 13 25.3 +4.4
baz=195,slow=11,SNR=18
H11N3 WAKE ISLAND Hy 62.32 354 P P 11 13 25.6 +4.6
baz=195,slow=11,SNR=14
H11N2 WAKE ISLAND Hy 62.33 354 P P 11 13 23.8 +2.8
baz=195,slow=11,SNR=18
KMMI Kalianget 62.62 287 P **P** **11 13 23.1 -0.4**
comp=Z,33µmcomp=Z,677nm,1.2s
MRSI Marisa 62.69 299 P **P** **11 13 22.0 -1.9**
comp=Z,19µmcomp=Z,447nm,1.3s
SGSI Sangihe 62.92 304 P **P** **11 13 24.5 -0.9**
comp=Z,6µmcomp=Z,8µmcomp=Z,573nm,0.8s
VA02 Isla de Pascua 63.43 103 *e*P P 11 13 31.5 +2.7
VA02 *e*S **S** **11 21 59.0 -2.0**
VA02 IAMs_20 IAMs_20 11 35 49.9
comp=Z,339µm,18.8s
RPN Rapa Nui 63.52 103 P P 11 13 33.7 +4.4
comp=Z,87nm,0.9s,baz=243,slow=4.5,SNR=4.6
RPN LR LR 11 35 54.5
comp=Z,959µm,19.9s,baz=221,slow=31
comp=Z,87nm,0.9s
RPN Rapa Nui 63.52 103 P **P** **11 13 25.3 -4.1**
RPN Rapa Nui 63.52 103 IAMs_20 IAMs_20 11 35 50.8
comp=Z,964µm,20.0s
RPN Rapa Nui 63.52 103 ⇓P P 11 13 36.6 +7.2
RPN Rapa Nui 63.52 103 P **P** **11 13 25.3 -4.1**
RPN pmax pmax
comp=Z,5µm,1.9s
GRJI Gresik 63.77 286 P **P** **11 13 31.4 +0.3**
comp=Z,732µmcomp=Z,22µmcomp=Z,628nm,1.0s
MPSI Mapaga 63.92 297 P **P** **11 13 30.5 -1.5**
comp=Z,33µmcomp=Z,678nm,1.0s
TOLI2 Tolitoli 63.92 298 P **P** **11 13 28.5 -3.6**
TOLI2 IAmb IAmb 11 14 51.1
comp=Z,2µm,1.6s
TOLI2 IAMs_20 IAMs_20 11 43 16.0
comp=Z,1233µm,20.0s
TOLI2 Tolitoli 63.92 298 P **P** **11 13 32.1 0.0**
PMSA Palmer Station 64.03 156 P P 11 13 33.7 +1.6
comp=Z,93nm,0.9s,baz=235,slow=4.4,SNR=16
PMSA S S 11 22 13.3 +5.9
comp=Z,9.5nm,0.9s,baz=202,slow=5.4,SNR=1.1
PMSA LR LR 11 39 05.4
comp=Z,428µm,18.3s,baz=237,slow=34
PMSA PKP2bc 11 42 27.7
comp=Z,8.9nm,0.9s,baz=9.0,slow=1.7,SNR=3.7
comp=Z,93nm,0.9s
PMSA Palmer Station 64.03 156 P **P** **11 13 27.9 -4.2**
PMSA IAmb IAmb 11 14 34.4
comp=Z,2µm,1.5s
PMSA Palmer Station 64.03 156 ⇓P P 11 13 33.8 +1.7
PMSA Palmer Station 64.03 156 *e*P **P** **11 13 31.9 -0.2**
NGJI Ngawi 64.18 285 P **P** **11 13 35.2 +1.4**
comp=Z,54µmcomp=Z,658nm,1.7s
TBJI Tambak Boyo 64.28 285 P **P** **11 13 35.0 +0.5**
comp=Z,33µmcomp=Z,520nm,1.1s
BWJI Bawean 64.38 287 P **P** **11 13 36.9 +1.8**
comp=Z,36µmcomp=Z,2µm,1.4s
UGM Wanagama 64.48 283 IAMs_20 IAMs_20 11 42 29.3
comp=Z,1505µm,20.0s
UGM Wanagama 64.48 283 P **P** **11 13 37.3 +1.5**
comp=Z,33µmcomp=Z,1µm,1.6s
UGM Wanagama 64.48 283 P **P** **11 13 37.4 +1.6**
BBKI Banjar Baru 64.55 290 P **P** **11 13 36.5 +0.3**
comp=Z,61µmcomp=Z,1µm,1.3s
BKB Balikpapan 64.73 294 P **P** **11 13 34.9 -2.5**
BKB IAMs_20 IAMs_20 11 44 19.2
comp=Z,1558µm,21.0s
BKB Balikpapan 64.73 294 P **P** **11 13 38.8 +1.4**
comp=Z,56µmcomp=Z,1µm,1.0s
BKB Balikpapan 64.73 294 P **P** **11 13 38.9 +1.5**
SMKI Samarinda 65.12 294 P **P** **11 13 40.4 +0.5**
comp=Z,52µmcomp=Z,1µm,2.4s
SMRI Semarang 65.13 284 IAMs_20 IAMs_20 11 41 41.6
comp=Z,1651µm,22.0s
SMRI Semarang 65.13 284 P **P** **11 13 41.3 +1.3**
comp=Z,55µmcomp=Z,1µm,1.8s
SMRI Semarang 65.13 284 P **P** **11 13 41.0 +1.0**
TROLL Troll, Antarti 65.43 183 pP **P** **11 13 39.1 -2.2**
DAV Davao City (W) 65.58 307 P **P** **11 13 42.7 -0.1**
comp=Z,157nm,0.3s,baz=92,slow=1.4,SNR=11
DAV S **S** **11 22 28.0 +0.4**
comp=Z,110nm,0.3s,baz=153,slow=9.0,SNR=1.6
DAV LR LR 11 42 21.9
comp=Z,1100µm,21.8s,baz=134,slow=36
comp=Z,157nm,0.3s
DAV Davao City (W) 65.58 307 P **P** **11 13 39.5 -3.4**
DAV Davao City (W) 65.58 307 IAMs_20 IAMs_20 11 43 36.9
comp=Z,1173µm,21.0s
DAV Davao City (W) 65.58 307 P **P** **11 13 42.4 -0.4**
comp=Z,993µmcomp=Z,62µmcomp=Z,2µm,0.9s
DAV Davao City (W) 65.58 307 P **P** **11 13 43.7 +0.9**
DAV Davao City (W) 65.58 307 ⇑P **P** **11 13 42.1 -0.7**
SCJI Gunung Srandil 65.61 283 P **P** **11 13 41.4 -1.7**
comp=Z,856µmcomp=Z,21µmcomp=Z,859nm,1.5s
SNAA Sanae 65.93 181 pP **P** **11 13 42.2 -2.3**
SNAA Sanae 65.93 181 S **S** **11 22 35.4 +4.7**
comp=Z,10nm,1.0s,baz=205,slow=17,SNR=1.7
SNAA LR LR 11 40 24.8
comp=Z,404µm,21.3s,baz=184,slow=34
SNAA Sanae 65.93 181 P **P** **11 13 40.6 -3.8**
SNAA IAMs_20 IAMs_20 11 40 46.1
comp=Z,944µm,22.0s
SNAA Sanae 65.93 181 *d* *i*P **P** **11 13 43.2 -1.3**
SNAA pmax pmax
comp=Z,2µm,1.8s
SNAA MLR MLR
comp=Z,365µm,15.0s
NVL N'lazarevskaya 66.06 187 *e*P **P** **11 13 44.6 -0.6**
NVL *e*S **S** **11 22 32.6 +0.5**
NVL *e*SS **SS** **11 26 49.7 +3.2**
NVL pmax pmax
comp=Z,2µm,1.4s
NVL MLR MLR
comp=Z,300µm,18.0s
CTJI Waduk Cacaban 66.06 283 P **P** **11 13 46.5 +0.5**
comp=Z,41µmcomp=Z,839nm,0.9s
XMI Christmas Isla 66.27 278 P **P** **11 13 49.4 +2.0**
XMI Christmas Isla 66.27 278 ⇑P **P** **11 13 47.5 +0.2**
MTKI Muara Teweh, K 66.33 292 P **P** **11 13 47.9 +0.2**
comp=Z,44µmcomp=Z,1µm,1.1s
VNA3 Neumayer Olymp 66.39 179 pP **P** **11 13 45.0 -2.3**
VNA2 Neumayer--Watz 66.72 180 pP **P** **11 13 47.4 -2.1**
baz=170,slow=6.0
BBJI Bungbulang 66.85 282 P **P** **11 13 52.0 +0.8**
VNA1 Neumayer--Stat 66.99 180 pP pP 11 13 50.2 -6.2
JCJI Jatiwangi 67.07 283 P **P** **11 13 52.8 +0.3**
comp=Z,44µmcomp=Z,908nm,1.1s
PBKI Pangkalan Bun 67.29 288 P **P** **11 13 53.8 -0.1**
comp=Z,986µmcomp=Z,24µmcomp=Z,720nm,1.4s
LEM Lembang 67.31 282 P **P** **11 13 56.0 +1.8**
comp=Z,82nm,0.8s,baz=166,slow=9.6,SNR=11
LEM LR LR 11 43 11.6
comp=Z,1483µm,22.0s,baz=114,slow=36
LEM Lembang 67.31 282 P **P** **11 13 54.8 +0.6**
comp=Z,975µmcomp=Z,35µmcomp=Z,1µm,1.7s
LEM Lembang 67.31 282 P **P** **11 13 55.5 +1.3**
LEM pmax pmax
comp=Z,1µm,1.7s
CNJI Cibinong 67.33 281 P **P** **11 13 55.2 +1.1**
comp=Z,439µmcomp=Z,18µmcomp=Z,856nm,1.5s
SKJI Sukabumi 67.96 281 P **P** **11 13 59.4 +1.3**
comp=Z,5µmcomp=Z,10µmcomp=Z,841nm,0.8s
TNG Tangerang 68.46 282 P **P** **11 14 02.4 +1.2**
comp=Z,627µmcomp=Z,27µmcomp=Z,601nm,0.4s
TNG P **P** **11 14 02.1 +0.9**
comp=Z,47µmcomp=Z,2µm,1.3s
MYLDM Lahad Datu 68.48 299 P **P** **11 13 58.1 -3.2**
MYLDM Lahad Datu 68.48 299 P **P** **11 14 01.8 +0.5**
comp=Z,53µmcomp=Z,748nm,1.2s
MYLDM Lahad Datu 68.48 299 ⇑P **P** **11 14 02.2 +0.9**
POHA Pohakuloa 68.58 32 P P 11 14 05.6 +3.6
POHA Pohakuloa 68.58 32 ⇓P P 11 14 06.2 +4.2
SBJI Serang 68.87 282 P **P** **11 14 05.0 +1.2**
comp=Z,824µmcomp=Z,37µmcomp=Z,758nm,1.6s
AIS Amsterdam Isla 69.05 238 P **P** **11 14 00.5 -4.1**
AIS IAmb IAmb 11 15 21.3
comp=Z,2µm,1.4s
KIP Kipapa 69.18 29 P P 11 14 07.5 +2.1
KIP Kipapa 69.18 29 P P 11 14 07.1 +1.7
KIP Kipapa 69.18 29 P P 11 14 07.1 +1.7
SPMM Sapulut 69.44 297 P **P** **11 14 08.0 +0.6**
USHA Ushuaia 69.75 147 P P 11 14 12.6 +4.0
comp=Z,8.0nm,0.3s,baz=196,slow=12,SNR=5.2
USHA LR LR 11 38 12.2
comp=Z,765µm,22.0s,baz=226,slow=30
comp=Z,8.0nm,0.3s
MG04 Isla Riesco 69.86 144 ⇓*e*P P 11 13 59.9 -9.5
MG04 *e*S SKiKP 11 23 35.2 -20
MG04 IAMs_20 IAMs_20 11 52 40.9
comp=E,446µm,15.5s
GO10 Punta Arenas 69.87 145 *e*P P 11 14 00.1 -9.4
GO10 *e*S S 11 23 25.6 +7.2
GO10 Punta Arenas 69.87 145 ⇓P P 11 14 16.0 +6.5
MG01 Puerto William 69.99 148 *e*P **P** **11 14 06.1 -4.0**
MG01 *e*S **S** **11 23 12.5 -7.0**
MG01 IAMs_20 IAMs_20 11 37 33.6
comp=N,812µm,23.7s
BLSI Bandar Lampung 70.02 281 P **P** **11 14 11.5 +0.6**
comp=N,825µmcomp=N,28µmcomp=N,363nm,1.8s
MG05 Puerto Natales 70.28 143 *e*P **P** **11 14 09.9 -2.1**
MG05 *e*S **S** **11 23 24.4 +1.3**
MG05 IAMs_20 IAMs_20 11 43 48.6
comp=Z,630µm,19.5s
KASI Kota Agung 70.46 281 P **P** **11 14 14.0 +0.4**
comp=Z,973µmcomp=Z,25µmcomp=Z,651nm,1.6s
KKM Kota Kinabalu 70.61 298 P **P** **11 14 11.0 -3.6**
KKM IAmb IAmb 11 14 25.6
comp=Z,2µm,1.6s
KKM IAMs_20 IAMs_20 11 47 04.2
comp=Z,927µm,20.0s
KKM Kota Kinabalu 70.61 298 P **P** **11 14 14.4 -0.2**
comp=Z,35µmcomp=Z,723nm,1.0s
KKM Kota Kinabalu 70.61 298 P **P** **11 14 14.4 -0.2**
SBUM Sibu 70.61 293 P **P** **11 14 10.9 -3.6**
SBUM Sibu 70.61 293 P **P** **11 14 14.4 -0.1**
comp=Z,557µmcomp=Z,11µmcomp=Z,362nm,1.9s
SBUM Sibu 70.61 293 P **P** **11 14 15.0 +0.5**
SBUM Sibu 70.61 293 ⇑P **P** **11 14 12.9 -1.6**
GO09 Cerro Castillo 70.64 143 *e*P **P** **11 14 10.4 -3.9**
KLI Kotabumi 70.65 282 P **P** **11 14 13.6 -1.1**
comp=Z,958µmcomp=Z,18µmcomp=Z,969nm,1.0s
KLI Kotabumi 70.65 282 P P 11 14 17.4 +2.7
KLI pmax pmax
comp=Z,966nm,1.0s
MG02 Cerro Sombrero 70.91 145 *e*P P 11 14 10.7 -5.1
MG02 *e*S SKiKP 11 23 42.4 -15
MG02 IAMs_20 IAMs_20 11 44 19.8
comp=N,590µm,16.9s
MIDW Midway 71.09 9 IAMs_20 IAMs_20 11 46 56.5
comp=Z,844µm,20.0s

MIDW Midway 71.09 9 P P 11 14 18.0 +1.0
LWLI Liwa 71.12 281 P P 11 14 17.0 -0.8
comp=Z,30μmcomp=Z,1μm,0.8s
KSM Kuching 71.22 290 P P 11 14 15.4 -2.9
KSM IAmb IAmb 11 15 19.9
comp=Z,754nm,1.1s
KSM IAMs_20 IAMs_20 11 49 23.2
comp=Z,933μm,19.0s
KSM Kuching 71.22 290 P P 11 14 17.6 -0.6
comp=Z,20μmcomp=Z,522nm,1.1s
KSM Kuching 71.22 290 P P 11 14 18.0 -0.2
KSM Kuching 71.22 290 P P 11 14 17.6 -0.6
KSM Kuching 71.22 290 ⇑P P 11 14 16.9 -1.3
PPBI Pangkal Pinang 71.59 285 P P 11 14 19.5 -1.0
comp=Z,997μmcomp=Z,42μmcomp=Z,927nm,1.6s
PMBI Palembang 72.04 283 IAMs_20 IAMs_20 11 50 43.4
comp=Z,911μm,20.0s
PMBI Palembang 72.04 283 P P 11 14 23.3 +0.2
comp=Z,956μmcomp=Z,29μmcomp=Z,995nm,1.5s
PMBI Palembang 72.04 283 P P 11 14 25.1 +2.0
MNAI Manna 72.36 281 IAMs_20 IAMs_20 11 46 24.2
comp=Z,1049μm,21.0s
MNAI Manna 72.36 281 P P 11 14 25.5 +0.4
comp=Z,37μmcomp=Z,749nm,1.2s
MNAI Manna 72.36 281 P P 11 14 28.9 +3.8
KSI Kapahiang 73.11 281 P P 11 14 29.0 -0.6
comp=Z,964μmcomp=Z,27μmcomp=Z,1μm,1.2s
UBSI University, Be 73.27 281 P P 11 14 30.7 +0.2
comp=Z,31μmcomp=Z,813nm,0.9s
MASI Maura Aman, Be 73.72 281 P P 11 14 33.4 +0.2
comp=Z,386μmcomp=Z,24μmcomp=Z,893nm,1.2s
JMBI JAMBI 73.74 283 P P 11 14 33.3 0.0
comp=Z,500μmcomp=Z,12μmcomp=Z,166nm,1.4s
DSRI Dabo 73.87 285 P P 11 14 34.5 +0.5
comp=Z,25μmcomp=Z,646nm,1.5s
COYC Coyhaique 74.83 139⇓ *e*P P 11 14 35.3 -3.9
COYC *e*S S 11 24 30.0 +15
COYC Coyhaique 74.83 139 ⇑P P 11 14 40.4 +1.2
TPRI Tanjung Pinang 74.88 286 P P 11 14 39.5 -0.4
comp=Z,21μmcomp=Z,581nm,1.7s
JCJ Chichijima 74.97 333 P P 11 14 40.7 +0.7
comp=Z,272nm,1.0s,baz=212,slow=4.4,SNR=5.4
JCJ LR LR 11 47 42.2
comp=Z,114μm,18.8s,baz=151,slow=36
comp=Z,272nm,1.0s
JCJ Chichijima 74.97 332 P P 11 14 37.1 -3.0
JCJ IAmb IAmb 11 15 56.0
comp=Z,1μm,0.9s
JCJ Chichijima 74.97 332 P P 11 14 39.5 -0.5
JCJ Chichijima 74.97 332 ⇑P P 11 14 46.1 +6.1
AY01 Puyuhuapi 75.38 138 *e*P P 11 14 44.9 +2.6
AY01 *e*S SKiKP 11 23 54.4 -10
PPSI Pulau Pagai 75.59 280 P P 11 14 44.7 +0.7
comp=Z,34μmcomp=Z,2μm,1.3s
GO07 Milladeo Hill, 75.81 136 *e*P P 11 14 43.6 -1.3
GO07 *e*S S 11 24 28.1 +1.9
GO07 IAMs_20 IAMs_20 11 40 18.9
comp=Z,939μm,23.3s
SDSI Sungai Dareh 75.82 282 P P 11 14 43.1 -2.2
comp=Z,853μmcomp=Z,12μmcomp=Z,184nm,1.9s
MYKOM Kota Tinggi 75.97 286 P P 11 14 42.4 -3.7
MYKOM IAmb IAmb 11 15 53.1
comp=Z,1μm,1.3s
MYKOM Kota Tinggi 75.97 286 P P 11 14 45.4 -0.8
comp=Z,22μmcomp=Z,857nm,1.6s
MYKOM Kota Tinggi 75.97 286 ⇑P P 11 14 45.5 -0.6
EFI East Falkland 76.16 150 ⇓P P 11 14 47.4 +0.8
EFI ⇑P sP 11 14 50.8 -3.1
EFI East Falkland 76.16 150⇑ *e*P P 11 14 46.2 -0.5
EFI pmax pmax
comp=Z,347nm,1.1s
EFI MLR MLR
comp=Z,254μm,16.0s
PDSI Padang 76.53 281 P P 11 14 46.9 -2.5
comp=Z,845μmcomp=Z,16μmcomp=Z,682nm,1.5s
LL02 Futaleuf 76.67 137 P P 11 14 46.2 -3.6
LL02 IAmb IAmb 11 15 58.8
comp=Z,1μm,1.2s
BKNI Bangkinang 76.97 283 P P 11 14 48.3 -3.5
BKNI IAMs_20 IAMs_20 11 49 53.2
comp=Z,926μm,21.0s
BKNI Bangkinang 76.97 283 P P 11 14 49.4 -2.4
comp=Z,953μmcomp=Z,21μmcomp=Z,721nm,1.3s
BKNI Bangkinang 76.97 283 P P 11 14 53.4 +1.6
SISI Saibi 77.24 280 P P 11 14 53.4 +0.1
comp=Z,30μmcomp=Z,1μm,1.6s
JMZ Minamidaito 2 78.24 322 P P 11 15 01.3 +2.8
LR04 Corral 78.25 134 P P 11 14 54.8 -3.8
LR04 IAmb IAmb 11 16 08.3
comp=Z,980nm,1.3s
MNSI Mandailing Nat 78.34 282 P P 11 14 56.6 -2.9
comp=Z,841μmcomp=Z,15μmcomp=Z,689nm,1.1s
PBSI Pulau Batu 78.70 280 P P 11 15 01.2 -0.2
comp=Z,68μmcomp=Z,2μm,1.5s
PLCA Paso Flores 79.13 136 P P 11 15 05.2 +1.7
comp=Z,43nm,1.0s,baz=214,slow=6.0,SNR=24
PLCA PKKPbc PKKPbc 11 33 55.4 +2.0
comp=Z,3.2nm,0.7s,baz=70,slow=1.2,SNR=4.1
PLCA PKPPKP P'P'df 11 41 59.0 -5.2
comp=Z,6.9nm,1.1s,baz=109,slow=3.2,SNR=4.9
PLCA LR LR 11 42 41.7
comp=Z,518μm,21.8s,baz=218,slow=30
comp=Z,43nm,1.0s
PLCA Paso Flores 79.13 136 P P 11 14 59.5 -4.1
PLCA IAmb IAmb 11 16 12.9
comp=Z,945nm,1.2s
PLCA Paso Flores 79.13 136 ⇑P P 11 15 02.8 -0.8
PLCA ⇑P P 11 15 03.8 +0.2
PLCA ⇑P PcP 11 15 10.2 -1.8
PLCA Paso Flores 79.13 136 *e*P P 11 15 02.3 -1.3
PLCA Paso Flores 79.13 136 P P 11 14 59.5 -4.1
PLCA pmax pmax
comp=Z,945nm,1.2s
H03S2 Juan Fernandez 79.45 126 P P 11 15 14.0 +8.9
baz=322,slow=5.1,SNR=17
H03S2 T T 12 41 19.7
baz=225,slow=74,SNR=14
H03S1 Juan Fernandez 79.46 126 P P 11 15 11.6 +6.5
baz=322,slow=5.1,SNR=8.3
H03S1 T T 12 41 07.8
baz=225,slow=74,SNR=12
H03S3 Juan Fernandez 79.47 126 P P 11 15 13.9 +8.7
baz=322,slow=5.1,SNR=10
H03S3 T T 12 41 13.9
baz=225,slow=74,SNR=20
TRSI Tarutung 79.63 282 P P 11 15 06.0 -0.7
comp=Z,995μmcomp=Z,26μmcomp=Z,1μm,1.5s
VA04 Juan Fernndez 79.65 126⇓ *e*P P 11 15 08.0 +1.5
VA04 *e*S S 11 25 19.8 +12
VA04 IAMs_20 IAMs_20 11 42 36.0
comp=Z,363μm,21.6s
VA04 IAMs_20 IAMs_20 11 42 52.5
comp=Z,339μm,22.4s
H03N3 Juan Fernandez 79.72 126 T T 12 40 58.7
baz=228,slow=72,SNR=25
H03N2 Juan Fernandez 79.73 126 T T 12 41 11.8
baz=228,slow=72,SNR=41
H03N1 Juan Fernandez 79.74 126 T T 12 40 57.7
baz=228,slow=72,SNR=20
IPM Ipoh 79.86 286 P P 11 15 04.4 -3.4
IPM IAMs_20 IAMs_20 11 53 58.0
comp=Z,696μm,19.0s
IPM Ipoh 79.86 286 P P 11 15 06.9 -0.9
comp=Z,975μmcomp=Z,18μmcomp=Z,641nm,1.6s
IPM Ipoh 79.86 286 P P 11 15 06.9 -0.9
IPM Ipoh 79.86 286 ⇑P P 11 15 06.1 -1.7
DLV T Lat 80.06 296 P P 11 15 09.2 +0.2
GSI Gunungsitoli 80.14 281 P P 11 15 05.5 -3.8
GSI IAMs_20 IAMs_20 11 54 50.2
comp=Z,858μm,20.0s
GSI Gunungsitoli 80.14 281 P P 11 15 08.7 -0.6
comp=Z,43μmcomp=Z,2μm,1.5s
GSI Gunungsitoli 80.14 281 P P 11 15 09.3 0.0
PSI Prapat 80.19 283 P P 11 15 06.9 -2.8
comp=Z,578μmcomp=Z,10μmcomp=Z,301nm,1.2s
HOPE Hope Point 80.20 163 P P 11 15 05.2 -3.8
HOPE IAmb IAmb 11 16 10.8
comp=Z,2μm,1.4s
HOPE Hope Point 80.20 163 P P 11 15 05.2 -3.8
HOPE pmax pmax
comp=Z,2μm,1.5s
JOW Kunigami 80.46 320 P P 11 15 10.8 +0.2
comp=Z,38nm,0.8s,baz=155,slow=2.6,SNR=9.7
JOW LR LR 11 48 26.7
comp=Z,561μm,20.8s,baz=151,slow=34
comp=Z,38nm,0.8s

JOW Kunigami 80.46 320 P P 11 15 07.4 -3.2
JOW Kunigami 80.46 320 P P 11 15 11.8 +1.1
KULM Kulim 80.69 286 P P 11 15 08.9 -3.4
KULM IAmb IAmb 11 15 22.9
comp=Z,1μm,1.2s
KULM Kulim 80.69 286 P P 11 15 09.8 -2.4
comp=Z,984μmcomp=Z,21μmcomp=Z,973nm,1.6s
TWGBT Beinan 80.79 313 P P 11 15 13.1 +0.6
TWG Pinlang 80.80 313 P P 11 15 08.9 -3.6
TSI Tuntungan 80.94 283 P P 11 15 12.3 -1.3
comp=Z,674μmcomp=Z,43μmcomp=Z,2μm,1.3s
YOJ Yonaguni jima 81.10 315 P P 11 15 10.8 -3.3
YOJ Yonaguni jima 81.10 315 P P 11 15 14.7 +0.6
YOJ Yonaguni jima 81.10 315 P P 11 15 10.8 -3.3
YOJ pmax pmax
comp=Z,4μm,2.0s
YULB Yu-li 81.13 313 IAMs_20 IAMs_20 11 48 24.1
comp=Z,612μm,21.0s
YULB Yu-li 81.13 313 P P 11 15 15.8 +1.4
JHJ2 Mitsune 81.29 332 P P 11 15 16.5 +1.6
JHJ Hachijo jima 2 81.31 332 P P 11 15 15.8 +0.7
comp=Z,94nm,0.7s,baz=90,slow=20,SNR=2.4
comp=Z,94nm,0.7s
TPUB Ta-pu 81.42 313 P P 11 15 12.3 -3.6
TPUB IAmb IAmb 11 16 58.0
comp=Z,2μm,1.9s
TPUB IAMs_20 IAMs_20 11 49 09.7
comp=Z,645μm,22.0s
TPUB Ta-pu 81.42 313 P P 11 15 17.0 +1.1
KCSI Kotacane, Aceh 81.52 283 P P 11 15 14.8 -1.9
comp=Z,832μmcomp=Z,21μmcomp=Z,619nm,1.3s
NACB Ninganchiao 81.61 314 P P 11 15 20.4 +3.6
SSLB Suanglung 81.64 313 P P 11 15 13.7 -3.4
SSLB IAMs_20 IAMs_20 11 48 51.4
comp=Z,780μm,22.0s
SSLB Suanglung 81.64 313 P P 11 15 16.6 -0.4
SNSI Sinabang, Aceh 81.80 281 P P 11 15 17.9 -0.2
comp=Z,603μmcomp=Z,20μmcomp=Z,642nm,1.4s
LASI Langsa, Aceh 82.02 284 P P 11 15 18.9 -0.4
comp=Z,948μmcomp=Z,58μmcomp=Z,1μm,0.4s
SKLT Songkhla 82.02 287 P P 11 15 18.6 -0.7
comp=Z,887μmcomp=Z,22μmcomp=Z,896nm,1.5s
SKLT Songkhla 82.02 287 P P 11 15 19.0 -0.3
YHNB Yeheng 82.12 314 P P 11 15 16.0 -3.6
YHNB Yeheng 82.12 314 P P 11 15 22.8 +3.2
TATO Taipei 82.31 314 IAMs_20 IAMs_20 11 55 50.1
comp=Z,514μm,19.0s
TATO Taipei 82.31 314 P P 11 15 23.0 +2.5
BO03 Pichilemu 82.99 131 *e*P P 11 15 24.3 +0.1
MLSI Meulaboh, Aceh 83.02 282 P P 11 15 23.6 -0.9
comp=Z,5μmcomp=Z,8μmcomp=Z,839nm,1.2s
LHMI Lhok Sumawe 83.29 283 P P 11 15 22.4 -3.5
LHMI IAmb IAmb 11 16 27.5
comp=Z,864nm,1.0s
LHMI Lhok Sumawe 83.29 283 P P 11 15 25.4 -0.5
comp=Z,902μmcomp=Z,36μmcomp=Z,846nm,1.2s
LHMI Lhok Sumawe 83.29 283 P P 11 15 30.9 +5.0
JSU Suzuyama 83.48 325 P P 11 15 29.1 +2.7
JSU Suzuyama 83.48 325 P P 11 15 28.6 +2.1
JOD2 Odawara 2 83.50 333 P P 11 15 24.0 -2.5
JIE Ise 83.54 331 P P 11 15 25.5 -1.1
SRIT Nakonsritamara 83.74 288 P P 11 15 25.1 -3.1
SRIT IAmb IAmb 11 16 34.7
comp=Z,1μm,1.5s
SRIT Nakonsritamara 83.74 288 P P 11 15 27.8 -0.4
QZH Quanzhou 83.84 312⇑ *i*P P 11 15 28.1 -0.3
QZH S S 11 25 55.5 +4.4
QZH pmax pmax
comp=Z,3μm,7.6s
QZH LR LR
comp=Z,178μm,19.4s
QZH LR LR
comp=Z,171μm,20.3s
QZH LR LR
comp=Z,294μm,18.7s
JYT Yasato 84.01 334 P P 11 15 28.1 -0.9
JMN Monobe 84.02 328 P P 11 15 26.4 -2.8
JMN IAmb IAmb 11 16 47.1
comp=Z,660nm,0.9s
JMN Monobe 84.02 328 P P 11 15 29.3 +0.1
JMN Monobe 84.02 328 P P 11 15 27.2 -2.0
SURA Surathani 84.12 288 P P 11 15 30.5 +0.4
JRY Ryogami san 84.24 333 P P 11 15 28.2 -2.1
HKPS Hong Kong Po S 84.28 307 IAMs_20 IAMs_20 11 55 45.6
comp=Z,601μm,20.0s
HKPS Hong Kong Po S 84.28 307 P P 11 15 34.7 +3.9
INU Inuyama 84.29 331 P P 11 15 27.8 -2.7
INU IAmb IAmb 11 16 34.6
comp=Z,458nm,0.9s
INU Inuyama 84.29 331 P P 11 15 29.4 -1.1
INU Inuyama 84.29 331 ⇑P P 11 15 28.8 -1.7
INU ⇓P sP 11 15 33.8 -4.1
INU ⇑P pP 11 15 37.6 +1.7
JGF Kuroka 84.40 332 P P 11 15 27.7 -3.4
JGF IAmb IAmb 11 16 47.9
comp=Z,548nm,1.5s
JGF Kuroka 84.40 332 P P 11 15 30.9 -0.2
JGF Kuroka 84.40 332 P P 11 15 32.9 +1.8
QIZ Qiongzhong 84.43 302 P P 11 15 30.8 -0.8
QIZ PP PP 11 18 44.6 -2.5
QIZ Qiongzhong 84.43 302 SS SS 11 31 34.8 +6.5
QIZ pmax pmax
comp=Z,330nm,1.2s
QIZ pmax pmax
comp=Z,103μm,20.7s
QIZ LR LR
comp=N,280μm,22.0s
QIZ LR LR
comp=E,156μm,25.3s
QIZ LR LR
comp=Z,433μm,21.7s
QIZ Qiongzhong 84.43 302 P P 11 15 30.7 -0.8
QIZ PP PP 11 18 44.6 -2.5
QIZ S S 11 25 58.9 +1.6
QIZ pmax pmax
comp=Z,330nm,1.2s
QIZ LR LR
comp=Z,280μm,22.0s
QIZ LR LR
comp=Z,156μm,25.3s
QIZ LR LR
comp=Z,433μm,21.7s
QIZ Qiongzhong 84.43 302 P P 11 15 32.1 +0.5
UBPT Khong Chiam 84.48 296 P P 11 15 28.7 -3.2
UBPT IAmb IAmb 11 15 43.2
comp=Z,456nm,1.1s
UBPT Khong Chiam 84.48 296 P P 11 15 31.6 -0.3
comp=Z,672μmcomp=Z,22μmcomp=Z,464nm,2.4s
UBPT Khong Chiam 84.48 296 P P 11 15 32.3 +0.4
UBPT Khong Chiam 84.48 296 ⇑P P 11 15 32.1 +0.2
MCO Taipa Grande 84.51 307 P P 11 15 36.0 +4.1
JNU Nakatsue 84.70 326 P P 11 15 29.2 -3.4
JNU IAmb IAmb 11 15 50.0
comp=Z,2μm,1.9s
JNU Nakatsue 84.70 326 P P 11 15 32.9 +0.3
JNU Nakatsue 84.70 326 P P 11 15 30.6 -2.0
JWT Wachi 84.82 330 P P 11 15 31.6 -1.5
MJAR Matsushiro Arr 84.95 333 P P 11 15 32.9 -0.9
comp=Z,24nm,0.9s,baz=166,slow=6.1,SNR=21
MJAR S S 11 25 59.3 -2.5
comp=Z,4.6nm,1.1s,baz=154,slow=5.7,SNR=1.6
MJAR PKKPbc PKKPbc 11 33 44.6 +2.5
comp=Z,1.0nm,0.6s,baz=344,slow=2.2,SNR=2.5
MJAR PKPPKP P'P'df 11 41 49.3 +7.4
comp=Z,2.8nm,1.0s,baz=347,slow=3.2,SNR=4.6
MJAR LR LR 11 50 46.5
comp=Z,152μm,21.1s,baz=148,slow=34
comp=Z,24nm,0.9s
MAJO Matsushiro 84.95 333 P P 11 15 30.3 -3.5
MAJO IAmb IAmb 11 16 35.3
comp=Z,783nm,1.4s
MAJO Matsushiro 84.95 333 P P 11 15 32.9 -0.9
MAJO Matsushiro 84.95 333 ⇓P P 11 15 32.3 -1.5
MAJO ⇑P P 11 15 32.4 -1.5
MAJO ⇑P pP 11 15 36.6 -2.7
MAJO ⇑P sP 11 15 41.3 +0.1
MAJO Matsushiro 84.95 333 P P 11 15 30.3 -3.5
MAJO pmax pmax
comp=Z,783nm,1.4s
MAT Matsushiro 84.95 333 P P 11 15 31.8 -2.0
MJB9 Matsu-Tunnel 84.96 333 P P 11 15 30.9 -2.9
MJB9 IAmb IAmb 11 16 35.3
comp=Z,775nm,1.4s
JGN Niukaw 84.97 332 P P 11 15 31.6 -2.3

JAD Aida 84.98 329 P P 11 15 32.5 -1.5
JMM Marumori 85.32 335 P P 11 15 32.5 -3.1
JMM IAmb IAmb 11 16 39.5
comp=Z,537nm,1.1s
JMM Marumori 85.32 335 P P 11 15 35.6 0.0
JMM Marumori 85.32 335 P P 11 15 34.1 -1.4
GZH Guangzhou 85.38 307 P P 11 15 38.3 +2.1
GZH S S 11 26 06.2 -0.3
GZH LR LR
comp=Z,41μm,20.5s
GZH LR LR
comp=Z,40μm,20.1s
TRQA Tornquist 85.43 140 P P 11 15 32.6 -3.9
TRQA IAmb IAmb 11 16 53.0
comp=Z,1μm,1.5s
TRQA Tornquist 85.43 140 P P 11 15 32.6 -3.9
TRQA pmax pmax
comp=Z,1μm,1.5s
JHS Saijyo 85.43 328 P P 11 15 32.9 -3.4
JHS IAmb IAmb 11 15 54.3
comp=Z,1μm,1.5s
JHS Saijyo 85.43 328 P P 11 15 36.5 +0.2
JHS Saijyo 85.43 328 P P 11 15 35.3 -1.0
JSD Sado 86.29 333 P P 11 15 37.3 -3.1
JSD IAmb IAmb 11 16 42.5
comp=Z,577nm,1.0s
JSD Sado 86.29 333 P P 11 15 39.3 -1.1
JSD Sado 86.29 333 P P 11 15 38.9 -1.5
NAYO Nakonayok 86.57 293 P P 11 15 42.9 +0.6
JOM Ohasama 86.64 336 P P 11 15 41.0 -1.1
SSE Sheshan 87.43 318 P P 11 15 47.1 +1.0
SSE PP PP 11 19 12.1 +0.8
SSE Sheshan 87.43 318 S S 11 26 32.3 +6.2
SSE pmax pmax
comp=Z,37nm,0.7s
SSE pmax pmax
comp=Z,5μm,6.9s
SSE LR LR
comp=N,7μm,19.2s
LCO Las Campanas 87.78 128 ⇑P P 11 15 49.4 +0.9
LCO ⇑P pP 11 15 49.8 -4.1
LCO Las Campanas 87.78 128 ⇑P P 11 15 49.4 +0.9
LCO PCP P 11 15 49.8 +1.3
JTM Tenmabayashi 87.92 336 P P 11 15 50.2 +2.0
JTM Tenmabayashi 87.92 336 P P 11 15 50.8 +2.6
NONG Nongkai 88.03 297 P P 11 15 49.4 +0.1
ERM Erimo 88.46 338 IAMs_20 IAMs_20 11 51 41.5
comp=Z,760μm,22.0s
ERM Erimo 88.46 338 P P 11 15 52.5 +1.8
GULI GuiLin 88.81 307 ⇑P P 11 15 49.9 -2.9
GULI pmax pmax
comp=Z,170nm,1.3s
GULI LR LR
comp=Z,227μm,20.1s
GULI LR LR
comp=Z,224μm,18.8s
GULI LR LR
comp=Z,539μm,19.8s
TJN Taejon 88.97 325 P P 11 15 56.0 +2.7
TJN Taejon 88.97 325 *ce*P P 11 15 52.1 -1.2
NJ2 Nanjing 89.37 317⇓ *i*P P 11 15 54.8 -0.5
NJ2 pP sP 11 16 03.0 +0.3
NJ2 sP pP 11 16 09.8 +9.0
NJ2 PP PP 11 19 25.2 -1.6
NJ2 S S 11 26 43.4 -1.1
NJ2 sS sS 11 26 56.7 +3.1
NJ2 pmax pmax
comp=Z,300nm,1.5s
NJ2 pmax pmax
comp=Z,71μm,11.9s
NJ2 LR LR
comp=Z,483μm,18.6s
NJ2 LR LR
comp=Z,329μm,20.0s
NJ2 LR LR
comp=Z,597μm,18.8s
CNSH ChangSha 89.52 310 ⇑P P 11 15 55.5 -0.6
CNSH S S 11 26 42.2 -3.9
CNSH LR LR
comp=Z,172μm,20.2s
CNSH LR LR
comp=Z,246μm,21.5s
CNSH LR LR
comp=Z,367μm,20.6s
KSRS Korea Array 89.65 326 P P 11 15 56.6 +0.2
comp=Z,58nm,0.8s,baz=145,slow=5.6,SNR=49
KSRS S SKSac 11 26 28.3 +2.4
comp=Z,3.7nm,1.0s,baz=140,slow=6.4,SNR=1.0
comp=Z,58nm,0.8s
KSAR Wonju Array Be 89.65 326 P P 11 15 53.8 -2.7
KSAR Wonju Array Be 89.65 326 P P 11 15 53.8 -2.7
YUK Yuzh-Kuril'sk 89.66 341 *d* *i*P P 11 16 06.0 +10
YUK *i* SSS SSS 11 36 25.6
YUK pmax pmax
comp=E,422nm,1.5s
YUK pmax pmax
comp=Z,1μm,1.5s
YUK pmax pmax
comp=N,575nm,1.2s
YUK pmax pmax
comp=Z,6μm,15.9s
YUK MLR MLR
comp=Z,533μm,20.0s
YUK MLR MLR
comp=E,108μm,19.0s
YUK MLR MLR
comp=N,479μm,20.0s
KS19 Wonju Array Si 89.71 326 P P 11 15 54.7 -2.0
KS19 IAmb IAmb 11 16 15.4
comp=Z,1μm,1.7s
LPA La Plata 89.89 140 *i* P P 11 15 51.0 -6.9
LPA pP sP 11 16 01.7 -3.6
LPA sP pP 11 16 06.3 +2.9
LPA pPP 11 19 33.5
LPA PKIKP PKiKP 11 20 48.4 -6.0
LPA PPP PPP 11 21 28.1
LPA SKIKP 11 24 15.2
LPA PKIKS 11 24 22.7
LPA SKS SKSac 11 26 21.6 -6.5
LPA S S 11 26 46.4 -3.3
LPA PS PS 11 27 52.8 -3.8
LPA SKIKS 11 28 01.2
LPA SS SS 11 32 26.4 -19
LPA SSS SSS 11 36 21.2
INCN Inchon 90.21 325 P P 11 15 56.6 -2.5
INCN IAmb IAmb 11 16 17.6
comp=Z,1μm,1.6s
INCN Inchon 90.21 325 P P 11 16 02.3 +3.2
INCN Inchon 90.21 325 P P 11 15 56.6 -2.5
INCN pmax pmax
comp=Z,1μm,1.6s
JMP Maruseppu 90.26 339 P P 11 15 58.3 -0.8
PHRA Phrae 90.27 295 P P 11 15 56.7 -3.1
KUR Kuril'sk 90.33 343 *d* *i*P P 11 16 05.7 +6.3
KUR *e*S SKSac 11 26 35.5 +6.1
KUR *e*PS PnS 11 28 09.5 +7.7
KUR pmax pmax
comp=Z,2μm,1.3s
KUR pmax pmax
comp=E,669nm,1.2s
KUR pmax pmax
comp=N,128nm,1.0s
KUR MLR MLR
comp=Z,367μm,19.0s
KUR MLR MLR
comp=N,336μm,16.0s
WHN Wuhan 90.55 313 ⇓P P 11 16 00.6 -0.2
WHN pP pP 11 16 03.9 -2.4
WHN PP PP 11 19 39.6 +3.4
WHN SKS SKSac 11 26 32.7 +1.2
WHN S ScS 11 26 59.5 +0.4
WHN LR LR
comp=N,629μm,17.5s
WHN LR LR
comp=N,149μm,16.9s
WHN LR LR
comp=N,816μm,18.5s
JKA Kamikawa-asahi 90.56 339 P P 11 15 57.8 -2.8
JKA IAmb IAmb 11 17 18.5
comp=Z,361nm,1.0s
ASAJ Asahikawa 90.56 339 P P 11 15 57.8 -2.8
ASAJ pmax pmax
comp=Z,361nm,1.0s
PBA Port Blair 90.70 285 P P 11 16 03.4 +1.4

PBA Port Blair 90.70 285 *e*P P **11 16 03.7 +1.8**
PBA IAmb IAmb 11 17 06.9
comp=Z,2µm,1.6s
HJU Haeju 91.07 325 P P **11 16 03.6 +0.5**
HJU sP **sP** **11 16 11.7 +1.2**
HJU S **S** **11 26 57.2 -2.7**
HJU AmB
comp=Z,3µm,1.9s
HJU AMS AMS
comp=N,80µm,29.1s
HJU AMS AMS
comp=E,24µm,8.7s
HJU AMS AMS
comp=Z,31µm,11.1s
CM31 Chiang Mai Arr 91.11 294 P P **11 16 00.2 -3.5**
CM31 IAmb IAmb 11 16 15.4
comp=Z,718nm,1.1s
CM31 Chiang Mai Arr 91.11 294 P P **11 16 03.9 +0.1**
SNR=261
CM31 P P **11 16 03.9 +0.1**
SNR=261
CMAR Chiang Mai Arr 91.11 294 P P **11 16 04.3 +0.5**
comp=Z,74nm,1.1s,baz=153,slow=3.8,SNR=86
CMAR PP **PP** **11 19 39.9 -0.9**
comp=Z,23nm,1.1s,baz=152,slow=4.9,SNR=1.5
CMAR PKKPbc **PKKPbc** **11 33 27.3 +1.5**
comp=Z,0.8nm,0.4s,baz=310,slow=1.6,SNR=4.6
CMAR PKPPKP **P'P'df** **11 41 37.9 +2.9**
comp=Z,0.8nm,0.3s,baz=300,slow=2.0,SNR=1.9
CMAR LR LR 11 58 14.8
comp=Z,402µm,22.0s,baz=135,slow=36
comp=Z,74nm,1.1s
CMAR Chiang Mai Arr 91.11 294 *i*P P **11 16 01.9 -1.8**
CMAR pmax pmax
comp=Z,35nm,1.0s
CMMT Chiang Mai 91.35 294 P P **11 16 06.0 +1.1**
comp=Z,26nmcomp=Z,1.4nm,0.5s
CHTO Chiang Mai 91.35 294 P P **11 16 01.9 -3.0**
CHTO IAmb IAmb 11 16 16.4
comp=Z,585nm,1.2s
CHTO IAMs_20 IAMs_20 11 57 25.8
comp=Z,509µm,22.0s
CHTO Chiang Mai 91.35 294 P P **11 16 01.9 -3.0**
CHTO pmax pmax
comp=Z,585nm,1.3s
CHTO MLR MLR
comp=Z,509µm,22.0s
DGPR DIGLIPUR 91.61 286 *e*P P **11 16 07.1 +0.9**
DGPR IAmb IAmb 11 17 13.8
comp=Z,3µm,1.8s
GYA Guiyang 91.89 305⇓ *i*P P **11 16 07.0 -0.4**
GYA pP sP 11 16 12.3 -2.5
GYA SKS **SKSac** **11 26 36.1 -3.6**
GYA S **ScS** **11 27 12.4 +1.7**
GYA pmax pmax
comp=Z,36nm,1.1s
GYA pmax pmax
comp=Z,10µm,7.5s
GYA LR LR
comp=Z,210µm,26.3s
GYA LR LR
comp=Z,169µm,20.7s
GYA LR LR
comp=Z,582µm,24.4s
PYAG Pyongyang 91.90 325 P P **11 16 06.9 +0.1**
PYAG sP **sP** **11 16 15.1 +0.8**
PYAG S **S** **11 27 08.4 +1.0**
PYAG AmB
comp=Z,11µm,4.7s
PYAG AMS AMS
comp=N,4µm,2.9s
PYAG AMS AMS
comp=E,33µm,26.3s
PYAG AMS AMS
comp=Z,12µm,9.3s
HHU Hamhung 91.91 327 P P **11 16 07.2 +0.3**
HHU sP **sP** **11 16 15.5 +1.2**
HHU S **S** **11 27 08.2 +0.7**
HHU AmB
comp=Z,17µm,5.1s
HHU AMS AMS
comp=N,32µm,17.8s
HHU AMS AMS
comp=E,18µm,9.9s
HHU AMS AMS
comp=Z,22µm,12.1s
H08S2 Diego Garcia H 92.47 257 T T 12 56 12.8
baz=134,slow=74
H08S1 Diego Garcia H 92.48 257 T T 12 55 50.3
baz=134,slow=74
H08S3 Diego Garcia H 92.49 257 T T 12 56 17.3
baz=134,slow=74
ENH Enshi 93.06 309 P P **11 16 10.1 -2.5**
ENH IAmb IAmb 11 17 31.7
comp=Z,600nm,1.1s
TEY Ternei 93.14 335 *e*P P **11 16 10.6 -1.8**
TEY *e* 11 20 05.0
TEY *e* 11 27 08.3
YSS Yuzh-Sakhalins 93.16 340 IAMs_20 IAMs_20 11 53 55.8
comp=Z,618µm,20.0s
YSS Yuzh-Sakhalins 93.16 340 P P **11 16 14.0 +1.5**
YSS Yuzh-Sakhalins 93.16 340 *de*P P **11 16 13.0 +0.5**
YSS *e*S **S** **11 27 15.9 -2.3**
YSS *e*SS SS 11 33 50.2 +16
YSS pmax pmax
comp=Z,210nm,1.1s
YSS pmax pmax
comp=Z,44µm,16.0s
YSS pmax pmax
comp=N,14µm,15.0s
YSS pmax pmax
comp=E,6µm,15.0s
SUJ Sinuiju 93.32 325 P P **11 16 13.4 0.0**
SUJ sP **sP** **11 16 21.4 +0.5**
SUJ S **S** **11 27 23.6 +3.6**
SUJ AmB
comp=Z,18µm,5.5s
SUJ AMS AMS
comp=N,51µm,13.4s
SUJ AMS AMS
comp=E,26µm,6.8s
SUJ AMS AMS
comp=Z,51µm,13.5s
KMI Kunming 93.35 301⇑ P P **11 16 14.6 +0.3**
KMI pP sP 11 16 19.9 -1.8
KMI sP pP 11 16 24.1 +4.3
KMI PP PP 11 20 05.8 +7.1
KMI S **S** **11 27 19.0 -2.5**
KMI pmax pmax
comp=Z,160nm,1.1s
KMI LR LR
comp=Z,223µm,20.4s
KMI LR LR
comp=Z,495µm,22.7s
KMI LR LR
comp=Z,794µm,23.1s
TIA Tai'an 93.55 318 P P **11 16 14.4 -0.2**
TIA S **S** **11 27 14.7 -7.5**
TIA sS **sS** **11 27 34.3 +3.0**
TIA pmax pmax
comp=Z,66nm,0.9s
TIA pmax pmax
comp=Z,7µm,6.6s
TIA LR LR
comp=Z,420µm,20.4s
TIA LR LR
comp=Z,133µm,18.4s
TIA LR LR
comp=Z,461µm,20.4s
DL2 Dalian 93.58 322 P P **11 16 15.3 +0.6**
DL2 PP **PP** **11 20 00.5 +0.5**
DL2 SKS **SKSac** **11 26 46.1 -2.0**
DL2 S **ScS** **11 27 24.0 +0.1**
DL2 SS **SS** **11 33 41.7 +0.8**
DL2 pmax pmax
comp=Z,150nm,1.4s
DL2 pmax pmax
comp=Z,11µm,10.2s
DL2 LR LR
comp=Z,193µm,25.0s
DL2 LR LR
comp=Z,215µm,24.5s
DL2 LR LR
comp=Z,259µm,30.4s
LVC Limon Verde 93.65 125 P P 11 16 19.9 +3.8
comp=Z,13nm,1.1s,baz=212,slow=4.7,SNR=12
LVC LR LR 11 50 53.1
comp=Z,327µm,20.0s,baz=218,slow=31
comp=Z,13nm,1.1s
AF01 San Pedro de A 93.83 126 P P 11 16 11.2 -5.6
AF01 IAmb IAmb 11 17 18.0
comp=Z,1µm,1.6s
USA0B Ussuriysk Arra 93.92 332 *c i*P **P** **11 16 15.6 -0.5**
USRK Ussuriysk Ar. 93.92 332 P P **11 16 16.8 +0.7**
comp=Z,6.2nm,0.8s,baz=166,slow=3.9,SNR=8.0
USRK LR LR 11 57 09.3
comp=Z,142µm,19.5s,baz=155,slow=35
comp=Z,6.2nm,0.8s
USRK Ussuriysk Ar. 93.92 332 P P **11 16 13.1 -3.0**
SKR Severo-Kuril's 94.12 349 *e*P P 11 16 23.1 +6.3
SKR pmax pmax
comp=Z,36nm,1.0s
SKR pmax pmax
comp=Z,21µm,17.7s
SKR MLR MLR
comp=Z,81µm,18.0s
PATCX Punta Patache 94.23 123 P P 11 16 13.8 -4.6
PATCX IAmb IAmb 11 17 36.3
comp=Z,831nm,1.5s
PAYG Puerto Ayora 94.55 95 IAMs_20 IAMs_20 11 50 55.1
comp=Z,483µm,21.0s
LYN LuoYang 94.65 314⇓ *i*P P 11 16 22.4 +2.7
LYN pP sP 11 16 24.6 -2.5
LYN SKS **SKSac** **11 26 54.3 +0.1**
LYN S **S** **11 27 28.5 -3.4**
LYN pmax pmax
comp=Z,6µm,7.0s
LYN LR LR
comp=Z,229µm,22.7s
LYN LR LR
comp=Z,125µm,27.3s
LYN LR LR
comp=Z,437µm,23.9s
PZH PanZhiHua 94.96 302 P P **11 16 20.8 -0.7**
PZH pP **sP** **11 16 25.5 -3.5**
PZH PP **PP** **11 20 15.5 +4.4**
PZH SKS **SKSac** **11 27 00.2 +3.6**
PZH S **SKSac** **11 27 24.4 +5.4**
PZH SS **SS** **11 34 06.4 +5.2**
PZH pmax pmax
comp=Z,35µm,12.0s
PZH LR LR
comp=Z,266µm,22.1s
PZH LR LR
comp=Z,407µm,22.6s
PZH LR LR
comp=Z,596µm,23.0s
SHEM Shemya Is, Ala 95.02 1 P P **11 16 22.2 +1.3**
comp=Z,55nm,0.8s,baz=270,slow=9.1,SNR=1.3
comp=Z,55nm,0.8s
MDJ Mudanjiang 95.13 331 P P **11 16 20.8 -0.8**
MDJ S **S** **11 27 36.3 +0.6**
MDJ sS sS 11 27 45.0 +0.3
MDJ pmax pmax
comp=Z,13µm,13.9s
MDJ LR LR
comp=Z,268µm,21.8s
MDJ LR LR
comp=Z,265µm,22.2s
MDJ LR LR
comp=Z,609µm,23.9s
SNY Shenyang 95.13 325⇑ P P **11 16 21.1 -0.6**
SNY S S 11 27 25.6 -10
SNY pmax pmax
comp=Z,10µm,12.3s
SNY LR LR
comp=Z,249µm,26.5s
SNY LR LR
comp=Z,287µm,23.2s
SNY LR LR
comp=Z,368µm,32.2s
UGL Uglegorsk 95.30 340 *e*P P 11 16 30.3 +8.0
UGL pmax pmax
comp=Z,12µm,15.0s
MND Mandalay 95.48 295 P P **11 16 23.3 -0.5**
HNS HongShan 95.68 317⇑ P P **11 16 23.8 -0.5**
HNS sP **sP** **11 16 33.0 +1.2**
HNS SKS **SKSac** **11 27 00.6 +1.1**
HNS S S 11 27 30.1 -11
HNS pmax pmax
comp=Z,19nm,1.3s
HNS LR LR
comp=Z,430µm,21.1s
HNS LR LR
comp=Z,349µm,20.1s
HNS LR LR
comp=Z,637µm,19.8s
PB12 IPOC Station P 95.77 122 P P 11 16 20.0 -5.5
TNCH TengChong 95.98 299⇑ P P **11 16 26.8 +0.5**
TNCH pP sP 11 16 34.2 +0.5
TNCH sP pP 11 16 37.2 +5.4
TNCH PP **PP** **11 20 22.6 +3.5**
TNCH SKS **SKSac** **11 27 00.4 -1.8**
TNCH S **S** **11 27 41.9 -2.4**
TNCH SS **SS** **11 34 18.8 +3.0**
TNCH pmax pmax
comp=Z,200nm,1.5s
TNCH pmax pmax
comp=Z,7µm,8.6s
TNCH LR LR
comp=Z,162µm,18.8s
TNCH LR LR
comp=Z,123µm,19.5s
TNCH LR LR
comp=Z,578µm,20.6s
CN2 Changchun 96.01 328 *e*P P 11 16 27.8 +2.1
CN2 *es*P sP 11 16 34.8 +1.7
CN2 *e*PP PP 11 20 24.0 +5.1
CN2 Changchun 96.01 328 *e*SS SS 11 34 21.0 +5.6
CN2 pmax pmax
comp=Z,30nm,1.6s
CN2 pmax pmax
comp=Z,3µm,7.0s
CN2 LR LR
comp=N,209µm,18.0s
CN2 LR LR
comp=E,138µm,18.0s
CN2 LR LR
comp=Z,254µm,20.0s
CN2 Changchun 96.01 328 *e*P P 11 16 27.7 +2.0
CN2 *es*P sP 11 16 34.7 +1.6
CN2 *e*PP PP 11 20 24.0 +5.1
CN2 SKS **SKSac** **11 27 02.5 +1.5**
CN2 pmax pmax
comp=Z,30nm,1.6s
CN2 pmax pmax
comp=Z,3µm,7.0s
CN2 LR LR
comp=Z,209µm,18.0s
CN2 LR LR
comp=Z,138µm,18.0s
CN2 LR LR
comp=Z,254µm,20.0s
PET Petropavlovsk 96.10 351 *e*P P 11 16 27.7 +1.9
PET *e* 11 20 26.8
PET *e*PPP PPP 11 22 24.1
PET *e*S **S** **11 27 42.9 -0.7**
PET *e*PPS PPS 11 29 47.5
PET *e*SS SS 11 34 26.7 +10
PET *e*SSS SSS 11 38 07.1
PET pmax pmax
comp=Z,43µm,16.3s
PET pmax pmax
comp=Z,35µm,15.4s
PET pmax pmax
comp=Z,82nm,1.1s
XAN Xi'an 96.19 311⇑ P P **11 16 25.8 -1.0**
XAN pP sP 11 16 31.8 -2.5
XAN sP pP 11 16 35.0 +2.7
XAN PP **PP** **11 20 24.6 +4.1**
XAN SKS **SKSac** **11 27 05.5 +3.0**
XAN S **ScS** **11 27 43.7 -2.3**
XAN SS **SS** **11 34 16.0 -2.3**
XAN pmax pmax
comp=Z,83nm,1.5s
XAN pmax pmax
comp=Z,6µm,7.5s
XAN LR LR
comp=Z,333µm,19.2s
XAN LR LR
comp=Z,187µm,19.9s
XAN LR LR 11 50 51.1
comp=Z,519µm,18.6s
PEA0B Petropavlovsk- 96.30 351 *de*P P **11 16 26.7 0.0**
PETK Petropavlovsk- 96.30 351 P P 11 16 29.4 +2.7
comp=Z,5.1nm,0.7s,baz=179,slow=12,SNR=7.5
PETK PP **PP** **11 20 23.6 +2.7**
comp=Z,9.1nm,1.0s,baz=131,slow=6.3,SNR=1.3
PETK LR LR 11 54 33.9
comp=Z,305µm,20.4s,baz=164,slow=32
comp=Z,5.1nm,0.7s
NNA Nana 96.33 113 P P 11 16 30.9 +2.9
comp=Z,3.9nm,0.3s,baz=204,slow=3.8,SNR=4.3
NNA LR LR 11 51 22.5
comp=Z,775µm,21.1s,baz=234,slow=30
comp=Z,3.9nm,0.3s
NNA Nana 96.33 113 P P **11 16 24.0 -4.0**
NNA IAmb IAmb 11 18 01.1
comp=Z,496nm,1.9s
NNA Nana 96.33 113 IAMs_20 IAMs_20 11 50 59.4
comp=Z,792µm,21.0s
NNA Nana 96.33 113 P P **11 16 24.0 -4.0**
NNA pmax pmax
comp=Z,496nm,1.9s
PALK Pallekele 96.50 274 P P **11 16 28.2 -0.5**
comp=Z,11nm,1.0s,baz=270,slow=3.4,SNR=6.3
PALK LR LR 11 58 23.7
comp=Z,617µm,19.4s,baz=232,slow=35
comp=Z,11nm,1.0s
PALK Pallekele 96.50 274 P P **11 16 26.1 -2.7**
PALK IAmb IAmb 11 17 41.7
comp=Z,702nm,1.6s
PALK Pallekele 96.50 274 IAMs_20 IAMs_20 11 57 52.6
comp=Z,737µm,20.0s
PALK Pallekele 96.50 274 P P **11 16 27.8 -0.9**
PALK P P **11 16 27.8 -0.9**
PALK Pallekele 96.50 274 P P **11 16 28.8 0.0**
comp=Z,344µmcomp=Z,6µmcomp=Z,145nm,1.6s
PALK Pallekele 96.50 274 *c i*P P **11 16 28.1 -0.7**
PALK pmax pmax
comp=Z,303nm,1.5s
NIKH Nikolski High 96.55 11 P P **11 16 24.4 -3.5**
baz=193
NIKH S **S** **11 27 53.2 +5.8**
baz=193
TYV Tymovskoe 96.81 341 *e*P P 11 16 37.3 +8.2
TYV pmax pmax
comp=Z,36nm,1.6s
TYV pmax pmax
comp=Z,2µm,5.2s
SLBS Sierra La Lagu 96.84 64 IAMs_20 IAMs_20 11 53 17.5
comp=Z,609µm,19.0s
CD2 Chengdu 96.87 306 P P **11 16 29.8 -0.3**
CD2 PP **PP** **11 20 29.0 +3.2**
CD2 Chengdu 96.87 306 SS SS 11 34 34.0 +5.9
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,7µm,9.8s
CD2 LR LR
comp=N,71µm,17.7s
CD2 LR LR
comp=E,75µm,17.2s
CD2 LR LR
comp=Z,407µm,21.8s
CD2 Chengdu 96.87 306 P P **11 16 29.7 -0.3**
CD2 PP **PP** **11 20 29.0 +3.2**
CD2 SKS **SKSac** **11 27 04.2 -2.1**
CD2 S **ScS** **11 27 49.6 -2.3**
CD2 pmax pmax
comp=Z,7µm,9.8s
CD2 LR LR
comp=Z,71µm,17.7s
CD2 LR LR
comp=Z,75µm,17.2s
CD2 LR LR
comp=Z,407µm,21.8s
LPIG La Paz 96.89 64 P P 11 16 35.4 +5.3
comp=Z,13nm,0.9s,baz=357,slow=2.0,SNR=4.0
LPIG LR LR 11 53 30.1
comp=Z,572µm,19.2s,baz=228,slow=31
BNX BinXian 96.90 330⇑ P P 11 16 32.1 +2.5
BNX S **S** **11 27 55.6 +4.8**
BNX sS sS 11 28 04.6 +4.7
BNX pmax pmax
comp=Z,4.0nm,0.5s
BNX pmax pmax
comp=Z,2µm,6.9s
BNX LR LR
comp=Z,147µm,22.8s
BNX LR LR
comp=Z,160µm,22.8s
BNX LR LR
comp=Z,307µm,22.8s
BJT Baijiatuau 97.00 320 P P **11 16 28.3 -2.0**
BJT Baijiatuau 97.00 320 IAMs_20 IAMs_20 12 02 12.2
comp=Z,758µm,20.0s
BJT Baijiatuau 97.00 320 P P **11 16 28.3 -2.0**
BJT pmax pmax
comp=Z,205nm,1.7s
BJT MLR MLR
comp=Z,758µm,20.0s
BJI Beijing 97.02 320 P P **11 16 29.8 -0.6**
BJI pP **sP** **11 16 38.4 +0.6**
BJI sP pP 11 16 41.3 +5.5
BJI PP **PP** **11 20 30.0 +3.3**
BJI Beijing 97.02 320 P P **11 16 29.7 -0.6**
BJI pP **sP** **11 16 38.4 +0.6**
BJI sP pP 11 16 41.2 +5.4
BJI PP **PP** **11 20 30.0 +3.3**
BJI sS sS 11 28 06.2 +5.0
BJI pmax pmax
comp=Z,10.0nm,1.5s
BJI pmax pmax
comp=Z,2µm,7.1s
BJI LR LR
comp=Z,131µm,19.6s
BJI LR LR
comp=Z,269µm,19.7s
BJI LR LR
comp=Z,807µm,19.0s
TIY Taiyuan 97.08 316 *e*P Pdif 11 16 34.4 +3.5
TIY pmax pmax
comp=Z,8µm,9.0s
TIY LR LR
comp=Z,157µm,23.3s
TIY LR LR
comp=Z,221µm,22.0s
TIY LR LR
comp=Z,359µm,22.7s
CPUP Villa Florida 97.20 136 P Pdif 11 16 32.9 +1.1
comp=Z,7.8nm,1.1s,baz=212,slow=6.0,SNR=6.8
CPUP PKKPbc **PKKPdf** **11 33 07.6 -2.3**
comp=Z,5.0nm,1.0s,baz=53,slow=3.0,SNR=4.0
CPUP LR LR 11 53 37.1
comp=Z,338µm,21.8s,baz=214,slow=31
comp=Z,7.8nm,1.1s
ALGR Alto Alegre (B 97.27 141 *e*P Pdif 11 16 32.5 +0.3
SNCC San Nicolas Is 97.61 51 P **P** **11 16 29.6 -3.7**
baz=223
SNCC S **S** **11 28 01.2 +3.5**
baz=223
KAAM Kaadhehdhoo 97.64 264 P Pdif 11 16 36.8 +2.9
SNR=7.4
KAAM Kaadhehdhoo 97.64 264 P Pdif 11 16 33.6 -0.3
comp=Z,320µmcomp=Z,8µmcomp=Z,348nm,1.6s
UNV Unalaska Valle 97.74 12 P Pdif 11 16 34.2 +0.9
baz=195
UNV S S 11 28 06.7 +9.1
baz=195
SAIH SAIHA 97.91 293 *e*P Pdif 11 16 34.5 -0.6
SAIH IAmb IAmb 11 21 47.9
comp=Z,1µm,2.1s
SCI2 San Clemente I 97.98 52 P Pdif 11 16 33.1 -1.8
baz=224
SCI2 S **S** **11 28 04.3 +3.5**
baz=224
SCZ2 Santa Cruz Isl 98.09 51 P Pdif 11 16 34.8 -0.6
baz=223
GRNR Gornyy 98.35 338⇑ *i*P P 11 16 31.1 -5.0
GRNR *e* 11 20 43.8
CIS Catalina Islan 98.36 52 Pdiff Pdif 11 16 38.6 +1.9
baz=224
CIS S **S** **11 28 04.9 +0.8**
baz=224
SBC Santa Barbara 98.37 50 Pdiff Pdif 11 16 39.4 +2.8
baz=223
SBC S **S** **11 28 05.7 +1.7**

baz=223
KLR Kul'dur 98.39 334 P Pdif 11 16 37.6 +1.3
comp=Z,6.9nm,0.9s,baz=288,slow=1.3,SNR=13
KLR PP **PP 11 20 38.7 +1.6**
comp=Z,11nm,1.0s,baz=158,slow=5.8,SNR=1.8
KLR PKKPbc **PKKPdf 11 33 07.0 -4.5**
comp=Z,2.9nm,1.0s,baz=355,slow=3.8,SNR=1.7
KLR LR LR 11 58 22.6
comp=Z,460µm,21.3s,baz=149,slow=34
comp=Z,6.9nm,0.9s
KLR Kul'dur 98.39 334⇑*e*P Pdif 11 16 37.4 +1.1
KLR pmax pmax
comp=Z,74nm,1.3s
KLR MLR MLR
comp=Z,324µm,19.0s
PKM Mcpherson Peak 98.64 50 Pdiff Pdif 11 16 38.7 +0.7
baz=223
PKM S **S 11 28 08.0 +1.3**
baz=223
FMP Fort Macarthur 98.66 52 Pdiff Pdif 11 16 40.3 +2.4
baz=224
FMP S **S 11 28 08.4 +2.0**
baz=224
ATAH Atahualpa 98.69 108 P Pdif 11 16 43.1 +3.9
comp=Z,10nm,1.0s,baz=216,slow=4.7,SNR=8.6
ATAH PP **PP 11 20 43.0 +3.1**
comp=Z,3.2nm,0.7s,baz=279,slow=13,SNR=1.0
ATAH PKPPKP **P'P'df 11 41 26.1 +0.3**
comp=Z,4.6nm,0.8s,baz=21,slow=5.0,SNR=3.7
ATAH LR LR 11 54 10.5
comp=Z,397µm,19.1s,baz=228,slow=31
comp=Z,10nm,1.0s
109C Camp Elliot, M 98.77 53 IAMs_20 IAMs_20 11 54 39.6
comp=Z,508µm,20.0s
109C Camp Elliot, M 98.77 53 Pdiff Pdif 11 16 41.5 +3.0
baz=224
109C S **S 11 28 08.5 +1.1**
baz=224
VOI Vohitsoka 98.82 229 P Pdif 11 16 50.9 +12
SMMC Simmler 98.84 50 Pdiff Pdif 11 16 47.9 +9.1
baz=223
SMMC S **S 11 28 01.8 -6.2**
baz=223
IMP Imphal 98.85 295 *e*P Pdif 11 16 36.8 -2.3
IMP IAmb IAmb 11 22 02.3
comp=Z,519nm,1.7s
LPAZ La Paz 98.89 122 P Pdif 11 16 44.1 +3.8
comp=Z,6.3nm,1.1s,baz=257,slow=2.7,SNR=12
LPAZ LR LR 11 52 03.2
comp=Z,236µm,21.5s,baz=216,slow=30
comp=Z,6.3nm,1.1s
LPAZ La Paz 98.89 122 *e*P Pdif 11 16 37.9 -2.4
BRDH Bariadhala 98.95 292 P **Pdif 11 16 39.7 +0.2**
comp=Z,52nm,0.3s,baz=90,slow=20,SNR=1.2
BRDH PP **PP 11 20 41.6 -0.1**
comp=Z,74nm,0.3s,baz=196,slow=3.5,SNR=1.5
BRDH LR LR 12 04 05.0
comp=Z,502µm,21.9s,baz=162,slow=37
DECC Green Verdugo 99.02 51 Pdiff Pdif 11 16 44.5 +4.9
baz=224
PASC Pasadena Art C 99.05 52 IAMs_20 IAMs_20 11 53 25.1
comp=Z,678µm,21.0s
OSI Osito Audit: C 99.06 51 Pdiff **Pdif 11 16 43.6 +3.8**
baz=224
MONP2 Monument Peak 99.17 54 Pdiff **Pdif 11 16 45.0 +4.5**
baz=225
IKP In-Ko-Pah, Jac 99.19 54 Pdiff **Pdif 11 16 45.0 +4.6**
baz=225
MURC Murrieta 99.22 53 Pdiff **Pdif 11 16 46.2 +5.7**
baz=224
FALS False Pass 99.22 14 Pdiff **Pdif 11 16 45.2 +5.4**
baz=197
LKP Lekhapani 99.30 299 *e*P **Pdif 11 16 39.3 -1.7**
LKP IAmb IAmb 11 21 09.2
comp=Z,1µm,2.2s
MCCM Marconi Confer 99.33 46 IAMs_20 IAMs_20 11 54 44.8
comp=Z,577µm,20.0s
KOHI KOHIMA 99.34 296 *e*P **Pdif 11 16 40.0 -1.3**
KOHI IAmb IAmb 11 21 46.4
comp=Z,706nm,1.5s
ARVC Arvin 99.36 50 Pdiff **Pdif 11 16 46.9 +5.9**
baz=224
BFSC Mount Baldy Ra 99.40 52 Pdiff **Pdif 11 16 46.5 +5.1**
baz=224
MOKO MOKOCHONG 99.48 297 *e*P **Pdif 11 16 42.5 +0.5**
MOKO IAmb IAmb 11 21 46.5
comp=Z,1µm,1.7s
SWSC Sam W. Stewart 99.58 54 Pdiff **Pdif 11 16 48.7 +6.7**
baz=225
SILR SILCHAR 99.58 295 *e*P **Pdif 11 16 44.3 +2.1**
SILR IAmb IAmb 11 22 07.9
comp=Z,1µm,1.4s
TPFO Pinon Flats 99.66 53 Pdiff **Pdif 11 16 48.0 +5.5**
baz=225
PFO Pinyon Flats O 99.66 53 IAMs_20 IAMs_20 11 55 26.3
comp=Z,670µm,20.0s
PFO Pinyon Flats O 99.66 53 Pdiff **Pdif 11 16 48.0 +5.5**
baz=225
PFO Pinyon Flats O 99.66 53 P **Pdif 11 16 45.5 +2.9**
EDW2 Edwards Air Fo 99.67 51 Pdiff **Pdif 11 16 48.7 +6.2**
baz=224
VES Vestal, Richgr 99.73 50 Pdiff **Pdif 11 16 48.5 +5.8**
baz=224
BBRC Big Bear Solar 99.85 52 Pdiff **Pdif 11 16 47.0 +3.5**
baz=224
HHC Hu-ho-hao-te 99.89 317 *e*P **Pdif 11 16 50.3 +6.9**
HHC PP **PP 11 20 52.5 +3.7**
HHC Hu-ho-hao-te 99.89 317 S S 11 28 24.4 +7.6
HHC pmax pmax
comp=Z,53nm,1.4s
HHC pmax pmax
comp=Z,6µm,7.9s
HHC LR LR
comp=N,338µm,17.8s
HHC LR LR
comp=E,409µm,17.8s
HHC LR LR
comp=Z,887µm,17.1s
HHC Hu-ho-hao-te 99.89 317 *e*P **Pdif 11 16 50.2 +6.9**
HHC PP **PP 11 20 52.5 +3.7**
HHC SKS **SKSac 11 27 24.1 +3.0**
HHC pmax pmax
comp=Z,53nm,1.4s
HHC pmax pmax
comp=Z,6µm,7.9s
HHC LR LR
comp=Z,338µm,17.8s
HHC LR LR
comp=Z,409µm,17.8s
HHC LR LR
comp=Z,887µm,17.1s
CNBA Chernabura Isl 99.90 16 IAMs_20 IAMs_20 11 56 41.7
comp=Z,518µm,22.0s
VOG Valley Oaks Go 99.91 49 Pdiff **Pdif 11 16 47.9 +4.5**
baz=224
CHNA Chernabura Isl 99.92 16 Pdiff **Pdif 11 16 48.7 +5.8**
baz=200
JORH JORHAT 99.94 297 *e*P **Pdif 11 16 45.7 +1.9**
JORH IAmb IAmb 11 22 14.6
comp=Z,5µm,2.6s
ISA Isabella, Lake 99.95 50 Pdiff **Pdif 11 16 48.7 +4.9**
baz=224
DIBR DIBRUGARH 100.00 298 *e*P **Pdif 11 16 43.3 -0.7**
XLT XiLinHaoTe 100.08 322⇑*i*P **Pdif 11 16 44.0 -0.1**
XLT pP sP 11 16 51.3 -0.3
XLT PP PP 11 20 59.9 +10
XLT XiLinHaoTe 100.08 322 sS sS 11 28 32.3 +5.1
XLT XiLinHaoTe 100.08 322 SS SS 11 35 14.3 +1.5
XLT pmax pmax
comp=Z,13nm,2.0s
XLT pmax pmax
comp=Z,3µm,7.2s
XLT LR LR
comp=N,32µm,20.8s
XLT LR LR
comp=E,233µm,21.8s
XLT LR LR
comp=Z,475µm,23.5s
TRD Trivandrum 100.08 272 *e*P **Pdif 11 16 46.6 +1.9**
TRD IAmb IAmb 11 22 00.7
comp=Z,2µm,2.5s
BELC Belle Mtn. Jos 100.20 53 Pdiff **Pdif 11 16 50.6 +5.6**
baz=225
SDPT Sand Point 100.23 15 Pdiff **Pdif 11 16 52.1 +7.8**
baz=199
GLA Glamis 100.23 54 Pdiff **Pdif 11 16 50.2 +5.2**
baz=225

RRX Edison Barstow 100.24 52 Pdiff **Pdif 11 16 49.3 +4.3**
baz=225
LRMC Laurel Mtn Rad 100.27 51 Pdiff **Pdif 11 16 50.9 +5.7**
baz=224
BC3 Big Chuckawall 100.28 54 Pdiff **Pdif 11 16 51.4 +6.1**
baz=225
SPIA Saint Paul Isl 100.48 9 Pdiff **Pdif 11 16 52.7 +7.3**
baz=192
LZH Lanzhou 100.52 310⇑P **Pdif 11 16 51.6 +5.2**
LZH S **Sdif 11 28 29.0 +6.6**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,4µm,5.5s
LZH LR LR
comp=Z,102µm,16.8s
LZH LR LR
comp=Z,254µm,18.2s
LZH LR LR
comp=Z,368µm,16.8s
ITAN ITANAGAR 100.56 297 *e*P **Pdif 11 16 47.8 +1.2**
ITAN IAmb IAmb 11 21 58.5
comp=Z,3µm,2.4s
HEC Hector,Ludlow 100.59 52 Pdiff **Pdif 11 16 52.2 +5.6**
baz=225
CMB Columbia Colle 100.59 48 IAMs_20 IAMs_20 11 58 54.1
comp=Z,607µm,20.0s
GSC Goldstone, Bar 100.65 52 Pdiff **Pdif 11 16 54.0 +7.1**
baz=225
MDRS Chennai 100.68 278 *e*P **Pdif 11 16 50.3 +3.0**
MDRS IAmb IAmb 11 18 22.4
comp=Z,776nm,2.6s
214A Organ Pipe Nat 100.70 56 Pdiff **Pdif 11 16 53.7 +6.6**
baz=226
HEH HeiHe 100.72 332 *e*P **Pdif 11 16 46.0 -0.6**
HEH pP sPdif 11 16 49.8 -4.3
HEH PP PP 11 21 00.6 +5.8
HEH S **Sdif 11 28 25.3 +2.4**
HEH pmax pmax
comp=Z,42nm,1.5s
HEH pmax pmax
comp=Z,6µm,10.8s
HEH LR LR
comp=Z,198µm,23.5s
HEH LR LR
comp=Z,235µm,23.2s
HEH LR LR
comp=Z,207µm,24.5s
JCC Jacoby Creek, 100.72 44 IAMs_20 IAMs_20 11 54 55.5
comp=Z,651µm,21.0s
SHL Shillong 100.72 295 *e*P **Pdif 11 16 47.4 -0.2**
SHL IAmb IAmb 11 16 58.7
comp=Z,162nm,1.1s
CWC Cottonwood Cre 100.73 50 Pdiff **Pdif 11 16 55.2 +7.9**
baz=224
MPMC Manual Prospec 100.79 51 Pdiff **Pdif 11 16 55.2 +7.6**
baz=224
TEZP TEZPUR 100.82 296 *e*P **Pdif 11 16 47.5 -0.2**
TEZP IAmb IAmb 11 22 01.4
comp=Z,1µm,2.3s
IRM Iron Mountain 100.82 53 Pdiff **Pdif 11 16 55.7 +8.2**
baz=225
GMRC Granite Mounta 100.95 53 Pdiff **Pdif 11 16 56.4 +8.1**
baz=225
SUR Sutherland 101.05 204 IAMs_20 IAMs_20 12 03 03.1
comp=Z,583µm,18.0s
TIN Tinemaha, Big 101.08 49 Pdiff **Pdif 11 16 56.0 +7.3**
baz=224
ORV Oroville 101.10 46 IAMs_20 IAMs_20 11 56 01.5
comp=Z,474µm,20.0s
MLAC Mammoth, Mammt 101.16 49 Pdiff **Pdif 11 16 55.4 +6.2**
baz=224
OPO Ambohidratompo 101.24 232 P **Pdif 11 16 51.5 +1.4**
comp=Z,0.5nm,0.3s,baz=310,slow=7.9,SNR=1.7
OPO PKKPbc **PKKPdf 11 33 00.3 -2.8**
comp=Z,1.9nm,0.8s,baz=338,slow=5.4,SNR=1.5
SALM Salem 101.24 275 *e*P **Pdif 11 16 48.7 -1.2**
TUQ Turquoise Moun 101.26 52 Pdiff **Pdif 11 16 56.2 +6.6**
baz=225
GUWA GUWAHATI 101.27 295 *e*P **Pdif 11 16 49.6 -0.1**
GUWA IAmb IAmb 11 22 05.6
comp=Z,207nm,1.1s
UNM Universidad Na 101.34 74 IAMs_20 IAMs_20 11 59 33.1
comp=Z,634µm,18.0s
SHOC Shoshone, Teco 101.38 51 Pdiff **Pdif 11 16 57.6 +7.6**
baz=225
FURC Furnace Creek, 101.44 51 Pdiff **Pdif 11 16 56.4 +6.2**
baz=225
VIS Vishakhapatnam 101.50 283 *e*P **Pdif 11 16 53.3 +2.4**
VIS IAmb IAmb 11 21 19.2
comp=Z,1µm,2.8s
PDMCI Parker Dam,Lak 101.52 54 Pdiff **Pdif 11 16 57.0 +6.4**
baz=226
GRAC Grapevine Rang 101.53 50 Pdiff **Pdif 11 16 58.0 +7.3**
baz=225
CHGN Chignik 101.53 16 Pdiff **Pdif 11 16 56.1 +6.1**
baz=201
NEE2 Needles Airpor 101.55 53 Pdiff **Pdif 11 16 58.0 +7.2**
baz=226
HMDM Hanimaadhoo 101.72 268 P **Pdif 11 16 55.5 +3.4**
NVAR Mina Array Bea 102.02 48 P **Pdif 11 16 55.9 +2.8**
comp=Z,4.0nm,1.0s,baz=219,slow=7.6,SNR=14
NVAR PP **PKiKP 11 21 09.2 -6.4**
comp=Z,17nm,1.2s,baz=213,slow=11,SNR=2.3
NVAR PKKP **PKKPdf 11 33 02.5 -1.8**
comp=Z,1.7nm,0.9s,baz=40,slow=5.7,SNR=1.7
NVAR PKPPKP **P'P'df 11 41 17.2 +4.5**
comp=Z,1.3nm,1.0s,baz=100,slow=3.2,SNR=2.4
NVAR Mina Array Bea 102.02 48 P **Pdif 11 16 57.0 +3.9**
YBH Yreka Blue Hor 102.06 44 PKKP 11 33 03.1
comp=Z,5.8nm,1.1s,baz=27,slow=2.3,SNR=2.5
YBH Yreka Blue Hor 102.06 44 IAMs_20 IAMs_20 11 55 51.1
comp=Z,609µm,22.0s
TPNV Topopah Spring 102.13 51 Pdiff **Pdif 11 16 57.2 +3.7**
baz=225
TUC Tucson 102.19 57 Pdiff **Pdif 11 16 58.0 +4.2**
baz=227
DHUB DHUBRI 102.29 294 *e*P **Pdif 11 16 54.4 +0.2**
DHUB IAmb IAmb 11 22 24.8
comp=Z,185nm,0.8s
RAGD RAYAGADA 102.40 285 *e*P **Pdif 11 16 57.7 +2.8**
HUMO Hull Mountain 102.58 43 IAMs_20 IAMs_20 11 56 26.8
comp=Z,529µm,21.0s
SII Sitkinak Islan 102.67 18 Pdiff **Pdif 11 16 58.9 +3.7**
baz=204
HIA Hailar 102.75 327 **Pdif 11 16 51.8 -3.9**
HIA Hailar 102.75 327*c*eP **Pdif 11 16 56.5 +0.8**
HIA pmax pmax
comp=Z,20nm,1.5s
MNCY Minicoy 102.82 269 *e*P **Pdif 11 17 03.8 +6.9**
MNCY IAmb IAmb 11 22 24.8
comp=Z,3µm,2.4s
CMIG Matias Romero 102.96 79 PP **PKiKP 11 21 17.3 -0.2**
comp=Z,7.4nm,1.1s,baz=307,slow=5.1,SNR=2.5
BOSA Boshof 103.08 209 Pdiff **Pdif 11 16 59.2 +1.1**
comp=Z,4.1nm,0.8s,baz=184,slow=5.5,SNR=2.7
BOSA PP **PKiKP 11 21 15.5 -2.4**
comp=Z,8.8nm,0.9s,baz=152,slow=8.9,SNR=2.4
BOSA PKKPbc **PKKPdf 11 32 53.6 -5.8**
comp=Z,3.9nm,0.9s,baz=354,slow=3.7,SNR=1.8
BOSA PKKP PKKPbc 11 33 00.5 +7.5
comp=Z,9.4nm,0.9s,baz=354,slow=5.7,SNR=5.0
MOD Modoc Plateau 103.42 45 IAMs_20 IAMs_20 11 56 37.1
comp=Z,687µm,21.0s
SIV San Ignacio 103.42 127 Pdiff **Pdif 11 17 03.6 +3.9**
comp=Z,1.1nm,0.8s,baz=211,slow=5.9,SNR=3.2
SIV PP **PKiKP 11 21 19.1 +0.5**
comp=Z,10nm,1.1s,baz=247,slow=8.7,SNR=3.8
SIV PKKP **PKKPdf 11 32 59.1 +0.1**
comp=Z,4.0nm,0.8s,baz=62,slow=3.7,SNR=3.7
R11A Troy Canyon, C 103.48 50 Pdiff **Pdif 11 17 07.2 +7.7**
baz=226
OHAK Old Harbor 103.48 18 Pdiff **Pdif 11 17 06.4 +7.7**
baz=205
MA2 Magadan 103.51 349 IAMs_20 IAMs_20 12 00 12.1
comp=Z,502µm,22.0s
BOK Bokaro 103.65 290 *e*P **Pdif 11 17 01.3 +0.9**
BOK IAmb IAmb 11 22 22.5
comp=Z,806nm,2.2s
ZEA Zeya 103.71 334 *e*P **Pdif 11 17 07.0 +7.2**
ZEA pmax pmax
comp=Z,10.0nm,1.9s
Q17K Contact Creek 103.87 16 Pdiff **Pdif 11 17 07.6 +7.0**
baz=203
LSA Lhasa 103.95 297 P **Pdif 11 17 07.3 +5.1**
LSA LR LR
comp=Z,286µm,25.6s

LSA LR LR
comp=Z,178µm,28.5s
LSA LR LR
comp=Z,473µm,28.5s
WUAZ Wupatki 104.00 55 IAMs_20 IAMs_20 11 57 56.5
comp=Z,503µm,20.0s
WUAZ Wupatki 104.00 55 Pdiff **Pdif 11 17 06.5 +4.7**
baz=227
GTK Tadong 104.08 294 *e*P **Pdif 11 17 02.3 -0.1**
GTK IAmb IAmb 11 22 26.9
comp=Z,450nm,1.4s
Q16K King Salmon 104.09 16 Pdiff **Pdif 11 17 07.7 +6.3**
baz=202
KDAK Kodiak Island 104.15 18 IAMs_20 IAMs_20 11 59 34.7
comp=Z,715µm,21.0s
KDAK Kodiak Island 104.15 18 Pdiff **Pdif 11 17 06.9 +5.2**
baz=205
P16K Nushagak River 104.16 15 Pdiff **Pdif 11 17 05.9 +4.2**
baz=202
121A Cookes Peak, D 104.22 59 P **Pdif 11 17 07.4 +4.5**
baz=228
121A Cookes Peak, D 104.22 59 Pdiff **Pdif 11 17 07.7 +4.8**
baz=228
Q18K Katmai Hardscr 104.41 17 Pdiff **Pdif 11 17 06.6 +3.6**
baz=204
EPT El Paso 104.53 60 IAMs_20 IAMs_20 11 59 01.3
comp=Z,435µm,19.0s
KIDD KIDD Seismic O 104.53 60 P **Pdif 11 17 07.3 +3.1**
baz=228
TULM Tulcn-Chalpat 104.60 103 Pdif **Pdif 11 17 01.2 -4.3**
P17K Kvichak River 104.62 16 Pdiff **Pdif 11 17 05.0 +1.3**
baz=203
WVOR Wild Horse Val 104.67 45 IAMs_20 IAMs_20 12 00 50.1
comp=Z,681µm,20.0s
W18A Petrified Fore 104.73 56 Pdiff **Pdif 11 17 05.2 +0.1**
baz=228
HYB Hyderabad 104.75 280 *e*P **Pdif 11 17 05.6 +0.2**
HYB IAmb IAmb 11 18 06.2
comp=Z,57nm,1.4s
HYBB Hyderabad (bro 104.75 280 *e*Pdif **Pdif 11 17 04.3 -1.1**
HYBB *e*PKiKP **PKiKP 11 21 17.6 -3.3**
HYBB IVMs_BB IVMs_BB 11 58 44.2
comp=Z,73µm,23.4s
TX31 Lajitas Ar. Si 104.78 64 P **Pdif 11 17 08.8 +3.3**
baz=229
TXAR Lajitas Array 104.79 64 Pdiff **Pdif 11 17 09.7 +4.3**
comp=Z,1.8nm,0.9s,baz=238,slow=3.8,SNR=14
TXAR PP **PP 11 21 29.3 +3.5**
comp=Z,2.3nm,0.7s,baz=199,slow=5.3,SNR=4.4
TXAR PKKPbc **PKKPbc 11 32 48.7 +0.5**
comp=Z,7.8nm,1.1s,baz=95,slow=3.4,SNR=2.9
TXAR PKKP **PKKPdf 11 32 56.2 -2.3**
comp=Z,3.6nm,0.7s,baz=84,slow=2.6,SNR=7.0
TXAR PKPPKP **P'P'df 11 41 12.8 +3.7**
comp=Z,1.5nm,1.0s,baz=7.6,slow=2.7,SNR=2.9
SNET Serv Nac Est T 104.87 85 IAMs_20 IAMs_20 12 02 26.3
comp=Z,334µm,18.0s
Q20K Shuyak Island 104.94 18 Pdiff **Pdif 11 17 08.4 +3.2**
baz=206
O17K Koliganek Bris 105.02 15 Pdiff **Pdif 11 17 08.3 +2.8**
baz=202
P18K Big Mountain, 105.04 16 IAMs_20 IAMs_20 11 59 53.3
comp=Z,391µm,21.0s
P18K Big Mountain, 105.04 16 Pdiff **Pdif 11 17 10.1 +4.4**
baz=204
GTA Gaotai 105.13 310 Pdif **Pdif 11 17 06.8 0.0**
GTA pP sPdif 11 17 14.5 +0.3
GTA PP PP 11 21 42.8 +15
GTA Gaotai 105.13 310⇑Pdif **Pdif 11 17 06.7 0.0**
GTA pP sPdif 11 17 14.5 +0.3
GTA LR LR
comp=Z,122µm,21.1s
GTA LR LR
comp=Z,137µm,21.8s
GTA LR LR
comp=Z,177µm,23.3s
ELK Elko 105.33 48 IAMs_20 IAMs_20 12 01 59.4
comp=Z,623µm,20.0s
N16K Nishlik Lake 105.36 14 Pdiff **Pdif 11 17 11.0 +4.0**
baz=201
O18K Koktuh Hills 105.47 16 Pdiff **Pdif 11 17 12.8 +5.3**
baz=204
Y22A Socorro 105.66 58 P **Pdif 11 17 17.5 +8.2**
baz=229
P19K Oil Pt 105.70 17 Pdiff **Pdif 11 17 18.5 +10**
baz=205
Y22D IRIS PASSCAL I 105.78 58 P **Pdif 11 17 18.1 +8.3**
baz=229
Y22D IRIS PASSCAL I 105.78 58 Pdiff **Pdif 11 17 16.5 +6.7**
baz=229
Y22F Passcal Instru 105.78 58 Pdiff **Pdif 11 17 18.8 +9.1**
baz=229
JTS Las Juntas de 105.80 91 IAMs_20 IAMs_20 12 00 28.6
comp=Z,447µm,18.0s
GOMU GeErMu 105.91 305 Pdif **Pdif 11 17 13.3 +2.7**
GOMU AMB AMB
comp=Z,2µm,7.4s
GOMU LR LR
comp=Z,159µm,18.3s
GOMU LR LR
comp=Z,110µm,17.2s
GOMU LR LR
comp=Z,182µm,18.7s
O19K Port Alsworth 105.97 16 IAMs_20 IAMs_20 12 00 43.0
comp=Z,517µm,22.0s
O19K Port Alsworth 105.97 16 Pdiff **Pdif 11 17 19.0 +9.3**
baz=204
CNPM China Poot 106.03 18 IAMs_20 IAMs_20 12 02 35.4
comp=Z,626µm,20.0s
HOM Homer 106.06 18 IAMs_20 IAMs_20 12 00 49.1
comp=Z,689µm,22.0s
N18K Kilae Creek 106.09 15 Pdiff **Pdif 11 17 18.0 +7.6**
baz=203
O20K Slope Mountain 106.22 17 Pdiff **Pdif 11 17 20.1 +9.1**
baz=206
DUG Dugway, Tooele 106.31 50 IAMs_20 IAMs_20 11 58 10.4
comp=Z,564µm,21.0s
DUG Dugway, Tooele 106.31 50 Pdiff **Pdif 11 17 16.9 +4.9**
baz=228
BRLK Bradley Lake 106.33 18 IAMs_20 IAMs_20 12 02 11.8
comp=Z,632µm,20.0s
BRSE Bradley Lake S 106.34 18 Pdiff **Pdif 11 17 19.4 +7.9**
baz=207
N19K Bonanza Creek 106.50 16 IAMs_20 IAMs_20 12 00 38.8
comp=Z,448µm,22.0s
N19K Bonanza Creek 106.50 16 Pdiff **Pdif 11 17 19.7 +7.5**
baz=204
MSEY Mahe Island 106.51 247 PKiKP **PKiKP 11 21 22.0 -2.4**
SEY Seymchan 106.53 350 Pdiff **Pdif 11 17 18.1 +6.0**
comp=Z,0.6nm,0.4s,baz=227,slow=3.6,SNR=1.4
SEY PKiKP **PKiKP 11 21 24.0 +1.3**
comp=Z,8.6nm,1.0s,baz=117,slow=4.5,SNR=2.5
SEY PKKPbc **PKKPbc 11 32 45.8 +2.0**
comp=Z,6.1nm,1.0s,baz=7.1,slow=8.1,SNR=1.6
ANMO Albuquerque 106.64 58 P **Pdif 11 17 16.2 +2.5**
baz=229
ANMO Albuquerque 106.64 58 Pdiff **Pdif 11 17 23.7 +10**
baz=229
MFID Camas Ranch 106.84 46 IAMs_20 IAMs_20 12 07 08.4
comp=Z,383µm,18.0s
MVCO Mesa Verde 106.86 55 IAMs_20 IAMs_20 11 59 38.0
comp=Z,458µm,20.0s
MVCO Mesa Verde 106.86 55 Pdiff **Pdif 11 17 19.1 +4.5**
baz=229
SEW Seward 106.96 19 Pdiff **Pdif 11 17 18.1 +4.0**
baz=208
833A Chaparral WMA, 107.00 67 P **Pdif 11 17 22.9 +7.8**
baz=230
833A Chaparral WMA, 107.00 67 Pdiff **Pdif 11 17 18.0 +2.8**
baz=230
CAPN Captain Cook N 107.17 18 Pdiff **Pdif 11 17 23.9 +8.9**
baz=207
ULN Ulaanbaatar 107.23 320 IAMs_20 IAMs_20 12 09 29.7
comp=Z,435µm,20.0s
O22K Cooper Landing 107.23 18 IAMs_20 IAMs_20 12 02 40.2
comp=Z,470µm,20.0s
O22K Cooper Landing 107.23 18 Pdiff **Pdif 11 17 22.0 +6.7**
baz=208
N20K Mount Spurr 107.32 17 Pdiff **Pdif 11 17 19.7 +3.9**
baz=206
SPCR Spurr Chakacha 107.32 17 Pdiff **Pdif 11 17 21.2 +5.4**
baz=206
P23K Montague Islan 107.37 20 Pdiff **Pdif 11 17 23.2 +7.3**
baz=209
M19K Big River Lodg 107.51 16 Pdiff **Pdif 11 17 22.5 +5.9**
baz=204
SONM Songino Array 107.52 320 Pdiff **Pdif 11 17 19.7 +2.6**
comp=Z,1.8nm,0.8s,baz=87,slow=5.1,SNR=2.4

SONM PKiKP **PKiKP** **11 21 26.1 +0.8**
comp=Z,5.8nm,1.1s,baz=141,slow=4.8,SNR=4.3
SONM PKKP **PKKPab** **11 32 48.7 -2.8**
comp=Z,5.8nm,0.8s,baz=297,slow=2.8,SNR=5.7
KVTX Kingsville 107.54 69 P **Pdif** **11 17 25.7 +8.2**
baz=230
L19K White Mountain 107.67 15 Pdiff **Pdif** **11 17 23.4 +6.0**
baz=204
HLID Hailey 107.69 47 Pdiff **Pdif** **11 17 23.1 +5.0**
baz=227
FIS Fire Island 107.71 18 IAms_20 IAms_20 12 03 41.7
comp=Z,391µm,21.0s
M20K Styx River 107.75 16 IAms_20 IAms_20 12 01 50.8
comp=Z,577µm,22.0s
M20K Styx River 107.75 16 Pdiff **Pdif** **11 17 23.2 +5.4**
baz=206
RC01 Rabbit Creek A 107.77 18 Pdiff **Pdif** **11 17 20.8 +3.1**
baz=208
SUA Susitna One 107.88 17 Pdiff **Pdif** **11 17 23.7 +5.4**
baz=207
PLID Pearl Lake 107.89 45 IAms_20 IAms_20 11 59 31.2
comp=Z,679µm,22.0s
PWL Port Wells 107.89 19 IAms_20 IAms_20 12 02 16.6
comp=Z,473µm,21.0s
PWL Port Wells 107.89 19 Pdiff **Pdif** **11 17 25.2 +6.9**
baz=209
HIN Hinchinbrook I 107.94 20 IAms_20 IAms_20 12 01 49.6
comp=Z,616µm,21.0s
HWUT Hardware Ranch 107.96 50 IAms_20 IAms_20 12 00 44.0
comp=Z,576µm,21.0s
KAIM Kayak Island 108.07 21 IAms_20 IAms_20 12 01 46.1
comp=Z,410µm,20.0s
JCT Junction City 108.09 65 P **Pdif** **11 17 26.5 +6.5**
baz=231
JCT Junction City 108.09 65 Pdiff **Pdif** **11 17 23.0 +3.0**
baz=231
L20K Farewell, AK 108.14 16 Pdiff **Pdif** **11 17 27.5 +8.1**
baz=205
TTA Tatalina 108.14 14 Pdiff **Pdif** **11 17 27.7 +8.2**
baz=204
SKT Skwentna 108.17 17 Pdiff **Pdif** **11 17 26.3 +6.8**
baz=207
S22A 4UR Ranch, Cre 108.22 55 Pdiff **Pdif** **11 17 27.9 +7.2**
baz=230
ANM Nome 108.25 10 IAms_20 IAms_20 12 02 11.3
comp=Z,559µm,21.0s
ANM Nome 108.25 10 Pdiff **Pdif** **11 17 28.4 +8.6**
baz=197
EYAK Cordova Ski Ar 108.26 20 Pdiff **Pdif** **11 17 27.9 +8.0**
baz=211
M22K Willow 108.27 18 IAms_20 IAms_20 12 02 21.6
comp=Z,652µm,21.0s
M22K Willow 108.27 18 Pdiff **Pdif** **11 17 26.4 +6.5**
baz=208
MSTX Muleshoe 108.34 61 P **Pdif** **11 17 27.3 +6.2**
baz=230
MSTX Muleshoe 108.34 61 Pdiff **Pdif** **11 17 29.1 +8.0**
baz=230
KNK Knik Glacier 108.35 18 IAms_20 IAms_20 12 02 41.7
comp=Z,504µm,21.0s
KNK Knik Glacier 108.35 18 Pdiff **Pdif** **11 17 26.4 +6.0**
baz=209
PMR Palmer 108.35 18 Pdiff **Pdif** **11 17 24.9 +4.6**
baz=208
SUCK Suckling Hills 108.36 21 IAms_20 IAms_20 12 01 43.9
comp=Z,437µm,20.0s
V35K Ketchikan 108.37 30 Pdiff **Pdif** **11 17 27.2 +6.7**
baz=220
735A Kenedy 108.42 68 P **Pdif** **11 17 30.9 +9.5**
baz=231
SIT Sitka 108.42 27 Pdiff **Pdif** **11 17 27.6 +6.9**
baz=217
U33K Whale Pass 108.44 29 Pdiff **Pdif** **11 17 27.6 +6.9**
baz=219
HMT Hamilton 108.46 21 IAms_20 IAms_20 12 02 50.4
comp=Z,582µm,20.0s
BGLC Bering Glacier 108.54 21 Pdiff **Pdif** **11 17 26.4 +5.3**
baz=212
BERG Berg Lake 108.66 21 IAms_20 IAms_20 12 02 04.6
comp=Z,524µm,20.0s
SNH Sunshine Point 108.71 22 IAms_20 IAms_20 12 12 27.0
comp=Z,512µm,18.0s
SML Sawmill 108.73 18 IAms_20 IAms_20 12 03 14.6
comp=Z,428µm,21.0s
SML Sawmill 108.73 18 Pdiff **Pdif** **11 17 27.4 +5.3**
baz=209
CUT Chulitna 108.82 17 Pdiff **Pdif** **11 17 26.5 +4.1**
baz=208
BCIP Isla Barro Col 108.83 95 IAms_20 IAms_20 12 01 23.5
comp=Z,520µm,18.0s
S31K Pelican 108.85 26 Pdiff **Pdif** **11 17 25.8 +3.2**
baz=217
PPLA Purkeypile 108.85 16 Pdiff **Pdif** **11 17 28.0 +5.3**
baz=206
M23K Glacier View 108.86 19 Pdiff **Pdif** **11 17 28.0 +5.4**
baz=210
POO Poona 108.88 278 *e*P **Pdif** **11 17 25.0 +1.2**
comp=Z,40nm,1.0s
K20K Telida 108.90 15 IAms_20 IAms_20 12 07 27.2
comp=Z,327µm,19.0s
K20K Telida 108.90 15 Pdiff **Pdif** **11 17 29.6 +6.9**
baz=205
O20A White River Ci 108.91 53 Pdiff **Pdif** **11 17 28.3 +4.7**
baz=230
BMRM Bremner River 108.91 20 Pdiff **Pdif** **11 17 29.6 +6.7**
baz=212
WAX Waxell Ridge 108.93 21 IAms_20 IAms_20 12 01 30.9
comp=Z,543µm,22.0s
WRAK Wrangell Islan 108.95 29 IAms_20 IAms_20 12 05 39.0
comp=Z,508µm,18.0s
WRAK Wrangell Islan 108.95 29 Pdiff **Pdif** **11 17 28.1 +5.1**
baz=219
MESA MESA 108.95 22 IAms_20 IAms_20 12 08 42.4
comp=Z,504µm,20.0s
MESA MESA 108.95 22 Pdiff **Pdif** **11 17 28.7 +5.4**
baz=213
AHID Auburn Hatcher 108.98 49 IAms_20 IAms_20 12 00 07.0
comp=Z,410µm,20.0s
SCM Sheep Creek Mo 108.98 19 IAms_20 IAms_20 12 02 50.4
comp=Z,396µm,21.0s
SCM Sheep Creek Mo 108.98 19 Pdiff **Pdif** **11 17 29.7 +6.5**
baz=210
S32K Killisnoo 109.00 27 Pdiff **Pdif** **11 17 30.7 +7.4**
baz=218
SDCO Great Sand Dun 109.02 56 IAms_20 IAms_20 12 04 31.4
comp=Z,468µm,18.0s
SDCO Great Sand Dun 109.02 56 P **Pdif** **11 17 26.9 +2.6**
baz=230
SDCO Great Sand Dun 109.02 56 Pdiff **Pdif** **11 17 28.2 +3.9**
baz=230
KLU Klutina 109.03 20 IAms_20 IAms_20 12 02 27.5
comp=Z,578µm,21.0s
KLU Klutina 109.03 20 Pdiff **Pdif** **11 17 29.4 +6.0**
baz=211
T33K Petersburg 109.04 28 Pdiff **Pdif** **11 17 29.7 +6.2**
baz=219
SMCO Snowmass 109.05 54 IAms_20 IAms_20 12 07 43.0
comp=Z,486µm,18.0s
SMCO Snowmass 109.05 54 P **Pdif** **11 17 34.7 +10**
YAH Yahtse 109.16 22 IAms_20 IAms_20 12 08 48.8
comp=Z,472µm,20.0s
ISLE Juniper Island 109.20 22 IAms_20 IAms_20 12 01 15.9
comp=Z,529µm,22.0s
PNL Peninsula 109.26 23 Pdiff **Pdif** **11 17 26.7 +2.3**
baz=215
BHPL Bhopal 109.27 284 *e*P **Pdif** **11 17 27.1 +1.7**
BHPL IAmb IAmb 11 22 03.9
comp=Z,143nm,1.6s
T25A Trinidad 109.31 57 Pdiff **Pdif** **11 17 29.6 +4.1**
baz=231
CAST Castle Rocks 109.34 16 IAms_20 IAms_20 12 02 41.0
comp=Z,616µm,22.0s
CAST Castle Rocks 109.34 16 Pdiff **Pdif** **11 17 31.4 +6.7**
baz=206
PINM Pinnacle 109.36 23 Pdiff **Pdif** **11 17 32.4 +7.4**
baz=215
R31K City Hall, Gus 109.37 26 Pdiff **Pdif** **11 17 31.4 +6.5**
baz=217
TABL Table Mountain 109.39 22 IAms_20 IAms_20 12 08 47.0
comp=Z,509µm,20.0s
BCPM Bancas Point 109.42 23 IAms_20 IAms_20 12 03 37.7
comp=Z,476µm,20.0s
VRDI Verde Repeater 109.43 21 IAms_20 IAms_20 12 03 31.0
comp=Z,382µm,20.0s
N25K Chitina, Valde 109.46 20 IAms_20 IAms_20 12 02 26.8
comp=Z,447µm,21.0s
N25K Chitina, Valde 109.46 20 Pdiff **Pdif** **11 17 32.0 +6.7**
baz=212

NEW Newport 109.48 42 Pdiff **Pdif** **11 17 31.5 +5.7**
baz=227
M24K Tolsona, Glenn 109.50 19 IAms_20 IAms_20 12 03 03.9
comp=Z,385µm,22.0s
M24K Tolsona, Glenn 109.50 19 Pdiff **Pdif** **11 17 31.5 +6.0**
baz=211
REDW Red Top Meadow 109.51 49 IAms_20 IAms_20 12 04 32.0
comp=Z,457µm,20.0s
TPAW Teton Pass 109.53 49 IAms_20 IAms_20 12 04 32.6
comp=Z,452µm,20.0s
ABTX Abilene, Hawle 109.54 63 P **Pdif** **11 17 33.9 +7.5**
baz=231
ABTX Abilene, Hawle 109.54 63 Pdiff **Pdif** **11 17 32.0 +5.6**
baz=231
WAT6 Susitna Watana 109.54 18 Pdiff **Pdif** **11 17 31.3 +5.5**
baz=210
WAT1 Susitna Watana 109.57 18 Pdiff **Pdif** **11 17 31.3 +5.6**
baz=209
FXWY Fox Creek 109.59 48 IAms_20 IAms_20 12 04 35.2
comp=Z,456µm,20.0s
AMTX Amarillo 109.62 60 IAms_20 IAms_20 12 02 05.0
comp=Z,554µm,20.0s
AMTX Amarillo 109.62 60 P **Pdif** **11 17 35.0 +8.2**
baz=231
AMTX Amarillo 109.62 60 Pdiff **Pdif** **11 17 33.5 +6.7**
baz=231
SNOW Snow King Moun 109.62 49 IAms_20 IAms_20 12 04 36.1
comp=Z,455µm,20.0s
J20K Nowinta River 109.63 15 Pdiff **Pdif** **11 17 30.5 +4.5**
baz=205
R32K Eaglecrest 109.65 26 Pdiff **Pdif** **11 17 32.4 +6.2**
baz=218
GCSA Galena City Sc 109.66 13 Pdiff **Pdif** **11 17 32.0 +6.0**
baz=203
MCARA McCarthy VSAT 109.67 21 IAms_20 IAms_20 12 03 38.5
comp=Z,375µm,21.0s
MCARA McCarthy VSAT 109.67 21 Pdiff **Pdif** **11 17 32.0 +5.8**
baz=213
CHUM Lake Minchumin 109.71 16 Pdiff **Pdif** **11 17 31.6 +5.3**
baz=206
P29M Windy Craggy 109.72 24 IAms_20 IAms_20 12 01 33.6
comp=Z,572µm,21.0s
P29M Windy Craggy 109.72 24 Pdiff **Pdif** **11 17 32.1 +5.6**
baz=216
TRF Thorofare Moun 109.74 17 Pdiff **Pdif** **11 17 30.7 +4.0**
baz=208
BARN Barnard Glacie 109.77 22 IAms_20 IAms_20 12 02 06.9
comp=Z,371µm,22.0s
435B Jarrell 109.77 66 IAms_20 IAms_20 12 07 00.8
comp=Z,533µm,18.0s
435B Jarrell 109.77 66 P **Pdif** **11 17 33.9 +6.5**
baz=231
435B Jarrell 109.77 66 Pdiff **Pdif** **11 17 30.7 +3.3**
baz=231
IMW Indian Meadow 109.81 48 IAms_20 IAms_20 12 04 41.8
comp=Z,439µm,20.0s
LOHW Long Hollow 109.81 49 IAms_20 IAms_20 12 00 33.9
comp=Z,457µm,22.0s
MOOW Moose Ponds 109.81 48 IAms_20 IAms_20 12 04 42.2
comp=Z,434µm,20.0s
BW06 Boulder Array 109.84 50 IAms_20 IAms_20 12 02 05.9
comp=Z,582µm,20.0s
BW06 Boulder Array 109.84 50 Pdiff **Pdif** **11 17 33.5 +5.8**
baz=230
PDAR Pinedale Array 109.84 50 Pdiff **Pdif** **11 17 36.2 +8.5**
comp=Z,2.6nm,0.9s,baz=193,slow=3.5,SNR=5.9
PDAR PKiKP PKiKP 11 21 37.0 +7.0
comp=Z,4.1nm,0.7s,baz=207,slow=3.6,SNR=4.8
PDAR PP **PP** **11 22 06.3 +3.4**
comp=Z,10nm,0.9s,baz=208,slow=3.1,SNR=3.8
PDAR PKKPbc **PKKPab** **11 32 34.9 -7.0**
comp=Z,2.3nm,0.9s,baz=67,slow=5.0,SNR=1.4
ROSC El Rosal 109.93 102 PKiKP PKiKP 11 21 40.0 +8.8
comp=Z,7.4nm,0.7s,baz=53,slow=4.6,SNR=1.5
ROSC PP PP 11 22 10.4 +6.7
comp=Z,5.5nm,0.3s,baz=131,slow=20,SNR=6.1
ROSC PKKPbc **PKKPbc** **11 32 34.5 +2.5**
comp=Z,5.7nm,0.5s,baz=108,slow=4.6,SNR=1.4
O28M Mount Upton 109.93 22 Pdiff **Pdif** **11 17 33.0 +5.2**
baz=215
HARP HAARP 109.99 19 Pdiff **Pdif** **11 17 31.8 +4.2**
baz=212
PLBC Pleasant Camp 110.00 25 Pdiff **Pdif** **11 17 31.6 +3.9**
baz=217
Q24A Divide 110.01 55 Pdiff **Pdif** **11 17 32.3 +3.6**
baz=231
YAK Yakutsk 110.01 340 *e*P **Pdif** **11 17 38.0 +10**
YAK MLR MLR
comp=Z,330µm,20.0s
YAK MLR MLR
comp=E,120µm,19.0s
YAK MLR MLR
comp=N,222µm,21.0s
RND Reindeer 110.01 17 IAms_20 IAms_20 12 05 06.5
comp=Z,472µm,20.0s
O29M Mount Kennedy 110.01 23 Pdiff **Pdif** **11 17 32.6 +4.7**
baz=216
DHY Denali Highway 110.05 18 Pdiff **Pdif** **11 17 32.2 +4.2**
baz=210
FLWY Flagg Ranch 110.06 48 IAms_20 IAms_20 12 04 49.6
comp=Z,423µm,20.0s
MSO Missoula 110.12 44 Pdiff **Pdif** **11 17 31.6 +2.8**
baz=228
T35M Bob Quinn 110.13 29 Pdiff **Pdif** **11 17 32.9 +4.5**
baz=221
BPAW Bear Paw Mtn. 110.17 16 IAms_20 IAms_20 12 03 17.0
comp=Z,640µm,22.0s
BPAW Bear Paw Mtn. 110.17 16 Pdiff **Pdif** **11 17 32.5 +4.1**
baz=207
MCK McKinley 110.28 17 Pdiff **Pdif** **11 17 33.6 +4.7**
baz=209
H17A Grant Village 110.33 48 Pdiff **Pdif** **11 17 32.2 +2.3**
baz=230
SKAG Skagway 110.33 25 Pdiff **Pdif** **11 17 33.0 +3.9**
baz=218
P30M Million Dollar 110.35 24 Pdiff **Pdif** **11 17 31.9 +2.6**
baz=217
PAX Paxson 110.41 19 Pdiff **Pdif** **11 17 32.0 +2.5**
baz=211
HKT Hockley 110.44 68 IAms_20 IAms_20 12 03 31.5
comp=Z,546µm,19.0s
YUK8 Steele Glacier 110.47 22 Pdiff **Pdif** **11 17 33.0 +2.9**
baz=215
BILL Bilibino 110.49 357 IAms_20 IAms_20 12 06 58.8
comp=Z,373µm,20.0s
BILL Bilibino 110.49 357 *i* P **Pdif** **11 17 28.0 -1.7**
BILL *i* 11 22 08.7
BILL *i* 11 28 35.4
BILL *i* SS SS 11 37 34.9 +0.8
BILL *i* SSS SSS 11 41 48.6
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL pmax pmax
comp=Z,2µm,10.2s
BILL MLR MLR
comp=Z,373µm,20.0s
RWWY Rawlins 110.50 52 IAms_20 IAms_20 12 00 50.3
comp=Z,511µm,21.0s
S34M Telegraph Cree 110.52 28 Pdiff **Pdif** **11 17 33.7 +3.6**
baz=221
BOZ Bozeman (W) 110.53 47 IAms_20 IAms_20 12 05 13.1
comp=Z,431µm,21.0s
BOZ Bozeman (W) 110.53 47 Pdiff **Pdif** **11 17 31.4 +0.8**
baz=230
M26K Nabesna, AK 110.53 20 IAms_20 IAms_20 12 02 29.3
comp=Z,416µm,22.0s
M26K Nabesna, AK 110.53 20 Pdiff **Pdif** **11 17 32.3 +2.2**
baz=213
YUK6 Outpost Mounta 110.59 23 Pdiff **Pdif** **11 17 33.2 +2.6**
baz=216
WHTX Lake Whitney, 110.60 65 P **Pdif** **11 17 38.6 +7.5**
baz=232
WHTX Lake Whitney, 110.60 65 Pdiff **Pdif** **11 17 32.2 +1.1**
baz=232
YUK3 Moose Creek 110.68 22 Pdiff **Pdif** **11 17 33.4 +2.4**
baz=215
N23A Red Feather La 110.74 53 Pdiff **Pdif** **11 17 33.8 +2.0**
baz=231
HYT Haines Junctio 110.75 24 Pdiff **Pdif** **11 17 32.9 +1.8**
baz=217
ZAK Zakamensk 110.76 320 *e*P **Pdif** **11 17 38.4 +6.9**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
M27K Edge Creek, AK 110.79 21 IAms_20 IAms_20 12 03 15.0
comp=Z,353µm,21.0s
M27K Edge Creek, AK 110.79 21 Pdiff **Pdif** **11 17 33.0 +1.7**
baz=214
YUK4 Talbot Arm 110.84 23 Pdiff **Pdif** **11 17 34.9 +3.2**

baz=216
BDFB Brasilia 110.85 138 PKiKP **PKiKP** **11 21 34.2 +1.7**
comp=Z,4.1nm,0.8s,baz=281,slow=5.2,SNR=2.3
BDFB PKKPbc **PKKPbc** **11 32 32.2 +3.4**
comp=Z,3.3nm,0.8s,baz=346,slow=4.2,SNR=1.5
Q32M Nakina River 110.93 27 Pdiff **Pdif** **11 17 34.4 +2.3**
baz=220
I21K Tanana 110.94 15 Pdiff **Pdif** **11 17 35.9 +4.2**
baz=207
P32M Atlin 110.94 26 Pdiff **Pdif** **11 17 34.8 +2.9**
baz=219
L26K Log Cabin Wild 110.97 20 IAms_20 IAms_20 12 03 27.9
comp=Z,611µm,20.0s
L26K Log Cabin Wild 110.97 20 Pdiff **Pdif** **11 17 34.5 +2.5**
baz=213
NEA2 Nenana 111.01 17 Pdiff **Pdif** **11 17 34.0 +2.0**
baz=209
K24K Donnelly Dome 111.05 18 Pdiff **Pdif** **11 17 33.6 +1.3**
baz=211
MLY Manley 111.05 16 IAms_20 IAms_20 12 07 16.1
comp=Z,339µm,20.0s
MLY Manley 111.05 16 Pdiff **Pdif** **11 17 35.1 +2.8**
baz=208
BVCY Beaver Creek 111.10 21 Pdiff **Pdif** **11 17 35.4 +2.8**
baz=215
WRH Wood River Hil 111.11 17 IAms_20 IAms_20 12 05 29.6
comp=Z,547µm,20.0s
O30N Mendenhall 111.13 24 Pdiff **Pdif** **11 17 34.5 +1.8**
baz=218
RIDG Independent Ri 111.21 19 IAms_20 IAms_20 12 04 10.3
comp=Z,546µm,20.0s
RIDG Independent Ri 111.21 19 Pdiff **Pdif** **11 17 34.4 +1.3**
baz=212
H21K Melozitna Rive 111.22 14 Pdiff **Pdif** **11 17 34.8 +1.8**
baz=206
DLBC Dease Lake 111.30 28 Pdiff **Pdif** **11 17 37.5 +3.8**
comp=Z,4.0nm,1.1s,baz=191,slow=5.2,SNR=1.9
DLBC PKiKP **PKiKP** **11 21 34.1 +2.1**
comp=Z,3.3nm,0.7s,baz=282,slow=2.8,SNR=2.2
DLBC PKKPbc **PKKPbc** **11 32 28.0 -0.3**
comp=Z,5.9nm,1.0s,baz=36,slow=4.6,SNR=2.0
DLBC Dease Lake 111.30 28 Pdiff **Pdif** **11 17 36.5 +2.9**
baz=221
HDA Harding Lake 111.30 17 IAms_20 IAms_20 12 05 42.8
comp=Z,370µm,20.0s
HDA Harding Lake 111.30 17 Pdiff **Pdif** **11 17 36.1 +2.7**
baz=210
CCB Clear Creek Bu 111.32 17 IAms_20 IAms_20 12 05 46.2
comp=Z,475µm,20.0s
N30M Aishikik Lake 111.38 23 Pdiff **Pdif** **11 17 36.2 +2.3**
baz=217
L27K Beaver Creek, 111.39 20 Pdiff **Pdif** **11 17 38.2 +4.4**
baz=214
WMOK Wichita Mounta 111.41 62 P **Pdif** **11 17 41.9 +7.3**
baz=232
WMOK Wichita Mounta 111.41 62 Pdiff **Pdif** **11 17 35.0 +0.3**
baz=232
WHY Whitehorse 111.41 25 Pdiff **Pdif** **11 17 35.7 +1.6**
baz=219
I23K Minto, Yukon-K 111.43 16 Pdiff **Pdif** **11 17 34.4 +0.4**
baz=209
K22A Casper 111.50 51 P **Pdif** **11 17 43.1 +8.1**
baz=231
K22A Casper 111.50 51 Pdiff **Pdif** **11 17 36.8 +1.7**
baz=231
TCOL CIGO, UAF Yank 111.51 17 IAms_20 IAms_20 12 04 05.2
comp=Z,600µm,21.0s
TCOL CIGO, UAF Yank 111.51 17 Pdiff **Pdif** **11 17 35.5 +1.2**
baz=210
BOD Bodaibo 111.51 330 *e*P **Pdif** **11 17 47.3 +13**
BOD pmax pmax
comp=Z,14nm,1.6s
RLMT Red Lodge 111.51 48 IAms_20 IAms_20 12 15 60.0
comp=Z,409µm,18.0s
RLMT Red Lodge 111.51 48 Pdiff **Pdif** **11 17 36.2 +1.1**
baz=231
COLA College 111.51 17 IAms_20 IAms_20 12 04 05.2
comp=Z,567µm,21.0s
COLA College 111.51 17 Pdiff **Pdif** **11 17 34.5 +0.2**
baz=210
COLA College 111.51 17*c* *i*P **Pdif** **11 17 34.4 +0.2**
BRIGG Briggsdale 111.52 54 IAms_20 IAms_20 12 02 31.4
comp=Z,376µm,20.0s
Z35A Perchaven, San 111.56 64 P **Pdif** **11 17 42.2 +6.9**
baz=232
KSCO Kaye Shedlock' 111.58 56 P **Pdif** **11 17 41.2 +5.8**
baz=232
KSCO Kaye Shedlock' 111.58 56 Pdiff **Pdif** **11 17 35.3 -0.1**
baz=232
SCRK Sand Creek 111.62 19 IAms_20 IAms_20 12 04 11.9
comp=Z,382µm,20.0s
SCRK Sand Creek 111.62 19 Pdiff **Pdif** **11 17 38.1 +3.2**
baz=213
ILAR Eielson Array 111.63 17 Pdiff **Pdif** **11 17 40.3 +5.5**
comp=Z,0.8nm,1.0s,baz=223,slow=4.8,SNR=2.6
ILAR PKiKP **PKiKP** **11 21 34.2 +1.9**
comp=Z,6.6nm,0.7s,baz=288,slow=2.4,SNR=9.5
ILAR PP **PP** **11 22 16.1 +1.1**
comp=Z,20nm,0.9s,baz=249,slow=3.3,SNR=4.9
ILAR PKKPbc **PKKPab** **11 32 27.6 -4.8**
comp=Z,3.5nm,1.1s,baz=16,slow=2.6,SNR=1.5
H22K Ishtalitna Cre 111.69 15 Pdiff **Pdif** **11 17 45.0 +10**
baz=207
R33M Jennings River 111.70 27 Pdiff **Pdif** **11 17 38.2 +2.8**
baz=221
P33M Teslin, Yukon 111.71 26 Pdiff **Pdif** **11 17 33.8 -1.6**
baz=220
237A Washetta, Mont 111.72 66 P **Pdif** **11 17 38.5 +2.5**
baz=232
M29M Somme Creek 111.78 22 Pdiff **Pdif** **11 17 36.5 +0.8**
baz=216
N31M Braeburn, Yuko 111.78 24 IAms_20 IAms_20 12 03 21.2
comp=Z,408µm,21.0s
N31M Braeburn, Yuko 111.78 24 Pdiff **Pdif** **11 17 37.4 +1.8**
baz=218
POKR Poker Plat Res 111.81 17 IAms_20 IAms_20 12 05 52.2
comp=Z,603µm,20.0s
POKR Poker Plat Res 111.81 17 Pdiff **Pdif** **11 17 34.6 -1.1**
baz=216
J25K Salcha River, 111.83 18 Pdiff **Pdif** **11 17 38.1 +2.2**
baz=212
G21K Allakaket 111.86 14 Pdiff **Pdif** **11 17 39.1 +3.3**
baz=206
RDOG Red Dog Mine 111.89 10 IAms_20 IAms_20 12 12 38.5
comp=Z,597µm,21.0s
H23K Yukon River 111.99 16 IAms_20 IAms_20 12 04 25.0
comp=Z,590µm,22.0s
H23K Yukon River 111.99 16 Pdiff **Pdif** **11 17 36.9 +0.4**
baz=209
K27K Chicken 112.13 20 IAms_20 IAms_20 12 04 14.4
comp=Z,469µm,21.0s
K27K Chicken 112.13 20 Pdiff **Pdif** **11 17 40.1 +3.0**
baz=214
J26L Joseph Creek 112.16 19 IAms_20 IAms_20 12 04 20.3
comp=Z,603µm,21.0s
J26L Joseph Creek 112.16 19 Pdiff **Pdif** **11 17 42.2 +4.9**
baz=213
U32A Winter Ranch, 112.26 61 P **Pdif** **11 17 49.4 +11**
baz=233
NATX Nacogdoches 112.34 67 IAms_20 IAms_20 12 05 29.0
comp=Z,532µm,18.0s
NATX Nacogdoches 112.34 67 P **Pdif** **11 17 47.8 +8.9**
baz=233
NATX Nacogdoches 112.34 67 Pdiff **Pdif** **11 17 42.7 +3.8**
baz=233
N32M Quiet Lake 112.35 25 PKiKP **PKiKP** **11 21 26.1 -7.8**
baz=220
M30M Minto, Yukon 112.35 23 IAms_20 IAms_20 12 05 43.2
comp=Z,573µm,20.0s
OK038 West end E0370 112.48 61 IAms_20 IAms_20 12 03 58.9
comp=Z,365µm,20.0s
F21K Alatna River 112.50 13 PKiKP PKiKP 11 21 25.0 -8.9
baz=206
PRP Porcupine Dome 112.57 17 PKiKP PKiKP 11 21 23.7 -11
baz=212
G22K Bettles 112.58 14 PKiKP PKiKP 11 21 23.7 -10
baz=208
OK035 E0210 Rd and N 112.64 61 IAms_20 IAms_20 12 08 07.1
comp=Z,431µm,18.0s
441A DeRidder 112.74 69 P **Pdif** **11 17 48.5 +7.9**
baz=233
M31M Drury Creek, Y 112.76 24 IAms_20 IAms_20 12 03 42.9
comp=Z,583µm,21.0s
OK025 Westminster Rd 112.86 62 IAms_20 IAms_20 12 03 34.7
comp=Z,554µm,19.0s
OK029 Liberty Lake 112.91 62 IAms_20 IAms_20 12 03 45.1
comp=Z,586µm,20.0s
I26K Coal Creek Min 112.93 18 IAms_20 IAms_20 12 05 23.7

	comp=Z,459µm,20.0s							
I26K	**Coal Creek Min**	**112.93**	**18**	PKiKP	PKiKP	11 21 24.3	-10	
	baz=214							
EGAK	**Eagle**	**112.97**	**20**	IAMs_20	IAMs_20	12 04 07.7		
	comp=Z,477µm,22.0s							
EGAK	**Eagle**	**112.97**	**20**	PKiKP	PKiKP	11 21 25.8	-9.0	
	baz=215							
WTLY	**Watson Lake, Y**	**112.97**	**28**	PKiKP	PKiKP	11 21 42.3	+7.3	
	baz=223							
OK032	**Salt Plains WL**	**113.02**	**61**	IAMs_20	IAMs_20	12 04 06.1		
	comp=Z,477µm,20.0s							
Z38A	**Mt. Pleasant**	**113.03**	**65**	P	**Pdif**	**11 17 41.6**	**-0.3**	
	baz=233							
EGMT	**Eagleton**	**113.07**	**45**	IAMs_20	IAMs_20	12 11 15.3		
	comp=Z,568µm,19.0s							
EGMT	**Eagleton**	**113.07**	**45**	PKiKP	PKiKP	11 21 27.2	-8.4	
	baz=231							
OGNE	**Ogallala**	**113.11**	**55**	IAMs_20	IAMs_20	12 03 33.7		
	comp=Z,526µm,20.0s							
OGNE	**Ogallala**	**113.11**	**55**	P	**Pdif**	**11 17 47.6**	**+5.4**	
	baz=233							
K29M	**Barlow Dome**	**113.16**	**22**	PKiKP	**PKiKP**	**11 21 27.6**	**-7.8**	
	baz=218							
CBKS	**Cedar Bluff**	**113.25**	**58**	IAMs_20	IAMs_20	12 04 26.3		
	comp=Z,411µm,20.0s							
CBKS	**Cedar Bluff**	**113.25**	**58**	P	**Pdif**	**11 17 49.4**	**+6.6**	
	baz=233							
FYU	**Fort Yukon**	**113.52**	**17**	IAMs_20	IAMs_20	12 05 17.5		
	comp=Z,429µm,22.0s							
I27K	**Kandik River**	**113.54**	**19**	PKiKP	**PKiKP**	**11 21 28.4**	**-7.6**	
	baz=215							
X37A	**Clayton**	**113.56**	**64**	P	**Pdif**	**11 17 55.6**	**+11**	
	baz=233							
OK045	**Pawnee Station**	**113.64**	**62**	IAMs_20	IAMs_20	12 04 16.4		
	comp=Z,566µm,19.0s							
R32A	**Long Quarter,**	**113.67**	**59**	P	**Pdif**	**11 17 52.2**	**+7.6**	
	baz=233							
KNGR	**Kungurtug, Tuv**	**113.70**	**318**	*i*PKiKP	**PKiKP**	**11 21 36.0**	**-0.8**	
KNGR				MLR	MLR			
	comp=Z,205µm,19.0s							
342B	**Flagon Creek P**	**113.71**	**69**	P	**Pdif**	**11 17 48.1**	**+3.2**	
	baz=233							
OK051	**E0350 and S346**	**113.73**	**62**	IAMs_20	IAMs_20	12 02 20.9		
	comp=Z,581µm,21.0s							
F24K	**Squaw Lake**	**113.80**	**15**	PKiKP	**PKiKP**	**11 21 31.7**	**-4.7**	
	baz=210							
RSSD	**Black Hills**	**113.83**	**51**	P	**Pdif**	**11 17 46.3**	**+0.8**	
	baz=233							
TUL1	**Leonard**	**114.06**	**63**	P	**Pdif**	**11 17 53.2**	**+6.9**	
	baz=234							
LAO	**LASA Array**	**114.15**	**48**	P	**Pdif**	**11 17 58.8**	**+12**	
	baz=233							
LAO	**LASA Array**	**114.15**	**48**	PKiKP	PKiKP	11 21 46.6	+8.9	
	baz=233							
I29M	**Ogilvie Camp,**	**114.16**	**20**	IAMs_20	IAMs_20	12 06 45.1		
	comp=Z,382µm,20.0s							
T35B	**Sooner Cattle**	**114.19**	**61**	P	**Pdif**	**11 17 55.4**	**+8.5**	
	baz=234							
F25K	**Christian Rive**	**114.31**	**16**	PKiKP	**PKiKP**	**11 21 34.6**	**-2.8**	
	baz=212							
TOLK	**Toolik Lake Re**	**114.45**	**14**	IAMs_20	IAMs_20	12 10 39.1		
	comp=Z,388µm,20.0s							
TOLK	**Toolik Lake Re**	**114.45**	**14**	PKiKP	PKPdf	11 21 33.4	-4.2	
	baz=209							
G27K	**Doyon Strip**	**114.52**	**18**	PKiKP	PKPdf	11 21 34.2	-3.6	
	baz=215							
D23K	**Nanushuk River**	**114.54**	**14**	PKiKP	**PKiKP**	**11 21 37.2**	**-0.5**	
	baz=209							
KOTAN	**Kotaneelee Air**	**114.65**	**29**	PKiKP	**PKiKP**	**11 21 39.5**	**+1.4**	
	baz=226							
F26K	**Sheenjek River**	**114.71**	**17**	PKiKP	**PKiKP**	**11 21 36.8**	**-1.3**	
	baz=213							
MIAR	**Mount Ida**	**114.73**	**65**	IAMs_20	IAMs_20	12 07 45.2		
	comp=Z,461µm,18.0s							
MIAR	**Mount Ida**	**114.73**	**65**	P	**Pdif**	**11 17 56.8**	**+7.5**	
	baz=234							
MIAR	**Mount Ida**	**114.73**	**65**	PKiKP	PKPdf	11 21 35.3	-3.9	
	baz=234							
E25K	**Arctic Village**	**114.77**	**16**	PKiKP	**PKiKP**	**11 21 37.3**	**-1.0**	
	baz=212							
344A	**Westbrook Farm**	**114.85**	**69**	P	**Pdif**	**11 17 56.1**	**+6.1**	
	baz=234							
WMQ	**Urumqi**	**114.93**	**307**	*e*Pdif	**Pdif**	**11 17 53.6**	**+3.5**	
WMQ				sPKP		11 21 41.1		
WMQ				SKKS		11 29 33.0		
WMQ				AMB	AMB			
	comp=Z,6µm,8.3s							
WMQ				LR	LR			
	comp=Z,126µm,19.7s							
WMQ				LR	LR			
	comp=Z,118µm,22.9s							
WMQ				LR	LR			
	comp=Z,163µm,18.1s							
FLDN	**Fort Liard**	**114.94**	**30**	PKiKP	**PKiKP**	**11 21 37.5**	**-1.2**	
	baz=227							
D24K	**Happy Valley**	**115.03**	**14**	PKiKP	**PKiKP**	**11 21 36.3**	**-2.3**	
	baz=210							
143A	**Socs Landing,**	**115.12**	**68**	P	**Pdif**	**11 18 00.2**	**+9.0**	
	baz=234							
U38A	**Gravette**	**115.29**	**63**	P	**Pdif**	**11 17 58.7**	**+6.8**	
	baz=234							
C23K	**Itkillik River**	**115.32**	**13**	PKiKP	**PKiKP**	**11 21 40.2**	**+1.0**	
	baz=209							
SDV	**Santo Domingo**	**115.35**	**102**	PKP	**PKiKP**	**11 21 43.8**	**+2.6**	
	comp=Z,2.9nm,0.5s,baz=5.8,slow=0.4,SNR=3.1							
SDV				PP	**PP**	**11 22 38.2**	**-4.0**	
	comp=Z,28nm,0.9s,baz=223,slow=4.5,SNR=5.3							
SDV				PKKPbc	**PKKPbc**	**11 32 13.0**	**-0.6**	
	comp=Z,12nm,0.7s,baz=34,slow=7.2,SNR=4.0							
SDV	**Santo Domingo**	**115.35**	**102**	IAMs_20	IAMs_20	12 05 57.3		
	comp=Z,451µm,19.0s							
EPYK	**Eagle Plains**	**115.36**	**20**	PKiKP	**PKiKP**	**11 21 37.6**	**-1.8**	
	baz=219							
KSU1	**Kansas State U**	**115.39**	**59**	IAMs_20	IAMs_20	12 05 54.9		
	comp=Z,534µm,19.0s							
KSU1	**Kansas State U**	**115.39**	**59**	P	**Pdif**	**11 18 02.2**	**+10**	
	baz=234							
KSU1	**Kansas State U**	**115.39**	**59**	PKiKP	**PKiKP**	**11 21 38.5**	**-1.8**	
	baz=234							
VBMS	**Vicksburg**	**115.45**	**69**	P	**Pdif**	**11 18 04.0**	**+11**	
	baz=234							
VBMS	**Vicksburg**	**115.45**	**69**	PKiKP	**PKiKP**	**11 21 37.4**	**-3.2**	
	baz=234							
C24K	**Franklin Bluff**	**115.55**	**14**	PKiKP	**PKiKP**	**11 21 39.9**	**+0.3**	
	baz=210							
D25K	**Kavik River**	**115.63**	**15**	PKiKP	**PKPdf**	**11 21 36.4**	**-3.5**	
	baz=212							
E27K	**Coleen River**	**115.66**	**17**	PKiKP	**PKiKP**	**11 21 36.8**	**-3.2**	
	baz=216							
346A	**Big Creek Wild**	**115.69**	**70**	P	**Pdif**	**11 18 03.9**	**+10**	
	baz=234							
A21K	**Barrow**	**115.75**	**10**	IAMs_20	IAMs_20	12 07 54.5		
	comp=Z,573µm,22.0s							
A21K	**Barrow**	**115.75**	**10**	PKiKP	**PKiKP**	**11 21 37.7**	**-2.2**	
	baz=204							
BGNE	**Belgrade**	**115.76**	**57**	P	**Pdif**	**11 18 03.6**	**+10**	
	baz=235							
BGNE	**Belgrade**	**115.76**	**57**	PKiKP	**PKiKP**	**11 21 39.6**	**-1.4**	
	baz=235							
N33B	**J Bar K, Exete**	**115.81**	**58**	P	**Pdif**	**11 17 57.9**	**+3.8**	
	baz=235							
G30M	**tAoh Zraii Nji**	**115.96**	**20**	PKiKP	**PKiKP**	**11 21 38.4**	**-2.1**	
	baz=219							
K31A	**O'Neill**	**116.08**	**55**	P	**Pdif**	**11 18 02.4**	**+7.1**	
	baz=235							
DGMT	**Dagmar**	**116.31**	**47**	IAMs_20	IAMs_20	12 07 21.9		
	comp=Z,461µm,21.0s							
DGMT	**Dagmar**	**116.31**	**47**	P	**Pdif**	**11 18 01.4**	**+5.3**	
	baz=234							
DGMT	**Dagmar**	**116.31**	**47**	PKiKP	**PKiKP**	**11 21 40.3**	**-1.5**	
	baz=234							
MTDJ	**Mount Denham**	**116.39**	**89**	IAMs_20	IAMs_20	12 03 15.7		
	comp=Z,329µm,20.0s							
C27K	**Jago River**	**116.40**	**16**	PKiKP	**PKiKP**	**11 21 40.0**	**-1.3**	
	baz=214							
C26K	**Camden Bay**	**116.41**	**15**	PKiKP	**PKiKP**	**11 21 40.1**	**-1.2**	
	baz=213							
146A	**Union**	**116.70**	**69**	P	**Pdif**	**11 18 08.2**	**+10**	
	baz=235							
S39A	**Bolivar**	**116.71**	**62**	P	**Pdif**	**11 18 07.1**	**+9.0**	
	baz=235							
F31M	**Tsiigehtchic**	**116.94**	**20**	PKiKP	**PKiKP**	**11 21 39.2**	**-3.1**	
	baz=221							
WRGLY	**Wrigley**	**116.98**	**27**	PKiKP	**PKiKP**	**11 21 41.8**	**-0.8**	
	baz=228							
SUSD	**Miller**	**116.99**	**53**	P	**Pdif**	**11 18 11.1**	**+12**	
	baz=236							
SUSD	**Miller**	**116.99**	**53**	PKiKP	**PKiKP**	**11 21 40.9**	**-2.4**	
	baz=236							
N35A	**Tabor**	**117.01**	**58**	P	Pdif	11 18 17.5	+18	
	baz=236							
Y45A	**Yeager Farm, C**	**117.07**	**68**	P	**Pdif**	**11 18 10.2**	**+10**	
	baz=235							
L34A	**Svendsen Farm,**	**117.17**	**57**	P	**Pdif**	**11 18 11.4**	**+11**	
	baz=236							
E28A	**Huff**	**117.18**	**51**	P	**Pdif**	**11 18 10.6**	**+11**	
	baz=236							
BRAL	**Brewton**	**117.25**	**72**	P	sPdif	11 18 14.4	+6.3	
	baz=235							
BRAL	**Brewton**	**117.25**	**72**	PKiKP	**PKiKP**	**11 21 41.9**	**-2.2**	
	baz=235							
OXF	**Oxford**	**117.52**	**67**	IAMs_20	IAMs_20	12 14 10.0		
	comp=Z,327µm,18.0s							
OXF	**Oxford**	**117.52**	**67**	P	sPdif	11 18 15.0	+5.8	
	baz=235							
OXF	**Oxford**	**117.52**	**67**	PKiKP	**PKiKP**	**11 21 41.6**	**-2.9**	
	baz=235							
INK	**Inuvik**	**117.64**	**20**	Pdiff	**Pdif**	**11 18 05.4**	**+4.0**	
	comp=Z,2.2nm,1.0s,baz=153,slow=2.3,SNR=3.0							
INK				PKP	**pPKPdf**	**11 21 43.2**	**-6.0**	
	comp=Z,13nm,0.6s,baz=161,slow=2.1,SNR=9.4							
INK				PKKPbc	**PKKPbc**	**11 32 06.1**	**-0.4**	
	comp=Z,23nm,1.2s,baz=9.5,slow=3.8,SNR=2.6							
INK	**Inuvik**	**117.64**	**20**	PKiKP	**PKiKP**	**11 21 44.2**	**+0.5**	
	baz=222							
P38A	**Dawn**	**117.66**	**60**	P	sPdif	11 18 22.0	+12	
	baz=236							
Z47A	**Carrollton**	**117.70**	**69**	P	**Pdif**	**11 18 14.7**	**+12**	
	baz=235							
R40A	**Maddies Statio**	**117.73**	**62**	P	sPdif	11 18 21.8	+12	
	baz=236							
T42A	**Van Buren**	**117.81**	**64**	P	sPdif	11 18 21.3	+11	
	baz=236							
451A	**Vernon**	**117.85**	**73**	P	**Pdif**	**11 18 12.8**	**+10**	
	baz=235							
ECSD	**EROS Data Cent**	**118.00**	**55**	IAMs_20	IAMs_20	12 10 27.1		
	comp=Z,487µm,18.0s							
ECSD	**EROS Data Cent**	**118.00**	**55**	P	**Pdif**	**11 18 15.1**	**+11**	
	baz=236							
ECSD	**EROS Data Cent**	**118.00**	**55**	PKiKP	**PKiKP**	**11 21 44.0**	**-1.2**	
	baz=236							
W45A	**Hickory Valley**	**118.04**	**67**	P	sPdif	11 18 22.7	+11	
	baz=236							
PBMO	**Poplar Bluff**	**118.11**	**65**	P	sPdif	11 18 23.1	+11	
	baz=236							
TIXI	**Tiksi**	**118.20**	**346**	PKP	**PKiKP**	**11 21 44.5**	**-0.2**	
	comp=Z,15nm,0.6s,baz=200,slow=0.1,SNR=7.4							
TIXI				PKKPbc	**PKKPbc**	**11 32 05.1**	**+0.6**	
	comp=Z,3.6nm,0.8s,baz=346,slow=0.1,SNR=1.9							
TIXI	**Tiksi**	**118.20**	**346**	IAMs_20	IAMs_20	12 18 08.2		
	comp=Z,398µm,19.0s							
TIXI	**Tiksi**	**118.20**	**346**	*c i*PKiKP	**PKiKP**	**11 21 44.3**	**-0.4**	
250A	**Grady**	**118.26**	**71**	P	sPdif	11 18 19.1	+6.5	
	baz=235							
CCM	**Cathedral Cave**	**118.27**	**63**	P	**Pdif**	**11 18 15.9**	**+11**	
	baz=236							
CCM	**Cathedral Cave**	**118.27**	**63**	PKiKP	**PKiKP**	**11 21 44.3**	**-1.6**	
	baz=236							
LRAL	**Lakeview Retre**	**118.35**	**70**	IAMs_20	IAMs_20	12 13 21.8		
	comp=Z,313µm,18.0s							
LRAL	**Lakeview Retre**	**118.35**	**70**	P	sPdif	11 18 21.4	+8.5	
	baz=235							
LRAL	**Lakeview Retre**	**118.35**	**70**	PKiKP	**PKiKP**	**11 21 45.0**	**-1.2**	
	baz=235							
NIL	**Nilore**	**118.41**	**291**	P	**PKiKP**	**11 21 49.1**	**+2.8**	
DGZ	**Jazzator, Alta**	**118.42**	**313**	*i*PKiKP	**PKiKP**	**11 21 43.4**	**-2.6**	
DGZ				MLR	MLR			
	comp=Z,356µm,21.0s							
N38A	**Joes South For**	**118.49**	**60**	P	sPdif	11 18 16.0	+2.6	
	baz=237							
MDND	**Maddock**	**118.50**	**50**	P	sPdif	11 18 16.4	+3.2	
	baz=236							
MDND	**Maddock**	**118.50**	**50**	PKiKP	**PKiKP**	**11 21 44.6**	**-1.5**	
	baz=237							
061Z	**Ochoppi**	**118.56**	**80**	P	sPdif	11 18 16.5	+2.5	
	baz=234							
P40A	**Paris**	**118.56**	**61**	P	sPdif	11 18 23.7	+10	
	baz=237							
ZSN	**Zaisan**	**118.62**	**309**	*e*PKP	**PKiKP**	**11 21 47.0**	**+0.7**	
	baz=309							
ZSN				*e*SKS	**SKSdf**	**11 28 56.5**	**-0.9**	
	baz=309							
ZSN	**Zaisan**	**118.62**	**309**	*e*PKiKP	**PKiKP**	**11 21 47.0**	**+0.7**	
ZSN				*e*		11 28 56.4		
PLAL	**Pickwick Lake**	**118.70**	**68**	IAMs_20	IAMs_20	12 14 55.1		
	comp=Z,436µm,18.0s							
HATO	**Hato, Curacao**	**118.78**	**100**	IAMs_20	IAMs_20	12 05 39.3		
	comp=Z,357µm,21.0s							
352A	**Blakely**	**118.92**	**73**	P	sPdif	11 18 19.4	+3.9	
	baz=235							
SCIA	**State Center**	**119.11**	**58**	P	**Pdif**	**11 18 17.5**	**+8.9**	
	baz=237							
SCIA	**State Center**	**119.11**	**58**	PKiKP	**PKiKP**	**11 21 45.2**	**-2.2**	
	baz=237							
X48A	**Hartselle**	**119.11**	**69**	P	**Pdif**	**11 18 16.8**	**+8.0**	
	baz=236							
Y49A	**Blount Mountai**	**119.21**	**70**	P	sPdif	11 18 23.4	+6.6	
	baz=236							
SLM	**Saint Louis**	**119.25**	**63**	P	sPdif	11 18 21.7	+4.9	
	baz=237							
F33A	**5 Mile Ranch,**	**119.33**	**53**	P	sPdif	11 18 22.3	+5.3	
	baz=238							
S44A	**Carbondale**	**119.39**	**64**	P	sPdif	11 18 31.3	+14	
	baz=237							
656A	**Willston**	**119.42**	**76**	P	sPdif	11 18 27.3	+10	
	baz=235							
T45B	**Paducah**	**119.43**	**65**	P	sPdif	11 18 23.5	+5.9	
	baz=237							
DWPF	**Disney Wildern**	**119.48**	**78**	P	sPdif	11 18 25.0	+6.9	
	baz=234							
DWPF	**Disney Wildern**	**119.48**	**78**	PKiKP	**PKiKP**	**11 21 47.0**	**-1.5**	
	baz=234							
WVT	**Waverly**	**119.50**	**67**	IAMs_20	IAMs_20	12 11 08.3		
	comp=Z,484µm,18.0s							
WVT	**Waverly**	**119.50**	**67**	P	sPdif	11 18 23.6	+5.7	
	baz=236							
WVT	**Waverly**	**119.50**	**67**	PKiKP	**PKPdf**	**11 21 44.0**	**-4.2**	
	baz=236							
KIBK	**Kibwezi**	**119.51**	**234**	IAMs_20	IAMs_20	12 08 11.4		
	comp=Z,462µm,19.0s							
KIBK	**Kibwezi**	**119.51**	**234**	P	**PKiKP**	**11 21 49.7**	**+0.5**	
D32B	**Dogwood Acres,**	**119.60**	**52**	P	sPdif	11 18 22.5	+4.3	
	baz=238							
PDGK	**Podgornoye**	**119.60**	**303**	PKiKP	**PKiKP**	**11 21 50.0**	**+1.5**	
060A	**Indiantown**	**119.64**	**79**	P	sPdif	11 18 25.0	+6.2	
	baz=234							
YKA	**Yellowknife Ar**	**119.66**	**31**	Pdiff	**Pdif**	**11 18 20.8**	**+10**	
	comp=Z,0.5nm,0.7s,baz=198,slow=4.1,SNR=2.2							
YKA				PKP	**PKiKP**	**11 21 48.0**	**+0.2**	
	baz=252,slow=1.8							
YKA				PKKPbc	**PKKPbc**	**11 31 58.8**	**-0.3**	
	comp=Z,19nm,0.9s,baz=49,slow=4.2,SNR=9.5							
YKA	**Yellowknife Ar**	**119.66**	**31**	PKiKP	**PKiKP**	**11 21 48.0**	**+0.2**	
152A	**Waverly Hall**	**119.73**	**72**	P	sPdif	11 18 26.5	+7.4	
	baz=236							
MKAR	**Makanchi Array**	**119.75**	**308**	Pdiff	**Pdif**	**11 18 15.2**	**+3.8**	
	comp=Z,0.7nm,0.8s,baz=111,slow=7.9,SNR=1.6							
MKAR				PKP	**PKiKP**	**11 21 47.7**	**-0.9**	
	comp=Z,14nm,0.8s,baz=166,slow=2.0,SNR=10.0							
MKAR				PP	**PP**	**11 23 06.4**	**-6.1**	
	comp=Z,71nm,0.9s,baz=104,slow=4.6,SNR=4.2							
MKAR				PKKPbc	**PKKPbc**	**11 31 58.6**	**+0.2**	
	comp=Z,4.2nm,1.0s,baz=348,slow=5.4,SNR=1.7							
Z51A	**Franklin**	**119.77**	**71**	P	sPdif	11 18 27.1	+7.8	
	baz=236							
K38A	**Parkersburg**	**119.78**	**58**	P	**Pdif**	**11 18 19.5**	**+7.8**	
	baz=238							
UZB	**Uzynbulak**	**119.79**	**303**	*e*PKP	**PKiKP**	**11 21 48.5**	**-0.5**	
	baz=303							
UZB				*e*PP	**PP**	**11 23 11.8**	**-1.2**	
	baz=303							
UZB	**Uzynbulak**	**119.79**	**303**	*e*PKiKP	**PKiKP**	**11 21 48.4**	**-0.5**	
UZB				*e*		11 23 11.8		
KSH	**Kashi**	**119.80**	**298**	Pdif	**Pdif**	**11 18 22.3**	**+10**	
KSH				PKP	**pPKPdf**	**11 21 49.4**	**-5.2**	
KSH				sPKP		11 22 04.6		
KSH				PP	PP	11 23 29.6	+16	
KSH	**Kashi**	**119.80**	**298**	PKP	**PKiKP**	**11 21 47.7**	**-1.3**	
KSH				LR	LR			
	comp=Z,377µm,20.5s							
KSH				LR	LR			
	comp=Z,236µm,22.0s							
KSH				LR	LR			
	comp=Z,643µm,22.5s							
TIGA	**Tifton**	**119.84**	**73**	P	sPdif	11 18 26.9	+7.3	
	baz=236							
TIGA	**Tifton**	**119.84**	**73**	PKiKP	**PKPdf**	**11 21 45.0**	**-4.1**	
	baz=236							
MAKZ	**Makanchi**	**119.94**	**308**	IAMs_20	IAMs_20	12 16 38.6		
	comp=Z,325µm,22.0s							
MAKZ	**Makanchi**	**119.94**	**308**	⇑PKiKP	**PKiKP**	**11 21 47.7**	**-1.2**	
N41A	**Harden Midland**	**119.97**	**61**	P	sPdif	11 18 34.3	+14	
	baz=238							
V48A	**Smith Brothers**	**119.97**	**68**	P	sPdif	11 18 30.9	+11	
	baz=237							
I37B	**Waseca**	**120.11**	**56**	P	sPdif	11 18 27.1	+6.6	
	baz=238							
SATY	**Saty**	**120.13**	**302**	*e*PKP	**PKiKP**	**11 21 49.4**	**-0.1**	
	baz=302							
SATY				*e*PP	**PP**	**11 23 12.8**	**-2.5**	
	baz=302							
SATY	**Saty**	**120.13**	**302**	*e*PKIKP	**PKiKP**	**11 21 49.4**	**-0.1**	
SATY				*e*		11 23 12.7		
ZHN	**Zhinishke**	**120.17**	**302**	*e*PKP	**PKiKP**	**11 21 46.8**	**-2.8**	
	baz=302							
ZHN				*e*PP	**PP**	**11 23 14.5**	**-1.1**	
	baz=302							
ZHN	**Zhinishke**	**120.17**	**302**	*e*PKIKP	**PKiKP**	**11 21 46.8**	**-2.8**	
ZHN				*e*		11 23 14.4		
KPKS	**Kokpek**	**120.17**	**303**	*e*PKP	**PKiKP**	**11 21 48.1**	**-1.5**	
	baz=303							
KPKS				*e*PP	**PP**	**11 23 13.5**	**-2.1**	
	baz=303							
KPKS				*e*SKS	**SKSdf**	**11 29 04.2**	**+3.5**	
	baz=303							
KPKS	**Kokpek**	**120.17**	**303**	*e*PKIKP	**PKiKP**	**11 21 48.0**	**-1.5**	
KPKS				*e*		11 23 13.4		
KPKS				*e*		11 29 04.2		
Q44A	**Meyer Farm, Va**	**120.20**	**63**	P	sPdif	11 18 28.1	+7.1	
	baz=237							
P43A	**Skaggs, Pawnee**	**120.26**	**62**	P	sPdif	11 18 27.3	+6.0	
	baz=238							
L40A	**Anamosa**	**120.45**	**59**	P	**Pdif**	**11 18 22.1**	**+7.5**	
	baz=238							
T47A	**Sharon Grove**	**120.45**	**66**	P	**Pdif**	**11 18 17.6**	**+2.9**	
	baz=237							
PCRV	**Puerto La Cruz**	**120.53**	**105**	PKP	**PKiKP**	**11 21 52.9**	**+1.8**	
	comp=Z,7.9nm,0.8s,baz=225,slow=1.4,SNR=1.5							
456A	**Hilliard**	**120.55**	**75**	P	**Pdif**	**11 18 17.7**	**+2.4**	
	baz=236							
X51A	**Calhoun**	**120.68**	**70**	P	**sPdif**	**11 18 32.8**	**+9.5**	
	baz=237							
X51A				P	sPdif	11 18 32.8	+9.5	
	baz=237							
W50A	**Signal Mountai**	**120.71**	**69**	P	**Pdif**	**11 18 22.4**	**+6.4**	
	baz=237							
OLIL	**Olney**	**120.72**	**64**	P	sPdif	11 18 26.9	+3.6	
	baz=238							
154A	**Montrose**	**120.83**	**73**	P	sPdif	11 18 27.8	+3.8	
	baz=236							
C36M	**Paulatuk**	**120.83**	**22**	IAMs_20	IAMs_20	12 10 37.5		
	comp=Z,458µm,21.0s							
C36M	**Paulatuk**	**120.83**	**22**	PKiKP	**PKiKP**	**11 21 48.4**	**-1.5**	
	baz=230							
Y52A	**Lilburn**	**120.85**	**71**	P	**sPdif**	**11 18 29.1**	**+5.1**	
	baz=237							
Y52A				P	sPdif	11 18 29.1	+5.1	
	baz=237							
AGMN	**Agassiz Nation**	**120.87**	**51**	P	sPdif	11 18 29.5	+5.7	
	baz=239							
AGMN	**Agassiz Nation**	**120.87**	**51**	PKiKP	**PKPdf**	**11 21 46.4**	**-4.1**	
	baz=239							
HDIL	**Hopedale**	**120.89**	**62**	P	sPdif	11 18 30.4	+6.4	
	baz=238							
HDIL	**Hopedale**	**120.89**	**62**	PKiKP	**PKiKP**	**11 21 47.8**	**-3.1**	
	baz=238							
255A	**Hazlehurst**	**120.90**	**74**	P	sPdif	11 18 26.5	+2.2	
	baz=236							
FFC	**Flin Flon**	**120.90**	**42**	IAMs_20	IAMs_20	12 10 18.4		
	comp=Z,354µm,20.0s							
KMBO	**Kilima Mbogo**	**120.95**	**235**	PKP	**PKiKP**	**11 21 52.8**	**+0.5**	
	comp=Z,22nm,1.0s,baz=112,slow=2.4,SNR=17							
KMBO				PKKPbc	**PKKPab**	**11 31 57.4**	**-0.3**	
	comp=Z,12nm,0.8s,baz=343,slow=7.5,SNR=5.6							
KMBO	**Kilima Mbogo**	**120.95**	**235**	IAMs_20	IAMs_20	12 06 20.9		
	comp=Z,398µm,20.0s							
KMBO	**Kilima Mbogo**	**120.95**	**235**	P	**PKiKP**	**11 21 53.1**	**+0.8**	
KMBO	**Kilima Mbogo**	**120.95**	**235**	*i* PKiKP	**PKiKP**	**11 21 51.5**	**-0.8**	
	SNR=21							
F36A	**Milaca**	**121.00**	**54**	P	**Pdif**	**11 18 24.5**	**+7.5**	
	baz=239							
GOGA	**Godfrey**	**121.02**	**72**	IAMs_20	IAMs_20	12 15 15.3		
	comp=Z,330µm,18.0s							
GOGA	**Godfrey**	**121.02**	**72**	P	sPdif	11 18 31.5	+6.7	
	baz=236							
TNSS	**Tian-Shan**	**121.03**	**302**	*e*PKP	**PKiKP**	**11 21 50.0**	**-1.7**	
	baz=302							
TNSS	**Tian-Shan**	**121.03**	**302**	*e*PKIKP	**PKiKP**	**11 21 50.0**	**-1.7**	
MDOK	**Medeo**	**121.03**	**302**	*e*PKP	**PKiKP**	**11 21 53.1**	**+1.7**

257A **Skidaway Islan** 121.95 74 P **Pdif** 11 18 33.5 +12
baz=236
T50A **Nancy** 122.00 67 P **Pdif** 11 18 34.4 +13
baz=238
T50A P **Pdif** 11 18 34.4 +13
baz=238
TKL **Tuckaleechee C** 122.01 69 P **Pdif** 11 18 33.9 +12
baz=238
ZALV **Zalesovo Beam** 122.02 316 Pdiff **sPdif** 11 18 29.0 +0.3
comp=Z,0.3nm,0.3s,baz=86,slow=4.6,SNR=1.9
ZALV PKP **PKiKP** 11 21 52.1 -0.6
comp=Z,12nm,0.8s,baz=145,slow=2.9,SNR=12
MHTO **MHTO** 122.09 270 P **PKiKP** 11 21 52.3 -1.5
KBK **Karagaybulak** 122.10 300 P PKiKP 11 22 00.9 +7.4
SNR=6.4
B35A **Bob, Littlefor** 122.13 52 P **Pdif** 11 18 33.1 +11
baz=240
M44A **Midewin, Midew** 122.13 61 P **Pdif** 11 18 29.6 +7.5
baz=239
UCH **Uchtor** 122.16 300 P **PKiKP** 11 21 53.2 -0.8
SNR=5.6
V52A **Sevierville** 122.23 69 P sPdif 11 18 37.0 +6.8
baz=238
A36M **Sachs Harbour** 122.24 19 PKiKP **PKiKP** 11 21 51.5 -1.1
baz=230
SFIN **Lafayette** 122.24 63 P **Pdif** 11 18 33.2 +11
baz=239
SFIN **Lafayette** 122.24 63 PKiKP **PKiKP** 11 21 52.2 -1.3
baz=239
CASEE **Lake Jocassee** 122.24 70 P sPdif 11 18 36.3 +6.1
baz=238
DMTO **DMTO** 122.28 265 P **PKiKP** 11 21 55.9 +1.6
HAW **Hawthorne Fire** 122.29 73 P sPdif 11 18 33.2 +2.8
baz=237
HODGE **Hodges** 122.30 71 P sPdif 11 18 34.9 +4.4
baz=237
WBK **Wadi Bani Khal** 122.33 272 P **PKiKP** 11 21 54.0 -0.3
NGCH **Negor - Chabah** 122.36 276 P **PKiKP** 11 21 54.8 +0.5
AAK **Ala-Archa** 122.38 300 P PKiKP 11 22 02.2 +8.1
SNR=5.5
AAK **Ala-Archa** 122.38 300 PKP **PKiKP** 11 21 55.2 +1.2
comp=Z,26nm,0.7s,baz=106,slow=8.1,SNR=7.7
AAK **Ala-Archa** 122.38 300 IAMs_20 IAMs_20 12 17 41.3
comp=Z,543µm,22.0s
AAK **Ala-Archa** 122.38 300 P **PKiKP** 11 21 57.3 +3.2
AAK **Ala-Archa** 122.38 300 *i* PKPdf **PKiKP** 11 21 54.0 0.0
SNR=16
AAK **Ala-Archa** 122.38 300 *d* PKIKP **PKiKP** 11 21 53.6 -0.4
CHMS **Chumysh** 122.40 301 P **PKiKP** 11 21 52.5 -1.4
SNR=5.9
R49A **Shelbyville** 122.44 66 P **sPdif** 11 18 36.5 +5.5
baz=239
R49A P sPdif 11 18 36.5 +5.5
baz=239
HQIL **Hanson Quary C** 122.47 61 IAMs_20 IAMs_20 12 13 52.1
comp=Z,818µm,18.0s
E38A **The Farm, Brul** 122.55 55 P sPdif 11 18 35.5 +4.2
baz=240
K43A **Burlington** 122.61 60 P sPdif 11 18 38.1 +6.4
baz=240
L44A **Lake County Fo** 122.62 61 P sPdif 11 18 37.5 +5.8
baz=240
L44A **Lake County Fo** 122.62 61 PKiKP **PKPdf** 11 21 50.8 -3.3
baz=240
TZTN **Tazewell** 122.63 68 IAMs_20 IAMs_20 12 10 16.3
comp=Z,363µm,20.0s
TZTN **Tazewell** 122.63 68 P **Pdif** 11 18 32.1 +7.6
baz=238
TZTN **Tazewell** 122.63 68 PKiKP **PKiKP** 11 21 51.5 -3.1
baz=238
AML **Almayashu** 122.64 299 P **PKiKP** 11 21 57.8 +3.0
SNR=7.1
V53A **Saluda** 122.68 70 P **Pdif** 11 18 36.7 +12
baz=238
V53A P **Pdif** 11 18 36.7 +12
baz=238
RBK **Rabkut** 122.69 264 P **PKiKP** 11 21 54.4 -0.8
USP **Ospenovka** 122.69 301 P PKiKP 11 22 02.0 +7.5
SNR=5.5
SGDS **Sogindy** 122.70 301 *e* PKP **PKiKP** 11 21 54.0 -0.6
baz=301
SGDS *e* PP **PP** 11 23 26.8 -5.9
baz=301
SGDS *e* SS SS 11 40 41.8 +27
baz=301
SGDS **Sogindy** 122.70 301 *e* PKIKP **PKiKP** 11 21 53.9 -0.6
SGDS *e* 11 23 26.8
G40A **Rib Lake** 122.72 56 P **Pdif** 11 18 35.1 +10
baz=240
JMDO **Jabal Madar** 122.83 271 P **PKiKP** 11 21 55.3 0.0
I42A **Draeger Farm,** 122.84 58 P **Pdif** 11 18 33.7 +8.5
baz=240
EKS2 **Erkin-Say** 122.85 300 P **PKiKP** 11 21 54.5 -0.4
SNR=7.1
P48A **Milroy** 122.87 65 P **Pdif** 11 18 37.0 +12
baz=239
P48A P **Pdif** 11 18 37.0 +12
baz=239
PAULI **Pauline** 122.93 71 P **Pdif** 11 18 33.5 +7.7
baz=238
WSAR **Wadi Sarin** 122.96 272 PKP **PKiKP** 11 21 55.8 +0.2
comp=Z,17nm,0.9s,baz=314,slow=0.6,SNR=8.1
WSAR **Wadi Sarin** 122.96 272 P **PKiKP** 11 21 57.6 +2.0
R50A **Paris** 123.00 66 P **sPdif** 11 18 36.5 +2.9
baz=239
R50A P sPdif 11 18 36.5 +2.9
baz=239
JSC **Jenkinsville** 123.03 72 P sPdif 11 18 39.2 +5.5
baz=238
NHSC **New Hope** 123.17 74 P sPdif 11 18 39.4 +5.1
baz=237
S51A **Beattyville** 123.17 67 P **sPdif** 11 18 41.3 +7.0
baz=239
S51A P sPdif 11 18 41.3 +7.0
baz=239
EYMN **Ely** 123.24 53 P sPdif 11 18 39.5 +5.2
baz=241
EYMN **Ely** 123.24 53 PKiKP **PKiKP** 11 21 53.1 -2.2
baz=241
ABTO **Aybut** 123.26 263 P **PKiKP** 11 21 55.0 -1.3
SMDO **Samad** 123.28 272 P **PKiKP** 11 21 54.9 -1.4
P49A **Miami Univ. Ec** 123.38 65 P sPdif 11 18 41.5 +6.4
baz=239
P49A **Miami Univ. Ec** 123.38 65 PKiKP **PKiKP** 11 21 54.0 -1.9
baz=239
N47A **Urbana** 123.41 63 P **Pdif** 11 18 30.9 +3.1
baz=240
N47A P **Pdif** 11 18 30.9 +3.1
baz=240
KMSC **Kings Mountain** 123.43 71 P sPdif 11 18 38.8 +3.3
baz=238
KMSC **Kings Mountain** 123.43 71 PKiKP **PKiKP** 11 21 54.4 -1.7
baz=238
DOK **Doka** 123.45 265 P **PKiKP** 11 21 55.2 -1.4
O48B **Farmland** 123.45 64 P **Pdif** 11 18 31.4 +3.4
baz=240
O48B **Farmland** 123.45 64 PKiKP **PKiKP** 11 21 53.8 -2.2
baz=240
BIDO **Bidbid** 123.50 272 P **PKiKP** 11 21 58.9 +2.3
Y57A **Sumter** 123.50 73 P **Pdif** 11 18 30.3 +1.9
baz=238
Y57A P **Pdif** 11 18 30.3 +1.9
baz=238
L46A **Eue Claire** 123.58 61 P **Pdif** 11 18 27.1 -1.4
baz=240
L46A P **Pdif** 11 18 27.1 -1.4
baz=240
BSY **Bisya** 123.72 271 P **PKiKP** 11 21 55.8 -1.3
COWI **Conover** 123.77 56 IAMs_20 IAMs_20 12 09 47.7
comp=Z,500µm,20.0s
COWI **Conover** 123.77 56 P **Pdif** 11 18 35.9 +6.6
baz=241
BIRD **Birdtown, Kers** 123.78 72 P sPdif 11 18 42.2 +5.2
baz=238
KURK **Kurchatov** 123.81 310 IAMs_20 IAMs_20 12 21 27.7
comp=Z,373µm,21.0s
KURK **Kurchatov** 123.81 310 P **PKiKP** 11 21 55.5 -0.8
KURK **Kurchatov** 123.81 310 PKIKP **PKiKP** 11 21 55.7 -0.6
U54A **Nelsons Funny** 123.81 69 P **sPdif** 11 18 40.6 +3.4
baz=239
U54A P sPdif 11 18 40.6 +3.4
baz=239
KURBB **Kurchatov Arra** 123.82 310 PKP **PKiKP** 11 21 55.7 -0.7
comp=Z,29nm,0.7s,baz=116,slow=1.9,SNR=17
KURBB **Kurchatov Arra** 123.82 310 PKIKP **PKiKP** 11 21 56.9 +0.6
H43A **Windswept, Lux** 123.84 58 P sPdif 11 18 39.4 +2.3
baz=241

BTLS **Baital** 123.84 303 *e* PKP **PKiKP** 11 21 55.0 -1.6
baz=302
BTLS *e* PP **PP** 11 23 42.6 +2.3
baz=302
BTLS **Baital** 123.84 303 *e* PKIKP **PKiKP** 11 21 55.0 -1.6
V55A **Taylorsville** 123.89 70 P **Pdif** 11 18 35.8 +5.8
baz=238
V55A P **Pdif** 11 18 35.8 +5.8
baz=238
Y58A **Scranton** 123.95 73 P **sPdif** 11 18 42.8 +4.9
baz=238
Y58A P sPdif 11 18 42.8 +4.9
baz=238
O49A **Covington** 123.96 64 P **sPdif** 11 18 43.3 +5.6
baz=240
O49A P sPdif 11 18 43.3 +5.6
baz=240
Q51A **Peebles** 124.05 66 P **sPdif** 11 18 45.5 +7.4
baz=240
Q51A P sPdif 11 18 45.5 +7.4
baz=240
HOQ **Hoqain** 124.14 272 P **PKiKP** 11 21 56.8 -1.1
F42A **Maple Grove Fa** 124.22 57 P **Pdif** 11 18 42.0 +11
baz=242
W57A **Gilead** 124.37 72 P **Pdif** 11 18 39.5 +7.2
baz=238
W57A P **Pdif** 11 18 39.5 +7.2
baz=238
N49A **Columbus Grove** 124.43 64 P **Pdif** 11 18 37.6 +5.3
baz=240
N49A P **Pdif** 11 18 37.6 +5.3
baz=240
P51A **Williamsport** 124.46 66 P **Pdif** 11 18 35.1 +2.6
baz=240
P51A P **Pdif** 11 18 35.1 +2.6
baz=240
X58A **Rowland** 124.52 73 P **sPdif** 11 18 42.0 +1.7
baz=238
X58A P sPdif 11 18 42.0 +1.7
baz=238
DZA **Taraz** 124.53 299 *e* PKP **PKiKP** 11 21 56.1 -2.0
baz=299
DZA **Taraz** 124.53 299 *e* PKIKP **PKiKP** 11 21 56.1 -2.0
Y59A **Loris** 124.56 73 P **sPdif** 11 18 43.9 +3.4
baz=238
Y59A P sPdif 11 18 43.9 +3.4
baz=238
ARQ **Araqi** 124.57 271 P **PKiKP** 11 21 57.2 -1.5
D41A **Chassel** 124.57 55 P **Pdif** 11 18 42.3 +9.5
baz=242
I45A **Fountain** 124.60 59 P **sPdif** 11 18 39.6 -0.9
baz=241
I45A P sPdif 11 18 39.6 -0.9
baz=241
R53A **Hurricane** 124.64 67 P **sPdif** 11 18 46.8 +6.0
baz=240
R53A P sPdif 11 18 46.8 +6.0
baz=240
SJG **San Juan** 124.69 97 PKP **PKiKP** 11 21 59.2 +0.1
comp=Z,26nm,1.0s,baz=28,slow=2.5,SNR=5.7
U56A **King** 124.72 70 P **Pdif** 11 18 37.1 +3.4
baz=239
U56A P **Pdif** 11 18 37.1 +3.4
baz=239
Q52A **Bidwell** 124.74 67 P **Pdif** 11 18 40.1 +6.3
baz=240
Q52A P **Pdif** 11 18 40.1 +6.3
baz=240
L48A **N Adams** 124.76 62 P **Pdif** 11 18 41.0 +7.2
baz=241
L48A P **Pdif** 11 18 41.0 +7.2
baz=241
S54A **Dingess, Beckl** 124.81 68 P **Pdif** 11 18 39.7 +5.5
baz=240
S54A P **Pdif** 11 18 39.7 +5.5
baz=240
ACSO **Alum Creek Sta** 124.89 65 P **Pdif** 11 18 45.5 +11
baz=240
ACSO **Alum Creek Sta** 124.89 65 PKiKP **PKiKP** 11 21 55.8 -3.1
baz=240
IUG **luzhnay** 125.02 298 *e* PKP **PKiKP** 11 21 58.1 -1.1
baz=298
IUG **luzhnay** 125.02 298 *e* PKIKP **PKiKP** 11 21 58.1 -1.1
Y60A **Bolivia** 125.03 74 P **Pdif** 11 18 38.4 +3.3
baz=238
Y60A P **Pdif** 11 18 38.4 +3.3
baz=238
MDP **Montagnes des** 125.03 120 PKP **PKiKP** 11 22 01.1 +1.1
comp=Z,24nm,0.8s,baz=226,slow=3.5,SNR=15
SOHO **SOHO** 125.03 272 *i* PKPdf **PKiKP** 11 21 58.1 -1.5
SNR=17
JASK **Jask - Hormozg** 125.06 274 P **PKiKP** 11 22 03.1 +3.4
RCBR **Riachuelo** 125.09 144 PKP **PKiKP** 11 22 01.0 +0.8
comp=Z,19nm,0.8s,baz=30,slow=2.4,SNR=4.2
RCBR **Riachuelo** 125.09 144 *e* P **PKiKP** 11 21 58.3 -1.9
RCBR **Riachuelo** 125.09 144 PKIKP **PKiKP** 11 22 01.0 +0.8
J47A **Sunmer** 125.12 61 P **Pdif** 11 18 47.1 +12
baz=242
J47A P **Pdif** 11 18 47.1 +12
baz=242
BLA **Blacksburg** 125.13 69 IAMs_20 IAMs_20 12 16 52.3
comp=Z,311µm,18.0s
BLA **Blacksburg** 125.13 69 P sPdif 11 18 48.4 +5.4
baz=240
BLA **Blacksburg** 125.13 69 PKiKP **PKPdf** 11 21 55.8 -3.3
baz=240
MBAR **Mbarara** 125.14 229 P **PKiKP** 11 22 02.0 +1.6
MBAR **Mbarara** 125.14 229 *d* PKIKP **PKiKP** 11 21 57.3 -3.1
MBAR MLR MLR
comp=Z,201µm,16.0s
KK31 **Karatay Array** 125.16 299 *i* PKIKP **PKiKP** 11 21 57.6 -1.7
P52A **Corning** 125.16 66 IAMs_20 IAMs_20 12 17 35.3
comp=Z,451µm,18.0s
P52A **Corning** 125.16 66 PKiKP **PKiKP** 11 21 58.1 -1.4
baz=240
UMZA **Um Al Zommool** 125.20 269 P **PKiKP** 11 22 04.5 +4.5
E43A **Lone Tree Farm** 125.21 57 **PKiKP** 11 21 56.5 -2.8
E43A **Lone Tree Farm** 125.21 57 P **Pdif** 11 18 41.9 +6.2
baz=242
V58A **Windy Hill, Pi** 125.32 71 P **Pdif** 11 18 40.6 +4.2
baz=239
V58A P **Pdif** 11 18 40.6 +4.2
baz=239
CHM **Chimkent** 125.38 298 PKIKP **PKPdf** 11 21 52.8 -6.6
M50A **Fremont** 125.41 64 P **Pdif** 11 18 46.1 +9.4
baz=241
M50A P **Pdif** 11 18 46.1 +9.4
baz=241
G45A **Suttons Bay** 125.43 59 P **Pdif** 11 18 46.7 +10
baz=242
G45A P **Pdif** 11 18 46.7 +10
baz=242
AAM **Ann Arbor** 125.44 62 P **Pdif** 11 18 44.3 +7.5
baz=242
AAM **Ann Arbor** 125.44 62 PKiKP **PKiKP** 11 21 57.2 -2.6
baz=242
ALNE **Al Ain** 125.56 271 P **PKiKP** 11 21 59.4 -1.3
ALNE **Al Ain** 125.56 271 *i* PKPdf **PKiKP** 11 21 58.7 -2.0
SNR=33
P53A **Whipple** 125.59 66 P **sPdif** 11 18 53.7 +8.7
baz=241
P53A P sPdif 11 18 53.7 +8.7
baz=241
O52A **Adamsville** 125.60 65 P **sPdif** 11 18 53.7 +8.7
baz=241
O52A P sPdif 11 18 53.7 +8.7
baz=241
N51A **Ashland** 125.62 64 P **sPdif** 11 18 53.1 +8.0
baz=241
N51A P sPdif 11 18 53.1 +8.0
baz=241
LODK **Lodwar** 125.69 236 P **PKiKP** 11 22 02.6 +1.2
ASHO **Ashiyiah** 125.71 272 P **PKiKP** 11 21 59.8 -1.2
ASHO **Ashiyiah** 125.71 272 *i* PKPdf **PKiKP** 11 21 58.1 -2.9
SNR=22
Q54A **Coxs Mills** 125.72 67 P **sPdif** 11 18 51.9 +6.3
baz=240
Q54A P sPdif 11 18 51.9 +6.3
baz=240
HATD **Hatta, Dubai** 125.73 272 P **PKiKP** 11 21 59.8 -1.2
HATD **Hatta, Dubai** 125.73 272 *i* PKPdf **PKiKP** 11 21 59.2 -1.8
SNR=17
UOSS **Minazif** 125.75 272 P **PKiKP** 11 21 59.7 -1.4
UOSS **Minazif** 125.75 272 *i* PKPdf **PKiKP** 11 21 58.2 -2.9
SNR=38
T57A **Hurt** 125.83 70 P **sPdif** 11 18 50.2 +4.0
baz=240

T57A P sPdif 11 18 50.2 +4.0
baz=240
R55A **Marlinton** 125.87 68 P **sPdif** 11 18 53.5 +7.1
baz=240
R55A P sPdif 11 18 53.5 +7.1
baz=240
CNNC **Cliffs of the** 125.89 73 IAMs_20 IAMs_20 12 18 05.4
comp=Z,345µm,18.0s
CNNC **Cliffs of the** 125.89 73 P sPdif 11 18 54.2 +7.8
baz=239
CNNC **Cliffs of the** 125.89 73 PKiKP **PKPdf** 11 21 57.3 -3.3
baz=239
GLMI **Grayling** 125.99 59 P **Pdif** 11 18 46.5 +7.3
baz=243
GLMI **Grayling** 125.99 59 PKiKP **PKiKP** 11 21 58.3 -2.6
baz=243
MSFE **Esma-Masafi** 126.02 273 *i* PKPdf **PKiKP** 11 22 00.1 -1.5
SNR=44
MASF **Masafi** 126.03 273 P **PKiKP** 11 22 00.7 -0.9
O53A **New Philadelph** 126.08 66 PKiKP **PKiKP** 11 21 59.1 -2.1
baz=241
FAQ **Al Faqa, Dubai** 126.09 272 P **PKiKP** 11 22 00.0 -1.7
FAQ **Al Faqa, Dubai** 126.09 272 *i* PKiKP **PKiKP** 11 22 02.6 +0.9
SNR=42
BBGH **Gun Hill** 126.17 107 IAMs_20 IAMs_20 12 21 31.7
comp=Z,282µm,18.0s
DILA **Dilla** 126.17 241 *e* P PKiKP 11 22 07.5 +5.0
DILA *e* S SKiKP 11 24 58.4 -39
NAZ **Nazwa, Dubai** 126.18 272 P **PKiKP** 11 22 04.0 +2.1
NAZ **Nazwa, Dubai** 126.18 272 *i* PKiKP **PKiKP** 11 22 02.0 +0.2
SNR=30
ASUD **Al Ashush, Dub** 126.21 271 P **PKiKP** 11 22 00.8 -1.2
ASUD **Al Ashush, Dub** 126.21 271 *i* PKiKP **PKiKP** 11 22 02.8 +0.9
SNR=16
BANOM **Banah** 126.25 273 P **PKiKP** 11 22 03.6 +1.6
BANOM **Banah** 126.25 273 *i* PKiKP **PKiKP** 11 22 01.7 -0.3
SNR=14
K50A **Casco** 126.33 62 P **Pdif** 11 18 48.8 +8.1
baz=242
K50A P **Pdif** 11 18 48.8 +8.1
baz=242
OTUK **Ortayu** 126.36 305 PKIKP **PKiKP** 11 22 00.0 -1.5
S57A **Dark Hollow, R** 126.41 69 P **Pdif** 11 18 45.6 +4.4
baz=240
S57A P **Pdif** 11 18 45.6 +4.4
baz=240
SHME **Shamm** 126.43 273 *i* PKiKP **PKiKP** 11 22 03.8 +1.4
SNR=15
UMQ **Umm Al-Quwin** 126.49 273 *i* PKiKP **PKiKP** 11 22 05.7 +3.3
SNR=12
M52A **Chesterland** 126.59 64 P **sPdif** 11 18 57.0 +7.5
baz=242
M52A P sPdif 11 18 57.0 +7.5
baz=242
N53A **Lisbon** 126.59 65 P **sPdif** 11 18 56.5 +7.1
baz=242
N53A P sPdif 11 18 56.5 +7.1
baz=242
O54A **Avella** 126.61 66 P sPdif 11 19 04.7 +15
baz=241
O54A P sPdif 11 19 04.7 +15
baz=241
MZR **Muzera** 126.62 269 *i* PKiKP **PKiKP** 11 22 02.4 -0.5
SNR=50
GDHS **Morne Mazeau,** 126.69 102 IAMs_20 IAMs_20 12 15 52.8
comp=Z,239µm,18.0s
MCWV **Mont Chateau** 126.72 67 P sPdif 11 18 56.3 +6.2
baz=241
MCWV **Mont Chateau** 126.72 67 PKiKP **PKiKP** 11 22 00.7 -1.8
baz=241
I49A **Point Hope** 126.73 61 P **sPdif** 11 18 58.4 +8.4
baz=243
I49A P sPdif 11 18 58.4 +8.4
baz=243
MZWR **Madinat Zayed** 126.77 270 P **PKiKP** 11 22 05.6 +2.5
ATD **Arta Tunnel** 126.83 250 PKP **PKiKP** 11 22 06.7 +3.1
comp=Z,41nm,0.9s,baz=211,slow=3.9,SNR=9.1
ATD **Arta Tunnel** 126.83 250 IAMs_20 IAMs_20 12 14 03.5
comp=Z,311µm,19.0s
ATD **Arta Tunnel** 126.83 250 P **PKiKP** 11 22 07.6 +4.1
Q56A **Snyder Ridge,** 126.87 68 P **Pdif** 11 18 51.3 +8.0
baz=241
Q56A P **Pdif** 11 18 51.3 +8.0
baz=241
E46A **Sault Ste Mari** 126.88 58 P **Pdif** 11 18 56.4 +13
baz=244
BRZS **Berezniki** 126.90 307 *e* PKP **PKiKP** 11 22 00.6 -1.9
baz=307
BRZS *e* PP **PP** 11 23 59.5 -1.1
baz=307
BRZS *e* SS SS 11 41 10.0 +2.8
baz=307
BRZS **Berezniki** 126.90 307 *e* PKIKP **PKiKP** 11 22 00.6 -1.9
BRZS *e* 11 23 59.5
SMRT **St. Maarten** 126.90 100 IAMs_20 IAMs_20 12 17 39.5
comp=Z,266µm,18.0s
T59A **Double "B" Far** 127.00 71 P **Pdif** 11 18 54.7 +11
baz=240
T59A P **Pdif** 11 18 54.7 +11
baz=240
M53A **WI Miller and** 127.00 65 PKiKP **PKiKP** 11 22 00.4 -2.6
baz=242
V61A **Roper** 127.10 73 P **Pdif** 11 18 56.5 +12
baz=240
V61A P **Pdif** 11 18 56.5 +12
baz=240
ANBD **Bethesda, Anti** 127.20 101 *e* P PKPpre 11 21 47.6
R58B **Mineral** 127.25 70 P **Pdif** 11 18 50.2 +5.2
baz=241
R58B P **Pdif** 11 18 50.2 +5.2
baz=241
ANKE **Ethiopia-Afar** 127.56 245 *e* P PKiKP 11 22 13.6 +8.2
NRIK **Noril'sk** 127.60 333 PKP **PKiKP** 11 22 03.9 +0.5
comp=Z,25nm,0.6s,baz=94,slow=3.8,SNR=12
NRIK **Noril'sk** 127.60 333 *d* PKIKP **PKiKP** 11 22 01.2 -2.1
GHWR **Ruwais** 127.63 269 P **PKiKP** 11 22 06.5 +1.7
T60A **Surry** 127.65 71 P **Pdif** 11 18 51.8 +5.1
baz=241
T60A P **Pdif** 11 18 51.8 +5.1
baz=241
CBN **Corbin Frederi** 127.72 70 IAMs_20 IAMs_20 12 17 50.8
comp=Z,411µm,18.0s
CBN **Corbin Frederi** 127.72 70 P **Pdif** 11 18 54.3 +7.2
baz=241
CBN **Corbin Frederi** 127.72 70 PKiKP **PKiKP** 11 22 02.2 -2.3
baz=241
FURI **Furi** 127.75 244 IAMs_20 IAMs_20 12 19 18.2
comp=Z,342µm,20.0s
ERPA **Erie** 127.77 64 P sPdif 11 19 00.5 +5.9
baz=243
ERPA **Erie** 127.77 64 PKiKP **PKiKP** 11 22 02.7 -1.8
baz=243
P57A **Homestead Farm** 127.89 68 P **Pdif** 11 18 58.0 +10
baz=242
P57A P **Pdif** 11 18 58.0 +10
baz=242
PSDB **Penn State Uni** 128.14 66 P **Pdif** 11 18 59.9 +11
baz=243
JRN **Qarnain Island** 128.22 270 P **PKiKP** 11 22 06.7 +0.7
M55A **Ridgway** 128.29 65 P **Pdif** 11 18 56.3 +6.7
baz=243
M55A P **Pdif** 11 18 56.3 +6.7
baz=243
SSPA **Standing Stone** 128.50 67 P sPdif 11 19 04.4 +6.5
baz=243
SSPA **Standing Stone** 128.50 67 PKiKP **PKiKP** 11 22 02.6 -3.4
baz=243
S61A **Accomac** 128.65 71 P **sPdif** 11 19 02.6 +4.0
baz=241
S61A P sPdif 11 19 02.6 +4.0
baz=241
SDMD **Soldier's Deli** 128.66 69 P sPdif 11 19 04.0 +5.4
baz=242
DESE **Dese** 128.74 246 *e* P **PKiKP** 11 22 04.6 -3.1
WVNY **West Valley, N** 128.81 64 P sPdif 11 19 06.8 +7.5
baz=244
J54A **Appleton** 129.17 63 P **sPdif** 11 19 06.8 +6.1
baz=244
J54A P sPdif 11 19 06.8 +6.1
baz=244
R61A **Willards** 129.19 70 P **sPdif** 11 19 05.7 +4.7
baz=242
R61A P sPdif 11 19 05.7 +4.7
baz=242
ASCN **Ascension** 129.21 171 IAMs_20 IAMs_20 12 17 09.8
comp=Z,307µm,20.0s
M57A **Sunshine Farm,** 129.33 66 P **sPdif** 11 19 09.6 +8.0

baz=244
M57A P sPdif 11 19 09.6 +8.0
baz=244
N58A Sunbury 129.39 67 P sPdif 11 19 19.7 +18
baz=243
N58A P sPdif 11 19 19.7 +18
baz=243
L56A Greenwood 129.39 65 P **sPdif 11 19 07.2 +5.3**
baz=244
L56A P sPdif 11 19 07.2 +5.3
baz=244
BVA0 Borovoye Array 129.41 310 PKIKP **PKiKP 11 22 04.1 -3.4**
BVAR Borovoye Array 129.41 310 PKP **PKiKP 11 22 07.5 0.0**
comp=Z,9.8nm,0.8s,baz=108,slow=4.8,SNR=6.1
BRVK Borovoye 129.48 310 PKPdf **PKPdf 11 22 03.8 -3.1**
BRVK Borovoye 129.48 310 P **PKiKP 11 22 07.0 -0.6**
BRVK Borovoye 129.48 310 *d* iPKIKP **PKiKP 11 22 05.9 -1.7**
BRVK pmax pmax
comp=Z,101nm,2.5s
SMRA Abu-Samra 129.60 269 P **PKiKP 11 22 09.1 +0.4**
GEDE Greenville 129.67 69 P **Pdif 11 19 02.9 +7.3**
baz=243
J55A Hilton 129.71 64 P **sPdif 11 19 08.5 +5.3**
baz=245
J55A P sPdif 11 19 08.5 +5.3
baz=245
PSUB Penn St. - Bra 129.84 69 P sPdif 11 19 09.9 +6.0
baz=243
SHMA Al-Shehemyia 130.14 270 P **PKiKP 11 22 09.1 -0.7**
P61A Hammonton 130.18 69 P **sPdif 11 19 08.5 +3.1**
baz=243
P61A P sPdif 11 19 08.5 +3.1
baz=243
K57A Scipio Center 130.35 65 P sPdif 11 19 18.1 +12
baz=245
KSPA Keystone Colle 130.35 67 P sPdif 11 19 15.6 +10
baz=244
J56A Wolcott 130.35 64 P **sPdif 11 19 14.7 +8.7**
baz=245
J56A P sPdif 11 19 14.7 +8.7
baz=245
BINY Binghamton 130.48 66 P **Pdif 11 19 06.1 +6.8**
baz=245
BINY Binghamton 130.48 66 PKiKP **PKiKP 11 22 07.0 -2.9**
baz=245
SAKB Bahrain 130.53 270 P **PKiKP 11 22 09.5 -1.1**
PANJ Princeton 130.56 68 P Pdif 11 19 14.4 +15
baz=244
ODNJ Ogdensburg 130.93 68 P **Pdif 11 19 07.8 +6.6**
baz=244
J57A Williamstown 130.97 64 P **sPdif 11 19 12.3 +3.4**
baz=246
J57A P sPdif 11 19 12.3 +3.4
baz=246
GEYT Alibeck 131.15 288 PKhKP PKPpre 11 22 04.8
comp=Z,8.9nm,0.9s,baz=343,slow=1.5,SNR=9.2
GEYT PKP pPKPdf 11 22 11.2 -5.0
comp=Z,26nm,0.8s,baz=205,slow=3.1,SNR=8.0
GEYT Alibeck 131.15 288 PKPpre 11 22 05.2
GYA0 ALIBECK ARRAY 131.15 288 PKiKP PKPpre 11 22 05.4
GYA0B ALIBECK ARRAY 131.15 288 PKPpre 11 22 05.0
RES Resolute Bay 131.18 21 PKP **PKiKP 11 22 11.1 +0.7**
comp=Z,16nm,0.8s,baz=201,slow=2.3,SNR=7.7
FOR Fordham 131.33 68 P sPdif 11 19 19.3 +8.8
baz=244
PAL Palisades 131.38 68 IAMs_20 IAMs_20 12 18 52.7
comp=Z,388μm,19.0s
PAL Palisades 131.38 68 P sPdif 11 19 12.5 +1.9
baz=244
PAL Palisades 131.38 68 PKiKP **PKiKP 11 22 09.0 -2.8**
baz=244
J58A Remsen 131.43 65 P **sPdif 11 19 15.5 +4.6**
baz=246
J58A P sPdif 11 19 15.5 +4.6
baz=246
WCNY West Carthage 131.43 64 P **Pdif 11 19 14.5 +11**
baz=246
BRNY Black Rk. Fore 131.48 67 P sPdif 11 19 26.8 +16
baz=245
NPNY Mohonk Preserv 131.53 67 P sPdif 11 19 14.0 +2.6
baz=245
N62A Caumsett State 131.65 68 P **sPdif 11 19 13.5 +1.6**
baz=244
N62A P sPdif 11 19 13.5 +1.6
baz=244
HCNY Howe Caverns 131.75 66 P sPdif 11 19 17.6 +5.3
baz=246
WSPT Westport, CT 131.84 68 IAMs_20 IAMs_20 12 22 16.1
comp=Z,422μm,18.0s
KSCT Kent School, K 131.97 67 **PKPdf 11 22 06.7 -5.3**
J59A Piesco 131.99 65 P sPdif 11 19 29.2 +16
baz=246
J59A P sPdif 11 19 29.2 +16
baz=246
NCB Newcomb 132.38 64 P sPdif 11 19 28.3 +13
baz=247
LONY Lake Ozonia 132.39 63 PKiKP **PKiKP 11 22 10.3 -3.5**
baz=247
BMNY Brushton-Moira 132.53 63 P sPdif 11 19 25.4 +10
baz=247
RAYN Ar Rayn 132.79 263 P **PKiKP 11 22 15.1 -0.2**
RAYN Ar Rayn 132.79 263 *i* PKPdf **PKiKP 11 22 13.8 -1.4**
SNR=67
L61B Northampton 132.81 67 P sPdif 11 19 24.8 +7.8
baz=246
L61B Northampton 132.81 67 PKiKP **PKPdf 11 22 09.6 -3.9**
baz=246
M63A Gales Ferry 132.82 68 P Pdif 11 19 31.8 +22
baz=245
M63A P Pdif 11 19 31.8 +22
baz=245
MCVT Middlebury Col 133.19 65 P **Pdif 11 19 19.1 +7.9**
baz=247
K62A Royalston 133.20 67 P Pdif 11 19 28.5 +17
baz=246
K62A P Pdif 11 19 28.5 +17
baz=246
J61A Chester 133.25 66 P Pdif 11 19 24.9 +13
baz=247
J61A P Pdif 11 19 24.9 +13
baz=247
VT1 Waterbury 133.49 64 P Pdif 11 19 27.0 +14
baz=248
HNH Hanover 133.57 65 P **Pdif 11 19 26.2 +13**
baz=247
HRV Adam Dziewonsk 133.59 67 P Pdif 11 19 31.2 +18
baz=247
HRV Adam Dziewonsk 133.59 67 PKiKP **PKPdf 11 22 10.0 -4.9**
baz=247
HRV Adam Dziewonsk 133.59 67 ⇑PKIKP **PKiKP 11 22 16.6 +0.4**
M65A Busby, Falmout 133.84 69 PKiKP **PKPdf 11 22 11.7 -3.8**
baz=246
L64A Middleborough 133.86 68 P **Pdif 11 19 22.6 +8.4**
baz=246
L64A P **Pdif 11 19 22.6 +8.4**
baz=246
BBSR BB Station 133.95 83 P **Pdif 11 19 25.9 +11**
baz=240
LBNH Lisbon 134.01 65 P Pdif 11 19 31.6 +17
baz=248
LBNH Lisbon 134.01 65 PKiKP **PKiKP 11 22 13.4 -3.7**
baz=248
I62A Tamworth 134.27 65 P Pdif 11 19 39.8 +24
baz=248
I62A P Pdif 11 19 39.8 +24
baz=248
UNH University of 134.29 67 P **Pdif 11 19 27.9 +12**
baz=247
AB31 Akbulak array 134.33 303 *i* PKIKP **PKiKP 11 22 15.4 -2.1**
ABKAR Akbulak array 134.33 303 **PKPdf 11 22 12.4 -3.7**
H62A Milan 134.65 65 P **Pdif 11 19 29.1 +11**
baz=249
H62A P **Pdif 11 19 29.1 +11**
baz=249
I63A Otisfield 134.84 66 P Pdif 11 19 39.0 +20
baz=248
I63A P Pdif 11 19 39.0 +20
baz=248
G62A West of Eustis 135.29 64 P Pdif 11 19 42.4 +22
baz=250
G62A P Pdif 11 19 42.4 +22
baz=250
AKTO Aktyubinsk 135.87 304 PKHKP PKPpre 11 22 07.0
SVE Sverdlovsk 135.88 313 *d* iPKIKP **PKiKP 11 22 24.9 +4.5**
SVE pmax pmax
comp=Z,179nm,1.0s
F62A Pittston Farm, 135.89 63 P Pdif 11 19 39.1 +16
baz=250
F62A P Pdif 11 19 39.1 +16
baz=250
PKME Peaks-Kenny Pk 136.13 64 **PKPdf 11 22 15.6 -4.0**
PKME Peaks-Kenny Pk 136.13 64 P Pdif 11 19 41.8 +18
baz=250
PKME Peaks-Kenny Pk 136.13 64 PKiKP **PKiKP 11 22 18.1 -3.2**
baz=250
F63A Nahmakanta, Br 136.40 64 P Pdif 11 19 46.7 +21
baz=251
F63A P Pdif 11 19 46.7 +21
baz=251
D62A Allapoint, All 136.87 62 **PKPdf 11 22 17.4 -3.6**
ARU Arti 136.93 312 **PKPdf 11 22 16.7 -4.1**
ARU IAMs_20 IAMs_20 12 24 19.5
comp=Z,454μm,22.0s
ARU Arti 136.93 312 *i* PKIKP **PKPdf 11 22 18.1 -2.6**
ARU 11 25 01.0
ARU SS SS 11 42 41.0 -28
F64A Sherman 136.95 64 P Pdif 11 19 45.9 +18
baz=251
F64A P Pdif 11 19 45.9 +18
baz=251
TULEG Thule 137.58 18 **PKPdf 11 22 17.8 -3.6**
TULEG Thule 137.58 18 *i* P **PKPdf 11 22 17.0 -4.4**
EKNA AfricaArray - 139.04 205 ⇓*e*P **PKiKP 11 22 27.8 -0.5**
AKT Akhty 139.91 288 *e*PKHKP PKPpre 11 22 21.6
AKT *i* 11 22 27.1
AKT *e* 11 25 17.7
AKT pmax pmax
comp=Z,290nm,1.5s
SCHQ Schefferville 139.97 51 PKhKP PKPpre 11 22 22.2
comp=Z,17nm,0.8s,baz=262,slow=4.4,SNR=10
SCHQ Schefferville 139.97 51 **PKPdf 11 22 23.0 -3.4**
MAK Makhachkala 140.56 290 *de*P **Pdif 11 19 35.2 -8.8**
MAK *i* 11 22 25.7
MAK *e* 11 25 24.0
MAK *e* 11 29 38.9
MAK *e*SS SS 11 43 54.0 +1.4
MAK pmax pmax
comp=Z,559nm,1.2s
KULLO Kullorsuaq 141.00 19 *e*P **PKiKP 11 22 25.9 -4.5**
GNI Garni 141.55 284 P **PKiKP 11 22 33.7 +0.9**
GNI Garni 141.55 284 PKPdf **PKPdf 11 22 27.2 -2.8**
GROC Groznyy 141.83 289 *e*PKiKP **PKiKP 11 22 29.4 -3.6**
GROC 11 29 42.7
GROC pmax pmax
comp=Z,1μm,1.4s
KIRV Kirov 142.04 315 *c* iPKIKP **PKiKP 11 22 29.9 -3.0**
UPNV Upernavik 142.05 21 *e*P **PKiKP 11 22 31.5 -1.1**
BELG Belogornoye 142.63 305 *ce*PKHKP PKPpre 11 22 24.3
KBS Kingsbay 142.88 354 IAMs_20 IAMs_20 12 21 53.3
comp=Z,338μm,22.0s
KBS Kingsbay 142.88 354 *i* P **PKiKP 11 22 33.3 -0.9**
KBS Kingsbay 142.88 354 *e*PKPdf **PKiKP 11 22 31.9 -2.3**
KBS IVmB_BB 11 22 40.1
comp=Z,4μm,4.1s
KBS *e*PP **PP 11 25 41.6 +0.9**
KBS *e*SS SS 11 44 20.1 +2.7
KBS *i* 12 02 58.5
KBS IVMs_BB IVMs_BB 12 21 52.3
comp=Z,97μm,22.6s
GURO Guroymak-BITLI 142.91 281 **PKPdf 11 22 28.3 -4.1**
ZEI Tsey 143.02 288 *i* PKHKP PKPpre 11 22 28.3
ZEI pmax pmax
comp=Z,323nm,2.1s
ONI Oni 143.28 288 **PKPdf 11 22 29.2 -3.6**
ONI Oni 143.28 288 PKHKP PKPpre 11 22 29.3
NUUG Nuugaatsiaq 143.41 23 *e*P **PKiKP 11 22 36.8 +1.4**
HOPEN Hopen 143.43 348 *e*PKPdf **PKiKP 11 22 33.4 -1.9**
HOPEN IVmB_BB 11 22 55.7
comp=Z,11μm,5.9s
HOPEN *e* 11 45 12.1
HOPEN *i* 12 04 03.3
HOPEN IVMs_BB IVMs_BB 12 19 13.1
comp=Z,156μm,24.1s
NCK Nalchik 143.45 289 ⇓*e*PKHKP PKPpre 11 22 29.0
LIC Lamto 143.66 183 ⇑*e*P **PKPdf 11 22 30.3 -4.0**
comp=Z,528nm,0.6s
PRGR Permogore 143.78 320 *e*PKHKP PKPpre 11 22 27.6
PRGR pmax pmax
comp=Z,37nm,1.0s
KIC Kosan Boka 143.79 184 ⇑*e*P PKPab 11 22 28.3 -3.1
comp=Z,87nm,0.5s
NEY Neytrino 143.99 288 *de*PKIKP **PKPdf 11 22 32.4 -1.8**
KBZ Khabaz 144.00 289 PKhKP PKPpre 11 22 30.8
comp=Z,53nm,0.9s,baz=157,slow=3.4,SNR=29
KBZ Khabaz 144.00 289 *c* iPKHKP PKPpre 11 22 29.6
KBZ MLR MLR
comp=Z,143μm,20.0s
TIC Toumodi 144.08 183 ⇑*e*P **PKiKP 11 22 33.7 -4.9**
comp=Z,349nm,0.8s
DBIC Dimbokro 144.10 184 PKhKP PKPpre 11 22 32.4
comp=Z,37nm,0.8s,baz=187,slow=3.2,SNR=13
DBIC PKP **PKiKP 11 22 35.9 -2.7**
comp=Z,52nm,0.6s,baz=186,slow=3.5,SNR=25
DBIC Dimbokro 144.10 184 ⇓PKHKP PKPpre 11 22 34.7
KIV Kislovodsk 144.21 289 ⇑P **PKiKP 11 22 34.1 -3.9**
KIV Kislovodsk 144.21 289 P **PKiKP 11 22 39.4 +1.4**
KIV Kislovodsk 144.21 289 *i* PKPdf **PKPdf 11 22 31.4 -3.0**
SNR=110
KIV Kislovodsk 144.21 289 *e*PKIKP **PKiKP 11 22 34.1 -3.9**
KIV *i* 11 22 38.8
KIV *e* 11 25 52.9
KIV *e* 11 29 44.2
GOF Gofitskoye 144.25 291 ⇑*e*PKHKP PKPpre 11 22 30.5
GOF pmax pmax
comp=Z,3μm,1.1s
HSPB Hornsund (broa 144.28 351 *e*PKiKP **PKiKP 11 22 37.8 +0.7**
HSPB *e*L L 12 23 10.2
comp=Z,454μm,22.4s
HSPB Hornsund (broa 144.28 351 *e*PKPdf **PKiKP 11 22 39.3 +2.2**
GHAJ Ghor Haditha 144.44 266 IAMs_20 IAMs_20 12 26 27.2
comp=Z,290μm,20.0s
ILULI Ilulissat 145.09 26 *e*P **PKiKP 11 22 39.4 +0.5**
SHBL Chebaa 145.32 269 *e*P **PKiKP 11 22 35.8 -4.9**
RCY Rachaya 145.32 269 *e*P **PKiKP 11 22 37.0 -3.7**
KTUT Trabzon 145.40 283 ⇓P **PKiKP 11 22 36.0 -4.4**
DAG Danmarks Havn 145.44 5 *i* P **PKiKP 11 22 38.0 -1.4**
ZAHL Zahle 145.45 270 *e*P **PKiKP 11 22 37.9 -3.0**
QRWL Qaraoun 145.46 269 *e*P **PKiKP 11 22 36.1 -4.8**
HWQ Hawqa 145.60 270 *e*P **PKiKP 11 22 38.0 -3.2**
DQRL Deir Qamar 145.61 269 *e*P **PKiKP 11 22 37.6 -3.6**
BHL Bhannes 145.64 270 *e*P **PKiKP 11 22 37.0 -4.3**
BJO1 Bjornoya 145.95 348 *e*PKPbc **PKiKP 11 22 37.4 -3.1**
BJO1 IVmB_BB 11 23 42.8
comp=Z,51μm,16.5s
BJO1 *e* 11 45 40.8
BJO1 *i* 12 04 23.2
BJO1 IVMs_BB IVMs_BB 12 20 33.5
comp=Z,46μm,25.3s
VRH Novokhopyorsk 146.15 302 *e*PKIKP **PKiKP 11 22 39.2 -2.4**
VRH pmax pmax
comp=Z,1μm,0.8s
SOC Sochi 146.18 288 *e*PKHKP PKPpre 11 22 35.9
SOC *i* 11 22 40.0
SOC *e*SSS SSS 11 50 10.9
SOC pmax pmax
comp=Z,290nm,1.7s
SFJD Kangerlussuaq 146.21 29 *i* P **PKiKP 11 22 38.0 -3.2**
LVZ Lovozero 146.44 333 **PKPdf 11 22 34.9 -2.6**
LVZ Lovozero 146.44 333 *de*PKIKP **PKPab 11 22 36.5 -3.3**
SUMG Summit 146.47 16 *i* P **PKiKP 11 22 39.0 -3.2**
NUUK Nuuk 146.81 34 *i* P **PKiKP 11 22 46.5 +3.9**
KLMR Klimovskoe 146.82 319 *e*PKPdf **PKPab 11 22 37.8 -3.6**
KLMR AMP 11 22 58.8
comp=Z,3μm,1.4s
KLMR PP **PP 11 26 08.8 +4.0**
KLMR *e* 11 32 15.3
KLMR 11 37 12.1
KLMR 11 37 12.1
KLMR SS SS 11 45 39.5 +36
KLMR SS SS 11 45 39.5 +36
KLMR LR LR 12 14 01.7
KLMR Klimovskoe 146.82 319 *e*PKIKP **PKPab 11 22 37.7 -3.6**
KLMR pmax pmax
comp=Z,3μm,1.4s
VADS Vadso 146.88 338 *ep*PKPbc pPKPbc 11 22 43.6 -1.9
VADS IVmB_BB 11 23 46.0
comp=Z,67μm,18.2s
VADS *e* 11 45 23.7
VADS IVMs_BB IVMs_BB 12 20 08.5
comp=Z,68μm,30.4s
APA Apatity 147.02 333 ⇓*i* PKIKP **PKPbc 11 22 36.4 -4.0**
APA *i* 11 29 15.0
APA pmax pmax
comp=Z,507nm,0.8s
KEV Kevo 147.74 339 **PKPbc 11 22 38.5 -3.8**
KEV IAMs_20 IAMs_20 12 28 24.5
comp=Z,298μm,22.0s
KEV Kevo 147.74 339 PKIKP **PKPbc 11 22 38.6 -3.8**
VORR Voronezh 147.75 302 *e*PKIKP **PKPab 11 22 42.6 -2.8**
VORR pmax pmax
comp=Z,750nm,1.1s
VSR Storozhevoye 147.76 302 *e*PKIKP **PKPab 11 22 42.4 -3.0**
VSR pmax pmax
comp=Z,350nm,0.8s
CSS Mathiatis 147.83 270 **PKPbc 11 22 40.6 -3.2**
CSS IAMs_20 IAMs_20 12 35 25.1
comp=Z,422μm,22.0s
LPSR Galich'ya Gora 147.95 304 *e*PKIKP **PKPab 11 22 43.1 -3.0**
LPSR pmax pmax
comp=Z,1μm,1.0s
DY2G Dye2 147.99 29 *e*P PKPab 11 22 50.9 +4.7
HAMF Hammerfest 147.99 341 *e*PKPab **PKPab 11 22 46.2 +0.5**
HAMF IVmB_BB 11 23 49.2
comp=Z,66μm,15.8s
HAMF *e* 11 45 21.1
HAMF *i* 12 06 56.3
HAMF IVMs_BB IVMs_BB 12 20 30.4
comp=Z,46μm,25.9s
ANN Anapa 148.07 289 *d* iPKP2 **PKPab 11 22 43.6 -3.2**
ANN *e*SS SS 11 45 04.5 -14
ANN *e*SSS SSS 11 50 32.3
ANN pmax pmax
comp=Z,327nm,0.9s
ARA0 ARCESS Array S 148.29 339 *e*PKPab **PKPab 11 22 46.9 -0.1**
ARA0 IVmB_BB 11 23 51.2
comp=Z,80μm,15.8s
ARA0 *e* 11 46 01.2
ARA0 *i* 12 05 15.8
ARA0 IVMs_BB IVMs_BB 12 23 24.2
comp=Z,53μm,23.9s
ARCES ARCESS Array B 148.29 339 PKP **PKPbc 11 22 41.2 -2.6**
comp=Z,65nm,0.7s,baz=77,slow=1.3,SNR=28
ARCES PKPbc **sPKPdf 11 22 44.4 -3.6**
comp=Z,118nm,0.9s,baz=67,slow=3.0,SNR=35
ARCES ARCESS Array B 148.29 339 **PKPbc 11 22 40.8 -3.1**
ICESG Greenland Ices 148.58 22 *e*P **PKPab 11 22 49.1 +0.5**
MOS Moscow 148.58 310 *e*PKP2 **PKPbc 11 22 42.0 -3.0**
MOS pmax pmax
comp=Z,2μm,2.4s
DIKM Dikmen 148.84 283 ⇑P **PKiKP 11 22 44.8 -2.7**
KTK1 Kautokeino 149.24 339 *e*PKPbc **PKPab 11 22 46.7 -4.2**
KTK1 IVmB_BB 11 23 53.4
comp=Z,46μm,15.7s
KTK1 *e* 11 46 14.7
KTK1 *i* 12 05 38.8
KTK1 IVMs_BB IVMs_BB 12 21 17.7
comp=Z,52μm,27.0s
OBN Obninsk 149.24 309 ⇑P **PKPab 11 22 46.9 -4.3**
OBN Obninsk 149.24 309 *ce*PKP2 **PKPbc 11 22 43.3 -3.3**
OBN *e* 11 26 12.0
OBN *e*SS SS 11 45 47.8 +17
OBN pmax pmax
comp=Z,1μm,0.9s
IVI Ivigtut 149.31 39 *i* P **PKPab 11 22 52.7 +1.3**
BR131 Keskin Array S 149.43 278 P **PKiKP 11 22 46.4 -2.6**
BR131 Keskin Array S 149.43 278 *d* iPKIKP **PKiKP 11 22 45.5 -3.5**
BRTR Keskin Array B 149.43 278 PKP **PKPbc 11 22 44.3 -3.6**
comp=Z,66nm,1.0s,baz=144,slow=4.8,SNR=64
BRTR PKPbc **sPKPdf 11 22 47.1 -3.9**
comp=Z,103nm,0.8s,baz=149,slow=4.9,SNR=52
JETT Jettan, Norway 149.55 341 *e*PKPdf **PKPab 11 22 53.1 +0.9**
JETT *e* 11 46 19.7
JETT IVMs_BB IVMs_BB 12 18 59.4
comp=Z,73μm,29.5s
BZK Bozkurt 149.82 283 ⇑P **PKiKP 11 22 47.0 -2.5**
TRO Tromso 149.84 342 *e*PKPbc **PKPab 11 22 48.4 -4.9**
TRO IVmB_BB 11 23 53.6
comp=Z,41μm,22.6s
TRO *e* 11 46 18.6
TRO IVMs_BB IVMs_BB 12 22 50.8
comp=Z,100μm,26.5s
ANTO Ankara 150.09 278 ⇑P **PKiKP 11 22 49.0 -1.2**
ANTO Ankara 150.09 278 IAMs_20 IAMs_20 12 42 03.1
comp=Z,208μm,20.0s
ANTO Ankara 150.09 278 P **PKiKP 11 22 48.9 -1.2**
ANTO Ankara 150.09 278 ⇑PKIKP **PKiKP 11 22 49.0 -1.2**
SIM Simferopol' 150.41 289 *e*PKIKP **PKiKP 11 22 47.7 -2.9**
SIM *e*SS SS 11 46 08.0 +23
SIM pmax pmax
comp=Z,860nm,1.2s
SIM pmax pmax
comp=Z,10μm,11.8s
NRS Narsarsuaq 150.58 38 *i* P **PKPab 11 22 51.0 -5.6**
ISOG Isortoq, Green 151.00 27 *e*P **PKPab 11 22 51.8 -6.4**
SCO Scoresbysund 151.11 10 IAMs_20 IAMs_20 12 31 25.8
comp=Z,359μm,20.0s
SCO Scoresbysund 151.11 10 *i* P **PKiKP 11 22 50.0 -1.3**
ANGG Ammassalik, Gr 151.40 26 IAMs_20 IAMs_20 12 28 23.3
comp=Z,343μm,20.0s
ANGG Ammassalik, Gr 151.40 26 *i* P **PKiKP 11 22 50.0 -2.0**
KDZE Karadeniz Ereo 151.50 281 ⇓P **PKiKP 11 22 52.2 -0.8**
JMIC Jan Mayen 151.60 1 *e*PKPbc **PKiKP 11 22 52.6 +0.3**
JMIC *e* 11 46 46.9
JMIC *i* 12 06 27.8
JMIC IVMs_BB IVMs_BB 12 22 18.7
comp=Z,101μm,24.3s
STEI Steigen 152.01 342 *e*PKPbc **PKiKP 11 22 53.1 -0.1**
STEI IVmB_BB 11 23 14.4
comp=Z,17μm,4.2s
STEI *e* 11 46 08.7
STEI IVMs_BB IVMs_BB 12 21 38.6
comp=Z,76μm,30.2s
LOF Lofoten 152.22 344 *e*PKPdf **PKPbc 11 22 47.2 -6.1**
LOF *e* 11 46 44.4
FAUS Fauske 152.44 341 *e*PKPbc **PKiKP 11 22 54.4 +0.3**
FAUS *e* 11 46 47.3
FAUS IVMs_BB IVMs_BB 12 21 53.3
comp=Z,81μm,27.6s
KARP Karpathos 152.63 266 **PKPbc 11 22 49.7 -5.7**
KARP IAMs_20 IAMs_20 12 43 11.1
comp=Z,298μm,21.0s
FIA1 FINESS Array S 152.74 325 **PKPbc 11 22 50.4 -4.3**
FINES FINESS Array B 152.74 325 PKPbc **PKiKP 11 22 53.6 -1.3**
comp=Z,89nm,0.8s,baz=105,slow=1.8,SNR=29
FINES FINESS Array B 152.74 325 **PKPbc 11 22 49.9 -4.8**
FINES FINESS Array B 152.74 325 PKHKP PKPpre 11 22 49.9
PURM Purcari 153.57 291 ⇓P **PKiKP 11 22 58.8 +1.7**
MOR8 Moi Rana 153.61 340 *e*PKPbc **PKiKP 11 22 56.5 -0.1**
MOR8 *e* 11 46 49.2
MOR8 IVMs_BB IVMs_BB 12 21 55.1
comp=Z,65μm,34.1s
KONS Konsvik 153.66 342 *e*PKPbc **PKiKP 11 22 57.3 +0.7**
VSU Vasula 153.71 319 *e*P **PKiKP 11 22 55.7 -1.2**
STOK Stokkvaagen 153.82 342 *e*PKPbc **PKiKP 11 22 57.8 +0.8**
AKASG Malin Array Be 154.04 301 PKP **PKPdf 11 22 50.6 +0.9**
comp=Z,21nm,1.1s,baz=62,slow=1.5,SNR=17
AKASG PKPbc **pPKPbc 11 22 57.5 -6.0**
comp=Z,32nm,0.8s,baz=70,slow=3.3,SNR=27
AKASG Malin Array Be 154.04 301 **PKPbc 11 22 52.2 -5.7**
AKBB Malin Array Si 154.04 301 **PKiKP 11 22 55.5 -2.4**
AKBB Malin Array Si 154.04 301 PKIKP **PKiKP 11 22 55.5 -2.4**
MANR Mangalia 154.11 285 ⇓P **PKPab 11 23 16.3 +4.3**
EFOR EFORIE 154.12 285 ⇑P **PKiKP 11 23 00.5 +2.2**
IDI Anoyia 154.19 264 ⇑P **PKiKP 11 22 57.2 -1.7**
IDI Anoyia 154.19 264 **PKPbc 11 22 53.2 -5.6**
IDI IAMs_20 IAMs_20 12 43 09.2
comp=Z,232μm,21.0s
SANT Santorini 154.23 267 ⇓P **PKiKP 11 22 56.0 -2.8**
MFTR Murfatlar 154.29 286 ⇑P **PKiKP 11 23 00.9 +2.2**
MNK Minsk 154.30 310 *i* PKP **PKPdf 11 22 50.0 0.0**
comp=E,9.0nm,0.9s
MNK *i* PKP **PKPdf 11 22 50.0 0.0**
comp=N,69nm,0.8s
MNK *i* PKP **PKPdf 11 22 50.0 0.0**
comp=Z,218nm,0.8s,baz=77
MNK *i* PP **PP 11 26 49.4 +1.3**
MNK *i* SKS **SKSdf 11 29 58.9 +3.2**
MNK *i* PPP PPP 11 30 19.9
MNK *i* SKKS **SKKSdf 11 38 31.4 -4.1**
MNK *i* SS **SS 11 46 30.7 +3.8**
MNK *i* SSS SSS 11 52 21.0
MNK *i* LR LR 12 30 32.6
MNK *i* LRM MLR 12 37 05.7
MNK *i* LRM MLR 12 37 33.1
comp=E,24μm,20.4s

MNK *i* LRM MLR 12 37 55.3
comp=N,87µm,17.2s
MNK Minsk 154.30 310 *i* PKIKP **PKPdf 11 22 50.0 0.0**
MNK *i* 11 29 58.9
MNK pmax pmax
comp=Z,218nm,0.8s
MNK pmax pmax
comp=N,69nm,0.8s
MNK pmax pmax
comp=E,9,0nm,0.9s
MILM Milestii Mici 154.32 292 *e*PKP **PKPdf 11 22 50.0 -0.3**
comp=E,41µm,14.9s
MILM Milestii Mici 154.32 292 *e*PP PP 11 26 51.0 +2.4
MILM LRM MLR 12 36 32.0
comp=E,138µm,23.0s
MILM Milestii Mici 154.32 292 ⇓P **PKiKP 11 22 56.6 -2.0**
MILM Milestii Mici 154.32 292 *e*PKIKP **PKPdf 11 22 50.0 -0.3**
MILM pmax pmax
comp=Z,41µm,14.9s
KIS Kishinev 154.32 292 *i* PKP **PKPdf 11 22 50.0 -0.3**
comp=Z,8µm,14.1s
KIS Kishinev 154.32 292 *e*PP PP 11 26 50.0 +1.4
KIS *e*L L 11 53 07.0
KIS LRM MLR 12 38 27.0
comp=Z,41µm,22.0s
KIS Kishinev 154.32 292 *e*PKIKP **PKPdf 11 22 50.0 -0.3**
KIS *e* 11 26 50.0
KIS pmax pmax
comp=Z,15µm,14.4s
TIRR Tirgusor 154.34 286 ⇓P **PKiKP 11 22 59.0 +0.2**
TIRR Tirgusor 154.34 286 ⇓P **PKiKP 11 22 59.0 +0.2**
TIRR Tirgusor 154.34 286 ⇓PKIKP **PKiKP 11 22 59.0 +0.2**
PSN Preselentsi 154.38 284 P **PKPbc 11 22 54.0 -4.8**
APE Apeiranthos 154.46 268 ⇓P **PKiKP 11 22 59.3 0.0**
APE Apeiranthos 154.46 268 ⇓PKIKP **PKiKP 11 22 59.3 0.0**
CFR Carcaliu 154.63 288 ⇑P **PKPbc 11 22 54.7 -4.6**
CFR Carcaliu 154.63 288 ⇑PKIKP **PKPbc 11 22 54.7 -4.6**
SORM Soroca 154.68 295 ⇑P **PKiKP 11 22 57.5 -1.8**
SORM Soroca 154.68 295 ⇑PKIKP **PKiKP 11 22 57.5 -1.8**
HARR Harsova 154.71 287 ⇑P **PKiKP 11 22 58.0 -1.5**
HARR Harsova 154.71 287 ⇑PKIKP **PKiKP 11 22 58.0 -1.5**
TATR Tatarca 154.74 289 ⇓P PKPab 11 23 21.4 +6.7
VLDR Vladesti 154.74 289 ⇓P **PKiKP 11 23 00.9 +1.4**
SCTR Scanteiesti 154.79 289 ⇑P **PKiKP 11 22 59.3 -0.3**
NACGM Naroch 154.82 311 ⇑/PKP **PKPbc 11 22 53.2 -6.1**
comp=Z,199nm,0.8s,baz=74
VARL Varlezi 154.91 289 ⇑P PKiKP 11 23 01.6 +1.7
IZVR Izvoarele 154.93 289 ⇓P PKPdf 11 22 59.5 +8.3
SLCR Slobozia Conac 154.93 289 ⇑P **PKPab 11 23 07.7 -7.7**
ISAL Salakas 155.00 313 *e*P PKPdf 11 22 57.8 +6.9
TUDR 155.01 289 ⇓P **PKPab 11 23 17.0 +1.2**
IIGN Ignalina 155.01 312 *e*P PKPdf 11 22 57.8 +6.9
GHRR 155.23 290 ⇑P PKPdf 11 23 00.2 +8.6
PGOR Pogoanele 155.41 287 ⇓P PKPab 11 23 24.6 +7.1
ODBI Odobesti 155.45 289 ⇑P PKPab 11 23 07.1 -11
GRER 155.47 288 ⇓P PKPab 11 23 23.6 +5.9
LEHL Lehliu 155.47 286 ⇑P PKPab 11 23 09.1 -8.7
NSS Namsos 155.55 340 *ep*PKPdf **pPKPdf 11 22 55.3 -1.7**
NSS *e* 11 47 24.4
BISRR Bisoca 155.67 288 ⇑P PKPdf 11 22 59.2 +6.9
VRI Vrincioaia 155.69 289 ⇓P **PKPab 11 23 16.4 -2.3**
VRI Vrincioaia 155.69 289 ⇓PKP2 **PKPab 11 23 16.4 -2.3**
PLOR Plostina 155.74 289 ⇓P PKPab 11 23 09.4 -10
ISR Istrita 155.75 287 ⇓P PKPab 11 23 05.7 -13
TESR Tescani 155.78 291 ⇓P PKPdf 11 22 58.3 +6.0
NEHR Nehoiu 155.95 288 ⇑P **PKPdf 11 22 57.0 +4.3**
COVR Voineasa-Covas 156.05 289 ⇑P PKPdf 11 22 59.9 +7.1
PABE Paberze 156.18 313 IAMs_20 IAMs_20 12 44 50.7
comp=Z,340µm,20.0s
PABE Paberze 156.18 313 *e*P **PKPdf 11 22 55.5 +2.9**
MLR Muntele Rosu 156.20 288 ⇓P **PKPdf 11 22 55.4 +2.3**
MLR Muntele Rosu 156.20 288 IAMs_20 IAMs_20 12 43 46.7
comp=Z,316µm,20.0s
MLR Muntele Rosu 156.20 288 ⇓PKIKP **PKPdf 11 22 55.4 +2.3**
PVL Pavlikeni 156.34 282 P **PKPdf 11 22 57.1 +4.0**
RZN Rozhen 156.49 278 P **PKPdf 11 22 57.0 +3.3**
DOPR Dopca 156.63 289 ⇑P **PKPdf 11 22 57.8 +4.3**
HUMR Humele 156.78 286 ⇑P **PKPab 11 23 27.4 +4.0**
BUR01 Bucovina Ar. S 156.79 293 ⇑P PKPab 11 23 06.9 -17
MTUR Matau 156.80 287 ⇓P **PKPab 11 23 25.0 +1.4**
MTUR Matau 156.80 287 ⇓PKP2 **PKPab 11 23 25.0 +1.4**
VOIR 156.82 288 ⇑P PKPdf 11 23 01.9 +8.0
VOIR 156.82 288 ⇑PKIKP PKPdf 11 23 01.9 +8.1
PLVB Pleven 156.88 283 ⇓P **PKPab 11 23 27.5 +3.6**
TBLU Trondheim 157.04 340 *ep*PKPdf **pPKPdf 11 22 57.5 -1.6**
TBLU *e* 11 47 32.5
ARR Arges 157.11 288 ⇑P **PKPdf 11 22 53.0 -1.2**
VLAD Vladila 157.13 284 ⇑P PKPab 11 23 34.7 +10
MMB Musomiste 157.19 278 P PKPdf 11 23 00.1 +5.7
MDB Medias 157.34 290 ⇑P **PKPab 11 23 29.6 +3.8**
MDB Medias 157.34 290 ⇑PKP2 **PKPab 11 23 29.6 +3.8**
ARCR ARCALIA 157.38 292 ⇓P **PKPdf 11 22 56.7 +2.3**
LVV L'vov 157.44 299 *i* PKIKP **PKPdf 11 22 53.7 -0.7**
THE Thessaloniki 157.51 275 *i* P **PKPdf 11 22 58.3 +3.5**
MPEP Malo Peshtene 157.51 282 P **PKPdf 11 22 57.9 +3.2**
KKB Krupnik 157.72 278 P **PKPdf 11 22 57.9 +2.9**
LOT Lotru 157.72 288 ⇓P PKPdf 11 23 00.6 +5.6
VTS Vitosha 157.75 280 ⇓P **PKPdf 11 22 58.3 +3.1**
VTS Vitosha 157.75 280 P **PKPdf 11 22 58.8 +3.6**
VTS Vitosha 157.75 280 ⇓PKIKP **PKPdf 11 22 58.3 +3.1**
CJR Cluj-Napoca 157.89 291 ⇑P PKPdf 11 23 03.1 +8.0
CJR Cluj-Napoca 157.89 291 ⇑PKIKP PKPdf 11 23 03.1 +8.0
CBBR Cluj-Babes-Bol 157.93 291 ⇑P PKPab 11 23 14.3 -14
BMR Baia Mare 157.95 294 ⇑P PKPdf 11 23 01.8 +6.7
BMR Baia Mare 157.95 294 ⇑PKIKP PKPdf 11 23 01.8 +6.7
VAY Valandovo 157.97 277 *i* P PKPdf 11 23 01.2 +5.9
MOL Molde 158.28 342 *ep*PKPdf **pPKPdf 11 22 58.5 -2.0**
MOL *e*SS SS 11 47 18.9 +10
BLKB Belogradchik 158.32 283 ⇓P **PKPdf 11 22 58.8 +3.1**
KWP Kalwaria Pacla 158.32 299 *e*PKPdf **PKPdf 11 22 59.0 +3.6**
KWP *e*L L 12 41 43.8
comp=Z,398µm,22.1s
DOMB Dombas 158.35 339 *e*PKPdf **PKPdf 11 22 55.4 +0.3**
DOMB *e* 11 47 58.7
DOMB IVMs_BB IVMs_BB 12 22 09.7
comp=Z,53µm,33.1s
DEV Deva 158.35 289 ⇓P **PKPdf 11 22 57.4 +1.8**
DEV Deva 158.35 289 ⇓PKIKP **PKPdf 11 22 57.4 +1.8**
GZR Gura Zlata 158.42 288 ⇑P **PKPdf 11 22 57.2 +1.4**
GZR Gura Zlata 158.42 288 ⇑PKIKP **PKPdf 11 22 57.2 +1.4**
NB2 NORSAR Subarra 158.55 335 PKPab **PKPab 11 23 31.1 +0.6**
baz=39,slow=4.4
NB2 NORSAR Subarra 158.55 335 PKPdf PKPdf 11 23 01.7 +6.3
comp=Z,4µm,5.0s,baz=47,slow=4.8
NB2 PKP **PKPab 11 23 31.1 +0.6**
comp=Z,2µm,2.5s,baz=39,slow=4.4
NOA NORSAR Array B 158.55 335 PKP **PKPdf 11 22 57.1 +1.7**
comp=Z,6,8nm,1.1s,baz=47,slow=1.5,SNR=12
NOA PKPab **pPKPab 11 23 31.3 -4.8**
comp=Z,34nm,0.9s,baz=39,slow=4.6,SNR=10
TRPA Tarpa 158.57 295 ⇑P **PKPab 11 23 32.1 +1.0**
NC602 NORSAR Array S 158.68 334 *e*PKPdf **PKPdf 11 22 55.9 +0.3**
NC602 *e* 11 47 12.3
UZH Uzhgorod 158.70 296 *e*PKIKP **PKPdf 11 22 57.4 +1.5**
UZH *i* 11 23 02.2
UZH *i* 11 27 10.0
UZH *e*SSS SSS 11 52 50.0
FNA Florina 158.72 275 *i* P PKPdf 11 23 02.5 +6.2
AKN Aaknes 158.75 342 *e*PKPdf **PKPdf 11 22 55.9 +0.3**
AKN *e* 11 47 30.3
SURR Surduc 158.89 288 ⇓P PKPdf 11 23 04.1 +7.9
SKO Skopje 158.94 278 *i* P **PKPdf 11 22 59.0 +2.5**
BEL Belsk 159.09 306 *e*PKPdf **PKPdf 11 23 00.1 +3.9**
BEL *e*L L 12 37 54.0
comp=Z,431µm,22.2s
KBN Korca 159.11 274 *i* P **PKPdf 11 22 59.1 +2.3**
LSK Leskovik 159.12 272 *i* P **PKPdf 11 22 52.4 -4.5**
CRVS Cervenica-Dubn 159.22 297 *e*PKP **PKPdf 11 22 58.8 +2.2**
CRVS *e* 11 23 12.7
CRVS *e* 11 23 42.5
CRVS *e*PP PP 11 27 33.1 +18
CRVS *e*SS SS 11 48 19.4 +59
CRVS Cervenica-Dubn 159.22 297 *e*PKIKP **PKPdf 11 22 58.8 +2.2**
OHR Ohrid 159.22 275 *i* P PKPdf 11 23 05.1 +8.2
SIRR Siria 159.23 290 ⇑P **PKPdf 11 22 58.3 +1.6**
BZS Buzias 159.25 288 ⇑P **PKPdf 11 22 59.0 +2.3**
BZS Buzias 159.25 288 ⇑PKIKP **PKPdf 11 22 59.0 +2.3**
STHS Stebnicka Huta 159.29 299 *e*PKP **PKPdf 11 22 59.6 +3.0**
STHS *e* 11 23 42.9
STHS Stebnicka Huta 159.29 299 *e*PKIKP **PKPdf 11 22 59.6 +3.0**
SRN Sarande 159.49 271 *i* P **PKPdf 11 23 00.6 +3.5**

TIM Timisoara 159.53 288 ⇓P PKPab 11 23 41.2 +5.9
TIM Timisoara 159.53 288 ⇓PKP2 PKPab 11 23 41.2 +5.9
OSL Oslo 159.55 334 *ep*PKPdf **pPKPdf 11 22 59.5 -2.6**
OSL *e* 11 47 29.0
OSL IVMs_BB IVMs_BB 12 21 34.1
comp=Z,49µm,36.3s
SKAR Skarslia 159.69 338 *e*PKPdf **PKPdf 11 22 56.7 -0.1**
SKAR *e* 11 47 30.5
SKAR IVMs_BB IVMs_BB 12 23 24.0
comp=Z,56µm,35.5s
FOO Floro 159.70 343 *e*PKPdf **PKPdf 11 22 57.0 +0.4**
FOO *e* 11 48 12.1
HYA Hoyanger 159.82 341 *ep*PKPdf pPKPdf 11 23 00.2 -2.3
TIR Tirane 159.96 275 ⇑P PKPab 11 23 43.4 +6.1
TIR Tirane 159.96 275 *i* P **PKPdf 11 23 01.6 +4.0**
TIR Tirane 159.96 275 ⇑PKP2 PKPab 11 23 43.4 +6.1
VLO Vlora 160.02 273 *i* P **PKPdf 11 22 50.3 -7.4**
OJC Ojcow 160.07 302 *e*PKPdf **PKPdf 11 22 58.6 +1.2**
OJC *e*L L 12 39 51.1
comp=Z,451µm,23.6s
KONO Kongsberg 160.14 335 *e*PKPdf **PKPdf 11 22 57.3 0.0**
KONO *e* 11 47 57.7
KONO IVMs_BB IVMs_BB 12 23 15.4
comp=Z,45µm,46.9s
IVA Berane 160.22 280 *e*PKP **PKPdf 11 23 01.1 +3.1**
SUE Sulen 160.24 343 *e*PKPdf **PKPdf 11 22 58.3 +1.0**
SUE *e* 11 48 18.6
SUE IVMs_BB IVMs_BB 12 21 53.4
comp=Z,72µm,33.9s
DIVS Divibare 160.30 283 *e*P **PKPdf 11 22 54.4 -3.7**
PSZ Piszkesteto 160.36 295 ⇓P **PKPdf 11 23 01.5 +3.5**
PSZ Piszkesteto 160.36 295 ⇓PKIKP **PKPdf 11 23 01.5 +3.5**
KOME Kolasin 160.50 280 *e*PKP **PKPdf 11 23 01.1 +2.8**
FRGS Fruska Gora 160.50 287 *e*P **PKPdf 11 22 58.4 +0.2**
PDG Podgorica 160.62 278 ⇑P **PKPab 11 23 41.8 +1.7**
TTG Podgorica 160.62 278 *e*PKP **PKPdf 11 23 01.3 +3.0**
DRME Dracevica, Mon 160.63 278 *e*P **PKPdf 11 23 00.3 +1.9**
DRME Dracevica, Mon 160.63 278 *e*PKP **PKPdf 11 23 01.5 +3.1**
PLE Pljevlja 160.65 281 *e*PKP **PKPdf 11 23 00.0 +1.5**
ASK Askoy 160.66 341 *e*PKPdf **PKPdf 11 22 57.7 -0.1**
GKP Gorka Klasztor 160.67 312 *e*PKPdf **PKPdf 11 22 59.5 +1.5**
GKP *e*L L 12 38 32.0
comp=Z,441µm,23.6s
GKP Gorka Klasztor 160.67 312 *e*P **PKPdf 11 23 00.2 +2.2**
SCTE Santa Cesarea 160.67 271 *i* P PKPdf 11 23 03.3 +4.9
BBLS Lazići 160.70 283 *e*P **PKPdf 11 22 59.6 +1.1**
RUDO Rudo 160.70 282 *e*P **PKPdf 11 23 02.9 +4.5**
BER Bergen 160.71 341 *e*PKPdf **PKPdf 11 22 57.9 0.0**
BER IVmB_BB 11 24 00.2
comp=Z,20µm,12.1s
BER *e* 11 48 07.5
BER IVMs_BB IVMs_BB 12 22 45.2
comp=Z,51µm,28.2s
ODD1 Odda 160.79 339 *ep*PKPdf **pPKPdf 11 23 01.3 -2.3**
ODD1 *e* 11 48 33.5
BUM Brajici-Budva 160.86 278 *e*PKP **PKPdf 11 23 01.8 +3.1**
CEME Cevo 160.88 279 *e*PKP **PKPdf 11 23 01.3 +2.6**
NKME Niksic 160.89 279 *e*PKP **PKPdf 11 23 01.8 +3.1**
UPM Unac-Piva 160.99 280 *e*P **PKPdf 11 23 01.3 +2.3**
UPM Unac-Piva 160.99 280 *e*PKP **PKPdf 11 23 01.1 +2.1**
VYHS Vyhne 161.00 297 *e*PKP **PKPdf 11 23 00.1 +1.5**
VYHS *e* 11 23 14.0
VYHS *e* 11 23 46.3
VYHS *e*PP PP 11 27 54.6 +29
VYHS *e*SS SS 11 48 17.6 +39
VYHS Vyhne 161.00 297 *e*PKIKP **PKPdf 11 23 00.1 +1.5**
VYHS *e*SS SS 11 48 17.6 +39
BSD Bornholm Skovb 161.02 319 *i* P **PKPdf 11 23 00.6 +2.2**
HAPS Han Pijesak,Bl 161.05 283 *e*P **PKPdf 11 23 00.3 +1.4**
RAC Raciborz 161.11 302 *e*PKPDF **PKPdf 11 23 00.4 +1.8**
RAC *e*PKPpB 11 23 42.2
RAC Raciborz 161.11 302 *e*PKIKP **PKPdf 11 23 00.4 +1.8**
OKC Ostrava-Krasne 161.20 301 *e*PKPDF PKPdf 11 23 06.3 +7.6
OKC *ep*PKP sPKPab 11 23 47.9 -2.0
OKC *e*SS SS 11 48 15.8 +35
OKC AMS AMS 12 41 40.0
comp=Z,256µm,20.5s
BRY Bratogost 161.21 279 *e*P **PKPdf 11 23 02.0 +2.8**
BRY Bratogost 161.21 279 *e*PKP **PKPdf 11 23 02.2 +3.0**
BLS5 Blasjo 161.25 338 *ep*PKPdf **pPKPdf 11 23 02.1 -2.0**
BLS5 IVmB_BB 11 24 09.1
comp=Z,32µm,12.1s
BLS5 *e* 11 47 44.5
BLS5 IVMs_BB IVMs_BB 12 23 39.4
comp=Z,56µm,41.8s
MORH Mrgy, Hungar 161.32 290 ⇑P **PKPdf 11 22 57.3 -1.7**
MORH Mrgy, Hungar 161.32 290 PKP **PKPdf 11 22 59.8 +0.9**
SRO Srobarova 161.43 295 *e*PKP PKPdf 11 23 06.3 +7.3
SRO *e* 11 23 48.6
SRO Srobarova 161.43 295 *e*PKIKP PKPdf 11 23 06.3 +7.3
MAUC Maruska 161.50 300 *e*PKPDF **PKPdf 11 22 51.8 -7.3**
MAUC *ep*PKP **sPKPab 11 23 49.6 -1.7**
MAUC *e*SS SS 11 48 05.7 +21
MAUC AMS AMS 12 39 30.0
comp=Z,521µm,22.4s
H07S1 FLORES T-PHASE 161.52 92 *e*PKP PKPdf 11 23 08.2 +8.8
HOMB Homborsund 161.57 333 *ep*PKPdf **pPKPdf 11 23 02.0 -2.4**
HOMB IVmB_BB 11 24 09.7
comp=Z,31µm,12.4s
HOMB *e* 11 48 01.7
HOMB IVMs_BB IVMs_BB 12 22 07.4
comp=Z,55µm,35.6s
MORC Moravsky Berou 161.59 301 ⇓P **PKPdf 11 23 01.8 +2.6**
MORC Moravsky Berou 161.59 301 *e*PKP **PKPdf 11 22 59.9 +0.7**
MORC *e* 11 28 25.2
MORC *e* 11 32 15.4
MORC *e* 11 41 43.3
MORC *e* 11 48 49.9
MORC Moravsky Berou 161.59 301 ⇓PKIKP **PKPdf 11 23 01.8 +2.6**
TIP Timpagrande 161.67 267 ⇓P **PKPdf 11 22 58.9 -0.7**
H07N1 FLORES T-PHASE 161.67 91 *e*PKP PKPdf 11 23 09.7 +10
OVD Ostervraa, Den 161.68 329 *i* P **PKPdf 11 23 03.2 +4.3**
KOVH Kovagotottos 161.70 289 PKP **PKPdf 11 23 00.3 +1.0**
STON Ston 161.82 279 *e*P **PKPdf 11 22 59.3 -0.3**
COP Copenhagen 161.85 323 *i* P **PKPdf 11 23 02.3 +3.2**
SMOL Smolenice 161.92 297 *e*PKIKP PKPdf 11 23 04.2 +4.7
SNART Snartemo 161.93 335 *ep*PKPdf pPKPdf 11 23 02.5 -2.3
KRLC Kraliky 162.00 303 *e*PKPDF **PKPdf 11 22 58.4 -1.2**
KRLC *ep*PKP **sPKPab 11 23 49.2 -4.3**
KRLC *e*SS SS 11 48 17.5 +28
KRLC AMS AMS 12 39 40.0
comp=Z,268µm,22.7s
KRLC Kraliky 162.00 303 *e*PKIKP **PKPdf 11 22 58.4 -1.2**
KRLC *e*SS SS 11 48 17.5 +28
KRLC MLR MLR
comp=Z,268µm,22.7s
MPLH Magyarpolny 162.02 293 PKP **PKPdf 11 23 04.2 +4.6**
MODS Modra-Piesok 162.04 297 *e*PKP **PKPdf 11 23 00.7 +1.0**
MODS *e* 11 23 14.9
MODS *e* 11 23 54.0
MODS *e*PP PP 11 27 42.0 +11
MODS Modra-Piesok 162.04 297 *e*PKIKP **PKPdf 11 23 00.7 +1.0**
KSP Ksiaz 162.07 305 *e*PKPdf **PKPdf 11 22 57.5 -2.1**
KSP *e*L L 12 31 29.3
comp=Z,361µm,32.1s
MATE Matera 162.12 272 ⇓P **PKPdf 11 22 57.6 -2.3**
LLD Lille Linde 162.17 322 *i* P PKPdf 11 23 05.0 +5.5
DPC Dobruska-Polom 162.20 304 *e*PKPDF **PKPdf 11 22 57.9 -1.9**
DPC *ep*PKP **sPKPab 11 23 51.5 -2.9**
DPC *e*SS SS 11 48 45.8 +54
DPC AMS AMS 12 37 00.0
comp=Z,439µm,24.1s
DPC Dobruska-Polom 162.20 304 *e*PKIKP **PKPdf 11 22 57.9 -1.9**
DPC MLR MLR
comp=Z,439µm,24.1s
OSTC Ostas 162.21 304 *e*PKPDF **PKPdf 11 22 58.0 -1.8**
OSTC *ep*PKP **sPKPab 11 23 52.3 -2.0**
OSTC *e*SS SS 11 48 35.6 +44
OSTC AMS AMS 12 36 50.0
comp=Z,423µm,25.2s
GOET G??ttrup 162.26 330 *i* P **PKPdf 11 23 04.1 +4.6**
CHVC Chvalec 162.30 305 *e*PKPDF PKPab 11 23 57.5 +10
CHVC *e*SS SS 11 48 24.0 +32
CHVC AMS AMS 12 37 00.0
comp=Z,352µm,25.9s
VRAC Vranov 162.30 300 ⇑P PKPdf 11 23 09.7 +10
VRAC Vranov 162.30 300 *e*PKP **PKPdf 11 23 00.6 +0.7**
VRAC *e* 11 28 35.1
VRAC *e* 11 32 20.0
VRAC *e* 11 41 56.5
VRAC *e* 11 48 56.6

SRKY Kupres RS 162.33 283 *e*P PKPdf 11 23 07.0 +6.8
UPC Upice 162.35 304 *e*PKPDF **PKPdf 11 23 02.7 +2.8**
UPC *ep*PKP **sPKPab 11 23 52.3 -2.6**
UPC *e*SS SS 11 48 31.9 +39
UPC AMS AMS 12 37 00.0
comp=Z,403µm,25.5s
UPC Upice 162.35 304 *e*PKIKP **PKPdf 11 23 02.7 +2.8**
UPC *e*SS SS 11 48 31.9 +39
UPC MLR MLR
comp=Z,403µm,25.5s
BLY Banja Luka 162.35 285 *e*P **PKPdf 11 22 57.6 -2.5**
MGRS Mrkonjic Grad 162.41 284 *e*P PKPdf 11 23 06.9 +6.7
KRUC Moravsky 162.48 299 *e*PKP **PKPdf 11 23 01.6 +1.5**
KRUC *e* 11 28 34.6
KRUC *e* 11 32 20.0
KRUC *e* 11 41 56.5
KRUC *e* 11 48 59.2
A051A Mrakovica 162.55 286 *e*P **PKPdf 11 23 03.5 +3.1**
BEHE Becsehely 162.60 291 PKP PKPdf 11 23 07.4 +7.2
MUD Monsted U'grnd 162.70 329 *i* P **PKPdf 11 23 03.2 +3.2**
RONA Rosalia, Austr 162.80 295 *e*P **PKPdf 11 22 57.6 -2.8**
comp=Z,39nm,1.4s,SNR=7.4
A050A Klekovaca 162.81 284 *e*P **PKPdf 11 23 01.4 +0.8**
RUE Ruedersdorf 162.90 312 *e*P **PKPdf 11 23 03.1 +2.8**
KOGS Kog 162.97 291 *e*PKPdf **PKPdf 11 22 58.0 -2.6**
KOGS *e* 11 23 03.2
KOGS *i* 11 23 07.3
KOGS *e*PKPab **sPKPab 11 23 58.3 +0.5**
KOGS *e* 11 24 51.4
KOGS *e*PP PP 11 27 43.5 +7.8
KOGS *e* 11 28 33.8
KOGS *e* 11 32 21.6
KOGS *e* 11 34 10.2
KOGS *e* 11 39 01.0
KOGS *e* 11 48 18.3
TREC Trest 163.01 301 *ep*PKP PKPab 11 23 59.0 +8.6
TREC *e*SS SS 11 48 07.9 +8.0
TREC AMS AMS 12 37 40.0
comp=Z,428µm,24.1s
CONA Conrad Observa 163.05 296 *e*P **PKPdf 11 22 58.5 -2.3**
comp=Z,19nm,1.4s
CALA Caldeira 163.09 97 *e*PKP PKPdf 11 23 10.2 +9.1
PCED Cedros 163.11 97 *e*PKP PKPdf 11 23 10.8 +10
HOR Horta 163.13 97 *e*PKP PKPdf 11 23 10.4 +9.4
PCAN Candelaria 163.21 97 *e*PKP PKPdf 11 23 10.9 +10
PVCC Panska Ves 163.22 305 *e*PKPDF **PKPdf 11 23 04.2 +3.5**
PVCC *ep*PKP **sPKPab 11 23 59.2 +0.5**
PVCC *e*SS SS 11 48 28.2 +26
PVCC AMS AMS 12 37 30.0
comp=Z,410µm,23.6s
PVCC Panska Ves 163.22 305 *e*PKIKP **PKPdf 11 23 04.2 +3.5**
PVCC MLR MLR
comp=Z,410µm,23.6s
PICO Pico 163.27 97 *e*PKP PKPdf 11 23 09.3 +8.0
GOPC GO Pecny, Ondr 163.28 303 *ep*PKP PKPab 11 23 56.9 +5.3
GOPC *e*SS SS 11 48 34.2 +32
GOPC AMS AMS 12 40 30.0
comp=Z,278µm,22.4s
GOPC GO Pecny, Ondr 163.28 303 *e*PKP2 PKPab 11 23 56.9 +5.3
GOPC *e*SS SS 11 48 34.2 +32
GOPC MLR MLR
comp=Z,278µm,22.4s
PPNO Prainha do Nor 163.37 97 *e*PKP PKPdf 11 23 11.7 +10
ARSA Arzberg 163.38 294 P **PKPdf 11 22 58.6 -2.4**
comp=Z,25nm,2.0s,SNR=16
PRU Pruhonice 163.41 304 *e*PKPDF PKPdf 11 23 07.1 +6.2
PRU *ep*PKP sPKPab 11 23 58.7 -0.9
PRU *e*SS SS 11 48 37.4 +34
PRU AMS AMS 12 32 00.0
comp=Z,310µm,29.6s
PRU Pruhonice 163.41 304 *e*PKIKP PKPdf 11 23 07.1 +6.2
PRU *e*SS SS 11 48 37.4 +34
BRG Berggiesshubel 163.47 307 ⇓*e*PKPf 11 23 01.5
BRG Amp 11 23 19.2
comp=Z,362nm,1.9s
BRG *e*PKPab **PKPab 11 23 53.4 +1.0**
BRG Amp 11 24 12.2
comp=Z,955nm,1.7s
BRG *ex* x 11 28 36.7
BRG Amp 11 28 38.9
comp=Z,788nm,2.0s
BRG Berggiesshubel 163.47 307 *e*PKP2 **PKPab 11 23 53.3 +1.0**
BRG pmax pmax
comp=Z,955nm,1.7s
PID Ribeirinha 163.47 98 *e*PKP PKPdf 11 23 09.0 +7.6
ROSA Rosais 163.48 97 *e*PKP PKPdf 11 23 10.5 +9.1
CRES Cresnjev 163.56 289 *e*P **PKPdf 11 23 04.4 +3.2**
PMAN Manadas 163.56 97 *e*PKP PKPdf 11 23 09.5 +8.1
BOJS Bojanci 163.72 288 *e*P **PKPdf 11 22 58.9 -2.5**
SRBC Serra Branca 163.74 96 *e*PKP PKPdf 11 23 12.2 +11
PGRA Graciosa 163.78 96 *e*PKP PKPdf 11 23 10.4 +8.8
SOKA Soboth 163.78 292 *e*P **PKPdf 11 22 59.3 -2.2**
comp=Z,65nm,1.3s,SNR=13
CLL Collm 163.84 309 *e*PKPdf **PKPdf 11 22 59.0 -2.3**
comp=Z,166nm,3.2s
CLL *i* PKPdf(2) 11 23 07.3
comp=Z,824nm,2.8s
CLL *i* PKPdfmax 11 23 13.3
comp=Z,912nm,2.6s
CLL *i* PKPab **pPKPab 11 23 55.4 -4.1**
comp=Z,232nm,1.6s
CLL *i* PKPab(2) 11 24 02.3
comp=Z,607nm,1.9s
CLL *i* PKPabmax 11 24 10.4
comp=Z,592nm,1.7s
CLL *ex* x 11 24 58.0
CLL *e*PPmax 11 27 54.0
comp=Z,693nm,2.0s
CLL *e*PPlp 11 28 43.0
comp=N,34µm,21.5s
CLL *e*PPlp 11 28 43.0
comp=E,34µm,18.2s
CLL *e*PPlp 11 28 43.0
comp=Z,73µm,16.7s
CLL *e*PPPlp 11 32 42.0
CLL *ex* x 11 35 12.0
CLL *e*PPPrev 11 36 15.0
CLL *e*PSKS 11 39 09.0
CLL *e*PPS PPS 11 42 20.0
CLL *e*SS SS 11 49 15.0 +67
CLL *e*PSPS 11 51 06.0
CLL *e*SSrev 11 54 30.0
CLL *e*SSS SSS 11 55 54.0
CLL *e*SSSS 11 59 54.0
CLL *e*SSSrev 12 02 24.0
CLL *ex* x 12 06 12.0
CLL Lmax 12 43 00.0
CLL LmV 12 45 00.0
comp=Z,599µm,20.4s
CLL Collm 163.84 309 *e*PKIKP **PKPdf 11 22 58.0 -3.3**
CLL pmax pmax
comp=Z,166nm,3.2s
CKRC Cesky Krumlov 163.88 300 *e*PKPDF **PKPdf 11 23 03.1 +1.7**
CKRC *e*PKPAB **sPKPab 11 23 59.6 -2.1**
CKRC *e*SS SS 11 48 34.2 +25
BIGH Upper Bighouse 164.03 354 *e*P PKPdf 11 23 07.1 +5.9
BIGH IAMs_20 IAMs_20 12 21 47.3
comp=Z,384µm,35.9s
MOA Molln 164.12 296 *e*P **PKPdf 11 22 59.0 -2.7**
comp=Z,32nm,1.4s
OBKA Obir 164.13 291 *e*P **PKPdf 11 23 03.9 +2.1**
OBKA Obir 164.13 291 P **PKPdf 11 22 59.9 -2.0**
comp=Z,46nm,1.4s,SNR=7.4
PSBA Serra de Santa 164.17 97 *e*PKP PKPdf 11 23 11.3 +9.3
LJU Ljubljana 164.19 290 *i* PKPdf **PKPdf 11 23 00.2 -1.6**
LJU *i* 11 23 05.0
LJU *e* 11 23 08.7
LJU *e*PKPab **sPKPab 11 23 59.1 -4.1**
LJU *e*PP PP 11 27 49.5 +7.2
LJU *i* 11 28 40.8
LJU *e* 11 36 24.6
LJU *e* 11 39 06.6
LJU *e* 11 48 39.2
LJU *e* 11 55 38.4
GERES GERESS Array B 164.26 300 PKP **PKPdf 11 23 02.8 +0.9**
comp=Z,1.8nm,0.9s,baz=329,slow=1.6,SNR=12
GERES PKPab **PKPab 11 23 53.8 -2.2**
comp=Z,19nm,1.0s,baz=153,slow=1.2,SNR=5.3
KHC Kasperske Hory 164.26 301 *e*PKPDF **PKPdf 11 23 01.9 +0.1**
KHC *ep*PKP **sPKPab 11 23 59.1 -4.3**
KHC *ex* x 11 24 47.0
KHC *e*SS SS 11 48 13.7 +0.9
KHC AMS AMS 12 31 30.0

comp=Z,481µm,30.7s
KHC Kasperske Hory 164.26 301 *e*PKIKP **PKPdf 11 23 01.9 +0.1**
PAGU Agualva, Azore 164.27 98 *e*PKP PKPdf 11 23 10.7 +8.6
CEY Cerknica 164.28 289 *e*P **PKPdf 11 22 58.0 -3.9**
PSCM Serra do Cume 164.29 98 *e*PKP PKPdf 11 23 11.3 +9.2
LINV Loch Inver, As 164.45 356 *e*P PKPdf 11 23 07.0 +5.5
LINV IAMs_20 IAMs_20 12 36 59.0
comp=Z,218µm,22.2s
BIOA Bad Ischl, Aus 164.57 296 *e*P **PKPdf 11 22 59.5 -2.6**
comp=Z,33nm,1.3s
MYKA Terra Mystica 164.74 292 P **PKPdf 11 22 59.7 -2.6**
comp=Z,65nm,1.8s,SNR=6.1
KBA Koelnbreinsper 164.87 294 *e*P **PKPdf 11 22 59.3 -3.3**
comp=Z,58nm,2.1s,SNR=7.0
PSET Sete Cidades 164.97 103 *e*PKP PKPdf 11 23 10.5 +7.7
PDA Ponta Delgada 164.98 103 *e*PKP PKPdf 11 23 12.0 +9.3
PSMA Santa Maria 165.03 106 *e*PKP PKPdf 11 23 09.4 +6.6
PSMN Pico do Norte, 165.08 106 *e*PKP PKPdf 11 23 11.5 +8.6
CMLA Cha da Macela 165.09 103 *e*PKP PKPdf 11 23 11.0 +8.1
KAC Achnashellach 165.10 356 *e*P PKPdf 11 23 07.3 +5.1
PCALD Caldeiras da R 165.13 103 *e*PKP PKPdf 11 23 12.9 +10
PGRON Lagoa das Cont 165.20 103 *e*PKP PKPdf 11 23 10.8 +7.8
BART Pico Bartolome 165.35 103 *e*PKP PKPdf 11 23 09.6 +6.4
DRUM Mains of Drumt 165.44 350 *e*P PKPdf 11 23 07.6 +5.1
DRUM IAMs_20 IAMs_20 12 41 18.3
comp=Z,369µm,22.1s
ABTA Abfaltersbach 165.49 293 *e*P **PKPdf 11 22 59.8 -3.2**
comp=Z,22nm,1.3s
KEST Kesra 165.52 247 PKP **PKPdf 11 23 03.9 +0.5**
comp=Z,26nm,1.0s,baz=345,slow=2.6,SNR=12
KEST PKPab **pPKPab 11 24 01.9 -5.4**
comp=Z,41nm,1.0s,baz=131,slow=16,SNR=3.5
KEST Kesra 165.52 247 P **PKPdf 11 23 06.8 +3.4**
EDU Dundee 165.86 351 *e*P PKPdf 11 23 09.3 +6.4
WTTA Wattenberg 165.98 296 *e*P **PKPdf 11 23 00.2 -3.3**
comp=Z,106nm,2.3s,SNR=14
WATA Walderalm 166.01 296 *e*P **PKPdf 11 22 59.7 -3.8**
comp=Z,113nm,1.9s,SNR=19
INVG Invergeldie, C 166.09 353 *e*P **PKPdf 11 23 03.0 0.0**
INVG IAMs_20 IAMs_20 12 44 02.1
comp=Z,459µm,19.0s
SQTA Sankt Quirin 166.28 296 *e*P **PKPdf 11 22 59.8 -3.8**
comp=Z,146nm,2.6s
MOTA Moosalm 166.32 296 *e*P **PKPdf 11 23 00.8 -2.9**
comp=Z,54nm,1.2s,SNR=22
LAWE Loch Awe, Argy 166.35 356 *e*P PKPdf 11 23 08.9 +5.7
LAWE IAMs_20 IAMs_20 12 49 55.9
comp=Z,464µm,17.9s
EDI Edinburgh 166.49 351 *e*P PKPdf 11 23 08.7 +5.4
EDI IAMs_20 IAMs_20 12 43 49.1
comp=Z,402µm,18.8s
RETA Reutte 166.51 297 *e*P **PKPdf 11 23 00.3 -3.5**
comp=Z,120nm,2.9s,SNR=23
EBL Broad Law 166.62 350 *e*P **PKPdf 11 23 06.1 +2.6**
FETA Feichten 166.64 295 *e*P **PKPdf 11 23 01.1 -2.9**
comp=Z,26nm,1.5s,SNR=14
ABSA Djebel Ababsia 167.08 245 P **PKPdf 11 23 06.7 +2.1**
ESK Eskdalemuir 167.09 350 *e*P **PKPdf 11 23 05.9 +2.1**
ESK IAMs_20 IAMs_20 12 49 55.5
comp=Z,394µm,18.4s
DAVA Damuels 167.14 297 *e*P **PKPdf 11 23 02.1 -2.3**
comp=Z,90nm,2.3s
DAVOX Davos/Dischmat 167.26 295 PKP **PKPdf 11 23 05.2 +0.7**
comp=Z,15nm,1.1s,baz=303,slow=2.5,SNR=10
DAVOX PKPab **pPKPab 11 24 10.0 -5.0**
comp=Z,161nm,1.0s,baz=107,slow=4.8,SNR=5.2
CMAH Djebel Manchou 167.31 246 P **PKPdf 11 23 06.3 +1.6**
PMOZ Porto Moniz, M 167.34 138 *e*PKP PKPdf 11 23 11.3 +6.4
PMOZ Porto Moniz, M 167.34 138 *e*SKS 11 49 35.0
PMOZ Porto Moniz, M 167.34 138 *e*LR LR 12 25 14.2
comp=Z,339µm,20.0s
FUL Funchal 167.34 139 *e*PKP PKPdf 11 23 15.3 +11
EDMD Edmundbyers 167.37 346 *e*P PKPdf 11 23 09.5 +5.4
EDMD IAMs_20 IAMs_20 12 43 08.1
comp=Z,507µm,20.6s
PMAR Madeira 167.39 139 *e*PKP PKPdf 11 23 11.3 +6.2
PMAR *i* LQ LQ 11 24 10.5
NEWG New Galloway 167.40 352 *e*P PKPdf 11 23 09.1 +5.0
NEWG IAMs_20 IAMs_20 12 36 39.8
comp=Z,419µm,23.7s
GDLE Glaisdale, N Y 167.53 343 *e*P PKPdf 11 23 09.8 +5.6
GDLE IAMs_20 IAMs_20 12 26 12.1
comp=Z,385µm,33.8s
CLGH Cloghs, Cushen 167.56 357 *e*P PKPdf 11 23 09.6 +5.4
CLGH IAMs_20 IAMs_20 12 50 37.0
comp=Z,440µm,17.5s
IDGL Inch Island, C 167.58 1 *e*P **PKPdf 11 23 08.6 +4.5**
CKFL Kef-Lekhel 167.65 244 P **PKPdf 11 23 07.0 +1.9**
CTEI Djebel Teioual 167.66 242 P **PKPdf 11 23 08.8 +3.7**
CASM Ain Smara 167.72 243 P **PKPdf 11 23 07.8 +2.8**
KESW Keswick, Cumbr 167.78 349 *e*P **PKPdf 11 23 08.2 +3.9**
KESW IAMs_20 IAMs_20 12 49 01.6
comp=Z,360µm,19.5s
TTIG Tnine Tigouga, 167.86 174 P PKPdf 11 23 17.0 +12
PMPS Porto Santo 167.95 140 *e*PKP PKPdf 11 23 11.5 +6.3
BTNL Ternell 167.96 316 *d*PKPdf **PKPdf 11 23 01.9 -2.8**
BTNL *dp*PKPdf **pPKPdf 11 23 07.2 -3.1**
PMPST Porto Santo, M 167.96 140 *e*PKP PKPdf 11 23 11.6 +6.4
PMPST *i* LQ LQ 11 24 10.9
MEM Membach 168.01 316 *dp*PKPdf **pPKPdf 11 23 08.0 -2.3**
MEM *ds*PKP 11 23 11.0
HPK Haverah Park 168.14 344 *e*P **PKPdf 11 23 06.7 +2.1**
HPK IAMs_20 IAMs_20 12 51 52.3
comp=Z,360µm,16.8s
BHOU Houvegnez 168.16 315 *d*PKPbc **PKPdf 11 23 05.3 +0.5**
CKHR Kef el Ahmar 168.21 240 P PKPdf 11 23 11.0 +5.5
BSTI Sart Tilman 168.25 317 *ds*PKP 11 23 11.2
IOMK Kirk Michael 168.28 353 *e*P **PKPdf 11 23 09.0 +4.3**
IOMK IAMs_20 IAMs_20 12 45 32.4
comp=Z,822µm,20.7s
DFRA Djebel Bou Aff 168.29 243 P PKPdf 11 23 10.6 +5.1
WLF Walferdange 168.47 312 *d*PKPdf **PKPdf 11 23 04.4 -0.6**
WLF *ds*PKP 11 23 12.1
BCLA Clavier 168.49 317 *dp*PKPdf **pPKPdf 11 23 08.0 -2.7**
BCLA *dP*KP **PKPab 11 24 09.2 -5.2**
FIGM Figuig 168.52 206 P PKPdf 11 23 16.0 +10
OUK Oukaimeden 168.55 177 P PKPdf 11 23 17.0 +11
BGES Gesves 168.62 317 *d*PKP PKPdf 11 23 11.2 +6.2
ILTH Belurgan, Co L 168.62 358 *e*P **PKPdf 11 23 04.5 -0.4**
RCHB Rochefort 168.68 316 *ds*PKP 11 23 11.5
WACR West Acre 168.68 335 *e*P PKPdf 11 23 09.9 +4.9
WACR IAMs_20 IAMs_20 12 42 23.1
comp=Z,456µm,21.4s
EAH EAH 168.82 169 P PKPdf 11 23 17.0 +11
BMRD Maredsous 168.83 317 *d*PKPdf **PKPdf 11 23 04.0 -1.2**
ATAF Djebel Tarf 168.90 236 P PKPdf 11 23 14.2 +8.3
SNF Seneffe 168.94 319 *dp*PKPdf **pPKPdf 11 23 08.2 -2.7**
SNF *ds*PKP 11 23 12.6
DOU Dourbes 169.04 317 *d*PKP PKPdf 11 23 12.4 +7.0
STNC Stoke 169.07 344 *e*P **PKPdf 11 23 05.8 +0.5**
WME Myndd Eilian 169.10 351 *e*P **PKPdf 11 23 07.2 +2.0**
ELMS Elmsett, Ipswi 169.10 333 *e*P **PKPdf 11 23 07.6 +2.3**
ELMS IAMs_20 IAMs_20 12 38 58.7
comp=Z,480µm,23.0s
CWF Charnwood Fore 169.20 341 *e*P **PKPdf 11 23 06.3 +1.0**
CWF IAMs_20 IAMs_20 12 27 17.2
comp=Z,464µm,36.3s
WLF1 Llynfaes 169.22 351 *e*P **PKPdf 11 23 09.6 +4.3**
WLF1 IAMs_20 IAMs_20 12 27 50.2
comp=Z,1114µm,38.6s
FOEL Foel Wylfa 169.44 347 *e*P **PKPdf 11 23 06.4 +0.8**
FOEL IAMs_20 IAMs_20 12 27 34.8
comp=Z,689µm,41.9s
LLW Llanuwchllyn 169.56 349 *e*P **PKPdf 11 23 09.0 +3.5**
ADJB Djebel Djouab 169.59 235 P **PKPdf 11 23 10.8 +4.5**
HLM1 Long Mynd 169.75 345 *e*P PKPdf 11 23 10.7 +5.0
HLM1 IAMs_20 IAMs_20 12 48 00.9
comp=Z,435µm,19.1s
SRHM Skhour des Reh 169.80 176 P PKPdf 11 23 17.0 +10
ELSH Elham, Standar 169.83 329 *e*P PKPdf 11 23 11.0 +5.2
ELSH IAMs_20 IAMs_20 12 37 51.5
comp=Z,462µm,23.4s
ABMS Boumerdes 169.95 238 P **PKPdf 11 23 08.6 +2.3**
ABA Alger-Bouzarea 170.26 236 P **PKPdf 11 23 09.5 +3.0**
MONM Monmouth 170.38 344 *e*P **PKPdf 11 23 05.3 -0.8**
MONM IAMs_20 IAMs_20 12 49 32.7
comp=Z,414µm,17.8s
RSBS Rosebush, Pemb 170.57 351 *e*P **PKPdf 11 23 08.3 +2.1**
RSBS IAMs_20 IAMs_20 12 37 55.6
comp=Z,492µm,21.5s
OJGS Djebel Guires 170.62 223 P PKPdf 11 23 14.0 +7.1
AVE Averroes 170.64 178 PKP PKPdf 11 23 11.7 +4.8
AVE Averroes 170.64 178 P PKPdf 11 23 17.5 +11

ZHG ZHG 170.79 182 P PKPdf 11 23 17.0 +10
LCRM LCR 170.87 192 P PKPdf 11 23 18.0 +11
OJBR Djebel Berber 170.88 222 P PKPdf 11 23 15.0 +8.0
ODJA Bouhanifia 170.91 219 P PKPdf 11 23 16.0 +9.0
MAHO Mahon 171.02 256 PKP **PKPdf 11 23 10.2 +3.4**
OKGL Djebel Kef Gue 171.08 225 P PKPdf 11 23 15.0 +7.9
OTSS Djebel Tessala 171.16 216 P PKPdf 11 23 17.0 +10
AKLM AKL 171.48 198 P PKPdf 11 23 17.0 +10
HTL Hartland 171.48 349 *e*P **PKPdf 11 23 09.2 +2.5**
HTL IAMs_20 IAMs_20 12 46 14.2
comp=Z,565µm,18.5s
CHAS Isla Isabel II 171.70 207 PKP PKPdf 11 23 12.2 +4.9
GOG Mont Gurugu 171.92 204 P PKPdf 11 23 17.0 +9.4
DYA Yadsworthy 171.93 346 *e*P PKPdf 11 23 13.1 +6.1
DYA IAMs_20 IAMs_20 12 37 57.1
comp=Z,523µm,22.0s
WMELI Melilla 171.99 205 PKP **PKPdf 11 23 11.0 +3.6**
PALE Palemas 172.17 199 P PKPdf 11 23 17.0 +9.4
PVLZ Peæn de 172.21 197 PKP **PKPdf 11 23 10.3 +2.8**
CHEFC Chefchaouen 172.33 191 P PKPdf 11 23 17.0 +9.3
CEU Ceuta 173.12 192 PKP PKPdf 11 23 12.5 +4.6
CART Cartagena 173.12 225 PKP **PKPdf 11 23 11.0 +3.2**
CART Cartagena 173.12 225 P PKPdf 11 23 17.5 +10
PFVI Vila Bisbo 174.31 166 *e*PKP **PKPdf 11 23 09.2 +0.9**
PFVI *i* LQ LQ 11 24 14.0
PFVI *e*LQ LQ 11 25 43.8
ARNO Arenosillo 174.43 183 PKP PKPdf 11 23 14.2 +5.9
MORF Marmelete 174.51 167 *e*PKPdf **PKPdf 11 23 08.8 +0.3**
MORF *e*SS SS 11 49 53.9 +0.9
MORF IAMs_20 IAMs_20 12 47 16.8
comp=Z,503µm,10.1s
MORF Marmelete 174.51 167 *e*PKIKP **PKPdf 11 23 08.7 +0.3**
PVAQ Vaqueiros 174.72 174 *e*PKP **PKPdf 11 23 09.4 +1.0**
PVAQ *i* LQ LQ 11 24 13.8
PVAQ *e*LQ LQ 11 25 47.6
PVAQ Vaqueiros 174.72 174 *e*SS SS 11 51 03.2 +68
PVAQ Vaqueiros 174.72 174 *e*LR LR 12 22 41.9
comp=Z,493µm,20.0s
PVAQ Vaqueiros 174.72 174 P PKPdf 11 23 19.2 +11
PTEO Sao Teotonio 174.73 166 *e*PKP **PKPdf 11 23 09.9 +1.5**
PTEO *e*LQ LQ 11 25 43.2
PCVE Castro Verde 174.92 171 *e*PKP **PKPdf 11 23 08.8 +0.3**
PCVE *i* LQ LQ 11 24 13.8
PCVE *e*LQ LQ 11 25 46.0
MESJ Messejana 175.10 169 *e*PKPdf **PKPdf 11 23 08.9 +0.3**
MESJ *e*SS SS 11 49 59.5 +1.0
MESJ IAMs_20 IAMs_20 12 43 29.4
comp=Z,651µm,30.3s
MESJ Messejana 175.10 169 *e*PKP **PKPdf 11 23 09.3 +0.8**
MESJ *i* LQ LQ 11 24 12.9
MESJ Messejana 175.10 169 *e*PKIKP **PKPdf 11 23 08.8 +0.3**
PNCL Nicolau / Gran 175.32 166 *e*PKP **PKPdf 11 23 08.9 +0.3**
PNCL *i* LQ LQ 11 24 12.0
PNCL *e*LQ LQ 11 25 53.5
PBEJ Beja 175.33 172 *e*PKP **PKPdf 11 23 08.6 0.0**
PBEJ *i* LQ LQ 11 23 58.9
PBEJ *e*LQ LQ 11 25 59.1
PBAR Barrancos 175.51 180 *e*PKP **PKPdf 11 23 09.4 +0.8**
PBAR *i* LQ LQ 11 24 11.4
PBAR *e*LQ LQ 11 25 49.9
LIS Lisbon 175.75 158 *e*PKPdf **PKPdf 11 23 08.9 +0.3**
LIS IAMs_20 IAMs_20 12 46 09.6
comp=Z,648µm,20.6s
LIS Lisbon 175.75 158 *e*PKP **PKPdf 11 23 11.7 +3.0**
LIS *i* LQ LQ 11 24 12.3
LIS Lisbon 175.75 158 *e*PKIKP **PKPdf 11 23 08.9 +0.3**
PMST Lisbon--Monsan 175.76 157 *e*PKP **PKPdf 11 23 11.0 +2.3**
PMST *i* LQ LQ 11 24 11.6
EVO Evora 175.81 170 PKP PKPdf 11 23 13.7 +5.0
PACT Alcochete 175.88 161 *e*PKP **PKPdf 11 23 10.6 +1.9**
PMAFR Mafra 175.93 155 *e*PKP PKPdf 11 23 13.7 +5.0
PMAFR *i* LQ LQ 11 24 12.8
PMAFR *e*LQ LQ 11 25 56.8
PESTR Estremoz 176.19 174 *e*PKP **PKPdf 11 23 09.1 +0.3**
PESTR *i* LQ LQ 11 24 12.8
PESTR *e*LQ LQ 11 25 53.1
ESDC Sonseca Array 176.20 219 PKP **PKPdf 11 23 09.2 +0.4**
comp=Z,10nm,1.0s,baz=348,slow=1.4,SNR=24
ESDC PP **PP 11 28 42.3 +0.5**
comp=Z,14nm,1.2s,baz=104,slow=5.4,SNR=1.4
PAB San Pablo 176.26 214 ⇓PKIKP **PKPdf 11 23 09.7 +0.8**
UCM Universidad Co 176.28 232 PKP **PKPdf 11 23 13.3 +4.5**
PMTG Montargil 176.30 166 *e*PKP **PKPdf 11 23 11.4 +2.6**
PMTG *i* LQ LQ 11 24 12.9
PMTG *e*LQ LQ 11 25 53.0
PSBE So Bento 176.59 157 *e*PKP **PKPdf 11 23 09.1 +0.2**
PSBE *i* LQ LQ 11 24 12.2
PSBE *e*LQ LQ 11 25 59.1
PMRV Marv??o 176.76 176 *e*PKP **PKPdf 11 23 09.0 +0.1**
PMRV *i* LQ LQ 11 24 12.4
PMRV *e*LQ LQ 11 25 54.8
PMRV Marv??o 176.76 176 *e*SS SS 11 51 15.9 +62
PMRV Marv??o 176.76 176 *e*LR LR 12 28 18.2
comp=Z,507µm,18.0s
PCBR Castelo Branco 177.16 174 *e*PKP **PKPdf 11 23 10.1 +1.2**
PCAS Casmilo, Conde 177.18 157 *e*PKP **PKPdf 11 23 09.2 +0.3**
PCAS *i* LQ LQ 11 24 13.4
PCAS *e*LQ LQ 11 26 01.5
COI Coimbra 177.35 157 *e*PKP PKPdf 11 23 14.4 +5.5
COI *i* LQ LQ 11 24 11.0
MTE Manteigas 177.71 171 *e*PKP **PKPdf 11 23 09.4 +0.3**
MTE *i* LQ LQ 11 24 13.1
MTE *e*LQ LQ 11 25 55.8
MTE Manteigas 177.71 171 *e*SS SS 11 50 43.1 +20
MTE Manteigas 177.71 171 *e*LR LR 12 28 08.3
comp=Z,498µm,22.0s
PVIS Viseu 177.96 162 *e*PKP **PKPdf 11 23 09.8 +0.7**
MVO Moncorvo 178.50 181 *e*PKP **PKPdf 11 23 08.7 -0.5**
MVO *i* LQ LQ 11 24 13.6
MVO *e*LQ LQ 11 26 02.0
MVO Moncorvo 178.50 181 *e*SS SS 11 50 53.1 +22
MVO Moncorvo 178.50 181 *e*LR LR 12 28 03.2
comp=Z,558µm,20.0s
PVRL Vila Real 178.53 161 *e*PKP **PKPdf 11 23 11.2 +2.1**
POLO Lamas de Olo 178.60 157 *e*PKP **PKPdf 11 23 08.9 -0.3**
POLO *i* LQ LQ 11 24 12.5
POLO *e*LQ LQ 11 26 02.3
PCAB Cabril 178.81 143 *e*PKP **PKPdf 11 23 11.0 +1.9**
PCAB *e*LQ LQ 11 26 05.7
PGAV Gavieira, Arco 178.87 128 *e*PKP **PKPdf 11 23 09.0 -0.2**
PGAV *i* LQ LQ 11 24 12.9
PGAV *e*LQ LQ 11 26 05.7
PGAV Gavieira, Arco 178.87 128 *e*SS SS 11 50 46.3 +10
PGAV Gavieira, Arco 178.87 128 *e*LR LR 12 31 29.6
comp=Z,515µm,20.0s
PBRG Braganca 179.10 196 *e*PKP **PKPdf 11 23 10.8 +1.7**

NEIC ***13*** *11:04:55.1±2.7,28.24N±0.07×143.5E±0.1,h10km±1km, mb4.9/18, Error ellipse: s-maj=17.4km s-min=10.0km az=114.0*
IDC ***13*** *11:04:58.8±0.8,28.37N×142.57E,h0km,mb4.3/18, mbtmp4.3/21,ML3.3/3,MS3.3/1, Error ellipse: s-maj=21.2km s-min=14.4km az=103.0*
MOS ***13*** *11:04:59.2±0.9,28.44N×142.62E,h15km,mb4.8/24, Error ellipse: s-maj=14.4km s-min=6.0km az=121.1*
JMA ***13*** *11:05:01.1±0.1,28.4N±0.5×14.3E±, h47km,MV4.6/23, NEAR CHICHIJIMA ISLAND*
NIED ***13*** *11:05:01.1,28.41N×142.64E,h47km,MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.31; Mθθ-0.15; Mφφ-1.16; Mrθ2.78; Mθφ-0.92; Mφr-2.68; Fault plane solution: M₀3.94000×10¹⁵ NP1:φs27.00000°, δ11.00000°, λ156.00000°. NP2:φs141.00000°, δ85.00000°, λ80.00000°.*

ISC 13 11:05:02.2±0.5,28.41N±0.05×142.71E±0.08,h25km,n129, σ1s63/129,**mb4.6/54,8C-12D,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBIJ	**Chichi jima**	**1.39**	**200**	P		**Pn**	**11 05 24.3**	**-1.7**
CBIJ				*e*S		**Sn**	**11 05 41.3**	**-2.4**
CBIJ	**Chichi jima**	**1.39**	**200**	A		A	11 05 24.3	
comp=E,10.0nm,3.6s,comp=E,10.0nm,4.3s								
JCJ	**Chichijima**	**1.39**	**200**	Pn		**Pn**	**11 05 24.2**	**-1.8**
17nm,0.3s,baz=3.1,slow=22,SNR=12								
JCJ				LR		LR	11 05 33.0	
comp=Z,167nm,19.9s,baz=110,slow=26								
JCJ				Sn		**Sn**	**11 05 42.3**	**-1.3**
93nm,0.3s,baz=287,slow=19,SNR=4.5								
JHCJ	**Hachijojimakas**	**5.28**	**332**	*e*P		**Pn**	**11 06 19.6**	**+0.1**

JHJ2 Mitsune 5.30 333 Pn **Pn 11 06 19.8 -0.1**
JHJ Hachijo jima 2 5.32 333 Pn **Pn 11 06 19.1 -1.0**
4.7nm,0.3s,baz=60,slow=20,SNR=1.2
JHJ Sn **Sn 11 07 20.4 -0.3**
14nm,0.3s,baz=73,slow=19,SNR=2.1
JHJ LR LR 11 08 19.4
comp=Z,331nm,21.0s,baz=210,slow=38
36nm,0.3s
BSO3 Boso 3 6.64 344 P **Pn 11 06 37.4 -0.5**
JOD2 Odawara 2 7.49 337 P **Pn 11 06 50.0 +0.1**
JHU Hanno 7.96 339 P **Pn 11 06 55.8 -0.6**
JHU S **Sn 11 08 21.2 -4.5**
JRY Ryogami san 8.24 338 P **Pn 11 06 60.0 -0.2**
JRY S **Sn 11 08 29.4 -3.1**
INU Inuyama 8.44 326 Pn **Pn 11 07 04.2 +1.3**
JAG Ashikaga 8.45 342 P **Pn 11 07 01.4 -1.7**
JAG S **Sn 11 08 34.3 -3.2**
JGF Kuroka 8.48 329 Pn **Pn 11 07 07.0 +3.4**
MJAR Matsushiro Arr 8.95 336 Pn **Pn 11 07 09.8 -0.2**
0.9nm,0.3s,baz=158,slow=11,SNR=39
MJAR Sn **Sn 11 08 49.9 -0.1**
0.1nm,0.3s,baz=157,slow=17,SNR=5.3
4.6nm,0.3s
MAJO Matsushiro 8.95 336 Pn **Pn 11 07 10.6 +0.6**
MAJO Matsushiro 8.95 336 *d*P **Pn 11 07 10.2 +0.2**
MJB9 Matsu-Tunnel 8.96 336 **Pn 11 07 10.6 +0.6**
JMM Marumori 9.56 351 **Pn 11 07 15.2 -3.1**
JSD Sado 10.29 340 Pn **Pn 11 07 26.8 -1.5**
JHS Saijyo 10.48 311 Pn **Pn 11 07 33.4 +2.6**
JTM Tenmabayashi 12.42 354 Pn **Pn 11 07 53.9 -3.5**
ERM Erimo 13.58 1 Pn **Pn 11 08 08.6 -4.5**
ERM Erimo 13.58 1 P **Pn 11 08 08.6 -4.5**
KSRS Korea Array 15.33 310 Pn **P 11 08 39.8 -1.6**
0.5nm,0.3s,baz=120,slow=11,SNR=19
KSAR Wonju Array Be 15.35 310 P **P 11 08 40.4 -1.2**
KSAR Wonju Array Be 15.35 310 P **P 11 08 40.4 -1.2**
KS19 Wonju Array Si 15.39 310 P **P 11 08 42.1 0.0**
USRK Ussuriysk Ar. 17.94 334 P **Pn 11 09 08.7 -1.2**
0.3nm,0.3s,baz=140,slow=12,SNR=5.5
3.4nm,0.7s
USA0B Ussuriysk Arra 17.94 334 *de*P **Pn 11 09 08.4 -1.5**
YOJ Yonaguni jima 18.07 262 P **Pn 11 09 11.6 0.0**
YOJ IAmb IAmb 11 09 19.5
comp=Z,73nm,0.3s
YOJ Yonaguni jima 18.07 262 P **Pn 11 09 11.6 0.0**
YOJ pmax pmax
comp=Z,73nm,0.3s
MDJ Mudanjiang 19.26 331 P **P 11 09 24.3 -0.5**
MDJ pP Pn 11 09 26.4 +0.5
MDJ sP pP 11 09 28.0 -2.6
MDJ pmax pmax
comp=Z,20nm,0.9s
MDJ pmax pmax
comp=Z,150nm,5.7s
YULB Yu-li 19.89 260 P **Pn 11 09 34.2 +0.6**
SSLB Suanglung 20.07 262 P Pn 11 09 35.9 +0.2
SSLB IAmb IAmb 11 09 43.3
comp=Z,25nm,0.7s
TPUB Ta-pu 20.50 261 P Pn 11 09 40.6 -0.2
TPUB IAmb IAmb 11 09 45.2
comp=Z,71nm,1.6s
NJ2 Nanjing 20.92 286 *e*P Pn 11 09 45.3 -0.3
NJ2 pmax pmax
comp=Z,14nm,0.5s
BNX BinXian 21.11 329 ⇓P **P 11 09 45.1 +0.2**
BNX pmax pmax
comp=Z,27nm,0.8s
KLR Kul'dur 22.43 341 P **P 11 09 58.8 -0.2**
comp=Z,10nm,1.0s,baz=137,slow=9.7,SNR=11
comp=Z,10nm,1.0s
KLR Kul'dur 22.43 341 ⇓*e*P **P 11 09 58.6 -0.4**
KLR pmax pmax
comp=Z,21nm,1.3s
GRNR Gornyy 22.83 350 ⇑*i*P **P 11 10 03.7 +0.4**
GRNR pmax pmax
comp=E,5.0nm,0.9s
GRNR pmax pmax
comp=Z,2.0nm,0.7s
GRNR MLR MLR
comp=E,5µm,16.0s
H11N2 WAKE ISLAND Hy 23.68 106 T T 11 35 20.4
baz=296,slow=74,SNR=11
H11N1 WAKE ISLAND Hy 23.68 106 T T 11 35 13.2
baz=296,slow=74,SNR=7.0
H11N3 WAKE ISLAND Hy 23.70 106 T T 11 35 14.2
baz=296,slow=74,SNR=12
H11S3 WAKE ISLAND Hy 24.07 109 T T 11 35 47.0
baz=296
H11S1 WAKE ISLAND Hy 24.07 109 T T 11 35 39.5
baz=296
H11S2 WAKE ISLAND Hy 24.09 109 T T 11 35 52.0
baz=296
HEH HeiHe 24.72 336 *e*P **P 11 10 21.6 +0.2**
HEH pmax pmax
comp=Z,9.0nm,0.9s
HEH pmax pmax
comp=Z,160nm,5.8s
HIA Hailar 27.26 326 ⇓*e*P **P 11 10 45.6 +1.2**
HIA pmax pmax
comp=Z,15nm,1.0s
ZEA Zeya 27.73 340 *e*P **P 11 10 49.4 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
HHC Hu-ho-hao-te 28.32 304 *e*P **P 11 10 55.4 +1.3**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.7s
ULN Ulaanbaatar 33.70 315 P **P 11 11 41.5 0.0**
ULN Ulaanbaatar 33.70 315 ⇓*e*P **P 11 11 41.7 +0.2**
ULN pmax pmax
comp=Z,10.0nm,1.6s
SEY Seymchan 35.10 8 P **P 11 11 54.2 +1.0**
comp=Z,4.3nm,0.9s,baz=158,slow=11,SNR=5.1
comp=Z,4.3nm,0.9s
KMI Kunming 35.73 274 ⇑P **P 11 12 01.1 +1.8**
KMI pmax pmax
comp=Z,11nm,1.2s
GTA Gaotai 36.94 299 *e*P **P 11 12 08.1 -1.3**
GTA pP pP 11 12 12.8 -3.0
GTA sP sP 11 12 19.1 +0.7
GTA pmax pmax
comp=Z,3.0nm,0.7s
ZAK Zakamensk 36.94 317 *e*P **P 11 12 08.8 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
MOY Mondy 38.75 319 *e*P **P 11 12 25.1 +0.5**
MOY *e* 11 21 40.4
MOY pmax pmax
comp=Z,21nm,1.7s
TNCH TengChong 39.45 276 *e*P **P 11 12 31.9 +1.1**
TNCH pP pP 11 12 35.3 -2.2
TNCH pmax pmax
comp=Z,57nm,0.5s
PHRA Phrae 40.02 265 P **P 11 12 35.0 -0.4**
KNGR Kungurtug, Tuv 40.50 316 ⇑*i*P **P 11 12 40.6 +1.5**
KNGR pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 41.03 266 P **P 11 12 43.0 -0.7**
CHTO Chiang Mai 41.03 266 P **P 11 12 43.1 -0.7**
CMAR Chiang Mai Arr 41.17 266 P **P 11 12 43.9 -1.0**
comp=Z,1.1nm,0.7s,baz=50,slow=9.4,SNR=11
comp=Z,1.1nm,0.7s
CMAR Chiang Mai Arr 41.17 266 *i*P **P 11 12 44.4 -0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
TIXI Tiksi 43.95 354 P **P 11 13 06.6 -0.2**
comp=Z,1.1nm,0.4s,baz=196,slow=0.5,SNR=6.6
comp=Z,1.1nm,0.4s
TIXI Tiksi 43.95 354 ⇑*e*P **P 11 13 06.3 -0.5**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
ABJI Asem Bagus 45.29 222 P **P 11 13 19.3 +1.2**
comp=Z,1µm,1.1s
JOHN Johnston Islan 45.35 94 ⇓P **P 11 13 22.9 +4.3**
WMQ Urumqi 46.20 305 *e*P **P 11 13 27.4 +2.3**
WMQ pmax pmax
comp=Z,63nm,10.7s
KRKI Karangkates 46.64 223 P **P 11 13 27.1 -1.7**
comp=Z,4µmcomp=Z,172nm,2.2s
DGZ Jazzator, Alta 46.70 313 ⇓*i*P **P 11 13 29.2 +0.1**
DGZ pmax pmax
comp=Z,13nm,0.9s
PWJI Pagerwojo 46.93 224 P **P 11 13 29.2 -1.8**
comp=Z,20µmcomp=Z,586nm,1.8s

PCJI	**Pacitan**	**47.45 225**	P	**P**	**11 13 32.2**	**-2.9**
	comp=Z,25µmcomp=Z,594nm,1.4s					
YOGI	**Yogyakarta**	**47.71 226**	P	**P**	**11 13 37.6**	**+0.5**
	comp=Z,639µmcomp=Z,16µmcomp=Z,508nm,1.1s					
WB2	**Warramunga Arr**	**48.75 190**	P	P	11 13 39.2	-5.8
ZAA0	**Zalesovo Array**	**48.81 318**	P	**P**	**11 13 44.3**	**-0.8**
ZAA0			IAmb	IAmb	11 13 46.3	
	comp=Z,8.1nm,1.2s					
ZALV	**Zalesovo Beam**	**48.81 318**	P	**P**	**11 13 45.2**	**0.0**
	comp=Z,1.6nm,0.5s,baz=92,slow=7.4,SNR=11					
ZALV			PcP	**PcP**	**11 15 09.9**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=133,slow=3.4,SNR=5.6					
	comp=Z,1.6nm,0.5s					
ZALV	**Zalesovo Beam**	**48.81 318**	P	**P**	**11 13 44.2**	**-1.0**
ZALV			PcP	**PcP**	**11 15 09.9**	**+0.3**
ZALV	**Zalesovo Beam**	**48.81 318**	*i* P	**P**	**11 13 45.0**	**-0.2**
ZALV			pmax	pmax		
	comp=Z,2.0nm,0.5s					
MKAR	**Makanchi Array**	**50.01 309**	P	**P**	**11 13 54.3**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=76,slow=8.4,SNR=15					
MKAR			PcP	**PcP**	**11 15 15.0**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=66,slow=4.9,SNR=2.0					
	comp=Z,3.5nm,0.7s					
MKAR	**Makanchi Array**	**50.01 309**	P	**P**	**11 13 54.6**	**+0.1**
MAKZ	**Makanchi**	**50.22 309**	P	**P**	**11 13 55.8**	**-0.3**
MAKZ			IAmb	IAmb	11 15 35.7	
	comp=Z,14nm,1.6s					
MAKZ	**Makanchi**	**50.22 309**	P	**P**	**11 13 55.8**	**-0.3**
MAKZ			pmax	pmax		
	comp=Z,14nm,1.6s					
NRIK	**Noril'sk**	**51.60 338**⇓	*e*P	**P**	**11 14 05.6**	**-0.5**
NRIK			pmax	pmax		
	comp=Z,6.0nm,1.2s					
KURK	**Kurchatov**	**52.40 314**	P	**P**	**11 14 12.5**	**+0.1**
KURK			IAmb	IAmb	11 14 13.5	
	comp=Z,26nm,0.9s					
KURK	**Kurchatov**	**52.40 314**	P	**P**	**11 14 13.1**	**+0.8**
KURBB	**Kurchatov Array**	**52.46 314**	P	**P**	**11 14 13.1**	**+0.3**
	comp=Z,15nm,0.9s,baz=91,slow=7.4,SNR=9.6					
	comp=Z,15nm,0.9s					
TARG	**Taragay, Kyrgy**	**53.59 303**	P	**P**	**11 14 22.1**	**+0.3**
TARG			pmax	pmax		
	comp=Z,5.0nm,0.9s					
AAK	**Ala-Archa**	**55.90 304**⇑	*e*P	**P**	**11 14 36.8**	**-1.4**
AAK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
ILAR	**Eielson Array**	**56.34 29**	P	**P**	**11 14 42.8**	**+2.0**
	comp=Z,2.6nm,1.1s,baz=253,slow=6.1,SNR=9.0					
	comp=Z,2.6nm,1.1s					
BVAR	**Borovoye Array**	**57.40 317**	P	**P**	**11 14 49.3**	**+0.8**
	comp=Z,12nm,0.6s,baz=92,slow=8.5,SNR=12					
	comp=Z,12nm,0.6s					
BRVK	**Borovoye**	**57.46 317**	P	**P**	**11 14 48.4**	**-0.5**
BRVK			IAmb	IAmb	11 14 50.7	
	comp=Z,8.9nm,0.7s					
BRVK	**Borovoye**	**57.46 317**	*ce*P	**P**	**11 14 49.2**	**+0.3**
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.7s					
ARK	**Arkit**	**57.89 304**	P	**P**	**11 14 52.4**	**+0.1**
ARK			pmax	pmax		
	comp=Z,5.0nm,0.9s					
TRKS	**Terek-Say**	**58.55 303**	P	**P**	**11 14 56.5**	**-0.5**
TRKS			pmax	pmax		
	comp=Z,6.0nm,1.0s					
KK31	**Karatay Array**	**58.70 305**	P	**P**	**11 14 57.0**	**-0.8**
KK31			IAmb	IAmb	11 14 59.1	
	comp=Z,13nm,1.4s					
KK31	**Karatay Array**	**58.70 305**	P	**P**	**11 14 57.0**	**-0.8**
KK31			pmax	pmax		
	comp=Z,13nm,1.4s					
KKAR	**Karatay Array**	**58.70 305**	P	**P**	**11 14 57.3**	**-0.5**
KKAR	**Karatay Array**	**58.70 305**	P	**P**	**11 14 57.3**	**-0.5**
CHGR	**Chuyangaron**	**60.67 301**	P	**P**	**11 15 11.1**	**-0.5**
CHGR			pmax	pmax		
	comp=Z,24nm,0.7s					
INK	**Inuvik**	**61.64 25**	P	**P**	**11 15 17.9**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=284,slow=6.1,SNR=15					
	comp=Z,2.4nm,0.7s					
INK	**Inuvik**	**61.64 25**	P	**P**	**11 15 18.0**	**+0.5**
ARU	**Arti**	**63.67 322**	P	**P**	**11 15 29.7**	**-1.5**
ARU			IAmb	IAmb	11 15 32.1	
	comp=Z,7.7nm,0.7s					
ARU	**Arti**	**63.67 322**	*c* *i*P	**P**	**11 15 31.1**	**-0.1**
ARU					11 16 04.2	
ARU					11 17 46.0	
ARU			S	**S**	**11 24 11.9**	**+8.1**
ARU			pmax	pmax		
	comp=Z,9.0nm,0.8s					
ABKAR	**Akbulak array**	**64.52 314**	P	**P**	**11 15 36.8**	**-0.1**
EUNU	**Eureka**	**68.54 8**		**P**	**11 16 00.1**	**-2.1**
EUNU			IAmb	IAmb	11 16 59.4	
	comp=Z,20nm,1.9s					
YKA	**Yellowknife Ar**	**70.77 29**	P	**P**	**11 16 16.5**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=294,slow=6.6,SNR=6.8					
	comp=Z,1.1nm,0.6s					
BELG	**Belogornoye**	**70.96 320**	*de*P	**P**	**11 16 18.0**	**+0.6**
BELG			pmax	pmax		
	comp=Z,5.0nm,1.4s					
ARCES	**ARCESS Array B**	**72.45 341**	P	**P**	**11 16 27.0**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=64,slow=8.3,SNR=6.0					
	comp=Z,2.4nm,0.7s					
ARCES	**ARCESS Array B**	**72.45 341**	P	**P**	**11 16 25.2**	**-1.0**
ARCES	**ARCESS Array B**	**72.45 341**	P	**P**	**11 16 25.2**	**-1.0**
ARCES			pmax	pmax		
	comp=Z,86nm,1.9s					
AKT	**Akhty**	**75.23 309**	*e*P	**P**	**11 16 38.8**	**-4.3**
AKT			*e*		11 16 51.0	
AKT			pmax	pmax		
	comp=Z,12nm,0.5s					
OBN	**Obninsk**	**75.72 325**	*e*P	**P**	**11 16 44.1**	**-1.3**
OBN			*e*		11 16 53.3	
OBN			*e*		11 19 33.7	
OBN			*e*PPP	PPP	11 21 19.6	
OBN			pmax	pmax		
	comp=Z,4.0nm,1.0s					
VORR	**Voronezh**	**75.98 321**	*e*P	**P**	**11 16 47.3**	**+0.3**
FINES	**FINESS Array B**	**76.97 334**	P	**P**	**11 16 52.4**	**0.0**
	comp=Z,2.3nm,0.9s,baz=56,slow=4.1,SNR=7.6					
	comp=Z,2.3nm,0.9s					
FINES	**FINESS Array B**	**76.97 334**	P	**P**	**11 16 51.6**	**-0.8**
ZEI	**Tsey**	**77.23 312**	*e*P	**P**	**11 16 52.6**	**-1.9**
ZEI			pmax	pmax		
	comp=Z,5.0nm,0.9s					
KBZ	**Khabaz**	**77.45 313**	P	**P**	**11 16 56.3**	**+0.8**
	comp=Z,12nm,0.8s,baz=99,slow=4.4,SNR=20					
	comp=Z,12nm,0.8s					
KBZ	**Khabaz**	**77.45 313**	*ce*P	**P**	**11 16 56.4**	**+1.0**
KBZ			pmax	pmax		
	comp=Z,13nm,0.9s					
KIV	**Kislovodsk**	**77.48 313**	*e*P	**P**	**11 16 54.3**	**-1.5**
KIV			pmax	pmax		
	comp=Z,10.0nm,1.0s					
GNI	**Garni**	**77.85 309**⇓	*e*P	**P**	**11 16 58.4**	**+0.4**
GNI			pmax	pmax		
	comp=Z,11nm,1.1s					
AKASG	**Malin Array Be**	**81.83 324**	P	**P**	**11 17 18.8**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=51,slow=5.3,SNR=7.7					
	comp=Z,1.2nm,0.6s					
NB2	**NORSAR Subarra**	**82.56 338**	P	**P**	**11 17 22.6**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=41,slow=5.3					
NOA	**NORSAR Array B**	**82.56 338**	P	**P**	**11 17 22.7**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=41,slow=5.2,SNR=4.0					
	comp=Z,1.7nm,0.8s					
PDAR	**Pinedale Array**	**82.95 45**	P	**P**	**11 17 27.8**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=260,slow=4.4,SNR=4.1					
	comp=Z,0.4nm,0.5s					
BR131	**Keskin Array S**	**85.45 313**⇓	*e*P	**P**	**11 17 38.5**	**+0.4**
BRTR	**Keskin Array B**	**85.45 313**	P	**P**	**11 17 39.1**	**+1.1**
	comp=Z,4.3nm,0.8s,baz=106,slow=4.7,SNR=16					
	comp=Z,4.3nm,0.8s					
VYHS	**Vyhne**	**88.46 326**	*e*P	**P**	**11 17 51.5**	**-0.9**
VYHS	**Vyhne**	**88.46 326**	*e*P	**P**	**11 17 51.5**	**-0.9**

WEL 13 11:05:14.4±0.6, 42°S±2°×17°4E±°, h5km±2km, M6.0/4, ML6.2/4, MLv6.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=119.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.28**	**27**	P	Pg	11 05 19.7	-0.2
BSWZ				S	Sg	11 05 25.1	+1.4
KHZ	**Kahutara**	**0.46**	**195**	S	Sg	11 05 30.0	+0.6
TUWZ	**Tuamarina**	**0.57**	**19**	P	Pg	11 05 25.9	+0.5
TUWZ				S	Sb	11 05 35.3	+0.1
THZ	**Tophouse**	**0.63**	**289**	P	Pb	11 05 28.5	+0.6
THZ				S	Sg	11 05 34.8	+0.2
MRNZ	**Matariki Terra**	**0.91**	**309**	S	Sg	11 05 44.3	+0.7
LTZ	**Lake Taylor**	**1.33**	**232**	P	Pn	11 05 38.1	-1.7
LTZ				S	Sg	11 05 56.8	-0.6

*IDC **13** 11:05:17.7±8.4, 4°S6N×93°91E, h0km, mb4.0/5, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=203.3km s-min=86.0km az=128.0*

ISC 13 11:05:22.6±8.6, 5°N±1°×95°0E±0°9, h35km, n9, σ0s18/6, mb4.0/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.12**	**16**	Pn	**P**	**11 08 47.3**	**0.0**
	0.2nm,0.3s,baz=210,slow=11,SNR=17						
	2.1nm,0.7s						
H08S2	**Diego Garcia H**	**25.63**	**241**	T	T	11 36 47.0	
	baz=62						
H08S3	**Diego Garcia H**	**25.63**	**241**	T	T	11 36 45.1	
	baz=62						
H08S1	**Diego Garcia H**	**25.65**	**241**	T	T	11 36 20.3	
	baz=62						
MKAR	**Makanchi Array**	**43.26**	**347**	P	**P**	**11 13 20.7**	**0.0**
	0.7nm,0.4s,baz=157,slow=7.1,SNR=12						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**47.72**	**346**	P	**P**	**11 13 56.2**	**+0.3**
	0.6nm,0.5s,baz=174,slow=6.9,SNR=2.0						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**49.70**	**352**	P	**P**	**11 14 11.2**	**+0.1**
	1.6nm,0.6s,baz=176,slow=5.7,SNR=3.9						
	1.6nm,0.6s						
BVAR	**Borovoye Array**	**52.16**	**341**	P	**P**	**11 14 29.6**	**0.0**
	3.1nm,0.7s,baz=145,slow=9.0,SNR=2.4						
	3.1nm,0.7s						
ARCES	**ARCESS Array B**	**78.44**	**340**	P	**P**	**11 17 19.5**	**0.0**
	0.9nm,0.5s,baz=93,slow=6.2,SNR=5.7						
	0.9nm,0.5s						

WEL 13 11:06:14.6±0.3, 43°S±2°×17°3E±°, h5km, M5.6/3, ML5.9/3, MLv5.6/3, Error ellipse: s-maj=0.0km s-min=0.0km az=121.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.36**	**66**	P	Pb	11 06 23.0	-0.4
KHZ				S	Sg	11 06 25.3	-1.0
GVZ	**Greta Valley S**	**0.41**	**186**	P	Pg	11 06 22.3	-0.2
GVZ				S	Sg	11 06 28.9	+1.0
LTZ	**Lake Taylor**	**0.65**	**250**	S	Sg	11 06 36.2	+0.8
AMCZ	**Amberley**	**0.70**	**208**	P	Pg	11 06 28.0	0.0
AMCZ				S	Sg	11 06 37.7	+0.7
THZ	**Tophouse**	**0.81**	**350**	S	Sg	11 06 40.9	+0.2
NNBS	**New Brighton**	**0.98**	**196**	P	Pb	11 06 33.8	-0.2
NNBS				S	Sb	11 06 47.0	-0.2
PPHS	**Papanui**	**1.00**	**201**	P	Pn	11 06 35.6	+0.3

WEL 13 11:08:15.0±0.6, 43°S±2°×17°3E±°, h10km±3km, M5.2/4, ML5.3/4, MLv5.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=90.3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.33**	**75**	P	Pg	11 08 21.4	-0.1
GVZ	**Greta Valley S**	**0.47**	**187**	P	Pb	11 08 24.9	-0.4
GVZ				S	Sb	11 08 31.6	-0.6
LTZ	**Lake Taylor**	**0.68**	**245**	P	Pb	11 08 29.4	+0.5
LTZ				S	Sg	11 08 37.4	+0.4
AMCZ	**Amberley**	**0.75**	**206**	P	Pb	11 08 30.2	+0.1
AMCZ				S	Sb	11 08 40.2	-0.3
THZ	**Tophouse**	**0.76**	**348**	S	Sg	11 08 39.7	+0.3
BSWZ	**Blackbirch Sta**	**0.97**	**36**	S	Sg	11 08 43.1	-3.2

WEL 13 11:08:48.1±0.7, 43°S±4°×17°3E±°, h4km±2km, M5.0/3, ML5.7/3, MLv5.0/3, Error ellipse: s-maj=0.0km s-min=0.0km az=167.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.42**	**159**	P	Pg	11 08 57.1	+0.9
GVZ				S	Sg	11 09 02.9	+1.1
LTZ	**Lake Taylor**	**0.46**	**243**	P	Pg	11 08 57.9	+0.9
LTZ				S	Sg	11 09 04.1	+1.1
NNBS	**New Brighton**	**0.93**	**185**	P	Pg	11 09 04.7	-1.2
PPHS	**Papanui**	**0.93**	**190**	P	Pg	11 09 06.3	+0.3
CACS	**Harewood**	**0.94**	**194**	P	Pb	11 09 06.7	-0.3
CACS				S	Sb	11 09 19.1	-0.6
OXZ	**Oxford**	**0.95**	**217**	P	Pb	11 09 06.8	-0.4
OXZ				S	Sg	11 09 19.1	+0.4
REHS	**Christchurch**	**0.96**	**189**	P	Pb	11 09 07.0	-0.3
CMHS	**Cashmere**	**1.00**	**189**	P	Pg	11 09 07.7	+0.3

WEL 13 11:09:07.6±0.4, 43°S±2°×17°3E±°, h10km±2km, M5.3/6, ML5.5/6, MLv5.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=73.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.34**	**170**	P	Pb	11 09 15.3	-0.6
GVZ				S	Sb	11 09 20.6	-0.8
LTZ	**Lake Taylor**	**0.52**	**253**	P	Pb	11 09 18.6	-0.3
LTZ				S	Sg	11 09 25.7	+0.9
AMCZ	**Amberley**	**0.59**	**202**	S	Sb	11 09 28.8	+0.3
NNBS	**New Brighton**	**0.88**	**191**	S	Sb	11 09 36.6	-0.3
PPHS	**Papanui**	**0.90**	**196**	P	Pb	11 09 25.6	+0.2
PPHS				S	Sb	11 09 38.1	+0.7
CACS	**Harewood**	**0.91**	**200**	P	Pb	11 09 25.6	+0.1
CACS				S	Sn	11 09 38.9	-0.7
REHS	**Christchurch**	**0.92**	**194**	P	Pb	11 09 25.8	+0.1
OXZ	**Oxford**	**0.97**	**224**	S	Sb	11 09 40.1	+0.8
CMHS	**Cashmere**	**0.97**	**194**	S	Sg	11 09 39.0	+0.2
DFHS	**Darfield**	**1.06**	**216**	P	Pb	11 09 28.1	0.0
DFHS				S	Sn	11 09 42.9	-0.5
OKCZ	**Okains Bay**	**1.10**	**176**	S	Sn	11 09 43.9	-0.5
MQZ	**McQueen's Vall**	**1.10**	**191**	P	Pn	11 09 29.8	+0.8
MQZ				S	Sg	11 09 41.2	-1.8
INZ	**Inchbonnie**	**1.11**	**265**	P	Pg	11 09 29.0	0.0
DSZ	**Denniston Nort**	**1.23**	**316**	P	Pn	11 09 30.5	-0.4
DSZ				S	Sg	11 09 47.3	+0.2
RACZ	**Rakaia**	**1.25**	**208**	P	Pn	11 09 29.8	-1.3
RACZ				S	Sb	11 09 46.8	-0.6

WEL 13 11:09:55.7±0.6, 43°S±1°×17°3E±°, h4km±2km, M4.7/6, ML5.4/4, MLv4.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=106.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.32**	**171**	P	Pg	11 10 02.1	+0.2
GVZ				S	Sg	11 10 07.9	+1.7
KHZ	**Kahutara**	**0.48**	**61**	P	Pg	11 10 05.3	+0.3
KHZ				S	Sg	11 10 12.1	+0.9
LTZ	**Lake Taylor**	**0.53**	**255**	P	Pg	11 10 06.3	+0.4
LTZ				S	Sg	11 10 13.3	+0.5
AMCZ	**Amberley**	**0.58**	**204**	S	Sg	11 10 15.4	+1.1
NNBS	**New Brighton**	**0.87**	**192**	S	Sg	11 10 23.5	-0.2
THZ	**Tophouse**	**0.89**	**357**	S	Sg	11 10 24.8	+0.6
CACS	**Harewood**	**0.90**	**201**	P	Pb	11 10 13.4	-0.4
CACS				S	Sb	11 10 26.1	0.0
OXZ	**Oxford**	**0.96**	**225**	S	Sg	11 10 26.9	+0.3
DSZ	**Denniston Nort**	**1.25**	**316**	P	Pg	11 10 19.6	0.0
DSZ				S	Sn	11 10 38.1	+0.8

*GUC **13** 11:10:07.3±0.8, 20°04S×68°17W, h180km±6km, ML3.7*
*SCB **13** 11:10:10.8±1.3, 20°09S×68°16W, h145km±4km, ML3.4/3, MW3.4, Error ellipse: s-maj=4.2km s-min=3.4km az=1.0*

ISC 13 11:10:05.6±1.6, 20°08S±0°04×68°18W±0°05, h185km±13km, n36, σ1s60/56, 11C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.91**	**266**	⇑*i*P	**Pn**	**11 10 34.5**	**+0.8**
PB08				*i* S	**Sn**	**11 10 55.6**	**+0.3**
GO01	**Chusmiza**	**1.03**	**293**	⇑*i*P	**Pn**	**11 10 34.9**	**+0.3**
GO01	**Chusmiza**	**1.03**	**293**	P	**Pn**	**11 10 35.3**	**+0.7**
PB11	**IPOC Station P**	**1.42**	**283**	⇑*i*P	**Pn**	**11 10 37.9**	**+0.5**
PB11				*i* S	**Sn**	**11 11 01.5**	**-0.5**
PB11				IAML		11 11 03.7	
	comp=N,397nm,0.2s						
PB01	**IPOC Station P**	**1.55**	**232**	*e*P	**Pn**	**11 10 39.5**	**+0.9**
PB01				*i* S	**Sn**	**11 11 04.3**	**+0.1**
PB01				IAML		11 11 05.4	
	comp=N,650nm,0.3s						
HMBC	**Humberstone**	**1.61**	**263**	⇑*i*P	**Pn**	**11 10 39.4**	**+0.2**
MNMC	**Minye Minye**	**1.63**	**305**	⇑*i*P	**Pn**	**11 10 40.2**	**+0.6**
MNMC				*i* S	**Sn**	**11 11 05.6**	**-0.2**
TA02	**Huaiquique**	**1.84**	**264**	*i* P	**Pn**	**11 10 41.7**	**+0.4**
TA02				IAML		11 11 10.1	
	comp=N,650nm,0.1s						
TA02	**Huaiquique**	**1.84**	**264**	P	**Pn**	**11 10 42.0**	**+0.7**
PSGC	**Pisagua**	**1.89**	**284**	⇑*i*P	**Pn**	**11 10 42.2**	**+0.3**
PSGC				*i* S	**Sn**	**11 11 08.9**	**-1.2**
PSGC				IAML		11 11 10.7	
	comp=N,156nm,0.4s						
TA01	**Diego Aracena**	**1.94**	**255**	⇑*i*P	**Pn**	**11 10 42.8**	**+0.6**
TA01				*i* S	**Sn**	**11 11 09.6**	**-1.2**
TA01	**Diego Aracena**	**1.94**	**255**	P	**Pn**	**11 10 42.9**	**+0.6**
PB09	**IPOC Station P**	**1.98**	**210**	*e*P	**Pn**	**11 10 44.6**	**+1.7**
PB09				*i* S	**Sn**	**11 11 13.4**	**+1.4**
PATCX	**Punta Patache**	**1.99**	**248**	⇑*i*P	**Pn**	**11 10 43.8**	**+0.9**
PATCX				*i* S	**Sn**	**11 11 11.4**	**-0.5**
PATCX				IAML		11 11 12.8	
	comp=E,434nm,0.5s						
PB02	**IPOC Station P**	**2.02**	**232**	*i* P	**Pn**	**11 10 44.6**	**+1.2**
PB02				*i* S	**Sn**	**11 11 12.7**	**-0.1**
PB02	**IPOC Station P**	**2.02**	**232**	P	**Pn**	**11 10 44.7**	**+1.3**
PB02				S	**Sn**	**11 11 08.1**	**-4.6**
PB02				IAML		11 11 13.6	
	comp=E,573nm,0.4s						
PB16	**IPOC Station P**	**2.14**	**324**	⇑*i*P	**Pn**	**11 10 46.3**	**+1.1**
PB16				*i* S	**Sn**	**11 11 16.3**	**+0.5**
PB16				IAML		11 11 20.0	
	comp=E,150nm,0.8s						
PB07	**IPOC Station P**	**2.29**	**224**	*e*P	**Pn**	**11 10 47.6**	**+1.3**
PB07				*i* S	**Sn**	**11 11 17.6**	**-0.4**
PB07				IAML		11 11 18.9	
	comp=E,413nm,0.5s						
PB03	**IPOC Station P**	**2.45**	**217**	*i* P	**Pn**	**11 10 49.5**	**+1.3**
PB03				*i* S	**Sn**	**11 11 20.8**	**-0.5**
PB03				IAML		11 11 22.1	
	comp=E,317nm,0.1s						
PB12	**IPOC Station P**	**2.50**	**305**	⇑*i*P	**Pn**	**11 10 48.2**	**-0.5**
PB12				*i* S	**Sn**	**11 11 19.5**	**-2.6**
PB12				IAML		11 11 21.2	
	comp=N,227nm,0.3s						
LVC	**Limon Verde**	**2.61**	**195**	⇑*i*P	**Pn**	**11 10 51.5**	**+1.4**
LVC				*i* S	**Sn**	**11 11 25.1**	**+0.1**
LVC	**Limon Verde**	**2.61**	**195**	P	**Pn**	**11 10 52.0**	**+1.8**
MOCB	**Mochara**	**2.65**	**117**	P	**Pn**	**11 10 52.1**	**+1.3**
MOCB				S	**Sn**	**11 11 21.0**	**-5.0**
MOCB				IAML		11 11 26.8	
	comp=N,14nm,0.5s						
PB04	**IPOC Station P**	**2.90**	**219**	*i* P	**Pn**	**11 10 54.9**	**+1.4**
PB04				*i* S	**Sn**	**11 11 30.0**	**-0.7**
PB04	**IPOC Station P**	**2.90**	**219**	P	**Pn**	**11 10 54.5**	**+1.1**
PB06	**IPOC Station P**	**2.92**	**206**	*i* P	**Pn**	**11 10 54.9**	**+1.2**
PB06				*i* S	**Sn**	**11 11 31.1**	**-0.1**
PB06	**IPOC Station P**	**2.92**	**206**	P	**Pn**	**11 10 54.8**	**+1.2**
PB06				S	**Sn**	**11 11 26.7**	**-4.5**
PB06				IAML		11 11 34.3	
	comp=N,271nm,0.2s						
SOEJ	**Jacaque**	**3.09**	**360**	P	**Pn**	**11 10 57.5**	**+1.4**
YJA	**Yavi**	**3.25**	**130**	P	**Pn**	**11 10 59.3**	**+1.4**
BBOE	**La Paz, Chanca**	**3.25**	**3**	P	**Pn**	**11 10 59.7**	**+1.5**
PB15	**IPOC Station P**	**3.34**	**201**	*e*S	**Sn**	**11 11 40.4**	**0.0**
PB15	**IPOC Station P**	**3.34**	**201**	P	**Pn**	**11 11 00.5**	**+1.7**
BBOD	**La Paz, Gloria**	**3.44**	**353**	P	**Pn**	**11 11 02.2**	**+1.7**
LPAZ	**La Paz**	**3.77**	**1**	P	**Pn**	**11 11 05.4**	**+0.8**
PB10	**IPOC Station P**	**4.07**	**212**	⇓*i*P	**Pn**	**11 11 08.3**	**+0.6**
PB10				*i* S	**Sn**	**11 11 53.2**	**-3.3**
GO02	**Mina Guanaco**	**5.22**	**194**	P	**Pn**	**11 11 24.0**	**+1.2**

IDC 13 11:11:46.3±2.8, 42°14S×173°70E, h0km, mb4.8/2, mbtmp4.8/2, Error ellipse: s-maj=246.3km s-min=48.8km az=9.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**37.75**	**287**	P	P	11 19 04.1	+0.1
	6.8nm,0.7s,baz=127,slow=7.8,SNR=1.9						
	6.8nm,0.7s						
WRA	**Warramunga Arr**	**39.86**	**291**	P	P	11 19 21.6	-0.2
	10nm,0.6s,baz=127,slow=8.6,SNR=2.9						
	10nm,0.6s						
YKA	**Yellowknife Ar**	**118.92**	**30**	PKP	PKPdf	11 30 35.5	-0.1
	0.7nm,0.5s,baz=259,slow=1.8,SNR=4.5						
BRTR	**Keskin Array B**	**149.92**	**279**	PKPbc	PKPbc	11 31 37.6	-0.8
	5.9nm,0.8s,baz=148,slow=3.5,SNR=2.3						
FINES	**FINESS Array B**	**152.63**	**326**	PKPbc	PKPbc	11 31 43.7	0.0
	8.9nm,1.0s,baz=87,slow=2.4,SNR=1.8						

*WEL **13** 11:12:35.5±0.6, 42°S±2°×17°4E±°, h6km±3km, M6.0/6, ML6.2/6, MLv6.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=105.4*
*IDC **13** 11:12:35.1±0.7, 42°42S×173°84E, h0km, mb5.3/12, mbtmp5.3/12, MS7.4/1, Error ellipse: s-maj=28.9km s-min=20.5km az=44.0*
*MOS **13** 11:12:36.9±0.8, 42°41S×173°66E, h10km, mb5.7/6, Error ellipse: s-maj=28.1km s-min=20.7km az=123.5*
*BJI **13** 11:12:37.3±0.0, 42°22S×173°94E, h10km, mb5.7/9*
*NEIC **13** 11:12:39.2±2.0, 42°41S±0°04×173°66E±0°06, h10km±4km, mb5.7/49, Error ellipse: s-maj=7.4km s-min=4.8km az=120.0*
*NOU **13** 11:12:43.4, 42°56S×173°31E, h36km, mb5.7/28, South Island, New Zealand*

ISC 13 11:12:37.7±1.2, 42°46S±0°03×173°66E±0°04, h8km±7km, n172, σ1s40/173, mb5.6/42, 9C-5D, South Island

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

TAU				pmax	pmax	
	comp=Z,40nm,1.1s					
DZM	**Mont Dzumac**	**21.21 341**	*e*Pn	**P**	**11 17 25.5 +1.6**	
	comp=Z,595nm,1.4s					
DZM			*e*LR	LR	11 22 27.0	
	comp=Z,472µm,21.9s					
DZM	**Mont Dzumac**	**21.21 341**	P	**P**	**11 17 25.2 +1.4**	
DZM	**Mont Dzumac**	**21.21 341**	P	**P**	**11 17 25.0 +1.1**	
ARMA	**Armidale**	**21.34 297**	P	**P**	**11 17 26.4 +1.0**	
MARNC	**Mare, Loyalty**	**21.45 346**	P	**P**	**11 17 28.3 +2.0**	
MARNC	**Mare, Loyalty**	**21.45 346**	P	**P**	**11 17 29.7 +3.4**	
GC1S	**Gold Coast 1 S**	**21.69 305**	P	**P**	**11 17 31.2 +2.3**	
TOO	**Toolangi**	**22.07 273**	P	**P**	**11 17 33.4 +0.4**	
TOO	**Toolangi**	**22.07 273**	P	**P**	**11 17 33.4 +0.4**	
TOO			pmax	pmax		
	comp=Z,84nm,1.3s					
LIFNC	**LIFOU**	**22.28 344**		**P**	**11 17 35.7 +0.4**	
LIFNC	**LIFOU**	**22.28 344**	P	**P**	**11 17 37.3 +2.0**	
AUWSH	**Wavell State H**	**22.53 305**	P	**P**	**11 17 40.3 +2.4**	
AUBSH	**Beerwah State**	**22.98 306**	P	**P**	**11 17 44.0 +1.3**	
KOUNC	**Koumac, New Ca**	**23.23 337**	P	**P**	**11 17 46.2 +0.9**	
KOUNC	**Koumac, New Ca**	**23.23 337**	P	**P**	**11 17 48.7 +3.5**	
MSVF	**Nonsavu**	**24.93 10**	P	**P**	**11 18 00.8 -0.6**	
	comp=Z,47nm,0.8s,baz=177,slow=12,SNR=6.9					
	comp=Z,47nm,0.8s					
MSVF	**Nonsavu**	**24.93 10**	P	**P**	**11 18 03.1 +1.7**	
MSVF	**Nonsavu**	**24.93 10**	*e*P	**P**	**11 18 00.4 -1.0**	
EIDS	**Eidsvold**	**25.21 305**	P	**P**	**11 18 05.1 +1.3**	
EIDS			IAmb	IAmb	11 18 08.6	
	comp=Z,106nm,1.1s					
EIDS	**Eidsvold**	**25.21 305**	P	**P**	**11 18 06.0 +2.2**	
BBOO	**Buckleboo**	**31.08 276**	P	**P**	**11 18 57.7 +1.4**	
BBOO			IAmb	IAmb	11 19 23.5	
	comp=Z,92nm,1.4s					
CTA	**Charters Tower**	**32.10 305**	LR	LR	11 31 08.1	
	comp=Z,655µm,19.1s,baz=84,slow=35					
CTAO	**Charters Tower**	**32.10 305**	P	**P**	**11 19 06.6 +1.3**	
CTAO	**Charters Tower**	**32.10 305**	P	**P**	**11 19 06.6 +1.3**	
HNR	**Honiara**	**35.03 336**	P	**P**	**11 19 31.4 +0.5**	
HNR	**Honiara**	**35.03 336**	P	**P**	**11 19 31.4 +0.5**	
HNR			pmax	pmax		
	comp=Z,467nm,1.4s					
VNDA	**Vanda**	**35.51 184**	P	**P**	**11 19 36.1 +1.7**	
VNDA	**Vanda**	**35.51 184**	P	**P**	**11 19 36.1 +1.7**	
VNDA			pmax	pmax		
	comp=Z,80nm,1.5s					
TBI	**Tubuai**	**35.99 70**	*e*LR	LR	11 29 18.8	
	comp=Z,766µm,23.0s					
TBI			*e*LR	LR	11 29 18.9	
	comp=Z,4118µm,22.0s					
TBI	**Tubuai**	**35.99 70**	*e*T	T	11 56 42.3	
	comp=Z,136nm,0.3s					
AS31	**Alice Springs**	**37.81 287**	P	**P**	**11 19 54.5 -0.1**	
ASAR	**Alice Springs**	**37.81 287**	P	**P**	**11 19 54.1 -0.5**	
	comp=Z,95nm,1.3s,baz=131,slow=7.7,SNR=3.8					
	comp=Z,95nm,1.3s					
ASAR	**Alice Springs**	**37.81 287**	P	**P**	**11 19 55.0 +0.4**	
ASAR	**Alice Springs**	**37.81 287**	P	**P**	**11 19 55.0 +0.4**	
FORT	**Forrest**	**37.99 273**	P	**P**	**11 19 57.0 +0.9**	
FORT			IAmb	IAmb	11 19 59.5	
	comp=Z,179nm,1.0s					
COEN	**Coen**	**38.71 308**	P	**P**	**11 20 02.3 +0.1**	
WR0	**Warramunga Arr**	**39.80 292**	P	**P**	**11 20 11.6 +0.3**	
WR0			IAmb	IAmb	11 20 15.4	
	comp=Z,162nm,1.4s					
PAE	**Paea**	**39.82 63**	*e*T	T	12 01 54.7	
	comp=Z,16nm,0.3s					
PPT2	**Papeete2**	**39.87 63**	*e*T	T	12 02 12.2	
	comp=Z,22nm,0.3s					
WB2	**Warramunga Arr**	**39.94 292**	P	**P**	**11 20 12.4 -0.1**	
WRA	**Warramunga Arr**	**39.95 292**	P	**P**	**11 20 11.9 -0.7**	
	comp=Z,39nm,0.9s,baz=129,slow=8.5,SNR=5.3					
	comp=Z,39nm,0.9s					
WRA	**Warramunga Arr**	**39.95 292**	P	**P**	**11 20 13.3 +0.7**	
WRA	**Warramunga Arr**	**39.95 292**	P	**P**	**11 20 13.3 +0.7**	
WB0	**Warramunga Arr**	**40.03 292**	P	**P**	**11 20 13.6 +0.3**	
WB0			IAmb	IAmb	11 20 23.6	
	comp=Z,178nm,1.2s					
TIAR	**Tiarei**	**40.05 63**	*e*P	P	11 20 19.0 +5.6	
	comp=Z,12nm,1.0s					
PMG	**Port Moresby**	**40.30 317**	P	**P**	**11 20 15.8 +0.3**	
	comp=Z,86nm,1.0s,baz=131,slow=6.1,SNR=5.4					
	comp=Z,86nm,1.0s					
PMG	**Port Moresby**	**40.30 317**	P	**P**	**11 20 16.3 +0.8**	
PMG			IAmb	IAmb	11 20 18.8	
	comp=Z,479nm,1.4s					
PMG	**Port Moresby**	**40.30 317**	P	**P**	**11 20 17.2 +1.8**	
PMG	**Port Moresby**	**40.30 317**	P	**P**	**11 20 16.9 +1.4**	
PMG	**Port Moresby**	**40.30 317**	*i*P	**P**	**11 20 17.5 +2.0**	
RABL	**Rabaul**	**42.65 327**	P	**P**	**11 20 34.3 -0.4**	
TARA	**Tarawa**	**43.62 359**	P	**P**	**11 20 42.2 -0.3**	
KNRA	**Kununurra**	**46.72 291**	P	**P**	**11 21 08.2 +1.0**	
MTN	**Manton Dam**	**47.12 296**	P	**P**	**11 21 10.9 +0.5**	
MORW	**Morawa**	**47.77 267**	P	**P**	**11 21 16.2 +0.8**	
MORW			IAmb	IAmb	11 21 18.6	
	comp=Z,162nm,1.3s					
FAKI	**Fak Fak**	**53.96 305**	P	**P**	**11 21 59.6 -2.5**	
FAKI			IAmb	IAmb	11 22 03.8	
	comp=Z,65nm,0.9s					
FAKI	**Fak Fak**	**53.96 305**	P	**P**	**11 21 59.9 -2.2**	
SOEI	**Soe**	**53.98 292**	P	**P**	**11 22 04.1 +1.7**	
SIJI	**Sorong**	**56.18 306**	P	**P**	**11 22 18.1 0.0**	
	comp=Z,56nm,0.8s,baz=64,slow=5.7,SNR=10					
	comp=Z,56nm,0.8s					
SANI	**Sanana**	**58.54 300**	P	**P**	**11 22 35.5 +0.7**	
KAPI	**Kappang**	**60.48 292**	P	**P**	**11 22 47.9 -0.4**	
	comp=Z,65nm,1.1s,baz=112,slow=4.7,SNR=7.0					
	comp=Z,65nm,1.1s					
KAPI	**Kappang**	**60.48 292**	P	**P**	**11 22 49.2 +1.0**	
KAPI			IAmb	IAmb	11 22 59.4	
	comp=Z,148nm,1.3s					
KAPI	**Kappang**	**60.48 292**	P	**P**	**11 22 49.6 +1.4**	
KAPI	**Kappang**	**60.48 292**	*e*P	**P**	**11 22 49.2 +1.0**	
KAPI			pmax	pmax		
	comp=Z,648nm,2.1s					
JOHN	**Johnston Islan**	**60.90 18**	P	**P**	**11 22 52.2 +1.4**	
LUWI	**Luwuk**	**61.39 298**	P	**P**	**11 22 54.8 +0.4**	
LUWI	**Luwuk**	**61.39 298**	P	**P**	**11 22 52.6 -1.8**	
TOLI2	**Tolitoli**	**64.31 298**	P	**P**	**11 23 13.4 -0.4**	
TOLI2			IAmb	IAmb	11 23 16.2	
	comp=Z,52nm,1.1s					
BKB	**Balikpapan**	**65.15 293**	P	**P**	**11 23 19.8 +0.5**	
BKB	**Balikpapan**	**65.15 293**	P	**P**	**11 23 22.1 +2.8**	
SNAA	**Sanae**	**66.15 181**	P	**P**	**11 23 25.5 +0.4**	
	comp=Z,51nm,1.1s,baz=216,slow=11,SNR=5.6					
	comp=Z,51nm,1.1s					
SNAA	**Sanae**	**66.15 181**	P	**P**	**11 23 27.4 +2.4**	
SNAA			IAmb	IAmb	11 23 30.4	
	comp=Z,74nm,1.2s					
SNAA	**Sanae**	**66.15 181**	*e*P	P	11 23 29.4 +4.3	
SNAA			pmax	pmax		
	comp=Z,72nm,1.2s					
VNA2	**Neumayer--Watz**	**66.92 180**	P	**P**	**11 23 29.1 -0.9**	
	baz=166,slow=5.0					
VNA1	**Neumayer--Stat**	**67.19 179**	P	**P**	**11 23 30.2 -1.4**	
LEM	**Lembang**	**67.80 281**	P	**P**	**11 23 36.4 -0.1**	
	comp=Z,96nm,0.8s,baz=128,slow=5.9,SNR=7.0					
	comp=Z,96nm,0.8s					
RIM	**Rim**	**67.89 32**	P	**P**	**11 23 38.4 +1.6**	
KIP	**Kipapa**	**68.73 28**	*e*P	**P**	**11 23 44.1 +2.2**	
KKM	**Kota Kinabalu**	**70.99 298**	P	**P**	**11 23 56.0 -0.2**	
KKM			IAmb	IAmb	11 23 57.4	
	comp=Z,168nm,1.2s					
SBUM	**Sibu**	**71.04 292**	P	**P**	**11 23 56.5 +0.1**	
SBUM			IAmb	IAmb	11 23 58.2	
	comp=Z,72nm,1.3s					
KSM	**Kuching**	**71.66 290**	P	**P**	**11 23 59.0 -1.2**	
KSM			IAmb	IAmb	11 24 03.1	
	comp=Z,161nm,1.3s					
KSM	**Kuching**	**71.66 290**	P	**P**	**11 23 58.2 -1.9**	
PMBI	**Palembang**	**72.52 282**	P	**P**	**11 24 04.9 -0.4**	
MYKOM	**Kota Tinggi**	**76.44 285**	P	**P**	**11 24 27.9 -0.2**	
MYKOM			IAmb	IAmb	11 24 29.8	
	comp=Z,153nm,1.3s					
LL04	**Puerto Octay**	**77.80 135**	P	**P**	**11 24 35.9 +0.5**	
LR04	**Corral**	**78.00 134**	P	**P**	**11 24 37.6 +1.1**	
LR04			IAmb	IAmb	11 24 38.6	
	comp=Z,72nm,1.2s					
PLCA	**Paso Flores**	**78.90 136**	P	**P**	**11 24 40.8 -0.8**	
	comp=Z,16nm,1.0s,baz=236,slow=6.3,SNR=5.4					
	comp=Z,16nm,1.0s					
IPM	**Ipoh**	**80.33 285**	P	**P**	**11 24 49.6 0.0**	
IPM			IAmb	IAmb	11 24 50.5	
	comp=Z,120nm,1.3s					
GSI	**Gunungsitoli**	**80.64 280**	P	**P**	**11 24 51.1 -0.1**	
GSI	**Gunungsitoli**	**80.64 280**	P	**P**	**11 24 51.1 -0.1**	
TWG	**Pinlang**	**81.06 312**	P	**P**	**11 24 52.2 -1.0**	
KULM	**Kulim**	**81.16 285**	P	**P**	**11 24 53.3 -0.7**	
KULM			IAmb	IAmb	11 24 55.1	
	comp=Z,172nm,1.4s					
SSLB	**Suanglung**	**81.90 313**	P	**P**	**11 24 57.5 -0.2**	
BO01	**Tunca**	**83.28 131**	P	**P**	**11 25 05.0 +0.1**	
MT01	**Popeta**	**83.57 131**	P	**P**	**11 25 05.8 -0.7**	
MT01			IAmb	IAmb	11 25 08.1	
	comp=Z,53nm,0.9s					
VA01	**Torpederas**	**83.97 130**	P	**P**	**11 25 08.0 -0.5**	
VA01			IAmb	IAmb	11 25 11.2	
	comp=Z,96nm,1.4s					
QZH	**Quanzhou**	**84.11 312**	*i*P	**P**	**11 25 10.6 +1.6**	
JMN	**Monobe**	**84.13 328**	P	**P**	**11 25 09.1 +0.1**	
JMN			IAmb	IAmb	11 25 11.9	
	comp=Z,73nm,1.0s					
JMN	**Monobe**	**84.13 328**	P	**P**	**11 25 09.4 +0.4**	
ROC1	**El Roble**	**84.36 130**	P	**P**	**11 25 10.9 +0.1**	
ROC1			IAmb	IAmb	11 25 19.6	
	comp=Z,27nm,0.8s					
INU	**Inuyama**	**84.38 331**	P	**P**	**11 25 09.7 -0.5**	
INU			IAmb	IAmb	11 25 12.6	
	comp=Z,51nm,1.2s					
SURA	**Surathani**	**84.57 288**	P	**P**	**11 25 12.3 +0.6**	
QIZ	**Qiongzhong**	**84.78 302**	P	**P**	**11 25 13.3 +0.7**	
QIZ			IAmb	IAmb	11 25 32.2	
	comp=Z,41nm,1.3s					
QIZ	**Qiongzhong**	**84.78 302**	P	**P**	**11 25 14.1 +1.5**	
JNU	**Nakatsue**	**84.84 325**	P	**P**	**11 25 12.3 -0.2**	
JNU			IAmb	IAmb	11 25 13.2	
	comp=Z,43nm,1.0s					
MJAR	**Matsushiro Arr**	**85.02 332**	P	**P**	**11 25 12.2 -1.2**	
	comp=Z,6.1nm,0.9s,baz=167,slow=5.3,SNR=5.4					
	comp=Z,6.1nm,0.9s					
MAJO	**Matsushiro**	**85.03 332**	*e*P	**P**	**11 25 15.5 +2.1**	
MAJO			pmax	pmax		
	comp=Z,46nm,1.4s					
NJ2	**Nanjing**	**89.60 316**	*e*P	P	11 25 39.4 +3.8	
NJ2			pmax	pmax		
	comp=Z,23nm,0.5s					
KSRS	**Korea Array**	**89.79 325**	P	**P**	**11 25 34.8 -1.5**	
	comp=Z,15nm,0.8s,baz=146,slow=5.0,SNR=13					
	comp=Z,15nm,0.8s					
WHN	**Wuhan**	**90.82 312**	*i*P	**P**	**11 25 42.8 +1.5**	
CMAR	**Chiang Mai Arr**	**91.52 294**	P	**P**	**11 25 44.0 -0.9**	
	comp=Z,12nm,0.8s,baz=154,slow=3.3,SNR=8.1					
	comp=Z,12nm,0.8s					
CMAR	**Chiang Mai Arr**	**91.52 294**	*i* P	**P**	**11 25 46.7 +1.8**	
CMAR			pmax	pmax		
	comp=Z,13nm,0.8s					
CN2	**Changchun**	**96.14 327**	*e*P	**P**	**11 26 05.4 -0.1**	
TNCH	**TengChong**	**96.36 298**	*e*P	**P**	**11 26 07.8 +0.5**	
TNCH			pP	sP	11 26 11.0 +0.3	
TNCH			pmax	pmax		
	comp=Z,41nm,0.4s					
XAN	**Xi'an**	**96.46 311**	P	**P**	**11 26 09.9 +2.6**	
XAN			pmax	pmax		
	comp=Z,29nm,1.1s					
HHC	**Hu-ho-hao-te**	**100.11 317**	*e*P	**Pdif**	**11 26 25.8 +2.2**	
WMQ	**Urumqi**	**115.24 307**	*e*PKP	**PKiKP**	**11 31 20.8 +1.6**	
YKA	**Yellowknife Ar**	**119.21 30**	PKP	**PKPdf**	**11 31 23.5 -2.7**	
	comp=Z,10nm,1.0s,baz=255,slow=1.7,SNR=9.9					
MKAR	**Makanchi Array**	**120.06 307**	PKP	**PKPdf**	**11 31 26.6 -1.7**	
	comp=Z,5.0nm,0.9s,baz=248,slow=1.3,SNR=5.0					
KURK	**Kurchatov**	**124.09 310**	PKIKP	**PKPdf**	**11 31 32.9 -3.0**	
KURBB	**Kurchatov Arra**	**124.10 310**	PKP	**PKPdf**	**11 31 32.9 -3.0**	
	comp=Z,12nm,0.9s,baz=115,slow=2.1,SNR=9.1					
BRVK	**Borovoye**	**129.76 310**	*i*PKIKP	**PKiKP**	**11 31 46.7 -0.7**	
MAK	**Makhachkala**	**141.01 290**	*e*P	**Pdif**	**11 29 21.4 -3.8**	
MAK			*i*		11 32 07.0	
MAK			*e*		11 39 13.9	
MAK			*e*SS	SS	11 53 39.9 +2.0	
NEY	**Neytrino**	**144.44 288**	*ce*PKIKP	**PKiKP**	**11 32 15.9 -2.0**	
KBZ	**Khabaz**	**144.45 289**	PKP	**PKPab**	**11 32 10.3 -1.9**	
	comp=Z,14nm,0.7s,baz=124,slow=3.6,SNR=3.0					
KBZ	**Khabaz**	**144.45 289**	*e*PKIKP	**PKPdf**	**11 32 13.0 -1.0**	
KIV	**Kislovodsk**	**144.65 290**	*e*PKIKP	**PKiKP**	**11 32 18.9 +0.7**	
KIV			pmax	pmax		
	comp=Z,18nm,1.1s					
GOF	**Gofitskoye**	**144.68 291**	*e*PKIKP	**PKiKP**	**11 32 16.4 -1.7**	
SFJD	**Kangerlussuaq**	**145.76 29**	PKPbc	**PKPdf**	**11 32 13.7 -1.8**	
	comp=Z,80nm,1.0s,baz=269,slow=2.7,SNR=7.4					
LVZ	**Lovozero**	**146.51 333**	*e*PKP2	**PKiKP**	**11 32 19.7 -1.5**	
APA	**Apatity**	**147.08 333**	*i*PKHKP	PKPpre	11 32 12.2	
APA			*i*		11 35 43.4	
APA			pmax	pmax		
	comp=Z,32nm,0.8s					
VORR	**Voronezh**	**148.10 303**	*e*PKIKP	**PKPbc**	**11 32 21.9 -1.3**	
VORR			pmax	pmax		
	comp=Z,417nm,1.8s					
ARCES	**ARCESS Array B**	**148.29 339**	PKPbc	**PKPbc**	**11 32 20.3 -2.9**	
	comp=Z,17nm,0.7s,baz=29,slow=2.8,SNR=7.0					
OBN	**Obninsk**	**149.53 310**	*e*PKIKP	**PKPbc**	**11 32 25.3 -1.3**	
OBN			*e*		11 36 04.4	
OBN			*e*PPP	PPP	11 39 22.1	
OBN			pmax	pmax		
	comp=Z,51nm,1.0s					
BRTR	**Keskin Array B**	**149.94 278**	PKPbc	**PKPbc**	**11 32 26.1 -2.3**	
	comp=Z,26nm,1.0s,baz=155,slow=4.1,SNR=7.7					
FINES	**FINESS Array B**	**152.88 326**	PKPbc	**PKiKP**	**11 32 34.1 -0.4**	
	comp=Z,11nm,0.7s,baz=100,slow=4.5,SNR=4.2					
AKASG	**Malin Array Be**	**154.41 301**	PKPbc	**PKiKP**	**11 32 36.8 -1.1**	
	comp=Z,4.3nm,0.8s,baz=73,slow=2.5,SNR=3.2					
NOA	**NORSAR Array B**	**158.58 336**	PKPab	**PKPab**	**11 33 09.1 -0.9**	
	comp=Z,3.0nm,0.7s,baz=39,slow=4.6,SNR=3.8					
BRG	**Berggiesshubel**	**163.77 308**	*ex*	x	11 36 17.0	

WEL ***13*** *11:16:07.1±0.5,43°S±3°×17°3E±°, h16km±2km, M5.0/6, ML5.2/6, MLv5.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=70.1*

IDC ***13*** *11:16:12.7±1.1,41°.91S×173°.82E, h0km, mb4.7/3, mbtmp4.7/3, Error ellipse: s-maj=82.9km s-min=31.7km az=23.0*

ISC 13 11:16:06.4±2.2, 42°.58S±0°.05×172°.96E±0°.05, h9km±15km, n22, σ1°53/27, mb4.5/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.39**	**172**	P	**Pb**	**11 16 16.1**	**+0.6**
GVZ				S	**Sb**	**11 16 21.9**	**+0.3**
KHZ	**Kahutara**	**0.46**	**69**	P	**Pn**	**11 16 18.5**	**-0.7**
LTZ	**Lake Taylor**	**0.55**	**248**	P	**Pb**	**11 16 18.9**	**+0.6**
LTZ				S	**Sb**	**11 16 25.9**	**-0.3**
AMCZ	**Amberley**	**0.64**	**201**	P	**Pb**	**11 16 20.5**	**+0.8**
CACS	**Harewood**	**0.96**	**199**	P	**Pb**	**11 16 25.5**	**+0.3**
CACS				S	**Sn**	**11 16 38.8**	**-1.0**
REHS	**Christchurch**	**0.97**	**194**	P	**Pn**	**11 16 26.2**	**0.0**
REHS				S	**Sn**	**11 16 39.6**	**-0.5**
OXZ	**Oxford**	**1.01**	**222**	P	**Pn**	**11 16 26.5**	**+0.4**
CMHS	**Cashmere**	**1.02**	**194**	P	**Pn**	**11 16 26.6**	**-0.2**
CMHS				S	**Sg**	**11 16 39.3**	**+0.1**
DFHS	**Darfield**	**1.11**	**214**	P	**Pb**	**11 16 27.8**	**0.0**
DFHS				S	**Sn**	**11 16 42.9**	**-0.6**
CSHS	**Castle Hill**	**1.12**	**234**	P	**Pb**	**11 16 27.6**	**-0.3**
MQZ	**McQueen's Vall**	**1.15**	**191**	P	**Pb**	**11 16 27.8**	**-0.6**
MQZ				S	**Sb**	**11 16 41.6**	**-1.8**
TUWZ	**Tuamarina**	**1.36**	**33**	P	**Pn**	**11 16 31.0**	**-0.7**
MHCZ	**Mount Hutt**	**1.40**	**227**	P	**Pn**	**11 16 31.7**	**-0.4**
MHCZ				S	**Sn**	**11 16 48.0**	**-2.6**
TCW	**Tory Channel**	**1.69**	**36**	P	**Pn**	**11 16 34.9**	**-1.1**
RPZ	**Rata Peaks**	**1.80**	**230**	P	**Pn**	**11 16 37.6**	**-0.1**
ASAR	**Alice Springs**	**37.35**	**288**	P	P	11 23 31.0	+12
	4.4nm,0.5s,baz=129,slow=7.4,SNR=2.3						
	4.4nm,0.5s						
WRA	**Warramunga Arr**	**39.52**	**293**	P	P	11 23 48.2	+11
	18nm,0.9s,baz=132,slow=7.5,SNR=6.3						
	18nm,0.9s						
PLCA	**Paso Flores**	**79.17**	**136**	P	P	11 28 20.0	+8.4
	2.9nm,0.7s,baz=230,slow=8.3,SNR=3.3						
	2.9nm,0.7s						
SFJD	**Kangerlussuaq**	**146.12**	**29**	PKPbc	**PKiKP**	**11 35 50.8**	**+1.8**
	13nm,0.6s,baz=64,slow=2.3,SNR=4.9						
ARCES	**ARCESS Array B**	**148.22**	**339**	PKPbc	**PKPab**	**11 35 57.2**	**+2.5**
	10nm,1.1s,baz=57,slow=3.7,SNR=1.5						
BRTR	**Keskin Array B**	**149.44**	**279**	PKPbc	**PKPab**	**11 36 03.8**	**+3.1**
	2.9nm,0.7s,baz=64,slow=2.0						
FINES	**FINESS Array B**	**152.68**	**325**	PKPbc	**PKPab**	**11 36 09.0**	**-4.2**
	4.9nm,0.9s,baz=56,slow=3.5,SNR=1.9						

WEL ***13*** *11:16:53.9±0.5,42°S±3°×17°4E±°, h5km, M4.8/4, ML5.2/4, MLv4.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=126.6*

IDC ***13*** *11:16:54.3±1.1,41°.59S×174°.12E, h0km, mb4.7/5, mbtmp4.7/5, Error ellipse: s-maj=83.9km s-min=30.5km az=27.0*

ISC 13 11:16:55.5±0.7, 41°.95S±0°.05×174°.08E±0°.04, h17km, n22, σ1°43/25, mb4.5/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.22**	**27**	P	**Pg**	**11 16 58.0**	**-2.7**
BSWZ	**Blackbirch Sta**	**0.28**	**327**	P	**Pg**	**11 17 01.3**	**-0.3**
BSWZ				S	**Sb**	**11 17 06.3**	**-0.2**
TUWZ	**Tuamarina**	**0.53**	**349**	S	**Sg**	**11 17 11.7**	**-1.5**
TCW	**Tory Channel**	**0.75**	**11**	P	**Pb**	**11 17 10.0**	**-0.2**
MSWZ	**Moikau Station**	**1.03**	**59**	P	**Pb**	**11 17 13.0**	**-1.8**
MSWZ				S	**Sb**	**11 17 27.3**	**-0.7**
PAWZ	**Paruwai Farm**	**1.16**	**61**	S	**Sg**	**11 17 33.5**	**+0.4**
GVZ	**Greta Valley S**	**1.28**	**217**	S	**Sn**	**11 17 34.5**	**-0.9**
GVZ	**Greta Valley S**	**1.28**	**217**	S	**Sn**	**11 17 34.9**	**-0.4**
MTW	**Mount Morrison**	**1.33**	**54**	S	**Sg**	**11 17 38.3**	**-0.1**
OGWZ	**Otaki Gorge**	**1.40**	**36**	P	**Pn**	**11 17 19.0**	**-1.2**
OGWZ				S	**Sb**	**11 17 39.0**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.51**	**46**	S	**Sn**	**11 17 41.4**	**+0.4**
LTZ	**Lake Taylor**	**1.58**	**238**	S	**Sn**	**11 17 40.4**	**-2.4**
LTZ	**Lake Taylor**	**1.58**	**238**	S	**Sn**	**11 17 40.4**	**-2.4**
AMCZ	**Amberley**	**1.62**	**220**	S	**Sb**	**11 17 43.6**	**-1.4**
ASAR	**Alice Springs**	**37.96**	**286**	P	P	**11 24 13.3**	**+0.9**
	8.9nm,1.0s,baz=127,slow=7.2,SNR=2.8						
	8.9nm,1.0s						
WRA	**Warramunga Arr**	**40.05**	**291**	P	P	**11 24 29.8**	**-0.1**
	8.0nm,0.7s,baz=127,slow=8.1,SNR=4.9						
	8.0nm,0.7s						
PLCA	**Paso Flores**	**79.05**	**136**	P	P	**11 29 01.9**	**+3.1**
	2.4nm,0.6s,baz=244,slow=6.4,SNR=4.4						
	2.4nm,0.6s						
KSRS	**Korea Array**	**89.55**	**325**	P	P	**11 29 52.8**	**+1.2**
	4.5nm,0.8s,baz=146,slow=5.6,SNR=5.2						
	4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.60**	**293**	P	P	**11 30 03.2**	**+1.6**
	3.6nm,0.6s,baz=151,slow=3.8,SNR=6.3						
	3.6nm,0.6s						
YKA	**Yellowknife Ar**	**118.61**	**30**	PKP	**PKiKP**	**11 35 41.9**	**+0.5**
	2.6nm,0.7s,baz=228,slow=1.9,SNR=4.2						
ARCES	**ARCESS Array B**	**147.92**	**340**	PKPbc	**PKPbc**	**11 36 38.3**	**-0.3**
	4.9nm,0.7s,baz=64,slow=2.1,SNR=2.7						
FINES	**FINESS Array B**	**152.63**	**326**	PKPbc	**PKiKP**	**11 36 50.4**	**+0.1**
	3.3nm,0.6s,baz=40,slow=2.4,SNR=2.6						

WEL 13 11:17:19.0±0.6, 43°S±3°×17°3E±°, h14km±2km, M4.9/5, ML4.5/4, MLv4.9/5, Error ellipse: s-maj=0.0km s-min=0.0km az=55.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.41**	**182**	P	Pb	11 17 28.8	+0.8
LTZ	**Lake Taylor**	**0.62**	**248**	P	Pb	11 17 32.3	+0.7
AMCZ	**Amberley**	**0.69**	**205**	S	Sb	11 17 42.2	+0.2
NNBS	**New Brighton**	**0.97**	**194**	P	Pn	11 17 38.1	0.0
NNBS				S	Sg	11 17 50.6	0.0
CACS	**Harewood**	**1.00**	**202**	P	Pg	11 17 38.5	+0.1
CACS				S	Sn	11 17 52.8	+0.3
REHS	**Christchurch**	**1.01**	**197**	P	Pb	11 17 38.2	-0.1
REHS				S	Sn	11 17 53.5	+0.7
CMHS	**Cashmere**	**1.06**	**197**	S	Sn	11 17 53.9	0.0
OXZ	**Oxford**	**1.07**	**224**	S	Sg	11 17 53.8	+0.2
DFHS	**Darfield**	**1.17**	**216**	P	Pn	11 17 40.7	-0.2
DFHS				S	Sb	11 17 55.7	-0.1
MQZ	**McQueen's Vall**	**1.19**	**194**	P	Pn	11 17 39.1	-2.0
MQZ				S	Sb	11 17 55.7	-0.7
MHCZ	**Mount Hutt**	**1.46**	**228**	P	Pn	11 17 45.1	+0.2
MHCZ				S	Sn	11 18 04.0	+0.2

WEL 13 11:18:38.6±0.3, 42°S±2°×17°4E±°, h5km, M5.0/8, ML5.3/8, MLv5.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=113.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.30**	**12**	P	Pg	11 18 45.1	+0.7
BSWZ				S	Sb	11 18 50.5	-1.4
TUWZ	**Tuamarina**	**0.59**	**11**	P	Pg	11 18 49.9	-0.1
TUWZ				S	Sb	11 19 00.2	+0.1
THZ	**Tophouse**	**0.70**	**290**

TKNZ	**Takaka Hill**	**1.14**	**331**	P		**Pn**	**11 19 54.5**	**-0.8**
TKNZ				S		**Sb**	**11 20 10.3**	**+0.3**
DUWZ	**D'Urville Isla**	**1.25**	**8**	P		**Pn**	**11 19 54.5**	**-2.2**
DUWZ				S		**Sn**	**11 20 12.7**	**-0.8**
PLWZ	**Palliser**	**1.26**	**69**	S		**Sn**	**11 20 12.4**	**-1.5**
LTZ	**Lake Taylor**	**1.29**	**234**	Pn		**Pn**	**11 19 55.8**	**-1.5**
LTZ	**Lake Taylor**	**1.29**	**234**	P		**Pn**	**11 19 56.9**	**-0.4**
LTZ				S		**Sg**	**11 20 16.7**	**+1.9**
MSWZ	**Moikau Station**	**1.32**	**63**	P		**Pn**	**11 19 56.4**	**-1.4**
MSWZ				S		**Sn**	**11 20 14.0**	**-1.4**
AMCZ	**Amberley**	**1.37**	**214**	P		**Pb**	**11 19 59.9**	**+0.9**
CAW	**Cannon Point**	**1.39**	**48**	P		**Pn**	**11 19 58.3**	**-0.4**
CAW				S		**Sn**	**11 20 17.0**	**0.0**
DSZ	**Denniston Nort**	**1.44**	**281**	Pn		**Pn**	**11 20 00.2**	**+0.8**
DSZ	**Denniston Nort**	**1.44**	**281**	P		**Pb**	**11 20 01.0**	**+0.8**
KIW	**Kapiti Island**	**1.49**	**38**	P		**Pn**	**11 19 59.9**	**-0.2**
QRZ	**Quartz Range**	**1.49**	**324**	P		**Pn**	**11 19 56.9**	**-3.2**
QRZ				S		**Sb**	**11 20 21.1**	**+1.1**
MQZ	**McQueen's Vall**	**1.83**	**204**	Pn		**Pn**	**11 20 02.0**	**-2.7**
BFZ	**Birch Farm**	**2.35**	**56**	Pn		**Pb**	**11 20 17.6**	**+1.8**
BKZ	**Black Stump Fm**	**3.58**	**38**	Pn		Pn	11 20 34.4	+5.6
HIZ	**Hauiti**	**3.63**	**15**	Pn		**Pn**	**11 20 33.5**	**+3.9**
MXZ	**Matakaoa Point**	**5.71**	**40**			Pn	11 21 03.0	+4.9
PYZ	**Puysegur Point**	**6.52**	**228**	Pn		**Pn**	**11 21 06.0**	**-3.1**
OUZ	**Omahuta**	**6.81**	**359**	Pn		**Pn**	**11 21 16.2**	**+3.1**
KOUNC	**Koumac, New Ca**	**22.85**	**337**	P		**P**	**11 24 38.7**	**+2.2**
MSVF	**Nonsavu**	**24.51**	**10**	P		**P**	**11 24 51.9**	**-0.9**
	8.9nm,0.5s,baz=163,slow=14,SNR=7.3 8.9nm,0.5s							
MSVF	**Nonsavu**	**24.51**	**10**	P		**P**	**11 24 54.5**	**+1.7**
EIDS	**Eidsvold**	**24.99**	**305**	P		**P**	**11 24 57.7**	**+0.6**
BBOO	**Buckleboo**	**31.06**	**275**	P		**P**	**11 25 51.6**	**+0.2**
CTAO	**Charters Tower**	**31.87**	**305**	P		**P**	**11 25 59.2**	**+0.6**
AS31	**Alice Springs**	**37.71**	**286**	P		**P**	**11 26 48.4**	**-0.6**
ASAR	**Alice Springs**	**37.71**	**286**	P		**P**	**11 26 49.1**	**+0.2**
	12nm,0.9s,baz=122,slow=7.6,SNR=10 12nm,0.9s							
FORT	**Forrest**	**38.00**	**272**	P		**P**	**11 26 50.9**	**-0.4**
FORT				IAmb	IAmb		11 27 03.5	
	comp=Z,38nm,0.8s							
COEN	**Coen**	**38.47**	**308**	P		**P**	**11 26 55.2**	**-0.2**
WR0	**Warramunga Arr**	**39.66**	**291**	P		**P**	**11 27 03.4**	**-2.0**
WB2	**Warramunga Arr**	**39.80**	**291**	P		**P**	**11 27 04.8**	**-1.8**
WRA	**Warramunga Arr**	**39.81**	**291**	P		**P**	**11 27 06.8**	**+0.1**
	comp=Z,20nm,0.8s,baz=128,slow=8.1,SNR=8.0 comp=Z,20nm,0.8s							
WB0	**Warramunga Arr**	**39.89**	**292**	P		**P**	**11 27 06.4**	**-0.9**
KNRA	**Kununurra**	**46.59**	**291**	P		**P**	**11 28 02.1**	**+0.6**
MTN	**Manton Dam**	**46.96**	**296**	P		**P**	**11 28 04.6**	**+0.3**
MTN				IAmb	IAmb		11 28 24.9	
	comp=Z,128nm,1.8s							
MORW	**Morawa**	**47.82**	**266**	P		**P**	**11 28 12.3**	**+1.3**
QSPA	**South Pole Qui**	**48.09**	**180**	P		**P**	**11 28 14.2**	**+1.4**
	comp=Z,27nm,1.1s,baz=30,slow=6.5,SNR=4.5 comp=Z,27nm,1.1s							
PSA00	**Pilbara Seismi**	**49.23**	**277**	P		**P**	**11 28 21.9**	**0.0**
PSA00				IAmb	IAmb		11 28 35.7	
	comp=Z,173nm,1.9s							
GIRL	**Giralia**	**52.76**	**272**	P		**P**	**11 28 48.8**	**+0.3**
SIJI	**Sorong**	**55.95**	**306**	P		**P**	**11 29 12.1**	**+0.3**
	comp=Z,22nm,0.9s,baz=64,slow=3.5,SNR=7.6 comp=Z,22nm,0.9s							
MAW	**Mawson**	**59.02**	**205**	P		**P**	**11 29 33.5**	**+0.9**
	comp=Z,7.8nm,0.9s,baz=104,slow=10,SNR=5.4 comp=Z,7.8nm,0.9s							
TOLI2	**Tolitoli**	**64.13**	**298**	P		**P**	**11 30 09.1**	**+1.2**
TOLI2				IAmb	IAmb		11 30 45.3	
	comp=Z,60nm,1.8s							
TROLL	**Troll, Antarti**	**66.09**	**183**	P		**P**	**11 30 19.6**	**-0.4**
SNAA	**Sanae**	**66.57**	**181**	P		**P**	**11 30 20.4**	**-2.6**
SNAA	**Sanae**	**66.57**	**181**	P		**P**	**11 30 23.6**	**+0.7**
	comp=Z,15nm,1.1s,baz=183,slow=4.5,SNR=5.7 comp=Z,15nm,1.1s							
SNAA	**Sanae**	**66.57**	**181**	P		**P**	**11 30 21.9**	**-1.1**
SNAA				IAmb	IAmb		11 30 26.4	
	comp=Z,20nm,1.1s							
VNA3	**Neumayer Olymp**	**67.00**	**179**	P		**P**	**11 30 26.5**	**+0.9**
VNA2	**Neumayer--Watz**	**67.34**	**180**	P		**P**	**11 30 28.9**	**+1.1**
	baz=174,slow=6.0							
VNA1	**Neumayer--Stat**	**67.61**	**179**	P		**P**	**11 30 26.4**	**-3.1**
LEM	**Lembang**	**67.74**	**281**	P		**P**	**11 30 31.9**	**+0.5**
	comp=Z,36nm,0.7s,baz=91,slow=8.8,SNR=4.6 comp=Z,36nm,0.7s							
PLCA	**Paso Flores**	**79.19**	**136**	P		**P**	**11 31 38.9**	**+0.6**
	comp=Z,14nm,1.2s,baz=212,slow=6.5,SNR=6.3 comp=Z,14nm,1.2s							
PLCA	**Paso Flores**	**79.19**	**136**	P		**P**	**11 31 38.4**	**+0.1**
PLCA				IAmb	IAmb		11 31 43.8	
	comp=Z,57nm,1.6s							
MJAR	**Matsushiro Ant**	**84.66**	**332**	P		**P**	**11 32 05.9**	**-0.9**
	comp=Z,2.6nm,1.0s,baz=164,slow=6.3,SNR=4.6 comp=Z,2.6nm,1.0s							
KSRS	**Korea Array**	**89.45**	**325**	P		**P**	**11 32 29.6**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=145,slow=5.5,SNR=12 comp=Z,5.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**91.37**	**294**	P		**P**	**11 32 39.2**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=154,slow=3.3,SNR=6.3 comp=Z,3.0nm,0.6s							
INK	**Inuvik**	**116.86**	**19**	PKP		**PKPdf**	**11 38 16.2**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=108,slow=4.0,SNR=0.6							
YKA	**Yellowknife Ar**	**118.84**	**30**	PKP		**PKPdf**	**11 38 19.7**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=264,slow=1.8,SNR=4.4							
LIC	**Lamto**	**144.32**	**182**	*eP*		**PKPdf**	**11 39 11.5**	**+1.6**
	comp=Z,21nm,0.6s							
KBZ	**Khabaz**	**144.32**	**290**	PKP		**PKPab**	**11 39 07.6**	**+0.6**
	comp=Z,12nm,0.9s,baz=147,slow=2.1,SNR=4.6							
KIC	**Kosan Boka**	**144.44**	**183**	*eP*		**PKPab**	**11 39 08.4**	**+0.1**
	comp=Z,12nm,0.5s							
ASF	**Jabal al Asfar**	**144.49**	**268**	PKP	PKPbc		11 39 09.2	+0.8
	comp=Z,23nm,1.1s,baz=160,slow=2.6,SNR=9.6							
TIC	**Toumodi**	**144.74**	**182**	*eP*		**PKPdf**	**11 39 11.6**	**+0.9**
	comp=Z,55nm,0.9s							
DBIC	**Dimbokro**	**144.76**	**183**	PKP		**PKPab**	**11 39 09.1**	**-0.3**
	comp=Z,15nm,0.8s,baz=168,slow=5.1,SNR=6.7							
SFJD	**Kangerlussuaq**	**145.38**	**29**	PKPbc		**PKPdf**	**11 39 08.9**	**-1.1**
	comp=Z,20nm,0.9s,baz=255,slow=1.8,SNR=4.7							
ARCES	**ARCESS Array B**	**147.30**	**340**	PKPbc		**PKPdf**	**11 39 14.6**	**+0.3**
	comp=Z,12nm,0.8s,baz=42,slow=2.3,SNR=8.2							
BRTR	**Keskin Array B**	**149.89**	**279**	PKPbc		**PKPbc**	**11 39 23.3**	**-0.2**
	comp=Z,9.1nm,0.9s,baz=144,slow=5.4,SNR=9.5							
FINES	**FINESS Array B**	**152.54**	**326**	PKPbc		**PKPbc**	**11 39 26.9**	**-1.8**
	comp=Z,6.0nm,0.6s,baz=51,slow=3.0,SNR=9.5							
AKASG	**Malin Array Be**	**154.21**	**302**	PKPab		**PKPab**	**11 39 45.8**	**-0.9**
	comp=Z,8.6nm,0.8s,baz=66,slow=4.7,SNR=12							
GERES	**GERESS Array B**	**164.41**	**303**	PKPab		**PKPab**	**11 40 30.0**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=64,slow=6.1,SNR=6.8							

WEL ***13*** *11:21:15.6±0.5, 43°S±2°×17°3E±°, h10km±3km, M5.0/6, ML5.3/6, MLv5.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=103.5*

IDC ***13*** *11:21:17.2±2.1, 42°56S×173°81E, h0km, mb4.6/2, mbtmp4.6/2, Error ellipse: s-maj=149.9km s-min=39.3km az=5.0*

ISC 13 11:21:16.7±1.4, 42°63S±0°04×172°9E±0°1, h11km±10km, n15,σ1°52/19, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.34**	**168**	P		**Pg**	**11 21 23.2**	**-0.4**
GVZ				S		**Sg**	**11 21 30.0**	**+1.8**
AMCZ	**Amberley**	**0.58**	**201**	P		**Pb**	**11 21 29.3**	**+0.4**
AMCZ				S		**Sn**	**11 21 38.6**	**-1.8**
THZ	**Tophouse**	**0.87**	**358**	P		**Pb**	**11 21 32.4**	**-1.5**
THZ				S		**Sb**	**11 21 45.0**	**-0.5**
OXZ	**Oxford**	**0.96**	**223**	P		**Pb**	**11 21 35.2**	**-0.2**
OXZ				S		**Sn**	**11 21 49.2**	**-0.5**
MQZ	**McQueen's Vall**	**1.09**	**191**	P		**Pb**	**11 21 35.5**	**-2.1**
MQZ				S		**Sb**	**11 21 50.5**	**-1.4**
MRNZ	**Matariki Terra**	**1.24**	**354**	P		**Pn**	**11 21 39.7**	**-0.2**
MRNZ				S		**Sb**	**11 21 56.1**	**-0.1**
ASAR	**Alice Springs**	**37.35**	**288**	P		P	11 28 36.8	+7.5
	6.0nm,0.9s,baz=129,slow=7.3,SNR=2.9 6.0nm,0.9s							
WRA	**Warramunga Arr**	**39.52**	**293**	P		P	11 28 54.3	+6.7
	9.5nm,0.7s,baz=131,slow=7.5,SNR=4.7 9.5nm,0.7s							
YKA	**Yellowknife Ar**	**119.63**	**31**	PKP		**PKiKP**	**11 40 07.0**	**+1.5**
	3.1nm,0.7s,baz=261,slow=1.9,SNR=7.4							
MKAR	**Makanchi Array**	**119.74**	**308**	PKP		**PKiKP**	**11 40 09.1**	**+2.8**
	1.2nm,0.8s,baz=180,slow=1.3,SNR=2.0							
KURBB	**Kurchatov Arra**	**123.81**	**310**	PKP		**PKiKP**	**11 40 16.8**	**+2.7**
	1.3nm,0.6s,baz=114,slow=1.8,SNR=3.0							
KBZ	**Khabaz**	**144.00**	**289**	PKP		**PKiKP**	**11 40 54.2**	**-1.0**
	6.5nm,0.8s,baz=61,slow=2.4,SNR=4.3							
SFJD	**Kangerlussuaq**	**146.17**	**29**	PKPbc		**PKPab**	**11 40 56.7**	**+0.3**
	16nm,0.7s,baz=246,slow=3.3,SNR=7.0							
ARCES	**ARCESS Array B**	**148.26**	**339**	PKPbc		**PKiKP**	**11 41 03.2**	**0.0**
	1.9nm,0.5s,baz=60,slow=3.6,SNR=4.1							
BRTR	**Keskin Array B**	**149.44**	**279**	PKPbc		**PKPab**	**11 41 09.7**	**-0.8**
	3.6nm,0.8s,baz=150,slow=5.4,SNR=3.1							

WEL 13 11:21:59.7±0.5, 42°S±3°×17°4E±°, h10km±4km, M4.6/8, ML4.9/8, MLv4.6/8, Error ellipse: s-maj=0.0km s-min=0.0km az=155.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**345**	P		Pg	11 22 02.1	+0.4
CMWZ				S		Sg	11 22 04.9	+1.7
BSWZ	**Blackbirch Sta**	**0.28**	**287**	P		Pg	11 22 04.9	-0.5
BSWZ				S		Sb	11 22 13.0	+1.5
TUWZ	**Tuamarina**	**0.43**	**329**	P		Pb	11 22 09.0	-0.3
TUWZ				S		Sb	11 22 16.6	+0.9
TCW	**Tory Channel**	**0.59**	**3**	P		Pb	11 22 12.5	+0.5
TCW				S		Sb	11 22 20.3	-0.1
BHW	**Baring Head**	**0.62**	**51**	P		Pb	11 22 12.7	+0.2
BHW				S		Sg	11 22 20.5	+0.7
WEL	**Wellington**	**0.65**	**38**	P		Pb	11 22 13.1	0.0
WEL				S		Sb	11 22 22.3	0.0
PLWZ	**Palliser**	**0.80**	**74**	P		Pb	11 22 16.0	+0.3
PLWZ				S		Sb	11 22 27.5	+0.9
MSWZ	**Moikau Station**	**0.85**	**64**	P		Pb	11 22 17.2	+0.6
MSWZ				S		Sn	11 22 30.7	+0.4
PAWZ	**Paruwai Farm**	**0.99**	**66**	P		Pn	11 22 19.4	-0.3
PAWZ				S		Sb	11 22 32.8	+0.7
THZ	**Tophouse**	**0.99**	**272**	P		Pb	11 22 19.1	+0.1
THZ				S		Sg	11 22 30.9	-0.8
DUWZ	**D'Urville Isla**	**1.02**	**347**	S		Sn	11 22 34.7	+0.3
TRWZ	**Traveller**	**1.16**	**70**	P		Pg	11 22 22.6	+0.6
TRWZ				S		Sn	11 22 38.2	+0.2

WEL 13 11:22:31.5±0.3, 42°S±2°×17°3E±°, h5km, M4.8/5, ML4.9/5, MLv4.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=112.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**168**	P		Pg	11 22 37.5	+0.8
KHZ				S		Sg	11 22 40.3	0.0
BSWZ	**Blackbirch Sta**	**0.53**	**35**	P		Pg	11 22 40.4	-1.3
BSWZ				S		Sb	11 22 48.4	-0.3
TUWZ	**Tuamarina**	**0.81**	**26**	P		Pb	11 22 48.3	+0.4
TUWZ				S		Sg	11 22 57.6	+0.3
GVZ	**Greta Valley S**	**0.88**	**201**	P		Pb	11 22 48.8	-0.4
GVZ				S		Sg	11 22 59.3	-0.3
LTZ	**Lake Taylor**	**1.08**	**234**	P		Pn	11 22 54.1	+0.7
LTZ				S		Sb	11 23 07.2	-0.1
DUWZ	**D'Urville Isla**	**1.39**	**14**	P		Pg	11 22 58.9	+0.8
DUWZ				S		Sn	11 23 16.3	-0.1

NEIC ***13*** *11:23:29.2±1.4, 42°60S±0°05×174°34E±0°08, h10km±2km, mb4.5/3, Error ellipse: s-maj=11.0km s-min=7.0km az=130.0*

IDC ***13*** *11:23:30.3±2.4, 42°33S×173°88E, h0km, mb4.6/3, mbtmp4.6/3, Error ellipse: s-maj=141.2km s-min=35.2km az=3.0*

WEL ***13*** *11:23:32.9±0.5, 42°S±3°×17°4E±°, h4km±2km, M4.8/7, ML5.9/7, MLv4.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=131.6*

ISC 13 11:23:31.3±1.7, 42°35S±0°06×173°99E±0°06, h12km±10km, n38,σ1°48/44, mb4.5/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.34**	**258**	P		**Pb**	**11 23 40.5**	**+1.2**
CMWZ	**Cape Campbell**	**0.62**	**16**	Pn		**Pn**	**11 23 48.8**	**+2.8**
CMWZ	**Cape Campbell**	**0.62**	**16**	S		**Sg**	**11 23 51.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.64**	**353**	Pn		**Pn**	**11 23 48.4**	**+2.2**
TUWZ	**Tuamarina**	**0.92**	**358**	P		**Pb**	**11 23 48.3**	**-0.9**
TUWZ				S		**Sb**	**11 23 58.2**	**-3.1**
THZ	**Tophouse**	**0.99**	**306**	P		**Pb**	**11 23 48.1**	**-2.4**
THZ				S		**Sb**	**11 23 59.2**	**-4.4**
TCW	**Tory Channel**	**1.16**	**11**	P		**Pn**	**11 23 51.2**	**-2.1**
TCW				S		**Sb**	**11 24 07.4**	**-0.8**
SNZO	**South Karori**	**1.17**	**28**	Pn		**Pn**	**11 23 53.9**	**+0.4**
WEL	**Wellington**	**1.21**	**29**	P		**Pn**	**11 23 54.3**	**+0.1**
WEL				S		**Sb**	**11 24 10.2**	**+0.3**
PLWZ	**Palliser**	**1.23**	**51**	Pn		**Pn**	**11 23 52.4**	**-1.9**
MSWZ	**Moikau Station**	**1.33**	**46**	Pn		**Pn**	**11 23 54.8**	**-0.9**
LTZ	**Lake Taylor**	**1.34**	**250**	Pn		**Pg**	**11 23 58.1**	**+1.1**
KIW	**Kapiti Island**	**1.64**	**25**	P		**Pn**	**11 24 00.0**	**0.0**
KIW				S		**Sb**	**11 24 21.8**	**-0.3**
MQZ	**McQueen's Vall**	**1.67**	**215**	Pn		**Pn**	**11 23 58.3**	**-2.2**
DSZ	**Denniston Nort**	**1.73**	**290**	Pn		**Pb**	**11 24 04.0**	**+0.9**
INZ	**Inchbonnie**	**1.92**	**258**	P		**Pn**	**11 24 04.4**	**+0.6**
INZ				S		**Sb**	**11 24 30.8**	**+0.8**
RPZ	**Rata Peaks**	**2.55**	**237**	Pn		**Pn**	**11 24 11.0**	**-1.5**
WKZ	**Wanaka**	**4.38**	**234**	Pn		**Pn**	**11 24 35.0**	**-2.7**
MXZ	**Matakaoa Point**	**5.82**	**36**	Pn		**Pn**	**11 24 54.9**	**-2.5**
AS31	**Alice Springs**	**38.00**	**287**	P		**P**	**11 30 49.6**	**+0.2**
AS31				IAmb	IAmb		11 30 51.8	
	comp=Z,2.6nm,0.5s							
ASAR	**Alice Springs**	**38.01**	**287**	P		**P**	**11 30 49.6**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=121,slow=6.7,SNR=13 comp=Z,2.8nm,0.4s							
FORT	**Forrest**	**38.23**	**272**	P		**P**	**11 30 51.3**	**+0.2**
FORT				IAmb	IAmb		11 31 09.0	
	comp=Z,9.9nm,0.8s							
COEN	**Coen**	**38.83**	**308**	P		**P**	**11 30 56.1**	**-0.2**
WR0	**Warramunga Arr**	**39.98**	**292**	P		**P**	**11 31 06.1**	**+0.2**
WB2	**Warramunga Arr**	**40.12**	**291**	P		**P**	**11 31 06.7**	**-0.4**
WRA	**Warramunga Arr**	**40.13**	**291**	P		**P**	**11 31 07.0**	**-0.2**
	comp=Z,6.4nm,0.5s,baz=128,slow=8.5,SNR=10 comp=Z,6.4nm,0.5s							
WB0	**Warramunga Arr**	**40.21**	**292**	P		**P**	**11 31 07.5**	**-0.3**
KNRA	**Kununurra**	**46.91**	**291**	P		**P**	**11 32 03.4**	**+1.6**
MTN	**Manton Dam**	**47.29**	**295**	P		**P**	**11 32 05.0**	**+0.2**
MTN				IAmb	IAmb		11 32 41.9	
	comp=Z,2.4nm,0.5s							
MORW	**Morawa**	**48.02**	**266**	P		**P**	**11 32 10.6**	**+0.2**
MBWA	**Marble Bar**	**49.83**	**278**	P		**P**	**11 32 24.4**	**+0.1**
KSRS	**Korea Array**	**89.83**	**325**	P		**P**	**11 36 30.4**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=145,slow=5.7,SNR=4.6 comp=Z,1.7nm,0.6s							
YKA	**Yellowknife Ar**	**118.99**	**30**	PKP		**PKiKP**	**11 42 19.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=256,slow=1.9,SNR=5.7							
SFJD	**Kangerlussuaq**	**145.54**	**29**	PKPbc		**PKPab**	**11 43 09.2**	**+0.5**
	comp=Z,9.1nm,0.5s,baz=192,slow=2.1,SNR=8.2							
ARCES	**ARCESS Array B**	**148.27**	**340**	PKPbc		**PKPbc**	**11 43 16.0**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=43,slow=1.8,SNR=6.0							
BRTR	**Keskin Array B**	**150.16**	**278**	PKPbc		**PKiKP**	**11 43 22.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=145,slow=5.0,SNR=2.1							
FINES	**FINESS Array B**	**152.92**	**326**	PKPbc		**PKPbc**	**11 43 27.3**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=72,slow=3.0,SNR=3.7							
GERES	**GERESS Array B**	**164.77**	**302**	PKPab		**PKPab**	**11 44 30.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=95,slow=4.9,SNR=2.4							

IDC ***13*** *11:24:06.4±2.1, 42°48S×173°66E, h0km, mb4.3/2, mbtmp4.3/2, Error ellipse: s-maj=188.4km s-min=45.5km az=10.0*

ISC 13 11:24:09.6±1.3, 42°5S±0°3×173°4E±0°3, h10km, n12, σ1°55/12, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**37.63**	**287**	P		**P**	**11 31 24.2**	**-0.5**
	1.9nm,0.5s,baz=125,slow=7.1,SNR=4.1 1.9nm,0.5s							
WRA	**Warramunga Arr**	**39.78**	**292**	P		**P**	**11 31 42.8**	**0.0**
	2.7nm,0.5s,baz=127,slow=8.7,SNR=2.3 2.7nm,0.5s							
TROLL	**Troll, Antarti**	**65.61**	**183**	P		**P**	**11 34 53.2**	**-0.1**
SNAA	**Sanae**	**66.10**	**181**	P		**P**	**11 34 55.9**	**-0.5**
VNA3	**Neumayer Olymp**	**66.54**	**179**	P		**P**	**11 34 58.6**	**-0.6**
VNA2	**Neumayer--Watz**	**66.88**	**180**	P		**P**	**11 35 01.2**	**-0.1**
	baz=170,slow=6.0							
VNA1	**Neumayer--Stat**	**67.15**	**179**	P		**P**	**11 35 03.1**	**+0.1**
YKA	**Yellowknife Ar**	**119.35**	**30**	PKP		**PKPdf**	**11 42 56.3**	**-1.7**
	1.8nm,0.8s,baz=235,slow=2.2,SNR=3.9							
KURBB	**Kurchatov Arra**	**123.98**	**310**	PKP		**PKPdf**	**11 43 05.7**	**-1.6**
	0.8nm,0.3s,baz=112,slow=1.6,SNR=7.7							
KBZ	**Khabaz**	**144.27**	**289**	PKP		**PKPab**	**11 43 42.8**	**-0.5**
	3.1nm,0.7s,baz=124,slow=3.6,SNR=4.4							
ARCES	**ARCESS Array B**	**148.26**	**339**	PKPbc		**PKPdf**	**11 43 52.5**	**+1.2**
	4.7nm,0.8s,baz=57,slow=3.3,SNR=2.8							
BRTR	**Keskin Array B**	**149.75**	**278**	PKPbc		**PKPdf**	**11 43 58.5**	**+3.7**
	3.8nm,0.8s,baz=122,slow=4.5,SNR=4.8							

IDC ***13*** *11:24:16.0±0.6, 41°73S×173°62E, h0km, mb5.1/9, mbtmp5.1/10, ML5.8/1, Error ellipse: s-maj=23.9km s-min=17.5km az=80.0*

WEL ***13*** *11:24:16.9±0.4, 42°S±3°×17°4E±°, h7km±3km, M5.5/17, ML5.9/17, MLv5.5/17, Error ellipse: s-maj=0.0km s-min=0.0km az=155.5*

NEIC ***13*** *11:24:18.1±1.9, 41°94S±0°05×173°71E±0°06, h18km±1km, mb5.3/19, Error ellipse: s-maj=7.5km s-min=5.5km az=148.0*

ISC 13 11:24:17.0±1.2, 41°98S±0°02×173°68E±0°03, h10km±7km, n174,σ1°48/178, mb5.3/20, 3C, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.30**	**29**			**Pg**	**11 24 23.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.30**	**29**	P		**Pb**	**11 24 24.0**	**-0.4**
BSWZ				S		**Sb**	**11 24 29.6**	**+0.3**
KHZ	**Kahutara**	**0.45**	**194**	P		**Pg**	**11 24 25.8**	**0.0**
KHZ				S		**Sb**	**11 24 33.3**	**-0.4**
CMWZ	**Cape Campbell**	**0.46**	**60**			**Pb**	**11 24 27.1**	**0.0**
CMWZ	**Cape Campbell**	**0.46**	**60**	P		**Pb**	**11 24 27.3**	**+0.2**
CMWZ				S		**Sb**	**11 24 33.7**	**-0.3**
TUWZ	**Tuamarina**	**0.58**	**20**			**Pb**	**11 24 29.0**	**-0.2**
TUWZ	**Tuamarina**	**0.58**	**20**	P		**Pb**	**11 24 29.0**	**-0.2**
TUWZ				S		**Sn**	**11 24 39.5**	**-1.3**
THZ	**Tophouse**	**0.62**	**290**			**Pn**	**11 24 30.9**	**-1.0**
THZ	**Tophouse**	**0.62**	**290**	P		**Pn**	**11 24 30.8**	**-1.0**
THZ				S		**Sn**	**11 24 40.3**	**-1.5**
NNZ	**Nelson**	**0.79**	**343**			**Pn**	**11 24 33.6**	**-0.6**
NNZ	**Nelson**	**0.79**	**343**	P		**Pb**	**11 24 32.9**	**+0.1**
NNZ				S		**Sn**	**11 24 45.0**	**-1.0**
TCW	**Tory Channel**	**0.89**	**30**	P		**Pg**	**11 24 34.0**	**-0.1**
TCW				S		**Sn**	**11 24 47.8**	**-0.5**
MRNZ	**Matariki Terra**	**0.90**	**310**	P		**Pn**	**11 24 36.3**	**+0.6**
MRNZ				S		**Sn**	**11 24 49.4**	**+0.7**
SNZO	**South Karori**	**1.02**	**49**	Pn		**Pn**	**11 24 36.9**	**-0.3**
WEL	**Wellington**	**1.07**	**50**	P		**Pn**	**11 24 37.9**	**0.0**
WEL				S		**Sn**	**11 24 53.9**	**+1.1**
TKNZ	**Takaka Hill**	**1.09**	**330**	P		**Pn**	**11 24 38.1**	**-0.1**
DUWZ	**D'Urville Isla**	**1.19**	**9**	P		**Pg**	**11 24 40.8**	**+1.0**
PLWZ	**Palliser**	**1.25**	**71**	Pn		**Pn**	**11 24 38.8**	**-1.6**
PLWZ	**Palliser**	**1.25**	**71**	P		**Pn**	**11 24 39.8**	**-0.6**
MSWZ	**Moikau Station**	**1.30**	**65**	Pn		**Pn**	**11 24 40.4**	**-0.7**
MSWZ	**Moikau Station**	**1.30**	**65**	P		**Pb**	**11 24 41.5**	**0.0**
LTZ	**Lake Taylor**	**1.32**	**232**	Pn		**Pn**	**11 24 41.5**	**+0.1**
CAW	**Cannon Point**	**1.36**	**51**	P		**Pb**	**11 24 42.3**	**0.0**
AMCZ	**Amberley**	**1.42**	**212**	P		**Pn**	**11 24 40.7**	**-2.1**
DSZ	**Denniston Nort**	**1.42**	**279**	Pn		**Pn**	**11

WR0	**Warramunga Arr**	**39.64**	**291**	P	**P**	**11 31 48.9**	**0.0**
WB2	**Warramunga Arr**	**39.78**	**291**	P	**P**	**11 31 49.9**	**-0.2**
WRAB	**Tennant Creek**	**39.79**	**291**	P	**P**	**11 31 49.0**	**-1.1**
WRA	**Warramunga Arr**	**39.79**	**291**	P	**P**	**11 31 49.7**	**-0.5**
	comp=Z,17nm,0.8s,baz=127,slow=8.6,SNR=9.1						
	comp=Z,17nm,0.8s						
WB0	**Warramunga Arr**	**39.87**	**292**	P	**P**	**11 31 48.9**	**-1.9**
PMG	**Port Moresby**	**39.96**	**317**	P	**P**	**11 31 53.1**	**+1.6**
RABL	**Rabaul**	**42.25**	**327**	P	**P**	**11 32 11.0**	**+0.6**
KNRA	**Kununurra**	**46.56**	**290**	P	**P**	**11 32 44.4**	**-0.6**
KNRA				IAmb	IAmb	11 34 21.7	
	comp=Z,7.0nm,0.6s						
MTN	**Manton Dam**	**46.93**	**295**	P	**P**	**11 32 44.9**	**-2.9**
MORW	**Morawa**	**47.82**	**266**	P	**P**	**11 32 55.7**	**+1.0**
MORW				IAmb	IAmb	11 33 32.2	
	comp=Z,53nm,1.7s						
QSPA	**South Pole Qui**	**48.15**	**180**	P	**P**	**11 32 59.5**	**+2.6**
	comp=Z,88nm,1.0s,baz=22,slow=3.7,SNR=13						
	comp=Z,88nm,1.0s						
QSPA	**South Pole Qui**	**48.15**	**180**	P	**P**	**11 32 59.2**	**+2.3**
PSA00	**Pilbara Seismi**	**49.22**	**277**	P	**P**	**11 33 03.8**	**-1.7**
GIRL	**Giralia**	**52.76**	**272**	P	**P**	**11 33 32.5**	**+0.4**
SANI	**Sanana**	**58.32**	**300**	P	**P**	**11 34 12.6**	**+0.5**
	comp=Z,25nm,1.0s						
PLAI	**Plampang**	**59.02**	**287**	P	**P**	**11 34 19.7**	**+2.6**
	comp=Z,69nm,1.5s						
MAW	**Mawson**	**59.07**	**205**	P	**P**	**11 34 19.1**	**+2.5**
	comp=Z,26nm,1.0s,baz=107,slow=8.7,SNR=11						
	comp=Z,26nm,1.0s						
MAW	**Mawson**	**59.07**	**205**	P	**P**	**11 34 17.6**	**+1.0**
MAW				IAmb	IAmb	11 34 24.9	
	comp=Z,13nm,1.2s						
BELA	**Belgrano 2**	**59.17**	**173**	P	**P**	**11 34 17.7**	**+0.4**
BELA				IAmb	IAmb	11 34 19.8	
	comp=Z,60nm,1.5s						
TWSI	**Taliwang, Sumb**	**59.72**	**287**	P	**P**	**11 34 22.2**	**+0.3**
TOLI2	**Tolitoli**	**64.10**	**298**	P	**P**	**11 34 50.1**	**-1.2**
TOLI2				IAmb	IAmb	11 34 57.6	
	comp=Z,22nm,1.0s						
SNAA	**Sanae**	**66.63**	**181**	P	**P**	**11 35 07.1**	**+0.1**
SNAA				IAmb	IAmb	11 35 09.2	
	comp=Z,61nm,1.4s						
SBUM	**Sibu**	**70.88**	**292**	P	**P**	**11 35 35.6**	**+1.4**
KSM	**Kuching**	**71.52**	**290**	P	**P**	**11 35 37.9**	**-0.2**
PLCA	**Paso Flores**	**79.23**	**136**	P	**P**	**11 36 24.9**	**+2.6**
	comp=Z,25nm,0.9s,baz=227,slow=5.9,SNR=11						
	comp=Z,25nm,0.9s						
PLCA	**Paso Flores**	**79.23**	**136**	P	**P**	**11 36 23.5**	**+1.2**
PLCA				IAmb	IAmb	11 36 25.6	
	comp=Z,51nm,1.1s						
HOPE	**Hope Point**	**80.69**	**163**	P	**P**	**11 36 31.1**	**+1.3**
HOPE				IAmb	IAmb	11 36 44.2	
	comp=Z,163nm,1.4s						
JMN	**Monobe**	**83.74**	**328**	P	**P**	**11 36 43.3**	**-2.6**
JMN				IAmb	IAmb	11 37 01.1	
	comp=Z,32nm,1.0s						
MJAR	**Matsushiro Arr**	**84.61**	**332**	P	**P**	**11 36 50.4**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=139,slow=4.8,SNR=3.6						
	comp=Z,4.0nm,0.9s						
KSRS	**Korea Array**	**89.40**	**325**	P	**P**	**11 37 13.9**	**+0.5**
	comp=Z,6.3nm,0.8s,baz=148,slow=5.2,SNR=13						
	comp=Z,6.3nm,0.8s						
KSAR	**Wonju Array Be**	**89.41**	**325**	P	**P**	**11 37 13.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**91.34**	**294**	P	**P**	**11 37 23.8**	**+0.8**
	comp=Z,8.8nm,1.0s,baz=145,slow=3.6,SNR=4.6						
	comp=Z,8.8nm,1.0s						
ILAR	**Eielson Array**	**110.81**	**17**	PKiKP	**PKiKP**	**11 42 48.5**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=307,slow=1.7,SNR=5.4						
YKA	**Yellowknife Ar**	**118.79**	**30**	PKP	**PKiKP**	**11 43 04.7**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=261,slow=1.9,SNR=8.6						
MKAR	**Makanchi Array**	**119.78**	**308**	PKP	**PKiKP**	**11 43 07.4**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=227,slow=4.8,SNR=4.7						
ULM	**Lac du Bonnet**	**120.97**	**48**	PKP	**PKPdf**	**11 43 08.6**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=224,slow=1.7,SNR=4.3						
KMBO	**Kilima Mbogo**	**121.81**	**234**	PKP	**PKiKP**	**11 43 13.0**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=141,slow=6.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**123.80**	**310**	PKP	**PKPdf**	**11 43 13.2**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=122,slow=1.6,SNR=4.1						
GEYT	**Alibeck**	**131.48**	**288**	PKP	**PKiKP**	**11 43 30.3**	**0.0**
	comp=Z,2.9nm,0.7s,baz=270,slow=1.4,SNR=2.8						
GEYT				SKPbc	**SKPbc**	**11 46 52.7**	**-1.8**
	comp=Z,1.5nm,0.4s,baz=132,slow=2.2,SNR=4.7						
KBZ	**Khabaz**	**144.30**	**290**	PKP	**PKPab**	**11 43 50.6**	**0.0**
	comp=Z,16nm,0.8s,baz=73,slow=3.0,SNR=8.1						
LIC	**Lamto**	**144.38**	**182**	*e*PKiKP	**PKPdf**	**11 43 54.1**	**+0.4**
	comp=Z,39nm,0.7s						
ASF	**Jabal al Asfar**	**144.48**	**268**	PKP	**PKPdf**	**11 43 53.0**	**-0.5**
	comp=Z,11nm,0.8s,baz=80,slow=2.3,SNR=7.6						
KIC	**Kosan Boka**	**144.50**	**183**	*e*PKiKP	**PKPdf**	**11 43 54.0**	**0.0**
	comp=Z,19nm,0.6s						
EIL	**Elat**	**144.68**	**263**	PKP	**PKPdf**	**11 43 53.2**	**-0.5**
	comp=Z,25nm,0.9s,baz=302,slow=1.6,SNR=5.6						
DAG	**Danmarks Havn**	**144.71**	**5**	*i* P	**PKPab**	**11 43 48.0**	**-3.2**
TIC	**Toumodi**	**144.79**	**182**	*e*PKiKP	PKPbc	11 43 53.8	+0.4
	comp=Z,56nm,0.8s						
DBIC	**Dimbokro**	**144.81**	**183**	PKPbc	**PKPdf**	**11 43 54.1**	**-0.4**
	comp=Z,16nm,0.7s,baz=191,slow=3.4,SNR=11						
SFJD	**Kangerlussuaq**	**145.33**	**29**	PKPbc	**PKPab**	**11 43 53.8**	**+0.1**
	baz=199,slow=2.5,SNR=4.3						
ARCES	**ARCESS Array B**	**147.84**	**340**	PKPbc	**PKPbc**	**11 43 60.0**	**-0.9**
	comp=Z,18nm,0.8s,baz=56,slow=2.2,SNR=8.8						
BRTR	**Keskin Array B**	**149.88**	**279**	PKPbc	**PKPbc**	**11 44 06.7**	**-0.5**
	comp=Z,9.8nm,0.8s,baz=143,slow=6.5,SNR=12						
FINES	**FINESS Array B**	**152.49**	**326**	PKPbc	**PKPbc**	**11 44 11.1**	**-1.2**
	comp=Z,12nm,0.7s,baz=92,slow=4.6,SNR=11						
AKASG	**Malin Array Be**	**154.17**	**302**	PKP	**PKPdf**	**11 44 08.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=71,slow=3.0,SNR=2.1						
AKASG				PKPbc	**PKiKP**	**11 44 17.0**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=64,slow=2.7,SNR=4.8						
NB2	**NORSAR Subarra**	**158.15**	**337**	PKP	**PKPab**	**11 44 45.2**	**-1.8**
	comp=Z,2.5nm,0.9s,baz=35,slow=4.4						
CLL	**Collm**	**163.82**	**312**	*e*PKPab	**PKPab**	**11 45 14.0**	**+2.0**
CLL				*ex*	x	11 45 44.0	
ESDC	**Sonseca Array**	**177.09**	**219**	PKP	**PKPdf**	**11 44 29.1**	**+1.9**
	comp=Z,2.8nm,1.1s,baz=359,slow=3.7,SNR=4.1						

WEL ***13*** *11:30:26.7±0.5, 42°S±3°×17°4E±°, h6km±3km, M5.1/7, ML5.3/6, MLv5.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=147.2*

IDC ***13*** *11:30:27.8±3.1, 40.90S×173.90E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=209.5km s-min=47.8km az=4.0*

ISC 13 11:30:26.6±0.8, 42.18S±0.03×173.80E±0.06, h10km, n19, σ1§13/24, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.31**	**219**	P	**Pg**	**11 30 31.6**	**-1.2**
KHZ				S	**Sg**	**11 30 35.6**	**-1.4**
KHZ	**Kahutara**	**0.31**	**219**	P	**Pb**	**11 30 35.4**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.46**	**7**	P	**Pn**	**11 30 41.8**	**+2.5**
BSWZ	**Blackbirch Sta**	**0.46**	**7**	P	**Pb**	**11 30 36.0**	**-0.9**
BSWZ				S	**Pn**	**11 30 41.8**	**+2.5**
TUWZ	**Tuamarina**	**0.75**	**8**	P	**Pb**	**11 30 41.3**	**-0.5**
TUWZ				S	**Sb**	**11 30 51.5**	**-0.5**
THZ	**Tophouse**	**0.79**	**301**	P	**Pg**	**11 30 42.1**	**+0.3**
THZ	**Tophouse**	**0.79**	**301**	P	**Pg**	**11 30 41.8**	**0.0**
THZ				S	**Sb**	**11 30 52.8**	**-0.3**
GVZ	**Greta Valley S**	**0.97**	**215**	P	Pg	11 30 36.5	-8.9
GVZ				S	Sg	11 30 44.0	-14
TCW	**Tory Channel**	**1.03**	**20**	P	**Pg**	**11 30 45.8**	**-0.5**
TCW				S	**Sb**	**11 30 59.6**	**-0.3**
LTZ	**Lake Taylor**	**1.29**	**241**	P	Pn	11 30 41.4	-9.3
TKNZ	**Takaka Hill**	**1.30**	**331**	P	**Pn**	**11 30 50.0**	**-0.9**
TKNZ				S	**Sg**	**11 31 10.2**	**+1.7**
QRZ	**Quartz Range**	**1.65**	**324**	P	**Pn**	**11 30 55.5**	**-0.2**
QRZ				S	**Sg**	**11 31 19.0**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.82**	**201**	S	**Sb**	**11 31 23.1**	**+0.3**
ASAR	**Alice Springs**	**37.83**	**286**	P	**P**	**11 37 44.1**	**+0.7**
	1.3nm,0.4s,baz=126,slow=6.6,SNR=7.6						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**39.94**	**291**	P	**P**	**11 38 00.0**	**-1.1**
	1.1nm,0.5s,baz=128,slow=8.2,SNR=2.4						
	1.1nm,0.5s						
SFJD	**Kangerlussuaq**	**145.46**	**29**	PKP	**PKPdf**	**11 50 03.6**	**0.0**
	6.9nm,0.7s,baz=223,slow=4.7,SNR=2.0						
ARCES	**ARCESS Array B**	**148.06**	**340**	PKPbc	**PKPbc**	**11 50 10.4**	**-0.7**
	3.5nm,0.8s,baz=56,slow=3.6,SNR=4.4						
BRTR	**Keskin Array B**	**150.00**	**279**	PKPbc	**PKiKP**	**11 50 19.2**	**+1.1**
	1.5nm,0.8s,baz=156,slow=6.9,SNR=2.7						
FINES	**FINESS Array B**	**152.70**	**326**	PKPbc	**PKiKP**	**11 50 22.8**	**+0.1**
	1.8nm,0.8s,baz=42,slow=2.3,SNR=1.1						

WEL 13 11:30:40.4±0.5, 43.3S×173.3E±°, h5km, M4.0/2, ML4.8/2, MLv4.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=119.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.37**	**258**	P	Pg	11 30 47.6	0.0
LTZ				S	Sg	11 30 53.4	+1.1
AMCZ	**Amberley**	**0.48**	**189**	S	Sg	11 30 54.3	-1.6
THZ	**Tophouse**	**0.95**	**7**	P	Pg	11 30 58.3	-0.3
THZ				S	Sb	11 31 13.3	+1.1

IDC 13 11:30:47.6±1.4, 41.60S×174.14E, h0km, mb4.5/3, mbtmp4.5/3, ML5.6/1, Error ellipse: s-maj=41.8km s-min=38.2km az=147.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**3.10**	**226**	Pn	Pn	11 31 38.0	+0.2
	739nm,0.3s,baz=306,slow=2.5,SNR=13						
ASAR	**Alice Springs**	**37.91**	**285**	P	P	11 38 06.9	+0.2
	3.8nm,0.6s,baz=120,slow=6.6,SNR=8.1						
	3.8nm,0.6s						
WRA	**Warramunga Arr**	**39.97**	**290**	P	P	11 38 23.5	-0.5
	5.1nm,0.6s,baz=126,slow=8.6,SNR=6.1						
	5.1nm,0.6s						
KSRS	**Korea Array**	**89.29**	**325**	P	P	11 43 46.3	+1.0
	1.7nm,0.7s,baz=145,slow=5.6,SNR=8.6						
	1.7nm,0.7s						
KBZ	**Khabaz**	**144.49**	**290**	PKP	PKPab	11 50 23.7	-0.1
	2.3nm,0.7s,baz=73,slow=5.3,SNR=3.2						
DBIC	**Dimbokro**	**145.20**	**182**	PKPbc	PKPbc	11 50 26.9	-0.3
	2.5nm,0.6s,baz=184,slow=3.3,SNR=4.7						
ARCES	**ARCESS Array B**	**147.61**	**340**	PKPbc	PKPbc	11 50 32.0	-0.7
	5.3nm,0.9s,baz=78,slow=2.9,SNR=5.4						
BRTR	**Keskin Array B**	**150.15**	**280**	PKPbc	PKPbc	11 50 39.6	-0.7
	3.0nm,0.7s,baz=144,slow=7.1,SNR=7.9						
FINES	**FINESS Array B**	**152.36**	**327**	PKPbc	PKPbc	11 50 44.0	-0.5
	1.9nm,0.6s,baz=45,slow=3.7,SNR=5.2						
AKASG	**Malin Array Be**	**154.26**	**303**	PKPab	PKPab	11 51 02.1	-0.9
	1.6nm,0.6s,baz=68,slow=4.5,SNR=6.4						

WEL 13 11:31:24.2±0.3, 42°S±2°×17°4E±°, h7km±2km, M4.8/9, ML5.8/7, MLv4.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=120.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.28**	**192**	P	Pg	11 31 30.2	+0.6
KHZ				S	Sg	11 31 34.7	+1.4
BSWZ	**Blackbirch Sta**	**0.47**	**24**	P	Pb	11 31 34.1	-0.7
BSWZ				S	Sb	11 31 41.6	-0.3
THZ	**Tophouse**	**0.65**	**306**	P	Pb	11 31 37.8	-0.2
TUWZ	**Tuamarina**	**0.76**	**19**	P	Pg	11 31 38.2	-0.5
TUWZ				S	Sb	11 31 50.6	+0.5
NNZ	**Nelson**	**0.94**	**349**	S	Sg	11 31 54.8	+0.3
MRNZ	**Matariki Terra**	**0.98**	**319**	P	Pb	11 31 43.7	+0.2
TCW	**Tory Channel**	**1.06**	**28**	P	Pg	11 31 44.2	-0.3
TCW				S	Sg	11 31 58.4	+0.3
TKNZ	**Takaka Hill**	**1.22**	**336**	P	Pg	11 31 46.4	-1.1
DUWZ	**D'Urville Isla**	**1.36**	**10**	S	Sn	11 32 08.4	+0.5

WEL ***13*** *11:32:00, 42.28S×173.68E, h18km, ML6.2, Mw6.3, Moment Tensor Solution. s6 Moment tensor: Scale 1018 Nm; Mrr2.99; Mθθ0.63; Mϕϕ-3.62; Mrθ-0.02; Mθϕ-1.30; Mϕr2.19; Fault plane solution: M0 4.14000×1018 NP1: ϕ±210.00000°, δ31.00000°, λ113.00000°. NP2:ϕ±5.00000°, δ62.00000°, λ77.00000°. Principal axes: T -457587.3000, Plg71.0000°, Azm248.0000°; N 87422.3500, Plg11.0000°, Azm11.0000°; P 370164.9500, Plg16.0000°, Azm104.0000°;*

IDC ***13*** *11:32:04.6±0.3, 42.10S×173.51E, h0km, mb5.4/22, mbtmp5.4/23, ML5.9/1, MS7.2/1 Error ellipse: s-maj=15.2km s-min=12.3km az=58.0*

BJI ***13*** *11:32:05.3±0.0, 42.19S×173.76E, h10km, mb5.7/31*

MOS ***13*** *11:32:06.0±0.9, 42.12S×173.43E, h13km, mb6.2/18, MS7.2/17, Error ellipse: s-maj=12.5km s-min=9.5km az=120.0*

NEIC ***13*** *11:32:06.5±2.9, 42.32S±0.04×173.67E±0.06, h10km±1km, mb6.2/71, Mwr6.3/27, Mww6.5, Error ellipse: s-maj=7.9km s-min=5.8km az=107.0*

NEIC ***13*** *11:32:07.3, 42.32S×173.64E, h24km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.58; Mθθ-0.06; Mϕϕ-0.52; Mrθ0.56; Mθϕ-1.10; Mϕr3.30; Fault plane solution: M0 3.56000×1018 NP1:ϕ±9.27000°, δ84.08000°, λ74.33000°. NP2:ϕ±259.08000°, δ16.73000°, λ158.99000°. Principal axes: T 3.3967, Plg49.0000°, Azm262.0000°; N 0.3100, Plg16.0000°, Azm11.0000°; P -3.7067, Plg37.0000°, Azm113.0000°;*

WEL ***13*** *11:32:07.0±0.3, 42.5S±2°×17°4E±°, h11km±3km, M6.2/13, ML6.4/13, MLv6.2/13 Error ellipse: s-maj=0.0km s-min=0.0km az=118.0*

NOU ***13*** *11:32:09.1, 42.58S×173.99E, h38km, mb6.0/151, South Island, New Zealand*

NEIC ***13*** *11:32:13, 42.20S×173.49E, h14km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 1018Nm; Mrr2.71; Mθθ0.12; Mϕϕ-2.83; Mrθ1.64; Mθϕ-1.83; Mϕr5.04; Fault plane solution: M0 6.26000×1018 NP1: ϕ±218.00000°, δ16.00000°, λ108.00000°. NP2: ϕ±18.00000°, δ75.00000°, λ85.00000°. Principal axes: T 5.7418, Plg60.0000°, Azm281.0000°; N 0.9314, Plg5.0000°, Azm20.0000°; P -6.6732, Plg29.0000°, Azm113.0000°;*

ISC 13 11:32:07.2±0.5, 42.28S±0.02×173.65E±0.03, h15km±3km, h15km:pP-P, n1178, σ1§67/1246, mb6.1/153, MS7.2/21, 40C-59D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.16**	**210**	Pg	**Pb**	**11 32 12.1**	**+0.2**
KHZ	**Kahutara**	**0.16**	**210**	P	**Pb**	**11 32 12.3**	**+0.4**
KHZ				S	**Sb**	**11 32 15.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.59**	**17**	P	**Pg**	**11 32 16.2**	**-2.4**
BSWZ				S	**Sn**	**11 32 30.9**	**+0.6**
CMWZ	**Cape Campbell**	**0.67**	**39**		**Sn**	**11 32 34.2**	**+1.7**
THZ	**Tophouse**	**0.76**	**313**		**Pg**	**11 32 21.4**	**-0.5**
THZ					**Sb**	**11 32 32.1**	**-0.1**
THZ	**Tophouse**	**0.76**	**313**	P	**Pg**	**11 32 21.0**	**+0.2**
THZ				S	**Sb**	**11 32 32.4**	**+0.2**
GVZ	**Greta Valley S**	**0.83**	**213**	P	**Pn**	**11 32 24.3**	**-0.1**
GVZ				S	**Sn**	**11 32 37.1**	**+0.8**
TUWZ	**Tuamarina**	**0.87**	**15**		**Pn**	**11 32 24.9**	**0.0**
TUWZ	**Tuamarina**	**0.87**	**15**	P	**Pb**	**11 32 22.0**	**-2.1**
TUWZ				S	**Sn**	**11 32 40.3**	**+2.9**
NNZ	**Nelson**	**1.08**	**349**	Pn	**Pb**	**11 32 27.3**	**-0.2**
NNZ	**Nelson**	**1.08**	**349**	P	**Pb**	**11 32 25.9**	**-1.6**
MRNZ	**Matariki Terra**	**1.10**	**322**	P	**Pg**	**11 32 28.5**	**+0.1**
LTZ	**Lake Taylor**	**1.14**	**243**	Pn	**Pn**	**11 32 28.6**	**0.0**
LTZ	**Lake Taylor**	**1.14**	**243**	P	**Pn**	**11 32 28.2**	**-0.4**
LTZ				S	**Sg**	**11 32 44.5**	**+0.5**
AMCZ	**Amberley**	**1.16**	**219**	P	**Pn**	**11 32 28.9**	**-0.1**
TCW	**Tory Channel**	**1.16**	**24**	P	**Pn**	**11 32 26.9**	**-2.0**
SNZO	**South Karori**	**1.25**	**40**	Pn	**Pn**	**11 32 29.7**	**-0.3**
SNZO	**South Karori**	**1.25**	**40**	P	**Pb**	**11 32 30.8**	**+0.4**
BHW	**Baring Head**	**1.26**	**47**	P	**Pn**	**11 32 28.4**	**-1.9**
WEL	**Wellington**	**1.30**	**41**	P	**Pn**	**11 32 30.9**	**+0.1**
WEL	**Wellington**	**1.30**	**41**	P	**Pn**	**11 32 30.7**	**-0.1**
TKNZ	**Takaka Hill**	**1.34**	**337**	P	**Pn**	**11 32 30.3**	**-1.1**
PLWZ	**Palliser**	**1.39**	**60**	Pn	**Pb**	**11 32 33.5**	**+0.6**
PLWZ	**Palliser**	**1.39**	**60**	P	**Pn**	**11 32 31.1**	**-1.0**
MSWZ	**Moikau Station**	**1.47**	**55**	Pn	**Pn**	**11 32 32.3**	**-0.9**
MSWZ	**Moikau Station**	**1.47**	**55**	P	**Pn**	**11 32 31.4**	**-1.8**
DSZ	**Denniston Nort**	**1.47**	**291**	P	**Pb**	**11 32 34.1**	**-0.2**
DSZ				S	**Sg**	**11 32 54.2**	**-0.5**
DUWZ	**D'Urville Isla**	**1.49**	**8**	P	**Pn**	**11 32 32.7**	**-0.7**
CAW	**Cannon Point**	**1.58**	**43**	P	**Pn**	**11 32 33.7**	**-1.0**
OXZ	**Oxford**	**1.58**	**228**	Pn	**Pn**	**11 32 33.9**	**-0.8**
OXZ	**Oxford**	**1.58**	**228**	P	**Pn**	**11 32 32.9**	**-1.8**
PAWZ	**Paruwai Farm**	**1.60**	**57**	P	**Pn**	**11 32 33.2**	**-1.8**
MQZ	**McQueen's Vall**	**1.60**	**207**	Pn	**Pn**	**11 32 33.3**	**-1.7**
MQZ	**McQueen's Vall**	**1.60**	**207**	P	**Pn**	**11 32 33.1**	**-1.9**
MQZ				S	**Sn**	**11 32 53.0**	**-2.5**
QRZ	**Quartz Range**	**1.68**	**330**	Pn	**Pb**	**11 32 37.3**	**-0.4**
QRZ	**Quartz Range**	**1.68**	**330**	P	**Pb**	**11 32 37.4**	**-0.4**
QRZ				S	**Sb**	**11 32 59.2**	**+0.6**

AKCZ	**Akaroa Harbour**	**1.68**	**199**	P	**Pn**	**11 32 34.7**	**-1.5**
INZ	**Inchbonnie**	**1.69**	**254**	P	**Pn**	**11 32 35.7**	**-0.4**
KIW	**Kapiti Island**	**1.70**	**34**	P	**Pn**	**11 32 36.1**	**-0.3**
MTW	**Mount Morrison**	**1.78**	**52**	P	**Pn**	**11 32 36.5**	**-0.9**
RACZ	**Rakaia**	**1.82**	**217**	P	**Pn**	**11 32 36.6**	**-1.4**
RACZ				S	**Sn**	**11 32 58.4**	**-2.5**
OGWZ	**Otaki Gorge**	**1.85**	**39**	P	**Pn**	**11 32 37.8**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.96**	**46**	P	**Pn**	**11 32 37.7**	**-2.3**
MHCZ	**Mount Hutt**	**1.98**	**230**	P	**Pn**	**11 32 38.2**	**-2.0**
TMWZ	**Te Maipa**	**2.04**	**56**	P	**Pn**	**11 32 40.0**	**-1.1**
WACZ	**Wakanui South**	**2.13**	**218**	P	**Pn**	**11 32 40.7**	**-1.5**
MRZ	**Mangatainoka R**	**2.17**	**43**	P	**Pn**	**11 32 41.8**	**-0.9**
TIWZ	**Tintock**	**2.25**	**49**	P	**Pn**	**11 32 42.4**	**-1.5**
WVZ	**Waitaha Valley**	**2.29**	**249**	P	**Pn**	**11 32 44.4**	**0.0**
RPZ	**Rata Peaks**	**2.39**	**232**	Pn	**Pn**	**11 32 44.9**	**-0.9**
	3µm,0.3s,baz=57,slow=2.9,SNR=17						
	18µm,0.5s						
RPZ	**Rata Peaks**	**2.39**	**232**	Pn	**Pn**	**11 32 44.6**	**-1.2**
RPZ	**Rata Peaks**	**2.39**	**232**	P	**Pn**	**11 32 44.6**	**-1.2**
RPZ	**Rata Peaks**	**2.39**	**232**	P	**Pn**	**11 32 43.9**	**-1.9**
ARCZ	**Arundel**	**2.46**	**226**	P	**Pn**	**11 32 45.7**	**-1.1**
BFZ	**Birch Farm**	**2.52**	**52**	P	**Pn**	**11 32 45.2**	**-2.4**
GCSZ	**Gaunt Creek Bo**	**2.66**	**246**	P	**Pn**	**11 32 47.7**	**-1.8**
WAZ	**Wanganui**	**2.71**	**22**	P	**Pn**	**11 32 50.4**	**+0.1**
TSZ	**Takapari Road**	**2.82**	**39**	P	**Pn**	**11 32 50.2**	**-1.5**
TMZ	**Timaru**	**2.85**	**222**	P	**Pn**	**11 32 50.5**	**-1.7**
KHEZ	**Kahui Hut**	**2.99**	**5**	P	**Pb**	**11 32 59.9**	**-0.3**
FOZ	**Fox Glacier**	**3.08**	**245**	Pn	**Pn**	**11 32 56.2**	**+0.9**
FOZ	**Fox Glacier**	**3.08**	**245**	P	**Pn**	**11 32 54.5**	**+0.8**
PKE	**Pukeiti**	**3.09**	**5**	P	**Pn**	**11 32 57.2**	**+1.8**
MHEZ	**Mangahewa**	**3.24**	**9**	P	**Pb**	**11 33 01.8**	**-2.5**
MOVZ	**Moawhango**	**3.28**	**30**	P	**Pn**	**11 32 59.4**	**+1.3**
LBZ	**Lake Benmore**	**3.29**	**229**	Pn	**Pn**	**11 32 58.2**	**0.0**
LBZ	**Lake Benmore**	**3.29**	**229**	P	**Pn**	**11 32 57.3**	**-0.9**
BHHZ	**Black Hill Sta**	**3.33**	**34**	P	**Pn**	**11 32 58.0**	**-0.9**
SNVZ	**South Ngauruho**	**3.44**	**27**	P	**Pn**	**11 32 58.1**	**-2.2**
NNVZ	**North Ngauruho**	**3.48**	**26**	P	**Pn**	**11 33 02.5**	**+1.6**
KRVZ	**Karewarewa**	**3.52**	**26**	P	**Pn**	**11 33 02.5**	**+1.1**
ODZ	**Otahua Downs**	**3.52**	**217**	Pn	**Pn**	**11 33 00.3**	**-1.0**
ODZ	**Otahua Downs**	**3.52**	**217**	P	**Pn**	**11 32 59.4**	**-2.0**
ODZ	**Otahua Downs**	**3.52**	**217**	P	**Pn**	**11 32 59.8**	**-1.5**
BKZ	**Black Stump Fm**	**3.79**	**36**	P	**Pn**	**11 33 04.3**	**-0.7**
HIZ	**Hauiti**	**3.87**	**14**	Pn	**Pn**	**11 33 05.5**	**-0.7**
HIZ	**Hauiti**	**3.87**	**14**	P	**Pn**	**11 33 09.0**	**+2.8**
JCZ	**Jackson Bay**	**3.98**	**242**	P	**Pn**	**11 33 10.2**	**+2.4**
JCZ	**Jackson Bay**	**3.98**	**242**	P	**Pn**	**11 33 08.0**	**+0.1**
TLZ	**Tolley Road**	**4.20**	**21**	P	**Pn**	**11 33 12.5**	**+1.4**
WKZ	**Wanaka**	**4.22**	**231**	Pn	**Pn**	**11 33 10.2**	**-0.8**
WKZ	**Wanaka**	**4.22**	**231**	P	**Pn**	**11 33 09.6**	**-1.4**
HHSZ	**Highcliff Hill**	**4.22**	**210**	P	**Pn**	**11 33 09.7**	**-1.3**
EAZ	**Earnscleugh**	**4.31**	**225**	P	**Pn**	**11 33 11.3**	**-1.0**
TARZ	**Mount Tarawera**	**4.59**	**29**	P	**Pn**	**11 33 15.0**	**-1.1**
TUZ	**Tuapeka**	**4.68**	**217**	P

TOO Toolangi 22.05 273 P P 11 37 01.6 +0.2
TOO IAmb IAmb 11 37 21.7
comp=Z,2µm,1.9s
TOO Toolangi 22.05 273 P P 11 37 02.5 +1.2
TOO Toolangi 22.05 273 P P 11 37 01.6 +0.2
TOO pmax pmax
comp=Z,2µm,1.9s
LIFNC LIFOU 22.11 344 P P 11 37 01.6 -0.3
LIFNC LIFOU 22.11 344 P P 11 37 03.5 +1.6
AUDCS Dubbo College 22.23 289 P P 11 37 07.8 +4.6
MLBS Spotswood, Mel 22.40 272 P P 11 37 08.1 +3.1
comp=Z,276nm,1.1s
AUWSH Wavell State H 22.42 305 P P 11 37 10.3 +5.0
GEXS Deakin Univers 22.72 270 P P 11 37 10.1 +1.6
comp=Z,452nm,0.9s
AUBSH Beerwah State 22.87 306 P P 11 37 14.8 +4.8
KOUNC Koumac, New Ca 23.06 337 P P 11 37 15.8 +3.8
AUMAG Moama Anglican 23.17 276 P P 11 37 15.0 +1.9
BRAT Ballarat 23.22 272 P P 11 37 14.3 +0.8
comp=Z,290nm,1.1s
AUHPC Hawkesdale P12 24.22 269 P P 11 37 25.2 +2.0
AULRC Lightning Ridg 24.33 293 P P 11 37 26.0 +1.7
CMSA Cobar Meteorol 24.69 287 P P 11 37 27.4 -0.2
baz=24,SNR=8.1
CMSA Cobar Meteorol 24.69 287 P P 11 37 30.0 +2.4
MSVF Nonsavu 24.75 10 P P 11 37 27.6 -0.6
comp=Z,58nm,0.9s,baz=167,slow=15,SNR=11
comp=Z,58nm,0.9s
MSVF Nonsavu 24.75 10 P P 11 37 27.8 -0.5
MSVF IAmb IAmb 11 37 53.5
comp=Z,348nm,1.1s
MSVF Nonsavu 24.75 10 P P 11 37 28.0 -0.3
MSVF Nonsavu 24.75 10⇓ *e*P P 11 37 27.9 -0.3
MSVF MLR MLR
comp=Z,319µm,13.0s
RTV Rentapao 24.81 348 P P 11 37 35.0 +6.3
DVP Devils Point 24.91 348 P P 11 37 34.6 +5.0
ARPS Mount Arapiles 25.06 272 P P 11 37 31.2 +0.3
baz=25,SNR=22
ARPS Mount Arapiles 25.06 272 P P 11 37 31.5 +0.6
comp=Z,348nm,1.0s
EIDS Eidsvold 25.10 305 P P 11 37 30.8 -0.5
baz=25,SNR=13
EIDS Eidsvold 25.10 305 P P 11 37 31.2 -0.1
EIDS IAmb IAmb 11 38 00.7
comp=Z,1µm,1.9s
EIDS Eidsvold 25.10 305 P P 11 37 33.9 +2.6
RMQ Roma 25.75 300 P P 11 37 37.2 -0.1
baz=26,SNR=6.2
RMQ Roma 25.75 300 P P 11 37 41.2 +3.9
RK1H Rockhampton Ha 26.94 307 P P 11 37 53.1 +5.2
comp=Z,36nm,1.0s
STKA Stephens Creek 27.45 282 P P 11 37 52.3 -0.3
comp=Z,62nm,0.9s,baz=114,slow=10,SNR=15
comp=Z,62nm,0.9s
STKA Stephens Creek 27.45 282 P P 11 37 52.9 +0.3
baz=27,SNR=25
STKA Stephens Creek 27.45 282 P P 11 37 52.6 +0.1
STKA Stephens Creek 27.45 282⇑ *i*P P 11 37 51.9 -0.7
HTT Hallett 28.65 276 P P 11 38 03.0 -0.3
baz=28,SNR=9.6
HTT Hallett 28.65 276 P P 11 38 03.2 -0.1
QLP Quilpie 28.69 294 P P 11 38 03.7 0.0
baz=28,SNR=18
QLP Quilpie 28.69 294 P P 11 38 04.9 +1.3
WHYH Whyalla 29.83 276 P P 11 38 13.5 -0.2
comp=Z,91nm,0.8s
INKA Innaminka 30.39 288 P P 11 38 20.5 +1.8
LCRK Leigh Creek 30.67 281 P P 11 38 21.3 +0.2
BBOO Buckleboo 31.05 275 P P 11 38 23.7 -0.8
baz=31,SNR=53
BBOO Buckleboo 31.05 275 P P 11 38 23.7 -0.8
BBOO IAmb IAmb 11 38 27.5
comp=Z,584nm,1.6s
BBOO Buckleboo 31.05 275 P P 11 38 23.9 -0.6
comp=Z,306nm,1.2s
CTA Charters Tower 31.99 305 P P 11 38 31.9 -0.9
comp=Z,58nm,0.9s,baz=143,slow=9.6,SNR=18
comp=Z,58nm,0.9s
CTA Charters Tower 31.99 305 P P 11 38 34.0 +1.2
CTAO Charters Tower 31.99 305 P P 11 38 31.6 -1.2
CTAO IAmb IAmb 11 38 42.7
comp=Z,525nm,1.8s
CTAO Charters Tower 31.99 305 P P 11 38 32.8 0.0
CTAO Charters Tower 31.99 305 P P 11 38 31.6 -1.2
CTAO pmax pmax
comp=Z,525nm,1.8s
TV1H Townsville Har 32.30 307 P P 11 38 41.7 +6.2
comp=Z,42nm,0.9s
MULG Mulgathing 33.80 278 P P 11 38 47.9 -0.7
OOD Oodnadatta 33.98 283 P P 11 38 50.9 +0.8
HNR Honiara 34.86 336 P P 11 38 57.2 -0.6
comp=Z,1µm,0.8s,baz=188,slow=3.0,SNR=3.1
HNR Honiara 34.86 336 P P 11 38 56.9 -1.0
HNR IAmb IAmb 11 39 05.6
comp=Z,826nm,1.4s
HNR Honiara 34.86 336 P P 11 38 59.0 +1.1
VNDA Vanda 35.69 184 P P 11 39 06.6 +2.2
comp=Z,8.1nm,1.1s,baz=9.8,slow=11,SNR=5.4
comp=Z,8.1nm,1.1s
VNDA Vanda 35.69 184 P P 11 39 07.0 +2.6
SBA Scott Base 35.80 182 P P 11 39 08.0 +2.7
SBA IAmb IAmb 11 39 15.6
comp=Z,354nm,1.6s
SBA Scott Base 35.80 182 P P 11 39 08.0 +2.7
SBA pmax pmax
comp=Z,354nm,1.6s
QIS Mount Isa 35.88 296 P P 11 39 06.2 -0.5
baz=36,SNR=14
QIS Mount Isa 35.88 296 P P 11 39 06.4 -0.3
TBI Tubuai 35.94 70 *e*P P 11 39 08.8 +1.7
comp=Z,1µm,1.4s
TBI Tubuai 35.94 70 *e*T T 12 16 33.0
comp=Z,290nm,0.3s
AS01 Alice Springs 37.71 287 P P 11 39 21.1 -1.2
comp=Z,128nm,1.1s
ASAR Alice Springs 37.75 287 P P 11 39 21.1 -1.5
comp=Z,65nm,0.9s,baz=125,slow=6.8,SNR=41
ASAR PKiKP **PKiKP 11 48 53.4 -2.0**
comp=Z,1.9nm,0.9s,baz=96,slow=1.3,SNR=4.1
comp=Z,65nm,0.9s
FORT Forrest 37.98 272 P P 11 39 23.5 -0.9
baz=38,SNR=31
FORT Forrest 37.98 272 P P 11 39 23.5 -0.9
FORT IAmb IAmb 11 39 27.1
comp=Z,451nm,0.9s
FORT Forrest 37.98 272 P P 11 39 24.3 -0.1
COEN Coen 38.59 308 P P 11 39 28.6 -1.1
baz=38,SNR=23
COEN Coen 38.59 308 P P 11 39 28.9 -0.8
COEN Coen 38.59 308 P P 11 39 28.8 -0.9
WR0 Warramunga Arr 39.72 292 P P 11 39 37.8 -1.3
PAE Paea 39.74 63 *e*P P 11 39 41.9 +2.6
comp=Z,143nm,1.3s
PAE Paea 39.74 63 *e*T T 12 21 31.5
comp=Z,46nm,0.3s
PPT2 Papeete2 39.80 63 *e*P **P 11 39 43.8 +4.0**
comp=Z,465nm,1.3s
PPT2 Papeete2 39.80 63 *e*LR LR 11 50 33.0
comp=Z,138µm,28.2s
PPT2 *e*LR LR 11 50 33.6
comp=Z,97µm,30.2s
PPT2 Papeete2 39.80 63 *e*T T 12 21 33.5
comp=Z,38nm,0.3s
PPT Papeete 39.81 63 P P 11 39 44.1 +4.2
comp=Z,61nm,1.0s,baz=270,slow=9.1,SNR=3.2
WB1 Warramunga Ar. 39.86 292 P P 11 39 38.8 -1.5
WB2 Warramunga Arr 39.87 292 P P 11 39 39.0 -1.3
WB2 IAmb IAmb 11 39 49.2
comp=Z,483nm,1.2s
WRAB Tennant Creek 39.87 292 P P 11 39 39.3 -1.1
WRAB Tennant Creek 39.87 292 *i* P **P 11 39 39.2 -1.1**
WRAB MLR MLR
comp=Z,245µm,13.0s
WRA Warramunga Arr 39.87 292 P P 11 39 39.3 -1.1
comp=Z,111nm,0.7s,baz=126,slow=8.5,SNR=40
comp=Z,111nm,0.7s
WB0 Warramunga Arr 39.95 292 P P 11 39 39.8 -1.3
WB0 IAmb IAmb 11 39 49.7
comp=Z,450nm,1.4s
TIAR Tiarei 39.97 63 *e*P **P 11 39 44.8 +3.6**
comp=Z,71nm,1.3s
TIAR Tiarei 39.97 63 *e*T T 12 21 45.0
comp=Z,6.6nm,0.3s
PMG Port Moresby 40.16 317 P P 11 39 42.7 0.0
PMG IAmb IAmb 11 39 46.7
comp=Z,456nm,1.1s
PMG Port Moresby 40.16 317 P P 11 39 42.0 -0.8
comp=Z,475nm,1.0s
PMG Port Moresby 40.16 317⇑ *e*P **P 11 39 43.2 +0.5**
PMG Port Moresby 40.16 317⇓ *e*P **P 11 39 42.8 0.0**
PMG pmax pmax
comp=Z,429nm,1.0s
PMG MLR MLR
comp=Z,213µm,13.0s
MEH Mehetia 40.60 65 *e*P **P 11 39 49.2 +2.8**
comp=Z,133nm,1.4s
WRKA Warakurna 40.96 280 P P 11 39 47.6 -1.8
baz=41,SNR=45
WRKA Warakurna 40.96 280 P P 11 39 47.7 -1.7
CASY Casey 41.52 213 P P 11 39 56.5 +3.1
CASY IAmb IAmb 11 39 57.5
comp=Z,515nm,1.6s
KMBL Kambalda 42.27 267 P P 11 39 59.1 -0.9
baz=42,SNR=11
KMBL Kambalda 42.27 267 P P 11 39 59.1 -0.9
KRVT Keravat (AS076 42.44 327 P P 11 40 01.1 -0.4
comp=Z,98nm,0.7s,baz=142,slow=2.2,SNR=17
comp=Z,98nm,0.7s
RABL Rabaul 42.49 327 P P 11 40 00.8 -1.1
RABL Rabaul 42.49 327 P P 11 40 03.6 +1.7
VAH Vaihoa 42.78 63 *e*P **P 11 40 07.5 +3.2**
comp=Z,324nm,1.4s
VAH Vaihoa 42.78 63 *e*T T 12 25 21.5
comp=Z,52nm,0.2s
TARA Tarawa 43.44 359 P P 11 40 07.4 -2.1
TARA IAmb IAmb 11 40 20.8
comp=Z,440nm,1.0s
TARA Tarawa 43.44 359 P P 11 40 08.8 -0.7
AUALB St Joseph's Co 43.48 260 P P 11 40 12.2 +2.4
RKGY Rocky Gully 44.33 260 P P 11 40 17.0 +0.3
baz=44,SNR=9.9
RKGY Rocky Gully 44.33 260 P P 11 40 15.6 -1.1
NWAO Narrogin (SRO) 44.94 263 P P 11 40 20.0 -1.5
comp=Z,54nm,0.9s,baz=336,slow=7.4,SNR=14
comp=Z,54nm,0.9s
NWAO Narrogin (SRO) 44.94 263 P P 11 40 20.3 -1.2
baz=45,SNR=16
NWAO P P 11 40 20.3 -1.2
baz=45,SNR=16
NWAO Narrogin (SRO) 44.94 263 P P 11 40 20.3 -1.2
NWAO Narrogin (SRO) 44.94 263 P P 11 40 21.0 -0.5
NWAO Narrogin (SRO) 44.94 263 P P 11 40 20.3 -1.2
NWAO pmax pmax
comp=Z,232nm,1.3s
KLBR Kellerberrin 45.21 265 P P 11 40 22.8 -0.9
baz=45,SNR=27
KLBR Kellerberrin 45.21 265 P P 11 40 22.6 -1.1
AUHAR St Anne's Scho 45.85 262 P P 11 40 29.1 +0.4
comp=Z,378nm,1.3s
MUN Mundaring 46.16 263 P P 11 40 30.1 -1.0
baz=46,SNR=26
MUN Mundaring 46.16 263 P P 11 40 30.9 -0.3
KDU Kakadu 46.26 297 P P 11 40 31.7 -0.4
baz=46,SNR=14
KDU Kakadu 46.26 297 P P 11 40 31.7 -0.4
H01W1 Cape Leeuwin H 46.26 259 P P 11 40 32.1 +0.4
baz=125,slow=11,SNR=10.0
H01W2 Cape Leeuwin H 46.27 259 P P 11 40 31.6 -0.2
baz=125,slow=11,SNR=12
H01W3 Cape Leeuwin H 46.28 259 P P 11 40 32.0 +0.2
baz=125,slow=11,SNR=9.5
MANU Manus Island 46.47 322 P P 11 40 32.5 -1.2
MANU IAmb IAmb 11 41 05.7
comp=Z,374nm,1.4s
MANU Manus Island 46.47 322 P P 11 40 37.5 +3.8
BLDU Ballidu 46.48 265 P P 11 40 32.6 -1.1
baz=46,SNR=30
BLDU Ballidu 46.48 265 P P 11 40 33.2 -0.5
KNRA Kununurra 46.65 291 P P 11 40 34.1 -1.0
baz=46,SNR=29
KNRA Kununurra 46.65 291 P P 11 40 34.2 -0.9
KNRA Kununurra 46.65 291 P P 11 40 34.5 -0.6
MTN Manton Dam 47.03 296 P P 11 40 37.2 -1.0
baz=47,SNR=30
MTN Manton Dam 47.03 296 P P 11 40 37.1 -1.0
MTN IAmb IAmb 11 40 41.0
comp=Z,400nm,1.1s
MTN Manton Dam 47.03 296 P P 11 40 37.3 -0.9
MEEK Meekatharra 47.19 271 P P 11 40 37.6 -1.7
baz=47,SNR=29
MEEK Meekatharra 47.19 271 P P 11 40 37.9 -1.5
MORW Morawa 47.78 267 P P 11 40 42.6 -1.3
baz=48,SNR=34
MORW Morawa 47.78 267 P P 11 40 42.6 -1.3
MORW IAmb IAmb 11 40 46.5
comp=Z,209nm,1.0s
MORW Morawa 47.78 267 P P 11 40 42.8 -1.1
comp=Z,221nm,1.1s
QSPA South Pole Qui 47.85 180 P P 11 40 45.7 +1.6
comp=Z,95nm,1.0s,baz=46,slow=2.3,SNR=22
comp=Z,95nm,1.0s
PSA00 Pilbara Seismi 49.23 277 P P 11 40 53.5 -1.6
PSA00 IAmb IAmb 11 41 04.5
comp=Z,887nm,1.9s
PSA00 Pilbara Seismi 49.23 277 P P 11 40 53.8 -1.4
GENI Genyem 49.57 314 P P 11 40 58.4 +0.7
GENI Genyem 49.57 314 P P 11 40 58.9 +1.2
MBWA Marble Bar 49.57 278 P P 11 40 55.6 -2.1
MBWA IAmb IAmb 11 41 05.5
comp=Z,504nm,1.6s
MBWA Marble Bar 49.57 278 P P 11 40 56.4 -1.3
SAUI Saumlaki 50.53 300 P P 11 41 05.6 +0.6
SAUI Saumlaki 50.53 300 P P 11 41 06.0 +1.0
SMPI Sarmi 50.87 312 P P 11 41 08.6 +1.1
comp=Z,100nm,0.6s
TAOE Nuku Hiva Isla 52.40 64 *e*LR LR 11 56 24.0
comp=Z,84µm,25.4s
GIRL Giralia 52.74 272 P P 11 41 21.2 -0.3
baz=53,SNR=16
GIRL Giralia 52.74 272 P P 11 41 20.8 -0.8
GIRL IAmb IAmb 11 41 33.9
comp=Z,815nm,1.3s
GIRL Giralia 52.74 272 P P 11 41 21.8 +0.3
RKPI Ransiki, Papua 53.83 308 P P 11 41 30.1 +0.6
comp=Z,98nm,0.8s
FAKI Fak Fak 53.85 305 P P 11 41 28.0 -1.8
FAKI Fak Fak 53.85 305 P P 11 41 27.0 -2.7
FAKI Fak Fak 53.85 305 P P 11 41 28.2 -1.5
SOEI Soe 53.91 292 P P 11 41 30.5 +0.2
SOEI Soe 53.91 292 P P 11 41 30.8 +0.5
SOEI Soe 53.91 292 P P 11 41 31.3 +1.0
BATI Baumata 54.00 291 P P 11 41 31.2 +0.3
BNDI Bandanaira 54.05 302 P P 11 41 30.8 -0.4
BNDI Bandanaira 54.05 302 P P 11 41 32.7 +1.5
MWPI Manokwari, Pap 54.37 308 P P 11 41 35.4 +1.9
MSAI Masohi 55.58 302 P P 11 41 41.7 -0.5
comp=Z,1µmcomp=Z,20nm,0.7s
AAI Ambon 55.78 301 P P 11 41 44.5 +0.8
AAI Ambon 55.78 301 P P 11 41 44.9 +1.2
AAI pmax pmax
comp=Z,157nm,1.6s
SIJI Sorong 56.07 306 P P 11 41 43.8 -2.0
MMRI Maumere 56.10 291 P P 11 41 45.4 -0.7
MMRI Maumere 56.10 291 P P 11 41 44.9 -1.1
comp=Z,703nm,2.7s
MMRI Maumere 56.10 291 P P 11 41 46.2 +0.2
NLAI Namlea 56.82 300 P P 11 41 49.4 -1.7
BBSI Bau Bau 58.14 294 P P 11 42 01.5 +1.0
comp=Z,229nm,2.6s
SANI Sanana 58.44 300 P P 11 42 00.7 -1.8
comp=Z,187nm,2.3s
SANI Sanana 58.44 300 P P 11 42 00.8 -1.8
LBMI Labuha 58.56 302 P P 11 42 03.1 -0.3
comp=Z,492nm,2.3s
MAW Mawson 58.79 205 P P 11 42 04.9 +0.7
comp=Z,63nm,1.2s,baz=116,slow=8.7,SNR=17
MAW LR LR 12 06 16.6
comp=Z,174µm,18.1s,baz=83,slow=35
comp=Z,63nm,1.2s
MAW Mawson 58.79 205 P P 11 42 05.5 +1.3
baz=59,SNR=11
MAW Mawson 58.79 205 P P 11 42 05.3 +1.1
MAW Mawson 58.79 205 P P 11 42 05.3 +1.1
MAW pmax pmax
comp=Z,128nm,1.8s
BSSI Bau Bau, Buton 59.09 292 P P 11 42 05.0 -2.1
PLAI Plampang 59.09 288 P P 11 42 05.8 -1.3
comp=Z,380nm,1.0s
PLAI Plampang 59.09 288 P P 11 42 06.1 -1.0
KKSI Kolaka, Sulawe 59.72 294 P P 11 42 10.6 -0.8
TNTI Ternate 59.74 303 P P 11 42 10.0 -1.5
TNTI Ternate 59.74 303 P P 11 42 13.3 +1.8
comp=Z,117nm,1.8s
TWSI Taliwang, Sumb 59.79 287 P P 11 42 10.0 -1.9
comp=Z,313nm,2.0s
BKSI Bulukumba 59.93 292 P P 11 42 11.7 -1.2
GAMI Galela, Maluku 60.32 304 P P 11 42 16.8 +1.3
KAPI Kappang 60.41 292 P P 11 42 15.4 -0.7
KAPI IAmb IAmb 11 42 20.6
comp=Z,505nm,1.6s
KAPI Kappang 60.41 292 P P 11 42 15.2 -0.9
KAPI Kappang 60.41 292 P P 11 42 16.8 +0.7
KAPI Kappang 60.41 292⇑ *e*P **P 11 42 15.4 -0.7**
KAPI MLR MLR
comp=Z,94µm,15.0s
KLNI Mataram 60.56 287 P P 11 42 16.1 -1.1
BNSI Bone 60.61 293 P P 11 42 17.3 -0.2
SMAI San Martin Ant 60.95 158 P P 11 42 21.7 +2.6
SMAI IAmb IAmb 11 42 27.6
comp=Z,150nm,1.1s
DNP Denpasar 61.02 286 P P 11 42 19.5 -0.8
comp=Z,1µm,2.8s
SPSI Sidrap Palu 61.15 293 P P 11 42 19.7 -1.5
LUWI Luwuk 61.29 298 P P 11 42 21.6 -0.6
LUWI Luwuk 61.29 298 P P 11 42 21.1 -1.1
comp=Z,625nm,1.6s
LUWI Luwuk 61.29 298 P P 11 42 22.4 +0.2
RTBI Rangdo, Negare 61.36 286 P P 11 42 21.2 -1.5
SRBI Singaraja 61.42 286 P P 11 42 21.8 -1.3
comp=Z,513nm,1.7s
GUMO Guam 61.57 328 P P 11 42 22.3 -1.6
comp=Z,69nm,0.9s,baz=192,slow=18,SNR=2.1
comp=Z,69nm,0.9s
JAGI Jajag, Banyuwa 61.92 285 P P 11 42 27.7 +1.3
PMSI Majene 62.07 293 P P 11 42 25.3 -2.2
comp=Z,322nm,2.3s
APSI Ampana 62.13 297 P P 11 42 26.7 -1.1
comp=Z,209nm,1.3s
GTOI Gorontalo 62.40 299 P P 11 42 30.8 +1.2
comp=Z,59nm,0.5s
MRSI Marisa 62.98 298 P P 11 42 31.1 -2.4
comp=Z,154nm,3.0s
KMMI Kalianget 63.03 286 P P 11 42 32.5 -1.3
RPN Rapa Nui 63.09 103 P P 11 42 38.3 +4.2
comp=Z,36nm,0.8s,baz=112,slow=5.4,SNR=2.2
PWJI Pagerwojo 63.91 284 P P 11 42 38.3 -1.4
PMSA Palmer Station 64.17 156 P P 11 42 43.4 +2.8
comp=Z,64nm,1.0s,baz=167,slow=5.1,SNR=7.1
comp=Z,64nm,1.0s
PMSA Palmer Station 64.17 156 P P 11 42 38.2 -2.4
PMSA IAmb IAmb 11 42 48.4
comp=Z,117nm,1.1s
PMSA Palmer Station 64.17 156 *e*P **P 11 42 42.2 +1.6**
GRJI Gresik 64.19 285 P P 11 42 41.2 -0.3
comp=Z,210nm,1.2s
TOLI2 Tolitoli 64.21 298 P P 11 42 39.0 -2.6
TOLI2 Tolitoli 64.21 298 P P 11 42 40.8 -0.8
MPSI Mapaga 64.22 296 P P 11 42 38.7 -3.0
PCJI Pacitan 64.25 283 P P 11 42 41.5 -0.4
comp=Z,398nm,1.5s
NGJI Ngawi 64.61 284 P P 11 42 45.2 +1.0
TBJI Tambak Boyo 64.70 285 P P 11 42 44.1 -0.8
comp=Z,304nm,1.0s
BWJI Bawean 64.79 286 P P 11 42 44.1 -1.3
comp=Z,818nm,1.2s
UGM Wanagama 64.91 283 P P 11 42 47.9 +1.6
comp=Z,442nm,1.2s
UGM Wanagama 64.91 283 P P 11 42 47.6 +1.3
BBKI Banjar Baru 64.92 289 P P 11 42 46.0 -0.3
comp=Z,632nm,1.3s
BKB Balikpapan 65.08 293 P P 11 42 51.2 +3.9
BKB Balikpapan 65.08 293 P P 11 42 52.1 +4.8
YOGI Yogyakarta 65.14 283 P P 11 42 46.6 -1.1
SMRI Semarang 65.56 283 P P 11 42 49.2 -1.3
SMRI Semarang 65.56 283 P P 11 42 50.1 -0.3
comp=Z,585nm,1.4s
SMRI Semarang 65.56 283 P P 11 42 52.9 +2.5
DAV Davao City (W) 65.78 306 P P 11 42 50.6 -1.1
DAV Davao City (W) 65.78 306 P P 11 42 50.5 -1.3
comp=Z,724nm,1.4s
DAV Davao City (W) 65.78 306 P P 11 42 51.4 -0.4
comp=Z,754nm,1.4s
TROLL Troll, Antarti 65.85 183 P P 11 42 51.7 +0.1
SCJI Gunung Srandil 66.05 282 P P 11 42 53.1 -0.5
comp=Z,357nm,1.6s
SNAA Sanae 66.33 181 P P 11 42 52.8 -1.9
SNAA Sanae 66.33 181 P P 11 42 54.7 0.0
SNAA IAmb IAmb 11 43 05.9
comp=Z,366nm,1.4s
SNAA Sanae 66.33 181⇓ *e*P **P 11 42 55.4 +0.7**
SNAA pmax pmax
comp=Z,312nm,1.5s
SNAA MLR MLR
comp=Z,151µm,16.0s
CTJI Waduk Cacaban 66.50 282 P P 11 42 55.7 -0.8
comp=Z,430nm,1.1s
MTKI Muara Teweh, K 66.68 291 P P 11 42 57.2 -0.4
comp=Z,604nm,1.7s
XMI Christmas Isla 66.75 277 P P 11 43 00.1 +2.0
VNA3 Neumayer Olymp 66.77 179 P P 11 42 57.2 -0.2
VNA2 Neumayer--Watz 67.11 180 P P 11 42 59.6 +0.1
baz=170,slow=6.0
BBJI Bungbulang 67.31 281 P P 11 43 00.3 -1.4
comp=Z,305nm,1.2s
VNA1 Neumayer--Stat 67.38 179 P P 11 43 01.1 -0.1
PBKI Pangkalan Bun 67.69 288 P P 11 42 59.2 -4.8
comp=Z,333nm,1.0s
LEM Lembang 67.76 281 P P 11 43 04.1 -0.6
comp=Z,211nm,0.8s,baz=76,slow=4.8,SNR=20
comp=Z,211nm,0.8s
LEM Lembang 67.76 281 P P 11 43 03.8 -0.9
comp=Z,425nm,1.2s
CNJI Cibinong 67.79 281 P P 11 43 03.0 -1.6
comp=Z,211nm,2.0s
KIP Kipapa 68.58 28 P P 11 43 11.6 +2.3
KIP Kipapa 68.58 28 P P 11 43 12.1 +2.8
KKM Kota Kinabalu 70.90 298 P P 11 43 22.1 -1.9
comp=Z,260nm,1.7s
KKM Kota Kinabalu 70.90 298 P P 11 43 24.3 +0.3
KLI Kotabumi 71.10 281 P P 11 43 23.2 -1.9
comp=Z,386nm,0.9s
LWLI Liwa 71.58 280 P P 11 43 28.8 +0.6
comp=Z,598nm,1.0s
KSM Kuching 71.59 290 P P 11 43 26.9 -1.1
comp=Z,231nm,1.1s
KSM Kuching 71.59 290 P P 11 43 27.0 -1.1
PPBI Pangkal Pinang 72.02 284 P P 11 43 29.2 -1.5
comp=Z,254nm,2.5s
KSI Kapahiang 73.57 280 P P 11 43 38.4 -1.6
comp=Z,296nm,0.5s
UBSI University, Be 73.73 280 P P 11 43 41.1 +0.3
comp=Z,552nm,0.5s
MASI Maura Aman, Be 74.17 280 P P 11 43 42.2 -1.3
comp=Z,316nm,1.2s
DSRI Dabo 74.30 284 P P 11 43 42.9 -1.2
comp=Z,286nm,1.3s
COYC Coyhaique 74.76 138 P P 11 43 49.2 +2.8
COYC IAmb IAmb 11 43 56.8
comp=Z,486nm,1.7s
TPRI Tanjung Pinang 75.30 285 P P 11 43 48.6 -1.3
comp=Z,187nm,0.8s
PPSI Pulau Pagai 76.06 279 P P 11 43 54.4 +0.1
comp=Z,526nm,1.3s
EFI East Falkland 76.22 150⇓ *e*P **P 11 43 57.8 +3.1**
EFI pmax pmax
comp=Z,401nm,2.4s
EFI MLR MLR
comp=Z,48µm,14.0s
SDSI Sungai Dareh 76.27 281 P P 11 43 55.0 -0.5
MYKOM Kota Tinggi 76.39 285 P P 11 43 55.2 -0.9
MYKOM IAmb IAmb 11 43 59.1
comp=Z,495nm,1.4s
MYKOM Kota Tinggi 76.39 285 P P 11 43 55.1 -1.0
comp=Z,268nm,1.9s
LL02 Futaleuf 76.59 137 P P 11 43 58.0 +1.0
LL02 IAmb IAmb 11 44 04.9
comp=Z,196nm,1.0s
PDSI Padang 76.98 281 P P 11 43 56.7 -2.9
comp=Z,212nm,2.0s
BKNI Bangkinang 77.41 282 P P 11 43 59.8 -2.2
BKNI IAmb IAmb 11 44 07.2
comp=Z,384nm,1.2s
BKNI Bangkinang 77.41 282 P P 11 43 59.6 -2.3
comp=Z,350nm,1.2s
BKNI Bangkinang 77.41 282 P P 11 44 02.5 +0.6
SISI Saibi 77.70 280 P P 11 44 06.6 +3.0

comp=Z,359nm,1.9s
LL04 Puerto Octay 77.94 135 P P 11 44 07.6 +3.1
LL04 IAmb IAmb 11 44 14.3
comp=Z,323nm,1.6s
MNSI Mandailing Nat 78.79 281 P P 11 44 06.7 -2.9
comp=Z,196nm,1.0s
PLCA Paso Flores 79.04 136 P P 11 44 12.3 +1.6
comp=Z,40nm,1.0s,baz=244,slow=5.0,SNR=19
comp=Z,40nm,1.0s
PLCA Paso Flores 79.04 136 *eP* **P 11 44 11.5 +0.8**
PBSI Pulau Batu 79.16 280 P P 11 44 11.6 0.0
comp=Z,686nm,1.4s
H03S2 Juan Fernandez 79.25 126 T T 13 09 25.9
baz=225,slow=74,SNR=11
H03S1 Juan Fernandez 79.26 126 T T 13 09 27.2
baz=225,slow=74,SNR=10
H03S3 Juan Fernandez 79.27 126 T T 13 09 26.3
baz=225,slow=74,SNR=9.1
H03N3 Juan Fernandez 79.52 126 T T 13 09 43.5
baz=228,slow=72,SNR=6.3
H03N2 Juan Fernandez 79.52 126 T T 13 09 44.4
baz=228,slow=72,SNR=7.3
H03N1 Juan Fernandez 79.53 126 T T 13 09 40.3
baz=228,slow=72,SNR=6.9
TRSI Tarutung 80.08 282 P P 11 44 17.4 +0.6
comp=Z,209µmcomp=Z,472nm,0.9s
IPM Ipoh 80.27 285 P P 11 44 15.5 -2.1
IPM IAmb IAmb 11 44 24.1
comp=Z,556nm,1.6s
IPM Ipoh 80.27 285 P P 11 44 15.6 -2.1
comp=Z,265nm,1.2s
IPM Ipoh 80.27 285 P P 11 44 16.0 -1.7
comp=Z,268nm,1.2s
DLV T Lat 80.37 296 P P 11 44 20.2 +1.9
comp=Z,143nm,1.4s
HOPE Hope Point 80.41 163 P P 11 44 20.2 +2.4
HOPE IAmb IAmb 11 44 26.8
comp=Z,341nm,1.4s
HOPE Hope Point 80.41 163 P P 11 44 20.2 +2.4
HOPE pmax pmax
comp=Z,341nm,1.4s
GSI Gunungsitoli 80.59 280 P P 11 44 19.1 -0.3
GSI Gunungsitoli 80.59 280 P P 11 44 18.4 -1.0
comp=Z,681nm,1.7s
GSI Gunungsitoli 80.59 280 P P 11 44 20.2 +0.8
PSI Prapat 80.63 282 P P 11 44 16.8 -2.9
comp=Z,130nm,1.4s
TWGBT Beinan 80.92 312 P P 11 44 22.4 +1.5
TWG Pinlang 80.93 312 P P 11 44 19.5 -1.4
KULM Kulim 81.10 285 P P 11 44 20.5 -1.6
KULM IAmb IAmb 11 44 28.7
comp=Z,549nm,1.5s
KULM Kulim 81.10 285 P P 11 44 20.4 -1.7
comp=Z,266nm,1.8s
YOJ Yonaguni jima 81.20 315 P P 11 44 24.5 +2.2
comp=Z,140nm,1.1s
YULB Yu-li 81.26 313 P P 11 44 23.2 +0.5
TSI Tuntungan 81.37 283 P P 11 44 21.5 -2.0
comp=Z,680nm,1.3s
SSLB Suanglung 81.77 313 P P 11 44 24.6 -0.8
KCSI Kotacane, Aceh 81.96 282 P P 11 44 24.0 -2.7
comp=Z,212nm,1.9s
ML02 Panimavida 82.21 132 P P 11 44 30.1 +2.3
ML02 IAmb IAmb 11 44 35.6
comp=Z,161nm,1.1s
YHNB Yeheng 82.24 313 P P 11 44 30.9 +3.0
SNSI Sinabang, Aceh 82.26 280 P P 11 44 26.7 -1.5
comp=Z,177nm,2.0s
SKLT Songkhla 82.42 287 P P 11 44 27.4 -1.6
comp=Z,192nm,1.1s
SKLT Songkhla 82.42 287 P P 11 44 28.3 -0.7
comp=Z,200nm,1.1s
LASI Langsa, Aceh 82.46 283 P P 11 44 27.8 -1.4
comp=Z,562nm,1.8s
GO05 Huala 82.48 131 P P 11 44 30.3 +1.2
GO05 IAmb IAmb 11 44 39.1
comp=Z,395nm,1.4s
BO02 Sierra Bellavi 83.28 132 P P 11 44 34.5 +1.1
MLSI Meulaboh, Aceh 83.46 282 P P 11 44 32.8 -1.6
comp=Z,3µmcomp=Z,284nm,1.0s
JIE Ise 83.47 330 P P 11 44 32.1 -1.8
MT01 Popeta 83.70 131 P P 11 44 36.8 +1.4
MT01 IAmb IAmb 11 44 43.4
comp=Z,288nm,0.9s
LHMI Lhok Sumawe 83.72 283 P P 11 44 34.5 -1.2
LHMI Lhok Sumawe 83.72 283 P P 11 44 39.9 +4.1
JMN Monobe 83.97 328 P P 11 44 35.7 -0.9
JMN Monobe 83.97 328 P P 11 44 34.9 -1.7
QZH Quanzhou 83.98 312 ⇓ *i*P **P 11 44 35.8 -1.0**
VA01 Torpederas 84.09 130 P P 11 44 40.2 +2.7
SRIT Nakonsritamara 84.13 287 P P 11 44 37.2 -0.6
comp=Z,140nm,1.2s
JRY Ryogami san 84.14 332 P P 11 44 35.1 -2.2
INU Inuyama 84.21 331 P P 11 44 35.9 -1.8
JGF Kuroka 84.32 331 P P 11 44 38.2 -0.1
JGF Kuroka 84.32 331 P P 11 44 36.5 -1.7
MT05 Renca 84.33 131 P P 11 44 42.1 +3.3
HKC Hong Kong Obse 84.48 307 ⇓ P **P 11 44 40.0 +0.6**
SURA Surathani 84.51 288 P P 11 44 39.5 -0.2
comp=Z,242nm,1.6s
JNU Nakatsue 84.68 325 P P 11 44 38.6 -1.6
JNU Nakatsue 84.68 325 P P 11 44 37.8 -2.4
QIZ Qiongzhong 84.68 302 P P 11 44 40.3 -0.1
QIZ IAmb IAmb 11 44 48.7
comp=Z,400nm,2.0s
QIZ Qiongzhong 84.68 302 P P 11 44 40.0 -0.5
QIZ pmax pmax
comp=Z,79nm,2.2s
QIZ Qiongzhong 84.68 302 P P 11 44 41.9 +1.4
JWT Wachi 84.75 329 P P 11 44 38.7 -1.7
UBPT Khong Chiam 84.80 296 P P 11 44 43.4 +2.3
comp=Z,41nm,0.8s
UBPT Khong Chiam 84.80 296 P P 11 44 43.2 +2.1
comp=Z,43nm,0.7s
MJAR Matsushiro Air 84.86 332 P P 11 44 39.1 -1.9
comp=Z,12nm,0.9s,baz=163,slow=6.1,SNR=15
comp=Z,12nm,0.9s
MAJO Matsushiro 84.86 332 P P 11 44 39.7 -1.3
MAJO Matsushiro 84.86 332 P P 11 44 41.8 +0.8
MAJO Matsushiro 84.86 332 ⇓ *eP* **P 11 44 40.1 -0.9**
MAJO pmax pmax
comp=Z,97nm,2.1s
MAJO MLR MLR
comp=Z,56µm,18.0s
MAT Matsushiro 84.86 332 P P 11 44 39.5 -1.5
JGN Niukaw 84.89 331 P P 11 44 38.8 -2.4
TRQA Tornquist 85.37 139 *eP* **P 11 44 44.6 +0.7**
JHS Saijyo 85.39 328 P P 11 44 44.2 +0.5
JHS Saijyo 85.39 328 P P 11 44 41.6 -2.1
JSD Sado 86.19 333 P P 11 44 45.8 -1.7
NAYO Nakonayok 86.92 292 P P 11 44 51.9 +0.2
comp=Z,582nm,1.0s
SSE Sheshan 87.51 317 P P 11 44 54.6 +0.5
LCO Las Campanas 87.59 128 P P 11 44 56.1 +0.9
LCO Las Campanas 87.59 128 P P 11 44 56.1 +0.9
LCO pmax pmax
comp=Z,1µm,2.0s
AC05 El Transito 87.97 128 P P 11 44 58.5 +1.6
NONG Nongkai 88.33 296 P P 11 44 57.8 -0.6
comp=Z,209nm,1.4s
TJN Taejon 88.96 324 ⇓ *eP* **P 11 45 01.9 +1.0**
GULI GuiLin 89.01 306 ⇓ P **P 11 44 58.3 -3.1**
NJ2 Nanjing 89.46 316 *eP* P 11 45 08.8 +5.4
NJ2 pmax pmax
comp=Z,27nm,0.6s
KSRS Korea Array 89.63 325 P P 11 45 03.1 -0.8
comp=Z,27nm,0.8s,baz=147,slow=4.9,SNR=33
comp=Z,27nm,0.8s
KSAR Wonju Array Be 89.64 325 P P 11 45 03.0 -1.0
KSAR Wonju Array Be 89.64 325 P P 11 45 03.0 -1.0
KS19 Wonju Array Si 89.69 325 P P 11 45 02.9 -1.5
INCN Inchon 90.21 324 P P 11 45 08.9 +2.2
comp=Z,62nm,1.6s
WHN Wuhan 90.69 312 ⇑ P **P 11 45 08.0 -1.1**
CM31 Chiang Mai Arr 91.44 294 P P 11 45 12.8 -0.1
CM31 IAmb IAmb 11 45 17.1
comp=Z,239nm,1.5s
CMAR Chiang Mai Arr 91.44 294 P P 11 45 12.6 -0.4
comp=Z,32nm,0.9s,baz=151,slow=3.5,SNR=22
comp=Z,32nm,0.9s
CMAR Chiang Mai Arr 91.44 294 P P 11 45 12.2 -0.7
GYA Guiyang 92.11 304 P P 11 45 16.6 +0.6
GYA pmax pmax
comp=Z,49nm,1.4s
MSHR Mys Shultsa 92.73 330 ⇓ *eP* **P 11 45 21.0 +2.7**
MSHR pmax pmax
comp=Z,53nm,2.5s
MSHR MLR MLR
comp=Z,39µm,18.0s
YSS Yuzh-Sakhalins 92.98 339 *eP* **P 11 45 19.0 -0.3**
ENH Enshi 93.23 309 P P 11 45 19.3 -1.7
ENH Enshi 93.23 309 P P 11 45 21.2 +0.2
LVC Limon Verde 93.43 125 P P 11 45 26.4 +3.7
comp=Z,10.0nm,1.0s,baz=196,slow=6.1,SNR=6.6
LVC Limon Verde 93.43 125 *eP* **P 11 45 22.7 0.0**
KMI Kunming 93.61 301 ⇑ P **P 11 45 24.6 +1.5**
KMI sP sP 11 45 30.6 +0.6
KMI PP **PP 11 49 10.3 +2.0**
KMI pmax pmax
comp=Z,35nm,1.6s
TIA Tai'an 93.62 317 P P 11 45 21.5 -1.1
TIA pmax pmax
comp=Z,54nm,1.0s
USRK Ussuriysk Ar. 93.83 331 P P 11 45 23.2 -0.2
comp=Z,2.2nm,0.7s,baz=157,slow=5.4,SNR=4.4
comp=Z,2.2nm,0.7s
USRK Ussuriysk Ar. 93.83 331 P P 11 45 22.5 -0.8
PLTB Pedras Altas 94.47 141 *eP* **P 11 45 27.3 +0.4**
ITQB Itaqui 94.74 138 *eP* **P 11 45 28.1 0.0**
LYN LuoYang 94.77 313 *eP* **P 11 45 28.8 +0.9**
LYN pmax pmax
comp=Z,20nm,1.9s
RODS Rosario do Sul 94.89 139 *eP* **P 11 45 29.3 +0.5**
MDJ Mudanjiang 95.06 330 P P 11 45 32.8 +3.8
MDJ pmax pmax
comp=Z,18nm,1.4s
PZH PanZhiHua 95.22 301 P P 11 45 32.6 +2.3
PZH pmax pmax
comp=Z,20nm,1.9s
CPSB Cacapava Do Su 95.68 141 *eP* **P 11 45 33.6 +1.1**
HNS HongShan 95.76 317 ⇑ P **P 11 45 34.9 +2.6**
HNS pmax pmax
comp=Z,23nm,1.4s
MND Mandalay 95.81 294 P P 11 45 35.0 +2.1
CN2 Changchun 95.98 327 *eP* **P 11 45 34.1 +0.9**
CN2 *es*P sP 11 45 41.1 +1.1
PETK Petropavlovsk- 96.00 350 P P 11 45 33.2 +0.2
comp=Z,3.9nm,0.8s,baz=179,slow=12,SNR=6.4
comp=Z,3.9nm,0.8s
UNIS Unistalda (Bra 96.01 139 *eP* **P 11 45 34.4 +0.4**
TNCH TengChong 96.27 298 *eP* **P 11 45 38.0 +2.8**
TNCH pP pP 11 45 40.6 +0.3
TNCH sP sP 11 45 42.6 +0.5
TNCH pmax pmax
comp=Z,57nm,1.5s
XAN Xi'an 96.33 311 ⇑ P **P 11 45 33.6 -1.5**
XAN sP pP 11 45 40.1 -0.1
XAN pmax pmax
comp=Z,41nm,1.1s
AZCA Azaras, Argent 96.37 137 *eP* **P 11 45 35.6 0.0**
PALK Pallekele 97.02 273 P P 11 45 37.2 -1.5
comp=Z,8.8nm,1.0s,baz=257,slow=6.3,SNR=5.8
PALK PP **PP 11 49 33.6 -1.0**
comp=Z,4.5nm,1.0s,baz=261,slow=8.8,SNR=3.6
comp=Z,8.8nm,1.0s
PALK Pallekele 97.02 273 P P 11 45 37.0 -1.7
PALK IAmb IAmb 11 45 47.3
comp=Z,73nm,1.6s
PALK Pallekele 97.02 273 P P 11 45 37.2 -1.5
comp=Z,27nm,2.8s
BJI Beijing 97.07 319 P Pdif 11 45 39.4 +1.1
BJI pP pP 11 45 43.4 +0.1
BJI pmax pmax
comp=Z,9.0nm,1.2s
CD2 Chengdu 97.08 306 P Pdif 11 45 40.3 +1.6
CPUP Villa Florida 97.10 135 P Pdif 11 45 40.4 +1.4
comp=Z,3.7nm,0.6s,baz=233,slow=6.1,SNR=5.8
comp=Z,3.7nm,0.6s
CPUP Villa Florida 97.10 135 *eP* Pdif 11 45 39.2 +0.1
ALGR Alto Alegre (B 97.22 140 *eP* Pdif 11 45 40.1 +0.5
CNLB Canela 97.81 142 *eP* **P 11 45 42.2 0.0**
CRSM Crissiumal (Br 97.82 138 *eP* Pdif 11 45 43.3 +1.1
KLR Kul'dur 98.28 334 ⇑ *eP* Pdif 11 45 45.7 +2.2
KLR MLR MLR
comp=Z,73µm,17.0s
LPAZ La Paz 98.64 121 P Pdif 11 45 48.0 +1.2
comp=Z,3.3nm,0.9s,baz=194,slow=0.9,SNR=5.1
comp=Z,3.3nm,0.9s
LPAZ La Paz 98.64 121 *eP* **P 11 45 46.5 -0.3**
LPAZ La Paz 98.64 121 P Pdif 11 45 48.0 +1.2
ITAB Concordia 98.96 140 *eP* **P 11 45 46.7 -0.6**
TER01 Tubaro-SC 99.25 143 *eP* **Pdif 11 45 48.9 +0.3**
FRBT Francisco Belt 99.56 138 *eP* **Pdif 11 45 50.0 -0.1**
HHC Hu-ho-hao-te 99.97 317 *eP* **Pdif 11 45 54.0 +2.6**
MCR1 Marechal Candi 100.33 137 *eP* **Pdif 11 45 53.8 +0.3**
HEH HeiHe 100.62 332 *eP* **Pdif 11 45 56.3 +2.4**
HEH pmax pmax
comp=Z,9.0nm,1.7s
MURT Porto Murtinho 100.72 132 *eP* **Pdif 11 45 53.7 -1.5**
PTGB Pitanga 101.10 138 *eP* **Pdif 11 45 57.5 +0.5**
ANTJ Antonio Joao (101.32 134 *eP* **Pdif 11 45 58.0 0.0**
NVAR Mina Array Bea 101.36 48 P Pdif 11 45 58.8 +1.1
comp=Z,0.8nm,0.8s,baz=216,slow=2.9,SNR=2.2
NVAR PP **PP 11 50 08.0 +0.2**
comp=Z,2.4nm,1.1s,baz=230,slow=7.9,SNR=2.6
NVAR PKiKP **PKiKP 11 50 22.8 +0.7**
comp=Z,1.3nm,0.8s,baz=235,slow=3.2,SNR=5.9
NVAR PKKPbc **PKKPbc 12 02 06.2 -0.4**
comp=Z,1.0nm,0.8s,baz=96,slow=0.9,SNR=3.6
YBH Yreka Blue Hor 101.41 43 P Pdif 11 45 58.6 +0.9
comp=Z,1.5nm,0.9s,baz=139,slow=7.9,SNR=3.1
TIJ01 Guaruva-PR 102.06 141 *eP* **Pdif 11 46 01.6 +0.3**
BBRB Robore, Bolivi 102.18 129 *eP* **Pdif 11 46 01.5 -0.3**
BBSD Serra de San D 102.56 127 *eP* **Pdif 11 46 03.4 -0.1**
AQDB Aquidauana 102.72 133 *eP* **Pdif 11 46 04.5 +0.4**
FRTB Fartura 103.48 140 *eP* **Pdif 11 46 06.1 -1.4**
BOSA Boshof 103.67 208 PKKPbc PKKPbc 12 01 57.5 -1.3
comp=Z,4.3nm,0.9s,baz=310,slow=6.4,SNR=5.2
PET01 Itamaem-SP 103.74 142 *eP* **Pdif 11 46 08.9 +0.3**
TXAR Lajitas Array 104.13 63 Pdiff **Pdif 11 46 09.4 -0.8**
comp=Z,0.4nm,0.8s,baz=204,slow=2.0,SNR=4.2
TXAR PP **PP 11 50 28.4 -0.1**
comp=Z,0.6nm,0.9s,baz=250,slow=4.7,SNR=2.2
TXAR PKKPbc **PKKPbc 12 01 57.4 -0.4**
comp=Z,1.3nm,0.6s,baz=70,slow=4.5,SNR=17
ELK Elko 104.67 48 PP PP 11 50 33.9 +1.3
comp=Z,1.1nm,0.7s,baz=238,slow=11,SNR=1.9
ETMB Extrema 104.70 118 *eP* **Pdif 11 46 13.1 +0.1**
PTLB Pontes e Lacer 104.80 127 *eP* **Pdif 11 46 13.1 -0.3**
VAO Valinhos 104.99 142 *eP* **Pdif 11 46 17.5 +3.2**
RCLB Rio Claro- Sao 105.23 141 *eP* **Pdif 11 46 17.5 +2.1**
PARB Paraibuna 105.31 143 *eP* **Pdif 11 46 14.2 -1.5**
BB19B Bebedouro 105.91 139 *eP* **Pdif 11 46 20.0 +1.7**
ANMO Albuquerque 105.97 57 PP PP 11 50 42.8 +0.6
comp=Z,3.0nm,1.1s,baz=221,slow=7.4,SNR=3.6
MAN01 Angra dos Reis 106.46 144 *eP* **Pdif 11 46 20.9 +0.1**
SONM Songino Array 107.57 319 Pdiff **Pdif 11 46 24.0 -1.0**
comp=Z,1.8nm,1.0s,baz=144,slow=2.7,SNR=3.4
SONM PP **PP 11 50 53.5 -0.2**
comp=Z,0.6nm,0.6s,baz=155,slow=5.4,SNR=1.0
SONM PKKPbc **PKKPbc 12 01 47.8 0.0**
comp=Z,1.7nm,1.0s,baz=320,slow=3.8,SNR=1.7
NEW Newport 108.83 41 PKiKP **PKiKP 11 50 34.8 -0.5**
comp=Z,3.5nm,1.0s,baz=198,slow=6.4,SNR=5.2
PDAR Pinedale Array 109.18 49 PKiKP **PKiKP 11 50 36.0 -0.3**
comp=Z,1.6nm,0.9s,baz=210,slow=3.2,SNR=5.0
PDAR PP **PP 11 51 07.0 +1.3**
comp=Z,3.3nm,0.9s,baz=225,slow=4.0,SNR=7.4
PDAR PKKPbc **PKKPbc 12 01 41.7 -0.9**
comp=Z,2.1nm,1.0s,baz=64,slow=6.8,SNR=4.2
BPAW Bear Paw Mtn. 109.65 16 P PKiKP 11 50 34.8 -1.5
baz=207
SKAG Skagway 109.75 25 P PKiKP 11 50 36.1 -0.4
baz=218
MCK McKinley 109.75 17 P PKiKP 11 50 35.4 -1.0
baz=209
YUK8 Steele Glacier 109.91 22 P PKiKP 11 50 36.7 -0.5
baz=215
Q32M Nakina River 110.34 27 P PKiKP 11 50 37.5 -0.5
baz=220
I21K Tanana 110.43 15 P PKiKP 11 50 36.9 -0.7
baz=207
NEA2 Nenana 110.48 16 P PKiKP 11 50 36.6 -1.1
baz=209
K24K Donnelly Dome 110.51 18 P PKiKP 11 50 36.5 -1.4
baz=211
BVCY Beaver Creek 110.55 21 P PKiKP 11 50 37.3 -0.7
baz=214
H21K Melozitna Rive 110.70 14 P PKiKP 11 50 37.9 -0.3
baz=206
DLBC Dease Lake 110.71 28 PKiKP **PKiKP 11 50 37.6 -0.9**
comp=Z,3.8nm,0.9s,baz=274,slow=1.2,SNR=6.3
HDA Harding Lake 110.77 17 P PKiKP 11 50 37.3 -1.0
baz=210
L27K Beaver Creek, 110.84 20 P PKiKP 11 50 37.8 -0.8
baz=214
SCRK Sand Creek 111.08 19 P PKiKP 11 50 38.8 -0.3
baz=212
ILAR Eielson Array 111.10 17 PKiKP **PKiKP 11 50 37.5 -1.5**
comp=Z,3.2nm,0.7s,baz=299,slow=2.8,SNR=17
ILAR PKKPbc **PKKPbc 12 01 34.9 -1.9**
comp=Z,0.8nm,0.7s,baz=18,slow=2.1,SNR=1.6
R33M Jennings River 111.11 27 P PKiKP 11 50 38.9 -0.4
baz=221
M29M Somme Creek 111.22 22 P PKiKP 11 50 39.0 -0.4
baz=216
SJMB Sao Joao De Ma 111.33 144 *eP* **Pdif 11 46 41.9 -0.6**
G21K Allakaket 111.36 13 P PKiKP 11 50 38.9 -0.4
baz=206
K27K Chicken 111.58 19 P PKiKP 11 50 40.1 +0.2
baz=214
J26L Joseph Creek 111.62 18 P PKiKP 11 50 39.7 -0.4
baz=213
M30M Minto, Yukon 111.79 22 P PKiKP 11 50 39.5 -0.9
baz=218
MC01 Montes Claros 111.84 141 *eP* **Pdif 11 46 44.4 -0.4**
L29M L29M 111.84 21 P PKiKP 11 50 40.3 -0.1
baz=217
G22K Bettles 112.08 14 P PKiKP 11 50 40.3 -0.4
baz=207
G23K Bananza Creek 112.16 15 P PKiKP 11 50 39.8 -1.1
baz=208
DAWY Dawson 112.29 20 P PKiKP 11 50 40.7 -0.6
baz=216
EGAK Eagle 112.43 19 P PKiKP 11 50 40.7 -0.7
baz=215
F22K John River 112.48 14 P PKiKP 11 50 41.7 +0.2
baz=207
FARO Faro, Yukon 112.52 24 P PKiKP 11 50 40.9 -0.9
baz=220
COLD Coldfoot 112.59 14 P PKiKP 11 50 41.2 -0.5
baz=208
K29M Barlow Dome 112.60 21 P PKiKP 11 50 41.1 -0.8
baz=217
G24K Hadweenzic Riv 112.65 16 P PKiKP 11 50 41.1 -0.7
baz=210
JANB Januaria 113.10 140 *eP* **Pdif 11 46 50.7 +0.3**
E22K Anaktuvuk Pass 113.11 13 P PKiKP 11 50 42.3 -0.4
baz=207
RSSD Black Hills 113.17 51 P PKiKP 11 50 43.3 -0.5
baz=233
RSSD Black Hills 113.17 51 P PKiKP 11 50 43.5 -0.3
baz=233
F24K Squaw Lake 113.28 15 P PKiKP 11 50 42.9 -0.2
baz=210
E23K Chandalar 113.43 14 P PKiKP 11 50 42.9 -0.5
baz=209
MMPY Sheldon Lake, 113.45 24 P PKiKP 11 50 42.6 -1.0
baz=222
LAO LASA Array 113.49 48 P PKiKP 11 50 44.0 -0.1
baz=233
LAO LASA Array 113.49 48 P PKiKP 11 50 44.5 +0.4
baz=233
I29M Ogilvie Camp, 113.61 20 P PKiKP 11 50 42.2 -1.5
baz=217
E24K Your Creek 113.65 15 P PKiKP 11 50 43.3 -0.5
baz=210
F25K Christian River 113.79 16 P PKiKP 11 50 44.2 +0.1
baz=212
GUA01 Guaratinga, BA 113.81 145 *eP* **Pdif 11 46 53.5 0.0**
D23K Nanushuk River 114.04 13 P PKPdf 11 50 44.2 -0.2
baz=208
F26K Sheenjek River 114.18 16 P PKPdf 11 50 44.4 -0.4
baz=213
E25K Arctic Village 114.25 16 P PKPdf 11 50 44.5 -0.4
baz=212
LSZ Lusaka 114.49 217 PKP **PKiKP 11 50 46.3 -0.9**
comp=Z,1.6nm,0.4s,baz=117,slow=2.3,SNR=4.1
D24K Happy Valley 114.53 14 P PKPdf 11 50 45.1 -0.2
baz=210
EPYK Eagle Plains 114.81 20 P PKPdf 11 50 45.2 -0.8
baz=219
C23K Itkillik River 114.82 13 P PKPdf 11 50 45.3 -0.6
baz=209
SDV Santo Domingo 114.90 101 PKKPbc PKKPbc 12 01 21.6 -1.2
comp=Z,2.4nm,0.4s,baz=33,slow=5.6,SNR=2.0
TSUM Tsumeb 114.96 205 PKP **PKiKP 11 50 47.6 -0.4**
comp=Z,2.1nm,0.8s,baz=195,slow=7.7,SNR=1.6
C24K Franklin Bluff 115.04 14 P PKPdf 11 50 45.9 -0.4
baz=210
D25K Kavik River 115.12 15 P PKPdf 11 50 45.0 -1.6
baz=212
WMQ Urumqi 115.12 307 *e*PKP **PKiKP 11 50 48.6 +1.2**
E27K Coleen River 115.13 17 P PKPdf 11 50 46.1 -0.4
baz=215
G30M tAoh Zraii Nji 115.41 20 P PKPdf 11 50 46.3 -0.9
baz=219
DGMT Dagmar 115.65 47 P PKPdf 11 50 47.6 -0.6
baz=235
DGMT Dagmar 115.65 47 P PKPdf 11 50 47.8 -0.3
baz=235
HILA High Level 115.69 33 PKPdf 11 50 47.0 -0.8
C27K Jago River 115.89 15 P PKPdf 11 50 47.6 -0.4
baz=214
C26K Camden Bay 115.90 15 P PKPdf 11 50 47.9 -0.1
baz=213
WRGLY Wrigley 116.39 27 P PKPdf 11 50 48.8 -0.3
baz=228
F31M Tsiigehtchic 116.39 20 P PKPdf 11 50 47.9 -1.1
baz=221
E28A Huff 116.52 50 PKPdf 11 50 49.2 -0.7
E28A Huff 116.52 50 P PKPdf 11 50 49.1 -0.7
baz=236
LCAR Lake Charles 116.57 64 PKPdf 11 50 49.5 -0.8
Z47A Carrollton 117.06 69 PKPdf 11 50 51.1 -0.2
INK Inuvik 117.09 19 PKP **PKPdf 11 50 48.8 -1.5**
comp=Z,9.2nm,0.7s,baz=208,slow=0.1,SNR=32
INK PKKPbc **PKKPbc 12 01 17.3 +1.1**
comp=Z,4.8nm,0.8s,baz=5.9,slow=9.4,SNR=4.5
INK Inuvik 117.09 19 PKPdf **PKPdf 11 50 48.9 -1.4**
INK Inuvik 117.09 19 P PKPdf 11 50 49.3 -1.0
baz=222
INK Inuvik 117.09 19 PKIKP **PKPdf 11 50 48.9 -1.4**
ECSD EROS Data Cent 117.34 55 PKPdf **PKPdf 11 50 50.9 -0.6**
ECSD EROS Data Cent 117.34 55 P PKPdf 11 50 51.3 -0.2
baz=237
ECSD EROS Data Cent 117.34 55 P PKPdf 11 50 51.5 -0.1
baz=237
LRAL Lakeview Retre 117.71 69 PKPdf 11 50 52.1 -0.5
LRAL Lakeview Retre 117.71 69 P PKiKP 11 50 53.0 +0.4
baz=236
MDND Maddock 117.84 50 PKPdf **PKPdf 11 50 52.0 -0.5**
MDND Maddock 117.84 50 P PKPdf 11 50 51.6 -0.8
baz=237
MDND Maddock 117.84 50 P PKPdf 11 50 51.9 -0.5
baz=237
TIXI Tiksi 117.96 345 PKPdf **PKPdf 11 50 49.8 -2.0**
TIXI Tiksi 117.96 345 ⇑ *i*PKIKP **PKPdf 11 50 49.9 -2.0**
TIXI MLR MLR
comp=Z,89µm,17.0s
PLAL Pickwick Lake 118.05 67 PKPdf **PKPdf 11 50 51.6 -1.6**
CGM3 Cape Girardeau 118.25 64 PKPdf 11 50 52.8 -0.7
X48A Hartselle 118.46 68 PKPdf 11 50 53.2 -0.8
X48A Hartselle 118.46 68 P PKPdf 11 50 52.8 -1.2
baz=236,SNR=12
DGZ Jazzator, Alta 118.55 312 ⇑ *i*PKIKP **PKiKP 11 50 54.8 +0.9**
DGZ MLR MLR
comp=Z,60µm,17.0s
F33A 5 Mile Ranch, 118.67 53 P PKPdf 11 50 53.3 -0.7
baz=238
NIL Nilore 118.78 291 PKIKP **PKiKP 11 50 55.0 +0.3**
ZSN Zaisan 118.79 309 *e*PKP **PKPdf 11 50 54.2 -0.1**
baz=309
ZSN Zaisan 118.79 309 *e*PKIKP **PKPdf 11 50 54.1 -0.1**
WVT Waverly 118.85 66 PKPdf 11 50 53.0 -1.7
WVT Waverly 118.85 66 P PKPdf 11 50 52.7 -2.0
baz=237
WVT Waverly 118.85 66 P PKPdf 11 50 53.0 -1.7
baz=237
WVT Waverly 118.85 66 PKIKP **PKPdf 11 50 53.0 -1.7**
YKA Yellowknife Ar 119.06 30 PKP **PKPdf 11 50 53.0 -1.2**
comp=Z,12nm,0.6s,baz=258,slow=2.1,SNR=41
YKA PKKPbc **PKKPbc 12 01 09.2 +0.3**
comp=Z,10nm,1.1s,baz=64,slow=4.2,SNR=3.3
YKA Yellowknife Ar 119.06 30 PKPdf **PKPdf 11 50 53.5 -0.7**
YKA Yellowknife Ar 119.06 30 PKIKP **PKPdf 11 50 53.5 -0.7**
V48A Smith Brothers 119.32 67 P PKPdf 11 50 54.2 -1.4

baz=237
FPAL Fort Paine 119.50 69 PKPdf 11 50 54.3 -1.8
SWET Sewanee 119.65 68 PKPdf 11 50 55.6 -0.7
PDGK Podgornoye 119.84 303 PKIKP PKPdf 11 50 53.8 -2.7
MKAR Makanchi Array 119.94 308 PKP PKPdf 11 50 54.3 -2.2
comp=Z,4.1nm,0.6s,baz=240,slow=3.1,SNR=21
MKAR Makanchi Array 119.94 308 PKPdf PKPdf 11 50 54.0 -2.5
UZB Uzynbulak 120.03 303 ePKP PKiKP 11 50 57.6 +0.5
baz=303
UZB Uzynbulak 120.03 303 ePKIKP PKiKP 11 50 57.5 +0.5
X51A Calhoun 120.04 69 PKPdf 11 50 56.8 -0.2
W50A Signal Mountai 120.07 68 P PKPdf 11 50 56.8 -0.3
baz=237
KSH Kashi 120.10 298 PKP PKiKP 11 50 58.8 +1.6
MAKZ Makanchi 120.13 307 PKPdf PKPdf 11 50 54.3 -2.5
MAKZ Makanchi 120.13 307 PKIKP PKPdf 11 50 54.3 -2.5
AGMN Agassiz Nation 120.21 51 P PKPdf 11 50 55.1 -1.8
baz=239,SNR=5.6
AGMN Agassiz Nation 120.21 51 P PKPdf 11 50 55.7 -1.2
baz=239
FFC Flin Flon 120.25 42 PKPdf PKPdf 11 50 55.7 -1.0
FFC Flin Flon 120.25 42 PKIKP PKPdf 11 50 55.7 -1.0
C36M Paulatuk 120.28 21 PKPdf PKPdf 11 50 54.6 -1.7
C36M Paulatuk 120.28 21 P PKPdf 11 50 55.1 -1.3
baz=230
SATY Saty 120.38 302 ePKP PKPdf 11 50 56.1 -1.5
baz=302
SATY Saty 120.38 302 ePKIKP PKPdf 11 50 56.1 -1.5
GOGA Godfrey 120.38 71 P PKiKP 11 50 57.8 0.0
baz=237
KPKS Kokpek 120.41 303 ePKP PKPdf 11 50 56.4 -1.2
baz=303
KPKS Kokpek 120.41 303 ePKIKP PKPdf 11 50 56.4 -1.2
U49A Red Boiling Sp 120.45 67 P PKPdf 11 50 56.7 -1.1
baz=238
CPCT Cooper Cave 120.74 68 PKPdf PKPdf 11 50 57.5 -0.8
JFWS Jewell Farm 120.84 58 P PKPdf 11 50 57.3 -1.0
baz=239
JFWS Jewell Farm 120.84 58 P PKPdf 11 50 58.3 0.0
baz=239
WCI Wyandotte Cave 121.00 65 P PKPdf 11 50 57.9 -0.9
baz=238
WCI Wyandotte Cave 121.00 65 P PKPdf 11 50 58.3 -0.5
baz=238
P46A Rosedale 121.12 63 PKPdf 11 50 57.7 -1.2
ULM Lac du Bonnet 121.19 49 PKP PKPdf 11 50 57.5 -1.2
comp=Z,47nm,1.0s,baz=263,slow=1.4,SNR=24
ULM Lac du Bonnet 121.19 49 PKPdf PKPdf 11 50 57.3 -1.4
MDOK Medeo 121.28 302 ePKP PKPdf 11 50 58.9 -0.5
baz=302
MDOK Medeo 121.28 302 ePKIKP PKPdf 11 50 58.8 -0.5
TNSS Tian-Shan 121.28 302 ePKP PKPdf 11 50 58.6 -1.2
baz=302
TNSS Tian-Shan 121.28 302 ePKIKP PKPdf 11 50 58.5 -1.2
TKL Tuckaleechee C 121.37 69 PKP PKiKP 11 51 00.0 +0.3
comp=Z,19nm,0.8s,baz=183,slow=7.9,SNR=16
TKL Tuckaleechee C 121.37 69 PKPdf 11 50 59.6 0.0
B35A Bob, Littlefor 121.47 51 PKPdf PKPdf 11 50 58.2 -1.1
B35A Bob, Littlefor 121.47 51 P PKPdf 11 50 58.1 -1.2
baz=240,SNR=6.0
V52A Sevierville 121.59 68 P PKPdf 11 51 00.0 0.0
baz=238,SNR=10
CASEE Lake Jocassee 121.60 70 P PKPdf 11 50 59.8 -0.2
baz=238
KMBO Kilima Mbogo 121.62 234 PKP PKPdf 11 51 00.9 -0.1
comp=Z,7.7nm,0.7s,baz=80,slow=0.6,SNR=18
KMBO PP PP 11 52 32.9 +0.1
comp=Z,7.8nm,1.2s,baz=134,slow=7.2,SNR=7.5
KMBO Kilima Mbogo 121.62 234 iPKPdf PKPdf 11 51 00.3 -0.8
SNR=11
BOOM Boomskoye usch 121.65 301 PKPdf PKPdf 11 50 59.5 -0.6
BOOM Boomskoye usch 121.65 301 PKIKP PKPdf 11 50 59.5 -0.6
A36M Sachs Harbour 121.69 19 PKPdf PKPdf 11 50 57.3 -1.8
A36M Sachs Harbour 121.69 19 P PKPdf 11 50 57.9 -1.1
baz=230
R49A Shelbyville 121.79 65 P PKPdf 11 50 59.4 -0.9
baz=239
R49A P PKPdf 11 50 59.4 -0.9
baz=239
V53A Saluda 122.04 69 PKPdf 11 51 00.9 -0.1
V53A Saluda 122.04 69 P PKPdf 11 51 00.8 -0.1
baz=238,SNR=11
V53A P PKPdf 11 51 00.8 -0.1
baz=238,SNR=11
TKM2 Tokmak 2 122.08 301 PKIKP PKPdf 11 50 58.7 -2.3
KUU Kurty 122.09 302 ePKP PKPdf 11 50 58.1 -2.6
baz=302
KUU Kurty 122.09 302 ePKIKP PKPdf 11 50 58.9 -1.8
ZALV Zalesovo Beam 122.12 316 PKhKP PKPpre 11 50 57.3
comp=Z,1.9nm,0.5s,baz=139,slow=3.7,SNR=6.2
ZALV Zalesovo Beam 122.12 316 PKPdf PKPdf 11 50 59.1 -1.3
ZALV Zalesovo Beam 122.12 316 PKIKP PKPdf 11 50 59.1 -1.3
KBL Kabul 122.19 289 PKPdf PKPdf 11 51 00.4 -1.1
KBL Kabul 122.19 289 PKIKP PKPdf 11 51 00.4 -1.1
P48A Milroy 122.22 64 PKPdf 11 51 00.8 -0.3
JSC Jenkinsville 122.40 71 P PKPdf 11 51 01.2 -0.3
baz=238
EYMN Ely 122.57 53 P PKPdf 11 50 59.5 -2.0
baz=241,SNR=5.3
AAK Ala-Archa 122.65 300 PKP PKPdf 11 51 01.8 -0.3
comp=Z,3.4nm,0.6s,baz=102,slow=2.3,SNR=6.0
AAK Ala-Archa 122.65 300 PKPdf PKPdf 11 51 01.7 -0.3
AAK Ala-Archa 122.65 300⇑ iPKIKP PKiKP 11 51 03.7 +1.5
AAK MLR MLR
comp=Z,64μm,17.0s
CHMS Chumysh 122.66 301 PKIKP PKPdf 11 50 58.2 -3.7
P49A Miami Univ. Ec 122.73 64 P PKiKP 11 51 02.1 -0.1
baz=240
O48B Farmland 122.80 63 P PKPdf 11 51 02.0 -0.1
baz=240
SGDS Sogindy 122.96 301 ePKP PKPdf 11 51 01.2 -1.3
baz=301
SGDS Sogindy 122.96 301 ePKIKP PKPdf 11 51 01.1 -1.3
COWI Conover 123.11 55 PKPdf 11 51 01.8 -0.8
COWI Conover 123.11 55 P PKPdf 11 51 02.4 -0.2
baz=242
U54A Nelsons Funny 123.17 69 P PKPdf 11 51 02.6 -0.5
baz=239
U54A P PKPdf 11 51 02.6 -0.5
baz=239
O49A Covington 123.31 64 P PKPdf 11 51 02.4 -0.7
baz=240
O49A P PKPdf 11 51 02.4 -0.7
baz=240
Q51A Peebles 123.39 65 P PKPdf 11 51 02.4 -0.9
baz=240
Q51A P PKPdf 11 51 02.4 -0.9
baz=240
WSAR Wadi Sarin 123.48 272 PKP PKPdf 11 51 02.4 -1.6
comp=Z,34nm,1.1s,baz=176,slow=4.0,SNR=9.4
GAR Garm 123.60 294 PKPdf 11 51 02.7 -1.2
W57A Gilead 123.74 71 P PKPdf 11 51 03.5 -0.6
baz=239,SNR=10
W57A P PKPdf 11 51 03.5 -0.6
baz=239,SNR=10
BTK Batken 123.79 296 PKPdf 11 51 02.8 -1.4
BTK Batken 123.79 296 PKIKP PKPdf 11 51 02.8 -1.4
P51A Williamsport 123.81 65 P PKPdf 11 51 03.7 -0.4
baz=240
P51A P PKPdf 11 51 03.7 -0.4
baz=240
D41A Chassel 123.91 55 P PKPdf 11 51 02.3 -1.8
baz=242,SNR=5.2
KURBB Kurchatov Arra 123.98 310 PKIKP PKPdf 11 51 01.0 -3.0
BTLS Baital 124.09 302 ePKP PKPdf 11 51 03.1 -1.4
baz=303
BTLS Baital 124.09 302 ePKIKP PKPdf 11 51 03.1 -1.4
Q52A Bidwell 124.09 66 P PKPdf 11 51 03.6 -1.1
baz=240
Q52A P PKPdf 11 51 03.6 -1.1
baz=240
S54A Dingess, Beckl 124.17 68 P PKPdf 11 51 04.3 -0.6
baz=240,SNR=7.7
S54A P PKPdf 11 51 04.3 -0.6
baz=240,SNR=7.7
ACSO Alum Creek Sta 124.23 64 P PKPdf 11 51 04.3 -0.6
baz=241,SNR=7.4
ACSO Alum Creek Sta 124.23 64 P PKPdf 11 51 04.8 -0.1
baz=241
BLA Blacksburg 124.49 69 P PKPdf 11 51 05.2 -0.3
baz=240,SNR=7.8
BLA Blacksburg 124.49 69 P PKiKP 11 51 06.0 +0.1
baz=240
P52A Corning 124.51 65 P PKPdf 11 51 05.3 -0.2
baz=241
O52A Adamsville 124.95 65 PKPdf 11 51 06.3 +0.1
baz=241,SNR=7.5
O52A P PKPdf 11 51 04.2 -2.1
baz=241,SNR=7.5
Q54A Coxs Mills 125.08 67 P PKPdf 11 51 05.4 -1.2
baz=241,SNR=8.8
Q54A P PKPdf 11 51 05.4 -1.2
baz=241,SNR=8.8
T57A Hurt 125.19 69 P PKPdf 11 51 06.0 -0.8
baz=240,SNR=13
T57A P PKPdf 11 51 06.0 -0.8
baz=240,SNR=13
R55A Marlinton 125.22 68 P PKPdf 11 51 04.7 -2.2
baz=241,SNR=8.3
R55A P PKPdf 11 51 04.7 -2.2
baz=241,SNR=8.3
IUG luzhnay 125.31 298 ePKP PKPdf 11 51 05.6 -1.5
baz=298
IUG luzhnay 125.31 298 ePKIKP PKPdf 11 51 05.5 -1.5
O53A New Philadelph 125.43 65 PKiKP 11 51 07.5 -0.1
O53A New Philadelph 125.43 65 P PKiKP 11 51 07.4 -0.1
baz=242
KK31 Karatay Array 125.44 299 PKPdf 11 51 05.6 -1.6
KK31 Karatay Array 125.44 299 iPKIKP PKPdf 11 51 05.5 -1.6
KKAR Karatay Array 125.44 299 PKPdf PKPdf 11 51 05.0 -2.2
KKAR Karatay Array 125.44 299 PKIKP PKPdf 11 51 05.0 -2.2
SOHO SOHO 125.56 272 iPKPdf PKPdf 11 51 06.3 -1.6
SNR=7.7
S57A Dark Hollow, R 125.77 69 P PKPdf 11 51 06.9 -1.0
baz=241,SNR=5.7
S57A P PKPdf 11 51 06.9 -1.0
baz=241,SNR=5.7
MBAR Mbarara 125.80 228⇓ ePKIKP PKPdf 11 51 08.4 -0.6
O54A Avella 125.96 66 P PKPdf 11 51 07.8 -0.4
baz=242
O54A P PKPdf 11 51 07.8 -0.4
baz=242
MCWV Mont Chateau 126.07 66 P PKPdf 11 51 08.4 -0.1
baz=242
MCWV Mont Chateau 126.07 66 P PKPdf 11 51 08.5 +0.1
baz=242
Q56A Snyder Ridge, 126.23 67 P PKPdf 11 51 08.6 -0.2
baz=242,SNR=6.0
Q56A P PKPdf 11 51 08.6 -0.2
baz=242,SNR=6.0
ASHO Ashiyiah 126.23 272 iPKPdf PKPdf 11 51 07.4 -1.8
SNR=7.8
UOSS Minazif 126.27 272 iPKPdf PKPdf 11 51 09.2 -0.1
SNR=9.1
LODK Lodwar 126.35 236 PKPdf 11 51 09.2 -0.7
MSFE Esma-Masafi 126.54 273 iPKPdf PKPdf 11 51 08.4 -1.4
SNR=8.7
FAQ Al Faqa, Dubai 126.61 272 PKPdf PKPdf 11 51 08.3 -1.6
NAZ Nazwa, Dubai 126.70 272 PKPdf PKPdf 11 51 08.3 -1.8
ASUD Al Ashush, Dub 126.74 271 PKPdf PKPdf 11 51 08.9 -1.3
BANOM Banah 126.76 273 PKPdf PKPdf 11 51 07.9 -2.3
SHME Shamm 126.95 273 PKPdf PKPdf 11 51 08.3 -2.2
CBN Corbin Frederi 127.08 69 P PKiKP 11 51 10.7 -0.2
baz=242
BRZS Berezniki 127.09 307 ePKP PKPdf 11 51 09.0 -1.1
BRZS Berezniki 127.09 307 ePKIKP PKPdf 11 51 09.0 -1.1
MZR Muzera 127.16 268 iPKPdf PKPdf 11 51 10.4 -0.6
SNR=9.8
P57A Homestead Farm 127.24 67 P PKPdf 11 51 06.9 -3.7
baz=242,SNR=7.5
P57A P PKPdf 11 51 06.9 -3.7
baz=242,SNR=7.5
ATD Arta Tunnel 127.47 249 PKP PKiKP 11 51 12.8 +0.3
comp=Z,14nm,0.7s,baz=306,slow=2.1,SNR=7.9
NRIK Noril'sk 127.49 333 PKP PKPdf 11 51 08.5 -1.7
comp=Z,9.0nm,0.8s,baz=102,slow=3.8,SNR=8.8
NRIK Noril'sk 127.49 333 PKPdf PKPdf 11 51 08.8 -1.5
NRIK Noril'sk 127.49 333⇓ ePKIKP PKPdf 11 51 08.7 -1.5
SSPA Standing Stone 127.86 66 PKPdf PKPdf 11 51 12.1 +0.2
SDMD Soldier's Deli 128.01 68 PKiKP 11 51 12.7 -0.1
SDMD Soldier's Deli 128.01 68 P PKPdf 11 51 11.4 -0.7
baz=243,SNR=11
M57A Sunshine Farm, 128.68 66 P PKPdf 11 51 11.9 -1.5
baz=244
M57A P PKPdf 11 51 11.9 -1.5
baz=244
SADO Sadowa 128.82 61 PKP PKiKP 11 51 14.7 +0.5
comp=Z,16nm,1.0s,baz=279,slow=3.8,SNR=5.0
BVA0 Borovoye Array 129.57 310 PKIKP PKPdf 11 51 12.5 -2.2
BRVK Borovoye 129.64 310 PKPdf PKiKP 11 51 15.2 -0.4
BRVK Borovoye 129.64 310⇓ ePKIKP PKPdf 11 51 13.3 -1.5
BRVK MLR MLR
comp=Z,101μm,20.0s
RES Resolute Bay 130.63 20 PKP PKPdf 11 51 14.8 -1.3
comp=Z,12nm,0.8s,baz=217,slow=3.6,SNR=15
RES Resolute Bay 130.63 20 PKPdf PKPdf 11 51 15.8 -0.2
RES Resolute Bay 130.63 20 PKIKP PKPdf 11 51 15.8 -0.2
GEYT Alibeck 131.54 288 PKP PKPdf 11 51 17.0 -2.0
comp=Z,6.5nm,0.7s,baz=229,slow=1.4,SNR=9.4
GEYT PP PP 11 53 37.2 -1.7
comp=Z,12nm,1.1s,baz=120,slow=8.7,SNR=5.2
GEYT SKPbc SKPab 11 54 45.6 +1.3
comp=Z,3.2nm,0.8s,baz=337,slow=1.9,SNR=1.9
GYA0 ALIBECK ARRAY 131.54 288 PKIKP PKPdf 11 51 18.4 -0.6
EUNU Eureka 133.02 14 PKiKP 11 51 22.3 +0.5
RAYN Ar Rayn 133.37 263 iPKPdf PKPdf 11 51 23.2 +0.4
SNR=11
RAYN Ar Rayn 133.37 263⇓ iPKIKP PKiKP 11 51 23.5 -0.6
AB31 Akbulak array 134.57 303 iPKIKP PKPdf 11 51 20.0 -4.2
ABKAR Akbulak array 134.57 303 PKPdf PKPdf 11 51 20.0 -4.2
SVE Sverdlovsk 136.00 313 ePKIKP PKiKP 11 51 28.4 +0.1
SVE pmax pmax
comp=Z,65nm,1.3s
AKTO Aktyubinsk 136.10 304 PKIKP PKPdf 11 51 26.8 -0.3
ARU Arti 137.06 312 iPKIKP PKPdf 11 51 29.2 +0.6
ARU 11 54 08.1
FRB Frobisher Bay 138.96 37 PKP PKPdf 11 51 32.9 +1.0
comp=Z,30nm,0.9s,baz=310,slow=2.2,SNR=3.6
SCHQ Schefferville 139.31 51 PKP PKPdf 11 51 33.6 +0.7
comp=Z,27nm,1.0s,baz=309,slow=1.8,SNR=5.4
NEEM North Greenlan 140.30 14 iP PKPdf 11 51 28.7 -5.7
AKT Akhty 140.30 288 ePKIKP PKPdf 11 51 34.9 -0.3
AKT e 11 54 35.7
AKT pmax pmax
comp=Z,63nm,1.1s
MAK Makhachkala 140.94 290 eP Pdif 11 48 58.8 +5.5
MAK i 11 51 35.2
MAK ePPP PPP 11 57 40.0
MAK eSS SS 12 12 58.0 -6.8
MAK pmax pmax
comp=Z,288nm,1.1s
GNI Garni 141.97 284 PKP PKPdf 11 51 38.3 -0.1
comp=Z,12nm,0.8s,baz=250,slow=2.4,SNR=9.5
GNI Garni 141.97 284 PKPdf PKPdf 11 51 37.7 -0.7
GNI Garni 141.97 284⇓ ePKIKP PKPdf 11 51 39.4 +1.0
KIRV Kirov 142.15 315⇓ ePKIKP PKPdf 11 51 38.4 +0.6
GROC Groznyy 142.20 290 ePKIKP PKPdf 11 51 38.9 +0.5
GROC e 11 54 47.5
GROC pmax pmax
comp=Z,221nm,1.5s
GEVA Gevas 142.53 281 PKPdf 11 51 38.2 -1.3
KBS Kingsbay 142.54 354 iP PKPdf 11 51 38.1 +0.1
KBS Kingsbay 142.54 354 ePKPdf PKPdf 11 51 37.9 -0.2
BELG Belogornoye 142.86 305⇓ ePKHKP PKPpre 11 51 33.4
BELG MLR MLR
comp=Z,17μm,18.0s
ZEI Tsey 143.41 288 iPKHKP PKPpre 11 51 34.7
ZEI pmax pmax
comp=Z,44nm,1.3s
PRGR Permogore 143.82 320 ePKHKP PKPpre 11 51 33.8
PRGR pmax pmax
comp=Z,16nm,0.6s
NCK Nalchik 143.83 289⇓ ePKIKP PKPab 11 51 37.3 -1.1
NCK MLR MLR
comp=Z,111μm,18.0s
LIC Lamto 144.08 182⇑ ePKP1 PKPab 11 51 39.5 -0.6
comp=Z,99nm,0.6s
KIC Kosan Boka 144.21 183⇑ ePKP1 PKPab 11 51 40.0 -0.6
comp=Z,48nm,0.6s
DRLN Deer Lake 144.23 61 PKPdf PKPbc 11 51 40.3 +0.3
NEY Neytrino 144.37 289 dePKIKP PKPab 11 51 40.7 0.0
NEY MLR MLR
comp=Z,67μm,19.0s
KBZ Khabaz 144.38 289 PKP PKPab 11 51 39.2 -1.1
comp=Z,86nm,0.9s,baz=118,slow=2.5,SNR=37
ASF Jabal al Asfar 144.45 268 PKP PKPab 11 51 41.0 -0.1
comp=Z,44nm,1.1s,baz=114,slow=0.2,SNR=10.0
TIC Toumodi 144.50 182⇑ ePKP1 PKPab 11 51 40.9 -0.8
comp=Z,195nm,1.0s
ILULI Ilulissat 144.51 26 iP PKPab 11 51 39.3 -0.8
DBIC Dimbokro 144.52 183 PKP PKPab 11 51 41.5 -0.2
comp=Z,35nm,0.8s,baz=174,slow=4.1,SNR=20
DBIC Dimbokro 144.52 183 PKPdf PKPab 11 51 41.4 -0.4
KIV Kislovodsk 144.58 290⇓ P PKPab 11 51 39.7 -1.7
KIV Kislovodsk 144.58 290 iPKPbc PKPab 11 51 40.6 -0.8
SNR=24
KIV Kislovodsk 144.58 290 ePKIKP PKPdf 11 51 42.2 -0.5
KIV pmax pmax
comp=Z,71nm,1.1s
GOF Gofitskoye 144.60 292⇑ ePKIKP PKPab 11 51 39.9 -1.3
GOF pmax pmax
comp=Z,621nm,1.1s
EIL Elat 144.62 263 PKP PKPab 11 51 41.1 -0.6
comp=Z,125nm,1.1s,baz=149,slow=1.4,SNR=31
DAG Danmarks Havn 145.00 5 iP PKPbc 11 51 38.0 -3.8
SFJD Kangerlussuaq 145.60 29 PKPbc PKPdf 11 51 42.8 -0.8
comp=Z,90nm,0.6s,baz=266,slow=1.4,SNR=49
SFJD Kangerlussuaq 145.60 29 iP PKPdf 11 51 42.4 -1.2
BJO1 Bjornoya 145.68 348 ePKPdf PKPdf 11 51 43.4 -0.1
KTUT Trabzon 145.83 284 ⇓P PKPdf 11 51 44.1 -0.8
RCY Rachaya 145.86 269 eP PKPdf 11 51 44.8 -0.5
SUMG Summit 145.94 17 iP PKPbc 11 51 45.0 -0.3
MMAI Mount Meron Ar 145.96 268 PKPbc PKPdf 11 51 45.7 +0.3
comp=Z,38nm,0.5s,baz=97,slow=5.4,SNR=31
HWQ Hawqa 146.13 271 eP PKPdf 11 51 45.5 -0.2
DQRL Deir Qamar 146.15 269 eP PKPdf 11 51 45.3 -0.5
BHL Bhannes 146.18 270 eP PKPdf 11 51 46.1 +0.3
NUUK Nuuk 146.18 34 iP PKPdf 11 51 44.4 -0.3
LVZ Lovozero 146.34 333 PKPdf 11 51 43.4 -1.6
LVZ Lovozero 146.34 333⇑ ePKIKP PKPdf 11 51 43.0 -1.9
LVZ MLR MLR
comp=Z,102μm,18.0s
GAZ Gaziantep 146.39 276 PKPdf 11 51 45.7 -0.3
VRH Novokhopyorsk 146.40 302 ePKIKP PKPdf 11 51 44.7 -0.7
VRH pmax pmax
comp=Z,210nm,0.8s
KLMR Klimovskoe 146.87 320 ePKPdf PKPdf 11 51 43.9 -2.0
KLMR AMP 11 51 53.8
comp=Z,418nm,1.6s
KLMR Klimovskoe 146.87 320 ePKIKP PKPdf 11 51 43.9 -2.0
KLMR pmax pmax
comp=Z,418nm,1.6s
APA Apatity 146.92 333⇓ iPKIKP PKPdf 11 51 43.4 -2.4
APA pmax pmax
comp=Z,62nm,1.0s
KEV Kevo 147.57 339 PKPdf 11 51 47.0 +0.1
KEV Kevo 147.57 339 PKIKP PKPdf 11 51 47.0 +0.1
HAMF Hammerfest 147.79 342 ePKPdf PKPdf 11 51 47.6 +0.4
VORR Voronezh 148.00 303 ePKIKP PKPdf 11 51 48.4 +0.3
VORR pmax pmax
comp=Z,883nm,2.0s
BNN Bunyan 148.00 278 PKPdf 11 51 49.4 +0.7
VSR Storozhevoye 148.01 302 ePKIKP PKPdf 11 51 48.7 +0.6
VSR pmax pmax
comp=Z,300nm,1.8s
ICESG Greenland Ices 148.02 22 iP PKPbc 11 51 49.9 -1.3
ARA0 ARCESS Array S 148.12 339 ePKPdf PKPdf 11 51 48.8 +0.9
ARCES ARCESS Array B 148.12 339 PKPbc PKPdf 11 51 48.9 +1.1
comp=Z,48nm,0.7s,baz=57,slow=2.2,SNR=29
ARCES ARCESS Array B 148.12 339 PKPdf 11 51 49.1 +1.3
LPSR Galich'ya Gora 148.17 305 ePKP2 PKPdf 11 51 49.7 +1.3
LPSR pmax pmax
comp=Z,290nm,1.1s
CSS Mathiatis 148.37 270 PKPbc 11 51 51.1 -1.7
ANN Anapa 148.44 290 iPKP2 PKiKP 11 51 53.6 -0.6
ANN pmax pmax
comp=Z,322nm,1.2s
IVI Ivigtut 148.67 38 PKPbc 11 51 51.0 -1.6
IVI Ivigtut 148.67 38 iP PKPdf 11 51 50.4 +1.5
MOS Moscow 148.74 311 ePHKP PKPpre 11 51 46.2
MOS pmax pmax
comp=Z,649nm,2.2s
SACV Santiago Islan 148.99 146 PKPab 11 51 58.6 -0.3
KTK1 Kautokeino 149.06 340 ePKPdf PKPdf 11 51 50.7 +1.3
DIKM Dikmen 149.27 283 ⇓P PKPbc 11 51 53.6 -1.3
JETT Jettan, Norway 149.35 342 epPKPdf PKPbc 11 51 54.2 0.0
OBN Obninsk 149.41 310 ⇓P PKPbc 11 51 52.9 -1.8
OBN Obninsk 149.41 310 PKPdf 11 51 49.5 -0.7
OBN PKPbc PKiKP 11 51 55.8 -0.1
OBN Obninsk 149.41 310 ePKIKP PKiKP 11 51 50.9 +0.6
OBN e 11 55 29.4
OBN ePPP PPP 11 58 48.1
OBN e 11 58 58.6
OBN eSS SS 12 14 41.8 +1.0
OBN eSSS SSS 12 20 21.8
OBN pmax pmax
comp=Z,578nm,1.8s
OBN MLR MLR
comp=Z,110μm,18.0s
TRO Tromso 149.63 343 ePKPdf PKPdf 11 51 52.1 +1.9
BRTR Keskin Array B 149.90 279 PKPbc PKPbc 11 51 55.0 -1.7
comp=Z,49nm,0.7s,baz=145,slow=5.2,SNR=36
BRTR Keskin Array B 149.90 279 PKPdf PKPdf 11 51 53.1 +1.3
BRTR PKPbc PKPbc 11 51 55.9 -0.8
BRTR Keskin Array B 149.90 279 PKHKP PKPpre 11 51 53.1
BRTR 11 51 55.9
NRS Narsarsuaq 149.95 38 iP PKPbc 11 51 54.0 -1.8
ILGA Ilgaz 150.23 281 PKPdf 11 51 51.5 -0.9
ILGA PKPbc sPKPdf 11 51 59.9 +0.4
BZK Bozkurt 150.26 283 ⇑P PKPdf 11 51 53.5 +1.5
ISOG Isortoq, Green 150.41 27 iP PKPbc 11 51 55.2 -1.6
ANTO Ankara 150.57 279 ⇓P PKPdf 11 51 55.3 +2.5
ANTO Ankara 150.57 279 ⇓PKIKP PKPdf 11 51 55.3 +2.5
SIM Simferopol' 150.79 289 ePKIKP PKPbc 11 51 56.7 -1.7
SIM pmax pmax
comp=Z,226nm,1.3s
ANGG Ammassalik, Gr 150.81 26 iP PKPdf 11 51 54.0 +1.8
STEI Steigen 151.80 343 epPKPdf pPKPdf 11 51 57.5 -1.4
KDZE Karadeniz Ereo 151.96 281 ⇑P PKiKP 11 52 04.3 +2.7
FAUS Fauske 152.24 342 epPKPdf pPKPdf 11 51 58.3 -1.2
FIA1 FINESS Array S 152.72 326 PKPbc 11 52 00.0 -2.2
FINES FINESS Array B 152.72 326 PKPbc PKPbc 11 52 00.1 -2.2
comp=Z,24nm,0.7s,baz=88,slow=4.8,SNR=20
ARG Arkhangelos 152.75 269 PKPdf 11 51 55.3 -0.7
ARG PKPbc pPKPdf 11 52 01.8 +0.4
ARG Arkhangelos 152.75 269 PKIKP PKPdf 11 51 55.3 -0.7
ARG 11 52 01.8
KARP Karpathos 153.19 267 PKPbc 11 52 03.3 -1.0
MANT Manisa 153.26 274 PKPdf 11 51 55.0 -2.0
MANT PKPbc pPKPdf 11 52 02.5 +0.2
MOR8 Moi Rana 153.42 341 epPKPdf pPKPdf 11 51 59.9 -1.5
KONS Konsvik 153.45 343 ePKPbc PKiKP 11 52 05.1 +1.3
VSU Vasula 153.77 320 eP PKiKP 11 52 07.2 +2.5
AKASG Malin Array Be 154.31 301 PKP PKPdf 11 51 56.2 -1.6
comp=Z,2.3nm,0.7s,baz=52,slow=1.6,SNR=9.4
AKASG PKPbc pPKPdf 11 52 04.1 +1.0
comp=Z,8.8nm,0.8s,baz=56,slow=3.4,SNR=7.1
AKBB Malin Array Si 154.31 301 PKPdf PKPdf 11 51 59.3 +1.5
AKBB PKPab PKPab 11 52 20.9 +0.7
AKBB Malin Array Si 154.31 301 PKIKP PKPdf 11 51 59.3 +1.5
AKBB 11 52 20.9
MNK Minsk 154.46 310 iPKP PKPdf 11 51 56.1 -1.8
comp=E,12nm,0.9s
MNK i PKP PKPdf 11 51 56.1 -1.8
comp=Z,111nm,0.9s,baz=76
MNK i PKP pPKPdf 11 51 57.4 -5.8
comp=N,56nm,1.3s
MNK i PP PP 11 55 54.2 -2.4
MNK i SKS SKSdf 11 59 02.0 -1.7
MNK i PPP PPP 11 59 19.1
MNK i SS SS 12 15 32.8 -3.7
MNK i SSS SSS 12 21 24.5
MNK i LR LR 13 05 29.4
MNK i LRM MLR 13 11 26.9
comp=Z,95μm,19.7s
MNK Minsk 154.46 310 iPKIKP PKPdf 11 51 56.1 -1.8
MNK i 11 55 54.1
MNK i 11 59 01.9
MNK i SS SS 12 15 32.7 -3.7
MNK i SSS SSS 12 21 24.4
MNK pmax pmax
comp=Z,111nm,0.9s
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=N,56nm,1.3s
MANR Mangalia 154.53 285 ⇓P PKPab 11 52 20.7 -0.8
MILM Milestii Mici 154.67 293 ⇓P PKPbc 11 52 05.1 -1.9
MILM Milestii Mici 154.67 293 ⇓PKIKP PKPbc 11 52 05.1 -1.9
MFTR Murfatlar 154.70 286 ⇑P PKPbc 11 52 04.5 -2.6
TIRR Tirgusor 154.75 287 ⇓P PKPbc 11 52 04.6 -2.6
TIRR Tirgusor 154.75 287 ⇓P PKPbc 11 52 04.6 -2.6

TIRR	**Tirgusor**	**154.75**	**287**	⇓PKIKP	**PKPbc**	11 52 04.6	-2.6
IDI	**Anoyia**	**154.76**	**264**	⇑P	**PKPbc**	11 52 07.6	0.0
IDI	**Anoyia**	**154.76**	**264**	PKP	**PKPdf**	11 51 57.9	-1.2
	comp=N,44nm,1.2s,baz=176,slow=3.7,SNR=6.9						
IDI				PKPbc	**sPKPdf**	11 52 07.2	+1.0
	comp=N,86nm,0.9s,baz=87,slow=3.0,SNR=19						
NACGM	**Naroch**	**154.97**	**312**	*e*PKP	**PKPdf**	11 51 59.3	+0.8
	comp=Z,98nm,0.9s,baz=73						
APE	**Apeiranthos**	**155.00**	**269**	⇑P	**PKPdf**	11 51 58.1	-1.2
APE	**Apeiranthos**	**155.00**	**269**	⇑PKIKP	**PKPdf**	11 51 58.1	-1.2
CFR	**Carcaliu**	**155.02**	**288**	⇑P	**PKPdf**	11 52 06.0	+7.1
CFR	**Carcaliu**	**155.02**	**288**	⇑PKIKP	**PKPdf**	11 52 06.0	+7.1
ISAL	**Salakas**	**155.13**	**314**	*e*P	**PKPab**	11 52 16.8	-6.8
IIGN	**Ignalina**	**155.14**	**313**	*e*P	**PKPab**	11 52 16.6	-7.1
VRI	**Vrincioaia**	**156.06**	**290**	⇓P	PKPab	11 52 18.2	-10
PLOR	**Plostina**	**156.12**	**290**	⇑P	**PKPab**	11 52 23.0	-5.2
PLOR	**Plostina**	**156.12**	**290**	⇑PKP2	**PKPab**	11 52 23.0	-5.2
TESR	**Tescani**	**156.15**	**292**	⇑P	**PKPab**	11 52 27.1	-1.2
PABE	**Paberze**	**156.30**	**314**	*e*P	**PKPdf**	11 52 03.5	+3.2
SECR		**156.47**	**288**	⇓P	**PKPdf**	11 52 03.7	+2.8
MLR	**Muntele Rosu**	**156.59**	**289**	PP	**PP**	11 56 08.4	-0.7
	comp=Z,4.2nm,0.3s,baz=120,slow=6.7,SNR=3.5						
BUR01	**Bucovina Ar. S**	**157.13**	**294**	⇓P	**PKPdf**	11 51 57.3	-4.6
PLVB	**Pleven**	**157.32**	**283**	⇑P	**PKPab**	11 52 32.5	-0.9
LVV	**L'vov**	**157.72**	**300**	*i* PKIKP	**PKPdf**	11 52 03.3	+0.9
LVV				eSS	SS	12 16 10.7	-1.3
NC405	**NORSAR Array S**	**158.21**	**336**	PKPdf	**PKPdf**	11 52 01.6	-1.0
NC405					**PKPab**	11 52 35.0	-1.7
VTS	**Vitosha**	**158.21**	**281**	⇓P	**PKPdf**	11 52 02.0	-1.4
VTS	**Vitosha**	**158.21**	**281**	PKPdf	**PKPdf**	11 52 02.0	-1.4
VTS				PKPab	**PKPab**	11 52 36.8	-0.8
VTS	**Vitosha**	**158.21**	**281**	PKIKP	**PKPdf**	11 52 02.1	-1.4
VTS						11 52 36.8	
BMR	**Baia Mare**	**158.28**	**295**	⇓P	**PKPab**	11 52 36.8	-0.7
BMR	**Baia Mare**	**158.28**	**295**	⇓PKP2	**PKPab**	11 52 36.8	-0.7
NB2	**NORSAR Subarra**	**158.41**	**336**	PKPab	**PKPab**	11 52 34.6	-3.0
	baz=38,slow=4.4						
NB2	**NORSAR Subarra**	**158.41**	**336**	PKP	**PKPab**	11 52 34.6	-3.0
	comp=Z,5.5nm,0.8s,baz=38,slow=4.4						
NOA	**NORSAR Array B**	**158.41**	**336**	PKP	**PKPdf**	11 52 01.1	-1.8
	comp=Z,7.0nm,1.1s,baz=54,slow=1.6,SNR=4.3						
NOA				PKPab	**PKPab**	11 52 35.4	-2.2
	comp=Z,5.0nm,0.7s,baz=39,slow=4.6,SNR=16						
KWP	**Kalwaria Pacla**	**158.59**	**300**	*e*PKPdf	**PKPdf**	11 52 03.3	-0.2
KWP				*e*PKPab	**PKPab**	11 52 39.7	+0.9
DEV	**Deva**	**158.73**	**290**	⇑P	**PKPab**	11 52 39.3	-0.2
DEV	**Deva**	**158.73**	**290**	⇑PKP2	**PKPab**	11 52 39.3	-0.2
BLKB	**Belogradchik**	**158.75**	**284**	⇑P	**PKPab**	11 52 38.5	-1.2
KOLS	**Kolonicke sedl**	**158.98**	**298**	*e*PKP2	**PKPab**	11 52 41.4	+0.9
UZH	**Uzhgorod**	**159.00**	**297**	⇑/PKP2	**PKPab**	11 52 41.6	+1.1
SURR	**Surduc**	**159.28**	**289**	⇑P	**PKPdf**	11 52 03.5	-0.8
BEL	**Belsk**	**159.29**	**307**	*e*PKPab	**PKPab**	11 52 40.7	-0.9
CRVS	**Cervenica-Dubn**	**159.51**	**298**	*e*PKP	**PKPdf**	11 52 05.2	+0.7
CRVS				*e*		11 52 44.3	
CRVS	**Cervenica-Dubn**	**159.51**	**298**	*e*PKIKP	**PKPdf**	11 52 05.3	+0.7
MDVR	**Moldovita**	**159.54**	**287**	⇑P	**PKPab**	11 52 41.2	-1.9
STHS	**Stebnicka Huta**	**159.57**	**300**	*e*PKP2	**PKPab**	11 52 44.4	+1.4
BZS	**Buzias**	**159.63**	**289**	⇑P	**PKPdf**	11 52 02.2	-2.6
BZS	**Buzias**	**159.63**	**289**	⇑PKIKP	**PKPdf**	11 52 02.2	-2.6
OJC	**Ojcow**	**160.32**	**303**	*e*PKPdf	**PKPdf**	11 52 03.0	-2.4
OJC				*e*PKPab	**PKPab**	11 52 45.9	-0.4
OJC	**Ojcow**	**160.32**	**303**	PKPdf	**PKPdf**	11 52 04.0	-1.4
OJC				PKPab	**PKPab**	11 52 44.6	-1.7
OJC	**Ojcow**	**160.32**	**303**	PKIKP	**PKPdf**	11 52 04.0	-1.4
OJC						11 52 44.6	
TIR	**Tirane**	**160.46**	**276**	⇓P	**PKPab**	11 52 50.3	+3.1
TIR	**Tirane**	**160.46**	**276**	⇓PKP2	**PKPab**	11 52 50.3	+3.1
PSZ	**Piszkesteto**	**160.68**	**296**	PKP	**PKPdf**	11 52 06.8	+0.8
GKP	**Gorka Klasztor**	**160.80**	**313**	*e*PKPdf	**PKPdf**	11 52 06.3	+0.5
GKP				*e*PKPab	**PKPab**	11 52 49.0	+0.8
PDG	**Podgorica**	**161.09**	**279**	⇓P	**PKPab**	11 52 47.0	-2.9
VYHS	**Vyhne**	**161.29**	**298**	*e*PKP	**PKPdf**	11 52 07.5	+1.0
VYHS				*e*		11 52 49.6	
VYHS	**Vyhne**	**161.29**	**298**	*e*PKIKP	**PKPdf**	11 52 07.5	+1.0
VYHS				*e*		11 52 49.6	
OKC	**Ostrava-Krasne**	**161.45**	**302**	*e*PKPAB	**PKPab**	11 52 50.1	-1.1
OKC	**Ostrava-Krasne**	**161.45**	**302**	*e*PKP2	**PKPab**	11 52 50.1	-1.1
MORH	**Mrgy, Hungar**	**161.69**	**291**	⇑P	**PKPdf**	11 52 04.4	-2.5
MAUC	**Maruska**	**161.77**	**301**	*e*PKPDF	**PKPdf**	11 52 04.7	-2.3
MAUC				*e*PKPAB	**PKPab**	11 52 51.4	-1.2
MORC	**Moravsky Berou**	**161.84**	**303**	⇑P	**PKPdf**	11 52 05.5	-1.5
MORC	**Moravsky Berou**	**161.84**	**303**	PKPdf	**PKPdf**	11 52 05.6	-1.5
MORC					**PKPab**	11 52 52.9	-0.1
MORC	**Moravsky Berou**	**161.84**	**303**	*e*PKP	**PKPdf**	11 52 04.6	-2.5
MORC				*e*		11 52 55.5	
MORC	**Moravsky Berou**	**161.84**	**303**	PKIKP	**PKPdf**	11 52 05.6	-1.5
MORC						11 52 52.9	
KOVH	**Kovagotottos**	**162.08**	**291**	PKP	**PKPdf**	11 52 08.5	+1.1
TIP	**Timpagrande**	**162.22**	**268**	⇑P	**PKPdf**	11 52 06.9	-1.0
KRLC	**Kraliky**	**162.23**	**304**	*e*PKPDF	**PKPdf**	11 52 05.6	-1.9
KRLC				*e*PKPAB	**PKPab**	11 52 53.3	-1.4
KRLC	**Kraliky**	**162.23**	**304**	*e*PKIKP	**PKPdf**	11 52 05.6	-1.9
KRLC				*e*		11 52 53.3	
KSP	**Ksiaz**	**162.28**	**307**	*e*PKPdf	**PKPdf**	11 52 07.5	0.0
KSP				*e*PKPab	**PKPab**	11 52 54.0	-0.8
MODS	**Modra-Piesok**	**162.34**	**298**	*e*PKP	**PKPdf**	11 52 08.6	+1.0
MODS	**Modra-Piesok**	**162.34**	**298**	*e*PKIKP	**PKPdf**	11 52 08.6	+1.0
MPLH	**Magyarpolny**	**162.36**	**294**	PKP	**PKPdf**	11 52 09.6	+2.0
OSTC	**Ostas**	**162.43**	**306**	*e*PKPAB	**PKPab**	11 52 54.7	-0.8
DPC	**Dobruska-Polom**	**162.43**	**305**	*e*PKPDF	**PKPdf**	11 52 06.5	-1.2
DPC				*e*PKPAB	**PKPab**	11 52 54.2	-1.3
DPC	**Dobruska-Polom**	**162.43**	**305**	*e*PKIKP	**PKPdf**	11 52 06.5	-1.2
DPC				*e*		11 52 54.2	
VRAC	**Vranov**	**162.56**	**302**	*e*PKP	**PKPdf**	11 52 05.2	-2.6
VRAC				*e*		11 52 57.1	
UPC	**Upice**	**162.56**	**306**	*e*PKPDF	**PKPdf**	11 52 08.4	+0.6
UPC				*e*PKPAB	**PKPab**	11 52 54.9	-1.2
UPC	**Upice**	**162.56**	**306**	*e*PKIKP	**PKPdf**	11 52 08.4	+0.6
UPC				*e*		11 52 54.9	
KRUC	**Moravsky**	**162.75**	**301**	*e*PKP	**PKPdf**	11 52 05.4	-2.6
KRUC				*e*		11 52 58.4	
RUE	**Ruedersdorf**	**163.03**	**314**	*e*P	**PKPdf**	11 52 07.2	-0.8
RONA	**Rosalia, Austr**	**163.11**	**296**	*e*P	**PKPdf**	11 52 06.4	-2.1
	comp=Z,23nm,2.1s						
RONA				*e*P	**PKPab**	11 52 58.1	-0.5
	comp=Z,23nm,1.8s						
CONA	**Conrad Observa**	**163.35**	**297**	*e*P	**PKPdf**	11 52 05.3	-3.4
	comp=Z,17nm,1.6s,SNR=5.5						
CONA				*e*P	**PKPab**	11 52 58.3	-1.5
	comp=Z,10nm,1.3s						
VAE	**Valguarnera**	**163.37**	**260**	PKP	**PKPdf**	11 52 09.4	+0.4
	comp=Z,7.4nm,0.5s,baz=19,slow=5.5,SNR=4.8						
VAE				PKPab	**PKPab**	11 52 58.7	-1.4
	comp=Z,5.8nm,0.6s,baz=104,slow=4.2,SNR=1.4						
PVCC	**Panska Ves**	**163.42**	**307**	*e*PKPAB	**PKPab**	11 52 58.6	-1.2
PVCC	**Panska Ves**	**163.42**	**307**	*e*PKP2	**PKPab**	11 52 58.6	-1.2
GOPC	**GO Pecny, Ondr**	**163.50**	**305**	*e*PKPAB	**PKPab**	11 52 57.8	-2.4
GOPC	**GO Pecny, Ondr**	**163.50**	**305**	*e*PKP2	**PKPab**	11 52 57.8	-2.4
PRU	**Pruhonice**	**163.63**	**305**	*e*PKPDF	**PKPdf**	11 52 09.4	+0.6
PRU				*e*PKPAB	**PKPab**	11 52 58.8	-1.9
PRU	**Pruhonice**	**163.63**	**305**	*e*PKIKP	**PKPdf**	11 52 09.4	+0.6
PRU				*e*		11 52 58.8	
BRG	**Berggiesshubel**	**163.65**	**309**	*e*PKIKP	**PKPdf**	11 52 08.6	-0.2
BRG				pmax	pmax		
	comp=Z,83nm,2.0s						
ARSA	**Arzberg**	**163.71**	**295**	*e*P	**PKPdf**	11 52 05.9	-3.0
	comp=Z,24nm,1.8s,SNR=6.9						
ARSA				*e*P	**PKPab**	11 53 02.9	+1.7
	comp=Z,26nm,1.4s						
CLL	**Collm**	**164.00**	**311**	PKPdf	**PKPdf**	11 52 09.1	0.0
CLL				PKPab	**PKPab**	11 53 01.6	-0.7
CLL	**Collm**	**164.00**	**311**	*i* PKPdf	**PKPdf**	11 52 09.8	+0.7
	comp=Z,236nm,2.6s						
CLL				*i* PKPab	**PKPab**	11 53 01.9	-0.4
	comp=Z,299nm,2.4s						
CLL				*e*PP	**PP**	11 56 49.0	+0.6
	comp=Z,56nm,1.9s						
CLL				LV		13 12 00.0	
	comp=Z,41μm,18.0s						
CLL	**Collm**	**164.00**	**311**	PKIKP	**PKPdf**	11 52 09.1	0.0
CLL						11 53 01.6	
BOJS	**Bojanci**	**164.10**	**289**	*e*PKPdf	**PKPdf**	11 52 08.7	-0.6
SOKA	**Soboth**	**164.13**	**293**	*e*P	**PKPdf**	11 52 07.1	-2.3
	comp=Z,24nm,1.4s,SNR=7.3						
SOKA				*e*P	**PKPab**	11 53 05.0	+1.8
	comp=Z,36nm,1.4s						
MOA	**Molln**	**164.42**	**298**	*e*P	**PKPdf**	11 52 07.4	-2.2
	comp=Z,25nm,2.2s						
MOA				*e*P	**PKPab**	11 53 06.6	+2.2
	comp=Z,39nm,1.2s,SNR=10						
OBKA	**Obir**	**164.48**	**293**	*e*P	**PKPdf**	11 52 08.0	-1.8
	comp=Z,17nm,1.7s						
OBKA				*e*P	**PKPab**	11 53 06.3	+1.5
	comp=Z,34nm,1.6s						
KHC	**Kasperske Hory**	**164.51**	**303**	*e*PKPDF	**PKPdf**	11 52 09.3	-0.4
KHC				*e*PKPAB	**PKPab**	11 53 05.2	+0.5
KHC	**Kasperske Hory**	**164.51**	**303**	*e*PKIKP	**PKPdf**	11 52 09.3	-0.4
KHC				*e*		11 53 05.2	
GEC2	**GERESS Array S**	**164.52**	**302**		**PKPdf**	11 52 08.7	-1.1
GEC2				PKPab	**PKPab**	11 53 04.0	-0.8
GERES	**GERESS Array B**	**164.52**	**302**	PKP	**PKPdf**	11 52 08.6	-1.1
	comp=Z,1.3nm,0.7s,baz=86,slow=4.3,SNR=6.6						
GERES				PKPab	**PKPab**	11 53 03.2	-1.7
	comp=Z,6.7nm,0.8s,baz=81,slow=4.2,SNR=11						
CMLA	**Cha da Macela**	**164.64**	**101**	P	**PKPdf**	11 52 14.7	+4.6
BIOA	**Bad Ischl, Aus**	**164.87**	**298**	*e*P	**PKPdf**	11 52 06.5	-3.5
	comp=Z,10nm,1.1s						
BIOA				*e*P	**PKPab**	11 53 08.1	+1.7
	comp=Z,26nm,1.2s						
CADS	**Cadrg**	**165.08**	**292**	*e*PKPdf	**PKPdf**	11 52 09.1	-1.2
CADS				*e*PKPab	**PKPab**	11 53 08.6	+1.2
MYKA	**Terra Mystica**	**165.08**	**294**	*e*P	**PKPdf**	11 52 09.5	-0.8
	comp=Z,15nm,1.0s						
KBA	**Koelnbreinsper**	**165.20**	**296**	*e*P	**PKPdf**	11 52 09.3	-1.2
	comp=Z,27nm,1.4s,SNR=9.9						
KBA				*e*P	**PKPab**	11 53 06.1	-1.9
	comp=Z,19nm,1.2s						
CLUD	**Cludinico**	**165.63**	**293**		**PKPdf**	11 52 11.4	+0.7
CLUD				PKPab	**PKPab**	11 53 06.7	-3.1
GRA1	**Grafenberg Arr**	**165.73**	**307**	PKPdf	**PKPdf**	11 52 10.6	-0.1
GRA1					**PKPab**	11 53 09.7	-0.3
GRF	**Grafenberg Arr**	**165.73**	**307**	PKIKP	**PKPdf**	11 52 10.6	-0.1
GRF						11 53 09.7	
GRFO	**Grafenberg**	**165.73**	**307**	PKPdf	**PKPdf**	11 52 10.2	-0.5
GRFO					**PKPab**	11 53 10.6	+0.6
GRFO	**Grafenberg**	**165.73**	**307**	PKIKP	**PKPdf**	11 52 10.2	-0.5
GRFO						11 53 10.6	
STAL	**STALIGIAL**	**165.78**	**293**	PKPdf	**PKPdf**	11 52 10.8	0.0
STAL					**PKPab**	11 53 10.6	+0.2
ABTA	**Abfaltersbach**	**165.82**	**295**	*i* P	**PKPdf**	11 52 08.1	-2.8
	comp=Z,23nm,1.3s,SNR=9.0						
ABTA				*e*P	**PKPab**	11 53 08.4	-2.2
	comp=Z,20nm,1.0s						
CIMO	**Cimolais**	**165.96**	**293**	PKPdf	**PKPdf**	11 52 10.3	-0.6
CIMO				PKPab	**PKPab**	11 53 11.6	+0.5
KEST	**Kesra**	**166.16**	**247**	PKP	**PKPdf**	11 52 10.8	-0.8
	comp=Z,23nm,1.1s,baz=168,slow=2.6,SNR=8.7						
KEST				PKPab	**PKPab**	11 53 12.0	-0.4
	comp=Z,59nm,1.0s,baz=114,slow=2.6,SNR=10						
KEST	**Kesra**	**166.16**	**247**	PKPdf	**PKPdf**	11 52 11.2	-0.4
KEST				PKPab	**PKPab**	11 53 13.0	+0.6
WTTA	**Wattenberg**	**166.29**	**297**	*e*P	**PKPdf**	11 52 08.5	-2.9
	comp=Z,56nm,1.7s,SNR=8.5						
WTTA				*e*P	**PKPab**	11 53 14.1	+1.3
	comp=Z,86nm,1.5s						
WATA	**Walderalm**	**166.31**	**298**	*e*P	**PKPdf**	11 52 08.0	-3.4
	comp=Z,24nm,1.7s						
WATA				*e*P	**PKPab**	11 53 13.5	+0.6
	comp=Z,76nm,1.3s,SNR=7.8						
CTI	**Castel Tesino**	**166.54**	**292**		**PKPdf**	11 52 10.6	-1.0
CTI				PKPab	**PKPab**	11 53 15.1	+1.2
CTI	**Castel Tesino**	**166.54**	**292**	PKIKP	**PKPdf**	11 52 10.6	-1.0
SQTA	**Sankt Quirin**	**166.58**	**298**	*e*P	**PKPdf**	11 52 08.0	-3.5
	comp=Z,41nm,2.1s						
SQTA				*e*P	**PKPab**	11 53 12.9	-1.2
	comp=Z,53nm,1.2s,SNR=6.2						
MOTA	**Moosalm**	**166.62**	**298**	*e*P	**PKPdf**	11 52 08.8	-2.8
	comp=Z,19nm,1.1s,SNR=9.5						
MOTA				*e*P	**PKPab**	11 53 12.9	-1.3
	comp=Z,70nm,1.4s						
TEOL	**Teolo**	**166.63**	**289**	PKPdf	**PKPdf**	11 52 12.0	+0.5
TEOL					**PKPab**	11 53 13.9	-0.3
RETA	**Reutte**	**166.80**	**299**	P	**PKPdf**	11 52 09.3	-2.4
	comp=Z,20nm,1.3s						
RETA				*e*P	**PKPab**	11 53 14.2	-0.7
	comp=Z,30nm,1.5s						
FETA	**Feichten**	**166.95**	**297**	*e*P	**PKPdf**	11 52 09.5	-2.4
	comp=Z,22nm,1.5s,SNR=8.1						
FETA				*e*P	**PKPab**	11 53 13.5	-2.2
	comp=Z,54nm,1.4s						
STU	**Stuttgart**	**167.32**	**306**	PKPdf	**PKPdf**	11 52 11.2	-0.7
STU				PKPab	**PKPab**	11 53 16.1	-0.9
STU	**Stuttgart**	**167.32**	**306**	PKIKP	**PKPdf**	11 52 11.2	-0.7
STU						11 53 16.1	
FUORN	**Ofenpass-Fuorn**	**167.36**	**296**	PKPdf	**PKPdf**	11 52 12.9	+0.6
FUORN				PKPab	**PKPab**	11 53 17.2	-0.4
DAVA	**Damuels**	**167.43**	**299**	*e*P	**PKPdf**	11 52 09.8	-2.5
	comp=Z,18nm,1.2s,SNR=7.0						
DAVA				*e*P	**PKPab**	11 53 18.3	+0.5
	comp=Z,38nm,1.5s						
DAVOX	**Davos/Dischmat**	**167.58**	**297**	PP	**PP**	11 57 06.8	-0.7
	comp=Z,7.6nm,0.8s,baz=81,slow=3.3,SNR=4.2						
BFO	**Black Forest**	**168.03**	**305**	PKPdf	**PKPdf**	11 52 12.8	+0.3
BFO				PKPab	**PKPab**	11 53 20.5	+0.2
BFO	**Black Forest**	**168.03**	**305**	PKIKP	**PKPdf**	11 52 12.8	+0.3
BFO						11 53 20.5	
BTNL	**Ternell**	**168.05**	**318**	*d*PKPdf	**PKPdf**	11 52 15.3	+3.0
BTNL				*d*PKP	**PKPab**	11 53 21.1	+0.9
MEM	**Membach**	**168.09**	**319**	*d*PKPdf	**PKPdf**	11 52 12.8	+0.4
MEM				*d*PKP	**PKPab**	11 53 19.6	-0.7
BSTI	**Sart Tilman**	**168.32**	**319**	*d*PKP	**PKPab**	11 53 22.1	+0.7
BCLA	**Clavier**	**168.56**	**319**	*d*PKPdf	**PKPdf**	11 52 13.9	+1.2
BCLA				*dp*PKPdf	**pPKPdf**	11 52 16.9	-1.0
BCLA				*d*PKP	**PKPab**	11 53 22.6	+0.2
WLF	**Walferdange**	**168.60**	**315**	*d*PKPdf	**PKPdf**	11 52 14.0	+1.3
WLF				*d*PKP	**PKPab**	11 53 23.8	+1.2
PGF	**Pioggiola**	**168.64**	**277**	*e*PKIKP	**PKPdf**	11 52 11.7	-1.5
PGF				pmax	pmax		
	comp=Z,91nm,1.8s						
BGES	**Gesves**	**168.69**	**320**	*d*PKPdf	**PKPdf**	11 52 12.3	-0.5
BGES				*d*PKP	**PKPab**	11 53 24.2	+1.2
RCHB	**Rochefort**	**168.77**	**318**	*d*PKPdf	**PKPdf**	11 52 13.9	+1.1
RCHB				*d*PKP	**PKPab**	11 53 20.8	-2.6
OUK	**Oukaimeden**	**168.89**	**173**	P	**PKPdf**	11 52 19.0	+5.0
BMRD	**Maredsous**	**168.89**	**320**	*d*PKPdf	**PKPdf**	11 52 13.9	+1.0
BMRD				*dp*PKPdf	**pPKPdf**	11 52 16.4	-1.7
BMRD				*d*PKP	**PKPab**	11 53 24.6	+0.8
SNF	**Seneffe**	**168.98**	**322**	*d*PKP	**PKPab**	11 53 24.6	+0.4
FIGM	**Figuig**	**169.10**	**203**	P	**PKPdf**	11 52 18.0	+4.2
DOU	**Dourbes**	**169.11**	**320**	*d*PKPdf	**PKPdf**	11 52 14.2	+1.2
DOU				*d*PKP	**PKPab**	11 53 24.9	0.0
HAU	**Haudompre**	**169.36**	**307**	*e*PKIKP	**PKPdf**	11 52 14.1	+0.8
HAU				pmax	pmax		
	comp=Z,159nm,1.9s						
SBF	**Sospel**	**169.79**	**284**	*e*PKIKP	**PKPdf**	11 52 14.6	+0.8
SBF				pmax	pmax		
	comp=Z,29nm,1.2s						
LPG	**La Plagne**	**170.01**	**293**	*e*PKIKP	**PKPdf**	11 52 12.1	-2.0
LPG				pmax	pmax		
	comp=Z,119nm,1.6s						
LPL	**La Plagne**	**170.02**	**293**	*e*PKIKP	**PKPdf**	11 52 12.1	-2.0
LPL				pmax	pmax		
	comp=Z,95nm,1.5s						
CABF	**La Chapelle**	**170.11**	**300**	*e*PKIKP	**PKPdf**	11 52 13.3	-0.6
CABF				pmax	pmax		
	comp=Z,217nm,2.0s						
SRHM	**Skhour des Reh**	**170.13**	**172**	P	**PKPdf**	11 52 19.0	+4.6
MBDF	**Montbardon**	**170.15**	**289**	*e*PKIKP	**PKPdf**	11 52 12.4	-1.7
MBDF				pmax	pmax		
	comp=Z,125nm,1.5s						
BNI	**Bardonecchia**	**170.16**	**291**		**PKPdf**	11 52 12.7	-1.3
BNI				PKPab	**PKPab**	11 53 30.0	0.0
BNI	**Bardonecchia**	**170.16**	**291**	PKIKP	**PKPdf**	11 52 12.7	-1.3
BNI						11 53 30.0	
MDT	**Midelt**	**170.45**	**189**	PP	**PP**	11 57 21.1	+0.2
	comp=Z,2.8nm,1.1s,baz=157,slow=7.7,SNR=1.9						
MDT	**Midelt**	**170.45**	**189**	P	**PKPdf**	11 52 18.3	+3.7
LMR	**La Mourre**	**170.49**	**281**	*e*PKIKP	**PKPdf**	11 52 15.2	+1.1
LMR				pmax	pmax		
	comp=Z,86nm,1.6s						
ORIF	**Oris-en-Rattie**	**170.74**	**291**	*e*PKIKP	**PKPdf**	11 52 12.1	-2.2
ORIF				pmax	pmax		
	comp=Z,24nm,1.2s						
LOR	**Lormes**	**171.19**	**308**	*e*PKIKP	**PKPdf**	11 52 15.2	+0.8
LOR				pmax	pmax		
	comp=Z,198nm,2.1s						
LCRM	**LCR**	**171.34**	**188**	P	**PKPdf**	11 52 20.0	+4.9
SSF	**Saint Saulge**	**171.50**	**308**	*e*PKIKP	**PKPdf**	11 52 15.7	+1.2
SSF				pmax	pmax		
	comp=Z,276nm,2.1s						
JBK	**JBK**	**171.53**	**202**	P	**PKPdf**	11 52 19.0	+3.8
SSB	**Saint Sauveur**	**171.57**	**295**	PKPdf	**PKPdf**	11 52 15.3	+0.6
SSB				PKPab	**PKPab**	11 53 36.4	+0.4
SSB	**Saint Sauveur**	**171.57**	**295**	PKIKP	**PKPdf**	11 52 15.3	+0.6
SSB						11 53 36.4	
VIVF	**Saint-Julien-l**	**171.59**	**292**	*e*PKIKP	**PKPdf**	11 52 13.1	-1.6
VIVF				pmax	pmax		
	comp=Z,50nm,1.3s						
AVF	**Avril sur Loir**	**171.73**	**306**	*e*PKIKP	**PKPdf**	11 52 15.6	+1.0
AVF				pmax	pmax		
	comp=Z,100nm,1.8s						
TAF	**Taforalt**	**171.94**	**204**	P	**PKPdf**	11 52 19.0	+3.8
AKLM	**AKL**	**172.00**	**195**	P	**PKPdf**	11 52 19.0	+3.7
BGF	**Bois d'Agland**	**172.15**	**306**	*e*PKIKP	**PKPdf**	11 52 16.4	+1.6
BGF				pmax	pmax		
	comp=Z,250nm,1.8s						
FLN	**La Foliniere**	**172.32**	**330**	*e*PKIKP	**PKPdf**	11 52 15.8	+1.0
FLN				pmax	pmax		
	comp=Z,317nm,2.1s						
GOG	**Mont Gurugu**	**172.49**	**201**	P	**PKPdf**	11 52 19.0	+3.5
TCF	**Toulx Ste Croi**	**172.66**	**306**	*e*PKIKP	**PKPdf**	11 52 16.2	+1.1
TCF				pmax	pmax		
	comp=Z,219nm,2.0s						
PALE	**Palemas**	**172.70**	**196**	P	**PKPdf**	11 52 18.0	+2.5
CHEFC	**Chefchaouen**	**172.80**	**187**	P	**PKPdf**	11 52 20.0	+4.4
CAF	**Calviac**	**173.34**	**296**	*e*PKIKP	**PKPdf**	11 52 17.4	+2.0
CAF				pmax	pmax		
	comp=Z,176nm,1.8s						
RJF	**Les Rejaudoux**	**173.55**	**301**	*e*PKIKP	**PKPdf**	11 52 16.9	+1.4
RJF				pmax	pmax		
	comp=Z,318nm,2.0s						
MTLF	**Montolieu**	**173.61**	**282**	*e*PKIKP	**PKPdf**	11 52 16.9	+1.4
MTLF				pmax	pmax		
	comp=Z,210nm,2.2s						
MFF	**Saint Martin d**	**173.80**	**316**	*e*PKIKP	**PKPdf**	11 52 16.8	+1.3
MFF				pmax	pmax		
	comp=Z,275nm,1.8s						
LFF	**La Frestale**	**174.21**	**300**	*e*PKIKP	**PKPdf**	11 52 17.3	+1.6
LFF				pmax	pmax		
	comp=Z,212nm,2.1s						
PFVI	**Vila Bisbo**	**174.52**	**159**	*e*PKP	**PKPdf**	11 52 19.9	+3.9
MORF	**Marmelete**	**174.73**	**160**	*e*PKPdf	**PKPdf**

RABL	Rabaul	42.41	326	P	P	11 41 40.1	-1.1
NWAO	Narrogin (SRO)	45.42	262	P	P	11 42 01.2	-4.1
NWAO				IAmb	IAmb	11 42 15.4	
	comp=Z,239nm,1.9s						
MORW	Morawa	48.24	266	P	P	11 42 25.8	-1.6
MORW				IAmb	IAmb	11 43 09.4	
	comp=Z,147nm,1.6s						
PSA00	Pilbara Seismi	49.62	277	P	P	11 42 37.4	-0.6
PSA00				IAmb	IAmb	11 42 46.9	
	comp=Z,127nm,1.3s						
GIRL	Giralia	53.17	272	P	P	11 43 05.0	+0.4
FAKI	Fak Fak	54.00	304	P	P	11 43 09.6	-1.1
FAKI				IAmb	IAmb	11 43 36.5	
	comp=Z,218nm,1.7s						
TOLI2	Tolitoli	64.43	297	P	P	11 44 21.2	-1.7
SNAA	Sanae	66.72	181	P	P	11 44 34.6	-2.4
SNAA				IAmb	IAmb	11 44 57.5	
	comp=Z,154nm,1.8s						
KKM	Kota Kinabalu	71.12	297	P	P	11 45 05.5	+0.3
JHS	Saijyo	85.31	327	P	P	11 46 24.0	+0.9
JHS				IAmb	IAmb	11 46 33.1	
	comp=Z,146nm,1.8s						
KSRS	Korea Array	89.57	325	P	P	11 46 45.1	+1.5
	comp=Z,6.9nm,0.7s,baz=154,slow=5.4,SNR=5.2						
	comp=Z,6.9nm,0.7s						
KSAR	Wonju Array Be	89.58	325	P	P	11 46 45.0	+1.4
CMAR	Chiang Mai Arr	91.69	293	P	P	11 46 55.1	+1.2
	comp=Z,7.6nm,0.5s,baz=155,slow=3.8,SNR=5.4						
	comp=Z,7.6nm,0.5s						
ILAR	Eielson Array	110.61	17	PKiKP	PKiKP	11 52 19.2	+1.4
	comp=Z,1.3nm,0.6s,baz=302,slow=3.2,SNR=5.3						
INK	Inuvik	116.59	19	PKP	PKiKP	11 52 29.4	+0.3
	comp=Z,3.1nm,0.6s,baz=222,slow=2.7,SNR=1.5						
YKA	Yellowknife Ar	118.51	30	PKP	PKiKP	11 52 33.4	+0.3
	comp=Z,13nm,0.8s,baz=234,slow=1.9,SNR=8.2						
KURBB	Kurchatov Arra	124.07	310	PKP	PKiKP	11 52 44.4	+0.1
	comp=Z,4.3nm,0.9s,baz=113,slow=2.1,SNR=2.1						
KBZ	Khabaz	144.66	290	PKP	PKPbc	11 53 21.6	+0.2
	comp=Z,19nm,0.9s,baz=252,slow=3.2,SNR=1.4						
SFJD	Kangerlussuaq	145.06	29	PKPbc	PKPbc	11 53 22.0	0.0
	comp=Z,52nm,0.7s,baz=243,slow=2.0,SNR=4.0						
MMAI	Mount Meron Ar	146.41	268	PKPbc	PKPab	11 53 28.4	+0.1
	comp=Z,20nm,0.7s,baz=108,slow=3.3,SNR=0.9						
ARCES	ARCESS Array B	147.91	340	PKPbc	PKPbc	11 53 29.9	-0.4
	comp=Z,20nm,0.7s,baz=66,slow=3.1,SNR=1.6						
BRTR	Keskin Array B	150.28	279	PKPbc	PKiKP	11 53 38.1	-0.2
	comp=Z,5.3nm,0.8s,baz=145,slow=5.9,SNR=0.6						
FINES	FINESS Array B	152.65	327	PKPbc	PKPbc	11 53 41.0	-0.9
	comp=Z,8.7nm,0.7s,baz=35,slow=3.4,SNR=1.1						
AKASG	Malin Array Be	154.48	302	PKPab	PKPab	11 54 01.6	+0.8
	comp=Z,5.0nm,0.7s,baz=68,slow=4.0,SNR=1.4						

WEL 13 11:35:05.7±0.4, 42°S±3°×17°4E±°, h5km, M4.7/10, ML5.6/7, MLv4.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=133.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.26	224	P	Pb	11 35 12.0	-0.9
KHZ				S	Sg	11 35 14.3	+0.1
BSWZ	Blackbirch Sta	0.52	8	P	Pg	11 35 16.4	+0.8
BSWZ				S	Sg	11 35 22.9	+0.5
TUWZ	Tuamarina	0.81	9	P	Pg	11 35 21.4	+0.2
NNZ	Nelson	1.06	343	P	Pn	11 35 28.1	+1.0
MRNZ	Matariki Terra	1.13	317	S	Sn	11 35 44.0	-0.1
WEL	Wellington	1.20	38	P	Pg	11 35 27.9	-0.7
WEL				S	Sn	11 35 45.8	0.0
PLWZ	Palliser	1.28	60	P	Pg	11 35 29.6	-0.7
PLWZ				S	Sn	11 35 48.1	+0.2
MSWZ	Moikau Station	1.36	54	P	Pn	11 35 30.1	-1.3
CAW	Cannon Point	1.48	41	P	Pn	11 35 32.5	-0.5
KIW	Kapiti Island	1.61	32	P	Pn	11 35 34.1	-0.6
KIW				S	Sn	11 35 55.9	0.0
OGWZ	Otaki Gorge	1.75	37	P	Pn	11 35 36.5	-0.3
OGWZ				S	Sn	11 35 59.2	-0.3

IDC 13 11:35:40.5±1.2, 41°40S×174°23E, h0km, mb4.9/5, mbtmp4.9/5, Error ellipse: s-maj=73.6km s-min=35.0km az=21.0
WEL 13 11:35:42.3±0.3, 42°S±2°×17°4E±°, h8km±2km, M5.0/15, ML5.2/13, MLv5.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=162.3
ISC 13 11:35:42.0±0.9, 41°76S±0°05×174°25E±0°03, h15km±5km, n31, σ1°916/39, mb4.8/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.03	286	P	Pg	11 35 44.4	-0.4
CMWZ				S	Sg	11 35 46.5	-0.1
BSWZ	Blackbirch Sta	0.28	278	P	Pg	11 35 48.1	+0.1
BSWZ				S	Sb	11 35 52.8	-0.5
TUWZ	Tuamarina	0.40	325	P	Pg	11 35 50.9	+0.8
TUWZ				S	Sg	11 35 56.3	+0.7
TCW	Tory Channel	0.55	2	S	Sb	11 36 01.9	+1.0
WEL	Wellington	0.61	40	P	Pn	11 35 55.2	-0.9
WEL				S	Sn	11 36 05.2	-0.4
PLWZ	Palliser	0.78	76	P	Pb	11 35 57.7	+0.5
MSWZ	Moikau Station	0.82	66	P	Pn	11 35 59.0	-0.1
NNZ	Nelson	0.85	309	P	Pn	11 35 57.7	-1.6
NNZ				S	Sn	11 36 09.8	-1.7
CAW	Cannon Point	0.89	44	P	Pn	11 36 00.2	+0.2
PAWZ	Paruwai Farm	0.96	67	P	Pn	11 36 01.5	+0.5
DUWZ	D'Urville Isla	0.99	345	P	Pn	11 36 01.4	+0.1
DUWZ				S	Sn	11 36 15.8	+0.9
THZ	Tophouse	1.01	269	P	Pg	11 36 00.4	-1.0
THZ				S	Sg	11 36 12.2	-2.4
KIW	Kapiti Island	1.02	29	P	Pn	11 36 02.2	+0.4
KIW				S	Sn	11 36 16.4	+0.5
MTW	Mount Morrison	1.11	58	P	Pn	11 36 03.4	+0.3
HOWZ	Holdsworth Sta	1.28	48	P	Pn	11 36 06.2	+0.8
MRZ	Mangatainoka R	1.48	43	P	Pg	11 36 07.8	-2.8
TIWZ	Tintock	1.57	52	P	Pg	11 36 10.1	-2.1
QRZ	Quartz Range	1.60	305	S	Sg	11 36 32.7	-0.7
OHWZ	Ohakea	1.75	28	P	Pg	11 36 13.8	-1.8
CTA	Charters Tower	32.06	304	P	P	11 42 08.4	+0.2
	12nm,0.9s,baz=120,slow=8.1,SNR=1.5						
	12nm,0.9s						
ASAR	Alice Springs	38.03	286	P	P	11 42 59.0	-0.7
	4.2nm,0.4s,baz=120,slow=6.6,SNR=5.3						
	4.2nm,0.4s						
WRA	Warramunga Arr	40.10	290	P	P	11 43 16.2	-0.8
	12nm,0.8s,baz=126,slow=8.3,SNR=6.9						
	12nm,0.8s						
KSRS	Korea Array	89.46	325	P	P	11 48 38.8	+0.9
	8.2nm,0.9s,baz=150,slow=5.6,SNR=5.3						
	8.2nm,0.9s						
CMAR	Chiang Mai Arr	91.64	293	P	P	11 48 49.2	+0.6
	5.4nm,0.6s,baz=150,slow=4.0,SNR=5.5						
	5.4nm,0.6s						
YKA	Yellowknife Ar	118.38	30	PKP	PKPdf	11 54 27.8	+0.2
	4.1nm,0.8s,baz=243,slow=1.8,SNR=4.5						
MKAR	Makanchi Array	119.98	308	PKP	PKPdf	11 54 30.6	-0.7
	4.3nm,1.1s,baz=168,slow=2.1,SNR=2.7						
KURBB	Kurchatov Arra	123.98	310	PKP	PKPdf	11 54 37.9	-0.9
	1.5nm,0.4s,baz=103,slow=1.9,SNR=2.4						
DBIC	Dimbokro	145.05	182	PKPbc	PKPdf	11 55 21.4	+2.3
	9.9nm,0.8s,baz=229,slow=3.5,SNR=1.8						
MMAI	Mount Meron Ar	146.42	269	PKPbc	PKPdf	11 55 22.8	+1.8
	5.6nm,0.6s,baz=90,slow=2.9,SNR=2.6						
ARCES	ARCESS Array B	147.78	340	PKPbc	PKPbc	11 55 24.8	-0.1
	3.8nm,0.5s,baz=43,slow=3.1,SNR=1.9						
FINES	FINESS Array B	152.54	327	PKPbc	PKPbc	11 55 35.9	-0.7
	3.3nm,0.6s,baz=56,slow=3.7,SNR=1.5						

IDC 13 11:37:08.1±2.4, 42°25S×173°77E, h0km, mb4.4/2, mbtmp4.4/2, Error ellipse: s-maj=164.6km s-min=40.3km az=4.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	37.83	287	P	P	11 44 26.4	0.0
	3.7nm,0.8s,baz=126,slow=7.4,SNR=1.8						
	3.7nm,0.8s						
WRA	Warramunga Arr	39.95	291	P	P	11 44 44.1	-0.1
	7.7nm,0.9s,baz=128,slow=6.6,SNR=3.6						
	7.7nm,0.9s						
YKA	Yellowknife Ar	118.98	30	PKP	PKPdf	11 55 57.5	0.0
	1.9nm,0.7s,baz=245,slow=1.9,SNR=5.5						
KURBB	Kurchatov Arra	124.03	310	PKP	PKPdf	11 56 06.7	-0.8
	1.2nm,0.5s,baz=112,slow=1.9,SNR=4.3						
SFJD	Kangerlussuaq	145.53	29	PKPbc	PKPdf	11 56 46.4	-0.5
	28nm,0.9s,baz=291,slow=2.0,SNR=6.7						
ARCES	ARCESS Array B	148.12	339	PKPbc	PKPbc	11 56 53.7	-0.7
	3.8nm,0.7s,baz=30,slow=2.5,SNR=2.3						
BRTR	Keskin Array B	149.99	279	PKPbc	PKPbc	11 57 00.2	-0.1
	6.4nm,0.8s,baz=141,slow=5.3,SNR=4.1						
FINES	FINESS Array B	152.75	326	PKPbc	PKPbc	11 57 05.4	-0.3
	5.1nm,0.9s,baz=44,slow=4.2,SNR=2.5						

KRSZO 13 11:40:20.8±3.8, 47°.12N×19°.72E, h10km, ML3.1/3, Error ellipse: s-maj=64.4km s-min=5.1km az=116.0
ISC 13 11:40:21.1±1.9, 47°.17N±0°.07×19°.8E±0°.2, h10km, n7, σ0°33/10, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSZ	Piszkesteto	0.76	5	P	Pn	11 40 37.9	-0.1
	comp=Z,0.7nm,SNR=1.1						
PSZ				Lg	Lg	11 40 49.8	
PSZ	Piszkesteto	0.76	5	P	Pn	11 40 37.9	-0.1
PSZ				S	Sn	11 40 49.8	+0.3
MORH	Mrgy, Hungar	1.24	220	Pg	Pn	11 40 44.2	-0.2
	comp=Z,0.8nm,SNR=2.2						
MORH				Lg	Lg	11 41 00.0	
MORH	Mrgy, Hungar	1.24	220	P	Pn	11 40 44.2	-0.2
MORH				S	Sb	11 41 00.0	-0.5
VYHS	Vyhne	1.48	335	*e*SG	Sg	11 41 08.5	-0.1
KOVH	Kovagotottos	1.59	228	Pg	Pb	11 40 50.7	+0.2
	comp=Z,0.6nm,SNR=1.6						
KOVH				Lg	Lg	11 41 12.7	
KOVH	Kovagotottos	1.59	228	P	Pb	11 40 50.7	+0.2
KOVH				S	Sg	11 41 12.7	+0.5

WEL 13 11:40:22.7±0.6, 43°S±2°×17°3E±°, h4km±2km, M4.1/7, ML4.7/5, MLv4.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=80.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.37	147	P	Pg	11 40 29.7	-0.1
GVZ				S	Sg	11 40 35.6	+1.1
LTZ	Lake Taylor	0.38	251	P	Pg	11 40 30.0	-0.1
LTZ				S	Sg	11 40 36.1	+1.1
AMCZ	Amberley	0.52	189	P	Pg	11 40 32.6	-0.1
CACS	Harewood	0.84	192	P	Pg	11 40 39.0	+0.2
CACS				S	Sb	11 40 51.4	-0.1
OXZ	Oxford	0.85	218	P	Pg	11 40 39.0	0.0
OXZ				S	Sb	11 40 50.9	-0.8
THZ	Tophouse	0.91	7	S	Sb	11 40 53.4	0.0
INZ	Inchbonnie	0.97	266	S	Sn	11 40 57.7	+0.4
DSZ	Denniston Nort	1.16	322	P	Pb	11 40 45.2	-0.1
DSZ				S	Sn	11 41 02.3	+0.3

IDC 13 11:40:46.1±1.0, 42°.29S×173°.14E, h0km, mb4.3/5, mbtmp4.3/6, ML4.5/1, Error ellipse: s-maj=38.8km s-min=30.6km az=25.0
WEL 13 11:40:48.6±0.3, 42°S±1°×17°3E±°, h10km±2km, M5.0/14, ML5.4/12, MLv5.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8
ISC 13 11:40:48.1±0.9, 42°33S±0°03×173°41E±0°05, h13km±6km, n29, σ1°905/37, mb4.3/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.13	133	P	Pg	11 40 51.6	+0.2
KHZ				S	Sg	11 40 53.5	-0.3
THZ	Tophouse	0.68	326	P	Pn	11 41 03.0	-0.5
THZ				S	Sn	11 41 12.7	-1.3
GVZ	Greta Valley S	0.70	203	P	Pb	11 41 02.8	+0.6
GVZ				S	Sn	11 41 15.2	+0.8
BSWZ	Blackbirch Sta	0.70	29	P	Pb	11 41 02.5	+0.2
LTZ	Lake Taylor	0.96	241	P	Pn	11 41 08.2	+0.8
LTZ				S	Sn	11 41 21.2	+0.4
TUWZ	Tuamarina	0.98	24	P	Pb	11 41 07.3	+0.3
TUWZ				S	Sn	11 41 21.6	+0.2
AMCZ	Amberley	1.01	213	P	Pn	11 41 09.1	+1.1
MRNZ	Matariki Terra	1.05	332	P	Pn	11 41 09.2	+0.6
MRNZ				S	Sn	11 41 24.2	+1.2
NNZ	Nelson	1.11	359	P	Pn	11 41 09.8	+0.4
NNZ				S	Sn	11 41 25.3	+0.8
TCW	Tory Channel	1.29	30	P	Pn	11 41 12.0	+0.2
CACS	Harewood	1.32	209	P	Pn	11 41 12.2	-0.1
CACS				S	Sn	11 41 30.0	+0.1
DSZ	Denniston Nort	1.33	295	P	Pn	11 41 14.7	+2.2
TKNZ	Takaka Hill	1.34	345	P	Pn	11 41 11.6	-0.9
OKCZ	Okains Bay	1.42	190	P	Pn	11 41 12.9	-0.7
OXZ	Oxford	1.42	225	P	Pg	11 41 15.6	+0.2
INZ	Inchbonnie	1.51	254	P	Pg	11 41 17.1	+0.1
DUWZ	D'Urville Isla	1.57	14	P	Pb	11 41 17.1	0.0
RPZ	Rata Peaks	2.22	231	Pn	Pn	11 41 21.9	-2.7
	167nm,0.3s,baz=146,slow=2.0,SNR=4.3						
	1μm,0.6s						
ASAR	Alice Springs	37.59	287	P	P	11 48 00.4	-2.1
	1.6nm,0.8s,baz=131,slow=6.9,SNR=2.4						
	1.6nm,0.8s						
WRA	Warramunga Arr	39.73	292	P	P	11 48 19.1	-1.3
	3.7nm,0.9s,baz=127,slow=8.5,SNR=4.4						
	3.7nm,0.9s						
VNA3	Neumayer Olymp	66.72	179	P	P	11 51 37.7	-0.7
VNA2	Neumayer--Watz	67.06	180	P	P	11 51 41.2	+0.8
	baz=174,slow=7.0						
PLCA	Paso Flores	79.12	136	P	P	11 52 54.0	+1.6
	3.3nm,0.9s,baz=242,slow=5.0,SNR=4.6						
	3.3nm,0.9s						
KSRS	Korea Array	89.58	325	P	P	11 53 44.9	-0.1
	3.3nm,1.1s,baz=141,slow=5.1,SNR=5.0						
	3.3nm,1.1s						
CMAR	Chiang Mai Arr	91.30	294	P	P	11 53 53.7	+0.2
	0.9nm,0.6s,baz=147,slow=3.8,SNR=2.5						
	0.9nm,0.6s						
ARCES	ARCESS Array B	148.10	339	PKPbc	PKPdf	12 00 30.6	+1.5
	1.5nm,0.4s,baz=26,slow=1.7,SNR=5.9						
BRTR	Keskin Array B	149.74	279	PKPbc	PKPbc	12 00 36.6	-0.9
	1.5nm,0.8s,baz=144,slow=3.5,SNR=3.6						
FINES	FINESS Array B	152.67	326	PKPbc	PKPbc	12 00 42.2	-1.2
	3.1nm,1.0s,baz=89,slow=3.6,SNR=5.8						
ESDC	Sonseca Array	176.69	218	PKP	PKPdf	12 00 58.1	+0.2
	2.2nm,1.0s,baz=54,slow=1.1,SNR=3.6						

WEL 13 11:41:08.1±1.1, 42°S±4°×17°4E±°, h1km±3km, M4.1/3, ML6.2/1, MLv4.1/3, Error ellipse: s-maj=0.0km s-min=0.0km az=127.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.12	264	S	Sg	11 41 12.1	0.0
BSWZ	Blackbirch Sta	0.70	10	P	Pb	11 41 23.4	+0.3
BSWZ				S	Sg	11 41 31.4	+0.9
TUWZ	Tuamarina	0.99	10	P	Pn	11 41 29.1	+0.1
TUWZ				S	Sg	11 41 40.0	+0.1
DSZ	Denniston Nort	1.56	294	S	Sg	11 41 58.3	+0.1

BJI 13 11:41:46.0±0.0, 41°.90S×174°.20E, h10km, mb5.7/12
IDC 13 11:41:46.4±0.3, 41°.59S×174°.19E, h0km, mb5.3/21, mbtmp5.2/22, Error ellipse: s-maj=15.5km s-min=11.1km az=48.0
MOS 13 11:41:47.4±0.8, 41°.60S×174°.01E, h11km, mb5.8/19, Error ellipse: s-maj=17.1km s-min=14.8km az=112.8
WEL 13 11:41:48.7±0.4, 42°S±3°×17°4E±°, h6km±2km, M5.6/20, ML5.9/20, MLv5.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=159.0
NEIC 13 11:41:49.8±2.2, 41°.69S±0°.06×174°.21E±0°.04, h15km±2km, mb5.7/42, Error ellipse: s-maj=9.3km s-min=3.8km az=168.0
NOU 13 11:41:52.6, 41°.96S×174°.34E, h54km, mb5.9/108, Cook Strait, New Zealand
ISC 13 11:41:48.2±0.6, 41°76S±0°03×174°22E±0°02, h12km±3km, n754, σ1°921/773, mb5.7/76, 16C-22D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.01	313	P	Pg	11 41 49.9	-0.4
CMWZ				S	Sg	11 41 52.7	+0.9
CMWZ	Cape Campbell	0.01	313	P	Pg	11 41 50.2	-0.1
CMWZ				S	Sg	11 41 52.3	+0.6
BSWZ	Blackbirch Sta	0.26	279	P	Pb	11 41 54.4	-0.6
BSWZ				Sg	Sg	11 41 54.8	-2.5
BSWZ	Blackbirch Sta	0.26	279	P	Pb	11 41 54.7	-0.2
BSWZ				S	Sb	11 41 59.8	+0.4
TUWZ	Tuamarina	0.39	327		Pb	11 41 57.9	+0.9
TUWZ				Sg	Sb	11 42 03.8	+0.8
TUWZ	Tuamarina	0.39	327	P	Pb	11 41 57.8	+0.8
TUWZ				S	Sb	11 42 04.9	+2.0
TCW	Tory Channel	0.55	4	P	Pb	11 42 00.3	+0.6
TCW				S	Sb	11 42 09.0	+1.6
SNZO	South Karori	0.57	39		Pb	11 42 00.1	-0.1
SNZO				Sg	Sn	11 42 10.3	-1.2
BHW	Baring Head	0.60	55	P	Pb	11 42 00.8	+0.2
WEL	Wellington	0.62	41	P	Pb	11 42 01.6	+0.6
WEL	Wellington	0.62	41	P	Pb	11 42 01.6	+0.6
WEL				S	Sn	11 42 11.7	-1.1
PLWZ	Palliser	0.80	77		Pn	11 42 04.8	-0.5
PLWZ	Palliser	0.80	77	P	Pn	11 42 05.1	-0.2
PLWZ				S	Sn	11 42 18.5	+1.3
NNZ	Nelson	0.83	310		Pn	11 42 05.5	-0.2
NNZ	Nelson	0.83	310	P	Pn	11 42 05.1	-0.6
MSWZ	Moikau Station	0.84	67		Pb	11 42 05.2	+0.4
MSWZ	Moikau Station	0.84	67	P	Pn	11 42 06.0	0.0
MSWZ				S	Sn	11 42 19.4	+1.1
CAW	Cannon Point	0.91	45	P	Pn	11 42 06.6	-0.2
CAW				S	Sn	11 42 20.1	+0.3
PAWZ	Paruwai Farm	0.98	68	P	Pg	11 42 07.5	+0.5
DUWZ	D'Urville Isla	0.98	347	P	Pn	11 42 07.9	+0.1
DUWZ				S	Sn	11 42 21.9	+0.3
THZ	Tophouse	0.98	269		Pn	11 42 08.0	+0.1
THZ	Tophouse	0.98	269	P	Pn	11 42 08.2	+0.2
THZ				S	Sn	11 42 21.9	0.0
KIW	Kapiti Island	1.03	30	P	Pn	11 42 08.8	+0.3
KIW				S	Sn	11 42 24.0	+1.0
MTW	Mount Morrison	1.13	59	P	Pb	11 42 09.9	+0.2
MTW				S	Sn	11 42 26.9	+1.5
MRNZ	Matariki Terra	1.16	287	P	Pg	11 42 11.9	+1.5
MRNZ				S	Sn	11 42 28.9	+3.0
TRWZ	Traveller	1.16	73	P	Pb	11 42 09.8	-0.3
OGWZ	Otaki Gorge	1.18	38	P	Pg	11 42 11.2	+0.3
TKNZ	Takaka Hill	1.19	307	P	Pg	11 42 12.6	+1.5
TKNZ				S	Sn	11 42 29.5	+2.7
HOWZ	Holdsworth Sta	1.30	49	P	Pn	11 42 11.3	-0.9
HOWZ				S	Sn	11 42 29.7	+0.2
TMWZ	Te Maipa	1.41	63	P	Pn	11 42 12.5	-1.3
MRZ	Mangatainoka R	1.50	44	P	Pn	11 42 15.3	+0.4
QRZ	Quartz Range	1.58	305		Pg	11 42 19.3	+0.8
QRZ	Quartz Range	1.58	305	P	Pg	11 42 19.1	+0.6
QRZ				S	Sg	11 42 40.2	+1.2
TIWZ	Tintock	1.59	53	P	Pb	11 42 17.2	-0.4
OHWZ	Ohakea	1.75	28	P	Pb	11 42 19.7	-0.6
PRWZ	Pori Road	1.78	48	P	Pn	11 42 18.6	-0.2
POWZ	Post Office Ro	1.79	41	P	Pn	11 42 19.1	+0.1
BFZ	Birch Farm	1.87	56		Pn	11 42 21.2	+1.2
BFZ	Birch Farm	1.87	56	P	Pg	11 42 25.5	+1.5
BFZ	Birch Farm	1.87	56	P	Pg	11 42 25.2	+1.2
DVHZ	Dannevirke	2.07	46	P	Pn	11 42 22.2	-0.6
WAZ	Wanganui	2.08	16	P	Pg	11 42 27.9	-0.2
TSZ	Takapari Road	2.15	38	P	Pn	11 42 24.2	+0.3
INZ	Inchbonnie	2.28	244	P	Pb	11 42 28.8	-0.4
INZ				S	Sn	11 42 53.8	+0.1
LREZ	Lake Rotokare	2.30	3	P	Pb	11 42 30.8	+1.2
NMEZ	Namu Road	2.35	353	P	Pg	11 42 32.7	-0.6
PNHZ	Pukenui	2.37	40	P	Pn	11 42 26.9	-0.1
WPHZ	Waipukurau	2.38	46	P	Pg	11 42 34.9	+1.0
KHEZ	Kahui Hut	2.46	356	P	Pb	11 42 33.7	+1.2
KHEZ	Kahui Hut	2.46	356	P	Pb	11 42 33.0	+0.5
NEZ	North Egmont	2.48	358	P	Pb	11 42 33.3	+0.5
NBEZ	Newall Road No	2.50	354	P	Pb	11 42 34.5	+1.5
MTVZ	Mangateitei	2.55	22	P	Pb	11 42 35.6	+1.6
DRVZ	Durham Road	2.56	360	P	Pb	11 42 32.7	-1.5
PKE	Pukeiti	2.56	356	P	Pg	11 42 36.4	-0.9
PKVZ	Pokaka	2.61	20	P	Pb	11 42 33.5	-1.4
MOVZ	Moawhango	2.62	27	P	Pb	11 42 36.2	+1.1
WNVZ	Wahianoa	2.64	24	P	Pb	11 42 36.5	+0.9
TRVZ	Turoa	2.65	23	P	Pb	11 42 34.3	-1.5
BHHZ	Black Hill Sta	2.66	32	P	Pb	11 42 36.6	+0.7
MHEZ	Mangahewa	2.68	2	P	Pb	11 42 37.3	+1.2
WHVZ	Whangaehu Hut	2.68	23	P	Pb	11 42 36.6	+0.3
FWVZ	Far West T-bar	2.69	23	P	Pb	11 42 35.4	-1.1
TUVZ	Tukino	2.71	24	P	Pb	11 42 38.2	+1.4
NGZ	Ngauruhoe	2.78	23	P	Pb	11 42 38.9	+0.9
SNVZ	South Ngauruho	2.78	23	P	Pb	11 42 38.7	+0.7
OTVZ	Oturere	2.81	24	P	Pb	11 42 39.8	+1.3
NNVZ	North Ngauruho	2.83	23	P	Pb	11 42 40.1	+1.3
WTVZ	West Tongariro	2.84	22	P	Pb	11 42 40.3	+1.4
TWVZ	Taurewa	2.84	19	P	Pb	11 42 40.4	+1.6
ETVZ	East Tongariro	2.85	24	P	Pn	11 42 35.5	+1.8
KWKZ	Kaweka Forest	2.87	36	P	Pg	11 42 41.3	-1.2
KRVZ	Karewarewa	2.87	23	P	Pb	11 42 36.8	-2.6
KATZ	Kakaramea	3.00	23	P	Pb	11 42 42.5	+0.9
RPZ	Rata Peaks	3.05	229	Pn	Pn	11 42 38.7	+2.5
	668nm,0.6s,baz=33,slow=6.8,SNR=1.1						
RPZ					Sn	11 43 11.3	-1.4
	191nm,0.3s,baz=180,slow=18,SNR=1.6						
BKZ	Black Stump Fm	3.11	35		Pb	11 42 45.3	+1.8
HIZ	Hauiti	3.27

baz=29,SNR=3.7
QLP Quilpie 28.88 292 P **P** **11 47 47.9 +1.1**
HTT Hallett 29.02 275 P **P** **11 47 48.4 +0.3**
baz=29,SNR=5.8
INKA Innaminka 30.64 286 P **P** **11 48 03.4 +1.0**
LCRK Leigh Creek 30.99 280 P **P** **11 48 05.6 +0.1**
BBOO Buckleboo 31.44 274 P **P** **11 48 09.2 -0.2**
baz=31,SNR=12
BBOO Buckleboo 31.44 274 P **P** **11 48 09.6 +0.1**
BBOO Buckleboo 31.44 274 P **P** **11 48 08.9 -0.5**
CTA Charters Tower 32.04 304 P **P** **11 48 15.1 +0.2**
52nn,0.8s,baz=141,slow=9.7,SNR=20
52nn,0.8s
CTA Charters Tower 32.04 304 P **P** **11 48 15.4 +0.6**
CTAO Charters Tower 32.04 304 P **P** **11 48 15.8 +0.9**
CTAO Charters Tower 32.04 304 P **P** **11 48 15.7 +0.9**
CTAO Charters Tower 32.04 304 P **P** **11 48 15.8 +0.9**
MULG Mulgathing 34.16 276 P **P** **11 48 32.6 -0.6**
OOD Oodnadatta 34.28 282 P **P** **11 48 34.4 +0.1**
HNR Honiara 34.57 335 P **P** **11 48 36.8 0.0**
1µm,0.8s,baz=266,slow=1.7,SNR=5.8
HNR Honiara 34.57 335 P **P** **11 48 38.4 +1.6**
QIS Mount Isa 36.04 295 P **P** **11 48 49.5 0.0**
baz=36,SNR=7.9
VNDA Vanda 36.24 185 P **P** **11 48 52.2 +1.6**
7.7nm,1.0s,baz=9.4,slow=8.0,SNR=7.0
7.7nm,1.0s
SBA Scott Base 36.34 183 P **P** **11 48 54.7 +3.3**
SBA Scott Base 36.34 183 P **P** **11 48 54.7 +3.3**
SBA pmax pmax
comp=Z,60nm,1.1s
AS01 Alice Springs 37.98 286 P **P** **11 49 05.5 -0.5**
AS31 Alice Springs 38.01 286 P **P** **11 49 06.1 -0.2**
ASAR Alice Springs 38.01 286 P **P** **11 49 05.3 -1.0**
comp=Z,78nm,1.0s,baz=126,slow=6.6,SNR=45
ASAR PcP **PcP** **11 51 20.1 -1.6**
comp=Z,11nm,0.7s,baz=126,slow=3.9,SNR=7.6
ASAR S **S** **11 54 58.2 -0.2**
comp=Z,2.7nm,1.0s,baz=129,slow=13,SNR=4.6
comp=Z,78nm,1.0s
ASAR Alice Springs 38.01 286 P **P** **11 49 05.7 -0.6**
ASAR Alice Springs 38.01 286 P **P** **11 49 05.7 -0.6**
FORT Forrest 38.39 271 P **P** **11 49 08.9 -0.5**
baz=38,SNR=16
FORT Forrest 38.39 271 P **P** **11 49 09.0 -0.4**
FORT IAmb IAmb 11 49 09.6
comp=Z,100nm,0.8s
FORT Forrest 38.39 271 P **P** **11 49 08.7 -0.7**
COEN Coen 38.61 307 P **P** **11 49 11.3 -0.1**
baz=39,SNR=42
COEN Coen 38.61 307 P **P** **11 49 11.2 -0.1**
COEN Coen 38.61 307 P **P** **11 49 11.3 -0.1**
TIAR Tiarei 39.36 63 *eP* P **11 49 24.8 +7.2**
comp=Z,8.4nm,0.9s
WB1 Warramunga Ar. 40.07 290 P **P** **11 49 22.8 -0.7**
WB2 Warramunga Arr 40.08 290 P **P** **11 49 22.8 -0.8**
WB2 IAmb IAmb 11 49 23.8
comp=Z,91nm,0.8s
PMG Port Moresby 40.08 316 P **P** **11 49 23.7 +0.1**
comp=Z,170nm,0.9s,baz=144,slow=5.2,SNR=51
comp=Z,170nm,0.9s
PMG Port Moresby 40.08 316 P **P** **11 49 24.8 +1.2**
PMG IAmb IAmb 11 49 26.0
comp=Z,308nm,1.1s
PMG Port Moresby 40.08 316 P **P** **11 49 24.2 +0.6**
comp=Z,353nm,1.1s
PMG Port Moresby 40.08 316 P **P** **11 49 24.8 +1.2**
PMG Port Moresby 40.08 316 P **P** **11 49 24.7 +1.2**
PMG Port Moresby 40.08 316⇑ *eP* **P** **11 49 24.9 +1.3**
PMG pmax pmax
comp=Z,501nm,1.7s
WRAB Tennant Creek 40.08 290 P **P** **11 49 22.9 -0.8**
WRAB Tennant Creek 40.08 290⇓ *iP* **P** **11 49 23.1 -0.6**
WRAB pmax pmax
comp=Z,63nm,0.6s
WRA Warramunga Arr 40.09 290 P **P** **11 49 23.0 -0.6**
comp=Z,62nm,0.7s,baz=127,slow=7.8,SNR=52
WRA PcP **PcP** **11 51 26.7 -1.6**
comp=Z,15nm,0.8s,baz=127,slow=3.2,SNR=7.4
comp=Z,62nm,0.7s
WB0 Warramunga Arr 40.16 291 P **P** **11 49 23.3 -1.0**
WB0 IAmb IAmb 11 49 24.3
comp=Z,67nm,0.7s
WRKA Warakurna 41.29 279 P **P** **11 49 32.1 -1.6**
baz=41,SNR=50
WRKA Warakurna 41.29 279 P **P** **11 49 32.1 -1.6**
VAH Vaihoa 42.16 63 *eP* **P** **11 49 42.3 +1.6**
comp=Z,27nm,1.0s
KRVT Keravat (AS076 42.24 326 P **P** **11 49 41.7 +0.4**
comp=Z,74nm,0.8s,baz=126,slow=6.6,SNR=8.2
comp=Z,74nm,0.8s
RABL Rabaul 42.29 326 P **P** **11 49 41.9 +0.2**
RABL Rabaul 42.29 326 P **P** **11 49 42.7 +0.9**
KMBL Kambalda 42.72 267 P **P** **11 49 44.2 -1.0**
baz=43,SNR=6.6
KMBL Kambalda 42.72 267 P **P** **11 49 44.9 -0.3**
comp=Z,88nm,1.1s
TARA Tarawa 42.93 358 P **P** **11 49 46.4 -0.6**
TARA IAmb IAmb 11 49 46.8
comp=Z,164nm,0.9s
TARA Tarawa 42.93 358 P **P** **11 49 46.3 -0.6**
NWAO Narrogin (SRO) 45.43 262 P **P** **11 50 06.1 -0.8**
comp=Z,14nm,0.8s,baz=82,slow=18,SNR=7.5
comp=Z,14nm,0.8s
NWAO Narrogin (SRO) 45.43 262 P **P** **11 50 07.2 +0.3**
baz=45,SNR=4.9
NWAO P **P** **11 50 07.2 +0.3**
baz=45,SNR=4.9
KLBR Kellerberrin 45.69 264 P **P** **11 50 08.0 -1.0**
baz=46,SNR=14
KLBR Kellerberrin 45.69 264 P **P** **11 50 08.2 -0.8**
MANU Manus Island 46.32 321 P **P** **11 50 14.3 +0.2**
KDU Kakadu 46.41 296 P **P** **11 50 14.1 -0.7**
baz=46,SNR=9.4
KDU Kakadu 46.41 296 P **P** **11 50 14.3 -0.4**
MUN Mundaring 46.65 262 P **P** **11 50 15.9 -0.7**
baz=46,SNR=6.7
MUN Mundaring 46.65 262 P **P** **11 50 16.4 -0.1**
KNRA Kununurra 46.87 290 P **P** **11 50 18.6 +0.2**
baz=47,SNR=13
KNRA Kununurra 46.87 290 P **P** **11 50 18.7 +0.3**
BLDU Ballidu 46.95 264 P **P** **11 50 18.0 -0.9**
baz=47,SNR=11
BLDU Ballidu 46.95 264 P **P** **11 50 18.1 -0.8**
MTN Manton Dam 47.20 295 P **P** **11 50 20.5 -0.5**
baz=47,SNR=20
MTN Manton Dam 47.20 295 P **P** **11 50 20.8 -0.2**
MEEK Meekatharra 47.61 270 P **P** **11 50 22.7 -1.5**
baz=48,SNR=81
MEEK Meekatharra 47.61 270 P **P** **11 50 22.8 -1.4**
MORW Morawa 48.24 266 P **P** **11 50 28.3 -0.7**
baz=48,SNR=22
MORW Morawa 48.24 266 P **P** **11 50 28.2 -0.7**
QSPA South Pole Qui 48.37 180 P **P** **11 50 31.6 +1.9**
comp=Z,103nm,1.0s,baz=23,slow=3.8,SNR=14
comp=Z,103nm,1.0s
QSPA South Pole Qui 48.37 180 P **P** **11 50 31.2 +1.5**
QSPA IAmb IAmb 11 50 33.1
comp=Z,147nm,1.1s
PSA00 Pilbara Seismi 49.60 276 P **P** **11 50 38.0 -1.4**
MBWA Marble Bar 49.93 277 P **P** **11 50 40.5 -1.5**
MBWA Marble Bar 49.93 277 P **P** **11 50 40.7 -1.3**
SAUI Saumlaki 50.64 299 P **P** **11 50 46.0 -1.4**
SAUI Saumlaki 50.64 299 P **P** **11 50 48.4 +1.0**
SMPI Sarmi 50.83 312 P **P** **11 50 47.2 -1.6**
GIRL Giralia 53.15 271 P **P** **11 51 06.0 0.0**
baz=53,SNR=19
GIRL Giralia 53.15 271 P **P** **11 51 06.2 +0.2**
GIRL Giralia 53.15 271 P **P** **11 51 06.2 +0.2**
FAKI Fak Fak 53.91 304 P **P** **11 51 09.3 -2.3**
FAKI Fak Fak 53.91 304 P **P** **11 51 09.9 -1.7**
SOEI Soe 54.11 291 P **P** **11 51 14.7 +1.4**
BNDI Bandanaira 54.15 301 P **P** **11 51 12.3 -1.1**
comp=Z,162nm,0.9s
BNDI Bandanaira 54.15 301 P **P** **11 51 12.3 -1.1**
BATI Baumata 54.22 290 P **P** **11 51 15.2 +1.2**
comp=Z,84nm,1.0s
MWPI Manokwari, Pap 54.39 307 P **P** **11 51 14.7 -0.5**
MSAI Masohi 55.67 301 P **P** **11 51 22.3 -2.2**
comp=Z,16nm,0.9s
AAI Ambon 55.89 300 P **P** **11 51 24.5 -1.5**
SIJI Sorong 56.11 305 P **P** **11 51 26.5 -1.1**
MMRI Maumere 56.31 291 P **P** **11 51 28.8 -0.3**
MMRI IAmb IAmb 11 51 29.6
comp=Z,194nm,1.3s

MMRI Maumere 56.31 291 P **P** **11 51 28.7 -0.4**
comp=Z,220nm,2.7s
MMRI Maumere 56.31 291 P **P** **11 51 29.2 +0.1**
NLAI Namlea 56.94 299 P **P** **11 51 32.1 -1.4**
SANI Sanana 58.56 299 P **P** **11 51 43.6 -1.3**
comp=Z,108nm,0.9s
SANI Sanana 58.56 299 P **P** **11 51 44.0 -0.9**
LBMI Labuha 58.65 302 P **P** **11 51 45.3 -0.2**
comp=Z,184nm,1.0s
BSSI Bau Bau, Buton 59.29 291 P **P** **11 51 49.0 -1.0**
comp=Z,138nm,2.4s
MAW Mawson 59.44 204 P **P** **11 51 51.6 +1.3**
comp=Z,22nm,1.1s,baz=115,slow=10,SNR=10.0
comp=Z,22nm,1.1s
MAW Mawson 59.44 204 P **P** **11 51 49.1 -1.1**
baz=59,SNR=6.5
MAW Mawson 59.44 204 P **P** **11 51 51.4 +1.1**
TNTI Ternate 59.82 302 P **P** **11 51 52.8 -0.8**
TNTI IAmb IAmb 11 51 53.4
comp=Z,57nm,0.9s
TNTI Ternate 59.82 302 P **P** **11 51 52.6 -1.0**
TNTI Ternate 59.82 302 P **P** **11 51 52.8 -0.8**
KKSI Kolaka, Sulawe 59.90 294 P **P** **11 51 53.9 -0.3**
TWSI Taliwang, Sumb 60.05 286 P **P** **11 51 54.1 -1.1**
comp=Z,66nm,1.1s
BKSI Bulukumba 60.13 292 P **P** **11 51 54.8 -1.0**
GAMI Galela, Maluku 60.38 304 P **P** **11 51 55.7 -1.8**
KAPI Kappang 60.61 291 P **P** **11 51 58.9 -0.2**
KAPI IAmb IAmb 11 52 00.2
comp=Z,43nm,0.9s
KAPI Kappang 60.61 291 P **P** **11 51 58.8 -0.2**
comp=Z,42nm,1.2s
KAPI Kappang 60.61 291 *d iP* **P** **11 51 59.3 +0.3**
KAPI Kappang 60.61 291 *d iP* **P** **11 51 59.4 +0.4**
KAPI pmax pmax
comp=Z,47nm,0.9s
BNSI Bone 60.80 292 P **P** **11 51 59.9 -0.4**
KLNI Mataram 60.83 286 P **P** **11 51 59.6 -1.0**
SPSI Sidrap Palu 61.34 292 P **P** **11 52 03.1 -0.9**
comp=Z,109nm,2.7s
LUWI Luwuk 61.43 297 P **P** **11 52 04.4 -0.2**
LUWI Luwuk 61.43 297 P **P** **11 52 04.3 -0.3**
comp=Z,329nm,1.4s
LUWI Luwuk 61.43 297 P **P** **11 52 04.9 +0.3**
APSI Ampana 62.28 296 P **P** **11 52 09.6 -0.7**
comp=Z,105nm,1.4s
GTOI Gorontalo 62.52 299 P **P** **11 52 12.1 +0.2**
comp=Z,41nm,0.8s
ABJI Asem Bagus 62.60 285 P **P** **11 52 12.6 +0.1**
MRSI Marisa 63.11 298 P **P** **11 52 14.1 -1.8**
comp=Z,81nm,2.8s
KMMI Kalianget 63.30 285 P **P** **11 52 16.7 -0.4**
TOLI2 Tolitoli 64.35 297 P **P** **11 52 22.5 -1.6**
TOLI2 IAmb IAmb 11 52 23.9
comp=Z,34nm,0.8s
TOLI2 Tolitoli 64.35 297 P **P** **11 52 22.6 -1.5**
MPSI Mapaga 64.38 296 P **P** **11 52 23.1 -1.1**
comp=Z,82nm,0.9s
GRJI Gresik 64.47 284 P **P** **11 52 25.1 +0.3**
PMSA Palmer Station 64.48 156 P **P** **11 52 25.2 +1.0**
comp=Z,19nm,0.8s,baz=193,slow=5.3,SNR=5.9
comp=Z,19nm,0.8s
PMSA Palmer Station 64.48 156 *eP* **P** **11 52 25.8 +1.7**
BBKI Banjar Baru 65.15 289 P **P** **11 52 29.2 -0.1**
comp=Z,217nm,0.8s
BKB Balikpapan 65.27 292 P **P** **11 52 31.8 +1.7**
BKB Balikpapan 65.27 292 P **P** **11 52 31.8 +1.7**
DAV Davao City (W) 65.82 305 P **P** **11 52 33.1 -0.4**
DAV Davao City (W) 65.82 305 P **P** **11 52 33.2 -0.4**
comp=Z,426nm,0.9s
DAV Davao City (W) 65.82 305 P **P** **11 52 33.6 0.0**
comp=Z,438nm,0.9s
TROLL Troll, Antarti 66.39 183 P **P** **11 52 37.4 +0.8**
CTJI Waduk Cacaban 66.81 282 P **P** **11 52 39.7 -0.3**
comp=Z,119nm,1.6s
SNAA Sanae 66.86 181 P **P** **11 52 40.1 +0.5**
SNAA Sanae 66.86 181 P **P** **11 52 40.1 +0.5**
SNAA IAmb IAmb 11 52 41.5
comp=Z,93nm,1.3s
SNAA Sanae 66.86 181⇑ *eP* **P** **11 52 40.2 +0.6**
SNAA pmax pmax
comp=Z,55nm,1.0s
MTKI Muara Teweh, K 66.89 291 P **P** **11 52 40.8 +0.3**
comp=Z,333nm,0.8s
RIM Rim 67.08 31 P **P** **11 52 43.1 +1.5**
VNA3 Neumayer Olymp 67.28 179 P **P** **11 52 42.8 +0.6**
POHA Pohakuloa 67.30 31 P **P** **11 52 42.9 -0.3**
VNA2 Neumayer--Watz 67.62 179 P **P** **11 52 45.3 +1.0**
baz=171,slow=7.0
BBJI Bungbulang 67.63 280 P **P** **11 52 44.3 -1.0**
VNA1 Neumayer--Stat 67.89 179 P **P** **11 52 47.0 +1.0**
KIP Kipapa 67.92 28⇓ *eP* **P** **11 52 47.5 +0.8**
KIP pmax pmax
comp=Z,204nm,2.5s
PBKI Pangkalan Bun 67.94 287 P **P** **11 52 47.1 0.0**
comp=Z,117nm,0.9s
LEM Lembang 68.08 281 P **P** **11 52 48.4 +0.2**
comp=Z,138nm,0.8s
LEM Lembang 68.08 281 P **P** **11 52 48.4 +0.2**
LEM pmax pmax
comp=Z,138nm,0.8s
CNJI Cibinong 68.11 280 P **P** **11 52 47.5 -0.7**
OPA Opana 68.16 28 P **P** **11 52 48.7 +0.5**
OPA pmax pmax
comp=Z,138nm,1.3s
MYLDM Lahad Datu 68.89 298 P **P** **11 52 54.1 +1.1**
MYLDM IAmb IAmb 11 53 07.7
comp=Z,88nm,0.9s
MYLDM Lahad Datu 68.89 298 P **P** **11 52 54.1 +1.1**
comp=Z,142nm,0.9s
KKM Kota Kinabalu 71.04 297 P **P** **11 53 05.6 -0.8**
comp=Z,123nm,1.0s
KKM Kota Kinabalu 71.04 297 P **P** **11 53 05.7 -0.7**
SBUM Sibu 71.17 291 P **P** **11 53 06.5 -0.6**
KSM Kuching 71.82 289 P **P** **11 53 10.1 -0.9**
KSM Kuching 71.82 289 P **P** **11 53 10.1 -0.9**
PPBI Pangkal Pinang 72.31 283 P **P** **11 53 13.0 -0.9**
DSRI Dabo 74.59 283 P **P** **11 53 26.8 -0.6**
TPRI Tanjung Pinang 75.58 284 P **P** **11 53 32.9 -0.2**
EFI East Falkland 76.46 150⇓ *eP* **P** **11 53 38.7 +1.2**
EFI pmax pmax
comp=Z,90nm,2.5s
SDSI Sungai Dareh 76.58 281 P **P** **11 53 35.8 -3.0**
MYKOM Kota Tinggi 76.67 285 P **P** **11 53 39.1 -0.2**
PDSI Padang 77.31 280 P **P** **11 53 40.7 -2.2**
BKNI Bangkinang 77.72 282 P **P** **11 53 43.4 -1.8**
BKNI Bangkinang 77.72 282 P **P** **11 53 44.7 -0.5**
SISI Saibi 78.04 279 P **P** **11 53 47.7 +0.7**
MNSI Mandailing Nat 79.11 281 P **P** **11 53 51.0 -1.9**
PLCA Paso Flores 79.11 136 P **P** **11 53 54.1 +1.5**
comp=Z,17nm,0.9s,baz=228,slow=5.1,SNR=27
comp=Z,17nm,0.9s
PLCA Paso Flores 79.11 136 P **P** **11 53 54.1 +1.5**
PLCA Paso Flores 79.11 136 *eP* **P** **11 53 54.3 +1.6**
DLLV Lat 80.53 295 P **P** **11 54 00.4 -0.3**
IPM Ipoh 80.55 285 P **P** **11 53 59.8 -0.9**
IPM Ipoh 80.55 285 P **P** **11 53 59.8 -0.9**
GSI Gunungsitoli 80.92 280 P **P** **11 54 02.5 -0.2**
GSI Gunungsitoli 80.92 280 P **P** **11 54 02.8 0.0**
GSI Gunungsitoli 80.92 280 P **P** **11 54 02.7 0.0**
PSI Prapat 80.94 282 P **P** **11 54 00.9 -2.0**
KULM Kulim 81.38 285 P **P** **11 54 03.8 -1.3**
TSI Tuntungan 81.68 282 P **P** **11 54 05.6 -1.1**
comp=Z,332nm,1.6s
SSLB Suanglung 81.73 312 P **P** **11 54 05.2 -1.5**
KCSI Kotacane, Aceh 82.27 282 P **P** **11 54 08.0 -1.8**
SKLT Songkhla 82.68 286 P **P** **11 54 11.6 -0.3**
SKLT Songkhla 82.68 286 P **P** **11 54 11.8 -0.1**
BO02 Sierra Bellavi 83.30 131 P **P** **11 54 16.1 +1.0**
BO02 IAmb IAmb 11 54 17.6
comp=Z,194nm,2.0s
MT01 Popeta 83.71 130 P **P** **11 54 18.4 +1.3**
MT01 IAmb IAmb 11 54 20.4
comp=Z,51nm,1.1s
JMN Monobe 83.77 327 P **P** **11 54 17.1 +0.1**
JMN Monobe 83.77 327 P **P** **11 54 17.1 +0.1**
MLSI Meulaboh, Aceh 83.78 281 P **P** **11 54 16.5 -1.1**
comp=Z,103nm,1.1s
INU Inuyama 83.97 330 P **P** **11 54 17.4 -0.6**
LHMI Lhok Sumawe 84.03 282 P **P** **11 54 18.1 -0.8**
JGF Kuroka 84.07 331 P **P** **11 54 17.8 -0.8**
MT05 Renca 84.35 130 P **P** **11 54 22.2 +1.8**
SRIT Nakonsritamara 84.39 287 P **P** **11 54 20.5 -0.2**
JNU Nakatsue 84.50 325 P **P** **11 54 20.0 -0.8**

MJAR Matsushiro Arr 84.60 332 P **P** **11 54 20.4 -0.8**
comp=Z,13nm,1.0s,baz=164,slow=6.1,SNR=23
comp=Z,13nm,1.0s
MAJO Matsushiro 84.60 332 P **P** **11 54 20.5 -0.7**
MAJO Matsushiro 84.60 332⇓ *iP* **P** **11 54 20.7 -0.5**
SURA Surathani 84.76 287 P **P** **11 54 22.8 +0.2**
VA03 San Esteban 84.91 130 P **P** **11 54 24.2 +0.9**
VA03 IAmb IAmb 11 54 26.0
comp=Z,75nm,1.4s
UBPT Khong Chiam 84.95 295 P **P** **11 54 23.3 -0.2**
UBPT Khong Chiam 84.95 295 P **P** **11 54 23.6 +0.1**
JHS Saijyo 85.18 327 P **P** **11 54 24.3 +0.1**
TRQA Tornquist 85.49 139 P **P** **11 54 26.8 +0.8**
TRQA IAmb IAmb 11 54 28.2
comp=Z,44nm,1.1s
TRQA Tornquist 85.49 139 *eP* **P** **11 54 26.9 +0.9**
TRQA Tornquist 85.49 139 P **P** **11 54 26.8 +0.8**
TRQA pmax pmax
comp=Z,44nm,1.1s
CO06 Fray Jorge 85.81 128 P **P** **11 54 29.4 +1.7**
CO06 IAmb IAmb 11 54 30.1
comp=Z,63nm,1.4s
JSD Sado 85.92 332 P **P** **11 54 27.6 -0.1**
CO03 El Pedregal 86.24 129 P **P** **11 54 31.8 +1.8**
CO03 IAmb IAmb 11 54 32.7
comp=Z,73nm,1.1s
ZON Zonda 86.88 130 P **P** **11 54 34.8 +1.8**
ZON IAmb IAmb 11 54 35.8
comp=Z,90nm,1.4s
ZON Zonda 86.88 130 P **P** **11 54 34.8 +1.8**
ZON pmax pmax
comp=Z,90nm,1.4s
NAYO Nakonayok 87.12 292 P **P** **11 54 33.9 -0.3**
CO01 Juntas del Tor 87.22 128 P **P** **11 54 36.6 +1.6**
CO01 IAmb IAmb 11 54 38.1
comp=Z,39nm,1.1s
NONG Nongkai 88.49 296 P **P** **11 54 40.4 -0.3**
TJN Taejon 88.79 324 P **P** **11 54 41.8 +0.2**
TJN Taejon 88.79 324⇓ *eP* **P** **11 54 41.4 -0.2**
KSRS Korea Array 89.45 325 P **P** **11 54 45.0 +0.3**
comp=Z,45nm,0.8s,baz=145,slow=5.4,SNR=104
comp=Z,45nm,0.8s
KSAR Wonju Array Be 89.45 325 P **P** **11 54 44.9 +0.2**
KSAR Wonju Array Be 89.45 325 P **P** **11 54 44.9 +0.2**
KS19 Wonju Array Si 89.51 325 P **P** **11 54 45.4 +0.4**
KS19 IAmb IAmb 11 54 46.2
comp=Z,52nm,0.8s
INCN Inchon 90.03 324 P **P** **11 54 47.4 -0.1**
CM31 Chiang Mai Arr 91.62 293 P **P** **11 54 55.6 +0.2**
CMAR Chiang Mai Arr 91.62 293 P **P** **11 54 55.5 +0.2**
comp=Z,46nm,0.8s,baz=151,slow=3.3,SNR=119
CMAR PP **PP** **11 58 33.6 -0.4**
comp=Z,2.1nm,0.8s,baz=149,slow=7.0,SNR=6.5
comp=Z,46nm,0.8s
CMAR Chiang Mai Arr 91.62 293 P **P** **11 54 55.2 -0.1**
CMAR Chiang Mai Arr 91.62 293 *ceP* **P** **11 54 55.5 +0.2**
CMAR pmax pmax
comp=Z,49nm,0.8s
CHTO Chiang Mai 91.87 294 P **P** **11 54 56.4 0.0**
CHTO Chiang Mai 91.87 294 P **P** **11 54 56.4 0.0**
CHTO pmax pmax
comp=Z,1.0nm,0.9s
YSS Yuzh-Sakhalins 92.64 339⇑ *eP* **P** **11 54 59.7 +0.4**
YSS pmax pmax
comp=Z,83nm,2.5s
ENH Enshi 93.24 308 P **P** **11 55 01.9 -0.7**
LVC Limon Verde 93.37 124 *eP* **P** **11 55 03.8 -0.2**
TIA Tai'an 93.53 317 P **P** **11 55 03.3 -0.4**
TIA pmax pmax
comp=Z,35nm,0.9s
USRK Ussuriysk Ar. 93.58 331 P **P** **11 55 03.4 -0.3**
comp=Z,4.3nm,0.9s,baz=181,slow=3.7,SNR=5.0
comp=Z,4.3nm,0.9s
KMI Kunming 93.71 301 ⇑P **P** **11 55 05.4 +0.3**
KMI pmax pmax
comp=Z,13nm,1.1s
TA01 Diego Aracena 94.08 122 P **P** **11 55 08.1 +1.3**
TA01 IAmb IAmb 11 55 10.3
comp=Z,47nm,1.2s
SNY Shenyang 94.94 325 ⇑P **P** **11 55 09.9 -0.1**
SNY pmax pmax
comp=Z,17nm,0.8s
RODS Rosario do Sul 95.00 139 *eP* **P** **11 55 12.2 +1.3**
PETK Petropavlovsk- 95.56 350 P **P** **11 55 11.6 -0.9**
comp=Z,2.6nm,0.9s,baz=175,slow=8.0,SNR=3.2
comp=Z,2.6nm,0.9s
CN2 Changchun 95.77 327 *eP* **P** **11 55 12.9 -0.9**
CN2 sP sP 11 55 19.9 +0.8
CPSB Cacapava Do Su 95.81 140 *eP* **P** **11 55 15.7 +1.1**
MND Mandalay 95.98 294 P **P** **11 55 14.7 -0.6**
XAN Xi'an 96.32 311 ⇑P **P** **11 55 15.8 -0.8**
XAN pP pP 11 55 19.4 -1.2
XAN sP sP 11 55 21.8 -0.2
XAN pmax pmax
comp=Z,18nm,1.2s
CD2 Chengdu 97.13 305 P Pdif 11 55 22.1 +1.6
CPUP Villa Florida 97.17 135 P Pdif 11 55 21.1 +0.3
comp=Z,3.0nm,0.8s,baz=237,slow=3.3,SNR=6.6
comp=Z,3.0nm,0.8s
CPUP Villa Florida 97.17 135 *eP* Pdif 11 55 21.6 +0.7
ALGR Alto Alegre (B 97.34 139 *eP* Pdif 11 55 22.4 +0.7
PALK Pallekele 97.41 273 P **P** **11 55 20.9 -1.1**
comp=Z,5.1nm,0.8s,baz=214,slow=5.8,SNR=4.3
comp=Z,5.1nm,0.8s
MONP2 Monument Peak 97.85 53 P Pdif 11 55 26.4 +2.5
baz=225
IKP In-Ko-Pah, Jac 97.87 53 P Pdif 11 55 26.6 +2.8
baz=225
MURC Murrieta 97.90 52 P Pdif 11 55 26.1 +2.3
baz=225
KLR Kul'dur 98.00 333⇓ *eP* **P** **11 55 22.0 -1.7**
BFSC Mount Baldy Ra 98.08 51 P Pdif 11 55 26.9 +2.2
baz=224
SWSC Sam W. Stewart 98.26 53 P Pdif 11 55 27.3 +1.9
baz=225
LPAZ La Paz 98.54 121 P Pdif 11 55 28.6 +0.7
comp=Z,2.9nm,0.8s,baz=84,slow=4.4,SNR=7.9
comp=Z,2.9nm,0.8s
BELC Belle Mtn. Jos 98.89 52 P Pdif 11 55 30.8 +2.5
baz=225
GLA Glamis 98.92 53 P Pdif 11 55 30.6 +2.3
baz=226
BC3 Big Chuckawall 98.97 53 P Pdif 11 55 30.8 +2.1
baz=225
IRM Iron Mountain 99.50 52 P **Pdif** **11 55 33.9 +3.0**
baz=226
HHC Hu-ho-hao-te 99.88 317 *eP* **Pdif** **11 55 35.8 +3.3**
HEH HeiHe 100.37 332 *eP* **Pdif** **11 55 32.8 -1.5**
HEH pmax pmax
comp=Z,9.0nm,1.4s
NVAR Mina Array Bea 100.69 48 P **Pdif** **11 55 36.2 -0.2**
comp=Z,0.5nm,0.7s,baz=222,slow=3.4,SNR=2.2
NVAR PP **PP** **11 59 43.5 -0.7**
comp=Z,0.3nm,0.8s,baz=227,slow=9.3,SNR=1.8
NVAR PKPPKP **P'P'df** **12 20 09.2 +5.1**
comp=Z,1.0nm,1.1s,baz=62,slow=2.1,SNR=3.4
TXAR Lajitas Array 103.52 63 PKKPbc PKKPbc 12 11 41.1 -0.1
comp=Z,1.8nm,0.7s,baz=85,slow=3.7,SNR=11
BOSA Boshof 104.33 208 PP **PKiKP** **12 00 08.7 -0.7**
comp=Z,4.3nm,0.9s,baz=198,slow=6.4,SNR=4.9
ANMO Albuquerque 105.33 57 PP **PP** **12 00 18.3 -0.8**
comp=Z,1.1nm,0.8s,baz=261,slow=5.1,SNR=2.4
SONM Songino Array 107.46 319 PKKPbc PKKPbc 12 11 29.3 -0.5
comp=Z,0.8nm,0.7s,baz=302,slow=2.5,SNR=3.6
WAT6 Susitna Watana 108.38 17 P **PKiKP** **12 00 17.2 +1.6**
baz=209
R32K Eaglecrest 108.41 26 P **PKiKP** **12 00 17.6 +2.0**
baz=218
WAT1 Susitna Watana 108.42 17 P **PKiKP** **12 00 16.5 +0.9**
baz=208
PDAR Pinedale Array 108.52 49 PP **PP** **12 00 41.3 -1.1**
comp=Z,0.4nm,0.6s,baz=237,slow=3.1,SNR=1.8
T35M Bob Quinn 108.86 28 P **PKiKP** **12 00 17.6 +1.1**
baz=221
BPAW Bear Paw Mtn. 109.04 15 P **PKiKP** **12 00 15.7 -1.0**
baz=207
MCK McKinley 109.13 16 P **PKiKP** **12 00 16.2 -0.6**
baz=208
S34M Telegraph Cree 109.27 27 P **PKiKP** **12 00 17.9 +0.7**
baz=220
YUK8 Steele Glacier 109.27 22 P **PKiKP** **12 00 17.9 +0.4**
baz=215
M26K Nabesna, AK 109.35 20 P **PKiKP** **12 00 17.6 +0.3**
baz=213
Q32M Nakina River 109.69 26 P **PKiKP** **12 00 18.8 +0.6**
baz=220

P32M	**Atlin**	**109.70**	**25**	P		**PKiKP**	**12 00 18.4**	**+0.3**	
	baz=219								
I21K	**Tanana**	**109.82**	**14**	P		**PKiKP**	**12 00 17.8**	**-0.2**	
	baz=206								
BVCY	**Beaver Creek**	**109.91**	**20**	P		**PKiKP**	**12 00 18.6**	**+0.2**	
	baz=214								
DLBC	**Dease Lake**	**110.05**	**28**	P		**PKiKP**	**12 00 19.2**	**+0.4**	
	baz=221								
H21K	**Melozitna Rive**	**110.10**	**14**	P		**PKiKP**	**12 00 18.3**	**-0.3**	
	baz=206								
WMOK	**Wichita Mounta**	**110.12**	**61**	P		**PKiKP**	**12 00 21.0**	**+1.3**	
	baz=233								
HDA	**Harding Lake**	**110.15**	**17**	P		**PKiKP**	**12 00 18.1**	**-0.6**	
	baz=210								
L27K	**Beaver Creek,**	**110.20**	**20**	P		**PKiKP**	**12 00 18.8**	**-0.1**	
	baz=214								
TCOL	**CIGO, UAF Yank**	**110.36**	**16**	P		**PKiKP**	**12 00 18.5**	**-0.6**	
	baz=209								
SCRK	**Sand Creek**	**110.45**	**18**	P		**PKiKP**	**12 00 20.1**	**+0.6**	
	baz=212								
R33M	**Jennings River**	**110.45**	**27**	P		**PKiKP**	**12 00 20.0**	**+0.4**	
	baz=221								
ILAR	**Eielson Array**	**110.48**	**17**	PKKPbc	PKKPbc		12 11 17.0	-3.4	
	comp=Z,1.2nm,0.7s,baz=325,slow=1.4,SNR=10.0								
M29M	**Somme Creek**	**110.57**	**21**	P		**PKiKP**	**12 00 19.9**	**+0.2**	
	baz=216								
J25K	**Salcha River,**	**110.67**	**17**	P		**PKiKP**	**12 00 19.4**	**-0.4**	
	baz=211								
G21K	**Allakaket**	**110.75**	**13**	P		**PKiKP**	**12 00 19.9**	**+0.1**	
	baz=205								
K27K	**Chicken**	**110.95**	**19**	P		**PKiKP**	**12 00 20.7**	**+0.5**	
	baz=214								
J26L	**Joseph Creek**	**110.99**	**18**	P		**PKiKP**	**12 00 19.9**	**-0.5**	
	baz=213								
L29M	**L29M**	**111.20**	**21**	P		**PKiKP**	**12 00 21.3**	**+0.5**	
	baz=216								
G22K	**Bettles**	**111.47**	**14**	P		**PKiKP**	**12 00 21.3**	**+0.2**	
	baz=207								
G23K	**Bananza Creek**	**111.55**	**14**	P		**PKiKP**	**12 00 21.9**	**+0.6**	
	baz=208								
DAWY	**Dawson**	**111.65**	**20**	P		**PKiKP**	**12 00 21.7**	**+0.1**	
	baz=216								
WTLY	**Watson Lake, Y**	**111.72**	**27**	P		**PKiKP**	**12 00 21.9**	**+0.1**	
	baz=222								
EGAK	**Eagle**	**111.79**	**19**	P		**PKiKP**	**12 00 21.8**	**0.0**	
	baz=214								
FARO	**Faro, Yukon**	**111.87**	**24**	P		**PKiKP**	**12 00 21.7**	**-0.4**	
	baz=220								
F22K	**John River**	**111.88**	**13**	P		**PKiKP**	**12 00 21.9**	**-0.1**	
	baz=206								
COLD	**Coldfoot**	**111.97**	**14**	P		**PKiKP**	**12 00 22.5**	**+0.4**	
	baz=208								
G24K	**Hadweenzic Riv**	**112.03**	**15**	P		**PKiKP**	**12 00 22.5**	**+0.3**	
	baz=210								
MAYO	**Mayo, Yukon**	**112.20**	**22**	P		**PKiKP**	**12 00 22.6**	**0.0**	
	baz=218								
J29M	**Klondike Camp**	**112.27**	**20**	P		**PKiKP**	**12 00 23.2**	**+0.4**	
	baz=217								
G25K	**Bearman Lake**	**112.37**	**16**	P		**PKiKP**	**12 00 23.8**	**+1.0**	
	baz=211								
RSSD	**Black Hills**	**112.51**	**50**	P		**PKiKP**	**12 00 24.6**	**+0.4**	
	baz=233								
F24K	**Squaw Lake**	**112.67**	**15**	P		**PKiKP**	**12 00 23.6**	**+0.1**	
	baz=210								
E23K	**Chandalar**	**112.82**	**14**	P		**PKiKP**	**12 00 23.9**	**+0.1**	
	baz=209								
LAO	**LASA Array**	**112.82**	**47**	P		**PKiKP**	**12 00 26.3**	**+1.9**	
	baz=233								
TGTN	**Hyland Airport**	**112.93**	**26**	P		**PKiKP**	**12 00 24.6**	**+0.5**	
	baz=223								
F25K	**Christian Rive**	**113.17**	**16**	P		**PKiKP**	**12 00 24.8**	**+0.4**	
	baz=212								
TOLK	**Toolik Lake Re**	**113.34**	**14**	P		**PKiKP**	**12 00 24.9**	**+0.2**	
	baz=209								
KOTAN	**Kotaneelee Air**	**113.39**	**29**	P		**PKiKP**	**12 00 25.2**	**+0.2**	
	baz=226								
D23K	**Nanushuk River**	**113.43**	**13**	P		**PKiKP**	**12 00 25.3**	**+0.5**	
	baz=208								
F26K	**Sheenjek River**	**113.56**	**16**	P		**PKiKP**	**12 00 25.5**	**+0.4**	
	baz=213								
E25K	**Arctic Village**	**113.64**	**15**	P		**PKiKP**	**12 00 25.6**	**+0.3**	
	baz=212								
FLDN	**Fort Liard**	**113.67**	**29**	P		**PKiKP**	**12 00 26.1**	**+0.6**	
	baz=226								
EPYK	**Eagle Plains**	**114.17**	**19**	P		PKPdf	12 00 25.9	-0.4	
	baz=218								
C23K	**Itkillik River**	**114.22**	**13**	P		**PKiKP**	**12 00 26.5**	**+0.2**	
	baz=208								
C24K	**Franklin Bluff**	**114.44**	**13**	P		**PKiKP**	**12 00 26.7**	**0.0**	
	baz=210								
D25K	**Kavik River**	**114.51**	**14**	P		PKPdf	12 00 26.3	-0.6	
	baz=212								
E27K	**Coleen River**	**114.51**	**17**	P		**PKiKP**	**12 00 27.3**	**+0.4**	
	baz=215								
G30M	**tAoh Zraii Nji**	**114.78**	**19**	P		PKPdf	12 00 27.1	-0.4	
	baz=219								
DGMT	**Dagmar**	**114.98**	**47**	P		**PKiKP**	**12 00 29.0**	**+0.5**	
	baz=235								
WMQ	**Urumqi**	**115.15**	**307**	*e*PKP		**PKiKP**	**12 00 30.6**	**+1.6**	
C27K	**Jago River**	**115.27**	**15**	P		**PKiKP**	**12 00 28.5**	**+0.2**	
	baz=214								
C26K	**Camden Bay**	**115.29**	**14**	P		**PKiKP**	**12 00 28.8**	**+0.5**	
	baz=213								
TSUM	**Tsumeb**	**115.61**	**205**	PKP		**PKPdf**	**12 00 30.9**	**+0.1**	
	comp=Z,5.3nm,0.8s,baz=100,slow=1.7,SNR=5.9								
WRGLY	**Wrigley**	**115.73**	**26**	P		**PKiKP**	**12 00 29.6**	**+0.3**	
	baz=227								
F31M	**Tsiigehtchic**	**115.75**	**20**	P		**PKPdf**	**12 00 28.5**	**-0.7**	
	baz=221								
INK	**Inuvik**	**116.46**	**19**	PKP		**PKPdf**	**12 00 30.0**	**-0.6**	
	comp=Z,7.5nm,0.7s,baz=267,slow=0.9,SNR=23								
INK	**Inuvik**	**116.46**	**19**	PKPdf		**PKPdf**	**12 00 29.6**	**-1.0**	
INK	**Inuvik**	**116.46**	**19**	P		**PKPdf**	**12 00 29.9**	**-0.6**	
	baz=221								
INK	**Inuvik**	**116.46**	**19**	PKIKP		**PKPdf**	**12 00 30.0**	**-0.6**	
ECSD	**EROS Data Cent**	**116.69**	**54**			**PKPdf**	**12 00 31.8**	**-0.1**	
ECSD	**EROS Data Cent**	**116.69**	**54**	P		**PKPdf**	**12 00 31.6**	**-0.3**	
	baz=237								
PLAL	**Pickwick Lake**	**117.45**	**66**	PKPdf		**PKiKP**	**12 00 34.4**	**+0.8**	
TIXI	**Tiksi**	**117.56**	**345**	PKKPbc	PKKPbc		12 10 55.3	-0.8	
	comp=Z,0.6nm,0.3s,baz=346,slow=1.2,SNR=2.7								
TIXI	**Tiksi**	**117.56**	**345**	*i*PKIKP		**PKPdf**	**12 00 30.8**	**-1.9**	
TIXI				pmax	pmax				
	comp=Z,16nm,2.5s								
X48A	**Hartselle**	**117.87**	**68**			**PKiKP**	**12 00 35.4**	**+1.0**	
WVT	**Waverly**	**118.24**	**66**	P		**PKPdf**	**12 00 34.0**	**-1.1**	
	baz=237								
YKA	**Yellowknife Ar**	**118.39**	**30**	PKP		**PKPdf**	**12 00 34.1**	**-0.3**	
	comp=Z,33nm,0.7s,baz=260,slow=1.8,SNR=86								
YKA				PKKPbc		**PKKPab**	12 10 52.3	**0.0**	
	comp=Z,3.6nm,0.8s,baz=48,slow=4.2,SNR=12								
YKA	**Yellowknife Ar**	**118.39**	**30**	PKPdf		**PKPdf**	**12 00 34.0**	**-0.5**	
DGZ	**Jazzator, Alta**	**118.51**	**312**	*i*PKIKP		**PKPdf**	**12 00 34.9**	**-0.5**	
CLTN	**Cedars of Leba**	**119.25**	**66**			**PKiKP**	**12 00 38.2**	**+1.1**	
AGMN	**Agassiz Nation**	**119.55**	**50**			**PKiKP**	**12 00 37.5**	**+0.2**	
AGMN	**Agassiz Nation**	**119.55**	**50**	P		**PKPdf**	**12 00 36.2**	**-1.0**	
	baz=239								
FFC	**Flin Flon**	**119.57**	**42**	PKPdf		**PKiKP**	**12 00 37.5**	**+0.4**	
FFC	**Flin Flon**	**119.57**	**42**	PKIKP		**PKiKP**	**12 00 37.5**	**+0.4**	
C36M	**Paulatuk**	**119.64**	**21**	P		**PKPdf**	**12 00 35.5**	**-1.2**	
	baz=229								
SPMN	**Marine on St.**	**119.79**	**54**			**PKPdf**	**12 00 37.5**	**-0.3**	
SPMN	**Marine on St.**	**119.79**	**54**	P		**PKPdf**	**12 00 37.5**	**-0.3**	
	baz=239								
MKAR	**Makanchi Array**	**119.96**	**308**	PKP		**PKPdf**	**12 00 36.6**	**-1.5**	
	comp=Z,3.9nm,0.6s,baz=31,slow=6.2,SNR=11								
MKAR				PKKPbc		**PKKPbc**	**12 10 47.6**	**+0.7**	
	comp=Z,1.0nm,0.7s,baz=316,slow=4.0,SNR=4.4								
MKAR	**Makanchi Array**	**119.96**	**308**	PKPdf		**PKPdf**	**12 00 37.4**	**-0.7**	
MKAR	**Makanchi Array**	**119.96**	**308**	*c i*PKIKP		**PKPdf**	**12 00 36.2**	**-1.9**	
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
JFWS	**Jewell Farm**	**120.20**	**58**	PKPdf		**PKiKP**	**12 00 39.0**	**+0.3**	
JFWS	**Jewell Farm**	**120.20**	**58**	P		**PKPdf**	**12 00 38.5**	**-0.2**	
	baz=240								
JFWS	**Jewell Farm**	**120.20**	**58**	PKIKP		**PKiKP**	**12 00 39.0**	**+0.3**	
WCI	**Wyandotte Cave**	**120.39**	**64**	PKPdf		**PKPdf**	**12 00 39.0**	**-0.2**	
WCI	**Wyandotte Cave**	**120.39**	**64**	P		**PKPdf**	**12 00 38.9**	**-0.2**	
	baz=239								
WCI	**Wyandotte Cave**	**120.39**	**64**	PKIKP		**PKPdf**	**12 00 39.0**	**-0.2**	
P46A	**Rosedale**	**120.50**	**62**			**PKiKP**	**12 00 39.8**	**+0.4**	
ULM	**Lac du Bonnet**	**120.52**	**48**	PKP		**PKPdf**	**12 00 38.0**	**-1.0**	
	comp=Z,19nm,0.8s,baz=267,slow=3.6,SNR=13								
ULM	**Lac du Bonnet**	**120.52**	**48**	PKPdf		**PKiKP**	**12 00 39.1**	**+0.1**	
ULM	**Lac du Bonnet**	**120.52**	**48**	PKIKP		**PKiKP**	**12 00 39.2**	**+0.1**	
BLO	**Bloomington**	**120.72**	**63**			**PKiKP**	**12 00 41.5**	**+1.6**	
BLO	**Bloomington**	**120.72**	**63**	PKIKP		**PKiKP**	**12 00 41.5**	**+1.6**	
TKL	**Tuckaleechee C**	**120.78**	**68**	PKP		**PKPdf**	**12 00 40.0**	**0.0**	
	comp=Z,11nm,0.8s,baz=169,slow=8.0,SNR=12								
TKL	**Tuckaleechee C**	**120.78**	**68**			**PKiKP**	**12 00 41.0**	**+0.9**	
TKL	**Tuckaleechee C**	**120.78**	**68**	PKIKP		**PKiKP**	**12 00 41.0**	**+0.9**	
V52A	**Sevierville**	**121.00**	**68**			**PKiKP**	**12 00 42.6**	**+2.1**	
A36M	**Sachs Harbour**	**121.06**	**18**	P		**PKPdf**	**12 00 38.3**	**-1.0**	
	baz=230								
BOOM	**Boomskoye usch**	**121.75**	**301**			**PKPdf**	**12 00 41.6**	**-0.3**	
BOOM	**Boomskoye usch**	**121.75**	**301**	PKIKP		**PKPdf**	**12 00 41.6**	**-0.3**	
EYMN	**Ely**	**121.92**	**52**	PKPdf		**PKiKP**	**12 00 42.5**	**+0.5**	
EYMN	**Ely**	**121.92**	**52**	P		**PKPdf**	**12 00 41.7**	**-0.1**	
	baz=242								
ZALV	**Zalesovo Beam**	**122.04**	**316**	PKP		**PKPdf**	**12 00 39.7**	**-2.1**	
	comp=Z,2.2nm,0.6s,baz=166,slow=2.6,SNR=5.8								
P49A	**Miami Univ. Ec**	**122.12**	**64**	P		**PKiKP**	**12 00 43.3**	**+0.7**	
	baz=240								
O48B	**Farmland**	**122.18**	**63**	P		**PKiKP**	**12 00 43.7**	**+1.0**	
	baz=240								
KMBO	**Kilima Mbogo**	**122.27**	**234**	PKP		**PKiKP**	**12 00 44.2**	**+0.1**	
	comp=Z,14nm,1.0s,baz=52,slow=2.2,SNR=27								
KMBO	**Kilima Mbogo**	**122.27**	**234**			**PKiKP**	**12 00 44.7**	**+0.6**	
Q51A	**Peebles**	**122.79**	**65**			**PKiKP**	**12 00 44.4**	**+0.4**	
ACSO	**Alum Creek Sta**	**123.62**	**64**			**PKiKP**	**12 00 46.5**	**+1.0**	
ACSO	**Alum Creek Sta**	**123.62**	**64**	P		**PKiKP**	**12 00 46.3**	**+0.7**	
	baz=241								
GAR	**Garm**	**123.78**	**295**			**PKPdf**	**12 00 45.4**	**-0.4**	
SJG	**San Juan**	**123.83**	**96**	PKP		**PKPdf**	**12 00 46.0**	**-0.3**	
	comp=Z,9.0nm,0.9s,baz=344,slow=7.4,SNR=3.0								
SJG	**San Juan**	**123.83**	**96**	PKIKP		**PKPdf**	**12 00 46.0**	**-0.3**	
WSAR	**Wadi Sarin**	**123.89**	**272**	PKP		**PKPdf**	**12 00 46.2**	**-0.1**	
	comp=Z,3.9nm,0.7s,baz=209,slow=5.5,SNR=4.0								
BLA	**Blacksburg**	**123.90**	**68**	P		**PKiKP**	**12 00 47.1**	**+0.9**	
	baz=240								
P52A	**Corning**	**123.91**	**65**	P		**PKiKP**	**12 00 46.9**	**+0.7**	
	baz=241								
KURK	**Kurchatov**	**123.96**	**310**	PKIKP		**PKPdf**	**12 00 44.1**	**-1.5**	
KURBB	**Kurchatov Arra**	**123.97**	**310**	PKP		**PKPdf**	**12 00 44.1**	**-1.5**	
	comp=Z,10nm,0.7s,baz=115,slow=1.7,SNR=30								
KURBB				PP		**PP**	**12 02 24.1**	**-6.0**	
	comp=Z,1.4nm,0.8s,baz=120,slow=4.3,SNR=4.0								
AAM	**Ann Arbor**	**124.16**	**61**	P		**PKiKP**	**12 00 48.2**	**+1.7**	
	baz=242								
MDP	**Montagnes des**	**124.62**	**118**	PKP		**PKiKP**	**12 00 48.4**	**0.0**	
	comp=Z,11nm,1.0s,baz=235,slow=1.9,SNR=4.5								
O53A	**New Philadelph**	**124.82**	**64**	P		**PKiKP**	**12 00 49.0**	**+1.1**	
	baz=242								
Q56A	**Snyder Ridge,**	**125.63**	**67**			**PKiKP**	**12 00 50.6**	**+1.0**	
M53A	**WI Miller and**	**125.73**	**63**	P		**PKiKP**	**12 00 51.6**	**+1.8**	
	baz=243								
MBAR	**Mbarara**	**126.47**	**228**	PKP		**PKiKP**	**12 00 52.2**	**-0.1**	
	comp=Z,2nm,0.2s,baz=82,slow=4.1,SNR=5.7								
MBAR	**Mbarara**	**126.47**	**228**			**PKiKP**	**12 00 52.9**	**+0.6**	
MBAR	**Mbarara**	**126.47**	**228**	*e*PKIKP		**PKiKP**	**12 00 52.5**	**+0.2**	
NRIK	**Noril'sk**	**127.22**	**334**	PKP		**PKPdf**	**12 00 50.3**	**-1.0**	
	comp=Z,8.3nm,0.9s,baz=105,slow=2.3,SNR=7.1								
NRIK	**Noril'sk**	**127.22**	**334**	*ce*PKIKP		**PKPdf**	**12 00 48.7**	**-2.6**	
M57A	**Sunshine Farm,**	**128.08**	**65**			**PKiKP**	**12 00 54.1**	**-0.3**	
SADO	**Sadowa**	**128.19**	**60**	PKP		**PKPdf**	**12 00 54.0**	**+0.2**	
	comp=Z,8.8nm,0.7s,baz=272,slow=2.4,SNR=5.6								
KSPA	**Keystone Colle**	**129.09**	**65**			**PKiKP**	**12 00 58.0**	**+1.6**	
BVAR	**Borovoye Array**	**129.55**	**310**	PKP		**PKPdf**	**12 00 55.9**	**-0.4**	
	comp=Z,3.8nm,0.6s,baz=148,slow=1.1,SNR=7.3								
BRVK	**Borovoye**	**129.62**	**310**	*e*PKIKP		**PKPdf**	**12 00 53.7**	**-2.6**	
RES	**Resolute Bay**	**129.99**	**20**	PKP		**PKPdf**	**12 00 55.5**	**-0.9**	
	comp=Z,11nm,0.7s,baz=242,slow=4.1,SNR=15								
GEYT	**Alibeck**	**131.79**	**288**	PKP		**PKPdf**	**12 01 00.9**	**-0.1**	
	comp=Z,8.1nm,0.8s,baz=207,slow=1.3,SNR=11								
GEYT	**Alibeck**	**131.79**	**288**	PKPdf		**PKPdf**	**12 01 01.3**	**+0.3**	
GYA0B	**ALIBECK ARRAY**	**131.79**	**288**	PKPdf		**PKPdf**	**12 01 01.4**	**+0.4**	
EUNU	**Eureka**	**132.42**	**13**			**PKiKP**	**12 01 02.7**	**+0.6**	
SVE	**Sverdlovsk**	**135.95**	**314**	*e*PKIKP		**PKPdf**	**12 01 07.4**	**-0.7**	
SVE				pmax	pmax				
	comp=Z,20nm,1.3s								
ARU	**Arti**	**137.03**	**313**	PKP		**PKPdf**	**12 01 10.0**	**-0.1**	
	comp=Z,10.0nm,0.8s,baz=142,slow=3.7,SNR=8.6								
ARU	**Arti**	**137.03**	**313**	*i* PKIKP		**PKPdf**	**12 01 10.0**	**-0.1**	
ARU							12 03 51.2		
FRB	**Frobisher Bay**	**138.29**	**36**	PKP		**PKPdf**	**12 01 12.3**	**+0.1**	
	comp=Z,35nm,0.9s,baz=192,slow=2.9,SNR=4.8								
SCHQ	**Schefferville**	**138.65**	**50**	PKP		**PKPdf**	**12 01 13.2**	**0.0**	
	comp=Z,9.0nm,0.9s,baz=202,slow=1.5,SNR=4.2								
MAK	**Makhachkala**	**141.16**	**290**	*e*P		**Pdif**	**11 58 27.5**	**-8.3**	
KBS	**Kingsbay**	**142.07**	**355**	*e*PKPdf		**PKPdf**	**12 01 18.1**	**-0.6**	
KIRV	**Kirov**	**142.08**	**316**	*e*PKIKP		**PKPdf**	**12 01 18.1**	**-1.1**	
GROC	**Groznyy**	**142.43**	**290**	*e*PKIKP		**PKPdf**	**12 01 20.0**	**-0.4**	
GROC							12 08 29.2		
GROC				pmax	pmax				
	comp=Z,85nm,1.2s								
GEVA	**Gevas**	**142.85**	**281**			**PKPdf**	**12 01 22.7**	**+1.1**	
BELG	**Belogornoye**	**142.91**	**305**	PKP		**PKPdf**	**12 01 19.1**	**-1.8**	
	comp=Z,130nm,1.3s,baz=29,slow=3.0,SNR=6.3								
BELG	**Belogornoye**	**142.91**	**305**	*e*PKHKP		PKPpre	12 01 15.1		
ZEI	**Tsey**	**143.65**	**289**	*i* PKIKP		PKPbc	12 01 20.5	+0.1	
ZEI				pmax	pmax				
	comp=Z,17nm,1.2s								
PRGR	**Permogore**	**143.69**	**321**	*e*PKHKP		PKPpre	12 01 14.3		
PRGR				pmax	pmax				
	comp=Z,21nm,1.4s								
NCK	**Nalchik**	**144.05**	**290**	*e*PKIKP		PKPbc	12 01 21.1	-0.2	
MARD	**Mardin**	**144.16**	**279**	PKPdf		PKPbc	12 01 21.8	-0.2	
DAG	**Danmarks Havn**	**144.45**	**5**	*i* P		**PKPab**	**12 01 19.0**	**-2.3**	
KBZ	**Khabaz**	**144.60**	**290**	PKP		**PKPab**	**12 01 21.9**	**-0.9**	
	comp=Z,40nm,0.8s,baz=99,slow=3.6,SNR=30								
KBZ	**Khabaz**	**144.60**	**290**	*i* PKIKP		**PKPab**	**12 01 22.1**	**-0.7**	
NEY	**Neytrino**	**144.61**	**289**	*e*PKIKP		**PKPdf**	**12 01 24.3**	**-0.2**	
LIC	**Lamto**	**144.61**	**181**	*e*PKP1		**PKPab**	**12 01 23.6**	**-0.1**	
	comp=Z,212nm,0.9s								
KIC	**Kosan Boka**	**144.74**	**182**	*e*PKP1		**PKPab**	**12 01 24.0**	**-0.1**	
	comp=Z,36nm,0.6s								
KVAR	**Kislovodsk Arr**	**144.80**	**290**	PKP		PKPbc	12 01 24.2	+0.4	
	baz=90,slow=0.4								
GOF	**Gofitskoye**	**144.81**	**292**	*e*PKIKP		**PKPab**	**12 01 22.6**	**-0.9**	
GOF				pmax	pmax				
	comp=Z,243nm,1.0s								
KIV	**Kislovodsk**	**144.81**	**290**	PKPdf		**PKPab**	**12 01 23.4**	**-0.3**	
KIV	**Kislovodsk**	**144.81**	**290**	*e*PKIKP		**PKPdf**	**12 01 25.4**	**+0.7**	
KIV				pmax	pmax				
	comp=Z,27nm,1.1s								
ASF	**Jabal al Asfar**	**144.89**	**268**	PKP		PKPbc	12 01 24.5	+0.1	
	comp=Z,31nm,0.8s,baz=131,slow=3.1,SNR=24								
SFJD	**Kangerlussuaq**	**144.94**	**29**	PKP		**PKPab**	**12 01 22.7**	**-0.6**	
	comp=Z,127nm,0.8s,baz=256,slow=1.8,SNR=35								
SFJD	**Kangerlussuaq**	**144.94**	**29**	*i* P		**PKPab**	**12 01 21.4**	**-1.9**	
TIC	**Toumodi**	**145.03**	**181**	*e*PKP1		PKPbc	12 01 25.0	-0.2	
	comp=Z,94nm,0.8s								
DBIC	**Dimbokro**	**145.05**	**182**	PKPbc		**PKPab**	**12 01 25.4**	**+0.2**	
	comp=Z,46nm,0.8s,baz=183,slow=3.9,SNR=20								
DBIC	**Dimbokro**	**145.05**	**182**			**PKPab**	**12 01 25.6**	**+0.3**	
DBIC	**Dimbokro**	**145.05**	**182**	PKIKP		**PKPab**	**12 01 25.6**	**+0.3**	
EIL	**Elat**	**145.11**	**263**	PKPbc		PKPbc	12 01 24.8	-0.2	
	comp=Z,93nm,1.2s,baz=118,slow=2.3,SNR=16								
KOPT	**Kop Dagi**	**145.30**	**283**			**PKPdf**	**12 01 26.4**	**+0.5**	
SUMG	**Summit**	**145.32**	**17**	*i* P		**PKPbc**	**12 01 23.0**	**-2.0**	
NUUK	**Nuuk**	**145.51**	**34**	*i* P		**PKPab**	**12 01 25.4**	**-0.1**	
LVZ	**Lovozero**	**146.06**	**334**	*e*PKP2		**PKPdf**	**12 01 25.5**	**-0.5**	
MMAI	**Mount Meron Ar**	**146.40**	**269**	PKPbc		**PKPbc**	**12 01 28.7**	**-0.4**	
	comp=Z,21nm,0.6s,baz=93,slow=5.0,SNR=22								
VRH	**Novokhopyorsk**	**146.48**	**303**	*e*PKIKP		**PKPdf**	**12 01 26.2**	**-0.9**	
VRH				pmax	pmax				
	comp=Z,90nm,0.8s								
APA	**Apatity**	**146.64**	**334**	*i* PKHKP		PKPpre	12 01 22.8		
APA				pmax	pmax				
	comp=Z,40nm,0.7s								
KLMR	**Klimovskoe**	**146.74**	**321**	*e*PKPdf		**PKPdf**	**12 01 26.8**	**-0.5**	
KLMR				AMP			12 01 30.0		
	comp=Z,89nm,0.9s								
KLMR	**Klimovskoe**	**146.74**	**321**	*e*PKIKP		**PKPdf**	**12 01 26.8**	**-0.5**	
KLMR				pmax	pmax				
	comp=Z,89nm,0.9s								
ICESG	**Greenland Ices**	**147.38**	**22**	*i* P		**PKPdf**	**12 01 27.4**	**-1.2**	
HAMF	**Hammerfest**	**147.43**	**342**	*e*PKPdf		**PKPbc**	**12 01 29.4**	**-1.3**	
ARA0	**ARCESS Array S**	**147.77**	**340**	*e*PKPdf		**PKPbc**	**12 01 30.8**	**-1.0**	
ARCES	**ARCESS Array B**	**147.77**	**340**	PKPbc		**PKPbc**	**12 01 30.9**	**-0.9**	
	comp=Z,43nm,0.7s,baz=44,slow=2.1,SNR=44								
ARCES	**ARCESS Array B**	**147.77**	**340**			**PKPdf**	**12 01 30.2**	**+1.4**	
ARCES	**ARCESS Array B**	**147.77**	**340**	PKP2		**PKPdf**	**12 01 30.2**	**+1.4**	
IVI	**Ivigtut**	**148.00**	**38**			**PKPbc**	**12 01 32.1**	**-0.3**	
IVI	**Ivigtut**	**148.00**	**38**	*i* P		**PKPbc**	**12 01 32.4**	**-0.1**	
VORR	**Voronezh**	**148.07**	**304**	*e*PKP2		**PKPbc**	**12 01 32.2**	**-0.8**	
VORR				pmax	pmax				
	comp=Z,90nm,0.5s								
VSR	**Storozhevoye**	**148.09**	**303**	*e*PKIKP		**PKPdf**	**12 01 30.1**	**+0.3**	
VSR				pmax	pmax				
	comp=Z,20nm,0.7s								
LPSR	**Galich'ya Gora**	**148.22**	**305**	*e*PKP2		**PKPbc**	**12 01 31.7**	**-1.7**	
LPSR				pmax	pmax				
	comp=Z,100nm,1.3s								
MOS	**Moscow**	**148.72**	**312**	*e*PKHKP		PKPpre	12 01 28.7		
MOS				pmax	pmax				
	comp=Z,63nm,1.0s								
KTK1	**Kautokeino**	**148.72**	**340**	*e*PKPdf		**PKPbc**	**12 01 32.7**	**-1.5**	
CSS	**Mathiatis**	**148.79**	**270**			**PKPbc**	**12 01 33.9**	**-1.6**	
JETT	**Jettan, Norway**	**148.99**	**342**	*e*pPKPdf		**PKPbc**	**12 01 33.8**	**-1.1**	
TRO	**Tromso**	**149.25**	**343**	*e*pPKPdf		pPKPdf	12 01 34.0	-1.2	
NRS	**Narsarsuaq**	**149.27**	**37**			**PKPbc**	**12 01 35.4**	**-0.4**	
NRS	**Narsarsuaq**	**149.27**	**37**	*i* P		**PKPbc**	**12 01 34.0**	**-1.8**	
NRS	**Narsarsuaq**	**149.27**	**37**	PKP2		**PKPbc**	**12 01 35.4**	**-0.4**	
OBN	**Obninsk**	**149.40**	**311**	*e*PKIKP		**PKPdf**	**12 01 30.8**	**-1.0**	
OBN				*e*			12 05 07.6		
OBN				*e*PPP		PPP	12 08 28.0		
OBN				pmax	pmax				
	comp=Z,138nm,1.9s								
ISOG	**Isortoq, Green**	**149.75**	**27**	*i* P		**PKPbc**	**12 01 35.3**	**-1.5**	
ANGG	**Ammassalik, Gr**	**150.16**	**26**	*i* P		**PKPdf**	**12 01 35.0**	**+2.3**	
BR131	**Keskin Array S**	**150.24**	**279**			**PKPbc**	**12 01 38.2**	**-0.9**	
BR131	**Keskin Array S**	**150.24**	**279**	PKIKP		**PKPbc**	**12 01 38.2**	**-0.9**	
**B

	comp=Z,7.8nm,0.9s						
MYKA	**Terra Mystica**	**165.25**	**296**	*e*P	**PKPab**	**12 02 50.7**	**+1.0**
	comp=Z,8.0nm,1.0s						
PRED	**Cave del Predi**	**165.34**	**295**	PKPdf	**PKPdf**	**12 01 53.3**	**+1.2**
PRED					**PKPab**	**12 02 49.2**	**-0.8**
KBA	**Koelnbreinsper**	**165.35**	**298**	*e*P	**PKPdf**	**12 01 53.2**	**+1.0**
	comp=Z,8.0nm,1.2s						
CLUD	**Cludinico**	**165.80**	**296**	PKPdf	**PKPdf**	**12 01 54.5**	**+2.1**
CLUD				PKPab	**PKPab**	**12 02 51.5**	**-0.6**
ABTA	**Abfaltersbach**	**165.98**	**297**	*e*P	**PKPab**	**12 02 51.3**	**-1.6**
	comp=Z,10nm,1.1s						
CIMO	**Cimolais**	**166.13**	**295**	PKPdf	**PKPdf**	**12 01 54.6**	**+1.9**
CIMO				PKPab	**PKPab**	**12 02 52.2**	**-1.3**
WTTA	**Wattenberg**	**166.42**	**300**	*e*P	**PKPdf**	**12 01 53.8**	**+0.7**
	comp=Z,17nm,1.3s						
WTTA				*e*P	**PKPab**	**12 02 54.0**	**-0.9**
	comp=Z,21nm,0.9s,SNR=8.0						
WATA	**Walderalm**	**166.43**	**300**	*e*P	**PKPab**	**12 02 53.7**	**-1.2**
	comp=Z,14nm,1.1s,SNR=4.7						
SQTA	**Sankt Quirin**	**166.71**	**300**	*e*P	**PKPab**	**12 02 54.8**	**-1.3**
	comp=Z,11nm,0.9s,SNR=5.0						
MOTA	**Moosalm**	**166.74**	**301**	*e*P	**PKPdf**	**12 01 52.7**	**-0.6**
	comp=Z,16nm,1.1s						
MOTA				*e*P	**PKPab**	**12 02 54.9**	**-1.4**
	comp=Z,19nm,1.0s,SNR=7.6						
KEST	**Kesra**	**166.76**	**248**	PKP	**PKPdf**	**12 01 53.5**	**-0.1**
	comp=Z,11nm,1.1s,baz=260,slow=3.7,SNR=4.9						
KEST				PKPab	**PKPab**	**12 02 56.9**	**+0.3**
	comp=Z,23nm,1.1s,baz=3.6,slow=1.6,SNR=5.8						
TEOL	**Teolo**	**166.84**	**292**	PKPdf	**PKPdf**	**12 01 54.0**	**+0.8**
TEOL					**PKPab**	**12 02 55.8**	**-0.9**
RETA	**Reutte**	**166.91**	**302**	P	**PKPdf**	**12 01 53.2**	**-0.1**
	comp=Z,18nm,1.1s						
FETA	**Feichten**	**167.08**	**300**	*e*P	**PKPdf**	**12 01 52.5**	**-1.1**
	comp=Z,6.4nm,1.1s						
FETA				*e*P	**PKPab**	**12 02 56.8**	**-1.1**
	comp=Z,8.4nm,0.9s,SNR=10						
FUORN	**Ofenpass-Fuorn**	**167.50**	**298**	PKPdf	**PKPdf**	**12 01 54.3**	**+0.3**
FUORN					**PKPab**	**12 02 59.4**	**-0.5**
DAVA	**Damuels**	**167.54**	**302**	*e*P	**PKPdf**	**12 01 53.5**	**-0.4**
	comp=Z,14nm,1.3s						
DAVOX	**Davos/Dischmat**	**167.71**	**299**	PKP	**PKPdf**	**12 01 53.6**	**-0.5**
	comp=Z,6.4nm,0.9s,baz=18,slow=4.4,SNR=6.2						
DAVOX				PKPab	**PKPab**	**12 03 00.1**	**-0.5**
	comp=Z,14nm,0.8s,baz=99,slow=7.1,SNR=16						
BTNL	**Ternell**	**167.93**	**321**	*d*PKP	**PKPab**	**12 02 59.6**	**-1.6**
BSTI	**Sart Tilman**	**168.19**	**322**	*d*PKP	**PKPab**	**12 03 01.6**	**-0.6**
BGES	**Gesves**	**168.55**	**323**	*d*PKP	**PKPab**	**12 03 02.5**	**-1.4**
BMRD	**Maredsous**	**168.75**	**323**	*d*PKP	**PKPab**	**12 03 03.6**	**-1.2**
SNF	**Seneffe**	**168.81**	**325**	*d*PKP	**PKPab**	**12 03 04.0**	**-1.1**
HINF	**Hinteralfeld**	**169.18**	**308**	*e*PKIKP	**PKPdf**	**12 01 54.6**	**-0.2**
HINF				pmax	pmax		
	comp=Z,36nm,1.7s						
HAU	**Haudompre**	**169.37**	**310**	*e*PKIKP	**PKPdf**	**12 01 53.4**	**-1.5**
HAU				pmax	pmax		
	comp=Z,58nm,1.9s						
SBF	**Sospel**	**170.06**	**287**	*e*PKIKP	**PKPdf**	**12 01 55.1**	**-0.4**
SBF				pmax	pmax		
	comp=Z,21nm,1.1s						
LPL	**La Plagne**	**170.18**	**297**	*e*PKIKP	**PKPdf**	**12 01 54.8**	**-0.9**
LPL				pmax	pmax		
	comp=Z,79nm,2.0s						
CABF	**La Chapelle**	**170.19**	**304**	*e*PKIKP	**PKPdf**	**12 01 55.8**	**+0.3**
CABF				pmax	pmax		
	comp=Z,17nm,1.0s						
BNI	**Bardonecchia**	**170.35**	**294**		**PKPdf**	**12 01 55.0**	**-0.7**
BNI				PKPab	**PKPab**	**12 03 11.4**	**-1.0**
BNI	**Bardonecchia**	**170.35**	**294**	PKIKP	**PKPdf**	**12 01 55.0**	**-0.7**
BNI						12 03 11.4	
MBDF	**Montbardon**	**170.37**	**292**	*e*PKIKP	**PKPdf**	**12 01 54.8**	**-1.0**
MBDF				pmax	pmax		
	comp=Z,42nm,1.3s						
LMR	**La Mourre**	**170.79**	**284**	*e*PKIKP	**PKPdf**	**12 01 55.8**	**0.0**
LMR				pmax	pmax		
	comp=Z,21nm,1.2s						
ORIF	**Oris-en-Rattie**	**170.94**	**294**	*e*PKIKP	**PKPdf**	**12 01 54.7**	**-1.3**
ORIF				pmax	pmax		
	comp=Z,64nm,2.0s						
MDT	**Midelt**	**171.03**	**186**	PKP	**PKPdf**	**12 01 56.9**	**+0.5**
	comp=Z,8.8nm,1.0s,baz=250,slow=2.2,SNR=7.2						
MDT				PKPab	**PKPab**	**12 03 15.9**	**+0.6**
	comp=Z,5.3nm,1.1s,baz=222,slow=3.0,SNR=3.3						
LOR	**Lormes**	**171.18**	**312**	*e*PKIKP	**PKPdf**	**12 01 54.8**	**-1.1**
LOR				pmax	pmax		
	comp=Z,32nm,1.6s						
SSF	**Saint Saulge**	**171.50**	**312**	*e*PKIKP	**PKPdf**	**12 01 55.0**	**-1.1**
SSF				pmax	pmax		
	comp=Z,30nm,1.3s						
SMF	**Signal de Mont**	**171.54**	**309**	*e*PKIKP	**PKPdf**	**12 01 55.0**	**-1.1**
SMF				pmax	pmax		
	comp=Z,51nm,1.6s						
AVF	**Avril sur Loir**	**171.74**	**311**	*e*PKIKP	**PKPdf**	**12 01 54.9**	**-1.3**
AVF				pmax	pmax		
	comp=Z,31nm,1.4s						
VIVF	**Saint-Julien-l**	**171.77**	**296**	*e*PKIKP	**PKPdf**	**12 01 55.5**	**-0.8**
VIVF				pmax	pmax		
	comp=Z,27nm,1.2s						
BGF	**Bois d'Agland**	**172.16**	**311**	*e*PKIKP	**PKPdf**	**12 01 55.6**	**-0.8**
BGF				pmax	pmax		
	comp=Z,36nm,1.3s						
TCF	**Toulx Ste Croi**	**172.68**	**311**	*e*PKIKP	**PKPdf**	**12 01 55.8**	**-0.9**
TCF				pmax	pmax		
	comp=Z,51nm,2.0s						
CAF	**Calviac**	**173.46**	**302**	*e*PKIKP	**PKPdf**	**12 01 56.8**	**-0.2**
CAF				pmax	pmax		
	comp=Z,33nm,1.4s						
QUIF	**Quistinic**	**173.56**	**344**	*e*PKIKP	**PKPdf**	**12 01 57.4**	**+0.5**
QUIF				pmax	pmax		
	comp=Z,74nm,1.5s						
RJF	**Les Rejaudoux**	**173.62**	**306**	*e*PKIKP	**PKPdf**	**12 01 56.4**	**-0.6**
RJF				pmax	pmax		
	comp=Z,22nm,1.2s						
MFF	**Saint Martin d**	**173.69**	**322**	*e*PKIKP	**PKPdf**	**12 01 56.1**	**-0.9**
MFF				pmax	pmax		
	comp=Z,22nm,1.3s						
MTLF	**Montolieu**	**173.88**	**288**	*e*PKIKP	**PKPdf**	**12 01 56.3**	**-0.9**
MTLF				pmax	pmax		
	comp=Z,60nm,1.7s						
LFF	**La Frestale**	**174.28**	**306**	*e*PKIKP	**PKPdf**	**12 01 56.7**	**-0.6**
LFF				pmax	pmax		
	comp=Z,16nm,1.0s						
MORF	**Marmelete**	**175.03**	**153**	*e*PKPdf	**PKPdf**	**12 01 58.9**	**+1.1**
EPF	**Esparros**	**175.29**	**288**	*e*PKIKP	**PKPdf**	**12 01 57.6**	**-0.1**
EPF				pmax	pmax		
	comp=Z,55nm,1.2s						
PVAQ	**Vaqueiros**	**175.40**	**160**	*e*PKP	**PKPdf**	**12 01 59.5**	**+1.7**
PCVE	**Castro Verde**	**175.53**	**156**	*e*PKP	**PKPdf**	**12 01 59.5**	**+1.6**
MESJ	**Messejana**	**175.66**	**154**	*e*PKPdf	**PKPdf**	**12 01 59.0**	**+1.1**
MESJ	**Messejana**	**175.66**	**154**	*e*PKP	**PKPdf**	**12 01 56.5**	**-1.4**
PNCL	**Nicolau / Gran**	**175.79**	**149**	*e*PKP	**PKPdf**	**12 01 59.6**	**+1.7**
PBEJ	**Beja**	**175.94**	**156**	*e*PKP	**PKPdf**	**12 01 59.4**	**+1.4**
ETSF	**Etsaut**	**175.97**	**288**	*e*PKIKP	**PKPdf**	**12 01 58.1**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,36nm,1.4s						
PMAFR	**Mafra**	**176.13**	**135**	*e*PKP	**PKPdf**	**12 01 56.3**	**-1.7**
PBAR	**Barrancos**	**176.30**	**164**	*e*PKP	**PKPdf**	**12 01 58.3**	**+0.3**
SJPF	**Ste Jean**	**176.37**	**293**	*e*PKIKP	**PKPdf**	**12 01 58.2**	**+0.3**
SJPF				pmax	pmax		
	comp=Z,62nm,1.4s						
PMTG	**Montargil**	**176.73**	**144**	*e*PKP	**PKPdf**	**12 01 57.6**	**-0.5**
PESTR	**Estremoz**	**176.80**	**154**	*e*PKP	**PKPdf**	**12 01 58.0**	**-0.1**
PCAS	**Casmilo, Conde**	**177.33**	**129**	*e*PKP	**PKPdf**	**12 01 58.7**	**+0.5**
ESDC	**Sonseca Array**	**177.51**	**214**	PKP	**PKPdf**	**12 01 58.4**	**+0.1**
	comp=Z,19nm,1.1s,baz=339,slow=1.4,SNR=13						
ESDC				PKPab	PKPab	12 03 43.4	-0.6
	comp=Z,5.0nm,1.0s,baz=106,slow=3.2,SNR=6.1						
PCBR	**Castelo Branco**	**177.69**	**145**	*e*PKP	**PKPdf**	**12 01 58.2**	**0.0**
PVIS	**Viseu**	**178.10**	**122**	*e*PKP	**PKPdf**	**12 01 57.8**	**-0.5**
MTE	**Manteigas**	**178.10**	**135**	*e*PKP	**PKPdf**	**12 01 59.5**	**+1.1**
PGAV	**Gavieira, Arco**	**178.13**	**83**	*e*PKP	**PKPdf**	**12 01 57.8**	**-0.6**
PCAB	**Cabril**	**178.32**	**91**	*e*PKP	**PKPdf**	**12 01 59.2**	**+0.9**
POLO	**Lamas de Olo**	**178.44**	**103**	*e*PKP	**PKPdf**	**12 01 59.2**	**+0.8**
PVRL	**Vila Real**	**178.47**	**108**	*e*PKP	**PKPdf**	**12 01 59.1**	**+0.8**
MVO	**Moncorvo**	**178.89**	**122**	*e*PKP	**PKPdf**	**12 01 59.1**	**+0.7**

WEL 13 11:42:45.4±0.7, 42°S±3°×17°4E±°, h12km±4km, M4.7/6, ML4.9/6, MLv4.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=10.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**67**	P	Pb	11 42 50.0	-0.1
CMWZ				S	Sg	11 42 53.7	+2.4
BSWZ	**Blackbirch Sta**	**0.15**	**308**	P	Pb	11 42 50.4	+0.3
BSWZ				S	Sg	11 42 53.7	+2.3
TUWZ	**Tuamarina**	**0.38**	**350**	P	Pb	11 42 54.1	-0.1
TUWZ				S	Sb	11 43 00.3	+0.3
TCW	**Tory Channel**	**0.62**	**17**	P	Pb	11 42 58.0	-0.3
TCW				S	Sb	11 43 07.2	+0.3
BHW	**Baring Head**	**0.74**	**58**	P	Pb	11 43 00.2	-0.1
NNZ	**Nelson**	**0.77**	**320**	P	Pb	11 43 00.5	-0.1
NNZ				S	Sb	11 43 12.0	+1.0

WEL 13 11:44:16.3±0.7, 42°S±3°×17°4E±°, h13km±4km, M4.1/3, ML4.4/3, MLv4.1/3, Error ellipse: s-maj=0.0km s-min=0.0km az=79.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.19**	**358**	P	Pb	11 44 22.5	+0.9
BSWZ				S	Sb	11 44 26.0	+0.8
TUWZ	**Tuamarina**	**0.47**	**5**	P	Pb	11 44 27.3	+0.8
TUWZ				S	Sb	11 44 34.2	+0.8
KHZ	**Kahutara**	**0.57**	**207**	S	Sb	11 44 36.7	+0.4
TCW	**Tory Channel**	**0.75**	**23**	P	Pb	11 44 31.4	+0.2
TCW				S	Sb	11 44 42.5	+1.2

WEL 13 11:45:26.0±0.9, 42°S±3°×17°4E±°, h12km±6km, M4.4/5, ML4.7/5, MLv4.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=137.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**191**	P	Pg	11 45 29.5	+1.0
CMWZ				S	Sg	11 45 31.7	+1.5
TUWZ	**Tuamarina**	**0.34**	**320**	S	Sb	11 45 39.0	-0.3
TCW	**Tory Channel**	**0.48**	**4**	P	Pb	11 45 36.1	-0.3
TCW				S	Sb	11 45 46.1	+1.8
BHW	**Baring Head**	**0.56**	**60**	P	Pb	11 45 37.3	-0.3
BHW				S	Sn	11 45 47.8	-1.1
WEL	**Wellington**	**0.57**	**45**	P	Pb	11 45 38.5	+0.6
WEL				S	Sb	11 45 46.6	+0.6
PLWZ	**Palliser**	**0.78**	**82**	P	Pb	11 45 42.1	+0.6
PLWZ				S	Sn	11 45 53.9	-0.6
NNZ	**Nelson**	**0.79**	**306**	P	Pb	11 45 42.3	+0.6
MSWZ	**Moikau Station**	**0.81**	**71**	P	Pn	11 45 42.8	-0.5
MSWZ				S	Sb	11 45 53.2	+0.2
CAW	**Cannon Point**	**0.85**	**48**	P	Pg	11 45 42.5	0.0
CAW				S	Sn	11 45 56.7	+0.3
PAWZ	**Paruwai Farm**	**0.95**	**72**	P	Pb	11 45 44.5	+0.1
KIW	**Kapiti Island**	**0.97**	**32**	P	Pn	11 45 46.0	+0.5
KIW				S	Sn	11 45 59.2	0.0
MTW	**Mount Morrison**	**1.09**	**62**	P	Pb	11 45 46.7	-0.1
OGWZ	**Otaki Gorge**	**1.12**	**40**	P	Pg	11 45 47.9	+0.3
OGWZ				S	Sn	11 46 03.8	+0.9
HOWZ	**Holdsworth Sta**	**1.25**	**51**	P	Pg	11 45 49.9	-0.1

WEL 13 11:45:52.4±0.4, 42°S±2°×17°4E±°, h7km±3km, M4.6/7, ML4.9/7, MLv4.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=141.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.33**	**28**	P	Pb	11 45 59.8	-0.8
BSWZ				S	Sb	11 46 04.8	-1.2
CMWZ	**Cape Campbell**	**0.48**	**58**	P	Pb	11 46 03.1	0.0
TUWZ	**Tuamarina**	**0.61**	**20**	P	Pb	11 46 04.9	-0.5
TUWZ				S	Sb	11 46 13.3	-0.8
THZ	**Tophouse**	**0.62**	**292**	P	Pg	11 46 04.6	+0.3
THZ				S	Sb	11 46 13.6	-1.0
NNZ	**Nelson**	**0.81**	**344**	S	Sb	11 46 20.1	0.0
MRNZ	**Matariki Terra**	**0.91**	**311**	S	Sb	11 46 23.3	+0.4
TCW	**Tory Channel**	**0.91**	**30**	P	Pg	11 46 09.8	-0.1
TCW				S	Sg	11 46 22.2	+0.5
WEL	**Wellington**	**1.09**	**49**	P	Pb	11 46 13.8	+0.2
WEL				S	Sn	11 46 29.3	-0.1
CAW	**Cannon Point**	**1.38**	**50**	P	Pg	11 46 19.0	+0.2
CAW				S	Sn	11 46 36.5	0.0
KIW	**Kapiti Island**	**1.47**	**40**	S	Sg	11 46 39.5	-0.2

WEL 13 11:47:03.8±0.7, 42°S±3°×17°4E±°, h9km±5km, M4.2/7, ML4.6/7, MLv4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=66.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**170**	P	Pg	11 47 06.2	+0.3
CMWZ				S	Sg	11 47 08.0	+0.7
BSWZ	**Blackbirch Sta**	**0.24**	**263**	P	Pg	11 47 09.8	+1.1
BSWZ				S	Sg	11 47 14.3	+2.2
TUWZ	**Tuamarina**	**0.32**	**323**	P	Pb	11 47 11.2	-0.6
TUWZ				S	Sb	11 47 16.4	-0.6
TCW	**Tory Channel**	**0.48**	**7**	P	Pg	11 47 13.2	+0.1
TCW				S	Sg	11 47 20.3	+0.9
WEL	**Wellington**	**0.59**	**47**	P	Pb	11 47 15.9	-0.4
WEL				S	Sb	11 47 23.9	-0.8
MSWZ	**Moikau Station**	**0.83**	**72**	P	Pb	11 47 20.9	+0.4
MSWZ				S	Sn	11 47 33.5	-0.8
CAW	**Cannon Point**	**0.87**	**49**	P	Pg	11 47 20.4	-0.2
CAW				S	Sb	11 47 32.8	-0.2
OGWZ	**Otaki Gorge**	**1.14**	**41**	P	Pn	11 47 26.0	0.0
OGWZ				S	Sb	11 47 40.5	0.0
TRWZ	**Traveller**	**1.16**	**76**	P	Pg	11 47 24.8	-1.2
TRWZ				S	Sg	11 47 40.6	-0.4
HOWZ	**Holdsworth Sta**	**1.27**	**52**	P	Pn	11 47 26.0	-1.8
HOWZ				S	Sn	11 47 44.9	-0.1

*IDC **13** 11:47:49.9±1.2, 41°.65S×173°.78E, h0km, mb4.3/5, mbtmp4.3/5, Error ellipse: s-maj=92.0km s-min=30.3km az=34.0*
*WEL **13** 11:47:50.7±0.4, 42°S±3°×17°4E±°, h9km±2km, M4.8/18, ML5.1/14, MLv4.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=155.5*
*NEIC **13** 11:47:52.7±1.9, 42°.01S±0°.04×173°.79E±0°.04, h6km±6km, mb4.3/7, Error ellipse: s-maj=6.4km s-min=4.1km az=178.0*

ISC 13 11:47:51.4±1.1, 41°.97S±0°.03×173°.80E±0°.03, h10km±7km, n52, σ1°50/66, mb4.2/9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.26**	**13**		**Pb**	**11 47 58.4**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.26**	**13**	P	**Pb**	**11 47 58.1**	**-0.1**
BSWZ				S	**Sg**	**11 48 03.1**	**+2.8**
CMWZ	**Cape Campbell**	**0.38**	**55**	S	**Sb**	**11 48 04.6**	**-1.7**
KHZ	**Kahutara**	**0.48**	**203**		**Pg**	**11 48 01.5**	**+0.7**
KHZ	**Kahutara**	**0.48**	**203**	P	**Pg**	**11 48 00.2**	**-0.7**
KHZ				S	**Sg**	**11 48 05.8**	**-1.4**
TUWZ	**Tuamarina**	**0.55**	**11**		**Pn**	**11 48 03.6**	**-1.8**
TUWZ	**Tuamarina**	**0.55**	**11**	P	**Pn**	**11 48 03.5**	**-1.8**
TUWZ				S	**Sb**	**11 48 11.4**	**+0.2**
THZ	**Tophouse**	**0.70**	**287**	P	**Pg**	**11 48 04.0**	**-0.9**
THZ				S	**Sg**	**11 48 12.3**	**-1.8**
NNZ	**Nelson**	**0.82**	**337**		**Pn**	**11 48 08.3**	**-0.7**
NNZ	**Nelson**	**0.82**	**337**	P	**Pn**	**11 48 07.2**	**-1.8**
NNZ				S	**Sb**	**11 48 17.8**	**-0.9**
TCW	**Tory Channel**	**0.84**	**25**	P	**Pn**	**11 48 08.0**	**-1.3**
TCW				S	**Sb**	**11 48 18.6**	**-0.9**
SNZO	**South Karori**	**0.95**	**46**		**Pn**	**11 48 10.5**	**-0.2**
MRNZ	**Matariki Terra**	**0.97**	**306**	S	**Sb**	**11 48 22.1**	**-1.1**
BHW	**Baring Head**	**0.98**	**55**	P	**Pn**	**11 48 10.7**	**-0.5**
BHW				S	**Sb**	**11 48 22.9**	**-0.6**
WEL	**Wellington**	**1.00**	**47**	P	**Pn**	**11 48 11.4**	**-0.1**
WEL				S	**Sn**	**11 48 23.5**	**-2.2**
PLWZ	**Palliser**	**1.16**	**70**		**Pg**	**11 48 14.3**	**+0.7**
DUWZ	**D'Urville Isla**	**1.17**	**5**	P	**Pn**	**11 48 14.4**	**+0.5**
DUWZ				S	**Sn**	**11 48 30.7**	**+0.7**
MSWZ	**Moikau Station**	**1.22**	**63**		**Pg**	**11 48 15.5**	**+0.7**
MSWZ	**Moikau Station**	**1.22**	**63**	P	**Pb**	**11 48 14.1**	**-0.4**
MSWZ				S	**Sb**	**11 48 28.5**	**-1.9**
CAW	**Cannon Point**	**1.28**	**48**	P	**Pg**	**11 48 15.7**	**-0.3**
CAW				S	**Sb**	**11 48 29.9**	**-2.3**
PAWZ	**Paruwai Farm**	**1.35**	**65**	P	**Pn**	**11 48 16.1**	**-0.3**
KIW	**Kapiti Island**	**1.39**	**37**	P	**Pg**	**11 48 17.8**	**-0.2**
KIW				S	**Sb**	**11 48 33.3**	**-1.9**
LTZ	**Lake Taylor**	**1.39**	**234**		**Pn**	**11 48 17.1**	**+0.1**
LTZ	**Lake Taylor**	**1.39**	**234**	P	**Pn**	**11 48 15.6**	**-1.3**
LTZ				S	**Sn**	**11 48 32.4**	**-3.0**
MTW	**Mount Morrison**	**1.51**	**58**	P	**Pn**	**11 48 17.9**	**-0.7**
TRWZ	**Traveller**	**1.53**	**69**	P	**Pn**	**11 48 18.0**	**-0.8**
OGWZ	**Otaki Gorge**	**1.55**	**42**	P	**Pb**	**11 48 19.4**	**-0.7**
OGWZ				S	**Sb**	**11 48 38.9**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.68**	**51**	P	**Pb**	**11 48 20.9**	**-1.5**
OXZ	**Oxford**	**1.88**	**223**	Pn	**Pn**	**11 48 24.5**	**+0.9**
BFZ	**Birch Farm**	**2.25**	**56**		**Pb**	**11 48 30.7**	**-1.4**
RPZ	**Rata Peaks**	**2.67**	**228**	Pn	**Pn**	**11 48 36.7**	**+2.2**
HIZ	**Hauiti**	**3.55**	**14**	Pn	**Pn**	**11 48 48.7**	**+2.1**
LBZ	**Lake Benmore**	**3.58**	**226**	Pn	**Pn**	**11 48 48.2**	**+1.2**
MXZ	**Matakaoa Point**	**5.61**	**40**		**Pn**	**11 49 17.2**	**+2.3**
OUZ	**Omahuta**	**6.74**	**359**	Pn	**Pn**	**11 49 33.0**	**+2.5**
AS31	**Alice Springs**	**37.77**	**286**		**P**	**11 55 10.9**	**+3.2**
AS31				IAmb	IAmb	11 55 18.6	
	comp=Z,4.7nm,1.4s						
ASAR	**Alice Springs**	**37.77**	**286**	P	**P**	**11 55 06.8**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=131,slow=7.8,SNR=3.0						
	comp=Z,3.5nm,1.0s						
FORT	**Forrest**	**38.08**	**272**	P	**P**	**11 55 11.4**	**+1.2**
FORT				IAmb	IAmb	11 55 53.0	
	comp=Z,16nm,0.9s						
COEN	**Coen**	**38.49**	**307**	P	**P**	**11 55 13.4**	**-0.4**
WR0	**Warramunga Arr**	**39.72**	**291**	P	**P**	**11 55 27.6**	**+3.5**
WR0				IAmb	IAmb	11 55 32.0	
	comp=Z,5.6nm,1.1s						
WB2	**Warramunga Arr**	**39.86**	**291**	P	**P**	**11 55 27.1**	**+1.8**
WB2				IAmb	IAmb	11 55 32.2	
	comp=Z,2.6nm,0.5s						
WRA	**Warramunga Arr**	**39.87**	**291**	P	**P**	**11 55 23.7**	**-1.7**
	comp=Z,2.4nm,0.8s,baz=130,slow=7.5,SNR=3.1						
	comp=Z,2.4nm,0.8s						
WB0	**Warramunga Arr**	**39.95**	**291**	P	**P**	**11 55 28.2**	**+2.1**
MTN	**Manton Dam**	**47.00**	**295**	P	**P**	**11 56 24.4**	**+1.5**
SNAA	**Sanae**	**66.64**	**181**	P	**P**	**11 58 42.2**	**+0.5**
PLCA	**Paso Flores**	**79.18**	**136**	P	**P**	**11 59 58.3**	**+1.7**
	comp=Z,2.0nm,0.8s,baz=252,slow=9.6,SNR=4.3						
	comp=Z,2.0nm,0.8s						
PLCA	**Paso Flores**	**79.18**	**136**	P	**P**	**11 59 57.8**	**+1.2**
PLCA				IAmb	IAmb	12 00 30.5	
	comp=Z,8.0nm,1.4s						
KSRS	**Korea Array**	**89.44**	**325**	P	**P**	**12 00 47.3**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=148,slow=5.9,SNR=4.3						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.42**	**294**	P	**P**	**12 00 58.1**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=142,slow=4.6,SNR=3.0						
	comp=Z,1.1nm,0.5s						
DBIC	**Dimbokro**	**144.83**	**182**	PKPbc	**PKPab**	**12 07 27.9**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=170,slow=2.9,SNR=4.2						
BRTR	**Keskin Array B**	**149.96**	**279**	PKPbc	**PKPbc**	**12 07 42.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=134,slow=4.2,SNR=1.8						
FINES	**FINESS Array B**	**152.53**	**326**	PKPbc	**PKPbc**	**12 07 45.3**	**-1.7**
	comp=Z,3.1nm,0.9s,baz=64,slow=3.2,SNR=3.0						

*IDC **13** 11:49:00.3±6.1, 41°.08S×174°.36E, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=421.9km s-min=47.2km az=3.0*
*WEL **13** 11:49:02.2±0.5, 42°S±3°×17°4E±°, h14km±3km, M4.6/13, ML4.9/13, MLv4.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=175.1*
*NEIC **13** 11:49:03.3±1.7, 41°.62S±0°.06×174°.25E±0°.07, h19km±4km, mb4.6/8, Error ellipse: s-maj=8.9km s-min=7.1km az=177.0*

ISC 13 11:49:02.3±0.9, 41°.62S±0°.04×174°.22E±0°.03, h13km±6km, n40, σ1°37/51, mb4.3/7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**183**	P	**Pg**	**11 49 05.6**	**0.0**
CMWZ				S	**Sg**	**11 49 08.0**	**0.0**
BSWZ	**Blackbirch Sta**	**0.28**	**250**	Pg	**Pb**	**11 49 09.3**	**+0.1**
TUWZ	**Tuamarina**	**0.28**	**313**	P	Pg	11 49 10.1	+1.9
TUWZ				S	Sg	11 49 17.6	+5.5
TCW	**Tory Channel**	**0.41**	**6**	P	**Pn**	**11 49 12.9**	**-1.1**
TCW				S	**Sb**	**11 49 21.5**	**+3.8**
SNZO	**South Karori**	**0.48**	**49**	Pg	**Pb**	**11 49 12.9**	**+0.4**
WEL	**Wellington**	**0.53**	**51**	P	**Pn**	**11 49 14.4**	**-1.3**
WEL				S	**Sn**	**11 49 23.5**	**-1.0**
NNZ	**Nelson**	**0.75**	**302**	P	**Pn**	**11 49 19.1**	**+0.5**

KIW	Kapiti Island	1.01	28	P		Pg		11 50 32.7	-0.1
KIW				S		Sb		11 50 47.6	+0.9
MTW	Mount Morrison	1.09	57	P		Pg		11 50 33.6	-0.7
OGWZ	Otaki Gorge	1.16	35	P		Pg		11 50 35.1	-0.4
OGWZ				S		Sn		11 50 52.2	+0.4
MRNZ	Matariki Terra	1.21	287	P		Pg		11 50 36.1	-0.4
MRNZ				S		Sg		11 50 54.1	+2.1
GVZ	Greta Valley S	1.52	217	P		Pg		11 50 43.9	+1.4
MSVF	Nonsavu	24.17	9	P		P		11 55 32.8	+2.6
	12nm,0.9s,baz=144,slow=10.0,SNR=2.5								
	12nm,0.9s								
ASAR	Alice Springs	38.06	286	P		P		11 57 29.7	-2.8
	3.4nm,0.9s,baz=128,slow=7.5,SNR=4.5								
	3.4nm,0.9s								
WRA	Warramunga Arr	40.13	290	P		P		11 57 46.8	-3.1
	3.2nm,0.7s,baz=128,slow=8.0,SNR=4.6								
	3.2nm,0.7s								
KSRS	Korea Array	89.48	325	P		P		12 03 09.8	-0.9
	2.1nm,0.8s,baz=132,slow=4.3,SNR=5.2								
	2.1nm,0.8s								
CMAR	Chiang Mai Arr	91.67	293	P		P		12 03 19.6	-1.8
	2.3nm,0.7s,baz=155,slow=2.9,SNR=7.0								
	2.3nm,0.7s								
YKA	Yellowknife Ar	118.37	30	PKP		PKPdf		12 09 01.0	+0.7
	1.6nm,0.6s,baz=261,slow=1.8,SNR=12								
KBZ	Khabaz	144.65	290	PKP		PKPdf		12 09 50.7	+0.6
	2.5nm,0.8s,baz=161,slow=3.3,SNR=4.0								
SFJD	Kangerlussuaq	144.93	29	PKPbc		PKPdf		12 09 50.4	+0.5
	14nm,0.9s,baz=318,slow=3.2,SNR=2.8								
MMAI	Mount Meron Ar	146.45	269	PKPbc		PKPdf		12 09 55.0	+1.4
	2.9nm,0.5s,baz=96,slow=7.6,SNR=4.4								
ARCES	ARCESS Array B	147.80	340	PKPbc		PKPdf		12 09 56.0	+1.3
	2.7nm,0.7s,baz=29,slow=2.8,SNR=5.4								
BRTR	Keskin Array B	150.29	279	PKPbc		PKPdf		12 10 03.1	+3.2
	1.6nm,0.8s,baz=158,slow=5.4,SNR=3.1								
FINES	FINESS Array B	152.56	327	PKPbc		PKPbc		12 10 09.3	0.0
	3.0nm,0.6s,baz=41,slow=4.5,SNR=7.1								
HFS	Hagfors	158.07	334	PKPab		PKPab		12 10 42.4	-1.1
	1.2nm,0.7s,baz=79,slow=3.2,SNR=4.1								

WEL 13 11:51:03.7±0.6, **42°S**±2°×**17°3E**±°, **h5**km±2km, **M4.5**/13, **ML4.6**/5, **MLv4.5**/13, **Error ellipse: s-maj=0.0km s-min=0.0km az=125.2, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.09	136	P	Pg	11 51 05.8	+0.2
KHZ				S	Sg	11 51 07.7	+0.8
GVZ	Greta Valley S	0.69	207	P	Pg	11 51 16.9	-0.1
GVZ				S	Sb	11 51 27.4	-0.7
BSWZ	Blackbirch Sta	0.71	26	P	Pb	11 51 18.7	+0.2
THZ	Tophouse	0.72	325	P	Pg	11 51 17.6	+0.2
THZ				S	Sg	11 51 27.7	+1.0
LTZ	Lake Taylor	0.97	243	P	Pg	11 51 22.5	+0.2
LTZ				S	Sb	11 51 37.1	+0.8
AWAZ	Awhitu Peninsu	5.36	10	P	Pn	11 52 24.5	+0.3
MKAZ	Moumakai	5.40	15	P	Pn	11 52 24.2	-0.7
ETAZ	East Tamaki Re	5.51	12	P	Pn	11 52 26.3	0.0
EPAZ	Eden Park BICE	5.56	11	P	Pn	11 52 26.6	-0.4
HBAZ	Herne Bay Bore	5.58	11	P	Pn	11 52 27.5	+0.2
RVAZ	Riverhead Bore	5.64	11	P	Pn	11 52 28.1	-0.1
MBAZ	Motutapu North	5.69	12	P	Pn	11 52 28.7	-0.1
WIAZ	Waiheke Island	5.70	14	P	Pn	11 52 28.9	-0.1
ABAZ	Army Bay	5.84	11	P	Pn	11 52 30.0	-0.9
GRZ	Great Barrier	6.29	15	P	Pn	11 52 37.4	+0.4

*WEL **13** 11:52:00, 42°14S×173°44E, h8km, ML6.2, Mw6.1, Moment Tensor Solution. s5 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.30; $M_{\theta\theta}$0.64; $M_{\phi\phi}$-0.35; $M_{r\theta}$0.26; $M_{\theta\phi}$-1.43; $M_{r\phi}$-0.05; Fault plane solution: $M_0$1.53000×10^{18} NP1: ϕ_s171.00000°, δ81.00000°, λ.1.00000°. NP2:ϕ_s81.00000°, δ89.00000°, λ171.00000°. Principal axes: T 169062.0400, Plg7.0000°, Azm36.0000°; N -137656.9900, Plg81.0000°, Azm254.0000°; P -31405.0600, Plg6.0000°, Azm126.0000°;*

*MOS **13** 11:52:42.7±1.0, 42°04S×173°50E, h10km, mb5.7/17 Error ellipse: s-maj=13.6km s-min=10.9km az=101.4*

*IDC **13** 11:52:42.3±0.3, 42°02S×173°46E, h0km, mb5.3/25, mbtmp5.3/26, ML5.7/1, MS6.0/1, Error ellipse: s-maj=13.0km s-min=10.6km az=37.0*

*BJI **13** 11:52:43.4±0.0, 41°85S×174°07E, h20km, mb5.6/20*

*WEL **13** 11:52:44.4±0.2, 42°S±2°×17°4E±°, h9km±2km, M6.1/29, mB6.4/16, ML6.4/29, MLv6.1/29, Mw(mB)6.1/2, Error ellipse: s-maj=0.0km s-min=0.0km az=119.9*

*NEIC **13** 11:52:45.0±2.2, 42°18S±0°03×173°62E±0°06, h14km±2km, mb5.8/62, Mwr6.0/28, Mww6.1, Error ellipse: s-maj=6.3km s-min=4.4km az=116.0*

*NEIC **13** 11:52:45, 42°20S×173°61E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.41; $M_{\theta\theta}$0.28; $M_{\phi\phi}$0.14; $M_{r\theta}$0.05; $M_{\theta\phi}$-1.35; $M_{r\phi}$-0.01; Fault plane solution: $M_0$1.40000×10^{18} NP1:ϕ_s178.47000°, δ87.46000°, λ-0.81000°. NP2:ϕ_s268.51000°, δ89.19000°, λ-177.46000°. Principal axes: T 1.5555, Plg1.0000°, Azm43.0000°; N -0.4130, Plg87.0000°, Azm286.0000°; P -1.1424, Plg2.0000°, Azm134.0000°;*

*NOU **13** 11:52:47.8, 42°32S×173°89E, h53km, mb5.8/141, South Island, New Zealand*

*NEIC **13** 11:52:48, 42°15S×173°51E, h12km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.60; $M_{\theta\theta}$0.83; $M_{\phi\phi}$-0.23; $M_{r\theta}$0.42; $M_{\theta\phi}$-1.57; $M_{r\phi}$-0.15; Fault plane solution: $M_0$1.79000×10^{18} NP1: ϕ_s171.00000°, δ77.00000°, λ0.00000°. NP2:ϕ_s261.00000°, δ90.00000°, λ-166.00000°. Principal axes: T 2.0291, Plg9.0000°, Azm35.0000°; N -0.6499, Plg77.0000°, Azm262.0000°; P -1.3792, Plg9.0000°, Azm127.0000°;*

ISC 13 11:52:44.0±0.7, **42°18S**±0°02×**173°61E**±0°02, **h11**km±4km, **n940**, σ1**s58**/978, **mb5.8**/183, **30C-33D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.24	192	Pg	Pg	11 52 49.9	+0.8
KHZ				Sg	Sb	11 52 53.9	+1.6
KHZ	Kahutara	0.24	192	P	Pg	11 52 49.7	+0.7
KHZ				S	Sg	11 52 53.1	+0.7
BSWZ	Blackbirch Sta	0.51	23	Pg	Pg	11 52 54.7	+0.7
BSWZ	Blackbirch Sta	0.51	23	P	Pg	11 52 54.3	+0.3
CMWZ	Cape Campbell	0.63	46	P	Pb	11 52 58.0	+1.0
THZ	Tophouse	0.67	309		Pg	11 52 57.0	-0.1
THZ				Sg	Sb	11 53 07.7	+0.6
THZ	Tophouse	0.67	309	P	Pg	11 52 56.4	-0.7
THZ				S	Sg	11 53 06.2	+0.3
TUWZ	Tuamarina	0.80	19	Pg	Pb	11 53 00.6	+0.8
TUWZ				Sg	Sn	11 53 11.9	-1.0
TUWZ	Tuamarina	0.80	19	P	Pb	11 53 00.2	+0.4
TUWZ				S	Sn	11 53 11.9	-1.0
GVZ	Greta Valley S	0.89	208	P	Pn	11 53 02.3	-0.2
GVZ				S	Sn	11 53 15.8	+0.4
NNZ	Nelson	0.98	350		Pg	11 53 03.4	+0.5
NNZ				Sg	Sg	11 53 16.8	+1.1
NNZ	Nelson	0.98	350	P	Pb	11 53 03.2	+0.2
NNZ				S	Sn	11 53 17.9	+0.4
MRNZ	Matariki Terra	1.01	321	P	Pb	11 53 03.3	-0.2
MRNZ				S	Sn	11 53 19.8	+1.5
TCW	Tory Channel	1.09	28	P	Pb	11 53 04.8	-0.2
LTZ	Lake Taylor	1.15	238		Pb	11 53 05.3	-0.7
LTZ	Lake Taylor	1.15	238	P	Pb	11 53 05.1	-0.9
LTZ				S	Sg	11 53 21.4	+0.1
SNZO	South Karori	1.20	44		Pb	11 53 07.2	+0.5
AMCZ	Amberley	1.22	215	P	Pn	11 53 06.8	-0.1
AMCZ				S	Sg	11 53 24.3	+1.1
TKNZ	Takaka Hill	1.25	337	P	Pn	11 53 07.1	-0.3
TKNZ				S	Sg	11 53 25.8	+1.5
WEL	Wellington	1.25	44	P	Pg	11 53 08.3	+0.2
PLWZ	Palliser	1.38	64		Pn	11 53 09.5	+0.3
PLWZ	Palliser	1.38	64	P	Pn	11 53 09.4	+0.2
DUWZ	D'Urville Isla	1.40	10	P	Pb	11 53 10.5	+0.3
DUWZ				S	Sg	11 53 29.6	+0.5
DSZ	Denniston Nort	1.41	287	P	Pb	11 53 10.4	0.0
DSZ				S	Sg	11 53 30.3	+0.7
MSWZ	Moikau Station	1.45	59	Pn	Pn	11 53 10.6	+0.4
MSWZ	Moikau Station	1.45	59	P	Pn	11 53 09.8	-0.3
MSWZ				S	Sg	11 53 31.3	+0.6
CAW	Cannon Point	1.54	46	P	Pn	11 53 12.1	+0.7
CAW				S	Sg	11 53 34.7	+1.2
PAWZ	Paruwai Farm	1.58	60	P	Pn	11 53 11.6	-0.3
QRZ	Quartz Range	1.58	329		Pn	11 53 12.6	+0.6
QRZ	Quartz Range	1.58	329	P	Pb	11 53 12.8	-0.5
QRZ				S	Sb	11 53 33.8	+0.7
OXZ	Oxford	1.62	225		Pn	11 53 11.8	-0.7
OXZ	Oxford	1.62	225	P	Pn	11 53 12.1	-0.5
KIW	Kapiti Island	1.65	37	P	Pn	11 53 13.7	+0.9
KIW				S	Sb	11 53 35.8	+0.7
MQZ	McQueen's Vall	1.67	204		Pn	11 53 11.9	-1.3
MQZ	McQueen's Vall	1.67	204	P	Pn	11 53 12.0	-1.2
MQZ				S	Sn	11 53 33.8	-0.9
INZ	Inchbonnie	1.69	251	P	Pb	11 53 14.4	-0.7
INZ				S	Sb	11 53 36.4	+0.1
TRWZ	Traveller	1.74	64	P	Pn	11 53 13.8	-0.4
MTW	Mount Morrison	1.75	55	P	Pn	11 53 14.0	-0.3
AKCZ	Akaroa Harbour	1.76	197	P	Pn	11 53 13.4	-1.1
AKCZ				S	Sn	11 53 37.3	+0.4
OGWZ	Otaki Gorge	1.80	41	P	Pn	11 53 15.3	+0.3
OGWZ				S	Sb	11 53 40.6	+1.0
RACZ	Rakaia	1.88	214	P	Pn	11 53 15.4	-0.6
HOWZ	Holdsworth Sta	1.93	49	P	Pn	11 53 16.5	-0.2
MHCZ	Mount Hutt	2.02	227	P	Pn	11 53 17.5	-0.5
MHCZ				S	Sn	11 53 43.7	+0.6
TMWZ	Te Maipa	2.02	59	P	Pn	11 53 17.1	-0.9
MRZ	Mangatainoka R	2.12	45	P	Pn	11 53 19.4	-0.1
WACZ	Wakanui South	2.18	216	P	Pn	11 53 19.1	-1.1
TIWZ	Tintock	2.22	51	P	Pn	11 53 20.2	-0.5
WVZ	Waitaha Valley	2.30	246	P	Pn	11 53 22.8	+1.0
CPWZ	Castlepoint	2.33	58	P	Pn	11 53 21.9	-0.3
OHWZ	Ohakea	2.36	34	P	Pn	11 53 24.0	+1.3
PRWZ	Pori Road	2.41	48	P	Pn	11 53 22.9	-0.5
RPZ	Rata Peaks	2.42	230	Pn	Pn	11 53 23.4	-0.1
	2μm,0.3s,baz=67,slow=3.4,SNR=30						
RPZ				LR	LR	11 54 23.9	
	comp=Z,304μm,19.5s,baz=308,slow=42						
	10μm,0.6s						
RPZ	Rata Peaks	2.42	230	P	Pn	11 53 22.9	-0.6
POWZ	Post Office Ro	2.42	43	P	Pn	11 53 24.3	+0.8
BFZ	Birch Farm	2.49	54		Pn	11 53 25.7	+1.3
BFZ	Birch Farm	2.49	54	P	Pn	11 53 24.8	+0.4
BFZ	Birch Farm	2.49	54	P	Pn	11 53 26.1	+1.7
ARCZ	Arundel	2.50	224	P	Pn	11 53 23.7	-1.0
WAZ	Wanganui	2.64	24	P	Pn	11 53 29.6	-1.7
GCSZ	Gaunt Creek Bo	2.67	244	P	Pn	11 53 28.6	+1.7
DVHZ	Dannevirke	2.70	47	P	Pn	11 53 26.5	-0.8
ANWZ	Angora Road	2.76	52	P	Pn	11 53 30.1	+1.9
TSZ	Takapari Road	2.77	41	P	Pn	11 53 28.1	-0.3
NMEZ	Namu Road	2.78	4	P	Pb	11 53 33.3	-0.3
LREZ	Lake Rotokare	2.79	13	P	Pb	11 53 33.3	-0.5
KHEZ	Kahui Hut	2.90	6	P	Pb	11 53 34.4	-1.4
KHEZ	Kahui Hut	2.90	6	P	Pb	11 53 35.5	-0.3
TMZ	Timaru	2.90	220	P	Pn	11 53 30.9	+0.7
NBEZ	Newall Road No	2.92	4	P	Pb	11 53 35.2	-0.8
PRHZ	Porangahau	2.98	51	P	Pn	11 53 32.6	+1.4
PNHZ	Pukenui	3.00	42	P	Pn	11 53 31.8	+0.3
PKE	Pukeiti	3.00	6	P	Pb	11 53 35.7	-1.8
WPHZ	Waipukurau	3.01	46	P	Pb	11 53 35.0	-2.7
DREZ	Durham Road	3.03	9	P	Pb	11 53 35.9	-2.0
FOZ	Fox Glacier	3.10	243	Pn	Pn	11 53 34.7	+2.0
FOZ	Fox Glacier	3.10	243	P	Pn	11 53 34.3	+1.5
MTVZ	Mangateitei	3.13	27	P	Pb	11 53 37.9	-1.9
MHEZ	Mangahewa	3.15	10	P	Pb	11 53 39.8	-0.3
PKVZ	Pokaka	3.18	25	P	Pb	11 53 38.0	-2.5
MOVZ	Moawhango	3.22	31	P	Pn	11 53 36.7	+1.7
WNVZ	Wahianoa	3.23	29	P	Pn	11 53 37.0	+2.2
TRVZ	Turoa	3.24	28	P	Pn	11 53 38.9	-2.7
DRZ	Dome Shelter	3.26	28	P	Pb	11 53 39.7	-2.5
WHVZ	Whangaehu Hut	3.27	28	P	Pn	11 53 38.2	+2.9
PXZ	Pawanui	3.27	50	P	Pn	11 53 35.5	+0.4
BHHZ	Black Hill Sta	3.27	36	P	Pn	11 53 37.9	+2.6
FWVZ	Far West T-bar	3.28	27	P	Pb	11 53 39.8	-2.5
TUVZ	Tukino	3.30	29	P	Pn	11 53 37.9	+2.1
LBZ	Lake Benmore	3.33	227	Pn	Pn	11 53 37.0	+1.0
LBZ	Lake Benmore	3.33	227	P	Pn	11 53 37.1	+1.1
NGZ	Ngauruhoe	3.37	27	P	Pb	11 53 40.6	-3.2
SNVZ	South Ngauruho	3.37	28	P	Pn	11 53 39.4	+2.7
OTVZ	Oturere	3.40	28	P	Pn	11 53 40.2	+3.1
TWVZ	Taurewa	3.41	25	P	Pn	11 53 38.7	+1.5
NNVZ	North Ngauruho	3.41	27	P	Pb	11 53 43.7	-0.9
WTVZ	West Tongariro	3.42	27	P	Pb	11 53 42.0	-2.7
KAHZ	Kahuranaki	3.44	47	P	Pb	11 53 43.8	+1.1
ETVZ	East Tongariro	3.44	28	P	Pb	11 53 42.0	-3.0
KRVZ	Karewarewa	3.45	27	P	Pn	11 53 43.1	-2.1
TMVZ	Te Maari	3.46	28	P	Pn	11 53 39.7	+1.8
NTVZ	North Tongarir	3.46	28	P	Pn	11 53 40.7	+2.8
KWHZ	Kaweka Forest	3.49	39	P	Pb	11 53 46.1	+0.3
ODZ	Otahua Downs	3.58	216		Pn	11 53 39.4	0.0
ODZ	Otahua Downs	3.58	216	P	Pn	11 53 39.9	+0.5
ODZ	Otahua Downs	3.58	216	P	Pn	11 53 38.8	-0.6
BKZ	Black Stump Fm	3.73	37	P	Pn	11 53 43.6	+2.0
HIZ	Hauiti	3.79	15	Pn	Pn	11 53 45.1	+2.8
HIZ	Hauiti	3.79	15	P	Pn	11 53 45.5	+3.2
HIZ	Hauiti	3.79	15	P	Pn	11 53 45.5	+3.2
HATZ	Hinemaiaia	3.80	31	P	Pb	11 53 47.4	-3.6
WATZ	Wairara	3.83	26	P	Pn	11 53 48.6	-3.0
NMHZ	Naumai	3.93	39	P	Pn	11 53 46.6	+2.3
WHTZ	Whakaora	3.95	28	P	Pn	11 53 52.3	-1.3
MRHZ	Matea Rd	3.97	34	P	Pn	11 53 44.4	-0.5
JCZ	Jackson Bay	4.00	240	P	Pn	11 53 48.8	+1.5
JCZ	Jackson Bay	4.00	240	P	Pn	11 53 46.2	+0.9
TLZ	Tolley Road	4.12	22	P	Pn	11 53 51.1	+4.1
MTHZ	Maungataniwha	4.14	38	P	Pn	11 53 49.8	+2.6
WHHZ	Waihua	4.15	43	P	Pn	11 53 49.0	+1.6
ALRZ	Allen Road	4.18	31	P	Pn	11 53 47.4	-0.3
WKZ	Wanaka	4.26	230	P	Pn	11 53 48.8	0.0
HHSZ	Highcliff Hill	4.29	209	P	Pn	11 53 48.3	-0.9
EAZ	Earnscleugh	4.36	224	P	Pn	11 53 49.8	-0.3
MUGZ	Murupara	4.42	34	P	Pn	11 53 51.1	+0.1
KNZ	Kokohu	4.42	46	P	Pn	11 53 50.3	-0.7
RRRZ	Republican Roa	4.44	31	P	Pn	11 53 52.7	+1.5
MHGZ	Mahia Peninsul	4.46	49	P	Pn	11 53 51.5	0.0
TARZ	Mount Tarawera	4.53	30	P	Pn	11 53 52.6	0.0
NGRZ	Ngongotaha	4.53	27	P	Pn	11 53 58.0	+5.4
OMRZ	Omania	4.59	28	P	Pn	11 53 54.1	+0.7
OMRZ				P	Pb	11 54 00.1	-4.5
KARZ	Kaharoa	4.62	27	P	Pn	11 53 54.9	+1.1
TOZ	Tahuroa Road	4.68	19	P	Pn	11 53 57.9	+4.3
KMRZ	Kaimai	4.69	23	P	Pn	11 53 57.2	+2.4
RAGZ	Rawiri	4.70	40	P	Pn	11 53 54.9	0.0
RIGZ	Rimuhau	4.70	44	P	Pn	11 53 54.5	-0.4
EDRZ	Edgecumbe	4.73	32	P	Pn	11 53 58.6	+3.3
TUZ	Tuapeka	4.73	216	P	Pn	11 53 55.0	-0.2
URZ	Urewera	4.75	36	P	Pn	11 53 54.5	-1.0
MARZ	Manawahe	4.81	30	P	Pn	11 53 59.1	+2.7
MSZ	Milford Sound	4.83	237	P	Pn	11 53 56.8	+0.3
MWZ	Matawai	4.88	39	P	Pn	11 53 56.7	-0.6
OPRZ	Ohinepanea	4.89	29	P	Pn	11 53 57.6	+0.2
TGRZ	Tauranga	4.89	25	P	Pn	11 53 57.9	+0.4
TKGZ	Te Karaka	4.95	42	P	Pn	11 53 57.2	-1.1
WHRZ	Whale Island	5.04	32	P	Pn	11 54 01.8	+2.3
MLZ	Mavora Lakes	5.09	229	Pn	Pn	11 54 00.3	+0.1
MLZ	Mavora Lakes	5.09	229	P	Pn	11 54 00.5	+0.2
CNGZ	Carnagh Statio	5.10	45	P	Pn	11 54 01.4	+1.0
AWAZ	Awhitu Peninsu	5.18	9	P	Pn	11 53 58.9	+2.2
MKAZ	Moumakai	5.21	14	P	Pn	11 54 03.7	+1.8
TWGZ	Tauwhareparae	5.22	41	P	Pn	11 54 03.6	+1.6
RUGZ	Raukumara Rang	5.24	38	P	Pn	11 54 02.3	-0.2
WTAZ	Waiatarua	5.30	8	P	Pn	11 54 05.7	+2.7
MYRZ	Mayor Island	5.30	23	P	Pn	11 54 03.9	+0.7
ETAZ	East Tamaki Re	5.32	11	P	Pn	11 54 05.4	+2.0
EPAZ	Eden Park BICE	5.37	10	P	Pn	11 54 06.5	+2.4
HBAZ	Herne Bay Bore	5.40	10	P	Pn	11 54 07.6	+3.2
SYZ	Scrubby Hill	5.40	215	P	Pn	11 54 04.4	0.0
	5μm,0.7s						
SYZ	Scrubby Hill	5.40	215	P	Pn	11 54 04.1	-0.3
WIZ	White Island	5.41	32	P	Pn	11 54 05.6	+1.0
PUZ	Puketiti	5.44	42	P	Pn	11 54 05.7	+0.8
RVAZ	Riverhead Bore	5.46	8	P	Pn	11 54 08.0	+2.7
HAZ	Te Kaha	5.46	37	P	Pn	11 54 05.6	+0.3
PKOZ	Pakihiroa	5.49	40	P	Pn	11 54 05.6	-0.1
MBAZ	Motutapu North	5.50	11	P	Pn	11 54 08.4	+2.6
WHZ	Wether Hill Ro	5.51	226	Pn	Pn	11 54 06.5	+0.6
WHZ	Wether Hill Ro	5.51	226	P	Pn	11 54 05.6	-0.4
WIAZ	Waiheke Island	5.51	13	mB			
ABAZ	Army Bay	5.66	10	P	Pn	11 54 10.3	+2.3
KUZ	Kuaotunu	5.67	17	P	Pn	11 54 09.7	+1.5
	1μm,1.5s						
KUZ	Kuaotunu	5.67	17	P	Pn	11 54 09.7	+1.5
DCZ	Deep Cove	5.70	233	P	Pn	11 54 08.1	-0.5
WMGZ	Waiomatatini S	5.71	42	P	Pn	11 54 08.8	+0.1
MXZ	Matakaoa Point	5.86	40	Pn	Pn	11 54 10.5	-0.3
MXZ	Matakaoa Point	5.86	40	P	Pn	11 54 09.7	-1.1
	5μm,0.9s						
MXZ	Matakaoa Point	5.86	40	P	Pn	11 54 09.9	-0.9
GRZ	Great Barrier	6.10	14	P	Pn	11 54 17.8	+3.8
APZ	The Paps	6.14	219	P	Pn	11 54 14.9	+0.3
WCZ	Waipu Caves	6.26	6	P	Pn	11 54 19.3	+3.0
PYZ	Puysegur Point	6.37	229	Pn	Pn	11 54 18.4	+0.6
PYZ	Puysegur Point	6.37	229	P	Pn	11 54 19.0	+1.2
	4μm,1.1s						
PYZ	Puysegur Point	6.37	229	P	Pn	11 54 18.6	+0.8
OUZ	Omahuta	6.95	360		Pn	11 54 27.9	+2.2
OUZ	Omahuta	6.95	360	P	Pn	11 54 28.1	+2.3
	2μm,0.9s						
OUZ	Omahuta	6.95	360	P	Pn	11 54 29.5	+3.7
CTZ	Chatham Island	7.34	105	P	Pn	11 54 29.5	-1.5
	1μm,0.7s						
CTZ	Chatham Island	7.34	105	P	Pn	11 54 29.8	-1.2
NFK	Norfolk Island	13.89	339	P	Pn	11 56 02.4	+1.6
	baz=14,SNR=4.9						
NFK	Norfolk Island	13.89	339	P	Pn	11 56 02.1	+1.3
	996nm,1.7s						
MCQ	Macquarie Isla	15.66	213	P	P	11 56 27.9	-0.7
	baz=16,SNR=6.3						
MCQ	Macquarie Isla	15.66	213		Pn	11 56 23.7	-0.8
MCQ	Macquarie Isla	15.66	213	P	Pn	11 56 24.5	0.0
	432nm,1.8s						
MCQ	Macquarie Isla	15.66	213	P	Pn	11 56 23.7	-0.8
LHI	Lord Howe Isla	15.75	308	P	Pn	11 56 25.9	+0.2
	baz=16,SNR=3.3						
LHI	Lord Howe Isla	15.75	308	P	P	11 56 28.2	-1.5
	508nm,1.6s						
GLAD	Gladstone	19.17	265	P	Pn	11 57 09.3	+1.0
	328nm,1.3s						
AUUHS	Ulladulla High	19.25	283	P	Pn	11 57 12.0	+2.7
	477nm,1.3s						
TAU	Tasmania Unive	19.36	259	P	P	11 57 06.9	-2.6
TAU	Tasmania Unive	19.36	259	P	Pn	11 57 12.6	+2.0
	163nm,1.3s						
TAU	Tasmania Unive	19.36	259	P	P	11 57 06.9	-2.6
TAU				pmax	pmax		
	comp=Z,121nm,0.9s						
MILA	Mila	19.49	277	P	P	11 57 11.3	+0.3
	baz=19,SNR=7.7						
MILA	Mila	19.49	277	P	Pn	11 57 14.8	+2.5
	comp=Z,458nm,1.8s						
MOO	Moorlands	19.52	260	P	Pn	11 57 12.0	-0.4
	baz=19,SNR=7.6						
MOO	Moorlands	19.52	260	P	P	11 57 16.0	+3.5
RIV	Riverview	19.52	288	P	P	11 57 09.8	-1.4
	baz=19,SNR=5.1						
RIV	Riverview	19.52	288	P	Pn	11 57 15.2	+2.7
	comp=Z,631nm,1.9s						
NTLH	Newcastle Hard	19.64	291	P	Pn	11 57 16.2	+2.2
	comp=Z,183nm,1.3s						
AULHS	Lilydale High	19.70	264	P	Pn	11 57 14.9	+0.3
	comp=Z,341nm,0.9s						
CORO	Coronation Par	19.71	263	P	Pn	11 57 18.6	+3.8
	comp=Z,170nm,1.1s						
CNB	Canberra Magne	20.08	282	P	P	11 57 17.1	-0.3
	baz=20,SNR=16						
CNB	Canberra Magne	20.08	282	P	Pn	11 57 19.3	+0.1
	comp=Z,135nm,0.8s						
AUSMG	Snowy Mountain	20.15	278	P	Pn	11 57 20.4	+0.3
CAN	Canberra	20.34	282	P	Pn	11 57 22.2	-0.1
CAN	Canberra	20.34	282	P	Pn	11 57 21.9	-0.4
	comp=Z,308nm,2.3s						
CAN	Canberra	20.34	282	P	Pn	11 57 22.2	-0.1

baz=27,SNR=11
STKA Stephens Creek 27.41 282 P **P** 11 58 30.2 +0.7
STKA Stephens Creek 27.41 282 P **P** 11 58 29.7 +0.2
STKA Stephens Creek 27.41 282‖*e*P **P** 11 58 30.1 +0.6
GHSS Government Hou 28.17 273 P **P** 11 58 37.3 +1.0
comp=Z,199nm,0.7s
HTT Hallett 28.60 276 P **P** 11 58 40.2 0.0
baz=28,SNR=13
HTT Hallett 28.60 276 P **P** 11 58 40.5 +0.2
QLP Quilpie 28.62 294 P **P** 11 58 40.9 +0.4
baz=28,SNR=15
QLP Quilpie 28.62 294 P **P** 11 58 40.6 +0.2
comp=Z,232nm,1.8s
FUTU Fugatoga 28.68 17 P **P** 11 58 41.5 +0.5
comp=Z,120nm,0.9s
WHYH Whyalla 29.79 276 P **P** 11 58 51.1 +0.4
comp=Z,86nm,0.8s
INKA Innaminka 30.33 288 P **P** 11 58 56.3 +0.8
RAR Rarotonga 30.61 55 P **P** 11 58 59.0 +1.0
comp=Z,35nm,0.5s,baz=91,slow=18,SNR=0.9
comp=Z,35nm,0.5s
LCRK Leigh Creek 30.62 281 P **P** 11 58 58.3 +0.2
comp=Z,435nm,0.8s
AFI Afiamalu 30.89 29 P **P** 11 59 00.9 +0.3
comp=Z,16nm,0.5s,baz=309,slow=18,SNR=1.7
comp=Z,16nm,0.5s
BBOO Buckleboo 31.01 275 P **P** 11 59 01.1 -0.5
baz=31,SNR=19
BBOO Buckleboo 31.01 275 P **P** 11 59 01.6 0.0
BBOO IAmb IAmb 11 59 09.5
comp=Z,62nm,0.8s
BBOO Buckleboo 31.01 275 P **P** 11 59 01.2 -0.4
CTA Charters Tower 31.91 305 P **P** 11 59 08.7 -0.8
comp=Z,35nm,0.9s,baz=136,slow=9.1,SNR=11
comp=Z,35nm,0.9s
CTA Charters Tower 31.91 305 P **P** 11 59 09.4 -0.1
CTAO Charters Tower 31.91 305 P **P** 11 59 09.4 -0.1
CTAO IAmb IAmb 11 59 25.5
comp=Z,102nm,1.2s
CTAO Charters Tower 31.91 305 P **P** 11 59 09.6 +0.1
CTAO Charters Tower 31.91 305 P **P** 11 59 09.4 -0.1
CTAO pmax pmax
comp=Z,102nm,1.2s
MULG Mulgathing 33.76 278 P **P** 11 59 24.8 -0.8
OOD Oodnadatta 33.92 283 P **P** 11 59 26.8 -0.3
HNR Honiara 34.77 336 P **P** 11 59 34.0 -0.4
comp=Z,2µm,0.9s,baz=200,slow=8.9,SNR=7.9
HNR Honiara 34.77 336 P **P** 11 59 34.9 +0.5
HNR Honiara 34.77 336 P **P** 11 59 35.2 +0.8
comp=Z,495nm,1.0s
HNR Honiara 34.77 336 P **P** 11 59 34.9 +0.5
HNR pmax pmax
comp=Z,495nm,1.0s
VNDA Vanda 35.78 184 P **P** 11 59 44.6 +2.0
comp=Z,8.2nm,1.0s,baz=12,slow=7.4,SNR=11
VNDA ScP **ScP** 12 05 56.5 +0.8
comp=Z,18nm,1.3s,baz=345,slow=4.3,SNR=5.6
comp=Z,8.2nm,1.0s
VNDA Vanda 35.78 184 P **P** 11 59 41.4 -1.2
QIS Mount Isa 35.81 296 P **P** 11 59 43.1 -0.4
baz=36,SNR=15
QIS Mount Isa 35.81 296 P **P** 11 59 43.1 -0.4
SBA Scott Base 35.89 182 P **P** 11 59 47.0 +3.5
SBA Scott Base 35.89 182 P **P** 11 59 47.0 +3.5
SBA pmax pmax
comp=Z,96nm,1.3s
TBI Tubuai 35.94 70 *e*T T 12 37 23.6
comp=Z,127nm,0.3s
AS01 Alice Springs 37.66 287 P **P** 11 59 58.3 -0.9
comp=Z,74nm,1.0s
AS31 Alice Springs 37.69 287 P **P** 11 59 58.4 -1.1
ASAR Alice Springs 37.69 287 P **P** 11 59 58.4 -1.1
comp=Z,22nm,0.5s,baz=126,slow=7.2,SNR=54
ASAR S **S** 12 05 48.5 -1.0
comp=Z,4.5nm,1.1s,baz=126,slow=14,SNR=4.1
ASAR ScP **ScP** 12 06 01.9 -1.9
comp=Z,3.4nm,0.8s,baz=123,slow=3.4,SNR=4.2
comp=Z,22nm,0.5s
ASAR Alice Springs 37.69 287 P **P** 11 59 58.6 -0.9
FORT Forrest 37.94 272 P **P** 12 00 00.9 -0.6
baz=38,SNR=52
FORT Forrest 37.94 272 P **P** 12 00 01.1 -0.4
comp=Z,507nm,0.8s
COEN Coen 38.51 308 P **P** 12 00 05.5 -0.9
baz=38,SNR=44
COEN Coen 38.51 308 P **P** 12 00 05.6 -0.8
COEN Coen 38.51 308 P **P** 12 00 05.5 -0.9
WR0 Warramunga Arr 39.66 292 P **P** 12 00 14.7 -1.3
WR0 IAmb IAmb 12 00 17.6
comp=Z,118nm,0.9s
PAE Paea 39.73 63 *e*P **P** 12 00 19.1 +2.6
comp=Z,31nm,1.1s
PAE Paea 39.73 63 *e*T T 12 42 18.9
comp=Z,16nm,0.3s
PPT2 Papeete2 39.78 63 *e*P P 12 00 22.5 +5.4
comp=Z,144nm,1.0s
PPT2 Papeete2 39.78 63 *e*T T 12 42 32.6
comp=Z,23nm,0.3s
PPTF Pamatai, Papee 39.79 63 P **P** 12 00 14.9 -2.2
PPTF IAmb IAmb 12 00 46.1
comp=Z,344nm,1.3s
WB1 Warramunga Ar. 39.79 292 P **P** 12 00 16.0 -1.1
PPT Papeete 39.80 63 P **P** 12 00 17.6 +0.4
comp=Z,17nm,0.3s,baz=253,slow=19,SNR=1.8
comp=Z,17nm,0.3s
WB2 Warramunga Arr 39.80 292 P **P** 12 00 16.4 -0.9
WB2 IAmb IAmb 12 00 19.3
comp=Z,163nm,0.8s
WRAB Tennant Creek 39.81 292 P **P** 12 00 16.8 -0.5
WRAB IAmb IAmb 12 00 19.3
comp=Z,160nm,0.8s
WRAB Tennant Creek 39.81 292 P **P** 12 00 16.3 -1.0
comp=Z,261nm,0.8s
WRAB Tennant Creek 39.81 292‖*e*P **P** 12 00 16.1 -1.2
WRAB pmax pmax
comp=Z,578nm,2.2s
WRA Warramunga Arr 39.81 292 P **P** 12 00 16.3 -1.0
comp=Z,100nm,0.7s,baz=130,slow=7.5,SNR=114
WRA S **S** 12 06 20.9 -0.6
comp=Z,1.5nm,0.8s,baz=138,slow=15,SNR=1.6
comp=Z,100nm,0.7s
WB0 Warramunga Arr 39.89 292 P **P** 12 00 17.0 -0.9
WB0 IAmb IAmb 12 00 19.5
comp=Z,124nm,0.7s
TIAR Tiarei 39.96 64 *e*P **P** 12 00 17.1 -1.4
comp=Z,18nm,1.0s
PMG Port Moresby 40.07 317 P **P** 12 00 19.6 +0.2
comp=Z,236nm,1.0s,baz=152,slow=4.9,SNR=69
comp=Z,236nm,1.0s
PMG Port Moresby 40.07 317 P **P** 12 00 20.1 +0.7
PMG IAmb IAmb 12 00 21.1
comp=Z,307nm,1.1s
PMG Port Moresby 40.07 317 P **P** 12 00 18.4 -1.0
comp=Z,302nm,1.1s
PMG Port Moresby 40.07 317 P **P** 12 00 19.8 +0.3
comp=Z,304nm,1.1s
PMG Port Moresby 40.07 317‖*e*P **P** 12 00 19.7 +0.3
WRKA Warakurna 40.91 280 P **P** 12 00 24.8 -1.6
baz=41,SNR=134
WRKA Warakurna 40.91 280 P **P** 12 00 24.7 -1.7
comp=Z,278nm,0.8s
KMBL Kambalda 42.24 267 P **P** 12 00 36.7 -0.5
baz=42,SNR=18
KMBL Kambalda 42.24 267 P **P** 12 00 36.8 -0.4
comp=Z,189nm,1.9s
KRVT Keravat (AS076 42.34 327 P **P** 12 00 37.4 -0.7
comp=Z,80nm,0.8s,baz=137,slow=2.0,SNR=21
comp=Z,80nm,0.8s
RABL Rabaul 42.39 327 P **P** 12 00 38.2 -0.4
RABL Rabaul 42.39 327 P **P** 12 00 38.1 -0.4
comp=Z,818nm,0.9s
VAH Vaihoa 42.77 63 *e*T T 12 46 24.4
comp=Z,20nm,0.2s
TARA Tarawa 43.34 359 P **P** 12 00 44.5 -1.6
TARA IAmb IAmb 12 01 11.8
comp=Z,263nm,0.9s
TARA Tarawa 43.34 359 P **P** 12 00 44.8 -1.4
comp=Z,260nm,1.3s
AUALB St Joseph's Co 43.47 260 P **P** 12 00 47.7 +0.7
RKGY Rocky Gully 44.32 260 P **P** 12 00 52.9 -1.0
baz=44,SNR=5.3
NWAO Narrogin (SRO) 44.92 263 P **P** 12 00 58.3 -0.5
comp=Z,28nm,0.7s,baz=348,slow=7.2,SNR=13
comp=Z,28nm,0.7s
NWAO Narrogin (SRO) 44.92 263 P **P** 12 00 58.6 -0.2
baz=45,SNR=14
NWAO P **P** 12 00 58.6 -0.2
baz=45,SNR=14
NWAO Narrogin (SRO) 44.92 263 P **P** 12 00 58.3 -0.5
NWAO Narrogin (SRO) 44.92 263 P **P** 12 00 58.7 0.0
comp=Z,89nm,1.1s
NWAO Narrogin (SRO) 44.92 263 P **P** 12 00 58.3 -0.5
NWAO pmax pmax
comp=Z,53nm,1.0s
KLBR Kellerberrin 45.19 265 P **P** 12 00 59.8 -1.1
baz=45,SNR=25
KLBR Kellerberrin 45.19 265 P **P** 12 00 59.8 -1.1
comp=Z,138nm,1.3s
AUHAR St Anne's Scho 45.83 262 P **P** 12 01 06.6 +0.7
comp=Z,200nm,1.6s
MUN Mundaring 46.14 263 P **P** 12 01 07.8 -0.6
baz=46,SNR=21
MUN Mundaring 46.14 263 P **P** 12 01 08.6 +0.2
KDU Kakadu 46.19 297 P **P** 12 01 08.1 -0.8
baz=46,SNR=8.4
KDU Kakadu 46.19 297 P **P** 12 01 08.4 -0.5
comp=Z,217nm,2.9s
MANU Manus Island 46.38 322 P **P** 12 01 10.4 0.0
MANU Manus Island 46.38 322 P **P** 12 01 10.4 0.0
comp=Z,110nm,1.3s
BLDU Ballidu 46.45 265 P **P** 12 01 10.0 -0.9
baz=46,SNR=15
BLDU Ballidu 46.45 265 P **P** 12 01 10.1 -0.8
KNRA Kununurra 46.59 291 P **P** 12 01 11.6 -0.4
baz=46,SNR=14
KNRA Kununurra 46.59 291 P **P** 12 01 12.0 0.0
comp=Z,228nm,1.5s
MTN Manton Dam 46.97 296 P **P** 12 01 14.3 -0.7
baz=47,SNR=15
MTN Manton Dam 46.97 296 P **P** 12 01 13.7 -1.4
MTN Manton Dam 46.97 296 P **P** 12 01 14.5 -0.5
comp=Z,185nm,0.8s
MEEK Meekatharra 47.16 271 P **P** 12 01 15.0 -1.5
baz=47,SNR=32
MEEK Meekatharra 47.16 271 P **P** 12 01 15.2 -1.3
comp=Z,160nm,1.0s
MORW Morawa 47.75 267 P **P** 12 01 20.5 -0.6
baz=48,SNR=18
MORW Morawa 47.75 267 P **P** 12 01 20.2 -0.8
MORW Morawa 47.75 267 P **P** 12 01 20.3 -0.8
comp=Z,174nm,1.4s
QSPA South Pole Qui 47.94 180 P **P** 12 01 24.2 +2.0
comp=Z,116nm,1.0s,baz=18,slow=3.7,SNR=18
comp=Z,116nm,1.0s
PSA00 Pilbara Seismi 49.19 277 P **P** 12 01 31.0 -1.3
PSA00 IAmb IAmb 12 01 35.7
comp=Z,129nm,1.4s
PSA00 Pilbara Seismi 49.19 277 P **P** 12 01 31.2 -1.1
PSA00 IAmb IAmb 12 01 41.7
comp=Z,99nm,0.8s
PSA00 Pilbara Seismi 49.19 277 P **P** 12 01 30.6 -1.6
GENI Genyem 49.48 314 P **P** 12 01 34.0 -0.5
comp=Z,130nm,2.1s
GENI Genyem 49.48 314 P **P** 12 01 36.7 +2.2
comp=Z,130nm,2.2s
MBWA Marble Bar 49.53 278 P **P** 12 01 33.1 -1.7
MBWA IAmb IAmb 12 02 13.6
comp=Z,78nm,1.1s
MBWA Marble Bar 49.53 278 P **P** 12 01 33.1 -1.7
comp=Z,57nm,2.3s
SAUI Saumlaki 50.45 300 P **P** 12 01 42.4 +0.6
SAUI Saumlaki 50.45 300 P **P** 12 01 40.8 -1.1
SMPI Sarmi 50.78 312 P **P** 12 01 43.0 -1.3
GIRL Giralia 52.71 272 P **P** 12 01 57.8 -0.8
baz=52,SNR=6.7
GIRL Giralia 52.71 272 P **P** 12 01 59.3 +0.6
GIRL Giralia 52.71 272 P **P** 12 01 59.2 +0.6
comp=Z,356nm,0.9s
FAKI Fak Fak 53.77 305 P **P** 12 02 04.3 -2.3
comp=Z,73nm,0.7s
FAKI Fak Fak 53.77 305 P **P** 12 02 04.8 -1.8
comp=Z,72nm,0.7s
SOEI Soe 53.84 292 P **P** 12 02 08.3 +1.0
SOEI Soe 53.84 292 P **P** 12 02 08.2 +1.0
SOEI Soe 53.84 292 P **P** 12 02 08.0 +0.8
comp=Z,357nm,1.0s
BATI Baumata 53.94 291 P **P** 12 02 08.9 +1.1
comp=Z,207nm,1.0s
BNDI Bandanaira 53.98 302 P **P** 12 02 06.1 -2.0
comp=Z,130nm,0.9s
BNDI Bandanaira 53.98 302 P **P** 12 02 06.6 -1.5
comp=Z,131nm,0.9s
MSAI Masohi 55.50 302 P **P** 12 02 16.8 -2.3
comp=Z,15nm,0.7s
AAI Ambon 55.71 301 P **P** 12 02 19.2 -1.4
comp=Z,43µmcomp=Z,60nm,1.4s
AAI Ambon 55.71 301 P **P** 12 02 19.2 -1.4
AAI pmax pmax
comp=Z,60nm,1.4s
SIJI Sorong 55.99 306 P **P** 12 02 21.6 -1.0
comp=Z,24nm,0.4s,baz=94,slow=4.2,SNR=22
comp=Z,24nm,0.4s
SIJI Sorong 55.99 306 P **P** 12 02 21.2 -1.4
comp=Z,99nm,1.4s
MMRI Maumere 56.04 291 P **P** 12 02 22.7 -0.3
MMRI Maumere 56.04 291 P **P** 12 02 22.0 -1.0
comp=Z,344nm,0.9s
MMRI Maumere 56.04 291 P **P** 12 02 22.2 -0.8
comp=Z,342nm,0.9s
NLAI Namlea 56.75 300 P **P** 12 02 27.1 -0.9
comp=Z,46nm,0.8s
BBSI Bau Bau 58.08 294 P **P** 12 02 37.8 +0.4
comp=Z,83nm,0.9s
SANI Sanana 58.37 300 P **P** 12 02 37.8 -1.6
comp=Z,94nm,0.9s
SANI Sanana 58.37 300 P **P** 12 02 39.0 -0.4
comp=Z,94nm,0.9s
LBMI Labuha 58.49 302 P **P** 12 02 40.2 -0.1
comp=Z,169nm,1.4s
MAW Mawson 58.86 205 P **P** 12 02 43.4 +1.2
comp=Z,27nm,0.9s,baz=126,slow=9.0,SNR=25
comp=Z,27nm,0.9s
MAW Mawson 58.86 205 P **P** 12 02 45.2 +3.1
baz=59,SNR=15
MAW Mawson 58.86 205 P **P** 12 02 44.6 +2.5
MAW Mawson 58.86 205 P **P** 12 02 44.6 +2.5
MAW pmax pmax
comp=Z,18nm,1.2s
BELA Belgrano 2 58.97 173 P **P** 12 02 44.9 +2.0
BELA IAmb IAmb 12 03 03.9
comp=Z,51nm,0.8s
BSSI Bau Bau, Buton 59.02 292 P **P** 12 02 42.7 -1.3
comp=Z,194nm,0.8s
PLAI Plampang 59.03 288 P **P** 12 02 43.4 -0.7
comp=Z,228nm,0.9s
PLAI Plampang 59.03 288 P **P** 12 02 43.8 -0.3
comp=Z,232nm,0.9s
KKSI Kolaka, Sulawe 59.66 294 P **P** 12 02 48.1 -0.3
comp=Z,160nm,1.0s
TNTI Ternate 59.66 303 P **P** 12 02 47.5 -0.9
TNTI IAmb IAmb 12 03 05.2
comp=Z,50nm,0.8s
TNTI Ternate 59.66 303 P **P** 12 02 47.2 -1.2
comp=Z,69nm,1.0s
TWSI Taliwang, Sumb 59.73 287 P **P** 12 02 48.1 -0.8
comp=Z,206nm,1.1s
BKSI Bulukumba 59.87 292 P **P** 12 02 49.0 -0.8
comp=Z,59nm,0.8s
GAMI Galela, Maluku 60.24 304 P **P** 12 02 51.3 -1.1
comp=Z,146nm,1.0s
KAPI Kappang 60.34 292 P **P** 12 02 53.3 +0.2
KAPI IAmb IAmb 12 03 12.9
comp=Z,112nm,1.2s
KAPI Kappang 60.34 292 P **P** 12 02 53.2 +0.2
comp=Z,68nm,1.0s
KAPI Kappang 60.34 292 P **P** 12 02 53.1 0.0
comp=Z,75nm,1.0s
KAPI Kappang 60.34 292 P **P** 12 02 53.3 +0.2
KAPI pmax pmax
comp=Z,112nm,1.3s
KLNI Mataram 60.51 287 P **P** 12 02 53.4 -0.8
comp=Z,146nm,0.9s
BNSI Bone 60.54 293 P **P** 12 02 54.1 -0.4
comp=Z,70nm,1.1s
DNP Denpasar 60.96 286 P **P** 12 02 57.4 +0.1
comp=Z,397nm,1.2s
SMAI San Martin Ant 61.05 158 P **P** 12 02 59.3 +2.2
SMAI IAmb IAmb 12 03 19.7
comp=Z,94nm,1.2s
SPSI Sidrap Palu 61.09 293 P **P** 12 02 56.9 -1.3
comp=Z,122nm,1.2s
LUWI Luwuk 61.22 298 P **P** 12 02 59.1 0.0
LUWI Luwuk 61.22 298 P **P** 12 02 58.8 -0.3
comp=Z,550nm,1.0s
LUWI Luwuk 61.22 298 P **P** 12 02 58.6 -0.5
comp=Z,553nm,1.0s
RTBI Rangdo, Negare 61.30 286 P **P** 12 02 59.0 -0.7
comp=Z,231nm,1.0s
SRBI Singaraja 61.37 286 P **P** 12 02 59.6 -0.5
comp=Z,141nm,0.9s
JAGI Jajag, Banyuwa 61.86 285 P **P** 12 03 02.9 -0.6
JAGI Jajag, Banyuwa 61.86 285 P **P** 12 03 02.7 -0.8
comp=Z,171nm,1.1s
JAGI Jajag, Banyuwa 61.86 285 P **P** 12 03 03.2 -0.3
comp=Z,171nm,1.1s
PMSI Majene 62.01 293 P **P** 12 03 05.0 +0.6
comp=Z,127nm,1.4s
APSI Ampana 62.06 297 P **P** 12 03 04.1 -0.6
comp=Z,74nm,0.9s
ABJI Asem Bagus 62.27 286 P **P** 12 03 06.0 -0.1
comp=Z,389nm,1.0s
MRSI Marisa 62.91 298 P **P** 12 03 08.4 -2.0
comp=Z,51nm,1.2s
KMMI Kalianget 62.97 286 P **P** 12 03 10.3 -0.6
PWJI Pagerwojo 63.86 284 P **P** 12 03 16.2 -0.5
GRJI Gresik 64.13 285 P **P** 12 03 18.5 0.0
comp=Z,111nm,0.9s
TOLI2 Tolitoli 64.14 298 P **P** 12 03 16.9 -1.7
TOLI2 IAmb IAmb 12 03 44.8
comp=Z,73nm,1.0s
TOLI2 Tolitoli 64.14 298 P **P** 12 03 17.1 -1.5
comp=Z,96nm,1.0s
MPSI Mapaga 64.15 296 P **P** 12 03 17.8 -0.8
comp=Z,97nm,0.9s
PCJI Pacitan 64.20 283 P **P** 12 03 18.6 -0.4
comp=Z,153nm,1.0s
PMSA Palmer Station 64.27 156 P **P** 12 03 21.0 +2.3
comp=Z,15nm,0.9s,baz=252,slow=3.2,SNR=1.5
comp=Z,15nm,0.9s
NGJI Ngawi 64.55 284 P **P** 12 03 22.3 +1.0
comp=Z,307nm,1.0s
BWJI Bawean 64.73 286 P **P** 12 03 21.4 -1.1
comp=Z,288nm,1.6s
BBKI Banjar Baru 64.86 289 P **P** 12 03 23.2 -0.1
comp=Z,244nm,1.1s
BKB Balikpapan 65.01 293 P **P** 12 03 26.1 +1.9
BKB Balikpapan 65.01 293 P **P** 12 03 25.9 +1.7
comp=Z,233nm,0.9s
BKB Balikpapan 65.01 293 P **P** 12 03 26.1 +1.9
comp=Z,238nm,0.9s
SMRI Semarang 65.51 283 P **P** 12 03 27.7 +0.2
comp=Z,199nm,1.4s
SMRI Semarang 65.51 283 P **P** 12 03 28.3 +0.8
comp=Z,199nm,1.4s
DAV Davao City (W) 65.70 306 P **P** 12 03 28.5 -0.2
comp=Z,328nm,0.9s
DAV Davao City (W) 65.70 306 P **P** 12 03 30.3 +1.6
comp=Z,336nm,0.9s
TROLL Troll, Antarti 65.94 183 pP **P** 12 03 31.3 +1.6
SCJI Gunung Srandil 66.00 282 P **P** 12 03 30.2 -0.5
SNAA Sanae 66.42 181 pP **P** 12 03 34.0 +1.4
SNAA Sanae 66.42 181 P **P** 12 03 33.8 +1.1
SNAA IAmb IAmb 12 03 36.0
comp=Z,62nm,1.1s
SNAA Sanae 66.42 181‖*e*P **P** 12 03 34.6 +1.9
SNAA pmax pmax
comp=Z,52nm,1.1s
CTJI Waduk Cacaban 66.45 282 P **P** 12 03 33.2 -0.4
comp=Z,210nm,0.9s
NVL N'lazarevskaya 66.59 186 *e*P **P** 12 03 34.9 +1.3
NVL pmax pmax
comp=Z,124nm,1.2s
MTKI Muara Teweh, K 66.62 291 P **P** 12 03 34.3 -0.3
comp=Z,227nm,0.8s
XMI Christmas Isla 66.71 277 P **P** 12 03 34.4 -0.9
comp=Z,172nm,0.8s
VNA3 Neumayer Olymp 66.86 179 pP **P** 12 03 36.7 +1.3
VNA2 Neumayer--Watz 67.20 180 pP **P** 12 03 39.2 +1.7
baz=166,slow=6.0
BBJI Bungbulang 67.26 281 P **P** 12 03 37.9 -0.9
comp=Z,131nm,1.6s
JCJI Jatiwangi 67.46 282 P **P** 12 03 38.8 -1.2
VNA1 Neumayer--Stat 67.47 179 pP **P** 12 03 40.7 +1.5
PBKI Pangkalan Bun 67.63 288 P **P** 12 03 40.9 -0.2
comp=Z,218nm,0.7s
LEM Lembang 67.71 281 P **P** 12 03 41.6 -0.2
comp=Z,270nm,0.8s
CNJI Cibinong 67.74 281 P **P** 12 03 40.0 -1.8
comp=Z,100nm,1.2s
HMH Humu'ula Sheep 67.79 32 P **P** 12 03 41.9 -0.3
SKJI Sukabumi 68.36 280 P **P** 12 03 44.3 -1.4
comp=Z,192nm,0.9s
KIP Kipapa 68.51 28 P **P** 12 03 46.1 -0.2
KIP Kipapa 68.51 28 P **P** 12 03 46.2 -0.1
MYLDM Lahad Datu 68.69 299 P **P** 12 03 47.2 -0.4
comp=Z,161nm,0.9s
TNG Tangerang 68.86 281 P **P** 12 03 48.2 -0.6
comp=Z,461nm,0.5s
SBJI Serang 69.27 281 P **P** 12 03 52.3 +1.0
comp=Z,131nm,0.5s
BLSI Bandar Lampung 70.42 281 P **P** 12 03 56.7 -1.8
comp=Z,113nm,0.4s
KKM Kota Kinabalu 70.83 298 P **P** 12 04 00.1 -0.9
KKM IAmb IAmb 12 04 07.3
comp=Z,70nm,0.8s
KKM Kota Kinabalu 70.83 298 P **P** 12 04 00.0 -1.0
comp=Z,114nm,0.8s
KKM Kota Kinabalu 70.83 298 P **P** 12 03 59.9 -1.0
comp=Z,114nm,0.8s
SBUM Sibu 70.90 292 P **P** 12 04 01.1 -0.2
comp=Z,37nm,0.7s
KLI Kotabumi 71.05 281 P **P** 12 04 00.8 -1.4
LWLI Liwa 71.53 280 P **P** 12 04 04.2 -1.1
comp=Z,194nm,0.9s
KSM Kuching 71.53 290 P **P** 12 04 03.9 -1.2
comp=Z,78nm,1.8s
KSM Kuching 71.53 290 P **P** 12 04 04.0 -1.2
comp=Z,78nm,1.8s
PPBI Pangkal Pinang 71.96 284 P **P** 12 04 06.9 -0.9
comp=Z,95nm,0.8s
KSI Kapahiang 73.52 280 P **P** 12 04 16.0 -1.1
comp=Z,150nm,0.9s
MASI Maura Aman, Be 74.12 280 P **P** 12 04 19.8 -0.8
comp=Z,157nm,0.8s
DSRI Dabo 74.24 284 P **P** 12 04 20.6 -0.7
comp=Z,94nm,1.2s
COYC Coyhaique 74.85 138 P **P** 12 04 26.8 +2.5
COYC IAmb IAmb 12 04 29.2
comp=Z,107nm,1.2s
TPRI Tanjung Pinang 75.24 285 P **P** 12 04 26.5 -0.5
comp=Z,149nm,0.9s
PPSI Pulau Pagai 76.01 279 P **P** 12 04 32.0 +0.5
comp=Z,216nm,1.3s
SDSI Sungai Dareh 76.22 281 P **P** 12 04 29.9 -2.7
EFI East Falkland 76.32 150‖*e*P **P** 12 04 34.4 +1.8
EFI pmax pmax
comp=Z,201nm,2.7s
MYKOM Kota Tinggi 76.33 285 P **P** 12 04 32.9 -0.4
comp=Z,126nm,1.9s
LL02 Futaleuf 76.68 137 P **P** 12 04 36.2 +1.3
LL02 IAmb IAmb 12 04 39.9
comp=Z,102nm,0.9s
PDSI Padang 76.94 281 P **P** 12 04 34.5 -2.2
comp=Z,126nm,1.1s
BKNI Bangkinang 77.36 282 P **P** 12 04 37.2 -1.9
comp=Z,140nm,0.8s
BKNI Bangkinang 77.36 282 P **P** 12 04 37.7 -1.4
comp=Z,140nm,0.8s
SISI Saibi 77.66 280 P **P** 12 04 41.2 +0.5
comp=Z,225nm,1.8s
LL04 Puerto Octay 78.03 135 P **P** 12 04 42.7 +0.2
LL04 IAmb IAmb 12 04 46.8
comp=Z,69nm,1.1s
MNSI Mandailing Nat 78.74 281 P **P** 12 04 44.8 -1.9
comp=Z,140nm,0.8s
PBSI Pulau Batu 79.11 280 P **P** 12 04 49.2 +0.4
comp=Z,334nm,1.2s
PLCA Paso Flores 79.12 136 P **P** 12 04 50.6 +2.0
comp=Z,48nm,1.0s,baz=235,slow=5.7,SNR=42
comp=Z,48nm,1.0s
PLCA Paso Flores 79.12 136 P **P** 12 04 49.0 +0.4
PLCA IAmb IAmb 12 04 53.4
comp=Z,99nm,1.1s
H03S2 Juan Fernandez 79.33 126 T T 13 30 03.5
baz=225,slow=74,SNR=8.8
H03S1 Juan Fernandez 79.34 126 T T 13 30 04.7
baz=225,slow=74,SNR=7.0
H03S3 Juan Fernandez 79.35 126 T T 13 30 03.8
baz=225,slow=74,SNR=9.8
GO06 Curarrehue 79.48 135 P **P** 12 04 51.3 +0.7
H03N3 Juan Fernandez 79.60 126 T T 13 30 26.8

baz=228,slow=72,SNR=9.1
H03N2 Juan Fernandez 79.60 126 T T 13 30 22.9
baz=228,slow=72,SNR=8.0
H03N1 Juan Fernandez 79.61 126 T T 13 30 22.2
baz=228,slow=72,SNR=6.2
IPM Ipoh 80.22 285 P **P** **12 04 52.8 -2.0**
IPM IAmb IAmb 12 04 57.2
comp=Z,88nm,0.8s
IPM Ipoh 80.22 285 P **P** **12 04 54.0 -0.8**
comp=Z,125nm,0.8s
IPM Ipoh 80.22 285 P **P** **12 04 53.7 -1.1**
comp=Z,125nm,0.8s
GSI Gunungsitoli 80.55 280 P **P** **12 04 56.5 -0.1**
GSI Gunungsitoli 80.55 280 P **P** **12 04 56.6 0.0**
comp=Z,343nm,1.3s
GSI Gunungsitoli 80.55 280 P **P** **12 04 56.5 -0.1**
comp=Z,343nm,1.3s
PSI Prapat 80.58 282 P **P** **12 04 54.2 -2.7**
comp=Z,53nm,0.9s
KULM Kulim 81.05 285 P **P** **12 04 58.3 -0.9**
KULM IAmb IAmb 12 05 08.0
comp=Z,104nm,1.0s
KULM Kulim 81.05 285 P **P** **12 04 57.9 -1.3**
TSI Tuntungan 81.32 283 P **P** **12 04 59.6 -1.1**
comp=Z,269nm,1.2s
SSLB Suanglung 81.68 313 P **P** **12 05 00.2 -2.1**
comp=Z,32nm,1.3s
KCSI Kotacane, Aceh 81.91 282 P **P** **12 05 02.0 -1.8**
comp=Z,72nm,0.9s
SNSI Sinabang, Aceh 82.21 280 P **P** **12 05 05.5 +0.1**
SKLT Songkhla 82.37 287 P **P** **12 05 05.2 -1.0**
SKLT Songkhla 82.37 287 P **P** **12 05 05.4 -0.8**
LASI Langsa, Aceh 82.40 283 P **P** **12 05 05.9 -0.5**
comp=Z,238nm,0.7s
GO05 Huala 82.56 131 P **P** **12 05 06.7 -0.4**
GO05 IAmb IAmb 12 05 11.5
comp=Z,126nm,1.2s
MLSI Meulaboh, Aceh 83.41 282 P **P** **12 05 10.5 -1.1**
comp=Z,134nm,1.2s
BO01 Tunca 83.49 131 P **P** **12 05 11.9 +0.1**
BO01 IAmb IAmb 12 05 16.1
comp=Z,148nm,1.6s
LHMI Lhok Sumawe 83.67 283 P **P** **12 05 11.7 -1.2**
comp=Z,117nm,0.9s
JMN Monobe 83.88 328 P **P** **12 05 12.5 -1.0**
comp=Z,92nm,0.9s
JMN Monobe 83.88 328 P **P** **12 05 12.2 -1.3**
JRY Ryogami san 84.05 332 P **P** **12 05 12.4 -1.9**
SRIT Nakonsritamara 84.08 287 P **P** **12 05 15.7 +0.7**
INU Inuyama 84.12 331 P **P** **12 05 13.5 -1.2**
INU IAmb IAmb 12 05 14.2
comp=Z,37nm,1.0s
INU Inuyama 84.12 331 P **P** **12 05 13.1 -1.5**
JGF Kuroka 84.22 331 P **P** **12 05 13.6 -1.6**
comp=Z,26nm,0.8s
MT05 Renca 84.42 131 P **P** **12 05 17.0 +0.3**
SURA Surathani 84.45 288 P **P** **12 05 17.0 +0.1**
comp=Z,112nm,1.2s
JNU Nakatsue 84.59 325 P **P** **12 05 15.4 -1.8**
comp=Z,56nm,1.6s
JNU Nakatsue 84.59 325 P **P** **12 05 14.7 -2.4**
QIZ Qiongzhong 84.61 302 P **P** **12 05 19.5 +2.0**
JWT Wachi 84.66 329 P **P** **12 05 16.4 -1.0**
UBPT Khong Chiam 84.73 296 P **P** **12 05 18.5 +0.3**
MJAR Matsushiro Arr 84.76 332 P **P** **12 05 16.3 -1.6**
comp=Z,8.7nm,0.9s,baz=162,slow=5.9,SNR=16
comp=Z,8.7nm,0.9s
MAJO Matsushiro 84.76 332 P **P** **12 05 16.5 -1.4**
MAJO Matsushiro 84.76 332 P **P** **12 05 16.7 -1.2**
MAJO Matsushiro 84.76 332 P **P** **12 05 16.5 -1.4**
MAJO pmax pmax
comp=Z,24nm,1.0s
MAT Matsushiro 84.76 332 P **P** **12 05 16.4 -1.6**
JGN Niukaw 84.79 331 P **P** **12 05 16.1 -2.0**
JHS Saijyo 85.29 328 P **P** **12 05 19.8 -0.8**
comp=Z,49nm,1.5s
JSD Sado 86.09 333 P **P** **12 05 23.7 -0.8**
JYA Atsumi 86.11 334 P **P** **12 05 23.7 -0.8**
NAYO Nakonayok 86.86 292 P **P** **12 05 29.5 +0.7**
LCO Las Campanas 87.67 128 P **P** **12 05 35.3 +2.2**
LCO pmax pmax
comp=Z,65nm,1.1s
NONG Nongkai 88.27 296 P **P** **12 05 34.9 -0.6**
comp=Z,141nm,0.9s
SRDT SRDT 88.40 291 P **P** **12 05 33.9 -2.3**
TJN Taejon 88.87 324⇑ *e*P **P** **12 05 36.7 -1.2**
GULI GuiLin 88.93 306 ⇑P **P** **12 05 35.8 -2.7**
NJ2 Nanjing 89.38 316 *e*P **P** **12 05 43.6 +3.2**
NJ2 pmax pmax
comp=Z,20nm,0.5s
KSRS Korea Array 89.54 325 P **P** **12 05 40.5 -0.4**
comp=Z,18nm,0.8s,baz=143,slow=5.6,SNR=47
comp=Z,18nm,0.8s
KSAR Wonju Array Be 89.54 325 P **P** **12 05 40.5 -0.6**
KSAR Wonju Array Be 89.54 325 P **P** **12 05 40.5 -0.6**
KS19 Wonju Array Si 89.60 325 P **P** **12 05 40.7 -0.6**
WHN Wuhan 90.60 312 ⇑P **P** **12 05 45.8 -0.4**
CM31 Chiang Mai Arr 91.37 294 P **P** **12 05 50.2 +0.1**
CM31 IAmb IAmb 12 05 59.9
comp=Z,66nm,1.1s
CMAR Chiang Mai Arr 91.37 294 P **P** **12 05 50.1 +0.1**
comp=Z,13nm,0.8s,baz=150,slow=3.4,SNR=35
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 91.37 294 P **P** **12 05 49.4 -0.7**
CHTO Chiang Mai 91.62 294 P **P** **12 05 51.1 -0.1**
CHTO Chiang Mai 91.62 294 P **P** **12 05 51.1 -0.1**
GYA Guiyang 92.04 304 P **P** **12 05 53.9 +0.8**
GYA pmax pmax
comp=Z,27nm,1.1s
YSS Yuzh-Sakhalins 92.88 339 *e*P **P** **12 05 55.9 -0.4**
ENH Enshi 93.15 309 P **P** **12 05 56.9 -1.1**
LVC Limon Verde 93.51 125 *e*P P 12 06 05.3 +4.8
TIA Tai'an 93.53 318 P **P** **12 05 58.8 -0.8**
TIA pmax pmax
comp=Z,32nm,0.9s
KMI Kunming 93.53 301 ⇓P P 12 06 05.4 +5.2
KMI pmax pmax
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 93.74 331 P **P** **12 05 59.8 -0.5**
comp=Z,3.1nm,0.9s,baz=112,slow=6.2,SNR=3.8
comp=Z,3.1nm,0.9s
PZH PanZhiHua 95.14 301 P **P** **12 06 09.0 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
CN2 Changchun 95.88 327 *e*P **P** **12 06 08.6 -1.6**
PETK Petropavlovsk- 95.90 350 P **P** **12 06 09.2 -0.9**
comp=Z,4.0nm,0.9s,baz=145,slow=8.8,SNR=5.8
comp=Z,4.0nm,0.9s
XAN Xi'an 96.25 311 ⇑P **P** **12 06 11.4 -0.8**
XAN pP pP 12 06 15.8 -0.6
XAN sP sP 12 06 18.8 +0.9
XAN pmax pmax
comp=Z,22nm,1.2s
PALK Pallekele 96.98 273 P **P** **12 06 14.7 -1.3**
comp=Z,5.7nm,0.9s,baz=346,slow=6.4,SNR=4.1
comp=Z,5.7nm,0.9s
CD2 Chengdu 97.00 306 P **P** **12 06 16.8 +1.1**
CPUP Villa Florida 97.19 135 P Pdif 12 06 17.6 +0.8
comp=Z,4.6nm,1.0s,baz=221,slow=4.0,SNR=5.0
comp=Z,4.6nm,1.0s
KLR Kul'dur 98.18 334⇑ *e*P Pdif 12 06 21.6 +1.1
MONP2 Monument Peak 98.48 53 P Pdif 12 06 24.2 +1.7
baz=225
IKP In-Ko-Pah, Jac 98.49 53 P Pdif 12 06 24.3 +1.9
baz=225
ARVC Arvin 98.67 50 P Pdif 12 06 24.8 +1.8
baz=224
BFSC Mount Baldy Ra 98.71 51 P Pdif 12 06 25.2 +1.8
baz=224
LPAZ La Paz 98.71 121 P Pdif 12 06 26.6 +2.0
comp=Z,2.9nm,1.1s,baz=230,slow=6.4,SNR=4.3
comp=Z,2.9nm,1.1s
LPAZ La Paz 98.71 121 *e*P Pdif 12 06 27.7 +3.1
TPFO Pinon Flats 98.96 53 P Pdif 12 06 26.3 +1.8
baz=225
PFO Pinyon Flats O 98.97 53 P Pdif 12 06 26.4 +1.8
baz=225
EDW2 Edwards Air Fo 98.97 51 P Pdif 12 06 26.1 +1.7
baz=224
BELC Belle Mtn. Jos 99.51 53 P **Pdif** **12 06 29.2 +2.2**
baz=225
LRMC Laurel Mtn Rad 99.58 50 P **Pdif** **12 06 28.6 +1.4**
baz=224
BC3 Big Chuckawall 99.59 53 P **Pdif** **12 06 29.7 +2.4**
baz=225
HHC Hu-ho-hao-te 99.88 317 *e*P **Pdif** **12 06 32.0 +3.6**

IRM Iron Mountain 100.12 53 P **Pdif** **12 06 32.4 +2.8**
baz=226
HEH HeiHe 100.53 332 *e*P **Pdif** **12 06 28.5 -2.4**
HEH pmax pmax
comp=Z,7.0nm,1.2s
NVAR Mina Array Bea 101.32 48 P **Pdif** **12 06 35.7 +0.7**
comp=Z,0.6nm,0.8s,baz=219,slow=8.1,SNR=3.6
NVAR PKiKP **PKiKP** **12 10 59.5 +0.1**
comp=Z,1.0nm,0.8s,baz=207,slow=1.8,SNR=3.9
NVAR PKKPbc **PKKPbc** **12 22 43.0 -1.1**
comp=Z,0.9nm,0.8s,baz=76,slow=3.1,SNR=6.2
BOSA Boshof 103.74 208 PKiKP **PKiKP** **12 11 04.3 +0.1**
comp=Z,4.7nm,0.8s,baz=207,slow=2.3,SNR=2.2
TXAR Lajitas Array 104.12 63 PKiKP **PKiKP** **12 11 05.8 +1.2**
comp=Z,0.3nm,0.7s,baz=184,slow=2.6,SNR=1.3
TXAR PKKPbc **PKKPbc** **12 22 35.0 -0.2**
comp=Z,0.9nm,0.8s,baz=80,slow=3.7,SNR=7.7
SONM Songino Array 107.48 319 PKKPbc PKKPbc 12 22 26.2 +0.6
comp=Z,0.3nm,0.3s,baz=289,slow=3.4,SNR=1.6
PDAR Pinedale Array 109.15 49 PKiKP **PKiKP** **12 11 14.3 +0.5**
comp=Z,1.1nm,0.8s,baz=191,slow=1.8,SNR=4.1
PDAR PKKPbc **PKKPbc** **12 22 19.5 -0.8**
comp=Z,1.2nm,0.8s,baz=64,slow=3.4,SNR=4.3
WMOK Wichita Mounta 110.73 62 P **PKiKP** **12 11 17.0 +0.3**
baz=232
COLA College 110.90 17⇑ *i*PKIKP **PKiKP** **12 11 17.9 +2.0**
SCRK Sand Creek 111.00 19 P **PKiKP** **12 11 17.1 +0.8**
baz=212
ILAR Eielson Array 111.02 17 PKKPbc PKKPbc 12 22 14.1 -0.4
comp=Z,1.0nm,1.1s,baz=25,slow=2.4,SNR=4.1
K27K Chicken 111.50 19 P **PKiKP** **12 11 18.1 +0.9**
baz=214
OGNE Ogallala 112.42 55 P **PKiKP** **12 11 20.1 +0.3**
baz=233
RSSD Black Hills 113.14 51 P **PKiKP** **12 11 20.9 -0.3**
baz=233
H27K Steamboat Moun 113.46 18 P **PKiKP** **12 11 19.4 -1.5**
baz=215
I29M Ogilvie Camp, 113.53 20 P **PKiKP** **12 11 19.2 -1.8**
baz=217
KNGR Kungurtug, Tuv 113.69 318⇓ *i*PKIKP **PKiKP** **12 11 21.6 -0.3**
KSU1 Kansas State U 114.71 59 P **PKiKP** **12 11 24.4 +0.3**
baz=235
EPYK Eagle Plains 114.73 20 P PKPdf 12 11 23.1 -0.3
baz=219
TSUM Tsumeb 115.03 205 PKP **PKPdf** **12 11 26.4 +0.8**
comp=Z,5.6nm,0.8s,baz=78,slow=1.1,SNR=4.5
WMQ Urumqi 115.04 307 *e*PKP **PKiKP** **12 11 25.6 +0.9**
BGNE Belgrade 115.07 56 P **PKiKP** **12 11 25.0 +0.3**
baz=235
G30M tAoh Zraii Nji 115.34 20 P **PKPdf** **12 11 24.2 -0.3**
baz=219
DGMT Dagmar 115.61 47 P **PKiKP** **12 11 25.9 +0.4**
baz=235
SUSD Miller 116.30 53 P **PKPdf** **12 11 26.8 -0.2**
baz=236
WRGLY Wrigley 116.32 27 P **PKiKP** **12 11 26.8 +0.4**
baz=228
INK Inuvik 117.02 19 PKKPbc PKKPbc 12 21 54.6 +0.7
comp=Z,4.2nm,1.0s,baz=30,slow=8.1,SNR=5.2
INK Inuvik 117.02 19 P **PKPdf** **12 11 26.5 -1.0**
baz=222
Z47A Carrollton 117.05 69 P **PKiKP** **12 11 29.7 +1.0**
baz=236
ECSD EROS Data Cent 117.31 55 PKPdf **PKPdf** **12 11 28.4 -0.6**
ECSD EROS Data Cent 117.31 55 P **PKPdf** **12 11 28.2 -0.7**
baz=237
ECSD EROS Data Cent 117.31 55 P **PKPdf** **12 11 28.3 -0.6**
baz=237
MDND Maddock 117.81 49 P **PKPdf** **12 11 28.9 -0.8**
baz=237
TIXI Tiksi 117.86 345 PKP **PKPdf** **12 11 28.9 -0.2**
comp=Z,1.9nm,0.6s,baz=230,slow=0.1,SNR=4.9
TIXI Tiksi 117.86 345⇑ *i*PKIKP **PKPdf** **12 11 25.3 -3.8**
PLAL Pickwick Lake 118.04 67 PKPdf **PKPdf** **12 11 29.9 -0.7**
SCIA State Center 118.42 58 P **PKiKP** **12 11 31.1 0.0**
baz=237
DGZ Jazzator, Alta 118.47 313⇓ *i*PKIKP **PKPdf** **12 11 28.5 -2.7**
F33A 5 Mile Ranch, 118.64 53 P **PKPdf** **12 11 31.4 -0.1**
baz=238
WVT Waverly 118.84 66 P **PKPdf** **12 11 31.6 -0.5**
baz=237
YKA Yellowknife Ar 118.99 30 PKP **PKPdf** **12 11 30.9 -0.6**
comp=Z,7.2nm,0.8s,baz=236,slow=1.9,SNR=18
YKA PKKPbc **PKKPbc** **12 21 46.6 0.0**
comp=Z,6.1nm,0.8s,baz=47,slow=4.3,SNR=14
K38A Parkersburg 119.09 57 P **PKPdf** **12 11 31.7 -0.7**
baz=238
I37A Lemond, Waseca 119.42 56 PKPdf **PKiKP** **12 11 33.2 +0.2**
I37B Waseca 119.42 56 P **PKPdf** **12 11 32.9 -0.1**
baz=238
MKAR Makanchi Array 119.86 308 PKP **PKPdf** **12 11 31.5 -2.3**
comp=Z,5.5nm,0.8s,baz=64,slow=2.8,SNR=15
MKAR PKKPbc **PKKPbc** **12 21 43.4 +0.2**
comp=Z,0.8nm,0.8s,baz=332,slow=4.9,SNR=2.6
MKAR Makanchi Array 119.86 308 PKPdf **PKPdf** **12 11 32.6 -1.2**
MKAR Makanchi Array 119.86 308 PKiKP **PKPdf** **12 11 32.6 -1.2**
KSH Kashi 120.03 298 *e*PKP **PKiKP** **12 11 36.1 +1.5**
MAKZ Makanchi 120.05 308 PKiKP **PKPdf** **12 11 32.1 -2.0**
AGMN Agassiz Nation 120.17 51 P **PKPdf** **12 11 33.2 -1.1**
baz=239
FFC Flin Flon 120.20 42 PKiKP **PKiKP** **12 11 34.4 +0.2**
C36M Paulatuk 120.20 21 PKPdf **PKPdf** **12 11 33.4 -0.2**
C36M Paulatuk 120.20 21 P **PKPdf** **12 11 32.7 -1.0**
baz=230
HDIL Hopedale 120.22 61 P **PKPdf** **12 11 34.5 -0.1**
baz=238
HDIL Hopedale 120.22 61 P **PKPdf** **12 11 34.4 -0.1**
baz=238
GOGA Godfrey 120.38 71 P **PKiKP** **12 11 35.8 +0.5**
baz=237
SPMN Marine on St. 120.41 55 P **PKPdf** **12 11 34.3 -0.6**
baz=239
SPMN Marine on St. 120.41 55 P **PKPdf** **12 11 34.2 -0.6**
baz=239
JFWS Jewell Farm 120.82 58 P **PKPdf** **12 11 35.2 -0.6**
baz=239
JFWS Jewell Farm 120.82 58 P **PKPdf** **12 11 35.0 -0.7**
baz=239
WCI Wyandotte Cave 120.99 65 PKPdf **PKPdf** **12 11 35.9 -0.3**
WCI Wyandotte Cave 120.99 65 P **PKPdf** **12 11 35.9 -0.3**
baz=238
WCI Wyandotte Cave 120.99 65 P **PKPdf** **12 11 36.0 -0.3**
baz=238
WCI Wyandotte Cave 120.99 65 PKiKP **PKPdf** **12 11 35.9 -0.3**
ULM Lac du Bonnet 121.15 49 PKP **PKPdf** **12 11 35.2 -0.8**
comp=Z,22nm,0.9s,baz=231,slow=1.7,SNR=17
TKL Tuckaleechee C 121.37 69 PKP **PKPdf** **12 11 36.5 -0.5**
comp=Z,14nm,1.0s,baz=190,slow=7.2,SNR=8.2
TKL Tuckaleechee C 121.37 69 P **PKiKP** **12 11 37.4 +0.2**
baz=238
B35A Bob, Littlefor 121.44 51 P **PKPdf** **12 11 35.8 -0.9**
baz=240
A36M Sachs Harbour 121.62 19 PKPdf **PKPdf** **12 11 35.5 -0.8**
A36M Sachs Harbour 121.62 19 P **PKPdf** **12 11 35.9 -0.4**
baz=230
KMBO Kilima Mbogo 121.64 234 PKP **PKPdf** **12 11 38.4 -0.2**
comp=Z,7.0nm,0.9s,baz=62,slow=3.4,SNR=17
TKM2 Tokmak 2 122.01 301 PKiKP **PKPdf** **12 11 35.7 -2.6**
ZAA0 Zalesovo Array 122.03 316 PKPdf **PKPdf** **12 11 36.1 -1.6**
ZALV Zalesovo Beam 122.03 316 PKP **PKPdf** **12 11 35.1 -2.6**
comp=Z,3.9nm,0.8s,baz=149,slow=2.2,SNR=9.1
PAULI Pauline 122.29 70 P **PKiKP** **12 11 39.6 +0.6**
baz=238
JSC Jenkinsville 122.40 71 P **PKiKP** **12 11 40.2 +1.0**
baz=238,SNR=5.4
EYMN Ely 122.54 53 PKPdf **PKPdf** **12 11 38.5 -0.4**
EYMN Ely 122.54 53 P **PKPdf** **12 11 37.8 -1.1**
baz=241,SNR=8.2
EYMN Ely 122.54 53 P **PKPdf** **12 11 38.2 -0.7**
baz=241
AAK Ala-Archa 122.57 300 PKP **PKiKP** **12 11 39.5 0.0**
comp=Z,4.6nm,0.8s,baz=235,slow=23,SNR=3.8
AAK Ala-Archa 122.57 300⇓ *i*PKIKP **PKPdf** **12 11 36.6 -2.7**
CHMS Chumysh 122.59 301 PKiKP **PKPdf** **12 11 36.8 -2.4**
P49A Miami Univ. Ec 122.72 64 PKPdf **PKiKP** **12 11 40.2 +0.6**
O48B Farmland 122.79 63 P **PKiKP** **12 11 39.7 0.0**
baz=240
Q51A Peebles 123.39 65 P **PKiKP** **12 11 40.9 -0.1**
baz=240,SNR=6.4
Q51A P **PKiKP** **12 11 40.9 -0.1**
baz=240,SNR=6.4
P51A Williamsport 123.80 65 P **PKPdf** **12 11 41.2 -0.3**
baz=240,SNR=7.2
P51A P **PKPdf** **12 11 41.2 -0.3**
baz=240,SNR=7.2
D41A Chassel 123.88 55 P **PKPdf** **12 11 41.4 -0.1**

baz=242,SNR=5.3
KURK Kurchatov 123.88 310 PKIKP **PKPdf** **12 11 39.3 -2.0**
KURBB Kurchatov Arra 123.89 310 PKP **PKPdf** **12 11 39.3 -2.0**
comp=Z,9.6nm,1.0s,baz=116,slow=2.1,SNR=28
KURBB PKKPbc **PKKPbc** **12 21 27.9 +0.3**
comp=Z,0.5nm,0.3s,baz=290,slow=3.8,SNR=4.5
KURBB PKP2ab 12 28 08.5
comp=Z,0.4nm,0.7s,baz=120,slow=1.4,SNR=4.1
KURBB Kurchatov Arra 123.89 310 PKIKP **PKPdf** **12 11 39.5 -1.8**
U56A King 124.08 70 P **PKiKP** **12 11 43.6 +1.1**
baz=240,SNR=5.3
U56A P **PKiKP** **12 11 43.6 +1.1**
baz=240,SNR=5.3
Q52A Bidwell 124.08 66 P **PKPdf** **12 11 41.9 -0.2**
baz=240,SNR=5.4
Q52A P **PKPdf** **12 11 41.9 -0.2**
baz=240,SNR=5.4
ACSO Alum Creek Sta 124.22 64 P **PKPdf** **12 11 42.3 0.0**
baz=241
SJG San Juan 124.25 96 PKP **PKiKP** **12 11 43.2 -0.1**
comp=Z,16nm,0.9s,baz=274,slow=3.9,SNR=5.3
J47A Sunmer 124.45 60 P **PKiKP** **12 11 43.1 +0.2**
baz=242,SNR=6.9
J47A P **PKiKP** **12 11 43.1 +0.2**
baz=242,SNR=6.9
BLA Blacksburg 124.48 69 P **PKiKP** **12 11 44.0 +0.7**
baz=240
P52A Corning 124.50 65 P **PKPdf** **12 11 42.9 0.0**
baz=241
P53A Whipple 124.93 66 P **PKPdf** **12 11 43.5 -0.2**
baz=241,SNR=5.6
P53A P **PKPdf** **12 11 43.5 -0.2**
baz=241,SNR=5.6
O52A Adamsville 124.94 65 P **PKPdf** **12 11 43.5 -0.2**
baz=241,SNR=5.8
O52A P **PKPdf** **12 11 43.5 -0.2**
baz=241,SNR=5.8
N51A Ashland 124.96 64 P **PKPdf** **12 11 43.5 -0.2**
baz=242
N51A P **PKPdf** **12 11 43.5 -0.2**
baz=242
Q54A Coxs Mills 125.07 67 P **PKPdf** **12 11 43.7 -0.3**
baz=241,SNR=5.7
Q54A P **PKPdf** **12 11 43.7 -0.3**
baz=241,SNR=5.7
T57A Hurt 125.19 69 P **PKiKP** **12 11 45.0 +0.4**
baz=240
T57A P **PKiKP** **12 11 45.0 +0.4**
baz=240
R55A Marlinton 125.22 68 P **PKPdf** **12 11 44.4 0.0**
baz=241
R55A P **PKPdf** **12 11 44.4 0.0**
baz=241
CNNC Cliffs of the 125.27 72 P **PKiKP** **12 11 45.9 +1.1**
baz=240
GLMI Grayling 125.31 59 P **PKiKP** **12 11 44.4 -0.2**
baz=243
KK31 Karatay Array 125.37 299 *i* PKIKP **PKPdf** **12 11 43.0 -1.5**
KKAR Karatay Array 125.37 299 PKPdf **PKPdf** **12 11 44.0 -0.5**
KKAR Karatay Array 125.37 299 PKIKP **PKPdf** **12 11 44.0 -0.5**
O53A New Philadelph 125.42 65 P **PKPdf** **12 11 44.6 0.0**
baz=242
K50A Casco 125.66 62 P **PKPdf** **12 11 44.4 -0.6**
baz=243
K50A P **PKPdf** **12 11 44.4 -0.6**
baz=243
S57A Dark Hollow, R 125.77 69 P **PKiKP** **12 11 45.9 +0.1**
baz=241
S57A P **PKiKP** **12 11 45.9 +0.1**
baz=241
MBAR Mbarara 125.84 228 PKP **PKPdf** **12 11 46.2 -0.3**
comp=Z,3.7nm,0.2s,baz=251,slow=1.6,SNR=4.3
MBAR Mbarara 125.84 228⇑ *i*PKIKP **PKiKP** **12 11 46.7 -0.2**
M52A Chesterland 125.93 64 P **PKiKP** **12 11 45.9 -0.1**
baz=242
M52A P **PKiKP** **12 11 45.9 -0.1**
baz=242
O54A Avella 125.95 65 P **PKiKP** **12 11 46.1 0.0**
baz=242
O54A P **PKiKP** **12 11 46.1 0.0**
baz=242
MCWV Mont Chateau 126.06 66 P **PKPdf** **12 11 45.8 -0.1**
baz=242
E46A Sault Ste Mari 126.19 57 PKPdf **PKPdf** **12 11 45.4 -0.5**
E46A Sault Ste Mari 126.19 57 P **PKPdf** **12 11 45.3 -0.6**
baz=244
Q56A Snyder Ridge, 126.22 67 P **PKiKP** **12 11 46.7 0.0**
baz=242
Q56A P **PKiKP** **12 11 46.7 0.0**
baz=242
T59A Double "B" Far 126.36 70 P **PKiKP** **12 11 47.9 +0.9**
baz=241
T59A P **PKiKP** **12 11 47.9 +0.9**
baz=241
OTUK Ortayu 126.49 305 PKIKP **PKPdf** **12 11 44.4 -2.1**
R58B Mineral 126.61 69 P **PKPdf** **12 11 46.6 -0.4**
baz=241
R58B P **PKPdf** **12 11 46.6 -0.4**
baz=241
CBN Corbin Frederi 127.08 69 P **PKiKP** **12 11 48.9 +0.5**
baz=242
P57A Homestead Farm 127.23 67 P **PKPdf** **12 11 48.2 +0.1**
baz=242
P57A P **PKPdf** **12 11 48.2 +0.1**
baz=242
NRIK Noril'sk 127.40 334 PKP **PKPdf** **12 11 45.9 -1.6**
comp=Z,5.3nm,0.8s,baz=136,slow=3.5,SNR=5.0
NRIK PKKP **PKKPdf** **12 22 05.1 +3.6**
comp=Z,2.3nm,0.5s,baz=104,slow=6.5,SNR=4.3
NRIK Noril'sk 127.40 334⇑ *i*PKIKP **PKPdf** **12 11 45.3 -2.2**
ATD Arta Tunnel 127.48 249 PKP **PKPdf** **12 11 49.3 -0.1**
comp=Z,2.7nm,0.3s,baz=194,slow=10,SNR=4.0
PSDB Penn State Uni 127.48 65 P **PKPdf** **12 11 48.2 -0.4**
baz=243
SSPA Standing Stone 127.85 66 P **PKiKP** **12 11 49.5 -0.3**
baz=243
M57A Sunshine Farm, 128.67 66 P **PKPdf** **12 11 50.7 -0.1**
baz=244
M57A P **PKPdf** **12 11 50.7 -0.1**
baz=244
N58A Sunbury 128.73 66 P **PKPdf** **12 11 50.6 -0.3**
baz=244
N58A P **PKPdf** **12 11 50.6 -0.3**
baz=244
BVA0 Borovoye Array 129.48 310 PKIKP **PKPdf** **12 11 49.7 -2.3**
BVAR Borovoye Array 129.48 310 PKhKP PKPpre 12 11 43.7
comp=Z,0.9nm,0.6s,baz=88,slow=3.5,SNR=4.9
BVAR PKP **PKPdf** **12 11 51.1 -0.8**
comp=Z,3.6nm,0.7s,baz=131,slow=1.5,SNR=12
BRVK Borovoye 129.55 310⇑ *e*PKIKP **PKPdf** **12 11 49.4 -2.7**
RES Resolute Bay 130.55 20 PKIKP **PKiKP** **12 11 53.8 -0.4**
GEYT Alibeck 131.49 288 PKP **PKPdf** **12 11 55.9 -0.4**
comp=Z,5.6nm,0.7s,baz=220,slow=3.9,SNR=8.8
GEYT SKPbc **SKPbc** **12 15 20.1 -1.2**
comp=Z,12nm,1.0s,baz=153,slow=1.0,SNR=7.4
GEYT Alibeck 131.49 288 PKPdf **PKPdf** **12 11 56.4 +0.1**
GYA0 ALIBECK ARRAY 131.49 288 PKIKP **PKiKP** **12 11 57.5 +0.2**
GYA0B ALIBECK ARRAY 131.49 288 PKPdf **PKiKP** **12 11 57.8 +0.5**
AB31 Akbulak array 134.50 303 *i* PKIKP PKPpre 12 11 53.3
ABKAR Akbulak array 134.50 303 PKPdf **PKPdf** **12 12 01.2 -0.3**
SVE Sverdlovsk 135.91 313 *e*PKIKP **PKPdf** **12 12 02.7 -1.2**
AKTO Aktyubinsk 136.03 304 PKIKP PKPpre 12 11 57.0
ARU Arti 136.98 312 PKhKP PKPpre 12 11 58.4
comp=Z,4.2nm,0.6s,baz=341,slow=3.9,SNR=6.5
ARU Arti 136.98 312 *i* PKIKP **PKPdf** **12 12 06.4 +0.5**
ARU 12 14 51.2
ARU SS SS 12 32 57.0 +1.8
SCHQ Schefferville 139.27 50 PKP **PKPdf** **12 12 09.9 -0.3**
comp=Z,11nm,0.8s,baz=162,slow=3.2,SNR=2.6
NEEM North Greenlan 140.22 14 *i* P **PKPdf** **12 12 07.4 -4.3**
MAK Makhachkala 140.88 290 *e*P **Pdif** **12 09 28.1 -2.4**
MAK *i* 12 12 10.3
GNI Garni 141.92 285 PKP **PKPdf** **12 12 15.1 -0.6**
comp=Z,15nm,0.9s,baz=270,slow=5.1,SNR=4.9
GNI Garni 141.92 285⇓ *e*PKIKP **PKPdf** **12 12 14.1 -1.6**
KIRV Kirov 142.06 315 PKP **PKPdf** **12 12 15.9 +0.8**
comp=Z,13nm,0.5s,baz=95,slow=1.3,SNR=3.6
BELG Belogornoye 142.78 305 PKhKP PKPpre 12 12 10.6
comp=Z,41nm,1.1s,baz=287,slow=1.5,SNR=6.7
BELG Belogornoye 142.78 305⇓ *e*PKHKP PKPpre 12 12 11.0
ZEI Tsey 143.35 288 *i* PKHKP PKPpre 12 12 13.5
ZEI pmax pmax
comp=Z,17nm,1.1s
PRGR Permogore 143.73 320 *e*PKHKP PKPpre 12 12 12.1
PRGR pmax pmax
comp=Z,17nm,1.3s
NCK Nalchik 143.77 289⇑ *i*PKIKP PKPab 12 12 15.0 -0.6

MARD	**Mardin**	**143.77 278**	PKPdf	PKPab	12 12 15.6	-0.3		
LIC	**Lamto**	**144.17 182**⇑	*e*PKP2	**PKPdf**	**12 12 19.4**	**-0.9**		
	comp=Z,118nm,0.8s							
KIC	**Kosan Boka**	**144.29 183**⇑	*e*PKP2	PKPbc	12 12 19.1	+0.4		
	comp=Z,24nm,0.5s							
NEY	**Neytrino**	**144.31 289**	*de*PKIKP	PKPbc	12 12 18.4	+0.2		
KBZ	**Khabaz**	**144.32 290**	PKIKP	**PKPab**	**12 12 16.9**	**-0.7**		
	comp=Z,34nm,0.8s,baz=116,slow=1.9,SNR=37							
KBZ	**Khabaz**	**144.32 290**⇑	PKIKP	**PKPab**	**12 12 16.3**	**-1.3**		
KIV	**Kislovodsk**	**144.52 290**	⇑P	PKPbc	12 12 18.6	-0.2		
KIV	**Kislovodsk**	**144.52 290**	*e*PKIKP	**PKPab**	**12 12 16.8**	**-1.7**		
KIV			pmax	pmax				
	comp=Z,12nm,1.0s							
GOF	**Gofitskoye**	**144.54 292**⇑	*e*PKIKP	**PKPab**	**12 12 17.7**	**-0.7**		
GOF			pmax	pmax				
	comp=Z,258nm,1.3s							
TIC	**Toumodi**	**144.59 182**⇑	*e*PKP2	**PKPdf**	**12 12 20.7**	**-0.3**		
	comp=Z,86nm,0.9s							
DBIC	**Dimbokro**	**144.61 183**	PKP	**PKPdf**	**12 12 20.6**	**-0.4**		
	comp=Z,39nm,0.8s,baz=189,slow=3.1,SNR=30							
DBIC			PKKPab		12 20 12.8			
	comp=Z,1.4nm,0.4s,baz=248,slow=2.3,SNR=4.2							
DBIC	**Dimbokro**	**144.61 183**	PKPdf	**PKPdf**	**12 12 20.3**	**-0.7**		
DAG	**Danmarks Havn**	**144.92 5**	*i* P	**PKPab**	**12 12 15.0**	**-3.9**		
KOPT	**Kop Dagi**	**144.94 283**	PKPdf	PKPbc	12 12 20.7	+0.2		
SFJD	**Kangerlussuaq**	**145.54 29**	PKPbc	**PKPdf**	**12 12 20.5**	**-0.4**		
	comp=Z,97nm,0.9s,baz=109,slow=0.4,SNR=16							
SFJD	**Kangerlussuaq**	**145.54 29**	*i* P	**PKPdf**	**12 12 20.4**	**-0.6**		
KTUT	**Trabzon**	**145.78 284**	⇑P	**PKPdf**	**12 12 21.3**	**-0.9**		
SUMG	**Summit**	**145.87 17**	*i* P	**PKPdf**	**12 12 20.0**	**-1.9**		
MMAI	**Mount Meron Ar**	**145.93 268**	PKPbc	**PKPbc**	**12 12 23.5**	**0.0**		
	comp=Z,66nm,0.7s,baz=89,slow=5.2,SNR=60							
LVZ	**Lovozero**	**146.24 333**⇓	*e*PKIKP	**PKPdf**	**12 12 21.2**	**-1.0**		
VRH	**Novokhopyorsk**	**146.33 302**	*e*PKP2	**PKPdf**	**12 12 22.2**	**-0.6**		
VRH			pmax	pmax				
	comp=Z,110nm,0.8s							
GAZ	**Gaziantep**	**146.35 276**		**PKPbc**	**12 12 24.5**	**-0.2**		
KLMR	**Klimovskoe**	**146.78 320**	*e*PKPdf	**PKPdf**	**12 12 21.7**	**-1.5**		
KLMR			AMP		12 12 30.8			
	comp=Z,95nm,1.0s							
KLMR	**Klimovskoe**	**146.78 320**	*e*PKIKP	**PKPdf**	**12 12 21.7**	**-1.5**		
KLMR			pmax	pmax				
	comp=Z,95nm,1.0s							
APA	**Apatity**	**146.82 333**⇓	*i*PKIKP	**PKPdf**	**12 12 20.9**	**-2.2**		
APA			pmax	pmax				
	comp=Z,80nm,0.8s							
VORR	**Voronezh**	**147.92 303**	*e*PKP2	**PKPdf**	**12 12 26.5**	**+1.1**		
VORR			pmax	pmax				
	comp=Z,80nm,0.4s							
VSR	**Storozhevoye**	**147.93 302**	*e*PKIKP	**PKPdf**	**12 12 26.0**	**+0.5**		
VSR			pmax	pmax				
	comp=Z,60nm,1.0s							
BNN	**Bunyan**	**147.95 278**		**PKPdf**	**12 12 27.1**	**+0.9**		
ARCES	**ARCESS Array B**	**148.02 339**	PKPbc	**PKPdf**	**12 12 26.6**	**+1.5**		
	comp=Z,13nm,0.8s,baz=67,slow=2.3,SNR=5.0							
ARCES	**ARCESS Array B**	**148.02 339**		**PKPdf**	**12 12 26.4**	**+1.3**		
LPSR	**Galich'ya Gora**	**148.09 305**	*e*PKP2	**PKPbc**	**12 12 27.6**	**-1.3**		
LPSR			pmax	pmax				
	comp=Z,110nm,1.2s							
CSS	**Mathiatis**	**148.34 270**		**PKPdf**	**12 12 28.3**	**+1.6**		
IVI	**Ivigtut**	**148.62 38**		**PKPbc**	**12 12 30.1**	**+0.2**		
IVI	**Ivigtut**	**148.62 38**	*i* P	**PKPbc**	**12 12 29.4**	**-0.6**		
MOS	**Moscow**	**148.65 311**	*e*PKHKP	PKPpre	12 12 24.7			
MOS			pmax	pmax				
	comp=Z,119nm,1.1s							
OBN	**Obninsk**	**149.33 310**	⇓P	**PKPdf**	**12 12 28.3**	**+0.7**		
OBN	**Obninsk**	**149.33 310**	PKPbc	**PKPbc**	**12 12 31.0**	**-0.9**		
	comp=Z,1nm,0.5s,baz=66,slow=1.1,SNR=14							
OBN	**Obninsk**	**149.33 310**		**PKPbc**	**12 12 31.6**	**-0.4**		
OBN	**Obninsk**	**149.33 310**	*e*PKIKP	**PKPdf**	**12 12 28.0**	**+0.4**		
OBN			*e*		12 16 05.3			
OBN			*e*PPP	PPP	12 19 22.6			
OBN			pmax	pmax				
	comp=Z,177nm,1.7s							
BRTR	**Keskin Array B**	**149.86 279**	PKPbc	**PKPbc**	**12 12 32.9**	**-1.1**		
	comp=Z,33nm,0.9s,baz=143,slow=4.6,SNR=66							
BRTR	**Keskin Array B**	**149.86 279**	PKPdf	**PKPdf**	**12 12 28.0**	**-1.2**		
BRTR			PKPbc	**PKPbc**	**12 12 33.0**	**-1.0**		
BRTR			PKPab	**PKPab**	**12 12 39.3**	**-0.3**		
BRTR	**Keskin Array B**	**149.86 279**	PKP2	**PKPab**	**12 12 39.3**	**-0.3**		
NRS	**Narsarsuaq**	**149.89 37**	*i* P	**PKPbc**	**12 12 32.0**	**-1.2**		
BZK	**Bozkurt**	**150.21 283**	⇑P	**PKPdf**	**12 12 31.5**	**+2.0**		
ISOG	**Isortoq, Green**	**150.34 27**	*i* P	**PKiKP**	**12 12 35.4**	**+0.5**		
ANTO	**Ankara**	**150.52 279**	⇓P	**PKPbc**	**12 12 35.3**	**-0.2**		
ANTO	**Ankara**	**150.52 279**	⇓PKIKP	**PKPbc**	**12 12 35.3**	**-0.2**		
SIM	**Simferopol'**	**150.73 289**	*e*PKIKP	**PKPbc**	**12 12 34.4**	**-1.3**		
SIM			pmax	pmax				
	comp=Z,46nm,0.9s							
ANGG	**Ammassalik, Gr**	**150.75 26**	*i* P	**PKPbc**	**12 12 33.0**	**-2.1**		
ISP	**Isparta**	**151.54 274**		**PKPbc**	**12 12 36.4**	**-1.6**		
ISP	**Isparta**	**151.54 274**	PKIKP	**PKPbc**	**12 12 36.4**	**-1.6**		
AKAS	**Kas**	**151.63 270**		**PKPbc**	**12 12 36.4**	**-1.9**		
MDUB	**Mudurnu**	**151.87 279**		**PKPbc**	**12 12 36.5**	**-2.2**		
BORA	**Eskisehir**	**152.25 278**		**PKPbc**	**12 12 38.3**	**-1.2**		
FIA1	**FINESS Array S**	**152.63 326**		**PKPbc**	**12 12 37.7**	**-1.8**		
FINES	**FINESS Array B**	**152.63 326**	PKPbc	**PKPbc**	**12 12 37.5**	**-2.0**		
	comp=Z,23nm,0.8s,baz=104,slow=4.7,SNR=26							
VSU	**Vasula**	**153.68 320**	*e*P	**PKPbc**	**12 12 41.2**	**-0.7**		
PURM	**Purcari**	**153.86 292**	⇓P	**PKPbc**	**12 12 41.1**	**-1.6**		
AKASG	**Malin Array Be**	**154.23 302**	PKPbc	**PKPbc**	**12 12 40.9**	**-2.4**		
	comp=Z,7.6nm,0.8s,baz=71,slow=2.6,SNR=15							
AKBB	**Malin Array Si**	**154.23 302**	PKPdf	**PKPdf**	**12 12 35.3**	**+0.2**		
AKBB			PKPab	**PKPab**	**12 12 56.3**	**-1.1**		
AKBB	**Malin Array Si**	**154.23 302**	PKIKP	**PKPdf**	**12 12 35.3**	**+0.2**		
AKBB					12 12 56.3			
MNK	**Minsk**	**154.38 311**	*i* PKP	**PKPbc**	**12 12 41.0**	**-2.6**		
	comp=E,2.0nm,0.9s							
MNK			*i* PKP	**PKPbc**	**12 12 41.0**	**-2.6**		
	comp=N,19nm,1.3s							
MNK			*i* PKP	**PKPbc**	**12 12 41.0**	**-2.6**		
	comp=Z,28nm,0.8s,baz=75							
MNK			*i* PP	**PP**	**12 16 39.9**	**+6.3**		
MNK			*i* SKS	**SKSdf**	**12 19 50.7**	**+9.3**		
MNK			*i* PPP	PPP	12 20 08.5			
MNK			*i* SKKS	**SKKSdf**	**12 28 28.9**	**+7.8**		
MNK			*i* SS	**SS**	**12 36 15.8**	**+2.5**		
MNK			*i* SSS	SSS	12 42 13.2			
MNK			*i* LQ	LQ	13 16 33.0			
MNK			*i* LR	LR	13 25 52.7			
MNK	**Minsk**	**154.38 311**	*i* PKIKP	**PKPbc**	**12 12 40.9**	**-2.6**		
MNK			*i*		12 16 39.8			
MNK			*i* PPP	PPP	12 20 08.6			
MNK			*i* SS	SS	12 36 15.7	+2.4		
MNK			pmax	pmax				
	comp=N,19nm,1.3s							
MNK			pmax	pmax				
	comp=Z,28nm,0.8s							
MNK			pmax	pmax				
	comp=E,2.0nm,0.9s							
MILM	**Milestii Mici**	**154.61 293**	⇓P	**PKiKP**	**12 12 49.9**	**+5.6**		
IDI	**Anoyia**	**154.74 265**	⇑P	**PKPbc**	**12 12 44.3**	**-0.7**		
IDI	**Anoyia**	**154.74 265**	PKPbc	**PKPbc**	**12 12 44.9**	**-0.1**		
	comp=E,15nm,0.7s,baz=126,slow=4.8,SNR=14							
NACGM	**Naroch**	**154.88 312**	*e*PKP	**PKPbc**	**12 12 41.0**	**-3.6**		
	comp=Z,62nm,0.8s,baz=73							
SORM	**Soroca**	**154.94 296**	⇓P	**PKPbc**	**12 12 42.3**	**-2.6**		
SORM	**Soroca**	**154.94 296**	⇓PKIKP	**PKPbc**	**12 12 42.3**	**-2.6**		
ISAL	**Salakas**	**155.04 314**	*e*P	PKPdf	12 12 46.3	+10		
IIGN	**Ignalina**	**155.06 313**	*e*P	PKPdf	12 12 45.7	+10		
RASA	**Rasa**	**155.56 286**	⇓P	**PKPdf**	**12 12 34.1**	**-3.1**		
VRI	**Vrincioaia**	**156.00 290**	⇓P	**PKPab**	**12 13 04.2**	**-0.9**		
VRI	**Vrincioaia**	**156.00 290**	⇓PKP2	**PKPab**	**12 13 04.2**	**-0.9**		
PLOR	**Plostina**	**156.06 290**	⇓P	PKPab	12 12 55.5	-10		
PABE	**Paberze**	**156.21 315**	PKPdf	**PKPdf**	**12 12 37.5**	**-0.1**		
PABE			PKPab	**PKPab**	**12 13 04.1**	**-1.6**		
PABE	**Paberze**	**156.21 315**	*e*P	PKPdf	12 12 47.9	+10		
COVR	**Voineasa-Covas**	**156.37 290**	⇑P	PKPab	12 12 53.5	-13		
MLR	**Muntele Rosu**	**156.53 289**	⇑P	**PKPab**	**12 13 09.2**	**+1.6**		
MLR	**Muntele Rosu**	**156.53 289**	PKPab	**PKPab**	**12 13 07.1**	**-0.4**		
	comp=Z,25nm,1.1s,baz=177,slow=5.5,SNR=3.9							
BUR01	**Bucovina Ar. S**	**157.06 295**	⇑P	**PKPab**	**12 13 03.4**	**-6.3**		
MTUR	**Matau**	**157.13 288**	⇑P	**PKPdf**	**12 12 47.0**	**+7.6**		
MTUR	**Matau**	**157.13 288**	⇑PKIKP	**PKPdf**	**12 12 47.0**	**+7.6**		
PLVB	**Pleven**	**157.27 284**	⇓P	**PKPab**	**12 13 04.3**	**-6.4**		
ARR	**Arges**	**157.44 289**	⇓P	PKPdf	12 12 31.0	-8.7		
LVV	**L'vov**	**157.64 300**	*e*PKP2	**PKPab**	**12 13 10.8**	**-1.3**		
VTS	**Vitosha**	**158.16 281**	⇑P	PKPab	12 13 01.3	-13		
VTS	**Vitosha**	**158.16 281**	PKPdf	**PKPdf**	**12 12 40.0**	**-0.8**		
VTS			PKPab	**PKPab**	**12 13 13.4**	**-1.3**		
VTS	**Vitosha**	**158.16 281**	PKIKP	**PKPdf**	**12 12 40.0**	**-0.8**		
VTS					12 13 13.5			
HFS	**Hagfors**	**158.21 332**	PKPab	**PKPab**	**12 13 13.3**	**-0.8**		
	comp=Z,2.5nm,0.5s,baz=85,slow=3.6,SNR=12							
TAM	**Tamanrasset**	**158.25 211**	PKPdf	**PKPdf**	**12 12 41.6**	**+0.1**		
TAM			PKPab	**PKPab**	**12 13 14.2**	**-1.3**		
TAM	**Tamanrasset**	**158.25 211**	PKIKP	**PKPdf**	**12 12 41.0**	**-0.5**		
NB2	**NORSAR Subarra**	**158.31 337**	PKP	**PKPab**	**12 13 12.4**	**-2.2**		
	comp=Z,3.9nm,0.7s,baz=38,slow=5.1							
NOA	**NORSAR Array B**	**158.31 337**	PKP	**PKPdf**	**12 12 38.3**	**-2.0**		
	comp=Z,0.6nm,0.8s,baz=80,slow=4.4,SNR=1.5							
NOA			PKPab	**PKPab**	**12 13 12.6**	**-2.0**		
	comp=Z,6.1nm,1.0s,baz=39,slow=4.5,SNR=6.4							
BLKB	**Belogradchik**	**158.70 284**	⇓P	**PKPdf**	**12 12 40.0**	**-1.3**		
GZR	**Gura Zlata**	**158.75 289**	⇑P	**PKPdf**	**12 12 41.8**	**+0.5**		
GZR	**Gura Zlata**	**158.75 289**	⇑PKIKP	**PKPdf**	**12 12 41.8**	**+0.5**		
STIP	**Stip**	**158.77 278**	*i* P	**PKPab**	**12 13 13.6**	**-3.6**		
KOLS	**Kolonicke sedl**	**158.91 298**	*e*PKP2	**PKPab**	**12 13 17.7**	**+0.1**		
UZH	**Uzhgorod**	**158.93 298**	*e*PKP2	PKPab	12 13 09.7	-8.0		
SURR	**Surduc**	**159.22 290**	⇓P	**PKPdf**	**12 12 36.0**	**-5.8**		
CRVS	**Cervenica-Dubn**	**159.44 299**	*e*PKP2	**PKPab**	**12 13 19.5**	**-0.4**		
STHS	**Stebnicka Huta**	**159.50 300**	*e*PKP2	**PKPab**	**12 13 22.6**	**+2.4**		
DIVS	**Divibare**	**160.68 285**	PKPdf	**PKPdf**	**12 12 42.9**	**-0.7**		
DIVS			PKPab	**PKPab**	**12 13 24.4**	**-1.2**		
VYHS	**Vyhne**	**161.22 298**	*e*PKP	**PKPdf**	**12 12 45.7**	**+1.8**		
VYHS			*e*		12 13 26.5			
VYHS	**Vyhne**	**161.22 298**	*e*PKIKP	**PKPdf**	**12 12 45.7**	**+1.8**		
VYHS			*e*		12 13 26.5			
OKC	**Ostrava-Krasne**	**161.37 303**	*e*PKPAB	**PKPab**	**12 13 27.2**	**-1.1**		
OKC	**Ostrava-Krasne**	**161.37 303**	*e*PKP2	**PKPab**	**12 13 27.2**	**-1.1**		
MORH	**Mrgy, Hungar**	**161.63 291**	⇑P	**PKPdf**	**12 12 43.5**	**-0.9**		
MAUC	**Maruska**	**161.69 301**	*e*PKPDF	PKPdf	12 12 53.6	+9.2		
MAUC			*e*PKPAB	**PKPab**	**12 13 25.5**	**-4.3**		
MORC	**Moravsky Berou**	**161.77 303**	⇓P	**PKPab**	**12 13 28.7**	**-1.3**		
MORC	**Moravsky Berou**	**161.77 303**	PKPdf	**PKPdf**	**12 12 43.9**	**-0.6**		
MORC			PKPab	**PKPab**	**12 13 29.5**	**-0.6**		
MORC	**Moravsky Berou**	**161.77 303**	*e*PKP	**PKPdf**	**12 12 39.1**	**-5.4**		
MORC			*e*		12 13 27.7			
MORC	**Moravsky Berou**	**161.77 303**	PKIKP	**PKPdf**	**12 12 43.9**	**-0.6**		
MORC					12 13 29.5			
KRLC	**Kraliky**	**162.15 304**	*e*PKPDF	**PKPdf**	**12 12 42.5**	**-2.4**		
KRLC			*e*PKPAB	**PKPab**	**12 13 30.8**	**-1.0**		
KRLC	**Kraliky**	**162.15 304**	*e*PKIKP	**PKPdf**	**12 12 42.5**	**-2.4**		
KRLC			*e*		12 13 30.8			
TIP	**Timpagrande**	**162.19 268**	⇓P	**PKPdf**	**12 12 45.8**	**+0.5**		
MODS	**Modra-Piesok**	**162.26 299**	*e*PKP	**PKPdf**	**12 12 46.3**	**+1.3**		
MODS	**Modra-Piesok**	**162.26 299**	*e*PKIKP	**PKPdf**	**12 12 46.3**	**+1.3**		
OSTC	**Ostas**	**162.34 306**	*e*PKPAB	**PKPab**	**12 13 32.6**	**0.0**		
DPC	**Dobruska-Polom**	**162.35 305**	*e*PKPDF	**PKPdf**	**12 12 42.8**	**-2.3**		
DPC			*e*PKPAB	**PKPab**	**12 13 31.3**	**-1.3**		
DPC	**Dobruska-Polom**	**162.35 305**	*e*PKIKP	**PKPdf**	**12 12 42.8**	**-2.3**		
DPC			*e*		12 13 31.3			
CHVC	**Chvalec**	**162.43 306**	*e*PKPAB	**PKPab**	**12 13 32.3**	**-0.6**		
UPC	**Upice**	**162.48 306**	*e*PKPAB	**PKPab**	**12 13 32.0**	**-1.1**		
UPC	**Upice**	**162.48 306**	*e*PKP2	**PKPab**	**12 13 32.0**	**-1.1**		
VRAC	**Vranov**	**162.49 302**	⇓P	**PKPab**	**12 13 32.0**	**-1.2**		
VRAC	**Vranov**	**162.49 302**	*e*PKP	**PKPdf**	**12 12 40.3**	**-4.9**		
VRAC			*e*		12 13 29.6			
VRAC	**Vranov**	**162.49 302**	⇓PKP2	**PKPab**	**12 13 32.0**	**-1.2**		
KRUC	**Moravsky**	**162.68 301**	*e*PKP	**PKPdf**	**12 12 40.1**	**-5.3**		
KRUC			*e*		12 13 30.0			
RUE	**Ruedersdorf**	**162.94 314**	*e*P	**PKPab**	**12 13 32.5**	**-2.5**		
CONA	**Conrad Observa**	**163.28 298**	*e*P	**PKPab**	**12 13 36.7**	**-0.1**		
	comp=Z,15nm,2.3s							
PVCC	**Panska Ves**	**163.34 307**	*e*PKPAB	**PKPab**	**12 13 36.1**	**-0.8**		
PVCC	**Panska Ves**	**163.34 307**	*e*PKP2	**PKPab**	**12 13 36.1**	**-0.8**		
GOPC	**GO Pecny, Ondr**	**163.43 305**	*e*PKPAB	**PKPab**	**12 13 36.0**	**-1.3**		
GOPC	**GO Pecny, Ondr**	**163.43 305**	*e*PKP2	**PKPab**	**12 13 36.0**	**-1.3**		
PRU	**Pruhonice**	**163.55 305**	*e*PKPAB	**PKPab**	**12 13 36.2**	**-1.6**		
PRU	**Pruhonice**	**163.55 305**	*e*PKP2	**PKPab**	**12 13 36.2**	**-1.6**		
BRG	**Berggiesshubel**	**163.57 309**	*e*PKIKP	**PKPdf**	**12 12 47.2**	**+1.1**		
BRG			pmax	pmax				
	comp=Z,9.0nm,1.4s							
ARSA	**Arzberg**	**163.64 295**	*e*P	**PKPdf**	**12 12 43.5**	**-2.9**		
	comp=Z,4.1nm,1.1s							
ARSA			P	**PKPab**	**12 13 37.9**	**-0.5**		
	comp=Z,16nm,1.2s							
CLL	**Collm**	**163.92 311**	*i* PKPdf	**PKPdf**	**12 12 48.1**	**+1.7**		
CLL			*i* PKPab	**PKPab**	**12 13 37.7**	**-1.7**		
CLL			*ex*	x	12 14 04.0			
	comp=Z,38nm,1.2s							
CLL			*e*PP	**PP**	**12 17 28.0**	**+2.6**		
CLL	**Collm**	**163.92 311**	*i* PKIKP	**PKPdf**	**12 12 48.1**	**+1.7**		
CLL			*i*		12 13 37.7			
CLL			pmax	pmax				
	comp=Z,4.0nm,1.0s							
CLL			pmax	pmax				
	comp=Z,38nm,1.2s							
SOKA	**Soboth**	**164.06 294**	*e*P	**PKPdf**	**12 12 44.9**	**-1.9**		
	comp=Z,5.6nm,1.3s							
SOKA			P	**PKPab**	**12 13 37.2**	**-3.1**		
	comp=Z,9.4nm,1.4s							
MOA	**Molln**	**164.35 298**	P	**PKPdf**	**12 12 45.0**	**-2.0**		
	comp=Z,3.7nm,1.3s							
MOA			*e*P	**PKPab**	**12 13 38.2**	**-3.3**		
	comp=Z,15nm,1.3s							
OBKA	**Obir**	**164.42 293**	*e*P	**PKPab**	**12 13 38.8**	**-3.1**		
	comp=Z,10nm,1.1s							
KHC	**Kasperske Hory**	**164.43 303**	PKPdf	**PKPdf**	**12 12 46.0**	**-1.1**		
KHC			PKPab	**PKPab**	**12 13 40.9**	**-0.9**		
KHC	**Kasperske Hory**	**164.43 303**	*e*PKPDF	**PKPdf**	**12 12 48.8**	**+1.7**		
KHC			*e*PKPAB	**PKPab**	**12 13 40.8**	**-1.0**		
KHC	**Kasperske Hory**	**164.43 303**	*e*PKIKP	**PKPdf**	**12 12 48.8**	**+1.7**		
KHC			*e*		12 13 40.8			
GEC2	**GERESS Array S**	**164.44 302**	PKPdf	**PKPdf**	**12 12 46.2**	**-0.9**		
GEC2			PKPab	**PKPab**	**12 13 41.1**	**-0.8**		
GERES	**GERESS Array B**	**164.44 302**	PKP	**PKPdf**	**12 12 47.6**	**+0.4**		
	comp=Z,1.3nm,0.8s,baz=158,slow=1.4,SNR=8.8							
GERES			PKPab	**PKPab**	**12 13 41.1**	**-0.8**		
	comp=Z,4.1nm,0.8s,baz=76,slow=5.6,SNR=11							
GERES			PP	**PP**	**12 17 28.6**	**0.0**		
	comp=Z,0.2nm,0.3s,baz=34,slow=7.1,SNR=1.7							
BIOA	**Bad Ischl, Aus**	**164.80 298**	*e*P	**PKPab**	**12 13 41.7**	**-1.8**		
	comp=Z,9.1nm,1.4s							
MYKA	**Terra Mystica**	**165.01 294**	P	**PKPab**	**12 13 41.5**	**-3.0**		
	comp=Z,11nm,1.2s							
KBA	**Koelnbreinsper**	**165.13 296**	P	**PKPdf**	**12 12 46.5**	**-1.4**		
	comp=Z,2.1nm,0.6s							
ABTA	**Abfaltersbach**	**165.76 295**	*e*P	**PKPdf**	**12 12 45.6**	**-2.7**		
	comp=Z,7.8nm,1.5s							
ABTA			*e*P	**PKPab**	**12 13 46.2**	**-1.6**		
	comp=Z,7.3nm,1.1s							
CIMO	**Cimolais**	**165.89 293**	PKPdf	**PKPdf**	**12 12 47.6**	**-0.7**		
CIMO			PKPab	**PKPab**	**12 13 46.8**	**-1.5**		
KEST	**Kesra**	**166.17 247**	PKP	**PKPdf**	**12 12 48.9**	**-0.1**		
	comp=Z,5.9nm,1.0s,baz=280,slow=3.4,SNR=5.0							
KEST			PKPab	**PKPab**	**12 13 49.5**	**-0.4**		
	comp=Z,14nm,1.0s,baz=296,slow=3.2,SNR=5.5							
KEST	**Kesra**	**166.17 247**	PKPdf	**PKPdf**	**12 12 49.0**	**-0.1**		
KEST			PKPab	**PKPab**	**12 13 50.5**	**+0.6**		
WTTA	**Wattenberg**	**166.22 298**	*e*P	**PKPdf**	**12 12 46.4**	**-2.4**		
	comp=Z,4.8nm,1.1s							
WTTA			P	**PKPab**	**12 13 49.1**	**-0.8**		
	comp=Z,12nm,1.1s							
WATA	**Walderalm**	**166.24 298**	*e*P	**PKPdf**	**12 12 47.3**	**-1.5**		
	comp=Z,2.4nm,0.9s							
WATA			*e*P	**PKPab**	**12 13 47.9**	**-2.0**		
	comp=Z,22nm,1.4s							
SQTA	**Sankt Quirin**	**166.51 298**	*e*P	**PKPdf**	**12 12 47.0**	**-2.0**		
	comp=Z,5.8nm,1.1s							
SQTA			*e*P	**PKPab**	**12 13 49.6**	**-1.6**		
	comp=Z,18nm,1.1s							
MOTA	**Moosalm**	**166.55 298**	P	**PKPdf**	**12 12 46.3**	**-2.7**		
	comp=Z,5.6nm,1.0s							
MOTA			P	**PKPab**	**12 13 49.2**	**-2.1**		
	comp=Z,16nm,1.2s							
RETA	**Reutte**	**166.73 299**	*e*P	**PKPdf**	**12 12 47.9**	**-1.1**		
	comp=Z,3.9nm,1.1s							
RETA			*e*P	**PKPab**	**12 13 50.6**	**-1.5**		
	comp=Z,5.3nm,1.0s							
FETA	**Feichten**	**166.88 297**	*e*P	**PKPdf**	**12 12 50.0**	**+0.7**		
	comp=Z,4.6nm,1.2s							
FETA			*e*P	**PKPab**	**12 13 51.3**	**-1.6**		
	comp=Z,13nm,1.3s							
FUORN	**Ofenpass-Fuorn**	**167.29 296**	PKPdf	**PKPdf**	**12 12 50.2**	**+0.5**		
FUORN			PKPab	**PKPab**	**12 13 54.3**	**-0.5**		
DAVA	**Damuels**	**167.36 299**	*e*P	**PKPdf**	**12 12 47.0**	**-2.6**		
	comp=Z,6.5nm,1.2s							
DAVA			*e*P	**PKPab**	**12 13 54.6**	**-0.3**		
	comp=Z,16nm,1.1s							
BFO	**Black Forest**	**167.95 306**	PKPdf	**PKPdf**	**12 12 48.8**	**-1.1**		
BFO			PKPab	**PKPab**	**12 13 55.8**	**-1.5**		
BFO	**Black Forest**	**167.95 306**	PKIKP	**PKPdf**	**12 12 48.8**	**-1.1**		
BFO					12 13 55.8			
PTEO	**Sao Teotonio**	**175.03 158**	*e*PKP	**PKPdf**	**12 12 55.1**	**+1.5**		
PCVE	**Castro Verde**	**175.28 164**	*e*PKP	**PKPdf**	**12 12 54.8**	**+1.1**		
MESJ	**Messejana**	**175.44 161**	*e*PKPdf	**PKPdf**	**12 12 53.8**	**0.0**		
MESJ	**Messejana**	**175.44 161**	*e*PKP	**PKPdf**	**12 12 54.4**	**+0.7**		
PNCL	**Nicolau / Gran**	**175.62 157**	*e*PKP	**PKPdf**	**12 12 54.8**	**+1.1**		
PBEJ	**Beja**	**175.70 164**	*e*PKP	**PKPdf**	**12 12 54.8**	**+1.0**		
PBAR	**Barrancos**	**175.97 173**	*e*PKP	**PKPdf**	**12 12 54.1**	**+0.3**		
PESTR	**Estremoz**	**176.56 164**	*e*PKP	**PKPdf**	**12 12 53.9**	**-0.1**		
ESDC	**Sonseca Array**	**176.89 217**	PKP	**PKPdf**	**12 12 54.2**	**+0.1**		
	comp=Z,5.5nm,1.0s,baz=354,slow=1.6,SNR=17							
ESDC			PKPab	**PKPab**	**12 14 37.2**	**+0.1**		
	comp=Z,6.4nm,0.9s,baz=146,slow=3.5,SNR=8.1							
ESDC			PP	**PP**	**12 18 30.2**	**+0.1**		
	comp=Z,0.8nm,0.9s,baz=110,slow=5.9,SNR=2.5							
PMRV	**Marv??o**	**177.15 164**	*e*PKP	**PKPdf**	**12 13 00.0**	**+5.9**		
PCAS	**Casmilo, Conde**	**177.34 143**	*e*PKP	**PKPdf**	**12 12 56.0**	**+1.9**		
PCBR	**Castelo Branco**	**177.52 160**	*e*PKP	**PKPdf**	**12 12 55.2**	**+1.1**		
PVIS	**Viseu**	**178.15 142**	*e*PKP	**PKPdf**	**12 13 00.1**	**+5.9**		
MVO	**Moncorvo**	**178.88 155**	*e*PKP	**PKPdf**	**12 12 54.5**	**+0.2**		

WEL 13 11:53:14.2±1.9, 42°S±5′×17°4E±1′0, h5km, M5.2/3, ML5.6/2, MLv5.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=79.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
**C

DOBS				IAML			12 00 55.9	
	comp=Z,21nm,0.1s							
CESS	**Cesta pri Krsk**	**0.37**	**106**	*i* Pg	Pg		12 00 49.7	+0.3
CESS				IAML			12 00 56.2	
	comp=Z,14nm,0.1s							
GBAS	**Gorenja Brezov**	**0.38**	**248**	*i* Pg	Pg		12 00 49.9	+0.3
GBAS				*i* Sg	Sg		12 00 55.0	+0.3
GBAS				IAML			12 00 56.6	
	comp=Z,11nm,0.1s							
MOZS	**Mozjanca**	**0.41**	**301**	*i* Pg	Pg		12 00 50.6	+0.4
CRES	**Cresnjev**	**0.43**	**126**	*i* Pg	Pg		12 00 50.6	0.0
CRES				IAML			12 00 57.7	
	comp=Z,9.6nm,0.1s							
GOLS	**Golise**	**0.47**	**98**	*i* Pg	Pg		12 00 51.7	+0.4
GOLS				*i* Sg	Sg		12 00 58.3	+0.8
GOLS				IAML			12 00 59.9	
	comp=Z,12nm,0.1s							
CRNS	**Crni Vrh**	**0.48**	**270**	*i* Pg	Pg		12 00 51.9	+0.4
CRNS				IAML			12 00 59.7	
	comp=Z,25nm,0.1s							
CEY	**Cerknica**	**0.50**	**227**	*i* Pg	Pg		12 00 52.0	+0.2
OBKA	**Obir**	**0.51**	**327**	*eP*g	Pg		12 00 52.2	+0.1
	comp=Z,2.2nm,0.1s,SNR=5.1							
OBKA				*e*Sg	Sg		12 00 59.3	+0.5
	comp=Z,8.2nm,0.2s							
GCIS	**Gornji Cirnik**	**0.52**	**114**	*i* Pg	Pg		12 00 52.4	+0.2
PERS	**Pernice**	**0.57**	**12**	*i* Pg	Pg		12 00 53.3	+0.2
SOKA	**Soboth**	**0.60**	**5**	*eP*g	Pg		12 00 53.7	-0.1
	comp=Z,2.0nm,0.2s,SNR=5.4							
SOKA				*e*Sg	Sg		12 01 01.0	-0.6
	comp=Z,2.1nm,0.3s,SNR=4.9							
BOJS	**Bojanci**	**0.61**	**160**	*i* Pg	Pg		12 00 53.8	-0.2
KNDS	**Knezji Dol**	**0.68**	**216**	*i* Pg	Pg		12 00 55.3	0.0
KNDS				*i* Sg	Sb		12 01 05.2	-1.0
GORS	**Gorjuse**	**0.71**	**290**	*i* Pg	Pg		12 00 55.9	+0.1
VOJS	**Vojsko**	**0.75**	**267**	*i* Pg	Pg		12 00 56.3	-0.2
LOBO	**Lobor**	**0.78**	**84**	*eP*g	Pg		12 00 56.7	-0.4
SKDS	**Skadanscina**	**0.85**	**231**	*eP*g	Pg		12 00 58.1	-0.3
SKDS				*i* Sg	Sg		12 01 10.1	+0.7
CADS	**Cadrg**	**0.86**	**280**	*i* Pg	Pg		12 00 58.3	-0.4
KALN	**Kalnik**	**1.05**	**87**	*eP*g	Pg		12 01 00.5	-1.8
KALN				Sg	Sg		12 01 15.4	-0.5
SMRN	**Sveta Marina**	**1.19**	**208**	*eP*g	Pn		12 01 05.8	+0.5
SMRN				Sg	Sn		12 01 21.6	-0.1
ARSA	**Arzberg**	**1.23**	**18**	*eP*g	Pg		12 01 05.0	-0.9
	comp=Z,0.6nm,0.2s							
MOSL	**Moslavina**	**1.34**	**110**	*eP*g	Pn		12 01 06.2	-1.3
MOSL				Sg	Sb		12 01 23.6	-1.6
BRJN	**Brijuni**	**1.45**	**216**	*eP*n	Pg		12 01 10.0	+0.1
BRJN				Sg	Sg		12 01 30.0	+1.4
NVLJ	**Novalja**	**1.52**	**182**	*eP*n	Pn		12 01 10.0	+0.1
NVLJ				Sn	Sg		12 01 31.8	+0.9

WEL 13 12:00:58.9±0.6,**42°S**±3″×**17°4E**±″,**h5**km,**M4.1/7,ML4.5/7,MLv4.1/7,Error ellipse: s-maj=0.0km s-min=0.0km az=147.9,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**214**	S	Sg	12 01 06.2	+1.7
TUWZ	**Tuamarina**	**0.35**	**301**	P	Pg	12 01 06.1	+0.4
TUWZ				S	Sg	12 01 11.6	+1.4
BSWZ	**Blackbirch Sta**	**0.36**	**253**	P	Pg	12 01 06.3	+0.4
BSWZ				S	Sg	12 01 12.0	+1.3
TCW	**Tory Channel**	**0.41**	**353**	P	Pg	12 01 07.1	+0.4
TCW				S	Sg	12 01 13.1	+1.1
CAW	**Cannon Point**	**0.74**	**48**	P	Pg	12 01 13.6	+0.4
KIW	**Kapiti Island**	**0.87**	**30**	P	Pg	12 01 15.5	0.0
KIW				S	Sb	12 01 27.8	-0.6
DUWZ	**D'Urville Isla**	**0.87**	**339**	P	Pg	12 01 15.8	+0.2
DUWZ				S	Sb	12 01 27.8	-0.6
OGWZ	**Otaki Gorge**	**1.01**	**39**	P	Pg	12 01 18.2	-0.2
OGWZ				S	Sg	12 01 31.8	+0.3
NMEZ	**Namu Road**	**2.23**	**351**	S	Sg	12 02 10.2	-0.2

*IDC **13** 12:02:01.9±1.8,42°.61S×173°.42E,h0km,mb4.2/4, mbtmp4.2/5,ML4.6/1,Error ellipse: s-maj=60.5km s-min=29.4km az=145.0*

ISC 13 12:02:03.7±1.0,**42°.65S**±0°.2×**173°.2E**±0°.2,**h10**km,**n12,** σ1§**11**/13,**mb4.0/4,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**1.95**	**234**	Pn	**Pb**	**12 02 38.5**	**-0.7**
	224nm,0.3s,baz=58,slow=3.2,SNR=2.0						
RPZ				Sn	**Sb**	**12 03 03.6**	**+0.1**
	504nm,0.3s,baz=339,slow=22,SNR=16						
	843nm,0.4s						
ASAR	**Alice Springs**	**37.55**	**288**	P	**P**	**12 09 18.8**	**+0.6**
	1.6nm,0.5s,baz=130,slow=7.0,SNR=6.1						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**39.71**	**292**	P	**P**	**12 09 36.9**	**+0.6**
	1.6nm,0.7s,baz=127,slow=8.5,SNR=2.4						
	1.6nm,0.7s						
TROLL	**Troll, Antarti**	**65.50**	**183**	P	**P**	**12 12 47.7**	**+1.0**
VNA2	**Neumayer--Watz**	**66.78**	**180**	P	**P**	**12 12 55.6**	**+0.9**
	baz=178,slow=4.0						
KSRS	**Korea Array**	**89.73**	**326**	P	**P**	**12 15 01.9**	**+0.2**
	0.7nm,0.6s,baz=145,slow=5.4,SNR=2.9						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**91.29**	**294**	P	**P**	**12 15 10.9**	**+1.4**
	2.1nm,0.9s,baz=152,slow=3.4,SNR=5.1						
	2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**123.95**	**310**	PKP	**PKiKP**	**12 21 01.1**	**-0.5**
	0.7nm,0.3s,baz=112,slow=1.8,SNR=1.8						
BVAR	**Borovoye Array**	**129.54**	**310**	PKP	**PKiKP**	**12 21 11.5**	**-1.2**
	0.5nm,0.6s,baz=64,slow=3.4,SNR=1.4						
ARCES	**ARCESS Array B**	**148.31**	**339**	PKPbc	**PKiKP**	**12 21 48.8**	**-1.7**
	2.7nm,0.8s,baz=36,slow=3.4,SNR=2.1						
BRTR	**Keskin Array B**	**149.65**	**278**	PKPbc	**PKiKP**	**12 21 53.0**	**-1.3**
	0.9nm,0.6s,baz=135,slow=3.6,SNR=2.3						
FINES	**FINESS Array B**	**152.82**	**325**	PKPbc	**PKiKP**	**12 21 59.0**	**-1.0**
	1.5nm,0.8s,baz=31,slow=3.2,SNR=1.8						

IDC 13 12:03:36.8±6.2,**41°.83S**×**175°.11E,h0**km,**mb3.9/3, mbtmp4.1/4,ML4.7/1,Error ellipse: s-maj=127.4km s-min=43.7km az=126.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**3.53**	**236**	Pn	Pn	12 04 33.7	+0.8
	63nm,0.3s,baz=343,slow=4.9,SNR=1.2						
RPZ				Sn	Sn	12 05 14.7	-0.7
	264nm,0.3s,baz=325,slow=1.7,SNR=9.7						
	269nm,0.5s						
ASAR	**Alice Springs**	**38.67**	**285**	P	P	12 11 02.3	0.0
	0.6nm,0.4s,baz=128,slow=8.2,SNR=5.7						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**40.74**	**290**	P	P	12 11 19.4	-0.1
	1.0nm,0.4s,baz=128,slow=8.1,SNR=5.6						
	1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**92.27**	**293**	P	P	12 16 48.4	-0.4
	0.4nm,0.5s,baz=144,slow=3.2,SNR=1.7						
	0.4nm,0.5s						

*IDC **13** 12:03:53.3±2.3,40°.97S×174°.27E,h0km,mb4.2/5, mbtmp4.3/6,ML5.0/1,Error ellipse: s-maj=55.5km s-min=43.3km az=115.0*

*WEL **13** 12:03:55.6±0.4,42°.S±2°×17°.4E±°,h5km,M5.2/8,ML5.5/8, MLv5.2/8,Error ellipse: s-maj=0.0km s-min=0.0km az=55.6*

ISC 13 12:03:54.1±0.9,**41°.79S**±0°.05×**174°.18E**±0°.04,**h14**km±5km, **n25,** σ1§**18**/31,**mb4.1/5,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**35**	P	**Pg**	**12 03 56.6**	**-0.1**
CMWZ				S	**Sg**	**12 03 58.2**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.24**	**289**	P	**Pb**	**12 04 00.7**	**+0.5**
BSWZ				S	**Sb**	**12 04 05.7**	**+1.4**
TUWZ	**Tuamarina**	**0.40**	**334**	P	**Pb**	**12 04 02.5**	**-0.5**
TUWZ				S	**Sb**	**12 04 08.9**	**0.0**
TCW	**Tory Channel**	**0.58**	**7**	P	**Pb**	**12 04 05.5**	**-0.6**
TCW				S	**Sb**	**12 04 13.7**	**-0.5**
KHZ	**Kahutara**	**0.78**	**217**	P	**Pg**	**12 04 08.7**	**-0.6**
DUWZ	**D'Urville Isla**	**1.01**	**349**	P	**Pn**	**12 04 14.7**	**+0.9**
DUWZ				S	**Sn**	**12 04 27.7**	**0.0**
KIW	**Kapiti Island**	**1.08**	**31**	P	**Pb**	**12 04 14.1**	**-0.5**
MRNZ	**Matariki Terra**	**1.13**	**290**	P	**Pg**	**12 04 17.2**	**+1.3**
TRWZ	**Traveller**	**1.20**	**71**	P	**Pb**	**12 04 16.9**	**+0.3**
TRWZ				S	**Sg**	**12 04 34.9**	**+2.1**
HOWZ	**Holdsworth Sta**	**1.35**	**49**	P	**Pb**	**12 04 19.2**	**+0.1**
MRZ	**Mangatainoka R**	**1.55**	**44**	P	**Pg**	**12 04 24.1**	**+0.3**
BFZ	**Birch Farm**	**1.92**	**55**	P	**Pb**	**12 04 28.2**	**-0.6**
RPZ	**Rata Peaks**	**3.00**	**229**	Pn	**Pg**	**12 04 51.0**	**-0.5**
	131nm,0.3s,baz=69,slow=3.0,SNR=2.2						
	306nm,0.3s						
ASAR	**Alice Springs**	**37.99**	**286**	P	**P**	**12 11 11.6**	**0.0**
	1.7nm,0.8s,baz=120,slow=6.1,SNR=4.3						
	1.7nm,0.8s						
WRA	**Warramunga Arr**	**40.06**	**291**	P	**P**	**12 11 28.8**	**-0.3**
	1.8nm,0.6s,baz=127,slow=8.4,SNR=4.6						
	1.8nm,0.6s						
PMG	**Port Moresby**	**40.08**	**316**	P	**P**	**12 11 25.3**	**-3.8**
	1.7nm,0.3s,baz=232,slow=11,SNR=3.6						
	1.7nm,0.3s						
TROLL	**Troll, Antarti**	**66.35**	**183**	P	**P**	**12 14 43.2**	**+1.3**
SNAA	**Sanae**	**66.83**	**181**	P	**P**	**12 14 46.5**	**+1.6**
VNA3	**Neumayer Olymp**	**67.24**	**179**	P	**P**	**12 14 48.7**	**+1.3**
VNA2	**Neumayer--Watz**	**67.59**	**179**	P	**P**	**12 14 51.6**	**+2.0**
	baz=174,slow=6.0						
VNA1	**Neumayer--Stat**	**67.86**	**179**	P	**P**	**12 14 52.0**	**+0.8**
KSRS	**Korea Array**	**89.46**	**325**	P	**P**	**12 16 50.4**	**+0.2**
	0.9nm,0.8s,baz=148,slow=6.9,SNR=3.0						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.61**	**293**	P	**P**	**12 17 00.5**	**-0.2**
	0.7nm,0.5s,baz=141,slow=3.5,SNR=4.7						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**152.54**	**327**	PKPbc	**PKPbc**	**12 23 48.2**	**-0.7**
	1.9nm,0.8s,baz=336,slow=4.2,SNR=2.1						
AKASG	**Malin Array Be**	**154.38**	**302**	PKPbc	**PKiKP**	**12 23 54.0**	**+0.7**
	0.2nm,0.3s,baz=100,slow=5.4,SNR=1.7						

*IDC **13** 12:04:11.5±0.8,41°.77S×174°.28E,h0km,mb4.4/10, mbtmp4.4/10,Error ellipse: s-maj=34.9km s-min=18.9km az=76.0*

*WEL **13** 12:04:13.9±0.6,42°.S±3°×17°.4E±°,h10km±5km,M5.1/34, ML5.5/7,MLv5.1/34,Error ellipse: s-maj=0.0km s-min=0.0km az=131.6*

*NEIC **13** 12:04:15.6±1.6,41°.69S±0°.07×174°.51E±0°.02,h17km±5km, mb5.0/25,Error ellipse: s-maj=10.6km s-min=2.6km az=176.0*

ISC 13 12:04:13.9±1.0,**41°.71S**±0°.04×**174°.46E**±0°.03,**h10**km±6km, **n95,** σ1§**09**/104,**mb4.9**/22,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.19**	**257**	Pg	**Pb**	**12 04 20.3**	**+0.9**
CMWZ	**Cape Campbell**	**0.19**	**257**	P	**Pg**	**12 04 17.4**	**-0.4**
CMWZ				S	**Sg**	**12 04 21.0**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.43**	**269**	S	**Sg**	**12 04 28.4**	**+0.2**
SNZO	**South Karori**	**0.44**	**25**	Pg	**Pb**	**12 04 24.1**	**+0.4**
TUWZ	**Tuamarina**	**0.47**	**306**	P	**Pg**	**12 04 22.5**	**-0.7**
TUWZ				S	**Sg**	**12 04 29.3**	**-0.1**
TCW	**Tory Channel**	**0.52**	**345**	S	**Sg**	**12 04 30.8**	**0.0**
PLWZ	**Palliser**	**0.61**	**77**		**Pb**	**12 04 26.8**	**0.0**
PLWZ				Sg	**Sn**	**12 04 36.8**	**-1.9**
PLWZ	**Palliser**	**0.61**	**77**	P	**Pb**	**12 04 27.1**	**+0.3**
PLWZ				S	**Sn**	**12 04 38.8**	**+0.1**
MSWZ	**Moikau Station**	**0.66**	**64**		**Pb**	**12 04 27.4**	**-0.1**
MSWZ				Sg	**Sn**	**12 04 38.5**	**-1.4**
MSWZ	**Moikau Station**	**0.66**	**64**	P	**Pb**	**12 04 28.0**	**+0.4**
MSWZ				S	**Sn**	**12 04 40.4**	**+0.6**
CAW	**Cannon Point**	**0.76**	**38**	S	**Sn**	**12 04 41.1**	**-1.0**
PAWZ	**Paruwai Farm**	**0.80**	**66**	P	**Pb**	**12 04 29.9**	**0.0**
PAWZ				S	**Sn**	**12 04 43.0**	**-0.3**
KIW	**Kapiti Island**	**0.91**	**22**	P	**Pg**	**12 04 31.0**	**-0.4**
KIW				S	**Sb**	**12 04 44.0**	**0.0**
KIW	**Kapiti Island**	**0.91**	**22**	S	**Pg**	**12 04 31.0**	**-0.4**
NNZ	**Nelson**	**0.95**	**301**	Pn	**Pn**	**12 04 33.6**	**+0.4**
MTW	**Mount Morrison**	**0.96**	**55**	P	**Pb**	**12 04 32.6**	**0.0**
MTW				S	**Sn**	**12 04 47.6**	**+0.5**
TRWZ	**Traveller**	**0.97**	**72**	S	**Sn**	**12 04 50.1**	**+2.6**
OGWZ	**Otaki Gorge**	**1.04**	**31**	P	**Pg**	**12 04 34.0**	**+0.1**
OGWZ				S	**Sn**	**12 04 48.8**	**-0.3**
TMWZ	**Te Maipa**	**1.23**	**61**	P	**Pn**	**12 04 36.1**	**-1.1**
MRZ	**Mangatainoka R**	**1.35**	**39**	P	**Pn**	**12 04 38.3**	**-0.5**
TIWZ	**Tintock**	**1.42**	**50**	P	**Pn**	**12 04 39.5**	**-0.4**
CPWZ	**Castlepoint**	**1.54**	**59**	P	**Pg**	**12 04 43.6**	**+0.2**
PRWZ	**Pori Road**	**1.62**	**45**	P	**Pg**	**12 04 45.2**	**+0.2**
OHWZ	**Ohakea**	**1.64**	**24**	P	**Pg**	**12 04 45.2**	**-0.1**
BFZ	**Birch Farm**	**1.70**	**53**	P	**Pg**	**12 04 49.1**	**+2.7**
QRZ	**Quartz Range**	**1.70**	**301**	Pn	**Pb**	**12 04 44.7**	**-0.6**
WAZ	**Wanganui**	**1.99**	**12**	P	**Pb**	**12 04 50.5**	**+0.3**
TSZ	**Takapari Road**	**2.00**	**35**	P	**Pg**	**12 04 51.5**	**-0.9**
PRHZ	**Porangahau**	**2.19**	**50**	P	**Pg**	**12 04 56.7**	**+0.8**
WPHZ	**Waipukurau**	**2.23**	**43**	P	**Pg**	**12 04 57.6**	**+1.0**
PNHZ	**Pukenui**	**2.23**	**37**	P	**Pn**	**12 04 50.1**	**-0.9**
LREZ	**Lake Rotokare**	**2.25**	**359**	P	**Pb**	**12 04 55.7**	**+1.1**
NMEZ	**Namu Road**	**2.33**	**349**	P	**Pb**	**12 04 55.6**	**-0.4**
KHEZ	**Kahui Hut**	**2.43**	**352**	P	**Pb**	**12 04 57.4**	**-0.4**
MTVZ	**Mangateitei**	**2.45**	**19**	P	**Pb**	**12 04 58.5**	**+0.5**
NEZ	**North Egmont**	**2.45**	**353**	P	**Pb**	**12 04 59.4**	**+1.3**
NBEZ	**Newall Road No**	**2.48**	**349**	P	**Pb**	**12 04 59.1**	**+0.6**
MOVZ	**Moawhango**	**2.50**	**24**	P	**Pb**	**12 04 59.1**	**+0.1**
PKVZ	**Pokaka**	**2.51**	**16**	P	**Pb**	**12 04 58.6**	**-0.5**
DREZ	**Durham Road**	**2.52**	**355**	P	**Pb**	**12 04 60.0**	**+0.7**
PKE	**Pukeiti**	**2.54**	**352**	P	**Pb**	**12 05 01.0**	**+1.4**
BKZ	**Black Stump Fm**	**2.98**	**32**		**Pn**	**12 05 01.4**	**+0.1**
HIZ	**Hauiti**	**3.21**	**6**		**Pn**	**12 05 05.1**	**+0.7**
MXZ	**Matakaoa Point**	**5.10**	**37**	Pn	**Pn**	**12 05 29.8**	**-0.5**
OUZ	**Omahuta**	**6.51**	**354**		**Pn**	**12 05 50.1**	**+0.3**
DZM	**Mont Dzumac**	**20.71**	**339**	P	**P**	**12 08 54.4**	**0.0**
KOUNC	**Koumac, New Ca**	**22.78**	**335**	P	**P**	**12 09 17.0**	**+0.4**
KOUNC				IAmb	IAmb	12 09 38.5	
	comp=Z,91nm,1.5s						
MSVF	**Nonsavu**	**24.09**	**8**	P	**P**	**12 09 28.1**	**-1.6**
	comp=Z,14nm,0.7s,baz=178,slow=8.1,SNR=8.5						
	comp=Z,14nm,0.7s						
MSVF	**Nonsavu**	**24.09**	**8**	P	**P**	**12 09 28.6**	**-1.2**
MSVF				IAmb	IAmb	12 09 54.4	
	comp=Z,34nm,0.8s						
EIDS	**Eidsvold**	**25.28**	**303**	P	**P**	**12 09 40.4**	**-0.1**
EIDS				IAmb	IAmb	12 09 56.9	
	comp=Z,38nm,1.6s						
STKA	**Stephens Creek**	**27.94**	**280**	P	**P**	**12 10 03.6**	**-0.8**
BBOO	**Buckleboo**	**31.61**	**274**	P	**P**	**12 10 37.3**	**+0.4**
VNDA	**Vanda**	**36.30**	**185**	P	**P**	**12 11 16.5**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=358,slow=8.2,SNR=4.4						
	comp=Z,2.6nm,0.9s						
VNDA	**Vanda**	**36.30**	**185**	P	**P**	**12 11 17.6**	**+0.5**
SBA	**Scott Base**	**36.39**	**183**	P	**P**	**12 11 19.4**	**+1.6**
SBA				IAmb	IAmb	12 11 24.9	
	comp=Z,26nm,1.2s						
AS31	**Alice Springs**	**38.17**	**285**	P	**P**	**12 11 35.3**	**+1.7**
ASAR	**Alice Springs**	**38.17**	**285**	P	**P**	**12 11 31.3**	**-2.3**
	comp=Z,1.5nm,0.4s,baz=131,slow=8.1,SNR=3.1						
	comp=Z,1.5nm,0.4s						
ASAR	**Alice Springs**	**38.17**	**285**	P	**P**	**12 11 33.4**	**-0.2**
FORT	**Forrest**	**38.56**	**271**	P	**P**	**12 11 38.7**	**+1.9**
FORT				IAmb	IAmb	12 12 27.6	
	comp=Z,36nm,1.1s						
COEN	**Coen**	**38.73**	**306**	P	**P**	**12 11 38.4**	**0.0**
COEN				IAmb	IAmb	12 13 06.2	
	comp=Z,38nm,1.6s						
WR0	**Warramunga Arr**	**40.08**	**290**	P	**P**	**12 11 49.1**	**-0.5**
PMG	**Port Moresby**	**40.17**	**315**	P	**P**	**12 11 49.1**	**-1.2**
	comp=Z,2.6nm,0.5s,baz=224,slow=17,SNR=2.2						
	comp=Z,2.6nm,0.5s						
PMG	**Port Moresby**	**40.17**	**315**	P	**P**	**12 11 49.9**	**-0.4**
PMG				IAmb	IAmb	12 12 06.9	
	comp=Z,41nm,1.2s						
WB2	**Warramunga Arr**	**40.22**	**290**	P	**P**	**12 11 49.4**	**-1.4**
WB2				IAmb	IAmb	12 12 03.8	
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**40.23**	**290**	P	**P**	**12 11 50.1**	**-0.8**
WRAB				IAmb	IAmb	12 12 03.8	
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**40.23**	**290**	P	**P**	**12 11 48.2**	**-2.6**
	comp=Z,6.8nm,0.8s,baz=130,slow=7.5,SNR=11						
	comp=Z,6.8nm,0.8s						
WB0	**Warramunga Arr**	**40.31**	**290**	P	**P**	**12 11 52.4**	**+0.9**
RABL	**Rabaul**	**42.35**	**326**	P	**P**	**12 12 09.2**	**+0.9**
KNRA	**Kununurra**	**47.02**	**290**	P	**P**	**12 12 46.5**	**+1.1**
MTN	**Manton Dam**	**47.34**	**294**	P	**P**	**12 12 49.2**	**+1.2**
MORW	**Morawa**	**48.42**	**266**	P	**P**	**12 12 58.0**	**+1.6**
MORW				IAmb	IAmb	12 12 58.0	
	comp=Z,28nm,1.4s						
QSPA	**South Pole Qui**	**48.42**	**180**	P	**P**	**12 12 53.9**	**-2.1**
	comp=Z,14nm,1.0s,baz=87,slow=6.7,SNR=3.6						
	comp=Z,14nm,1.0s						
QSPA	**South Pole Qui**	**48.42**	**180**	P	**P**	**12 12 56.9**	**+0.8**
MBWA	**Marble Bar**	**50.10**	**277**	P	**P**	**12 13 08.0**	**-1.3**
MBWA				IAmb	IAmb	12 13 12.6	
	comp=Z,19nm,0.9s						
GIRL	**Giralia**	**53.33**	**271**	P	**P**	**12 13 34.1**	**+0.8**
SIJI	**Sorong**	**56.23**	**305**	P	**P**	**12 13 55.4**	**+1.0**
	comp=Z,12nm,1.0s,baz=70,slow=9.4,SNR=4.1						
SNAA	**Sanae**	**66.91**	**181**	P	**P**	**12 15 03.3**	**-2.6**
	comp=Z,6.9nm,1.0s,baz=171,slow=9.1,SNR=5.2						
	comp=Z,6.9nm,1.0s						
SNAA	**Sanae**	**66.91**	**181**	P	**P**	**12 15 05.8**	**-0.1**
SNAA				IAmb	IAmb	12 16 07.2	
	comp=Z,14nm,1.5s						
GSI	**Gunungsitoli**	**81.09**	**280**	P	**P**	**12 16 29.1**	**-0.5**
GSI				IAmb	IAmb	12 17 51.6	
	comp=Z,20nm,1.0s						
MJAR	**Matsushiro Arr**	**84.64**	**331**	P	**P**	**12 16 46.6**	**-0.9**
	comp=Z,1.2nm,1.0s,baz=166,slow=12,SNR=4.3						
	comp=Z,1.2nm,1.0s						
KSRS	**Korea Array**	**89.51**	**325**	P	**P**	**12 17 11.6**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=140,slow=5.6,SNR=4.8						
	comp=Z,1.7nm,0.9s						
KSAR	**Wonju Array Be**	**89.52**	**325**	P	**P**	**12 17 11.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**91.77**	**293**	P	**P**	**12 17 20.8**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=151,slow=3.1,SNR=7.6						
	comp=Z,1.6nm,0.8s						
PZH	**PanZhiHua**	**95.44**	**301**	P	**P**	**12 17 41.6**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**99.97**	**317**	*eP*	**Pdif**	**12 18 01.3**	**+2.4**
WMQ	**Urumqi**	**115.26**	**307**	*eP*	**PKiKP**	**12 22 56.4**	**+1.2**
YKA	**Yellowknife Ar**	**118.26**	**30**	PKP	**PKPdf**	**12 22 59.7**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=267,slow=1.8,SNR=5.2						
KURBB	**Kurchatov Arra**	**124.07**	**310**	PKP	**PKiKP**	**12 23 13.0**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=117,slow=2.1,SNR=4.8						
BVAR	**Borovoye Array**	**129.66**	**310**	PKP	**PKPdf**	**12 23 20.8**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=117,slow=3.6,SNR=2.3						
KBZ	**Khabaz**	**144.75**	**290**	PKP	PKPbc	12 23 49.8	+0.3
	comp=Z,3.6nm,0.8s,baz=91,slow=8.8,SNR=3.5						
DBIC	**Dimbokro**	**145.10**	**181**	PKPbc	**PKPbc**	**12 23 50.5**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=200,slow=4.0,SNR=3.0						
ARCES	**ARCESS Array B**	**147.79**	**340**	PKPbc	**PKPdf**	**12 23 56.2**	**+1.4**
	comp=Z,5.0nm,0.8s,baz=46,slow=5.2,SNR=3.2						
FINES	**FINESS Array B**	**152.58**	**327**	PKPbc	**PKPbc**	**12 24 07.7**	**-1.9**
	comp=Z,3.9nm,0.7s,baz=54,slow=3.3,SNR=7.3						
AKASG	**Malin Array Be**	**154.51**	**303**	PKPbc	**PKPbc**	**12 24 13.8**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=32,slow=4.3,SNR=1.6						
HFS	**Hagfors**	**158.07**	**334**	PKPab	**PKPab**	**12 24 42.8**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=41,slow=4.6,SNR=2.1						

WEL 13 12:04:26.7±0.9,**42°S**±2°×**17°4E**±°,**h6**km±5km,**M4.9/5, ML5.2/5,MLv4.9/5,Error ellipse: s-maj=0.0km s-min=0.0km az=126.5,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**203**	S	Sg	12 04 31.4	+1.8
BSWZ	**Blackbirch Sta**	**0.28**	**263**	P	Pg	12 04 32.4	+0.2
BSWZ				S	Sg	12 04 36.7	+0.7
TUWZ	**Tuamarina**	**0.34**	**317**	P	Pg	12 04 33.7	+0.4
TUWZ				S	Sb	12 04 39.8	-1.1
TCW	**Tory Channel**	**0.47**	**2**	P	Pg	12 04 36.4	+0.6
TCW				S	Sb	12 04 43.9	-0.8
BHW	**Baring Head**	**0.54**	**60**	P	Pb	12 04 38.1	-0.5
BHW				S	Sb	12 04 45.9	-0.7
NNZ	**Nelson**	**

comp=Z,2.2nm,0.8s,baz=113,slow=1.9,SNR=6.0
BVAR Borovoye Array 129.68 310 PKP **PKiKP 12 24 43.2 +0.3**
comp=Z,1.6nm,0.7s,baz=117,slow=0.7,SNR=4.3
KBZ Khabaz 144.38 289 PKP **PKPdf 12 25 09.1 -0.4**
comp=Z,3.3nm,0.7s,baz=114,slow=4.3,SNR=4.3
FINES FINESS Array B 152.91 325 PKPbc **PKiKP 12 25 30.6 +0.4**
comp=Z,4.6nm,0.8s,baz=70,slow=4.5,SNR=4.1
AKASG Malin Array Be 154.37 301 PKPbc **PKiKP 12 25 33.7 +0.2**
comp=Z,1.0nm,0.6s,baz=66,slow=2.2,SNR=1.8

WEL 13 12:07:29.7±0.3, **42°S**±2°×**17°4E**±°, **h12**km±3km, **M4.6/6, ML4.8/6, MLv4.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**190**	P	Pg	12 07 35.9	+0.5
KHZ				S	Sg	12 07 39.8	+0.5
BSWZ	**Blackbirch Sta**	**0.48**	**26**	P	Pb	12 07 40.6	+0.6
BSWZ				S	Sb	12 07 47.7	+0.7
THZ	**Tophouse**	**0.64**	**306**	P	Pb	12 07 43.5	+0.6
THZ				S	Sb	12 07 52.7	+0.8
TUWZ	**Tuamarina**	**0.76**	**20**	P	Pg	12 07 44.4	-0.1
GVZ	**Greta Valley S**	**0.92**	**207**	P	Pn	12 07 48.5	0.0
TCW	**Tory Channel**	**1.06**	**29**	P	Pn	12 07 50.8	+0.4
LTZ	**Lake Taylor**	**1.17**	**237**	P	Pb	12 07 51.7	-0.2
LTZ				S	Sb	12 08 05.6	-1.5
BHW	**Baring Head**	**1.20**	**53**	P	Pn	12 07 51.8	-0.6
MOVZ	**Moawhango**	**3.19**	**32**	P	Pb	12 08 24.0	-2.3
TRVZ	**Turoa**	**3.21**	**28**	P	Pb	12 08 27.6	+0.9
TRVZ				S	Sn	12 09 01.9	+3.5
WHVZ	**Whangaehu Hut**	**3.23**	**29**	P	Pb	12 08 28.8	+1.6
BHHZ	**Black Hill Sta**	**3.25**	**36**	P	Pb	12 08 29.4	+2.1
TUVZ	**Tukino**	**3.27**	**29**	P	Pg	12 08 30.4	-2.0
NGZ	**Ngauruhoe**	**3.33**	**28**	P	Pg	12 08 31.3	-2.3
WTVZ	**West Tongariro**	**3.38**	**27**	P	Pb	12 08 32.1	+2.4
ETVZ	**East Tongariro**	**3.41**	**29**	P	Pb	12 08 30.5	+0.4
KRVZ	**Karewarewa**	**3.42**	**28**	P	Pb	12 08 32.6	+2.3
TMVZ	**Te Maari**	**3.42**	**29**	P	Pb	12 08 31.2	+0.8
NTVZ	**North Tongarir**	**3.43**	**28**	P	Pb	12 08 32.5	+2.0
KATZ	**Kakaramea**	**3.55**	**27**	P	Pb	12 08 34.8	+2.4
RATZ	**Rangitukua**	**3.67**	**28**	P	Pb	12 08 36.7	+2.1
BKZ	**Black Stump Fm**	**3.70**	**37**	P	Pg	12 08 38.3	-2.4
HATZ	**Hinemaiaia**	**3.77**	**31**	P	Pb	12 08 37.5	+1.4
WATZ	**Wairara**	**3.80**	**26**	P	Pb	12 08 39.3	+2.5
MRHZ	**Matea Rd**	**3.94**	**34**	P	Pb	12 08 39.9	+0.7
MRHZ				S	Sn	12 09 16.2	-0.1
ALRZ	**Allen Road**	**4.15**	**31**	P	Pb	12 08 43.6	+0.9
MUGZ	**Murupara**	**4.39**	**35**	P	Pb	12 08 49.8	+3.0
MUGZ				S	Sn	12 09 28.4	+1.1
RRRZ	**Republican Roa**	**4.41**	**31**	P	Pb	12 08 49.5	+2.4

IDC ***13*** *12:09:06.6±2.3, 42°46S×173°05E, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=57.1km s-min=27.8km az=126.0*
NEIC ***13*** *12:09:08.6±2.0, 42°41S±0°04×173°11E±0°09, h11km±6km, mb4.5/4, Error ellipse: s-maj=10.2km s-min=2.8km az=118.0*

ISC 13 12:09:09.3±0.8, **42°46S**±0°05×**173°05E**±0°09, **h15**km, **n22, σ1s06/23, mb4.1/7, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.66**	**240**		**Pb**	**12 09 22.5**	**0.0**
THZ	**Tophouse**	**0.70**	**351**		**Pg**	**12 09 21.6**	**-1.4**
OXZ	**Oxford**	**1.14**	**220**		**Pg**	**12 09 31.3**	**-0.1**
DSZ	**Denniston Nort**	**1.17**	**307**	Pn	**Pg**	**12 09 31.7**	**0.0**
MQZ	**McQueen's Vall**	**1.28**	**193**	Pn	**Pb**	**12 09 33.0**	**0.0**
QRZ	**Quartz Range**	**1.68**	**346**	Pn	**Pn**	**12 09 38.0**	**0.0**
RPZ	**Rata Peaks**	**1.93**	**229**	Pn	**Pn**	**12 09 40.6**	**-0.9**
	242nm,0.3s,baz=86,slow=1.7,SNR=6.2						
RPZ				Sn	**Sb**	**12 10 07.0**	**-1.0**
	192nm,0.3s,baz=343,slow=23,SNR=8.4						
RPZ	**Rata Peaks**	**1.93**	**229**	Pn	**Pn**	**12 09 40.9**	**-0.6**
KOUNC	**Koumac, New Ca**	**23.05**	**339**		**P**	**12 14 17.0**	**+2.9**
NIUE	**Niue**	**27.41**	**37**	P	**P**	**12 14 52.8**	**-1.4**
VNDA	**Vanda**	**35.48**	**184**	P	**P**	**12 16 05.5**	**+0.9**
ASAR	**Alice Springs**	**37.37**	**288**	P	**P**	**12 16 21.0**	**-0.5**
	1.0nm,0.6s,baz=129,slow=6.8,SNR=3.3 1.0nm,0.6s						
ASAR	**Alice Springs**	**37.37**	**288**	P	**P**	**12 16 20.1**	**-1.3**
WB2	**Warramunga Arr**	**39.52**	**292**	P	**P**	**12 16 39.2**	**-0.3**
WRA	**Warramunga Arr**	**39.53**	**292**	P	**P**	**12 16 38.6**	**-0.9**
	1.8nm,0.8s,baz=131,slow=8.0,SNR=4.1 1.8nm,0.8s						
WB0	**Warramunga Arr**	**39.61**	**293**	P	**P**	**12 16 41.2**	**+1.0**
WB0				IAmb	IAmb	12 16 52.2	
	comp=Z,11nm,1.4s						
PMG	**Port Moresby**	**39.99**	**318**	P	**P**	**12 16 43.8**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=140,slow=2.5,SNR=3.8 comp=Z,2.6nm,0.3s						
SNAA	**Sanae**	**66.14**	**181**	P	**P**	**12 19 55.1**	**-0.4**
SNAA				IAmb	IAmb	12 20 32.5	
	comp=Z,6.8nm,1.4s						
KSRS	**Korea Array**	**89.53**	**326**	P	**P**	**12 22 05.2**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=123,slow=4.5,SNR=3.5 comp=Z,0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.10**	**294**	P	**P**	**12 22 13.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=142,slow=3.1,SNR=1.7 comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**148.12**	**339**	PKPbc	**PKPdf**	**12 28 50.5**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=50,slow=4.8,SNR=2.2						
FINES	**FINESS Array B**	**152.62**	**325**	PKPbc	**PKiKP**	**12 29 05.8**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=62,slow=4.5,SNR=3.4						

NEIC ***13*** *12:09:56.6±1.9, 41°84S±0°04×174°22E±0°03, h10km±1km, mb4.7/11, Error ellipse: s-maj=7.7km s-min=3.3km az=165.0*
WEL ***13*** *12:10:00.5±0.5, 42°S±3°×17°4E±°, h7km±4km, M4.6/13, ML4.9/13, MLv4.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=162.2*
IDC ***13*** *12:10:02.8±1.5, 42°04S×173°34E, h0km, mb4.2/3, mbtmp4.3/4, ML4.4/1, Error ellipse: s-maj=51.5km s-min=30.3km az=136.0*

ISC 13 12:09:56.1±1.2, **41°91S**±0°04×**174°23E**±0°02, **h8**km±7km, **n57, σ2s25/69, mb4.4/10, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.16**	**356**	Pg	**Pg**	**12 09 55.1**	**-4.4**
CMWZ	**Cape Campbell**	**0.16**	**356**	P	**Pg**	**12 10 02.9**	**+3.4**
CMWZ				S	**Sg**	**12 10 06.8**	**+5.0**
BSWZ	**Blackbirch Sta**	**0.33**	**307**	Pg	**Pg**	**12 10 02.2**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.33**	**307**	P	**Pn**	**12 10 07.4**	**+0.1**
BSWZ				S	**Sb**	**12 10 13.8**	**+4.1**
TUWZ	**Tuamarina**	**0.53**	**336**		**Pg**	**12 10 05.6**	**-0.7**
TUWZ	**Tuamarina**	**0.53**	**336**	P	**Pb**	**12 10 08.4**	**+0.7**
TUWZ				S	**Sb**	**12 10 15.1**	**-0.3**
SNZO	**South Karori**	**0.70**	**31**	Pg	**Pg**	**12 10 09.0**	**-0.6**
TCW	**Tory Channel**	**0.70**	**3**	P	**Pg**	**12 10 09.3**	**-0.4**
TCW				S	**Sg**	**12 10 16.6**	**-2.2**
KHZ	**Kahutara**	**0.72**	**225**	Pg	**Pn**	**12 10 11.6**	**-1.0**
WEL	**Wellington**	**0.75**	**33**	P	**Pg**	**12 10 09.7**	**-0.8**
WEL				S	**Sg**	**12 10 17.8**	**-2.4**
PLWZ	**Palliser**	**0.84**	**66**		**Pb**	**12 10 13.1**	**+0.1**
PLWZ	**Palliser**	**0.84**	**66**	P	**Pn**	**12 10 13.5**	**-0.9**
PLWZ				S	**Sb**	**12 10 24.9**	**+0.4**
MSWZ	**Moikau Station**	**0.91**	**57**		**Pb**	**12 10 14.0**	**-0.2**
MSWZ	**Moikau Station**	**0.91**	**57**	P	**Pb**	**12 10 14.4**	**+0.2**
MSWZ				S	**Sb**	**12 10 26.6**	**0.0**
THZ	**Tophouse**	**1.00**	**278**		**Pb**	**12 10 15.9**	**+0.1**
CAW	**Cannon Point**	**1.02**	**38**	P	**Pb**	**12 10 16.1**	**0.0**
CAW				S	**Sg**	**12 10 29.0**	**0.0**
PAWZ	**Paruwai Farm**	**1.04**	**60**	P	**Pb**	**12 10 16.4**	**-0.1**
PAWZ				S	**Sb**	**12 10 29.9**	**-0.5**
KIW	**Kapiti Island**	**1.17**	**26**	P	**Pg**	**12 10 17.1**	**-1.4**
KIW				S	**Sg**	**12 10 29.5**	**-4.3**
TRWZ	**Traveller**	**1.21**	**65**	S	**Sn**	**12 10 35.7**	**-0.3**
MTW	**Mount Morrison**	**1.22**	**52**	P	**Pb**	**12 10 18.7**	**-0.8**
OGWZ	**Otaki Gorge**	**1.30**	**33**	P	**Pn**	**12 10 20.4**	**-0.3**
OGWZ				S	**Sb**	**12 10 36.0**	**-1.8**
TMWZ	**Te Maipa**	**1.49**	**58**	P	**Pg**	**12 10 25.9**	**+1.3**
TMWZ				S	**Sg**	**12 10 43.6**	**-0.3**
MRZ	**Mangatainoka R**	**1.61**	**40**	P	**Pn**	**12 10 24.2**	**-0.7**
LTZ	**Lake Taylor**	**1.69**	**238**	Pn	**Pb**	**12 10 27.2**	**-0.3**
DSZ	**Denniston Nort**	**1.82**	**274**	Pn	**Pb**	**12 10 28.6**	**-1.1**
OHWZ	**Ohakea**	**1.89**	**26**	P	**Pb**	**12 10 30.7**	**-0.2**
OHWZ				S	**Sn**	**12 10 51.9**	**-0.9**
POWZ	**Post Office Ro**	**1.91**	**38**	P	**Pb**	**12 10 31.1**	**-0.2**
BFZ	**Birch Farm**	**1.96**	**52**	Pn	**Pn**	**12 10 28.9**	**-0.8**
BFZ	**Birch Farm**	**1.96**	**52**	P	**Pg**	**12 10 35.8**	**+2.2**
MQZ	**McQueen's Vall**	**2.13**	**212**	Pn	**Pn**	**12 10 31.9**	**-0.2**
WAZ	**Wanganui**	**2.23**	**15**	P	**Pb**	**12 10 36.5**	**-0.2**
ANWZ	**Angora Road**	**2.23**	**50**	P	**Pn**	**12 10 34.0**	**+0.6**
MOVZ	**Moawhango**	**2.76**	**25**	P	**Pb**	**12 10 44.6**	**-1.2**
TRVZ	**Turoa**	**2.80**	**21**	P	**Pb**	**12 10 46.1**	**-0.4**
WHVZ	**Whangaehu Hut**	**2.83**	**22**	P	**Pb**	**12 10 46.1**	**-0.9**
FWVZ	**Far West T-bar**	**2.84**	**21**	P	**Pb**	**12 10 47.0**	**-0.2**
RPZ	**Rata Peaks**	**2.95**	**231**	Pn	**Pn**	**12 10 43.6**	**+0.3**
	85nm,0.3s,baz=70,slow=17,SNR=0.8						
RPZ				Sn	**Sn**	**12 11 12.0**	**-6.9**
	277nm,0.3s,baz=35,slow=23,SNR=8.6 435nm,0.5s						
TOO	**Toolangi**	**22.47**	**272**	P	**P**	**12 14 55.0**	**-0.7**
TOO				IAmb	IAmb	12 15 00.2	
	comp=Z,19nm,1.2s						
NIUE	**Niue**	**26.45**	**35**	P	**P**	**12 15 31.4**	**-2.2**
AFI	**Afiamalu**	**30.43**	**28**	P	**P**	**12 16 07.1**	**-2.1**
AFI				IAmb	IAmb	12 16 08.9	
	comp=Z,42nm,1.1s						
BBOO	**Buckleboo**	**31.45**	**274**	P	**P**	**12 16 16.6**	**-1.5**
BBOO				IAmb	IAmb	12 16 27.6	
	comp=Z,28nm,1.3s						
AS31	**Alice Springs**	**38.06**	**286**	P	**P**	**12 17 15.1**	**-0.2**
ASAR	**Alice Springs**	**38.06**	**286**	P	**P**	**12 17 17.6**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=121,slow=6.8,SNR=2.1 comp=Z,1.1nm,0.7s						
COEN	**Coen**	**38.71**	**307**	P	**P**	**12 17 19.7**	**-1.1**
COEN				IAmb	IAmb	12 17 56.7	
	comp=Z,32nm,1.4s						
WR0	**Warramunga Arr**	**39.99**	**291**	P	**P**	**12 17 30.3**	**-1.1**
WB2	**Warramunga Arr**	**40.14**	**291**	P	**P**	**12 17 32.4**	**-0.3**
WB2				IAmb	IAmb	12 18 11.7	
	comp=Z,2.2nm,0.6s						
WRA	**Warramunga Arr**	**40.15**	**291**	P	**P**	**12 17 34.6**	**+1.8**
	comp=Z,4.5nm,0.8s,baz=126,slow=8.3,SNR=2.6 comp=Z,4.5nm,0.8s						
WB0	**Warramunga Arr**	**40.22**	**291**	P	**P**	**12 17 33.3**	**0.0**
WB0				IAmb	IAmb	12 18 16.8	
	comp=Z,6.5nm,1.3s						
KNRA	**Kununurra**	**46.92**	**290**	P	**P**	**12 18 27.1**	**-0.3**
SNAA	**Sanae**	**66.70**	**181**	P	**P**	**12 20 47.2**	**0.0**
SNAA				IAmb	IAmb	12 21 01.8	
	comp=Z,9.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**91.69**	**293**	P	P	12 23 11.3	+7.0
	comp=Z,0.8nm,0.4s,baz=160,slow=2.5,SNR=6.5 comp=Z,0.8nm,0.4s						
YKA	**Yellowknife Ar**	**118.53**	**30**	PKP	**PKiKP**	**12 28 50.6**	**+7.2**
	comp=Z,1.9nm,0.9s,baz=227,slow=1.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**122.16**	**316**	PKP	PKiKP	12 28 58.8	+8.0
	comp=Z,0.4nm,0.4s,baz=117,slow=0.5,SNR=2.0						
KURBB	**Kurchatov Arra**	**124.07**	**310**	PKP	**PKiKP**	**12 29 00.1**	**+5.5**
	comp=Z,0.8nm,0.8s,baz=118,slow=1.9,SNR=3.1						
BRTR	**Keskin Array B**	**150.27**	**279**	PKPbc	**PKPab**	**12 29 54.2**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=156,slow=6.5,SNR=5.4						
FINES	**FINESS Array B**	**152.66**	**326**	PKPbc	**PKPab**	**12 29 59.3**	**-3.7**
	comp=Z,1.9nm,0.8s,baz=354,slow=5.7,SNR=1.7						
AKASG	**Malin Array Be**	**154.48**	**302**	PKPab	**PKPab**	**12 30 17.2**	**+6.1**
	comp=Z,0.2nm,0.4s,baz=75,slow=2.7,SNR=2.1						

WEL 13 12:11:45.8±0.7, **42°S**±4°×**17°4E**±°, **h5**km, **M4.4**/11, **ML5.2**/6, **MLv4.4**/11, **Error ellipse: s-maj=0.0km s-min=0.0km az=171.5, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.19**	**356**	P	Pg	12 11 52.0	+2.4
CMWZ				S	Sg	12 11 54.3	+2.2
BSWZ	**Blackbirch Sta**	**0.35**	**310**	P	Pg	12 11 52.9	+0.4
BSWZ				S	Sg	12 11 58.2	+1.1
TUWZ	**Tuamarina**	**0.55**	**337**	S	Sg	12 12 04.1	+0.4
SNZO	**South Karori**	**0.72**	**30**	Pg	Sg	12 12 10.1	+1.1
TCW	**Tory Channel**	**0.73**	**3**	P	Pb	12 12 00.5	-0.5
TCW				S	Sg	12 12 09.5	+0.2
WEL	**Wellington**	**0.77**	**32**	S	Sg	12 12 10.9	+0.4
PLWZ	**Palliser**	**0.85**	**65**	Pg	Sg	12 12 14.4	+1.3
PLWZ	**Palliser**	**0.85**	**65**	P	Pb	12 12 03.6	+0.4
PLWZ				S	Sb	12 12 14.9	+0.1
MSWZ	**Moikau Station**	**0.92**	**56**	Pg	Sg	12 12 15.6	0.0
MSWZ	**Moikau Station**	**0.92**	**56**	P	Pg	12 12 02.3	-1.3
THZ	**Tophouse**	**1.01**	**280**	P	Pn	12 12 06.6	-0.1
CAW	**Cannon Point**	**1.04**	**37**	P	Pg	12 12 04.3	-1.5
PAWZ	**Paruwai Farm**	**1.05**	**58**	P	Pg	12 12 05.8	-0.3
PAWZ				S	Sb	12 12 20.3	-0.4
MRNZ	**Matariki Terra**	**1.23**	**296**	P	Pn	12 12 10.1	+0.4
MRNZ				S	Sb	12 12 25.8	+0.1

NEIC ***13*** *12:11:59.1±1.9, 41°78S±0°03×174°23E±0°03, h10km±1km, mb4.9/13, Error ellipse: s-maj=5.7km s-min=3.0km az=16.0*
IDC ***13*** *12:11:59.8±1.0, 42°10S×173°89E, h0km, mb4.6/8, mbtmp4.7/9, ML4.4/1, Error ellipse: s-maj=32.5km s-min=27.5km az=13.0*
WEL ***13*** *12:12:00.6±0.5, 42°S±3°×17°4E±°, h8km±3km, M5.0/18, ML5.4/18, MLv5.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=148.0*

ISC 13 12:12:00.6±1.2, **41°92S**±0°04×**173°94E**±0°03, **h10**km±7km, **n72, σ1s17/75, mb4.9**/12, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.21**	**346**	Pg	**Pg**	**12 12 05.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.21**	**346**	P	**Pg**	**12 12 05.1**	**+0.1**
CMWZ	**Cape Campbell**	**0.27**	**50**	S	**Sg**	**12 12 10.2**	**+0.6**
TUWZ	**Tuamarina**	**0.49**	**360**	P	**Pn**	**12 12 13.2**	**-0.5**
TUWZ				S	**Sb**	**12 12 19.4**	**+0.8**
TCW	**Tory Channel**	**0.75**	**19**	S	**Sb**	**12 12 25.9**	**-0.3**
THZ	**Tophouse**	**0.79**	**281**	Pg	**Pn**	**12 12 18.0**	**0.0**
NNZ	**Nelson**	**0.82**	**329**	Pg	**Pg**	**12 12 15.5**	**-0.9**
NNZ	**Nelson**	**0.82**	**329**	S	**Sn**	**12 12 30.9**	**+0.4**
WEL	**Wellington**	**0.89**	**44**	P	**Pg**	**12 12 18.9**	**-0.4**
WEL				S	**Sb**	**12 12 30.7**	**+0.6**
MRNZ	**Matariki Terra**	**1.03**	**300**	S	**Sn**	**12 12 38.8**	**+3.1**
PLWZ	**Palliser**	**1.04**	**71**	S	**Sb**	**12 12 35.2**	**+0.6**
MSWZ	**Moikau Station**	**1.10**	**63**	P	**Pn**	**12 12 22.7**	**+0.5**
MSWZ				S	**Sg**	**12 12 36.3**	**+0.2**
DUWZ	**D'Urville Isla**	**1.12**	**359**	S	**Sn**	**12 12 37.7**	**-0.2**
TKNZ	**Takaka Hill**	**1.16**	**320**	S	**Sn**	**12 12 39.6**	**+0.8**
CAW	**Cannon Point**	**1.17**	**46**	P	**Pg**	**12 12 23.8**	**+0.7**
CAW				S	**Sn**	**12 12 39.3**	**+0.1**
PAWZ	**Paruwai Farm**	**1.24**	**65**	S	**Sn**	**12 12 41.3**	**+0.5**
GVZ	**Greta Valley S**	**1.24**	**212**	P	**Pn**	**12 12 22.8**	**-1.3**
KIW	**Kapiti Island**	**1.29**	**35**	S	**Sb**	**12 12 41.6**	**+0.1**
OGWZ	**Otaki Gorge**	**1.44**	**40**	P	**Pg**	**12 12 28.5**	**+0.3**
OGWZ				S	**Sn**	**12 12 45.2**	**-0.6**
QRZ	**Quartz Range**	**1.53**	**315**	Pn	**Pn**	**12 12 28.2**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.56**	**50**	P	**Pn**	**12 12 27.8**	**-0.7**
AMCZ	**Amberley**	**1.57**	**217**	P	**Pn**	**12 12 27.9**	**-0.8**
DSZ	**Denniston Nort**	**1.61**	**276**	Pn	**Pg**	**12 12 31.4**	**-0.1**
MRZ	**Mangatainoka R**	**1.76**	**45**	P	**Pn**	**12 12 30.0**	**-1.3**
TIWZ	**Tintock**	**1.86**	**53**	P	**Pn**	**12 12 31.9**	**-0.7**
CPWZ	**Castlepoint**	**1.98**	**60**	P	**Pn**	**12 12 35.2**	**+1.0**
OXZ	**Oxford**	**1.99**	**224**	P	**Pn**	**12 12 34.4**	**0.0**
PRWZ	**Pori Road**	**2.05**	**49**	P	**Pn**	**12 12 33.1**	**-2.1**
RACZ	**Rakaia**	**2.24**	**216**	P	**Pn**	**12 12 37.9**	**+0.1**
DVHZ	**Dannevirke**	**2.33**	**47**	P	**Pn**	**12 12 37.7**	**-1.4**
WACZ	**Wakanui South**	**2.54**	**217**	P	**Pn**	**12 12 42.1**	**+0.1**
PRHZ	**Porangahau**	**2.62**	**52**	P	**Pn**	**12 12 43.6**	**+0.5**
PKE	**Pukeiti**	**2.73**	**1**	P	**Pn**	**12 12 46.7**	**+2.2**
RPZ	**Rata Peaks**	**2.78**	**229**	Pn	**Pn**	**12 12 44.6**	**-0.7**
	73nm,0.3s,baz=141,slow=16,SNR=1.5 379nm,0.6s						
BHHZ	**Black Hill Sta**	**2.92**	**34**	P	**Pn**	**12 12 46.6**	**-0.5**
WHVZ	**Whangaehu Hut**	**2.92**	**26**	P	**Pn**	**12 12 46.7**	**-0.7**
NGZ	**Ngauruhoe**	**3.02**	**25**	P	**Pn**	**12 12 47.8**	**-0.9**
ODZ	**Otahua Downs**	**3.94**	**216**		**Pn**	**12 13 02.5**	**+1.3**
DZM	**Mont Dzumac**	**20.77**	**340**	P	Pn	12 16 43.6	-0.7
	16nm,0.9s,baz=150,slow=14,SNR=5.0 16nm,0.9s						
KOUNC	**Koumac, New Ca**	**22.82**	**336**	P	**P**	**12 16 60.0**	**-3.8**
EIDS	**Eidsvold**	**25.08**	**304**	P	**P**	**12 17 24.8**	**-0.6**
AS31	**Alice Springs**	**37.86**	**286**	P	**P**	**12 19 17.6**	**-0.2**
ASAR	**Alice Springs**	**37.86**	**286**	P	**P**	**12 19 17.3**	**-0.5**
	6.4nm,0.9s,baz=128,slow=7.4,SNR=12 6.4nm,0.9s						
ASAR	**Alice Springs**	**37.86**	**286**	P	**P**	**12 19 17.0**	**-0.7**
COEN	**Coen**	**38.55**	**307**	P	**P**	**12 19 20.8**	**-2.8**
COEN				IAmb	IAmb	12 20 04.3	
WB2	**Warramunga Arr**	**39.94**	**291**	P	**P**	**12 19 33.5**	**-1.7**
WB2				IAmb	IAmb	12 19 40.4	
	comp=Z,55nm,2.0s						
WRA	**Warramunga Arr**	**39.95**	**291**	P	**P**	**12 19 37.0**	**+1.7**
	comp=Z,2.8nm,0.5s,baz=126,slow=8.4,SNR=6.7 comp=Z,2.8nm,0.5s						
WB0	**Warramunga Arr**	**40.03**	**291**	P	**P**	**12 19 34.3**	**-1.7**
WB0				IAmb	IAmb	12 20 24.2	
	comp=Z,10nm,1.4s						
PMG	**Port Moresby**	**40.05**	**316**	P	**P**	**12 19 38.4**	**+2.3**
	comp=Z,34nm,0.9s,baz=139,slow=4.2,SNR=16 comp=Z,34nm,0.9s						
PMG	**Port Moresby**	**40.05**	**316**	P	**P**	**12 19 35.3**	**-0.8**
PMG				IAmb	IAmb	12 19 40.7	
	comp=Z,48nm,1.1s						
RABL	**Rabaul**	**42.31**	**327**	P	**P**	**12 19 52.9**	**-1.9**
MTN	**Manton Dam**	**47.08**	**295**	P	**P**	**12 20 30.9**	**-1.9**
PSA00	**Pilbara Seismi**	**49.41**	**277**	P	**P**	**12 20 49.9**	**-0.8**
PSA00				IAmb	IAmb	12 20 52.8	
	comp=Z,10nm,0.8s						
GIRL	**Giralia**	**52.95**	**272**	P	**P**	**12 21 16.6**	**-0.7**
FAKI	**Fak Fak**	**53.83**	**305**	P	**P**	**12 21 23.3**	**-0.5**
SIJI	**Sorong**	**56.04**	**305**	P	**P**	**12 21 40.7**	**+0.8**
	comp=Z,10nm,0.8s,baz=65,slow=5.0,SNR=7.2 comp=Z,10nm,0.8s						
SNAA	**Sanae**	**66.69**	**181**	P	**P**	**12 22 49.8**	**-1.5**
SNAA				IAmb	IAmb	12 24 09.1	
	comp=Z,10nm,1.3s						
MJAR	**Matsushiro Arr**	**84.65**	**332**	P	**P**	**12 24 34.9**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=174,slow=4.1,SNR=3.9 comp=Z,1.8nm,0.9s						
KSRS	**Korea Array**	**89.47**	**325**	P	**P**	**12 24 58.6**	**+1.1**
	comp=Z,5.2nm,0.8s,baz=146,slow=5.6,SNR=16 comp=Z,5.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.50**	**293**	P	**P**	**12 25 08.4**	**+0.9**
	comp=Z,5.2nm,0.9s,baz=150,slow=3.3,SNR=17 comp=Z,5.2nm,0.9s						
YKA	**Yellowknife Ar**	**118.64**	**30**	PKP	**PKiKP**	**12 30 48.9**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=230,slow=2.3,SNR=7.0						
ULM	**Lac du Bonnet**	**120.79**	**48**	PKP	**PKiKP**	**12 30 54.2**	**+1.8**
	comp=Z,3.7nm,0.9s,baz=216,slow=3.9,SNR=3.4						
KURBB	**Kurchatov Arra**	**123.92**	**310**	PKP	**PKPdf**	**12 30 58.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=114,slow=2.0,SNR=3.6						
KBZ	**Khabaz**	**144.46**	**290**	PKP	PKPbc	12 31 35.6	+0.3
	comp=Z,4.4nm,0.9s,baz=128,slow=5.2,SNR=6.0						
DBIC	**Dimbokro**	**144.88**	**182**	PKP	**PKPab**	**12 31 37.0**	**-0.4**
	comp=Z,6.7nm,1.1s,baz=185,slow=3.6,SNR=2.7						
SFJD	**Kangerlussuaq**	**145.19**	**29**	PKPbc	**PKPdf**	**12 31 38.4**	**+1.2**
	comp=Z,5.2nm,0.5s,baz=354,slow=9.2,SNR=4.1						
ARCES	**ARCESS Array B**	**147.86**	**340**	PKPbc	**PKPbc**	**12 31 45.5**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=32,slow=2.3,SNR=4.4						
BRTR	**Keskin Array B**	**150.06**	**279**	PKPbc	**PKiKP**	**12 31 52.0**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=138,slow=5.7,SNR=3.7						
FINES	**FINESS Array B**	**152.55**	**326**	PKPbc	**PKPbc**	**12 31 56.0**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=47,slow=4.9,SNR=4.3						
AKASG	**Malin Array Be**	**154.31**	**302**	PKPab	**PKPab**	**12 32 15.7**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=67,slow=4.3,SNR=6.0						

CMWZ				S	Sg	12 13 31.1	+2.7	
TUWZ	**Tuamarina**	**0.37**	**357**	P	Pb	12 13 29.8	-0.2	
TUWZ				S	Sb	12 13 36.2	+0.5	
TCW	**Tory Channel**	**0.63**	**21**	P	Pg	12 13 33.8	+0.1	
TCW				S	Sb	12 13 43.7	+0.5	
NNZ	**Nelson**	**0.73**	**322**	P	Pb	12 13 36.3	0.0	
NNZ				S	Sb	12 13 46.9	+0.7	
BHW	**Baring Head**	**0.78**	**60**	P	Pg	12 13 36.8	+0.2	
BHW				S	Sn	12 13 48.8	-1.1	
WEL	**Wellington**	**0.79**	**50**	P	Pg	12 13 36.7	0.0	
WEL				S	Sn	12 13 49.3	-0.9	
PLWZ	**Palliser**	**0.99**	**77**	P	Pg	12 13 38.9	-1.7	
PLWZ				S	Sn	12 13 54.9	-0.3	
DUWZ	**D'Urville Isla**	**0.99**	**358**	P	Pn	12 13 41.4	0.0	
DUWZ				S	Sb	12 13 53.8	0.0	
MRNZ	**Matariki Terra**	**0.99**	**293**	P	Pn	12 13 41.7	+0.3	
MRNZ				S	Sn	12 13 56.5	+1.1	
MSWZ	**Moikau Station**	**1.03**	**69**	P	Pb	12 13 40.4	-1.0	
MSWZ				S	Sb	12 13 55.5	+0.7	
CAW	**Cannon Point**	**1.07**	**50**	P	Pb	12 13 41.2	-0.8	
CAW				S	Sg	12 13 56.4	+0.2	
PAWZ	**Paruwai Farm**	**1.17**	**70**	P	Pb	12 13 41.9	-1.8	
PAWZ				S	Sg	12 13 59.4	+0.2	
KIW	**Kapiti Island**	**1.17**	**37**	P	Pb	12 13 43.1	-0.6	
KIW				S	Sb	12 13 58.9	0.0	
OGWZ	**Otaki Gorge**	**1.33**	**43**	P	Pn	12 13 45.3	-0.7	
OGWZ				S	Sb	12 14 03.4	0.0	
HOWZ	**Holdsworth Sta**	**1.47**	**53**	P	Pb	12 13 49.1	+0.2	

*IDC **13** 12:15:56.4±1.0,42°.82S×173°.11E,h0km,mb4.4/7, mbtmp4.4/7,Error ellipse: s-maj=32.7km s-min=24.0km az=136.0*
*NEIC **13** 12:15:58.7±1.1,42°.77S±0°.02×172°.99E±0°.02,h9km±4km, mb4.9/10,Error ellipse: s-maj=3.6km s-min=2.0km az=168.0*

ISC 13 12:15:59.4±1.7,42°.76S±0°.04×172°.95E±0°.06,h13km±10km, n54,σ0$95/60,mb4.5/12,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.50**	**267**		**Pg**	**12 16 09.0**	**-0.2**
LTZ				Sg	**Sb**	12 16 17.6	+0.3
OXZ	**Oxford**	**0.88**	**229**		**Pn**	12 16 17.4	-0.1
OXZ				Sn	**Sn**	12 16 31.5	+1.4
MQZ	**McQueen's Vall**	**0.97**	**193**	Pn	**Pn**	12 16 19.1	+0.3
MQZ				Sn	**Sn**	12 16 32.3	-0.2
THZ	**Tophouse**	**0.99**	**358**	Pn	**Pn**	12 16 19.4	+0.3
THZ				Sn	**Sb**	12 16 32.4	+0.9
DSZ	**Denniston Nort**	**1.32**	**320**	Pn	**Pn**	12 16 23.8	+0.2
DSZ				Sn	**Sg**	12 16 42.4	+0.6
NNZ	**Nelson**	**1.57**	**12**	Pn	**Pn**	12 16 27.2	+0.2
NNZ				Sn	**Sg**	12 16 49.0	-0.8
RPZ	**Rata Peaks**	**1.68**	**235**	Pn	**Pn**	12 16 28.8	+0.3
	268nm,0.3s,baz=111,slow=8.5,SNR=9.5						
RPZ				Sn	**Sn**	**12 16 50.0**	**0.0**
	295nm,0.3s,baz=24,slow=7.8,SNR=8.8						
RPZ	**Rata Peaks**	**1.68**	**235**		**Pn**	12 16 28.4	-0.2
FOZ	**Fox Glacier**	**2.42**	**250**	Pn	**Pn**	12 16 37.4	-1.3
ODZ	**Otahua Downs**	**2.83**	**215**	Pn	**Pn**	12 16 43.9	-0.4
WHZ	**Wether Hill Ro**	**4.76**	**227**	Pn	**Pn**	12 17 10.6	-0.3
DCZ	**Deep Cove**	**4.97**	**235**	Pn	**Pn**	12 17 14.7	+1.0
PYZ	**Puysegur Point**	**5.63**	**231**	Pn	**Pn**	12 17 23.3	+0.5
DZM	**Mont Dzumac**	**21.33**	**343**	P	**P**	12 20 46.5	+0.3
	20nm,0.9s,baz=130,slow=15,SNR=7.2 20nm,0.9s						
KOUNC	**Koumac, New Ca**	**23.30**	**339**	P	**P**	**12 21 08.7**	**+1.7**
KOUNC				IAmb	IAmb	12 21 15.5	
	comp=Z,54nm,1.2s						
VNDA	**Vanda**	**35.17**	**184**	P	**P**	**12 22 52.4**	**-0.1**
AS31	**Alice Springs**	**37.39**	**288**	P	**P**	**12 23 11.2**	**-0.8**
ASAR	**Alice Springs**	**37.39**	**288**	P	**P**	**12 23 11.6**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=131,slow=8.4,SNR=7.4 comp=Z,2.9nm,0.9s						
ASAR	**Alice Springs**	**37.39**	**288**	P	**P**	**12 23 11.0**	**-1.1**
COEN	**Coen**	**38.48**	**309**	P	**P**	**12 23 20.7**	**-0.6**
COEN				IAmb	IAmb	12 24 10.0	
	comp=Z,61nm,1.8s						
WR0	**Warramunga Arr**	**39.42**	**293**	P	**P**	**12 23 28.0**	**-1.2**
WB2	**Warramunga Arr**	**39.56**	**293**	P	**P**	**12 23 29.9**	**-0.4**
WRA	**Warramunga Arr**	**39.57**	**293**	P	**P**	**12 23 29.7**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=133,slow=7.7,SNR=5.0 comp=Z,2.9nm,0.8s						
WB0	**Warramunga Arr**	**39.66**	**293**	P	**P**	**12 23 30.9**	**-0.2**
WB0				IAmb	IAmb	12 24 56.8	
	comp=Z,6.3nm,1.2s						
PMG	**Port Moresby**	**40.16**	**318**	P	**P**	**12 23 36.2**	**+0.9**
	comp=Z,7.5nm,0.8s,baz=129,slow=4.4,SNR=5.3 comp=Z,7.5nm,0.8s						
PMG	**Port Moresby**	**40.16**	**318**	P	**P**	**12 23 35.4**	**+0.1**
PMG				IAmb	IAmb	12 23 43.3	
	comp=Z,20nm,1.1s						
RABL	**Rabaul**	**42.62**	**328**	P	**P**	**12 23 54.8**	**-0.6**
MTN	**Manton Dam**	**46.78**	**297**	P	**P**	**12 24 28.1**	**-0.6**
QSPA	**South Pole Qui**	**47.37**	**180**	P	**P**	**12 24 32.7**	**-0.2**
QSPA				IAmb	IAmb	12 26 13.0	
	comp=Z,28nm,1.1s						
TROLL	**Troll, Antarti**	**65.34**	**183**	P	**P**	**12 26 42.7**	**+1.8**
SNAA	**Sanae**	**65.84**	**181**	P	**P**	**12 26 45.6**	**+1.5**
SNAA	**Sanae**	**65.84**	**181**	P	**P**	**12 26 45.4**	**+1.4**
SNAA				IAmb	IAmb	12 26 47.0	
	comp=Z,23nm,1.4s						
VNA3	**Neumayer Olymp**	**66.30**	**179**	P	**P**	**12 26 48.6**	**+1.7**
VNA2	**Neumayer--Watz** baz=174,slow=5.0	**66.63**	**180**	P	**P**	**12 26 51.0**	**+1.9**
VNA1	**Neumayer--Stat**	**66.90**	**180**	P	**P**	**12 26 52.7**	**+1.9**
MJAR	**Matsushiro Arr**	**85.04**	**333**	P	**P**	**12 28 33.6**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=226,slow=9.4,SNR=3.7 comp=Z,1.7nm,0.8s						
KSRS	**Korea Array**	**89.73**	**326**	P	**P**	**12 28 55.8**	**-1.2**
	comp=Z,2.5nm,1.0s,baz=145,slow=6.3,SNR=7.5 comp=Z,2.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.16**	**294**	P	**P**	**12 29 04.8**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=149,slow=3.4,SNR=8.0 comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**119.82**	**308**	PKP	**PKPdf**	**12 34 48.2**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=32,slow=3.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**122.10**	**316**	PKP	**PKPdf**	**12 34 50.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=94,slow=2.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**123.89**	**310**	PKP	**PKPdf**	**12 34 55.0**	**-1.5**
	comp=Z,2.1nm,0.9s,baz=113,slow=2.0,SNR=10						
BVAR	**Borovoye Array**	**129.48**	**310**	PKP	**PKPdf**	**12 35 07.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=74,slow=5.3,SNR=4.3						
GEYT	**Alibeck**	**131.19**	**287**	PKP	**PKiKP**	**12 35 11.6**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=76,slow=1.7,SNR=3.5						
DBIC	**Dimbokro**	**144.01**	**184**	PKP	PKPbc	12 35 33.3	+0.4
	comp=Z,4.6nm,0.7s,baz=175,slow=1.8,SNR=5.1						
KBZ	**Khabaz**	**144.04**	**289**	PKP	**PKPab**	**12 35 31.7**	**0.0**
	comp=Z,2.9nm,0.8s,baz=103,slow=5.2,SNR=4.9						
ARCES	**ARCESS Array B**	**148.38**	**339**	PKPbc	**PKPdf**	**12 35 42.4**	**+1.6**
	comp=Z,8.3nm,1.0s,baz=78,slow=0.7,SNR=7.8						
BR131	**Keskin Array S**	**149.46**	**278**		**PKPbc**	**12 35 47.3**	**-0.9**
BRTR	**Keskin Array B**	**149.46**	**278**	PKPbc	**PKPbc**	**12 35 47.5**	**-0.6**
	comp=Z,5.6nm,0.9s,baz=143,slow=4.3,SNR=9.9						
FINES	**FINESS Array B**	**152.82**	**325**	PKPbc	**PKPbc**	**12 35 54.0**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=60,slow=3.7,SNR=6.9						
AKASG	**Malin Array Be**	**154.10**	**301**	PKPab	**PKPab**	**12 36 11.1**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=69,slow=4.4,SNR=8.4						
IDI	**Anoyia**	**154.20**	**264**	PKPbc	**PKiKP**	**12 35 59.2**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=98,slow=12,SNR=1.9						
BRG	**Berggiesshubel**	**163.53**	**307**	*eP*	**PKPab**	**12 36 53.6**	**+0.8**
BRG				Amp		12 36 56.7	
	comp=Z,5.3nm,1.1s						
GERES	**GERESS Array B**	**164.32**	**300**	PKPab	**PKPab**	**12 36 56.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=121,slow=6.7,SNR=5.2						
ESDC	**Sonseca Array**	**176.14**	**218**	PKP	**PKPdf**	**12 36 08.0**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=285,slow=0.1,SNR=3.1						

WEL 13 12:16:27.3±0.6,42°S±3°×17°4E±°,h12km±3km,M4.2/10, ML4.5/10,MLv4.2/10,Error ellipse: s-maj=0.0km s-min=0.0km az=67.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.16**	**322**	P	Pb	12 16 32.5	+0.2
BSWZ				S	Sg	12 16 35.7	+1.9
CMWZ	**Cape Campbell**	**0.18**	**59**	P	Pb	12 16 32.4	-0.1
TCW	**Tory Channel**	**0.66**	**18**	P	Pg	12 16 40.3	0.0
TCW				S	Sb	12 16 50.4	+0.5
WEL	**Wellington**	**0.80**	**46**	P	Pb	12 16 43.7	+0.6
WEL				S	Sn	12 16 55.8	-0.3
PLWZ	**Palliser**	**0.97**	**74**	P	Pb	12 16 46.2	+0.2
PLWZ				S	Sb	12 16 59.3	+0.4
MSWZ	**Moikau Station**	**1.02**	**66**	P	Pb	12 16 46.9	0.0
MSWZ				S	Sb	12 17 00.2	-0.1
CAW	**Cannon Point**	**1.08**	**48**	P	Pn	12 16 48.7	+0.4
CAW				S	Sn	12 17 03.5	+0.3
PAWZ	**Paruwai Farm**	**1.16**	**67**	P	Pb	12 16 48.7	-0.6
PAWZ				S	Sb	12 17 02.6	-1.6
KIW	**Kapiti Island**	**1.19**	**35**	P	Pb	12 16 49.9	0.0
KIW				S	Sb	12 17 05.1	-0.1
MTW	**Mount Morrison**	**1.31**	**59**	P	Pn	12 16 50.7	-0.7
MTW				S	Sb	12 17 07.9	-0.7
OGWZ	**Otaki Gorge**	**1.35**	**41**	P	Pb	12 16 52.4	-0.1
OGWZ				S	Sn	12 17 09.9	+0.2
HOWZ	**Holdsworth Sta**	**1.48**	**51**	P	Pn	12 16 53.5	-0.2
HOWZ				S	Sn	12 17 12.4	-0.5

*IDC **13** 12:17:56.2±1.6,42°.31S×173°.74E,h0km,mb4.1/3, mbtmp4.2/4,ML4.3/1,Error ellipse: s-maj=55.6km s-min=29.7km az=150.0*
*NEIC **13** 12:17:57.2±1.7,42°.34S±0°.05×174°.12E±0°.08,h5km±6km, mb4.6/9,Error ellipse: s-maj=9.5km s-min=6.7km az=62.0*
*WEL **13** 12:17:58.2±0.3,42°.5S±3°×17°4E±°,h17km±2km,M4.5/8, ML4.7/8,MLv4.5/8,Error ellipse: s-maj=0.0km s-min=0.0km az=127.0*

ISC 13 12:17:58.6±1.1,42°.22S±0°.04×173°.89E±0°.04,h16km±7km, n39,σ1$25/50,mb4.4/8,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**233**	P	**Pg**	**12 18 05.8**	**+0.5**
KHZ				S	**Sg**	**12 18 10.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.51**	**359**	Pg	**Pn**	12 18 10.7	-0.5
BSWZ	**Blackbirch Sta**	**0.51**	**359**	P	**Pb**	12 18 08.9	-0.2
BSWZ				S	**Sg**	12 18 14.7	-0.8
CMWZ	**Cape Campbell**	**0.53**	**27**	Pg	**Pb**	12 18 06.6	-2.9
TUWZ	**Tuamarina**	**0.79**	**3**	Pg	**Pb**	12 18 14.3	+0.3
TUWZ	**Tuamarina**	**0.79**	**3**	P	**Pb**	12 18 13.4	-0.5
THZ	**Tophouse**	**0.87**	**302**	P	**Pb**	**12 18 14.9**	**-0.4**
THZ				S	Sb	12 18 26.1	-0.6
GVZ	**Greta Valley S**	**0.98**	**220**	P	**Pg**	**12 18 18.5**	**+1.0**
GVZ				S	**Sn**	12 18 32.0	+0.8
SNZO	**South Karori**	**1.10**	**34**	Pg	**Pn**	12 18 18.4	-0.8
PLWZ	**Palliser**	**1.21**	**58**	P	**Pn**	12 18 19.5	-1.4
PLWZ				S	**Sn**	12 18 37.8	+0.8
MSWZ	**Moikau Station**	**1.30**	**52**	Pn	**Pg**	12 18 24.0	+0.5
LTZ	**Lake Taylor**	**1.32**	**244**	P	**Pn**	12 18 20.7	-1.7
LTZ				S	**Sn**	12 18 39.7	-0.1
CAW	**Cannon Point**	**1.42**	**39**	P	**Pn**	12 18 21.3	-2.5
CAW				S	**Sn**	12 18 41.4	-0.8
PAWZ	**Paruwai Farm**	**1.42**	**54**	P	**Pn**	12 18 24.5	+0.7
PAWZ				S	**Sn**	12 18 42.4	+0.1
MQZ	**McQueen's Vall**	**1.74**	**211**	S	**Sn**	12 18 48.9	-1.1
AKCZ	**Akaroa Harbour**	**1.80**	**203**	P	**Pn**	12 18 29.2	+0.2
AKCZ				S	**Sn**	12 18 50.8	-0.7
RACZ	**Rakaia**	**1.98**	**220**	P	**Pn**	**12 18 31.9**	**+0.4**
RACZ				S	**Sn**	12 18 54.8	-1.1
BFZ	**Birch Farm**	**2.35**	**50**	Pn	**Pn**	12 18 37.4	+0.9
RPZ	**Rata Peaks**	**2.56**	**233**	Pn	**Pn**	12 18 36.9	-2.5
	76nm,0.3s,baz=23,slow=21,SNR=1.2						
RPZ				Sn	**Sn**	**12 19 08.4**	**-1.9**
	177nm,0.3s,baz=28,slow=21,SNR=5.5 237nm,0.4s						
CTAO	**Charters Tower**	**32.10**	**305**	P	**P**	**12 24 26.7**	**+1.6**
VNDA	**Vanda**	**35.76**	**184**	P	**P**	**12 24 55.3**	**-0.9**
AS31	**Alice Springs**	**37.90**	**286**	P	**P**	**12 25 16.0**	**+0.8**
ASAR	**Alice Springs**	**37.90**	**286**	P	**P**	**12 25 13.6**	**-1.5**
	0.7nm,0.4s,baz=120,slow=6.5,SNR=4.6 0.7nm,0.4s						
ASAR	**Alice Springs**	**37.90**	**286**	P	**P**	**12 25 17.8**	**+2.7**
FORT	**Forrest**	**38.15**	**272**	P	**P**	**12 25 18.3**	**+1.2**
FORT				IAmb	IAmb	12 25 23.2	
	comp=Z,26nm,1.1s						
COEN	**Coen**	**38.70**	**308**	P	**P**	**12 25 22.7**	**+0.9**
COEN				IAmb	IAmb	12 25 56.9	
	comp=Z,26nm,1.4s						
WR0	**Warramunga Arr**	**39.87**	**292**	P	**P**	**12 25 33.6**	**+2.0**
WR0				IAmb	IAmb	12 25 36.9	
	comp=Z,5.9nm,0.9s						
WRAB	**Tennant Creek**	**40.02**	**291**	P	**P**	**12 25 34.6**	**+1.8**
WRA	**Warramunga Arr**	**40.02**	**291**	P	**P**	**12 25 33.0**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=129,slow=7.5,SNR=7.4 comp=Z,2.6nm,0.7s						
WB0	**Warramunga Arr**	**40.10**	**292**	P	**P**	**12 25 34.7**	**+1.2**
KNRA	**Kununurra**	**46.80**	**291**	P	**P**	**12 26 28.9**	**+1.3**
MORW	**Morawa**	**47.96**	**266**	P	**P**	**12 26 36.4**	**-0.1**
MORW				IAmb	IAmb	12 26 50.6	
	comp=Z,22nm,1.4s						
SNAA	**Sanae**	**66.39**	**181**	P	**P**	**12 28 45.4**	**-0.9**
SNAA				IAmb	IAmb	12 29 06.7	
	comp=Z,3.6nm,1.3s						
CMAR	**Chiang Mai Arr**	**91.58**	**294**	P	**P**	**12 31 05.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=114,slow=2.2,SNR=2.0 comp=Z,0.6nm,0.3s						
YKA	**Yellowknife Ar**	**118.92**	**30**	PKP	**PKiKP**	**12 36 46.2**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=273,slow=1.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**124.08**	**310**	PKP	**PKiKP**	**12 36 55.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=116,slow=2.0,SNR=4.5						
ARCES	**ARCESS Array B**	**148.13**	**340**	PKPbc	**PKPbc**	**12 37 42.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=57,slow=4.5,SNR=1.4						
BRTR	**Keskin Array B**	**150.07**	**279**	PKPbc	**PKPbc**	**12 37 48.5**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=145,slow=5.4,SNR=3.7						
FINES	**FINESS Array B**	**152.78**	**326**	PKPbc	**PKPbc**	**12 37 51.5**	**-2.2**
	comp=Z,1.9nm,0.9s,baz=74,slow=3.0,SNR=2.6						

WEL 13 12:19:10.0±0.9,42°S±2°×17°4E±°,h9km±6km,M3.8/7, ML4.1/7,MLv3.8/7,Error ellipse: s-maj=0.0km s-min=0.0km az=68.5,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**176**	P	Pg	12 19 12.7	+0.3
CMWZ				S	Sg	12 19 14.5	+0.5
BSWZ	**Blackbirch Sta**	**0.25**	**260**	P	Pg	12 19 15.7	+0.5
BSWZ				S	Sb	12 19 21.3	+0.1
TUWZ	**Tuamarina**	**0.31**	**320**	P	Pb	12 19 17.6	-0.1
TUWZ				S	Sb	12 19 22.8	0.0
TCW	**Tory Channel**	**0.46**	**7**	S	Sb	12 19 27.4	+0.2
BHW	**Baring Head**	**0.56**	**63**	P	Pg	12 19 21.4	+0.4
BHW				S	Sn	12 19 32.5	-1.1
PLWZ	**Palliser**	**0.79**	**83**	P	Pb	12 19 25.7	-0.3
PLWZ				S	Sn	12 19 38.7	-0.6
CAW	**Cannon Point**	**0.86**	**49**	P	Pb	12 19 26.9	-0.2
CAW				S	Sn	12 19 41.8	+1.0
PAWZ	**Paruwai Farm**	**0.96**	**73**	P	Pg	12 19 28.1	-0.4
PAWZ				S	Sn	12 19 42.8	-0.7

WEL 13 12:19:29.8±0.4,43°S±3°×17°3E±°,h39km±4km,M4.3/7, ML4.4/7,MLv4.3/7,Error ellipse: s-maj=0.0km s-min=0.0km az=112.2,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.39**	**162**	P	Pn	12 19 41.3	+2.3
GVZ				S	Sn	12 19 47.8	+2.1
LTZ	**Lake Taylor**	**0.48**	**247**	P	Pn	12 19 42.4	+2.1
LTZ				S	Sn	12 19 49.7	+2.0
AMCZ	**Amberley**	**0.61**	**195**	P	Pn	12 19 43.3	+1.3
AMCZ				S	Sn	12 19 52.2	+1.6
THZ	**Tophouse**	**0.83**	**2**	P	Pn	12 19 45.0	-0.1
THZ				S	Sn	12 19 56.5	+0.4
CACS	**Harewood**	**0.93**	**196**	P	Pn	12 19 48.2	+1.8
CACS				S	Sn	12 19 59.5	+1.1
OXZ	**Oxford**	**0.95**	**220**	P	Pn	12 19 48.2	+1.4
OXZ				S	Sn	12 19 59.8	+0.7
MQZ	**McQueen's Vall**	**1.12**	**188**	P	Pn	12 19 49.8	+0.8
MQZ				S	Sn	12 20 03.0	-0.3
RACZ	**Rakaia**	**1.25**	**205**	P	Pn	12 19 50.6	-0.2
RACZ				S	Sn	12 20 06.6	+0.2
AKCZ	**Akaroa Harbour**	**1.28**	**179**	P	Pn	12 19 51.3	+0.1
AKCZ				S	Sn	12 20 06.7	-0.4
CAW	**Cannon Point**	**2.21**	**49**	P	Pn	12 20 03.0	-1.0
CAW				S	Sn	12 20 31.8	+1.7

*IDC **13** 12:20:38.0±1.0,42°.51S×174°.07E,h0km,mb4.6/8, mbtmp4.7/9,ML5.5/1,Error ellipse: s-maj=31.9km s-min=24.2km az=157.0*
*WEL **13** 12:20:40.9±0.3,42°S±2°×17°4E±°,h10km±3km,M5.0/12, ML5.2/12,MLv5.0/12,Error ellipse: s-maj=0.0km s-min=0.0km az=126.4*
*NEIC **13** 12:20:44.3±1.3,42°.27S±0°.04×173°.50E±0°.07,h12km±4km, mb4.9/36,Error ellipse: s-maj=7.7km s-min=5.8km az=97.0*
*NOU **13** 12:20:51.0,42°.28S×172°.81E,h106km,MLv5.8/8,South Island, New Zealand*

ISC 13 12:20:40.5±1.4,42°.25S±0°.03×173°.88E±0°.03,h4km±8km, n111,σ1$38/122,mb4.8/24,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**237**	Pg	**Pb**	**12 20 47.9**	**-0.6**
KHZ	**Kahutara**	**0.30**	**237**	P	**Pb**	**12 20 48.4**	**0.0**
KHZ				S	**Sb**	12 20 54.2	+0.4
BSWZ	**Blackbirch Sta**	**0.54**	**360**	S	**Sb**	**12 21 00.3**	**-0.2**
TUWZ	**Tuamarina**	**0.82**	**3**	P	**Pn**	12 20 58.2	-0.6
TUWZ				S	**Sb**	**12 21 10.2**	**+1.4**
THZ	**Tophouse**	**0.88**	**304**	Pg	**Pg**	12 20 56.7	-0.6
THZ	**Tophouse**	**0.88**	**304**	P	**Pb**	12 20 57.6	-0.6
THZ				S	**Sn**	12 21 11.8	-1.1
GVZ	**Greta Valley S**	**0.95**	**221**	P	**Pn**	12 20 59.5	-1.2
TCW	**Tory Channel**	**1.08**	**16**	P	**Pb**	**12 21 01.8**	**0.0**
TCW				S	**Sn**	**12 21 18.3**	**+0.4**
NNZ	**Nelson**	**1.10**	**340**		**Pn**	12 21 03.0	+0.4
BHW	**Baring Head**	**1.12**	**42**	P	**Pg**	**12 21 02.1**	**+0.1**
BHW				S	**Sb**	12 21 17.5	+0.1
WEL	**Wellington**	**1.17**	**35**	P	**Pg**	**12 21 01.9**	**-1.1**
WEL				S	**Sb**	12 21 19.6	+0.7
LTZ	**Lake Taylor**	**1.30**	**245**		**Pb**	**12 21 06.1**	**+0.5**
MSWZ	**Moikau Station**	**1.32**	**51**	P	**Pn**	**12 21 04.2**	**-1.6**
MSWZ				S	**Sg**	12 21 22.4	-0.5
PAWZ	**Paruwai Farm**	**1.45**	**54**	P	**Pn**	12 21 06.3	-1.2
CAW	**Cannon Point**	**1.45**	**38**	P	**Pn**	12 21 06.4	-1.1
CAW				S	**Sn**	12 21 26.3	-0.6
DUWZ	**D'Urville Isla**	**1.45**	**1**	P	**Pb**	**12 21 08.1**	**+0.1**
KIW	**Kapiti Island**	**1.59**	**29**	P	**Pn**	**12 21 09.6**	**+0.1**
KIW				S	**Sn**	12 21 29.5	-0.9
DSZ	**Denniston Nort**	**1.63**	**287**	Pn	**Pg**	**12 21 12.1**	**+0.4**
MTW	**Mount Morrison**	**1.63**	**49**	P	**Pn**	12 21 08.8	-1.2
MQZ	**McQueen's Vall**	**1.71**	**211**	Pn	**Pn**	12 21 10.1	-0.9
OGWZ	**Otaki Gorge**	**1.73**	**34**	P	**Pn**	12 21 10.4	-0.9
OGWZ				S	**Sn**	12 21 33.4	-0.4
OXZ	**Oxford**	**1.73**	**231**		**Pn**	12 21 10.3	-1.0
QRZ	**Quartz Range**	**1.75**	**324**		**Pb**	12 21 12.3	-0.8
HOWZ	**Holdsworth Sta**	**1.83**	**43**	P	**Pn**	12 21 10.4	-2.3
TMWZ	**Te Maipa**	**1.89**	**53**	P	**Pn**	12 21 11.4	-2.2
TIWZ	**Tintock**	**2.11**	**46**	P	**Pn**	12 21 15.8	-0.8
TIWZ				S	**Sn**	12 21 42.2	-1.0
CPWZ	**Castlepoint**	**2.20**	**53**	P	**Pn**	12 21 17.5	-0.2
RPZ	**Rata Peaks**	**2.54**	**234**	Pn	**Pn**	12 21 21.2	-1.3
	1μm,0.3s,baz=97,slow=2.0,SNR=29						
RPZ				Sn	**Sn**	**12 21 49.8**	**-4.1**
	396nm,0.3s,baz=28,slow=16,SNR=7.2 2μm,0.3s						
RPZ	**Rata Peaks**	**2.54**	**234**	Pn	**Pn**	**12 21 21.7**	**-0.8**
RPZ	**Rata Peaks**	**2.54**	**234**	P	**Pn**	12 21 22.6	+0.1
ANWZ	**Angora Road**	**2.65**	**48**	P	**Pn**	12 21 22.9	-1.1
PRHZ	**Porangahau**	**2.87**	**47**	P	**Pn**	12 21 26.3	-0.7
KHEZ	**Kahui Hut**	**2.96**	**2**	P	**Pg**	**12 21 39.1**	**+2.0**
LBZ	**Lake Benmore**	**3.44**	**230**		**Pn**	12 21 34.2	-0.7
ODZ	**Otahua Downs**	**3.65**	**219**		**Pn**	12 21 36.9	-0.8
BKZ	**Black Stump Fm**	**3.67**	**34**		**Pb**	12 21 44.1	-1.7
HIZ	**Hauiti**	**3.81**	**12**	P	**Pg**	12 21 51.2	-2.2
WKZ	**Wanaka**	**4.37**	**232**	Pn	**Pn**	12 21 47.5	-0.2
URZ	**Urewera**	**4.69**	**33**	P	**Pb**	**12 22 06.4**	**+3.1**
MLZ	**Mavora Lakes**	**5.20**	**231**	Pn	**Pn**	12 21 58.3	-0.8
SYZ	**Scrubby Hill**	**5.47**	**217**	P	**Pn**	**12 22 02.8**	**+0.1**
	222nm,0.5s						
WHZ	**Wether Hill Ro**

KULM	**Kulim**	**81.26**	**285**	P	**P**	**12 32 57.2**	**-0.8**
KULM				IAmb	IAmb	12 32 59.3	
	comp=Z,18nm,1.2s						
KSRS	**Korea Array**	**89.71**	**325**	P	**P**	**12 33 40.7**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=144,slow=5.6,SNR=5.2						
	comp=Z,1.7nm,0.7s						
CM31	**Chiang Mai Arr**	**91.59**	**294**	P	**P**	**12 33 49.5**	**+0.7**
CM31				IAmb	IAmb	12 33 53.1	
	comp=Z,5.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.59**	**294**	P	**P**	**12 33 48.6**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=153,slow=3.2,SNR=12						
	comp=Z,1.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**91.59**	**294**	P	**P**	**12 33 48.5**	**-0.2**
CHTO	**Chiang Mai**	**91.83**	**294**	P	**P**	**12 33 50.7**	**+0.9**
HHC	**Hu-ho-hao-te**	**100.07**	**317**	*eP*	**Pdif**	**12 34 30.5**	**+3.6**
HHC				pmax	pmax		
	comp=Z,52nm,1.1s						
WMQ	**Urumqi**	**115.24**	**307**	*eP*	**PKPdf**	**12 39 20.1**	**-2.7**
WMQ				pmax	pmax		
	comp=Z,26nm,1.1s						
YKA	**Yellowknife Ar**	**118.95**	**30**	PKP	**PKPdf**	**12 39 26.6**	**-2.6**
	comp=Z,2.3nm,0.7s,baz=249,slow=1.7,SNR=3.5						
MKAR	**Makanchi Array**	**120.06**	**307**	PKP	**PKPdf**	**12 39 29.5**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=85,slow=3.5,SNR=1.9						
KURBB	**Kurchatov Arra**	**124.09**	**310**	PKP	**PKPdf**	**12 39 38.2**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=116,slow=1.7,SNR=10						
BVAR	**Borovoye Array**	**129.68**	**310**	PKP	**PKPdf**	**12 39 49.1**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=82,slow=2.0,SNR=4.4						
KBZ	**Khabaz**	**144.53**	**289**	PKP	**PKPab**	**12 40 14.0**	**-2.1**
	comp=Z,8.7nm,1.0s,baz=203,slow=2.5,SNR=8.2						
DBIC	**Dimbokro**	**144.55**	**182**	PKP	**PKPab**	**12 40 13.9**	**-3.1**
	comp=Z,1.6nm,0.5s,baz=177,slow=2.8,SNR=2.1						
DAG	**Danmarks Havn**	**144.97**	**5**	*i* P	**PKiKP**	**12 40 21.0**	**-0.3**
SFJD	**Kangerlussuaq**	**145.50**	**29**	PKPbc	**PKPdf**	**12 40 16.9**	**-1.7**
	comp=Z,12nm,0.7s,baz=239,slow=3.2,SNR=4.8						
ARCES	**ARCESS Array B**	**148.15**	**340**	PKPbc	**PKPdf**	**12 40 24.2**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=77,slow=1.2,SNR=9.9						
BRTR	**Keskin Array B**	**150.07**	**279**	PKPbc	**PKPbc**	**12 40 31.4**	**-0.8**
	comp=Z,5.9nm,0.9s,baz=141,slow=4.1,SNR=13						
FINES	**FINESS Array B**	**152.80**	**326**	PKPbc	**PKPbc**	**12 40 34.9**	**-2.7**
	comp=Z,2.8nm,0.7s,baz=88,slow=2.0,SNR=10.0						
AKASG	**Malin Array Be**	**154.44**	**302**	PKPab	**PKPab**	**12 40 55.9**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=71,slow=3.6,SNR=4.2						
GERES	**GERESS Array B**	**164.65**	**302**	PKPab	**PKPab**	**12 41 40.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=56,slow=7.1,SNR=4.0						

IDC ***13*** *12:22:08.6±0.9, 42°.40S×174°.04E, h0km, mb4.5/9, mbtmp4.6/10, ML4.8/1, Error ellipse: s-maj=31.4km s-min=23.9km az=106.0*

NEIC ***13*** *12:22:12.4±1.4, 41°.81S±0°.06×174°.27E±0°.03, h13km±4km, mb5.2/20, Error ellipse: s-maj=8.7km s-min=2.6km az=169.0*

WEL ***13*** *12:22:13.0±0.3, 42°.S×2°×17°.4E±°, h5km±2km, M5.1/13, ML5.4/13, MLv5.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=150.2*

ISC 13 12:22:12.0±0.8, 41°.82S±0°.03×174°.27E±0°.02, h16km±5km, n104, σ1°.43/122, mb4.9/16, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**331**	Pg	**Pg**	**12 22 15.1**	**0.0**
CMWZ	**Cape Campbell**	**0.08**	**331**	P	**Pg**	**12 22 14.9**	**-0.2**
CMWZ				S	**Sg**	**12 22 16.7**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.31**	**290**		**Pg**	**12 22 18.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.31**	**290**	P	**Pb**	**12 22 18.9**	**-0.2**
BSWZ				S	**Sb**	**12 22 24.1**	**+0.1**
TUWZ	**Tuamarina**	**0.46**	**328**		**Pg**	**12 22 21.1**	**-0.1**
TUWZ	**Tuamarina**	**0.46**	**328**	P	**Pg**	**12 22 20.8**	**-0.3**
TUWZ				S	**Sg**	**12 22 26.8**	**-0.6**
SNZO	**South Karori**	**0.61**	**33**	Pg	**Pg**	**12 22 24.1**	**+0.2**
TCW	**Tory Channel**	**0.61**	**1**	P	**Pg**	**12 22 23.4**	**-0.5**
TCW				S	**Sg**	**12 22 31.8**	**-0.3**
WEL	**Wellington**	**0.66**	**35**	P	**Pb**	**12 22 25.0**	**0.0**
WEL				S	**Sb**	**12 22 33.8**	**-0.1**
PLWZ	**Palliser**	**0.78**	**72**	Pg	**Pb**	**12 22 27.9**	**+0.6**
KHZ	**Kahutara**	**0.80**	**222**		**Pn**	**12 22 29.9**	**+1.2**
KHZ	**Kahutara**	**0.80**	**222**	P	**Pn**	**12 22 29.7**	**+1.1**
KHZ				S	**Sn**	**12 22 43.4**	**+3.1**
MSWZ	**Moikau Station**	**0.84**	**62**		**Pn**	**12 22 29.1**	**-0.1**
MSWZ	**Moikau Station**	**0.84**	**62**	P	**Pn**	**12 22 29.3**	**+0.1**
MSWZ				S	**Sn**	**12 22 43.2**	**+1.9**
NNZ	**Nelson**	**0.90**	**312**	Pg	**Pg**	**12 22 29.5**	**+0.1**
NNZ	**Nelson**	**0.90**	**312**	P	**Pb**	**12 22 28.5**	**-0.6**
NNZ				S	**Sb**	**12 22 40.5**	**-0.4**
PAWZ	**Paruwai Farm**	**0.97**	**64**	P	**Pn**	**12 22 31.0**	**0.0**
PAWZ				S	**Sn**	**12 22 47.2**	**+2.6**
THZ	**Tophouse**	**1.02**	**273**		**Pn**	**12 22 32.1**	**+0.4**
THZ	**Tophouse**	**1.02**	**273**	P	**Pn**	**12 22 31.9**	**+0.2**
DUWZ	**D'Urville Isla**	**1.05**	**346**	P	**Pb**	**12 22 31.0**	**-0.8**
DUWZ				S	**Sg**	**12 22 46.0**	**0.0**
KIW	**Kapiti Island**	**1.07**	**27**	P	**Pb**	**12 22 32.0**	**-0.3**
KIW				S	**Sb**	**12 22 46.1**	**+0.1**
TRWZ	**Traveller**	**1.15**	**69**	P	**Pn**	**12 22 33.1**	**-0.4**
MRNZ	**Matariki Terra**	**1.21**	**290**	P	**Pg**	**12 22 35.3**	**+0.1**
MRNZ				S	**Sg**	**12 22 52.2**	**+1.2**
OGWZ	**Otaki Gorge**	**1.21**	**34**	P	**Pb**	**12 22 34.6**	**0.0**
OGWZ				S	**Sn**	**12 22 50.6**	**+0.1**
TKNZ	**Takaka Hill**	**1.26**	**308**	P	**Pg**	**12 22 36.0**	**-0.2**
TKNZ				S	**Sg**	**12 22 54.3**	**+1.7**
HOWZ	**Holdsworth Sta**	**1.32**	**46**	P	**Pn**	**12 22 35.4**	**-0.4**
HOWZ				S	**Sg**	**12 22 54.8**	**+0.4**
TMWZ	**Te Maipa**	**1.41**	**60**	P	**Pn**	**12 22 36.5**	**-0.6**
MRZ	**Mangatainoka R**	**1.52**	**41**	P	**Pn**	**12 22 38.1**	**-0.5**
MRZ				S	**Sg**	**12 23 01.6**	**+0.5**
QRZ	**Quartz Range**	**1.64**	**307**	Pn	**Pb**	**12 22 41.8**	**-0.1**
OHWZ	**Ohakea**	**1.80**	**27**	P	**Pb**	**12 22 43.6**	**-0.9**
OHWZ				S	**Sg**	**12 23 12.6**	**+2.8**
POWZ	**Post Office Ro**	**1.82**	**39**	P	**Pn**	**12 22 42.6**	**-0.1**
POWZ				S	**Sg**	**12 23 11.7**	**+1.1**
DSZ	**Denniston Nort**	**1.84**	**272**	Pn	**Pb**	**12 22 44.2**	**-1.1**
BFZ	**Birch Farm**	**1.88**	**53**	Pn	**Pb**	**12 22 45.7**	**-0.2**
BFZ	**Birch Farm**	**1.88**	**53**	P	**Pn**	**12 22 41.5**	**-2.0**
WAZ	**Wanganui**	**2.13**	**15**	P	**Pb**	**12 22 49.9**	**-0.4**
WAZ				S	**Sg**	**12 23 23.0**	**+2.4**
TSZ	**Takapari Road**	**2.18**	**37**	P	**Pn**	**12 22 48.0**	**+0.4**
TSZ				S	**Sg**	**12 23 22.3**	**+0.3**
KHEZ	**Kahui Hut**	**2.53**	**356**	P	**Pb**	**12 22 57.3**	**+0.2**
KHEZ				S	**Sg**	**12 23 32.3**	**-1.1**
DREZ	**Durham Road**	**2.63**	**359**	P	**Pb**	**12 22 58.5**	**-0.3**
DREZ				S	**Sg**	**12 23 36.6**	**+0.1**
TRVZ	**Turoa**	**2.70**	**22**	P	**Pb**	**12 22 57.7**	**-2.4**
TRVZ				S	**Sg**	**12 23 38.8**	**0.0**
WHVZ	**Whangaehu Hut**	**2.73**	**22**	P	**Pn**	**12 22 57.9**	**+2.5**
TUVZ	**Tukino**	**2.76**	**23**	P	**Pn**	**12 22 57.4**	**+1.6**
RPZ	**Rata Peaks**	**3.03**	**230**				
	2µm,0.7s						
HIZ	**Hauiti**	**3.33**	**8**	P	**Pb**	**12 23 10.8**	**+0.1**
TMZ	**Timaru**	**3.50**	**222**	P	Pn	12 22 54.6	-11
LBZ	**Lake Benmore**	**3.94**	**228**	Pn	**Pn**	**12 23 12.8**	**+1.0**
TOZ	**Tahuroa Road**	**4.19**	**14**	P	**Pn**	**12 23 19.9**	**+4.6**
OPRZ	**Ohinepanea**	**4.34**	**25**	P	**Pn**	**12 23 16.0**	**-1.3**
AWAZ	**Awhitu Peninsu**	**4.76**	**4**	P	**Pn**	**12 23 26.5**	**+3.5**
MKAZ	**Moumakai**	**4.76**	**9**	P	**Pn**	**12 23 26.1**	**+3.0**
MKAZ				S	**Sb**	**12 24 33.7**	**+1.5**
ETAZ	**East Tamaki Re**	**4.89**	**6**	P	**Pn**	**12 23 25.7**	**+0.8**
RVAZ	**Riverhead Bore**	**5.05**	**3**	P	**Pn**	**12 23 25.9**	**-1.1**
MBAZ	**Motutapu North**	**5.07**	**6**	P	**Pn**	**12 23 27.1**	**-0.3**
ABAZ	**Army Bay**	**5.23**	**5**	P	**Pn**	**12 23 31.1**	**+1.5**
OUZ	**Omahuta**	**6.61**	**355**	Pn	**Pn**	**12 23 49.6**	**+1.1**
DZM	**Mont Dzumac**	**20.76**	**339**	P	Pn	12 26 58.0	+3.3
	21nm,1.0s,baz=148,slow=16,SNR=4.1						
	21nm,1.0s						
MSVF	**Nonsavu**	**24.23**	**9**	P	**P**	**12 27 32.1**	**+4.0**
	24nm,0.9s,baz=162,slow=6.5,SNR=5.1						
	24nm,0.9s						
MSVF	**Nonsavu**	**24.23**	**9**	P	**P**	**12 27 30.7**	**+2.5**
EIDS	**Eidsvold**	**25.22**	**303**	P	**P**	**12 27 38.7**	**+1.5**
EIDS				IAmb	IAmb	12 28 01.1	
	comp=Z,56nm,1.7s						
BBOO	**Buckleboo**	**31.48**	**274**	P	**P**	**12 28 32.0**	**-0.9**
CTAO	**Charters Tower**	**32.11**	**304**	P	**P**	**12 28 38.1**	**-0.5**
VNDA	**Vanda**	**36.18**	**185**	P	**P**	**12 29 14.9**	**+1.6**
AS31	**Alice Springs**	**38.06**	**286**	P	**P**	**12 29 29.0**	**-0.9**
ASAR	**Alice Springs**	**38.06**	**286**	P	**P**	**12 29 29.4**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=122,slow=6.8,SNR=4.9						
	comp=Z,6.3nm,0.9s						
ASAR	**Alice Springs**	**38.06**	**286**	P	**P**	**12 29 28.5**	**-1.4**
FORT	**Forrest**	**38.42**	**271**	P	**P**	**12 29 32.6**	**-0.2**
FORT				IAmb	IAmb	12 30 42.1	
	comp=Z,48nm,0.8s						
COEN	**Coen**	**38.68**	**307**	P	**P**	**12 29 34.8**	**-0.3**
WR0	**Warramunga Arr**	**39.99**	**291**	P	**P**	**12 29 45.0**	**-1.0**
WB2	**Warramunga Arr**	**40.13**	**291**	P	**P**	**12 29 46.9**	**-0.3**
WRAB	**Tennant Creek**	**40.14**	**291**	P	**P**	**12 29 47.1**	**-0.2**
WRAB				IAmb	IAmb	12 30 58.8	
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**40.14**	**291**	P	**P**	**12 29 46.3**	**-1.0**
	comp=Z,3.9nm,0.6s,baz=126,slow=8.5,SNR=4.7						
	comp=Z,3.9nm,0.6s						
PMG	**Port Moresby**	**40.15**	**316**	P	**P**	**12 29 48.2**	**+0.8**
	comp=Z,18nm,0.9s,baz=121,slow=5.7,SNR=1.9						
	comp=Z,18nm,0.9s						
WB0	**Warramunga Arr**	**40.22**	**291**	P	**P**	**12 29 47.8**	**-0.1**
KNRA	**Kununurra**	**46.92**	**290**	P	**P**	**12 30 42.3**	**+0.3**
MTN	**Manton Dam**	**47.26**	**295**	P	**P**	**12 30 44.6**	**+0.1**
MTN				IAmb	IAmb	12 30 52.5	
	comp=Z,26nm,0.8s						
MORW	**Morawa**	**48.27**	**266**	P	**P**	**12 30 51.7**	**-0.6**
MORW				IAmb	IAmb	12 31 50.1	
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**48.31**	**180**	P	**P**	**12 30 53.9**	**+1.5**
QSPA				IAmb	IAmb	12 30 57.3	
	comp=Z,38nm,1.0s						
PSA00	**Pilbara Seismi**	**49.64**	**277**	P	**P**	**12 31 03.0**	**0.0**
PSA00				IAmb	IAmb	12 31 11.8	
	comp=Z,25nm,0.8s						
GIRL	**Giralia**	**53.19**	**271**	P	**P**	**12 31 29.4**	**-0.1**
FAKI	**Fak Fak**	**53.97**	**304**	P	**P**	**12 31 35.0**	**-0.2**
MAW	**Mawson**	**59.40**	**204**	P	**P**	**12 32 09.2**	**-3.9**
	comp=Z,2.1nm,0.8s,baz=98,slow=19,SNR=1.2						
	comp=Z,2.1nm,0.8s						
TROLL	**Troll, Antarti**	**66.33**	**183**	P	**P**	**12 33 01.1**	**+1.7**
SNAA	**Sanae**	**66.80**	**181**	P	**P**	**12 33 03.8**	**+1.5**
SNAA	**Sanae**	**66.80**	**181**	P	**P**	**12 33 03.8**	**+1.5**
SNAA				IAmb	IAmb	12 33 27.1	
	comp=Z,24nm,1.3s						
VNA3	**Neumayer Olymp**	**67.21**	**179**	P	**P**	**12 33 06.4**	**+1.6**
VNA2	**Neumayer--Watz**	**67.56**	**179**	P	**P**	**12 33 09.0**	**+1.9**
	baz=169,slow=7.0						
VNA1	**Neumayer--Stat**	**67.83**	**179**	P	**P**	**12 33 10.8**	**+2.0**
MJAR	**Matsushiro Arr**	**84.67**	**332**	P	**P**	**12 34 46.8**	**+2.1**
	comp=Z,1.5nm,0.9s,baz=164,slow=5.1,SNR=2.9						
	comp=Z,1.5nm,0.9s						
KSRS	**Korea Array**	**89.52**	**325**	P	**P**	**12 35 09.2**	**+1.1**
	comp=Z,5.2nm,1.0s,baz=146,slow=6.1,SNR=3.8						
	comp=Z,5.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.68**	**293**	P	**P**	**12 35 18.6**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=150,slow=3.5,SNR=5.2						
	comp=Z,2.7nm,0.8s						
CN2	**Changchun**	**95.85**	**327**	*eP*	**P**	**12 35 34.5**	**-2.7**
CN2				*esP*	pP	12 35 41.5	-0.9
YKA	**Yellowknife Ar**	**118.43**	**30**	PKP	**PKPdf**	**12 40 57.6**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=224,slow=4.3,SNR=4.9						
MKAR	**Makanchi Array**	**120.03**	**308**	PKP	**PKPdf**	**12 40 59.3**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=30,slow=6.7,SNR=2.3						
KMBO	**Kilima Mbogo**	**122.26**	**234**	PKP	**PKPdf**	**12 41 05.3**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=197,slow=11,SNR=2.2						
KURBB	**Kurchatov Arra**	**124.03**	**310**	PKP	**PKPdf**	**12 41 08.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=122,slow=2.0,SNR=1.9						
BVAR	**Borovoye Array**	**129.62**	**310**	PKP	**PKPdf**	**12 41 19.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=112,slow=1.6,SNR=1.4						
KBZ	**Khabaz**	**144.66**	**290**	PKP	PKPbc	12 41 46.2	0.0
	comp=Z,5.3nm,0.9s,baz=155,slow=3.3,SNR=3.3						
ASF	**Jabal al Asfar**	**144.92**	**268**	PKP	PKPbc	12 41 47.8	+0.2
	comp=Z,2.2nm,0.8s,baz=162,slow=3.2,SNR=1.9						
DBIC	**Dimbokro**	**144.99**	**182**	PKP	**PKPab**	**12 41 45.8**	**-2.4**
	comp=Z,9.8nm,1.0s,baz=199,slow=3.7,SNR=4.1						
ARCES	**ARCESS Array B**	**147.85**	**340**	PKPbc	**PKPdf**	**12 41 52.9**	**+0.9**
	comp=Z,7.4nm,1.0s,baz=42,slow=2.0,SNR=1.4						
BRTR	**Keskin Array B**	**150.28**	**279**	PKPbc	**PKiKP**	**12 42 02.8**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=141,slow=4.1,SNR=2.1						
FINES	**FINESS Array B**	**152.60**	**327**	PKPbc	**PKPbc**	**12 42 05.1**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=35,slow=3.4,SNR=3.4						
AKASG	**Malin Array Be**	**154.46**	**302**	PKPab	**PKPab**	**12 42 20.8**	**-4.8**
	comp=Z,0.3nm,0.4s,baz=65,slow=2.7,SNR=2.4						
RAC	**Raciborz**	**161.48**	**305**	LMZ	LR	12 42 24.6	
	comp=Z,406nm,20.6s						
ESDC	**Sonseca Array**	**177.47**	**213**	PKP	**PKPdf**	**12 42 21.4**	**0.0**
	comp=Z,2.5nm,1.1s,baz=9.1,slow=0.3,SNR=5.4						

WEL 13 12:22:20.4±0.4, 43°.S±2°×17°.3E±°, h12km±2km, M4.6/5, ML4.9/4, MLv4.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=85.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.36**	**161**	P	Pb	12 22 28.6	-0.2
GVZ				S	Sb	12 22 34.4	0.0
LTZ	**Lake Taylor**	**0.47**	**251**	S	Sg	12 22 36.7	+0.8
LTZ	**Lake Taylor**	**0.47**	**251**	P	Pg	12 22 29.5	-0.1
LTZ				S	Sb	12 22 36.9	-0.7
LTZ	**Lake Taylor**	**0.47**	**251**	P	Pg	12 22 28.6	-1.1
AMCZ	**Amberley**	**0.57**	**197**	P	Pb	12 22 32.9	+0.5
AMCZ	**Amberley**	**0.57**	**197**	P	Pb	12 22 32.5	+0.1
AMCZ				S	Sb	12 22 41.7	+1.2
AMCZ	**Amberley**	**0.57**	**197**	S	Sn	12 22 42.2	-1.6
THZ	**Tophouse**	**0.86**	**1**	S	Sb	12 22 48.8	-0.1
NNBS	**New Brighton**	**0.88**	**187**	S	Sg	12 22 49.0	+0.2
PPHS	**Papanui**	**0.89**	**193**	P	Pb	12 22 37.9	+0.1
PPHS				S	Sn	12 22 51.0	-0.5
CACS	**Harewood**	**0.89**	**196**	P	Pg	12 22 37.0	-0.7
CACS				S	Sb	12 22 50.1	+0.4
INZ	**Inchbonnie**	**1.06**	**264**	P	Pg	12 22 40.7	-0.1
AKCZ	**Akaroa Harbour**	**1.25**	**179**	P	Pn	12 22 42.4	-1.3
AKCZ				S	Sb	12 22 57.8	-2.0
MHCZ	**Mount Hutt**	**1.32**	**226**	S	Sn	12 23 02.3	+0.1
MHCZ	**Mount Hutt**	**1.32**	**226**	P	Pn	12 22 43.5	-1.2
WVZ	**Waitaha Valley**	**1.64**	**253**	P	Pn	12 22 48.5	-0.4
RPZ	**Rata Peaks**	**1.72**	**230**	S	Sn	12 23 10.1	-2.0
RPZ	**Rata Peaks**	**1.72**	**230**	Pn	Pn	12 22 49.2	-1.0
	194nm,0.3s,baz=68,slow=17,SNR=7.7						
RPZ	**Rata Peaks**	**1.72**	**230**	P	Pn	12 22 49.1	-1.0
ARCZ	**Arundel**	**1.81**	**223**	S	Sn	12 23 12.3	-2.1
ARCZ	**Arundel**	**1.81**	**223**	P	Pn	12 22 49.8	-1.6
FOZ	**Fox Glacier**	**2.42**	**247**	P	Pn	12 23 00.1	+0.4
SYZ	**Scrubby Hill**	**4.73**	**213**	P	Pn	12 23 29.6	-1.9

NEIC ***13*** *12:23:02.3±2.0, 43°.49S±0°.09×173°.8E±0°.1, h10km±2km, mb5.0/18, Error ellipse: s-maj=15.8km s-min=12.2km az=148.0*

IDC ***13*** *12:23:05.9±0.9, 42°.65S×173°.41E, h0km, mb4.7/9, mbtmp4.8/10, ML4.9/1, Error ellipse: s-maj=30.3km s-min=21.8km az=160.0*

WEL ***13*** *12:23:09.9±0.3, 42°.S×2°×17°.3E±°, h10km±2km, M5.2/7, ML5.4/7, MLv5.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=125.1*

ISC 13 12:23:09.8±1.1, 42°.53S±0°.03×173°.15E±0°.03, h18km±6km, n61, σ1°.24/74, mb4.9/16, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.31**	**69**	Pn	**Pn**	**12 23 21.3**	**+1.8**
KHZ	**Kahutara**	**0.31**	**69**	P	**Pb**	**12 23 16.8**	**-0.1**
KHZ				S	**Sg**	**12 23 20.9**	**-0.1**
GVZ	**Greta Valley S**	**0.45**	**191**	S	**Sn**	**12 23 28.4**	**-0.7**
GVZ	**Greta Valley S**	**0.45**	**191**	P	**Pn**	**12 23 21.0**	**-0.4**
GVZ				S	**Sn**	**12 23 28.7**	**-0.4**
GVZ	**Greta Valley S**	**0.45**	**191**	P	**Pn**	**12 23 21.2**	**-0.3**
LTZ	**Lake Taylor**	**0.69**	**248**	Pn	**Pn**	**12 23 24.1**	**-0.7**
LTZ	**Lake Taylor**	**0.69**	**248**	P	**Pb**	**12 23 23.8**	**+0.3**
LTZ				S	**Sn**	**12 23 35.1**	**-0.1**
AMCZ	**Amberley**	**0.74**	**209**	P	**Pn**	**12 23 25.7**	**+0.2**
AMCZ				S	**Sn**	**12 23 38.3**	**+1.9**
THZ	**Tophouse**	**0.79**	**347**	P	**Pg**	**12 23 24.5**	**-0.7**
THZ				S	**Sg**	**12 23 34.5**	**-1.1**
BSWZ	**Blackbirch Sta**	**0.98**	**34**	Pn	**Pn**	**12 23 29.8**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.98**	**34**	P	**Pb**	**12 23 28.4**	**+0.1**
BSWZ				S	**Sb**	**12 23 39.0**	**-1.9**
CACS	**Harewood**	**1.06**	**205**	P	**Pg**	**12 23 30.4**	**0.0**
CACS				S	**Sn**	**12 23 46.6**	**+2.5**
REHS	**Christchurch**	**1.06**	**201**	P	**Pg**	**12 23 30.6**	**+0.2**
REHS				S	**Sn**	**12 23 46.8**	**+2.6**
CMWZ	**Cape Campbell**	**1.11**	**46**	P	**Pg**	**12 23 31.0**	**-0.3**
CMWZ				S	**Sb**	**12 23 42.6**	**-2.1**
OXZ	**Oxford**	**1.14**	**225**	P	**Pg**	**12 23 32.2**	**+0.3**
OXZ				S	**Sn**	**12 23 47.4**	**+1.3**
TUWZ	**Tuamarina**	**1.25**	**29**	Pn	**Pb**	**12 23 33.0**	**+0.1**
TUWZ	**Tuamarina**	**1.25**	**29**	P	**Pb**	**12 23 32.8**	**0.0**
TUWZ				S	**Sb**	**12 23 48.7**	**+0.1**
DSZ	**Denniston Nort**	**1.27**	**308**	Pn	**Pg**	**12 23 34.2**	**-0.2**
NNZ	**Nelson**	**1.32**	**8**	Pn	**Pb**	**12 23 34.6**	**+0.5**
RPZ	**Rata Peaks**	**1.94**	**232**	Pn	**Pn**	**12 23 42.9**	**+0.9**
	447nm,0.3s,baz=13,slow=14,SNR=6.1						
RPZ				Sn	**Sb**	**12 24 07.1**	**-1.4**
	439nm,0.3s,baz=15,slow=20,SNR=9.9						
	3µm,0.4s						
ARMA	**Armidale**	**21.04**	**298**	P	**P**	**12 27 56.2**	**+3.4**
DZM	**Mont Dzumac**	**21.16**	**343**	P	**P**	**12 27 55.6**	**+1.4**
	62nm,1.0s,baz=136,slow=12,SNR=9.0						
	62nm,1.0s						
DZM	**Mont Dzumac**	**21.16**	**343**	P	**P**	**12 27 57.8**	**+3.7**
DZM				IAmb	IAmb	12 27 59.5	
	comp=Z,58nm,0.9s						
TOO	**Toolangi**	**21.70**	**274**	P	**P**	**12 27 58.8**	**-1.0**
KOUNC	**Koumac, New Ca**	**23.15**	**338**	P	**P**	**12 28 17.7**	**+2.5**
KOUNC				IAmb	IAmb	12 28 18.1	
	comp=Z,116nm,1.1s						
EIDS	**Eidsvold**	**24.94**	**306**	P	**P**	**12 28 34.1**	**+2.0**
EIDS				IAmb	IAmb	12 29 07.1	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**27.14**	**283**	P	**P**	**12 28 53.6**	**+1.6**
	comp=Z,2.8nm,0.6s,baz=94,slow=13,SNR=3.0						
	comp=Z,2.8nm,0.6s						
STKA	**Stephens Creek**	**27.14**	**283**	P	**P**	**12 28 51.3**	**-0.7**
CTA	**Charters Tower**	**31.83**	**306**	P	**P**	**12 29 35.0**	**+1.2**
	comp=Z,7.7nm,0.8s,baz=89,slow=6.4,SNR=1.9						
	comp=Z,7.7nm,0.8s						
CTAO	**Charters Tower**	**31.83**	**306**	P	**P**	**12 29 35.4**	**+1.7**
AS31	**Alice Springs**	**37.47**	**288**	P	**P**	**12 30 22.5**	**+0.1**
ASAR	**Alice Springs**	**37.47**	**288**	P	**P**	**12 30 22.2**	**-0.2**
	comp=Z,6.7nm,0.6s,baz=128,slow=6.5,SNR=8.7						
	comp=Z,6.7nm,0.6s						
ASAR	**Alice Springs**	**37.47**	**288**	P	**P**	**12 30 21.4**	**-1.0**
COEN	**Coen**	**38.46**	**309**	P	**P**	**12 30 31.5**	**+0.7**
COEN				IAmb	IAmb	12 30 44.1	
	comp=Z,18nm,1.0s						
WR0	**Warramunga Arr**	**39.48**	**293**	P	**P**	**12 30 38.4**	**-1.0**
WR0				IAmb	IAmb	12 30 46.0	
	comp=Z,46nm,1.5s						
WB2	**Warramunga Arr**	**39.62**	**292**	P	**P**	**12 30 40.6**	**+0.1**
WRA	**Warramunga Arr**	**39.62**	**292**	P	**P**	**12 30 40.7**	**+0.1**
	comp=Z,6.9nm,0.7s,baz=130,slow=7.8,SNR=4.6						
	comp=Z,6.9nm,0.7s						
WB0	**Warramunga Arr**	**39.71**	**293**	P	**P**	**12 30 41.1**	**-0.1**
WB0				IAmb	IAmb	12 30 57.8	
	comp=Z,18nm,0.9s						
PMG	**Port Moresby**	**40.09**	**318**	P	**P**	**12 30 45.4**	**+1.0**
	comp=Z

LTZ	Lake Taylor	0.47	260			Pb	12 26 04.8	-1.8
LTZ	Lake Taylor	0.47	260	P		Pb	12 26 04.9	-1.8
AMCZ	Amberley	0.50	201	P		Pb	12 26 06.9	-0.3
AMCZ				S		Sb	12 26 15.1	+0.9
KHZ	Kahutara	0.56	59	Pg		Pb	12 26 06.4	-1.7
CACS	Harewood	0.82	199	P		Pb	12 26 12.1	-0.6
CACS				S		Sn	12 26 24.9	+0.5
REHS	Christchurch	0.84	193	P		Pb	12 26 12.1	-0.8
REHS				S		Sn	12 26 25.8	+1.0
OXZ	Oxford	0.88	225			Pb	12 26 12.0	-1.7
OXZ	Oxford	0.88	225	P		Pb	12 26 12.8	-0.8
OXZ				S		Sb	12 26 25.1	+0.1
THZ	Tophouse	0.94	0			Pb	12 26 12.2	-2.4
THZ	Tophouse	0.94	0	P		Pb	12 26 12.5	-2.1
MQZ	McQueen's Vall	1.02	190			Pn	12 26 14.1	-1.6
MQZ	McQueen's Vall	1.02	190	P		Pn	12 26 14.2	-1.4
MQZ				S		Sb	12 26 28.1	-0.7
INZ	Inchbonnie	1.07	268	P		Pn	12 26 15.7	-0.7
RACZ	Rakaia	1.16	208	P		Pn	12 26 16.5	-1.2
AKCZ	Akaroa Harbour	1.17	179	P		Pn	12 26 16.6	-1.2
AKCZ				S		Sn	12 26 31.4	-1.5
BSWZ	Blackbirch Sta	1.23	37			Pn	12 26 18.2	-0.4
BSWZ	Blackbirch Sta	1.23	37	P		Pn	12 26 18.7	+0.1
MHCZ	Mount Hutt	1.28	229	P		Pn	12 26 18.6	-0.7
MRNZ	Matariki Terra	1.31	355	P		Pn	12 26 19.4	-0.3
CMWZ	Cape Campbell	1.37	46	P		Pn	12 26 18.4	-2.1
WACZ	Wakanui South	1.46	212	P		Pn	12 26 20.6	-1.2
TUWZ	Tuamarina	1.49	32			Pn	12 26 22.0	-0.2
TUWZ	Tuamarina	1.49	32	P		Pn	12 26 22.2	0.0
NNZ	Nelson	1.53	14			Pn	12 26 22.4	-0.3
NNZ	Nelson	1.53	14	P		Pn	12 26 23.2	+0.5
NNZ				S		Sb	12 26 43.8	+0.2
WVZ	Waitaha Valley	1.63	256	P		Pn	12 26 24.0	-0.1
TKNZ	Takaka Hill	1.67	2	P		Pn	12 26 25.6	+0.9
RPZ	Rata Peaks	1.68	233	Pn		Pn	12 26 23.8	-1.1
	788nm,0.3s,baz=76,slow=2.1,SNR=8.0							
RPZ				Sn		Sn	12 26 45.0	-0.7
	1µm,0.3s,baz=12,slow=18,SNR=3.0							
RPZ	Rata Peaks	1.68	233			Pn	12 26 23.6	-1.3
RPZ	Rata Peaks	1.68	233	P		Pn	12 26 23.8	-1.1
ARCZ	Arundel	1.77	225	P		Pn	12 26 24.9	-1.1
TCW	Tory Channel	1.81	35	P		Pn	12 26 25.3	-1.3
QRZ	Quartz Range	1.90	352			Pn	12 26 28.1	+0.3
SNZO	South Karori	1.94	45			Pn	12 26 27.7	-0.6
WEL	Wellington	1.99	45	P		Pn	12 26 28.9	-0.2
PLWZ	Palliser	2.09	58	Pn		Pn	12 26 30.9	+0.5
MSWZ	Moikau Station	2.17	54			Pn	12 26 32.3	+0.6
FOZ	Fox Glacier	2.40	249			Pn	12 26 34.6	-0.1
LBZ	Lake Benmore	2.59	229			Pn	12 26 35.8	-1.5
ODZ	Otahua Downs	2.85	214			Pn	12 26 39.7	-1.2
ODZ	Otahua Downs	2.85	214	P		Pn	12 26 39.5	-1.4
BFZ	Birch Farm	3.22	52			Pn	12 26 46.0	0.0
HIZ	Hauiti	4.45	20	Pn		Pn	12 27 05.9	+3.1
PYZ	Puysegur Point	5.64	230	Pn		Pn	12 27 18.2	-0.9
OUZ	Omahuta	7.50	4	Pn		Pn	12 27 46.1	+1.4
OUZ	Omahuta	7.50	4	P		Pn	12 27 50.0	+5.3
LHI	Lord Howe Isla	15.67	311	P		P	12 29 38.9	-1.1
	baz=16,SNR=3.4							
TAU	Tasmania Unive	18.75	261	sP		Pn	12 30 17.0	+2.5
MILA	Milia	19.05	279	P		Pn	12 30 19.1	+0.9
	baz=19,SNR=3.8							
RIV	Riverview	19.19	290	P		Pn	12 30 21.2	+1.4
	baz=19,SNR=3.6							
CAN	Canberra	19.94	284	P		Pn	12 30 32.8	+4.0
OUENC	Ouen Island, N	20.85	344	P		P	12 30 37.1	+0.1
OUENC	Ouen Island, N	20.85	344	P		Pn	12 30 40.9	+1.4
ARMA	Armidale	20.96	299	P		Pn	12 30 40.1	-0.8
	baz=21,SNR=7.1							
ONTNC	Ouen Toro	21.04	343	P		P	12 30 41.7	+2.7
ONTNC	Ouen Toro	21.04	343	P		P	12 30 43.3	+4.3
YATNC	Mamie plateau,	21.19	344	P		P	12 30 45.8	+5.2
DZM	Mont Dzumac	21.27	343	P		P	12 30 41.2	-0.4
DZM				IAmb	IAmb		12 30 49.5	
	comp=Z,87nm,1.0s							
DZM	Mont Dzumac	21.27	343	P		P	12 30 45.7	+4.1
TOO	Toolangi	21.52	275	P		P	12 30 43.4	-0.8
	baz=22,SNR=4.1							
MARNC	Mare, Loyalty	21.55	348	P		P	12 30 45.0	+0.5
AUDCS	Dubbo College	21.84	291	P		P	12 30 51.4	+3.8
LIFNC	LIFOU	22.38	346	P		P	12 30 53.5	+0.1
LIFNC				IAmb	IAmb		12 30 59.5	
	comp=Z,152nm,1.0s							
LIFNC	LIFOU	22.38	346	P		P	12 30 59.4	+6.1
KOUNC	Koumac, New Ca	23.25	339	P		P	12 31 03.1	+0.7
KOUNC	Koumac, New Ca	23.25	339	P		P	12 31 03.5	+1.1
AULRC	Lightning Ridg	24.00	295	P		P	12 31 10.8	+1.1
CMSA	Cobar Meteorol	24.29	288	P		P	12 31 12.4	+0.1
	baz=24,SNR=13							
CMSA	Cobar Meteorol	24.29	288	P		P	12 31 14.7	+2.4
EIDS	Eidsvold	24.90	307	P		P	12 31 19.2	+1.3
	baz=25,SNR=7.5							
RTV	Rentapao	25.12	350	P		P	12 31 24.0	+4.1
DVP	Devils Point	25.22	349	P		P	12 31 25.1	+4.3
MSVF	Nonsavu	25.27	12	P		P	12 31 19.5	-1.9
	comp=Z,5.4nm,0.7s,baz=224,slow=22,SNR=3.1							
	comp=Z,5.4nm,0.7s							
MSVF	Nonsavu	25.27	12	P		P	12 31 21.6	+0.2
MSVF	Nonsavu	25.27	12	eP		P	12 31 20.8	-0.6
RMQ	Roma	25.50	302	P		P	12 31 27.4	+4.1
STKA	Stephens Creek	27.00	283	P		P	12 31 36.5	-0.4
	comp=Z,14nm,0.7s,baz=122,slow=6.7,SNR=4.2							
	comp=Z,14nm,0.7s							
STKA	Stephens Creek	27.00	283	P		P	12 31 37.7	+0.8
	baz=27,SNR=5.6							
STKA	Stephens Creek	27.00	283	P		P	12 31 37.7	+0.8
STKA	Stephens Creek	27.00	283	P		P	12 31 40.7	+3.8
STKA	Stephens Creek	27.00	283	eP		P	12 31 37.0	+0.1
HTT	Hallett	28.15	278	P		P	12 31 47.9	+0.7
	baz=28,SNR=4.8							
QLP	Quilpie	28.36	295	P		P	12 31 53.2	+4.1
LCRK	Leigh Creek	30.21	282	P		P	12 32 06.1	+0.6
RAR	Rarotonga	31.34	55	LR		LR	12 43 45.4	
	comp=Z,30µm,18.1s,baz=312,slow=34							
CTA	Charters Tower	31.79	307	P		P	12 32 18.6	-0.9
	comp=Z,17nm,0.9s,baz=183,slow=18,SNR=2.0							
	comp=Z,17nm,0.9s							
CTAO	Charters Tower	31.79	307	P		P	12 32 20.9	+1.5
CTAO				IAmb	IAmb		12 32 24.2	
	comp=Z,23nm,0.9s							
CTAO	Charters Tower	31.79	307	P		P	12 32 21.0	+1.5
CTAO				pmax	pmax			
	comp=Z,23nm,1.0s							
OOD	Oodnadatta	33.53	284	P		P	12 32 35.0	+0.3
VNDA	Vanda	35.22	184	P		P	12 32 49.2	+0.5
	comp=Z,5.1nm,1.0s,baz=357,slow=6.9,SNR=6.3							
VNDA				PcP		PcP	12 35 19.9	+0.8
	comp=Z,2.3nm,0.9s,baz=45,slow=1.4,SNR=3.7							
	comp=Z,5.1nm,1.0s							
VNDA	Vanda	35.22	184	P		P	12 32 50.8	+2.0
VNDA	Vanda	35.22	184	P		P	12 32 50.8	+2.0
VNDA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SBA	Scott Base	35.35	182	P		P	12 32 52.1	+2.3
SBA				IAmb	IAmb		12 32 54.4	
	comp=Z,38nm,1.2s							
SBA	Scott Base	35.35	182	P		P	12 32 52.1	+2.3
SBA				pmax	pmax			
	comp=Z,38nm,1.2s							
QIS	Mount Isa	35.58	298	P		P	12 32 52.3	-0.2
	baz=36,SNR=6.5							
QIS	Mount Isa	35.58	298	P		P	12 32 52.5	0.0
AS01	Alice Springs	37.31	288	P		P	12 33 06.5	-0.8
AS31	Alice Springs	37.34	288	P		P	12 33 06.3	-1.2
ASAR	Alice Springs	37.34	288	P		P	12 33 06.2	-1.3
	comp=Z,25nm,0.9s,baz=130,slow=8.4,SNR=16							
	comp=Z,25nm,0.9s							
ASAR	Alice Springs	37.34	288	P		P	12 33 06.7	-0.8
ASAR	Alice Springs	37.34	288	P		P	12 33 06.7	-0.8
FORT	Forrest	37.44	273	P		P	12 33 10.8	+2.6
FORT				IAmb	IAmb		12 33 13.0	
	comp=Z,49nm,1.1s							
COEN	Coen	38.42	309	P		P	12 33 17.5	+0.9
	baz=39,SNR=6.3							
WR0	Warramunga Arr	39.37	293	P		P	12 33 25.9	+1.4
WB1	Warramunga Ar.	39.50	293	P		P	12 33 24.8	-0.9
WRAB	Tennant Creek	39.52	293	P		P	12 33 24.9	-0.9
WRAB	Tennant Creek	39.52	293	iP		P	12 33 24.9	-0.9
WRAB				pmax	pmax			
	comp=Z,34nm,0.9s							
WRA	Warramunga Arr	39.52	293	P		P	12 33 24.8	-1.0
	comp=Z,22nm,0.8s,baz=133,slow=7.9,SNR=11							
	comp=Z,22nm,0.8s							
PMG	Port Moresby	40.10	318	P		P	12 33 30.2	-0.4
	comp=Z,18nm,1.0s,baz=127,slow=5.8,SNR=4.0							
	comp=Z,18nm,1.0s							
PMG	Port Moresby	40.10	318	P		P	12 33 31.1	+0.4
PMG				IAmb	IAmb		12 33 36.5	
	comp=Z,90nm,1.1s							
PMG	Port Moresby	40.10	318	P		P	12 33 35.3	+4.7
	comp=Z,82nm,1.1s							
PMG	Port Moresby	40.10	318	P		P	12 33 31.9	+1.3
PMG	Port Moresby	40.10	318	iP		P	12 33 31.6	+1.0
PMG				pmax	pmax			
	comp=Z,92nm,1.1s							
WRKA	Warakurna	40.49	281	P		P	12 33 32.6	-1.2
	baz=40,SNR=8.9							
WRKA	Warakurna	40.49	281	P		P	12 33 33.1	-0.8
KMBL	Kambalda	41.69	268	P		P	12 33 42.9	-0.8
RABL	Rabaul	42.55	329	P		P	12 33 50.2	-0.6
RABL	Rabaul	42.55	329	P		P	12 33 50.4	-0.4
NWAO	Narrogin (SRO)	44.33	264	P		P	12 34 04.3	-0.8
	comp=Z,9.7nm,0.7s,baz=160,slow=7.2,SNR=4.6							
	comp=Z,9.7nm,0.7s							
KLBR	Kellerberrin	44.62	266	P		P	12 34 06.6	-0.7
	baz=45,SNR=5.8							
KLBR	Kellerberrin	44.62	266	P		P	12 34 06.8	-0.5
MUN	Mundaring	45.56	264	P		P	12 34 13.7	-1.1
	baz=46,SNR=4.5							
KDU	Kakadu	45.97	298	P		P	12 34 17.8	-0.3
	baz=46,SNR=5.0							
KDU	Kakadu	45.97	298	P		P	12 34 18.0	-0.1
KNRA	Kununurra	46.28	292	P		P	12 34 21.6	+1.0
	baz=46,SNR=3.6							
KNRA	Kununurra	46.28	292	P		P	12 34 21.0	+0.4
KNRA				IAmb	IAmb		12 34 24.7	
	comp=Z,28nm,0.8s							
MANU	Manus Island	46.48	324	P		P	12 34 23.8	+1.7
MEEK	Meekatharra	46.65	272	P		P	12 34 22.5	-1.0
	baz=47,SNR=11							
MEEK	Meekatharra	46.65	272	P		P	12 34 22.5	-1.0
MTN	Manton Dam	46.73	297	P		P	12 34 23.6	-0.5
	baz=47,SNR=7.0							
MTN	Manton Dam	46.73	297	P		P	12 34 23.4	-0.7
MTN				IAmb	IAmb		12 34 27.6	
	comp=Z,19nm,0.7s							
MTN	Manton Dam	46.73	297	P		P	12 34 23.6	-0.5
MORW	Morawa	47.20	267	P		P	12 34 27.3	-0.4
	baz=47,SNR=3.4							
MORW	Morawa	47.20	267	P		P	12 34 27.1	-0.7
MORW				IAmb	IAmb		12 34 31.6	
	comp=Z,15nm,0.9s							
QSPA	South Pole Qui	47.42	180	P		P	12 34 30.8	+1.7
	comp=Z,86nm,0.9s,baz=27,slow=2.2,SNR=33							
	comp=Z,86nm,0.9s							
QSPA	South Pole Qui	47.42	180	P		P	12 34 30.9	+1.7
GIRL	Giralia	52.20	273	P		P	12 35 05.9	0.0
FAKI	Fak Fak	53.65	306	P		P	12 35 16.0	-0.6
FAKI				IAmb	IAmb		12 35 20.8	
	comp=Z,14nm,0.7s							
FAKI	Fak Fak	53.65	306	P		P	12 35 15.6	-1.0
MAW	Mawson	58.17	205	P		P	12 35 49.5	+1.3
	comp=Z,5.7nm,0.8s,baz=119,slow=10,SNR=4.2							
	comp=Z,5.7nm,0.8s							
MAW	Mawson	58.17	205	P		P	12 35 49.8	+1.6
MAW	Mawson	58.17	205	P		P	12 35 49.8	+1.6
MAW				pmax	pmax			
	comp=Z,8.0nm,1.7s							
SANI	Sanana	58.18	301	P		P	12 35 48.4	-0.6
	comp=Z,22nm,0.8s							
SANI	Sanana	58.18	301	P		P	12 35 48.4	-0.6
LBMI	Labuha	58.33	303	P		P	12 35 53.7	+3.6
	comp=Z,36nm,1.6s							
BELA	Belgrano 2	58.51	173	P		P	12 35 51.5	+0.9
BELA				IAmb	IAmb		12 35 52.5	
	comp=Z,21nm,0.8s							
BSSI	Bau Bau, Buton	58.74	293	P		P	12 35 55.8	+2.9
	comp=Z,37nm,0.8s							
KKSI	Kolaka, Sulawe	59.40	295	P		P	12 36 01.5	+4.0
	comp=Z,20nm,1.0s							
BKSI	Bulukumba	59.58	293	P		P	12 36 02.1	+3.3
	comp=Z,16nm,0.9s							
SMAI	San Martin Ant	60.76	158	P		P	12 36 08.0	+1.9
SMAI				IAmb	IAmb		12 36 09.1	
	comp=Z,37nm,1.1s							
LUWI	Luwuk	61.01	299	P		P	12 36 08.1	-0.5
LUWI	Luwuk	61.01	299	P		P	12 36 08.2	-0.3
	comp=Z,89nm,0.9s							
LUWI	Luwuk	61.01	299	P		P	12 36 08.6	+0.1
MPSI	Mapaga	63.92	297	P		P	12 36 31.2	+3.2
TOLI2	Tolitoli	63.92	299	P		P	12 36 27.9	-0.1
TROLL	Troll, Antarti	65.39	183	P		P	12 36 37.7	+0.7
SNAA	Sanae	65.89	181	P		P	12 36 40.6	+0.5
SNAA	Sanae	65.89	181	P		P	12 36 40.4	+0.3
	comp=Z,21nm,1.1s,baz=176,slow=6.7,SNR=9.6							
	comp=Z,21nm,1.1s							
SNAA	Sanae	65.89	181	P		P	12 36 40.5	+0.3
SNAA	Sanae	65.89	181	eP		P	12 36 41.3	+1.2
SNAA				pmax	pmax			
	comp=Z,26nm,1.2s							
NVL	N'lazarevskaya	66.01	187	eP		P	12 36 40.5	-0.3
NVL				pmax	pmax			
	comp=Z,31nm,1.0s							
VNA3	Neumayer Olymp	66.35	179	P		P	12 36 43.7	+0.7
VNA2	Neumayer--Watz	66.68	180	P		P	12 36 45.9	+0.8
	baz=170,slow=7.0							
VNA1	Neumayer--Stat	66.95	180	P		P	12 36 47.8	+1.0
LL02	Futaleuf	76.65	137	P		P	12 37 46.3	+0.8
LL02				IAmb	IAmb		12 37 47.4	
	comp=Z,18nm,0.9s							
PLCA	Paso Flores	79.11	136	P		P	12 37 59.3	-0.1
	comp=Z,6.7nm,0.8s,baz=243,slow=5.8,SNR=13							
	comp=Z,6.7nm,0.8s							
GSI	Gunungsitoli	80.13	281	P		P	12 38 05.1	0.0
GSI				IAmb	IAmb		12 38 06.2	
	comp=Z,26nm,0.8s							
GSI	Gunungsitoli	80.13	281	P		P	12 38 05.5	+0.4
HOPE	Hope Point	80.17	163	P		P	12 38 05.4	+0.7
HOPE	Hope Point	80.17	163	P		P	12 38 05.4	+0.7
HOPE				pmax	pmax			
	comp=Z,230nm,1.5s							
KULM	Kulim	80.68	286	P		P	12 38 07.4	-0.7
KULM				IAmb	IAmb		12 38 07.9	
	comp=Z,21nm,1.0s							
MT01	Popeta	83.84	131	P		P	12 38 24.9	+0.5
MT01				IAmb	IAmb		12 38 26.1	
	comp=Z,23nm,0.9s							
JMN	Monobe	84.04	328	P		P	12 38 25.1	-0.1
INU	Inuyama	84.32	331	P		P	12 38 26.1	-0.4
INU				IAmb	IAmb		12 38 30.2	
	comp=Z,23nm,1.0s							
INU	Inuyama	84.32	331	P		P	12 38 25.4	-1.1
LMEL	Las Melosas	84.43	132	P		P	12 38 29.4	+1.7
LMEL				IAmb	IAmb		12 38 32.5	
	comp=Z,15nm,0.8s							
ROC1	El Roble	84.63	131	P		P	12 38 29.4	+0.6
ROC1				IAmb	IAmb		12 38 36.6	
	comp=Z,20nm,0.9s							
MJAR	Matsushiro Arr	84.98	333	P		P	12 38 28.5	-1.3
	comp=Z,7.0nm,0.9s,baz=165,slow=5.5,SNR=12							
	comp=Z,7.0nm,0.9s							
MAJO	Matsushiro	84.98	333	P		P	12 38 28.3	-1.6
MAJO	Matsushiro	84.98	333	eP		P	12 38 28.2	-1.6
MAJO				pmax	pmax			
	comp=Z,21nm,1.1s							
CO03	El Pedregal	86.41	129	P		P	12 38 38.5	+1.0
CO03				IAmb	IAmb		12 38 39.7	
	comp=Z,25nm,1.1s							
NONG	Nongkai	88.03	297	P		P	12 38 45.3	+0.1
AC05	El Transito	88.15	128	P		P	12 38 47.5	+1.5
NJ2	Nanjing	89.39	317	eP		P	12 38 55.8	+4.6
NJ2				pmax	pmax			
	comp=Z,21nm,0.5s							
KSRS	Korea Array	89.67	326	P		P	12 38 52.6	+0.2
	comp=Z,6.4nm,0.9s,baz=140,slow=5.5,SNR=9.7							
	comp=Z,6.4nm,0.9s							
KSAR	Wonju Array Be	89.67	326	P		P	12 38 52.5	+0.1
KSAR	Wonju Array Be	89.67	326	P		P	12 38 52.5	+0.1
PHRA	Phrae	90.27	295	P		P	12 38 55.5	-0.2
WHN	Wuhan	90.56	313	iP		P	12 39 00.8	+4.0
WHN				sP		sP	12 39 07.0	-0.8
WHN				pmax	pmax			
	comp=Z,46nm,0.6s							
CMAR	Chiang Mai Arr	91.10	294	P		P	12 38 59.8	+0.2
	comp=Z,4.6nm,0.8s,baz=149,slow=3.2,SNR=11							
	comp=Z,4.6nm,0.8s							
CMAR	Chiang Mai Arr	91.10	294	P		P	12 38 59.3	-0.3
CHTO	Chiang Mai	91.35	294	P		P	12 39 00.7	-0.1
CHTO	Chiang Mai	91.35	294	P		P	12 39 00.7	-0.1

YSS	Yuzh-Sakhalins	93.19	340	eP		P	12 39 01.7	-6.8
YSS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
TIA	Tai'an	93.56	318	P		P	12 39 10.6	0.0
TIA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
PZH	PanZhiHua	94.97	302	P		P	12 39 20.6	+3.2
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2	Changchun	96.04	328	eP		P	12 39 19.8	-1.9
XAN	Xi'an	96.20	311	⇑P		P	12 39 21.8	-0.9
XAN				pP	pP		12 39 28.4	-2.4
XAN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CPUP	Villa Florida	97.19	136	P		P	12 39 27.5	-0.1
	comp=Z,2.5nm,0.9s,baz=215,slow=1.8,SNR=4.0							
	comp=Z,2.5nm,0.9s							
HHC	Hu-ho-hao-te	99.91	317	eP		Pdif	12 39 42.0	+2.7
ILAR	Eielson Array	111.67	17	PKiKP		PKiKP	12 44 28.1	-0.1
	comp=Z,0.5nm,0.8s,baz=260,slow=2.7,SNR=4.4							
INK	Inuvik	117.69	20	PKP		PKPdf	12 44 37.1	-2.4
	comp=Z,2.2nm,1.1s,baz=309,slow=8.0,SNR=2.2							
TIXI	Tiksi	118.24	346	iPKIKP		PKPdf	12 44 37.8	-2.8
DGZ	Jazzator, Alta	118.43	313	iPKIKP		PKPdf	12 44 39.9	-1.9
PLAL	Pickwick Lake	118.73	68	PKPdf		PKPdf	12 44 41.6	-1.0
YKA	Yellowknife Ar	119.71	31	PKP		PKPdf	12 44 42.6	-1.1
	comp=Z,0.6nm,0.6s,baz=238,slow=2.1,SNR=4.4							
MKAR	Makanchi Array	119.76	308	PKP		PKPdf	12 44 41.1	-3.2
	comp=Z,3.2nm,0.8s,baz=67,slow=4.1,SNR=6.1							
ULM	Lac du Bonnet	121.89	49	PKP		PKPdf	12 44 46.2	-2.0
	comp=Z,6.7nm,0.8s,baz=309,slow=4.8,SNR=6.0							
ZALV	Zalesovo Beam	122.04	316	PKP		PKPdf	12 44 45.1	-3.3
	comp=Z,0.8nm,0.3s,baz=132,slow=4.1,SNR=3.0							
A36M	Sachs Harbour	122.28	19	PKPdf		PKPdf	12 44 48.4	+0.1
COWI	Conover	123.81	56			PKPdf	12 44 50.7	-1.5
KURK	Kurchatov	123.82	310	PKIKP		PKPdf	12 44 50.0	-1.9
KURBB	Kurchatov Arra	123.83	310	PKP		PKPdf	12 44 50.0	-1.9
	comp=Z,3.5nm,0.6s,baz=115,slow=1.8,SNR=16							
Q51A	Peebles	124.08	66			PKPdf	12 44 51.8	-1.0
ACSO	Alum Creek Sta	124.92	65			PKPdf	12 44 53.6	-0.8
KKAR	Karatay Array	125.16	299			PKPdf	12 44 53.9	-0.9
KKAR	Karatay Array	125.16	299	PKIKP		PKPdf	12 44 53.9	-0.9
Q54A	Avella	126.64	66			PKPdf	12 44 57.4	-0.4
JSRW	J. Sargeant Re	127.16	70			PKPdf	12 44 58.1	-0.6
NRIK	Noril'sk	127.63	333	PKP		PKPdf	12 44 56.5	-2.2
	comp=Z,3.4nm,0.6s,baz=81,slow=5.7,SNR=4.0							
NRIK	Noril'sk	127.63	333	ePKIKP		PKiKP	12 44 59.4	+0.2
BVAR	Borovoye Array	129.42	310	PKP		PKPdf	12 45 00.1	-2.4
	comp=Z,1.9nm,0.7s,baz=104,slow=3.1,SNR=6.6							
GEYT	Alibeck	131.14	288	PKP		PKPdf	12 45 05.8	-0.7
	comp=Z,3.7nm,0.7s,baz=163,slow=2.5,SNR=5.7							
ARU	Arti	136.94	312	ePKIKP		PKPdf	12 45 16.3	-0.3
KIRV	Kirov	142.06	315	ePKIKP		PKPdf	12 45 26.5	+0.7
NCK	Nalchik	143.44	289	ePKIKP		PKPdf	12 45 28.5	-0.4
LIC	Lamto	143.62	183	iP		PKPab	12 45 26.2	-0.4
	comp=Z,26nm,0.7s							
KIC	Kosan Boka	143.75	184	eP		PKPab	12 45 26.8	-0.3
	comp=Z,11nm,0.5s							
ASF	Jabal al Asfar	143.88	268	PKP		PKPab	12 45 26.6	-0.6
	comp=Z,4.0nm,0.9s,baz=136,slow=4.5,SNR=3.5							
NEY	Neytrino	143.98	288	iPKIKP		PKiKP	12 45 33.6	+0.1
KBZ	Khabaz	143.99	289	PKP		PKPab	12 45 26.2	-0.9
	comp=Z,8.3nm,0.8s,baz=138,slow=1.4,SNR=9.2							
KBZ	Khabaz	143.99	289	iPKIKP		PKiKP	12 45 32.2	-1.0
TIC	Toumodi	144.04	184	eP		PKPbc	12 45 28.5	-0.2
	comp=Z,19nm,0.9s							
DBIC	Dimbokro	144.06	184	PKP		PKPab	12 45 27.9	-0.3
	comp=Z,10.0nm,0.7s,baz=187,slow=3.5,SNR=7.5							
DBIC	Dimbokro	144.06	184			PKPab	12 45 28.0	-0.2
DBIC	Dimbokro	144.06	184	PKIKP		PKPab	12 45 28.0	-0.2
KIV	Kislovodsk	144.20	289	ePKIKP		PKiKP	12 45 32.9	-0.9
KIV

KHC	Kasperske Hory	164.26 301	*e*PKPAB	PKPab	12 46 50.3	-1.5
KHC	Kasperske Hory	164.26 301	*e*PKP2	PKPab	12 46 50.3	-1.5
KEST	Kesra	165.48 247	PKPab	PKPab	12 46 56.1	-1.5
	comp=Z,6.5nm,0.9s,baz=173,slow=3.8,SNR=4.5					
ABTA	Abfaltersbach	165.49 293	*e*P	PKPab	12 46 55.1	-2.3
	comp=Z,0.7nm,0.4s					
CIMO	Cimolais	165.60 291	PKPdf	PKPdf	12 45 59.0	+0.2
CIMO				PKPab	12 46 56.5	-1.4
WTTA	Wattenberg	165.98 295	*i* P	PKPab	12 46 57.7	-2.0
	comp=Z,1.6nm,0.5s					
WATA	Walderalm	166.01 296	*i* P	PKPab	12 46 58.1	-1.6
	comp=Z,1.4nm,0.5s					
SQTA	Sankt Quirin	166.28 295	*e*P	PKPab	12 46 59.2	-1.7
	comp=Z,2.7nm,0.5s					
MOTA	Moosalm	166.32 296	*e*P	PKPab	12 46 59.3	-1.8
	comp=Z,3.7nm,0.7s					
FETA	Feichten	166.64 295	*i* P	PKPab	12 47 01.0	-1.6
	comp=Z,1.8nm,0.8s					
ESDC	Sonseca Array	176.16 219	PKP	PKPdf	12 46 04.2	-0.4
	comp=Z,1.4nm,1.0s,baz=240,slow=0.2,SNR=4.0					

IDC ***13*** *12:27:57.3±0.7,42°.11S×173°.77E,h0km,mb4.7/9, mbtmp4.8/10,ML5.3/1,MS6.0/1,Error ellipse: s-maj=23.6km s-min=20.9km az=69.0*

NEIC ***13*** *12:27:59.4±1.2,42°.40S±0°.04×173°.76E±0°.06,h8km±1km, mb5.2/26,Error ellipse: s-maj=7.1km s-min=5.2km az=109.0*

WEL ***13*** *12:28:00.3±0.3,42°S±2°×17°4E±°,h19km±2km,M5.2/25, ML5.4/25,MLv5.2/25,Error ellipse: s-maj=0.0km s-min=0.0km az=124.8*

ISC 13 12:28:00.0±0.9,42°34S±0°.02×173°79E±0°.03,h18km±5km, n135,σ1§07/159,mb5.1/20,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.20	249	Pg	Pg	12 28 05.1	+0.1
KHZ	Kahutara	0.20	249	P	Pb	12 28 05.2	0.0
KHZ				S	Sg	12 28 08.5	+0.2
BSWZ	Blackbirch Sta	0.63	6		Pb	12 28 12.5	0.0
BSWZ	Blackbirch Sta	0.63	6	P	Pb	12 28 12.4	-0.1
BSWZ				S	Sg	12 28 20.8	-0.1
CMWZ	Cape Campbell	0.67	28	P	Pn	12 28 13.0	-0.2
GVZ	Greta Valley S	0.84	222	P	Pn	12 28 17.7	+0.7
GVZ				S	Sn	12 28 30.7	+1.8
THZ	Tophouse	0.88	311		Pb	12 28 15.8	-1.0
THZ	Tophouse	0.88	311	P	Pb	12 28 15.8	-1.0
THZ				S	Sb	12 28 26.2	-2.1
TUWZ	Tuamarina	0.92	7		Pn	12 28 18.2	+0.1
TUWZ	Tuamarina	0.92	7	P	Pg	12 28 17.8	-0.1
TUWZ				S	Sn	12 28 30.4	-0.4
NNZ	Nelson	1.17	344	Pn	Pb	12 28 21.9	+0.2
NNZ	Nelson	1.17	344	P	Pn	12 28 21.2	-0.3
NNZ				S	Sb	12 28 36.3	-0.2
AMCZ	Amberley	1.18	225	P	Pb	12 28 22.4	+0.4
TCW	Tory Channel	1.19	18	P	Pn	12 28 21.7	-0.1
TCW				S	Sg	12 28 38.1	-0.4
LTZ	Lake Taylor	1.21	248		Pn	12 28 22.3	+0.2
LTZ	Lake Taylor	1.21	248	P	Pn	12 28 22.4	+0.3
LTZ				S	Sb	12 28 38.1	+0.4
MRNZ	Matariki Terra	1.22	320	P	Pn	12 28 22.4	+0.1
MRNZ				S	Sb	12 28 38.1	+0.1
SNZO	South Karori	1.24	34		Pb	12 28 22.8	-0.1
WEL	Wellington	1.28	35	P	Pb	12 28 23.9	+0.2
WEL				S	Sg	12 28 40.7	-0.9
PLWZ	Palliser	1.34	55	P	Pb	12 28 24.3	-0.3
MSWZ	Moikau Station	1.43	50	Pn	Pn	12 28 24.9	-0.2
MSWZ	Moikau Station	1.43	50	P	Pn	12 28 25.5	+0.3
MSWZ				S	Sb	12 28 44.1	0.0
TKNZ	Takaka Hill	1.45	334	P	Pb	12 28 26.2	-0.3
TKNZ				S	Sn	12 28 43.9	-0.1
DUWZ	D'Urville Isla	1.54	4	P	Pn	12 28 27.0	+0.3
DUWZ				S	Sb	12 28 48.1	+0.8
PAWZ	Paruwai Farm	1.55	52	P	Pn	12 28 26.9	+0.1
CAW	Cannon Point	1.56	38	P	Pn	12 28 27.2	+0.3
CAW				S	Sb	12 28 47.3	-0.5
DSZ	Denniston Nort	1.60	291	Pn	Pn	12 28 28.2	+0.8
MQZ	McQueen's Vall	1.60	211		Pn	12 28 27.2	-0.3
MQZ	McQueen's Vall	1.60	211	P	Pn	12 28 27.2	-0.2
MQZ				S	Sn	12 28 47.1	-0.5
OXZ	Oxford	1.62	232		Pn	12 28 27.8	0.0
OXZ	Oxford	1.62	232	P	Pn	12 28 27.6	-0.2
OXZ				S	Sn	12 28 46.5	-1.7
AKCZ	Akaroa Harbour	1.66	203	P	Pn	12 28 29.1	+0.7
AKCZ				S	Sn	12 28 49.2	0.0
KIW	Kapiti Island	1.70	30	P	Pn	12 28 29.6	+0.8
TRWZ	Traveller	1.70	57	P	Pn	12 28 28.7	-0.2
MTW	Mount Morrison	1.74	48	P	Pn	12 28 29.3	-0.1
INZ	Inchbonnie	1.78	257	P	Pn	12 28 30.3	+0.4
INZ				S	Sn	12 28 52.4	+0.3
QRZ	Quartz Range	1.79	328		Pn	12 28 30.7	+0.7
QRZ	Quartz Range	1.79	328	P	Pn	12 28 31.3	+1.3
QRZ				S	Sn	12 28 53.4	+1.1
RACZ	Rakaia	1.84	221	P	Pn	12 28 30.3	-0.4
RACZ				S	Sn	12 28 53.0	-0.6
OGWZ	Otaki Gorge	1.84	35	P	Pn	12 28 31.3	+0.5
HOWZ	Holdsworth Sta	1.94	42	P	Pn	12 28 31.8	-0.4
MHCZ	Mount Hutt	2.02	233	P	Pn	12 28 32.7	-0.6
MHCZ				S	Sn	12 28 56.6	-1.5
WACZ	Wakanui South	2.15	221	P	Pn	12 28 34.8	-0.2
WACZ				S	Sn	12 28 59.7	-1.4
MRZ	Mangatainoka R	2.15	39	P	Pn	12 28 34.5	-0.6
WVZ	Waitaha Valley	2.37	251	P	Pn	12 28 38.4	+0.4
WVZ				S	Sn	12 29 05.9	-0.7
OHWZ	Ohakea	2.42	29	P	Pn	12 28 40.8	+2.1
RPZ	Rata Peaks	2.43	235	Pn	Pn	12 28 38.6	-0.4
	641nm,0.3s,baz=34,slow=3.3,SNR=6.5						
RPZ				Sn	Sn	12 29 07.0	-1.3
	566nm,0.3s,baz=328,slow=23,SNR=22 4µm,0.6s						
RPZ	Rata Peaks	2.43	235		Pn	12 28 38.9	-0.1
RPZ	Rata Peaks	2.43	235	P	Pn	12 28 38.8	-0.2
RPZ				S	Sn	12 29 06.5	-1.8
ARCZ	Arundel	2.50	229	P	Pn	12 28 39.6	-0.3
ARCZ				S	Sn	12 29 08.6	-1.3
GCSZ	Gaunt Creek Bo	2.73	248	P	Pn	12 28 44.2	+1.2
GCSZ				S	Sn	12 29 15.7	+0.2
LREZ	Lake Rotokare	2.92	9	P	Pb	12 28 51.0	-0.5
PKE	Pukeiti	3.15	3	P	Pb	12 28 53.4	-2.1
MOVZ	Moawhango	3.29	28	P	Pn	12 28 51.6	+0.9
BHHZ	Black Hill Sta	3.33	32	P	Pb	12 28 55.3	-3.3
WHVZ	Whangaehu Hut	3.35	25	P	Pn	12 28 53.7	+2.0
TUVZ	Tukino	3.38	25	P	Pn	12 28 53.4	+1.3
OTVZ	Oturere	3.48	25	P	Pn	12 28 54.6	+1.1
KRVZ	Karewarewa	3.54	24	P	Pb	12 29 01.2	-1.0
ODZ	Otahua Downs	3.54	219	Pn	Pn	12 28 53.4	-0.6
BKZ	Black Stump Fm	3.78	34	Pn	Pn	12 29 00.9	+3.4
HHSZ	Highcliff Hill	4.22	212	P	Pn	12 29 03.4	-0.1
AWAZ	Awhitu Peninsu	5.31	7	P	Pn	12 29 20.1	+1.6
MKAZ	Moumakai	5.34	12	P	Pn	12 29 19.7	+0.9
ETAZ	East Tamaki Re	5.45	10	P	Pn	12 29 22.1	+1.6
EPAZ	Eden Park BICE	5.51	8	P	Pn	12 29 23.1	+1.9
MBAZ	Motutapu North	5.63	9	P	Pn	12 29 26.8	+4.0
ABAZ	Army Bay	5.79	8	P	Pn	12 29 26.8	+1.8
OUZ	Omahuta	7.11	359	P	Pn	12 29 48.1	+4.9
CTZ	Chatham Island	7.16	104	P	Pn	12 29 43.9	0.0
MCQ	Macquarie Isla	15.61	214	P	P	12 31 42.0	-1.0
CAN	Canberra	20.51	282		P	12 32 37.5	+0.3
ARMA	Armidale	21.38	297	P	P	12 32 49.0	+2.3
ARMA				IAmb	IAmb	12 32 57.4	
	comp=Z,138nm,1.5s						
TOO	Toolangi	22.16	273	P	P	12 32 55.0	0.0
KOUNC	Koumac, New Ca	23.16	337	P	P	12 33 07.1	+1.6
KOUNC				IAmb	IAmb	12 33 13.5	
	comp=Z,112nm,1.4s						
MSVF	Nonsavu	24.80	10	P	P	12 33 18.6	-2.5
	comp=Z,10.0nm,0.8s,baz=266,slow=23,SNR=2.9 comp=Z,10.0nm,0.8s						
EIDS	Eidsvold	25.22	305	P	P	12 33 24.1	-0.7
STKA	Stephens Creek	27.57	282	P	P	12 33 46.2	+0.1
	comp=Z,11nm,1.0s,baz=121,slow=11,SNR=4.4 comp=Z,11nm,1.0s						
BBOO	Buckleboo	31.17	275	P	P	12 34 17.6	-0.4
CTA	Charters Tower	32.11	305	LR	LR	12 45 42.5	
	comp=Z,26µm,19.7s,baz=278,slow=33						
CTAO	Charters Tower	32.11	305	P	P	12 34 27.1	+0.7
CTAO				IAmb	IAmb	12 34 53.8	
	comp=Z,52nm,1.4s						
AS31	Alice Springs	37.87	287	P	P	12 35 16.1	+0.1
ASAR	Alice Springs	37.87	287	P	P	12 35 14.6	-1.4
	comp=Z,3.6nm,0.5s,baz=122,slow=6.6,SNR=15						
	comp=Z,3.6nm,0.5s						
ASAR	Alice Springs	37.87	287	P	P	12 35 15.4	-0.6
FORT	Forrest	38.09	272	P	P	12 35 17.7	0.0
FORT				IAmb	IAmb	12 35 18.4	
	comp=Z,75nm,0.9s						
COEN	Coen	38.72	308	P	P	12 35 23.0	-0.1
COEN				IAmb	IAmb	12 35 51.9	
	comp=Z,98nm,2.0s						
WR0	Warramunga Arr	39.85	292	P	P	12 35 31.6	-1.0
WB2	Warramunga Arr	39.99	292	P	P	12 35 33.3	-0.5
WB2				IAmb	IAmb	12 35 40.2	
	comp=Z,34nm,0.7s						
WRAB	Tennant Creek	40.00	292	P	P	12 35 33.3	-0.6
WRAB				IAmb	IAmb	12 35 40.3	
	comp=Z,34nm,0.7s						
WRA	Warramunga Arr	40.00	292	P	P	12 35 32.8	-1.1
	comp=Z,21nm,0.9s,baz=137,slow=6.8,SNR=13 comp=Z,21nm,0.9s						
WB0	Warramunga Arr	40.08	292	P	P	12 35 32.8	-1.8
WB0				IAmb	IAmb	12 35 41.0	
	comp=Z,24nm,0.7s						
PMG	Port Moresby	40.28	317	P	P	12 35 34.7	-1.5
	comp=Z,18nm,0.9s,baz=92,slow=5.1,SNR=5.6 comp=Z,18nm,0.9s						
PMG	Port Moresby	40.28	317		P	12 35 36.2	0.0
PMG				IAmb	IAmb	12 35 43.3	
	comp=Z,43nm,1.0s						
RABL	Rabaul	42.60	327	P	P	12 35 55.3	0.0
KNRA	Kununurra	46.77	291	P	P	12 36 28.9	+0.4
MTN	Manton Dam	47.16	296	P	P	12 36 31.6	0.0
MTN				IAmb	IAmb	12 36 32.1	
	comp=Z,37nm,1.0s						
QSPA	South Pole Qui	47.78	180	P	P	12 36 38.7	+2.6
	comp=Z,19nm,1.0s,baz=45,slow=4.2,SNR=4.3 comp=Z,19nm,1.0s						
QSPA	South Pole Qui	47.78	180	P	P	12 36 38.2	+2.1
QSPA				IAmb	IAmb	12 36 40.4	
	comp=Z,38nm,1.4s						
MORW	Morawa	47.88	267	P	P	12 36 37.8	+0.7
MORW				IAmb	IAmb	12 36 42.3	
	comp=Z,23nm,1.2s						
PSA00	Pilbara Seismi	49.35	277	P	P	12 36 48.3	-0.1
PSA00				IAmb	IAmb	12 36 52.5	
	comp=Z,35nm,1.4s						
GIRL	Giralia	52.85	272	P	P	12 37 14.6	-0.1
SOEI	Soe	54.03	292	P	P	12 37 24.5	+0.9
TROLL	Troll, Antarti	65.79	183	sP	P	12 38 45.2	+1.6
SNAA	Sanae	66.27	181	sP	P	12 38 48.1	+1.4
SNAA	Sanae	66.27	181	P	P	12 38 48.1	+1.4
	comp=Z,11nm,1.1s,baz=171,slow=5.9,SNR=4.9 comp=Z,11nm,1.1s						
SNAA	Sanae	66.27	181	P	P	12 38 48.5	+1.8
SNAA				IAmb	IAmb	12 38 49.5	
	comp=Z,33nm,1.4s						
VNA2	Neumayer--Watz	67.04	180	sP	P	12 38 53.2	+1.6
	baz=170,slow=7.0						
GSI	Gunungsitoli	80.71	280	P	P	12 40 12.5	+0.1
KSRS	Korea Array	89.75	325	P	P	12 40 57.5	+0.5
	comp=Z,2.3nm,0.8s,baz=143,slow=5.9,SNR=4.8 comp=Z,2.3nm,0.8s						
CMAR	Chiang Mai Arr	91.56	294	P	P	12 41 06.5	+0.7
	comp=Z,3.8nm,0.8s,baz=156,slow=3.3,SNR=8.6 comp=Z,3.8nm,0.8s						
CMAR	Chiang Mai Arr	91.56	294	P	P	12 41 06.0	+0.1
INK	Inuvik	117.12	19	PKP	PKPdf	12 46 41.9	-0.8
	comp=Z,1.4nm,0.8s,baz=147,slow=3.6,SNR=4.4						
YKA	Yellowknife Ar	119.06	30	PKP	PKPdf	12 46 46.5	-0.1
	comp=Z,0.9nm,0.6s,baz=226,slow=2.1,SNR=6.0						
MKAR	Makanchi Array	120.06	307	PKP	PKPdf	12 46 48.1	-1.0
	comp=Z,0.4nm,0.4s,baz=198,slow=1.9,SNR=6.2						
ULM	Lac du Bonnet	121.15	49	PKP	PKPdf	12 46 49.0	-2.0
	comp=Z,2.3nm,0.5s,baz=308,slow=6.7,SNR=2.5						
KMBO	Kilima Mbogo	121.66	234	PKP	PKiKP	12 46 54.1	+0.4
	comp=Z,0.5nm,0.3s,baz=109,slow=3.0,SNR=3.5						
KURBB	Kurchatov Arra	124.10	310	PKP	PKPdf	12 46 56.0	-0.7
	comp=Z,0.7nm,0.4s,baz=113,slow=2.0,SNR=4.7						
BVAR	Borovoye Array	129.69	310	PKP	PKPdf	12 47 06.6	-0.7
	comp=Z,0.6nm,0.5s,baz=123,slow=4.3,SNR=2.5						
DBIC	Dimbokro	144.46	182	PKP	PKPdf	12 47 36.3	+0.6
	comp=Z,5.6nm,0.7s,baz=229,slow=1.4,SNR=3.3						
KBZ	Khabaz	144.50	289	PKP	PKPab	12 47 33.0	-0.2
	comp=Z,14nm,0.9s,baz=180,slow=2.6,SNR=8.5						
ASF	Jabal al Asfar	144.55	268	PKP	PKPbc	12 47 34.9	+0.7
	comp=Z,5.0nm,0.9s,baz=52,slow=3.7,SNR=5.4						
KOPT	Kop Dagi	145.11	282		PKPdf	12 47 36.7	+0.3
SFJD	Kangerlussuaq	145.61	29	PKPbc	PKPbc	12 47 36.6	+0.3
	comp=Z,14nm,0.6s,baz=275,slow=2.5,SNR=8.5						
BNN	Bunyan	148.11	278		PKPbc	12 47 44.5	-0.1
ARCES	ARCESS Array B	148.22	339	PKPbc	PKPbc	12 47 42.6	-1.1
	comp=Z,3.0nm,0.5s,baz=76,slow=1.8,SNR=8.5						
CSS	Mathiatis	148.48	270		PKPbc	12 47 44.7	-0.7
BR131	Keskin Array S	150.02	279		PKPbc	12 47 48.7	-0.6
BRTR	Keskin Array B	150.02	279	PKPbc	PKPbc	12 47 48.8	-0.6
	comp=Z,5.5nm,0.9s,baz=150,slow=5.2,SNR=6.4						
BRTR	Keskin Array B	150.02	279		PKPbc	12 47 49.6	+0.2
ELL	Elmali	151.74	271		PKPbc	12 47 53.7	+0.3
FINES	FINESS Array B	152.84	326	PKPbc	PKPbc	12 47 53.7	-1.2
	comp=Z,1.5nm,0.4s,baz=73,slow=2.7,SNR=6.0						
AKASG	Malin Array Be	154.43	301	PKPab	PKPab	12 48 11.6	-1.6
	comp=Z,1.2nm,0.6s,baz=66,slow=4.0,SNR=5.9						
GERES	GERESS Array B	164.64	302	PKPab	PKPab	12 48 57.5	-0.3
	comp=Z,0.3nm,0.5s,baz=40,slow=2.3,SNR=2.3						
KEST	Kesra	166.24	246	PKPab	PKPab	12 49 06.6	+1.4
	comp=Z,9.1nm,1.1s,baz=32,slow=2.0,SNR=3.9						
ESDC	Sonseca Array	176.84	213	PKP	PKPdf	12 48 08.9	-0.1
	comp=Z,0.3nm,0.6s,baz=268,slow=1.2,SNR=3.2						

IDC ***13*** *12:31:20.8±2.2,41°.84S×174°.09E,h0km,mb3.8/4, mbtmp3.9/5,ML4.1/1,Error ellipse: s-maj=66.4km s-min=42.3km az=141.0*

WEL ***13*** *12:31:23.3±0.4,42°S±3°×17°4E±°,h7km±2km,M4.5/24, ML4.8/24,MLv4.5/24,Error ellipse: s-maj=0.0km s-min=0.0km az=156.4*

NEIC ***13*** *12:31:23.5±2.2,41°.88S±0°.05×174°.18E±0°.03,h10km±2km, mb4.4/4,Error ellipse: s-maj=8.6km s-min=3.3km az=1.0*

ISC 13 12:31:22.9±1.0,41°91S±0°.03×174°17E±0°.02,h13km±7km, n100,σ1§24/112,mb4.0/6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.16	13	P	Pg	12 31 26.4	-0.3
CMWZ				S	Sb	12 31 30.3	-0.6
BSWZ	Blackbirch Sta	0.29	311		Pg	12 31 29.1	+0.2
BSWZ	Blackbirch Sta	0.29	311	P	Pg	12 31 29.1	+0.2
BSWZ				S	Sb	12 31 34.2	-0.4
TUWZ	Tuamarina	0.50	341	P	Pg	12 31 32.3	-0.5
TUWZ				S	Sg	12 31 38.9	-0.6
TCW	Tory Channel	0.70	7	P	Pg	12 31 35.9	-0.6
TCW				S	Sb	12 31 46.7	+0.3
SNZO	South Karori	0.72	34		Pg	12 31 36.5	-0.3
BHW	Baring Head	0.73	47	P	Pg	12 31 37.3	+0.3
BHW				S	Sn	12 31 48.5	-1.2
WEL	Wellington	0.77	36	P	Pg	12 31 37.8	+0.1
WEL				S	Sn	12 31 50.3	-0.5
PLWZ	Palliser	0.88	68		Pb	12 31 39.8	-0.3
PLWZ	Palliser	0.88	68	P	Pb	12 31 39.4	-0.6
PLWZ				S	Sn	12 31 54.0	+0.3
NNZ	Nelson	0.91	319		Pb	12 31 40.5	0.0
NNZ	Nelson	0.91	319	P	Pb	12 31 40.2	-0.3
MSWZ	Moikau Station	0.95	59		Pb	12 31 40.9	-0.3
MSWZ	Moikau Station	0.95	59	P	Pb	12 31 41.1	0.0
MSWZ				S	Sg	12 31 54.6	+1.0
THZ	Tophouse	0.95	278	Pn	Pn	12 31 42.4	+0.4
THZ	Tophouse	0.95	278	P	Pn	12 31 42.0	0.0
CAW	Cannon Point	1.05	41	P	Pb	12 31 42.8	0.0
CAW				S	Sn	12 31 57.5	-0.2
PAWZ	Paruwai Farm	1.08	61	P	Pb	12 31 42.8	-0.6
PAWZ				S	Sg	12 31 57.9	+0.1
DUWZ	D'Urville Isla	1.12	350	P	Pb	12 31 44.1	+0.1
DUWZ				S	Sn	12 31 59.8	+0.3
MRNZ	Matariki Terra	1.17	295	P	Pg	12 31 46.0	+0.6
KIW	Kapiti Island	1.19	28	P	Pn	12 31 44.8	-0.3
TRWZ	Traveller	1.25	67	P	Pg	12 31 47.3	+0.4
MTW	Mount Morrison	1.25	54	P	Pn	12 31 45.2	-0.8
TKNZ	Takaka Hill	1.26	314	P	Pb	12 31 46.7	+0.3
OGWZ	Otaki Gorge	1.32	35	P	Pn	12 31 46.6	-0.5
GVZ	Greta Valley S	1.35	218	P	Pb	12 31 48.7	+0.6
HOWZ	Holdsworth Sta	1.43	46	P	Pn	12 31 48.1	-0.4
TMWZ	Te Maipa	1.52	59	P	Pn	12 31 48.5	-1.3
QRZ	Quartz Range	1.64	311		Pb	12 31 53.1	+0.2
QRZ	Quartz Range	1.64	311	P	Pb	12 31 53.2	+0.3
MRZ	Mangatainoka R	1.64	41	P	Pn	12 31 50.5	-0.8
LTZ	Lake Taylor	1.66	237	Pn	Pg	12 31 55.2	+0.6
TIWZ	Tintock	1.72	50	P	Pn	12 31 51.9	-0.7
TIWZ				S	Sb	12 32 16.2	+0.4
DSZ	Denniston Nort	1.77	274	Pn	Pb	12 31 54.7	-0.6
CPWZ	Castlepoint	1.83	58	P	Pg	12 31 60.0	+2.1
OHWZ	Ohakea	1.91	27	P	Pn	12 31 55.9	+0.9
PRWZ	Pori Road	1.92	46	P	Pn	12 31 55.3	0.0
POWZ	Post Office Ro	1.94	39	P	Pn	12 31 54.9	-0.6
BFZ	Birch Farm	1.99	53	Pn	Pb	12 31 60.0	+1.1
BFZ	Birch Farm	1.99	53	P	Pb	12 32 00.0	+1.1
INZ	Inchbonnie	2.18	247	P	Pb	12 32 01.3	-0.8
DVHZ	Dannevirke	2.21	44	P	Pn	12 31 57.8	-1.4
WAZ	Wanganui	2.24	16	P	Pb	12 32 02.9	-0.2
TSZ	Takapari Road	2.29	37	P	Pn	12 31 59.3	-1.1
NMEZ	Namu Road	2.50	355	P	Pb	12 32 05.5	-2.0
PNHZ	Pukenui	2.52	38	P	Pn	12 32 02.1	-1.4
WPHZ	Waipukurau	2.52	44	P	Pg	12 32 09.9	-1.3
NBEZ	Newall Road No	2.65	355	P	Pb	12 32 10.2	+0.1
PKE	Pukeiti	2.71	357	P	Pb	12 32 09.5	-1.8
DREZ	Durham Road	2.71	1	P	Pb	12 32 09.7	-1.6
MOVZ	Moawhango	2.77	26	P	Pb	12 32 11.5	-0.8
WNVZ	Wahianoa	2.80	23	P	Pb	12 32 12.2	-0.6
TRVZ	Turoa	2.81	22	P	Pb	12 32 12.5	-0.5
BHHZ	Black Hill Sta	2.81	31	P	Pb	12 32 13.3	+0.3
DRZ	Dome Shelter	2.83	23	P	Pb	12 32 14.0	+0.5
WHVZ	Whangaehu Hut	2.84	23	P	Pn	12 32 09.9	+1.8
FWVZ	Far West T-bar	2.85	22	P	Pb	12 32 12.3	-1.4
TUVZ	Tukino	2.87	24	P	Pn	12 32 09.6	+1.2
RPZ	Rata Peaks	2.92	231	Pn	Pn	12 32 08.5	-0.5
	26nm,0.3s,baz=95,slow=15,SNR=0.9						
RPZ				Sn	Sn	12 32 37.3	-6.6
	37nm,0.3s,baz=338,slow=23,SNR=2.2 118nm,0.4s						
RPZ	Rata Peaks	2.92	231	Pn	Pn	12 32 09.5	+0.5
NGZ	Ngauruhoe	2.94	22	P	Pb	12 32 13.7	-1.5
SNVZ	South Ngauruho	2.94	23	P	Pb	12 32 13.1	-2.2
KAHZ	Kahuranaki	2.95	45	P	Pb	12 32 16.2	+1.0
OTVZ	Oturere	2.97	23	P	Pb	12 32 14.8	-0.9
NNVZ	North Ngauruho	2.98	22	P	Pb	12 32 15.9	0.0
WTVZ	West Tongariro	2.99	22	P	Pb	12 32 14.6	-1.5
TWVZ	Taurewa	2.99	19	P	Pb	12 32 15.0	-1.1
ETVZ	East Tongariro	3.01	24	P	Pb	12 32 15.1	-1.2
TMVZ	Te Maari	3.02	23	P	Pb	12 32 15.0	-1.7
KRVZ	Karewarewa	3.02	22	P	Pb	12 32 15.7	-0.9
NTVZ	North Tongarir	3.03	23	P	Pb	12 32 16.4	-0.4
HATZ	Hinemaiaia	3.35	27	P	Pb	12 32 20.8	-1.4
WATZ	Wairara	3.41	21	P	Pb	12 32 22.2	-1.0
HIZ	Hauiti	3.43	9	Pn	Pn	12 32 17.3	+1.3
HIZ	Hauiti	3.43	9	P	Pn	12 32 18.9	+2.9
FOZ	Fox Glacier	3.59	242	Pn	Pn	12 32 18.9	+0.6
ALRZ	Allen Road	3.73	27	P	Pb	12 32 25.7	-3.0
LBZ	Lake Benmore	3.83	228	Pn	Pn	12 32 21.7	+0.3
ODZ	Otahua Downs	4.05	218	Pn	Pn	12 32 24.8	+0.2
MARZ	Manawahe	4.37	27	P	Pn	12 32 28.7	-0.2
OPRZ	Ohinepanea	4.45	25	P	Pn	12 32 28.2	-1.9
TGRZ	Tauranga	4.47	22	P	Pn	12 32 30.8	+0.4
JCZ	Jackson Bay	4.50	239	P	Pb	12 32 36.8	-5.0
AWAZ	Awhitu Peninsu	4.85	5	P	Pn	12 32 37.6	+2.1
MKAZ	Moumakai	4.86	9	P	Pn	12 32 35.9	+0.3
ETAZ	East Tamaki Re	4.98	7	P	Pn	12 32 39.1	+1.8
HBAZ	Herne Bay Bore	5.07	5	P	Pn	12 32 40.4	+1.9
OUZ	Omahuta	6.69	356	Pn	Pn	12 33 04.1	+3.3
PYZ	Puysegur Point	6.87	229	Pn	Pn	12 33 03.4	+0.1
ASAR	Alice Springs	38.01	286	P	P	12 38 40.2	-0.6
	0.3nm,0.4s,baz=126,slow=7.0,SNR=1.4 0.3nm,0.4s						
WB2	Warramunga Arr	40.09	291	P	P	12 38 59.3	+1.

ASAR	**Alice Springs**	**37.79**	**287**	P	**P**	**12 39 38.6**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=129,slow=7.3,SNR=8.3						
	comp=Z,3.0nm,0.7s						
COEN	**Coen**	**38.66**	**308**	P	**P**	**12 39 46.5**	**+0.8**
COEN				IAmb	IAmb	12 40 48.3	
	comp=Z,55nm,1.8s						
WR0	**Warramunga Arr**	**39.77**	**292**	P	**P**	**12 39 53.9**	**-1.1**
WR0				IAmb	IAmb	12 40 27.0	
	comp=Z,25nm,1.7s						
WB2	**Warramunga Arr**	**39.91**	**292**	P	**P**	**12 39 56.4**	**+0.1**
WRAB	**Tennant Creek**	**39.92**	**292**	P	**P**	**12 39 56.0**	**-0.3**
WRAB				IAmb	IAmb	12 39 58.6	
	comp=Z,9.4nm,0.8s						
WRA	**Warramunga Arr**	**39.92**	**292**	P	**P**	**12 39 56.3**	**0.0**
	comp=Z,7.6nm,0.8s,baz=131,slow=7.4,SNR=9.6						
	comp=Z,7.6nm,0.8s						
WB0	**Warramunga Arr**	**40.00**	**292**	P	**P**	**12 39 56.1**	**-0.9**
PMG	**Port Moresby**	**40.24**	**317**	P	**P**	**12 39 59.9**	**+1.0**
	comp=Z,10nm,1.0s,baz=180,slow=3.9,SNR=3.2						
	comp=Z,10nm,1.0s						
KNRA	**Kununurra**	**46.69**	**291**	P	**P**	**12 40 51.7**	**+0.7**
MTN	**Manton Dam**	**47.09**	**296**	P	**P**	**12 40 54.6**	**+0.5**
QSPA	**South Pole Qui**	**47.76**	**180**	P	P	12 40 51.1	-7.9
QSPA				IAmb	IAmb	12 41 20.9	
	comp=Z,9.1nm,0.8s						
GIRL	**Giralia**	**52.76**	**272**	P	**P**	**12 41 36.8**	**-0.4**
SNAA	**Sanae**	**66.24**	**181**	P	P	12 43 04.3	-5.3
KSRS	**Korea Array**	**89.71**	**325**	P	**P**	**12 45 20.1**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=150,slow=5.2,SNR=2.9						
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.49**	**294**	P	**P**	**12 45 29.4**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=164,slow=3.1,SNR=5.5						
	comp=Z,1.5nm,0.8s						
INK	**Inuvik**	**117.17**	**19**	PKP	**PKPdf**	**12 51 05.2**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=180,slow=1.0,SNR=4.1						
YKA	**Yellowknife Ar**	**119.13**	**30**	PKP	**PKPdf**	**12 51 09.3**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=238,slow=1.4,SNR=4.6						
MKAR	**Makanchi Array**	**120.01**	**308**	PKP	**PKPdf**	**12 51 10.3**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=218,slow=4.8,SNR=5.8						
KURBB	**Kurchatov Arra**	**124.05**	**310**	PKP	**PKPdf**	**12 51 18.5**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=107,slow=1.7,SNR=6.3						
KBZ	**Khabaz**	**144.42**	**289**	PKP	**PKPab**	**12 51 55.7**	**-0.5**
	comp=Z,6.5nm,0.8s,baz=65,slow=3.3,SNR=10						
DBIC	**Dimbokro**	**144.43**	**183**	PKP	**PKPab**	**12 51 57.3**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=164,slow=5.8,SNR=1.6						
SFJD	**Kangerlussuaq**	**145.68**	**29**	PKPbc	**PKPdf**	**12 51 59.5**	**+0.1**
	comp=Z,12nm,0.5s,baz=298,slow=0.8,SNR=6.8						
MMAI	**Mount Meron Ar**	**145.97**	**268**	PKPbc	**PKPbc**	**12 52 02.4**	**+0.6**
	comp=Z,7.0nm,0.7s,baz=143,slow=3.1,SNR=6.2						
ARCES	**ARCESS Array B**	**148.21**	**339**	PKPbc	**PKPdf**	**12 52 05.5**	**+1.8**
	comp=Z,1.4nm,0.5s,baz=61,slow=2.8,SNR=9.7						
BRTR	**Keskin Array B**	**149.93**	**279**	PKPbc	**PKPbc**	**12 52 11.7**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=144,slow=5.8,SNR=6.0						
FINES	**FINESS Array B**	**152.80**	**326**	PKPbc	**PKPbc**	**12 52 16.6**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=93,slow=3.7,SNR=3.7						

WEL 13 12:33:16.2±0.4, 42°S±2°×17°4E±°, h9km±2km, M4.6/9, ML4.9/9, MLv4.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=114.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.21**	**339**	P	Pg	12 33 21.5	+1.0
BSWZ				S	Sg	12 33 26.4	+2.9
CMWZ	**Cape Campbell**	**0.24**	**47**	S	Sg	12 33 26.9	+2.6
TUWZ	**Tuamarina**	**0.49**	**357**	P	Pg	12 33 26.1	+0.5
TUWZ				S	Sb	12 33 34.0	-0.2
KHZ	**Kahutara**	**0.60**	**213**	S	Sb	12 33 36.8	-0.6
TCW	**Tory Channel**	**0.74**	**18**	P	Pg	12 33 29.8	-0.7
TCW				S	Sb	12 33 41.6	+0.1
BHW	**Baring Head**	**0.84**	**53**	P	Pg	12 33 32.5	+0.1
BHW				S	Sb	12 33 45.1	+0.8
CAW	**Cannon Point**	**1.15**	**46**	P	Pn	12 33 38.6	+0.1
CAW				S	Sb	12 33 53.3	0.0

*IDC **13** 12:33:24.8±0.9, 42.2°S0.5×173.3°E0.3, h0km, mb4.4/9, mbtmp4.4/10, ML4.8/1, Error ellipse: s-maj=26.6km s-min=21.6km az=72.0*
*NEIC **13** 12:33:26.5±2.7, 42.3°S36±0.0°04×173.2°E22±0.0°06, h10km±1km, mb4.6/16, Error ellipse: s-maj=9.4km s-min=2.9km az=129.0*

ISC 13 12:33:26.1±0.5, 42°37S±0°04×173°20E±0°04, h10km, n50, σ1§22/50, mb4.4/15, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**101**	Pg	**Pg**	**12 33 32.5**	**+1.2**
GVZ	**Greta Valley S**	**0.61**	**191**	P	**Pb**	**12 33 39.2**	**+0.3**
THZ	**Tophouse**	**0.64**	**340**	Pg	**Pb**	**12 33 39.9**	**+0.5**
LTZ	**Lake Taylor**	**0.80**	**238**	Pg	**Pg**	**12 33 40.1**	**-1.4**
AMCZ	**Amberley**	**0.90**	**206**	P	**Pb**	**12 33 44.7**	**+0.8**
NNZ	**Nelson**	**1.16**	**7**		**Pb**	**12 33 45.7**	**-2.4**
DSZ	**Denniston Nort**	**1.21**	**300**		**Pg**	**12 33 49.9**	**+0.6**
OXZ	**Oxford**	**1.28**	**221**		**Pn**	**12 33 49.3**	**-0.8**
OXZ	**Oxford**	**1.28**	**221**	P	**Pn**	**12 33 50.8**	**+0.7**
MQZ	**McQueen's Vall**	**1.40**	**196**	P	**Pn**	**12 33 50.2**	**-1.4**
RACZ	**Rakaia**	**1.57**	**209**	P	**Pn**	**12 33 53.9**	**-0.1**
PLWZ	**Palliser**	**1.73**	**63**	Pn	**Pn**	**12 33 55.0**	**-1.3**
RPZ	**Rata Peaks**	**2.07**	**229**	Pn	**Pn**	**12 34 00.9**	**0.0**
RPZ				Sn	**Sn**	**12 34 25.9**	**-0.9**
	296nm,0.3s,baz=5.0,slow=1.5,SNR=6.5						
	144nm,0.3s,baz=338,slow=22,SNR=6.7						
	858nm,0.3s						
RPZ	**Rata Peaks**	**2.07**	**229**	Pn	**Pn**	**12 34 00.3**	**-0.7**
RPZ	**Rata Peaks**	**2.07**	**229**	P	**Pn**	**12 34 01.2**	**+0.3**
ARMA	**Armidale**	**21.00**	**298**	P	**P**	**12 38 07.7**	**-2.1**
ARMA				IAmb	IAmb	12 38 36.4	
	comp=Z,30nm,1.4s						
DZM	**Mont Dzumac**	**21.01**	**342**	P	**P**	**12 38 13.3**	**+3.4**
	comp=Z,17nm,1.0s,baz=137,slow=10,SNR=5.7						
	comp=Z,17nm,1.0s						
KOUNC	**Koumac, New Ca**	**23.01**	**338**	P	**P**	**12 38 31.6**	**+0.5**
KOUNC				IAmb	IAmb	12 38 36.2	
	comp=Z,40nm,1.1s						
EIDS	**Eidsvold**	**24.88**	**306**	P	**P**	**12 38 49.3**	**+0.3**
EIDS				IAmb	IAmb	12 39 03.1	
	comp=Z,8.7nm,1.0s						
BBOO	**Buckleboo**	**30.73**	**276**	P	**P**	**12 39 39.5**	**-1.8**
VNDA	**Vanda**	**35.57**	**184**	P	**P**	**12 40 20.8**	**-2.2**
AS31	**Alice Springs**	**37.45**	**287**	P	**P**	**12 40 40.4**	**+0.7**
ASAR	**Alice Springs**	**37.45**	**287**	P	**P**	**12 40 40.0**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=130,slow=7.0,SNR=5.8						
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**37.45**	**287**	P	**P**	**12 40 40.2**	**+0.5**
COEN	**Coen**	**38.38**	**309**	P	**P**	**12 40 47.6**	**0.0**
COEN				IAmb	IAmb	12 41 11.0	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**39.45**	**292**	P	**P**	**12 40 57.1**	**+0.7**
WB2	**Warramunga Arr**	**39.59**	**292**	P	**P**	**12 40 57.1**	**-0.6**
WB2				IAmb	IAmb	12 40 59.3	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**39.60**	**292**	P	**P**	**12 40 57.4**	**-0.3**
WRAB				IAmb	IAmb	12 41 00.4	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**39.60**	**292**	P	**P**	**12 40 59.0**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=131,slow=8.0,SNR=3.2						
	comp=Z,2.5nm,0.7s						
WB0	**Warramunga Arr**	**39.68**	**292**	P	**P**	**12 40 58.5**	**+0.1**
PMG	**Port Moresby**	**40.00**	**318**	P	**P**	**12 41 03.8**	**+2.7**
	comp=Z,7.8nm,0.9s,baz=112,slow=7.1,SNR=3.1						
	comp=Z,7.8nm,0.9s						
KNRA	**Kununurra**	**46.37**	**291**	P	**P**	**12 41 52.4**	**-0.2**
MTN	**Manton Dam**	**46.77**	**296**		**P**	**12 41 56.5**	**+0.7**
QSPA	**South Pole Qui**	**47.76**	**180**	P	**P**	**12 42 01.6**	**-1.5**
QSPA				IAmb	IAmb	12 42 10.7	
	comp=Z,8.5nm,0.8s						
SIJI	**Sorong**	**55.85**	**306**	P	**P**	**12 43 04.5**	**+0.6**
	comp=Z,5.8nm,0.6s,baz=98,slow=8.8,SNR=5.4						
	comp=Z,5.8nm,0.6s						
TROLL	**Troll, Antarti**	**65.74**	**183**	pP	**P**	**12 44 11.8**	**+1.2**
SNAA	**Sanae**	**66.23**	**181**	pP	**P**	**12 44 14.7**	**+1.0**
SNAA	**Sanae**	**66.23**	**181**	P	**P**	**12 44 14.9**	**+1.2**
	comp=Z,4.8nm,1.0s,baz=219,slow=6.7,SNR=4.9						
	comp=Z,4.8nm,1.0s						
SNAA	**Sanae**	**66.23**	**181**	P	**P**	**12 44 13.5**	**-0.2**
SNAA				IAmb	IAmb	12 44 19.7	
	comp=Z,5.7nm,1.0s						
VNA3	**Neumayer Olymp**	**66.68**	**179**	pP	**P**	**12 44 17.6**	**+1.0**
VNA2	**Neumayer--Watz**	**67.02**	**180**	pP	**P**	**12 44 20.2**	**+1.5**
	baz=166,slow=6.0						
PLCA	**Paso Flores**	**79.20**	**136**	P	**P**	**12 45 30.6**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=225,slow=5.1,SNR=3.0						
	comp=Z,1.1nm,0.7s						

KSRS	**Korea Array**	**89.52**	**326**	P	**P**	**12 46 24.4**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=146,slow=5.9,SNR=7.5						
	comp=Z,2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.17**	**294**	P	**P**	**12 46 33.4**	**+2.0**
	comp=Z,1.7nm,0.8s,baz=150,slow=3.5,SNR=6.3						
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**119.73**	**308**	PKP	**PKPdf**	**12 52 15.2**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=46,slow=4.2,SNR=2.0						
KURBB	**Kurchatov Arra**	**123.78**	**310**	PKP	**PKPdf**	**12 52 22.5**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=117,slow=1.6,SNR=6.1						
DBIC	**Dimbokro**	**144.41**	**183**	PKP	PKPbc	12 53 02.3	+1.0
	comp=Z,2.9nm,0.6s,baz=216,slow=3.6,SNR=2.1						
ARCES	**ARCESS Array B**	**148.08**	**339**	PKPbc	**PKPbc**	**12 53 10.3**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=46,slow=3.5,SNR=2.4						
BRTR	**Keskin Array B**	**149.59**	**279**	PKPbc	**PKPbc**	**12 53 15.6**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=152,slow=5.9,SNR=2.4						
FINES	**FINESS Array B**	**152.61**	**325**	PKPbc	**PKPbc**	**12 53 21.2**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=110,slow=2.8,SNR=4.6						

NNC 13 12:33:38.9±8.8, 37°09N×71°11E, h0km, mb4.0, mpv3.9, 2C-4D, Error ellipse: s-maj=93.9km s-min=46.3km az=153.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.03**	**356**	⇑P	Pn	12 35 11.1	+1.8
	6.3nm,0.3s,baz=175,slow=11,SNR=123						
KK31				⇓S	Sn	12 36 21.9	+2.9
	2.9nm,0.4s,baz=186,slow=24,SNR=3.5						
TKM2	**Tokmak 2**	**6.77**	**29**	⇑P	Pn	12 35 20.1	+0.5
	2.9nm,0.5s						
TKM2				⇓S	Sn	12 36 37.6	+0.2
	1.1nm,0.6s						
AB31	**Akbulak array**	**14.62**	**330**	⇓P	Pn	12 37 03.2	-3.7
	0.5nm,0.3s,baz=94,slow=31,SNR=33						
AKTO	**Aktyubinsk**	**16.32**	**329**	⇓P	Pn	12 37 28.6	-0.7
	1.6nm,0.8s						

WEL 13 12:34:18.6±0.4, 43°S±2°×17°3E±°, h13km±2km, M4.1/6, ML4.2/6, MLv4.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=124.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**166**	P	Pb	12 34 26.4	-0.4
GVZ				S	Sb	12 34 32.3	0.0
LTZ	**Lake Taylor**	**0.50**	**252**	P	Pb	12 34 29.7	+0.4
LTZ				S	Sb	12 34 37.0	+0.5
AMCZ	**Amberley**	**0.58**	**199**	P	Pb	12 34 31.4	+0.7
AMCZ				S	Sb	12 34 39.8	+0.9
OXZ	**Oxford**	**0.95**	**222**	P	Pn	12 34 37.4	-0.2
OXZ				S	Sn	12 34 50.9	-0.2
MQZ	**McQueen's Vall**	**1.10**	**190**	P	Pb	12 34 38.9	-0.5
MQZ				S	Sb	12 34 53.8	+0.2
BSWZ	**Blackbirch Sta**	**1.16**	**38**	P	Pg	12 34 41.1	+0.2
BSWZ				S	Sb	12 34 54.4	-1.0
RACZ	**Rakaia**	**1.24**	**207**	P	Pn	12 34 41.3	-0.3
RPZ	**Rata Peaks**	**1.74**	**231**	P	Pn	12 34 48.1	-0.5
RPZ				S	Sn	12 35 09.8	-0.8

*IDC **13** 12:36:35.0±1.3, 42.2°S18×173.3°E8, h0km, mb4.0/5, mbtmp4.1/6, ML4.9/1, Error ellipse: s-maj=36.4km s-min=24.9km az=98.0*
*NEIC **13** 12:36:35.8±2.3, 41.4°S44±0.0°08×173.9°E7±0.0°08, h21km±7km, mb5.1/13, Error ellipse: s-maj=11.9km s-min=7.6km az=161.0*

ISC 13 12:36:34.1±0.6, 41°40S±0°08×173°95E±0°08, h10km, n31, σ1§31/27, mb4.5/11, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.32**	**190**	Pg	**Pg**	**12 36 40.6**	**+0.1**
THZ	**Tophouse**	**0.86**	**245**		**Pb**	**12 36 52.8**	**+1.6**
DSZ	**Denniston Nort**	**1.65**	**257**	Pn	**Pn**	**12 37 03.5**	**+0.4**
RPZ	**Rata Peaks**	**3.15**	**222**	Pn	Pn	12 37 11.5	-12
	356nm,0.3s,baz=181,slow=1.7,SNR=13						
RPZ				Sn	Sn	12 37 35.4	-26
	148nm,0.3s,baz=344,slow=23,SNR=7.6						
	934nm,0.3s						
ODZ	**Otahua Downs**	**4.37**	**212**	Pn	**Pn**	**12 37 41.3**	**+0.8**
WKZ	**Wanaka**	**4.98**	**225**	Pn	**Pn**	**12 37 49.5**	**+0.7**
MXZ	**Matakaoa Point**	**5.10**	**43**	Pn	**Pn**	**12 37 51.4**	**+0.8**
DCZ	**Deep Cove**	**6.40**	**228**	Pn	**Pn**	**12 38 09.9**	**+1.5**
LIFNC	**LIFOU**	**21.33**	**343**	P	**P**	**12 41 18.2**	**-3.0**
LIFNC				IAmb	IAmb	12 41 21.2	
	comp=Z,88nm,0.8s						
MSVF	**Nonsavu**	**23.85**	**10**	P	P	12 41 59.4	+12
	comp=Z,2.1nm,0.4s,baz=298,slow=23,SNR=1.9						
	comp=Z,2.1nm,0.4s						
NIUE	**Niue**	**26.16**	**37**	P	**P**	**12 42 09.2**	**+0.6**
CTAO	**Charters Tower**	**31.68**	**304**	P	**P**	**12 42 57.3**	**-0.4**
CTAO				IAmb	IAmb	12 43 02.4	
	comp=Z,118nm,1.6s						
VNDA	**Vanda**	**36.58**	**184**	P	P	12 43 36.2	-3.4
	comp=Z,0.2nm,0.2s,baz=297,slow=1.2,SNR=7.1						
	comp=Z,0.2nm,0.2s						
VNDA	**Vanda**	**36.58**	**184**	P	**P**	**12 43 38.0**	**-1.7**
AS31	**Alice Springs**	**37.72**	**285**	P	**P**	**12 43 49.5**	**-0.6**
ASAR	**Alice Springs**	**37.72**	**285**	P	**P**	**12 43 49.6**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=125,slow=7.4,SNR=6.9						
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**37.72**	**285**	P	**P**	**12 43 48.6**	**-1.4**
FORT	**Forrest**	**38.17**	**271**	P	**P**	**12 43 52.9**	**-0.8**
FORT				IAmb	IAmb	12 44 16.4	
	comp=Z,20nm,0.9s						
WR0	**Warramunga Arr**	**39.62**	**291**	P	**P**	**12 44 05.9**	**0.0**
WB2	**Warramunga Arr**	**39.76**	**290**	P	**P**	**12 44 07.9**	**+0.8**
WB2				IAmb	IAmb	12 44 22.5	
	comp=Z,17nm,1.3s						
WRA	**Warramunga Arr**	**39.77**	**290**	P	**P**	**12 44 08.0**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=127,slow=8.4,SNR=8.5						
	comp=Z,1.2nm,0.4s						
WB0	**Warramunga Arr**	**39.85**	**291**	P	**P**	**12 44 08.8**	**+1.0**
WB0				IAmb	IAmb	12 44 13.7	
	comp=Z,21nm,1.5s						
KNRA	**Kununurra**	**46.55**	**290**	P	**P**	**12 45 01.3**	**-0.8**
MORW	**Morawa**	**48.06**	**266**	P	**P**	**12 45 13.8**	**0.0**
MORW				IAmb	IAmb	12 46 59.0	
	comp=Z,40nm,1.7s						
GIRL	**Giralia**	**52.94**	**271**	P	**P**	**12 45 51.4**	**+0.8**
SNAA	**Sanae**	**67.21**	**181**	P	**P**	**12 47 25.2**	**-2.7**
VNA2	**Neumayer--Watz**	**67.98**	**180**	P	P	12 47 29.4	-3.4
	baz=168,slow=6.0						
CMAR	**Chiang Mai Arr**	**91.29**	**293**	P	**P**	**12 49 41.0**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=149,slow=3.2,SNR=7.0						
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**123.58**	**310**	PKP	**PKPdf**	**12 55 32.9**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=117,slow=1.9,SNR=4.8						
ARCES	**ARCESS Array B**	**147.37**	**340**	PKPbc	**PKPbc**	**12 56 18.6**	**+1.8**
	comp=Z,2.6nm,0.8s,baz=2.9,slow=1.8,SNR=1.4						
BRTR	**Keskin Array B**	**149.98**	**280**	PKPbc	**PKPbc**	**12 56 24.0**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=152,slow=4.3,SNR=3.6						

*IDC **13** 12:37:16.0±2.7, 17°.49S×174°.37W, h103km±23km, mb4.2/16, mbtmp4.6/19, Error ellipse: s-maj=25.0km s-min=12.4km az=153.0*
*NEIC **13** 12:37:16.9±1.8, 17°.44S±0°.03×174°.15W±0°.08, h106km±7km, mb4.7/32, Error ellipse: s-maj=11.8km s-min=1.5km az=73.0*
*NOU **13** 12:37:20.7, 17°.44S×173°.86W, h156km, mb5.0/22, Tonga Islands*

ISC 13 12:37:16.8±0.4, 17°45S±0°06×174°17W±0°05, h10§8km, n12§4, σ1§36/115, mb4.8/38, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.20**	**34**	P	**Pn**	**12 38 19.8**	**+0.9**
	134nm,0.3s,baz=210,slow=3.5,SNR=164						
AFI				S	**Sn**	**12 39 05.5**	**-1.7**
	2µm,0.5s,baz=217,slow=20,SNR=33						
AFI	**Afiamalu**	**4.20**	**34**		**Pn**	**12 38 20.3**	**+1.4**
AFI				Sn	**Sn**	**12 39 06.3**	**-0.8**
AFI	**Afiamalu**	**4.20**	**34**	P	**Pn**	**12 38 20.6**	**+1.7**
NIUE	**Niue**	**4.34**	**113**		**Pn**	**12 38 22.3**	**+1.5**
NIUE				Sn	**Sn**	**12 39 09.7**	**-0.7**
NIUE	**Niue**	**4.34**	**113**	P	**Pn**	**12 38 22.7**	**+2.0**
NIUE	**Niue**	**4.34**	**113**	P	**Sn**	**12 39 10.0**	**-0.4**
FUTU	**Fugatoga**	**4.92**	**309**	P	Pn	12 38 35.9	+7.4
MSVF	**Nonsavu**	**7.43**	**267**	P	**Pn**	**12 39 05.0**	**+2.4**
	51nm,0.9s,baz=144,slow=23,SNR=3.7						

MSVF	**Nonsavu**	**7.43**	**267**	Pn	Pn	12 39 09.7	+7.1
MSVF	**Nonsavu**	**7.43**	**267**	P	Pn	12 39 09.7	+7.1
FUNA	**Funafuti**	**10.97**	**323**	Pn	Pn	12 39 55.5	+4.9
FUNA	**Funafuti**	**10.97**	**323**	P	Pn	12 39 56.4	+5.8
RAR	**Rarotonga**	**14.10**	**108**	P	**P**	**12 40 35.0**	**-0.9**
	26nm,0.5s,baz=259,slow=8.4,SNR=7.4						
RTV	**Rentapao**	**16.60**	**266**	P	**P**	**12 41 09.2**	**+5.5**
DVP	**Devils Point**	**16.83**	**266**	P	**P**	**12 41 09.8**	**+3.6**
MARNC	**Mare, Loyalty**	**17.26**	**254**	P	**P**	**12 41 08.8**	**-2.1**
MARNC	**Mare, Loyalty**	**17.26**	**254**	P	**Pn**	**12 41 12.9**	**+1.8**
DZM	**Mont Dzumac**	**18.81**	**253**	P	**P**	**12 41 25.9**	**-2.3**
	6.8nm,0.7s,baz=97,slow=17,SNR=4.7						
DZM	**Mont Dzumac**	**18.81**	**253**	P	**P**	**12 41 28.2**	**+0.1**
KOUNC	**Koumac, New Ca**	**20.60**	**258**	P	Pn	12 41 52.5	+1.8
AUDCS	**Dubbo College**	**36.62**	**239**	P	**P**	**12 44 15.2**	**+2.4**
	60nm,3.0s						
CTA	**Charters Tower**	**37.51**	**260**	P	**P**	**12 44 18.1**	**-2.4**
	11nm,0.8s,baz=99,slow=8.1,SNR=3.4						
	11nm,0.8s						
QLP	**Quilpie**	**39.48**	**249**	P	**P**	**12 44 38.2**	**+1.4**
H11S3	**WAKE ISLAND Hy**	**40.37**	**331**	T	T	13 26 33.6	
	baz=146,slow=74,SNR=2.8						
H11S1	**WAKE ISLAND Hy**	**40.38**	**331**	T	T	13 26 30.8	
	baz=299,slow=74,SNR=3.5						
WAKE	**Wake Island**	**41.08**	**332**	P	**P**	**12 44 50.0**	**+0.1**
COEN	**Coen**	**41.15**	**269**	P	**P**	**12 44 49.5**	**-1.3**
COEN				IAmb	IAmb	12 44 50.4	
	comp=Z,13nm,0.7s						
STKA	**Stephens Creek**	**42.40**	**242**	P	**P**	**12 44 59.0**	**-1.8**
	comp=Z,14nm,0.9s,baz=112,slow=13,SNR=6.6						
	comp=Z,14nm,0.9s						
STKA	**Stephens Creek**	**42.40**	**242**	P	**P**	**12 44 59.0**	**-1.8**
OOD	**Oodnadatta**	**47.14**	**248**	P	**P**	**12 45 37.1**	**-1.3**
BBOO	**Buckleboo**	**47.17**	**241**	P	**P**	**12 45 36.9**	**-1.7**
WR0	**Warramunga Arr**	**48.50**	**259**	P	**P**	**12 45 47.1**	**-2.0**
WR0				IAmb	IAmb	12 46 18.4	
	comp=Z,15nm,0.8s						
WB0	**Warramunga Arr**	**48.66**	**259**	P	**P**	**12 45 48.5**	**-1.8**
MULG	**Mulgathing**	**48.66**	**245**	P	**P**	**12 45 48.9**	**-1.3**
	comp=Z,45nm,1.7s						
WB2	**Warramunga Arr**	**48.68**	**259**	P	**P**	**12 45 48.4**	**-2.0**
WRAB	**Tennant Creek**	**48.68**	**259**	P	**P**	**12 45 48.6**	**-1.8**
WRA	**Warramunga Arr**	**48.69**	**259**	P	**P**	**12 45 47.9**	**-2.6**
	comp=Z,7.5nm,0.5s,baz=98,slow=6.8,SNR=52						
	comp=Z,7.5nm,0.5s						
WRA	**Warramunga Arr**	**48.69**	**259**	P	**P**	**12 45 49.6**	**-0.9**
AS31	**Alice Springs**	**48.80**	**254**	IAmb	IAmb	12 45 50.2	
	comp=Z,22nm,0.7s						
AS31	**Alice Springs**	**48.80**	**254**	P	**P**	**12 45 49.5**	**-1.9**
ASAR	**Alice Springs**	**48.80**	**254**	P	**P**	**12 45 49.1**	**-2.3**
	comp=Z,81nm,0.6s,baz=89,slow=8.4,SNR=536						
ASAR	**Alice Springs**	**48.80**	**254**	P	**P**	**12 45 49.2**	**-2.1**
ASAR	**Alice Springs**	**48.80**	**254**	P	**P**	**12 45 49.3**	**-2.1**
KNRA	**Kununurra**	**54.56**	**263**	P	**P**	**12 46 32.1**	**-2.1**
SIJI	**Sorong**	**56.09**	**281**	P	**P**	**12 46 44.2**	**-1.1**
	comp=Z,21nm,0.8s,baz=64,slow=4.8,SNR=10						
	comp=Z,21nm,0.8s						
SANI	**Sanana**	**60.67**	**278**	P	**P**	**12 47 16.1**	**-1.0**
	comp=Z,19nm,1.1s						
SBA	**Scott Base**	**61.16**	**185**	P	**P**	**12 47 20.3**	**+0.9**
SBA				IAmb	IAmb	12 47 21.3	
	comp=Z,9.1nm,0.9s						
VNDA	**Vanda**	**61.28**	**186**	P	**P**	**12 47 21.1**	**+1.0**
PSA00	**Pilbara Seismi**	**61.93**	**254**	P	**P**	**12 47 24.7**	**-0.8**
PSA00	**Pilbara Seismi**	**61.93**	**254**	IAmb	IAmb	12 47 30.4	
	comp=Z,29nm,0.7s						
PSA00

comp=Z,1.0nm,0.8s,baz=82,slow=3.2,SNR=4.4
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 119.02 321 PKP **PKPdf** 12 55 50.9 -1.7
comp=Z,1.1nm,0.5s,baz=132,slow=1.4,SNR=7.7
ARCES ARCESS Array B 126.52 352 PKP **PKPdf** 12 56 05.8 -0.8
comp=Z,1.9nm,0.7s,baz=323,slow=1.7,SNR=7.8
FINES FINESS Array B 133.76 347 PKP **PKPdf** 12 56 20.7 +0.2
comp=Z,1.5nm,0.6s,baz=36,slow=7.1,SNR=5.5
CLL Collm 145.74 352 *i* PKPbc **PKPdf** 12 56 42.5 0.0
comp=Z,15nm,0.8s
CLL *i* PKiKP **PKiKP** 12 57 47.1 +0.5
CLL *es*PKPbc sPKPab 12 57 23.0 +0.1
STHS Stebnicka Huta 145.75 342 *e*PKP **PKPdf** 12 56 42.4 -0.2
BRG Berggiesshubel 146.03 351 *e*PKP **PKPbc** 12 56 44.1 +0.1
BRG Amp 12 56 45.0
comp=Z,8.8nm,1.2s
DPC Dobruska-Polom 146.11 348 *e*PKP **PKPbc** 12 56 44.2 -0.1
DPC *ex* x 12 56 49.0
KRLC Kraliky 146.28 347 *e*PKP **PKPbc** 12 56 44.8 0.0
MAUC Maruska 146.71 346 *e*PKP **PKPbc** 12 56 46.1 0.0
PRU Pruhonice 146.79 350 *e*PKP **PKPbc** 12 56 45.9 -0.3
PRU *ex* x 12 56 50.9
BRTR Keskin Array B 147.23 318 PKPbc **PKPbc** 12 56 47.4 -0.6
comp=Z,2.2nm,0.7s,baz=48,slow=2.1,SNR=6.1
VYHS Vyhne 147.26 344 *e*PKP **PKPbc** 12 56 46.8 -0.8
MODS Modra-Piesok 147.77 346 *e*PKP **PKPbc** 12 56 47.8 -1.2
KHC Kasperske Hory 147.78 350 *e*PKP **PKPbc** 12 56 49.1 +0.1
KHC *ex* x 12 56 55.4
GERES GERESS Array B 148.03 350 PKPbc **PKPbc** 12 56 49.3 -0.5
comp=Z,1.9nm,0.7s,baz=36,slow=2.5,SNR=16
CONA Conrad Observa 148.51 347 *i* P **PKPbc** 12 56 51.1 +0.1
comp=Z,5.0nm,0.8s,SNR=6.2
RONA Rosalia, Austr 148.63 346 *e*P **PKPbc** 12 56 51.5 +0.3
comp=Z,7.1nm,0.6s
MOA Molln 148.90 349 *e*P **PKPbc** 12 56 51.6 -0.3
comp=Z,0.8nm,0.5s
BIOA Bad Ischl, Aus 149.16 350 *e*P **PKPbc** 12 56 52.1 -0.5
comp=Z,0.8nm,0.3s
KBA Koelnbreinsper 149.81 350 *i* P **PKPbc** 12 56 53.9 -0.5
comp=Z,2.7nm,0.5s
WATA Walderalm 149.82 352 *e*P **PKPbc** 12 56 54.0 -0.4
comp=Z,2.0nm,0.4s
MOTA Moosalm 149.87 353 *e*P **PKPbc** 12 56 54.2 -0.3
comp=Z,0.4nm,0.3s
WTTA Wattenberg 149.88 352 *i* P **PKPbc** 12 56 54.3 -0.3
comp=Z,3.0nm,0.3s
SQTA Sankt Quirin 149.98 353 *i* P **PKPbc** 12 56 54.6 -0.1
comp=Z,6.9nm,1.1s
DAVA Damuels 150.06 354 *e*P **PKPbc** 12 56 54.6 -0.4
comp=Z,1.4nm,0.3s,SNR=4.6
FETA Feichten 150.23 353 *e*P **PKPbc** 12 56 55.1 -0.3
comp=Z,3.7nm,0.8s
ABTA Abfaltersbach 150.26 351 *i* P **PKPbc** 12 56 54.6 -0.8
comp=Z,4.4nm,0.6s

IDC ***13*** *12:37:42.2±0.8, 42°.61S×173°.42E, h0km, mb4.5/10, mbtmp4.5/11, ML4.7/1, Error ellipse: s-maj=22.9km s-min=19.4km az=73.0*
WEL ***13*** *12:37:45.0±0.2, 42°.S×2°×17°.3E±°, h6km±2km, M4.8/38, mB5.4/6, ML5.6/25, MLv4.8/38, Mw(mB)4.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=121.0*
NEIC ***13*** *12:37:45.4±1.6, 42°.39S±0°.02×173°.37E±0°.02, h10km±1km, mb5.2/14, Error ellipse: s-maj=3.3km s-min=3.0km az=47.0*

ISC 13 12:37:44.8±0.8, 42°.44S±0°.02×173°.38E±0°.03, h11km±5km**, n94**, σ1§15/108**, mb4.6**/15**, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**77**	Pg		**Pg**	**12 37 47.5**	**-0.3**
KHZ				Sg		**Sg**	**12 37 50.8**	**+0.9**
KHZ	**Kahutara**	**0.12**	**77**	P		**Pg**	**12 37 47.3**	**-0.5**
KHZ				S		**Sg**	**12 37 50.1**	**+0.2**
GVZ	**Greta Valley S**	**0.58**	**206**	P		**Pb**	**12 37 57.3**	**+0.2**
GVZ				S		**Sn**	**12 38 07.0**	**-1.7**
THZ	**Tophouse**	**0.77**	**332**	Pg		**Pg**	**12 37 58.6**	**-1.0**
THZ				Sg		**Sg**	**12 38 08.9**	**-0.7**
THZ	**Tophouse**	**0.77**	**332**	P		**Pg**	**12 37 58.6**	**-1.0**
THZ				S		**Sg**	**12 38 08.6**	**-1.0**
BSWZ	**Blackbirch Sta**	**0.82**	**27**	P		**Pg**	**12 38 00.4**	**-0.2**
LTZ	**Lake Taylor**	**0.89**	**247**	Pg		**Pb**	**12 38 02.3**	**0.0**
LTZ				Sg		**Sb**	**12 38 14.7**	**+0.6**
LTZ	**Lake Taylor**	**0.89**	**247**	P		**Pb**	**12 38 01.8**	**-0.5**
LTZ				S		**Sb**	**12 38 14.2**	**+0.1**
AMCZ	**Amberley**	**0.91**	**216**	P		**Pb**	**12 38 02.6**	**0.0**
AMCZ				S		**Sn**	**12 38 16.8**	**+0.1**
CMWZ	**Cape Campbell**	**0.93**	**42**	P		**Pg**	**12 38 02.8**	**+0.1**
TUWZ	**Tuamarina**	**1.10**	**23**	P		**Pb**	**12 38 05.3**	**-0.5**
MRNZ	**Matariki Terra**	**1.14**	**336**	P		**Pb**	**12 38 05.4**	**-1.2**
MRNZ				S		**Sb**	**12 38 21.6**	**+0.2**
NNZ	**Nelson**	**1.23**	**360**	Pn		**Pn**	**12 38 07.3**	**-0.6**
NNZ	**Nelson**	**1.23**	**360**	P		**Pn**	**12 38 07.5**	**-0.4**
OXZ	**Oxford**	**1.32**	**228**			**Pb**	**12 38 09.6**	**-0.1**
OXZ	**Oxford**	**1.32**	**228**	P		**Pn**	**12 38 08.7**	**-0.5**
OXZ				S		**Sg**	**12 38 27.4**	**0.0**
DSZ	**Denniston Nort**	**1.36**	**300**	Pn		**Pb**	**12 38 10.0**	**-0.4**
MQZ	**McQueen's Vall**	**1.37**	**203**			**Sb**	**12 38 27.5**	**-0.5**
MQZ	**McQueen's Vall**	**1.37**	**203**	P		**Pn**	**12 38 08.6**	**-1.3**
MQZ				S		**Sb**	**12 38 26.2**	**-1.8**
TCW	**Tory Channel**	**1.40**	**29**	P		**Pn**	**12 38 10.6**	**+0.3**
TKNZ	**Takaka Hill**	**1.44**	**347**	P		**Pn**	**12 38 11.0**	**+0.1**
INZ	**Inchbonnie**	**1.46**	**258**	P		**Pg**	**12 38 12.1**	**-0.7**
INZ				S		**Sb**	**12 38 30.5**	**0.0**
WEL	**Wellington**	**1.55**	**42**	P		**Pn**	**12 38 12.1**	**-0.3**
RACZ	**Rakaia**	**1.57**	**215**	P		**Pn**	**12 38 11.2**	**-1.5**
RACZ				S		**Sn**	**12 38 32.4**	**-0.6**
DUWZ	**D'Urville Isla**	**1.69**	**14**	P		**Pb**	**12 38 15.2**	**-0.7**
MSWZ	**Moikau Station**	**1.73**	**54**	P		**Pn**	**12 38 13.7**	**-1.2**
QRZ	**Quartz Range**	**1.74**	**338**			**Pb**	**12 38 16.0**	**-0.7**
QRZ	**Quartz Range**	**1.74**	**338**	P		**Pb**	**12 38 16.1**	**-0.7**
CAW	**Cannon Point**	**1.84**	**44**	P		**Pn**	**12 38 16.0**	**-0.3**
WACZ	**Wakanui South**	**1.88**	**216**	P		**Pn**	**12 38 15.8**	**-1.1**
KIW	**Kapiti Island**	**1.95**	**36**	P		**Pn**	**12 38 17.7**	**-0.2**
WVZ	**Waitaha Valley**	**2.05**	**251**	P		**Pn**	**12 38 19.9**	**+0.7**
OGWZ	**Otaki Gorge**	**2.11**	**40**	P		**Pb**	**12 38 21.8**	**-1.3**
RPZ	**Rata Peaks**	**2.13**	**232**	Pn		**Pn**	**12 38 19.5**	**-0.8**
	280nm,0.3s,baz=348,slow=1.1,SNR=7.4							
RPZ				Sn		**Sn**	**12 38 45.5**	**-1.3**
	363nm,0.3s,baz=340,slow=20,SNR=9.4 1µm,0.5s							
RPZ	**Rata Peaks**	**2.13**	**232**	Pn		**Pn**	**12 38 20.7**	**+0.4**
RPZ	**Rata Peaks**	**2.13**	**232**	P		**Pn**	**12 38 19.7**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.41**	**248**	P		**Pn**	**12 38 25.6**	**+1.4**
MRZ	**Mangatainoka R**	**2.43**	**44**	P		**Pb**	**12 38 26.8**	**-1.8**
TMZ	**Timaru**	**2.60**	**221**	P		**Pb**	**12 38 32.4**	**+1.0**
NBEZ	**Newall Road No**	**3.19**	**7**	P		**Pb**	**12 38 39.1**	**-2.4**
GRRZ	**Galatos Road**	**4.59**	**28**	P		**Pn**	**12 38 57.6**	**+3.4**
AWAZ	**Awhitu Peninsu**	**5.46**	**11**	P		**Pn**	**12 39 07.2**	**+1.1**
MKAZ	**Moumakai**	**5.51**	**15**	P		**Pn**	**12 39 07.4**	**+0.6**
WTAZ	**Waiatarua**	**5.58**	**10**	P		**Pn**	**12 39 09.4**	**+1.6**
ETAZ	**East Tamaki Re**	**5.61**	**13**	P		**Pn**	**12 39 09.0**	**+0.8**
EPAZ	**Eden Park BICE**	**5.66**	**11**	P		**Pn**	**12 39 09.9**	**+1.1**
HBAZ	**Herne Bay Bore**	**5.68**	**11**	P		**Pn**	**12 39 11.0**	**+1.8**
RVAZ	**Riverhead Bore**	**5.74**	**10**	P		**Pn**	**12 39 10.8**	**+0.8**
MBAZ	**Motutapu North**	**5.79**	**12**	P		**Pn**	**12 39 12.0**	**+1.4**
ABAZ	**Army Bay**	**5.94**	**11**	P		**Pn**	**12 39 13.7**	**+1.0**
GRZ	**Great Barrier**	**6.39**	**15**	P		**Pn**	**12 39 21.1**	**+2.2**
KOUNC	**Koumac, New Ca**	**23.13**	**338**	P		**P**	**12 42 51.6**	**+0.6**
KOUNC				IAmb		IAmb	12 42 54.0	
	comp=Z,83nm,1.3s							
MSVF	**Nonsavu**	**24.95**	**11**	P		**P**	**12 43 09.9**	**+1.5**
	comp=Z,10nm,0.8s,baz=172,slow=13,SNR=4.5 comp=Z,10nm,0.8s							
EIDS	**Eidsvold**	**25.03**	**306**	P		**P**	**12 43 08.5**	**-0.5**
STKA	**Stephens Creek**	**27.29**	**282**	P		**P**	**12 43 28.7**	**-0.7**
CTA	**Charters Tower**	**31.92**	**306**	P		**P**	**12 44 12.4**	**+1.9**
	comp=Z,5.0nm,0.6s,baz=169,slow=15,SNR=6.8 comp=Z,5.0nm,0.6s							
CTAO	**Charters Tower**	**31.92**	**306**	P		**P**	**12 44 11.1**	**+0.6**
HNR	**Honiara**	**34.93**	**336**	P		**P**	**12 44 38.6**	**+1.8**
	comp=Z,498nm,0.4s,baz=177,slow=12,SNR=2.1							
VNDA	**Vanda**	**35.51**	**184**	P		**P**	**12 44 42.0**	**+0.9**
AS31	**Alice Springs**	**37.60**	**287**	P		**P**	**12 44 59.2**	**-0.4**
ASAR	**Alice Springs**	**37.60**	**287**	P		**P**	**12 44 58.5**	**-1.1**
	comp=Z,2.8nm,0.8s,baz=127,slow=8.4,SNR=11 comp=Z,2.8nm,0.8s							
ASAR	**Alice Springs**	**37.60**	**287**	P		**P**	**12 44 59.5**	**-0.2**
WB2	**Warramunga Arr**	**39.74**	**292**	P		**P**	**12 45 17.2**	**-0.3**
WRA	**Warramunga Arr**	**39.75**	**292**	P		**P**	**12 45 16.9**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=129,slow=7.8,SNR=8.4 comp=Z,3.6nm,0.9s							
WB0	**Warramunga Arr**	**39.83**	**292**	P		**P**	**12 45 18.4**	**+0.1**
PMG	**Port Moresby**	**40.15**	**317**	P		**P**	**12 45 21.6**	**+0.7**
	comp=Z,11nm,0.9s,baz=185,slow=8.0,SNR=4.9 comp=Z,11nm,0.9s							
PMG	**Port Moresby**	**40.15**	**317**	P		**P**	**12 45 22.1**	**+1.2**
KNRA	**Kununurra**	**46.52**	**291**	P		**P**	**12 46 13.1**	**+0.7**
KNRA				IAmb		IAmb	12 47 34.7	
	comp=Z,47nm,1.2s							
MTN	**Manton Dam**	**46.93**	**296**	P		**P**	**12 46 16.7**	**+1.0**
QSPA	**South Pole Qui**	**47.69**	**180**	P		**P**	**12 46 19.3**	**-1.8**
	comp=Z,5.4nm,0.9s,baz=86,slow=2.8,SNR=7.1 comp=Z,5.4nm,0.9s							
QSPA	**South Pole Qui**	**47.69**	**180**	P		**P**	**12 46 22.7**	**+1.6**
GIRL	**Giralia**	**52.55**	**273**	P		**P**	**12 46 59.7**	**+1.3**
SIJI	**Sorong**	**56.00**	**306**	P		**P**	**12 47 21.7**	**-1.9**
	comp=Z,11nm,0.8s,baz=69,slow=6.7,SNR=5.2 comp=Z,11nm,0.8s							
TROLL	**Troll, Antarti**	**65.67**	**183**	P		**P**	**12 48 29.8**	**+1.0**
SNAA	**Sanae**	**66.16**	**181**	P		**P**	**12 48 32.6**	**+0.7**
SNAA	**Sanae**	**66.16**	**181**	P		**P**	**12 48 32.8**	**+1.0**
SNAA				IAmb		IAmb	12 49 30.4	
	comp=Z,40nm,1.1s							
VNA3	**Neumayer Olymp**	**66.60**	**179**	P		**P**	**12 48 35.3**	**+0.7**
VNA2	**Neumayer--Watz** baz=172,slow=7.0	**66.94**	**180**	P		**P**	**12 48 37.8**	**+1.0**
VNA1	**Neumayer--Stat**	**67.21**	**179**	P		**P**	**12 48 39.6**	**+1.1**
PLCA	**Paso Flores**	**79.06**	**136**	P		**P**	**12 49 48.0**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=211,slow=4.7,SNR=4.1 comp=Z,1.8nm,0.9s							
KSRS	**Korea Array**	**89.65**	**325**	P		**P**	**12 50 42.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=148,slow=5.5,SNR=6.1 comp=Z,1.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**91.32**	**294**	P		**P**	**12 50 50.8**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=148,slow=3.5,SNR=6.7 comp=Z,1.5nm,0.8s							
PZH	**PanZhiHua**	**95.13**	**301**	P		**P**	**12 51 09.9**	**+1.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CN2	**Changchun**	**96.01**	**327**	*e*P		**P**	**12 51 09.9**	**-1.7**
CN2				*es*P		sP	12 51 16.9	+0.2
HHC	**Hu-ho-hao-te**	**99.96**	**317**	*e*P		**Pdif**	**12 51 32.0**	**+2.4**
WMQ	**Urumqi**	**115.06**	**307**	*e*P		**PKiKP**	**12 56 27.6**	**+2.0**
WMQ				pmax		pmax		
	comp=Z,16nm,0.7s							
WMQ				LR		LR		
	comp=Z,11µm,14.7s							
MKAR	**Makanchi Array**	**119.88**	**308**	PKP		**PKPdf**	**12 56 33.0**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=52,slow=2.6,SNR=2.6							
KMBO	**Kilima Mbogo**	**121.36**	**234**	PKP		**PKPdf**	**12 56 38.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=93,slow=7.2,SNR=5.8							
KURBB	**Kurchatov Arra**	**123.93**	**310**	PKP		**PKPdf**	**12 56 39.5**	**-2.8**
	comp=Z,0.9nm,0.5s,baz=106,slow=1.7,SNR=8.6							
MMAI	**Mount Meron Ar**	**145.75**	**268**	PKPbc		**PKPbc**	**12 57 23.8**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=71,slow=9.3,SNR=1.5							
KLMR	**Klimovskoe**	**146.87**	**320**	*e*PKPdf		**PKPdf**	**12 57 24.3**	**0.0**
KLMR				AMP			12 57 33.2	
	comp=Z,16nm,1.0s							
ARCES	**ARCESS Array B**	**148.20**	**339**	PKPbc		**PKPbc**	**12 57 29.6**	**0.0**
	comp=Z,2.9nm,0.7s,baz=90,slow=2.4,SNR=2.5							
BRTR	**Keskin Array B**	**149.73**	**279**	PKPbc		**PKPbc**	**12 57 33.1**	**-1.4**
	comp=Z,2.4nm,0.7s,baz=136,slow=5.7,SNR=4.7							
FINES	**FINESS Array B**	**152.75**	**325**	PKPbc		**PKPbc**	**12 57 38.7**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=353,slow=2.8,SNR=4.8							

IDC ***13*** *12:38:35.1±0.6, 41°.52S×174°.21E, h0km, mb4.7/12, mbtmp4.8/13, ML4.4/1, Error ellipse: s-maj=25.4km s-min=16.5km az=67.0*
MOS ***13*** *12:38:36.4±1.5, 41°.71S×174°.13E, h14km, mb5.2/14, Error ellipse: s-maj=18.0km s-min=12.9km az=83.8*
NEIC ***13*** *12:38:38.2±2.2, 41°.74S±0°.03×174°.26E±0°.02, h15km±3km, mb5.2/32, Error ellipse: s-maj=5.4km s-min=1.4km az=157.0*
WEL ***13*** *12:38:38.2±0.5, 42°.S±3°×17°.4E±°, h5km±3km, M5.3/12, ML5.6/12, MLv5.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=115.0*

ISC 13 12:38:37.9±0.7, 41°.72S±0°.03×174°.25E±0°.02, h16km±4km**, n222**, σ1§52/230**, mb5.1**/33**, 4C, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**225**			**Pg**	**12 38 40.4**	**-0.5**
CMWZ				Sg		**Sg**	**12 38 42.7**	**-0.1**
CMWZ	**Cape Campbell**	**0.04**	**225**	P		**Pg**	**12 38 40.1**	**-0.7**
CMWZ				S		**Sg**	**12 38 42.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.28**	**272**	Pg		**Pb**	**12 38 44.2**	**-0.3**
BSWZ				Sg		**Sb**	**12 38 49.5**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.28**	**272**	P		**Pg**	**12 38 43.9**	**-0.1**
BSWZ				S		**Sb**	**12 38 49.1**	**+0.2**
TUWZ	**Tuamarina**	**0.37**	**322**	Pg		**Pb**	**12 38 46.1**	**0.0**
TUWZ				Sg		**Sb**	**12 38 51.5**	**-0.1**
TUWZ	**Tuamarina**	**0.37**	**322**	P		**Pb**	**12 38 45.9**	**-0.2**
TUWZ				S		**Sb**	**12 38 51.7**	**+0.1**
TCW	**Tory Channel**	**0.51**	**3**	P		**Pb**	**12 38 48.0**	**-0.6**
TCW				S		**Sb**	**12 38 55.2**	**-0.6**
SNZO	**South Karori**	**0.54**	**40**	Pg		**Pb**	**12 38 49.1**	**+0.1**
SNZO				Sg		**Sb**	**12 38 56.8**	**+0.3**
BHW	**Baring Head**	**0.56**	**56**	P		**Pg**	**12 38 48.8**	**-0.3**
WEL	**Wellington**	**0.59**	**42**	P		**Pb**	**12 38 49.5**	**-0.3**
WEL	**Wellington**	**0.59**	**42**	P		**Pb**	**12 38 49.5**	**-0.3**
PLWZ	**Palliser**	**0.77**	**79**	Pg		**Pb**	**12 38 53.3**	**+0.3**
PLWZ						**Pb**	**12 38 53.4**	**+0.4**
PLWZ				Sn		**Sn**	**12 39 05.5**	**0.0**
PLWZ	**Palliser**	**0.77**	**79**	P		**Pb**	**12 38 53.4**	**+0.4**
MSWZ	**Moikau Station**	**0.81**	**68**			**Pg**	**12 38 53.8**	**0.0**
MSWZ						**Pn**	**12 38 54.5**	**-0.3**
MSWZ	**Moikau Station**	**0.81**	**68**	P		**Pg**	**12 38 54.1**	**+0.3**
MSWZ				S		**Sn**	**12 39 06.6**	**+0.2**
NNZ	**Nelson**	**0.82**	**308**			**Pb**	**12 38 53.5**	**-0.3**
NNZ	**Nelson**	**0.82**	**308**	P		**Pn**	**12 38 54.3**	**-0.6**
KHZ	**Kahutara**	**0.87**	**217**	Pg		**Pg**	**12 38 55.1**	**+0.2**
KHZ	**Kahutara**	**0.87**	**217**	P		**Pn**	**12 38 55.6**	**+0.1**
CAW	**Cannon Point**	**0.87**	**45**	P		**Pg**	**12 38 54.5**	**-0.4**
PAWZ	**Paruwai Farm**	**0.95**	**69**	P		**Pb**	**12 38 56.0**	**0.0**
DUWZ	**D'Urville Isla**	**0.95**	**345**	P		**Pn**	**12 38 57.2**	**+0.6**
DUWZ				P		**Pn**	**12 38 57.2**	**+0.6**
KIW	**Kapiti Island**	**1.00**	**30**	P		**Pg**	**12 38 56.7**	**-0.5**
THZ	**Tophouse**	**1.00**	**267**			**Pn**	**12 38 57.6**	**+0.2**
THZ	**Tophouse**	**1.00**	**267**	P		**Pn**	**12 38 57.6**	**+0.2**
MTW	**Mount Morrison**	**1.10**	**59**	P		**Pb**	**12 38 58.2**	**-0.4**
TMWZ	**Te Maipa**	**1.38**	**64**	P		**Pn**	**12 39 01.7**	**-0.9**
MRZ	**Mangatainoka R**	**1.46**	**44**	P		**Pn**	**12 39 03.4**	**-0.3**
GVZ	**Greta Valley S**	**1.53**	**215**	P		**Pn**	**12 39 04.8**	**+0.2**
TIWZ	**Tintock**	**1.56**	**53**	P		**Pn**	**12 39 04.3**	**-0.7**
QRZ	**Quartz Range**	**1.57**	**304**	Pn		**Pb**	**12 39 06.7**	**0.0**
QRZ	**Quartz Range**	**1.57**	**304**	P		**Pg**	**12 39 07.3**	**-0.9**
OHWZ	**Ohakea**	**1.72**	**28**	P		**Pb**	**12 39 08.8**	**-0.3**
PRWZ	**Pori Road**	**1.75**	**49**	P		**Pn**	**12 39 07.1**	**-0.5**
POWZ	**Post Office Ro**	**1.76**	**41**	P		**Pn**	**12 39 07.7**	**0.0**
LTZ	**Lake Taylor**	**1.81**	**234**	P		**Pn**	**12 39 06.5**	**-1.9**
BFZ	**Birch Farm**	**1.83**	**56**			**Pn**	**12 39 07.5**	**-1.3**
BFZ	**Birch Farm**	**1.83**	**56**	P		**Pn**	**12 39 07.7**	**-1.1**
DVHZ	**Dannevirke**	**2.04**	**46**	P		**Pn**	**12 39 10.5**	**-1.0**
WAZ	**Wanganui**	**2.05**	**16**	P		**Pg**	**12 39 16.1**	**-1.1**
TSZ	**Takapari Road**	**2.11**	**39**	P		**Pn**	**12 39 12.4**	**-0.2**
LREZ	**Lake Rotokare**	**2.27**	**3**	P		**Pg**	**12 39 21.4**	**0.0**
INZ	**Inchbonnie**	**2.31**	**243**	P		**Pb**	**12 39 20.0**	**+0.9**
NMEZ	**Namu Road**	**2.33**	**353**	P		**Pg**	**12 39 22.0**	**-0.5**
PNHZ	**Pukenui**	**2.34**	**40**	P		**Pn**	**12 39 15.1**	**-0.6**
WPHZ	**Waipukurau**	**2.35**	**46**	P		**Pn**	**12 39 16.0**	**+0.1**
KHEZ	**Kahui Hut**	**2.43**	**356**	P		**Pb**	**12 39 21.6**	**+0.3**
NEZ	**North Egmont**	**2.45**	**357**	P		**Pg**	**12 39 24.8**	**-0.2**
NBEZ	**Newall Road No**	**2.47**	**353**	P		**Pg**	**12 39 23.4**	**-1.9**
MTVZ	**Mangateitei**	**2.52**	**22**	P		**Pb**	**12 39 23.8**	**+1.1**
DREZ	**Durham Road**	**2.53**	**359**	P		**Pb**	**12 39 23.2**	**+0.2**
PKE	**Pukeiti**	**2.54**	**355**	P		**Pb**	**12 39 22.9**	**-0.1**
PKVZ	**Pokaka**	**2.57**	**19**	P		**Pb**	**12 39 21.1**	**-2.6**
MOVZ	**Moawhango**	**2.58**	**27**	P		**Pb**	**12 39 24.0**	**+0.1**
PXZ	**Pawanui**	**2.61**	**50**	P		**Pn**	**12 39 17.5**	**-1.8**
PXZ				P		**Pn**	**12 39 17.5**	**-1.8**
WNVZ	**Wahianoa**	**2.61**	**24**	P		**Pb**	**12 39 22.6**	**-1.7**
TRVZ	**Turoa**	**2.62**	**23**	P		**Pb**	**12 39 22.7**	**-1.9**
BHHZ	**Black Hill Sta**	**2.63**	**32**	P		**Pb**	**12 39 25.4**	**+0.7**
DRZ	**Dome Shelter**	**2.65**	**23**	P		**Pb**	**12 39 23.8**	**-1.3**
WHVZ	**Whangaehu Hut**	**2.65**	**23**	P		**Pb**	**12 39 23.3**	**-1.7**
MHEZ	**Mangahewa**	**2.65**	**1**	P		**Pg**	**12 39 26.7**	**-1.9**
FWVZ	**Far West T-bar**	**2.66**	**22**	P		**Pn**	**12 39 22.2**	**+1.9**
TUVZ	**Tukino**	**2.68**	**24**	P		**Pn**	**12 39 21.9**	**+1.4**
NGZ	**Ngauruhoe**	**2.75**	**23**	P		**Pb**	**12 39 27.0**	**+0.2**
SNVZ	**South Ngauruho**	**2.75**	**23**	P		**Pb**	**12 39 26.1**	**-0.7**
KAHZ	**Kahuranaki**	**2.78**	**47**	P		**Pn**	**12 39 20.6**	**-1.1**
OTVZ	**Oturere**	**2.78**	**23**	P		**Pb**	**12 39 28.2**	**+0.9**
NNVZ	**North Ngauruho**	**2.79**	**22**	P		**Pb**	**12 39 28.5**	**+1.0**
WTVZ	**West Tongariro**	**2.80**	**22**	P		**Pb**	**12 39 28.2**	**+0.6**
TWVZ	**Taurewa**	**2.80**	**19**	P		**Pn**	**12 39 23.7**	**+1.5**
ETVZ	**East Tongariro**	**2.82**	**24**	P		**Pb**	**12 39 28.4**	**+0.5**
KWHZ	**Kaweka Forest**	**2.83**	**37**	P		**Pg**	**12 39 30.0**	**-2.2**
TMVZ	**Te Maari**	**2.83**	**24**	P		**Pn**	**12 39 24.2**	**+1.6**
KRVZ	**Karewarewa**	**2.83**	**23**	P		**Pb**	**12 39 29.0**	**+0.8**
NTVZ	**North Tongariro**	**2.84**	**23**	P		**Pn**	**12 39 24.6**	**+1.8**
WVZ	**Waitaha Valley**	**2.93**	**241**	P		**Pb**	**12 39 27.6**	**-2.1**
KATZ	**Kakaramea**	**2.96**	**22**	P		**Pb**	**12 39 31.5**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.98**	**47**	P		**Pb**	**12 39 31.8**	**+1.1**
RPZ	**Rata Peaks**	**3.08**	**229**	Pn		**Pn**	**12 39 24.9**	**-1.0**
	45nm,0.3s,baz=45,slow=8.0,SNR=1.8							
RPZ				Sn		**Sn**	**12 40 00.9**	**-1.5**
	baz=267,slow=3.1 2µm,0.9s							
RATZ	**Rangitukua**	**3.08**	**23**	P		**Pb**	**12 39 33.9**	**+1.5**
HATZ	**Hinemaiaia**	**3.16**	**27**	P		**Pb**	**12 39 34.4**	**+0.7**
WATZ	**Wairara**	**3.22**	**21**	P		**Pb**	**12 39 35.7**	**+1.0**
HIZ	**Hauiti**	**3.24**	**8**	Pn		**Pn**	**12 39 30.2**	**+2.1**
HIZ	**Hauiti**	**3.24**	**8**	P		**Pn**	**12 39 30.9**	**+2.8**
ALRZ	**Allen Road**	**3.54**	**28**	P		**Pb**	**12 39 38.9**	**-1.4**
HRRZ	**Handcock Road**	**3.68**	**26**	P		**Pb**	**12 39 41.7**	**-0.9**
MHGZ	**Mahia Peninsul**	**3.79**	**49**	P		**Pn**	**12 39 33.9**	**-1.8**
TARZ	**Mount Tarawera**	**3.89**	**27**	P		**Pn**	**12 39 36.7**	**-0.5**
TOZ	**Tahuroa Road**	**4.10**	**14**	P		**Pn**	**12 39 43.0**	**+3.0**
MARZ	**Manawahe**	**4.18**	**27**	P		**Pn**	**12 39 41.3**	**+0.3**
OPRZ	**Ohinepanea**	**4.26**	**25**	P		**Pn**	**12 39 41.7**	**-0.5**
JCZ	**Jackson Bay**	**4.65**	**238**	P		**Pn**	12 39 53.0	+5.5
MKAZ	**Moumakai**	**4.67**	**9**	P		**Pn**	**12 39 49.4**	**+1.7**
MYRZ	**Mayor Island**	**4.70**	**20**	P		**Pb**	12 39 54.7	-5.2
WTAZ	**Waiatarua**	**4.79**	**3**	P		**Pn**	**12 39 52.8**	**+3.4**
ETAZ	**East Tamaki Re**	**4.79**	**7**	P		**Pn**	**12 39 51.6**	**+2.2**
HAZ	**Te Kaha**	**4.81**	**36**	P		**Pn**	**12 39 49.2**	**-0.5**
EPAZ	**Eden Park BICE**	**4.86**	**5**	P		**Pn**	12 39 55.4	+5.1
RVAZ	**Riverhead Bore**	**4.95**	**3**	P		**Pn**	**12 39 54.7**	**+3.1**

PLCA	**Paso Flores**	**79.12**	**136**	*e*P	**P**	**12 50 46.4**	**+4.7**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GSI	**Gunungsitoli**	**80.94**	**280**	P	**P**	**12 50 51.8**	**0.0**
GSI				IAmb	IAmb	12 50 52.6	
	comp=Z,43nm,1.1s						
MJAR	**Matsushiro Arr**	**84.58**	**332**	P	**P**	**12 51 08.9**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=160,slow=2.8,SNR=3.1						
	comp=Z,1.3nm,0.9s						
KSRS	**Korea Array**	**89.43**	**325**	P	**P**	**12 51 33.2**	**-0.4**
	comp=Z,5.1nm,0.9s,baz=140,slow=5.6,SNR=9.5						
	comp=Z,5.1nm,0.9s						
CM31	**Chiang Mai Arr**	**91.63**	**293**	P	**P**	**12 51 44.5**	**+0.1**
CM31				IAmb	IAmb	12 52 00.1	
	comp=Z,14nm,1.1s						
CMAR	**Chiang Mai Arr**	**91.63**	**293**	P	**P**	**12 51 44.0**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=153,slow=3.6,SNR=13						
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.63**	**293**	*e*P	**P**	**12 51 44.0**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CHTO	**Chiang Mai**	**91.87**	**294**	P	**P**	**12 51 45.3**	**-0.1**
CHTO	**Chiang Mai**	**91.87**	**294**	P	**P**	**12 51 45.3**	**-0.1**
PET	**Petropavlovsk**	**95.33**	**351**	*i* P	**P**	**12 52 01.0**	**+0.5**
PET				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2	**Changchun**	**95.76**	**327**	*e*P	**P**	**12 52 03.3**	**+0.6**
CN2				*e*sP	sP	12 52 10.3	+0.3
NNA	**Nana**	**95.77**	**112**	*i* P	**P**	**12 52 03.9**	**+0.2**
NNA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**97.98**	**333**	*i* P	Pdif	12 52 13.1	+0.4
KLR				pmax	pmax		
	comp=Z,16nm,2.2s						
HHC	**Hu-ho-hao-te**	**99.87**	**317**	*e*P	**Pdif**	**12 52 24.4**	**+2.9**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,35nm,0.7s						
XLT	**XiLinHaoTe**	**99.95**	**321**	⇑*i* P	**Pdif**	**12 52 30.3**	**+8.6**
XLT				pP	sP	12 52 34.8	+5.8
XLT				pmax	pmax		
	comp=Z,14nm,0.9s						
XLT				pmax	pmax		
	comp=Z,14nm,1.1s						
ILAR	**Eielson Array**	**110.44**	**17**	PKiKP	**PKiKP**	**12 57 09.5**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=276,slow=2.2,SNR=6.1						
INK	**Inuvik**	**116.43**	**19**	PKP	**PKPdf**	**12 57 18.3**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=318,slow=8.4,SNR=3.8						
TIXI	**Tiksi**	**117.54**	**345**	*i* PKIKP	**PKPdf**	**12 57 21.1**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YKA	**Yellowknife Ar**	**118.36**	**30**	PKP	**PKPdf**	**12 57 22.3**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=201,slow=2.5,SNR=9.3						
YKA	**Yellowknife Ar**	**118.36**	**30**	*e*PKIKP	**PKPdf**	**12 57 22.6**	**-0.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**119.96**	**308**	PKP	**PKiKP**	**12 57 28.2**	**+1.1**
	comp=Z,2.7nm,1.0s,baz=43,slow=3.6,SNR=4.1						
KMBO	**Kilima Mbogo**	**122.30**	**234**	PKP	**PKPdf**	**12 57 32.6**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=168,slow=12,SNR=4.6						
KURBB	**Kurchatov Arra**	**123.96**	**310**	PKP	**PKPdf**	**12 57 32.1**	**-2.4**
	comp=Z,1.0nm,0.6s,baz=113,slow=1.9,SNR=5.4						
BVAR	**Borovoye Array**	**129.55**	**310**	PKP	**PKPdf**	**12 57 44.7**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=87,slow=3.1,SNR=3.7						
ARU	**Arti**	**137.02**	**313**	*i* PKIKP	**PKPdf**	**12 57 58.9**	**-0.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZEI	**Tsey**	**143.66**	**289**	*i* PKIKP	**PKiKP**	**12 58 19.1**	**+3.8**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ILULI	**Ilulissat**	**143.82**	**25**	*i* P	**PKiKP**	**12 58 20.4**	**+6.0**
DAG	**Danmarks Havn**	**144.42**	**5**	*i* P	PKPbc	12 58 11.0	+0.6
KBZ	**Khabaz**	**144.61**	**290**	PKP	**PKPab**	**12 58 10.2**	**-1.5**
	comp=Z,3.1nm,0.6s,baz=92,slow=6.8,SNR=4.7						
KBZ	**Khabaz**	**144.61**	**290**	*e*PKIKP	**PKPab**	**12 58 09.6**	**-2.2**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LIC	**Lamto**	**144.64**	**181**⇑	*e*PKP1	**PKPdf**	**12 58 14.6**	**+0.4**
	comp=Z,44nm,0.7s						
KIC	**Kosan Boka**	**144.77**	**182**⇑	*e*PKP1	PKPbc	12 58 13.7	+0.4
	comp=Z,9.6nm,0.5s						
SHA1	**Shidzhatmaz**	**144.78**	**290**	*i* PKIKP	**PKPdf**	**12 58 13.4**	**-0.4**
KIV	**Kislovodsk**	**144.81**	**290**	*e*PKIKP	**PKPab**	**12 58 11.5**	**-1.2**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
SFJD	**Kangerlussuaq**	**144.91**	**29**	PKP	**PKPab**	**12 58 11.4**	**-0.8**
	comp=Z,12nm,0.9s,baz=274,slow=0.5,SNR=2.1						
ASF	**Jabal al Asfar**	**144.91**	**268**	PKP	**PKPab**	**12 58 13.3**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=104,slow=3.3,SNR=5.8						
TIC	**Toumodi**	**145.06**	**181**⇑	*e*PKP1	**PKPbc**	**12 58 13.7**	**-0.6**
	comp=Z,42nm,0.8s						
DBIC	**Dimbokro**	**145.08**	**182**	PKPbc	**PKPbc**	**12 58 14.0**	**-0.3**
	comp=Z,11nm,0.7s,baz=161,slow=3.7,SNR=8.5						
DBIC	**Dimbokro**	**145.08**	**182**		**PKPbc**	**12 58 13.7**	**-0.6**
DBIC	**Dimbokro**	**145.08**	**182**	PKIKP	**PKPbc**	**12 58 13.7**	**-0.6**
EIL	**Elat**	**145.13**	**263**	PKPbc	**PKPbc**	**12 58 13.3**	**-0.8**
	comp=Z,6.7nm,0.7s,baz=169,slow=5.2,SNR=5.1						
SUMG	**Summit**	**145.29**	**17**	*i* P	**PKPbc**	**12 58 12.0**	**-1.8**
NUUK	**Nuuk**	**145.48**	**34**	*i* P	**PKPbc**	**12 58 14.2**	**+0.1**
MMAI	**Mount Meron Ar**	**146.42**	**269**	PKPbc	**PKPbc**	**12 58 18.5**	**+0.4**
	comp=Z,8.7nm,0.6s,baz=98,slow=6.0,SNR=7.1						
KLMR	**Klimovskoe**	**146.73**	**321**	*e*PKPdf	**PKPdf**	**12 58 14.4**	**-1.8**
KLMR				AMP		12 58 34.2	
	comp=Z,49nm,1.5s						
KLMR	**Klimovskoe**	**146.73**	**321**	*e*PKIKP	**PKPdf**	**12 58 14.4**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,49nm,1.5s						
ARCES	**ARCESS Array B**	**147.75**	**340**	PKPbc	**PKPbc**	**12 58 19.2**	**-1.5**
	comp=Z,10.0nm,0.8s,baz=39,slow=1.5,SNR=13						
ARCES	**ARCESS Array B**	**147.75**	**340**	*e*PKP2	**PKPbc**	**12 58 19.4**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORR	**Voronezh**	**148.06**	**304**	*e*PKP2	**PKPbc**	**12 58 22.3**	**+0.3**
VORR				pmax	pmax		
	comp=Z,70nm,0.4s						
OBN	**Obninsk**	**149.39**	**311**	*i* PKHKP	PKPpre	12 58 18.1	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BR131	**Keskin Array S**	**150.25**	**279**		**PKPbc**	**12 58 27.9**	**-0.2**
BR131	**Keskin Array S**	**150.25**	**279**	PKIKP	**PKPbc**	**12 58 27.9**	**-0.2**
BRTR	**Keskin Array B**	**150.25**	**279**	PKPbc	**PKPbc**	**12 58 26.8**	**-1.3**
	comp=Z,6.1nm,0.9s,baz=138,slow=5.3,SNR=6.1						
BRTR	**Keskin Array B**	**150.25**	**279**	*e*PKIKP	**PKPbc**	**12 58 27.1**	**-1.0**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**152.51**	**327**	PKPbc	**PKPbc**	**12 58 30.4**	**-1.9**
	comp=Z,5.6nm,0.6s,baz=36,slow=3.5,SNR=11						
HFS	**Hagfors**	**158.02**	**334**	PKPab	**PKPab**	**12 59 04.1**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=60,slow=5.8,SNR=6.6						
NB2	**NORSAR Subarra**	**158.08**	**338**	PKP	PKPab	12 59 16.1	+9.4
	comp=Z,2.0nm,0.7s,baz=38,slow=4.4						
BRG	**Berggiesshubel**	**163.64**	**311**	*e*PKP	**PKPdf**	**12 58 38.4**	**-0.9**
BRG				Amp		12 58 40.2	
	comp=Z,5.1nm,1.2s						
BRG	**Berggiesshubel**	**163.64**	**311**	*e*PKIKP	**PKPdf**	**12 58 38.4**	**-0.9**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CLL	**Collm**	**163.96**	**313**	*i* PKIKP	**PKPdf**	**12 58 34.8**	**-4.8**
GERES	**GERESS Array B**	**164.59**	**304**	PKPab	**PKPab**	**12 59 35.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=47,slow=7.1,SNR=2.2						
KEST	**Kesra**	**166.79**	**248**	PKPab	**PKPab**	**12 59 44.0**	**-1.7**
	comp=Z,5.3nm,1.0s,baz=68,slow=6.5,SNR=3.9						
ESDC	**Sonseca Array**	**177.54**	**214**	PKP	**PKPdf**	**12 58 47.2**	**-0.1**
	comp=Z,3.3nm,1.1s,baz=268,slow=0.7,SNR=6.6						

WEL 13 12:39:56.6±0.8, 42°S±4°, 17°E±°, h12km, M3.9/2, ML4.7/1, MLv3.9/2, Error ellipse: s-maj=0.0km s-min=0.0km az=74.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.15**	**338**	S	Sg	12 40 05.4	+2.9
CMWZ	**Cape Campbell**	**0.22**	**63**	P	Pg	12 40 01.2	-0.1

INET 13 12:40:02.9±1.0, 12°16N×88°06W, h24km±21km, MW3.5
SNET 13 12:40:05.3±1.1, 12°42N×88°09W, h23km±6km, ML3.1
ISC 13 12:40:02.2±2.6, 12°3N±0°1×88°02W±0°06, h16km±12km, n14, σ0°84/22, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.01**	**11**	*e*P	**Pb**	**12 40 21.2**	**-0.2**
CNCH				*e*S	**Sg**	**12 40 34.9**	**-0.2**
LCND	**La Caada**	**1.03**	**7**	*e*P	**Pg**	**12 40 22.4**	**+0.1**
LCND				*e*S	**Sb**	**12 40 34.7**	**-0.4**
LCND				IAML		12 40 43.0	
	comp=Z,589nm,0.3s						
CRIN	**San Cristobal**	**1.04**	**66**	*e*P	**Pb**	**12 40 22.1**	**+0.2**
CRIN				*e*S	**Sn**	**12 40 38.5**	**+2.1**
COEB	**Comit de Eme**	**1.31**	**338**	*e*P	**Pn**	**12 40 26.0**	**+0.1**
COEB				*e*S	**Sb**	**12 40 42.9**	**-0.3**
COEB				IAML		12 40 53.1	
	comp=Z,234nm,0.6s						
PQSS	**Presa 15 de Se**	**1.44**	**339**	*e*P	**Pn**	**12 40 27.5**	**-0.1**
PQSS				*e*S	**Sn**	**12 40 45.7**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.57**	**334**	*e*P	**Pn**	**12 40 29.7**	**+0.2**
SCLA				*e*S	**Sn**	**12 40 49.6**	**0.0**
COEG	**Centro de Oper**	**1.58**	**328**	*e*P	**Pn**	**12 40 30.2**	**+0.7**
COEG				IAML		12 41 00.3	
	comp=Z,182nm,0.1s						
SJTE	**Alcalda de S**	**1.64**	**324**	*e*P	**Pn**	**12 40 31.3**	**+0.8**
LFRS	**El Faro**	**1.68**	**323**	*e*P	**Pn**	**12 40 31.1**	**+0.1**
LFRS				*e*S	**Sn**	**12 40 51.8**	**-0.4**
PAVA	**Las Pavas**	**1.68**	**328**	*e*P	**Pn**	**12 40 31.7**	**+0.6**
WILN	**Americas 2**	**1.80**	**93**	*e*P	**Pn**	**12 40 31.4**	**-1.1**
JAYA	**Jayaque - finc**	**1.95**	**315**	*e*P	**Pn**	**12 40 35.6**	**+0.8**
JAYA				*e*S	**Sn**	**12 40 57.5**	**-1.6**
MATN	**Matagalpa**	**2.15**	**72**	*e*P	**Pn**	**12 40 37.5**	**0.0**
CEVE	**Cerro Verde**	**2.19**	**315**	*e*P	**Pn**	**12 40 39.5**	**+1.3**
CEVE				IAML		12 41 14.3	
	comp=Z,251nm,0.5s						

WEL 13 12:40:54.7, 42°S±2°×17°E±°, h8km±5km, M4.8/16, MLv4.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=95.5
IDC 13 12:40:54.7±1.5, 42°47S×173°13E, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=46.7km s-min=28.9km az=134.0
NEIC 13 12:40:55.3±2.1, 42°48S±0°03×173°40E±0°04, h2km±5km, mb4.7/12, Error ellipse: s-maj=5.1km s-min=3.0km az=130.0
ISC 13 12:40:55.5±1.1, 42°50S±0°03×173°39E±0°04, h6km±7km, n59, σ1s00/64, mb4.5/10, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**53**		**Pg**	**12 40 58.6**	**+0.3**
KHZ	**Kahutara**	**0.14**	**53**	P	**Pg**	**12 40 58.3**	**+0.1**
KHZ				S	**Sg**	**12 41 01.1**	**+1.0**
GVZ	**Greta Valley S**	**0.54**	**209**	P	**Pb**	**12 41 07.6**	**+0.2**
GVZ				S	**Sn**	**12 41 17.7**	**-1.4**
THZ	**Tophouse**	**0.82**	**334**		**Pg**	**12 41 10.6**	**-0.6**
THZ	**Tophouse**	**0.82**	**334**	P	**Pg**	**12 41 10.8**	**-0.4**
THZ				S	**Sg**	**12 41 20.1**	**-1.7**
BSWZ	**Blackbirch Sta**	**0.86**	**25**	Pg	**Pb**	**12 41 11.5**	**-1.3**
AMCZ	**Amberley**	**0.87**	**219**	P	**Pn**	**12 41 14.2**	**-0.1**
AMCZ				S	**Sn**	**12 41 27.6**	**+0.4**
LTZ	**Lake Taylor**	**0.88**	**251**	Pg	**Pg**	**12 41 12.2**	**-0.1**
LTZ	**Lake Taylor**	**0.88**	**251**	P	**Pb**	**12 41 12.6**	**-0.4**
TUWZ	**Tuamarina**	**1.14**	**21**		**Pn**	**12 41 16.5**	**-1.4**
TUWZ	**Tuamarina**	**1.14**	**21**	P	**Pn**	**12 41 16.8**	**-1.1**
NNZ	**Nelson**	**1.28**	**360**		**Pn**	**12 41 18.6**	**-1.2**
NNZ	**Nelson**	**1.28**	**360**	P	**Pn**	**12 41 19.0**	**-0.8**
OXZ	**Oxford**	**1.29**	**230**		**Pn**	**12 41 19.6**	**-0.5**
OXZ	**Oxford**	**1.29**	**230**	P	**Pb**	**12 41 19.7**	**-0.5**
MQZ	**McQueen's Vall**	**1.32**	**204**	Pn	**Pn**	**12 41 19.3**	**-1.1**
MQZ	**McQueen's Vall**	**1.32**	**204**	P	**Pn**	**12 41 19.1**	**-1.4**
DSZ	**Denniston Nort**	**1.40**	**302**	Pn	**Pn**	**12 41 21.6**	**0.0**
AKCZ	**Akaroa Harbour**	**1.42**	**194**	P	**Pn**	**12 41 20.9**	**-0.8**
TCW	**Tory Channel**	**1.45**	**27**	P	**Pn**	**12 41 22.6**	**+0.5**
INZ	**Inchbonnie**	**1.46**	**260**	P	**Pb**	**12 41 22.5**	**-0.4**
TKNZ	**Takaka Hill**	**1.50**	**347**	P	**Pn**	**12 41 23.1**	**+0.2**
RACZ	**Rakaia**	**1.53**	**216**	P	**Pn**	**12 41 22.3**	**-1.0**
SNZO	**South Karori**	**1.54**	**40**	Pn	**Pn**	**12 41 20.9**	**-2.5**
DUWZ	**D'Urville Isla**	**1.74**	**13**	P	**Pn**	**12 41 26.7**	**+0.5**
QRZ	**Quartz Range**	**1.79**	**339**		**Pn**	**12 41 27.6**	**+0.7**
QRZ	**Quartz Range**	**1.79**	**339**	P	**Pn**	**12 41 27.7**	**+0.8**
WACZ	**Wakanui South**	**1.84**	**218**	P	**Pn**	**12 41 26.5**	**-1.0**
WVZ	**Waitaha Valley**	**2.04**	**253**	P	**Pn**	**12 41 30.7**	**+0.4**
RPZ	**Rata Peaks**	**2.10**	**234**	Pn	**Pn**	**12 41 29.1**	**-2.0**
	320nm,0.3s,baz=357,slow=18,SNR=2.2						
RPZ				Sn	**Sn**	**12 41 56.0**	**-1.7**
	198nm,0.3s,baz=158,slow=23,SNR=9.6						
RPZ	**Rata Peaks**	**2.10**	**234**	Pn	**Pn**	**12 41 30.1**	**-1.1**
RPZ	**Rata Peaks**	**2.10**	**234**	P	**Pn**	**12 41 30.2**	**-1.0**
ARCZ	**Arundel**	**2.17**	**227**	P	**Pn**	**12 41 31.2**	**-1.0**
HHSZ	**Highcliff Hill**	**3.94**	**210**	P	**Pn**	**12 41 55.2**	**-1.2**
ETAZ	**East Tamaki Re**	**5.66**	**13**	P	**Pn**	**12 42 20.2**	**+0.1**
KOUNC	**Koumac, New Ca**	**23.19**	**338**	P	**P**	**12 46 03.0**	**+0.2**
KOUNC				IAmb	IAmb	12 46 07.7	
	comp=Z,31nm,1.1s						
EIDS	**Eidsvold**	**25.07**	**306**	P	**P**	**12 46 21.8**	**+1.2**
EIDS				IAmb	IAmb	12 46 25.4	
	comp=Z,9.7nm,0.8s						
VNDA	**Vanda**	**35.45**	**184**	P	**P**	**12 47 52.3**	**+0.3**
ASAR	**Alice Springs**	**37.63**	**287**	P	**P**	**12 48 09.7**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=123,slow=6.8,SNR=2.2						
	comp=Z,3.0nm,0.7s						
FORT	**Forrest**	**37.80**	**273**	P	**P**	**12 48 13.2**	**+0.7**
FORT				IAmb	IAmb	12 48 39.6	
	comp=Z,18nm,0.9s						
COEN	**Coen**	**38.58**	**308**	P	**P**	**12 48 19.5**	**+0.3**
WR0	**Warramunga Arr**	**39.63**	**292**	P	**P**	**12 48 28.4**	**+0.5**
WR0				IAmb	IAmb	12 48 33.5	
	comp=Z,15nm,1.2s						
WB2	**Warramunga Arr**	**39.77**	**292**	P	**P**	**12 48 29.2**	**0.0**
WRA	**Warramunga Ar**	**39.78**	**292**	P	**P**	**12 48 27.2**	**-2.1**
	comp=Z,1.7nm,0.5s,baz=128,slow=8.4,SNR=2.7						
	comp=Z,1.7nm,0.5s						
PMG	**Port Moresby**	**40.19**	**317**	P	**P**	**12 48 31.7**	**-1.0**
	comp=Z,5.1nm,0.7s,baz=224,slow=5.2,SNR=3.8						
	comp=Z,5.1nm,0.7s						
MTN	**Manton Dam**	**46.96**	**296**	P	**P**	**12 49 28.0**	**+0.8**
MORW	**Morawa**	**47.58**	**267**	P	**P**	**12 49 33.7**	**+1.8**
QSPA	**South Pole Qui**	**47.63**	**180**	P	**P**	**12 49 32.2**	**+0.2**
SNAA	**Sanae**	**66.11**	**181**	P	**P**	**12 51 43.1**	**+0.2**
SNAA				IAmb	IAmb	12 51 47.5	
	comp=Z,7.2nm,1.1s						
VNA2	**Neumayer--Watz**	**66.89**	**180**	P	**P**	**12 51 48.3**	**+0.5**
	baz=166,slow=6.0						
PLCA	**Paso Flores**	**79.01**	**136**	P	**P**	**12 53 01.1**	**+0.9**
PLCA				IAmb	IAmb	12 53 35.8	
	comp=Z,6.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**91.35**	**294**	P	**P**	**12 54 02.2**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=149,slow=3.1,SNR=5.6						
	comp=Z,2.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.35**	**294**	P	**P**	**12 54 02.8**	**+0.6**
MKAR	**Makanchi Array**	**119.92**	**308**	PKP	**PKiKP**	**12 59 46.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=194,slow=0.8,SNR=2.0						
KURBB	**Kurchatov Arra**	**123.97**	**310**	PKP	**PKPdf**	**12 59 53.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=110,slow=1.7,SNR=6.8						
BVAR	**Borovoye Array**	**129.56**	**310**	PKP	**PKPdf**	**13 00 04.1**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=181,slow=1.4,SNR=2.9						
ARCES	**ARCESS Array B**	**148.25**	**339**	PKPbc	**PKPbc**	**13 00 41.4**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=57,slow=4.5,SNR=1.2						
BRTR	**Keskin Array B**	**149.75**	**279**	PKPbc	**PKPbc**	**13 00 44.8**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=88,slow=2.0,SNR=2.5						
FINES	**FINESS Array B**	**152.80**	**325**	PKPbc	**PKPbc**	**13 00 50.6**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=344,slow=4.6,SNR=2.1						

ROM 13 12:43:46.5±0.0, 42°747N±0°002×13°321E±0°004, h14km, ML1.9/6, 4C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1243	**Rocca Santa Ma**	**0.11**	**118**	⇓P	Pg	12 43 50.1	+0.3
T1243				S	Sg	12 43 52.6	+0.5
SMA1	**SAN MARTINO**	**0.12**	**175**	⇑P	Pg	12 43 50.3	+0.3
SMA1				S	Sg	12 43 52.5	+0.2
SMA1				AML	AML		
	comp=E,1462μm,0.1s						
SMA1				AML	AML		
	comp=N,1255μm,0.1s						
T1245	**Castelsantange**	**0.15**	**318**	P	Pg	12 43 50.7	+0.2
T1245				S	Sg	12 43 53.6	+0.5
T1245				AML	AML		
	comp=E,1570μm,0.2s						
T1245				AML	AML		
	comp=N,1365μm,0.2s						
MMO1	**Montemonaco**	**0.15**	**2**	⇑P	Pg	12 43 50.7	+0.2
MMO1				S	Sg	12 43 53.5	+0.4
T1218	**Civita (PG)**	**0.17**	**243**	P	Pg	12 43 51.0	+0.3
T1218				S	Sg	12 43 54.2	+0.7
T1218				AML	AML		
	comp=E,487μm,0.2s						
T1218				AML	AML		
	comp=N,595μm,0.2s						
T1218				AML	AML		
	comp=N,592μm,0.2s						
T1218				AML	AML		
	comp=E,487μm,0.2s						
NRCA	**Norcia**	**0.17**	**300**	P	Pg	12 43 50.1	-0.7
NRCA				AML	AML		
	comp=E,1535μm,1.1s						
NRCA				AML	AML		
	comp=N,1250μm,0.1s						
T1246	**Crognaleto (TE**	**0.21**	**142**	P	Pg	12 43 51.6	+0.3
T1246				S	Sg	12 43 55.2	+0.7
CAMP	**Campotosto**	**0.22**	**163**	P	Pg	12 43 51.7	+0.2
CAMP				S	Sg	12 43 55.4	+0.5
TERO	**Teramo**	**0.24**	**121**	P	Pg	12 43 52.0	+0.2
TERO				S	Sg	12 43 56.0	+0.6
RM33	**Pellescritta (**	**0.25**	**198**	⇑P	Pg	12 43 52.3	+0.3
RM33				S	Sb	12 43 56.7	-0.5
RM33				AML	AML		
	comp=E,169μm,0.1s						
RM33				AML	AML		
	comp=N,144μm,0.1s						
RM33				AML	AML		
	comp=E,166μm,0.1s						
RM33				AML	AML		
	comp=N,132μm,0.1s						
LNSS	**Leonessa**	**0.25**	**235**	P	Pg	12 43 52.3	+0.3
LNSS				S	Sb	12 43 56.6	-0.6
T1216	**Preci, Frazion**	**0.26**	**303**	P	Pg	12 43 52.3	+0.2
T1216				S	Sg	12 43 56.7	+0.7
T1256	**Bolognola (MC)**	**0.27**	**345**	P	Pg	12 43 52.5	+0.1
T1256				S	Sg	12 43 57.0	+0.7
T1247	**Pizzolo (AQ)**	**0.31**	**183**	P	Pg	12 43 53.2	+0.3
T1247				S	Sb	12 43 58.3	-0.5
GUMA	**Gualdo di Mace**	**0.32**	**2**	P	Pb	12 43 53.6	-0.5
GUMA				S	Sb	12 43 59.3	+0.2
OFFI	**Offida**	**0.33**	**55**	P	Pb	12 43 54.3	+0.1
OFFI				AML	AML		
	comp=E,598μm,0.7s						
OFFI				AML	AML		
	comp=N,1115μm,0.6s						
FDMO	**Fiordimonte**	**0.34**	**329**	P	Pg	12 43 53.5	+0.1
FDMO				S	Sb	12 43 59.0	-0.7
T1215	**Vallo di Nera,**	**0.34**	**280**	P	Pg	12 43 53.6	+0.1
T1215				S	Sb	12 43 59.0	-0.7
GIGS	**Gran Sasso**	**0.35**	**148**	P	Pg	12 43 53.6	-0.1
CSP1	**Cessapalombo**	**0.35**	**346**	P	Pg	12 43 54.0	+0.1
CSP1				S	Sb	12 43 59.7	-0.6
T1219	**Muccia, Frazio**	**0.39**	**323**	P	Pg	12 43 54.4	+0.1
T1219				S	Sb	12 44 00.4	-0.7
T1211	**Morro Reatino**	**0.41**	**238**	P	Pg	12 43 54.8	+0.1
T1211				S	Sg	12 44 00.9	+0.7
ARRO	**Arrone**	**0.44**	**248**	P	Pg	12 43 55.5	+0.2
ARRO				S	Sb	12 44 02.2	-0.4
MDAR	**Monte D'Aria**	**0.46**	**344**	P	Pg	12 43 55.9	+0.1
VCEL	**Villa Celiera**	**0.52**	**132**	P	Pg	12 43 57.1	+0.2
VCEL				S	Sb	12 44 05.3	+0.3
VCEL				AML	AML		
	comp=N,190μm,0.8s						
VCEL				AML	AML		
	comp=E,196μm,1.6s						
EL6	**Elcito**	**0.60**	**345**	⇓P	Pg	12 43 58.3	-0.1
EL6				S	Sn	12 44 09.0	-1.5
ATCC	**AVT- Casa Cast**	**0.66**	**311**	⇑P	Pg	12 43 59.5	-0.1
FOSV	**Fossato di Vic**	**0.68**	**323**	⇓P	Pg	12 43 59.9	0.0
FOSV				AML	AML		
	comp=E,118μm,1.6s						
FOSV				AML	AML		
	comp=N,112μm,1.6s						
CPGN	**Carpegna, Ital**	**1.28**	**326**	P	Pn	12 44 09.5	-0.7

IDC 13 12:43:49.9±1.2, 42°60S×173°51E, h0km, mb4.3/4, mbtmp4.3/5, ML4.4/1, Error ellipse: s-maj=47.8km s-min=25.8km az=159.0
*NEIC 13 12:43:53.0±1.6, 42°29S±0°03×173°30E±0

s-min=0.0km az=133.2
*NEIC **13** 12:45:10.0±1.1, 42°.45S±0°.04×173°.21E±0°.07, h7^{km}±6^{km}, mb4.3/5, Error ellipse: s-maj=8.8km s-min=1.8km az=123.0*

ISC 13 12:45:09.6±1.1, **42°.46S**±0°.03×**173°.21E**±0°.03, **h10**^{km}±8^{km}, **n39**, σ0^{s}**99**/**47**, **mb4.0**/6, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**81**	Pg	**Pg**	**12 45 15.0**	**+0.5**
KHZ	**Kahutara**	**0.24**	**81**	P	**Pg**	**12 45 15.1**	**+0.5**
KHZ				S	**Sg**	**12 45 17.0**	**-0.9**
THZ	**Tophouse**	**0.73**	**342**		**Pn**	**12 45 26.2**	**+0.2**
LTZ	**Lake Taylor**	**0.77**	**245**	Pg	**Pg**	**12 45 22.9**	**-1.5**
LTZ	**Lake Taylor**	**0.77**	**245**	P	**Pn**	**12 45 27.0**	**+0.3**
LTZ				S	**Sn**	**12 45 36.7**	**-1.6**
MRNZ	**Matariki Terra**	**1.11**	**342**	P	**Pg**	**12 45 33.5**	**+2.6**
MRNZ				S	**Sn**	**12 45 48.0**	**+1.4**
TUWZ	**Tuamarina**	**1.16**	**28**		**Pn**	**12 45 31.3**	**-0.6**
OXZ	**Oxford**	**1.23**	**224**	Pn	**Pg**	**12 45 33.8**	**+0.6**
OXZ	**Oxford**	**1.23**	**224**	P	**Pg**	**12 45 34.4**	**+1.3**
OXZ				S	**Sn**	**12 45 49.6**	**0.0**
NNZ	**Nelson**	**1.24**	**6**		**Pn**	**12 45 31.4**	**-1.6**
DSZ	**Denniston Nort**	**1.27**	**304**	Pn	**Pg**	**12 45 34.2**	**+0.3**
MQZ	**McQueen's Vall**	**1.32**	**198**		**Pn**	**12 45 33.6**	**-0.4**
MQZ	**McQueen's Vall**	**1.32**	**198**	P	**Pn**	**12 45 33.6**	**-0.4**
MQZ				S	**Sn**	**12 45 50.8**	**-0.9**
INZ	**Inchbonnie**	**1.33**	**258**	P	**Pg**	**12 45 36.2**	**+1.0**
TKNZ	**Takaka Hill**	**1.43**	**352**	P	**Pg**	**12 45 37.8**	**+0.8**
AKCZ	**Akaroa Harbour**	**1.43**	**189**	P	**Pg**	**12 45 37.7**	**+0.6**
RACZ	**Rakaia**	**1.50**	**211**	P	**Pb**	**12 45 37.6**	**+0.2**
QRZ	**Quartz Range**	**1.71**	**342**	Pn	**Pb**	**12 45 40.0**	**-1.1**
QRZ	**Quartz Range**	**1.71**	**342**	P	**Pg**	**12 45 42.3**	**0.0**
QRZ				S	**Sg**	**12 46 03.7**	**-0.7**
WACZ	**Wakanui South**	**1.79**	**214**	P	**Pn**	**12 45 41.4**	**+0.7**
RPZ	**Rata Peaks**	**2.02**	**231**	Pn	**Pn**	**12 45 44.3**	**+0.5**
	186nm,0.3s,baz=196,slow=1.6,SNR=7.8						
RPZ				Sn	**Sn**	**12 46 08.7**	**-0.5**
	200nm,0.3s,baz=41,slow=11,SNR=13						
	544nm,0.4s						
RPZ	**Rata Peaks**	**2.02**	**231**	P	**Pn**	**12 45 44.4**	**+0.6**
RPZ				S	**Sn**	**12 46 08.2**	**-1.0**
FOZ	**Fox Glacier**	**2.72**	**246**	Pn	**Pn**	**12 45 54.4**	**+1.1**
BFZ	**Birch Farm**	**2.88**	**53**	Pn	**Pn**	**12 45 56.5**	**+0.8**
ODZ	**Otahua Downs**	**3.19**	**215**	Pn	**Pn**	**12 45 58.4**	**-1.4**
WHZ	**Wether Hill Ro**	**5.11**	**226**	Pn	**Pn**	**12 46 26.5**	**+0.2**
OUZ	**Omahuta**	**7.23**	**2**	Pn	**Pn**	**12 46 55.0**	**-0.3**
ASAR	**Alice Springs**	**37.49**	**287**	P	**P**	**12 52 21.8**	**-1.9**
	1.0nm,0.7s,baz=127,slow=7.2,SNR=2.6						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**37.49**	**287**	P	**P**	**12 52 24.1**	**+0.5**
FORT	**Forrest**	**37.66**	**273**	P	**P**	**12 52 24.7**	**-0.2**
WB2	**Warramunga Arr**	**39.63**	**292**	P	**P**	**12 52 41.9**	**+0.3**
WB2				IAmb	IAmb	12 53 00.7	
	comp=Z,3.6nm,0.9s						
WRA	**Warramunga Arr**	**39.64**	**292**	P	**P**	**12 52 41.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=130,slow=8.1,SNR=2.7						
	comp=Z,1.0nm,0.6s						
WB0	**Warramunga Arr**	**39.72**	**293**	P	**P**	**12 52 42.5**	**+0.1**
QSPA	**South Pole Qui**	**47.67**	**180**	P	**P**	**12 53 47.4**	**+1.4**
QSPA				IAmb	IAmb	12 53 48.6	
	comp=Z,3.5nm,0.7s						
SNAA	**Sanae**	**66.15**	**181**	P	**P**	**12 55 57.8**	**+1.0**
SNAA				IAmb	IAmb	12 55 59.0	
	comp=Z,2.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**91.22**	**294**	P	**P**	**12 58 14.9**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=163,slow=3.8,SNR=2.1						
	comp=Z,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**123.84**	**310**	PKP	**PKPdf**	**13 04 06.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=116,slow=3.2,SNR=2.6						
ARCES	**ARCESS Array B**	**148.17**	**339**	PKPbc	**PKPbc**	**13 04 53.6**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=70,slow=1.1,SNR=1.7						
FINES	**FINESS Array B**	**152.69**	**325**	PKPbc	**PKPbc**	**13 05 04.1**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=48,slow=2.1,SNR=1.1						

*IDC **13** 12:45:36.7±1.7, 42°.49S×174°.63E, h0^{km}, mb4.5/4, mbtmp4.5/4, Error ellipse: s-maj=110.7km s-min=27.0km az=12.0*
*NEIC **13** 12:45:42.3±0.8, 41°.8S±0°.1×174°.1E±0°.2, h9^{km}±7^{km}, mb4.9/15, Error ellipse: s-maj=27.2km s-min=8.7km az=132.0*
*WEL **13** 12:45:43.4±0.4, 42°S±3°×17°4E±°, h5^{km}, M4.6/9, ML4.9/9, MLv4.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=141.7*

ISC 13 12:45:42.3±0.9, **41°.79S**±0°.06×**174°.19E**±0°.03, **h12**^{km}±5^{km}, **n42**, σ1^{s}**59**/**51**, **mb4.7**/12, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**20**	Pg	**Pg**	**12 45 44.7**	**+0.1**
CMWZ	**Cape Campbell**	**0.05**	**20**	P	**Pg**	**12 45 44.2**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.25**	**288**	Pg	**Pb**	**12 45 48.0**	**-0.8**
BSWZ	**Blackbirch Sta**	**0.25**	**288**	P	**Pb**	**12 45 48.6**	**-0.1**
BSWZ				S	**Sg**	**12 45 53.2**	**+2.2**
TUWZ	**Tuamarina**	**0.41**	**333**		**Pg**	**12 45 49.5**	**-0.9**
TUWZ	**Tuamarina**	**0.41**	**333**	P	**Pb**	**12 45 50.8**	**-0.6**
TUWZ				S	**Sb**	**12 45 57.2**	**-0.5**
TCW	**Tory Channel**	**0.58**	**6**	P	**Pg**	**12 45 53.4**	**-0.3**
TCW				S	**Sb**	**12 46 02.0**	**-0.7**
SNZO	**South Karori**	**0.62**	**39**		**Pb**	**12 45 54.9**	**0.0**
WEL	**Wellington**	**0.67**	**41**	P	**Pb**	**12 45 56.0**	**+0.1**
WEL				S	**Sb**	**12 46 06.1**	**+1.0**
PLWZ	**Palliser**	**0.83**	**75**	Pg	**Pb**	**12 45 59.5**	**+0.9**
PLWZ	**Palliser**	**0.83**	**75**	P	**Pn**	**12 45 59.6**	**-0.3**
MSWZ	**Moikau Station**	**0.88**	**65**		**Pb**	**12 46 00.1**	**+0.6**
MSWZ	**Moikau Station**	**0.88**	**65**	P	**Pb**	**12 45 60.0**	**+0.5**
CAW	**Cannon Point**	**0.95**	**44**	P	**Pb**	**12 46 00.9**	**+0.2**
PAWZ	**Paruwai Farm**	**1.01**	**67**	P	**Pn**	**12 46 03.2**	**+0.9**
KIW	**Kapiti Island**	**1.07**	**30**	P	**Pn**	**12 46 02.9**	**-0.3**
KIW				S	**Sn**	**12 46 17.9**	**-0.2**
MRNZ	**Matariki Terra**	**1.15**	**290**	P	**Pn**	**12 46 05.9**	**+1.7**
MRNZ				S	**Sn**	**12 46 21.8**	**+2.0**
MXZ	**Matakaoa Point**	**5.28**	**38**	Pn	**Pn**	**12 47 03.9**	**+2.9**
BBOO	**Buckleboo**	**31.42**	**274**	P	**P**	**12 52 02.7**	**-0.6**
BBOO				IAmb	IAmb	12 53 06.3	
	comp=Z,96nm,1.8s						
AS31	**Alice Springs**	**38.00**	**286**	P	**P**	**12 52 59.6**	**-0.7**
ASAR	**Alice Springs**	**38.00**	**286**	P	**P**	**12 52 59.4**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=120,slow=6.7,SNR=28						
ASAR				PcP	**PcP**	**12 55 14.0**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=126,slow=5.3,SNR=1.7						
	comp=Z,2.2nm,0.4s						
ASAR	**Alice Springs**	**38.00**	**286**	P	**P**	**12 52 59.2**	**-1.1**
FORT	**Forrest**	**38.37**	**271**	P	**P**	**12 53 02.7**	**-0.5**
FORT				IAmb	IAmb	12 53 22.4	
	comp=Z,27nm,1.1s						
COEN	**Coen**	**38.62**	**307**	P	**P**	**12 53 05.0**	**-0.5**
COEN				IAmb	IAmb	12 54 13.5	
	comp=Z,68nm,1.9s						
WR0	**Warramunga Arr**	**39.93**	**291**	P	**P**	**12 53 15.1**	**-1.3**
WR0				IAmb	IAmb	12 53 15.4	
	comp=Z,30nm,1.9s						
WB2	**Warramunga Arr**	**40.07**	**291**	P	**P**	**12 53 16.5**	**-1.1**
WRAB	**Tennant Creek**	**40.08**	**291**	P	**P**	**12 53 16.5**	**-1.2**
WRA	**Warramunga Arr**	**40.08**	**291**	P	**P**	**12 53 16.7**	**-1.0**
	comp=Z,3.6nm,0.5s,baz=126,slow=8.3,SNR=24						
WRA				PcP	**PcP**	**12 55 20.5**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=128,slow=3.2,SNR=2.6						
WRA				S	**S**	**12 59 31.4**	**+7.8**
	comp=Z,1.5nm,0.8s,baz=131,slow=7.2,SNR=7.1						
	comp=Z,3.6nm,0.5s						
WB0	**Warramunga Arr**	**40.16**	**291**	P	**P**	**12 53 17.2**	**-1.1**
WB0				IAmb	IAmb	12 53 18.3	
	comp=Z,25nm,1.5s						
KNRA	**Kununurra**	**46.86**	**290**	P	**P**	**12 54 13.0**	**+0.6**
MTN	**Manton Dam**	**47.20**	**295**	P	**P**	**12 54 14.8**	**-0.2**
MTN				IAmb	IAmb	12 55 26.9	
	comp=Z,28nm,1.2s						
MORW	**Morawa**	**48.22**	**266**	P	**P**	**12 54 21.3**	**-1.6**
PSA00	**Pilbara Seismi**	**49.58**	**277**	P	**P**	**12 54 32.8**	**-0.6**
PSA00				IAmb	IAmb	12 56 25.0	
	comp=Z,13nm,1.0s						
PSA00	**Pilbara Seismi**	**49.58**	**277**	P	**P**	**12 54 31.9**	**-1.5**
PSA00				IAmb	IAmb	12 54 48.1	
	comp=Z,30nm,1.5s						
GIRL	**Giralia**	**53.13**	**271**	P	**P**	**12 54 59.0**	**-1.0**
SNAA	**Sanae**	**66.82**	**181**	P	**P**	**12 56 34.2**	**+0.8**
SNAA				IAmb	IAmb	12 58 06.6	
	comp=Z,6.3nm,1.2s						
KSRS	**Korea Array**	**89.47**	**325**	P	**P**	**12 58 39.5**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=144,slow=5.1,SNR=3.4						
	comp=Z,1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**91.62**	**293**	P	**P**	**12 58 49.7**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=155,slow=3.9,SNR=11						
	comp=Z,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**123.97**	**310**	PKP	**PKPdf**	**13 04 37.9**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=111,slow=1.8,SNR=2.4						
ARCES	**ARCESS Array B**	**147.80**	**340**	PKPbc	**PKPdf**	**13 05 22.8**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=94,slow=3.4,SNR=5.3						
FINES	**FINESS Array B**	**152.54**	**327**	PKPbc	**PKPbc**	**13 05 36.0**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=94,slow=3.4,SNR=5.3						
HFS	**Hagfors**	**158.06**	**333**	PKPab	**PKPab**	**13 06 09.9**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=119,slow=5.4,SNR=4.9						

*IDC **13** 12:46:26.2±1.0, 41°.81S×174°.31E, h0^{km}, mb4.4/6, mbtmp4.4/7, ML4.6/1, Error ellipse: s-maj=30.2km s-min=27.5km az=89.0*
*WEL **13** 12:46:29.9±0.6, 42°S±3°×17°4E±°, h6^{km}±4^{km}, M4.7/11, ML5.0/11, MLv4.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=163.8*
*NEIC **13** 12:46:30.3±1.9, 41°.76S±0°.06×174°.26E±0°.03, h15^{km}±6^{km}, mb4.6/11, Error ellipse: s-maj=8.2km s-min=3.5km az=175.0*

ISC 13 12:46:30.1±0.5, **41°.76S**±0°.04×**174°.29E**±0°.03, **h22**^{km}±2^{km}, **n56**, σ1^{s}**11**/**64**, **mb4.5**/11, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**279**	P	**Pb**	**12 46 32.7**	**-1.3**
CMWZ				S	**Sb**	**12 46 34.9**	**-1.8**
BSWZ	**Blackbirch Sta**	**0.32**	**278**		**Pb**	**12 46 36.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.32**	**278**	P	**Pb**	**12 46 36.5**	**-0.6**
BSWZ				S	**Sb**	**12 46 41.5**	**-0.3**
TUWZ	**Tuamarina**	**0.42**	**321**	Pg	**Pb**	**12 46 38.3**	**-0.5**
TUWZ	**Tuamarina**	**0.42**	**321**	P	**Pb**	**12 46 38.5**	**-0.3**
TUWZ				S	**Sb**	**12 46 45.1**	**+0.5**
SNZO	**South Karori**	**0.54**	**35**		**Pb**	**12 46 40.2**	**-0.8**
TCW	**Tory Channel**	**0.55**	**359**	P	**Pb**	**12 46 40.4**	**-0.7**
TCW				S	**Sb**	**12 46 48.0**	**-0.6**
BHW	**Baring Head**	**0.56**	**51**	P	**Pb**	**12 46 40.9**	**-0.4**
BHW				S	**Sb**	**12 46 48.6**	**-0.2**
WEL	**Wellington**	**0.59**	**37**	P	**Pb**	**12 46 41.2**	**-0.7**
WEL				S	**Sb**	**12 46 49.8**	**-0.1**
PLWZ	**Palliser**	**0.74**	**76**	Pg	**Pn**	**12 46 46.4**	**+1.0**
MSWZ	**Moikau Station**	**0.80**	**65**	Pg	**Pn**	**12 46 46.2**	**+0.2**
MSWZ	**Moikau Station**	**0.80**	**65**	P	**Pn**	**12 46 45.6**	**-0.4**
MSWZ				S	**Sn**	**12 46 57.9**	**+0.7**
KHZ	**Kahutara**	**0.86**	**220**	P	**Pn**	**12 46 50.5**	**+3.6**
CAW	**Cannon Point**	**0.87**	**42**	P	**Pb**	**12 46 46.1**	**-0.4**
CAW				S	**Sn**	**12 47 00.5**	**+1.3**
NNZ	**Nelson**	**0.87**	**308**		**Pn**	**12 46 47.5**	**+0.3**
NNZ	**Nelson**	**0.87**	**308**	P	**Pb**	**12 46 46.5**	**-0.1**
DUWZ	**D'Urville Isla**	**1.00**	**344**	P	**Pn**	**12 46 48.9**	**+0.1**
DUWZ				S	**Sn**	**12 47 01.7**	**-0.5**
KIW	**Kapiti Island**	**1.01**	**28**	P	**Pb**	**12 46 48.4**	**-0.5**
THZ	**Tophouse**	**1.04**	**269**		**Pb**	**12 46 49.4**	**-0.1**
OGWZ	**Otaki Gorge**	**1.15**	**35**	P	**Pb**	**12 46 51.3**	**0.0**
TKNZ	**Takaka Hill**	**1.24**	**305**	P	**Pb**	**12 46 53.5**	**+0.7**
GVZ	**Greta Valley S**	**1.53**	**217**	P	Pb	12 47 05.8	+8.1
QRZ	**Quartz Range**	**1.62**	**304**		**Pb**	**12 47 00.2**	**+0.9**
LTZ	**Lake Taylor**	**1.82**	**235**	Pn	**Pn**	**12 47 02.1**	**+2.0**
LTZ	**Lake Taylor**	**1.82**	**235**	P	Pb	12 47 10.2	+7.6
RPZ	**Rata Peaks**	**3.08**	**230**	Pn	**Pn**	**12 47 14.1**	**-3.5**
	71nm,0.3s,baz=97,slow=19,SNR=1.1						
RPZ				Sn	**Sn**	**12 47 53.0**	**-0.8**
	142nm,0.3s,baz=324,slow=21,SNR=12						
	393nm,0.7s						
BKZ	**Black Stump Fm**	**3.09**	**34**	Pn	**Pn**	**12 47 19.3**	**+1.7**
HIZ	**Hauiti**	**3.27**	**8**	Pn	**Pn**	**12 47 20.5**	**+0.4**
MCQ	**Macquarie Isla**	**16.30**	**213**	P	**P**	**12 50 20.0**	**-0.3**
MCQ				IAmb	IAmb	12 50 41.9	
	comp=Z,79nm,1.2s						
AS31	**Alice Springs**	**38.06**	**285**	P	**P**	**12 53 47.9**	**+0.7**
ASAR	**Alice Springs**	**38.06**	**285**	P	**P**	**12 53 47.3**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=121,slow=6.1,SNR=6.2						
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**38.06**	**285**	P	**P**	**12 53 48.3**	**+1.1**
COEN	**Coen**	**38.66**	**307**	P	**P**	**12 53 52.2**	**0.0**
COEN				IAmb	IAmb	12 54 19.4	
	comp=Z,26nm,1.5s						
WR0	**Warramunga Arr**	**39.98**	**291**	P	**P**	**12 54 03.5**	**+0.3**
PMG	**Port Moresby**	**40.12**	**316**	P	**P**	**12 54 04.9**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=123,slow=8.0,SNR=2.3						
	comp=Z,6.1nm,0.9s						
WB2	**Warramunga Arr**	**40.13**	**290**	P	**P**	**12 54 03.0**	**-1.5**
WB2				IAmb	IAmb	12 54 14.1	
	comp=Z,20nm,1.5s						
WRAB	**Tennant Creek**	**40.13**	**290**	P	**P**	**12 54 04.1**	**-0.4**
WRAB				IAmb	IAmb	12 54 14.1	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**40.14**	**290**	P	**P**	**12 54 02.8**	**-1.7**
	comp=Z,1.9nm,0.4s,baz=130,slow=7.5,SNR=6.1						
	comp=Z,1.9nm,0.4s						
WB0	**Warramunga Arr**	**40.22**	**291**	P	**P**	**12 54 05.0**	**-0.2**
WB0				IAmb	IAmb	12 54 41.4	
	comp=Z,7.0nm,1.1s						
MTN	**Manton Dam**	**47.25**	**295**	P	**P**	**12 55 01.8**	**+0.1**
MORW	**Morawa**	**48.29**	**266**	P	**P**	**12 55 09.0**	**-0.8**
QSPA	**South Pole Qui**	**48.37**	**180**	P	**P**	**12 55 08.9**	**-1.1**
	comp=Z,5.9nm,0.9s,baz=31,slow=2.9,SNR=2.6						
	comp=Z,5.9nm,0.9s						
QSPA	**South Pole Qui**	**48.37**	**180**	P	**P**	**12 55 12.5**	**+2.4**
QSPA				IAmb	IAmb	12 55 14.2	
	comp=Z,8.1nm,1.0s						
TROLL	**Troll, Antarti**	**66.39**	**183**	P	**P**	**12 57 18.1**	**+1.1**
SNAA	**Sanae**	**66.86**	**181**	P	**P**	**12 57 20.8**	**+0.8**
SNAA	**Sanae**	**66.86**	**181**	P	**P**	**12 57 21.3**	**+1.4**
SNAA				IAmb	IAmb	12 57 22.1	
	comp=Z,7.4nm,1.4s						
VNA3	**Neumayer Olymp**	**67.27**	**179**	P	**P**	**12 57 22.5**	**0.0**
VNA2	**Neumayer--Watz**	**67.62**	**179**	P	**P**	**12 57 25.3**	**+0.6**
	baz=165,slow=6.0						
KSRS	**Korea Array**	**89.48**	**325**	P	**P**	**12 59 26.3**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=126,slow=6.1,SNR=3.3						
	comp=Z,1.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.67**	**293**	P	**P**	**12 59 36.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=154,slow=3.4,SNR=7.1						
	comp=Z,1.6nm,0.7s						
YKA	**Yellowknife Ar**	**118.37**	**30**	PKP	**PKPdf**	**13 05 14.5**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=244,slow=1.5,SNR=5.2						
KURBB	**Kurchatov Arra**	**124.01**	**310**	PKP	**PKPdf**	**13 05 24.1**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=118,slow=1.9,SNR=4.1						
DBIC	**Dimbokro**	**145.05**	**181**	PKPbc	**PKPbc**	**13 06 05.6**	**+0.1**
	comp=Z,5.0nm,0.9s,baz=120,slow=5.3,SNR=3.9						
ARCES	**ARCESS Array B**	**147.80**	**340**	PKPbc	**PKPbc**	**13 06 11.1**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=38,slow=1.9,SNR=13						
BRTR	**Keskin Array B**	**150.29**	**279**	PKPbc	**PKPbc**	**13 06 19.4**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=140,slow=6.1,SNR=6.2						
FINES	**FINESS Array B**	**152.56**	**327**	PKPbc	**PKPbc**	**13 06 22.4**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=38,slow=3.3,SNR=5.4						

*UPA **13** 12:46:35.0±0.9, 8°.36N×82°.81W, h7^{km}±7^{km}, MW3.3*
*UCR **13** 12:46:35.1±1.7, 8°.32N×82°.86W, h20^{km}±6^{km}, MW3.5*

ISC 13 12:46:32.9±1.7, **8°.25N**±0°.09×**82°.79W**±0°.06, **h27**^{km}±9^{km}, **n14**, σ0^{s}**59**/**25**, **1C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOL	**Caracol de Cor**	**0.24**	**311**	*eP*	**Pb**	**12 46 39.3**	**0.0**
CCOL				*eS*	**Sb**	**12 46 44.4**	**+0.7**
CDITO	**Canoas**	**0.33**	**346**	*eP*	**Pb**	**12 46 40.6**	**0.0**
CDITO				*eS*	**Sb**	**12 46 44.2**	**-1.6**
DVD	**David**	**0.38**	**61**	*eP*	**Pn**	**12 46 42.7**	**+0.1**
DVD				*eS*	**Sn**	**12 46 48.7**	**-0.4**
PTAR3	**Potrerillos Ar**	**0.53**	**33**	*eP*	**Pn**	**12 46 44.8**	**+0.1**
PTAR3				*eS*	**Sn**	**12 46 52.2**	**-0.6**
BCO2	**Palmira**	**0.53**	**29**	*eP*	**Pn**	**12 46 44.7**	**-0.1**
BCO2				*eS*	**Sn**	**12 46 52.8**	**-0.2**
BRU2	**Volcan**	**0.55**	**10**	*eP*	**Pb**	**12 46 44.6**	**+0.5**
BRU2				*eS*	**Sn**	**12 46 53.1**	**-0.3**
BRU2	**Volcan**	**0.55**	**10**	*iP*	**Pb**	**12 46 44.6**	**+0.5**
BRU2				*eS*	**Sb**	**12 46 51.8**	**0.0**
PIRO	**Carate, Puerto**	**0.56**	**286**	*eP*	**Pb**	**12 46 44.0**	**-0.2**
BC3P	**Paso Ancho**	**0.59**	**17**	*eP*	**Pb**	**12 46 45.3**	**+0.5**
BC3P				*eS*	**Sn**	**12 46 53.6**	**-0.9**
PSOM3	**Paja de Sombre**	**0.63**	**47**	*eP*	**Pn**	**12 46 46.2**	**+0.1**
PSOM3				*eS*	**Sn**	**12 46 55.4**	**+0.1**
POTG	**Potrero Grande**	**0.86**	**338**	*eP*	**Pb**	**12 46 48.9**	**-0.4**
POTG				*eS*	**Sb**	**12 47 00.8**	**+0.3**
SRBA	**San Rafael, Bu**	**1.13**	**330**	*eP*	**Pn**	**12 46 53.0**	**0.0**
CNI2	**El Empalme, Bo**	**1.21**	**15**	*eP*	**Pb**	**12 46 54.8**	**-0.3**
CNI2				*eS*	**Sb**	**12 47 10.7**	**+0.4**
MRVA	**Moravia de Chi**	**1.69**	**338**	*eP*	**Pn**	**12 47 02.0**	**+1.3**

*WEL **13** 12:48:34.3±0.5, 42°S±4°×17°4E±°, h16^{km}±4^{km}, M4.4/6, ML4.6/6, MLv4.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=130.5*
*IDC **13** 12:48:35.4±3.3, 42°.82S×173°.69E, h0^{km}, mb3.8/4, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=91.8km s-min=33.5km az=145.0*

ISC 13 12:48:34.8±3.2, **42°.33S**±0°.07×**173°.78E**±0°.06, **h14**^{km}±23^{km}, **n17**, σ2^{s}**13**/**19**, **mb3.7**/4, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**245**	P	**Pb**	**12 48 41.0**	**+0.7**
KHZ				S	**Sb**	**12 48 43.4**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.62**	**6**	S	**Sb**	**12 48 55.0**	**-1.0**
CMWZ	**Cape Campbell**	**0.67**	**29**	P	**Pn**	**12 48 49.6**	**-0.2**
THZ	**Tophouse**	**0.87**	**311**	S	**Sn**	**12 49 02.1**	**-3.1**
TUWZ	**Tuamarina**	**0.91**	**8**	S	**Sn**	**12 49 04.2**	**-1.9**
AMCZ	**Amberley**	**1.19**	**224**	P	**Pb**	**12 48 56.5**	**-0.6**
PLWZ	**Palliser**	**1.34**	**56**	P	**Pb**	**12 48 59.1**	**-0.6**
PLWZ				S	**Sn**	**12 49 15.5**	**-1.2**
MSWZ	**Moikau Station**	**1.43**	**51**	P	**Pn**	**12 48 59.9**	**-0.5**
MSWZ				S	**Sn**	**12 49 16.8**	**-2.1**
MTW	**Mount Morrison**	**1.74**	**48**	P	**Pn**	**12 49 03.5**	**-1.1**
MTW				S	**Sn**	**12 49 25.1**	**-1.6**
WVZ	**Waitaha Valley**	**2.36**	**251**	P	**Pn**	**12 49 13.2**	**+0.1**
RPZ	**Rata Peaks**	**2.43**	**234**	Pn	**Pn**	**12 49 12.9**	**-1.2**
	25nm,0.3s,baz=28,slow=3.0,SNR=0.8						
RPZ				Sn	**Sn**	**12 49 39.3**	**-4.4**
	21nm,0.3s,baz=14,slow=22,SNR=1.4						
	410nm,0.4s						
RPZ	**Rata Peaks**	**2.43**	**234**	P	**Pn**	**12 49 13.2**	**-1.0**
ASAR	**Alice Springs**	**37.86**	**287**	P	**P**	**12 55 54.1**	**+2.8**
	0.4nm,0.6s,baz=133,slow=7.1,SNR=1.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**39.99**	**292**	P	P	12 56 12.9	+3.8
	1.1nm,1.0s,baz=127,slow=8.5,SNR=2.1						
	1.1nm,1.0s						
KSRS	**Korea Array**	**89.73**	**325**	P	P	13 01 36.3	+4.1
	0.8nm,0.8s,baz=157,slow=5.1,SNR=2.9						
	0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.55**	**294**	P	P	13 01 45.1	+3.9
	0.3nm,0.4s,baz=157,slow=2.5,SNR=1.8						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**152.82**	**326**	PKPbc	**PKiKP**	**13 08 34.2**	**+3.7**
	0.6nm,0.6s,baz=66,slow=3.4,SNR=1.3						

*IDC **13** 12:52:17.8±2.1, 42°.30S×173°.67E, h0^{km}, mb4.0/3, mbtmp4.1/4, ML4.3/1, Error ellipse: s-maj=51.7km s-min=30.2km az=135.0*
*NEIC **13** 12:52:19.3±0.9, 42°.23S±0°.02×173°.64E±0°.02, h6^{km}±5^{km}, mb4.7/7, Error ellipse: s-maj=2.8km s-min=2.4

KHZ	Kahutara	0.27	222	Pg		Pg	12 52 58.8	0.0		
KHZ	Kahutara	0.27	222	P		Pg	12 52 59.2	+0.4		
KHZ				S		Sg	12 53 03.7	+1.3		
BSWZ	Blackbirch Sta	0.50	8	Pg		Pg	12 53 03.7	+0.5		
BSWZ	Blackbirch Sta	0.50	8	P		Pg	12 53 03.2	0.0		
BSWZ				S		Sg	12 53 10.8	+1.2		
CMWZ	Cape Campbell	0.56	35	Pg		Pg	12 53 02.8	-1.5		
CMWZ	Cape Campbell	0.56	35	P		Pg	12 53 03.4	-0.9		
TUWZ	Tuamarina	0.79	9			Pg	12 53 09.0	+0.4		
TUWZ	Tuamarina	0.79	9	P		Pg	12 53 06.3	-2.4		
THZ	Tophouse	0.80	304	Pg		Pg	12 53 07.3	-1.4		
TCW	Tory Channel	1.07	20	P		Pg	12 53 14.2	+0.2		
TCW				S		Sn	12 53 30.8	+0.3		
SNZO	South Karori	1.13	38	Pn		Pn	12 53 16.4	+0.3		
BHW	Baring Head	1.14	46	P		Pb	12 53 15.3	-0.5		
LTZ	Lake Taylor	1.26	243	Pn		Pn	12 53 16.0	-1.9		
PLWZ	Palliser	1.27	60	Pn		Pn	12 53 13.6	-4.5		
MSWZ	Moikau Station	1.35	54	P		Pn	12 53 13.8	-5.4		
CAW	Cannon Point	1.46	41	P		Pn	12 53 19.9	-0.8		
CAW				S		Sg	12 53 40.8	+0.3		
DSZ	Denniston Nort	1.55	287	Pn		Pn	12 53 21.8	-0.1		
KIW	Kapiti Island	1.59	32	S		Sb	12 53 43.9	-0.1		
TRWZ	Traveller	1.64	61	P		Pn	12 53 20.6	-2.5		
OXZ	Oxford	1.70	229	Pn		Pb	12 53 24.9	-0.4		
MQZ	McQueen's Vall	1.71	209	Pn		Pn	12 53 22.4	-1.6		
CPWZ	Castlepoint	2.23	55	P		Pn	12 53 31.8	+0.5		
BFZ	Birch Farm	2.40	51	Pn		Pn	12 53 32.8	-0.8		
BFZ	Birch Farm	2.40	51	P		Pn	12 53 32.8	-0.8		
RPZ	Rata Peaks	2.50	232	Pn		Pn	12 53 33.0	-2.0		
	114nm,0.3s,baz=29,slow=19,SNR=7.3									
RPZ				Sn		Sn	12 54 02.3	-3.7		
	275nm,0.3s,baz=320,slow=22,SNR=12									
	1um,0.6s									
RPZ	Rata Peaks	2.50	232	Pn		Pn	12 53 36.2	+1.2		
DVHZ	Dannevirke	2.62	44	P		Pn	12 53 35.4	-1.2		
TSZ	Takapari Road	2.71	38	P		Pn	12 53 36.4	-1.5		
PNHZ	Pukenui	2.93	39	P		Pb	12 53 47.6	+1.2		
PNHZ				S		Sn	12 54 16.9	+0.2		
MTVZ	Mangateitei	3.10	25	P		Pb	12 53 47.2	-2.0		
PKVZ	Pokaka	3.15	23	P		Pn	12 53 44.4	+0.4		
MOVZ	Moawhango	3.18	29	P		Pn	12 53 43.9	-0.4		
FOZ	Fox Glacier	3.20	244	Pn		Pn	12 53 44.7	+0.1		
TRVZ	Turoa	3.20	25	P		Pn	12 53 47.2	+2.3		
BHHZ	Black Hill Sta	3.22	35	P		Pb	12 53 51.5	+0.1		
DRZ	Dome Shelter	3.23	25	P		Pn	12 53 46.2	+0.9		
FWVZ	Far West T-bar	3.25	25	P		Pb	12 53 48.6	-3.2		
TUVZ	Tukino	3.27	26	P		Pn	12 53 47.8	+2.2		
SNVZ	South Ngauruho	3.34	26	P		Pn	12 53 48.6	+2.0		
OTVZ	Oturere	3.37	26	P		Pn	12 53 48.9	+1.9		
TWVZ	Taurewa	3.38	22	P		Pn	12 53 48.0	+0.8		
ETVZ	East Tongariro	3.41	26	P		Pn	12 53 48.7	+1.2		
TMVZ	Te Maari	3.42	26	P		Pn	12 53 48.0	+0.3		
NTVZ	North Tongarir	3.43	25	P		Pn	12 53 48.0	+0.1		
KWHZ	Kaweka Forest	3.43	37	P		Pn	12 53 50.5	+2.8		
HIZ	Hauiti	3.79	13			Pn	12 53 52.8	+0.2		
HIZ	Hauiti	3.79	13	P		Pn	12 53 55.0	+2.4		
TOZ	Tahuroa Road	4.67	17	P		Pn	12 54 04.3	-0.4		
TKGZ	Te Karaka	4.88	41	S		Sn	12 55 01.4	-3.2		
MKAZ	Moumakai	5.21	12	P		Pn	12 54 12.5	+0.3		
WTAZ	Waiatarua	5.31	7	P		Pn	12 54 15.4	+1.9		
ETAZ	East Tamaki Re	5.33	10	P		Pn	12 54 14.4	+0.7		
MBAZ	Motutapu North	5.50	9	P		Pn	12 54 17.3	+1.0		
KUZ	Kuaotuna	5.66	16	P		Pn	12 54 21.5	+3.1		
OUZ	Omahuta	6.98	359			Pn	12 54 37.4	+0.8		
DZM	Mont Dzumac	21.01	341	P		P	12 57 36.0	-2.1		
	12nm,0.9s,baz=147,slow=10,SNR=4.1									
	12nm,0.9s									
ARMA	Armidale	21.32	296	P		P	12 57 42.0	+0.6		
TOO	Toolangi	22.15	273	P		P	12 57 51.4	+1.1		
KOUNC	Koumac, New Ca	23.04	337	P		P	12 57 59.5	-0.2		
MSVF	Nonsavu	24.67	10	P		P	12 58 14.6	-0.9		
	16nm,0.8s,baz=163,slow=12,SNR=8.2									
	16nm,0.8s									
MSVF	Nonsavu	24.67	10	P		P	12 58 15.7	+0.2		
MSVF				IAmb		IAmb	12 58 19.0			
	comp=Z,21nm,0.8s									
EIDS	Eidsvold	25.14	305	P		P	12 58 19.4	-0.3		
EIDS				IAmb		IAmb	12 58 45.3			
	comp=Z,30nm,1.4s									
STKA	Stephens Creek	27.54	281	P		P	12 58 41.3	0.0		
BBOO	Buckleboo	31.15	275	P		P	12 59 12.1	-1.3		
VNDA	Vanda	35.76	184	P		P	12 59 53.8	+0.8		
AS31	Alice Springs	37.82	287	P		P	13 00 10.1	-1.1		
ASAR	Alice Springs	37.82	287	P		P	13 00 08.8	-2.4		
	comp=Z,5.2nm,1.0s,baz=124,slow=6.4,SNR=10									
	comp=Z,5.2nm,1.0s									
ASAR	Alice Springs	37.82	287	P		P	13 00 09.9	-1.3		
FORT	Forrest	38.08	272	P		P	13 00 11.5	-1.7		
FORT				IAmb		IAmb	13 00 15.8			
	comp=Z,41nm,1.1s									
COEN	Coen	38.63	308	P		P	13 00 16.8	-1.2		
WR0	Warramunga Arr	39.79	292	P		P	13 00 27.2	-0.5		
WR0				IAmb		IAmb	13 00 33.0			
	comp=Z,20nm,1.1s									
WB2	Warramunga Arr	39.94	291	P		P	13 00 26.7	-2.3		
WB2				IAmb		IAmb	13 00 36.0			
	comp=Z,28nm,0.7s									
WRAB	Tennant Creek	39.94	291	P		P	13 00 27.3	-1.7		
WRAB				IAmb		IAmb	13 00 36.0			
	comp=Z,25nm,0.7s									
WRA	Warramunga Arr	39.94	291	P		P	13 00 26.1	-2.9		
	comp=Z,7.0nm,0.8s,baz=132,slow=7.7,SNR=16									
	comp=Z,7.0nm,0.8s									
WB0	Warramunga Arr	40.02	292	P		P	13 00 27.4	-2.3		
WB0				IAmb		IAmb	13 00 36.6			
	comp=Z,18nm,0.7s									
PMG	Port Moresby	40.18	317	P		P	13 00 29.7	-1.2		
	comp=Z,24nm,1.1s,baz=155,slow=5.5,SNR=8.6									
	comp=Z,24nm,1.1s									
KNRA	Kununurra	46.72	291	P		P	13 01 23.6	-0.1		
MTN	Manton Dam	47.10	296	P		P	13 01 26.3	-0.4		
QSPA	South Pole Qui	47.91	180	P		P	13 01 35.5	+2.8		
	comp=Z,14nm,1.1s,baz=3.3,slow=3.3,SNR=6.4									
	comp=Z,14nm,1.1s									
QSPA	South Pole Qui	47.91	180	P		P	13 01 34.6	+2.0		
QSPA				IAmb		IAmb	13 01 39.8			
	comp=Z,18nm,1.1s									
MAW	Mawson	58.89	205	P		P	13 02 54.6	+1.6		
TROLL	Troll, Antarti	65.92	183	P		P	13 03 40.4	+0.2		
SNAA	Sanae	66.40	181	P		P	13 03 44.6	+1.4		
SNAA	Sanae	66.40	181	P		P	13 03 43.8	+0.7		
SNAA				IAmb		IAmb	13 04 24.2			
	comp=Z,13nm,1.4s									
VNA3	Neumayer Olymp	66.83	179	P		P	13 03 47.5	+1.6		
VNA2	Neumayer--Watz	67.17	180	P		P	13 03 48.5	+0.5		
	baz=170,slow=5.0									
PLCA	Paso Flores	79.01	136	P		P	13 05 00.4	+1.7		
	comp=Z,3.1nm,0.9s,baz=227,slow=6.5,SNR=4.1									
	comp=Z,3.1nm,0.9s									
PLCA	Paso Flores	79.01	136	P		P	13 04 59.4	+0.7		
PLCA				IAmb		IAmb	13 05 31.2			
	comp=Z,26nm,1.7s									
KSRS	Korea Array	89.64	325	P		P	13 05 51.3	-0.8		
	comp=Z,1.3nm,0.8s,baz=136,slow=4.8,SNR=4.1									
	comp=Z,1.3nm,0.8s									
CMAR	Chiang Mai Arr	91.50	294	P		P	13 06 01.4	0.0		
	comp=Z,1.5nm,0.3s,baz=160,slow=2.9,SNR=6.2									
	comp=Z,1.5nm,0.3s									
INK	Inuvik	117.00	19	PKP		PKiKP	13 11 40.0	+1.7		
	comp=Z,3.2nm,1.1s,baz=159,slow=4.8,SNR=4.1									
YKA	Yellowknife Ar	118.95	30	PKP		PKiKP	13 11 43.9	+1.6		
	comp=Z,4.5nm,0.8s,baz=239,slow=2.0,SNR=10									
MKAR	Makanchi Array	119.98	308	PKP		PKiKP	13 11 45.0	+0.2		
	comp=Z,1.1nm,0.6s,baz=142,slow=2.0,SNR=7.3									
ZALV	Zalesovo Beam	122.14	316	PKP		PKiKP	13 11 48.7	-0.1		
	comp=Z,0.3nm,0.4s,baz=101,slow=7.5,SNR=3.0									
KURBB	Kurchatov Arra	124.01	310	PKP		PKiKP	13 11 52.6	0.0		
	comp=Z,1.7nm,0.6s,baz=116,slow=1.8,SNR=16									
BVAR	Borovoye Array	129.60	310	PKP		PKPdf	13 12 02.5	-0.4		
	comp=Z,1.3nm,0.6s,baz=110,slow=6.5,SNR=4.0									
GEYT	Alibeck	131.62	288	PKP		PKiKP	13 12 09.4	+1.1		
	comp=Z,3.0nm,0.8s,baz=211,slow=2.5,SNR=5.1									
BELG	Belogornoye	142.90	305	PKP		PKPdf	13 12 26.8	-0.7		
	comp=Z,12nm,0.8s,baz=102,slow=1.7,SNR=3.8									
KBZ	Khabaz	144.45	290	PKP		PKPdf	13 12 30.9	+0.4		
	comp=Z,5.2nm,0.8s,baz=192,slow=1.1,SNR=7.7									
DAG	Danmarks Havn	144.93	5	*i* P		PKPdf	13 12 31.0	+0.6		
SUMG	Summit	145.85	17	*i* P		PKiKP	13 12 35.0	-1.8		
KLMR	Klimovskoe	146.88	320	*e*PKPdf		PKPbc	13 12 35.5	-0.6		
KLMR				AMP			13 12 51.8			
	comp=Z,17nm,1.2s									
ARCES	ARCESS Array B	148.09	340	PKPbc		PKiKP	13 12 39.9	-1.1		
	comp=Z,5.0nm,0.7s,baz=33,slow=1.8,SNR=12									
BRTR	Keskin Array B	149.99	279	PKPbc		PKPbc	13 12 44.7	-0.4		
	comp=Z,12nm,0.9s,baz=145,slow=7.4,SNR=20									
FINES	FINESS Array B	152.72	326	PKPbc		PKPbc	13 12 49.4	-1.1		
	comp=Z,3.0nm,0.8s,baz=107,slow=6.6,SNR=6.1									
AKASG	Malin Array Be	154.36	302	PKPbc		PKiKP	13 12 56.0	+1.6		
	comp=Z,1.2nm,0.7s,baz=70,slow=2.5,SNR=5.2									
GERES	GERESS Array B	164.57	302	PKPab		PKPab	13 13 54.5	+1.3		
	comp=Z,0.4nm,0.5s,baz=39,slow=3.8,SNR=4.2									

KMA ***13*** *12:52:57.3±0.0, 36.36°N× 126.63E, h11km, Error ellipse: s-maj=0.4km s-min=0.3km az=279.0*
KEA ***13*** *12:52:58.3, 36.42°N× 126.57E, h19km, ML3.5/5*
JMA ***13*** *12:52:58.8±0.2, 36.4°N±0.9× 12.7°E±°, h102km, MV3.6/18, S KOREAN PENINSULA REG*

ISC 13 12:52:56.7±1.0, 36.36°N±0.02× 126.60E±0.03, h9km±8km, n45, σ1.9 10/57, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
PORA	Boryeong	0.04	225	P		Pg	12 52 59.5	+1.0	
	SNR=7510								
BUYB	Buyeo	0.28	108	P		Pg	12 53 02.8	+0.5	
	SNR=469								
YSAB	Yesan	0.42	25	P		Pg	12 53 05.6	+0.6	
	SNR=840								
OYDB	Oeyeondo	0.44	253	P		Pb	12 53 06.5	-0.1	
	SNR=780								
KSSES	Seosan	0.45	345	P		Pb	12 53 06.4	-0.3	
	SNR=855								
KOJ2	Gongju-si	0.46	76	P		Pg	12 53 06.1	+0.4	
	SNR=729								
IKSA	Iksan Acc Bore	0.48	128	P		Pg	12 53 06.6	+0.5	
	SNR=72								
ECDB	Euchungdo	0.55	244	P		Pb	12 53 08.7	+0.1	
	SNR=236								
MNYD	Munyeodo	0.57	194	P		Pb	12 53 08.8	-0.1	
	SNR=700								
KSTEJ	Daejeon	0.63	89	P		Pg	12 53 09.2	+0.3	
	SNR=148								
SMKB	Mukjeong-gil	0.67	183	P		Pb	12 53 10.5	0.0	
	SNR=1196								
KSCHO	Jeonju	0.70	140	P		Pg	12 53 10.1	-0.2	
	SNR=87								
KSJEO	Jeonju	0.70	126	P		Pg	12 53 10.7	+0.4	
	SNR=538								
KSCEA	Cheonan	0.71	49	P		Pg	12 53 10.6	+0.2	
	SNR=479								
HAWB	Hwaseong-si	0.74	11	P		Pg	12 53 11.4	+0.4	
	SNR=415								
KSMSA	Geumsan	0.76	109	P		Pg	12 53 11.6	+0.2	
	SNR=28								
KSGBI	Gyogryolbido	0.88	288	P		Pb	12 53 14.6	+0.5	
	SNR=23								
JNPA	Jeungpyeong Ac	0.89	60	P		Pg	12 53 14.0	+0.1	
	SNR=128								
KSJEU	Jeongeup	0.91	162	P		Pb	12 53 14.6	0.0	
	SNR=806								
KSSWO	Suwon	0.95	18	P		Pb	12 53 15.7	+0.3	
	SNR=69								
OKCB	Cheongsan-myeo	0.97	90	P		Pg	12 53 15.3	-0.1	
	SNR=628								
KSDEI	Deokjeokdo	0.98	336	P		Pb	12 53 16.2	+0.4	
	SNR=388								
KSBON	Boeun	0.98	81	P		Pg	12 53 15.6	0.0	
	SNR=1547								
SHHB	Siheung-si	0.99	5	P		Pg	12 53 16.1	+0.3	
	SNR=69								
GOCB	Gochang-gun	1.01	180	P		Pb	12 53 16.6	+0.3	
	SNR=933								
EMSB	Eumseong	1.03	53	P		Pg	12 53 16.6	0.0	
	SNR=308								
DUSB	Deogyusan	1.06	116	P		Pg	12 53 17.1	0.0	
	SNR=239								
SUCA	Sunchang	1.08	156	P		Pg	12 53 17.7	+0.3	
	SNR=108								
ANMD	Anmado	1.11	205	P		Pn	12 53 18.6	+0.2	
	SNR=87								
NAWB	Namwon	1.14	145	P		Pb	12 53 18.7	+0.2	
	SNR=600								
KSCHJ	Chungju	1.22	65	P		Pn	12 53 20.0	0.0	
	SNR=430								
KSKWJ	Gwangju	1.24	165	P		Pg	12 53 20.6	+0.1	
	SNR=400								
KSKWJ	Gwangju	1.24	165	P		Pg	12 53 20.7	+0.1	
	SNR=104								
HAMB	Hamyang	1.26	132	P		Pg	12 53 21.0	+0.1	
	SNR=118								
BURB	Buron	1.27	46	P		Pb	12 53 21.0	+0.1	
	SNR=195								
HJU	Haeju	1.82	338	Pn		Pn	12 53 27.6	-0.6	
HJU				Pg		Pb	12 53 30.6	+0.4	
HJU				Sg		Sb	12 53 54.4	+1.4	
HJU				AML		AML			
	comp=N,643nm,0.3s								
HJU				AML		AML			
	comp=E,820nm,0.1s								
HJU				AML		AML			
	comp=Z,920nm,0.2s								
PYAG	Pyongyang	2.77	346	Pn		Pn	12 53 41.2	0.0	
PYAG				Pg		Pb	12 53 48.0	+1.6	
PYAG				Sg		Sg	12 54 23.7	-2.0	
PYAG				AML		AML			
	comp=N,165nm,0.2s								
PYAG				AML		AML			
	comp=E,194nm,0.2s								
PYAG				AML		AML			
	comp=Z,99nm,0.3s								
JTU	Tsushima	2.93	128	*e*P		Pn	12 53 44.2	+0.7	
JTU				*e*S		Sn	12 54 19.2	+0.5	
PYS	Pyongsong	2.95	349	Pn		Pn	12 53 43.3	-0.4	
PYS				Pg		Pb	12 53 50.9	+1.5	
PYS				Sg		Sg	12 54 28.8	-2.6	
PYS				AML		AML			
	comp=N,225nm,0.3s								
PYS				AML		AML			
	comp=E,247nm,0.1s								
PYS				AML		AML			
	comp=Z,339nm,0.2s								
JTSM	Tsushimamitsus	3.04	131	*e*P		Pn	12 53 45.8	+0.8	
JII	Iki	3.63	134	*e*P		Pn	12 53 54.1	+1.0	
HHU	Hamhung	3.64	11	Pn		Pn	12 53 53.2	0.0	
HHU				Pg		Pb	12 54 04.0	+2.8	
HHU				Sg		Sg	12 54 50.4	-3.2	
HHU				AML		AML			
	comp=N,221nm,0.4s								
HHU				AML		AML			
	comp=E,423nm,0.2s								
HHU				AML		AML			
	comp=Z,287nm,0.2s								
SUJ	Sinuiju	4.09	337	Pn		Pn	12 53 59.2	-0.1	
SUJ				Pg		Pb	12 54 11.8	+3.0	
SUJ				Sg		Sg	12 55 04.8	-3.2	
SUJ				AML		AML			
	comp=N,106nm,0.4s								
SUJ				AML		AML			
	comp=E,123nm,0.2s								
SUJ				AML		AML			
	comp=Z,100nm,0.2s								
JFU	Fukue jima 2	4.10	154	*e*P		Pn	12 54 00.5	+0.9	
JFU				S		Sn	12 54 47.9	+0.3	
JNU	Nakatsue	4.78	131	*e*S		Sn	12 55 03.4	-1.1	

IDC ***13*** *12:56:14.7±1.2, 42.48°S× 173.79E, h0km, mb4.0/4, mbtmp4.1/5, ML4.7/1, Error ellipse: s-maj=31.8km s-min=28.6km az=92.0*
WEL ***13*** *12:56:17.1±1.1, 43°S±3°× 17.4°E±°, h6km±3km, M4.5/9, ML4.8/9, MLv4.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=100.6*
NEIC ***13*** *12:56:22.3±0.9, 42.48°S±0.03× 172.93E±0.06, h10km±1km, mb4.7/11, Error ellipse: s-maj=8.1km s-min=5.5km az=267.0*

ISC 13 12:56:18.5±1.1, 42.60S±0.03× 173.54E±0.07, h16km±6km, n41, σ1.9 25/47, mb4.5/11, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
KHZ	Kahutara	0.18	359	P		Pg	12 56 22.0	-0.9	
KHZ				S		Sg	12 56 26.0	+0.1	
GVZ	Greta Valley S	0.53	225	P		Pn	12 56 31.2	-0.2	
GVZ				S		Sb	12 56 38.7	+1.9	
AMCZ	Amberley	0.87	228	P		Pn	12 56 36.0	-0.1	
BSWZ	Blackbirch Sta	0.92	16			Pn	12 56 42.9	+6.2	
LTZ	Lake Taylor	0.96	259			Pb	12 56 33.4	-3.4	
LTZ	Lake Taylor	0.96	259	P		Pn	12 56 38.6	+1.2	
THZ	Tophouse	0.96	330			Pb	12 56 36.3	-0.5	
THZ	Tophouse	0.96	330	P		Pb	12 56 36.6	-0.2	
THZ				S		Sg	12 56 50.3	+0.6	
MQZ	McQueen's Vall	1.28	210	P		Pn	12 56 42.0	+0.2	
MQZ				S		Sg	12 57 01.2	+1.2	
OXZ	Oxford	1.32	236			Pg	12 56 44.2	+0.3	
MRNZ	Matariki Terra	1.33	334	P		Pn	12 56 42.5	0.0	
AKCZ	Akaroa Harbour	1.35	200	P		Pg	12 56 44.2	-0.4	
AKCZ				S		Sg	12 57 03.8	+1.5	
RACZ	Rakaia	1.53	222	P		Pb	12 56 46.7	+0.3	
RACZ				S		Sg	12 57 09.0	+1.3	
INZ	Inchbonnie	1.55	265	P		Pb	12 56 46.7	-0.2	
TKNZ	Takaka Hill	1.62	344	P		Pn	12 56 45.8	-0.7	
TKNZ				S		Sn	12 57 07.3	+0.2	
QRZ	Quartz Range	1.93	336			Pn	12 56 52.0	+1.3	
RPZ	Rata Peaks	2.14	238	Pn		Pn	12 56 54.3	+0.8	
	196nm,0.3s,baz=159,slow=1.3,SNR=7.6								
RPZ				Sn		Sb	12 57 23.5	+0.4	
	292nm,0.3s,baz=356,slow=19,SNR=12								
	993nm,0.5s								
RPZ	Rata Peaks	2.14	238			Pn	12 56 54.5	+1.0	
FOZ	Fox Glacier	2.89	250	Pn		Pn	12 57 02.7	-1.1	
OUZ	Omahuta	7.37	0	Pn		Pn	12 58 08.7	+3.3	
KOUNC	Koumac, New Ca	23.32	338	P		P	13 01 28.1	+2.2	
KOUNC				IAmb		IAmb	13 01 31.4		
	comp=Z,19nm,1.1s								
CTAO	Charters Tower	32.11	306	P		P	13 02 46.9	+1.8	
VNDA	Vanda	35.36	184	P		P	13 03 12.5	-0.3	
	comp=Z,0.2nm,0.3s,baz=104,slow=21,SNR=11								
	comp=Z,0.2nm,0.3s								
AS31	Alice Springs	37.77	287	P		P	13 03 33.9	0.0	
ASAR	Alice Springs	37.77	287	P		P	13 03 33.5	-0.3	
	comp=Z,1.0nm,0.9s,baz=121,slow=6.2,SNR=5.9								
	comp=Z,1.0nm,0.9s								
ASAR	Alice Springs	37.77	287	P		P	13 03 33.2	-0.6	
COEN	Coen	38.73	308	P		P	13 03 41.9	-0.1	
COEN				IAmb		IAmb	13 04 16.7		
	comp=Z,72nm,1.8s								
WR0	Warramunga Arr	39.77	292	P		P	13 03 50.5	-0.2	
WR0				IAmb		IAmb	13 04 34.8		
	comp=Z,15nm,1.6s								
WB2	Warramunga Arr	39.91	292	P		P	13 03 51.9	0.0	
WRAB	Tennant Creek	39.92	292	P		P	13 03 52.1	+0.2	
WRAB				IAmb		IAmb	13 03 56.5		
	comp=Z,7.5nm,0.9s								
WRA	Warramunga Arr	39.92	292	P		P	13 03 51.4	-0.5	
	comp=Z,3.3nm,0.5s,baz=128,slow=8.4,SNR=17								
	comp=Z,3.3nm,0.5s								
WB0	Warramunga Arr	40.01	292	P		P	13 03 52.4	-0.2	
WB0				IAmb		IAmb	13 03 54.8		
	comp=Z,14nm,1.4s								
KNRA	Kununurra	46.69	291	P		P	13 04 46.1	-0.5	
MTN	Manton Dam	47.11	296	P		P	13 04 49.8	0.0	
MTN				IAmb		IAmb	13 05 29.9		
	comp=Z,28nm,1.3s								
SNAA	Sanae	66.01	181	P		P	13 07 09.2	+5.4	
SNAA				IAmb		IAmb	13 07 33.4		
	comp=Z,12nm,1.7s								
CMAR	Chiang Mai Arr	91.50	294	P		P	13 09 24.6	+0.3	
	comp=Z,1.6nm,0.8s,baz=144,slow=3.8,SNR=6.6								
	comp=Z,1.6nm,0.8s								
KURBB	Kurchatov Arra	124.12	310	PKP		PKPdf	13 15 13.6	-1.8	
	comp=Z,0.4nm,0.6s,baz=119,slow=1.7,SNR=5.6								
BVAR	Borovoye Array	129.72	310	PKP		PKPdf	13 15 23.7	-2.4	
	comp=Z,0.5nm,0.5s,baz=59,slow=3.5,SNR=3.4								
MMAI	Mount Meron Ar	145.87	269	PKPbc		PKPab	13 15 57.9	+0.4	
	comp=Z,0.6nm,0.3s,baz=108,slow=1.8,SNR=3.5								
BRTR	Keskin Array B	149.87	278	PKPbc		PKPbc	13 16 06.8	-0.9	
	comp=Z,2.5nm,0.8s,baz=143,slow=4.3,SNR=6.4								
FINES	FINESS Array B	152.94	325	PKPbc		PKPbc	13 16 11.2	-2.7	
	comp=Z,2.4nm,0.8s,baz=44,slow=8.5,SNR=3.2								

WEL 13 12:56:53.3±0.5, 42°S±4°× 17°4E±°, h14km±3km, M3.9/6, ML4.3/7, MLv3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=144.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
CMWZ	Cape Campbell	0.13	41	P		Pb	12 56

HOWZ S Sb 12 58 32.5 -0.2

IDC 13 12:58:08.7±2.7, 42°19S×174°48E, h0km, mb3.9/3, mbtmp4.0/4, ML4.9/1, Error ellipse: s-maj=76.1km s-min=35.1km az=141.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**2.94**	**238**	Pn	Pn	12 58 56.2	-0.5
	162nm,0.3s,baz=29,slow=19,SNR=9.1						
RPZ				Sn	Sn	12 59 32.4	-0.4
	188nm,0.3s,baz=172,slow=23,SNR=15						
	349nm,0.3s						
ASAR	**Alice Springs**	**38.31**	**286**	P	P	13 05 31.2	+0.1
	0.4nm,0.5s,baz=121,slow=6.7,SNR=2.9						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**40.42**	**291**	P	P	13 05 48.6	-0.2
	0.6nm,0.4s,baz=128,slow=8.5,SNR=2.0						
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**91.97**	**293**	P	P	13 11 19.9	+0.5
	0.3nm,0.3s,baz=152,slow=4.1,SNR=1.5						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**148.25**	**340**	PKPbc	PKPdf	13 17 53.0	+0.9
	2.9nm,0.8s,baz=44,slow=3.1,SNR=2.2						
BRTR	**Keskin Array B**	**150.50**	**279**	PKPbc	PKiKP	13 18 03.2	+0.4
	0.5nm,0.6s,baz=90,slow=2.9,SNR=1.6						

WEL 13 12:58:30.5±0.8, 42°S±4°×17°4E±°, h5km, M4.0/4, ML5.0/6, MLv4.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=7.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.34**	**313**	S	Sg	12 58 42.9	+1.6
TUWZ	**Tuamarina**	**0.55**	**339**	S	Sg	12 58 48.4	+0.3
TCW	**Tory Channel**	**0.73**	**4**	P	Pg	12 58 43.6	-1.0
TCW				S	Sb	12 58 55.5	-0.6
WEL	**Wellington**	**0.78**	**33**	P	Pg	12 58 45.6	+0.1
PLWZ	**Palliser**	**0.87**	**65**	P	Pb	12 58 47.8	-0.3
MSWZ	**Moikau Station**	**0.94**	**56**	S	Sb	12 59 02.6	+0.5
NNZ	**Nelson**	**0.95**	**319**	S	Sn	12 59 03.9	-0.6
CAW	**Cannon Point**	**1.06**	**38**	P	Pg	12 58 50.6	-0.2
CAW				S	Sb	12 59 05.5	+0.1
PAWZ	**Paruwai Farm**	**1.08**	**59**	P	Pg	12 58 50.3	-0.8
PAWZ				S	Sb	12 59 06.1	+0.2
DUWZ	**D'Urville Isla**	**1.16**	**349**	P	Pg	12 58 52.2	-0.5
OGWZ	**Otaki Gorge**	**1.34**	**33**	P	Pn	12 58 54.5	-1.3
HOWZ	**Holdsworth Sta**	**1.44**	**44**	P	Pn	12 58 55.4	-1.8

IDC 13 12:59:06.2±1.7, 41°.70S×174°.29E, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=63.0km s-min=35.5km az=49.0
NEIC 13 12:59:08.9±1.4, 41°.79S±0°.08×174°.24E±0°.04, h9km±6km, mb4.6/8, Error ellipse: s-maj=12.4km s-min=2.8km az=193.0
WEL 13 12:59:09.8±0.4, 42°S±2°×17°4E±°, h5km±2km, M4.6/31, ML4.8/13, MLv4.6/31, Error ellipse: s-maj=0.0km s-min=0.0km az=141.3
ISC 13 12:59:09.0±0.8, 41°72S±0°.04×174°27E±0°.03, h14km±5km, n56, σ1s04/61, mb4.5/7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**235**		**Pg**	**12 59 10.8**	**-0.9**
CMWZ	**Cape Campbell**	**0.05**	**235**	P	**Pg**	**12 59 11.5**	**-0.1**
CMWZ				S	**Sg**	**12 59 13.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.29**	**271**		**Pg**	**12 59 15.3**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.29**	**271**	P	**Pb**	**12 59 15.9**	**-0.2**
BSWZ				S	**Sb**	**12 59 21.2**	**+0.4**
TUWZ	**Tuamarina**	**0.38**	**320**		**Pb**	**12 59 17.4**	**-0.1**
TUWZ	**Tuamarina**	**0.38**	**320**	P	**Pg**	**12 59 16.8**	**+0.1**
TUWZ				S	**Sg**	**12 59 22.7**	**+0.9**
TCW	**Tory Channel**	**0.51**	**1**	P	**Pb**	**12 59 19.7**	**-0.1**
TCW				S	**Sb**	**12 59 27.3**	**+0.3**
SNZO	**South Karori**	**0.53**	**39**		**Pb**	**12 59 19.5**	**-0.5**
BHW	**Baring Head**	**0.55**	**56**	P	**Pb**	**12 59 20.5**	**0.0**
WEL	**Wellington**	**0.58**	**41**	P	**Pn**	**12 59 21.3**	**-1.5**
WEL				S	**Sb**	**12 59 29.9**	**+1.0**
PLWZ	**Palliser**	**0.76**	**79**		**Pn**	**12 59 24.3**	**-1.0**
PLWZ	**Palliser**	**0.76**	**79**	P	**Pn**	**12 59 25.6**	**+0.3**
PLWZ				S	**Sn**	**12 59 38.2**	**+1.6**
MSWZ	**Moikau Station**	**0.80**	**68**		**Pn**	**12 59 25.8**	**-0.1**
MSWZ	**Moikau Station**	**0.80**	**68**	P	**Pn**	**12 59 26.2**	**+0.3**
MSWZ				S	**Sn**	**12 59 39.2**	**+1.7**
NNZ	**Nelson**	**0.83**	**307**		**Pb**	**12 59 25.4**	**+0.1**
CAW	**Cannon Point**	**0.86**	**45**	P	**Pn**	**12 59 26.3**	**-0.4**
DUWZ	**D'Urville Isla**	**0.95**	**344**	P	**Pn**	**12 59 29.2**	**+1.2**
THZ	**Tophouse**	**1.02**	**267**	Pn	**Pn**	**12 59 29.7**	**+0.8**
MTW	**Mount Morrison**	**1.08**	**59**	P	**Pn**	**12 59 30.0**	**+0.2**
OGWZ	**Otaki Gorge**	**1.13**	**37**	P	**Pg**	**12 59 31.6**	**+0.7**
MRNZ	**Matariki Terra**	**1.18**	**285**	P	**Pg**	**12 59 32.7**	**+1.0**
HOWZ	**Holdsworth Sta**	**1.25**	**49**	P	**Pg**	**12 59 33.9**	**+0.8**
QRZ	**Quartz Range**	**1.59**	**304**	P	**Pg**	**12 59 39.0**	**-0.5**
BFZ	**Birch Farm**	**1.82**	**56**	P	**Pg**	**12 59 46.1**	**+2.1**
DVHZ	**Dannevirke**	**2.02**	**46**	P	**Pg**	**12 59 47.7**	**-0.2**
NMEZ	**Namu Road**	**2.33**	**353**	P	**Pg**	**12 59 53.1**	**-0.5**
NBEZ	**Newall Road No**	**2.47**	**353**	P	**Pb**	**12 59 54.4**	**+1.3**
MOVZ	**Moawhango**	**2.58**	**27**	P	**Pb**	**12 59 55.7**	**+0.7**
BHHZ	**Black Hill Sta**	**2.62**	**32**	P	**Pg**	**12 59 57.1**	**-2.0**
SNVZ	**South Ngauruho**	**2.74**	**23**	P	**Pb**	**12 59 59.2**	**+1.3**
OTVZ	**Oturere**	**2.77**	**23**	P	**Pb**	**12 59 59.3**	**+0.9**
NNVZ	**North Ngauruho**	**2.78**	**22**	P	**Pb**	**12 59 59.5**	**+0.8**
ETVZ	**East Tongariro**	**2.81**	**24**	P	**Pb**	**13 00 00.2**	**+1.2**
KWHZ	**Kaweka Forest**	**2.82**	**36**	P	**Pg**	**13 00 01.5**	**-1.6**
KRVZ	**Karewarewa**	**2.83**	**22**	P	**Pg**	**13 00 00.9**	**-2.3**
KATZ	**Kakaramea**	**2.95**	**22**	P	**Pg**	**13 00 03.2**	**-2.4**
RATZ	**Rangitukua**	**3.08**	**22**	P	**Pg**	**13 00 05.7**	**-2.2**
RPZ	**Rata Peaks**	**3.09**	**229**	Sn	**Sn**	**13 00 33.1**	**-1.1**
	baz=28,slow=11						
WATZ	**Wairara**	**3.21**	**21**	P	**Pb**	**13 00 07.5**	**+1.7**
MLZ	**Mavora Lakes**	**5.76**	**229**	P	**Pn**	**13 00 34.9**	**+0.8**
SYZ	**Scrubby Hill**	**6.06**	**216**	P	Pn	13 00 43.8	+5.6
WHZ	**Wether Hill Ro**	**6.19**	**226**	P	Pn	13 00 47.7	+7.8
AS31	**Alice Springs**	**38.03**	**285**	P	**P**	**13 06 27.3**	**+0.3**
ASAR	**Alice Springs**	**38.03**	**285**	P	**P**	**13 06 26.1**	**-0.9**
	0.9nm,0.4s,baz=122,slow=6.6,SNR=8.6						
	0.9nm,0.4s						
WB2	**Warramunga Arr**	**40.10**	**290**	P	**P**	**13 06 43.5**	**-0.7**
WB2				IAmb	IAmb	13 07 05.2	
	comp=Z,10nm,1.1s						
WRAB	**Tennant Creek**	**40.10**	**290**	P	**P**	**13 06 43.5**	**-0.8**
WRA	**Warramunga Arr**	**40.10**	**290**	P	**P**	**13 06 43.5**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=126,slow=8.4,SNR=5.1						
	comp=Z,1.5nm,0.6s						
WB0	**Warramunga Arr**	**40.18**	**291**	P	**P**	**13 06 44.0**	**-0.9**
WB0				IAmb	IAmb	13 07 20.3	
	comp=Z,14nm,1.4s						
MTN	**Manton Dam**	**47.21**	**295**	P	**P**	**13 07 41.7**	**+0.2**
MORW	**Morawa**	**48.27**	**266**	P	**P**	**13 07 49.2**	**-0.5**
QSPA	**South Pole Qui**	**48.41**	**180**	P	**P**	**13 07 49.7**	**-0.7**
	comp=Z,4.3nm,1.1s,baz=35,slow=5.0,SNR=3.2						
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	**48.41**	**180**	P	**P**	**13 07 50.1**	**-0.3**
QSPA				IAmb	IAmb	13 08 02.2	
	comp=Z,8.2nm,1.1s						
SNAA	**Sanae**	**66.89**	**181**	P	**P**	**13 10 00.7**	**+0.5**
SNAA				IAmb	IAmb	13 10 44.0	
	comp=Z,9.2nm,1.5s						
CMAR	**Chiang Mai Arr**	**91.64**	**293**	P	**P**	**13 12 16.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=156,slow=4.6,SNR=1.7						
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**147.75**	**340**	PKPbc	**PKPbc**	**13 18 51.1**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=43,slow=1.6,SNR=5.3						
FINES	**FINESS Array B**	**152.51**	**327**	PKPbc	**PKPbc**	**13 19 03.0**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=48,slow=4.1,SNR=3.4						

IDC 13 13:02:05.7±3.5, 43°.23S×173°.66E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=107.0km s-min=33.6km az=157.0
ISC 13 13:02:07.3±3.0, 43°3S±0°.6×173°6E±0°.3, h10km, n6, σ0s90/7, mb3.8/4, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**1.88**	**257**	Pn	**Pn**	**13 02 39.4**	**-0.1**
	81nm,0.3s,baz=311,slow=2.6,SNR=2.4						
RPZ				Sn	**Sb**	**13 03 04.9**	**-0.3**
	71nm,0.3s,baz=347,slow=22,SNR=2.3						
ASAR	**Alice Springs**	**38.01**	**288**	P	**P**	**13 09 26.9**	**+1.3**
	0.4nm,0.5s,baz=118,slow=6.4,SNR=4.7						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**40.22**	**293**	P	**P**	**13 09 43.8**	**-0.4**
	0.8nm,0.6s,baz=127,slow=8.0,SNR=5.1						
	0.8nm,0.6s						
KSRS	**Korea Array**	**90.46**	**325**	P	**P**	**13 15 08.0**	**-0.8**
	0.6nm,0.7s,baz=157,slow=3.4,SNR=3.6						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.81**	**294**	P	**P**	**13 15 16.3**	**+0.8**
	0.7nm,0.3s,baz=171,slow=6.4,SNR=5.2						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**153.55**	**325**	PKPbc	**PKiKP**	**13 22 04.6**	**-0.5**
	1.1nm,0.8s,baz=57,slow=5.1,SNR=1.1						

IDC 13 13:04:33.9±1.9, 41°.04S×174°.85E, h0km, mb3.8/3, mbtmp4.0/4, ML4.8/1, Error ellipse: s-maj=42.2km s-min=31.0km az=71.0
WEL 13 13:04:39.5±0.4, 42°S±3°×17°4E±°, h7km±3km, M4.1/56, ML4.6/18, MLv4.1/56, Error ellipse: s-maj=0.0km s-min=0.0km az=153.9
ISC 13 13:04:39.6±0.9, 41°70S±0°.03×174°26E±0°.02, h9km±6km, n61, σ1s30/68, mb3.4/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**214**	P	**Pg**	**13 04 41.2**	**-0.4**
CMWZ				S	**Sg**	**13 04 43.1**	**0.0**
BSWZ	**Blackbirch Sta**	**0.29**	**266**	P	**Pg**	**13 04 45.3**	**0.0**
BSWZ				S	**Sg**	**13 04 50.5**	**+1.3**
TUWZ	**Tuamarina**	**0.36**	**318**	P	**Pg**	**13 04 47.2**	**+0.6**
TUWZ				S	**Sb**	**13 04 53.4**	**-0.4**
TCW	**Tory Channel**	**0.49**	**2**	P	**Pg**	**13 04 49.6**	**+0.6**
TCW				S	**Sb**	**13 04 57.4**	**-0.2**
BHW	**Baring Head**	**0.54**	**58**	P	**Pg**	**13 04 50.2**	**+0.1**
WEL	**Wellington**	**0.56**	**43**	P	**Pg**	**13 04 51.3**	**+0.8**
WEL				S	**Sb**	**13 05 00.2**	**+0.5**
PLWZ	**Palliser**	**0.76**	**81**	P	**Pb**	**13 04 55.0**	**0.0**
PLWZ				S	**Sb**	**13 05 06.9**	**+1.5**
MSWZ	**Moikau Station**	**0.80**	**70**	P	**Pb**	**13 04 55.8**	**+0.2**
NNZ	**Nelson**	**0.82**	**306**	P	**Pg**	**13 04 55.3**	**0.0**
CAW	**Cannon Point**	**0.85**	**46**	P	**Pg**	**13 04 56.2**	**+0.3**
DUWZ	**D'Urville Isla**	**0.93**	**344**	P	**Pn**	**13 04 59.3**	**+0.4**
PAWZ	**Paruwai Farm**	**0.93**	**71**	P	**Pg**	**13 04 57.4**	**-0.1**
KIW	**Kapiti Island**	**0.97**	**31**	P	**Pg**	**13 04 58.6**	**+0.3**
THZ	**Tophouse**	**1.02**	**266**	P	**Pg**	**13 04 59.0**	**-0.1**
MTW	**Mount Morrison**	**1.08**	**60**	P	**Pg**	**13 04 59.6**	**-0.7**
TRWZ	**Traveller**	**1.11**	**75**	P	**Pg**	**13 04 59.6**	**-1.3**
OGWZ	**Otaki Gorge**	**1.12**	**38**	P	**Pg**	**13 05 00.8**	**-0.2**
MRNZ	**Matariki Terra**	**1.17**	**284**	P	**Pg**	**13 05 02.0**	**0.0**
TKNZ	**Takaka Hill**	**1.18**	**304**	P	**Pb**	**13 05 02.5**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.24**	**50**	P	**Pn**	**13 05 03.2**	**+0.1**
TMWZ	**Te Maipa**	**1.36**	**65**	P	**Pn**	**13 05 03.1**	**-1.8**
MRZ	**Mangatainoka R**	**1.44**	**44**	P	**Pn**	**13 05 05.1**	**-0.8**
QRZ	**Quartz Range**	**1.57**	**303**	P	**Pb**	**13 05 08.6**	**-0.2**
CPWZ	**Castlepoint**	**1.66**	**62**	P	**Pg**	**13 05 14.6**	**+3.1**
OHWZ	**Ohakea**	**1.69**	**29**	P	**Pb**	**13 05 11.5**	**+0.6**
PRWZ	**Pori Road**	**1.73**	**49**	P	**Pg**	**13 05 13.4**	**+0.7**
POWZ	**Post Office Ro**	**1.73**	**42**	P	**Pn**	**13 05 10.9**	**+1.0**
BFZ	**Birch Farm**	**1.81**	**57**	P	**Pg**	**13 05 14.8**	**+0.5**
DVHZ	**Dannevirke**	**2.01**	**47**	P	**Pb**	**13 05 16.3**	**0.0**
TSZ	**Takapari Road**	**2.08**	**39**	P	**Pb**	**13 05 18.0**	**+0.4**
PRHZ	**Porangahau**	**2.30**	**52**	P	**Pg**	**13 05 24.7**	**+1.1**
PNHZ	**Pukenui**	**2.31**	**40**	P	**Pn**	**13 05 17.3**	**-0.6**
WPHZ	**Waipukurau**	**2.32**	**46**	P	**Pg**	**13 05 24.4**	**+0.3**
NBEZ	**Newall Road No**	**2.44**	**353**	P	**Pg**	**13 05 25.5**	**-1.0**
PKE	**Pukeiti**	**2.51**	**355**	P	**Pg**	**13 05 27.2**	**-0.5**
MOVZ	**Moawhango**	**2.56**	**27**	P	**Pb**	**13 05 24.6**	**-1.0**
PXZ	**Pawanui**	**2.58**	**51**	P	**Pg**	**13 05 29.1**	**0.0**
TRVZ	**Turoa**	**2.59**	**23**	P	**Pb**	**13 05 27.2**	**+0.9**
BHHZ	**Black Hill Sta**	**2.60**	**32**	P	**Pb**	**13 05 26.5**	**+0.2**
WHVZ	**Whangaehu Hut**	**2.62**	**23**	P	**Pb**	**13 05 27.1**	**+0.3**
FWVZ	**Far West T-bar**	**2.63**	**22**	P	**Pb**	**13 05 27.5**	**+0.5**
NGZ	**Ngauruhoe**	**2.72**	**23**	P	**Pb**	**13 05 29.9**	**+1.4**
SNVZ	**South Ngauruho**	**2.72**	**23**	P	**Pb**	**13 05 29.2**	**+0.6**
OTVZ	**Oturere**	**2.75**	**23**	P	**Pb**	**13 05 29.5**	**+0.5**
WTVZ	**West Tongariro**	**2.77**	**22**	P	**Pb**	**13 05 30.0**	**+0.6**
TWVZ	**Taurewa**	**2.77**	**19**	P	**Pb**	**13 05 30.2**	**+0.8**
ETVZ	**East Tongariro**	**2.79**	**24**	P	**Pb**	**13 05 31.1**	**+1.5**
KRVZ	**Karewarewa**	**2.81**	**23**	P	**Pb**	**13 05 30.7**	**+0.7**
KWHZ	**Kaweka Forest**	**2.81**	**37**	P	**Pb**	**13 05 31.9**	**+2.0**
BKZ	**Black Stump Fm**	**3.05**	**35**	P	**Pb**	**13 05 35.5**	**+1.4**
RPZ	**Rata Peaks**	**3.10**	**228**	Pn	**Pb**	**13 05 35.9**	**+0.9**
	64nm,0.3s,baz=347,slow=1.6,SNR=4.0						
RPZ				Sn	**Sg**	**13 06 20.8**	**+1.5**
	48nm,0.3s,baz=312,slow=21,SNR=6.2						
	150nm,0.5s						
HIZ	**Hauiti**	**3.21**	**8**	P	**Pb**	**13 05 36.7**	**-0.1**
UTU	**Utuhina**	**3.82**	**24**	P	**Pb**	**13 05 45.5**	**-1.6**
NGRZ	**Ngongotaha**	**3.88**	**23**	P	**Pb**	**13 05 44.4**	**-3.9**
KARZ	**Kaharoa**	**3.98**	**23**	P	**Pb**	**13 05 47.4**	**-2.5**
TKGZ	**Te Karaka**	**4.26**	**41**	P	**Pb**	**13 05 51.4**	**-3.3**
ETAZ	**East Tamaki Re**	**4.77**	**6**	P	**Pn**	**13 05 54.5**	**+2.9**
ASAR	**Alice Springs**	**38.02**	**285**	P	**P**	**13 11 55.5**	**-2.8**
	0.4nm,0.6s,baz=126,slow=6.7,SNR=4.8						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**40.09**	**290**	P	**P**	**13 12 12.9**	**-2.7**
	0.4nm,0.4s,baz=128,slow=8.1,SNR=7.2						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**48.43**	**180**	P	**P**	**13 13 22.4**	**+0.4**
	4.4nm,0.9s,baz=324,slow=0.8,SNR=8.0						
	4.4nm,0.9s						
FINES	**FINESS Array B**	**152.49**	**327**	PKPbc	**PKPdf**	**13 24 30.5**	**+2.2**
	2.3nm,1.0s,baz=64,slow=3.2,SNR=2.1						

IDC 13 13:04:54.2±1.7, 41°.12S×174°.75E, h0km, mb4.0/5, mbtmp4.0/5, ML4.9/1, Error ellipse: s-maj=45.9km s-min=33.4km az=69.0
NEIC 13 13:04:58.4±1.2, 41°.73S±0°.07×174°.09E±0°.04, h10km±1km, mb4.4/10, Error ellipse: s-maj=12.5km s-min=3.1km az=164.0
WEL 13 13:04:59.0±0.4, 42°S±3°×17°4E±°, h5km±2km, M4.4/22, ML4.6/18, MLv4.4/22, Error ellipse: s-maj=0.0km s-min=0.0km az=157.2
ISC 13 13:04:58.0±0.8, 41°78S±0°.04×174°25E±0°.03, h18km±3km, n50, σ0s98/59, mb4.2/10, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**320**	Pg	**Pg**	**13 05 01.0**	**-0.3**
CMWZ				Sg	**Sg**	**13 05 03.5**	**+0.1**
CMWZ	**Cape Campbell**	**0.04**	**320**	P	**Pg**	**13 05 01.3**	**0.0**
CMWZ				S	**Sg**	**13 05 03.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.28**	**283**	Pg	**Pb**	**13 05 04.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.28**	**283**	P	**Pb**	**13 05 04.5**	**-0.1**
BSWZ				S	**Sb**	**13 05 09.4**	**+0.5**
TUWZ	**Tuamarina**	**0.42**	**327**	Pg	**Pg**	**13 05 04.7**	**-1.8**
TUWZ	**Tuamarina**	**0.42**	**327**	P	**Pb**	**13 05 07.2**	**+0.3**
TUWZ				S	**Sb**	**13 05 13.0**	**+0.1**
TCW	**Tory Channel**	**0.57**	**2**	P	**Pb**	**13 05 09.5**	**+0.1**
TCW				S	**Sn**	**13 05 17.8**	**-2.3**
SNZO	**South Karori**	**0.58**	**36**	Pg	**Pb**	**13 05 10.2**	**+0.6**
BHW	**Baring Head**	**0.60**	**52**	P	**Pb**	**13 05 10.8**	**+0.9**
WEL	**Wellington**	**0.63**	**39**	P	**Pn**	**13 05 11.2**	**-0.8**
WEL				S	**Sn**	**13 05 21.0**	**-0.6**
PLWZ	**Palliser**	**0.78**	**75**	Pg	**Pn**	**13 05 14.6**	**+0.4**
PLWZ	**Palliser**	**0.78**	**75**	P	**Pn**	**13 05 14.6**	**+0.4**
MSWZ	**Moikau Station**	**0.83**	**65**		**Pn**	**13 05 15.6**	**+0.7**
MSWZ	**Moikau Station**	**0.83**	**65**	P	**Pn**	**13 05 15.3**	**+0.4**
NNZ	**Nelson**	**0.86**	**310**	P	**Pn**	**13 05 15.8**	**+0.6**
CAW	**Cannon Point**	**0.91**	**43**	P	**Pn**	**13 05 16.2**	**+0.3**
PAWZ	**Paruwai Farm**	**0.97**	**66**	P	**Pb**	**13 05 16.4**	**+0.1**
THZ	**Tophouse**	**1.00**	**270**	Pg	**Pb**	**13 05 14.5**	**-2.4**
THZ	**Tophouse**	**1.00**	**270**	P	**Pn**	**13 05 18.1**	**+0.8**
DUWZ	**D'Urville Isla**	**1.01**	**346**	P	**Pn**	**13 05 17.9**	**+0.7**
KIW	**Kapiti Island**	**1.04**	**29**	P	**Pn**	**13 05 18.3**	**+0.5**
MTW	**Mount Morrison**	**1.13**	**57**	P	**Pg**	**13 05 19.5**	**-0.4**
MRNZ	**Matariki Terra**	**1.18**	**288**	P	**Pg**	**13 05 21.7**	**+0.9**
MRNZ				S	**Sn**	**13 05 38.3**	**+3.1**
OGWZ	**Otaki Gorge**	**1.19**	**36**	P	**Pg**	**13 05 20.1**	**-0.9**
TKNZ	**Takaka Hill**	**1.22**	**307**	P	**Pg**	**13 05 22.3**	**+0.7**
TKNZ				S	**Sg**	**13 05 38.9**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.30**	**48**	P	**Pn**	**13 05 21.3**	**0.0**
TMWZ	**Te Maipa**	**1.41**	**62**	P	**Pn**	**13 05 22.9**	**+0.1**
MRZ	**Mangatainoka R**	**1.50**	**42**	P	**Pn**	**13 05 24.4**	**+0.4**
QRZ	**Quartz Range**	**1.61**	**306**	Pn	**Pn**	**13 05 25.5**	**0.0**
QRZ	**Quartz Range**	**1.61**	**306**	P	**Pg**	**13 05 28.5**	**-0.4**
LTZ	**Lake Taylor**	**1.78**	**235**	Pn	**Pn**	**13 05 28.4**	**+0.6**
OXZ	**Oxford**	**2.25**	**226**	Pn	**Pn**	**13 05 33.8**	**-0.6**
RPZ	**Rata Peaks**	**3.04**	**229**	Pn	**Pg**	**13 05 55.4**	**-1.0**
	84nm,0.3s,baz=191,slow=2.6,SNR=5.5						
AS31	**Alice Springs**	**38.03**	**286**	P	**P**	**13 12 15.3**	**0.0**
ASAR	**Alice Springs**	**38.03**	**286**	P	**P**	**13 12 15.1**	**-0.3**
	1.0nm,0.5s,baz=123,slow=6.8,SNR=11						
ASAR				PcP	**PcP**	**13 14 30.0**	**-0.6**
	0.4nm,0.6s,baz=126,slow=3.7,SNR=2.3						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**38.03**	**286**	P	**P**	**13 12 15.2**	**-0.1**
WR0	**Warramunga Arr**	**39.96**	**291**	P	**P**	**13 12 31.7**	**+0.2**
WR0				IAmb	IAmb	13 12 40.7	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**40.10**	**290**	P	**P**	**13 12 32.2**	**-0.5**
WB2				IAmb	IAmb	13 12 33.2	
	comp=Z,5.9nm,1.1s						
WRAB	**Tennant Creek**	**40.11**	**290**	P	**P**	**13 12 32.5**	**-0.3**
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**13 12 32.2**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=128,slow=8.2,SNR=8.5						
	comp=Z,1.9nm,0.7s						
WB0	**Warramunga Arr**	**40.19**	**291**	P	**P**	**13 12 32.6**	**-0.7**
WB0				IAmb	IAmb	13 13 02.1	
	comp=Z,10nm,1.5s						
KNRA	**Kununurra**	**46.89**	**290**	P	**P**	**13 13 28.2**	**+0.8**
MTN	**Manton Dam**	**47.23**	**295**	P	**P**	**13 13 30.2**	**+0.2**
MORW	**Morawa**	**48.26**	**266**	P	**P**	**13 13 37.8**	**-0.2**
QSPA	**South Pole Qui**	**48.35**	**180**	P	**P**	**13 13 41.3**	**+3.0**
	comp=Z,1.8nm,0.8s,baz=29,slow=1.9,SNR=2.9						
	comp=Z,1.8nm,0.8s						
PSA00	**Pilbara Seismi**	**49.62**	**276**	P	**P**	**13 13 48.0**	**-0.4**
PSA00				IAmb	IAmb	13 13 50.2	
	comp=Z,4.4nm,1.1s						
MBWA	**Marble Bar**	**49.95**	**277**	P	**P**	**13 13 50.2**	**-0.7**
MBWA				IAmb	IAmb	13 13 59.4	
	comp=Z,22nm,1.1s						
KSRS	**Korea Array**	**89.48**	**325**	P	**P**	**13 17 51.7**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=160,slow=5.0,SNR=2.2						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.65**	**293**	P	**P**	**13 18 04.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=152,slow=4.0,SNR=5.3						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**152.56**	**327**	PKPbc	**PKPbc**	**13 24 51.1**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=42,slow=2.3,SNR=3.3						

IDC 13 13:05:34.5±3.3, 41°.83S×174°.36E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=172.6km s-min=57.2km az=4.0
NEIC 13 13:05:37.9±1.3, 41°.95S±0°.01×174°.16E±0°.03, h10km±1km, mb4.5/8, Error ellipse: s-maj=3.7km s-min=2.9km az=59.0
WEL 13 13:05:40.7±0.5, 42°S±2°×17°4E±°, h5km±2km, M4.2/10, ML4.5/10, MLv4.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=141.7
ISC 13 13:05:38.5±0.9, 41°84S±0°.05×174°19E±0°.03, h18km±3km, n40, σ0s81/55, mb4.2/8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**10**	Pg	**Pg**	**13 05 42.6**	**+0.4**
CMWZ				Sg	**Sg**	**13 05 45.4**	**+0.8**
CMWZ	**Cape Campbell**	**0.10**	**10**	P	**Pg**	**13 05 42.9**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.27**	**298**	Pg	**Pb**	**13 05 45.2**	**+0.5**
BSWZ				S

NNZ	Nelson	0.75	310	Pn	Pn	13 10 15.9	+0.5
NNZ	Nelson	0.75	310	P	Pn	13 10 14.1	-1.3
PLWZ	Palliser	0.84	82	Pg	Pg	13 10 15.1	-0.5
PLWZ	Palliser	0.84	82	P	Pb	13 10 15.5	-0.2
MSWZ	Moikau Station	0.88	72	Pg	Pb	13 10 16.0	-0.3
MSWZ	Moikau Station	0.88	72	P	Pb	13 10 16.5	+0.2
MSWZ				S	Sn	13 10 30.2	+0.4
DUWZ	D'Urville Isla	0.91	349	P	Pn	13 10 19.0	+1.3
CAW	Cannon Point	0.91	50	P	Pn	13 10 18.1	+0.4
CAW				S	Sn	13 10 31.7	+1.0
THZ	Tophouse	0.93	266	Pg	Pn	13 10 17.7	-0.3
THZ	Tophouse	0.93	266	P	Pn	13 10 17.7	-0.3
PAWZ	Paruwai Farm	1.01	72	P	Pb	13 10 18.0	-0.7
KIW	Kapiti Island	1.02	35	P	Pn	13 10 19.4	+0.2
KIW				S	Sn	13 10 35.4	+2.1
MRNZ	Matariki Terra	1.08	285	P	Pn	13 10 20.4	+0.4
MRNZ				S	Sn	13 10 37.7	+2.9
TKNZ	Takaka Hill	1.11	306	P	Pn	13 10 22.1	+1.7
MTW	Mount Morrison	1.16	63	P	Pb	13 10 20.2	-0.8
MTW				S	Sn	13 10 37.3	+0.6
OGWZ	Otaki Gorge	1.17	42	P	Pg	13 10 21.8	0.0
OGWZ				S	Sn	13 10 38.7	+1.7
HOWZ	Holdsworth Sta	1.31	53	P	Pn	13 10 22.9	-0.3
MRZ	Mangatainoka R	1.50	47	P	Pn	13 10 25.7	-0.1
TIWZ	Tintock	1.60	56	P	Pn	13 10 27.3	0.0
OHWZ	Ohakea	1.73	31	P	Pg	13 10 31.0	-1.5
CPWZ	Castlepoint	1.74	64	P	Pg	13 10 33.2	+0.6
POWZ	Post Office Ro	1.79	44	P	Pn	13 10 30.1	+0.3
PRWZ	Pori Road	1.79	51	P	Pn	13 10 29.6	-0.2
OXZ	Oxford	2.25	223	Pn	Pn	13 10 36.0	-0.1
AS31	Alice Springs	37.94	286	P	P	13 17 16.4	-0.1
ASAR	Alice Springs 0.5nm,0.6s,baz=129,slow=7.3,SNR=12 0.5nm,0.6s	37.94	286	P	P	13 17 14.6	-1.9
ASAR	Alice Springs	37.94	286	P	P	13 17 16.6	+0.1
COEN	Coen	38.53	307	P	P	13 17 19.4	-2.1
WR0	Warramunga Arr	39.86	291	P	P	13 17 31.3	-1.3
WR0				IAmb	IAmb	13 18 13.1	
	comp=Z,5.9nm,1.4s						
WRAB	Tennant Creek	40.01	291	P	P	13 17 32.2	-1.6
WRAB				IAmb	IAmb	13 17 54.3	
	comp=Z,2.0nm,1.1s						
WRA	Warramunga Arr comp=Z,1.0nm,0.7s,baz=127,slow=8.5,SNR=8.2 comp=Z,1.0nm,0.7s	40.01	290	P	P	13 17 32.2	-1.6
WB0	Warramunga Arr	40.09	291	P	P	13 17 32.9	-1.5
WB0				IAmb	IAmb	13 18 05.7	
	comp=Z,4.0nm,1.1s						
QSPA	South Pole Qui	48.43	180	P	P	13 18 41.6	+0.7
	comp=Z,2.9nm,1.0s,baz=32,slow=2.9,SNR=4.2 comp=Z,2.9nm,1.0s						
QSPA	South Pole Qui	48.43	180	P	P	13 18 42.4	+1.4
QSPA				IAmb	IAmb	13 18 43.9	
	comp=Z,6.2nm,1.2s						
KSRS	Korea Array	89.37	325	P	P	13 22 55.8	+0.7
	comp=Z,0.6nm,0.8s,baz=145,slow=6.6,SNR=2.2 comp=Z,0.6nm,0.8s						
CMAR	Chiang Mai Arr	91.55	293	P	P	13 23 05.3	-0.4
	comp=Z,0.4nm,0.4s,baz=163,slow=3.2,SNR=1.5 comp=Z,0.4nm,0.4s						

IDC ***13*** *13:10:09.3±4.6,52.°11N×179.°52E, h122km±62km, mb3.2/4, mbtmp3.8/7, Error ellipse: s-maj=62.8km s-min=42.4km az=170.0*

NEIC ***13*** *13:10:10.0±1.6, 51.°8N±0.°1×179.°4E±0.°1, h141km±7km, mb4.0/49, ML3.3(AEIC), Error ellipse: s-maj=19.6km s-min=9.8km az=187.0*

AEIC ***13*** *13:10:10.8±2.0, 51.°7N±0.°2×179.°6E±0.°1, h131km±6km, Error ellipse: s-maj=25.8km s-min=9.2km az=189.0*

ISC 13 13:10:08.5±1.2, 51.°8N±0.°2×179.°35E±0.°05, h126km, n68, σ1§96/70, mb3.9/18, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	Kanaga Island	2.17	87	Pn	Pn	13 10 45.5	+1.1
ADK	Adak	2.46	87	Pn	Pn	13 10 48.6	+0.7
GSTR	Great Sitkin T	2.86	82	Pn	Pn	13 10 54.2	+1.1
SHEM	Shemya Is, Ala 40nm,0.5s,baz=162,slow=6.4,SNR=2.1	3.35	288	P	Pn	13 11 01.2	+1.7
SHEM				S	Sn	13 11 40.3	+1.4
	23nm,0.3s,baz=239,slow=21,SNR=7.3						
PETK	Petropavlovsk- 1.0nm,0.7s,baz=91,slow=15,SNR=8.4	13.26	284	P	Pn	13 13 13.2	+1.5
PETK				S	Sn	13 15 32.7	-5.0
	1.7nm,1.0s,baz=65,slow=35,SNR=1.3						
O18K	Koktuh Hills	16.32	51	P	P	13 13 52.4	+1.7
KDAK	Kodiak Island 15nm,1.1s,baz=261,slow=3.6,SNR=13	17.17	59	P	P	13 13 57.5	-2.5
KDAK	Kodiak Island	17.17	59	P	P	13 13 57.8	-2.3
L19K	White Mountain	17.34	43	P	Pn	13 14 03.1	+0.6
L19K				IAmb	IAmb	13 14 16.9	
	comp=Z,9.3nm,1.2s						
M19K	Big River Lodg	17.43	44	P	Pn	13 14 04.5	+0.9
M19K				IAmb	IAmb	13 14 44.6	
	comp=Z,16nm,1.4s						
M20K	Styx River	17.97	45	P	Pn	13 14 10.3	+0.2
M20K				IAmb	IAmb	13 14 49.7	
	comp=Z,12nm,1.2s						
CNPM	China Poot	18.18	53	P	P	13 14 10.4	-0.7
K20K	Telida	18.19	40	Pn	Pn	13 14 13.8	+1.3
SPU	Mount Spurr	18.22	48	P	P	13 14 12.1	+0.5
BRLK	Bradley Lake	18.40	53	P	P	13 14 12.7	-0.9
J20K	Nowinta River	18.55	38	P	P	13 14 15.7	+0.7
J20K				IAmb	IAmb	13 14 50.2	
	comp=Z,5.9nm,1.2s						
SKT	Skwentna	18.71	46	P	Pn	13 14 18.5	-0.3
PPLA	Purkeypile	18.77	43	P	P	13 14 18.8	+1.2
PPLA				IAmb	IAmb	13 14 48.8	
	comp=Z,17nm,1.4s						
CAST	Castle Rocks	19.02	41	P	Pn	13 14 21.7	-0.7
CAST				IAmb	IAmb	13 15 04.5	
	comp=Z,6.9nm,1.4s						
SEW	Seward	19.18	52	P	P	13 14 22.5	+0.5
KTH	Kantishna Hill	19.55	42	P	P	13 14 27.1	+1.0
KTH				IAmb	IAmb	13 14 30.1	
	comp=Z,7.5nm,0.9s						
BPAW	Bear Paw Mtn.	19.75	40	P	P	13 14 28.6	+0.5
BPAW				IAmb	IAmb	13 14 51.4	
	comp=Z,10nm,1.4s						
TRF	Thorofare Moun	19.77	42	P	P	13 14 28.6	0.0
H21K	Melozitna River	19.79	35	P	P	13 14 29.1	+0.5
H21K				IAmb	IAmb	13 14 35.8	
	comp=Z,10.0nm,1.5s						
DHY	Denali Highway	20.89	44	P	P	13 14 40.3	-0.2
DHY				IAmb	IAmb	13 14 41.6	
	comp=Z,4.6nm,0.8s						
MDM	Murphy Dome	21.18	39	P	P	13 14 44.0	+0.4
MDM				IAmb	IAmb	13 14 59.6	
	comp=Z,5.3nm,1.4s						
H24K	Noodor Dome	21.68	37	P	P	13 14 49.5	+0.7
H24K				IAmb	IAmb	13 15 23.4	
	comp=Z,4.3nm,1.2s						
N25K	Chitina, Valde	21.80	49	P	P	13 14 50.1	-0.1
GLB	Gilahina Butte	22.14	50	P	P	13 14 53.7	0.0
GLB				IAmb	IAmb	13 15 25.6	
	comp=Z,9.1nm,1.1s						
TOLK	Toolik Lake Re	22.45	30	P	P	13 14 56.5	-0.2
TOLK				IAmb	IAmb	13 15 25.7	
	comp=Z,4.5nm,1.3s						
J26L	Joseph Creek	22.92	42	P	P	13 15 00.6	-0.8
J26L				IAmb	IAmb	13 15 01.7	
	comp=Z,4.4nm,0.8s						
TABL	Table Mountain	23.33	53	P	P	13 15 05.2	-0.1
L27K	Beaver Creek,	23.34	46	P	P	13 15 05.0	-0.1
L27K				IAmb	IAmb	13 15 06.4	
	comp=Z,4.2nm,0.8s						
BCAR	Beaver Creek A	23.36	46	P	P	13 15 05.8	+0.4
K27K	Chicken	23.43	44	P	P	13 15 06.5	+0.6
PCA	Pinnacle	23.75	54	P	P	13 15 08.7	-0.3
EGAK	Eagle	23.99	42	P	P	13 15 10.4	-0.6
EGAK				IAmb	IAmb	13 15 18.4	
	comp=Z,4.6nm,1.0s						
DAWY	Dawson	24.59	44	P	P	13 15 18.2	+1.6
HYT	Haines Junctio	25.14	52	P	P	13 15 21.9	+0.3
HYT				IAmb	IAmb	13 15 38.0	
	comp=Z,6.0nm,1.2s						
INK	Inuvik comp=Z,0.5nm,0.5s,baz=281,slow=10,SNR=4.5 comp=Z,0.5nm,0.5s	27.78	36	P	P	13 15 43.9	-1.1
INK	Inuvik	27.78	36	P	P	13 15 44.5	-0.4
A36M	Sachs Harbour	31.28	30	P	P	13 16 15.2	-0.7
EDM	Edmonton	39.61	60	P	P	13 17 26.8	-0.5
EDM				IAmb	IAmb	13 17 37.8	
	comp=Z,3.0nm,1.4s						
MSO	Missoula	42.40	69	P	P	13 17 49.1	-1.2
PAHR	Pah Rah Range	43.19	81	P	P	13 17 57.2	+0.3
PNTR	Pine Nut	43.44	82	P	P	13 18 00.0	+1.1
PNTR				IAmb	IAmb	13 18 44.1	
	comp=Z,4.2nm,1.2s						
HRY	Holter Researc	43.69	68	P	P	13 18 00.1	-0.6
BCYI	Bear Canyon	44.10	72	P	P	13 18 03.6	-0.6
MCMT	McKenzie Canyo	44.14	71	P	P	13 18 03.3	-0.9
KVN	Kaiserville	44.38	81	P	P	13 18 06.8	+0.4
RYN	Ryan	44.38	82	P	P	13 18 06.6	+0.2
BOZ	Bozeman (W)	44.42	70	P	P	13 18 05.6	-0.9
NVAR	Mina Array Bea comp=Z,0.6nm,0.7s,baz=303,slow=7.7,SNR=7.2 comp=Z,0.6nm,0.7s	44.64	82	P	P	13 18 09.2	+0.7
YHL	Hebgen Lake	45.10	70	P	P	13 18 11.3	-0.9
HVU	Hansel Valley	45.96	75	P	P	13 18 18.5	-0.2
R11A	Troy Canyon, C	46.36	80	P	P	13 18 21.5	-0.4
SPR3	Spring Creek 3	46.72	79	P	P	13 18 25.4	+0.5
SPR3				IAmb	IAmb	13 18 35.3	
	comp=Z,0.9nm,1.2s						
TPNV	Topopah Spring	46.84	82	P	P	13 18 26.2	+0.5
TPNV				IAmb	IAmb	13 18 27.7	
	comp=Z,2.4nm,0.8s						
DUG	Dugway, Tooele	46.90	76	P	P	13 18 26.2	+0.1
BW06	Boulder Array	47.27	72	P	P	13 18 28.1	-1.0
PD31	Pinedale Array	47.27	72	P	P	13 18 28.5	-0.6
PDAR	Pinedale Array comp=Z,0.6nm,0.5s,baz=328,slow=3.2,SNR=12 comp=Z,0.6nm,0.5s	47.27	72	P	P	13 18 28.3	-0.8
PV04	Paradox Valley	50.38	76	P	P	13 18 52.6	-0.3
PV04				IAmb	IAmb	13 18 53.8	
	comp=Z,2.6nm,0.9s						
PV17	East Wray Mesa	50.42	76	P	P	13 18 52.7	-0.5
PV11	David Mesa, Pa	50.46	76	P	P	13 18 53.4	-0.1
PV11				IAmb	IAmb	13 18 53.9	
	comp=Z,2.6nm,0.9s						
PV03	Paradox Valley	50.51	76	P	P	13 18 53.2	-0.6
PV03				IAmb	IAmb	13 19 06.1	
	comp=Z,5.1nm,1.5s						
TXAR	Lajitas Array comp=Z,0.3nm,0.8s,baz=308,slow=4.4,SNR=3.8 comp=Z,0.3nm,0.8s	59.72	80	P	P	13 19 59.6	-0.3
TXAR	Lajitas Array	59.72	80	P	P	13 19 59.9	0.0

IDC ***13*** *13:12:26.9±0.8, 41.°51S×173.°99E, h0km, mb4.3/7, mbtmp4.4/8, ML4.3/1, Error ellipse: s-maj=29.0km s-min=19.3km az=64.0*

NEIC ***13*** *13:12:30.7±1.6, 41.°87S±0.°03×174.°04E±0.°04, h20km±3km, mb4.9/17, Error ellipse: s-maj=4.8km s-min=3.6km az=151.0*

WEL ***13*** *13:12:31.1±0.3, 42.°3S±2.°×17.°4E±.°, h12km±2km, M4.6/19, ML4.9/19, MLv4.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=175.3*

ISC 13 13:12:31.0±0.7, 41.°80S±0.°02×174.°02E±0.°02, h23km±4km, n164, σ1§45/179, mb4.7/17, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.14	308		Pb	13 12 35.2	-0.5
BSWZ				Sg	Sb	13 12 38.3	-0.6
BSWZ	Blackbirch Sta	0.14	308	P	Pb	13 12 35.5	-0.2
BSWZ				S	Sb	13 12 38.7	-0.1
CMWZ	Cape Campbell	0.15	70	Pg	Pb	13 12 35.0	-0.8
CMWZ				Sg	Sb	13 12 39.9	+0.8
CMWZ	Cape Campbell	0.15	70	P	Pb	13 12 36.1	+0.8
CMWZ				S	Sb	13 12 41.0	+1.9
TUWZ	Tuamarina	0.38	351	Pg	Pb	13 12 39.3	+0.3
TUWZ	Tuamarina	0.38	351	P	Pn	13 12 39.5	-1.5
TUWZ				S	Sn	13 12 45.5	-2.1
TCW	Tory Channel	0.62	18	P	Pn	13 12 43.5	-0.9
TCW				S	Sn	13 12 53.5	-0.2
SNZO	South Karori	0.71	46		Pn	13 12 45.4	-0.2
SNZO				Sg	Sn	13 12 55.5	-0.3
KHZ	Kahutara	0.71	210	Pg	Pb	13 12 45.1	+0.4
KHZ	Kahutara	0.71	210	P	Pb	13 12 45.7	+1.0
KHZ				S	Sb	13 12 55.1	+1.1
NNZ	Nelson	0.76	320		Pn	13 12 45.8	-0.5
NNZ				Sg	Sn	13 12 56.2	-0.8
NNZ	Nelson	0.76	320	P	Pn	13 12 46.0	-0.3
NNZ				S	Sn	13 12 56.5	-0.5
WEL	Wellington	0.76	48	P	Pn	13 12 46.8	+0.4
THZ	Tophouse	0.84	272		Pb	13 12 46.9	0.0
THZ	Tophouse	0.84	272	P	Pb	13 12 47.5	+0.1
PLWZ	Palliser	0.95	76	Pn	Pb	13 12 48.7	-0.1
PLWZ	Palliser	0.95	76	P	Pn	13 12 49.2	+0.2
MSWZ	Moikau Station	1.00	68		Pn	13 12 49.8	+0.1
MSWZ	Moikau Station	1.00	68	P	Pn	13 12 50.0	+0.4
MSWZ				S	Sn	13 13 04.2	+1.2
DUWZ	D'Urville Isla	1.00	356	P	Pn	13 12 50.3	+0.6
DUWZ				S	Sn	13 13 03.7	+0.6
MRNZ	Matariki Terra	1.03	293	P	Pb	13 12 51.0	+0.9
MRNZ				S	Sn	13 13 05.2	+1.4
CAW	Cannon Point	1.05	49	P	Pb	13 12 51.4	+1.0
CAW				S	Sn	13 13 07.0	+2.8
TKNZ	Takaka Hill	1.11	314	P	Pb	13 12 52.0	+0.5
TKNZ				S	Sn	13 13 07.6	+1.9
PAWZ	Paruwai Farm	1.13	69	P	Pn	13 12 51.7	+0.2
KIW	Kapiti Island	1.15	36	P	Pb	13 12 52.7	+0.5
KIW				S	Sn	13 13 09.3	+2.5
MTW	Mount Morrison	1.28	60	P	Pn	13 12 53.7	+0.2
OGWZ	Otaki Gorge	1.31	42	P	Pb	13 12 54.9	0.0
OGWZ				S	Sb	13 13 12.8	+1.5
TRWZ	Traveller	1.31	73	P	Pn	13 12 53.7	-0.2
TRWZ				S	Sb	13 13 12.0	+0.7
GVZ	Greta Valley S	1.38	212	P	Pb	13 12 56.8	+0.8
HOWZ	Holdsworth Sta	1.44	52	P	Pn	13 12 56.1	+0.3
QRZ	Quartz Range	1.49	310		Pb	13 12 58.3	+0.4
QRZ	Quartz Range	1.49	310	P	Pb	13 12 57.0	-0.9
QRZ				S	Sb	13 13 17.9	+1.5
TMWZ	Te Maipa	1.57	64	P	Pn	13 12 57.2	-0.3
LTZ	Lake Taylor	1.63	232		Pn	13 12 58.2	-0.1
LTZ	Lake Taylor	1.63	232	P	Pn	13 12 59.6	+1.3
MRZ	Mangatainoka R	1.64	46	P	Pn	13 12 58.9	+0.5
AMCZ	Amberley	1.71	216	P	Pb	13 13 01.8	+0.2
TIWZ	Tintock	1.74	55	P	Pn	13 12 60.0	+0.2
CPWZ	Castlepoint	1.87	62	P	Pn	13 13 01.8	+0.2
OHWZ	Ohakea	1.87	32	P	Pb	13 13 04.0	-0.4
PRWZ	Pori Road	1.93	50	P	Pn	13 13 02.5	+0.1
POWZ	Post Office Ro	1.93	44	P	Pn	13 13 02.8	+0.4
BFZ	Birch Farm	2.02	57	P	Pn	13 13 02.9	-0.7
OXZ	Oxford	2.11	223		Pn	13 13 05.0	0.0
OXZ	Oxford	2.11	223	P	Pn	13 13 06.5	+1.5
INZ	Inchbonnie	2.12	243	P	Pb	13 13 08.8	0.0
MQZ	McQueen's Vall	2.15	207		Pn	13 13 03.9	-1.6
MQZ	McQueen's Vall	2.15	207	P	Pn	13 13 04.3	-1.2
WAZ	Wanganui	2.17	20	P	Pb	13 13 09.7	+0.2
DVHZ	Dannevirke	2.21	48	P	Pn	13 13 05.8	-0.5
AKCZ	Akaroa Harbour	2.23	201	P	Pn	13 13 05.8	-0.7
TSZ	Takapari Road	2.28	41	P	Pn	13 13 07.5	+0.3
ANWZ	Angora Road	2.29	55	P	Pn	13 13 06.9	-0.4
LREZ	Lake Rotokare	2.36	7	P	Pb	13 13 11.7	-1.0
RACZ	Rakaia	2.37	215	P	Pn	13 13 08.2	-0.3
NMEZ	Namu Road	2.39	357	P	Pb	13 13 15.4	+2.1
PRHZ	Porangahau	2.50	53	P	Pn	13 13 09.1	-1.2
KHEZ	Kahui Hut	2.50	360	P	Pb	13 13 15.4	+0.1
PNHZ	Pukenui	2.51	42	P	Pn	13 13 12.5	-0.2
WPHZ	Waipukurau	2.52	47	P	Pn	13 13 10.4	-0.2
NEZ	North Egmont	2.53	1	P	Pb	13 13 16.0	+0.2
NBEZ	Newall Road No	2.53	357	P	Pb	13 13 16.6	+0.9
PKE	Pukeiti	2.60	359	P	Pb	13 13 16.8	-0.2
DREZ	Durham Road	2.61	3	P	Pb	13 13 16.4	-0.7
WACZ	Wakanui South	2.67	216	P	Pn	13 13 12.3	-0.3
PKVZ	Pokaka	2.71	22	P	Pb	13 13 17.6	-1.1
MOVZ	Moawhango	2.73	29	P	Pb	13 13 18.2	-0.9
MHEZ	Mangahewa	2.73	5	P	Pb	13 13 18.5	-0.6
WVZ	Waitaha Valley	2.74	241	P	Pb	13 13 17.6	-1.7
WNVZ	Wahianoa	2.75	26	P	Pb	13 13 17.6	-1.9
TRVZ	Turoa	2.76	25	P	Pb	13 13 19.6	-0.1
BHHZ	Black Hill Sta	2.78	35	P	Pb	13 13 20.8	+0.8
DRZ	Dome Shelter	2.78	25	P	Pb	13 13 20.7	+0.5
WHVZ	Whangaehu Hut	2.79	26	P	Pb	13 13 19.5	-0.7
PXZ	Pawanui	2.79	52	P	Pn	13 13 13.0	-1.2
FWVZ	Far West T-bar	2.80	25	P	Pb	13 13 20.0	-0.4
TUVZ	Tukino	2.82	27	P	Pb	13 13 19.1	-1.6
NGZ	Ngauruhoe	2.89	25	P	Pb	13 13 21.6	-0.2
SNVZ	South Ngauruho	2.89	26	P	Pb	13 13 21.6	-0.3
RPZ	Rata Peaks	2.90	228	Pn	Pn	13 13 16.5	+0.7
	38nm,0.3s,baz=86,slow=3.8,SNR=3.5						
RPZ				Sn	Sb	13 13 56.5	-0.6
	76nm,0.3s,baz=219,slow=9.9,SNR=1.6 157nm,0.3s						
RPZ	Rata Peaks	2.90	228		Pn	13 13 15.9	0.0
RPZ	Rata Peaks	2.90	228	P	Pn	13 13 16.5	+0.7
OTVZ	Oturere	2.92	26	P	Pb	13 13 21.1	-1.3
KAHZ	Kahuranaki	2.95	48	P	Pn	13 13 15.6	-1.0
ETVZ	East Tongariro	2.96	26	P	Pb	13 13 21.0	-2.1
KRVZ	Karewarewa	2.97	25	P	Pb	13 13 22.5	-0.8
TMVZ	Te Maari	2.97	26	P	Pb	13 13 23.4	0.0
NTVZ	North Tongarir	2.98	26	P	Pb	13 13 23.1	-0.3
ARCZ	Arundel	3.00	223	P	Pn	13 13 17.5	+0.4
GCSZ	Gaunt Creek Bo	3.12	240	P	Pb	13 13 22.9	-2.9
BKZ	Black Stump Fm	3.24	36	P	Pb	13 13 27.0	-0.8
HIZ	Hauiti	3.35	11		Pn	13 13 23.7	+1.8
HIZ	Hauiti	3.35	11	P	Pb	13 13 26.9	-2.7
TMZ	Timaru	3.40	220	P	Pn	13 13 23.4	+0.8
FOZ	Fox Glacier	3.55	239	Pn	Pn	13 13 24.5	-0.2
FOZ	Fox Glacier	3.55	239	P	Pn	13 13 29.2	+4.5
MTHZ	Maungataniwha	3.65	37	P	Pn	13 13 29.9	+3.8
TLZ	Tolley Road	3.66	19	P	Pb	13 13 32.9	-2.0
LBZ	Lake Benmore	3.82	226	Pn	Pn	13 13 27.7	-0.7
LBZ	Lake Benmore	3.82	226	P	Pn	13 13 30.9	+2.5
KNZ	Kokohu	3.93	46	P	Pn	13 13 28.3	-1.6
ODZ	Otahua Downs	4.07	216	Pn	Pn	13 13 30.9	-0.9
ODZ	Otahua Downs	4.07	216	P	Pn	13 13 31.3	-0.5
TOZ	Tahuroa Road	4.22	16	P	Pn	13 13 37.5	+3.6
OPRZ	Ohinepanea	4.41	27	P	Pn	13 13 37.3	+0.8
TGRZ	Tauranga	4.42	24	P	Pn	13 13 39.7	+3.0
TKGZ	Te Karaka	4.46	42	P	Pn	13 13 35.1	-2.1
JCZ	Jackson Bay	4.46	238	P	Pn	13 13 40.5	+3.2
TWGZ	Tauwhareparae	4.73	41	P	Pn	13 13 39.8	-1.2
AWAZ	Awhitu Peninsu	4.76	6	P	Pn	13 13 45.1	+3.9
MKAZ	Moumakai	4.77	11	P	Pn	13 13 44.3	+2.8
HHSZ	Highcliff Hill	4.77	210	P	Pn	13 13 40.8	-0.7
MYRZ	Mayor Island	4.83	22	P	Pb	13 13 49.4	-5.5
EAZ	Earnscleugh	4.85	223	P	Pn	13 13 42.8	+0.3
WTAZ	Waiatarua	4.88	5	P	Pn	13 13 47.2	+4.2
ETAZ	East Tamaki Re	4.89	9	P	Pn	13 13 47.4	+4.2
EPAZ	Eden Park BICE	4.95	7	P	Pn	13 13 48.5	+4.6
HBAZ	Herne Bay Bore	4.97	7	P	Pb	13 13 50.2	-7.1
RVAZ	Riverhead Bore	5.04	5	P	Pn	13 13 49.8	+4.6
MBAZ	Motutapu North	5.07	8	P	Pn	13 13 49.5	+3.9
KUZ	Kuaotunu	5.22	15	P	Pn	13 13 51.0	+3.4
TUZ	Tuapeka	5.22	216	P	Pn	13 13 47.7	0.0
ABAZ	Army Bay	5.23	7	P	Pn	13 13 51.3	+3.5
MSZ	Milford Sound	5.30	235	P	Pn	13 13 55.0	+6.3
MLZ	Mavora Lakes	5.57	228	Pn	Pn	13 13 52.1	-0.4
GRZ	Great Barrier	5.66	12	P	Pn	13 13 57.2	+3.6
WCZ	Waipu Caves	5.86	3	P	Pn	13 14 00.5	+4.1
SYZ	Scrubby Hill	5.89	215	P	Pn	13 13 56.6	-0.3
WHZ	Wether Hill Ro	6.00	225	Pn	Pn	13 13 57.5	-0.9
PYZ	Puysegur Point	6.86	228	Pn	Pn	13 14 09.7	-0.4
NIUE	Niue	26.45	36	P	P	13 18 04.2	-2.0
VNDA	Vanda 0.2nm,0.5s,baz=342,slow=5.5,SNR=1.3	36.18	184	P	P	13 19 32.3	+1.0
VNDA	Vanda	36.18	184	P	P	13 19 31.5	+0.2
VNDA				IAmb	IAmb	13 20 50.8	
	comp=Z,14nm,2.0s						
AS31	Alice Springs	37.88	286	P	P	13 19 45.1	-1.2
ASAR	Alice Springs comp=Z,1.0nm,0.4s,baz=127,slow=6.6,SNR=26	37.88	286	P	P	13 19 45.1	-1.2
ASAR				PcP	PcP	13 21 59.5	-2.9
	comp=Z,0.7nm,0.6s,baz=122,slow=4.2,SNR=5.4 comp=Z,1.0nm,0.4s						
FORT	Forrest	38.24	272	P	P	13 19 48.5	-0.7
FORT				IAmb	IAmb	13 20 31.8	
	comp=Z,15nm,0.9s						
WR0	Warramunga Arr	39.81	291	P	P	13 20 01.3	-1.3
WB2	Warramunga Arr	39.95	291	P	P	13 20 02.8	-0.9
WRAB	Tennant Creek	39.96	291	P	P	13 20 02.8	-1.0
WRA	Warramunga Arr comp=Z,1.1nm,0.4s,baz=128,slow=8.2,SNR=21	39.96	291	P	P	13 20 02.2	-1.6
WRA				PcP	PcP	13 22 07.2	-1.7
	comp=Z,0.4nm,0.5s,baz=141,slow=3.0,SNR=4.9 comp=Z,1.1nm,0.4s						
PMG	Port Moresby comp=Z,6.8nm,0.7s,baz=132,slow=7.3,SNR=4.9 comp=Z,6.8nm,0.7s	40.01	316	P	P	13 20 01.9	-2.2
P

INZ	Inchbonnie	1.35	260	P		Pn	13 16 10.7	-1.3	
AKCZ	Akaroa Harbour	1.38	190	P		Pn	13 16 10.8	-1.6	
RACZ	Rakaia	1.46	213	P		Pn	13 16 12.1	-1.4	
TKNZ	Takaka Hill	1.50	352	P		Pg	13 16 15.6	-0.7	
WACZ	Wakanui South	1.76	215	P		Pn	13 16 16.3	-1.3	
WVZ	Waitaha Valley	1.93	252	P		Pn	13 16 20.4	+0.3	
RPZ	Rata Peaks	2.01	233	Pg		Pn	13 16 19.9	-1.2	
	216nm,0.3s,baz=168,slow=1.6,SNR=14								
RPZ				Lg		Lg	13 16 44.1		
	154nm,0.3s,baz=166,slow=24,SNR=12								
RPZ	Rata Peaks	2.01	233	P		Pn	13 16 20.1	-1.0	
ARCZ	Arundel	2.08	226	P		Pn	13 16 21.0	-1.2	
GCSZ	Gaunt Creek Bo	2.29	249	P		Pn	13 16 25.0	0.0	
FOZ	Fox Glacier	2.72	247	P		Pn	13 16 31.2	+0.4	
JCZ	Jackson Bay	3.61	243	P		Pn	13 16 42.9	-0.3	
HHSZ	Highcliff Hill	3.87	209	P		Pn	13 16 44.8	-1.9	
EAZ	Earnscleugh	3.94	225	P		Pn	13 16 46.2	-1.4	
TUZ	Tuapeka	4.31	216	P		Pn	13 16 51.2	-1.5	
AWAZ	Awhitu Peninsu	5.55	12	P		Pn	13 17 11.1	+1.4	
ETAZ	East Tamaki Re	5.70	14	P		Pn	13 17 13.2	+1.3	
RVAZ	Riverhead Bore	5.83	11	P		Pn	13 17 15.3	+1.7	
ABAZ	Army Bay	6.03	12	P		Pn	13 17 17.6	+1.3	
ASAR	Alice Springs	37.53	287	P		P	13 22 59.0	-2.3	
	0.5nm,0.5s,baz=131,slow=7.3,SNR=5.2								
	0.5nm,0.5s								
WRA	Warramunga Arr	39.69	292	P		P	13 23 18.0	-1.5	
	0.4nm,0.7s,baz=131,slow=8.1,SNR=1.9								
	0.4nm,0.7s								
QSPA	South Pole Qui	47.61	180	P		P	13 24 23.5	+0.6	
	1.7nm,0.8s,baz=322,slow=4.0,SNR=3.6								
	1.7nm,0.8s								
FINES	FINESS Array B	152.75	325	PKPbc		PKiKP	13 35 45.8	+2.7	
	3.4nm,1.0s,baz=90,slow=2.8,SNR=3.5								

WEL 13 13:17:16.0±0.5, 42°S±3°×17°4E±°, h6km±4km, M3.9/17, ML4.3/13, MLv3.9/17, Error ellipse: s-maj=0.0km s-min=0.0km az=164.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.05	226	P	Pg	13 17 17.8	+0.4
CMWZ				S	Sg	13 17 19.7	+1.3
BSWZ	Blackbirch Sta	0.29	270	P	Pg	13 17 21.9	+0.3
BSWZ				S	Sb	13 17 27.3	-1.4
TUWZ	Tuamarina	0.37	320	P	Pg	13 17 23.5	+0.4
TUWZ				S	Sb	13 17 29.9	-1.1
TCW	Tory Channel	0.50	1	P	Pg	13 17 25.4	-0.2
TCW				S	Sb	13 17 33.6	-1.2
BHW	Baring Head	0.55	56	P	Pg	13 17 26.7	+0.2
PLWZ	Palliser	0.76	79	P	Pg	13 17 30.9	+0.4
MSWZ	Moikau Station	0.80	68	P	Pg	13 17 31.7	+0.4
MSWZ				S	Sb	13 17 44.4	+1.0
NNZ	Nelson	0.83	307	P	Pg	13 17 31.2	-0.7
NNZ				S	Sb	13 17 43.5	-0.7
CAW	Cannon Point	0.86	45	P	Pg	13 17 32.2	-0.2
PAWZ	Paruwai Farm	0.94	70	P	Pg	13 17 33.3	-0.6
PAWZ				S	Sb	13 17 48.2	+0.9
DUWZ	D'Urville Isla	0.95	344	P	Pn	13 17 35.4	-0.5
MTW	Mount Morrison	1.08	60	P	Pg	13 17 36.0	-0.8
OGW	Otaki Gorge	1.17	38	P	Pg	13 17 37.2	-0.2
MRNZ	Matariki Terra	1.17	285	P	Pg	13 17 38.5	0.0
TKNZ	Takaka Hill	1.19	304	P	Pn	13 17 39.3	0.0
HOWZ	Holdsworth Sta	1.25	50	P	Pg	13 17 38.9	-1.0
QRZ	Quartz Range	1.58	304	P	Pn	13 17 45.0	+0.5

*IDC **13** 13:17:44.4±0.8, 42°.31S×173°.94E, h0km, mb4.4/12, mbtmp4.4/13, ML4.7/1, Error ellipse: s-maj=23.4km s-min=20.8km az=174.0*

*NEIC **13** 13:17:47.5±1.1, 42°.38S±0°.07×173°.91E±0°.08, h18km±4km, mb4.8/30, Error ellipse: s-maj=10.5km s-min=7.5km az=141.0*

*WEL **13** 13:17:48.2±0.6, 42°S±4°×17°4E±°, h12km±3km, M4.7/8, ML5.0/8, MLv4.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=125.6*

ISC 13 13:17:47.6±1.0, 42°.36S±0°.03×173°.85E±0°.04, h18km±4km, n80, σ0°90/94, mb4.7/25, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.24	256	Pg	Pg	13 17 53.5	+0.5
KHZ				Sg	Sg	13 17 56.2	-0.5
KHZ	Kahutara	0.24	256	P	Pg	13 17 53.6	+0.5
KHZ				S	Sg	13 17 57.2	+0.4
BSWZ	Blackbirch Sta	0.64	2	Pg	Pg	13 18 00.5	+0.3
BSWZ	Blackbirch Sta	0.64	2	P	Pb	13 18 01.2	+1.0
BSWZ				S	Sb	13 18 10.3	+1.4
CMWZ	Cape Campbell	0.67	24	Pg	Pg	13 18 00.7	0.0
GVZ	Greta Valley S	0.86	224	P	Pb	13 18 05.4	+1.4
GVZ				S	Sn	13 18 17.6	+0.7
THZ	Tophouse	0.92	310	Pn	Pg	13 18 05.1	-0.3
THZ				Sg	Sg	13 18 17.1	-0.6
THZ	Tophouse	0.92	310	P	Pg	13 18 05.6	+0.1
THZ				S	Sg	13 18 17.0	-0.6
TUWZ	Tuamarina	0.93	4		Pg	13 18 05.9	+0.2
TUWZ	Tuamarina	0.93	4	P	Pb	13 18 06.4	+1.3
TUWZ				S	Sn	13 18 19.7	+1.1
TCW	Tory Channel	1.19	16	P	Pb	13 18 10.0	+0.4
TCW				S	Sg	13 18 26.2	+0.1
NNZ	Nelson	1.19	343		Pb	13 18 09.6	0.0
NNZ	Nelson	1.19	343	P	Pb	13 18 09.8	+0.2
NNZ				S	Sn	13 18 27.5	+2.4
SNZO	South Karori	1.23	32	Pn	Pn	13 18 09.8	0.0
LTZ	Lake Taylor	1.24	249		Pn	13 18 10.5	+0.4
LTZ	Lake Taylor	1.24	249	P	Pn	13 18 10.5	+0.4
LTZ				S	Sb	13 18 26.6	+0.4
MRNZ	Matariki Terra	1.26	319	P	Pn	13 18 11.1	+0.8
WEL	Wellington	1.27	33	P	Pn	13 18 11.2	+0.7
WEL				S	Sb	13 18 27.4	+0.4
MSWZ	Moikau Station	1.41	48		Pn	13 18 12.3	0.0
RACZ	Rakaia	1.86	222	P	Pn	13 18 18.2	-0.3
RPZ	Rata Peaks	2.46	236	Pn	Pn	13 18 26.2	-0.6
	140nm,0.3s,baz=182,slow=1.4,SNR=6.4						
RPZ				Sn	Sn	13 18 55.4	-1.0
	44nm,0.3s,baz=222,slow=8.1,SNR=3.3						
	612nm,0.4s						
RPZ	Rata Peaks	2.46	236		Pn	13 18 26.4	-0.4
BKZ	Black Stump Fm	3.77	33	Pn	Pn	13 18 44.0	-0.8
MLZ	Mavora Lakes	5.12	232	Pn	Pn	13 19 03.5	+0.1
DZM	Mont Dzumac	21.16	341	P	P	13 22 31.7	-0.2
	5.9nm,0.7s,baz=172,slow=11,SNR=6.1						
	5.9nm,0.7s						
DZM	Mont Dzumac	21.16	341	P	P	13 22 31.7	-0.2
DZM				IAmb	IAmb	13 22 45.5	
	comp=Z,71nm,1.9s						
ARMA	Armidale	21.42	297	P	P	13 22 35.4	+0.7
ARMA				IAmb	IAmb	13 22 39.2	
	comp=Z,62nm,1.9s						
KOUNC	Koumac, New Ca	23.19	337	P	P	13 22 54.9	+1.6
KOUNC				IAmb	IAmb	13 22 56.1	
	comp=Z,52nm,1.3s						
MSVF	Nonsavu	24.80	10	P	P	13 23 07.6	-1.1
	comp=Z,2.7nm,0.4s,baz=239,slow=18,SNR=1.9						
	comp=Z,2.7nm,0.4s						
MSVF	Nonsavu	24.80	10	P	P	13 23 07.7	-1.0
EIDS	Eidsvold	25.27	305	P	P	13 23 13.4	+0.6
EIDS				IAmb	IAmb	13 23 42.2	
	comp=Z,61nm,1.8s						
STKA	Stephens Creek	27.62	282	P	P	13 23 34.0	0.0
	comp=Z,2.9nm,0.8s,baz=113,slow=13,SNR=4.1						
	comp=Z,2.9nm,0.8s						
STKA	Stephens Creek	27.62	282	P	P	13 23 32.8	-1.2
BBOO	Buckleboo	31.21	275	P	P	13 24 05.7	-0.1
CTA	Charters Tower	32.16	305	P	P	13 24 13.3	-1.0
	comp=Z,4.2nm,0.8s,baz=138,slow=12,SNR=1.6						
	comp=Z,4.2nm,0.8s						
CTAO	Charters Tower	32.16	305	P	P	13 24 12.1	-2.1
AS31	Alice Springs	37.91	287	P	P	13 25 03.2	-0.7
ASAR	Alice Springs	37.91	287	P	P	13 25 03.4	-0.5
	comp=Z,2.3nm,0.5s,baz=131,slow=7.3,SNR=24						
ASAR				PcP	PcP	13 27 19.1	-0.8
	comp=Z,2.2nm,0.6s,baz=126,slow=4.0,SNR=12						
	comp=Z,2.3nm,0.5s						
ASAR	Alice Springs	37.91	287	P	P	13 25 03.2	-0.7
FORT	Forrest	38.13	272	P	P	13 25 05.6	0.0
FORT				IAmb	IAmb	13 26 14.6	
	comp=Z,25nm,1.0s						
COEN	Coen	38.76	308	P	P	13 25 11.0	-0.1
COEN				IAmb	IAmb	13 26 05.5	
	comp=Z,27nm,1.4s						
PPTF	Pamatai, Papee	39.71	63	P	P	13 25 17.6	-1.4
PPT	Papeete	39.72	63	P	P	13 25 17.3	-1.8
	comp=Z,16nm,0.6s,baz=240,slow=18,SNR=2.4						
	comp=Z,16nm,0.6s						
WR0	Warramunga Arr	39.89	292	P	P	13 25 19.7	-0.8
WB2	Warramunga Arr	40.03	292	P	P	13 25 21.1	-0.6
WB2				IAmb	IAmb	13 25 23.5	
	comp=Z,10nm,0.6s						
WRAB	Tennant Creek	40.04	292	P	P	13 25 21.4	-0.3
WRAB				IAmb	IAmb	13 25 23.5	
	comp=Z,11nm,0.6s						
WRA	Warramunga Arr	40.04	292	P	P	13 25 21.4	-0.3
	comp=Z,4.9nm,0.5s,baz=130,slow=8.5,SNR=40						
WRA				PcP	PcP	13 27 25.6	-0.9
	comp=Z,1.0nm,0.6s,baz=130,slow=3.0,SNR=5.8						
	comp=Z,4.9nm,0.5s						
WB0	Warramunga Arr	40.12	292	P	P	13 25 22.1	-0.4
PMG	Port Moresby	40.32	317	P	P	13 25 24.1	+0.1
	comp=Z,5.4nm,0.6s,baz=143,slow=5.3,SNR=6.3						
	comp=Z,5.4nm,0.6s						
RABL	Rabaul	42.64	327	P	P	13 25 42.9	-0.2
KNRA	Kununurra	46.82	291	P	P	13 26 16.6	+0.2
MTN	Manton Dam	47.20	296	P	P	13 26 19.7	+0.3
QSPA	South Pole Qui	47.77	180	P	P	13 26 25.0	+1.6
	comp=Z,1.1nm,0.9s,baz=327,slow=5.7,SNR=2.3						
	comp=Z,1.1nm,0.9s						
MORW	Morawa	47.92	267	P	P	13 26 24.8	-0.1
MORW				IAmb	IAmb	13 27 47.3	
	comp=Z,14nm,1.1s						
PSA00	Pilbara Seismi	49.39	277	P	P	13 26 36.1	-0.2
PSA00				IAmb	IAmb	13 28 14.3	
	comp=Z,15nm,1.1s						
GIRL	Giralia	52.89	272	P	P	13 27 02.5	-0.1
SOEI	Soe	54.08	292	P	P	13 27 13.1	+1.6
SOEI				IAmb	IAmb	13 27 13.6	
	comp=Z,14nm,0.7s						
BATI	Baumata	54.17	291	P	P	13 27 12.6	+0.5
	comp=Z,12nm,0.7s,baz=176,slow=16,SNR=1.9						
	comp=Z,12nm,0.7s						
UGM	Wanagama	65.08	283	P	P	13 28 27.9	+0.6
SNAA	Sanae	66.25	181	P	P	13 28 34.0	-0.1
SNAA				IAmb	IAmb	13 30 43.6	
	comp=Z,13nm,1.7s						
KKM	Kota Kinabalu	71.07	297	P	P	13 29 03.5	-1.4
SBUM	Sibu	71.13	292	P	P	13 29 05.7	+0.4
KSM	Kuching	71.76	290	P	P	13 29 07.6	-1.4
KSM				IAmb	IAmb	13 29 10.7	
	comp=Z,7.0nm,0.9s						
IPM	Ipoh	80.44	285	P	P	13 29 58.4	-0.1
IPM				IAmb	IAmb	13 29 59.6	
	comp=Z,6.3nm,0.7s						
KULM	Kulim	81.27	285	P	P	13 30 02.2	-0.6
TRQA	Tornquist	85.21	139	PcP	P	13 30 25.1	+2.1
KSRS	Korea Array	89.78	325	P	P	13 30 45.4	+0.8
	comp=Z,0.6nm,0.6s,baz=146,slow=6.3,SNR=2.4						
	comp=Z,0.6nm,0.6s						
CMAR	Chiang Mai Arr	91.61	294	P	P	13 30 54.5	+0.8
	comp=Z,1.2nm,0.6s,baz=153,slow=3.9,SNR=7.1						
	comp=Z,1.2nm,0.6s						
YKA	Yellowknife Ar	119.05	30	PKP	PKPdf	13 36 34.5	+0.4
	comp=Z,0.9nm,0.5s,baz=253,slow=1.9,SNR=9.1						
MKAR	Makanchi Array	120.11	307	PKP	PKPdf	13 36 36.0	-0.7
	comp=Z,0.8nm,0.5s,baz=256,slow=2.5,SNR=11						
DBIC	Dimbokro	144.44	182	PKP	PKPab	13 37 21.1	-0.3
	comp=Z,2.0nm,0.5s,baz=165,slow=5.5,SNR=6.9						
KBZ	Khabaz	144.54	289	PKP	PKPab	13 37 20.7	-0.2
	comp=Z,5.5nm,0.7s,baz=117,slow=4.8,SNR=14						
DAG	Danmarks Havn	145.07	5	*e*P	PKPbc	13 37 21.0	-0.9
SFJD	Kangerlussuaq	145.60	29	*e*P	PKPdf	13 37 24.4	+1.0
SUMG	Summit	145.98	17	*i*P	PKPdf	13 37 25.0	+0.4
ARCES	ARCESS Array B	148.24	339	PKPbc	PKPdf	13 37 30.5	+2.6
	comp=Z,1.5nm,0.5s,baz=61,slow=1.7,SNR=14						
BRTR	Keskin Array B	150.06	279	PKPbc	PKPbc	13 37 36.4	-0.6
	comp=Z,2.7nm,0.5s,baz=138,slow=4.9,SNR=13						
FINES	FINESS Array B	152.87	326	PKPbc	PKPbc	13 37 41.9	-0.7
	comp=Z,1.9nm,0.6s,baz=73,slow=3.0,SNR=8.5						
AKASG	Malin Array Be	154.47	301	PKPbc	PKPbc	13 37 44.6	-1.7
	comp=Z,0.6nm,0.6s,baz=78,slow=2.5,SNR=2.3						
NOA	NORSAR Array B	158.55	337	PKPab	PKPab	13 38 17.0	-1.1
	comp=Z,0.4nm,0.6s,baz=25,slow=6.4,SNR=1.7						

*WEL **13** 13:21:00, 41°.85S×174°.26E, h7km, ML5.7, Mw5.6, Moment Tensor Solution. s6 Moment tensor: Scale 10^17 Nm; Mrr1.33; Mθθ1.77; Mφφ-3.10; Mrθ-0.76; Mθφ0.36; Mφr-0.61; Fault plane solution: M0.2.81000×10^17 NP1: φs316.00000°, δ58.00000°, λ24.00000°. NP2: φs213.00000°, δ70.00000°, λ146.00000°. Principal axes: T 24235.9700, Plg38.0000°, Azm171.0000°; N 7754.7400, Plg51.0000°, Azm6.0000°; P -31990.7100, Plg8.0000°, Azm267.0000°;*

*BJI **13** 13:21:10.9±0.0, 41°.69S×174°.46E, h5km, mb5.3/17*

*IDC **13** 13:21:10.4±0.4, 41°.62S×174°.20E, h0km, mb4.9/20, mbtmp4.9/21, ML4.9/1, Error ellipse: s-maj=17.1km s-min=13.2km az=59.0*

*WEL **13** 13:21:11.1±0.3, 42°.5S±2°×17°4E±°, h5km, M5.8/141, ML5.8/19, MLv5.8/141, Error ellipse: s-maj=0.0km s-min=0.0km az=157.9*

*NEIC **13** 13:21:12.4±1.9, 41°.81S±0°.04×174°.22E±0°.05, h10km±1km, mb5.3/67, Error ellipse: s-maj=7.8km s-min=5.8km az=345.0*

*MOS **13** 13:21:12.1±1.9, 41°.84S×174°.06E, h10km, mb5.4/18, Error ellipse: s-maj=11.0km s-min=9.2km az=105.0*

ISC 13 13:21:11.9±0.6, 41°.82S±0°.02×174°.24E±0°.02, h6km±3km, h7km: pP-P, n497, σ1°58/512, mb5.3/86, 14C-10D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.07	344		Pg	13 21 13.7	0.0
CMWZ	Cape Campbell	0.07	344	P	Pg	13 21 13.3	-0.4
BSWZ	Blackbirch Sta	0.29	291		Pg	13 21 17.1	-0.5
BSWZ	Blackbirch Sta	0.29	291	P	Pg	13 21 17.0	-0.7
TUWZ	Tuamarina	0.45	330		Pg	13 21 20.1	-0.5
TUWZ	Tuamarina	0.45	330	P	Pg	13 21 19.7	-0.9
TUWZ				S	Sg	13 21 26.6	+0.1
TCW	Tory Channel	0.61	2	P	Pg	13 21 22.3	-1.4
TCW				S	Sg	13 21 30.5	-1.1
SNZO	South Karori	0.62	34		Pg	13 21 23.4	-0.4
BHW	Baring Head	0.63	49	P	Pg	13 21 23.7	-0.3
BHW				S	Sb	13 21 33.7	-0.6
WEL	Wellington	0.67	37	P	Pg	13 21 24.2	-0.5
WEL	Wellington	0.67	37	P	Pg	13 21 24.2	-0.5
WEL				S	Sg	13 21 34.1	+0.7
KHZ	Kahutara	0.79	221	P	Pg	13 21 26.4	-0.8
PLWZ	Palliser	0.80	72		Pb	13 21 28.3	+0.1
PLWZ	Palliser	0.80	72	P	Pb	13 21 28.3	+0.1
MSWZ	Moikau Station	0.86	62		Pb	13 21 29.0	-0.3
MSWZ	Moikau Station	0.86	62	P	Pb	13 21 28.9	-0.3
MSWZ				S	Sn	13 21 42.8	-0.6
NNZ	Nelson	0.89	313		Pg	13 21 28.2	-0.7
NNZ	Nelson	0.89	313	P	Pg	13 21 27.9	-1.0
NNZ				S	Sg	13 21 40.2	-0.2
CAW	Cannon Point	0.94	41	P	Pg	13 21 29.1	-0.9
PAWZ	Paruwai Farm	0.99	64	P	Pg	13 21 31.0	+0.1
PAWZ				S	Sn	13 21 45.9	-0.9
THZ	Tophouse	1.00	273		Pg	13 21 30.7	-0.4
THZ	Tophouse	1.00	273	P	Pg	13 21 30.8	-0.4
DUWZ	D'Urville Isla	1.05	347	P	Pg	13 21 30.2	-1.8
DUWZ				S	Sg	13 21 45.5	-0.1
KIW	Kapiti Island	1.08	28	P	Pg	13 21 31.1	-1.6
KIW				S	Sg	13 21 46.3	-0.5
MTW	Mount Morrison	1.16	55	P	Pg	13 21 32.9	-1.2
TRWZ	Traveller	1.16	69	P	Pg	13 21 33.4	-0.8
MRNZ	Matariki Terra	1.19	290	P	Pg	13 21 34.2	-0.6
OGW	Otaki Gorge	1.22	35	P	Pg	13 21 34.0	-1.4
TKNZ	Takaka Hill	1.24	309	P	Pg	13 21 34.7	-1.1
HOWZ	Holdsworth Sta	1.33	47	P	Pn	13 21 36.0	-1.1
TMWZ	Te Maipa	1.43	61	P	Pn	13 21 36.8	-1.6
GVZ	Greta Valley S	1.45	218	P	Pn	13 21 38.8	0.0
MRZ	Mangatainoka R	1.54	41	P	Pn	13 21 39.1	-0.7
TIWZ	Tintock	1.62	50	P	Pn	13 21 39.5	-1.6
QRZ	Quartz Range	1.63	307		Pn	13 21 40.7	-0.4
QRZ	Quartz Range	1.63	307	P	Pn	13 21 41.5	+0.4
QRZ				S	Sb	13 22 03.3	+0.1
CPWZ	Castlepoint	1.73	59	P	Pn	13 21 42.6	0.0
LTZ	Lake Taylor	1.75	236		Pn	13 21 42.3	-0.6
LTZ	Lake Taylor	1.75	236	P	Pn	13 21 42.3	-0.6
AMCZ	Amberley	1.79	220	P	Pn	13 21 42.6	-0.8
OHWZ	Ohakea	1.81	27	P	Pn	13 21 43.9	+0.3
PRWZ	Pori Road	1.82	46	P	Pn	13 21 41.8	-1.9
POWZ	Post Office Ro	1.83	39	P	Pn	13 21 43.2	-0.7
BFZ	Birch Farm	1.89	54		Pn	13 21 44.3	-0.5
BFZ	Birch Farm	1.89	54	P	Pn	13 21 44.5	-0.3
DVHZ	Dannevirke	2.10	44	P	Pn	13 21 46.1	-1.6
WAZ	Wanganui	2.14	16	P	Pb	13 21 49.9	-1.2
ANWZ	Angora Road	2.17	52	P	Pn	13 21 48.1	-0.4
TSZ	Takapari Road	2.19	37	P	Pn	13 21 47.9	-1.0
OXZ	Oxford	2.22	227		Pn	13 21 48.2	-1.0
OXZ	Oxford	2.22	227	P	Pn	13 21 49.2	0.0
MQZ	McQueen's Vall	2.22	211		Pn	13 21 48.0	-1.2
MQZ	McQueen's Vall	2.22	211	P	Pn	13 21 48.5	-0.8
INZ	Inchbonnie	2.26	246	P	Pb	13 21 51.6	-1.6
AKCZ	Akaroa Harbour	2.27	205	P	Pn	13 21 50.0	-0.1
LREZ	Lake Rotokare	2.36	3	P	Pb	13 21 54.3	-0.5
PRHZ	Porangahau	2.38	50	P	Pn	13 21 49.7	-1.9
PNHZ	Pukenui	2.42	39	P	Pn	13 21 50.6	-1.4
WPHZ	Waipukurau	2.42	44	P	Pn	13 21 52.2	+0.2
NMEZ	Namu Road	2.42	353	P	Pb	13 21 55.8	-0.1
RACZ	Rakaia	2.46	218	P	Pn	13 21 51.6	-0.9
KHEZ	Kahui Hut	2.53	356	P	Pb	13 21 56.3	-1.5
NEZ	North Egmont	2.55	357	P	Pb	13 21 57.6	-0.5
NBEZ	Newall Road No	2.57	354	P	Pb	13 21 56.9	-1.4
MTVZ	Mangateitei	2.61	21	P	Pb	13 21 57.4	-1.7
DREZ	Durham Road	2.63	359	P	Pn	13 21 56.9	+2.0
PKE	Pukeiti	2.63	356	P	Pn	13 21 57.1	+2.1
PKVZ	Pokaka	2.67	19	P	Pn	13 21 56.8	+1.4
MOVZ	Moawhango	2.67	26	P	Pn	13 21 56.7	+1.2
PXZ	Pawanui	2.67	49	P	Pn	13 21 53.6	-1.9
WNVZ	Wahianoa	2.70	23	P	Pn	13 21 56.2	+0.2
TRVZ	Turoa	2.71	22	P	Pn	13 21 57.7	+1.5
BHHZ	Black Hill Sta	2.71	31	P	Pb	13 21 59.6	-1.2
DRZ	Dome Shelter	2.73	22	P	Pn	13 21 59.0	+2.4
WHVZ	Whangaehu Hut	2.73	22	P	Pn	13 21 58.7	+2.1
MHEZ	Mangahewa	2.74	1	P	Pb	13 21 59.1	-2.2
FWVZ	Far West T-bar	2.75	22	P	Pn	13 21 57.6	+0.8
WACZ	Wakanui South	2.76	219	P	Pn	13 21 55.7	-1.0
TUVZ	Tukino	2.77	23	P	Pn	13 21 57.2	+0.2
NGZ	Ngauruhoe	2.84	22	P	Pb	13 22 01.5	-1.6
SNVZ	South Ngauruho	2.84	23	P	Pn	13 21 58.4	+0.5
KAHZ	Kahuranaki	2.85	46	P	Pn	13 21 56.1	-1.8
OTVZ	Oturere	2.87	23	P	Pb	13 22 02.9	-0.7
OTVZ				P	Pg	13 22 03.3	-3.6
WVZ	Waitaha Valley	2.88	243	P	Pb	13 22 02.4	-1.3
NNVZ	North Ngauruho	2.88	22	P	Pn	13 22 00.2	+1.6
WTVZ	West Tongariro	2.89	21	P	Pb	13 22 02.9	-1.1
TWVZ	Taurewa	2.90	19	P	Pn	13 21 59.7	+1.0
ETVZ	East Tongariro	2.91	23	P	Pb	13 22 02.8	-1.5
KWHZ	Kaweka Forest	2.91	35	P	Pb	13 22 04.8	+0.5
TMVZ	Te Maari	2.92	23	P	Pb	13 22 02.4	-2.1
KRVZ	Karewarewa	2.92	22	P	Pn	13 22 02.9	-1.7
NTVZ	North Tongarir	2.93	22	P	Pn	13 21 60.0	+0.8
RPZ	Rata Peaks	3.02	230	Pn	Pn	13 21 59.9	-0.3
	158nm,0.3s,baz=185,slow=0.6,SNR=7.5						
RPZ				Sn	Sn	13 22 35.9	-0.8
	358nm,0.3s,baz=304,slow=23,SNR=9.3						
	926nm,0.5s						
RPZ	Rata Peaks	3.02	230		Pn	13 21 59.2	-1.0
RPZ	Rata Peaks	3.02	230	P	Pn	13 21 59.8	-0.4
KATZ	Kakaramea	3.05	22	P	Pb	13 22 05.8	-0.9
ARCZ	Arundel	3.10	226	P	Pn	13 22 00.6	-0.7
BKZ	Black Stump Fm	3.16	34		Pn	13 22 01.6	-0.6
BKZ	Black Stump Fm	3.16	34	P	Pb	13 22 08.4	-0.1
RATZ	Rangitukua	3.17	22	P	Pb	13 22 08.7	-1.0
HATZ	Hunaitaia	3.25	26	P	Pb	13 22 09.3	-0.7
GCSZ	Gaunt Creek Bo	3.25	241	P	Pb	13 22 07.9	-2.2
WATZ	Wairara	3.31	21	P	Pb	13 22 09.6	-1.5
HIZ	Hauiti	3.34	8	Pn	Pn	13 22 05.0	+0.4
HIZ	Hauiti	3.34	8	P	Pn	13 22 06.5	+1.9
WHTZ	Whakaora	3.41	23	P	Pb	13 22 11.9	-1.0
MRHZ	Matea Rd	3.42	30	P	Pn	13 22 04.0	-1.8
TMZ	Timaru	3.49	222	P	Pn	13 22 06.6	-0.2
TLZ	Tolley Road	3.63	16	P	Pn	13 22 09.8	+1.1
ALRZ	Allen Road	3.63	27	P	Pn	13 22 07.4	-1.3
FOZ	Fox Glacier	3.68	241		Pn	13 22 09.0	-0.4

ARMA Armidale 21.45 295 P **P** **13 26 02.0 +0.9**
baz=22,SNR=4.3
ARMA Armidale 21.45 295 P **P** **13 26 00.5 -0.6**
TOO Toolangi 22.48 271 P **P** **13 26 12.7 +0.8**
baz=22,SNR=4.3
TOO Toolangi 22.48 271 P **P** **13 26 11.4 -0.5**
TOO Toolangi 22.48 271 P **P** **13 26 11.4 -0.5**
TOO pmax pmax
comp=Z,32nm,1.2s
MSVF Nonsavu 24.23 9 P **P** **13 26 28.1 -1.6**
comp=Z,13nm,0.8s,baz=137,slow=12,SNR=4.3
comp=Z,13nm,0.8s
MSVF Nonsavu 24.23 9 P **P** **13 26 28.0 -1.6**
MSVF IAmb IAmb 13 26 46.6
comp=Z,107nm,1.1s
MSVF Nonsavu 24.23 9||*e*P **P** **13 26 29.8 +0.2**
MSVF pmax pmax
comp=Z,59nm,0.8s
CMSA Cobar Meteorol 24.99 285 P **P** **13 26 36.8 +0.5**
baz=25,SNR=16
EIDS Eidsvold 25.21 303 P **P** **13 26 39.8 +1.4**
baz=25,SNR=5.2
EIDS Eidsvold 25.21 303 P **P** **13 26 37.2 -1.2**
EIDS IAmb IAmb 13 26 45.4
comp=Z,44nm,1.1s
ARPS Mount Arapiles 25.49 271 P **P** **13 26 42.4 +1.6**
baz=26,SNR=6.1
RMQ Roma 25.92 298 P **P** **13 26 46.6 +1.7**
baz=26,SNR=7.8
STKA Stephens Creek 27.80 280 P **P** **13 27 01.3 -0.5**
comp=Z,6.1nm,1.0s,baz=114,slow=14,SNR=3.7
comp=Z,6.1nm,1.0s
STKA Stephens Creek 27.80 280 P **P** **13 27 01.9 +0.1**
baz=28,SNR=5.1
STKA Stephens Creek 27.80 280 P **P** **13 27 01.5 -0.3**
STKA Stephens Creek 27.80 280 P **P** **13 27 01.5 -0.3**
STKA pmax pmax
comp=Z,4.0nm,1.0s
QLP Quilpie 28.92 292 P **P** **13 27 15.0 +3.3**
baz=29,SNR=6.1
BBOO Buckleboo 31.46 274 P **P** **13 27 33.2 -1.0**
BBOO IAmb IAmb 13 27 44.2
comp=Z,42nm,1.1s
CTA Charters Tower 32.09 304 P **P** **13 27 37.0 -2.8**
comp=Z,7.1nm,0.8s,baz=154,slow=8.0,SNR=2.3
comp=Z,7.1nm,0.8s
CTAO Charters Tower 32.09 304 P **P** **13 27 37.6 -2.3**
CTAO Charters Tower 32.09 304 P **P** **13 27 37.6 -2.3**
CTAO pmax pmax
comp=Z,18nm,1.1s
MTSU Mount Surprise 34.76 304 P **P** **13 28 03.9 +0.8**
baz=35,SNR=9.1
TBI Tubuai 35.37 70 *e*LR LR 13 37 35.8
comp=Z,377µm,23.8s
TBI *e*LR LR 13 37 35.9
comp=Z,147µm,32.0s
TBI Tubuai 35.37 70 *e*T T 14 02 24.7
comp=Z,27nm,0.3s
QIS Mount Isa 36.08 295 P **P** **13 28 12.5 -2.0**
baz=36,SNR=6.8
VNDA Vanda 36.17 185 P **P** **13 28 16.0 +1.4**
comp=Z,8.4nm,1.0s,baz=8.8,slow=8.6,SNR=27
comp=Z,8.4nm,1.0s
VNDA Vanda 36.17 185 P **P** **13 28 14.5 -0.2**
VNDA Vanda 36.17 185 P **P** **13 28 14.5 -0.2**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
SBA Scott Base 36.27 183 P **P** **13 28 15.1 -0.4**
SBA IAmb IAmb 13 28 19.7
comp=Z,27nm,1.1s
SBA Scott Base 36.27 183 P **P** **13 28 15.1 -0.4**
SBA pmax pmax
comp=Z,27nm,1.1s
AS31 Alice Springs 38.04 286 P **P** **13 28 29.1 -2.0**
ASAR Alice Springs 38.04 286 P **P** **13 28 29.4 -1.8**
comp=Z,31nm,1.0s,baz=132,slow=8.5,SNR=28
ASAR PcP **PcP** **13 30 44.7 -1.9**
comp=Z,2.7nm,0.7s,baz=131,slow=3.6,SNR=2.0
comp=Z,31nm,1.0s
FORT Forrest 38.40 271 P **P** **13 28 33.4 -0.7**
baz=38,SNR=8.3
FORT Forrest 38.40 271 P **P** **13 28 32.6 -1.5**
FORT IAmb IAmb 13 28 39.3
comp=Z,52nm,1.0s
COEN Coen 38.67 307 P **P** **13 28 35.6 -0.8**
baz=39,SNR=10
COEN Coen 38.67 307 P **P** **13 28 34.4 -2.0**
PPT2 Papeete2 39.20 63 *e*LR LR 13 39 22.7
comp=Z,21µm,34.0s
PPT2 *e*LR LR 13 39 22.8
comp=Z,34µm,29.5s
PPT Papeete 39.21 63 P **P** **13 28 39.6 -1.4**
comp=Z,18nm,0.6s,baz=105,slow=17,SNR=2.1
comp=Z,18nm,0.6s
WR0 Warramunga Arr 39.97 291 P **P** **13 28 45.5 -1.8**
WB2 Warramunga Arr 40.11 291 P **P** **13 28 46.0 -2.5**
WB2 IAmb IAmb 13 28 54.9
comp=Z,44nm,0.8s
WRAB Tennant Creek 40.12 291 P **P** **13 28 46.3 -2.2**
WRAB IAmb IAmb 13 28 54.9
comp=Z,46nm,0.9s
WRAB Tennant Creek 40.12 291*ce*P **P** **13 28 47.5 -1.1**
WRAB pmax pmax
comp=Z,31nm,0.7s
WRA Warramunga Arr 40.12 291 P **P** **13 28 46.3 -2.3**
comp=Z,20nm,0.9s,baz=127,slow=7.8,SNR=33
WRA PcP **PcP** **13 30 52.3 -0.8**
comp=Z,6.7nm,0.9s,baz=120,slow=3.3,SNR=2.9
comp=Z,20nm,0.9s
PMG Port Moresby 40.13 316 P **P** **13 28 47.2 -1.4**
comp=Z,15nm,0.9s,baz=108,slow=7.1,SNR=18
comp=Z,15nm,0.9s
PMG Port Moresby 40.13 316 P **P** **13 28 47.6 -1.0**
PMG IAmb IAmb 13 28 59.4
comp=Z,86nm,0.9s
PMG Port Moresby 40.13 316 P **P** **13 28 47.3 -1.4**
comp=Z,108nm,1.1s
PMG Port Moresby 40.13 316*ce*P **P** **13 28 49.4 +0.7**
PMG pmax pmax
comp=Z,143nm,1.7s
WB0 Warramunga Arr 40.20 291 P **P** **13 28 47.1 -2.1**
WB0 IAmb IAmb 13 28 53.1
comp=Z,28nm,0.7s
WRKA Warakurna 41.32 279 P **P** **13 28 56.2 -2.3**
baz=41,SNR=34
CASY Casey 42.14 213 P **P** **13 29 03.0 -1.6**
CASY IAmb IAmb 13 29 11.2
comp=Z,37nm,0.9s
KRVT Keravat (AS076 42.30 326 P **P** **13 29 05.6 -0.9**
comp=Z,11nm,0.5s,baz=126,slow=4.6,SNR=6.5
comp=Z,11nm,0.5s
RABL Rabaul 42.35 326 P **P** **13 29 05.5 -1.5**
KMBL Kambalda 42.73 267 P **P** **13 29 08.4 -1.6**
baz=43,SNR=4.8
NWAO Narrogin (SRO) 45.44 262 P **P** **13 29 32.5 +0.9**
comp=Z,7.5nm,0.8s,baz=359,slow=3.4,SNR=3.1
comp=Z,7.5nm,0.8s
KLBR Kellerberrin 45.69 264 P **P** **13 29 31.7 -2.0**
baz=46,SNR=6.1
MANU Manus Island 46.38 321 P **P** **13 29 37.7 -1.5**
MANU IAmb IAmb 13 29 44.2
comp=Z,22nm,1.0s
KDU Kakadu 46.45 296 P **P** **13 29 38.7 -1.0**
baz=47,SNR=10
MUN Mundaring 46.65 262 P **P** **13 29 40.9 -0.3**
baz=47,SNR=6.6
KNRA Kununurra 46.90 290 P **P** **13 29 41.9 -1.4**
baz=47,SNR=12
KNRA Kununurra 46.90 290 P **P** **13 29 41.9 -1.4**
KNRA IAmb IAmb 13 29 58.5
comp=Z,42nm,0.9s
BLDU Ballidu 46.96 264 P **P** **13 29 42.1 -1.5**
baz=47,SNR=6.8
MTN Manton Dam 47.24 295 P **P** **13 29 44.1 -1.8**
baz=47,SNR=8.5
MTN Manton Dam 47.24 295 P **P** **13 29 44.4 -1.6**
MEEK Meekatharra 47.63 270 P **P** **13 29 45.8 -3.1**
baz=48,SNR=32
MORW Morawa 48.25 266 P **P** **13 29 50.9 -2.8**
baz=48,SNR=13
MORW Morawa 48.25 266 P **P** **13 29 51.6 -2.1**
MORW IAmb IAmb 13 30 05.9
comp=Z,24nm,0.9s
QSPA South Pole Qui 48.31 180 P **P** **13 29 55.7 +1.9**
comp=Z,100nm,1.0s,baz=25,slow=3.8,SNR=60
comp=Z,100nm,1.0s
PSA00 Pilbara Seismi 49.62 277 P **P** **13 30 01.5 -2.8**
PSA00 IAmb IAmb 13 30 10.7
comp=Z,23nm,0.9s
MBWA Marble Bar 49.95 277 P **P** **13 30 05.1 -1.6**
MBWA IAmb IAmb 13 30 13.2
comp=Z,39nm,0.8s
SAUI Saumlaki 50.69 299 P **P** **13 30 10.2 -2.1**
SMPI Sarmi 50.89 312 P **P** **13 30 13.5 -0.4**
GIRL Giralia 53.17 271 P **P** **13 30 29.7 -1.1**
baz=53,SNR=5.8
GIRL Giralia 53.17 271 P **P** **13 30 30.3 -0.5**
FAKI Fak Fak 53.95 304 P **P** **13 30 34.6 -2.0**
FAKI IAmb IAmb 13 30 40.0
comp=Z,26nm,0.7s
FAKI Fak Fak 53.95 304 P **P** **13 30 34.6 -2.0**
comp=Z,38nm,0.8s
SOEI Soe 54.15 291 P **P** **13 30 38.1 -0.1**
comp=Z,89nm,1.2s
BNDI Bandanaira 54.20 301 P **P** **13 30 37.6 -0.8**
comp=Z,56µmcomp=Z,68nm,1.5s
BATI Baumata 54.25 290 P **P** **13 30 38.6 -0.3**
comp=Z,40nm,1.1s,baz=180,slow=5.1,SNR=3.4
comp=Z,40nm,1.1s
BATI Baumata 54.25 290 P **P** **13 30 38.2 -0.7**
comp=Z,40nm,1.6s
MSAI Masohi 55.72 301 P **P** **13 30 47.9 -1.5**
comp=Z,1µmcomp=Z,7.5nm,0.7s
SIJI Sorong 56.16 305 P **P** **13 30 50.2 -2.4**
comp=Z,50nm,0.8s
MMRI Maumere 56.35 291 P **P** **13 30 52.7 -1.3**
comp=Z,46nm,1.0s
NLAI Namlea 56.98 299 P **P** **13 30 56.4 -2.0**
comp=Z,12µmcomp=Z,19nm,1.6s
SANI Sanana 58.60 299 P **P** **13 31 07.0 -2.8**
comp=Z,51nm,0.9s
LBMI Labuha 58.70 302 P **P** **13 31 10.6 +0.1**
comp=Z,135nm,1.4s
BELA Belgrano 2 59.27 173 P **P** **13 31 13.8 +0.1**
BSSI Bau Bau, Buton 59.33 291 P **P** **13 31 14.4 -0.5**
comp=Z,63nm,0.9s
MAW Mawson 59.39 204 P **P** **13 31 14.6 0.0**
comp=Z,17nm,1.1s,baz=120,slow=8.9,SNR=13
comp=Z,17nm,1.1s
MAW Mawson 59.39 204 P **P** **13 31 13.6 -0.9**
baz=59,SNR=9.9
MAW Mawson 59.39 204 P **P** **13 31 14.6 0.0**
MAW Mawson 59.39 204 P **P** **13 31 14.6 0.0**
MAW pmax pmax
comp=Z,6.0nm,1.1s
TNTI Ternate 59.87 302 P **P** **13 31 16.9 -1.7**
comp=Z,4µmcomp=Z,32nm,1.0s
KKSI Kolaka, Sulawe 59.94 294 P **P** **13 31 19.3 +0.2**
comp=Z,35nm,1.0s
TWSI Taliwang, Sumb 60.08 286 P **P** **13 31 18.6 -1.5**
comp=Z,7µmcomp=Z,50nm,1.2s
BKSI Bukumba 60.17 292 P **P** **13 31 17.8 -2.9**
comp=Z,22nm,1.1s
KAPI Kappang 60.65 292 P **P** **13 31 23.3 -0.6**
KAPI IAmb IAmb 13 31 30.1
comp=Z,28nm,1.1s
KAPI Kappang 60.65 292 P **P** **13 31 23.6 -0.3**
comp=Z,28nm,0.9s
KAPI Kappang 60.65 292⇑*i*P **P** **13 31 25.4 +1.5**
KAPI pmax pmax
comp=Z,62nm,1.9s
BNSI Bone 60.84 292 P **P** **13 31 24.3 -0.9**
comp=Z,18nm,1.8s
KLNI Mataram 60.86 286 P **P** **13 31 25.4 0.0**
comp=Z,37nm,1.0s
SMAI San Martin Ant 61.21 158 P **P** **13 31 28.0 +1.0**
SPSI Sidrap Palu 61.38 292 P **P** **13 31 27.9 -1.0**
comp=Z,20nm,0.8s
LUWI Luwuk 61.48 297 P **P** **13 31 27.4 -2.1**
LUWI Luwuk 61.48 297 P **P** **13 31 29.5 -0.1**
comp=Z,125nm,1.1s
APSI Ampana 62.32 296 P **P** **13 31 34.9 -0.4**
comp=Z,12µmcomp=Z,41nm,1.8s
KMMI Kalianget 63.33 285 P **P** **13 31 41.2 -0.8**
comp=Z,27nm,1.0s
TOLI2 Tolitoli 64.40 297 P **P** **13 31 47.6 -1.4**
TOLI2 IAmb IAmb 13 31 55.2
comp=Z,14nm,0.9s
PMSA Palmer Station 64.41 156*e*P **P** **13 31 50.5 +2.1**
MPSI Mapaga 64.42 296 P **P** **13 31 48.7 -0.4**
comp=Z,25nm,1.0s
BBKI Banjar Baru 65.19 289 P **P** **13 31 53.4 -0.8**
comp=Z,86nm,1.0s
TROLL Troll, Antarti 66.32 183 P **P** **13 32 01.4 +0.5**
SNAA Sanae 66.80 181 P **P** **13 32 03.6 -0.3**
SNAA Sanae 66.80 181 P **P** **13 32 03.5 -0.3**
SNAA Sanae 66.80 181*ce*P **P** **13 32 04.6 +0.8**
SNAA pmax pmax
comp=Z,53nm,1.0s
CTJI Waduk Cacaban 66.83 282 P **P** **13 32 04.4 -0.4**
comp=Z,7µmcomp=Z,49nm,0.9s
NVL N'lazarevskaya 67.00 186*e*P **P** **13 32 04.2 -0.8**
NVL pmax pmax
comp=Z,69nm,1.2s
VNA3 Neumayer Olymp 67.21 179 P **P** **13 32 07.4 +1.0**
VNA2 Neumayer--Watz 67.56 179 P **P** **13 32 09.7 +1.1**
baz=174,slow=7.0
VNA1 Neumayer--Stat 67.83 179 P **P** **13 32 11.7 +1.5**
LEM Lembang 68.10 281 P **P** **13 32 12.4 -0.6**
comp=Z,54nm,1.8s
LEM Lembang 68.10 281 P **P** **13 32 13.2 +0.2**
LEM pmax pmax
comp=Z,54nm,1.8s
MYLDM Lahad Datu 68.93 298 P **P** **13 32 18.5 +0.6**
KKM Kota Kinabalu 71.09 297 P **P** **13 32 30.7 -0.6**
KKM IAmb IAmb 13 32 44.2
comp=Z,41nm,1.1s
SBUM Sibu 71.21 291 P **P** **13 32 30.6 -1.3**
KSM Kuching 71.86 289 P **P** **13 32 34.1 -1.8**
KSM IAmb IAmb 13 32 39.7
comp=Z,22nm,0.9s
EFI East Falkland 76.39 150 P **P** **13 33 00.9 -0.9**
EFI East Falkland 76.39 150‖*e*P **P** **13 33 03.2 +1.4**
EFI pmax pmax
comp=Z,77nm,1.1s
LL02 Futaleuf 76.62 137 P **P** **13 33 03.6 +0.3**
LL02 IAmb IAmb 13 33 06.0
comp=Z,38nm,1.1s
PLCA Paso Flores 79.05 136 P **P** **13 33 18.0 +1.0**
comp=Z,16nm,1.1s,baz=200,slow=6.8,SNR=13
comp=Z,16nm,1.1s
PLCA Paso Flores 79.05 136 P **P** **13 33 18.5 +1.5**
PLCA Paso Flores 79.05 136*e*P **P** **13 33 19.8 +2.8**
PLCA Paso Flores 79.05 136 P **P** **13 33 18.0 +1.0**
IPM Ipoh 80.58 285 P **P** **13 33 24.9 -0.6**
IPM IAmb IAmb 13 33 29.2
comp=Z,23nm,1.0s
HOPE Hope Point 80.71 162 P **P** **13 33 26.4 +0.8**
HOPE Hope Point 80.71 162 P **P** **13 33 26.4 +0.8**
HOPE pmax pmax
comp=Z,83nm,1.1s
GSI Gunungsitoli 80.95 280 P **P** **13 33 26.6 -0.9**
KULM Kulim 81.41 285 P **P** **13 33 29.2 -0.7**
KULM IAmb IAmb 13 33 35.6
comp=Z,14nm,1.0s
BO01 Tunca 83.37 131 P **P** **13 33 39.7 -0.3**
JMN Monobe 83.83 327 P **P** **13 33 42.0 -0.1**
JMN IAmb IAmb 13 33 46.9
comp=Z,30nm,0.9s
MT09 Talagante 83.87 130 P **P** **13 33 43.4 +0.7**
MT09 IAmb IAmb 13 33 56.6
comp=Z,16nm,1.1s
MT03 Universidad Ad 84.35 131 P **P** **13 33 45.9 +0.7**
MT03 IAmb IAmb 13 34 05.8
comp=Z,10nm,0.8s
VA06 Catapilco 84.58 129 P **P** **13 33 46.7 +0.5**
VA06 IAmb IAmb 13 34 07.9
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 84.67 332 P **P** **13 33 44.5 -1.7**
comp=Z,4.6nm,1.1s,baz=160,slow=6.6,SNR=6.1
comp=Z,4.6nm,1.1s
MAJO Matsushiro 84.67 332 P **P** **13 33 46.1 -0.2**
MAJO IAmb IAmb 13 33 54.9
comp=Z,17nm,1.1s
MAJO Matsushiro 84.67 332‖*e*P **P** **13 33 48.6 +2.4**
MAJO pmax pmax
comp=Z,20nm,1.3s
MJB9 Matsu-Tunnel 84.67 332 P **P** **13 33 45.8 -0.4**
MJB9 IAmb IAmb 13 33 54.9
comp=Z,18nm,1.2s
TRQA Tornquist 85.43 139 P **P** **13 33 50.9 +0.5**
TRQA Tornquist 85.43 139 *e*P **P** **13 33 53.4 +3.0**
TRQA Tornquist 85.43 139 P **P** **13 33 50.9 +0.5**
TRQA pmax pmax
comp=Z,50nm,1.2s
JSD Sado 85.99 332 P **P** **13 33 53.0 +0.2**
JSD IAmb IAmb 13 34 11.6
comp=Z,32nm,1.1s
CO03 El Pedregal 86.19 129 P **P** **13 33 54.7 +0.3**
GO04 Tololo Observa 86.61 128 P **P** **13 33 57.3 +0.6**
GO04 IAmb IAmb 13 33 59.4
comp=Z,36nm,1.1s
CO01 Juntas del Tor 87.17 128 P **P** **13 33 59.5 +0.1**
CO01 IAmb IAmb 13 34 02.4
comp=Z,25nm,1.1s
LCO Las Campanas 87.52 127 P **P** **13 34 01.5 +0.4**
LCO Las Campanas 87.52 127 P **P** **13 34 01.5 +0.4**
LCO pmax pmax
comp=Z,10.0nm,1.2s
AC05 El Transito 87.90 128 P **P** **13 34 03.7 +0.9**
TJN Taejon 88.85 324*de*P **P** **13 34 08.9 +2.3**
NJ2 Nanjing 89.44 316 *e*P **P** **13 34 13.3 +3.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSRS Korea Array 89.51 325 P **P** **13 34 08.4 -1.3**
comp=Z,14nm,1.1s,baz=147,slow=5.6,SNR=28
comp=Z,14nm,1.1s
KSAR Wonju Array Be 89.52 325 P **P** **13 34 09.2 -0.5**
KSAR Wonju Array Be 89.52 325 P **P** **13 34 09.2 -0.5**
KS19 Wonju Array Si 89.58 325 P **P** **13 34 09.8 -0.2**
KS19 IAmb IAmb 13 34 14.7
comp=Z,24nm,1.0s
PHRA Phrae 90.81 294 P **P** **13 34 15.3 -0.9**
GO02 Mina Guanaco 91.02 126 P **P** **13 34 17.2 -0.5**
CM31 Chiang Mai Arr 91.66 293 P **P** **13 34 19.1 -1.1**
CMAR Chiang Mai Arr 91.66 293 P **P** **13 34 18.7 -1.5**
comp=Z,5.8nm,0.8s,baz=155,slow=3.5,SNR=20
comp=Z,5.8nm,0.8s
CMAR Chiang Mai Arr 91.66 293 P **P** **13 34 18.2 -2.0**
CHTO Chiang Mai 91.91 294 P **P** **13 34 19.1 -2.2**
CHTO Chiang Mai 91.91 294 P **P** **13 34 19.1 -2.2**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
YSS Yuzh-Sakhalins 92.71 339 *e*P P 13 34 29.9 +5.6
LVC Limon Verde 93.33 124 *e*P **P** **13 34 30.0 +1.5**
TIA Tai'an 93.59 317 P **P** **13 34 29.8 +1.1**
TIA pmax pmax
comp=Z,13nm,1.2s
PLTB Pedras Altas 94.55 141 *e*P **P** **13 34 36.1 +2.6**
ITQB Itaqui 94.78 137 *e*P **P** **13 34 36.9 +2.4**
RODS Rosario do Sul 94.94 139 *e*P **P** **13 34 36.6 +1.2**
PZH PanZhiHua 95.36 301 P **P** **13 34 38.8 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
CPSB Cacapava Do Su 95.75 140 *e*P **P** **13 34 41.5 +2.5**
CN2 Changchun 95.83 327 *e*P **P** **13 34 39.4 +0.7**
UNIS Unistalda (Bra 96.05 138 *e*P **P** **13 34 43.1 +2.7**
TYV Tymovskoe 96.34 340 *e*P P 13 34 47.2 +6.4
TYV pmax pmax
comp=Z,16nm,1.7s
XAN Xi'an 96.37 311⇑P **P** **13 34 44.3 +2.8**
XAN pmax pmax
comp=Z,12nm,1.0s
AZCA Azaras, Argent 96.40 137 *e*P **P** **13 34 43.9 +1.9**
CPUP Villa Florida 97.11 135 P **P** **13 34 43.8 -1.5**
comp=Z,2.2nm,0.9s,baz=223,slow=0.4,SNR=4.6
comp=Z,2.2nm,0.9s
CPUP Villa Florida 97.11 135 *e*P Pdif 13 34 47.4 +2.1
KLR Kul'dur 98.07 333*ce*P Pdif 13 34 51.3 +2.5
KLR pmax pmax
comp=Z,8.0nm,1.5s
LPAZ La Paz 98.49 121 P Pdif 13 34 53.3 +1.0
comp=Z,1.4nm,0.8s,baz=320,slow=4.2,SNR=4.4
comp=Z,1.4nm,0.8s
LPAZ La Paz 98.49 121 *e*P Pdif 13 34 54.0 +1.6
ITAB Concordia 99.02 139 *e*P **Pdif** **13 34 56.7 +2.9**
TER01 Tubaro-SC 99.35 142 *e*P **Pdif** **13 34 57.3 +2.0**
FRBT Francisco Belt 99.61 138 *e*P **Pdif** **13 34 59.5 +3.0**
HHC Hu-ho-hao-te 99.94 317 *e*P **Pdif** **13 34 59.0 +1.5**
HHC pmax pmax
comp=Z,19nm,0.9s
XLT XiLinHaoTe 100.02 321⇑*i*P **Pdif** **13 35 06.8 +9.1**
XLT pmax pmax
comp=Z,16nm,0.8s
MCR1 Marechal Candi 100.36 136 *e*P **Pdif** **13 35 00.9 +1.1**
NVAR Mina Array Bea 100.73 48 P **Pdif** **13 35 01.7 +0.5**
comp=Z,0.2nm,0.6s,baz=231,slow=6.7,SNR=2.4
NVAR PP **PP** **13 39 12.4 +3.2**
comp=Z,0.5nm,0.9s,baz=270,slow=4.5,SNR=2.7
BBSD Serra de San D 102.49 127 *e*P **Pdif** **13 35 11.4 +2.0**
TXAR Lajitas Array 103.53 63 *i* PKKPbc PKKPbc 13 51 07.5 +1.7
comp=Z,0.4nm,0.8s,baz=50,slow=6.7,SNR=4.1
PDAR Pinedale Array 108.55 49 PKiKP **PKiKP** **13 39 40.6 -0.8**
comp=Z,0.2nm,0.7s,baz=64,slow=2.1,SNR=1.5
PDAR PP **PP** **13 40 10.2 +3.0**
comp=Z,0.9nm,1.0s,baz=219,slow=9.0,SNR=5.3
ILAR Eielson Array 110.54 17 PKiKP **PKiKP** **13 39 43.3 -0.8**
comp=Z,0.7nm,0.9s,baz=268,slow=2.4,SNR=3.5
WMQ Urumqi 115.20 307 *e*PKP **PKiKP** **13 39 54.8 +1.0**
TIXI Tiksi 117.63 345‖*i*PKiKP **PKiKP** **13 39 58.8 +1.3**
YKA Yellowknife Ar 118.44 30 PKP **PKPdf** **13 39 57.7 -1.6**
comp=Z,7.2nm,0.9s,baz=229,slow=2.2,SNR=12
DGZ Jazzator, Alta 118.57 312‖*i*PKiKP **PKiKP** **13 40 02.5 +2.3**
MKAR Makanchi Array 120.01 308 PKP **PKPdf** **13 40 00.4 -2.5**
comp=Z,6.3nm,1.1s,baz=224,slow=3.6,SNR=6.4
ULM Lac du Bonnet 120.56 48 PKP **PKPdf** **13 40 03.2 -0.6**
comp=Z,15nm,1.0s,baz=262,slow=8.4,SNR=3.1
MCPB Macapa, AP 120.81 123 *e*P **PKiKP** **13 40 06.7 +1.1**
ZALV Zalesovo Beam 122.10 316 PKP **PKPdf** **13 40 05.1 -1.5**
comp=Z,0.6nm,0.4s,baz=145,slow=3.6,SNR=4.3
KMBO Kilima Mbogo 122.24 234 PKP **PKPdf** **13 40 08.2 -0.3**
comp=Z,5.0nm,0.9s,baz=134,slow=1.4,SNR=7.9
AAK Ala-Archa 122.80 300‖*i*PKiKP **PKiKP** **13 40 10.8 +2.0**
MBAR Mbarara 126.44 228⇑*i*PKiKP **PKiKP** **13 40 16.3 -0.2**
NRIK Noril'sk 127.28 334 PKP **PKPdf** **13 40 15.2 -0.9**
comp=Z,2.0nm,0.5s,baz=129,slow=2.7,SNR=4.1
NRIK Noril'sk 127.28 334‖*i*PKiKP **PKiKP** **13 40 18.5 +1.9**
BRVK Borovoye 129.68 310‖*i*PKiKP **PKiKP** **13 40 23.8 +1.9**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
GEYT Alibeck 131.83 288 PKP **PKPdf** **13 40 25.7 -0.1**
comp=Z,1.5nm,0.8s,baz=74,slow=32,SNR=2.3
GEYT SKPbc **SKPbc** **13 43 48.4 -3.7**
comp=Z,2.3nm,0.9s,baz=116,slow=6.6,SNR=4.7
SVE Sverdlovsk 136.01 314 *e*PKiKP **PKiKP** **13 40 35.8 +1.2**
ARU Arti 137.08 313 *i* PKiKP **PKiKP** **13 40 37.6 +0.8**
ARU 13 43 16.2
KIRV Kirov 142.14 316⇑*e*PKiKP **PKPdf** **13 40 43.6 -0.4**
GEVA Gevas 142.87 281 **PKPdf** **13 40 44.6 -1.7**
BELG Belogornoye 142.96 305‖*i*PKiKP **PKiKP** **13 40 50.8 +1.9**
ZEI Tsey 143.69 289 *i* PKiKP **PKPdf** **13 40 47.3 -0.3**
ZEI pmax pmax
comp=Z,14nm,1.2s
PRGR Permogore 143.75 321 *e*PKiKP **PKPdf** **13 40 46.4 -0.4**
PRGR pmax pmax
comp=Z,5.0nm,0.4s
NCK Nalchik 144.09 290‖*e*PKiKP **PKPdf** **13 40 48.5 +0.4**
DAG Danmarks Havn 144.51 5 *i* P **PKPab** **13 40 45.0 -1.2**
KBZ Khabaz 144.64 290 PKP **PKPab** **13 40 46.5 -1.1**
comp=Z,16nm,0.9s,baz=96,slow=0.7,SNR=9.5
KBZ Khabaz 144.64 290‖*e*PKHKP PKPpre 13 40 44.5
NEY Neytrino 144.64 289‖*e*PKiKP **PKPdf** **13 40 50.2 +0.9**
GOF Gofitskoye 144.84 292⇑*e*PKiKP **PKPdf** **13 40 51.1 +1.8**
GOF pmax pmax
comp=Z,150nm,1.2s
KIV Kislovodsk 144.84 290 *e*PKiKP **PKPab** **13 40 47.6 -0.9**
KIV pmax pmax
comp=Z,18nm,1.1s
DBIC Dimbokro 144.99 182 PKPbc **PKPab** **13 40 49.1 -0.6**
comp=Z,27nm,1.0s,baz=187,slow=3.3,SNR=15
DBIC Dimbokro 144.99 182 **PKPab** **13 40 48.7 -1.0**
SFJD Kangerlussuaq 144.99 29 *e*P PKPbc 13 40 47.5 -0.7
SUMG Summit 145.38 17 *i* P **PKPbc** **13 40 47.0 -2.9**
LVZ Lovozero 146.13 334⇑*e*PKiKP **PKPdf** **13 40 50.4 -0.4**
VRH Novokhopyorsk 146.53 303 *e*PKiKP **PKPdf** **13 40 51.9 0.0**
VRH pmax pmax
comp=Z,40nm,1.0s
GAZ Gaziantep 146.78 276 **PKPdf** **13 40 53.6 +0.6**
KLMR Klimovskoe 146.80 321 *e*PKPdf **PKPdf** **13 40 51.5 -0.6**
KLMR AMP 13 41 03.8
comp=Z,66nm,1.5s
KLMR Klimovskoe 146.80 321 *e*PKiKP **PKPdf** **13 40 51.5 -0.6**
KLMR pmax pmax
comp=Z,66nm,1.5s
ARCES ARCESS Array B 147.84 340 PKPbc **PKPdf** **13 40 53.6 0.0**

comp=Z,4.7nm,0.6s,baz=30,slow=2.0,SNR=20
ARCES ARCES Array B 147.84 340 PKPdf PKPdf 13 40 54.1 +0.4
ARCES ARCES Array B 147.84 340 PKIKP PKPdf 13 40 54.1 +0.4
VORR Voronezh 148.12 304 ePKP2 PKPbc 13 40 58.5 +0.7
VORR pmax pmax
comp=Z,47nm,1.5s
VSR Storozhevoye 148.14 303 ePKP2 PKPbc 13 40 56.5 -1.4
VSR pmax pmax
comp=Z,30nm,1.6s
LPSR Galich'ya Gora 148.27 305 ePKP2 PKPbc 13 40 57.2 -1.0
LPSR pmax pmax
comp=Z,30nm,0.8s
MOS Moscow 148.77 311 ePKHKP PKPpre 13 40 54.4
MOS pmax pmax
comp=Z,35nm,0.7s
CSS Mathiatis 148.81 270 PKPbc PKPbc 13 40 59.5 -0.8
NRS Narsarsuaq 149.32 37 PKPbc 13 40 59.4 -1.2
NRS Narsarsuaq 149.32 37 PKHKP PKPpre 13 40 59.4
OBN Obninsk 149.45 310 ePKIKP PKPdf 13 40 56.8 +0.2
OBN e 13 44 36.5
OBN ePPP PPP 13 47 57.3
OBN pmax pmax
comp=Z,25nm,1.2s
BR131 Keskin Array S 150.27 279 PKPbc 13 41 02.2 -1.6
BR131 Keskin Array S 150.27 279 PKIKP PKPbc 13 41 02.2 -1.6
BRTR Keskin Array B 150.27 279 PKPbc PKPbc 13 41 02.0 -1.8
comp=Z,7.8nm,0.8s,baz=145,slow=4.8,SNR=21
FINES FINESS Array B 152.59 327 PKPbc PKPbc 13 41 05.6 -2.6
comp=Z,4.2nm,0.6s,baz=45,slow=2.9,SNR=22
FINES FINESS Array B 152.59 327 PKPbc 13 41 07.6 -0.6
AKASG Malin Array Be 154.44 302 PKPbc PKPbc 13 41 10.7 -1.9
comp=Z,1.4nm,0.6s,baz=70,slow=2.7,SNR=5.2
AKASG PKPab PKPab 13 41 26.3 -0.7
comp=Z,1.3nm,0.6s,baz=66,slow=4.8,SNR=5.2
MNK Minsk 154.50 311 i PKP PKPdf 13 41 06.6 +2.4
MNK i PKP PKPdf 13 41 06.6 +2.4
MNK i PKP PKPdf 13 41 06.6 +2.4
baz=75
MNK i PP PP 13 45 11.1 +8.2
MNK i SKS SKSdf 13 48 12.5 +1.5
MNK i PPP PPP 13 48 39.6
MNK i SKKS SKKSdf 13 56 49.8 -0.5
MNK i SS SS 14 04 55.0 +11
MNK i SSS SSS 14 10 50.6
MNK i LQ LQ 14 43 29.6
MNK i LR LR 14 55 19.4
MNK Minsk 154.50 311 i PKIKP PKPdf 13 41 06.5 +2.4
MNK i 13 45 11.1
MNK i 13 48 12.4
MNK i PPP PPP 13 48 39.6
NB2 NORSAR Subarra158.16 338 PKP PKPab 13 41 44.2 +1.4
baz=37,slow=4.4
NB2 NORSAR Subarra158.16 338 PKP PKPab 13 41 44.2 +1.4
comp=Z,31nm,1.7s,baz=37,slow=4.4
NOA NORSAR Array B 158.16 338 PKP PKPdf 13 41 08.1 -0.8
comp=Z,2.7nm,1.1s,baz=24,slow=1.3,SNR=5.0
NOA PKPab PKPab 13 41 44.1 +1.4
comp=Z,1.7nm,0.8s,baz=38,slow=4.6,SNR=4.8
UZH Uzhgorod 159.18 299 ePKP2 PKPab 13 41 46.7 -0.8
CRVS Cervenica-Dubn 159.68 300 ePKP PKPab 13 41 53.4 +3.7
CRVS Cervenica-Dubn 159.68 300 ePKP2 PKPab 13 41 53.4 +3.7
VYHS Vyhne 161.46 299 ePKP PKPab 13 42 00.7 +3.1
VYHS Vyhne 161.46 299 ePKP2 PKPab 13 42 00.7 +3.1
MAUC Maruska 161.90 303 ePKPAB PKPab 13 42 01.5 +2.0
KRLC Kraliky 162.34 306 ePKPAB PKPab 13 42 03.6 +2.2
KRLC Kraliky 162.34 306 ePKP2 PKPab 13 42 03.6 +2.2
MODS Modra-Piesok 162.50 300 ePKP PKPdf 13 41 14.1 0.0
MODS Modra-Piesok 162.50 300 ePKIKP PKPdf 13 41 14.1 0.0
OSTC Ostas 162.51 307 ePKPAB PKPab 13 42 04.4 +2.3
DPC Dobruska-Polom 162.52 307 ePKPAB PKPab 13 42 04.1 +2.0
DPC Dobruska-Polom 162.52 307 ePKP2 PKPab 13 42 04.1 +2.0
UPC Upice 162.65 307 ePKPAB PKPab 13 42 06.3 +3.7
UPC Upice 162.65 307 ePKP2 PKPab 13 42 06.3 +3.7
CONA Conrad Observa 163.53 299 P PKPdf 13 41 15.9 +0.8
comp=Z,5.6nm,1.4s
GOPC GO Pecny, Ondr 163.60 307 ePKPAB PKPab 13 42 10.1 +3.2
GOPC GO Pecny, Ondr 163.60 307 ePKP2 PKPab 13 42 10.1 +3.2
BRG Berggiesshubel 163.70 310 ePKP2 PKPab 13 42 10.5 +3.3
BRG Berggiesshubel 163.70 310 ePKP PKPab 13 42 10.6 +3.3
BRG Berggiesshubel 163.70 310 Amp 13 42 12.1
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 163.70 310 ex x 13 42 21.3
BRG Berggiesshubel 163.70 310 Amp 13 42 22.3
comp=Z,9.6nm,1.1s
PRU Pruhonice 163.72 307 ePKPAB PKPab 13 42 08.9 +1.6
PRU Pruhonice 163.72 307 ePKP2 PKPab 13 42 08.9 +1.6
ARSA Arzberg 163.90 297 eP PKPdf 13 41 18.7 +3.2
comp=Z,3.7nm,1.2s
ARSA eP sPKPab 13 42 11.3 +0.2
comp=Z,7.3nm,1.1s
CLL Collm 164.03 313 ePKPab PKPab 13 42 12.0 +3.4
comp=Z,7.0nm,1.3s
SOKA Soboth 164.34 295 P PKPdf 13 41 16.4 +0.4
comp=Z,4.5nm,1.1s
SOKA P sPKPab 13 42 13.7 +0.6
comp=Z,4.8nm,1.0s
MOA Molln 164.59 300 eP PKPdf 13 41 20.1 +4.0
comp=Z,4.0nm,1.2s
MOA eP PKPab 13 42 11.9 +0.6
comp=Z,8.4nm,1.3s
KHC Kasperske Hory 164.62 305 ePKPDF PKPdf 13 41 18.5 +2.5
KHC ePKPAB pPKPab 13 42 13.3 -0.2
KHC Kasperske Hory 164.62 305 ePKIKP PKPdf 13 41 18.5 +2.5
GERES GERESS Array B 164.64 304 PKP PKPdf 13 41 17.3 +1.1
comp=Z,1.1nm,1.0s,baz=134,slow=2.8,SNR=4.1
GERES PKPab PKPab 13 42 11.9 +0.3
comp=Z,2.5nm,0.9s,baz=81,slow=4.2,SNR=9.9
OBKA Obir 164.70 295 eP PKPab 13 42 14.2 +2.2
comp=Z,6.8nm,1.1s
ABTA Abfaltersbach 166.02 297 P PKPab 13 42 17.9 +0.1
comp=Z,7.9nm,1.7s
WTTA Wattenberg 166.46 300 eP PKPdf 13 41 16.6 -1.2
comp=Z,6.9nm,1.4s
WTTA eP PKPab 13 42 20.3 +0.5
comp=Z,11nm,1.0s
WATA Walderalm 166.48 300 P PKPdf 13 41 16.6 -1.1
comp=Z,3.8nm,1.2s
WATA eP pPKPab 13 42 22.2 +0.3
comp=Z,8.7nm,1.2s
KEST Kesra 166.75 248 PKPab PKPab 13 42 21.9 +0.7
comp=Z,9.3nm,1.1s,baz=106,slow=3.5,SNR=3.8
SQTA Sankt Quirin 166.75 300 eP PKPdf 13 41 17.1 -0.9
comp=Z,9.2nm,1.3s
SQTA eP pPKPab 13 42 23.2 +0.1
comp=Z,14nm,1.6s
MOTA Moosalm 166.78 300 eP PKPdf 13 41 17.2 -0.8
comp=Z,7.9nm,1.2s
MOTA eP pPKPab 13 42 23.6 +0.4
comp=Z,6.1nm,1.0s
RETA Reutte 166.95 301 eP PKPdf 13 41 16.4 -1.6
comp=Z,2.7nm,1.2s
RETA eP sPKPab 13 42 24.7 +0.1
comp=Z,9.8nm,1.6s
FETA Feichten 167.12 299 eP PKPdf 13 41 17.1 -1.2
comp=Z,4.4nm,1.3s
FETA eP pPKPab 13 42 24.6 -0.2
comp=Z,9.2nm,1.6s
DAVA Damuels 167.59 301 eP PKPab 13 42 27.5 +2.7
comp=Z,8.9nm,1.3s
BNI Bardonecchia 170.39 294 PKPdf 13 41 19.4 -1.1
BNI Bardonecchia 170.39 294 PKIKP PKPdf 13 41 19.4 -1.1
PCVE Castro Verde 175.46 156 ePKP PKPdf 13 41 24.2 +1.6
MESJ Messejana 175.60 154 ePKP PKPdf 13 41 20.8 -1.8
PNCL Nicolau / Gran 175.73 149 ePKP PKPdf 13 41 22.7 +0.1
PBEJ Beja 175.88 156 ePKP PKPdf 13 41 23.9 +1.2
PBAR Barrancos 176.23 164 ePKP PKPdf 13 41 23.7 +1.0
PESTR Estremoz 176.74 154 ePKP PKPdf 13 41 23.8 +1.0
ESBB Sonseca Array 177.46 213 PKPab 13 43 07.0 -1.4
ESDC Sonseca Array 177.46 213 PKP PKPdf 13 41 22.0 -1.0
comp=Z,12nm,1.2s,baz=220,slow=0.9,SNR=22
ESDC PKPab PKPab 13 43 07.3 -1.2
comp=Z,3.9nm,1.1s,baz=117,slow=3.8,SNR=6.1
PAB San Pablo 177.49 206 PKPdf 13 41 21.9 -1.1
PAB San Pablo 177.49 206 PKIKP PKPdf 13 41 21.9 -1.1
PCBR Castelo Branco 177.63 146 ePKP PKPdf 13 41 22.8 -0.1
PCAB Cabril 178.30 93 ePKP PKPdf 13 41 20.2 -2.8
POLO Lamas de Olo 178.41 106 ePKP PKPdf 13 41 28.3 +5.2
MVO Moncorvo 178.84 124 ePKP PKPdf 13 41 28.1 +5.0

WEL ***13*** *13:25:25.2±0.3, 42°S±3°×17°4E±°, h7km±2km, M4.4/21, ML4.7/21, MLv4.4/21, Error ellipse: s-maj=0.0km s-min=0.0km az=167.0*

NEIC ***13*** *13:25:25.1±1.2, 41°.79S±0°.05×174°.32E±0°.02, h15km, mb4.7/7, Error ellipse: s-maj=7.0km s-min=2.2km az=188.0*

IDC ***13*** *13:25:37.8±3.6, 41°.27S×171°.71E, h0km, mb3.8/3, mbtmp3.9/4, ML4.4/1, Error ellipse: s-maj=87.3km s-min=37.1km az=78.0*

ISC 13 13:25:24.5±0.9, 41°.80S±0°.03×174°.40E±0°.03, h12km±5km, n98, σ1°34/114, mb4.4/6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.15	291			Pg	Pg	13 25 28.0	0.0
CMWZ	Cape Campbell	0.15	291	P		Pg	Pg	13 25 28.2	+0.2
CMWZ				S		Sg	Sb	13 25 32.1	+1.6
BSWZ	Blackbirch Sta	0.40	282	Pg		Pg	Pg	13 25 32.4	-0.1
BSWZ	Blackbirch Sta	0.40	282	P		Pg	Pg	13 25 32.9	+0.4
BSWZ				S		Sg	Sb	13 25 39.4	-0.3
TUWZ	Tuamarina	0.50	317			Pg	Pg	13 25 33.9	-0.5
TUWZ	Tuamarina	0.50	317	P		Pg	Pg	13 25 34.2	-0.2
TUWZ				S		Sg	Sg	13 25 40.7	-0.4
BHW	Baring Head	0.53	42	P		Pg	Pg	13 25 35.1	+0.2
WEL	Wellington	0.59	28	P		Pg	Pg	13 25 35.8	-0.2
WEL				S		Sg	Sb	13 25 45.1	+0.1
TCW	Tory Channel	0.60	351	P		Pg	Pg	13 25 35.5	-0.6
TCW				S		Sg	Sg	13 25 42.9	-1.1
PLWZ	Palliser	0.68	70			Pn	Pn	13 25 39.7	-0.4
PLWZ	Palliser	0.68	70	P		Pn	Pn	13 25 39.5	-0.6
PLWZ				S		Sn	Sn	13 25 51.6	+0.9
MSWZ	Moikau Station	0.74	59	P		Pn	Pn	13 25 40.5	-0.5
MSWZ	Moikau Station	0.74	59	P		Pb	Pb	13 25 40.8	+0.8
MSWZ				S		Sn	Sn	13 25 53.0	+0.8
CAW	Cannon Point	0.86	36	P		Pg	Pg	13 25 41.0	0.0
CAW				S		Sn	Sn	13 25 55.7	+0.7
PAWZ	Paruwai Farm	0.88	62	P		Pn	Pn	13 25 42.5	-0.3
PAWZ				S		Sn	Sn	13 25 55.7	+0.2
NNZ	Nelson	0.96	307	Pg		Pg	Pg	13 25 42.6	-0.5
NNZ	Nelson	0.96	307	P		Pg	Pg	13 25 42.8	-0.2
NNZ				S		Sg	Sg	13 25 54.5	-1.1
KIW	Kapiti Island	1.01	22	P		Pb	Pb	13 25 43.4	-0.7
KIW				S		Sb	Sb	13 25 56.9	-0.5
TRWZ	Traveller	1.05	68	P		Pb	Pb	13 25 44.7	+0.1
MTW	Mount Morrison	1.05	53	P		Pb	Pb	13 25 44.8	+0.1
MTW				S		Sn	Sn	13 26 01.8	+2.1
DUWZ	D'Urville Isla	1.06	340	P		Pb	Pb	13 25 44.3	-0.6
DUWZ				S		Sb	Sb	13 25 57.7	-1.0
OGWZ	Otaki Gorge	1.14	31	P		Pn	Pn	13 25 46.4	+0.1
OGWZ				S		Sn	Sn	13 26 03.0	+1.0
HOWZ	Holdsworth Sta	1.23	43	P		Pn	Pn	13 25 47.3	-0.3
HOWZ				S		Sb	Sb	13 25 59.2	-0.5
MRNZ	Matariki Terra	1.29	288	P		Pg	Pg	13 25 49.4	0.0
MRNZ				S		Sg	Sg	13 26 07.1	+0.9
TMWZ	Te Maipa	1.32	59	P		Pn	Pn	13 25 48.3	-0.6
MRZ	Mangatainoka R	1.45	38	P		Pn	Pn	13 25 50.2	-0.3
MRZ				S		Sb	Sb	13 26 10.1	+0.4
TIWZ	Tintock	1.52	48	P		Pn	Pn	13 25 51.6	0.0
CPWZ	Castlepoint	1.62	57	P		Pn	Pn	13 25 52.7	-0.3
PRWZ	Pori Road	1.72	44	P		Pn	Pn	13 25 53.7	-0.6
OHWZ	Ohakea	1.74	24	P		Pn	Pn	13 25 55.5	+0.9
POWZ	Post Office Ro	1.75	37	P		Pn	Pn	13 25 54.6	-0.1
BFZ	Birch Farm	1.79	52	Pn		Pn	Pn	13 25 54.9	-0.4
BFZ	Birch Farm	1.79	52	P		Pn	Pn	13 25 54.1	-1.2
LTZ	Lake Taylor	1.86	237	Pn		Pn	Pn	13 25 55.3	-1.0
AMCZ	Amberley	1.89	223	P		Pg	Pg	13 26 03.7	+2.9
DVHZ	Dannevirke	2.01	42	P		Pn	Pn	13 25 57.2	-1.2
DVHZ				P		Pn	Pn	13 25 57.2	-1.2
WAZ	Wanganui	2.09	12	P		Pb	Pb	13 26 03.2	+0.7
TSZ	Takapari Road	2.10	35	P		Pn	Pn	13 25 59.1	-0.6
MQZ	McQueen's Vall	2.30	213	P		Pg	Pg	13 26 08.9	+0.4
OXZ	Oxford	2.31	228	Pn		Pn	Pn	13 26 00.8	-1.7
WPHZ	Waipukurau	2.33	42	P		Pg	Pg	13 26 08.8	-0.3
PNHZ	Pukenui	2.33	37	P		Pn	Pn	13 26 01.9	-0.8
LREZ	Lake Rotokare	2.34	0	P		Pb	Pb	13 26 07.8	+1.2
AKCZ	Akaroa Harbour	2.34	207	P		Pg	Pg	13 26 10.4	+1.0
INZ	Inchbonnie	2.38	246	P		Pb	Pb	13 26 08.8	+1.4
NMEZ	Namu Road	2.42	350	P		Pb	Pb	13 26 09.2	+1.2
KHEZ	Kahui Hut	2.52	353	P		Pb	Pb	13 26 10.4	+0.6
NEZ	North Egmont	2.54	355	P		Pb	Pb	13 26 11.6	+1.4
NBEZ	Newall Road No	2.56	351	P		Pb	Pb	13 26 11.8	+1.3
MOVZ	Moawhango	2.60	24	P		Pb	Pb	13 26 11.0	-0.2
PKVZ	Pokaka	2.61	16	P		Pb	Pb	13 26 11.9	+0.6
DREZ	Durham Road	2.61	357	P		Pb	Pb	13 26 10.1	-1.2
PKE	Pukeiti	2.62	353	P		Pb	Pb	13 26 12.8	+1.3
BHHZ	Black Hill Sta	2.63	29	P		Pb	Pb	13 26 11.4	+0.2
WNVZ	Wahianoa	2.63	21	P		Pb	Pb	13 26 11.5	+0.3
TRVZ	Turoa	2.65	20	P		Pb	Pb	13 26 12.5	+0.4
WHVZ	Whangaehu Hut	2.67	20	P		Pb	Pb	13 26 12.1	-0.4
DRZ	Dome Shelter	2.67	20	P		Pb	Pb	13 26 12.1	-0.4
FWVZ	Far West T-bar	2.69	19	P		Pb	Pb	13 26 12.7	-0.1
TUVZ	Tukino	2.71	21	P		Pn	Pn	13 26 09.5	+1.5
NGZ	Ngauruhoe	2.78	20	P		Pb	Pb	13 26 13.6	-0.6
SNVZ	South Ngauruho	2.78	20	P		Pb	Pb	13 26 14.3	0.0
OTVZ	Oturere	2.81	21	P		Pb	Pb	13 26 14.7	0.0
NNVZ	North Ngauruho	2.82	20	P		Pn	Pn	13 26 11.6	+1.9
WTVZ	West Tongariro	2.83	19	P		Pb	Pb	13 26 15.9	+0.8
TWVZ	Taurewa	2.84	17	P		Pb	Pb	13 26 15.5	+0.2
ETVZ	East Tongariro	2.84	21	P		Pb	Pb	13 26 15.2	-0.2
TMVZ	Te Maari	2.86	21	P		Pb	Pb	13 26 15.0	-0.6
KRVZ	Karewarewa	2.87	20	P		Pb	Pb	13 26 15.7	0.0
NTVZ	North Tongarir	2.87	20	P		Pb	Pb	13 26 15.1	-0.7
KATZ	Kakaramea	2.99	20	P		Pb	Pb	13 26 18.0	+1.1
WVZ	Waitaha Valley	2.99	244	P		Pb	Pb	13 26 19.1	+1.3
BKZ	Black Stump Fm	3.08	32	Pn		Pn	Pn	13 26 12.0	-1.1
RATZ	Rangitikua	3.11	20	P		Pb	Pb	13 26 20.1	+0.3
RPZ	Rata Peaks	3.12	231	Pn		Pb	Pb	13 26 19.5	-0.4
	86nm,0.3s,baz=43,slow=19,SNR=2.3								
RPZ				Sn		Sn	Sn	13 26 46.0	-4.8
	45nm,0.3s,baz=111,slow=12,SNR=1.3								
	308nm,0.5s								
RPZ	Rata Peaks	3.12	231	P		Pb	Pb	13 26 20.7	+0.8
HATZ	Hinemaiaia	3.18	25	P		Pb	Pb	13 26 20.9	-0.1
HIZ	Hauiti	3.30	6	Pn		Pn	Pb	13 26 16.3	+0.2
HIZ	Hauiti	3.30	6	P		Pb	Pb	13 26 22.0	-1.1
TOZ	Tahuroa Road	4.15	12	P		Pb	Pb	13 26 31.8	+4.0
JCZ	Jackson Bay	4.71	239	P		Pb	Pb	13 27 41.2	-5.8
AWAZ	Awhitu Peninsu	4.74	2	P		Pn	Pn	13 26 40.6	+4.8
ETAZ	East Tamaki Re	4.86	5	P		Pn	Pn	13 26 40.8	+3.4
WTAZ	Waiatarua	4.86	2	P		Pn	Pn	13 26 41.4	+3.8
HBAZ	Herne Bay Bore	4.95	3	P		Pn	Pn	13 26 43.0	+4.3
MBAZ	Motutapu North	5.04	5	P		Pn	Pn	13 26 42.6	+2.7
MXZ	Matakaoa Point	5.20	37			Pn	Pn	13 26 39.9	-2.2
ABAZ	Army Bay	5.21	4	P		Pn	Pn	13 26 45.0	+2.8
ARMA	Armidale	21.55	294	P		P	P	13 30 12.7	-1.3
ARMA				IAmb		IAmb	IAmb	13 30 30.4	
	comp=Z,66nm,1.9s								
ASAR	Alice Springs	38.15	285	P		P	P	13 32 41.0	-2.8
	comp=Z,0.9nm,0.9s,baz=123,slow=6.6,SNR=1.5								
	comp=Z,0.9nm,0.9s								
WB2	Warramunga Arr	40.22	290	P		P	P	13 32 58.5	-2.6
WRA	Warramunga Arr	40.23	290	P		P	P	13 32 58.7	-2.5
	comp=Z,0.6nm,0.5s,baz=127,slow=8.2,SNR=1.9								
	comp=Z,0.6nm,0.5s								
WB0	Warramunga Arr	40.30	291	P		P	P	13 33 00.6	-1.2
WB0				IAmb		IAmb	IAmb	13 33 53.2	
	comp=Z,31nm,1.8s								
MTN	Manton Dam	47.34	295	P		P	P	13 33 57.6	-0.8
QSPA	South Pole Qui	48.33	180	P		P	P	13 34 07.2	+1.6
TOLI2	Tolitoli	64.49	297	P		P	P	13 36 01.4	0.0
TOLI2				IAmb		IAmb	IAmb	13 36 58.2	
	comp=Z,5.1nm,0.9s								
SNAA	Sanae	66.82	181	P		P	P	13 36 17.2	+1.6
KSRS	Korea Array	89.56	325	P		P	P	13 38 29.5	+8.0
	comp=Z,1.0nm,0.8s,baz=156,slow=4.9,SNR=3.3								
	comp=Z,1.0nm,0.8s								

WEL 13 13:26:58.0±1.7, 42°S±5°×17°4E±°, h20km±10km, M3.4/4, ML4.5/3, MLv3.4/4, Error ellipse: s-maj=0.0km s-min=0.0km az=36.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.03	122	P		Pb	Pb	13 27 02.6	+0.9
CMWZ				S		Sb	Sb	13 27 04.5	+0.4
BSWZ	Blackbirch Sta	0.23	275	P		Pb	Pb	13 27 06.2	+2.2
BSWZ				S		Sb	Sb	13 27 10.8	+2.8
TUWZ	Tuamarina	0.35	329	P		Pb	Pb	13 27 06.3	+0.8
TCW	Tory Channel	0.53	8	S		Sn	Sn	13 27 19.1	+0.4

IDC ***13*** *13:27:14.8±1.4, 41°.07S×174°.50E, h0km, mb4.1/5, mbtmp4.2/6, ML4.6/1, Error ellipse: s-maj=39.9km s-min=26.1km az=75.0*

WEL ***13*** *13:27:17.6±0.8, 42°S±3°×17°4E±°, h13km±5km, M4.4/6, ML4.6/6, MLv4.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=143.3*

NEIC ***13*** *13:27:18.1±1.3, 41°.69S±0°.05×174°.23E±0°.06, h20km±1km, mb4.6/7, Error ellipse: s-maj=7.7km s-min=6.5km az=158.0*

ISC 13 13:27:18.2±0.8, 41°.64S±0°.03×174°.21E±0°.02, h19km±2km, n43, σ0°93/60, mb4.5/9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11	180	Pg		Pg	Pg	13 27 22.3	+0.2
CMWZ				Sg		Sg	Sg	13 27 25.2	+0.5
CMWZ	Cape Campbell	0.11	180	P		Pg	Pg	13 27 22.8	+0.7
CMWZ				S		Sg	Sg	13 27 25.1	+0.3
BSWZ	Blackbirch Sta	0.26	253			Pg	Pg	13 27 23.5	-0.7
BSWZ				Sg		Sg	Sg	13 27 28.0	-0.4
BSWZ	Blackbirch Sta	0.26	253	P		Pg	Pg	13 27 23.9	-0.3
BSWZ				S		Sg	Sg	13 27 28.5	+0.1
TUWZ	Tuamarina	0.29	316			Pb	Pb	13 27 25.4	+0.6
TUWZ				Sg		Sb	Sb	13 27 30.9	+1.7
TUWZ	Tuamarina	0.29	316	P		Pb	Pb	13 27 25.5	+0.6
TUWZ				S		Sb	Sb	13 27 31.3	+2.1
TCW	Tory Channel	0.43	6	P		Pb	Pb	13 27 28.1	+0.8
TCW				S		Sn	Sn	13 27 35.8	-0.9
SNZO	South Karori	0.49	48			Pb	Pb	13 27 28.9	+0.7
BHW	Baring Head	0.55	65	P		Pb	Pb	13 27 29.6	+0.5
WEL	Wellington	0.55	50	P		Pb	Pb	13 27 30.0	+0.9
WEL				S		Sn	Sn	13 27 38.8	-0.8
NNZ	Nelson	0.76	304			Pg	Pg	13 27 33.5	+0.5
NNZ	Nelson	0.76	304	P		Pg	Pg	13 27 33.3	+0.2
NNZ				S		Sn	Sn	13 27 44.8	+0.1
PLWZ	Palliser	0.78	85			Pg	Pg	13 27 33.7	+0.1
PLWZ	Palliser	0.78	85	P		Pg	Pg	13 27 33.6	+0.1
PLWZ				S		Sn	Sn	13 27 46.4	+0.8
MSWZ	Moikau Station	0.81	74			Pn	Pn	13 27 34.7	+0.1
MSWZ	Moikau Station	0.81	74	P		Pn	Pn	13 27 34.9	+0.3
MSWZ				S		Sn	Sn	13 27 46.8	+0.7
CAW	Cannon Point	0.83	51	P		Pn	Pn	13 27 35.2	+0.2
CAW				S		Sn	Sn	13 27 47.0	+0.4
DUWZ	D'Urville Isla	0.87	345	P		Pg	Pg	13 27 35.5	+0.4
DUWZ				S		Sg	Sg	13 27 47.4	+0.9
KIW	Kapiti Island	0.94	34	P		Pb	Pb	13 27 36.2	+0.3
KIW				S		Sn	Sn	13 27 50.8	+1.5
PAWZ	Paruwai Farm	0.95	75	P		Pb	Pb	13 27 36.0	0.0
THZ	Tophouse	0.99	262			Pb	Pb	13 27 37.2	+0.4
MTW	Mount Morrison	1.08	64	P		Pn	Pn	13 27 38.6	+0.3
MTW				S		Sg	Sg	13 27 54.1	+0.7
OGWZ	Otaki Gorge	1.09	42	P		Pg	Pg	13 27 39.3	-0.1
TRWZ	Traveller	1.13	78	P		Pn	Pn	13 27 38.5	-0.6
HOWZ	Holdsworth Sta	1.23	53	P		Pb	Pb	13 27 41.3	+0.4
MRZ	Mangatainoka R	1.42	47	P		Pb	Pb	13 27 44.0	-0.1
QRZ	Quartz Range	1.51	302			Pg	Pg	13 27 46.9	-0.3
RPZ	Rata Peaks	3.12	227	Pn		Pb	Pb	13 28 14.4	+1.4
	46nm,0.3s,baz=45,slow=6.0,SNR=2.8								
RPZ				Sn		Sg	Sg	13 28 57.5	-0.9
	43nm,0.3s,baz=324,slow=8.1,SNR=1.9								
	296nm,0.5s								
ODZ	Otahua Downs	4.28	216	Pn		Pn	Pn	13 28 24.0	+1.7
VNDA	Vanda	36.35	185	P		P	P	13 34 25.8	+5.3
	2.6nm,1.1s,baz=294,slow=7.8,SNR=4.3								
	2.6nm,1.1s								
AS31	Alice Springs	37.97	285	P		P	P	13 34 34.7	-0.2
ASAR	Alice Springs	37.97	285	P		P	P	13 34 34.7	-0.2
	0.6nm,0.6s,baz=122,slow=6.4,SNR=4.8								
ASAR				PcP		PcP	PcP	13 36 48.5	-1.9
	0.2nm,0.6s,baz=136,slow=4.4,SNR=1.6								
	0.6nm,0.6s								
WR0	Warramunga Arr	39.89	291	P		P	P	13 34 50.3	-0.6
WR0				IAmb		IAmb	IAmb	13 34 57.5	
	comp=Z,9.0nm,1.1s								
WB2	Warramunga Arr	40.03	290	P		P	P	13 34 51.0	-1.1
WB2				IAmb		IAmb	IAmb	13 35 10.3	
	comp=Z,19nm,1.4s								
WRAB	Tennant Creek	40.04	290	P		P	P	13 34 50.5	-1.6
WRAB				IAmb		IAmb	IAmb	13 35 05.6	
	comp=Z,22nm,1.5s								
WRA	Warramunga Arr	40.04	290	P		P	P	13 34 51.0	-1.2
	comp=Z,1.3nm,0.7s,baz=127,slow=8.4,SNR=6.0								
WRA				PcP		PcP	PcP	13 36 55.6	-1.4
	comp=Z,0.4nm,0.6s,baz=127,slow=3.3,SNR=2.0								
	comp=Z,1.3nm,0.7s								
MORW	Morawa	48.24	266	P		P	P	13 35 55.6	-2.3
QSPA	South Pole Qui	48.49	180	P		P	P	13 36 01.4	+2.0
	comp=Z,3.4nm,1.0s,baz=332,slow=5.0,SNR=2.2								
	comp=Z,3.4nm,1.0s								
QSPA	South Pole Qui	48.49	180	P		P	P	13 35 60.0	+0.5
QSPA				IAmb		IAmb	IAmb	13 36 12.7	
	comp=Z,9.4nm,1.2s								
SNAA	Sanae	66.98	181	P		P	P	13 38 08.4	-0.7
SNAA				IAmb		IAmb	IAmb	13 38 33.9	
	comp=Z,9.2nm,1.5s								
CMAR	Chiang Mai Arr	91.57	293	P		P	P	13 40 24.4	+0.5
	comp=Z,0.8nm,0.3s,baz=145,slow=3.3,SNR=1.9								

PRWZ	Pori Road	1.74	49	P		Pg		13 30 16.5	+0.3
POWZ	Post Office Ro	1.75	41	P		Pb		13 30 14.5	-0.2
BFZ	Birch Farm	1.82	56	P		Pg		13 30 17.8	-0.1
AMCZ	Amberley	1.88	219	P		Pg		13 30 20.5	+1.6
DVHZ	Dannevirke	2.02	46	P		Pg		13 30 22.5	+0.8
WAZ	Wanganui	2.04	16	P		Pg		13 30 22.1	+0.2
ANWZ	Angora Road	2.10	54	P		Pg		13 30 23.8	+0.8
TSZ	Takapari Road	2.10	39	P		Pb		13 30 19.5	-1.1
OXZ	Oxford	2.30	225	P		Pg		13 30 30.8	+3.9
PRHZ	Porangahau	2.31	52	P		Pg		13 30 29.1	+1.9
INZ	Inchbonnie	2.32	243	P		Pg		13 30 29.5	+2.2
NMEZ	Namu Road	2.32	353	P		Pg		13 30 27.6	+0.4
WPHZ	Waipukurau	2.34	46	P		Pg		13 30 28.4	+0.8
AKCZ	Akaroa Harbour	2.37	204	P		Pg		13 30 28.0	-0.3
KHEZ	Kahui Hut	2.43	356	P		Pg		13 30 28.5	-0.9
PKE	Pukeiti	2.53	355	P		Pg		13 30 28.9	+0.9
RACZ	Rakaia	2.54	217	P		Pg		13 30 29.8	-1.8
MOVZ	Moawhango	2.58	27	P		Pb		13 30 29.3	+0.6
WNVZ	Wahianoa	2.60	24	P		Pb		13 30 29.8	+0.6
BHHZ	Black Hill Sta	2.62	32	P		Pb		13 30 31.0	+1.5
WHVZ	Whangaehu Hut	2.64	23	P		Pb		13 30 30.8	+0.9
NGZ	Ngauruhoe	2.74	22	P		Pb		13 30 32.5	+0.9
SNVZ	South Ngauruho	2.74	23	P		Pb		13 30 32.4	+0.8
OTVZ	Oturere	2.77	23	P		Pb		13 30 33.1	+1.0
NNVZ	North Ngauruho	2.78	22	P		Pb		13 30 33.7	+1.3
TWVZ	Taurewa	2.79	19	P		Pb		13 30 34.3	+1.8
ETVZ	East Tongariro	2.81	24	P		Pb		13 30 34.2	+1.4
KWHZ	Kaweka Forest	2.82	36	P		Pg		13 30 35.3	-1.6
TMVZ	Te Maari	2.82	24	P		Pb		13 30 34.0	+1.0
KRVZ	Karewarewa	2.83	22	P		Pb		13 30 34.2	+1.1
WACZ	Wakanui South	2.85	218	P		Pb		13 30 33.8	+0.5
WVZ	Waitaha Valley	2.94	241	P		Pb		13 30 36.2	+1.4
KAZ	Kakaramea	2.95	22	P		Pb		13 30 37.3	+2.1
BKZ	Black Stump Fm	3.07	35	P		Pb		13 30 38.7	+1.6
RATZ	Rangitukua	3.08	23	P		Pb		13 30 38.9	+1.7
RPZ	Rata Peaks	3.09	229	Pn		Pn		13 30 25.6	-5.6
	8.1nm,0.3s,baz=352,slow=20,SNR=1.0								
RPZ				Sn		Sn		13 31 05.9	-2.0
	117nm,0.3s,baz=236,slow=5.0,SNR=6.9 41nm,0.3s								
RPZ	Rata Peaks	3.09	229			Pn		13 30 32.3	+1.1
HATZ	Hinemaiaia	3.15	27	P		Pb		13 30 39.6	+1.0
GCSZ	Gaunt Creek Bo	3.31	240	P		Pb		13 30 40.4	-1.0
ALRZ	Allen Road	3.53	28	P		Pb		13 30 45.2	+0.1
TMZ	Timaru	3.57	221	P		Pb		13 30 45.3	-0.5
TOZ	Tahuroa Road	4.10	14	P		Pb		13 30 53.0	-1.7
ODZ	Otahua Downs	4.24	217	Pn		Pn		13 30 49.9	+2.9
OPRZ	Ohinepanea	4.25	25	P		Pn		13 30 48.0	+0.9
AWAZ	Awhitu Peninsu	4.66	4	P		Pn		13 30 57.5	+4.9
JCZ	Jackson Bay	4.66	238	P		Pb		13 30 59.0	-5.2
ETAZ	East Tamaki Re	4.79	6	P		Pn		13 30 58.2	+3.8
HHSZ	Highcliff Hill	4.94	211	P		Pb		13 31 02.6	-6.3
SYZ	Scrubby Hill	6.06	216	P		Pn		13 31 18.3	+6.4
APZ	The Paps	6.81	219	P		Pn		13 31 28.5	+6.3
BBOO	Buckleboo	31.46	274	P		P		13 36 04.2	+0.4
BBOO				IAmb		IAmb		13 36 12.1	
	comp=Z,22nm,1.4s								
CTAO	Charters Tower	32.04	304	P		P		13 36 09.0	-0.1
FUNA	Funafuti	33.34	9	P		P		13 36 18.6	-1.8
VNDA	Vanda	36.28	185	P		P		13 36 47.2	+1.9
AS31	Alice Springs	38.02	285	P		P		13 36 59.5	-1.2
ASAR	Alice Springs	38.02	285	P		P		13 36 59.5	-1.1
	comp=Z,3.5nm,1.0s,baz=122,slow=6.3,SNR=9.1 comp=Z,3.5nm,1.0s								
FORT	Forrest	38.41	271	P		P		13 37 03.6	-0.2
FORT				IAmb		IAmb		13 37 10.1	
	comp=Z,26nm,1.4s								
COEN	Coen	38.61	307	P		P		13 37 05.1	-0.5
COEN				IAmb		IAmb		13 37 11.2	
	comp=Z,21nm,1.4s								
WR0	Warramunga Arr	39.94	291	P		P		13 37 15.5	-1.2
WR0				IAmb		IAmb		13 37 22.9	
	comp=Z,6.5nm,1.1s								
PMG	Port Moresby	40.07	316	P		P		13 37 17.8	+0.2
	comp=Z,3.5nm,0.5s,baz=194,slow=8.3,SNR=3.9 comp=Z,3.5nm,0.5s								
WB2	Warramunga Arr	40.09	290	P		P		13 37 16.8	-1.1
WB2				IAmb		IAmb		13 37 18.1	
	comp=Z,4.5nm,0.9s								
WRA	Warramunga Arr	40.10	290	P		P		13 37 16.9	-1.0
	comp=Z,2.1nm,0.8s,baz=128,slow=8.5,SNR=8.9 comp=Z,2.1nm,0.8s								
WRA	Warramunga Arr	40.10	290	P		P		13 37 17.0	-1.0
WB0	Warramunga Arr	40.17	291	P		P		13 37 17.6	-1.0
WB0				IAmb		IAmb		13 37 20.2	
	comp=Z,9.6nm,1.4s								
MTN	Manton Dam	47.21	295	P		P		13 38 14.6	-0.6
MORW	Morawa	48.27	266	P		P		13 38 22.5	-0.9
MORW				IAmb		IAmb		13 38 25.9	
	comp=Z,5.6nm,0.9s								
QSPA	South Pole Qui	48.41	180	P		P		13 38 21.8	-2.4
	comp=Z,2.4nm,0.8s,baz=274,slow=1.4,SNR=7.4 comp=Z,2.4nm,0.8s								
QSPA	South Pole Qui	48.41	180	P		P		13 38 25.8	+1.6
QSPA				IAmb		IAmb		13 38 32.7	
	comp=Z,0.9nm,0.8s								
TROLL	Troll, Antarti	66.43	183	P		P		13 40 31.5	+0.5
SNAA	Sanae	66.90	181	P		P		13 40 34.1	+0.1
VNA3	Neumayer Olymp	67.31	179	P		P		13 40 37.2	+0.7
VNA2	Neumayer--Watz	67.66	179	P		P		13 40 39.3	+0.6
	baz=170,slow=6.0								
KSRS	Korea Array	89.43	325	P		P		13 42 38.3	-0.5
	comp=Z,0.9nm,0.9s,baz=152,slow=6.3,SNR=3.2 comp=Z,0.9nm,0.9s								
CMAR	Chiang Mai Arr	91.63	293	P		P		13 42 48.9	-0.6
	comp=Z,0.8nm,0.3s,baz=157,slow=3.4,SNR=8.0 comp=Z,0.8nm,0.3s								
ARCES	ARCESS Array B	147.75	340	PKPbc		PKPdf		13 49 24.1	+1.2
	comp=Z,4.1nm,0.9s,baz=42,slow=1.5,SNR=7.1								
BRTR	Keskin Array B	150.26	279	PKPbc		PKPbc		13 49 32.7	-0.5
	comp=Z,1.2nm,0.7s,baz=121,slow=4.3,SNR=4.5								
FINES	FINESS Array B	152.51	327	PKPbc		PKPbc		13 49 35.7	-1.8
	comp=Z,1.0nm,0.6s,baz=120,slow=6.8,SNR=5.8								

*IDC **13** 13:29:56.6±1.0, 42.2°12S×173.7°73E, h0km, mb4.2/6, mbtmp4.2/7, ML4.6/1, Error ellipse: s-maj=35.9km s-min=24.4km az=44.0*

*NEIC **13** 13:29:59.5±1.2, 42.2°21S±0.0°04×173.6°6E±0.7°1, h14km±3km, mb4.3/13, Error ellipse: s-maj=12.3km s-min=2.6km az=112.0*

ISC 13 13:29:58.6±0.5, 42°20S±0.0°03×173°58E±0.0°05, h10km, n37, σ0.9 0/39, mb4.2/10, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.22	187	Pg	Pg	13 30 04.0	+0.9
KHZ				Sg	Sg	13 30 07.4	+1.2
BSWZ	Blackbirch Sta	0.53	25	Pg	Pb	13 30 10.7	+0.7
CMWZ	Cape Campbell	0.65	47	Pg	Pg	13 30 12.1	+0.9
THZ	Tophouse	0.66	311	Pg	Pg	13 30 12.7	+1.3
TUWZ	Tuamarina	0.81	20	Pg	Pg	13 30 14.9	+0.7
GVZ	Greta Valley S	0.87	207	Pg	Pb	13 30 16.5	+0.7
GVZ				Sn	Sn	13 30 29.4	-0.2
LTZ	Lake Taylor	1.13	238		Pb	13 30 20.0	-0.2
DSZ	Denniston Nort	1.40	288	Pn	Pn	13 30 24.0	-0.1
MQZ	McQueen's Vall	1.65	204	Pn	Pn	13 30 26.6	-1.1
MQZ	McQueen's Vall	1.65	204	P	Pn	13 30 26.3	-1.3
RPZ	Rata Peaks	2.39	230	Pn	Pn	13 30 37.2	-0.7
	111nm,0.3s,baz=346,slow=1.9,SNR=5.1 485nm,0.4s						
RPZ	Rata Peaks	2.39	230	P	Pn	13 30 37.3	-0.6
KOUNC	Koumac, New Ca	22.96	337	P	P	13 35 03.5	+0.4
MSVF	Nonsavu	24.68	10	P	P	13 35 20.5	+0.7
MSVF				IAmb	IAmb	13 35 28.6	
	comp=Z,6.7nm,0.7s						
EIDS	Eidsvold	25.01	305	P	P	13 35 22.9	+0.3
EIDS				IAmb	IAmb	13 35 53.8	
	comp=Z,18nm,1.4s						
BBOO	Buckleboo	30.99	275	P	P	13 36 16.4	+0.2
FUNA	Funafuti	33.90	10	P	P	13 36 40.0	-1.7
HNR	Honiara	34.77	336	P	P	13 36 47.6	-1.6
AS31	Alice Springs	37.67	287	P	P	13 37 14.0	-0.1
ASAR	Alice Springs	37.67	287	P	P	13 37 15.8	+1.8
	comp=Z,1.3nm,0.4s,baz=124,slow=6.8,SNR=10 comp=Z,1.3nm,0.4s						
ASAR	Alice Springs	37.67	287	P	P	13 37 14.0	-0.1
COEN	Coen	38.50	308	P	P	13 37 21.3	+0.2
WR0	Warramunga Arr	39.64	292	P	P	13 37 30.3	-0.3
WR0				IAmb	IAmb	13 37 34.7	
	comp=Z,3.5nm,0.8s						
WRAB	Tennant Creek	39.79	292	P	P	13 37 31.6	-0.3
WRAB				IAmb	IAmb	13 37 35.9	
	comp=Z,5.5nm,0.7s						
WRA	Warramunga Arr	39.80	292	P	P	13 37 31.7	-0.2
	comp=Z,3.3nm,0.6s,baz=129,slow=8.0,SNR=9.7 comp=Z,3.3nm,0.6s						
WRA	Warramunga Arr	39.80	292	P	P	13 37 31.6	-0.3
QSPA	South Pole Qui	47.93	180	P	P	13 38 36.9	0.0
	comp=Z,3.0nm,0.9s,baz=205,slow=1.5,SNR=6.3 comp=Z,3.0nm,0.9s						
QSPA	South Pole Qui	47.93	180	P	P	13 38 37.5	+0.6
SNAA	Sanae	66.41	181	P	P	13 40 47.7	+0.3
PLCA	Paso Flores	79.13	136	P	P	13 42 04.0	+0.5
	comp=Z,1.1nm,0.6s,baz=248,slow=7.4,SNR=5.1 comp=Z,1.1nm,0.6s						
KSRS	Korea Array	89.54	325	P	P	13 42 54.9	-0.9
	comp=Z,1.0nm,0.9s,baz=134,slow=5.2,SNR=3.0 comp=Z,1.0nm,0.8s						
CMAR	Chiang Mai Arr	91.36	294	P	P	13 43 05.1	+0.3
	comp=Z,0.6nm,0.4s,baz=156,slow=4.7,SNR=1.8 comp=Z,0.6nm,0.4s						
DBIC	Dimbokro	144.59	183	PKP	PKPab	13 49 34.3	+0.1
	comp=Z,2.0nm,0.6s,baz=202,slow=6.4,SNR=4.1						
MMAI	Mount Meron Ar	145.91	268	PKPbc	PKPdf	13 49 38.7	+1.1
	comp=Z,2.8nm,0.5s,baz=95,slow=7.2,SNR=5.7						
ARCES	ARCESS Array B	148.02	339	PKPbc	PKPdf	13 49 41.3	+1.4
	comp=Z,1.6nm,0.7s,baz=46,slow=2.6,SNR=3.7						
BRTR	Keskin Array B	149.84	279	PKPbc	PKPbc	13 49 47.5	-1.3
	comp=Z,1.0nm,0.5s,baz=138,slow=3.5,SNR=4.1						
FINES	FINESS Array B	152.63	326	PKPbc	PKPbc	13 49 52.5	-1.8
	comp=Z,1.5nm,0.7s,baz=72,slow=4.5,SNR=4.0						

*WEL **13** 13:31:00, 42.2°26S×173.6°6E, h6km, ML6.0, Mw6.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^18 Nm; Mrr=0.08; Mθθ=0.74; Mϕϕ=-0.66; Mrθ=0.19; Mϕθ=-0.81; Mϕr=0.06; Fault plane solution: M0=1.09000×10^18 NP1: ϕs=160.00000°, δ79.00000°, λ=-1.00000°. NP2:ϕs=250.00000°, δ89.00000°, λ=-169.00000°. Principal axes: T 113430.4800, Plg7.0000°, Azm24.0000°; N -105464.5300, Plg79.0000°, Azm255.0000°; P -7965.9500, Plg8.0000°, Azm116.0000°;*

*NEIC **13** 13:31:25.7±1.3, 42.2°31S±0.0°04×173.7°0E±0.0°05, h2km±3km, mb5.7/65, Ms_20 6.1/10, Mww6.2 Error ellipse: s-maj=6.9km s-min=3.1km az=138.0*

*MOS **13** 13:31:25.0±1.0, 42.1°75×173.3°81E, h10km, mb5.7/14, Error ellipse: s-maj=13.7km s-min=10.4km az=101.7*

*BJI **13** 13:31:26.9±0.0, 41.9°97×174.1°3E, h19km, mb5.4/22, mb6.2/2, Ms6.6/6, Ms7 6.5/5*

*WEL **13** 13:31:27.5±0.3, 42.2°S±2.2°×17.4°E±1.1°, h14km±2km, M6.0/103, ML6.0/20, MLv6.0/103, Error ellipse: s-maj=0.0km s-min=0.0km az=118.9*

*IDC **13** 13:31:29.0±2.5, 42.0°07S×173.3°82E, h22km±15km, mb4.9/24, mbtmp5.0/24, MS5.9/7, Error ellipse: s-maj=14.3km s-min=11.9km az=50.0*

*NEIC **13** 13:31:28, 42.2°22S×173.5°9E, h26km, Moment Tensor Solution. Duration: 48s0 Moment tensor: Scale 10^18Nm; Mrr0.40; Mθθ1.53; Mϕϕ -1.93; Mrθ -0.59; Mϕθ -1.41; Mϕr0.17; Fault plane solution: M0 2.34000×10^18 NP1: ϕs336.00000°, δ76.00000°, λ13.00000°. NP2: ϕs243.00000°, δ78.00000°, λ166.00000°. Principal axes: T 2.2425, Plg19.0000°, Azm199.0000°; N 0.1890, Plg71.0000°, Azm22.0000°; P -2.4316, Plg1.0000°, Azm290.0000°;*

ISC 13 13:31:27.4±0.7, 42°27S±0.0°02×173°68E±0.0°03, h11km±4km, n620, σ1.9 56/600, mb5.5/95, MS6.1/14, 16C-16D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.18	214		Pg	13 31 31.4	0.0
KHZ	Kahutara	0.18	214	P	Pg	13 31 32.0	+0.6
KHZ				S	Sg	13 31 36.2	+2.0
BSWZ	Blackbirch Sta	0.57	15		Pg	13 31 38.0	-0.6
BSWZ	Blackbirch Sta	0.57	15	P	Pg	13 31 38.8	+0.2
BSWZ				S	Sb	13 31 48.1	+0.6
CMWZ	Cape Campbell	0.65	38		Pb	13 31 40.6	-0.3
CMWZ	Cape Campbell	0.65	38	MLv			
THZ	Tophouse	0.76	311	Pg	Pg	13 31 40.4	-1.8
THZ	Tophouse	0.76	311	P	Pg	13 31 40.9	-1.3
THZ				S	Sg	13 31 51.1	-1.2
GVZ	Greta Valley S	0.85	214	P	Pn	13 31 45.0	-0.3
GVZ				S	Sn	13 31 58.2	+0.5
TUWZ	Tuamarina	0.86	13		Pg	13 31 43.6	-0.4
TUWZ	Tuamarina	0.86	13	P	Pg	13 31 44.0	0.0
TUWZ				S	Sb	13 31 56.0	+0.2
NNZ	Nelson	1.07	348	Pn	Pb	13 31 47.0	-1.0
NNZ	Nelson	1.07	348	P	Pb	13 31 47.2	-0.7
NNZ				S	Sg	13 32 02.1	+0.1
MRNZ	Matariki Terra	1.11	321	P	Pb	13 31 48.0	-0.5
MRNZ				S	Sg	13 32 03.2	+0.2
TCW	Tory Channel	1.15	23	P	Pb	13 31 49.1	-0.2
TCW				S	Sn	13 32 05.7	+0.6
LTZ	Lake Taylor	1.16	243		Pb	13 31 48.2	-1.3
LTZ	Lake Taylor	1.16	243	P	Pb	13 31 48.8	-0.7
LTZ				S	Sb	13 32 03.6	-0.9
AMCZ	Amberley	1.18	219	P	Pn	13 31 49.9	-0.1
SNZO	South Karori	1.23	39		Pn	13 31 49.8	-0.6
BHW	Baring Head	1.24	47	MLv			
WEL	Wellington	1.28	40	P	Pn	13 31 51.3	+0.1
WEL				S	Sg	13 32 09.7	+1.2
TKNZ	Takaka Hill	1.34	336	P	Pn	13 31 51.8	-0.3
TKNZ				S	Sb	13 32 09.6	-0.2
PLWZ	Palliser	1.37	60		Pn	13 31 51.3	-1.2
PLWZ	Palliser	1.37	60	P	Pn	13 31 51.3	-1.2
MSWZ	Moikau Station	1.45	55		Pn	13 31 52.5	-1.1
MSWZ	Moikau Station	1.45	55	P	Pn	13 31 53.0	-0.6
DUWZ	D'Urville Isla	1.47	7	P	Pb	13 31 54.5	-0.4
DUWZ				S	Sg	13 32 15.4	+0.5
DSZ	Denniston Nort	1.49	290	MLv			
CAW	Cannon Point	1.56	42	P	Pn	13 31 54.7	-0.3
CAW				S	Sb	13 32 15.9	-0.1
PAWZ	Paruwai Farm	1.58	57	P	Pn	13 31 54.6	-0.7
OXZ	Oxford	1.60	228		Pn	13 31 54.5	-1.3
OXZ	Oxford	1.60	228	P	Pn	13 31 54.9	-0.8
MQZ	McQueen's Vall	1.62	207		Pn	13 31 54.0	-2.0
MQZ	McQueen's Vall	1.62	207	P	Pn	13 31 54.5	-1.5
MQZ				S	Sn	13 32 15.3	-1.5
QRZ	Quartz Range	1.68	329		Pn	13 31 56.7	0.0
QRZ	Quartz Range	1.68	329	P	Pb	13 31 57.5	-0.8
QRZ				S	Sn	13 32 18.4	+0.2
KIW	Kapiti Island	1.68	34	P	Pn	13 31 57.0	+0.2
AKCZ	Akaroa Harbour	1.70	199	P	Pn	13 31 56.2	-0.9
INZ	Inchbonnie	1.71	254	P	Pn	13 31 57.6	+0.4
TRWZ	Traveller	1.73	61	P	Pn	13 31 56.8	-0.7
MTW	Mount Morrison	1.76	52	P	Pn	13 31 57.5	-0.3
OGWZ	Otaki Gorge	1.83	38	P	Pn	13 31 58.7	-0.1
RACZ	Rakaia	1.84	217	P	Pn	13 31 58.0	-1.0
RACZ				S	Sn	13 32 21.3	-1.0
HOWZ	Holdsworth Sta	1.94	46	P	Pn	13 32 00.1	-0.3
TMWZ	Te Maipa	2.02	56	P	Pn	13 32 00.1	-1.4
MRZ	Mangatainoka R	2.15	42	P	Pn	13 32 02.4	-0.8
WACZ	Wakanui South	2.15	218	P	Pn	13 32 02.0	-1.2
TIWZ	Tintock	2.23	49	P	Pn	13 32 03.9	-0.5
WVZ	Waitaha Valley	2.31	249	P	Pn	13 32 05.9	+0.5
CPWZ	Castlepoint	2.33	55	MLv			
OHWZ	Ohakea	2.40	32	P	Pn	13 32 08.4	+1.7
RPZ	Rata Peaks	2.41	232	Pn	Pn	13 32 05.9	-0.9
	715nm,0.3s,baz=65,slow=1.5,SNR=24						
RPZ				LR	LR	13 32 57.7	
	comp=Z,69µm,20.4s,baz=274,slow=34						
RPZ	Rata Peaks	2.41	232	P	Pn	13 32 06.0	-0.8
PRWZ	Pori Road	2.43	46	P	Pn	13 32 07.3	+0.3
POWZ	Post Office Ro	2.45	41	P	Pn	13 32 07.6	+0.3
ARCZ	Arundel	2.48	227	P	Pn	13 32 06.8	-1.1
BFZ	Birch Farm	2.50	52		Pn	13 32 06.8	-1.1
BFZ	Birch Farm	2.50	52	P	Pn	13 32 07.1	-0.8
GCSZ	Gaunt Creek Bo	2.68	246	P	Pn	13 32 11.3	+0.9
WAZ	Wanganui	2.70	22	P	Pb	13 32 14.1	-1.6
DVHZ	Dannevirke	2.72	44	P	Pn	13 32 10.3	-0.7
ANWZ	Angora Road	2.77	50	MLv			
TSZ	Takapari Road	2.80	39	P	Pn	13 32 12.3	+0.1
NMEZ	Namu Road	2.85	3	P	Pb	13 32 17.4	-0.9
LREZ	Lake Rotokare	2.86	11	P	Pb	13 32 18.7	+0.3
TMZ	Timaru	2.88	222	P	Pn	13 32 13.0	-0.2
KHEZ	Kahui Hut	2.98	5	P	Pb	13 32 19.7	-0.8
NBEZ	Newall Road No	3.00	3	P	Pb	13 32 19.1	-1.7
NEZ	North Egmont	3.01	6	P	Pb	13 32 19.5	-1.6
PNHZ	Pukenui	3.03	40	P	Pn	13 32 14.5	-0.8
PKE	Pukeiti	3.08	4	P	Pb	13 32 19.1	-3.1
DREZ	Durham Road	3.10	8	P	Pb	13 32 20.6	-1.9
FOZ	Fox Glacier	3.11	245		Pn	13 32 15.4	-0.9
FOZ	Fox Glacier	3.11	245	P	Pn	13 32 17.2	+0.9
MTVZ	Mangateitei	3.18	26	P	Pn	13 32 19.5	+2.0
MHEZ	Mangahewa	3.22	9	P	Pb	13 32 25.5	+0.8
PKVZ	Pokaka	3.23	24	P	Pb	13 32 23.6	-1.2
MOVZ	Moawhango	3.26	30	P	Pn	13 32 20.0	+1.5
WNVZ	Wahianoa	3.28	27	P	Pb	13 32 22.5	-3.2
PXZ	Pawanui	3.28	48	P	Pn	13 32 20.3	+1.6
PXZ				P	Pb	13 32 25.6	-0.1
TRVZ	Turoa	3.29	26	P	Pn	13 32 21.9	+2.8
BHHZ	Black Hill Sta	3.31	34	P	Pn	13 32 20.2	+1.0
DRZ	Dome Shelter	3.31	26	P	Pb	13 32 25.8	-0.6
LBZ	Lake Benmore	3.31	229		Pn	13 32 18.3	-1.0
LBZ	Lake Benmore	3.31	229	P	Pn	13 32 19.2	0.0
WHVZ	Whangaehu Hut	3.31	27	P	Pn	13 32 21.6	+2.2
FWVZ	Far West T-bar	3.33	26	P	Pn	13 32 21.7	+2.1
TUVZ	Tukino	3.35	27	P	Pn	13 32 21.9	+2.1
COVZ	Chateau Observ	3.38	25	MLv			
NGZ	Ngauruhoe	3.42	26	P	Pb	13 32 28.0	-0.1
SNVZ	South Ngauruho	3.42	27	P	Pn	13 32 23.5	+2.6
OTVZ	Oturere	3.45	27	P	Pn	13 32 23.8	+2.5
KAHZ	Kahuranaki	3.46	45	P	Pn	13 32 20.1	-1.1
NNVZ	North Ngauruho	3.46	26	P	Pn	13 32 23.8	+2.5
TWVZ	Taurewa	3.46	23	P	Pn	13 32 23.7	+2.3
WTVZ	West Tongariro	3.47	25	P	Pb	13 32 27.3	-1.6
ETVZ	East Tongariro	3.49	27	P	Pn	13 32 23.8	+2.1
ETVZ				P	Pb	13 32 24.0	-5.3
TMVZ	Te Maari	3.50	27	P	Pn	13 32 23.7	+1.8
NTVZ	North Tongariro	3.51	26	P	Pb	13 32 26.5	-3.1
ODZ	Otahua Downs	3.54	217	P	Pn	13 32 21.7	-0.7
CKZ	Cape Kidnapper	3.66	46	MLv			
BKZ	Black Stump Fm	3.76	36	P	Pb	13 32 30.5	-3.4
HIZ	Hauiti	3.85	14	Pn	Pn	13 32 26.2	-0.5
HIZ	Hauiti	3.85	14	P	Pb	13 32 32.1	-3.3
ARHZ	Aropaoanui	3.92	41	MLv			
JCZ	Jackson Bay	4.01	242	P	Pn	13 32 29.6	+0.8
MRHZ	Matea Rd	4.01	32	P	Pn	13 32 27.2	-1.7
TLZ	Tolley Road	4.18	21	P	Pn	13 32 33.0	+1.8
ALRZ	Allen Road	4.22	30	P	Pn	13 32 31.7	0.0
HHSZ	Highcliff Hill	4.24	210	P	Pn	13 32 30.8	-1.2
WKZ	Wanaka	4.25	231		Pn	13 32 31.4	-0.7
WKZ	Wanaka	4.25	231	P	Pn	13 32 32.5	+0.4
GRRZ	Galatos Road	4.33	26	MLv			
EAZ	Earnscleugh	4.34	225	P	Pn	13 32 32.8	-0.5
HRRZ	Handcock Road	4.35	28	P	Pn	13 32 32.5	-1.0
MUGZ	Murupara	4.46	33	P	Pn	13 32 33.9	-1.1
MHGZ	Mahia Peninsul	4.47	47	P	Pn	13 32 35.4	+0.3
TARZ	Mount Tarawera	4.57	29	P	Pn	13 32 37.2	+0.6
OMRZ	Omania	4.64	27	P	Pn	13 32 40.3	+2.8
KARZ	Kaharoa	4.67	26	P	Pn	13 32 39.5	+1.5
TUZ	Tuapeka	4.70	217	P	Pn	13 32 37.6	-0.7
TOZ	Tahuroa Road	4.74	18	P	Pn	13 32 39.1	+0.3
KMRZ	Kaimai	4.74	22	P	Pb	13 32 45.7	-4.9
EDRZ	Edgecumbe	4.77	30	MLv			
MSZ	Milford Sound	4.83	238	P	Pn	13 32 39.8	-0.1
MARZ	Manawahe	4.85	29	P	Pn	13 32 40.0	-0.4
OPRZ	Ohinepanea	4.94	28	P	Pn	13 32 40.5	-1.0
TGRZ	Tauranga	4.95	24	P	Pn	13 32 41.5	-0.2
MLZ	Mavora Lakes	5.08	230	P	Pn	13 32 43.7	+0.2
CNGZ	Carnagh Statio	5.12	44	MLv			
TWGZ	Tauwhareparae	5.25	40	P	Pn	13 32 45.6	-0.2
AWAZ	Awhitu Peninsu	5.25	8	P	Pn	13 32 47.0	+1.2
RUGZ	Raukumara Rang	5.28	37	P	Pn	13 32 46.6	+0.3
MKAZ	Moumakai	5.28	13	P	Pn	13 32 46.8	+0.6
MYRZ	Mayor Island	5.36	22

baz=27,SNR=13
STKA Stephens Creek 27.47 282 P P 13 37 12.7 -0.8
STKA Stephens Creek 27.47 282 ⇓*i*P P 13 37 14.0 +0.4
HTT Hallett 28.67 276 P P **13 37 24.5 +0.3**
baz=29,SNR=3.0
QLP Quilpie 28.70 294 P P **13 37 25.6 +1.0**
baz=29,SNR=5.5
RAR Rarotonga 30.62 55 P P **13 37 39.4 -2.1**
comp=Z,31nm,0.9s,baz=243,slow=9.0,SNR=2.0
comp=Z,31nm,0.9s
AFI Afiamalu 30.93 28 P P **13 37 42.2 -2.3**
comp=Z,11nm,0.7s,baz=82,slow=17,SNR=1.9
comp=Z,11nm,0.7s
BBOO Buckleboo 31.07 275 P P **13 37 45.6 +0.1**
baz=31,SNR=26
BBOO Buckleboo 31.07 275 P P **13 37 44.9 -0.6**
BBOO IAmb IAmb 13 37 54.0
comp=Z,72nm,1.1s
CTA Charters Tower 32.00 305 P P **13 37 53.9 0.0**
comp=Z,34nm,0.9s,baz=142,slow=8.6,SNR=12
comp=Z,34nm,0.9s
CTAO Charters Tower 32.00 305 P P **13 37 53.8 0.0**
CTAO IAmb IAmb 13 38 03.0
comp=Z,50nm,0.9s
CTAO Charters Tower 32.00 305 P P **13 37 53.8 0.0**
CTAO pmax pmax
comp=Z,50nm,0.9s
FUNA Funafuti 33.96 10 IAMs_20 IAMs_20 13 51 42.4
comp=Z,39µm,20.0s
MTSU Mount Surprise 34.66 305 P P **13 38 17.6 +0.6**
baz=35,SNR=16
HNR Honiara 34.86 336 P P **13 38 18.9 +0.2**
comp=Z,833nm,0.8s,baz=174,slow=9.2,SNR=1.5
HNR Honiara 34.86 336 IAMs_20 IAMs_20 13 52 19.4
comp=Z,24µm,19.0s
VNDA Vanda 35.70 184 P P **13 38 27.1 +1.7**
comp=Z,2.3nm,1.1s,baz=3,3,slow=11,SNR=4.8
SBA Scott Base 35.81 182 P P **13 38 28.0 +1.8**
SBA pmax pmax
comp=Z,37nm,2.6s
QIS Mount Isa 35.90 296 P P **13 38 27.6 0.0**
baz=36,SNR=11
AS31 Alice Springs 37.76 287 P P **13 38 42.3 -1.3**
ASAR Alice Springs 37.76 287 P P **13 38 42.5 -1.0**
comp=Z,5.5nm,0.5s,baz=122,slow=6.8,SNR=26
ASAR PcP **PcP 13 40 58.4 -2.0**
comp=Z,6.9nm,1.0s,baz=124,slow=4.0,SNR=4.8
ASAR ScP **ScP 13 44 46.2 -1.4**
comp=Z,1.3nm,0.9s,baz=123,slow=6.4,SNR=3.0
comp=Z,5.5nm,0.5s
ASAR Alice Springs 37.76 287 P P **13 38 42.4 -1.2**
FORT Forrest 38.00 272 P P **13 38 45.4 0.0**
baz=38,SNR=20
FORT Forrest 38.00 272 P P **13 38 44.5 -0.9**
FORT IAmb IAmb 13 38 53.9
comp=Z,200nm,0.8s
COEN Coen 38.60 308 P P **13 38 50.6 0.0**
baz=39,SNR=20
COEN Coen 38.60 308 P P **13 38 49.5 -1.1**
PAE Paea 39.72 63 *e*P P 13 39 05.3 +5.4
comp=Z,29nm,1.1s
WR0 Warramunga Arr 39.74 292 P P **13 38 59.2 -0.9**
PPT2 Papeete2 39.77 63 *e*P P **13 39 02.7 +2.2**
comp=Z,101nm,1.2s
PPT2 Papeete2 39.77 63 *e*LR LR 13 49 51.7
comp=Z,37µm,28.5s
PPT2 *e*LR LR 13 49 52.2
comp=Z,25µm,29.2s
PPTF Pamatai, Papee 39.78 63 P P **13 38 57.8 -2.7**
PPTF IAmb IAmb 13 39 15.6
comp=Z,232nm,1.3s
PPT Papeete 39.79 63 P P **13 38 57.7 -2.8**
comp=Z,18nm,0.7s,baz=191,slow=18,SNR=2.9
comp=Z,18nm,0.7s
WB2 Warramunga Arr 39.88 292 P P **13 39 00.0 -1.3**
WRAB Tennant Creek 39.89 292 P P **13 38 59.9 -1.5**
WRAB Tennant Creek 39.89 292*ce*P P **13 39 00.7 -0.7**
WRAB pmax pmax
comp=Z,170nm,1.7s
WRA Warramunga Arr 39.89 292 P P **13 39 00.5 -0.9**
comp=Z,38nm,0.8s,baz=131,slow=7.8,SNR=36
WRA PcP **PcP 13 41 04.5 -2.5**
comp=Z,6.0nm,0.9s,baz=142,slow=3.0,SNR=3.2
WRA ScP **ScP 13 44 56.7 +0.9**
comp=Z,0.8nm,0.7s,baz=132,slow=7.3,SNR=2.0
comp=Z,38nm,0.8s
WRA Warramunga Arr 39.89 292 P P **13 38 59.6 -1.8**
TIAR Tiarei 39.95 63 *e*P P **13 39 03.4 +1.5**
comp=Z,13nm,1.0s
WB0 Warramunga Arr 39.97 292 P P **13 39 00.5 -1.6**
WB0 IAmb IAmb 13 39 10.2
comp=Z,637nm,2.3s
PMG Port Moresby 40.17 317 P P **13 39 04.3 +0.6**
comp=Z,178nm,1.1s,baz=128,slow=4.1,SNR=24
comp=Z,178nm,1.1s
PMG Port Moresby 40.17 317 P P **13 39 02.6 -1.0**
PMG IAmb IAmb 13 39 10.7
comp=Z,202nm,1.1s
PMG Port Moresby 40.17 317 P P **13 39 03.3 -0.3**
comp=Z,202nm,1.1s
PMG Port Moresby 40.17 317*ce*P P **13 39 04.2 +0.6**
PMG pmax pmax
comp=Z,208nm,1.1s
WRKA Warakurna 40.98 280 P P **13 39 09.5 -0.8**
baz=41,SNR=50
KMBL Kambalda 42.29 267 P P **13 39 20.5 -0.5**
baz=42,SNR=6.8
KRVT Keravat (AS076 42.44 327 P P **13 39 22.5 +0.1**
comp=Z,66nm,0.9s,baz=177,slow=3.9,SNR=10
comp=Z,66nm,0.9s
RABL Rabaul 42.49 327 P P **13 39 21.4 -1.3**
VAH Vaihoa 42.76 63 *e*P P **13 39 24.6 -0.3**
comp=Z,48nm,1.2s
TARA Tarawa 43.43 359 P P **13 39 27.2 -3.1**
NWAO Narrogin (SRO) 44.96 263 P P **13 39 43.0 +0.5**
comp=Z,20nm,1.1s,baz=356,slow=8.7,SNR=5.2
comp=Z,20nm,1.1s
NWAO Narrogin (SRO) 44.96 263 P P **13 39 43.0 +0.5**
KLBR Kellerberrin 45.23 265 P P **13 39 44.8 +0.1**
baz=45,SNR=6.6
MUN Mundaring 46.18 263 P P **13 39 51.9 -0.2**
baz=46,SNR=7.7
KDU Kakadu 46.27 297 P P **13 39 52.8 -0.2**
baz=46,SNR=14
BLDU Ballidu 46.50 265 P P **13 39 54.3 -0.4**
baz=46,SNR=6.3
KNRA Kununurra 46.66 291 P P **13 39 55.9 -0.1**
baz=47,SNR=14
KNRA Kununurra 46.66 291 P P **13 39 55.0 -1.1**
MTN Manton Dam 47.05 296 P P **13 39 58.1 -1.0**
baz=47,SNR=14
MTN Manton Dam 47.05 296 P P **13 39 58.4 -0.7**
MEEK Meekatharra 47.21 271 P P **13 39 59.6 -0.8**
baz=47,SNR=23
MORW Morawa 47.80 267 P P **13 40 05.4 +0.5**
baz=48,SNR=4.9
MORW Morawa 47.80 267 P P **13 40 02.5 -2.4**
MORW IAmb IAmb 13 40 09.5
comp=Z,42nm,1.0s
QSPA South Pole Qui 47.86 180 P P **13 40 06.8 +1.7**
comp=Z,40nm,1.1s,baz=35,slow=2.9,SNR=23
comp=Z,40nm,1.1s
PSA00 Pilbara Seismi 49.25 277 P P **13 40 14.5 -1.7**
PSA00 IAmb IAmb 13 40 23.9
comp=Z,49nm,0.9s
GENI Genyem 49.58 314 P P 13 40 30.5 +12
MBWA Marble Bar 49.59 278 P P **13 40 17.4 -1.3**
MBWA IAmb IAmb 13 40 26.5
comp=Z,46nm,0.9s
SAUI Saumlaki 50.54 300 P P 13 40 33.5 +7.5
GIRL Giralia 52.76 272 P P **13 40 43.1 +0.6**
baz=53,SNR=6.1
GIRL Giralia 52.76 272 P P **13 40 41.9 -0.6**
FAKI Fak Fak 53.86 305 P P **13 40 49.4 -1.2**
FAKI Fak Fak 53.86 305 P P **13 40 47.7 -3.0**
comp=Z,39nm,0.9s
SOEI Soe 53.92 292 P P **13 40 50.4 -0.8**
SOEI Soe 53.92 292 P P **13 40 51.7 +0.4**
comp=Z,213nm,0.9s
BATI Baumata 54.02 291 P P **13 40 52.8 +0.9**
comp=Z,108nm,0.9s,baz=111,slow=2.4,SNR=14
BATI LR LR 14 04 56.1
comp=Z,28µm,20.2s,baz=286,slow=37
comp=Z,108nm,0.9s
BATI Baumata 54.02 291 P P **13 40 52.2 +0.3**
comp=Z,144nm,1.0s
BNDI Bandanaira 54.07 302 P P **13 40 52.0 -0.2**
comp=Z,84nm,1.0s
MSAI Masohi 55.59 302 P P **13 41 05.0 +1.8**
comp=Z,303nmcomp=Z,10nm,0.9s
SIJI Sorong 56.08 306 P P **13 41 05.1 -1.6**
comp=Z,47nm,1.0s
MMRI Maumere 56.12 291 P P **13 41 06.4 -0.6**
MMRI Maumere 56.12 291 P P **13 41 06.4 -0.6**
comp=Z,107nm,1.2s
NLAI Namlea 56.84 300 P P **13 41 16.4 +4.3**
SANI Sanana 58.46 300 P P **13 41 24.9 +1.4**
comp=Z,50nm,0.9s
LBMI Labuha 58.58 302 P P **13 41 27.9 +3.6**
MAW Mawson 58.81 205 P P **13 41 26.6 +1.4**
comp=Z,9.6nm,0.9s,baz=116,slow=12,SNR=8.6
comp=Z,9.6nm,0.9s
MAW Mawson 58.81 205 P P **13 41 24.2 -1.1**
baz=59,SNR=7.5
MAW Mawson 58.81 205 P P **13 41 24.0 -1.2**
MAW Mawson 58.81 205 P P **13 41 24.0 -1.2**
MAW pmax pmax
comp=Z,9.0nm,1.1s
BELA Belgrano 2 58.88 173 P P **13 41 26.1 +0.4**
BELA IAmb IAmb 13 41 32.4
comp=Z,54nm,1.3s
BSSI Bau Bau, Buton 59.10 292 P P **13 41 26.3 -1.7**
comp=Z,83nm,1.1s
PLAI Plampang 59.11 288 P P **13 41 26.9 -1.2**
comp=Z,94nm,1.3s
KKSI Kolaka, Sulawe 59.74 294 P P **13 41 32.4 0.0**
comp=Z,6µmcomp=Z,49nm,1.4s
TWSI Taliwang, Sumb 59.80 287 P P **13 41 32.5 -0.4**
comp=Z,136nm,0.9s
BKSI Bulukumba 59.95 292 P P **13 41 32.6 -1.2**
comp=Z,37nm,1.2s
KAPI Kappang 60.42 292 P P **13 41 37.4 +0.3**
comp=Z,8.7nm,0.4s,baz=150,slow=3.4,SNR=11
comp=Z,8.7nm,0.4s
KAPI Kappang 60.42 292 P P **13 41 37.4 +0.3**
comp=Z,6µmcomp=Z,60nm,1.5s
KLNI Mataram 60.58 287 P P **13 41 37.0 -1.2**
comp=Z,5µmcomp=Z,57nm,1.6s
BNSI Bone 60.62 293 P P **13 41 41.1 +2.6**
comp=Z,30nm,2.1s
SPSI Sidrap Palu 61.17 293 P P **13 41 41.2 -1.0**
comp=Z,35nm,1.4s
LUWI Luwuk 61.31 298 P P **13 41 42.7 -0.4**
LUWI Luwuk 61.31 298 P P **13 41 42.7 -0.4**
comp=Z,8µmcomp=Z,238nm,1.1s
RTBI Rangdo, Negare 61.38 286 P P 13 41 52.9 +9.3
SRBI Singaraja 61.44 286 P P **13 41 47.9 +3.9**
APSI Ampana 62.15 297 P P 13 41 56.1 +7.3
GTOI Gorontalo 62.41 299 P P **13 41 51.9 +1.4**
comp=Z,18nm,1.2s
MRSI Marisa 62.99 298 P P **13 41 55.6 +1.2**
comp=Z,40nm,1.1s
KMMI Kalianget 63.05 286 P P **13 41 58.1 +3.3**
PWJI Pagerwojo 63.93 284 P P **13 42 01.4 +0.8**
comp=Z,75nm,1.0s
PMSA Palmer Station 64.18 156 P P **13 42 02.5 +1.0**
PMSA IAmb IAmb 13 42 28.1
comp=Z,76nm,1.3s
PMSA Palmer Station 64.18 156 *e*P P 13 42 09.3 +7.7
GRJI Gresik 64.20 285 P P 13 42 07.7 +5.3
TOLI2 Tolitoli 64.23 298 P P **13 42 01.4 -1.2**
TOLI2 IAmb IAmb 13 42 22.3
comp=Z,29nm,0.9s
MPSI Mapaga 64.23 296 P P **13 42 02.4 -0.2**
comp=Z,36nm,1.1s
BBKI Banjar Baru 64.94 289 P P **13 42 07.7 +0.5**
comp=Z,279nm,1.1s
BKB Balikpapan 65.09 293 P P 13 42 14.7 +6.5
TROLL Troll, Antarti 65.86 183 pP P **13 42 13.9 +1.4**
SCJI Gunung Srandil 66.07 282 P P **13 42 19.3 +4.7**
SNAA Sanae 66.34 181 pP P **13 42 16.7 +1.1**
SNAA Sanae 66.34 181 P P **13 42 16.2 +0.6**
SNAA IAmb IAmb 13 42 22.8
comp=Z,65nm,1.3s
SNAA Sanae 66.34 181 ⇑*i*P P **13 42 16.1 +0.5**
SNAA pmax pmax
comp=Z,59nm,1.3s
CTJI Waduk Cacaban 66.52 282 P P **13 42 18.3 +0.9**
NVL N'lazarevskaya 66.52 186 *e*P P **13 42 17.7 +1.1**
NVL pmax pmax
comp=Z,131nm,1.3s
MTKI Muara Teweh, K 66.69 291 P P **13 42 19.5 +0.9**
VNA3 Neumayer Olymp 66.78 179 pP P **13 42 19.7 +1.3**
VNA2 Neumayer--Watz 67.12 180 pP P **13 42 22.0 +1.6**
baz=166,slow=6.0
VNA1 Neumayer--Stat 67.39 179 pP P **13 42 24.0 +1.9**
LEM Lembang 67.78 281 P P **13 42 25.9 +0.3**
comp=Z,66nm,0.7s,baz=116,slow=8.3,SNR=7.1
comp=Z,66nm,0.7s
LEM Lembang 67.78 281 P P **13 42 26.0 +0.3**
CNJI Cibinong 67.81 281 P P **13 42 29.4 +3.8**
MYLDM Lahad Datu 68.77 299 P P **13 42 30.8 -0.8**
MYLDM Lahad Datu 68.77 299 P P 13 42 40.0 +8.4
KKM Kota Kinabalu 70.92 297 P P **13 42 44.1 -0.8**
KKM IAmb IAmb 13 42 52.9
comp=Z,43nm,0.9s
SBUM Sibu 70.98 292 P P **13 42 44.4 -0.8**
SBUM IAmb IAmb 13 42 53.8
comp=Z,110nm,2.2s
SBUM Sibu 70.98 292 P P **13 42 45.6 +0.4**
comp=Z,14nm,1.0s
LWLI Liwa 71.59 280 P P **13 42 53.3 +4.2**
KSM Kuching 71.61 290 P P **13 42 48.4 -0.7**
KSM IAmb IAmb 13 42 53.1
comp=Z,73nm,1.2s
KSM Kuching 71.61 290 P P **13 42 48.9 -0.2**
comp=Z,50nm,1.1s
PPBI Pangkal Pinang 72.03 284 P P **13 42 51.4 -0.2**
KSI Kapahiang 73.59 280 P P **13 43 03.2 +2.2**
KSI Kapahiang 73.59 280 P P **13 43 02.6 +1.6**
MASI Maura Aman, Be 74.19 280 P P **13 43 07.0 +2.5**
comp=Z,101nm,1.1s
DSRI Dabo 74.31 284 P P **13 43 07.6 +2.5**
TPRI Tanjung Pinang 75.32 285 P P **13 43 14.0 +3.1**
SDSI Sungai Dareh 76.28 281 P P **13 43 19.7 +3.3**
comp=Z,26nm,0.9s
MYKOM Kota Tinggi 76.41 285 P P **13 43 16.3 -0.8**
MYKOM IAmb IAmb 13 43 21.7
comp=Z,103nm,1.3s
MYKOM Kota Tinggi 76.41 285 P P **13 43 17.6 +0.5**
comp=Z,63nm,1.1s
LL02 Futaleuf 76.58 137 P P **13 43 17.0 -0.8**
LL02 IAmb IAmb 13 43 26.3
comp=Z,132nm,1.4s
PDSI Padang 77.00 281 P P **13 43 18.7 -1.9**
BKNI Bangkinang 77.42 282 P P **13 43 21.3 -1.5**
BKNI IAmb IAmb 13 43 26.2
comp=Z,68nm,0.8s
SISI Saibi 77.72 279 P P 13 43 29.6 +5.0
MNSI Mandailing Nat 78.81 281 P P **13 43 29.0 -1.5**
PLCA Paso Flores 79.03 136 P P **13 43 33.3 +1.8**
comp=Z,12nm,0.9s,baz=242,slow=5.6,SNR=18
comp=Z,12nm,0.9s
PBSI Pulau Batu 79.18 280 P P **13 43 36.5 +3.9**
H03S2 Juan Fernandez 79.24 126 T T 15 08 47.2
baz=225,slow=74,SNR=6.4
H03S1 Juan Fernandez 79.25 126 T T 15 08 48.0
baz=225,slow=74,SNR=6.2
H03S3 Juan Fernandez 79.26 126 T T 15 08 48.4
baz=225,slow=74,SNR=5.2
VA04 Juan Fernndez 79.43 126 P P **13 43 32.2 -1.6**
VA04 IAmb IAmb 13 43 33.9
comp=Z,85nm,1.1s
IPM Ipoh 80.29 285 P P **13 43 37.2 -1.4**
IPM IAmb IAmb 13 43 41.9
comp=Z,44nm,0.9s
IPM Ipoh 80.29 285 P P **13 43 37.9 -0.7**
comp=Z,72nm,0.9s
GSI Gunungsitoli 80.61 280 P P **13 43 39.6 -0.7**
GSI Gunungsitoli 80.61 280 P P **13 43 40.9 +0.5**
PSI Prapat 80.65 282 P P **13 43 39.0 -1.7**
TWG Pinlang 80.94 312 P P **13 43 41.6 -0.2**
KULM Kulim 81.12 285 P P **13 43 42.2 -0.8**
KULM IAmb IAmb 13 43 47.0
comp=Z,73nm,1.2s
KULM Kulim 81.12 285 P P **13 43 42.8 -0.2**
comp=Z,62nm,1.1s
TSI Tuntungan 81.39 283 P P **13 43 47.4 +2.9**
KCSI Kotacane, Aceh 81.98 282 P P **13 43 47.4 -0.2**
SNSI Sinabang, Aceh 82.27 280 P P 13 43 54.2 +5.0
comp=Z,55nm,1.2s
SKLT Songkhla 82.44 287 P P **13 43 53.6 +3.6**
comp=Z,50nm,1.0s
MLSI Meulaboh, Aceh 83.48 282 P P **13 43 57.8 +2.4**
LHMI Lhok Sumawe 83.74 283 P P **13 43 55.2 -1.5**
JMN Monobe 83.98 328 P P **13 43 57.2 -0.3**
JMN IAmb IAmb 13 44 07.2
comp=Z,41nm,0.9s
JRY Ryogami san 84.15 332 P P **13 43 56.5 -1.8**
INU Inuyama 84.21 331 P P **13 43 58.3 -0.3**
INU IAmb IAmb 13 44 06.4
comp=Z,79nm,1.7s
JNU Nakatsue 84.69 325 P P **13 43 59.8 -1.3**
JNU Nakatsue 84.69 325 P P **13 44 01.4 +0.3**
QIZ Qiongzhong 84.69 301 P P **13 44 04.5 +3.1**
QIZ pmax pmax
comp=Z,23nm,1.5s
JWT Wachi 84.75 329 P P **13 44 00.4 -0.9**
MJAR Matsushiro Arr 84.86 332 P P **13 44 00.5 -1.4**
comp=Z,3.5nm,1.0s,baz=162,slow=5.9,SNR=8.6
comp=Z,3.5nm,1.0s
MAJO Matsushiro 84.86 332 P P **13 44 01.1 -0.7**
MAJO Matsushiro 84.86 332⇓*e*P P **13 44 00.8 -1.1**
JGN Niukaw 84.89 331 P P **13 44 00.8 -1.3**
TRQA Tornquist 85.37 139 P P **13 44 05.9 +1.2**
TRQA IAmb IAmb 13 44 12.9
comp=Z,87nm,1.4s
TRQA Tornquist 85.37 139 P P **13 44 05.9 +1.2**
TRQA pmax pmax
comp=Z,87nm,1.4s
JHS Saijyo 85.39 328 P P **13 44 03.4 -1.1**
JHS Saijyo 85.39 328 P P **13 44 04.7 +0.1**
AC04 Llanos de Chal 87.96 127 P P **13 44 17.2 -0.3**
AC04 IAmb IAmb 13 44 25.9
comp=Z,88nm,1.4s
GULI GuiLin 89.02 306 ⇓P P **13 44 20.1 -2.2**
NJ2 Nanjing 89.47 316 *e*P P 13 44 30.4 +6.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSRS Korea Array 89.63 325 P P **13 44 24.1 -0.8**
comp=Z,4.6nm,0.7s,baz=148,slow=5.6,SNR=14
comp=Z,4.6nm,0.7s
KSAR Wonju Array Be 89.64 325 P P **13 44 24.4 -0.5**
KSAR Wonju Array Be 89.64 325 P P **13 44 24.4 -0.5**
KS19 Wonju Array Si 89.70 325 P P **13 44 24.7 -0.5**
KS19 IAmb IAmb 13 44 34.7
comp=Z,116nm,1.9s
PHRA Phrae 90.61 295 P P **13 44 29.7 -0.2**
WHN Wuhan 90.70 312 ⇑P P **13 44 29.8 -0.2**
CMAR Chiang Mai Arr 91.45 294 P P **13 44 34.0 +0.1**
comp=Z,17nm,1.1s,baz=152,slow=3.5,SNR=24
CMAR PP **PP 13 48 13.9 +2.0**
comp=Z,3.0nm,0.8s,baz=148,slow=6.6,SNR=4.6
CMAR PKPPKP **P'P'df 14 10 03.5 +0.6**
comp=Z,0.2nm,0.3s,baz=270,slow=2.5,SNR=2.0
CMAR LR LR 14 31 31.5
comp=Z,2µm,18.3s,baz=310,slow=39
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 91.45 294 P P **13 44 33.5 -0.4**
CMAR Chiang Mai Arr 91.45 294 *i* P P **13 44 34.5 +0.6**
CMAR pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 91.70 294 P P **13 44 33.9 -1.1**
CHTO IAmb IAmb 13 44 39.9
comp=Z,31nm,1.4s
CHTO Chiang Mai 91.70 294 P P **13 44 33.9 -1.1**
CHTO pmax pmax
comp=Z,31nm,1.4s
GYA Guiyang 92.13 304 ⇑P P **13 44 38.6 +1.6**
GYA pmax pmax
comp=Z,12nm,0.8s
ENH Enshi 93.24 309 P P **13 44 41.1 -0.8**
ENH IAmb IAmb 13 44 46.4
comp=Z,28nm,1.1s
LVC Limon Verde 93.42 125 LR LR 14 18 06.2
comp=Z,6µm,21.1s,baz=244,slow=30
LVC Limon Verde 93.42 125 *e*P P 13 44 48.7 +5.1
TIA Tai'an 93.63 317 P P **13 44 43.6 +0.1**
TIA pmax pmax
comp=Z,13nm,0.8s
USA0B Ussuriysk Arra 93.83 331⇑*e*P P **13 44 44.7 +0.5**
PLTB Pedras Altas 94.47 141 *e*P P 13 44 54.4 +6.6
ITQB Itaqui 94.74 138 *e*P P 13 44 55.5 +6.5
PZH PanZhiHua 95.23 301 P P **13 44 51.8 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
HNS HongShan 95.77 317 ⇑P P **13 44 54.4 +1.2**
HNS pmax pmax
comp=Z,6.0nm,1.1s
NNA Nana 95.97 112 LR LR 14 18 42.8
comp=Z,11µm,21.5s,baz=224,slow=30
CN2 Changchun 95.98 327 *e*P P **13 44 53.8 -0.2**
PETK Petropavlovsk- 95.99 350 P P **13 44 56.8 +2.9**
comp=Z,2.4nm,0.8s,baz=144,slow=5.2,SNR=4.3
TNCH TengChong 96.28 298 *e*P P **13 44 57.1 +0.9**
TNCH pP sP 13 45 01.9 +0.4
TNCH pmax pmax
comp=Z,8.0nm,0.6s
XAN Xi'an 96.34 311 P P **13 44 56.9 +0.9**
XAN pP sP 13 45 02.6 +1.2
XAN pmax pmax
comp=Z,13nm,1.2s
XAN LR LR
comp=Z,7µm,16.5s
XAN LR LR
comp=Z,8µm,22.0s
CD2 Chengdu 97.09 306 P Pdif 13 44 59.6 0.0
CPUP Villa Florida 97.10 135 P Pdif 13 45 00.9 +1.0
comp=Z,1.5nm,0.8s,baz=238,slow=16,SNR=2.4
comp=Z,1.5nm,0.8s
CPUP Villa Florida 97.10 135 *e*P Pdif 13 45 06.1 +6.2
CNLB Canela 97.80 142 *e*P Pdif 13 45 10.0 +6.9
KLR Kul'dur 98.28 334 P Pdif 13 45 04.4 0.0
comp=Z,0.5nm,0.4s,baz=150,slow=12,SNR=2.4
comp=Z,0.5nm,0.4s
LPAZ La Paz 98.63 121 P P **13 45 07.6 0.0**
comp=Z,1.1nm,0.9s,baz=217,slow=5.6,SNR=3.8
comp=Z,1.1nm,0.9s
LPAZ La Paz 98.63 121 *e*P Pdif 13 45 12.2 +4.6
HHC Hu-ho-hao-te 99.98 317 *e*P **Pdif 13 45 12.3 0.0**
HHC pmax pmax
comp=Z,41nm,1.0s
HHC LR LR
comp=Z,8µm,15.9s
HHC LR LR
comp=Z,3µm,16.3s
HHC LR LR
comp=Z,24µm,16.5s
PET01 Itanhaem-SP 103.74 142 *e*P **Pdif 13 45 35.2 +5.8**
TXAR Lajitas Array 104.11 63 Pdiff **Pdif 13 45 34.2 +3.3**
comp=Z,0.1nm,0.6s,baz=190,slow=4.5,SNR=2.1
TXAR PKKPbc **PKKPbc 14 01 20.6 +1.8**
comp=Z,0.6nm,0.9s,baz=72,slow=4.0,SNR=4.2
GTA Gaotai 105.30 310 *e*P **PP 13 49 58.3 +0.3**
GTA sP PKiKP 13 50 08.1 +18
GTA pmax pmax
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 109.16 49 PKKPbc PKKPbc 14 01 04.9 +1.3
comp=Z,1.3nm,1.1s,baz=64,slow=2.1,SNR=4.7
BILL Bilibino 110.12 357 *i* PKiKP **PKiKP 13 50 00.2 +2.3**
BILL pmax pmax
comp=Z,5.0nm,1.3s
ILAR Eielson Array 111.08 17 PKiKP **PKiKP 13 49 58.8 -1.0**
comp=Z,1.6nm,0.9s,baz=279,slow=1.3,SNR=8.6
LAO LASA Array 113.47 48 P **PKiKP 13 50 06.6 +1.6**
baz=233
F25K Christian Rive 113.77 16 P **PKiKP 13 50 05.4 +0.5**
baz=212
C23K Itkillik River 114.81 13 P **PKiKP 13 50 07.1 +0.4**
baz=208
E27K Coleen River 115.11 17 P **PKiKP 13 50 08.2 +0.8**
baz=215
WMQ Urumqi 115.13 307 *e*PKP **PKiKP 13 50 09.1 +0.8**
C27K Jago River 115.87 15 P **PKiKP 13 50 09.7 +0.9**
baz=214
WRGLY Wrigley 116.37 27 P **PKiKP 13 50 11.5 +1.6**
baz=227
F31M Tsiigehtchic 116.37 20 P **PKiKP 13 50 10.2 +0.4**
baz=221
INK Inuvik 117.08 19 PKP **PKPdf 13 50 09.7 -1.5**
comp=Z,4.8nm,0.8s,baz=178,slow=2.2,SNR=10
INK Inuvik 117.08 19 P **PKiKP 13 50 11.4 +0.3**
baz=222
ECSD EROS Data Cent 117.31 55 PKPdf **PKPdf 13 50 12.0 -0.4**
ECSD EROS Data Cent 117.31 55 P **PKiKP 13 50 12.7 +0.3**
baz=236
CCM Cathedral Cave 117.59 63 IAMs_20 IAMs_20 14 38 23.9
comp=Z,7µm,20.0s
TIXI Tiksi 117.96 345 PKP **PKPdf 13 50 10.7 -2.1**

comp=Z,0.8nm,0.3s,baz=346,slow=1.3,SNR=6.1
TIXI PKKPbc **PKKPbc** **14 00 34.5 +0.5**
comp=Z,0.3nm,0.3s,baz=325,slow=0.2,SNR=1.5
TIXI Tiksi 117.96 345 ⇓*i* PKIKP **PKPdf** **13 50 12.3 -0.4**
DGZ Jazzator, Alta 118.56 312 ⇓*i* PKIKP **PKiKP** **13 50 15.6 +0.8**
WVT Waverly 118.82 66 P **PKPdf** **13 50 15.1 -0.5**
baz=237
YKA Yellowknife Ar 119.04 30 PKP **PKPdf** **13 50 14.3 -0.7**
comp=Z,3.8nm,0.6s,baz=261,slow=2.0,SNR=17
YKA PKKPbc **PKKPbc** **14 00 30.4 +0.6**
comp=Z,5.4nm,0.8s,baz=43,slow=4.3,SNR=4.1
YKA Yellowknife Ar 119.04 30 **PKPdf** **13 50 14.7 -0.4**
MKAR Makanchi Array 119.95 308 PKP **PKPdf** **13 50 14.6 -2.8**
comp=Z,1.0nm,0.5s,baz=240,slow=1.7,SNR=8.8
MKAR Makanchi Array 119.95 308 **PKPdf** **13 50 14.7 -2.7**
MKAR Makanchi Array 119.95 308 PKIKP **PKPdf** **13 50 14.7 -2.7**
KSH Kashi 120.11 298 PKP **PKiKP** **13 50 24.9 +6.7**
AGMN Agassiz Nation 120.19 51 P **PKiKP** **13 50 17.9 0.0**
baz=239
C36M Paulatuk 120.26 21 **PKPdf** **13 50 15.6 -1.6**
C36M Paulatuk 120.26 21 P **PKiKP** **13 50 17.6 +0.3**
baz=229
WCI Wyandotte Cave 120.98 65 PKPdf **PKPdf** **13 50 19.0 -0.6**
WCI Wyandotte Cave 120.98 65 P **PKiKP** **13 50 19.7 0.0**
baz=238
WCI Wyandotte Cave 120.98 65 PKIKP **PKPdf** **13 50 19.0 -0.6**
ULM Lac du Bonnet 121.17 49 PKP **PKPdf** **13 50 17.2 -2.4**
comp=Z,14nm,0.8s,baz=217,slow=4.7,SNR=11
ULM Lac du Bonnet 121.17 49 **PKPdf** **13 50 18.3 -1.3**
ULM Lac du Bonnet 121.17 49 PKIKP **PKPdf** **13 50 18.3 -1.3**
KMBO Kilima Mbogo 121.64 234 PKP **PKiKP** **13 50 22.1 -0.1**
comp=Z,4.5nm,0.9s,baz=58,slow=6.3,SNR=5.3
A36M Sachs Harbour 121.68 19 PKPdf **PKPdf** **13 50 19.4 -0.5**
A36M Sachs Harbour 121.68 19 P **PKiKP** **13 50 20.3 +0.3**
baz=230
HQIL Hanson Quary C 121.78 60 IAMs_20 IAMs_20 14 40 37.8
comp=Z,7μm,20.0s
ZALV Zalesovo Beam 122.12 316 PKP **PKPdf** **13 50 19.6 -1.6**
comp=Z,0.4nm,0.4s,baz=106,slow=3.1,SNR=2.3
EYMN Ely 122.55 53 PKPdf **PKPdf** **13 50 21.7 -0.7**
EYMN Ely 122.55 53 P **PKiKP** **13 50 22.7 +0.2**
baz=241
AAK Ala-Archa 122.66 300 ⇑*i* PKIKP **PKiKP** **13 50 23.3 +0.2**
comp=Z,1.5nm,0.5s,baz=170,slow=5.6,SNR=4.1
AAK Ala-Archa 122.66 300 ⇑*i* PKIKP **PKiKP** **13 50 23.3 +0.2**
Q51A Peebles 123.37 65 **PKPdf** **13 50 23.7 -0.5**
GAR Garm 123.62 294 **PKPdf** **13 50 24.3 -0.5**
D41A Chassel 123.89 55 **PKPdf** **13 50 24.5 -0.4**
KKAR Karatay Array 125.45 299 PKPdf **PKPdf** **13 50 27.4 -0.7**
KKAR Karatay Array 125.45 299 PKIKP **PKPdf** **13 50 27.4 -0.7**
MBAR Mbarara 125.83 228 PKP **PKPdf** **13 50 27.8 -2.2**
comp=Z,2.8nm,0.2s,baz=333,slow=23,SNR=1.3
NRIK Noril'sk 127.49 333 PKP **PKPdf** **13 50 28.4 -2.7**
comp=Z,1.1nm,0.3s,baz=189,slow=3.3,SNR=1.0
NRIK Noril'sk 127.49 333 ⇓*i* PKIKP **PKiKP** **13 50 33.4 +1.7**
SSPA Standing Stone 127.83 66 P **PKiKP** **13 50 33.0 -0.3**
baz=243
BVAR Borovoye Array 129.57 310 PKP **PKPdf** **13 50 34.8 -0.8**
comp=Z,1.6nm,0.6s,baz=126,slow=1.3,SNR=9.7
BRVK Borovoye 129.65 310 ⇓*i* PKIKP **PKiKP** **13 50 37.9 +1.4**
GEYT Alibeck 131.56 288 PKP **PKPdf** **13 50 40.2 +0.3**
comp=Z,2.2nm,0.8s,baz=198,slow=0.5,SNR=3.1
GEYT SKPbc **SKPbc** **13 54 01.9 -3.2**
comp=Z,2.2nm,0.8s,baz=14,slow=3.0,SNR=2.5
SVE Sverdlovsk 136.01 313 *e*PKIKP PKiKP 13 50 59.9 +11
ARU Arti 137.07 312 *i* PKIKP **PKPdf** **13 50 50.2 +0.7**
ARU 13 53 28.8
AKT Akhty 140.32 288 *e*PKIKP **PKiKP** **13 50 59.1 +0.4**
AKT *e* 13 53 55.6
AKT pmax pmax
comp=Z,23nm,1.1s
MAK Makhachkala 140.95 290 *eP* **Pdif** **13 48 07.8 -6.5**
KIRV Kirov 142.16 315 ⇓*e*PKIKP **PKPdf** **13 50 59.7 +1.0**
BELG Belogornoye 142.87 305 ⇓*e*PKIKP **PKPdf** **13 50 58.4 -1.8**
ZEI Tsey 143.43 288 *i* PKIKP PKPbc 13 50 58.6 -0.5
ZEI pmax pmax
comp=Z,8.0nm,0.9s
ONI Oni 143.69 288 **PKPdf** **13 51 02.2 +0.1**
ONI Oni 143.69 288 PKIKP **PKPdf** **13 51 02.2 +0.1**
PRGR Permogore 143.83 320 *e*PKIKP **PKPdf** **13 51 01.3 -0.3**
PRGR pmax pmax
comp=Z,30nm,1.5s
NCK Nalchik 143.84 289 ⇓*e*PKIKP PKPab 13 50 59.6 +0.3
NEY Neytrino 144.39 289 *i* PKIKP **PKPdf** **13 51 03.9 +0.5**
KBZ Khabaz 144.39 289 PKP **PKPab** **13 51 00.4 -0.9**
comp=Z,15nm,0.9s,baz=223,slow=2.0,SNR=16
KBZ Khabaz 144.39 289 ⇑*e*PKIKP **PKPab** **13 50 59.6 -1.7**
DBIC Dimbokro 144.53 183 PKP PKPbc 13 51 03.2 +0.4
comp=Z,12nm,0.6s,baz=188,slow=4.1,SNR=18
DBIC Dimbokro 144.53 183 PKPdf PKPbc 13 51 02.9 +0.1
DBIC Dimbokro 144.53 183 PKIKP PKPbc 13 51 02.9 0.0
KIV Kislovodsk 144.60 290 *e*PKIKP **PKPdf** **13 51 04.2 +0.5**
KIV pmax pmax
comp=Z,20nm,1.0s
GOF Gofitskoye 144.62 292 ⇑*e*PKIKP **PKPab** **13 51 02.0 -0.2**
GOF pmax pmax
comp=Z,209nm,1.4s
EIL Elat 144.64 263 PKP PKPbc 13 51 02.8 -0.1
comp=Z,5.4nm,0.6s,baz=79,slow=10,SNR=6.4
DAG Danmarks Havn 144.89 5 *i* P PKPbc 13 50 59.0 -3.6
SFJD Kangerlussuaq 145.59 29 PKPbc **PKPdf** **13 51 02.9 -1.5**
comp=Z,41nm,0.7s,baz=259,slow=1.9,SNR=16
SFJD Kangerlussuaq 145.59 29 PKPdf **PKPdf** **13 51 04.5 +0.1**
SFJD Kangerlussuaq 145.59 29 *eP* **PKPab** **13 51 05.4 +0.4**
KTUT Trabzon 145.85 284 ⇓P **PKPdf** **13 51 05.8 +0.1**
SUMG Summit 145.93 17 *i* P **PKPdf** **13 51 05.0 -0.5**
MMAI Mount Meron Ar 145.98 268 PKPbc **PKPbc** **13 51 07.0 -0.1**
comp=Z,33nm,0.8s,baz=97,slow=6.0,SNR=19
NUUK Nuuk 146.16 34 *eP* **PKPab** **13 51 07.4 +0.1**
LVZ Lovozero 146.34 333 ⇓*e*PKP2 **PKPbc** **13 51 06.6 -0.5**
VRH Novokhopyorsk 146.41 302 *e*PKP2 **PKPdf** **13 51 06.0 -0.4**
VRH pmax pmax
comp=Z,40nm,0.6s
KLMR Klimovskoe 146.87 320 *e*PKPdf **PKPdf** **13 51 07.1 +0.3**
KLMR AMP 13 51 21.0
comp=Z,87nm,0.9s
KLMR Klimovskoe 146.87 320 *e*PKP2 **PKPdf** **13 51 07.1 +0.3**
KLMR pmax pmax
comp=Z,87nm,0.9s
APA Apatity 146.92 333 ⇓*i* PKIKP **PKPdf** **13 51 04.3 -2.4**
APA pmax pmax
comp=Z,26nm,1.0s
VORR Voronezh 148.01 303 *e*PKIKP **PKPdf** **13 51 07.2 -1.8**
VORR pmax pmax
comp=Z,90nm,1.7s
BNN Bunyan 148.02 278 **PKPbc** **13 51 11.3 -1.5**
VSR Storozhevoye 148.02 302 *e*PKP2 **PKPdf** **13 51 10.2 +1.1**
VSR pmax pmax
comp=Z,50nm,1.4s
ARA0 ARCESS Array S 148.11 339 *e*PKPdf **PKPdf** **13 51 10.2 +1.5**
ARCES ARCESS Array B 148.11 339 PKPbc **PKPdf** **13 51 09.8 +1.0**
comp=Z,8.0nm,0.6s,baz=52,slow=2.0,SNR=21
LPSR Galich'ya Gora 148.18 305 *e*PKP2 **PKPbc** **13 51 12.0 -0.6**
LPSR pmax pmax
comp=Z,110nm,1.6s
CSS Mathiatis 148.39 270 **PKPbc** **13 51 13.2 -0.6**
MOS Moscow 148.75 311 *e*PKIKP **PKPdf** **13 51 08.0 -2.1**
MOS pmax pmax
comp=Z,64nm,1.0s
KTK1 Kautokeino 149.06 340 *e*PKPdf **PKPdf** **13 51 12.1 +1.9**
JETT Jettan, Norway 149.35 342 *e*PKPdf **PKPbc** **13 51 13.8 -1.3**
OBN Obninsk 149.42 310 *e*PKHKP PKPpre 13 51 11.5
OBN *e* 13 54 47.2
OBN *e*PPP PPP 13 58 08.5
OBN pmax pmax
comp=Z,39nm,1.1s
TRO Tromso 149.62 343 *e*PKPdf **PKPbc** **13 51 13.8 -1.9**
BR131 Keskin Array S 149.92 279 **PKPbc** **13 51 16.8 -0.8**
BR131 Keskin Array S 149.92 279 PKIKP **PKPbc** **13 51 16.8 -0.8**
BRTR Keskin Array B 149.92 279 PKPbc **PKPbc** **13 51 16.2 -1.4**
comp=Z,22nm,0.9s,baz=142,slow=4.5,SNR=23
BRTR Keskin Array B 149.92 279 PKPdf **PKPdf** **13 51 11.7 -1.1**
BRTR Keskin Array B 149.92 279 PKIKP **PKPdf** **13 51 11.7 -1.1**
NRS Narsarsuaq 149.93 38 **PKPbc** **13 51 16.8 +0.1**
NRS Narsarsuaq 149.93 38 *eP* **PKiKP** **13 51 18.3 +0.7**
NRS Narsarsuaq 149.93 38 PKP2 **PKPbc** **13 51 16.8 +0.1**
SIM Simferopol' 150.81 289 *e*PKIKP **PKPab** **13 51 25.9 -0.7**
SIM pmax pmax
comp=Z,64nm,1.0s
BBTS Babate 151.11 159 PKPbc **PKiKP** **13 51 21.2 -0.2**
comp=Z,76nm,0.9s,baz=156,slow=9.6,SNR=4.5
ISP Isparta 151.59 273 **PKPbc** **13 51 20.8 -0.8**
ISP Isparta 151.59 273 PKIKP **PKPbc** **13 51 20.8 -0.8**
ELL Elmali 151.65 271 **PKPbc** **13 51 21.6 -0.2**
ELL Elmali 151.65 271 PKIKP **PKPbc** **13 51 21.6 -0.2**
STEI Steigen 151.80 343 *e*PKPdf **PKPbc** **13 51 18.7 -2.2**
FAUS Fauske 152.24 342 *e*PKPdf **PKPbc** **13 51 20.8 -1.1**
BORA Eskisehir 152.31 278 **PKPbc** **13 51 22.1 -1.0**
FIA1 FINESS Array S 152.72 326 **PKPbc** **13 51 21.8 -1.4**
FINES FINESS Array B 152.72 326 PKPbc **PKPbc** **13 51 20.6 -2.5**
comp=Z,4.5nm,0.5s,baz=65,slow=3.3,SNR=21
KARP Karpathos 153.21 267 **PKPbc** **13 51 24.7 -0.5**
AKASG Malin Array Be 154.32 301 PKPbc **PKPbc** **13 51 25.6 -1.4**
comp=Z,4.2nm,0.8s,baz=68,slow=2.0,SNR=9.1
AKASG Malin Array Be 154.32 301 **PKPbc** **13 51 26.4 -0.5**
MNK Minsk 154.47 310 *i* PKP **PKPbc** **13 51 26.6 -0.6**
comp=E,3.0nm,1.1s
MNK *i* PKP **PKPbc** **13 51 26.6 -0.6**
comp=N,24nm,0.8s
MNK *i* PKP **PKPbc** **13 51 26.6 -0.6**
comp=Z,53nm,1.1s,baz=75
MNK *i* PP PP 13 55 25.9 +8.4
MNK *i* PPP PPP 13 58 56.2
MNK *i* SS SS 14 15 04.0 +6.2
MNK *i* SSS SSS 14 21 05.2
MNK *i* LR LR 15 03 52.6
MNK Minsk 154.47 310 *i* PKIKP **PKPbc** **13 51 26.6 -0.6**
MNK *i* 13 55 25.8
MNK *i* PPP PPP 13 58 56.2
MNK *i* SS SS 14 15 03.9 +6.1
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,53nm,1.0s
IDI Anoyia 154.78 264 PKPbc **PKPbc** **13 51 28.3 -0.4**
comp=Z,20nm,1.0s,baz=347,slow=4.5,SNR=4.5
NACGM Naroch 154.98 312 *e*PKP **PKPbc** **13 51 24.4 -3.9**
comp=Z,35nm,1.0s,baz=73
SORM Soroca 155.02 296 ⇑P PKPdf 13 51 31.9 +12
ICOR Ion Corvin 155.15 286 ⇓P PKPdf 13 51 03.9 -16
PLOR Plostina 156.13 290 ⇓P **PKPab** **13 51 55.0 +5.8**
PLOR Plostina 156.13 290 ⇓PKP2 **PKPab** **13 51 55.0 +5.8**
VTS Vitosha 158.23 281 PKPab **PKPab** **13 51 56.8 -1.7**
VTS Vitosha 158.23 281 PKP2 **PKPab** **13 51 56.8 -1.7**
NB2 NORSAR Subarra 158.41 337 PKPab **PKPab** **13 52 00.1 +1.6**
baz=39,slow=4.4
NB2 NORSAR Subarra 158.41 337 PKP **PKPab** **13 52 00.1 +1.6**
comp=Z,9.6nm,1.1s,baz=39,slow=4.4
NOA NORSAR Array B 158.41 337 PKP **PKPdf** **13 51 22.6 -1.2**
comp=Z,1.6nm,0.9s,baz=47,slow=0.8,SNR=3.7
NOA PKPab **PKPab** **13 51 59.0 +0.6**
comp=Z,4.1nm,1.1s,baz=40,slow=4.4,SNR=6.0
KOLS Kolonicke sedl 158.99 298 *e*PKP **PKPab** **13 52 04.4 +3.0**
KOLS Kolonicke sedl 158.99 298 *e*PKP2 **PKPab** **13 52 04.4 +3.0**
UZH Uzhgorod 159.02 297 *e*PKP2 **PKPab** **13 51 58.8 -2.7**
CRVS Cervenica-Dubn 159.53 298 *e*PKP **PKPdf** **13 51 28.5 +3.0**
CRVS *e* 13 52 06.8
CRVS Cervenica-Dubn 159.53 298 *e*PKIKP **PKPdf** **13 51 28.5 +3.0**
BZS Buzias 159.65 289 ⇑P **PKPdf** **13 51 27.5 +1.8**
BZS Buzias 159.65 289 ⇑PKIKP **PKPdf** **13 51 27.5 +1.8**
DIVS Divibare 160.75 284 **PKPab** **13 52 08.7 -0.6**
VYHS Vyhne 161.31 298 *e*PKP2 **PKPab** **13 52 10.1 -1.4**
MORC Moravsky Berou 161.85 303 *e*PKP **PKPdf** **13 51 26.6 -1.4**
KRLC Kraliky 162.24 304 *e*PKPDF **PKPdf** **13 51 30.0 +1.6**
KRLC *e*PKPAB **PKPab** **13 52 15.4 -0.2**
KRLC Kraliky 162.24 304 *e*PKIKP **PKPdf** **13 51 30.0 +1.6**
KRLC *e* 13 52 15.4
MODS Modra-Piesok 162.35 298 *e*PKP **PKPdf** **13 51 28.4 -0.1**
MODS *e* 13 52 14.5
MODS Modra-Piesok 162.35 298 *e*PKIKP **PKPdf** **13 51 28.4 -0.1**
MODS *e* 13 52 14.5
OSTC Ostas 162.44 306 *e*PKPDF **PKPdf** **13 51 29.0 +0.4**
OSTC *e*PKPAB **PKPab** **13 52 15.0 -1.4**
DPC Dobruska-Polom 162.44 305 *e*PKPDF **PKPdf** **13 51 30.6 +2.0**
DPC *e*PKPAB **PKPab** **13 52 16.0 -0.5**
DPC Dobruska-Polom 162.44 305 *e*PKIKP **PKPdf** **13 51 30.6 +2.0**
DPC *e* 13 52 16.0
UPC Upice 162.57 306 *e*PKPAB **PKPab** **13 52 17.2 +0.2**
UPC Upice 162.57 306 *e*PKP2 **PKPab** **13 52 17.2 +0.2**
VRAC Vranov 162.57 302 *e*PKP **PKPdf** **13 51 27.6 -1.1**
KRUC Moravsky 162.76 301 *e*PKP **PKPdf** **13 51 27.4 -1.5**
RONA Rosalia, Austr 163.12 296 *eP* **PKPdf** **13 51 28.3 -1.1**
comp=Z,2.0nm,0.8s
CONA Conrad Observa 163.37 297 *eP* **PKPdf** **13 51 29.9 +0.3**
comp=Z,3.8nm,1.6s
CONA *eP* **pPKPab** **13 52 23.3 -1.3**
comp=Z,2.3nm,1.1s
PRU Pruhonice 163.64 305 *e*PKPAB **PKPab** **13 52 21.6 -0.1**
PRU Pruhonice 163.64 305 *e*PKP2 **PKPab** **13 52 21.6 -0.1**
BRG Berggiesshubel 163.66 309 Amp 13 52 31.1
comp=Z,36nm,1.5s
BRG Berggiesshubel 163.66 309 *e*PKIKP **PKPdf** **13 51 31.4 +1.7**
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG Berggiesshubel 163.66 309 ⇓*e*PKPf 13 51 31.4
BRG Berggiesshubel 163.66 309 Amp 13 51 35.1
comp=Z,5.6nm,1.3s
BRG Berggiesshubel 163.66 309 *i* PKPab **PKPab** **13 52 21.9 +0.1**
BRG Berggiesshubel 163.66 309 pmax pmax
comp=Z,7.0nm,1.1s
ARSA Arzberg 163.72 295 *eP* **PKPab** **13 52 25.9 +3.7**
comp=Z,12nm,1.7s
CLL Collm 164.01 311 *i* PKPab **PKPab** **13 52 22.6 -0.6**
comp=Z,15nm,1.4s
CLL *i* x x 13 52 43.9
comp=Z,19nm,1.5s
CLL Collm 164.01 311 *i* PKP2 **PKPab** **13 52 22.6 -0.6**
CLL pmax pmax
comp=Z,15nm,1.4s
CKRC Cesky Krumlov 164.15 301 *e*PKPAB **PKPab** **13 52 27.0 +3.0**
MOA Molln 164.43 298 P **PKPdf** **13 51 32.1 +1.6**
comp=Z,5.3nm,1.1s
MOA *eP* **pPKPab** **13 52 29.3 +0.1**
comp=Z,14nm,1.3s
KHC Kasperske Hory 164.52 303 *e*PKPDF **PKPdf** **13 51 31.3 +0.7**
KHC *e*PKPAB **PKPab** **13 52 24.1 -1.5**
KHC Kasperske Hory 164.52 303 *e*PKIKP **PKPdf** **13 51 31.3 +0.7**
KHC *e* 13 52 24.1
GERES GERESS Array B 164.53 302 PKPab **PKPab** **13 52 25.6 -0.1**
comp=Z,0.9nm,0.7s,baz=66,slow=6.4,SNR=4.7
KBA Koelnbreinsper 165.21 296 *eP* **PKPdf** **13 51 32.0 +0.5**
comp=Z,5.8nm,0.9s
ABTA Abtaltersbach 165.84 295 *eP* **PKPab** **13 52 30.4 -1.2**
comp=Z,7.0nm,1.2s
KEST Kesra 166.19 247 PKP **PKPdf** **13 51 32.5 0.0**
comp=Z,5.3nm,0.9s,baz=16,slow=2.6,SNR=4.8
KEST PKPab **PKPab** **13 52 35.1 +1.7**
comp=Z,12nm,1.1s,baz=303,slow=6.4,SNR=5.0
WTTA Wattenberg 166.30 298 P **PKPdf** **13 51 31.2 -1.1**
comp=Z,12nm,1.5s
WTTA *eP* **pPKPab** **13 52 36.3 -1.4**
comp=Z,26nm,1.3s
WATA Walderalm 166.32 298 P **PKPab** **13 52 36.3 +2.5**
comp=Z,12nm,1.2s
SQTA Sankt Quirin 166.60 298 *eP* **PKPab** **13 52 38.4 +3.4**
comp=Z,15nm,1.2s
MOTA Moosalm 166.63 298 *eP* **PKPdf** **13 51 33.3 +0.7**
comp=Z,5.0nm,1.3s
MOTA *eP* **PKPab** **13 52 37.2 +2.1**
comp=Z,12nm,1.2s
RETA Reutte 166.81 299 *eP* **PKPdf** **13 51 32.5 -0.1**
comp=Z,3.2nm,0.8s
RETA *eP* **pPKPab** **13 52 39.6 -0.2**
comp=Z,7.9nm,1.8s
FETA Feichten 166.97 297 *eP* **PKPab** **13 52 36.5 -0.1**
comp=Z,6.3nm,1.3s
PMAR Madeira 167.31 135 *e*PKP **PKPdf** **13 51 38.2 +4.7**
DAVA Damuels 167.45 299 P **PKPdf** **13 51 35.0 +1.8**
comp=Z,9.1nm,1.2s
DAVA *eP* **PKPab** **13 52 37.5 -1.3**
comp=Z,6.3nm,1.2s
DAVOX Davos/Dischmat 167.59 297 PKP **PKPdf** **13 51 33.7 +0.4**
comp=Z,1.8nm,0.5s,baz=320,slow=11,SNR=3.9
DAVOX PKPab **PKPab** **13 52 38.9 -0.6**
comp=Z,12nm,1.0s,baz=122,slow=3.7,SNR=7.8
PMPST Porto Santo, M 167.88 136 *e*PKP PKPdf 13 51 41.9 +8.2
MDT Midelt 170.47 189 PKP **PKPdf** **13 51 35.8 +0.3**
comp=Z,7.5nm,1.0s,baz=86,slow=2.0,SNR=5.3
MDT PKPab **PKPab** **13 52 52.8 +0.6**
comp=Z,4.0nm,0.7s,baz=149,slow=2.2,SNR=8.2
PCVE Castro Verde 175.19 164 *e*PKP **PKPdf** **13 51 39.6 +2.5**
PNCL Nicolau / Gran 175.52 157 *e*PKP **PKPdf** **13 51 39.2 +2.0**
PBEJ Beja 175.60 164 *e*PKP **PKPdf** **13 51 38.7 +1.5**
PBAR Barrancos 175.88 172 *e*PKP **PKPdf** **13 51 38.7 +1.4**
PACT Alcochete 176.02 150 *e*PKP **PKPdf** **13 51 44.0 +6.7**
PESTR Estremoz 176.47 164 *e*PKP **PKPdf** **13 51 38.8 +1.4**
PMTG Montargil 176.49 155 *e*PKP **PKPdf** **13 51 35.6 -1.8**
ESDC Sonseca Array 176.85 215 PKP **PKPdf** **13 51 37.9 +0.4**
comp=Z,5.8nm,1.1s,baz=4.8,slow=1.5,SNR=12
ESDC PKPab **PKPab** **13 53 18.9 -1.5**
comp=Z,3.3nm,1.0s,baz=157,slow=3.8,SNR=5.0
PAB San Pablo 176.90 209 ⇑PKIKP **PKPdf** **13 51 39.2 +1.6**
PMRV Marv??o 177.05 164 *e*PKP **PKPdf** **13 51 38.7 +1.2**
PCAS Casmilo, Conde 177.25 143 *e*PKP **PKPdf** **13 51 43.3 +5.8**
PCBR Castelo Branco 177.42 160 *e*PKP **PKPdf** **13 51 39.0 +1.5**
MTE Manteigas 177.92 153 *e*PKP **PKPdf** **13 51 39.2 +1.5**
PVIS Viseu 178.05 142 *e*PKP **PKPdf** **13 51 38.1 +0.4**
MVO Moncorvo 178.78 154 *e*PKP **PKPdf** **13 51 42.8 +5.1**
PBRG Braganca 179.44 146 *e*PKP PKPdf 13 51 45.8 +8.1

WEL 13 13:33:38.5±0.7, 42°S±5°×17°4E±°, h5km, M4.4/5, ML4.6/5, MLv4.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=116.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**229**	P	Pg	13 33 44.4	+0.5
KHZ				S	Sg	13 33 46.0	-1.4
BSWZ	**Blackbirch Sta**	**0.52**	**5**	P	Pb	13 33 49.7	-0.5
BSWZ				S	Sg	13 33 54.1	-1.2
TUWZ	**Tuamarina**	**0.81**	**6**	P	Pb	13 33 54.6	-0.5
TUWZ				S	Sg	13 34 02.5	-2.1
THZ	**Tophouse**	**0.83**	**305**	P	Pn	13 33 57.4	+0.5
THZ				S	Sn	13 34 12.1	+2.5
GVZ	**Greta Valley S**	**0.93**	**218**	P	Pn	13 33 58.0	-0.3

WEL 13 13:35:15.0±0.8, 42°S±8°×17°4E±°, h18km±4km, M4.0/9, ML4.5/8, MLv4.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=162.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.29**	**77**	P	Pg	13 35 21.1	-0.2
THZ	**Tophouse**	**0.45**	**272**	S	Sb	13 35 31.1	+0.3
TUWZ	**Tuamarina**	**0.48**	**43**	P	Pn	13 35 26.6	-0.4
TUWZ				S	Sb	13 35 33.3	+1.6
CMWZ	**Cape Campbell**	**0.53**	**87**	P	Pn	13 35 27.1	-0.5
NNZ	**Nelson**	**0.57**	**351**	P	Pg	13 35 29.1	+0.9
TCW	**Tory Channel**	**0.81**	**46**	P	Pg	13 35 31.2	+0.3
TCW				S	Sb	13 35 39.3	-1.9
TKNZ	**Takaka Hill**	**0.85**	**331**	P	Pn	13 35 33.8	+1.7
WEL	**Wellington**	**1.07**	**63**	P	Pb	13 35 34.2	-0.7
CAW	**Cannon Point**	**1.35**	**61**	P	Pn	13 35 39.3	+0.4
OGWZ	**Otaki Gorge**	**1.58**	**53**	P	Pb	13 35 43.5	-0.1
OGWZ				S	Sn	13 35 59.9	-2.2
MTW	**Mount Morrison**	**1.62**	**68**	P	Pn	13 35 42.4	-0.3
MRZ	**Mangatainoka R**	**1.92**	**55**	P	Pn	13 35 47.6	+0.7
MRZ				S	Sb	13 36 12.5	-0.7

---

*IDC **13** 13:36:06.5±3.5, 42°.81S×173°.88E, h0km, mb3.9/3, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=91.4km s-min=33.9km az=146.0*
*NEIC **13** 13:36:07.0±1.9, 42°.62S±0°.03×173°.79E±0°.06, h10km±1km, mb4.5/9, Error ellipse: s-maj=8.7km s-min=3.1km az=51.0*
ISC 13 13:36:08.5±0.8, 42°.57S±0°.07×173°.75E±0°.08, h21km, n23, σ1s98/25, mb4.1/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.22**	**314**	Pg	**Pb**	**13 36 12.5**	**-1.9**
KHZ				Sg	**Sb**	**13 36 15.7**	**-2.8**
BSWZ	**Blackbirch Sta**	**0.86**	**6**	Pg	**Pb**	**13 36 23.5**	**-1.1**
CMWZ	**Cape Campbell**	**0.89**	**23**	Pg	**Pb**	**13 36 24.6**	**-0.6**
THZ	**Tophouse**	**1.02**	**322**	Pg	**Pb**	**13 36 24.7**	**-2.8**
MQZ	**McQueen's Vall**	**1.39**	**215**	Pn	**Pn**	**13 36 31.6**	**-0.9**
OXZ	**Oxford**	**1.47**	**239**	Pn	**Pn**	**13 36 31.2**	**-2.5**
MSWZ	**Moikau Station**	**1.61**	**45**	Pn	**Pn**	**13 36 31.8**	**-3.8**
RPZ	**Rata Peaks**	**2.28**	**239**	Pn	**Pn**	**13 36 43.8**	**-1.1**
	38nm,0.3s,baz=36,slow=12,SNR=1.4						
RPZ				Sn	**Sb**	**13 37 14.8**	**-1.9**
	119nm,0.3s,baz=360,slow=16,SNR=14						
	257nm,0.5s						
HIZ	**Hauiti**	**4.14**	**12**	Pn	**Pn**	**13 37 10.3**	**-0.2**
FUNA	**Funafuti**	**34.25**	**10**	P	**P**	**13 42 52.9**	**+0.1**
VNDA	**Vanda**	**35.40**	**184**	P	**P**	**13 43 02.3**	**0.0**
ASAR	**Alice Springs**	**37.91**	**287**	P	**P**	**13 43 27.8**	**+3.6**
	0.8nm,0.4s,baz=121,slow=6.6,SNR=5.1						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**37.91**	**287**	P	**P**	**13 43 25.7**	**+1.4**
COEN	**Coen**	**38.83**	**308**	P	**P**	**13 43 33.6**	**+1.6**
COEN				IAmb	IAmb	13 43 50.2	
	comp=Z,25nm,1.4s						
WB2	**Warramunga Arr**	**40.05**	**292**	P	**P**	**13 43 44.3**	**+2.1**
WB2				IAmb	IAmb	13 43 50.4	
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**40.05**	**292**	P	**P**	**13 43 43.4**	**+1.1**
WRAB				IAmb	IAmb	13 44 05.0	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**40.05**	**292**	P	**P**	**13 43 44.2**	**+2.0**
	comp=Z,1.0nm,0.4s,baz=127,slow=8.5,SNR=6.0						
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**40.05**	**292**	P	**P**	**13 43 43.3**	**+1.0**
KNRA	**Kununurra**	**46.82**	**291**	P	**P**	**13 44 37.6**	**+0.8**
MTN	**Manton Dam**	**47.23**	**296**	P	**P**	**13 44 39.9**	**-0.1**
QSPA	**South Pole Qui**	**47.56**	**180**	P	**P**	**13 44 41.4**	**-0.8**
KSRS	**Korea Array**	**89.92**	**325**	P	**P**	**13 49 07.6**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=148,slow=6.3,SNR=1.8						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**153.01**	**326**	PKPbc	**PKiKP**	**13 56 05.7**	**+2.4**
	comp=Z,1.7nm,0.8s,baz=66,slow=3.5,SNR=2.0						

WEL 13 13:37:25.0±0.8, 42°S±5°×17°3E±°, h10km±4km, M4.3/4, ML4.5/4, MLv4.3/4, Error ellipse: s-maj=0.0km s-min=0.0km az=156.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**80**	S	Sg	13 37 34.9	+1.2
GVZ	**Greta Valley S**	**0.52**	**193**	P	Pb	13 37 36.4	+0.2
AMCZ	**Amberley**	**0.82**	**209**	P	Pb	13 37 41.7	+0.4
MQZ	**McQueen's Vall**	**1.31**	**198**	P	Pn	13 37 48.3	-1.0
AKCZ	**Akaroa Harbour**	**1.43**	**188**	P	Pg	13 37 54.5	+2.1
MSWZ	**Moikau Station**	**1.85**	**56**	P	Pn	13 37 55.5	-1.3
CAW	**Cannon Point**	**1.95**	**47**	P	Pn	13 37 56.4	-1.6

**WEL 13 13:38:25.2±0.5, 42°S±3°×17°4E±°, h5

TKNZ	**Takaka Hill**	**1.10**	**330**	P		Pg	13 40 05.0	-0.2
TKNZ				S		Sb	13 40 20.1	-0.1
DUWZ	**D'Urville Isla**	**1.20**	**9**	P		Pg	13 40 06.7	-0.5
PLWZ	**Palliser**	**1.25**	**71**	P		Pg	13 40 05.8	-2.4
MSWZ	**Moikau Station**	**1.31**	**65**	P		Pn	13 40 06.9	-2.2
INZ	**Inchbonnie**	**1.81**	**245**	P		Pn	13 40 16.9	+0.9
AWAZ	**Awhitu Peninsu**	**4.97**	**9**	P		Pn	13 41 01.0	+1.5
ETAZ	**East Tamaki Re**	**5.12**	**11**	P		Pn	13 41 02.9	+1.4
MBAZ	**Motutapu North**	**5.30**	**11**	P		Pn	13 41 04.6	+0.8

ROM 13 13:39:54.1±0.1, 42°.945N±0'.004×13°.206E±0'.006, h9km, ML2.3/9, 6C-3D, Error ellipse: s-maj=0.4km s-min=0.3km az=238.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1256	**Bolognola (MC)**	**0.06**	**14**	⇑P	Pg	13 39 56.1	-0.2
T1256				AML	AML		
	comp=N,4910μm,0.4s						
T1256				AML	AML		
	comp=E,2875μm,0.6s						
T1256				AML	AML		
	comp=N,4710μm,0.4s						
T1256				AML	AML		
	comp=E,2965μm,0.6s						
T1256				AML	AML		
	comp=E,2870μm,0.6s						
T1245	**Castelsantange**	**0.09**	**188**	P	Pg	13 39 56.8	+0.3
T1245				S	Sg	13 39 58.8	+0.5
T1245				AML	AML		
	comp=E,4095μm,0.4s						
T1245				AML	AML		
	comp=E,4100μm,0.4s						
T1245				AML	AML		
	comp=N,4025μm,0.7s						
MMO1	**Montemonaco**	**0.10**	**117**	⇓P	Pg	13 39 56.9	+0.3
MMO1				S	Sg	13 39 58.7	+0.3
FDMO	**Fiordimonte**	**0.13**	**317**	P	Pg	13 39 57.3	+0.3
FDMO				AML	AML		
	comp=E,726μm,0.2s						
FDMO				AML	AML		
	comp=N,862μm,0.2s						
FDMO				AML	AML		
	comp=N,25450μm,0.2s						
FDMO				AML	AML		
	comp=E,13550μm,0.2s						
NRCA	**Norcia**	**0.13**	**211**	P	Pg	13 39 57.5	+0.5
NRCA				AML	AML		
	comp=E,3155μm,0.2s						
NRCA				AML	AML		
	comp=N,2150μm,0.8s						
NRCA				AML	AML		
	comp=N,2145μm,0.8s						
NRCA				AML	AML		
	comp=E,3720μm,1.1s						
NRCA				AML	AML		
	comp=N,1895μm,0.2s						
NRCA				AML	AML		
	comp=N,1835μm,0.2s						
CSP1	**Cessapalombo**	**0.15**	**360**	P	Pg	13 39 57.7	+0.4
CSP1				S	Sg	13 40 00.3	+0.6
CSP1				AML	AML		
	comp=E,2300μm,0.3s						
CSP1				AML	AML		
	comp=N,2410μm,0.5s						
CSP1				AML	AML		
	comp=N,1345μm,1.7s						
T1216	**Preci, Frazion**	**0.15**	**249**	P	Pg	13 39 57.9	+0.6
T1216				AML	AML		
	comp=E,725μm,0.4s						
T1216				AML	AML		
	comp=N,872μm,0.5s						
GUMA	**Gualdo di Mace**	**0.15**	**39**	⇓P	Pg	13 39 58.2	+0.8
GUMA				S	Sg	13 40 01.2	+1.5
GUMA				AML	AML		
	comp=E,2480μm,0.6s						
GUMA				AML	AML		
	comp=N,3350μm,0.3s						
GUMA				AML	AML		
	comp=N,3495μm,0.3s						
GUMA				AML	AML		
	comp=N,3345μm,0.3s						
GUMA				AML	AML		
	comp=E,3355μm,0.2s						
GUMA				AML	AML		
	comp=E,2889μm,0.6s						
GUMA				AML	AML		
	comp=N,3500μm,0.3s						
T1219	**Muccia, Frazio**	**0.18**	**307**	P	Pg	13 39 58.4	+0.4
T1219				AML	AML		
	comp=E,4060μm,0.3s						
T1219				AML	AML		
	comp=N,6100μm,0.2s						
T1219				AML	AML		
	comp=E,4580μm,0.3s						
T1219				AML	AML		
	comp=N,5675μm,0.2s						
T1219				AML	AML		
	comp=E,4065μm,0.3s						
T1219				AML	AML		
	comp=N,6100μm,0.2s						
T1219				AML	AML		
	comp=E,4585μm,0.3s						
T1219				AML	AML		
	comp=N,5675μm,0.2s						
CESI	**CESI - Serrava**	**0.23**	**285**	⇑P	Pg	13 39 59.4	+0.7
CESI				S	Sg	13 40 03.6	+1.7
CESI				AML	AML		
	comp=E,577μm,0.9s						
CESI				AML	AML		
	comp=N,1255μm,0.3s						
CESI				AML	AML		
	comp=E,1245μm,0.6s						
CESI				AML	AML		
	comp=N,1250μm,0.3s						
CESI				AML	AML		
	comp=E,552μm,0.3s						
OFFI	**Offida**	**0.35**	**91**	⇑P	Pb	13 40 02.8	+0.2
OFFI				AML	AML		
	comp=E,200μm,0.6s						
OFFI				AML	AML		
	comp=N,376μm,0.8s						
OFFI				AML	AML		
	comp=E,292μm,1.5s						
OFFI				AML	AML		
	comp=N,376μm,0.8s						
LNSS	**Leonessa**	**0.36**	**200**	S	Sb	13 40 09.0	+0.4
SNTG	**Esanatoglia**	**0.37**	**328**	P	Pg	13 40 01.7	+0.4
SNTG				S	Sb	13 40 08.0	-0.6
SNTG				AML	AML		
	comp=E,676μm,0.1s						
SNTG				AML	AML		
	comp=N,654μm,0.1s						
SNTG				AML	AML		
	comp=E,769μm,0.9s						
SNTG				AML	AML		
	comp=N,695μm,0.2s						
SNTG				AML	AML		
	comp=E,676μm,0.1s						
SNTG				AML	AML		
	comp=N,654μm,0.2s						
SNTG				AML	AML		
	comp=E,770μm,0.9s						
SNTG				AML	AML		
	comp=N,694μm,0.2s						
EL6	**Elcito**	**0.39**	**349**	⇓P	Pg	13 40 02.3	+0.5
ASSB	**Assisi San Ben**	**0.41**	**284**	S	Sb	13 40 10.0	0.0
CING	**Cingoli**	**0.43**	**359**	⇑P	Pg	13 40 03.0	+0.5
CING				AML	AML		
	comp=E,428μm,0.6s						
CING				AML	AML		
	comp=N,358μm,0.9s						
CING				AML	AML		
	comp=N,130μm,0.2s						
CING				AML	AML		
	comp=E,140μm,0.2s						
TERO	**Teramo**	**0.43**	**138**	S	Sb	13 40 11.0	+0.4
RM33	**Pellescritta (**	**0.44**	**179**	S	Sg	13 40 09.0	+0.7
ATCC	**AVT- Casa Cast**	**0.48**	**300**	⇑P	Pg	13 40 03.9	+0.5
ATCC				S	Sb	13 40 13.0	+1.1
ATCC				AML	AML		
	comp=E,767μm,0.2s						
ATCC				AML	AML		
	comp=E,768μm,0.2s						
ATCC				AML	AML		
	comp=N,718μm,0.3s						
T1211	**Morro Reatino**	**0.49**	**212**	S	Sb	13 40 13.0	+0.9
GIGS	**Gran Sasso**	**0.56**	**151**	P	Pg	13 40 03.5	-1.4
SSFR	**Montelago di S**	**0.58**	**328**	P	Pb	13 40 06.2	-0.3
SSFR				AML	AML		
	comp=E,651μm,1.1s						
SSFR				AML	AML		
	comp=N,917μm,0.2s						
SSFR				AML	AML		
	comp=E,551μm,1.5s						
SSFR				AML	AML		
	comp=N,814μm,0.2s						
SSFR				AML	AML		
	comp=N,209μm,0.2s						
SSFR				AML	AML		
	comp=E,218μm,1.4s						
ARVD	**Arcevia**	**0.59**	**341**	AML	AML		
	comp=N,39μm,0.5s						
ARVD				AML	AML		
	comp=E,277μm,0.7s						
ARVD				AML	AML		
	comp=N,227μm,0.1s						
ARVD				AML	AML		
	comp=E,112μm,0.2s						
ATFO	**Monte Foce - G**	**0.63**	**312**	⇑P	Pb	13 40 06.8	-0.5
FAGN	**Fagnano**	**0.73**	**157**	S	Sb	13 40 19.0	-0.2

WEL 13 13:40:04.2±0.4, 42°.S±2°×17°.4E±°, h5km, M4.0/18, ML4.2/10, MLv4.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=179.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.31**	**9**	P	Pb	13 40 11.4	-1.0
BSWZ				S	Sb	13 40 16.2	-1.6
CMWZ	**Cape Campbell**	**0.41**	**47**	P	Pg	13 40 11.7	-0.4
KHZ	**Kahutara**	**0.44**	**208**	P	Pg	13 40 11.1	-1.6
TUWZ	**Tuamarina**	**0.60**	**9**	P	Pb	13 40 16.7	-0.5
THZ	**Tophouse**	**0.73**	**291**	P	Pb	13 40 18.9	-0.6
THZ				S	Sb	13 40 28.8	-0.9
NNZ	**Nelson**	**0.87**	**338**	P	Pb	13 40 21.6	-0.3
NNZ				S	Sg	13 40 32.2	0.0
TCW	**Tory Channel**	**0.89**	**23**	P	Pg	13 40 21.5	+0.2
TCW				S	Sb	13 40 34.0	-0.2
BHW	**Baring Head**	**1.00**	**52**	P	Pb	13 40 24.1	+0.1
MRNZ	**Matariki Terra**	**1.01**	**308**	S	Sb	13 40 38.4	+0.7
WEL	**Wellington**	**1.03**	**44**	P	Pb	13 40 24.5	-0.1
PLWZ	**Palliser**	**1.17**	**68**	P	Pg	13 40 24.6	-2.1
DUWZ	**D'Urville Isla**	**1.23**	**4**	P	Pg	13 40 24.6	-3.2
MSWZ	**Moikau Station**	**1.23**	**61**	P	Pg	13 40 25.5	-2.5
LTZ	**Lake Taylor**	**1.37**	**236**	P	Pn	13 40 29.7	-0.3
DSZ	**Denniston Nort**	**1.53**	**280**	P	Pn	13 40 31.9	-0.3
OKCZ	**Okains Bay**	**1.79**	**198**	P	Pn	13 40 34.2	-1.6
OKCZ				S	Sn	13 40 58.8	-0.1
MQZ	**McQueen's Vall**	**1.88**	**207**	P	Pn	13 40 34.3	-2.7
MQZ				S	Sn	13 40 59.1	-2.1
INZ	**Inchbonnie**	**1.89**	**248**	P	Pn	13 40 37.1	0.0
INZ				S	Sn	13 41 01.7	+0.3

WEL 13 13:41:02.4±0.6, 42°.S±4°×17°.4E±°, h5km±2km, M4.1/6, ML4.4/6, MLv4.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=166.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.23**	**28**	S	Sg	13 41 10.4	+0.5
BSWZ	**Blackbirch Sta**	**0.28**	**328**	P	Pg	13 41 08.1	+0.3
BSWZ				S	Sg	13 41 12.3	+0.9
TUWZ	**Tuamarina**	**0.53**	**349**	P	Pg	13 41 13.0	+0.4
TUWZ				S	Sb	13 41 20.8	-1.3
THZ	**Tophouse**	**0.89**	**282**	S	Sg	13 41 30.9	-0.2
NNZ	**Nelson**	**0.90**	**324**	P	Pg	13 41 18.9	-0.7
NNZ				S	Sg	13 41 31.9	+0.7
PLWZ	**Palliser**	**0.96**	**67**	P	Pg	13 41 20.5	-0.4
MSWZ	**Moikau Station**	**1.03**	**59**	P	Pg	13 41 21.7	-0.4
MSWZ				S	Sb	13 41 37.4	+0.8
MRNZ	**Matariki Terra**	**1.13**	**299**	P	Pg	13 41 23.9	-0.1
MRNZ				S	Sb	13 41 40.1	+0.6
DUWZ	**D'Urville Isla**	**1.15**	**354**	P	Pg	13 41 23.8	-0.7
DUWZ				S	Sb	13 41 40.4	+0.3
TKNZ	**Takaka Hill**	**1.24**	**317**	P	Pg	13 41 25.8	-0.4
TKNZ				S	Sb	13 41 42.6	0.0

*IDC **13** 13:41:10.2±1.4, 57°.35S×25°.18W, h0km, mb4.0/5, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=66.3km s-min=20.4km az=62.0*
*NEIC **13** 13:41:15.0±1.1, 57°.6S±0°.2×25°.3W±0°.2, h35km±2km, mb4.3/13, Error ellipse: s-maj=33.3km s-min=14.4km az=210.0*

ISC 13 13:41:12.1±0.8, 57°.4S±0°.2×25°.1W±0°.2, h15km, n27, σ0s84/27, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.13**	**291**	Pn	**Pn**	**13 42 56.5**	**+0.9**
VNA1	**Neumayer--Stat**	**15.10**	**158**	P	**Pn**	**13 44 44.7**	**+0.2**
VNA3	**Neumayer Olymp**	**15.32**	**161**	P	**Pn**	**13 44 47.0**	**-0.5**
VNA2	**Neumayer--Watz**	**15.50**	**158**	P	**Pn**	**13 44 49.5**	**-0.2**
	baz=324,slow=13						
SNAA	**Sanae**	**17.03**	**156**	P	**Pn**	**13 45 09.8**	**+0.5**
SNAA	**Sanae**	**17.03**	**156**	P	**Pn**	**13 45 09.8**	**+0.5**
	0.4nm,0.3s,baz=42,slow=10,SNR=10						
	5.7nm,1.1s						
SNAA	**Sanae**	**17.03**	**156**		**Pn**	**13 45 09.8**	**+0.5**
TROLL	**Troll, Antarti**	**18.51**	**153**	P	**Pn**	**13 45 30.2**	**+2.5**
QSPA	**South Pole Qui**	**32.83**	**180**	P	**P**	**13 47 44.9**	**+0.2**
	0.6nm,0.5s,baz=179,slow=16,SNR=1.0						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**32.83**	**180**	P	**P**	**13 47 43.0**	**-1.7**
QSPA				IAmb	IAmb	13 47 55.2	
	comp=Z,6.3nm,1.3s						
CPUP	**Villa Florida**	**38.57**	**310**	P	**P**	**13 48 33.4**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=162,slow=3.3,SNR=5.3						
	comp=Z,2.3nm,0.8s						
CPUP	**Villa Florida**	**38.57**	**310**	P	**P**	**13 48 33.3**	**-0.6**
CPUP				IAmb	IAmb	13 48 35.1	
	comp=Z,3.8nm,0.9s						
VNDA	**Vanda**	**45.26**	**182**	P	**P**	**13 49 29.5**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=192,slow=6.6,SNR=8.6						
	comp=Z,0.9nm,0.7s						
VNDA	**Vanda**	**45.26**	**182**	P	**P**	**13 49 27.6**	**-0.5**
PTLB	**Pontes e Lacer**	**49.07**	**314**	P	**P**	**13 49 58.9**	**+0.5**
PTLB				IAmb	IAmb	13 50 00.3	
	comp=Z,4.2nm,0.7s						
SIV	**San Ignacio**	**49.34**	**312**	P	**P**	**13 50 00.6**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=147,slow=7.8,SNR=13						
	comp=Z,2.0nm,0.5s						
MNMC	**Minye Minye**	**50.28**	**301**	P	**P**	**13 50 07.9**	**-0.2**
LPAZ	**La Paz**	**52.09**	**304**	P	**P**	**13 50 21.8**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=173,slow=4.7,SNR=5.9						
	comp=Z,1.1nm,0.6s						
LPAZ	**La Paz**	**52.09**	**304**	P	**P**	**13 50 21.0**	**-1.1**
LPAZ				IAmb	IAmb	13 50 32.7	
	comp=Z,4.9nm,1.2s						
PAF	**Port-aux-Franc**	**52.89**	**125**	P	**P**	**13 50 26.5**	**-0.4**
SAML	**Samuel**	**56.57**	**313**	P	**P**	**13 50 54.5**	**+0.6**
ETMB	**Extrema**	**57.02**	**309**	P	**P**	**13 50 57.1**	**0.0**
ETMB				IAmb	IAmb	13 50 58.3	
	comp=Z,2.9nm,0.8s						
BOAV	**Boa Vista**	**66.06**	**321**	P	**P**	**13 51 58.3**	**+0.1**
BOAV				IAmb	IAmb	13 52 07.0	
	comp=Z,4.4nm,1.3s						
MCRA	**Macar, Loja**	**68.01**	**298**	P	**P**	**13 52 09.8**	**-0.8**
MCRA				IAmb	IAmb	13 52 53.3	
	comp=Z,3.8nm,1.1s						
COHC	**Cochancay**	**69.35**	**300**	P	**P**	**13 52 19.3**	**+0.4**
SONM	**Songino Array**	**149.66**	**87**	PKPbc	**PKPbc**	**14 01 00.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=239,slow=4.2,SNR=3.0						
ILAR	**Eielson Array**	**151.87**	**309**	PKPbc	**PKiKP**	**14 01 05.3**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=35,slow=1.8,SNR=10.0						

*IDC **13** 13:42:26.8±2.6, 41°.56S×174°.06E, h0km, mb3.7/2, mbtmp3.9/3, ML4.5/1, Error ellipse: s-maj=65.6km s-min=45.2km az=137.0*
*WEL **13** 13:42:30.0±0.3, 42°.S±2°×17°.4E±°, h11km±3km, M4.2/20, ML4.7/15, MLv4.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=116.1*
*NEIC **13** 13:42:29.6±0.7, 42°.34S±0°.05×173°.69E±0°.03, h20km±5km, mb4.1/3, Error ellipse: s-maj=6.9km s-min=2.5km az=165.0*

ISC 13 13:42:29.0±0.9, 42°.35S±0°.03×173°.73E±0°.03, h17km±6km, n40, σ0s96/55, mb3.8/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.15**	**246**		**Pb**	**13 42 34.0**	**+0.7**
KHZ				Sg	**Sg**	**13 42 36.8**	**+0.8**
KHZ	**Kahutara**	**0.15**	**246**	P	**Pb**	**13 42 34.2**	**+0.9**
KHZ				S	**Sg**	**13 42 36.6**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.65**	**10**	Pg	**Pb**	**13 42 42.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.65**	**10**	P	**Pg**	**13 42 41.1**	**-0.6**
BSWZ				S	**Sg**	**13 42 50.0**	**-0.3**
CMWZ	**Cape Campbell**	**0.70**	**31**	Pg	**Pg**	**13 42 42.4**	**-0.4**
GVZ	**Greta Valley S**	**0.80**	**220**	P	**Pn**	**13 42 46.8**	**+1.3**
GVZ				S	**Sn**	**13 42 59.4**	**+2.4**
THZ	**Tophouse**	**0.85**	**314**	Pg	**Pg**	**13 42 44.6**	**-0.9**
THZ	**Tophouse**	**0.85**	**314**	P	**Pg**	**13 42 44.9**	**-0.7**
THZ				S	**Sg**	**13 42 55.1**	**-1.7**
TUWZ	**Tuamarina**	**0.94**	**10**		**Pg**	**13 42 46.8**	**-0.3**
TUWZ	**Tuamarina**	**0.94**	**10**	P	**Pb**	**13 42 47.3**	**+0.6**
TUWZ				S	**Sn**	**13 43 01.0**	**+0.7**
LTZ	**Lake Taylor**	**1.16**	**248**	P	**Pg**	**13 42 51.5**	**+0.1**
LTZ				S	**Sn**	**13 43 06.5**	**+0.6**
NNZ	**Nelson**	**1.17**	**347**	Pn	**Pn**	**13 42 50.4**	**0.0**
NNZ	**Nelson**	**1.17**	**347**	P	**Pn**	**13 42 50.2**	**-0.2**
NNZ				S	**Sb**	**13 43 06.4**	**+1.1**
MRNZ	**Matariki Terra**	**1.20**	**322**	P	**Pn**	**13 42 51.4**	**+0.5**
MRNZ				S	**Sb**	**13 43 06.5**	**+0.1**
TCW	**Tory Channel**	**1.21**	**20**	P	**Pb**	**13 42 51.6**	**+0.2**
TCW				S	**Sb**	**13 43 07.9**	**+1.1**
SNZO	**South Karori**	**1.27**	**35**	Pn	**Pg**	**13 42 52.7**	**-0.8**
WEL	**Wellington**	**1.32**	**36**	P	**Pb**	**13 42 53.4**	**+0.2**
WEL				S	**Sn**	**13 43 10.9**	**+1.2**
TKNZ	**Takaka Hill**	**1.44**	**336**	P	**Pn**	**13 42 55.3**	**+1.1**
TKNZ				S	**Sn**	**13 43 12.4**	**-0.2**
MSWZ	**Moikau Station**	**1.47**	**51**	P	**Pb**	**13 42 55.1**	**-0.7**
DUWZ	**D'Urville Isla**	**1.56**	**5**	P	**Pb**	**13 42 57.6**	**+0.3**
DUWZ				S	**Sn**	**13 43 16.9**	**+1.2**
MQZ	**McQueen's Vall**	**1.56**	**210**	Pn	**Pb**	**13 42 56.0**	**-1.4**
MQZ	**McQueen's Vall**	**1.56**	**210**	P	**Pb**	**13 42 56.2**	**-1.2**
MQZ				S	**Sb**	**13 43 15.6**	**-1.3**
OXZ	**Oxford**	**1.58**	**231**	Pn	**Pb**	**13 42 56.4**	**-1.3**
OXZ	**Oxford**	**1.58**	**231**	P	**Pg**	**13 42 57.8**	**-1.5**
CAW	**Cannon Point**	**1.60**	**39**	P	**Pn**	**13 42 57.0**	**+0.6**
PAWZ	**Paruwai Farm**	**1.60**	**53**	P	**Pn**	**13 42 56.6**	**+0.2**
QRZ	**Quartz Range**	**1.77**	**329**	Pn	**Pn**	**13 42 59.0**	**+0.2**
QRZ	**Quartz Range**	**1.77**	**329**	P	**Pb**	**13 43 00.5**	**-0.4**
QRZ				S	**Sn**	**13 43 22.3**	**+1.5**
OGWZ	**Otaki Gorge**	**1.88**	**36**	P	**Pn**	**13 43 00.8**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.98**	**43**	P	**Pg**	**13 43 07.5**	**+0.6**
RPZ	**Rata Peaks**	**2.39**	**234**	Pn	**Pg**	**13 43 16.5**	**+1.8**
	60nm,0.3s,baz=4.3,slow=7.2,SNR=3.2						
	280nm,0.5s						
LBZ	**Lake Benmore**	**3.29**	**231**	Pn	**Pn**	**13 43 20.0**	**+0.4**
ODZ	**Otahua Downs**	**3.50**	**219**	Pn	**Pn**	**13 43 22.8**	**+0.3**
AS31	**Alice Springs**	**37.82**	**287**	P	**P**	**13 49 42.9**	**-1.7**
AS31				IAmb	IAmb	13 50 09.7	
	comp=Z,2.6nm,1.5s						
ASAR	**Alice Springs**	**37.82**	**287**	P	**P**	**13 49 45.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=119,slow=6.5,SNR=2.9						
	comp=Z,0.5nm,0.7s						
WB2	**Warramunga Arr**	**39.95**	**292**	P	**P**	**13 50 02.0**	**-0.4**
WB2				IAmb	IAmb	13 50 37.7	
	comp=Z,5.7nm,1.1s						
WRA	**Warramunga Arr**	**39.96**	**292**	P	**P**	**13 50 02.2**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=128,slow=8.5,SNR=5.7						
	comp=Z,1.4nm,0.9s						
WB0	**Warramunga Arr**	**40.04**	**292**	P	**P**	**13 50 02.6**	**-0.6**
WB0				IAmb	IAmb	13 50 40.7	
	comp=Z,4.7nm,1.0s						
ARCES	**ARCESS Array B**	**148.21**	**339**	PKPbc	**PKPbc**	**14 02 11.1**	**-1.5**
	comp=Z,3.1nm,0.9s,baz=35,slow=3.3,SNR=1.8						
FINES	**FINESS Array B**	**152.82**	**326**	PKPbc	**PKPbc**	**14 02 23.4**	**-0.4**
	comp=Z,2.4nm,1.0s,baz=46,slow=6.0,SNR=1.7						

*IDC **13** 13:42:58.7±2.3, 42°.19S×174°.04E, h0km, mb3.9/4, mbtmp4.0/5, ML4.7/1, Error ellipse: s-maj=66.3km s-min=30.8km az=141.0*
*NEIC **13** 13:43:03.4±1.2, 42°.07S±0°.03×173°.81E±0°.06, h20km±5km, mb4.6/13, Error ellipse: s-maj=7.3km s-min=1.9km az=120.0*
*WEL **13** 13:43:03.2±0.2, 42°.S±2°×17°.4E±°, h11km±2km, M4.2/18, ML4.4/14, MLv4.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7*

ISC 13 13:43:03.2±0.9, 42°.08S±0°.03×173°.83E±0°.03, h24km±7km, n52, σ1s08/73, mb4.3/9, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.37**	**6**	Pg	**Pb**	**13 43 11.0**	**-0.2**
BSWZ				Sg	**Sb**	**13 43 16.3**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.37**	**6**	P	**Pb**	**13 43 11.2**	**0.0**
BSWZ				S	**Sb**	**13 43 17.0**	**+0.3**
KHZ	**Kahutara**	**0.40**	**213**	Pg	**Pb**	**13 43 11.4**	**-0.2**
KHZ				Sg	**Sb**	**13 43 17.3**	**-0.1**
KHZ	**Kahutara**	**0.40**	**213**	P	**Pb**	**13 43 11.7**	**+0.1**
KHZ				S	**Sb**	**13 43 17.5**	**+0.1**
TUWZ	**Tuamarina**	**0.66**	**8**	Pg	**Pn**	**13 43 16.4**	**-0.5**
TUWZ	**Tuamarina**	**0.66**	**8**	P	**Pb**	**13 43 16.2**	**+0.1**
TUWZ				S	**Sb**	**13 43 25.2**	**+0.4**
THZ	**Tophouse**	**0.76**	**295**	Pg	**Pb**	**13 43 17.8**	**0.0**
THZ	**Tophouse**	**0.76**	**295**	P	**Pb**	**13 43 17.6**	**-0.2**
THZ				S	**Sb**	**13 43 27.7**	**-0.1**
NNZ	**Nelson**	**0.93**	**339**		**Pn**	**13 43 20.7**	**+0.1**
NNZ	**Nelson**	**0.93**	**339**	P	**Pn**	**13 43 20.9**	**+0.3**
NNZ				S	**Sn**	**13 43 33.4**	**+0.2**
TCW	**Tory Channel**	**0.94**	**21**	P	**Pn**	**13 43 20.8**	**+0.1**
TCW				S	**Sn**	**13 43 35.2**	**+1.8**
SNZO	**South Karori**	**1.01**	**41**		**Pn**	**13 43 23.1**	**+1.3**
BHW	**Baring Head**	**1.03**	**50**	P	**Pn**	**13 43 23.0**	**+0.9**
BHW				S	**Sn**	**13 43 38.3**	**+2.6**
MRNZ	**Matariki Terra**	**1.05**	**310**	P	**Pn**	**13 43 23.4**	**+1.0**
MRNZ				S	**Sn**	**13 43 38.2**	**+1.9**
GVZ	**Greta Valley S**	**1.06**	**213**		**Pn**	**13 43 23.9**	**+1.4**
GVZ	**Greta Valley S**	**1.06**	**213**	P	**Pn**	**13 43 24.1**	**+1.5**
GVZ				S	**Sn**	**13 43 39.1**	**+2.6**
PLWZ	**Palliser**	**1.18**	**65**	P	**Pb**	**13 43 24.7**	**-0.2**
PLWZ				S	**Sn**	**13 43 41.2**	**+1.7**
MSWZ	**Moikau Station**	**1.26**	**58**		**Pb**	**13 43 25.7**	**-0.4**
MSWZ	**Moikau Station**	**1.26**	**58**	P	**Pb**	**13 43 25.9**	**-0.2**
MSWZ				S	**Sb**	**13 43 43.6**	**+1.6**
LTZ	**Lake Taylor**	**1.35**	**238**		**Pb**	**13 43 27.8**	**0.0**
PAWZ	**Paruwai Farm**	**1.39**	**60**	P	**Pn**	**13 43 27.6**	**+0.6**
PAWZ				S	**Sb**	**13 43 46.3**	**+0.6**
KIW	**Kapiti Island**	**1.47**	**34**	P	**Pb**	**13 43 29.7**	**-0.1**
KIW				S	**Sb**	**13 43 49.2**	**+1.2**
TRWZ	**Traveller**	**1.55**	**64**	P	**Pn**	**13 43 29.3**	**+0.1**
TRWZ				S	**Sb**	**13 43 51.1**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.73**	**47**	P	**Pn**	**13 43 32.3**	**+0.5**
HOWZ				S	**Sb**	**13 43 54.7**	**-1.0**
MRZ	**Mangatainoka R**	**1.94**	**43**	P	**Pn**	**13 43 35.0**	**

FORT Forrest 38.10 272 P **P** 13 50 19.4 -0.7
FORT IAmb IAmb 13 50 51.2
comp=Z,30nm,1.2s
COEN Coen 38.58 307 P **P** 13 50 24.4 +0.2
COEN IAmb IAmb 13 51 03.3
comp=Z,18nm,1.4s
WR0 Warramunga Arr 39.78 291 P **P** 13 50 34.5 +0.3
WR0 IAmb IAmb 13 51 09.4
comp=Z,11nm,1.3s
WB2 Warramunga Arr 39.92 291 P **P** 13 50 35.7 +0.3
WRAB Tennant Creek 39.93 291 P **P** 13 50 35.7 +0.3
WRAB IAmb IAmb 13 50 49.2
comp=Z,12nm,1.4s
WRA Warramunga Arr 39.93 291 P **P** 13 50 35.8 +0.4
comp=Z,1.1nm,0.4s,baz=127,slow=8.5,SNR=6.1
comp=Z,1.1nm,0.4s
WB0 Warramunga Arr 40.01 291 P **P** 13 50 36.4 +0.3
PMG Port Moresby 40.11 317 P **P** 13 50 36.5 -0.5
PMG IAmb IAmb 13 50 43.2
comp=Z,7.2nm,1.1s
CASY Casey 41.76 213 P **P** 13 50 49.6 -0.4
KSRS Korea Array 89.55 325 P **P** 13 55 58.6 +0.5
comp=Z,0.5nm,0.7s,baz=148,slow=4.5,SNR=2.1
comp=Z,0.5nm,0.7s
CMAR Chiang Mai Arr 91.48 294 P **P** 13 56 08.4 +0.8
comp=Z,0.4nm,0.5s,baz=146,slow=5.0,SNR=2.6
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 147.98 340 PKPbc **PKPbc** 14 02 44.4 -0.7
comp=Z,1.7nm,0.7s,baz=64,slow=2.1,SNR=8.4
FINES FINESS Array B 152.64 326 PKPbc **PKPbc** 14 02 56.0 -0.5
comp=Z,1.4nm,0.7s,baz=100,slow=3.2,SNR=4.5

WEL 13 13:46:15.4±0.3,42°S±2°×17°4E±°, h5km,M4.3/21, ML4.5/13,MLv4.3/21, Error ellipse: s-maj=0.0km s-min=0.0km az=112.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**195**	P		Pg	13 46 20.9	+0.1
KHZ				S		Sg	13 46 25.1	+0.7
BSWZ	**Blackbirch Sta**	**0.47**	**23**	P		Pg	13 46 25.1	+0.6
BSWZ				S		Sb	13 46 32.8	-0.7
THZ	**Tophouse**	**0.67**	**305**	P		Pg	13 46 28.3	0.0
THZ				S		Sg	13 46 37.8	+0.9
TUWZ	**Tuamarina**	**0.76**	**18**	P		Pb	13 46 30.6	-0.5
TUWZ				S		Sb	13 46 41.9	+0.2
GVZ	**Greta Valley S**	**0.93**	**208**	P		Pb	13 46 33.9	-0.1
NNZ	**Nelson**	**0.95**	**348**	P		Pg	13 46 33.7	+0.1
NNZ				S		Sb	13 46 46.8	-0.4
MRNZ	**Matariki Terra**	**1.00**	**319**	P		Pb	13 46 35.1	-0.1
MRNZ				S		Sb	13 46 49.5	+0.9
TCW	**Tory Channel**	**1.06**	**27**	P		Pg	13 46 35.3	-0.3
TCW				S		Sb	13 46 50.9	+0.6
LTZ	**Lake Taylor**	**1.19**	**237**	P		Pg	13 46 37.3	-0.9
LTZ				S		Sb	13 46 54.7	+0.6
WEL	**Wellington**	**1.21**	**45**	P		Pg	13 46 37.0	-1.7
WEL				S		Sn	13 46 55.9	0.0
TKNZ	**Takaka Hill**	**1.23**	**336**	P		Pg	13 46 38.3	-0.6
TKNZ				S		Sn	13 46 56.4	+0.3
AMCZ	**Amberley**	**1.25**	**215**	P		Pb	13 46 39.5	0.0
DUWZ	**D'Urville Isla**	**1.36**	**9**	P		Pn	13 46 41.0	-0.1
DUWZ				S		Sn	13 47 00.7	+1.0
MSWZ	**Moikau Station**	**1.42**	**59**	P		Pn	13 46 40.3	-1.5
MSWZ				S		Sb	13 46 59.4	-1.2
KIW	**Kapiti Island**	**1.61**	**37**	P		Pn	13 46 44.2	-0.3
KIW				S		Sn	13 47 05.6	0.0
INZ	**Inchbonnie**	**1.72**	**250**	P		Pn	13 46 46.1	+0.2
INZ				S		Sn	13 47 08.2	0.0
OGWZ	**Otaki Gorge**	**1.76**	**41**	P		Pn	13 46 45.7	-0.9
HOWZ	**Holdsworth Sta**	**1.89**	**49**	P		Pg	13 46 52.1	+0.5
PRWZ	**Pori Road**	**2.38**	**49**	P		Pg	13 47 00.8	-0.1
RPZ	**Rata Peaks**	**2.46**	**230**	P		Pn	13 46 55.7	-0.4
PKE	**Pukeiti**	**2.97**	**5**	P		Pb	13 47 07.3	-1.4

*KRSC **13** 13:47:40.5±1.5, 50°.74N×157°.30E, h121km±12km, ML4.5*
*MOS **13** 13:47:40.6±0.9, 50°.86N×156°.73E, h137km, mb4.3/13, Error ellipse: s-maj=14.1km s-min=3.7km az=74.4*
MOS Felt (II) at Severo-Kuril'sk.
*NEIC **13** 13:47:42.1±1.7, 51°.0N±0°.1×156°.7E±0°.1, h126km±7km, mb4.5/101, Error ellipse: s-maj=16.7km s-min=11.7km az=150.0*
*IDC **13** 13:47:44.3±1.7, 51°.20N×156°.57E, h142km±11km, mb3.5/19, mbtmp3.9/22, Error ellipse: s-maj=20.2km s-min=11.2km az=163.0*
ISC 13 13:47:41.7±0.6, 50°.89N±0°.06×156°.88E±0°.05, h130km±4km, n253, σ1°22/273, mb4.4/71, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.53**	**247**	*e*P		**Pn**	**13 48 01.0**	**+0.2**
SKR				*e*S		**Sn**	**13 48 15.1**	**-0.2**
SKR	**Severo-Kuril's**	**0.53**	**247**	*i*P	N	**Pn**	**13 48 01.1**	**+0.2**
SKR				*e*S		**Sn**	**13 48 15.1**	**-0.2**
SKR				pmax		pmax		
	comp=Z,2μm,0.4s							
SKR				smax		smax		
	comp=N,17μm,0.8s							
SKR				smax		smax		
	comp=E,7μm,0.4s							
PAU	**Pauzhetka**	**0.58**	**356**	*e*P		**Pn**	**13 48 01.9**	**+0.7**
PAU				*e*S		**Sn**	**13 48 16.4**	**+0.4**
PAU	**Pauzhetka**	**0.58**	**356**	PN		**Pn**	**13 48 01.9**	**+0.7**
PAU				S		**Sn**	**13 48 16.4**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.19**	**39**	*e*P		**Pn**	**13 48 06.3**	**0.0**
KDTR				*e*S		**Sn**	**13 48 24.1**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.19**	**39**	PN		**Pn**	**13 48 06.3**	**0.0**
KDTR				S		**Sn**	**13 48 24.1**	**-1.0**
ASAK	**Asacha**	**1.62**	**23**	*e*P		**Pn**	**13 48 12.1**	**+0.9**
ASAK				*e*S		**Sn**	**13 48 34.4**	**+0.6**
ASAK	**Asacha**	**1.62**	**23**	PN		**Pn**	**13 48 12.1**	**+0.9**
ASAK				S		**Sn**	**13 48 34.4**	**+0.6**
MTVR	**Mutnovka**	**1.79**	**27**	*e*P		**Pn**	**13 48 14.1**	**+0.9**
MTVR				*e*S		**Sn**	**13 48 38.0**	**+0.7**
MTVR	**Mutnovka**	**1.79**	**27**	PN		**Pn**	**13 48 14.1**	**+0.9**
MTVR				S		**Sn**	**13 48 38.0**	**+0.7**
GRL	**Gorelyy**	**1.82**	**24**	*e*P		**Pn**	**13 48 14.7**	**+1.1**
GRL				*e*S		**Sn**	**13 48 38.9**	**+0.9**
GRL	**Gorelyy**	**1.82**	**24**	PN		**Pn**	**13 48 14.7**	**+1.1**
GRL				S		**Sn**	**13 48 38.9**	**+0.9**
RUS	**Russkaya**	**1.85**	**33**	*e*P		**Pn**	**13 48 13.7**	**0.0**
RUS				*e*S		**Sn**	**13 48 38.0**	**-0.3**
RUS	**Russkaya**	**1.85**	**33**	PN		**Pn**	**13 48 13.7**	**0.0**
RUS				S		**Sn**	**13 48 38.0**	**-0.3**
APC	**Apacha**	**2.04**	**5**	*e*P		**Pn**	**13 48 17.0**	**+0.9**
APC	**Apacha**	**2.04**	**5**	PN		**Pn**	**13 48 17.7**	**+0.9**
KRMR	**Karymshinskiy**	**2.09**	**21**	*e*P		**Pn**	**13 48 17.7**	**+1.0**
KRMR				*e*S		**Sn**	**13 48 45.6**	**+2.1**
KRMR	**Karymshinskiy**	**2.09**	**21**	PN		**Pn**	**13 48 17.7**	**+1.0**
KRMR				S		**Sn**	**13 48 45.6**	**+2.1**
PEA0B	**Petropavlovsk-**	**2.28**	**13**			**Pn**	**13 48 20.1**	**+1.1**
PEA0B	**Petropavlovsk-**	**2.28**	**13**	*i*e	PN	**Pn**	**13 48 20.0**	**+1.1**
PEA0B				*e*S		**Sn**	**13 48 48.1**	**+0.4**
PETK	**Petropavlovsk-**	**2.28**	**13**	P		**Pn**	**13 48 19.2**	**+0.2**
	comp=E,20nm,0.7s,baz=160,slow=11,SNR=183							
PETK				S		**Sn**	**13 48 46.6**	**-1.1**
	comp=E,24nm,0.6s,baz=149,slow=14,SNR=6.3							
PETK	**Petropavlovsk-**	**2.28**	**13**			**Pn**	**13 48 19.0**	**0.0**
PET	**Petropavlovsk**	**2.40**	**27**			**Pn**	**13 48 21.0**	**+0.5**
PET	**Petropavlovsk**	**2.40**	**27**	*e*P		**Pn**	**13 48 21.3**	**+0.8**
PET				*e*S		**Sn**	**13 48 50.8**	**+0.4**
PET	**Petropavlovsk**	**2.40**	**27**	*e*PN		**Pn**	**13 48 21.1**	**+0.5**
PET				*e*S		**Sn**	**13 48 50.9**	**+0.5**
PET				pmax		pmax		
	comp=Z,90nm,0.8s							
PET				smax		smax		
	comp=E,461nm,1.0s							
PET				smax		smax		
	comp=N,838nm,0.8s							
DALK	**Dalny**	**2.44**	**28**	*e*P		**Pn**	**13 48 21.8**	**+0.8**
DALK				*e*S		**Sn**	**13 48 51.2**	**0.0**
DALK	**Dalny**	**2.44**	**28**	PN		**Pn**	**13 48 21.8**	**+0.8**
DALK				S		**Sn**	**13 48 51.2**	**0.0**
UGLR	**Uglovaya**	**2.61**	**27**	*e*P		**Pn**	**13 48 25.0**	**+1.7**
UGLR	**Uglovaya**	**2.61**	**27**	PN		**Pn**	**13 48 25.0**	**+1.7**
KOK	**Koryaka**	**2.64**	**24**	*e*P		**Pn**	**13 48 25.6**	**+2.0**
KOK	**Koryaka**	**2.64**	**24**	PN		**Pn**	**13 48 25.6**	**+2.0**
AVH	**Avacha**	**2.64**	**25**	*e*P		**Pn**	**13 48 25.5**	**+1.9**
AVH	**Avacha**	**2.64**	**25**	PN		**Pn**	**13 48 25.5**	**+1.9**
SMAR	**Somma**	**2.65**	**26**	*e*P		**Pn**	**13 48 25.3**	**+1.3**
SMAR	**Somma**	**2.65**	**26**	PN		**Pn**	**13 48 25.3**	**+1.3**
KRER	**Koryakskii**	**2.68**	**25**	*e*P		**Pn**	**13 48 25.9**	**+1.7**
KRER	**Koryakskii**	**2.68**	**25**	PN		**Pn**	**13 48 25.9**	**+1.7**
SDLR	**Sedlovina**	**2.69**	**27**	*e*P		**Pn**	**13 48 25.4**	**+1.1**
SDLR				*e*S		**Sn**	**13 48 58.1**	**+0.9**
SDLR	**Sedlovina**	**2.69**	**27**	PN		**Pn**	**13 48 25.4**	**+1.1**
SDLR				S		**Sn**	**13 48 58.1**	**+0.9**
NLC	**Nalytchevo**	**2.74**	**33**	*e*P		**Pn**	**13 48 24.7**	**-0.2**
NLC				*e*S		**Sn**	**13 48 55.8**	**-2.4**
NLC	**Nalytchevo**	**2.74**	**33**	PN		**Pn**	**13 48 24.7**	**-0.2**
NLC				S		**Sn**	**13 48 55.8**	**-2.4**
GNL	**Ganaly**	**2.88**	**13**	*e*P		**Pn**	**13 48 28.3**	**+1.5**
GNL	**Ganaly**	**2.88**	**13**	PN		**Pn**	**13 48 28.3**	**+1.5**
SPN	**Mys Shipunski**	**2.94**	**40**	*e*P		**Pn**	**13 48 27.2**	**-0.3**
SPN				*e*S		**Sn**	**13 49 00.3**	**-2.5**
SPN	**Mys Shipunski**	**2.94**	**40**	PN		**Pn**	**13 48 27.2**	**-0.3**
SPN				S		**Sn**	**13 49 00.3**	**-2.5**
TUMD	**Tumrok D**	**4.81**	**25**	*e*P		**Pn**	**13 48 53.0**	**+0.9**
TUMD				*e*S		**Sn**	**13 49 45.8**	**-1.2**
TUMR	**Tumrok**	**4.82**	**23**	*e*P		**Pn**	**13 48 54.2**	**+1.9**
TUMR	**Tumrok**	**4.82**	**23**	PN		**Pn**	**13 48 54.2**	**+1.9**
ESO	**Esso**	**5.16**	**11**	*e*P		**Pn**	**13 48 58.3**	**+1.5**
ESO	**Esso**	**5.16**	**11**	PN		**Pn**	**13 48 58.3**	**+1.5**
KMNR	**Kamenistaya**	**5.27**	**21**	*e*P		**Pn**	**13 48 59.9**	**+1.5**
KMNR	**Kamenistaya**	**5.27**	**21**	PN		**Pn**	**13 48 59.9**	**+1.5**
KPT	**Kopyto**	**5.46**	**20**	*e*P		**Pn**	**13 49 01.2**	**+0.3**
KPT	**Kopyto**	**5.46**	**20**	PN		**Pn**	**13 49 01.2**	**+0.3**
BZMR	**Bezymyannaya**	**5.49**	**22**	*e*P		**Pn**	**13 49 02.9**	**+1.5**
BZMR	**Bezymyannaya**	**5.49**	**22**	PN		**Pn**	**13 49 02.9**	**+1.5**
BZWR	**Bezymyannyi-We**	**5.52**	**22**	*e*P		**Pn**	**13 49 03.9**	**+2.1**
BZWR	**Bezymyannyi-We**	**5.52**	**22**	PN		**Pn**	**13 49 03.9**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**5.55**	**23**	*e*P		**Pn**	**13 49 05.0**	**+2.9**
BZGR	**Bezymyannyi-Gr**	**5.55**	**23**	PN		**Pn**	**13 49 05.0**	**+2.9**
SRDR	**Sredinnyy**	**5.69**	**16**	*e*P		**Pn**	**13 49 06.4**	**+2.5**
SRDR	**Sredinnyy**	**5.69**	**16**	PN		**Pn**	**13 49 06.4**	**+2.5**
KLY	**Klyuchi**	**5.88**	**21**	*e*P		**Pn**	**13 49 07.7**	**+1.4**
KLY	**Klyuchi**	**5.88**	**21**	PN		**Pn**	**13 49 07.7**	**+1.4**
BDR	**Baidarnaya**	**6.24**	**23**	*e*P		**Pn**	**13 49 12.4**	**+1.1**
BDR	**Baidarnaya**	**6.24**	**23**	PN		**Pn**	**13 49 12.4**	**+1.1**
SRKR	**Sorokina**	**6.31**	**22**	*e*P		**Pn**	**13 49 13.3**	**+1.1**
SRKR	**Sorokina**	**6.31**	**22**	PN		**Pn**	**13 49 13.3**	**+1.1**
SMKR	**Semkarok**	**6.32**	**24**	*e*P		**Pn**	**13 49 13.7**	**+1.3**
SMKR	**Semkarok**	**6.32**	**24**	PN		**Pn**	**13 49 13.7**	**+1.3**
KBTR	**Krutoberegovo**	**6.39**	**31**	*e*P		**Pn**	**13 49 13.2**	**-0.1**
KBTR	**Krutoberegovo**	**6.39**	**31**	PN		**Pn**	**13 49 13.2**	**-0.1**
KBG	**Krutoberegovo**	**6.39**	**31**	*e*P		**Pn**	**13 49 14.5**	**+1.2**
KBG	**Krutoberegovo**	**6.39**	**31**	PN		**Pn**	**13 49 14.5**	**+1.2**
BKI	**Bering**	**6.98**	**48**	*e*P		**Pn**	**13 49 20.4**	**-0.7**
BKI	**Bering**	**6.98**	**48**	PN		**Pn**	**13 49 20.4**	**-0.7**
JKA	**Kamikawa-asahi**	**11.79**	**240**	Pn		**Pn**	**13 50 26.7**	**+1.1**
ASAJ	**Asahikawa**	**11.79**	**240**	PN		**Pn**	**13 50 26.7**	**+1.1**
SEY	**Seymchan**	**12.31**	**350**	P		**Pn**	**13 50 34.1**	**+1.8**
	comp=N,4.8nm,1.1s,baz=126,slow=16,SNR=2.0							
ERM	**Erimo**	**12.96**	**232**	Pn		Pn	13 50 37.9	-2.9
ERM	**Erimo**	**12.96**	**232**	PN		Pn	13 50 37.9	-2.9
KIWB	**Kanaga Island**	**16.22**	**76**	Pn		**Pn**	**13 51 21.9**	**+0.1**
BILL	**Bilibino**	**17.81**	**12**			**Pn**	**13 51 40.0**	**-1.0**
BILL					IAmb	IAmb	13 51 43.9	
	comp=Z,29nm,1.4s							
BILL	**Bilibino**	**17.81**	**12**	*i* P		**Pn**	**13 51 42.1**	**+1.2**
BILL					pmax	pmax		
	comp=Z,24nm,1.5s							
JSD	**Sado**	**18.42**	**233**	P		**P**	**13 51 48.8**	**+2.0**
JSD					IAmb	IAmb	13 52 10.8	
	comp=Z,44nm,1.3s							
YAK	**Yakutsk**	**18.55**	**317**	P		**P**	**13 51 46.9**	**-1.1**
	comp=Z,9.4nm,0.5s,baz=296,slow=1.7,SNR=7.0							
YAK	**Yakutsk**	**18.55**	**317**	P		**P**	**13 51 45.7**	**-2.2**
YAK					IAmb	IAmb	13 51 48.6	
	comp=Z,20nm,0.6s							
YAK	**Yakutsk**	**18.55**	**317**	*i*e	P	**P**	**13 51 47.2**	**-0.7**
YAK					pmax	pmax		
	comp=Z,17nm,0.6s							
MDJ	**Mudanjiang**	**19.32**	**262**	P		**P**	**13 51 56.1**	**-0.5**
MJB9	**Matsu-Tunnel**	**19.61**	**230**	P		**P**	**13 52 00.8**	**+1.0**
MAJO	**Matsushiro**	**19.61**	**230**	P		**P**	**13 52 00.8**	**+1.0**
MAJO	**Matsushiro**	**19.61**	**230**	P		**P**	**13 52 00.8**	**+1.0**
MAJO					pmax	pmax		
	comp=Z,7.0nm,1.0s							
MJAR	**Matsushiro Arr**	**19.61**	**230**	P		**P**	**13 52 01.1**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=20,slow=12,SNR=4.5							
SPIA	**Saint Paul Isl**	**20.16**	**59**	P		**P**	**13 52 04.8**	**-0.6**
INU	**Inuyama**	**21.14**	**230**	P		**P**	**13 52 17.1**	**+0.9**
TIXI	**Tiksi**	**24.34**	**339**	P		**P**	**13 52 44.9**	**-1.9**
	comp=Z,1.8nm,0.6s,baz=281,slow=0.4,SNR=7.1							
	comp=Z,1.8nm,0.6s							
TIXI	**Tiksi**	**24.34**	**339**	P		**P**	**13 52 44.1**	**-2.7**
TIXI	**Tiksi**	**24.34**	**339**	*i*e	P	**P**	**13 52 46.5**	**-0.3**
TIXI					pmax	pmax		
	comp=Z,8.0nm,1.4s							
KSRS	**Korea Array**	**24.55**	**248**	P		**P**	**13 52 50.9**	**+1.9**
	comp=Z,1.1nm,0.7s,baz=48,slow=9.4,SNR=5.8							
	comp=Z,1.1nm,0.7s							
CHGN	**Chignik**	**26.70**	**61**	P		**P**	**13 53 10.4**	**+2.2**
N18K	**Kilae Creek**	**27.71**	**51**	P		**P**	**13 53 19.0**	**+1.6**
N18K					IAmb	IAmb	13 53 33.3	
	comp=Z,31nm,1.5s							
K20K	**Telida**	**28.61**	**45**	P		**P**	**13 53 26.2**	**+0.9**
J20K	**Nowinta River**	**28.62**	**44**	P		**P**	**13 53 25.8**	**+0.4**
J20K					IAmb	IAmb	13 53 27.2	
	comp=Z,9.2nm,1.4s							
IMAR	**Indian Mountai**	**28.97**	**40**	P		**P**	**13 53 28.4**	**0.0**
M20K	**Styx River**	**29.02**	**48**	P		**P**	**13 53 28.7**	**-0.3**
H21K	**Melozitna Rive**	**29.32**	**41**	P		**P**	**13 53 31.8**	**+0.3**
CAST	**Castle Rocks**	**29.51**	**45**	P		**P**	**13 53 32.8**	**-0.4**
KTH	**Kantishna Hill**	**30.03**	**45**	P		**P**	**13 53 38.5**	**+0.6**
KTH					IAmb	IAmb	13 53 40.6	
	comp=Z,13nm,1.3s							
TRF	**Thorofare Moun**	**30.31**	**45**	P		**P**	**13 53 40.8**	**+0.3**
TRF					IAmb	IAmb	13 53 43.9	
	comp=Z,10nm,1.2s							
CUT	**Chulitna**	**30.35**	**47**	P		**P**	**13 53 41.0**	**+0.4**
COLD	**Coldfoot**	**30.52**	**38**	P		**P**	**13 53 41.7**	**-0.4**
H23K	**Yukon River**	**30.68**	**41**	P		**P**	**13 53 43.9**	**+0.4**
H23K					IAmb	IAmb	13 54 14.7	
	comp=Z,11nm,1.5s							
I23K	**Minto, Yukon-K**	**30.73**	**42**	P		**P**	**13 53 44.8**	**+0.9**
NEA2	**Nenana**	**30.84**	**43**	P		**P**	**13 53 45.5**	**+0.5**
MCK	**McKinley**	**30.91**	**45**	P		**P**	**13 53 46.5**	**+0.9**
MCK					IAmb	IAmb	13 53 48.5	
	comp=Z,12nm,1.3s							
MCK	**McKinley**	**30.91**	**45**	P		**P**	**13 53 46.5**	**+0.9**
MCK					pmax	pmax		
	comp=Z,12nm,1.3s							
TOLK	**Toolik Lake Re**	**30.91**	**35**	P		**P**	**13 53 46.1**	**+0.5**
TOLK					IAmb	IAmb	13 53 47.4	
	comp=Z,20nm,1.5s							
SEW	**Seward**	**30.94**	**52**	P		**P**	**13 53 45.6**	**-0.2**
PMR	**Palmer**	**30.94**	**49**	P		**P**	**13 53 45.4**	**-0.4**
PMR	**Palmer**	**30.94**	**49**	P		**P**	**13 53 45.4**	**-0.4**
MDM	**Murphy Dome**	**31.21**	**42**	P		**P**	**13 53 48.2**	**0.0**
KNK	**Knik Glacier**	**31.28**	**49**	P		**P**	**13 53 48.2**	**-0.7**
SML	**Sawmill**	**31.30**	**48**	P		**P**	**13 53 49.3**	**+0.3**
COLA	**College**	**31.37**	**42**	*i*e	P	**P**	**13 53 49.9**	**+0.4**
COLA					pmax	pmax		
	comp=Z,42nm,4.0s							
CCB	**Clear Creek Bu**	**31.39**	**43**	P		**P**	**13 53 50.0**	**+0.3**
CCB					IAmb	IAmb	13 53 51.4	
	comp=Z,8.4nm,1.3s							
PWL	**Port Wells**	**31.40**	**50**	P		**P**	**13 53 50.0**	**+0.1**
POKR	**Poker Flat Res**	**31.54**	**42**	P		**P**	**13 53 51.9**	**+0.8**
POKR					IAmb	IAmb	13 54 00.0	
	comp=Z,5.6nm,0.9s							
DHY	**Denali Highway**	**31.64**	**46**	P		**P**	**13 53 52.4**	**+0.2**
DHY					IAmb	IAmb	13 53 57.3	
	comp=Z,12nm,1.4s							
HDA	**Harding Lake**	**31.77**	**43**	P		**P**	**13 53 53.2**	**+0.2**
HDA					IAmb	IAmb	13 54 00.5	
	comp=Z,12nm,1.5s							
SCM	**Sheep Creek Mo**	**31.77**	**48**	P		**P**	**13 53 53.9**	**+0.7**
SCM	**Sheep Creek Mo**	**31.77**	**48**	P		**P**	**13 53 53.9**	**+0.7**
SCM					pmax	pmax		
	comp=Z,34nm,1.4s							
IL31		**31.78**	**43**	P		**P**	**13 53 53.5**	**+0.3**
ILAR	**Eielson Array**	**31.78**	**43**	P		**P**	**13 53 53.4**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=259,slow=6.9,SNR=16							
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**31.78**	**43**	P		**P**	**13 53 54.2**	**+1.0**
ILAR	**Eielson Array**	**31.78**	**43**	*e*P		**P**	**13 53 53.6**	**+0.4**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**32.09**	**162**	T		T	14 27 54.9	
	baz=348,slow=76,SNR=6.7							
H11N1	**WAKE ISLAND Hy**	**32.11**	**162**	T		T	14 27 57.0	
	baz=348,slow=76,SNR=4.9							
H11N3	**WAKE ISLAND Hy**	**32.11**	**162**	T		T	14 27 55.9	
	baz=348,slow=76,SNR=6.8							
M24K	**Tolsona, Glenn**	**32.28**	**48**	P		**P**	**13 53 58.4**	**+0.7**
PRP	**Porcupine Dome**	**32.34**	**41**	P		**P**	**13 53 58.9**	**+0.6**
PRP					IAmb	IAmb	13 54 00.1	
	comp=Z,8.8nm,1.3s							
J25K	**Salcha River,**	**32.44**	**43**	P		**P**	**13 53 57.6**	**-1.4**
BMAR	**Burnt Mountain**	**32.70**	**38**	P		**P**	**13 54 02.2**	**+0.9**
N25K	**Chitina, Valde**	**33.09**	**48**	P		**P**	**13 54 04.9**	**+0.2**
N25K					IAmb	IAmb	13 54 22.2	
	comp=Z,18nm,1.4s							
J26L	**Joseph Creek**	**33.23**	**43**	P		**P**	**13 54 05.3**	**-0.6**
J26L					IAmb	IAmb	13 54 25.2	
	comp=Z,8.0nm,1.4s							
H11S1	**WAKE ISLAND Hy**	**33.24**	**163**	T		T	14 29 19.9	
	baz=348,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**33.26**	**163**	T		T	14 29 18.2	
	baz=348,slow=76,SNR=22							
H11S2	**WAKE ISLAND Hy**	**33.26**	**163**	T		T	14 29 20.9	
	baz=348,slow=76,SNR=16							
I26K	**Coal Creek Min**	**33.34**	**41**	P		**P**	**13 54 06.2**	**-0.5**
K27K	**Chicken**	**33.92**	**44**	P		**P**	**13 54 11.8**	**0.0**
L27K	**Beaver Creek,**	**34.16**	**45**	P		**P**	**13 54 14.0**	**+0.1**
BCAR	**Beaver Creek A**	**34.18**	**45**	P		**P**	**13 54 14.4**	**+0.4**
EGAK	**Eagle**	**34.23**	**42**	P		**P**	**13 54 14.4**	**0.0**
EGAK					IAmb	IAmb	13 54 27.2	
	comp=Z,11nm,1.4s							
ISLE	**Juniper Island**	**34.34**	**50**	P		**P**	**13 54 16.5**	**+0.9**
BARN	**Barnard Glacie**	**34.58**	**49**	P		**P**	**13 54 18.9**	**+1.1**
BARN					IAmb	IAmb	13 54 36.1	
	comp=Z,16nm,1.2s							
YAH	**Yahtse**	**34.68**	**50**	P		**P**	**13 54 19.7**	**+1.0**
DAWY	**Dawson**	**35.09**	**43**	P		**P**	**13 54 22.5**	**+0.6**
DAWY					IAmb	IAmb	13 54 23.3	
	comp=Z,8.0nm,1.4s							
M30M	**Minto, Yukon**	**36.52**	**45**	P		**P**	**13 54 35.6**	**+1.5**
M30M					IAmb	IAmb	13 55 05.8	
	comp=Z,11nm,1.5s							
HYT	**Haines Junctio**	**36.61**	**48**	P		**P**	**13 54 36.5**	**+1.5**
HYT					IAmb	IAmb	13 54 54.8	
	comp=Z,9.7nm,1.3s							
INK	**Inuvik**	**36.82**	**36**	P		**P**	**13 54 37.3**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=288,slow=6.3,SNR=22							
	comp=Z,1.9nm,0.5s							
INK	**Inuvik**	**36.82**	**36**	P		**P**	**13 54 37.2**	**+0.8**
INK					IAmb	IAmb	13 54 42.9	
	comp=Z,10nm,1.4s							
INK	**Inuvik**	**36.82**	**36**	P		**P**	**13 54 37.3**	**+0.8**
INK					pmax	pmax		
	comp=Z,10.0nm,1.4s							
FARO	**Faro, Yukon**	**38.16**	**45**	P		**P**	**13 54 49.3**	**+1.4**
FARO					IAmb	IAmb	13 54 50.3	
	comp=Z,11nm,1.3s							
A36M	**Sachs Harbour**	**39.02**	**29**	P		**P**	**13 54 56.0**	**+1.1**
A36M					IAmb	IAmb	13 54 57.6	
	comp=Z,7.6nm,0.8s							
C36M	**Paulatuk**	**39.98**	**33**	P		**P**	**13 55 03.6**	**+0.7**
C36M					IAmb	IAmb	13 55 04.7	
	comp=Z,14nm,1.4s							
ZALV	**Zalesovo Beam**	**42.31**	**303**	P		**P**	**13 55 21.1**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=56,slow=5.4,SNR=2.1							
	comp=Z,0.5nm,0.4s							
EUNU	**Eureka**	**44.55**	**13**	P		**P**	**13 55

comp=Z,1.0nm,0.6s
RSSD Black Hills 62.30 53 P P 13 57 50.6 +0.6
RSSD IAmb IAmb 13 57 52.2
comp=Z,14nm,1.4s
RSSD Black Hills 62.30 53 P P 13 57 50.6 +0.6
RSSD pmax pmax
comp=Z,14nm,1.4s
PFO Pinyon Flats O 62.80 70 *i* P **P 13 57 56.0 +2.7**
OBN Obninsk 63.27 326 *e*P **P 13 57 52.8 -3.1**
OBN *e* 13 58 32.0
OBN pmax pmax
comp=Z,4.0nm,1.0s
N23A Red Feather La 63.60 57 P **P 13 58 00.1 +1.5**
N23A IAmb IAmb 13 58 07.0
comp=Z,6.9nm,1.3s
PV14 Lion Creek, Pa 63.72 61 P **P 13 58 00.3 +0.9**
PV14 IAmb IAmb 13 58 31.9
comp=Z,7.5nm,1.5s
PV17 East Wray Mesa 63.82 61 P **P 13 58 01.4 +1.3**
PV16 Nyswonger Mesa 63.82 61 P **P 13 58 01.3 +1.2**
PV16 IAmb IAmb 13 58 02.2
comp=Z,7.1nm,1.3s
PV11 David Mesa, Pa 63.85 61 P **P 13 58 01.5 +1.2**
PV11 IAmb IAmb 13 58 03.5
comp=Z,12nm,1.3s
PV05 Paradox Valley 63.88 61 P **P 13 58 02.0 +1.5**
PV05 IAmb IAmb 13 58 03.2
comp=Z,14nm,1.4s
PV13 Radium Mtn., P 63.98 61 P **P 13 58 02.6 +1.4**
PV13 IAmb IAmb 13 58 03.8
comp=Z,3.5nm,0.7s
NC303 NORSAR Array S 64.87 342 P **P 13 58 04.4 -1.9**
NC405 NORSAR Array S 64.90 342 P **P 13 58 05.3 -1.2**
NC204 NORSAR Array S 64.94 343 P **P 13 58 05.6 -1.2**
NB201 NORSAR Array S 65.04 342 P **P 13 58 06.4 -1.1**
NB2 NORSAR Subarra 65.07 342 P **P 13 58 06.2 -1.4**
comp=Z,0.9nm,0.5s,baz=23,slow=6.5
NOA NORSAR Array B 65.07 342 P **P 13 58 06.2 -1.4**
comp=Z,0.9nm,0.6s,baz=26,slow=6.6,SNR=7.6
comp=Z,0.9nm,0.6s
ECSD EROS Data Cent 66.26 49 P **P 13 58 15.6 +0.1**
ECSD IAmb IAmb 13 58 17.1
comp=Z,8.6nm,1.1s
AKASG Malin Array Be 69.44 327 P **P 13 58 33.4 -1.9**
comp=Z,0.4nm,0.4s,baz=33,slow=6.6,SNR=3.1
comp=Z,0.4nm,0.4s
I45A Fountain 70.76 43 P **P 13 58 43.0 -0.5**
R40A Maddies Statio 72.53 50 P **P 13 58 54.6 +0.5**
R40A IAmb IAmb 13 58 55.0
comp=Z,7.9nm,1.4s
EKA Eskdalemuir Ar 72.84 348 P **P 13 58 54.9 -0.8**
ESK Eskdalemuir 72.86 348 P **P 13 58 55.7 -0.1**
ESK Eskdalemuir 72.86 348 P **P 13 58 55.7 -0.1**
ESK pmax pmax
comp=Z,36nm,1.4s
TX31 Lajitas Ar. Si 73.36 64 P **P 13 59 00.6 +1.3**
TX31 IAmb IAmb 13 59 38.3
comp=Z,11nm,1.4s
TX32 Lajitas Array 73.36 64 P **P 13 59 00.5 +1.2**
TXAR Lajitas Array 73.36 64 P **P 13 59 00.6 +1.3**
comp=Z,1.1nm,0.5s,baz=296,slow=5.0,SNR=43
TXAR pP **pP 13 59 31.6 +0.1**
comp=Z,0.5nm,0.8s,baz=291,slow=3.8,SNR=2.3
comp=Z,1.1nm,0.5s
TXAR Lajitas Array 73.36 64 P **P 13 59 00.4 +1.1**
TXAR Lajitas Array 73.36 64 *e*P **P 13 59 00.1 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 75.75 336 P **P 13 59 12.2 -0.6**
comp=Z,0.3nm,0.5s,baz=38,slow=6.8,SNR=4.9
comp=Z,0.3nm,0.5s
L56A Greenwood 75.92 39 P **P 13 59 13.4 -0.4**
J59A Piesco 75.96 36 P **P 13 59 13.9 0.0**
J59A IAmb IAmb 13 59 39.8
comp=Z,11nm,1.1s
M57A Sunshine Farm, 76.77 39 P **P 13 59 18.7 +0.2**
VLC Villacollemand 80.95 336 P **P 13 59 42.1 +0.7**
BNI Bardonecchia 81.00 339 P **P 13 59 42.3 +0.6**
BNI IAmb IAmb 13 59 43.5
comp=Z,19nm,1.5s
BNI Bardonecchia 81.00 339 P **P 13 59 42.3 +0.6**
BNI pmax pmax
comp=Z,2.0nm,1.5s
SSB Saint Sauveur 81.25 341 P **P 13 59 43.5 +0.5**
SSB IAmb IAmb 14 00 20.6
comp=Z,9.8nm,1.4s
SSB Saint Sauveur 81.25 341 P **P 13 59 43.5 +0.5**
SSB pmax pmax
comp=Z,10.0nm,1.4s
SGRT San Giovanni R 81.69 332 P **P 13 59 45.6 +0.3**
MMAI Mount Meron Ar 81.84 314 P **P 13 59 46.1 -0.2**
comp=Z,0.9nm,0.4s,baz=70,slow=8.3,SNR=1.9
comp=Z,0.9nm,0.4s
ITM Ithomi 83.78 325 P **P 13 59 54.9 -1.2**
ESDC Sonseca Array 88.26 345 P **P 14 00 17.7 -0.5**
comp=Z,0.8nm,1.0s,baz=3.8,slow=3.9,SNR=2.5
comp=Z,0.8nm,1.0s
H03N2 Juan Fernandez 136.22 89 T T 16 37 51.6
baz=314,slow=77,SNR=23
H03N1 Juan Fernandez 136.24 89 T T 16 37 50.5
baz=314,slow=77,SNR=18
H03N3 Juan Fernandez 136.24 89 T T 16 37 52.3
baz=314,slow=77,SNR=22

WEL 13 13:49:09.7±0.6, 42°S±4°×17°4E±°, h7km±3km, M4.0/14, ML4.7/8, MLv4.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=158.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**225**	P	Pg	13 49 12.4	+0.9
CMWZ				S	Sg	13 49 14.9	+2.2
BSWZ	**Blackbirch Sta**	**0.30**	**267**	P	Pg	13 49 15.5	-0.1
BSWZ				S	Sg	13 49 20.8	+1.1
TUWZ	**Tuamarina**	**0.37**	**317**	P	Pg	13 49 17.2	+0.4
TUWZ				S	Sb	13 49 23.6	-1.0
TCW	**Tory Channel**	**0.49**	**360**	P	Pg	13 49 19.6	+0.4
TCW				S	Sb	13 49 26.9	-1.1
BHW	**Baring Head**	**0.53**	**57**	P	Pg	13 49 20.1	+0.2
BHW				S	Sb	13 49 29.4	+0.1
PLWZ	**Palliser**	**0.74**	**80**	P	Pb	13 49 24.8	-0.2
PLWZ				S	Sb	13 49 36.7	+1.3
MSWZ	**Moikau Station**	**0.78**	**69**	P	Pb	13 49 25.8	+0.2
MSWZ				S	Sb	13 49 35.9	-0.5
CAW	**Cannon Point**	**0.84**	**45**	P	Pg	13 49 25.6	-0.2
CAW				S	Sb	13 49 37.8	-0.3
PAWZ	**Paruwai Farm**	**0.92**	**70**	P	Pg	13 49 27.4	+0.1
PAWZ				S	Sb	13 49 41.3	+0.9
MTW	**Mount Morrison**	**1.07**	**60**	P	Pg	13 49 29.4	-0.8
MTW				S	Sn	13 49 46.2	-0.1
TRWZ	**Traveller**	**1.10**	**74**	P	Pg	13 49 29.7	-1.1
HOWZ	**Holdsworth Sta**	**1.23**	**50**	P	Pg	13 49 32.3	-1.0
HOWZ				S	Sn	13 49 50.2	0.0
QRZ	**Quartz Range**	**1.58**	**303**	P	Pb	13 49 39.3	0.0
QRZ				S	Sb	13 49 59.8	+0.3
POWZ	**Post Office Ro**	**1.73**	**41**	P	Pn	13 49 38.9	-1.3

ROM 13 13:49:19.0±0.0, 42°982N±0°003×13°148E±0°004, h9km, ML2.5/34, 12C-7D, Error ellipse: s-maj=0.3km s-min=0.3km az=261.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1256	**Bolognola (MC)**	**0.06**	**67**	⇑P	Pg	13 49 21.2	0.0
T1256				AML	AML		
	comp=E,8515μm,0.3s						
T1256				AML	AML		
	comp=E,9250μm,0.3s						
T1256				AML	AML		
	comp=N,11250μm,0.3s						
T1256				AML	AML		
	comp=E,8510μm,0.3s						
T1256				AML	AML		
	comp=N,12050μm,0.3s						
FDMO	**Fiordimonte**	**0.07**	**321**	P	Pg	13 49 21.2	+0.1
FDMO				AML	AML		
	comp=E,11025μm,0.2s						
FDMO				AML	AML		
	comp=N,10650μm,0.3s						
FDMO				AML	AML		
	comp=N,10645μm,0.3s						
FDMO				AML	AML		
	comp=E,11030μm,0.2s						
FEMA	**Monte Fema**	**0.07**	**254**	P	Pg	13 49 21.6	+0.3
FEMA				AML	AML		
	comp=E,15400μm,0.3s						
FEMA				AML	AML		
	comp=N,14850μm,0.4s						
FEMA				AML	AML		
	comp=E,15450μm,0.3s						
CSP1	**Cessapalombo**	**0.12**	**21**	P	Pg	13 49 22.2	+0.4
CSP1				S	Sg	13 49 24.2	+0.4
CSP1				AML	AML		
	comp=E,10170μm,1.4s						
CSP1				AML	AML		
	comp=N,8185μm,1.5s						
CSP1				AML	AML		
	comp=E,10200μm,1.4s						
CSP1				AML	AML		
	comp=E,10185μm,1.4s						
CSP1				AML	AML		
	comp=N,8190μm,1.5s						
T1219	**Muccia, Frazio**	**0.13**	**306**	⇓P	Pg	13 49 22.3	+0.4
T1219				S	Sg	13 49 24.6	+0.7
T1219				AML	AML		
	comp=E,3160μm,0.2s						
T1219				AML	AML		
	comp=E,3065μm,0.2s						
T1219				AML	AML		
	comp=N,4565μm,0.8s						
T1219				AML	AML		
	comp=E,3068μm,0.2s						
T1219				AML	AML		
	comp=N,4395μm,0.3s						
T1219				AML	AML		
	comp=E,3165μm,0.2s						
T1245	**Castelsantange**	**0.13**	**167**	⇑P	Pg	13 49 22.5	+0.5
T1245				AML	AML		
	comp=N,7770μm,0.3s						
T1245				AML	AML		
	comp=E,5595μm,0.2s						
T1216	**Preci, Frazion**	**0.13**	**226**	⇑P	Pg	13 49 22.6	+0.6
T1216				S	Sg	13 49 25.1	+1.0
T1216				AML	AML		
	comp=E,5785μm,0.4s						
T1216				AML	AML		
	comp=N,8665μm,1.1s						
T1216				AML	AML		
	comp=E,5790μm,0.4s						
T1216				AML	AML		
	comp=N,8670μm,1.1s						
T1216				AML	AML		
	comp=E,5795μm,0.4s						
T1216				AML	AML		
	comp=N,8675μm,1.2s						
NRCA	**Norcia**	**0.15**	**189**	P	Pg	13 49 22.9	+0.6
NRCA				AML	AML		
	comp=E,4950μm,0.2s						
NRCA				AML	AML		
	comp=N,3755μm,0.6s						
NRCA				AML	AML		
	comp=E,4955μm,0.2s						
NRCA				AML	AML		
	comp=E,5305μm,0.2s						
NRCA				AML	AML		
	comp=N,4235μm,1.6s						
NRCA				AML	AML		
	comp=N,3750μm,0.6s						
MMO1	**Montemonaco**	**0.15**	**122**	P	Pg	13 49 22.9	+0.5
MMO1				S	Sg	13 49 25.7	+1.0
GUMA	**Gualdo di Mace**	**0.16**	**60**	⇑P	Pg	13 49 23.3	+0.8
GUMA				AML	AML		
	comp=E,6170μm,0.4s						
GUMA				AML	AML		
	comp=N,8730μm,0.5s						
GUMA				AML	AML		
	comp=E,6170μm,0.5s						
GUMA				AML	AML		
	comp=N,8735μm,0.5s						
GUMA				AML	AML		
	comp=E,7445μm,0.3s						
GUMA				AML	AML		
	comp=N,8390μm,0.6s						
CESI	**CESI - Serrava**	**0.18**	**277**	⇑P	Pg	13 49 23.5	+0.7
CESI				S	Sg	13 49 26.8	+1.3
CESI				AML	AML		
	comp=E,5020μm,0.5s						
CESI				AML	AML		
	comp=N,5095μm,0.2s						
CESI				AML	AML		
	comp=N,5090μm,0.2s						
CESI				AML	AML		
	comp=E,5025μm,0.5s						
MDAR	**Monte D'Aria**	**0.21**	**359**	P	Pg	13 49 23.9	+0.5
MDAR				S	Sg	13 49 27.3	+0.9
SEF1	**Sefro**	**0.22**	**318**	P	Pg	13 49 24.4	+0.9
T1215	**Vallo di Nera,**	**0.27**	**229**	P	Pg	13 49 25.2	+0.7
T1215				S	Sb	13 49 29.8	-1.2
T1215				AML	AML		
	comp=E,998μm,0.4s						
T1215				AML	AML		
	comp=N,802μm,1.0s						
T1215				AML	AML		
	comp=E,996μm,0.4s						
T1215				AML	AML		
	comp=N,802μm,1.0s						
T1215				AML	AML		
	comp=E,996μm,0.4s						
SNTG	**Esanatoglia**	**0.31**	**331**	P	Pg	13 49 25.6	+0.3
SNTG				AML	AML		
	comp=E,568μm,0.7s						
SNTG				AML	AML		
	comp=E,540μm,0.6s						
SNTG				AML	AML		
	comp=N,490μm,0.4s						
SNTG				AML	AML		
	comp=N,494μm,0.7s						
SNTG				AML	AML		
	comp=E,539μm,0.6s						
SNTG				AML	AML		
	comp=N,490μm,0.4s						
SNTG				AML	AML		
	comp=E,568μm,0.7s						
T1218	**Civita (PG)**	**0.31**	**184**	P	Pg	13 49 25.8	+0.5
T1218				AML	AML		
	comp=E,654μm,0.5s						
T1218				AML	AML		
	comp=N,1300μm,1.2s						
T1218				AML	AML		
	comp=N,1295μm,1.2s						
T1218				AML	AML		
	comp=E,653μm,0.5s						
EL6	**Elcito**	**0.35**	**354**	⇓P	Pg	13 49 26.4	+0.5
T1243	**Rocca Santa Ma**	**0.36**	**142**	P	Pg	13 49 26.5	+0.3
T1243				S	Sb	13 49 32.6	-0.9
ASSB	**Assisi San Ben**	**0.36**	**280**	⇑P	Pg	13 49 26.7	+0.5
ASSB				S	Sb	13 49 32.7	-0.9
ASSB				AML	AML		
	comp=N,1500μm,0.3s						
ASSB				AML	AML		
	comp=E,2245μm,0.3s						
SMA1	**SAN MARTINO**	**0.38**	**159**	P	Pg	13 49 26.8	+0.3
SMA1				S	Sb	13 49 33.3	-0.7
SMA1				AML	AML		
	comp=E,642μm,0.3s						
SMA1				AML	AML		
	comp=N,699μm,0.9s						
LNSS	**Leonessa**	**0.39**	**192**	P	Pg	13 49 27.0	+0.4
LNSS				S	Sb	13 49 33.8	-0.5
LNSS				AML	AML		
	comp=N,869μm,0.1s						
LNSS				AML	AML		
	comp=E,369μm,0.2s						
LNSS				AML	AML		
	comp=N,870μm,0.1s						
CING	**Cingoli**	**0.40**	**5**	⇓P	Pg	13 49 27.3	+0.5
CING				AML	AML		
	comp=E,606μm,0.7s						
CING				AML	AML		
	comp=N,398μm,1.0s						
OFFI	**Offida**	**0.40**	**97**	P	Pb	13 49 28.3	+0.1
OFFI				AML	AML		
	comp=N,1106μm,1.0s						
OFFI				AML	AML		
	comp=E,949μm,0.6s						
OFFI				AML	AML		
	comp=N,1106μm,1.0s						
FOSV	**Fossato di Vic**	**0.42**	**318**	P	Pg	13 49 27.6	+0.3
FOSV				AML	AML		
	comp=E,429μm,1.3s						
FOSV				AML	AML		
	comp=N,692μm,0.4s						
FOSV				AML	AML		
	comp=E,428μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.42**	**299**	⇑P	Pg	13 49 27.9	+0.6
ATCC				AML	AML		
	comp=N,1495μm,0.3s						
ATCC				AML	AML		
	comp=E,1215μm,0.3s						
T1246	**Crognaleto (TE**	**0.47**	**147**	P	Pg	13 49 28.5	+0.3
T1246				S	Sb	13 49 36.2	-0.6
RM33	**Pellescritta (**	**0.47**	**174**	P	Pg	13 49 28.6	+0.3
RM33				S	Sb	13 49 36.4	-0.4
RM33				AML	AML		
	comp=N,329μm,1.6s						
RM33				AML	AML		
	comp=E,360μm,0.4s						
CAMP	**Campotosto**	**0.49**	**157**	P	Pg	13 49 28.8	+0.3
CAMP				S	Sb	13 49 36.5	-0.7
CAMP				AML	AML		
	comp=N,254μm,0.5s						
CAMP				AML	AML		
	comp=E,334μm,0.2s						
CAMP				AML	AML		
	comp=N,254μm,0.5s						
ARRO	**Arrone**	**0.49**	**215**	P	Pg	13 49 28.9	+0.4
TERO	**Teramo**	**0.49**	**137**	P	Pg	13 49 28.8	+0.2
TERO				AML	AML		
	comp=E,564μm,0.7s						
TERO				AML	AML		
	comp=N,624μm,0.6s						
TERO				AML	AML		
	comp=E,564μm,0.7s						
TERO				AML	AML		
	comp=E,660μm,0.5s						
TERO				AML	AML		
	comp=N,625μm,0.6s						
TERO				AML	AML		
	comp=N,584μm,0.6s						
T1211	**Morro Reatino**	**0.50**	**206**	P	Pg	13 49 29.1	+0.4
T1211				AML	AML		
	comp=E,524μm,1.0s						
T1211				AML	AML		
	comp=N,752μm,0.5s						
PP3	**Marolino**	**0.52**	**40**	S	Sb	13 49 39.0	+1.0
SSFR	**Montelago di S**	**0.53**	**330**	⇑P	Pb	13 49 30.2	-0.3
SSFR				AML	AML		
	comp=E,874μm,0.3s						
SSFR				AML	AML		
	comp=N,762μm,0.2s						
MURB	**Monte Urbino**	**0.54**	**302**	⇓P	Pb	13 49 30.7	0.0
MURB				AML	AML		
	comp=N,1300μm,0.3s						
MURB				AML	AML		
	comp=E,1820μm,0.4s						
MURB				AML	AML		
	comp=E,1690μm,0.4s						
MURB				AML	AML		
	comp=N,1305μm,0.3s						
MURB				AML	AML		
	comp=N,1290μm,0.3s						
MURB				AML	AML		
	comp=E,1815μm,0.4s						
ARVD	**Arcevia**	**0.54**	**344**	⇓P	Pb	13 49 30.1	-0.6
ARVD				S	Sb	13 49 39.0	+0.4
ARVD				AML	AML		
	comp=N,236μm,0.6s						
ARVD				AML	AML		
	comp=N,236μm,0.6s						
ARVD				AML	AML		
	comp=E,291μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.55**	**168**	P	Pg	13 49 30.1	+0.4
ATFO	**Monte Foce - G**	**0.57**	**313**	⇑P	Pb	13 49 30.8	-0.5
ATFO				AML	AML		
	comp=E,378μm,1.1s						
ATFO				AML	AML		
	comp=N,292μm,0.6s						
ATFO				AML	AML		
	comp=E,378μm,1.1s						
ATFO				AML	AML		
	comp=N,291μm,0.6s						
TRTR	**Tortoreto Alta**	**0.59**	**107**	P	Pb	13 49 32.1	+0.6
GIGS	**Gran Sasso**	**0.62**	**150**	P	Pg	13 49 31.0	+0.1
GIGS				S	Sb	13 49 40.5	-0.3
GIGS				AML	AML		
	comp=E,126μm,0.2s						
GIGS				AML	AML		
	comp=N,90μm,1.6s						
GIGS				AML	AML		
	comp=N,90μm,1.6s						
GIGS				AML	AML		
	comp=E,126μm,0.2s						
FRON	**Frontone**	**0.62**	**330**	⇓P	Pg	13 49 31.3	+0.3
FRON				AML	AML		
	comp=E,255μm,0.9s						
FRON				AML	AML		
	comp=N,460μm,0.3s						
FRON				AML	AML		
	comp=E,254μm,0.9s						
ATTE	**AVT- Monte Tez**	**0.62**	**291**	P	Pb	13 49 31.7	-0.5
AQU	**L'Aquila**	**0.66**	**163**	P	Pb	13 49 32.5	-0.2
AOI	**Ancona**	**0.66**	**30**	P	Pg	13 49 32.2	+0.5
COR1	**Corinaldo**	**0.66**	**351**	P	Pb	13 49 33.0	+0.3
ATVO	**AVT- Monte Val**	**0.67**	**307**	⇑P	Pg	13 49 32.2	+0.2
ATVO				AML	AML		
	comp=N,204μm,0.7s						
ATVO				AML	AML		
	comp=E,276μm,0.4s						
ATVO				AML	AML		
	comp=N,204μm,0.7s						
MPAG	**Monte Paganucc**	**0.71**	**336**	P	Pg	13 49 33.1	+0.4
MPAG				S	Sn	13 49 46.0	-0.4
MPAG				AML	AML		
	comp=E,172μm,0.6s						
MPAG				AML	AML		
	comp=N,222μm,0.4s						
FIAM	**Fiamignano**	**0.71**	**182**	P	Pg	13 49 32.9	+0.1
FIAM				AML	AML		
	comp=E,160μm,0.5s						
FIAM				AML	AML		
	comp=N,121μm,0.6s						
FIAM				AML	AML		
	comp=N,121μm,0.6s						
ATPI	**Pietralunga -**	**0.72**	**311**	⇑P	Pb	13 49 33.6	-0.2
ATPI				AML	AML		
	comp=E,202μm,0.8s						
ATPI				AML	AML		
	comp=N,184μm,1.0s						
ATPI				AML	AML		
	comp=E,202μm,0.8s						
ATPI				AML	AML		
	comp=N,184μm,1.0s						
FSSB	**Fossombrone**	**0.76**	**339**	P	Pb	13 49 34.1	-0.4
MGAB	**Montegabbione**	**0.76**	**265**	P	Pg	13 49 34.0	+0.3
VCEL	**Villa Celiera**	**0.78**	**139**	P	Pb	13 49 34.5	-0.4
VCEL				AML	AML		
	comp=E,278μm,1.4s						
VCEL				AML	AML		
	comp=N,313μm,1.5s						
VCEL				AML	AML		
	comp=E,278μm,1.4s						
VCEL				AML	AML		
	comp=N,312μm,1.5s						
APEC	**Apecchio**	**0.78**	**318**	P	Pb	13 49 35.2	+0.3
BADI	**Badiali**	**0.84**	**309**	⇑P	Pb	13 49 36.2	+0.3
PE3	**Peglio**	**0.86**	**327**	⇓P	Pb	13 49 36.5	+0.3
T0110	**Collepietro**	**0.89**	**148**	P	Pg	13 49 35.7	-0.4
SACS	**San Casciano d**	**0.92**	**262**	P	Pb	13 49 37.5	+0.3
SAMA	**S.Maria delle**	**1.27**	**199**	S	Sb	13 49 57.0	-2.5

IDC ***13*** *13:49:58.2±0.5, 41°63S×174°19E, h0km, mb4.7/16, mbtmp4.7/17, ML4.8/1, Error ellipse: s-maj=18.6km s-min=14.5km az=70.0*

MOS ***13*** *13:49:58.1±1.5, 42°03S×174°11E, h10km, mb5.0/10, Error ellipse: s-maj=78.5km s-min=28.5km az=120.1*

NEIC ***13*** *13:49:59.2±1.5, 41°78S±0°04×174°37E±0°04, h11km±1km, mb5.2/34, Error ellipse: s-maj=5.7km s-min=4.7km az=176.0*

WEL ***13*** *13:50:01.2±0.5, 42°S±4°×17°4E±°, h5km±3km, M5.0/44, ML5.3/19, MLv5.0/44, Error ellipse: s-maj=0.0km s-min=0.0km az=172.9*

ISC 13 13:49:59.9±0.8, 41°72S±0°03×174°28E±0°02, h15km±4km, n206, σ1§22/212, mb5.1/34, 2C, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**240**		**Pg**	**13 50 02.1**	**-0.6**
CMWZ	**Cape Campbell**	**0.06**	**240**	P	**Pg**	**13 50 02.4**	**-0.4**
CMWZ				S	**Sg**	**13 50 04.5**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.30**	**271**		**Pb**	**13 50 07.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.30**	**271**	P	**Pb**	**13 50 07.2**	**+0.2**
BSWZ				S	**Sb**	**13 50 13.4**	**+1.7**
TUWZ	**Tuamarina**	**0.39**	**319**		**Pb**	**13 50 09.0**	**+0.6**
TUWZ	**Tuamarina**	**0.39**	**319**	P	**Pb**	**13 50 09.5**	**+1.1**
TUWZ				S	**Sn**	**13 50 16.8**	**-1.2**
TCW	**Tory Channel**	**0.51**	**360**	P	**Pb**	**13 50 11.4**	**+0.8**
TCW				S	**Sn**	**13 50 19.4**	**-1.7**
SNZO	**South Karori**	**0.52**	**38**		**Pg**	**13 50 09.3**	**-0.9**
BHW	**Baring Head**	**0.55**	**55**	P	**Pb**	**13 50 11.3**	**+0.2**
PLWZ	**Palliser**	**0.75**	**79**	Pn	**Pn**	**13 50 15.3**	**-0.7**
PLWZ	**Palliser**	**0.75**	**79**	P	**Pn**	**13 50 15.8**	**-0.2**
PLWZ				S	**Sn**	**13 50 28.7**	**+1.6**
MSWZ	**Moikau Station**	**0.79**	**68**	Pn	**Pn**	**13 50 16.0**	**-0.5**
MSWZ	**Moikau Station**	**0.79**	**68**	P	**Pn**	**13 50 17.0**	**+0.5**
MSWZ				S	**Sn**	**13 50 30.3**	**+2.3**
NNZ	**Nelson**	**0.84**	**306**	P	**Pn**	**13 50 18.5**	**+1.3**
NNZ				S	**Sn**	**13 50 30.2**	**+0.9**
KHZ	**Kahutara**	**0.89**	**218**		**Pn**	**13 50 17.8**	**0.0**
PAWZ	**Paruwai Farm**	**0.93**	**69**	P	**Pn**	**13 50 18.7**	**+0.3**
DUWZ	**D'Urville Isla**	**0.96**	**344**	P	**Pn**	**13 50 19.4**	**+0.6**
KIW	**Kapiti Island**	**0.98**	**29**	P	**Pn**	**13 50 19.7**	**+0.5**
THZ	**Tophouse**	**1.03**	**267**		**Pb**	**13 50 19.0**	**-0.4**
THZ	**Tophouse**	**1.03**	**267**	P	**Pn**	**13 50 21.9**	**+2.1**
MTW	**Mount Morrison**	**1.08**	**59**	P	**Pg**	**13 50 21.1**	**+0.4**
TRWZ	**Traveller**	**1.11**	**73**	P	**Pg**	**13 50 23.4**	**+2.1**
OGWZ	**Otaki Gorge**	**1.13**	**37**	P	**Pg**	**13 50 22.7**	**+1.1**
MRNZ	**Matariki Terra**	**1.19**	**285**	P	**Pg**	**13 50 24.4**	**+1.6**
TKNZ	**Takaka Hill**	**1.21**	**304**	P	**Pg**	**13 50 25.0**	**+1.8**
HOWZ	**Holdsworth Sta**	**1.24**	**49**	P	**Pg**	**13 50 23.7**	**-0.2**
TMWZ	**Te Maipa**	**1.36**	**64**	P	**Pn**	**13 50 24.6**	**+0.2**
MRZ	**Mangatainoka R**	**1.45**	**43**	P	**Pb**	**13 50 26.6**	**+0.1**
TIWZ	**Tintock**	**1.54**	**53**	P	**Pg**	**13 50 28.9**	**-0.5**
GVZ	**Greta Valley S**	**1.55**	**216**	P	**Pg**	**13 50 32.5**	**+2.8**
QRZ	**Quartz Range**	**1.59**	**304**		**Pg**	**13 50 30.1**	**-0.4**
QRZ	**Quartz Range**	**1.59**	**304**	P	**Pg**	**13 50 31.2**	**+0.7**
CPWZ	**Castlepoint**	**1.66**	**61**	P	**Pg**	**13 50 34.1**	**+2.3**
OHWZ	**Ohakea**	**1.71**	**28**	P	**Pg**	**13 50 32.8**	**+0.1**
PRWZ	**Pori Road**	**1.73**	**48**	P	**Pg**	**13 50 35.0**	**+1.8**
POWZ	**Post Office Ro**	**1.74**	**41**	P	**Pg**	**13 50 35.8**	**+2.4**
BFZ	**Birch Farm**	**1.81**	**56**	P	**Pg**	**13 50 36.1**	**+1.4**
LTZ	**Lake Taylor**	**1.83**	**234**		**Pn**	**13 50 31.1**	**+0.2**
LTZ	**Lake Taylor**	**1.83**	**234**	P	**Pn**	**13 50 31.7**	**+0.9**
AMCZ	**Amberley**	**1.89**	**219**	P	**Pg**	**13 50 37.3**	**+1.1**
DVHZ	**Dannevirke**	**2.02**	**46**	P	**Pg**	**13 50 38.9**	**+0.3**
TSZ	**Takapari Road**	**2.10**	**38**	P	**Pg**	**13 50 40.3**	**+0.2**
PRHZ	**Porangahau**	**2.30**	**52**	P	**Pg**	**13 50 46.5**	**+2.5**
NMEZ	**Namu Road**	**2.33**	**352**	P	**Pg**	**13 50 45.7**	**+1.1**
WPHZ	**Waipukurau**	**2.33**	**45**	P	**Pg**	**13 50 45.1**	**+0.5**
INZ	**Inchbonnie**	**2.33**	**244**	P	**Pg**	**13 50 43.9**	**-0.7**
KHEZ	**Kahui Hut**	**2.43**	**355**	P	**Pg**	**13 50 47.9**	**+1.3**
NBEZ	**Newall Road No**	**2.47**	**353**	P	**Pg**	**13 50 48.9**	**+1.6**
DREZ	**Durham Road**	**2.53**	**359**	P	**Pb**	**13 50 46.3**	**+1.2**
MOVZ	**Moawhango**	**2.57**	**26**	P	**Pb**	**13 50 47.0**	**+1.2**
TRVZ	**Turoa**	**2.61**	**22**	P	**Pg**	**13 50 48.9**	**-1.0**
BHHZ	**Black Hill Sta**	**2.61**	**32**	P	**Pg**	**13 50 48.2**	**-1.7**
WHVZ	**Whangaehu Hut**	**2.63**	**23**	P	**Pg**	**13 50 48.7**	**-1.8**
RPZ	**Rata Peaks**	**3.10**	**229**	Pn	**Pn**	**13 50 47.9**	**-0.4**
	109nm,0.3s,baz=88,slow=4.8,SNR=3.3						
RPZ				Sn	**Sn**	**13 51 24.3**	**-0.7**
	111nm,0.3s,baz=356,slow=22,SNR=3.1						
	422nm,0.5s						
RPZ	**Rata Peaks**	**3.10**	**229**	P	**Pn**	**13 50 48.5**	**+0.3**
HIZ	**Hauiti**	**3.24**	**8**	Pn	**Pn**	**13 50 51.0**	**+0.9**
LBZ	**Lake Benmore**	**4.01**	**227**	Pn	**Pn**	**13 51 00.0**	**-0.8**
OUZ	**Omahuta**	**6.51**	**355**	Pn	**Pn**	**13 51 35.6**	**+0.4**
MCQ	**Macquarie Isla**	**16.32**	**213**	P	**Pn**	**13 53 47.3**	**-1.1**
	baz=16,SNR=15						
DZM	**Mont Dzumac**	**20.67**	**339**	P	**P**	**13 54 38.3**	**-1.1**
	12nm,1.0s,baz=142,slow=15,SNR=3.6						
	12nm,1.0s						
MSVF	**Nonsavu**	**24.13**	**9**	P	**P**	**13 55 15.3**	**0.0**
	13nm,0.8s,baz=167,slow=11,SNR=7.5						
	13nm,0.8s						
MSVF	**Nonsavu**	**24.13**	**9**	*i* P	**P**	**13 55 14.4**	**-0.9**
STKA	**Stephens Creek**	**27.81**	**280**	P	**P**	**13 55 49.8**	**+1.3**
	4.7nm,0.7s,baz=104,slow=12,SNR=8.6						
	4.7nm,0.7s						
STKA	**Stephens Creek**	**27.81**	**280**	P	**P**	**13 55 49.0**	**+0.6**
	baz=28,SNR=4.9						
AFI	**Afiamalu**	**30.25**	**28**	P	**P**	**13 56 12.2**	**+2.0**
	20nm,0.8s,baz=297,slow=11,SNR=2.6						
	20nm,0.8s						
BBOO	**Buckleboo**	**31.48**	**274**	P	**P**	**13 56 21.6**	**+0.6**
	baz=31,SNR=6.8						
CTA	**Charters Tower**	**32.06**	**304**	P	**P**	**13 56 27.2**	**+1.1**
	8.0nm,0.8s,baz=129,slow=13,SNR=5.7						
	8.0nm,0.8s						
MTSU	**Mount Surprise**	**34.73**	**304**	P	**P**	**13 56 50.8**	**+1.4**
	baz=35,SNR=24						
QIS	**Mount Isa**	**36.06**	**295**	P	**P**	**13 57 01.6**	**+0.7**
	baz=36,SNR=5.9						
VNDA	**Vanda**	**36.28**	**185**	P	**P**	**13 57 03.7**	**+1.6**
	1.6nm,0.9s,baz=3.2,slow=8.1,SNR=9.7						
	1.6nm,0.9s						
VNDA	**Vanda**	**36.28**	**185**	P	**P**	**13 57 02.8**	**+0.7**
VNDA	**Vanda**	**36.28**	**185**	P	**P**	**13 57 02.8**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SBA	**Scott Base**	**36.37**	**183**	P	**P**	**13 57 02.7**	**-0.2**
SBA	**Scott Base**	**36.37**	**183**	P	**P**	**13 57 02.7**	**-0.2**
SBA				pmax	pmax		
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**38.04**	**285**	P	**P**	**13 57 16.6**	**-1.1**
ASAR	**Alice Springs**	**38.04**	**285**	P	**P**	**13 57 17.4**	**-0.4**
	comp=Z,12nm,0.7s,baz=128,slow=6.6,SNR=35						
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**38.04**	**285**	P	**P**	**13 57 16.7**	**-1.1**
ASAR	**Alice Springs**	**38.04**	**285**	P	**P**	**13 57 16.7**	**-1.1**
FORT	**Forrest**	**38.43**	**271**	P	**P**	**13 57 21.4**	**+0.6**
	baz=38,SNR=6.2						
FORT	**Forrest**	**38.43**	**271**	P	**P**	**13 57 20.6**	**-0.3**
FORT				IAmb	IAmb	13 57 24.0	
	comp=Z,27nm,0.8s						
WR0	**Warramunga Arr**	**39.96**	**291**	P	**P**	**13 57 32.8**	**-1.0**
WB2	**Warramunga Arr**	**40.10**	**290**	P	**P**	**13 57 34.2**	**-0.8**
WB2				IAmb	IAmb	13 58 17.6	
	comp=Z,50nm,1.1s						
WRAB	**Tennant Creek**	**40.11**	**290**	P	**P**	**13 57 34.4**	**-0.7**
WRAB				IAmb	IAmb	13 58 17.5	
	comp=Z,44nm,0.9s						
WRAB	**Tennant Creek**	**40.11**	**290**	*i* P	**P**	**13 57 34.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**13 57 34.8**	**-0.3**
	comp=Z,14nm,0.7s,baz=130,slow=7.5,SNR=55						
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**13 57 34.2**	**-0.8**
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**13 57 34.3**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WB0	**Warramunga Arr**	**40.19**	**291**	P	**P**	**13 57 35.0**	**-0.7**
WRKA	**Warakurna**	**41.33**	**279**	P	**P**	**13 57 44.4**	**-0.7**
	baz=41,SNR=28						
KLBR	**Kellerberrin**	**45.73**	**264**	P	**P**	**13 58 20.2**	**-0.3**
	baz=45,SNR=6.2						
MUN	**Mundaring**	**46.69**	**262**	P	**P**	**13 58 26.1**	**-1.9**
	baz=46,SNR=5.3						
KNRA	**Kununurra**	**46.90**	**290**	P	**P**	**13 58 30.3**	**+0.6**
	baz=47,SNR=18						
KNRA	**Kununurra**	**46.90**	**290**	P	**P**	**13 58 30.3**	**+0.6**
BLDU	**Ballidu**	**46.99**	**264**	P	**P**	**13 58 30.5**	**0.0**
	baz=47,SNR=5.8						
MTN	**Manton Dam**	**47.22**	**295**	P	**P**	**13 58 32.5**	**+0.2**
MEEK	**Meekatharra**	**47.65**	**270**	P	**P**	**13 58 35.0**	**-0.6**
	baz=47,SNR=43						
MORW	**Morawa**	**48.28**	**266**	P	**P**	**13 58 40.1**	**-0.4**
	baz=48,SNR=15						
MORW	**Morawa**	**48.28**	**266**	P	**P**	**13 58 39.7**	**-0.8**
MORW				IAmb	IAmb	13 58 41.0	
	comp=Z,17nm,0.7s						
QSPA	**South Pole Qui**	**48.41**	**180**	P	**P**	**13 58 42.9**	**+1.8**
	comp=Z,15nm,0.8s,baz=30,slow=1.5,SNR=32						
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**49.63**	**276**	P	**P**	**13 58 48.9**	**-2.0**
PSA00				IAmb	IAmb	14 00 12.9	
	comp=Z,16nm,0.8s						
MBWA	**Marble Bar**	**49.97**	**277**	P	**P**	**13 58 52.3**	**-1.1**
TAOE	**Nuku Hiva Isla**	**51.74**	**64**	P	**P**	**13 59 05.6**	**-1.3**
TAOE				IAmb	IAmb	13 59 53.5	
	comp=Z,68nm,1.3s						
GIRL	**Giralia**	**53.19**	**271**	P	**P**	**13 59 18.2**	**+0.7**
	baz=53,SNR=8.0						
GIRL	**Giralia**	**53.19**	**271**	P	**P**	**13 59 17.3**	**-0.2**
FAKI	**Fak Fak**	**53.92**	**304**	P	**P**	**13 59 22.4**	**-0.5**
FAKI				IAmb	IAmb	13 59 36.5	
	comp=Z,12nm,0.8s						
SIJI	**Sorong**	**56.13**	**305**	P	**P**	**13 59 38.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=134,slow=6.2,SNR=3.2						
	comp=Z,12nm,0.7s						
BELA	**Belgrano 2**	**59.37**	**173**	P	**P**	**14 00 01.7**	**+0.8**
BELA				IAmb	IAmb	14 00 03.1	
	comp=Z,8.3nm,0.9s						
MAW	**Mawson**	**59.49**	**204**	P	**P**	**14 00 03.4**	**+1.6**
	comp=Z,4.8nm,0.9s,baz=147,slow=10,SNR=6.3						
	comp=Z,4.8nm,0.9s						
MAW	**Mawson**	**59.49**	**204**	P	**P**	**14 00 03.2**	**+1.4**
MAW	**Mawson**	**59.49**	**204**	P	**P**	**14 00 03.2**	**+1.4**
MAW				pmax	pmax		
	comp=Z,11nm,1.9s						
KAPI	**Kappang**	**60.64**	**291**	P	**P**	**14 00 10.0**	**-0.4**
	comp=Z,3.6nm,0.3s,baz=140,slow=17,SNR=3.9						
	comp=Z,3.6nm,0.3s						
KAPI	**Kappang**	**60.64**	**291**	*i* P	**P**	**14 00 09.5**	**-0.9**
KAPI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LUWI	**Luwuk**	**61.45**	**297**	P	**P**	**14 00 16.1**	**+0.1**
TROLL	**Troll, Antarti**	**66.42**	**183**	pP	**P**	**14 00 49.3**	**+1.3**
SNAA	**Sanae**	**66.89**	**181**	pP	**P**	**14 00 52.0**	**+1.1**
SNAA	**Sanae**	**66.89**	**181**	P	**P**	**14 00 51.4**	**+0.4**
SNAA				IAmb	IAmb	14 00 53.1	
	comp=Z,23nm,1.4s						
SNAA	**Sanae**	**66.89**	**181**	*i* P	**P**	**14 00 50.9**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,17nm,1.4s						
VNA3	**Neumayer Olymp**	**67.31**	**179**	pP	**P**	**14 00 54.6**	**+1.1**
VNA2	**Neumayer--Watz**	**67.66**	**179**	pP	**P**	**14 00 57.2**	**+1.5**
	baz=168,slow=6.0						
VNA1	**Neumayer--Stat**	**67.92**	**179**	pP	**P**	**14 00 59.0**	**+1.6**
LEM	**Lembang**	**68.11**	**281**	P	**P**	**14 01 00.0**	**+0.4**
	comp=Z,20nm,0.7s,baz=158,slow=22,SNR=4.2						
	comp=Z,20nm,0.7s						
KKM	**Kota Kinabalu**	**71.07**	**297**	P	**P**	**14 01 17.2**	**-0.5**
KKM				IAmb	IAmb	14 01 18.4	
	comp=Z,23nm,0.9s						
SBUM	**Sibu**	**71.20**	**291**	P	**P**	**14 01 18.1**	**-0.2**
KSM	**Kuching**	**71.85**	**289**	P	**P**	**14 01 21.8**	**-0.5**
KSM				IAmb	IAmb	14 01 23.0	
	comp=Z,13nm,0.8s						
PLCA	**Paso Flores**	**79.11**	**136**	P	**P**	**14 02 06.0**	**+2.2**
	comp=Z,2.6nm,0.6s,baz=252,slow=4.2,SNR=8.0						
	comp=Z,2.6nm,0.6s						
PLCA	**Paso Flores**	**79.11**	**136**	*e*P	**P**	**14 02 06.2**	**+2.4**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
IPM	**Ipoh**	**80.58**	**285**	P	**P**	**14 02 11.8**	**-0.2**
IPM				IAmb	IAmb	14 02 12.1	
	comp=Z,8.2nm,0.7s						
GSI	**Gunungsitoli**	**80.96**	**280**	P	**P**	**14 02 14.5**	**+0.5**
GSI				IAmb	IAmb	14 02 16.0	
	comp=Z,26nm,0.9s						
KULM	**Kulim**	**81.41**	**285**	P	**P**	**14 02 15.9**	**-0.4**
JMN	**Monobe**	**83.76**	**327**	P	**P**	**14 02 29.4**	**+1.2**
JMN				IAmb	IAmb	14 05 35.0	
	comp=Z,28nm,1.3s						
JHS	**Saijyo**	**85.17**	**327**	P	**P**	**14 02 35.9**	**+0.6**
JHS				IAmb	IAmb	14 04 17.4	
	comp=Z,14nm,1.2s						
TRQA	**Tornquist**	**85.48**	**139**	P	**P**	**14 02 35.8**	**-1.3**
TRQA	**Tornquist**	**85.48**	**139**	P	**P**	**14 02 35.8**	**-1.3**
COOS	**La Serena**	**86.58**	**128**	P	**P**	**14 02 41.2**	**-1.4**
KSRS	**Korea Array**	**89.44**	**325**	P	**P**	**14 02 57.1**	**+1.3**
	comp=Z,5.3nm,0.9s,baz=142,slow=5.1,SNR=12						
	comp=Z,5.3nm,0.9s						
KSAR	**Wonju Array Be**	**89.45**	**325**	P	**P**	**14 02 56.0**	**+0.1**
KSAR	**Wonju Array Be**	**89.45**	**325**	P	**P**	**14 02 56.0**	**+0.1**
PHRA	**Phrae**	**90.79**	**294**	P	**P**	**14 03 03.1**	**+0.4**
CM31	**Chiang Mai Arr**	**91.65**	**293**	P	**P**	**14 03 07.0**	**+0.4**
CM31				IAmb	IAmb	14 03 08.3	
	comp=Z,9.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.65**	**293**	P	**P**	**14 03 07.4**	**+0.8**
	comp=Z,8.3nm,0.9s,baz=150,slow=3.5,SNR=40						
	comp=Z,8.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.65**	**293**	P	**P**	**14 03 06.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**91.65**	**293**	P	**P**	**14 03 06.5**	**-0.1**
CHTO	**Chiang Mai**	**91.89**	**294**	P	**P**	**14 03 07.6**	**-0.1**
CHTO	**Chiang Mai**	**91.89**	**294**	P	**P**	**14 03 07.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**92.63**	**339**	*i* P	**P**	**14 03 09.7**	**-0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2	**Changchun**	**95.77**	**327**	*e*P	**P**	**14 03 26.4**	**+1.5**
XAN	**Xi'an**	**96.33**	**311**	P	**P**	**14 03 29.9**	**+2.1**
XAN				pP	sP	14 03 38.3	+3.7
XAN				sP	pP	14 03 42.0	+9.2
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ILAR	**Eielson Array**	**110.43**	**17**	PKiKP	**PKiKP**	**14 08 30.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=292,slow=1.5,SNR=6.3						
WMQ	**Urumqi**	**115.16**	**307**	*e*P	**PKiKP**	**14 08 40.8**	**+0.7**
WMQ				LR	LR		
	comp=Z,5μm,29.2s						
INK	**Inuvik**	**116.42**	**19**	PKP	**PKiKP**	**14 08 41.8**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=225,slow=0.5,SNR=16						
TIXI	**Tiksi**	**117.54**	**345**	PKP	**PKPdf**	**14 08 42.7**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=323,slow=0.1,SNR=1.7						
YKA	**Yellowknife Ar**	**118.34**	**30**	PKP	**PKPdf**	**14 08 45.5**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=259,slow=2.1,SNR=13						
YKA	**Yellowknife Ar**	**118.34**	**30**	*e*PKiKP	**PKiKP**	**14 08 45.9**	**+0.3**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**119.97**	**308**	PKP	**PKPdf**	**14 08 49.0**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=234,slow=2.9,SNR=5.1						
MKAR	**Makanchi Array**	**119.97**	**308**	*e*PKiKP	**PKPdf**	**14 08 48.2**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TKL	**Tuckaleechee C**	**120.73**	**68**	PKP	**PKiKP**	**14 08 53.3**	**+2.2**
	comp=Z,3.6nm,0.9s,baz=205,slow=14,SNR=2.2						
KMBO	**Kilima Mbogo**	**122.32**	**234**	PKP	**PKiKP**	**14 08 55.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=0.0,slow=4.0,SNR=4.4						
KMBO	**Kilima Mbogo**	**122.32**	**234**	*e*PKiKP	**PKPdf**	**14 08 51.2**	**-3.9**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**123.97**	**310**	PKiKP	**PKPdf**	**14 08 55.6**	**-1.1**
KURBB	**Kurchatov Arra**	**123.98**	**310**	PKP	**PKPdf**	**14 08 55.5**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=114,slow=1.9,SNR=20						
SAM	**Samarkand**	**126.39**	**294**	PKiKP	**PKPdf**	**14 08 55.2**	**-6.6**
NRIK	**Noril'sk**	**127.20**	**334**	*i* PKiKP	**PKPdf**	**14 09 01.3**	**-1.1**
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BVAR	**Borovoye Array**	**129.56**	**310**	PKP	**PKPdf**	**14 09 07.0**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=90,slow=3.3,SNR=4.9						
GEYT	**Alibeck**	**131.82**	**288**	PKP	**PKiKP**	**14 09 12.9**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=186,slow=1.4,SNR=2.4						
ARU	**Arti**	**137.03**	**313**	*i* PKiKP	**PKiKP**	**14 09 22.4**	**-0.7**
ARU						14 12 03.7	
MARD	**Mardin**	**144.20**	**279**		PKPbc	14 09 33.4	+0.2
DAG	**Danmarks Havn**	**144.41**	**5**	*i* P	**PKPab**	**14 09 31.0**	**-1.3**
KBZ	**Khabaz**	**144.63**	**290**	PKP	**PKPab**	**14 09 33.7**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=84,slow=3.0,SNR=14						
KBZ	**Khabaz**	**144.63**	**290**	*i* PKiKP	**PKPab**	**14 09 32.5**	**-1.5**
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LIC	**Lamto**	**144.65**	**181↑**	*e*PKiKP	**PKPdf**	**14 09 36.5**	**+0.1**
	comp=Z,28nm,0.6s						
KIC	**Kosan Boka**	**144.78**	**182↑**	*e*PKiKP	**PKPdf**	**14 09 36.8**	**+0.2**
	comp=Z,11nm,0.4s						
SHA1	**Shidzhatmaz**	**144.80**	**290**	*i* PKiKP	**PKPab**	**14 09 33.6**	**-1.4**
KIV	**Kislovodsk**	**144.83**	**290**	*i* PKiKP	PKPbc	14 09 35.2	+0.2
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SFJD	**Kangerlussuaq**	**144.89**	**29**	*e*P	**PKPdf**	**14 09 34.7**	**-0.4**
TIC	**Toumodi**	**145.06**	**181**	*e*PKiKP	**PKPdf**	**14 09 36.9**	**-0.2**
	comp=Z,13nm,0.8s						
DBIC	**Dimbokro**	**145.09**	**182**	PKPbc	**PKPdf**	**14 09 37.0**	**-0.1**
	comp=Z,8.0nm,0.6s,baz=178,slow=3.6,SNR=11						
DBIC	**Dimbokro**	**145.09**	**182**		**PKPbc**	**14 09 35.1**	**-1.4**
DBIC	**Dimbokro**	**145.09**	**182**	PKiKP	**PKPdf**	**14 09 37.0**	**-0.1**
SUMG	**Summit**	**145.28**	**17**	*i* P	**PKPbc**	**14 09 35.0**	**-1.0**
KLMR	**Klimovskoe**	**146.74**	**321**	*e*PKPdf	**PKPdf**	**14 09 38.5**	**0.0**
KLMR				AMP		14 09 43.1	
	comp=Z,24nm,1.3s						
KLMR				*e*SKPbc	**SKPbc**	**14 13 14.0**	**-4.1**
KLMR	**Klimovskoe**	**146.74**	**321**	*e*PKiKP	**PKPdf**	**14 09 38.4**	**0.0**
KLMR				*e*		14 13 14.0	
KLMR				pmax	pmax		
	comp=Z,24nm,1.3s						
ARA0	**ARCESS Array S**	**147.76**	**340**	*e*P	**PKPbc**	**14 09 42.7**	**-0.2**
ARCES	**ARCESS Array B**	**147.76**	**340**	PKPbc	**PKPbc**	**14 09 42.2**	**-0.6**
	comp=Z,9.5nm,0.7s,baz=21,slow=1.3,SNR=32						
VORR	**Voronezh**	**148.08**	**304**	*e*PKP2	**PKPbc**	**14 09 44.8**	**+0.6**
VORR				pmax	pmax		
	comp=Z,80nm,0.4s						
KTK1	**Kautokeino**	**148.70**	**340**	*e*P	**PKPbc**	**14 09 44.5**	**-0.8**
JETT	**Jettan, Norway**	**148.97**	**343**	*e*P	**PKPbc**	**14 09 45.7**	**-0.3**
TRO	**Tromso**	**149.23**	**343**	*e*P	**PKPbc**	**14 09 45.7**	**-0.8**
OBN	**Obninsk**	**149.41**	**311**	*e*PKHKP	PKPpre	14 09 45.1	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BR131	**Keskin Array S**	**150.28**	**279**		**PKPbc**	**14 09 50.0**	**-0.3**
BR131	**Keskin Array S**	**150.28**	**279**	PKIKP	**PKPbc**	**14 09 50.0**	**-0.3**
BRTR	**Keskin Array B**	**150.28**	**279**	PKPbc	**PKPbc**	**14 09 50.0**	**-0.3**
	comp=Z,7.2nm,0.8s,baz=143,slow=4.8,SNR=20						
BRTR	**Keskin Array B**	**150.28**	**279**		**PKPbc**	**14 09 49.7**	**-0.6**
BRTR	**Keskin Array B**	**150.28**	**279**	PKIKP	**PKPbc**	**14 09 50.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**150.81**	**195**	PKPbc	**PKiKP**	**14 09 52.5**	**-0.2**
	comp=Z,8.6nm,0.5s,baz=165,slow=1.5,SNR=22						
STEI	**Steigen**	**151.41**	**344**	*e*P	**PKPbc**	**14 09 51.0**	**-0.8**
LOF	**Lofoten**	**151.58**	**345**	*e*P	**PKPbc**	**14 09 51.6**	**-0.6**
FAUS	**Fauske**	**151.85**	**343**	*e*P	**PKPdf**	**14 09 46.9**	**+0.5**
FIA1	**FINESS Array S**	**152.52**	**327**		**PKPbc**	**14 09 54.0**	**-0.5**
FINES	**FINESS Array B**	**152.52**	**327**	PKPbc	**PKPbc**	**14 09 53.9**	**-0.6**
	comp=Z,5.9nm,0.6s,baz=57,slow=3.6,SNR=26						
AKASG	**Malin Array Be**	**154.41**	**303**	PKPbc	**PKPbc**	**14 09 57.9**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=66,slow=2.5,SNR=5.5						
NB2	**NORSAR Subarra**	**158.08**	**338**	PKPab	**PKPab**	**14 10 32.1**	**+3.2**
	baz=39,slow=4.4						
NB2	**NORSAR Subarra**	**158.08**	**338**	PKP	**PKPab**	**14 10 32.1**	**+3.2**
	comp=Z,1.2nm,0.6s,baz=39,slow=4.4						
NOA	**NORSAR Array B**	**158.08**	**338**	PKPab	**PKPab**	**14 10 31.2**	**+2.3**
	comp=Z,1.2nm,0.8s,baz=39,slow=4.6,SNR=5.5						
GERES	**GERESS Array B**	**164.61**	**304**	PKPab	**PKPab**	**14 10 57.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=60,slow=6.0,SNR=10.0						
KEST	**Kesra**	**166.81**	**248**	PKPab	**PKPab**	**14 11 08.3**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=331,slow=2.8,SNR=4.3						
ESDC	**Sonseca Array**	**177.56**	**214**	PKP	**PKPdf**	**14 10 10.2**	**+0

MRHZ	Matea Rd	3.43	31	P	Pb	13 54 36.6	-0.2	
TLZ	Tolley Road	3.63	17	P	Pn	13 54 34.9	+2.7	
FOZ	Fox Glacier	3.64	240	P	Pb	13 54 38.0	-2.3	
ALRZ	Allen Road	3.65	28	P	Pb	13 54 40.0	-0.5	
OPRZ	Ohinepanea	4.36	26	P	Pn	13 54 42.1	0.0	
TGRZ	Tauranga	4.38	22	P	Pb	13 54 49.7	-3.2	
JCZ	Jackson Bay	4.55	238	P	Pn	13 54 49.6	+4.7	
AWAZ	Awhitu Peninsu	4.75	5	P	Pn	13 54 50.6	+3.1	
MKAZ	Moumakai	4.76	10	P	Pn	13 54 49.6	+2.0	
WTAZ	Waiatarua	4.88	4	P	Pn	13 54 53.1	+3.9	
ETAZ	East Tamaki Re	4.88	7	P	Pn	13 54 52.1	+2.8	
MBAZ	Motutapu North	5.06	7	P	Pn	13 54 55.2	+3.5	
CTZ	Chatham Island	7.05	109	P	Pn	13 55 17.7	-1.4	
OUENC	Ouen Island, N	20.29	340	P	Pn	13 58 13.7	+0.1	
DZM	Mont Dzumac	20.72	339	P	Pn	13 58 18.1	-0.7	
	8.5nm,0.9s,baz=159,slow=14,SNR=4.2							
KOUNC	Koumac, New Ca	22.78	335	P	P	13 58 40.3	+1.8	
MSVF	Nonsavu	24.22	9	P	P	13 58 51.9	-0.9	
	9.0nm,0.9s,baz=164,slow=13,SNR=3.4							
	9.0nm,0.9s							
AS31	Alice Springs	37.98	286	P	P	14 00 54.2	+0.3	
ASAR	Alice Springs	37.98	286	P	P	14 00 53.5	-0.4	
	4.5nm,0.6s,baz=124,slow=6.1,SNR=6.7							
ASAR				PcP	PcP	14 03 07.8	-1.7	
	1.8nm,0.6s,baz=115,slow=4.4,SNR=3.2							
	4.5nm,0.6s							
ASAR	Alice Springs	37.98	286	P	P	14 00 53.8	-0.1	
COEN	Coen	38.61	307	P	P	14 00 59.3	+0.2	
COEN				IAmb	IAmb	14 01 45.9		
	comp=Z,66nm,1.9s							
WR0	Warramunga Arr	39.91	291	P	P	14 01 10.7	+0.6	
WR0				IAmb	IAmb	14 01 47.3		
	comp=Z,42nm,1.8s							
WRAB	Tennant Creek	40.06	291	P	P	14 01 10.6	-0.7	
WRAB				IAmb	IAmb	14 02 18.4		
	comp=Z,12nm,0.8s							
WRA	Warramunga Arr	40.06	291	P	P	14 01 09.9	-1.4	
	comp=Z,5.0nm,0.7s,baz=127,slow=8.5,SNR=6.2							
WRA				PcP	PcP	14 03 15.1	-0.9	
	comp=Z,1.9nm,0.7s,baz=123,slow=2.9,SNR=4.1							
	comp=Z,5.0nm,0.7s							
WRA	Warramunga Arr	40.06	291	P	P	14 01 11.0	-0.3	
PMG	Port Moresby	40.08	316	P	P	14 01 11.9	+0.4	
	comp=Z,20nm,0.8s,baz=135,slow=8.2,SNR=6.5							
	comp=Z,20nm,0.8s							
RABL	Rabaul	42.30	326	P	P	14 01 27.9	-1.9	
RABL				IAmb	IAmb	14 02 41.0		
	comp=Z,60nm,1.4s							
KNRA	Kununurra	46.84	290	P	P	14 02 05.9	-0.1	
MTN	Manton Dam	47.18	295	P	P	14 02 08.1	-0.5	
QSPA	South Pole Qui	48.32	180	P	P	14 02 19.4	+2.3	
	comp=Z,8.6nm,1.0s,baz=24,slow=4.8,SNR=6.5							
	comp=Z,8.6nm,1.0s							
QSPA	South Pole Qui	48.32	180	P	P	14 02 18.9	+1.8	
QSPA				IAmb	IAmb	14 02 22.0		
	comp=Z,8.8nm,0.9s							
PSA00	Pilbara Seismi	49.56	277	P	P	14 02 26.2	-0.7	
PSA00				IAmb	IAmb	14 02 26.4		
	comp=Z,6.7nm,0.9s							
PSA00	Pilbara Seismi	49.56	277	P	P	14 02 26.0	-1.0	
PSA00				IAmb	IAmb	14 02 26.5		
	comp=Z,17nm,0.9s							
MBWA	Marble Bar	49.89	277	P	P	14 02 28.4	-1.1	
MBWA				IAmb	IAmb	14 02 29.0		
	comp=Z,12nm,0.8s							
GIRL	Giralia	53.11	272	P	P	14 02 53.1	-0.5	
FAKI	Fak Fak	53.90	304	P	P	14 02 58.1	-1.3	
FAKI				IAmb	IAmb	14 02 58.9		
	comp=Z,14nm,0.7s							
SOEI	Soe	54.09	291	P	P	14 03 02.1	+1.1	
SIJI	Sorong	56.11	305	P	P	14 03 13.9	-1.5	
	comp=Z,8.6nm,0.8s,baz=74,slow=7.4,SNR=7.7							
	comp=Z,8.6nm,0.8s							
BELA	Belgrano 2	59.30	173	P	P	14 03 38.1	+1.1	
MAW	Mawson	59.38	205	P	P	14 03 39.1	+1.4	
TOLI2	Tolitoli	64.34	297	P	P	14 04 1.9	-0.9	
TOLI2				IAmb	IAmb	14 06 32.5		
	comp=Z,5.3nm,0.9s							
TROLL	Troll, Antarti	66.34	183	P	P	14 04 25.2	+1.1	
SNAA	Sanae	66.81	181	P	P	14 04 26.8	-0.3	
	comp=Z,1.6nm,0.6s,baz=188,slow=16,SNR=2.7							
	comp=Z,1.6nm,0.6s							
SNAA	Sanae	66.81	181	P	P	14 04 27.9	+0.8	
SNAA				IAmb	IAmb	14 04 34.4		
	comp=Z,10nm,1.5s							
INU	Inuyama	83.99	330	P	P	14 06 06.7	+0.7	
INU				IAmb	IAmb	14 08 03.2		
	comp=Z,24nm,1.6s							
MJAR	Matsushiro Arr	84.62	332	P	P	14 06 08.4	-0.8	
	comp=Z,1.3nm,0.8s,baz=152,slow=5.0,SNR=3.8							
	comp=Z,1.3nm,0.8s							
JHS	Saijyo	85.20	327	P	P	14 06 12.6	+0.5	
KSRS	Korea Array	89.46	325	P	P	14 06 33.0	+0.4	
	comp=Z,3.8nm,0.7s,baz=149,slow=5.7,SNR=16							
	comp=Z,3.8nm,0.7s							
KSAR	Wonju Array Be	89.47	325	P	P	14 06 33.0	+0.4	
KS19	Wonju Array Si	89.53	325	P	P	14 06 32.9	0.0	
CM31	Chiang Mai Arr	91.60	293	P	P	14 06 43.3	+0.2	
CM31				IAmb	IAmb	14 06 44.2		
	comp=Z,5.1nm,0.6s							
CMAR	Chiang Mai Arr	91.60	293	P	P	14 06 43.6	+0.6	
	comp=Z,4.5nm,0.7s,baz=149,slow=3.6,SNR=19							
	comp=Z,4.5nm,0.7s							
CMAR	Chiang Mai Arr	91.60	293	P	P	14 06 43.0	-0.1	
INK	Inuvik	116.53	19	PKP	PKPdf	14 12 18.1	-0.5	
	comp=Z,0.7nm,0.7s,baz=214,slow=7.3,SNR=4.0							
YKA	Yellowknife Ar	118.46	30	PKP	PKPdf	14 12 22.1	-0.3	
	comp=Z,2.5nm,0.7s,baz=269,slow=2.0,SNR=6.7							
KBZ	Khabaz	144.58	290	PKP	PKPab	14 13 09.6	-0.9	
	comp=Z,4.5nm,0.7s,baz=96,slow=4.8,SNR=7.8							
ARCES	ARCESS Array B	147.81	340	PKPbc	PKPbc	14 13 18.1	-1.5	
	comp=Z,2.6nm,0.7s,baz=64,slow=1.7,SNR=7.8							
BRTR	Keskin Array B	150.21	279	PKPbc	PKPbc	14 13 26.1	-0.7	
	comp=Z,0.9nm,0.7s,baz=58,slow=2.8,SNR=2.3							
FINES	FINESS Array B	152.54	327	PKPbc	PKPbc	14 13 30.0	-1.3	
	comp=Z,2.2nm,0.6s,baz=101,slow=2.8,SNR=6.6							
AKASG	Malin Array Be	154.38	302	PKPbc	PKPbc	14 13 35.5	-0.1	
	comp=Z,0.5nm,0.5s,baz=77,slow=2.0,SNR=2.2							
AKASG				PKPab	PKPab	14 13 48.5	-1.4	
	comp=Z,1.9nm,0.7s,baz=67,slow=4.4,SNR=5.1							
FUORN	Ofenpass-Fuorn	167.49	298		PKPab	14 14 46.9	-0.7	

*IDC **13** 13:53:58.7±1.4, 6.25S×147.80E, h56^{km}±13^{km}, mb4.2/18, mbtmp4.5/23, Error ellipse: s-maj=16.7km s-min=7.9km az=106.0*

*DJA **13** 13:53:58.8±0.5, 6.3S×14.8E±, h39^{km}±5^{km}, M5.2/36, mb5.0/36, mB5.8/7, MLv5.0/3, Mw(mB)5.4/7, MwMwp6.7/1, Mwp6.5/1*

*NEIC **13** 13:53:59.0±1.2, 6.27S±0.06×147.85E±0.08, h52^{km}±7^{km}, mb5.0/34, Error ellipse: s-maj=11.1km s-min=8.9km az=89.0*

ISC 13 13:53:58.8±0.4, 6.31S±0.05×147.85E±0.06, h51^{km}, n103, σ1s85/112, mb4.9/45, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.15	192	P	Pn	13 54 46.6	+0.6
	420nm,0.6s,baz=32,slow=5.3,SNR=158						
PMG				S	Sn	13 55 24.9	+2.5
	451nm,0.6s,baz=37,slow=16,SNR=11						
PMG	Port Moresby	3.15	192		Pn	13 54 46.4	+0.4
PMG	Port Moresby	3.15	192	P	Pn	13 54 46.1	+0.1
MANU	Manus Island	4.26	354	Pn	Pn	13 55 01.3	0.0
KRVT	Keravat (AS076	4.61	65	P	Pn	13 55 04.9	-1.1
	304nm,0.5s,baz=248,slow=0.7,SNR=72						
KRVT				S	Sn	13 56 03.5	+5.2
	290nm,0.8s,baz=131,slow=15,SNR=1.1						
RABL	Rabaul	4.79	64	Pn	Pn	13 55 07.9	-0.5
GENI	Genyem	8.50	295	P	Pn	13 56 03.3	+3.9
	14μm91nm,0.5s						
COEN	Coen	8.88	211	Pn	Pn	13 56 04.1	-0.6
SMPI	Sarmi	10.07	295	P	Pn	13 56 25.3	+4.4
	112nm,0.8s						
SRPI	Serui, Papua	12.39	290	P	Pn	13 56 55.4	+2.8
	55nm,0.4s						
CTA	Charters Tower	13.79	186	P	Pn	13 57 12.6	+1.0
	5.2nm,0.8s,baz=3.3,slow=15,SNR=2.2						
CTAO	Charters Tower	13.79	186	Pn	Pn	13 57 12.5	+0.8
RKPI	Ransiki, Papua	14.44	289	P	Pn	13 57 23.0	+2.5
	246μm102nm,0.9s						
MWPI	Manokwari, Pap	14.78	291	P	P	13 57 28.9	-0.8
	73nm,0.8s						
FAKI	Fak Fak	15.91	282	P	P	13 57 42.1	-0.2
FAKI	Fak Fak	15.91	282	P	P	13 57 42.4	+0.1
	17nm,0.8s						
SAUI	Saumlaki	16.50	263		P	13 57 48.3	-0.6
SAUI	Saumlaki	16.50	263	P	P	13 57 48.6	-0.4
	195nm,1.2s						
SIJI	Sorong	17.40	287	P	P	13 57 58.6	-0.3
	14nm,0.8s,baz=83,slow=13,SNR=17						
SIJI	Sorong	17.40	287	P	P	13 58 00.6	+1.7
	46nm,0.8s						
MTN	Manton Dam	17.71	247		Pn	13 58 01.2	-0.8
BNDI	Bandanaira	17.95	275	P	P	13 58 08.7	+3.7
	69nm,0.8s						
WB0	Warramunga Arr	18.71	223	P	P	13 58 12.7	-0.6
WB0				IAmb	IAmb	13 58 15.4	
	comp=Z,73nm,0.9s						
WR0	Warramunga Arr	18.74	222	P	P	13 58 13.0	-0.6
WR0				IAmb	IAmb	13 58 16.4	
	comp=Z,75nm,1.1s						
WRAB	Tennant Creek	18.85	223	P	P	13 58 14.1	-0.7
WRA	Warramunga Arr	18.86	223	P	P	13 58 14.3	-0.7
	comp=Z,23nm,0.8s,baz=42,slow=11,SNR=16						
WRA				S	Sn	14 01 43.0	-3.5
	comp=Z,2.8nm,1.0s,baz=53,slow=24,SNR=2.8						
WRA				ScP	ScP	14 06 11.6	-0.2
	comp=Z,3.4nm,0.9s,baz=37,slow=2.1,SNR=8.1						
MSAI	Masohi	19.08	278	P	Pn	13 58 20.3	+1.7
	comp=Z,385nmcomp=Z,6.4nm,0.8s						
EIDS	Eidsvold	19.20	171		P	13 58 19.2	+0.5
KRAI	Karang Ratu	19.61	278	P	Pn	13 58 26.6	+1.7
	comp=Z,20nm,0.6s						
AAI	Ambon	19.75	277	P	Pn	13 58 27.8	+1.2
	comp=Z,6μmcomp=Z,62nm,0.8s						
LBMI	Labuha	21.07	285	P	P	13 58 42.6	+3.6
	comp=Z,59nm,1.0s						
AS31	Alice Springs	21.86	216		P	13 58 47.1	-0.2
AS31				IAmb	IAmb	13 58 48.2	
	comp=Z,26nm,0.6s						
ASAR	Alice Springs	21.86	216	P	P	13 58 47.4	0.0
	comp=Z,57nm,0.7s,baz=48,slow=9.7,SNR=322						
ASAR				S	S	14 02 46.7	+0.4
	comp=Z,4.3nm,0.8s,baz=34,slow=19,SNR=4.9						
ASAR				ScP	ScP	14 06 19.8	+0.9
	comp=Z,2.4nm,0.9s,baz=41,slow=2.6,SNR=7.3						
	comp=Z,57nm,0.7s						
ASAR	Alice Springs	21.86	216		P	13 58 47.1	-0.3
SANI	Sanana	22.20	280	P	P	13 58 56.4	+5.2
	comp=Z,5μmcomp=Z,30nm,1.2s						
SOEI	Soe	23.59	260	P	P	13 59 04.7	-0.8
SOEI	Soe	23.59	260	P	P	13 59 08.2	+2.7
	comp=Z,70nm,0.8s						
DZM	Mont Dzumac	23.84	133	P	P	13 59 07.3	-0.3
	comp=Z,5.3nm,0.8s,baz=30,slow=17,SNR=1.7						
	comp=Z,5.3nm,0.8s						
DZM	Mont Dzumac	23.84	133	P	P	13 59 07.4	-0.2
BATI	Baumata	24.24	259	P	P	13 59 12.2	+0.9
	comp=Z,73nm,0.8s,baz=100,slow=0.2,SNR=16						
	comp=Z,73nm,0.8s						
BATI	Baumata	24.24	259	P	P	13 59 13.7	+2.4
	comp=Z,84nm,0.9s						
ARMA	Armidale	24.25	172	P	P	13 59 10.9	-0.3
ARMA				IAmb	IAmb	13 59 13.7	
	comp=Z,50nm,1.2s						
MMRI	Maumere	25.50	263	P	P	13 59 24.4	+1.7
	comp=Z,50nm,0.9s						
GTOI	Gorontalo	25.73	285	P	P	13 59 28.4	+3.6
	comp=Z,16nm,0.9s						
STKA	Stephens Creek	26.10	192	P	P	13 59 27.6	-0.3
	comp=Z,49nm,0.8s,baz=352,slow=9.1,SNR=36						
	comp=Z,49nm,0.8s						
STKA	Stephens Creek	26.10	192	P	P	13 59 27.6	-0.3
BSSI	Bau Bau, Buton	27.20	269	P	P	13 59 42.4	+4.4
	comp=Z,20nm,0.8s						
BKSI	Bulukumba	27.60	271	P	P	13 59 46.3	+4.7
	comp=Z,17nm,1.0s						
KAPI	Kappang	27.99	271	P	P	13 59 45.1	0.0
	comp=Z,3.5nm,0.3s,baz=166,slow=4.2,SNR=4.2						
	comp=Z,3.5nm,0.3s						
BBOO	Buckleboo	28.56	201	P	P	13 59 49.3	-0.7
BBOO				IAmb	IAmb	14 00 32.9	
	comp=Z,86nm,1.6s						
CAN	Canberra	28.89	178	P	P	13 59 53.5	+0.6
CAN				IAmb	IAmb	14 00 43.1	
	comp=Z,87nm,1.9s						
FORT	Forrest	30.62	215	P	P	14 00 08.0	-0.3
FORT				IAmb	IAmb	14 00 08.8	
	comp=Z,39nm,0.9s						
MBWA	Marble Bar	30.96	239	P	P	14 00 11.2	-0.2
MBWA	Marble Bar	30.96	239	P	P	14 00 11.2	-0.2
MBWA				pP	pP	14 00 24.9	+0.1
PSA00	Pilbara Seismi	31.04	238	P	P	14 00 11.8	-0.3
GIRL	Giralia	36.24	240	P	P	14 00 57.2	-0.1
TAU	Tasmania Unive	36.45	181	P	P	14 01 00.5	+1.6
MORW	Morawa	37.60	229	P	P	14 01 08.5	-0.3
KSM	Kuching	38.27	280	P	P	14 01 16.8	+2.2
	comp=Z,20nm,0.8s						
NWAO	Narrogin (SRO)	38.87	223	P	P	14 01 19.1	-0.4
	comp=Z,18nm,0.7s,baz=266,slow=8.8,SNR=12						
	comp=Z,18nm,0.7s						
NWAO	Narrogin (SRO)	38.87	223	P	P	14 01 19.0	-0.4
NWAO				IAmb	IAmb	14 01 19.6	
	comp=Z,28nm,0.9s						
NWAO	Narrogin (SRO)	38.87	223	P	P	14 01 18.9	-0.5
NWAO				pP	pP	14 01 32.5	-0.5
YHNB	Yeheng	40.16	321	P	P	14 01 30.0	-0.3
YHNB				IAmb	IAmb	14 02 01.1	
	comp=Z,60nm,1.7s						
PLWZ	Palliser	42.75	149	P	P	14 01 52.0	+0.7
MJAR	Matsushiro Arr	43.57	349	P	P	14 01 56.4	-1.5
	comp=Z,6.9nm,0.9s,baz=168,slow=8.1,SNR=19						
	comp=Z,6.9nm,0.9s						
MAJO	Matsushiro	43.57	349	P	P	14 01 56.9	-1.0
MAJO				IAmb	IAmb	14 03 28.9	
	comp=Z,28nm,1.0s						
MAJO	Matsushiro	43.57	349	P	P	14 01 57.0	-1.0
MJB9	Matsu-Tunnel	43.58	349	P	P	14 01 56.9	-1.0
MJB9				IAmb	IAmb	14 03 30.5	
	comp=Z,18nm,0.8s						
JSD	Sado	45.01	349	P	P	14 02 09.2	-0.2
JSD				IAmb	IAmb	14 03 05.3	
	comp=Z,31nm,0.9s						
KSRS	Korea Array	47.34	338	P	P	14 02 27.4	-0.2
	comp=Z,7nm,0.5s,baz=161,slow=8.0,SNR=4.0						
	comp=Z,0.7nm,0.5s						
GSI	Gunungsitoli	50.75	277	P	P	14 02 53.0	-1.2
GSI				IAmb	IAmb	14 03 07.0	
	comp=Z,9.5nm,0.8s						
USRK	Ussuriysk Ar.	52.27	346	P	P	14 03 03.8	-1.2
	comp=Z,2.7nm,0.7s,baz=154,slow=8.5,SNR=4.1						
	comp=Z,2.7nm,0.7s						
USRK	Ussuriysk Ar.	52.27	346	P	P	14 03 04.3	-0.7
USA0B	Ussuriysk Arra	52.27	346	P	P	14 03 03.5	-1.5
USA0B				IAmb	IAmb	14 03 18.4	
	comp=Z,30nm,1.8s						
HNS	HongShan	53.36	327	↓P	P	14 03 10.4	-2.8
HNS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH	PanZhiHua	55.31	308	P	P	14 03 24.8	-3.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	Kul'dur	57.07	347	P	P	14 03 39.0	-0.7
	comp=Z,1.0nm,0.6s,baz=191,slow=7.9,SNR=4.4						
	comp=Z,1.0nm,0.6s						
TNCH	TengChong	57.20	305	eP	P	14 03 45.4	+4.1
TNCH				pP	pP	14 03 48.5	-7.4
TNCH				pmax	pmax		
	comp=Z,28nm,0.7s						
HHC	Hu-ho-hao-te	57.54	328	eP	P	14 03 45.3	+2.0
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				LR	LR		
	comp=N,6μm,16.5s						
HHC				LR	LR		
	comp=E,6μm,16.5s						
HHC				LR	LR		
	comp=Z,8μm,17.1s						
HEH	HeiHe	59.05	345	eP	P	14 03 57.3	+3.7
PETK	Petropavlovsk-	59.78	7	P	P	14 03 57.7	-0.8
	comp=Z,2.4nm,0.7s,baz=153,slow=6.1,SNR=13						
	comp=Z,2.4nm,0.7s						
PETK	Petropavlovsk-	59.78	7	P	P	14 03 57.2	-1.3
SONM	Songino Array	65.08	331	P	P	14 04 33.3	-1.0
	comp=Z,1.2nm,0.6s,baz=150,slow=6.5,SNR=7.3						
	comp=Z,1.2nm,0.6s						
SONM	Songino Array	65.08	331	P	P	14 04 33.7	-0.5
SONM				IAmb	IAmb	14 05 25.2	
	comp=Z,14nm,1.8s						
CCD	Concordia, Ant	70.17	187	P	P	14 05 05.9	-0.3
VNDA	Vanda	71.56	177	P	P	14 05 14.1	0.0
	comp=Z,2.3nm,0.6s,baz=332,slow=6.8,SNR=23						
	comp=Z,2.3nm,0.6s						
VNDA	Vanda	71.56	177	P	P	14 05 13.9	-0.2
VNDA	Vanda	71.56	177	P	P	14 05 14.1	0.0
VNDA				sP	sP	14 05 37.2	+3.3
MKAR	Makanchi Array	78.27	320	P	P	14 05 51.8	-1.6
	comp=Z,1.0nm,0.5s,baz=95,slow=7.7,SNR=7.3						
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	78.27	320	P	P	14 05 52.1	-1.3
MAKZ	Makanchi	78.47	320	P	P	14 05 52.7	-1.9
MAKZ				IAmb	IAmb	14 08 00.6	
	comp=Z,12nm,1.3s						
TIXI	Tiksi	78.80	354	P	P	14 05 53.9	-1.8
	comp=Z,0.9nm,0.5s,baz=169,slow=0.9,SNR=5.5						
	comp=Z,0.9nm,0.5s						
ZALV	Zalesovo Beam	79.72	328	P	P	14 05 58.8	-2.4
	comp=Z,1.0nm,0.5s,baz=121,slow=6.1,SNR=4.0						
	comp=Z,1.0nm,0.5s						
K20K	Telida	81.98	23	P	P	14 06 13.8	+0.7
KURBB	Kurchatov Arra	81.98	323	P	P	14 06 11.5	-1.7
	comp=Z,0.2nm,0.4s,baz=94,slow=6.6,SNR=2.2						
MAW	Mawson	82.29	203	P	P	14 06 14.7	+0.1
CAST	Castle Rocks	82.78	23	P	P	14 06 15.8	-1.5
CAST				IAmb	IAmb	14 07 33.6	
	comp=Z,31nm,1.8s						
QSPA	South Pole Qui	83.66	180	P	P	14 06 21.1	-0.8
	comp=Z,6.2nm,0.6s,baz=301,slow=1.6,SNR=24						
	comp=Z,6.2nm,0.6s						
QSPA	South Pole Qui	83.66	180	P	P	14 06 21.0	-0.9
QSPA				IAmb	IAmb	14 06 21.7	
	comp=Z,6.2nm,0.7s						
ILAR	Eielson Array	85.43	23	P	P	14 06 27.2	-3.4
	comp=Z,0.6nm,0.7s,baz=257,slow=5.0,SNR=9.2						
BMAR	Burnt Mountain	87.38	21	P	P	14 06 41.5	+1.3
BVAR	Borovoye Array	87.51	324	P	P	14 06 38.8	-2.3
	comp=Z,0.9nm,0.5s,baz=110,slow=8.5,SNR=4.0						
	comp=Z,0.9nm,0.5s						
GERES	GERESS Array B	122.64	326	PKP	PKPdf	14 12 47.0	-2.1
	comp=Z,0.4nm,0.7s,baz=95,slow=4.3,SNR=2.1						

WEL 13 13:54:39.3±0.4, 42°S±2°×17°4E±°, h9^{km}±3^{km}, M4.5/15, ML4.8/15, MLv4.5/15, Error ellipse: s-maj=0.0km s-min=0.0km az=135.7, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.40	258	P	Pg	13 54 46.9	-0.1
KHZ				S	Sg	13 54 52.1	-0.1
CMWZ	Cape Campbell	0.60	11	P	Pb	13 54 51.9	-0.1
BSWZ	Blackbirch Sta	0.64	347	P	Pg	13 54 50.9	-0.6
BSWZ				S	Sg	13 55 00.3	+0.5
TUWZ	Tuamarina	0.91	354	P	Pg	13 54 56.6	-0.2
TUWZ				S	Sb	13 55 09.9	+0.5
GVZ	Greta Valley S	0.99	230	P	Pn	13 54 59.0	-0.4
GVZ				S	Sn	13 55 13.8	+0.3
THZ	Tophouse	1.03	303	P	Pg	13 54 57.4	-1.7
THZ				S	Sg	13 55 09.6	-2.9
BHW	Baring Head	1.11	33	P	Pg	13 55 00.1	-0.4
BHW				S	Sb	13 55 15.5	+0.4
TCW	Tory Channel	1.14	8	P	Pg	13 55 00.8	-0.3
TCW				S	Sn	13 55 17.2	+0.1
NNZ	Nelson	1.23	335	P	Pn	13 55 00.5	-2.2
NNZ				S	Sb	13 55 17.3	-1.3
MSWZ	Moikau Station	1.28	44	P	Pn	13 55 02.9	-0.5
MSWZ				S	Sn	13 55 21.2	+0.5
MRNZ	Matariki Terra	1.35	313	P	Pn	13 55 03.7	-0.6
MRNZ				S	Sb	13 55 21.8	-0.4
LTZ	Lake Taylor	1.40	251	P	Pn	13 55 03.8	-1.3
LTZ				S	Sb	13 55 22.8	-0.8
PAWZ	Paruwai Farm	1.40	47	P	Pn	13 55 04.6	-0.4
CAW	Cannon Point	1.44	32	P	Pb	13 55 06.1	-0.2
CAW				S	Sg	13 55 25.6	0.0
TRWZ	Traveller	1.53	53	S	Sg	13 55 29.0	+0.4
DUWZ	D'Urville Isla	1.54	356	P	Pn	13 55 07.3	+0.4
DUWZ				S	Sb	13 55 27.7	+0.2
TKNZ	Takaka Hill	1.54	327	P	Pn	13 55 06.2	-0.8
TKNZ				S	Sn	13 55 25.9	-1.2
KIW	Kapiti Island	1.60	24	P	Pn	13 55 07.5	-0.3
OGWZ	Otaki Gorge	1.73	29	S	Sb	13 55 33.5	+0.4
HOWZ	Holdsworth Sta	1.80	38	S	Sn	13 55 33.6	-0.1
TMWZ	Te Maipa	1.84	49	P	Pn	13 55 10.0	-1.1
TMWZ				S	Sg	13 55 37.9	-0.4
QRZ	Quartz Range	1.90	322	P	Pb	13 55 13.2	-0.9
QRZ				S	Sb	13 55 37.4	-0.5
INZ	Inchbonnie	1.97	258	P	Pn	13 55 13.8	+0.9
INZ				S	Sn	13 55 38.5	+0.7
WVZ	Waitaha Valley	2.56	252	S	Sn	13 55 52.4	+0.2
CTZ	Chatham Island	6.97	105	P	Pn	13 56 21.6	0.0
CTZ				S	Sn	13 57 37.1	-3.9

**WEL 13 13:56:42.5±0.3, 43

TOO				IAmb	IAmb	14 02 19.9	
	comp=Z,51nm,1.6s						
KOUNC	**Koumac, New Ca**	**22.93**	**336**	P	**P**	**14 02 12.1**	**-0.2**
KOUNC				IAmb	IAmb	14 02 36.5	
	comp=Z,30nm,1.3s						
MSVF	**Nonsavu**	**24.52**	**10**	P	**P**	**14 02 26.7**	**-1.1**
CTAO	**Charters Tower**	**32.00**	**305**	P	**P**	**14 03 33.8**	**-0.7**
AS31	**Alice Springs**	**37.84**	**286**	P	**P**	**14 04 25.9**	**+1.0**
ASAR	**Alice Springs**	**37.84**	**286**	P	**P**	**14 04 25.4**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=120,slow=6.7,SNR=7.2						
ASAR				PcP	**PcP**	**14 06 39.6**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=124,slow=4.0,SNR=1.8						
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**37.84**	**286**	P	**P**	**14 04 25.9**	**+1.0**
WB2	**Warramunga Arr**	**39.94**	**291**	P	**P**	**14 04 42.3**	**-0.2**
WB2				IAmb	IAmb	14 04 56.4	
	comp=Z,21nm,1.5s						
WRA	**Warramunga Arr**	**39.95**	**291**	P	**P**	**14 04 42.2**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=127,slow=8.7,SNR=6.8						
WRA				PcP	**PcP**	**14 06 46.1**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=137,slow=2.7,SNR=1.0						
	comp=Z,2.9nm,0.7s						
WB0	**Warramunga Arr**	**40.03**	**291**	P	**P**	**14 04 42.8**	**-0.5**
WB0				IAmb	IAmb	14 06 13.3	
	comp=Z,12nm,1.1s						
RABL	**Rabaul**	**42.41**	**327**	P	**P**	**14 05 02.8**	**+0.1**
MTN	**Manton Dam**	**47.09**	**295**	P	**P**	**14 05 40.7**	**+0.5**
PTCN	**Pitcairn Islan**	**48.81**	**88**	P	**P**	**14 05 53.6**	**+0.2**
PMSA	**Palmer Station**	**64.30**	**156**	P	**P**	**14 07 44.9**	**+1.9**
KSRS	**Korea Array**	**89.56**	**325**	P	**P**	**14 10 05.8**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=145,slow=6.0,SNR=3.0						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.50**	**294**	P	**P**	**14 10 15.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=141,slow=3.3,SNR=4.1						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**147.98**	**340**	PKPbc	**PKPbc**	**14 16 51.2**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=44,slow=1.2,SNR=9.0						
BRTR	**Keskin Array B**	**150.03**	**279**	PKPbc	**PKPbc**	**14 16 58.0**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=120,slow=5.6,SNR=2.1						
FINES	**FINESS Array B**	**152.64**	**326**	PKPbc	**PKPbc**	**14 17 02.6**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=42,slow=2.9,SNR=6.0						

WEL 13 13:58:08.3±0.4,**42°S**±3°×**17°4E**±°,**h12**km±3km,**M4.0**/12,
ML4.3/12,**MLv4.0**/12,**Error ellipse: s-maj=0.0km s-min=0.0km az=139.5,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.03**	**356**	P	Pg	13 58 11.5	+0.9
BSWZ	**Blackbirch Sta**	**0.26**	**285**	P	Pb	13 58 14.7	-0.3
BSWZ				S	Sb	13 58 19.8	+0.3
TUWZ	**Tuamarina**	**0.41**	**330**	P	Pb	13 58 17.2	-0.2
TUWZ				S	Sb	13 58 23.8	+0.2
TCW	**Tory Channel**	**0.57**	**4**	P	Pg	13 58 19.2	-0.3
TCW				S	Sb	13 58 28.1	-0.2
BHW	**Baring Head**	**0.62**	**53**	P	Pb	13 58 20.7	-0.3
BHW				S	Sn	13 58 31.5	-1.2
WEL	**Wellington**	**0.65**	**40**	P	Pb	13 58 21.4	-0.2
WEL				S	Sn	13 58 32.8	-0.7
KHZ	**Kahutara**	**0.81**	**218**	P	Pb	13 58 24.9	+0.6
KHZ				S	Sn	13 58 37.3	-0.1
MSWZ	**Moikau Station**	**0.86**	**65**	P	Pb	13 58 25.1	0.0
MSWZ				S	Sn	13 58 38.2	-0.4
CAW	**Cannon Point**	**0.93**	**44**	P	Pb	13 58 26.4	0.0
CAW				S	Sn	13 58 40.2	-0.3
THZ	**Tophouse**	**0.98**	**271**	P	Pn	13 58 28.0	0.0
DUWZ	**D'Urville Isla**	**1.01**	**347**	P	Pn	13 58 28.6	+0.3
DUWZ				S	Sn	13 58 42.4	0.0
KIW	**Kapiti Island**	**1.06**	**30**	P	Pb	13 58 28.4	-0.2
KIW				S	Sn	13 58 43.9	+0.3
MTW	**Mount Morrison**	**1.15**	**58**	P	Pb	13 58 29.2	-1.0
OGWZ	**Otaki Gorge**	**1.20**	**37**	P	Pn	13 58 30.4	-0.6
HOWZ	**Holdsworth Sta**	**1.32**	**48**	P	Pg	13 58 33.6	-0.1
MRZ	**Mangatainoka R**	**1.52**	**43**	P	Pn	13 58 34.9	-0.4
POWZ	**Post Office Ro**	**1.82**	**41**	P	Pn	13 58 38.7	-0.7

WEL 13 13:58:36.1±0.3,**42°S**±2°×**17°4E**±°,**h8**km,**M4.0**/15,**ML4.3**/5,
MLv4.0/15,**Error ellipse: s-maj=0.0km s-min=0.0km az=109.7,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.20**	**190**	P	Pg	13 58 40.6	+0.5
KHZ				S	Sg	13 58 44.0	+1.2
BSWZ	**Blackbirch Sta**	**0.55**	**23**	P	Pg	13 58 47.3	+0.5
BSWZ				S	Sb	13 58 55.8	-0.3
THZ	**Tophouse**	**0.68**	**312**	P	Pg	13 58 49.1	-0.2
THZ				S	Sg	13 58 59.0	+0.7
TUWZ	**Tuamarina**	**0.84**	**19**	P	Pb	13 58 52.6	-0.3
TUWZ				S	Sb	13 59 04.7	+0.4
GVZ	**Greta Valley S**	**0.85**	**208**	P	Pb	13 58 53.7	+0.5
GVZ				S	Sn	13 59 06.2	-0.8
LTZ	**Lake Taylor**	**1.12**	**240**	P	Pg	13 58 57.6	0.0
LTZ				S	Sg	13 59 11.6	-0.6
AMCZ	**Amberley**	**1.17**	**215**	P	Pn	13 58 58.8	-0.1
WEL	**Wellington**	**1.29**	**44**	P	Pn	13 59 00.0	-0.4
WEL				S	Sn	13 59 18.1	+0.2
DUWZ	**D'Urville Isla**	**1.44**	**10**	P	Pb	13 59 03.1	-0.2
OKCZ	**Okains Bay**	**1.55**	**194**	P	Pn	13 59 02.6	-1.5
OKCZ				S	Sn	13 59 22.3	-2.0
CAW	**Cannon Point**	**1.57**	**45**	P	Pn	13 59 04.7	+0.3
MQZ	**McQueen's Vall**	**1.63**	**204**	P	Pn	13 59 03.0	-2.1
MQZ				S	Sn	13 59 23.7	-2.6
INZ	**Inchbonnie**	**1.66**	**252**	P	Pb	13 59 06.3	-0.7
INZ				S	Sb	13 59 28.2	+0.2
AKCZ	**Akaroa Harbour**	**1.72**	**196**	P	Pn	13 59 04.8	-1.5
AKCZ				S	Sn	13 59 26.5	-2.0
MRZ	**Mangatainoka R**	**2.17**	**45**	S	Sn	13 59 38.3	-1.2

WEL 13 13:58:57.4±0.4,**43°S**±3°×**17°3E**±°,**h15**km±3km,**M3.5**/7,
ML4.5/6,**MLv3.5**/7,**Error ellipse: s-maj=0.0km s-min=0.0km az=122.3,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.21**	**51**	P	Pb	13 59 02.9	0.0
KHZ				S	Sb	13 59 06.6	0.0
GVZ	**Greta Valley S**	**0.47**	**207**	P	Pb	13 59 08.0	+0.6
GVZ				S	Sb	13 59 15.3	+1.2
AMCZ	**Amberley**	**0.80**	**218**	P	Pn	13 59 14.0	-0.1
AMCZ				S	Sn	13 59 25.9	+0.1
LTZ	**Lake Taylor**	**0.81**	**253**	P	Pg	13 59 13.0	-0.1
LTZ				S	Sb	13 59 24.6	+0.6
THZ	**Tophouse**	**0.84**	**338**	P	Pn	13 59 14.3	-0.5
THZ				S	Sg	13 59 24.9	0.0
MQZ	**McQueen's Vall**	**1.26**	**203**	S	Sb	13 59 35.7	-1.0
AKCZ	**Akaroa Harbour**	**1.36**	**193**	P	Pn	13 59 21.5	-0.3
AKCZ				S	Sn	13 59 38.4	-1.2
WEL	**Wellington**	**1.66**	**41**	P	Pn	13 59 26.6	+0.6
WEL				S	Sb	13 59 47.8	-0.6

*IDC **13** 13:59:40.6±3.1, 42°45S×173°16E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=70.1km s-min=32.7km az=125.0*

*NEIC **13** 13:59:42.1±2.5, 42°49S±0°03×173°33E±0°07, h9km±3km, mb4.2/4, Error ellipse: s-maj=8.0km s-min=2.5km az=115.0*

*WEL **13** 13:59:42.7±0.3, 43°S±2°×17°3E±°, h12km±2km, M4.4/13, ML4.6/12, MLv4.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=117.8*

ISC 13 13:59:41.6±0.9,**42°57S**±0°03×**173°44E**±0°03,**h10**km±6km,
n63,σ1**9**17/89,**mb4.1**/5,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.17**	**27**		**Pg**	**13 59 44.7**	**-0.6**
KHZ				Sg	**Sg**	**13 59 48.0**	**+0.2**
KHZ	**Kahutara**	**0.17**	**27**	P	**Pg**	**13 59 44.7**	**-0.6**
KHZ				S	**Sg**	**13 59 47.9**	**+0.2**
GVZ	**Greta Valley S**	**0.50**	**216**	Pg	**Pb**	**13 59 53.5**	**+1.1**
GVZ	**Greta Valley S**	**0.50**	**216**	P	**Pb**	**13 59 53.6**	**+1.1**
GVZ				S	**Sb**	**14 00 01.9**	**+2.2**
AMCZ	**Amberley**	**0.84**	**223**	P	**Pn**	**13 59 59.8**	**+0.4**
AMCZ				S	**Sn**	**14 00 12.6**	**+0.8**
LTZ	**Lake Taylor**	**0.89**	**256**		**Pg**	**13 59 59.1**	**+0.5**
LTZ	**Lake Taylor**	**0.89**	**256**	P	**Pb**	**13 59 59.6**	**+0.6**
LTZ				S	**Sb**	**14 00 11.3**	**+0.4**
THZ	**Tophouse**	**0.90**	**334**	Pn	**Pg**	**13 59 58.7**	**-0.2**
THZ	**Tophouse**	**0.90**	**334**	P	**Pg**	**13 59 59.2**	**+0.4**
THZ				S	**Sg**	**14 00 10.5**	**0.0**
BSWZ	**Blackbirch Sta**	**0.91**	**21**	Pg	**Pg**	**13 59 59.9**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.91**	**21**	P	**Pg**	**13 59 60.0**	**+0.8**
BSWZ				S	**Sn**	**14 00 13.9**	**+0.3**
TUWZ	**Tuamarina**	**1.20**	**19**	Pn	**Pn**	**14 00 03.8**	**-0.5**
TUWZ	**Tuamarina**	**1.20**	**19**	P	**Pn**	**14 00 04.5**	**+0.2**
TUWZ				S	**Sn**	**14 00 21.4**	**+0.8**
MRNZ	**Matariki Terra**	**1.27**	**336**	P	**Pn**	**14 00 05.6**	**+0.2**
MRNZ				S	**Sn**	**14 00 22.8**	**+0.3**
MQZ	**McQueen's Vall**	**1.27**	**206**	P	**Pn**	**14 00 04.8**	**-0.5**
MQZ				S	**Sb**	**14 00 21.8**	**-0.2**
OXZ	**Oxford**	**1.28**	**233**		**Pn**	**14 00 04.4**	**-1.0**
NNZ	**Nelson**	**1.35**	**358**	Pn	**Pn**	**14 00 06.3**	**-0.1**
NNZ	**Nelson**	**1.35**	**358**	P	**Pn**	**14 00 06.8**	**+0.4**
NNZ				S	**Sg**	**14 00 25.5**	**+0.6**
AKCZ	**Akaroa Harbour**	**1.36**	**196**	P	**Pn**	**14 00 06.4**	**-0.2**
AKCZ				S	**Sb**	**14 00 24.9**	**+0.3**
DSZ	**Denniston Nort**	**1.47**	**304**	Pn	**Pn**	**14 00 06.2**	**-1.8**
INZ	**Inchbonnie**	**1.48**	**263**	P	**Pn**	**14 00 09.1**	**+0.9**
INZ				S	**Sn**	**14 00 27.9**	**+0.4**
RACZ	**Rakaia**	**1.50**	**219**	P	**Pn**	**14 00 08.1**	**-0.4**
RACZ				S	**Sn**	**14 00 27.6**	**-0.5**
TKNZ	**Takaka Hill**	**1.57**	**347**	P	**Pn**	**14 00 10.6**	**+1.0**
TKNZ				S	**Sg**	**14 00 32.1**	**0.0**
DUWZ	**D'Urville Isla**	**1.80**	**12**	P	**Pn**	**14 00 13.7**	**+1.1**
WACZ	**Wakanui South**	**1.80**	**220**	P	**Pn**	**14 00 12.2**	**-0.5**
WACZ				S	**Sn**	**14 00 34.8**	**-0.8**
QRZ	**Quartz Range**	**1.87**	**338**	Pn	**Pn**	**14 00 14.4**	**+0.9**
QRZ	**Quartz Range**	**1.87**	**338**	P	**Pn**	**14 00 14.8**	**+1.3**
QRZ				S	**Sb**	**14 00 39.3**	**+0.2**
WVZ	**Waitaha Valley**	**2.05**	**255**	P	**Sn**	**14 00 16.8**	**+0.8**
WVZ				S	**Sn**	**14 00 41.3**	**-0.4**
RPZ	**Rata Peaks**	**2.09**	**236**	Pn	**Pn**	**14 00 16.2**	**-0.3**
	154nm,0.3s,baz=225,slow=2.0,SNR=7.8						
RPZ				Sn	**Sn**	**14 00 40.3**	**-2.4**
	195nm,0.3s,baz=11,slow=20,SNR=14						
RPZ	**Rata Peaks**	**2.09**	**236**	Pn	**Pn**	**14 00 15.9**	**-0.7**
RPZ	**Rata Peaks**	**2.09**	**236**	P	**Pn**	**14 00 16.3**	**-0.3**
RPZ				S	**Sn**	**14 00 40.7**	**-1.9**
ARCZ	**Arundel**	**2.15**	**229**	P	**Pn**	**14 00 17.1**	**-0.4**
ARCZ				S	**Sn**	**14 00 42.7**	**-1.5**
OGWZ	**Otaki Gorge**	**2.18**	**37**	P	**Pb**	**14 00 20.6**	**-0.4**
OGWZ				S	**Sn**	**14 00 41.7**	**-3.1**
MRZ	**Mangatainoka R**	**2.49**	**41**	Pn	**Pn**	**14 00 24.0**	**+1.9**
MRZ	**Mangatainoka R**	**2.49**	**41**	P	**Pn**	**14 00 24.1**	**+1.9**
MRZ				S	**Sn**	**14 00 46.9**	**-2.6**
LBZ	**Lake Benmore**	**2.98**	**231**	P	**Pn**	**14 00 28.7**	**-0.2**
LBZ				S	**Sn**	**14 01 02.8**	**-2.0**
ODZ	**Otahua Downs**	**3.20**	**218**	P	**Pn**	**14 00 31.4**	**-0.4**
ODZ				S	**Sn**	**14 01 07.9**	**-2.1**
TUVZ	**Tukino**	**3.70**	**28**	P	**Pb**	**14 00 44.5**	**-2.5**
HHSZ	**Highcliff Hill**	**3.89**	**211**	P	**Pn**	**14 00 41.0**	**-0.4**
EAZ	**Earnscleugh**	**4.00**	**227**	P	**Pn**	**14 00 41.8**	**-1.1**
EAZ				S	**Sn**	**14 01 27.0**	**-2.7**
HIZ	**Hauiti**	**4.19**	**15**	Pn	**Pn**	**14 00 47.0**	**+1.5**
TUZ	**Tuapeka**	**4.35**	**218**	P	**Pn**	**14 00 47.3**	**-0.4**
TLZ	**Tolley Road**	**4.53**	**21**	P	**Pn**	**14 00 51.7**	**+1.5**
SYZ	**Scrubby Hill**	**5.02**	**216**	P	**Pn**	**14 00 56.7**	**-0.1**
WHZ	**Wether Hill Ro**	**5.16**	**228**	Pn	**Pn**	**14 00 59.4**	**+0.6**
AWAZ	**Awhitu Peninsu**	**5.57**	**10**	P	**Pn**	**14 01 05.3**	**+0.9**
MKAZ	**Moumakai**	**5.62**	**14**	P	**Pn**	**14 01 05.1**	**+0.1**
ETAZ	**East Tamaki Re**	**5.72**	**12**	P	**Pn**	**14 01 07.3**	**+0.8**
APZ	**The Paps**	**5.77**	**220**	P	**Pn**	**14 01 06.4**	**-0.7**
EPAZ	**Eden Park BICE**	**5.77**	**10**	P	**Pn**	**14 01 08.2**	**+1.0**
HBAZ	**Herne Bay Bore**	**5.80**	**10**	P	**Pn**	**14 01 08.5**	**+1.0**
RVAZ	**Riverhead Bore**	**5.86**	**9**	P	**Pn**	**14 01 09.4**	**+1.0**
PKGZ	**Pakihiroa**	**5.87**	**39**	P	**Pn**	**14 01 11.9**	**+3.3**
MBAZ	**Motutapu North**	**5.90**	**11**	P	**Pn**	**14 01 09.9**	**+0.9**
ABAZ	**Army Bay**	**6.05**	**11**	P	**Pn**	**14 01 12.0**	**+0.9**
ASAR	**Alice Springs**	**37.68**	**287**	P	**P**	**14 06 55.9**	**-1.2**
	1.2nm,0.6s,baz=125,slow=6.8,SNR=7.2						
	1.2nm,0.6s						
WR0	**Warramunga Arr**	**39.69**	**292**	P	**P**	**14 07 13.5**	**-0.5**
WR0				IAmb	IAmb	14 07 13.5	
	comp=Z,6.1nm,1.1s						
WB2	**Warramunga Arr**	**39.83**	**292**	P	**P**	**14 07 14.5**	**-0.6**
WB2				IAmb	IAmb	14 07 53.1	
	comp=Z,7.8nm,1.2s						
WRA	**Warramunga Arr**	**39.84**	**292**	P	**P**	**14 07 13.2**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=129,slow=8.5,SNR=3.2						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**39.84**	**292**	P	**P**	**14 07 14.2**	**-1.0**
QSPA	**South Pole Qui**	**47.56**	**180**	P	**P**	**14 08 18.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**91.41**	**294**	P	**P**	**14 12 48.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=141,slow=2.8,SNR=4.8						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**124.04**	**310**	PKP	**PKPdf**	**14 18 38.8**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=108,slow=1.5,SNR=3.0						

WEL 13 14:00:27.5±0.4,**42°S**±2°×**17°4E**±°,**h5**km,**M4.3**/7,**ML4.6**/6,
MLv4.3/7,**Error ellipse: s-maj=0.0km s-min=0.0km az=115.7,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.33**	**1**	P	Pg	14 00 34.3	+0.4
BSWZ				S	Sg	14 00 39.8	+1.5
THZ	**Tophouse**	**0.77**	**291**	P	Pg	14 00 42.3	0.0
THZ				S	Sb	14 00 53.7	-0.6
TCW	**Tory Channel**	**0.89**	**20**	S	Sb	14 00 57.7	+0.2
NNZ	**Nelson**	**0.90**	**336**	S	Sg	14 00 56.5	-0.1
BHW	**Baring Head**	**0.99**	**50**	S	Sb	14 01 00.4	0.0
MRNZ	**Matariki Terra**	**1.05**	**308**	P	Pg	14 00 47.3	-0.4
MRNZ				S	Sb	14 01 02.3	+0.1
GVZ	**Greta Valley S**	**1.11**	**213**	P	Pn	14 00 49.6	-0.1
GVZ				S	Sn	14 01 04.9	-0.5
TKNZ	**Takaka Hill**	**1.22**	**326**	P	Pn	14 00 51.6	+0.4
TKNZ				S	Sb	14 01 06.9	-0.2
DUWZ	**D'Urville Isla**	**1.24**	**2**	P	Pg	14 00 50.5	-0.9
DUWZ				S	Sg	14 01 06.9	-0.6
LTZ	**Lake Taylor**	**1.39**	**238**	P	Pn	14 00 53.3	-0.3
LTZ				S	Sb	14 01 10.6	-1.5
QRZ	**Quartz Range**	**1.58**	**320**	P	Pn	14 00 55.5	-0.7
QRZ				S	Sg	14 01 18.3	0.0
MQZ	**McQueen's Vall**	**1.88**	**208**	P	Pn	14 00 57.8	-2.6
MQZ				S	Sn	14 01 20.8	-3.7
INZ	**Inchbonnie**	**1.92**	**248**	P	Pn	14 01 01.2	+0.4
INZ				S	Sn	14 01 25.3	0.0
AKCZ	**Akaroa Harbour**	**1.96**	**201**	P	Pn	14 00 59.8	-1.6
AKCZ				S	Sn	14 01 24.0	-2.4
RACZ	**Rakaia**	**2.11**	**216**	P	Pn	14 01 01.4	-2.0
RACZ				S	Sn	14 01 27.6	-2.4
WACZ	**Wakanui South**	**2.41**	**217**	P	Pn	14 01 05.5	-2.1
WACZ				S	Sn	14 01 36.3	-1.2
WVZ	**Waitaha Valley**	**2.53**	**245**	S	Sn	14 01 40.2	-0.2
RPZ	**Rata Peaks**	**2.66**	**230**	P	Pn	14 01 09.2	-1.4
RPZ				S	Sn	14 01 41.5	-2.1
ARCZ	**Arundel**	**2.74**	**225**	P	Pn	14 01 08.0	-4.1
ARCZ				S	Sn	14 01 43.5	-2.1

*MOS **13** 14:00:59.7±0.9, 28°87S×67°54W, h107km, mb6.1/75, Error ellipse: s-maj=8.3km s-min=4.9km az=94.7*

*SJA **13** 14:01:00.5±0.7, 28°97S×67°58W, h138km±5km, ML5.5, MW5.4*

*VAO **13** 14:01:00.4±0.6, 28°89S×67°51W, h107km±4km, mb6.0*

*NEIC **13** 14:01:00.8, 28°92S×67°48W, h120km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=3.16; Mθθ1.20; Mϕϕ1.96; Mrθ-2.32; Mθϕ-1.75; Mϕr-1.48; Fault plane solution: Mₒ4.27000×10¹⁷ NP1:ϕs346.67000°, δ49.09000°, λ-47.77000°. NP2:ϕs112.48000°, δ55.98000°, λ-127.80000°. Principal axes: T 3.8396, Plg4.0000°, Azm228.0000°; N 1.4057, Plg31.0000°, Azm136.0000°; P -4.7953, Plg59.0000°, Azm325.0000°;*

*NEIC **13** 14:01:01.7±1.3, 28°87S±0°06×67°46W±0°08, h109km±2km, mb6.2/653, Mwr5.7/19, Md5.6(SJA), Mwr5.7(GUC) Error ellipse: s-maj=9.9km s-min=8.1km az=84.0*

*IDC **13** 14:01:02.4±0.5, 28°87S×67°44W, h118km±4km, mb5.5/31, mbtmp5.8/36, Error ellipse: s-maj=9.9km s-min=7.4km az=85.0*

*GUC **13** 14:01:04.4±0.5, 29°26S×67°90W, h140km, ML5.7*

ISC 13 14:01:01.5±0.3,**28°96S**±0°02×**67°59W**±0°03,**h122**km±2km,
h122km:**pP-P**,**n2153**,σ1**958**/2173,**mb6.0**/492,**29C-66D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

ACLC	**CERRO LA CRUZ**	**0.73**	**130**	*eP*	**Pn**	**14 01 22.1**	**+0.7**
ACLC				*eS*	**Sn**	**14 01 39.0**	**+2.5**
ACLC				IAML		14 01 40.5	
	comp=Z,41μm,0.6s						
CYA	**Choya**	**1.65**	**72**	⇑*iP*	**Pn**	**14 01 32.1**	**+1.2**
CYA				*i* S	**Sn**	**14 01 54.3**	**+1.1**
CYA	**Choya**	**1.65**	**72**	*eP*	**Pn**	**14 01 31.8**	**+1.0**
CYA				*eS*	**Sn**	**14 01 54.8**	**+1.6**
CYA				IAML		14 01 60.0	
	comp=Z,32μm,1.4s						
APLL	**PUNTA DE LOS L**	**1.71**	**147**	*eP*	**Pn**	**14 01 31.9**	**+0.5**
ACDV	**Cuesta del Vie**	**1.80**	**227**	*eP*	**Pn**	**14 01 33.7**	**+1.0**
ACDV				*eS*	**Sn**	**14 01 58.1**	**+1.6**
ACDV				IAML		14 01 59.4	
	comp=Z,29μm,0.9s						
AROD	**Rodeo**	**2.04**	**233**	*eP*	**Pn**	**14 01 36.9**	**+1.2**
ACCO	**Cerro Coronel**	**2.07**	**218**	*eP*	**Pn**	**14 01 36.8**	**+0.6**
AC05	**El Transito**	**2.36**	**272**		**Pn**	**14 01 40.9**	**+1.3**
AC05	**El Transito**	**2.36**	**272**	⇑*iP*	**Pn**	**14 01 40.9**	**+1.3**
AC05				*i* S	**Sn**	**14 02 09.9**	**+1.1**
AC05				IAML		14 02 12.3	
	comp=N,49μm,0.5s						
AC05	**El Transito**	**2.36**	**272**	*eP*	**Pn**	**14 01 40.6**	**+1.0**
AC05				*eS*	**Sn**	**14 02 10.8**	**+2.0**
AC05				IAML		14 02 14.3	
	comp=Z,25μm,0.5s						
CO01	**Juntas del Tor**	**2.41**	**244**		**Pn**	**14 01 42.0**	**+1.6**
CO01	**Juntas del Tor**	**2.41**	**244**	⇑*iP*	**Pn**	**14 01 41.6**	**+1.3**
CO01				*i* S	**Sn**	**14 02 08.6**	**-1.7**
CO01	**Juntas del Tor**	**2.41**	**244**	*eP*	**Pn**	**14 01 41.8**	**+1.4**
CO01				*eS*	**Sn**	**14 02 11.7**	**+1.5**
CO01				IAML		14 02 28.6	
	comp=Z,11μm,2.1s						
RTLL	**Cerro Villicun**	**2.48**	**198**	*eP*	**Pn**	**14 01 41.6**	**+0.4**
RTLL				*eS*	**Sn**	**14 02 12.8**	**+1.1**
AC02	**Maricunga**	**2.51**	**327**		**Pn**	**14 01 41.4**	**-0.7**
AC02	**Maricunga**	**2.51**	**327**	⇑*iP*	**Pn**	**14 01 44.2**	**+2.2**
AC02				*i* S	**Sn**	**14 02 14.7**	**+1.6**
AC02	**Maricunga**	**2.51**	**327**	*eP*	**Pn**	**14 01 44.0**	**+2.0**
AC02				*eS*	Sn	14 02 27.2	+14
GO03	**Copiap**	**2.70**	**300**		**Pn**	**14 01 44.8**	**+0.9**
GO03	**Copiap**	**2.70**	**300**	*eP*	**Pn**	**14 01 44.6**	**+0.7**
GO03				*eS*	**Sn**	**14 02 15.8**	**-0.8**
LCO	**Las Campanas**	**2.73**	**268**		**Pn**	**14 01 45.0**	**+0.5**
LCO	**Las Campanas**	**2.73**	**268**	⇑*iP*	**Pn**	**14 01 44.8**	**+0.4**
LCO				*i* S	**Sn**	**14 02 17.3**	**-0.2**
LCO	**Las Campanas**	**2.73**	**268**	*eP*	**Pn**	**14 01 44.9**	**+0.4**
LCO	**Las Campanas**	**2.73**	**268**	P	**Pn**	**14 01 45.0**	**+0.5**
ZON	**Zonda**	**2.75**	**200**		**Pn**	**14 01 45.0**	**+0.5**
ZON	**Zonda**	**2.75**	**200**	*eP*	**Pn**	**14 01 45.1**	**+0.6**
ZON				*eS*	**Sn**	**14 02 18.8**	**+1.1**
ZON				IAML		14 02 20.4	
	comp=Z,21μm,0.7s						
ZON	**Zonda**	**2.75**	**200**	P	**Pn**	**14 01 45.0**	**+0.5**
AC06	**Mina Casimiro**	**2.91**	**302**		**Pn**	**14 01 47.2**	**+0.5**
AC06	**Mina Casimiro**	**2.91**	**302**	⇑*iP*	**Pn**	**14 01 47.0**	**+0.3**
AC06				*i* S	**Sn**	**14 02 19.4**	**-2.2**
AC06				IAML		14 02 24.5	
	comp=N,25μm,0.5s						
AHML	**Horco Molle**	**2.94**	**43**	*eP*	**Pn**	**14 01 47.6**	**+0.4**
AHML				*eS*	**Sn**	**14 02 19.0**	**-3.4**
AHML				IAML		14 02 21.7	
	comp=Z,14μm,0.6s						
RTCV	**Cerro Valdivia**	**3.01**	**196**	*eP*	Pn	14 01 43.2	-4.7
RTCV				*eP*	**Pn**	**14 01 48.4**	**+0.4**
RTCV				*eS*	**Sn**	**14 02 25.1**	**+1.2**
GO04	**Tololo Observa**	**3.05**	**246**		**Pn**	**14 01 48.7**	**+0.1**
GO04	**Tololo Observa**	**3.05**	**246**	⇑*iP*	**Pn**	**14 01 48.5**	**-0.1**
GO04				*i* S	**Sn**	**14 02 22.3**	**-2.7**
GO04	**

TRQA Tornquist 10.21 154 Pn **Pn 14 03 22.8 -1.9**
TRQA Tornquist 10.21 154 *e*P **Pn 14 03 24.3 -0.4**
TRQA Tornquist 10.21 154 P **Pn 14 03 22.8 -1.9**
AZCA Azaras, Argent 10.25 88 *e*P **Pn 14 03 23.8 -1.5**
PB12 IPOC Station P 10.60 346 Pn 14 03 25.3 -4.8
VA04 Juan Fernndez 10.69 241 Pn 14 03 27.3 -3.8
PB16 IPOC Station P 10.72 350 Pn 14 03 29.5 -2.7
RODS Rosario do Sul 10.87 100 *e*P **Pn 14 03 32.2 -1.4**
LC02 Puerto Saavedr 10.92 205 Pn Pn 14 03 28.4 -5.9
UNIS Unistalda (Bra 10.96 94 *e*P **Pn 14 03 32.9 -2.0**
GO06 Curarrehue 11.07 196 Pn 14 03 31.5 -4.9
LR03 Panguipulli 11.35 199 Pn 14 03 34.9 -5.1
MURT Porto Murtinho 11.58 53 *e*P **Pn 14 03 41.0 -2.2**
LR04 Corral 11.91 202 Pn 14 03 40.5 -6.8
PLCA Paso Flores 12.00 191 P **Pn 14 03 45.6 -2.9**
comp=Z,54nm,0.7s,baz=5.8,slow=11,SNR=75
PLCA S S 14 06 10.7 -16
comp=Z,42nm,0.7s,baz=60,slow=8.1,SNR=1.4
PLCA Paso Flores 12.00 191 Pn **Pn 14 03 45.4 -3.2**
PLCA Paso Flores 12.00 191 P **Pn 14 03 45.4 -3.2**
CRSM Crissiumal (Br 12.04 86 *e*P **Pn 14 03 47.2 -1.9**
CPSB Cacapava Do Su 12.39 100 *e*P **Pn 14 03 51.4 -2.3**
PLTB Pedras Altas 12.40 106 Pn 14 03 51.0 -2.8
PLTB Pedras Altas 12.40 106 *e*P **Pn 14 03 51.3 -2.5**
LPAZ La Paz 12.62 358 P **Pn 14 03 55.9 -1.5**
comp=Z,32nm,0.3s,baz=162,slow=5.1,SNR=134
LPAZ La Paz 12.62 358 Pn 14 03 56.0 -1.4
LPAZ La Paz 12.62 358 *e*P **Pn 14 03 55.9 -1.5**
LPAZ La Paz 12.62 358 P **Pn 14 03 56.0 -1.4**
ALGR Alto Alegre (B 12.77 93 *e*P **Pn 14 03 57.0 -1.6**
BBRB Robore, Bolivi 12.79 36 *e*P **Pn 14 03 56.8 -2.3**
MCR1 Marechal Candi 12.91 73 *e*P **Pn 14 03 59.3 -1.3**
FRBT Francisco Belt 13.24 80 *e*P **Pn 14 04 03.1 -1.6**
BBSD Serra de San D 13.36 30 *e*P **Pn 14 04 05.0 -1.3**
AQDB Aquidauana 13.71 55 Pn **Pn 14 04 09.4 -1.4**
AQDB Aquidauana 13.71 55 *e*P **Pn 14 04 09.6 -1.2**
ITAB Concordia 13.76 87 Pn **Pn 14 04 09.6 -1.8**
ITAB Concordia 13.76 87 *e*P **Pn 14 04 09.9 -1.5**
LL01 San Ignacio de 13.95 195 Pn 14 04 13.4 -0.4
SIV San Ignacio 14.23 26 P **Pn 14 04 15.5 -2.2**
comp=Z,161nm,0.8s,baz=210,slow=14,SNR=327
PTGB Pitanga 14.49 77 *e*P **P 14 04 20.8 -3.3**
CNLB Canela 14.63 95 *e*P **Pn 14 04 21.5 -1.2**
LL07 Hotel Espejo d 14.64 197 P **P 14 04 26.4 +0.9**
GO07 Milladeo Hill, 14.95 197 P **P 14 04 29.6 +0.7**
PTLB Pontes e Lacer 15.55 32 Pn **Pn 14 04 32.7 -1.4**
PTLB Pontes e Lacer 15.55 32 *e*P **Pn 14 04 32.5 -1.5**
AY01 Puyuhuapi 15.95 193 Pn **P 14 04 38.7 -1.3**
TER01 Tubaro-SC 16.20 93 *e*P **P 14 04 40.5 -2.4**
PCMB Pacaembu 16.47 67 *e*P **P 14 04 44.8 -1.2**
TIJ01 Guaruva-PR 16.93 82 *e*P **P 14 04 47.6 -3.6**
COYC Coyhaique 16.96 191 Pn 14 04 51.7 +0.4
SALV Santo Antonio 17.00 43 *e*P **Pn 14 04 50.8 -1.2**
FRTB Fartura 17.12 75 *e*P **Pn 14 04 51.7 -1.7**
VILB Vilhena 17.35 25 P **Pn 14 04 54.6 -1.6**
VILB Vilhena 17.35 25 *e*P **Pn 14 04 54.6 -1.6**
ITRB Iturama 18.19 63 *e*P **Pn 14 05 04.7 -1.6**
PET01 Itanhaem-SP 18.74 80 *e*P **Pn 14 05 11.2 -1.6**
NNA Nana 18.96 331 P **Pn 14 05 15.1 -0.3**
comp=Z,247nm,1.0s,baz=178,slow=11,SNR=66
NNA PcP **PcP 14 09 35.5 +1.4**
comp=Z,30nm,0.7s,baz=329,slow=2.2,SNR=4.9
NNA Nana 18.96 331 Pn 14 05 13.9 -1.6
NNA Nana 18.96 331 *d i*P **Pn 14 05 14.6 -0.8**
NNA pmax pmax
comp=Z,1µm,1.7s
BB19B Bebedouro 18.96 70 *e*P **Pn 14 05 13.1 -2.4**
ETMB Extrema 19.09 4 Pn **Pn 14 05 16.8 -0.1**
ETMB Extrema 19.09 4 *e*P **Pn 14 05 16.1 -0.8**
RCLB Rio Claro- Sao 19.20 75 *e*P **Pn 14 05 16.0 -2.2**
VAO Valinhos 19.46 77 *e*P **Pn 14 05 19.1 -2.1**
ARAG Araguaiana, MT 19.64 51 *e*P **Pn 14 05 20.2 -3.1**
PDRB Porto dos Gac 20.02 33 *e*P **P 14 05 22.9 -1.9**
SAML Samuel 20.33 13 P **P 14 05 27.5 -0.6**
SAML Samuel 20.33 13 P **P 14 05 27.5 -0.6**
PARB Paraibuna 20.49 79 *e*P **P 14 05 28.4 -1.5**
IPMB Ipameri, GO 20.83 63 *e*P **P 14 05 32.5 -1.1**
CLDB Colider 21.11 34 *e*P **P 14 05 34.0 -2.5**
CZSB Cruzeiro do Su 21.66 346 P **P 14 05 43.1 +0.7**
CZSB Cruzeiro do Su 21.66 346 *e*P **P 14 05 42.5 +0.1**
PMNB Patos De Minas 21.93 66 *e*P **P 14 05 44.1 -1.2**
MAN01 Angra dos Reis 22.08 80 *e*P **P 14 05 45.8 -1.0**
BSCB Bom Sucesso 22.12 74 *e*P **P 14 05 46.3 -1.0**
BDFB Brasilia 22.40 58 P **P 14 05 48.6 -1.6**
comp=Z,194nm,0.6s,baz=229,slow=10,SNR=237
comp=Z,194nm,0.6s
BDFB Brasilia 22.40 58 P **P 14 05 48.4 -1.7**
BDFB Brasilia 22.40 58 *e*P **P 14 05 49.0 -1.2**
GO09 Cerro Castillo 22.57 188 P **P 14 05 51.8 +0.4**
SNDB Serra Nova Dou 22.73 45 *e*P **P 14 05 51.4 -1.9**
VAS01 Vassouras-RJ 22.74 79 *e*P **P 14 05 52.9 -0.5**
MG05 Puerto Natales 22.99 188 P **P 14 05 57.1 +1.7**
DUB01 Friburgo-RJ 23.74 79 *e*P **P 14 06 02.4 -0.3**
EFI East Falkland 23.79 165 P **P 14 06 03.6 +0.9**
EFI East Falkland 23.79 165 *de*P **P 14 06 03.7 +0.9**
EFI pmax pmax
comp=Z,147nm,0.8s
MG02 Cerro Sombrero 23.83 182 P **P 14 06 04.9 +1.8**
ATAH Atahualpa 23.98 333 P **P 14 06 08.2 +2.9**
comp=Z,101nm,0.8s,baz=160,slow=8.4,SNR=50
ATAH PcP **PcP 14 09 47.3 +2.9**
comp=Z,49nm,0.9s,baz=140,slow=3.0,SNR=5.3
comp=Z,101nm,0.8s
MG04 Isla Riesco 24.06 186 P **P 14 06 07.1 +1.9**
DIAM Diamantina, MG 24.30 69 *e*P **P 14 06 07.9 -0.1**
GO10 Punta Arenas 24.31 185 P **P 14 06 09.3 +1.8**
CAM01 Campos-RJ 24.45 79 *e*P **P 14 06 09.1 0.0**
NPGB Novo Progresso 24.66 30 *e*P **P 14 06 09.2 -1.9**
TBTG Tabatinga, AM 24.73 354 P **P 14 06 12.1 +0.5**
TBTG **PcP 14 09 46.5 +1.0**
TBTG Tabatinga, AM 24.73 354 *e*P **P 14 06 12.9 +1.3**
MC01 Montes Claros 24.92 66 *e*P **P 14 06 12.2 -1.2**
JANB Januaria 25.57 62 *e*P **P 14 06 18.0 -1.3**
ALF01 Guarapari-ES 25.72 37 *e*P **P 14 06 20.2 -0.4**
USHA Ushuaia 25.86 181 P **P 14 06 22.8 +1.2**
comp=Z,8.4nm,0.3s,baz=41,slow=1.1,SNR=3.0
USHA pP **pP 14 06 50.0 +1.8**
comp=Z,114nm,0.9s,baz=351,slow=8.5,SNR=5.6
comp=Z,8.4nm,0.3s
MG01 Puerto William 25.96 180 P **P 14 06 23.7 +1.4**
SJMB Sao Joao De Ma 26.17 73 *e*P **P 14 06 23.9 -0.8**
MACA Manacapuru-AM 26.48 16 P **P 14 06 27.5 +0.1**
MACA IAmb IAmb 14 06 33.1
comp=Z,249nm,0.7s
MACA Manacapuru-AM 26.48 16 *e*P **P 14 06 28.4 +0.9**
RIB01 Linhares ES 26.56 75 *e*P **P 14 06 28.1 0.0**
SDBA SAO DESIDERIO 26.78 57 *e*P **P 14 06 29.2 -1.1**
MCRA Macar, Loja 27.12 332 P **P 14 06 33.8 +0.5**
SMTB Santa Maria do 27.44 47 *e*P **P 14 06 35.1 -1.0**
NAN01 Guarapari, ES 27.46 72 *e*P **P 14 06 35.0 -1.3**
BOSC San Juan Bosco 27.68 336 P **P 14 06 38.7 +0.3**
ARNL Arenillas 27.91 333 P **P 14 06 40.9 +0.6**
ARNL **PcP 14 09 54.8 +1.9**
PRPB Parauapebas 28.21 40 *e*P **P 14 06 40.7 -2.2**
GUA01 Guaratinga, BA 28.35 70 *e*P **P 14 06 43.8 -0.4**
COHC Cochancay 28.59 335 P **P 14 06 48.3 +2.1**
SGCB SÃo Gabriel d 28.68 1 *e*P **P 14 06 46.1 -0.9**
CMC01 Camacan, BA 29.22 68 *e*P **P 14 06 51.1 -0.8**
MALB Monte Alegre 29.80 28 *e*P **P 14 06 56.5 -0.5**
SLOR San Lorenzo - 29.94 338 P P 14 07 01.4 +2.7
SLOR **PcP 14 10 01.3 +2.7**
PULU Pululahua 30.65 338 P **P 14 07 07.0 +2.1**
PULU IAmb IAmb 14 07 30.3
comp=Z,380nm,0.8s
PULU **PcP 14 10 02.8 +2.3**
IMBA Imbabura, San 30.79 339 P **P 14 07 08.5 +2.3**
IMBA IAmb IAmb 14 07 11.1
comp=Z,452nm,1.1s
TULM Tulcn-Chalpat 31.08 340 P **P 14 07 10.9 +2.2**
BOAV Boa Vista 31.90 13 P **P 14 07 16.0 +0.5**
BOAV IAmb IAmb 14 07 19.9
comp=Z,230nm,1.1s
BOAV Boa Vista 31.90 13 *e*P **P 14 07 15.8 +0.3**
MCPB Macapa, AP 32.08 30 *e*P **P 14 07 16.5 -0.5**
TMAB Tom-Au,PA,Br 32.31 39 *e*P **P 14 07 18.8 -0.3**
TUMC Tumaco 32.41 339 P **P 14 07 22.2 +2.3**
HOPE Hope Point 33.88 147 P P 14 07 34.5 +2.2
HOPE **PcP 14 10 09.5 +1.4**
HOPE Hope Point 33.88 147 P P 14 07 34.5 +2.2
HOPE 14 10 09.5
HOPE pmax pmax
comp=Z,195nm,0.9s
HOPE Hope Point 33.88 147 P **P 14 07 33.8 +1.5**
HOPE PcP **PcP 14 10 09.3 +1.2**
ROSB Rosrio 34.20 45 *e*P **P 14 07 34.8 -0.7**
ROSC El Rosal 34.22 348 P **P 14 07 38.2 +2.1**
comp=Z,136nm,0.6s,baz=147,slow=7.2,SNR=35
ROSC PcP **PcP 14 10 10.2 -0.1**
comp=Z,93nm,0.9s,baz=148,slow=4.1,SNR=5.3
comp=Z,136nm,0.6s
PAYG Puerto Ayora 35.50 318 P **P 14 07 48.7 +2.0**
PAYG IAmb IAmb 14 07 50.8
comp=Z,278nm,1.1s
PAYG **PcP 14 10 15.7 +2.1**
PAYG Puerto Ayora 35.50 318 P P 14 07 49.3 +2.6
PAYG pP pP 14 08 17.4 +2.9
PAYG sP sP 14 08 31.5 +2.8
PAYG PcP **PcP 14 10 15.7 +2.1**
PMSA Palmer Station 35.90 177 P **P 14 07 51.3 +1.8**
PMSA IAmb IAmb 14 08 20.2
comp=Z,100nm,1.1s
PMSA Palmer Station 35.90 177 *e*P **P 14 07 51.0 +1.6**
RPN Rapa Nui 36.75 263 P P 14 07 59.8 +2.6
comp=Z,84nm,0.9s,baz=132,slow=4.7,SNR=5.6
comp=Z,84nm,0.9s
RPN Rapa Nui 36.75 263 P **P 14 07 59.3 +2.0**
MDP Montagnes des 36.79 25 P **P 14 07 57.6 0.0**
comp=Z,105nm,0.7s,baz=198,slow=9.4,SNR=114
MDP pP **pP 14 08 23.7 -1.4**
comp=Z,34nm,0.7s,baz=210,slow=9.2,SNR=2.9
MDP PcP **PcP 14 10 18.7 +1.4**
comp=Z,68nm,0.9s,baz=217,slow=4.3,SNR=7.6
MDP S **S 14 13 29.7 -3.2**
comp=Z,26nm,1.1s,baz=28,slow=16,SNR=8.8
comp=Z,105nm,0.7s
MPGF Montagnes des 36.80 25 P **P 14 07 58.5 +0.8**
MPGF pP **pP 14 08 24.7 -0.4**
MPGF PcP **PcP 14 10 19.4 +2.1**
BAUV El Baul 37.68 359 P **P 14 08 04.7 -0.5**
SDV Santo Domingo 37.74 355 P **P 14 08 05.6 -0.2**
comp=Z,503nm,1.0s,baz=177,slow=7.0,SNR=277
SDV PcP **PcP 14 10 21.6 +1.2**
comp=Z,59nm,1.0s,baz=113,slow=0.4,SNR=3.9
SDV S **S 14 13 43.1 -4.4**
comp=Z,5.3nm,0.6s,baz=0.0,slow=15,SNR=1.6
comp=Z,503nm,1.0s
SDV Santo Domingo 37.74 355 P **P 14 08 05.3 -0.5**
SDV Santo Domingo 37.74 355 *e*P **P 14 08 05.7 -0.2**
SDV Santo Domingo 37.74 355 P **P 14 08 05.8 -0.1**
SDV PcP **PcP 14 10 21.5 +1.0**
RCBR Riachuelo 37.77 59 P **P 14 08 06.1 +0.1**
comp=Z,65nm,0.9s,baz=15,slow=10,SNR=23
RCBR pP **pP 14 08 32.4 -1.0**
comp=Z,25nm,0.8s,baz=28,slow=10.0,SNR=2.5
RCBR PcP **PcP 14 10 22.0 +1.6**
comp=Z,70nm,0.8s,baz=44,slow=2.7,SNR=7.2
comp=Z,65nm,0.9s
RCBR Riachuelo 37.77 59 P **P 14 08 05.8 -0.2**
RCBR Riachuelo 37.77 59 *e*P **P 14 08 06.6 +0.6**
RCBR Riachuelo 37.77 59 P **P 14 08 06.2 +0.2**
RCBR pP **pP 14 08 34.3 +1.0**
RCBR PcP **PcP 14 10 22.2 +1.8**
PCRV Puerto La Cruz 39.01 5 P **P 14 08 16.4 +0.1**
comp=Z,223nm,0.9s,baz=182,slow=5.1,SNR=64
PCRV S **S 14 14 10.1 +3.7**
comp=Z,19nm,1.0s,baz=90,slow=20,SNR=2.9
comp=Z,223nm,0.9s
SMAI San Martin Ant 39.20 180 P **P 14 08 19.1 +1.8**
BCIP Isla Barro Col 39.70 341 P **P 14 08 23.2 +1.3**
BCIP IAmb IAmb 14 08 25.6
comp=Z,1µm,1.9s
BCIP Isla Barro Col 39.70 341 P **P 14 08 23.3 +1.3**
BCIP pmax pmax
comp=Z,1µm,1.9s
TOSP Speyside 40.60 11 P **P 14 08 29.6 +0.2**
TOSP IAmb IAmb 14 08 35.6
comp=Z,382nm,0.7s
URIC Uribia, Colomb 40.64 353 P **P 14 08 26.7 -3.0**
URIC IAmb IAmb 14 08 28.6
comp=Z,224nm,0.8s
SRBA San Rafael, Bu 40.90 336 P **P 14 08 34.1 +2.1**
SRBA IAmb IAmb 14 08 36.0
comp=Z,493nm,1.1s
HATO Hato, Curacao 40.92 358 P **P 14 08 30.2 -1.8**
PEZE Perez Zeledon, 41.16 335 P **P 14 08 35.8 +1.7**
PEZE IAmb IAmb 14 08 38.1
comp=Z,318nm,1.3s
GRGR Grenville 41.25 9 P **P 14 08 35.0 +0.3**
RIMA Rio Macho 41.58 335 P **P 14 08 39.4 +1.7**
HDC Heredia 41.89 335 P **P 14 08 42.0 +1.9**
HDC Heredia 41.89 335 *e*P **P 14 08 40.5 +0.4**
SVB Belmont 42.43 9 P **P 14 08 43.8 -0.4**
SVB IAmb IAmb 14 08 46.5
comp=Z,266nm,0.5s
JTS Las Juntas de 42.47 334 *d i*P P 14 08 47.4 +2.7
JTS pmax pmax
comp=Z,365nm,1.3s
JTS Las Juntas de 42.47 334 P P 14 08 47.4 +2.7
JTS PcP **PcP 14 10 35.4 -0.1**
COVE Coope Vega, Sa 42.66 335 P **P 14 08 47.9 +1.7**
ORTG Ortega, Santa 42.73 334 P **P 14 08 48.8 +1.9**
ORTG IAmb IAmb 14 08 50.8
comp=Z,591nm,1.2s
MCLT Moule a Chique 42.90 10 P **P 14 08 47.8 -0.3**
MCLT IAmb IAmb 14 08 53.5
comp=Z,244nm,0.8s
MPOM Morne Pois Mar 43.63 9 P **P 14 08 53.6 -0.4**
MPOM IAmb IAmb 14 08 55.5
comp=Z,600nm,1.2s
BIM Bigot 43.68 9 P **P 14 08 53.6 -0.8**
FDF Fort de France 43.88 9 P **P 14 08 55.2 -0.8**
FDF Fort de France 43.88 9 P **P 14 08 55.2 -0.8**
FDF pmax pmax
comp=Z,1µm,0.8s
FDF Fort de France 43.88 9 P **P 14 08 55.5 -0.5**
FDF pP **pP 14 09 24.1 0.0**
ILAM Ilet Lapin Mar 43.96 9 P **P 14 08 54.5 -2.0**
SVN Savane Anatole 43.98 9 P **P 14 08 55.2 -1.6**
ACON Acoyapa 44.09 335 P **P 14 08 58.0 +0.3**
PRVC Isla de Provid 44.14 341 P **P 14 08 59.2 +1.1**
MAGL Barre de l'ile 45.06 9 P **P 14 09 04.5 -0.8**
MAGL IAmb IAmb 14 09 06.2
comp=Z,394nm,1.0s
CBE Ff, Capester 45.13 8 P **P 14 09 04.6 -1.3**
CBE IAmb IAmb 14 10 47.5
comp=Z,187nm,0.6s
CNGN Cerro Negro 45.16 333 P **P 14 09 06.5 +0.3**
MATN Matagalpa 45.26 334 P **P 14 09 07.5 +0.4**
GDHS Morne Mazeau, 45.31 8 P **P 14 09 06.0 -1.4**
GDHS IAmb IAmb 14 10 47.7
comp=Z,274nm,0.9s
GDSD La Dsirade Is 45.44 9 P **P 14 09 06.6 -1.7**
GDSD IAmb IAmb 14 09 08.5
comp=Z,338nm,1.1s
CRIN San Cristobal 45.48 333 P **P 14 09 09.0 +0.2**
ABD La Joyeuse, An 45.55 8 P **P 14 09 07.5 -1.6**
ABD IAmb IAmb 14 09 08.4
comp=Z,287nm,0.8s
SEUS St. Eustatius 46.39 6 P **P 14 09 14.5 -1.2**
SEUS IAmb IAmb 14 09 15.7
comp=Z,377nm,0.8s
CDVI St. Croix 46.52 4 P **P 14 09 15.6 -1.1**
MLPR Magueyes Islan 46.65 1 P **P 14 09 16.9 -0.9**
ANWB Willy Bob 46.69 8 P **P 14 09 16.2 -1.8**
ANWB IAmb IAmb 14 09 17.1
comp=Z,615nm,1.3s
CRPR Cabo Rojo, PR 46.69 1 P **P 14 09 16.8 -1.3**
CRPR IAmb IAmb 14 09 19.1
comp=Z,534nm,0.9s
CELP Cerrillos 46.77 1 P **P 14 09 17.6 -1.1**
TGUH Tegucigalpa,Un 46.80 333 P **P 14 09 20.1 +0.9**
SJG San Juan 46.81 2 P **P 14 09 18.0 -1.0**
comp=Z,288nm,1.0s,baz=206,slow=2.8,SNR=66
SJG S **S 14 15 53.7 -6.6**
comp=Z,1.6nm,0.3s,baz=336,slow=19,SNR=1.3
comp=Z,288nm,1.0s
SJG San Juan 46.81 2 P **P 14 09 17.9 -1.1**
SJG IAmb IAmb 14 09 19.1
comp=Z,302nm,0.9s
SJG San Juan 46.81 2 P **P 14 09 17.9 -1.1**
SJG PcP **PcP 14 10 45.9 -4.3**
HUMP Col San Antoni 46.85 2 P **P 14 09 17.3 -2.0**
CBYP Canovanas 46.98 2 P **P 14 09 19.0 -1.4**
CBYP IAmb IAmb 14 09 20.5
comp=Z,432nm,1.1s
GCPR Guaynabo City 47.01 2 P **P 14 09 18.6 -1.9**
GCPR IAmb IAmb 14 09 20.4
comp=Z,341nm,1.3s
AOPR Arecibo Observ 47.03 1 P **P 14 09 19.2 -1.5**
AOPR IAmb IAmb 14 09 20.8
comp=Z,426nm,1.2s
CUPR Culebra, Puert 47.04 3 P **P 14 09 19.3 -1.5**
CUPR IAmb IAmb 14 10 53.4
comp=Z,207nm,0.8s
STVI Saint Thomas 47.10 3 P **P 14 09 19.6 -1.7**
AGPR Aguadilla, PR 47.15 1 P **P 14 09 19.8 -1.8**
AGPR IAmb IAmb 14 10 53.4
comp=Z,320nm,1.2s
EMPR Esperanza - Ma 47.17 1 P **P 14 09 20.1 -1.7**
EMPR IAmb IAmb 14 09 21.3
comp=Z,365nm,0.7s
SDD Santo Domingo 47.19 357 P **P 14 09 20.9 -1.0**
SDD IAmb IAmb 14 09 23.5
comp=Z,395nm,0.8s
PCDR Punta Cana, DR 47.20 359 P **P 14 09 21.7 -0.3**
PCDR IAmb IAmb 14 09 23.5
comp=Z,631nm,1.1s
PCJ Portland Cotta 47.34 348 *i*P **P 14 09 24.7 +1.6**
LGNH Logne 47.44 354 P **P 14 09 24.4 +0.5**
LGNH IAmb IAmb 14 09 27.5
comp=Z,275nm,1.1s
HOJ Hope 47.52 348 ⇑*i*P **P 14 09 26.2 +1.6**
CMJ Castle Mountai 47.58 349 *i*P **P 14 09 26.8 +1.8**
GWJ Greenwich 47.58 348 *i*P **P 14 09 26.4 +1.3**
STH Stony Hill 47.60 348 ⇑*i*P **P 14 09 26.9 +1.7**
MCJ Malvern 47.62 347 *i*P **P 14 09 26.8 +1.4**
SDDR Presa de Saban 47.79 355 P **P 14 09 26.2 -0.5**
SDDR IAmb IAmb 14 09 30.8
comp=Z,324nm,1.4s
MTDJ Mount Denham 47.88 347 P **P 14 09 28.6 +1.2**
MTDJ IAmb IAmb 14 09 30.0
comp=Z,764nm,1.3s
MTO3 Montecristo 47.97 331 P **P 14 09 29.2 +0.9**
MTO3 IAmb IAmb 14 09 31.2
comp=Z,543nm,1.0s
ESQI Esquipulas 48.10 331 P **P 14 09 30.7 +1.5**
SC01 Santiago de lo 48.20 356 P **P 14 09 30.4 +0.7**
SC01 IAmb IAmb 14 09 32.7
comp=Z,236nm,0.8s
RTAL Retalhuleu 49.11 328 P **P 14 09 38.0 +1.2**
GTBY Guantanamo Bay 49.14 351 P **P 14 09 37.5 +0.6**
HUEH Huehuetenango 49.72 329 P **P 14 09 42.9 +1.2**
LCCY Blossom Villag 49.82 345 P **P 14 09 43.1 +1.0**
GRTK Grand Turk 50.29 356 P **P 14 09 46.6 +1.0**
PETF Flores 50.43 332 P **P 14 09 47.8 +1.0**
CCIG Comitan 50.85 329 P **P 14 09 50.9 +0.8**
CCIG IAmb IAmb 14 09 52.6
comp=Z,408nm,1.2s
BELA Belgrano 2 51.23 172 P **P 14 09 53.5 +1.5**
VNA3 Neumayer Olymp 52.68 160 P **P 14 10 04.5 +1.7**
TEIG Tepich 52.82 335 P **P 14 10 04.6 +0.1**
TEIG Tepich 52.82 335 P **P 14 10 04.7 +0.3**
TEIG sP **sP 14 10 46.7 -1.3**
TEIG PcP **PcP 14 11 12.8 +0.5**
VNA1 Neumayer--Stat 52.91 159 P P 14 10 06.7 +2.2
VNA2 Neumayer--Watz 53.27 159 P **P 14 10 08.8 +1.6**
comp=Z,282,slow=8.0
SOR Soroa 53.55 342 P **P 14 10 10.1 +0.3**
SOR Soroa 53.55 342 P **P 14 10 10.1 +0.3**
SOR pmax pmax
comp=Z,400nm,0.8s
SNAA Sanae 54.89 160 P **P 14 10 20.0 +1.0**
SNAA Sanae 54.89 160 P **P 14 10 20.2 +1.2**
comp=Z,145nm,0.9s,baz=283,slow=5.3,SNR=346
SNAA pP **pP 14 10 48.5 +0.4**
comp=Z,22nm,0.6s,baz=290,slow=6.4,SNR=3.3
comp=Z,145nm,0.9s
SNAA Sanae 54.89 160 P **P 14 10 20.0 +1.0**
SNAA IAmb IAmb 14 10 21.6
comp=Z,311nm,1.2s
SNAA Sanae 54.89 160 ⇓*i*P **P 14 10 19.9 +0.9**
SNAA Sanae 54.89 160 *d i*P **P 14 10 19.2 +0.2**
SNAA pmax pmax
comp=Z,305nm,1.3s
061Z Ochoppi 55.99 346 P **P 14 10 28.1 +0.8**
061Z Ochoppi 55.99 346 P **P 14 10 29.0 +1.7**
baz=166,SNR=11
TROLL Troll, Antarti 56.60 160 P **P 14 10 32.6 +1.3**
060A Indiantown 57.01 346 P **P 14 10 35.2 +0.7**
060A Indiantown 57.01 346 P **P 14 10 36.1 +1.6**
baz=167,SNR=17
MOIG Morelia 58.22 322 P **P 14 10 45.6 +2.2**
DWPF Disney Wildern 58.27 346 P **P 14 10 43.8 +0.5**
DWPF Disney Wildern 58.27 346 P **P 14 10 44.3 +1.0**
baz=166,SNR=23
DWPF Disney Wildern 58.27 346 P **P 14 10 44.4 +1.1**
baz=166
DWPF Disney Wildern 58.27 346 P **P 14 10 44.4 +1.0**
NVL N'lazarevskaya 59.49 158 ⇑*i*P **P 14 10 52.2 +1.0**
NVL pmax pmax
comp=Z,245nm,1.0s
656A Willston 59.73 345 P **P 14 10 54.0 +0.7**
656A Willston 59.73 345 P **P 14 10 54.4 +1.0**
baz=165,SNR=35
456A Hilliard 60.92 346 P **P 14 11 02.1 +0.7**
456A Hilliard 60.92 346 P **P 14 11 02.8 +1.3**
baz=165,SNR=22
BBSR BB Station 61.05 3 P **P 14 11 02.9 +0.7**
BBSR IAmb IAmb 14 11 04.5
comp=Z,120nm,0.8s
BBSR BB Station 61.05 3 P **P 14 11 03.5 +1.2**
baz=183,SNR=8.6
BBSR BB Station 61.05 3 P **P 14 11 03.3 +1.0**
QSPA South Pole Qui 61.27 180 P **P 14 11 05.4 +1.8**
comp=Z,231nm,0.8s,baz=158,slow=1.5,SNR=471
QSPA pP **pP 14 11 33.7 -0.1**
comp=Z,191nm,0.9s,baz=170,slow=2.7,SNR=10
QSPA PKPPKP **P'P'df 14 40 18.4 -0.3**
comp=Z,37nm,1.1s,baz=270,slow=1.1,SNR=11
comp=Z,231nm,0.8s
QSPA South Pole Qui 61.27 180 P **P 14 11 05.5 +1.8**
QSPA pP **pP 14 11 34.7 +0.9**
QSPA sP **sP 14 11 47.0 -0.4**
ZAIG Zacatecas 61.48 323 P **P 14 11 07.7 +1.9**
ZAIG IAmb IAmb 14 11 10.1
comp=Z,276nm,1.2s
451A Vernon 61.72 342 P **P 14 11 07.5 +0.7**
451A Vernon 61.72 342 P **P 14 11 07.8 +0.9**
baz=162,SNR=14
257A Skidaway Islan 61.93 347 P **P 14 11 09.0 +0.9**
257A Skidaway Islan 61.93 347 P **P 14 11 09.5 +1.3**
baz=167
TIGA Tifton 61.96 345 P **P 14 11 08.7 +0.3**
TIGA Tifton 61.96 345 P **P 14 11 09.2 +0.8**
baz=164,SNR=35
TIGA Tifton 61.96 345 P **P 14 11 09.2 +0.8**
baz=164,SNR=35
255A Hazlehurst 62.18 346 P **P 14 11 10.2 +0.3**
255A Hazlehurst 62.18 346 P **P 14 11 10.9 +1.1**
baz=165,SNR=16
352A Blakely 62.33 343 P **P 14 11 11.2 +0.3**
352A Blakely 62.33 343 P **P 14 11 11.6 +0.8**
baz=163,SNR=65
BRAL Brewton 62.60 341 P **P 14 11 13.4 +0.7**
BRAL Brewton 62.60 341 P **P 14 11 14.2 +1.5**
baz=161
BRAL Brewton 62.60 341 P **P 14 11 13.6 +1.0**
baz=161
CSU Charleston Sou 62.73 348 P **P 14 11 14.9 +1.4**
NHSC New Hope 62.87 348 P **P 14 11 15.8 +1.4**
NHSC New Hope 62.87 348 P **P 14 11 16.2 +1.8**
baz=168,SNR=27
NHSC New Hope 62.87 348 P **P 14 11 16.2 +1.8**
baz=168,SNR=27
154A Montrose 62.98 345 P **P 14 11 15.6 +0.4**
154A Montrose 62.98 345 P **P 14 11 16.1 +0.9**
baz=165,SNR=60
250A Grady 63.15 342 P **P 14 11 16.3 0.0**
250A Grady 63.15 342 P **P 14 11 16.8 +0.5**
baz=162,SNR=58
KVTX Kingsville 63.24 330 P **P 14 11 19.0 +2.0**
KVTX Kingsville 63.24 330 P P 14 11 20.0 +3.0
baz=150,SNR=19
HAW Hawthorne Fire 63.39 347 P **P 14 11 19.0 +1.1**
baz=166,SNR=60
152A Waverly Hall 63.41 344 P **P 14 11 18.0 0.0**
152A IAmb IAmb 14 11 19.5
comp=Z,201nm,0.9s
152A Waverly Hall 63.41 344 P **P 14 11 18.5 +0.5**
baz=163,SNR=64
Y60A Bolivia 63.42 350 P **P 14 11 18.7 +0.7**

Y60A Bolivia 63.42 350 P **P** **14 11 19.6 +1.6**
baz=170,SNR=20
Y60A P **P** **14 11 19.6 +1.6**
baz=170,SNR=20
Y59A Loris 63.51 350 P **P** **14 11 19.6 +0.9**
Y59A IAmb IAmb 14 11 20.9
comp=Z,270nm,0.9s
Y59A Loris 63.51 350 P **P** **14 11 19.8 +1.2**
baz=169,SNR=9.3
Y59A P **P** **14 11 19.8 +1.2**
baz=169,SNR=9.3
346A Big Creek Wild 63.52 339 P **P** **14 11 19.8 +1.0**
346A IAmb IAmb 14 11 20.9
comp=Z,307nm,0.7s
346A Big Creek Wild 63.52 339 P **P** **14 11 20.3 +1.5**
baz=159
Y58A Scranton 63.56 349 P **P** **14 11 20.2 +1.3**
Y58A Scranton 63.56 349 P **P** **14 11 20.3 +1.3**
baz=168,SNR=25
Y58A P **P** **14 11 20.3 +1.3**
baz=168,SNR=25
Y57A Sumter 63.79 348 P **P** **14 11 21.4 +0.9**
Y57A Sumter 63.79 348 P **P** **14 11 21.8 +1.3**
baz=167,SNR=38
Y57A P **P** **14 11 21.8 +1.3**
baz=167,SNR=38
GOGA Godfrey 63.83 345 P **P** **14 11 20.9 +0.2**
GOGA IAmb IAmb 14 11 22.3
comp=Z,201nm,0.8s
GOGA Godfrey 63.83 345 P **P** **14 11 21.3 +0.5**
baz=164,SNR=56
GOGA Godfrey 63.83 345 P **P** **14 11 21.3 +0.5**
baz=164,SNR=56
GOGA Godfrey 63.83 345 P **P** **14 11 20.9 +0.2**
GOGA pmax pmax
comp=Z,201nm,0.9s
344A Westbrook Farm 63.99 338 P **P** **14 11 23.0 +1.1**
344A IAmb IAmb 14 11 24.6
comp=Z,371nm,1.0s
344A Westbrook Farm 63.99 338 P **P** **14 11 23.5 +1.7**
baz=157,SNR=40
X58A Rowland 64.14 349 P **P** **14 11 23.5 +0.8**
X58A Rowland 64.14 349 P **P** **14 11 24.2 +1.5**
baz=168,SNR=81
X58A P **P** **14 11 24.2 +1.5**
baz=168,SNR=81
Z51A Franklin 64.14 344 P **P** **14 11 22.9 +0.1**
Z51A IAmb IAmb 14 11 24.6
comp=Z,385nm,1.4s
Z51A Franklin 64.14 344 P **P** **14 11 23.4 +0.6**
baz=163,SNR=13
441A DeRidder 64.19 336 P **P** **14 11 24.8 +1.6**
441A DeRidder 64.19 336 P P 14 11 25.6 +2.4
baz=155,SNR=12
JSC Jenkinsville 64.21 347 P **P** **14 11 23.9 +0.7**
JSC IAmb IAmb 14 11 25.4
comp=Z,264nm,0.8s
JSC Jenkinsville 64.21 347 P **P** **14 11 24.5 +1.2**
baz=167,SNR=41
JSC Jenkinsville 64.21 347 P **P** **14 11 24.0 +0.7**
JSC pmax pmax
comp=Z,264nm,0.8s
735A Kenedy 64.34 331 P **P** **14 11 25.6 +1.4**
735A Kenedy 64.34 331 P P 14 11 26.4 +2.2
baz=151,SNR=42
LRAL Lakeview Retre 64.34 342 P **P** **14 11 24.2 +0.1**
LRAL IAmb IAmb 14 11 25.7
comp=Z,213nm,1.0s
LRAL Lakeview Retre 64.34 342 P **P** **14 11 24.6 +0.4**
baz=161,SNR=77
LRAL Lakeview Retre 64.34 342 P **P** **14 11 24.6 +0.4**
baz=161,SNR=77
HODGE Hodges 64.36 347 P **P** **14 11 24.5 +0.3**
HODGE IAmb IAmb 14 11 26.2
comp=Z,156nm,0.9s
HODGE Hodges 64.36 347 P **P** **14 11 25.1 +0.9**
baz=166,SNR=41
Y52A Lilburn 64.40 345 P **P** **14 11 24.6 +0.1**
Y52A IAmb IAmb 14 11 26.2
comp=Z,351nm,0.8s
Y52A Lilburn 64.40 345 P **P** **14 11 25.1 +0.7**
baz=164,SNR=102
Y52A P **P** **14 11 25.1 +0.7**
baz=164,SNR=102
BIRD Birdtown, Kers 64.42 348 P **P** **14 11 25.3 +0.8**
BIRD IAmb IAmb 14 11 26.9
comp=Z,300nm,1.0s
BIRD Birdtown, Kers 64.42 348 P **P** **14 11 26.0 +1.4**
baz=167
342B Flagon Creek P 64.45 337 P P 14 11 27.4 +2.5
baz=156,SNR=17
HKT Hockley 64.48 333 P **P** **14 11 26.8 +1.8**
baz=153
HKT Hockley 64.48 333 P **P** **14 11 26.5 +1.4**
HKT pP **PcP** **14 11 55.9 -2.3**
HKT pwP **pP** **14 12 00.4 +4.6**
146A Union 64.56 340 P **P** **14 11 26.1 +0.6**
146A IAmb IAmb 14 11 27.8
comp=Z,419nm,1.0s
146A Union 64.56 340 P **P** **14 11 26.6 +1.1**
baz=159,SNR=42
833A Chaparral WMA, 64.58 329 P **P** **14 11 27.3 +1.5**
833A Chaparral WMA, 64.58 329 P **P** **14 11 27.7 +1.9**
baz=149,SNR=241
833A Chaparral WMA, 64.58 329 P **P** **14 11 27.7 +1.9**
baz=149,SNR=241
CNNC Cliffs of the 64.59 351 P **P** **14 11 26.5 +0.9**
CNNC IAmb IAmb 14 11 28.1
comp=Z,250nm,1.1s
CNNC Cliffs of the 64.59 351 P **P** **14 11 26.8 +1.1**
baz=170,SNR=10
CNNC Cliffs of the 64.59 351 P **P** **14 11 26.9 +1.2**
baz=170,SNR=10
VBMS Vicksburg 64.62 339 P **P** **14 11 26.9 +1.0**
VBMS Vicksburg 64.62 339 P **P** **14 11 27.4 +1.4**
baz=158,SNR=19
VBMS Vicksburg 64.62 339 P **P** **14 11 27.4 +1.4**
baz=158,SNR=19
Z47A Carrollton 64.80 341 P **P** **14 11 27.3 +0.2**
Z47A Carrollton 64.80 341 P **P** **14 11 27.4 +0.4**
baz=160,SNR=80
W57A Gilead 64.83 349 P **P** **14 11 27.8 +0.6**
W57A IAmb IAmb 14 11 29.5
comp=Z,324nm,0.8s
W57A Gilead 64.83 349 P **P** **14 11 28.5 +1.3**
baz=168,SNR=58
W57A P **P** **14 11 28.5 +1.3**
baz=168,SNR=58
PAULI Pauline 64.84 347 P **P** **14 11 27.9 +0.5**
PAULI IAmb IAmb 14 11 29.6
comp=Z,347nm,1.1s
PAULI Pauline 64.84 347 P **P** **14 11 28.2 +0.9**
baz=166,SNR=58
V61A Roper 64.96 352 P **P** **14 11 28.6 +0.6**
V61A IAmb IAmb 14 11 30.6
comp=Z,414nm,1.3s
V61A Roper 64.96 352 P **P** **14 11 29.2 +1.2**
baz=171,SNR=7.2
V61A P **P** **14 11 29.2 +1.2**
baz=171,SNR=7.2
Y49A Blount Mountai 64.97 343 P **P** **14 11 28.4 +0.2**
Y49A IAmb IAmb 14 11 30.2
comp=Z,297nm,0.8s
Y49A Blount Mountai 64.97 343 P **P** **14 11 28.6 +0.4**
baz=162,SNR=145
KMSC Kings Mountain 65.06 348 P **P** **14 11 29.1 +0.3**
KMSC IAmb IAmb 14 11 31.0
comp=Z,277nm,0.9s
KMSC Kings Mountain 65.06 348 P **P** **14 11 29.5 +0.7**
baz=167,SNR=76
KMSC Kings Mountain 65.06 348 P **P** **14 11 29.7 +0.9**
baz=167,SNR=76
BG3 Lake Jocassee 65.23 346 P **P** **14 11 30.5 +0.6**
BG3 IAmb IAmb 14 11 32.0
comp=Z,246nm,0.8s
CASEE Lake Jocassee 65.23 346 P **P** **14 11 30.9 +1.0**
baz=165,SNR=95
X51A Calhoun 65.25 344 P **P** **14 11 30.6 +0.6**
X51A Calhoun 65.25 344 P **P** **14 11 30.9 +0.9**
baz=163,SNR=252
X51A P **P** **14 11 30.9 +0.9**
baz=163,SNR=252
V58A Windy Hill, Pi 65.31 350 P **P** **14 11 31.0 +0.6**
V58A IAmb IAmb 14 11 32.7
comp=Z,276nm,0.9s
V58A Windy Hill, Pi 65.31 350 P **P** **14 11 31.6 +1.2**
baz=169,SNR=53
V58A P **P** **14 11 31.6 +1.2**
baz=169,SNR=53
143A Socs Landing, 65.36 338 P **P** **14 11 32.4 +1.7**
baz=157,SNR=70
FPAL Fort Paine 65.41 344 P **P** **14 11 31.2 +0.1**
FPAL IAmb IAmb 14 11 32.7
comp=Z,330nm,0.8s
W52A Murphy 65.55 345 P **P** **14 11 32.2 +0.3**
W52A IAmb IAmb 14 11 33.9
comp=Z,306nm,0.9s
W52A Murphy 65.55 345 P **P** **14 11 32.6 +0.7**
baz=164,SNR=103
NATX Nacogdoches 65.64 335 P **P** **14 11 33.8 +1.3**
NATX Nacogdoches 65.64 335 P **P** **14 11 34.6 +2.1**
baz=154,SNR=84
NATX Nacogdoches 65.64 335 P **P** **14 11 34.6 +2.1**
baz=154,SNR=84
BBTS Babate 65.67 56 P **P** **14 11 34.1 +1.0**
comp=Z,82nm,0.7s,baz=195,slow=3.4,SNR=8.7
comp=Z,82nm,0.7s
X48A Hartselle 65.69 342 P **P** **14 11 33.2 +0.4**
X48A Hartselle 65.69 342 P **P** **14 11 33.4 +0.6**
baz=161,SNR=293
V55A Taylorsville 65.73 348 P **P** **14 11 33.8 +0.7**
V55A IAmb IAmb 14 11 35.4
comp=Z,398nm,0.8s
V55A Taylorsville 65.73 348 P **P** **14 11 34.3 +1.2**
baz=167,SNR=125
V55A P **P** **14 11 34.3 +1.2**
baz=167,SNR=125
Y45A Yeager Farm, C 65.85 340 P **P** **14 11 34.5 +0.6**
Y45A Yeager Farm, C 65.85 340 P **P** **14 11 35.0 +1.1**
baz=159,SNR=148
V53A Saluda 65.86 346 P **P** **14 11 34.4 +0.4**
V53A IAmb IAmb 14 11 35.9
comp=Z,358nm,0.9s
V53A Saluda 65.86 346 P **P** **14 11 34.8 +0.8**
baz=165,SNR=103
V53A P **P** **14 11 34.8 +0.8**
baz=165,SNR=103
435B Jarrell 65.93 332 P **P** **14 11 35.5 +1.1**
435B IAmb IAmb 14 11 37.1
comp=Z,178nm,0.9s
435B Jarrell 65.93 332 P **P** **14 11 36.1 +1.7**
baz=151,SNR=20
435B Jarrell 65.93 332 P **P** **14 11 36.0 +1.6**
baz=151
W50A Signal Mountai 65.97 344 P **P** **14 11 35.0 +0.3**
W50A Signal Mountai 65.97 344 P **P** **14 11 35.4 +0.7**
baz=163,SNR=176
CPCT Cooper Cave 66.02 345 P **P** **14 11 35.2 +0.3**
TKL Tuckaleechee C 66.06 346 P **P** **14 11 35.5 +0.4**
comp=Z,319nm,0.8s,baz=165,slow=6.7,SNR=267
TKL PKPPKP **P'P'df** **14 40 09.7 +2.3**
comp=Z,8.7nm,1.1s,baz=169,slow=10,SNR=3.5
comp=Z,319nm,0.8s
TKL Tuckaleechee C 66.06 346 P **P** **14 11 35.1 0.0**
TKL IAmb IAmb 14 11 36.7
comp=Z,426nm,0.9s
TKL Tuckaleechee C 66.06 346 P **P** **14 11 35.7 +0.5**
baz=164,SNR=114
U56A King 66.06 349 P **P** **14 11 36.0 +0.8**
U56A IAmb IAmb 14 11 37.9
comp=Z,311nm,0.9s
U56A King 66.06 349 P **P** **14 11 36.9 +1.7**
baz=168,SNR=50
U56A P **P** **14 11 36.9 +1.7**
baz=168,SNR=50
SWET Sewanee 66.14 344 P **P** **14 11 36.0 +0.3**
V52A Sevierville 66.19 346 P **P** **14 11 36.2 +0.2**
V52A IAmb IAmb 14 11 37.6
comp=Z,353nm,0.8s
V52A Sevierville 66.19 346 P **P** **14 11 36.2 +0.2**
baz=165,SNR=121
T59A Double "B" Far 66.25 351 P **P** **14 11 36.9 +0.6**
T59A Double "B" Far 66.25 351 P **P** **14 11 37.7 +1.4**
baz=170,SNR=30
T59A P **P** **14 11 37.7 +1.4**
baz=170,SNR=30
237A Washetta, Mont 66.29 334 P **P** **14 11 38.1 +1.4**
237A Washetta, Mont 66.29 334 P **P** **14 11 38.7 +2.0**
baz=153,SNR=92
T60A Surry 66.31 352 P **P** **14 11 37.6 +0.9**
T60A IAmb IAmb 14 11 39.4
comp=Z,330nm,0.9s
T60A Surry 66.31 352 P **P** **14 11 38.3 +1.6**
baz=171,SNR=7.6
T60A P **P** **14 11 38.3 +1.6**
baz=171,SNR=7.6
V51A Loudon 66.32 345 P **P** **14 11 37.1 +0.2**
V51A IAmb IAmb 14 11 38.5
comp=Z,285nm,0.8s
V51A Loudon 66.32 345 P **P** **14 11 37.3 +0.5**
baz=164,SNR=109
SLBS Sierra La Lagu 66.34 318 P **P** **14 11 38.8 +1.5**
SLBS IAmb IAmb 14 11 41.2
comp=Z,301nm,1.4s
SLBS Sierra La Lagu 66.34 318 P P 14 11 39.8 +2.5
OXF Oxford 66.41 340 P **P** **14 11 37.5 +0.1**
OXF Oxford 66.41 340 P **P** **14 11 37.8 +0.4**
baz=159,SNR=96
OXF Oxford 66.41 340 P **P** **14 11 37.8 +0.4**
baz=159,SNR=96
OXF Oxford 66.41 340 P **P** **14 11 37.5 +0.1**
OXF pmax pmax
comp=Z,692nm,1.0s
PLAL Pickwick Lake 66.47 342 P **P** **14 11 37.7 -0.1**
PLAL IAmb IAmb 14 11 39.2
comp=Z,263nm,0.8s
U54A Nelsons Funny 66.49 348 P **P** **14 11 38.4 +0.4**
U54A Nelsons Funny 66.49 348 P **P** **14 11 39.0 +1.0**
baz=166,SNR=111
U54A P **P** **14 11 39.0 +1.0**
baz=166,SNR=111
HPIG 66.49 323 P **P** **14 11 39.6 +1.2**
HPIG IAmb IAmb 14 11 41.7
comp=Z,357nm,1.1s
T57A Hurt 66.52 350 P **P** **14 11 38.8 +0.7**
T57A IAmb IAmb 14 11 40.6
comp=Z,203nm,1.0s
T57A Hurt 66.52 350 P **P** **14 11 39.4 +1.3**
baz=169,SNR=52
T57A P **P** **14 11 39.4 +1.3**
baz=169,SNR=52
CCAR Cane Creek 66.59 338 P **P** **14 11 39.7 +1.1**
CCAR Cane Creek 66.59 338 P **P** **14 11 40.5 +1.9**
baz=157,SNR=79
JCT Junction City 66.61 330 P **P** **14 11 39.7 +0.9**
JCT IAmb IAmb 14 11 41.6
comp=Z,320nm,0.8s
JCT Junction City 66.61 330 P **P** **14 11 40.4 +1.6**
baz=149,SNR=157
JCT Junction City 66.61 330 P **P** **14 11 40.4 +1.6**
baz=149,SNR=157
JCT Junction City 66.61 330 P **P** **14 11 39.7 +0.9**
JCT pmax pmax
comp=Z,320nm,0.8s
S61A Accomac 66.72 353 P **P** **14 11 40.7 +1.4**
S61A IAmb IAmb 14 11 42.6
comp=Z,346nm,1.1s
WLAR White Oak Lake 66.83 337 P **P** **14 11 41.8 +1.7**
V48A Smith Brothers 66.86 343 P **P** **14 11 40.4 +0.1**
V48A Smith Brothers 66.86 343 P **P** **14 11 40.7 +0.5**
baz=162,SNR=287
TZTN Tazewell 66.86 346 P **P** **14 11 40.1 -0.1**
TZTN IAmb IAmb 14 11 41.8
comp=Z,479nm,1.6s
TZTN Tazewell 66.86 346 P **P** **14 11 40.7 +0.4**
baz=165,SNR=29
TZTN Tazewell 66.86 346 P **P** **14 11 40.7 +0.4**
baz=165,SNR=29
LPIG La Paz 66.87 318 P **P** **14 11 41.9 +1.3**
comp=Z,121nm,0.8s,baz=107,slow=1.5,SNR=15
comp=Z,121nm,0.8s
BLA Blacksburg 66.91 349 P **P** **14 11 41.5 +0.9**
BLA Blacksburg 66.91 349 P **P** **14 11 42.1 +1.5**
baz=168,SNR=32
BLA Blacksburg 66.91 349 P **P** **14 11 42.0 +1.4**
baz=168,SNR=32
BLA Blacksburg 66.91 349 P **P** **14 11 41.5 +0.9**
BLA pmax pmax
comp=Z,134nm,0.9s
WHTX Lake Whitney, 66.93 333 P **P** **14 11 41.7 +0.9**
WHTX Lake Whitney, 66.93 333 P **P** **14 11 42.2 +1.4**
baz=152,SNR=74
WHTX Lake Whitney, 66.93 333 P **P** **14 11 42.2 +1.4**
baz=152,SNR=74
W45A Hickory Valley 66.95 341 P **P** **14 11 41.1 +0.3**
W45A Hickory Valley 66.95 341 P **P** **14 11 41.5 +0.7**
baz=159,SNR=69
JSRW J. Sargeant Re 67.00 351 P **P** **14 11 41.8 +0.8**
CLTN Cedars of Leba 67.06 344 P **P** **14 11 41.5 0.0**
Z38A Mt. Pleasant 67.11 335 P **P** **14 11 43.0 +1.1**
Z38A IAmb IAmb 14 11 44.8
comp=Z,601nm,1.4s
Z38A Mt. Pleasant 67.11 335 P **P** **14 11 43.7 +1.9**
baz=154,SNR=36
MET Memphis--Engin 67.13 340 P **P** **14 11 42.7 +0.7**
S57A Dark Hollow, R 67.22 350 P **P** **14 11 43.5 +1.0**
S57A IAmb IAmb 14 11 45.3
comp=Z,415nm,1.2s
S57A Dark Hollow, R 67.22 350 P **P** **14 11 44.0 +1.6**
baz=169,SNR=62
S57A P **P** **14 11 44.0 +1.6**
baz=169,SNR=62
R58B Mineral 67.27 351 P **P** **14 11 43.7 +1.0**
R58B IAmb IAmb 14 11 45.8
comp=Z,337nm,1.1s
R58B Mineral 67.27 351 P **P** **14 11 44.5 +1.7**
baz=170,SNR=80
R58B P **P** **14 11 44.5 +1.7**
baz=170,SNR=80
R61A Willards 67.33 353 P **P** **14 11 45.0 +1.8**
baz=173
R61A P **P** **14 11 45.0 +1.8**
baz=173
U49A Red Boiling Sp 67.33 344 P **P** **14 11 43.0 -0.2**
U49A IAmb IAmb 14 11 44.7
comp=Z,215nm,0.7s
U49A Red Boiling Sp 67.33 344 P **P** **14 11 43.5 +0.3**
baz=163,SNR=97
CBN Corbin Frederi 67.44 352 P **P** **14 11 44.6 +0.8**
CBN IAmb IAmb 14 11 46.7
comp=Z,475nm,1.5s
CBN Corbin Frederi 67.44 352 P **P** **14 11 45.6 +1.7**
baz=171,SNR=13
CBN Corbin Frederi 67.44 352 P **P** **14 11 45.5 +1.7**
baz=171,SNR=13
TXAR Lajitas Array 67.44 326 P **P** **14 11 45.8 +1.6**
comp=Z,63nm,0.7s,baz=149,slow=8.2,SNR=637
TXAR PKP2bc 14 40 09.2
comp=Z,3.9nm,1.0s,baz=270,slow=1.6,SNR=16
comp=Z,63nm,0.7s
TXAR Lajitas Array 67.44 326 P **P** **14 11 45.4 +1.3**
TX31 Lajitas Ar. Si 67.44 326 P **P** **14 11 45.3 +1.1**
TX31 IAmb IAmb 14 11 46.6
comp=Z,272nm,0.8s
TX31 Lajitas Ar. Si 67.44 326 P **P** **14 11 45.8 +1.6**
baz=146,SNR=170
TX32 Lajitas Array 67.44 326 P **P** **14 11 45.4 +1.2**
WVT Waverly 67.49 342 P **P** **14 11 44.4 +0.2**
WVT Waverly 67.49 342 P **P** **14 11 44.6 +0.5**
baz=161,SNR=687
WVT Waverly 67.49 342 P **P** **14 11 44.7 +0.5**
baz=161
WVT Waverly 67.49 342 P **P** **14 11 44.4 +0.2**
WVT pmax pmax
comp=Z,1µm,0.7s
WVT Waverly 67.49 342 P **P** **14 11 44.8 +0.6**
UALR University of 67.56 338 P **P** **14 11 45.2 +0.5**
UALR IAmb IAmb 14 11 46.9
comp=Z,372nm,0.8s
T50A Nancy 67.60 345 P **P** **14 11 44.8 -0.2**
T50A IAmb IAmb 14 11 46.4
comp=Z,157nm,0.8s
T50A Nancy 67.60 345 P **P** **14 11 44.9 0.0**
baz=164
T50A P **P** **14 11 44.9 0.0**
baz=164
S54A Dingess, Beckl 67.64 348 P **P** **14 11 45.5 +0.3**
S54A IAmb IAmb 14 11 47.2
comp=Z,243nm,0.9s
S54A Dingess, Beckl 67.64 348 P **P** **14 11 46.1 +0.9**
baz=167,SNR=46
S54A P **P** **14 11 46.1 +0.9**
baz=167,SNR=46
HBAR Harrisburg 67.75 340 P **P** **14 11 46.5 +0.6**
HBAR IAmb IAmb 14 11 48.0
comp=Z,328nm,0.9s
HBAR Harrisburg 67.75 340 P **P** **14 11 46.9 +1.1**
baz=158,SNR=8.0
MIAR Mount Ida 67.77 337 P **P** **14 11 46.8 +0.8**
MIAR IAmb IAmb 14 11 48.5
comp=Z,436nm,1.1s
MIAR Mount Ida 67.77 337 P **P** **14 11 47.1 +1.1**
baz=155,SNR=181
MIAR Mount Ida 67.77 337 P **P** **14 11 47.1 +1.1**
baz=155,SNR=181
MIAR Mount Ida 67.77 337 P **P** **14 11 46.8 +0.8**
MIAR pmax pmax
comp=Z,436nm,1.1s
R55A Marlinton 67.91 349 P **P** **14 11 48.2 +1.3**
R55A IAmb IAmb 14 11 50.1
comp=Z,392nm,1.1s
R55A Marlinton 67.91 349 P **P** **14 11 48.7 +1.8**
baz=168,SNR=80
R55A P **P** **14 11 48.7 +1.8**
baz=168,SNR=80
LNXT Lenox 67.92 341 P **P** **14 11 47.8 +0.9**
LNXT IAmb IAmb 14 11 48.7
comp=Z,371nm,0.8s
LNXT Lenox 67.92 341 P **P** **14 11 48.2 +1.3**
baz=159,SNR=20
S51A Beattyville 67.92 346 P **P** **14 11 47.2 +0.2**
S51A IAmb IAmb 14 11 48.6
comp=Z,220nm,0.9s
S51A Beattyville 67.92 346 P **P** **14 11 47.5 +0.6**
baz=165,SNR=57
S51A P **P** **14 11 47.5 +0.6**
baz=165,SNR=57
GNAR Gosnell 67.94 340 P **P** **14 11 48.1 +1.1**
UTMT University of 67.97 342 P **P** **14 11 47.9 +0.7**
GLAT Glass 68.02 341 P **P** **14 11 48.1 +0.6**
WHAR Wooly Hollow 68.02 338 P **P** **14 11 48.1 +0.5**
WHAR IAmb IAmb 14 11 49.8
comp=Z,411nm,1.0s
Z35A Perchaven, San 68.03 333 P **P** **14 11 48.8 +1.1**
Z35A Perchaven, San 68.03 333 P **P** **14 11 49.3 +1.6**
baz=152,SNR=197
PEBM Pemiscott Bayo 68.03 341 P **P** **14 11 48.7 +1.0**
T47A Sharon Grove 68.11 343 P **P** **14 11 48.0 -0.1**
T47A IAmb IAmb 14 11 49.6
comp=Z,410nm,0.9s
T47A Sharon Grove 68.11 343 P **P** **14 11 48.5 +0.4**
baz=162,SNR=126
HICK Hickman 68.25 341 P **P** **14 11 49.5 +0.5**
PVMO Portageville 68.27 341 P **P** **14 11 50.2 +1.1**
R53A Hurricane 68.27 348 P **P** **14 11 49.3 +0.2**
R53A Hurricane 68.27 348 P **P** **14 11 49.9 +0.8**
baz=166,SNR=23
R53A P **P** **14 11 49.9 +0.8**
baz=166,SNR=23
LCAR Lake Charles 68.38 340 P **P** **14 11 50.3 +0.5**
LCAR Lake Charles 68.38 340 P **P** **14 11 50.7 +0.9**
baz=158
ABTX Abilene, Hawle 68.39 331 P **P** **14 11 50.8 +0.8**
ABTX IAmb IAmb 14 11 52.5
comp=Z,457nm,1.1s
ABTX Abilene, Hawle 68.39 331 P **P** **14 11 51.2 +1.3**
baz=150,SNR=131
ABTX Abilene, Hawle 68.39 331 P **P** **14 11 51.3 +1.3**
baz=150,SNR=131
X37A Clayton 68.44 336 P **P** **14 11 51.6 +1.4**
baz=154,SNR=168
Q56A Snyder Ridge, 68.51 350 P **P** **14 11 51.9 +1.3**
Q56A IAmb IAmb 14 11 53.8
comp=Z,326nm,1.1s
Q56A Snyder Ridge, 68.51 350 P **P** **14 11 52.6 +2.1**
baz=169,SNR=54
Q56A P **P** **14 11 52.6 +2.1**
baz=169,SNR=54
FCAR Ozark Folk Cen 68.52 339 P **P** **14 11 51.1 +0.5**
PARMO Parma 68.52 341 P **P** **14 11 51.8 +1.1**
T45B Paducah 68.54 342 P **P** **14 11 51.4 +0.7**
baz=160,SNR=66
T45A Paducah 68.54 342 P **P** **14 11 51.1 +0.3**
SDMD Soldier's Deli 68.56 352 P **P** **14 11 52.0 +1.2**
SDMD Soldier's Deli 68.56 352 P **P** **14 11 52.8 +1.9**
baz=171,SNR=32
LOOK Love County 68.59 334 P **P** **14 11 52.3 +1.2**
LOOK IAmb IAmb 14 11 53.7
comp=Z,1µm,1.4s
P61A Hammonton 68.61 354 P **P** **14 11 52.5 +1.4**

P61A IAmb IAmb 14 11 54.1
comp=Z,586nm,1.2s
P61A Hammonton 68.61 354 P **P** **14 11 52.7 +1.6**
baz=173,SNR=5.7
P61A P **P** **14 11 52.7 +1.6**
baz=173,SNR=5.7
R50A Paris 68.70 346 P **P** **14 11 51.7 0.0**
R50A Paris 68.70 346 P **P** **14 11 52.2 +0.5**
baz=164,SNR=57
R50A P **P** **14 11 52.2 +0.5**
baz=164,SNR=57
Q54A Coxs Mills 68.71 349 P **P** **14 11 52.5 +0.7**
Q54A Coxs Mills 68.71 349 P **P** **14 11 52.4 +0.6**
baz=168,SNR=34
Q54A P **P** **14 11 52.4 +0.6**
baz=168,SNR=34
SBA Scott Base 68.74 191 P P 14 11 54.1 +2.5
SBA Scott Base 68.74 191 P P 14 11 54.1 +2.5
SBA pmax pmax
comp=Z,40nm,1.0s
SBA Scott Base 68.74 191 P P 14 11 54.1 +2.6
P57A Homestead Farm 68.78 351 P **P** **14 11 53.6 +1.4**
P57A IAmb IAmb 14 11 55.6
comp=Z,424nm,0.9s
P57A Homestead Farm 68.78 351 P P 14 11 54.4 +2.2
baz=170,SNR=89
P57A P P 14 11 54.4 +2.2
baz=170,SNR=89
PBMO Poplar Bluff 68.82 340 P **P** **14 11 53.2 +0.7**
PBMO Poplar Bluff 68.82 340 P **P** **14 11 53.6 +1.1**
baz=159,SNR=26
GEDE Greenville 68.83 353 P **P** **14 11 54.1 +1.6**
baz=172,SNR=22
R49A Shelbyville 68.89 345 P **P** **14 11 52.9 0.0**
R49A Shelbyville 68.89 345 P **P** **14 11 53.1 +0.2**
baz=163,SNR=49
R49A P **P** **14 11 53.1 +0.2**
baz=163,SNR=49
PSUB Penn St. - Bra 68.92 354 P **P** **14 11 54.7 +1.7**
baz=172
WUPA West Chester U 68.94 353 P **P** **14 11 54.3 +1.1**
Q52A Bidwell 68.94 348 P **P** **14 11 53.6 +0.4**
Q52A IAmb IAmb 14 11 55.1
comp=Z,262nm,1.1s
Q52A Bidwell 68.94 348 P **P** **14 11 53.9 +0.7**
baz=166,SNR=40
Q52A P **P** **14 11 53.9 +0.7**
baz=166,SNR=40
CGM3 Cape Girardeau 69.08 341 P **P** **14 11 54.3 +0.2**
CGM3 IAmb IAmb 14 11 55.8
comp=Z,2μm,1.9s
MVL Millersville 69.09 353 P **P** **14 11 55.2 +1.2**
MVL IAmb IAmb 14 11 57.2
comp=Z,295nm,1.0s
WCI Wyandotte Cave 69.09 344 P **P** **14 11 53.9 -0.2**
WCI IAmb IAmb 14 11 55.4
comp=Z,263nm,0.8s
WCI Wyandotte Cave 69.09 344 P **P** **14 11 54.1 -0.1**
baz=162,SNR=100
WCI Wyandotte Cave 69.09 344 P **P** **14 11 54.3 +0.1**
baz=162
WCI Wyandotte Cave 69.09 344 P **P** **14 11 53.9 -0.2**
WCI pmax pmax
comp=Z,263nm,0.8s
WCI Wyandotte Cave 69.09 344 P **P** **14 11 54.2 +0.1**
TUPA Temple Univers 69.13 354 P **P** **14 11 55.8 +1.5**
baz=173,SNR=48
USIN University of 69.18 343 P **P** **14 11 54.4 -0.3**
USIN IAmb IAmb 14 11 55.8
comp=Z,545nm,1.4s
MCWV Mont Chateau 69.21 350 P **P** **14 11 55.6 +0.8**
MCWV IAmb IAmb 14 11 57.6
comp=Z,286nm,0.9s
MCWV Mont Chateau 69.21 350 P **P** **14 11 56.4 +1.6**
baz=168,SNR=37
MCWV Mont Chateau 69.21 350 P **P** **14 11 56.4 +1.6**
baz=168,SNR=37
Q51A Peebles 69.21 347 P **P** **14 11 55.1 +0.2**
Q51A IAmb IAmb 14 11 56.7
comp=Z,310nm,1.1s
Q51A Peebles 69.21 347 P **P** **14 11 55.5 +0.6**
baz=165,SNR=54
Q51A P **P** **14 11 55.5 +0.6**
baz=165,SNR=54
P53A Whipple 69.30 349 P **P** **14 11 55.9 +0.5**
P53A IAmb IAmb 14 11 57.7
comp=Z,371nm,1.1s
P53A Whipple 69.30 349 P **P** **14 11 56.5 +1.1**
baz=167,SNR=59
P53A P **P** **14 11 56.5 +1.1**
baz=167,SNR=59
PANJ Princeton 69.30 354 P **P** **14 11 57.1 +1.7**
baz=173,SNR=14
S44A Carbondale 69.34 342 P **P** **14 11 56.1 +0.5**
baz=160,SNR=170
PAGS Pennsylvania G 69.35 353 P **P** **14 11 56.6 +0.9**
PAGS IAmb IAmb 14 11 58.6
comp=Z,450nm,1.0s
X34A Smith Ranch, M 69.38 334 P **P** **14 11 56.8 +0.7**
HHAR Hobbs 69.47 337 P **P** **14 11 57.1 +0.6**
HHAR IAmb IAmb 14 11 58.9
comp=Z,294nm,0.8s
HHAR Hobbs 69.47 337 P **P** **14 11 57.9 +1.3**
baz=155
LIC Lamto 69.54 70 *eP* **P** **14 11 58.4 +0.9**
comp=Z,228nm,0.8s
P52A Corning 69.57 348 P **P** **14 11 57.5 +0.4**
P52A IAmb IAmb 14 11 58.9
comp=Z,352nm,0.9s
P52A Corning 69.57 348 P **P** **14 11 57.6 +0.5**
baz=166,SNR=55
LUPA Lehigh Univers 69.58 354 P **P** **14 11 58.3 +1.2**
P51A Williamsport 69.60 347 P **P** **14 11 57.3 +0.1**
P51A IAmb IAmb 14 11 58.9
comp=Z,377nm,1.1s
P51A Williamsport 69.60 347 P **P** **14 11 57.9 +0.6**
baz=166,SNR=19
P51A P **P** **14 11 57.9 +0.6**
baz=166,SNR=19
CPNY Central Park 69.65 355 P **P** **14 11 58.4 +0.9**
FOR Fordham 69.71 355 P **P** **14 11 59.0 +1.2**
baz=174,SNR=9.8
MGMO Mountain Grove 69.72 339 P **P** **14 11 58.9 +0.8**
RLO Rose Lookout 69.73 337 P **P** **14 11 59.0 +0.8**
RLO IAmb IAmb 14 12 00.5
comp=Z,503nm,0.7s
VNDA Vanda 69.75 190 P P 14 12 00.3 +2.5
comp=Z,32nm,0.8s,baz=136,slow=4.9,SNR=71
VNDA PKP2bc 14 40 00.2
comp=Z,4.4nm,0.7s,baz=297,slow=3.3,SNR=13
comp=Z,32nm,0.8s
VNDA Vanda 69.75 190 P **P** **14 11 59.6 +1.8**
VNDA Vanda 69.75 190 P P 14 12 00.3 +2.5
VNDA pP pP 14 12 31.0 +2.5
N62A Caumsett State 69.75 355 P **P** **14 11 59.2 +1.1**
N62A IAmb IAmb 14 12 00.9
comp=Z,222nm,0.8s
U38A Gravette 69.76 337 P **P** **14 11 58.8 +0.5**
U38A IAmb IAmb 14 12 00.5
comp=Z,296nm,0.8s
U38A Gravette 69.76 337 P **P** **14 11 59.5 +1.2**
baz=155,SNR=54
TUL1 Leonard 69.78 336 **P** **14 11 59.0 +0.6**
TUL1 Leonard 69.78 336 P **P** **14 11 59.5 +1.0**
baz=154,SNR=183
TUL1 Leonard 69.78 336 P **P** **14 11 59.5 +1.0**
baz=154,SNR=183
TIC Toumodi 69.78 70 *eP* **P** **14 11 59.6 +0.6**
comp=Z,90nm,0.6s
FNO Franklin 69.79 334 **P** **14 11 59.0 +0.5**
O54A Avella 69.81 350 P **P** **14 11 59.0 +0.5**
O54A Avella 69.81 350 P **P** **14 11 59.5 +0.9**
baz=168,SNR=28
O54A P **P** **14 11 59.5 +0.9**
baz=168,SNR=28
KIC Kosan Boka 69.85 70 *eP* **P** **14 12 00.5 +1.1**
comp=Z,84nm,0.6s
PAL Palisades 69.86 355 P **P** **14 11 59.9 +1.1**
PAL Palisades 69.86 355 P **P** **14 12 00.2 +1.4**
baz=174,SNR=9.0
PAL Palisades 69.86 355 P **P** **14 12 00.1 +1.3**
baz=174,SNR=9.0
PAL Palisades 69.86 355 P **P** **14 11 59.9 +1.1**
PAL pmax pmax
comp=Z,135nm,1.2s
WMOK Wichita Mounta 69.87 333 **P** **14 11 59.4 +0.3**
WMOK Wichita Mounta 69.87 333 P **P** **14 11 59.6 +0.6**
baz=151,SNR=131
WMOK Wichita Mounta 69.87 333 P **P** **14 11 59.6 +0.6**
baz=151,SNR=131
WMOK Wichita Mounta 69.87 333 P **P** **14 11 59.4 +0.3**
WMOK pmax pmax
comp=Z,231nm,1.2s
SSPA Standing Stone 69.90 352 P **P** **14 12 00.1 +1.1**
SSPA Standing Stone 69.90 352 P **P** **14 12 00.7 +1.6**
baz=170,SNR=39
SSPA Standing Stone 69.90 352 P **P** **14 12 00.7 +1.6**
baz=170
SSPA Standing Stone 69.90 352 P **P** **14 12 00.7 +1.6**
DBIC Dimbokro 69.93 70 P **P** **14 12 01.1 +1.2**
comp=Z,94nm,0.6s,baz=238,slow=6.3,SNR=110
DBIC S **S** **14 20 58.8 -1.7**
comp=Z,6.2nm,1.1s,baz=24,slow=10.0,SNR=2.6
DBIC PKPPKP **P'P'df** **14 40 05.7 +1.4**
comp=Z,9.1nm,1.1s,baz=19,slow=1.6,SNR=3.9
comp=Z,94nm,0.6s
DBIC Dimbokro 69.93 70 P **P** **14 12 00.6 +0.7**
DBIC Dimbokro 69.93 70 *iP* **P** **14 12 01.1 +1.2**
DBIC Dimbokro 69.93 70 P **P** **14 12 01.1 +1.2**
FVM French Village 69.94 341 P **P** **14 11 59.8 +0.4**
FVM French Village 69.94 341 P **P** **14 12 00.0 +0.6**
baz=159,SNR=312
FVM French Village 69.94 341 P **P** **14 11 59.8 +0.4**
FVM pmax pmax
comp=Z,1μm,0.9s
N58A Sunbury 69.96 353 P **P** **14 12 00.6 +1.2**
N58A IAmb IAmb 14 12 02.5
comp=Z,334nm,1.1s
N58A Sunbury 69.96 353 P **P** **14 12 01.3 +1.9**
baz=171,SNR=55
N58A P **P** **14 12 01.3 +1.9**
baz=171,SNR=55
CLNB Carlsbad 69.97 328 P **P** **14 12 01.2 +1.4**
DEOK Depew 69.97 335 **P** **14 12 00.2 +0.6**
DEOK IAmb IAmb 14 12 01.8
comp=Z,927nm,0.7s
WSPT Westport, CT 69.98 355 P **P** **14 12 00.5 +1.0**
P49A Miami Univ. Ec 69.98 346 P **P** **14 11 59.5 -0.1**
P49A IAmb IAmb 14 12 01.0
comp=Z,318nm,1.1s
P49A Miami Univ. Ec 69.98 346 P **P** **14 11 60.0 +0.3**
baz=164,SNR=46
P49A Miami Univ. Ec 69.98 346 P **P** **14 11 59.8 +0.2**
baz=164,SNR=46
O52A Adamsville 69.99 348 P **P** **14 11 59.8 +0.2**
O52A IAmb IAmb 14 12 01.5
comp=Z,192nm,0.8s
O52A Adamsville 69.99 348 P **P** **14 12 00.5 +0.8**
baz=167,SNR=27
O52A P **P** **14 12 00.5 +0.8**
baz=167,SNR=27
ODNJ Ogdensburg 69.99 354 P **P** **14 12 00.8 +1.2**
ODNJ Ogdensburg 69.99 354 P **P** **14 12 01.5 +1.9**
baz=173,SNR=26
O53A New Philadelph 70.01 349 P **P** **14 12 00.4 +0.7**
O53A IAmb IAmb 14 12 01.9
comp=Z,453nm,1.4s
O53A New Philadelph 70.01 349 P **P** **14 12 00.8 +1.0**
baz=167,SNR=28
OLIL Olney 70.01 343 P **P** **14 11 59.7 -0.1**
OLIL IAmb IAmb 14 12 01.0
comp=Z,348nm,1.0s
OLIL Olney 70.01 343 P **P** **14 11 59.9 +0.1**
baz=161,SNR=41
TRNY Table Rock, Ra 70.02 355 P **P** **14 12 01.0 +1.2**
HTMS Hat Mesa 70.03 328 P **P** **14 12 01.2 +1.0**
BLO Bloomington 70.04 344 P **P** **14 11 60.0 0.0**
BLO IAmb IAmb 14 12 01.3
comp=Z,268nm,0.7s
BLO Bloomington 70.04 344 P **P** **14 12 00.0 0.0**
BLO pmax pmax
comp=Z,268nm,0.7s
OK025 Westminster Rd 70.05 335 **P** **14 12 00.5 +0.4**
CLN7 Carlsbad 7 70.06 328 P **P** **14 12 01.8 +1.5**
P48A Milroy 70.07 345 P **P** **14 11 59.9 -0.2**
P48A IAmb IAmb 14 12 01.4
comp=Z,505nm,1.5s
P48A Milroy 70.07 345 P **P** **14 12 00.2 +0.1**
baz=163,SNR=38
P48A P **P** **14 12 00.2 +0.1**
baz=163,SNR=38
YLE Yale 70.09 356 P **P** **14 12 01.8 +1.5**
M63A Gales Ferry 70.13 356 P **P** **14 12 01.3 +0.9**
M63A Gales Ferry 70.13 356 P **P** **14 12 02.0 +1.6**
baz=176,SNR=5.1
M63A P **P** **14 12 02.0 +1.6**
baz=176,SNR=5.1
GDL2 Guadalupe Moun 70.14 327 P **P** **14 12 02.2 +1.3**
OK030 Cody Creek RV 70.15 335 P **P** **14 12 01.5 +0.8**
OK031 S. Brethren Rd 70.19 335 **P** **14 12 01.7 +0.7**
OK034 N. Norfolk Rd. 70.20 335 **P** **14 12 01.6 +0.6**
OK052 Battle Ridge R 70.22 335 **P** **14 12 01.9 +0.7**
BCOK Bluff Creek, N 70.22 334 **P** **14 12 01.9 +0.7**
BCOK IAmb IAmb 14 12 03.3
comp=Z,612nm,0.8s
OK053 SW of W Deep R 70.23 335 **P** **14 12 01.8 +0.6**
CCM Cathedral Cave 70.24 340 P **P** **14 12 01.8 +0.6**
CCM Cathedral Cave 70.24 340 P **P** **14 12 02.0 +0.8**
baz=158,SNR=475
CCM Cathedral Cave 70.24 340 P **P** **14 12 02.4 +1.2**
baz=158
CCM Cathedral Cave 70.24 340 P **P** **14 12 01.8 +0.6**
CCM pmax pmax
comp=Z,892nm,0.9s
CCM Cathedral Cave 70.24 340 P **P** **14 12 02.2 +1.0**
CCM pP **pP** **14 12 33.1 +0.8**
CCM sP **sP** **14 12 45.0 -0.8**
BRNY Black Rk. Fore 70.27 355 P **P** **14 12 03.1 +1.8**
baz=174,SNR=14
OK029 Liberty Lake 70.28 335 **P** **14 12 02.3 +0.7**
ACSO Alum Creek Sta 70.31 348 P **P** **14 12 01.8 +0.3**
ACSO IAmb IAmb 14 12 03.4
comp=Z,348nm,1.1s
ACSO Alum Creek Sta 70.31 348 P **P** **14 12 02.3 +0.7**
baz=166,SNR=63
ACSO Alum Creek Sta 70.31 348 P **P** **14 12 02.3 +0.7**
baz=166,SNR=63
OK033 Mehan 70.31 335 **P** **14 12 02.4 +0.7**
QUOK Quay 70.34 335 **P** **14 12 02.5 +0.6**
QUOK IAmb IAmb 14 12 04.2
comp=Z,901nm,1.2s
Q44A Meyer Farm, Va 70.41 342 P **P** **14 12 02.3 +0.1**
baz=160,SNR=63
N53A Lisbon 70.49 349 P **P** **14 12 03.4 +0.7**
N53A Lisbon 70.49 349 P **P** **14 12 03.8 +1.1**
baz=168,SNR=19
N53A P **P** **14 12 03.8 +1.1**
baz=168,SNR=19
PSDB Penn State Uni 70.49 351 P **P** **14 12 04.0 +1.3**
baz=170
SLM Saint Louis 70.49 341 P **P** **14 12 02.8 +0.1**
SLM IAmb IAmb 14 12 04.5
comp=Z,432nm,1.1s
SLM Saint Louis 70.49 341 P **P** **14 12 03.5 +0.8**
baz=159,SNR=28
SLM Saint Louis 70.49 341 P **P** **14 12 02.8 +0.1**
SLM pmax pmax
comp=Z,432nm,1.1s
M57A Sunshine Farm, 70.50 352 P **P** **14 12 04.5 +1.7**
baz=171,SNR=30
M57A P **P** **14 12 04.5 +1.7**
baz=171,SNR=30
UCCT U. Connecticut 70.53 356 P **P** **14 12 03.0 +0.2**
O49A Covington 70.53 346 P **P** **14 12 02.9 0.0**
O49A IAmb IAmb 14 12 04.7
comp=Z,398nm,1.1s
O49A Covington 70.53 346 P **P** **14 12 03.4 +0.4**
baz=164,SNR=60
O49A P **P** **14 12 03.4 +0.4**
baz=164,SNR=60
TAOE Nuku Hiva Isla 70.53 271 *eP* **P** **14 12 04.5 +0.8**
comp=Z,804nm,1.1s
TAOE *ep*P **pP** **14 12 32.7 -1.6**
comp=Z,461nm,1.4s
TAOE Nuku Hiva Isla 70.53 271 P **P** **14 12 04.8 +1.1**
TAOE IAmb IAmb 14 12 07.2
comp=Z,292nm,0.9s
TAOE Nuku Hiva Isla 70.53 271 P P 14 12 06.0 +2.3
TAOE pP pP 14 12 36.0 +1.8
KSCT Kent School, K 70.54 355 P **P** **14 12 04.0 +1.1**
S39A Bolivar 70.55 339 P **P** **14 12 03.9 +0.8**
S39A Bolivar 70.55 339 P **P** **14 12 04.4 +1.3**
baz=156,SNR=373
OK044 Pawnee Station 70.55 335 **P** **14 12 04.0 +0.9**
KSPA Keystone Colle 70.57 354 P **P** **14 12 04.2 +1.1**
KSPA IAmb IAmb 14 12 06.2
comp=Z,291nm,1.2s
KSPA Keystone Colle 70.57 354 P **P** **14 12 04.8 +1.7**
baz=172,SNR=38
CPRX Cap Rock 70.60 328 P **P** **14 12 04.7 +1.0**
L64A Middleborough 70.60 357 P **P** **14 12 04.4 +1.1**
L64A Middleborough 70.60 357 P **P** **14 12 04.9 +1.6**
baz=177,SNR=12
L64A P **P** **14 12 04.9 +1.6**
baz=177,SNR=12
OK046 Pawnee Station 70.61 335 P **P** **14 12 04.1 +0.6**
OK046 IAmb IAmb 14 12 06.0
comp=Z,611nm,1.0s
BRYW Bryant College 70.61 357 P **P** **14 12 04.7 +1.3**
BRYW IAmb IAmb 14 12 06.4
comp=Z,288nm,1.0s
NPNY Mohonk Preserv 70.62 355 P **P** **14 12 05.3 +1.9**
baz=174,SNR=28
CSTR Hydro, Custer 70.63 334 **P** **14 12 04.7 +1.0**
CSTR IAmb IAmb 14 12 06.3
comp=Z,56nm,1.0s
P46A Rosedale 70.63 344 P **P** **14 12 02.9 -0.6**
P46A IAmb IAmb 14 12 04.7
comp=Z,530nm,1.0s
P46A Rosedale 70.63 344 P **P** **14 12 03.2 -0.3**
baz=162,SNR=96
OK050 Pawnee Station 70.64 335 P **P** **14 12 04.5 +0.8**
OK048 Pawnee Station 70.64 335 **P** **14 12 04.5 +0.8**
OK045 Pawnee Station 70.67 335 P **P** **14 12 04.9 +1.1**
OK051 E0350 and S346 70.68 335 **P** **14 12 04.7 +0.8**
R40A Maddies Statio 70.77 340 P **P** **14 12 05.1 +0.6**
R40A Maddies Statio 70.77 340 P **P** **14 12 05.2 +0.8**
baz=157,SNR=418
O48B Farmland 70.77 346 P **P** **14 12 04.8 +0.4**
baz=164,SNR=88
O48B Farmland 70.77 346 P **P** **14 12 04.8 +0.4**
baz=164,SNR=88
KIDD KIDD Seismic O 70.83 325 P **P** **14 12 06.6 +1.5**
baz=144,SNR=46
M55A Ridgway 70.83 351 P **P** **14 12 05.6 +0.9**
M55A IAmb IAmb 14 12 07.4
comp=Z,495nm,0.9s
M55A Ridgway 70.83 351 P **P** **14 12 06.3 +1.5**
baz=170,SNR=92
M55A P **P** **14 12 06.3 +1.5**
baz=170,SNR=92
N51A Ashland 70.86 348 P **P** **14 12 05.3 +0.4**
N51A IAmb IAmb 14 12 06.7
comp=Z,280nm,1.1s
N51A Ashland 70.86 348 P **P** **14 12 05.6 +0.7**
baz=166,SNR=14
N51A P **P** **14 12 05.6 +0.7**
baz=166,SNR=14
MSTX Muleshoe 70.89 330 P **P** **14 12 06.0 +0.6**
MSTX Muleshoe 70.89 330 P **P** **14 12 06.7 +1.3**
baz=148,SNR=142
MSTX Muleshoe 70.89 330 P **P** **14 12 06.7 +1.3**
baz=148,SNR=142
T35A Sooner Cattle 70.93 336 **P** **14 12 06.0 +0.5**
T35A IAmb IAmb 14 12 08.0
comp=Z,413nm,1.1s
T35B Sooner Cattle 70.93 336 P **P** **14 12 06.7 +1.3**
baz=153,SNR=96
HSIG 71.00 321 P **P** **14 12 07.3 +1.3**
HSIG IAmb IAmb 14 12 09.4
comp=Z,357nm,1.0s
QUA2 Belchertown 71.02 356 P **P** **14 12 06.9 +1.1**
QUA2 Belchertown 71.02 356 P **P** **14 12 07.4 +1.6**
baz=176,SNR=10
BLOK Blackwell 71.05 335 **P** **14 12 07.1 +0.9**
BLOK IAmb IAmb 14 12 08.8
comp=Z,513nm,0.9s
WES Weston 71.07 357 P **P** **14 12 06.8 +0.7**
WES Weston 71.07 357 P **P** **14 12 07.0 +0.8**
baz=176,SNR=7.5
WES Weston 71.07 357 P **P** **14 12 06.8 +0.7**
WES pmax pmax
comp=Z,126nm,1.1s
M53A WI Miller and 71.08 350 P **P** **14 12 07.0 +0.7**
M53A IAmb IAmb 14 12 08.5
comp=Z,263nm,0.9s
M53A WI Miller and 71.08 350 P **P** **14 12 07.2 +1.0**
baz=168,SNR=20
CROK Carrier 71.11 334 **P** **14 12 07.3 +0.7**
CROK IAmb IAmb 14 12 08.9
comp=Z,472nm,0.9s
L59A Walton 71.13 354 P **P** **14 12 07.9 +1.4**
L59A IAmb IAmb 14 12 09.8
comp=Z,403nm,1.0s
L59A Walton 71.13 354 P P 14 12 08.7 +2.1
baz=173,SNR=46
L59A P P 14 12 08.7 +2.1
baz=173,SNR=46
AMTX Amarillo 71.19 331 P **P** **14 12 07.7 +0.5**
AMTX IAmb IAmb 14 12 09.7
comp=Z,246nm,0.9s
AMTX Amarillo 71.19 331 P **P** **14 12 08.4 +1.3**
baz=149,SNR=30
AMTX Amarillo 71.19 331 P **P** **14 12 08.5 +1.3**
baz=149
HRV Adam Dziewonsk 71.20 357 P **P** **14 12 07.9 +0.9**
HRV IAmb IAmb 14 12 10.0
comp=Z,234nm,1.0s
HRV Adam Dziewonsk 71.20 357 P **P** **14 12 08.9 +2.0**
baz=176,SNR=19
HRV Adam Dziewonsk 71.20 357 P **P** **14 12 08.8 +1.9**
baz=176
HRV Adam Dziewonsk 71.20 357 P **P** **14 12 07.9 +0.9**
HRV pmax pmax
comp=Z,234nm,1.0s
HRV Adam Dziewonsk 71.20 357 P **P** **14 12 08.5 +1.6**
ALLY Alegheny Colle 71.21 350 P **P** **14 12 07.5 +0.5**
ALLY IAmb IAmb 14 12 09.3
comp=Z,321nm,0.9s
ALLY Alegheny Colle 71.21 350 P **P** **14 12 08.2 +1.2**
baz=168,SNR=20
L61B Northampton 71.21 356 P **P** **14 12 08.2 +1.2**
L61B Northampton 71.21 356 P **P** **14 12 08.8 +1.9**
baz=175,SNR=17
L61B Northampton 71.21 356 P **P** **14 12 08.6 +1.7**
baz=175,SNR=17
N49A Columbus Grove 71.21 347 P **P** **14 12 07.2 +0.2**
N49A Columbus Grove 71.21 347 P **P** **14 12 07.8 +0.8**
baz=165,SNR=70
N49A P **P** **14 12 07.8 +0.8**
baz=165,SNR=70
BINY Binghamton 71.22 353 P **P** **14 12 08.2 +1.1**
BINY IAmb IAmb 14 12 10.1
comp=Z,376nm,1.2s
BINY Binghamton 71.22 353 P **P** **14 12 08.9 +1.8**
baz=172,SNR=34
BINY Binghamton 71.22 353 P **P** **14 12 08.8 +1.8**
baz=172,SNR=34
P43A Skaggs, Pawnee 71.24 342 P **P** **14 12 07.4 +0.2**
P43A Skaggs, Pawnee 71.24 342 P **P** **14 12 07.8 +0.5**
baz=160,SNR=93
ELIS Ellis County 71.28 333 P **P** **14 12 08.7 +1.0**
ELIS IAmb IAmb 14 12 10.6
comp=Z,585nm,1.0s
M52A Chesterland 71.29 349 P **P** **14 12 08.0 +0.5**
M52A IAmb IAmb 14 12 09.6
comp=Z,304nm,0.9s
M52A Chesterland 71.29 349 P **P** **14 12 08.4 +0.9**
baz=167,SNR=16
M52A P **P** **14 12 08.4 +0.9**
baz=167,SNR=16
SFIN Lafayette 71.32 344 P **P** **14 12 07.3 -0.4**
SFIN IAmb IAmb 14 12 08.8
comp=Z,473nm,1.1s
SFIN Lafayette 71.32 344 P **P** **14 12 07.8 +0.1**
baz=162,SNR=35
SFIN Lafayette 71.32 344 P **P** **14 12 07.8 +0.1**
baz=162,SNR=35
L56A Greenwood 71.34 352 P **P** **14 12 08.6 +0.8**
L56A IAmb IAmb 14 12 10.6
comp=Z,431nm,1.1s
L56A Greenwood 71.34 352 P **P** **14 12 09.2 +1.3**
baz=171,SNR=49
L56A P **P** **14 12 09.2 +1.3**
baz=171,SNR=49
GC02 Grant County # 71.37 335 **P** **14 12 08.9 +0.8**
KAN13 South Haven SW 71.37 335 **P** **14 12 08.9 +0.8**

OK038 **West end E0370** 71.38 334 P 14 12 09.1 +1.0
OK038 IAmb IAmb 14 12 10.6
comp=Z,559nm,1.0s
U32A Winter Ranch, 71.39 334 P P 14 12 09.9 +1.7
baz=151,SNR=78
K62A Royalston 71.40 356 P P 14 12 10.0 +1.9
baz=176,SNR=12
K62A P P 14 12 10.0 +1.9
baz=176,SNR=12
O44A Mansfield 71.44 343 P P 14 12 08.3 -0.1
O44A IAmb IAmb 14 12 09.5
comp=Z,342nm,0.8s
O44A Mansfield 71.44 343 P P 14 12 08.6 +0.2
baz=161,SNR=42
M50A Fremont 71.45 348 P P 14 12 08.7 +0.2
M50A IAmb IAmb 14 12 10.3
comp=Z,271nm,0.8s
M50A Fremont 71.45 348 P P 14 12 09.3 +0.8
baz=166,SNR=18
M50A P P 14 12 09.3 +0.8
baz=166,SNR=18
OK032 Salt Plains WL 71.46 334 P 14 12 09.3 +0.6
N47A Urbana 71.48 346 P P 14 12 08.6 0.0
N47A Urbana 71.48 346 P P 14 12 08.9 +0.3
baz=163,SNR=64
N47A P P 14 12 08.9 +0.3
baz=163,SNR=64
KAN14 Manchester OK 71.50 335 P P 14 12 09.6 +0.7
KAN14 IAmb IAmb 14 12 11.4
comp=Z,514nm,1.1s
KAN17 Caldwell West 71.50 335 P 14 12 09.7 +0.8
KAN09 Caldwell North 71.53 335 P P 14 12 10.1 +1.0
TRY Troy 71.55 355 P P 14 12 10.2 +1.2
TRY IAmb IAmb 14 12 12.4
comp=Z,515nm,1.2s
TRY Troy 71.55 355 P P 14 12 11.2 +2.2
baz=174,SNR=38
OK035 E0210 Rd and N 71.56 334 P 14 12 10.4 +1.1
HCNY Howe Caverns 71.58 355 P P 14 12 11.1 +1.9
baz=174,SNR=40
NOKA Waynoka 71.59 334 P 14 12 10.5 +1.1
NOKA IAmb IAmb 14 12 12.1
comp=Z,335nm,0.8s
KS20 Mayfield South 71.59 335 P 14 12 10.5 +1.1
KAN01 Argonia South 71.60 335 P 14 12 10.5 +1.0
ERPA Erie 71.64 350 P P 14 12 10.6 +1.0
ERPA IAmb IAmb 14 12 12.2
comp=Z,497nm,0.8s
ERPA Erie 71.64 350 P P 14 12 10.7 +1.1
baz=168,SNR=22
ERPA Erie 71.64 350 P P 14 12 11.1 +1.5
baz=168,SNR=22
KS21 Milan North St 71.68 335 P 14 12 11.2 +1.2
KAN06 Argonia West S 71.72 335 P P 14 12 11.2 +1.0
WVNY West Valley, N 71.73 351 P P 14 12 11.4 +1.2
WVNY IAmb IAmb 14 12 13.0
comp=Z,553nm,1.0s
WVNY West Valley, N 71.73 351 P P 14 12 11.6 +1.5
baz=170,SNR=57
KAN08 Anthony NE Sta 71.74 335 P 14 12 11.5 +1.1
UNH University of 71.76 357 P P 14 12 11.5 +1.3
baz=177,SNR=12
K57A Scipio Center 71.81 353 P P 14 12 11.1 +0.5
K57A Scipio Center 71.81 353 P P 14 12 11.9 +1.3
baz=172,SNR=16
KAN12 Harper NE Stat 71.81 335 P P 14 12 11.6 +0.8
P40A Paris 71.84 340 P P 14 12 11.4 +0.6
P40A Paris 71.84 340 P P 14 12 11.7 +0.8
baz=158,SNR=258
319A Douglas 71.93 323 P P 14 12 13.7 +2.0
319A IAmb IAmb 14 12 15.4
comp=Z,584nm,1.0s
MMNY Mt. Morris Dam 71.97 352 P P 14 12 12.4 +0.9
MMNY IAmb IAmb 14 12 14.0
comp=Z,477nm,1.2s
HDIL Hopedale 72.04 343 P P 14 12 12.0 0.0
HDIL IAmb IAmb 14 12 13.5
comp=Z,436nm,0.7s
HDIL Hopedale 72.04 343 P P 14 12 12.5 +0.5
baz=160,SNR=73
HDIL Hopedale 72.04 343 P P 14 12 12.5 +0.5
baz=160,SNR=73
121A Cookes Peak, D 72.08 325 P P 14 12 14.6 +1.9
121A IAmb IAmb 14 12 16.5
comp=Z,430nm,0.8s
121A Cookes Peak, D 72.08 325 P P 14 12 15.3 +2.6
baz=144,SNR=366
121A Cookes Peak, D 72.08 325 P P 14 12 15.3 +2.6
baz=144,SNR=366
J61A Chester 72.09 356 P P 14 12 13.8 +1.5
J61A IAmb IAmb 14 12 15.7
comp=Z,304nm,1.1s
J61A Chester 72.09 356 P P 14 12 14.7 +2.5
baz=175,SNR=31
J61A P P 14 12 14.7 +2.5
baz=175,SNR=31
FFD Franklin Falls 72.17 357 P P 14 12 14.5 +1.8
FFD IAmb IAmb 14 12 16.2
comp=Z,269nm,1.0s
FFD Franklin Falls 72.17 357 P P 14 12 15.1 +2.4
baz=176,SNR=17
ACCN Adirondack Com 72.20 355 P P 14 12 14.5 +1.6
ACCN Adirondack Com 72.20 355 P P 14 12 14.8 +1.9
baz=174,SNR=18
L48A N Adams 72.24 347 P P 14 12 13.3 +0.1
L48A IAmb IAmb 14 12 14.7
comp=Z,329nm,0.8s
L48A N Adams 72.24 347 P P 14 12 13.7 +0.5
baz=164,SNR=41
L48A P P 14 12 13.7 +0.5
baz=164,SNR=41
J58A Remsen 72.31 354 P P 14 12 14.1 +0.5
J58A Remsen 72.31 354 P P 14 12 15.0 +1.4
baz=173,SNR=15
J58A P P 14 12 15.0 +1.4
baz=173,SNR=15
TBI Tubuai 72.32 253 eP P 14 12 15.9 +1.7
comp=Z,432nm,1.0s
KOMG Komaggas 72.33 115 eP P 14 12 16.8 +2.5
KOMG IAmb IAmb 14 12 17.9
comp=Z,9µm,2.0s
CER Ceres 72.33 119 ⇓iP P 14 12 16.4 +2.2
CER IAmb IAmb 14 12 17.3
comp=Z,99nm,0.9s
J59A Piesco 72.35 355 P P 14 12 14.7 +0.9
J59A IAmb IAmb 14 12 16.7
comp=Z,375nm,1.1s
J59A Piesco 72.35 355 P P 14 12 15.7 +1.9
baz=174,SNR=35
J59A P P 14 12 15.7 +1.9
baz=174,SNR=35
J56A Wolcott 72.38 353 P P 14 12 14.8 +0.9
J56A IAmb IAmb 14 12 16.2
comp=Z,336nm,0.9s
J56A Wolcott 72.38 353 P P 14 12 15.3 +1.4
baz=171,SNR=20
J56A P P 14 12 15.3 +1.4
baz=171,SNR=20
P38A Dawn 72.38 339 P P 14 12 14.6 +0.5
P38A IAmb IAmb 14 12 16.0
comp=Z,419nm,1.1s
P38A Dawn 72.38 339 P P 14 12 14.8 +0.7
baz=156,SNR=116
J57A Williamstown 72.42 354 P P 14 12 15.0 +0.7
J57A IAmb IAmb 14 12 16.8
comp=Z,277nm,1.0s
J57A Williamstown 72.42 354 P P 14 12 15.7 +1.5
baz=172,SNR=22
J57A P P 14 12 15.7 +1.5
baz=172,SNR=22
HNH Hanover 72.44 356 P P 14 12 15.7 +1.5
HNH IAmb IAmb 14 12 17.9
comp=Z,441nm,1.2s
HNH Hanover 72.44 356 P P 14 12 16.7 +2.5
baz=176,SNR=40
AAM Ann Arbor 72.44 348 P P 14 12 14.7 +0.4
AAM Ann Arbor 72.44 348 P P 14 12 15.1 +0.8
baz=165,SNR=11
AAM Ann Arbor 72.44 348 P P 14 12 14.8 +0.4
baz=165,SNR=11
AAM Ann Arbor 72.44 348 P P 14 12 14.7 +0.4
AAM pmax pmax
comp=Z,220nm,1.2s
MEDO Medina 72.46 352 P P 14 12 15.1 +0.7
J55A Hilton 72.48 352 P P 14 12 15.3 +0.8
J55A Hilton 72.48 352 P P 14 12 15.8 +1.3
baz=170,SNR=7.7
J55A P P 14 12 15.8 +1.3
baz=170,SNR=7.7
M44A Midewin, Midew 72.51 344 P P 14 12 14.7 -0.1
M44A IAmb IAmb 14 12 16.2
comp=Z,531nm,1.2s
M44A Midewin, Midew 72.51 344 P P 14 12 15.0 +0.2
baz=161,SNR=27
I62A Tamworth 72.56 357 P P 14 12 16.6 +1.6
I62A Tamworth 72.56 357 P P 14 12 17.6 +2.5
baz=176,SNR=11
I62A P P 14 12 17.6 +2.5
baz=176,SNR=11
J54A Appleton 72.59 352 P P 14 12 15.9 +0.7
J54A Appleton 72.59 352 P P 14 12 16.9 +1.7
baz=170,SNR=6.0
J54A P P 14 12 16.9 +1.7
baz=170,SNR=6.0
N41A Harden Midland 72.60 342 P P 14 12 15.7 +0.3
N41A Harden Midland 72.60 342 P P 14 12 15.9 +0.6
baz=159,SNR=32
L46A Eue Claire 72.70 346 P P 14 12 15.4 -0.4
L46A IAmb IAmb 14 12 17.1
comp=Z,436nm,0.9s
L46A Eue Claire 72.70 346 P P 14 12 16.1 +0.3
baz=163,SNR=22
L46A P P 14 12 16.1 +0.3
baz=163,SNR=22
I63A Otisfield 72.70 358 P P 14 12 18.5 +2.7
baz=177,SNR=18
I63A P P 14 12 18.5 +2.7
baz=177,SNR=18
K50A Casco 72.71 348 P P 14 12 16.1 +0.1
K50A IAmb IAmb 14 12 17.5
comp=Z,440nm,0.8s
K50A Casco 72.71 348 P P 14 12 16.9 +1.0
baz=166,SNR=14
K50A P P 14 12 16.9 +1.0
baz=166,SNR=14
CRNM Carthage 72.71 327 P P 14 12 17.4 +1.0
MCVT Middlebury Col 72.72 356 P P 14 12 18.0 +2.0
baz=175,SNR=27
Y22A Socorro 72.81 326 P P 14 12 19.2 +2.2
baz=144,SNR=57
BNM Barren Site 72.82 327 P P 14 12 18.5 +1.4
NCB Newcomb 72.83 355 P P 14 12 17.5 +0.9
NCB Newcomb 72.83 355 P P 14 12 18.2 +1.6
baz=174,SNR=22
HQIL Hanson Quary C 72.85 344 P P 14 12 16.8 +0.1
HQIL IAmb IAmb 14 12 18.3
comp=Z,558nm,1.1s
Y22D IRIS PASSCAL I 72.90 327 P P 14 12 19.9 +2.4
baz=144
Y22F Passcal Instru 72.90 327 P P 14 12 20.0 +2.6
baz=144
KSU1 Kansas State U 72.92 337 P P 14 12 17.8 +0.5
KSU1 IAmb IAmb 14 12 19.3
comp=Z,316nm,0.9s
KSU1 Kansas State U 72.92 337 P P 14 12 18.1 +0.9
baz=154,SNR=59
KSU1 Kansas State U 72.92 337 P P 14 12 18.1 +0.9
baz=154,SNR=59
SBM South Baldy 72.94 326 P P 14 12 18.4 +0.3
LBNH Lisbon 72.95 357 P P 14 12 18.6 +1.3
LBNH Lisbon 72.95 357 P P 14 12 19.4 +2.1
baz=176,SNR=24
LBNH Lisbon 72.95 357 P P 14 12 19.4 +2.1
baz=176,SNR=24
LBNH Lisbon 72.95 357 P P 14 12 18.6 +1.3
LBNH pmax pmax
comp=Z,243nm,1.1s
WCNY West Carthage 72.96 354 P P 14 12 19.0 +1.7
baz=172,SNR=23
LENM Lemitar 73.00 327 P P 14 12 19.2 +1.1
PECO Prince Edward 73.05 353 P P 14 12 18.9 +1.0
PECO IAmb IAmb 14 12 20.3
comp=Z,302nm,1.0s
R32A Long Quarter, 73.07 335 P P 14 12 19.3 +1.1
R32A IAmb IAmb 14 12 21.0
comp=Z,606nm,1.0s
R32A Long Quarter, 73.07 335 P P 14 12 19.7 +1.5
baz=152,SNR=106
VT1 Waterbury 73.09 356 P P 14 12 20.0 +1.9
baz=175,SNR=7.4
WVL Waterville 73.19 358 P P 14 12 20.0 +1.3
WVL Waterville 73.19 358 P P 14 12 20.9 +2.2
baz=178,SNR=16
L44A Lake County Fo 73.22 344 P P 14 12 19.1 +0.1
L44A IAmb IAmb 14 12 20.6
comp=Z,539nm,0.9s
L44A Lake County Fo 73.22 344 P P 14 12 19.8 +0.8
baz=161,SNR=17
L44A Lake County Fo 73.22 344 P P 14 12 19.4 +0.4
baz=161,SNR=17
H62A Milan 73.25 357 P P 14 12 19.9 +0.9
H62A Milan 73.25 357 P P 14 12 21.5 +2.4
baz=177,SNR=7.0
H62A P P 14 12 21.5 +2.4
baz=177,SNR=7.0
EMMW East Machias 73.31 0 P P 14 12 20.7 +1.3
EMMW IAmb IAmb 14 12 22.7
comp=Z,290nm,1.2s
EMMW East Machias 73.31 0 P P 14 12 21.7 +2.3
baz=180,SNR=11
HAL Halifax 73.33 3 P P 14 12 21.3 +1.8
HAL IAmb IAmb 14 12 22.8
comp=Z,311nm,1.1s
HAL Halifax 73.33 3 P P 14 12 21.3 +1.8
HAL pmax pmax
comp=Z,311nm,1.1s
N38A Joes South For 73.36 340 P P 14 12 20.2 +0.4
N38A IAmb IAmb 14 12 21.7
comp=Z,355nm,0.8s
N38A Joes South For 73.36 340 P P 14 12 20.7 +0.9
baz=157,SNR=42
ANMO Albuquerque 73.39 327 P P 14 12 22.5 +2.1
comp=Z,125nm,0.9s,baz=143,slow=6.8,SNR=452
comp=Z,125nm,0.9s
ANMO Albuquerque 73.39 327 P P 14 12 22.4 +2.0
baz=145,SNR=228
ANMO Albuquerque 73.39 327 P P 14 12 22.7 +2.3
baz=145
ANMO Albuquerque 73.39 327 *d* iP P 14 12 22.4 +2.0
ANMO pmax pmax
comp=Z,362nm,1.7s
MEH Mehetia 73.44 258 *e*P P 14 12 23.0 +2.1
comp=Z,114nm,1.1s
CVNA Calvinia 73.45 117 ⇓*i*P P 14 12 23.3 +2.4
CVNA IAmb IAmb 14 12 24.2
comp=Z,290nm,1.1s
TUC Tucson 73.45 323 P P 14 12 21.9 +1.2
TUC Tucson 73.45 323 P P 14 12 22.9 +2.2
baz=141
TUC Tucson 73.45 323 P P 14 12 21.9 +1.2
TUC pmax pmax
comp=Z,291nm,1.5s
L42A Oliver, Polo 73.49 343 P P 14 12 20.5 -0.1
L42A IAmb IAmb 14 12 22.4
comp=Z,406nm,1.3s
L42A Oliver, Polo 73.49 343 P P 14 12 21.1 +0.6
baz=160,SNR=26
LONY Lake Ozonia 73.50 355 P P 14 12 21.7 +1.1
LONY Lake Ozonia 73.50 355 P P 14 12 22.2 +1.6
baz=174,SNR=29
J47A Sunmer 73.56 347 P P 14 12 21.0 0.0
J47A IAmb IAmb 14 12 22.6
comp=Z,299nm,0.8s
J47A Sunmer 73.56 347 P P 14 12 21.5 +0.6
baz=164,SNR=26
J47A P P 14 12 21.5 +0.6
baz=164,SNR=26
DELO Deloro Mine 73.69 353 P P 14 12 21.9 +0.2
BMNY Brushton-Moira 73.71 355 P P 14 12 23.4 +1.7
baz=174,SNR=36
CBKS Cedar Bluff 73.80 334 P P 14 12 23.6 +1.1
CBKS Cedar Bluff 73.80 334 P P 14 12 24.4 +1.8
baz=151,SNR=93
CBKS Cedar Bluff 73.80 334 P P 14 12 24.3 +1.8
baz=151,SNR=93
CBKS Cedar Bluff 73.80 334 P P 14 12 23.6 +1.1
CBKS pmax pmax
comp=Z,747nm,1.0s
G65A Princeton 73.80 0 P P 14 12 24.8 +2.5
baz=180,SNR=16
G65A P P 14 12 24.8 +2.5
baz=180,SNR=16
K43A Burlington 73.82 344 P P 14 12 22.9 +0.5
K43A IAmb IAmb 14 12 24.4
comp=Z,593nm,1.1s
K43A Burlington 73.82 344 P P 14 12 23.4 +0.9
baz=161,SNR=28
G62A West of Eustis 73.87 358 P P 14 12 24.2 +1.5
G62A IAmb IAmb 14 12 26.1
comp=Z,327nm,1.1s
G62A West of Eustis 73.87 358 P P 14 12 24.9 +2.2
baz=177,SNR=34
G62A P P 14 12 24.9 +2.2
baz=177,SNR=34
I49A Point Hope 73.87 349 P P 14 12 23.3 +0.6
I49A IAmb IAmb 14 12 24.4
comp=Z,416nm,1.0s
I49A Point Hope 73.87 349 P P 14 12 23.4 +0.7
baz=166,SNR=10
I49A P P 14 12 23.4 +0.7
baz=166,SNR=10
PKME Peaks-Kenny Pk 73.88 359 P P 14 12 24.6 +1.9
PKME Peaks-Kenny Pk 73.88 359 P P 14 12 24.5 +1.7
baz=178,SNR=17
PKME Peaks-Kenny Pk 73.88 359 P P 14 12 24.7 +2.0
baz=178,SNR=17
SUR Sutherland 73.90 118 P P 14 12 25.9 +2.3
L40A Anamosa 73.96 342 P P 14 12 23.7 +0.5
L40A Anamosa 73.96 342 P P 14 12 23.9 +0.7
baz=158,SNR=230
SADO Sadowa 74.13 351 P P 14 12 24.6 +0.4
N35A Tabor 74.18 338 P P 14 12 25.2 +0.6
N35A Tabor 74.18 338 P P 14 12 25.5 +0.9
baz=155,SNR=90
VAH Vaihoa 74.21 261 *e*P P 14 12 27.4 +2.0
comp=Z,165nm,1.1s
GBN Guysborough 74.22 4 P P 14 12 26.0 +1.3
T25A Trinidad 74.27 330 P P 14 12 27.1 +1.5
T25A IAmb IAmb 14 12 29.1
comp=Z,349nm,0.9s
T25A Trinidad 74.27 330 P P 14 12 27.8 +2.3
baz=147,SNR=148
214A Organ Pipe Nat 74.28 321 P P 14 12 27.3 +1.9
214A IAmb IAmb 14 12 29.3
comp=Z,594nm,1.2s
214A Organ Pipe Nat 74.28 321 P P 14 12 28.1 +2.6
baz=140,SNR=132
MNTQ Montreal, Queb 74.31 356 P P 14 12 26.1 +0.9
MNTQ IAmb IAmb 14 12 28.6
comp=Z,323nm,1.0s
F63A Nahmakanta, Br 74.32 359 P P 14 12 26.8 +1.5
F63A Nahmakanta, Br 74.32 359 P P 14 12 27.5 +2.2
baz=178,SNR=18
F63A P P 14 12 27.5 +2.2
baz=178,SNR=18
MERW Merweville 74.32 119 ⇓*i*P P 14 12 27.6 +1.6
MERW IAmb IAmb 14 12 28.4
comp=Z,129nm,0.8s
PIX Pinacate 74.33 320 P P 14 12 27.3 +1.6
SCIA State Center 74.38 340 P P 14 12 26.4 +0.7
SCIA IAmb IAmb 14 12 27.9
comp=Z,405nm,0.9s
SCIA State Center 74.38 340 P P 14 12 26.9 +1.1
baz=157,SNR=24
SCIA State Center 74.38 340 P P 14 12 26.8 +1.1
baz=157,SNR=24
F64A Sherman 74.47 359 P P 14 12 27.4 +1.3
F64A IAmb IAmb 14 12 29.5
comp=Z,362nm,1.1s
F64A Sherman 74.47 359 P P 14 12 28.5 +2.4
baz=179,SNR=42
F64A P P 14 12 28.5 +2.4
baz=179,SNR=42
JFWS Jewell Farm 74.49 343 P P 14 12 26.8 +0.4
JFWS IAmb IAmb 14 12 28.5
comp=Z,299nm,0.9s
JFWS Jewell Farm 74.49 343 P P 14 12 27.4 +1.0
baz=159,SNR=50
JFWS Jewell Farm 74.49 343 P P 14 12 27.2 +0.8
baz=159,SNR=50
JFWS Jewell Farm 74.49 343 P P 14 12 26.8 +0.4
JFWS pmax pmax
comp=Z,299nm,1.0s
F62A Pittston Farm, 74.53 358 P P 14 12 26.6 +0.1
F62A IAmb IAmb 14 12 30.0
comp=Z,437nm,1.6s
F62A Pittston Farm, 74.53 358 P P 14 12 28.7 +2.2
baz=178,SNR=21
F62A P P 14 12 28.7 +2.2
baz=178,SNR=21
PMOR Pomariorio Ree 74.54 261 *e*P P 14 12 29.3 +2.0
comp=Z,296nm,1.1s
FRAZ Fraserburg 74.54 118 ⇓*i*P P 14 12 29.9 +2.5
FRAZ IAmb IAmb 14 12 30.6
comp=Z,189nm,0.8s
I45A Fountain 74.62 346 P P 14 12 27.4 +0.3
I45A IAmb IAmb 14 12 28.4
comp=Z,444nm,1.5s
N33B J Bar K, Exete 74.67 337 P P 14 12 28.9 +1.5
baz=153,SNR=34
N33A J Bar K, Exete 74.67 337 P P 14 12 28.3 +0.8
TIAR Tiarei 74.67 258 *e*P P 14 12 29.9 +1.8
comp=Z,8.7nm,0.9s
SFX San Felipe 74.73 319 P P 14 12 28.9 +0.9
X18A Snowflake 74.76 325 P P 14 12 30.1 +1.7
PAE Paea 74.83 258 *e*P P 14 12 30.9 +1.9
comp=Z,82nm,1.1s
PAE *e*pP **pP** 14 12 59.3 -0.6
comp=Z,31nm,1.2s
PPTF Pamatai, Papee 74.85 258 P P 14 12 31.3 +2.1
PPTF IAmb IAmb 14 12 33.3
comp=Z,528nm,1.2s
PPT2 Papeete2 74.86 258 *e*P P 14 12 31.2 +2.0
comp=Z,368nm,1.2s
PPT2 *e*pP **pP** 14 12 59.1 -1.1
comp=Z,82nm,1.1s
PPT2 Papeete2 74.86 258 *e*LR LR 14 35 44.9
comp=Z,20µm,25.0s
PPT2 *e*LR LR 14 35 45.0
comp=Z,16µm,26.5s
PPT Papeete 74.87 258 P P 14 12 32.3 +3.1
comp=Z,274nm,1.1s,baz=151,slow=3.1,SNR=13
comp=Z,274nm,1.1s
K38A Parkersburg 74.93 341 P P 14 12 29.1 +0.2
K38A IAmb IAmb 14 12 30.7
comp=Z,409nm,0.8s
K38A Parkersburg 74.93 341 P P 14 12 29.8 +0.9
baz=157,SNR=39
GRAN Grantham 74.97 119 ⇓*i*P P 14 12 32.0 +2.2
GRAN IAmb IAmb 14 12 32.8
comp=Z,178nm,0.6s
E63A Oxbow 75.03 359 P P 14 12 31.7 +2.4
baz=179,SNR=35
E63A P P 14 12 31.7 +2.4
baz=179,SNR=35
GLMI Grayling 75.05 348 P P 14 12 29.4 -0.2
GLMI IAmb IAmb 14 12 31.5
comp=Z,456nm,1.1s
GLMI Grayling 75.05 348 P P 14 12 30.9 +1.3
baz=164,SNR=13
GLMI Grayling 75.05 348 P P 14 12 30.3 +0.8
baz=164,SNR=13
I42A Draeger Farm, 75.08 344 P P 14 12 30.0 +0.3
I42A IAmb IAmb 14 12 31.9
comp=Z,342nm,0.9s
I42A Draeger Farm, 75.08 344 P P 14 12 30.7 +1.0
baz=161,SNR=30
TRQ Mont Tremblant 75.09 355 P P 14 12 30.4 +0.6
TRQ IAmb IAmb 14 12 32.2
comp=Z,341nm,0.9s
AUGR Augrabies 75.10 115 *e*P P 14 12 31.9 +1.4
AUGR IAmb IAmb 14 12 33.3
comp=Z,212nm,1.2s
KSCO Kaye Shedlock' 75.10 332 P P 14 12 31.2 +1.1
KSCO Kaye Shedlock' 75.10 332 P P 14 12 32.4 +2.2
baz=149,SNR=70
KSCO Kaye Shedlock' 75.10 332 P P 14 12 32.4 +2.2
baz=149,SNR=70
W18A Petrified Fore 75.12 325 P P 14 12 31.9 +1.5
W18A IAmb IAmb 14 12 34.0
comp=Z,620nm,1.1s
W18A Petrified Fore 75.12 325 P P 14 12 32.8 +2.4
baz=142,SNR=204
E62A Clayton Lake 75.24 359 P P 14 12 32.3 +1.7
E62A IAmb IAmb 14 12 34.1
comp=Z,559nm,1.1s
E62A Clayton Lake 75.24 359 P P 14 12 33.0 +2.4
baz=178,SNR=68
E62A P P 14 12 33.0 +2.4
baz=178,SNR=68

SDCO Great Sand Dun 75.26 330 P P 14 12 32.7 +1.4
SDCO IAmb IAmb 14 12 34.6
comp=Z,454nm,1.6s
SDCO Great Sand Dun 75.26 330 P P 14 12 33.3 +2.0
baz=146,SNR=184
SDCO Great Sand Dun 75.26 330 P P 14 12 33.4 +2.1
baz=146,SNR=184
PQI Presque Isle 75.27 360 P P 14 12 32.0 +1.3
PQI IAmb IAmb 14 12 34.0
comp=Z,374nm,1.0s
H43A Windswept, Lux 75.36 345 P P 14 12 32.0 +0.7
H43A IAmb IAmb 14 12 33.3
comp=Z,419nm,1.0s
H43A Windswept, Lux 75.36 345 P P 14 12 32.6 +1.3
baz=162,SNR=21
L34A Svendsen Farm, 75.41 338 P P 14 12 32.3 +0.6
L34A Svendsen Farm, 75.41 338 P P 14 12 32.9 +1.2
baz=154,SNR=23
113A Mohawk Valley, 75.42 321 P P 14 12 33.4 +1.5
G45A Suttons Bay 75.46 347 P P 14 12 32.6 +0.8
G45A IAmb IAmb 14 12 33.7
comp=Z,263nm,1.0s
G45A Suttons Bay 75.46 347 P P 14 12 33.1 +1.2
baz=164,SNR=6.1
G45A P P 14 12 33.1 +1.2
baz=164,SNR=6.1
I40A Norwalk 75.50 343 P P 14 12 32.8 +0.6
I40A Norwalk 75.50 343 P P 14 12 33.0 +0.9
baz=159,SNR=24
BGNE Belgrade 75.51 337 P P 14 12 33.3 +1.0
BGNE Belgrade 75.51 337 P P 14 12 33.9 +1.7
baz=153,SNR=78
BGNE Belgrade 75.51 337 P P 14 12 33.9 +1.7
baz=153,SNR=78
KEIM Keimoes 75.55 115⇓ *i*P P 14 12 35.2 +2.1
KEIM IAmb IAmb 14 12 36.0
comp=Z,235nm,1.3s
D62A Allapoint, All 75.70 359 P P 14 12 34.4 +1.3
D62A Allapoint, All 75.70 359 P P 14 12 35.0 +1.9
baz=179,SNR=145
D62A P P 14 12 35.0 +1.9
baz=179,SNR=145
BRAK Brakfontein 75.75 119⇓ *i*P P **14 12 36.0 +1.8**
BRAK IAmb IAmb 14 12 36.4
comp=Z,69nm,0.8s
S22A 4UR Ranch, Cre 75.85 329 P P 14 12 36.2 +1.6
S22A 4UR Ranch, Cre 75.85 329 P P 14 12 37.1 +2.4
baz=145,SNR=149
Y14A Wickenburg 75.89 322 P P 14 12 36.4 +1.7
BATG Bathurst New B 75.89 1 P P 14 12 35.8 +1.5
BATG IAmb IAmb 14 12 37.5
comp=Z,310nm,1.1s
UPI Upington 75.92 115⇓ *i*P P **14 12 37.1 +1.9**
UPI IAmb IAmb 14 12 38.0
comp=Z,133nm,1.1s
ROOI Rooidraai Farm 75.95 119⇓ *i*P P 14 12 37.3 +2.0
ROOI IAmb IAmb 14 12 37.8
comp=Z,185nm,0.7s
H07S1 FLORES T-PHASE 75.97 28 *e*P P **14 12 36.4 +1.5**
comp=Z,327nm,1.5s
ROSN Rosenhof 76.01 121 *e*P P **14 12 37.1 +1.6**
ROSN IAmb IAmb 14 12 38.1
comp=Z,176nm,0.8s
CPBX Cerro Prieto 76.01 320 P P 14 12 37.1 +1.8
CPBX IAmb IAmb 14 12 39.2
comp=Z,514nm,1.5s
ESJX Sierra Juarez 76.07 319 P P 14 12 37.6 +1.7
Q24A Divide 76.12 331 P P 14 12 37.8 +1.6
Q24A IAmb IAmb 14 12 39.6
comp=Z,505nm,0.8s
Q24A Divide 76.12 331 P P 14 12 38.4 +2.3
baz=147,SNR=168
MVCO Mesa Verde 76.19 327 P P 14 12 38.0 +1.5
MVCO IAmb IAmb 14 12 40.0
comp=Z,431nm,0.9s
MVCO Mesa Verde 76.19 327 P P 14 12 38.8 +2.3
baz=144,SNR=309
GLA Glamis 76.22 321 P P 14 12 38.0 +1.5
GLA IAmb IAmb 14 12 40.1
comp=Z,733nm,1.9s
GLA Glamis 76.22 321 P P 14 12 38.7 +2.1
baz=138,SNR=39
GLA Glamis 76.22 321 P P 14 12 38.0 +1.5
WUAZ Wupatki 76.26 324 P P 14 12 38.9 +2.1
WUAZ IAmb IAmb 14 12 40.7
comp=Z,534nm,1.0s
WUAZ Wupatki 76.26 324 P P 14 12 39.5 +2.7
baz=141,SNR=296
H07N1 FLORES T-PHASE 76.27 28 *e*P P 14 12 39.4 +2.8
comp=Z,227nm,0.8s
BFON Badsfontein, M 76.35 119 *e*P P **14 12 39.5 +1.8**
BFON IAmb IAmb 14 12 40.1
comp=Z,100nm,0.6s
I37A Lemond, Waseca 76.37 341 P P 14 12 37.9 +0.9
I37B Waseca 76.37 341 P P 14 12 38.5 +1.5
baz=157,SNR=84
CALA Caldeira 76.38 30 *e*P P 14 12 44.2 +6.8
comp=Z,220nm,1.3s
PCED Cedros 76.42 30 *e*P P 14 12 40.5 +3.0
comp=Z,128nm,2.0s
PICO Pico 76.44 31 *e*P P 14 12 40.7 +3.0
comp=Z,206nm,1.1s
E46A Sault Ste Mari 76.48 348 P P 14 12 37.9 +0.3
E46A IAmb IAmb 14 12 39.6
comp=Z,434nm,0.9s
E46A Sault Ste Mari 76.48 348 P P 14 12 38.5 +0.9
baz=165,SNR=39
PPNO Prainha do Nor 76.49 31 *e*P P 14 12 40.7 +2.8
comp=Z,275nm,1.2s
OGNE Ogallala 76.52 334 P P 14 12 39.6 +1.5
OGNE IAmb IAmb 14 12 41.3
comp=Z,376nm,0.9s
OGNE Ogallala 76.52 334 P P 14 12 40.1 +2.0
baz=149,SNR=47
OGNE Ogallala 76.52 334 P P 14 12 40.1 +2.0
baz=149,SNR=47
PID Ribeirinha 76.53 31 *e*P P 14 12 41.3 +3.2
comp=Z,273nm,1.7s
YUH Yuha Desert 76.53 320 P P 14 12 39.8 +1.5
YUH IAmb IAmb 14 12 41.9
comp=Z,462nm,1.7s
PKA Prieska 76.55 117 *e*P P 14 12 40.8 +2.0
PKA IAmb IAmb 14 12 41.2
comp=Z,48nm,0.8s
BLYC Blythe 76.57 321 P P 14 12 40.0 +1.5
BLYC IAmb IAmb 14 12 42.1
comp=Z,282nm,0.9s
RMX La Rumorosa 76.59 319 P P 14 12 39.8 +1.0
IKP In-Ko-Pah, Jac 76.64 319 P P 14 12 41.3 +2.3
baz=138,SNR=47
F42A Maple Grove Fa 76.67 345 P P 14 12 39.4 +0.7
F42A Maple Grove Fa 76.67 345 P P 14 12 39.8 +1.0
baz=162,SNR=12
SWSC Sam W. Stewart 76.68 320 P P 14 12 41.4 +2.3
baz=138,SNR=50
G40A Rib Lake 76.69 344 P P 14 12 39.5 +0.6
G40A Rib Lake 76.69 344 P P 14 12 39.8 +0.9
baz=160,SNR=32
PMAN Manadas 76.70 31 *e*P P 14 12 41.3 +2.3
comp=Z,437nm,1.2s
ROSA Rosais 76.70 31 P P 14 12 40.2 +1.1
ROSA Rosais 76.70 31 *e*P P **14 12 40.9 +1.8**
comp=Z,283nm,1.2s
CBX Cerro Bola 76.71 319 P P 14 12 40.9 +1.5
GRAF Camdeboo Natio 76.76 120⇓ *i*P P 14 12 41.8 +1.9
GRAF IAmb IAmb 14 12 42.8
comp=Z,199nm,1.1s
PSMA Santa Maria 76.76 34 *e*P P **14 12 40.3 +0.9**
comp=Z,131nm,1.4s
PDMCI Parker Dam,Lak 76.78 322 P P 14 12 41.7 +2.1
baz=139,SNR=43
K31A O'Neill 76.79 337 P P 14 12 40.8 +1.3
K31A O'Neill 76.79 337 P P 14 12 41.3 +1.8
baz=152,SNR=72
PSMN Pico do Norte, 76.80 34 *e*P P **14 12 41.5 +1.9**
comp=Z,161nm,1.0s
TKX Tecate 76.86 319 P P 14 12 41.5 +1.3
TSUM Tsumeb 76.87 105 P P 14 12 41.5 +0.8
TSUM IAmb IAmb 14 12 43.9
comp=Z,241nm,0.8s
TSUM Tsumeb 76.87 105⇓ *i*P P 14 12 43.0 +2.2
MAW Mawson 76.88 163 P P 14 12 41.7 +1.9
comp=Z,142nm,1.0s,baz=226,slow=7.0,SNR=107
MAW PKPPKP **P'P'df 14 39 50.3 -1.6**
comp=Z,6.0nm,1.0s,baz=342,slow=7.7,SNR=4.6
comp=Z,142nm,1.0s

MAW Mawson 76.88 163 P P 14 12 41.6 +1.9
BAR Barrett 76.98 319 P P 14 12 41.9 +1.1
BAR IAmb IAmb 14 12 44.2
comp=Z,423nm,1.6s
MONP2 Monument Peak 77.00 319 P P 14 12 43.4 +2.2
baz=137,SNR=48
E43A Lone Tree Farm 77.01 346 P P 14 12 41.3 +0.7
E43A IAmb IAmb 14 12 42.8
comp=Z,225nm,0.8s
E43A Lone Tree Farm 77.01 346 P P 14 12 41.8 +1.2
baz=162,SNR=24
BC3 Big Chuckawall 77.01 321 P P 14 12 43.3 +2.2
baz=138,SNR=179
PGRA Graciosa 77.07 31 *e*P P 14 12 44.5 +3.4
comp=Z,181nm,2.0s
ECSD EROS Data Cent 77.08 339 P P 14 12 41.8 +0.7
ECSD IAmb IAmb 14 12 43.4
comp=Z,639nm,1.1s
ECSD EROS Data Cent 77.08 339 P P 14 12 42.1 +1.1
baz=154,SNR=304
ECSD EROS Data Cent 77.08 339 P P 14 12 42.1 +1.1
baz=154,SNR=304
SMCO Snowmass 77.09 330 P P 14 12 43.6 +1.9
SMCO IAmb IAmb 14 12 45.6
comp=Z,476nm,1.1s
PV15 Paradox Valley 77.09 328 P P 14 12 43.5 +1.9
PV15 IAmb IAmb 14 12 45.4
comp=Z,519nm,1.1s
ADH Angra Heroismo 77.10 31 *e*P P 14 12 43.3 +2.0
comp=Z,254nm,1.7s
PDA Ponta Delgada 77.10 33 *e*P P 14 12 44.2 +2.9
comp=Z,125nm,1.6s
PV13 Radium Mtn., P 77.10 328 P P 14 12 43.2 +1.6
PV13 IAmb IAmb 14 12 45.1
comp=Z,502nm,0.9s
BRIGG Briggsdale 77.12 332 P P 14 12 43.4 +1.8
BRIGG IAmb IAmb 14 12 45.3
comp=Z,521nm,1.1s
PSBA Serra de Santa 77.15 31 *e*P P 14 12 44.5 +2.9
comp=Z,225nm,1.4s
CMLA Cha da Macela 77.18 33 P P 14 12 44.7 +2.9
CMLA Cha da Macela 77.18 33 *e*P P 14 12 43.8 +2.0
comp=Z,174nm,1.0s
PSCM Serra do Cume 77.19 31 *e*P P 14 12 44.3 +2.5
comp=Z,282nm,1.3s
PAGU Agualva, Azore 77.22 31 *e*P P 14 12 44.3 +2.4
comp=Z,320nm,1.2s
IRM Iron Mountain 77.22 321 P P 14 12 44.4 +2.3
baz=138,SNR=163
COWI Conover 77.22 345 P P 14 12 42.6 +0.8
COWI IAmb IAmb 14 12 44.2
comp=Z,324nm,1.2s
COWI Conover 77.22 345 P P 14 12 43.2 +1.4
baz=161
PCALD Caldeiras da R 77.23 33 *e*P P 14 12 44.1 +2.1
comp=Z,211nm,1.3s
PV11 David Mesa, Pa 77.24 328 P P 14 12 43.8 +1.5
PV11 IAmb IAmb 14 12 45.7
comp=Z,322nm,1.1s
W13A Hualapai Mount 77.24 323 P P 14 12 44.1 +1.7
W13A IAmb IAmb 14 12 46.1
comp=Z,207nm,0.8s
PV07 Paradox Valley 77.25 328 P P 14 12 44.1 +1.7
PV07 IAmb IAmb 14 12 46.0
comp=Z,248nm,1.0s
PGRON Lagoa das Cont 77.26 33 *e*P P 14 12 45.2 +2.9
comp=Z,212nm,1.6s
SPMN Marine on St. 77.32 342 P P 14 12 42.8 +0.4
SPMN IAmb IAmb 14 12 44.1
comp=Z,370nm,1.1s
SPMN Marine on St. 77.32 342 P P 14 12 42.9 +0.6
baz=157,SNR=66
SPMN Marine on St. 77.32 342 P P 14 12 42.9 +0.6
baz=157,SNR=66
BART Pico Bartolome 77.36 33 *e*P P 14 12 45.0 +2.1
comp=Z,299nm,1.3s
PV10 Paradox Valley 77.38 328 P P 14 12 44.3 +1.1
PV10 IAmb IAmb 14 12 46.1
comp=Z,438nm,0.9s
SOE Somerset East 77.38 120 P P 14 12 45.2 +1.9
SOE IAmb IAmb 14 12 46.5
comp=Z,267nm,0.8s
SOE Somerset East 77.38 120 *e*P P **14 12 45.2 +1.9**
SOE IAmb IAmb 14 12 46.2
comp=Z,254nm,0.8s
109C Camp Elliot, M 77.38 319 P P 14 12 44.8 +1.8
109C Camp Elliot, M 77.38 319 P P 14 12 45.2 +2.2
baz=137,SNR=13
NEE2 Needles Airpor 77.39 322 P P 14 12 45.1 +2.1
baz=139,SNR=13
PV23 Carpenter Ridg 77.43 328 P P 14 12 45.3 +1.8
PV23 IAmb IAmb 14 12 46.9
comp=Z,364nm,1.1s
U15A North Rim 77.43 324 P P 14 12 45.7 +2.1
U15A IAmb IAmb 14 12 47.5
comp=Z,347nm,1.0s
TPFO Pinon Flats 77.54 320 P P 14 12 46.4 +2.4
baz=138,SNR=108
PFO Pinyon Flats O 77.55 320 P P 14 12 46.0 +1.9
PFO Pinyon Flats O 77.55 320 P P 14 12 46.6 +2.5
baz=138,SNR=101
PFO Pinyon Flats O 77.55 320 P P 14 12 46.0 +1.9
PFO pmax pmax
comp=Z,255nm,1.3s
BELC Belle Mtn. Jos 77.57 320 P P 14 12 46.5 +2.3
baz=138,SNR=86
GRHM Grahamstown, E 77.75 121⇓ *i*P **P 14 12 46.9 +1.6**
GRHM IAmb IAmb 14 12 47.9
comp=Z,225nm,0.9s
PMOZ Porto Moniz, M 77.84 42 *e*P P 14 12 47.9 +2.2
comp=Z,242nm,1.2s
FUL Funchal 77.90 42 *e*P P 14 12 48.1 +2.3
comp=Z,153nm,1.0s
PMAR Madeira 77.94 42 *e*P P 14 12 48.9 +2.6
comp=Z,242nm,1.2s
MURC Murrieta 77.95 319 P P 14 12 48.5 +2.3
baz=137,SNR=58
GMRC Granite Mounta 77.97 321 P P 14 12 48.9 +2.5
baz=138,SNR=205
D41A Chassel 78.00 346 P P 14 12 47.4 +1.3
D41A Chassel 78.00 346 P P 14 12 47.8 +1.7
baz=161,SNR=52
N23A Red Feather La 78.06 331 P P 14 12 48.4 +1.4
N23A IAmb IAmb 14 12 50.4
comp=Z,226nm,0.9s
N23A Red Feather La 78.06 331 P P 14 12 49.2 +2.2
baz=146,SNR=119
F36A Milaca 78.10 342 P P 14 12 47.0 +0.3
F36A IAmb IAmb 14 12 48.5
comp=Z,268nm,0.8s
F36A Milaca 78.10 342 P P 14 12 47.2 +0.5
baz=157,SNR=118
ELS Elsinore Mount 78.12 319 P P 14 12 48.5 +1.4
KNB Kanab 78.16 325 P P 14 12 49.2 +1.7
KNB Kanab 78.16 325 P P 14 12 49.2 +1.7
KNB pmax pmax
comp=Z,810nm,1.0s
PHWY Pilot Hill 78.20 332 P P 14 12 49.0 +1.3
PHWY IAmb IAmb 14 12 50.9
comp=Z,316nm,1.1s
PKCU Pink Cliffs 78.23 325 P P 14 12 49.4 +1.4
PKCU IAmb IAmb 14 12 51.6
comp=Z,254nm,0.9s
V12A Nelson 78.23 322 P P 14 12 49.1 +1.3
V12A IAmb IAmb 14 12 51.1
comp=Z,268nm,1.0s
HVD Gariep Dam 78.27 118 *e*P P **14 12 49.7 +1.3**
HVD IAmb IAmb 14 12 51.2
comp=Z,343nm,0.9s
E38A The Farm, Brul 78.27 343 P P 14 12 48.3 +0.7
E38A IAmb IAmb 14 12 49.6
comp=Z,256nm,0.8s
E38A The Farm, Brul 78.27 343 P P 14 12 48.6 +1.0
baz=159,SNR=40
BBRC Big Bear Solar 78.28 320 P P 14 12 50.7 +2.5
baz=137,SNR=49
SCI2 San Clemente I 78.28 318 P P 14 12 50.0 +2.0
baz=136,SNR=11
LCMT Little Creek M 78.37 324 P P 14 12 50.0 +1.4
HEC Hector,Ludlow 78.37 321 P P 14 12 51.2 +2.6
baz=138,SNR=73
DRLN Deer Lake 78.38 7 P P 14 12 49.6 +1.5
DRLN IAmb IAmb 14 12 50.9
comp=Z,372nm,0.9s
O20A White River Ci 78.44 329 P P 14 12 50.7 +1.7
O20A White River Ci 78.44 329 P P 14 12 51.2 +2.3
baz=144,SNR=429
SUSD Miller 78.47 338 P P 14 12 49.7 +0.9
SUSD Miller 78.47 338 P P 14 12 49.8 +1.0
baz=152,SNR=27
SUSD Miller 78.47 338 P P 14 12 49.8 +1.0
baz=152,SNR=27
CIS Catalina Islan 78.51 319 P P 14 12 51.4 +2.1
baz=136,SNR=19
TUQ Turquoise Moun 78.60 322 P P 14 12 52.1 +2.3
baz=138,SNR=208
MTPU Mount Pierson 78.63 326 P P 14 12 51.8 +1.6
MTPU IAmb IAmb 14 12 53.6
comp=Z,242nm,0.9s
SRU San Rafael Swe 78.66 327 P P 14 12 51.7 +1.5
SRU IAmb IAmb 14 12 53.3
comp=Z,452nm,0.9s
SRU San Rafael Swe 78.66 327 P P 14 12 51.7 +1.5
SRU pmax pmax
comp=Z,452nm,0.9s
FMP Fort Macarthur 78.67 319 P P 14 12 52.3 +2.3
baz=136
WTNK Soaring Height 78.67 323 P P 14 12 51.5 +1.4
WTNK IAmb IAmb 14 12 53.3
comp=Z,44nm,1.1s
BFSC Mount Baldy Ra 78.68 320 P P 14 12 52.3 +2.0
baz=137,SNR=67
SZCU Shurtz Canyon 78.74 325 P P 14 12 52.5 +1.8
SZCU IAmb IAmb 14 12 54.5
comp=Z,311nm,1.2s
RRX Edison Barstow 78.77 320 P P 14 12 53.2 +2.5
baz=137,SNR=15
Q16A Castle Valley 78.82 327 P P 14 12 52.7 +1.6
Q16A IAmb IAmb 14 12 54.7
comp=Z,506nm,1.2s
CCUT Cedar City 78.84 325 P P 14 12 53.2 +1.9
CCUT IAmb IAmb 14 12 55.4
comp=Z,443nm,0.9s
F33A 5 Mile Ranch, 78.88 340 P P 14 12 51.3 +0.4
F33A IAmb IAmb 14 12 52.7
comp=Z,388nm,1.5s
F33A 5 Mile Ranch, 78.88 340 P P 14 12 51.5 +0.5
baz=154,SNR=38
PASC Pasadena Art C 78.93 319 P P 14 12 53.3 +1.7
P18A Preston Nutter 78.94 328 P P 14 12 53.6 +1.8
BOSA Boshof 78.98 117 P P 14 12 53.6 +1.3
comp=Z,198nm,0.8s,baz=249,slow=4.4,SNR=299
BOSA PKKPbc **PKKPbc 14 31 43.5 +0.4**
comp=Z,9.1nm,1.1s,baz=69,slow=2.8,SNR=4.5
comp=Z,198nm,0.8s
BOSA Boshof 78.98 117 P P 14 12 53.2 +0.9
BOSA IAmb IAmb 14 12 54.5
comp=Z,192nm,0.8s
BOSA Boshof 78.98 117⇓ *i*P P **14 12 53.6 +1.3**
BOSA IAmb IAmb 14 12 54.2
comp=Z,196nm,0.8s
BOSA Boshof 78.98 117 *i*P P 14 12 54.8 +2.5
BOSA Boshof 78.98 117 *i*P P 14 12 54.8 +2.5
GSC Goldstone, Bar 78.98 321 P P 14 12 53.6 +1.7
GSC Goldstone, Bar 78.98 321 P P 14 12 54.1 +2.2
baz=138,SNR=114
GSC Goldstone, Bar 78.98 321 P P 14 12 53.6 +1.7
GSC pmax pmax
comp=Z,207nm,1.2s
SHPR Sheep Range 78.98 323 P P 14 12 53.6 +1.7
MSU Marysvale 78.99 326 P P 14 12 54.0 +1.9
MSU Marysvale 78.99 326 P P 14 12 54.0 +1.9
MVU Marysvale 79.00 326 P P 14 12 54.0 +1.8
SNCC San Nicolas Is 79.05 318 P P 14 12 54.0 +1.8
SNCC IAmb IAmb 14 12 55.5
comp=Z,329nm,1.1s
SNCC San Nicolas Is 79.05 318 P P 14 12 54.0 +1.8
baz=135,SNR=6.3
P17A Butcher Ranch, 79.05 327 P P 14 12 53.9 +1.6
P17A IAmb IAmb 14 12 55.6
comp=Z,594nm,1.1s
DECC Green Verdugo 79.08 319 P P 14 12 54.6 +2.3
baz=136,SNR=20
SHOC Shoshone, Teco 79.13 322 P P 14 12 54.6 +2.0
baz=138,SNR=46
TMUT Trail Mountain 79.14 327 P P 14 12 54.3 +1.4
TCRU Three Creeks R 79.20 326 P P 14 12 54.8 +1.6
RWWY Rawlins 79.25 331 P P 14 12 55.1 +1.7
EDW2 Edwards Air Fo 79.34 320 P P 14 12 55.4 +1.6
baz=137,SNR=102
RDMU Red Mountain 79.39 329 P P 14 12 55.5 +1.4
QSM Queen of Sheba 79.50 321 P P 14 12 55.9 +1.3
EYMN Ely 79.51 344 P P 14 12 55.0 +0.6
EYMN IAmb IAmb 14 12 56.4
comp=Z,221nm,0.9s
EYMN Ely 79.51 344 P P 14 12 55.2 +0.9
baz=159,SNR=51
EYMN Ely 79.51 344 P P 14 12 55.2 +0.9
baz=159,SNR=51
CCAC Calif City Air 79.55 320 P P 14 12 56.3 +1.4
CCAC IAmb IAmb 14 12 58.2
comp=Z,302nm,1.1s
GWY Greenwater Val 79.56 322 P P 14 12 56.5 +1.4
OSI Osito Audit: C 79.56 319 P P 14 12 57.0 +2.0
baz=136,SNR=26
LRMC Laurel Mtn Rad 79.60 320 P P 14 12 57.2 +1.9
baz=137,SNR=149
PRN Pahroc Range 79.60 323 P P 14 12 57.2 +2.0
PRN IAmb IAmb 14 12 59.2
comp=Z,405nm,1.0s
SCZ2 Santa Cruz Isl 79.64 318 P P 14 12 57.5 +2.0
baz=135,SNR=25
SWZ Schweizer 79.69 115 *e*P **P 14 12 56.4 +0.2**
SWZ IAmb IAmb 14 12 57.9
comp=Z,109nm,0.8s
K22A Casper 79.76 332 P P 14 12 57.7 +1.6
K22A IAmb IAmb 14 12 59.5
comp=Z,576nm,1.1s
K22A Casper 79.76 332 P P 14 12 58.0 +2.0
baz=146,SNR=148
K22A Casper 79.76 332 P P 14 12 58.2 +2.1
baz=146,SNR=148
PSUT Pine Spring 79.84 325 P P 14 12 58.4 +1.7
PSUT IAmb IAmb 14 13 00.2
comp=Z,244nm,0.9s
FURC Furnace Creek, 79.87 322 P P 14 12 58.9 +2.4
baz=138,SNR=47
TPNV Topopah Spring 79.89 322 P P 14 12 58.8 +1.9
TPNV IAmb IAmb 14 13 00.7
comp=Z,352nm,1.2s
TPNV Topopah Spring 79.89 322 P P 14 12 59.3 +2.4
baz=138,SNR=318
TPNV Topopah Spring 79.89 322 P P 14 12 58.8 +1.9
TPNV pmax pmax
comp=Z,352nm,1.2s
MPU Maple Canyon 79.90 327 P P 14 12 58.5 +1.5
MPU IAmb IAmb 14 13 00.1
comp=Z,237nm,0.9s
MPMC Manual Prospec 79.91 321 P P 14 12 58.8 +1.7
baz=137,SNR=124
WCT Wildcat Mounta 79.98 322 P P 14 12 59.2 +1.9
ARVC Arvin 79.99 320 P P 14 12 59.4 +2.2
baz=136,SNR=19
RSSD Black Hills 80.01 334 P P 14 12 58.6 +1.2
RSSD IAmb IAmb 14 13 00.2
comp=Z,202nm,0.8s
RSSD Black Hills 80.01 334 P P 14 12 59.0 +1.6
baz=148,SNR=137
RSSD Black Hills 80.01 334 P P 14 12 59.1 +1.6
baz=148
RSSD Black Hills 80.01 334 P P 14 12 58.6 +1.2
RSSD pmax pmax
comp=Z,202nm,0.9s
SBC Santa Barbara 80.01 319 P P 14 12 59.4 +2.1
baz=135,SNR=5.5
NLU North Lily Min 80.07 327 P P 14 12 59.3 +1.5
NLU IAmb IAmb 14 13 01.2
comp=Z,440nm,1.5s
S11A Rachel 80.15 323 P P 14 13 00.1 +1.9
S11A IAmb IAmb 14 13 02.3
comp=Z,564nm,1.6s
ISA Isabella, Lake 80.17 320 P P 14 12 59.9 +1.6
ISA Isabella, Lake 80.17 320 P P 14 13 00.7 +2.4
baz=136,SNR=103
ISA Isabella, Lake 80.17 320 P P 14 12 59.9 +1.6
ISA pmax pmax
comp=Z,171nm,1.0s
BCW Bitter Crk WRg 80.19 319 P P 14 12 59.9 +1.4
BCW IAmb IAmb 14 13 02.1
comp=Z,354nm,1.1s
D32A Dogwood Acres, 80.26 340 P P 14 12 59.5 +1.1
D32A IAmb IAmb 14 13 00.7

	comp=Z,471nm,0.9s								
D32B	**Dogwood Acres,**	**80.26**	**340**	P		**P**		**14 13 00.1**	**+1.7**
	baz=154,SNR=7.6								
JLU	**Jordanelle**	**80.28**	**328**	P		**P**		**14 13 00.4**	**+1.4**
JLU				IAmb		IAmb		14 13 02.1	
	comp=Z,255nm,0.8s								
PKM	**Mcpherson Peak**	**80.38**	**319**	P		P		14 13 01.9	+2.3
	baz=135,SNR=97								
SPR3	**Spring Creek 3**	**80.44**	**325**	P		**P**		**14 13 01.3**	**+1.3**
SPR3				IAmb		IAmb		14 13 03.1	
	comp=Z,297nm,1.1s								
B35A	**Bob, Littlefor**	**80.46**	**343**	P		**P**		**14 12 60.0**	**+0.5**
B35A				IAmb		IAmb		14 13 01.6	
	comp=Z,390nm,0.8s								
B35A	**Bob, Littlefor**	**80.46**	**343**	P		**P**		**14 13 00.2**	**+0.8**
	baz=157,SNR=113								
CTU	**Camp Tracy**	**80.49**	**328**	P		**P**		**14 13 01.4**	**+1.3**
CWC	**Cottonwood Cre**	**80.52**	**321**	P		P		14 13 02.3	+2.1
	baz=137								
GRAC	**Grapevine Rang**	**80.53**	**322**	P		**P**		**14 13 01.8**	**+1.6**
GRAC	**Grapevine Rang**	**80.53**	**322**	P		P		14 13 02.5	+2.3
	baz=137,SNR=59								
R11A	**Troy Canyon, C**	**80.59**	**324**	P		**P**		**14 13 02.3**	**+1.7**
R11A	**Troy Canyon, C**	**80.59**	**324**	P		P		14 13 02.8	+2.2
	baz=139,SNR=306								
DUG	**Dugway, Tooele**	**80.61**	**327**	P		**P**		**14 13 02.0**	**+1.4**
DUG	**Dugway, Tooele**	**80.61**	**327**	P		P		14 13 02.8	+2.1
	baz=141,SNR=208								
DUG	**Dugway, Tooele**	**80.61**	**327**	P		**P**		**14 13 02.0**	**+1.4**
DUG				pmax		pmax			
	comp=Z,119nm,0.8s								
VES	**Vestal, Richgr**	**80.65**	**320**	P		**P**		**14 13 02.6**	**+1.9**
	baz=136,SNR=129								
TCUT	**Toone Canyon**	**80.67**	**328**	P		**P**		**14 13 02.4**	**+1.3**
GMN	**Gold Mountain**	**80.70**	**322**	P		**P**		**14 13 02.9**	**+1.5**
SMMC	**Simmler**	**80.79**	**319**	P		P		14 13 04.0	+2.4
	baz=135,SNR=44								
CGR	**Cap Guir**	**80.83**	**48**	P		P		14 13 05.0	+3.1
LCH	**Last Change Ra**	**80.86**	**322**	P		**P**		**14 13 03.4**	**+1.3**
LBTB	**Lobatse**	**80.89**	**113**	P		**P**		**14 13 03.7**	**+1.1**
LBTB				IAmb		IAmb		14 13 05.0	
	comp=Z,207nm,0.8s								
LBTB	**Lobatse**	**80.89**	**113**	⇓*i* P		**P**		**14 13 04.0**	**+1.4**
LBTB				IAmb		IAmb		14 13 04.8	
	comp=Z,203nm,0.8s								
LBTB	**Lobatse**	**80.89**	**113**	*i* P		P		14 13 05.3	+2.7
LBTB	**Lobatse**	**80.89**	**113**	*i* P		P		14 13 05.3	+2.7
LBTB	**Lobatse**	**80.89**	**113**	P		**P**		**14 13 03.7**	**+1.1**
LBTB				pmax		pmax			
	comp=Z,207nm,0.8s								
E28A	**Huff**	**80.93**	**338**	P		**P**		**14 13 03.2**	**+1.2**
E28A	**Huff**	**80.93**	**338**	P		**P**		**14 13 03.7**	**+1.7**
	baz=151,SNR=54								
AGMN	**Agassiz Nation**	**80.98**	**341**	P		**P**		**14 13 02.9**	**+0.7**
AGMN				IAmb		IAmb		14 13 04.4	
	comp=Z,315nm,0.8s								
AGMN	**Agassiz Nation**	**80.98**	**341**	P		**P**		**14 13 03.3**	**+1.1**
	baz=155,SNR=113								
AGMN	**Agassiz Nation**	**80.98**	**341**	P		**P**		**14 13 03.3**	**+1.1**
	baz=155,SNR=113								
TIN	**Tinemaha, Big**	**81.05**	**321**	P		P		14 13 05.2	+2.2
	baz=137,SNR=34								
MZP	**Montezuma Peak**	**81.06**	**322**	P		**P**		**14 13 04.8**	**+1.5**
SNKL	**Senekal, Frees**	**81.10**	**117**	⇓*i* P		**P**		**14 13 05.0**	**+1.2**
SNKL				IAmb		IAmb		14 13 06.0	
	comp=Z,214nm,0.9s								
HWUT	**Hardware Ranch**	**81.12**	**328**	P		**P**		**14 13 04.6**	**+1.2**
HWUT				IAmb		IAmb		14 13 06.2	
	comp=Z,506nm,0.8s								
DSP	**Deep Springs**	**81.13**	**322**	P		**P**		**14 13 04.7**	**+1.5**
BW06	**Boulder Array**	**81.14**	**330**	P		**P**		**14 13 04.5**	**+0.9**
BW06				IAmb		IAmb		14 13 07.0	
	comp=Z,262nm,0.9s								
BW06	**Boulder Array**	**81.14**	**330**	P		**P**		**14 13 04.8**	**+1.3**
	baz=144,SNR=291								
PD31	**Pinedale Array**	**81.14**	**330**	P		**P**		**14 13 04.6**	**+1.1**
PD31				IAmb		IAmb		14 13 07.0	
	comp=Z,251nm,0.9s								
PDAR	**Pinedale Array**	**81.14**	**330**	P		**P**		**14 13 04.7**	**+1.1**
	comp=Z,177nm,0.8s,baz=128,slow=7.5,SNR=513								
PDAR				PKKP		**PKKPdf**		**14 31 30.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=25,slow=2.4,SNR=2.9								
PDAR				PKKPbc		**PKKPbc**		**14 31 39.4**	**-1.5**
	comp=Z,2.6nm,0.6s,baz=194,slow=1.0,SNR=20								
PDAR				PKPPKP		**P'P'df**		**14 39 42.8**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=132,slow=2.2,SNR=4.6								
	comp=Z,177nm,0.8s								
VOG	**Valley Oaks Go**	**81.16**	**320**	P		**P**		**14 13 04.4**	**+1.0**
	baz=136,SNR=5.2								
TPH	**Tonopah**	**81.25**	**323**	P		**P**		**14 13 05.6**	**+1.5**
TPH	**Tonopah**	**81.25**	**323**	P		**P**		**14 13 05.6**	**+1.5**
TPH				pmax		pmax			
	comp=Z,1μm,1.2s								
BGU	**Big Grassy Mou**	**81.28**	**327**	P		**P**		**14 13 05.3**	**+1.1**
SPUT	**South Promonto**	**81.30**	**327**	P		**P**		**14 13 05.5**	**+1.2**
SPUT				IAmb		IAmb		14 13 07.3	
	comp=Z,329nm,0.9s								
PRYS	**Parys**	**81.41**	**116**	⇓*i* P		**P**		**14 13 06.1**	**+0.7**
PRYS				IAmb		IAmb		14 13 07.2	
	comp=Z,186nm,1.0s								
KSR	**Koster**	**81.54**	**115**	⇓*i* P		**P**		**14 13 07.3**	**+1.1**
KSR				IAmb		IAmb		14 13 08.3	
	comp=Z,68nm,0.9s								
WDLM	**Western Deep L**	**81.69**	**115**	*e*P		**P**		**14 13 07.5**	**+0.6**
WDLM				IAmb		IAmb		14 13 08.9	
	comp=Z,113nm,1.1s								
MDND	**Maddock**	**81.69**	**339**	P		**P**		**14 13 07.3**	**+1.3**
MDND	**Maddock**	**81.69**	**339**	P		**P**		**14 13 07.7**	**+1.7**
	baz=152,SNR=79								
MDND	**Maddock**	**81.69**	**339**	P		**P**		**14 13 07.7**	**+1.7**
	baz=152,SNR=79								
Q09A	**Carvers**	**81.78**	**323**	P		**P**		**14 13 08.4**	**+1.5**
Q09A				IAmb		IAmb		14 13 10.2	
	comp=Z,395nm,0.9s								
MLAC	**Mammoth, Mammo**	**81.80**	**321**	P		P		14 13 09.3	+2.2
	baz=136,SNR=77								
HVU	**Hansel Valley**	**81.82**	**328**	P		**P**		**14 13 08.1**	**+1.1**
HVU				IAmb		IAmb		14 13 09.6	
	comp=Z,255nm,0.8s								
HVU	**Hansel Valley**	**81.82**	**328**	P		**P**		**14 13 08.1**	**+1.1**
HVU				pmax		pmax			
	comp=Z,255nm,0.8s								
AHID	**Auburn Hatcher**	**81.83**	**329**	P		**P**		**14 13 08.3**	**+1.2**
AHID				IAmb		IAmb		14 13 09.9	
	comp=Z,580nm,1.1s								
OMMB	**Old Mammoth Mi**	**81.87**	**321**	P		**P**		**14 13 09.1**	**+1.5**
OMMB				IAmb		IAmb		14 13 10.7	
	comp=Z,222nm,1.0s								
PMPB	**Monarch Peak**	**81.89**	**319**	P		**P**		**14 13 09.2**	**+1.8**
MDPB	**Devils Postpil**	**81.93**	**321**	P		**P**		**14 13 09.1**	**+1.3**
NV11	**Mina Array Sit**	**82.01**	**322**	P		**P**		**14 13 09.2**	**+1.1**
LHV	**Little Huntoon**	**82.06**	**322**	P		**P**		**14 13 09.8**	**+1.7**
NVAR	**Mina Array Bea**	**82.09**	**322**	P		**P**		**14 13 10.2**	**+1.6**
	comp=Z,65nm,0.9s,baz=155,slow=5.7,SNR=358								
NVAR				pP		**pP**		**14 13 39.7**	**-1.0**
	comp=Z,18nm,1.0s,baz=133,slow=7.5,SNR=2.2								
NVAR				PKiKP		**PKiKP**		**14 18 31.0**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=215,slow=4.4,SNR=2.5								
NVAR				PKKP		**PKKPdf**		**14 31 29.1**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=180,slow=0.3,SNR=3.8								
NVAR				PKKPbc		**PKKPbc**		**14 31 38.6**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=288,slow=2.3,SNR=21								
NVAR				PKPPKP		**P'P'df**		**14 39 40.8**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=281,slow=1.9,SNR=5.9								
	comp=Z,65nm,0.9s								
NVAR	**Mina Array Bea**	**82.09**	**322**	P		**P**		**14 13 09.9**	**+1.4**
ECR	**Eagle Creek**	**82.18**	**329**	P		**P**		**14 13 10.1**	**+1.2**
REDW	**Red Top Meadow**	**82.19**	**330**	P		**P**		**14 13 10.1**	**+1.0**
REDW				IAmb		IAmb		14 13 12.0	
	comp=Z,374nm,1.1s								
ELK	**Elko**	**82.22**	**325**	P		**P**		**14 13 10.3**	**+1.1**
ELK	**Elko**	**82.22**	**325**	P		**P**		**14 13 10.3**	**+1.1**
ELK				pmax		pmax			
	comp=Z,181nm,0.9s								
SNOW	**Snow King Moun**	**82.23**	**330**	P		**P**		**14 13 10.5**	**+1.3**
SNOW				IAmb		IAmb		14 13 12.2	
	comp=Z,260nm,1.0s								
LOHW	**Long Hollow**	**82.28**	**330**	P		**P**		**14 13 10.5**	**+1.1**
LOHW				IAmb		IAmb		14 13 12.4	
	comp=Z,208nm,0.9s								
BBGB	**Big Mountain B**	**82.28**	**319**	P		**P**		**14 13 11.0**	**+1.5**
BBGB				IAmb		IAmb		14 13 14.9	
	comp=Z,184nm,0.9s								
TPAW	**Teton Pass**	**82.33**	**330**	P		**P**		**14 13 11.2**	**+1.4**
TPAW				IAmb		IAmb		14 13 12.8	
	comp=Z,298nm,1.1s								
RYN	**Ryan**	**82.35**	**322**	P		**P**		**14 13 11.1**	**+1.2**
KVN	**Kaiserville**	**82.43**	**323**	P		**P**		**14 13 11.4**	**+1.1**
KVN	**Kaiserville**	**82.43**	**323**	P		**P**		**14 13 11.4**	**+1.1**
KVN				pmax		pmax			
	comp=Z,199nm,1.1s								
MOOW	**Moose Ponds**	**82.45**	**330**	P		**P**		**14 13 11.1**	**+0.8**
FXWY	**Fox Creek**	**82.48**	**330**	P		**P**		**14 13 11.6**	**+1.0**
OUK	**Oukaimeden**	**82.52**	**48**	P		P		14 13 14.0	+2.8
SAO	**San Andreas Ge**	**82.64**	**319**	P		**P**		**14 13 12.6**	**+1.3**
SAO	**San Andreas Ge**	**82.64**	**319**	P		**P**		**14 13 12.6**	**+1.3**
SAO				pmax		pmax			
	comp=Z,54nm,0.9s								
IMW	**Indian Meadow**	**82.65**	**330**	P		**P**		**14 13 12.7**	**+1.2**
IMW				IAmb		IAmb		14 13 14.5	
	comp=Z,377nm,0.9s								
FLWY	**Flagg Ranch**	**82.69**	**330**	P		**P**		**14 13 12.9**	**+1.3**
FLWY				IAmb		IAmb		14 13 15.0	
	comp=Z,389nm,0.9s								
SLR	**Silverton**	**82.70**	**115**	⇓*i* P		**P**		**14 13 13.1**	**+1.0**
SLR				IAmb		IAmb		14 13 13.9	
	comp=Z,238nm,1.2s								
ULM	**Lac du Bonnet**	**82.75**	**342**	P		**P**		**14 13 12.2**	**+0.7**
	comp=Z,268nm,0.9s,baz=155,slow=5.2,SNR=143								
	comp=Z,268nm,0.9s								
ULM	**Lac du Bonnet**	**82.75**	**342**	P		**P**		**14 13 11.8**	**+0.4**
ULM				IAmb		IAmb		14 13 13.5	
	comp=Z,451nm,1.1s								
WAKR	**Walker**	**82.75**	**322**	P		**P**		**14 13 13.8**	**+1.8**
WAKR				IAmb		IAmb		14 13 15.7	
	comp=Z,220nm,1.1s								
H17A	**Grant Village**	**82.89**	**330**	P		**P**		**14 13 13.9**	**+1.3**
H17A	**Grant Village**	**82.89**	**330**	P		P		14 13 14.9	+2.3
	baz=143,SNR=39								
RLMT	**Red Lodge**	**82.92**	**332**	P		**P**		**14 13 13.7**	**+1.0**
RLMT				IAmb		IAmb		14 13 15.7	
	comp=Z,180nm,0.9s								
RLMT	**Red Lodge**	**82.92**	**332**	P		**P**		**14 13 14.5**	**+1.8**
	baz=144,SNR=108								
CMB	**Columbia Colle**	**82.94**	**321**	P		**P**		**14 13 13.7**	**+0.9**
CMB	**Columbia Colle**	**82.94**	**321**	P		**P**		**14 13 13.7**	**+0.9**
CMB				pmax		pmax			
	comp=Z,100nm,1.3s								
LKWY	**Lake**	**82.95**	**331**	P		**P**		**14 13 14.9**	**+1.9**
LKWY	**Lake**	**82.95**	**331**	P		**P**		**14 13 14.9**	**+1.9**
LKWY				pmax		pmax			
	comp=Z,124nm,1.0s								
BMN	**Battle Mountai**	**82.99**	**324**	P		**P**		**14 13 13.5**	**+0.4**
BMN	**Battle Mountai**	**82.99**	**324**	P		**P**		**14 13 13.5**	**+0.4**
BMN				pmax		pmax			
	comp=Z,64nm,1.0s								
YMP	**Mirror Lake Pl**	**82.99**	**331**	P		**P**		**14 13 14.6**	**+1.4**
YMP				IAmb		IAmb		14 13 31.3	
	comp=Z,252nm,1.0s								
YERR	**Yerington**	**82.99**	**322**	P		**P**		**14 13 14.7**	**+1.4**
YERR				IAmb		IAmb		14 13 16.6	
	comp=Z,346nm,1.3s								
LAO	**LASA Array**	**83.00**	**334**	P		**P**		**14 13 13.9**	**+1.0**
LAO				IAmb		IAmb		14 13 15.5	
	comp=Z,321nm,0.9s								
LAO	**LASA Array**	**83.00**	**334**	P		**P**		**14 13 14.7**	**+1.8**
	baz=146,SNR=60								
LAO	**LASA Array**	**83.00**	**334**	P		**P**		**14 13 14.2**	**+1.3**
	baz=146,SNR=60								
NWCL	**Newcastle**	**83.00**	**118**	⇓*i* P		**P**		**14 13 14.7**	**+1.1**
NWCL				IAmb		IAmb		14 13 15.5	
	comp=Z,60nm,0.8s								
YUF	**Upper Falls**	**83.12**	**331**	P		**P**		**14 13 15.2**	**+1.4**
YNR	**Norris Junctio**	**83.19**	**331**	P		**P**		**14 13 15.4**	**+1.3**
LEPH	**Lephalale, Lim**	**83.20**	**113**	⇓*i* P		**P**		**14 13 16.0**	**+1.4**
LEPH				IAmb		IAmb		14 13 16.9	
	comp=Z,272nm,1.0s								
PNTR	**Pine Nut**	**83.26**	**322**	P		**P**		**14 13 16.3**	**+1.6**
PNTR				IAmb		IAmb		14 13 18.0	
	comp=Z,283nm,0.9s								
YMR	**Madison River**	**83.28**	**330**	P		**P**		**14 13 16.2**	**+1.6**
SRHM	**Skhour des Reh**	**83.31**	**47**	P		P		14 13 17.2	+2.3
VCNR	**Virginia City**	**83.44**	**322**	P		**P**		**14 13 16.8**	**+1.2**
YHB	**Horse Butte**	**83.44**	**330**	P		**P**		**14 13 16.9**	**+1.4**
YHB				IAmb		IAmb		14 13 18.9	
	comp=Z,252nm,1.0s								
SCHQ	**Schefferville**	**83.45**	**0**	P		**P**		**14 13 16.0**	**+1.1**
	comp=Z,206nm,1.1s,baz=182,slow=4.4,SNR=52								
	comp=Z,206nm,1.1s								
SCHQ	**Schefferville**	**83.45**	**0**	P		**P**		**14 13 15.6**	**+0.6**
SCHQ				IAmb		IAmb		14 13 17.2	
	comp=Z,432nm,1.2s								
EMB	**Emerald Bay**	**83.45**	**321**	P		**P**		**14 13 17.0**	**+1.4**
YHL	**Hebgen Lake**	**83.52**	**330**	P		**P**		**14 13 17.3**	**+1.4**
YHL				IAmb		IAmb		14 13 19.5	
	comp=Z,437nm,1.4s								
PAHR	**Pah Rah Range**	**83.59**	**322**	P		**P**		**14 13 17.9**	**+1.6**
QLMT	**Earthquake Lak**	**83.61**	**330**	P		**P**		**14 13 17.8**	**+1.5**
GCMT	**Greycliff**	**83.63**	**332**	P		**P**		**14 13 17.3**	**+1.1**
MPK	**Martis Peak**	**83.64**	**322**	P		**P**		**14 13 18.0**	**+1.3**
MPK				IAmb		IAmb		14 13 20.2	
	comp=Z,556nm,1.4s								
DGMT	**Dagmar**	**83.76**	**336**	P		**P**		**14 13 18.1**	**+1.4**
DGMT	**Dagmar**	**83.76**	**336**	P		**P**		**14 13 18.6**	**+1.9**
	baz=148,SNR=93								
DGMT	**Dagmar**	**83.76**	**336**	P		**P**		**14 13 18.6**	**+1.9**
	baz=148,SNR=93								
AFDM	**Forest Hills D**	**83.91**	**321**	P		**P**		**14 13 18.6**	**+0.9**
CRLN	**Carolina, Mapu**	**83.95**	**116**	*e*P		**P**		**14 13 19.5**	**+0.9**
CRLN				IAmb		IAmb		14 13 20.2	
	comp=Z,25nm,0.9s								
HLID	**Hailey**	**83.97**	**328**	P		**P**		**14 13 19.6**	**+1.5**
HLID				IAmb		IAmb		14 13 21.5	
	comp=Z,418nm,1.2s								
HLID	**Hailey**	**83.97**	**328**	P		P		14 13 20.3	+2.2
	baz=140,SNR=413								
BCYI	**Bear Canyon**	**84.08**	**329**	P		**P**		**14 13 20.2**	**+1.5**
AVE	**Averroes**	**84.16**	**47**	P		P		14 13 21.8	+2.7
BEKR	**Beckworth**	**84.23**	**322**	P		**P**		**14 13 20.8**	**+1.3**
BEKR				IAmb		IAmb		14 13 22.6	
	comp=Z,274nm,1.4s								
MCMT	**McKenzie Canyo**	**84.23**	**329**	P		**P**		**14 13 21.3**	**+1.8**
BOZ	**Bozeman (W)**	**84.30**	**331**	P		**P**		**14 13 20.6**	**+0.9**
BOZ				IAmb		IAmb		14 13 22.4	
	comp=Z,324nm,1.8s								
BOZ	**Bozeman (W)**	**84.30**	**331**	P		**P**		**14 13 21.0**	**+1.3**
	baz=142,SNR=92								
BOZ	**Bozeman (W)**	**84.30**	**331**	P		**P**		**14 13 20.6**	**+0.9**
BOZ				pmax		pmax			
	comp=Z,324nm,1.8s								
PLTX	**Planet X, Gerl**	**84.36**	**323**	P		**P**		**14 13 21.4**	**+1.4**
PLTX				IAmb		IAmb		14 13 23.0	
	comp=Z,197nm,0.8s								
MCCM	**Marconi Confer**	**84.42**	**319**	P		**P**		**14 13 21.6**	**+1.4**
MFID	**Camas Ranch**	**84.52**	**327**	P		**P**		**14 13 21.9**	**+1.1**
MFID				IAmb		IAmb		14 13 23.8	
	comp=Z,280nm,1.4s								
POGA	**Pongola**	**84.60**	**118**	P		**P**		**14 13 22.4**	**+0.7**
POGA	**Pongola**	**84.60**	**118**	⇓*i* P		**P**		**14 13 23.0**	**+1.4**
POGA				IAmb		IAmb		14 13 23.8	
	comp=Z,83nm,1.1s								
ORV	**Oroville**	**84.63**	**321**	P		**P**		**14 13 22.6**	**+1.3**
ORV				IAmb		IAmb		14 13 24.6	
	comp=Z,339nm,1.3s								
ORV	**Oroville**	**84.63**	**321**	P		**P**		**14 13 22.6**	**+1.3**
ORV				pmax		pmax			
	comp=Z,339nm,1.3s								
ZHG	**ZHG**	**84.75**	**47**	P		**P**		**14 13 24.0**	**+1.9**
GDXM	**Geysers**	**84.83**	**320**	P		**P**		**14 13 23.6**	**+1.2**
LRM	**Limekiln Ridge**	**84.83**	**330**	P		**P**		**14 13 23.8**	**+1.3**
CASY	**Casey**	**85.06**	**179**	P		**P**		**14 13 24.9**	**+1.8**
HOPS	**Hopland Field**	**85.12**	**320**	P		**P**		**14 13 25.2**	**+1.5**
WVOR	**Wild Horse Val**	**85.18**	**325**	P		**P**		**14 13 24.9**	**+0.8**
WVOR	**Wild Horse Val**	**85.18**	**325**	P		**P**		**14 13 24.9**	**+0.8**
WVOR				pmax		pmax			
	comp=Z,203nm,1.5s								
HRY	**Holter Researc**	**85.27**	**331**	P		**P**		**14 13 26.0**	**+1.5**
EGMT	**Eagleton**	**85.47**	**333**	P		**P**		**14 13 26.0**	**+0.6**
EGMT				IAmb		IAmb		14 13 27.6	
	comp=Z,536nm,1.6s								
EGMT	**Eagleton**	**85.47**	**333**	P		**P**		**14 13 26.4**	**+1.0**
	baz=144,SNR=42								
MUSN	**Musina, Limpop**	**85.62**	**113**	⇓*i* P		P		14 13 29.0	+2.2
MUSN				IAmb		IAmb		14 13 29.8	
	comp=Z,252nm,1.4s								
MUSN	**Musina, Limpop**	**85.62**	**113**	*i* P		P		14 13 30.1	+3.3
MUSN	**Musina, Limpop**	**85.62**	**113**	*i* P		P		14 13 30.1	+3.3
MOD	**Modoc Plateau**	**85.65**	**323**	P		**P**		**14 13 27.3**	**+0.8**
MOD				IAmb		IAmb		14 13 29.5	
	comp=Z,224nm,1.1s								
MDT	**Midelt**	**85.67**	**49**	P		P		14 13 29.5	+2.7
J08A	**Circle Bar Ran**	**85.77**	**325**	P		**P**		**14 13 28.5**	**+1.5**
PFVI	**Vila Bisbo**	**85.78**	**43**	*e*P		P		14 13 29.4	+2.4
	comp=Z,224nm,1.3s								
PFVI	**Vila Bisbo**	**85.78**	**43**	P		P		14 13 29.6	+2.6
PLID	**Pearl Lake**	**85.86**	**328**	P		**P**		**14 13 28.8**	**+1.2**
MORF	**Marmelete**	**85.99**	**43**	*e*P		P		14 13 29.9	+1.7
MORF				IAmb		IAmb		14 13 31.9	
	comp=Z,129nm,1.0s								
MORF	**Marmelete**	**85.99**	**43**	*e*P		**P**		**14 13 29.8**	**+1.7**
MORF				pmax		pmax			
	comp=Z,129nm,1.0s								
LCRM	**LCR**	**86.05**	**48**	P		P		14 13 31.5	+2.8
PTEO	**Sao Teotonio**	**86.11**	**43**	*e*P		P		14 13 31.2	+2.5
	comp=Z,345nm,1.3s								
MOPA	**Mopani**	**86.25**	**115**	⇓*i* P		P		14 13 31.8	+1.9
MOPA				IAmb		IAmb		14 13 32.6	
	comp=Z,85nm,1.1s								
MOPA	**Mopani**	**86.25**	**115**	*i* P		P		14 13 33.4	+3.5
MOPA	**Mopani**	**86.25**	**115**	*i* P		P		14 13 33.4	+3.5
MSO	**Missoula**	**86.26**	**330**	P		**P**		**14 13 30.6**	**+1.3**
MSO	**Missoula**	**86.26**	**330**	P		**P**		**14 13 31.1**	**+1.8**
	baz=140,SNR=57								
BMO	**Blue Mountains**	**86.30**	**327**	P		**P**		**14 13 30.5**	**+0.9**
BMO	**Blue Mountains**	**86.30**	**327**	P		**P**		**14 13 30.5**	**+0.9**
BMO				pmax		pmax			
	comp=Z,101nm,1.0s								
KMRM	**Mail Ridge**	**86.32**	**320**	P		**P**		**14 13 31.2**	**+1.4**
KMRM				IAmb		IAmb		14 13 33.3	
	comp=Z,403nm,1.3s								
K05A	**Summer Lake**	**86.54**	**324**	P		**P**		**14 13 32.3**	**+1.4**
PCVE	**Castro Verde**	**86.58**	**43**	*e*P		P		14 13 33.3	+2.3
	comp=Z,206nm,1.1s								
PNCL	**Nicolau / Gran**	**86.60**	**43**	*e*P		P		14 13 33.1	+2.1
	comp=Z,213nm,1.2s								
MESJ	**Messejana**	**86.60**	**43**	*e*P		**P**		**14 13 32.9**	**+1.7**
MESJ				IAmb		IAmb		14 13 34.4	
	comp=Z,208nm,1.1s								
MESJ	**Messejana**	**86.60**	**43**	*e*P		P		14 13 33.4	+2.3
	comp=Z,249nm,1.2s								
MESJ	**Messejana**	**86.60**	**43**	*e*P		**P**		**14 13 32.8**	**+1.7**
MESJ				pmax		pmax			
	comp=Z,208nm,1.1s								
PVAQ	**Vaqueiros**	**86.62**	**44**	*e*P		P		14 13 33.5	+2.3
	comp=Z,234nm,1.3s								
PVAQ	**Vaqueiros**	**86.62**	**44**	P		P		14 13 33.5	+2.3
PMST	**Lisbon--Monsan**	**86.62**	**42**	*e*P		P		14 13 33.5	+2.3
	comp=Z,204nm,1.8s								
CHEFC	**Chefchaouen**	**86.63**	**47**	P		P		14 13 34.4	+2.9
LIS	**Lisbon**	**86.63**	**42**	*e*P		**P**		**14 13 33.0**	**+1.8**
LIS				IAmb		IAmb		14 13 34.4	
	comp=Z,163nm,1.1s								
LIS	**Lisbon**	**86.63**	**42**	*e*P		P		14 13 33.5	+2.3
	comp=Z,242nm,1.6s								
LIS	**Lisbon**	**86.63**	**42**	*e*P		**P**		**14 13 33.0**	**+1.8**
LIS				pmax		pmax			
	comp=Z,163nm,1.1s								
KMPM	**Mount Pierce**	**86.68**	**320**	P		**P**		**14 13 33.3**	**+1.7**
KMPM				IAmb		IAmb		14 13 35.0	
	comp=Z,438nm,1.2s								
PMAFR	**Mafra**	**86.71**	**42**	*e*P		P		14 13 34.2	+2.6
	comp=Z,191nm,1.3s								
KHMM	**Horse Mountain**	**86.77**	**321**	P		**P**		**14 13 33.4**	**+1.3**
KHMM				IAmb		IAmb		14 13 35.4	
	comp=Z,229nm,1.1s								
YBH	**Yreka Blue Hor**	**86.81**	**322**	P		**P**		**14 13 32.6**	**+0.5**
	comp=Z,80nm,1.1s,baz=123,slow=4.1,SNR=104								
	comp=Z,80nm,1.1s								
YBH	**Yreka Blue Hor**	**86.81**	**322**	P		**P**		**14 13 32.4**	**+0.2**
I07A	**Izee**	**86.81**	**325**	P		**P**		**14 13 33.4**	**+1.3**
I07A				IAmb		IAmb		14 13 35.2	
	comp=Z,239nm,1.1s								
PACT	**Alcochete**	**86.85**	**42**	*e*P		P		14 13 34.8	+2.6
	comp=Z,312nm,1.4s								
JCC	**Jacoby Creek,**	**86.90**	**321**	P		**P**		**14 13 34.3**	**

HOOD Mount Hood Mea 88.77 325 P P 14 13 42.3 +0.9
HOOD IAmb IAmb 14 13 44.4
comp=Z,275nm,1.1s

CHIPN CHIPINGE 88.89 112 *i* P P 14 13 45.6 +2.9
CHIPN CHIPINGE 88.89 112 *i* P P 14 13 45.6 +2.9
C09A Chrisman Ranch 88.93 329 P P 14 13 43.0 +1.1
C09A IAmb IAmb 14 13 44.5
comp=Z,212nm,0.9s

COR Corvallis 89.09 324 P P 14 13 44.2 +1.5
COR Corvallis 89.09 324 P P 14 13 44.2 +1.5
COR pmax pmax
comp=Z,790nm,1.2s

PVRL Vila Real 89.14 41 *eP* P 14 13 44.9 +1.8
comp=Z,60nm,1.1s

POLO Lamas de Olo 89.16 41 *eP* P 14 13 44.8 +1.5
comp=Z,35nm,1.4s

PCAB Cabril 89.25 40 *eP* P 14 13 45.3 +1.7
comp=Z,41nm,1.9s

PGAV Gavieira, Arco 89.28 40 *eP* P 14 13 45.5 +1.7
comp=Z,95nm,1.3s

MVO Moncorvo 89.46 41 *eP* P 14 13 46.5 +1.8
comp=Z,72nm,0.9s

LTY Liberty 89.66 327 P P 14 13 46.2 +0.8
LTY IAmb IAmb 14 13 47.7
comp=Z,102nm,0.8s

B08A Colville Reser 89.83 328 P P 14 13 46.5 +0.3
LON Longmire 89.85 326 P P 14 13 46.9 +0.5
LON Longmire 89.85 326 P P 14 13 46.9 +0.5
LON pmax pmax
comp=Z,100nm,1.0s

PAB San Pablo 90.02 44 P P 14 13 48.1 +0.7
PAB San Pablo 90.02 44 P P 14 13 49.5 +2.2
PAB San Pablo 90.02 44 P P 14 13 48.1 +0.7
PAB pmax pmax
comp=Z,51nm,1.2s

PBRG Braganca 90.04 41 *eP* P 14 13 49.1 +1.8
comp=Z,45nm,1.5s

F03A Seaside 90.15 325 P P 14 13 49.4 +1.7
F03A IAmb IAmb 14 13 50.6
comp=Z,104nm,0.9s

D05A Enumclaw 90.25 326 P P 14 13 49.0 +0.9
ESDC Sonseca Array 90.33 44 P P 14 13 50.3 +1.5
comp=Z,25nm,1.1s,baz=240,slow=4.3,SNR=87
ESDC pP **pP 14 14 20.0 -0.8**
comp=Z,14nm,1.1s,baz=234,slow=4.9,SNR=4.2
ESDC PKiKP **PKiKP 14 18 44.5 +1.1**
comp=Z,0.8nm,0.7s,baz=266,slow=2.1,SNR=5.1
comp=Z,25nm,1.1s

ESDC Sonseca Array 90.33 44 P P 14 13 49.5 +0.7
E03A Lebam 90.58 325 P P 14 13 51.1 +1.5
E03A IAmb IAmb 14 13 52.3
comp=Z,161nm,1.0s

GUD Guadarrama 90.82 43 P P 14 13 51.9 +0.8
CART Cartagena 90.91 47 P P 14 13 51.9 +0.5
CART Cartagena 90.91 47 P P 14 13 52.5 +1.1
WISH Wishkah 91.07 325 P P 14 13 53.8 +1.9
WISH IAmb IAmb 14 13 55.2
comp=Z,173nm,1.3s

NLWA Neilton Lookou 91.31 326 P P 14 13 54.7 +1.7
NLWA IAmb IAmb 14 13 56.0
comp=Z,183nm,1.4s

B04A Port Angeles 91.59 326 P P 14 13 56.0 +1.8
B04A IAmb IAmb 14 13 57.2
comp=Z,97nm,0.9s

NRS Narsarsuaq 91.59 11 P P 14 13 55.5 +1.6
NRS IAmb IAmb 14 13 56.3
comp=Z,95nm,0.9s

NRS Narsarsuaq 91.59 11 P P 14 13 54.0 +0.1
PGC Sidney 91.97 327 P P 14 13 57.5 +1.5
PGC IAmb IAmb 14 13 58.7
comp=Z,131nm,0.9s

LLLB Lillooet 92.60 329 P P 14 13 59.5 +0.5
LLLB IAmb IAmb 14 14 00.8
comp=Z,115nm,1.0s

BRLDA Berland Lookou 93.22 333 P P 14 14 02.0 +0.2
BRLDA IAmb IAmb 14 14 03.7
comp=Z,121nm,1.0s

SJPF Ste Jean 94.06 42 *eP* P 14 14 07.7 +1.9
SJPF pmax pmax
comp=Z,40nm,1.0s

ETSF Etsaut 94.32 43 *eP* P 14 14 08.9 +1.7
ETSF pmax pmax
comp=Z,22nm,0.9s

WAPA Wapiti River 94.75 333 P P 14 14 09.3 +0.5
EPF Esparros 94.94 43 *eP* P 14 14 11.5 +1.6
EPF pmax pmax
comp=Z,11nm,0.8s

QUIF Quistinic 95.85 38 *eP* P 14 14 14.5 +0.6
QUIF pmax pmax
comp=Z,41nm,0.9s

ROSF Rostrenen 96.05 37 *eP* P 14 14 15.5 +0.7
ROSF pmax pmax
comp=Z,42nm,0.9s

MTLF Montolieu 96.24 44 *eP* P 14 14 17.0 +1.2
MTLF pmax pmax
comp=Z,43nm,1.2s

LFF La Frestale 96.27 42 *eP* P 14 14 17.1 +1.2
LFF pmax pmax
comp=Z,28nm,0.7s

SGMF Saint Gilles 96.38 38 *eP* P 14 14 16.8 +0.5
SGMF pmax pmax
comp=Z,77nm,1.2s

HILA High Level 96.40 336 P P 14 14 17.0 +0.9
SFJD Kangerlussuaq 96.52 7 P P 14 14 15.2 -1.2
comp=Z,13nm,0.8s,baz=116,slow=8.1,SNR=2.5
comp=Z,13nm,0.8s

MFF Saint Martin d 96.72 40 *eP* P 14 14 19.0 +1.1
MFF pmax pmax
comp=Z,46nm,0.9s

KEST Kesra 96.83 53 P P 14 14 18.7 -0.1
comp=Z,9.4nm,0.9s,baz=257,slow=3.0,SNR=10
comp=Z,9.4nm,0.9s

RJF Les Rejaudoux 96.93 42 *eP* P 14 14 19.9 +1.0
RJF pmax pmax
comp=Z,49nm,1.4s

CAF Calviac 97.04 42 *eP* Pdif 14 14 20.7 +1.2
CAF pmax pmax
comp=Z,26nm,1.0s

GRR Gorron 97.37 38 *eP* Pdif 14 14 21.3 +0.5
GRR pmax pmax
comp=Z,44nm,0.9s

FLN La Foliniere 97.79 38 *eP* Pdif 14 14 23.5 +0.8
FLN pmax pmax
comp=Z,45nm,1.1s

TCF Toulx Ste Croi 97.89 41 *eP* Pdif 14 14 24.1 +0.9
TCF pmax pmax
comp=Z,24nm,1.0s

LDF La Druitiere 97.89 38 *eP* Pdif 14 14 23.8 +0.7
LDF pmax pmax
comp=Z,45nm,1.0s

LPW Lampeter 97.95 34 *eP* Pdif 14 14 24.1 +0.9
BGF Bois d'Agland 98.40 41 *eP* Pdif 14 14 26.6 +1.1
BGF pmax pmax
comp=Z,45nm,1.1s

YKA Yellowknife Ar 98.58 340 P Pdif 14 14 26.6 +0.8
comp=Z,68nm,0.8s,baz=141,slow=4.5,SNR=110
YKA PP **PP 14 18 28.5 0.0**
comp=Z,5.5nm,0.9s,baz=139,slow=7.1,SNR=5.2
YKA PKiKP **PKiKP 14 18 58.1 +1.3**
comp=Z,1.0nm,0.5s,baz=163,slow=1.6,SNR=5.5

SSB Saint Sauveur 98.70 43 P Pdif 14 14 27.9 +1.0
SSB Saint Sauveur 98.70 43 P Pdif 14 14 27.9 +1.0
SSB pmax pmax
comp=Z,32nm,0.9s

HLM1 Long Mynd 98.77 34 *eP* Pdif 14 14 27.6 +0.6
AVF Avril sur Loir 98.82 41 *eP* Pdif 14 14 28.4 +1.1
AVF pmax pmax
comp=Z,36nm,1.2s

CLGH Cloghs, Cushen 98.83 31 *eP* Pdif 14 14 28.2 +1.1
CLGH IAmb IAmb 14 14 28.8
comp=Z,36nm,0.9s

FOEL Foel Wylfa 98.84 34 *eP* Pdif 14 14 26.9 -0.3
FOEL IAmb IAmb 14 14 27.7
comp=Z,96nm,1.4s

LMR La Mourre 98.87 45 *eP* Pdif 14 14 29.2 +1.6
LMR pmax pmax
comp=Z,35nm,1.0s

CLF Chambon-Foret 98.88 40 P Pdif 14 14 28.7 +1.1
WIM Isle of Man 98.90 32 *eP* Pdif 14 14 28.6 +1.2
SMF Signal de Mont 99.03 41 *eP* **Pdif 14 14 29.6 +1.4**
SMF pmax pmax
comp=Z,59nm,1.0s

SSF Saint Saulge 99.06 41 *eP* **Pdif 14 14 29.2 +0.8**
SSF pmax pmax
comp=Z,36nm,1.0s

ORIF Oris-en-Rattie 99.31 44 *eP* **Pdif 14 14 31.7 +2.0**
ORIF pmax pmax
comp=Z,28nm,0.9s

GAL1 Galloway 99.33 31 *eP* **Pdif 14 14 30.3 +1.0**
LOR Lormes 99.37 41 *eP* **Pdif 14 14 30.6 +0.8**
LOR pmax pmax
comp=Z,28nm,1.0s

NEWG New Galloway 99.70 31 *eP* **Pdif 14 14 31.9 +0.9**
NEWG IAmb IAmb 14 14 32.6
comp=Z,31nm,0.9s

SBF Sospel 99.72 45 *eP* **Pdif 14 14 33.1 +1.6**
SBF pmax pmax
comp=Z,9.0nm,0.8s

MBDF Montbardon 99.75 44 *eP* **Pdif 14 14 33.7 +2.0**
MBDF pmax pmax
comp=Z,22nm,1.1s

BNI Bardonecchia 99.87 44 P Pdif 14 14 34.2 +2.0
KESW Keswick, Cumbr 99.90 32 *eP* **Pdif 14 14 33.2 +1.3**
FLDN Fort Liard 99.92 335 Pdiff **Pdif 14 14 34.1 +2.3**
baz=132
KOTAN Kotaneelee Air 100.06 335 Pdiff **Pdif 14 14 34.6 +2.1**
baz=132
V35K Ketchikan 100.13 329 Pdiff **Pdif 14 14 34.6 +1.7**
baz=127
LPL La Plagne 100.14 43 *eP* **Pdif 14 14 35.6 +2.1**
LPL pmax pmax
comp=Z,27nm,1.0s

LPG La Plagne 100.14 43 *eP* **Pdif 14 14 35.8 +2.2**
LPG pmax pmax
comp=Z,30nm,1.0s

HPK Haverah Park 100.23 33 *eP* **Pdif 14 14 34.4 +1.0**
HPK IAmb IAmb 14 14 36.1
comp=Z,79nm,1.4s

ESK Eskdalemuir 100.29 32 *eP* **Pdif 14 14 34.0 +0.3**
CABF La Chapelle 100.32 42 *eP* **Pdif 14 14 35.7 +1.6**
CABF pmax pmax
comp=Z,32nm,1.3s

LIRD Liard River Hi 100.36 334 Pdiff **Pdif 14 14 35.0 +1.1**
baz=130
T35M Bob Quinn 100.53 330 Pdiff **Pdif 14 14 36.6 +1.9**
baz=128
INVG Invergeldie, C 100.58 30 *eP* **Pdif 14 14 35.7 +0.8**
EDMD Edmundbyers 100.58 32 *eP* **Pdif 14 14 36.0 +1.1**
EDMD IAmb IAmb 14 14 37.3
comp=Z,17nm,0.8s

ESY Stoneypath 100.92 31 *eP* **Pdif 14 14 37.5 +1.1**
BAIF Baives 101.06 39 *eP* **Pdif 14 14 38.2 +1.0**
BAIF pmax pmax
comp=Z,24nm,1.2s

WRAK Wrangell Islan 101.11 329 Pdiff **Pdif 14 14 39.1 +1.9**
baz=126
DOU Dourbes 101.29 39 *d*Pdif **Pdif 14 14 39.8 +1.6**
DLBC Dease Lake 101.32 332 P **Pdif 14 14 39.7 +1.5**
comp=Z,26nm,0.9s,baz=129,slow=4.2,SNR=28
DLBC Dease Lake 101.32 332 Pdiff **Pdif 14 14 40.3 +2.0**
baz=128
SNF Seneffe 101.34 38 *d*Pdif **Pdif 14 14 39.5 +1.1**
HINF Hinteralfeld 101.39 41 *eP* **Pdif 14 14 39.8 +1.0**
HINF pmax pmax
comp=Z,14nm,1.0s

GIVF Givet 101.42 39 *eP* **Pdif 14 14 39.9 +1.1**
GIVF pmax pmax
comp=Z,70nm,1.4s

S34M Telegraph Cree 101.47 331 Pdiff **Pdif 14 14 40.7 +1.8**
baz=127
BMRD Maredsous 101.50 39 *d*Pdif **Pdif 14 14 40.2 +1.2**
RCHB Rochefort 101.67 39 *d*Pdif **Pdif 14 14 41.2 +1.4**
BGES Gesves 101.71 39 *d*Pdif **Pdif 14 14 41.1 +1.0**
WTLY Watson Lake, Y 101.86 333 Pdiff **Pdif 14 14 42.5 +2.0**
baz=128
WLF Walferdange 101.93 40 *d*Pdif **Pdif 14 14 42.3 +1.3**
CDF Champ du Feu 101.93 41 *eP* **Pdif 14 14 42.4 +1.2**
CDF pmax pmax
comp=Z,26nm,1.1s

WRGLY Wrigley 101.93 337 Pdiff **Pdif 14 14 42.1 +1.4**
baz=132
R33M Jennings River 102.29 332 Pdiff **Pdif 14 14 44.4 +1.7**
baz=127
SLE Schleitheim 102.32 42 P Pdif 14 14 44.0 +1.1
MEM Membach 102.33 39 *d*Pdif **Pdif 14 14 44.4 +1.6**
BTNL Ternell 102.39 39 *d*Pdif **Pdif 14 14 44.9 +1.8**
KMBO Kilima Mbogo 102.42 98 Pdiff **Pdif 14 14 39.0 -5.5**
BFO Black Forest 102.50 42 P Pdif 14 14 45.0 +1.3
TGTN Hyland Airport 102.54 335 Pdiff **Pdif 14 14 46.1 +2.5**
baz=128
Q32M Nakina River 102.58 331 Pdiff **Pdif 14 14 45.8 +1.9**
baz=128
DAVA Damuels 102.91 43 *eP* **Pdif 14 14 48.3 +2.6**
comp=Z,8.0nm,1.1s,SNR=5.4
DAVA *eP* **PP 14 19 00.3 -1.4**
comp=Z,29nm,2.0s
R32K Eaglecrest 103.15 330 Pdiff **Pdif 14 14 48.3 +2.0**
baz=124
STU Stuttgart 103.22 41 P Pdif 14 14 49.2 +2.4
SUMG Summit 103.22 9 *i* P **Pdif 14 14 47.0 +0.2**
FETA Feichten 103.29 44 *eP* **Pdif 14 14 49.4 +2.0**
comp=Z,16nm,1.3s,SNR=5.4
FETA *eP* **PKiKP 14 19 06.8 +0.8**
comp=Z,1.7nm,0.6s
FETA *eP* **PKKPbc 14 30 43.2 +0.3**
comp=Z,8.3nm,1.0s
P33M Teslin, Yukon 103.53 332 Pdiff **Pdif 14 14 50.0 +1.9**
baz=125
RETA Reutte 103.53 43 *eP* **Pdif 14 14 50.6 +2.3**
comp=Z,14nm,1.3s,SNR=4.4
RETA *eP* **PP 14 19 03.9 -2.5**
comp=Z,18nm,1.3s
P32M Atlin 103.55 331 Pdiff **Pdif 14 14 49.9 +1.8**
baz=124
MOTA Moosalm 103.67 43 *eP* **Pdif 14 14 51.2 +2.1**
comp=Z,12nm,1.3s
MOTA *eP* **PP 14 19 05.1 -2.3**
comp=Z,6.0nm,0.7s
MOTA P **PKKPbc 14 30 41.7 -0.1**
comp=Z,6.7nm,0.8s
SQTA Sankt Quirin 103.67 43 *eP* **Pdif 14 14 50.5 +1.5**
comp=Z,20nm,1.2s,SNR=6.6
SQTA *eP* **PP 14 19 05.1 -2.3**
comp=Z,4.8nm,0.6s
WATA Walderalm 103.95 43 *eP* **Pdif 14 14 52.3 +2.0**
comp=Z,12nm,1.5s,SNR=5.2
WATA *eP* **PP 14 19 07.0 -2.5**
comp=Z,9.5nm,1.1s
WATA *eP* **PKKPbc 14 30 41.4 +0.5**
comp=Z,4.8nm,0.8s
WTTA Wattenberg 103.95 44 *eP* **Pdif 14 14 52.7 +2.4**
comp=Z,9.8nm,1.1s
WTTA *eP* **PP 14 19 07.1 -2.5**
comp=Z,12nm,1.0s
SKAG Skagway 104.16 331 Pdiff **Pdif 14 14 52.7 +2.0**
baz=123
N32M Quiet Lake 104.18 333 Pdiff **Pdif 14 14 52.8 +1.9**
baz=125
ABTA Abfaltersbach 104.25 44 *eP* **Pdif 14 14 53.3 +1.7**
comp=Z,11nm,1.4s
ABTA *eP* **PP 14 19 08.9 -2.8**
comp=Z,8.7nm,0.9s
ABTA *eP* **PKKPbc 14 30 39.9 0.0**
comp=Z,2.8nm,0.7s
MMPY Sheldon Lake, 104.32 335 Pdiff **Pdif 14 14 53.4 +1.9**
baz=126
PLBC Pleasant Camp 104.60 331 Pdiff **Pdif 14 14 54.8 +2.1**
baz=127
GRFO Grafenberg 104.82 41 P Pdif 14 14 55.0 +1.1
MYKA Terra Mystica 104.89 45 *eP* **PKiKP 14 19 11.4 +2.5**
comp=Z,20nm,1.2s
FARO Faro, Yukon 104.89 334 Pdiff **Pdif 14 14 54.9 +0.9**
baz=124
KBA Koelnbreinsper 104.91 44 *eP* **PKiKP 14 19 10.6 +1.6**
comp=Z,2.9nm,0.7s
RES Resolute Bay 104.92 353 Pdiff **Pdif 14 14 54.8 +1.0**
comp=Z,10.0nm,0.9s,baz=161,slow=8.9,SNR=9.1
RES PKKPbc **PKKPbc 14 30 37.4 -1.2**
comp=Z,6.5nm,1.0s,baz=344,slow=5.1,SNR=6.0
M31M Drury Creek, Y 105.28 333 Pdiff **Pdif 14 14 56.8 +1.1**
baz=123
P29M Windy Craggy 105.29 330 Pdiff **Pdif 14 14 57.8 +2.0**
baz=121
BIOA Bad Ischl, Aus 105.36 44 *i* P **PKiKP 14 19 10.9 +1.3**
comp=Z,6.9nm,0.7s
OBKA Obir 105.40 45 *eP* **PKiKP 14 19 11.5 +1.7**
comp=Z,2.9nm,0.4s
N31M Braeburn, Yuko 105.45 332 Pdiff **Pdif 14 14 58.3 +1.8**
baz=122
SOKA Soboth 105.77 45 *eP* **PKiKP 14 19 12.0 +1.5**
comp=Z,3.0nm,0.6s,SNR=6.9

SOKA *eP* **PKKPdf 14 30 40.5 -6.0**
comp=Z,6.8nm,1.4s
HYT Haines Junctio 105.81 331 Pdiff **Pdif 14 14 60.0 +1.8**
baz=121
MOA Molln 105.81 44 *eP* **PKiKP 14 19 11.4 +1.0**
comp=Z,2.3nm,0.5s
GERES GERESS Array B 105.90 43 Pdiff **Pdif 14 14 59.7 +0.8**
comp=Z,0.7nm,0.7s,baz=224,slow=5.1,SNR=4.9
GERES PKiKP **PKiKP 14 19 11.5 +0.8**
comp=Z,6.0nm,1.0s,baz=190,slow=1.7,SNR=15
GERES PKKPbc **PKKPbc 14 30 34.8 -0.2**
comp=Z,2.0nm,0.9s,baz=64,slow=3.1,SNR=7.1
GERES PKKPab **PKKPab 14 30 49.4 +0.9**
comp=Z,1.7nm,0.8s,baz=66,slow=4.7,SNR=5.3
KHC Kasperske Hory 105.95 42 *e*PDIFF **Pdif 14 15 00.8 +1.8**
KHC *e*PKP **PKiKP 14 19 11.6 +0.9**
KHC *e*PKKP **PKKPbc 14 30 33.6 -1.1**
KHC *ex* x 14 30 51.0
N30M Aishikik Lake 105.97 332 Pdiff **Pdif 14 15 00.6 +1.8**
baz=121
CKRC Cesky Krumlov 106.25 43 *e*PDIFF **Pdif 14 15 01.8 +1.5**
CKRC *e*PKP **PKiKP 14 19 12.1 +0.9**
CKRC *e*PKKP **PKKPbc 14 30 34.4 +0.7**
ARSA Arzberg 106.32 45 *eP* **PKiKP 14 19 12.8 +1.3**
comp=Z,1.6nm,0.5s,SNR=5.3
M30M Minto, Yukon 106.43 333 Pdiff **Pdif 14 15 02.2 +1.3**
baz=121
YUK4 Talbot Arm 106.55 332 Pdiff **Pdif 14 15 03.4 +1.8**
baz=120
CLL Collm 106.56 40 *i* Pdif **Pdif 14 15 04.2 +2.6**
comp=Z,10.0nm,1.1s
CLL *i* PKiKP **PKiKP 14 19 13.6 +1.9**
comp=Z,11nm,1.2s
CLL *e*PP **PP 14 19 29.0 +0.5**
comp=Z,15nm,1.5s
CLL Collm 106.56 40 *i* P **Pdif 14 15 04.2 +2.6**
CLL pmax pmax
comp=Z,10.0nm,1.1s
MAYO Mayo, Yukon 106.62 334 Pdiff **Pdif 14 15 03.5 +1.9**
baz=122
PINM Pinnacle 106.62 330 Pdiff **Pdif 14 15 03.7 +1.9**
baz=119
CONA Conrad Observa 106.81 44 *eP* **PKiKP 14 19 13.6 +1.2**
comp=Z,2.2nm,0.5s
CONA P **PKKPbc 14 30 32.9 +0.8**
comp=Z,4.3nm,0.8s
PRU Pruhonice 106.89 42 *e*PDIFF **Pdif 14 15 05.3 +2.2**
PRU *e*PKP **PKiKP 14 19 13.1 +0.8**
PRU Pruhonice 106.89 42 *i* P **Pdif 14 15 05.3 +2.2**
YUK8 Steele Glacier 106.99 331 Pdiff **Pdif 14 15 05.4 +1.8**
baz=119
M29M Somme Creek 107.03 333 Pdiff **Pdif 14 15 05.5 +1.9**
baz=120
L29M L29M 107.23 333 Pdiff **Pdif 14 15 06.3 +1.9**
baz=120
DZM Mont Dzumac 107.31 232 PKKPab PKKPab 14 30 46.8 -0.2
comp=Z,18nm,1.2s,baz=67,slow=6.9,SNR=3.5
K29M Barlow Dome 107.37 344 Pdiff **Pdif 14 15 06.7 +1.6**
baz=120
YUK3 Moose Creek 107.52 332 Pdiff **Pdif 14 15 07.3 +1.3**
baz=118
KRUC Moravsky 107.60 43 *e*PKIKP **PKiKP 14 19 15.1 +1.4**
VRAC Vranov 107.82 43 PKKPab PKKPab 14 30 41.8 +1.9
comp=Z,1.9nm,0.6s,baz=103,slow=4.2,SNR=3.6
VRAC Vranov 107.82 43 *e*PKIKP **PKiKP 14 19 15.5 +1.4**
F31M Tsiigehtchic 107.92 338 Pdiff **Pdif 14 15 08.6 +1.4**
baz=122
UPC Upice 107.96 42 *e*PKP **PKiKP 14 19 16.3 +2.0**
DPC Dobruska-Polom 108.08 42 *e*PDIFF **Pdif 14 15 10.4 +1.9**
DPC *e*PKP **PKiKP 14 19 15.4 +0.8**
DPC Dobruska-Polom 108.08 42 *i* P **Pdif 14 15 10.4 +1.9**
OSTC Ostas 108.10 42 *e*PDIFF **Pdif 14 15 13.6 +5.1**
OSTC *e*PKP **PKiKP 14 19 16.8 +2.2**
A36M Sachs Harbour 108.17 344 PKiKP **PKiKP 14 19 15.1 +1.0**
baz=129
DAWY Dawson 108.19 334 PKiKP **PKiKP 14 19 15.6 +1.1**
baz=119
KRLC Kraliky 108.24 42 *e*PDIFF **Pdif 14 15 11.8 +2.6**
KRLC *e*PKP **PKiKP 14 19 15.7 +0.8**
KRLC *e*PKKP **PKKPdf 14 30 40.8 -1.2**
KRLC Kraliky 108.24 42 *i* P **Pdif 14 15 11.8 +2.6**
INK Inuvik 108.32 339 Pdiff **Pdif 14 15 10.1 +1.1**
comp=Z,17nm,1.0s,baz=98,slow=5.2,SNR=28
INK PKiKP **PKiKP 14 19 14.5 +0.1**
comp=Z,3.8nm,0.8s,baz=66,slow=0.3,SNR=6.5
INK PKKPbc **PKKPbc 14 30 27.2 -0.6**
comp=Z,8.2nm,0.8s,baz=337,slow=3.6,SNR=18
INK PKKPab **PKKPdf 14 30 38.5 -3.7**
comp=Z,8.6nm,1.0s,baz=315,slow=5.1,SNR=9.3
INK Inuvik 108.32 339 PKiKP **PKiKP 14 19 15.7 +1.2**
baz=122
EPYK Eagle Plains 108.36 337 PKiKP **PKiKP 14 19 15.7 +1.1**
baz=120
M27K Edge Creek, AK 108.38 332 PKiKP **PKiKP 14 19 16.6 +1.6**
baz=117
MCARA McCarthy VSAT 108.42 331 PKiKP **PKiKP 14 19 16.1 +1.2**
baz=116
G30M tAoh Zraii Nji 108.50 337 PKiKP **PKiKP 14 19 16.0 +1.1**
baz=120
MORC Moravsky Berou 108.58 43 *e*PKIKP **PKiKP 14 19 17.3 +1.7**
MAUC Maruska 108.59 43 *e*PKP **PKiKP 14 19 17.7 +2.1**
L27K Beaver Creek, 108.69 332 PKiKP **PKiKP 14 19 17.3 +1.9**
baz=117
VYHS Vyhne 108.86 45 *e*PKP **PKiKP 14 19 17.9 +1.8**
M26K Nabesna, AK 108.87 332 PKiKP **PKiKP 14 19 17.6 +1.8**
baz=116
OKC Ostrava-Krasne 108.96 43 *e*PKP **PKiKP 14 19 17.7 +1.5**
K27K Chicken 109.22 333 PKiKP **PKiKP 14 19 18.5 +2.2**
baz=116
EYAK Cordova Ski Ar 109.26 329 PKiKP **PKiKP 14 19 18.9 +2.5**
baz=115
L26K Log Cabin Wild 109.29 332 PKiKP **PKiKP 14 19 18.5 +2.0**
baz=116
DAG Danmarks Havn 109.64 11 *i* P **PKiKP 14 19 16.0 -0.7**
KLU Klutina 109.73 330 PKiKP **PKiKP 14 19 19.1 +1.7**
baz=114
I27K Kandik River 109.75 335 PKiKP **PKiKP 14 19 19.3 +1.9**
baz=116
NB2 NORSAR Subarra 109.75 30 P **PKiKP 14 19 18.5 +1.1**
comp=Z,1.1nm,0.7s,baz=247,slow=4.4
NOA NORSAR Array B 109.75 30 PKiKP **PKiKP 14 19 18.5 +1.1**
comp=Z,2.0nm,0.7s,baz=250,slow=2.1,SNR=9.4
NOA PKKPab **PKKPdf 14 30 33.0 -6.4**
comp=Z,2.3nm,0.8s,baz=68,slow=4.5,SNR=3.5
HARP HAARP 109.78 331 PKiKP **PKiKP 14 19 19.5 +2.1**
baz=114
SCRK Sand Creek 109.96 333 PKiKP **PKiKP 14 19 19.9 +2.1**
baz=115
H27K Steamboat Moun 110.00 336 PKiKP **PKiKP 14 19 19.4 +1.6**
baz=116
J26L Joseph Creek 110.02 333 PKiKP **PKiKP 14 19 19.6 +1.7**
baz=115
M24K Tolsona, Glenn 110.09 331 PKiKP **PKiKP 14 19 20.4 +2.4**
baz=114
PAX Paxson 110.14 332 PKiKP **PKiKP 14 19 19.8 +1.6**
baz=114
I26K Coal Creek Min 110.20 334 PKiKP **PKiKP 14 19 19.7 +1.6**
baz=115
RIDG Independent Ri 110.20 332 PKiKP **PKiKP 14 19 20.0 +1.8**
baz=114
G27K Doyon Strip 110.30 336 PKiKP **PKiKP 14 19 19.9 +1.5**
baz=116
SCM Sheep Creek Mo 110.48 330 PKiKP **PKiKP 14 19 20.4 +1.6**
baz=113
M23K Glacier View 110.64 330 PKiKP **PKiKP 14 19 20.9 +1.8**
baz=113
J25K Salcha River, 110.77 333 PKiKP **PKiKP 14 19 21.0 +1.7**
baz=114
KNK Knik Glacier 110.82 329 PKiKP **PKiKP 14 19 21.1 +1.7**
baz=112
E27K Coleen River 110.89 337 PKiKP **PKiKP 14 19 21.0 +1.7**
baz=116
SML Sawmill 110.91 330 PKiKP **PKiKP 14 19 21.2 +1.5**
baz=112
WAT6 Susitna Watana 110.95 331 PKiKP **PKiKP 14 19 21.4 +1.6**
baz=112
DHY Denali Highway 110.98 331 PKiKP **PKiKP 14 19 21.5 +1.7**
baz=112
UZH Uzhgorod 111.05 45 *i* PKiKP **PKiKP 14 19 21.4 +1.2**
G26K Porcupine Rive 111.12 336 PKiKP **PKiKP 14 19 21.6 +1.8**
baz=114
PMR Palmer 111.18 330 PKiKP **PKiKP 14 19 21.6 +1.6**
baz=112
PRP Porcupine Dome 111.19 334 PKiKP **PKiKP 14 19 21.6 +1.5**
baz=113
BRSE Bradley Lake S 111.25 327 PKiKP **PKiKP 14 19 21.8 +1.6**
baz=111

HDA	Harding Lake	111.32	333		PKiKP	PKiKP	14 19 21.5	+1.3	
	baz=112								
WAT1	Susitna Watana	111.39	331		PKiKP	PKiKP	14 19 21.9	+1.4	
	baz=112								
ILAR	Eielson Array	111.43	333		Pdiff	Pdif	14 15 23.4	+0.5	
	comp=Z,1.6nm,0.7s,baz=148,slow=3.5,SNR=15								
ILAR					PKiKP	PKiKP	14 19 21.2	+0.7	
	comp=Z,9.6nm,1.0s,baz=171,slow=1.4,SNR=24								
ILAR					PKKPbc	PKKPbc	14 30 16.1	-1.6	
	comp=Z,2.5nm,0.8s,baz=314,slow=3.7,SNR=10								
KDAK	Kodiak Island	111.45	325		PKiKP	PKiKP	14 19 21.6	+0.9	
	comp=Z,9.6nm,0.8s,baz=140,slow=7.8,SNR=4.3								
KDAK					PKKPbc	PKKPbc	14 30 16.7	-0.7	
	comp=Z,20nm,1.0s,baz=328,slow=3.0,SNR=4.3								
F26K	Sheenjek River	111.56	336		PKiKP	PKiKP	14 19 22.6	+2.0	
	baz=114								
OHAK	Old Harbor	111.62	324		PKiKP	PKiKP	14 19 22.6	+1.6	
	baz=110								
Q20K	Shuyak Island	111.65	326		PKiKP	PKiKP	14 19 22.9	+1.9	
	baz=110								
COLA	College	111.86	333		PKiKP	PKiKP	14 19 22.2	+1.0	
	baz=111								
COLA	College	111.86	333	⇑	*i*PKIKP	PKiKP	14 19 22.3	+1.1	
TCOL	CIGO, UAF Yank	111.86	333		PKiKP	PKiKP	14 19 22.3	+1.1	
	baz=111								
MCK	McKinley	111.88	332		PKiKP	PKiKP	14 19 23.0	+1.6	
	baz=111								
G25K	Bearman Lake	111.89	335		PKiKP	PKiKP	14 19 23.6	+2.4	
	baz=112								
CUT	Chulitna	111.98	330		PKiKP	PKiKP	14 19 23.4	+1.9	
	baz=110								
F25K	Christian Rive	112.04	336		PKiKP	PKiKP	14 19 23.6	+2.0	
	baz=112								
C27K	Jago River	112.18	338		PKiKP	PKiKP	14 19 23.9	+2.1	
	baz=113								
H24K	Noodor Dome	112.22	334		PKiKP	PKiKP	14 19 23.4	+1.4	
	baz=111								
E25K	Arctic Village	112.22	337		PKiKP	PKiKP	14 19 23.8	+1.9	
	baz=112								
NEA2	Nenana	112.24	333		PKiKP	PKiKP	14 19 23.2	+1.2	
	baz=110								
TRF	Thorofare Moun	112.35	331		PKiKP	PKiKP	14 19 23.9	+1.5	
	baz=110								
MLR	Muntele Rosu	112.36	49		PKiKP	PKiKP	14 19 23.6	+0.6	
	comp=Z,7.5nm,0.4s,baz=34,slow=6.1,SNR=4.9								
G24K	Hadweenzic Riv	112.38	335		PKiKP	PKiKP	14 19 24.1	+1.9	
	baz=111								
SKT	Skwentna	112.39	329		PKiKP	PKiKP	14 19 23.8	+1.4	
	baz=109								
LVV	L'vov	112.52	45	*e*	PKIKP	PKiKP	14 19 24.2	+1.2	
I23K	Minto, Yukon-K	112.55	333		PKiKP	PKiKP	14 19 23.5	+1.0	
	baz=110								
C26K	Camden Bay	112.68	339		PKiKP	PKiKP	14 19 25.0	+2.3	
	baz=112								
F24K	Squaw Lake	112.82	336		PKiKP	PKiKP	14 19 25.2	+2.1	
	baz=110								
H23K	Yukon River	112.86	334		PKiKP	PKiKP	14 19 25.1	+1.9	
	baz=110								
BPAW	Bear Paw Mtn.	112.86	332		PKiKP	PKiKP	14 19 24.5	+1.3	
	baz=109								
D25K	Kavik River	112.94	338		PKiKP	PKiKP	14 19 24.6	+1.4	
	baz=111								
Q18K	Katmai Hardscr	112.95	325		PKiKP	PKiKP	14 19 24.8	+1.1	
	baz=108								
PPLA	Purkeypile	112.98	330		PKiKP	PKiKP	14 19 25.1	+1.5	
	baz=108								
MLY	Manley	113.06	333		PKiKP	PKiKP	14 19 26.1	+2.5	
	baz=109								
M20K	Styx River	113.07	329		PKiKP	PKiKP	14 19 24.9	+1.1	
	baz=108								
O19K	Port Alsworth	113.10	327		PKiKP	PKiKP	14 19 24.7	+1.0	
	baz=108								
CAST	Castle Rocks	113.10	331		PKiKP	PKiKP	14 19 24.8	+1.1	
	baz=108								
E24K	Your Creek	113.22	336		PKiKP	PKiKP	14 19 25.7	+1.9	
	baz=110								
Q17K	Contact Creek	113.27	325		PKiKP	PKiKP	14 19 25.5	+1.3	
	baz=107								
P18K	Big Mountain,	113.29	326		PKiKP	PKiKP	14 19 25.2	+1.0	
	baz=108								
G23K	Bananza Creek	113.33	335		PKiKP	PKiKP	14 19 26.1	+2.1	
	baz=109								
CHUM	Lake Minchumin	113.34	331		PKiKP	PKiKP	14 19 25.6	+1.5	
	baz=108								
N19K	Bonanza Creek	113.36	328		PKiKP	PKiKP	14 19 25.1	+0.7	
	baz=108								
O18K	Koktuh Hills	113.42	327		PKiKP	PKiKP	14 19 25.4	+1.0	
	baz=107								
STKA	Stephens Creek	113.44	207		PKiKP	PKiKP	14 19 26.1	+0.6	
	comp=Z,6.9nm,0.7s,baz=131,slow=3.4,SNR=6.4								
STKA					PKKPbc	PKKPbc	14 30 09.5	-0.5	
	comp=Z,5.9nm,1.0s,baz=340,slow=6.9,SNR=4.5								
STKA	Stephens Creek	113.44	207	⇑	*i*PKIKP	PKiKP	14 19 25.2	-0.3	
COLD	Coldfoot	113.56	335		PKiKP	PKiKP	14 19 26.6	+2.1	
	baz=108								
H22K	Ishtalitna Cre	113.59	334		PKiKP	PKiKP	14 19 26.3	+1.8	
	baz=108								
I21K	Tanana	113.61	333		PKiKP	PKiKP	14 19 25.8	+1.3	
	baz=108								
E23K	Chandalar	113.62	336		PKiKP	PKiKP	14 19 26.2	+1.6	
	baz=109								
M19K	Big River Lodg	113.65	329		PKiKP	PKiKP	14 19 26.0	+1.2	
	baz=107								
D24K	Happy Valley	113.70	337		PKiKP	PKiKP	14 19 26.1	+1.5	
	baz=109								
Q16K	King Salmon	113.78	325		PKiKP	PKiKP	14 19 26.5	+1.4	
	baz=107								
TOLK	Toolik Lake Re	113.79	337		PKiKP	PKiKP	14 19 27.0	+2.0	
	baz=108								
C24K	Franklin Bluff	113.84	338		PKiKP	PKiKP	14 19 26.7	+1.8	
	baz=109								
K20K	Telida	113.93	331		PKiKP	PKiKP	14 19 26.5	+1.3	
	baz=107								
G22K	Bettles	113.96	335		PKiKP	PKiKP	14 19 27.4	+2.2	
	baz=107								
H21K	Melozitna Rive	114.08	333		PKiKP	PKiKP	14 19 27.4	+1.9	
	baz=107								
PABE	Paberze	114.19	39	*eP*		PKiKP	14 19 27.3	+1.4	
J20K	Nowinta River	114.20	331		PKiKP	PKiKP	14 19 27.4	+1.7	
	baz=106								
CHNA	Chernabura Isl	114.24	321		PKiKP	PKiKP	14 19 27.2	+1.2	
	baz=106								
D23K	Nanushuk River	114.28	337		PKiKP	PKiKP	14 19 27.4	+1.6	
	baz=107								
VSVD	Vaisvydziai	114.30	38	*eP*		PKiKP	14 19 27.9	+1.8	
O17K	Koliganek Bris	114.31	326		PKiKP	PKiKP	14 19 27.3	+1.3	
	baz=106								
F22K	John River	114.38	335		PKiKP	PKiKP	14 19 28.0	+1.9	
	baz=107								
E22K	Anaktuvuk Pass	114.43	336		PKiKP	PKiKP	14 19 28.0	+1.9	
	baz=107								
C23K	Itkillik River	114.51	338		PKiKP	PKiKP	14 19 28.1	+2.0	
	baz=107								
RAF	Rauma	114.58	32	*eP*		PKiKP	14 19 27.8	+1.3	
G21K	Allakaket	114.60	334		PKiKP	PKiKP	14 19 28.6	+2.1	
	baz=106								
TTA	Tatalina	114.66	330		PKiKP	PKiKP	14 19 28.9	+2.2	
	baz=105								
O16K	Kokwok River B	114.75	326		PKiKP	PKiKP	14 19 28.1	+1.2	
	baz=105								
F21K	Alatna River	114.78	335		PKiKP	PKiKP	14 19 29.0	+2.2	
	baz=106								
MTSE	Matsula	114.97	35	*eP*		PKiKP	14 19 28.9	+1.6	
MMAI	Mount Meron Ar	115.26	65		PKP	PKiKP	14 19 29.8	+0.9	
	comp=Z,10nm,0.6s,baz=0.0,slow=0.6,SNR=14								
N16K	Nishlik Lake	115.30	327		PKiKP	PKiKP	14 19 30.4	+2.4	
	baz=104								
IIGN	Ignalina	115.38	39	*eP*		PKiKP	14 19 30.0	+1.8	
ISAL	Salakas	115.39	39	*eP*		PKiKP	14 19 30.3	+2.0	
ANTO	Ankara	115.41	57		P	PKiKP	14 19 30.9	+1.9	
GCSA	Galena City Sc	115.50	332		PKiKP	PKiKP	14 19 30.7	+2.5	
	baz=104								
NACGM	Naroch	115.58	40	*e*	PKP	PKPdf	14 19 25.2	-3.5	
	comp=Z,63nm,0.8s,baz=255								
MEF	Metsahovi	115.63	34	*eP*		PKiKP	14 19 29.5	+0.9	
MSEY	Mahe Island	115.95	112		PKiKP	PKiKP	14 19 32.1	+1.3	
AKASG	Malin Array Be	115.97	45		PKP	PKiKP	14 19 29.9	+0.4	
	comp=Z,29nm,0.8s,baz=266,slow=2.5,SNR=120								
AKASG	Malin Array Be	115.97	45			PKiKP	14 19 29.7	+0.2	
AKBB	Malin Array Si	115.97	45			PKiKP	14 19 29.6	+0.1	
AKBB	Malin Array Si	115.97	45	*d*	*i*PKIKP	PKiKP	14 19 29.9	+0.4	
BR131	Keskin Array S	115.99	57			PKiKP	14 19 31.1	+0.9	
BR131	Keskin Array S	115.99	57		P	PKiKP	14 19 31.6	+1.4	
	SNR=6.7								
BR131	Keskin Array S	115.99	57	*d*	*i*PKIKP	PKiKP	14 19 30.9	+0.8	
BRTR	Keskin Array B	115.99	57		PKP	PKiKP	14 19 31.3	+1.1	
	comp=Z,25nm,0.8s,baz=190,slow=2.8,SNR=84								
BRTR					PKKPab	PKKPab	14 30 07.2	+2.5	
	comp=Z,4.7nm,0.8s,baz=104,slow=4.1,SNR=4.3								
BRTR	Keskin Array B	115.99	57			PKiKP	14 19 31.1	+1.0	
MNK	Minsk	116.11	40	*i*	PKP	PKiKP	14 19 30.4	+0.8	
	comp=E,3.0nm,1.1s								
MNK				*i*	PKP	PKiKP	14 19 30.4	+0.8	
	comp=N,27nm,0.7s								
MNK				*i*	PKP	PKiKP	14 19 30.4	+0.8	
	comp=Z,94nm,0.8s,baz=256								
MNK				*i*	pPKP	pPKPdf	14 20 03.0	+0.2	
MNK				*i*	PP	PP	14 20 36.8	0.0	
MNK				*i*	PPP	PPP	14 23 03.6		
MNK				*i*	SKS	SKSdf	14 26 30.5	+0.2	
MNK				*i*	SS	SS	14 36 30.2	+0.2	
MNK				*i*	SSS	SSS	14 40 51.4		
MNK				*i*	LRM	MLR	15 06 21.0		
	comp=N,1μm,14.1s								
MNK				*i*	LRM	MLR	15 06 28.6		
	comp=Z,2μm,14.1s								
MNK				*i*	LRM	MLR	15 06 36.3		
	comp=E,483nm,23.0s								
MNK	Minsk	116.11	40	*i*	PKIKP	PKiKP	14 19 30.4	+0.8	
MNK				*i*			14 20 03.0		
MNK				*i*			14 20 36.7		
MNK				*i*			14 23 06.8		
MNK				*i*			14 26 30.4		
MNK				*i*	SS	SS	14 36 30.2	+0.2	
MNK				*i*	SSS	SSS	14 40 51.3		
MNK					pmax	pmax			
	comp=Z,94nm,0.8s								
MNK					pmax	pmax			
	comp=E,3.0nm,1.1s								
MNK					pmax	pmax			
	comp=N,27nm,0.7s								
MNK					MLR	MLR			
	comp=N,1μm,14.0s								
MNK					MLR	MLR			
	comp=Z,2μm,14.0s								
MNK					MLR	MLR			
	comp=E,483nm,23.0s								
KBS	Kingsbay	116.22	12	⇓	*i*PKIKP	PKiKP	14 19 31.0	+1.7	
KBS					pmax	pmax			
	comp=Z,51nm,2.5s								
VSU	Vasula	116.39	36	*eP*		PKiKP	14 19 31.4	+1.3	
VSU	Vasula	116.39	36	*d*	*i*PKIKP	PKiKP	14 19 30.5	+0.4	
ILGA	Ilgaz	116.43	56			PKiKP	14 19 32.5	+1.4	
FINES	FINESS Array B	116.70	32		PKP	PKiKP	14 19 31.3	+0.7	
	comp=Z,10nm,0.8s,baz=227,slow=1.0,SNR=20								
FIA1	FINESS Array S	116.70	32		PKPdf	PKiKP	14 19 31.6	+1.0	
A21K	Barrow	116.82	339		PKiKP	PKiKP	14 19 32.7	+2.2	
	baz=101								
BNN	Bunyan	117.38	59		PKPdf	PKiKP	14 19 32.9	0.0	
SIM	Simferopol'	117.74	52	*e*	PKIKP	PKiKP	14 19 34.9	+1.7	
SIM					pmax	pmax			
	comp=Z,132nm,1.0s								
ARCES	ARCESS Array B	117.88	23		PKP	PKiKP	14 19 33.4	+0.7	
	comp=Z,10.0nm,0.7s,baz=328,slow=4.3,SNR=26								
ARCES					PKKPbc	PKKPbc	14 29 55.1	-0.4	
	comp=Z,12nm,0.8s,baz=72,slow=5.3,SNR=8.4								
ARCES	ARCESS Array B	117.88	23		PKPdf	PKiKP	14 19 33.8	+1.1	
ARCES	ARCESS Array B	117.88	23		PKIKP	PKiKP	14 19 33.8	+1.1	
GAZ	Gaziantep	117.94	61		PKPdf	PKiKP	14 19 35.2	+1.3	
TOKA	Tokat	118.25	57			PKiKP	14 19 35.3	+0.9	
NWAO	Narrogin (SRO)	118.28	185		PKP	PKiKP	14 19 34.5	-0.3	
	comp=Z,13nm,0.6s,baz=12,slow=4.4,SNR=7.8								
NWAO					PKKPbc	PKKPbc	14 29 52.4	-0.9	
	comp=Z,14nm,0.9s,baz=247,slow=3.3,SNR=6.5								
PUL	Pulkovo	118.46	35	⇓	*i*PKIKP	PKiKP	14 19 36.0	+1.9	
PUL					pmax	pmax			
	comp=Z,40nm,0.5s								
ANN	Anapa	120.00	53	*i*	PKIKP	PKiKP	14 19 37.8	+0.3	
ANN				*e*			14 20 08.6		
ANN				*e*	PPP	PPP	14 23 35.1		
ANN				*e*			14 26 23.3		
ANN				*e*	SS	SS	14 37 19.6	-1.3	
ANN					pmax	pmax			
	comp=Z,197nm,1.1s								
HNR	Honiara	120.35	238		PKP	PKiKP	14 19 38.6	-0.6	
	comp=Z,536nm,0.4s,baz=243,slow=4.5,SNR=4.5								
RAYN	Ar Rayn	120.44	78		P	PKiKP	14 19 41.0	+1.8	
RAYN	Ar Rayn	120.44	78	*i*	PKiKP	PKiKP	14 19 40.9	+1.8	
	SNR=24								
RAYN	Ar Rayn	120.44	78		PKIKP	PKiKP	14 19 40.8	+1.6	
SPIA	Saint Paul Isl	120.57	322		PKiKP	PKiKP	14 19 40.0	+1.8	
	baz=97								
APA	Apatity	120.59	26	⇓	*i*PKIKP	PKiKP	14 19 38.2	+0.2	
APA				*i*	*P	sPKPdf	14 20 21.0	-3.2	
APA					pmax	pmax			
	comp=Z,40nm,0.7s								
MARD	Mardin	120.73	62		PKPdf	PKiKP	14 19 40.5	+1.1	
LVZ	Lovozero	121.08	26			PKiKP	14 19 40.3	+1.3	
LVZ	Lovozero	121.08	26	*d*	*i*PKIKP	PKiKP	14 19 40.1	+1.0	
LVZ					pmax	pmax			
	comp=Z,147nm,2.5s								
OBN	Obninsk	121.16	41		PKP	PKiKP	14 19 40.3	+0.8	
	comp=Z,19nm,0.7s,baz=357,slow=0.5,SNR=21								
OBN	Obninsk	121.16	41		PKPdf	PKiKP	14 19 40.1	+0.6	
OBN	Obninsk	121.16	41	*d*	*i*PKIKP	PKiKP	14 19 40.3	+0.8	
OBN				*e*			14 20 13.3		
OBN				*e*			14 21 10.7		
OBN				*e*	PPP	PPP	14 23 51.3		
OBN					pmax	pmax			
	comp=Z,215nm,1.7s								
CTA	Charters Tower	121.31	218		PKP	PKiKP	14 19 41.6	+0.6	
	comp=Z,28nm,0.9s,baz=130,slow=2.8,SNR=13								
CTA					PKKPab	PKKPab	14 29 44.9	-0.7	
	comp=Z,22nm,0.9s,baz=353,slow=4.1,SNR=12								
SOC	Sochi	121.36	54	*i*	PKIKP	PKiKP	14 19 40.6	+0.3	
SOC				*e*			14 21 13.6		
SOC					pmax	pmax			
	comp=Z,223nm,1.3s								
MOS	Moscow	121.82	40	*i*	PKIKP	PKiKP	14 19 40.7	-0.1	
MOS				*e*			14 20 13.8		
MOS					pmax	pmax			
	comp=Z,151nm,0.9s								
GURO	Guroymak-BITLI	121.99	61			PKiKP	14 19 42.3	+0.4	
VSR	Storozhevoye	122.23	45	*e*	PKIKP	PKiKP	14 19 40.6	-1.1	
VSR					pmax	pmax			
	comp=Z,120nm,1.0s								
LPSR	Galich'ya Gora	122.25	44	*e*	PKIKP	PKiKP	14 19 41.7	0.0	
LPSR					pmax	pmax			
	comp=Z,160nm,0.8s								
VORR	Voronezh	122.32	45	*e*	PKIKP	PKiKP	14 19 42.8	+0.9	
VORR					pmax	pmax			
	comp=Z,80nm,0.5s								
KLMR	Klimovskoe	123.11	34	*e*	PKPdf	PKiKP	14 19 42.4	-0.8	
KLMR					AMP		14 19 45.2		
	comp=Z,142nm,0.8s								
KLMR				*e*	pPKPdf	pPKPdf	14 20 16.8	+0.7	
KLMR				*e*	SKP		14 23 07.9		
KLMR				*e*	PPP	PPP	14 24 04.1		
KLMR	Klimovskoe	123.11	34	*e*	PKIKP	PKiKP	14 19 42.4	-0.8	
KLMR				*e*	PPP	PPP	14 24 04.0		
KLMR					pmax	pmax			
	comp=Z,142nm,0.8s								
NEY	Neytrino	123.44	55	*c*	*i*PKIKP	PKiKP	14 19 46.7	+2.0	
KIV	Kislovodsk	123.54	54		PKPdf	PKiKP	14 19 45.3	+0.6	
KIV	Kislovodsk	123.54	54		P	PKiKP	14 19 46.4	+1.7	
KIV	Kislovodsk	123.54	54	*i*	PKiKP	PKiKP	14 19 46.1	+1.4	
	SNR=14								
KIV	Kislovodsk	123.54	54	*e*	PKIKP	PKiKP	14 19 45.5	+0.8	
KIV					pmax	pmax			
	comp=Z,169nm,1.1s								
KVAR	Kislovodsk Arr	123.55	54		PKP	PKiKP	14 19 44.7	0.0	
	comp=Z,18nm,0.8s,baz=280,slow=19,SNR=9.0								
KBZ	Khabaz	123.65	55		PKP	PKiKP	14 19 46.0	+1.3	
	comp=Z,77nm,1.0s,baz=237,slow=3.1,SNR=68								
KBZ	Khabaz	123.65	55	*d*	*i*PKIKP	PKiKP	14 19 45.8	+1.0	
ASAR	Alice Springs	123.74	204		PKP	PKiKP	14 19 45.5	-0.3	
	comp=Z,79nm,0.6s,baz=135,slow=1.8,SNR=170								
ASAR					PKKPbc	PKKPab	14 29 33.9	-1.6	
	comp=Z,11nm,0.8s,baz=332,slow=3.0,SNR=59								
ASAR					PKKP	PKKPdf	14 30 10.5	-0.2	
	comp=Z,1.0nm,0.6s,baz=344,slow=1.8,SNR=4.3								
AS31	Alice Springs	123.74	204		PKPdf	PKiKP	14 19 45.4	-0.4	
VRH	Novokhopyorsk	123.83	46	*e*	PKIKP	PKiKP	14 19 44.9	0.0	
VRH					pmax	pmax			
	comp=Z,140nm,1.0s								
ONI	Oni	123.86	56			PKiKP	14 19 46.5	+1.1	
ONI	Oni	123.86	56		PKIKP	PKiKP	14 19 46.5	+1.1	
GOF	Gofitskoye	123.96	53	⇑	*e*PKIKP	PKiKP	14 19 46.6	+1.2	
GOF					pmax	pmax			
	comp=Z,214nm,0.9s								
NCK	Nalchik	124.11	55	⇑	*i*PKIKP	PKiKP	14 19 47.6	+1.8	
ZEI	Tsey	124.22	56	*i*	PKIKP	PKiKP	14 19 45.1	-1.2	
ZEI					pmax	pmax			
	comp=Z,82nm,1.2s								
GNI	Garni	124.37	59		PKP	PKiKP	14 19 47.7	+1.2	
	comp=Z,69nm,0.8s,baz=0.0,slow=5.1,SNR=24								
GNI	Garni	124.37	59		PKPdf	PKiKP	14 19 47.5	+0.9	
GNI	Garni	124.37	59		P	PKiKP	14 19 48.5	+1.9	
GNI	Garni	124.37	59		PKIKP	PKiKP	14 19 48.3	+1.7	
GNI	Garni	124.37	59	*d*	*i*PKIKP	PKiKP	14 19 48.1	+1.5	
GNI					pmax	pmax			
	comp=Z,82nm,0.8s								
ABTO	Aybut	124.92	88		P	PKiKP	14 19 49.4	+1.2	
ABTO					P	PKiKP	14 19 49.4	+1.2	
SMRA	Abu-Samra	125.43	79		P	PKiKP	14 19 49.8	+0.9	
SAKB	Bahrain	125.57	77		P	PKiKP	14 19 50.0	+0.9	
GROC	Groznyy	125.66	56	*i*	PKIKP	PKiKP	14 19 48.8	0.0	
GROC				*e*			14 20 15.8		
GROC				*e*			14 21 42.8		
GROC					pmax	pmax			
	comp=Z,343nm,1.1s								
RBK	Rabkut	125.78	89		P	PKiKP	14 19 50.6	+0.8	
SHMA	Al-Shehemyia	125.90	78		P	PKiKP	14 19 50.7	+0.9	
SLWR	Sila	125.95	80		P	PKiKP	14 19 50.9	+1.0	
PRGR	Permogore	126.03	33	*e*	PKIKP	PKiKP	14 19 46.6	-2.3	
PRGR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
DOK	Doka	126.14	87		P	PKiKP	14 19 51.1	+0.7	
DMTO	DMTO	126.51	89		P	PKiKP	14 19 51.8	+0.6	
AKT	Akhty	126.83	58	*e*	PKIKP	PKiKP	14 19 52.8	+1.4	
AKT				*e*			14 21 51.5		
AKT					pmax	pmax			
	comp=Z,128nm,1.0s								
MAK	Makhachkala	126.86	56	*eP*		Pdif	14 16 34.0	+1.9	
MAK				*i*			14 19 51.4		
MAK				*e*			14 20 21.4		
MAK				*e*			14 21 47.2		
MAK					pmax	pmax			
	comp=Z,305nm,1.3s								
WR0	Warramunga Arr	126.88	206			PKiKP	14 19 52.1	0.0	
GHWR	Ruwais	126.94	81		P	PKiKP	14 19 52.9	+1.0	
WB2	Warramunga Arr	126.97	206			PKiKP	14 19 52.1	-0.1	
WRA	Warramunga Arr	126.98	206		PKP	PKiKP	14 19 52.1	-0.1	
	comp=Z,191nm,0.7s,baz=166,slow=1.7,SNR=312								
WRA	Warramunga Arr	126.98	206		PKPdf	PKiKP	14 19 51.8	-0.4	
WRAB	Tennant Creek	126.98	206	*d*	*i*PKIKP	PKiKP	14 19 52.3	0.0	
WB0	Warramunga Arr	127.11	206		PKPdf	PKiKP	14 19 52.3	-0.2	
MZR	Muzera	127.15	82		P	PKiKP	14 19 53.9	+1.5	
	SNR=21								
MZR	Muzera	127.15	82	*i*	PKiKP	PKiKP	14 19 53.8	+1.4	
	SNR=13								
DGAR	Diego Garcia	127.19	127		P	PKiKP	14 19 54.4	+1.6	
JRN	Qarnain Island	127.23	79		P	PKiKP	14 19 53.3	+0.8	
BELG	Belogornoye	127.55	44		PKP	PKiKP	14 19 52.7	+0.5	
	comp=Z,180nm,0.9s,baz=26,slow=0.6,SNR=38								
BELG	Belogornoye	127.55	44	*d*	*i*PKIKP	PKiKP	14 19 52.4	+0.2	
MZWR	Madinat Zayed	127.75	81		P	PKiKP	14 19 54.6	+1.0	
KIRV	Kirov	128.22	36		PKP	PKiKP	14 19 54.3	+0.9	
	comp=Z,75nm,0.8s,baz=201,slow=2.9,SNR=30								
KIRV	Kirov	128.22	36	*d*	*i*PKIKP	PKiKP	14 19 54.0	+0.6	
UMZA	Um Al Zommool	128.51	83		P	PKiKP	14 19 56.4	+1.3	
PMG	Port Moresby	129.22	227		PKP	PKiKP	14 19 57.0	+0.2	
	comp=Z,58nm,0.9s,baz=52,slow=2.4,SNR=18								
PMG	Port Moresby	129.22	227	⇑	*i*PKIKP	PKiKP	14 19 58.0	+1.2	
PSA00	Pilbara Seismi	129.25	189			PKiKP	14 19 56.3	-0.4	
PSA00	Pilbara Seismi	129.25	189			PKiKP	14 19 56.4	-0.4	
ASUD	Al Ashush, Dub	129.28	81		P	PKiKP	14 19 57.6	+1.0	
	SNR=10								
ASUD	Al Ashush, Dub	129.28	81	*i*	PKiKP	PKiKP	14 19 57.8	+1.2	
	SNR=15								
ALNE	Al Ain	129.46	82		P	PKiKP	14 19 57.8	+0.7	
	SNR=21								
ALNE	Al Ain	129.46	82	*i*	PKiKP	PKiKP	14 19 57.9	+0.9	
	SNR=9.6								
FAQ	Al Faq

AB31	Akbulak array	135.54	48	*i*	PKIKP	**PKPdf**	14 20 02.3	-4.6		
TIXI	Tiksi	136.31	353		PKhKP	PKPpre	14 19 53.4			
	comp=Z,8.2nm,0.8s,baz=186,slow=0.1,SNR=12									
TIXI					PKP	**PKiKP**	14 20 08.6	-0.8		
	comp=Z,39nm,0.7s,baz=62,slow=0.1,SNR=32									
NRIK	Noril'sk	137.10	13		PKhKP	PKPpre	14 19 59.6			
	comp=Z,6.3nm,0.8s,baz=64,slow=1.7,SNR=5.9									
NRIK					PKP	**PKiKP**	14 20 10.6	-0.5		
	comp=Z,29nm,0.8s,baz=1.7,slow=1.1,SNR=4.2									
NRIK	Noril'sk	137.10	13		PKPdf	**PKiKP**	14 20 11.2	+0.1		
HRA	Herat	137.31	69		PKPdf	**PKiKP**	14 20 11.6	-1.3		
SEY	Seymchan	137.35	334		PKhKP	PKPpre	14 20 00.3			
	comp=Z,12nm,0.7s,baz=88,slow=4.3,SNR=6.8									
SEY	Seymchan	137.35	334	*de*	PKIKP	**PKiKP**	14 20 12.2	+0.4		
PET	Petropavlovsk	138.59	319	*d*	PKIKP	**PKiKP**	14 20 13.6	-1.0		
PEA0B	Petropavlovsk-	139.11	319		PKPdf	**PKiKP**	14 20 15.3	-0.3		
PEA0B	Petropavlovsk-	139.11	319	*d*	PKIKP	**PKiKP**	14 20 14.8	-0.9		
PETK	Petropavlovsk-	139.11	319		PKhKP	PKPpre	14 20 05.2			
	comp=Z,11nm,0.6s,baz=73,slow=8.9,SNR=26									
PETK					PKP	**PKiKP**	14 20 14.8	-0.8		
	comp=Z,79nm,0.9s,baz=126,slow=4.0,SNR=27									
BATI	Baumata	139.58	197		PKhKP	PKPpre	14 20 09.3			
	comp=Z,28nm,0.7s,baz=202,slow=3.8,SNR=5.0									
BATI					PKP	**PKiKP**	14 20 17.7	-0.2		
	comp=Z,89nm,0.8s,baz=270,slow=4.0,SNR=9.6									
SOEI	Soe	139.85	198		PKPdf	**PKiKP**	14 20 15.5	-3.0		
MA2	Magadan	139.85	331		PKhKP	PKPpre	14 20 07.8			
	comp=Z,51nm,1.0s,baz=174,slow=5.2,SNR=5.3									
MA2					PKP	**PKiKP**	14 20 15.5	-1.5		
	comp=Z,46nm,0.9s,baz=307,slow=20,SNR=6.6									
MA2	Magadan	139.85	331	*de*	PKIKP	**PKiKP**	14 20 15.8	-1.2		
SKR	Severo-Kuril's	140.77	316	*de*	PKIKP	**PKiKP**	14 20 17.8	-1.3		
BRVK	Borovoye	140.93	40			PKPpre	14 20 11.3			
BRVK	Borovoye	140.93	40	⇑	*e*PKHKP	PKPpre	14 20 11.0			
BVA0	Borovoye Array	141.00	40		PKHKP	PKPpre	14 20 12.4			
BVAR	Borovoye Array	141.00	40		PKhKP	PKPpre	14 20 12.1			
	comp=Z,7.6nm,0.5s,baz=306,slow=2.3,SNR=53									
BVAR					PKP	**PKiKP**	14 20 17.7	-1.8		
	comp=Z,61nm,0.7s,baz=316,slow=1.3,SNR=33									
MMRI	Maumere	141.44	196		PKPdf	**PKiKP**	14 20 19.2	-2.5		
FAKI	Fak Fak	143.03	214			**PKPdf**	14 20 19.6	-2.2		
PALK	Pallekele	143.15	120		PKhKP	PKPpre	14 20 20.3			
	comp=Z,39nm,0.8s,baz=236,slow=1.4,SNR=13									
PALK	Pallekele	143.15	120			**PKPdf**	14 20 19.9	-2.1		
PALK	Pallekele	143.15	120		PKIKP	**PKPdf**	14 20 19.9	-2.1		
UGM	Wanagama	143.30	177		PKPdf	**PKiKP**	14 20 21.8	-3.8		
BRZS	Berezniki	143.41	44	*e*	PKP	**PKPdf**	14 20 18.4	-2.9		
	baz=44									
BRZS	Berezniki	143.41	44	*e*	PKIKP	**PKPdf**	14 20 18.4	-2.9		
IUG	Iuzhnay	143.46	57	*e*	PKP	**PKPdf**	14 20 19.2	-2.6		
	baz=57									
IUG	Iuzhnay	143.46	57	*e*	PKIKP	**PKPdf**	14 20 19.1	-2.6		
OTUK	Ortayu	143.76	47		PKIKP	**PKiKP**	14 20 21.4	-4.0		
SALM	Salem	143.77	111	*e*	P	**PKiKP**	14 20 22.4	-3.9		
LEM	Lembang	144.13	172		PKP	**PKiKP**	14 20 24.0	-3.4		
	comp=Z,764nm,0.7s,baz=193,slow=0.5,SNR=78									
SMRI	Semarang	144.15	177			**PKiKP**	14 20 23.3	-4.0		
DZA	Taraz	144.31	56	*e*	PKP	**PKiKP**	14 20 22.2	-4.6		
	baz=56									
DZA	Taraz	144.31	56	*e*	PKIKP	**PKiKP**	14 20 22.1	-4.6		
YAK	Yakutsk	145.01	346		PKP	**PKiKP**	14 20 24.4	-3.0		
	comp=Z,992nm,0.7s,baz=22,slow=1.1,SNR=869									
YAK	Yakutsk	145.01	346			**PKiKP**	14 20 24.2	-3.3		
YAK	Yakutsk	145.01	346	*d*	PKIKP	**PKiKP**	14 20 24.6	-2.9		
YAK					pmax	pmax				
	comp=Z,2μm,0.9s									
YAK					pmax	pmax				
	comp=E,106nm,0.7s									
YAK					pmax	pmax				
	comp=N,297nm,1.1s									
SIJI	Sorong	145.28	215		PKPbc	**PKiKP**	14 20 26.4	-3.2		
	comp=N,242nm,0.8s,baz=63,slow=1.1,SNR=88									
KAPI	Kappang	145.49	193		PKPbc	**PKiKP**	14 20 27.3	-2.7		
	comp=N,582nm,0.9s,baz=199,slow=2.9,SNR=180									
KAPI	Kappang	145.49	193		PKPdf	**PKiKP**	14 20 27.1	-2.9		
BTLS	Baital	145.78	51	*e*	PKP	**PKiKP**	14 20 25.8	-3.9		
	baz=51									
BTLS	Baital	145.78	51	*e*	PKIKP	**PKiKP**	14 20 25.7	-3.9		
EKS2	Erkin-Say	146.12	56		P	**PKiKP**	14 20 29.2	-1.4		
	SNR=67									
AML	Almayashu	146.16	57		P	**PKiKP**	14 20 29.2	-1.8		
	SNR=31									
MDRS	Chennai	146.21	111	*e*	P	**PKiKP**	14 20 29.1	-2.3		
MDRS					IAmb	IAmb	14 20 30.2			
	comp=Z,138nm,0.8s									
GUMO	Guam	146.25	250		PKPbc	**PKiKP**	14 20 28.5	-2.9		
	comp=Z,677nm,0.9s,baz=187,slow=5.9,SNR=19									
GUMO	Guam	146.25	250		PKPdf	**PKiKP**	14 20 27.8	-3.7		
GUMO	Guam	146.25	250		PKIKP	**PKiKP**	14 20 27.8	-3.7		
USP	Ospenovka	146.51	54		P	**PKiKP**	14 20 29.1	-2.2		
	SNR=122									
SGDS	Sogindy	146.56	54	*e*	PKP	**PKPab**	14 20 26.8	-3.2		
	baz=54									
SGDS	Sogindy	146.56	54	*e*	PKIKP	**PKPab**	14 20 26.7	-3.2		
AJM	Ajmer	146.57	85	*e*	P	**PKiKP**	14 20 28.3	-3.6		
KURBB	Kurchatov Arra	146.59	40		PKPbc	**PKiKP**	14 20 28.7	-2.4		
	comp=Z,305nm,0.7s,baz=298,slow=3.3,SNR=586									
KURK	Kurchatov	146.60	40		PKP2	**PKiKP**	14 20 28.7	-2.4		
AAK	Ala-Archa	146.64	56		P	**PKiKP**	14 20 29.9	-1.8		
	SNR=104									
AAK	Ala-Archa	146.64	56		PKPbc	**PKiKP**	14 20 29.8	-1.8		
	comp=Z,326nm,0.8s,baz=198,slow=1.8,SNR=154									
AAK	Ala-Archa	146.64	56	*i*	PKPab	**PKiKP**	14 20 30.2	-1.5		
	SNR=64									
CHMS	Chumysh	146.75	55		P	**PKiKP**	14 20 29.8	-2.0		
	SNR=102									
CHMS	Chumysh	146.75	55		PKP2	**PKiKP**	14 20 29.9	-1.9		
AKL	Akola	146.94	96	*e*	P	**PKiKP**	14 20 30.4	-2.3		
HYB	Hyderabad	146.94	103	*e*	P	**PKiKP**	14 20 30.0	-2.9		
HYB					IAmb	IAmb	14 20 33.0			
	comp=Z,348nm,0.7s									
HYBB	Hyderabad (bro	146.94	103	*e*	PKPbc	**PKiKP**	14 20 29.8	-3.1		
HYBB				*e*	PKPab	**PKPab**	14 20 32.2	+0.1		
KBK	Karagaybulak	146.97	55		P	**PKiKP**	14 20 30.4	-2.1		
	SNR=100									
TKM2	Tokmak 2	147.37	55		P	**PKPab**	14 20 33.5	+0.1		
	SNR=12									
TKM2	Tokmak 2	147.37	55		PKIKP	**PKiKP**	14 20 29.8	-3.5		
PMBI	Palembang	147.46	166			**PKPab**	14 20 32.4	-1.7		
KUU	Kurty	147.66	53	*e*	PKP	**PKPbc**	14 20 28.5	-3.2		
	baz=53									
KUU	Kurty	147.66	53	*e*	PKIKP	**PKPbc**	14 20 28.4	-3.2		
JMU	Jammu	147.69	74	*e*	P	**PKPab**	14 20 31.7	-2.9		
KUR	Kuril'sk	147.70	310	⇑	*e*PKIKP	**PKiKP**	14 20 30.0	-3.5		
ZAA0	Zalesovo Array	147.95	31		PKPdf	**PKiKP**	14 20 30.0	-3.8		
ZAA0					PKPbc	**PKPab**	14 20 33.9	-1.1		
ZALV	Zalesovo Beam	147.95	31		PKPbc	**PKiKP**	14 20 31.0	-2.8		
	comp=Z,467nm,0.5s,baz=303,slow=2.3,SNR=262									
ZALV					PKPab	**PKPab**	14 20 34.3	-0.7		
	comp=Z,468nm,0.5s,baz=311,slow=3.5,SNR=229									
ZALV	Zalesovo Beam	147.95	31		PKPdf	**PKiKP**	14 20 30.2	-3.6		
ZALV	Zalesovo Beam	147.95	31		PKIKP	**PKiKP**	14 20 30.2	-3.6		
NRN	Naryn	147.98	57		PKPbc	**PKiKP**	14 20 32.1	-2.6		
NRN	Naryn	147.98	57		PKP2	**PKiKP**	14 20 32.1	-2.6		
ULHL	Ulahol	147.99	56		P	**PKiKP**	14 20 32.2	-2.4		
	SNR=182									
CHKK	Chushkaly	148.12	53	*e*	PKP	**PKPbc**	14 20 29.5	-3.4		
	baz=52									
CHKK	Chushkaly	148.12	53	*e*	PKIKP	**PKPbc**	14 20 29.5	-3.4		
BHPL	Bhopal	148.15	92	*e*	P	**PKPbc**	14 20 31.0	-2.6		
BHPL					IAmb	IAmb	14 20 34.9			
	comp=Z,133nm,0.8s									
AAA	Alma-Ata	148.24	54	*e*	PKP	**PKPbc**	14 20 30.7	-2.6		
	baz=54									
AAA	Alma-Ata	148.24	54	*e*	PKIKP	**PKPbc**	14 20 30.6	-2.6		
KNDC	Almaty	148.28	54		PKP2	**PKPab**	14 20 33.3	-3.5		
KSH	Kashi	148.28	61		PKPbc	**PKiKP**	14 20 32.4	-2.7		
KSH					sPKP		14 21 07.4			
TNSS	Tian-Shan	148.31	54	*e*	PKP	**PKPbc**	14 20 31.4	-2.6		
	baz=54									
TNSS	Tian-Shan	148.31	54	*e*	PKIKP	**PKPbc**	14 20 31.3	-2.6		
MDOK	Medeo	148.35	54	*e*	PKP	**PKPbc**	14 20 29.9	-3.8		
	baz=54									
MDOK	Medeo	148.35	54		PKIKP	**PKiKP**	14 20 32.2	-3.0		
THN	Thein Dam	148.36	74	*e*	P	**PKiKP**	14 20 32.8	-2.5		
TNTI	Ternate	148.54	210		PKPdf	**PKPbc**	14 20 31.1	-3.7		
TNTI						**PKPab**	14 20 34.6	-3.9		
LUWI	Luwuk	148.56	200			**PKPbc**	14 20 31.5	-3.4		
ARXS	Arharly	148.60	52	*i*	PKIKP	**PKPbc**	14 20 31.6	-2.6		
TDK	Taldyqorghan	148.75	50	*e*	PKP	**PKPbc**	14 20 31.0	-3.4		
	baz=50									
TDK	Taldyqorghan	148.75	50	*e*	PKIKP	**PKPbc**	14 20 31.0	-3.4		
NGP	Nagpur	148.87	97	*e*	P	**PKiKP**	14 20 33.2	-3.5		
BHK	Bhakra	148.88	76	*e*	P	**PKPab**	14 20 37.0	-2.5		
SONA	Sohna	149.04	83	*e*	P	**PKPab**	14 20 36.4	-3.9		
GSI	Gunungsitoli	149.07	150			**PKPbc**	14 20 33.3	-2.9		
ZHN	Zhinishke	149.32	53	*e*	PKP	**PKPdf**	14 20 28.5	-3.1		
	baz=53									
ZHN	Zhinishke	149.32	53	*e*	PKIKP	**PKPdf**	14 20 28.5	-3.1		
SATY	Saty	149.33	53	*e*	PKP	**PKPbc**	14 20 32.0	-4.1		
	baz=53									
SATY	Saty	149.33	53	*e*	PKHKP	PKPpre	14 20 31.9			
KPKS	Kokpek	149.41	53	*e*	PKP	**PKPbc**	14 20 31.8	-4.5		
	baz=52									
KPKS	Kokpek	149.41	53	*e*	PKHKP	PKPpre	14 20 31.7			
YUK	Yuzh-Kuril'sk	149.43	309	*c*	PKP2	**PKPab**	14 20 37.3	-4.0		
BKNI	Bangkinang	149.53	157			**PKPbc**	14 20 32.7	-4.6		
BKNI					PKPbc	**PKiKP**	14 20 37.3	-1.1		
BKB	Balikpapan	149.65	189			**PKPab**	14 20 38.6	-4.3		
UGL	Uglegorsk	149.73	320	*e*	PKP2	**PKPab**	14 20 37.4	-4.9		
UGL					pmax	pmax				
	comp=E,210nm,0.7s									
UGL					pmax	pmax				
	comp=N,130nm,0.8s									
UGL					pmax	pmax				
	comp=Z,400nm,1.1s									
JHNI	Jhansi	149.74	88	*e*	P	**PKPbc**	14 20 34.6	-2.9		
UZB	Uzynbulak	149.74	53	*e*	PKP	**PKPbc**	14 20 32.3	-4.9		
	baz=53									
UZB	Uzynbulak	149.74	53	*e*	PKIKP	**PKPbc**	14 20 32.2	-4.9		
PDGK	Podgornoye	150.01	53		PKHKP	PKPpre	14 20 34.1			
SHLS	Shalkode	150.05	53	*e*	PKP	**PKPbc**	14 20 33.8	-4.0		
	baz=53									
SHLS	Shalkode	150.05	53	*e*	PKIKP	**PKPbc**	14 20 33.8	-4.0		
DDI	Dehra Dun	150.17	79	*e*	P	**PKiKP**	14 20 38.3	-0.9		
DDI					IAmb	IAmb	14 20 42.0			
	comp=Z,1μm,0.9s									
YSS	Yuzh-Sakhalins	150.34	316		PKPdf	**PKPbc**	14 20 34.5	-3.7		
YSS	Yuzh-Sakhalins	150.34	316	*e*	PKIKP	**PKPdf**	14 20 32.2	-0.7		
YSS				*e*			14 21 12.4			
YSS					pmax	pmax				
	comp=Z,550nm,0.8s									
MAKZ	Makanchi	150.35	45		PKPdf	**PKPbc**	14 20 34.0	-4.3		
MAKZ					PKPbc	**PKPab**	14 20 39.5	-5.6		
MAKZ	Makanchi	150.35	45		PKIKP	**PKPbc**	14 20 35.0	-3.3		
MKAR	Makanchi Array	150.55	45		PKPbc	**PKPab**	14 20 40.0	-5.9		
	comp=Z,395nm,0.8s,baz=301,slow=2.5,SNR=102									
MKAR	Makanchi Array	150.55	45		PKPdf	**PKPbc**	14 20 34.8	-4.0		
MKAR					PKPbc	**PKPab**	14 20 40.1	-5.8		
MKAR	Makanchi Array	150.55	45		PKIKP	**PKPbc**	14 20 34.8	-4.0		
MKAR							14 20 40.1			
BOD	Bodaibo	151.13	358	*e*	PKIKP	**PKPbc**	14 20 34.1	-5.6		
BOD					pmax	pmax				
	comp=Z,418nm,1.1s									
VIS	Vishakhapatnam	151.13	106	*e*	P	**PKPbc**	14 20 37.4	-3.5		
TOLI2	Tolitoli	151.18	198		PKPdf	**PKPbc**	14 20 35.3	-5.9		
TOLI2					PKPbc	**PKiKP**	14 20 41.4	-0.4		
JKA	Kamikawa-asahi	151.61	310			**PKPbc**	14 20 36.1	-5.2		
JKA					PKPbc	**PKiKP**	14 20 42.7	+1.0		
ASAJ	Asahikawa	151.61	310		PKIKP	**PKPbc**	14 20 36.1	-5.2		
GRNR	Gornyy	151.69	327	⇓	*i*PKIKP	**PKPbc**	14 20 36.4	-4.9		
GRNR					pmax	pmax				
	comp=Z,30nm,0.9s									
ZSN	Zaisan	151.78	42	*e*	PKP	**PKPbc**	14 20 35.7	-5.9		
	baz=42									
ZSN	Zaisan	151.78	42	*e*	PKIKP	**PKPbc**	14 20 35.7	-5.9		
DGZ	Jazzator, Alta	151.90	36	⇑	*e*PKIKP	**PKPbc**	14 20 37.0	-5.0		
RAGD	RAYAGADA	151.92	104	*e*	P	**PKPbc**	14 20 38.3	-4.4		
ERM	Erimo	151.94	306	*c*	*i*PKIKP	**PKPab**	14 20 44.9	-6.9		
ERM					pmax	pmax				
	comp=Z,217nm,1.3s									
PTH	Pithoragarh	151.95	81	*e*	P	**PKPbc**	14 20 38.4	-4.4		
LGTI	Lohaghat	151.97	81	*e*	P	**PKPbc**	14 20 38.2	-4.3		
ZEA	Zeya	152.96	340	*e*	PKIKP	**PKPbc**	14 20 37.7	-6.3		
ZEA				*e*			14 20 57.2			
ZEA					pmax	pmax				
	comp=N,20nm,0.9s									
ZEA					pmax	pmax				
	comp=Z,40nm,1.2s									
JCJ	Chichijima	153.68	273		PKPbc	**PKiKP**	14 20 47.2	+0.8		
	comp=Z,91nm,0.7s,baz=302,slow=17,SNR=2.4									
JCJ					PKPab	**PKPab**	14 21 00.5	+0.9		
	comp=Z,113nm,0.7s,baz=321,slow=9.3,SNR=6.0									
JTM	Tenmabayashi	153.81	304		PKPdf	**PKPdf**	14 20 39.2	+1.0		
JTM						**PKiKP**	14 20 47.1	+0.8		
KULM	Kulim	153.96	152		PKPbc	**PKiKP**	14 20 47.7	+0.3		
JMM	Marumori	154.77	298			**PKPdf**	14 20 39.6	-0.1		
JMM						**PKiKP**	14 20 49.2	+0.8		
JMM						**PKPab**	14 21 04.3	+0.4		
DANN	Dangsing	154.87	84	*e*	P	**PKPdf**	14 20 41.7	+1.2		
	comp=Z,385nm,1.2s									
KLR	Kul'dur	154.93	329		PKP	**PKPdf**	14 20 40.5	+0.9		
	comp=Z,28nm,0.9s,baz=4.7,slow=2.9,SNR=52									
KLR					PKPbc	**PKiKP**	14 20 49.9	+1.6		
	comp=Z,30nm,0.6s,baz=70,slow=2.8,SNR=18									
KLR					PKPab	**PKPab**	14 21 05.5	+1.3		
	comp=Z,32nm,0.7s,baz=87,slow=3.8,SNR=10									
TEY	Ternei	155.02	317		*e*PKIKP	**PKPdf**	14 20 39.5	-0.3		
WMQ	Urumqi	155.31	46	*e*	PKP	**PKPdf**	14 20 41.9	+1.5		
WMQ					pPKP	PKPab	14 21 08.9	+2.7		
WMQ					sPKP		14 21 17.0			
WMQ					LR	LR				
	comp=Z,1μm,19.1s									
WMQ					LR	LR				
	comp=Z,1μm,19.1s									
WMQ					LR	LR				
	comp=Z,2μm,27.3s									
SPMM	Sapulut	155.58	190		P	**PKPdf**	14 20 43.0	+1.4		
GKN	Gorkha	155.59	85	*e*	P	**PKPdf**	14 20 42.1	+0.8		
BOK	Bokaro	155.71	96	*e*	P	**PKPdf**	14 20 42.8	+1.3		
BOK					IAmb	IAmb	14 20 44.3			
	comp=Z,70nm,1.0s									
MOY	Mondy	155.76	17	*e*	PKIKP	**PKPdf**	14 20 43.0	+2.2		
MOY					pmax	pmax				
	comp=Z,234nm,2.5s									
HEH	HeiHe	155.88	336		PKP	**PKPdf**	14 20 40.9	+0.1		
HEH					pPKP	**PKPab**	14 21 08.4	+0.2		
DMN	Daman	155.94	87	*e*	P	**PKPdf**	14 20 42.9	+1.0		
IRK	Irkutsk	155.96	12	*e*	PKIKP	**PKPdf**	14 20 42.4	+1.5		
IRK				*e*			14 21 08.7			
IRK					pmax	pmax				
	comp=Z,242nm,1.6s									
DGPR	DIGLIPUR	156.04	127	*e*	P	**PKPdf**	14 20 43.7	+1.7		
KKN	Kakani	156.12	86	*e*	Pg	**PKPdf**	14 20 42.3	+0.2		
PKIN	Phulchoki	156.18	87	*e*	P	**PKPdf**	14 20 42.8	+0.5		
	comp=Z,113nm,1.2s									
PKI	Pulchoki	156.19	87	*e*	P	**PKPdf**	14 20 42.9	+0.5		
	comp=Z,127nm,1.2s									
GUN	Gumba	156.66	86	*e*	P	**PKPdf**	14 20 44.0	+1.0		
JIRN	Jiri	156.89	87	*e*	P	**PKPdf**	14 20 44.2	+0.9		
CIT	Chita	156.94	358	*e*	PKIKP	**PKPdf**	14 20 42.2	0.0		
CIT					pmax	pmax				
	comp=Z,215nm,2.3s									
MJAR	Matsushiro Arr	157.06	296		PKP	**PKPdf**	14 20 43.7	+0.9		
	comp=Z,11nm,1.1s,baz=243,slow=0.6,SNR=17									
MJAR					PKPab	**pPKPdf**	14 21 15.4	-1.3		
	comp=Z,71nm,0.9s,baz=118,slow=2.3,SNR=24									
MJB9	Matsu-Tunnel	157.07	296			**PKPdf**	14 20 43.3	+0.5		
MJB9					PKPab	**pPKPdf**	14 21 15.3	-1.5		
RAMN	Ramite	157.13	89	*e*	P	**PKPdf**	14 20 44.7	+1.2		
ZAK	Zakamensk	157.51	15	*e*	PKP2	**PKPab**	14 21 16.3	+0.9		
ZAK					pmax	pmax				
	comp=Z,49nm,1.3s									
ODAN	Odare	157.80	89	*e*	Pg	**PKPdf**	14 20 45.7	+1.4		
TAPN	Taplejung	158.17	88	*e*	P	**PKPdf**	14 20 46.0	+1.2		
	comp=Z,151nm,1.2s									
USRK	Ussuriysk Ar.	158.20	320		PKP	**PKPdf**	14 20 44.9	+0.9		
	comp=Z,9.5nm,0.9s,baz=242,slow=4.1,SNR=14									
USRK					PKPab	**pPKPdf**	14 21 19.6	+2.0		
	comp=Z,29nm,0.8s,baz=70,slow=1.7,SNR=4.0									
USRK					PP	**PP**	14 24 59.8	+1.1		
	comp=Z,6.7nm,1.0s,baz=18,slow=8.0,SNR=5.3									
INU	Inuyama	158.24	293		PKPdf	**PKPdf**	14 20 44.9	+0.7		
INU					PKPab	**pPKPdf**	14 21 20.4	+1.8		
HIA	Hailar	158.96	347		PKPdf	**PKPdf**	14 20 45.3	+0.6		
HIA						**pPKPdf**	14 21 22.5	+4.0		
HIA	Hailar	158.96	347		PKIKP	**PKPdf**	14 20 45.3	+0.6		
HIA							14 21 22.5			
MDJ	Mudanjiang	159.24	323		PKPdf	**PKPdf**	14 20 45.6	+0.5		
MDJ						**PKPab**	14 21 23.8	+0.8		
MDJ	Mudanjiang	159.24	323		PKP	**PKPdf**	14 20 44.5	-0.7		
SONM	Songino Array	160.58	12		PKP	**PKPdf**	14 20 48.2	+1.5		
	comp=Z,32nm,0.9s,baz=289,slow=0.6,SNR=154									
SONM					PKPab	**PKPab**	14 21 30.3	+1.5		
	comp=Z,52nm,0.7s,baz=323,slow=4.4,SNR=33									
SONM					PP	**PP**	14 25 11.4	+0.4		
	comp=Z,3.8nm,0.9s,baz=344,slow=5.6,SNR=3.5									
SONM	Songino Array	160.58	12		PKPdf	**PKPdf**	14 20 47.7	+1.0		
ULN	Ulaanbaatar	160.67	11		PKPdf	**PKPdf**	14 20 48.0	+1.1		
ULN	Ulaanbaatar	160.67	11		PKIKP	**PKPdf**	14 20 48.0	+1.1		
JMN	Monobe	161.06	290			**PKPdf**	14 20 48.3	+0.7		
SAIH	SAIHA	161.36	106	*e*	P	**PKPdf**	14 20 50.8	+2.4		
SAIH					IAmb	IAmb	14 20 52.2			
	comp=Z,96nm,0.9s									
GUWA	GUWAHATI	161.43	94	*e*	P	**PKPdf**	14 20 49.2	+1.1		
GUWA					IAmb	IAmb	14 20 50.8			
	comp=Z,128nm,1.3s									
JHS	Saijyo	161.44	294			**PKPdf**	14 20 48.9	+1.0		
JHS					PKPab	**sPKPdf**	14 21 34.7	-0.6		
SHL	Shillong	161.44	96		P	**PKPdf**	14 20 49.7	+1.2		
	SNR=44									
LSA	Lhasa	161.45	83		PKP	**PKPdf**	14 20 50.6	+1.9		
LSA	Lhasa	161.45	83		PKPdf	**PKPdf**	14 20 51.4	+2.7		
CN2	Changchun	161.88	328	*e*	PKP	**PKPdf**	14 20 46.1	-2.0		
TEZP	TEZPUR	162.49	93	*e*	P	**PKPdf**	14 20 49.9	+0.7		
TEZP					IAmb	IAmb	14 20 51.8			
	comp=Z,152nm,1.7s									
IMP	Imphal	163.03	100	*e*	P	**PKPdf**	14 20 51.6	+1.7		
IMP					IAmb	IAmb	14 20 52.2			
	comp=Z,34nm,0.9s									
KOHI	KOHIMA	163.42	97	*e*	P	**PKPdf**	14 20 52.2	+1.9		
KOHI					IAmb	IAmb	14 20 54.1			
	comp=Z,266nm,1.6s									
GOMU	GeErMu	163.52	60		PKP	**PKPdf**	14 20 52.8	+2.4		
MND	Mandalay	163.75	111			**PKPdf**	14 20 51.0	+0.4

MKAZ	**Moumakai**	**5.05**	**14**	P	Pn	14 02 40.4	+1.6
ETAZ	**East Tamaki Re**	**5.16**	**11**	P	Pn	14 02 41.8	+1.5
EPAZ	**Eden Park BICE**	**5.21**	**10**	P	Pn	14 02 43.9	+2.8
RVAZ	**Riverhead Bore**	**5.30**	**8**	P	Pn	14 02 43.0	+0.7
RVAZ				S	Sn	14 03 43.7	+0.4
MBAZ	**Motutapu North**	**5.34**	**11**	P	Pn	14 02 44.5	+1.8
ABAZ	**Army Bay**	**5.50**	**10**	P	Pn	14 02 47.5	+2.6

IDC ***13*** *14:03:17.7±1.1, 35°.32S×179°.18W, h0km, mb4.5/7, mbtmp4.4/8, ML3.9/1, Error ellipse: s-maj=33.4km s-min=28.7km az=22.0*
NEIC ***13*** *14:03:20.4±1.6, 35°.7S±0°.1×179°.35W±0°.06, h10km±2km, mb4.9/18, Error ellipse: s-maj=22.8km s-min=7.6km az=12.0*

ISC 13 14:03:18.9±1.1, **35°.6S**±0°.1×**179°.3W**±0°.2, **h10**km, **n34, σ18**15/34, **mb4.8**/15, **East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**6.16**	**214**	Pn	**Pn**	**14 04 46.8**	**-3.1**
DZM	**Mont Dzumac**	**18.41**	**313**	P	**P**	**14 07 32.8**	**-1.5**
	0.4nm,0.3s,baz=108,slow=12,SNR=4.6						
	8.6nm,0.8s						
DZM	**Mont Dzumac**	**18.41**	**313**	P	**P**	**14 07 35.3**	**+1.0**
KOUNC	**Koumac, New Ca**	**20.86**	**312**	P	**P**	**14 08 02.0**	**+1.0**
EIDS	**Eidsvold**	**27.45**	**284**	P	**P**	**14 09 06.1**	**+1.0**
EIDS				IAmb	IAmb	14 09 06.8	
	comp=Z,21nm,1.5s						
STKA	**Stephens Creek**	**32.63**	**265**	P	**P**	**14 09 51.8**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=302,slow=0.7,SNR=4.3						
	comp=Z,2.4nm,0.8s						
CTA	**Charters Tower**	**34.00**	**288**	P	**P**	**14 10 03.9**	**+0.9**
	comp=Z,8.6nm,0.7s,baz=114,slow=9.0,SNR=15						
	comp=Z,8.6nm,0.7s						
CTAO	**Charters Tower**	**34.00**	**288**	P	**P**	**14 10 03.9**	**+0.9**
COEN	**Coen**	**40.03**	**293**	P	**P**	**14 10 54.5**	**+0.3**
COEN				IAmb	IAmb	14 11 20.6	
	comp=Z,69nm,1.9s						
AS31	**Alice Springs**	**42.07**	**273**	P	**P**	**14 11 11.4**	**+0.4**
ASAR	**Alice Springs**	**42.07**	**273**	P	**P**	**14 11 11.8**	**+0.7**
	comp=Z,11nm,0.6s,baz=116,slow=7.7,SNR=119						
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**42.07**	**273**	P	**P**	**14 11 11.1**	**+0.1**
VNDA	**Vanda**	**42.79**	**186**	P	**P**	**14 11 19.2**	**+3.1**
	comp=Z,2.0nm,1.1s,baz=27,slow=9.7,SNR=4.8						
	comp=Z,2.0nm,1.1s						
VNDA	**Vanda**	**42.79**	**186**	P	**P**	**14 11 17.6**	**+1.4**
VNDA				IAmb	IAmb	14 12 01.5	
	comp=Z,49nm,0.9s						
WR0	**Warramunga Arr**	**43.36**	**278**	P	**P**	**14 11 21.4**	**-0.1**
WR0				IAmb	IAmb	14 11 59.4	
	comp=Z,14nm,1.0s						
WB2	**Warramunga Arr**	**43.52**	**278**	P	**P**	**14 11 22.5**	**-0.3**
WB2				IAmb	IAmb	14 11 60.0	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**43.53**	**278**	P	**P**	**14 11 22.4**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=119,slow=7.7,SNR=37						
	comp=Z,2.5nm,0.5s						
WRA	**Warramunga Arr**	**43.53**	**278**	P	**P**	**14 11 22.5**	**-0.5**
WB0	**Warramunga Arr**	**43.58**	**279**	P	**P**	**14 11 22.8**	**-0.5**
WB0				IAmb	IAmb	14 11 53.7	
	comp=Z,43nm,1.8s						
FORT	**Forrest**	**43.92**	**261**	P	**P**	**14 11 25.4**	**-0.6**
NWAO	**Narrogin (SRO)**	**51.73**	**253**	P	**P**	**14 12 27.4**	**+0.9**
MORW	**Morawa**	**54.20**	**257**	P	**P**	**14 12 45.4**	**+0.7**
PSA00	**Pilbara Seismi**	**54.50**	**268**	P	**P**	**14 12 46.5**	**-0.5**
PSA00				IAmb	IAmb	14 13 26.2	
	comp=Z,13nm,1.4s						
MBWA	**Marble Bar**	**54.80**	**268**	P	**P**	**14 12 49.3**	**+0.2**
MBWA				IAmb	IAmb	14 13 26.1	
	comp=Z,20nm,1.1s						
KKM	**Kota Kinabalu**	**73.29**	**290**	P	**P**	**14 14 50.3**	**-0.6**
KKM				IAmb	IAmb	14 15 50.6	
	comp=Z,24nm,1.0s						
PETK	**Petropavlovsk-**	**90.63**	**346**	P	**P**	**14 16 19.7**	**-1.3**
	comp=Z,8.0nm,1.0s,baz=145,slow=5.3,SNR=8.2						
	comp=Z,8.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**94.15**	**290**	P	**P**	**14 16 37.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=102,slow=3.8,SNR=1.2						
	comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**149.60**	**336**	PKPbc	**PKPbc**	**14 23 07.5**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=93,slow=3.8,SNR=7.8						
MMAI	**Mount Meron Ar**	**151.35**	**275**	PKPbc	**PKPbc**	**14 23 14.4**	**+1.4**
	comp=Z,1.2nm,0.4s,baz=74,slow=7.9,SNR=3.7						
NB2	**NORSAR Subarra**	**153.72**	**348**	PKP	**PKPab**	**14 23 28.2**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=17,slow=4.0						
NOA	**NORSAR Array B**	**153.72**	**349**	PKPbc	**PKPbc**	**14 23 16.7**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=26,slow=3.5,SNR=1.1						
BRTR	**Keskin Array B**	**153.74**	**289**	PKPbc	**PKPbc**	**14 23 18.6**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=89,slow=2.9,SNR=2.2						
HFS	**Hagfors**	**154.10**	**345**	PKPbc	**PKPbc**	**14 23 18.1**	**0.0**
	comp=Z,2.7nm,0.8s,baz=224,slow=4.0,SNR=2.4						
AKASG	**Malin Array Be**	**154.56**	**315**	PKPbc	**PKPbc**	**14 23 19.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=49,slow=2.6,SNR=4.0						

WEL 13 14:03:41.1±0.5, **42°S**±3°×**17°4E**±°, **h9**km±3km, **M4.0**/8, **ML4.2**/8, **MLv4.0**/8, **Error ellipse: s-maj=0.0km s-min=0.0km az=157.6, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.02**	**14**	P	Pg	14 03 45.5	+2.8
BSWZ	**Blackbirch Sta**	**0.25**	**281**	P	Pb	14 03 47.7	-0.2
BSWZ				S	Sb	14 03 52.8	+0.4
TUWZ	**Tuamarina**	**0.39**	**329**	S	Sb	14 03 56.4	+0.1
TCW	**Tory Channel**	**0.56**	**5**	P	Pg	14 03 51.7	-0.2
TCW				S	Sg	14 04 00.1	+0.9
BHW	**Baring Head**	**0.61**	**55**	P	Pg	14 03 52.9	-0.1
BHW				S	Sb	14 04 03.4	+0.8
WEL	**Wellington**	**0.64**	**41**	P	Pg	14 03 53.1	-0.4
WEL				S	Sb	14 04 02.7	-0.8
PLWZ	**Palliser**	**0.81**	**76**	P	Pg	14 03 56.8	+0.1
PLWZ				S	Sb	14 04 09.1	+0.8
MSWZ	**Moikau Station**	**0.85**	**66**	P	Pg	14 03 57.4	-0.2
MSWZ				S	Sb	14 04 10.5	+0.8
CAW	**Cannon Point**	**0.92**	**45**	P	Pb	14 03 59.5	+0.3
CAW				S	Sn	14 04 12.9	-0.7
DUWZ	**D'Urville Isla**	**0.99**	**347**	S	Sb	14 04 14.0	+0.6
PAWZ	**Paruwai Farm**	**0.99**	**68**	S	Sb	14 04 14.0	+0.4
KIW	**Kapiti Island**	**1.05**	**31**	P	Pg	14 04 01.1	-0.1
KIW				S	Sn	14 04 16.0	-0.7
MTW	**Mount Morrison**	**1.15**	**58**	P	Pb	14 04 01.5	-1.6
MTW				S	Sn	14 04 18.7	-0.4
TKNZ	**Takaka Hill**	**1.19**	**307**	S	Sn	14 04 23.5	+3.2
OGWZ	**Otaki Gorge**	**1.19**	**38**	P	Pb	14 04 02.5	-1.4
OGWZ				S	Sn	14 04 20.7	+0.4

WEL 13 14:04:03.9±0.4, **42°S**±4°×**17°3E**±°, **h27**km±3km, **M4.4**/5, **ML5.2**/6, **MLv4.4**/5, **Error ellipse: s-maj=0.0km s-min=0.0km az=137.1, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**87**	P	Pn	14 04 12.6	+1.8
KHZ				S	Sb	14 04 15.8	+2.6
GVZ	**Greta Valley S**	**0.58**	**200**	P	Pn	14 04 16.4	-0.1
THZ	**Tophouse**	**0.73**	**335**	P	Pn	14 04 21.2	+2.7
LTZ	**Lake Taylor**	**0.85**	**245**	P	Pn	14 04 21.0	+0.8
CACS	**Harewood**	**1.21**	**208**	P	Pn	14 04 24.4	-0.6
WEL	**Wellington**	**1.58**	**44**	P	Pn	14 04 30.9	+0.8
MSWZ	**Moikau Station**	**1.76**	**56**	P	Pn	14 04 33.3	+0.6
MSWZ				S	Sn	14 04 53.6	-0.7
CAW	**Cannon Point**	**1.86**	**46**	P	Pn	14 04 34.9	+0.9

WEL ***13*** *14:04:00, 42°.53S×173°.30E, h12km, ML5.1, Mw4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶ Nm; Mrr~0.23; Mθθ2.70; Mϕϕ-2.47; Mrθ-1.35; Mθϕ-1.59; Mϕr~0.15; Fault plane solution: M0 3.30000×10¹⁶ NP1: ϕs332.00000°, δ69.00000°, λ5.00000°. NP2:ϕs240.00000°, δ85.00000°, λ159.00000°. Principal axes: T 3569.8400, Plg18.0000°, Azm195.0000°; N -3023.4600, Plg69.0000°, Azm47.0000°; P -546.3800, Plg11.0000°, Azm288.0000°;*
IDC ***13*** *14:04:20.9±1.4, 42°.84S×173°.25E, h0km, mb4.8/6, mbtmp4.8/6, MS5.9/1 Error ellipse: s-maj=50.6km s-min=19.6km az=141.0*
NEIC ***13*** *14:04:22.9±1.9, 42°.67S±0°.04×173°.0E±0°.1, h10km±1km, mb5.0/5, Error ellipse: s-maj=16.7km s-min=5.9km az=86.0*

WEL ***13*** *14:04:23.7±0.3, 43°.5S±2°×17°.3E±°, h12km±2km, M5.1/8, ML5.4/8, MLv5.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=113.9*

ISC 13 14:04:24.0±0.9, **42°.64S**±0°.03×**173°.03E**±0°.03, **h19**km±3km, **n50, σ09**3/56, **mb4.8**/8, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.32**	**180**		**Pb**	**14 04 31.9**	**+0.7**
GVZ	**Greta Valley S**	**0.32**	**180**	P	**Pb**	**14 04 32.1**	**+0.9**
GVZ				S	**Sn**	**14 04 38.2**	**-1.7**
KHZ	**Kahutara**	**0.44**	**59**	Pg	**Pg**	**14 04 32.8**	**-0.2**
KHZ	**Kahutara**	**0.44**	**59**	P	**Pg**	**14 04 32.9**	**-0.1**
KHZ				S	**Sg**	**14 04 39.1**	**+0.1**
LTZ	**Lake Taylor**	**0.58**	**256**	Pg	**Pb**	**14 04 34.6**	**-0.8**
LTZ	**Lake Taylor**	**0.58**	**256**	P	**Pg**	**14 04 36.0**	**+0.4**
LTZ				S	**Sg**	**14 04 44.5**	**+1.2**
AMCZ	**Amberley**	**0.60**	**208**	P	**Pn**	**14 04 37.5**	**-0.1**
NNBS	**New Brighton**	**0.88**	**195**	P	**Pb**	**14 04 40.7**	**0.0**
THZ	**Tophouse**	**0.89**	**354**	P	**Pb**	**14 04 40.4**	**-0.4**
THZ				S	**Sb**	**14 04 50.6**	**-1.7**
PPHS	**Papanui**	**0.91**	**200**	P	**Pn**	**14 04 42.3**	**+0.6**
CACS	**Harewood**	**0.92**	**204**	P	**Pn**	**14 04 42.4**	**+0.5**
REHS	**Christchurch**	**0.93**	**198**	P	**Pn**	**14 04 42.4**	**+0.4**
OXZ	**Oxford**	**1.00**	**227**	P	**Pg**	**14 04 43.3**	**-0.1**
OXZ				S	**Sn**	**14 04 57.7**	**+1.1**
OKCZ	**Okains Bay**	**1.08**	**179**	P	**Pb**	**14 04 43.6**	**-0.5**
MQZ	**McQueen's Vall**	**1.10**	**194**	Pn	**Pb**	**14 04 44.1**	**-0.2**
MQZ	**McQueen's Vall**	**1.10**	**194**	P	**Pb**	**14 04 44.1**	**-0.2**
MQZ				S	**Sg**	**14 04 59.6**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.12**	**34**	P	**Pn**	**14 04 44.9**	**+0.2**
INZ	**Inchbonnie**	**1.17**	**266**	P	**Pb**	**14 04 46.1**	**+0.5**
MRNZ	**Matariki Terra**	**1.26**	**351**	S	**Sn**	**14 05 03.2**	**+0.2**
DSZ	**Dennistoun Nort**	**1.28**	**314**	Pn	**Pb**	**14 04 47.6**	**+0.1**
RPZ	**Rata Peaks**	**1.80**	**233**	Pn	**Pn**	**14 04 54.2**	**+0.2**
	738nm,0.3s,baz=75,slow=2.6,SNR=74						
RPZ				Sn	**Sn**	**14 05 17.0**	**+0.7**
	520nm,0.3s,baz=293,slow=22,SNR=17						
RPZ	**Rata Peaks**	**1.80**	**233**	Pn	**Pn**	**14 04 53.8**	**-0.2**
QRZ	**Quartz Range**	**1.86**	**348**	Pn	**Pn**	**14 04 55.0**	**+0.2**
LBZ	**Lake Benmore**	**2.71**	**229**	Pn	**Pn**	**14 05 05.5**	**-1.0**
ODZ	**Otahua Downs**	**2.96**	**215**	Pn	**Pn**	**14 05 09.2**	**-0.7**
MLZ	**Mavora Lakes**	**4.47**	**231**	Pn	**Pn**	**14 05 29.7**	**-1.0**
DCZ	**Deep Cove**	**5.09**	**234**	Pn	**Pn**	**14 05 37.6**	**-1.6**
PYZ	**Puysegur Point**	**5.75**	**230**	Pn	**Pn**	**14 05 46.4**	**-1.9**
CAN	**Canberra**	**20.02**	**283**	P	**P**	**14 08 55.7**	**0.0**
CAN				IAmb	IAmb	14 09 07.6	
	comp=Z,92nm,1.9s						
DZM	**Mont Dzumac**	**21.24**	**343**	P	**P**	**14 09 10.4**	**+1.4**
	comp=Z,9.9nm,0.9s,baz=172,slow=14,SNR=3.6						
	comp=Z,9.9nm,0.9s						
RAR	**Rarotonga**	**31.22**	**55**	P	**P**	**14 10 41.7**	**-0.5**
	comp=Z,48nm,0.4s,baz=70,slow=6.1,SNR=3.6						
	comp=Z,48nm,0.4s						
AFI	**Afiamalu**	**31.50**	**29**	P	**P**	**14 10 45.6**	**+0.8**
	comp=Z,18nm,0.5s,baz=126,slow=12,SNR=4.8						
	comp=Z,18nm,0.5s						
PMG	**Port Moresby**	**40.12**	**318**	P	**P**	**14 11 57.7**	**-0.9**
PMG				IAmb	IAmb	14 12 07.8	
	comp=Z,38nm,0.9s						
KRVT	**Keravat (AS076**	**42.50**	**328**	LR	LR	14 29 30.8	
	comp=Z,15μm,19.2s,baz=299,slow=35						
MTN	**Manton Dam**	**46.79**	**297**	P	**P**	**14 12 52.7**	**+0.3**
MORW	**Morawa**	**47.30**	**267**	P	**P**	**14 12 54.4**	**-1.9**
MORW				IAmb	IAmb	14 13 30.3	
	comp=Z,40nm,1.6s						
SNAA	**Sanae**	**65.95**	**181**	P	**P**	**14 15 07.7**	**-0.6**
SNAA				IAmb	IAmb	14 15 11.2	
	comp=Z,16nm,1.3s						
MJAR	**Matsushiro Arr**	**84.97**	**333**	P	**P**	**14 16 58.2**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=165,slow=6.6,SNR=6.5						
	comp=Z,2.1nm,0.9s						
KSRS	**Korea Array**	**89.67**	**326**	P	**P**	**14 17 21.8**	**+1.5**
	comp=Z,3.8nm,0.9s,baz=149,slow=5.7,SNR=12						
	comp=Z,3.8nm,0.9s						
KSAR	**Wonju Array Be**	**89.68**	**326**	P	**P**	**14 17 21.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**91.17**	**294**	P	**P**	**14 17 28.8**	**+1.0**
	comp=Z,2.7nm,1.0s,baz=143,slow=3.8,SNR=12						
	comp=Z,2.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.17**	**294**	P	**P**	**14 17 27.4**	**-0.4**
MMAI	**Mount Meron Ar**	**145.49**	**268**	PKPbc	**PKPab**	**14 24 01.3**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=116,slow=8.3,SNR=5.5						
ARCES	**ARCESS Array B**	**148.30**	**339**	PKPbc	**PKPbc**	**14 24 08.1**	**+0.4**
	comp=Z,8.7nm,1.0s,baz=38,slow=3.5,SNR=3.6						
BRTR	**Keskin Array B**	**149.51**	**278**	PKPbc	**PKPbc**	**14 24 10.8**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=143,slow=6.6,SNR=7.0						
FINES	**FINESS Array B**	**152.76**	**325**	PKPbc	**PKPbc**	**14 24 18.2**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=79,slow=3.0,SNR=1.1						
AKASG	**Malin Array Be**	**154.10**	**301**	PKPbc	**PKPbc**	**14 24 21.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=68,slow=2.4,SNR=1.4						
NB2	**NORSAR Subarra**	**158.56**	**335**	PKP	**PKPab**	**14 24 53.2**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=39,slow=4.4						
NOA	**NORSAR Array B**	**158.56**	**335**	PKPab	**PKPab**	**14 24 56.6**	**+2.2**
	comp=Z,1.5nm,0.9s,baz=40,slow=4.4,SNR=4.1						
GERES	**GERESS Array B**	**164.32**	**300**	PKPab	**PKPab**	**14 25 21.9**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=161,slow=4.2,SNR=3.8						

WEL 13 14:05:20.9±0.4, **42°S**±2°×**17°4E**±°, **h5**km, **M4.4**/14, **ML4.6**/14, **MLv4.4**/14, **Error ellipse: s-maj=0.0km s-min=0.0km az=129.2, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**240**	P	Pg	14 05 27.4	+0.3
KHZ				S	Sg	14 05 32.4	+1.1
BSWZ	**Blackbirch Sta**	**0.54**	**357**	P	Pg	14 05 31.5	+0.2
BSWZ				S	Sb	14 05 39.7	-1.3
CMWZ	**Cape Campbell**	**0.56**	**24**	S	Sg	14 05 38.7	-0.1
TUWZ	**Tuamarina**	**0.83**	**2**	P	Pg	14 05 36.7	-0.1
TUWZ				S	Sb	14 05 49.1	-0.1
THZ	**Tophouse**	**0.90**	**303**	P	Pg	14 05 37.4	-0.7
THZ				S	Sg	14 05 49.3	-0.5
GVZ	**Greta Valley S**	**0.96**	**222**	P	Pb	14 05 40.4	+0.4
TCW	**Tory Channel**	**1.08**	**15**	P	Pg	14 05 41.7	+0.1
TCW				S	Sb	14 05 56.2	-0.3
NNZ	**Nelson**	**1.11**	**339**	P	Pg	14 05 41.4	-0.9
NNZ				S	Sb	14 05 57.9	+0.5
WEL	**Wellington**	**1.17**	**34**	P	Pg	14 05 42.8	-0.4
WEL				S	Sg	14 05 58.5	+0.1
PLWZ	**Palliser**	**1.22**	**56**	P	Pg	14 05 43.4	-0.8
MRNZ	**Matariki Terra**	**1.22**	**314**	P	Pg	14 05 43.9	-0.3
MRNZ				S	Sn	14 06 01.0	-0.4
LTZ	**Lake Taylor**	**1.32**	**246**	P	Pn	14 05 45.1	-1.0
LTZ				S	Sn	14 06 04.3	+0.2
TKNZ	**Takaka Hill**	**1.42**	**329**	P	Pb	14 05 47.7	-0.1
TKNZ				S	Sg	14 06 08.7	+0.3
PAWZ	**Paruwai Farm**	**1.43**	**53**	P	Pn	14 05 45.7	-1.9
CAW	**Cannon Point**	**1.44**	**37**	P	Pn	14 05 46.7	-0.9
CAW				S	Sn	14 06 06.9	0.0
KIW	**Kapiti Island**	**1.58**	**28**	P	Pn	14 05 49.4	-0.3
KIW				S	Sb	14 06 10.9	-0.1
MTW	**Mount Morrison**	**1.62**	**48**	P	Pn	14 05 48.1	-2.1
MTW				S	Sg	14 06 13.8	+0.9
MQZ	**McQueen's Vall**	**1.72**	**212**	S	Sn	14 06 11.9	-1.8
QRZ	**Quartz Range**	**1.77**	**324**	P	Pn	14 05 52.9	+0.7
QRZ				S	Sb	14 06 16.3	0.0
AKCZ	**Akaroa Harbour**	**1.77**	**204**	S	Sn	14 06 14.2	-1.0
INZ	**Inchbonnie**	**1.89**	**255**	P	Pn	14 05 54.0	+0.2
INZ				S	Sn	14 06 18.0	+0.1

IDC 13 14:05:26.8±6.0, **35°.36S×179°.36E, h0km, mb4.1**/2, **mbtmp4.1**/2, **Error ellipse: s-maj=276.4km s-min=66.6km az=166.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.92**	**274**	P	P	14 13 11.4	+0.3
	1.7nm,0.4s,baz=117,slow=7.2,SNR=4.8						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**42.36**	**279**	P	P	14 13 22.2	-0.7
	0.8nm,0.5s,baz=121,slow=7.7,SNR=1.2						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**148.87**	**335**	PKPbc	PKPbc	14 25 15.0	-0.5
	3.7nm,0.8s,baz=51,slow=0.9,SNR=2.7						

IDC ***13*** *14:05:56.2±5.6, 35°.75S×179°.31W, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=261.1km s-min=65.1km az=166.0*
NEIC ***13*** *14:06:12.8±1.3, 35°.68S±0°.08×178°.6E±0°.2, h10km±2km, mb4.2/9, Error ellipse: s-maj=25.5km s-min=12.5km az=106.0*

ISC 13 14:06:12.4±1.5, **35°.68S**±0°.09×**178°.5E**±0°.2, **h10**km, **n15, σ07**7/14, **mb4.2**/6, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.89**	**185**	Pn	**Pn**	**14 06 44.8**	**+0.2**
RAO	**Raoul Island**	**7.08**	**26**	Pn	**Pn**	**14 07 56.0**	**0.0**
DZM	**Mont Dzumac**	**17.18**	**319**		**Pn**	**14 10 13.7**	**+1.1**
DZM				IAmb	IAmb	14 10 25.1	
	comp=Z,19nm,1.1s						
CTAO	**Charters Tower**	**32.30**	**290**	P	**P**	**14 12 40.6**	**-0.9**
BBOO	**Buckleboo**	**35.03**	**262**	P	**P**	**14 13 05.3**	**+0.1**
COEN	**Coen**	**38.39**	**295**	P	**P**	**14 13 33.9**	**-0.1**
AS31	**Alice Springs**	**40.27**	**275**	P	**P**	**14 13 50.4**	**+0.7**
AS31				IAmb	IAmb	14 14 01.6	
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**40.27**	**275**	P	**P**	**14 13 50.2**	**+0.5**
	comp=Z,6.1nm,0.7s,baz=118,slow=7.6,SNR=7.6						
	comp=Z,6.1nm,0.7s						
ASAR	**Alice Springs**	**40.27**	**275**	P	**P**	**14 13 50.0**	**+0.4**
WR0	**Warramunga Arr**	**41.58**	**280**	P	**P**	**14 14 00.2**	**-0.3**
WR0				IAmb	IAmb	14 14 01.5	
	comp=Z,6.3nm,1.1s						
WB2	**Warramunga Arr**	**41.74**	**280**	P	**P**	**14 14 01.1**	**-0.7**
WB2				IAmb	IAmb	14 14 07.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**41.75**	**280**	P	**P**	**14 14 00.4**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=122,slow=7.8,SNR=2.6						
	comp=Z,1.7nm,0.8s						
WRA	**Warramunga Arr**	**41.75**	**280**	P	**P**	**14 14 01.7**	**-0.2**
WB0	**Warramunga Arr**	**41.80**	**280**	P	**P**	**14 14 01.7**	**-0.6**
WB0				IAmb	IAmb	14 14 04.0	
	comp=Z,4.9nm,0.9s						
FINES	**FINESS Array B**	**148.88**	**335**	PKPbc	PKPdf	14 25 46.4	-9.0
	comp=Z,3.8nm,0.8s,baz=31,slow=3.2,SNR=2.7						

WEL 13 14:07:23.1±0.2, **43°S**±2°×**17°3E**±°, **h9**km±2km, **M4.8**/18, **ML4.6**/18, **MLv4.8**/18, **Error ellipse: s-maj=0.0km s-min=0.0km az=112.2, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**147**	P	Pg	14 07 30.6	+0.7
GVZ				S	Sb	14 07 36.2	-0.9
LTZ	**Lake Taylor**	**0.39**	**254**	P	Pg	14 07 31.4	+0.7
LTZ				S	Sb	14 07 37.5	-0.8
AMCZ	**Amberley**	**0.51**	**190**	P	Pb	14 07 34.1	-0.1
AMCZ				S	Sb	14 07 41.5	-0.3
KHZ	**Kahutara**	**0.62**	**65**	P	Pg	14 07 35.4	+0.3
KHZ				S	Sg	14 07 43.8	+0.6
CACS	**Harewood**	**0.83**	**193**	P	Pb	14 07 40.1	+0.4
CACS				S	Sn	14 07 52.3	-1.0
OXZ	**Oxford**	**0.84**	**220**	P	Pb	14 07 40.4	+0.4
OXZ				S	Sb	14 07 52.2	+0.7
THZ	**Tophouse**	**0.92**	**6**	P	Pg	14 07 40.2	-0.6
THZ				S	Sg	14 07 52.7	0.0
INZ	**Inchbonnie**	**0.98**	**267**	P	Pb	14 07 42.2	-0.1
MQZ	**McQueen's Vall**	**1.03**	**185**	P	Pg	14 07 42.3	-0.6
MQZ				S	Sg	14 07 55.4	-1.0
OKCZ	**Okains Bay**	**1.07**	**169**	P	Pg	14 07 43.3	-0.3
OKCZ				S	Sb	14 07 58.2	+0.3
RACZ	**Rakaia**	**1.15**	**204**	P	Pg	14 07 44.2	-1.0
RACZ				S	Sn	14 08 00.7	-0.5
AKCZ	**Akaroa Harbour**	**1.20**	**175**	P	Pb	14 07 44.5	-1.5
AKCZ				S	Sb	14 08 00.6	-1.1
MRNZ	**Matariki Terra**	**1.28**	**359**	P	Pn	14 07 46.9	-0.2
MRNZ				S	Sb	14 08 03.7	-0.2
WACZ	**Wakanui South**	**1.44**	**208**	P	Pn	14 07 48.0	-1.4
WACZ				S	Sn	14 08 06.7	-1.7
TUWZ	**Tuamarina**	**1.52**	**35**	P	Pn	14 07 50.5	0.0
NNZ	**Nelson**	**1.53**	**17**	Pn	Pn	14 07 50.8	+0.2
NNZ	**Nelson**	**1.53**	**17**	P	Pn	14 07 50.7	+0.2
WVZ	**Waitaha Valley**	**1.55**	**254**	P	Pn	14 07 51.2	+0.3
WVZ				S	Sb	14 08 11.8	0.0
RPZ	**Rata Peaks**	**1.63**	**230**	P	Pb	14 07 53.5	+0.1
R

n144,σ1ᵍ56/153,mb5.2/46,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.90**	**212**	Pn	**Pn**	**14 09 06.7**	**-2.2**
RAO	**Raoul Island**	**5.11**	**11**	Pn	**Pn**	**14 09 25.9**	**+0.3**
	55nn,0.3s,baz=270,slow=19,SNR=4.2						
RAO				Sn	**Sn**	**14 10 24.0**	**+0.6**
	184nn,0.3s,baz=60,slow=20,SNR=3.0						
	184nn,0.3s						
RAO	**Raoul Island**	**5.11**	**11**	Pn	**Pn**	**14 09 23.4**	**-2.2**
RPZ	**Rata Peaks**	**12.14**	**216**	Sn	**Sn**	**14 13 15.8**	**-0.2**
	37nn,0.3s,baz=15,slow=6.6,SNR=1.7						
MSVF	**Nonsavu**	**16.68**	**350**	Pn	**Pn**	**14 12 03.0**	**+0.3**
	1.5nn,0.3s,baz=144,slow=10,SNR=7.9						
	23nn,0.9s						
MSVF	**Nonsavu**	**16.68**	**350**		**P**	**14 12 04.6**	**-0.2**
DZM	**Mont Dzumac**	**17.61**	**310**	P	**P**	**14 12 17.4**	**+2.4**
	35nn,1.0s,baz=137,slow=11,SNR=13						
AFI	**Afiamalu**	**21.34**	**20**	P	**P**	**14 12 55.2**	**-0.4**
	57nn,0.7s,baz=172,slow=7.4,SNR=5.3						
AFI				S	**S**	**14 16 43.3**	**-7.5**
	15nn,0.8s,baz=196,slow=20,SNR=2.1						
	57nn,0.7s						
RAR	**Rarotonga**	**21.43**	**58**	P	**P**	**14 12 56.4**	**-0.1**
	20nn,0.6s,baz=180,slow=17,SNR=2.3						
	20nn,0.6s						
EIDS	**Eidsvold**	**27.30**	**281**	P	**P**	**14 13 54.9**	**+2.1**
PPTF	**Pamatai, Papee**	**31.16**	**65**	P	**P**	**14 14 25.6**	**-1.6**
STKA	**Stephens Creek**	**32.91**	**263**	P	**P**	**14 14 43.1**	**+0.6**
	5.7nn,0.6s,baz=100,slow=9.7,SNR=9.6						
STKA				PcP	**PcP**	**14 17 26.3**	**-0.1**
	8.5nn,1.1s,baz=93,slow=8.5,SNR=3.6						
	5.7nn,0.6s						
STKA	**Stephens Creek**	**32.91**	**263**	P	**P**	**14 14 42.8**	**+0.3**
CTA	**Charters Tower**	**33.75**	**286**	P	**P**	**14 14 50.5**	**+0.6**
	23nn,0.7s,baz=116,slow=8.9,SNR=24						
	23nn,0.7s						
CTAO	**Charters Tower**	**33.75**	**286**	P	**P**	**14 14 51.6**	**+1.7**
BBOO	**Buckleboo**	**37.20**	**259**	P	**P**	**14 15 19.1**	**-0.3**
BBOO				IAmb	IAmb	14 15 55.3	
	comp=Z,84nm,1.4s						
PMG	**Port Moresby**	**39.63**	**301**	P	**P**	**14 15 40.6**	**+0.7**
	comp=Z,14nm,0.8s,baz=114,slow=5.3,SNR=7.2						
	comp=Z,14nm,0.8s						
PMG	**Port Moresby**	**39.63**	**301**	P	**P**	**14 15 40.0**	**+0.1**
COEN	**Coen**	**39.65**	**291**	P	**P**	**14 15 41.8**	**+1.6**
COEN				IAmb	IAmb	14 15 46.9	
	comp=Z,44nm,1.0s						
KRVT	**Keravat (AS076**	**40.12**	**312**	P	**P**	**14 15 45.2**	**+1.1**
	comp=Z,181nm,0.9s,baz=154,slow=1.2,SNR=23						
	comp=Z,181nm,0.9s						
RABL	**Rabaul**	**40.13**	**312**	P	**P**	**14 15 45.1**	**+1.0**
RABL				IAmb	IAmb	14 15 52.9	
	comp=Z,108nm,1.1s						
AS31	**Alice Springs**	**42.16**	**272**	P	**P**	**14 16 01.5**	**+0.7**
ASAR	**Alice Springs**	**42.16**	**272**	P	**P**	**14 16 01.2**	**+0.4**
	comp=Z,49nm,0.8s,baz=114,slow=7.3,SNR=49						
ASAR				PcP	**PcP**	**14 17 54.9**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=122,slow=3.7,SNR=5.1						
ASAR				S	**S**	**14 22 16.6**	**-1.9**
	comp=Z,5.1nm,1.1s,baz=112,slow=15,SNR=5.7						
	comp=Z,49nm,0.8s						
ASAR	**Alice Springs**	**42.16**	**272**	P	**P**	**14 16 01.6**	**+0.7**
WR0	**Warramunga Arr**	**43.32**	**277**	P	**P**	**14 16 09.5**	**-0.8**
WB2	**Warramunga Arr**	**43.49**	**277**	P	**P**	**14 16 11.4**	**-0.1**
WB2				IAmb	IAmb	14 16 14.1	
	comp=Z,30nm,0.9s						
WRAB	**Tennant Creek**	**43.49**	**277**	P	**P**	**14 16 10.9**	**-0.7**
WRAB				IAmb	IAmb	14 16 24.5	
	comp=Z,30nm,1.0s						
WRA	**Warramunga Arr**	**43.50**	**277**	P	**P**	**14 16 11.8**	**+0.1**
	comp=Z,18nm,0.6s,baz=118,slow=7.6,SNR=38						
WRA				PcP	**PcP**	**14 17 59.2**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=122,slow=3.0,SNR=4.9						
WRA				S	**S**	**14 22 36.0**	**-2.2**
	comp=Z,1.5nm,1.0s,baz=115,slow=13,SNR=1.7						
	comp=Z,18nm,0.6s						
WRA	**Warramunga Arr**	**43.50**	**277**	P	**P**	**14 16 11.8**	**+0.1**
WB0	**Warramunga Arr**	**43.54**	**277**	P	**P**	**14 16 12.2**	**+0.2**
WB0				IAmb	IAmb	14 16 14.0	
	comp=Z,196nm,2.0s						
FORT	**Forrest**	**44.30**	**259**	P	**P**	**14 16 17.4**	**-0.6**
FORT				IAmb	IAmb	14 16 28.5	
	comp=Z,44nm,0.8s						
MTN	**Manton Dam**	**49.83**	**283**	P	**P**	**14 17 00.5**	**-0.7**
MTN				IAmb	IAmb	14 17 02.9	
	comp=Z,110nm,1.8s						
KNRA	**Kununurra**	**50.22**	**278**	P	**P**	**14 17 04.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**52.27**	**252**	P	**P**	**14 17 18.2**	**-1.3**
	comp=Z,1nm,0.7s,baz=27,slow=5.9,SNR=3.8						
	comp=Z,6.1nm,0.7s						
MORW	**Morawa**	**54.65**	**256**	P	**P**	**14 17 35.9**	**-1.0**
MORW				IAmb	IAmb	14 17 54.8	
	comp=Z,15nm,0.9s						
PSA00	**Pilbara Seismi**	**54.72**	**266**	P	**P**	**14 17 36.8**	**-0.8**
FAKI	**Fak Fak**	**54.95**	**294**	P	**P**	**14 17 38.9**	**-0.3**
	comp=Z,30nm,0.9s						
MBWA	**Marble Bar**	**55.00**	**267**	P	**P**	**14 17 38.8**	**-0.8**
MBWA				IAmb	IAmb	14 19 11.8	
	comp=Z,32nm,1.2s						
BNDI	**Bandanaira**	**55.73**	**290**	P	**P**	**14 17 44.3**	**-0.6**
	comp=Z,112nm,0.8s						
QSPA	**South Pole Qui**	**55.84**	**180**	P	**P**	**14 17 45.3**	**+0.1**
	comp=Z,21nm,0.9s,baz=60,slow=4.0,SNR=7.0						
	comp=Z,21nm,0.9s						
QSPA	**South Pole Qui**	**55.84**	**180**	P	**P**	**14 17 45.8**	**+0.6**
QSPA				IAmb	IAmb	14 18 13.9	
	comp=Z,33nm,1.0s						
SIJI	**Sorong**	**57.02**	**295**	P	**P**	**14 17 53.8**	**-0.4**
	comp=Z,20nm,1.0s,baz=148,slow=5.1,SNR=15						
	comp=Z,20nm,1.0s						
SIJI	**Sorong**	**57.02**	**295**	P	**P**	**14 17 54.2**	**+0.1**
	comp=Z,30nm,1.5s						
SOEI	**Soe**	**57.12**	**281**	P	**P**	**14 17 55.7**	**+0.8**
SOEI				IAmb	IAmb	14 18 06.0	
	comp=Z,54nm,1.0s						
BATI	**Baumata**	**57.35**	**280**	P	**P**	**14 17 56.8**	**+0.3**
	comp=Z,30nm,0.8s,baz=135,slow=5.7,SNR=2.9						
	comp=Z,30nm,0.8s						
HMH	**Humu'ula Sheep**	**58.10**	**26**	P	**P**	**14 18 00.7**	**-1.2**
NLAI	**Namlea**	**58.71**	**289**	P	**P**	**14 18 04.8**	**-1.1**
	comp=Z,19nm,0.9s						
LBMI	**Labuha**	**60.03**	**292**	P	**P**	**14 18 15.7**	**+0.6**
	comp=Z,44nm,1.0s						
SANI	**Sanana**	**60.31**	**290**	P	**P**	**14 18 16.3**	**-0.7**
	comp=Z,3μmcomp=Z,37nn,0.9s						
BNSI	**Bone**	**63.56**	**284**	P	**P**	**14 18 38.1**	**-0.8**
	comp=Z,11nm,1.4s						
TWSI	**Taliwang, Sumb**	**63.72**	**278**	P	**P**	**14 18 40.0**	**+0.1**
	comp=Z,45nm,1.1s						
GTOI	**Gorontalo**	**64.31**	**290**	P	**P**	**14 18 44.3**	**+0.6**
MAW	**Mawson**	**68.36**	**201**	P	**P**	**14 19 10.5**	**+1.6**
	comp=Z,7.5nm,1.1s,baz=135,slow=5.8,SNR=5.0						
	comp=Z,7.5nm,1.1s						
MAW	**Mawson**	**68.36**	**201**	P	**P**	**14 19 08.3**	**-0.6**
UGM	**Wanagama**	**69.41**	**274**	P	**P**	**14 19 15.6**	**-0.7**
LEM	**Lembang**	**72.40**	**274**	P	**P**	**14 19 34.6**	**0.0**
	comp=Z,82nm,0.9s,baz=101,slow=5.1,SNR=13						
	comp=Z,82nm,0.9s						
KKM	**Kota Kinabalu**	**72.96**	**290**	P	**P**	**14 19 36.6**	**-1.2**
KKM				IAmb	IAmb	14 21 15.8	
	comp=Z,43nm,1.0s						
TROLL	**Troll, Antarti**	**73.99**	**181**	P	**P**	**14 19 43.6**	**+0.5**
SNAA	**Sanae**	**74.30**	**179**	P	**P**	**14 19 43.6**	**-1.3**
SNAA	**Sanae**	**74.30**	**179**	P	**P**	**14 19 44.8**	**0.0**
	comp=Z,11nm,1.0s,baz=201,slow=4.4,SNR=8.7						
	comp=Z,11nm,1.0s						
SNAA	**Sanae**	**74.30**	**179**	P	**P**	**14 19 43.8**	**-1.1**
SNAA				IAmb	IAmb	14 19 56.8	
	comp=Z,47nm,1.4s						
VNA3	**Neumayer Olymp**	**74.50**	**176**	P	**P**	**14 19 45.6**	**-0.3**
KSM	**Kuching**	**74.91**	**282**	P	**P**	**14 19 47.8**	**-1.4**
VNA2	**Neumayer--Watz**	**74.92**	**177**	P	**P**	**14 19 48.1**	**-0.2**
	baz=182,slow=6.0						
VNA1	**Neumayer--Stat**	**75.15**	**177**	P	**P**	**14 19 50.6**	**+0.9**
JOW	**Kunigami**	**78.64**	**314**	P	**P**	**14 20 10.0**	**+0.2**
PLCA	**Paso Flores**	**80.52**	**133**	P	**P**	**14 20 20.7**	**+0.5**
	comp=Z,8.2nm,1.1s,baz=241,slow=5.6,SNR=4.7						
	comp=Z,8.2nm,1.1s						
PLCA	**Paso Flores**	**80.52**	**133**	P	**P**	**14 20 20.2**	**0.0**
PLCA				IAmb	IAmb	14 20 21.8	
	comp=Z,24nm,1.4s						
JGF	**Kuroka**	**80.57**	**325**	P	**P**	**14 20 20.3**	**+0.1**
JGF				IAmb	IAmb	14 21 19.8	
	comp=Z,59nm,1.1s						
MJAR	**Matsushiro Arr**	**80.94**	**326**	P	**P**	**14 20 21.7**	**-0.4**
	comp=Z,6.1nm,1.0s,baz=165,slow=5.7,SNR=10						
	comp=Z,6.1nm,1.0s						
BO02	**Sierra Bellavi**	**83.99**	**128**	P	**P**	**14 20 37.8**	**-0.7**
BO02				IAmb	IAmb	14 20 43.4	
	comp=Z,20nm,0.9s						
MT01	**Popeta**	**84.25**	**127**	P	**P**	**14 20 39.7**	**0.0**
MT01				IAmb	IAmb	14 20 44.5	
	comp=Z,17nm,0.8s						
MT09	**Talagante**	**84.48**	**127**	P	**P**	**14 20 40.8**	**-0.2**
MT09				IAmb	IAmb	14 20 42.9	
	comp=Z,31nm,1.3s						
TRQA	**Tornquist**	**87.33**	**135**	P	**P**	**14 20 54.7**	**-0.2**
TRQA				IAmb	IAmb	14 21 02.9	
	comp=Z,20nm,1.4s						
BFSC	**Mount Baldy Ra**	**89.19**	**47**	P	**P**	**14 21 06.2**	**+2.6**
	baz=226						
PEA0B	**Petropavlovsk-**	**89.35**	**346**	P	**P**	**14 21 04.5**	**+0.7**
PETK	**Petropavlovsk-**	**89.35**	**346**	P	**P**	**14 21 04.8**	**+1.1**
	comp=Z,44nm,0.9s,baz=185,slow=9.7,SNR=8.6						
	comp=Z,44nm,0.9s						
PETK	**Petropavlovsk-**	**89.35**	**346**	P	**P**	**14 21 04.3**	**+0.5**
EDW2	**Edwards Air Fo**	**89.43**	**46**	P	**P**	**14 21 07.6**	**+2.9**
	baz=226						
VES	**Vestal, Richgr**	**89.45**	**45**	P	**P**	**14 21 07.0**	**+2.3**
	baz=226						
ISA	**Isabella, Lake**	**89.68**	**45**	P	**P**	**14 21 09.4**	**+3.5**
	baz=226						
LRMC	**Laurel Mtn Rad**	**90.02**	**46**	P	**P**	**14 21 10.8**	**+3.2**
	baz=226						
BELC	**Belle Mtn. Jos**	**90.03**	**48**	P	**P**	**14 21 11.3**	**+3.6**
	baz=227						
GLA	**Glamis**	**90.13**	**49**	P	**P**	**14 21 12.2**	**+4.2**
	baz=228						
BC3	**Big Chuckawall**	**90.14**	**48**	P	**P**	**14 21 11.8**	**+3.7**
	baz=228						
HEC	**Hector,Ludlow**	**90.39**	**47**	P	**P**	**14 21 12.0**	**+2.9**
	baz=227						
GSC	**Goldstone, Bar**	**90.42**	**46**	P	**P**	**14 21 13.1**	**+3.7**
	baz=227						
MPMC	**Manual Prospec**	**90.53**	**45**	P	**P**	**14 21 14.1**	**+4.1**
	baz=226						
IRM	**Iron Mountain**	**90.66**	**48**	P	**P**	**14 21 14.1**	**+3.7**
	baz=228						
GMRC	**Granite Mounta**	**90.77**	**47**	P	**P**	**14 21 14.7**	**+3.7**
	baz=228						
TUQ	**Turquoise Moun**	**91.05**	**47**	P	**P**	**14 21 16.1**	**+3.8**
	baz=227						
SPIA	**Saint Paul Isl**	**91.41**	**5**	P	P	14 21 19.1	+5.9
	baz=187						
YBH	**Yreka Blue Hor**	**91.64**	**39**	P	**P**	**14 21 15.4**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=175,slow=11,SNR=2.1						
	comp=Z,0.5nm,0.4s						
NVAR	**Mina Array Bea**	**91.69**	**43**	P	**P**	**14 21 17.3**	**+1.9**
	comp=Z,3.7nm,1.1s,baz=229,slow=6.9,SNR=5.3						
	comp=Z,3.7nm,1.1s						
TUC	**Tucson**	**92.23**	**52**	P	**P**	**14 21 21.4**	**+3.6**
	baz=230						
CN2	**Changchun**	**92.70**	**323**	*e*P	**P**	**14 21 18.9**	**-0.6**
LVC	**Limon Verde**	**92.83**	**120**	P	**P**	**14 21 21.5**	**+0.2**
	comp=Z,5.4nm,1.1s,baz=162,slow=3.2,SNR=3.1						
	comp=Z,5.4nm,1.1s						
BNX	**BinXian**	**93.19**	**326**	⇑P	**P**	**14 21 25.4**	**+3.7**
BNX				pmax	pmax		
	comp=Z,250nm,0.9s						
MKAR	**Makanchi Array**	**119.53**	**309**	PKP	**PKPdf**	**14 26 56.7**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=42,slow=4.5,SNR=2.6						
ZALV	**Zalesovo Beam**	**120.29**	**317**	PKP	**PKPdf**	**14 26 57.4**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=160,slow=4.6,SNR=2.4						
KURBB	**Kurchatov Arra**	**123.06**	**312**	PKP	**PKPdf**	**14 27 02.6**	**-1.0**
	comp=Z,2.2nm,0.3s,baz=107,slow=2.2,SNR=6.9						
BVAR	**Borovoye Array**	**128.49**	**314**	PKP	**PKPdf**	**14 27 13.6**	**-0.4**
	comp=Z,8.6nm,1.0s,baz=294,slow=0.3,SNR=4.9						
KMBO	**Kilima Mbogo**	**131.00**	**232**	SKPbc	**SKPab**	**14 30 45.0**	**+2.6**
	comp=Z,2.5nm,0.7s,baz=79,slow=5.6,SNR=3.4						
GEYT	**Alibeck**	**134.27**	**292**	SKPbc	**SKPab**	**14 30 55.0**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=132,slow=4.3,SNR=2.9						
ARU	**Arti**	**135.44**	**318**	PKP	**PKPdf**	**14 27 27.4**	**+0.4**
	comp=Z,4.3nm,0.7s,baz=9.2,slow=21,SNR=2.6						
ARCES	**ARCESS Array B**	**142.16**	**346**	PKP	**PKPdf**	**14 27 37.0**	**-1.9**
	comp=Z,4.4nm,0.8s,baz=33,slow=2.4,SNR=4.8						
KLMR	**Klimovskoe**	**143.69**	**329**	*e*	**PKPdf**	**14 27 43.3**	**+1.4**
KLMR				AMP		14 27 46.6	
	comp=Z,28nm,1.3s						
GNI	**Garni**	**144.90**	**293**	PKP	**PKiKP**	**14 27 47.9**	**-0.7**
	comp=Z,15nm,1.0s,baz=96,slow=3.9,SNR=4.4						
ONI	**Oni**	**145.97**	**297**		**PKPdf**	**14 27 46.7**	**+0.2**
GEVA	**Gevas**	**146.02**	**289**	PKPbc	**PKPbc**	**14 27 47.7**	**-0.1**
KARS	**Kars**	**146.19**	**293**		**PKiKP**	**14 27 50.8**	**-0.5**
KBZ	**Khabaz**	**146.36**	**299**	PKPbc	**PKPbc**	**14 27 48.1**	**-0.2**
	comp=Z,22nm,1.0s,baz=177,slow=4.6,SNR=12						
GURO	**Guroymak-BITLI**	**146.85**	**290**		**PKPbc**	**14 27 50.1**	**0.0**
MARD	**Mardin**	**147.70**	**287**	PKPbc	**PKPbc**	**14 27 52.3**	**-0.2**
OBN	**Obninsk**	**147.73**	**321**	PKPbc	**PKPbc**	**14 27 50.8**	**-1.0**
	comp=Z,2.7nm,0.4s,baz=52,slow=4.9,SNR=9.5						
OBN	**Obninsk**	**147.73**	**321**		**PKPbc**	**14 27 51.8**	**0.0**
KOPT	**Kop Dagi**	**148.14**	**292**	PKPbc	**PKPbc**	**14 27 54.4**	**+0.6**
FIA1	**FINESS Array S**	**148.42**	**337**		**PKPbc**	**14 27 53.4**	**0.0**
FINES	**FINESS Array B**	**148.42**	**337**	PKPbc	**PKPbc**	**14 27 54.1**	**+0.7**
	comp=Z,32nm,0.8s,baz=64,slow=4.4,SNR=29						
FINES	**FINESS Array B**	**148.42**	**337**		**PKPbc**	**14 27 53.5**	**0.0**
EIL	**Elat**	**150.86**	**270**	PKPbc	**PKiKP**	**14 28 00.9**	**-0.2**
	comp=Z,16nm,0.8s,baz=27,slow=1.1,SNR=12						
MMAI	**Mount Meron Ar**	**151.35**	**277**	PKPbc	**PKiKP**	**14 28 02.3**	**+0.2**
	comp=Z,18nm,0.9s,baz=90,slow=5.0,SNR=12						
BNN	**Bunyan**	**151.70**	**290**		**PKPbc**	**14 28 01.2**	**-1.1**
DBIC	**Dimbokro**	**152.00**	**168**	PKPbc	**PKiKP**	**14 28 04.0**	**+0.1**
	comp=Z,5.9nm,0.6s,baz=145,slow=4.3,SNR=6.8						
DBIC				PKPab	**PKPab**	**14 28 12.9**	**+0.2**
	comp=Z,14nm,0.8s,baz=163,slow=3.3,SNR=8.9						
NC405	**NORSAR Array S**	**152.27**	**349**		**PKPab**	**14 28 13.0**	**+0.3**
NB2	**NORSAR Subarra**	**152.42**	**349**	PKP	**PKiKP**	**14 28 03.4**	**0.0**
	comp=Z,8.2nm,0.8s,baz=17,slow=4.0						
NOA	**NORSAR Array B**	**152.42**	**349**	PKPbc	**PKiKP**	**14 28 03.9**	**+0.5**
	comp=Z,3.3nm,1.0s,baz=22,slow=4.8,SNR=10.0						
NOA				PKPab	**PKPab**	**14 28 14.0**	**+0.6**
	comp=Z,11nm,0.9s,baz=23,slow=2.5,SNR=16						
NACGM	**Naroch**	**152.64**	**327**	*e*PKP	**PKPdf**	**14 27 54.0**	**-2.6**
	comp=Z,50nm,1.0s,baz=52						
HFS	**Hagfors**	**152.82**	**346**	PKPbc	**PKiKP**	**14 28 04.2**	**0.0**
	comp=Z,11nm,0.8s,baz=270,slow=1.5,SNR=10						
BR131	**Keskin Array S**	**153.41**	**291**		**PKPbc**	**14 28 05.3**	**-0.9**
BRTR	**Keskin Array B**	**153.41**	**291**	PKPbc	**PKPbc**	**14 28 05.6**	**-0.5**
	comp=Z,4.7nm,0.8s,baz=126,slow=3.0,SNR=11						
BRTR	**Keskin Array B**	**153.41**	**291**		**PKPbc**	**14 28 05.2**	**-0.9**
PABE	**Paberze**	**153.46**	**330**		**PKPbc**	**14 28 05.4**	**-0.1**
AKASG	**Malin Array Be**	**153.69**	**317**	PKPbc	**PKPbc**	**14 28 06.0**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=54,slow=2.6,SNR=7.4						
AKASG				PKPab	**sPKPbc**	**14 28 19.4**	**0.0**
	comp=Z,10nm,0.8s,baz=50,slow=3.3,SNR=11						
DPC	**Dobruska-Polom**	**160.39**	**330**	*e*PKPAB	**PKPab**	**14 28 48.1**	**+0.2**
KRLC	**Kraliky**	**160.40**	**328**	*e*PKPDF	PKPdf	14 27 56.6	-10
MAUC	**Maruska**	**160.43**	**325**	*e*PKPDF	**PKPdf**	**14 28 10.3**	**+3.3**
CLL	**Collm**	**160.86**	**336**	*i* PKPab	**PKPab**	**14 28 49.9**	**0.0**
	comp=Z,17nm,1.4s						
VRAC	**Vranov**	**161.04**	**327**	PKPab	**PKPab**	**14 28 51.4**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=191,slow=23,SNR=3.1						
CKRC	**Cesky Krumlov**	**162.40**	**330**	*e*PKPDF	PKPdf	14 28 17.4	+8.3
KHC	**Kasperske Hory**	**162.45**	**332**	*e*PKPDF	**PKPdf**	**14 28 08.5**	**-0.6**
KHC				*e*PKPAB	**PKPab**	**14 28 57.0**	**0.0**
GERES	**GERESS Array B**	**162.63**	**331**	PKP	**PKPdf**	**14 28 09.3**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=230,slow=2.3,SNR=2.1						
GERES				PKPab	**PKPab**	**14 28 57.0**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=28,slow=6.0,SNR=5.1						
DAVOX	**Davos/Dischmat**	**165.80**	**334**	PKP	**PKPdf**	**14 28 12.3**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=101,slow=5.2,SNR=2.8						
ESDC	**Sonseca Array**	**173.35**	**35**	PKP	**PKPdf**	**14 28 17.9**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=336,slow=1.7,SNR=4.8						

WEL 13 14:09:28.9±0.4,42°S±2°×17°4E±°,h6km±2km,M4.7/19,ML5.0/19,MLv4.7/19,Error ellipse: s-maj=0.0km s-min=0.0km az=158.8,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**261**	P	Pg	14 09 31.3	+0.3
CMWZ				S	Sg	14 09 34.2	+1.8
BSWZ	**Blackbirch Sta**	**0.34**	**273**	P	Pg	14 09 35.7	+0.1
BSWZ				S	Sg	14 09 41.5	+1.4
TUWZ	**Tuamarina**	**0.42**	**316**	P	Pg	14 09 37.2	+0.2
TUWZ				S	Sg	14 09 44.0	+1.3
BHW	**Baring Head**	**0.52**	**51**	P	Pg	14 09 38.9	0.0
BHW				S	Sb	14 09 48.2	+0.2
TCW	**Tory Channel**	**0.53**	**355**	P	Pg	14 09 38.9	-0.1
TCW				S	Sg	14 09 46.9	+1.0
WEL	**Wellington**	**0.56**	**36**	P	Pg	14 09 40.0	+0.4
WEL				S	Sb	14 09 49.0	-0.1
PLWZ	**Palliser**	**0.71**	**77**	P	Pb	14 09 43.6	0.0
PLWZ				S	Sn	14 09 55.3	-1.4
MSWZ	**Moikau Station**	**0.76**	**65**	P	Pb	14 09 44.3	-0.1
MSWZ				S	Sn	14 09 56.8	-1.0
CAW	**Cannon Point**	**0.83**	**42**	P	Pg	14 09 45.0	+0.1
CAW				S	Sn	14 09 58.9	-0.8
NNZ	**Nelson**	**0.89**	**306**	P	Pg	14 09 45.9	+0.1
NNZ				S	Sb	14 09 58.1	-0.5
PAWZ	**Paruwai Farm**	**0.89**	**67**	P	Pg	14 09 46.0	0.0
PAWZ				S	Sb	14 09 60.0	+1.0
KHZ	**Kahutara**	**0.90**	**221**	S	Sb	14 10 00.2	+1.1
KIW	**Kapiti Island**	**0.97**	**27**	P	Pg	14 09 47.1	-0.5
KIW				S	Sb	14 10 01.5	+0.3
DUWZ	**D'Urville Isla**	**0.98**	**341**	P	Pb	14 09 48.6	+0.3
DUWZ				S	Sb	14 10 01.6	+0.1
MTW	**Mount Morrison**	**1.05**	**57**	P	Pg	14 09 48.5	-0.5
MTW				S	Sb	14 10 04.2	+0.8
TRWZ	**Traveller**	**1.07**	**72**	P	Pg	14 09 48.3	-1.1
OGWZ	**Otaki Gorge**	**1.11**	**35**	P	Pg	14 09 49.5	-0.8
HOWZ	**Holdsworth Sta**	**1.22**	**47**	P	Pg	14 09 51.1	-1.2
MRNZ	**Matariki Terra**	**1.23**	**285**	P	Pg	14 09 52.4	-0.1
MRNZ				S	Sn	14 10 09.9	+0.5
TKNZ	**Takaka Hill**	**1.25**	**304**	P	Pb	14 09 52.7	-0.2
TKNZ				S	Sn	14 10 10.4	+0.5
TMWZ	**Te Maipa**	**1.33**	**62**	P	Pn	14 09 52.1	-1.8
MRZ	**Mangatainoka R**	**1.43**	**42**	P	Pn	14 09 53.8	-1.4
TIWZ	**Tintock**	**1.51**	**51**	P	Pn	14 09 55.7	-0.8
CPWZ	**Castlepoint**	**1.63**	**60**	P	Pn	14 09 55.6	-2.5
OHWZ	**Ohakea**	**1.70**	**26**	P	Pb	14 10 00.2	-0.2
PRWZ	**Pori Road**	**1.71**	**47**	P	Pn	14 09 58.3	-0.8
POWZ	**Post Office Ro**	**1.73**	**39**	P	Pn	14 09 59.7	+0.3
BFZ	**Birch Farm**	**1.79**	**55**	P	Pg	14 10 04.2	+1.1
DVHZ	**Dannevirke**	**2.00**	**45**	P	Pg	14 10 07.0	-0.1
WAZ	**Wanganui**	**2.04**	**14**	P	Pb	14 10 06.7	+0.4
TSZ	**Takapari Road**	**2.08**	**37**	P	Pb	14 10 07.1	+0.1
WPHZ	**Waipukurau**	**2.31**	**44**	P	Pg	14 10 13.4	+0.3
KHEZ	**Kahui Hut**	**2.45**	**354**	P	Pg	14 10 15.9	0.0
NBEZ	**Newall Road No**	**2.49**	**352**	P	Pg	14 10 15.6	-1.0
MOVZ	**Moawhango**	**2.56**	**25**	P	Pb	14 10 14.4	-0.9
WNVZ	**Wahianoa**	**2.59**	**22**	P	Pb	14 10 16.6	+0.8
BHHZ	**Black Hill Sta**	**2.60**	**31**	P	Pb	14 10 17.2	+1.2
TRVZ	**Turoa**	**2.60**	**21**	P	Pb	14 10 16.0	0.0
WHVZ	**Whangaehu Hut**	**2.63**	**22**	P	Pb	14 10 15.8	-0.7
FWVZ	**Far West T-bar**	**2.65**	**21**	P	Pb	14 10 15.9	-0.9
TUVZ	**Tukino**	**2.66**	**23**	P	Pb	14 10 16.4	-0.7
NGZ	**Ngauruhoe**	**2.73**	**21**	P	Pb	14 10 18.3	+0.1
SNVZ	**South Ngauruho**	**2.73**	**22**	P	Pb	14 10 18.6	+0.4
OTVZ	**Otur

	1.5nm,0.4s								
KRBS					*e*S		**Sg**	14 12 15.2	**-2.8**
	3.5nm,0.6s								
KRBS	**Karabastau**	**4.08**	**20**		Pg		**Pb**	14 11 19.1	**0.0**
	1.5nm,0.4s								
KRBS					Lg		Lg	14 12 16.0	
	3.5nm,0.6s								
MDOK	**Medeo**	**4.10**	**36**		*e*P		**Pb**	14 11 19.1	**-0.5**
	6.4nm,1.8s								
MDOK					*e*S		**Sg**	14 12 14.9	**-4.1**
	10nm,0.8s								
MDOK	**Medeo**	**4.10**	**36**		⇑Pg		**Pb**	14 11 18.6	**-1.0**
	3.5nm,0.6s								
MDOK					Pg		Pg	14 11 19.1	-6.7
	6.4nm,1.8s								
MDOK					Lg		Lg	14 12 14.9	
	10nm,0.8s								
MDOK					⇓Lg		Lg	14 12 15.9	
	16nm,1.0s								
CHKK	**Chushkaly**	**4.64**	**30**		*e*P		**Pb**	14 11 29.8	**+1.1**
	1.6nm,0.1s								
CHKK					*e*S		**Sg**	14 12 33.7	**-2.6**
	7.0nm,0.4s								
CHKK	**Chushkaly**	**4.64**	**30**		Pg		**Pb**	14 11 29.8	**+1.1**
	1.6nm,0.1s								
CHKK					Lg		Lg	14 12 33.7	
	7.0nm,0.4s								
ZHN	**Zhinishke**	**4.80**	**45**		*e*P		**Pb**	14 11 33.1	**+1.7**
	4.5nm,0.2s								
ZHN					*e*S		**Sg**	14 12 38.8	**-2.5**
	17nm,0.3s								
KPKS	**Kokpek**	**5.14**	**44**		*e*P		**Pb**	14 11 35.9	**-1.2**
	1.9nm,0.3s								
KPKS					*e*S		**Sb**	14 12 43.5	**+4.5**
	26nm,0.4s								
BLB	**Baldybastay**	**5.49**	**38**		*e*P		**Pb**	14 11 44.5	**+1.3**
	2.9nm,0.6s								
BLB					*e*S		**Sg**	14 12 58.6	**-4.6**
	18nm,0.4s								
BLB	**Baldybastay**	**5.49**	**38**		Pg		**Pb**	14 11 44.5	**+1.3**
	2.9nm,0.6s								
BLB					Lg		Lg	14 12 58.6	
	18nm,0.4s								

IDC ***13*** *14:12:07.9±2.4,33°.45S×178°.84W,h0km,mb4.4/4, mbtmp4.4/4,Error ellipse: s-maj=141.2km s-min=34.6km az=167.0*

NEIC ***13*** *14:12:17.2±1.7,32°.67S±0°.07×178°.8W±0°.2,h35km±2km, mb4.6/9,Error ellipse: s-maj=35.3km s-min=7.8km az=74.0*

ISC 13 14:12:16.0±1.1,32°.5S±0°.2×178°.8W±0°.2,h35km,n21, σ1§65/19,mb4.5/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.75**	**305**	P	**Pn**	**14 16 10.9**	**+2.8**
DZM				IAmb	IAmb	14 16 20.5	
	comp=Z,34nm,1.5s						
EIDS	**Eidsvold**	**27.27**	**277**	P	**P**	**14 17 57.4**	**+0.3**
EIDS				IAmb	IAmb	14 18 36.2	
	comp=Z,18nm,1.3s						
STKA	**Stephens Creek**	**33.42**	**260**	P	P	14 18 47.0	-4.4
	comp=Z,2.0nm,0.8s,baz=80,slow=12,SNR=1.3						
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**33.42**	**260**	P	**P**	**14 18 50.9**	**-0.5**
CTA	**Charters Tower**	**33.56**	**283**	P	**P**	**14 18 51.5**	**-1.3**
	comp=Z,10nm,1.1s,baz=119,slow=11,SNR=2.2						
	comp=Z,10nm,1.1s						
CTAO	**Charters Tower**	**33.56**	**283**	P	**P**	**14 18 54.1**	**+1.3**
BBOO	**Buckleboo**	**37.81**	**257**	P	**P**	**14 19 27.8**	**-1.3**
BBOO				IAmb	IAmb	14 19 53.6	
	comp=Z,48nm,1.5s						
COEN	**Coen**	**39.28**	**289**	P	**P**	**14 19 43.0**	**+1.3**
ASAR	**Alice Springs**	**42.39**	**270**	P	P	14 20 02.5	-4.8
	comp=Z,3.1nm,0.6s,baz=114,slow=7.9,SNR=1.9						
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**43.57**	**275**	P	**P**	**14 20 14.2**	**-2.7**
	comp=Z,4.7nm,0.6s,baz=117,slow=7.4,SNR=1.3						
	comp=Z,4.7nm,0.6s						
VNDA	**Vanda**	**45.92**	**186**	P	**P**	**14 20 37.1**	**+2.3**
VNDA				IAmb	IAmb	14 21 02.8	
	comp=Z,9.1nm,1.5s						
QSPA	**South Pole Qui**	**57.59**	**180**	P	**P**	**14 22 02.1**	**-0.1**
QSPA				IAmb	IAmb	14 22 09.1	
	comp=Z,9.1nm,1.3s						
CMAR	**Chiang Mai Arr**	**93.49**	**290**	P	**P**	**14 25 29.5**	**+1.1**
CHTO	**Chiang Mai**	**93.68**	**290**	P	**P**	**14 25 30.4**	**+1.1**
KURBB	**Kurchatov Arra**	**122.06**	**313**	PKP	**PKPdf**	**14 31 03.3**	**-3.0**
	comp=Z,0.7nm,0.7s,baz=113,slow=2.1,SNR=4.8						
FINES	**FINESS Array B**	**146.89**	**338**	PKPbc	**PKPdf**	**14 31 52.1**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=30,slow=4.9,SNR=7.0						
NB2	**NORSAR Subarra**	**150.74**	**350**	PKP	**PKPbc**	**14 32 04.9**	**+1.1**
	comp=Z,4.1nm,0.8s,baz=16,slow=4.1						
NOA	**NORSAR Array B**	**150.74**	**350**	PKPbc	**PKPbc**	**14 32 04.0**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=13,slow=4.0,SNR=4.6						
HFS	**Hagfors**	**151.18**	**347**	PKPbc	**PKPbc**	**14 32 04.8**	**0.0**
	comp=Z,2.6nm,0.8s,baz=169,slow=1.5,SNR=2.7						
MMAI	**Mount Meron Ar**	**151.34**	**280**	PKPbc	**PKPbc**	**14 32 04.5**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=86,slow=5.9,SNR=1.8						
AKASG	**Malin Array Be**	**152.54**	**320**	PKPbc	**PKPbc**	**14 32 07.4**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=44,slow=2.5,SNR=2.4						

IDC ***13*** *14:12:26.7±1.0,41°.50S×174°.25E,h0km,mb4.3/5, mbtmp4.3/5,Error ellipse: s-maj=56.6km s-min=29.7km az=78.0*

WEL ***13*** *14:12:29.1±0.5,42°.5±3°×17°.4E±°,h5km±2km,M4.5/18, ML4.8/18,MLv4.5/18,Error ellipse: s-maj=0.0km s-min=0.0km az=157.6*

NEIC ***13*** *14:12:29.8±1.2,41°.77S±0°.02×174°.20E±0°.02,h6km±1km, mb4.9/3,Error ellipse: s-maj=3.5km s-min=1.9km az=157.0*

ISC 13 14:12:29.4±0.7,41°.79S±0°.03×174°.19E±0°.02,h11km±4km, n99,σ1§41/112,mb4.5/5,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**25**	Pg	**Pg**	**14 12 30.6**	**-1.0**
CMWZ				Sg	**Sg**	**14 12 32.4**	**-0.7**
CMWZ	**Cape Campbell**	**0.05**	**25**	P	**Pg**	**14 12 30.5**	**-1.0**
CMWZ				S	**Sg**	**14 12 32.3**	**-0.7**
BSWZ	**Blackbirch Sta**	**0.24**	**288**	Pg	**Pg**	**14 12 34.7**	**+0.2**
BSWZ				Sg	**Sb**	**14 12 38.8**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.24**	**288**	P	**Pg**	**14 12 34.8**	**+0.4**
BSWZ				S	**Sb**	**14 12 39.8**	**+2.0**
TUWZ	**Tuamarina**	**0.41**	**333**	Pg	**Pg**	**14 12 37.5**	**+0.1**
TUWZ	**Tuamarina**	**0.41**	**333**	P	**Pg**	**14 12 37.8**	**+0.4**
TUWZ				S	**Sb**	**14 12 45.0**	**+0.2**
TCW	**Tory Channel**	**0.59**	**7**	P	**Pg**	**14 12 40.2**	**-0.6**
TCW				S	**Sb**	**14 12 50.1**	**+0.2**
SNZO	**South Karori**	**0.62**	**39**		**Pg**	**14 12 41.4**	**0.0**
BHW	**Baring Head**	**0.64**	**53**	P	**Pg**	**14 12 41.4**	**-0.4**
BHW				S	**Sb**	**14 12 52.7**	**+1.1**
WEL	**Wellington**	**0.67**	**41**	P	**Pg**	**14 12 42.5**	**+0.1**
WEL				S	**Sg**	**14 12 53.0**	**+1.8**
KHZ	**Kahutara**	**0.79**	**218**	Pg	**Pg**	**14 12 45.3**	**+0.7**
PLWZ	**Palliser**	**0.83**	**75**	Pg	**Pb**	**14 12 45.8**	**-0.1**
NNZ	**Nelson**	**0.84**	**313**	Pg	**Pg**	**14 12 45.7**	**+0.2**
NNZ	**Nelson**	**0.84**	**313**	P	**Pg**	**14 12 45.6**	**+0.1**
NNZ				S	**Sn**	**14 12 57.8**	**-1.5**
MSWZ	**Moikau Station**	**0.88**	**65**	Pg	**Pb**	**14 12 46.5**	**-0.2**
MSWZ	**Moikau Station**	**0.88**	**65**	P	**Pb**	**14 12 46.7**	**0.0**
MSWZ				S	**Sg**	**14 13 00.8**	**+3.0**
CAW	**Cannon Point**	**0.95**	**44**	P	**Pb**	**14 12 47.2**	**-0.8**
CAW				S	**Sb**	**14 13 01.1**	**+0.6**
THZ	**Tophouse**	**0.96**	**271**	Pg	**Pb**	**14 12 47.7**	**-0.3**
THZ	**Tophouse**	**0.96**	**271**	P	**Pb**	**14 12 47.7**	**-0.3**
THZ				S	**Sb**	**14 12 56.7**	**-4.0**
PAWZ	**Paruwai Farm**	**1.02**	**67**	P	**Pb**	**14 12 48.5**	**-0.6**
KIW	**Kapiti Island**	**1.08**	**31**	P	**Pb**	**14 12 49.6**	**-0.4**
MRNZ	**Matariki Terra**	**1.14**	**290**	P	**Pg**	**14 12 51.7**	**+0.3**
MRNZ				S	**Sn**	**14 13 09.7**	**+2.7**
MTW	**Mount Morrison**	**1.18**	**58**	P	**Pn**	**14 12 50.5**	**-1.2**
TKNZ	**Takaka Hill**	**1.19**	**309**	P	**Pn**	**14 12 52.0**	**0.0**
OGWZ	**Otaki Gorge**	**1.23**	**38**	P	**Pn**	**14 12 52.2**	**-0.2**
MRZ	**Mangatainoka R**	**1.54**	**43**	Pn	**Pn**	**14 12 56.4**	**-0.4**
MRZ	**Mangatainoka R**	**1.54**	**43**	P	**Pn**	**14 12 55.4**	**-1.5**
QRZ	**Quartz Range**	**1.58**	**307**	Pn	**Pg**	**14 12 59.2**	**-0.5**
QRZ	**Quartz Range**	**1.58**	**307**	P	**Pb**	**14 12 58.8**	**+0.2**
OHWZ	**Ohakea**	**1.80**	**29**	P	**Pn**	**14 13 01.8**	**+1.5**
PRWZ	**Pori Road**	**1.83**	**48**	P	**Pb**	**14 13 04.3**	**+1.4**
POWZ	**Post Office Ro**	**1.84**	**41**	P	**Pg**	**14 13 05.9**	**+1.3**
BFZ	**Birch Farm**	**1.91**	**55**	P	**Pg**	**14 13 06.9**	**+0.9**
DVHZ	**Dannevirke**	**2.12**	**46**	P	**Pb**	**14 13 08.2**	**+0.5**
WAZ	**Wanganui**	**2.12**	**17**	P	**Pb**	**14 13 09.5**	**+1.6**
TSZ	**Takapari Road**	**2.19**	**38**	P	**Pb**	**14 13 10.0**	**+0.9**
OXZ	**Oxford**	**2.21**	**225**	P	**Pg**	**14 13 11.6**	**0.0**
INZ	**Inchbonnie**	**2.24**	**245**	P	**Pn**	**14 13 07.5**	**+1.1**
LREZ	**Lake Rotokare**	**2.34**	**4**	P	**Pn**	**14 13 09.5**	**+1.8**
NMEZ	**Namu Road**	**2.39**	**354**	P	**Pn**	**14 13 10.6**	**+2.2**
KHEZ	**Kahui Hut**	**2.50**	**357**	P	**Pb**	**14 13 14.0**	**-0.3**
NBEZ	**Newall Road No**	**2.53**	**354**	P	**Pb**	**14 13 15.6**	**+0.7**
MTVZ	**Mangateitei**	**2.60**	**23**	P	**Pb**	**14 13 17.7**	**+1.7**
DREZ	**Durham Road**	**2.60**	**0**	P	**Pb**	**14 13 14.9**	**-1.1**
PKE	**Pukeiti**	**2.60**	**357**	P	**Pb**	**14 13 16.4**	**+0.3**
PKZ	**Pokaka**	**2.65**	**20**	P	**Pb**	**14 13 17.5**	**+0.5**
MOVZ	**Moawhango**	**2.67**	**27**	P	**Pb**	**14 13 16.8**	**-0.4**
WNVZ	**Wahianoa**	**2.69**	**24**	P	**Pb**	**14 13 17.0**	**-0.6**
TRVZ	**Turoa**	**2.70**	**23**	P	**Pb**	**14 13 18.4**	**+0.5**
BHHZ	**Black Hill Sta**	**2.71**	**32**	P	**Pb**	**14 13 18.3**	**+0.4**
DRZ	**Dome Shelter**	**2.73**	**23**	P	**Pb**	**14 13 18.5**	**+0.2**
WHVZ	**Whangaehu Hut**	**2.73**	**24**	P	**Pb**	**14 13 18.3**	**0.0**
FWVZ	**Far West T-bar**	**2.74**	**23**	P	**Pb**	**14 13 18.3**	**-0.3**
TUVZ	**Tukino**	**2.76**	**24**	P	**Pb**	**14 13 19.1**	**+0.3**
NGZ	**Ngauruhoe**	**2.83**	**23**	P	**Pb**	**14 13 20.4**	**+0.4**
SNVZ	**South Ngauruho**	**2.83**	**24**	P	**Pb**	**14 13 20.2**	**+0.2**
WVZ	**Waitaha Valley**	**2.86**	**242**	P	**Pb**	**14 13 20.2**	**-0.2**
OTVZ	**Oturere**	**2.86**	**24**	P	**Pb**	**14 13 20.2**	**-0.3**
NNVZ	**North Ngauruho**	**2.87**	**23**	P	**Pb**	**14 13 21.3**	**+0.6**
WTVZ	**West Tongariro**	**2.88**	**22**	P	**Pb**	**14 13 20.9**	**0.0**
TWVZ	**Taurewa**	**2.88**	**20**	P	**Pb**	**14 13 22.0**	**+1.1**
ETVZ	**East Tongariro**	**2.90**	**24**	P	**Pb**	**14 13 21.1**	**-0.1**
TMVZ	**Te Maari**	**2.91**	**24**	P	**Pb**	**14 13 21.2**	**-0.2**
KRVZ	**Karewarewa**	**2.92**	**23**	P	**Pb**	**14 13 21.8**	**+0.4**
KWHZ	**Kaweka Forest**	**2.92**	**36**	P	**Pb**	**14 13 22.5**	**+1.1**
NTVZ	**North Tongarir**	**2.92**	**23**	P	**Pb**	**14 13 21.9**	**+0.3**
RPZ	**Rata Peaks**	**3.00**	**229**	P	**Pb**	**14 13 25.4**	**+2.5**
KATZ	**Kakaramea**	**3.04**	**23**	P	**Pb**	**14 13 23.9**	**+0.3**
BKZ	**Black Stump Fm**	**3.16**	**35**		**Pb**	**14 13 25.7**	**+0.2**
BKZ	**Black Stump Fm**	**3.16**	**35**	P	**Pb**	**14 13 26.6**	**+1.1**
RATZ	**Rangitukua**	**3.17**	**23**	P	**Pb**	**14 13 26.2**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**3.23**	**241**	P	**Pb**	**14 13 25.0**	**-1.8**
HATZ	**Hinemaiaia**	**3.24**	**27**	P	**Pb**	**14 13 26.6**	**-0.4**
WATZ	**Wairara**	**3.30**	**22**	P	**Pb**	**14 13 28.5**	**+0.5**
HIZ	**Hauiti**	**3.32**	**9**	P	**Pn**	**14 13 25.0**	**+3.8**
WHTZ	**Whakaora**	**3.41**	**24**	P	**Pb**	**14 13 30.5**	**+0.8**
MRHZ	**Matea Rd**	**3.41**	**31**	P	**Pb**	**14 13 30.3**	**+0.4**
MTHZ	**Maungataniwha**	**3.57**	**36**	P	**Pb**	**14 13 34.4**	**+1.8**
RAHZ	**Arahi**	**3.63**	**39**	P	**Pb**	**14 13 32.8**	**-0.8**
RRRZ	**Republican Roa**	**3.88**	**28**	P	**Pb**	**14 13 37.6**	**-0.4**
NGRZ	**Ngongotaha**	**4.00**	**23**	P	**Pb**	**14 13 39.6**	**-0.2**
JCZ	**Jackson Bay**	**4.57**	**238**	P	**Pn**	**14 13 42.2**	**+3.6**
AWAZ	**Awhitu Peninsu**	**4.74**	**4**	P	**Pn**	**14 13 43.1**	**+2.3**
MKAZ	**Moumakai**	**4.74**	**9**	P	**Pn**	**14 13 42.4**	**+1.5**
ETAZ	**East Tamaki Re**	**4.87**	**7**	P	**Pn**	**14 13 45.1**	**+2.6**
EPAZ	**Eden Park BICE**	**4.93**	**5**	P	**Pn**	**14 13 47.6**	**+4.2**
MBAZ	**Motutapu North**	**5.05**	**7**	P	**Pn**	**14 13 48.4**	**+3.4**
ABAZ	**Army Bay**	**5.21**	**6**	P	**Pn**	**14 13 49.3**	**+2.0**
MSVF	**Nonsavu**	**24.21**	**9**	P	**P**	**14 17 41.5**	**-4.6**
	2.9nm,0.8s,baz=158,slow=17,SNR=1.8						
	2.9nm,0.8s						
MORW	**Morawa**	**48.21**	**266**	P	**P**	**14 21 08.9**	**-1.1**
QSPA	**South Pole Qui**	**48.34**	**180**	P	**P**	**14 21 11.5**	**+0.8**
	5.9nm,1.0s,baz=12,slow=6.2,SNR=3.0						
	5.9nm,1.0s						
QSPA	**South Pole Qui**	**48.34**	**180**	P	**P**	**14 21 13.1**	**+2.4**
QSPA				IAmb	IAmb	14 21 13.6	
	comp=Z,8.7nm,1.1s						
PLCA	**Paso Flores**	**79.10**	**136**	P	**P**	**14 24 34.6**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=261,slow=6.3,SNR=3.0						
	comp=Z,1.7nm,0.8s						
PLCA	**Paso Flores**	**79.10**	**136**	P	**P**	**14 24 34.7**	**+0.7**
PLCA				IAmb	IAmb	14 27 06.6	
	comp=Z,30nm,1.9s						
KSRS	**Korea Array**	**89.46**	**325**	P	**P**	**14 25 25.1**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=152,slow=5.8,SNR=4.7						
	comp=Z,2.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.61**	**293**	P	**P**	**14 25 35.5**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=149,slow=3.3,SNR=5.3						
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**118.44**	**30**	PKP	**PKPdf**	**14 31 14.4**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=255,slow=1.7,SNR=4.5						
ARCES	**ARCESS Array B**	**147.80**	**340**	PKPbc	**PKPdf**	**14 32 10.7**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=54,slow=3.7,SNR=2.2						
BRTR	**Keskin Array B**	**150.22**	**279**	PKPbc	**PKPbc**	**14 32 18.4**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=131,slow=4.4,SNR=3.6						

IDC ***13*** *14:15:45.4±2.7,41°.32S×174°.21E,h0km,mb4.1/4, mbtmp4.2/5,ML5.0/1,Error ellipse: s-maj=64.7km s-min=34.0km az=121.0*

WEL ***13*** *14:15:48.8±0.4,42°.5±3°×17°.4E±°,h15km±2km,M4.6/25, ML4.9/25,MLv4.6/25,Error ellipse: s-maj=0.0km s-min=0.0km az=5.1*

NEIC ***13*** *14:15:48.1±0.9,41°.90S±0°.04×174°.10E±0°.05,h21km±6km, mb4.2/3,Error ellipse: s-maj=7.0km s-min=4.9km az=146.0*

ISC 13 14:15:47.8±0.7,41°.89S±0°.03×174°.09E±0°.02,h17km,n89, σ1§11/100,mb4.2/7,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.17**	**33**	Pg	**Pb**	**14 15 53.6**	**+1.0**
CMWZ				Sg	**Sb**	**14 15 56.6**	**+0.8**
CMWZ	**Cape Campbell**	**0.17**	**33**	P	**Pb**	**14 15 53.7**	**+1.1**
CMWZ				S	**Sb**	**14 15 57.7**	**+1.9**
BSWZ	**Blackbirch Sta**	**0.24**	**318**		**Pb**	**14 15 54.1**	**+0.4**
BSWZ				Sg	**Sb**	**14 15 57.5**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.24**	**318**	P	**Pb**	**14 15 54.3**	**+0.6**
BSWZ				S	**Sb**	**14 15 58.1**	**+0.5**
TUWZ	**Tuamarina**	**0.48**	**347**		**Pb**	**14 15 58.0**	**+0.2**
TUWZ				Sg	**Sb**	**14 16 04.2**	**-0.3**
TUWZ	**Tuamarina**	**0.48**	**347**	P	**Pb**	**14 15 58.1**	**+0.4**
TUWZ				S	**Sb**	**14 16 04.5**	**+0.1**
TCW	**Tory Channel**	**0.70**	**12**	P	**Pb**	**14 16 01.7**	**+0.2**
TCW				S	**Sb**	**14 16 11.2**	**+0.3**
SNZO	**South Karori**	**0.74**	**39**		**Pb**	**14 16 03.1**	**+0.8**
WEL	**Wellington**	**0.80**	**40**	P	**Pg**	**14 16 04.1**	**+0.8**
WEL				S	**Sn**	**14 16 16.6**	**+0.9**
NNZ	**Nelson**	**0.86**	**322**		**Pg**	**14 16 04.6**	**0.0**
NNZ	**Nelson**	**0.86**	**322**	P	**Pg**	**14 16 05.0**	**+0.4**
NNZ				S	**Sg**	**14 16 16.1**	**+0.2**
THZ	**Tophouse**	**0.89**	**278**	Pn	**Pg**	**14 16 06.2**	**+1.0**
THZ	**Tophouse**	**0.89**	**278**	P	**Pn**	**14 16 06.5**	**+0.8**
THZ				S	**Sn**	**14 16 18.6**	**+0.4**
PLWZ	**Palliser**	**0.93**	**70**		**Pb**	**14 16 05.6**	**+0.1**
PLWZ	**Palliser**	**0.93**	**70**	P	**Pb**	**14 16 06.4**	**+0.9**
MSWZ	**Moikau Station**	**0.99**	**62**		**Pb**	**14 16 06.7**	**+0.1**
MSWZ	**Moikau Station**	**0.99**	**62**	P	**Pb**	**14 16 07.2**	**+0.6**
CAW	**Cannon Point**	**1.08**	**43**	P	**Pn**	**14 16 08.6**	**+0.5**
DUWZ	**D'Urville Isla**	**1.10**	**353**	P	**Pg**	**14 16 08.8**	**-0.3**
MRNZ	**Matariki Terra**	**1.11**	**296**	P	**Pg**	**14 16 10.1**	**+0.8**
PAWZ	**Paruwai Farm**	**1.13**	**63**	P	**Pb**	**14 16 08.9**	**0.0**
KIW	**Kapiti Island**	**1.20**	**31**	P	**Pb**	**14 16 10.7**	**+0.5**
TKNZ	**Takaka Hill**	**1.21**	**315**	P	**Pb**	**14 16 10.9**	**+0.6**
MTW	**Mount Morrison**	**1.29**	**56**	P	**Pn**	**14 16 10.9**	**-0.2**
TRVZ	**Traveller**	**1.30**	**68**	P	**Pn**	**14 16 11.1**	**-0.1**
OGWZ	**Otaki Gorge**	**1.35**	**38**	P	**Pn**	**14 16 12.4**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.46**	**48**	P	**Pn**	**14 16 13.5**	**0.0**
TMWZ	**Te Maipa**	**1.57**	**60**	P	**Pn**	**14 16 14.4**	**-0.6**
QRZ	**Quartz Range**	**1.59**	**312**	P	**Pb**	**14 16 17.3**	**+0.6**
LTZ	**Lake Taylor**	**1.61**	**236**	Pn	**Pn**	**14 16 15.4**	**-0.2**
MRZ	**Mangatainoka R**	**1.67**	**43**	Pn	**Pn**	**14 16 15.9**	**-0.4**
MRZ	**Mangatainoka R**	**1.67**	**43**	P	**Pn**	**14 16 16.3**	**0.0**
TIWZ	**Tintock**	**1.75**	**51**	P	**Pn**	**14 16 17.2**	**-0.3**
CPWZ	**Castlepoint**	**1.87**	**59**	P	**Pg**	**14 16 25.8**	**+2.0**
OHWZ	**Ohakea**	**1.93**	**29**	P	**Pb**	**14 16 21.5**	**-0.9**
PRWZ	**Pori Road**	**1.95**	**47**	P	**Pn**	**14 16 19.8**	**-0.4**
POWZ	**Post Office Ro**	**1.96**	**41**	P	**Pn**	**14 16 21.0**	**+0.6**
BFZ	**Birch Farm**	**2.03**	**54**		**Pn**	**14 16 20.4**	**-0.9**
BFZ	**Birch Farm**	**2.03**	**54**	P	**Pg**	**14 16 27.6**	**+0.8**
OXZ	**Oxford**	**2.08**	**226**		**Pn**	**14 16 23.0**	**+1.0**
DVHZ	**Dannevirke**	**2.24**	**45**	P	**Pn**	**14 16 23.3**	**-0.8**
WAZ	**Wanganui**	**2.24**	**18**	P	**Pn**	**14 16 28.4**	**+0.5**
TSZ	**Takapari Road**	**2.32**	**38**	P	**Pn**	**14 16 24.9**	**-0.3**
LREZ	**Lake Rotokare**	**2.44**	**6**	P	**Pn**	**14 16 30.1**	**-1.2**
NMEZ	**Namu Road**	**2.48**	**356**	P	**Pb**	**14 16 32.6**	**+0.6**
PRHZ	**Porangahau**	**2.52**	**51**	P	**Pg**	**14 16 35.2**	**-0.9**
PNHZ	**Pukenui**	**2.54**	**40**	P	**Pn**	**14 16 27.8**	**-0.6**
WPHZ	**Waipukurau**	**2.55**	**45**	P	**Pb**	**14 16 33.8**	**+0.6**
KHEZ	**Kahui Hut**	**2.60**	**359**	P	**Pb**	**14 16 33.6**	**-0.4**
NEZ	**North Egmont**	**2.62**	**0**	P	**Pb**	**14 16 34.0**	**-0.4**
NBEZ	**Newall Road No**	**2.63**	**356**	P	**Pb**	**14 16 34.4**	**0.0**
PKE	**Pukeiti**	**2.70**	**358**	P	**Pb**	**14 16 34.5**	**-1.2**
DREZ	**Durham Road**	**2.70**	**2**	P	**Pb**	**14 16 35.2**	**-0.5**
MTVZ	**Mangateitei**	**2.72**	**23**	P	**Pb**	**14 16 35.0**	**-1.0**
PKVZ	**Pokaka**	**2.77**	**21**	P	**Pb**	**14 16 35.3**	**-1.7**
MOVZ	**Moawhango**	**2.79**	**28**	P	**Pn**	**14 16 34.4**	**+2.6**
PXZ	**Pawanui**	**2.81**	**49**	P	**Pb**	**14 16 38.2**	**+0.7**
WNVZ	**Wahianoa**	**2.81**	**25**	P	**Pb**	**14 16 35.1**	**+3.0**
MHEZ	**Mangahewa**	**2.82**	**4**	P	**Pb**	**14 16 37.5**	**-0.2**
TRVZ	**Turoa**	**2.82**	**24**	P	**Pb**	**14 16 37.1**	**-0.8**
BHHZ	**Black Hill Sta**	**2.83**	**33**	P	**Pb**	**14 16 38.5**	**+0.5**
DRZ	**Dome Shelter**	**2.85**	**24**	P	**Pb**	**14 16 37.5**	**-0.9**
WHVZ	**Whangaehu Hut**	**2.85**	**24**	P	**Pb**	**14 16 37.2**	**-1.2**
FWVZ	**Far West T-bar**	**2.86**	**23**	P	**Pn**	**14 16 36.0**	**+3.1**
RPZ	**Rata Peaks**	**2.88**	**230**	Pn	**Pb**	**14 16 39.3**	**+0.5**
	140nm,0.3s,baz=100,slow=3.6,SNR=8.9						
RPZ				Sn	**Sg**	**14 17 20.5**	**+0.2**
	baz=48,slow=21						
	392nm,0.3s						
TUVZ	**Tukino**	**2.88**	**25**	P	**Pb**	**14 16 37.2**	**-1.7**
NGZ	**Ngauruhoe**	**2.95**	**24**	P	**Pn**	**14 16 35.3**	**+1.3**
SNVZ	**South Ngauruho**	**2.95**	**24**	P	**Pb**	**14 16 38.0**	**-2.1**
KAHZ	**Kahuranaki**	**2.98**	**46**	P	**Pb**	**14 16 40.4**	**-0.1**
OTVZ	**Oturere**	**2.98**	**24**	P	**Pn**	**14 16 37.2**	**+2.7**
NNVZ	**North Ngauruho**	**2.99**	**23**	P	**Pn**	**14 16 37.2**	**+2.6**
TWVZ	**Taurewa**	**3.00**	**20**	P	**Pn**	**14 16 37.3**	**+2.6**
WTVZ	**West Tongariro**	**3.00**	**23**	P	**Pb**	**14 16 40.3**	**-0.6**
ETVZ	**East Tongariro**	**3.02**	**25**	P	**Pb**	**14 16 39.6**	**-1.6**
TMVZ	**Te Maari**	**3.04**	**24**	P	**Pb**	**14 16 39.4**	**-2.1**
KRVZ	**Karewarewa**	**3.04**	**23**	P	**Pb**	**14 16 40.9**	**-0.6**
NTVZ	**North Tongarir**	**3.04**	**24**	P	**Pn**	**14 16 36.0**	**+0.7**
BKZ	**Black Stump Fm**	**3.28**	**35**		**Pn**	**14 16 40.2**	**+1.6**
RATZ	**Rangitukua**	**3.29**	**24**	P	**Pb**	**14 16 44.8**	**-0.9**
HIZ	**Hauiti**	**3.43**	**10**	Pn	**Pn**	**14 16 41.2**	**+0.7**
AS31	**Alice Springs**	**37.95**	**286**	P	**P**	**14 23 02.1**	**-2.5**
AS31				IAmb	IAmb	14 23 12.2	
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**37.95**

INZ	**Inchbonnie**	**1.72**	**255**	P	Pn	14 19 35.4 +0.8
INZ				S	Sn	14 19 56.7 +0.4
QRZ	**Quartz Range**	**1.72**	**329**	P	Pb	14 19 36.8 +0.2
QRZ				S	Sb	14 19 58.0 0.0
RACZ	**Rakaia**	**1.82**	**218**	P	Pn	14 19 35.8 -0.2
RACZ				S	Sn	14 19 58.9 +0.1
HOWZ	**Holdsworth Sta**	**1.96**	**45**	S	Sn	14 20 02.2 -0.1
WACZ	**Wakanui South**	**2.12**	**219**	P	Pn	14 19 39.8 -0.4
WACZ				S	Sn	14 20 06.0 -0.4
WVZ	**Waitaha Valley**	**2.31**	**250**	P	Pn	14 19 43.7 +1.0
WVZ				S	Sn	14 20 11.3 +0.3
RPZ	**Rata Peaks**	**2.39**	**233**	P	Pn	14 19 43.7 -0.3
RPZ				S	Sn	14 20 12.6 -0.4
GCSZ	**Gaunt Creek Bo**	**2.68**	**247**	P	Pn	14 19 48.2 +0.4
GCSZ				S	Sn	14 20 20.9 +0.9
TMZ	**Timaru**	**2.85**	**222**	P	Pn	14 19 50.1 -0.2
LBZ	**Lake Benmore**	**3.30**	**230**	P	Pn	14 19 56.4 0.0
ODZ	**Otahua Downs**	**3.52**	**218**	P	Pn	14 19 58.9 -0.5
JCZ	**Jackson Bay**	**4.00**	**242**	P	Pn	14 20 06.6 +0.5
HHSZ	**Highcliff Hill**	**4.21**	**211**	P	Pn	14 20 08.3 -0.6
EAZ	**Earnscleugh**	**4.32**	**226**	P	Pn	14 20 09.7 -0.7
TUZ	**Tuapeka**	**4.67**	**217**	P	Pn	14 20 15.1 -0.1
SYZ	**Scrubby Hill**	**5.34**	**216**	P	Pn	14 20 24.4 0.0
APZ	**The Paps**	**6.09**	**220**	P	Pn	14 20 33.8 -0.9

*NEIC **13** 14:20:02.8±0.8, 41°.84S±0°.06×174°.24E±0°.03, h10km±5km, mb4.5/12, Error ellipse: s-maj=8.0km s-min=2.7km az=177.0*
*IDC **13** 14:20:04.5±5.9, 40°.00S×174°.25E, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=332.2km s-min=50.5km az=178.0*
*WEL **13** 14:20:04.2±0.4, 42°.5S±2°×17°.4E±°, h7km±2km, M4.5/38, ML4.6/15, MLv4.5/38, Error ellipse: s-maj=0.0km s-min=0.0km az=161.9*

ISC 13 14:20:01.5±1.4, 41°.89S±0°.06×174°.34E±0°.03, h7km±8km, n67, σ1s30/77, mb4.3/9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**326**		**Pg**	**14 20 05.4**	**+0.5**
CMWZ				Sg	**Sg**	**14 20 07.1**	**0.0**
CMWZ	**Cape Campbell**	**0.16**	**326**	P	**Pg**	**14 20 05.5**	**+0.7**
CMWZ				S	**Sg**	**14 20 06.9**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.38**	**296**		**Pg**	**14 20 09.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.38**	**296**	P	**Pg**	**14 20 09.6**	**+0.6**
BSWZ				S	**Sg**	**14 20 13.9**	**-0.1**
TUWZ	**Tuamarina**	**0.54**	**327**		**Pg**	**14 20 12.0**	**0.0**
TUWZ	**Tuamarina**	**0.54**	**327**	P	**Pg**	**14 20 12.2**	**+0.2**
TUWZ				S	**Sg**	**14 20 18.3**	**-0.7**
SNZO	**South Karori**	**0.64**	**26**	Pg	**Pb**	**14 20 15.2**	**+0.3**
TCW	**Tory Channel**	**0.68**	**356**	P	**Pg**	**14 20 14.9**	**+0.4**
TCW				S	**Sg**	**14 20 23.1**	**-0.3**
WEL	**Wellington**	**0.68**	**28**	P	**Pn**	**14 20 17.0**	**-0.6**
WEL				S	**Sb**	**14 20 26.2**	**+0.8**
PLWZ	**Palliser**	**0.76**	**66**	Pg	**Pn**	**14 20 18.2**	**-0.5**
PLWZ	**Palliser**	**0.76**	**66**	P	**Pn**	**14 20 20.9**	**+2.3**
MSWZ	**Moikau Station**	**0.83**	**56**	Pn	**Pn**	**14 20 21.1**	**+1.4**
MSWZ	**Moikau Station**	**0.83**	**56**	P	**Pn**	**14 20 21.4**	**+1.8**
MSWZ				S	**Sn**	**14 20 35.2**	**+3.1**
CAW	**Cannon Point**	**0.95**	**35**	P	**Pn**	**14 20 22.2**	**+0.9**
CAW				S	**Sn**	**14 20 34.5**	**-0.5**
PAWZ	**Paruwai Farm**	**0.96**	**59**	P	**Pn**	**14 20 22.7**	**+1.2**
NNZ	**Nelson**	**0.98**	**313**	Pg	**Pg**	**14 20 19.8**	**-0.6**
NNZ	**Nelson**	**0.98**	**313**	P	**Pg**	**14 20 20.0**	**-0.4**
NNZ				S	**Sg**	**14 20 30.8**	**-2.3**
THZ	**Tophouse**	**1.08**	**276**	Pn	**Pn**	**14 20 22.9**	**-0.1**
THZ	**Tophouse**	**1.08**	**276**	P	**Pn**	**14 20 23.1**	**0.0**
THZ				S	**Sg**	**14 20 36.1**	**-0.1**
KIW	**Kapiti Island**	**1.11**	**23**	P	**Pn**	**14 20 24.2**	**+0.7**
KIW				S	**Sb**	**14 20 38.1**	**+0.4**
TRWZ	**Traveller**	**1.12**	**65**	P	Pn	14 20 28.8	+5.2
DUWZ	**D'Urville Isla**	**1.13**	**344**	P	**Pn**	**14 20 24.2**	**+0.5**
DUWZ				S	**Sg**	**14 20 37.1**	**-0.6**
MTW	**Mount Morrison**	**1.14**	**51**	P	**Pn**	**14 20 25.2**	**+1.4**
OGWZ	**Otaki Gorge**	**1.24**	**31**	P	**Pn**	**14 20 26.8**	**+1.6**
MRNZ	**Matariki Terra**	**1.28**	**292**	P	**Pg**	**14 20 26.5**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.33**	**42**	P	**Pg**	**14 20 28.8**	**+1.8**
MRZ	**Mangatainoka R**	**1.54**	**38**		**Pg**	**14 20 30.8**	**-0.3**
MRZ	**Mangatainoka R**	**1.54**	**38**	P	**Pg**	**14 20 30.8**	**-0.3**
CPWZ	**Castlepoint**	**1.71**	**56**	P	Pg	14 20 40.0	+5.7
QRZ	**Quartz Range**	**1.72**	**307**		**Pb**	**14 20 33.9**	**+0.4**
BFZ	**Birch Farm**	**1.88**	**51**	Pn	**Pb**	**14 20 35.8**	**-0.3**
TSZ	**Takapari Road**	**2.20**	**35**	P	**Pn**	**14 20 39.1**	**+0.6**
MOVZ	**Moawhango**	**2.70**	**24**	P	**Pg**	**14 20 51.7**	**-1.6**
BHHZ	**Black Hill Sta**	**2.73**	**29**	P	**Pg**	**14 20 52.4**	**-1.4**
FWVZ	**Far West T-bar**	**2.79**	**20**	P	**Pg**	**14 20 54.1**	**-0.9**
NGZ	**Ngauruhoe**	**2.87**	**20**	P	**Pg**	**14 20 54.8**	**-1.8**
SNVZ	**South Ngauruho**	**2.87**	**21**	P	**Pg**	**14 20 55.4**	**-1.2**
OTVZ	**Oturere**	**2.90**	**21**	P	**Pb**	**14 20 55.0**	**+1.3**
WTVZ	**West Tongariro**	**2.93**	**19**	P	**Pg**	**14 20 56.1**	**-1.6**
ETVZ	**East Tongariro**	**2.94**	**21**	P	**Pg**	**14 20 56.4**	**-1.7**
TMVZ	**Te Maari**	**2.96**	**21**	P	**Pb**	**14 20 56.1**	**+1.5**
KRVZ	**Karewarewa**	**2.96**	**20**	P	**Pg**	**14 20 57.3**	**-1.0**
KATZ	**Kakaramea**	**3.09**	**20**	P	**Pg**	**14 20 58.8**	**-1.9**
BKZ	**Black Stump Fm**	**3.17**	**32**	P	**Pg**	**14 21 01.2**	**-1.2**
HATZ	**Hinemaiaia**	**3.28**	**25**	P	**Pb**	**14 21 01.7**	**+1.7**
HIZ	**Hauiti**	**3.39**	**7**	Pn	**Pn**	**14 20 54.6**	**-0.2**
TKGZ	**Te Karaka**	**4.37**	**39**	P	**Pb**	**14 21 14.0**	**-4.6**
TWGZ	**Tauwhareparae**	**4.64**	**38**	P	**Pb**	**14 21 20.9**	**-2.3**
MKAZ	**Moumakai**	**4.82**	**8**	P	**Pn**	**14 21 17.7**	**+3.3**
LHI	**Lord Howe Isla**	**16.01**	**305**	P	**Pn**	**14 23 48.3**	**+1.3**
BBOO	**Buckleboo**	**31.53**	**274**	P	**P**	**14 26 21.9**	**-2.3**
VNDA	**Vanda**	**36.12**	**185**	P	**P**	**14 27 03.2**	**-0.3**
VNDA				IAmb	IAmb	14 27 26.6	
	comp=Z,1.5nm,0.9s						
AS31	**Alice Springs**	**38.13**	**286**	P	**P**	**14 27 20.6**	**-0.7**
ASAR	**Alice Springs**	**38.13**	**286**	P	**P**	**14 27 20.2**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=121,slow=6.6,SNR=20 comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**38.13**	**286**	P	**P**	**14 27 20.8**	**-0.5**
FORT	**Forrest**	**38.48**	**271**	P	**P**	**14 27 24.6**	**+0.5**
FORT				IAmb	IAmb	14 27 36.2	
	comp=Z,20nm,1.1s						
WB2	**Warramunga Arr**	**40.20**	**291**	P	**P**	**14 27 37.9**	**-0.7**
WB2				IAmb	IAmb	14 28 08.3	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**40.21**	**291**	P	**P**	**14 27 37.4**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=126,slow=8.5,SNR=12 comp=Z,1.2nm,0.4s						
WRA	**Warramunga Arr**	**40.21**	**291**	P	**P**	**14 27 38.1**	**-0.7**
WB0	**Warramunga Arr**	**40.29**	**291**	P	**P**	**14 27 38.7**	**-0.7**
WB0				IAmb	IAmb	14 28 19.7	
	comp=Z,6.8nm,1.2s						
KNRA	**Kununurra**	**46.99**	**290**	P	**P**	**14 28 33.8**	**+0.4**
MTN	**Manton Dam**	**47.33**	**295**	P	**P**	**14 28 36.4**	**+0.4**
MORW	**Morawa**	**48.31**	**266**	P	**P**	**14 28 43.5**	**0.0**
MORW				IAmb	IAmb	14 29 25.7	
	comp=Z,18nm,1.3s						
PSA00	**Pilbara Seismi**	**49.70**	**277**	P	**P**	**14 28 53.7**	**-0.5**
PSA00				IAmb	IAmb	14 29 23.8	
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**91.75**	**293**	P	**P**	**14 33 11.2**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=154,slow=3.5,SNR=4.0 comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**147.93**	**340**	PKPbc	**PKPbc**	**14 39 45.6**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=66,slow=3.1,SNR=4.4						
FINES	**FINESS Array B**	**152.68**	**327**	PKPbc	**PKPbc**	**14 39 56.9**	**-1.0**
	comp=Z,2.5nm,1.0s,baz=42,slow=6.4,SNR=1.8						

WEL 13 14:22:51.9±0.5, 42°.5S±2°×17°.4E±°, h6km±3km, M3.6/9, ML4.0/9, MLv3.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=150.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**71**	P	Pg	14 22 53.3	+0.1
CMWZ				S	Sg	14 22 55.0	+0.7
BSWZ	**Blackbirch Sta**	**0.22**	**283**	P	Pg	14 22 57.2	+1.0
BSWZ				S	Sg	14 23 01.6	+2.6
TUWZ	**Tuamarina**	**0.37**	**334**	P	Pb	14 22 60.0	-0.9
TUWZ				S	Sb	14 23 06.0	-0.8
TCW	**Tory Channel**	**0.56**	**9**	P	Pg	14 23 02.7	+0.1
TCW				S	Sg	14 23 10.8	+0.9
BHW	**Baring Head**	**0.64**	**57**	P	Pg	14 23 04.5	+0.2
BHW				S	Sb	14 23 14.2	-0.5
WEL	**Wellington**	**0.66**	**44**	P	Pg	14 23 04.8	+0.2
WEL				S	Sb	14 23 14.9	-0.3
MSWZ	**Moikau Station**	**0.89**	**67**	P	Pg	14 23 08.6	-0.4
MSWZ				S	Sb	14 23 22.7	+0.9
CAW	**Cannon Point**	**0.95**	**46**	P	Pg	14 23 10.1	0.0
CAW				S	Sb	14 23 23.5	+0.1
MTW	**Mount Morrison**	**1.18**	**60**	P	Pg	14 23 12.8	-1.7
MTW				S	Sn	14 23 32.2	+1.0
OGWZ	**Otaki Gorge**	**1.22**	**39**	P	Pg	14 23 14.6	-0.6
GVZ	**Greta Valley S**	**1.46**	**214**	P	Pn	14 23 18.4	-0.4

WEL 13 14:23:10.1±0.3, 43°.5S±2°×17°.3E±°, h12km±2km, M4.0/15, ML4.2/15, MLv4.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=135.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.50**	**251**	P	Pb	14 23 21.0	0.0
LTZ				S	Sb	14 23 28.3	0.0
KHZ	**Kahutara**	**0.50**	**66**	P	Pb	14 23 20.8	-0.1
KHZ				S	Sg	14 23 27.0	+0.3
AMCZ	**Amberley**	**0.59**	**199**	P	Pb	14 23 22.9	+0.5
OXZ	**Oxford**	**0.95**	**222**	P	Pb	14 23 28.8	+0.2
OXZ				S	Sb	14 23 41.4	+0.1
INZ	**Inchbonnie**	**1.09**	**264**	P	Pn	14 23 31.5	+0.3
MQZ	**McQueen's Vall**	**1.10**	**190**	P	Pb	14 23 30.3	-0.8
MQZ	**McQueen's Vall**	**1.10**	**190**	P	Pb	14 23 30.3	-0.8
MQZ				S	Sb	14 23 44.7	-0.7
BSWZ	**Blackbirch Sta**	**1.15**	**38**	P	Pb	14 23 29.8	-2.3
RACZ	**Rakaia**	**1.24**	**207**	P	Pn	14 23 32.5	-0.9
RACZ				S	Sn	14 23 49.9	-0.1
AKCZ	**Akaroa Harbour**	**1.25**	**180**	P	Pn	14 23 30.0	-3.5
AKCZ	**Akaroa Harbour**	**1.25**	**180**	P	Pn	14 23 31.5	-1.9
AKCZ				S	Sb	14 23 48.9	-0.8
CMWZ	**Cape Campbell**	**1.30**	**48**	P	Pb	14 23 34.4	-0.1
TUWZ	**Tuamarina**	**1.42**	**33**	P	Pn	14 23 35.1	-0.6
WACZ	**Wakanui South**	**1.54**	**210**	P	Pn	14 23 36.6	-0.7
WACZ	**Wakanui South**	**1.54**	**210**	P	Pn	14 23 36.5	-0.9
WVZ	**Waitaha Valley**	**1.67**	**254**	P	Pb	14 23 40.2	-0.5
RPZ	**Rata Peaks**	**1.75**	**231**	P	Pn	14 23 39.7	-0.6
RPZ	**Rata Peaks**	**1.75**	**231**	P	Pn	14 23 40.0	-0.3
ARCZ	**Arundel**	**1.83**	**223**	P	Pn	14 23 40.9	-0.7
WEL	**Wellington**	**1.92**	**46**	P	Pn	14 23 43.3	+0.6
GCSZ	**Gaunt Creek Bo**	**2.02**	**249**	P	Pn	14 23 45.4	+1.3
TMZ	**Timaru**	**2.24**	**218**	P	Pn	14 23 46.6	-0.6
LBZ	**Lake Benmore**	**2.66**	**228**	P	Pn	14 23 52.5	-0.5
ODZ	**Otahua Downs**	**2.93**	**213**	P	Pn	14 23 55.7	-0.8
HHSZ	**Highcliff Hill**	**3.66**	**206**	P	Pn	14 24 05.4	-1.2
EAZ	**Earnscleugh**	**3.69**	**224**	P	Pn	14 24 06.0	-0.9
TUZ	**Tuapeka**	**4.08**	**214**	P	Pn	14 24 11.6	-0.8
SYZ	**Scrubby Hill**	**4.75**	**213**	P	Pn	14 24 20.8	-0.8
APZ	**The Paps**	**5.48**	**218**	P	Pn	14 24 30.2	-1.5

WEL 13 14:33:16.2±0.5, 42°.5S±3°×17°.3E±°, h5km, M4.3/6, ML4.7/6, MLv4.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=112.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.60**	**174**	P	Pb	14 33 29.2	0.0
GVZ				S	Sg	14 33 35.3	-0.3
THZ	**Tophouse**	**0.61**	**357**	P	Pg	14 33 27.9	0.0
THZ				S	Sg	14 33 36.6	+0.7
LTZ	**Lake Taylor**	**0.64**	**230**	P	Pb	14 33 30.2	+0.2
LTZ				S	Sg	14 33 36.2	-0.7
AMCZ	**Amberley**	**0.83**	**195**	P	Pb	14 33 32.9	-0.3
AMCZ				S	Sg	14 33 41.7	-1.3
BSWZ	**Blackbirch Sta**	**0.96**	**47**	P	Pg	14 33 34.2	-0.4
BSWZ				S	Sg	14 33 45.1	-1.8
OXZ	**Oxford**	**1.16**	**215**	P	Pn	14 33 39.3	+0.1
TUWZ	**Tuamarina**	**1.20**	**39**	P	Pg	14 33 39.3	0.0
TUWZ				S	Sg	14 33 54.0	-0.9
MQZ	**McQueen's Vall**	**1.35**	**189**	P	Pn	14 33 41.2	-0.5
OKCZ	**Okains Bay**	**1.35**	**176**	P	Pg	14 33 42.4	+0.2
WEL	**Wellington**	**1.74**	**52**	P	Pn	14 33 47.5	+0.4
WVZ	**Waitaha Valley**	**1.77**	**246**	P	Pg	14 33 50.9	+0.8
WVZ				S	Sb	14 34 11.3	-0.4
ODZ	**Otahua Downs**	**3.15**	**211**	P	Pn	14 34 05.8	-0.6

*IDC **13** 14:33:57.8±3.4, 42°.56S×173°.47E, h0km, mb3.8/3, mbtmp3.9/4, ML4.5/1, Error ellipse: s-maj=75.5km s-min=51.1km az=126.0*
*NEIC **13** 14:33:58.2±1.4, 42°.36S±0°.02×173°.32E±0°.05, h10km±2km, mb4.3/2, Error ellipse: s-maj=6.4km s-min=3.0km az=115.0*

ISC 13 14:33:58.2±0.8, 42°.38S±0°.07×173°.37E±0°.08, h10km, n18, σ1s15/20, mb3.8/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.63**	**203**	Pg	**Pg**	**14 34 11.2**	**-0.2**
GVZ				Sg	**Sg**	**14 34 19.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.77**	**30**	Sg	**Sg**	**14 34 22.7**	**-0.4**
CMWZ	**Cape Campbell**	**0.90**	**45**	Pg	**Pg**	**14 34 15.4**	**0.0**
LTZ	**Lake Taylor**	**0.90**	**244**	Pg	**Pb**	**14 34 15.7**	**-0.3**
TUWZ	**Tuamarina**	**1.05**	**24**	Pg	**Pn**	**14 34 19.5**	**+0.6**
OXZ	**Oxford**	**1.36**	**226**		**Pn**	**14 34 21.9**	**-1.4**
SNZO	**South Karori**	**1.47**	**43**	Pn	**Pn**	**14 34 23.0**	**-1.7**
MSWZ	**Moikau Station**	**1.71**	**56**	Pn	**Pn**	**14 34 28.5**	**+0.5**
RPZ	**Rata Peaks**	**2.15**	**231**	Pn	**Pn**	**14 34 34.3**	**0.0**
	152nm,0.3s,baz=14,slow=5.2,SNR=4.1						
RPZ				Sn	**Sg**	**14 35 07.4**	**-0.1**
	33nm,0.3s,baz=219,slow=5.9,SNR=5.1 669nm,0.4s						
RPZ	**Rata Peaks**	**2.15**	**231**	Pn	**Pn**	**14 34 34.0**	**-0.2**
RAO	**Raoul Island**	**14.88**	**31**	Pn	**Pn**	**14 37 28.2**	**-0.4**
OUENC	**Ouen Island, N**	**20.64**	**343**	P	**P**	**14 38 36.1**	**-1.9**
OUENC				IAmb	IAmb	14 39 18.9	
	comp=Z,20nm,0.9s						
ASAR	**Alice Springs**	**37.58**	**287**	P	**P**	**14 41 15.0**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=130,slow=6.3,SNR=6.5 comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**37.58**	**287**	P	**P**	**14 41 11.6**	**-1.4**
WRA	**Warramunga Arr**	**39.72**	**292**	P	**P**	**14 41 33.0**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=128,slow=8.2,SNR=5.3 comp=Z,0.8nm,0.6s						
WB0	**Warramunga Arr**	**39.80**	**292**	P	**P**	**14 41 31.2**	**-0.4**
WB0				IAmb	IAmb	14 41 39.2	
	comp=Z,7.5nm,1.4s						
CMAR	**Chiang Mai Arr**	**91.29**	**294**	P	**P**	**14 47 05.8**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=138,slow=3.2,SNR=4.8 comp=Z,0.4nm,0.6s						
BRTR	**Keskin Array B**	**149.71**	**279**	PKPbc	**PKiKP**	**14 53 49.3**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=89,slow=6.3,SNR=2.1						

*WEL **13** 14:36:12.3±0.4, 43°.5S±3°×17°.3E±°, h13km±2km, M4.0/15, ML4.2/15, MLv4.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=128.8*
*IDC **13** 14:36:12.4±7.2, 40°.97S×173°.29E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=472.3km s-min=67.6km az=4.0*

ISC 13 14:36:12.8±1.1, 42°.46S±0°.04×173°.12E±0°.05, h23km±10km, n22, σ0s92/33, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**83**	P	**Pn**	**14 36 22.2**	**+0.3**
KHZ				S	**Sb**	**14 36 24.5**	**-0.2**
GVZ	**Greta Valley S**	**0.52**	**187**	P	**Pb**	**14 36 22.5**	**-0.7**
GVZ				S	**Sb**	**14 36 30.2**	**-0.2**
LTZ	**Lake Taylor**	**0.71**	**242**	P	**Pb**	**14 36 26.8**	**+0.3**
LTZ				S	**Sn**	**14 36 37.0**	**-0.6**
THZ	**Tophouse**	**0.71**	**347**	P	**Pn**	**14 36 27.3**	**-0.2**
AMCZ	**Amberley**	**0.80**	**206**	P	**Pb**	**14 36 28.2**	**+0.2**
AMCZ				S	**Sn**	**14 36 40.2**	**+0.4**
OXZ	**Oxford**	**1.18**	**222**	P	**Pn**	**14 36 34.2**	**+0.3**
OXZ				S	**Sb**	**14 36 50.9**	**+1.6**
INZ	**Inchbonnie**	**1.27**	**257**	P	**Pb**	**14 36 37.2**	**+1.2**
MQZ	**McQueen's Vall**	**1.30**	**195**	P	**Pn**	**14 36 34.5**	**-0.9**
MQZ				S	**Sn**	**14 36 51.8**	**-0.2**
TKNZ	**Takaka Hill**	**1.43**	**355**	P	**Pb**	**14 36 40.3**	**+1.6**
RACZ	**Rakaia**	**1.46**	**209**	P	**Pn**	**14 36 37.4**	**-0.3**
RACZ				S	**Sn**	**14 36 57.0**	**+0.9**
QRZ	**Quartz Range**	**1.69**	**345**	P	**Pn**	**14 36 38.0**	**-2.8**
WACZ	**Wakanui South**	**1.76**	**212**	P	**Pn**	**14 36 41.6**	**-0.2**
WACZ				S	**Sn**	**14 37 02.0**	**-1.4**
WVZ	**Waitaha Valley**	**1.86**	**250**	P	**Pb**	**14 36 45.1**	**-1.0**
WVZ				S	**Sb**	**14 37 08.3**	**-0.7**
RPZ	**Rata Peaks**	**1.97**	**230**	P	**Pn**	**14 36 45.4**	**+0.6**
RPZ				S	**Sn**	**14 37 08.6**	**-0.1**
ARCZ	**Arundel**	**2.06**	**223**	P	**Pn**	**14 36 46.0**	**0.0**
ARCZ				S	**Sn**	**14 37 11.2**	**+0.3**
TMZ	**Timaru**	**2.47**	**218**	P	**Pn**	**14 36 52.4**	**+0.8**
LBZ	**Lake Benmore**	**2.88**	**227**	P	**Pn**	**14 36 57.6**	**+0.3**
ODZ	**Otahua Downs**	**3.15**	**214**	P	**Pn**	**14 37 00.3**	**-0.6**
HHSZ	**Highcliff Hill**	**3.88**	**207**	P	**Pn**	**14 37 10.2**	**-0.8**
ASAR	**Alice Springs**	**37.42**	**287**	P	**P**	**14 43 24.7**	**+0.5**
	0.5nm,0.5s,baz=129,slow=7.0,SNR=9.0 0.5nm,0.5s						
WRA	**Warramunga Arr**	**39.58**	**292**	P	**P**	**14 43 41.7**	**-0.6**
	0.8nm,0.8s,baz=127,slow=8.4,SNR=5.9 0.8nm,0.8s						
FINES	**FINESS Array B**	**152.65**	**325**	PKPbc	**PKiKP**	**14 56 07.1**	**+0.5**
	4.4nm,1.1s,baz=93,slow=25,SNR=2.8						

*NEIC **13** 14:40:42.6±0.4, 42°.5S±3°×17°.4E±°, h5km±2km, M4.0/14, ML4.3/14, MLv4.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=141.2*
*NEIC **13** 14:40:42.3±0.7, 41°.72S±0°.04×174°.22E±0°.02, h12km±2km, mb4.3/4, Error ellipse: s-maj=6.1km s-min=1.6km az=180.0*
*IDC **13** 14:40:45.7±2.4, 41°.04S×173°.40E, h0km, mb3.7/3, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=61.9km s-min=34.0km az=107.0*

ISC 13 14:40:42.4±0.8, 41°.72S±0°.03×174°.24E±0°.02, h10km±4km, n51, σ1s07/57, mb3.9/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**214**	Pg	**Pg**	**14 40 44.2**	**-0.2**
CMWZ				Sg	**Sg**	**14 40 46.1**	**+0.4**
CMWZ	**Cape Campbell**	**0.04**	**214**	P	**Pg**	**14 40 44.6**	**+0.2**
CMWZ				S	**Sg**	**14 40 46.3**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.28**	**270**	Pg	**Pg**	**14 40 47.7**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.28**	**270**	P	**Pg**	**14 40 48.1**	**+0.1**
TUWZ	**Tuamarina**	**0.36**	**322**	Pg	**Pg**	**14 40 49.6**	**-0.1**
TUWZ	**Tuamarina**	**0.36**	**322**	P	**Pg**	**14 40 49.8**	**+0.2**
TUWZ				S	**Sg**	**14 40 55.5**	**+1.0**
SNZO	**South Karori**	**0.53**	**41**	Pg	**Pg**	**14 40 53.0**	**+0.2**
WEL	**Wellington**	**0.58**	**43**	P	**Pb**	**14 40 54.2**	**-0.6**
WEL				S	**Sb**	**14 41 02.8**	**-0.3**
PLWZ	**Palliser**	**0.77**	**79**	P	**Pb**	**14 40 55.9**	**-2.1**
MSWZ	**Moikau Station**	**0.81**	**69**		**Pb**	**14 40 58.2**	**-0.5**
NNZ	**Nelson**	**0.82**	**307**	Pg	**Pb**	**14 40 57.4**	**-1.3**
CAW	**Cannon Point**	**0.87**	**46**	P	**Pb**	**14 40 58.7**	**-0.9**
CAW				S	**Sn**	**14 41 11.4**	**-2.1**
DUWZ	**D'Urville Isla**	**0.94**	**345**	P	**Pn**	**14 41 01.4**	**-0.4**
PAWZ	**Paruwai Farm**	**0.95**	**70**	P	**Pb**	**14 41 00.3**	**-0.7**
KIW	**Kapiti Island**	**0.99**	**31**	P	**Pb**	**14 41 00.8**	**-0.9**
THZ	**Tophouse**	**1.00**	**267**		**Pb**	**14 41 01.0**	**-1.0**
MTW	**Mount Morrison**	**1.10**	**60**	P	**Pb**	**14 41 02.7**	**-0.8**
TRWZ	**Traveller**	**1.13**	**74**	P	**Pg**	**14 41 04.9**	**+0.8**
OGWZ	**Otaki Gorge**	**1.14**	**38**	P	**Pb**	**14 41 03.8**	**-0.4**
MRNZ	**Matariki Terra**	**1.16**	**285**	P	**Pb**	**14 41 04.6**	**0.0**
HOWZ	**Holdsworth Sta**	**1.26**	**50**	P	**Pg**	**14 41 06.4**	**-0.2**
TMWZ	**Te Maipa**	**1.38**	**64**	P	**Pn**	**14 41 06.8**	**-1.0**
MRZ	**Mangatainoka R**	**1.46**	**44**	Pn	**Pn**	**14 41 08.4**	**-0.4**
MRZ	**Mangatainoka R**	**1.46**	**44**	P	**Pb**	**14 41 08.8**	**-0.9**
TIWZ	**Tintock**	**1.55**	**53**	P	**Pg**	**14 41 12.6**	**+0.3**
QRZ	**Quartz Range**	**1.57**	**304**		**Pb**	**14 41 10.6**	**-1.0**
QRZ	**Quartz Range**	**1.57**	**304**	P	**Pb**	**14 41 11.9**	**+0.3**
CPWZ	**Castlepoint**	**1.68**	**62**	P	**Pg**	**14 41 17.4**	**+2.7**
PRWZ	**Pori Road**	**1.75**	**49**	P	**Pg**	**14 41 16.5**	**+0.6**
POWZ	**

MQZ	**McQueen's Vall**	**1.62**	**207**	Pn	**Pn**	**14 43 14.6**	**-1.7**
MQZ	**McQueen's Vall**	**1.62**	**207**	P	**Pn**	**14 43 14.8**	**-1.5**
MQZ				S	**Sn**	**14 43 34.3**	**-2.8**
QRZ	**Quartz Range**	**1.67**	**329**		**Pb**	**14 43 17.9**	**-0.7**
QRZ	**Quartz Range**	**1.67**	**329**	P	**Pb**	**14 43 18.1**	**-0.5**
KIW	**Kapiti Island**	**1.69**	**34**	P	**Pb**	**14 43 18.1**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.69**	**199**	P	**Pn**	**14 43 15.9**	**-1.4**
INZ	**Inchbonnie**	**1.70**	**254**	P	**Pg**	**14 43 20.3**	**0.0**
MTW	**Mount Morrison**	**1.77**	**52**	P	**Pb**	**14 43 18.7**	**-1.5**
RACZ	**Rakaia**	**1.83**	**217**	P	**Pn**	**14 43 18.3**	**-1.0**
OGWZ	**Otaki Gorge**	**1.84**	**39**	P	**Pb**	**14 43 20.9**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.95**	**46**	P	**Pb**	**14 43 22.5**	**-0.9**
TMWZ	**Te Maipa**	**2.04**	**56**	P	**Pn**	**14 43 21.8**	**-0.3**
WACZ	**Wakanui South**	**2.14**	**218**	P	**Pn**	**14 43 22.7**	**-0.7**
MRZ	**Mangatainoka R**	**2.16**	**43**	Pn	**Pn**	**14 43 23.5**	**-0.2**
MRZ	**Mangatainoka R**	**2.16**	**43**	P	**Pb**	**14 43 24.7**	**-2.2**
WVZ	**Waitaha Valley**	**2.30**	**248**	P	**Pb**	**14 43 27.2**	**-2.1**
RPZ	**Rata Peaks**	**2.40**	**232**	Pn	**Pn**	**14 43 25.7**	**-1.4**
	50nm,0.3s,baz=0.4,slow=1.7,SNR=3.7						
RPZ				Sn	**Sn**	**14 43 54.7**	**-1.8**
	118nm,0.3s,baz=30,slow=16,SNR=13						
	214nm,0.5s						
RPZ	**Rata Peaks**	**2.40**	**232**		**Pn**	**14 43 26.6**	**-0.4**
RPZ	**Rata Peaks**	**2.40**	**232**	P	**Pn**	**14 43 27.0**	**-0.1**
OHWZ	**Ohakea**	**2.41**	**32**	P	**Pn**	**14 43 27.3**	**+0.2**
PRWZ	**Pori Road**	**2.44**	**46**	P	**Pn**	**14 43 28.2**	**+0.6**
ARCZ	**Arundel**	**2.47**	**226**	P	**Pn**	**14 43 27.8**	**-0.3**
BFZ	**Birch Farm**	**2.51**	**52**	P	**Pn**	**14 43 28.3**	**-0.3**
WAZ	**Wanganui**	**2.70**	**22**	P	**Pb**	**14 43 35.7**	**-0.5**
TSZ	**Takapari Road**	**2.81**	**39**	P	**Pb**	**14 43 38.5**	**+0.5**
NMEZ	**Namu Road**	**2.86**	**3**	P	**Pb**	**14 43 38.8**	**+0.1**
LREZ	**Lake Rotokare**	**2.86**	**12**	P	**Pb**	**14 43 37.4**	**-1.4**
NBEZ	**Newall Road No**	**3.00**	**3**	P	**Pb**	**14 43 39.2**	**-2.0**
PKE	**Pukeiti**	**3.08**	**5**	P	**Pb**	**14 43 39.7**	**-2.9**
FOZ	**Fox Glacier**	**3.09**	**245**	P	**Pn**	**14 43 38.2**	**+1.6**
DREZ	**Durham Road**	**3.10**	**8**	P	**Pb**	**14 43 40.3**	**-2.7**
PKVZ	**Pokaka**	**3.24**	**24**	P	**Pb**	**14 43 43.6**	**-1.7**
MOVZ	**Moawhango**	**3.27**	**30**	P	**Pb**	**14 43 42.9**	**-3.0**
WNVZ	**Wahianoa**	**3.29**	**27**	P	**Pb**	**14 43 45.7**	**-0.5**
TRVZ	**Turoa**	**3.29**	**26**	P	**Pb**	**14 43 43.2**	**-3.2**
LBZ	**Lake Benmore**	**3.30**	**229**	P	**Pb**	**14 43 45.4**	**-1.0**
BHHZ	**Black Hill Sta**	**3.32**	**34**	P	**Pb**	**14 43 46.4**	**-0.3**
DRZ	**Dome Shelter**	**3.32**	**26**	P	**Pb**	**14 43 45.0**	**-1.9**
WHVZ	**Whangaehu Hut**	**3.32**	**27**	P	**Pb**	**14 43 43.7**	**-3.2**
FWVZ	**Far West T-bar**	**3.34**	**26**	P	**Pb**	**14 43 43.7**	**-3.4**
TUVZ	**Tukino**	**3.36**	**28**	P	**Pb**	**14 43 46.4**	**-1.0**
NGZ	**Ngauruhoe**	**3.42**	**26**	P	**Pb**	**14 43 48.2**	**-0.3**
SNVZ	**South Ngauruho**	**3.43**	**27**	P	**Pb**	**14 43 47.7**	**-0.9**
ODZ	**Otahua Downs**	**3.53**	**217**	Pn	**Pn**	**14 43 42.5**	**-0.1**
HIZ	**Hauiti**	**3.86**	**14**	P	Pb	14 43 50.9	-5.0
WATZ	**Wairara**	**3.89**	**25**	P	**Pb**	**14 43 56.4**	**-0.1**
JCZ	**Jackson Bay**	**3.99**	**241**	P	**Pb**	**14 43 55.1**	**-3.1**
MRHZ	**Matea Rd**	**4.02**	**32**	P	**Pb**	**14 43 58.2**	**-0.5**
TLZ	**Tolley Road**	**4.19**	**21**	P	Pb	14 43 56.0	-5.5
ALRZ	**Allen Road**	**4.23**	**30**	P	**Pb**	**14 44 01.2**	**-1.0**
OMRZ	**Omania**	**4.65**	**27**	P	**Pb**	**14 44 06.3**	**-3.0**
TOZ	**Tahuroa Road**	**4.75**	**18**	P	**Pn**	**14 44 02.5**	**+3.2**
TGRZ	**Tauranga**	**4.95**	**25**	P	**Pn**	**14 44 04.1**	**+1.9**
AWAZ	**Awhitu Peninsu**	**5.25**	**9**	P	**Pn**	**14 44 09.1**	**+2.8**
MKAZ	**Moumakai**	**5.29**	**13**	P	**Pn**	**14 44 09.8**	**+3.1**
SYZ	**Scrubby Hill**	**5.36**	**216**	P	**Pn**	**14 44 11.0**	**+3.4**
WTAZ	**Waiatarua**	**5.38**	**8**	P	**Pn**	**14 44 11.4**	**+3.5**
ETAZ	**East Tamaki Re**	**5.40**	**11**	P	**Pn**	**14 44 11.3**	**+3.1**
EPAZ	**Eden Park BICE**	**5.45**	**9**	P	**Pn**	**14 44 09.8**	**+0.8**
HBAZ	**Herne Bay Bore**	**5.47**	**9**	P	**Pn**	**14 44 11.2**	**+2.0**
RVAZ	**Riverhead Bore**	**5.54**	**8**	P	**Pn**	**14 44 13.0**	**+2.9**
MBAZ	**Motutapu North**	**5.57**	**10**	P	**Pn**	**14 44 13.4**	**+2.7**
ABAZ	**Army Bay**	**5.73**	**10**	P	**Pn**	**14 44 15.3**	**+2.4**
KUZ	**Kuaotunu**	**5.74**	**17**	P	**Pn**	**14 44 16.2**	**+3.3**
MXZ	**Matakaoa Point**	**5.90**	**39**	Pn	**Pn**	**14 44 15.9**	**+0.8**
GRZ	**Great Barrier**	**6.17**	**14**	P	Pn	14 44 23.5	+4.7
WCZ	**Waipu Caves**	**6.34**	**5**	P	**Pn**	**14 44 23.5**	**+2.3**
PYZ	**Puysegur Point**	**6.35**	**230**	P	Pn	14 44 26.9	+5.6
OUZ	**Omahuta**	**7.04**	**360**	P	**Pn**	**14 44 34.4**	**+3.7**
ASAR	**Alice Springs**	**37.75**	**287**	P	**P**	**14 50 03.6**	**-0.3**
	0.5nm,0.5s,baz=121,slow=6.7,SNR=8.7						
	0.5nm,0.5s						
WB2	**Warramunga Arr**	**39.87**	**292**	P	**P**	**14 50 22.7**	**+1.1**
WB2				IAmb	IAmb	14 50 25.1	
	comp=Z,9.8nm,1.3s						
WRA	**Warramunga Arr**	**39.88**	**292**	P	**P**	**14 50 22.4**	**+0.7**
	comp=Z,3.2nm,1.1s,baz=127,slow=8.6,SNR=11						
	comp=Z,3.2nm,1.1s						
WB0	**Warramunga Arr**	**39.96**	**292**	P	**P**	**14 50 23.5**	**+1.1**
WB0				IAmb	IAmb	14 50 33.6	
	comp=Z,5.8nm,1.1s						
QSPA	**South Pole Qui**	**47.86**	**180**	P	P	14 51 29.9	+4.4
	comp=Z,2.7nm,1.0s,baz=41,slow=1.5,SNR=3.8						
	comp=Z,2.7nm,1.0s						
QSPA	**South Pole Qui**	**47.86**	**180**	P	**P**	**14 51 24.8**	**-0.8**
QSPA				IAmb	IAmb	14 51 41.2	
	comp=Z,3.3nm,1.0s						
BELA	**Belgrano 2**	**58.88**	**173**	P	**P**	**14 52 45.7**	**-0.5**
HOPE	**Hope Point**	**80.42**	**163**	P	**P**	**14 55 00.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**91.44**	**294**	P	**P**	**14 55 56.5**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=164,slow=2.1,SNR=4.8						
	comp=Z,0.5nm,0.3s						
PETK	**Petropavlovsk-**	**95.99**	**350**	P	**P**	**14 56 18.0**	**+3.6**
	comp=Z,2.4nm,0.9s,baz=157,slow=7.8,SNR=3.6						
	comp=Z,2.4nm,0.9s						
BRTR	**Keskin Array B**	**149.91**	**279**	PKPbc	**PKiKP**	**15 02 38.2**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=143,slow=3.6,SNR=7.0						
FINES	**FINESS Array B**	**152.72**	**326**	PKPbc	**PKiKP**	**15 02 45.2**	**+1.3**
	comp=Z,1.8nm,1.0s,baz=58,slow=5.2,SNR=1.6						

IDC 13 14:44:47.4±2.9, 58°03S×148°97E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=266.8km s-min=28.8km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.07**	**172**	P	P	14 49 21.6	-0.2
	1.9nm,1.2s,baz=335,slow=14,SNR=4.4						
	1.9nm,1.2s						
H01W1	**Cape Leeuwin H**	**32.73**	**300**	T	T	15 25 38.6	
	baz=145,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**32.73**	**300**	T	T	15 25 36.8	
	baz=145,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**32.74**	**300**	T	T	15 25 38.9	
	baz=145,slow=75,SNR=17						
ASAR	**Alice Springs**	**36.00**	**336**	P	P	14 51 50.1	+0.2
	0.4nm,0.6s,baz=163,slow=9.8,SNR=8.4						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**39.52**	**338**	P	P	14 52 19.2	-0.6
	1.1nm,0.8s,baz=165,slow=7.3,SNR=10						
	1.1nm,0.8s						
FINES	**FINESS Array B**	**151.81**	**301**	PKPbc	PKiKP	15 04 42.7	-0.1
	3.3nm,1.0s,baz=106,slow=3.0,SNR=3.0						

WEL 13 14:44:52.4±0.4, 42°S±2°×17°4E±°, h19km±2km, M4.0/22, ML4.3/13, MLv4.0/22, Error ellipse: s-maj=0.0km s-min=0.0km az=107.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**226**	P	Pg	14 44 57.9	+0.9
KHZ				S	Sg	14 45 01.3	+1.2
THZ	**Tophouse**	**0.80**	**312**	P	Pb	14 45 07.5	-0.3
THZ				S	Sb	14 45 17.7	-0.5
GVZ	**Greta Valley S**	**0.83**	**216**	P	Pn	14 45 10.0	+0.9
GVZ				S	Sn	14 45 22.7	+1.8
TUWZ	**Tuamarina**	**0.89**	**12**	P	Pn	14 45 10.4	+0.5
TUWZ				S	Sn	14 45 23.1	+0.9
MRNZ	**Matariki Terra**	**1.14**	**322**	P	Pb	14 45 14.0	+0.4
MRNZ				S	Sg	14 45 30.5	+1.0
LTZ	**Lake Taylor**	**1.16**	**245**	P	Pb	14 45 14.3	+0.4
LTZ				S	Sn	14 45 29.5	+0.4
AMCZ	**Amberley**	**1.17**	**221**	P	Pb	14 45 14.2	+0.1
TKNZ	**Takaka Hill**	**1.38**	**336**	P	Pb	14 45 17.6	-0.1
TKNZ				S	Sg	14 45 36.1	-1.0
MSWZ	**Moikau Station**	**1.46**	**53**	P	Pn	14 45 17.5	-0.2
MSWZ				S	Sn	14 45 36.4	+0.1
OKCZ	**Okains Bay**	**1.50**	**198**	P	Pn	14 45 18.5	+0.2
OKCZ				S	Sb	14 45 38.3	0.0
PAWZ	**Paruwai Farm**	**1.58**	**55**	P	Pn	14 45 18.2	-1.3
MQZ	**McQueen's Vall**	**1.60**	**208**	P	Pn	14 45 19.2	-0.6
MQZ				S	Sn	14 45 39.3	-0.6
AKCZ	**Akaroa Harbour**	**1.68**	**200**	P	Pn	14 45 20.7	0.0
AKCZ				S	Sn	14 45 41.6	-0.1
QRZ	**Quartz Range**	**1.71**	**329**	P	Pn	14 45 19.3	-2.0
INZ	**Inchbonnie**	**1.72**	**255**	P	Pn	14 45 20.0	-1.3
RACZ	**Rakaia**	**1.83**	**218**	P	Pn	14 45 22.4	-0.4
WACZ	**Wakanui South**	**2.13**	**219**	P	Pn	14 45 26.5	-0.5
RPZ	**Rata Peaks**	**2.40**	**233**	P	Pn	14 45 30.9	+0.1
ARCZ	**Arundel**	**2.48**	**227**	P	Pn	14 45 31.6	-0.2
ODZ	**Otahua Downs**	**3.53**	**218**	P	Pn	14 45 45.7	-0.5
HHSZ	**Highcliff Hill**	**4.22**	**211**	P	Pn	14 45 55.5	-0.3
EAZ	**Earnscleugh**	**4.33**	**226**	P	Pn	14 45 56.8	-0.4

IDC 13 14:45:44.5±3.4, 41°.47S×174°.26E, h0km, mb3.5/2, mbtmp3.8/3, ML4.5/1, Error ellipse: s-maj=74.0km s-min=37.1km az=122.0
NEIC 13 14:45:47.9±1.4, 42°.09S±0°.02×173°.89E±0°.06, h16km±4km, mb4.3/5, Error ellipse: s-maj=7.2km s-min=1.1km az=115.0
WEL 13 14:45:59.3±0.4, 42°S±2°×17°4E±°, h12km±2km, M4.4/55, ML4.4/16, MLv4.4/55, Error ellipse: s-maj=0.0km s-min=0.0km az=46.6

ISC 13 14:45:48.6±0.8, 42°.09S±0°.04×173°.89E±0°.04, h17km, n74, σ2°93/65, mb4.2/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.37**	**358**	Pg	**Pb**	**14 45 55.5**	**-1.3**
BSWZ				Sg	**Sb**	**14 46 01.0**	**-1.2**
BSWZ	**Blackbirch Sta**	**0.37**	**358**	P	Pn	14 46 04.3	+5.1
BSWZ				S	**Sn**	**14 46 07.6**	**+1.6**
CMWZ	**Cape Campbell**	**0.41**	**36**	Pg	**Pn**	**14 45 56.7**	**-3.1**
CMWZ	**Cape Campbell**	**0.41**	**36**	P	Pn	14 46 05.5	+5.7
CMWZ				S	**Sn**	**14 46 10.1**	**+3.1**
KHZ	**Kahutara**	**0.42**	**218**	Pg	**Pg**	**14 45 56.4**	**-0.8**
KHZ	**Kahutara**	**0.42**	**218**	S	Sn	14 46 22.5	+15
TUWZ	**Tuamarina**	**0.66**	**3**	Pg	**Pn**	**14 46 00.8**	**-2.3**
TUWZ				Sg	**Sb**	**14 46 08.4**	**-2.0**
TUWZ	**Tuamarina**	**0.66**	**3**	P	Pn	14 46 09.1	+6.0
TUWZ				S	**Sn**	**14 46 15.8**	**+2.8**
TCW	**Tory Channel**	**0.92**	**18**	P	Pn	14 46 13.4	+6.6
TCW				S	**Sn**	**14 46 24.2**	**+4.7**
NNZ	**Nelson**	**0.95**	**336**	Pg	**Pn**	**14 46 06.0**	**-1.1**
NNZ	**Nelson**	**0.95**	**336**	P	Pn	14 46 15.1	+8.0
NNZ				S	**Sn**	**14 46 26.5**	**+6.3**
SNZO	**South Karori**	**0.99**	**38**		**Pn**	**14 46 06.1**	**-1.5**
WEL	**Wellington**	**1.04**	**40**	P	Pg	14 46 16.4	+7.8
WEL				S	**Sn**	**14 46 26.4**	**+4.0**
GVZ	**Greta Valley S**	**1.08**	**215**	Pn	**Pg**	**14 46 08.9**	**-0.7**
PLWZ	**Palliser**	**1.14**	**64**	P	Pg	14 46 21.8	+11
MSWZ	**Moikau Station**	**1.22**	**57**		**Pg**	**14 46 11.7**	**-0.4**
TKNZ	**Takaka Hill**	**1.26**	**326**	P	Pg	14 46 21.0	+8.1
TKNZ				S	**Sg**	**14 46 36.9**	**+7.5**
DUWZ	**D'Urville Isla**	**1.28**	**1**	S	**Sg**	**14 46 34.8**	**+4.7**
CAW	**Cannon Point**	**1.32**	**42**	P	Pg	14 46 20.8	+6.8
CAW				S	Sg	14 46 36.9	+5.8
PAWZ	**Paruwai Farm**	**1.35**	**59**	P	Pg	14 46 22.9	+8.3
LTZ	**Lake Taylor**	**1.39**	**239**	Pn	**Pn**	**14 46 12.1**	**-1.1**
KIW	**Kapiti Island**	**1.44**	**32**	P	Pg	14 46 22.1	+5.7
KIW				S	**Sg**	**14 46 39.1**	**+3.9**
TRWZ	**Traveller**	**1.51**	**64**	P	Pg	14 46 24.3	+6.7
OGWZ	**Otaki Gorge**	**1.59**	**38**	P	Pg	14 46 24.3	+5.1
DSZ	**Denniston Nort**	**1.59**	**282**	Pn	**Pn**	**14 46 15.6**	**-0.4**
TMWZ	**Te Maipa**	**1.79**	**58**	P	Pg	14 46 27.7	+4.7
MRZ	**Mangatainoka R**	**1.91**	**42**	P	**Pg**	**14 46 26.0**	**+0.8**
TIWZ	**Tintock**	**1.99**	**50**	P	Pg	14 46 30.3	+3.5
CPWZ	**Castlepoint**	**2.10**	**57**	P	Pg	14 46 33.6	+4.8
OHWZ	**Ohakea**	**2.16**	**30**	P	**Pg**	**14 46 29.7**	**-0.4**
PRWZ	**Pori Road**	**2.19**	**46**	P	**Pg**	**14 46 32.2**	**+1.6**
POWZ	**Post Office Ro**	**2.21**	**41**	P	**Pg**	**14 46 32.6**	**+1.7**
BFZ	**Birch Farm**	**2.26**	**52**	P	Pg	14 46 34.5	+2.5
DVHZ	**Dannevirke**	**2.48**	**45**	P	**Pg**	**14 46 36.4**	**+0.3**
TSZ	**Takapari Road**	**2.56**	**38**	P	**Pg**	**14 46 37.5**	**-0.1**
RPZ	**Rata Peaks**	**2.65**	**231**	Pn	**Pg**	**14 46 37.4**	**-1.9**
	56nm,0.3s,baz=38,slow=4.4,SNR=5.5						
RPZ				Sn	**Sg**	**14 47 15.4**	**+1.9**
	53nm,0.3s,baz=149,slow=23,SNR=6.3						
	432nm,0.6s						
MTVZ	**Mangateitei**	**2.95**	**25**	P	**Pg**	**14 46 42.8**	**-2.3**
PKVZ	**Pokaka**	**3.00**	**22**	P	**Pg**	**14 46 43.1**	**-3.0**
MOVZ	**Moawhango**	**3.03**	**28**	P	**Pg**	**14 46 42.6**	**-4.0**
WNVZ	**Wahianoa**	**3.05**	**26**	P	**Pg**	**14 46 44.3**	**-2.7**
TRVZ	**Turoa**	**3.06**	**25**	P	**Pg**	**14 46 45.4**	**-1.8**
BHHZ	**Black Hill Sta**	**3.07**	**33**	P	**Pg**	**14 46 44.4**	**-3.1**
DRZ	**Dome Shelter**	**3.08**	**25**	P	**Pg**	**14 46 45.2**	**-2.4**
WHVZ	**Whangaehu Hut**	**3.08**	**25**	P	**Pg**	**14 46 44.5**	**-3.2**
TUVZ	**Tukino**	**3.12**	**26**	P	**Pg**	**14 46 45.4**	**-3.0**
NGZ	**Ngauruhoe**	**3.19**	**25**	P	**Pg**	**14 46 47.3**	**-2.3**
SNVZ	**South Ngauruho**	**3.19**	**25**	P	**Pg**	**14 46 46.8**	**-2.9**
OTVZ	**Oturere**	**3.22**	**25**	P	**Pg**	**14 46 47.2**	**-3.0**
NNVZ	**North Ngauruho**	**3.23**	**25**	P	**Pg**	**14 46 47.4**	**-3.0**
WTVZ	**West Tongariro**	**3.24**	**24**	P	**Pg**	**14 46 47.0**	**-3.6**
ETVZ	**East Tongariro**	**3.26**	**26**	P	**Pg**	**14 46 47.3**	**-3.7**
KRVZ	**Karewarewa**	**3.27**	**25**	P	**Pg**	**14 46 48.0**	**-3.3**
TMVZ	**Te Maari**	**3.27**	**26**	P	**Pg**	**14 46 47.7**	**-3.6**
NTVZ	**North Tongariro**	**3.28**	**25**	P	**Pg**	**14 46 48.3**	**-3.2**
KWHZ	**Kaweka Forest**	**3.28**	**37**	P	**Pg**	**14 46 50.1**	**-1.4**
KATZ	**Kakaramea**	**3.40**	**24**	P	**Pg**	**14 46 50.2**	**-3.5**
RATZ	**Rangitukua**	**3.52**	**25**	P	**Pg**	**14 46 52.6**	**-3.4**
BKZ	**Black Stump Fm**	**3.52**	**35**	P	**Pg**	**14 46 53.4**	**-2.7**
HATZ	**Hinemaiaia**	**3.61**	**28**	P	**Pg**	**14 46 53.4**	**-4.3**
WATZ	**Wairara**	**3.66**	**23**	P	**Pg**	**14 46 54.5**	**-4.1**
WHTZ	**Whakaora**	**3.76**	**25**	P	**Pg**	**14 46 57.3**	**-3.4**
MRHZ	**Matea Rd**	**3.78**	**32**	P	**Pg**	**14 46 57.1**	**-3.8**
TLZ	**Tolley Road**	**3.96**	**19**	P	**Pg**	**14 47 00.4**	**-4.0**
ALRZ	**Allen Road**	**3.99**	**29**	P	Pg	14 46 60.0	-5.0
TOZ	**Tahuroa Road**	**4.52**	**16**	P	**Pb**	**14 47 07.3**	**-0.2**
ETAZ	**East Tamaki Re**	**5.19**	**9**	P	Pn	14 47 09.4	+4.0
ASAR	**Alice Springs**	**37.86**	**286**	P	**P**	**14 53 04.6**	**0.0**
	0.3nm,0.4s,baz=124,slow=6.4,SNR=5.5						
	0.3nm,0.4s						
WB2	**Warramunga Arr**	**39.96**	**291**	P	**P**	**14 53 20.3**	**-1.9**
WB2				IAmb	IAmb	14 53 20.8	
	comp=Z,6.8nm,1.4s						
WRAB	**Tennant Creek**	**39.97**	**291**	P	**P**	**14 53 20.2**	**-2.1**
WRA	**Warramunga Arr**	**39.97**	**291**	P	**P**	**14 53 20.3**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=127,slow=8.5,SNR=2.5						
	comp=Z,0.6nm,0.6s						
WB0	**Warramunga Arr**	**40.05**	**291**	P	**P**	**14 53 21.2**	**-1.7**
WB0				IAmb	IAmb	14 53 47.4	
	comp=Z,12nm,1.5s						
PMG	**Port Moresby**	**40.14**	**316**	P	**P**	**14 53 23.4**	**-0.3**
QSPA	**South Pole Qui**	**48.04**	**180**	P	**P**	**14 54 28.4**	**+1.7**
QSPA				IAmb	IAmb	14 54 49.1	
	comp=Z,4.3nm,1.1s						
FINES	**FINESS Array B**	**152.66**	**326**	PKPbc	**PKPbc**	**15 05 41.0**	**-2.1**
	comp=Z,2.5nm,0.9s,baz=72,slow=4.5,SNR=1.8						

IDC 13 14:45:51.5±1.5, 1°.26N×90°.47W, h0km, mb4.0/6, mbtmp4.0/7, ML3.4/1, Error ellipse: s-maj=56.5km s-min=21.7km az=40.0
NEIC 13 14:45:54.1±2.2, 1°.04N±0°.07×90°.43W±0°.10, h10km±1km, mb4.4/43, Error ellipse: s-maj=16.8km s-min=11.9km az=100.0

ISC 13 14:45:52.9±0.7, 1°.06N±0°.09×90°.5W±0°.1, h10km, n60, σ1°31/60, mb4.3/27, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**1.73**	**173**		**Pn**	**14 46 22.4**	**-0.7**
ORTG	**Ortega, Santa**	**10.51**	**28**	Pn	**Pn**	**14 48 22.6**	**-1.3**
SRBA	**San Rafael, Bu**	**10.79**	**41**	Pn	**Pn**	**14 48 26.9**	**-0.8**
RIMA	**Rio Macho**	**10.88**	**37**	Pn	**Pn**	**14 48 29.9**	**+0.9**
BRU2	**Volcan**	**10.93**	**45**	Pn	**Pn**	**14 48 31.6**	**+1.9**
IMBA	**Imbabura, San**	**12.32**	**94**	Pn	**Pn**	**14 48 48.9**	**-0.1**
TULM	**Tulcn-Chalpat**	**12.72**	**91**	Pn	**Pn**	**14 48 53.3**	**-1.1**
ATAH	**Atahualpa**	**14.56**	**124**	Pn	**Pn**	**14 49 20.6**	**+0.9**
	0.2nm,0.3s,baz=279,slow=19,SNR=2.5						
	2.9nm,0.6s						
URIC	**Uribia, Colomb**	**21.19**	**59**	P	**P**	**14 50 38.9**	**0.0**
SDV	**Santo Domingo**	**21.25**	**68**	P	**P**	**14 50 38.7**	**-1.0**
	7.6nm,0.8s,baz=241,slow=11,SNR=5.5						
	7.6nm,0.8s						
SDV	**Santo Domingo**	**21.25**	**68**	P	**P**	**14 50 38.8**	**-0.9**
SDV				IAmb	IAmb	14 50 49.5	
	comp=Z,22nm,1.3s						
BAUV	**El Baul**	**23.69**	**70**	P	**P**	**14 51 04.9**	**-0.2**
PB12	**IPOC Station P**	**27.85**	**136**	P	**P**	**14 51 42.2**	**-0.8**
LPAZ	**La Paz**	**28.01**	**129**	P	**P**	**14 51 46.7**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=321,slow=8.4,SNR=4.8						
	comp=Z,1.1nm,0.8s						
TXAR	**Lajitas Array**	**30.79**	**337**	P	**P**	**14 52 07.8**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=159,slow=7.7,SNR=5.9						
	comp=Z,1.0nm,1.0s						
BNM	**Barren Site**	**36.22**	**337**	P	**P**	**14 52 58.0**	**+1.6**
CCM	**Cathedral Cave**	**36.82**	**359**	P	**P**	**14 53 00.6**	**-0.6**
CCM				IAmb	IAmb	14 53 04.7	
	comp=Z,10nm,0.9s						
R40A	**Maddies Statio**	**37.09**	**358**	P	**P**	**14 53 02.6**	**-0.9**
R40A				IAmb	IAmb	14 53 06.4	
	comp=Z,8.1nm,1.2s						
X18A	**Snowflake**	**37.93**	**333**	P	**P**	**14 53 11.8**	**+0.9**
X18A				IAmb	IAmb	14 53 14.8	
	comp=Z,8.6nm,1.5s						
BLO	**Bloomington**	**38.10**	**5**	P	**P**	**14 53 12.4**	**+0.3**
T25A	**Trinidad**	**38.13**	**342**	P	**P**	**14 53 12.9**	**+0.3**
T25A				IAmb	IAmb	14 53 16.8	
	comp=Z,16nm,1.4s						
P46A	**Rosedale**	**38.49**	**4**	P	**P**	**14 53 15.1**	**-0.3**
SDCO	**Great Sand Dun**	**39.03**	**341**	P	**P**	**14 53 20.4**	**+0.2**
WUAZ	**Wupatki**	**39.40**	**333**	P	**P**	**14 53 21.5**	**-1.7**
WUAZ				IAmb	IAmb	14 53 27.9	
	comp=Z,7.5nm,1.1s						
BLYC	**Blythe**	**39.55**	**328**	P	**P**	**14 53 26.2**	**+1.9**
BLYC				IAmb	IAmb	14 53 28.2	
	comp=Z,10nm,1.5s						
MVCO	**Mesa Verde**	**39.62**	**337**	P	**P**	**14 53 25.7**	**+0.5**
MVCO				IAmb	IAmb	14 53 28.6	
	comp=Z,14nm,1.4s						
Q24A	**Divide**	**40.04**	**342**	P	**P**	**14 53 30.7**	**+2.0**
PFO	**Pinyon Flats O**	**40.51**	**326**	P	**P**	**14 53 34.4**	**+2.0**
PV05	**Paradox Valley**	**40.61**	**337**	P	**P**	**14 53 34.6**	**+1.2**
PV03	**Paradox Valley**	**40.67**	**338**	P	**P**	**14 53 34.2**	**+0.4**
PV03				IAmb	IAmb	14 53 37.6	
	comp=Z,6.7nm,1.2s						
PV17	**East Wray Mesa**	**40.74**	**338**	P	**P**	**14 53 36.5**	**+2.1**
PV17				IAmb	IAmb	14 53 38.5	
	comp=Z,6.1nm,1.1s						
PV07	**Paradox Valley**	**40.76**	**338**	P	**P**	**14 53 36.4**	**+1.9**
PV07				IAmb	IAmb	14 53 38.6	
	comp=Z,8.0nm,1.2s						
PV20	**West Nyswonger**	**40.79**	**338**	P	**P**	**14 53 36.8**	**+2.0**
PV20				IAmb	IAmb	14 53 39.1	
	comp=Z,9.3nm,1.3s						
PV14	**Lion Creek, Pa**	**40.84**	**338**	P	**P**	**14 53 37.8**	**+2.6**
PV14				IAmb	IAmb	14 53 38.5	
	comp=Z,6.1nm,1.1s						
V12A	**Nelson**	**41.25**	**329**	P	**P**	**14 53 39.2**	**+0.7**
QSM	**

comp=E,6μm,0.5s
CO03 El Pedregal 2.18 158 Pn 14 51 13.5 +1.0
CO03 El Pedregal 2.18 158 ⇑ iP Pn 14 51 13.4 +0.9
CO03 i S Sn 14 51 38.2 -1.6
CO03 IAML 14 51 47.3
comp=E,10μm,0.5s
CO03 El Pedregal 2.18 158 eP Pn 14 51 13.8 +1.3
CO03 eS Sb 14 51 41.5 -1.4
CO03 IAML 14 51 46.1
comp=Z,3μm,0.5s
AROD Rodeo 2.31 126 eP Pb 14 51 17.0 -1.0
AROD eP Pn 14 51 17.4 +2.9
AROD eS Sb 14 51 46.3 -0.5
CO02 Combarbal 2.45 167 Pn 14 51 17.0 +0.8
CO02 Combarbal 2.45 167 ⇑ iP Pn 14 51 17.2 +1.0
CO02 i S Sb 14 51 48.3 -2.3
CO02 Combarbal 2.45 167 eP Pn 14 51 17.0 +0.8
CO02 eS Sb 14 51 50.5 -0.1
CO02 IAML 14 51 55.6
comp=Z,7μm,0.8s
ACDV Cuesta del Vie 2.57 123 eP Pb 14 51 22.0 -0.3
ACDV eS Sb 14 51 56.4 +2.3
ACDV IAML 14 52 00.8
comp=Z,3μm,0.6s
AC01 Pan de Azucar 2.80 19 Pn 14 51 21.0 +0.2
AC01 Pan de Azucar 2.80 19 ⇑ iP Pn 14 51 21.3 +0.3
AC01 i S Sb 14 52 00.2 -0.3
AC01 IAML 14 52 14.1
comp=E,3μm,0.5s
AC01 Pan de Azucar 2.80 19 eP Pn 14 51 21.2 +0.3
AC01 eS Sn 14 51 52.3 -2.5
AC01 IAML 14 52 11.9
comp=Z,2μm,0.9s
ACCO Cerro Coronel 2.85 129 eP Pb 14 51 25.0 -2.1
ACCO eS Sb 14 52 04.4 +2.2
AC02 Maricunga 2.95 49 Pn 14 51 25.3 +1.9
AC02 Maricunga 2.95 49 eP Pn 14 51 25.8 +2.3
AC02 eS Sn 14 52 01.8 +2.5
AC02 IAML 14 52 11.8
comp=Z,3μm,0.5s
RTLS Leoncito 3.60 147 eP Pn 14 51 36.0 +3.8
RTLS eS Sb 14 52 22.8 -1.0
RTLS IAML 14 52 31.0
comp=Z,5μm,0.8s
RTLL Cerro Villicun 3.71 133 eP Pn 14 51 36.3 +2.8
RTLL Cerro Villicun 3.71 133 eP Pn 14 51 36.8 +3.3
RTLL eP Pb 14 51 37.0 -4.7
RTLL eS Sn 14 52 21.8 +4.4
ZON Zonda 3.74 138 Pn Pn 14 51 36.0 +2.2
ZON Zonda 3.74 138 eP Pn 14 51 37.0 +3.2
ZON eS Sn 14 52 21.7 +3.7
ZON IAML 14 52 45.4
comp=Z,1μm,0.9s
VA06 Catapilco 3.76 176 Pn Pn 14 51 34.4 +0.3
VA06 Catapilco 3.76 176 eP Pn 14 51 34.7 +0.7
VA06 i S Sn 14 52 20.6 +2.3
RTCV Cerro Valdivia 4.05 140 eP Pn 14 51 36.8 -1.3
RTCV eP Pb 14 51 42.0 -5.4
RTCV eS Sn 14 52 24.8 -0.9
GO02 Mina Guanaco 4.05 27 Pn Pn 14 51 39.4 +0.9
GO02 Mina Guanaco 4.05 27 ⇑ iP Pn 14 51 39.3 +0.9
GO02 i S Sb 14 52 38.2 +1.3
GO02 Mina Guanaco 4.05 27 eP Pn 14 51 39.9 +1.4
GO02 eS Sn 14 52 29.2 +3.0
VA03 San Esteban 4.05 167 Pn 14 51 39.5 +1.3
VA03 San Esteban 4.05 167 eP Pn 14 51 39.9 +1.6
VA03 i S Sn 14 52 26.2 +0.4
VA03 San Esteban 4.05 167 eP Pn 14 51 40.0 +1.8
VA03 eS Sn 14 52 27.3 +1.4
VA03 IAML 14 52 47.5
comp=Z,3μm,0.7s
ACLC CERRO LA CRUZ 4.13 100 eP Pn 14 51 42.0 +2.6
ACLC eS Sb 14 52 37.1 -2.0
ACLC IAML 14 52 43.2
comp=Z,889nm,0.6s
ROCH El Roble 4.19 173 ⇑ eP Pn 14 51 41.1 +0.9
ROCH eP Pn 14 51 41.2 +1.0
ROC1 El Roble 4.19 173 Pn 14 51 40.7 +0.5
VA01 Torpederas 4.21 180 Pn Pn 14 51 40.0 -0.2
VA01 Torpederas 4.21 180 eP Pn 14 51 40.4 +0.2
VA01 Torpederas 4.21 180 eP Pn 14 51 42.0 +1.8
VA01 eS Sb 14 52 42.3 +1.3
VA01 IAML 14 52 49.6
comp=Z,662nm,0.8s
PEL Peldehue 4.40 170 eP Pn 14 51 44.6 +1.6
PEL eS Sb 14 52 48.8 +2.1
MT02 Curacav 4.46 175 Pn 14 51 43.7 -0.1
MT02 Curacav 4.46 175 eP Pn 14 51 44.2 +0.5
MT02 i S Sn 14 52 37.3 +1.5
MT02 Curacav 4.46 175 eP Pn 14 51 44.4 +0.6
MT02 eS Sb 14 52 43.8 -4.5
MT02 IAML 14 52 59.7
comp=Z,929nm,0.7s
MT05 Renca 4.64 171 eP Pn 14 51 47.2 +1.0
MT05 Renca 4.64 171 eP Pn 14 51 48.0 +1.8
MT05 IAML 14 53 08.6
comp=Z,2μm,0.9s
FCH Farellones 4.65 166 ⇑ iP Pn 14 51 48.7 +2.0
FCH eS Sn 14 52 44.1 +3.1
APLL PUNTA DE LOS L 4.71 111 eP Pn 14 51 49.0 +1.8
APLL eS Sb 14 52 56.1 +0.5
MT03 Universidad Ad 4.77 169 eP Pn 14 51 49.6 +1.5
VA05 Santo Domingo 4.84 180 Pn 14 51 48.1 -0.8
VA05 Santo Domingo 4.84 180 eP Pn 14 51 48.4 -0.5
MT09 Talagante 4.99 174 eP Pn 14 51 52.0 +0.9
MT01 Popeta 5.05 176 eP Pn 14 51 52.2 +0.3
LMEL Las Melosas 5.17 167 Pn 14 51 50.9 -2.8
LMEL Las Melosas 5.17 167 eP Pn 14 51 55.1 +1.4
PB10 IPOC Station P 5.36 11 Pn Pn 14 51 53.8 -2.3
BO02 Sierra Bellavi 6.01 173 Pn 14 52 03.5 -1.7
GO05 Huala 6.19 182 Pn Pn 14 52 06.5 -1.1
PB06 IPOC Station P 6.35 17 Pn 14 52 08.6 -1.2
AF01 San Pedro de A 6.60 29 Pn Pn 14 52 11.2 -2.2
LVC Limon Verde 6.63 22 Pn Pn 14 52 13.3 -0.6
comp=Z,2.0nm,0.3s,baz=192,slow=8.9,SNR=25
LVC Sn Sn 14 53 28.9 -1.0
comp=Z,12nm,0.3s,baz=220,slow=23,SNR=3.7
LVC Lg Lg 14 54 04.2
comp=Z,31nm,0.3s,baz=317,slow=15,SNR=7.5
comp=Z,4.4nm,0.3s
LVC Limon Verde 6.63 22 Pn Pn 14 52 13.0 -1.0
PB03 IPOC Station P 6.94 15 Pn 14 52 15.9 -2.0
PB07 IPOC Station P 7.22 13 Pn 14 52 20.1 -1.8
PB09 IPOC Station P 7.30 18 Pn 14 52 21.4 -1.5
PB02 IPOC Station P 7.61 12 Pn 14 52 24.7 -2.5
H03N1 Juan Fernandez 7.77 232 T T 15 00 20.7
baz=59,slow=72
H03N2 Juan Fernandez 7.79 232 T T 15 00 26.7
baz=59,slow=72
H03N3 Juan Fernandez 7.79 232 T T 15 00 32.8
baz=59,slow=72
VA04 Juan Fernndez 7.83 230 Pn Pn 14 52 28.8 -1.2
VA04 Juan Fernndez 7.83 230 eP Pn 14 52 29.1 -1.0
PB01 IPOC Station P 7.96 15 Pn 14 52 29.7 -2.3
PATCX Punta Patache 8.06 10 Pn Pn 14 52 30.9 -2.4
TA01 Diego Aracena 8.31 9 Pn Pn 14 52 33.9 -2.7
PB08 IPOC Station P 8.91 15 Pn Pn 14 52 44.0 -1.3
PB11 IPOC Station P 9.18 12 Pn Pn 14 52 46.0 -2.7
PSGCX Pisagua 9.27 9 Pn 14 52 47.1 -2.7
PB12 IPOC Station P 10.21 7 Pn Pn 14 53 00.8 -2.0
PB16 IPOC Station P 10.60 11 Pn 14 53 07.6 -0.9
LR04 Corral 11.15 187 Pn Pn 14 53 13.6 -1.8
PLCA Paso Flores 11.93 176 Pn Pn 14 53 25.9 -0.4
comp=Z,0.2nm,0.3s,baz=340,slow=9.8,SNR=5.1
PLCA Lg Lg 14 56 52.1
baz=264,slow=20,SNR=1.3
comp=Z,1.1nm,0.5s
TRQA Tornquist 12.24 141 Pn Pn 14 53 28.5 -1.9
LPAZ La Paz 12.87 15 Pn Pn 14 53 38.8 -0.8
comp=Z,0.2nm,0.3s,baz=172,slow=7.8,SNR=4.0
comp=Z,0.9nm,0.4s
LPAZ La Paz 12.87 15 Pn Pn 14 53 38.4 -1.2
LPAZ La Paz 12.87 15 eP 14 53 45.1
CPUP Villa Florida 12.92 82 Pn Pn 14 53 37.6 -2.1
comp=Z,0.4nm,0.3s,baz=259,slow=12,SNR=7.5
CPUP Sn Sn 14 56 03.0 -0.6
comp=Z,0.4nm,0.3s,baz=335,slow=11,SNR=2.0
CPUP Lg Lg 14 57 04.4
comp=Z,0.4nm,0.3s,baz=167,slow=18,SNR=2.7
comp=Z,1.7nm,0.4s
CPUP Villa Florida 12.92 82 Pn Pn 14 53 36.3 -3.4
ITQB Itaqui 13.13 97 Pn Pn 14 53 41.2 -1.3
BBRB Robore, Bolivi 15.06 48 eP Pn 14 54 05.5 -3.5

BBSD Serra de San D 15.36 44 eP Pn 14 54 10.2 -2.9
CRSM Crissiumal (Br 15.56 89 eP P 14 54 18.7 -1.2
PLTB Pedras Altas 15.84 105 P Pn 14 54 18.7 -0.5
SIV San Ignacio 16.04 40 Pn Pn 14 54 22.1 +0.3
comp=Z,0.1nm,0.3s,baz=218,slow=11,SNR=17
comp=Z,6.6nm,0.8s
AQDB Aquidauana 16.67 64 eP Pn 14 54 27.5 -2.3
FRBT Francisco Belt 16.72 85 eP P 14 54 33.3 +0.4
ITAB Concordia 17.28 89 Pn Pn 14 54 33.5 -4.0
PTLB Pontes e Lacer 17.60 44 eP Pn 14 54 40.6 -0.9
PTGB Pitanga 17.93 81 eP P 14 54 48.8 +2.5
VILB Vilhena 19.02 96 eP Pn 14 54 58.5 -0.4
SALV Santo Antonio 19.51 52 eP Pn 14 55 04.2 -0.7
ETMB Extrema 19.56 16 P P 14 55 01.9 -2.2
ETMB IAmb IAmb 14 55 12.2
comp=Z,10.0nm,0.7s
FRTB Fartura 20.54 80 eP Pn 14 55 20.9 +3.9
CZSB Cruzeiro do Su 20.99 357 P 14 55 18.2 -1.5
CZSB IAmb IAmb 14 55 23.8
comp=Z,54nm,0.9s
SAML Samuel 21.29 24 P P 14 55 22.1 -0.7
ITRB Iturama 21.37 70 eP P 14 55 27.5 +3.7
PDRB Porto dos Gac 22.05 42 eP P 14 55 34.4 +3.3
BB19B Bebedouro 22.29 75 eP P 14 55 40.1 +6.5
ARAG Araguaiana, MT 22.45 59 eP P 14 55 39.0 +3.7
IPMB Ipanneri, GO 23.99 68 eP P 14 55 57.6 +6.6
BDFB Brasilia 25.42 64 P P 14 56 03.4 -0.8
comp=Z,6.6nm,0.5s,baz=246,slow=9.9,SNR=11
comp=Z,6.6nm,0.5s
BDFB Brasilia 25.42 64 P P 14 56 01.9 -2.3
BDFB IAmb IAmb 14 56 16.1
comp=Z,47nm,1.5s
BDFB Brasilia 25.42 64 eP P 14 56 12.2 +8.1
MACA Manacapuru-AM 27.54 24 eP P 14 56 34.7 +12
PRPB Parauapebas 30.53 47 eP P 14 56 59.2 +9.4
BOAV Boa Vista 32.80 21 P P 14 57 08.8 -0.9
BOAV IAmb IAmb 14 57 10.9
comp=Z,5.5nm,0.8s
TMAB Tom-Au,PA,Br 34.54 45 eP P 14 57 34.2 +9.3
BAUV El Baul 37.69 6 P P 14 57 51.4 -0.4
BAUV IAmb IAmb 14 58 05.2
comp=Z,44nm,1.0s
TEIG Tepich 51.33 340 P P 14 59 40.8 +0.1
TEIG IAmb IAmb 14 59 43.2
comp=Z,15nm,0.8s
BELA Belgrano 2 51.93 171 P P 14 59 44.8 +0.2
BELA IAmb IAmb 14 59 54.6
comp=Z,18nm,1.5s
VNA2 Neumayer--Watz 54.68 159 P P 15 00 05.3 +0.4
baz=287,slow=8.0
SNAA Sanae 56.28 159 P P 15 00 16.5 0.0
SNAA Sanae 56.28 159 P P 15 00 14.9 -1.6
SNAA IAmb IAmb 15 00 26.0
comp=Z,19nm,1.5s
TROLL Troll, Antarti 57.99 159 P P 15 00 28.9 +0.2
QSPA South Pole Qui 61.42 180 P P 15 00 53.0 +0.6
comp=Z,3.4nm,0.7s,baz=350,slow=2.6,SNR=13
comp=Z,3.4nm,0.7s
QSPA South Pole Qui 61.42 180 P P 15 00 51.3 -1.1
W50A Signal Mountai 64.96 348 P P 15 01 16.6 +0.7
SWET Sewanee 65.09 347 P P 15 01 17.6 +0.7
SWET IAmb IAmb 15 01 18.9
comp=Z,10.0nm,0.7s
TXAR Lajitas Array 65.42 329 P P 15 01 21.4 +2.2
comp=Z,1.3nm,0.7s,baz=151,slow=8.1,SNR=19
comp=Z,1.3nm,0.7s
TXAR Lajitas Array 65.42 329 P P 15 01 20.9 +1.7
TX31 Lajitas Ar. Si 65.42 329 P P 15 01 20.4 +1.2
TX31 IAmb IAmb 15 01 31.1
comp=Z,34nm,1.6s
TX32 Lajitas Array 65.42 329 P P 15 01 20.3 +1.1
U49A Red Boiling Sp 66.32 348 P P 15 01 25.7 +1.0
U49A IAmb IAmb 15 02 21.3
comp=Z,42nm,2.0s
WVT Waverly 66.37 346 P P 15 01 26.0 +1.0
WVT IAmb IAmb 15 01 26.6
comp=Z,5.8nm,0.8s
ABTX Abilene, Hawle 66.63 334 P P 15 01 27.2 +0.4
ABTX IAmb IAmb 15 01 30.3
comp=Z,11nm,0.9s
WHAR Wooly Hollow 66.67 342 P P 15 01 27.7 +0.8
WHAR IAmb IAmb 15 03 28.5
comp=Z,19nm,1.5s
CCM Cathedral Cave 69.00 344 P P 15 01 42.8 +1.3
CCM IAmb IAmb 15 01 44.2
comp=Z,18nm,0.8s
VNDA Vanda 69.25 191 P P 15 01 43.8 +1.0
comp=Z,0.9nm,0.9s,baz=146,slow=6.0,SNR=5.6
comp=Z,0.9nm,0.9s
R40A Maddies Statio 69.48 343 P P 15 01 46.2 +1.7
P43A Skaggs, Pawnee 70.11 345 P P 15 01 49.1 +0.8
P43A IAmb IAmb 15 01 50.5
comp=Z,21nm,0.7s
N49A Columbus Grove 70.34 350 P P 15 01 50.8 +1.0
N49A IAmb IAmb 15 01 51.9
comp=Z,16nm,0.8s
N47A Urbana 70.55 349 P P 15 01 51.5 +0.5
N47A IAmb IAmb 15 02 07.8
comp=Z,37nm,1.5s
P40A Paris 70.60 343 P P 15 01 53.3 +1.9
L59A Walton 70.71 357 P P 15 01 51.8 -0.3
L61B Northampton 70.91 359 P P 15 01 54.0 +0.8
DBIC Dimbokro 73.22 72 P P 15 02 07.5 -0.3
comp=Z,8.4nm,0.8s,baz=225,slow=5.9,SNR=11
comp=Z,8.4nm,0.8s
F64A Sherman 74.37 2 P P 15 02 14.7 +0.9
K31A O'Neill 75.34 340 P P 15 02 21.8 +2.3
E46A Sault Ste Mari 75.69 351 P P 15 02 22.7 +1.3
ECSD EROS Data Cent 75.73 342 P P 15 02 23.5 +1.8
ECSD IAmb IAmb 15 02 24.4
comp=Z,14nm,0.8s
SPMN Marine on St. 76.16 345 P P 15 02 25.4 +1.3
SPMN IAmb IAmb 15 02 26.0
comp=Z,13nm,0.5s
F36A Milaca 76.93 344 P P 15 02 29.1 +0.7
F36A IAmb IAmb 15 02 30.4
comp=Z,9.1nm,0.8s
MAW Mawson 78.05 164 P P 15 02 35.1 +0.6
comp=Z,4.4nm,0.8s,baz=224,slow=4.8,SNR=5.8
comp=Z,4.4nm,0.8s
PDAR Pinedale Array 79.31 333 P P 15 02 44.0 +2.0
comp=Z,0.8nm,0.6s,baz=131,slow=6.9,SNR=8.5
comp=Z,0.8nm,0.6s
SPUT South Promonto 79.33 330 P P 15 02 44.4 +2.3
NVAR Mina Array Bea 79.85 325 P P 15 02 47.4 +2.4
comp=Z,0.7nm,0.8s,baz=149,slow=6.5,SNR=5.7
comp=Z,0.7nm,0.8s
HVU Hansel Valley 79.86 330 P P 15 02 47.0 +2.1
ULM Lac du Bonnet 81.59 345 P P 15 02 54.6 +0.8
comp=Z,3.9nm,0.6s,baz=74,slow=4.4,SNR=3.5
comp=Z,3.9nm,0.6s
HLID Hailey 82.01 330 P P 15 02 58.8 +2.4
BCYI Bear Canyon 82.18 331 P P 15 02 57.2 -0.1
BOSA Boshof 82.19 118 P P 15 02 57.3 -0.5
comp=Z,3.3nm,0.5s,baz=257,slow=3.8,SNR=9.6
comp=Z,3.3nm,0.5s
BOSA Boshof 82.19 118 P P 15 02 57.5 -0.3
BRTR Keskin Array B 118.90 58 PKP PKiKP 15 09 25.1 0.0
comp=Z,0.7nm,0.7s,baz=241,slow=3.3,SNR=3.8
ASAR Alice Springs 122.33 208 PKP PKiKP 15 09 32.0 -0.2
comp=Z,1.2nm,0.8s,baz=139,slow=1.9,SNR=9.4
WRA Warramunga Arr 125.44 210 PKP PKiKP 15 09 38.5 0.0
comp=Z,3.0nm,0.7s,baz=165,slow=1.7,SNR=31
ZALV Zalesovo Beam 149.56 28 PKP PKPdf 15 10 22.0 +1.2
comp=Z,19nm,0.8s,baz=278,slow=2.0,SNR=56
ZALV PKPbc **sPKPdf 15 10 26.5 +2.5**
comp=Z,20nm,0.8s,baz=304,slow=3.4,SNR=46
HYBB Hyderabad (bro 150.40 106 ePKiKP PKiKP 15 10 29.2 -0.1
MKAR Makanchi Array 152.85 41 PKPbc PKiKP 15 10 33.8 +0.3
comp=Z,3.6nm,0.7s,baz=8.1,slow=3.1,SNR=15
KLR Kul'dur 152.88 325 PKPbc PKiKP 15 10 33.7 +0.3
comp=Z,2.4nm,0.6s,baz=59,slow=2.5,SNR=9.2
MJAR Matsushiro Arr 153.81 295 PKPab PKPab 15 10 49.4 +0.7
comp=Z,0.9nm,0.9s,baz=114,slow=2.6,SNR=4.6
WMQ Urumqi 157.67 42 eP PKPdf 15 10 32.8 0.0
SONM Songino Array 160.94 4 PKP PKPdf 15 10 36.9 +0.4
SONM PKPab **PKPab 15 11 19.9 +0.8**
comp=Z,0.8nm,0.8s,baz=322,slow=2.4,SNR=5.1
GTA Gaotai 167.27 32 ePKPbc PKPdf 15 10 43.6 +1.1
HHC Hu-ho-hao-te 167.70 349 eP PKPdf 15 10 40.9 -1.9
LZH Lanzhou 171.79 27 ⇑ PKP PKPdf 15 10 37.8 -7.6
LZH pPKP pPKPdf 15 10 47.8 0.0

*IDC **13** 14:50:46.5±1.3,41.°31S×174.°30E,h0km,mb3.8/5, mbtmp3.9/6,ML4.3/1,Error ellipse: s-maj=35.2km s-min=28.0km az=91.0*
*NEIC **13** 14:50:49.6±1.2,41.°7S±0.°1×174.°29E±0.°04,h21km±8km, mb4.2/6,Error ellipse: s-maj=15.3km s-min=1.5km az=166.0*
*WEL **13** 14:50:50.2±0.3,42.°5S±2.°×17.°4E±.°,h10km±2km,M4.5/107, ML4.5/23,MLv4.5/107,Error ellipse: s-maj=0.0km s-min=0.0km az=159.5*
*NOU **13** 14:50:58.5,41.°43S×175.°15E,h83km,MLv4.5/6,North Island, New Zealand*
ISC 13 14:50:49.4±0.8,41.°66S±0.°03×174.°30E±0.°02,h18km±5km, n140,σ1°59/149,mb4.0/9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**216**		**Pg**	**14 50 53.1**	**0.0**
CMWZ	**Cape Campbell**	**0.11**	**216**	P	**Pb**	**14 50 53.4**	**+0.4**
CMWZ				S	**Sg**	**14 50 55.7**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.32**	**260**		**Pb**	**14 50 56.5**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.32**	**260**	P	**Pb**	**14 50 56.7**	**+0.1**
BSWZ				S	**Sb**	**14 51 01.6**	**0.0**
TUWZ	**Tuamarina**	**0.35**	**311**		**Pb**	**14 50 58.3**	**+1.2**
TUWZ	**Tuamarina**	**0.35**	**311**	P	**Pb**	**14 50 58.5**	**+1.4**
TUWZ				S	**Sb**	**14 51 04.4**	**+2.0**
TCW	**Tory Channel**	**0.45**	**358**	P	**Pn**	**14 51 00.6**	**-0.3**
TCW				S	**Sn**	**14 51 08.8**	**+0.2**
BHW	**Baring Head**	**0.50**	**60**	P	**Pn**	**14 51 01.6**	**0.0**
BHW				S	**Sn**	**14 51 10.9**	**+1.1**
WEL	**Wellington**	**0.52**	**43**	P	**Pn**	**14 51 02.2**	**+0.3**
WEL				S	**Sn**	**14 51 10.8**	**+0.5**
PLWZ	**Palliser**	**0.72**	**83**	Pn	**Pb**	**14 51 05.0**	**+1.4**
PLWZ	**Palliser**	**0.72**	**83**	P	**Pn**	**14 51 05.4**	**+0.6**
PLWZ				S	**Sn**	**14 51 17.6**	**+2.1**
MSWZ	**Moikau Station**	**0.76**	**71**	Pn	**Pn**	**14 51 06.0**	**+0.8**
MSWZ	**Moikau Station**	**0.76**	**71**	P	**Pn**	**14 51 06.3**	**+1.1**
MSWZ				S	**Sn**	**14 51 18.6**	**+2.4**
CAW	**Cannon Point**	**0.80**	**47**	P	**Pn**	**14 51 07.0**	**+1.2**
CAW				S	**Sn**	**14 51 19.2**	**+1.9**
NNZ	**Nelson**	**0.82**	**302**	Pn	**Pn**	**14 51 07.0**	**+0.9**
NNZ	**Nelson**	**0.82**	**302**	P	**Pn**	**14 51 07.3**	**+1.3**
NNZ				S	**Sn**	**14 51 18.5**	**+0.7**
PAWZ	**Paruwai Farm**	**0.89**	**72**	P	**Pn**	**14 51 08.0**	**+0.9**
DUWZ	**D'Urville Isla**	**0.90**	**342**	P	**Pn**	**14 51 08.8**	**+1.5**
DUWZ				S	**Sn**	**14 51 22.6**	**+2.7**
MTW	**Mount Morrison**	**1.03**	**61**	P	**Pg**	**14 51 10.1**	**+0.7**
MTW				S	**Sn**	**14 51 25.8**	**+2.6**
THZ	**Tophouse**	**1.05**	**264**	Pn	**Pn**	**14 51 09.6**	**+0.3**
THZ	**Tophouse**	**1.05**	**264**	P	**Pn**	**14 51 10.1**	**+0.8**
THZ				S	**Sn**	**14 51 23.5**	**0.0**
OGWZ	**Otaki Gorge**	**1.07**	**38**	P	**Pg**	**14 51 11.5**	**+1.4**
OGWZ				S	**Sn**	**14 51 27.0**	**+3.1**
TRWZ	**Traveller**	**1.08**	**76**	P	**Pb**	**14 51 10.0**	**+0.5**
MRNZ	**Matariki Terra**	**1.19**	**282**	P	**Pg**	**14 51 12.3**	**-0.1**
MRNZ				S	**Sn**	**14 51 28.8**	**+1.9**
TKNZ	**Takaka Hill**	**1.19**	**301**	P	**Pg**	**14 51 13.2**	**+0.9**
TKNZ				S	**Sn**	**14 51 29.8**	**+3.0**
HOWZ	**Holdsworth Sta**	**1.19**	**51**	P	**Pg**	**14 51 12.5**	**0.0**
HOWZ				S	**Sg**	**14 51 30.2**	**+2.2**
TMWZ	**Te Maipa**	**1.32**	**66**	P	**Pn**	**14 51 13.6**	**+0.6**
MRZ	**Mangatainoka R**	**1.39**	**44**	Pn	**Pb**	**14 51 15.1**	**+0.2**
MRZ	**Mangatainoka R**	**1.39**	**44**	P	**Pg**	**14 51 15.4**	**-0.7**
TIWZ	**Tintock**	**1.49**	**54**	P	**Pn**	**14 51 16.1**	**+0.8**
QRZ	**Quartz Range**	**1.57**	**301**	Pn	**Pb**	**14 51 16.4**	**-1.6**
QRZ	**Quartz Range**	**1.57**	**301**	P	**Pg**	**14 51 19.6**	**-0.1**
CPWZ	**Castlepoint**	**1.62**	**63**	P	**Pn**	**14 51 18.0**	**+0.9**
OHWZ	**Ohakea**	**1.65**	**28**	P	**Pg**	**14 51 20.6**	**-0.4**
PRWZ	**Pori Road**	**1.68**	**49**	P	**Pb**	**14 51 19.0**	**-0.8**
POWZ	**Post Office Ro**	**1.69**	**42**	P	**Pb**	**14 51 19.5**	**-0.4**
BFZ	**Birch Farm**	**1.77**	**57**	Pn	**Pn**	**14 51 19.0**	**-0.1**
BFZ	**Birch Farm**	**1.77**	**57**	P	**Pn**	**14 51 19.5**	**+0.4**
BFZ	**Birch Farm**	**1.77**	**57**	P	**Pn**	**14 51 19.3**	**+0.2**
AMCZ	**Amberley**	**1.94**	**218**	P	**Pb**	**14 51 24.0**	**-0.3**
DVHZ	**Dannevirke**	**1.96**	**47**	P	**Pn**	**14 51 22.4**	**+0.5**
WAZ	**Wanganui**	**1.97**	**16**	P	**Pg**	**14 51 26.1**	**-1.2**
ANWZ	**Angora Road**	**2.04**	**55**	P	**Pn**	**14 51 22.7**	**-0.1**
TSZ	**Takapari Road**	**2.04**	**39**	P	**Pn**	**14 51 24.2**	**+1.3**
LREZ	**Lake Rotokare**	**2.20**	**2**	P	**Pg**	**14 51 31.5**	**-0.1**
PRHZ	**Porangahau**	**2.25**	**53**	P	**Pn**	**14 51 25.7**	**-0.1**
PNHZ	**Pukenui**	**2.27**	**40**	P	**Pn**	**14 51 26.9**	**+0.9**
NMEZ	**Namu Road**	**2.27**	**352**	P	**Pg**	**14 51 32.2**	**-0.6**
WPHZ	**Waipukurau**	**2.28**	**46**	P	**Pn**	**14 51 26.8**	**+0.7**
INZ	**Inchbonnie**	**2.37**	**242**	P	**Pb**	**14 51 31.2**	**-0.4**
KHEZ	**Kahui Hut**	**2.37**	**355**	P	**Pg**	**14 51 34.0**	**-0.9**
KHEZ	**Kahui Hut**	**2.37**	**355**	P	**Pg**	**14 51 33.8**	**-1.1**
NEZ	**North Egmont**	**2.39**	**356**	P	**Pg**	**14 51 34.0**	**-1.3**
NBEZ	**Newall Road No**	**2.41**	**352**	P	**Pg**	**14 51 34.3**	**-1.3**
AKCZ	**Akaroa Harbour**	**2.44**	**204**	P	**Pn**	**14 51 21.0**	**-7.3**
MTVZ	**Mangateitei**	**2.44**	**22**	P	**Pb**	**14 51 33.3**	**+0.5**
DREZ	**Durham Road**	**2.47**	**358**	P	**Pg**	**14 51 34.2**	**-2.5**
PKE	**Pukeiti**	**2.48**	**354**	P	**Pg**	**14 51 34.7**	**-2.2**
PKVZ	**Pokaka**	**2.50**	**19**	P	**Pb**	**14 51 32.7**	**-1.1**
MOVZ	**Moawhango**	**2.51**	**27**	P	**Pb**	**14 51 31.6**	**-2.4**
WNVZ	**Wahianoa**	**2.53**	**23**	P	**Pb**	**14 51 32.7**	**-1.7**
PXZ	**Pawanui**	**2.54**	**51**	P	**Pn**	**14 51 29.2**	**-0.5**
TRVZ	**Turoa**	**2.54**	**22**	P	**Pb**	**14 51 33.5**	**-1.2**
BHHZ	**Black Hill Sta**	**2.55**	**32**	P	**Pb**	**14 51 32.0**	**-2.7**
DRZ	**Dome Shelter**	**2.57**	**22**	P	**Pb**	**14 51 33.6**	**-1.6**
WHVZ	**Whangaehu Hut**	**2.57**	**23**	P	**Pb**	**14 51 33.3**	**-1.8**
MHEZ	**Mangahewa**	**2.58**	**0**	P	**Pg**	**14 51 36.2**	**-2.7**
FWVZ	**Far West T-bar**	**2.59**	**22**	P	**Pb**	**14 51 33.9**	**-1.5**
TUVZ	**Tukino**	**2.60**	**24**	P	**Pb**	**14 51 33.6**	**-2.1**
NGZ	**Ngauruhoe**	**2.67**	**22**	P	**Pb**	**14 51 34.8**	**-2.0**
SNVZ	**South Ngauruho**	**2.68**	**23**	P	**Pb**	**14 51 34.6**	**-2.3**
KAHZ	**Kahuranaki**	**2.71**	**47**	P	**Pn**	**14 51 31.9**	**-0.2**
NNVZ	**North Ngauruho**	**2.72**	**22**	P	**Pb**	**14 51 35.5**	**-2.1**
WTVZ	**West Tongariro**	**2.73**	**22**	P	**Pg**	**14 51 39.5**	**-2.1**
TWVZ	**Taurewa**	**2.73**	**19**	P	**Pb**	**14 51 35.6**	**-2.2**
ETVZ	**East Tongariro**	**2.74**	**24**	P	**Pb**	**14 51 35.1**	**-2.9**
KWHZ	**Kaweka Forest**	**2.76**	**37**	P	**Pn**	**14 51 33.1**	**+0.3**
TMVZ	**Te Maari**	**2.76**	**23**	P	**Pb**	**14 51 35.4**	**-2.8**
KRVZ	**Karewarewa**	**2.76**	**22**	P	**Pb**	**14 51 35.9**	**-2.4**
NTVZ	**North Tongariro**	**2.77**	**23**	P	**Pb**	**14 51 35.7**	**-2.8**
MCHZ	**McNeill Hill**	**2.87**	**40**	P	**Pn**	**14 51 34.8**	**+0.6**
KATZ	**Kakaramea**	**2.89**	**22**	P	**Pb**	**14 51 39.4**	**-1.1**
WACZ	**Wakanui South**	**2.91**	**218**	P	**Pn**	**14 51 29.4**	**-5.4**
BKZ	**Black Stump Fm**	**3.00**	**35**	Pn	**Pn**	**14 51 36.6**	**+0.4**
BKZ	**Black Stump Fm**	**3.00**	**35**	P	**Pn**	**14 51 36.9**	**+0.7**
RATZ	**Rangitukua**	**3.01**	**22**	P	**Pg**	**14 51 45.0**	**-2.0**
WATZ	**Wairara**	**3.15**	**21**	P	**Pb**	**14 51 44.8**	**0.0**
RPZ	**Rata Peaks**	**3.15**	**228**	Pn	**Pb**	**14 51 41.6**	**-3.3**
	30nm,0.3s,baz=327,slow=2.5,SNR=5.1						
RPZ					Sn	**Sb**	**14 52 23.6**	**+0.6**
	18nm,0.3s,baz=117,slow=2.3,SNR=1.7 89nm,0.3s						
RPZ	**Rata Peaks**	**3.15**	**228**	P	**Pn**	**14 51 37.3**	**-0.9**
ARHZ	**Aropaoanui**	**3.16**	**42**	P	**Pn**	**14 51 38.1**	**-0.1**
HIZ	**Hauiti**	**3.17**	**8**	P	**Pb**	**14 51 42.9**	**-2.3**
HIZ	**Hauiti**	**3.17**	**8**	P	**Pb**	**14 51 42.5**	**-2.8**
NMHZ	**Naumai**	**3.20**	**38**	P	**Pn**	**14 51 38.5**	**-0.4**
ARCZ	**Arundel**	**3.24**	**224**	P	**Pn**	**14 51 34.4**	**-5.0**
WHTZ	**Whakaora**	**3.25**	**24**	P	**Pg**	**14 51 48.7**	**-3.0

MXZ	**Matakaoa Point**	**5.13**	**38**	P	**Pn**	14 52 04.5	**-0.8**
OUZ	**Omahuta**	**6.46**	**355**	P	Pn	14 52 29.8	+6.3
	30nm,1.5s						
OUZ	**Omahuta**	**6.46**	**355**	P	Pn	14 52 29.2	+5.7
CTZ	**Chatham Island**	**7.01**	**110**	P	**Pn**	**14 52 30.4**	**-0.7**
ARMA	**Armidale**	**21.43**	**294**	P	**P**	**14 55 34.5**	**-2.1**
ARMA				IAmb	IAmb	14 55 34.9	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**38.04**	**285**	P	**P**	**14 58 05.3**	**-1.6**
AS31				IAmb	IAmb	14 58 27.0	
	comp=Z,1.5nm,1.4s						
ASAR	**Alice Springs**	**38.04**	**285**	P	**P**	**14 58 05.2**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=122,slow=6.8,SNR=19						
	comp=Z,0.4nm,0.4s						
WB2	**Warramunga Arr**	**40.10**	**290**	P	**P**	**14 58 23.1**	**-1.0**
WB2				IAmb	IAmb	14 58 30.1	
	comp=Z,4.1nm,0.7s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**14 58 22.8**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=128,slow=8.3,SNR=11						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**14 58 23.4**	**-0.7**
WB0	**Warramunga Arr**	**40.18**	**291**	P	**P**	**14 58 23.9**	**-0.9**
WB0				IAmb	IAmb	14 58 35.8	
	comp=Z,8.4nm,1.4s						
MTN	**Manton Dam**	**47.21**	**295**	P	**P**	**14 59 21.3**	**0.0**
QSPA	**South Pole Qui**	**48.47**	**180**	P	**P**	**14 59 33.0**	**+2.3**
	comp=Z,0.8nm,0.9s,baz=34,slow=1.2,SNR=5.9						
	comp=Z,0.8nm,0.9s						
KSRS	**Korea Array**	**89.40**	**325**	P	**P**	**15 03 44.7**	**0.0**
	comp=Z,0.7nm,0.8s,baz=132,slow=5.4,SNR=3.1						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.64**	**293**	P	**P**	**15 03 56.0**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=158,slow=3.5,SNR=4.7						
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**147.71**	**340**	PKPbc	**PKPbc**	**15 10 30.3**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=33,slow=3.5,SNR=5.6						
BRTR	**Keskin Array B**	**150.28**	**280**	PKPbc	**PKPbc**	**15 10 38.9**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=116,slow=3.4,SNR=2.0						
FINES	**FINESS Array B**	**152.48**	**327**	PKPbc	**PKPbc**	**15 10 42.1**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=44,slow=5.8,SNR=7.1						

*NEIC **13** 14:53:33.9±1.5, 42.°65S±0.°03×174.°14E±0.°05, h10km±2km, mb4.1/4, Error ellipse: s-maj=7.3km s-min=3.4km az=299.0*

*IDC **13** 14:53:36.2±2.2, 42.°51S×173.°39E, h0km, mb3.7/2, mbtmp3.9/3, ML4.7/1, Error ellipse: s-maj=58.6km s-min=30.3km az=139.0*

*WEL **13** 14:53:39.7±0.3, 42.°3S±2.°×17.°3E±.°, h15km±2km, M4.1/18, ML4.3/18, MLv4.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=129.1*

ISC 13 14:53:39.1±1.1, 42.°50S±0.°02×173.°29E±0.°03, h13km±8km, n58, σ1°926/80, mb3.8/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**64**		**Pb**	**14 53 44.8**	**+0.1**
KHZ				Sg	**Sb**	**14 53 49.0**	**+0.6**
KHZ	**Kahutara**	**0.20**	**64**	P	**Pb**	**14 53 44.9**	**+0.2**
KHZ				S	**Sb**	**14 53 49.2**	**+0.8**
GVZ	**Greta Valley S**	**0.50**	**202**	Pg	**Pb**	**14 53 51.0**	**+1.2**
GVZ				Sg	**Sn**	**14 53 60.0**	**-0.7**
GVZ	**Greta Valley S**	**0.50**	**202**	P	**Pn**	**14 53 51.4**	**-0.6**
GVZ				S	**Sn**	**14 54 00.3**	**-0.3**
THZ	**Tophouse**	**0.80**	**339**		**Pg**	**14 53 53.7**	**-0.8**
THZ	**Tophouse**	**0.80**	**339**	P	**Pg**	**14 53 54.0**	**-0.5**
THZ				S	**Sg**	**14 54 03.6**	**-1.3**
LTZ	**Lake Taylor**	**0.81**	**249**		**Pg**	**14 53 54.6**	**-0.1**
LTZ	**Lake Taylor**	**0.81**	**249**	P	**Pg**	**14 53 55.0**	**+0.3**
LTZ				S	**Sg**	**14 54 05.3**	**0.0**
AMCZ	**Amberley**	**0.82**	**215**	P	**Pn**	**14 53 57.3**	**+0.8**
AMCZ				S	**Sn**	**14 54 10.6**	**+2.1**
OKCZ	**Okains Bay**	**1.23**	**188**	P	**Pg**	**14 54 03.3**	**+0.5**
OXZ	**Oxford**	**1.24**	**228**		**Pn**	**14 54 02.4**	**+0.3**
OXZ	**Oxford**	**1.24**	**228**	P	**Pb**	**14 54 02.6**	**+0.3**
OXZ				S	**Sg**	**14 54 19.5**	**+0.5**
NNZ	**Nelson**	**1.29**	**3**	P	**Pn**	**14 54 02.3**	**-0.5**
MQZ	**McQueen's Vall**	**1.29**	**201**		**Pn**	**14 54 00.8**	**-2.1**
MQZ	**McQueen's Vall**	**1.29**	**201**	P	**Pn**	**14 54 03.3**	**+0.4**
MQZ				S	**Sn**	**14 54 20.7**	**+0.7**
DSZ	**Denniston Nort**	**1.34**	**304**	Pn	**Pb**	**14 54 04.4**	**+0.2**
INZ	**Inchbonnie**	**1.38**	**260**	P	**Pb**	**14 54 05.3**	**+0.4**
INZ				S	**Sg**	**14 54 23.5**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.40**	**191**	P	**Pb**	**14 54 05.2**	**+0.1**
RACZ	**Rakaia**	**1.49**	**214**	P	**Pn**	**14 54 06.2**	**+0.6**
RACZ				S	**Sn**	**14 54 24.7**	**-0.2**
TKNZ	**Takaka Hill**	**1.49**	**350**	P	**Pb**	**14 54 06.6**	**-0.1**
SNZO	**South Karori**	**1.59**	**42**	Pn	Pn	14 53 59.0	-8.0
DUWZ	**D'Urville Isla**	**1.76**	**16**	P	**Pn**	**14 54 08.8**	**-0.6**
QRZ	**Quartz Range**	**1.77**	**341**	Pn	**Pn**	**14 54 10.3**	**+0.8**
QRZ	**Quartz Range**	**1.77**	**341**	P	**Pb**	**14 54 11.4**	**-0.1**
QRZ				S	**Sb**	**14 54 33.3**	**-0.3**
WACZ	**Wakanui South**	**1.79**	**216**	P	**Pn**	**14 54 10.3**	**+0.5**
WACZ				S	**Sn**	**14 54 32.9**	**+0.6**
CAW	**Cannon Point**	**1.92**	**44**	P	Pn	14 54 05.7	-5.9
WVZ	**Waitaha Valley**	**1.97**	**252**	P	**Pb**	**14 54 13.8**	**-1.0**
WVZ				S	**Sb**	**14 54 38.8**	**-0.4**
RPZ	**Rata Peaks**	**2.04**	**233**	Pn	**Pn**	**14 54 13.0**	**-0.2**
	256nm,0.3s,baz=81,slow=2.7,SNR=23						
RPZ				Sn	**Sn**	**14 54 38.8**	**+0.2**
	70nm,0.3s,baz=350,slow=23,SNR=18						
	778nm,0.3s						
RPZ	**Rata Peaks**	**2.04**	**233**		**Pn**	**14 54 13.4**	**+0.2**
RPZ	**Rata Peaks**	**2.04**	**233**	P	**Pn**	**14 54 13.9**	**+0.7**
RPZ				S	**Sn**	**14 54 38.4**	**-0.1**
ARCZ	**Arundel**	**2.12**	**226**	P	**Pn**	**14 54 14.7**	**+0.5**
ARCZ				S	**Sn**	**14 54 40.2**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.33**	**249**	P	**Pn**	**14 54 18.8**	**+1.7**
GCSZ				S	**Sn**	**14 54 46.3**	**+0.7**
TMZ	**Timaru**	**2.51**	**221**	P	**Pn**	**14 54 20.2**	**+0.6**
FOZ	**Fox Glacier**	**2.75**	**247**	Pn	**Pn**	**14 54 25.2**	**+2.3**
FOZ	**Fox Glacier**	**2.75**	**247**	P	**Pn**	**14 54 25.2**	**+2.3**
FOZ				S	**Sn**	**14 54 57.5**	**+1.5**
LBZ	**Lake Benmore**	**2.94**	**229**	P	**Pn**	**14 54 26.2**	**+0.6**
LBZ				S	**Sn**	**14 54 59.4**	**-1.4**
ODZ	**Otahua Downs**	**3.18**	**216**	Pn	**Pn**	**14 54 28.7**	**-0.2**
HHSZ	**Highcliff Hill**	**3.90**	**209**	P	**Pn**	**14 54 39.1**	**+0.4**
HHSZ				S	**Sn**	**14 55 22.3**	**-2.0**
EAZ	**Earnscleugh**	**3.97**	**225**	P	**Pn**	**14 54 39.7**	**+0.1**
EAZ				S	**Sn**	**14 55 24.1**	**-2.0**
SYZ	**Scrubby Hill**	**5.01**	**215**	P	**Pn**	**14 54 54.8**	**+0.8**
SYZ				S	**Sn**	**14 55 49.5**	**-2.2**
AWAZ	**Awhitu Peninsu**	**5.53**	**11**	P	**Pn**	**14 55 03.3**	**+2.2**
MKAZ	**Moumakai**	**5.58**	**16**	P	**Pn**	**14 55 03.7**	**+1.9**
ETAZ	**East Tamaki Re**	**5.68**	**13**	P	**Pn**	**14 55 03.6**	**+2.3**
EPAZ	**Eden Park BICE**	**5.73**	**12**	P	**Pn**	**14 55 06.4**	**+2.5**
APZ	**The Paps**	**5.75**	**219**	P	**Pn**	**14 55 03.9**	**-0.2**
APZ				S	**Sn**	**14 56 08.2**	**-1.8**
HBAZ	**Herne Bay Bore**	**5.75**	**12**	P	**Pn**	**14 55 06.7**	**+2.5**
RVAZ	**Riverhead Bore**	**5.81**	**10**	P	**Pn**	**14 55 07.3**	**+2.3**
RVAZ				S	**Sn**	**14 56 16.1**	**+4.6**
ABAZ	**Army Bay**	**6.01**	**12**	P	**Pn**	**14 55 10.0**	**+2.2**
AS31	**Alice Springs**	**37.56**	**287**	P	**P**	**15 00 52.7**	**-0.6**
ASAR	**Alice Springs**	**37.56**	**287**	P	**P**	**15 00 52.5**	**-0.7**
	0.6nm,0.5s,baz=128,slow=7.1,SNR=9.7						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**37.56**	**287**	P	**P**	**15 00 53.2**	**0.0**
WB2	**Warramunga Arr**	**39.71**	**292**	P	**P**	**15 01 11.9**	**+0.6**
WB2				IAmb	IAmb	15 01 12.1	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**39.72**	**292**	P	**P**	**15 01 11.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=128,slow=8.5,SNR=8.5						
	comp=Z,0.7nm,0.6s						
WB0	**Warramunga Arr**	**39.80**	**292**	P	**P**	**15 01 12.3**	**+0.2**
WB0				IAmb	IAmb	15 01 19.3	
	comp=Z,4.7nm,1.2s						
BELA	**Belgrano 2**	**58.68**	**173**	P	P	15 03 29.5	-6.2
ARCES	**ARCESS Array B**	**148.23**	**339**	PKPbc	**PKPbc**	**15 13 22.5**	**-1.1**
	comp=Z,4.6nm,0.9s,baz=20,slow=2.9,SNR=2.6						
BRTR	**Keskin Array B**	**149.68**	**279**	PKPbc	**PKPbc**	**15 13 28.2**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=120,slow=5.2,SNR=2.6						
FINES	**FINESS Array B**	**152.76**	**325**	PKPbc	**PKPbc**	**15 13 32.9**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=72,slow=4.5,SNR=3.7						

WEL 13 14:53:48.5±0.7, 42.°S±4.°×17.°4E±.°, h13km±5km, M3.5/12, ML3.8/12, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=11.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**260**	Pg	Pg	14 53 51.4	+0.3
CMWZ	**Cape Campbell**	**0.04**	**260**	P	Pg	14 53 51.6	+0.6
CMWZ				S	Sg	14 53 54.4	+1.7
BSWZ	**Blackbirch Sta**	**0.30**	**275**	Pg	Pb	14 53 55.3	-0.3
BSWZ	**Blackbirch Sta**	**0.30**	**275**	P	Pb	14 53 55.8	+0.1
BSWZ				S	Sb	14 54 01.6	+1.1
TUWZ	**Tuamarina**	**0.40**	**322**		Pb	14 53 57.0	-0.3
TUWZ	**Tuamarina**	**0.40**	**322**	P	Pb	14 53 57.3	0.0
TUWZ				S	Sb	14 54 04.0	+0.6
TCW	**Tory Channel**	**0.53**	**0**	P	Pb	14 53 59.5	-0.1
TCW				S	Sb	14 54 07.1	-0.1
BHW	**Baring Head**	**0.56**	**54**	P	Pg	14 53 59.1	-0.4
PLWZ	**Palliser**	**0.76**	**77**	P	Pb	14 54 03.5	-0.1
PLWZ				S	Sb	14 54 14.7	+1.0
MSWZ	**Moikau Station**	**0.80**	**66**	P	Pb	14 54 04.3	0.0
MSWZ				S	Sb	14 54 16.0	+0.9
NNZ	**Nelson**	**0.85**	**308**	P	Pg	14 54 03.6	-1.4
CAW	**Cannon Point**	**0.87**	**44**	P	Pg	14 54 04.8	-0.6
CAW				S	Sb	14 54 17.9	+1.0
PAWZ	**Paruwai Farm**	**0.94**	**68**	P	Pb	14 54 06.1	-0.5
PAWZ				S	Sn	14 54 20.1	-0.5
KIW	**Kapiti Island**	**1.00**	**29**	P	Pb	14 54 07.1	-0.6
KIW				S	Sg	14 54 21.3	+0.4
MTW	**Mount Morrison**	**1.09**	**58**	P	Pb	14 54 08.3	-0.9
MTW				S	Sn	14 54 25.3	+0.9
OGWZ	**Otaki Gorge**	**1.15**	**37**	P	Pb	14 54 09.4	-0.7
OGWZ				S	Sg	14 54 25.5	+0.1

*IDC **13** 14:57:26.9±3.7, 42.°60S×173.°46E, h0km, mb3.2/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=82.0km s-min=38.7km az=131.0*

*WEL **13** 14:57:43.7±0.5, 42.°3S±3.°×17.°4E±.°, h7km±3km, M4.3/29, ML4.3/8, MLv4.3/29, Error ellipse: s-maj=0.0km s-min=0.0km az=51.4*

ISC 13 14:57:43.5±1.1, 41.°88S±0.°04×173.°82E±0.°04, h17km±8km, n33, σ1°828/42, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.17**	**15**	P	**Pg**	**14 57 48.1**	**+0.1**
BSWZ				S	**Sg**	**14 57 51.3**	**+0.3**
TUWZ	**Tuamarina**	**0.46**	**12**	P	**Pb**	**14 57 53.4**	**+0.2**
TUWZ				S	**Sb**	**14 58 00.3**	**+0.6**
KHZ	**Kahutara**	**0.57**	**201**	P	**Pg**	**14 57 54.0**	**-0.9**
TCW	**Tory Channel**	**0.76**	**27**	P	**Pg**	**14 57 57.5**	**-0.8**
TCW				S	**Sg**	**14 58 08.3**	**-0.1**
DUWZ	**D'Urville Isla**	**1.08**	**4**	P	**Pn**	**14 58 05.1**	**+1.2**
DUWZ				S	**Sb**	**14 58 19.0**	**+1.4**
MSWZ	**Moikau Station**	**1.17**	**67**	P	**Pb**	**14 58 05.6**	**+0.3**
MSWZ				S	**Sb**	**14 58 20.7**	**+0.5**
KIW	**Kapiti Island**	**1.31**	**39**	P	**Pn**	**14 58 05.5**	**-1.5**
QRZ	**Quartz Range**	**1.43**	**317**	P	**Sg**	**14 58 29.9**	**0.0**
MTW	**Mount Morrison**	**1.46**	**61**	P	**Pn**	**14 58 08.9**	**-0.1**
MTW				S	**Sg**	**14 58 29.8**	**-0.8**
OGWZ	**Otaki Gorge**	**1.48**	**44**	P	**Pn**	**14 58 08.6**	**-0.6**
TRWZ	**Traveller**	**1.48**	**72**	P	**Pn**	**14 58 10.3**	**+0.9**
HOWZ	**Holdsworth Sta**	**1.61**	**53**	P	**Pn**	**14 58 12.3**	**+1.1**
TMWZ	**Te Maipa**	**1.74**	**64**	P	**Pg**	**14 58 17.1**	**+0.1**
TIWZ	**Tintock**	**1.91**	**55**	P	**Pb**	**14 58 18.8**	**+0.9**
CPWZ	**Castlepoint**	**2.04**	**62**	P	**Pg**	**14 58 23.5**	**+0.8**
PRWZ	**Pori Road**	**2.10**	**51**	P	**Pg**	**14 58 22.6**	**-1.2**
PRWZ				S	**Sg**	**14 58 50.3**	**-0.7**
BFZ	**Birch Farm**	**2.19**	**58**	P	**Pg**	**14 58 24.6**	**-1.0**
BFZ				S	Sg	14 59 04.9	+11
DVHZ	**Dannevirke**	**2.38**	**49**	P	**Pb**	**14 58 26.0**	**+0.1**
TSZ	**Takapari Road**	**2.44**	**42**	P	**Pb**	**14 58 26.5**	**-0.4**
TSZ				S	**Sg**	**14 59 04.9**	**+2.8**
PRHZ	**Porangahau**	**2.67**	**54**	P	**Pb**	**14 58 31.7**	**+0.8**
WPHZ	**Waipukurau**	**2.69**	**48**	P	**Pg**	**14 58 34.2**	**-1.0**
RPZ	**Rata Peaks**	**2.73**	**227**	Pn	Pn	14 58 01.6	-25
	14nm,0.3s,baz=356,slow=19,SNR=1.7						
RPZ				Sn	Sn	14 58 32.5	-27
	63nm,0.3s,baz=9.0,slow=7.0,SNR=3.2						
	51nm,0.4s						
MOVZ	**Moawhango**	**2.88**	**31**	P	**Pb**	**14 58 33.1**	**-1.4**
MOVZ				S	**Sg**	**14 59 19.4**	**+3.3**
BHHZ	**Black Hill Sta**	**2.94**	**36**	P	**Pb**	**14 58 35.3**	**-0.1**
BHHZ				S	**Sg**	**14 59 15.7**	**-2.3**
FWVZ	**Far West T-bar**	**2.94**	**27**	P	**Pb**	**14 58 36.2**	**+0.7**
FWVZ				S	**Sg**	**14 59 18.3**	**+0.3**
PXZ	**Pawanui**	**2.96**	**52**	P	**Pg**	**14 58 38.9**	**-1.3**
OTVZ	**Oturere**	**3.06**	**28**	P	**Pb**	**14 58 37.2**	**-0.4**
OTVZ				S	**Sg**	**14 59 18.6**	**-3.3**
ETVZ	**East Tongariro**	**3.10**	**28**	P	**Pb**	**14 58 37.8**	**-0.5**
TMVZ	**Te Maari**	**3.12**	**28**	P	**Pb**	**14 58 37.9**	**-0.6**
KWHZ	**Kaweka Forest**	**3.16**	**40**	P	**Pb**	**14 58 39.7**	**+0.6**
KWHZ				S	**Sg**	**14 59 22.9**	**-2.0**
ASAR	**Alice Springs**	**37.75**	**286**	P	P	15 04 44.9	-14
	0.3nm,1.0s,baz=118,slow=6.5,SNR=1.5						
	0.3nm,1.0s						
WRA	**Warramunga Arr**	**39.85**	**291**	P	P	15 05 01.4	-15
	0.4nm,0.8s,baz=128,slow=8.4,SNR=1.9						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**149.96**	**279**	PKPbc	PKPdf	15 17 18.6	-9.2
	0.8nm,0.8s,baz=132,slow=2.1,SNR=3.1						

WEL 13 15:00:07.8±0.4, 42.°S±3.°×17.°4E±.°, h8km±2km, M3.7/22, ML4.6/13, MLv3.7/22, Error ellipse: s-maj=0.0km s-min=0.0km az=36.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.16**	**346**	P	Pg	15 00 12.0	+0.9
BSWZ				S	Sg	15 00 15.3	+2.0
CMWZ	**Cape Campbell**	**0.25**	**61**	P	Pg	15 00 13.5	+0.9
CMWZ				S	Sg	15 00 18.4	+2.4
TUWZ	**Tuamarina**	**0.44**	**2**	P	Pg	15 00 16.9	+0.7
TUWZ				S	Sb	15 00 23.8	-0.6
TCW	**Tory Channel**	**0.71**	**22**	P	Pg	15 00 21.2	-0.2
TCW				S	Sg	15 00 31.4	+0.8
NNZ	**Nelson**	**0.77**	**328**	P	Pg	15 00 22.8	+0.2
NNZ				S	Sb	15 00 34.4	+0.4
THZ	**Tophouse**	**0.77**	**278**	P	Pg	15 00 22.6	0.0
THZ				S	Sb	15 00 33.7	-0.5
WEL	**Wellington**	**0.86**	**48**	P	Pg	15 00 24.2	-0.1
MSWZ	**Moikau Station**	**1.09**	**66**	P	Pg	15 00 27.0	-1.7
CAW	**Cannon Point**	**1.15**	**49**	P	Pg	15 00 28.5	-1.3
PAWZ	**Paruwai Farm**	**1.23**	**67**	P	Pg	15 00 31.4	+0.1
KIW	**Kapiti Island**	**1.25**	**37**	P	Pn	15 00 30.3	-1.2
GVZ	**Greta Valley S**	**1.28**	**211**	P	Pg	15 00 33.0	+0.7
MTW	**Mount Morrison**	**1.38**	**60**	P	Pn	15 00 32.6	-0.7
OGWZ	**Otaki Gorge**	**1.41**	**42**	P	Pn	15 00 32.1	-1.6
LTZ	**Lake Taylor**	**1.53**	**233**	P	Pg	15 00 40.1	+3.0
HOWZ	**Holdsworth Sta**	**1.54**	**51**	P	Pn	15 00 35.5	0.0
AMCZ	**Amberley**	**1.61**	**215**	P	Pg	15 00 41.8	+3.1
TMWZ	**Te Maipa**	**1.66**	**63**	P	Pg	15 00 40.2	+0.6
MRZ	**Mangatainoka R**	**1.73**	**46**	P	Pn	15 00 36.0	-2.2
OKCZ	**Okains Bay**	**1.96**	**199**	P	Pg	15 00 48.5	+3.1
OXZ	**Oxford**	**2.02**	**223**	P	Pg	15 00 47.7	+1.3
MQZ	**McQueen's Vall**	**2.06**	**207**	P	Pg	15 00 48.1	+0.8
BFZ	**Birch Farm**	**2.11**	**57**	P	Pg	15 00 48.0	-0.2
RACZ	**Rakaia**	**2.28**	**215**	P	Pg	15 00 51.0	-0.4
WACZ	**Wakanui South**	**2.58**	**216**	P	Pb	15 00 55.2	+0.9
RPZ	**Rata Peaks**	**2.81**	**228**	P	Pb	15 00 58.7	+0.6
ARCZ	**Arundel**	**2.90**	**223**	P	Pb	15 00 59.6	-0.1

*NEIC **13** 15:00:26.8±1.6, 41.°96S±0.°02×174.°30E±0.°02, h7km±5km, mb4.5/13, Error ellipse: s-maj=3.5km s-min=2.3km az=149.0*

*IDC **13** 15:00:26.1±1.2, 41.°82S×174.°05E, h0km, mb4.0/4, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=33.4km s-min=29.0km az=90.0*

*WEL **13** 15:00:29.0±0.5, 42.°S±4.°×17.°4E±.°, h15km±4km, M4.2/16, ML4.5/12, MLv4.2/16, Error ellipse: s-maj=0.0km s-min=0.0km az=156.8*

ISC 13 15:00:27.5±1.1, 41.°90S±0.°05×174.°29E±0.°03, h13km±6km, n49, σ0°990/66, mb4.3/10, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**339**	Pg	**Pg**	**15 00 31.1**	**-0.3**
CMWZ				Sg	**Sg**	**15 00 34.6**	**+0.6**
CMWZ	**Cape Campbell**	**0.16**	**339**	P	**Pg**	**15 00 31.8**	**+0.4**
CMWZ				S	**Sg**	**15 00 34.6**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.36**	**301**		**Pb**	**15 00 36.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.36**	**301**	P	**Pb**	**15 00 36.1**	**+0.3**
BSWZ				S	**Sb**	**15 00 41.9**	**+0.6**
TUWZ	**Tuamarina**	**0.54**	**331**		**Pg**	**15 00 38.1**	**+0.1**
TUWZ				Sg	**Sg**	**15 00 44.8**	**-0.4**
TUWZ	**Tuamarina**	**0.54**	**331**	P	**Pg**	**15 00 38.3**	**+0.2**
TUWZ				S	**Sg**	**15 00 45.2**	**0.0**
SNZO	**South Karori**	**0.67**	**28**		**Pg**	**15 00 39.0**	**-1.5**
SNZO				Sg	**Sg**	**15 00 48.5**	**-0.7**
TCW	**Tory Channel**	**0.69**	**359**	P	**Pg**	**15 00 40.0**	**-1.0**
TCW				S	**Sg**	**15 00 47.9**	**-2.1**
WEL	**Wellington**	**0.71**	**30**	P	**Pg**	**15 00 41.2**	**-0.1**
WEL				S	**Sg**	**15 00 50.6**	**-0.2**
PLWZ	**Palliser**	**0.79**	**66**		**Pb**	**15 00 42.6**	**-0.6**
PLWZ	**Palliser**	**0.79**	**66**	P	**Pn**	**15 00 44.3**	**-0.2**
PLWZ				S	**Sn**	**15 00 56.6**	**+0.4**
MSWZ	**Moikau Station**	**0.87**	**56**		**Pb**	**15 00 44.4**	**0.0**
MSWZ	**Moikau Station**	**0.87**	**56**	P	**Pn**	**15 00 45.3**	**-0.1**
MSWZ				S	**Sn**	**15 00 57.8**	**-0.1**
NNZ	**Nelson**	**0.97**	**315**		**Pg**	**15 00 46.2**	**+0.1**
NNZ	**Nelson**	**0.97**	**315**	P	**Pg**	**15 00 46.4**	**+0.2**
CAW	**Cannon Point**	**0.98**	**37**	P	**Pb**	**15 00 46.0**	**-0.4**
CAW				S	**Sn**	**15 01 01.0**	**+0.2**
PAWZ	**Paruwai Farm**	**1.00**	**59**	P	**Pb**	**15 00 46.9**	**+0.2**
PAWZ				S	**Sn**	**15 01 01.3**	**+0.1**
THZ	**Tophouse**	**1.04**	**277**	Pg	**Pb**	**15 00 46.0**	**-1.5**
KIW	**Kapiti Island**	**1.14**	**24**	P	**Pn**	**15 00 48.4**	**-0.8**
KIW				S	**Sb**	**15 01 03.1**	**-0.7**
MTW	**Mount Morrison**	**1.17**	**51**	P	**Pn**	**15 00 49.3**	**-0.3**
OGWZ	**Otaki Gorge**	**1.27**	**32**	P	**Pn**	**15 00 50.6**	**-0.4**
OGWZ				S	**Sb**	**15 01 06.5**	**-1.0**
HOWZ	**Holdsworth Sta**	**1.36**	**43**	P	**Pn**	**15 00 51.9**	**-0.3**
TMWZ	**Te Maipa**	**1.44**	**57**	P	**Pn**	**15 00 52.5**	**-0.8**
MRZ	**Mangatainoka R**	**1.57**	**38**	Pn	**Pn**	**15 00 54.7**	**-0.4**
MRZ	**Mangatainoka R**	**1.57**	**38**	P	**Pn**	**15 00 54.8**	**-0.3**
QRZ	**Quartz Range**	**1.71**	**308**	Pn	**Pb**	**15 00 59.5**	**+0.8**
RPZ	**Rata Peaks**	**2.99**	**232**	Pn	**Pn**	**15 01 11.4**	**-3.3**
	24nm,0.3s,baz=56,slow=3.3,SNR=1.7						
RPZ				Sn	**Sn**	**15 01 50.0**	**-0.4**
	15nm,0.3s,baz=36,slow=12,SNR=1.7						
	93nm,0.5s						
WKZ	**Wanaka**	**4.83**	**231**	Pn	**Pn**	**15 01 39.2**	**-0.7**
AS31	**Alice Springs**	**38.10**	**286**	P	**P**	**15 07 45.2**	**-1.0**
ASAR	**Alice Springs**	**38.10**	**286**	P	**P**	**15 07 45.5**	**-0.7**
	0.8nm,0.5s,baz=122,slow=6.4,SNR=16						
ASAR				PcP	**PcP**	**15 09 59.6**	**-1.5**
	0.4nm,0.7s,baz=124,slow=3.3,SNR=1.5						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**38.10**	**286**	P	**P**	**15 07 44.8**	**-1.4**
COEN	**Coen**	**38.74**	**307**	P	**P**	**15 07 51.3**	**-0.3**
COEN				IAmb	IAmb	15 08 00.5	
	comp=Z,19nm,1.3s						
WR0	**Warramunga Arr**	**40.03**	**291**	P	**P**	**15 08 02.0**	**-0.3**
WR0				IAmb	IAmb	15 08 30.7	
	comp=Z,8.0nm,1.4s						
WB2	**Warramunga Arr**	**40.18**	**291**	P	**P**	**15 08 03.3**	**-0.3**
WB2				IAmb	IAmb	15 08 35.5	
	comp=Z,6.9nm,1.3s						
WRA	**Warramunga Arr**	**40.18**	**291**	P	**P**	**15 08 03.1**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=126,slow=8.4,SNR=20						
WRA				PcP	**PcP**	**15 10 07.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=155,slow=1.8,SNR=1.2						
	comp=Z,1.0nm,0.4s						
**W

JCZ	Jackson Bay	3.30	243	P	Pn	15 04 59.4	+1.4
ASAR	Alice Springs	37.30	288	P	P	15 11 19.8	+1.3
	0.7nm,0.6s,baz=120,slow=6.8,SNR=5.6 0.7nm,0.6s						
WRA	Warramunga Arr	39.47	293	P	P	15 11 37.4	+0.7
	0.6nm,0.7s,baz=127,slow=8.5,SNR=1.4 0.6nm,0.7s						
BRTR	Keskin Array B	149.38	279	PKPbc	PKPab	15 23 59.1	-0.8
	0.9nm,0.8s,baz=161,slow=5.4,SNR=3.0						
FINES	FINESS Array B	152.69	325	PKPbc	PKPab	15 24 10.2	-2.6
	2.4nm,1.0s,baz=5.7,slow=4.2,SNR=2.0						

IDC 13 15:04:39.0±2.7, 42°54S×174°20E, h0km, mb3.6/2, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=79.9km s-min=49.0km az=156.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	Rata Peaks	2.59	242	Pn	Pn	15 05 21.5	-0.6
	32nm,0.3s,baz=192,slow=19,SNR=1.6 448nm,0.7s						
ASAR	Alice Springs	38.22	287	P	P	15 12 01.1	+0.4
	0.3nm,0.4s,baz=120,slow=6.1,SNR=1.4 0.3nm,0.4s						
WRA	Warramunga Arr	40.35	291	P	P	15 12 18.0	-0.5
	0.8nm,0.6s,baz=128,slow=8.5,SNR=1.7 0.8nm,0.6s						
BRTR	Keskin Array B	150.35	278	PKPbc	PKPbc	15 24 32.5	+0.3
	0.8nm,0.6s,baz=144,slow=7.1,SNR=3.8						
FINES	FINESS Array B	153.17	326	PKPbc	PKPbc	15 24 36.9	-0.7
	2.3nm,0.9s,baz=26,slow=9.3,SNR=2.5						

WEL ***13*** *15:05:00, 42°27S×173°87E, h7km, ML4.7, Mw4.6, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁵ Nm; Mrr5.56; Mθθ1.99; Mφφ-7.55; Mrθ4.86; Mθφ-4.55; Mφr0.01; Fault plane solution: Mo9.50000×10¹⁵ NP1: φs169.00000°, δ50.00000°, λ36.00000°. NP2:φs54.00000°, δ63.00000°, λ134.00000°. Principal axes: T 937.9300, Plg51.0000°, Azm15.0000°; N 23.5200, Plg38.0000°, Azm210.0000°; P -961.4500, Plg8.0000°, Azm114.0000°;*

IDC ***13*** *15:05:06.1±1.0, 42°35S×173°88E, h0km, mb4.4/11, mbtmp4.4/12, ML4.5/1, MS4.8/1 Error ellipse: s-maj=27.6km s-min=20.9km az=142.0*

NEIC ***13*** *15:05:07.9±1.4, 42°33S±0°03×174°01E±0°05, h12km±4km, mb4.9/25, Error ellipse: s-maj=6.7km s-min=1.2km az=122.0*

WEL ***13*** *15:05:09.0±0.4, 42°S±2°×17°4E±°, h9km±2km, M4.7/16, ML5.0/16, MLv4.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=123.1*

ISC 13 15:05:09.2±0.9, 42°28S±0°03×173°89E±0°04, h19km±3km, n94, σ1$09/107, mb4.7/23, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.29	243		Pg	15 05 15.1	-0.5
KHZ				Sg	Sg	15 05 19.5	-0.6
KHZ	Kahutara	0.29	243	P	Pg	15 05 15.3	-0.3
KHZ				S	Sg	15 05 19.7	-0.3
BSWZ	Blackbirch Sta	0.57	359		Pb	15 05 19.8	-0.7
BSWZ				Sg	Sb	15 05 27.9	-0.2
BSWZ	Blackbirch Sta	0.57	359	P	Pb	15 05 20.0	-0.5
BSWZ				S	Sg	15 05 28.3	0.0
CMWZ	Cape Campbell	0.59	25		Pb	15 05 19.5	-1.3
TUWZ	Tuamarina	0.85	3		Pb	15 05 25.1	-0.3
TUWZ	Tuamarina	0.85	3	P	Pb	15 05 25.0	-0.4
TUWZ				S	Sn	15 05 37.8	-0.4
THZ	Tophouse	0.90	305	P	Pb	15 05 25.7	-0.5
THZ				S	Sb	15 05 37.0	-0.8
GVZ	Greta Valley S	0.93	222	Pn	Pg	15 05 27.8	+0.5
GVZ	Greta Valley S	0.93	222	P	Pg	15 05 27.9	+0.5
GVZ				S	Sn	15 05 42.1	+2.0
TCW	Tory Channel	1.11	15	P	Pn	15 05 29.4	-0.3
NNZ	Nelson	1.13	340	P	Pn	15 05 29.9	-0.1
SNZO	South Karori	1.15	32	Pn	Pb	15 05 30.4	0.0
WEL	Wellington	1.20	34	P	Pn	15 05 30.7	-0.2
WEL				S	Sn	15 05 46.3	-0.3
MRNZ	Matariki Terra	1.22	316	P	Pb	15 05 31.8	+0.1
MRNZ				S	Sg	15 05 48.9	0.0
PLWZ	Palliser	1.25	55	Pn	Pn	15 05 31.3	-0.4
AMCZ	Amberley	1.27	225	P	Pg	15 05 34.0	+0.1
LTZ	Lake Taylor	1.29	247	Pn	Pb	15 05 32.9	-0.1
LTZ	Lake Taylor	1.29	247	P	Pb	15 05 33.0	+0.1
LTZ				S	Sb	15 05 50.2	+0.9
MSWZ	Moikau Station	1.34	50		Pn	15 05 32.3	-0.6
MSWZ	Moikau Station	1.34	50	P	Pn	15 05 32.2	-0.6
TKNZ	Takaka Hill	1.43	331	P	Pn	15 05 32.2	-1.9
PAWZ	Paruwai Farm	1.46	52	P	Pn	15 05 34.1	-0.5
CAW	Cannon Point	1.47	37	P	Pn	15 05 34.3	-0.4
CAW				S	Sn	15 05 53.3	-0.1
DUWZ	D'Urville Isla	1.48	1	P	Pb	15 05 35.6	-0.5
KIW	Kapiti Island	1.61	29	P	Pn	15 05 37.0	+0.3
OXZ	Oxford	1.71	232	P	Pg	15 05 44.0	+1.8
OGWZ	Otaki Gorge	1.75	34	P	Pn	15 05 38.7	+0.1
QRZ	Quartz Range	1.78	325	Pn	Pb	15 05 40.6	-0.6
QRZ	Quartz Range	1.78	325	P	Pb	15 05 40.2	-1.0
INZ	Inchbonnie	1.86	255	P	Pn	15 05 39.8	-0.2
MRZ	Mangatainoka R	2.06	39	Pn	Pn	15 05 42.1	-0.7
WVZ	Waitaha Valley	2.45	250	S	Sn	15 06 17.6	0.0
RPZ	Rata Peaks	2.52	235	Pn	Pn	15 05 48.7	-0.5
	106nm,0.3s,baz=157,slow=22,SNR=10.0						
RPZ				Sn	Sn	15 06 18.6	-0.8
	188nm,0.3s,baz=156,slow=23,SNR=13 483nm,0.4s						
RPZ	Rata Peaks	2.52	235	P	Pn	15 05 49.0	-0.2
RPZ				S	Sn	15 06 18.5	-0.9
TOZ	Tahuroa Road	4.71	16	P	Pn	15 06 19.6	+0.3
AWAZ	Awhitu Peninsu	5.25	7	P	Pn	15 06 28.2	+1.7
MKAZ	Moumakai	5.27	11	P	Pn	15 06 26.9	0.0
WTAZ	Waiatarua	5.37	6	P	Pn	15 06 30.2	+1.9
ETAZ	East Tamaki Re	5.38	9	P	Pn	15 06 29.7	+1.2
EPAZ	Eden Park BICE	5.44	7	P	Pn	15 06 30.5	+1.3
ABAZ	Army Bay	5.72	8	P	Pn	15 06 35.0	+1.9
RAO	Raoul Island	14.60	30	LR	LR	15 14 28.5	
	comp=Z,3µm,18.5s,baz=196,slow=38						
DZM	Mont Dzumac	21.10	340	P	P	15 09 53.1	+0.5
	9.5nm,0.8s,baz=155,slow=19,SNR=4.7 9.5nm,0.8s						
DZM	Mont Dzumac	21.10	340	P	P	15 09 53.6	+1.0
ARMA	Armidale	21.42	296	P	P	15 09 58.0	+2.0
TOO	Toolangi	22.23	273	P	P	15 10 06.1	+1.4
TOO				IAmb	IAmb	15 10 12.1	
	comp=Z,44nm,1.4s						
KOUNC	Koumac, New Ca	23.13	337	P	P	15 10 15.7	+1.5
KOUNC				IAmb	IAmb	15 10 17.6	
	comp=Z,47nm,1.4s						
MSVF	Nonsavu	24.73	10	P	P	15 10 30.3	+0.9
	comp=Z,2.1nm,0.3s,baz=191,slow=5.2,SNR=7.0 comp=Z,2.1nm,0.3s						
EIDS	Eidsvold	25.25	305	P	P	15 10 34.2	+0.2
EIDS				IAmb	IAmb	15 10 42.2	
	comp=Z,22nm,1.6s						
STKA	Stephens Creek	27.63	281	P	P	15 10 57.0	+1.5
	comp=Z,6.8nm,1.1s,baz=110,slow=12,SNR=4.5 comp=Z,6.8nm,1.1s						
STKA	Stephens Creek	27.63	281	P	P	15 10 56.5	+1.0
BBOO	Buckleboo	31.23	275	P	P	15 11 27.4	0.0
CTA	Charters Tower	32.14	305	P	P	15 11 35.4	-0.1
	comp=Z,7.4nm,1.1s,baz=135,slow=11,SNR=1.8 comp=Z,7.4nm,1.1s						
HNR	Honiara	34.94	335	P	P	15 12 00.7	+0.7
	comp=Z,388nm,0.5s,baz=183,slow=11,SNR=1.5						
AS31	Alice Springs	37.92	287	P	P	15 12 24.8	-0.6
ASAR	Alice Springs	37.92	287	P	P	15 12 25.0	-0.4
	comp=Z,4.3nm,0.9s,baz=120,slow=6.6,SNR=18						
ASAR				PcP	PcP	15 14 40.3	-1.0
	comp=Z,1.0nm,0.7s,baz=129,slow=3.6,SNR=4.2 comp=Z,4.3nm,0.9s						
ASAR	Alice Springs	37.92	287	P	P	15 12 24.7	-0.7
FORT	Forrest	38.16	272	P	P	15 12 27.4	+0.1
FORT				IAmb	IAmb	15 12 31.6	
	comp=Z,26nm,0.9s						
COEN	Coen	38.73	308	P	P	15 12 32.0	-0.3
COEN				IAmb	IAmb	15 13 45.4	
	comp=Z,23nm,1.4s						
WR0	Warramunga Arr	39.89	292	P	P	15 12 41.4	-0.6
WB2	Warramunga Arr	40.03	291	P	P	15 12 42.5	-0.6
WB2				IAmb	IAmb	15 12 44.6	
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	40.04	291	P	P	15 12 42.4	-0.8
	comp=Z,7.2nm,0.7s,baz=130,slow=7.5,SNR=26						
WRA				PcP	PcP	15 14 46.9	-1.0
	comp=Z,0.7nm,0.6s,baz=125,slow=3.1,SNR=3.6 comp=Z,7.2nm,0.7s						
WB0	Warramunga Arr	40.12	292	P	P	15 12 43.2	-0.7
PMG	Port Moresby	40.29	317	P	P	15 12 45.0	-0.2
	comp=Z,16nm,0.8s,baz=145,slow=5.8,SNR=10.0 comp=Z,16nm,0.8s						
PMG	Port Moresby	40.29	317	P	P	15 12 45.8	+0.6
PMG				IAmb	IAmb	15 12 51.0	
	comp=Z,27nm,0.9s						
RABL	Rabaul	42.59	327	P	P	15 13 03.7	-0.4
RABL				IAmb	IAmb	15 13 09.4	
	comp=Z,42nm,0.8s						
KNRA	Kununurra	46.82	291	P	P	15 13 38.9	+1.0
MTN	Manton Dam	47.20	296	P	P	15 13 40.1	-0.7
MORW	Morawa	47.95	266	P	P	15 13 45.8	-0.8
PSA00	Pilbara Seismi	49.41	277	P	P	15 13 56.6	-1.3
PSA00				IAmb	IAmb	15 15 22.5	
	comp=Z,31nm,1.4s						
MBWA	Marble Bar	49.75	278	P	P	15 13 59.1	-1.4
MBWA				IAmb	IAmb	15 15 01.8	
	comp=Z,15nm,1.1s						
GIRL	Giralia	52.92	272	P	P	15 14 24.6	+0.4
SIJI	Sorong	56.22	305	P	P	15 14 48.6	+0.4
	comp=Z,4.5nm,0.8s,baz=115,slow=14,SNR=3.8 comp=Z,4.5nm,0.8s						
PMSA	Palmer Station	64.10	156	P	P	15 15 39.0	-2.5
KKM	Kota Kinabalu	71.06	297	P	P	15 16 26.2	-0.1
KSM	Kuching	71.76	290	P	P	15 16 29.9	-0.6
KSM				IAmb	IAmb	15 16 31.1	
	comp=Z,6.3nm,0.9s						
KULM	Kulim	81.27	285	P	P	15 17 24.1	-0.2
KULM				IAmb	IAmb	15 17 37.9	
	comp=Z,8.6nm,1.0s						
MJAR	Matsushiro Arr	84.95	332	P	P	15 17 42.2	-0.6
	comp=Z,0.7nm,0.8s,baz=165,slow=9.6,SNR=2.4 comp=Z,0.7nm,0.8s						
KSRS	Korea Array	89.74	325	P	P	15 18 06.2	+0.4
	comp=Z,1.7nm,0.8s,baz=150,slow=5.5,SNR=5.5 comp=Z,1.7nm,0.8s						
CMAR	Chiang Mai Arr	91.60	294	P	P	15 18 15.7	+0.7
	comp=Z,1.2nm,0.5s,baz=151,slow=3.2,SNR=9.9 comp=Z,1.2nm,0.5s						
CMAR	Chiang Mai Arr	91.60	294	P	P	15 18 14.1	-0.9
TXAR	Lajitas Array	103.98	63	PKKPbc	PKKPbc	15 35 01.9	+2.3
	comp=Z,0.1nm,0.4s,baz=99,slow=6.5,SNR=3.5						
PDAR	Pinedale Array	109.05	49	PP	PP	15 24 13.0	+6.9
	comp=Z,0.3nm,0.8s,baz=298,slow=3.2,SNR=3.9						
YKA	Yellowknife Ar	118.97	30	PKP	PKiKP	15 23 55.7	+0.3
	comp=Z,2.9nm,0.7s,baz=258,slow=2.0,SNR=6.3						
MKAR	Makanchi Array	120.08	307	PKP	PKPdf	15 23 57.7	-0.4
	comp=Z,0.5nm,0.5s,baz=106,slow=2.1,SNR=1.8						
DBIC	Dimbokro	144.52	182	PKP	PKiKP	15 24 46.6	-1.8
	comp=Z,3.9nm,0.7s,baz=180,slow=4.5,SNR=4.5						
KBZ	Khabaz	144.55	289	PKP	PKPbc	15 24 42.4	-0.1
	comp=Z,3.6nm,0.7s,baz=79,slow=0.9,SNR=8.2						
SFJD	Kangerlussuaq	145.53	29	PKPbc	PKPab	15 24 44.9	-0.3
	comp=Z,9.6nm,0.7s,baz=224,slow=9.3,SNR=4.9						
ARCES	ARCESS Array B	148.18	340	PKPbc	PKPbc	15 24 51.8	-0.8
	comp=Z,2.3nm,0.7s,baz=46,slow=2.9,SNR=8.4						
BRTR	Keskin Array B	150.08	279	PKPbc	PKPbc	15 24 58.4	-0.1
	comp=Z,2.7nm,0.7s,baz=138,slow=3.8,SNR=10						
FINES	FINESS Array B	152.83	326	PKPbc	PKPbc	15 25 03.0	-0.8
	comp=Z,2.7nm,0.7s,baz=58,slow=3.4,SNR=5.4						
AKASG	Malin Array Be	154.46	301	PKPbc	PKiKP	15 25 08.2	+0.5
	comp=Z,0.3nm,0.3s,baz=73,slow=2.0,SNR=1.7						
AKASG				PKPab	PKPab	15 25 21.4	-0.8
	comp=Z,1.4nm,0.6s,baz=72,slow=4.5,SNR=2.7						
GERES	GERESS Array B	164.67	302	PKPab	PKPab	15 26 06.6	-0.2
	comp=Z,0.3nm,0.7s,baz=54,slow=5.0,SNR=2.6						

WEL 13 15:09:44.8±0.5, 42°S±3°×17°4E±°, h10km±5km, M4.7/10, ML5.0/10, MLv4.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=106.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.30	201	P	Pg	15 09 51.3	+0.5
KHZ				S	Sg	15 09 55.5	+0.6
BSWZ	Blackbirch Sta	0.45	19	P	Pb	15 09 55.5	+0.8
BSWZ				S	Sb	15 10 03.0	+1.6
CMWZ	Cape Campbell	0.55	46	P	Pn	15 09 58.0	-0.7
CMWZ				S	Sb	15 10 03.9	-0.6
THZ	Tophouse	0.69	303	P	Pb	15 09 58.6	-0.3
THZ				S	Sg	15 10 07.8	+0.6
TUWZ	Tuamarina	0.73	16	P	Pn	15 10 00.7	-0.4
GVZ	Greta Valley S	0.96	210	P	Pn	15 10 04.5	+0.2
GVZ				S	Sn	15 10 18.1	+0.1
TCW	Tory Channel	1.03	26	P	Pg	15 10 03.9	-0.7
WEL	Wellington	1.18	44	P	Pb	15 10 05.6	-1.6
LTZ	Lake Taylor	1.23	238	P	Pn	15 10 07.6	-0.4
DUWZ	D'Urville Isla	1.35	8	P	Pg	15 10 11.5	+0.8
DUWZ				S	Sb	15 10 27.0	-0.3
MSWZ	Moikau Station	1.38	59	P	Pn	15 10 09.1	-0.9
CAW	Cannon Point	1.46	46	P	Pn	15 10 10.7	-0.5
KIW	Kapiti Island	1.57	36	P	Pn	15 10 12.7	0.0
MTW	Mount Morrison	1.68	55	P	Pn	15 10 12.9	-1.3
OGWZ	Otaki Gorge	1.73	41	P	Pn	15 10 14.5	-0.4
INZ	Inchbonnie	1.76	250	P	Pb	15 10 16.8	-0.2
INZ				S	Sb	15 10 39.2	+0.1
MRZ	Mangatainoka R	2.05	45	P	Pn	15 10 18.4	-0.9
RPZ	Rata Peaks	2.49	230	P	Pn	15 10 25.4	+0.1
AWAZ	Awhitu Peninsu	5.12	9	P	Pn	15 11 03.9	+2.5
MKAZ	Moumakai	5.15	13	P	Pn	15 11 01.5	-0.5
ETAZ	East Tamaki Re	5.26	11	P	Pn	15 11 06.7	+3.2
MBAZ	Motutapu North	5.44	10	P	Pn	15 11 10.4	+4.5
ABAZ	Army Bay	5.60	10	P	Pn	15 11 11.3	+3.2

IDC ***13*** *15:10:24.9±0.9, 41°69S×174°04E, h0km, mb4.3/10, mbtmp4.3/11, ML4.0/1, Error ellipse: s-maj=30.7km s-min=19.9km az=75.0*

WEL ***13*** *15:10:25.0±0.8, 42°S±5°×17°4E±°, h12km±5km, M4.6/12, ML4.9/12, MLv4.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=155.0*

NEIC ***13*** *15:10:26.9±1.9, 41°70S±0°04×174°26E±0°02, h10km±1km, mb4.8/18, Error ellipse: s-maj=6.6km s-min=2.7km az=178.0*

ISC 13 15:10:26.5±0.7, 41°78S±0°03×174°23E±0°02, h12km±4km, n96, σ1$08/112, mb4.6/18, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.03	338	Pg	Pg	15 10 27.7	-1.0
CMWZ				Sg	Sg	15 10 29.7	-0.6
CMWZ	Cape Campbell	0.03	338	P	Pg	15 10 28.0	-0.7
BSWZ	Blackbirch Sta	0.27	283		Pb	15 10 33.0	-0.3
BSWZ				Sg	Sb	15 10 38.9	+1.0
BSWZ	Blackbirch Sta	0.27	283	P	Pb	15 10 33.1	-0.2
BSWZ				S	Sb	15 10 38.6	+0.7
TUWZ	Tuamarina	0.41	328	Pg	Pb	15 10 35.2	-0.4
TUWZ	Tuamarina	0.41	328	P	Pb	15 10 35.6	-0.1
TUWZ				S	Sn	15 10 43.1	+3.1
TCW	Tory Channel	0.57	4	P	Pb	15 10 37.7	-0.6
TCW				S	Sb	15 10 47.1	+0.7
SNZO	South Karori	0.59	38	Pg	Pg	15 10 37.3	-0.6
BHW	Baring Head	0.61	53	P	Pg	15 10 37.9	-0.4
WEL	Wellington	0.64	40	P	Pg	15 10 38.6	-0.3
WEL				S	Sn	15 10 49.4	-1.9
PLWZ	Palliser	0.80	75		Pg	15 10 42.0	+0.1
PLWZ				Sg	Sg	15 10 52.1	-0.3
PLWZ	Palliser	0.80	75	P	Pb	15 10 42.4	+0.1
PLWZ				S	Sn	15 10 55.4	0.0
MSWZ	Moikau Station	0.85	65		Pg	15 10 42.6	-0.3
MSWZ	Moikau Station	0.85	65	P	Pb	15 10 43.4	+0.3
MSWZ				S	Sn	15 10 57.0	+0.4
NNZ	Nelson	0.85	311	Pg	Pb	15 10 43.1	0.0
CAW	Cannon Point	0.92	44	P	Pg	15 10 44.0	-0.2
CAW				S	Sn	15 11 00.2	+1.9
PAWZ	Paruwai Farm	0.98	67	P	Pb	15 10 44.8	-0.7
PAWZ				S	Sn	15 11 00.0	0.0
MTW	Mount Morrison	1.14	58	P	Pb	15 10 47.5	-0.6
MTW				S	Sn	15 11 06.0	+2.2
TRWZ	Traveller	1.16	71	P	Pb	15 10 47.2	-1.2
OGWZ	Otaki Gorge	1.19	37	P	Pb	15 10 48.5	-0.5
OGWZ				S	Sn	15 11 07.2	+2.1
HOWZ	Holdsworth Sta	1.31	48	P	Pn	15 10 50.2	-0.4
HOWZ				S	Sg	15 11 09.3	+0.6
TMWZ	Te Maipa	1.42	62	P	Pn	15 10 51.0	-1.2
MRZ	Mangatainoka R	1.51	43	Pn	Pn	15 10 53.1	-0.3
MRZ	Mangatainoka R	1.51	43	P	Pn	15 10 53.0	-0.3
QRZ	Quartz Range	1.59	306		Pn	15 10 54.7	+0.2
CPWZ	Castlepoint	1.72	60	P	Pn	15 10 54.6	-1.6
LTZ	Lake Taylor	1.77	235		Pn	15 10 57.2	+0.2
OHWZ	Ohakea	1.77	28	P	Pg	15 10 60.0	-0.5
PRWZ	Pori Road	1.79	48	P	Pn	15 10 53.6	-3.7
BFZ	Birch Farm	1.87	55		Pn	15 10 58.1	-0.3
BFZ	Birch Farm	1.87	55	P	Pg	15 11 04.3	+1.9
DVHZ	Dannevirke	2.08	45	P	Pn	15 11 02.1	+0.9
WAZ	Wanganui	2.10	16	P	Pg	15 11 05.8	-1.0
ANWZ	Angora Road	2.15	53	P	Pn	15 11 03.4	+1.3
TSZ	Takapari Road	2.16	38	P	Pb	15 11 04.1	-1.5
PRHZ	Porangahau	2.37	51	P	Pg	15 11 12.7	+0.8
NMEZ	Namu Road	2.38	353	P	Pg	15 11 11.0	-1.0
PNHZ	Pukenui	2.39	39	P	Pn	15 11 06.9	+1.4
WPHZ	Waipukurau	2.40	45	P	Pg	15 11 13.5	+1.1
KHEZ	Kahui Hut	2.49	356	P	Pb	15 11 11.6	+0.5
NEZ	North Egmont	2.51	358	P	Pg	15 11 14.2	-0.3
NBEZ	Newall Road No	2.52	354	P	Pg	15 11 13.3	-1.5
MTVZ	Mangateitei	2.57	22	P	Pg	15 11 15.7	-0.1
DREZ	Durham Road	2.58	360	P	Pb	15 11 13.3	+0.5
PKE	Pukeiti	2.59	356	P	Pb	15 11 13.1	+0.3
PKVZ	Pokaka	2.63	19	P	Pg	15 11 15.6	-1.2
MOVZ	Moawhango	2.64	27	P	Pb	15 11 13.8	+0.1
PXZ	Pawanui	2.65	50	P	Pg	15 11 16.2	-1.1
WNVZ	Wahianoa	2.66	24	P	Pg	15 11 15.5	-2.0
TRVZ	Turoa	2.67	23	P	Pb	15 11 15.5	+1.1
WHVZ	Whangaehu Hut	2.70	23	P	Pb	15 11 15.0	+0.2
FWVZ	Far West T-bar	2.71	22	P	Pb	15 11 15.4	+0.3
NGZ	Ngauruhoe	2.80	22	P	Pb	15 11 17.0	+0.4
SNVZ	South Ngauruho	2.80	23	P	Pb	15 11 16.8	+0.2
TWVZ	Taurewa	2.86	19	P	Pb	15 11 18.3	+0.8
ETVZ	East Tongariro	2.87	24	P	Pb	15 11 18.9	+1.2
KWHZ	Kaweka Forest	2.88	36	P	Pg	15 11 21.2	-0.5
RPZ	Rata Peaks	3.04	229	Pn	Pn	15 11 13.0	-1.3
	22nm,0.3s,baz=50,slow=14,SNR=2.3						
RPZ				Sn	Sn	15 11 49.1	-1.5
	16nm,0.3s,baz=24,slow=19,SNR=2.0 131nm,0.4s						
BKZ	Black Stump Fm	3.13	34	Pn	Pn	15 11 15.8	+0.1
FOZ	Fox Glacier	3.70	240	Pn	Pn	15 11 24.1	+0.7
PYZ	Puysegur Point	6.99	229	Pn	Pn	15 12 10.9	+2.2
MSVF	Nonsavu	24.19	9	P	P	15 15 43.8	+0.9
	8.1nm,1.1s,baz=159,slow=14,SNR=1.8 8.1nm,1.1s						
BBOO	Buckleboo	31.45	274	P	P	15 16 48.1	+0.4
CTA	Charters Tower	32.06	304	P	P	15 16 52.6	-0.6
	9.7nm,1.1s,baz=159,slow=8.6,SNR=3.5 9.7nm,1.1s						
CTAO	Charters Tower	32.06	304	P	P	15 16 52.7	-0.5
VNDA	Vanda	36.22	185	P	P	15 17 28.6	0.0
	0.7nm,1.0s,baz=342,slow=6.4,SNR=2.6 0.7nm,1.0s						
AS31	Alice Springs	38.02	286	P	P	15 17 43.1	-1.5
ASAR	Alice Springs	38.02	286	P	P	15 17 43.4	-1.2
	3.0nm,0.6s,baz=130,slow=8.0,SNR=19						
ASAR				PcP	PcP	15 19 58.8	-1.3
	0.4nm,0.6s,baz=118,slow=4.0,SNR=4.8 3.0nm,0.6s						
COEN	Coen	38.63	307	P	P	15 17 49.5	-0.3
COEN				IAmb	IAmb	15 17 58.8	
	comp=Z,24nm,1.4s						
WR0	Warramunga Arr	39.95	291	P	P	15 18 00.1	-0.6
WB2	Warramunga Arr	40.09	291	P	P	15 18 01.0	-1.0
WB2				IAmb	IAmb	15 18 04.6	
	comp=Z,8.5nm,0.8s						
WRA	Warramunga Arr	40.10	290	P	P	15 18 00.8	-1.2
	comp=Z,4.6nm,0.6s,baz=130,slow=7.6,SNR=21 comp=Z,4.6nm,0.6s						
WRA	Warramunga Arr	40.10	290	P	P	15 18 01.1	-0.9
WB0	Warramunga Arr	40.18	291	P	P	15 18 01.8	-0.8
WB0				IAmb	IAmb	15 18 05.6	
	comp=Z,6.4nm,0.7s						
RABL	Rabaul	42.31	326	P	P	15 18 19.8	-0.4
RABL				IAmb	IAmb	15 18 23.8	
	comp=Z,22nm,0.6s						
KNRA	Kununurra	46.88	290	P	P	15 18 56.8	+0.1
MTN	Manton Dam	47.21	295	P	P	15 18 59.1	-0.2
MTN				IAmb	IAmb	15 19 00.3	
	comp=Z,18nm,0.9s						
MORW	Morawa	48.24	266	P	P	15 19 08.8	+1.6
QSPA	South Pole Qui	48.35	180	P	P	15 19 10.2	+2.5
	comp=Z,4.1nm,0.9s,baz=40,slow=2.7,SNR=10 comp=Z,4.1nm,0.9s						
QSPA	South Pole Qui	48.35	180	P	P	15 19 10.0	+2.2
QSPA				IAmb	IAmb	15 19 24.6	
	comp=Z,7.6nm,0.9s						
PSA00	Pilbara Seismi	49.60	277	P	P	15 19 16.6	-1.1
PSA00				IAmb	IAmb	15 19 20.2	
	comp=Z,6.5nm,0.9

42nm,0.7s
ASAR Alice Springs 38.07 285 P **P** **15 23 08.7 -3.5**
0.3nm,0.7s,baz=124,slow=6.7,SNR=2.7
0.3nm,0.7s
WRA Warramunga Arr 40.14 290 P **P** **15 23 28.0 -1.5**
0.3nm,0.5s,baz=127,slow=8.4,SNR=2.3
0.3nm,0.5s
QSPA South Pole Qui 48.39 180 P **P** **15 24 36.5 +1.3**
1.8nm,1.1s,baz=3.2,slow=5.7,SNR=2.3
1.8nm,1.1s
FINES FINESS Array B 152.55 327 PKPbc **PKiKP** **15 35 52.6 +3.5**
2.6nm,1.0s,baz=48,slow=2.1,SNR=2.0

*IDC **13** 15:16:30.0±2.1,41°.94S×174°.02E,h0km,mb3.7/3, mbtmp3.8/4,ML4.0/1,Error ellipse: s-maj=52.1km s-min=33.3km az=61.0*
*WEL **13** 15:16:31.8±0.3,42°.5±2°×17°.4E±°,h7km±2km,M4.4/17, ML4.6/17,MLv4.4/17,Error ellipse: s-maj=0.0km s-min=0.0km az=98.1*
*NEIC **13** 15:16:31.9±1.0,41°.89S±0°.02×173°.89E±0°.03,h13km±3km, mb4.2/3,Error ellipse: s-maj=3.6km s-min=2.8km az=132.0*

ISC 13 15:16:31.6±0.9,41°.89S±0°.02×173°.85E±0°.03,h14km±6km, n77,σ1s27/87,mb3.6/4,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.17**	**8**		**Pg**	**15 16 35.6**	**-0.2**
BSWZ				Sg	**Sg**	**15 16 39.0**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.17**	**8**	P	**Pg**	**15 16 36.1**	**+0.3**
BSWZ				S	**Sg**	**15 16 39.5**	**+0.9**
CMWZ	**Cape Campbell**	**0.31**	**63**	P	**Pg**	**15 16 37.3**	**-0.7**
CMWZ				S	**Sb**	**15 16 43.1**	**-0.7**
TUWZ	**Tuamarina**	**0.46**	**9**		**Pb**	**15 16 40.7**	**-0.8**
TUWZ	**Tuamarina**	**0.46**	**9**	P	**Pb**	**15 16 40.9**	**-0.6**
TUWZ				S	**Sb**	**15 16 47.9**	**-0.3**
KHZ	**Kahutara**	**0.57**	**203**		**Pb**	**15 16 43.6**	**+0.2**
KHZ	**Kahutara**	**0.57**	**203**	P	**Pb**	**15 16 43.9**	**+0.5**
KHZ				S	**Sn**	**15 16 53.1**	**-1.4**
THZ	**Tophouse**	**0.71**	**280**		**Pn**	**15 16 46.2**	**-1.1**
THZ	**Tophouse**	**0.71**	**280**	P	**Pn**	**15 16 46.9**	**-0.4**
THZ				S	**Sn**	**15 16 57.6**	**-0.4**
TCW	**Tory Channel**	**0.75**	**26**	P	**Pg**	**15 16 45.1**	**-1.1**
TCW				S	**Sg**	**15 16 55.7**	**-0.4**
NNZ	**Nelson**	**0.76**	**332**		**Pn**	**15 16 46.5**	**-1.3**
NNZ	**Nelson**	**0.76**	**332**	P	**Pn**	**15 16 46.8**	**-1.0**
NNZ				S	**Sn**	**15 16 58.6**	**-0.4**
SNZO	**South Karori**	**0.86**	**48**		**Pg**	**15 16 47.5**	**-0.9**
BHW	**Baring Head**	**0.91**	**58**	P	**Pg**	**15 16 47.7**	**-1.4**
WEL	**Wellington**	**0.92**	**49**	P	**Pg**	**15 16 48.4**	**-1.0**
MRNZ	**Matariki Terra**	**0.95**	**301**	P	**Pn**	**15 16 51.4**	**+0.9**
MRNZ				S	**Sn**	**15 17 05.5**	**+1.7**
TKNZ	**Takaka Hill**	**1.08**	**322**	P	**Pn**	**15 16 52.7**	**+0.4**
PLWZ	**Palliser**	**1.10**	**74**	Pn	**Pn**	**15 16 53.5**	**+0.9**
CAW	**Cannon Point**	**1.20**	**50**	P	**Pn**	**15 16 52.4**	**-1.6**
GVZ	**Greta Valley S**	**1.23**	**209**	Pn	**Pg**	**15 16 54.8**	**-0.6**
GVZ	**Greta Valley S**	**1.23**	**209**	P	**Pg**	**15 16 55.5**	**+0.1**
KIW	**Kapiti Island**	**1.30**	**38**	P	**Pn**	**15 16 54.3**	**-1.0**
MTW	**Mount Morrison**	**1.44**	**68**	P	**Pb**	**15 16 57.9**	**-0.3**
OGWZ	**Otaki Gorge**	**1.46**	**43**	P	**Pn**	**15 16 58.1**	**-1.4**
LTZ	**Lake Taylor**	**1.47**	**232**		**Pb**	**15 16 57.9**	**-0.8**
LTZ	**Lake Taylor**	**1.47**	**232**	P	**Pg**	**15 16 58.1**	**-1.7**
AMCZ	**Amberley**	**1.56**	**214**	P	**Pg**	**15 17 01.2**	**-0.4**
TMWZ	**Te Maipa**	**1.72**	**64**	P	**Pg**	**15 17 04.3**	**-0.4**
MRZ	**Mangatainoka R**	**1.79**	**47**	Pn	**Pb**	**15 17 03.5**	**-0.7**
OKCZ	**Okains Bay**	**1.92**	**197**	P	**Pn**	**15 17 02.1**	**-1.8**
OXZ	**Oxford**	**1.96**	**222**	P	**Pg**	**15 17 10.3**	**+1.1**
INZ	**Inchbonnie**	**1.97**	**244**	P	**Pb**	**15 17 06.9**	**-0.2**
CPWZ	**Castlepoint**	**2.02**	**62**	P	**Pg**	**15 17 11.2**	**+0.7**
AKCZ	**Akaroa Harbour**	**2.10**	**199**	P	**Pn**	**15 17 04.9**	**-1.4**
BFZ	**Birch Farm**	**2.17**	**57**	Pn	**Pn**	**15 17 08.2**	**+0.9**
BFZ	**Birch Farm**	**2.17**	**57**	P	**Pg**	**15 17 12.4**	**-0.9**
DVHZ	**Dannevirke**	**2.37**	**49**	P	**Pb**	**15 17 14.9**	**+1.0**
WACZ	**Wakanui South**	**2.53**	**215**	P	**Pn**	**15 17 11.0**	**-1.2**
WVZ	**Waitaha Valley**	**2.59**	**242**	P	**Pb**	**15 17 16.3**	**-1.4**
KHEZ	**Kahui Hut**	**2.59**	**3**	P	**Pb**	**15 17 15.9**	**-2.0**
NBEZ	**Newall Road No**	**2.62**	**4**	P	**Pb**	**15 17 16.9**	**-1.4**
NEZ	**North Egmont**	**2.62**	**4**	P	**Pg**	**15 17 20.5**	**-1.3**
PKE	**Pukeiti**	**2.69**	**2**	P	**Pb**	**15 17 17.9**	**-1.7**
RPZ	**Rata Peaks**	**2.75**	**227**	Pn	**Pn**	**15 17 14.3**	**-0.9**
	26nm,0.3s,baz=90,slow=1.0,SNR=2.1						
RPZ				Sn	**Sn**	**15 17 46.6**	**-1.6**
	64nm,0.3s,baz=27,slow=18,SNR=10						
	89nm,0.4s						
RPZ	**Rata Peaks**	**2.75**	**227**	P	**Pn**	**15 17 14.8**	**-0.4**
ARCZ	**Arundel**	**2.84**	**223**	P	**Pn**	**15 17 15.7**	**-0.8**
MOVZ	**Moawhango**	**2.87**	**31**	P	**Pb**	**15 17 20.3**	**-2.4**
WNWZ	**Wahianoa**	**2.88**	**28**	P	**Pb**	**15 17 20.4**	**-2.5**
TRVZ	**Turoa**	**2.89**	**27**	P	**Pb**	**15 17 22.4**	**-0.7**
DRZ	**Dome Shelter**	**2.92**	**27**	P	**Pb**	**15 17 23.7**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.92**	**28**	P	**Pb**	**15 17 21.9**	**-1.6**
BHHZ	**Black Hill Sta**	**2.93**	**36**	P	**Pb**	**15 17 22.7**	**-0.9**
FWVZ	**Far West T-bar**	**2.93**	**27**	P	**Pb**	**15 17 22.8**	**-1.0**
TUVZ	**Tukino**	**2.96**	**28**	P	**Pb**	**15 17 23.2**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.96**	**240**	P	**Pb**	**15 17 21.0**	**-3.1**
NGZ	**Ngauruhoe**	**3.02**	**27**	P	**Pb**	**15 17 24.1**	**-1.1**
SNVZ	**South Ngauruho**	**3.02**	**27**	P	**Pb**	**15 17 24.9**	**-0.4**
OTVZ	**Oturere**	**3.06**	**28**	P	**Pb**	**15 17 24.6**	**-1.2**
WTVZ	**West Tongariro**	**3.07**	**26**	P	**Pb**	**15 17 26.1**	**+0.1**
ETVZ	**East Tongariro**	**3.10**	**28**	P	**Pb**	**15 17 25.5**	**-1.0**
TMVZ	**Te Maari**	**3.11**	**28**	P	**Pb**	**15 17 25.2**	**-1.5**
NTVZ	**North Tongariro**	**3.12**	**27**	P	**Pb**	**15 17 25.0**	**-1.8**
KWHZ	**Kaweka Forest**	**3.15**	**39**	P	**Pb**	**15 17 27.0**	**-0.3**
KATZ	**Kakaramea**	**3.23**	**26**	P	**Pb**	**15 17 29.3**	**+0.4**
BKZ	**Black Stump Fm**	**3.39**	**37**	P	**Pb**	**15 17 31.1**	**-0.3**
HIZ	**Hauiti**	**3.46**	**13**	P	**Pb**	**15 17 32.2**	**-0.4**
LBZ	**Lake Benmore**	**3.66**	**226**	P	**Pb**	**15 17 34.5**	**-1.6**
JCZ	**Jackson Bay**	**4.31**	**238**	P	**Pn**	**15 17 40.6**	**+3.9**
HHSZ	**Highcliff Hill**	**4.63**	**209**	P	**Pn**	**15 17 39.5**	**-1.6**
ETAZ	**East Tamaki Re**	**5.00**	**10**	P	**Pn**	**15 17 48.8**	**+2.7**
ASAR	**Alice Springs**	**37.78**	**286**	P	**P**	**15 23 49.3**	**+2.0**
	0.4nm,0.5s,baz=125,slow=6.9,SNR=5.2						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**39.87**	**291**	P	**P**	**15 24 06.9**	**+2.0**
	0.6nm,0.6s,baz=129,slow=7.7,SNR=6.0						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**39.87**	**291**	P	**P**	**15 24 06.6**	**+1.7**
WB0	**Warramunga Arr**	**39.95**	**291**	P	**P**	**15 24 05.9**	**+0.4**
WB0				IAmb	IAmb	15 24 15.8	
	comp=Z,2.3nm,0.9s						
QSPA	**South Pole Qui**	**48.24**	**180**	P	**P**	**15 25 12.2**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=359,slow=5.2,SNR=4.7						
	comp=Z,2.8nm,0.9s						
QSPA	**South Pole Qui**	**48.24**	**180**	P	**P**	**15 25 12.2**	**+0.6**
QSPA				IAmb	IAmb	15 25 16.5	
	comp=Z,4.2nm,1.0s						
FINES	**FINESS Array B**	**152.48**	**326**	PKPbc	**PKiKP**	**15 36 26.8**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=20,slow=4.4,SNR=2.0						

*IDC **13** 15:17:41.4±1.3,42°.37S×173°.78E,h0km,mb3.6/4, mbtmp3.7/5,ML4.1/1,Error ellipse: s-maj=35.8km s-min=31.1km az=125.0*
*NEIC **13** 15:17:45.0±2.0,42°.29S±0°.01×173°.64E±0°.02,h10km±2km, mb4.1/3,Error ellipse: s-maj=3.0km s-min=3.0km az=54.0*

ISC 13 15:17:43.9±1.3,42°.35S±0°.06×173°.73E±0°.06,h14km±8km, n25,σ0s78/28,mb3.8/7,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.16**	**243**		**Pg**	**15 17 48.3**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.64**	**10**	Pg	**Pb**	**15 17 56.9**	**0.0**
CMWZ	**Cape Campbell**	**0.70**	**32**	Pg	**Pb**	**15 17 58.4**	**+0.6**
GVZ	**Greta Valley S**	**0.80**	**219**	Pg	**Pn**	**15 18 00.9**	**+0.1**
THZ	**Tophouse**	**0.84**	**313**	Pg	**Pb**	**15 17 60.0**	**-0.4**
TUWZ	**Tuamarina**	**0.93**	**10**	Pg	**Pb**	**15 18 02.1**	**+0.3**
NNZ	**Nelson**	**1.16**	**347**		**Pn**	**15 18 05.9**	**+0.3**
LTZ	**Lake Taylor**	**1.16**	**247**		**Pg**	**15 18 04.8**	**-1.5**
SNZO	**South Karori**	**1.27**	**36**	Pn	**Pg**	**15 18 07.3**	**-1.0**
PLWZ	**Palliser**	**1.38**	**56**	Pn	**Pn**	**15 18 08.5**	**-0.3**
MSWZ	**Moikau Station**	**1.47**	**51**	Pn	**Pn**	**15 18 09.2**	**-0.7**
MQZ	**McQueen's Vall**	**1.57**	**210**	Pn	**Pn**	**15 18 10.6**	**-0.8**
OXZ	**Oxford**	**1.58**	**231**	Pn	**Pn**	**15 18 10.5**	**-1.0**
MRZ	**Mangatainoka R**	**2.18**	**40**	Pn	**Pn**	**15 18 18.7**	**-1.1**
RPZ	**Rata Peaks**	**2.39**	**234**	Pn	**Pn**	**15 18 22.4**	**-0.2**
	40nm,0.3s,baz=0.0,slow=3.0,SNR=1.3						
RPZ				Sn	**Sn**	**15 18 51.7**	**0.0**
	36nm,0.3s,baz=148,slow=20,SNR=8.3						
	150nm,0.4s						
ASAR	**Alice Springs**	**37.82**	**287**	P	**P**	**15 25 00.1**	**+0.1**
	0.4nm,0.6s,baz=122,slow=6.6,SNR=4.1						
ASAR				PcP	**PcP**	**15 27 15.9**	**-0.5**
	0.3nm,0.5s,baz=125,slow=4.0,SNR=5.5						
	0.4nm,0.6s						
WB2	**Warramunga Arr**	**39.94**	**292**	P	**P**	**15 25 18.3**	**+0.5**
WB2				IAmb	IAmb	15 25 20.6	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**39.95**	**292**	P	**P**	**15 25 18.1**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=128,slow=8.5,SNR=6.8						
WRA				PcP	**PcP**	**15 27 22.8**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=125,slow=3.9,SNR=1.2						
	comp=Z,1.2nm,0.7s						
WB0	**Warramunga Arr**	**40.03**	**292**	P	**P**	**15 25 18.9**	**+0.4**
WB0				IAmb	IAmb	15 25 50.4	
	comp=Z,5.4nm,1.1s						
QSPA	**South Pole Qui**	**47.78**	**180**	P	**P**	**15 26 20.3**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=42,slow=12,SNR=0.5						
	comp=Z,0.2nm,0.4s						
BELA	**Belgrano 2**	**58.80**	**173**	P	**P**	**15 27 41.3**	**+0.2**
BELA				IAmb	IAmb	15 28 25.4	
	comp=Z,3.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**91.52**	**294**	P	**P**	**15 30 50.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=150,slow=2.0,SNR=4.1						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**148.20**	**339**	PKPbc	**PKPdf**	**15 37 27.0**	**+2.2**
	comp=Z,5.3nm,1.0s,baz=64,slow=2.1,SNR=3.8						
BRTR	**Keskin Array B**	**149.97**	**279**	PKPbc	**PKPbc**	**15 37 32.9**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=120,slow=4.3,SNR=2.0						
FINES	**FINESS Array B**	**152.81**	**326**	PKPbc	**PKPbc**	**15 37 39.3**	**0.0**
	comp=Z,0.9nm,0.7s,baz=48,slow=2.1,SNR=4.4						

*NEIC **13** 15:19:54.0±1.4,36°.51N±0°.07×70°.59E±0°.05,h194km±6km, mb4.1/9,Error ellipse: s-maj=10.1km s-min=6.2km az=166.0*
*IDC **13** 15:19:56.6±8.9,36°.81N×70°.52E,h195km±61km,mb3.0/2, mbtmp3.8/6,Error ellipse: s-maj=90.6km s-min=49.8km az=167.0*
*NNC **13** 15:19:59.7±2.8,37°.03N×70°.67E,h210km±33km,mb3.0, mpv4.3,Error ellipse: s-maj=25.3km s-min=16.7km az=21.0*

ISC 13 15:19:53.6±0.8,36°.55N±0°.06×70°.73E±0°.08,h200km,n46, σ1s74/52,mb4.0/6,7C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.43**	**215**	Pn	**Pn**	**15 20 35.8**	**-1.1**
CHGR	**Chuyangaron**	**2.44**	**330**		**Pn**	**15 20 36.8**	**0.0**
GAR	**Garm**	**2.46**	**353**	Pn	**Pn**	**15 20 37.5**	**+0.4**
DRK	**Karamyk**	**3.04**	**16**	Pn	**Pn**	**15 20 44.1**	**+0.1**
BTK	**Batken**	**3.50**	**1**	Pn	**Pn**	**15 20 50.0**	**+0.8**
NIL	**Nilore**	**3.56**	**144**	Pn	**Pn**	**15 20 50.2**	**+0.2**
THN	**Thein Dam**	**5.82**	**133**	*eP*	**Pn**	**15 21 18.3**	**-0.2**
THN				*eS*	**Sn**	**15 22 22.0**	**-3.6**
AML	**Almayashu**	**6.03**	**22**	P	**Pn**	**15 21 22.2**	**+0.8**
	SNR=59						
NRN	**Naryn**	**6.37**	**39**		**Pn**	**15 21 25.4**	**-0.5**
UCH	**Uchtor**	**6.38**	**26**	P	**Pn**	**15 21 27.0**	**+1.0**
	SNR=27						
EKS2	**Erlin-Say**	**6.54**	**20**	P	**Pn**	**15 21 28.8**	**+1.0**
	SNR=14						
KK31	**Karatay Array**	**6.54**	**359**		**Pn**	**15 21 27.9**	**+0.1**
KK31	**Karatay Array**	**6.54**	**359**	⇓P	**Pn**	**15 21 28.1**	**+0.4**
	6.2nm,0.2s,baz=172,slow=10,SNR=234						
KK31				⇑S	**Sn**	**15 22 38.9**	**-3.6**
	15nm,0.3s						
KKAR	**Karatay Array**	**6.54**	**359**		**Pn**	**15 21 28.0**	**+0.2**
AAK	**Ala-Archa**	**6.74**	**24**	P	**Pn**	**15 21 31.6**	**+1.1**
	SNR=20						
AAK	**Ala-Archa**	**6.74**	**24**	P	**Pn**	**15 21 31.4**	**+1.0**
	9.9nm,0.3s,baz=180,slow=6.7,SNR=40						
AAK				S	**Sn**	**15 22 46.6**	**-0.6**
	8.6nm,0.4s,baz=327,slow=22,SNR=21						
AAK	**Ala-Archa**	**6.74**	**24**		**Pn**	**15 21 31.1**	**+0.7**
KBK	**Karagaybulak**	**6.91**	**27**	P	**Pn**	**15 21 34.0**	**+1.3**
	SNR=13						
BHK	**Bhakra**	**6.97**	**136**	*eP*	Pn	15 21 39.7	+6.2
BHK				*eS*	**Sn**	**15 22 47.7**	**-4.9**
CHMS	**Chumysh**	**7.14**	**24**	P	**Pn**	**15 21 36.7**	**+1.1**
	SNR=9.3						
CHMS	**Chumysh**	**7.14**	**24**	⇑P	**Pn**	**15 21 36.3**	**+0.7**
	13nm,0.7s						
CHMS				⇑S	**Sn**	**15 22 53.9**	**-2.7**
	14nm,0.9s						
BOOM	**Boomskoye usch**	**7.17**	**33**		**Pn**	**15 21 36.0**	**-0.1**
USP	**Ospenovka**	**7.30**	**22**	P	**Pn**	**15 21 38.3**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**7.38**	**29**	P	**Pn**	**15 21 39.8**	**+0.9**
	SNR=35						
TKM2	**Tokmak 2**	**7.38**	**29**	⇑P	**Pn**	**15 21 39.6**	**+0.7**
	12nm,0.4s						
TKM2				⇑S	**Sn**	**15 23 00.5**	**-2.1**
	6.2nm,0.7s						
MAKZ	**Makanchi**	**13.24**	**36**	Pn	**Pn**	**15 22 55.0**	**+1.1**
MKAR	**Makanchi Array**	**13.38**	**37**	P	**Pn**	**15 22 57.5**	**+1.8**
	1.6nm,0.7s,baz=220,slow=13,SNR=5.5						
MKAR	**Makanchi Array**	**13.38**	**37**	Pn	**Pn**	**15 22 56.4**	**+0.8**
AB31	**Akbulak array**	**14.93**	**332**	P	**Pn**	**15 23 14.6**	**-0.1**
	0.5nm,0.3s,baz=149,slow=14,SNR=15						
AB31				⇑S	**S**	**15 25 54.1**	**-6.3**
	0.5nm,0.5s						
ABKAR	**Akbulak array**	**14.93**	**332**		**Pn**	**15 23 14.6**	**-0.1**
KURBB	**Kurchatov Arra**	**15.14**	**19**	P	**P**	**15 23 19.0**	**+1.2**
	0.4nm,0.3s,baz=208,slow=10,SNR=5.2						
KURK	**Kurchatov**	**15.25**	**19**		**Pn**	**15 23 19.3**	**+0.7**
BRVK	**Borovoye**	**16.51**	**359**		**Pn**	**15 23 35.0**	**+1.3**
BRVK	**Borovoye**	**16.51**	**359**	⇑P	**Pn**	**15 23 34.7**	**+1.0**
	2.1nm,0.9s						
AKTO	**Aktyubinsk**	**16.62**	**331**	⇓P	**Pn**	**15 23 36.0**	**+0.9**
	4.2nm,1.1s						
ZAA0	**Zalesovo Array**	**19.96**	**25**	P	**P**	**15 24 11.3**	**+1.1**
ZAA0				IAmb	IAmb	15 24 12.4	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**19.96**	**25**	P	**P**	**15 24 11.8**	**+1.6**
	comp=Z,3.2nm,0.3s,baz=217,slow=10,SNR=19						
BJT	**Baijiatuan**	**35.55**	**70**	P	**P**	**15 26 31.9**	**+0.4**
FINES	**FINESS Array B**	**37.32**	**326**	P	**P**	**15 26 47.1**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=118,slow=12,SNR=1.4						
	comp=Z,0.7nm,0.6s						
NOA	**NORSAR Array B**	**44.20**	**323**	P	**P**	**15 27 43.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=101,slow=7.2,SNR=1.5						
	comp=Z,0.5nm,0.7s						
TOLK	**Toolik Lake Re**	**70.93**	**15**	P	**P**	**15 30 50.5**	**+1.9**
TOLK				IAmb	IAmb	15 31 19.1	
	comp=Z,8.1nm,1.4s						
A36M	**Sachs Harbour**	**71.17**	**5**	P	**P**	**15 30 52.0**	**+2.1**
A36M				IAmb	IAmb	15 31 19.2	
	comp=Z,5.8nm,1.2s						
BMAR	**Burnt Mountain**	**72.94**	**13**	P	**P**	**15 31 02.3**	**+1.7**
C36M	**Paulatuk**	**73.85**	**5**	P	**P**	**15 31 07.0**	**+1.3**
C36M				IAmb	IAmb	15 31 39.0	
	comp=Z,2.9nm,1.1s						
INK	**Inuvik**	**73.89**	**9**	P	**P**	**15 31 07.8**	**+1.8**
INK				IAmb	IAmb	15 31 45.8	
	comp=Z,5.7nm,1.4s						
MTN	**Manton Dam**	**75.12**	**119**	P	**P**	**15 31 15.3**	**+1.4**

*NEIC **13** 15:21:31.9±1.9,41°.74S±0°.03×174°.36E±0°.03,h10km±1km, mb4.3/3,Error ellipse: s-maj=4.7km s-min=3.2km az=158.0*
*WEL **13** 15:21:32.2±0.5,42°.5±3°×17°.4E±°,h14km±4km,M4.0/15, ML4.2/15,MLv4.0/15,Error ellipse: s-maj=0.0km s-min=0.0km az=142.8*
*IDC **13** 15:21:35.5±2.2,41°.32S×173°.42E,h0km,mb3.4/3, mbtmp3.6/4,ML4.3/1,Error ellipse: s-maj=56.1km s-min=33.5km az=67.0*

ISC 13 15:21:32.4±0.8,41°.70S±0°.03×174°.26E±0°.02,h15km±5km, n81,σ1s47/92,mb3.9/6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.06**	**216**	Pg	**Pg**	**15 21 35.0**	**-0.2**
CMWZ				Sg	**Sg**	**15 21 37.3**	**+0.2**
CMWZ	**Cape Campbell**	**0.06**	**216**	P	**Pg**	**15 21 35.1**	**-0.2**
CMWZ				S	**Sg**	**15 21 37.6**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.29**	**267**	Pg	**Pg**	**15 21 38.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.29**	**267**	P	**Pb**	**15 21 39.2**	**-0.1**
BSWZ				S	**Sb**	**15 21 44.9**	**+0.9**
TUWZ	**Tuamarina**	**0.36**	**318**	Pg	**Pb**	**15 21 41.2**	**+0.6**
TUWZ				Sg	**Sb**	**15 21 47.0**	**+1.0**
TUWZ	**Tuamarina**	**0.36**	**318**	P	**Pb**	**15 21 41.4**	**+0.9**
TUWZ				S	**Sn**	**15 21 48.1**	**-1.9**
TCW	**Tory Channel**	**0.49**	**1**	P	**Pn**	**15 21 43.6**	**-1.3**
TCW				S	**Sn**	**15 21 52.6**	**-0.6**
SNZO	**South Karori**	**0.51**	**41**	Pg	**Pb**	**15 21 42.2**	**-0.9**
BHW	**Baring Head**	**0.54**	**58**	P	**Pn**	**15 21 43.9**	**-1.7**
BHW				S	**Sn**	**15 21 55.6**	**+1.2**
WEL	**Wellington**	**0.56**	**43**	P	**Pn**	**15 21 44.8**	**-1.1**
WEL				S	**Sn**	**15 21 54.1**	**-0.9**
PLWZ	**Palliser**	**0.76**	**80**	Pn	**Pn**	**15 21 47.9**	**-0.8**
PLWZ	**Palliser**	**0.76**	**80**	P	**Pn**	**15 21 47.8**	**-0.8**
PLWZ				S	**Sn**	**15 22 00.4**	**+0.6**
MSWZ	**Moikau Station**	**0.79**	**69**		**Pn**	**15 21 48.7**	**-0.5**
MSWZ	**Moikau Station**	**0.79**	**69**	P	**Pn**	**15 21 48.9**	**-0.2**
MSWZ				S	**Sn**	**15 22 01.9**	**+1.2**
NNZ	**Nelson**	**0.82**	**306**	Pg	**Pn**	**15 21 48.9**	**-0.5**
CAW	**Cannon Point**	**0.85**	**46**	P	**Pn**	**15 21 49.8**	**0.0**
CAW				S	**Sn**	**15 22 03.9**	**+1.8**
PAWZ	**Paruwai Farm**	**0.93**	**70**	P	**Pn**	**15 21 50.6**	**-0.5**
DUWZ	**D'Urville Isla**	**0.93**	**344**	P	**Pn**	**15 21 52.7**	**+1.6**
KIW	**Kapiti Island**	**0.97**	**30**	P	**Pn**	**15 21 51.9**	**+0.4**
MTW	**Mount Morrison**	**1.08**	**60**	P	**Pn**	**15 21 52.8**	**-0.2**
TRWZ	**Traveller**	**1.11**	**75**	P	**Pb**	**15 21 52.6**	**-0.8**
OGWZ	**Otaki Gorge**	**1.12**	**38**	P	**Pg**	**15 21 54.3**	**+0.3**
MRNZ	**Matariki Terra**	**1.17**	**284**	P	**Pg**	**15 21 55.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.24**	**50**	P	**Pg**	**15 21 55.6**	**-0.7**
TMWZ	**Te Maipa**	**1.36**	**65**	P	**Pn**	**15 21 56.3**	**-0.6**
MRZ	**Mangatainoka R**	**1.44**	**44**	P	**Pb**	**15 21 58.4**	**-0.5**
QRZ	**Quartz Range**	**1.57**	**303**	Pn	**Pb**	**15 22 00.7**	**-0.5**
QRZ	**Quartz Range**	**1.57**	**303**	P	**Pg**	**15 22 03.1**	**+0.5**
CPWZ	**Castlepoint**	**1.66**	**62**	P	**Pg**	**15 22 07.7**	**+3.4**
OHWZ	**Ohakea**	**1.69**	**28**	P	**Pg**	**15 22 04.3**	**-0.6**
PRWZ	**Pori Road**	**1.73**	**49**	P	**Pg**	**15 22 05.1**	**-0.4**
POWZ	**Post Office Ro**	**1.73**	**42**	P	**Pg**	**15 22 05.8**	**+0.2**
BFZ	**Birch Farm**	**1.81**	**56**	Pn	**Pn**	**15 22 08.5**	**-1.3**
BFZ	**Birch Farm**	**1.81**	**56**	P	**Pg**	**15 22 07.3**	**+0.1**
DVHZ	**Dannevirke**	**2.01**	**46**	P	**Pg**	**15 22 11.4**	**+0.4**
ANWZ	**Angora Road**	**2.08**	**54**	P	**Pg**	**15 22 13.8**	**+1.5**
TSZ	**Takapari Road**	**2.09**	**39**	P	**Pg**	**15 22 12.0**	**-0.4**
PRHZ	**Porangahau**	**2.30**	**52**	P	**Pg**	**15 22 17.3**	**+0.9**
PNHZ	**Pukenui**	**2.31**	**40**	P	**Pn**	**15 22 09.6**	**-0.4**
WPHZ	**Waipukurau**	**2.32**	**46**	P	**Pg**	**15 22 18.3**	**+1.3**
INZ	**Inchbonnie**	**2.33**	**243**	P	**Pn**	**15 22 08.2**	**-2.0**
AKCZ	**Akaroa Harbour**	**2.39**	**204**	P	**Pn**	**15 22 08.6**	**-2.5**
KHEZ	**Kahui Hut**	**2.41**	**355**	P	**Pg**	**15 22 17.1**	**-1.5**
NBEZ	**Newall Road No**	**2.45**	**353**	P	**Pg**	**15 22 19.9**	**+0.6**
DREZ	**Durham Road**	**2.51**	**359**	P	**Pg**	**15 22 20.1**	**-0.4**
PKE	**Pukeiti**	**2.51**	**355**	P	**Pg**	**15 22 18.4**	**-2.1**
PKVZ	**Pokaka**	**2.55**	**19**	P	**Pg**	**15 22 19.9**	**-1.3**
MOVZ	**Moawhango**	**2.56**	**27**	P	**Pg**	**15 22 19.3**	**-2.2**
PXZ	**Pawanui**	**2.58**	**51**	P	**Pg**	**15 22 21.3**	**-0.6**
TRVZ	**Turoa**	**2.59**	**23**	P	**Pg**	**15 22 21.0**	**-1.1**
BHHZ	**Black Hill Sta**	**2.60**	**32**	P	**Pg**	**15 22 20.9**	**-1.4**
FWVZ	**Far West T-bar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EAZ	Earnscleugh	4.93	225	P	Pn	15 23 50.3	-2.2
TUZ	Tuapeka	5.29	217	P	Pn	15 23 55.5	-1.9
SYZ	Scrubby Hill	5.95	216	P	Pn	15 24 04.9	-1.6
APZ	The Paps	6.70	220	P	Pn	15 24 14.3	-2.6
ASAR	Alice Springs	38.02	286	P	P	15 29 56.5	-0.2
	0.4nm,0.4s,baz=122,slow=6.6,SNR=2.3						
	0.4nm,0.4s						
WB2	Warramunga Arr	40.09	291	P	P	15 30 13.7	-0.4
WRAB	Tennant Creek	40.10	291	P	P	15 30 13.3	-0.8
WRAB				IAmb	IAmb	15 30 26.0	
	comp=Z,10nm,0.9s						
WRA	Warramunga Arr	40.10	291	P	P	15 30 14.0	-0.2
	comp=Z,1.0nm,0.7s,baz=126,slow=8.4,SNR=5.2						
	comp=Z,1.0nm,0.7s						
WB0	Warramunga Arr	40.18	291	P	P	15 30 14.8	0.0
WB0				IAmb	IAmb	15 30 46.4	
	comp=Z,10.0nm,1.3s						
MORW	Morawa	48.23	266	P	P	15 31 18.3	-0.8
QSPA	South Pole Qui	48.30	180	P	P	15 31 22.0	+2.6
	comp=Z,1.6nm,0.7s,baz=47,slow=19,SNR=6.1						
	comp=Z,1.6nm,0.7s						
QSPA	South Pole Qui	48.30	180	P	P	15 31 20.0	+0.5
QSPA				IAmb	IAmb	15 31 37.3	
	comp=Z,4.2nm,1.1s						
PMSA	Palmer Station	64.42	156	P	P	15 33 15.6	+1.5
ARCES	ARCESS Array B	147.84	340	PKPbc	PKPab	15 42 24.9	+0.1
	comp=Z,2.6nm,0.9s,baz=48,slow=1.3,SNR=1.6						
BRTR	Keskin Array B	150.25	279	PKPbc	PKiKP	15 42 31.6	+1.4
	comp=Z,0.3nm,0.6s,baz=106,slow=3.1,SNR=2.2						
FINES	FINESS Array B	152.58	327	PKPbc	PKiKP	15 42 36.3	+2.3
	comp=Z,2.5nm,1.0s,baz=45,slow=0.4,SNR=3.4						

WEL 13 15:22:55.3±0.5, 43°S±2°×17°3E±°, h12km±3km, M4.5/21, ML4.7/7, MLv4.5/21, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.34	63	S	Sb	15 23 09.0	+0.3
GVZ	Greta Valley S	0.40	190	P	Pg	15 23 03.8	+0.5
GVZ				S	Sb	15 23 10.6	+0.2
LTZ	Lake Taylor	0.66	252	P	Pg	15 23 07.8	-0.4
LTZ				S	Sb	15 23 18.7	+0.6
AMCZ	Amberley	0.70	210	P	Pg	15 23 07.9	-0.9
AMCZ				S	Sn	15 23 20.9	-0.8
THZ	Tophouse	0.83	348	P	Pg	15 23 09.6	-1.7
THZ				S	Sn	15 23 24.1	-0.9
OXZ	Oxford	1.10	226	P	Pn	15 23 16.6	+0.1
OXZ				S	Sn	15 23 31.2	-0.4
MQZ	McQueen's Vall	1.18	197	P	Pn	15 23 16.6	-1.1
MQZ				S	Sb	15 23 32.0	-0.9
INZ	Inchbonnie	1.25	263	P	Pg	15 23 20.1	+0.8
INZ				S	Sg	15 23 36.6	+1.0
RACZ	Rakaia	1.36	212	P	Pn	15 23 19.6	-0.5
RACZ				S	Sb	15 23 37.0	-1.1
WACZ	Wakanui South	1.66	214	P	Pn	15 23 23.6	-0.7
WACZ				S	Sn	15 23 44.3	-1.2
WVZ	Waitaha Valley	1.83	253	P	Pn	15 23 26.9	+0.4
WVZ				S	Sb	15 23 51.3	-0.2
RPZ	Rata Peaks	1.90	232	P	Pn	15 23 27.7	+0.2
RPZ				S	Sn	15 23 50.2	-1.2
ARCZ	Arundel	1.98	225	P	Pn	15 23 28.7	+0.1
ARCZ				S	Sn	15 23 52.2	-1.1
FOZ	Fox Glacier	2.61	247	P	Pn	15 23 38.7	+1.4
FOZ				S	Sn	15 24 10.8	+2.0
PYZ	Puysegur Point	5.85	230	P	Pn	15 24 19.1	-2.7

IDC 13 15:24:15.1±4.2, 42°91S×174°13E, h0km, mb3.4/2, mbtmp3.6/3, ML4.4/1, Error ellipse: s-maj=113.1km s-min=49.8km az=153.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	2.39	249	Pn	Pn	15 24 55.4	0.0
	88nm,0.3s,baz=57,slow=3.9,SNR=0.9						
RPZ				Sn	Sn	15 25 22.5	-2.9
	155nm,0.3s,baz=48,slow=22,SNR=9.7						
	259nm,0.4s						
ASAR	Alice Springs	38.27	287	P	P	15 31 36.0	-1.1
	0.2nm,0.5s,baz=128,slow=6.5,SNR=1.5						
	0.2nm,0.5s						
WRA	Warramunga Arr	40.44	292	P	P	15 31 56.1	+0.8
	0.4nm,0.6s,baz=126,slow=8.4,SNR=1.6						
	0.4nm,0.6s						
ARCES	ARCESS Array B	148.83	339	PKPbc	PKPbc	15 44 02.8	-0.5
	4.3nm,0.9s,baz=20,slow=3.2,SNR=2.2						

*IDC **13** 15:24:52.6±1.2, 41°97S×174°12E, h0km, mb4.2/5, mbtmp4.2/6, ML4.3/1, MS5.0/1, Error ellipse: s-maj=38.6km s-min=30.6km az=66.0*

*NEIC **13** 15:24:53.6±2.2, 41°96S±0°02×174°26E±0°03, h10km±1km, mb4.4/10, Error ellipse: s-maj=4.1km s-min=2.9km az=318.0*

*WEL **13** 15:24:55.7±0.5, 42°S±4°×17°4E±°, h10km±3km, M4.5/21, ML4.7/21, MLv4.5/21, Error ellipse: s-maj=0.0km s-min=0.0km az=176.0*

ISC 13 15:24:55.1±0.8, 41°81S±0°05×174°30E±0°02, h15km±4km, n114, σ1s00/114, mb4.3/10, Cook Strait

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.09	315		Pg	15 24 57.8	-0.4
CMWZ				Sg	Sg	15 25 00.5	+0.2
CMWZ	Cape Campbell	0.09	315	P	Pg	15 24 58.2	0.0
CMWZ				S	Sg	15 25 00.1	-0.2
BSWZ	Blackbirch Sta	0.33	287		Pg	15 25 02.4	+0.5
BSWZ	Blackbirch Sta	0.33	287	P	Pg	15 25 02.0	+0.1
BSWZ				S	Sb	15 25 08.6	+0.7
TUWZ	Tuamarina	0.47	325		Pb	15 25 05.1	+0.1
TUWZ				Sg	Sb	15 25 11.1	-0.6
TUWZ	Tuamarina	0.47	325	P	Pb	15 25 05.1	+0.1
TUWZ				S	Sb	15 25 11.3	-0.4
SNZO	South Karori	0.59	31	Pg	Pg	15 25 06.3	-0.3
BHW	Baring Head	0.59	47	P	Pg	15 25 06.4	-0.2
TCW	Tory Channel	0.60	358	P	Pg	15 25 06.3	-0.6
TCW				S	Sb	15 25 15.1	-0.4
WEL	Wellington	0.64	34	P	Pg	15 25 07.7	+0.2
PLWZ	Palliser	0.76	72		Pb	15 25 10.8	+0.8
PLWZ	Palliser	0.76	72	P	Pb	15 25 11.1	+1.2
PLWZ				S	Sn	15 25 23.1	+0.7
MSWZ	Moikau Station	0.82	61	Pg	Pg	15 25 11.4	+0.5
MSWZ	Moikau Station	0.82	61	P	Pb	15 25 11.8	+0.8
MSWZ				S	Sn	15 25 24.3	+0.5
KHZ	Kahutara	0.83	223		Pg	15 25 05.2	-5.9
CAW	Cannon Point	0.91	40	P	Pg	15 25 12.5	-0.2
NNZ	Nelson	0.91	310	Pg	Pg	15 25 12.8	+0.1
NNZ	Nelson	0.91	310	P	Pb	15 25 12.9	+0.3
PAWZ	Paruwai Farm	0.95	63	P	Pg	15 25 13.5	0.0
THZ	Tophouse	1.04	272	Pg	Pg	15 25 14.8	-0.5
DUWZ	D'Urville Isla	1.05	344	P	Pn	15 25 16.1	+0.8
KIW	Kapiti Island	1.06	26	P	Pg	15 25 14.8	-0.7
TRWZ	Traveller	1.12	69	P	Pb	15 25 16.0	-0.1
OGWZ	Otaki Gorge	1.19	34	P	Pb	15 25 17.1	-0.2
TKNZ	Takaka Hill	1.27	307	P	Pg	15 25 20.0	+0.4
TMWZ	Te Maipa	1.39	60	P	Pn	15 25 19.5	-0.4
GVZ	Greta Valley S	1.49	219		Pn	15 25 17.8	-3.5
GVZ	Greta Valley S	1.49	219	P	Pn	15 25 18.2	-3.1
MRZ	Mangatainoka R	1.50	40	Pn	Pn	15 25 21.4	-0.1
MRZ	Mangatainoka R	1.50	40	P	Pn	15 25 21.9	+0.4
TIWZ	Tintock	1.58	50	P	Pn	15 25 23.1	+0.5
QRZ	Quartz Range	1.66	306	P	Pb	15 25 25.8	+0.5
CPWZ	Castlepoint	1.69	58	P	Pn	15 25 24.0	0.0
OHWZ	Ohakea	1.78	26	P	Pb	15 25 27.9	+0.5
PRWZ	Pori Road	1.78	46	P	Pn	15 25 25.9	+0.6
LTZ	Lake Taylor	1.79	237	Pn	Pn	15 25 22.1	-3.4
POWZ	Post Office Ro	1.80	38	P	Pn	15 25 25.9	+0.3
BFZ	Birch Farm	1.85	53	Pn	Pn	15 25 26.8	+0.5
BFZ	Birch Farm	1.85	53	P	Pn	15 25 27.0	+0.8
DVHZ	Dannevirke	2.07	44	P	Pn	15 25 28.9	-0.3
WAZ	Wanganui	2.12	14	P	Pb	15 25 34.2	+1.0
ANWZ	Angora Road	2.13	51	P	Pg	15 25 35.8	0.0
TSZ	Takapari Road	2.16	36	P	Pb	15 25 34.9	+1.1
MQZ	McQueen's Vall	2.25	212	Pn	Pn	15 25 27.1	-4.6
MQZ	McQueen's Vall	2.25	212	P	Pn	15 25 27.4	-4.3
PRHZ	Porangahau	2.35	50	P	Pg	15 25 41.0	+0.9
PNHZ	Pukenui	2.38	38	P	Pn	15 25 33.5	-0.2
WPHZ	Waipukurau	2.38	44	P	Pg	15 25 40.5	-0.2
KHEZ	Kahui Hut	2.53	355	P	Pb	15 25 40.8	+0.6
NBEZ	Newall Road No	2.56	352	P	Pg	15 25 43.1	-1.1
MTVZ	Mangateitei	2.58	21	P	Pb	15 25 41.6	+0.5
DREZ	Durham Road	2.62	358	P	Pb	15 25 41.3	-0.5
PKE	Pukeiti	2.63	355	P	Pb	15 25 41.8	0.0
PXZ	Pawanui	2.63	48	P	Pg	15 25 44.7	-0.8
PKVZ	Pokaka	2.64	18	P	Pb	15 25 42.9	+0.8
MOVZ	Moawhango	2.65	25	P	Pb	15 25 40.9	-1.3
WNVZ	Wahianoa	2.67	22	P	Pb	15 25 43.0	+0.3
BHHZ	Black Hill Sta	2.68	31	P	Pb	15 25 43.3	+0.5
TRVZ	Turoa	2.69	21	P	Pb	15 25 43.3	+0.4
DRZ	Dome Shelter	2.71	21	P	Pb	15 25 44.2	+0.7
WHVZ	Whangaehu Hut	2.71	22	P	Pb	15 25 43.4	0.0
FWVZ	Far West T-bar	2.73	21	P	Pb	15 25 43.7	0.0
TUVZ	Tukino	2.74	23	P	Pn	15 25 41.1	+2.4
NGZ	Ngauruhoe	2.81	21	P	Pb	15 25 46.0	+0.8
SNVZ	South Ngauruho	2.82	22	P	Pb	15 25 45.2	0.0
OTVZ	Oturere	2.84	22	P	Pb	15 25 46.1	+0.5
NNVZ	North Ngauruho	2.86	21	P	Pb	15 25 46.4	+0.5
WTVZ	West Tongariro	2.87	20	P	Pb	15 25 46.7	+0.7
TWVZ	Taurewa	2.87	18	P	Pb	15 25 46.4	+0.3
KWHZ	Kaweka Forest	2.88	35	P	Pb	15 25 47.4	+1.2
ETVZ	East Tongariro	2.88	22	P	Pb	15 25 46.4	+0.2
TMVZ	Te Maari	2.90	22	P	Pb	15 25 46.6	0.0
KRVZ	Karewarewa	2.90	21	P	Pb	15 25 47.0	+0.4
NTVZ	North Tongarir	2.91	22	P	Pb	15 25 46.8	+0.1
KATZ	Kakaramea	3.03	21	P	Pb	15 25 49.5	+0.7
RPZ	Rata Peaks	3.05	230	Pn	Pn	15 25 38.2	-4.6
	44nm,0.3s,baz=68,slow=13,SNR=1.2						
RPZ				Sn	Sn	15 26 07.9	-11
	44nm,0.3s,baz=344,slow=6.5,SNR=1.5						
	200nm,0.5s						
BKZ	Black Stump Fm	3.13	33	P	Pb	15 25 51.4	+1.0
RATZ	Rangitukua	3.15	21	P	Pb	15 25 51.8	+1.0
HATZ	Hinemaiaia	3.22	26	P	Pb	15 25 51.9	-0.1
WATZ	Wairara	3.29	20	P	Pb	15 25 53.3	+0.1
HIZ	Hauiti	3.32	8	P	Pb	15 25 52.5	-1.2
MRHZ	Matea Rd	3.39	29	P	Pb	15 25 54.8	0.0
ALRZ	Allen Road	3.60	26	P	Pb	15 25 57.4	-1.1
TLZ	Tolley Road	3.61	16	P	Pb	15 25 56.7	-1.8
HRRZ	Handcock Road	3.74	25	P	Pb	15 25 59.7	-1.2
HSRZ	Hossack Road	3.80	24	P	Pb	15 26 01.4	-0.5
RRRZ	Republican Roa	3.86	27	P	Pb	15 26 00.5	-2.4
TOZ	Tahuroa Road	4.18	13	P	Pb	15 26 05.2	-3.1
OPRZ	Ohinepanea	4.33	24	P	Pn	15 26 01.6	+1.3
AWAZ	Awhitu Peninsu	4.75	3	P	Pn	15 26 10.0	+3.9
HHSZ	Highcliff Hill	4.87	212	P	Pn	15 26 03.6	-4.2
ETAZ	East Tamaki Re	4.88	6	P	Pn	15 26 10.9	+3.1
WTAZ	Waiatarua	4.88	3	P	Pn	15 26 14.4	+6.5
OUENC	Ouen Island, N	20.33	340	P	P	15 29 32.3	+1.6
OUENC				IAmb	IAmb	15 30 12.5	
	comp=Z,46nm,1.4s						
MSVF	Nonsavu	24.21	9	P	P	15 30 11.8	+0.5
MSVF				IAmb	IAmb	15 30 26.1	
	comp=Z,17nm,1.2s						
AS31	Alice Springs	38.08	286	P	P	15 32 11.3	-2.0
ASAR	Alice Springs	38.08	286	P	P	15 32 12.2	-1.1
	comp=Z,1.9nm,0.8s,baz=121,slow=6.1,SNR=9.3						
ASAR				PcP	PcP	15 34 27.5	-0.8
	comp=Z,0.4nm,0.7s,baz=123,slow=4.5,SNR=2.9						
	comp=Z,1.9nm,0.8s						
ASAR	Alice Springs	38.08	286	P	P	15 32 11.4	-1.9
WB2	Warramunga Arr	40.15	290	P	P	15 32 29.1	-1.4
WB2				IAmb	IAmb	15 32 30.8	
	comp=Z,5.8nm,0.9s						
WRA	Warramunga Arr	40.16	290	P	P	15 32 30.0	-0.7
	comp=Z,3.0nm,0.8s,baz=131,slow=7.5,SNR=11						
	comp=Z,3.0nm,0.8s						
WRA	Warramunga Arr	40.16	290	P	P	15 32 29.4	-1.3
WB0	Warramunga Arr	40.24	291	P	P	15 32 30.1	-1.2
WB0				IAmb	IAmb	15 32 39.9	
	comp=Z,11nm,1.4s						
MTN	Manton Dam	47.27	295	P	P	15 33 27.7	-0.2
FITZ	Fitzroy Crossi	47.57	285	P	P	15 33 29.6	-0.5
QSPA	South Pole Qui	48.31	180	P	P	15 33 34.6	-0.9
	comp=Z,2.2nm,0.6s,baz=76,slow=4.2,SNR=6.1						
QSPA				LR	LR	15 50 57.0	
	comp=Z,2µm,21.6s,baz=347,slow=32						
	comp=Z,2.2nm,0.6s						
PSA00	Pilbara Seismi	49.66	276	P	P	15 33 45.2	-1.0
PSA00				IAmb	IAmb	15 33 45.7	
	comp=Z,3.2nm,0.8s						
MBWA	Marble Bar	49.99	277	P	P	15 33 47.8	-1.0
SNAA	Sanae	66.80	181	P	P	15 35 45.2	-0.4
SNAA				IAmb	IAmb	15 35 56.2	
	comp=Z,3.6nm,1.1s						
KSRS	Korea Array	89.53	325	P	P	15 37 52.2	+0.9
	comp=Z,1.1nm,0.7s,baz=137,slow=5.2,SNR=3.4						
	comp=Z,1.1nm,0.7s						
CMAR	Chiang Mai Arr	91.70	293	P	P	15 38 02.2	+0.2
	comp=Z,1.3nm,0.8s,baz=153,slow=3.5,SNR=8.9						
	comp=Z,1.3nm,0.8s						
KBZ	Khabaz	144.68	290	PKP	PKPab	15 44 30.3	+0.9
	comp=Z,1.6nm,0.8s,baz=105,slow=5.6,SNR=2.5						
ARCES	ARCESS Array B	147.85	340	PKPbc	PKPdf	15 44 37.5	+2.2
	comp=Z,2.1nm,0.6s,baz=9.8,slow=2.2,SNR=10						
BRTR	Keskin Array B	150.31	279	PKPbc	PKPbc	15 44 44.9	-0.6
	comp=Z,1.7nm,0.8s,baz=124,slow=5.8,SNR=5.9						
FINES	FINESS Array B	152.61	327	PKPbc	PKPbc	15 44 49.0	-0.9
	comp=Z,1.3nm,0.6s,baz=64,slow=3.2,SNR=6.2						

WEL 13 15:30:24.6±1.0, 43°S±5°×17°3E±°, h13km±2km, M3.9/14, ML4.0/14, MLv3.9/14, Error ellipse: s-maj=0.0km s-min=0.0km az=41.5, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.39	195	P	Pb	15 30 33.9	+0.5
GVZ				S	Sb	15 30 40.9	+1.5
AMCZ	Amberley	0.70	213	P	Pb	15 30 39.4	+0.8
AMCZ				S	Sn	15 30 50.6	-0.4
OXZ	Oxford	1.11	228	P	Pb	15 30 45.4	-0.3
OXZ				S	Sn	15 31 01.1	0.0
MQZ	McQueen's Vall	1.18	198	P	Pn	15 30 46.0	-0.8
MQZ				S	Sb	15 31 01.6	-0.4
INZ	Inchbonnie	1.28	263	P	Pg	15 30 49.1	-0.1
INZ				S	Sg	15 31 06.6	+0.8
RACZ	Rakaia	1.36	213	P	Pn	15 30 48.9	-0.5
RACZ				S	Sn	15 31 07.3	-0.1
WACZ	Wakanui South	1.66	215	P	Pn	15 30 53.0	-0.5
WACZ				S	Sn	15 31 14.6	-0.1
WVZ	Waitaha Valley	1.85	254	P	Pn	15 30 56.9	+0.8
ARCZ	Arundel	1.99	226	P	Pn	15 30 57.5	-0.5
ARCZ				S	Sn	15 31 22.8	0.0
GCSZ	Gaunt Creek Bo	2.21	250	P	Pn	15 31 02.2	+1.2
TMZ	Timaru	2.38	221	P	Pn	15 31 02.8	-0.6
FOZ	Fox Glacier	2.63	248	P	Pn	15 31 08.7	+1.9
LBZ	Lake Benmore	2.82	229	P	Pn	15 31 09.0	-0.4
ODZ	Otahua Downs	3.06	216	P	Pn	15 31 11.8	-0.9
EAZ	Earnscleugh	3.84	225	P	Pn	15 31 22.2	-1.2
MLZ	Mavora Lakes	4.58	231	P	Pn	15 31 31.9	-1.7
SYZ	Scrubby Hill	4.88	215	P	Pn	15 31 37.1	-0.6
APZ	The Paps	5.62	219	P	Pn	15 31 47.5	-0.4

*WEL **13** 15:33:00, 41°77S×174°24E, h11km, ML5.3, Mw5.1, Moment Tensor Solution. s7 Moment tensor: Scale 10^{16} Nm; M_{rr}1.88; $M_{\theta\theta}$4.90; $M_{\phi\phi}$-6.78; $M_{r\theta}$-0.30; $M_{\theta\phi}$1.41; $M_{\phi r}$0.76; Fault plane solution: $M_0$6.05000×10^{16} NP1: ϕ_s218.00000°, δ84.00000°, λ-179.00000°. NP2: ϕ_s128.00000°, δ89.00000°, λ-6.00000°. Principal axes: T -7019.4000, Plg4.0000°, Azm173.0000°; N 5082.3800, Plg84.0000°, Azm298.0000°; P 1937.0200, Plg5.0000°, Azm83.0000°;*

*IDC **13** 15:33:02.6±0.7, 41°65S×174°07E, h0km, mb4.6/15, mbtmp4.6/16, ML4.9/1, MS4.6/1 Error ellipse: s-maj=21.0km s-min=15.0km az=79.0*

*NEIC **13** 15:33:03.2±1.8, 41°86S±0°04×174°29E±0°05, h12km±3km, mb5.0/39, Mwr5.1/33, Error ellipse: s-maj=6.3km s-min=4.8km az=152.0*

*NEIC **13** 15:33:04.1, 41°86S×174°25E, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07; $M_{\theta\theta}$4.01; $M_{\phi\phi}$-3.93; $M_{r\theta}$-0.75; $M_{\theta\phi}$1.68; $M_{\phi r}$2.21; Fault plane solution: $M_0$4.90000×10^{16} NP1:ϕ_s216.30000°, δ70.05000°, λ-165.68000°. NP2:ϕ_s121.32000°, δ76.55000°, λ-20.54000°. Principal axes: T 4.3699, Plg4.0000°, Azm170.0000°; N 0.9334, Plg66.0000°, Azm269.0000°; P -5.3033, Plg24.0000°, Azm78.0000°;*

*WEL **13** 15:33:04.7±0.4, 42°S±3°×17°4E±°, h7km±3km, M5.5/102, ML5.6/18, MLv5.5/102 Error ellipse: s-maj=0.0km s-min=0.0km az=136.7*

ISC 13 15:33:03.9±0.8, 41°81S±0°02×174°22E±0°02, h13km±4km, n238, σ1s36/251, mb4.9/32, 3C, Cook Strait

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	354	Pg	Pg	15 33 06.5	+0.1
CMWZ	Cape Campbell	0.06	354	P	Pg	15 33 06.7	+0.3
CMWZ				S	Sg	15 33 08.5	+0.3
BSWZ	Blackbirch Sta	0.27	289	Pg	Pb	15 33 10.1	-0.6
BSWZ	Blackbirch Sta	0.27	289	P	Pb	15 33 10.3	-0.4
BSWZ				S	Sb	15 33 15.2	-0.1
TUWZ	Tuamarina	0.43	331		Pb	15 33 13.0	-0.3
TUWZ	Tuamarina	0.43	331	P	Pb	15 33 13.3	0.0
TUWZ				S	Sb	15 33 19.9	+0.2
TCW	Tory Channel	0.60	4	P	Pb	15 33 16.1	-0.1
TCW				S	Sb	15 33 24.9	+0.4
SNZO	South Karori	0.61	36		Pb	15 33 16.5	+0.1
BHW	Baring Head	0.63	51	P	Pb	15 33 17.4	+0.7
BHW				S	Sn	15 33 28.2	-0.2
WEL	Wellington	0.66	38	P	Pn	15 33 17.9	-1.0
WEL				S	Sn	15 33 28.1	-1.2
KHZ	Kahutara	0.79	220	Pn	Pb	15 33 20.3	+0.8
KHZ	Kahutara	0.79	220	P	Pn	15 33 21.3	+0.6
KHZ				S	Sn	15 33 34.4	+2.0
PLWZ	Palliser	0.81	73	Pn	Pb	15 33 20.0	+0.2
PLWZ	Palliser	0.81	73	P	Pn	15 33 21.4	+0.3
PLWZ				S	Sn	15 33 35.9	+2.9
MSWZ	Moikau Station	0.86	64		Pn	15 33 21.4	-0.4
MSWZ	Moikau Station	0.86	64	P	Pn	15 33 22.2	+0.4
MSWZ				S	Sn	15 33 36.3	+2.0
NNZ	Nelson	0.86	313		Pb	15 33 20.6	-0.1
NNZ	Nelson	0.86	313	P	Pn	15 33 21.0	-0.7
NNZ				S	Sn	15 33 32.9	-1.3
CAW	Cannon Point	0.94	43	P	Pn	15 33 22.8	0.0
CAW				S	Sn	15 33 35.9	-0.3
THZ	Tophouse	0.98	272	Pn	Pn	15 33 23.5	0.0
THZ	Tophouse	0.98	272	P	Pn	15 33 23.8	+0.3
THZ				S	Sn	15 33 37.8	+0.5
PAWZ	Paruwai Farm	1.00	65	P	Pn	15 33 23.9	+0.3
DUWZ	D'Urville Isla	1.03	347	P	Pn	15 33 23.8	-0.2
DUWZ				S	Sn	15 33 39.0	+0.7
KIW	Kapiti Island	1.08	29	P	Pn	15 33 24.9	+0.2
KIW				S	Sn	15 33 40.0	+0.5
MTW	Mount Morrison	1.16	56	P	Pg	15 33 26.0	-0.2
MRNZ	Matariki Terra	1.17	290	P	Pg	15 33 27.5	+1.1
TRWZ	Traveller	1.17	70	P	Pn	15 33 25.9	-0.1
OGWZ	Otaki Gorge	1.22	36	P	Pg	15 33 27.4	+0.1
OGWZ				S	Sg	15 33 43.3	+0.1
TKNZ	Takaka Hill	1.22	309	P	Pg	15 33 27.8	+0.4
HOWZ	Holdsworth Sta	1.33	47	P	Pb	15 33 28.6	-0.1
TMWZ	Te Maipa	1.44	61	P	Pn	15 33 29.5	-0.1
GVZ	Greta Valley S	1.46	217	P	Pb	15 33 31.0	+0.2
MRZ	Mangatainoka R	1.54	42	P	Pb	15 33 31.4	-0.8
QRZ	Quartz Range	1.61	307	P	Pg	15 33 34.4	-0.3
TIWZ	Tintock	1.62	51	P	Pn	15 33 32.4	+0.2
CPWZ	Castlepoint	1.74	60	P	Pb	15 33 34.7	-1.0
LTZ	Lake Taylor	1.75	235	Pn	Pn	15 33 34.4	+0.5
LTZ	Lake Taylor	1.75	235	P	Pn	15 33 34.8	+0.9
AMCZ	Amberley	1.79	220	P	Pg	15 33 38.2	-0.1
OHWZ	Ohakea	1.80	28	P	Pb	15 33 36.8	+0.1
PRWZ	Pori Road	1.82	47	P	Pn	15 33 35.0	+0.2
POWZ	Post Office Ro	1.83	40	P	Pn	15 33 35.9	+0.8
BFZ	Birch Farm	1.90	54	Pn	Pn	15 33 35.2	-0.7
BFZ	Birch Farm	1.90	54	P	Pn	15 33 35.6	-0.3
OKCZ	Okains Bay	2.10	204	P	Pn	15 33 38.4	-0.4
DVHZ	Dannevirke	2.10	45	P	Pn	15 33 38.4	-0.4
WAZ	Wanganui	2.13	16	P	Pb	15 33 42.7	+0.4
ANWZ	Angora Road	2.17	52	P	Pn	15 33 39.7	0.0
TSZ	Takapari Road	2.19	38	P	Pn	15 33 40.4	+0.4
OXZ	Oxford	2.21	226		Pn	15 33 39.8	-0.6
OXZ	Oxford	2.21	226	P	Pb	15 33 43.2	-0.5
MQZ	McQueen's Vall	2.22	211		Pn	15 33 39.1	-1.3
MQZ	McQueen's Vall	2.22	211	P	Pn	15 33 39.5	-0.9
INZ	Inchbonnie	2.26	245	P	Pb	15 33 43.2	-1.2
LREZ	Lake Rotokare	2.35	3	P	Pb	15 33 46.5	+0.5
PRHZ	Porangahau	2.39	51	P	Pn	15 33 42.1	-0.6
NMEZ	Namu Road	2.41	354	P	Pb	15 33 47.4	+0.4
PNHZ	Pukenui	2.41	39	P	Pn	15 33 43.0	-0.1
WPHZ	Waipukurau	2.42	45	P	Pn	15 33 43.3	+0.2
RACZ	Rakaia	2.46	218	P	Pn	15 33 43.8	+0.2
KHEZ	Kahui Hut	2.51	356	P	Pb	15 33 48.8	-0.2
NEZ	North Egmont	2.54	358	P	Pb	15 33 49.5	+0.3
NBEZ	Newall Road No	2.55	354	P	Pb	15 33 48.4	-1.1
MTVZ	Mangateitei	2.60	22	P	Pb	15 33 48.3	-2.0
DREZ	Durham Road	2.62	360	P	Pb	15 33 50.0	-0.6
PKE	Pukeiti	2.62	356	P	Pb	15 33 49.2	-1.5
PKVZ	Pokaka	2.66	19	P	Pb	15 33 49.1	-2.2
MOVZ	Moawhango	2.67	26	P	Pn	15 33 47.7	+1.1
PXZ	Pawanui	2.67	49	P	Pn	15 33 46.0	-0.6
WNVZ	Wahianoa	2.69	23	P	Pb	15 33 49.2	-2.7
TRVZ	Turoa	2.70	22	P	Pb	15 33 50.2	-2.0
BHHZ	Black Hill Sta	2.71	32	P	Pn	15 33 48.4	+1.3
DRZ	Dome Shelter	2.73	22	P	Pb	15 33 50.9	-1.8
MHEZ	Mangahewa	2.73	2	P	Pb	15 33 52.2	-0.3
WHVZ	Whangaehu Hut	2.73	23	P	Pn	15 33 49.7	+2.2
FWVZ	Far West T-bar	2.74	22	P	Pn	15 33 49.8	+2.0
TUVZ	Tukino	2.76	24	P	Pn	15 33 49.7	+1.8
WACZ	Wakanui South	2.76	219	P	Pn	15 33 48.1	+0.3
NGZ	Ngauruhoe	2.83	22	P	Pn	15 33 51.0	+2.1
SNVZ	South Ngauruho	2.83	23	P	Pn	15 33 51.0	+2.1
KAHZ	Kahuranaki	2.85	46	P	Pn	15 33 48.4	-0.6
OTVZ	Oturere	2.86	23	P	Pn	15 33 51.4	+2.1
WVZ	Waitaha Valley	2.87	243	P	Pb	15 33 52.7	-2.3
NNVZ	North Ngauruho	2.88	22	P	Pb	15 33 52.1	-3.1
WTVZ	West Tongariro	2.88	22	P	Pb	15 33 54.8	-0.5
TWVZ	Taurewa	2.89	19	P	Pn	15 33 51.6	+2.0
ETVZ	East Tongariro	2.90	24	P	Pn	15 33 52.0	+2.2
KWHZ	Kaweka Forest	2.91	36	P	Pn	15 33 50.2	+0.3
TMVZ	Te Maari	2.92	23	P	Pn	15 33 51.9	+1.8
KRVZ	Karewarewa	2.92	22	P	Pn	15 33 52.5	+2.5
NTVZ	North Tongarir	2.92	23	P	Pn	15 33 51.9	+1.8
RPZ	Rata Peaks	3.01	230	Pn	Pn	15 33 50.8	-0.5
	160nm,0.3s,baz=38,slow=18,SNR=17						
RPZ				Sn	Sn	15 34 28.1	+0.8
	88nm,0.3s,baz=67,slow=19,SNR=11						
	1µm,0.5s						
RPZ	Rata Peaks	3.01	230		Pn	15 33 51.1	-0.3
RPZ	Rata Peaks	3.01	230	P	Pn	15 33 52.0	+0.6
KATZ	Kakaramea	3.04	22	P	Pb	15 33 56.2	-1.8
ARCZ	Arundel	3.10	225	P	Pn	15 33 53.1	+0.6
BKZ	Black Stump Fm	3.15	34	Pn	Pn	15 33 53.5	+0.2
BKZ	Black Stump Fm	3.15	34	P	Pn	15 33 53.7	+0.4
RATZ	Rangitukua	3.17	22	P	Pb	15 33 59.5	-0.6
HATZ	Hinemaiaia	3.24	27	P	Pb	15 34 01.8	+0.4
GCSZ	Gaunt Creek Bo	3.25	241	P	Pb	15 33 58.4	-3.0
WATZ	Wairara	3.30	21	P	Pn	15 33 57.9	+2.6
ARHZ	Aropaoanui	3.31	41	P	Pn	15 33 55.0	-0.3
HIZ	Hauiti	3.33	9		Pn	15 33 56.7	+1.1
HIZ	Hauiti	3.33	9	P	Pn	15 33 58.5	+2.9
WHTZ	Whakaora	3.41	24	P	Pb	15 34 03.7	-0.5
MRHZ	Matea Rd	3.41	30	P	Pn	15 33 56.4	-0.4
TLZ	Tolley Road	3.62	17	P	Pn	15 34 01.4	+1.8
ALRZ	Allen Road	3.62	27	P	Pn	15 33 59.9	+0.2
FOZ	Fox Glacier	3.68	241	P	Pn	15 34 02.5	+2.1
HRRZ	Handcock Road	3.76	26	P	Pn	15 34 02.4	+0.8
HSRZ	Hossack Road	3.82	25	P	Pn	15 34 02.7	+0.3
RTZ	Ruatahuna	3.82	34	P	Pn	15 34 02.5	0.0
KNZ	Kokohu	3.83	45	P	Pn	15 34 01.1	-1.4
MUGZ	Murupara	3.86	31	P	Pn	15 34 03.6	+0.7
MHGZ	Mahia Peninsul	3.86	48	P	Pn	15 34 03.2	+0.2
RRRZ	Republican Roa	3.88	28	P	Pn	15 34 03.2	-0.1
HLRZ	Highlands Stat	3.91	25	P	Pn	15 34 05.8	+2.1
LBZ	Lake Benmore	3.92	228		Pn	15 34 04.0	+0.2
LBZ	Lake Benmore	3.92	228	P	Pn	15 34 05.7	+1.9
TARZ	Mount Tarawera	3.97	27	P	Pn	15 34 04.5	-0.1
OMRZ	Omania	4.05	25	P	Pn	15 34 09.2	+3.7
EDRZ	Edgecumbe	4.17	28	P	Pn	15 34 06.5	-0.8
KMRZ	Kaimai	4.17	19	P	Pn	15 34 08.7	+1.4
TOZ	Tahuroa Road	4.19	14	P	Pn	15 34 09.3	+1.9
MARZ	Manawahe	4.26	27	P	Pn	15 34 07.9	-0.5
MWZ	Matawai	4.30	37	P	Pn	15 34 08.7	-0.3
OPRZ	Ohinepanea	4.35	25	P	Pn	15 34 09.3	-0.3
TGRZ	Tauranga	4.37	22	P	Pn	15 34 10.5	+0.7
WHRZ	Whale Island	4.48	29	P	Pn	15 34 15.3	+3.9
JCZ	Jackson Bay	4.59	239	P	Pn	15 34 15.9	+2.9
RUGZ	Raukumara Rang	4.67	36	P	Pn	15 34 13.6	-0.5
AWAZ	Awhitu Peninsu	4.75	4	P	Pn	15 34 17.8	+2.7
MKAZ	Moumakai	4.75	9	P	Pn	15 34 16.9	+1.7
MYRZ	Mayor Island	4.78	20	P	Pn	15 34 17.7	+2.1

HHSZ	**Highcliff Hill**	**4.85**	**212**	P	**Pn**	**15 34 16.0**	**-0.5**
WTAZ	**Waiatarua**	**4.88**	**3**	P	**Pn**	**15 34 20.6**	**+3.7**
ETAZ	**East Tamaki Re**	**4.88**	**7**	P	**Pn**	**15 34 19.4**	**+2.4**
HAZ	**Te Kaha**	**4.89**	**35**	P	**Pn**	**15 34 16.9**	**-0.2**
EPAZ	**Eden Park BICE**	**4.94**	**5**	P	**Pn**	**15 34 22.1**	**+4.4**
HBAZ	**Herne Bay Bore**	**4.96**	**5**	P	**Pn**	**15 34 21.9**	**+3.8**
RVAZ	**Riverhead Bore**	**5.04**	**3**	P	**Pn**	**15 34 21.6**	**+2.5**
MBAZ	**Motutapu North**	**5.06**	**6**	P	**Pn**	**15 34 21.8**	**+2.4**
WMGZ	**Waiomatatini S**	**5.13**	**40**	P	**Pn**	**15 34 18.9**	**-1.4**
KUZ	**Kuaotunu**	**5.19**	**13**	P	**Pn**	**15 34 22.9**	**+1.8**
ABAZ	**Army Bay**	**5.22**	**5**	P	**Pn**	**15 34 24.1**	**+2.5**
MXZ	**Matakaoa Point**	**5.28**	**38**		**Pn**	**15 34 21.0**	**-1.4**
MSZ	**Milford Sound**	**5.42**	**236**	P	Pn	15 34 29.6	+5.3
GRZ	**Great Barrier**	**5.63**	**10**	P	**Pn**	**15 34 28.5**	**+1.3**
WCZ	**Waipu Caves**	**5.86**	**1**	P	**Pn**	**15 34 34.5**	**+4.1**
SYZ	**Scrubby Hill**	**5.98**	**216**	P	**Pn**	**15 34 32.8**	**+0.8**
DCZ	**Deep Cove**	**6.30**	**232**	P	Pn	15 34 42.9	+6.5
OUZ	**Omahuta**	**6.59**	**356**		**Pn**	**15 34 40.9**	**+0.4**
OUZ	**Omahuta**	**6.59**	**356**	P	**Pn**	**15 34 43.6**	**+3.1**
PYZ	**Puysegur Point**	**6.97**	**229**	Pn	**Pn**	**15 34 45.3**	**-0.3**
PYZ	**Puysegur Point**	**6.97**	**229**	P	**Pn**	**15 34 47.7**	**+2.1**
CTZ	**Chatham Island**	**7.01**	**109**	P	**Pn**	**15 34 46.0**	**-0.2**
RAO	**Raoul Island**	**14.06**	**29**	Pn	**Pn**	**15 36 21.7**	**-1.0**
LHI	**Lord Howe Isla**	**15.89**	**305**	Pn	**Pn**	**15 36 46.6**	**-0.6**
LHI				IAmb	IAmb	15 36 55.7	
	comp=Z,219nm,1.3s						
TAU	**Tasmania Unive**	**19.89**	**258**	P	**P**	**15 37 35.2**	**+0.4**
TAU				IAmb	IAmb	15 37 43.2	
	comp=Z,59nm,1.1s						
DZM	**Mont Dzumac**	**20.74**	**339**	P	**P**	**15 37 44.2**	**-0.1**
	comp=Z,11nm,1.0s,baz=128,slow=14,SNR=4.5						
	comp=Z,11nm,1.0s						
DZM	**Mont Dzumac**	**20.74**	**339**	P	**P**	**15 37 44.7**	**+0.4**
KOUNC	**Koumac, New Ca**	**22.80**	**335**	P	**P**	**15 38 07.6**	**+1.3**
KOUNC				IAmb	IAmb	15 38 14.9	
	comp=Z,26nm,1.1s						
MSVF	**Nonsavu**	**24.22**	**9**	P	**P**	**15 38 20.4**	**0.0**
	comp=Z,22nm,0.9s,baz=150,slow=7.4,SNR=11						
	comp=Z,22nm,0.9s						
MSVF	**Nonsavu**	**24.22**	**9**	P	**P**	**15 38 20.6**	**+0.2**
MSVF				IAmb	IAmb	15 38 48.1	
	comp=Z,37nm,0.9s						
EIDS	**Eidsvold**	**25.19**	**303**	P	**P**	**15 38 29.8**	**+0.7**
STKA	**Stephens Creek**	**27.78**	**280**	P	**P**	**15 38 52.9**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=119,slow=10,SNR=2.3						
	comp=Z,2.9nm,0.9s						
BBOO	**Buckleboo**	**31.44**	**274**	P	**P**	**15 39 25.1**	**+0.2**
CTA	**Charters Tower**	**32.07**	**304**	P	**P**	**15 39 30.4**	**-0.2**
	comp=Z,8.2nm,0.8s,baz=155,slow=12,SNR=5.4						
	comp=Z,8.2nm,0.8s						
CTAO	**Charters Tower**	**32.07**	**304**	P	**P**	**15 39 30.9**	**+0.4**
CTAO				IAmb	IAmb	15 40 40.0	
	comp=Z,51nm,1.5s						
VNDA	**Vanda**	**36.19**	**185**	P	**P**	**15 40 07.6**	**+2.0**
	comp=Z,1.7nm,1.0s,baz=359,slow=7.7,SNR=8.0						
VNDA				LR	LR	15 51 47.0	
	comp=Z,932nm,21.3s,baz=236,slow=31						
	comp=Z,1.7nm,1.0s						
VNDA	**Vanda**	**36.19**	**185**	P	**P**	**15 40 04.4**	**-1.3**
SBA	**Scott Base**	**36.29**	**183**	P	**P**	**15 40 05.0**	**-1.5**
AS31	**Alice Springs**	**38.02**	**286**	P	**P**	**15 40 20.4**	**-1.5**
ASAR	**Alice Springs**	**38.02**	**286**	P	**P**	**15 40 20.9**	**-1.0**
	comp=Z,14nm,1.0s,baz=125,slow=6.9,SNR=37						
ASAR				PcP	**PcP**	**15 42 37.3**	**0.0**
	comp=Z,2.1nm,0.6s,baz=125,slow=3.9,SNR=5.6						
	comp=Z,14nm,1.0s						
ASAR	**Alice Springs**	**38.02**	**286**	P	**P**	**15 40 20.4**	**-1.6**
FORT	**Forrest**	**38.39**	**271**	P	**P**	**15 40 24.1**	**-0.7**
FORT				IAmb	IAmb	15 40 35.4	
	comp=Z,22nm,0.8s						
COEN	**Coen**	**38.65**	**307**	P	**P**	**15 40 26.6**	**-0.5**
PPTF	**Pamatai, Papee**	**39.21**	**63**	P	**P**	**15 40 30.3**	**-1.7**
WR0	**Warramunga Arr**	**39.95**	**291**	P	**P**	**15 40 36.8**	**-1.3**
WB2	**Warramunga Arr**	**40.09**	**291**	P	**P**	**15 40 38.0**	**-1.2**
WB2				IAmb	IAmb	15 40 49.5	
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**40.10**	**291**	P	**P**	**15 40 38.5**	**-0.8**
WRAB				IAmb	IAmb	15 40 49.5	
	comp=Z,15nm,0.7s						
WRA	**Warramunga Arr**	**40.10**	**291**	P	**P**	**15 40 38.1**	**-1.2**
	comp=Z,12nm,0.8s,baz=131,slow=7.4,SNR=48						
WRA				PcP	**PcP**	**15 42 43.3**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=127,slow=3.2,SNR=5.5						
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**40.10**	**291**	P	**P**	**15 40 37.8**	**-1.5**
PMG	**Port Moresby**	**40.11**	**316**	P	**P**	**15 40 38.7**	**-0.7**
	comp=Z,33nm,1.0s,baz=135,slow=4.4,SNR=18						
	comp=Z,33nm,1.0s						
PMG	**Port Moresby**	**40.11**	**316**	P	**P**	**15 40 39.5**	**+0.1**
PMG				IAmb	IAmb	15 40 41.6	
	comp=Z,43nm,1.0s						
WB0	**Warramunga Arr**	**40.18**	**291**	P	**P**	**15 40 38.6**	**-1.4**
RABL	**Rabaul**	**42.33**	**326**	P	**P**	**15 40 57.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**45.42**	**262**	P	**P**	**15 41 22.5**	**+0.2**
	comp=Z,5.8nm,0.8s,baz=135,slow=4.3,SNR=2.4						
	comp=Z,5.8nm,0.8s						
MTN	**Manton Dam**	**47.22**	**295**	P	**P**	**15 41 35.6**	**-1.0**
MTN				IAmb	IAmb	15 42 08.3	
	comp=Z,20nm,0.8s						
MORW	**Morawa**	**48.23**	**266**	P	**P**	**15 41 42.9**	**-1.5**
MORW				IAmb	IAmb	15 41 44.0	
	comp=Z,26nm,1.3s						
QSPA	**South Pole Qui**	**48.32**	**180**	P	**P**	**15 41 47.0**	**+2.2**
	comp=Z,15nm,0.9s,baz=15,slow=3.0,SNR=32						
	comp=Z,15nm,0.9s						
PSA00	**Pilbara Seismi**	**49.60**	**277**	P	**P**	**15 41 53.1**	**-1.8**
PSA00				IAmb	IAmb	15 41 54.3	
	comp=Z,12nm,0.9s						
MBWA	**Marble Bar**	**49.94**	**277**	P	**P**	**15 41 55.8**	**-1.7**
FAKI	**Fak Fak**	**53.93**	**304**	P	**P**	**15 42 26.0**	**-1.3**
FAKI				IAmb	IAmb	15 42 31.4	
	comp=Z,14nm,0.7s						
SOEI	**Soe**	**54.13**	**291**	P	**P**	**15 42 27.9**	**-1.0**
SOEI				IAmb	IAmb	15 42 40.6	
	comp=Z,32nm,1.0s						
BELA	**Belgrano 2**	**59.29**	**173**	P	**P**	**15 43 05.3**	**+0.7**
BELA				IAmb	IAmb	15 43 11.7	
	comp=Z,6.7nm,0.8s						
MAW	**Mawson**	**59.40**	**204**	P	**P**	**15 43 08.8**	**+3.4**
	comp=Z,3.3nm,0.9s,baz=124,slow=9.8,SNR=3.6						
	comp=Z,3.3nm,0.9s						
LUWI	**Luwuk**	**61.46**	**297**	P	**P**	**15 43 19.4**	**-0.9**
TOLI2	**Tolitoli**	**64.38**	**297**	P	**P**	**15 43 37.5**	**-2.2**
TOLI2				IAmb	IAmb	15 43 39.5	
	comp=Z,8.6nm,0.8s						
TROLL	**Troll, Antarti**	**66.34**	**183**	pP	**P**	**15 43 53.0**	**+1.2**
SNAA	**Sanae**	**66.81**	**181**	pP	**P**	**15 43 55.2**	**+0.5**
SNAA	**Sanae**	**66.81**	**181**	P	**P**	**15 43 54.9**	**+0.2**
SNAA				IAmb	IAmb	15 44 02.0	
	comp=Z,6.8nm,0.9s						
VNA3	**Neumayer Olymp**	**67.22**	**179**	pP	**P**	**15 43 58.4**	**+1.1**
VNA2	**Neumayer--Watz**	**67.57**	**179**	pP	**P**	**15 44 00.3**	**+0.8**
	baz=174,slow=7.0						
VNA1	**Neumayer--Stat**	**67.84**	**179**	pP	**P**	**15 44 00.6**	**-0.6**
KKM	**Kota Kinabalu**	**71.07**	**297**	P	**P**	**15 44 20.3**	**-1.8**
KSM	**Kuching**	**71.84**	**289**	P	**P**	**15 44 25.2**	**-1.4**
KSM				IAmb	IAmb	15 44 26.6	
	comp=Z,7.2nm,0.8s						
PLCA	**Paso Flores**	**79.07**	**136**	P	**P**	**15 45 09.6**	**+1.6**
	comp=Z,3.1nm,1.0s,baz=229,slow=9.3,SNR=2.6						
	comp=Z,3.1nm,1.0s						
GSI	**Gunungsitoli**	**80.93**	**280**	P	**P**	**15 45 17.9**	**-0.3**
GSI				IAmb	IAmb	15 45 19.6	
	comp=Z,23nm,1.0s						
JMN	**Monobe**	**83.81**	**327**	P	**P**	**15 45 31.9**	**-0.9**
INU	**Inuyama**	**84.02**	**330**	P	**P**	**15 45 32.6**	**-1.1**
INU				IAmb	IAmb	15 45 39.6	
	comp=Z,11nm,1.1s						
MJAR	**Matsushiro Arr**	**84.65**	**332**	P	**P**	**15 45 36.1**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=164,slow=5.5,SNR=4.1						
	comp=Z,2.1nm,1.0s						
KSRS	**Korea Array**	**89.49**	**325**	P	**P**	**15 46 00.1**	**-0.2**
	comp=Z,5.1nm,0.9s,baz=144,slow=5.9,SNR=19						
	comp=Z,5.1nm,0.9s						
KSAR	**Wonju Array Be**	**89.50**	**325**	P	**P**	**15 46 00.3**	**-0.1**
KS19	**Wonju Array Si**	**89.55**	**325**	P	**P**	**15 46 01.2**	**+0.6**
CM31	**Chiang Mai Arr**	**91.64**	**293**	P	**P**	**15 46 11.1**	**+0.2**
CM31				IAmb	IAmb	15 46 12.1	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.64**	**293**	P	**P**	**15 46 11.1**	**+0.2**
	comp=Z,7.1nm,0.9s,baz=160,slow=4.0,SNR=23						
	comp=Z,7.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.64**	**293**	P	**P**	**15 46 09.9**	**-1.0**
PZH	**PanZhiHua**	**95.34**	**301**	P	**P**	**15 46 30.8**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2	**Changchun**	**95.81**	**327**	*e*P	**P**	**15 46 29.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**99.92**	**317**	*e*P	**Pdif**	**15 46 49.4**	**+1.2**
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC				LR	LR		
	comp=N,860nm,16.5s						
HHC				LR	LR		
	comp=E,650nm,17.8s						
HHC				LR	LR		
	comp=Z,1μm,16.5s						
WMQ	**Urumqi**	**115.18**	**307**	*e*P	**PKiKP**	**15 51 45.0**	**+0.5**
INK	**Inuvik**	**116.51**	**19**	PKP	**PKiKP**	**15 51 48.2**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=194,slow=6.4,SNR=4.5						
YKA	**Yellowknife Ar**	**118.44**	**30**	PKP	**PKPdf**	**15 51 50.1**	**0.0**
	comp=Z,3.4nm,0.9s,baz=240,slow=2.0,SNR=4.4						
DAG	**Danmarks Havn**	**144.50**	**5**	*i* P	PKPbc	15 52 37.0	-0.2
LIC	**Lamto**	**144.56**	**181**	*e*P	PKPbc	15 52 39.9	+0.8
	comp=Z,23nm,0.9s						
KBZ	**Khabaz**	**144.62**	**290**	PKP	PKPbc	15 52 38.9	+0.4
	comp=Z,5.2nm,0.9s,baz=116,slow=5.9,SNR=6.6						
KIC	**Kosan Boka**	**144.69**	**182**	*e*P	**PKPdf**	**15 52 42.5**	**+1.7**
	comp=Z,5.3nm,0.5s						
TIC	**Toumodi**	**144.98**	**181**	*e*P	**PKPdf**	**15 52 41.7**	**+0.4**
	comp=Z,9.9nm,0.7s						
DBIC	**Dimbokro**	**145.00**	**182**	PKPbc	**PKPdf**	**15 52 41.5**	**+0.2**
	comp=Z,5.2nm,1.0s,baz=175,slow=2.9,SNR=3.9						
KLMR	**Klimovskoe**	**146.78**	**321**	*e*	**PKPdf**	**15 52 41.1**	**-1.7**
KLMR				AMP		15 52 45.6	
	comp=Z,17nm,1.1s						
ARCES	**ARCESS Array B**	**147.82**	**340**	PKPbc	**PKPdf**	**15 52 45.6**	**+1.2**
	comp=Z,4.8nm,0.9s,baz=72,slow=0.9,SNR=8.4						
BRTR	**Keskin Array B**	**150.25**	**279**	PKPbc	**PKPbc**	**15 52 54.3**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=133,slow=4.0,SNR=13						
BRTR	**Keskin Array B**	**150.25**	**279**		**PKPbc**	**15 52 53.2**	**-1.3**
FINES	**FINESS Array B**	**152.57**	**327**	PKPbc	**PKPbc**	**15 52 58.1**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=73,slow=1.7,SNR=8.2						
AKASG	**Malin Array Bx**	**154.42**	**302**	PKPbc	**PKiKP**	**15 53 04.8**	**+1.5**
	comp=Z,5.5nm,0.5s,baz=69,slow=2.5,SNR=3.0						
GERES	**GERESS Array B**	**164.62**	**304**	PKPab	**PKPab**	**15 54 01.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=69,slow=6.7,SNR=4.3						

*NEIC **13** 15:37:50.1±1.8,42.˚31S±0.˚01×173.˚82E±0.˚05,h10km±2km, mb4.1/3, Error ellipse: s-maj=6.9km s-min=3.0km az=281.0*
*IDC **13** 15:37:50.9±1.4,42.˚19S×173.˚42E,h0km,mb3.8/4, mbtmp3.8/5,ML4.1/1, Error ellipse: s-maj=37.8km s-min=29.8km az=108.0*
*WEL **13** 15:37:51.4±0.3,42.˚S±2.˚×17.˚4E±.˚,h9km±2km,M4.3/20, ML4.6/19,MLv4.3/20,Error ellipse: s-maj=0.0km s-min=0.0km az=107.9*
*WEL **13** 15:38:00,42.˚27S×173.˚66E,h9km,ML4.5,Mw4.6, Moment Tensor Solution. s5 Moment tensor: Scale 10¹⁵ Nm; Mrr0.36; Mθθ8.08; Mϕϕ-8.44; Mrθ-2.94; Mθϕ-1.34; Mϕr0.05; Fault plane solution: M08.86000×10¹⁵ NP1: ϕs321.00000°,δ76.00000°,λ12.00000°. NP2: ϕs228.00000°,δ78.00000°,λ166.00000°. Principal axes: T 916.4700, Plg19.0000°, Azm185.0000°; N -61.3800, Plg71.0000°, Azm8.0000°; P -855.0900, Plg1.0000°, Azm275.0000°;*

ISC 13 15:37:51.8±0.9,42.˚28S±0.˚02×173.˚63E±0.˚04,h12km±5km, n63,σ1°s02/81,mb4.0/5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.15**	**206**	Pg	**Pg**	**15 37 55.5**	**+0.1**
KHZ				Sg	**Sg**	**15 37 58.2**	**+0.2**
KHZ	**Kahutara**	**0.15**	**206**	P	**Pg**	**15 37 55.5**	**+0.1**
KHZ				S	**Sg**	**15 37 58.6**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.59**	**18**	P	**Pg**	**15 38 03.5**	**+0.1**
BSWZ				S	**Sb**	**15 38 12.2**	**-0.2**
THZ	**Tophouse**	**0.75**	**314**		**Pg**	**15 38 06.1**	**-0.2**
THZ	**Tophouse**	**0.75**	**314**	P	**Pg**	**15 38 05.6**	**-0.7**
THZ				S	**Sb**	**15 38 16.5**	**-0.3**
GVZ	**Greta Valley S**	**0.81**	**212**	Pg	**Pn**	**15 38 08.6**	**-0.5**
GVZ	**Greta Valley S**	**0.81**	**212**	P	**Pn**	**15 38 08.9**	**-0.2**
TUWZ	**Tuamarina**	**0.88**	**16**		**Pg**	**15 38 08.9**	**+0.1**
TUWZ	**Tuamarina**	**0.88**	**16**	P	**Pg**	**15 38 08.9**	**+0.1**
TUWZ				S	**Sb**	**15 38 21.3**	**+0.6**
NNZ	**Nelson**	**1.08**	**350**		**Pb**	**15 38 11.6**	**-0.7**
NNZ	**Nelson**	**1.08**	**350**	P	**Pb**	**15 38 10.0**	**-2.4**
LTZ	**Lake Taylor**	**1.12**	**243**		**Pb**	**15 38 12.6**	**-0.5**
LTZ	**Lake Taylor**	**1.12**	**243**	P	**Pb**	**15 38 11.8**	**-1.3**
LTZ				S	**Sn**	**15 38 28.8**	**+0.1**
AMCZ	**Amberley**	**1.15**	**218**	P	**Pg**	**15 38 13.9**	**0.0**
WEL	**Wellington**	**1.31**	**41**	P	**Pn**	**15 38 16.0**	**+0.1**
TKNZ	**Takaka Hill**	**1.34**	**338**	P	**Pn**	**15 38 15.3**	**-1.0**
TKNZ				S	**Sn**	**15 38 34.5**	**+0.4**
DSZ	**Denniston Nort**	**1.46**	**291**	Pn	**Pg**	**15 38 19.4**	**-0.4**
MSWZ	**Moikau Station**	**1.49**	**55**	P	**Pn**	**15 38 17.1**	**-1.2**
DUWZ	**D'Urville Isla**	**1.49**	**9**	P	**Pn**	**15 38 18.7**	**+0.3**
OKCZ	**Okains Bay**	**1.50**	**196**	P	**Pn**	**15 38 18.2**	**-0.4**
OKCZ				S	**Sn**	**15 38 38.0**	**+0.1**
OXZ	**Oxford**	**1.57**	**228**		**Pn**	**15 38 16.9**	**-2.5**
OXZ	**Oxford**	**1.57**	**228**	P	**Pn**	**15 38 18.3**	**-1.1**
OXZ				S	**Sn**	**15 38 39.4**	**-0.3**
MQZ	**McQueen's Vall**	**1.59**	**206**		**Pn**	**15 38 18.4**	**-1.3**
MQZ	**McQueen's Vall**	**1.59**	**206**	P	**Pn**	**15 38 18.9**	**-0.9**
MQZ				S	**Sn**	**15 38 39.1**	**-1.1**
PAWZ	**Paruwai Farm**	**1.62**	**57**	P	**Pn**	**15 38 18.7**	**-1.4**
QRZ	**Quartz Range**	**1.67**	**330**	Pn	**Pn**	**15 38 20.9**	**+0.1**
QRZ	**Quartz Range**	**1.67**	**330**	P	**Pb**	**15 38 21.9**	**-0.5**
QRZ				S	**Sg**	**15 38 44.6**	**-1.0**
AKCZ	**Akaroa Harbour**	**1.68**	**198**	P	**Pn**	**15 38 20.4**	**-0.5**
AKCZ				S	**Sn**	**15 38 42.3**	**0.0**
INZ	**Inchbonnie**	**1.68**	**254**	P	**Pn**	**15 38 20.8**	**-0.1**
INZ				S	**Sb**	**15 38 44.2**	**+0.6**
RACZ	**Rakaia**	**1.81**	**217**	P	**Pn**	**15 38 21.5**	**-1.2**
RACZ				S	**Sn**	**15 38 44.9**	**-0.7**
WACZ	**Wakanui South**	**2.12**	**218**	P	**Pn**	**15 38 26.5**	**-0.4**
WVZ	**Waitaha Valley**	**2.28**	**249**	P	**Pn**	**15 38 30.1**	**+1.0**
WVZ				S	**Sn**	**15 38 56.6**	**-0.5**
RPZ	**Rata Peaks**	**2.37**	**232**	Pn	**Pn**	**15 38 29.4**	**-1.1**
	50nm,0.3s,baz=74,slow=2.5,SNR=3.5						
RPZ				Sn	**Sn**	**15 38 58.4**	**-1.0**
	66nm,0.3s,baz=159,slow=21,SNR=9.7						
	114nm,0.3s						
RPZ	**Rata Peaks**	**2.37**	**232**	Pn	**Pn**	**15 38 30.1**	**-0.4**
RPZ	**Rata Peaks**	**2.37**	**232**	P	**Pn**	**15 38 30.5**	**0.0**
GCSZ	**Gaunt Creek Bo**	**2.64**	**246**	P	**Pn**	**15 38 33.9**	**-0.3**
GCSZ				S	**Sn**	**15 39 07.8**	**+1.7**
TMZ	**Timaru**	**2.84**	**221**	P	**Pn**	**15 38 36.8**	**-0.1**
ODZ	**Otahua Downs**	**3.51**	**217**	Pn	**Pn**	**15 38 45.5**	**-0.6**
JCZ	**Jackson Bay**	**3.97**	**242**	P	**Pn**	**15 38 56.0**	**+3.5**
HHSZ	**Highcliff Hill**	**4.21**	**210**	P	**Pn**	**15 38 55.1**	**-0.7**
EAZ	**Earnscleugh**	**4.30**	**225**	P	**Pn**	**15 38 57.0**	**0.0**
TUZ	**Tuapeka**	**4.67**	**217**	P	**Pn**	**15 39 01.9**	**-0.1**
TOZ	**Tahuroa Road**	**4.76**	**18**	P	**Pn**	**15 39 04.1**	**+0.7**
AWAZ	**Awhitu Peninsu**	**5.27**	**9**	P	**Pn**	**15 39 12.1**	**+1.9**
MKAZ	**Moumakai**	**5.30**	**13**	P	**Pn**	**15 39 11.6**	**+0.9**
SYZ	**Scrubby Hill**	**5.33**	**216**	P	**Pn**	**15 39 10.9**	**-0.2**
ETAZ	**East Tamaki Re**	**5.41**	**11**	P	**Pn**	**15 39 14.0**	**+1.7**
WHZ	**Wether Hill Ro**	**5.46**	**227**	Pn	**Pn**	**15 39 11.8**	**-1.1**
RVAZ	**Riverhead Bore**	**5.55**	**8**	P	**Pn**	**15 39 16.0**	**+1.8**
ABAZ	**Army Bay**	**5.75**	**10**	P	**Pn**	**15 39 18.8**	**+1.9**
WMGZ	**Waiomatatini S**	**5.77**	**41**	P	**Pn**	**15 39 17.5**	**+0.3**
APZ	**The Paps**	**6.08**	**220**	P	**Pn**	**15 39 21.4**	**0.0**
PYZ	**Puysegur Point**	**6.33**	**230**	Pn	**Pn**	**15 39 22.7**	**-2.1**
ASAR	**Alice Springs**	**37.73**	**287**	P	**P**	**15 45 07.3**	**-0.1**
ASAR	0.5nm,0.7s,baz=131,slow=8.0,SNR=2.5			PcP	**PcP**	**15 47 23.8**	**-0.6**
	0.6nm,0.7s,baz=118,slow=5.2,SNR=1.9						
	0.5nm,0.7s						
WB2	**Warramunga Arr**	**39.85**	**292**	P	**P**	**15 45 24.6**	**-0.6**
WRAB	**Tennant Creek**	**39.86**	**292**	P	**P**	**15 45 24.6**	**-0.7**
WRAB				IAmb	IAmb	15 46 05.3	
	comp=Z,5.5nm,0.5s						
WRA	**Warramunga Arr**	**39.86**	**292**	P	**P**	**15 45 25.4**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=129,slow=7.7,SNR=6.4						
	comp=Z,1.3nm,0.8s						
WRA	**Warramunga Arr**	**39.86**	**292**	P	**P**	**15 45 25.2**	**-0.1**
WRA				IAmb	IAmb	15 46 07.8	
	comp=Z,0.3nm,1.1s						
QSPA	**South Pole Qui**	**47.85**	**180**	P	**P**	**15 46 31.8**	**+2.7**
	comp=Z,1.4nm,1.0s,baz=34,slow=7.3,SNR=1.9						
	comp=Z,1.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.43**	**294**	P	**P**	**15 50 58.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=134,slow=3.9,SNR=2.2						
	comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**148.11**	**339**	PKPbc	**PKPbc**	**15 57 36.1**	**0.0**
	comp=Z,2.4nm,0.9s,baz=57,slow=3.3,SNR=1.2						
BRTR	**Keskin Array B**	**149.89**	**279**	PKPbc	**PKiKP**	**15 57 42.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=111,slow=3.2,SNR=3.3						
FINES	**FINESS Array B**	**152.72**	**326**	PKPbc	**PKPbc**	**15 57 46.5**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=164,slow=1.0,SNR=1.4						

*IDC **13** 15:38:17.1±1.5,41.˚56S×174.˚07E,h0km,mb3.9/5, mbtmp4.0/6,ML4.3/1, Error ellipse: s-maj=43.9km s-min=32.4km az=75.0*
*WEL **13** 15:38:19.2±0.3,42.˚S±2.˚×17.˚4E±.˚,h9km±2km,M4.8/20, ML5.0/20,MLv4.8/20,Error ellipse: s-maj=0.0km s-min=0.0km az=150.3*
*NEIC **13** 15:38:19.2±2.1,41.˚71S±0.˚03×174.˚27E±0.˚03,h15km±5km, mb4.5/11, Error ellipse: s-maj=4.3km s-min=3.4km az=142.0*

ISC 13 15:38:19.5±0.9,41.˚71S±0.˚03×174.˚22E±0.˚02,h18km±5km, n87,σ1°s20/99,mb4.3/11,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**189**	P	**Pg**	**15 38 22.0**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.26**	**270**		**Pg**	**15 38 25.1**	**-0.2**
BSWZ				Sg	**Sb**	**15 38 29.9**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.26**	**270**	P	**Pb**	**15 38 25.5**	**-0.1**
BSWZ				S	**Sb**	**15 38 29.8**	**+0.1**
TUWZ	**Tuamarina**	**0.35**	**324**	Sg	**Sb**	**15 38 31.7**	**-0.7**
TUWZ	**Tuamarina**	**0.35**	**324**	P	**Pb**	**15 38 27.5**	**+0.3**
TUWZ				S	**Sb**	**15 38 33.5**	**+1.1**
TCW	**Tory Channel**	**0.50**	**5**	P	**Pb**	**15 38 29.9**	**+0.1**
TCW				S	**Sb**	**15 38 37.5**	**+0.7**
SNZO	**South Karori**	**0.54**	**42**		**Pb**	**15 38 30.5**	**+0.1**
BHW	**Baring Head**	**0.57**	**58**	P	**Pb**	**15 38 31.2**	**+0.2**
BHW				S	**Sb**	**15 38 40.1**	**+1.3**
WEL	**Wellington**	**0.59**	**44**	P	**Pb**	**15 38 31.9**	**+0.6**
WEL				S	**Sn**	**15 38 41.0**	**-1.2**
PLWZ	**Palliser**	**0.79**	**80**		**Pb**	**15 38 34.7**	**0.0**
PLWZ	**Palliser**	**0.79**	**80**	P	**Pg**	**15 38 35.2**	**+0.3**
NNZ	**Nelson**	**0.80**	**308**		**Pn**	**15 38 36.0**	**+0.1**
NNZ	**Nelson**	**0.80**	**308**	P	**Pn**	**15 38 35.4**	**-0.5**
MSWZ	**Moikau Station**	**0.83**	**69**		**Pg**	**15 38 35.7**	**+0.1**
MSWZ	**Moikau Station**	**0.83**	**69**	P	**Pg**	**15 38 35.9**	**+0.3**
KHZ	**Kahutara**	**0.87**	**216**	P	**Pn**	**15 38 36.8**	**+0.1**
CAW	**Cannon Point**	**0.88**	**47**	P	**Pg**	**15 38 36.6**	**0.0**
CAW				S	**Sn**	**15 38 49.1**	**-0.2**
PAWZ	**Paruwai Farm**	**0.96**	**70**	P	**Pb**	**15 38 38.0**	**+0.3**
THZ	**Tophouse**	**0.99**	**267**	Pn	**Pg**	**15 38 38.9**	**+0.2**
THZ	**Tophouse**	**0.99**	**267**	P	**Pg**	**15 38 38.9**	**+0.2**
KIW	**Kapiti Island**	**1.00**	**32**	P	**Pn**	**15 38 38.5**	**-0.1**
KIW				S	**Sn**	**15 38

JOMM	Oshimamatsumae	0.60	79	⇓P		Pb	15 38 35.8	-0.7
JOMM				⇓S		Sn	15 38 45.1	-0.6
JOSM	Okushiri--Mats	0.70	16	⇓P		Pb	15 38 36.9	-1.3
JOSM				⇓S		Sn	15 38 47.5	-0.6
JSR	Shiriuchi	0.91	82	⇓P		Pb	15 38 41.1	-0.5
JSR				⇓S		Sn	15 38 54.3	+1.1
JSI2	Shiura 2	0.96	111	⇓P		Pn	15 38 41.5	-0.5
JSI2				⇓S		Sb	15 38 55.2	+0.2
JIW	Iwasaki	1.01	144	P		Pn	15 38 41.4	-1.3
JIW				S		Sn	15 38 55.2	-0.7
JYM2	Yakumo 2	1.11	50	P		Pb	15 38 44.5	-0.6
JYM2				S		Sb	15 39 00.3	+1.1
JHST	Hiyamasetana	1.12	26	P		Pb	15 38 44.5	-0.8
JHST				S		Sb	15 39 00.0	+0.5
JOT	Ohata	1.37	91	P		Pn	15 38 48.1	+0.5
JOT				S		Sb	15 39 08.2	+1.6
JSH	Shimam	1.38	26	P		Pb	15 38 48.7	-0.8
JSH				S		Sb	15 39 07.7	+1.0
MJAR	Matsushiro Arr	4.92	190	Pn		Pn	15 39 36.9	+0.4
	0.1nm,0.3s,baz=9.1,slow=14,SNR=7.3 1.0nm,0.4s							
USRK	Ussuriysk Ar.	6.01	300	Pn		Pn	15 39 50.3	-1.0
	0.7nm,0.3s,baz=107,slow=14,SNR=11							
USRK				Sn		Sn	15 40 59.4	+0.4
	1.3nm,0.3s,baz=116,slow=26,SNR=13 1.5nm,0.3s							
KSRS	Korea Array	9.59	249	Pn		Pn	15 40 42.7	+2.2
	0.1nm,0.3s,baz=57,slow=14,SNR=1.9 0.3nm,0.3s							
WRA	Warramunga Arr	61.21	185	P		P	15 48 36.1	-0.4
	0.3nm,0.5s,baz=2.1,slow=6.8,SNR=2.1 0.3nm,0.5s							

IDC ***13*** *15:39:21.6±1.7,28°.12N×140°.24E,h418km±98km,mb2.5/1, mbtmp3.6/4,Error ellipse: s-maj=310.9km s-min=21.3km az=75.0*

JMA ***13*** *15:39:22.9±0.4,28°.7N±1°×14°.1E±°,h426km±4km,MV3.3/30, W OFF OGASAWARA*

ISC 13 15:39:24.0±1.2,28°.6N±0°.1×140°.6E±0°.3,h400km,n11, σ2s17/12,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	Chichi jima	2.02	137	*e*P		Pn	15 40 21.3	+1.1
CBIJ				*e*S		S	15 41 07.0	+1.5
JCJ	Chichijima	2.02	137	P		Pn	15 40 20.3	+0.1
	88nm,0.8s,baz=343,slow=19,SNR=14							
JCJ				S		S	15 41 06.2	+0.7
	72nm,0.3s,baz=280,slow=23,SNR=13							
JHH2	Haha-jima-NKT2	2.38	144	*e*S		S	15 41 11.3	+1.6
BSO1	Boso 1	6.06	3	*e*P		Pn	15 41 00.3	+3.7
JIE	Ise	6.69	331	*e*P		P	15 41 05.7	+1.0
JRY	Ryogami san	7.56	349	*e*P		P	15 41 14.9	+0.5
JYT	Yasato	7.63	357	*e*S		S	15 42 40.8	-4.5
JAG	Ashikaga	7.88	353	*e*P		Pn	15 41 17.1	-0.5
MJAR	Matsushiro Arr	8.20	346	P		P	15 41 22.0	+0.6
	0.7nm,0.3s,baz=169,slow=10,SNR=1.9							
USRK	Ussuriysk Ar.	17.05	338	P		P	15 42 58.8	+0.5
	1.8nm,0.4s,baz=140,slow=9.1,SNR=4.7							
WRA	Warramunga Arr	48.62	188	P		P	15 47 21.5	-7.9
	0.3nm,0.7s,baz=4.8,slow=7.4,SNR=1.7 0.3nm,0.7s							

WEL 13 15:40:07.1±0.3,42°.5S±2°.1×17°.4E±°,h5km,M4.3/13, ML4.5/13,MLv4.3/13,Error ellipse: s-maj=0.0km s-min=0.0km az=118.9,South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.31	199	P		Pg	15 40 13.2	+0.1
KHZ				S		Sg	15 40 17.7	+0.6
BSWZ	Blackbirch Sta	0.44	20	P		Pg	15 40 16.3	+0.7
BSWZ				S		Sb	15 40 23.2	-1.0
CMWZ	Cape Campbell	0.55	47	P		Pg	15 40 18.1	+0.3
THZ	Tophouse	0.68	302	P		Pg	15 40 20.2	+0.1
THZ				S		Sg	15 40 29.4	+0.5
TUWZ	Tuamarina	0.72	16	P		Pb	15 40 21.8	-0.4
TUWZ				S		Sb	15 40 32.3	-0.1
NNZ	Nelson	0.94	346	P		Pg	15 40 25.1	0.0
GVZ	Greta Valley S	0.96	209	P		Pb	15 40 26.1	-0.3
GVZ				S		Sn	15 40 40.8	-0.7
MRNZ	Matariki Terra	1.00	316	P		Pb	15 40 26.8	-0.2
MRNZ				S		Sb	15 40 40.9	+0.6
TCW	Tory Channel	1.02	26	P		Pg	15 40 25.7	-1.0
TCW				S		Sb	15 40 41.2	+0.2
BHW	Baring Head	1.15	52	P		Pg	15 40 27.1	-2.0
TKNZ	Takaka Hill	1.22	334	P		Pg	15 40 30.2	-0.3
LTZ	Lake Taylor	1.23	237	P		Pg	15 40 29.7	-1.0
AMCZ	Amberley	1.29	215	P		Pb	15 40 32.1	+0.1
DUWZ	D'Urville Isla	1.34	8	P		Pn	15 40 32.6	+0.1
MSWZ	Moikau Station	1.38	59	P		Pn	15 40 31.6	-1.5
PAWZ	Paruwai Farm	1.51	61	P		Pn	15 40 33.2	-1.7
QRZ	Quartz Range	1.56	326	P		Pb	15 40 36.4	-0.1
MQZ	McQueen's Vall	1.75	205	P		Pn	15 40 35.4	-2.7
INZ	Inchbonnie	1.75	249	P		Pn	15 40 38.1	-0.1
RPZ	Rata Peaks	2.49	230	P		Pn	15 40 48.3	-0.1

WEL 13 15:41:11.5±0.5,42°.5S±3°.1×17°.4E±°,h13km±3km,M3.8/13, ML4.0/11,MLv3.8/13,Error ellipse: s-maj=0.0km s-min=0.0km az=24.4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	Cape Campbell	0.09	108	S		Sg	15 41 18.0	+1.5
BSWZ	Blackbirch Sta	0.16	272	P		Pb	15 41 16.8	+0.4
BSWZ				S		Sb	15 41 20.7	+1.0
TUWZ	Tuamarina	0.31	339	P		Pb	15 41 19.1	+0.1
TUWZ				S		Sb	15 41 24.6	+0.6
TCW	Tory Channel	0.53	15	P		Pb	15 41 22.4	-0.3
TCW				S		Sb	15 41 30.2	0.0
BHW	Baring Head	0.66	62	P		Pb	15 41 24.7	-0.2
WEL	Wellington	0.67	49	P		Pb	15 41 25.1	0.0
WEL				S		Sb	15 41 35.3	+1.0
NNZ	Nelson	0.74	313	P		Pb	15 41 26.7	+0.5
PLWZ	Palliser	0.88	81	P		Pg	15 41 28.1	-0.5
PLWZ				S		Sn	15 41 42.8	+0.3
MSWZ	Moikau Station	0.92	71	P		Pb	15 41 29.7	+0.3
MSWZ				S		Sn	15 41 43.8	+0.5
DUWZ	D'Urville Isla	0.93	352	P		Pb	15 41 29.7	+0.3
DUWZ				S		Sb	15 41 42.2	+0.5
MTW	Mount Morrison	1.20	62	P		Pn	15 41 33.2	-0.9
MTW				S		Sb	15 41 49.0	-0.5
OGWZ	Otaki Gorge	1.21	42	P		Pn	15 41 34.2	0.0
OGWZ				S		Sg	15 41 51.3	+0.7
HOWZ	Holdsworth Sta	1.35	53	P		Pn	15 41 35.2	-0.9
MRZ	Mangatainoka R	1.54	47	P		Pn	15 41 38.6	-0.1
MRZ				S		Sn	15 41 58.1	-0.6

WEL ***13*** *15:42:00,36°.83S×179°.25E,h7km,ML5.1,Mw4.8, Moment Tensor Solution. s5 Moment tensor: Scale 10^16 Nm; Mrr1.15; Mθθ-1.03; Mφφ-0.12; Mrθ0.60; Mθφ0.12; Mφr2.01; Fault plane solution: M0 2.20000×10^16 NP1: φs241.00000°,δ11.00000°,λ128.00000°. NP2: φs23.00000°,δ81.00000°,λ83.00000°. Principal axes: T 2705.6800, Plg53.0000°, Azm286.0000°; N -1004.5200, Plg6.0000°, Azm24.0000°; P -1701.1700, Plg36.0000°, Azm119.0000°;*

WEL ***13*** *15:42:47.7±0.8,37°.3S×17°.9E±°,h12km,M5.0/60, ML5.3/59,MLv5.0/60 Error ellipse: s-maj=0.0km s-min=0.0km az=88.5*

NEIC ***13*** *15:42:50±1.5,37°.09S±0°.08×178°.9E±0°.1,h26km±4km, mb5.1/38,Error ellipse: s-maj=14.8km s-min=11.5km az=73.0*

NOU ***13*** *15:42:51.3,37°.13S×179°.09E,h44km,mb5.1/38,Off E. Coast of N. Island, N.Z.*

IDC ***13*** *15:42:53.7±2.7,36°.96S×178°.81E,h58km±22km,mb4.4/16, mbtmp4.6/17,ML5.9/1,MS4.2/1,Error ellipse: s-maj=18.9km s-min=15.6km az=60.0*

ISC 13 15:42:50.0±1.1,36°.97S±0°.04×178°.94E±0°.05,h31km±6km, n254,σ1s70/249,mb5.0/46,3D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	Matakaoa Point	0.78	220	Pn		Pn	15 43 03.9	-0.9
MXZ	Matakaoa Point	0.78	220	P		Pn	15 43 04.1	-0.8
WMGZ	Waiomatatini S	0.95	206	P		Pn	15 43 08.6	+1.5
WMGZ				S		Sn	15 43 23.7	+4.1
PKGZ	Pakihiroa	1.15	217	P		Pb	15 43 11.5	+0.2
PKGZ				S		Sn	15 43 28.7	+4.0
HAZ	Te Kaha	1.21	229	P		Pb	15 43 11.0	-1.3
HAZ				S		Sb	15 43 32.0	+4.3
PUZ	Puketiti	1.23	206	P		Pb	15 43 12.1	-0.6
PUZ				S		Sb	15 43 31.4	+3.2
RUGZ	Raukumara Rang	1.42	225	P		Pb	15 43 14.8	-1.1
RUGZ				S		Sb	15 43 36.2	+2.6
TWGZ	Tauwhareparae	1.43	212	P		Pb	15 43 15.2	-0.8
TWGZ				S		Sb	15 43 36.6	+2.7
WIZ	White Island	1.51	248	P		Pn	15 43 14.0	-0.8
WSRZ	White Island S	1.51	248	P		Pb	15 43 15.4	-2.0
CNGZ	Carnagh Statio	1.62	201	P		Pb	15 43 17.7	-1.6
TKGZ	Te Karaka	1.71	210	P		Pb	15 43 18.5	-2.2
TKGZ				S		Sb	15 43 41.8	0.0
MWZ	Matawai	1.77	219	P		Pb	15 43 20.1	-1.7
MWZ				S		Sb	15 43 43.2	-0.3
WHRZ	Whale Island	1.80	240	P		Pb	15 43 21.3	-1.0
URZ	Urewera	1.94	228	P		Pb	15 43 22.7	-2.0
RAGZ	Rawiri	1.95	218	P		Pb	15 43 22.4	-2.5
RAGZ				S		Sb	15 43 48.0	-0.8
RIGZ	Rimuhau	1.97	208	P		Pb	15 43 21.9	-3.4
MARZ	Manawahe	2.07	240	P		Pb	15 43 24.4	-2.5
EDRZ	Edgecumbe	2.09	236	P		Pb	15 43 25.3	-2.0
OPRZ	Ohinepanea	2.09	245	P		Pn	15 43 23.6	+0.7
MYRZ	Mayor Island	2.18	261	P		Pn	15 43 24.2	0.0
RTZ	Ruatahuna	2.26	223	P		Pb	15 43 26.8	-3.4
TGRZ	Tauranga	2.27	250	P		Pb	15 43 27.1	-3.2
KNZ	Kokohu	2.28	206	P		Pn	15 43 25.3	-0.2
LIRZ	Lichensteins R	2.28	242	P		Pb	15 43 28.1	-2.5
MKRZ	Makatiti	2.29	239	P		Pb	15 43 28.5	-2.2
MUGZ	Murupara	2.29	228	P		Pb	15 43 27.1	-3.5
TARZ	Mount Tarawera	2.31	236	P		Pb	15 43 28.4	-2.7
MHGZ	Mahia Peninsul	2.33	200	P		Pn	15 43 26.3	+0.2
OMRZ	Omania	2.34	240	P		Pb	15 43 28.7	-2.8
RRRZ	Republican Roa	2.36	234	P		Pb	15 43 28.6	-3.3
KARZ	Kaharoa	2.39	243	P		Pb	15 43 29.4	-2.9
HLRZ	Highlands Stat	2.42	237	P		Pb	15 43 30.0	-3.0
RAHZ	Arahi	2.44	216	P		Pb	15 43 28.8	-4.3
NGRZ	Ngongotaha	2.47	242	P		Pb	15 43 31.4	-2.3
UTU	Utuhina	2.50	240	P		Pb	15 43 32.4	-1.7
WHHZ	Waihua	2.50	212	P		Pn	15 43 29.0	+0.5
MTHZ	Maungataniwha	2.51	221	P		Pb	15 43 30.3	-4.1
HSRZ	Hossack Road	2.53	237	P		Pb	15 43 31.6	-3.1
HRRZ	Handcock Road	2.54	235	P		Pb	15 43 31.4	-3.6
KMRZ	Kaimai	2.54	249	P		Pn	15 43 30.1	+1.0
KUZ	Kuaotunu	2.54	274	P		Pn	15 43 29.2	-0.6
KUZ	Kuaotunu	2.59	274	P		Pn	15 43 29.7	0.0
ALRZ	Allen Road	2.60	232	P		Pb	15 43 31.5	-4.5
GRRZ	Galatos Road	2.64	238	P		Pb	15 43 33.0	-3.5
NMHZ	Naumai	2.71	218	P		Pb	15 43 32.9	-5.0
MRHZ	Matea Rd	2.73	226	P		Pb	15 43 33.2	-5.0
ARHZ	Aropaoanui	2.76	213	P		Pn	15 43 32.6	+0.5
TOZ	Tahuroa Road	2.85	253	P		Pn	15 43 33.9	+0.6
GRZ	Great Barrier	2.89	283	P		Pn	15 43 34.1	+0.2
WHTZ	Whakaora	2.91	233	P		Pb	15 43 36.8	-4.4
BKZ	Black Stump Fm	2.92	221			Pn	15 43 35.2	+0.8
BKZ	Black Stump Fm	2.92	221	P		Pn	15 43 35.7	+1.3
BKZ	Black Stump Fm	2.92	221	P		Pn	15 43 35.3	+0.9
HATZ	Hinemaiaia	2.96	229	P		Pn	15 43 36.7	+1.8
MKAZ	Moumakai	3.03	266	P		Pn	15 43 36.4	+0.7
MCHZ	McNeill Hill	3.04	215	P		Pn	15 43 36.6	+0.7
WIAZ	Waiheke Island	3.06	272	P		Pn	15 43 37.6	+1.4
CKHZ	Cape Kidnapper	3.06	208	P		Pn	15 43 35.4	-0.8
RATZ	Rangitukua	3.14	232	P		Pn	15 43 36.6	-4.6
KWHZ	Kawekaw Forest	3.15	218	P		Pn	15 43 38.1	+0.6
ETAZ	East Tamaki Re	3.22	269	P		Pn	15 43 39.6	+1.3
MBAZ	Motutapu North	3.25	272	P		Pn	15 43 40.1	+1.3
KAHZ	Kahuranaki	3.26	209	P		Pn	15 43 38.2	-0.8
KATZ	Kakaramea	3.26	231	P		Pb	15 43 41.8	-5.3
ABAZ	Army Bay	3.32	275	P		Pn	15 43 41.2	+1.5
TMVZ	Te Maari	3.34	229	P		Pn	15 43 41.9	+1.7
NTVZ	North Tongariro	3.34	229	P		Pn	15 43 42.0	+1.8
ETVZ	East Tongariro	3.35	229	P		Pn	15 43 41.9	+1.7
KRVZ	Karewarewa	3.36	230	P		Pn	15 43 42.4	+2.0
EPAZ	Eden Park BICE	3.37	270	P		Pn	15 43 42.6	+2.2
HBAZ	Herne Bay Bore	3.38	271	P		Pn	15 43 42.9	+2.3
BHHZ	Black Hill Sta	3.39	221	P		Pn	15 43 42.0	+1.2
OTVZ	Oturere	3.39	229	P		Pn	15 43 42.7	+1.8
NNVZ	North Ngauruho	3.40	230	P		Pb	15 43 44.3	-5.4
SNVZ	South Ngauruho	3.42	229	P		Pn	15 43 42.9	+1.6
NGZ	Ngauruhoe	3.44	229	P		Pn	15 43 43.0	+1.5
AWAZ	Awhitu Peninsu	3.46	267	P		Pn	15 43 43.7	+2.3
TWVZ	Tauwhare	3.47	232	P		Pn	15 43 44.1	+2.1
MOVZ	Moawhango	3.50	225	P		Pn	15 43 43.2	+0.9
WTAZ	Waiatarua	3.50	269	P		Pn	15 43 43.9	+1.6
RVAZ	Riverhead Bore	3.50	272	P		Pn	15 43 44.1	+1.8
HIZ	Hauiti	3.59	243	P		Pb	15 43 47.8	-4.9
HIZ	Hauiti	3.59	243	P		Pb	15 43 47.4	-5.3
PNHZ	Pukenui	3.65	215	P		Pn	15 43 44.1	-0.2
WCZ	Waipu Caves	3.85	284	P		Pn	15 43 48.3	+1.2
TSZ	Takapari Road	3.87	216	P		Pn	15 43 46.8	-0.6
DVHZ	Dannevirke	3.97	212	P		Pn	15 43 47.9	-0.9
WAZ	Wanganui	4.17	227	P		Pn	15 43 53.2	+1.7
POWZ	Post Office Ro	4.23	215	P		Pn	15 43 52.6	+0.4
BFZ	Birch Farm	4.26	209	Pn		Pn	15 43 50.1	-2.6
OHWZ	Ohakea	4.30	220	P		Pb	15 43 59.6	-5.3
LREZ	Lake Rotokare	4.36	234	P		Pn	15 43 56.7	+2.7
NEZ	North Egmont	4.46	238	P		Pb	15 44 00.2	-7.4
PKEZ	Pukeiti	4.50	239	P		Pb	15 44 00.7	-7.5
KHEZ	Kahui Hut	4.53	238	P		Pb	15 44 01.3	-7.4
OUZ	Omahuta	4.67	290	P		Pn	15 44 00.2	+1.9
OUZ	Omahuta	4.67	290	P		Pn	15 43 59.9	+1.6
CTZ	Chatham Island	7.56	155	P		Pn	15 44 35.4	-2.6
	768nm,0.8s							
RAO	Raoul Island	8.13	20	LR		LR	15 47 26.1	
	comp=Z,2μm,21.1s,baz=186,slow=33							
MSVF	Nonsavu	19.18	357	P		P	15 47 11.8	+0.7
	1.8nm,0.3s,baz=165,slow=16,SNR=6.2 4.6nm,0.5s							
MSVF	Nonsavu	19.18	357	P		P	15 47 11.2	+0.1
MSVF	Nonsavu	19.18	357	P		P	15 47 12.5	+1.3
KOUNC	Koumac, New Ca	20.76	318	P		P	15 47 27.8	-0.5
KOUNC						IAmb	IAmb	15 47 42.1
	comp=Z,70nm,1.4s							
KOUNC	Koumac, New Ca	20.76	318	P		Pn	15 47 31.8	+1.0
DVP	Devils Point	21.39	331	P		P	15 47 36.5	+1.5
ARMA	Armidale	23.60	278	P		P	15 47 58.0	-0.3
ARMA	Armidale	23.60	278	P		P	15 47 59.6	+1.3
AFI	Afiamalu	24.41	22	P		P	15 48 07.6	+1.8
	comp=Z,13nm,0.7s,baz=214,slow=11,SNR=4.5 comp=Z,13nm,0.7s							
AFI	Afiamalu	24.41	22	P		P	15 48 06.7	+0.8
AFI						IAmb	IAmb	15 48 16.7
	comp=Z,82nm,1.1s							
EIDS	Eidsvold	26.40	288	P		P	15 48 25.5	+1.7
	baz=26,SNR=3.4							
EIDS	Eidsvold	26.40	288	P		P	15 48 25.0	+1.2
TOO	Toolangi	26.55	258	P		P	15 48 27.3	+2.2
TOO						IAmb	IAmb	15 48 42.9
	comp=Z,65nm,1.7s							
RMQ	Roma	27.61	284	P		P	15 48 35.1	+0.4
	baz=27,SNR=11							
CMSA	Cobar Meteorol	27.92	271	P		P	15 48 38.5	+1.1
	baz=28,SNR=5.0							
CMSA	Cobar Meteorol	27.92	271	P		P	15 48 40.4	+3.0
	comp=Z,16nm,1.4s							
STKA	Stephens Creek	31.09	268	P		P	15 49 06.3	+0.8
	comp=Z,4.8nm,0.7s,baz=106,slow=13,SNR=8.7 comp=Z,4.8nm,0.7s							
STKA	Stephens Creek	31.09	268	P		P	15 49 05.8	+0.4
	baz=31,SNR=11							
STKA	Stephens Creek	31.09	268	P		P	15 49 04.8	-0.6
STKA	Stephens Creek	31.09	268	P		P	15 49 07.9	+2.4
	comp=Z,5.9nm,1.2s							
QLP	Quilpie	31.12	279	P		P	15 48 54.9	-11
	baz=31,SNR=5.1							
HTT	Hallett	32.73	264	P		P	15 49 20.3	+0.4
	baz=32,SNR=7.5							
HTT	Hallett	32.73	264	P		P	15 49 20.4	+0.4
CTA	Charters Tower	33.07	292	P		P	15 49 23.2	+0.3
	comp=Z,7.7nm,0.9s,baz=124,slow=11,SNR=8.4 comp=Z,7.7nm,0.9s							
CTAO	Charters Tower	33.07	292	P		P	15 49 24.5	+1.5
CTAO						IAmb	IAmb	15 49 27.5
	comp=Z,58nm,1.6s							
CTAO	Charters Tower	33.07	292	P		P	15 49 25.5	+2.5
INKA	Innaminka	33.37	275	P		P	15 49 27.9	+2.4
LCRK	Leigh Creek	34.30	269	P		P	15 49 33.5	-0.1
BBOO	Buckleboo	35.20	264	P		P	15 49 40.4	-0.9
	comp=Z,30nm,1.5s							
OOD	Oodnadatta	37.39	271	P		P	15 50 00.8	+0.7
MULG	Mulgathing	37.69	267	P		P	15 50 02.6	0.0
QIS	Mount Isa	37.86	285	P		P	15 50 05.9	+1.8
	baz=38,SNR=8.1							
QIS	Mount Isa	37.86	285	P		P	15 50 06.5	+2.4
	comp=Z,17nm,1.0s							
COEN	Coen	39.25	296	P		P	15 50 16.4	+0.6
	baz=39,SNR=15							
COEN	Coen	39.25	296	P		P	15 50 16.0	+0.3
COEN						IAmb	IAmb	15 50 21.9
	comp=Z,23nm,0.9s							
COEN	Coen	39.25	296	P		P	15 50 17.3	+1.5
PMG	Port Moresby	39.74	306	P		P	15 50 19.9	+0.1
	comp=Z,8.5nm,0.8s,baz=153,slow=14,SNR=6.3 comp=Z,8.5nm,0.8s							
PMG	Port Moresby	39.74	306	P		P	15 50 21.6	+1.8
AS01	Alice Springs	40.68	276	P		P	15 50 27.5	-0.2
AS31	Alice Springs	40.72	276	P		P	15 50 27.9	-0.2
AS31						IAmb	IAmb	15 50 29.9
	comp=Z,14nm,0.6s							
ASAR	Alice Springs	40.72	276	P		P	15 50 28.1	+0.1
	comp=Z,29nm,0.7s,baz=115,slow=7.3,SNR=179							
ASAR				PcP		PcP	15 52 29.1	0.0
	comp=Z,1.1nm,0.5s,baz=129,slow=3.7,SNR=1.5							
ASAR				ScP		ScP	15 56 10.6	-5.7
	comp=Z,1.0nm,1.0s,baz=122,slow=4.5,SNR=2.2							
ASAR				S		S	15 56 33.3	-3.2
	comp=Z,4.0nm,1.1s,baz=126,slow=15,SNR=12 comp=Z,29nm,0.7s							
ASAR	Alice Springs	40.72	276	P		P	15 50 27.9	-0.1
KRVT	Keravat (AS076	40.81	316	P		P	15 50 28.1	-0.6
	comp=Z,38nm,0.6s,baz=145,slow=16,SNR=9.7 comp=Z,38nm,0.6s							
RABL	Rabaul	40.84	317	P		P	15 50 29.2	+0.2
VNDA	Vanda	41.33	186	P		P	15 50 33.5	+1.3
	comp=Z,0.8nm,0.9s,baz=25,slow=11,SNR=4.1							
VNDA	Vanda	41.33	186	P		P	15 50 31.4	-0.9
WR0	Warramunga Arr	42.15	281	P		P	15 50 39.7	0.0
WR0						IAmb	IAmb	15 50 46.1
	comp=Z,16nm,0.8s							
FORT	Forrest	42.29	263	P		P	15 50 41.4	+0.7
	baz=42,SNR=20							
FORT	Forrest	42.29	263	P		P	15 50 40.5	-0.3
FORT	Forrest	42.29	263	P		P	15 50 40.1	-0.6
	comp=Z,57nm,0.7s							
WB2	Warramunga Arr	42.30	281	P		P	15 50 40.5	-0.5
WB2						IAmb	IAmb	15 50 48.7
	comp=Z,34nm,0.6s							
WRAB	Tennant Creek	42.31	281	P		P	15 50 40.8	-0.2
WRAB						IAmb	IAmb	15 50 48.7
	comp=Z,33nm,0.6s							
WRAB	Tennant Creek	42.31	281	P		P	15 50 40.4	-0.6
	comp=Z,44nm,0.7s							
WRA	Warramunga Arr	42.31	281	P		P	15 50 40.8	-0.3
	comp=Z,14nm,0.6s,baz=122,slow=7.8,SNR=133							
WRA				PcP		PcP	15 52 34.6	+0.2
	comp=Z,2.9nm,1.0s,baz=123,slow=3.1,SNR=3.5							
WRA				ScP		ScP	15 56 22.4	-0.3
	comp=Z,0.8nm,0.8s,baz=139,slow=5.0,SNR=2.4							
WRA				S		S	15 56 57.8	-2.3
	comp=Z,1.4nm,1.0s,baz=120,slow=17,SNR=2.7 comp=Z,14nm,0.6s							
WRA	Warramunga Arr	42.31	281	P		P	15 50 40.0	-1.1
WB0	Warramunga Arr	42.37	281	P		P	15 50 41.3	-0.2
WB0						IAmb	IAmb	15 50 49.2
	comp=Z,27nm,0.5s							
WRKA	Warakurna	44.55	271	P		P	15 50 57.7	-1.4
	baz=44,SNR=39							
WRKA	Warakurna	44.55	271	P		P	15 50 57.4	-1.7
	comp=Z,17nm,1.5s							
KMBL	Kambalda	46.95	259	P		P	15 51 17.7	-0.2
	baz=46,SNR=5.1							
KMBL	Kambalda	46.95	259	P		P	15 51 18.1	+0.2
CASY	Casey	48.18	210	P		P	15 51 27.5	+0.6
MTN	Manton Dam	48.94	287	P		P	15 51 33.3	-0.1
	baz=49,SNR=6.2							
MTN	Manton Dam	48.94	287	P		P	15 51 32.5	-1.0
MTN	Manton Dam	48.94	287	P		P	15 51 35.0	+1.5
	comp=Z,22nm,1.2s							
KNRA	Kununurra	49.09	282	P		P	15 51 34.6	0.0
	baz=49,SNR=8.5							
KNRA	Kununurra	49.09	282	P		P	15 51 34.1	-0.6
NWAO	Narrogin (SRO)	49.97	255	P		P	15 51 40.6	-0.6
NWAO						IAmb	IAmb	15 51 43

H03N2	**Juan Fernandez**	**79.18 124**	T	T	17 21 38.4	
	baz=235,slow=72,SNR=67					
H03N1	**Juan Fernandez**	**79.19 124**	T	T	17 21 37.0	
	baz=235,slow=72,SNR=69					
PLCA	**Paso Flores**	**79.86 134**	P	**P**	**15 54 57.1 +1.5**	
	comp=Z,6.1nm,0.8s,baz=230,slow=7.6,SNR=9.9					
	comp=Z,6.1nm,0.8s					
PLCA	**Paso Flores**	**79.86 134**	P	**P**	**15 54 56.6 +0.9**	
PLCA			IAmb	IAmb	15 54 57.9	
	comp=Z,11nm,0.9s					
MJAR	**Matsushiro Arr**	**82.31 328**	P	**P**	**15 55 08.6 +0.2**	
	comp=Z,1.1nm,0.9s,baz=165,slow=3.7,SNR=3.3					
	comp=Z,1.1nm,0.9s					
BO02	**Sierra Bellavi**	**83.59 129**	P	**P**	**15 55 16.2 +0.8**	
BO02			IAmb	IAmb	15 55 17.1	
	comp=Z,9.3nm,0.9s					
GSI	**Gunungsitoli**	**83.88 276**	P	**P**	**15 55 18.3 +1.2**	
MT01	**Popeta**	**83.90 128**	P	**P**	**15 55 17.6 +0.7**	
MT01			IAmb	IAmb	15 55 18.4	
	comp=Z,15nm,0.8s					
MT02	**Curacav**	**84.36 128**	P	**P**	**15 55 20.0 +0.7**	
KSRS	**Korea Array**	**87.80 322**	P	**P**	**15 55 35.9 +0.1**	
	comp=Z,1.8nm,0.8s,baz=138,slow=5.5,SNR=7.3					
	comp=Z,1.8nm,0.8s					
KSAR	**Wonju Array Be**	**87.81 322**	P	**P**	**15 55 36.4 +0.5**	
PETK	**Petropavlovsk-**	**91.59 347**	P	**P**	**15 55 54.1 +0.9**	
	comp=Z,2.0nm,0.6s,baz=112,slow=6.2,SNR=10					
	comp=Z,2.0nm,0.6s					
CMAR	**Chiang Mai Arr**	**93.23 291**	P	**P**	**15 56 02.2 +0.5**	
	comp=Z,2.0nm,0.7s,baz=141,slow=3.7,SNR=15					
	comp=Z,2.0nm,0.7s					
CMAR	**Chiang Mai Arr**	**93.23 291**	P	**P**	**15 56 01.2 -0.5**	
NVAR	**Mina Array Bea**	**94.74 44**	P	**P**	**15 56 10.3 +1.8**	
	comp=Z,0.3nm,0.6s,baz=225,slow=8.9,SNR=1.9					
	comp=Z,0.3nm,0.6s					
MKAR	**Makanchi Array**	**119.92 308**	PKP	**PKPdf**	**16 01 36.1 -0.8**	
	comp=Z,0.5nm,0.5s,baz=222,slow=3.7,SNR=6.8					
ZALV	**Zalesovo Beam**	**121.13 316**	PKP	**PKPdf**	**16 01 36.8 -2.0**	
	comp=Z,0.5nm,0.5s,baz=353,slow=3.3,SNR=2.5					
KURBB	**Kurchatov Arra**	**123.63 311**	PKP	**PKPdf**	**16 01 43.0 -0.7**	
	comp=Z,0.6nm,0.3s,baz=98,slow=1.8,SNR=7.5					
NRIK	**Noril'sk**	**124.52 334**	PKP	**PKPdf**	**16 01 44.7 -0.3**	
	comp=Z,3.6nm,0.6s,baz=83,slow=3.5,SNR=5.6					
KMBO	**Kilima Mbogo**	**128.07 232**	PKP	**PKPdf**	**16 01 54.3 +0.5**	
	comp=Z,1.2nm,0.6s,baz=114,slow=3.8,SNR=4.6					
BVAR	**Borovoye Array**	**129.13 312**	PKP	**PKPdf**	**16 01 54.0 -0.3**	
	comp=Z,0.9nm,0.5s,baz=77,slow=2.2,SNR=6.8					
ARCES	**ARCESS Array B**	**144.34 344**	PKP	**PKPab**	**16 02 21.0 +1.1**	
	comp=Z,2.9nm,0.5s,baz=16,slow=3.8,SNR=27					
KLMR	**Klimovskoe**	**145.08 326**	*e*	**PKPbc**	**16 02 20.0 -2.8**	
KLMR			AMP		16 02 23.5	
	comp=Z,16nm,1.1s					
GEVA	**Gevas**	**145.29 286**		**PKPbc**	**16 02 23.8 -0.7**	
GURO	**Guroymak-BITLI**	**146.12 286**	PKPdf	**PKPdf**	**16 02 26.3 +0.3**	
KBZ	**Khabaz**	**146.14 295**	PKPbc	**PKiKP**	**16 02 30.1 +0.2**	
	comp=Z,3.9nm,1.0s,baz=224,slow=5.7,SNR=4.1					
MARD	**Mardin**	**146.84 284**	PKPdf	**PKPdf**	**16 02 27.9 +0.7**	
LIC	**Lamto**	**149.19 172**	*e*PKP1	**PKPbc**	**16 02 35.6 -0.3**	
	comp=Z,37nm,0.8s					
KIC	**Kosan Boka**	**149.35 173**	*e*PKP1	**PKPbc**	**16 02 36.1 -0.2**	
	comp=Z,6.4nm,0.8s					
TIC	**Toumodi**	**149.60 172**	*e*PKP1	**PKPbc**	**16 02 36.7 -0.2**	
	comp=Z,24nm,0.9s					
DBIC	**Dimbokro**	**149.64 173**	PKPbc	**PKPbc**	**16 02 36.8 -0.2**	
	comp=Z,7.6nm,0.8s,baz=150,slow=1.5,SNR=9.9					
DBIC	**Dimbokro**	**149.64 173**	PKPbc	**PKPbc**	**16 02 37.2 +0.2**	
FINES	**FINESS Array B**	**150.18 334**	PKPbc	**PKPbc**	**16 02 36.0 -0.9**	
	comp=Z,4.9nm,0.6s,baz=44,slow=4.2,SNR=31					
MEF	**Metsahovi**	**151.62 333**	*e*P	**PKPbc**	**16 02 40.8 +0.5**	
VSU	**Vasula**	**151.86 329**	*e*P	**PKPbc**	**16 02 41.3 +0.5**	
RAF	**Rauma**	**151.94 336**	*e*P	**PKPbc**	**16 02 40.4 -0.5**	
BRTR	**Keskin Array B**	**152.75 287**	PKPbc	**PKPbc**	**16 02 42.6 -1.1**	
	comp=Z,1.3nm,0.9s,baz=141,slow=4.4,SNR=4.9					
MTSE	**Matsula**	**152.87 331**	*e*P	**PKPbc**	**16 02 43.5 +0.5**	
ISAL	**Salakas**	**153.83 324**	*e*P	**PKiKP**	**16 02 48.5 +3.2**	
AKASG	**Malin Array Be**	**154.41 312**	PKPbc	**PKiKP**	**16 02 48.5 +1.8**	
	comp=Z,1.6nm,0.7s,baz=54,slow=2.7,SNR=7.8					
NB2	**NORSAR Subarra**	**154.69 346**	PKP	**PKPbc**	**16 02 46.0 -1.0**	
	comp=Z,0.9nm,0.8s,baz=39,slow=4.4					
NOA	**NORSAR Array B**	**154.69 346**	PKPbc	**PKPbc**	**16 02 46.2 -0.8**	
	comp=Z,0.9nm,0.8s,baz=27,slow=2.0,SNR=3.1					
KHC	**Kasperske Hory**	**163.84 323**	*e*PKP	**PKPab**	**16 03 46.4 +4.3**	
GERES	**GERESS Array B**	**163.98 322**	PKPab	**PKPab**	**16 03 43.5 +0.7**	
	comp=Z,0.2nm,0.4s,baz=56,slow=3.7,SNR=2.8					

*WEL **13** 15:43:00,42°.23S×173°.64E,h8km,ML4.7,Mw4.4, Moment Tensor Solution. s5 Moment tensor: Scale 10^{15} Nm; M_{rr}-1.16; $M_{\theta\theta}$3.99; $M_{\phi\phi}$-2.83; $M_{r\theta}$1.57; $M_{\theta\phi}$-2.30; $M_{\phi r}$-0.30; Fault plane solution: $M_0$4.32000×10^{15} NP1: ϕ_s153.00000°,δ77.00000°,λ7.00000°. NP2:ϕ_s62.00000°, δ83.00000°,λ167.00000°. Principal axes: T 509.6700, Plg14.0000°, Azm17.0000°; N -354.4400, Plg75.0000°, Azm214.0000°; P -155.2300, Plg4.0000°, Azm108.0000°;*

WEL 13 15:43:19.3±0.3,42°S±2°×17°4E±°,h14km±2km,M4.7/27, ML4.9/27,MLv4.7/27 Error ellipse: s-maj=0.0km s-min=0.0km az=117.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**201**	P	Pb	15 43 24.3	+0.1
KHZ				S	Sb	15 43 27.5	-0.1
BSWZ	**Blackbirch Sta**	**0.57**	**19**	P	Pb	15 43 31.0	-0.2
BSWZ				S	Sb	15 43 38.6	-0.5
THZ	**Tophouse**	**0.73**	**313**	P	Pg	15 43 33.1	-0.3
THZ				S	Sg	15 43 42.7	-0.3
GVZ	**Greta Valley S**	**0.83**	**211**	P	Pn	15 43 36.5	-0.1
GVZ				S	Sn	15 43 49.7	+1.0
TUWZ	**Tuamarina**	**0.86**	**16**	P	Pb	15 43 36.4	+0.4
TUWZ				S	Sb	15 43 48.1	+0.7
NNZ	**Nelson**	**1.05**	**350**	P	Pb	15 43 39.2	-0.1
NNZ				S	Sn	15 43 54.2	+0.1
MRNZ	**Matariki Terra**	**1.07**	**323**	P	Pn	15 43 39.9	-0.1
MRNZ				S	Sn	15 43 54.4	-0.2
LTZ	**Lake Taylor**	**1.13**	**242**	P	Pb	15 43 40.5	-0.1
TCW	**Tory Channel**	**1.16**	**25**	P	Pb	15 43 40.5	-0.6
TCW				S	Sn	15 43 56.7	0.0
WEL	**Wellington**	**1.30**	**42**	P	Pb	15 43 43.4	-0.1
WEL				S	Sg	15 44 01.1	+0.1
DUWZ	**D'Urville Isla**	**1.47**	**9**	P	Pb	15 43 46.1	-0.3
DUWZ				S	Sg	15 44 07.0	+0.4
MSWZ	**Moikau Station**	**1.48**	**56**	P	Pn	15 43 45.3	-0.2
OKCZ	**Okains Bay**	**1.52**	**196**	P	Pn	15 43 46.1	-0.1
OKCZ				S	Sn	15 44 05.3	-0.5
CAW	**Cannon Point**	**1.58**	**44**	P	Pn	15 43 47.1	+0.2
CAW				S	Sb	15 44 07.7	-0.4
OXZ	**Oxford**	**1.58**	**227**	P	Pn	15 43 47.1	+0.2
OXZ				S	Sn	15 44 06.6	-0.7
PAWZ	**Paruwai Farm**	**1.61**	**58**	P	Pn	15 43 46.6	-0.7
MQZ	**McQueen's Vall**	**1.61**	**206**	P	Pn	15 43 46.4	-0.9
QRZ	**Quartz Range**	**1.65**	**330**	P	Pn	15 43 49.4	0.0
INZ	**Inchbonnie**	**1.68**	**253**	P	Pn	15 43 49.0	+0.8
AKCZ	**Akaroa Harbour**	**1.70**	**198**	P	Pn	15 43 48.3	-0.2
KIW	**Kapiti Island**	**1.70**	**35**	P	Pn	15 43 49.1	+0.6
MTW	**Mount Morrison**	**1.79**	**53**	P	Pn	15 43 49.2	-0.6
RACZ	**Rakaia**	**1.83**	**216**	P	Pn	15 43 49.9	-0.4
OGWZ	**Otaki Gorge**	**1.85**	**39**	P	Pn	15 43 50.8	+0.2
HOWZ	**Holdsworth Sta**	**1.96**	**47**	P	Pn	15 43 51.7	-0.5
TMWZ	**Te Maipa**	**2.05**	**57**	P	Pn	15 43 52.6	-0.9
WACZ	**Wakanui South**	**2.13**	**217**	P	Pn	15 43 54.0	-0.4
MRZ	**Mangatainoka R**	**2.17**	**43**	P	Pn	15 43 54.6	-0.4
TIWZ	**Tintock**	**2.25**	**50**	P	Pn	15 43 53.6	-2.6
WVZ	**Waitaha Valley**	**2.28**	**248**	P	Pn	15 43 57.1	+0.6
RPZ	**Rata Peaks**	**2.38**	**231**	P	Pn	15 43 57.7	-0.2
ARCZ	**Arundel**	**2.46**	**226**	P	Pn	15 43 58.6	-0.5
GCSZ	**Gaunt Creek Bo**	**2.65**	**245**	P	Pn	15 44 02.7	+1.1
NMEZ	**Namu Road**	**2.85**	**4**	P	Pb	15 44 07.9	-2.0
TMZ	**Timaru**	**2.86**	**221**	P	Pn	15 44 05.7	+1.2
NBEZ	**Newall Road No**	**2.99**	**4**	P	Pb	15 44 10.0	-2.4
FOZ	**Fox Glacier**	**3.07**	**244**	P	Pn	15 44 08.4	+1.0
DREZ	**Durham Road**	**3.10**	**8**	P	Pn	15 44 10.2	+2.4
LBZ	**Lake Benmore**	**3.29**	**229**	P	Pn	15 44 12.6	+2.2
ODZ	**Otahua Downs**	**3.53**	**217**	P	Pn	15 44 13.0	-0.7
HIZ	**Hauiti**	**3.86**	**15**	P	Pn	15 44 22.0	+3.8
JCZ	**Jackson Bay**	**3.98**	**241**	P	Pn	15 44 20.3	+0.3
WKZ	**Wanaka**	**4.22**	**231**	P	Pn	15 44 24.8	+1.5
HHSZ	**Highcliff Hill**	**4.23**	**210**	P	Pn	15 44 22.7	-0.6
EAZ	**Earnscleugh**	**4.31**	**225**	P	Pn	15 44 24.3	-0.1
TUZ	**Tuapeka**	**4.68**	**217**	P	Pn	15 44 30.1	+0.6
MSZ	**Milford Sound**	**4.80**	**238**	P	Pn	15 44 33.3	+2.2
SYZ	**Scrubby Hill**	**5.35**	**215**	P	Pn	15 44 38.5	-0.2
ETAZ	**East Tamaki Re**	**5.39**	**11**	P	Pn	15 44 41.1	+1.8
WHZ	**Wether Hill Ro**	**5.47**	**226**	P	Pn	15 44 41.7	+1.4
DCZ	**Deep Cove**	**5.67**	**233**	P	Pn	15 44 45.7	+2.7
APZ	**The Paps**	**6.09**	**219**	P	Pn	15 44 48.6	-0.3
PYZ	**Puysegur Point**	**6.34**	**230**	P	Pn	15 44 55.2	+3.0

*TUL **13** 15:45:24.2±1.2,36°.53N±0°.02×98°.98W±0°.04,h7km±5km, ML2.9,mb_Lg2.4/10(NEIC),Error ellipse: s-maj=4.5km s-min=2.8km az=103.0*

NEIC 13 15:45:24.7±1.1,36°.51N±0°.01×98°.92W±0°.03,h5km±1km, Error ellipse: s-maj=4.3km s-min=2.9km az=268.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.12**	**355**	Pg	Pg	15 45 27.1	-0.1
NOKA				Sg	Sg	15 45 29.1	+0.1
OK038	**West end E0370**	**0.15**	**104**	Pg	Pg	15 45 28.6	+0.9
OK038				Sg	Sg	15 45 31.7	+2.1
OK035	**E0210 Rd and N**	**0.26**	**41**	Pg	Pg	15 45 30.1	+0.3
OK035				Sg	Sg	15 45 34.2	+1.1
ELIS	**Ellis County**	**0.60**	**222**	Pg	Pg	15 45 35.6	-0.6
OK032	**Salt Plains WL**	**0.64**	**63**	Pg	Pg	15 45 37.2	+0.2
OK032				Sg	Sg	15 45 46.3	+1.0
CROK	**Carrier**	**0.75**	**90**	Pg	Pg	15 45 39.5	+0.3
CROK				Sg	Sb	15 45 50.0	-0.9
CSTR	**Hydro, Custer**	**0.89**	**168**	Pg	Pg	15 45 41.6	-0.1
KAN14	**Manchester OK**	**0.89**	**60**	Pg	Pg	15 45 41.7	0.0
GC02	**Grant County #**	**0.92**	**68**	Pg	Pg	15 45 42.1	-0.2
KAN05	**Bluff City Nor**	**1.03**	**54**	IAmb_Lg		15 45 57.5	
	comp=Z,54nm,1.1s						
KAN08	**Anthony NE Sta**	**1.04**	**47**	Pg	Pg	15 45 44.2	-0.5
KAN17	**Caldwell West**	**1.07**	**60**	Pg	Pg	15 45 44.8	-0.3
KAN12	**Harper NE Stat**	**1.08**	**43**	Pg	Pg	15 45 44.7	-0.6
KAN06	**Argonia West S**	**1.12**	**49**	Pg	Pg	15 45 45.6	-0.6
KAN01	**Argonia South**	**1.13**	**55**	Pg	Pg	15 45 46.0	-0.4
KAN09	**Caldwell North**	**1.22**	**59**		Pg	15 45 47.3	-0.7
KAN13	**South Haven SW**	**1.26**	**66**	Pn	Pg	15 45 48.0	-0.8
KS21	**Milan North St**	**1.27**	**52**	Pn	Pg	15 45 48.5	-0.6
KS20	**Mayfield South**	**1.31**	**56**	Pn	Pn	15 45 49.0	-0.6
BCOK	**Bluff Creek, N**	**1.36**	**128**	Pn	Pn	15 45 49.8	-0.6
OK029	**Liberty Lake**	**1.38**	**121**	Pn	Pn	15 45 50.0	-0.6
BLOK	**Blackwell**	**1.39**	**79**		Pn	15 45 50.2	-0.6
OK050	**Pawnee Station**	**1.57**	**94**		Pn	15 45 52.9	-0.3
OK025	**Westminster Rd**	**1.58**	**126**	Pn	Pn	15 45 53.5	+0.1
OK048	**Pawnee Station**	**1.59**	**93**	Pn	Pn	15 45 53.8	+0.2
OK045	**Pawnee Station**	**1.61**	**92**		Pn	15 45 54.0	+0.3
OK046	**Pawnee Station**	**1.61**	**93**		Pn	15 45 54.3	+0.3
OK033	**Mehan**	**1.67**	**106**		Pn	15 45 54.9	+0.3
OK051	**E0350 and S346**	**1.68**	**90**	Pn	Pn	15 45 55.0	+0.3
OK044	**Pawnee Station**	**1.72**	**94**	Pn	Pn	15 45 55.5	+0.2
FNO	**Franklin**	**1.76**	**135**	Pn	Pn	15 45 55.5	-0.3
WMOK	**Wichita Mounta**	**1.77**	**176**	Pn	Pn	15 45 55.6	-0.5
OK052	**Battle Ridge R**	**1.79**	**106**	Pn	Pn	15 45 56.2	0.0
OK053	**SW of W Deep R**	**1.79**	**105**	Pn	Pn	15 45 56.2	-0.1
QUOK	**Quay**	**1.82**	**100**		Pn	15 45 57.0	+0.4
OK030	**Cody Creek RV**	**1.82**	**108**		Pn	15 45 56.9	+0.2
OK034	**N. Norfolk Rd.**	**1.85**	**105**	Pn	Pn	15 45 57.4	+0.3
R32A	**Long Quarter,**	**1.91**	**5**		Pn	15 45 57.6	-0.4
T35A	**Sooner Cattle**	**1.98**	**78**		Pn	15 45 59.1	+0.3
T35A				IAmb_Lg		15 46 30.4	
	comp=Z,17nm,0.7s						
DEOK	**Depew**	**2.07**	**108**	Pn	Pn	15 46 00.4	+0.3
DEOK				IAmb_Lg		15 46 31.9	
	comp=Z,8.0nm,1.0s						
X34A	**Smith Ranch, M**	**2.10**	**155**	Pn	Pn	15 46 00.8	+0.2
CBKS	**Cedar Bluff**	**2.39**	**344**	IAmb_Lg		15 46 45.0	
	comp=Z,20nm,0.8s						
TUL1	**Leonard**	**2.60**	**102**	IAmb_Lg		15 46 52.6	
	comp=Z,9.6nm,0.8s						
RLO	**Rose Lookout**	**3.16**	**95**	Pn	Pn	15 46 15.7	+0.6
X37A	**Clayton**	**3.47**	**123**	IAmb_Lg		15 47 22.8	
	comp=Z,17nm,1.2s						
U38A	**Gravette**	**3.65**	**90**	Pn	Pn	15 46 21.3	-0.6
MIAR	**Mount Ida**	**4.78**	**113**	Pn	Pn	15 46 37.5	+0.2
MGMO	**Mountain Grove**	**5.37**	**81**	Pn	Pn	15 46 44.5	-1.1

WEL 13 15:46:30.3±0.8,43°S±4°×17°3E±°,h9km±5km,M4.4/5, ML4.7/5,MLv4.4/5,Error ellipse: s-maj=0.0km s-min=0.0km az=139.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.36**	**151**	P	Pg	15 46 38.1	+0.7
GVZ				S	Sb	15 46 44.2	-0.3
LTZ	**Lake Taylor**	**0.41**	**252**	P	Pb	15 46 39.0	-0.7
LTZ				S	Sb	15 46 45.3	-0.7
AMCZ	**Amberley**	**0.53**	**192**	P	Pb	15 46 41.4	-0.3
AMCZ				S	Sb	15 46 49.4	-0.2
CACS	**Harewood**	**0.85**	**193**	P	Pb	15 46 47.8	+0.6
OXZ	**Oxford**	**0.87**	**219**	P	Pb	15 46 48.0	+0.4
OXZ				S	Sb	15 46 59.9	+0.6
MQZ	**McQueen's Vall**	**1.06**	**186**	P	Pg	15 46 49.8	-0.8
MQZ				S	Sg	15 47 04.1	-0.2

WEL 13 15:46:38.1±0.8,42°S±3°×17°4E±°,h14km±6km,M3.8/6, ML4.1/6,MLv3.8/6,Error ellipse: s-maj=0.0km s-min=0.0km az=47.9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.24**	**271**	P	Pb	15 46 44.8	+0.5
BSWZ				S	Sb	15 46 49.5	+1.1
TUWZ	**Tuamarina**	**0.35**	**327**	P	Pb	15 46 46.3	+0.3
TUWZ				S	Sb	15 46 52.5	+1.1
TCW	**Tory Channel**	**0.51**	**7**	P	Pb	15 46 48.6	-0.3
TCW				S	Sb	15 46 56.1	-0.1
BHW	**Baring Head**	**0.60**	**59**	P	Pb	15 46 50.1	-0.2
BHW				S	Sb	15 46 59.2	+0.6
PLWZ	**Palliser**	**0.81**	**80**	P	Pg	15 46 53.6	-0.2
PLWZ				S	Sn	15 47 06.1	-1.0
MSWZ	**Moikau Station**	**0.85**	**69**	P	Pb	15 46 54.8	+0.2
MSWZ				S	Sb	15 47 06.9	+1.0
DUWZ	**D'Urville Isla**	**0.94**	**347**	P	Pb	15 46 54.3	-1.9
DUWZ				S	Sn	15 47 09.4	-0.8
OGWZ	**Otaki Gorge**	**1.16**	**40**	P	Pn	15 46 59.9	-0.1
OGWZ				S	Sn	15 47 16.1	+0.4

WEL 13 15:51:58.2±0.7,42°S±5°×17°4E±°,h6km±4km,M3.8/7, ML3.9/7,MLv3.8/7,Error ellipse: s-maj=0.0km s-min=0.0km az=156.3,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**6**	P	Pg	15 52 00.2	+0.6
BSWZ	**Blackbirch Sta**	**0.26**	**289**	P	Pg	15 52 03.7	+0.4
BSWZ				S	Sg	15 52 08.1	+1.3
TUWZ	**Tuamarina**	**0.42**	**332**	P	Pg	15 52 06.6	+0.2
TUWZ				S	Sg	15 52 12.8	+1.0
MSWZ	**Moikau Station**	**0.87**	**64**	P	Pb	15 52 15.7	-0.1
MSWZ				S	Sn	15 52 29.9	-0.1
CAW	**Cannon Point**	**0.95**	**43**	P	Pg	15 52 16.1	-0.2
THZ	**Tophouse**	**0.97**	**272**	P	Pg	15 52 16.8	-0.1
THZ				S	Sg	15 52 29.2	-0.3
KIW	**Kapiti Island**	**1.08**	**30**	P	Pg	15 52 17.9	-0.9
KIW				S	Sn	15 52 34.4	-0.8
MRNZ	**Matariki Terra**	**1.16**	**290**	P	Pb	15 52 20.7	+0.1
MRNZ				S	Sn	15 52 37.0	-0.2
MTW	**Mount Morrison**	**1.17**	**57**	P	Pg	15 52 19.2	-1.4

*NEIC **13** 15:52:50.7±0.4,41°.92S±0°.06×174°.40E±0°.02,h9km±8km, mb4.0/4,Error ellipse: s-maj=8.8km s-min=2.5km az=182.0*

*IDC **13** 15:52:50.5±1.8,41°.49S×174°.37E,h0km,mb3.9/4, mbtmp4.0/5,ML4.6/1,Error ellipse: s-maj=47.5km s-min=33.8km az=64.0*

*WEL **13** 15:52:53.1±0.7,42°S±5°×17°4E±°,h16km±5km,M4.1/13, ML4.4/13,MLv4.1/13,Error ellipse: s-maj=0.0km s-min=0.0km az=172.7*

ISC 13 15:52:53.3±1.0,41°.77S±0°.05×174°.29E±0°.02,h17km±6km, n41,σ1$05/51,mb3.9/6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**285**	P	**Pg**	**15 52 56.6**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.32**	**279**		**Pg**	**15 52 59.5**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.32**	**279**	P	**Pb**	**15 53 00.5**	**0.0**
BSWZ				S	**Sn**	**15 53 07.0**	**-2.4**
TUWZ	**Tuamarina**	**0.43**	**322**		**Pb**	**15 53 02.4**	**0.0**
TUWZ	**Tuamarina**	**0.43**	**322**	P	**Pb**	**15 53 02.5**	**+0.2**
TUWZ				S	**Sb**	**15 53 09.2**	**+0.7**
SNZO	**South Karori**	**0.55**	**34**		**Pg**	**15 53 02.9**	**-1.3**
TCW	**Tory Channel**	**0.55**	**359**	P	**Pb**	**15 53 04.4**	**-0.2**
TCW				S	**Sb**	**15 53 13.1**	**+0.9**
WEL	**Wellington**	**0.60**	**37**	P	**Pg**	**15 53 05.1**	**0.0**
WEL				S	**Sb**	**15 53 14.2**	**+0.8**
PLWZ	**Palliser**	**0.75**	**75**	Pg	**Pb**	**15 53 04.7**	**-3.2**
PLWZ	**Palliser**	**0.75**	**75**	P	**Pg**	**15 53 08.6**	**+0.7**
PLWZ				S	**Sb**	**15 53 19.3**	**+1.5**
MSWZ	**Moikau Station**	**0.80**	**64**	Pn	**Pg**	**15 53 09.1**	**+0.2**
MSWZ	**Moikau Station**	**0.80**	**64**	P	**Pg**	**15 53 09.1**	**+0.2**
MSWZ				S	**Sn**	**15 53 25.2**	**+0.5**
DUWZ	**D'Urville Isla**	**1.00**	**344**	P	**Pn**	**15 53 13.0**	**+0.4**
KIW	**Kapiti Island**	**1.01**	**27**	P	**Pb**	**15 53 11.1**	**-1.3**
KIW				S	**Sb**	**15 53 25.6**	**+0.2**
THZ	**Tophouse**	**1.04**	**270**		**Pb**	**15 53 11.2**	**-1.7**
MTW	**Mount Morrison**	**1.09**	**57**	P	**Pb**	**15 53 13.0**	**-0.7**
MTW				S	**Sg**	**15 53 29.9**	**+1.2**
TRWZ	**Traveller**	**1.11**	**71**	P	**Pb**	**15 53 13.2**	**-0.8**
OGWZ	**Otaki Gorge**	**1.15**	**35**	P	**Pn**	**15 53 13.2**	**-1.4**
HOWZ	**Holdsworth Sta**	**1.26**	**47**	P	**Pn**	**15 53 15.9**	**-0.2**
TMWZ	**Te Maipa**	**1.37**	**62**	P	**Pn**	**15 53 16.9**	**-0.8**
MRZ	**Mangatainoka R**	**1.47**	**42**	Pn	**Pn**	**15 53 18.1**	**-0.9**
MRZ	**Mangatainoka R**	**1.47**	**42**	P	**Pn**	**15 53 19.0**	**0.0**
BFZ	**Birch Farm**	**1.83**	**54**	Pn	**Pn**	**15 53 22.5**	**-1.4**
RPZ	**Rata Peaks**	**3.08**	**230**	Pn	**Pn**	**15 53 42.1**	**+0.9**
	56nm,0.3s,baz=240,slow=0.9,SNR=6.7						
	254nm,0.4s						
BKZ	**Black Stump Fm**	**3.09**	**34**	Pn	**Pn**	**15 53 41.1**	**-0.2**
HIZ	**Hauiti**	**3.28**	**8**	Pn	**Pn**	**15 53 44.1**	**+0.3**
AS31	**Alice Springs**	**38.07**	**286**	P	**P**	**16 00 09.8**	**-1.2**
AS31				IAmb	IAmb	16 00 29.7	
	comp=Z,2.0nm,1.3s						
ASAR	**Alice Springs**	**38.07**	**286**	P	**P**	**16 00 11.3**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=127,slow=6.9,SNR=7.7						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**38.07**	**286**	P	**P**	**16 00 09.9**	**-1.2**
WB2	**Warramunga Arr**	**40.13**	**290**	P	**P**	**16 00 27.4**	**-0.9**
WB2				IAmb	IAmb	16 01 08.9	
	comp=Z,9.2nm,1.5s						
WRA	**Warramunga Arr**	**40.14**	**290**	P	**P**	**16 00 27.5**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=129,slow=7.7,SNR=6.9						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**40.14**	**290**	P	**P**	**16 00 27.4**	**-1.0**
WB0	**Warramunga Arr**	**40.22**	**291**	P	**P**	**16 00 28.4**	**-0.6**
QSPA	**South Pole Qui**	**48.36**	**180**	P	**P**	**16 01 36.3**	**+2.5**
	comp=Z,3.0nm,1.2s,baz=343,slow=6.8,SNR=3.2						
	comp=Z,3.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**91.68 293**	P	**P**	**16 05 59.8**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=150,slow=3.2,SNR=4.9						
	comp=Z,0.4nm,0.6s						
BRTR	**Keskin Array B**	**150.30 279**	PKPbc	**PKPbc**	**16 12 43.3**	**0.0**	
	comp=Z,0.8nm,0.8s,baz=112,slow=1.6,SNR=4.7						
FINES	**FINESS Array B**	**152.56 327**	PKPbc	**PKPbc**	**16 12 46.6**	**-1.1**	
	comp

TUVZ	Tukino	2.73	24	P		Pb	15 58 50.3	+0.8
WACZ	Wakanui South	2.79	218	P		Pn	15 58 47.0	+2.0
NGZ	Ngauruhoe	2.79	22	P		Pb	15 58 51.5	+0.8
SNVZ	South Ngauruho	2.80	23	P		Pb	15 58 51.5	+0.8
OTVZ	Oturere	2.83	23	P		Pb	15 58 51.9	+0.6
NNVZ	North Ngauruho	2.84	22	P		Pb	15 58 51.9	+0.4
WTVZ	West Tongariro	2.85	22	P		Pb	15 58 52.1	+0.6
TWVZ	Taurewa	2.85	19	P		Pb	15 58 52.1	+0.5
ETVZ	East Tongariro	2.86	24	P		Pb	15 58 52.4	+0.6
TMVZ	Te Maari	2.88	24	P		Pb	15 58 52.5	+0.4
KRVZ	Karewarewa	2.88	22	P		Pb	15 58 53.7	+1.6
WVZ	Waitaha Valley	2.89	242	P		Pb	15 58 50.3	-2.0
RPZ	Rata Peaks	3.04	229	Pn		Pn	15 58 44.1	-4.4
	19nm,0.3s,baz=153,slow=23,SNR=6.8							
	52nm,0.3s							
BKZ	Black Stump Fm	3.12	34	P		Pb	15 58 57.8	+1.6
RATZ	Rangitukua	3.13	23	P		Pb	15 58 57.4	+1.1
GCSZ	Gaunt Creek Bo	3.27	240	P		Pn	15 58 55.1	+3.5
HIZ	Hauiti	3.29	9	P		Pb	15 58 57.0	-2.0
TMZ	Timaru	3.52	221	P		Pn	15 58 57.0	+1.9
ALRZ	Allen Road	3.59	28	P		Pb	15 59 02.7	-1.5
FOZ	Fox Glacier	3.70	240	Pn		Pn	15 59 00.2	+2.7
FOZ	Fox Glacier	3.70	240	P		Pb	15 59 02.1	-3.9
LBZ	Lake Benmore	3.95	227	Pn		Pn	15 59 02.3	+1.3
LBZ	Lake Benmore	3.95	227	P		Pn	15 59 03.4	+2.4
OMRZ	Omania	4.01	25	P		Pb	15 59 09.3	-2.1
URZ	Urewera	4.15	33	P		Pb	15 59 12.2	-1.4
TOZ	Tahuroa Road	4.15	14	P		Pb	15 59 10.7	-3.1
ODZ	Otahua Downs	4.19	217			Pn	15 59 05.6	+1.4
ODZ	Otahua Downs	4.19	217	P		Pn	15 59 05.7	+1.5
ODZ	Otahua Downs	4.19	217	P		Pn	15 59 05.8	+1.5
OPRZ	Ohinepanea	4.31	25	P		Pn	15 59 05.4	-0.6
JCZ	Jackson Bay	4.61	238	P		Pn	15 59 14.4	+4.2
JCZ	Jackson Bay	4.61	238	P		Pn	15 59 12.6	+2.4
AWAZ	Awhitu Peninsu	4.71	4	P		Pn	15 59 14.7	+3.3
MKAZ	Moumakai	4.71	9	P		Pn	15 59 13.2	+1.8
ETAZ	East Tamaki Re	4.84	7	P		Pn	15 59 16.7	+3.5
HHSZ	Highcliff Hill	4.88	211	P		Pn	15 59 15.9	+2.1
EAZ	Earnscleugh	4.98	224	P		Pn	15 59 16.0	+1.0
MBAZ	Motutapu North	5.02	6	P		Pn	15 59 19.9	+4.2
MXZ	Matakaoa Point	5.25	38	P		Pb	15 59 26.1	-6.3
TUZ	Tuapeka	5.34	217	P		Pn	15 59 21.7	+1.7
MSZ	Milford Sound	5.44	236	P		Pn	15 59 22.5	+1.1
MLZ	Mavora Lakes	5.71	229	P		Pn	15 59 26.2	+1.0
SYZ	Scrubby Hill	6.01	216	P		Pn	15 59 31.2	+2.0
SYZ	Scrubby Hill	6.01	216	P		Pn	15 59 31.1	+1.9
WHZ	Wether Hill Ro	6.13	226	P		Pn	15 59 32.4	+1.4
DCZ	Deep Cove	6.32	232	Pn		Pn	15 59 34.1	+0.6
PYZ	Puysegur Point	7.00	229	P		Pn	15 59 45.7	+2.9
AS31	Alice Springs	38.02	286	P		P	16 05 17.8	-0.8
AS31				IAmb		IAmb	16 05 22.0	
	comp=Z,1.8nm,1.5s							
ASAR	Alice Springs	38.02	286	P		P	16 05 16.7	-1.9
	comp=Z,0.5nm,0.5s,baz=123,slow=6.5,SNR=7.7							
	comp=Z,0.5nm,0.5s							
WB2	Warramunga Arr	40.09	290	P		P	16 05 34.3	-1.5
WB2				IAmb		IAmb	16 05 39.5	
	comp=Z,1.9nm,0.6s							
WRA	Warramunga Arr	40.09	290	P		P	16 05 34.6	-1.3
	comp=Z,0.6nm,0.5s,baz=127,slow=8.1,SNR=9.1							
	comp=Z,0.6nm,0.5s							
WRA	Warramunga Arr	40.09	290	P		P	16 05 34.7	-1.3
WB0	Warramunga Arr	40.17	291	P		P	16 05 34.9	-1.7
WB0				IAmb		IAmb	16 05 36.9	
	comp=Z,5.4nm,1.2s							
MTN	Manton Dam	47.21	295	P		P	16 06 32.6	-0.6
CMAR	Chiang Mai Arr	91.63	293	P		P	16 11 07.7	+0.2
	comp=Z,0.3nm,0.6s,baz=174,slow=2.7,SNR=2.5							
	comp=Z,0.3nm,0.6s							
ARCES	ARCESS Array B	147.79	340	PKPbc		PKiKP	16 17 45.0	-0.8
	comp=Z,4.1nm,0.9s,baz=36,slow=3.4,SNR=2.3							
BRTR	Keskin Array B	150.25	279	PKPbc		PKPbc	16 17 49.9	-1.3
	comp=Z,0.2nm,0.4s,baz=180,slow=24,SNR=1.4							
FINES	FINESS Array B	152.54	327	PKPbc		PKPbc	16 17 54.5	-1.1
	comp=Z,2.6nm,1.0s,baz=31,slow=3.2,SNR=2.1							

*IDC **13** 15:58:20.3±1.2, 42.67S×172.78E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=30.1km s-min=14.4km az=128.0*

*NEIC **13** 15:58:20.9±1.1, 42.59S±0.02×172.97E±0.02, h4km±6km, mb4.1/5, Error ellipse: s-maj=3.0km s-min=2.2km az=149.0*

ISC 13 15:58:21.8±0.6, 42.64S±0.03×172.95E±0.04, h15km, n33, σ1§23/34, mb3.8/8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.34	169	Pg	Pg	15 58 29.1	+0.3
GVZ				Sg	Sg	15 58 34.0	+0.4
GVZ	Greta Valley S	0.34	169	P	Pb	15 58 29.2	-0.4
KHZ	Kahutara	0.49	64	Pg	Pg	15 58 29.6	-1.8
LTZ	Lake Taylor	0.52	253	Pg	Pg	15 58 31.3	-0.7
LTZ	Lake Taylor	0.52	253	P	Pg	15 58 31.4	-0.7
THZ	Tophouse	0.87	358	Pg	Pb	15 58 37.6	-1.1
THZ	Tophouse	0.87	358	S	Pb	15 58 37.8	-0.8
OXZ	Oxford	0.96	224	Pg	Pb	15 58 39.1	-1.1
OXZ	Oxford	0.96	224	P	Pb	15 58 39.1	-1.1
MQZ	McQueen's Vall	1.09	191		Pb	15 58 40.6	-1.8
MQZ	McQueen's Vall	1.09	191	P	Pb	15 58 40.8	-1.6
DSZ	Denniston Nort	1.23	316	Pg	Pn	15 58 43.6	-0.9
TUWZ	Tuamarina	1.41	32		Pn	15 58 45.3	-1.7
NNZ	Nelson	1.45	13	Pn	Pn	15 58 47.4	-0.1
RPZ	Rata Peaks	1.76	231	Pg	Pn	15 58 50.3	-1.4
	84nm,0.3s,baz=62,slow=5.2,SNR=10.0						
RPZ				Lg	Lg	15 59 11.3	
	419nm,0.3s,baz=14,slow=22,SNR=37						
RPZ	Rata Peaks	1.76	231	Pn	Pn	15 58 50.1	-1.6
RPZ	Rata Peaks	1.76	231	P	Pn	15 58 49.8	-1.9
QRZ	Quartz Range	1.83	360	Pn	Pn	15 58 52.9	+0.1
DZM	Mont Dzumac	21.21	343	P	P	16 03 07.7	+0.7
	3.3nm,0.8s,baz=123,slow=6.7,SNR=3.3						
	3.3nm,0.8s						
KOUNC	Koumac, New Ca	23.19	339	P	P	16 03 29.6	+1.5
KOUNC				IAmb	IAmb	16 03 36.6	
	comp=Z,12nm,1.0s						
AS31	Alice Springs	37.36	288	P	P	16 05 34.2	+0.4
AS31				IAmb	IAmb	16 05 37.7	
	comp=Z,0.6nm,0.7s						
ASAR	Alice Springs	37.36	288	P	P	16 05 34.2	+0.4
	comp=Z,0.7nm,0.4s,baz=129,slow=7.4,SNR=5.6						
	comp=Z,0.7nm,0.4s						
ASAR	Alice Springs	37.36	288	P	P	16 05 33.8	-0.1
WRA	Warramunga Arr	39.53	293	P	P	16 05 53.0	+0.8
	comp=Z,0.6nm,0.6s,baz=129,slow=8.4,SNR=5.3						
	comp=Z,0.6nm,0.6s						
WRA	Warramunga Arr	39.53	293	P	P	16 05 52.1	0.0
QSPA	South Pole Qui	47.49	180	P	P	16 06 57.4	+1.5
	comp=Z,1.6nm,0.7s,baz=133,slow=2.1,SNR=7.1						
	comp=Z,1.6nm,0.7s						
QSPA	South Pole Qui	47.49	180	P	P	16 06 57.4	+1.5
BELA	Belgrano 2	58.58	173	P	P	16 08 18.4	+1.1
BELA				IAmb	IAmb	16 08 22.3	
	comp=Z,5.9nm,1.4s						
CMAR	Chiang Mai Arr	91.11	294	P	P	16 11 26.8	+0.8
	comp=Z,0.2nm,0.3s,baz=134,slow=2.6,SNR=1.8						
	comp=Z,0.2nm,0.3s						
NRIK	Noril'sk	127.58	333	PKP	PKiKP	16 17 27.6	+2.0
	comp=Z,2.3nm,0.5s,baz=66,slow=11,SNR=4.7						
ARCES	ARCESS Array B	148.26	339	PKPbc	PKPbc	16 18 05.4	-0.6
	comp=Z,2.6nm,0.8s,baz=75,slow=1.4,SNR=1.9						
BRTR	Keskin Array B	149.44	278	PKPbc	PKPbc	16 18 08.1	-2.0
	comp=Z,0.8nm,1.0s,baz=129,slow=4.6,SNR=2.0						
FINES	FINESS Array B	152.72	325	PKPbc	PKPbc	16 18 15.5	-1.4
	comp=Z,1.2nm,0.7s,baz=108,slow=4.5,SNR=1.6						

*IDC **13** 15:58:33.2±0.8, 41.54S×174.22E, h0km, mb4.5/12, mbtmp4.5/12, Error ellipse: s-maj=30.8km s-min=17.1km az=58.0*

*NEIC **13** 15:58:36.8±1.2, 41.96S±0.04×173.72E±0.10, h10km±1km, mb5.0/33, Error ellipse: s-maj=13.8km s-min=3.0km az=115.0*

*WEL **13** 15:58:36.5±0.5, 42.S±2°×17°4E±°, h8km±3km, M4.6/7, ML4.8/7, MLv4.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=136.9*

ISC 13 15:58:36.7±0.4, 41.77S±0.04×174.09E±0.05, h20km±1km, n72, σ1§16/81, mb4.9/26, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.10	76	P	Pb	15 58 38.5	-2.2
CMWZ				S	Sb	15 58 41.5	-2.0
BSWZ	Blackbirch Sta	0.17	290		Pb	15 58 41.5	-0.9
BSWZ				Sg	Sb	15 58 46.0	-0.4
BSWZ	Blackbirch Sta	0.17	290	P	Pb	15 58 41.5	-0.9
BSWZ				S	Sb	15 58 46.0	-0.4
TUWZ	Tuamarina	0.36	342	P	Pb	15 58 44.7	+0.4
TUWZ				S	Sb	15 58 51.4	+1.9
TCW	Tory Channel	0.58	14	P	Pb	15 58 48.5	+0.3
TCW				S	Sn	15 58 57.8	-0.8
BHW	Baring Head	0.69	58	P	Pb	15 58 50.0	-0.1
BHW				S	Sn	15 59 01.1	-0.2
KHZ	Kahutara	0.76	212	P	Pn	15 58 52.3	+0.1
KHZ				S	Sn	15 59 03.1	0.0
NNZ	Nelson	0.77	316	Pg	Pn	15 58 52.2	-0.2
KHEZ	Kahui Hut	2.48	359	P	Pb	15 59 20.4	-0.1
RPZ	Rata Peaks	2.96	228	Sn	Sn	15 59 56.0	-1.4
	baz=29,slow=19						
DZM	Mont Dzumac	20.67	340	P	P	16 03 14.5	-0.9
	8.1nm,0.9s,baz=180,slow=10.0,SNR=0.9						
	8.1nm,0.9s						
EIDS	Eidsvold	25.09	303	P	P	16 04 00.1	+0.2
STKA	Stephens Creek	27.68	280	P	P	16 04 24.2	+0.9
	1.9nm,0.8s,baz=115,slow=17,SNR=1.8						
	1.9nm,0.8s						
BBOO	Buckleboo	31.34	274	P	P	16 04 55.3	-0.4
CTA	Charters Tower	31.97	304	P	P	16 05 00.5	-0.9
	15nm,1.1s,baz=154,slow=13,SNR=5.5						
	15nm,1.1s						
CTAO	Charters Tower	31.97	304	P	P	16 04 59.2	-2.1
VNDA	Vanda	36.21	184	P	P	16 05 38.9	+1.3
	1.5nm,0.9s,baz=19,slow=6.6,SNR=6.6						
	1.5nm,0.9s						
AS31	Alice Springs	37.92	286	P	P	16 05 51.9	-0.8
ASAR	Alice Springs	37.92	286	P	P	16 05 51.9	-0.9
	3.3nm,0.5s,baz=122,slow=6.4,SNR=12						
ASAR				PcP	PcP	16 08 06.9	-1.6
	1.3nm,0.6s,baz=125,slow=3.8,SNR=6.7						
	3.3nm,0.5s						
COEN	Coen	38.55	307	P	P	16 05 58.2	+0.2
WR0	Warramunga Arr	39.85	291	P	P	16 06 08.4	-0.4
WR0				IAmb	IAmb	16 06 16.0	
	comp=Z,31nm,1.8s						
WB2	Warramunga Arr	39.99	291	P	P	16 06 09.6	-0.4
WRAB	Tennant Creek	40.00	291	P	P	16 06 09.6	-0.5
WRAB				IAmb	IAmb	16 06 13.3	
	comp=Z,24nm,0.6s						
WRA	Warramunga Arr	40.00	291	P	P	16 06 09.7	-0.4
	comp=Z,5.9nm,0.5s,baz=127,slow=8.6,SNR=34						
WRA				PcP	PcP	16 08 13.5	-1.6
	comp=Z,1.0nm,0.7s,baz=128,slow=3.1,SNR=5.5						
	comp=Z,5.9nm,0.5s						
WRA	Warramunga Arr	40.00	291	P	P	16 06 09.8	-0.4
PMG	Port Moresby	40.02	316	P	P	16 06 11.5	+1.3
PMG				IAmb	IAmb	16 06 12.9	
	comp=Z,22nm,0.9s						
WB0	Warramunga Arr	40.08	291	P	P	16 06 10.1	-0.7
RABL	Rabaul	42.25	326	P	P	16 06 28.9	+0.3
RABL				IAmb	IAmb	16 06 31.0	
	comp=Z,30nm,0.9s						
KNRA	Kununurra	46.78	290	P	P	16 07 03.5	-1.4
MTN	Manton Dam	47.12	295	P	P	16 07 07.3	-0.2
MORW	Morawa	48.14	266	P	P	16 07 14.8	-0.6
QSPA	South Pole Qui	48.35	180	P	P	16 07 18.6	+1.9
	comp=Z,12nm,1.0s,baz=360,slow=1.8,SNR=16						
	comp=Z,12nm,1.0s						
QSPA	South Pole Qui	48.35	180	P	P	16 07 18.7	+2.0
QSPA				IAmb	IAmb	16 07 19.9	
	comp=Z,14nm,1.0s						
PSA00	Pilbara Seismi	49.50	277	P	P	16 07 24.6	-1.2
PSA00				IAmb	IAmb	16 07 25.6	
	comp=Z,7.3nm,0.8s						
MBWA	Marble Bar	49.83	277	P	P	16 07 27.3	-1.0
MBWA				IAmb	IAmb	16 07 28.1	
	comp=Z,10nm,0.7s						
GIRL	Giralia	53.05	272	P	P	16 07 52.5	0.0
FAKI	Fak Fak	53.83	304	P	P	16 07 57.2	-1.0
FAKI				IAmb	IAmb	16 07 58.0	
	comp=Z,18nm,0.7s						
BELA	Belgrano 2	59.34	173	P	P	16 08 37.5	+0.9
MAW	Mawson	59.38	205	P	P	16 08 38.9	+1.9
	comp=Z,2.5nm,0.9s,baz=144,slow=8.7,SNR=3.0						
	comp=Z,2.5nm,0.9s						
LUWI	Luwuk	61.35	297	P	P	16 08 49.9	-1.3
LUWI				IAmb	IAmb	16 09 40.8	
	comp=Z,17nm,0.8s						
TOLI2	Tolitoli	64.27	297	P	P	16 09 10.3	-0.4
TOLI2				IAmb	IAmb	16 09 11.1	
	comp=Z,7.3nm,0.8s						
TROLL	Troll, Antarti	66.37	183	P	P	16 09 24.4	+0.8
SNAA	Sanae	66.84	181	P	P	16 09 27.2	+0.7
SNAA	Sanae	66.84	181	P	P	16 09 27.3	+0.7
SNAA				IAmb	IAmb	16 09 28.2	
	comp=Z,15nm,1.4s						
VNA3	Neumayer Olymp	67.26	179	P	P	16 09 29.7	+0.6
VNA2	Neumayer--Watz	67.61	179	P	P	16 09 32.3	+1.0
	baz=165,slow=6.0						
VNA1	Neumayer--Stat	67.88	179	P	P	16 09 34.2	+1.2
LEM	Lembang	67.98	281	P	P	16 09 35.3	+0.6
	comp=Z,14nm,0.5s,baz=114,slow=14,SNR=3.9						
	comp=Z,14nm,0.5s						
SBUM	Sibu	71.08	291	P	P	16 09 53.0	-0.7
KSM	Kuching	71.73	289	P	P	16 09 57.0	-0.5
KSM				IAmb	IAmb	16 09 57.8	
	comp=Z,6.5nm,0.8s						
LL05	Los Muermos	77.14	135	P	P	16 10 32.6	+3.9
PLCA	Paso Flores	79.17	136	P	P	16 10 40.6	+0.6
	comp=Z,2.4nm,1.1s,baz=236,slow=8.5,SNR=3.7						
	comp=Z,2.4nm,1.1s						
PLCA	Paso Flores	79.17	136	P	P	16 10 41.8	+1.8
PLCA				IAmb	IAmb	16 13 15.6	
	comp=Z,16nm,1.4s						
INU	Inuyama	83.94	330	P	P	16 11 05.4	+0.5
INU				IAmb	IAmb	16 13 36.7	
	comp=Z,20nm,1.6s						
ROC1	El Roble	84.56	130	P	P	16 11 11.3	+2.5
ROC1				IAmb	IAmb	16 13 43.0	
	comp=Z,16nm,1.3s						
JHS	Saijyo	85.14	327	P	P	16 11 11.7	+0.6
JHS				IAmb	IAmb	16 13 27.8	
	comp=Z,25nm,1.5s						
KSRS	Korea Array	89.41	325	P	P	16 11 32.5	+0.9
	comp=Z,3.2nm,0.7s,baz=150,slow=5.7,SNR=16						
	comp=Z,3.2nm,0.7s						
KSAR	Wonju Array Be	89.41	325	P	P	16 11 32.9	+1.3
KS19	Wonju Array Si	89.47	325	P	P	16 11 32.8	+0.9
CM31	Chiang Mai Arr	91.54	293	P	P	16 11 42.2	+0.2
CM31				IAmb	IAmb	16 11 43.3	
	comp=Z,6.4nm,0.7s						
CMAR	Chiang Mai Arr	91.54	293	P	P	16 11 42.5	+0.4
	comp=Z,4.9nm,0.8s,baz=147,slow=3.3,SNR=29						
	comp=Z,4.9nm,0.8s						
CMAR	Chiang Mai Arr	91.54	293	P	P	16 11 42.0	0.0
TXAR	Lajitas Array	103.61	63	PKKPbc	PKKPbc	16 28 30.0	+2.0
	comp=Z,0.3nm,0.8s,baz=57,slow=4.6,SNR=3.5						
YKA	Yellowknife Ar	118.46	30	PKP	PKPdf	16 17 21.0	-0.6
	comp=Z,1.1nm,0.7s,baz=256,slow=2.0,SNR=4.0						
KBZ	Khabaz	144.52	290	PKP	PKPab	16 18 08.7	-0.8
	comp=Z,3.7nm,0.7s,baz=90,slow=1.0,SNR=6.8						
SFJD	Kangerlussuaq	145.00	29	PKP	PKPbc	16 18 09.3	-1.3
	comp=Z,5.6nm,0.7s,baz=309,slow=4.1,SNR=3.7						
DBIC	Dimbokro	145.03	182	PKPbc	PKPdf	16 18 14.3	+1.4
	comp=Z,2.2nm,0.6s,baz=206,slow=4.5,SNR=4.6						
ARCES	ARCESS Array B	147.76	340	PKPbc	PKPbc	16 18 17.8	-0.9
	comp=Z,1.9nm,0.6s,baz=54,slow=3.7,SNR=8.3						
BRTR	Keskin Array B	150.15	279	PKPbc	PKPbc	16 18 25.2	-0.7
	comp=Z,1.0nm,0.5s,baz=130,slow=2.3,SNR=5.0						
FINES	FINESS Array B	152.49	327	PKPbc	PKPbc	16 18 28.9	-1.4
	comp=Z,1.9nm,0.6s,baz=69,slow=2.9,SNR=8.2						
AKASG	Malin Array Be	154.32	302	PKPbc	PKPbc	16 18 33.2	-1.5
	comp=Z,0.2nm,0.3s,baz=111,slow=2.5,SNR=1.7						
AKASG				PKPab	PKPab	16 18 48.1	-0.7
	comp=Z,0.9nm,0.6s,baz=68,slow=3.8,SNR=4.8						
GERES	GERESS Array B	164.52	304	PKPab	PKPab	16 19 32.2	-1.3
	comp=Z,0.2nm,0.4s,baz=108,slow=3.2,SNR=2.1						

*IDC **13** 16:01:41.5±3.5, 42.37S×173.70E, h0km, mb3.8/2, mbtmp3.9/3, ML4.3/1, Error ellipse: s-maj=77.7km s-min=34.8km az=130.0*

*WEL **13** 16:01:44.2±0.5, 42.S±3°×17°4E±°, h9km±3km, M4.3/12, ML4.5/12, MLv4.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9*

*NEIC **13** 16:01:44.2±1.8, 42.42S±0.04×173.80E±0.07, h26km±10km, mb4.4/3, Error ellipse: s-maj=9.1km s-min=2.6km az=128.0*

ISC 13 16:01:44.6±1.0, 42.41S±0.04×173.78E±0.05, h25km±6km, n52, σ0§80/63, mb4.3/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.18	267	Pg	Pb	16 01 49.7	-0.3
KHZ				Sg	Sb	16 01 53.5	-0.1
KHZ	Kahutara	0.18	267	P	Pb	16 01 50.1	+0.1
KHZ				S	Sb	16 01 54.1	+0.4
BSWZ	Blackbirch Sta	0.69	6		Pb	16 01 57.4	-0.7
BSWZ	Blackbirch Sta	0.69	6	P	Pb	16 01 57.7	-0.4
BSWZ				S	Sn	16 02 08.6	-0.2
CMWZ	Cape Campbell	0.73	26	S	Sn	16 02 09.5	-0.2
GVZ	Greta Valley S	0.79	224		Pn	16 02 00.4	+0.3
GVZ	Greta Valley S	0.79	224	P	Pn	16 02 00.6	+0.5
GVZ				S	Sn	16 02 12.7	+1.6
THZ	Tophouse	0.92	314		Pb	16 02 00.6	-1.3
THZ	Tophouse	0.92	314	P	Pb	16 02 01.0	-0.9
THZ				S	Sb	16 02 12.8	-0.9
TUWZ	Tuamarina	0.98	7		Pb	16 02 03.6	+0.7
TUWZ	Tuamarina	0.98	7	P	Pb	16 02 03.9	+0.9
TUWZ				S	Sb	16 02 14.1	-1.4
AMCZ	Amberley	1.13	227	P	Pb	16 02 05.5	0.0
AMCZ				S	Sb	16 02 20.9	+1.1
LTZ	Lake Taylor	1.18	251		Pb	16 02 05.8	-0.5
LTZ	Lake Taylor	1.18	251	P	Pb	16 02 06.2	-0.1
LTZ				S	Sb	16 02 22.2	+1.1
NNZ	Nelson	1.23	346		Pb	16 02 06.6	-0.5
TCW	Tory Channel	1.25	17	P	Pb	16 02 07.7	+0.1
MRNZ	Matariki Terra	1.26	322	P	Pb	16 02 07.7	0.0
MRNZ				S	Sb	16 02 25.4	+1.8
SNZO	South Karori	1.29	32	Pn	Pn	16 02 07.8	+0.7
WEL	Wellington	1.34	34	P	Pb	16 02 09.1	0.0
PLWZ	Palliser	1.38	53	Pn	Pn	16 02 08.0	-0.3
MSWZ	Moikau Station	1.48	48	P	Pn	16 02 09.9	+0.3
TKNZ	Takaka Hill	1.50	336	P	Pb	16 02 11.6	-0.2
MQZ	McQueen's Vall	1.54	212	Pn	Pn	16 02 09.8	-0.6
MQZ	McQueen's Vall	1.54	212	P	Pn	16 02 10.1	-0.3
OXZ	Oxford	1.58	234	Pn	Pn	16 02 10.5	-0.5
OXZ	Oxford	1.58	234	P	Pn	16 02 10.7	-0.3
AKCZ	Akaroa Harbour	1.60	203	P	Pn	16 02 11.4	+0.2
INZ	Inchbonnie	1.76	259	P	Pn	16 02 14.2	+0.8
RACZ	Rakaia	1.79	222	P	Pn	16 02 13.7	-0.1
QRZ	Quartz Range	1.84	329	P	Pb	16 02 16.7	-0.8
WACZ	Wakanui South	2.09	222	P	Pn	16 02 17.9	-0.1
WVZ	Waitaha Valley	2.34	252	P	Pn	16 02 22.3	+0.9
RPZ	Rata Peaks	2.39	236	Pn	Pn	16 02 22.0	-0.1
	71nm,0.3s,baz=196,slow=2.9,SNR=12						
RPZ				Sn	Sn	16 02 50.4	-0.2
	423nm,0.3s,baz=9.9,slow=20,SNR=30						
	303nm,0.5s						
RPZ	Rata Peaks	2.39	236	Pn	Pn	16 02 21.7	-0.4
RPZ	Rata Peaks	2.39	236	P	Pn	16 02 22.0	-0.1
ARCZ	Arundel	2.45	230	P	Pn	16 02 22.3	-0.6
ARCZ				S	Sn	16 02 51.4	-0.7
GCSZ	Gaunt Creek Bo	2.70	249	P	Pn	16 02 27.9	+1.5
TMZ	Timaru	2.83	225	P	Pn	16 02 28.0	-0.2
FOZ	Fox Glacier	3.12	248	P	Pn	16 02 33.9	+1.8
ODZ	Otahua Downs	3.48	220	Pn	Pn	16 02 36.3	-0.9
HHSZ	Highcliff Hill	4.16	212	P	Pn	16 02 46.3	-0.2
WKZ	Wanaka	4.22	233	Pn	Pn	16 02 46.3	-1.1
EAZ	Earnscleugh	4.29	227	P	Pn	16 02 48.1	-0.2
MLZ	Mavora Lakes	5.05	232	Pn	Pn	16 02 57.4	-1.3
ETAZ	East Tamaki Re	5.52	10	P	Pn	16 03 06.8	+1.7
PYZ	Puysegur Point	6.33	231	Pn	Pn	16 03 14.6	-1.6
ASAR	Alice Springs	37.88	287	P	P	16 08 59.6	-0.1
	0.8nm,0.7s,baz=124,slow=7.3,SNR=3.6						
	0.8nm,0.7s						
WB2	Warramunga Arr	40.01	292	P	P	16 09 16.7	-0.7
WB2				IAmb	IAmb	16 09 43.6	
	comp=Z,8.4nm,1.2s						
WRAB	Tennant Creek	40.01	292	P	P	16 09 17.1	-0.4
WRAB				IAmb	IAmb	16 09 23.9	
	comp=Z,18nm,0.9s						
WRA	Warramunga Arr	40.01	292	P	P	16 09 17.6	+0.1
	comp=Z,1.8nm,0.8s,baz=127,slow=8.5,S

KHEZ	Kahui Hut	3.27	9	P		Pn	16 09 47.4	+3.7
NBEZ	Newall Road No	3.28	7	P		Pn	16 09 47.3	+3.6
PKE	Pukeiti	3.36	8	P		Pn	16 09 48.3	+3.3
DREZ	Durham Road	3.39	11	P		Pn	16 09 48.9	+3.5
MHEZ	Mangahewa	3.52	12	P		Pb	16 09 51.7	-3.5
PKVZ	Pokaka	3.57	26	P		Pb	16 09 55.1	-0.9
MOVZ	Moawhango	3.60	31	P		Pb	16 09 53.2	-3.5
WNVZ	Wahianoa	3.62	29	P		Pb	16 09 53.4	-3.5
TRVZ	Turoa	3.62	28	P		Pb	16 09 53.5	-3.6
DRZ	Dome Shelter	3.65	28	P		Pb	16 09 57.2	-0.3
WHVZ	Whangaehu Hut	3.65	28	P		Pn	16 09 53.5	+4.3
BHHZ	Black Hill Sta	3.66	35	P		Pb	16 09 57.9	+0.3
JCZ	Jackson Bay	3.68	244	P		Pn	16 09 50.9	+1.5
NGZ	Ngauruhoe	3.75	28	P		Pb	16 09 56.4	-2.9
SNVZ	South Ngauruho	3.76	28	P		Pb	16 09 56.7	-2.7
OTVZ	Oturere	3.79	28	P		Pn	16 09 54.1	+3.1
TWVZ	Taurewa	3.79	25	P		Pn	16 09 53.0	+2.0
NNVZ	North Ngauruho	3.80	28	P		Pb	16 09 56.7	-3.3
ETVZ	East Tongariro	3.83	29	P		Pb	16 09 59.4	-1.1
TMVZ	Te Maari	3.84	28	P		Pb	16 09 56.6	-4.1
NTVZ	North Tongarir	3.85	28	P		Pn	16 09 56.5	+4.8
WKZ	Wanaka	3.90	232	Pn		Pn	16 09 52.6	+0.3
WKZ	Wanaka	3.90	232	P		Pn	16 09 52.5	+0.2
HHSZ	Highcliff Hill	3.90	210	P		Pn	16 09 53.2	+0.8
EAZ	Earnscleugh	3.98	226	P		Pn	16 09 53.9	+0.3
BKZ	Black Stump Fm	4.11	36	Pn		Pn	16 09 56.0	+0.7
BKZ	Black Stump Fm	4.11	36	P		Pb	16 10 02.5	-2.8
HIZ	Hauiti	4.17	16	P		Pn	16 09 59.0	+3.0
WATZ	Wairara	4.22	26	P		Pb	16 10 04.3	-2.8
TUZ	Tuapeka	4.35	217	P		Pn	16 09 59.4	+1.0
MRHZ	Matea Rd	4.36	33	P		Pn	16 09 59.3	+0.6
MSZ	Milford Sound	4.49	240	P		Pn	16 10 00.4	0.0
TLZ	Tolley Road	4.51	22	P		Pn	16 10 04.7	+3.3
MTHZ	Maungataniwha	4.52	37	P		Pn	16 10 04.5	+3.5
MLZ	Mavora Lakes	4.73	231	Pn		Pn	16 10 03.8	0.0
MLZ	Mavora Lakes	4.73	231	P		Pn	16 10 03.8	0.0
MHGZ	Mahia Peninsul	4.82	47	P		Pn	16 10 07.3	+2.3
UTU	Utuhina	4.85	27	P		Pn	16 10 09.4	+3.9
SYZ	Scrubby Hill	5.02	215	P		Pn	16 10 08.6	+1.0
TOZ	Tahuroa Road	5.06	20	P		Pn	16 10 10.0	+1.7
WHZ	Wether Hill Ro	5.14	227	Pn		Pn	16 10 08.5	-0.9
WHZ	Wether Hill Ro	5.14	227	P		Pn	16 10 08.5	-0.9
MWZ	Matawai	5.26	39	P		Pn	16 10 11.4	+0.3
TGRZ	Tauranga	5.28	26	P		Pn	16 10 12.3	+0.9
DCZ	Deep Cove	5.35	235	Pn		Pn	16 10 11.4	-0.8
CNGZ	Carnagh Statio	5.47	44	P		Pn	16 10 18.8	+4.8
AWAZ	Awhitu Peninsu	5.54	11	P		Pn	16 10 17.4	+2.5
MKAZ	Moumakai	5.59	15	P		Pn	16 10 17.3	+1.8
TWGZ	Tauwhareparae	5.60	41	P		Pn	16 10 17.5	+1.8
RUGZ	Raukumara Rang	5.63	37	P		Pn	16 10 17.8	+1.7
WTAZ	Waiatarua	5.66	10	P		Pn	16 10 19.3	+2.7
ETAZ	East Tamaki Re	5.69	13	P		Pn	16 10 19.3	+2.3
APZ	The Paps	5.76	220	P		Pn	16 10 17.8	-0.1
HBAZ	Herne Bay Bore	5.76	11	P		Pn	16 10 20.8	+2.8
RVAZ	Riverhead Bore	5.82	10	P		Pn	16 10 21.2	+2.4
HAZ	Te Kaha	5.85	37	P		Pn	16 10 19.0	0.0
MBAZ	Motutapu North	5.87	12	P		Pn	16 10 22.2	+2.8
WIAZ	Waiheke Island	5.89	14	P		Pn	16 10 21.9	+2.2
PYZ	Puysegur Point	6.01	230	Pn		Pn	16 10 20.5	-0.8
PYZ	Puysegur Point	6.01	230	P		Pn	16 10 21.3	0.0
ABAZ	Army Bay	6.03	11	P		Pn	16 10 24.1	+2.6
KUZ	Kuaotunu	6.05	18	P		Pn	16 10 23.7	+1.8
MXZ	Matakaoa Point	6.24	39	Pn		Pn	16 10 24.9	+0.4
GRZ	Great Barrier	6.47	15	P		Pn	16 10 29.9	+2.2
WCZ	Waipu Caves	6.62	7	P		Pn	16 10 32.9	+3.2
OUZ	Omahuta	7.30	2	P		Pn	16 10 41.8	+2.9
ASZR	Alice Springs	37.61	287	P		P	16 16 56.7	-0.3
WB2	Warramunga Arr	39.76	292	P		P	16 16 25.3	+0.3
WB2	comp=Z,8.2nm,1.4s			IAmb		IAmb	16 16 58.7	
WRAB	Tennant Creek	39.76	292	P		P	16 16 25.5	+0.4
WRAB	comp=Z,13nm,0.5s			IAmb		IAmb	16 16 59.9	
WB0	Warramunga Arr	39.85	292	P		P	16 16 25.9	+0.1
WB0	comp=Z,8.1nm,1.3s			IAmb		IAmb	16 16 47.0	

WEL 13 16:11:00.0±0.4, 42°S±3°×17°4E±°, h7km±2km, M3.8/19, ML4.1/19, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=172.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.05	177	P	Pg	16 11 02.2	+0.6
BSWZ	Blackbirch Sta	0.25	267	P	Pb	16 11 06.1	-0.8
BSWZ				S	Sb	16 11 10.8	-0.6
TUWZ	Tuamarina	0.34	324	P	Pb	16 11 07.7	-0.7
TUWZ				S	Sb	16 11 13.3	-0.6
TCW	Tory Channel	0.49	6	P	Pg	16 11 09.7	+0.2
TCW				S	Sg	16 11 17.1	+1.0
BHW	Baring Head	0.58	60	P	Pg	16 11 10.8	-0.3
BHW				S	Sb	16 11 21.0	+0.2
WEL	Wellington	0.59	45	P	Pg	16 11 11.7	+0.2
WEL				S	Sb	16 11 20.7	-0.6
NNZ	Nelson	0.79	308	P	Pb	16 11 15.8	-0.2
NNZ				S	Sb	16 11 26.8	-0.1
PLWZ	Palliser	0.79	81	P	Pb	16 11 16.0	-0.2
PLWZ				S	Sn	16 11 28.5	-1.3
MSWZ	Moikau Station	0.83	70	P	Pg	16 11 15.8	-0.2
MSWZ				S	Sn	16 11 29.8	-0.8
CAW	Cannon Point	0.88	48	P	Pg	16 11 17.0	+0.1
CAW				S	Sb	16 11 28.9	-0.5
DUWZ	D'Urville Isla	0.93	346	P	Pg	16 11 17.5	-0.3
DUWZ				S	Sb	16 11 30.7	-0.1
PAWZ	Paruwai Farm	0.97	71	P	Pg	16 11 18.7	+0.1
PAWZ				S	Sn	16 11 33.2	-0.8
THZ	Tophouse	0.98	266	P	Pg	16 11 15.4	-0.4
KIW	Kapiti Island	0.99	32	P	Pg	16 11 18.8	-0.2
KIW				S	Sb	16 11 32.7	-0.1
MTW	Mount Morrison	1.11	61	P	Pg	16 11 20.5	-0.8
MTW				S	Sn	16 11 38.0	+0.4
MRNZ	Matariki Terra	1.13	285	P	Pn	16 11 22.4	+0.1
MRNZ				S	Sn	16 11 38.3	+0.3
OGWZ	Otaki Gorge	1.14	40	P	Pg	16 11 21.5	-0.4
TRWZ	Traveller	1.15	75	P	Pg	16 11 20.8	-1.3
HOWZ	Holdsworth Sta	1.27	51	P	Pn	16 11 23.9	-0.3
TMWZ	Te Maipa	1.40	65	P	Pn	16 11 24.3	-1.6
MRZ	Mangatainoka R	1.47	45	P	Pn	16 11 26.0	-0.9
QRZ	Quartz Range	1.54	304	P	Pn	16 11 24.7	-3.2
QRZ				S	Sg	16 11 51.1	+1.6
TIWZ	Tintock	1.57	54	P	Pn	16 11 27.7	-0.6
CPWZ	Castlepoint	1.70	63	P	Pg	16 11 33.9	+1.3
OHWZ	Ohakea	1.71	30	P	Pb	16 11 32.2	+0.4
POWZ	Post Office Ro	1.73	42	P	Pn	16 11 28.6	-0.6
BFZ	Birch Farm	1.84	57	P	Pg	16 11 35.5	+0.2
WAZ	Wanganui	2.03	17	P	Pb	16 11 38.1	+0.9
DVHZ	Dannevirke	2.04	47	P	Pg	16 11 39.0	-0.1
PNHZ	Pukenui	2.34	41	P	Pg	16 11 43.9	-0.9
MOVZ	Moawhango	2.58	28	P	Pb	16 11 46.5	0.0
BHHZ	Black Hill Sta	2.62	33	P	Pb	16 11 47.9	+0.5
WHVZ	Whangaehu Hut	2.64	24	P	Pb	16 11 47.8	+0.2
FWVZ	Far West T-bar	2.65	23	P	Pb	16 11 48.9	+0.9
SNVZ	South Ngauruho	2.74	24	P	Pb	16 11 49.8	+0.4
OTVZ	Oturere	2.77	24	P	Pb	16 11 50.4	+0.5
TMVZ	Te Maari	2.82	24	P	Pb	16 11 51.4	+0.6

MEX 13 16:11:04.9±0.4, 17°98N×100°53W, h54km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.35	30	eP	Pn	16 11 13.5	-1.5
ARIG				eS	Sn	16 11 20.6	-1.5
MEIG	Mezcala	0.87	93	eP	Pn	16 11 19.7	-1.4
MEIG				eS	Sn	16 11 30.9	-2.1
CAIG	El Cayaco	0.96	165	eP	Pn	16 11 20.9	-1.4
CAIG				eS	Sn	16 11 32.7	-2.2
PLIG	Platanillo	1.06	67	eP	Pn	16 11 22.3	-1.4
PLIG				eS	Sn	16 11 34.9	-2.7
DAIG	Los Arroyos	1.27	138	eP	Pn	16 11 25.8	-0.6
DAIG				eS	Sn	16 11 40.9	-1.5
TLIG	Tlapa	1.92	102	eS	Sn	16 11 56.6	-1.8

MEX 13 16:11:24.1±0.4, 18°08N×98°40W, h58km±11km, MD2.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FTIG	Fresnillo de T	0.30	124	iP	Pn	16 11 32.7	-1.4
FTIG				eS	Sn	16 11 39.6	-1.7
TLIG	Tlapa	0.54	198	eP	Pn	16 11 34.9	-1.5
TLIG				eS	Sn	16 11 43.6	-1.7
TLIG	Tlapa	0.54	198	eP	Pn	16 11 34.6	-1.8
HLIG	Huajuapan de L	0.62	113	eP	Pn	16 11 36.4	-1.0
HLIG				eS	Sn	16 11 44.4	-2.7
MGIG	Malinaltepec	0.87	195	eP	Pn	16 11 36.0	-4.6
MGIG				eS	Sn	16 11 50.8	-1.7

WEL 13 16:12:21.9±0.9, 42°S±7°×17°4E±°, h4km±3km, M4.0/13, ML4.2/13, MLv4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=3.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.30	347	P	Pg	16 12 27.7	+0.1
BSWZ				S	Sg	16 12 32.2	+0.7
CMWZ	Cape Campbell	0.32	36	P	Pg	16 12 28.8	+0.8
TUWZ	Tuamarina	0.57	359	P	Pg	16 12 32.9	0.0
TUWZ				S	Sg	16 12 40.8	+0.4
TCW	Tory Channel	0.83	17	P	Pg	16 12 37.2	-0.6
NNZ	Nelson	0.90	331	P	Pg	16 12 38.9	-0.2
NNZ				S	Sg	16 12 51.0	+0.2
WEL	Wellington	0.94	40	P	Pg	16 12 40.2	+0.3
WEL				S	Sb	16 12 54.4	+0.9
MRNZ	Matariki Terra	1.09	303	P	Pb	16 12 43.1	-0.1
MRNZ				S	Sb	16 12 57.8	+0.1
MSWZ	Moikau Station	1.13	59	P	Pg	16 12 42.3	-1.2
MSWZ				S	Sg	16 12 57.8	-0.3
DUWZ	D'Urville Isla	1.20	359	P	Pg	16 12 43.8	-1.1
DUWZ				S	Sb	16 13 01.2	+0.2
CAW	Cannon Point	1.22	43	P	Pg	16 12 44.2	-1.1
TKNZ	Takaka Hill	1.23	322	P	Pg	16 12 44.1	-1.3
TKNZ				S	Sb	16 13 01.8	0.0
KIW	Kapiti Island	1.35	32	P	Pn	16 12 46.7	-0.7
KIW				S	Sn	16 13 05.9	+0.1
OGWZ	Otaki Gorge	1.50	38	P	Pn	16 12 48.4	-1.0
QRZ	Quartz Range	1.60	317	P	Pn	16 12 51.3	+0.5
QRZ				S	Sn	16 13 11.8	0.0
HOWZ	Holdsworth Sta	1.61	47	P	Pn	16 12 52.3	+0.2
MRZ	Mangatainoka R	1.81	43	P	Pn	16 12 51.8	-2.0
INZ	Inchbonnie	2.00	248	P	Pn	16 12 56.7	+0.4
MOVZ	Moawhango	2.93	28	P	Pn	16 13 10.5	+1.3
AWAZ	Awhitu Peninsu	4.96	6	P	Pn	16 13 38.4	+1.3
ETAZ	East Tamaki Re	5.10	9	P	Pn	16 13 41.1	+2.1
WIAZ	Waiheke Island	5.28	10	P	Pn	16 13 43.2	+1.7

*IDC **13** 16:21:53.9±1.8, 41°.06S×174°.72E, h0km, mb3.7/3, mbtmp3.9/4, ML4.7/1, Error ellipse: s-maj=40.5km s-min=30.6km az=79.0*

*WEL **13** 16:21:58.9±0.3, 42°S±3°×17°4E±°, h5km±2km, M4.2/25, ML4.5/25, MLv4.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=148.7*

*NEIC **13** 16:21:58.6±0.9, 41°.71S±0°.06×174°.23E±0°.03, h17km±4km, mb4.4/6, Error ellipse: s-maj=8.3km s-min=3.5km az=178.0*

ISC 13 16:21:59.3±0.8, 41°.69S±0°.03×174°.24E±0°.02, h10km±5km, n107, σ1$42/115, mb4.3/6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.07	199	P	Pg	16 22 00.9	-0.5
CMWZ				S	Sg	16 22 03.4	+0.4
BSWZ	Blackbirch Sta	0.28	264	Pg	Pg	16 22 04.4	-0.4
BSWZ				Sg	Sg	16 22 08.4	-0.1
BSWZ	Blackbirch Sta	0.28	264	P	Pg	16 22 04.5	-0.4
BSWZ				S	Sg	16 22 09.2	+0.7
TUWZ	Tuamarina	0.34	319	Pg	Pg	16 22 06.0	-0.1
TUWZ	Tuamarina	0.34	319	P	Pg	16 22 06.1	+0.1
TUWZ				S	Sb	16 22 11.8	-1.1
TCW	Tory Channel	0.48	3	P	Pg	16 22 08.4	-0.2
TCW				S	Sg	16 22 15.6	+0.8
SNZO	South Karori	0.51	43	Pg	Pg	16 22 09.1	-0.1
BHW	Baring Head	0.55	60	P	Pg	16 22 09.3	-0.6
WEL	Wellington	0.56	45	P	Pg	16 22 10.2	0.0
WEL				S	Sb	16 22 18.9	-0.4
PLWZ	Palliser	0.77	82		Pg	16 22 13.8	-0.3
PLWZ	Palliser	0.77	82	P	Pb	16 22 14.2	-0.5
NNZ	Nelson	0.80	306	Pg	Pg	16 22 13.8	-0.9
NNZ	Nelson	0.80	306	P	Pg	16 22 14.2	-0.5
NNZ				S	Sg	16 22 25.0	-0.1
MSWZ	Moikau Station	0.80	71		Pg	16 22 14.0	-0.4
MSWZ	Moikau Station	0.80	71	P	Pg	16 22 14.7	-0.1
CAW	Cannon Point	0.85	47	P	Pg	16 22 15.2	-0.4
DUWZ	D'Urville Isla	0.92	345	P	Pg	16 22 16.6	-0.3
PAWZ	Paruwai Farm	0.94	72	P	Pg	16 22 16.6	-0.7
KIW	Kapiti Island	0.97	32	P	Pg	16 22 17.0	-0.8
THZ	Tophouse	1.00	265	Pn	Pg	16 22 17.2	-1.3
THZ	Tophouse	1.00	265	P	Pg	16 22 17.8	-0.8
MTW	Mount Morrison	1.08	61	P	Pg	16 22 18.7	-1.4
OGWZ	Otaki Gorge	1.11	39	P	Pg	16 22 19.6	-1.1
TRWZ	Traveller	1.12	76	P	Pg	16 22 18.9	-1.9
MRNZ	Matariki Terra	1.15	284	P	Pg	16 22 20.8	-0.6
TKNZ	Takaka Hill	1.16	304	P	Pg	16 22 20.6	-1.1
HOWZ	Holdsworth Sta	1.24	51	P	Pg	16 22 21.5	-1.6
TMWZ	Te Maipa	1.37	66	P	Pn	16 22 22.8	-1.7
MRZ	Mangatainoka R	1.44	45		Pn	16 22 23.8	-1.5
MRZ	Mangatainoka R	1.44	45	P	Pn	16 22 24.2	-1.2
TIWZ	Tintock	1.54	54	P	Pn	16 22 26.6	-0.2
QRZ	Quartz Range	1.55	303	Pn	Pn	16 22 26.6	-0.2
QRZ	Quartz Range	1.55	303	P	Pn	16 22 27.3	+0.3
GVZ	Greta Valley S	1.56	215	P	Pb	16 22 28.1	-0.2
OHWZ	Ohakea	1.69	29	P	Pb	16 22 30.0	-0.4
PRWZ	Pori Road	1.73	50	P	Pn	16 22 28.4	-1.0
POWZ	Post Office Ro	1.73	42	P	Pn	16 22 28.6	-0.8
BFZ	Birch Farm	1.81	57		Pn	16 22 29.3	-1.3
BFZ	Birch Farm	1.81	57	P	Pb	16 22 32.6	0.0
WAZ	Wanganui	2.01	17	P	Pb	16 22 35.9	-0.1
DVHZ	Dannevirke	2.01	47	P	Pg	16 22 37.5	-0.3
TSZ	Takapari Road	2.08	39	P	Pb	16 22 36.2	-1.0
LREZ	Lake Rotokare	2.23	3	P	Pg	16 22 41.9	0.0
NMEZ	Namu Road	2.29	353	P	Pb	16 22 40.7	+0.1
PRHZ	Porangahau	2.30	53	P	Pg	16 22 43.9	+0.5
PNHZ	Pukenui	2.31	41	P	Pg	16 22 42.1	-1.4
INZ	Inchbonnie	2.32	243	P	Pn	16 22 38.3	+0.8
WPHZ	Waipukurau	2.32	47	P	Pg	16 22 44.0	+0.2
KHEZ	Kahui Hut	2.40	356	P	Pb	16 22 42.4	-0.2
NBEZ	Newall Road No	2.43	353	P	Pb	16 22 43.1	0.0
MTVZ	Mangateitei	2.48	23	P	Pb	16 22 44.4	+0.4
DREZ	Durham Road	2.50	359	P	Pb	16 22 42.8	-1.4
PKE	Pukeiti	2.50	355	P	Pb	16 22 44.2	0.0
PKVZ	Pokaka	2.54	20	P	Pb	16 22 44.8	-0.2
MOVZ	Moawhango	2.55	27	P	Pb	16 22 44.4	-0.8
WNVZ	Wahianoa	2.57	24	P	Pb	16 22 45.8	+0.2
TRVZ	Turoa	2.58	23	P	Pb	16 22 45.7	-0.2
PXZ	Pawanui	2.58	51	P	Pg	16 22 48.7	-0.1
BHHZ	Black Hill Sta	2.60	33	P	Pb	16 22 45.5	-0.4
DRZ	Dome Shelter	2.61	23	P	Pb	16 22 46.3	0.0
WHVZ	Whangaehu Hut	2.61	24	P	Pb	16 22 44.9	-1.4
FWVZ	Far West T-bar	2.63	23	P	Pb	16 22 46.4	-0.1
TUVZ	Tukino	2.65	24	P	Pb	16 22 47.3	+0.5
NGZ	Ngauruhoe	2.71	23	P	Pb	16 22 47.8	-0.1
SNVZ	South Ngauruho	2.71	24	P	Pb	16 22 47.2	-0.9
OTVZ	Oturere	2.74	24	P	Pb	16 22 48.5	0.0
KAHZ	Kahurangaki	2.75	48	P	Pg	16 22 51.0	-1.0
NNVZ	North Ngauruho	2.76	23	P	Pb	16 22 48.6	-0.1
WTVZ	West Tongariro	2.77	22	P	Pb	16 22 48.6	-0.3
TWVZ	Taurewa	2.77	20	P	Pb	16 22 48.3	-0.5
ETVZ	East Tongariro	2.78	24	P	Pb	16 22 48.8	-0.4
TMVZ	Te Maari	2.80	24	P	Pb	16 22 49.1	-0.4
KRVZ	Karewarewa	2.80	23	P	Pb	16 22 49.2	-0.2
KWHZ	Kaweka Forest	2.80	37	P	Pb	16 22 50.6	+1.1
NTVZ	North Tongarir	2.81	23	P	Pb	16 22 49.4	-0.2
KATZ	Kakaramea	2.93	23	P	Pb	16 22 51.5	-0.1
WVZ	Waitaha Valley	2.94	241	P	Pb	16 22 49.6	-2.2
BKZ	Black Stump Fm	3.05	35	P	Pb	16 22 53.9	+0.3
RPZ	Rata Peaks	3.10	228	Pn	Pb	16 22 54.9	+0.3
RPZ	51nm,0.3s,baz=21,slow=17,SNR=6.1			Sn	Sg	16 23 41.3	+2.3
RPZ	25nm,0.3s,baz=147,slow=17,SNR=1.7	3.10	228	P	Pb	16 22 54.9	+0.3
WATZ	170nm,0.4s Wairara	3.19	21	P	Pb	16 22 56.4	+0.4
HIZ	Hauiti	3.20	9	Pn	Pn	16 22 48.8	-0.9
HIZ	Hauiti	3.20	9	P	Pn	16 22 52.6	+2.9
WHTZ	Whakaora	3.29	24	P	Pb	16 22 59.2	+1.4
MRHZ	Matea Rd	3.30	31	P	Pb	16 22 57.8	-0.1
TLZ	Tolley Road	3.50	17	P	Pb	16 22 57.8	-3.5
ALRZ	Allen Road	3.51	28	P	Pb	16 23 00.7	-0.8
OMRZ	Omania	3.93	25	P	Pb	16 23 07.7	-1.0
RIGZ	Rimuhau	4.02	43	P	Pn	16 23 03.2	+2.4
TOZ	Tahuroa Road	4.07	14	P	Pn	16 23 04.8	+3.2
AWAZ	Awhitu Peninsu	4.63	4	P	Pn	16 23 11.5	+2.3
MKAZ	Moumakai	4.63	9	P	Pn	16 23 10.7	+1.4
WTAZ	Waiatarua	4.75	3	P	Pn	16 23 13.6	+2.6
ETAZ	East Tamaki Re	4.76	7	P	Pn	16 23 13.5	+2.5
MXZ	Matakaoa Point	5.18	39	P	Pn	16 23 20.0	+3.2
SBA	Scott Base	36.41	183	P	P	16 29 07.8	+4.5
SBA	comp=Z,6.4nm,1.4s			IAmb	IAmb	16 29 28.8	
ASAR	Alice Springs	38.01	285	P	P	16 29 14.5	-3.1
	comp=Z,0.4nm,0.5s,baz=126,slow=7.2,SNR=16 comp=Z,0.4nm,0.5s						
ASAR	Alice Springs	38.01	285	P	P	16 29 18.6	+1.0
WB2	Warramunga Arr	40.07	290	P	P	16 29 31.8	-3.1
WB2	comp=Z,11nm,1.4s			IAmb	IAmb	16 29 39.2	
WRA	Warramunga Arr	40.08	290	P	P	16 29 31.9	-3.1
	comp=Z,0.5nm,0.4s,baz=127,slow=8.5,SNR=11 comp=Z,0.5nm,0.4s						
WRA	Warramunga Arr	40.08	290	P	P	16 29 31.9	-3.1
WB0	Warramunga Arr	40.15	291	P	P	16 29 32.4	-3.2
WB0	comp=Z,9.6nm,1.4s			IAmb	IAmb	16 30 08.2	
MTN	Manton Dam	47.18	295	P	P	16 30 29.5	-2.7
QSPA	South Pole Qui	48.44	180	P	P	16 30 41.7	+0.2
	comp=Z,1.4nm,0.8s,baz=6.7,slow=5.2,SNR=4.3 comp=Z,1.4nm,0.8s						
QSPA	South Pole Qui	48.44	180	P	P	16 30 41.8	+0.2
QSPA	comp=Z,7.3nm,1.3s			IAmb	IAmb	16 30 50.6	
FINES	FINESS Array B	152.48	327	PKPbc	PKPdf	16 41 50.9	+3.1
	comp=Z,3.5nm,1.1s,baz=46,slow=4.0,SNR=3.7						
GERES	GERESS Array B	164.57	304	PKPab	PKPab	16 42 54.4	-3.6
	comp=Z,0.3nm,0.4s,baz=44,slow=4.6,SNR=4.0						

*WEL **13** 16:23:00, 41°.90S×174°.03E, h12km, ML4.8, Mw4.7, Moment Tensor Solution. s5 Moment tensor: Scale 10^16 Nm; Mrr0.03; Mθθ1.24; Mφφ-1.27; Mrθ0.13; Mrφ0.50; Mθφ-0.04; Fault plane solution: M0 1.36000×10^16 NP1: φs34.00000°, δ84.00000°, λ178.00000°. NP2: φs124.00000°, δ88.00000°, λ6.00000°. Principal axes: T 1346.8800, Plg6.0000°, Azm350.0000°; N -1369.4300, Plg84.0000°, Azm142.0000°; P 22.5500, Plg3.0000°, Azm259.0000°;*

*IDC **13** 16:23:44.3±1.3, 41°.80S×173°.82E, h0km, mb4.0/5, mbtmp4.1/6, ML4.8/1 Error ellipse: s-maj=33.8km s-min=26.9km az=95.0*

*NEIC **13** 16:23:45.9±1.0, 41°.95S±0°.04×174°.03E±0°.05, h18km±6km, mb4.4/9, Error ellipse: s-maj=6.1km s-min=4.4km az=140.0*

*WEL **13** 16:23:46.1±0.4, 42°S±3°×17°4E±°, h10km±2km, M4.7/20, ML5.0/20, MLv4.7/20, Error ellipse: s-maj=0.0km s-min=0.0km az=155.2*

ISC 13 16:23:45.8±1.1, 41°.96S±0°.03×174°.04E±0°.02, h15km±7km, n137, σ1$42/147, mb4.1/9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.25	31	P	Pb	16 23 52.7	+0.6
CMWZ				S	Sb	16 23 57.5	+1.2
BSWZ	Blackbirch Sta	0.28	334	Pg	Pb	16 23 51.7	-0.9
BSWZ	Blackbirch Sta	0.28	334	P	Pb	16 23 51.9	-0.7
BSWZ				S	Sb	16 23 56.9	-0.2
TUWZ	Tuamarina	0.54	352	Pg	Pb	16 23 56.4	-0.6
TUWZ	Tuamarina	0.54	352	P	Pb	16 23 56.8	-0.2
KHZ	Kahutara	0.58	219	Pg	Pg	16 23 57.9	+0.5
TCW	Tory Channel	0.77	13	P	Pb	16 24 00.9	-0.1
SNZO	South Karori	0.82	38		Pn	16 24 02.2	-0.7
BHW	Baring Head	0.83	49	P	Pn	16 24 02.8	-0.2
BHW				S	Sn	16 24 15.9	+0.8
THZ	Tophouse	0.87	283	Pg	Pg	16 24 02.6	-0.1
THZ	Tophouse	0.87	283	P	Pn	16

NTVZ	North Tongarir	3.12	24	P		Pn	16 24 35.8	+1.1
KATZ	Kakaramea	3.24	23	P		Pb	16 24 43.2	0.0
FOZ	Fox Glacier	3.48	242	P		Pn	16 24 41.1	+1.6
WATZ	Wairara	3.50	22	P		Pb	16 24 43.8	-3.7
HIZ	Hauiti	3.50	11	P		Pb	16 24 44.7	-2.8
WHTZ	Whakaora	3.61	25	P		Pb	16 24 48.8	-0.5
MRHZ	Matea Rd	3.62	31	P		Pn	16 24 40.1	-1.3
TLZ	Tolley Road	3.81	18	P		Pn	16 24 45.9	+1.9
ALRZ	Allen Road	3.83	28	P		Pn	16 24 43.7	-0.5
ODZ	Otahua Downs	3.95	218	P		Pn	16 24 44.2	-1.7
HRRZ	Handcock Road	3.96	26	P		Pn	16 24 45.9	-0.2
MUGZ	Murupara	4.06	32	P		Pn	16 24 48.9	+1.4
TARZ	Mount Tarawera	4.18	28	P		Pn	16 24 48.4	-0.7
OMRZ	Omania	4.25	26	P		Pb	16 24 57.3	-3.0
TOZ	Tahuroa Road	4.38	15	P		Pn	16 24 53.3	+1.6
JCZ	Jackson Bay	4.39	240	P		Pn	16 24 53.1	+1.0
MARZ	Manawahe	4.46	28	P		Pn	16 24 52.0	-0.9
OPRZ	Ohinepanea	4.55	26	P		Pn	16 24 53.5	-0.6
TGRZ	Tauranga	4.56	23	P		Pn	16 24 55.2	+0.9
HHSZ	Highcliff Hill	4.64	211	P		Pn	16 24 54.9	-0.5
EAZ	Earnscleugh	4.74	225	P		Pn	16 24 56.3	-0.5
RUGZ	Raukumara Rang	4.87	36	P		Pn	16 24 58.2	-0.5
AWAZ	Awhitu Peninsu	4.92	6	P		Pn	16 25 02.4	+3.2
MKAZ	Moumakai	4.93	10	P		Pn	16 25 01.1	+1.7
MYRZ	Mayor Island	4.98	21	P		Pn	16 25 05.4	+5.3
ETAZ	East Tamaki Re	5.05	8	P		Pn	16 25 03.5	+2.5
TUZ	Tuapeka	5.10	217	P		Pn	16 25 00.8	-0.9
EPAZ	Eden Park BICE	5.11	6	P		Pn	16 25 06.6	+4.7
RVAZ	Riverhead Bore	5.20	5	P		Pn	16 25 06.5	+3.4
MBAZ	Motutapu North	5.23	8	P		Pn	16 25 07.5	+4.0
WIAZ	Waiheke Island	5.23	10	P		Pn	16 25 05.3	+1.7
KUZ	Kuaotunu	5.37	15	P		Pn	16 25 09.0	+3.5
ABAZ	Army Bay	5.39	7	P		Pn	16 25 08.9	+3.2
SYZ	Scrubby Hill	5.77	216	P		Pn	16 25 10.7	-0.1
GRZ	Great Barrier	5.81	11	P		Pn	16 25 16.6	+5.1
WCZ	Waipu Caves	6.02	2	P		Pn	16 25 17.8	+3.5
APZ	The Paps	6.51	220	P		Pn	16 25 20.4	-0.8
OUZ	Omahuta	6.74	357	P		Pn	16 25 28.3	+4.1
PYZ	Puysegur Point	6.76	229	P		Pn	16 25 24.4	-0.1
CTZ	Chatham Island	7.09	108	P		Pn	16 25 27.1	-2.0
AS31	Alice Springs	37.94	286	P		P	16 31 01.3	-1.6
ASAR	Alice Springs 0.7nm,0.4s,baz=123,slow=6.9,SNR=19 0.7nm,0.4s	37.94	286	P		P	16 31 01.9	-1.0
ASAR	Alice Springs	37.94	286	P		P	16 31 01.0	-1.8
WR0	Warramunga Arr WR0 comp=Z,3.2nm,1.0s	39.88	291	P IAmb		P IAmb	16 31 17.8 16 31 38.5	-1.3
WB2	Warramunga Arr WB2 comp=Z,13nm,1.4s	40.02	291	P IAmb		P IAmb	16 31 19.0 16 31 56.1	-1.3
WRA	Warramunga Arr comp=Z,1.6nm,0.5s,baz=129,slow=7.9,SNR=15 comp=Z,1.6nm,0.5s	40.03	291	P		P	16 31 19.4	-1.0
WRA	Warramunga Arr	40.03	291	P		P	16 31 19.0	-1.4
WB0	Warramunga Arr WB0 comp=Z,10nm,1.4s	40.11	291	P IAmb		P IAmb	16 31 19.8 16 31 42.3	-1.2
MTN	Manton Dam	47.16	295	P		P	16 32 16.5	-1.3
QSPA	South Pole Qui comp=Z,1.9nm,0.7s,baz=339,slow=0.7,SNR=7.0 comp=Z,1.9nm,0.7s	48.16	180	P		P	16 32 27.4	+2.2
QSPA	South Pole Qui QSPA comp=Z,4.8nm,1.0s	48.16	180	P IAmb		P IAmb	16 32 26.3 16 32 39.0	+1.1
PSA00	Pilbara Seismi	49.48	277	P		P	16 32 34.3	-1.4
PSA00	comp=Z,5.6nm,1.2s			IAmb		IAmb	16 32 57.1	
BELA	Belgrano 2	59.15	173	P		P	16 33 47.0	+1.6
KSRS	Korea Array comp=Z,0.6nm,0.7s,baz=147,slow=6.6,SNR=2.7 comp=Z,0.6nm,0.7s	89.54	325	P		P	16 36 42.4	+0.2
CMAR	Chiang Mai Arr comp=Z,0.5nm,0.6s,baz=154,slow=3.1,SNR=3.4 comp=Z,0.5nm,0.6s	91.58	293	P		P	16 36 52.4	+0.1
ARCES	ARCESS Array B	147.92	340	PKPbc		PKPbc	16 43 28.5	-0.7
BRTR	comp=Z,1.6nm,0.8s,baz=93,slow=2.4,SNR=5.7 Keskin Array B comp=Z,0.7nm,0.7s,baz=150,slow=3.6,SNR=3.0	150.14	279	PKPbc		PKiKP	16 43 38.3	+1.6
FINES	FINESS Array B comp=Z,1.0nm,0.8s,baz=335,slow=2.7,SNR=7.5	152.62	326	PKPbc		PKPbc	16 43 39.5	-1.2

WEL 13 16:31:45.8±0.3, 42°S±2°×17°4E±°, h5km, M4.0/15, ML4.3/15, MLv4.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=118.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	Blackbirch Sta	0.59	12	P	Pb	16 31 58.7	+0.2
BSWZ				S	Sg	16 32 03.8	-0.9
CMWZ	Cape Campbell	0.66	35	P	Pg	16 31 54.8	-3.6
CMWZ				S	Sg	16 32 05.3	-1.6
THZ	Tophouse	0.80	311	P	Pg	16 32 01.4	+0.3
GVZ	Greta Valley S	0.84	216	P	Pg	16 32 00.9	-1.0
GVZ				S	Sg	16 32 12.7	-0.2
TUWZ	Tuamarina	0.88	11	P	Pn	16 32 04.2	-0.6
TUWZ				S	Sg	16 32 11.8	-2.1
NNZ	Nelson	1.10	347	P	Pn	16 32 10.1	+2.3
NNZ				S	Sb	16 32 22.5	+0.6
TCW	Tory Channel	1.16	22	P	Pb	16 32 08.3	+0.1
TCW				S	Sg	16 32 21.9	-1.0
LTZ	Lake Taylor	1.17	245	P	Pg	16 32 07.0	-1.2
LTZ				S	Sg	16 32 21.2	-2.2
AMCZ	Amberley	1.18	221	P	Pg	16 32 07.4	-1.0
AMCZ				S	Sg	16 32 23.2	-0.6
WEL	Wellington	1.28	39	P	Pb	16 32 10.7	+0.5
WEL				S	Sg	16 32 24.2	-2.6
PLWZ	Palliser	1.36	58	P	Pg	16 32 11.9	+0.2
PLWZ				S	Sb	16 32 27.9	-1.5
TKNZ	Takaka Hill	1.38	336	P	Pg	16 32 12.8	+0.6
MSWZ	Moikau Station	1.44	53	P	Pb	16 32 12.9	-0.2
DUWZ	D'Urville Isla	1.50	6	P	Pg	16 32 15.0	+0.6
DUWZ				S	Sn	16 32 31.5	-1.6
OKCZ	Okains Bay	1.51	198	P	Pb	16 32 11.5	-2.9
CAW	Cannon Point	1.56	41	P	Pb	16 32 14.8	-0.3
CAW				S	Sn	16 32 30.8	-3.8
PAWZ	Paruwai Farm	1.57	55	P	Pn	16 32 14.4	+0.1
OXZ	Oxford	1.61	229	P	Pn	16 32 15.3	+0.5
KIW	Kapiti Island	1.69	33	P	Pb	16 32 17.1	-0.2
KIW				S	Sn	16 32 34.3	-3.6
QRZ	Quartz Range	1.71	328	P	Pg	16 32 18.4	-0.1
TRWZ	Traveller	1.72	60	P	Pn	16 32 16.4	0.0
MTW	Mount Morrison	1.75	50	P	Pn	16 32 16.4	-0.4
RACZ	Rakaia	1.84	218	P	Pn	16 32 15.6	-2.5
MRZ	Mangatainoka R	2.15	41	P	Pn	16 32 21.8	-0.4
MRZ				S	Sn	16 32 45.3	-4.0
RPZ	Rata Peaks	2.42	233	P	Pn	16 32 23.7	-2.2
PRWZ	Pori Road	2.43	45	P	Pn	16 32 27.8	+1.7
TSZ	Takapari Road	2.80	38	P	Pn	16 32 31.1	-0.2
PKE	Pukeiti	3.10	4	P	Pb	16 32 42.0	+0.6
MOVZ	Moawhango	3.27	29	P	Pn	16 32 39.0	+1.3
BHHZ	Black Hill Sta	3.32	33	P	Pb	16 32 45.8	+0.7
FWVZ	Far West T-bar	3.34	25	P	Pb	16 32 45.6	0.0
SNVZ	South Ngauruho	3.43	26	P	Pn	16 32 43.4	+3.4
OTVZ	Oturere	3.46	26	P	Pb	16 32 45.6	-2.0
ETVZ	East Tongariro	3.50	26	P	Pb	16 32 47.8	-0.4
TOZ	Tahuroa Road	4.76	17	P	Pn	16 33 01.1	+3.0
AWAZ	Awhitu Peninsu	5.27	8	P	Pn	16 33 08.9	+3.8
MKAZ	Moumakai	5.30	13	P	Pn	16 33 08.0	+2.5
ETAZ	East Tamaki Re	5.41	10	P	Pn	16 33 10.8	+3.7
RVAZ	Riverhead Bore	5.55	7	P	Pn	16 33 12.8	+3.7
MBAZ	Motutapu North	5.59	10	P	Pn	16 33 13.5	+4.0
WIAZ	Waiheke Island	5.60	12	P	Pn	16 33 13.4	+3.8
ABAZ	Army Bay	5.75	9	P	Pn	16 33 15.5	+3.8
CTZ	Chatham Island	7.23	105	P	Pn	16 33 33.9	+1.9

*NEIC **13** 16:32:42.6±2.7, 5°.94S±0°.04×151°.75E±0°.09, h10km±1km, mb4.6/43, Error ellipse: s-maj=15.7km s-min=6.4km az=275.0*

*DJA **13** 16:32:47.0±0.7, 6°S±5°×15°2E±°, h63km±7km, M4.9/12, mB5.3/3, mb4.7/12, MLv5.0/3, Mw(mB)4.8/3*

*IDC **13** 16:32:50.6±1.2, 5°.74S×151°.72E, h77km±9km, mb3.8/12, mbtmp4.2/13, Error ellipse: s-maj=19.9km s-min=8.9km az=118.0*

ISC 13 16:32:48.4±0.6, 5°.75S±0°.06×151°.73E±0°.08, h57km, n87, σ1s54/86, mb4.6/44, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076 810nm,0.3s,baz=246,slow=2.1,SNR=1230	1.46	12	P	Pn	16 33 14.2	+1.6
KRVT				S	Sn	16 33 33.9	+3.2
	6μm,0.3s,baz=156,slow=22,SNR=22						
RABL	Rabaul	1.61	16	Pn	Pn	16 33 15.6	+1.1
RABL	Rabaul	1.61	16	P	Pn	16 33 16.0	+1.5
MANU	Manus Island 83nm,0.9s	5.70	310	P	Pn	16 34 16.1	+5.5
PMG	Port Moresby 21nm,0.5s,baz=46,slow=5.4,SNR=24	5.81	231	P	Pn	16 34 14.4	+2.3
PMG				S	Sn	16 35 20.3	+3.0
	282nm,0.7s,baz=21,slow=18,SNR=19						
PMG	Port Moresby	5.81	231		Pn	16 34 12.1	+0.1
PMG	Port Moresby 1.5nm1μm44nm,0.9s	5.81	231	P	Pn	16 34 14.3	+2.3
PMG	Port Moresby 45nm,0.9s	5.81	231	P	Pn	16 34 14.7	+2.7
PMG	Port Moresby 45nm,0.9s	5.81	231	P	Pn	16 34 14.5	+2.5
HNR	Honiara	8.93	115	Pn	Pn	16 34 49.8	-5.1
SMPI	Sarmi 30nm,1.4s	13.51	286	P	P	16 36 02.0	-2.9
QIS	Mount Isa 14nm,0.7s	18.85	218	P	Pn	16 37 05.9	+0.9
FAKI	Fak Fak	19.62	277	P	P	16 37 11.8	-0.7
KDU	Kakadu 28nm,0.8s	20.21	249	P	P	16 37 18.8	0.0
SIJI	Sorong 5.8nm,0.5s,baz=109,slow=12,SNR=6.6 5.8nm,0.5s	20.99	283	P	P	16 37 27.8	+0.5
SIJI	Sorong 900nm8.9nm,0.9s	20.99	283	P	Pn	16 37 30.9	+0.4
MTN	Manton Dam MTN comp=Z,21nm,0.8s	21.50	249	P IAmb	P IAmb	16 37 31.9 16 37 36.6	-0.8
DZM	Mont Dzumac comp=Z,9.0nm,1.0s,baz=161,slow=15,SNR=5.4 comp=Z,9.0nm,1.0s	21.58	140	P	P	16 37 34.5	+0.9
DZM	Mont Dzumac	21.58	140	P	P	16 37 31.7	-1.9
BNDI	Bandanaira comp=Z,46nm,1.1s	21.77	272	P	P	16 37 40.4	+4.8
BNDI	Bandanaira comp=Z,47nm,1.1s	21.77	272	P	P	16 37 38.0	+2.4
WB0	Warramunga Arr WB0 comp=Z,24nm,0.8s	21.88	229	P IAmb	P IAmb	16 37 34.7 16 37 39.7	-2.0
WR0	Warramunga Arr WR0 comp=Z,20nm,0.8s	21.88	228	P IAmb	P IAmb	16 37 33.2 16 37 39.9	-3.5
WRAB	Tennant Creek comp=Z,44nm,0.8s	22.01	229	P	P	16 37 39.0	+0.9
WB2	Warramunga Arr WB2 comp=Z,26nm,0.8s	22.01	229	P IAmb	P IAmb	16 37 35.8 16 37 41.0	-2.4
WRA	Warramunga Arr comp=Z,22nm,0.7s,baz=53,slow=10.0,SNR=100 comp=Z,22nm,0.7s	22.02	229	P	P	16 37 37.9	-0.4
WRA	Warramunga Arr	22.02	229	P	P	16 37 35.2	-3.1
INKA	Innaminka comp=Z,38nm,0.9s	24.24	204	P	P	16 38 01.7	+1.6
KNRA	Kununurra	24.60	245	P	P	16 38 03.1	-0.4
KNRA	Kununurra comp=Z,57nm,0.9s	24.60	245	P	P	16 38 03.6	+0.1
AS01	Alice Springs comp=Z,36nm,0.8s	24.70	222	P	P	16 38 06.5	+2.0
LBMI	Labuha comp=Z,13nm,0.6s	24.71	281	P	P	16 38 05.5	+0.9
AS31	Alice Springs AS31 comp=Z,10nm,0.5s	24.73	222	P IAmb	P IAmb	16 38 02.9 16 38 07.2	-1.8
ASAR	Alice Springs comp=Z,25nm,0.7s,baz=58,slow=8.7,SNR=208 comp=Z,25nm,0.7s	24.73	222	P	P	16 38 04.8	0.0
ASAR	Alice Springs	24.73	222	P	P	16 38 02.0	-2.7
TNTI	Ternate TNTI comp=Z,7.4nm,0.6s	25.17	284	P IAmb	P IAmb	16 38 07.8 16 38 35.0	-1.0
FUNA	Funafuti	27.39	97	P	P	16 38 28.7	-0.1
SOEI	Soe	27.49	260	P	P	16 38 30.2	+0.3
SOEI	Soe comp=Z,42nm,0.9s	27.49	260	P	P	16 38 31.9	+2.0
SOEI	Soe comp=Z,42nm,1.0s	27.49	260	P	P	16 38 33.2	+3.3
STKA	Stephens Creek	27.67	199	P	P	16 38 30.6	-0.6
BATI	Baumata comp=Z,16nm,0.4s,baz=148,slow=3.7,SNR=11	28.14	259	P	P	16 38 36.2	+0.7
BATI	Baumata	28.14	259	P	P	16 38 38.5	+3.0
LUWI	Luwuk LUWI comp=Z,15nm,1.0s	29.27	278	P IAmb	P IAmb	16 38 44.8 16 39 23.3	-0.8
MMRI	Maumere	29.39	263	P	P	16 38 46.0	-0.6
WRKA	Warakurna comp=Z,12nm,0.7s	29.54	227	P	P	16 38 48.0	+0.2
BBOO	Buckleboo	30.63	207	P	P	16 38 56.8	-0.6
TOLI2	Tolitoli TOLI2 comp=Z,10nm,0.9s	31.64	281	P IAmb	P IAmb	16 39 05.8 16 39 15.8	-0.7
FORT	Forrest	33.38	219	P	P	16 39 21.1	-0.5
MBWA	Marble Bar	34.58	241	P	P	16 39 31.4	-0.6
PSA00	Pilbara Seismi PSA00 comp=Z,9.9nm,0.9s	34.63	240	P IAmb	P IAmb	16 39 31.8 16 39 36.4	-0.7
MORW	Morawa MORW comp=Z,9.9nm,1.1s	40.92	231	P IAmb	P IAmb	16 40 25.0 16 40 58.5	-0.5
UGM	Wanagama	40.96	265	P	P	16 40 26.0	-0.1
KSM	Kuching KSM comp=Z,14nm,1.5s	41.98	279	P IAmb	P IAmb	16 40 33.4 16 40 34.1	-1.0
MAJO	Matsushiro MAJO comp=Z,10nm,1.4s	43.93	344	P IAmb	P IAmb	16 40 49.8 16 41 33.3	0.0
MJB9	Matsu-Tunnel MJB9 comp=Z,11nm,1.4s	43.94	344	P IAmb	P IAmb	16 40 49.8 16 41 33.2	0.0
CMAR	Chiang Mai Arr comp=Z,0.6nm,0.6s,baz=122,slow=5.8,SNR=7.0 comp=Z,0.6nm,0.6s	57.32	296	P	P	16 42 31.3	+0.2
PETK	Petropavlovsk- comp=Z,1.7nm,1.0s,baz=163,slow=6.7,SNR=1.7 comp=Z,1.7nm,1.0s	58.85	4	P	P	16 42 39.8	-1.3
TNCH	TengChong TNCH TNCH comp=Z,6.0nm,0.5s	60.08	303	eP pP pmax	P sP pmax	16 42 51.1 16 43 13.4	+0.7 +1.4
SONM	Songino Array comp=Z,0.8nm,0.8s,baz=152,slow=4.7,SNR=5.6 comp=Z,0.8nm,0.8s	66.56	329	P	P	16 43 33.3	+0.6
SONM	Songino Array	66.56	329	P	P	16 43 33.1	+0.4
VNDA	Vanda comp=Z,0.7nm,0.7s,baz=325,slow=4.8,SNR=5.7 comp=Z,0.7nm,0.7s	71.93	178	P	P	16 44 06.0	+0.7
VNDA	Vanda	71.93	178	P	P	16 44 05.8	+0.5
CNPM	China Poot	79.03	26	P	P	16 44 47.6	+1.4
L19K	White Mountain L19K comp=Z,14nm,1.4s	79.03	23	P IAmb	P IAmb	16 44 47.3 16 45 00.3	+1.1
MKAR	Makanchi Array comp=Z,0.6nm,0.5s,baz=94,slow=6.3,SNR=5.3 comp=Z,0.6nm,0.5s	80.34	319	P	P	16 44 54.6	+1.0
KTH	Kantishna Hill KTH comp=Z,11nm,1.2s	81.29	22	P IAmb	P IAmb	16 44 58.9 16 45 36.0	+0.5
ZALV	Zalesovo Beam comp=Z,1.3nm,0.5s,baz=116,slow=6.3,SNR=7.1 comp=Z,1.3nm,0.5s	81.35	327	P	P	16 44 57.2	-1.5
IMAR	Indian Mountai	81.63	20	P	P	16 45 00.9	+0.9
MLY	Manley MLY comp=Z,5.2nm,1.3s	82.15	21	P IAmb	P IAmb	16 45 03.8 16 45 14.3	+0.9
I23K	Minto, Yukon-K I23K comp=Z,4.9nm,1.2s	82.70	21	P IAmb	P IAmb	16 45 06.6 16 45 22.8	+1.0
CCB	Clear Creek Bu	83.03	22	P	P	16 45 07.6	+0.3
IL31	IL31 comp=Z,6.5nm,1.4s	83.43	22	P IAmb	P IAmb	16 45 09.1 16 45 25.6	-0.3
ILAR	Eielson Array comp=Z,2.0nm,0.7s,baz=247,slow=5.4,SNR=20 comp=Z,2.0nm,0.7s	83.43	22	P	P	16 45 09.2	-0.2
ILAR	Eielson Array	83.43	22	P	P	16 45 09.1	-0.3
BOOM	Boomskoye usch	83.47	314	P	P	16 45 09.7	-0.6
H24K	Noodor Dome H24K comp=Z,4.4nm,1.4s	83.59	21	P IAmb	P IAmb	16 45 10.7 16 45 21.6	+0.4
NIL	Nilore	83.63	305	P	P	16 45 10.4	-0.8
NIL	comp=Z,4.0nm,0.6s			IAmb	IAmb	16 45 12.8	
KURK	Kurchatov	83.86	322	P	P	16 45 10.9	-1.0
KURBB	Kurchatov Arra comp=Z,0.3nm,0.5s,baz=108,slow=3.7,SNR=5.4 comp=Z,0.3nm,0.5s	83.89	322	P	P	16 45 11.1	-1.0
J25K	Salcha River, J25K comp=Z,4.3nm,0.7s	83.94	23	P IAmb	P IAmb	16 45 12.8 16 45 13.6	+0.7
I26K	Coal Creek Min I26K comp=Z,6.6nm,1.3s	85.09	22	P IAmb	P IAmb	16 45 19.1 16 45 32.2	+1.2
BMAR	Burnt Mountain	85.50	20	P	P	16 45 21.2	+1.3
EGAK	Eagle	85.65	23	P	P	16 45 22.1	+1.4
DAWY	Dawson DAWY comp=Z,9.4nm,1.5s	86.08	24	P IAmb	P IAmb	16 45 22.5 16 46 05.4	-0.3
INK	Inuvik	89.72	21	P	P	16 45 40.7	+0.7
GERES	GERESS Array B comp=Z,0.4nm,0.5s,baz=94,slow=1.7,SNR=4.6	124.29	328	PKP	PKPdf	16 51 41.4	+0.3

WEL 13 16:33:48.6±0.6, 42°S±4°×17°4E±°, h13km±3km, M3.5/10, ML3.7/10, MLv3.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=146.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.07	40	P	Pg	16 33 51.6	+0.4
CMWZ				S	Sg	16 33 54.5	+1.3
BSWZ	Blackbirch Sta	0.23	292	P	Pb	16 33 54.2	-0.4
TUWZ	Tuamarina	0.40	336	P	Pb	16 33 57.5	-0.1
TUWZ				S	Sb	16 34 04.0	+0.4
WEL	Wellington	0.69	42	P	Pb	16 34 02.4	0.0
WEL				S	Sn	16 34 14.5	-0.1
NNZ	Nelson	0.82	315	P	Pn	16 34 05.7	-0.2
PLWZ	Palliser	0.85	75	P	Pg	16 34 05.1	0.0
MSWZ	Moikau Station	0.90	65	P	Pg	16 34 06.0	-0.1
CAW	Cannon Point	0.97	45	P	Pb	16 34 07.3	0.0
KIW	Kapiti Island	1.10	31	P	Pb	16 34 09.3	-0.1
TKNZ	Takaka Hill	1.18	310	P	Pg	16 34 11.5	+0.1
MTW	Mount Morrison	1.20	58	P	Pn	16 34 09.8	-1.2
OGWZ	Otaki Gorge	1.24	38	P	Pn	16 34 11.4	-0.3
MOVZ	Moawhango	2.68	27	P	Sn	16 35 03.2	-0.6
BHHZ	Black Hill Sta	2.73	33	P	Sn	16 35 05.6	+0.6
WHVZ	Whangaehu Hut	2.74	24	P	Sn	16 35 06.9	+1.4
FWVZ	Far West T-bar	2.76	23	P	Sn	16 35 05.8	-0.2
TUVZ	Tukino	2.77	25	P	Sn	16 35 06.7	+0.4
NGZ	Ngauruhoe	2.84	23	P	Sn	16 35 06.7	-1.3
SNVZ	South Ngauruho	2.84	24	P	Sn	16 35 05.8	-2.2
OTVZ	Oturere	2.87	24	P	Sn	16 35 06.6	-2.2
WTVZ	West Tongariro	2.90	23	P	Sn	16 35 07.2	-2.0
ETVZ	East Tongariro	2.91	25	P	Sn	16 35 08.1	-1.6
TMVZ	Te Maari	2.93	24	P	Sn	16 35 08.7	-1.3
KRVZ	Karewarewa	2.93	23	P	Sn	16 35 09.0	-1.1
NTVZ	North Tongarir	2.94	24	P	Sn	16 35 08.8	-1.4
KATZ	Kakaramea	3.06	23	P	Sn	16 35 11.1	-2.1
RATZ	Rangitukua	3.18	23	P	Sn	16 35 13.4	-2.7
WATZ	Wairara	3.31	22	P	Sn	16 35 15.4	-4.1

*NEIC **13** 16:34:26.3±1.4, 42°.31S±0°.05×174°.16E±0°.04, h10km±2km, mb4.4/3, Error ellipse: s-maj=9.1km s-min=3.3km az=338.0*

*WEL **13** 16:34:26.7±0.2, 42°S±1°×17°4E±°, h12km, M4.1/13, ML4.4/13, MLv4.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=124.9*

*IDC **13** 16:34:28.5±2.6, 42°.45S×173°.99E, h0km, mb3.7/2, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=68.6km s-min=46.2km az=149.0*

ISC 13 16:34:26.1±1.4, 42°.36S±0°.03×174°.14E±0°.03, h4km±9km, n45, σ1s65/61, mb3.4/3, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.45	263	Pg	Pg	16 34 35.5	+0.8
KHZ				Sg	Sg	16 34 38.3	-2.3
CMWZ	Cape Campbell	0.61	5	Pg	Pg	16 34 37.1	-0.7
CMWZ	Cape Campbell	0.61	5	P	Pg	16 34 37.0	-0.7
BSWZ	Blackbirch Sta	0.67	343	Pg	Pg	16 34 38.0	-1.0
BSWZ	Blackbirch Sta	0.67	343	P	Pg	16 34 38.4	-0.6
BSWZ				S	Sn	16 34 55.1	+1.8
GVZ	Greta Valley S	1.02	233	P	Pb	16 34 45.8	-0.5
GVZ				S	Sn	16 35 00.7	-1.2
THZ	Tophouse	1.10	302	Pn	Pn	16 34 49.2	+0.9
THZ	Tophouse	1.10	302	P	Pn	16 34 49.3	+1.0
SNZO	South Karori	1.13	22	Pg	Pb	16 34 46.0	-2.1
MSWZ	Moikau Station	1.25	42	Pn	Pn	16 34 49.6	-0.7
MSWZ	Moikau Station	1.25	42	P	Pb	16 34 50.5	+0.3
MSWZ				S	Sb	16 35 06.2	-0.5
NNZ	Nelson	1.28	333	S	Sg	16 35 09.6	+2.5
MRNZ	Matariki Terra	1.41	312	P	Pg	16 34 55.2	+2.1
CAW	Cannon Point	1.43	29	P	Pb	16 34 53.7	+0.5
CAW				S	Sn	16 35 08.8	-3.2
LTZ	Lake Taylor	1.45	252	P	Pn	16 34 53.2	+0.1
LTZ				S	Sn	16 35 09.5	-3.1
OKCZ	Okains Bay	1.58	210	P	Pb	16 34 56.3	+0.5
OKCZ				S	Sn	16 35 15.0	-0.8
KIW	Kapiti Island	1.60	21	P	Pn	16 34 55.6	+0.4
KIW				S	Sn	16 35 12.2	-4.1
REHS	Christchurch	1.61	223	P	Pn	16 34 54.6	-0.6
REHS				S	Sb	16 35 16.4	-0.5
CACS	Harewood	1.64	226	P	Pn	16 34 56.2	+0.6
CACS				S	Sn	16 35 16.5	-0.5
CMHS	Cashmere	1.64	222	P	Pb	16 34 56.8	-0.2
CMHS				S	Sn	16

s-min=0.0km az=139.1
*NEIC **13** 16:36:18.8±1.5,41°.70S×0°.04×174°.23E±0°.03,h18km±3km, mb4.4/12,Error ellipse: s-maj=5.9km s-min=2.3km az=156.0*

ISC 13 16:36:18.3±0.7,41°.77S±0°.03×174°.30E±0°.03,h18km±3km, n113,σ1°06/119,mb4.3/10,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**289**	Pg	**Pb**	**16 36 21.6**	**0.0**
CMWZ				Sg	**Sb**	**16 36 24.2**	**+0.4**
CMWZ	**Cape Campbell**	**0.07**	**289**	P	**Pb**	**16 36 21.9**	**+0.3**
CMWZ				S	**Sb**	**16 36 24.4**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.32**	**280**		**Pg**	**16 36 25.0**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.32**	**280**	P	**Pb**	**16 36 25.1**	**-0.4**
BSWZ				S	**Sg**	**16 36 29.5**	**-0.2**
TUWZ	**Tuamarina**	**0.43**	**322**		**Pg**	**16 36 25.5**	**-1.6**
TUWZ	**Tuamarina**	**0.43**	**322**	P	**Pg**	**16 36 27.0**	**-0.1**
TUWZ				S	**Sg**	**16 36 32.6**	**-0.4**
SNZO	**South Karori**	**0.55**	**34**	Pg	**Pb**	**16 36 29.8**	**+0.3**
TCW	**Tory Channel**	**0.56**	**359**	P	**Pg**	**16 36 29.2**	**-0.2**
TCW				S	**Sg**	**16 36 36.9**	**0.0**
BHW	**Baring Head**	**0.56**	**50**	P	**Pn**	**16 36 30.4**	**-1.1**
WEL	**Wellington**	**0.60**	**36**	P	**Pb**	**16 36 30.9**	**+0.6**
WEL				S	**Sb**	**16 36 40.0**	**+1.5**
PLWZ	**Palliser**	**0.75**	**75**	Pg	**Pn**	**16 36 33.4**	**-0.6**
PLWZ	**Palliser**	**0.75**	**75**	P	**Pn**	**16 36 34.3**	**+0.3**
MSWZ	**Moikau Station**	**0.80**	**64**	Pg	**Pn**	**16 36 34.9**	**+0.2**
MSWZ	**Moikau Station**	**0.80**	**64**	P	**Pn**	**16 36 35.2**	**+0.5**
MSWZ				S	**Sn**	**16 36 47.5**	**+1.3**
KHZ	**Kahutara**	**0.86**	**221**	Pg	**Pn**	**16 36 36.0**	**+0.5**
KHZ	**Kahutara**	**0.86**	**221**	P	**Pn**	**16 36 36.2**	**+0.7**
CAW	**Cannon Point**	**0.88**	**41**	P	**Pn**	**16 36 35.8**	**-0.1**
CAW				S	**Sn**	**16 36 48.5**	**+0.3**
NNZ	**Nelson**	**0.88**	**308**	Pg	**Pg**	**16 36 34.2**	**-1.3**
NNZ	**Nelson**	**0.88**	**308**	P	**Pg**	**16 36 34.8**	**-0.7**
PAWZ	**Paruwai Farm**	**0.93**	**66**	P	**Pn**	**16 36 36.8**	**+0.2**
DUWZ	**D'Urville Isla**	**1.01**	**344**	P	**Pb**	**16 36 37.0**	**-0.2**
KIW	**Kapiti Island**	**1.02**	**27**	P	**Pn**	**16 36 37.7**	**0.0**
THZ	**Tophouse**	**1.04**	**270**		**Pb**	**16 36 37.8**	**0.0**
THZ	**Tophouse**	**1.04**	**270**	P	**Pn**	**16 36 38.3**	**+0.2**
MTW	**Mount Morrison**	**1.09**	**56**	P	**Pn**	**16 36 38.9**	**+0.2**
TRWZ	**Traveller**	**1.11**	**71**	P	**Pn**	**16 36 38.9**	**-0.1**
OGWZ	**Otaki Gorge**	**1.16**	**352**	P	**Pg**	**16 36 40.6**	**-0.2**
MRNZ	**Matariki Terra**	**1.21**	**287**	P	**Pg**	**16 36 41.3**	**-0.4**
TKNZ	**Takaka Hill**	**1.25**	**306**	P	**Pb**	**16 36 41.6**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.27**	**47**	P	**Pb**	**16 36 41.4**	**-0.2**
TMWZ	**Te Maipa**	**1.37**	**62**	P	**Pb**	**16 36 42.5**	**-0.9**
MRZ	**Mangatainoka R**	**1.47**	**42**		**Pn**	**16 36 44.1**	**+0.1**
MRZ	**Mangatainoka R**	**1.47**	**42**	P	**Pb**	**16 36 44.4**	**-0.8**
TIWZ	**Tintock**	**1.56**	**51**	P	**Pn**	**16 36 45.0**	**-0.1**
QRZ	**Quartz Range**	**1.63**	**305**		**Pn**	**16 36 45.7**	**-0.5**
QRZ	**Quartz Range**	**1.63**	**305**	P	**Pb**	**16 36 47.9**	**0.0**
CPWZ	**Castlepoint**	**1.67**	**60**	P	**Pn**	**16 36 46.9**	**+0.2**
OHWZ	**Ohakea**	**1.74**	**27**	P	**Pb**	**16 36 49.7**	**0.0**
PRWZ	**Pori Road**	**1.75**	**47**	P	**Pn**	**16 36 47.8**	**0.0**
POWZ	**Post Office Ro**	**1.77**	**39**	P	**Pn**	**16 36 48.3**	**+0.3**
BFZ	**Birch Farm**	**1.83**	**54**		**Pn**	**16 36 47.7**	**-1.2**
BFZ	**Birch Farm**	**1.83**	**54**	P	**Pn**	**16 36 48.2**	**-0.7**
DSZ	**Denniston Nort**	**1.86**	**270**	Pn	**Pn**	**16 36 49.7**	**+0.3**
DVHZ	**Dannevirke**	**2.04**	**45**	P	**Pn**	**16 36 51.3**	**-0.5**
WAZ	**Wanganui**	**2.08**	**15**	P	**Pb**	**16 36 56.5**	**+0.9**
ANWZ	**Angora Road**	**2.10**	**52**	P	**Pb**	**16 36 51.8**	**-0.8**
TSZ	**Takapari Road**	**2.12**	**37**	P	**Pn**	**16 36 53.1**	**+0.1**
INZ	**Inchbonnie**	**2.32**	**245**	P	**Pn**	**16 36 59.9**	**+0.3**
PRHZ	**Porangahau**	**2.32**	**50**	P	**Pn**	**16 36 54.7**	**-0.9**
PNHZ	**Pukenui**	**2.35**	**39**	P	**Pn**	**16 36 55.9**	**-0.2**
WPHZ	**Waipukurau**	**2.35**	**44**	P	**Pn**	**16 36 55.9**	**-0.2**
NMEZ	**Namu Road**	**2.38**	**352**	P	**Pb**	**16 37 01.0**	**+0.4**
KHEZ	**Kahui Hut**	**2.48**	**355**	P	**Pb**	**16 37 02.4**	**0.0**
NEZ	**North Egmont**	**2.50**	**356**	P	**Pg**	**16 37 05.0**	**-1.3**
NBEZ	**Newall Road No**	**2.52**	**352**	P	**Pb**	**16 37 03.8**	**+0.8**
MTVZ	**Mangateitei**	**2.55**	**21**	P	**Pb**	**16 37 03.7**	**+0.2**
DREZ	**Durham Road**	**2.58**	**358**	P	**Pb**	**16 37 03.4**	**-0.6**
PKE	**Pukeiti**	**2.58**	**355**	P	**Pb**	**16 37 02.6**	**-1.5**
PKVZ	**Pokaka**	**2.60**	**18**	P	**Pb**	**16 37 04.3**	**-0.2**
PXZ	**Pawanui**	**2.61**	**49**	P	**Pn**	**16 36 58.1**	**-1.5**
MOVZ	**Moawhango**	**2.61**	**26**	P	**Pb**	**16 37 05.1**	**+0.5**
WNVZ	**Wahianoa**	**2.63**	**23**	P	**Pb**	**16 37 05.0**	**-0.1**
BHHZ	**Black Hill Sta**	**2.65**	**31**	P	**Pb**	**16 37 06.6**	**+1.4**
TRVZ	**Turoa**	**2.65**	**22**	P	**Pb**	**16 37 05.2**	**-0.1**
DRZ	**Dome Shelter**	**2.67**	**22**	P	**Pb**	**16 37 04.5**	**-1.3**
WHVZ	**Whangaehu Hut**	**2.67**	**22**	P	**Pb**	**16 37 05.9**	**+0.1**
FWVZ	**Far West T-bar**	**2.69**	**21**	P	**Pb**	**16 37 05.8**	**-0.3**
TUVZ	**Tukino**	**2.71**	**23**	P	**Pn**	**16 37 02.5**	**+1.4**
NGZ	**Ngauruhoe**	**2.78**	**21**	P	**Pb**	**16 37 08.1**	**+0.6**
SNVZ	**South Ngauruho**	**2.78**	**22**	P	**Pb**	**16 37 07.4**	**-0.1**
KAHZ	**Kahuranaki**	**2.78**	**46**	P	**Pn**	**16 37 00.8**	**-1.2**
OTVZ	**Oturere**	**2.81**	**22**	P	**Pb**	**16 37 08.4**	**+0.4**
NNVZ	**North Ngauruho**	**2.82**	**21**	P	**Pb**	**16 37 08.4**	**+0.2**
WTVZ	**West Tongariro**	**2.83**	**21**	P	**Pb**	**16 37 09.3**	**+0.9**
TWVZ	**Taurewa**	**2.83**	**18**	P	**Pb**	**16 37 08.7**	**+0.2**
ETVZ	**East Tongariro**	**2.84**	**23**	P	**Pb**	**16 37 08.5**	**-0.2**
TMVZ	**Te Maari**	**2.86**	**23**	P	**Pb**	**16 37 08.9**	**-0.1**
KRVZ	**Karewarewa**	**2.86**	**21**	P	**Pb**	**16 37 06.5**	**-2.5**
NTVZ	**North Tongariro**	**2.87**	**22**	P	**Pb**	**16 37 09.3**	**+0.2**
WVZ	**Waitaha Valley**	**2.94**	**242**	P	**Pb**	**16 37 10.6**	**+0.5**
RPZ	**Rata Peaks**	**3.08**	**230**	Pn	**Pb**	**16 37 12.2**	**-0.3**
	79nm,0.3s,baz=12,slow=1.9,SNR=7.3 173nm,0.3s						
GCSZ	**Gaunt Creek Bo**	**3.31**	**241**	P	**Pb**	**16 37 15.4**	**-1.1**
TLZ	**Tolley Road**	**3.57**	**16**	P	**Pb**	**16 37 18.9**	**-2.0**
TOZ	**Tahuroa Road**	**4.14**	**13**	P	**Pn**	**16 37 25.1**	**+4.5**
ODZ	**Otahua Downs**	**4.22**	**218**	Pn	**Pn**	**16 37 21.4**	**-0.3**
JCZ	**Jackson Bay**	**4.66**	**239**	P	Pn	16 37 32.5	+4.7
AWAZ	**Awhitu Peninsu**	**4.71**	**3**	P	**Pn**	**16 37 31.4**	**+2.9**
MKAZ	**Moumakai**	**4.71**	**8**	P	**Pn**	**16 37 31.4**	**+3.0**
ETAZ	**East Tamaki Re**	**4.83**	**6**	P	**Pn**	**16 37 32.6**	**+2.4**
WIAZ	**Waiheke Island**	**5.01**	**8**	P	**Pn**	**16 37 34.8**	**+2.2**
MBAZ	**Motutapu North**	**5.02**	**6**	P	Pn	16 37 37.7	+5.0
ABAZ	**Army Bay**	**5.18**	**7**	P	**Pn**	**16 37 37.6**	**+2.7**
MLZ	**Mavora Lakes**	**5.75**	**229**	Pn	**Pn**	**16 37 42.7**	**0.0**
CTZ	**Chatham Island**	**6.97**	**109**	P	**Pn**	**16 37 59.6**	**+0.1**
ARMA	**Armidale**	**21.47**	**295**	P	**P**	**16 41 06.6**	**+0.6**
ARMA				IAmb	IAmb	16 41 32.9	
	comp=Z,23nm,1.4s						
EIDS	**Eidsvold**	**25.21**	**303**	P	**P**	**16 41 43.2**	**+0.1**
EIDS				IAmb	IAmb	16 41 49.4	
	comp=Z,11nm,1.2s						
CTAO	**Charters Tower**	**32.10**	**304**	P	**P**	**16 42 44.6**	**+0.1**
AS31	**Alice Springs**	**38.07**	**286**	P	**P**	**16 43 33.7**	**-2.3**
ASAR	**Alice Springs**	**38.07**	**286**	P	**P**	**16 43 34.8**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=124,slow=7.1,SNR=13 comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**38.07**	**286**	P	**P**	**16 43 33.8**	**-2.2**
WB2	**Warramunga Arr**	**40.13**	**290**	P	**P**	**16 43 51.8**	**-1.5**
WB2				IAmb	IAmb	16 44 04.5	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**40.14**	**290**	P	**P**	**16 43 52.1**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=126,slow=8.4,SNR=8.2 comp=Z,1.5nm,0.8s						
WRA	**Warramunga Arr**	**40.14**	**290**	P	**P**	**16 43 52.1**	**-1.2**
WB0	**Warramunga Arr**	**40.22**	**291**	P	**P**	**16 43 52.8**	**-1.2**
MTN	**Manton Dam**	**47.26**	**295**	P	**P**	**16 44 50.3**	**-0.2**
MORW	**Morawa**	**48.29**	**266**	P	**P**	**16 44 57.5**	**-1.1**
QSPA	**South Pole Qui**	**48.36**	**180**	P	**P**	**16 44 59.7**	**+1.0**
QSPA				IAmb	IAmb	16 45 02.7	
	comp=Z,3.3nm,0.8s						
BELA	**Belgrano 2**	**59.32**	**173**	P	**P**	**16 46 20.0**	**+1.5**
BELA				IAmb	IAmb	16 46 21.1	
	comp=Z,3.3nm,0.9s						
SNAA	**Sanae**	**66.85**	**181**	P	**P**	**16 47 09.8**	**+1.2**
SNAA				IAmb	IAmb	16 47 26.8	
	comp=Z,7.8nm,1.4s						
KSRS	**Korea Array**	**89.49**	**325**	P	**P**	**16 49 13.0**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=152,slow=5.2,SNR=2.7 comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.68**	**293**	P	**P**	**16 49 24.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=149,slow=4.2,SNR=5.0 comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**150.30**	**279**	PKPbc	**PKPbc**	**16 56 08.6**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=158,slow=5.5,SNR=2.8						
FINES	**FINESS Array B**	**152.57**	**327**	PKPbc	**PKPbc**	**16 56 11.8**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=64,slow=3.2,SNR=4.2						

*IDC **13** 16:42:41.9±1.5,34°.14S×179°.05W,h0km, mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=41.2km s-min=38.4km az=70.0*

ISC 13 16:42:49.0±1.4,34°.2S±0°.2×179°.2W±0°.3,h50km,n6, σ0°51/6,mb3.7/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.09**	**272**	P	**P**	**16 50 36.5**	**+0.2**
	0.5nm,0.5s,baz=115,slow=7.9,SNR=24 0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.42**	**277**	P	**P**	**16 50 47.1**	**0.0**
	0.4nm,0.5s,baz=117,slow=7.5,SNR=9.5 0.4nm,0.5s						
QSPA	**South Pole Qui**	**55.94**	**180**	P	**P**	**16 52 21.8**	**0.0**
	0.5nm,0.7s,baz=309,slow=2.0,SNR=1.7 0.5nm,0.7s						
KSRS	**Korea Array**	**86.62**	**320**	P	**P**	**16 55 26.2**	**-0.6**
	0.5nm,0.7s,baz=149,slow=7.1,SNR=5.0 0.5nm,0.7s						
PETK	**Petropavlovsk-**	**89.23**	**346**	P	**P**	**16 55 39.6**	**+0.6**
	1.1nm,0.8s,baz=136,slow=7.0,SNR=7.1 1.1nm,0.8s						
FINES	**FINESS Array B**	**148.30**	**337**	PKPbc	**PKPbc**	**17 02 28.7**	**-0.1**
	1.2nm,0.5s,baz=62,slow=3.3,SNR=13						

WEL 13 16:43:15.6±1.6,42°.3S±8°×17°.4E±°,h5km,M3.0/3,ML3.2/3, MLv3.0/3,Error ellipse: s-maj=0.0km s-min=0.0km az=23.8,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.26**	**356**	P	Pg	16 43 20.9	+0.3
TUWZ	**Tuamarina**	**0.54**	**4**	P	Pg	16 43 26.0	0.0
TUWZ				S	Sg	16 43 33.3	+0.2
WEL	**Wellington**	**0.95**	**44**	P	Pg	16 43 32.8	-1.0
WEL				S	Sb	16 43 47.0	-0.3

*IDC **13** 16:44:00.4±3.5,41°.95S×174°.15E,h0km,mb3.7/2, mbtmp3.8/3,ML3.9/1,Error ellipse: s-maj=73.7km s-min=36.8km az=127.0*
*NEIC **13** 16:44:03.6±1.3,41°.98S±0°.03×174°.02E±0°.03,h15km±3km, mb4.1/5,Error ellipse: s-maj=3.7km s-min=3.4km az=186.0*
*WEL **13** 16:44:03.6±0.7,42°.5S±7°×17°.4E±°,h6km±3km,M4.0/14, ML4.3/14,MLv4.0/14,Error ellipse: s-maj=0.0km s-min=0.0km az=166.5*

ISC 13 16:44:03.3±1.1,41°.99S±0°.04×174°.09E±0°.02,h16km±7km, n79,σ1°08/95,mb4.0/5,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.26**	**21**	Pg	**Pb**	**16 44 09.5**	**-0.1**
CMWZ				Sg	**Sb**	**16 44 14.1**	**+0.2**
CMWZ	**Cape Campbell**	**0.26**	**21**	P	**Pb**	**16 44 09.5**	**-0.1**
CMWZ				S	**Sb**	**16 44 15.6**	**+1.8**
BSWZ	**Blackbirch Sta**	**0.32**	**330**	Pg	**Pg**	**16 44 09.6**	**-0.4**
BSWZ				Sg	**Sg**	**16 44 13.7**	**-0.9**
BSWZ	**Blackbirch Sta**	**0.32**	**330**	P	**Pb**	**16 44 10.2**	**-0.4**
BSWZ				S	**Sg**	**16 44 14.6**	**0.0**
TUWZ	**Tuamarina**	**0.57**	**349**	Pg	**Pb**	**16 44 14.8**	**-0.2**
TUWZ	**Tuamarina**	**0.57**	**349**	P	**Pb**	**16 44 14.9**	**0.0**
TUWZ				S	**Sb**	**16 44 22.7**	**-0.1**
TCW	**Tory Channel**	**0.80**	**10**	P	**Pg**	**16 44 18.9**	**+0.1**
SNZO	**South Karori**	**0.82**	**34**	Pg	**Pn**	**16 44 20.3**	**+0.2**
BHW	**Baring Head**	**0.83**	**45**	P	**Pn**	**16 44 20.6**	**+0.4**
BHW				S	**Sn**	**16 44 33.4**	**+1.4**
THZ	**Tophouse**	**0.91**	**284**	Pg	**Pn**	**16 44 21.5**	**0.0**
THZ	**Tophouse**	**0.91**	**284**	P	**Pn**	**16 44 21.7**	**-0.2**
THZ				S	**Sn**	**16 44 34.2**	**-0.2**
NNZ	**Nelson**	**0.94**	**325**	Pg	**Pg**	**16 44 21.2**	**-0.3**
NNZ	**Nelson**	**0.94**	**325**	P	**Pn**	**16 44 21.4**	**-0.4**
NNZ				S	**Sb**	**16 44 33.2**	**-0.1**
PLWZ	**Palliser**	**0.97**	**64**	Pg	**Pb**	**16 44 21.1**	**-0.7**
MSWZ	**Moikau Station**	**1.04**	**57**		**Pg**	**16 44 23.3**	**-0.2**
CAW	**Cannon Point**	**1.15**	**40**	P	**Pg**	**16 44 25.5**	**0.0**
CAW				S	**Sg**	**16 44 41.1**	**+0.6**
MRNZ	**Matariki Terra**	**1.16**	**300**	P	**Pg**	**16 44 26.5**	**+0.8**
MRNZ				S	**Sg**	**16 44 42.7**	**+1.8**
PAWZ	**Paruwai Farm**	**1.17**	**59**	P	**Pb**	**16 44 25.1**	**-0.1**
PAWZ				S	**Sg**	**16 44 42.1**	**+0.8**
DUWZ	**D'Urville Isla**	**1.20**	**354**	P	**Pg**	**16 44 25.8**	**-0.6**
DUWZ				S	**Sg**	**16 44 42.9**	**+0.8**
KIW	**Kapiti Island**	**1.29**	**29**	P	**Pg**	**16 44 27.8**	**-0.4**
KIW				S	**Sg**	**16 44 45.2**	**+0.2**
TRWZ	**Traveller**	**1.34**	**64**	P	**Pn**	**16 44 27.1**	**-0.1**
MTW	**Mount Morrison**	**1.35**	**52**	P	**Pb**	**16 44 28.3**	**+0.1**
OGWZ	**Otaki Gorge**	**1.43**	**35**	P	**Pb**	**16 44 29.3**	**-0.2**
OGWZ				S	**Sb**	**16 44 48.1**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.53**	**45**	P	**Pn**	**16 44 29.6**	**-0.3**
TMWZ	**Te Maipa**	**1.62**	**57**	P	**Pn**	**16 44 30.8**	**-0.3**
MRZ	**Mangatainoka R**	**1.74**	**41**	Pn	**Pn**	**16 44 32.9**	**+0.1**
MRZ	**Mangatainoka R**	**1.74**	**41**	P	**Pn**	**16 44 33.1**	**+0.3**
MRZ				S	**Sn**	**16 44 55.4**	**+0.7**
OHWZ	**Ohakea**	**2.01**	**28**	P	**Pb**	**16 44 38.5**	**-1.0**
PRWZ	**Pori Road**	**2.02**	**45**	P	**Pn**	**16 44 36.5**	**-0.2**
POWZ	**Post Office Ro**	**2.04**	**39**	P	**Pn**	**16 44 37.5**	**+0.6**
BFZ	**Birch Farm**	**2.09**	**52**	P	**Pn**	**16 44 37.7**	**+0.1**
WAZ	**Wanganui**	**2.34**	**17**	P	**Pb**	**16 44 43.8**	**-1.2**
TSZ	**Takapari Road**	**2.40**	**37**	P	**Pn**	**16 44 42.0**	**+0.1**
LREZ	**Lake Rotokare**	**2.54**	**5**	P	**Pb**	**16 44 48.8**	**+0.3**
NMEZ	**Namu Road**	**2.58**	**356**	P	**Pb**	**16 44 50.1**	**+0.9**
PNHZ	**Pukenui**	**2.62**	**38**	P	**Pn**	**16 44 44.3**	**-0.7**
KHEZ	**Kahui Hut**	**2.70**	**359**	P	**Pb**	**16 44 46.7**	**+0.7**
NEZ	**North Egmont**	**2.72**	**0**	P	**Pb**	**16 44 51.1**	**-0.4**
NBEZ	**Newall Road No**	**2.73**	**356**	P	**Pb**	**16 44 51.7**	**0.0**
PKE	**Pukeiti**	**2.80**	**358**	P	**Pb**	**16 44 52.8**	**-0.1**
DREZ	**Durham Road**	**2.80**	**2**	P	**Pb**	**16 44 52.2**	**-0.7**
MTVZ	**Mangateitei**	**2.81**	**22**	P	**Pb**	**16 44 50.2**	**-2.9**
RPZ	**Rata Peaks**	**2.82**	**231**	Pn	**Pn**	**16 44 48.1**	**+0.5**
	19nm,0.3s,baz=104,slow=14,SNR=5.1						
RPZ				Sn	**Sn**	**16 45 22.0**	**+0.8**
	72nm,0.3s,baz=157,slow=22,SNR=20 74nm,0.4s						
PKVZ	**Pokaka**	**2.87**	**20**	P	**Pb**	**16 44 54.3**	**+0.2**
MOVZ	**Moawhango**	**2.88**	**27**	P	**Pn**	**16 44 49.8**	**+1.3**
WNVZ	**Wahianoa**	**2.90**	**24**	P	**Pb**	**16 44 54.4**	**-0.3**
TRVZ	**Turoa**	**2.91**	**23**	P	**Pn**	**16 44 51.4**	**+2.3**
BHHZ	**Black Hill Sta**	**2.92**	**32**	P	**Pb**	**16 44 56.6**	**+1.7**
MHEZ	**Mangahewa**	**2.92**	**4**	P	**Pb**	**16 44 53.7**	**-1.2**
DRZ	**Dome Shelter**	**2.94**	**23**	P	**Pb**	**16 44 56.8**	**+1.4**
WHVZ	**Whangaehu Hut**	**2.94**	**23**	P	**Pb**	**16 44 55.7**	**+0.3**
FWVZ	**Far West T-bar**	**2.95**	**23**	P	**Pb**	**16 44 55.7**	**+0.1**
TUVZ	**Tukino**	**2.97**	**24**	P	**Pn**	**16 44 51.6**	**+1.7**
NGZ	**Ngauruhoe**	**3.04**	**23**	P	**Pb**	**16 44 58.3**	**+1.2**
SNVZ	**South Ngauruho**	**3.04**	**23**	P	**Pb**	**16 44 54.1**	**-3.0**
OTVZ	**Oturere**	**3.07**	**24**	P	**Pb**	**16 44 58.4**	**+0.8**
GCSZ	**Gaunt Creek Bo**	**3.07**	**243**	P	**Pb**	**16 44 58.0**	**+0.4**
NNVZ	**North Ngauruho**	**3.09**	**23**	P	**Pn**	**16 44 53.5**	**+2.0**
WTVZ	**West Tongariro**	**3.09**	**22**	P	**Pb**	**16 44 58.9**	**+0.9**
TWVZ	**Taurewa**	**3.10**	**20**	P	**Pn**	**16 44 53.7**	**+2.2**
ETVZ	**East Tongariro**	**3.11**	**24**	P	**Pb**	**16 44 58.5**	**+0.2**
TMVZ	**Te Maari**	**3.13**	**24**	P	**Pb**	**16 44 59.4**	**+0.8**
KRVZ	**Karewarewa**	**3.13**	**23**	P	**Pb**	**16 44 59.0**	**+0.4**
NTVZ	**North Tongariro**	**3.13**	**23**	P	**Pn**	**16 44 53.6**	**+1.6**
HIZ	**Hauiti**	**3.52**	**10**	P	**Pb**	**16 45 02.2**	**-3.1**
MRHZ	**Matea Rd**	**3.62**	**30**	P	**Pn**	**16 44 58.1**	**-0.6**
TLZ	**Tolley Road**	**3.82**	**17**	P	**Pn**	**16 45 03.6**	**+2.1**
JCZ	**Jackson Bay**	**4.41**	**240**	P	**Pn**	**16 45 11.9**	**+2.4**
HHSZ	**Highcliff Hill**	**4.63**	**212**	P	**Pn**	**16 45 13.1**	**+0.5**
MKAZ	**Moumakai**	**4.95**	**10**	P	**Pn**	**16 45 19.2**	**+2.2**
MLZ	**Mavora Lakes**	**5.49**	**230**	Pn	**Pn**	**16 45 21.9**	**-2.5**
VNDA	**Vanda**	**35.99**	**184**	P	**P**	**16 51 02.6**	**-0.3**
VNDA				IAmb	IAmb	16 51 37.0	
	comp=Z,3.2nm,1.4s						
ASAR	**Alice Springs**	**37.98**	**286**	P	**P**	**16 51 20.1**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=122,slow=6.6,SNR=13 comp=Z,0.6nm,0.4s						
WB2	**Warramunga Arr**	**40.07**	**291**	P	**P**	**16 51 37.2**	**-0.7**
WB2				IAmb	IAmb	16 51 40.3	
	comp=Z,4.1nm,1.0s						
WRA	**Warramunga Arr**	**40.08**	**291**	P	**P**	**16 51 37.8**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=129,slow=8.4,SNR=8.2 comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**40.08**	**291**	P	**P**	**16 51 37.4**	**-0.6**
WB0	**Warramunga Arr**	**40.16**	**291**	P	**P**	**16 51 37.9**	**-0.8**
WB0				IAmb	IAmb	16 52 03.7	
	comp=Z,5.9nm,1.2s						
MBWA	**Marble Bar**	**49.86**	**277**	P	**P**	**16 52 54.5**	**-1.4**
FINES	**FINESS Array B**	**152.67**	**326**	PKPbc	**PKiKP**	**17 03 57.6**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=56,slow=3.5,SNR=1.8						

WEL 13 16:46:20.6±1.1,42°.5S±7°×17°.4E±°,h7km±6km,M3.5/7, ML4.7/10,MLv3.5/7,Error ellipse: s-maj=0.0km

s-min=0.0km az=132.9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**304**	P	Pg	16 46 24.0	+0.7
CMWZ				S	Sg	16 46 26.4	+1.2
BSWZ	**Blackbirch Sta**	**0.37**	**286**	P	Pg	16 46 28.4	+0.6
BSWZ				S	Sg	16 46 34.1	+1.3
TUWZ	**Tuamarina**	**0.50**	**321**	P	Pg	16 46 30.7	+0.5
TUWZ				S	Sg	16 46 37.7	+1.0
TCW	**Tory Channel**	**0.61**	**354**	P	Pb	16 46 33.0	-0.6
TCW				S	Sb	16 46 41.7	-0.8
NNZ	**Nelson**	**0.95**	**309**	P	Pg	16 46 38.6	-0.2
KIW	**Kapiti Island**	**1.04**	**24**	P	Pn	16 46 41.4	-0.3
DUWZ	**D'Urville Isla**	**1.07**	**342**	P	Pn	16 46 42.2	+0.1
MRNZ	**Matariki Terra**	**1.27**	**289**	P	Pn	16 46 43.7	-1.1
TKNZ	**Takaka Hill**	**1.31**	**306**	P	Pn	16 46 45.4	0.0
BFZ	**Birch Farm**	**1.82**	**52**	P	Pn	16 46 51.7	-0.7
DVHZ	**Dannevirke**	**2.05**	**43**	P	Pn	16 46 54.6	-0.8
PNHZ	**Pukenui**	**2.36**	**37**	P	Pn	16 46 59.3	-0.6

*IDC **13** 16:46:28.3±1.3,41°.70S×174°.00E,h0km,mb4.1/5, mbtmp4.2/6,ML4.5/1,Error ellipse: s-maj=38.5km s-min=30.2km az=69.0*
*WEL **13** 16:46:31.0±0.8,42°.5S±4°×17°.4E±°,h6km±3km,M4.6/8, ML4.8/8,MLv4.6/8,Error ellipse: s-maj=0.0km s-min=0.0km az=163.9*
*NEIC **13** 16:46:30.2±0.9,42°.01S±0°.03×174°.04E±0°.07,h14km±5km, mb4.6/15,Error ellipse: s-maj=7.2km s-min=4.5km az=104.0*

ISC 13 16:46:30.9±1.1,41°.96S±0°.04×174°.03E±0°.03,h18km±4km, n46,σ0°79/57,mb4.3/11,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.27**	**335**		**Pg**	**16 46 36.6**	**-0.4**
BSWZ				Sg	**Sg**	**16 46 41.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.27**	**335**	P	**Pg**	**16 46 36.9**	**-0.1**
BSWZ				S	**Sg**	**16 46 41.4**	**+0.3**
TUWZ	**Tuamarina**	**0.53**	**353**	Pg	**Pg**	**16 46 41.5**	**-0.1**
TUWZ	**Tuamarina**	**0.53**	**353**	P	**Pg**	**16 46 41.8**	**+0.1**
TUWZ				S	**Sb**	**16 46 49.6**	**+0.6**
TCW	**Tory Channel**	**0.77**	**14**	P	**Pb**	**16 46 45.6**	**-0.1**
TCW				S	**Sn**	**16 46 58.8**	**+0.9**
SNZO	**South Kar

WVZ	**Waitaha Valley**	**2.06**	**255**	P	Pn	16 50 14.8 +0.1
WVZ				S	Sn	16 50 39.5 -0.8
RPZ	**Rata Peaks**	**2.10**	**237**	P	Pn	16 50 14.6 -0.6
RPZ				S	Sn	16 50 39.8 -1.3
AWAZ	**Awhitu Peninsu**	**5.59**	**10**	P	Pn	16 51 04.5 +1.3
MKAZ	**Moumakai**	**5.63**	**14**	P	Pn	16 51 04.0 +0.4
ETAZ	**East Tamaki Re**	**5.74**	**12**	P	Pn	16 51 06.1 +1.0
MBAZ	**Motutapu North**	**5.91**	**11**	P	Pn	16 51 08.9 +1.3
WIAZ	**Waiheke Island**	**5.93**	**13**	P	Pn	16 51 08.9 +1.1
ABAZ	**Army Bay**	**6.07**	**10**	P	Pn	16 51 10.7 +1.0

WEL 13 16:50:31.9±0.3,**42°S**±2″×**17°4E**±″, **h5**km, **M3.5**/10, **ML3.8**/10, **MLv3.5**/10, **Error ellipse: s-maj=0.0km s-min=0.0km az=144.8, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**179**	P	Pg	16 50 33.9	+0.4
CMWZ				S	Sg	16 50 36.1	+1.5
BSWZ	**Blackbirch Sta**	**0.26**	**262**	P	Pg	16 50 37.1	+0.2
BSWZ				S	Sb	16 50 42.2	-1.5
TUWZ	**Tuamarina**	**0.32**	**321**	P	Pb	16 50 39.1	-1.0
TUWZ				S	Sb	16 50 44.7	-0.9
TCW	**Tory Channel**	**0.47**	**6**	P	Pg	16 50 41.4	+0.5
TCW				S	Sb	16 50 49.1	-0.8
BHW	**Baring Head**	**0.56**	**62**	P	Pg	16 50 42.4	-0.3
BHW				S	Sb	16 50 51.9	-0.6
WEL	**Wellington**	**0.57**	**47**	P	Pg	16 50 43.5	+0.6
WEL				S	Sb	16 50 52.0	-0.9
PLWZ	**Palliser**	**0.79**	**82**	P	Pg	16 50 47.5	+0.5
PLWZ				S	Sb	16 51 00.1	+0.9
MSWZ	**Moikau Station**	**0.82**	**72**	P	Pb	16 50 48.3	-0.4
MSWZ				S	Sb	16 51 00.2	+0.2
CAW	**Cannon Point**	**0.86**	**49**	P	Pg	16 50 48.4	+0.1
CAW				S	Sg	16 51 00.2	+0.8
MTW	**Mount Morrison**	**1.10**	**62**	P	Pg	16 50 51.9	-1.0
MTW				S	Sn	16 51 09.2	-0.4
OGWZ	**Otaki Gorge**	**1.12**	**40**	P	Pg	16 50 52.9	-0.5
OGWZ				S	Sg	16 51 08.3	+0.3
HOWZ	**Holdsworth Sta**	**1.25**	**52**	P	Pg	16 50 55.2	-0.7
HOWZ				S	Sn	16 51 13.2	-0.2

IDC ***13*** *16:53:17.8±1.1, 41°.50S×174°.14E, h0km, mb4.0/6, mbtmp4.1/7, ML4.3/1, Error ellipse: s-maj=37.7km s-min=22.6km az=67.0*

NOU ***13*** *16:53:18.8, 41°.89S×174°.47E, h0km, MLv4.7/9, Cook Strait, New Zealand*

NEIC ***13*** *16:53:19.8±1.7, 41°.75S±0°.04×174°.25E±0°.03, h14km±5km, mb4.6/19, Error ellipse: s-maj=6.3km s-min=2.7km az=186.0*

WEL ***13*** *16:53:20.3±0.3, 42°.5S±2″×17°.4E±″, h11km±2km, M4.4/25, ML4.7/25, MLv4.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=151.7*

ISC 13 16:53:19.5±0.9,**41°.79S**±0°.03×**174°.30E**±0°.02, **h15**km±5km, **n180**, σ1**s31**/199, **mb4.4**/14, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**303**		**Pg**	**16 53 22.8**	**+0.3**
CMWZ	**Cape Campbell**	**0.08**	**303**	P	**Pg**	**16 53 23.2**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.33**	**283**		**Pb**	**16 53 26.7**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.33**	**283**	P	**Pb**	**16 53 27.0**	**-0.1**
BSWZ				S	**Sb**	**16 53 32.0**	**-0.2**
TUWZ	**Tuamarina**	**0.45**	**323**		**Pg**	**16 53 28.2**	**-0.3**
TUWZ	**Tuamarina**	**0.45**	**323**	P	**Pb**	**16 53 28.3**	**-0.9**
TUWZ				S	**Sb**	**16 53 34.2**	**-1.5**
SNZO	**South Karori**	**0.57**	**32**		**Pg**	**16 53 30.7**	**0.0**
BHW	**Baring Head**	**0.57**	**48**	P	**Pg**	**16 53 31.0**	**+0.2**
TCW	**Tory Channel**	**0.58**	**358**	P	**Pg**	**16 53 30.4**	**-0.6**
TCW				S	**Sb**	**16 53 37.9**	**-1.6**
WEL	**Wellington**	**0.62**	**35**	P	**Pb**	**16 53 31.8**	**-0.2**
WEL				S	**Sb**	**16 53 40.2**	**-0.3**
PLWZ	**Palliser**	**0.75**	**73**		**Pb**	**16 53 35.0**	**+0.7**
PLWZ	**Palliser**	**0.75**	**73**	P	**Pn**	**16 53 35.6**	**-0.1**
PLWZ				S	**Sn**	**16 53 48.0**	**+1.2**
MSWZ	**Moikau Station**	**0.80**	**63**		**Pb**	**16 53 35.7**	**+0.4**
MSWZ	**Moikau Station**	**0.80**	**63**	P	**Pb**	**16 53 36.0**	**+0.7**
MSWZ				S	**Sn**	**16 53 48.8**	**+0.7**
KHZ	**Kahutara**	**0.84**	**222**	P	**Pn**	**16 53 38.2**	**+1.3**
CAW	**Cannon Point**	**0.89**	**40**	P	**Pb**	**16 53 36.7**	**0.0**
NNZ	**Nelson**	**0.90**	**309**		**Pb**	**16 53 36.2**	**-0.6**
NNZ	**Nelson**	**0.90**	**309**	P	**Pg**	**16 53 36.4**	**-0.6**
NNZ				S	**Sg**	**16 53 48.3**	**-0.4**
PAWZ	**Paruwai Farm**	**0.94**	**65**	P	**Pg**	**16 53 38.1**	**+0.4**
PAWZ				S	**Sn**	**16 53 51.5**	**+0.1**
DUWZ	**D'Urville Isla**	**1.03**	**344**	P	**Pb**	**16 53 38.3**	**-0.8**
DUWZ				S	**Sg**	**16 53 51.4**	**-1.5**
KIW	**Kapiti Island**	**1.04**	**26**	P	**Pb**	**16 53 38.8**	**-0.4**
KIW				S	**Sg**	**16 53 52.4**	**-0.7**
THZ	**Tophouse**	**1.04**	**271**	Pn	**Pn**	**16 53 39.8**	**+0.1**
THZ	**Tophouse**	**1.04**	**271**	P	**Pn**	**16 53 40.2**	**+0.5**
THZ				S	**Sn**	**16 53 56.0**	**+1.9**
MTW	**Mount Morrison**	**1.10**	**55**	P	**Pb**	**16 53 40.2**	**-0.1**
MTW				S	**Sn**	**16 53 55.7**	**+0.3**
TRWZ	**Traveller**	**1.11**	**70**	P	**Pb**	**16 53 40.2**	**-0.3**
OGWZ	**Otaki Gorge**	**1.17**	**34**	P	**Pb**	**16 53 41.3**	**-0.2**
OGWZ				S	**Sg**	**16 53 57.8**	**+0.3**
MRNZ	**Matariki Terra**	**1.22**	**288**	P	**Pg**	**16 53 43.1**	**0.0**
MRNZ				S	**Sg**	**16 54 00.2**	**+1.2**
TKNZ	**Takaka Hill**	**1.26**	**306**	P	**Pg**	**16 53 42.9**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.28**	**46**	P	**Pn**	**16 53 42.7**	**-0.2**
TMWZ	**Te Maipa**	**1.38**	**61**	P	**Pn**	**16 53 43.7**	**-0.5**
TMWZ				S	**Sn**	**16 54 02.2**	**-0.1**
MRZ	**Mangatainoka R**	**1.48**	**41**	Pn	**Pn**	**16 53 45.5**	**-0.2**
MRZ	**Mangatainoka R**	**1.48**	**41**	P	**Pn**	**16 53 45.6**	**-0.1**
MRZ				S	**Sb**	**16 54 05.4**	**-0.1**
GVZ	**Greta Valley S**	**1.50**	**218**	Pn	**Pn**	**16 53 46.4**	**+0.4**
GVZ	**Greta Valley S**	**1.50**	**218**	P	**Pn**	**16 53 46.7**	**+0.6**
TIWZ	**Tintock**	**1.57**	**50**	P	**Pn**	**16 53 46.4**	**-0.5**
QRZ	**Quartz Range**	**1.65**	**305**		**Pb**	**16 53 49.0**	**-0.6**
QRZ	**Quartz Range**	**1.65**	**305**	P	**Pb**	**16 53 49.3**	**-0.3**
QRZ	**Quartz Range**	**1.65**	**305**	P	**Pb**	**16 53 49.5**	**-0.1**
QRZ				S	**Sg**	**16 54 12.0**	**-0.6**
CPWZ	**Castlepoint**	**1.68**	**59**	P	**Pn**	**16 53 48.0**	**-0.4**
OHWZ	**Ohakea**	**1.76**	**26**	P	**Pb**	**16 53 51.2**	**-0.3**
PRWZ	**Pori Road**	**1.77**	**46**	P	**Pn**	**16 53 49.2**	**-0.4**
POWZ	**Post Office Ro**	**1.78**	**39**	P	**Pn**	**16 53 49.7**	**-0.1**
LTZ	**Lake Taylor**	**1.80**	**236**	Pn	**Pn**	**16 53 50.8**	**+0.7**
LTZ	**Lake Taylor**	**1.80**	**236**	P	**Pn**	**16 53 51.2**	**+1.1**
BFZ	**Birch Farm**	**1.84**	**54**	P	**Pn**	**16 53 49.8**	**-0.8**
BFZ	**Birch Farm**	**1.84**	**54**	P	**Pn**	**16 53 49.5**	**-1.1**
AMCZ	**Amberley**	**1.85**	**221**	P	**Pn**	**16 53 51.2**	**+0.5**
DVHZ	**Dannevirke**	**2.05**	**44**	P	**Pn**	**16 53 52.5**	**-1.0**
WAZ	**Wanganui**	**2.10**	**15**	P	**Pb**	**16 53 56.5**	**-0.8**
ANWZ	**Angora Road**	**2.11**	**52**	P	**Pn**	**16 53 51.0**	**-3.3**
OKCZ	**Okains Bay**	**2.14**	**205**	P	**Pn**	**16 53 54.8**	**0.0**
TSZ	**Takapari Road**	**2.14**	**37**	P	**Pn**	**16 53 54.6**	**-0.2**
MQZ	**McQueen's Vall**	**2.27**	**212**	Pn	**Pn**	**16 53 55.1**	**-1.4**
MQZ	**McQueen's Vall**	**2.27**	**212**	P	**Pn**	**16 53 55.9**	**-0.6**
OXZ	**Oxford**	**2.27**	**227**	P	**Pn**	**16 53 56.1**	**-0.4**
OXZ				P	**Pb**	**16 53 56.4**	**-3.8**
INZ	**Inchbonnie**	**2.32**	**245**	P	**Pn**	**16 53 58.5**	**+1.3**
AKCZ	**Akaroa Harbour**	**2.32**	**206**	P	**Pn**	**16 53 57.2**	**0.0**
LREZ	**Lake Rotokare**	**2.33**	**2**	P	**Pb**	**16 54 01.2**	**0.0**
PRHZ	**Porangahau**	**2.33**	**50**	P	**Pn**	**16 53 55.9**	**-1.5**
PNHZ	**Pukenui**	**2.37**	**38**	P	**Pn**	**16 53 57.1**	**-0.7**
WPHZ	**Waipukurau**	**2.37**	**44**	P	**Pn**	**16 53 57.0**	**-0.9**
NMEZ	**Namu Road**	**2.40**	**352**	P	**Pn**	**16 54 01.6**	**-0.7**
KHEZ	**Kahui Hut**	**2.50**	**355**	P	**Pn**	**16 54 03.6**	**-0.6**
RACZ	**Rakaia**	**2.51**	**219**	P	**Pn**	**16 53 59.3**	**-0.5**
NEZ	**North Egmont**	**2.52**	**356**	P	**Pb**	**16 54 03.7**	**-0.9**
NBEZ	**Newall Road No**	**2.54**	**352**	P	**Pb**	**16 54 03.4**	**-1.4**
MTVZ	**Mangateitei**	**2.56**	**21**	P	**Pb**	**16 54 03.6**	**-1.6**
DREZ	**Durham Road**	**2.60**	**358**	P	**Pb**	**16 54 04.4**	**-1.5**
PKE	**Pukeiti**	**2.60**	**355**	P	**Pb**	**16 54 04.4**	**-1.6**
PXZ	**Pawanui**	**2.62**	**49**	P	**Pn**	**16 53 59.5**	**-1.8**
PKVZ	**Pokaka**	**2.62**	**18**	P	**Pn**	**16 54 03.0**	**+1.6**
MOVZ	**Moawhango**	**2.62**	**25**	P	**Pn**	**16 54 02.2**	**+0.7**
WNVZ	**Wahianoa**	**2.65**	**22**	P	**Pn**	**16 54 03.1**	**+1.1**
BHHZ	**Black Hill Sta**	**2.66**	**31**	P	**Pn**	**16 54 02.6**	**+0.6**
TRVZ	**Turoa**	**2.66**	**21**	P	**Pn**	**16 54 04.0**	**+1.9**
DRZ	**Dome Shelter**	**2.69**	**21**	P	**Pb**	**16 54 08.2**	**+0.6**
WHVZ	**Whangaehu Hut**	**2.69**	**22**	P	**Pn**	**16 54 03.9**	**+1.3**
FWVZ	**Far West T-bar**	**2.71**	**21**	P	**Pn**	**16 54 04.2**	**+1.4**
MHEZ	**Mangahewa**	**2.71**	**0**	P	**Pb**	**16 54 06.0**	**-1.7**
TUVZ	**Tukino**	**2.72**	**23**	P	**Pn**	**16 54 04.1**	**+1.2**
KAHZ	**Kahuranaki**	**2.79**	**45**	P	**Pn**	**16 54 02.6**	**-1.2**
NGZ	**Ngauruhoe**	**2.79**	**21**	P	**Pn**	**16 54 05.5**	**+1.6**
SNVZ	**South Ngauruho**	**2.79**	**22**	P	**Pn**	**16 54 05.6**	**+1.7**
WACZ	**Wakanui South**	**2.81**	**219**	P	**Pn**	**16 54 03.9**	**0.0**
OTVZ	**Oturere**	**2.82**	**22**	P	**Pn**	**16 54 05.9**	**+1.6**
NNVZ	**North Ngauruho**	**2.84**	**21**	P	**Pn**	**16 54 06.1**	**+1.6**
WTVZ	**West Tongariro**	**2.85**	**21**	P	**Pb**	**16 54 09.4**	**-0.8**
TWVZ	**Taurewa**	**2.85**	**18**	P	**Pn**	**16 54 06.2**	**+1.6**
ETVZ	**East Tongariro**	**2.86**	**23**	P	**Pn**	**16 54 05.9**	**+1.2**
KWHZ	**Kaweka Forest**	**2.86**	**35**	P	**Pb**	**16 54 10.1**	**-0.3**
TMVZ	**Te Maari**	**2.88**	**22**	P	**Pn**	**16 54 05.8**	**+0.8**
KRVZ	**Karewarewa**	**2.88**	**21**	P	**Pn**	**16 54 06.8**	**+1.8**
NTVZ	**North Tongarir**	**2.89**	**22**	P	**Pn**	**16 54 06.3**	**+1.2**
WVZ	**Waitaha Valley**	**2.93**	**243**	P	**Pn**	**16 54 07.2**	**+1.5**
KATZ	**Kakaramea**	**3.01**	**21**	P	**Pb**	**16 54 10.1**	**-2.8**
RPZ	**Rata Peaks**	**3.07**	**230**	Pn	**Pn**	**16 54 07.8**	**+0.3**
RPZ				Sn	**Sn**	**16 54 44.8**	**+0.9**
RPZ	**Rata Peaks**	**3.07**	**230**	Pn	**Pn**	**16 54 07.1**	**-0.4**
RPZ	**Rata Peaks**	**3.07**	**230**	P	**Pn**	**16 54 07.7**	**+0.1**
BKZ	**Black Stump Fm**	**3.11**	**33**	Pn	**Pn**	**16 54 07.0**	**-1.1**
RATZ	**Rangitukua**	**3.13**	**22**	P	**Pb**	**16 54 15.8**	**+0.9**
ARCZ	**Arundel**	**3.15**	**226**	P	**Pn**	**16 54 08.5**	**-0.1**
ARHZ	**Aropaoanui**	**3.25**	**40**	P	**Pn**	**16 54 08.7**	**-1.3**
WATZ	**Wairara**	**3.27**	**20**	P	**Pn**	**16 54 17.4**	**+0.1**
HIZ	**Hauiti**	**3.30**	**8**	P	**Pn**	**16 54 13.5**	**+2.8**
GCSZ	**Gaunt Creek Bo**	**3.31**	**241**	P	**Pn**	**16 54 12.6**	**+1.8**
MRHZ	**Matea Rd**	**3.37**	**29**	P	**Pn**	**16 54 11.0**	**-0.7**
MTHZ	**Maungataniwha**	**3.52**	**34**	P	**Pn**	**16 54 15.0**	**+1.2**
TMZ	**Timaru**	**3.54**	**222**	P	**Pn**	**16 54 14.1**	**+0.1**
ALRZ	**Allen Road**	**3.58**	**27**	P	**Pb**	**16 54 21.5**	**-1.2**
TLZ	**Tolley Road**	**3.58**	**16**	P	**Pn**	**16 54 16.1**	**+1.4**
FOZ	**Fox Glacier**	**3.74**	**241**	P	**Pn**	**16 54 18.0**	**+1.3**
MHGZ	**Mahia Peninsul**	**3.81**	**47**	P	**Pn**	**16 54 15.6**	**-2.1**
MUGZ	**Murupara**	**3.81**	**31**	P	**Pn**	**16 54 17.4**	**-0.3**
LBZ	**Lake Benmore**	**3.98**	**228**	Pn	**Pn**	**16 54 19.8**	**-0.2**
LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	**16 54 20.3**	**+0.3**
TOZ	**Tahuroa Road**	**4.16**	**13**	P	**Pn**	**16 54 24.6**	**+2.2**
ODZ	**Otahua Downs**	**4.20**	**218**	Pn	**Pn**	**16 54 22.3**	**-0.8**
ODZ	**Otahua Downs**	**4.20**	**218**	P	**Pn**	**16 54 23.8**	**+0.7**
ODZ	**Otahua Downs**	**4.20**	**218**	P	**Pn**	**16 54 22.5**	**-0.6**
TWGZ	**Tauwhareparae**	**4.58**	**39**	P	**Pn**	**16 54 26.4**	**-2.0**
RUGZ	**Raukumara Rang**	**4.62**	**35**	P	**Pn**	**16 54 27.5**	**-1.4**
JCZ	**Jackson Bay**	**4.65**	**239**	P	**Pn**	**16 54 31.3**	**+2.0**
JCZ	**Jackson Bay**	**4.65**	**239**	P	**Pn**	**16 54 31.0**	**+1.7**
AWAZ	**Awhitu Peninsu**	**4.73**	**3**	P	**Pn**	**16 54 32.4**	**+2.1**
MKAZ	**Moumakai**	**4.73**	**8**	P	**Pn**	**16 54 31.4**	**+1.1**
HAZ	**Te Kaha**	**4.84**	**35**	P	**Pn**	**16 54 30.1**	**-1.7**
ETAZ	**East Tamaki Re**	**4.86**	**6**	P	**Pn**	**16 54 33.8**	**+1.7**
WTAZ	**Waiatarua**	**4.86**	**3**	P	**Pn**	**16 54 34.7**	**+2.6**
HHSZ	**Highcliff Hill**	**4.89**	**212**	P	**Pn**	**16 54 32.1**	**-0.4**
WKZ	**Wanaka**	**4.91**	**230**	P	**Pn**	**16 54 33.0**	**+0.2**
EAZ	**Earnscleugh**	**5.00**	**225**	P	**Pn**	**16 54 33.8**	**-0.2**
WIAZ	**Waiheke Island**	**5.03**	**8**	P	**Pn**	**16 54 36.6**	**+2.1**
MBAZ	**Motutapu North**	**5.04**	**5**	P	**Pn**	**16 54 36.9**	**+2.4**
KUZ	**Kuaotunu**	**5.16**	**13**	P	**Pn**	**16 54 39.0**	**+2.8**
KUZ	**Kuaotunu**	**5.16**	**13**	P	**Pn**	**16 54 37.2**	**+1.0**
ABAZ	**Army Bay**	**5.20**	**5**	P	**Pn**	**16 54 38.9**	**+2.2**
TUZ	**Tuapeka**	**5.36**	**217**	P	**Pn**	**16 54 38.5**	**-0.4**
MSZ	**Milford Sound**	**5.48**	**236**	P	**Pn**	**16 54 44.9**	**+4.3**
MLZ	**Mavora Lakes**	**5.74**	**229**	Pn	**Pn**	**16 54 43.5**	**-0.7**
MLZ	**Mavora Lakes**	**5.74**	**229**	P	**Pn**	**16 54 44.7**	**+0.5**
SYZ	**Scrubby Hill**	**6.02**	**216**	P	**Pn**	**16 54 48.3**	**+0.2**
SYZ	**Scrubby Hill**	**6.02**	**216**	P	**Pn**	**16 54 48.0**	**-0.1**
WHZ	**Wether Hill Ro**	**6.16**	**226**	P	**Pn**	**16 54 50.3**	**+0.3**
OUZ	**Omahuta**	**6.58**	**355**	P	**Pn**	**16 54 59.2**	**+3.4**
OUZ	**Omahuta**	**6.58**	**355**	P	**Pn**	**16 54 59.0**	**+3.2**
APZ	**The Paps**	**6.77**	**220**	P	**Pn**	**16 54 58.0**	**-0.4**
CTZ	**Chatham Island**	**6.96**	**109**	P	**Pn**	**16 54 59.7**	**-1.2**
CTZ	**Chatham Island**	**6.96**	**109**	P	**Pn**	**16 55 00.3**	**-0.6**
PYZ	**Puysegur Point**	**7.02**	**229**	P	**Pn**	**16 55 04.3**	**+2.5**
PYZ	**Puysegur Point**	**7.02**	**229**	P	**Pn**	**16 55 04.6**	**+2.8**
BBOO	**Buckleboo**	**31.50**	**274**	P	**P**	**16 59 39.4**	**-1.4**
CTAO	**Charters Tower**	**32.11**	**304**	P	**P**	**16 59 44.3**	**-2.0**
VNDA	**Vanda**	**36.21**	**185**	P	**P**	**17 00 24.0**	**+2.8**
AS31	**Alice Springs**	**38.08**	**286**	P	**P**	**17 00 36.2**	**-1.5**
ASAR	**Alice Springs**	**38.08**	**286**	P	**P**	**17 00 36.5**	**-1.3**
ASAR	**Alice Springs**	**38.08**	**286**	P	**P**	**17 00 36.0**	**-1.8**
FORT	**Forrest**	**38.45**	**271**	P	**P**	**17 00 40.4**	**-0.3**
FORT				IAmb	IAmb	17 01 04.5	
COEN	**Coen**	**38.68**	**307**	P	**P**	**17 00 42.1**	**-0.7**
COEN				IAmb	IAmb	17 00 46.2	
WR0	**Warramunga Arr**	**40.00**	**291**	P	**P**	**17 00 52.4**	**-1.4**
WR0				IAmb	IAmb	17 00 55.8	
WB2	**Warramunga Arr**	**40.15**	**290**	P	**P**	**17 00 53.9**	**-1.1**
WRA	**Warramunga Arr**	**40.15**	**290**	P	**P**	**17 00 53.9**	**-1.2**
WRA	**Warramunga Arr**	**40.15**	**290**	P	**P**	**17 00 53.6**	**-1.5**
WB0	**Warramunga Arr**	**40.23**	**291**	P	**P**	**17 00 54.4**	**-1.4**
RABL	**Rabaul**	**42.35**	**326**	P	**P**	**17 01 13.2**	**0.0**
RABL				IAmb	IAmb	17 01 21.5	
KNRA	**Kununurra**	**46.94**	**290**	P	**P**	**17 01 49.6**	**-0.1**
MTN	**Manton Dam**	**47.27**	**295**	P	**P**	**17 01 51.9**	**-0.5**
MORW	**Morawa**	**48.30**	**266**	P	**P**	**17 01 59.5**	**-0.8**
QSPA	**South Pole Qui**	**48.34**	**180**	P	**P**	**17 02 03.5**	**+3.2**
QSPA	**South Pole Qui**	**48.34**	**180**	P	**P**	**17 02 02.4**	**+2.1**
QSPA				IAmb	IAmb	17 02 19.3	
PSA00	**Pilbara Seismi**	**49.66**	**276**	P	**P**	**17 02 08.7**	**-2.1**
PSA00				IAmb	IAmb	17 02 31.9	
MBWA	**Marble Bar**	**49.99**	**277**	P	**P**	**17 02 11.8**	**-1.5**
MBWA				IAmb	IAmb	17 02 43.4	
GIRL	**Giralia**	**53.21**	**271**	P	**P**	**17 02 36.9**	**-0.5**
SOEI	**Soe**	**54.18**	**291**	P	**P**	**17 02 45.5**	**+0.8**
SOEI				IAmb	IAmb	17 03 06.0	
SNAA	**Sanae**	**66.83**	**181**	P	**P**	**17 04 11.8**	**+1.6**
SNAA				IAmb	IAmb	17 04 47.1	
KSRS	**Korea Array**	**89.51**	**325**	P	**P**	**17 06 16.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**91.69**	**293**	P	**P**	**17 06 26.4**	**-0.1**
DBIC	**Dimbokro**	**145.02**	**181**	PKPbc	**PKPab**	**17 12 56.6**	**+0.7**
ARCES	**ARCESS Array B**	**147.83**	**340**	PKPbc	**PKPbc**	**17 13 01.5**	**-1.2**
BRTR	**Keskin Array B**	**150.31**	**279**	PKPbc	**PKPbc**	**17 13 10.5**	**+0.5**
FINES	**FINESS Array B**	**152.59**	**327**	PKPbc	**PKPbc**	**17 13 12.9**	**-1.4**

IDC ***13*** *16:58:24.6±2.4, 14°.81S×167°.09E, h91km±20km, mb3.6/10, mbtmp4.0/11, MS4.0/1, Error ellipse: s-maj=26.1km s-min=14.9km az=84.0*

NEIC ***13*** *16:58:25.6±1.0, 14°.9S±0°.1×167°.1E±0°.2, h102km±9km, mb4.4/12, Error ellipse: s-maj=22.6km s-min=14.7km az=76.0*

NOU ***13*** *16:58:31.6, 15°.52S×167°.08E, h10km, MLv4.5/11, Vanuatu Islands*

ISC 13 16:58:25.4±0.7,**14°.84S**±0°.07×**167°.1E**±0°.1, **h100**km, **n43**, σ0**s94**/44, **mb4.2**/15, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.06**	**160**	P	**Pn**	**16 59 12.3**	**+0.2**
RTV	**Rentapao**	**3.21**	**156**	P	**Pn**	**16 59 13.5**	**-0.5**
LIFNC	**LIFOU**	**5.91**	**178**		**Pn**	**16 59 48.9**	**-1.6**
LIFNC	**LIFOU**	**5.91**	**178**	P	**Pn**	**16 59 49.3**	**-1.2**
KOUNC	**Koumac, New Ca**	**6.27**	**205**	Pn	**Pn**	**16 59 55.3**	**-0.1**
KOUNC	**Koumac, New Ca**	**6.27**	**205**	P	**Pn**	**16 59 55.8**	**+0.4**
MARNC	**Mare, Loyalty**	**6.67**	**172**	Pn	**Pn**	**16 59 58.6**	**-2.2**
MARNC	**Mare, Loyalty**	**6.67**	**172**	P	**Pn**	**16 59 59.7**	**-1.1**
YATNC	**Mamie plateau,**	**7.18**	**181**	P	**Pn**	**17 00 07.0**	**-0.9**
DZM	**Mont Dzumac**	**7.22**	**185**	P	**Pn**	**17 00 08.5**	**+0.1**
DZM	13nm,0.3s,baz=310,slow=10.0,SNR=64			S	**Sn**	**17 01 28.7**	**-0.2**
DZM	26nm,0.4s,baz=142,slow=20,SNR=14 **Mont Dzumac**	**7.22**	**185**		**Pn**	**17 00 08.0**	**-0.4**
DZM	**Mont Dzumac**	**7.22**	**185**	P	**Pn**	**17 00 08.7**	**+0.3**
OUENC	**Ouen Island, N**	**7.54**	**182**	Pn	**Pn**	**17 00 12.8**	**+0.1**
OUENC	**Ouen Island, N**	**7.54**	**182**	P	**Pn**	**17 00 13.7**	**+1.0**
HNR	**Honiara**	**8.79**	**307**	P	**Pn**	**17 00 30.0**	**+0.2**
HNR	581nm,0.5s,baz=168,slow=11,SNR=2.3			S	**Sn**	**17 02 05.3**	**-2.0**
MSVF	479nm,0.6s,baz=158,slow=19,SNR=1.8 **Nonsavu**	**10.93**	**107**	LR	LR	17 04 22.0	
STKA	comp=Z,913nm,21.6s,baz=79,slow=33 **Stephens Creek**	**28.78**	**229**	P	**P**	**17 04 15.0**	**+1.1**
STKA	2.6nm,0.5s,baz=60,slow=11,SNR=6.6 2.6nm,0.5s **Stephens Creek**	**28.78**	**229**	P	**P**	**17 04 14.3**	**+0.4**
WRA	**Warramunga Arr**	**31.61**	**256**	P	**P**	**17 04 38.9**	**-0.2**
WRA	0.5nm,1.0s,baz=85,slow=9.2,SNR=2.5 0.5nm,1.0s **Warramunga Arr**	**31.61**	**256**	P	**P**	**17 04 36.4**	**-2.7**
AS31	**Alice Springs**	**32.45**	**249**	P	**P**	**17 04 45.5**	**-1.0**
ASAR	**Alice Springs**	**32.45**	**249**	P	**P**	**17 04 46.0**	**-0.5**
ASAR	0.5nm,0.5s,baz=76,slow=9.2,SNR=13			ScP	**ScP**	**17 11 06.8**	**+0.4**
JGF	0.3nm,0.8s,baz=115,slow=3.8,SNR=1.9 0.5nm,0.5s **Kuroka**	**57.52**	**331**	P	**P**	**17 08 03.9**	**-0.6**
JGF	comp=Z,6.4nm,1.2s			IAmb	IAmb	17 08 42.9	
MJAR	**Matsushiro Arr**	**57.91**	**333**	P	**P**	**17 08 06.7**	**-0.5**
MAJO	comp=Z,1.6nm,0.6s,baz=173,slow=8.0,SNR=10 comp=Z,1.6nm,0.6s **Matsushiro**	**57.91**	**333**	P	**P**	**17 08 06.3**	**-0.9**
MAJO	comp=Z,8.6nm,1.3s			IAmb	IAmb	17 08 07.0	
MJB9	**Matsu-Tunnel**	**57.92**	**333**	P	**P**	**17 08 06.3**	**-0.9**
USRK	**Usuriysk Ar.**	**66.90**	**333**	P	**P**	**17 09 07.5**	**+0.6**
PEA0B	**Petropavlovsk-**	**68.15**	**354**	P	**P**	**17 09 14.6**	**0.0**
PETK	**Petropavlovsk-** comp=Z,1.5nm,0.8s,baz=142,slow=7.5,SNR=5.6 comp=Z,1.5nm,0.8s	**68.15**	**354**	P	**P**	**17 09 15.1**	**+0.5**
PETK	**Petropavlovsk-**	**68.15**	**354**	P	**P**	**17 09 14.7**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.5s,baz=135,slow=6.2,SNR=4.1 comp=Z,0.4nm,0.5s	**74.82**	**294**	P	**P**	**17 09 57.3**	**+1.9**
QSPA	**South Pole Qui** comp=Z,1.0nm,0.8s,baz=33,slow=5.1,SNR=2.2 comp=Z,1.0nm,0.8s	**75.19**	**180**	P	**P**	**17 09 57.2**	**+0.3**
QSPA	**South Pole Qui**	**75.19**	**180**	P	**P**	**17 09 57.1**	**+0.2**
QSPA	comp=Z,4.8nm,1.3s			IAmb	IAmb	17 10 12.8	
QSPA	**South Pole Qui** comp=Z,4.8nm,1.3s	**75.19**	**180**	IAmb	IAmb	17 10 12.8	
QSPA	**South Pole Qui**	**75.19**	**180**	P	**P**	**17 09 57.3**	**+0.4**
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=143,slow=5.5,SNR=2.8 comp=Z,0.2nm,0.3s	**82.47**	**324**	P	**P**	**17 10 37.7**	**+0.8**
CAST	**Castle Rocks**	**84.16**	**17**	P	**P**	**17 10 44.3**	**-0.8**
CAST	comp=Z,5.5nm,1.1s			IAmb	IAmb	17 10 46.2	
KTH	**

MTW	Mount Morrison	1.82	50	P	Pn	17 01 52.7	+1.1
OGWZ	Otaki Gorge	1.90	37	P	Pn	17 01 53.0	+0.3
HOWZ	Holdsworth Sta	2.01	45	S	Sn	17 02 19.0	+0.1
TMWZ	Te Maipa	2.08	55	P	Pn	17 01 54.6	-0.6
MRZ	Mangatainoka R	2.22	42	Pn	Pn	17 01 56.1	-0.9
MRZ	Mangatainoka R	2.22	42	P	Pn	17 01 56.8	-0.3
RPZ	Rata Peaks	2.35	233	Pn	Pb	17 02 03.6	+0.7
	30nm,0.3s,baz=334,slow=2.3,SNR=5.5						
	98nm,0.4s						
OHWZ	Ohakea	2.47	31	P	Pn	17 02 01.7	+1.2
POWZ	Post Office Ro	2.52	40	P	Pn	17 02 00.4	-0.8
TSZ	Takapari Road	2.87	38	P	Pn	17 02 05.7	-0.4
PNHZ	Pukenui	3.10	39	P	Pn	17 02 08.4	-0.8
MOVZ	Moawhango	3.33	29	P	Pn	17 02 13.1	+0.6
WNVZ	Wahianoa	3.35	27	P	Pn	17 02 14.7	+1.9
WHVZ	Whangaehu Hut	3.39	26	P	Pn	17 02 15.1	+1.7
FWVZ	Far West T-bar	3.40	26	P	Pn	17 02 15.1	+1.5
TUVZ	Tukino	3.42	27	P	Pn	17 02 15.1	+1.2
OTVZ	Oturere	3.52	26	P	Pn	17 02 16.2	+1.1
HIZ	Hauiti	3.93	14	P	Pn	17 02 23.0	+2.4
MRHZ	Matea Rd	4.09	32	P	Pn	17 02 21.6	-1.2
HHSZ	Highcliff Hill	4.17	211	P	Pn	17 02 23.4	-0.5
TLZ	Tolley Road	4.26	20	P	Pn	17 02 26.6	+1.4
TOZ	Tahuroa Road	4.82	18	P	Pn	17 02 33.6	+0.8
MLZ	Mavora Lakes	5.01	231	Pn	Pn	17 02 35.6	+0.1
SYZ	Scrubby Hill	5.30	216	P	Pn	17 02 39.2	-0.2
AWAZ	Awhitu Peninsu	5.32	9	P	Pn	17 02 41.6	+1.8
RUGZ	Raukumara Rang	5.35	37	P	Pn	17 02 39.1	-1.1
MKAZ	Moumakai	5.36	13	P	Pn	17 02 41.1	+0.9
WTAZ	Waiatarua	5.45	8	P	Pn	17 02 43.5	+2.0
ETAZ	East Tamaki Re	5.47	11	P	Pn	17 02 43.4	+1.7
HAZ	Te Kaha	5.57	36	P	Pn	17 02 42.2	-0.9
RVAZ	Riverhead Bore	5.61	8	P	Pn	17 02 45.4	+1.8
MBAZ	Motutapu North	5.64	10	P	Pn	17 02 46.1	+2.0
WIAZ	Waiheke Island	5.66	12	P	Pn	17 02 46.2	+1.8
ABAZ	Army Bay	5.80	9	P	Pn	17 02 48.1	+1.8
WMGZ	Waiomatatini S	5.81	41	P	Pn	17 02 46.3	-0.1
AFI	Afiamalu	31.01	28	LR	LR	17 19 30.2	
	comp=Z,152nm,20.0s,baz=137,slow=36						
ASAR	Alice Springs	37.76	287	P	P	17 08 36.5	+0.2
	0.1nm,0.4s,baz=123,slow=6.8,SNR=8.0						
	0.1nm,0.4s						
WB2	Warramunga Arr	39.89	292	P	P	17 08 53.4	-0.7
WB2				IAmb	IAmb	17 09 16.0	
	comp=Z,6.1nm,1.2s						
WRA	Warramunga Arr	39.90	292	P	P	17 08 53.9	-0.3
	comp=Z,0.5nm,0.4s,baz=128,slow=8.6,SNR=11						
	comp=Z,0.5nm,0.4s						
WRA	Warramunga Arr	39.90	292	P	P	17 08 54.2	+0.1
WB0	Warramunga Arr	39.98	292	P	P	17 08 54.4	-0.4
WB0				IAmb	IAmb	17 09 03.6	
	comp=Z,6.5nm,1.3s						
CASY	Casey	41.47	213	P	P	17 09 08.9	+2.4
CASY				IAmb	IAmb	17 09 40.0	
	comp=Z,41nm,1.2s						
KNRA	Kununurra	46.67	291	P	P	17 09 49.0	+0.1
MTN	Manton Dam	47.06	296	P	P	17 09 51.7	-0.3
MTN				IAmb	IAmb	17 10 07.3	
	comp=Z,12nm,1.1s						
FINES	FINESS Array B	152.77	326	PKPbc	PKPbc	17 21 15.4	-0.5
	comp=Z,3.6nm,1.1s,baz=72,slow=4.5,SNR=2.5						

WEL 13 17:04:17.9±0.4, 42°S±4°×17°4E±°, h6km±3km, M4.1/11, ML4.2/11, MLv4.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=147.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.07	11	P	Pg	17 04 19.4	-0.2
KHZ				S	Sg	17 04 20.4	-0.5
GVZ	Greta Valley S	0.60	217	P	Pg	17 04 28.9	-0.5
AMCZ	Amberley	0.94	223	P	Pb	17 04 36.7	+0.2
LTZ	Lake Taylor	0.97	252	P	Pb	17 04 37.2	+0.1
LTZ				S	Sb	17 04 49.6	-0.5
TUWZ	Tuamarina	1.10	17	P	Pb	17 04 39.6	+0.2
OKCZ	Okains Bay	1.28	195	P	Pn	17 04 41.7	-0.6
OKCZ				S	Sb	17 04 59.3	+0.2
MQZ	McQueen's Vall	1.37	207	P	Pn	17 04 42.4	-1.1
MQZ				S	Sb	17 05 00.1	-1.6
OXZ	Oxford	1.37	232	P	Pn	17 04 42.5	-1.1
OXZ				S	Sn	17 05 03.1	+1.0
AKCZ	Akaroa Harbour	1.45	198	P	Pn	17 04 43.9	-0.8
INZ	Inchbonnie	1.55	261	P	Pb	17 04 46.6	-0.4
RACZ	Rakaia	1.60	219	P	Pn	17 04 45.6	-1.0
CAW	Cannon Point	1.80	40	P	Pn	17 04 48.4	-1.1
WACZ	Wakanui South	1.90	220	P	Pn	17 04 49.9	-1.0
WVZ	Waitaha Valley	2.13	253	P	Pn	17 04 54.5	+0.5
RPZ	Rata Peaks	2.18	235	P	Pn	17 04 53.9	-0.8
ARCZ	Arundel	2.25	229	P	Pn	17 04 54.8	-0.8
CKHZ	Cape Kidnapper	3.90	45	P	Pn	17 05 17.5	-0.9
CKHZ				P	Pb	17 05 18.0	+0.1
AWAZ	Awhitu Peninsu	5.49	9	P	Pn	17 05 40.7	+0.6
ETAZ	East Tamaki Re	5.63	12	P	Pn	17 05 42.5	+0.4
WIAZ	Waiheke Island	5.82	13	P	Pn	17 05 45.2	+0.5
APZ	The Paps	5.87	220	P	Pn	17 05 44.5	-0.8

WEL 13 17:04:53.3±0.5, 42°S±5°×17°4E±°, h12km±3km, M3.7/21, ML4.0/21, MLv3.7/21, Error ellipse: s-maj=0.0km s-min=0.0km az=162.7

IDC 13 17:04:55.8±2.8, 41°76S×173°59E, h0km, mb3.7/4, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=65.8km s-min=34.3km az=67.0

ISC 13 17:04:54.1±1.1, 41°73S±0°05×174°29E±0°03, h11km±8km, n32, σ1°40/34, mb3.7/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	253	P	Pg	17 04 57.2	+0.8
BSWZ	Blackbirch Sta	0.31	273	P	Pb	17 05 00.9	-0.8
BSWZ				S	Sb	17 05 06.8	0.0
TUWZ	Tuamarina	0.40	319	P	Pb	17 05 02.4	-0.8
TUWZ				S	Sb	17 05 08.3	-0.9
BHW	Baring Head	0.54	54	P	Pb	17 05 05.1	-0.4
WEL	Wellington	0.57	39	P	Pb	17 05 05.6	-0.5
PLWZ	Palliser	0.74	78	P	Pb	17 05 08.8	-0.2
MSWZ	Moikau Station	0.78	67	P	Pb	17 05 09.5	-0.2
CAW	Cannon Point	0.85	43	P	Pb	17 05 10.5	-0.4
NNZ	Nelson	0.86	306	P	Pb	17 05 10.5	-0.4
PAWZ	Paruwai Farm	0.92	68	P	Pb	17 05 11.6	-0.4
DUWZ	D'Urville Isla	0.97	343	P	Pn	17 05 13.3	-0.3
KIW	Kapiti Island	0.98	28	P	Pb	17 05 13.0	-0.2
MTW	Mount Morrison	1.07	58	P	Pb	17 05 13.8	-0.9
TRWZ	Traveller	1.10	73	P	Pb	17 05 13.8	-1.2
OGWZ	Otaki Gorge	1.13	36	P	Pn	17 05 15.2	-0.6
HOWZ	Holdsworth Sta	1.24	48	P	Pn	17 05 16.2	-1.2
TMWZ	Te Maipa	1.35	63	P	Pn	17 05 17.2	-1.7
MRZ	Mangatainoka R	1.44	43	P	Pn	17 05 19.1	-1.0
GVZ	Greta Valley S	1.55	217	P	Pn	17 05 19.7	-1.9
QRZ	Quartz Range	1.61	304	P	Pb	17 05 22.8	-0.9
PRWZ	Pori Road	1.73	48	P	Pn	17 05 22.5	-1.5
POWZ	Post Office Ro	1.74	40	P	Pn	17 05 23.3	-0.9
BFZ	Birch Farm	1.81	55	P	Pn	17 05 23.2	-1.9
DVHZ	Dannevirke	2.01	45	P	Pn	17 05 26.0	-2.0
TSZ	Takapari Road	2.09	38	P	Pn	17 05 27.9	-1.2
PNHZ	Pukenui	2.32	39	P	Pn	17 05 30.6	-1.6
WPHZ	Waipukurau	2.33	45	P	Pb	17 05 33.6	-2.5
RPZ	Rata Peaks	3.10	229	Pn	Pn	17 05 40.6	-2.3
	29nm,0.3s,baz=286,slow=2.1,SNR=4.6						
	121nm,0.6s						
ASAR	Alice Springs	38.06	285	P	P	17 12 11.0	-1.7
	0.8nm,1.0s,baz=119,slow=6.7,SNR=4.0						
	0.8nm,1.0s						
WRA	Warramunga Arr	40.13	290	P	P	17 12 29.3	-0.7
	0.4nm,0.6s,baz=128,slow=8.5,SNR=2.6						
	0.4nm,0.6s						
QSPA	South Pole Qui	48.40	180	P	P	17 13 38.6	+2.8
	1.7nm,1.0s,baz=68,slow=3.1,SNR=2.9						
	1.7nm,1.0s						
CMAR	Chiang Mai Arr	91.66	293	P	P	17 18 03.9	+2.4
	0.5nm,0.9s,baz=134,slow=5.2,SNR=4.2						
	0.5nm,0.9s						

IDC 13 17:07:10.3±2.6, 42°41S×173°54E, h0km, mb3.6/2, mbtmp3.8/3, ML4.5/1, Error ellipse: s-maj=61.9km s-min=33.0km az=133.0

WEL 13 17:07:13.4±0.3, 42°S±2°×17°4E±°, h19km±3km, M4.5/25, ML4.7/25, MLv4.5/25, Error ellipse: s-maj=0.0km s-min=0.0km az=122.8

ISC 13 17:07:13.3±0.9, 42°43S±0°03×173°58E±0°04, h20km±4km, n88, σ1°34/102, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.03	298	P	Pg	17 07 16.8	0.0
KHZ				S	Sg	17 07 19.0	-0.1
GVZ	Greta Valley S	0.67	216	P	Pn	17 07 28.5	+0.8
GVZ				S	Sn	17 07 39.3	+1.7
BSWZ	Blackbirch Sta	0.75	17	P	Pb	17 07 27.5	-0.2
CMWZ	Cape Campbell	0.83	35	P	Pn	17 07 30.4	+0.5
CMWZ				S	Sn	17 07 44.7	+3.2
THZ	Tophouse	0.83	323	P	Pb	17 07 28.2	-0.9
THZ				S	Sb	17 07 38.1	-1.9
AMCZ	Amberley	1.01	222	P	Pg	17 07 33.1	+0.1
LTZ	Lake Taylor	1.02	250	P	Pb	17 07 32.5	+0.1
LTZ				S	Sb	17 07 45.6	+0.1
TUWZ	Tuamarina	1.04	15	P	Pn	17 07 32.7	0.0
TUWZ				S	Sn	17 07 46.3	-0.3
MRNZ	Matariki Terra	1.20	329	P	Pn	17 07 35.0	0.0
NNZ	Nelson	1.22	353	P	Pn	17 07 35.4	+0.1
TCW	Tory Channel	1.33	23	P	Pn	17 07 36.9	+0.1
TCW				S	Sb	17 07 54.3	+0.2
OKCZ	Okains Bay	1.35	196	P	Pb	17 07 37.9	0.0
OXZ	Oxford	1.44	231	P	Pn	17 07 38.2	-0.1
OXZ				S	Sn	17 07 56.7	+0.1
MQZ	McQueen's Vall	1.44	208	P	Pn	17 07 38.3	0.0
MQZ				S	Sn	17 07 56.9	+0.2
WEL	Wellington	1.45	38	P	Pn	17 07 38.9	+0.4
TKNZ	Takaka Hill	1.47	342	P	Pn	17 07 39.1	+0.4
TKNZ				S	Sn	17 07 57.5	+0.2
PLWZ	Palliser	1.52	56	P	Pn	17 07 39.5	+0.1
AKCZ	Akaroa Harbour	1.52	198	P	Pn	17 07 39.9	+0.5
AKCZ				S	Sn	17 07 59.5	+0.8
INZ	Inchbonnie	1.60	259	P	Pn	17 07 41.1	+0.6
MSWZ	Moikau Station	1.61	52	P	Pn	17 07 40.6	0.0
DUWZ	D'Urville Isla	1.65	9	P	Pn	17 07 41.7	+0.6
RACZ	Rakaia	1.67	219	P	Pn	17 07 41.4	0.0
RACZ				S	Sn	17 08 02.0	-0.2
CAW	Cannon Point	1.73	41	P	Pn	17 07 42.3	0.0
PAWZ	Paruwai Farm	1.73	53	P	Pn	17 07 42.0	-0.3
QRZ	Quartz Range	1.79	334	P	Pb	17 07 44.4	-1.0
QRZ				S	Sb	17 08 07.1	-0.2
KIW	Kapiti Island	1.86	33	P	Pn	17 07 44.2	+0.1
TRWZ	Traveller	1.88	58	P	Pn	17 07 44.0	-0.4
MTW	Mount Morrison	1.92	49	P	Pn	17 07 44.5	-0.4
WACZ	Wakanui South	1.97	219	P	Pn	17 07 45.7	+0.1
OGWZ	Otaki Gorge	2.01	37	P	Pn	17 07 46.0	-0.1
HOWZ	Holdsworth Sta	2.11	44	P	Pn	17 07 47.2	-0.3
TMWZ	Te Maipa	2.18	53	P	Pn	17 07 47.8	-0.6
WVZ	Waitaha Valley	2.19	252	P	Pn	17 07 49.2	+0.7
RPZ	Rata Peaks	2.25	234	Pn	Pn	17 07 49.2	-0.2
	132nm,0.3s,baz=66,slow=3.6,SNR=17						
RPZ				Sn	Sn	17 08 16.2	-0.4
	135nm,0.3s,baz=335,slow=23,SNR=25						
	427nm,0.3s						
RPZ	Rata Peaks	2.25	234	P	Pn	17 07 49.4	-0.1
ARCZ	Arundel	2.32	228	P	Pn	17 07 50.1	-0.3
MRZ	Mangatainoka R	2.32	41	P	Pn	17 07 50.1	-0.3
TIWZ	Tintock	2.40	47	P	Pb	17 07 56.7	+0.9
GCSZ	Gaunt Creek Bo	2.55	249	P	Pn	17 07 54.4	+0.9
OHWZ	Ohakea	2.58	31	P	Pn	17 07 55.3	+1.3
BFZ	Birch Farm	2.66	50	P	Pn	17 07 55.6	+0.6
TMZ	Timaru	2.71	223	P	Pn	17 07 55.8	+0.1
WAZ	Wanganui	2.88	22	P	Pn	17 08 00.3	+2.2
DVHZ	Dannevirke	2.89	43	P	Pn	17 07 59.9	-1.4
FOZ	Fox Glacier	2.97	247	P	Pn	17 08 00.8	+1.0
TSZ	Takapari Road	2.98	38	P	Pn	17 07 58.7	-0.7
NMEZ	Namu Road	3.02	4	P	Pb	17 08 04.0	-2.4
LREZ	Lake Rotokare	3.03	12	P	Pb	17 08 08.0	+1.4
LBZ	Lake Benmore	3.15	231	P	Pn	17 08 02.0	+0.2
KHEZ	Kahui Hut	3.15	6	P	Pb	17 08 05.4	-3.3
NBEZ	Newall Road No	3.17	4	P	Pb	17 08 06.2	-2.7
NEZ	North Egmont	3.18	7	P	Pn	17 08 05.6	+3.3
PKE	Pukeiti	3.25	6	P	Pn	17 08 06.0	+2.8
DREZ	Durham Road	3.27	9	P	Pb	17 08 11.3	+0.6
ODZ	Otahua Downs	3.37	218	P	Pn	17 08 04.5	-0.3
MOVZ	Moawhango	3.44	29	P	Pn	17 08 07.7	+1.8
WNVZ	Wahianoa	3.46	27	P	Pn	17 08 07.7	+1.5
WHVZ	Whangaehu Hut	3.50	27	P	Pn	17 08 10.3	+3.6
FWVZ	Far West T-bar	3.51	26	P	Pn	17 08 08.5	+1.5
NGZ	Ngauruhoe	3.60	26	P	Pb	17 08 15.4	-1.0
KAHZ	Kahuranaki	3.63	45	P	Pn	17 08 10.9	+2.5
OTVZ	Oturere	3.65	27	P	Pn	17 08 11.1	+2.5
ETVZ	East Tongariro	3.67	27	P	Pn	17 08 11.5	+2.4
TMVZ	Te Maari	3.69	27	P	Pb	17 08 14.1	-3.7
NTVZ	North Tongarir	3.69	26	P	Pb	17 08 16.8	-1.1
JCZ	Jackson Bay	3.87	243	P	Pn	17 08 12.5	+0.8
HIZ	Hauiti	4.03	14	P	Pn	17 08 16.3	+2.3
HHSZ	Highcliff Hill	4.06	211	P	Pn	17 08 14.3	-0.1
EAZ	Earnscleugh	4.17	226	P	Pn	17 08 15.4	-0.3
MRHZ	Matea Rd	4.19	32	P	Pn	17 08 14.7	-1.5
TLZ	Tolley Road	4.36	21	P	Pn	17 08 19.7	+1.2
SYZ	Scrubby Hill	5.19	216	P	Pn	17 08 30.2	+0.4
AWAZ	Awhitu Peninsu	5.42	9	P	Pn	17 08 34.6	+1.5
MKAZ	Moumakai	5.46	13	P	Pn	17 08 34.1	+0.6
WTAZ	Waiatarua	5.54	8	P	Pn	17 08 36.5	+1.7
ETAZ	East Tamaki Re	5.57	11	P	Pn	17 08 36.4	+1.4
MBAZ	Motutapu North	5.75	11	P	Pn	17 08 39.0	+1.5
WIAZ	Waiheke Island	5.76	13	P	Pn	17 08 39.1	+1.5
ABAZ	Army Bay	5.90	10	P	Pn	17 08 41.1	+1.5
KUZ	Kuautunu	5.91	17	P	Pn	17 08 40.2	+0.4
APZ	The Paps	5.94	220	P	Pn	17 08 40.2	+0.1
GRZ	Great Barrier	6.34	14	P	Pn	17 08 48.0	+2.4
OUZ	Omahuta	7.20	0	P	Pn	17 09 00.3	+2.8
CTZ	Chatham Island	7.30	104	P	Pn	17 08 57.8	-1.0
ASAR	Alice Springs	37.74	287	P	P	17 14 27.4	-0.5
	0.4nm,0.7s,baz=125,slow=6.0,SNR=7.5						
	0.4nm,0.7s						
WRA	Warramunga Arr	39.88	292	P	P	17 14 45.6	-0.2
	0.4nm,0.3s,baz=126,slow=8.5,SNR=11						
	0.4nm,0.3s						
BRTR	Keskin Array B	149.87	279	PKPbc	PKPbc	17 27 02.0	+0.1
	0.5nm,0.7s,baz=162,slow=3.1,SNR=2.3						
FINES	FINESS Array B	152.82	326	PKPbc	PKPbc	17 27 07.5	-0.2
	1.5nm,0.8s,baz=66,slow=3.4,SNR=3.7						

WEL 13 17:10:41.7±0.5, 43°S±3°×17°3E±°, h12km±3km, M3.9/7, ML4.2/7, MLv3.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=136.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	Lake Taylor	0.37	251	P	Pb	17 10 49.9	-0.3
LTZ				S	Sb	17 10 55.2	-0.7
GVZ	Greta Valley S	0.37	145	P	Pb	17 10 50.1	-0.2
GVZ				S	Sb	17 10 56.0	0.0
AMCZ	Amberley	0.52	187	P	Pb	17 10 53.1	+0.4
AMCZ				S	Sb	17 11 01.4	+1.2
OXZ	Oxford	0.84	218	P	Pb	17 10 58.5	+0.3
OXZ				S	Sb	17 11 10.4	+0.9
THZ	Tophouse	0.91	8	P	Pb	17 10 59.5	+0.1
INZ	Inchbonnie	0.96	266	P	Pb	17 11 00.2	0.0
MQZ	McQueen's Vall	1.04	183	P	Pb	17 11 00.8	-0.9
MQZ				S	Sb	17 11 14.7	-0.7
OKCZ	Okains Bay	1.08	168	P	Pb	17 11 02.1	-0.4
OKCZ				S	Sg	17 11 16.8	0.0
RACZ	Rakaia	1.15	202	P	Pb	17 11 02.4	-1.1
RACZ				S	Sg	17 11 18.8	0.0

WEL 13 17:10:51.6±0.5, 42°S±3°×17°4E±°, h15km±2km, M3.8/16, ML4.0/16, MLv3.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=108.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.21	43	P	Pb	17 10 57.8	+0.5
BSWZ	Blackbirch Sta	0.22	331	P	Pb	17 10 57.5	+0.1
BSWZ				S	Sb	17 11 01.4	+0.3
TUWZ	Tuamarina	0.48	353	P	Pb	17 11 02.0	+0.2
TUWZ				S	Sb	17 11 08.8	+0.1
TCW	Tory Channel	0.72	16	P	Pg	17 11 05.7	0.0
TCW				S	Sb	17 11 16.9	+1.2
NNZ	Nelson	0.84	325	P	Pn	17 11 08.5	-0.4
WEL	Wellington	0.84	42	P	Pn	17 11 08.8	-0.1
WEL				S	Sn	17 11 21.2	+0.2
PLWZ	Palliser	0.98	70	P	Pb	17 11 10.2	-0.3
MSWZ	Moikau Station	1.04	62	P	Pb	17 11 11.2	-0.2
MSWZ				S	Sn	17 11 26.0	-0.1
DUWZ	D'Urville Isla	1.11	356	P	Pn	17 11 12.8	+0.1
DUWZ				S	Sn	17 11 27.9	+0.3
CAW	Cannon Point	1.12	45	P	Pn	17 11 12.9	0.0
CAW				S	Sn	17 11 28.5	+0.5
PAWZ	Paruwai Farm	1.18	64	P	Pn	17 11 12.9	-0.8
KIW	Kapiti Island	1.24	33	P	Pb	17 11 15.0	+0.2
KIW				S	Sg	17 11 32.5	+0.8
MTW	Mount Morrison	1.34	57	P	Pn	17 11 15.1	-0.8
TRWZ	Traveller	1.35	68	P	Pn	17 11 14.8	-1.2
OGWZ	Otaki Gorge	1.39	39	P	Pn	17 11 16.6	+0.1
OGWZ				S	Sb	17 11 35.1	+0.2
HOWZ	Holdsworth Sta	1.51	49	P	Pn	17 11 17.7	-0.5
TMWZ	Te Maipa	1.62	61	P	Pn	17 11 18.5	-1.2
MRZ	Mangatainoka R	1.71	44	P	Pn	17 11 20.5	-0.4
TIWZ	Tintock	1.80	52	P	Pn	17 11 21.0	-1.3
TIWZ				S	Sn	17 11 44.4	-0.5
TSZ	Takapari Road	2.36	39	P	Pn	17 11 29.2	-0.7

IDC 13 17:11:21.0±3.6, 42°40S×173°94E, h0km, mb3.7/2, mbtmp3.8/3, ML4.2/1, Error ellipse: s-maj=79.2km s-min=36.9km az=135.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	2.48	237	Pn	Pn	17 12 02.2	-0.6
	53nm,0.3s,baz=150,slow=2.8,SNR=2.1						
RPZ				Sn	Sn	17 12 33.9	+0.2
	71nm,0.3s,baz=28,slow=22,SNR=9.4						
	148nm,0.4s						
ASAR	Alice Springs	37.99	287	P	P	17 18 40.6	-0.1
	0.4nm,0.5s,baz=119,slow=6.6,SNR=11						
	0.4nm,0.5s						
WRA	Warramunga Arr	40.12	291	P	P	17 18 58.7	+0.1
	1.4nm,0.9s,baz=127,slow=8.5,SNR=7.0						
	1.4nm,0.9s						
FINES	FINESS Array B	152.95	326	PKPbc	PKPbc	17 31 19.0	-0.1
	2.5nm,1.0s,baz=85,slow=3.3,SNR=2.3						

WEL 13 17:14:13.3±0.5, 42°S±2°×17°4E±°, h7km±2km, M3.6/12, ML3.8/12, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=37.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.17	336	P	Pg	17 14 17.1	+0.5
BSWZ				S	Sg	17 14 21.0	+2.0
CMWZ	Cape Campbell	0.22	58	P	Pg	17 14 18.3	+0.7
TUWZ	Tuamarina	0.44	358	P	Pg	17 14 22.2	+0.5
TUWZ				S	Sb	17 14 29.1	-1.0
TCW	Tory Channel	0.69	20	P	Pg	17 14 26.4	-0.3
TCW				S	Sg	17 14 36.3	+0.6
NNZ	Nelson	0.78	326	P	Pg	17 14 28.2	-0.1
NNZ				S	Sb	17 14 39.7	-0.4
WEL	Wellington	0.84	46	P	Pg	17 14 29.4	+0.1
WEL				S	Sb	17 14 42.2	+0.6
MRNZ	Matariki Terra	1.02	297	P	Pg	17 14 32.9	0.0
MRNZ				S	Sb	17 14 47.5	+0.6
MSWZ	Moikau Station	1.06	65	P	Pg	17 14 33.8	+0.1
MSWZ				S	Sg	17 14 47.5	0.0
CAW	Cannon Point	1.12	48	P	Pg	17 14 33.9	-0.9
CAW				S	Sg	17 14 49.4	+0.1
PAWZ	Paruwai Farm	1.20	67	P	Pb	17 14 36.4	+0.1
KIW	Kapiti Island	1.23	36	P	Pb	17 14 35.6	-1.2
KIW				S	Sg	17 14 52.6	-0.2
GVZ	Greta Valley S	1.30	212	P	Pn	17 14 37.6	-0.3
MTW	Mount Morrison	1.35	59	P	Pn	17 14 37.2	-1.4
TRWZ	Traveller	1.37	71	P	Pg	17 14 41.2	+1.6
OGWZ	Otaki Gorge	1.39	41	P	Pn	17 14 37.4	-1.6
OGWZ				S	Sb	17 14 56.1	-1.3
HOWZ	Holdsworth Sta	1.51	51	P	Pb	17 14 41.3	-0.4
TMWZ	Te Maipa	1.63	63	P	Pg	17 14 44.6	+0.1
MRZ	Mangatainoka R	1.71	46	P	Pn	17 14 41.5	-2.0
CPWZ	Castlepoint	1.93	61	P	Pg	17 14 52.2	+1.9
PRWZ	Pori Road	2.00	50	P	Pb	17 14 50.6	+0.6
BFZ	Birch Farm	2.09	56	P	Pg	17 14 53.4	+0.1
DVHZ	Dannevirke	2.28	47	P	Pb	17 14 55.5	+0.7
PRHZ	Porangahau	2.57	53	P	Pb	17 14 58.8	-0.9
MOVZ	Moawhango	2.81	30	P	Pb	17 15 02.0	-1.8

WEL 13 17:15:13.4±0.4, 42°S±3°×17°4E±°, h6km±4km, M3.7/12, ML4.1/12, MLv4.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=113.5, South Island

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

TKNZ	**Takaka Hill**	**1.43**	**353**	P	Pn	17 17 37.1	-0.5
TKNZ				S	Sg	17 17 57.8	+0.3
QRZ	**Quartz Range**	**1.70**	**343**	P	Pn	17 17 41.7	+0.4
QRZ				S	Sb	17 18 05.2	+0.8
DUWZ	**D'Urville Isla**	**1.74**	**18**	P	Pn	17 17 42.4	+0.5
DUWZ				S	Sb	17 18 05.7	+0.1
WVZ	**Waitaha Valley**	**1.91**	**250**	P	Pn	17 17 44.3	0.0
WVZ				S	Sb	17 18 09.6	-1.0
RPZ	**Rata Peaks**	**2.01**	**231**	P	Pn	17 17 44.8	-0.8
RPZ				S	Sn	17 18 09.4	-1.6
KIW	**Kapiti Island**	**2.05**	**39**	P	Pb	17 17 47.9	-0.8
ARCZ	**Arundel**	**2.10**	**224**	P	Pn	17 17 45.7	-1.1
ARCZ				S	Sn	17 18 11.0	-2.1
GCZ	**Gaunt Creek Bo**	**2.28**	**247**	P	Pn	17 17 49.9	+0.6
NBEZ	**Newall Road No**	**3.23**	**9**	P	Pn	17 18 05.3	+3.0
PKE	**Pukeiti**	**3.31**	**11**	P	Pn	17 18 05.7	+2.1
TOZ	**Tahuroa Road**	**5.04**	**21**	P	Pn	17 18 28.4	+1.2
AWAZ	**Awhitu Peninsu**	**5.50**	**12**	P	Pn	17 18 34.5	+0.9
MKAZ	**Moumakai**	**5.55**	**16**	P	Pn	17 18 34.6	+0.3
ETAZ	**East Tamaki Re**	**5.66**	**14**	P	Pn	17 18 36.5	+0.8
MBAZ	**Motutapu North**	**5.83**	**14**	P	Pn	17 18 39.8	+1.7
WIAZ	**Waiheke Island**	**5.85**	**15**	P	Pn	17 18 39.0	+0.7
ABAZ	**Army Bay**	**5.98**	**13**	P	Pn	17 18 40.9	+0.8

WEL ***13*** *17:17:00,42.42S×173.68E,h4km,ML5.1,Mw4.9, Moment Tensor Solution. s10 Moment tensor: Scale 10^{16}Nm; M_{rr}1.66; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-1.18; $M_{r\theta}$-0.12; $M_{\theta\phi}$-1.47; $M_{r\phi}$1.51; Fault plane solution: $M_0$2.57000×10^{16} NP1:$\psi_0$246.00000°,δ38.00000°,λ137.00000°. NP2: $\phi_0$12.00000°,δ66.00000°,λ61.00000°. Principal axes: T -2647.9200, Plg58.0000°, Azm240.0000°; N 148.0400, Plg27.0000°, Azm25.0000°; P 2499.8800, Plg16.0000°, Azm123.0000°;*

NEIC ***13*** *17:17:38.8±1.9,42.58S±0.04×173.83E±0.06,h10km±1km, mb5.2/35 Error ellipse: s-maj=7.6km s-min=6.2km az=136.0*

BJI ***13*** *17:17:38.4±0.0,42.81S×173.52E,h14km,mb5.4/16, mB5.5/2*

MOS ***13*** *17:17:39.5±1.1,42.29S×173.47E,h10km,mb5.3/12,Error ellipse: s-maj=18.7km s-min=11.5km az=125.5*

WEL ***13*** *17:17:39.8±0.3,43°S±3°×17°4E±°,h5km,M5.1/15, ML5.3/15,MLv5.1/15,Error ellipse: s-maj=0.0km s-min=0.0km az=138.3*

IDC ***13*** *17:17:39.0±0.5,42.23S×173.72E,h0km,mb4.7/11, mbtmp4.7/12,ML5.0/1,Error ellipse: s-maj=22.3km s-min=16.9km az=75.0*

NOU ***13*** *17:17:44.6,42.69S×173.82E,h45km,mb5.2/89,South Island, New Zealand*

ISC 13 17:17:39.1±1.2,42.52S±0.03×173.79E±0.03,h4km±7km, n418,σ1.3/431,mb5.2/44,7C-8D,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.21**	**299**	Pg	**Pg**	**17 17 42.0**	**-1.3**
KHZ	**Kahutara**	**0.21**	**299**	P	**Pg**	**17 17 42.1**	**-1.2**
KHZ				S	**Sg**	**17 17 43.9**	**-2.1**
GVZ	**Greta Valley S**	**0.72**	**231**	Pg	**Pg**	**17 17 51.8**	**-1.1**
GVZ	**Greta Valley S**	**0.72**	**231**	P	**Pn**	**17 17 55.7**	**-0.3**
GVZ				S	**Sn**	**17 18 07.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.81**	**4**	Pg	**Pg**	**17 17 55.4**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.81**	**4**	P	**Pn**	**17 17 57.2**	**0.0**
BSWZ				S	**Sn**	**17 18 09.5**	**-0.1**
THZ	**Tophouse**	**1.00**	**319**	Pg	**Pg**	**17 17 58.3**	**-0.1**
THZ	**Tophouse**	**1.00**	**319**	P	**Pg**	**17 17 58.3**	**-0.1**
THZ				S	**Sn**	**17 18 13.9**	**-0.7**
AMCZ	**Amberley**	**1.07**	**232**	P	**Pn**	**17 18 01.6**	**+0.8**
AMCZ				S	**Sn**	**17 18 17.1**	**+1.1**
TUWZ	**Tuamarina**	**1.09**	**6**		**Pn**	**17 18 01.4**	**+0.3**
TUWZ	**Tuamarina**	**1.09**	**6**	P	**Pn**	**17 18 01.4**	**+0.3**
TUWZ				S	**Sn**	**17 18 17.4**	**+0.6**
LTZ	**Lake Taylor**	**1.15**	**256**	Pn	**Pb**	**17 18 01.6**	**0.0**
LTZ				Sn	**Sg**	**17 18 17.5**	**+1.3**
LTZ	**Lake Taylor**	**1.15**	**256**	P	**Pn**	**17 18 02.2**	**+0.1**
LTZ				S	**Sb**	**17 18 16.9**	**0.0**
NNZ	**Nelson**	**1.34**	**347**		**Pb**	**17 18 04.8**	**+0.1**
MRNZ	**Matariki Terra**	**1.36**	**325**	P	**Pb**	**17 18 05.5**	**+0.4**
MRNZ				S	**Sg**	**17 18 24.1**	**+1.4**
SNZO	**South Karori**	**1.39**	**30**		**Pn**	**17 18 05.4**	**+0.2**
WEL	**Wellington**	**1.43**	**31**	P	**Pn**	**17 18 05.1**	**-0.8**
WEL				S	**Sn**	**17 18 24.0**	**-1.1**
PLWZ	**Palliser**	**1.45**	**49**	Pn	**Pn**	**17 18 04.9**	**-1.1**
PLWZ	**Palliser**	**1.45**	**49**	P	**Pn**	**17 18 05.8**	**-0.3**
PLWZ				S	**Sb**	**17 18 25.4**	**+0.1**
MQZ	**McQueen's Vall**	**1.45**	**215**	Pn	**Pn**	**17 18 04.7**	**-1.3**
MQZ	**McQueen's Vall**	**1.45**	**215**	P	**Pn**	**17 18 05.8**	**-0.3**
MQZ				S	**Sb**	**17 18 25.6**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.50**	**205**	P	**Pn**	**17 18 07.2**	**+0.5**
AKCZ				S	**Sg**	**17 18 27.6**	**+0.4**
OXZ	**Oxford**	**1.52**	**237**	Pn	**Pn**	**17 18 05.6**	**-1.5**
OXZ	**Oxford**	**1.52**	**237**	P	**Pn**	**17 18 07.3**	**+0.3**
OXZ				S	**Sn**	**17 18 27.1**	**-0.1**
MSWZ	**Moikau Station**	**1.55**	**45**		**Pn**	**17 18 06.2**	**-1.2**
MSWZ	**Moikau Station**	**1.55**	**45**	P	**Pn**	**17 18 07.0**	**-0.5**
MSWZ				S	**Sb**	**17 18 28.1**	**-0.1**
PAWZ	**Paruwai Farm**	**1.67**	**48**	P	**Pn**	**17 18 08.6**	**-0.5**
PAWZ				S	**Sn**	**17 18 30.8**	**-0.2**
CAW	**Cannon Point**	**1.70**	**34**	P	**Pb**	**17 18 10.3**	**-0.6**
CAW				S	**Sn**	**17 18 31.5**	**-0.3**
RACZ	**Rakaia**	**1.71**	**224**	P	**Pn**	**17 18 09.6**	**0.0**
RACZ				S	**Sn**	**17 18 31.5**	**-0.4**
DUWZ	**D'Urville Isla**	**1.72**	**3**	P	**Pn**	**17 18 11.2**	**0.0**
INZ	**Inchbonnie**	**1.75**	**262**	P	**Pn**	**17 18 10.5**	**+0.4**
TRWZ	**Traveller**	**1.80**	**52**	S	**Sn**	**17 18 34.1**	**-0.1**
MTW	**Mount Morrison**	**1.87**	**44**	P	**Pn**	**17 18 12.1**	**+0.3**
QRZ	**Quartz Range**	**1.94**	**330**	P	**Pb**	**17 18 14.6**	**-0.3**
QRZ				S	**Sn**	**17 18 38.1**	**+0.5**
WACZ	**Wakanui South**	**2.02**	**224**	P	**Pn**	**17 18 13.8**	**0.0**
MRZ	**Mangatainoka R**	**2.29**	**36**	P	**Pn**	**17 18 18.5**	**+0.9**
WVZ	**Waitaha Valley**	**2.32**	**255**	P	**Pn**	**17 18 18.7**	**+0.7**
RPZ	**Rata Peaks**	**2.33**	**238**	Pn	**Pn**	**17 18 18.3**	**0.0**
	308nm,0.3s,baz=148,slow=0.9,SNR=6.4						
RPZ				Sn	**Sn**	**17 18 46.4**	**-1.0**
	391nm,0.3s,baz=333,slow=21,SNR=25 3µm,0.7s						
RPZ	**Rata Peaks**	**2.33**	**238**	Pn	**Pn**	**17 18 17.6**	**-0.6**
RPZ	**Rata Peaks**	**2.33**	**238**	P	**Pn**	**17 18 18.0**	**-0.2**
ARCZ	**Arundel**	**2.38**	**232**	P	**Pn**	**17 18 18.7**	**-0.3**
CPWZ	**Castlepoint**	**2.42**	**49**	P	**Pn**	**17 18 20.1**	**+0.8**
BFZ	**Birch Farm**	**2.60**	**46**		**Pn**	**17 18 21.3**	**-0.6**
BFZ	**Birch Farm**	**2.60**	**46**	P	**Pb**	**17 18 27.3**	**+1.1**
GCSZ	**Gaunt Creek Bo**	**2.67**	**251**	P	**Pn**	**17 18 24.8**	**+2.0**
TMZ	**Timaru**	**2.75**	**226**	P	**Pn**	**17 18 24.5**	**+0.5**
FOZ	**Fox Glacier**	**3.09**	**250**		**Pn**	**17 18 28.0**	**-0.5**
FOZ	**Fox Glacier**	**3.09**	**250**	P	**Pn**	**17 18 29.9**	**+1.3**
NMEZ	**Namu Road**	**3.10**	**1**	P	**Pb**	**17 18 35.3**	**+0.5**
LBZ	**Lake Benmore**	**3.22**	**233**	Pn	**Pn**	**17 18 30.0**	**-0.5**
LBZ	**Lake Benmore**	**3.22**	**233**	P	**Pn**	**17 18 31.2**	**+0.8**
KHEZ	**Kahui Hut**	**3.23**	**3**	P	**Pb**	**17 18 38.2**	**+1.3**
DREZ	**Durham Road**	**3.34**	**5**	P	**Pb**	**17 18 38.6**	**-0.3**
PXZ	**Pawanui**	**3.40**	**44**	P	**Pb**	**17 18 40.1**	**+0.3**
ODZ	**Otahua Downs**	**3.40**	**221**	Pn	**Pn**	**17 18 31.2**	**-1.1**
ODZ	**Otahua Downs**	**3.40**	**221**	P	**Pn**	**17 18 33.2**	**+0.3**
WNVZ	**Wahianoa**	**3.47**	**24**	P	**Pb**	**17 18 39.8**	**-1.3**
WHVZ	**Whangaehu Hut**	**3.51**	**23**	P	**Pb**	**17 18 40.5**	**-1.3**
BKZ	**Black Stump Fm**	**3.93**	**32**	P	**Pb**	**17 18 44.7**	**-4.2**
JCZ	**Jackson Bay**	**3.97**	**245**	P	**Pn**	**17 18 41.8**	**+0.9**
JCZ	**Jackson Bay**	**3.97**	**245**	P	**Pn**	**17 18 41.7**	**+0.9**
HHSZ	**Highcliff Hill**	**4.07**	**213**	P	**Pn**	**17 18 42.1**	**0.0**
HIZ	**Hauiti**	**4.08**	**12**	P	**Pn**	**17 18 45.5**	**+3.2**
EAZ	**Earnscleugh**	**4.23**	**229**	P	**Pn**	**17 18 44.0**	**-0.2**
TUZ	**Tuapeka**	**4.55**	**220**	P	**Pn**	**17 18 49.1**	**+0.4**
MSZ	**Milford Sound**	**4.77**	**241**	P	**Pn**	**17 18 51.2**	**-0.5**
OMRZ	**Omania**	**4.83**	**25**	P	Pn	17 18 58.2	+5.7
TOZ	**Tahuroa Road**	**4.96**	**16**	P	**Pn**	**17 18 55.9**	**+1.6**
MLZ	**Mavora Lakes**	**4.99**	**233**	P	**Pn**	**17 18 54.6**	**-0.1**
TGRZ	**Tauranga**	**5.14**	**22**	P	**Pn**	**17 18 59.2**	**+2.3**
SYZ	**Scrubby Hill**	**5.21**	**218**	P	**Pn**	**17 18 58.1**	**+0.3**
SYZ	**Scrubby Hill**	**5.21**	**218**	P	**Pn**	**17 18 58.3**	**+0.5**
WHZ	**Wether Hill Ro**	**5.39**	**229**	P	**Pn**	**17 18 59.6**	**-0.6**
TWGZ	**Tauwhareparae**	**5.39**	**38**	P	**Pn**	**17 19 03.4**	**+3.1**
RUGZ	**Raukumara Rang**	**5.43**	**34**	P	**Pn**	**17 19 04.6**	**+3.7**
AWAZ	**Awhitu Peninsu**	**5.49**	**7**	P	**Pn**	**17 19 03.3**	**+1.8**
WTAZ	**Waiatarua**	**5.61**	**6**	P	**Pn**	**17 19 05.5**	**+2.2**
DCZ	**Deep Cove**	**5.62**	**236**	Pn	**Pn**	**17 19 01.8**	**-1.6**
PKGZ	**Pakihiroa**	**5.67**	**37**	P	**Pn**	**17 19 03.2**	**-0.9**
MBAZ	**Motutapu North**	**5.81**	**9**	P	**Pn**	**17 19 10.3**	**+4.4**
WMGZ	**Waiomatatini S**	**5.88**	**39**	P	**Pn**	**17 19 07.7**	**+0.8**
KUZ	**Kuaotunu**	**5.96**	**15**	P	**Pn**	**17 19 10.8**	**+2.8**
ABAZ	**Army Bay**	**5.96**	**8**	P	**Pn**	**17 19 10.4**	**+2.3**
APZ	**The Paps**	**5.97**	**222**	P	**Pn**	**17 19 08.8**	**+0.5**
MXZ	**Matakaoa Point**	**6.04**	**36**	P	**Pn**	**17 19 12.3**	**+3.1**
PYZ	**Puysegur Point**	**6.27**	**232**	P	**Pn**	**17 19 12.2**	**-0.1**
PYZ	**Puysegur Point**	**6.27**	**232**	P	**Pn**	**17 19 12.4**	**+0.1**
GRZ	**Great Barrier**	**6.39**	**12**	P	**Pn**	**17 19 17.4**	**+3.4**
CTZ	**Chatham Island**	**7.12**	**103**	P	**Pn**	**17 19 25.3**	**+1.3**
CTZ	**Chatham Island**	**7.12**	**103**	P	**Pn**	**17 19 25.6**	**+1.6**
OUZ	**Omahuta**	**7.29**	**359**	Pn	**Pn**	**17 19 28.8**	**+2.5**
OUZ	**Omahuta**	**7.29**	**359**	P	**Pn**	**17 19 30.7**	**+4.3**
AUUHS	**Ulladulla High**	**19.46**	**284**	P	**Pn**	**17 22 08.4**	**+0.5**
MOO	**Moorlands**	**19.60**	**261**	P	**Pn**	**17 22 09.9**	**+0.5**
	baz=20,SNR=3.7						
MILA	**Mila**	**19.67**	**278**	P	**Pn**	**17 22 11.1**	**+0.6**
	baz=20,SNR=6.0						
MILA	**Mila**	**19.67**	**278**	P	**Pn**	**17 22 10.7**	**+0.2**
RIV	**Riverview**	**19.75**	**289**	P	**Pn**	**17 22 12.4**	**+1.1**
AULHS	**Lilydale High**	**19.80**	**265**	P	**Pn**	**17 22 11.5**	**-0.4**
CNB	**Canberra Magne**	**20.28**	**283**	P	Pn	17 22 17.6	-0.1
	baz=20,SNR=9.2						
CNB	**Canberra Magne**	**20.28**	**283**	P	Pn	17 22 17.9	+0.2
AUSMG	**Snowy Mountain**	**20.33**	**279**	P	Pn	17 22 17.6	-0.7
CAN	**Canberra**	**20.54**	**282**	P	Pn	17 22 19.9	-0.8
DZM	**Mont Dzumac**	**21.30**	**341**	P	**P**	**17 22 25.2**	**-1.6**
	49nm,1.1s,baz=133,slow=10,SNR=10 49nm,1.1s						
DZM	**Mont Dzumac**	**21.30**	**341**	P	**P**	**17 22 25.3**	**-1.5**
DZM				IAmb	IAmb	17 22 30.6	
	comp=Z,118nm,1.3s						
DZM	**Mont Dzumac**	**21.30**	**341**	P	**P**	**17 22 28.5**	**+1.7**
NOUC	**Port Laguerre**	**21.30**	**341**	P	**P**	**17 22 30.8**	**+4.1**
ARMA	**Armidale**	**21.46**	**297**	P	**P**	**17 22 29.0**	**+0.5**
	baz=22,SNR=6.4						
ARMA	**Armidale**	**21.46**	**297**	P	**P**	**17 22 29.3**	**+0.8**
AUPHS	**Peel High Scho**	**21.52**	**294**	P	**P**	**17 22 30.7**	**+1.6**
GC1S	**Gold Coast 1 S**	**21.81**	**305**	P	**P**	**17 22 35.8**	**+3.7**
	comp=Z,97nm,1.1s						
TOO	**Toolangi**	**22.17**	**273**	P	**P**	**17 22 37.5**	**+1.4**
LIFNC	**LIFOU**	**22.37**	**344**	P	**P**	**17 22 40.3**	**+2.1**
AUWSH	**Wavell State H**	**22.65**	**305**	P	**P**	**17 22 42.8**	**+1.7**
AUBSH	**Beerwah State**	**23.10**	**306**	P	**P**	**17 22 47.6**	**+1.7**
AUMAG	**Moama Anglican**	**23.30**	**276**	P	**P**	**17 22 49.8**	**+1.9**
	comp=Z,96nm,1.3s						
KOUNC	**Koumac, New Ca**	**23.32**	**337**	P	**P**	**17 22 45.5**	**-2.6**
KOUNC	**Koumac, New Ca**	**23.32**	**337**	P	**P**	**17 22 50.4**	**+2.2**
BRAT	**Ballarat**	**23.33**	**272**	P	**P**	**17 22 50.1**	**+1.9**
AULRC	**Lightning Ridg**	**24.52**	**294**	P	**P**	**17 23 01.2**	**+1.6**
CMSA	**Cobar Meteorol**	**24.86**	**287**	P	**P**	**17 23 03.3**	**+0.6**
	baz=25,SNR=7.9						
CMSA	**Cobar Meteorol**	**24.86**	**287**	P	**P**	**17 23 03.2**	**+0.6**
MSVF	**Nonsavu**	**24.97**	**10**	P	**P**	**17 23 01.7**	**-2.1**
	comp=Z,19nm,1.1s,baz=162,slow=13,SNR=2.8 comp=Z,19nm,1.1s						
MSVF	**Nonsavu**	**24.97**	**10**	P	**P**	**17 23 05.6**	**+1.8**
MSVF	**Nonsavu**	**24.97**	**10**	∥*eP*	**P**	**17 23 00.4**	**-3.4**
MSVF				pmax	pmax		
	comp=Z,33nm,1.0s						
EIDS	**Eidsvold**	**25.32**	**305**	P	**P**	**17 23 06.9**	**+0.1**
	baz=26,SNR=7.2						
EIDS	**Eidsvold**	**25.32**	**305**	P	**P**	**17 23 06.2**	**-0.7**
EIDS				IAmb	IAmb	17 23 11.0	
	comp=Z,50nm,1.1s						
EIDS	**Eidsvold**	**25.32**	**305**	P	**P**	**17 23 08.7**	**+1.8**
RMQ	**Roma**	**25.97**	**300**	P	**P**	**17 23 13.9**	**+1.1**
	baz=26,SNR=9.5						
RMQ	**Roma**	**25.97**	**300**	P	**P**	**17 23 15.0**	**+2.2**
STKA	**Stephens Creek**	**27.61**	**282**	P	**P**	**17 23 28.2**	**+0.8**
	comp=Z,12nm,0.8s,baz=107,slow=11,SNR=11						
STKA				PcP	**PcP**	**17 26 44.8**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=118,slow=3.7,SNR=5.9 comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**27.61**	**282**	P	**P**	**17 23 28.3**	**+0.8**
	baz=28,SNR=9.7						
STKA	**Stephens Creek**	**27.61**	**282**	P	**P**	**17 23 23.8**	**-3.7**
STKA	**Stephens Creek**	**27.61**	**282**	P	**P**	**17 23 28.3**	**+0.8**
STKA	**Stephens Creek**	**27.61**	**282**	*i*P	**P**	**17 23 28.1**	**+0.6**
QLP	**Quilpie**	**28.89**	**294**	P	**P**	**17 23 40.6**	**+1.7**
LCRK	**Leigh Creek**	**30.82**	**281**	P	**P**	**17 23 57.0**	**+1.0**
BBOO	**Buckleboo**	**31.18**	**276**	P	**P**	**17 23 58.1**	**-1.1**
BBOO				IAmb	IAmb	17 24 01.4	
	comp=Z,38nm,1.1s						
CTA	**Charters Tower**	**32.21**	**305**	P	**P**	**17 24 09.0**	**+0.6**
CTA	**Charters Tower**	**32.21**	**305**	P	**P**	**17 24 08.1**	**-0.3**
CTA				pmax	pmax		
	comp=Z,31nm,0.9s						
CTAO	**Charters Tower**	**32.21**	**305**	P	**P**	**17 24 06.2**	**-2.1**
CTAO				IAmb	IAmb	17 24 11.4	
	comp=Z,44nm,1.2s						
CTAO	**Charters Tower**	**32.21**	**305**	P	**P**	**17 24 09.2**	**+0.8**
CTAO	**Charters Tower**	**32.21**	**305**	P	**P**	**17 24 06.3**	**-2.1**
CTAO				pmax	pmax		
	comp=Z,44nm,1.2s						
MULG	**Mulgathing**	**33.94**	**278**	P	**P**	**17 24 24.4**	**+1.1**
OOD	**Oodnadatta**	**34.13**	**283**	P	**P**	**17 24 24.7**	**-0.4**
MTSU	**Mount Surprise**	**34.88**	**305**	P	**P**	**17 24 31.9**	**+0.3**
	baz=35,SNR=16						
MTSU	**Mount Surprise**	**34.88**	**305**	P	**P**	**17 24 32.3**	**+0.7**
VNDA	**Vanda**	**35.45**	**184**	P	**P**	**17 24 38.6**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=14,slow=9.4,SNR=4.4						
QIS	**Mount Isa**	**36.08**	**297**	P	**P**	**17 24 41.8**	**-0.2**
	baz=36,SNR=16						
QIS	**Mount Isa**	**36.08**	**297**	P	**P**	**17 24 41.9**	**-0.1**
AS01	**Alice Springs**	**37.88**	**287**	P	**P**	**17 24 56.3**	**-1.0**
AS31	**Alice Springs**	**37.92**	**287**	P	**P**	**17 24 54.2**	**-3.4**
ASAR	**Alice Springs**	**37.92**	**287**	P	**P**	**17 24 56.9**	**-0.7**
	comp=Z,10nm,0.8s,baz=125,slow=6.8,SNR=74						
ASAR				PcP	**PcP**	**17 27 12.6**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=127,slow=3.9,SNR=15 comp=Z,10nm,0.8s						
ASAR	**Alice Springs**	**37.92**	**287**	P	**P**	**17 24 54.6**	**-3.0**
FORT	**Forrest**	**38.09**	**273**	P	**P**	**17 25 00.7**	**+1.7**
	baz=38,SNR=7.8						
FORT	**Forrest**	**38.09**	**273**	P	**P**	**17 24 55.9**	**-3.0**
FORT				IAmb	IAmb	17 25 01.6	
	comp=Z,61nm,0.9s						
FORT	**Forrest**	**38.09**	**273**	P	**P**	**17 24 58.8**	**-0.1**
COEN	**Coen**	**38.82**	**308**	P	**P**	**17 25 04.5**	**-0.7**
	baz=39,SNR=15						
COEN	**Coen**	**38.82**	**308**	P	**P**	**17 25 04.3**	**-0.8**
COEN	**Coen**	**38.82**	**308**	P	**P**	**17 25 04.5**	**-0.7**
WR0	**Warramunga Arr**	**39.91**	**292**	P	**P**	**17 25 12.4**	**-1.9**
WB1	**Warramunga Ar.**	**40.05**	**292**	P	**P**	**17 25 14.6**	**-0.8**
WB2	**Warramunga Arr**	**40.05**	**292**	P	**P**	**17 25 13.4**	**-2.0**
WB2				IAmb	IAmb	17 25 19.0	
	comp=Z,24nm,0.8s						
WRAB	**Tennant Creek**	**40.06**	**292**	P	**P**	**17 25 15.0**	**-0.5**
WRAB	**Tennant Creek**	**40.06**	**292**	*de*P	**P**	**17 25 14.0**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,28nm,0.9s						
WRA	**Warramunga Arr**	**40.06**	**292**	P	**P**	**17 25 14.8**	**-0.8**
	comp=Z,16nm,0.8s,baz=129,slow=7.8,SNR=54						
WRA				PcP	**PcP**	**17 27 19.4**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=129,slow=3.1,SNR=8.2 comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**40.06**	**292**	P	**P**	**17 25 12.9**	**-2.6**
WB0	**Warramunga Arr**	**40.14**	**292**	P	**P**	**17 25 15.4**	**-0.8**
PMG	**Port Moresby**	**40.41**	**317**	P	**P**	**17 25 17.6**	**-0.8**
PMG				IAmb	IAmb	17 25 21.8	
	comp=Z,96nm,1.3s						
PMG	**Port Moresby**	**40.41**	**317**	P	**P**	**17 25 19.0**	**+0.6**
	comp=Z,973nmcomp=Z,63nm,1.2s						
PMG	**Port Moresby**	**40.41**	**317**	P	**P**	**17 25 19.4**	**+1.0**
PMG	**Port Moresby**	**40.41**	**317**	P	**P**	**17 25 18.5**	**+0.1**
PMG	**Port Moresby**	**40.41**	**317**	*c*P	**P**	**17 25 17.9**	**-0.5**
PMG				pmax	pmax		
	comp=Z,91nm,1.3s						
WRKA	**Warakurna**	**41.11**	**280**	P	**P**	**17 25 22.6**	**-1.5**
	baz=41,SNR=30						
WRKA	**Warakurna**	**41.11**	**280**	P	**P**	**17 25 22.7**	**-1.5**
KMBL	**Kambalda**	**42.36**	**268**	P	**P**	**17 25 34.3**	**0.0**
	baz=42,SNR=6.6						
KMBL	**Kambalda**	**42.36**	**268**	P	**P**	**17 25 33.9**	**-0.5**
RABL	**Rabaul**	**42.75**	**327**	P	**P**	**17 25 34.9**	**-2.7**
RABL				IAmb	IAmb	17 25 37.8	
	comp=Z,86nm,0.8s						
RABL	**Rabaul**	**42.75**	**327**	P	**P**	**17 25 36.8**	**-0.8**
NWAO	**Narrogin (SRO)**	**45.01**	**263**	P	**P**	**17 25 55.2**	**-0.5**
	baz=45,SNR=4.4						
NWAO				P	**P**	**17 25 55.2**	**-0.5**
	baz=45,SNR=4.4						
NWAO	**Narrogin (SRO)**	**45.01**	**263**	P	**P**	**17 25 53.2**	**-2.5**
NWAO				IAmb	IAmb	17 25 57.5	
	comp=Z,22nm,0.9s						
NWAO	**Narrogin (SRO)**	**45.01**	**263**	P	**P**	**17 25 53.2**	**-2.5**
NWAO				pmax	pmax		
	comp=Z,22nm,1.0s						
KLBR	**Kellerberrin**	**45.29**	**265**	P	**P**	**17 25 57.7**	**-0.2**
	baz=45,SNR=13						
KLBR	**Kellerberrin**	**45.29**	**265**	P	**P**	**17 25 58.0**	**+0.1**
MUN	**Mundaring**	**46.24**	**263**	P	**P**	**17 26 05.5**	**+0.1**
	baz=46,SNR=11						
MUN	**Mundaring**	**46.24**	**263**	P	**P**	**17 26 05.5**	**+0.1**
KDU	**Kakadu**	**46.46**	**297**	P	**P**	**17 26 07.3**	**0.0**
BLDU	**Ballidu**	**46.56**	**265**	P	**P**	**17 26 07.5**	**-0.4**
	baz=47,SNR=4.3						
BLDU	**Ballidu**	**46.56**	**265**	P	**P**	**17 26 07.4**	**-0.6**
KNRA	**Kununurra**	**46.83**	**291**	P	**P**	**17 26 10.2**	**+0.1**
	baz=47,SNR=9.1						
KNRA	**Kununurra**	**46.83**	**291**	P	**P**	**17 26 08.5**	**-1.7**
KNRA	**Kununurra**	**46.83**	**291**	P	**P**	**17 26 11.1**	**+0.9**
MTN	**Manton Dam**	**47.24**	**296**	P	**P**	**17 26 13.3**	**0.0**
	baz=48,SNR=4.2						
MTN	**Manton Dam**	**47.24**	**296**	P	**P**	**17 26 11.6**	**-1.7**
MTN	**Manton Dam**	**47.24**	**296**	P	**P**	**17 26 13.4**	**+0.1**
MEEK	**Meekatharra**	**47.30**	**271**	P	**P**	**17 26 13.0**	**-0.8**
	baz=48,SNR=14						
MEEK	**Meekatharra**	**47.30**	**271**	P	**P**	**17 26 12.8**	**-1.0**
QSPA	**South Pole Qui**	**47.61**	**180**	P	**P**	**17 26 18.7**	**+2.8**
	comp=Z,5.4nm,0.8s,baz=32,slow=1.6,SNR=11 comp=Z,5.4nm,0.8s						
QSPA	**South Pole Qui**	**47.61**	**180**	P	**P**	**17 26 13.8**	**-2.1**
QSPA				IAmb	IAmb	17 26 41.8	
	comp=Z,11nm,0.9s						
MORW	**Morawa**	**47.87**	**267**	P	**P**	**17 26 18.2**	**0.0**
	baz=48,SNR=8.0						
MORW	**Morawa**	**47.87**	**267**	P	**P**	**17 26 15.5**	**-2.7**
MORW				IAmb	IAmb	17 26 20.3	
	comp=Z,40nm,1.0s						
MORW	**Morawa**	**47.87**	**267**	P	**P**	**17 26 18.1**	**0.0**
PSA00	**Pilbara Seismi**	**49.37**	**277**	P	**P**	**17 26 28.1**	**-1.7**
PSA00				IAmb	IAmb	17 26 29.6	
	comp=Z,22nm,1.2s						
PSA00	**Pilbara Seismi**	**49.37**	**277**	P	**P**	**17 26 28.9**	**-0.9**
MBWA	**Marble Bar**	**49.71**	**278**	P	**P**	**17 26 29.6**	**-2.8**
MBWA				IAmb	IAmb	17 26 32.1	
	comp=Z,30nm,1.1s						
SAUI	**Saumlaki**	**50.74**	**300**	P	**P**	**17 26 39.1**	**-1.1**
SAUI	**Saumlaki**	**50.74**	**300**	P	**P**	**17 26 41.2**	**+1.0**
SAUI	**Saumlaki**	**50.74**	**300**	P	**P**	**17 26 41.1**	**+0.9**
GIRL	**Giralia**	**52.86**	**272**	P	**P**	**17 26 56.4**	**+0.5**

comp=Z,66nm,1.3s
KULM Kulim 81.27 285 P P 17 29 56.5 -0.1
comp=Z,616nmcomp=Z,40nm,1.4s
SSLB Suanglung 82.01 313 P P 17 29 59.1 -1.2
KCSI Kotacane, Aceh 82.12 282 P P 17 30 01.3 +0.2
SKLT Songkhla 82.59 287 P P 17 30 05.8 +2.2
SKLT Songkhla 82.59 287 P P 17 30 04.1 +0.5
MLSI Meulaboh, Aceh 83.61 282 P P 17 30 09.3 +0.4
SURA Surathani 84.68 287 P P 17 30 15.2 +0.9
MJAR Matsushiro Arr 85.12 332 P P 17 30 15.2 -0.8
comp=Z,2.0nm,1.0s,baz=173,slow=5.9,SNR=6.5
comp=Z,2.0nm,1.0s
MAJO Matsushiro 85.12 332 ⇓ eP P 17 30 14.8 -1.2
MAJO pmax pmax
comp=Z,17nm,2.1s
NONG Nongkai 88.54 296 P P 17 30 33.5 +0.5
NJ2 Nanjing 89.71 316 eP P 17 30 41.4 +3.2
NJ2 pmax pmax
comp=Z,16nm,0.5s
KSRS Korea Array 89.89 325 P P 17 30 38.8 -0.1
comp=Z,6.2nm,0.9s,baz=146,slow=5.7,SNR=20
comp=Z,6.2nm,0.9s
WHN Wuhan 90.93 312 ⇑ P P 17 30 43.4 -0.5
CMAR Chiang Mai Arr 91.63 294 P P 17 30 48.2 +0.7
comp=Z,10.0nm,0.8s,baz=149,slow=3.2,SNR=82
CMAR PP PP 17 34 24.9 -1.2
comp=Z,0.6nm,0.8s,baz=154,slow=6.6,SNR=5.7
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 91.63 294 P P 17 30 46.0 -1.5
CMAR Chiang Mai Arr 91.63 294 P P 17 30 46.0 -1.5
GYA Guiyang 92.34 304 P P 17 30 50.8 0.0
GYA pmax pmax
comp=Z,6.0nm,0.9s
ENH Enshi 93.47 309 P P 17 30 55.7 0.0
TIA Tai'an 93.87 317 P P 17 30 57.6 +0.2
TIA pmax pmax
comp=Z,13nm,0.8s
PZH PanZhiHua 95.43 301 P P 17 31 04.8 -0.2
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.1s
CN2 Changchun 96.24 327 eP P 17 31 07.8 -0.2
XAN Xi'an 96.57 311 ⇓ P P 17 31 09.9 0.0
XAN pP sP 17 31 19.4 +8.2
XAN pmax pmax
comp=Z,12nm,1.1s
HHC Hu-ho-hao-te 100.22 317 eP Pdif 17 31 26.8 +0.6
HHC pmax pmax
comp=Z,28nm,0.8s
SHL Shillong 101.25 294 P Pdif 17 31 30.8 -0.4
TXAR Lajitas Array 104.15 63 PKKPbc PKKPbc 17 47 34.0 +2.5
comp=Z,0.5nm,0.8s,baz=74,slow=3.8,SNR=6.5
ILAR Eielson Array 111.30 17 PKiKP PKiKP 17 36 13.6 +0.6
comp=Z,3.6nm,1.1s,baz=235,slow=3.8,SNR=8.6
F25K Christian Rive 113.99 16 P PKiKP 17 36 19.6 +1.4
baz=212
EPYK Eagle Plains 115.00 20 P PKiKP 17 36 20.9 +0.8
baz=218
WMQ Urumqi 115.35 307 ePKP PKiKP 17 36 21.3 -0.2
G30M tAoh Zraii Nji 115.61 20 P PKiKP 17 36 21.9 +0.7
baz=219
INK Inuvik 117.29 19 P PKiKP 17 36 25.3 +0.9
baz=221
TIXI Tiksi 118.22 345 ⇓ iPKiKP PKPdf 17 36 24.2 -1.9
DGZ Jazzator, Alta 118.79 312 ⇑ iPKiKP PKPdf 17 36 26.7 -1.4
YKA Yellowknife Ar 119.21 30 PKP PKiKP 17 36 28.5 +0.2
comp=Z,7.3nm,0.8s,baz=246,slow=1.8,SNR=13
MKAR Makanchi Array 120.17 307 PKP PKPdf 17 36 29.9 -0.8
comp=Z,3.9nm,0.9s,baz=106,slow=4.3,SNR=8.4
KSH Kashi 120.30 297 ePKP PKiKP 17 36 32.5 +1.1
C36M Paulatuk 120.46 21 P PKiKP 17 36 30.5 -0.1
baz=229
ULM Lac du Bonnet 121.27 49 PKP PKiKP 17 36 32.4 -0.3
comp=Z,2.4nm,0.7s,baz=155,slow=3.1,SNR=4.2
A36M Sachs Harbour 121.89 19 P PKiKP 17 36 33.5 +0.2
baz=230
ZALV Zalesovo Beam 122.36 316 PKP PKPdf 17 36 33.1 -1.4
comp=Z,1.8nm,0.8s,baz=147,slow=3.5,SNR=9.2
AAK Ala-Archa 122.86 300 PKP PKPdf 17 36 35.8 -0.4
comp=Z,2.5nm,0.6s,baz=133,slow=3.4,SNR=12
AAK Ala-Archa 122.86 300 ⇑ iPKiKP PKPdf 17 36 35.5 -0.7
KURK Kurchatov 124.20 310 PKP PKPdf 17 36 36.0 -2.2
KURK Kurchatov 124.20 310 PKiKP PKPdf 17 36 37.2 -1.0
KURBB Kurchatov Arra 124.21 310 PKP PKPdf 17 36 37.2 -1.1
comp=Z,6.0nm,0.8s,baz=116,slow=2.0,SNR=47
ACSO Alum Creek Sta 124.24 64 P PKiKP 17 36 39.9 +1.0
baz=240
P52A Corning 124.52 65 P PKiKP 17 36 41.5 +2.0
baz=240
O53A New Philadelph 125.43 65 P PKiKP 17 36 43.0 +1.7
baz=241
NRIK Noril'sk 127.76 333 ⇓ ePKiKP PKPdf 17 36 43.0 -1.5
BVAR Borovoye Array 129.80 310 PKP PKPdf 17 36 48.5 -0.3
comp=Z,3.7nm,0.8s,baz=106,slow=3.2,SNR=18
BRVK Borovoye 129.88 310 ⇓ ePKiKP PKPdf 17 36 47.8 -1.2
GEYT Alibeck 131.72 287 PKP PKPdf 17 36 53.2 +0.1
comp=Z,6.4nm,0.8s,baz=180,slow=1.3,SNR=14
SVE Sverdlovsk 136.25 313 ePKiKP PKPdf 17 37 00.6 -0.2
SVE pmax pmax
comp=Z,10.0nm,1.1s
ARU Arti 137.31 312 PKP PKPdf 17 37 02.2 -0.6
comp=Z,4.2nm,0.7s,baz=117,slow=0.8,SNR=8.0
ARU Arti 137.31 312 iPKiKP PKPdf 17 37 02.4 -0.4
MAK Makhachkala 141.12 289 eP Pdif 17 34 23.1 -4.7
MAK i 17 37 07.8
MAK e 17 44 19.7
BELG Belogornoye 143.08 305 PKhKP PKPpre 17 37 08.8
comp=Z,24nm,0.7s,baz=26,slow=0.8,SNR=17
DBIC Dimbokro 144.28 182 PKP PKPdf 17 37 17.2 +0.5
comp=Z,6.6nm,0.8s,baz=170,slow=6.3,SNR=6.9
DBIC Dimbokro 144.28 182 PKPdf PKPab 17 37 13.5 -1.1
ASF Jabal al Asfar 144.55 268 PKP PKPdf 17 37 16.4 -0.4
comp=Z,5.9nm,0.9s,baz=106,slow=2.5,SNR=8.8
KBZ Khabaz 144.56 289 PKP PKPbc 17 37 14.8 -0.2
comp=Z,16nm,0.7s,baz=120,slow=2.8,SNR=43
KBZ Khabaz 144.56 289 c iPKiKP PKPab 17 37 13.5 -1.3
EIL Elat 144.69 262 PKP PKPdf 17 37 16.5 -0.5
comp=Z,17nm,1.1s,baz=114,slow=0.8,SNR=7.3
KVAR Kislovodsk Arr 144.76 289 PKP PKPdf 17 37 17.7 +0.9
comp=Z,2.6nm,0.5s,baz=212,slow=9.5,SNR=1.9
KIV Kislovodsk 144.76 289 ePKiKP PKPbc 17 37 15.9 +0.1
KIV pmax pmax
comp=Z,13nm,1.0s
GOF Gofitskoye 144.79 291 ⇑ ePKHKP PKPpre 17 37 11.3
DAG Danmarks Havn 145.24 5 i P PKPbc 17 37 14.0 -2.2
SFJD Kangerlussuaq 145.76 29 PKPdf PKPdf 17 37 17.2 -0.4
SFJD Kangerlussuaq 145.76 29 eP PKPdf 17 37 17.5 -0.1
SFJD Kangerlussuaq 145.76 29 PKP2 PKPdf 17 37 17.2 -0.4
MMAI Mount Meron Ar 146.06 268 PKPbc PKPab 17 37 21.3 +0.5
comp=Z,18nm,0.7s,baz=101,slow=4.4,SNR=27
SUMG Summit 146.15 17 eP PKPbc 17 37 19.6 -0.1
VRH Novokhopyorsk 146.62 302 ePKiKP PKPdf 17 37 19.1 -0.5
VRH pmax pmax
comp=Z,30nm,0.7s
KLMR Klimovskoe 147.12 320 ePKPdf PKPdf 17 37 19.1 -1.0
KLMR AMP 17 37 24.8
comp=Z,28nm,0.9s
KLMR Klimovskoe 147.12 320 ePKiKP PKPdf 17 37 19.1 -1.0
KLMR pmax pmax
comp=Z,28nm,0.9s
VORR Voronezh 148.22 303 ePKP2 PKPbc 17 37 25.2 -0.3
VORR pmax pmax
comp=Z,70nm,0.5s
VSR Storozhevoye 148.23 302 ePKP2 PKPbc 17 37 23.8 -1.8
VSR pmax pmax
comp=Z,30nm,1.3s
ARCES ARCESS Array B 148.38 339 PKPbc PKPbc 17 37 25.1 -0.4
comp=Z,8.1nm,0.8s,baz=55,slow=2.2,SNR=16
ARCES ARCESS Array B 148.38 339 PKPbc 17 37 24.9 -0.6
LPSR Galich'ya Gora 148.40 304 ePKP2 PKPbc 17 37 25.3 -0.7
LPSR pmax pmax
comp=Z,20nm,0.9s
CSS Mathiatis 148.47 269 PKPbc 17 37 27.1 +0.3
MOS Moscow 148.98 311 ePKiKP PKPdf 17 37 24.5 +1.2
OBN Obninsk 149.65 309 PKPbc PKPbc 17 37 29.0 0.0
comp=Z,3.1nm,0.5s,baz=88,slow=8.5,SNR=6.4
OBN Obninsk 149.65 309 c iPKP2 PKPbc 17 37 28.6 -0.4
OBN e 17 41 02.9
OBN ePPP PPP 17 44 21.4
OBN pmax pmax
comp=Z,54nm,1.7s
BR131 Keskin Array S 150.04 278 PKPbc 17 37 30.4 -0.3
BR131 Keskin Array S 150.04 278 PKP2 PKPbc 17 37 30.5 -0.3
BRTR Keskin Array B 150.04 278 PKP PKPdf 17 37 26.5 +0.7
comp=Z,20nm,0.8s,baz=286,slow=2.3,SNR=4.8
BRTR PKPbc PKPbc 17 37 30.8 0.0
comp=Z,23nm,0.8s,baz=139,slow=4.9,SNR=66
ELL Elmali 151.74 270 PKiKP 17 37 35.1 -0.1
ELL Elmali 151.74 270 PKIKP PKiKP 17 37 35.1 -0.1
FIA1 FINESS Array S 152.98 326 PKPbc PKiKP 17 37 36.4 -0.3
FINES FINESS Array B 152.98 326 PKPbc PKPbc 17 37 36.0 -0.6
comp=Z,9.5nm,0.7s,baz=87,slow=2.9,SNR=25
FINES FINESS Array B 152.98 326 PKPbc PKPbc 17 37 36.3 -0.3
FINES FINESS Array B 152.98 326 PKIKP PKPbc 17 37 36.3 -0.3
AKASG Malin Array Be 154.52 301 PKPbc PKPbc 17 37 39.7 -0.5
comp=Z,4.4nm,0.8s,baz=72,slow=2.5,SNR=11
IDI Anoyia 154.84 264 PKPbc PKiKP 17 37 42.2 +0.6
comp=Z,12nm,0.7s,baz=43,slow=1.3,SNR=7.2
NACGM Naroch 155.21 311 ePKP PKPdf 17 37 22.9 -10
comp=Z,10.0nm,0.8s,baz=74
BURAR Bucovina Array 157.32 294 PKPab PKPab 17 38 07.4 +0.2
ITM Ithomi 157.81 266 PKPab PKPab 17 38 08.8 -0.7
NB2 NORSAR Subarra 158.68 336 PKP PKPab 17 38 11.6 -0.8
comp=Z,2.4nm,1.0s,baz=40,slow=4.4
UZH Uzhgorod 159.21 297 ePKP2 PKPab 17 38 15.3 +0.2
VYHS Vyhne 161.50 297 ePKP2 PKPab 17 38 24.8 -0.4
MAUC Maruska 161.98 301 ePKPAB PKPab 17 38 27.5 +0.2
KRLC Kraliky 162.46 303 ePKPAB PKPab 17 38 29.4 +0.1
KRLC Kraliky 162.46 303 ePKP2 PKPab 17 38 29.4 +0.1
OSTC Ostas 162.65 305 ePKPAB PKPab 17 38 30.5 +0.3
DPC Dobruska-Polom 162.65 305 ePKPAB PKPab 17 38 30.5 +0.3
DPC Dobruska-Polom 162.65 305 ePKP2 PKPab 17 38 30.5 +0.3
UPC Upice 162.79 305 ePKPAB PKPab 17 38 31.1 +0.4
UPC Upice 162.79 305 ePKP2 PKPab 17 38 31.1 +0.4
CONA Conrad Observa 163.56 297 eP PKPab 17 38 37.2 +2.9
comp=Z,6.6nm,1.7s
PRU Pruhonice 163.85 305 ePKPAB PKPab 17 38 35.6 +0.2
PRU Pruhonice 163.85 305 ePKP2 PKPab 17 38 35.6 +0.2
BRG Berggiesshubel 163.89 308 i PKP2 PKPab 17 38 35.6 +0.1
BRG pmax pmax
comp=Z,14nm,1.1s
ARSA Arzberg 163.90 295 eP PKPab 17 38 35.4 -0.4
comp=Z,6.8nm,1.2s
CLL Collm 164.24 310 i PKPab PKPab 17 38 36.5 -0.5
comp=Z,17nm,1.6s
CLL Collm 164.24 310 i PKP2 PKPab 17 38 36.5 -0.5
CLL pmax pmax
comp=Z,17nm,1.6s
CKRC Cesky Krumlov 164.36 301 ePKPAB PKPab 17 38 36.9 -0.8
MOA Molln 164.63 297 eP PKPab 17 38 38.1 -0.9
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 164.73 302 ePKPAB PKPab 17 38 39.2 -0.2
KHC Kasperske Hory 164.73 302 ePKP2 PKPab 17 38 39.2 -0.2
BIOA Bad Ischl, Aus 165.07 297 eP PKPab 17 38 40.1 -0.8
comp=Z,4.3nm,1.2s
WTTA Wattenberg 166.50 297 eP PKPab 17 38 46.3 -1.2
comp=Z,9.3nm,1.5s
WATA Walderalm 166.52 297 eP PKPab 17 38 46.5 -0.9
comp=Z,5.4nm,1.2s
SQTA Sankt Quirin 166.79 297 eP PKPab 17 38 47.5 -1.1
comp=Z,2.3nm,0.8s
MOTA Moosalm 166.83 297 eP PKPab 17 38 47.0 -1.8
comp=Z,4.3nm,1.0s
FETA Feichten 167.16 296 eP PKPab 17 38 50.0 -0.4
comp=Z,4.7nm,1.0s
ESDC Sonseca Array 176.69 212 PKP PKPdf 17 37 50.8 +0.5
comp=Z,0.7nm,0.8s,baz=346,slow=2.8,SNR=5.6

WEL 13 17:20:58.8±0.4, 42°S±3°×17°4E±°, h9km±4km, M4.1/12, ML4.3/12, MLv4.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=121.6, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.20	211	P	P	Pg	17 21 03.6	+0.5
KHZ				S	S	Sg	17 21 07.0	+1.1
BSWZ	Blackbirch Sta	0.55	15	P	P	Pg	17 21 09.5	+0.2
CMWZ	Cape Campbell	0.63	39	P	P	Pb	17 21 12.3	+0.2
THZ	Tophouse	0.75	309	P	P	Pg	17 21 13.3	0.0
THZ				S	S	Sg	17 21 23.3	+0.2
TUWZ	Tuamarina	0.83	14	P	P	Pb	17 21 15.3	-0.2
GVZ	Greta Valley S	0.87	213	P	P	Pb	17 21 16.2	+0.1
GVZ				S	S	Sn	17 21 29.4	-0.8
NNZ	Nelson	1.05	347	P	P	Pg	17 21 19.0	+0.1
MRNZ	Matariki Terra	1.09	320	P	P	Pg	17 21 19.7	-0.1
MRNZ				S	S	Sn	17 21 35.2	-0.3
TCW	Tory Channel	1.12	24	P	P	Pg	17 21 20.0	-0.4
TCW				S	S	Sn	17 21 35.9	-0.4
LTZ	Lake Taylor	1.18	242	P	P	Pb	17 21 20.6	-0.7
LTZ				S	S	Sg	17 21 36.0	-0.6
AMCZ	Amberley	1.21	219	P	P	Pb	17 21 20.7	-1.1
AMCZ				S	S	Sn	17 21 38.2	-0.2
WEL	Wellington	1.25	41	P	P	Pn	17 21 21.9	-0.6
WEL				S	S	Sb	17 21 38.4	-0.6
TKNZ	Takaka Hill	1.32	336	P	P	Pb	17 21 23.7	-0.1
PLWZ	Palliser	1.35	61	P	P	Pn	17 21 22.3	-1.6
MSWZ	Moikau Station	1.43	55	P	P	Pn	17 21 23.5	-1.6
DUWZ	D'Urville Isla	1.45	7	P	P	Pn	17 21 24.7	-0.6
CAW	Cannon Point	1.54	43	P	P	Pn	17 21 25.4	-1.0
OKCZ	Okains Bay	1.55	197	P	P	Pn	17 21 25.1	-1.6
PAWZ	Paruwai Farm	1.56	57	P	P	Pn	17 21 25.0	-1.9
OXZ	Oxford	1.62	228	P	P	Pn	17 21 25.6	-2.1
MQZ	McQueen's Vall	1.65	207	P	P	Pn	17 21 25.4	-2.5
QRZ	Quartz Range	1.66	328	P	P	Pb	17 21 29.0	-0.5
INZ	Inchbonnie	1.73	253	P	P	Pn	17 21 28.4	-0.7
AKCZ	Akaroa Harbour	1.73	199	P	P	Pn	17 21 27.1	-2.0
RACZ	Rakaia	1.87	217	P	P	Pn	17 21 28.6	-2.4
WACZ	Wakanui South	2.17	218	P	P	Pn	17 21 33.0	-2.2
WVZ	Waitaha Valley	2.33	248	P	P	Pn	17 21 36.6	-0.7
RPZ	Rata Peaks	2.43	232	P	P	Pn	17 21 36.8	-1.9
ARCZ	Arundel	2.50	226	P	P	Pn	17 21 37.9	-1.9
GCSZ	Gaunt Creek Bo	2.69	245	P	P	Pn	17 21 42.6	+0.3
TMZ	Timaru	2.90	221	P	P	Pn	17 21 43.6	-1.6
ODZ	Otahua Downs	3.56	217	P	P	Pn	17 21 52.1	-2.2
AWAZ	Awhitu Peninsu	5.22	8	P	P	Pn	17 22 18.0	+0.9
MBAZ	Motutapu North	5.55	10	P	P	Pn	17 22 22.3	+0.8
CTZ	Chatham Island	7.27	105	P	P	Pn	17 22 42.1	-3.1

IDC 13 17:24:22.4±1.2, 41°S±3°×174°26E, h0km, mb3.9/5, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=38.7km s-min=27.6km az=61.0
WEL 13 17:24:25.0±0.4, 42°S±3°×17°4E±°, h7km±3km, M4.1/19, ML4.6/18, MLv4.1/19, Error ellipse: s-maj=0.0km s-min=0.0km az=159.5

ISC 13 17:24:24.2±0.8, 41°67S±0°03×174°43E±0°02, h13km±5km, n96, σ1s29/98, mb3.9/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.18	243	P	P	Pg	17 24 27.8	-0.5
CMWZ				S	S	Sg	17 24 30.0	-1.2
BSWZ	Blackbirch Sta	0.41	263	P	P	Pg	17 24 31.9	-0.6
BSWZ				S	S	Sg	17 24 37.9	-0.1
BHW	Baring Head	0.42	52	P	P	Pn	17 24 35.3	-0.6
TUWZ	Tuamarina	0.43	303	P	P	Pg	17 24 33.4	+0.6
TUWZ				S	S	Sg	17 24 40.1	+1.5
WEL	Wellington	0.46	34	P	P	Pn	17 24 36.0	-0.5
WEL				S	S	Sn	17 24 44.9	+0.4
TCW	Tory Channel	0.47	346	P	P	Pb	17 24 35.1	+0.8
TCW				S	S	Sn	17 24 42.6	-2.1
PLWZ	Palliser	0.63	81	P	P	Pn	17 24 39.2	+0.3
PLWZ				S	S	Sn	17 24 50.5	+1.7
MSWZ	Moikau Station	0.67	68	P	P	Pn	17 24 40.4	+1.1
MSWZ				S	S	Sn	17 24 53.1	+3.4
CAW	Cannon Point	0.74	41	P	P	Pn	17 24 40.6	+0.4
PAWZ	Paruwai Farm	0.81	69	P	P	Pn	17 24 42.1	+0.9
KIW	Kapiti Island	0.89	25	P	P	Pn	17 24 43.3	+1.0
NNZ	Nelson	0.91	299	P	P	Pb	17 24 41.3	-0.4
DUWZ	D'Urville Isla	0.94	336	P	P	Pn	17 24 44.3	+1.1
MTW	Mount Morrison	0.96	58	P	P	Pn	17 24 44.3	+1.1
TRWZ	Traveller	0.99	75	P	P	Pn	17 24 44.2	+0.5
OGWZ	Otaki Gorge	1.02	34	P	P	Pn	17 24 45.6	+1.5
HOWZ	Holdsworth Sta	1.13	47	P	P	Pg	17 24 47.5	+1.6
THZ	Tophouse	1.14	265	P	P	Pn	17 24 45.5	-0.4
TMWZ	Te Maipa	1.24	64	P	P	Pg	17 24 47.8	-0.2
TKNZ	Takaka Hill	1.27	299	P	P	Pb	17 24 48.4	+0.4
MRNZ	Matariki Terra	1.28	282	P	P	Pn	17 24 48.3	+0.5
MRZ	Mangatainoka R	1.33	41	P	P	Pg	17 24 49.9	+0.1
TIWZ	Tintock	1.42	52	P	P	Pg	17 24 50.8	-0.6
CPWZ	Castlepoint	1.54	61	P	P	Pg	17 24 52.4	-1.3
OHWZ	Ohakea	1.61	25	P	P	Pg	17 24 55.8	+0.7
PRWZ	Pori Road	1.61	47	P	P	Pb	17 24 53.4	-0.4
POWZ	Post Office Ro	1.63	39	P	P	Pg	17 24 54.3	-1.2
GVZ	Greta Valley S	1.66	218	P	P	Pb	17 24 56.6	+2.0
QRZ	Quartz Range	1.66	300	P	P	Pb	17 24 54.8	+0.3
BFZ	Birch Farm	1.69	55	P	P	Pb	17 24 54.6	-0.5
DVHZ	Dannevirke	1.90	45	P	P	Pb	17 24 56.8	-1.8
LTZ	Lake Taylor	1.95	234	P	P	Pn	17 24 56.0	-1.0
WAZ	Wanganui	1.96	13	P	P	Pg	17 25 02.6	+0.9
TSZ	Takapari Road	1.99	36	P	P	Pb	17 24 59.1	-1.1
PRHZ	Porangahau	2.18	51	P	P	Pn	17 25 00.7	+0.6
LREZ	Lake Rotokare	2.21	360	P	P	Pg	17 25 07.3	+0.9
PNHZ	Pukenui	2.21	38	P	P	Pb	17 25 01.6	-2.4
WPHZ	Waipukurau	2.21	44	P	P	Pb	17 25 03.8	-0.2
NMEZ	Namu Road	2.29	349	P	P	Pg	17 25 08.1	0.0
KHEZ	Kahui Hut	2.39	352	P	P	Pg	17 25 09.1	-0.9
NEZ	North Egmont	2.41	354	P	P	Pg	17 25 09.0	-1.3
MTVZ	Mangateitei	2.42	20	P	P	Pg	17 25 10.0	-0.5
NBEZ	Newall Road No	2.44	350	P	P	Pg	17 25 10.0	-0.9
INZ	Inchbonnie	2.45	244	P	P	Pn	17 25 04.6	+0.8
MOVZ	Moawhango	2.48	25	P	P	Pb	17 25 07.3	-1.2
PKVZ	Pokaka	2.48	17	P	P	Pg	17 25 11.7	0.0
DREZ	Durham Road	2.48	356	P	P	Pb	17 25 09.2	+0.6
PKE	Pukeiti	2.49	352	P	P	Pg	17 25 10.3	-1.7
WNVZ	Wahianoa	2.50	21	P	P	Pb	17 25 08.1	-0.9
BHHZ	Black Hill Sta	2.51	30	P	P	Pb	17 25 07.6	-1.5
TRVZ	Turoa	2.52	20	P	P	Pg	17 25 11.5	-1.0
DRZ	Dome Shelter	2.54	20	P	P	Pg	17 25 12.6	-0.3
WHVZ	Whangaehu Hut	2.54	21	P	P	Pg	17 25 11.3	-1.6
FWVZ	Far West T-bar	2.56	20	P	P	Pg	17 25 12.9	-0.3
TUVZ	Tukino	2.58	22	P	P	Pb	17 25 08.8	-1.4
MHEZ	Mangahewa	2.59	358	P	P	Pg	17 25 11.9	-1.9
KAHZ	Kahuranaki	2.64	46	P	P	Pn	17 25 06.7	+0.2
NGZ	Ngauruhoe	2.65	20	P	P	Pg	17 25 13.9	-1.0
SNVZ	South Ngauruho	2.65	21	P	P	Pb	17 25 10.4	-1.1
OTVZ	Oturere	2.67	21	P	P	Pb	17 25 11.2	-0.8
NNVZ	North Ngauruho	2.69	20	P	P	Pb	17 25 11.6	-0.6
WTVZ	West Tongariro	2.70	20	P	P	Pg	17 25 15.0	-0.9
TWVZ	Taurewa	2.71	17	P	P	Pg	17 25 14.0	-2.1
KWHZ	Kaweka Forest	2.71	35	P	P	Pg	17 25 16.0	-0.1
ETVZ	East Tongariro	2.71	22	P	P	Pb	17 25 12.2	-0.4
TMVZ	Te Maari	2.73	21	P	P	Pb	17 25 11.5	-1.3
KRVZ	Karewarewa	2.73	20	P	P	Pg	17 25 16.0	-0.6
NTVZ	North Tongarir	2.74	21	P	P	Pb	17 25 11.7	-1.4
KATZ	Kakaramea	2.86	20	P	P	Pg	17 25 17.9	-1.1
BKZ	Black Stump Fm	2.96	33	P	P	Pg	17 25 20.2	-0.6
WATZ	Wairara	3.12	19	P	P	Pg	17 25 22.8	-1.2
HIZ	Hauiti	3.17	6	P	P	Pb	17 25 19.1	-1.1
RPZ	Rata Peaks	3.22	229	P	Pn	Pn	17 25 12.9	-1.4
	16nm,0.3s,baz=85,slow=3.7,SNR=2.7							
	39nm,0.4s							
RPZ	Rata Peaks	3.22	229	P	P	Pn	17 25 12.9	-1.5
TLZ	Tolley Road	3.44	15	P	P	Pb	17 25 22.8	-2.2
GCSZ	Gaunt Creek Bo	3.45	240	P	P	Pn	17 25 22.4	+4.8
TOZ	Tahuroa Road	4.02	12	P	P	Pb	17 25 31.7	-3.0
MKAZ	Moumakai	4.59	7	P	P	Pn	17 25 37.6	+4.4
AWAZ	Awhitu Peninsu	4.60	2	P	P	Pn	17 25 38.4	+5.0
PKGZ	Pakihiroa	4.71	38	P	P	Pn	17 25 36.7	+1.8
JCZ	Jackson Bay	4.79	238	P	P	Pn	17 25 39.3	+3.2
WIAZ	Waiheke Island	4.90	7	P	P	Pn	17 25 41.0	+3.5
MBAZ	Motutapu North	4.91	4	P	P	Pb	17 25 44.6	-5.3
HHSZ	Highcliff Hill	5.04	212	P	P	Pn	17 25 36.8	-2.7
OUZ	Omahuta	6.47	354	P	P	Pn	17 26 04.6	+5.6
OUZ				P	P	Pn	17 26 04.6	+5.6
CTZ	Chatham Island	6.92	110	P	P	Pn	17 26 04.6	-0.5
ASAR	Alice Springs	38.13	285	P	P	P	17 31 42.2	-0.9
	0.5nm,0.6s,baz=120,slow=6.1,SNR=14							
	0.5nm,0.6s							
WRA	Warramunga Arr	40.20	290	P	P	P	17 31 59.1	-1.2
	1.4nm,0.5s,baz=127,slow=8.5,SNR=21							
	1.4nm,0.5s							
QSPA	South Pole Qui	48.46	180	P	P	P	17 33 07.8	+1.8
	1.0nm,0.5s,baz=199,slow=3.0,SNR=8.7							
	1.0nm,0.5s							
KSRS	Korea Array	89.47	325	P	P	P	17 37 20.6	+0.1
	0.5nm,0.7s,baz=138,slow=7.4,SNR=1.7							
	0.5nm,0.7s							
CMAR	Chiang Mai Arr	91.73	293	P	P	P	17 37 31.9	+0.3
	0.7nm,0.7s,baz=153,slow=3.7,SNR=5.2							
	0.7nm,0.7s							
KURBB	Kurchatov Arra	124.03	310	PKP		PKPdf	17 43 20.3	-1.1
	0.2nm,0.3s,baz=113,slow=2.1,SNR=1.8							
DBIC	Dimbokro	145.14	181	PKPbc		PKPab	17 44 01.6	+0.3
	1.6nm,0.6s,baz=220,slow=2.7,SNR=1.7							
ARCES	ARCESS Array B	147.75	340	PKPbc		PKPbc	17 44 06.5	-0.9
	6.1nm,1.1s,baz=14,slow=2.5,SNR=6.1							
BRTR	Keskin Array B	150.38	279	PKPbc		PKPbc	17 44 14.7	-0.4
	0.8nm,0.8s,baz=146,slow=2.5,SNR=2.6							
FINES	FINESS Array B	152.54	327	PKPbc		PKPbc	17 44 18.6	-0.5
	1.2nm,0.8s,baz=80,slow=3.1,SNR=4.6							

IDC 13 17:24:35.8±1.5, 41°42S×174°46E, h0km, mb4.2/4, mbtmp4.3/5, ML4.4/1, Error ellipse: s-maj=41.6km s-min=29.6km az=64.0
WEL 13 17:24:39.9±0.5, 42°S±3°×17°4E±°, h6km±3km, M4.3/14, ML4.6/10, MLv4.3/14, Error ellipse: s-maj=0.0km s-min=0.0km az=167.7

ISC 13 17:24:38.9±1.2, 41°75S±0°05×174°41E±0°03, h9km±7km, n28, σ1s33/36, mb4.2/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.14	272	S		Sg	17 24 44.7	+0.5
BSWZ	Blackbirch Sta	0.40	275	P		Pg	17 24 47.1	+0.4
BSWZ				S		Sg	17 24 52.0	+0.1
TUWZ	Tuamarina	0.48	313	P		Pg	17 24 47.6	-0.5
TUWZ				S		Sg	17 24 54.4	+0.1
BHW	Baring Head	0.49	45	P		Pn	17 24 51.7	-0.4
WEL	Wellington	0.54	30	P		Pb	17 24 50.0	-0.6
WEL				S		Sb	17 24 59.9	+1.4
TCW	Tory Channel	0.55	350	S		Sg	17 24 57.3	+0.5
PLWZ	Palliser	0.66	74	S		Sn	17 25 04.9	-0.2
MSWZ	Moikau Station	0.72	62	S		Sn	17 25 07.0	+0.6
CAW	Cannon Point	0.81	38	P		Pb	17 24 56.0	+0.8
CAW				S		Sn	17 25 09.2	+0.4
PAWZ	Paruwai Farm	0.85	64	P		Pb	17 24 56.6	+0.7
PAWZ				S		Sn	17 25 11.3	+1.5

WEL				S	Sb	17 28 42.6	-0.6
MSWZ	**Moikau Station**	**0.87**	**72**	P	Pb	17 28 38.9	+0.4
MSWZ				S	Sb	17 28 51.0	+0.7
CAW	**Cannon Point**	**0.91**	**50**	P	Pg	17 28 38.4	-0.1
CAW				S	Sb	17 28 51.0	-0.3
MTW	**Mount Morrison**	**1.15**	**63**	P	Pg	17 28 42.8	-0.4
MTW				S	Sg	17 28 57.8	-0.2
OGWZ	**Otaki Gorge**	**1.17**	**41**	P	Pn	17 28 44.0	+0.1
OGWZ				S	Sn	17 28 60.0	-0.1

WEL ***13*** *17:28:48.3±0.5, 43°S±3°×17°4E±°, h5km, M4.7/10, ML4.9/10, MLv4.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=123.2*

IDC ***13*** *17:28:49.3±1.1, 42°45S×173°46E, h0km, mb4.2/4, mbtmp4.2/5, ML4.1/1, MS4.0/3, Error ellipse: s-maj=32.3km s-min=27.9km az=130.0*

ISC 13 17:28:46.6±1.3, 42°58S±0°03×173°96E±0°03, h1km±8km, n84, σ1°62/102, mb4.1/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.35**	**298**	P	**Pg**	**17 28 53.4**	**+0.2**
KHZ				S	**Sg**	**17 28 57.8**	**0.0**
GVZ	**Greta Valley S**	**0.78**	**240**	P	**Pn**	**17 29 04.0**	**-0.8**
GVZ				S	**Sn**	**17 29 15.8**	**-1.3**
BSWZ	**Blackbirch Sta**	**0.87**	**356**	P	**Pn**	**17 29 05.3**	**-0.7**
BSWZ				S	**Sn**	**17 29 17.1**	**-2.1**
AMCZ	**Amberley**	**1.13**	**238**	P	**Pn**	**17 29 09.8**	**+0.2**
AMCZ				S	**Sn**	**17 29 25.6**	**-0.1**
THZ	**Tophouse**	**1.13**	**316**	P	**Pn**	**17 29 08.8**	**-0.8**
THZ				S	**Sb**	**17 29 22.9**	**-1.3**
TUWZ	**Tuamarina**	**1.15**	**360**	P	**Pn**	**17 29 09.8**	**0.0**
TUWZ				S	**Sn**	**17 29 24.7**	**-1.6**
LTZ	**Lake Taylor**	**1.26**	**260**	P	**Pg**	**17 29 11.2**	**+0.5**
LTZ				S	**Sn**	**17 29 27.3**	**-1.6**
OKCZ	**Okains Bay**	**1.32**	**210**	P	**Pg**	**17 29 12.2**	**+0.4**
OKCZ				S	**Sg**	**17 29 30.5**	**+1.6**
PLWZ	**Palliser**	**1.40**	**44**	P	**Pn**	**17 29 12.5**	**-0.8**
PLWZ				S	**Sb**	**17 29 32.0**	**+0.1**
NNZ	**Nelson**	**1.43**	**342**	P	**Pg**	**17 29 14.1**	**+0.2**
NNZ				S	**Sg**	**17 29 33.0**	**+0.5**
WEL	**Wellington**	**1.43**	**25**	P	**Pn**	**17 29 13.1**	**-0.6**
WEL				S	**Sn**	**17 29 31.9**	**-1.2**
MQZ	**McQueen's Vall**	**1.47**	**220**	P	**Pn**	**17 29 13.3**	**-1.0**
MQZ				S	**Sn**	**17 29 32.4**	**-1.8**
MRNZ	**Matariki Terra**	**1.48**	**323**	P	**Pb**	**17 29 14.5**	**-0.4**
MRNZ				S	**Sg**	**17 29 34.4**	**+0.3**
AKCZ	**Akaroa Harbour**	**1.50**	**210**	P	**Pn**	**17 29 14.4**	**-0.3**
AKCZ				S	**Sg**	**17 29 34.7**	**-0.1**
OXZ	**Oxford**	**1.59**	**241**	P	**Pn**	**17 29 14.6**	**-1.3**
OXZ				S	**Sn**	**17 29 34.7**	**-2.5**
CAW	**Cannon Point**	**1.69**	**30**	P	**Sn**	**17 29 16.6**	**-0.7**
CAW				S	**Sn**	**17 29 37.5**	**-2.1**
TKNZ	**Takaka Hill**	**1.71**	**334**	P	**Pb**	**17 29 17.8**	**-1.1**
TKNZ				S	**Sb**	**17 29 40.1**	**-0.9**
TRWZ	**Traveller**	**1.75**	**48**	P	**Pn**	**17 29 17.9**	**-0.3**
RACZ	**Rakaia**	**1.75**	**229**	P	**Pn**	**17 29 17.0**	**-1.2**
RACZ				S	**Sn**	**17 29 38.6**	**-2.5**
INZ	**Inchbonnie**	**1.86**	**265**	P	**Pn**	**17 29 18.5**	**-1.1**
INZ				S	**Sn**	**17 29 40.3**	**-3.4**
KIW	**Kapiti Island**	**1.86**	**23**	P	**Pn**	**17 29 19.6**	**-0.1**
QRZ	**Quartz Range**	**2.05**	**328**	P	**Pb**	**17 29 23.1**	**-1.6**
WACZ	**Wakanui South**	**2.06**	**228**	P	**Pn**	**17 29 21.7**	**-0.7**
MRZ	**Mangatainoka R**	**2.27**	**33**	P	**Pn**	**17 29 24.8**	**-0.4**
RPZ	**Rata Peaks**	**2.41**	**241**	Pn	**Pn**	**17 29 26.1**	**-1.1**
	63nm,0.3s,baz=172,slow=0.7,SNR=22						
RPZ				Sn	**Sn**	**17 29 54.6**	**-2.7**
	245nm,0.3s,baz=335,slow=21,SNR=46						
RPZ				LR	LR	17 30 11.3	
	comp=Z,1μm,21.2s,baz=66,slow=38						
	248nm,0.3s						
RPZ	**Rata Peaks**	**2.41**	**241**	P	**Pn**	**17 29 26.1**	**-1.1**
WVZ	**Waitaha Valley**	**2.42**	**257**	P	**Pn**	**17 29 27.0**	**-0.3**
ARCZ	**Arundel**	**2.45**	**235**	P	**Pn**	**17 29 26.8**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.76**	**253**	P	**Pn**	**17 29 33.5**	**+1.5**
TMZ	**Timaru**	**2.80**	**229**	P	**Pn**	**17 29 31.7**	**-0.9**
NMEZ	**Namu Road**	**3.17**	**359**	P	**Pb**	**17 29 44.9**	**+1.3**
FOZ	**Fox Glacier**	**3.18**	**251**	P	**Pn**	**17 29 38.9**	**+1.2**
LBZ	**Lake Benmore**	**3.28**	**235**	P	**Pn**	**17 29 41.3**	**+0.1**
NBEZ	**Newall Road No**	**3.31**	**359**	P	**Pb**	**17 29 42.8**	**-3.3**
PKE	**Pukeiti**	**3.38**	**0**	P	**Pb**	**17 29 45.4**	**-2.0**
DREZ	**Durham Road**	**3.39**	**3**	P	**Pb**	**17 29 45.2**	**-2.3**
ODZ	**Otahua Downs**	**3.44**	**223**	P	**Pn**	**17 29 40.4**	**-0.9**
TRVZ	**Turoa**	**3.49**	**21**	P	**Pb**	**17 29 47.5**	**-1.8**
DRZ	**Dome Shelter**	**3.52**	**21**	P	**Pb**	**17 29 46.3**	**-3.5**
WHVZ	**Whangaehu Hut**	**3.52**	**21**	P	**Pn**	**17 29 46.1**	**+3.5**
FWVZ	**Far West T-bar**	**3.54**	**21**	P	**Pb**	**17 29 47.4**	**-2.7**
OTVZ	**Oturere**	**3.65**	**21**	P	**Pn**	**17 29 48.0**	**+3.6**
WTVZ	**West Tongariro**	**3.68**	**20**	P	**Pn**	**17 29 48.2**	**+3.5**
KRVZ	**Karewarewa**	**3.71**	**21**	P	**Pb**	**17 29 52.6**	**-0.4**
JCZ	**Jackson Bay**	**4.06**	**247**	P	**Pn**	**17 29 52.6**	**+2.7**
HHSZ	**Highcliff Hill**	**4.09**	**215**	P	**Pn**	**17 29 49.4**	**-0.9**
HIZ	**Hauiti**	**4.12**	**10**	P	**Pn**	**17 29 52.8**	**+2.1**
EAZ	**Earnscleugh**	**4.28**	**230**	P	**Pn**	**17 29 52.2**	**-0.7**
RAHZ	**Arahi**	**4.37**	**34**	P	**Pn**	**17 29 55.4**	**+1.3**
TLZ	**Tolley Road**	**4.42**	**16**	P	**Pn**	**17 29 57.4**	**+2.7**
TUZ	**Tuapeka**	**4.58**	**221**	P	**Pn**	**17 29 56.7**	**-0.4**
MSZ	**Milford Sound**	**4.85**	**242**	P	**Pn**	**17 30 02.1**	**+1.4**
TOZ	**Tahuroa Road**	**4.99**	**14**	P	**Pn**	**17 30 02.5**	**-0.1**
MWZ	**Matawai**	**5.04**	**34**	P	**Pn**	**17 30 02.7**	**-0.7**
MLZ	**Mavora Lakes**	**5.05**	**235**	P	**Pn**	**17 30 02.7**	**-0.8**
TGRZ	**Tauranga**	**5.16**	**21**	P	**Pn**	**17 30 05.7**	**+0.8**
CNGZ	**Carnagh Statio**	**5.22**	**40**	P	**Pn**	**17 30 07.9**	**+2.1**
SYZ	**Scrubby Hill**	**5.24**	**219**	P	**Pn**	**17 30 06.1**	**0.0**
TWGZ	**Tauwhareparae**	**5.37**	**36**	P	**Pn**	**17 30 10.2**	**+2.3**
RUGZ	**Raukumara Rang**	**5.42**	**33**	P	**Pn**	**17 30 09.0**	**+0.3**
WHZ	**Wether Hill Ro**	**5.44**	**230**	P	**Pn**	**17 30 08.1**	**-0.7**
AWAZ	**Awhitu Peninsu**	**5.54**	**6**	P	**Pn**	**17 30 10.5**	**+0.4**
MKAZ	**Moumakai**	**5.55**	**10**	P	**Pn**	**17 30 10.1**	**-0.2**
WTAZ	**Waiatarua**	**5.66**	**5**	P	**Pn**	**17 30 13.5**	**+1.6**
ETAZ	**East Tamaki Re**	**5.67**	**8**	P	**Pn**	**17 30 12.9**	**+0.9**
MBAZ	**Motutapu North**	**5.85**	**7**	P	**Pn**	**17 30 15.1**	**+0.6**
WIAZ	**Waiheke Island**	**5.85**	**9**	P	**Pn**	**17 30 14.2**	**-0.2**
KUZ	**Kuaotunu**	**5.99**	**14**	P	**Pn**	**17 30 16.0**	**-0.3**
APZ	**The Paps**	**6.01**	**223**	P	**Pn**	**17 30 16.1**	**-0.6**
CTZ	**Chatham Island**	**6.99**	**103**	P	**Pn**	**17 30 29.4**	**-0.7**
CTZ				S	**Sn**	**17 31 45.5**	**-4.7**
OUZ	**Omahuta**	**7.36**	**358**	P	Pn	17 30 40.2	+5.1
STKA	**Stephens Creek**	**27.74**	**282**	LR	LR	17 45 09.5	
	comp=Z,468nm,19.7s,baz=143,slow=36						
ASAR	**Alice Springs**	**38.05**	**287**	P	**P**	**17 36 05.7**	**-1.0**
	2.8nm,1.1s,baz=120,slow=7.5,SNR=8.5						
	2.8nm,1.1s						
WRA	**Warramunga Arr**	**40.20**	**292**	P	**P**	**17 36 23.8**	**-0.9**
	3.5nm,0.8s,baz=130,slow=7.7,SNR=19						
	3.5nm,0.8s						
KRVT	**Keravat (AS076**	**42.82**	**327**	LR	LR	17 52 05.1	
	comp=Z,435nm,21.7s,baz=277,slow=33						
QSPA	**South Pole Qui**	**47.55**	**180**	P	**P**	**17 37 26.9**	**+3.5**
	1.4nm,0.8s,baz=8.4,slow=6.1,SNR=3.8						
	1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.77**	**293**	P	**P**	**17 41 59.1**	**+2.9**
	1.8nm,0.8s,baz=152,slow=3.2,SNR=14						
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**124.34**	**310**	PKP	**PKiKP**	**17 47 47.9**	**+1.0**
	0.5nm,0.4s,baz=114,slow=1.8,SNR=8.0						
BVAR	**Borovoye Array**	**129.94**	**310**	PKP	**PKiKP**	**17 48 00.1**	**+2.1**
	0.7nm,0.7s,baz=78,slow=3.6,SNR=4.6						
KBZ	**Khabaz**	**144.69**	**289**	PKP	**PKiKP**	**17 48 26.7**	**-1.6**
	2.9nm,0.9s,baz=110,slow=2.9,SNR=5.3						
MMAI	**Mount Meron Ar**	**146.17**	**268**	PKPbc	**PKiKP**	**17 48 31.3**	**-0.5**
	3.5nm,0.8s,baz=98,slow=5.1,SNR=4.5						
ARCES	**ARCESS Array B**	**148.48**	**339**	PKPbc	**PKPbc**	**17 48 33.0**	**-0.8**
	3.3nm,0.9s,baz=349,slow=1.2,SNR=4.3						
BRTR	**Keskin Array B**	**150.17**	**278**	PKPbc	**PKiKP**	**17 48 40.8**	**+0.8**
	3.8nm,0.9s,baz=116,slow=3.4,SNR=15						
FINES	**FINESS Array B**	**153.10**	**326**	PKPbc	**PKiKP**	**17 48 46.0**	**+1.0**
	2.1nm,0.9s,baz=72,slow=6.2,SNR=4.5						

IDC 13 17:29:19.3±4.0, 41°83S×173°61E, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=317.8km s-min=72.5km az=26.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**37.59**	**286**	P	P	17 36 35.4	-0.4
	1.5nm,0.7s,baz=128,slow=6.8,SNR=8.5						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**39.68**	**291**	P	P	17 36 53.3	0.0
	4.3nm,0.7s,baz=128,slow=8.6,SNR=10						
	4.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.23**	**294**	P	P	17 42 26.7	+0.1
	1.1nm,0.7s,baz=153,slow=3.6,SNR=2.4						
	1.1nm,0.7s						
MMAI	**Mount Meron Ar**	**145.94**	**269**	PKPbc	PKPdf	17 48 59.9	-0.2
	6.3nm,0.7s,baz=107,slow=5.0,SNR=7.1						

WEL 13 17:30:32.5±0.5, 42°S±2°×17°4E±°, h9km±4km, M4.1/10, ML4.4/10, MLv4.1/10, Error ellipse: s-maj=0.0km s-min=0.0km az=130.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**213**	P	Pg	17 30 35.2	+0.4
CMWZ				S	Sg	17 30 38.3	+1.9
BSWZ	**Blackbirch Sta**	**0.30**	**263**	P	Pg	17 30 39.1	+0.6
BSWZ				S	Sb	17 30 44.3	-0.9
TUWZ	**Tuamarina**	**0.35**	**315**	P	Pg	17 30 40.1	+0.7
TUWZ				S	Sb	17 30 46.4	-0.3
TCW	**Tory Channel**	**0.47**	**0**	P	Pg	17 30 42.2	+0.6
TCW				S	Sb	17 30 49.8	-0.2
BHW	**Baring Head**	**0.52**	**59**	P	Pg	17 30 43.1	+0.4
PLWZ	**Palliser**	**0.74**	**82**	P	Pb	17 30 47.4	-0.2
PLWZ				S	Sb	17 30 58.7	+0.8
MSWZ	**Moikau Station**	**0.78**	**71**	P	Pb	17 30 48.1	-0.2
MSWZ				S	Sb	17 31 00.1	+1.2
CAW	**Cannon Point**	**0.83**	**46**	P	Pg	17 30 48.1	-0.4
CAW				S	Sb	17 31 00.1	-0.1
PAWZ	**Paruwai Farm**	**0.92**	**71**	P	Pg	17 30 49.9	-0.2
PAWZ				S	Sb	17 31 03.7	+0.9
KHZ	**Kahutara**	**0.92**	**216**	P	Pg	17 30 50.2	0.0
KHZ				S	Sb	17 31 03.2	+0.4
MTW	**Mount Morrison**	**1.06**	**61**	P	Pg	17 30 52.0	-0.9
MTW				S	Sb	17 31 07.3	+0.3
OGWZ	**Otaki Gorge**	**1.09**	**38**	P	Pn	17 30 53.7	-0.1
OGWZ				S	Sb	17 31 08.2	+0.2

WEL 13 17:35:16.9±0.4, 42°S±2°×17°4E±°, h6km±3km, M3.7/17, ML4.0/17, MLv3.7/17, Error ellipse: s-maj=0.0km s-min=0.0km az=179.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**154**	P	Pg	17 35 19.8	+1.3
CMWZ				S	Sg	17 35 22.4	+2.8
BSWZ	**Blackbirch Sta**	**0.23**	**265**	P	Pg	17 35 22.7	+1.2
BSWZ				S	Sg	17 35 27.0	+2.5
TUWZ	**Tuamarina**	**0.32**	**326**	P	Pg	17 35 24.0	+0.8
TUWZ				S	Sb	17 35 29.1	-1.3
TCW	**Tory Channel**	**0.49**	**8**	P	Pg	17 35 26.6	+0.2
TCW				S	Sg	17 35 33.7	+0.9
BHW	**Baring Head**	**0.59**	**61**	P	Pg	17 35 28.5	+0.1
WEL	**Wellington**	**0.60**	**47**	P	Pg	17 35 29.1	+0.5
WEL				S	Sb	17 35 37.8	-0.8
NNZ	**Nelson**	**0.77**	**308**	P	Pg	17 35 32.0	+0.3
PLWZ	**Palliser**	**0.81**	**81**	P	Pg	17 35 32.8	+0.2
PLWZ				S	Sb	17 35 46.1	+1.3
MSWZ	**Moikau Station**	**0.85**	**71**	P	Pg	17 35 33.4	+0.2
MSWZ				S	Sb	17 35 46.9	+1.2
CAW	**Cannon Point**	**0.89**	**49**	P	Pg	17 35 34.0	0.0
DUWZ	**D'Urville Isla**	**0.92**	**348**	P	Pg	17 35 34.1	-0.4
DUWZ				S	Sg	17 35 46.8	+0.4
THZ	**Tophouse**	**0.96**	**266**	P	Pb	17 35 35.6	-0.3
PAWZ	**Paruwai Farm**	**0.99**	**72**	P	Pg	17 35 34.8	-1.1
PAWZ				S	Sb	17 35 49.9	+0.2
KIW	**Kapiti Island**	**1.00**	**34**	P	Pg	17 35 35.6	-0.5
KIW				S	Sg	17 35 49.1	+0.1
MRNZ	**Matariki Terra**	**1.11**	**285**	P	Pb	17 35 38.5	0.0
MRNZ				S	Sb	17 35 53.7	+0.5
MTW	**Mount Morrison**	**1.13**	**62**	P	Pg	17 35 37.2	-1.4
MTW				S	Sn	17 35 54.6	-0.5
TKNZ	**Takaka Hill**	**1.13**	**305**	P	Pg	17 35 38.6	-0.1
TKNZ				S	Sb	17 35 54.1	+0.2
OGWZ	**Otaki Gorge**	**1.15**	**41**	P	Pg	17 35 38.4	-0.6
TRWZ	**Traveller**	**1.17**	**76**	P	Pg	17 35 37.0	-2.4
TRWZ				S	Sg	17 35 54.4	-0.2
HOWZ	**Holdsworth Sta**	**1.28**	**52**	P	Pn	17 35 39.9	-1.5
TMWZ	**Te Maipa**	**1.42**	**66**	P	Pn	17 35 40.2	-3.0
MRZ	**Mangatainoka R**	**1.48**	**46**	P	Pn	17 35 42.8	-1.0
QRZ	**Quartz Range**	**1.52**	**304**	P	Pn	17 35 44.6	0.0
QRZ				S	Sb	17 36 05.0	0.0
OHWZ	**Ohakea**	**1.72**	**30**	P	Pn	17 35 47.8	+0.4
PRWZ	**Pori Road**	**1.77**	**50**	P	Pn	17 35 46.2	-1.9
POWZ	**Post Office Ro**	**1.77**	**43**	P	Pn	17 35 47.1	-1.0
DSZ	**Denniston Nort**	**1.78**	**268**	P	Pb	17 35 49.1	-0.8
DSZ				S	Sg	17 36 13.7	-0.4
LTZ	**Lake Taylor**	**1.79**	**232**	P	Pb	17 35 50.5	+0.5
WAZ	**Wanganui**	**2.03**	**18**	P	Pb	17 35 53.4	-0.9
TSZ	**Takapari Road**	**2.12**	**40**	P	Pn	17 35 51.2	-1.7
INZ	**Inchbonnie**	**2.28**	**242**	P	Pb	17 35 57.2	-1.2
NMEZ	**Namu Road**	**2.29**	**354**	P	Pb	17 35 59.1	+0.5
PNHZ	**Pukenui**	**2.35**	**41**	P	Pb	17 35 59.5	-0.2
KHEZ	**Kahui Hut**	**2.40**	**357**	P	Pb	17 36 00.5	-0.2
NBEZ	**Newall Road No**	**2.44**	**354**	P	Pb	17 36 01.4	+0.3
DREZ	**Durham Road**	**2.50**	**0**	P	Pb	17 36 03.1	+0.8
PKE	**Pukeiti**	**2.50**	**357**	P	Pb	17 36 01.9	-0.4
MOVZ	**Moawhango**	**2.58**	**28**	P	Pb	17 36 01.8	-1.8
WNVZ	**Wahianoa**	**2.60**	**25**	P	Pb	17 36 02.8	-1.2
TRVZ	**Turoa**	**2.61**	**24**	P	Pb	17 36 02.9	-1.4
BHHZ	**Black Hill Sta**	**2.63**	**34**	P	Pb	17 36 04.2	-0.3
DRZ	**Dome Shelter**	**2.64**	**24**	P	Pb	17 36 05.5	+0.7
WHVZ	**Whangaehu Hut**	**2.64**	**24**	P	Pb	17 36 02.8	-1.9
FWVZ	**Far West T-bar**	**2.65**	**24**	P	Pb	17 36 03.2	-1.8
TUVZ	**Tukino**	**2.67**	**25**	P	Pb	17 36 03.3	-2.0
NGZ	**Ngauruhoe**	**2.74**	**24**	P	Pb	17 36 05.4	-1.0
SNVZ	**South Ngauruho**	**2.74**	**24**	P	Pb	17 36 04.6	-1.9
OTVZ	**Oturere**	**2.77**	**25**	P	Pb	17 36 05.9	-1.1
NNVZ	**North Ngauruho**	**2.79**	**24**	P	Pb	17 36 06.0	-1.2
TWVZ	**Taurewa**	**2.79**	**21**	P	Pb	17 36 05.6	-1.7
WTVZ	**West Tongariro**	**2.79**	**23**	P	Pb	17 36 06.8	-0.5
ETVZ	**East Tongariro**	**2.81**	**25**	P	Pb	17 36 05.7	-1.9
KRVZ	**Karewarewa**	**2.83**	**24**	P	Pb	17 36 07.1	-0.8
TMVZ	**Te Maari**	**2.83**	**25**	P	Pb	17 36 06.1	-1.7
NTVZ	**North Tongarir**	**2.84**	**24**	P	Pb	17 36 05.4	-2.6
KWHZ	**Kaweka Forest**	**2.84**	**38**	P	Pb	17 36 09.2	+1.1
WVZ	**Waitaha Valley**	**2.90**	**241**	P	Pb	17 36 06.8	-2.2
KATZ	**Kakaramea**	**2.96**	**24**	P	Pb	17 36 09.6	-0.5
RPZ	**Rata Peaks**	**3.06**	**228**	P	Pb	17 36 12.8	+0.9
RATZ	**Rangitikua**	**3.08**	**24**	P	Pb	17 36 12.9	+0.8
BKZ	**Black Stump Fm**	**3.08**	**36**	P	Pb	17 36 12.4	+0.2
GCSZ	**Gaunt Creek Bo**	**3.28**	**239**	P	Pb	17 36 12.7	-2.7
MRHZ	**Matea Rd**	**3.33**	**32**	P	Pb	17 36 16.3	-0.1
TLZ	**Tolley Road**	**3.52**	**18**	P	Pb	17 36 18.3	-1.4
MARZ	**Manawahe**	**4.17**	**28**	P	Pn	17 36 22.8	+1.7
JCZ	**Jackson Bay**	**4.62**	**237**	P	Pn	17 36 30.2	+2.8
MKAZ	**Moumakai**	**4.65**	**10**	P	Pn	17 36 28.6	+1.0
CTZ	**Chatham Island**	**7.08**	**110**	P	Pn	17 36 58.7	-2.3

WEL 13 17:38:06.4±0.6, 42°S±3°×17°4E±°, h5km, M3.9/19, ML4.7/13, MLv3.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=113.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**309**	P	Pg	17 38 09.3	+0.8
KHZ				S	Sg	17 38 10.3	+0.5
GVZ	**Greta Valley S**	**0.66**	**222**	P	Pb	17 38 20.8	+0.3
GVZ				S	Sb	17 38 31.0	+1.0
THZ	**Tophouse**	**0.90**	**322**	P	Pg	17 38 23.6	-0.1
THZ				S	Sn	17 38 38.4	-0.9
AMCZ	**Amberley**	**1.01**	**226**	P	Pb	17 38 26.4	0.0
LTZ	**Lake Taylor**	**1.06**	**253**	P	Pg	17 38 26.7	0.0
LTZ				S	Sg	17 38 40.5	+0.1
TUWZ	**Tuamarina**	**1.07**	**12**	P	Pg	17 38 25.7	-1.3
TUWZ				S	Sg	17 38 39.8	-1.0
MRNZ	**Matariki Terra**	**1.27**	**328**	P	Pn	17 38 31.1	+0.3
NNZ	**Nelson**	**1.28**	**351**	P	Pb	17 38 31.2	+0.3
OKCZ	**Okains Bay**	**1.32**	**199**	P	Pn	17 38 31.1	-0.4
MQZ	**McQueen's Vall**	**1.43**	**210**	P	Pn	17 38 31.7	-1.2
OXZ	**Oxford**	**1.45**	**234**	P	Pn	17 38 32.2	-1.1
AKCZ	**Akaroa Harbour**	**1.49**	**201**	P	Pn	17 38 33.2	-0.7
TKNZ	**Takaka Hill**	**1.53**	**340**	P	Pg	17 38 35.7	-0.1
RACZ	**Rakaia**	**1.67**	**221**	P	Pn	17 38 35.0	-1.2
QRZ	**Quartz Range**	**1.85**	**333**	P	Pb	17 38 40.4	-0.3
WACZ	**Wakanui South**	**1.97**	**221**	P	Pn	17 38 39.2	-1.2
WVZ	**Waitaha Valley**	**2.22**	**253**	P	Pn	17 38 44.7	+0.8
RPZ	**Rata Peaks**	**2.26**	**236**	P	Pn	17 38 43.4	-1.1
ARCZ	**Arundel**	**2.33**	**230**	P	Pn	17 38 44.1	-1.2
AWAZ	**Awhitu Peninsu**	**5.46**	**8**	P	Pn	17 39 30.3	+1.8
MKAZ	**Moumakai**	**5.49**	**13**	P	Pn	17 39 30.5	+1.6
ETAZ	**East Tamaki Re**	**5.61**	**11**	P	Pn	17 39 32.5	+2.1
WIAZ	**Waiheke Island**	**5.79**	**12**	P	Pn	17 39 34.7	+1.7
APZ	**The Paps**	**5.93**	**221**	P	Pn	17 39 33.8	-1.1

NEIC ***13*** *17:38:52.4±3.0, 42°38S±0°03×174°24E±0°06, h10km±1km, mb4.2/4, Error ellipse: s-maj=7.7km s-min=3.5km az=112.0*

IDC ***13*** *17:38:57.1±1.3, 42°40S×173°37E, h0km, mb4.1/6, mbtmp4.1/7, ML4.4/1, Error ellipse: s-maj=36.4km s-min=29.5km az=78.0*

WEL ***13*** *17:38:59.7±0.3, 42°S±2°×17°3E±°, h12km±2km, M4.0/13, ML4.9/12, MLv4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=130.1*

ISC 13 17:38:59.9±1.2, 42°48S±0°03×173°17E±0°04, h13km±8km, n36, σ0°80/49, mb4.2/8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**78**	P	**Pg**	**17 39 05.8**	**+0.1**
KHZ				S	**Sb**	**17 39 11.0**	**-0.5**
GVZ	**Greta Valley S**	**0.50**	**191**	Pg	**Pb**	**17 39 10.9**	**+0.4**
GVZ	**Greta Valley S**	**0.50**	**191**	P	**Pb**	**17 39 11.1**	**+0.5**
GVZ				S	**Sb**	**17 39 19.0**	**+1.2**
LTZ	**Lake Taylor**	**0.73**	**245**		**Pb**	**17 39 14.4**	**0.0**
LTZ	**Lake Taylor**	**0.73**	**245**	P	**Pb**	**17 39 14.5**	**0.0**
LTZ				S	**Sb**	**17 39 24.2**	**-0.1**
THZ	**Tophouse**	**0.74**	**345**		**Pb**	**17 39 14.9**	**+0.2**
THZ	**Tophouse**	**0.74**	**345**	P	**Pb**	**17 39 14.9**	**+0.2**
AMCZ	**Amberley**	**0.80**	**208**	P	**Pn**	**17 39 16.7**	**-0.1**
AMCZ				S	**Sn**	**17 39 29.5**	**+1.0**
OXZ	**Oxford**	**1.19**	**224**	P	**Pn**	**17 39 22.2**	**-0.1**
OXZ				S	**Sg**	**17 39 38.1**	**-0.1**
MQZ	**McQueen's Vall**	**1.28**	**197**	Pn	**Pn**	**17 39 22.5**	**-1.0**
MQZ	**McQueen's Vall**	**1.28**	**197**	P	**Pn**	**17 39 22.6**	**-1.0**
MQZ				S	**Sb**	**17 39 38.5**	**-1.8**
AKCZ	**Akaroa Harbour**	**1.41**	**188**	P	**Pn**	**17 39 24.7**	**-0.5**
AKCZ				S	**Sn**	**17 39 43.7**	**0.0**
RACZ	**Rakaia**	**1.46**	**211**	P	**Pn**	**17 39 25.3**	**-0.6**
RACZ				S	**Sn**	**17 39 43.6**	**-1.3**
QRZ	**Quartz Range**	**1.72**	**344**	Pg	**Pn**	**17 39 29.4**	**-0.1**
QRZ	**Quartz Range**	**1.72**	**344**	P	**Pb**	**17 39 30.2**	**-1.1**
WACZ	**Wakanui South**	**1.76**	**213**	P	**Pn**	**17 39 29.5**	**-0.5**
WACZ				S	**Sn**	**17 39 51.6**	**-0.7**
WVZ	**Waitaha Valley**	**1.89**	**251**	P	**Pn**	**17 39 32.8**	**+1.0**
WVZ				S	**Sb**	**17 39 56.6**	**-1.0**
RPZ	**Rata Peaks**	**1.98**	**231**	Pn	**Pn**	**17 39 33.2**	**+0.1**
	123nm,0.3s,baz=26,slow=9.5,SNR=10						
RPZ				Sn	**Sn**	**17 39 57.0**	**-0.9**

ML5.1/8,MLv4.8/8,Error ellipse: s-maj=0.0km s-min=0.0km az=109.4

ISC 13 17:39:26.5±0.8,42°33S±0.03″×173°49E±0.04,h24km±5km, n50,σ1s30/59,mb4.5/13,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**158**	Pg	**Pb**	**17 39 29.5**	**-1.5**
KHZ	**Kahutara**	**0.10**	**158**	P	**Pb**	**17 39 31.8**	**+0.9**
KHZ				S	**Sb**	**17 39 34.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.68**	**25**	Pg	**Pb**	**17 39 39.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.68**	**25**	P	**Pb**	**17 39 39.3**	**-0.3**
BSWZ				S	**Sn**	**17 39 49.9**	**-0.5**
THZ	**Tophouse**	**0.71**	**322**	Pg	**Pb**	**17 39 40.2**	**-0.1**
GVZ	**Greta Valley S**	**0.72**	**208**	Pg	**Pb**	**17 39 40.7**	**+0.2**
TUWZ	**Tuamarina**	**0.96**	**21**	Pg	**Pn**	**17 39 44.6**	**+0.1**
TUWZ	**Tuamarina**	**0.96**	**21**	P	**Pn**	**17 39 44.5**	**0.0**
TUWZ				S	**Sn**	**17 39 57.6**	**+0.2**
LTZ	**Lake Taylor**	**1.01**	**243**		**Pb**	**17 39 47.1**	**+1.8**
MRNZ	**Matariki Terra**	**1.08**	**329**	P	**Pb**	**17 39 47.7**	**+1.3**
MRNZ				S	**Sn**	**17 40 03.9**	**+3.5**
NNZ	**Nelson**	**1.11**	**356**	P	**Pb**	**17 39 47.6**	**+0.5**
NNZ				S	**Sn**	**17 40 03.1**	**+1.9**
TKNZ	**Takaka Hill**	**1.35**	**343**	P	**Pb**	**17 39 52.0**	**+0.9**
TKNZ				S	**Sb**	**17 40 10.1**	**+2.1**
SNZO	**South Karori**	**1.36**	**42**	Pn	**Pn**	**17 39 50.1**	**+0.1**
MQZ	**McQueen's Vall**	**1.51**	**204**	Pn	**Pn**	**17 39 52.2**	**+0.1**
DUWZ	**D'Urville Isla**	**1.56**	**12**	P	**Pb**	**17 39 54.7**	**0.0**
DUWZ				S	**Sb**	**17 40 14.5**	**+0.5**
QRZ	**Quartz Range**	**1.66**	**334**	Pn	**Pn**	**17 39 53.1**	**-1.1**
QRZ	**Quartz Range**	**1.66**	**334**	P	**Pn**	**17 39 53.1**	**-1.1**
QRZ				S	**Sb**	**17 40 18.5**	**+1.5**
KIW	**Kapiti Island**	**1.81**	**36**	P	**Pb**	**17 40 00.2**	**+1.2**
MTW	**Mount Morrison**	**1.91**	**53**	P	**Pb**	**17 40 03.3**	**+2.7**
OGWZ	**Otaki Gorge**	**1.97**	**40**	P	**Pb**	**17 40 03.2**	**+1.6**
OGWZ				S	**Sb**	**17 40 29.6**	**+4.0**
RPZ	**Rata Peaks**	**2.26**	**231**	Pn	**Pn**	**17 40 03.7**	**+1.3**
	481nm,0.3s,baz=82,slow=3.5,SNR=15 2µm,0.5s						
RPZ	**Rata Peaks**	**2.26**	**231**	Pn	**Pn**	**17 40 02.1**	**-0.4**
FOZ	**Fox Glacier**	**2.96**	**245**	Pn	**Pn**	**17 40 12.1**	**+0.1**
LBZ	**Lake Benmore**	**3.17**	**228**		**Pn**	**17 40 16.1**	**+1.1**
ODZ	**Otahua Downs**	**3.41**	**216**		**Pn**	**17 40 18.8**	**+0.5**
MLZ	**Mavora Lakes**	**4.93**	**230**	Pn	**Pn**	**17 40 40.1**	**+0.9**
WHZ	**Wether Hill Ro**	**5.35**	**226**	Pn	**Pn**	**17 40 45.6**	**+0.7**
LIFNC	**LIFOU**	**22.12**	**344**	P	**P**	**17 44 18.7**	**-1.6**
MSVF	**Nonsavu**	**24.82**	**10**	P	**P**	**17 44 45.1**	**-1.9**
MSVF				IAmb	IAmb	17 44 47.1	
	comp=Z,16nm,1.0s						
BBOO	**Buckleboo**	**30.94**	**275**	P	**P**	**17 45 40.3**	**-1.3**
VNDA	**Vanda**	**35.63**	**184**	P	**P**	**17 46 20.6**	**-1.4**
AS31	**Alice Springs**	**37.65**	**287**	P	**P**	**17 46 38.4**	**-1.4**
ASAR	**Alice Springs**	**37.65**	**287**	P	**P**	**17 46 40.2**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=123,slow=6.8,SNR=11 comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**37.65**	**287**	P	**P**	**17 46 40.3**	**+0.5**
COEN	**Coen**	**38.53**	**308**	P	**P**	**17 46 46.1**	**-1.1**
COEN				IAmb	IAmb	17 46 55.4	
	comp=Z,9.2nm,1.1s						
WR0	**Warramunga Arr**	**39.63**	**292**	P	**P**	**17 46 55.9**	**-0.5**
WR0				IAmb	IAmb	17 46 58.0	
	comp=Z,5.2nm,1.1s						
WB2	**Warramunga Arr**	**39.77**	**292**	P	**P**	**17 46 58.0**	**+0.3**
WB2				IAmb	IAmb	17 47 04.9	
	comp=Z,25nm,1.4s						
WRA	**Warramunga Arr**	**39.78**	**292**	P	**P**	**17 46 58.2**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=128,slow=7.9,SNR=10.0 comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**39.78**	**292**	P	**P**	**17 46 58.5**	**+0.8**
WB0	**Warramunga Arr**	**39.87**	**292**	P	**P**	**17 46 58.4**	**0.0**
WB0				IAmb	IAmb	17 47 05.1	
	comp=Z,6.0nm,0.8s						
RABL	**Rabaul**	**42.47**	**328**	P	**P**	**17 47 19.0**	**-0.8**
RABL				IAmb	IAmb	17 47 21.0	
	comp=Z,23nm,0.8s						
KNRA	**Kununurra**	**46.55**	**291**	P	**P**	**17 47 54.0**	**+1.5**
KNRA				IAmb	IAmb	17 47 56.0	
	comp=Z,20nm,1.2s						
MTN	**Manton Dam**	**46.95**	**296**	P	**P**	**17 47 53.8**	**-1.8**
QSPA	**South Pole Qui**	**47.80**	**180**	P	**P**	**17 48 03.0**	**+1.2**
QSPA				IAmb	IAmb	17 48 17.5	
	comp=Z,13nm,1.3s						
SNAA	**Sanae**	**66.28**	**181**	P	**P**	**17 50 12.2**	**-0.1**
SNAA				IAmb	IAmb	17 50 21.5	
	comp=Z,8.6nm,1.2s						
KSRS	**Korea Array**	**89.61**	**325**	P	**P**	**17 52 22.4**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=141,slow=5.9,SNR=5.8 comp=Z,1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.35**	**294**	P	**P**	**17 52 31.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=150,slow=2.4,SNR=4.6 comp=Z,0.6nm,0.6s						
SFJD	**Kangerlussuaq**	**145.71**	**29**	PKPbc	**PKPdf**	**17 59 01.8**	**+0.1**
	comp=Z,4.8nm,0.5s,baz=300,slow=2.9,SNR=6.3						
ARCES	**ARCESS Array B**	**148.12**	**339**	PKPbc	**PKPbc**	**17 59 08.0**	**-1.0**
	comp=Z,4.2nm,0.8s,baz=28,slow=2.9,SNR=6.2						
BRTR	**Keskin Array B**	**149.79**	**279**	PKPbc	**PKPbc**	**17 59 14.2**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=138,slow=5.1,SNR=10						

WEL 13 17:41:39.7±0.2,42°S±2″×17°4E±″,h13km±2km,M4.2/25, ML4.5/25,MLv4.2/25,Error ellipse: s-maj=0.0km s-min=0.0km az=121.2,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.23**	**197**	P	Pb	17 41 45.5	-0.2
KHZ				S	Sb	17 41 49.6	-0.1
BSWZ	**Blackbirch Sta**	**0.51**	**21**	P	Pg	17 41 50.0	+0.2
BSWZ				S	Sb	17 41 57.6	-0.2
THZ	**Tophouse**	**0.69**	**308**	P	Pg	17 41 52.2	-1.0
THZ				S	Sg	17 42 00.9	-1.4
TUWZ	**Tuamarina**	**0.80**	**17**	P	Pb	17 41 55.3	-0.1
TUWZ				S	Sb	17 42 06.7	+0.7
GVZ	**Greta Valley S**	**0.89**	**210**	P	Pn	17 41 58.1	+0.3
GVZ				S	Sn	17 42 11.5	+1.0
NNZ	**Nelson**	**1.00**	**349**	P	Pb	17 41 58.1	-0.7
NNZ				S	Sb	17 42 11.1	-0.7
MRNZ	**Matariki Terra**	**1.03**	**320**	P	Pb	17 41 58.7	-0.6
TCW	**Tory Channel**	**1.10**	**26**	P	Pb	17 42 00.3	-0.2
TCW				S	Sn	17 42 16.3	+0.7
LTZ	**Lake Taylor**	**1.17**	**239**	P	Pb	17 42 01.3	-0.4
AMCZ	**Amberley**	**1.22**	**216**	P	Pn	17 42 02.3	-0.1
WEL	**Wellington**	**1.25**	**43**	P	Pb	17 42 03.2	+0.2
WEL				S	Sg	17 42 20.5	+0.6
TKNZ	**Takaka Hill**	**1.27**	**336**	P	Pn	17 42 02.9	-0.2
TKNZ				S	Sb	17 42 18.8	-0.7
DUWZ	**D'Urville Isla**	**1.41**	**9**	P	Pb	17 42 05.5	-0.3
DUWZ				S	Sb	17 42 24.0	+0.3
DSZ	**Denniston Nort**	**1.44**	**288**	P	Pb	17 42 06.2	-0.1
DSZ				S	Sb	17 42 25.1	+0.7
MSWZ	**Moikau Station**	**1.44**	**58**	P	Pn	17 42 05.2	-0.2
MSWZ				S	Sn	17 42 23.5	-0.6
CAW	**Cannon Point**	**1.53**	**45**	P	Pn	17 42 06.9	+0.3
CAW				S	Sb	17 42 27.0	-0.1
PAWZ	**Paruwai Farm**	**1.57**	**59**	P	Pn	17 42 06.8	-0.4
PAWZ				S	Sn	17 42 26.5	-0.9
OKCZ	**Okains Bay**	**1.58**	**195**	P	Pn	17 42 07.1	-0.3
OKCZ				S	Sn	17 42 26.5	-1.3
QRZ	**Quartz Range**	**1.60**	**328**	P	Pb	17 42 08.5	-0.5
QRZ				S	Sb	17 42 28.8	-0.3
OXZ	**Oxford**	**1.63**	**226**	P	Pn	17 42 07.2	-0.9
KIW	**Kapiti Island**	**1.64**	**36**	P	Pn	17 42 08.8	+0.6
MQZ	**McQueen's Vall**	**1.67**	**205**	P	Pn	17 42 07.3	-1.3
INZ	**Inchbonnie**	**1.70**	**251**	P	Pn	17 42 09.7	+0.6
MTW	**Mount Morrison**	**1.74**	**54**	P	Pn	17 42 09.1	-0.5
AKCZ	**Akaroa Harbour**	**1.76**	**197**	P	Pn	17 42 09.0	-0.8
OGWZ	**Otaki Gorge**	**1.80**	**40**	P	Pn	17 42 10.5	+0.2
RACZ	**Rakaia**	**1.88**	**215**	P	Pn	17 42 10.3	-1.2
MRZ	**Mangatainoka R**	**2.12**	**44**	P	Pn	17 42 14.4	-0.3
WACZ	**Wakanui South**	**2.19**	**216**	P	Pn	17 42 14.6	-1.0
WVZ	**Waitaha Valley**	**2.31**	**247**	P	Pn	17 42 17.8	+0.4
RPZ	**Rata Peaks**	**2.43**	**230**	P	Pn	17 42 18.3	-0.7
TUVZ	**Tukino**	**3.30**	**28**	P	Pn	17 42 32.3	+1.1
MRHZ	**Matea Rd**	**3.97**	**33**	P	Pn	17 42 38.9	-1.4

WEL 13 17:42:16.7±0.3,42°S±2″×17°4E±″,h11km±2km,M4.2/17, ML4.7/17,MLv4.2/17,Error ellipse: s-maj=0.0km s-min=0.0km az=105.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**184**	P	Pb	17 42 21.9	-0.4
KHZ				S	Sg	17 42 25.3	+1.7
BSWZ	**Blackbirch Sta**	**0.56**	**25**	P	Pg	17 42 27.9	+0.3
BSWZ				S	Sb	17 42 36.2	-0.3
THZ	**Tophouse**	**0.67**	**313**	P	Pg	17 42 29.3	-0.4
THZ				S	Sg	17 42 38.8	+0.3
GVZ	**Greta Valley S**	**0.84**	**207**	P	Pn	17 42 34.2	-0.3
GVZ				S	Sn	17 42 47.3	+0.4
TUWZ	**Tuamarina**	**0.84**	**20**	P	Pb	17 42 33.3	0.0
TUWZ				S	Sb	17 42 45.2	+0.6
NNZ	**Nelson**	**1.01**	**352**	P	Pg	17 42 36.1	-0.1
NNZ				S	Sg	17 42 48.9	-0.4
MRNZ	**Matariki Terra**	**1.02**	**324**	P	Pg	17 42 36.1	-0.1
MRNZ				S	Sn	17 42 50.8	-0.5
LTZ	**Lake Taylor**	**1.10**	**239**	P	Pb	17 42 37.4	-0.5
LTZ				S	Sn	17 42 53.1	-0.4
TCW	**Tory Channel**	**1.15**	**28**	P	Pb	17 42 38.2	-0.3
TCW				S	Sn	17 42 54.7	+0.4
AMCZ	**Amberley**	**1.17**	**215**	P	Pg	17 42 39.8	+0.7
TKNZ	**Takaka Hill**	**1.27**	**339**	P	Pb	17 42 40.5	-0.1
TKNZ				S	Sb	17 42 56.7	-0.3
WEL	**Wellington**	**1.30**	**44**	P	Pn	17 42 40.5	-0.3
DSZ	**Denniston Nort**	**1.39**	**289**	P	Pb	17 42 43.0	+0.3
DSZ				S	Sg	17 43 01.8	+0.3
DUWZ	**D'Urville Isla**	**1.45**	**11**	P	Pn	17 42 42.4	-0.4
DUWZ				S	Sg	17 43 02.9	-0.3
MSWZ	**Moikau Station**	**1.50**	**58**	P	Pn	17 42 42.4	-1.2
OKCZ	**Okains Bay**	**1.54**	**194**	P	Pn	17 42 42.9	-1.3
OKCZ				S	Sn	17 43 03.6	-0.7
QRZ	**Quartz Range**	**1.59**	**331**	P	Pb	17 42 45.9	-0.3
QRZ				S	Sb	17 43 06.3	0.0
MQZ	**McQueen's Vall**	**1.62**	**204**	P	Pn	17 42 43.6	-1.7
MQZ				S	Sn	17 43 03.1	-3.1
INZ	**Inchbonnie**	**1.64**	**252**	P	Pn	17 42 45.5	0.0
INZ				S	Sb	17 43 07.4	-0.4
AKCZ	**Akaroa Harbour**	**1.72**	**196**	P	Pn	17 42 45.3	-1.2
AKCZ				S	Sn	17 43 07.2	-1.4
RACZ	**Rakaia**	**1.83**	**214**	P	Pn	17 42 46.8	-1.3
RACZ				S	Sn	17 43 09.9	-1.4

IDC 13 17:42:50.5±1.1,42°14S×173°74E,h0km,mb4.3/5, mbtmp4.3/5,MS4.2/1,Error ellipse: s-maj=45.0km s-min=28.9km az=39.0

NEIC 13 17:42:50.3±1.5,42°30S±0.03″×173°98E±0.08,h10km±2km, mb4.7/10,Error ellipse: s-maj=10.5km s-min=3.0km az=115.0

WEL 13 17:42:50.2±0.4,42°S±2″×17°4E±″,h12km,M4.6/15, ML4.9/15,MLv4.6/15,Error ellipse: s-maj=0.0km s-min=0.0km az=124.4

ISC 13 17:42:51.2±1.1,42°27S±0.03″×173°92E±0.03,h13km±6km, n57,σ1s16/78,mb4.5/11,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**242**		**Pg**	**17 42 57.6**	**-0.1**
KHZ	**Kahutara**	**0.32**	**242**	P	**Pg**	**17 42 57.5**	**-0.1**
KHZ				S	**Sg**	**17 43 03.0**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.56**	**357**		**Pg**	**17 43 02.0**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.56**	**357**	P	**Pg**	**17 43 01.6**	**-0.5**
BSWZ				S	**Sn**	**17 43 11.6**	**-2.2**
CMWZ	**Cape Campbell**	**0.57**	**23**		**Pb**	**17 43 03.2**	**+0.3**
TUWZ	**Tuamarina**	**0.84**	**1**		**Pb**	**17 43 07.2**	**-0.4**
TUWZ	**Tuamarina**	**0.84**	**1**	P	**Pg**	**17 43 07.4**	**0.0**
TUWZ				S	**Sn**	**17 43 21.6**	**+0.9**
THZ	**Tophouse**	**0.91**	**304**		**Pg**	**17 43 08.3**	**-0.5**
THZ	**Tophouse**	**0.91**	**304**	P	**Pg**	**17 43 08.2**	**-0.5**
THZ				S	**Sn**	**17 43 21.7**	**-0.9**
GVZ	**Greta Valley S**	**0.95**	**223**	Pn	**Pb**	**17 43 09.8**	**+0.3**
GVZ	**Greta Valley S**	**0.95**	**223**	P	**Pb**	**17 43 09.5**	**0.0**
GVZ				S	**Sn**	**17 43 24.6**	**+0.9**
TCW	**Tory Channel**	**1.09**	**14**	P	**Pb**	**17 43 10.8**	**-1.1**
TCW				S	**Sn**	**17 43 27.6**	**+0.5**
SNZO	**South Karori**	**1.13**	**32**	Pn	**Pb**	**17 43 11.3**	**-1.1**
NNZ	**Nelson**	**1.13**	**339**		**Pb**	**17 43 11.9**	**-0.5**
NNZ	**Nelson**	**1.13**	**339**	P	**Pn**	**17 43 12.3**	**-0.3**
NNZ				S	**Sn**	**17 43 29.7**	**+1.8**
WEL	**Wellington**	**1.17**	**33**	P	**Pn**	**17 43 11.8**	**-1.4**
WEL				S	**Sg**	**17 43 29.7**	**+0.7**
MRNZ	**Matariki Terra**	**1.23**	**315**	P	**Pg**	**17 43 14.3**	**-0.5**
MRNZ				S	**Sg**	**17 43 33.5**	**+2.7**
AMCZ	**Amberley**	**1.30**	**225**	P	**Pn**	**17 43 12.7**	**-2.2**
MSWZ	**Moikau Station**	**1.31**	**50**	P	**Pn**	**17 43 12.9**	**-2.2**
MSWZ				S	**Sn**	**17 43 32.6**	**+0.2**
LTZ	**Lake Taylor**	**1.32**	**247**	P	**Pn**	**17 43 15.2**	**-0.1**
LTZ				S	**Sg**	**17 43 33.6**	**-0.1**
TKNZ	**Takaka Hill**	**1.43**	**330**	P	**Pb**	**17 43 17.3**	**-0.3**
TKNZ				S	**Sg**	**17 43 38.7**	**+1.5**
PAWZ	**Paruwai Farm**	**1.44**	**52**	P	**Pn**	**17 43 15.7**	**-1.2**
PAWZ				S	**Sn**	**17 43 35.3**	**-0.3**
CAW	**Cannon Point**	**1.45**	**37**	P	**Pn**	**17 43 15.7**	**-1.2**
CAW				S	**Sn**	**17 43 34.9**	**-0.9**
DUWZ	**D'Urville Isla**	**1.47**	**0**	P	**Pb**	**17 43 15.8**	**-0.5**
DUWZ				S	**Sg**	**17 43 39.5**	**+1.1**
OKCZ	**Okains Bay**	**1.58**	**203**	P	**Pn**	**17 43 18.2**	**-0.7**
DSZ	**Denniston Nort**	**1.66**	**288**	P	**Pg**	**17 43 21.9**	**-1.1**
DSZ				S	**Sg**	**17 43 45.0**	**+0.4**
MQZ	**McQueen's Vall**	**1.71**	**212**	S	**Sn**	**17 43 40.3**	**-1.9**
AKCZ	**Akaroa Harbour**	**1.76**	**204**	S	**Sn**	**17 43 42.6**	**-1.0**
QRZ	**Quartz Range**	**1.78**	**324**	P	**Pb**	**17 43 23.5**	**-0.1**
QRZ				S	**Sg**	**17 43 47.7**	**-0.7**
RACZ	**Rakaia**	**1.96**	**221**	S	**Sn**	**17 43 47.9**	**-0.4**
MRZ	**Mangatainoka R**	**2.04**	**38**		**Pn**	**17 43 24.2**	**-0.8**
MRZ	**Mangatainoka R**	**2.04**	**38**	P	**Pn**	**17 43 23.5**	**-1.6**
MRZ				S	**Sn**	**17 43 50.1**	**-0.2**
WACZ	**Wakanui South**	**2.26**	**222**	P	**Pn**	**17 43 29.4**	**+1.3**
WACZ				S	**Sn**	**17 43 55.2**	**-0.6**
WVZ	**Waitaha Valley**	**2.48**	**250**	P	**Pb**	**17 43 33.5**	**-2.0**
WVZ				S	**Sn**	**17 44 00.9**	**-0.4**
RPZ	**Rata Peaks**	**2.55**	**235**	P	**Pn**	**17 43 31.4**	**-0.8**
RPZ				S	**Sn**	**17 43 59.0**	**-0.9**
EIDS	**Eidsvold**	**25.26**	**305**	P	**P**	**17 48 15.3**	**-1.6**
EIDS				IAmb	IAmb	17 48 21.2	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**37.94**	**286**	P	**P**	**17 50 08.3**	**-0.1**
ASAR	**Alice Springs**	**37.94**	**286**	P	**P**	**17 50 08.2**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=123,slow=6.6,SNR=13						
ASAR				LR	LR	18 05 15.2	
	comp=Z,341nm,18.4s,baz=188,slow=36 comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**37.94**	**286**	P	**P**	**17 50 08.3**	**-0.1**
FORT	**Forrest**	**38.18**	**272**	P	**P**	**17 50 09.7**	**-0.5**
FORT				IAmb	IAmb	17 50 13.0	
	comp=Z,22nm,0.9s						
WR0	**Warramunga Arr**	**39.91**	**292**	P	**P**	**17 50 24.2**	**-0.7**
WR0				IAmb	IAmb	17 50 26.8	
	comp=Z,8.7nm,1.1s						
WB2	**Warramunga Arr**	**40.05**	**291**	P	**P**	**17 50 25.6**	**-0.4**
WB2				IAmb	IAmb	17 50 29.2	
	comp=Z,7.7nm,0.7s						
WRA	**Warramunga Arr**	**40.06**	**291**	P	**P**	**17 50 25.6**	**-0.5**
	comp=Z,4.7nm,0.6s,baz=130,slow=7.4,SNR=17 comp=Z,4.7nm,0.6s						
WRA	**Warramunga Arr**	**40.06**	**291**	P	**P**	**17 50 25.9**	**-0.2**
WB0	**Warramunga Arr**	**40.14**	**292**	P	**P**	**17 50 24.1**	**-2.7**
WB0				IAmb	IAmb	17 50 30.8	
	comp=Z,20nm,1.4s						
PMG	**Port Moresby**	**40.29**	**317**	P	**P**	**17 50 28.2**	**+0.2**
	comp=Z,12nm,0.9s,baz=157,slow=2.5,SNR=6.6 comp=Z,12nm,0.9s						
RABL	**Rabaul**	**42.59**	**327**	P	**P**	**17 50 46.4**	**-0.6**
RABL				IAmb	IAmb	17 50 49.6	
	comp=Z,39nm,1.1s						
KNRA	**Kununurra**	**46.83**	**291**	P	**P**	**17 51 19.0**	**-1.7**
MTN	**Manton Dam**	**47.21**	**295**	P	**P**	**17 51 21.1**	**-2.6**
QSPA	**South Pole Qui**	**47.86**	**180**	P	**P**	**17 51 31.0**	**+2.6**
	comp=Z,1.1nm,0.9s,baz=313,slow=7.0,SNR=3.2 comp=Z,1.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.62**	**293**	P	**P**	**17 55 59.7**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=159,slow=3.0,SNR=10 comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**118.95**	**30**	PKP	**PKiKP**	**18 01 40.4**	**+2.1**
	comp=Z,1.5nm,0.7s,baz=229,slow=1.9,SNR=4.5						
MKAR	**Makanchi Array**	**120.09**	**307**	PKP	**PKiKP**	**18 01 42.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=253,slow=1.3,SNR=5.5						
SFJD	**Kangerlussuaq**	**145.50**	**29**	PKPbc	**PKPdf**	**18 02 27.4**	**-0.3**
	comp=Z,8.6nm,0.7s,baz=324,slow=2.6,SNR=2.6						
ARCES	**ARCESS Array B**	**148.18**	**340**	PKPbc	**PKPbc**	**18 02 36.0**	**+0.5**
	comp=Z,4.0nm,0.9s,baz=30,slow=1.7,SNR=8.0						
BRTR	**Keskin Array B**	**150.10**	**279**	PKPbc	**PKPbc**	**18 02 41.2**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=129,slow=3.9,SNR=5.4						
FINES	**FINESS Array B**	**152.83**	**326**	PKPbc	**PKiKP**	**18 02 48.1**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=86,slow=4.3,SNR=3.9						

SJA 13 17:43:25.0±0.8,31°68S×71°68W,h28km±2km,ML4.1, MW4.1

NEIC 13 17:43:28.5±1.4,31°69S±0.02″×71°6W±0°1,h48km±13km, mb4.2/3,ML4.1(GUC),Error ellipse: s-maj=14.0km s-min=2.2km az=86.0

GUC 13 17:43:28.6±0.9,31°71S×71°35W,h46km±2km,ML4.1

IDC 13 17:43:30.1±2.9,31°72S×71°21W,h64km±26km,mb3.6/4, mbtmp3.9/9,ML3.9/5,Error ellipse: s-maj=35.6km s-min=17.4km az=96.0

ISC 13 17:43:28.0±0.8,31°68S±0.03″×71°54W±0°04,h44km±9km, n128,σ1s80/163,mb4.1/5,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.66**	**44**		**Pn**	**17 43 41.2**	**+0.1**
CO02	**Combarbal**	**0.66**	**44**	⇑*iP*	**Pn**	**17 43 41.6**	**+0.4**
CO02				*eS*	**Sn**	**17 43 50.7**	**+0.2**
CO02				IAML		17 43 51.3	
	comp=N,42µm,0.1s						
CO02	**Combarbal**	**0.66**	**44**	*eP*	**Pn**	**17 43 41.0**	**-0.2**
CO02				*eS*	**Sn**	**17 43 51.1**	**+0.5**
CO02				IAML		17 43 51.6	
	comp=Z,19µm,0.1s						
VA06	**Catapilco**	**0.90**	**167**		**Pn**	**17 43 44.8**	**+0.5**
VA06	**Catapilco**	**0.90**	**167**	⇓*iP*	**Pn**	**17 43 44.8**	**+0.5**
VA06				*eS*	**Sn**	**17 43 57.0**	**+0.8**
VA06				IAML		17 43 59.9	
	comp=E,16µm,0.4s						
CO06	**Fray Jorge**	**1.01**	**355**	Pn	**Pn**	**17 43 47.1**	**+1.4**
CO06	**Fray Jorge**	**1.01**	**355**	*eP*	**Pn**	**17 43 47.1**	**+1.4**
CO06				*eS*	**Sn**	**17 44 02.8**	**+4.1**
CO06				IAML		17 44 06.3	
	comp=E,5µm,0.5s						
CO03	**El Pedregal**	**1.11**	**41**		**Pn**	**17 43 47.6**	**+0.4**
CO03	**El Pedregal**	**1.11**	**41**	⇑*iP*	**Pn**	**17 43 47.6**	**+0.4**
CO03				*eS*	**Sn**	**17 44 01.5**	**+0.1**
CO03				IAML		17 44 02.4	
	comp=E,20µm,0.2s						
CO03	**El Pedregal**	**1.11**	**41**	*eP*	**Pn**	**17 43 47.4**	**+0.2**
CO03				IAML		17 44 05.5	
	comp=Z,3µm,0.2s						
VA01	**Torpederas**	**1.34**	**184**	Pn	**Pn**	**17 43 51.1**	**+0.7**
VA01	**Torpederas**	**1.34**	**184**	*eP*	**Pn**	**17 43 51.1**	**+0.7**
VA01	**Torpederas**	**1.34**	**184**	*eP*	**Pn**	**17 43 51.0**	**+0.7**
VA01				*eS*	**Sn**	**17 44 09.4**	**+2.4**
VA01				IAML		17 44 12.1	
	comp=Z,2µm,0.4s						
ROCH	**El Roble**	**1.36**	**161**	*eP*	**Pn**	**17 43 51.6**	**+0.7**
ROCH				*eS*	**Sn**	**17 44 08.8**	**+1.0**
ROCH				IAML		17 44 11.0	
	comp=N,8µm,0.6s						
ROC1	**El Roble**	**1.37**	**161**		**Pn**	**17 43 50.7**	**-0.2**
ROC1	**El Roble**	**1.37**	**161**	*eP*	**Pn**	**17 43 51.0**	**+0.1**
ROC1				*eS*	**Sn**	**17 44 09.8**	**+1.8**
VA03	**San Esteban**	**1.37**	**143**		**Pn**	**17 43 50.9**	**+0.1**
VA03	**San Esteban**	**1.37**	**143**	*eP*	**Pn**	**17 43 50.9**	**+0.1**
VA03				*eS*	**Sn**	**17 44 07.3**	**-0.5**
VA03				IAML		17 44 08.2	
	comp=E,5µm,0.2s						
VA03	**San Esteban**	**1.37**	**143**	*eP*	**Pn**	**17 43 51.0**	**+0.2**
VA03				*eS*	**Sn**	**17 44 08.4**	**+0.7**
VA03				IAML		17 44 11.5	
	comp=Z,3µm,0.6s						
MT02	**Curacav**	**1.61**	**168**		**Pn**	**17 43 54.3**	**+0.3**
MT02	**Curacav**	**1.61**	**168**	*eP*	**Pn**	**17 43 54.5**	**+0.4**
MT02				IAML		17 44 16.7	
	comp=E,2µm,0.6s						
MT02	**Curacav**	**1.61**	**168**	*eP*	**Pn**	**17 43 54.4**	**+0.

RTCV					*e*P		**Pn**	17 44 10.0	+2.9
RTCV					*e*S		**Sn**	17 44 41.8	+4.7
ACDV	**Cuesta del Vie**	**2.56**	**55**	*e*P			**Pn**	17 44 11.0	+3.7
ACDV				IAML				17 44 51.3	
	comp=Z,432nm,0.5s								
RTLL	**Cerro Villicun**	**2.64**	**83**	*e*P			**Pn**	17 44 10.0	+1.8
RTLL				*e*P			**Pn**	17 44 10.2	+2.0
RTLL				*e*S			**Sn**	17 44 43.0	+4.0
BO01	**Tunca**	**2.73**	**172**	Pn			**Pn**	17 44 09.8	+0.4
BO01	**Tunca**	**2.73**	**172**	*e*P			**Pn**	17 44 09.8	+0.4
BO01				IAML				17 44 59.3	
	comp=E,450nm,0.8s								
BO01	**Tunca**	**2.73**	**172**	*e*P			**Pn**	17 44 10.0	+0.6
BO01				*e*S			**Sn**	17 44 42.7	+1.5
BO01				IAML				17 45 00.4	
	comp=Z,413nm,0.7s								
LCO	**Las Campanas**	**2.76**	**15**	Pn			**Pn**	17 44 11.4	+1.4
LCO	**Las Campanas**	**2.76**	**15**	*e*P			**Pn**	17 44 11.0	+1.0
BO03	**Pichilemu**	**2.83**	**187**	*e*P			**Pn**	17 44 10.5	-0.3
BO03				IAML				17 44 58.9	
	comp=N,244nm,0.4s								
AC05	**El Transito**	**3.04**	**21**	Pn			**Pn**	17 44 15.3	+1.6
AC05	**El Transito**	**3.04**	**21**	*e*P			**Pn**	17 44 15.3	+1.6
AC05				*e*S			**Sn**	17 44 50.5	+1.6
AC05	**El Transito**	**3.04**	**21**	*e*P			**Pn**	17 44 15.0	+1.3
AC05				*e*S			**Sn**	17 44 51.6	+2.6
AC05				IAML				17 45 04.6	
	comp=Z,736nm,0.3s								
BO02	**Sierra Bellavi**	**3.17**	**169**				**Pn**	17 44 15.9	+0.5
BO02	**Sierra Bellavi**	**3.17**	**169**	*e*P			**Pn**	17 44 15.9	+0.5
BO02				IAML				17 45 06.8	
	comp=E,901nm,0.5s								
BO02	**Sierra Bellavi**	**3.17**	**169**	*e*P			**Pn**	17 44 16.4	+0.9
BO02				*e*S			**Sn**	17 44 55.7	+3.6
BO02				IAML				17 45 09.1	
	comp=Z,579nm,0.5s								
GO05	**Huala**	**3.34**	**186**	Pn			**Pn**	17 44 17.4	-0.3
GO05	**Huala**	**3.34**	**186**	*e*P			**Pn**	17 44 17.4	-0.3
GO05	**Huala**	**3.34**	**186**	*e*P			**Pn**	17 44 17.6	-0.1
GO05				*e*S			**Sn**	17 45 02.2	+6.0
AC04	**Llanos de Chal**	**3.49**	**7**	Pn			**Pn**	17 44 20.4	+0.6
AC04	**Llanos de Chal**	**3.49**	**7**	*e*P			**Pn**	17 44 20.3	+0.6
AC04	**Llanos de Chal**	**3.49**	**7**	*e*P			**Pn**	17 44 20.3	+0.6
AC04				*e*S			**Sn**	17 45 01.2	+1.4
AC04				IAML				17 45 14.8	
	comp=Z,658nm,0.6s								
ML02	**Panimavida**	**4.07**	**179**	Pn			**Pn**	17 44 28.1	+0.3
GO03	**Copiap**	**4.23**	**16**				**Pn**	17 44 31.1	+1.1
GO03	**Copiap**	**4.23**	**16**	*e*P			**Pn**	17 44 30.8	+0.8
GO03	**Copiap**	**4.23**	**16**	*e*P			**Pn**	17 44 31.4	+1.4
GO03				*e*S			**Sn**	17 45 20.7	+2.5
AC06	**Mina Casimiro**	**4.43**	**14**	Pn			**Pn**	17 44 33.1	+0.4
AC06	**Mina Casimiro**	**4.43**	**14**	*e*P			**Pn**	17 44 32.8	+0.1
APLL	**PUNTA DE LOS L**	**4.49**	**75**	*e*P			**Pn**	17 44 34.4	+0.8
APLL				*e*S			Sn	17 45 31.5	+6.9
ACLC	**CERRO LA CRUZ**	**4.55**	**62**	*e*P			**Pn**	17 44 35.8	+1.2
ACLC				*e*S			**Sn**	17 45 25.7	-0.6
BI05	**Punta Hualpn**	**5.24**	**195**	Pn			**Pn**	17 44 42.3	-1.5
AC02	**Maricunga**	**5.27**	**24**	Pn			**Pn**	17 44 45.5	+0.8
AC02	**Maricunga**	**5.27**	**24**	*e*P			**Pn**	17 44 45.2	+0.6
AC02	**Maricunga**	**5.27**	**24**	*e*P			**Pn**	17 44 46.0	+1.3
AC02				IAML				17 46 15.9	
	comp=Z,154nm,1.1s								
AC01	**Pan de Azucar**	**5.57**	**9**	Pn			**Pn**	17 44 49.3	+0.8
H03N1	**Juan Fernandez**	**6.47**	**252**	T			T	17 51 46.8	
	baz=79,slow=73,SNR=2353								
H03N3	**Juan Fernandez**	**6.48**	**252**	T			T	17 51 49.4	
	baz=79,slow=73,SNR=1781								
H03N2	**Juan Fernandez**	**6.48**	**252**	T			T	17 51 47.6	
	baz=79,slow=73,SNR=2178								
H03S3	**Juan Fernandez**	**6.57**	**249**	T			T	17 51 50.8	
	baz=83,slow=75,SNR=40								
H03S1	**Juan Fernandez**	**6.57**	**249**	T			T	17 51 52.1	
	baz=83,slow=75,SNR=31								
H03S2	**Juan Fernandez**	**6.58**	**249**	T			T	17 51 43.4	
	baz=83,slow=75,SNR=34								
GO02	**Mina Guanaco**	**6.72**	**15**	Pn			**Pn**	17 45 04.8	+0.4
GO06	**Curarrehue**	**7.89**	**180**	Pn			**Pn**	17 45 20.4	+0.1
PB15	**IPOC Station P**	**8.64**	**13**	Pn			**Pn**	17 45 30.3	-0.4
PLCA	**Paso Flores**	**9.07**	**175**	P			**Pn**	17 45 36.9	+0.5
	comp=Z,0.4nm,0.3s,baz=342,slow=12,SNR=11								
	comp=Z,1.2nm,0.4s								
PLCA	**Paso Flores**	**9.07**	**175**	Pn			**Pn**	17 45 36.7	+0.3
LL04	**Puerto Octay**	**9.24**	**184**	Pn			**Pn**	17 45 36.2	-2.4
LVC	**Limon Verde**	**9.33**	**15**	P			**Pn**	17 45 42.3	+2.0
	comp=Z,0.6nm,0.3s,baz=172,slow=11,SNR=7.8								
LVC				S			**Sn**	17 47 24.6	+0.5
	comp=Z,6.7nm,0.5s,baz=183,slow=19,SNR=2.0								
	comp=Z,1.8nm,0.4s								
LVC	**Limon Verde**	**9.33**	**15**	Pn			**Pn**	17 45 37.3	-3.0
PB03	**IPOC Station P**	**9.72**	**10**	Pn			**Pn**	17 45 47.1	+1.6
PB07	**IPOC Station P**	**10.02**	**9**	Pn			**Pn**	17 45 50.6	+1.0
TRQA	**Tornquist**	**10.10**	**132**	Pn			**Pn**	17 45 49.5	-0.9
ITQB	**Itaqui**	**12.99**	**85**	Pn			**Pn**	17 46 26.1	-3.9
CPUP	**Villa Florida**	**13.53**	**70**	P			**Pn**	17 46 35.8	-1.6
	comp=Z,0.5nm,0.3s,baz=228,slow=12,SNR=7.0								
	comp=Z,1.4nm,0.5s								
CPUP	**Villa Florida**	**13.53**	**70**	Pn			**Pn**	17 46 35.4	-1.9
LPAZ	**La Paz**	**15.63**	**12**	P			**Pn**	17 47 07.3	+1.4
	comp=Z,0.1nm,0.3s,baz=195,slow=8.6,SNR=4.7								
	comp=Z,1.4nm,0.6s								
LPAZ	**La Paz**	**15.63**	**12**				**Pn**	17 47 04.9	-1.1
LPAZ				IAmb			IAmb	17 47 26.9	
	comp=Z,3.2nm,0.8s								
SIV	**San Ignacio**	**18.30**	**34**	P			**P**	17 47 37.7	-0.7
	baz=202,slow=10.0,SNR=9.7								
	comp=Z,2.0nm,0.5s								
BDFB	**Brasilia**	**26.73**	**59**	P			**P**	17 49 02.0	-1.6
	comp=Z,2.1nm,0.4s,baz=206,slow=5.4,SNR=4.4								
	comp=Z,2.1nm,0.4s								
BOAV	**Boa Vista**	**35.47**	**19**	P			**P**	17 50 19.4	-1.0
BOAV				IAmb			IAmb	17 50 33.5	
	comp=Z,4.5nm,0.9s								
QSPA	**South Pole Qui**	**58.55**	**180**	P			**P**	17 53 20.3	+0.4
	comp=Z,1.2nm,0.6s,baz=118,slow=1.8,SNR=5.3								
	comp=Z,1.2nm,0.6s								
QSPA	**South Pole Qui**	**58.55**	**180**	P			**P**	17 53 20.3	+0.4
QSPA				IAmb			IAmb	17 54 00.6	
	comp=Z,3.3nm,1.2s								
TXAR	**Lajitas Array**	**67.93**	**330**	P			**P**	17 54 23.3	+0.9
	comp=Z,0.3nm,0.6s,baz=141,slow=5.8,SNR=3.9								
	comp=Z,0.3nm,0.6s								
NVAR	**Mina Array Bea**	**82.23**	**325**	P			**P**	17 55 46.0	+1.3
	comp=Z,0.6nm,0.7s,baz=155,slow=6.1,SNR=5.9								
	comp=Z,0.6nm,0.7s								
ASAR	**Alice Springs**	**119.82**	**207**	PKP			**PKPdf**	18 02 12.5	-1.6
	comp=Z,0.1nm,0.4s,baz=118,slow=1.6,SNR=4.4								
WRA	**Warramunga Arr**	**122.99**	**209**	PKP			**PKPdf**	18 02 19.1	-1.2
	comp=Z,0.3nm,0.5s,baz=161,slow=1.8,SNR=5.6								
H11S2	**WAKE ISLAND Hyd**	**126.20**	**271**	T			T	20 21 32.4	
	baz=117,slow=75,SNR=55								
H11S1	**WAKE ISLAND Hyd**	**126.21**	**271**	T			T	20 21 32.1	
	baz=117,slow=75,SNR=29								
H11S3	**WAKE ISLAND Hyd**	**126.22**	**271**	T			T	20 21 30.5	
	baz=117,slow=75,SNR=39								
H11N3	**WAKE ISLAND Hyd**	**126.55**	**272**	T			T	20 21 54.1	
	baz=116,slow=75,SNR=29								
H11N1	**WAKE ISLAND Hyd**	**126.57**	**272**	T			T	20 21 53.9	
	baz=116,slow=75,SNR=11								
H11N2	**WAKE ISLAND Hyd**	**126.57**	**272**	T			T	20 21 56.7	
	baz=116,slow=75,SNR=46								
FITZ	**Fitzroy Crossi**	**127.83**	**201**	PKP			**PKPdf**	18 02 29.6	+0.1
	baz=194,slow=4.2								
ZALV	**Zalesovo Beam**	**152.03**	**30**	PKPbc			**PKPbc**	18 03 17.2	-0.7
	comp=Z,0.7nm,0.4s,baz=315,slow=1.7,SNR=4.4								
ZALV				pPKPbc			**pPKPbc**	18 03 33.0	+1.5
	comp=Z,1.9nm,0.5s,baz=308,slow=3.1,SNR=7.7								

WEL 13 17:47:18.5±0.3, 42°S±2°×17°4E±°, h5km, M3.8/14, ML4.0/14, MLv3.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=125.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.15**	**246**	P	Pg	17 47 23.3	+1.8
KHZ				S	Sg	17 47 24.5	+0.9
BSWZ	**Blackbirch Sta**	**0.65**	**10**	P	Pb	17 47 32.1	-0.2
BSWZ				S	Sb	17 47 41.3	-0.4
GVZ	**Greta Valley S**	**0.80**	**220**	P	Pb	17 47 35.6	+0.8
GVZ				S	Sb	17 47 47.3	+1.3
THZ	**Tophouse**	**0.85**	**314**	P	Pg	17 47 34.0	-0.8
THZ				S	Sg	17 47 43.9	-1.9
TUWZ	**Tuamarina**	**0.94**	**10**	P	Pb	17 47 37.6	+0.3
TUWZ				S	Sb	17 47 50.5	+0.5
LTZ	**Lake Taylor**	**1.16**	**248**	P	Pg	17 47 40.1	-0.5
LTZ				S	Sg	17 47 55.3	-0.3
MRNZ	**Matariki Terra**	**1.20**	**323**	P	Pg	17 47 40.2	-1.3
MRNZ				S	Sg	17 47 55.7	-1.3
TCW	**Tory Channel**	**1.22**	**20**	P	Pg	17 47 41.4	-0.4
TCW				S	Sb	17 47 58.3	+0.3
BHW	**Baring Head**	**1.27**	**42**	P	Pg	17 47 42.6	-0.4
OKCZ	**Okains Bay**	**1.45**	**199**	P	Pn	17 47 44.6	-0.9
OKCZ				S	Sb	17 48 03.1	-1.7
MSWZ	**Moikau Station**	**1.48**	**51**	S	Sn	17 48 05.1	-0.3
DSZ	**Denniston Nort**	**1.56**	**292**	P	Pn	17 47 46.0	-0.9
DSZ				S	Sn	17 48 05.5	-2.0
MQZ	**McQueen's Vall**	**1.56**	**210**	P	Pn	17 47 45.0	-1.9
MQZ				S	Sn	17 48 03.9	-3.6
CAW	**Cannon Point**	**1.60**	**39**	S	Sn	17 48 08.1	-0.3
PAWZ	**Paruwai Farm**	**1.60**	**53**	P	Pn	17 47 46.4	-1.0
AKCZ	**Akaroa Harbour**	**1.63**	**201**	P	Pn	17 47 46.7	-1.2
AKCZ				S	Sn	17 48 06.9	-2.4
INZ	**Inchbonnie**	**1.73**	**257**	P	Pn	17 47 48.3	-0.9
KIW	**Kapiti Island**	**1.74**	**31**	P	Pn	17 47 49.1	-0.2
KIW				S	Sn	17 48 11.2	-0.7
RACZ	**Rakaia**	**1.80**	**220**	P	Pn	17 47 48.2	-2.0
OGWZ	**Otaki Gorge**	**1.88**	**36**	P	Pn	17 47 50.8	-0.5
WACZ	**Wakanui South**	**2.10**	**220**	P	Pn	17 47 52.6	-1.7
WACZ				S	Sn	17 48 17.4	-3.5
MRZ	**Mangatainoka R**	**2.19**	**40**	P	Pn	17 47 54.5	-1.1
WVZ	**Waitaha Valley**	**2.32**	**251**	P	Pn	17 47 56.1	-1.2
WVZ				S	Sn	17 48 22.1	-4.0
RPZ	**Rata Peaks**	**2.38**	**234**	P	Sn	17 47 56.3	-1.9
RPZ				S	Sn	17 48 23.4	-4.5
ARCZ	**Arundel**	**2.45**	**229**	P	Pn	17 47 57.3	-1.9
ARCZ				S	Sn	17 48 25.2	-4.4
OHWZ	**Ohakea**	**2.46**	**30**	P	Pn	17 47 59.7	+0.5
TMZ	**Timaru**	**2.84**	**223**	P	Pn	17 48 02.2	-2.3
TMZ				S	Sn	17 48 34.0	-5.0
FOZ	**Fox Glacier**	**3.10**	**246**	P	Pn	17 48 07.3	-0.8
FOZ				S	Sn	17 48 42.3	-3.2
LBZ	**Lake Benmore**	**3.28**	**231**	P	Pn	17 48 09.0	-1.6
LBZ				S	Sn	17 48 45.3	-4.7
WHVZ	**Whangaehu Hut**	**3.38**	**25**	S	Sn	17 48 53.6	+0.9
ODZ	**Otahua Downs**	**3.50**	**219**	P	Pn	17 48 10.9	-2.6
ODZ				S	Sn	17 48 50.0	-5.2
HHSZ	**Highcliff Hill**	**4.19**	**211**	P	Pn	17 48 21.2	-1.8
EAZ	**Earnscleugh**	**4.30**	**227**	P	Pn	17 48 22.8	-1.8
TUZ	**Tuapeka**	**4.65**	**218**	P	Pn	17 48 27.4	-2.0
SYZ	**Scrubby Hill**	**5.32**	**217**	P	Pn	17 48 37.0	-1.5
APZ	**The Paps**	**6.07**	**221**	P	Pn	17 48 46.4	-2.5

*DDA **13** 17:48:10.4±0.0, 40.°83N×31.°56E, h19km, ML2.7*
*ISK **13** 17:48:10.2, 40.°77N×31.°54E, h5km, ML3.2/30*
ISC 13 17:48:10.9±0.9, 40.78N±0.°02×31.54E±0.°02, h13km±8km, n50, σ0.°90/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YIGI	**Dzce**	**0.19**	**339**	P	**Pb**	**17 48 15.2**	**-1.1**
YIGI				S	**Sg**	**17 48 18.4**	**+0.1**
YIGI				*i* AML	AML	17 48 19.0	
	comp=E,822nm,0.2s						
MDUB	**Mudurnu**	**0.41**	**220**	PG	**Pg**	**17 48 18.4**	**-0.6**
KDZE	**Karadeniz Ereo**	**0.54**	**352**	PG	**Pb**	**17 48 22.1**	**0.0**
CMDR	**Camlidere-ANKA**	**0.77**	**112**	P	**Pg**	**17 48 25.3**	**-0.4**
CMDR				S	**Sb**	**17 48 36.6**	**+0.1**
CMDR				*i* AML	AML	17 48 42.0	
	comp=N,602nm,0.6s						
CMDR				*i* AML	AML	17 48 43.0	
	comp=E,514nm,0.4s						
GULT	**Gulveren**	**0.86**	**246**	PG	**Pb**	**17 48 27.5**	**-0.1**
GULT				SG	**Sn**	**17 48 40.5**	**-0.6**
AUMIH	**MIHALICIK**	**0.91**	**183**	PG	**Pb**	**17 48 28.7**	**+0.1**
AUMIH				SG	**Sn**	**17 48 41.9**	**-0.7**
SAUV	**Serdivan-Sakar**	**0.92**	**268**	PG	**Pb**	**17 48 28.7**	**0.0**
SAUV				SG	**Sn**	**17 48 42.7**	**+0.1**
KAYN	**Sakarya, Kayna**	**0.93**	**282**	P	**Pb**	**17 48 28.6**	**-0.1**
KAYN				S	**Sn**	**17 48 41.8**	**-0.9**
KAYN				*i* AML	AML	17 48 44.0	
	comp=N,244nm,0.8s						
KAYN				*i* AML	AML	17 48 44.0	
	comp=E,153nm,0.2s						
SAFT	**Safranbolu**	**0.98**	**62**	PG	**Pn**	**17 48 29.9**	**-0.4**
BTIN	**Bartın**	**1.01**	**32**	P	**Pb**	**17 48 29.4**	**-0.8**
BTIN				S	**Sb**	**17 48 42.6**	**-0.7**
BTIN				*i* AML	AML	17 48 48.0	
	comp=N,462nm,0.5s						
GPA	**Golpazari**	**1.06**	**243**	PG	**Pn**	**17 48 31.7**	**+0.3**
BORA	**Eskisehir**	**1.23**	**223**	PN	**Pg**	**17 48 34.4**	**-0.1**
LOD	**Lodumlu**	**1.29**	**133**	PN	**Pg**	**17 48 35.2**	**-0.5**
ANTO	**Ankara**	**1.32**	**133**	PN	**Pg**	**17 48 36.8**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.33**	**181**	PN	**Pg**	**17 48 36.7**	**+0.2**
AUSIV	**SIVRIHISAR**	**1.34**	**180**	PN	**Pg**	**17 48 36.9**	**+0.2**
SGAZ	**Eskisehir, Sey**	**1.36**	**204**	P	**Pg**	**17 48 37.8**	**+0.7**
SGAZ				S	**Sg**	**17 48 56.6**	**+1.8**
SGAZ				*i* AML	AML	17 48 57.0	
	comp=N,113nm,0.7s						
SGAZ				*i* AML	AML	17 48 58.0	
	comp=E,156nm,0.5s						
ESKT	**Eskisehir**	**1.37**	**203**	PN	**Pg**	**17 48 37.3**	**+0.1**
BILE	**Bilecik/Merkez**	**1.41**	**245**	P	**Pb**	**17 48 37.2**	**+0.1**
BILE				S	**Sg**	**17 48 58.1**	**+1.7**
BILE				*i* AML	AML	17 49 02.0	
	comp=N,246nm,0.8s						
BILE				*i* AML	AML	17 49 05.0	
	comp=E,148nm,0.4s						
ADVT	**Abdulvahap**	**1.42**	**256**	PN	**Pg**	**17 48 37.8**	**-0.3**
CAVI	**Cavuskoy**	**1.42**	**246**	PN	**Pg**	**17 48 37.8**	**-0.3**
HRT	**Hereke**	**1.42**	**272**	PN	**Pg**	**17 48 38.3**	**+0.1**
HRT				SN	**Sg**	**17 48 58.6**	**+1.9**
PELI	**Kastamonı-Ara**	**1.44**	**68**	P	**Pg**	**17 48 37.5**	**-1.0**
PELI				*i* AML	AML	17 48 58.0	
	comp=N,100nm,0.6s						
PELI				S	**Sg**	**17 48 58.4**	**+1.3**
PELI				*i* AML	AML	17 49 02.0	
	comp=E,98nm,0.6s						
AUBOZ	**BOZOYUK**	**1.45**	**233**	PN	**Pg**	**17 48 37.9**	**-0.7**
CIFT	**Cifteler, Eski**	**1.47**	**195**	PN	**Pg**	**17 48 38.8**	**-0.2**
SILT	**Sile**	**1.48**	**285**	PN	**Pg**	**17 48 39.2**	**-0.2**
CANT	**Cankiri**	**1.59**	**96**	PN	**Pb**	**17 48 40.0**	**-0.1**
YLV	**Yalova**	**1.66**	**263**	PN	**Pb**	**17 48 41.3**	**-0.1**
ANDZ	**Kutahya, Merke**	**1.79**	**225**	P	**Pb**	**17 48 42.9**	**-0.6**
ANDZ				S	**Sb**	**17 49 06.8**	**+0.9**
ANDZ				*i* AML	AML	17 49 13.0	
	comp=N,59nm,0.3s						
ANDZ				*i* AML	AML	17 49 14.0	
	comp=E,90nm,0.6s						
KMON	**Kastamonu**	**1.80**	**70**	PN	**Pg**	**17 48 44.1**	**-1.2**
GEMT	**Gemlik**	**1.82**	**260**	PN	**Pb**	**17 48 43.5**	**-0.6**
IGD	**Bursa**	**1.86**	**255**	P	**Pb**	**17 48 44.1**	**-0.6**
IGD				S	**Sg**	**17 49 11.1**	**+0.5**
IGD				*i* AML	AML	17 49 14.0	
	comp=N,67nm,0.4s						
IGD				*i* AML	AML	17 49 14.0	
	comp=E,81nm,0.4s						
KAVV	**Kandilli-Istan**	**1.90**	**279**	PN	**Pb**	**17 48 45.1**	**-0.3**
ISK	**Istanbul-Kandi**	**1.90**	**279**	PN	**Pb**	**17 48 45.0**	**-0.4**
KIZT	**Kizilcal**	**1.92**	**172**	PN	**Pb**	**17 48 45.0**	**-0.7**
BRTR	**Keskin Array B**	**1.92**	**123**	PN	**Pb**	**17 48 45.6**	**-0.2**
ULDT	**Uludag**	**1.94**	**252**	P	**Pb**	**17 48 45.5**	**-0.7**
ULDT				S	**Sg**	**17 49 11.9**	**-1.5**
ULDT				*i* AML	AML	17 49 20.0	
	comp=N,166nm,0.6s						
ULDT				*i* AML	AML	17 49 21.0	
	comp=E,62nm,0.3s						
KLYT	**Kilyos**	**1.95**	**285**	PN	**Pb**	**17 48 45.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**2.07**	**259**	PN	**Pb**	**17 48 47.5**	**-0.7**
KULU	**Kulu**	**2.07**	**147**	PN	**Pb**	**17 48 47.7**	**-0.6**
TVSB	**Tavsanli**	**2.08**	**231**	PN	**Pb**	**17 48 47.5**	**-1.0**
AVCI	**Avcilar-stanb**	**2.15**	**277**	PN	**Pb**	**17 48 48.7**	**-0.9**
ORLT	**Orhaneli**	**2.15**	**251**	PN	**Pb**	**17 48 48.7**	**-0.9**
KAMT	**Kaman**	**2.18**	**130**	PN	**Pb**	**17 48 49.3**	**-1.0**
GDZ	**Gediz**	**2.32**	**224**	P	**Pb**	**17 48 50.7**	**-1.9**
GDZ				S	**Sb**	**17 49 19.5**	**-1.6**
GDZ				*i* AML	AML	17 49 34.0	
	comp=N,39nm,0.7s						
GDZ				*i* AML	AML	17 49 36.0	
	comp=E,30nm,0.5s						
CTKS	**Kestanelik-??a**	**2.34**	**282**	PN	**Pb**	**17 48 51.7**	**-1.2**
SHUT	**Suhut-Afyon**	**2.35**	**199**	PN	**Pb**	**17 48 51.6**	**-1.6**
KCTX	**Karacabey (Bur**	**2.48**	**259**	PN	**Pb**	**17 48 53.6**	**-1.7**
SEV	**Sevastopol'**	**4.07**	**22**	*e*P	**Pn**	**17 49 15.2**	**+2.4**
SEV				Pm		17 49 21.4	
	comp=Z,2.0nm,0.6s						
SEV				*e*S	**Sn**	**17 50 01.4**	**+1.1**
SEV				Sm		17 50 04.5	
	comp=E,1.0nm,0.3s						
SEV				Sm		17 50 04.6	
	comp=N,3.0nm,0.4s						
YAL	**Yalta**	**4.17**	**27**	*e*S	**Sn**	**17 50 03.0**	**+0.2**
YAL				Sm		17 50 06.6	
	comp=N,10.0nm,0.3s						
YAL				Sm		17 50 06.6	
	comp=E,2.0nm,0.2s						

WEL 13 17:49:38.8±0.3, 42°S±2°×17°4E±°, h7km±2km, M3.7/16, ML3.8/16, MLv3.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=139.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.37**	**18**	P	Pg	17 49 46.6	+0.5
BSWZ				S	Sg	17 49 52.1	+1.2
KHZ	**Kahutara**	**0.37**	**202**	P	Pg	17 49 46.9	+0.7
CMWZ	**Cape Campbell**	**0.48**	**49**	P	Pb	17 49 49.3	-0.3
CMWZ				S	Sb	17 49 57.9	+0.9
TUWZ	**Tuamarina**	**0.66**	**14**	P	Pg	17 49 51.8	+0.3
TUWZ				S	Sb	17 50 01.3	-0.7
THZ	**Tophouse**	**0.68**	**296**	P	Pg	17 49 52.4	+0.4
THZ				S	Sg	17 50 01.4	+0.5
NNZ	**Nelson**	**0.89**	**343**	P	Pg	17 49 55.6	-0.3
NNZ				S	Sg	17 50 07.7	+0.2
TCW	**Tory Channel**	**0.95**	**26**	P	Pg	17 49 56.6	-0.4
TCW				S	Sb	17 50 10.5	+0.2
MRNZ	**Matariki Terra**	**0.99**	**312**	P	Pg	17 49 57.9	+0.1
MRNZ				S	Sn	17 50 12.9	-0.3
GVZ	**Greta Valley S**	**1.03**	**209**	P	Pg	17 49 58.6	0.0
GVZ				S	Sb	17 50 13.5	+0.7
WEL	**Wellington**	**1.11**	**45**	P	Pg	17 49 59.5	-0.5
WEL				S	Sn	17 50 15.5	-0.7
TKNZ	**Takaka Hill**	**1.18**	**331**	P	Pg	17 50 01.0	-0.5
TKNZ				S	Sb	17 50 17.3	+0.3
DUWZ	**D'Urville Isla**	**1.27**	**7**	P	Pn	17 50 02.4	-0.6
DUWZ				S	Sn	17 50 20.2	-0.2
LTZ	**Lake Taylor**	**1.29**	**236**	P	Pn	17 50 02.7	-0.6
LTZ				S	Sb	17 50 20.0	-0.3
MSWZ	**Moikau Station**	**1.31**	**61**	P	Pn	17 50 01.6	-2.0
PAWZ	**Paruwai Farm**	**1.45**	**62**	P	Pn	17 50 03.3	-2.2
KIW	**Kapiti Island**	**1.50**	**37**	P	Pn	17 50 05.2	-0.9
QRZ	**Quartz Range**	**1.53**	**324**	P	Pn	17 50 06.0	-0.6
MTW	**Mount Morrison**	**1.61**	**56**	P	Pb	17 50 09.2	+0.3
HOWZ	**Holdsworth Sta**	**1.78**	**50**	P	Pg	17 50 12.8	-0.2
INZ	**Inchbonnie**	**1.81**	**248**	P	Pn	17 50 10.3	-0.2
INZ				S	Sn	17 50 33.7	+0.1
TSZ	**Takapari Road**	**2.62**	**41**	P	Pn	17 50 20.9	-0.7
MOVZ	**Moawhango**	**3.07**	**31**	P	Pb	17 50 31.7	-2.1

WEL 13 17:51:28.7±0.7, 42°S±4°×17°4E±°, h5km, M3.7/7, ML4.0/7, MLv3.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=155.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.34**	**10**	P	Pg	17 51 34.9	-0.3
BSWZ				S	Sg	17 51 40.4	+0.7
TUWZ	**Tuamarina**	**0.63**	**10**	P	Pg	17 51 40.9	+0.2
TUWZ

ISC 13 17:52:53.9±0.3,31°98S±0.03×68°19W±0.03,h120km±2km, h120km:pP-P,n632,σ1°30/750,mb5.0/86,25C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res	ISC
				Op					
RTCV	**Cerro Valdivia**	**0.32**	**291**	*eP*		**Pn**	**17 53 11.7**	**+0.7**	
RTCV				*eS*		**Sn**	**17 53 25.3**	**+1.4**	
ZON	**Zonda**	**0.60**	**316**			**Pn**	**17 53 13.1**	**+0.5**	
ZON	**Zonda**	**0.60**	**316**	*eP*		**Pn**	**17 53 13.3**	**+0.7**	
ZON				*eS*		**Sn**	**17 53 28.0**	**+1.3**	
ZON				IAML			17 53 30.2		
	comp=Z,12μm,0.3s								
RTLL	**Cerro Villicun**	**0.69**	**339**	*eP*		**Pn**	**17 53 14.1**	**+0.8**	
RTLL				*eS*		**Sn**	**17 53 29.5**	**+1.6**	
RTLS	**Leoncito**	**0.96**	**280**	*eP*		**Pn**	**17 53 17.0**	**+1.1**	
RTLS				*eS*		**Sn**	**17 53 34.9**	**+2.4**	
RTLS				IAML			17 53 35.8		
	comp=Z,11μm,0.3s								
ACCO	**Cerro Coronel**	**1.58**	**331**	*eP*		**Pn**	**17 53 19.0**	**-3.6**	
ACCO				*eP*		**Pn**	**17 53 24.0**	**+1.4**	
ACDV	**Cuesta del Vie**	**1.97**	**336**	*eP*		**Pn**	**17 53 27.9**	**+0.7**	
ACDV				*eS*		**Sn**	**17 53 54.5**	**+1.8**	
ACDV				IAML			17 53 58.2		
	comp=Z,2μm,0.4s								
AROD	**Rodeo**	**2.12**	**328**	*eP*		Pn	17 53 19.0	-10	
AROD				*eS*		**Sn**	**17 53 58.2**	**+2.1**	
MRA	**San Martin**	**2.14**	**102**	*eP*		**Pn**	**17 53 29.9**	**+0.7**	
MRA				*eS*		**Sn**	**17 53 56.1**	**0.0**	
VA03	**San Esteban**	**2.15**	**248**			**Pn**	**17 53 30.2**	**+0.9**	
VA03	**San Esteban**	**2.15**	**248**	⇑*iP*		**Pn**	**17 53 30.3**	**+0.9**	
VA03				*iS*		**Sn**	**17 53 57.3**	**+0.8**	
VA03				IAML			17 54 03.1		
	comp=N,5μm,0.2s								
VA03	**San Esteban**	**2.15**	**248**	*eP*		**Pn**	**17 53 30.2**	**+0.9**	
VA03				*eS*		**Sn**	**17 54 02.7**	**+6.3**	
VA03				IAML			17 54 05.2		
	comp=Z,4μm,2.0s								
FCH	**Farellones**	**2.23**	**232**	⇑*iP*		**Pn**	**17 53 31.5**	**+1.0**	
FCH				*iS*		**Sn**	**17 54 01.0**	**+2.4**	
FCH				IAML			17 54 04.4		
	comp=N,2μm,0.2s								
PEL	**Peldehue**	**2.41**	**241**	⇑*iP*		**Pn**	**17 53 32.9**	**+0.3**	
PEL				*iS*		**Sn**	**17 54 01.9**	**-0.4**	
PEL				IAML			17 54 05.6		
	comp=N,3μm,0.5s								
PEL	**Peldehue**	**2.41**	**241**	*eP*		**Pn**	**17 53 33.0**	**+0.4**	
PEL				*eS*		**Sn**	**17 54 03.0**	**+0.7**	
CO03	**El Pedregal**	**2.42**	**297**			**Pn**	**17 53 34.4**	**+1.6**	
CO03	**El Pedregal**	**2.42**	**297**	⇑*iP*		**Pn**	**17 53 34.5**	**+1.6**	
CO03				*iS*		**Sn**	**17 54 04.5**	**+1.8**	
CO03				IAML			17 54 06.8		
	comp=N,8μm,0.3s								
CO03	**El Pedregal**	**2.42**	**297**	*eP*		**Pn**	**17 53 34.4**	**+1.6**	
CO03				*eS*		**Sn**	**17 54 04.2**	**+1.5**	
CO03				IAML			17 54 06.8		
	comp=Z,3μm,0.7s								
MT03	**Universidad Ad**	**2.47**	**232**			**Pn**	**17 53 33.9**	**+0.4**	
MT03	**Universidad Ad**	**2.47**	**232**	⇑*iP*		**Pn**	**17 53 34.0**	**+0.6**	
MT03				*eS*		**Sn**	**17 54 04.3**	**+0.5**	
MT03				IAML			17 54 09.9		
	comp=E,5μm,0.3s								
MT03	**Universidad Ad**	**2.47**	**232**	*eP*		**Pn**	**17 53 34.0**	**+0.6**	
MT03				*eS*		**Sn**	**17 54 04.8**	**+1.0**	
MT03				IAML			17 54 17.6		
	comp=Z,2μm,0.9s								
LMEL	**Las Melosas**	**2.52**	**222**			**Pn**	**17 53 34.9**	**+0.8**	
LMEL	**Las Melosas**	**2.52**	**222**	⇑*iP*		**Pn**	**17 53 35.0**	**+0.9**	
LMEL				*iS*		**Sn**	**17 54 05.6**	**+0.7**	
LMEL				IAML			17 54 15.7		
	comp=E,1μm,0.3s								
CO02	**Combarbal**	**2.52**	**287**			**Pn**	**17 53 34.9**	**+0.8**	
CO02	**Combarbal**	**2.52**	**287**	⇑*iP*		**Pn**	**17 53 35.0**	**+0.9**	
CO02				*iS*		**Sn**	**17 54 05.9**	**+0.9**	
CO02	**Combarbal**	**2.52**	**287**	*eP*		**Pn**	**17 53 35.1**	**+1.0**	
CO02				*eS*		**Sn**	**17 54 06.5**	**+1.5**	
CO02				IAML			17 54 08.9		
	comp=Z,3μm,0.8s								
MT05	**Renca**	**2.57**	**236**			**Pn**	**17 53 35.1**	**+0.4**	
MT05	**Renca**	**2.57**	**236**	⇑*iP*		**Pn**	**17 53 35.1**	**+0.4**	
MT05				*iS*		**Sn**	**17 54 05.5**	**-0.5**	
MT05				IAML			17 54 11.5		
	comp=E,7μm,0.3s								
MT05	**Renca**	**2.57**	**236**	*eP*		**Pn**	**17 53 35.1**	**+0.4**	
MT05				*eP*		**Pn**	**17 53 35.3**	**+0.7**	
MT05				*eS*		**Sn**	**17 54 07.1**	**+1.1**	
MT05				IAML			17 54 08.6		
	comp=Z,3μm,1.2s								
CO01	**Juntas del Tor**	**2.58**	**320**			**Pn**	**17 53 37.2**	**+2.2**	
CO01	**Juntas del Tor**	**2.58**	**320**	⇑*iP*		**Pn**	**17 53 37.7**	**+2.7**	
CO01				*iS*		**Sn**	**17 54 08.8**	**+2.2**	
CO01				IAML			17 54 11.6		
	comp=E,4μm,0.6s								
CO01	**Juntas del Tor**	**2.58**	**320**	*eP*		**Pn**	**17 53 35.9**	**+0.9**	
CO01				*eS*		**Sn**	**17 54 07.7**	**+1.1**	
CO01				IAML			17 54 09.8		
	comp=Z,3μm,0.5s								
ROCH	**El Roble**	**2.59**	**247**	⇑*iP*		**Pn**	**17 53 34.7**	**-0.2**	
ROCH				⇑*iP*		**Pn**	**17 53 34.8**	**-0.2**	
ROCH				*iS*		**Sn**	**17 54 06.2**	**-0.4**	
ROCH				*iS*		**Sn**	**17 54 06.7**	**+0.1**	
ROCH				IAML			17 54 10.1		
	comp=N,11μm,0.2s								
ROCH				IAML			17 54 10.1		
	comp=N,9μm,0.3s								
ROC1	**El Roble**	**2.59**	**247**			**Pn**	**17 53 34.7**	**-0.4**	
ROC1	**El Roble**	**2.59**	**247**	*eP*		**Pn**	**17 53 34.9**	**-0.1**	
ROC1				*eP*		**Pn**	**17 53 35.7**	**+0.6**	
ROC1				*eS*		**Sn**	**17 54 07.3**	**+0.9**	
VA06	**Catapilco**	**2.70**	**257**			**Pn**	**17 53 35.4**	**-0.8**	
VA06	**Catapilco**	**2.70**	**257**	⇑*iP*		**Pn**	**17 53 35.4**	**-0.8**	
VA06				*iS*		**Sn**	**17 54 06.5**	**-2.3**	
VA06				IAML			17 54 15.3		
	comp=E,4μm,0.5s								
ACLC	**CERRO LA CRUZ**	**2.76**	**23**	*eP*		Pn	17 53 29.9	-7.3	
ACLC				*eP*		**Pn**	**17 53 37.5**	**+0.3**	
ACLC				*eS*		**Sn**	**17 54 10.8**	**+0.2**	
ACLC				IAML			17 54 12.3		
	comp=Z,7μm,0.9s								
MT02	**Curacav**	**2.80**	**242**			**Pn**	**17 53 37.0**	**-0.6**	
MT02	**Curacav**	**2.80**	**242**	⇑*iP*		**Pn**	**17 53 37.0**	**-0.6**	
MT02				*iS*		**Sn**	**17 54 08.9**	**-2.3**	
MT02				IAML			17 54 14.3		
	comp=E,1μm,0.3s								
MT02	**Curacav**	**2.80**	**242**	*eP*		**Pn**	**17 53 37.1**	**-0.4**	
MT02				*eS*		**Sn**	**17 54 12.8**	**+1.6**	
MT02				IAML			17 54 15.0		
	comp=Z,1μm,0.3s								
BO04	**La Punta**	**2.86**	**225**			**Pn**	**17 53 39.0**	**+0.6**	
BO04	**La Punta**	**2.86**	**225**	⇑*iP*		**Pn**	**17 53 38.6**	**+0.2**	
BO04				*iS*		**Sn**	**17 54 11.6**	**-1.0**	
BO04				IAML			17 54 20.6		
	comp=N,2μm,0.4s								
GO04	**Tololo Observa**	**2.88**	**308**	Pn		**Pn**	**17 53 39.5**	**+0.7**	
GO04	**Tololo Observa**	**2.88**	**308**	⇑*iP*		**Pn**	**17 53 39.9**	**+1.1**	
GO04				*iS*		**Sn**	**17 54 13.3**	**-0.1**	
GO04	**Tololo Observa**	**2.88**	**308**	*eP*		**Pn**	**17 53 40.0**	**+1.2**	
GO04				*eS*		**Sn**	**17 54 14.1**	**+0.7**	
MT09	**Talagante**	**2.96**	**232**			**Pn**	**17 53 39.5**	**-0.4**	
MT09	**Talagante**	**2.96**	**232**	⇑*iP*		**Pn**	**17 53 39.3**	**-0.5**	
MT09				*iS*		**Sn**	**17 54 14.4**	**-0.8**	
MT09				IAML			17 54 18.1		
	comp=N,4μm,0.3s								
VA01	**Torpederas**	**3.11**	**250**	Pn		**Pn**	**17 53 40.2**	**-1.3**	
VA01	**Torpederas**	**3.11**	**250**	*eP*		**Pn**	**17 53 40.1**	**-1.4**	
VA01				IAML			17 54 24.9		
	comp=E,2μm,0.3s								
MT01	**Popeta**	**3.19**	**233**	Pn		**Pn**	**17 53 41.7**	**-1.0**	
MT01	**Popeta**	**3.19**	**233**	⇑*iP*		**Pn**	**17 53 41.4**	**-1.2**	
MT01				*iS*		**Sn**	**17 54 17.4**	**-3.0**	
MT01				IAML			17 54 22.4		
	comp=N,2μm,0.2s								
MT01	**Popeta**	**3.19**	**233**	*eP*		**Pn**	**17 53 41.5**	**-1.2**	
MT01				*eS*		**Sn**	**17 54 20.1**	**-0.3**	
CO06	**Fray Jorge**	**3.23**	**293**			**Pn**	**17 53 42.4**	**-0.7**	
CO06	**Fray Jorge**	**3.23**	**293**	⇑*iP*		**Pn**	**17 53 42.5**	**-0.7**	
CO06				*iS*		**Sn**	**17 54 16.0**	**-5.2**	
CO06				IAML			17 54 28.6		
	comp=E,2μm,0.2s								
CO05	**La Serena**	**3.33**	**307**			**Pn**	**17 53 44.6**	**+0.1**	
CO05	**La Serena**	**3.33**	**307**	*eP*		**Pn**	**17 53 44.6**	**+0.1**	
CO05				*iS*		**Sn**	**17 54 18.0**	**-5.7**	
VA05	**Santo Domingo**	**3.34**	**239**	Pn		**Pn**	**17 53 43.5**	**-1.1**	
VA05	**Santo Domingo**	**3.34**	**239**	⇑*iP*		**Pn**	**17 53 43.4**	**-1.1**	
VA05				*iS*		**Sn**	**17 54 20.0**	**-3.8**	
VA05				IAML			17 54 29.1		
	comp=N,3μm,0.2s								
BO01	**Tunca**	**3.42**	**225**			**Pn**	**17 53 44.9**	**-0.8**	
BO01	**Tunca**	**3.42**	**225**	⇑*iP*		**Pn**	**17 53 44.9**	**-0.8**	
BO01				*iS*		**Sn**	**17 54 23.3**	**-2.5**	
BO01				IAML			17 54 31.2		
	comp=E,692nm,0.5s								
BO01	**Tunca**	**3.42**	**225**	*eP*		**Pn**	**17 53 45.0**	**-0.7**	
BO01				*eS*		**Sn**	**17 54 25.2**	**-0.6**	
BO02	**Sierra Bellavi**	**3.55**	**217**			**Pn**	**17 53 47.8**	**+0.3**	
BO02	**Sierra Bellavi**	**3.55**	**217**	*eP*		**Pn**	**17 53 47.3**	**-0.2**	
BO02				*iS*		**Sn**	**17 54 30.1**	**+1.1**	
BO02	**Sierra Bellavi**	**3.55**	**217**	*eP*		**Pn**	**17 53 48.1**	**+0.6**	
BO02				*eS*		**Sn**	**17 54 35.1**	**+6.2**	
BO02				IAML			17 54 39.6		
	comp=Z,591nm,0.4s								
AC05	**El Transito**	**3.62**	**330**			**Pn**	**17 53 50.4**	**+2.0**	
AC05	**El Transito**	**3.62**	**330**	⇑*iP*		**Pn**	**17 53 50.6**	**+2.1**	
AC05	**El Transito**	**3.62**	**330**	*eP*		**Pn**	**17 53 49.2**	**+0.8**	
AC05				*eS*		**Sn**	**17 54 30.9**	**+0.2**	
AC05				IAML			17 54 33.2		
	comp=Z,2μm,0.2s								
LCO	**Las Campanas**	**3.67**	**323**			**Pn**	**17 53 50.1**	**+0.7**	
LCO	**Las Campanas**	**3.67**	**323**	*eP*		**Pn**	**17 53 50.0**	**+0.7**	
BO03	**Pichilemu**	**4.04**	**231**	⇑*iP*		**Pn**	**17 53 51.3**	**-2.6**	
BO03				⇓*e*			17 54 13.6		
BO03				⇑*e*			17 54 29.6		
BO03				*eS*		**Sn**	**17 54 35.9**	**-4.5**	
GO05	**Huala**	**4.35**	**225**			**Pn**	**17 53 55.6**	**-2.5**	
GO05	**Huala**	**4.35**	**225**	⇓*iP*		**Pn**	**17 53 55.5**	**-2.5**	
GO05				IAML			17 54 52.4		
	comp=E,448nm,0.5s								
AC04	**Llanos de Chal**	**4.52**	**326**			**Pn**	**17 54 00.4**	**0.0**	
ML02	**Panimavida**	**4.63**	**215**			**Pn**	**17 54 00.7**	**-1.2**	
ML02	**Panimavida**	**4.63**	**215**	*eP*		Pn	17 53 52.7	-9.2	
ML02				*iS*		**Sn**	**17 54 49.9**	**-4.9**	
GO03	**Copiap**	**4.72**	**337**			**Pn**	**17 54 04.0**	**+0.9**	
AC02	**Mina Casimiro**	**4.98**	**337**			**Pn**	**17 54 06.9**	**+0.3**	
AC02	**Maricunga**	**5.19**	**351**			**Pn**	**17 54 11.6**	**+1.7**	
AC01	**Pan de Azucar**	**6.18**	**339**			**Pn**	**17 54 22.6**	**-0.2**	
BI05	**Punta Hualpn**	**6.30**	**220**			**Pn**	**17 54 20.1**	**-4.2**	
GO02	**Mina Guanaco**	**6.90**	**349**	Pn		**Pn**	**17 54 32.0**	**-0.8**	
PB14	**IPOC Station P**	**7.58**	**345**	Pn		**Pn**	**17 54 40.3**	**-1.7**	
TRQA	**Tornquist**	**7.91**	**142**	Pn		**Pn**	**17 54 45.3**	**-0.9**	
GO06	**Curarrehue**	**8.04**	**198**	Pn		**Pn**	**17 54 45.8**	**-2.2**	
PB10	**IPOC Station P**	**8.69**	**345**	Pn		**Pn**	**17 54 54.1**	**-2.6**	
PLCA	**Paso Flores**	**8.94**	**192**	P		**Pn**	**17 54 58.9**	**-1.2**	
	comp=E,3.0nm,0.7s,baz=359,slow=12,SNR=9.4								
PLCA	**Paso Flores**	**8.94**	**192**			**Pn**	**17 54 58.5**	**-1.6**	
LR04	**Corral**	**8.95**	**207**			Pn	17 54 54.6	-5.6	
VA04	**Juan Fernndez**	**9.11**	**257**	Pn		**Pn**	**17 55 00.4**	**-1.9**	
PB06	**IPOC Station P**	**9.32**	**352**			**Pn**	**17 55 03.3**	**-2.1**	
LVC	**Limon Verde**	**9.36**	**356**	P		**Pn**	**17 55 05.3**	**-0.7**	
	comp=E,34nm,0.2s,baz=304,slow=10,SNR=4.5								
LVC				S		**Sn**	**17 56 43.7**	**-6.0**	
	comp=E,22nm,0.6s,baz=285,slow=20,SNR=1.4								
LVC	**Limon Verde**	**9.36**	**356**	Pn		**Pn**	**17 55 04.8**	**-1.2**	
LVC	**Limon Verde**	**9.36**	**356**	*eP*		Pn	17 54 59.6	-6.5	
LL04	**Puerto Octay**	**9.54**	**200**	Pn		**Pn**	**17 55 03.5**	**-4.5**	
ITQB	**Itaqui**	**10.20**	**80**	Pn		**Pn**	**17 55 14.6**	**-2.4**	
ITQB	**Itaqui**	**10.20**	**80**	*eP*		**Pn**	**17 55 14.9**	**-2.1**	
PB07	**IPOC Station P**	**10.32**	**351**			**Pn**	**17 55 15.3**	**-3.6**	
PB02	**IPOC Station P**	**10.73**	**351**			**Pn**	**17 55 20.8**	**-3.5**	
PB01	**IPOC Station P**	**10.95**	**354**			**Pn**	**17 55 23.8**	**-3.6**	
CPUP	**Villa Florida**	**11.03**	**62**	P		**Pn**	**17 55 25.1**	**-3.1**	
	comp=E,17nm,0.6s,baz=236,slow=12,SNR=38								
CPUP				S		**Sn**	**17 57 27.3**	**-2.4**	
	comp=E,42nm,0.9s,baz=282,slow=19,SNR=1.7								
CPUP	**Villa Florida**	**11.03**	**62**	Pn		**Pn**	**17 55 24.6**	**-3.6**	
CPUP	**Villa Florida**	**11.03**	**62**	*eP*		**Pn**	**17 55 25.3**	**-2.9**	
RODS	**Rosario do Sul**	**11.24**	**85**	*eP*		**Pn**	**17 55 27.9**	**-3.2**	
PATCX	**Punta Patache**	**11.25**	**351**	Pn		**Pn**	**17 55 27.1**	**-4.2**	
AZCA	**Azaras, Argent**	**11.26**	**73**	*eP*		**Pn**	**17 55 29.1**	**-2.3**	
TA01	**Diego Aracena**	**11.51**	**351**	Pn		Pn	17 55 29.7	-4.9	
UNIS	**Unistalda (Bra**	**11.67**	**79**	*eP*		**Pn**	**17 55 33.8**	**-3.0**	
PB08	**IPOC Station P**	**11.82**	**356**			**Pn**	**17 55 35.8**	**-3.4**	
PB11	**IPOC Station P**	**12.24**	**353**	Pn		**Pn**	**17 55 39.8**	**-4.6**	
GO01	**Chusmiza**	**12.29**	**356**			**Pn**	**17 55 42.6**	**-2.8**	
PLTB	**Pedras Altas**	**12.40**	**93**	Pn		**Pn**	**17 55 43.1**	**-3.2**	
PLTB	**Pedras Altas**	**12.40**	**93**	*eP*		**Pn**	**17 55 43.2**	**-3.0**	
PSGCX	**Pisagua**	**12.45**	**351**			Pn	17 55 42.0	-5.1	
CPSB	**Cacapava Do Su**	**12.72**	**87**	*eP*		**Pn**	**17 55 45.8**	**-4.7**	
MNMC	**Minye Minye**	**12.86**	**354**	Pn		**Pn**	**17 55 50.0**	**-2.5**	
ALGR	**Alto Alegre (B**	**13.46**	**80**	*eP*		**Pn**	**17 55 58.3**	**-1.8**	
PB16	**IPOC Station P**	**13.64**	**355**	Pn		**Pn**	**17 56 01.5**	**-1.4**	
MURT	**Porto Murtinho**	**13.95**	**45**	*eP*		**Pn**	**17 56 05.7**	**-0.7**	
FRBT	**Francisco Belt**	**14.52**	**69**	*eP*		**Pn**	**17 56 12.3**	**-1.4**	
MCR1	**Marechal Candi**	**14.54**	**63**	*eP*		**Pn**	**17 56 14.4**	**+0.5**	
ANTJ	**Antonio Joao (**	**14.71**	**50**	*eP*		**Pn**	**17 56 15.8**	**-0.3**	
ITAB	**Concordia**	**14.74**	**75**	Pn		**Pn**	**17 56 14.9**	**-1.5**	
ITAB	**Concordia**	**14.74**	**75**	*eP*		**Pn**	**17 56 15.8**	**-0.6**	
CNLB	**Canela**	**15.15**	**84**	*eP*		**Pn**	**17 56 21.5**	**-0.2**	
BBRB	**Robore, Bolivi**	**15.60**	**31**	*eP*		**Pn**	**17 56 27.1**	**-0.1**	
LPAZ	**La Paz**	**15.62**	**0**	P		**P**	**17 56 29.5**	**-0.3**	
	comp=E,49nm,0.8s,baz=165,slow=9.6,SNR=68								
LPAZ	**La Paz**	**15.62**	**0**	Pn		**Pn**	**17 56 26.9**	**-1.2**	
LPAZ				IAmb		IAmb	17 56 33.5		
	comp=Z,61nm,0.8s								
PTGB	**Pitanga**	**15.92**	**67**	*eP*		**Pn**	**17 56 30.7**	**-0.6**	
AQDB	**Aquidauana**	**16.01**	**47**			**Pn**	**17 56 31.1**	**-1.2**	
AQDB	**Aquidauana**	**16.01**	**47**	*eP*		**Pn**	**17 56 31.9**	**-0.4**	
BBSD	**Serra de San D**	**16.25**	**27**	*eP*		**P**	**17 56 35.9**	**-0.2**	
TER01	**Tubaro-SC**	**16.82**	**83**	*eP*		**Pn**	**17 56 41.8**	**-0.4**	
SIV	**San Ignacio**	**17.18**	**24**	P		**Pn**	**17 56 47.0**	**+0.4**	
	comp=Z,9.7nm,0.6s,baz=207,slow=12,SNR=34								
PCMB	**Pacaembu**	**18.28**	**60**	*eP*		**P**	**17 56 58.5**	**+0.1**	
PTLB	**Pontes e Lacer**	**18.41**	**29**	*eP*		**Pn**	**17 57 01.1**	**-0.2**	
FRTB	**Fartura**	**18.58**	**67**	*eP*		**P**	**17 57 01.6**	**-0.2**	
SALV	**Santo Antonio**	**19.63**	**38**	*eP*		**P**	**17 57 14.1**	**+1.0**	
PET01	**Itanhaem-SP**	**19.95**	**73**	*eP*		**P**	**17 57 17.2**	**+0.7**	
ITRB	**Iturama**	**20.13**	**57**	*eP*		**P**	**17 57 19.8**	**+1.2**	
VILB	**Vilhena**	**20.31**	**23**	P		**P**	**17 57 20.2**	**-0.2**	
VILB				IAmb		IAmb	17 57 32.5		
	comp=Z,31nm,0.7s								
VILB	**Vilhena**	**20.31**	**23**	*eP*		**P**	**17 57 21.4**	**+1.0**	
BB19B	**Bebedouro**	**20.64**	**63**	*eP*		**P**	**17 57 23.8**	**-0.3**	
RCLB	**Rio Claro- Sao**	**20.66**	**68**	*eP*		**P**	**17 57 25.2**	**+0.9**	
VAO	**Valinhos**	**20.81**	**70**	*eP*		**P**	**17 57 27.3**	**+1.4**	
NNA	**Nana**	**21.43**	**336**	P		**P**	**17 57 34.7**	**+2.2**	
	comp=Z,25nm,0.6s,baz=181,slow=9.3,SNR=20								
NNA				S		**S**	**18 01 21.2**	**-2.3**	
	comp=Z,5.1nm,0.7s,baz=53,slow=18,SNR=1.5								
	comp=Z,25nm,0.6s								
ETMB	**Extrema**	**22.13**	**5**	P		**P**	**17 57 40.6**	**+0.8**	
ETMB				IAmb		IAmb	17 57 43.3		
	comp=Z,54nm,0.9s								
ETMB	**Extrema**	**22.13**	**5**	*eP*		**P**	**17 57 40.5**	**+0.7**	
IPMB	**Ipameri, GO**	**22.79**	**57**	*eP*		**P**	**17 57 47.4**	**+0.9**	
SAML	**Samuel**	**23.38**	**13**	P		**P**	**17 57 52.0**	**0.0**	
SAML				IAmb		IAmb	17 57 54.3		
	comp=Z,72nm,0.7s								
CLDB	**Colider**	**23.92**	**31**	*eP*		**P**	**17 57 56.8**	**0.0**	
BDFB	**Brasilia**	**24.53**	**53**	P		**P**	**17 58 02.4**	**-0.1**	
	comp=Z,19nm,0.8s,baz=225,slow=7.8,SNR=3.0								
	comp=Z,19nm,0.8s								
BDFB	**Brasilia**	**24.53**	**53**	P		**P**	**17 58 02.4**	**-0.1**	
BDFB	**Brasilia**	**24.53**	**53**	*eP*		**P**	**17 58 02.7**	**+0.3**	
SNDB	**Serra Nova Dou**	**25.26**	**42**	*eP*		**P**	**17 58 09.8**	**+0.8**	
ATAH	**Atahualpa**	**26.49**	**337**	P		**P**	**17 58 23.5**	**+3.0**	
	comp=Z,6.9nm,0.7s,baz=174,slow=11,SNR=8.5								
	comp=Z,6.9nm,0.7s								
MC01	**Montes Claros**	**26.73**	**61**	*eP*		**P**	**17 58 24.2**	**+1.9**	
ALF01	**Guarapari-ES**	**27.02**	**72**	*eP*		**P**	**17 58 27.0**	**+2.3**	
JANB	**Januaria**	**27.52**	**58**	*eP*		**P**	**17 58 31.6**	**+2.2**	
NPGB	**Novo Progresso**	**27.54**	**28**	*eP*		**P**	**17 58 29.1**	**-0.4**	
SJMB	**Sao Joao De Ma**	**27.66**	**68**	*eP*		**P**	**17 58 33.3**	**+2.7**	
TBTG	**Tabatinga, AM**	**27.70**	**356**	*eP*		**P**	**17 58 30.1**	**-0.7**	
SDBA	**SAO DESIDERIO**	**28.94**	**53**	*eP*		**P**	**17 58 41.9**	**-0.1**	
MACA	**Manacapuru-AM**	**29.52**	**15**	*eP*		**P**	**17 58 47.3**	**+0.3**	
MCRA	**Macar, Loja**	**29.60**	**336**	P		**P**	**17 58 48.2**	**+0.4**	
MCRA				IAmb		IAmb	17 58 50.0		
	comp=Z,25nm,1.1s								
MCRA				PcP		**PcP**	**18 01 50.0**	**+0.2**	
ITTB	**Itaituba**	**29.85**	**26**	*eP*		**P**	**17 58 50.1**	**+0.2**	
BOSC	**San Juan Bosco**	**30.27**	**339**	P		**P**	**17 58 54.9**	**+1.0**	
BOSC				IAmb		IAmb	17 58 55.9		
	comp=Z,27nm,0.7s								
PRPB	**Parauapebas**	**30.88**	**38**	*eP*		**P**	**17 58 58.5**	**-0.6**	
CMC01	**Camacan, BA**	**30.89**	**64**	*eP*		**P**	**17 59 01.2**	**+2.0**	
SGCB	**SÃo Gabriel d**	**31.70**	**2**	*eP*		**P**	**17 59 05.1**	**-1.1**	
GDU01	**Guandu, BA**	**31.87**	**62**	*eP*		**P**	**17 59 09.7**	**+2.0**	
MALB	**Monte Alegre**	**32.71**	**26**	*eP*		**P**	**17 59 15.5**	**+0.4**	
PMSA	**Palmer Station**	**32.92**	**177**	P		**P**	**17 59 16.2**	**-0.1**	
	comp=Z,15nm,0.5s,baz=311,slow=13,SNR=4.9								
	comp=Z,15nm,0.5s								
PMSA	**Palmer Station**	**32.92**	**177**	P		**P**	**17 59 15.5**	**-0.8**	
PMSA				IAmb		IAmb	17 59 16.8		
	comp=Z,22nm,0.8s								
MCPB	**Macapa, AP**	**34.95**	**29**	*eP*		**P**	**17 59 35.0**	**+0.5**	
BOAV	**Boa Vista**	**34.95**	**13**	P		**P**	**17 59 34.5**	**+0.1**	
BOAV				IAmb		IAmb	17 59 35.7		
	comp=Z,17nm,0.9s								
BOAV				PcP		**PcP**	**18 02 04.9**	**+0.5**	
BOAV	**Boa Vista**	**34.95**	**13**	*eP*		**P**	**17 59 34.4**	**-0.1**	
TMAB	**Tom-Au,PA,Br**	**35.00**	**37**	*eP*		**P**	**17 59 35.8**	**+0.9**	
MDP	**Montagnes des**	**39.74**	**25**	P		**P**	**18 00 15.2**	**+0.4**	
	comp=Z,18nm,0.4s,baz=202,slow=11,SNR=30								
MDP				PcP		**PcP**	**18 02 19.9**	**+0.8**	
	comp=Z,3.4nm,0.5s,baz=229,slow=5.4,SNR=4.4								
	comp=Z,18nm,0.4s								
MPGF	**Montagnes des**	**39.74**	**25**	P		**P**	**18 00 15.1**	**+0.2**	
MPGF				pP		**pP**	**18 00 41.1**	**-1.1**	
MPGF				sP		**sP**	**18 00 56.4**	**+0.4**	
BAUV	**El Baul**	**40.69**	**0**	P		**P**	**18 00 21.4**	**-1.2**	
BAUV				PcP		**PcP**	**18 02 21.5**	**-0.5**	
SDV	**Santo Domingo**	**40.70**	**356**	*eP*		**P**	**18 00 22.2**	**-0.8**	
PCRV	**Puerto La Cruz**	**42.05**	**5**	P		**P**	**18 00 33.6**	**-0.2**	
	comp=Z,33nm,0.9s,baz=174,slow=4.4,SNR=6.2								
	comp=Z,33nm,0.9s								
GRGR	**Grenville**	**44.30**	**9**

V58A IAmb IAmb 18 03 42.3
comp=Z,25nm,0.8s
V58A Windy Hill, Pi 68.19 350 P P 18 03 41.5 +0.3
baz=170,SNR=5.6
V58A P P 18 03 41.5 +0.3
baz=170,SNR=5.6
W52A Murphy 68.34 346 P P 18 03 42.4 +0.3
baz=166
435B Jarrell 68.36 333 P P 18 03 43.4 +1.1
baz=154
X48A Hartselle 68.42 343 P P 18 03 43.2 +0.7
baz=163,SNR=11
Y45A Yeager Farm, C 68.52 341 P P 18 03 42.9 -0.3
Y45A IAmb IAmb 18 03 46.5
comp=Z,39nm,1.1s
Y45A Yeager Farm, C 68.52 341 P P 18 03 44.0 +0.8
baz=161,SNR=6.4
V55A Taylorsville 68.57 349 P P 18 03 43.4 -0.1
V55A IAmb IAmb 18 03 44.9
comp=Z,30nm,0.9s
V55A Taylorsville 68.57 349 P P 18 03 44.0 +0.5
baz=168,SNR=5.1
V55A P P 18 03 44.0 +0.5
baz=168,SNR=5.1
V53A Saluda 68.68 347 P P 18 03 43.5 -0.7
V53A IAmb IAmb 18 03 45.2
comp=Z,19nm,0.9s
V53A Saluda 68.68 347 P P 18 03 44.3 0.0
baz=167,SNR=6.3
V53A P P 18 03 44.3 0.0
baz=167,SNR=6.3
W50A Signal Mountai 68.74 345 P P 18 03 43.6 -1.0
W50A IAmb IAmb 18 03 45.7
comp=Z,30nm,0.8s
W50A Signal Mountai 68.74 345 P P 18 03 45.2 +0.6
baz=165,SNR=9.9
237A Washetta, Mont 68.79 335 P P 18 03 46.2 +1.2
baz=155,SNR=5.6
TKL Tuckaleechee C 68.86 346 P P 18 03 44.8 -0.5
TKL IAmb IAmb 18 03 46.0
comp=Z,24nm,1.1s
SWET Sewanee 68.89 344 P P 18 03 44.6 -0.9
JCT Junction City 68.98 331 P P 18 03 46.8 +0.6
baz=152,SNR=11
JCT Junction City 68.98 331 P P 18 03 47.3 +1.1
baz=152
V52A Sevierville 69.00 347 P P 18 03 46.0 -0.2
baz=166
OXF Oxford 69.09 341 P P 18 03 45.2 -1.5
OXF IAmb IAmb 18 03 47.6
comp=Z,46nm,1.1s
OXF Oxford 69.09 341 P P 18 03 46.5 -0.3
baz=161,SNR=5.3
OXF Oxford 69.09 341 P P 18 03 46.6 -0.1
baz=161
V51A Loudon 69.11 346 P P 18 03 46.6 -0.2
baz=166
T59A Double "B" Far 69.15 352 P P 18 03 48.2 +1.2
baz=172,SNR=6.5
T59A P P 18 03 48.2 +1.2
baz=172,SNR=6.5
PLAL Pickwick Lake 69.18 343 P P 18 03 45.6 -1.7
U54A Nelsons Funny 69.33 348 P P 18 03 48.3 0.0
baz=168,SNR=8.7
U54A P P 18 03 48.3 0.0
baz=168,SNR=8.7
WHTX Lake Whitney, 69.39 334 P P 18 03 48.7 +0.1
baz=154
T57A Hurt 69.40 351 P P 18 03 48.9 +0.3
baz=170,SNR=5.7
T57A P P 18 03 48.9 +0.3
baz=170,SNR=5.7
WLAR White Oak Lake 69.42 338 P P 18 03 47.2 -1.5
V48A Smith Brothers 69.60 344 P P 18 03 50.3 +0.4
baz=163,SNR=12
W45A Hickory Valley 69.64 342 P P 18 03 50.6 +0.5
baz=161
TZTN Tazewell 69.67 347 P P 18 03 50.4 +0.1
baz=166
TX31 Lajitas Ar. Si 69.67 327 P P 18 03 50.5 -0.1
TX31 IAmb IAmb 18 03 52.8
comp=Z,28nm,1.0s
TX31 Lajitas Ar. Si 69.67 327 P P 18 03 51.2 +0.6
baz=148,SNR=15
TX32 Lajitas Array 69.67 327 P P 18 03 51.3 +0.7
TXAR Lajitas Array 69.67 327 P P 18 03 51.7 +1.1
comp=Z,5.6nm,0.8s,baz=149,slow=8.4,SNR=51
TXAR pP pP 18 04 21.9 +1.3
comp=Z,1.4nm,0.8s,baz=161,slow=7.7,SNR=2.9
comp=Z,5.6nm,0.8s
BLA Blacksburg 69.78 350 P P 18 03 51.1 +0.2
baz=169
CLTN Cedars of Leba 69.82 344 P P 18 03 50.5 -0.7
CLTN IAmb IAmb 18 03 52.1
comp=Z,17nm,0.8s
JSRW J. Sargeant Re 69.90 352 P P 18 03 51.7 +0.1
U49A Red Boiling Sp 70.10 345 P P 18 03 52.7 -0.2
baz=164
S57A Dark Hollow, R 70.11 351 P P 18 03 52.6 -0.3
S57A IAmb IAmb 18 03 54.6
comp=Z,26nm,0.9s
S57A Dark Hollow, R 70.11 351 P P 18 03 54.1 +1.2
baz=170,SNR=5.4
S57A P P 18 03 54.1 +1.2
baz=170,SNR=5.4
WVT Waverly 70.21 343 P P 18 03 53.3 -0.3
WVT Waverly 70.21 343 P P 18 03 53.4 -0.1
baz=162,SNR=36
WVT Waverly 70.21 343 P P 18 03 53.4 -0.1
baz=162
WVT Waverly 70.21 343 P P 18 03 53.4 -0.3
WVT pP pP 18 04 22.9 -0.7
WVT sP sP 18 04 36.8 +0.2
CBN Corbin Frederi 70.35 352 P P 18 03 54.9 +0.6
baz=172
MIAR Mount Ida 70.35 338 P P 18 03 54.6 +0.1
MIAR Mount Ida 70.35 338 P P 18 03 55.1 +0.7
baz=157,SNR=5.7
MIAR Mount Ida 70.35 338 P P 18 03 54.6 +0.1
baz=157,SNR=5.7
T50A Nancy 70.39 346 P P 18 03 54.6 0.0
baz=165
T50A P P 18 03 54.6 0.0
baz=165
S54A Dingess, Beckl 70.49 349 P P 18 03 54.9 -0.4
S54A IAmb IAmb 18 03 56.2
comp=Z,29nm,0.8s
S54A Dingess, Beckl 70.49 349 P P 18 03 55.2 -0.1
baz=168,SNR=7.1
S54A P P 18 03 55.2 -0.1
baz=168,SNR=7.1
Z35A Perchaven, San 70.51 334 P P 18 03 56.4 +1.0
baz=154,SNR=6.1
WHAR Wooly Hollow 70.64 339 P P 18 03 55.8 -0.5
S51A Beattyville 70.74 347 P P 18 03 55.6 -1.2
S51A IAmb IAmb 18 03 57.6
comp=Z,21nm,0.8s
S51A Beattyville 70.74 347 P P 18 03 56.7 0.0
baz=166,SNR=5.7
S51A P P 18 03 56.7 0.0
baz=166,SNR=5.7
R55A Marlinton 70.78 350 P P 18 03 58.2 +1.1
baz=169,SNR=7.2
R55A P P 18 03 58.2 +1.1
baz=169,SNR=7.2
ABTX Abilene, Hawle 70.80 332 P P 18 03 58.1 +0.9
baz=152,SNR=11
ABTX Abilene, Hawle 70.80 332 P P 18 03 57.8 +0.5
baz=152
T47A Sharon Grove 70.86 344 P P 18 03 57.6 +0.1
baz=163,SNR=8.7
X37A Clayton 70.98 337 P P 18 03 57.3 -1.0
X37A Clayton 70.98 337 P P 18 03 58.8 +0.5
baz=156,SNR=5.8
LCAR Lake Charles 71.04 340 P P 18 03 58.5 0.0
baz=160,SNR=16
LIC Lamto 71.05 70⇑*i*P P 18 03 59.8 +0.6
comp=Z,44nm,0.8s
R53A Hurricane 71.12 349 P P 18 03 59.1 +0.1
baz=168
R53A P P 18 03 59.1 +0.1
baz=168
FCAR Ozark Folk Cen 71.15 340 P P 18 03 58.8 -0.5
TIC Toumodi 71.31 69⇓*e*P P 18 04 01.1 +0.3
comp=Z,16nm,0.6s
KIC Kosan Boka 71.36 70⇑*e*P P 18 04 01.5 +0.4
comp=Z,16nm,0.6s

DBIC Dimbokro 71.45 69 P P 18 04 02.0 +0.4
comp=Z,16nm,0.8s,baz=238,slow=6.5,SNR=16
comp=Z,16nm,0.8s
DBIC Dimbokro 71.45 69 P 18 04 01.5 -0.1
DBIC IAmb IAmb 18 04 03.1
comp=Z,14nm,0.8s
DBIC Dimbokro 71.45 69 P P 18 04 02.2 +0.6
DBIC pP pP 18 04 31.9 +0.2
DBIC sP sP 18 04 43.6 -1.1
R50A Paris 71.50 347 P P 18 04 01.6 +0.2
baz=166,SNR=6.4
R50A P P 18 04 01.6 +0.2
baz=166,SNR=6.4
P57A Homestead Farm 71.69 352 P P 18 04 03.8 +1.4
baz=171,SNR=6.2
P57A P P 18 04 03.8 +1.4
baz=171,SNR=6.2
Q52A Bidwell 71.79 348 P P 18 04 03.3 +0.3
baz=168
Q52A P P 18 04 03.3 +0.3
baz=168
WCI Wyandotte Cave 71.86 345 P P 18 04 03.4 0.0
baz=164,SNR=6.8
WCI Wyandotte Cave 71.86 345 P P 18 04 02.9 -0.6
baz=164
WCI Wyandotte Cave 71.86 345 P P 18 04 02.8 -0.6
WCI sP sP 18 04 45.9 -0.7
X34A Smith Ranch, M 71.86 335 P 18 04 03.9 +0.3
Q51A Peebles 72.04 348 P P 18 04 04.9 +0.3
baz=167,SNR=5.4
Q51A P P 18 04 04.9 +0.3
baz=167,SNR=5.4
HHAR Hobbs 72.06 338 P P 18 04 04.8 0.0
baz=157
TUPA Temple Univers 72.08 354 P P 18 04 05.4 +0.7
baz=174
MCWV Mont Chateau 72.09 351 P P 18 04 05.4 +0.6
baz=170
MCWV Mont Chateau 72.09 351 P P 18 04 05.6 +0.7
baz=170
P53A Whipple 72.15 349 P P 18 04 05.5 +0.3
baz=168
P53A P P 18 04 05.5 +0.3
baz=168
TUL1 Leonard 72.33 337 P P 18 04 06.6 +0.3
baz=156,SNR=5.4
TUL1 Leonard 72.33 337 P P 18 04 06.4 +0.1
baz=156,SNR=5.4
WMOK Wichita Mounta 72.33 334 P P 18 04 06.4 -0.1
WMOK Wichita Mounta 72.33 334 P P 18 04 06.9 +0.5
baz=153,SNR=9.4
WMOK Wichita Mounta 72.33 334 P P 18 04 06.3 -0.1
baz=153,SNR=9.4
U38A Gravette 72.35 338 P P 18 04 06.6 +0.1
baz=157,SNR=6.9
MGMO Mountain Grove 72.37 340 P P 18 04 05.8 -0.8
MGMO IAmb IAmb 18 04 08.0
comp=Z,31nm,1.0s
P52A Corning 72.42 349 P P 18 04 06.0 -0.7
P52A IAmb IAmb 18 04 07.5
comp=Z,25nm,0.8s
P52A Corning 72.42 349 P P 18 04 06.7 -0.1
baz=168
P51A Williamsport 72.43 348 P P 18 04 06.8 0.0
baz=167
P51A P P 18 04 06.8 0.0
baz=167
FVM French Village 72.63 342 P P 18 04 08.6 +0.5
baz=160,SNR=8.8
OLIL Olney 72.75 344 P P 18 04 08.5 -0.2
baz=162
P49A Miami Univ. Ec 72.79 347 P P 18 04 08.6 -0.3
baz=166
P49A Miami Univ. Ec 72.79 347 P P 18 04 08.2 -0.7
baz=166
SSPA Standing Stone 72.81 352 P P 18 04 09.6 +0.5
baz=172
O52A Adamsville 72.84 349 P P 18 04 09.3 0.0
baz=168
O52A P P 18 04 09.3 0.0
baz=168
P48A Milroy 72.86 346 P P 18 04 08.8 -0.6
baz=165,SNR=5.7
P48A P P 18 04 08.8 -0.6
baz=165,SNR=5.7
CCM Cathedral Cave 72.92 341 P P 18 04 08.3 -1.5
CCM IAmb IAmb 18 04 11.0
comp=Z,22nm,0.7s
CCM Cathedral Cave 72.92 341 P P 18 04 10.1 +0.3
baz=160,SNR=14
CCM Cathedral Cave 72.92 341 P P 18 04 09.7 -0.1
baz=160
KIDD KIDD Seismic O 73.04 326 P P 18 04 11.9 +1.1
baz=147
ACSO Alum Creek Sta 73.14 348 P P 18 04 11.4 +0.4
baz=167,SNR=5.2
ACSO Alum Creek Sta 73.14 348 P P 18 04 10.9 -0.1
baz=167
S39A Bolivar 73.18 339 P P 18 04 11.4 +0.1
S39A Bolivar 73.18 339 P P 18 04 11.9 +0.6
baz=158,SNR=14
M65A Busby, Falmout 73.21 358 P P 18 04 13.2 +1.8
baz=178
MSTX Muleshoe 73.24 330 P P 18 04 10.6 -1.4
MSTX IAmb IAmb 18 04 13.5
comp=Z,38nm,0.9s
MSTX Muleshoe 73.24 330 P P 18 04 12.5 +0.6
baz=150,SNR=20
MSTX Muleshoe 73.24 330 P P 18 04 12.0 +0.1
baz=150
O49A Covington 73.35 347 P P 18 04 11.9 -0.4
O49A IAmb IAmb 18 04 13.0
comp=Z,27nm,0.8s
O49A Covington 73.35 347 P P 18 04 12.3 +0.1
baz=166,SNR=6.4
O49A P P 18 04 12.3 +0.1
baz=166,SNR=6.4
R40A Maddies Statio 73.42 340 P P 18 04 12.8 +0.1
R40A Maddies Statio 73.42 340 P P 18 04 12.9 +0.1
baz=159,SNR=24
T35A Sooner Cattle 73.48 337 P 18 04 13.1 -0.1
T35A IAmb IAmb 18 04 14.7
comp=Z,23nm,0.9s
T35B Sooner Cattle 73.48 337 P P 18 04 14.1 +1.0
baz=155,SNR=7.7
O48B Farmland 73.57 347 P P 18 04 13.6 +0.1
baz=165,SNR=6.0
O48B Farmland 73.57 347 P P 18 04 12.8 -0.8
baz=165
AMTX Amarillo 73.59 332 P P 18 04 14.9 +1.0
baz=151,SNR=7.0
AMTX Amarillo 73.59 332 P P 18 04 14.3 +0.4
baz=151
M55A Ridgway 73.73 352 P P 18 04 14.0 -0.5
M55A IAmb IAmb 18 04 15.9
comp=Z,16nm,0.8s
U32A Winter Ranch, 73.88 335 P P 18 04 15.8 +0.3
U32A Winter Ranch, 73.88 335 P P 18 04 16.8 +1.3
baz=153,SNR=9.4
P43A Skaggs, Pawnee 73.96 343 P P 18 04 16.0 +0.2
baz=161,SNR=5.5
N49A Columbus Grove 74.03 347 P P 18 04 15.5 -0.7
N49A Columbus Grove 74.03 347 P P 18 04 16.6 +0.3
baz=166,SNR=5.6
N49A P P 18 04 16.6 +0.3
baz=166,SNR=5.6
L59A Walton 74.08 355 P P 18 04 17.6 +1.0
baz=174
L59A P P 18 04 17.6 +1.0
baz=174
SFIN Lafayette 74.09 345 P P 18 04 16.0 -0.6
baz=164
MAW Mawson 74.16 163 P P 18 04 17.7 +1.0
comp=Z,6.8nm,0.7s,baz=218,slow=7.8,SNR=11
comp=Z,6.8nm,0.7s
MAW Mawson 74.16 163 P P 18 04 16.7 0.0
BINY Binghamton 74.16 354 P P 18 04 17.6 +0.6
baz=173
L61B Northampton 74.18 357 P P 18 04 18.0 +0.9
baz=176
HRV Adam Dziewonsk 74.19 357 P P 18 04 18.0 +0.9
baz=177
L56A Greenwood 74.25 353 P P 18 04 17.5 0.0
L56A IAmb IAmb 18 04 18.7
comp=Z,14nm,0.8s
L56A Greenwood 74.25 353 P P 18 04 18.5 +0.9
baz=172

L56A P P 18 04 18.5 +0.9
baz=172
121A Cookes Peak, D 74.27 326 P P 18 04 20.1 +2.0
baz=146,SNR=18
121A Cookes Peak, D 74.27 326 P P 18 04 19.4 +1.3
baz=146
N47A Urbana 74.28 346 P P 18 04 16.8 -0.9
N47A Urbana 74.28 346 P P 18 04 16.9 -0.7
baz=165,SNR=7.6
N47A P P 18 04 16.9 -0.7
baz=165,SNR=7.6
M50A Fremont 74.30 348 P P 18 04 18.0 +0.2
baz=167
M50A P P 18 04 18.0 +0.2
baz=167
P40A Paris 74.52 341 P P 18 04 19.1 0.0
P40A Paris 74.52 341 P P 18 04 19.4 +0.3
baz=159,SNR=16
WVNY West Valley, N 74.64 352 P P 18 04 19.3 -0.4
WVNY IAmb IAmb 18 04 21.4
comp=Z,21nm,0.8s
HDIL Hopedale 74.77 343 P P 18 04 20.3 -0.2
baz=162
P38A Dawn 75.03 340 P P 18 04 21.9 -0.1
baz=158,SNR=8.6
Y22A Socorro 75.06 327 P P 18 04 24.2 +1.6
baz=147,SNR=8.2
Y22D IRIS PASSCAL I 75.15 327 P P 18 04 23.1 0.0
baz=147
Y22F Passcal Instru 75.15 327 P P 18 04 23.3 +0.3
baz=147
N41A Harden Midland 75.30 342 P P 18 04 23.0 -0.6
baz=160,SNR=9.5
KSU1 Kansas State U 75.49 338 P P 18 04 25.1 +0.4
baz=156
TUC Tucson 75.56 324 P P 18 04 25.7 +0.4
baz=144
R32A Long Quarter, 75.59 336 P P 18 04 26.1 +0.8
baz=154,SNR=6.8
ANMO Albuquerque 75.67 328 P P 18 04 27.7 +1.6
baz=147,SNR=21
ANMO Albuquerque 75.67 328 P P 18 04 27.7 +1.6
baz=147
LBNH Lisbon 75.93 357 P P 18 04 28.8 +1.7
baz=177
L44A Lake County Fo 75.99 345 P P 18 04 29.0 +1.6
baz=163
CBKS Cedar Bluff 76.31 335 P P 18 04 30.6 +1.2
baz=153
CBKS Cedar Bluff 76.31 335 P P 18 04 30.2 +0.8
baz=153
214A Organ Pipe Nat 76.32 322 P P 18 04 28.7 -0.9
214A IAmb IAmb 18 04 32.5
comp=Z,20nm,1.1s
214A Organ Pipe Nat 76.32 322 P P 18 04 31.1 +1.5
baz=142
EMMW East Machias 76.32 1 P P 18 04 30.1 +0.9
EMMW IAmb IAmb 18 04 31.5
comp=Z,32nm,0.7s
LONY Lake Ozonia 76.46 355 P P 18 04 31.9 +1.9
baz=174
T25A Trinidad 76.64 331 P P 18 04 32.4 +0.9
T25A IAmb IAmb 18 04 34.3
comp=Z,33nm,0.9s
T25A Trinidad 76.64 331 P P 18 04 32.7 +1.1
baz=149,SNR=20
L40A Anamosa 76.67 343 P P 18 04 30.7 -0.6
L40A Anamosa 76.67 343 P P 18 04 31.3 0.0
baz=160,SNR=19
BMNY Brushton-Moira 76.67 355 P P 18 04 31.8 +0.7
baz=175
N35A Tabor 76.79 339 P P 18 04 31.4 -0.6
N35A Tabor 76.79 339 P P 18 04 32.2 +0.2
baz=156,SNR=7.4
PKME Peaks-Kenny Pk 76.89 359 P P 18 04 33.6 +1.2
baz=179
SCIA State Center 77.05 341 P P 18 04 34.1 +0.6
baz=158
JFWS Jewell Farm 77.23 344 P P 18 04 34.9 +0.5
baz=161
W18A Petrified Fore 77.32 326 P P 18 04 36.6 +1.3
baz=145
F63A Nahmakanta, Br 77.32 359 P P 18 04 36.3 +1.4
baz=179
F63A P P 18 04 36.3 +1.4
baz=179
F64A Sherman 77.48 360 P P 18 04 36.1 +0.4
F64A IAmb IAmb 18 04 38.0
comp=Z,24nm,0.9s
F62A Pittston Farm, 77.53 359 P P 18 04 37.5 +1.5
baz=178
F62A P P 18 04 37.5 +1.5
baz=178
SDCO Great Sand Dun 77.61 331 P P 18 04 35.9 -1.2
SDCO Great Sand Dun 77.61 331 P P 18 04 38.4 +1.3
baz=148,SNR=19
SDCO Great Sand Dun 77.61 331 P P 18 04 38.4 +1.3
baz=148,SNR=15
BGNE Belgrade 78.08 337 P P 18 04 38.4 -0.8
BGNE Belgrade 78.08 337 P P 18 04 40.1 +0.9
baz=154
BOSA Boshof 78.10 116 P P 18 04 40.3 +0.3
comp=Z,4.6nm,0.7s,baz=259,slow=2.5,SNR=8.4
comp=Z,4.6nm,0.7s
S22A 4UR Ranch, Cre 78.18 330 P P 18 04 41.9 +1.7
baz=147,SNR=13
GLA Glamis 78.23 321 P P 18 04 41.5 +1.2
baz=141
WUAZ Wupatki 78.42 325 P P 18 04 43.3 +1.8
baz=144,SNR=13
MVCO Mesa Verde 78.46 328 P P 18 04 41.2 -0.5
MVCO IAmb IAmb 18 04 44.2
comp=Z,18nm,1.0s
MVCO Mesa Verde 78.46 328 P P 18 04 43.6 +1.9
baz=146,SNR=12
Q24A Divide 78.50 331 P P 18 04 43.2 +1.2
Q24A IAmb IAmb 18 04 44.5
comp=Z,30nm,0.8s
Q24A Divide 78.50 331 P P 18 04 43.5 +1.5
baz=149,SNR=14
YUH Yuha Desert 78.51 320 P P 18 04 42.4 +0.7
IKP In-Ko-Pah, Jac 78.61 320 P P 18 04 43.3 +0.9
baz=140
SWSC Sam W. Stewart 78.67 321 P P 18 04 43.8 +1.1
baz=140
PDMCI Parker Dam,Lak 78.85 323 P P 18 04 44.7 +1.1
baz=142
MONP2 Monument Peak 78.97 320 P P 18 04 46.3 +1.7
baz=140
OGNE Ogallala 79.01 335 P P 18 04 45.8 +1.4
baz=151
BC3 Big Chuckawall 79.03 321 P P 18 04 46.1 +1.4
baz=141,SNR=13
I37B Waseca 79.06 342 P P 18 04 45.1 +0.6
baz=158
IRM Iron Mountain 79.26 322 P P 18 04 47.9 +2.0
baz=141,SNR=9.9
109C Camp Elliot, M 79.34 320 P P 18 04 47.9 +1.7
baz=140
K31A O'Neill 79.37 338 P P 18 04 47.7 +1.5
baz=154,SNR=5.1
TPFO Pinon Flats 79.53 321 P P 18 04 49.1 +1.6
baz=140,SNR=9.3
PFO Pinyon Flats O 79.54 321 P P 18 04 49.0 +1.5
baz=140,SNR=10
BELC Belle Mtn. Jos 79.59 321 P P 18 04 49.2 +1.4
baz=140,SNR=5.4
ECSD EROS Data Cent 79.71 339 P P 18 04 47.9 -0.1
ECSD IAmb IAmb 18 04 49.2
comp=Z,29nm,0.8s
ECSD EROS Data Cent 79.71 339 P P 18 04 48.3 +0.3
baz=156,SNR=19
ECSD EROS Data Cent 79.71 339 P P 18 04 48.3 +0.3
baz=156
MURC Murrieta 79.92 320 P P 18 04 51.1 +1.6
baz=140,SNR=7.3
GMRC Granite Mounta 80.01 322 P P 18 04 51.8 +1.8
baz=141,SNR=14
ELS Elsinore Mount 80.09 320 P P 18 04 51.0 +0.5
LBTB Lobatse 80.17 113 P P 18 04 50.6 -0.7
V12A Nelson 80.32 323 P P 18 04 51.8 +0.2
KNB Kanab 80.33 325 P P 18 04 51.4 -0.3
KNB IAmb IAmb 18 04 54.6
comp=Z,38nm,1.1s
HEC Hector,Ludlow 80.40 322 P P 18 04 53.3 +1.3
baz=140,SNR=8.0
CIS Catalina Islan 80.45 319 P P 18 04 53.5 +1.2

baz=139
N23A Red Feather La 80.47 332 P P 18 04 53.8 +1.2
N23A IAmb IAmb 18 04 55.0
comp=Z,19nm,0.8s
N23A Red Feather La 80.47 332 P P 18 04 53.7 +1.2
baz=148
TUQ Turquoise Moun 80.65 322 P P 18 04 54.3 +0.9
baz=141,SNR=13
BFSC Mount Baldy Ra 80.66 320 P P 18 04 54.5 +1.0
baz=139,SNR=8.4
O20A White River Ci 80.78 330 P P 18 04 55.2 +1.1
O20A White River Ci 80.78 330 P P 18 04 55.6 +1.5
baz=147,SNR=7.8
D41A Chassel 80.79 346 P P 18 04 53.9 +0.2
D41A Chassel 80.79 346 P P 18 04 55.0 +1.2
baz=163
F36A Milaca 80.81 342 P P 18 04 54.0 +0.1
baz=158
SNCC San Nicolas Is 80.95 319 P P 18 04 55.9 +1.0
baz=138
GSC Goldstone, Bar 81.01 322 P P 18 04 57.4 +2.1
baz=140,SNR=7.6
CCUT Cedar City 81.01 325 P P 18 04 56.0 +0.5
CCUT IAmb IAmb 18 04 58.5
comp=Z,24nm,1.0s
E38A The Farm, Brul 81.02 344 P P 18 04 55.5 +0.5
baz=160
DECC Green Verdugo 81.04 320 P P 18 04 56.8 +1.4
baz=139
SUSD Miller 81.07 338 P P 18 04 56.7 +1.4
baz=154
SHPR Sheep Range 81.08 323 P P 18 04 56.6 +0.9
SHOC Shoshone, Teco 81.19 322 P P 18 04 57.5 +1.4
baz=140
MSU Marysvale 81.21 327 P P 18 04 57.0 +0.6
EDW2 Edwards Air Fo 81.33 321 P P 18 04 58.6 +1.6
baz=139,SNR=7.2
DRLN Deer Lake 81.43 7 P P 18 04 57.3 +0.2
DRLN IAmb IAmb 18 05 10.2
comp=Z,37nm,1.1s
OSI Osito Audit: C 81.52 320 P P 18 04 59.1 +1.1
baz=139
SCZ2 Santa Cruz Isl 81.57 319 P P 18 04 59.8 +1.7
baz=138
LRMC Laurel Mtn Rad 81.61 321 P P 18 04 59.9 +1.4
baz=140,SNR=9.6
FURC Furnace Creek, 81.93 322 P P 18 05 01.6 +1.7
baz=140
MPMC Manual Prospec 81.94 322 P P 18 05 01.3 +1.0
baz=140,SNR=8.3
TPNV Topopah Spring 81.98 323 P P 18 05 01.7 +1.3
TPNV Topopah Spring 81.98 323 P P 18 05 02.5 +2.0
baz=141,SNR=14
ISA Isabella, Lake 82.17 321 P P 18 05 02.7 +1.3
baz=139,SNR=9.9
K22A Casper 82.19 332 P P 18 05 01.9 +0.4
K22A Casper 82.19 332 P P 18 05 02.9 +1.5
baz=148
K22A Casper 82.19 332 P P 18 05 02.5 +1.0
baz=148
NLU North Lily Min 82.32 327 P P 18 05 00.7 -1.5
PKM Mcpherson Peak 82.32 319 P P 18 05 03.9 +1.6
baz=138,SNR=10.0
RSSD Black Hills 82.50 335 P P 18 05 03.0 -0.1
RSSD IAmb IAmb 18 05 04.9
comp=Z,16nm,0.8s
RSSD Black Hills 82.50 335 P P 18 05 03.6 +0.5
baz=150
RSSD Black Hills 82.50 335 P P 18 05 03.9 +0.8
baz=150
CWC Cottonwood Cre 82.55 322 P P 18 05 04.6 +1.1
baz=139
GRAC Grapevine Rang 82.59 322 P P 18 05 05.2 +1.7
baz=140
SPR3 Spring Creek 3 82.62 325 P P 18 05 03.7 -0.3
SPR3 IAmb IAmb 18 05 06.1
comp=Z,22nm,1.2s
VES Vestal, Richgr 82.63 321 P P 18 05 05.6 +1.9
baz=139,SNR=6.9
R11A Troy Canyon, C 82.73 324 P P 18 05 05.3 +0.9
R11A Troy Canyon, C 82.73 324 P P 18 05 05.8 +1.5
baz=141,SNR=26
SMMC Simmler 82.74 320 P P 18 05 06.4 +2.1
baz=138
DUG Dugway, Tooele 82.85 327 P P 18 05 05.9 +1.0
DUG Dugway, Tooele 82.85 327 P P 18 05 06.2 +1.3
baz=143
TIN Tinemaha, Big 83.09 322 P P 18 05 08.3 +2.1
baz=139
B35A Bob, Littlefor 83.18 343 P P 18 05 05.8 -0.4
B35A IAmb IAmb 18 05 07.2
comp=Z,20nm,0.7s
B35A Bob, Littlefor 83.18 343 P P 18 05 05.5 -0.7
baz=158
BW06 Boulder Array 83.51 331 P P 18 05 08.4 0.0
BW06 Boulder Array 83.51 331 P P 18 05 09.2 +0.8
baz=146
PDAR Pinedale Array 83.51 331 P P 18 05 09.1 +0.8
comp=Z,5.5nm,0.7s,baz=133,slow=6.3,SNR=46
comp=Z,5.5nm,0.7s
PDAR Pinedale Array 83.51 331 P P 18 05 08.5 +0.2
E28A Huff 83.52 338 P P 18 05 08.0 0.0
baz=153
SPUT South Promonto 83.58 328 P P 18 05 08.9 +0.3
SPUT IAmb IAmb 18 05 10.5
comp=Z,16nm,0.9s
AGMN Agassiz Nation 83.67 342 P P 18 05 09.4 +0.7
baz=157
AGMN Agassiz Nation 83.67 342 P P 18 05 09.5 +0.7
baz=157
MLAC Mammoth, Mammo 83.84 322 P P 18 05 10.9 +0.8
baz=139
HVU Hansel Valley 84.10 328 P P 18 05 11.2 0.0
HVU IAmb IAmb 18 05 12.8
comp=Z,18nm,0.8s
AHID Auburn Hatcher 84.16 330 P P 18 05 11.9 +0.3
NVAR Mina Array Bea 84.16 323 P P 18 05 13.1 +1.3
comp=Z,7.0nm,0.8s,baz=156,slow=5.7,SNR=49
comp=Z,7.0nm,0.8s
NVAR Mina Array Bea 84.16 323 P P 18 05 12.5 +0.7
MDND Maddock 84.32 339 P P 18 05 12.2 +0.2
baz=154
ELK Elko 84.42 326 P P 18 05 12.8 -0.2
ELK IAmb IAmb 18 05 14.8
comp=Z,12nm,0.8s
KVN Kaiserville 84.53 323 P P 18 05 13.4 -0.1
KVN IAmb IAmb 18 05 15.5
comp=Z,17nm,1.2s
LOHW Long Hollow 84.64 331 P P 18 05 13.9 -0.2
MOOW Moose Ponds 84.81 331 P P 18 05 13.7 -1.2
YERR Yerington 85.06 323 P P 18 05 16.7 +0.5
FLWY Flagg Ranch 85.06 331 P P 18 05 17.2 +1.0
FLWY IAmb IAmb 18 05 18.3
comp=Z,18nm,0.8s
H17A Grant Village 85.27 331 P P 18 05 18.9 +1.7
baz=145
PNTR Pine Nut 85.33 322 P P 18 05 19.1 +1.5
PNTR IAmb IAmb 18 05 20.2
comp=Z,23nm,0.8s
RLMT Red Lodge 85.34 332 P P 18 05 18.0 +0.6
RLMT IAmb IAmb 18 05 19.3
comp=Z,16nm,0.7s
RLMT Red Lodge 85.34 332 P P 18 05 18.7 +1.2
baz=146
ULM Lac du Bonnet 85.47 343 P P 18 05 17.9 +0.3
comp=Z,8.0nm,0.6s,baz=157,slow=5.3,SNR=9.8
comp=Z,8.0nm,0.6s
ULM Lac du Bonnet 85.47 343 P P 18 05 16.8 -0.9
ULM IAmb IAmb 18 05 18.6
comp=Z,21nm,1.1s
PAHR Pah Rah Range 85.67 323 P P 18 05 19.8 +0.6
PAHR IAmb IAmb 18 05 21.7
comp=Z,15nm,0.9s
YHL Hebgen Lake 85.89 331 P P 18 05 20.4 0.0
YHL IAmb IAmb 18 05 22.8
comp=Z,9.6nm,0.8s
HLID Hailey 86.25 328 P P 18 05 22.0 +0.1
HLID IAmb IAmb 18 05 24.3
comp=Z,21nm,1.0s
HLID Hailey 86.25 328 P P 18 05 23.5 +1.6
baz=142
BEKR Beckworth 86.30 322 P P 18 05 22.7 +0.4
BEKR IAmb IAmb 18 05 24.5
comp=Z,17nm,1.1s
DGMT Dagmar 86.33 337 P P 18 05 23.1 +1.1
baz=150
DGMT Dagmar 86.33 337 P P 18 05 23.4 +1.4
baz=150
SCHQ Schefferville 86.47 1 P P 18 05 22.7 +0.2
comp=Z,7.9nm,0.6s,baz=177,slow=4.0,SNR=9.0
comp=Z,7.9nm,0.6s
SCHQ Schefferville 86.47 1 P P 18 05 21.7 -0.8
SCHQ IAmb IAmb 18 05 38.3
comp=Z,11nm,1.0s
BOZ Bozeman (W) 86.68 331 P P 18 05 24.0 0.0
BOZ Bozeman (W) 86.68 331 P P 18 05 24.9 +0.9
baz=144
CMWZ Cape Campbell 86.85 222 P P 18 05 25.1 +0.1
LRM Limekiln Ridge 87.20 331 P P 18 05 26.8 +0.1
MOD Modoc Plateau 87.77 324 P P 18 05 30.4 +1.0
MOD IAmb IAmb 18 05 31.5
comp=Z,16nm,0.8s
EGMT Eagleton 87.93 334 P P 18 05 30.6 +0.8
baz=146
J08A Circle Bar Ran 87.97 326 P P 18 05 31.4 +1.2
PLID Pearl Lake 88.15 328 P P 18 05 31.4 +0.3
PLID IAmb IAmb 18 05 33.1
comp=Z,22nm,0.8s
MSO Missoula 88.63 331 P P 18 05 34.3 +1.1
baz=143
PTEO Sao Teotonio 88.66 43 eP P 18 05 35.2 +1.8
comp=Z,84nm,1.7s
K05A Summer Lake 88.68 324 P P 18 05 34.6 +0.9
YBH Yreka Blue Hor 88.88 322 P P 18 05 34.3 -0.2
PCVE Castro Verde 89.12 44 eP P 18 05 37.1 +1.5
comp=Z,31nm,1.8s
PINE Pine Mountain 89.48 325 P P 18 05 37.7 +0.3
PMTG Montargil 89.98 42 eP P 18 05 40.0 +0.5
comp=Z,28nm,1.3s
NEW Newport 91.10 330 P P 18 05 44.8 +0.2
baz=140
MTE Manteigas 91.26 42 eP P 18 05 46.3 +0.7
comp=Z,24nm,1.4s
PVIS Viseu 91.28 41 eP P 18 05 44.0 -1.6
comp=Z,18nm,1.3s
MVO Moncorvo 92.07 41 eP P 18 05 49.8 +0.5
comp=Z,25nm,1.7s
ESDC Sonseca Array 92.86 44 P P 18 05 53.9 +0.9
comp=Z,2.8nm,1.0s,baz=242,slow=4.4,SNR=9.9
comp=Z,2.8nm,1.0s
SFJD Kangerlussuaq 99.57 7 LR LR 18 51 55.2
comp=Z,76nm,20.9s,baz=7.0,slow=36
CLL Collm 109.18 41 ePP PP 18 11 37.0 -3.1
O19K Port Alsworth 115.34 327 P PKPdf 18 11 19.9 -0.6
baz=110
MLY Manley 115.50 332 P PKiKP 18 11 20.9 +0.2
baz=111
M19K Big River Lodg 115.95 328 P PKiKP 18 11 22.1 +0.4
baz=110
H22K Ishtalitna Cre 116.05 333 P PKPdf 18 11 21.7 -0.1
baz=110
TOLK Toolik Lake Re 116.35 336 P PKiKP 18 11 22.3 0.0
baz=110
C24K Franklin Bluff 116.43 337 P PKPdf 18 11 21.7 -0.6
baz=111
H21K Melozitna Rive 116.53 333 P PKPdf 18 11 22.4 -0.2
baz=109
SDPT Sand Point 116.88 320 P PKiKP 18 11 23.8 +0.2
baz=108
TTA Tatalina 117.00 329 P PKPdf 18 11 23.4 -0.3
baz=108
G21K Allakaket 117.07 333 P PKPdf 18 11 23.5 -0.2
baz=108
BRTR Keskin Array B 118.02 59 PKP PKiKP 18 11 27.0 +0.4
comp=Z,1.4nm,0.7s,baz=160,slow=3.9,SNR=8.2
AKASG Malin Array Be 118.45 46 PKP PKiKP 18 11 26.9 0.0
comp=Z,1.0nm,0.4s,baz=255,slow=2.7,SNR=2.5
FINES FINESS Array B 119.51 33 PKP PKiKP 18 11 28.7 +0.2
comp=Z,1.0nm,0.4s,baz=38,slow=0.4,SNR=16
FINES PKKPbc **PKKPbc 18 21 41.6 -0.1**
comp=Z,0.6nm,0.5s,baz=116,slow=4.4,SNR=4.3
ASAR Alice Springs 120.77 204 PKP PKPdf 18 11 31.4 -0.9
comp=Z,2.1nm,0.8s,baz=132,slow=1.7,SNR=17
ASAR pPKP **pPKPdf 18 12 04.9 0.0**
comp=Z,2.0nm,1.0s,baz=146,slow=2.7,SNR=4.6
ASAR PKKPbc **PKKPbc 18 21 36.8 +0.4**
comp=Z,1.1nm,0.7s,baz=340,slow=3.6,SNR=15
ARCES ARCESS Array B 120.84 24 PKP PKPdf 18 11 30.7 -0.1
comp=Z,0.5nm,0.3s,baz=244,slow=4.0,SNR=13
WRA Warramunga Arr 124.04 206 PKP PKPdf 18 11 38.1 -0.6
comp=Z,4.4nm,0.5s,baz=155,slow=2.0,SNR=45
WRA pPKP **pPKPdf 18 12 11.5 +0.3**
comp=Z,2.4nm,0.8s,baz=157,slow=2.0,SNR=7.6
WRA PKKPbc **PKKPbc 18 21 24.1 +0.3**
comp=Z,1.1nm,0.7s,baz=341,slow=4.3,SNR=8.3
KBZ Khabaz 125.78 56 PKP PKiKP 18 11 41.7 +0.3
comp=Z,3.7nm,1.0s,baz=102,slow=4.5,SNR=4.5
KLMR Klimovskoe 125.88 35 ePKPdf PKPdf 18 11 40.5 -0.2
KLMR AMP 18 11 42.6
comp=Z,23nm,1.4s
BELG Belogornoye 130.03 46 PKP PKiKP 18 11 49.4 -0.3
comp=Z,10nm,0.7s,baz=128,slow=1.8,SNR=3.6
GEYT Alibek 136.09 67 PKP PKPdf 18 12 01.7 +0.8
comp=Z,1.8nm,0.6s,baz=255,slow=2.9,SNR=5.1
ARU Arti 136.11 40 PKP PKPdf 18 12 00.7 +0.5
comp=Z,1.9nm,0.4s,baz=220,slow=2.9,SNR=4.6
ABKAR Akbulak array 137.90 50 PKPdf PKiKP 18 12 04.9 -0.9
BRVK Borovoye 143.53 42 PKPdf PKPdf 18 12 13.4 -0.5
SANI Sanana 143.58 204 PKP PKPab 18 12 11.9 +0.1
BVAR Borovoye Array 143.60 42 PKP PKPdf 18 12 12.9 -1.0
comp=Z,2.6nm,0.5s,baz=301,slow=1.3,SNR=27
LBMI Labuha 144.32 208 PKP PKPab 18 12 13.3 -1.4
PDSI Padang 145.56 160 PKP PKPdf 18 12 15.9 -2.7
KKAR Karatay Array 145.73 59 PKPdf PKPab 18 12 19.0 -0.2
SDSI Sungai Dareh 145.82 161 PKP PKPdf 18 12 16.0 -3.0
HYBB Hyderabad (bro 146.64 108 ePKPab PKPbc 18 12 22.6 +0.5
GSI Gunungsitoli 146.66 153 PKP PKPdf 18 12 19.1 -1.4
TOLI2 Tolitoli 148.15 197 PKPbc 18 12 25.2 -1.1
AML Almayashu 148.16 61 P PKiKP 18 12 27.4 -0.3
SNR=6.9
EKS2 Erkin-Say 148.17 60 P PKiKP 18 12 27.3 0.0
SNR=11
USP Ospenovka 148.61 58 P PKiKP 18 12 28.2 +0.1
SNR=14
AAK Ala-Archa 148.69 59 P PKiKP 18 12 28.4 0.0
SNR=19
AAK Ala-Archa 148.69 59 PKP PKPbc 18 12 25.5 -1.5
comp=Z,28nm,0.8s,baz=219,slow=2.5,SNR=77
AAK PKPbc **PKiKP 18 12 28.7 +0.2**
comp=Z,28nm,0.8s,baz=191,slow=3.3,SNR=44
UCH Uchtor 148.76 60 P PKiKP 18 12 29.5 +0.5
SNR=18
KCSI Kotacane, Aceh 148.77 152 PKP PKPdf 18 12 23.2 -0.8
CHMS Chumysh 148.83 59 P PKiKP 18 12 28.8 +0.3
SNR=15
KBK Karagaybulak 149.02 59 P PKiKP 18 12 29.7 +0.6
SNR=13
KURBB Kurchatov Arra 149.18 43 PKP PKPdf 18 12 24.7 +1.3
comp=Z,31nm,0.8s,baz=297,slow=3.2,SNR=86
KURBB PKPbc **PKiKP 18 12 29.0 0.0**
comp=Z,32nm,0.8s,baz=300,slow=3.1,SNR=109
KURBB pPKPbc **pPKPbc 18 13 00.2 -0.1**
comp=Z,11nm,0.9s,baz=296,slow=3.2,SNR=6.5
TKM2 Tokmak 2 149.46 59 P PKiKP 18 12 30.4 +0.4
SNR=22
ULHL Ulahol 150.03 60 P PKiKP 18 12 31.9 +0.6
SNR=10
KSH Kashi 150.10 65 PKPbc PKiKP 18 12 31.8 +0.4
KSH sPKP 18 13 04.0
ZAA0 Zalesovo Array 150.78 33 PKiKP 18 12 32.4 +0.3
ZALV Zalesovo Beam 150.78 33 PKP PKPdf 18 12 26.1 +0.3
comp=Z,0.9nm,0.5s,baz=281,slow=0.8,SNR=5.8
ZALV PKPbc **PKiKP 18 12 32.4 +0.2**
comp=Z,46nm,0.5s,baz=302,slow=3.1,SNR=199
ZALV PKPab **PKPab 18 12 40.0 +0.9**
comp=Z,6.0nm,0.5s,baz=298,slow=4.4,SNR=5.6
ZALV pPKPbc **pPKPbc 18 13 04.1 +0.1**
comp=Z,21nm,0.9s,baz=302,slow=3.0,SNR=5.5
MKAR Makanchi Array 153.00 48 PKP PKPdf 18 12 29.9 +0.4
comp=Z,1.4nm,0.9s,baz=242,slow=3.1,SNR=2.4
MKAR PKPbc **PKiKP 18 12 37.4 +0.4**
comp=Z,7.8nm,0.7s,baz=346,slow=2.5,SNR=21
MKAR PKPab **PKPab 18 12 49.3 +0.6**
comp=Z,3.8nm,0.4s,baz=283,slow=3.7,SNR=22
MKAR pPKPbc **pPKPbc 18 13 09.8 +0.3**
comp=Z,4.3nm,0.9s,baz=338,slow=2.9,SNR=3.3
KLR Kul'dur 157.18 325 PKPab PKPab 18 13 07.0 +0.6
comp=Z,1.4nm,0.8s,baz=95,slow=1.7,SNR=4.6
WMQ Urumqi 157.68 51 eP PKPdf 18 12 33.8 -2.1
MJAR Matsushiro Arr 157.75 289 PKPab PKPab 18 13 10.4 +1.0
comp=Z,3.3nm,0.8s,baz=114,slow=2.2,SNR=13
HEH HeiHe 158.37 332 eP PKPab 18 13 11.5 0.0
HEH pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 162.22 136 PKP PKPdf 18 12 42.5 +0.8
comp=Z,2.3nm,0.9s,baz=253,slow=2.7,SNR=15
CMAR pPKP **pPKPdf 18 13 15.8 +1.2**
comp=Z,1.9nm,0.9s,baz=262,slow=2.8,SNR=5.1
CMAR PKPab **PKPab 18 13 29.6 +0.4**
comp=Z,1.1nm,1.0s,baz=224,slow=5.0,SNR=2.5
SONM Songino Array 163.63 13 PKP PKPdf 18 12 43.4 +1.0
comp=Z,1.0nm,0.9s,baz=189,slow=2.9,SNR=5.4
SONM PKPab **PKPab 18 13 35.4 +0.8**
comp=Z,4.0nm,0.8s,baz=318,slow=4.5,SNR=18
CN2 Changchun 164.05 322 ePKP PKPdf 18 12 37.9 -4.8
KSRS Korea Array 165.68 297 PKP PKPdf 18 12 44.6 +0.4
comp=Z,1.6nm,1.0s,baz=194,slow=1.0,SNR=5.8
PZH PanZhiHua 169.65 119 PKP PKPdf 18 12 46.9 -0.7
PZH pPKP **pPKPdf 18 13 21.3 +0.9**
PZH PKPab **PKPab 18 14 02.8 +0.8**
PZH PP **PP 18 17 55.5 +3.4**
TIA Tai'an 173.90 315 P PKPdf 18 12 49.9 +0.8
TIA pmax pmax
comp=Z,12nm,0.8s
NJ2 Nanjing 174.02 273 eP PKPdf 18 12 52.8 +3.5
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
XAN Xi'an 176.82 49 PKP PKPdf 18 12 50.8 +0.8
XAN PKPab **PKPab 18 14 34.0 +0.5**

WEL 13 17:54:15.4±0.3, 42°S±2°×17°4E±°, h8km±2km, M3.9/14, ML4.2/14, MLv3.9/14, Error ellipse: s-maj=0.0km s-min=0.0km az=105.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.07**	**174**	P	Pg	17 54 17.9	+0.7
KHZ				S	Sg	17 54 19.9	+1.3
BSWZ	**Blackbirch Sta**	**0.68**	**22**	P	Pg	17 54 28.6	+0.1
BSWZ				S	Sb	17 54 38.4	-0.8
GVZ	**Greta Valley S**	**0.72**	**210**	P	Pb	17 54 30.9	+0.7
GVZ				S	Sn	17 54 44.1	+0.9
THZ	**Tophouse**	**0.75**	**321**	P	Pg	17 54 30.0	+0.2
THZ				S	Sg	17 54 39.8	+0.3
TUWZ	**Tuamarina**	**0.97**	**19**	P	Pg	17 54 33.6	-0.3
LTZ	**Lake Taylor**	**1.03**	**245**	P	Pb	17 54 35.6	+0.2
AMCZ	**Amberley**	**1.05**	**218**	P	Pb	17 54 35.8	0.0
AMCZ				S	Sn	17 54 52.8	+1.5
NNZ	**Nelson**	**1.14**	**354**	P	Pg	17 54 37.1	0.0
TCW	**Tory Channel**	**1.27**	**26**	P	Pn	17 54 38.9	-0.5
DSZ	**Denniston Nort**	**1.42**	**295**	P	Pn	17 54 40.0	-1.5
DSZ				S	Sg	17 55 02.5	+1.5
OKCZ	**Okains Bay**	**1.42**	**194**	P	Pn	17 54 40.5	-1.0
OXZ	**Oxford**	**1.47**	**228**	P	Pn	17 54 40.3	-1.9
OXZ				S	Sn	17 55 00.0	-1.7
DUWZ	**D'Urville Isla**	**1.57**	**11**	P	Pb	17 54 44.5	-0.3
DUWZ				S	Sg	17 55 06.1	+0.2
INZ	**Inchbonnie**	**1.59**	**256**	P	Pn	17 54 44.1	+0.2
INZ				S	Sg	17 55 06.1	-0.3
MSWZ	**Moikau Station**	**1.59**	**55**	P	Pn	17 54 42.2	-1.7
AKCZ	**Akaroa Harbour**	**1.59**	**196**	P	Pn	17 54 42.8	-1.1
AKCZ				S	Sn	17 55 03.5	-1.2
QRZ	**Quartz Range**	**1.69**	**333**	S	Sb	17 55 08.3	0.0
OGWZ	**Otaki Gorge**	**1.96**	**39**	P	Pn	17 54 47.7	-1.3
WVZ	**Waitaha Valley**	**2.18**	**250**	P	Pn	17 54 52.4	+0.4
WVZ				S	Sn	17 55 19.8	+0.6
RPZ	**Rata Peaks**	**2.27**	**232**	P	Pn	17 54 51.7	-1.6
RPZ				S	Sn	17 55 18.8	-2.7
MRZ	**Mangatainoka R**	**2.28**	**43**	P	Pn	17 54 51.8	-1.6
AWAZ	**Awhitu Peninsu**	**5.35**	**10**	P	Pn	17 55 36.2	+0.7
MKAZ	**Moumakai**	**5.38**	**14**	P	Pn	17 55 38.6	+2.6
ETAZ	**East Tamaki Re**	**5.49**	**12**	P	Pn	17 55 38.6	+1.1
MBAZ	**Motutapu North**	**5.67**	**11**	P	Pn	17 55 40.7	+0.7
WIAZ	**Waiheke Island**	**5.68**	**13**	P	Pn	17 55 42.8	+2.6

WEL 13 17:57:51.0±0.4, 42°S±3°×17°4E±°, h5km±2km, M3.7/15, ML3.8/15, MLv3.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=155.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**219**	P	Pg	17 57 53.0	+0.7
BSWZ	**Blackbirch Sta**	**0.28**	**269**	P	Pg	17 57 56.8	+0.3
BSWZ				S	Sg	17 58 01.7	+1.4
TUWZ	**Tuamarina**	**0.37**	**320**	P	Pg	17 57 58.3	+0.3
TUWZ				S	Sb	17 58 04.5	-1.4
TCW	**Tory Channel**	**0.50**	**2**	P	Pg	17 58 00.2	-0.4
TCW				S	Sg	17 58 07.9	+0.9
WEL	**Wellington**	**0.57**	**42**	P	Pg	17 58 02.6	+0.6
WEL				S	Sb	17 58 11.3	-0.6
NNZ	**Nelson**	**0.82**	**306**	P	Pg	17 58 06.3	-0.5
NNZ				S	Sg	17 58 18.0	+0.6
CAW	**Cannon Point**	**0.86**	**46**	P	Pg	17 58 07.7	+0.3
CAW				S	Sb	17 58 19.9	-0.2
DUWZ	**D'Urville Isla**	**0.94**	**344**	P	Pg	17 58 08.7	-0.3
DUWZ				S	Sb	17 58 22.2	-0.3
KIW	**Kapiti Island**	**0.98**	**30**	P	Pg	17 58 09.7	-0.1
KIW				S	Sb	17 58 23.7	0.0
THZ	**Tophouse**	**1.01**	**267**	P	Pg	17 58 09.4	-1.0
THZ				S	Sb	17 58 25.3	+0.6
MTW	**Mount Morrison**	**1.09**	**60**	P	Pg	17 58 11.2	-0.6
MTW				S	Sn	17 58 28.0	-0.3
TRWZ	**Traveller**	**1.12**	**74**	P	Pg	17 58 11.4	-1.0
OGWZ	**Otaki Gorge**	**1.13**	**38**	P	Pg	17 58 11.8	-0.7
OGWZ				S	Sb	17 58 28.0	+0.1
MRNZ	**Matariki Terra**	**1.17**	**285**	P	Pg	17 58 13.1	-0.2
MRNZ				S	Sn	17 58 29.8	-0.4
TKNZ	**Takaka Hill**	**1.19**	**304**	P	Pg	17 58 13.1	-0.6
HOWZ	**Holdsworth Sta**	**1.25**	**50**	P	Pg	17 58 13.5	-1.4
TMWZ	**Te Maipa**	**1.37**	**64**	P	Pn	17 58 15.1	-1.7
MRZ	**Mangatainoka R**	**1.45**	**44**	P	Pn	17 58 16.8	-1.0
MRZ				S	Sb	17 58 36.5	-0.6
TIWZ	**Tintock**	**1.54**	**53**	S	Sg	17 58 40.5	0.0
QRZ	**Quartz Range**	**1.57**	**304**	P	Pn	17 58 19.4	-0.1
QRZ				S	Sb	17 58 40.6	-0.2

---

*WEL **13** 17:58:32.6±0.3, 42°S±2°×17°4E±°, h5km±1km, M4.0/15, ML4.3/15, MLv4.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=136.8*
*NOU **13** 17:58:36.2, 42°28S×173°88E, h99km, MLv4.6/9, South Island, New Zealand*

ISC 13 17:58:32.5±1.2, 42°03S±0°03×173°69E±0°02, h7km±10km, n106, σ1°70/124, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.34**	**24**	P	**Pg**	**17 58 38.9**	**-0.2**
BSWZ				S	**Sg**	**17 58 44.1**	**+0.6**
CMWZ	**Cape Campbell**	**0.48**	**55**	S	**Sb**	**17 58 50.1**	**-0.3**
TUWZ	**Tuamarina**	**0.62**	**17**	P	**Pg**	**17 58 44.2**	**-0.3**
TUWZ				S	**Sg**	**17 58 53.2**	**+0.7**
THZ	**Tophouse**	**0.64**	**294**	P	**Pg**	**17 58 44.8**	**-0.1**
THZ				S	**Sg**	**17 58 53.8**	**+0.5**
NNZ	**Nelson**	**0.84**	**344**	P	**Pg**	**17 58 48.1**	**-0.5**
NNZ				S	**Sg**	**17 58 58.7**	**-0.8**
TCW	**Tory Channel**	**0.92**	**28**	P	**Pg**	**17 58 49.4**	**-0.8**
TCW				S	**Sb**	**17 59 03.0**	**-0.3**
MRNZ	**Matariki Terra**	**0.94**	**311**	P	**Pg**	**17 58 50.4**	**-0.1**
MRNZ				S	**Sb**	**17 59 03.5**	**-0.3**
GVZ	**Greta Valley S**	**1.06**	**207**	P	**Pb**	**17 58 53.4**	**+0.3**
GVZ				S	**Sn**	**17 59 10.0**	**+1.1**
WEL	**Wellington**	**1.09**	**48**	P	**Pg**	**17 58 53.5**	**0.0**
WEL				S	**Sn**	**17 59 09.9**	**+0.3**
TKNZ	**Takaka Hill**	**1.13**	**331**	P	**Pg**	**17 58 53.2**	**-1.0**
TKNZ				S	**Sb**	**17 59 09.4**	**+0.1**
DUWZ	**D'Urville Isla**	**1.23**	**8**	P	**Pn**	**17 58 56.2**	**0.0**
DUWZ				S	**Sn**	**17 59 13.8**	**+0.7**
LTZ	**Lake Taylor**	**1.30**	**234**	P	**Pb**	**17 58 57.2**	**0.0**
LTZ				S	**Sn**	**17 59 15.5**	**+0.8**
CAW	**Cannon Point**	**1.38**	**49**	P	**Pn**	**17 58 57.2**	**-0.9**
CAW				S	**Sb**	**17 59 16.2**	**-0.2**
DSZ	**Denniston Nort**	**1.44**	**281**	P	**Pn**	**17 58 56.7**	**-2.3**
DSZ				S	**Sg**	**17 59 19.1**	**+0.4**
KIW	**Kapiti Island**	**1.48**	**39**	P	**Pn**	**17 58 59.2**	**-0.4**
KIW				S	**Sg**	**17 59 19.8**	**-0.2**
QRZ	**Quartz Range**	**1.48**	**323**	P	**Pn**	**17 58 58.5**	**-1.1**
QRZ				S	**Sb**	**17 59 19.3**	**-0.1**
MTW	**Mount Morrison**	**1.61**	**58**	P	**Pb**	**17 59 02.7**	**+0.2**
MTW				S	**Sg**	**17 59 28.6**	**+4.5**
TRWZ	**Traveller**	**1.62**	**68**	P	**Pn**	**17 58 59.5**	**-2.0**
OGWZ	**Otaki Gorge**	**1.64**	**43**	P	**Pn**	**17 59 01.0**	**-0.7**
OGWZ				S	**Sn**	**17 59 22.8**	**-0.3**

OKCZ	**Okains Bay**	**1.76**	**195**	P	**Pn**	**17 59 02.4**	**-1.0**
OKCZ				S	**Sn**	**17 59 25.5**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.77**	**51**	P	**Pb**	**17 59 05.4**	**+0.1**
INZ	**Inchbonnie**	**1.81**	**246**	P	**Pn**	**17 59 04.8**	**+0.8**
MQZ	**McQueen's Vall**	**1.85**	**204**	P	**Pn**	**17 59 02.7**	**-1.8**
TMWZ	**Te Maipa**	**1.89**	**62**	P	**Pg**	**17 59 09.3**	**+0.7**
AKCZ	**Akaroa Harbour**	**1.93**	**197**	P	**Pn**	**17 59 04.3**	**-1.5**
MRZ	**Mangatainoka R**	**1.97**	**47**	P	**Pn**	**17 59 05.2**	**-1.1**
RACZ	**Rakaia**	**2.05**	**213**	P	**Pn**	**17 59 06.0**	**-1.3**
TIWZ	**Tintock**	**2.07**	**54**	P	**Pg**	**17 59 11.4**	**-0.7**
OHWZ	**Ohakea**	**2.19**	**35**	P	**Pb**	**17 59 12.3**	**-0.1**
PRWZ	**Pori Road**	**2.26**	**50**	P	**Pg**	**17 59 14.8**	**-0.9**
POWZ	**Post Office Ro**	**2.26**	**44**	P	**Pb**	**17 59 14.3**	**+0.7**
BFZ	**Birch Farm**	**2.34**	**56**	P	**Pg**	**17 59 16.7**	**-0.6**
WACZ	**Wakanui South**	**2.35**	**215**	P	**Pn**	**17 59 09.4**	**-2.1**
WVZ	**Waitaha Valley**	**2.42**	**243**	P	**Pn**	**17 59 13.3**	**+0.8**
WAZ	**Wanganui**	**2.47**	**24**	P	**Pb**	**17 59 16.8**	**-0.4**
DVHZ	**Dannevirke**	**2.54**	**48**	P	**Pb**	**17 59 18.7**	**+0.3**
RPZ	**Rata Peaks**	**2.57**	**228**	P	**Pn**	**17 59 13.8**	**-0.8**
TSZ	**Takapari Road**	**2.61**	**42**	P	**Pb**	**17 59 19.8**	**+0.2**
NMEZ	**Namu Road**	**2.61**	**3**	P	**Pb**	**17 59 20.4**	**+0.8**
LREZ	**Lake Rotokare**	**2.62**	**12**	P	**Pb**	**17 59 19.0**	**-0.7**
ARCZ	**Arundel**	**2.67**	**223**	P	**Pn**	**17 59 14.8**	**-1.1**
KHEZ	**Kahui Hut**	**2.74**	**5**	P	**Pb**	**17 59 21.9**	**+0.1**
KHEZ	**Kahui Hut**	**2.74**	**5**	P	**Pb**	**17 59 21.3**	**-0.5**
NBEZ	**Newall Road No**	**2.76**	**3**	P	**Pb**	**17 59 22.6**	**+0.5**
NEZ	**North Egmont**	**2.77**	**6**	P	**Pb**	**17 59 21.7**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.80**	**241**	P	**Pn**	**17 59 18.7**	**+1.1**
PKE	**Pukeiti**	**2.84**	**5**	P	**Pb**	**17 59 22.1**	**-1.4**
PNHZ	**Pukenui**	**2.84**	**43**	P	**Pb**	**17 59 23.8**	**+0.4**
DREZ	**Durham Road**	**2.86**	**8**	P	**Pb**	**17 59 21.5**	**-2.4**
MTVZ	**Mangateitei**	**2.98**	**28**	P	**Pb**	**17 59 25.7**	**+0.1**
MHEZ	**Mangahewa**	**2.98**	**9**	P	**Pn**	**17 59 19.5**	**-0.8**
PKVZ	**Pokaka**	**3.01**	**25**	P	**Pb**	**17 59 23.7**	**-2.7**
MOVZ	**Moawhango**	**3.05**	**32**	P	**Pb**	**17 59 24.5**	**-2.6**
WNVZ	**Wahianoa**	**3.06**	**29**	P	**Pb**	**17 59 25.2**	**-2.1**
TRVZ	**Turoa**	**3.07**	**28**	P	**Pb**	**17 59 25.1**	**-2.4**
TMZ	**Timaru**	**3.07**	**219**	P	**Pn**	**17 59 20.9**	**-0.5**
DRZ	**Dome Shelter**	**3.09**	**28**	P	**Pb**	**17 59 27.2**	**-0.8**
WHVZ	**Whangaehu Hut**	**3.10**	**28**	P	**Pn**	**17 59 23.7**	**+1.7**
BHHZ	**Black Hill Sta**	**3.11**	**36**	P	**Pb**	**17 59 27.6**	**-0.5**
FWVZ	**Far West T-bar**	**3.11**	**28**	P	**Pb**	**17 59 25.5**	**-2.7**
TUVZ	**Tukino**	**3.13**	**29**	P	**Pb**	**17 59 28.0**	**-0.5**
NGZ	**Ngauruhoe**	**3.19**	**28**	P	**Pn**	**17 59 26.4**	**+3.1**
SNVZ	**South Ngauruho**	**3.20**	**28**	P	**Pb**	**17 59 26.6**	**-3.1**
FOZ	**Fox Glacier**	**3.23**	**241**	P	**Pn**	**17 59 24.7**	**+1.2**
OTVZ	**Oturere**	**3.23**	**28**	P	**Pb**	**17 59 27.0**	**-3.2**
TWVZ	**Taurewa**	**3.24**	**25**	P	**Pb**	**17 59 28.3**	**-2.0**
NNVZ	**North Ngauruho**	**3.24**	**27**	P	**Pb**	**17 59 29.2**	**-1.2**
WTVZ	**West Tongariro**	**3.25**	**27**	P	**Pb**	**17 59 28.7**	**-1.8**
ETVZ	**East Tongariro**	**3.27**	**29**	P	**Pb**	**17 59 27.7**	**-3.2**
KRVZ	**Karewarewa**	**3.28**	**28**	P	**Pb**	**17 59 29.0**	**-2.1**
TMVZ	**Te Maari**	**3.29**	**28**	P	**Pb**	**17 59 27.8**	**-3.4**
NTVZ	**North Tongariro**	**3.29**	**28**	P	**Pb**	**17 59 29.8**	**-1.4**
LBZ	**Lake Benmore**	**3.48**	**226**	P	**Pn**	**17 59 26.2**	**-0.9**
HIZ	**Hauiti**	**3.62**	**15**	P	**Pn**	**17 59 32.4**	**+3.4**
HIZ	**Hauiti**	**3.62**	**15**	P	**Pn**	**17 59 32.1**	**+3.1**
ODZ	**Otahua Downs**	**3.74**	**215**	P	**Pn**	**17 59 28.9**	**-1.8**
ODZ	**Otahua Downs**	**3.74**	**215**	P	**Pn**	**17 59 29.1**	**-1.5**
WHTZ	**Whakaora**	**3.77**	**28**	P	**Pn**	**17 59 27.4**	**-3.7**
MRHZ	**Matea Rd**	**3.81**	**34**	P	**Pn**	**17 59 32.7**	**+1.1**
TLZ	**Tolley Road**	**3.95**	**22**	P	**Pn**	**17 59 36.6**	**+3.0**
JCZ	**Jackson Bay**	**4.14**	**239**	P	**Pn**	**17 59 38.2**	**+2.0**
JCZ	**Jackson Bay**	**4.14**	**239**	P	**Pn**	**17 59 38.8**	**+2.6**
WKZ	**Wanaka**	**4.41**	**229**	P	**Pn**	**17 59 38.8**	**-1.0**
HHSZ	**Highcliff Hill**	**4.46**	**209**	P	**Pn**	**17 59 38.6**	**-1.9**
TOZ	**Tahuroa Road**	**4.51**	**59**	P	**Pn**	**17 59 43.2**	**+2.0**
EAZ	**Earnscleugh**	**4.52**	**223**	P	**Pn**	**17 59 39.9**	**-1.4**
URZ	**Urewera**	**4.58**	**36**	P	**Pn**	**17 59 46.9**	**+4.7**
TUZ	**Tuapeka**	**4.90**	**215**	P	**Pn**	**17 59 45.3**	**-1.2**
AWAZ	**Awhitu Peninsu**	**5.01**	**9**	P	**Pn**	**17 59 50.5**	**+2.5**
MKAZ	**Moumakai**	**5.04**	**13**	P	**Pn**	**17 59 50.3**	**+1.8**
RUGZ	**Raukumara Rang**	**5.08**	**38**	P	**Pn**	**17 59 49.2**	**+0.1**
WTAZ	**Waiatarua**	**5.13**	**8**	P	**Pn**	**17 59 52.7**	**+3.0**
MLZ	**Mavora Lakes**	**5.24**	**229**	P	**Pn**	**17 59 49.5**	**-1.8**
HAZ	**Te Kaha**	**5.30**	**38**	P	**Pn**	**17 59 52.7**	**+0.7**
MBAZ	**Motutapu North**	**5.33**	**10**	P	**Pn**	**17 59 55.5**	**+3.0**
WIAZ	**Waiheke Island**	**5.34**	**13**	P	**Pn**	**17 59 55.6**	**+2.9**
SYZ	**Scrubby Hill**	**5.57**	**214**	P	**Pn**	**17 59 54.7**	**-1.0**
SYZ	**Scrubby Hill**	**5.57**	**214**	P	**Pn**	**17 59 54.5**	**-1.2**
WHZ	**Wether Hill Ro**	**5.67**	**225**	P	**Pn**	**17 59 55.5**	**-1.6**
MXZ	**Matakaoa Point**	**5.70**	**40**	P	**Pn**	**17 59 59.1**	**+1.6**
MXZ	**Matakaoa Point**	**5.70**	**40**	P	**Pn**	**17 59 57.6**	**+0.1**
APZ	**The Paps**	**6.31**	**218**	P	**Pn**	**18 00 04.1**	**-1.8**
PYZ	**Puysegur Point**	**6.56**	**228**	P	**Pn**	**18 00 09.5**	**+0.6**
PYZ	**Puysegur Point**	**6.53**	**228**	P	**Pn**	**18 00 09.3**	**+0.4**
OUZ	**Omahuta**	**6.79**	**359**	P	**Pn**	**18 00 15.9**	**+3.3**
OUZ	**Omahuta**	**6.79**	**359**	P	**Pn**	**18 00 15.9**	**+3.3**

*IDC **13** 18:01:30.0±1.3,2.°69N×128.°10E,h0km,mb3.7/4, mbtmp3.8/5,ML3.8/1,MS3.5/1,Error ellipse: s-maj=90.4km s-min=19.4km az=64.0*

*DJA **13** 18:01:33.7±0.5,3.°N±3.°×12.°8E±.°,h10km,M4.0/13,mb4.1/6, mB4.9/3,MLv4.0/13,Mw(mB)4.2/3*

ISC 13 18:01:34.8±1.3,2.°82N±0.°09×128.°48E±0.°08,h35km,n23, σ1°§12/19,mb3.9/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**1.20**	**215**	P	**Pn**	**18 01 53.3**	**-1.8**
GAMI				S	**Sn**	**18 02 09.2**	**-0.9**
TNTI	**Ternate**	**2.32**	**209**	P	**Pn**	**18 02 11.0**	**+0.5**
TNTI				S	**Sn**	**18 02 38.3**	**+0.5**
SGSI	**Sangihe**	**3.07**	**286**	P	**Pn**	**18 02 20.9**	**+0.1**
LBMI	**Labuha**	**3.57**	**196**	P	**Pn**	**18 02 28.6**	**+0.8**
SIJI	**Sorong**	**4.61**	**143**	Pn	**Pn**	**18 02 43.6**	**+1.6**
	4.2nm,0.3s,baz=343,slow=19,SNR=98						
SIJI				Sn	**Sn**	**18 03 33.5**	**-0.9**
	1.5nm,0.3s,baz=227,slow=23,SNR=9.5 8.1nm,0.3s						
SIJI	**Sorong**	**4.61**	**143**	P	**Pn**	**18 02 43.8**	**+1.8**
SANI	**Sanana**	**5.44**	**207**	P	**Pn**	**18 02 54.2**	**+0.7**
	0.0nm12nm,1.1s						
GTOI	**Gorontalo**	**5.88**	**248**	P	**Pn**	**18 03 00.8**	**+1.3**
	0.0nm7.5nm,0.4s						
NLAI	**Namlea**	**6.18**	**193**	P	**Pn**	**18 03 04.6**	**+1.0**
	0.0nm3µm5.4nm,0.5s						
FAKI	**Fak Fak**	**6.84**	**146**	P	**Pn**	**18 03 12.7**	**0.0**
	0.1nm11nm,1.1s						
MRSI	**Marisa**	**6.94**	**250**	P	**Pn**	**18 03 16.0**	**+2.0**
	0.1nm493nm32nm,0.6s						
APSI	**Ampana**	**7.77**	**242**	P	**Pn**	**18 03 25.7**	**+0.2**
WRA	**Warramunga Arr**	**23.34**	**166**	P	**P**	**18 06 39.6**	**-0.6**
	1.6nm,0.4s,baz=345,slow=10.0,SNR=23 1.6nm,0.4s						
ASAR	**Alice Springs**	**26.85**	**169**	P	**P**	**18 07 11.3**	**-1.0**
	0.4nm,0.6s,baz=355,slow=8.2,SNR=14 0.4nm,0.6s						
JHJ	**Hachijo jima 2**	**31.95**	**18**	LR	LR	18 20 36.5	
	comp=Z,91nm,20.2s,baz=113,slow=36						
H11S3	**WAKE ISLAND Hy 40.52**		**65**	T	T	18 52 31.1	
	baz=252,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy 40.53**		**65**	T	T	18 52 32.8	
	baz=252,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy 40.53**		**65**	T	T	18 52 34.4	
	baz=252,slow=75,SNR=4.2						
H11N1	**WAKE ISLAND Hy 41.09**		**63**	T	T	18 53 05.6	
	baz=250,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy 41.10**		**63**	T	T	18 53 06.5	
	baz=250,slow=75,SNR=8.3						
H11N3	**WAKE ISLAND Hy 41.11**		**63**	T	T	18 53 09.8	
	baz=250,slow=75,SNR=20						
MKAR	**Makanchi Array**	**59.29**	**325**	P	**P**	**18 11 33.1**	**0.0**
	0.6nm,0.6s,baz=112,slow=7.8,SNR=5.0 0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**63.44**	**327**	P	**P**	**18 12 01.2**	**+0.1**
	0.8nm,0.7s,baz=128,slow=6.3,SNR=7.3 0.8nm,0.7s						

*WEL **13** 18:02:00,41.°73S×174.°28E,h19km,ML4.7,Mw4.4, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁵ Nm; Mrr2.24; Mθθ2.03; Mϕϕ-4.27; Mrθ-1.50; Mθϕ-1.57; Mϕr0.98; Fault plane solution: M₀4.37000×10¹⁵ NP1: ϕs230.00000°,δ56.00000°,λ149.00000°. NP2: ϕs338.00000°,δ65.00000°,λ38.00000°. Principal axes: T 402.9900, Plg44.0000°, Azm198.0000°; N 67.0500, Plg46.0000°, Azm6.0000°; P -470.0400, Plg6.0000°, Azm102.0000°;*

*IDC **13** 18:02:43.6±1.4,42.°23S×174.°33E,h0km,mb3.8/4, mbtmp3.8/5,ML3.4/1 Error ellipse: s-maj=41.6km s-min=34.0km az=49.0*

*WEL **13** 18:02:47.4±0.5,42.°S±4.°×17.°4E±.°,h14km±2km,M4.8/37, ML5.1/37,MLv4.8/37,Error ellipse: s-maj=0.0km s-min=0.0km az=177.0*

ISC 13 18:02:46.3±1.4,41.°86S±0.°06×174.°33E±0.°03,h13km±7km, n103,σ1°§41/118,mb3.7/4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**323**	P	**Pg**	**18 02 51.0**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.37**	**294**	P	**Pb**	**18 02 54.3**	**-0.5**
BSWZ				S	**Sb**	**18 03 00.9**	**+0.4**
TUWZ	**Tuamarina**	**0.52**	**326**	P	**Pg**	**18 02 56.2**	**-0.4**
TUWZ				S	**Sb**	**18 03 03.7**	**-1.1**
TCW	**Tory Channel**	**0.65**	**356**	P	**Pg**	**18 02 58.6**	**-0.5**
TCW				S	**Sb**	**18 03 06.8**	**-1.8**
WEL	**Wellington**	**0.67**	**30**	P	**Pb**	**18 03 00.1**	**+0.3**
WEL				S	**Sb**	**18 03 08.8**	**-0.1**
PLWZ	**Palliser**	**0.75**	**67**	P	**Pn**	**18 03 03.6**	**+0.9**
PLWZ				S	**Sn**	**18 03 15.7**	**+1.7**
MSWZ	**Moikau Station**	**0.82**	**57**	P	**Pn**	**18 03 04.5**	**+0.9**
MSWZ				S	**Sn**	**18 03 16.3**	**+0.7**
CAW	**Cannon Point**	**0.94**	**36**	P	**Pg**	**18 03 05.1**	**+0.7**
CAW				S	**Sg**	**18 03 17.2**	**+0.5**
PAWZ	**Paruwai Farm**	**0.95**	**60**	P	**Pn**	**18 03 06.2**	**+0.7**
PAWZ				S	**Sn**	**18 03 19.6**	**+0.7**
NNZ	**Nelson**	**0.96**	**312**	P	**Pb**	**18 03 04.0**	**-0.8**
NNZ				S	**Sn**	**18 03 17.7**	**-1.4**
KIW	**Kapiti Island**	**1.09**	**24**	P	**Pb**	**18 03 07.2**	**+0.1**
KIW				S	**Sb**	**18 03 20.8**	**-0.5**
DUWZ	**D'Urville Isla**	**1.10**	**344**	P	**Pn**	**18 03 07.6**	**+0.1**
DUWZ				S	**Sg**	**18 03 20.3**	**-1.7**
TRWZ	**Traveller**	**1.12**	**66**	P	**Pb**	**18 03 08.3**	**+0.7**
MTW	**Mount Morrison**	**1.13**	**52**	P	**Pn**	**18 03 08.5**	**+0.7**
MTW				S	**Sn**	**18 03 25.0**	**+1.8**
OGWZ	**Otaki Gorge**	**1.22**	**31**	P	**Pb**	**18 03 09.7**	**+0.4**
OGWZ				S	**Sb**	**18 03 24.7**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.31**	**43**	P	**Pn**	**18 03 11.1**	**+0.6**
TKNZ	**Takaka Hill**	**1.32**	**308**	P	**Pg**	**18 03 11.0**	**-0.8**
TKNZ				S	**Sg**	**18 03 28.1**	**-0.8**
TMWZ	**Te Maipa**	**1.40**	**58**	P	**Pn**	**18 03 12.0**	**+0.5**
MRZ	**Mangatainoka R**	**1.53**	**38**	P	**Pn**	**18 03 13.9**	**+0.6**
MRZ				S	**Sb**	**18 03 33.5**	**-0.3**
TIWZ	**Tintock**	**1.60**	**48**	P	**Pn**	**18 03 14.8**	**+0.5**
TIWZ				S	**Sn**	**18 03 34.9**	**0.0**
CPWZ	**Castlepoint**	**1.70**	**57**	P	**Pn**	**18 03 16.3**	**+0.6**
PRWZ	**Pori Road**	**1.80**	**44**	P	**Pn**	**18 03 17.5**	**+0.4**
PRWZ				S	**Sb**	**18 03 40.9**	**-0.7**
OHWZ	**Ohakea**	**1.82**	**25**	P	**Pb**	**18 03 19.4**	**0.0**
OHWZ				S	**Sg**	**18 03 43.7**	**-1.0**
POWZ	**Post Office Ro**	**1.83**	**37**	P	**Pn**	**18 03 18.2**	**+0.7**
BFZ	**Birch Farm**	**1.87**	**51**	P	**Pn**	**18 03 17.9**	**-0.1**
DVHZ	**Dannevirke**	**2.09**	**42**	P	**Pn**	**18 03 20.9**	**-0.2**
ANWZ	**Angora Road**	**2.14**	**50**	P	**Pn**	**18 03 21.7**	**-0.1**
TSZ	**Takapari Road**	**2.19**	**35**	P	**Pn**	**18 03 22.6**	**+0.2**
WPHZ	**Waipukurau**	**2.41**	**42**	P	**Pn**	**18 03 25.5**	**0.0**
PNHZ	**Pukenui**	**2.41**	**37**	P	**Pn**	**18 03 25.5**	**0.0**
NMEZ	**Namu Road**	**2.47**	**352**	P	**Pb**	**18 03 30.3**	**-0.3**
KHEZ	**Kahui Hut**	**2.58**	**355**	P	**Pb**	**18 03 32.0**	**-0.5**
NEZ	**North Egmont**	**2.60**	**356**	P	**Pb**	**18 03 32.1**	**-0.7**
NBEZ	**Newall Road No**	**2.62**	**352**	P	**Pb**	**18 03 32.4**	**-0.7**
MTVZ	**Mangateitei**	**2.62**	**20**	P	**Pb**	**18 03 32.3**	**-0.9**
PXZ	**Pawanui**	**2.65**	**47**	P	**Pn**	**18 03 27.9**	**-0.9**
DREZ	**Durham Road**	**2.67**	**358**	P	**Pb**	**18 03 32.5**	**-1.6**
PKE	**Pukeiti**	**2.68**	**354**	P	**Pb**	**18 03 34.2**	**+0.1**
MOVZ	**Moawhango**	**2.68**	**24**	P	**Pn**	**18 03 30.5**	**+1.2**
PKVZ	**Pokaka**	**2.69**	**17**	P	**Pb**	**18 03 32.4**	**-1.9**
WNVZ	**Wahianoa**	**2.71**	**21**	P	**Pn**	**18 03 31.8**	**+2.0**
BHHZ	**Black Hill Sta**	**2.71**	**30**	P	**Pn**	**18 03 30.8**	**+1.1**
TRVZ	**Turoa**	**2.73**	**20**	P	**Pb**	**18 03 32.9**	**-2.2**
DRZ	**Dome Shelter**	**2.75**	**20**	P	**Pb**	**18 03 35.7**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.75**	**21**	P	**Pn**	**18 03 32.5**	**+2.2**
FWVZ	**Far West T-bar**	**2.77**	**20**	P	**Pn**	**18 03 32.6**	**+2.0**
TUVZ	**Tukino**	**2.78**	**22**	P	**Pn**	**18 03 32.6**	**+1.8**
MHEZ	**Mangahewa**	**2.79**	**360**	P	**Pb**	**18 03 35.8**	**-0.1**
KAHZ	**Kahuranaki**	**2.83**	**44**	P	**Pn**	**18 03 30.5**	**-0.8**
NGZ	**Ngauruhoe**	**2.85**	**20**	P	**Pn**	**18 03 34.1**	**+2.4**
SNVZ	**South Ngauruho**	**2.85**	**21**	P	**Pn**	**18 03 33.8**	**+2.1**
OTVZ	**Oturere**	**2.88**	**21**	P	**Pn**	**18 03 33.6**	**+1.5**
NNVZ	**North Ngauruho**	**2.90**	**20**	P	**Pn**	**18 03 34.4**	**+2.1**
WTVZ	**West Tongariro**	**2.91**	**20**	P	**Pn**	**18 03 35.2**	**+2.5**
KWHZ	**Kaweka Forest**	**2.91**	**34**	P	**Pn**	**18 03 32.7**	**+0.2**
TWVZ	**Taurewa**	**2.92**	**17**	P	**Pn**	**18 03 34.6**	**+2.1**
ETVZ	**East Tongariro**	**2.92**	**22**	P	**Pn**	**18 03 34.8**	**+2.2**
TMVZ	**Te Maari**	**2.94**	**21**	P	**Pn**	**18 03 34.5**	**+1.6**
KRVZ	**Karewarewa**	**2.94**	**20**	P	**Pn**	**18 03 34.9**	**+2.0**
NTVZ	**North Tongariro**	**2.95**	**21**	P	**Pn**	**18 03 34.7**	**+1.8**
MCHZ	**McNeill Hill**	**3.01**	**37**	P	**Pn**	**18 03 33.6**	**-0.1**
CKHZ	**Cape Kidnapper**	**3.04**	**44**	P	**Pn**	**18 03 33.0**	**-1.0**
RPZ	**Rata Peaks**	**3.04**	**231**	Pn	Pn	18 03 29.0	-5.2
	5.6nm,0.3s,baz=5.6,slow=19,SNR=1.6						
RPZ				Sn	Sn	18 04 02.6	-7.8
	16nm,0.3s,baz=50,slow=16,SNR=5.8 19nm,0.4s						
KATZ	**Kakaramea**	**3.07**	**20**	P	**Pb**	**18 03 38.2**	**-2.6**
BKZ	**Black Stump Fm**	**3.16**	**32**	P	**Pn**	**18 03 35.4**	**-0.4**
RATZ	**Rangitukua**	**3.19**	**21**	P	**Pb**	**18 03 41.0**	**-1.8**
HATZ	**Hinemaiaia**	**3.26**	**25**	P	**Pb**	**18 03 44.7**	**+0.6**
ARHZ	**Aropaoanui**	**3.30**	**39**	P	**Pn**	**18 03 37.2**	**-0.5**
WATZ	**Wairara**	**3.33**	**19**	P	**Pb**	**18 03 44.7**	**-0.5**
HIZ	**Hauiti**	**3.37**	**7**	P	**Pn**	**18 03 41.6**	**+2.9**
MRHZ	**Matea Rd**	**3.42**	**28**	P	**Pn**	**18 03 39.2**	**-0.2**
MTHZ	**Maungataniwha**	**3.57**	**33**	P	**Pn**	**18 03 41.2**	**-0.2**
MTHZ				P	Pb	18 03 41.3	-8.0
RAHZ	**Arahi**	**3.62**	**36**	P	**Pn**	**18 03 41.7**	**-0.4**
ALRZ	**Allen Road**	**3.64**	**26**	P	**Pb**	**18 03 49.5**	**-1.1**
TLZ	**Tolley Road**	**3.65**	**15**	P	**Pn**	**18 03 44.7**	**+2.2**
KNZ	**Kokohu**	**3.82**	**43**	P	**Pn**	**18 03 43.6**	**-1.2**
RTZ	**Ruatahuna**	**3.83**	**33**	P	**Pn**	**18 03 44.6**	**-0.4**
MHGZ	**Mahia Peninsul**	**3.84**	**46**	P	**Pn**	**18 03 43.9**	**-1.3**
TARZ	**Mount Tarawera**	**3.99**	**25**	P	**Pn**	**18 03 47.4**	**+0.1**
RIGZ	**Rimuhau**	**4.10**	**41**	P	**Pn**	**18 03 47.4**	**-1.3**
TOZ	**Tahuroa Road**	**4.22**	**13**	P	**Pn**	**18 03 52.4**	**+2.0**
MWZ	**Matawai**	**4.29**	**36**	P	**Pn**	**18 03 49.4**	**-2.0**
TWGZ	**Tauwhareparae**	**4.63**	**38**	P	**Pn**	**18 03 55.4**	**-0.6**
RUGZ	**Raukumara Rang**	**4.67**	**35**	P	**Pn**	**18 03 54.8**	**-1.8**
MKAZ	**Moumakai**	**4.80**	**8**	P	**Pn**	**18 03 59.9**	**+1.6**
AWAZ	**Awhitu Peninsu**	**4.80**	**3**	P	**Pn**	**18 04 01.7**	**+3.4**
HAZ	**Te Kaha**	**4.89**	**34**	P	**Pn**	**18 03 58.7**	**-0.8**
ETAZ	**East Tamaki Re**	**4.93**	**6**	P	**Pn**	**18 04 02.6**	**+2.6**
WTAZ	**Waiatarua**	**4.93**	**2**	P	**Pn**	**18 04 04.4**	**+4.3**
WIAZ	**Waiheke Island**	**5.10**	**7**	P	**Pn**	**18 04 04.7**	**+2.2**
MBAZ	**Motutapu North**	**5.11**	**5**	P	**Pn**	**18 04 05.3**	**+2.8**
WMGZ	**Waiomatatini S**	**5.12**	**39**	P	**Pn**	**18 04 00.5**	**-2.2**
KUZ	**Kuaotunu**	**5.22**	**12**	P	**Pn**	**18 04 05.5**	**+1.4**
ABAZ	**Army Bay**	**5.27**	**4**	P	**Pn**	**18 04 08.2**	**+3.5**
MXZ	**Matakaoa Point**	**5.28**	**37**	P	**Pn**	**18 04 03.0**	**-1.8**
OUZ	**Omahuta**	**6.66**	**355**	P	**Pn**	**18 04 28.6**	**+4.7**
ASAR	**Alice Springs**	**38.12**	**286**	P	**P**	**18 10 05.3**	**+0.1**
	0.8nm,0.7s,baz=122,slow=6.3,SNR=16 0.8nm,0.7s						
WRA	**Warramunga Arr**	**40.20**	**290**	P	**P**	**18 10 22.5**	**-0.1**
	1.1nm,0.5s,baz=127,slow=8.2,SNR=16 1.1nm,0.5s						
QSPA	**South Pole Qui**	**48.26**	**180**	P	P	18 11 23.3	-3.5
	0.4nm,0.8s,baz=88,slow=7.9,SNR=1.4 0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.74**	**293**	P	**P**	**18 15 55.1**	**+1.3**
	0.8nm,0.6s,baz=155,slow=4.1,SNR=7.3 0.8nm,0.6s						
ARCES	**ARCESS Array B**	**147.90**	**340**	PKPbc	**PKPbc**	**18 22 29.3**	**-0.7**
	6.6nm,1.1s,baz=64,slow=2.8,SNR=4.0						
BRTR	**Keskin Array B**	**150.34**	**279**	PKPbc	**PKPbc**	**18 22 37.6**	**+0.4**
	1.0nm,0.8s,baz=151,slow=4.4,SNR=4.8						
FINES	**FINESS Array B**	**152.66**	**327**	PKPbc	**PKPbc**	**18 22 40.2**	**-1.4**
	1.0nm,0.7s,baz=80,slow=2.1,SNR=5.8						

WEL 13 18:04:50.7±0.3,42.°S±3.°×17.°4E±.°,h5km±2km,M4.0/14, ML4.3/14,MLv4.0/14,Error ellipse: s-maj=0.0km s-min=0.0km az=141.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.46**	**359**	P	Pg	18 04 59.4	-0.1
BSWZ				S	Sg	18 05 05.0	-0.5
TUWZ	**Tuamarina**	**0.74**	**3**	P	Pg	18 05 04.4	-0.6
TUWZ				S	Sb	18 05 17.1	+0.6
TCW	**Tory Channel**	**1.00**	**17**	P	Pg	18 05 09.4	-0.6
TCW				S	Sb	18 05 24.0	-0.1
GVZ	**Greta Valley S**	**1.01**	**218**	P	Pn	18 05 12.0	+0.3
GVZ				S	Sn	18 05 27.6	+1.4
NNZ	**Nelson**	**1.03**	**338**	P	Pb	18 05 11.0	0.0
NNZ				S	Sg	18 05 21.9	-1.8
WEL	**Wellington**	**1.11**	**37**	P	Pg	18 05 12.1	+0.2
MRNZ	**Matariki Terra**	**1.14**	**312**	P	Pg	18 05 12.0	-0.6
MRNZ				S	Sg	18 05 27.6	+0.2
PLWZ	**Palliser**	**1.19**	**60**	P	Pg	18 05 12.7	-0.8
MSWZ	**Moikau Station**	**1.27**	**54**	P	Pg	18 05 14.0	-1.1
MSWZ				S	Sb	18 05 32.1	+0.3
LTZ	**Lake Taylor**	**1.34**	**242**	S	Pb	18 05 16.4	0.0
LTZ				S	Sn	18 05 34.7	+0.3
DUWZ	**D'Urville Isla**	**1.37**	**1**	P	Pn	18 05 16.2	-0.3
DUWZ				S	Sg	18 05 34.8	+0.1
CAW	**Cannon Point**	**1.38**	**40**	P	Pn	18 05 15.5	-1.2
CAW				S	Sb	18 05 34.6	-0.4
PAWZ	**Paruwai Farm**	**1.40**	**56**	P	Pn	18 05 15.7	-1.2
PAWZ				S	Sb	18 05 34.5	-1.0
KIW	**Kapiti Island**	**1.52**	**31**	P	Pn	18 05 18.3	-0.3
DSZ	**Denniston Nort**	**1.61**	**285**	P	Pn	18 05 20.1	+0.3
DSZ				S	Sb	18 05 41.8	+0.2
OGWZ	**Otaki Gorge**	**1.66**	**36**	P	Pn	18 05 19.8	-0.7
OKCZ	**Okains Bay**	**1.67**	**201**	P	Pn	18 05 20.4	-0.2
OKCZ				S	Sn	18 05 42.7	+0.3
QRZ	**Quartz Range**	**1.69**	**322**	S	Sn	18 05 42.6	-0.3
MQZ	**McQueen's Vall**	**1.78**	**210**	P	Pn	18 05 20.7	-1.5
MQZ				S	Sn	18 05 43.9	-1.3
RACZ	**Rakaia**	**2.02**	**219**	P	Pn	18 05 24.7	-0.7
RACZ				S

AKCZ			S		**Sn**	18 11 04.0	+0.3
RACZ	**Rakaia**	1.16 210	P		**Pn**	18 10 48.4	-0.1
BSWZ	**Blackbirch Sta**	1.22 35			**Pg**	18 10 50.6	+0.1
BSWZ	**Blackbirch Sta**	1.22 35	P		**Pg**	18 10 50.7	+0.1
BSWZ			S		**Sg**	18 11 08.4	+1.9
DSZ	**Denniston Nort**	1.29 319			**Pg**	18 10 51.3	-0.6
MRNZ	**Matariki Terra**	1.33 354	P		**Pg**	18 10 51.8	-0.8
WACZ	**Wakanui South**	1.46 213	P		**Pn**	18 10 52.6	0.0
TUWZ	**Tuamarina**	1.49 30			**Pb**	18 10 54.0	-0.2
TUWZ	**Tuamarina**	1.49 30	P		**Pb**	18 10 54.2	0.0
NNZ	**Nelson**	1.54 12			**Pb**	18 10 55.2	+0.2
NNZ	**Nelson**	1.54 12	P		**Pb**	18 10 55.3	+0.2
NNZ			S		**Sg**	18 11 16.9	+0.3
WVZ	**Waitaha Valley**	1.66 257	P		**Pb**	18 10 56.5	-0.5
TKNZ	**Takaka Hill**	1.69 0	P		**Pb**	18 10 57.7	-0.1
TKNZ			S		**Sg**	18 11 21.0	-0.3
RPZ	**Rata Peaks**	1.70 234	Pn		**Pn**	18 10 56.1	+0.3
	198nm,0.3s,baz=202,slow=1.4,SNR=22						
RPZ			Sn		**Sn**	18 11 17.1	-0.1
	184nm,0.3s,baz=253,slow=2.9,SNR=8.7						
RPZ	**Rata Peaks**	1.70 234	Pn		**Pn**	18 10 55.9	0.0
RPZ	**Rata Peaks**	1.70 234	P		**Pn**	18 10 56.2	+0.3
RPZ	**Rata Peaks**	1.70 234	P		**Pn**	18 10 56.2	+0.3
ARCZ	**Arundel**	1.78 226	P		**Pn**	18 10 57.0	+0.1
ARCZ			S		**Sn**	18 11 18.7	-0.5
TCW	**Tory Channel**	1.81 34	P		**Pn**	18 10 58.0	+0.6
QRZ	**Quartz Range**	1.92 351			**Pb**	18 11 00.8	-0.8
QRZ	**Quartz Range**	1.92 351	P		**Pb**	18 11 01.5	-0.1
SNZO	**South Karori**	1.93 43	Pn		**Pn**	18 10 59.2	+0.3
WEL	**Wellington**	1.98 44	P		**Pn**	18 11 00.1	+0.4
GCSZ	**Gaunt Creek Bo**	2.01 252	P		**Pn**	18 11 01.6	+1.5
DUWZ	**D'Urville Isla**	2.05 21	P		**Pb**	18 11 02.6	-1.2
PLWZ	**Palliser**	2.07 57	Pn		**Pn**	18 11 00.1	-0.9
MSWZ	**Moikau Station**	2.16 53			**Pn**	18 11 01.1	-1.1
MSWZ	**Moikau Station**	2.16 53	P		**Pn**	18 11 01.8	-0.3
TMZ	**Timaru**	2.18 220	P		**Pn**	18 11 02.5	+0.1
CAW	**Cannon Point**	2.26 45	P		**Pn**	18 11 03.6	+0.1
PAWZ	**Paruwai Farm**	2.28 55	P		**Pn**	18 11 03.3	-0.6
KIW	**Kapiti Island**	2.37 39	P		**Pn**	18 11 05.6	+0.5
FOZ	**Fox Glacier**	2.43 249	Pn		**Pn**	18 11 07.2	+1.3
FOZ	**Fox Glacier**	2.43 249	P		**Pn**	18 11 07.3	+1.4
TRWZ	**Traveller**	2.43 58	P		**Pn**	18 11 06.0	+0.1
OGWZ	**Otaki Gorge**	2.53 42	P		**Pn**	18 11 07.4	+0.1
LBZ	**Lake Benmore**	2.60 229	Pn		**Pn**	18 11 08.1	-0.3
LBZ	**Lake Benmore**	2.60 229	P		**Pn**	18 11 08.7	+0.3
HOWZ	**Holdsworth Sta**	2.67 47	P		**Pn**	18 11 14.6	+0.6
MRZ	**Mangatainoka R**	2.85 45	Pn		**Pn**	18 11 11.2	-0.5
MRZ	**Mangatainoka R**	2.85 45	P		**Pn**	18 11 11.3	-0.5
ODZ	**Otahua Downs**	2.85 215	Pn		**Pn**	18 11 11.2	-0.5
ODZ	**Otahua Downs**	2.85 215	P		**Pn**	18 11 11.5	-0.2
ODZ	**Otahua Downs**	2.85 215	P		**Pn**	18 11 11.7	-0.1
JCZ	**Jackson Bay**	3.32 245	P		**Pn**	18 11 18.9	+0.7
JCZ	**Jackson Bay**	3.32 245	P		**Pn**	18 11 19.2	+1.0
WAZ	**Wanganui**	3.34 28	P		**Pn**	18 11 20.7	+2.3
NMEZ	**Namu Road**	3.38 12	P		**Pn**	18 11 22.3	+3.3
TSZ	**Takapari Road**	3.50 41	P		**Pn**	18 11 19.9	-0.7
NBEZ	**Newall Road No**	3.52 12	P		**Pn**	18 11 23.6	+2.6
WKZ	**Wanaka**	3.54 232	P		**Pn**	18 11 20.8	-0.3
NEZ	**North Egmont**	3.56 15	P		**Pb**	18 11 25.6	-3.9
HHSZ	**Highcliff Hill**	3.58 207	P		**Pn**	18 11 21.4	-0.4
PKE	**Pukeiti**	3.61 13	P		**Pn**	18 11 25.0	+2.8
EAZ	**Earnscleugh**	3.63 225	P		**Pn**	18 11 22.0	-0.4
DREZ	**Durham Road**	3.66 15	P		**Pn**	18 11 25.0	+2.3
MOVZ	**Moawhango**	3.94 34	P		**Pn**	18 11 27.0	+0.3
WNVZ	**Wahianoa**	3.94 31	P		**Pn**	18 11 28.3	+1.5
TRVZ	**Turoa**	3.95 31	P		**Pn**	18 11 28.0	+1.1
DRZ	**Dome Shelter**	3.97 31	P		**Pn**	18 11 28.8	+1.3
FWVZ	**Far West T-bar**	3.99 31	P		**Pn**	18 11 28.7	+1.1
BHHZ	**Black Hill Sta**	4.00 37	P		**Pn**	18 11 27.9	+0.4
TUZ	**Tuapeka**	4.01 215	P		**Pn**	18 11 27.3	-0.3
TUVZ	**Tukino**	4.01 32	P		**Pn**	18 11 28.8	+1.0
NGZ	**Ngauruhoe**	4.08 30	P		**Pn**	18 11 29.8	+1.1
SNVZ	**South Ngauruho**	4.08 31	P		**Pn**	18 11 29.7	+0.9
TWVZ	**Taurewa**	4.11 28	P		**Pn**	18 11 30.1	+1.0
OTVZ	**Oturere**	4.11 31	P		**Pn**	18 11 31.3	+2.2
MSZ	**Milford Sound**	4.13 240	P		**Pn**	18 11 28.8	-0.4
ETVZ	**East Tongariro**	4.15 31	P		**Pn**	18 11 30.5	+0.9
TMVZ	**Te Maari**	4.17 31	P		**Pn**	18 11 30.6	+0.7
NTVZ	**North Tongarir**	4.17 31	P		**Pn**	18 11 30.9	+1.0
KATZ	**Kakaramea**	4.29 30	P		**Pn**	18 11 35.3	+3.7
MLZ	**Mavora Lakes**	4.37 231	Pn		**Pn**	18 11 32.3	-0.3
MLZ	**Mavora Lakes**	4.37 231	P		**Pn**	18 11 33.7	+0.9
RATZ	**Rangitukua**	4.41 30	P		**Pn**	18 11 37.1	+3.9
HIZ	**Hauiti**	4.45 20	Pn		**Pn**	18 11 35.0	+1.4
HIZ	**Hauiti**	4.45 20	P		**Pn**	18 11 35.1	+1.4
HIZ	**Hauiti**	4.45 20	P		**Pn**	18 11 35.3	+1.6
SYZ	**Scrubby Hill**	4.68 214	P		**Pn**	18 11 36.9	+0.1
SYZ	**Scrubby Hill**	4.68 214	P		**Pn**	18 11 36.8	0.0
MRHZ	**Matea Rd**	4.70 35	P		**Pn**	18 11 35.7	-1.4
WHZ	**Wether Hill Ro**	4.79 227	Pn		**Pn**	18 11 36.9	-1.4
WHZ	**Wether Hill Ro**	4.79 227	P		**Pn**	18 11 37.3	-1.0
TLZ	**Tolley Road**	4.81 25	P		**Pn**	18 11 39.9	+1.2
ALRZ	**Allen Road**	4.89 33	P		**Pn**	18 11 38.7	-1.1
DCZ	**Deep Cove**	4.99 235	P		**Pn**	18 11 40.1	-1.0
OMRZ	**Omania**	5.30 31	P		**Pn**	18 11 48.5	+3.1
TOZ	**Tahuroa Road**	5.36 22	P		**Pn**	18 11 46.8	+0.7
KMRZ	**Kaimai**	5.38 26	P		**Pn**	18 11 47.8	+1.3
APZ	**The Paps**	5.41 219	P		**Pn**	18 11 46.2	-0.7
URZ	**Urewera**	5.47 37	P		**Pn**	18 11 47.1	-0.6
PYZ	**Puysegur Point**	5.65 230	P		**Pn**	18 11 52.0	0.0
PYZ	**Puysegur Point**	5.65 230	P		**Pn**	18 11 49.4	-0.8
AWAZ	**Awhitu Peninsu**	5.80 14	P		**Pn**	18 11 54.1	+1.8
MKAZ	**Moumakai**	5.87 18	P		**Pn**	18 11 54.0	+0.9
WTAZ	**Waiatarua**	5.92 13	P		**Pn**	18 11 56.4	+2.6
ETAZ	**East Tamaki Re**	5.96 15	P		**Pn**	18 11 56.0	+1.6
RUGZ	**Raukumara Rang**	5.97 39	P		**Pn**	18 11 54.0	-0.7
MYRZ	**Mayor Island**	6.00 26	P		**Pn**	18 11 55.4	+0.5
RVAZ	**Riverhead Bore**	6.08 12	P		**Pn**	18 11 58.1	+2.1
MBAZ	**Motutapu North**	6.13 15	P		**Pn**	18 11 58.7	+1.9
WIAZ	**Waiheke Island**	6.16 17	P		**Pn**	18 11 58.5	+1.3
ABAZ	**Army Bay**	6.29 14	P		**Pn**	18 12 00.7	+1.9
KUZ	**Kuaotunu**	6.34 21	P		**Pn**	18 12 00.1	+0.5
KUZ	**Kuaotunu**	6.34 21	P		**Pn**	18 12 00.1	+0.4
MXZ	**Matakaoa Point**	6.59 40	P		**Pn**	18 12 02.5	-0.6
MXZ	**Matakaoa Point**	6.59 40	P		**Pn**	18 12 02.4	-0.7
WCZ	**Waipu Caves**	6.86 10	P		**Pn**	18 12 09.2	+2.4
ARMA	**Armidale**	21.00 299	P		**P**	18 15 06.4	-3.3
ARMA			IAmb		IAmb	18 15 35.9	
	comp=Z,22nm,1.4s						
DZM	**Mont Dzumac**	21.30 343	P		**P**	18 15 10.0	-2.9
	comp=Z,2.3nm,0.7s,baz=209,slow=15,SNR=1.1						
	comp=Z,2.3nm,0.7s						
LIFNC	**LIFOU**	22.40 346	P		**P**	18 15 24.8	+0.2
KOUNC	**Koumac, New Ca**	23.28 339	P		**P**	18 15 34.7	+0.9
KOUNC			IAmb		IAmb	18 15 42.3	
	comp=Z,28nm,1.0s						
VNDA	**Vanda**	35.20 184	P		**P**	18 17 21.2	+1.5
	comp=Z,0.9nm,0.9s,baz=353,slow=7.2,SNR=5.1						
	comp=Z,0.9nm,0.9s						
VNDA	**Vanda**	35.20 184	P		**P**	18 17 18.5	-1.2
AS31	**Alice Springs**	37.38 288	P		**P**	18 17 38.4	-0.6
ASAR	**Alice Springs**	37.38 288	P		**P**	18 17 38.9	-0.1
	comp=Z,1.9nm,0.9s,baz=130,slow=8.4,SNR=9.3						
ASAR			PcP		**PcP**	18 19 55.6	-2.1
	comp=Z,0.7nm,0.7s,baz=131,slow=3.8,SNR=6.3						
	comp=Z,1.9nm,0.9s						
ASAR	**Alice Springs**	37.38 288	P		**P**	18 17 38.3	-0.7
FORT	**Forrest**	37.48 273	P		**P**	18 17 39.5	-0.2
FORT			IAmb		IAmb	18 17 41.5	
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	39.55 293	P		**P**	18 17 57.3	+0.1
WB2			IAmb		IAmb	18 18 31.5	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	39.56 293	P		**P**	18 17 57.3	0.0
	comp=Z,1.0nm,0.6s,baz=131,slow=8.2,SNR=9.2						
WRA			PcP		**PcP**	18 20 03.5	-1.1
	comp=Z,0.8nm,0.7s,baz=131,slow=3.2,SNR=5.9						
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	39.56 293	P		**P**	18 17 57.2	0.0
WB0	**Warramunga Arr**	39.65 293	P		**P**	18 17 56.0	-2.0
WB0			IAmb		IAmb	18 18 04.1	
	comp=Z,15nm,1.4s						
PMG	**Port Moresby**	40.14 318	P		**P**	18 18 00.9	-1.2
PMG			IAmb		IAmb	18 18 08.1	
	comp=Z,7.8nm,0.9s						
RABL	**Rabaul**	42.59 328	P		**P**	18 18 20.9	-1.3
QSPA	**South Pole Qui**	47.40 180	P		**P**	18 19 03.2	+3.1
	comp=Z,17nm,1.0s,baz=2.5,slow=1.2,SNR=64						
	comp=Z,17nm,1.0s						
QSPA	**South Pole Qui**	47.40 180	P		**P**	18 19 02.4	+2.2
BELA	**Belgrano 2**	58.49 173	P		**P**	18 20 22.9	+1.3
BELA			IAmb		IAmb	18 20 24.6	
	comp=Z,5.3nm,0.9s						
TROLL	**Troll, Antarti**	65.37 183	pP		**P**	18 21 10.1	+2.1
SNAA	**Sanae**	65.87 181	pP		**P**	18 21 12.9	+1.7
SNAA	**Sanae**	65.87 181	P		**P**	18 21 12.1	+0.9
SNAA			IAmb		IAmb	18 21 17.4	
	comp=Z,9.3nm,1.2s						
VNA2	**Neumayer--Watz**	66.66 180	pP		**P**	18 21 18.3	+2.1
	baz=167,slow=7.0						
KSRS	**Korea Jang**	89.70 326	P		**P**	18 23 23.1	-0.7
	comp=Z,0.9nm,0.8s,baz=148,slow=7.2,SNR=3.0						
	comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	91.14 294	P		**P**	18 23 31.2	+0.3
	comp=Z,1.0nm,0.8s,baz=156,slow=3.0,SNR=8.8						
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	117.69 20	PKP		**PKPdf**	18 29 09.2	-1.7
	baz=219,slow=15						
ZALV	**Zalesovo Beam**	122.07 316	PKP		**PKPdf**	18 29 18.3	-1.4
	comp=Z,0.6nm,0.7s,baz=85,slow=3.0,SNR=2.1						
KURBB	**Kurchatov Arra**	123.86 310	PKP		**PKPdf**	18 29 22.7	-0.5
	comp=Z,1.2nm,0.8s,baz=116,slow=2.1,SNR=11						
BVAR	**Borovoye Array**	129.46 310	PKP		**PKPdf**	18 29 33.9	0.0
	comp=Z,0.4nm,0.5s,baz=106,slow=4.7,SNR=3.3						
DBIC	**Dimbokro**	144.04 184	PKP		**PKPab**	18 29 59.5	+0.1
	comp=Z,2.6nm,0.7s,baz=181,slow=2.9,SNR=5.7						
ARCES	**ARCESS Array B**	148.35 339	PKPbc		**PKPdf**	18 30 09.3	+1.6
	comp=Z,3.3nm,0.7s,baz=51,slow=2.9,SNR=9.2						
BRTR	**Keskin Array B**	149.45 278	PKPbc		**PKPbc**	18 30 15.0	0.0
	comp=Z,3.2nm,0.9s,baz=154,slow=5.7,SNR=13						
FINES	**FINESS Array B**	152.79 325	PKPbc		**PKPbc**	18 30 21.1	-0.8
	comp=Z,2.3nm,0.7s,baz=70,slow=2.2,SNR=7.7						

WEL 13 18:14:56.6±0.5, 42°S±4°×17°4E±°, h11km±4km, M4.3/7, ML4.4/7, MLv4.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=132.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	0.42	8	P	Pb	18 15 05.7	-0.3
BSWZ				S	Sb	18 15 12.0	-0.3
CMWZ	**Cape Campbell**	0.49	39	P	Pb	18 15 07.6	+0.3
TUWZ	**Tuamarina**	0.71	9	P	Pb	18 15 10.8	-0.1
TUWZ				S	Sb	18 15 21.2	+0.5
THZ	**Tophouse**	0.76	298	P	Pb	18 15 12.2	+0.3
THZ				S	Sb	18 15 22.2	-0.1
NNZ	**Nelson**	0.96	341	P	Pb	18 15 15.4	+0.1
NNZ				S	Sb	18 15 28.6	+0.5
GVZ	**Greta Valley S**	1.01	214	P	Pg	18 15 15.2	-0.8
AMCZ	**Amberley**	1.35	219	P	Pn	18 15 20.4	-1.0
MQZ	**McQueen's Vall**	1.79	208	P	Pn	18 15 27.0	-0.4
INZ	**Inchbonnie**	1.84	250	P	Pn	18 15 29.1	+0.9
RACZ	**Rakaia**	2.01	217	P	Pn	18 15 29.7	-0.7
RACZ				S	Sn	18 15 55.3	-0.2

*IDC **13** 18:15:20.6±1.8, 41°31S×174°52E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=63.6km s-min=34.9km az=46.0*

*WEL **13** 18:15:24.9±0.4, 42°S±3°×17°4E±°, h11km±3km, M3.9/18, ML4.2/18, MLv3.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=156.0*

ISC 13 18:15:23.6±1.1, 41°60S±0°04×174°35E±0°02, h9km±8km, n58, σ1ᵗ65/64, mb3.7/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	0.18	215	P	Pg	18 15 27.7	+0.3
TUWZ	**Tuamarina**	0.35	300	P	Pn	18 15 33.0	-1.8
TUWZ				S	Sb	18 15 39.0	+1.4
BSWZ	**Blackbirch Sta**	0.37	253	P	Pg	18 15 31.6	+0.7
BSWZ				S	Sg	18 15 36.8	+1.0
TCW	**Tory Channel**	0.40	352	P	Pn	18 15 34.9	-0.5
TCW				S	Sb	18 15 42.1	+3.2
BHW	**Baring Head**	0.44	64	P	Pn	18 15 35.0	-1.0
BHW				S	Sb	18 15 44.4	+4.4
WEL	**Wellington**	0.45	45	P	Pn	18 15 36.2	0.0
WEL				S	Sb	18 15 44.5	+4.2
PLWZ	**Palliser**	0.68	87	P	Pn	18 15 40.0	+0.6
PLWZ				S	Sn	18 15 51.2	+1.1
MSWZ	**Moikau Station**	0.70	75	P	Pn	18 15 39.9	+0.3
MSWZ				S	Sn	18 15 52.3	+1.7
CAW	**Cannon Point**	0.73	48	P	Pn	18 15 41.0	+0.9
NNZ	**Nelson**	0.83	298	P	Pn	18 15 41.1	-0.2
PAWZ	**Paruwai Farm**	0.84	75	P	Pn	18 15 42.5	+0.9
KIW	**Kapiti Island**	0.85	30	P	Pn	18 15 43.3	+1.6
DUWZ	**D'Urville Isla**	0.86	338	P	Pn	18 15 43.3	+1.4
MTW	**Mount Morrison**	0.97	63	P	Pn	18 15 44.6	+1.2
OGWZ	**Otaki Gorge**	1.00	38	P	Pn	18 15 45.7	+1.9
TRWZ	**Traveller**	1.02	79	P	Pn	18 15 44.5	+0.4
HOWZ	**Holdsworth Sta**	1.13	52	P	Pn	18 15 47.1	+1.6
TKNZ	**Takaka Hill**	1.19	298	P	Pn	18 15 47.9	+1.5
MRNZ	**Matariki Terra**	1.21	279	P	Pn	18 15 47.9	+1.1
TMWZ	**Te Maipa**	1.26	67	P	Pn	18 15 48.1	+0.7
MRZ	**Mangatainoka R**	1.32	45	P	Pn	18 15 50.0	+1.8
TIWZ	**Tintock**	1.42	55	P	Pg	18 15 50.8	0.0
CPWZ	**Castlepoint**	1.56	64	P	Pg	18 15 52.3	-1.2
OHWZ	**Ohakea**	1.58	28	P	Pg	18 15 56.2	+2.4
QRZ	**Quartz Range**	1.58	299	P	Pg	18 15 53.4	-0.5
PRWZ	**Pori Road**	1.61	50	P	Pg	18 15 53.5	-1.0
POWZ	**Post Office Ro**	1.62	42	P	Pg	18 15 54.1	-0.5
BFZ	**Birch Farm**	1.70	58	P	Pg	18 15 53.8	-2.4
DVHZ	**Dannevirke**	1.90	47	P	Pg	18 15 56.9	-3.0
WAZ	**Wanganui**	1.91	15	P	Pg	18 16 01.8	+1.6
TSZ	**Takapari Road**	1.97	39	P	Pg	18 15 58.7	-2.7
ANWZ	**Angora Road**	1.97	55	P	Pg	18 15 58.7	-2.6
LREZ	**Lake Rotokare**	2.14	1	P	Pg	18 16 05.5	+0.9
PRHZ	**Porangahau**	2.19	53	P	Pb	18 16 00.3	-3.0
PNHZ	**Pukenui**	2.20	40	P	Pb	18 16 01.5	-2.0
WPHZ	**Waipukurau**	2.21	47	P	Pb	18 16 02.2	-1.5
NMEZ	**Namu Road**	2.22	350	P	Pg	18 16 06.1	0.0
KHEZ	**Kahui Hut**	2.32	354	P	Pg	18 16 07.5	-0.6
NEZ	**North Egmont**	2.34	355	P	Pg	18 16 05.7	-2.8
NBEZ	**Newall Road No**	2.36	351	P	Pg	18 16 07.5	-1.4
PKE	**Pukeiti**	2.42	353	P	Pb	18 16 05.0	-2.4
MOVZ	**Moawhango**	2.44	26	P	Pg	18 16 10.2	-0.2
WNVZ	**Wahianoa**	2.47	23	P	Pg	18 16 10.9	+0.1
TRVZ	**Turoa**	2.48	22	P	Pg	18 16 11.9	+0.8
BHHZ	**Black Hill Sta**	2.48	32	P	Pg	18 16 12.5	+1.4
WHVZ	**Whangaehu Hut**	2.50	23	P	Pg	18 16 11.3	-0.3
FWVZ	**Far West T-bar**	2.52	22	P	Pg	18 16 11.0	-0.8
TUVZ	**Tukino**	2.54	24	P	Pg	18 16 11.5	-0.5
NGZ	**Ngauruhoe**	2.61	22	P	Pg	18 16 12.9	-0.7
SNVZ	**South Ngauruho**	2.61	23	P	Pg	18 16 14.3	+0.7
KAHZ	**Kahuranaki**	2.64	48	P	Pn	18 16 06.6	+0.2
OTVZ	**Oturere**	2.64	23	P	Pg	18 16 14.7	+0.6
NTVZ	**North Tongarir**	2.70	22	P	Pb	18 16 10.8	-1.3
ASAR	**Alice Springs**	38.06	285	P	P	18 22 41.3	-1.2
	0.3nm,0.3s,baz=126,slow=7.0,SNR=18						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	40.12	290	P	P	18 22 58.2	-1.5
	0.6nm,0.3s,baz=126,slow=8.4,SNR=15						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	48.52	180	P	P	18 24 07.3	+0.7
	1.4nm,1.0s,baz=65,slow=14,SNR=2.7						
	1.4nm,1.0s						
ARCES	**ARCESS Array B**	147.67	340	PKPbc	**PKPdf**	18 35 05.2	+0.7
	2.3nm,1.0s,baz=46,slow=2.6,SNR=1.2						
FINES	**FINESS Array B**	152.45	327	PKPbc	**PKPbc**	18 35 16.6	-2.5
	3.3nm,1.0s,baz=150,slow=3.1,SNR=3.8						

*IDC **13** 18:16:00.7±6.8, 42°61S×173°60E, h0km, mb3.6/3, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=134.7km s-min=51.2km az=119.0*

*WEL **13** 18:16:00, 42°57S×173°21E, h6km, ML4.9, Mw4.6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{16} Nm; M_{rr}0.59; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-0.76; $M_{r\theta}$0.49; $M_{\theta\phi}$-0.31; $M_{\phi r}$0.70; Fault plane solution: $M_0$1.13000×10^{16} NP1: ϕ_s173.00000°, δ24.00000°, λ53.00000°. NP2:ϕ_s33.00000°, δ71.00000°, λ105.00000°. Principal axes: T -1225.1200, Plg61.0000°, Azm326.0000°; N 197.4000, Plg15.0000°, Azm208.0000°; P 1027.7200, Plg25.0000°, Azm111.0000°;*

*WEL **13** 18:16:04.3±0.5, 42°S±3°×17°3E±°, h13km±3km, M3.8/8, ML5.1/7, MLv3.8/8 Error ellipse: s-maj=0.0km s-min=0.0km az=138.9*

ISC 13 18:16:04.5±0.8, 42°50S±0°06×173°22E±0°05, h15km, n15, σ0ᵗ75/22, mb3.7/4, 1D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	0.25	72	P	Pg	18 16 10.4	+0.4
KHZ				S	Sb	18 16 15.0	+0.1
GVZ	**Greta Valley S**	0.49	196	P	Pb	18 16 15.5	+0.6
GVZ				S	Sb	18 16 23.3	+1.4
LTZ	**Lake Taylor**	0.75	247	P	Pb	18 16 19.3	-0.1
LTZ				S	Sb	18 16 29.9	+0.4
AMCZ	**Amberley**	0.80	211	P	Pn	18 16 20.9	-0.3
AMCZ				S	Sn	18 16 33.0	+0.1
OXZ	**Oxford**	1.20	226	P	Pn	18 16 26.5	-0.3
OXZ				S	Sn	18 16 42.5	-0.2
MQZ	**McQueen's Vall**	1.28	199	P	Pn	18 16 26.8	-1.0
MQZ				S	Sb	18 16 43.2	-1.3
AKCZ	**Akaroa Harbour**	1.40	189	S	Sn	18 16 47.4	-0.2
RACZ	**Rakaia**	1.46	212	P	Pn	18 16 30.2	-0.2
WACZ	**Wakanui South**	1.76	214	P	Pn	18 16 34.4	-0.1
RPZ	**Rata Peaks**	2.00	232	Pn	Pn	18 16 38.1	+0.3
	79nm,0.3s,baz=43,slow=4.1,SNR=14						
RPZ			Sn		**Sn**	18 17 02.1	-0.4
	41nm,0.3s,baz=350,slow=24,SNR=10						
	199nm,0.3s						
ARCZ	**Arundel**	2.08	225	P	Pn	18 16 39.0	+0.1
ASAR	**Alice Springs**	37.50	287	P	P	18 23 18.6	+0.8
	0.3nm,0.6s,baz=129,slow=7.3,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	39.66	292	P	P	18 23 37.0	+1.1
	0.9nm,0.9s,baz=132,slow=8.3,SNR=3.2						
	0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	91.23	294	P	P	18 29 09.4	+0.1
	0.5nm,0.8s,baz=168,slow=4.6,SNR=1.7						
	0.5nm,0.8s						
XAN	**Xi'an**	96.24	311	⇓P	P	18 29 30.3	-1.7
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						

*IDC **13** 18:16:35.2±0.6, 42°38S×173°33E, h0km, mb4.5/12, mbtmp4.6/13, ML4.9/1, Error ellipse: s-maj=23.7km s-min=16.4km az=70.0*

*NEIC **13** 18:16:37.1±2.4, 42°61S±0°02×173°29E±0°03, h10km±1km, mb5.0/22, Mwr4.6/33, Error ellipse: s-maj=5.3km s-min=2.9km az=317.0*

*WEL **13** 18:16:37.9±0.4, 43°S±3°×17°3E±°, h5km, M4.8/7, ML5.1/7, MLv4.

PKGZ	Pakihiroa	5.95	40	P		Pn	18 18 08.1 +2.8
ABAZ	Army Bay	6.07	12	P		Pn	18 18 09.2 +2.5
KUZ	Kuaotunu	6.11	19	P		Pn	18 18 08.9 +1.6
WMGZ	Waiomatatini S	6.17	42	P		Pn	18 18 07.8 -0.4
MXZ	Matakaoa Point	6.32	40	P		Pn	18 18 10.9 +0.6
GRZ	Great Barrier	6.52	16	P		Pn	18 18 16.5 +3.5
WCZ	Waipu Caves	6.66	8	P		Pn	18 18 18.1 +3.2
OUZ	Omahuta	7.32	2	Pn		Pn	18 18 24.9 +0.9
OUZ	Omahuta	7.32	2	P		Pn	18 18 27.7 +3.7
DZM	Mont Dzumac	21.19	342	P		P	18 21 22.3 -0.4
	17nm,0.9s,baz=152,slow=11,SNR=19						
	17nm,0.9s						
DZM	Mont Dzumac	21.19	342	P		P	18 21 23.7 +1.1
DZM				IAmb		IAmb	18 21 28.6
	comp=Z,74nm,1.0s						
KOUNC	Koumac, New Ca	23.18	338	P		P	18 21 44.9 +1.2
STKA	Stephens Creek	27.20	283	P		P	18 22 22.1 +1.4
	comp=Z,6.4nm,1.0s,baz=104,slow=15,SNR=4.7						
	comp=Z,6.4nm,1.0s						
VNDA	Vanda	35.39	184	P		P	18 23 33.5 +1.2
	comp=Z,1.7nm,1.1s,baz=0.0,slow=6.1,SNR=5.3						
	comp=Z,1.7nm,1.1s						
SBA	Scott Base	35.51	182	P		P	18 23 31.9 -1.4
SBA				IAmb		IAmb	18 23 39.9
	comp=Z,16nm,1.3s						
AS31	Alice Springs	37.52	287	P		P	18 23 49.9 -1.2
ASAR	Alice Springs	37.52	287	P		P	18 23 50.8 -0.3
	comp=Z,6.7nm,1.0s,baz=130,slow=6.8,SNR=29						
ASAR				PcP		PcP	18 26 07.6 -1.5
	comp=Z,1.4nm,0.7s,baz=124,slow=3.7,SNR=4.5						
	comp=Z,6.7nm,1.0s						
COEN	Coen	38.51	309	P		P	18 23 58.3 -1.1
WR0	Warramunga Arr	39.53	293	P		P	18 24 07.0 -1.0
WB2	Warramunga Arr	39.67	292	P		P	18 24 08.9 -0.3
WRA	Warramunga Arr	39.68	292	P		P	18 24 09.1 -0.1
	comp=Z,7.7nm,0.9s,baz=133,slow=7.7,SNR=29						
WRA				PcP		PcP	18 26 14.5 -1.4
	comp=Z,2.0nm,0.8s,baz=132,slow=2.9,SNR=5.7						
	comp=Z,7.7nm,0.9s						
WRA	Warramunga Arr	39.68	292	P		P	18 24 07.9 -1.3
WB0	Warramunga Arr	39.76	293	P		P	18 24 08.7 -1.2
WB0				IAmb		IAmb	18 24 10.9
	comp=Z,18nm,1.1s						
PMG	Port Moresby	40.14	318	P		P	18 24 12.9 -0.1
	comp=Z,29nm,1.0s,baz=120,slow=5.9,SNR=5.2						
	comp=Z,29nm,1.0s						
PMG	Port Moresby	40.14	318	P		P	18 24 13.7 +0.7
PMG				IAmb		IAmb	18 24 18.4
	comp=Z,38nm,1.0s						
RABL	Rabaul	42.55	328	P		P	18 24 31.2 -1.6
KNRA	Kununurra	46.45	291	P		P	18 25 01.5 -2.5
QSPA	South Pole Qui	47.58	180	P		P	18 25 14.9 +2.5
	comp=Z,15nm,1.0s,baz=25,slow=3.0,SNR=17						
	comp=Z,15nm,1.0s						
QSPA	South Pole Qui	47.58	180	P		P	18 25 12.2 -0.3
QSPA				IAmb		IAmb	18 25 17.9
	comp=Z,14nm,0.9s						
SOEI	Soe	53.72	293	P		P	18 26 00.3 +1.0
SOEI				IAmb		IAmb	18 26 21.6
	comp=Z,22nm,1.0s						
MAW	Mawson	58.41	205	P		P	18 26 34.3 +2.3
	comp=Z,3.6nm,0.9s,baz=98,slow=8.2,SNR=3.8						
	comp=Z,3.6nm,0.9s						
LUWI	Luwuk	61.14	298	P		P	18 26 50.7 -0.8
TOLI2	Tolitoli	64.06	298	P		P	18 27 09.4 -1.6
TOLI2				IAmb		IAmb	18 27 13.7
	comp=Z,11nm,1.0s						
TROLL	Troll, Antarti	65.56	183	sP		P	18 27 23.8 +3.6
SNAA	Sanae	66.06	181	sP		P	18 27 26.7 +3.4
SNAA	Sanae	66.06	181	P		P	18 27 23.2 -0.1
SNAA				IAmb		IAmb	18 27 28.1
	comp=Z,19nm,1.4s						
VNA3	Neumayer Olymp	66.50	179	sP		P	18 27 29.4 +3.3
VNA2	Neumayer--Watz	66.84	180	sP		P	18 27 31.9 +3.7
	baz=166,slow=6.0						
SBUM	Sibu	70.77	292	P		P	18 27 52.5 -1.1
SBUM				IAmb		IAmb	18 28 09.6
	comp=Z,8.4nm,0.8s						
KSM	Kuching	71.39	290	P		P	18 27 57.0 -0.3
KSM				IAmb		IAmb	18 27 58.4
	comp=Z,18nm,1.0s						
PLCA	Paso Flores	79.06	136	P		P	18 28 43.2 +1.9
	comp=Z,2.5nm,1.0s,baz=242,slow=5.2,SNR=3.1						
	comp=Z,2.5nm,1.0s						
GSI	Gunungsitoli	80.33	281	P		P	18 28 48.9 +0.5
MJAR	Matsushiro Arr	84.95	332	P		P	18 29 11.2 -0.7
	comp=Z,2.7nm,0.9s,baz=167,slow=5.9,SNR=11						
	comp=Z,2.7nm,0.9s						
KSRS	Korea Array	89.67	326	P		P	18 29 35.9 +1.3
	comp=Z,6.6nm,0.9s,baz=142,slow=5.6,SNR=21						
	comp=Z,6.6nm,0.9s						
KSAR	Wonju Array Be	89.68	326	P		P	18 29 31.9 -2.7
CM31	Chiang Mai Arr	91.26	294	P		P	18 29 43.4 +1.0
CM31				IAmb		IAmb	18 29 44.6
	comp=Z,10nm,0.9s						
CMAR	Chiang Mai Arr	91.26	294	P		P	18 29 43.8 +1.3
	comp=Z,5.9nm,0.9s,baz=150,slow=3.2,SNR=39						
	comp=Z,5.9nm,0.9s						
CMAR	Chiang Mai Arr	91.26	294	P		P	18 29 42.7 +0.2
CHTO	Chiang Mai	91.50	294	P		P	18 29 43.0 -0.7
CHTO				IAmb		IAmb	18 29 45.5
	comp=Z,5.8nm,0.9s						
KMI	Kunming	93.48	301	⇑P		P	18 29 54.0 +1.1
KMI				pmax		pmax	
	comp=Z,10.0nm,0.8s						
PZH	PanZhiHua	95.09	301	P		P	18 30 00.5 +0.4
PZH				pmax		pmax	
	comp=Z,10.0nm,0.7s						
PZH				pmax		pmax	
	comp=Z,80nm,5.1s						
TNCH	TengChong	96.12	298	*e*P		P	18 30 08.3 +3.4
TNCH				pP		pP	18 30 11.4 +1.1
TNCH				pmax		pmax	
	comp=Z,4.0nm,0.9s						
HHC	Hu-ho-hao-te	99.95	317	*e*P		Pdif	18 30 23.8 +2.1
HHC				pmax		pmax	
	comp=Z,21nm,0.8s						
HHC				pmax		pmax	
	comp=Z,160nm,5.9s						
INK	Inuvik	117.45	20	PKP		PKPdf	18 35 20.0 -1.4
	comp=Z,1.0nm,0.8s,baz=273,slow=3.0,SNR=3.7						
TIXI	Tiksi	118.14	345	PKP		PKPdf	18 35 21.3 -1.3
	comp=Z,0.4nm,0.2s,baz=352,slow=0.1,SNR=1.8						
YKA	Yellowknife Ar	119.45	31	PKP		PKPdf	18 35 25.1 -0.2
	comp=Z,2.1nm,0.8s,baz=220,slow=5.3,SNR=4.3						
ULM	Lac du Bonnet	121.60	49	PKP		PKPdf	18 35 28.7 -1.2
	comp=Z,4.8nm,0.8s,baz=245,slow=5.4,SNR=3.7						
KURBB	Kurchatov Arra	123.91	310	PKP		PKPdf	18 35 33.4 -0.9
	comp=Z,1.2nm,0.7s,baz=114,slow=1.7,SNR=16						
BVAR	Borovoye Array	129.50	310	PKP		PKPdf	18 35 44.5 -0.5
	comp=Z,0.7nm,0.6s,baz=116,slow=3.4,SNR=4.6						
ARU	Arti	137.01	312	PKP		PKPdf	18 35 58.0 -0.9
	comp=Z,0.8nm,0.3s,baz=142,slow=8.7,SNR=3.3						
KBZ	Khabaz	144.17	289	PKP		PKPab	18 36 09.9 -0.1
	comp=Z,5.2nm,0.9s,baz=258,slow=1.7,SNR=8.4						
DBIC	Dimbokro	144.23	183	PKP		PKPbc	18 36 12.0 +0.6
	comp=Z,4.9nm,1.0s,baz=220,slow=5.7,SNR=3.9						
KLMR	Klimovskoe	146.87	320	*e*		PKPdf	18 36 16.4 +0.1
KLMR				AMP			18 36 19.3
	comp=Z,30nm,1.1s						
ARCES	ARCESS Array B	148.25	339	PKPbc		PKPbc	18 36 20.1 -1.8
	comp=Z,10.0nm,1.0s,baz=320,slow=5.4,SNR=6.0						
BRTR	Keskin Array B	149.63	279	PKPbc		PKPbc	18 36 26.2 -0.2
	comp=Z,8.3nm,0.8s,baz=143,slow=6.7,SNR=37						
FINES	FINESS Array B	152.76	325	PKPbc		PKPbc	18 36 32.1 -0.7
	comp=Z,3.3nm,0.7s,baz=106,slow=4.8,SNR=9.9						
AKASG	Malin Array Be	154.17	301	PKPbc		PKPbc	18 36 35.0 -1.2
	comp=Z,0.7nm,0.6s,baz=65,slow=2.0,SNR=2.0						
AKASG				PKPab		PKPab	18 36 49.7 -0.4
	comp=Z,7.2nm,1.0s,baz=75,slow=4.3,SNR=13						
NB2	NORSAR Subarra	158.53	336	PKP		PKPab	18 37 08.0 -0.5
	comp=Z,2.4nm,0.8s,baz=39,slow=4.4						
NOA	NORSAR Array B	158.53	336	PKPab		PKPab	18 37 08.1 -0.5
	comp=Z,1.6nm,0.8s,baz=40,slow=4.7,SNR=4.9						
CLL	Collm	163.94	310	*i* PKPab		PKPab	18 37 32.5 +0.1
	comp=Z,7.0nm,1.3s						
MOA	Molln	164.26	297	*e*P		PKPab	18 37 33.1 -0.9
	comp=Z,6.0nm,1.3s						
ABTA	Abfaltersbach	165.65	294	*e*P		PKPab	18 37 40.8 +0.6
	comp=Z,8.1nm,1.3s						
WATA	Walderalm	166.15	297	*e*P		PKPab	18 37 42.4 -0.2
	comp=Z,5.7nm,1.1s						
SQTA	Sankt Quirin	166.42	296	*e*P		PKPab	18 37 41.5 -2.2
	comp=Z,7.7nm,1.4s						
MOTA	Moosalm	166.46	297	*e*P		PKPab	18 37 43.9 0.0
	comp=Z,7.6nm,1.1s						
FETA	Feichten	166.79	296	*e*P		PKPab	18 37 45.9 +0.5
	comp=Z,8.0nm,1.2s						
ESDC	Sonseca Array	176.43	217	PKP		PKPdf	18 36 46.9 -0.1
	comp=Z,1.5nm,1.2s,baz=6.1,slow=3.1,SNR=4.3						

IDC ***13*** *18:18:00.3±1.3,41.72S×174.18E,h0km,mb4.3/4, mbtmp4.3/5, Error ellipse: s-maj=41.9km s-min=31.5km az=58.0*

WEL ***13*** *18:18:03.2±0.5,42.2S×3.7×174.4E±,h5km,M4.3/12, ML4.6/12,MLv4.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=169.9*

ISC 13 18:18:01.7±1.1,41.91S±0.04×174.25E±0.03,h11km±7km, n75,σ1.931/85,mb4.2/4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.16	351	P	Pg	18 18 04.3	-1.0
CMWZ				S	Sg	18 18 06.3	-1.4
BSWZ	Blackbirch Sta	0.34	304	P	Pg	18 18 08.9	+0.4
BSWZ				S	Sg	18 18 14.6	+1.6
TUWZ	Tuamarina	0.53	334	P	Pg	18 18 12.0	0.0
TUWZ				S	Sg	18 18 19.1	+0.2
BHW	Baring Head	0.68	43	P	Pg	18 18 15.1	+0.2
TCW	Tory Channel	0.70	2	P	Pg	18 18 14.8	-0.4
TCW				S	Sg	18 18 23.7	-0.6
WEL	Wellington	0.73	32	P	Pg	18 18 16.2	+0.4
WEL				S	Sn	18 18 27.4	-1.8
PLWZ	Palliser	0.82	66	P	Pn	18 18 19.4	+0.1
MSWZ	Moikau Station	0.90	57	P	Pn	18 18 20.4	+0.1
NNZ	Nelson	0.95	316	P	Pb	18 18 20.8	+0.1
NNZ				S	Sb	18 18 33.5	+0.8
CAW	Cannon Point	1.01	38	P	Pb	18 18 21.2	+0.1
THZ	Tophouse	1.01	278	P	Pn	18 18 22.6	+0.7
PAWZ	Paruwai Farm	1.03	60	P	Pg	18 18 22.1	+0.7
PAWZ				S	Sn	18 18 37.3	+0.8
DUWZ	D'Urville Isla	1.13	347	P	Pb	18 18 23.0	-0.2
DUWZ				S	Sb	18 18 37.7	-0.3
KIW	Kapiti Island	1.16	26	P	Pn	18 18 23.3	-0.5
KIW				S	Sn	18 18 38.8	-0.9
TRWZ	Traveller	1.19	65	P	Pn	18 18 23.9	-0.4
MTW	Mount Morrison	1.20	52	P	Pn	18 18 24.4	-0.1
MRNZ	Matariki Terra	1.23	294	P	Pb	18 18 26.3	+1.4
OGWZ	Otaki Gorge	1.29	33	P	Pn	18 18 25.7	0.0
TKNZ	Takaka Hill	1.30	312	P	Pn	18 18 26.6	+0.8
HOWZ	Holdsworth Sta	1.39	44	P	Pb	18 18 28.1	+0.5
TMWZ	Te Maipa	1.47	58	P	Pn	18 18 27.8	-0.3
MRZ	Mangatainoka R	1.60	39	P	Pn	18 18 29.9	0.0
TIWZ	Tintock	1.67	48	P	Pg	18 18 30.8	0.0
QRZ	Quartz Range	1.69	309	P	Pb	18 18 33.1	+0.4
LTZ	Lake Taylor	1.71	239	P	Pb	18 18 33.5	+0.4
PRWZ	Pori Road	1.87	44	P	Pb	18 18 35.8	-0.1
OHWZ	Ohakea	1.88	26	P	Pb	18 18 36.2	+0.1
POWZ	Post Office Ro	1.90	38	P	Pb	18 18 36.8	+0.4
BFZ	Birch Farm	1.94	52	P	Pg	18 18 40.9	+2.0
DVHZ	Dannevirke	2.16	43	P	Pb	18 18 41.4	+0.6
WAZ	Wanganui	2.22	15	P	Pb	18 18 42.9	+1.0
INZ	Inchbonnie	2.23	248	P	Pb	18 18 44.2	+2.2
TSZ	Takapari Road	2.26	36	P	Pb	18 18 43.4	+1.0
WPHZ	Waipukurau	2.48	43	P	Pg	18 18 49.6	+0.5
PNHZ	Pukenui	2.48	37	P	Pg	18 18 48.6	-0.6
MTVZ	Mangateitei	2.69	21	P	Pb	18 18 51.3	+1.5
PKE	Pukeiti	2.72	356	P	Pb	18 18 51.7	+1.3
MOVZ	Moawhango	2.75	25	P	Pb	18 18 50.3	-0.5
WNVZ	Wahianoa	2.77	22	P	Pb	18 18 51.7	+0.4
BHHZ	Black Hill Sta	2.78	30	P	Pb	18 18 52.1	+0.7
TRVZ	Turoa	2.79	21	P	Pb	18 18 51.8	+0.1
DRZ	Dome Shelter	2.81	21	P	Pb	18 18 53.3	+1.2
WHVZ	Whangaehu Hut	2.81	22	P	Pb	18 18 52.1	+0.1
FWVZ	Far West T-bar	2.83	21	P	Pb	18 18 52.8	+0.4
TUVZ	Tukino	2.85	23	P	Pb	18 18 53.2	+0.6
NGZ	Ngauruhoe	2.92	21	P	Pb	18 18 54.1	+0.3
SNVZ	South Ngauruho	2.92	22	P	Pb	18 18 54.2	+0.3
OTVZ	Oturere	2.95	22	P	Pb	18 18 54.0	-0.3
NNVZ	North Ngauruho	2.96	21	P	Pb	18 18 53.8	-0.8
RPZ	Rata Peaks	2.96	231	Pn	Pn	18 18 48.6	-0.1
	491nm,0.9s,baz=322,slow=20,SNR=0.5						
RPZ				Sn	Sn	18 19 17.1	-7.2
	11nm,0.3s,baz=124,slow=20,SNR=1.1						
WTVZ	West Tongariro	2.97	21	P	Pb	18 18 55.2	+0.5
TWVZ	Taurewa	2.98	18	P	Pb	18 18 55.5	+0.7
KWHZ	Kaweka Forest	2.98	34	P	Pb	18 18 56.2	+1.3
ETVZ	East Tongariro	2.98	22	P	Pb	18 18 55.4	+0.5
TMVZ	Te Maari	3.00	22	P	Pb	18 18 54.4	-0.8
KRVZ	Karewarewa	3.00	21	P	Pb	18 18 55.4	+0.2
NTVZ	North Tongarir	3.01	22	P	Pb	18 18 55.6	+0.2
KATZ	Kakaramea	3.13	21	P	Pb	18 18 58.1	+0.7
BKZ	Black Stump Fm	3.23	33	P	Pb	18 19 00.1	+1.0
RATZ	Rangitukua	3.25	21	P	Pb	18 19 00.3	+0.9
HATZ	Hinemaiaia	3.33	26	P	Pb	18 19 00.6	-0.1
WATZ	Wairara	3.39	20	P	Pb	18 19 01.9	+0.1
ALRZ	Allen Road	3.71	26	P	Pb	18 19 06.6	-0.6
AWAZ	Awhitu Peninsu	4.85	4	P	Pn	18 19 18.7	+4.1
ETAZ	East Tamaki Re	4.97	6	P	Pn	18 19 19.9	+3.6
CTZ	Chatham Island	6.96	108	P	Pn	18 19 46.3	+2.8
ASAR	Alice Springs	38.07	286	P	P	18 25 19.8	-0.7
	1.8nm,0.7s,baz=124,slow=6.6,SNR=4.1						
	1.8nm,0.7s						
WRA	Warramunga Arr	40.16	291	P	P	18 25 37.6	-0.3
	3.0nm,0.8s,baz=126,slow=8.6,SNR=9.2						
	3.0nm,0.8s						
QSPA	South Pole Qui	48.22	180	P	P	18 26 43.8	+1.7
	5.6nm,1.0s,baz=30,slow=7.1,SNR=3.3						
	5.6nm,1.0s						
CMAR	Chiang Mai Arr	91.70	293	P	P	18 31 09.4	+0.1
	1.7nm,0.8s,baz=150,slow=3.8,SNR=9.0						
	1.7nm,0.8s						
KURBB	Kurchatov Arra	124.08	310	PKP	PKPdf	18 36 58.4	-1.1
	0.3nm,0.7s,baz=112,slow=1.6,SNR=2.2						
DBIC	Dimbokro	144.90	182	PKPbc	PKPdf	18 37 40.0	+0.7
	1.4nm,0.5s,baz=236,slow=2.3,SNR=4.2						
ARCES	ARCESS Array B	147.92	340	PKPbc	PKPbc	18 37 44.5	-1.2
	1.9nm,0.6s,baz=35,slow=3.3,SNR=1.5						
BRTR	Keskin Array B	150.28	279	PKPbc	PKPbc	18 37 52.4	-0.4
	1.8nm,0.8s,baz=127,slow=3.7,SNR=2.8						
FINES	FINESS Array B	152.66	327	PKPbc	PKPbc	18 37 56.8	-0.5
	1.2nm,0.7s,baz=50,slow=4.5,SNR=1.2						

WEL 13 18:20:54.4±0.3,43.3S±2.2×17.3E±,h10km±2km,M3.6/12, ML3.9/12,MLv3.6/12,Error ellipse: s-maj=0.0km s-min=0.0km az=109.8,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	Greta Valley S	0.28	164	P	Pb	18 21 01.0	-0.5
GVZ				S	Sb	18 21 06.0	-0.4
LTZ	Lake Taylor	0.49	260	P	Pb	18 21 04.9	-0.3
LTZ				S	Sb	18 21 12.3	-0.2
AMCZ	Amberley	0.52	203	P	Pb	18 21 06.1	+0.4
AMCZ				S	Sb	18 21 14.6	+1.4
OXZ	Oxford	0.91	226	P	Pg	18 21 12.0	+0.1
OXZ				S	Sb	18 21 25.3	+0.9
THZ	Tophouse	0.93	359	P	Pb	18 21 12.8	+0.1
THZ				S	Sg	18 21 24.1	-0.4
MQZ	McQueen's Vall	1.03	191	P	Pg	18 21 13.7	-0.5
MQZ				S	Sg	18 21 26.6	-1.0
OKCZ	Okains Bay	1.03	175	P	Pg	18 21 13.8	-0.4
INZ	Inchbonnie	1.09	268	P	Pb	18 21 15.5	+0.1
AKCZ	Akaroa Harbour	1.18	181	P	Pb	18 21 15.7	-1.1
AKCZ				S	Sb	18 21 31.1	-1.0
RACZ	Rakaia	1.18	209	P	Pb	18 21 15.6	-1.3
DSZ	Denniston Nort	1.27	318	P	Pg	18 21 19.2	+0.5
DSZ				S	Sn	18 21 36.5	+1.3
WACZ	Wakanui South	1.48	212	P	Pn	18 21 20.3	-0.7
WVZ	Waitaha Valley	1.66	256	P	Pn	18 21 24.1	+0.7
WVZ				S	Sn	18 21 45.1	+0.3
ARCZ	Arundel	1.79	225	P	Pn	18 21 24.6	-0.7
ARCZ				S	Sn	18 21 46.7	-1.5
AWAZ	Awhitu Peninsu	5.78	14	P	Pn	18 22 22.1	+1.9
MKAZ	Moumakai	5.84	18	P	Pn	18 22 21.3	+0.2
WIAZ	Waiheke Island	6.14	17	P	Pn	18 22 26.7	+1.6

WEL ***13*** *18:21:00,41.65S×173.94E,h15km,ML4.9,Mw4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr0.92; Mθθ1.26; Mϕϕ-2.18; Mrθ2.56; Mθϕ-2.65; Mϕr-0.69; Fault plane solution: Mo4.14000×10¹⁵ NP1: ϕs170.00000°,δ58.00000°,λ20.00000°. NP2:ϕs69.00000°, δ73.00000°,λ146.00000°. Principal axes: T 455.1700, Plg36.0000°, Azm25.0000°; N -373.0200, Plg53.0000°, Azm225.0000°; P -82.1400, Plg10.0000°, Azm122.0000°;*

IDC ***13*** *18:21:30.8±1.2,41.66S×174.49E,h0km,mb4.1/5, mbtmp4.1/5 Error ellipse: s-maj=37.6km s-min=32.6km az=75.0.*

NEIC ***13*** *18:21:33.1±2.1,41.95S±0.06×174.31E±0.03,h10km±1km, mb4.3/9, Error ellipse: s-maj=10.5km s-min=4.0km az=7.0*

WEL ***13*** *18:21:36.3±0.4,42.3S±3×17.4E±,h5km±2km,M4.5/16, ML4.7/16,MLv4.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=164.1*

ISC 13 18:21:34.4±0.9,41.75S±0.03×174.38E±0.02,h18km±3km, n60,σ1.925/78,mb4.2/10,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.12	269	Pg	Pg	18 21 38.3	-0.1
CMWZ	Cape Campbell	0.12	269	P	Pg	18 21 38.6	+0.2
CMWZ				S	Sg	18 21 41.8	+0.7
BSWZ	Blackbirch Sta	0.38	275	P	Pg	18 21 42.5	+0.2
BSWZ	Blackbirch Sta	0.38	275	P	Pb	18 21 42.6	0.0
BSWZ				S	Sb	18 21 48.9	+0.8
TUWZ	Tuamarina	0.46	314	Pg	Pg	18 21 43.9	+0.3
TUWZ	Tuamarina	0.46	314	P	Pb	18 21 44.2	+0.3
TUWZ				S	Sb	18 21 51.9	+1.6
BHW	Baring Head	0.50	48	P	Pn	18 21 45.9	-0.8
BHW				S	Sn	18 21 54.7	-0.1
SNZO	South Karori	0.50	29		Pb	18 21 45.4	+0.8
TCW	Tory Channel	0.54	352	P	Pg	18 21 46.1	+0.8
TCW				S	Sb	18 21 53.8	+1.2
WEL	Wellington	0.55	32	P	Pn	18 21 46.5	-0.8
WEL				S	Sn	18 21 55.7	-0.2
PLWZ	Palliser	0.68	75		Pn	18 21 49.5	+0.3
PLWZ	Palliser	0.68	75	P	Pn	18 21 49.7	+0.6
PLWZ				S	Sn	18 22 01.6	+2.3
MSWZ	Moikau Station	0.73	63		Pn	18 21 50.4	+0.6
MSWZ	Moikau Station	0.73	63	P	Pn	18 21 50.5	+0.6
MSWZ				S	Sn	18 22 03.1	+2.6
CAW	Cannon Point	0.82	39	P	Pn	18 21 51.6	+0.6
PAWZ	Paruwai Farm	0.87	65	P	Pn	18 21 52.3	+0.6
PAWZ				S	Sn	18 22 06.9	+3.0
KHZ	Kahutara	0.91	223	P	Pn	18 21 53.1	+0.8
KHZ				S	Sn	18 22 07.4	+2.5
NNZ	Nelson	0.92	305	Pg	Pn	18 21 52.8	+0.5
NNZ	Nelson	0.92	305	P	Pb	18 21 52.0	+0.2
NNZ				S	Sn	18 22 05.9	+0.8
KIW	Kapiti Island	0.97	25	P	Pg	18 21 53.9	+0.6
KIW				S	Sn	18 22 08.6	+2.2
DUWZ	D'Urville Isla	1.01	340	P	Pg	18 21 54.5	+0.6
DUWZ				S	Sn	18 22 08.2	+1.0
MTW	Mount Morrison	1.03	55	P	Pg	18 21 54.6	+0.2
MTW				S	Sg	18 22 11.2	+3.3
THZ	Tophouse	1.10	269	P	Pg	18 21 57.4	+1.6
THZ				S	Sg	18 22 12.2	+2.0
OGWZ	Otaki Gorge	1.11	33	P	Pg	18 21 56.4	+0.6
OGWZ				S	Sg	18 22 13.1	+2.7
MRNZ	Matariki Terra	1.26	285	P	Pg	18 21 59.2	+0.3
MRNZ				S	Sg	18 22 17.4	+2.1
TKNZ	Takaka Hill	1.28	303	P	Pb	18 21 58.7	+0.7
TKNZ				S	Sg	18 22 17.4	+1.5
MRZ	Mangatainoka R	1.42	40		Pb	18 22 00.1	-0.1
GVZ	Greta Valley S	1.57	219	P	Pg	18 22 05.6	+0.9
BFZ	Birch Farm	1.77	54		Pn	18 22 03.9	-0.1
NMEZ	Namu Road	2.36	351	P	Pb	18 22 18.1	+1.7
KHEZ	Kahui Hut	2.47	353	P	Pb	18 22 19.2	+1.0
NEZ	North Egmont	2.48	355	P	Pg	18 22 21.2	-0.9
NBEZ	Newall Road No	2.51	351	P	Pb	18 22 19.1	+0.3
DREZ	Durham Road	2.56	357	P	Pb	18 22 20.2	+0.4
PKE	Pukeiti	2.57	353	P	Pg	18 22 22.1	-1.6
MCHZ	McNeill Hill	2.90	38	P	Pn	18 22 19.2	-0.5
CKHZ	Cape Kidnapper	2.93	45	P	Pn	18 22 19.2	-0.8
BKZ	Black Stump Fm	3.04	33		Pn	18 22 23.6	+1.9
HIZ	Hauiti	3.25	7		Pn	18 22 26.7	+2.3
MXZ	Matakaoa Point	5.16	37	Pn	Pn	18 22 50.1	-0.7
ARMA	Armidale	21.52	294	P	P	18 26 21.2	-1.3
ARMA				IAmb	IAmb	18 26 50.2	
	comp=Z,29nm,1.4s						
MSVF	Nonsavu	24

NNZ	**Nelson**	**0.91**	**322**	P	**Pn**	**18 24 08.8**	**-0.3**
NNZ				S	**Sb**	**18 24 19.8**	**-0.4**
THZ	**Tophouse**	**0.93**	**281**		**Pn**	**18 24 10.1**	**+0.8**
THZ	**Tophouse**	**0.93**	**281**	P	**Pn**	**18 24 10.1**	**+0.8**
THZ				S	**Sn**	**18 24 22.1**	**-0.5**
MSWZ	**Moikau Station**	**0.99**	**59**		**Pn**	**18 24 11.1**	**+0.9**
MSWZ	**Moikau Station**	**0.99**	**59**	P	**Pn**	**18 24 11.6**	**+1.4**
CAW	**Cannon Point**	**1.09**	**41**	P	**Pn**	**18 24 13.0**	**+1.5**
PAWZ	**Paruwai Farm**	**1.13**	**61**	P	**Pn**	**18 24 12.8**	**+0.7**
DUWZ	**D'Urville Isla**	**1.15**	**352**	P	**Pn**	**18 24 13.3**	**+1.0**
DUWZ				S	**Sg**	**18 24 27.3**	**-0.2**
KIW	**Kapiti Island**	**1.23**	**29**	P	**Pg**	**18 24 15.0**	**+0.9**
TKNZ	**Takaka Hill**	**1.26**	**316**	P	**Pg**	**18 24 14.7**	**+0.1**
TKNZ				S	**Sg**	**18 24 30.5**	**-0.5**
TRWZ	**Traveller**	**1.29**	**66**	P	**Pn**	**18 24 15.3**	**+0.6**
GVZ	**Greta Valley S**	**1.30**	**218**		**Pg**	**18 24 16.7**	**+1.1**
OGWZ	**Otaki Gorge**	**1.37**	**35**	P	**Pb**	**18 24 16.7**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.48**	**46**	P	**Pn**	**18 24 17.7**	**+0.8**
TMWZ	**Te Maipa**	**1.57**	**58**	P	**Pn**	**18 24 18.7**	**+0.7**
LTZ	**Lake Taylor**	**1.61**	**238**		**Pb**	**18 24 20.6**	**+0.6**
LTZ	**Lake Taylor**	**1.61**	**238**	P	**Pb**	**18 24 21.0**	**+1.0**
LTZ				S	**Sb**	**18 24 40.6**	**+0.3**
QRZ	**Quartz Range**	**1.64**	**312**		**Pb**	**18 24 20.7**	**+0.2**
QRZ	**Quartz Range**	**1.64**	**312**	P	**Pb**	**18 24 20.8**	**+0.3**
AMCZ	**Amberley**	**1.65**	**221**	P	**Pn**	**18 24 20.6**	**+1.5**
MRZ	**Mangatainoka R**	**1.69**	**41**	Pn	**Pn**	**18 24 20.0**	**+0.3**
MRZ	**Mangatainoka R**	**1.69**	**41**	P	**Pn**	**18 24 20.7**	**+1.0**
DSZ	**Denniston Nort**	**1.74**	**276**	Pn	**Pb**	**18 24 23.0**	**+0.6**
TIWZ	**Tintock**	**1.77**	**49**	P	**Pn**	**18 24 20.9**	**+0.1**
OHWZ	**Ohakea**	**1.95**	**28**	P	**Pb**	**18 24 25.9**	**0.0**
PRWZ	**Pori Road**	**1.96**	**46**	P	**Pn**	**18 24 23.9**	**+0.3**
POWZ	**Post Office Ro**	**1.98**	**39**	P	**Pn**	**18 24 24.4**	**+0.6**
MQZ	**McQueen's Vall**	**2.07**	**211**	Pn	**Pn**	**18 24 25.6**	**+0.6**
MQZ	**McQueen's Vall**	**2.07**	**211**	P	**Pn**	**18 24 25.7**	**+0.8**
MQZ				S	**Sn**	**18 24 50.7**	**+0.1**
OXZ	**Oxford**	**2.07**	**227**	Pn	**Pn**	**18 24 26.0**	**+1.0**
OXZ	**Oxford**	**2.07**	**227**	P	**Pn**	**18 24 26.1**	**+1.2**
AKCZ	**Akaroa Harbour**	**2.13**	**204**	P	**Pn**	**18 24 27.3**	**+1.6**
INZ	**Inchbonnie**	**2.13**	**248**	P	**Pn**	**18 24 27.9**	**+2.0**
DVHZ	**Dannevirke**	**2.25**	**44**	P	**Pn**	**18 24 27.6**	**+0.1**
WAZ	**Wanganui**	**2.28**	**17**	P	**Pg**	**18 24 33.3**	**-0.9**
RACZ	**Rakaia**	**2.31**	**219**	P	**Pn**	**18 24 29.2**	**+1.0**
RACZ				S	**Sn**	**18 24 57.6**	**+1.2**
TSZ	**Takapari Road**	**2.34**	**37**	P	**Pn**	**18 24 29.1**	**+0.4**
LREZ	**Lake Rotokare**	**2.49**	**5**	P	**Pb**	**18 24 36.0**	**+0.9**
NMEZ	**Namu Road**	**2.53**	**356**	P	**Pb**	**18 24 36.8**	**+1.0**
PNHZ	**Pukenui**	**2.56**	**39**	P	**Pn**	**18 24 32.0**	**+0.2**
WACZ	**Wakanui South**	**2.61**	**219**	P	**Pn**	**18 24 33.9**	**+1.5**
KHEZ	**Kahui Hut**	**2.65**	**358**	P	**Pb**	**18 24 37.2**	**-0.5**
NBEZ	**Newall Road No**	**2.68**	**356**	P	**Pg**	**18 24 41.4**	**-0.4**
PKE	**Pukeiti**	**2.75**	**358**	P	**Pg**	**18 24 42.2**	**-0.9**
WVZ	**Waitaha Valley**	**2.75**	**245**	P	**Pb**	**18 24 37.5**	**-1.9**
DREZ	**Durham Road**	**2.75**	**1**	P	**Pb**	**18 24 40.8**	**+1.3**
MTVZ	**Mangateitei**	**2.75**	**22**	P	**Pb**	**18 24 41.5**	**+1.9**
PKVZ	**Pokaka**	**2.81**	**20**	P	**Pb**	**18 24 40.5**	**0.0**
MOVZ	**Moawhango**	**2.82**	**27**	P	**Pb**	**18 24 41.1**	**+0.4**
WNVZ	**Wahianoa**	**2.84**	**24**	P	**Pb**	**18 24 41.4**	**+0.2**
TRVZ	**Turoa**	**2.85**	**23**	P	**Pb**	**18 24 42.2**	**+0.8**
VRZ	**Vera Road**	**2.85**	**10**	P	**Pb**	**18 24 40.8**	**-0.5**
BHHZ	**Black Hill Sta**	**2.86**	**32**	P	**Pb**	**18 24 43.5**	**+2.1**
MHEZ	**Mangahewa**	**2.87**	**3**	P	**Pg**	**18 24 43.6**	**-1.8**
RPZ	**Rata Peaks**	**2.87**	**231**	Pn	**Pn**	**18 24 37.5**	**+1.5**
	74nm,0.3s,baz=54,slow=3.1,SNR=10						
RPZ				Sn	**Sn**	**18 25 10.3**	**-0.1**
	220nm,0.3s,baz=318,slow=16,SNR=19						
	281nm,0.5s						
RPZ	**Rata Peaks**	**2.87**	**231**		**Pn**	**18 24 36.9**	**+0.9**
DRZ	**Dome Shelter**	**2.88**	**23**	P	**Pb**	**18 24 42.6**	**+0.7**
WHVZ	**Whangaehu Hut**	**2.88**	**23**	P	**Pb**	**18 24 42.5**	**+0.6**
FWVZ	**Far West T-bar**	**2.90**	**23**	P	**Pb**	**18 24 43.0**	**+0.9**
TUVZ	**Tukino**	**2.91**	**24**	P	**Pb**	**18 24 43.3**	**+0.9**
NGZ	**Ngauruhoe**	**2.98**	**23**	P	**Pb**	**18 24 45.1**	**+1.5**
SNVZ	**South Ngauruho**	**2.98**	**23**	P	**Pb**	**18 24 45.0**	**+1.4**
OTVZ	**Oturere**	**3.01**	**23**	P	**Pb**	**18 24 44.7**	**+0.6**
NNVZ	**North Ngauruho**	**3.03**	**23**	P	**Pb**	**18 24 45.6**	**+1.2**
WTVZ	**West Tongariro**	**3.04**	**22**	P	**Pb**	**18 24 46.0**	**+1.5**
TWVZ	**Taurewa**	**3.04**	**20**	P	**Pb**	**18 24 46.1**	**+1.7**
ETVZ	**East Tongariro**	**3.05**	**24**	P	**Pb**	**18 24 45.9**	**+1.2**
TMVZ	**Te Maari**	**3.07**	**24**	P	**Pb**	**18 24 46.5**	**+1.5**
KRVZ	**Karewarewa**	**3.07**	**23**	P	**Pb**	**18 24 45.6**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**3.12**	**243**	P	**Pb**	**18 24 43.2**	**-2.6**
TMZ	**Timaru**	**3.34**	**222**	P	**Pn**	**18 24 44.1**	**+1.7**
HATZ	**Hinemaiaia**	**3.40**	**27**	P	**Pb**	**18 24 50.8**	**+0.3**
HIZ	**Hauiti**	**3.47**	**10**	P	**Pb**	**18 24 50.2**	**-1.6**
FOZ	**Fox Glacier**	**3.55**	**242**		**Pn**	**18 24 47.8**	**+2.5**
FOZ	**Fox Glacier**	**3.55**	**242**	P	**Pn**	**18 24 48.1**	**+2.8**
TLZ	**Tolley Road**	**3.77**	**17**	P	**Pb**	**18 24 54.5**	**-2.4**
LBZ	**Lake Benmore**	**3.78**	**228**	Pn	**Pn**	**18 24 48.7**	**+0.3**
LBZ	**Lake Benmore**	**3.78**	**228**	P	**Pn**	**18 24 50.5**	**+2.0**
ALRZ	**Allen Road**	**3.78**	**27**	P	**Pb**	**18 24 56.3**	**-0.8**
ODZ	**Otahua Downs**	**4.00**	**218**	Pn	**Pn**	**18 24 52.5**	**+1.0**
ODZ	**Otahua Downs**	**4.00**	**218**	P	**Pn**	**18 24 52.6**	**+1.1**
TOZ	**Tahuroa Road**	**4.34**	**15**	P	**Pn**	**18 25 00.2**	**+4.1**
JCZ	**Jackson Bay**	**4.46**	**240**	P	**Pn**	**18 25 01.4**	**+3.5**
HHSZ	**Highcliff Hill**	**4.69**	**212**	P	**Pn**	**18 25 02.1**	**+1.1**
EAZ	**Earnscleugh**	**4.80**	**225**	P	**Pn**	**18 25 03.8**	**+1.3**
AWAZ	**Awhitu Peninsu**	**4.85**	**5**	P	**Pn**	**18 25 07.8**	**+4.2**
MKAZ	**Moumahaki**	**4.90**	**10**	P	**Pn**	**18 25 08.0**	**+4.2**
ETAZ	**East Tamaki Re**	**5.02**	**7**	P	Pn	18 25 10.9	+5.4
HAZ	**Te Kaha**	**5.04**	**35**	P	**Pn**	**18 25 05.9**	**+0.2**
TUZ	**Tuapeka**	**5.16**	**217**	P	**Pn**	**18 25 08.9**	**+1.5**
MBAZ	**Motutapu North**	**5.20**	**7**	P	**Pn**	**18 25 11.8**	**+3.9**
WIAZ	**Waiheke Island**	**5.20**	**9**	P	**Pn**	**18 25 12.2**	**+4.2**
MSZ	**Milford Sound**	**5.28**	**237**	P	Pn	18 25 15.6	+6.5
ABAZ	**Army Bay**	**5.36**	**6**	P	**Pn**	**18 25 14.1**	**+4.0**
SYZ	**Scrubby Hill**	**5.82**	**216**	P	**Pn**	**18 25 18.4**	**+1.9**
APZ	**The Paps**	**6.57**	**220**	P	**Pn**	**18 25 28.5**	**+1.6**
PYZ	**Puysegur Point**	**6.82**	**229**	P	**Pn**	**18 25 31.4**	**+1.2**
CTZ	**Chatham Island**	**7.04**	**108**	P	**Pn**	**18 25 33.4**	**+0.2**
CTZ				S	**Sn**	**18 26 49.5**	**-3.6**
ARMA	**Armidale**	**21.43**	**295**	P	**P**	**18 28 36.6**	**-1.8**
ARMA				IAmb	IAmb	18 29 09.7	
	comp=Z,15nm,1.2s						
VNDA	**Vanda**	**36.05**	**185**	P	**P**	**18 30 49.8**	**-1.3**
VNDA				IAmb	IAmb	18 31 15.3	
	comp=Z,3.7nm,1.5s						
AS31	**Alice Springs**	**37.99**	**286**	P	**P**	**18 31 08.2**	**0.0**
ASAR	**Alice Springs**	**37.99**	**286**	P	**P**	**18 31 08.2**	**0.0**
	comp=Z,0.8nm,0.6s,baz=123,slow=6.7,SNR=8.0						
ASAR				PcP	**PcP**	**18 33 23.7**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=131,slow=4.4,SNR=2.2						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**37.99**	**286**	P	**P**	**18 31 08.8**	**+0.6**
COEN	**Coen**	**38.67**	**307**	P	**P**	**18 31 13.7**	**-0.3**
WR0	**Warramunga Arr**	**39.93**	**291**	P	**P**	**18 31 24.0**	**-0.5**
WR0				IAmb	IAmb	18 31 55.7	
	comp=Z,4.4nm,1.1s						
WB2	**Warramunga Arr**	**40.07**	**291**	P	**P**	**18 31 25.7**	**0.0**
WB2				IAmb	IAmb	18 31 37.6	
	comp=Z,6.3nm,0.9s						
WRA	**Warramunga Arr**	**40.08**	**291**	P	**P**	**18 31 26.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=128,slow=8.3,SNR=5.1						
WRA				PcP	**PcP**	**18 33 30.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=134,slow=2.9,SNR=1.7						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**40.08**	**291**	P	**P**	**18 31 25.5**	**-0.3**
PMG	**Port Moresby**	**40.16**	**316**	P	**P**	**18 31 27.1**	**+0.7**
	comp=Z,8.1nm,0.9s,baz=184,slow=5.5,SNR=3.4						
	comp=Z,8.1nm,0.9s						
WB0	**Warramunga Arr**	**40.16**	**291**	P	**P**	**18 31 26.3**	**-0.1**
WB0				IAmb	IAmb	18 31 54.7	
	comp=Z,7.9nm,1.2s						
RABL	**Rabaul**	**42.40**	**326**	P	**P**	**18 31 45.9**	**+1.1**
BELA	**Belgrano 2**	**59.17**	**173**	P	**P**	**18 33 50.8**	**+0.4**
BELA				IAmb	IAmb	18 33 53.8	
	comp=Z,7.3nm,1.4s						
MAW	**Mawson**	**59.24**	**205**	P	**P**	**18 33 50.1**	**-0.9**
MAW				IAmb	IAmb	18 34 13.3	
	comp=Z,1.5nm,1.1s						
KSRS	**Korea Array**	**89.56**	**325**	P	**P**	**18 36 47.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=140,slow=5.9,SNR=2.4						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.63**	**293**	P	**P**	**18 36 57.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=153,slow=4.3,SNR=4.1						
	comp=Z,0.7nm,0.8s						
DBIC	**Dimbokro**	**144.86**	**182**	PKP	**PKPdf**	**18 43 28.1**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=253,slow=2.9,SNR=5.1						
ARCES	**ARCESS Array B**	**147.92**	**340**	PKPbc	**PKPbc**	**18 43 33.7**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=79,slow=4.8,SNR=2.0						
BRTR	**Keskin Array B**	**150.20**	**279**	PKPbc	**PKiKP**	**18 43 42.4**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=136,slow=2.9,SNR=1.0						
FINES	**FINESS Array B**	**152.64**	**326**	PKPbc	**PKPbc**	**18 43 44.7**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=65,slow=5.0,SNR=4.1						

WEL 13 18:27:40.6±0.5, 42°S±4'×17°4E±', h12km, M3.5/12, ML3.6/12, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=123.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.33**	**282**	P	**Pb**	18 27 49.7	+1.2
CMWZ	**Cape Campbell**	**0.76**	**13**	P	**Pg**	18 27 55.4	+0.2
GVZ	**Greta Valley S**	**0.85**	**235**	P	**Pn**	18 27 58.9	+0.5
GVZ				S	**Sg**	18 28 07.2	-0.9
THZ	**Tophouse**	**1.08**	**312**	P	**Pn**	18 28 02.6	+1.0
THZ				S	**Sb**	18 28 13.7	-1.6
AMCZ	**Amberley**	**1.20**	**234**	P	**Pg**	18 28 03.6	-0.1
LTZ	**Lake Taylor**	**1.30**	**256**	P	**Pn**	18 28 03.9	-0.7
PLWZ	**Palliser**	**1.32**	**46**	P	**Pn**	18 28 04.1	-0.8
PLWZ				S	**Sb**	18 28 19.1	-3.1
OKCZ	**Okains Bay**	**1.41**	**208**	P	**Pg**	18 28 08.5	+0.8
MSWZ	**Moikau Station**	**1.43**	**42**	P	**Pn**	18 28 05.8	-0.5
MQZ	**McQueen's Vall**	**1.56**	**218**	P	**Pb**	18 28 09.0	-0.3
MQZ				S	**Sn**	18 28 25.5	-2.8
AKCZ	**Akaroa Harbour**	**1.59**	**209**	P	**Pn**	18 28 10.6	-0.6
AKCZ				S	**Sn**	18 28 28.7	-0.4
TKNZ	**Takaka Hill**	**1.64**	**332**	P	**Pg**	18 28 14.1	+2.0
TKNZ				S	**Sg**	18 28 34.6	+1.3
OXZ	**Oxford**	**1.66**	**239**	P	**Pn**	18 28 09.2	-0.2
KIW	**Kapiti Island**	**1.77**	**24**	P	**Pn**	18 28 09.0	-2.0
DSZ	**Denniston Nort**	**1.78**	**294**	P	**Pb**	18 28 12.6	-0.6
RACZ	**Rakaia**	**1.83**	**227**	P	**Pn**	18 28 12.2	+0.3
INZ	**Inchbonnie**	**1.89**	**262**	P	**Pn**	18 28 12.9	+0.2
OGWZ	**Otaki Gorge**	**1.89**	**29**	P	**Pn**	18 28 11.8	-0.9
WACZ	**Wakanui South**	**2.14**	**226**	P	**Pn**	18 28 16.4	+0.3
WVZ	**Waitaha Valley**	**2.46**	**255**	P	**Pn**	18 28 20.8	+0.3
RPZ	**Rata Peaks**	**2.47**	**239**	P	**Pn**	18 28 20.5	-0.2
ARCZ	**Arundel**	**2.52**	**234**	P	**Pn**	18 28 21.2	-0.1
TMZ	**Timaru**	**2.88**	**228**	P	**Pn**	18 28 26.5	+0.2
LBZ	**Lake Benmore**	**3.35**	**234**	P	**Pn**	18 28 32.9	0.0
ODZ	**Otahua Downs**	**3.52**	**222**	P	**Pn**	18 28 35.4	+0.3

WEL 13 18:30:00.3±0.4, 42°S±2'×17°4E±', h5km, M4.2/8, ML4.4/8, MLv4.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.29**	**201**	P	**Pg**	18 30 05.4	-0.5
KHZ				S	**Sg**	18 30 10.4	+0.7
BSWZ	**Blackbirch Sta**	**0.46**	**19**	P	**Pg**	18 30 09.7	+0.5
BSWZ				S	**Sg**	18 30 16.2	+1.1
CMWZ	**Cape Campbell**	**0.57**	**45**	P	**Pg**	18 30 11.2	0.0
THZ	**Tophouse**	**0.69**	**304**	P	**Pg**	18 30 13.8	+0.2
THZ				S	**Sb**	18 30 23.7	-1.1
TUWZ	**Tuamarina**	**0.74**	**16**	P	**Pg**	18 30 15.1	+0.5
TUWZ				S	**Sb**	18 30 25.5	-0.7
GVZ	**Greta Valley S**	**0.95**	**210**	P	**Pb**	18 30 19.3	+0.1
GVZ				S	**Sn**	18 30 33.9	-0.3
NNZ	**Nelson**	**0.96**	**347**	P	**Pb**	18 30 19.1	-0.2
NNZ				S	**Sg**	18 30 30.3	-0.7
MRNZ	**Matariki Terra**	**1.01**	**317**	P	**Pb**	18 30 20.2	-0.2
MRNZ				S	**Sg**	18 30 34.9	+0.9
LTZ	**Lake Taylor**	**1.22**	**238**	P	**Pg**	18 30 23.1	-0.6
LTZ				S	**Sg**	18 30 38.9	-0.5
AMCZ	**Amberley**	**1.27**	**216**	P	**Pg**	18 30 23.7	-1.1
DSZ	**Denniston Nort**	**1.45**	**285**	P	**Pg**	18 30 28.0	-0.1
DSZ				S	**Sg**	18 30 49.0	+2.0
QRZ	**Quartz Range**	**1.58**	**327**	P	**Pn**	18 30 25.4	-3.5
QRZ				S	**Sn**	18 30 49.9	+0.2
OKCZ	**Okains Bay**	**1.64**	**196**	P	**Pn**	18 30 28.0	-1.8
MQZ	**McQueen's Vall**	**1.73**	**205**	P	**Pn**	18 30 28.5	-2.5
INZ	**Inchbonnie**	**1.75**	**250**	P	**Pn**	18 30 31.2	-0.1
INZ				S	**Sn**	18 30 54.3	+0.4
AKCZ	**Akaroa Harbour**	**1.81**	**198**	P	**Pn**	18 30 29.9	-2.3
RACZ	**Rakaia**	**1.94**	**215**	P	**Pn**	18 30 31.8	-2.1
RACZ				S	**Sn**	18 30 56.4	-2.2
WACZ	**Wakanui South**	**2.24**	**216**	P	**Pn**	18 30 36.2	-1.9
WVZ	**Waitaha Valley**	**2.36**	**246**	P	**Pn**	18 30 39.3	-0.4
RPZ	**Rata Peaks**	**2.48**	**230**	P	**Pn**	18 30 37.5	-3.9
RPZ				S	**Sn**	18 31 09.6	-2.5
ARCZ	**Arundel**	**2.57**	**225**	P	**Pn**	18 30 40.7	-1.8
ARCZ				S	**Sn**	18 31 10.5	-3.6
GCSZ	**Gaunt Creek Bo**	**2.73**	**244**	P	**Pn**	18 30 43.6	-1.2
TMZ	**Timaru**	**2.96**	**220**	P	**Pn**	18 30 46.6	-1.4
ODZ	**Otahua Downs**	**3.64**	**216**	P	**Pn**	18 30 55.2	-2.1
HHSZ	**Highcliff Hill**	**4.34**	**210**	P	**Pn**	18 31 04.7	-2.3
EAZ	**Earnscleugh**	**4.42**	**224**	P	**Pn**	18 31 06.5	-1.5
TUZ	**Tuapeka**	**4.79**	**216**	P	**Pn**	18 31 11.1	-2.0
AWAZ	**Awhitu Peninsu**	**5.13**	**9**	P	**Pn**	18 31 20.4	+2.6
MBAZ	**Motutapu North**	**5.46**	**10**	P	**Pn**	18 31 26.9	+4.7
SYZ	**Scrubby Hill**	**5.46**	**215**	P	**Pn**	18 31 20.9	-1.4
APZ	**The Paps**	**6.20**	**219**	P	**Pn**	18 31 30.1	-2.4
PYZ	**Puysegur Point**	**6.44**	**229**	P	**Pn**	18 31 37.0	+1.3

*IDC **13** 18:30:56.3±3.4, 42°S±15'×174°E±63', h0km, mb3.6/3, mbtmp3.7/4, Error ellipse: s-maj=85.3km s-min=38.4km az=140.0*

*WEL **13** 18:31:00.5±0.4, 42°S±3'×17°4E±', h5km, M3.8/14, ML4.3/13, MLv3.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=151.9*

ISC 13 18:30:59.9±1.1, 41°S±7'S±0'05"×174°E±32'E±0'03", h15km±6km, n24, σ1§04/33, mb3.4/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**285**	P	**Pg**	**18 31 03.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.34**	**279**	P	**Pg**	**18 31 06.7**	**-0.1**
BSWZ				S	**Sg**	**18 31 12.3**	**+0.8**
TUWZ	**Tuamarina**	**0.44**	**320**	P	**Pg**	**18 31 08.2**	**-0.5**
TUWZ				S	**Sg**	**18 31 14.1**	**-0.6**
BHW	**Baring Head**	**0.55**	**49**	P	**Pb**	**18 31 11.2**	**0.0**
TCW	**Tory Channel**	**0.56**	**357**	P	**Pg**	**18 31 10.2**	**-0.7**
TCW				S	**Sg**	**18 31 16.9**	**-1.4**
WEL	**Wellington**	**0.59**	**35**	P	**Pg**	**18 31 11.8**	**+0.3**
WEL				S	**Sg**	**18 31 20.2**	**+0.8**
PLWZ	**Palliser**	**0.73**	**74**	P	**Pn**	**18 31 15.3**	**-0.4**
MSWZ	**Moikau Station**	**0.78**	**63**	P	**Pn**	**18 31 16.1**	**-0.2**
KHZ	**Kahutara**	**0.87**	**222**	P	**Pn**	**18 31 18.0**	**+0.5**
CAW	**Cannon Point**	**0.87**	**41**	P	**Pg**	**18 31 16.7**	**0.0**
CAW				S	**Sg**	**18 31 28.6**	**+0.5**
NNZ	**Nelson**	**0.90**	**308**	P	**Pg**	**18 31 16.7**	**-1.0**
NNZ				S	**Sg**	**18 31 29.0**	**0.0**
PAWZ	**Paruwai Farm**	**0.92**	**65**	P	**Pn**	**18 31 17.5**	**-0.7**
KIW	**Kapiti Island**	**1.01**	**26**	P	**Pg**	**18 31 19.0**	**-0.5**
KIW				S	**Sg**	**18 31 31.4**	**-1.3**
MTW	**Mount Morrison**	**1.08**	**56**	P	**Pb**	**18 31 20.1**	**-0.1**
MTW				S	**Sn**	**18 31 35.9**	**+0.8**
OGWZ	**Otaki Gorge**	**1.15**	**34**	P	**Pg**	**18 31 21.5**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.25**	**46**	P	**Pg**	**18 31 22.4**	**-1.6**
TKNZ	**Takaka Hill**	**1.26**	**305**	P	**Pn**	**18 31 22.2**	**-0.7**
QRZ	**Quartz Range**	**1.65**	**304**	P	**Pn**	**18 31 29.9**	**+1.6**
PRWZ	**Pori Road**	**1.74**	**46**	P	**Pg**	**18 31 33.6**	**+0.3**
RPZ	**Rata Peaks**	**3.09**	**230**	Pn	**Pn**	**18 31 46.2**	**-1.9**
	294nm,1.1s,baz=330,slow=20,SNR=0.9						
RPZ				Sn	**Sn**	**18 32 23.3**	**-1.4**
	baz=137,slow=9.2						
ASAR	**Alice Springs**	**38.09**	**285**	P	**P**	**18 38 20.4**	**+2.3**
	0.4nm,0.6s,baz=123,slow=6.5,SNR=5.3						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**40.16**	**290**	P	**P**	**18 38 36.9**	**+1.4**
	0.4nm,0.5s,baz=127,slow=8.4,SNR=2.5						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.69**	**293**	P	**P**	**18 44 05.4**	**-1.4**
	0.2nm,0.5s,baz=159,slow=4.2,SNR=1.5						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**152.58**	**327**	PKPbc	**PKPbc**	**18 50 55.6**	**+1.0**
	2.0nm,1.1s,baz=29,slow=9.5,SNR=1.5						

WEL 13 18:32:48.8±0.3, 42°S±2'×17°4E±', h15km±2km, M3.8/13, ML4.0/13, MLv3.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=113.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.15**	**197**	P	**Pb**	18 32 53.8	+0.4
KHZ				S	**Sb**	18 32 57.1	+0.6
BSWZ	**Blackbirch Sta**	**0.59**	**21**	P	**Pg**	18 33 00.5	+0.1
BSWZ				S	**Sb**	18 33 08.8	-0.3
GVZ	**Greta Valley S**	**0.81**	**211**	P	**Pn**	18 33 06.2	+0.5
GVZ				S	**Sn**	18 33 18.6	+1.1
TUWZ	**Tuamarina**	**0.88**	**17**	P	**Pg**	18 33 05.9	+0.1
TUWZ				S	**Sg**	18 33 17.9	+0.5
NNZ	**Nelson**	**1.06**	**351**	P	**Pb**	18 33 08.8	-0.1
NNZ				S	**Sb**	18 33 22.8	+0.1
MRNZ	**Matariki Terra**	**1.07**	**324**	P	**Pb**	18 33 07.3	-1.8
MRNZ				S	**Sn**	18 33 23.9	-0.1
LTZ	**Lake Taylor**	**1.11**	**242**	P	**Pb**	18 33 09.4	-0.2
WEL	**Wellington**	**1.32**	**42**	P	**Pb**	18 33 13.1	-0.1
WEL				S	**Sn**	18 33 30.1	+0.1
TKNZ	**Takaka Hill**	**1.32**	**339**	P	**Pb**	18 33 13.3	-0.1
TKNZ				S	**Sb**	18 33 29.9	-0.2
DUWZ	**D'Urville Isla**	**1.49**	**9**	P	**Pb**	18 33 16.1	-0.1
DUWZ				S	**Sg**	18 33 36.0	-0.7
MSWZ	**Moikau Station**	**1.50**	**56**	P	**Pn**	18 33 14.9	-0.3
OXZ	**Oxford**	**1.56**	**227**	P	**Pb**	18 33 17.5	+0.1
OXZ				S	**Sn**	18 33 36.1	+0.1
MQZ	**McQueen's Vall**	**1.59**	**205**	P	**Pn**	18 33 15.7	-0.8
MQZ				S	**Sn**	18 33 36.0	-0.8
CAW	**Cannon Point**	**1.60**	**44**	P	**Pn**	18 33 16.3	-0.3
CAW				S	**Sn**	18 33 37.3	+0.4
AKCZ	**Akaroa Harbour**	**1.68**	**197**	P	**Pn**	18 33 17.4	-0.3
AKCZ				S	**Sn**	18 33 39.1	+0.2
RACZ	**Rakaia**	**1.81**	**216**	P	**Pn**	18 33 18.9	-0.5
RACZ				S	**Sn**	18 33 40.9	-1.1

IDC 13 18:33:54.6±2.3, 6°68S×129°83E, h0km, mb3.8/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=146.2km s-min=32.4km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.89**	**162**	Pn	**Pn**	18 37 13.5	+0.6
	0.2nm,0.3s,baz=345,slow=13,SNR=4.8						
WRA				Sn	**Sn**	18 39 33.0

WACZ **Wakanui South** 2.74 220 P Pn 18 35 09.8 +0.3
VRZ **Vera Road** 2.75 8 P Pb 18 35 12.6 -2.7
DRZ **Dome Shelter** 2.76 22 P Pb 18 35 13.5 -2.1
WHVZ **Whangaehu Hut** 2.76 22 P Pn 18 35 12.2 +2.1
MHEZ **Mangahewa** 2.77 1 P Pb 18 35 14.8 -0.8
FWVZ **Far West T-bar** 2.78 21 P Pn 18 35 12.4 +2.1
TUVZ **Tukino** 2.79 23 P Pn 18 35 12.4 +1.9
KAHZ **Kahuranaki** 2.86 45 P Pn 18 35 10.6 -0.7
NGZ **Ngauruhoe** 2.87 21 P Pn 18 35 13.4 +1.9
SNVZ **South Ngauruho** 2.87 22 P Pn 18 35 13.5 +2.0
WVZ **Waitaha Valley** 2.88 244 P Pn 18 35 12.4 +1.0
OTVZ **Oturere** 2.90 22 P Pn 18 35 13.8 +1.9
NNVZ **North Ngauruho** 2.91 21 P Pn 18 35 14.7 +2.6
WTVZ **West Tongariro** 2.92 21 P Pn 18 35 14.7 +2.5
TWVZ **Taurewa** 2.92 18 P Pn 18 35 14.2 +2.0
ETVZ **East Tongariro** 2.93 23 P Pn 18 35 14.5 +2.1
KWHZ **Kaweka Forest** 2.94 35 P Pn 18 35 12.6 +0.3
TMVZ **Te Maari** 2.95 22 P Pn 18 35 14.6 +2.0
KRVZ **Karewarewa** 2.95 21 P Pn 18 35 14.9 +2.3
NTVZ **North Tongarir** 2.96 22 P Pn 18 35 14.8 +2.1
RPZ **Rata Peaks** 3.00 231 Pn Pn 18 35 13.5 +0.3
170nm,0.3s,baz=62,slow=0.4,SNR=28
RPZ Sn **Sn** 18 35 47.1 -1.5
487nm,0.3s,baz=339,slow=22,SNR=24
303nm,0.3s
RPZ **Rata Peaks** 3.00 231 Pn Pn 18 35 13.3 +0.1
RPZ **Rata Peaks** 3.00 231 P Pn 18 35 13.8 +0.6
RPZ **Rata Peaks** 3.00 231 P Pn 18 35 13.6 +0.4
MCHZ **McNeill Hill** 3.04 38 P Pn 18 35 13.7 -0.1
CKHZ **Cape Kidnapper** 3.07 45 P Pn 18 35 13.0 -1.0
KATZ **Kakaramea** 3.08 21 P Pb 18 35 18.1 -2.8
ARCZ **Arundel** 3.08 226 P Pn 18 35 14.5 +0.2
BKZ **Black Stump Fm** 3.18 33 P Pn 18 35 15.8 0.0
RATZ **Rangitukua** 3.20 22 P Pb 18 35 21.0 -1.9
GCSZ **Gaunt Creek Bo** 3.25 242 P Pn 18 35 17.8 +1.2
HATZ **Hinemaiaia** 3.28 26 P Pb 18 35 23.7 -0.5
ARHZ **Aropaoanui** 3.33 40 P Pn 18 35 17.6 -0.1
WATZ **Wairara** 3.34 20 P Pb 18 35 22.1 -3.2
HIZ **Hauiti** 3.37 8 Pn 18 35 21.6 +3.4
HIZ **Hauiti** 3.37 8 P Pn 18 35 21.7 +3.4
HIZ **Hauiti** 3.37 8 P Pn 18 35 21.4 +3.1
NMHZ **Naumai** 3.37 36 P Pn 18 35 18.6 +0.3
MRHZ **Matea Rd** 3.44 29 P Pn 18 35 19.4 +0.1
WHTZ **Whakaora** 3.44 23 P Pb 18 35 26.3 -0.7
TMZ **Timaru** 3.47 222 P Pn 18 35 20.1 +0.4
MTHZ **Maungataniwha** 3.59 34 P Pn 18 35 22.9 +1.5
TLZ **Tolley Road** 3.66 16 P Pn 18 35 24.6 +2.4
ALRZ **Allen Road** 3.66 27 P Pn 18 35 23.3 +1.1
FOZ **Fox Glacier** 3.68 241 Pn 18 35 23.4 +0.9
FOZ **Fox Glacier** 3.68 241 P Pn 18 35 23.4 +0.9
GRRZ **Galatos Road** 3.78 23 P Pb 18 35 31.2 -1.6
HRRZ **Handcock Road** 3.79 25 P Pn 18 35 27.0 +2.9
RTZ **Ruatahuna** 3.85 34 P Pn 18 35 28.9 +4.0
HSRZ **Hossack Road** 3.85 24 P Pb 18 35 31.8 -2.2
MHGZ **Mahia Peninsul** 3.88 47 P Pn 18 35 24.9 -0.3
MUGZ **Murupara** 3.88 31 P Pn 18 35 26.6 +1.3
LBZ **Lake Benmore** 3.91 228 Pn Pn 18 35 25.2 -0.4
LBZ **Lake Benmore** 3.91 228 P Pn 18 35 26.3 +0.6
TARZ **Mount Tarawera** 4.01 26 P Pn 18 35 27.1 0.0
OMRZ **Omania** 4.08 24 P Pb 18 35 35.5 -2.5
OMRZ P Pn 18 35 36.2 +8.2
ODZ **Otahua Downs** 4.13 218 Pn 18 35 28.2 -0.5
ODZ **Otahua Downs** 4.13 218 P Pn 18 35 28.8 +0.1
ODZ **Otahua Downs** 4.13 218 P Pn 18 35 28.5 -0.2
EDRZ **Edgecumbe** 4.20 28 P Pn 18 35 29.7 0.0
KMRZ **Kaimai** 4.21 19 P Pn 18 35 31.5 +1.6
TOZ **Tahuroa Road** 4.23 14 P Pn 18 35 32.6 +2.5
MARZ **Manawahe** 4.29 26 P Pn 18 35 32.3 +1.4
OPRZ **Ohinepanea** 4.38 25 P Pn 18 35 32.5 +0.4
TGRZ **Tauranga** 4.40 21 P Pb 18 35 39.7 -3.7
CNGZ **Carnagh Statio** 4.53 43 P Pn 18 35 32.7 -1.5
JCZ **Jackson Bay** 4.59 239 P Pn 18 35 35.4 +0.3
JCZ **Jackson Bay** 4.59 239 P Pn 18 35 34.9 -0.1
TWGZ **Tauwhareparae** 4.66 39 P Pn 18 35 35.4 -0.5
RUGZ **Raukumara Rang** 4.69 35 P Pn 18 35 35.8 -0.8
AWAZ **Awhitu Peninsu** 4.79 4 P Pn 18 35 41.0 +3.2
MKAZ **Moumakai** 4.79 9 P Pn 18 35 39.7 +1.9
HHSZ **Highcliff Hill** 4.82 212 P Pn 18 35 37.7 -0.4
MYRZ **Mayor Island** 4.82 19 P Pn 18 35 41.1 +2.9
WKZ **Wanaka** 4.84 230 Pn Pn 18 35 38.0 -0.5
WKZ **Wanaka** 4.84 230 P Pn 18 35 38.2 -0.3
HAZ **Te Kaha** 4.91 35 P Pn 18 35 39.5 +0.1
WTAZ **Waiatarua** 4.92 3 P Pn 18 35 43.4 +3.8
ETAZ **East Tamaki Re** 4.92 6 P Pn 18 35 42.5 +2.9
EAZ **Earnscleugh** 4.93 225 P Pn 18 35 39.9 +0.2
PKGZ **Pakihiroa** 4.93 38 P Pn 18 35 38.8 -1.0
EPAZ **Eden Park BICE** 4.99 5 P Pb 18 35 48.7 -4.6
HBAZ **Herne Bay Bore** 5.01 4 P Pb 18 35 47.6 -6.1
RVAZ **Riverhead Bore** 5.08 3 P Pn 18 35 45.9 +4.1
WIAZ **Waiheke Island** 5.10 8 P Pn 18 35 44.8 +2.7
MBAZ **Motutapu North** 5.10 6 P Pn 18 35 44.7 +2.7
WMGZ **Waiomatatini S** 5.15 40 P Pn 18 35 41.5 -1.1
KUZ **Kuaotunu** 5.23 13 P Pn 18 35 46.4 +2.6
278nm,0.5s
KUZ **Kuaotunu** 5.23 13 P Pn 18 35 46.2 +2.4
ABAZ **Army Bay** 5.27 5 P Pn 18 35 46.8 +2.5
TUZ **Tuapeka** 5.29 218 P Pn 18 35 44.3 -0.2
MSZ **Milford Sound** 5.41 237 P Pn 18 35 46.4 +0.1
MLZ **Mavora Lakes** 5.67 230 P Pn 18 35 49.8 -0.1
GRZ **Great Barrier** 5.67 10 P Pn 18 35 51.0 +1.1
WCZ **Waipu Caves** 5.91 1 P Pn 18 35 56.6 +3.5
SYZ **Scrubby Hill** 5.95 216 P Pn 18 35 54.7 +1.0
224nm,0.5s
SYZ **Scrubby Hill** 5.95 216 P Pn 18 35 54.1 +0.4
WHZ **Wether Hill Ro** 6.09 226 P Pn 18 35 55.6 0.0
DCZ **Deep Cove** 6.29 233 P Pn 18 35 58.0 -0.3
OUZ **Omahuta** 6.64 355 P Pn 18 36 07.1 +3.9
307nm,0.7s
OUZ **Omahuta** 6.64 355 P Pn 18 36 07.0 +3.7
APZ **The Paps** 6.70 220 P Pn 18 36 04.3 +0.3
PYZ **Puysegur Point** 6.96 229 Pn Pn 18 36 06.7 -0.8
PYZ **Puysegur Point** 6.96 229 P Pn 18 36 07.3 -0.2
123nm,0.5s
PYZ **Puysegur Point** 6.96 229 P Pn 18 36 06.7 -0.8
CTZ **Chatham Island** 6.97 109 P Pn 18 36 07.8 +0.1
141nm,0.8s
CTZ **Chatham Island** 6.97 109 P Pn 18 36 08.1 +0.4
MOO **Moorlands** 20.05 259 P Pn 18 39 01.1 +0.7
87nm,2.8s
DZM **Mont Dzumac** 20.79 339 P Pn 18 39 08.2 -1.0
8.3nm,0.8s,baz=152,slow=11,SNR=3.7
DZM **Mont Dzumac** 20.79 339 P Pn 18 39 09.5 +0.3
30nm,0.9s
MARNC **Mare, Loyalty** 20.98 344 P **P** **18 39 09.6 +0.9**
0.7nm,0.6s
KOUNC **Koumac, New Ca** 22.85 335 P **P** **18 39 30.6 +1.8**
18nm,0.9s
MSVF **Nonsavu** 24.26 9 P **P** **18 39 41.5 -1.2**
7.6nm,0.8s,baz=92,slow=24,SNR=4.4
MSVF LR LR 18 48 54.2
comp=Z,636nm,20.0s,baz=184,slow=36
7.6nm,0.8s
MSVF **Nonsavu** 24.26 9 P **P** **18 39 40.3 -2.4**
MSVF IAmb IAmb 18 39 55.0
comp=Z,17nm,0.8s
MSVF **Nonsavu** 24.26 9 P **P** **18 39 43.3 +0.7**
comp=Z,22nm,1.0s
CMSA **Cobar Meteorol** 25.01 285 P **P** **18 39 49.2 -0.1**
EIDS **Eidsvold** 25.23 303 P **P** **18 39 51.4 +0.1**
baz=25,SNR=3.3
EIDS **Eidsvold** 25.23 303 P **P** **18 39 51.7 +0.3**
EIDS **Eidsvold** 25.23 303 P **P** **18 39 54.2 +2.8**
comp=Z,16nm,1.9s
STKA **Stephens Creek** 27.82 280 P **P** **18 40 13.4 -1.2**
comp=Z,1.6nm,0.7s,baz=90,slow=10,SNR=3.0
comp=Z,1.6nm,0.7s
LCRK **Leigh Creek** 31.04 280 P **P** **18 40 42.9 -0.3**
comp=Z,28nm,0.9s
BBOO **Buckleboo** 31.47 274 P **P** **18 40 46.7 -0.3**
BBOO IAmb IAmb 18 40 55.6
comp=Z,28nm,1.2s
BBOO **Buckleboo** 31.47 274 P **P** **18 40 47.3 +0.3**
comp=Z,29nm,2.4s
CTA **Charters Tower** 32.12 304 P **P** **18 40 52.3 -0.5**
comp=Z,5.2nm,0.8s,baz=152,slow=10,SNR=7.4
CTA LR LR 18 53 47.1
comp=Z,614nm,18.1s,baz=128,slow=36
comp=Z,5.2nm,0.8s
CTA **Charters Tower** 32.12 304 P **P** **18 40 53.5 +0.6**
comp=Z,11nm,1.2s
CTAO **Charters Tower** 32.12 304 P **P** **18 40 52.6 -0.2**
CTAO IAmb IAmb 18 40 56.9
comp=Z,13nm,1.2s
CTAO **Charters Tower** 32.12 304 P **P** **18 40 53.4 +0.6**
comp=Z,9.1nm,1.3s
MULG **Mulgathing** 34.19 277 P **P** **18 41 10.1 -0.8**
comp=Z,12nm,1.2s
OOD **Oodnadatta** 34.33 282 P **P** **18 41 12.4 +0.4**
comp=Z,15nm,2.7s
MTSU **Mount Surprise** 34.79 304 P **P** **18 41 16.8 +0.7**
baz=35,SNR=24
MTSU **Mount Surprise** 34.79 304 P **P** **18 41 16.6 +0.5**
comp=Z,9.6nm,0.7s
QIS **Mount Isa** 36.10 295 P **P** **18 41 27.6 +0.2**
baz=36,SNR=4.7
QIS **Mount Isa** 36.10 295 P **P** **18 41 27.1 -0.3**
comp=Z,7.5nm,0.8s
VNDA **Vanda** 36.14 185 P **P** **18 41 30.0 +2.9**
comp=Z,1.6nm,0.9s,baz=0.5,slow=7.4,SNR=9.8
comp=Z,1.6nm,0.9s
VNDA **Vanda** 36.14 185 P **P** **18 41 27.4 +0.3**
AS01 **Alice Springs** 38.03 286 P **P** **18 41 42.9 -0.9**
comp=Z,9.9nm,0.6s
AS31 **Alice Springs** 38.06 286 P **P** **18 41 43.0 -1.1**
ASAR **Alice Springs** 38.06 286 P **P** **18 41 43.0 -1.1**
comp=Z,4.9nm,0.5s,baz=120,slow=6.5,SNR=75
ASAR PcP **PcP** **18 43 57.9 -1.3**
comp=Z,1.6nm,0.6s,baz=125,slow=3.9,SNR=4.1
ASAR S **S** **18 47 32.3 -3.5**
comp=Z,0.7nm,0.8s,baz=125,slow=16,SNR=4.2
comp=Z,4.9nm,0.5s
FORT **Forrest** 38.41 271 P **P** **18 41 46.3 -0.6**
FORT IAmb IAmb 18 42 04.1
comp=Z,17nm,0.8s
COEN **Coen** 38.69 307 P **P** **18 41 49.2 -0.2**
baz=38,SNR=25
COEN **Coen** 38.69 307 P **P** **18 41 49.1 -0.2**
COEN IAmb IAmb 18 41 49.5
comp=Z,10nm,0.7s
COEN **Coen** 38.69 307 P **P** **18 41 49.5 +0.1**
comp=Z,20nm,0.8s
WR0 **Warramunga Arr** 39.99 291 P **P** **18 41 59.3 -0.9**
WB1 **Warramunga Ar.** 40.13 291 P **P** **18 42 00.8 -0.5**
comp=Z,23nm,0.7s
WB2 **Warramunga Arr** 40.13 291 P **P** **18 42 00.4 -1.0**
WB2 IAmb IAmb 18 42 01.3
comp=Z,16nm,0.8s
WRAB **Tennant Creek** 40.14 291 P **P** **18 42 00.8 -0.6**
comp=Z,25nm,0.7s
WRA **Warramunga Arr** 40.14 291 P **P** **18 42 00.6 -0.8**
comp=Z,12nm,0.7s,baz=127,slow=8.2,SNR=75
WRA PcP **PcP** **18 44 04.2 -1.5**
comp=Z,1.6nm,0.7s,baz=130,slow=3.0,SNR=5.0
WRA LR LR 18 58 53.9
comp=Z,600nm,18.7s,baz=107,slow=37
comp=Z,12nm,0.7s
WRA **Warramunga Arr** 40.14 291 P **P** **18 42 00.4 -1.0**
PMG **Port Moresby** 40.17 316 P **P** **18 42 01.8 +0.2**
comp=Z,28nm,1.0s,baz=148,slow=5.0,SNR=15
comp=Z,28nm,1.0s
PMG **Port Moresby** 40.17 316 P **P** **18 42 02.1 +0.5**
PMG IAmb IAmb 18 42 03.8
comp=Z,45nm,1.1s
WB0 **Warramunga Arr** 40.22 291 P **P** **18 42 01.0 -1.1**
WB0 IAmb IAmb 18 42 01.9
comp=Z,12nm,0.7s
WRKA **Warakurna** 41.33 279 P **P** **18 42 09.8 -1.5**
baz=41,SNR=21
WRKA **Warakurna** 41.33 279 P **P** **18 42 10.1 -1.2**
comp=Z,32nm,0.8s
RABL **Rabaul** 42.38 326 P **P** **18 42 20.0 +0.2**
RABL **Rabaul** 42.38 326 P **P** **18 42 20.3 +0.4**
comp=Z,40nm,0.8s
KDU **Kakadu** 46.47 296 P **P** **18 42 52.1 -0.5**
baz=46,SNR=8.3
MUN **Mundaring** 46.66 263 P **P** **18 42 54.2 +0.3**
baz=46,SNR=3.3
MUN **Mundaring** 46.66 263 P **P** **18 42 54.2 +0.3**
comp=Z,19nm,1.4s
KNRA **Kununurra** 46.92 290 P **P** **18 42 56.3 +0.2**
baz=47,SNR=25
KNRA **Kununurra** 46.92 290 P **P** **18 42 56.4 +0.3**
KNRA IAmb IAmb 18 42 59.5
comp=Z,19nm,1.0s
KNRA **Kununurra** 46.92 290 P **P** **18 42 56.8 +0.7**
comp=Z,18nm,0.5s
BLDU **Ballidu** 46.96 264 P **P** **18 42 56.5 +0.2**
comp=Z,10nm,1.6s
MTN **Manton Dam** 47.26 295 P **P** **18 42 58.6 -0.1**
baz=47,SNR=20
MTN **Manton Dam** 47.26 295 P **P** **18 42 58.5 -0.3**
MTN **Manton Dam** 47.26 295 P **P** **18 42 59.4 +0.7**
comp=Z,25nm,0.9s
MEEK **Meekatharra** 47.64 270 P **P** **18 43 00.4 -1.3**
baz=47,SNR=16
MEEK **Meekatharra** 47.64 270 P **P** **18 43 00.7 -0.9**
comp=Z,39nm,0.8s
MORW **Morawa** 48.26 266 P **P** **18 43 06.1 -0.3**
baz=48,SNR=9.4
MORW **Morawa** 48.26 266 P **P** **18 43 05.9 -0.5**
MORW IAmb IAmb 18 43 06.1
comp=Z,13nm,1.1s
MORW **Morawa** 48.26 266 P **P** **18 43 05.5 -0.9**
comp=Z,15nm,1.1s
QSPA **South Pole Qui** 48.27 180 P **P** **18 43 09.5 +3.3**
comp=Z,13nm,0.8s,baz=16,slow=3.3,SNR=30
comp=Z,13nm,0.8s
QSPA **South Pole Qui** 48.27 180 P **P** **18 43 06.8 +0.6**
PSA00 **Pilbara Seismi** 49.63 277 P **P** **18 43 14.8 -2.2**
PSA00 IAmb IAmb 18 43 16.1
comp=Z,17nm,0.8s
PSA00 **Pilbara Seismi** 49.63 277 P **P** **18 43 16.0 -1.0**
comp=Z,27nm,0.8s
MBWA **Marble Bar** 49.97 277 P **P** **18 43 17.6 -2.0**
MBWA IAmb IAmb 18 43 19.0
comp=Z,12nm,0.6s
MBWA **Marble Bar** 49.97 277 P **P** **18 43 18.5 -1.0**
comp=Z,9.5nm,0.7s
SAUI **Saumlaki** 50.71 299 P **P** **18 43 24.6 -0.6**
GIRL **Giralia** 53.18 271 P **P** **18 43 43.8 +0.3**
baz=53,SNR=4.6
GIRL **Giralia** 53.18 271 P **P** **18 43 42.2 -1.3**
GIRL **Giralia** 53.18 271 P **P** **18 43 44.0 +0.5**
comp=Z,209nm,1.5s
FAKI **Fak Fak** 53.98 304 P **P** **18 43 47.9 -1.6**
comp=Z,17nm,0.7s
SIJI **Sorong** 56.19 305 LR LR 19 09 10.0
comp=Z,204nm,19.1s,baz=184,slow=37
MAW **Mawson** 59.36 205 P **P** **18 44 28.9 +1.9**
comp=Z,3.1nm,1.0s,baz=123,slow=17,SNR=2.8
comp=Z,3.1nm,1.0s
TOLI2 **Tolitoli** 64.42 297 P **P** **18 45 00.2 -1.5**
TOLI2 IAmb IAmb 18 45 07.5
comp=Z,4.8nm,0.8s
DAV **Davao City (W)** 65.90 305 LR LR 19 15 21.2
comp=Z,146nm,18.8s,baz=138,slow=37
SNAA **Sanae** 66.76 181 P **P** **18 45 18.3 +2.1**
SNAA IAmb IAmb 18 45 31.4
comp=Z,5.8nm,0.8s
LEM **Lembang** 68.12 281 LR LR 19 13 48.8
comp=Z,189nm,21.6s,baz=144,slow=35
MJAR **Matsushiro Arr** 84.70 332 P **P** **18 46 58.4 -0.6**
comp=Z,1.1nm,0.7s,baz=149,slow=7.0,SNR=3.5
comp=Z,1.1nm,0.7s
KSRS **Korea Array** 89.54 325 P **P** **18 47 23.2 +0.9**
comp=Z,3.4nm,0.6s,baz=149,slow=5.4,SNR=17
comp=Z,3.4nm,0.6s
CM31 **Chiang Mai Arr** 91.69 293 P **P** **18 47 33.7 +0.9**
CMAR **Chiang Mai Arr** 91.69 293 P **P** **18 47 33.2 +0.4**
comp=Z,4.5nm,0.7s,baz=149,slow=3.7,SNR=39
comp=Z,4.5nm,0.7s
CMAR **Chiang Mai Arr** 91.69 293 P **P** **18 47 33.1 +0.3**
CHTO **Chiang Mai** 91.93 294 P **P** **18 47 34.4 +0.4**
PETK **Petropavlovsk-** 95.66 350 P **P** **18 47 49.7 -0.6**
comp=Z,0.4nm,0.7s,baz=124,slow=8.9,SNR=1.4
comp=Z,0.4nm,0.7s
YKA **Yellowknife Ar** 118.47 30 PKP **PKiKP** **18 53 12.1 +0.2**
comp=Z,0.9nm,0.5s,baz=344,slow=7.3,SNR=6.1
MKAR **Makanchi Array** 120.04 308 PKP **PKPdf** **18 53 14.1 -1.3**
comp=Z,0.4nm,0.6s,baz=45,slow=0.7,SNR=4.2
KBZ **Khabaz** 144.66 290 PKP **PKPab** **18 53 59.6 -0.6**
comp=Z,4.0nm,0.7s,baz=154,slow=6.2,SNR=9.3
DBIC **Dimbokro** 144.95 182 PKPbc **PKPdf** **18 54 04.6 +1.7**
comp=Z,5.1nm,0.5s,baz=198,slow=2.3,SNR=12
SFJD **Kangerlussuaq** 145.02 29 PKP **PKPab** **18 54 00.8 +0.1**
baz=246,slow=6.1
ARCES **ARCESS Array B** 147.88 340 PKPbc **PKPbc** **18 54 08.6 -0.6**
comp=Z,4.3nm,0.7s,baz=56,slow=2.0,SNR=17
BRTR **Keskin Array B** 150.28 279 PKPbc **PKPbc** **18 54 15.8 -0.5**
comp=Z,2.5nm,0.7s,baz=134,slow=5.2,SNR=12
FINES **FINESS Array B** 152.62 327 PKPbc **PKPbc** **18 54 19.6 -1.1**
comp=Z,2.3nm,0.6s,baz=68,slow=2.6,SNR=25
AKASG **Malin Array Be** 154.47 302 PKPbc **PKPbc** **18 54 24.1 -1.0**
comp=Z,0.5nm,0.5s,baz=67,slow=3.0,SNR=2.5
AKASG PKPab **PKPab** **18 54 38.5 -1.2**
comp=Z,1.3nm,0.6s,baz=64,slow=4.4,SNR=5.0
NB2 **NORSAR Subarra** 158.20 338 PKP **PKPab** **18 54 58.2 +2.8**
comp=Z,2.8nm,0.8s,baz=39,slow=4.6
NOA **NORSAR Array B** 158.20 338 PKPab **PKPab** **18 54 54.5 -1.0**
comp=Z,0.6nm,0.9s,baz=39,slow=4.4,SNR=1.9
GERES **GERESS Array B** 164.67 304 PKPab **PKPab** **18 55 23.9 -0.4**
comp=Z,0.5nm,0.5s,baz=126,slow=3.6,SNR=5.0
ESDC **Sonseca Array** 177.44 212 PKPab PKPab 18 56 22.0 +1.1
comp=Z,0.8nm,1.0s,baz=135,slow=3.9,SNR=4.6

WEL 13 18:39:22.0±1.4, 43°S±5°×17°3E±°, h8km±7km, M2.5/2, ML4.4/2, MLv2.5/2, Error ellipse: s-maj=0.0km s-min=0.0km az=38.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.38**	**185**	P	Pg	18 39 29.9	+0.6
GVZ				S	Sb	18 39 36.2	-0.7
LTZ	**Lake Taylor**	**0.63**	**252**	P	Pb	18 39 34.8	-0.4
LTZ				S	Sb	18 39 43.7	-0.4

*IDC **13** 18:39:41.3±1.6, 42°.45S×173°.77E, h0km, mb4.0/6, mbtmp4.0/7, ML4.3/1, Error ellipse: s-maj=45.9km s-min=29.7km az=141.0*
*WEL **13** 18:39:45.3±0.2, 42°S±2°×17°4E±°, h13km±2km, M4.5/21, ML4.7/21, MLv4.5/21, Error ellipse: s-maj=0.0km s-min=0.0km az=124.9*
ISC 13 18:39:45.0±0.8, 42°.41S±0°.03×173°.54E±0°.04, h17km±5km, n48, σ0s80/61, mb4.0/6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.01**	**196**	P	**Pg**	**18 39 48.0**	**+0.1**
KHZ				S	**Sg**	**18 39 50.0**	**+0.1**
GVZ	**Greta Valley S**	**0.68**	**214**	P	**Pn**	**18 40 00.0**	**+0.2**
GVZ				S	**Sn**	**18 40 11.7**	**+1.6**
BSWZ	**Blackbirch Sta**	**0.73**	**20**	P	**Pg**	**18 39 59.1**	**-0.2**
BSWZ				S	**Sb**	**18 40 09.9**	**+0.8**
THZ	**Tophouse**	**0.80**	**323**	P	**Pg**	**18 39 59.6**	**-1.0**
THZ				S	**Sg**	**18 40 09.6**	**-1.6**
AMCZ	**Amberley**	**1.01**	**220**	P	**Pn**	**18 40 05.7**	**+1.2**
LTZ	**Lake Taylor**	**1.01**	**248**	P	**Pb**	**18 40 04.0**	**-0.1**
LTZ				S	**Sg**	**18 40 18.3**	**+0.4**
TUWZ	**Tuamarina**	**1.02**	**17**	P	**Pg**	**18 40 04.5**	**-0.3**
TUWZ				S	**Sn**	**18 40 18.8**	**+0.3**
MRNZ	**Matariki Terra**	**1.16**	**330**	P	**Pb**	**18 40 06.5**	**-0.2**
MRNZ				S	**Sn**	**18 40 22.8**	**+0.7**
NNZ	**Nelson**	**1.19**	**354**	P	**Pb**	**18 40 06.8**	**-0.3**
NNZ				S	**Sb**	**18 40 22.3**	**0.0**
TCW	**Tory Channel**	**1.31**	**25**	P	**Pn**	**18 40 09.1**	**+0.5**
TCW				S	**Sg**	**18 40 28.0**	**+0.5**
BHW	**Baring Head**	**1.41**	**45**	P	**Pn**	**18 40 10.2**	**+0.3**
OXZ	**Oxford**	**1.44**	**230**	P	**Pn**	**18 40 10.4**	**+0.1**
OXZ				S	**Sn**	**18 40 29.3**	**+0.4**
TKNZ	**Takaka Hill**	**1.44**	**342**	P	**Pb**	**18 40 11.1**	**-0.2**
WEL	**Wellington**	**1.45**	**40**	P	**Pn**	**18 40 11.0**	**+0.6**
MQZ	**McQueen's Vall**	**1.45**	**206**	P	**Pn**	**18 40 10.3**	**-0.2**
MQZ				S	**Sn**	**18 40 28.5**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.54**	**197**	P	**Pn**	**18 40 11.9**	**+0.2**
AKCZ				S	**Sn**	**18 40 32.1**	**+0.8**
INZ	**Inchbonnie**	**1.58**	**258**	P	**Pn**	**18 40 13.5**	**+1.2**
MSWZ	**Moikau Station**	**1.61**	**53**	S	**Sn**	**18 40 33.8**	**+0.6**
DUWZ	**D'Urville Isla**	**1.63**	**10**	P	**Pb**	**18 40 14.3**	**-0.3**
RACZ	**Rakaia**	**1.67**	**217**	P	**Pn**	**18 40 13.6**	**0.0**
PAWZ	**Paruwai Farm**	**1.74**	**55**	P	**Pn**	**18 40 14.4**	**-0.1**
QRZ	**Quartz Range**	**1.75**	**334**	P	**Pn**	**18 40 14.8**	**+0.2**
WACZ	**Wakanui South**	**1.98**	**218**	P	**Pn**	**18 40 17.9**	**+0.2**
WVZ	**Waitaha Valley**	**2.17**	**251**	P	**Pn**	**18 40 21.7**	**+1.3**
TMWZ	**Te Maipa**	**2.18**	**54**	S	**Sn**	**18 40 46.8**	**-0.5**
RPZ	**Rata Peaks**	**2.25**	**234**	Pn	**Pn**	**18 40 21.5**	**0.0**
	80nm,0.3s,baz=79,slow=3.9,SNR=13						
RPZ				Sn	**Sn**	**18 40 48.2**	**-0.6**
	72nm,0.3s,baz=323,slow=22,SNR=34						
	297nm,0.3s						
RPZ	**Rata Peaks**	**2.25**	**234**	P	**Pn**	**18 40 21.6**	**+0.2**
ARCZ	**Arundel**	**2.32**	**228**	P	**Pn**	**18 40 22.5**	**+0.1**
CPWZ	**Castlepoint**	**2.49**	**54**	S	**Sn**	**18 40 56.2**	**+1.4**
GCSZ	**Gaunt Creek Bo**	**2.53**	**248**	P	**Pn**	**18 40 26.0**	**+0.6**
TMZ	**Timaru**	**2.71**	**222**	P	**Pn**	**18 40 28.5**	**+0.8**
JCZ	**Jackson Bay**	**3.85**	**243**	P	**Pn**	**18 40 44.9**	**+1.3**
HIZ	**Hauiti**	**4.01**	**15**	P	**Pn**	**18 40 47.7**	**+2.0**
HHSZ	**Highcliff Hill**	**4.07**	**210**	P	**Pn**	**18 40 46.4**	**-0.2**
EAZ	**Earnscleugh**	**4.17**	**226**	P	**Pn**	**18 40 48.2**	**+0.4**
SYZ	**Scrubby Hill**	**5.20**	**216**	P	**Pn**	**18 41 02.2**	**+0.3**
APZ	**The Paps**	**5.94**	**220**	P	**Pn**	**18 41 11.6**	**-0.6**
CTZ	**Chatham Island**	**7.33**	**104**	P	**Pn**	**18 41 30.2**	**-1.0**
MSVF	**Nonsavu**	**24.89**	**10**	P	**P**	**18 45 05.9**	**-1.1**
	4.0nm,0.7s,baz=187,slow=23,SNR=1.6						
	4.0nm,0.7s						
CTA	**Charters Tower**	**32.00**	**306**	P	**P**	**18 46 11.6**	**+1.1**
	2.8nm,0.9s,baz=30,slow=3.4,SNR=1.9						
	2.8nm,0.9s						
ASAR	**Alice Springs**	**37.71**	**287**	P	**P**	**18 46 59.5**	**-0.3**
	0.7nm,0.6s,baz=135,slow=8.5,SNR=8.1						
ASAR				PcP	**PcP**	**18 49 15.5**	**-1.3**
	0.5nm,0.7s,baz=122,slow=4.0,SNR=4.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**39.85**	**292**	P	**P**	**18 47 17.6**	**-0.1**
	0.8nm,0.5s,baz=127,slow=8.6,SNR=6.0						
	0.8nm,0.5s						
KSRS	**Korea Array**	**89.69**	**325**	P	**P**	**18 52 41.9**	**+0.1**
	0.9nm,0.8s,baz=158,slow=6.1,SNR=2.9						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.42**	**294**	P	**P**	**18 52 51.1**	**+0.8**
	0.5nm,0.5s,baz=152,slow=3.2,SNR=5.0						
	0.5nm,0.7s						
DBIC	**Dimbokro**	**144.38**	**183**	PKP	PKPbc	18 59 20.8	+1.7
	0.7nm,0.5s,baz=225,slow=7.1,SNR=1.1						
ARCES	**ARCESS Array B**	**148.21**	**339**	PKPbc	**PKPdf**	**18 59 27.0**	**+1.5**
	5.7nm,1.0s,baz=352,slow=16,SNR=3.7						
BRTR	**Keskin Array B**	**149.84**	**279**	PKPbc	**PKPbc**	**18 59 32.9**	**-1.2**
	1.3nm,0.8s,baz=90,slow=2.8,SNR=3.5						
FINES	**FINESS Array B**	**152.78**	**326**	PKPbc	**PKPbc**	**18 59 38.6**	**-1.3**
	0.6nm,0.4s,baz=46,slow=4.0,SNR=1.3						

WEL 13 18:40:29.7±1.0, 42°S±3°×17°4E±°, h15km±7km, M3.9/6, ML4.2/6, MLv3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=80.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.04**	**175**	P	Pg	18 40 33.4	+0.9
CMWZ				S	Sg	18 40 36.1	+1.8
BSWZ	**Blackbirch Sta**	**0.25**	**268**	P	Pb	18 40 36.5	+0.6
BSWZ				S	Sb	18 40 41.1	+1.0
TUWZ	**Tuamarina**	**0.34**	**324**	P	Pb	18 40 38.2	+0.7
TUWZ				S	Sb	18 40 44.2	+1.5
TCW	**Tory Channel**	**0.50**	**6**	P	Pb	18 40 40.7	+0.6
TCW				S	Sb	18 40 47.5	+0.2
BHW	**Baring Head**	**0.58**	**59**	P	Pb	18 40 42.1	+0.6
WEL	**Wellington**	**0.60**	**45**	P	Pb	18 40 42.6	+0.8
WEL				S	Sb	18 40 51.3	+1.3

*WEL **13** 18:44:34.6±0.4, 42°S±2°×17°4E±°, h5km, M3.9/6, ML4.1/6, MLv3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3*
*IDC **13** 18:44:36.9±3.7, 42°.47S×173°.29E, h0km, mb3.3

TCW	Tory Channel	1.12	29	P		Pb	18 44 55.3	-1.0
TCW				S		Sb	18 45 11.0	0.0
CAW	Cannon Point	1.56	47	P		Pg	18 45 04.5	-0.1
KIW	Kapiti Island	1.67	38	P		Pg	18 45 06.5	-0.1
MTW	Mount Morrison	1.79	55	P		Pg	18 45 09.1	+0.3
OGWZ	Otaki Gorge	1.83	42	P		Pg	18 45 08.8	-0.9
HOWZ	Holdsworth Sta	1.96	49	P		Pg	18 45 11.7	-0.4
TMWZ	Te Maipa	2.06	59	P		Pg	18 45 16.5	+2.4
MRZ	Mangatainoka R	2.15	46	P		Pb	18 45 14.5	+0.5
CPWZ	Castlepoint	2.36	58	P		Pg	18 45 22.1	+2.2
RPZ	Rata Peaks	2.39	229	Pn		Pn	18 45 11.8	-2.4
	61nm,0.6s,baz=58,slow=7.6,SNR=1.1							
RPZ				Sn		Sn	18 45 40.6	-3.2
	baz=99,slow=8.3							
PRWZ	Pori Road	2.44	49	P		Pg	18 45 20.9	-0.6
PRWZ				S		Sn	18 45 42.8	-2.4
POWZ	Post Office Ro	2.45	44	P		Pg	18 45 20.9	-0.7
BFZ	Birch Farm	2.52	54	P		Pg	18 45 23.6	+0.7
TSZ	Takapari Road	2.80	41	P		Pb	18 45 25.8	+0.8
NBEZ	Newall Road No	2.93	5	P		Pg	18 45 30.3	-0.4
PRHZ	Porangahau	3.01	51	P		Pg	18 45 33.3	+1.0
PNHZ	Pukenui	3.03	42	P		Pg	18 45 32.4	-0.2
DREZ	Durham Road	3.04	10	P		Pg	18 45 31.7	-1.1
MTVZ	Mangateitei	3.15	28	P		Pb	18 45 32.4	+1.3
PKVZ	Pokaka	3.20	26	P		Pb	18 45 32.4	+0.5
MOVZ	Moawhango	3.24	32	P		Pb	18 45 32.3	-0.2
WNVZ	Wahianoa	3.25	29	P		Pb	18 45 34.4	+1.6
TRVZ	Turoa	3.26	28	P		Pb	18 45 33.5	+0.6
DRZ	Dome Shelter	3.29	28	P		Pb	18 45 35.9	-1.7
WHVZ	Whangaehu Hut	3.29	29	P		Pb	18 45 34.2	+0.8
BHHZ	Black Hill Sta	3.30	36	P		Pb	18 45 34.7	+1.1
FWVZ	Far West T-bar	3.30	28	P		Pb	18 45 34.4	+0.7
TUVZ	Tukino	3.33	29	P		Pb	18 45 35.7	+1.6
NGZ	Ngauruhoe	3.39	28	P		Pb	18 45 36.4	+1.3
SNVZ	South Ngauruho	3.39	29	P		Pb	18 45 35.9	+0.7
NNVZ	North Ngauruho	3.43	28	P		Pb	18 45 37.9	+2.1
WTVZ	West Tongariro	3.44	27	P		Pb	18 45 36.2	+0.3
KRVZ	Karewarewa	3.47	28	P		Pb	18 45 37.3	+0.7
NTVZ	North Tongarir	3.48	28	P		Pb	18 45 38.4	+1.7
KWHZ	Kaweka Forest	3.52	39	P		Pg	18 45 39.6	-2.4
KATZ	Kakaramea	3.60	28	P		Pb	18 45 39.8	+1.0
RATZ	Rangitukua	3.72	28	P		Pb	18 45 41.7	+0.9
BKZ	Black Stump Fm	3.75	37	P		Pb	18 45 41.8	+0.5
HIZ	Hauiti	3.80	16	P		Pb	18 45 41.3	-0.8
WATZ	Wairara	3.85	26	P		Pb	18 45 43.9	+0.9
MRHZ	Matea Rd	4.00	34	P		Pb	18 45 46.5	+1.4
MTHZ	Maungataniwha	4.17	38	P		Pb	18 45 46.4	-2.0
GRRZ	Galatos Road	4.30	28	P		Pb	18 45 54.2	-2.8
NGRZ	Ngongotaha	4.55	27	P		Pb	18 45 56.8	+1.9
OMRZ	Omania	4.61	29	P		Pb	18 45 57.6	+1.7
TOZ	Tahuroa Road	4.70	19	P		Pb	18 45 58.9	+1.6
KMRZ	Kaimai	4.71	24	P		Pb	18 45 56.6	-0.9
ASAR	Alice Springs	37.65	287	P		P	18 51 52.2	+1.7
	0.1nm,0.5s,baz=123,slow=6.9,SNR=1.6							
	0.1nm,0.5s							
WRA	Warramunga Arr	39.77	292	P		P	18 52 11.6	+3.2
	0.6nm,0.9s,baz=129,slow=7.9,SNR=2.8							
	0.6nm,0.9s							
BRTR	Keskin Array B	149.82	279	PKPbc		PKiKP	19 04 28.0	+1.7
	0.7nm,0.8s,baz=84,slow=4.5,SNR=2.6							

WEL 13 18:47:01.9±0.5, 43°S±3°×17°3E±°, h15km±3km, M3.7/6, ML3.9/6, MLv3.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=146.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.43	200	P	Pb	18 47 12.3	+1.1
GVZ				S	Sn	18 47 19.6	-1.6
LTZ	Lake Taylor	0.75	253	P	Pb	18 47 17.0	+0.3
LTZ				S	Sb	18 47 27.2	+0.5
AMCZ	Amberley	0.75	215	P	Pn	18 47 18.4	+0.4
AMCZ				S	Sn	18 47 29.5	+0.4
OXZ	Oxford	1.17	229	P	Pn	18 47 22.1	-1.6
OXZ				S	Sn	18 47 39.3	-0.1
MQZ	McQueen's Vall	1.22	200	P	Pn	18 47 21.9	-2.5
MQZ				S	Sb	18 47 40.0	-0.3
AKCZ	Akaroa Harbour	1.33	190	P	Pn	18 47 24.6	-1.4
DSZ	Denniston Nort	1.34	307	P	Pb	18 47 27.2	+0.4
DSZ				S	Sg	18 47 44.9	-0.4
RACZ	Rakaia	1.42	214	P	Pn	18 47 26.9	-0.2
RACZ				S	Sn	18 47 45.0	-0.5
WVZ	Waitaha Valley	1.91	254	P	Pb	18 47 35.3	-1.2
WVZ				S	Sn	18 47 58.3	+0.6
RPZ	Rata Peaks	1.97	234	P	Pn	18 47 35.0	+0.2
RPZ				S	Sn	18 47 58.6	-0.7
GCSZ	Gaunt Creek Bo	2.27	250	P	Pn	18 47 39.8	+1.0
GCSZ				S	Sn	18 48 07.1	+0.7
LBZ	Lake Benmore	2.87	230	P	Pn	18 47 48.0	+0.8
AWAZ	Awhitu Peninsu	5.60	12	P	Pn	18 48 26.4	+1.8
MKAZ	Moumakai	5.65	16	P	Pn	18 48 26.5	+1.2
WIAZ	Waiheke Island	5.95	15	P	Pn	18 48 31.0	+1.6

*WEL **13** 18:49:00, 41°.88S×174°.05E, h7km, ML4.8, Mw4.4, Moment Tensor Solution. s7 Moment tensor: Scale 10^15 Nm; Mrr2.58; Mθθ4.12; Mϕϕ-6.70; Mrθ-1.04; Mθϕ-0.25; Mϕr-0.39; Fault plane solution: M0 5.68000×10^15 NP1: ϕs319.00000°, δ70.00000°, λ18.00000°. NP2: ϕs223.00000°, δ73.00000°, λ159.00000°. Principal axes: T 464.2000, Plg27.0000°, Azm181.0000°; N 208.5900, Plg63.0000°, Azm5.0000°; P -672.7900, Plg2.0000°, Azm271.0000°;*

*IDC **13** 18:49:22.4±0.6, 41°.88S×174°.04E, h0km, mb4.5/11, mbtmp4.5/12, ML4.7/1 Error ellipse: s-maj=23.4km s-min=18.6km az=69.0*

*NEIC **13** 18:49:24.2±0.9, 42°.02S±0°.04×174°.01E±0°.03, h10km±1km, mb4.8/17, Error ellipse: s-maj=6.9km s-min=3.8km az=355.0*

*WEL **13** 18:49:25.1±0.5, 42°S±4°×17°4E±°, h6km±3km, M4.7/18, ML5.0/18, MLv4.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=159.7*

*NOU **13** 18:49:37.4, 41°.36S×174°.87E, h18km, MLv4.5/6, Cook Strait, New Zealand*

ISC 13 18:49:25.3±0.8, 41°.98S±0°.03×174°.03E±0°.03, h19km±3km, n190, σ1.49/194, mb4.7/21, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.27	31		Pb	18 49 31.0	-0.3
CMWZ	Cape Campbell	0.27	31	P	Pg	18 49 31.2	-0.1
CMWZ				S	Sg	18 49 35.3	-0.2
BSWZ	Blackbirch Sta	0.29	336		Pb	18 49 30.6	-1.1
BSWZ	Blackbirch Sta	0.29	336	P	Pb	18 49 30.9	-0.8
BSWZ				S	Sg	18 49 34.9	-1.1
TUWZ	Tuamarina	0.55	353		Pg	18 49 35.7	-0.6
TUWZ	Tuamarina	0.55	353	P	Pb	18 49 35.5	-0.7
TUWZ				S	Sb	18 49 44.0	+0.3
KHZ	Kahutara	0.57	220	P	Pg	18 49 37.7	+1.0
TCW	Tory Channel	0.79	14	P	Pg	18 49 40.2	-0.5
TCW				S	Sn	18 49 51.9	-0.6
SNZO	South Karori	0.84	37		Pn	18 49 42.0	+0.1
SNZO	South Karori	0.84	37	P	Pn	18 49 42.6	+0.7
THZ	Tophouse	0.87	284	Pg	Pg	18 49 41.7	-0.5
THZ	Tophouse	0.87	284	P	Pg	18 49 41.7	-0.5
WEL	Wellington	0.89	39	P	Pn	18 49 43.0	+0.3
NNZ	Nelson	0.90	327		Pg	18 49 42.2	-0.7
NNZ	Nelson	0.90	327	P	Pn	18 49 42.8	-0.1
PLWZ	Palliser	1.00	66		Pb	18 49 44.1	+0.1
PLWZ	Palliser	1.00	66	P	Pb	18 49 44.4	+0.4
MSWZ	Moikau Station	1.07	59		Pb	18 49 45.4	+0.3
MSWZ	Moikau Station	1.07	59	P	Pn	18 49 45.5	+0.2
MSWZ				S	Sg	18 50 01.2	+1.1
MRNZ	Matariki Terra	1.11	301	P	Pg	18 49 46.5	-0.3
CAW	Cannon Point	1.17	42	P	Pg	18 49 47.3	+0.5
CAW				S	Sg	18 50 03.4	+0.2
DUWZ	D'Urville Isla	1.18	356	P	Pg	18 49 47.0	-1.1
PAWZ	Paruwai Farm	1.20	61	P	Pn	18 49 47.0	-0.1
GVZ	Greta Valley S	1.23	216		Pn	18 49 48.2	+0.3
TKNZ	Takaka Hill	1.24	319	P	Pg	18 49 48.8	-0.4
KIW	Kapiti Island	1.30	31	P	Pb	18 49 49.5	+0.5
TRWZ	Traveller	1.37	66	P	Pn	18 49 49.0	-0.3
MTW	Mount Morrison	1.37	54	P	Pn	18 49 49.4	0.0
OGWZ	Otaki Gorge	1.44	37	P	Pb	18 49 51.2	-0.3
LTZ	Lake Taylor	1.53	238		Pb	18 49 52.6	-0.4
HOWZ	Holdsworth Sta	1.55	46	P	Pn	18 49 52.0	+0.1
QRZ	Quartz Range	1.61	315	P	Pg	18 49 54.8	-1.5
TMWZ	Te Maipa	1.65	59	P	Pn	18 49 52.8	-0.4
DSZ	Denniston Nort	1.68	277	Pn	Pn	18 49 53.6	0.0
MRZ	Mangatainoka R	1.76	42		Pn	18 49 54.8	+0.2
MRZ	Mangatainoka R	1.76	42	P	Pn	18 49 55.0	+0.3
TIWZ	Tintock	1.84	50	P	Pn	18 49 56.0	+0.2
CPWZ	Castlepoint	1.95	58	P	Pn	18 49 57.2	-0.1
MQZ	McQueen's Vall	2.00	210		Pn	18 49 55.8	-2.2
OHWZ	Ohakea	2.02	29	P	Pb	18 50 00.4	-0.9
PRWZ	Pori Road	2.04	46	P	Pn	18 49 58.4	-0.2
POWZ	Post Office Ro	2.06	40	P	Pn	18 49 59.1	+0.4
INZ	Inchbonnie	2.06	248	P	Pb	18 50 01.1	-0.8
BFZ	Birch Farm	2.11	53		Pn	18 49 58.5	-1.0
BFZ	Birch Farm	2.11	53	P	Pn	18 49 59.9	+0.4
BFZ	Birch Farm	2.11	53	P	Pn	18 49 58.8	-0.7
DVHZ	Dannevirke	2.33	45	P	Pn	18 50 01.8	-0.7
WAZ	Wanganui	2.33	18	P	Pn	18 50 01.6	-1.0
ANWZ	Angora Road	2.39	51	P	Pn	18 50 03.0	-0.3
TSZ	Takapari Road	2.41	38	P	Pn	18 50 03.7	0.0
LREZ	Lake Rotokare	2.53	7	P	Pb	18 50 09.3	-0.7
NMEZ	Namu Road	2.56	357	P	Pb	18 50 11.8	+1.2
PRHZ	Porangahau	2.61	50	P	Pn	18 50 05.2	-1.2
PNHZ	Pukenui	2.64	39	P	Pn	18 50 06.4	-0.3
WPHZ	Waipukurau	2.64	44	P	Pn	18 50 06.3	-0.5
WVZ	Waitaha Valley	2.67	245	P	Pn	18 50 09.2	+2.1
KHEZ	Kahui Hut	2.68	360	P	Pb	18 50 12.9	+0.2
NEZ	North Egmont	2.71	1	P	Pb	18 50 12.7	-0.3
NBEZ	Newall Road No	2.71	357	P	Pb	18 50 13.2	+0.1
PKE	Pukeiti	2.78	359	P	Pb	18 50 12.5	-1.8
DREZ	Durham Road	2.79	3	P	Pb	18 50 14.2	-0.3
RPZ	Rata Peaks	2.79	231	Pn	Pn	18 50 09.0	+0.1
	105nm,0.3s,baz=26,slow=1.4,SNR=18						
RPZ				Sn	Sn	18 50 42.8	+0.7
	142nm,0.3s,baz=21,slow=21,SNR=11						
	539nm,0.5s						
RPZ	Rata Peaks	2.79	231		Pn	18 50 08.6	-0.4
RPZ	Rata Peaks	2.79	231	P	Pn	18 50 09.6	+0.7
MTVZ	Mangateitei	2.81	23	P	Pn	18 50 12.6	-2.2
PKVZ	Pokaka	2.87	21	P	Pn	18 50 12.5	+2.5
MOVZ	Moawhango	2.88	28	P	Pn	18 50 11.7	+1.5
PXZ	Pawanui	2.89	49	P	Pn	18 50 10.9	+0.6
VRZ	Vera Road	2.90	11	P	Pb	18 50 13.6	-2.7
WNVZ	Wahianoa	2.90	25	P	Pb	18 50 13.6	-2.9
MHEZ	Mangahewa	2.91	4	P	Pb	18 50 16.8	+0.3
TRVZ	Turoa	2.91	24	P	Pn	18 50 12.9	+2.2
BHHZ	Black Hill Sta	2.93	33	P	Pn	18 50 12.3	+1.6
DRZ	Dome Shelter	2.94	24	P	Pn	18 50 13.7	+2.5
WHVZ	Whangaehu Hut	2.94	24	P	Pn	18 50 13.1	+1.9
FWVZ	Far West T-bar	2.96	24	P	Pn	18 50 13.6	+2.3
TUVZ	Tukino	2.98	25	P	Pn	18 50 13.7	+2.1
GCSZ	Gaunt Creek Bo	3.04	243	P	Pb	18 50 15.6	-3.2
NGZ	Ngauruhoe	3.04	24	P	Pn	18 50 15.0	+2.6
SNVZ	South Ngauruho	3.05	24	P	Pn	18 50 15.3	+2.8
KAHZ	Kahuranaki	3.07	46	P	Pn	18 50 11.7	-1.0
OTVZ	Oturere	3.07	24	P	Pb	18 50 16.9	-2.5
NNVZ	North Ngauruho	3.09	24	P	Pn	18 50 15.4	+2.3
TWVZ	Taurewa	3.10	21	P	Pb	18 50 16.2	-3.5
WTVZ	West Tongariro	3.10	23	P	Pb	18 50 17.8	-2.0
ETVZ	East Tongariro	3.11	25	P	Pn	18 50 16.3	+2.9
KRVZ	Karewarewa	3.13	24	P	Pb	18 50 17.3	-3.0
TMVZ	Te Maari	3.13	25	P	Pn	18 50 16.3	+2.6
KWHZ	Kaweka Forest	3.13	36	P	Pn	18 50 13.5	-0.1
NTVZ	North Tongarir	3.14	24	P	Pn	18 50 15.7	+2.0
MCHZ	McNeill Hill	3.24	40	P	Pn	18 50 14.7	-0.4
KATZ	Kakaramea	3.26	23	P	Pb	18 50 21.9	-0.6
CKHZ	Cape Kidnapper	3.27	46	P	Pn	18 50 15.4	-0.1
BKZ	Black Stump Fm	3.38	35	Pn	Pn	18 50 16.8	-0.2
BKZ	Black Stump Fm	3.38	35	P	Pn	18 50 17.0	0.0
RATZ	Rangitukua	3.38	24	P	Pb	18 50 23.9	-0.6
HATZ	Hinemaiaia	3.46	28	P	Pb	18 50 25.3	-0.7
FOZ	Fox Glacier	3.47	242	P	Pn	18 50 21.0	+2.8
WATZ	Wairara	3.52	22	P	Pb	18 50 23.9	-2.9
HIZ	Hauiti	3.52	11	Pn	Pn	18 50 19.7	+0.9
HIZ	Hauiti	3.52	11	P	Pn	18 50 22.3	+3.4
HIZ	Hauiti	3.52	11	P	Pb	18 50 23.2	-3.7
ARHZ	Aropaoanui	3.53	41	P	Pn	18 50 18.8	-0.2
NMHZ	Naumai	3.57	37	P	Pn	18 50 19.9	+0.3
WHTZ	Whakaora	3.62	25	P	Pb	18 50 27.8	-0.8
MTHZ	Maungataniwha	3.79	35	P	Pn	18 50 22.7	+0.1
TLZ	Tolley Road	3.82	18	P	Pn	18 50 25.8	+2.7
ALRZ	Allen Road	3.84	28	P	Pn	18 50 25.6	+2.3
RAHZ	Arahi	3.84	38	P	Pn	18 50 25.6	-0.8
ODZ	Otahua Downs	3.93	218		Pn	18 50 23.5	-1.0
KNZ	Kokohu	4.05	44	P	Pn	18 50 24.8	-1.3
TARZ	Mount Tarawera	4.19	28	P	Pn	18 50 29.8	+1.6
OMRZ	Omania	4.26	26	P	Pn	18 50 32.9	+3.8
RIGZ	Rimuhau	4.34	42	P	Pn	18 50 29.1	-1.1
JCZ	Jackson Bay	4.38	240	P	Pn	18 50 32.6	+1.9
EDRZ	Edgecumbe	4.39	29	P	Pn	18 50 31.2	+0.3
TOZ	Tahuroa Road	4.39	15	P	Pn	18 50 32.9	+2.0
URZ	Urewera	4.40	33	P	Pn	18 50 30.8	-0.2
MARZ	Manawahe	4.47	28	P	Pn	18 50 33.8	+1.7
OPRZ	Ohinepanea	4.56	26	P	Pn	18 50 33.7	+0.6
HHSZ	Highcliff Hill	4.63	211	P	Pn	18 50 34.6	+0.5
TWGZ	Tauwhareparae	4.86	40	P	Pn	18 50 36.8	-0.5
RUGZ	Raukumara Rang	4.89	36	P	Pn	18 50 36.2	-1.6
AWAZ	Awhitu Peninsu	4.93	6	P	Pn	18 50 42.6	+4.4
WTAZ	Waiatarua	5.06	5	P	Pn	18 50 44.2	+4.2
ETAZ	East Tamaki Re	5.07	8	P	Pn	18 50 42.9	+2.8
TUZ	Tuapeka	5.09	217	P	Pn	18 50 40.8	+0.4
HAZ	Te Kaha	5.11	36	P	Pn	18 50 40.4	-0.3
PKGZ	Pakihiroa	5.13	39	P	Pn	18 50 39.5	-1.6
MBAZ	Motutapu North	5.25	8	P	Pn	18 50 47.1	+4.5
WIAZ	Waiheke Island	5.25	10	P	Pn	18 50 46.9	+4.2
KUZ	Kuaotunu	5.39	15	P	Pn	18 50 47.3	+2.8
KUZ	Kuaotunu	5.39	15	P	Pn	18 50 47.6	+3.1
ABAZ	Army Bay	5.41	7	P	Pn	18 50 48.1	+3.4
MXZ	Matakaoa Point	5.50	38	P	Pn	18 50 45.0	-1.1
SYZ	Scrubby Hill	5.75	216	P	Pn	18 50 50.4	+0.9
GRZ	Great Barrier	5.83	11	P	Pn	18 50 56.7	+6.2
DCZ	Deep Cove	6.08	233	Pn	Pn	18 50 53.2	-0.8
DCZ	Deep Cove	6.08	233	P	Pn	18 50 55.1	+1.1
APZ	The Paps	6.50	220	P	Pn	18 51 00.5	+0.7
PYZ	Puysegur Point	6.75	229	Pn	Pn	18 51 02.9	-0.3
PYZ	Puysegur Point	6.75	229	P	Pn	18 51 04.8	+1.6
OUZ	Omahuta	6.76	357	P	Pn	18 51 08.0	+4.7
OUZ	Omahuta	6.76	357	P	Pn	18 51 07.1	+3.7
CTZ	Chatham Island	7.09	107	P	Pn	18 51 06.5	-1.5
DZM	Mont Dzumac	20.85	340	P	Pn	18 54 07.5	-0.9
	12nm,1.1s,baz=133,slow=9.5,SNR=4.1						
MSVF	Nonsavu	24.41	9	P	P	18 54 42.5	-0.1
	9.1nm,0.7s,baz=198,slow=2.0,SNR=5.5						
	9.1nm,0.7s						
STKA	Stephens Creek	27.68	281	P	P	18 55 12.2	+0.3
	3.3nm,0.9s,baz=120,slow=20,SNR=1.5						
	3.3nm,0.9s						
BBOO	Buckleboo	31.31	274	P	P	18 55 43.4	-0.8
BBOO				IAmb	IAmb	18 56 07.7	
	comp=Z,19nm,1.2s						
CTA	Charters Tower	32.05	304	P	P	18 55 52.2	+1.4
	comp=Z,5.3nm,0.9s,baz=135,slow=7.0,SNR=3.5						
	comp=Z,5.3nm,0.9s						
AS31	Alice Springs	37.93	286	P	P	18 56 41.3	-0.2
ASAR	Alice Springs	37.93	286	P	P	18 56 41.2	-0.3
	comp=Z,3.0nm,0.5s,baz=127,slow=7.5,SNR=29						
ASAR				PcP	PcP	18 58 55.6	-1.7
	comp=Z,0.9nm,0.8s,baz=128,slow=4.2,SNR=3.1						
	comp=Z,3.0nm,0.5s						
FORT	Forrest	38.25	272	P	P	18 56 44.2	+0.2
FORT				IAmb	IAmb	18 57 04.7	
	comp=Z,31nm,1.2s						
WR0	Warramunga Arr	39.88	291	P	P	18 56 56.8	-1.1
WB2	Warramunga Arr	40.02	291	P	P	18 56 58.9	-0.1
WB2				IAmb	IAmb	18 57 02.1	
	comp=Z,6.8nm,0.7s						
WRA	Warramunga Arr	40.03	291	P	P	18 56 58.9	-0.2
	comp=Z,4.7nm,0.7s,baz=128,slow=7.7,SNR=32						
WRA				PcP	PcP	18 59 03.0	-0.9
	comp=Z,0.8nm,0.8s,baz=129,slow=3.0,SNR=3.8						
	comp=Z,4.7nm,0.7s						
WRA	Warramunga Arr	40.03	291	P	P	18 56 59.0	0.0
WB0	Warramunga Arr	40.11	291	P	P	18 56 59.6	-0.2
PMG	Port Moresby	40.14	316	P	P	18 57 00.1	+0.1
PMG				IAmb	IAmb	18 57 05.4	
	comp=Z,26nm,1.0s						
RABL	Rabaul	42.39	327	P	P	18 57 18.1	-0.4
MTN	Manton Dam	47.16	295	P	P	18 57 56.0	-0.5
QSPA	South Pole Qui	48.15	180	P	P	18 58 06.5	+2.6
	comp=Z,15nm,0.9s,baz=7.3,slow=1.3,SNR=40						
	comp=Z,15nm,0.9s						
QSPA	South Pole Qui	48.15	180	P	P	18 58 03.7	-0.2
PSA00	Pilbara Seismi	49.48	277	P	P	18 58 13.7	-0.7
PSA00				IAmb	IAmb	18 58 14.6	
	comp=Z,4.5nm,0.9s						
MBWA	Marble Bar	49.81	277	P	P	18 58 15.3	-1.7
MBWA				IAmb	IAmb	18 58 51.8	
	comp=Z,21nm,1.2s						
GIRL	Giralia	53.01	272	P	P	18 58 39.6	-1.3
FAKI	Fak Fak	53.91	305	P	P	18 58 46.5	-1.1
FAKI				IAmb	IAmb	18 59 17.6	
	comp=Z,11nm,1.0s						
MAW	Mawson	59.18	205	P	P	18 59 24.4	+0.1
	comp=Z,5.2nm,0.9s,baz=122,slow=6.9,SNR=6.3						
MAW				PcP	PcP	19 00 13.8	+1.2
	comp=Z,1.3nm,0.6s,baz=39,slow=1.4,SNR=1.3						
	comp=Z,5.2nm,0.9s						
SNAA	Sanae	66.64	181	P	P	19 00 15.0	+1.0
SNAA				IAmb	IAmb	19 00 22.7	
	comp=Z,7.2nm,1.1s						
KSM	Kuching	71.76	289	P	P	19 00 46.5	+0.1
KSM				IAmb	IAmb	19 01 25.8	
	comp=Z,22nm,1.5s						
PLCA	Paso Flores	79.05	136	P	P	19 01 28.4	+0.3
	comp=Z,2.2nm,0.9s,baz=292,slow=6.0,SNR=3.7						
	comp=Z,2.2nm,0.9s						
MJAR	Matsushiro Arr	84.73	332	P	P	19 01 57.2	-0.4
	comp=Z,1.8nm,1.0s,baz=156,slow=6.8,SNR=4.2						
	comp=Z,1.8nm,1.0s						
KSRS	Korea Array	89.55	325	P	P	19 02 21.7	+0.8
	comp=Z,3.1nm,0.8s,baz=145,slow=5.3,SNR=8.9						
	comp=Z,3.1nm,0.8s						
KSAR	Wonju Array Be	89.55	325	P	P	19 02 21.8	+0.8
CMAR	Chiang Mai Arr	91.58	293	P	P	19 02 31.5	+0.6
	comp=Z,3.3nm,0.9s,baz=152,slow=3.3,SNR=16						
	comp=Z,3.3nm,0.9s						
CMAR	Chiang Mai Arr	91.58	293	P	P	19 02 30.8	-0.2
HHC	Hu-ho-hao-te	99.94	317	eP	Pdif	19 03 10.3	+1.7
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,53nm,5.0s						
WMQ	Urumqi	115.17	307	eP	PKiKP	19 08 05.8	+1.0
INK	Inuvik	116.72	19	PKP	PKiKP	19 08 07.0	+0.1
	comp=Z,0.6nm,0.4s,baz=152,slow=1.9,SNR=5.5						
YKA	Yellowknife Ar	118.66	30	PKP	PKiKP	19 08 11.5	+0.7
	comp=Z,2.6nm,0.9s,baz=249,slow=2.3,SNR=3.3						
KMBO	Kilima Mbogo	122.02	234	PKP	PKPdf	19 08 18.6	-0.6
	comp=Z,0.5nm,0.3s,baz=147,slow=17,SNR=2.1						
NRIK	Noril'sk	127.35	334	PKP	PKPdf	19 08 26.6	-0.7
	comp=Z,1.2nm,0.6s,baz=165,slow=16,SNR=1.5						
KBZ	Khabaz	144.54	290	PKP	PKPbc	19 08 58.7	+0.2
	comp=Z,3.3nm,0.8s,baz=72,slow=1.2,SNR=6.4						
DBIC	Dimbokro	144.83	182	PKP	PKPbc	19 09 00.7	+0.4
	comp=Z,4.4nm,0.8s,baz=187,slow=3.2,SNR=8.4						
ARCES	ARCESS Array B	147.93	340	PKPbc	PKPbc	19 09 07.5	-0.5
	comp=Z,4.9nm,0.9s,baz=66,slow=3.0,SNR=8.2						
BRTR	Keskin Array B	150.13	279	PKPbc	PKPbc	19 09 14.2	-0.3
	comp=Z,2.1nm,0.8s,baz=136,slow=5.6,SNR=9.0						
FINES	FINESS Array B	152.63	326	PKPbc	PKPbc	19 09 18.6	-0.7
	comp=Z,1.6nm,0.7s,baz=40,slow=3.9,SNR=12						
AKASG	Malin Array Be	154.39	302	PKPbc	PKPbc	19 09 23.3	-0.3
	comp=Z,0.4nm,0.5s,baz=66,slow=3.8,SNR=1.4						
GERES	GERESS Array B	164.60	303	PKPab	PKPab	19

KEF3	**Kipouria, Keph**	**0.74**	**311**	P	**Pb**	**18 52 28.9**	**-3.2**
KEF3				S	**Sb**	**18 52 39.1**	**-2.7**
	comp=N,635nm,0.3s						
DMLN	**Damoulianata-K**	**0.75**	**314**	P	**Pb**	**18 52 28.8**	**-3.5**
DMLN				S	**Sb**	**18 52 39.0**	**-3.1**
	comp=N,245nm,0.3s						
FSK	**Fiskardo**	**0.84**	**332**	P	**Pn**	**18 52 37.4**	**+3.2**
FSK				AML	AML	18 52 53.8	
	comp=N,282µm,0.9s						
FSK				AML	AML	18 52 54.8	
	comp=E,344µm,0.5s						
ITM	**Ithomi**	**0.88**	**128**	P	**Pb**	**18 52 31.2**	**-3.2**
ITM				S	**Sb**	**18 52 44.4**	**-1.3**
	comp=E,105nm,0.4s						
ITM	**Ithomi**	**0.88**	**128**	P	**Pn**	**18 52 36.3**	**+1.6**
ITM				AML	AML	18 52 53.7	
	comp=E,165µm,0.4s						
ITM				AML	AML	18 52 54.0	
	comp=N,249µm,0.5s						
LAKA	**Lakka**	**0.89**	**54**	P	**Pn**	**18 52 36.8**	**+1.9**
LAKA				AML	AML	18 52 58.8	
	comp=E,107µm,0.4s						
LAKA				AML	AML	18 53 00.4	
	comp=N,78µm,0.7s						
EVGI	**Lefkada island**	**0.96**	**341**	P	**Pb**	**18 52 32.4**	**-3.4**
EVGI				S	**Sb**	**18 52 45.0**	**-3.0**
	comp=N,142nm,0.3s						
EVGI	**Lefkada island**	**0.96**	**341**	P	**Pn**	**18 52 38.8**	**+3.0**
PVO	**Paravola**	**0.97**	**22**	P	**Pb**	**18 52 32.5**	**-3.5**
PVO				S	**Sb**	**18 52 44.9**	**-3.5**
	comp=N,162nm,0.3s						
PVO	**Paravola**	**0.97**	**22**	P	**Pn**	**18 52 38.5**	**+2.5**
EFP	**Efpalio**	**0.97**	**43**	P	**Pn**	**18 52 38.9**	**+2.9**
EFP				AML	AML	18 53 01.3	
	comp=E,128µm,0.4s						
EFP				AML	AML	18 53 01.4	
	comp=N,97µm,0.4s						
PYL	**PYLOS**	**0.98**	**146**	P	**Pn**	**18 52 37.2**	**+1.0**
TRIZ	**Trizonia**	**1.03**	**51**	P	**Pn**	**18 52 38.8**	**+2.0**
NYDR	**Nydri-Lefkada**	**1.03**	**344**	P	**Pb**	**18 52 34.4**	**-2.7**
NYDR				S	**Sb**	**18 52 47.8**	**-2.4**
	comp=N,68nm,0.5s						
GUR	**Goura**	**1.04**	**77**	P	**Pn**	**18 52 38.4**	**+1.4**
SERG	**Sergoula**	**1.05**	**48**	P	**Pn**	**18 52 39.5**	**+2.4**
SERG				AML	AML	18 53 06.4	
	comp=E,157µm,0.4s						
SERG				AML	AML	18 53 06.5	
	comp=N,164µm,0.6s						
ANX	**Ano Chora**	**1.11**	**38**	P	**Pb**	**18 52 41.3**	**+2.9**
ANX				AML	AML	18 53 03.8	
	comp=E,190µm,0.7s						
ANX				AML	AML	18 53 06.8	
	comp=N,192µm,0.4s						
LKD2	**Lefkada island**	**1.11**	**344**	P	**Pb**	**18 52 41.1**	**+2.6**
LKD2				AML	AML	18 53 01.4	
	comp=E,204µm,0.5s						
LKD2				AML	AML	18 53 03.9	
	comp=N,251µm,0.3s						
TSLK	**Tsoukalades, L**	**1.15**	**344**	P	**Pb**	**18 52 41.7**	**+2.6**
THAL	**Thalero**	**1.31**	**75**	P	**Pb**	**18 52 43.2**	**+1.4**
EVR	**Evrytania**	**1.33**	**26**	P	**Pb**	**18 52 44.4**	**+2.1**
MAKR	**Makrakomi, Fth**	**1.54**	**33**	P	**Pb**	**18 52 47.9**	**+2.1**
MAKR				AML	AML	18 53 18.2	
	comp=N,94µm,0.6s						
MAKR				AML	AML	18 53 19.9	
	comp=E,153µm,0.5s						
AXAR	**Agios Charalam**	**1.64**	**50**	P	**Pb**	**18 52 50.0**	**+2.6**
IGT	**Igoumenitsa**	**1.90**	**343**	P	**Pb**	**18 52 53.4**	**+1.6**

ATH 13 18:52:19.8, 39°.36N×25°.68E, h14km±3km, ML1.3/1, Error ellipse: s-maj=4.5km s-min=1.8km az=112.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.20**	**137**	P	Pg	18 52 24.2	-0.1
SIGR				S	Sg	18 52 27.3	-0.1
SIGR				AML	AML	18 52 27.4	
	comp=E,184µm,0.3s						
SIGR				AML	AML	18 52 27.4	
	comp=N,281µm,0.3s						
PRK	**Paraskevi**	**0.47**	**103**	P	Pg	18 52 29.3	+0.1
PRK				S	Sg	18 52 35.5	0.0
BAYC	**CANAKKALE_Bayr**	**0.77**	**60**	P	Pb	18 52 35.0	0.0
BAYC				S	Sb	18 52 45.5	+0.1
PSRA	**Psara**	**0.82**	**186**	P	Pg	18 52 35.6	-0.1
CHOS	**Chios island**	**1.01**	**163**	P	Pb	18 52 38.4	-0.7
SMTH	**Samothraki Isl**	**1.12**	**354**	P	Pb	18 52 40.1	-0.9

WEL 13 18:53:54.6±0.7, 42°S±3°×17°3E±°, h5km, M3.5/3, ML3.7/3, MLv3.5/3, Error ellipse: s-maj=0.0km s-min=0.0km az=106.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.74**	**245**	P	Pg	18 54 09.2	+0.4
LTZ				S	Sb	18 54 19.6	-0.8
THZ	**Tophouse**	**0.74**	**344**	P	Pg	18 54 09.2	+0.4
THZ				S	Sg	18 54 19.2	+0.7
AMCZ	**Amberley**	**0.80**	**209**	P	Pb	18 54 11.2	+0.1

WEL 13 18:56:49.1±0.5, 42°S±3°×17°4E±°, h5km, M3.8/13, ML4.0/13, MLv3.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**270**	P	Pg	18 56 53.0	-0.1
KHZ				S	Sg	18 56 55.4	-0.4
GVZ	**Greta Valley S**	**0.80**	**226**	P	Pn	18 57 06.5	-0.6
GVZ				S	Sn	18 57 18.2	-1.1
THZ	**Tophouse**	**0.94**	**314**	P	Pg	18 57 06.8	-0.4
THZ				S	Sg	18 57 18.6	-0.8
AMCZ	**Amberley**	**1.14**	**228**	P	Pg	18 57 11.1	+0.1
AMCZ				S	Sn	18 57 28.5	+0.7
LTZ	**Lake Taylor**	**1.20**	**252**	P	Pg	18 57 12.1	+0.1
LTZ				S	Sn	18 57 28.7	-0.5
MRNZ	**Matariki Terra**	**1.29**	**322**	P	Pn	18 57 13.3	-0.5
MRNZ				S	Sn	18 57 31.5	+0.1
OKCZ	**Okains Bay**	**1.42**	**203**	P	Pn	18 57 15.2	-0.5
TKNZ	**Takaka Hill**	**1.52**	**335**	P	Pn	18 57 14.8	-2.2
TKNZ	**Takaka Hill**	**1.52**	**335**	P	Pb	18 57 17.5	-0.3
MQZ	**McQueen's Vall**	**1.54**	**213**	P	Pn	18 57 15.9	-1.4
MQZ				S	Sn	18 57 35.5	-2.2
PAWZ	**Paruwai Farm**	**1.59**	**50**	P	Pn	18 57 17.4	-0.5
AKCZ	**Akaroa Harbour**	**1.60**	**204**	P	Pn	18 57 17.2	-0.8
DSZ	**Denniston Nort**	**1.64**	**293**	P	Pn	18 57 19.2	+0.6
TRWZ	**Traveller**	**1.73**	**55**	P	Pn	18 57 20.4	+0.6
TRWZ	**Traveller**	**1.73**	**55**	P	Pn	18 57 19.1	-0.7
KIW	**Kapiti Island**	**1.76**	**28**	S	Sn	18 57 32.7	-10
KIW	**Kapiti Island**	**1.76**	**28**	P	Pn	18 57 19.1	-1.1
INZ	**Inchbonnie**	**1.78**	**259**	P	Pn	18 57 20.1	-0.3
MTW	**Mount Morrison**	**1.78**	**46**	P	Pn	18 57 20.4	-0.2
MTW	**Mount Morrison**	**1.78**	**46**	P	Pn	18 57 19.3	-1.2
RACZ	**Rakaia**	**1.79**	**223**	P	Pn	18 57 19.5	-1.2
QRZ	**Quartz Range**	**1.86**	**328**	P	Pb	18 57 22.6	-0.9
OGWZ	**Otaki Gorge**	**1.89**	**33**	P	Pn	18 57 21.5	-0.6
OGWZ	**Otaki Gorge**	**1.89**	**33**	P	Pn	18 57 21.1	-1.0
HOWZ	**Holdsworth Sta**	**1.98**	**41**	P	Pn	18 57 22.7	-0.6
HOWZ	**Holdsworth Sta**	**1.98**	**41**	P	Pn	18 57 22.0	-1.4
TMWZ	**Te Maipa**	**2.03**	**51**	P	Pn	18 57 23.2	-0.8
WACZ	**Wakanui South**	**2.10**	**223**	P	Pn	18 57 23.8	-1.1
MRZ	**Mangatainoka R**	**2.20**	**38**	P	Pn	18 57 25.7	-0.6
WVZ	**Waitaha Valley**	**2.36**	**253**	P	Pn	18 57 28.3	-0.2
RPZ	**Rata Peaks**	**2.40**	**236**	P	Pn	18 57 27.9	-1.2
ARCZ	**Arundel**	**2.46**	**231**	P	Pn	18 57 28.5	-1.4
PRWZ	**Pori Road**	**2.47**	**42**	P	Pn	18 57 29.1	-0.9
DVHZ	**Dannevirke**	**2.76**	**41**	P	Pn	18 57 32.5	-1.5
TMZ	**Timaru**	**2.84**	**225**	P	Pn	18 57 34.1	-1.0
PRHZ	**Porangahau**	**3.02**	**46**	P	Pn	18 57 36.3	-1.3
ODZ	**Otahua Downs**	**3.49**	**220**	P	Pn	18 57 42.7	-1.3
HHSZ	**Highcliff Hill**	**4.17**	**213**	P	Pn	18 57 52.1	-1.2
EAZ	**Earnscleugh**	**4.31**	**228**	P	Pn	18 57 54.0	-1.2
SYZ	**Scrubby Hill**	**5.31**	**217**	P	Pn	18 58 08.4	-0.5
AWAZ	**Awhitu Peninsu**	**5.38**	**7**	P	Pn	18 58 11.2	+1.1
CTZ	**Chatham Island**	**7.13**	**104**	P	Pn	18 58 33.8	-0.2

WEL 13 18:57:00.0±0.9, 42°S±3°×17°4E±°, h12km±7km, M3.4/7, ML3.5/7, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=69.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**186**	P	Pg	18 57 02.8	+0.4
CMWZ				S	Sg	18 57 05.3	+1.2
BSWZ	**Blackbirch Sta**	**0.26**	**267**	P	Pb	18 57 06.5	-0.1
BSWZ				S	Sb	18 57 11.4	+0.4
TUWZ	**Tuamarina**	**0.34**	**323**	P	Pb	18 57 08.2	+0.2
TUWZ				S	Sb	18 57 14.1	+0.7
TCW	**Tory Channel**	**0.49**	**5**	P	Pb	18 57 10.3	-0.3
TCW				S	Sb	18 57 17.6	-0.2
WEL	**Wellington**	**0.59**	**45**	P	Pb	18 57 12.1	-0.1
WEL				S	Sb	18 57 20.7	+0.2
PLWZ	**Palliser**	**0.79**	**81**	P	Pg	18 57 14.8	-0.5
MSWZ	**Moikau Station**	**0.82**	**70**	P	Pg	18 57 15.3	-0.6
MSWZ				S	Sn	18 57 28.9	-0.6
CAW	**Cannon Point**	**0.87**	**47**	P	Pg	18 57 16.9	+0.1
CAW				S	Sb	18 57 29.0	+0.4
DUWZ	**D'Urville Isla**	**0.93**	**346**	P	Pg	18 57 18.0	0.0
DUWZ				S	Sn	18 57 32.6	+0.5

IDC 13 18:57:30.1±5.8, 42°.72S×173°.17E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=116.8km s-min=35.1km az=125.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**1.83**	**237**	Pn	Pn	18 58 02.5	-0.4
	45nm,0.3s,baz=193,slow=22,SNR=8.1						
RPZ				Sn	Sb	18 58 28.3	+0.2
	34nm,0.3s,baz=180,slow=19,SNR=10						
ASAR	**Alice Springs**	**37.54**	**288**	P	P	19 04 45.9	-0.2
	0.2nm,0.6s,baz=125,slow=6.6,SNR=5.4						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**39.71**	**293**	P	P	19 05 04.1	-0.1
	0.7nm,1.0s,baz=128,slow=8.3,SNR=2.3						
	0.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.29**	**294**	P	P	19 10 37.9	+0.2
	0.3nm,0.5s,baz=138,slow=5.6,SNR=2.2						
	0.3nm,0.5s						

WEL 13 18:58:45.5±0.4, 42°S±3°×17°4E±°, h15km±3km, M3.8/15, ML5.0/15, MLv3.8/15, Error ellipse: s-maj=0.0km s-min=0.0km az=149.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**36**	P	Pg	18 58 49.4	+0.9
CMWZ				S	Sg	18 58 52.2	+1.9
BSWZ	**Blackbirch Sta**	**0.23**	**292**	P	Pb	18 58 51.5	+0.1
BSWZ				S	Sb	18 58 55.7	+0.3
TUWZ	**Tuamarina**	**0.41**	**336**	P	Pb	18 58 54.6	+0.1
TUWZ				S	Sb	18 59 00.9	+0.4
TCW	**Tory Channel**	**0.60**	**8**	P	Pb	18 58 57.6	-0.1
TCW				S	Sb	18 59 06.7	+0.7
BHW	**Baring Head**	**0.66**	**54**	P	Pb	18 58 59.5	+0.7
WEL	**Wellington**	**0.69**	**42**	P	Pb	18 58 59.5	+0.2
WEL				S	Sn	18 59 11.2	-0.1
PLWZ	**Palliser**	**0.85**	**74**	P	Pg	18 59 01.9	-0.2
MSWZ	**Moikau Station**	**0.90**	**65**	P	Pb	18 59 02.9	0.0
MSWZ				S	Sn	18 59 16.0	-0.5
THZ	**Tophouse**	**0.94**	**272**	P	Pn	18 59 04.2	-0.1
THZ				S	Sn	18 59 17.6	0.0
CAW	**Cannon Point**	**0.97**	**45**	P	Pg	18 59 04.4	+0.1
CAW				S	Sn	18 59 18.5	+0.3
PAWZ	**Paruwai Farm**	**1.04**	**67**	P	Pb	18 59 04.6	-0.7
KIW	**Kapiti Island**	**1.10**	**31**	P	Pn	18 59 06.4	0.0
KIW				S	Sn	18 59 22.5	+1.2
MTW	**Mount Morrison**	**1.20**	**58**	P	Pn	18 59 06.7	-1.1
TRWZ	**Traveller**	**1.21**	**71**	P	Pn	18 59 06.5	-1.5
OGWZ	**Otaki Gorge**	**1.24**	**38**	P	Pn	18 59 08.1	-0.3
HOWZ	**Holdsworth Sta**	**1.36**	**49**	P	Pn	18 59 09.5	-0.6
TMWZ	**Te Maipa**	**1.47**	**62**	P	Pn	18 59 10.1	-1.5
QRZ	**Quartz Range**	**1.57**	**308**	P	Pb	18 59 14.5	+0.2
TIWZ	**Tintock**	**1.66**	**52**	P	Pn	18 59 13.0	-1.1

*WEL **13** 18:59:00, 42°.28S×173°.83E, h13km, ML5.2, Mw5.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{16} Nm; M_{rr}2.61; $M_{\theta\theta}$1.04; $M_{\phi\phi}$-3.65; $M_{r\theta}$0.39; $M_{\theta\phi}$-2.29; $M_{\phi r}$-0.42; Fault plane solution: $M_0$3.75000×10^{16} NP1: ϕ_s49.00000°, δ50.00000°, λ129.00000°. NP2: ϕ_s177.00000°, δ54.00000°, λ53.00000°. Principal axes: T -4591.2100, Plg61.0000°, Azm26.0000°; N 1685.6500, Plg29.0000°, Azm200.0000°; P 2905.5600, Plg2.0000°, Azm292.0000°;*

*IDC **13** 18:59:06.4±0.5, 42°.08S×173°.82E, h0km, mb4.8/13, mbtmp4.8/14, ML5.5/1 Error ellipse: s-maj=16.5km s-min=14.4km az=111.0*

*BJI **13** 18:59:06.0±0.0, 42°.31S×173°.89E, h8km, mb5.4/17, mB5.6/5, Ms5.3/3, Ms7 4.9/3*

*MOS **13** 18:59:07.1±1.1, 42°.15S×173°.77E, h10km, mb5.2/16, Error ellipse: s-maj=17.6km s-min=10.9km az=127.7*

*NEIC **13** 18:59:07.7±1.5, 42°.39S±0°.04×173°.95E±0°.04, h10km±1km, mb5.2/40, Error ellipse: s-maj=6.7km s-min=5.0km az=157.0*

*WEL **13** 18:59:09.3±0.4, 42°.5S±3°×17°4E±°, h15km±3km, M5.4/91, ML5.8/19, MLv5.4/91, Error ellipse: s-maj=0.0km s-min=0.0km az=129.6*

*NOU **13** 18:59:11.5, 42°.44S×174°.08E, h41km, mb5.2/64, Off E. Coast of S. Island, N.Z.*

ISC 13 18:59:09.3±0.9, 42°.35S±0°.03×173°.88E±0°.03, h18km±4km, n477, σ1°24/482, mb5.1/47, 10C-12D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**255**		**Pg**	**18 59 14.2**	**-1.0**
KHZ				Sg	**Sg**	**18 59 19.3**	**+0.1**
KHZ	**Kahutara**	**0.27**	**255**	P	**Pg**	**18 59 15.3**	**+0.1**
KHZ				S	**Sg**	**18 59 18.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.63**	**359**		**Pb**	**18 59 22.2**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.63**	**359**	P	**Pb**	**18 59 21.9**	**+0.2**
BSWZ				S	**Sb**	**18 59 31.1**	**+0.9**
CMWZ	**Cape Campbell**	**0.65**	**23**		**Pn**	**18 59 24.0**	**+0.5**
CMWZ	**Cape Campbell**	**0.65**	**23**	P	**Pn**	**18 59 23.4**	**-0.1**
GVZ	**Greta Valley S**	**0.88**	**225**		**Pn**	**18 59 27.1**	**+0.3**
GVZ	**Greta Valley S**	**0.88**	**225**	P	**Pn**	**18 59 27.3**	**+0.6**
GVZ				S	**Sn**	**18 59 40.3**	**+1.2**
TUWZ	**Tuamarina**	**0.92**	**3**		**Pn**	**18 59 27.3**	**+0.1**
TUWZ	**Tuamarina**	**0.92**	**3**	P	**Pn**	**18 59 27.3**	**+0.1**
TUWZ				S	**Sn**	**18 59 40.1**	**+0.2**
THZ	**Tophouse**	**0.93**	**308**		**Pb**	**18 59 26.5**	**-0.4**
THZ	**Tophouse**	**0.93**	**308**	P	**Pb**	**18 59 26.3**	**-0.6**
THZ				S	**Sb**	**18 59 37.9**	**-1.1**
TCW	**Tory Channel**	**1.17**	**15**	P	**Pn**	**18 59 30.9**	**+0.1**
TCW				S	**Sn**	**18 59 46.3**	**+0.1**
NNZ	**Nelson**	**1.19**	**341**	Pn	**Pb**	**18 59 31.2**	**0.0**
SNZO	**South Karori**	**1.20**	**31**		**Pn**	**18 59 31.3**	**+0.1**
AMCZ	**Amberley**	**1.23**	**227**	P	**Pb**	**18 59 32.3**	**+0.3**
AMCZ				S	**Sg**	**18 59 49.6**	**+0.5**
WEL	**Wellington**	**1.25**	**32**	P	**Pb**	**18 59 32.2**	**0.0**
WEL				S	**Sn**	**18 59 49.0**	**+0.8**
MRNZ	**Matariki Terra**	**1.27**	**318**	P	**Pb**	**18 59 32.8**	**+0.2**
MRNZ				S	**Sn**	**18 59 49.1**	**+0.5**
LTZ	**Lake Taylor**	**1.27**	**249**		**Pn**	**18 59 32.1**	**0.0**
LTZ	**Lake Taylor**	**1.27**	**249**	P	**Pn**	**18 59 32.3**	**+0.2**
LTZ				S	**Sn**	**18 59 49.0**	**+0.3**
PLWZ	**Palliser**	**1.28**	**53**	Pn	**Pn**	**18 59 31.9**	**-0.4**
PLWZ	**Palliser**	**1.28**	**53**	P	**Pb**	**18 59 32.7**	**-0.2**
MSWZ	**Moikau Station**	**1.38**	**48**	Pn	**Pn**	**18 59 33.2**	**-0.5**
MSWZ	**Moikau Station**	**1.38**	**48**	P	**Pn**	**18 59 33.8**	**+0.2**
MSWZ				S	**Sn**	**18 59 50.7**	**-0.7**
TKNZ	**Takaka Hill**	**1.48**	**332**		**Pn**	**18 59 35.7**	**+0.7**
TKNZ				S	**Sb**	**18 59 55.5**	**+0.8**
PAWZ	**Paruwai Farm**	**1.50**	**51**	P	**Pn**	**18 59 35.2**	**-0.1**
DUWZ	**D'Urville Isla**	**1.54**	**1**	P	**Pb**	**18 59 36.9**	**-0.4**
MQZ	**McQueen's Vall**	**1.63**	**213**		**Pn**	**18 59 36.2**	**-0.8**
MQZ	**McQueen's Vall**	**1.63**	**213**	P	**Pn**	**18 59 36.5**	**-0.6**
DSZ	**Denniston Nort**	**1.66**	**291**	Pn	**Pn**	**18 59 38.0**	**+0.5**
OXZ	**Oxford**	**1.67**	**234**		**Pn**	**18 59 37.0**	**-0.7**
OXZ	**Oxford**	**1.67**	**234**	P	**Pn**	**18 59 36.9**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.68**	**205**	P	**Pn**	**18 59 37.8**	**0.0**
MTW	**Mount Morrison**	**1.70**	**46**	P	**Pn**	**18 59 37.8**	**-0.1**
QRZ	**Quartz Range**	**1.83**	**326**	Pn	**Pn**	**18 59 39.9**	**+0.2**
QRZ	**Quartz Range**	**1.83**	**326**	P	**Pb**	**18 59 41.3**	**-0.8**
INZ	**Inchbonnie**	**1.84**	**257**	P	**Pn**	**18 59 40.3**	**+0.4**
RACZ	**Rakaia**	**1.88**	**222**	P	**Pn**	**18 59 40.1**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.90**	**41**	P	**Pn**	**18 59 40.7**	**0.0**
MRZ	**Mangatainoka R**	**2.11**	**38**	Pn	**Pn**	**18 59 42.2**	**-1.5**
TIWZ	**Tintock**	**2.17**	**44**	P	**Pn**	**18 59 44.9**	**+0.4**
WACZ	**Wakanui South**	**2.19**	**222**	P	**Pn**	**18 59 44.5**	**-0.2**
CPWZ	**Castlepoint**	**2.25**	**51**	P	**Pn**	**18 59 45.4**	**-0.2**
PRWZ	**Pori Road**	**2.38**	**42**	P	**Pn**	**18 59 46.7**	**-0.7**
PRWZ	**Pori Road**	**2.38**	**42**	P	Pn	18 59 54.9	-28
OHWZ	**Ohakea**	**2.40**	**27**	P	**Pn**	**18 59 48.8**	**+1.2**
POWZ	**Post Office Ro**	**2.41**	**37**	P	**Pn**	**18 59 48.2**	**+0.4**
WVZ	**Waitaha Valley**	**2.43**	**252**	P	**Pn**	**18 59 48.3**	**+0.3**
BFZ	**Birch Farm**	**2.43**	**48**	Pn	**Pn**	**18 59 47.1**	**-1.0**
BFZ	**Birch Farm**	**2.43**	**48**	P	**Pn**	**18 59 47.5**	**-0.6**
RPZ	**Rata Peaks**	**2.48**	**236**	Pn	**Pn**	**18 59 48.5**	**-0.3**
	799nm,0.3s,baz=81,slow=2.8,SNR=80						
RPZ				Sn	**Sn**	**19 00 17.1**	**-1.6**
	2µm,0.3s,baz=34,slow=22,SNR=52						
RPZ				Lg	Lg	19 00 28.1	
	412nm,0.3s,baz=26,slow=17,SNR=5.9						
	2µm,0.4s						
RPZ	**Rata Peaks**	**2.48**	**236**	Pn	**Pn**	**18 59 48.0**	**-0.9**
RPZ	**Rata Peaks**	**2.48**	**236**	P	**Pn**	**18 59 48.5**	**-0.3**
ARCZ	**Arundel**	**2.55**	**230**	P	**Pn**	**18 59 49.0**	**-0.6**
WAZ	**Wanganui**	**2.72**	**18**	P	**Pn**	**18 59 54.5**	**+2.5**
TSZ	**Takapari Road**	**2.77**	**35**	P	**Pn**	**18 59 52.3**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**2.79**	**248**	P	**Pn**	**18 59 53.6**	**+0.6**
LREZ	**Lake Rotokare**	**2.91**	**8**	P	**Pn**	**18 59 57.2**	**+2.6**
TMZ	**Timaru**	**2.92**	**225**	P	**Pn**	**18 59 54.6**	**-0.2**
NMEZ	**Namu Road**	**2.93**	**360**	P	**Pb**	**19 00 00.2**	**-0.7**
PNHZ	**Pukenui**	**3.00**	**37**	P	**Pn**	**18 59 55.0**	**-0.8**
KHEZ	**Kahui Hut**	**3.05**	**2**	P	**Pb**	**19 00 00.3**	**-2.7**
KHEZ	**Kahui Hut**	**3.05**	**2**	P	**Pb**	**19 00 01.2**	**-1.8**
NBEZ	**Newall Road No**	**3.08**	**360**	P	**Pn**	**18 59 59.9**	**+3.0**
NEZ	**North Egmont**	**3.08**	**3**	P	**Pb**	**19 00 01.6**	**-1.9**
PKE	**Pukeiti**	**3.15**	**1**	P	**Pb**	**19 00 03.2**	**-1.5**
DREZ	**Durham Road**	**3.16**	**4**	P	**Pn**	**19 00 00.9**	**+2.8**
MTVZ	**Mangateitei**	**3.19**	**23**	P	**Pn**	**19 00 00.5**	**+1.9**
FOZ	**Fox Glacier**	**3.21**	**247**	Pn	**Pn**	**18 59 57.5**	**-1.3**
FOZ	**Fox Glacier**	**3.21**	**247**	P	**Pn**	**18 59 59.6**	**+0.8**
PKVZ	**Pokaka**	**3.25**	**20**	P	**Pn**	**19 00 01.1**	**+1.7**
MOVZ	**Moawhango**	**3.26**	**26**	P	**Pn**	**18 59 59.9**	**+0.4**
MHEZ	**Mangahewa**	**3.28**	**6**	P	**Pb**	**19 00 04.3**	**-2.7**
WNVZ	**Wahianoa**	**3.29**	**24**	P	**Pn**	**19 00 01.7**	**+1.7**
VRZ	**Vera Road**	**3.29**	**12**	P	**Pn**	**19 00 01.8**	**+2.0**
DRZ	**Dome Shelter**	**3.32**	**23**	P	**Pn**	**19 00 02.6**	**+2.0**
WHVZ	**Whangaehu Hut**	**3.32**	**23**	P	**Pn**	**19 00 02.8**	**+2.3**
FWVZ	**Far West T-bar**	**3.34**	**23**	P	**Pn**	**19 00 02.3**	**+1.5**
LBZ	**Lake Benmore**	**3.38**	**232**	Pn	**Pn**	**19 00 00.7**	**-0.4**
LBZ	**Lake Benmore**	**3.38**	**232**	P	**Pn**	**19 00 00.9**	**-0.2**
OTVZ	**Oturere**	**3.46**	**24**	P	**Pn**	**19 00 05.1**	**+2.8**
NNVZ	**North Ngauruho**	**3.47**	**23**	P	**Pn**	**19 00 04.0**	**+1.6**
WTVZ	**West Tongariro**	**3.48**	**22**	P	**Pn**	**19 00 04.2**	**+1.6**
TWVZ	**Taurewa**	**3.48**	**20**	P	**Pn**	**19 00 03.7**	**+1.1**
KRVZ	**Karewarewa**	**3.51**	**23**	P	**Pn**	**19 00 05.9**	**+2.9**
NTVZ	**North Tongarir**	**3.52**	**23**	P	**Pn**	**19 00 04.8**	**+1.6**
ODZ	**Otahua Downs**	**3.58**	**220**		**Pn**	**19 00 03.1**	**-0.7**
ODZ	**Otahua Downs**	**3.58**	**220**	P	**Pn**	**19 00 03.6**	**-0.2**
BKZ	**Black Stump Fm**	**3.74**	**33**	P	**Pb**	**19 00 13.1**	**-1.8**
ARHZ	**Aropaoanui**	**3.88**	**39**	P	**Pn**	**19 00 07.7**	**-0.3**
HIZ	**Hauiti**	**3.90**	**11**	Pn	**Pn**	**19 00 10.2**	**+1.9**
HIZ	**Hauiti**	**3.90**	**11**	P	**Pn**	**19 00 10.4**	**+2.2**
MRHZ	**Matea Rd**	**4.00**	**30**	P	**Pn**	**19 00 08.4**	**-1.3**
JCZ	**Jackson Bay**	**4.11**	**243**	P	**Pn**	**19 00 11.7**	**+0.5**
JCZ	**Jackson Bay**	**4.11**	**243**	P	**Pn**	**19 00 11.4**	**+0.2**
TLZ	**Tolley Road**	**4.21**	**18**	P	**Pn**	**19 00 13.5**	**+1.0**
ALRZ	**Allen Road**	**4.22**	**27**	P	**Pn**	**19 00 12.0**	**-0.7**
HHSZ	**Highcliff Hill**	**4.25**	**213**	P	**Pn**	**19 00 12.9**	**-0.3**
WKZ	**Wanaka**	**4.32**	**233**	Pn	**Pn**	**19 00 13.3**	**-0.8**
WKZ	**Wanaka**	**4.32**	**233**	P	**Pn**	**19 00 13.2**	**-0.8**
HRRZ	**Handcock Road**	**4.36**	**26**	P

KOUNC **Koumac, New Ca** 23.19 337 P **P** 19 04 16.1 +1.1
BRAT **Ballarat** 23.39 272 P **P** 19 04 18.9 +2.0
AULRC **Lightning Ridg** 24.52 293 P **P** 19 04 28.6 +1.0
MSVF **Nonsavu** 24.79 10 P **P** 19 04 27.4 -2.8
comp=Z,27nm,1.0s,baz=152,slow=11,SNR=7.4
comp=Z,27nm,1.0s
MSVF **Nonsavu** 24.79 10 P **P** 19 04 27.3 -2.8
MSVF IAmb IAmb 19 04 45.8
comp=Z,44nm,0.8s
MSVF **Nonsavu** 24.79 10 P **P** 19 04 28.7 -1.5
MSVF **Nonsavu** 24.79 10*d* *i*P **P** 19 04 27.1 -3.1
MSVF pmax pmax
comp=Z,33nm,0.8s
CMSA **Cobar Meteorol** 24.87 286 P **P** 19 04 31.0 +0.2
EIDS **Eidsvold** 25.28 305 P **P** 19 04 34.7 +0.1
baz=26,SNR=5.8
EIDS **Eidsvold** 25.28 305 P **P** 19 04 33.3 -1.3
EIDS **Eidsvold** 25.28 305 P **P** 19 04 35.0 +0.5
RMQ **Roma** 25.94 300 P **P** 19 04 43.7 +3.1
STKA **Stephens Creek** 27.64 282 P **P** 19 04 55.8 -0.1
comp=Z,6.7nm,0.8s,baz=120,slow=9.8,SNR=9.2
STKA PcP **PcP** 19 08 12.5 -0.3
comp=Z,2.6nm,0.8s,baz=284,slow=3.4,SNR=3.3
comp=Z,6.7nm,0.8s
STKA **Stephens Creek** 27.64 282 P **P** 19 04 57.5 +1.6
baz=28,SNR=6.3
STKA **Stephens Creek** 27.64 282 P **P** 19 04 55.3 -0.5
STKA **Stephens Creek** 27.64 282⇑ *e*P **P** 19 04 57.6 +1.8
QLP **Quilpie** 28.88 293 P **P** 19 05 07.7 +0.8
baz=29,SNR=4.1
QLP **Quilpie** 28.88 293 P **P** 19 05 07.9 +1.0
LCRK **Leigh Creek** 30.85 281 P **P** 19 05 25.0 +0.7
BBOO **Buckleboo** 31.23 275 P **P** 19 05 27.2 -0.5
BBOO IAmb IAmb 19 05 28.2
comp=Z,33nm,1.3s
CTA **Charters Tower** 32.17 305 P **P** 19 05 34.9 -1.2
comp=Z,15nm,0.9s,baz=140,slow=11,SNR=14
comp=Z,15nm,0.9s
CTA **Charters Tower** 32.17 305 P **P** 19 05 36.3 +0.3
CTAO **Charters Tower** 32.17 305 P **P** 19 05 35.8 -0.2
CTAO IAmb IAmb 19 05 36.9
comp=Z,16nm,0.9s
CTAO **Charters Tower** 32.17 305 P **P** 19 05 36.3 +0.3
CTAO **Charters Tower** 32.17 305 P **P** 19 05 35.8 -0.2
CTAO pmax pmax
comp=Z,16nm,0.9s
OOD **Oodnadatta** 34.16 283 P **P** 19 05 53.7 +0.4
MTSU **Mount Surprise** 34.84 305 P **P** 19 05 59.5 +0.3
baz=35,SNR=13
MTSU **Mount Surprise** 34.84 305 P **P** 19 05 59.9 +0.6
VNDA **Vanda** 35.63 184 P **P** 19 06 07.5 +2.0
comp=Z,0.7nm,0.9s,baz=27,slow=6.8,SNR=2.1
TBI **Tubuai** 35.80 70 *e*LR LR 19 15 40.2
comp=Z,2μm,31.0s
TBI *e*LR LR 19 15 40.3
comp=Z,7μm,25.0s
TBI **Tubuai** 35.80 70 *e*T T 19 43 38.5
comp=Z,65nm,0.3s
QIS **Mount Isa** 36.07 296 P **P** 19 06 09.8 -0.1
baz=36,SNR=8.8
QIS **Mount Isa** 36.07 296 P **P** 19 06 10.1 +0.3
AS01 **Alice Springs** 37.90 287 P **P** 19 06 24.8 -0.6
AS31 **Alice Springs** 37.93 287 P **P** 19 06 25.0 -0.7
ASAR **Alice Springs** 37.93 287 P **P** 19 06 24.8 -1.0
comp=Z,8.3nm,0.6s,baz=125,slow=6.8,SNR=87
ASAR PcP **PcP** 19 08 40.4 -1.1
comp=Z,5.6nm,0.6s,baz=127,slow=4.1,SNR=8.7
ASAR S **S** 19 12 14.9 -1.7
comp=Z,0.9nm,0.8s,baz=135,slow=14,SNR=4.9
comp=Z,8.3nm,0.6s
ASAR **Alice Springs** 37.93 287 P **P** 19 06 24.5 -1.2
ASAR **Alice Springs** 37.93 287 P **P** 19 06 24.5 -1.2
FORT **Forrest** 38.15 272 P **P** 19 06 27.5 0.0
baz=38,SNR=9.8
FORT **Forrest** 38.15 272 P **P** 19 06 26.8 -0.6
FORT IAmb IAmb 19 06 35.0
comp=Z,51nm,0.9s
FORT **Forrest** 38.15 272 P **P** 19 06 27.3 -0.2
COEN **Coen** 38.77 308 P **P** 19 06 32.5 -0.3
baz=39,SNR=18
COEN **Coen** 38.77 308 P **P** 19 06 32.2 -0.5
COEN **Coen** 38.77 308 P **P** 19 06 32.2 -0.5
PAE **Paea** 39.62 63 *e*T T 19 48 38.6
comp=Z,10nm,0.3s
PPT2 **Papeete2** 39.67 63 *e*LR LR 19 17 28.2
comp=Z,735nm,27.2s
PPT2 **Papeete2** 39.67 63 *e*T T 19 48 54.8
comp=Z,8.8nm,0.3s
WR0 **Warramunga Arr** 39.91 292 P **P** 19 06 41.5 -0.8
WB2 **Warramunga Arr** 40.05 291 P **P** 19 06 42.7 -0.8
WB2 IAmb IAmb 19 06 43.6
comp=Z,38nm,0.8s
WRAB **Tennant Creek** 40.06 291 P **P** 19 06 43.0 -0.5
WRAB **Tennant Creek** 40.06 291*c* *i*P **P** 19 06 42.4 -1.1
WRAB pmax pmax
comp=Z,41nm,0.8s
WRA **Warramunga Arr** 40.06 291 P **P** 19 06 42.7 -0.8
comp=Z,34nm,0.8s,baz=130,slow=7.5,SNR=152
WRA PcP **PcP** 19 08 47.3 -0.9
comp=Z,6.1nm,0.8s,baz=126,slow=3.0,SNR=5.7
WRA S **S** 19 12 45.4 -3.4
comp=Z,3.4nm,1.2s,baz=130,slow=16,SNR=5.0
comp=Z,34nm,0.8s
WRA **Warramunga Arr** 40.06 291 P **P** 19 06 42.0 -1.6
WB0 **Warramunga Arr** 40.14 292 P **P** 19 06 43.2 -1.0
WB0 IAmb IAmb 19 06 44.3
comp=Z,34nm,0.7s
PMG **Port Moresby** 40.33 317 P **P** 19 06 45.8 +0.1
PMG IAmb IAmb 19 06 47.2
comp=Z,62nm,0.9s
PMG **Port Moresby** 40.33 317 P **P** 19 06 45.2 -0.5
comp=Z,78nm,1.1s
PMG **Port Moresby** 40.33 317 P **P** 19 06 46.6 +0.9
PMG **Port Moresby** 40.33 317 P **P** 19 06 45.8 +0.1
PMG pmax pmax
comp=Z,62nm,0.9s
WRKA **Warakurna** 41.14 280 P **P** 19 06 51.5 -1.0
baz=42,SNR=23
WRKA **Warakurna** 41.14 280 P **P** 19 06 51.7 -0.8
RABL **Rabaul** 42.64 327 P **P** 19 07 04.3 -0.4
RABL **Rabaul** 42.64 327 P **P** 19 07 04.2 -0.5
VAH **Vaihoa** 42.66 62 *e*T T 19 52 58.3
comp=Z,12nm,0.3s
KLBR **Kellerberrin** 45.38 265 P **P** 19 07 26.7 +0.1
MUN **Mundaring** 46.32 263 P **P** 19 07 34.1 +0.1
baz=46,SNR=3.3
KDU **Kakadu** 46.45 297 P **P** 19 07 34.6 -0.5
baz=47,SNR=7.0
KNRA **Kununurra** 46.84 291 P **P** 19 07 38.1 -0.1
baz=47,SNR=12
KNRA **Kununurra** 46.84 291 P **P** 19 07 38.0 -0.2
KNRA **Kununurra** 46.84 291 P **P** 19 07 38.7 +0.6
MTN **Manton Dam** 47.22 296 P **P** 19 07 40.9 -0.3
baz=48,SNR=13
MTN **Manton Dam** 47.22 296 P **P** 19 07 40.8 -0.4
MTN **Manton Dam** 47.22 296 P **P** 19 07 41.1 -0.1
MEEK **Meekatharra** 47.37 271 P **P** 19 07 41.4 -0.8
baz=48,SNR=14
MEEK **Meekatharra** 47.37 271 P **P** 19 07 41.9 -0.4
QSPA **South Pole Qui** 47.78 180 P **P** 19 07 47.9 +2.7
comp=Z,11nm,1.0s,baz=32,slow=3.5,SNR=16
comp=Z,11nm,1.0s
MORW **Morawa** 47.95 266 P **P** 19 07 44.6 -2.2
baz=48,SNR=4.0
MORW **Morawa** 47.95 266 P **P** 19 07 46.4 -0.4
MORW IAmb IAmb 19 07 55.0
comp=Z,11nm,0.9s
PSA00 **Pilbara Seismi** 49.42 277 P **P** 19 07 57.1 -1.0
MBWA **Marble Bar** 49.75 278 P **P** 19 07 59.8 -0.9
MBWA IAmb IAmb 19 08 00.4
comp=Z,17nm,1.0s
SAUI **Saumlaki** 50.71 300 P **P** 19 08 06.7 -1.3
TAOE **Nuku Hiva Isla** 52.28 64 *e*LR LR 19 23 18.7
comp=Z,599nm,27.3s
GIRL **Giralia** 52.92 272 P **P** 19 08 22.7 -1.7
baz=53,SNR=5.5
GIRL **Giralia** 52.92 272 P **P** 19 08 22.7 -1.7
FAKI **Fak Fak** 54.03 305 P **P** 19 08 30.9 -1.7
FAKI IAmb IAmb 19 08 32.1
comp=Z,14nm,0.7s
SOEI **Soe** 54.09 292 P **P** 19 08 33.2 0.0
SOEI **Soe** 54.09 292 P **P** 19 08 34.6 +1.4
MMRI **Maumere** 56.29 291 P **P** 19 08 47.9 -1.0
MMRI **Maumere** 56.29 291 P **P** 19 08 48.8 -0.1
SANI **Sanana** 58.63 300 P **P** 19 09 04.3 -1.1

MAW **Mawson** 58.80 205 P **P** 19 09 07.6 +1.8
comp=Z,8.0nm,1.0s,baz=103,slow=9.3,SNR=7.0
MAW PcP **PcP** 19 09 57.1 +1.8
comp=Z,10nm,0.7s,baz=128,slow=6.1,SNR=9.2
comp=Z,8.0nm,1.0s
MAW **Mawson** 58.80 205 P **P** 19 09 05.5 -0.4
PLAI **Plampang** 59.28 287 P **P** 19 09 09.3 -0.6
KAPI **Kappang** 60.59 292 P **P** 19 09 21.1 +2.1
comp=Z,397nmcomp=Z,9.8nm,0.9s
KAPI **Kappang** 60.59 292 P **P** 19 09 20.4 +1.4
KAPI **Kappang** 60.59 292*d* *i*P **P** 19 09 19.6 +0.6
KAPI pmax pmax
comp=Z,25nm,1.5s
LUWI **Luwuk** 61.48 298 P **P** 19 09 25.1 +0.1
ABJI **Asem Bagus** 62.51 285 P **P** 19 09 34.0 +2.1
TOLI2 **Tolitoli** 64.40 298 P **P** 19 09 44.0 -0.4
TOLI2 IAmb IAmb 19 10 03.3
comp=Z,12nm,1.0s
TOLI2 **Tolitoli** 64.40 298 P **P** 19 09 46.5 +2.1
comp=Z,14nm,1.0s
UGM **Wanagama** 65.10 283 P **P** 19 09 48.0 -1.0
TROLL **Troll, Antarti** 65.79 183 pP **P** 19 09 54.4 +1.6
SNAA **Sanae** 66.27 181 pP **P** 19 09 57.3 +1.5
SNAA **Sanae** 66.27 181 P **P** 19 09 56.4 +0.6
SNAA IAmb IAmb 19 10 03.2
comp=Z,16nm,1.1s
SNAA **Sanae** 66.27 181*c* *i*P **P** 19 09 57.1 +1.3
SNAA pmax pmax
comp=Z,18nm,1.2s
NVL **N'lazarevskaya** 66.45 186 *e*P **P** 19 09 57.8 +0.9
NVL pmax pmax
comp=Z,37nm,1.1s
VNA3 **Neumayer Olymp** 66.69 179 pP **P** 19 09 59.7 +1.2
VNA2 **Neumayer--Watz** 67.04 180 pP **P** 19 10 02.4 +1.8
baz=162,slow=6.0
VNA1 **Neumayer--Stat** 67.31 179 pP **P** 19 10 02.6 +0.4
LEM **Lembang** 67.94 281 P **P** 19 10 08.2 +0.8
LEM pmax pmax
comp=Z,57nm,0.9s
MYLDM **Lahad Datu** 68.95 299 P **P** 19 10 14.4 +1.0
MYLDM IAmb IAmb 19 10 28.7
comp=Z,17nm,1.0s
KKM **Kota Kinabalu** 71.09 297 P **P** 19 10 26.2 -0.5
KKM IAmb IAmb 19 10 41.6
comp=Z,20nm,0.8s
KSM **Kuching** 71.78 290 P **P** 19 10 30.1 -0.7
KSM IAmb IAmb 19 10 31.2
comp=Z,32nm,0.8s
KSM **Kuching** 71.78 290 P **P** 19 10 30.6 -0.2
comp=Z,44nm,1.3s
KSM **Kuching** 71.78 290 P **P** 19 10 30.6 -0.2
MYKOM **Kota Tinggi** 76.57 285 P **P** 19 10 59.0 +0.3
comp=Z,36nm,1.1s
PLCA **Paso Flores** 78.86 136 P **P** 19 11 13.4 +2.1
comp=Z,5.9nm,0.9s,baz=244,slow=6.8,SNR=3.4
comp=Z,5.9nm,0.9s
H03S2 **Juan Fernandez** 79.07 126 T T 20 36 26.1
baz=225,slow=74,SNR=6.7
H03S1 **Juan Fernandez** 79.08 126 T T 20 36 25.9
baz=225,slow=74,SNR=6.8
H03S3 **Juan Fernandez** 79.09 126 T T 20 36 26.6
baz=225,slow=74,SNR=4.5
H03N3 **Juan Fernandez** 79.33 126 T T 20 36 45.7
baz=228,slow=72,SNR=5.1
H03N2 **Juan Fernandez** 79.34 126 T T 20 36 42.9
baz=228,slow=72,SNR=5.7
H03N1 **Juan Fernandez** 79.35 126 T T 20 36 43.2
baz=228,slow=72,SNR=4.2
IPM **Ipoh** 80.46 285 P **P** 19 11 19.7 -0.5
comp=Z,31nm,0.8s
IPM **Ipoh** 80.46 285 P **P** 19 11 19.6 -0.6
GSI **Gunungsitoli** 80.78 280 P **P** 19 11 22.4 +0.5
GSI **Gunungsitoli** 80.78 280 P **P** 19 11 22.7 +0.8
PSI **Prapat** 80.82 282 P **P** 19 11 20.7 -1.6
KULM **Kulim** 81.29 285 P **P** 19 11 23.4 -1.2
KULM IAmb IAmb 19 11 25.1
comp=Z,36nm,1.1s
KULM **Kulim** 81.29 285 P **P** 19 11 24.3 -0.3
INU **Inuyama** 84.36 330 P **P** 19 11 39.3 -0.7
SURA **Surathani** 84.70 287 P **P** 19 11 43.2 +1.0
MJAR **Matsushiro Arr** 85.00 332 P **P** 19 11 41.8 -1.5
comp=Z,2.6nm,0.9s,baz=166,slow=5.6,SNR=10
comp=Z,2.6nm,0.9s
MAJO **Matsushiro** 85.00 332⇓ *e*P **P** 19 11 41.5 -1.7
MAJO pmax pmax
comp=Z,3.0nm,0.6s
NONG **Nongkai** 88.52 296 P **P** 19 12 01.2 +0.4
KSRS **Korea Array** 89.79 325 P **P** 19 12 05.9 -0.3
comp=Z,6.5nm,0.9s,baz=147,slow=5.5,SNR=21
comp=Z,6.5nm,0.9s
PHRA **Phrae** 90.78 294 P **P** 19 12 09.2 -2.2
WHN **Wuhan** 90.86 312 ⇓P **P** 19 12 11.6 +0.1
CMAR **Chiang Mai Arr** 91.63 294 P **P** 19 12 15.8 +0.5
comp=Z,5.1nm,0.6s,baz=153,slow=3.5,SNR=52
CMAR PP **PP** 19 15 50.7 -3.4
comp=Z,1.1nm,0.9s,baz=150,slow=7.1,SNR=4.8
comp=Z,5.1nm,0.6s
CMAR **Chiang Mai Arr** 91.63 294 *i* P **P** 19 12 16.0 +0.7
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CHTO **Chiang Mai** 91.87 294 P **P** 19 12 14.8 -1.7
CHTO IAmb IAmb 19 12 17.9
comp=Z,8.8nm,0.9s
CHTO **Chiang Mai** 91.87 294 P **P** 19 12 14.8 -1.7
CHTO pmax pmax
comp=Z,9.0nm,1.0s
GYA **Guiyang** 92.30 304 P **P** 19 12 18.5 +0.1
GYA pmax pmax
comp=Z,6.0nm,0.8s
ENH **Enshi** 93.41 309 P **P** 19 12 22.8 -0.6
ENH IAmb IAmb 19 12 23.5
comp=Z,12nm,0.8s
ENH **Enshi** 93.41 309 P **P** 19 12 22.7 -0.6
TIA **Tai'an** 93.79 317 P **P** 19 12 24.8 -0.1
TIA pmax pmax
comp=Z,11nm,0.9s
PZH **PanZhiHua** 95.40 301 P **P** 19 12 34.8 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,6.3s
CN2 **Changchun** 96.13 327 *e*P **P** 19 12 34.3 -1.1
CN2 sP pP 19 12 41.3 -0.1
CN2 SKS **SKSac** 19 23 09.1 -1.4
TNCH **TengChong** 96.46 298 *e*P **P** 19 12 39.3 +1.7
TNCH pP pP 19 12 43.1 -0.5
TNCH pmax pmax
comp=Z,7.0nm,0.8s
XAN **Xi'an** 96.51 311 ⇓P **P** 19 12 37.5 0.0
XAN sP sP 19 12 46.6 +1.2
XAN pmax pmax
comp=Z,8.0nm,1.0s
TYV **Tymovskoe** 96.74 341 *e*P **P** 19 12 35.3 -2.7
TYV *e*S **S** 19 23 55.2 -3.0
TYV pmax pmax
comp=Z,9.0nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.1s
TYV smax smax
comp=N,600nm,6.6s
CPUP **Villa Florida** 96.93 135 P **P** 19 12 40.9 +1.2
comp=N,2.1nm,1.0s,baz=225,slow=1.4,SNR=3.3
comp=N,2.1nm,1.0s
KLR **Kul'dur** 98.42 334⇑ *e*P Pdif 19 12 46.1 +0.5
KLR pmax pmax
comp=Z,11nm,2.0s
LPAZ **La Paz** 98.45 121 P Pdif 19 12 48.2 +0.7
comp=Z,0.8nm,0.6s,baz=222,slow=2.9,SNR=3.2
comp=Z,0.8nm,0.6s
HHC **Hu-ho-hao-te** 100.14 317 *e*P **Pdif** 19 12 54.8 +1.2
HHC pmax pmax
comp=Z,100nm,4.6s
LZH **Lanzhou** 100.87 309 *e*P **Pdif** 19 13 01.8 +4.7
LZH pmax pmax
comp=Z,7.0nm,1.4s
LZH LR LR
comp=Z,370nm,12.0s
LZH LR LR
comp=Z,290nm,13.4s
TXAR **Lajitas Array** 104.01 63 PP **PP** 19 17 36.5 +7.3
comp=Z,0.2nm,0.7s,baz=190,slow=4.6,SNR=2.1
TXAR PKKPbc **PKKPbc** 19 28 59.7 0.0
comp=Z,0.6nm,0.7s,baz=82,slow=3.3,SNR=8.4
SONM **Songino Array** 107.74 319 PKKPbc PKKPbc 19 28 50.0 +1.2
comp=Z,0.4nm,0.9s,baz=267,slow=3.5,SNR=3.6
ILAR **Eielson Array** 111.12 17 PKiKP **PKiKP** 19 17 40.2 -0.2
comp=Z,1.5nm,0.8s,baz=242,slow=2.1,SNR=8.1
ILAR PKKPbc **PKKPab** 19 28 44.2 +0.4
comp=Z,1.3nm,0.8s,baz=6.2,slow=3.1,SNR=10
J26L **Joseph Creek** 111.63 18 P **PKiKP** 19 17 42.4 +0.8
baz=212
L29M **L29M** 111.85 21 P **PKiKP** 19 17 43.3 +1.3
baz=216
DAWY **Dawson** 112.29 20 P **PKiKP** 19 17 44.3 +1.5
baz=216
F24K **Squaw Lake** 113.30 15 P **PKiKP** 19 17 45.7 +1.1
baz=210
E23K **Chandalar** 113.45 14 P **PKiKP** 19 17 45.8 +0.9
baz=209
I29M **Ogilvie Camp,** 113.61 20 P **PKiKP** 19 17 45.8 +0.5
baz=217
F25K **Christian Rive** 113.81 16 P **PKiKP** 19 17 46.9 +1.3
baz=212
D23K **Nanushuk River** 114.07 13 P **PKiKP** 19 17 47.5 +1.5
baz=208
EPYK **Eagle Plains** 114.82 20 P **PKiKP** 19 17 48.0 +0.4
baz=218
C24K **Franklin Bluff** 115.07 14 P **PKiKP** 19 17 48.7 +0.9
baz=210
E27K **Coleen River** 115.15 17 P **PKiKP** 19 17 48.7 +0.6
baz=215
WMQ **Urumqi** 115.30 307 *e*PKP **PKiKP** 19 17 49.3 +0.1
G30M **tAoh Zraii Nji** 115.42 19 P **PKiKP** 19 17 49.2 +0.5
baz=219
C27K **Jago River** 115.91 15 P **PKiKP** 19 17 50.5 +1.0
baz=214
C26K **Camden Bay** 115.92 15 P **PKiKP** 19 17 50.7 +1.2
baz=213
WRGLY **Wrigley** 116.37 27 P **PKiKP** 19 17 51.7 +1.1
baz=227
INK **Inuvik** 117.10 19 PKKPbc PKKPbc 19 28 20.3 +2.7
comp=Z,1.3nm,0.7s,baz=20,slow=6.2,SNR=5.1
INK **Inuvik** 117.10 19 P **PKiKP** 19 17 52.1 +0.4
baz=221
TIXI **Tiksi** 118.07 345⇑ *i*PKiKP **PKPdf** 19 17 52.5 -1.1
DGZ **Jazzator, Alta** 118.73 312 ⇓ *i*PKiKP **PKPdf** 19 17 55.0 -0.7
YKA **Yellowknife Ar** 119.03 30 PKP **PKiKP** 19 17 56.0 +0.3
comp=Z,13nm,0.8s,baz=262,slow=2.0,SNR=19
YKA **Yellowknife Ar** 119.03 30 PKiKP **PKiKP** 19 17 56.0 +0.3
MKAR **Makanchi Array** 120.12 307 PKP **PKPdf** 19 17 57.4 -1.0
comp=Z,3.4nm,0.7s,baz=230,slow=1.7,SNR=12
FFC **Flin Flon** 120.18 42 PKPdf **PKiKP** 19 17 59.0 +0.8
FFC **Flin Flon** 120.18 42 PKiKP **PKiKP** 19 17 59.0 +0.8
C36M **Paulatuk** 120.28 21 P **PKiKP** 19 17 58.2 +0.3
baz=229
KSH **Kashi** 120.28 297 *e*PKP **PKiKP** 19 18 00.3 +1.2
WCI **Wyandotte Cave** 120.88 65 PKPdf **PKiKP** 19 18 00.8 +0.6
WCI **Wyandotte Cave** 120.88 65 P **PKiKP** 19 18 01.7 +1.6
baz=238
WCI **Wyandotte Cave** 120.88 65 PKiKP **PKiKP** 19 18 00.8 +0.6
ULM **Lac du Bonnet** 121.10 49 PKP **PKPdf** 19 17 59.4 -0.7
comp=Z,27nm,1.4s,baz=165,slow=9.9,SNR=3.7
A36M **Sachs Harbour** 121.70 19 PKPdf **PKPdf** 19 18 00.5 -0.1
A36M **Sachs Harbour** 121.70 19 P **PKPdf** 19 18 00.3 -0.3
baz=229
ZALV **Zalesovo Beam** 122.29 316 PKP **PKPdf** 19 18 00.6 -1.7
comp=Z,1.7nm,0.7s,baz=157,slow=2.6,SNR=9.2
AAK **Ala-Archa** 122.83 300 ⇓ *i*PKiKP **PKPdf** 19 18 03.4 -0.5
AAK pmax pmax
comp=Z,2.0nm,0.7s
ACSO **Alum Creek Sta** 124.11 64 P **PKiKP** 19 18 08.0 +1.5
baz=240
BLA **Blacksburg** 124.35 69 P **PKiKP** 19 18 08.6 +1.5
baz=240
P52A **Corning** 124.38 65 P **PKiKP** 19 18 08.7 +1.7
baz=240
O53A **New Philadelph** 125.30 65 P **PKiKP** 19 18 10.2 +1.3
baz=241
M53A **WI Miller and** 126.22 64 P **PKiKP** 19 18 12.3 +1.7
baz=242
NRIK **Noril'sk** 127.63 333 PKP **PKPdf** 19 18 11.4 -0.6
comp=Z,4.5nm,0.8s,baz=133,slow=3.7,SNR=4.5
BRVK **Borovoye** 129.81 310 ⇓ *e*PKiKP **PKPdf** 19 18 14.4 -2.2
RES **Resolute Bay** 130.63 20 PKP **PKPdf** 19 18 17.0 -0.5
baz=237,slow=3.5
GEYT **Alibeck** 131.73 287 PKP **PKPdf** 19 18 20.2 -0.7
comp=Z,5.7nm,0.9s,baz=243,slow=1.3,SNR=11
GEYT SKPbc **SKPbc** 19 21 45.0 -0.5
comp=Z,1.9nm,0.8s,baz=160,slow=6.5,SNR=3.8
SVE **Sverdlovsk** 136.18 313 *e*PKiKP **PKPdf** 19 18 28.0 -0.5
SVE pmax pmax
comp=Z,8.0nm,1.0s
ARU **Arti** 137.24 312 PKPdf **PKPdf** 19 18 31.1 +0.7
ARU **Arti** 137.24 312 *i* PKiKP **PKPdf** 19 18 29.5 -1.0
ARU 19 21 10.6
ARU SS SS 19 39 18.2 -3.5
BELG **Belogornoye** 143.04 305 ⇓ *i*PKHKP PKPpre 19 18 36.1
PRGR **Permogore** 143.99 320 *e*PKHKP PKPpre 19 18 37.3
PRGR pmax pmax
comp=Z,16nm,0.9s
MARD **Mardin** 144.00 278 PKPdf PKPbc 19 18 42.5 +1.0
NCK **Nalchik** 144.01 289 ⇓ *e*PKiKP **PKPab** 19 18 40.8 +0.2
LIC **Lamto** 144.02 182 ⇓ *e*P PKPbc 19 18 42.4 +0.5
comp=Z,37nm,0.9s
KIC **Kosan Boka** 144.14 182⇑ *e*P PKPbc 19 18 42.7 +0.4
comp=Z,9.8nm,0.6s
TIC **Toumodi** 144.43 182 ⇓ *e*P **PKPdf** 19 18 44.4 -0.4
comp=Z,27nm,0.9s
DBIC **Dimbokro** 144.45 182 PKP PKPbc 19 18 44.1 +0.8
comp=Z,11nm,0.6s,baz=176,slow=3.4,SNR=9.9
DBIC **Dimbokro** 144.45 182 PKPdf **PKPdf** 19 18 44.4 -0.4
DBIC **Dimbokro** 144.45 182 PKiKP **PKPdf** 19 18 44.4 -0.4
NEY **Neytrino** 144.56 288⇑ *e*PKiKP **PKPdf** 19 18 44.3 0.0
KBZ **Khabaz** 144.56 289 PKP **PKPab** 19 18 42.5 -0.1
comp=Z,32nm,0.8s,baz=122,slow=1.6,SNR=66
KBZ **Khabaz** 144.56 289*c* *i*PKiKP **PKPab** 19 18 41.9 -0.7
KIV **Kislovodsk** 144.77 290 *e*PKiKP **PKPdf** 19 18 44.7 +0.1
KIV pmax pmax
comp=Z,18nm,1.1s
GOF **Gofitskoye** 144.79 292⇑ *e*PKiKP **PKPab** 19 18 43.1 -0.3
GOF pmax pmax
comp=Z,94nm,0.9s
DAG **Danmarks Havn** 145.06 5 *i* P **PKPbc** 19 18 41.0 -2.5
SFJD **Kangerlussuaq** 145.58 29 PKPdf **PKPab** 19 18 46.0 +0.4
SFJD **Kangerlussuaq** 145.58 29 *e*P **PKPbc** 19 18 45.4 +0.1
SFJD **Kangerlussuaq** 145.58 29 PKiKP **PKPab** 19 18 46.0 +0.4
SUMG **Summit** 145.96 17 *i* P **PKPdf** 19 18 46.0 -0.1
VRH **Novokhopyorsk** 146.59 302 *e*PKiKP **PKPdf** 19 18 46.3 -1.0
VRH pmax pmax
comp=Z,20nm,0.6s
KLMR **Klimovskoe** 147.03 320 *e*PKPdf **PKPdf** 19 18 46.9 -0.8
KLMR AMP 19 18 50.4
comp=Z,28nm,0.7s
KLMR **Klimovskoe** 147.03 320 *e*PKiKP **PKPdf** 19 18 46.8 -0.9
KLMR pmax pmax
comp=Z,28nm,0.7s
HAMF **Hammerfest** 147.91 342 *e*P **PKPbc** 19 18 50.9 -1.1
VORR **Voronezh** 148.18 303 *e*PKP2 **PKPbc** 19 18 52.4 -0.8
VORR pmax pmax
comp=Z,48nm,1.6s
VSR **Storozhevoye** 148.19 302 *e*PKiKP **PKPdf** 19 18 51.4 +1.4
VSR pmax pmax
comp=Z,10.0nm,0.6s
ARA0 **ARCESS Array S** 148.24 339 *e*P **PKPbc** 19 18 52.1 -0.8
ARCES **ARCESS Array B** 148.24 339 PKPbc **PKPbc** 19 18 52.0 -0.9
comp=Z,4.6nm,0.4s,baz=32,slow=2.4,SNR=45
ARCES **ARCESS Array B** 148.24 339 **PKPbc** 19 18 52.2 -0.7
ARCES **ARCESS Array B** 148.24 339 PKP2 **PKPbc** 19 18 52.2 -0.7
LPSR **Galich'ya Gora** 148.36 305 *e*PKiKP **PKPdf** 19 18 51.0 +0.8
LPSR pmax pmax
comp=Z,30nm,1.0s
CSS **Mathiatis** 148.54 270 **PKPbc** 19 18 55.3 +0.6
MOS **Moscow** 148.91 311 *e*PKHKP PKPpre 19 18 49.3
MOS pmax pmax
comp=Z,34nm,0.7s
KTK1 **Kautokeino** 149.19 340 *e*P **PKPbc** 19 18 54.1 -1.2
OBN **Obninsk** 149.59 310 *e*PKiKP **PKPdf** 19 18 51.2 -0.8
OBN *e* 19 22 30.7
OBN *e*PPP PPP 19 25 51.5
OBN pmax pmax
comp=Z,21nm,1.2s
TRO **Tromso** 149.75 343 *e*P **PKPbc** 19 18 55.3 -1.3
NRS **Narsarsuaq** 149.90 38 *e*P **PKPbc** 19 18 56.4 -0.9
BRTR **Keskin Array B** 150.08 279 PKPbc **PKPbc** 19 18 58.4 -0.2
comp=Z,20nm,0.9s,baz=159,slow=5.2,SNR=39
BRTR **Keskin Array B** 150.08 279 PKPbc **PKPbc** 19 18 58.7 +0.1
BRTR **Keskin Array B** 150.08 279 PKP2 **PKPbc** 19 18 58.7 +0.1
ISP **Isparta** 151.75 273 PKPbc **PKPbc** 19 19 02.4 -0.2
ISP **Isparta** 151.75 273 PKiKP **PKPbc** 19 19 02.4 -0.2
STEI **Steigen** 151.92 343 *e*P **PKPbc** 19 19 00.7 -1.1
FAUS **Fauske** 152.36 342 *e*P **PKPbc** 19 19 01.6 -1.2

FINES	**FINESS Array B**	**152.88**	**326**	PKPbc	**PKPbc**	**19**	**19**	**03.1 -1.0**
	comp=Z,5.5nm,0.6s,baz=105,slow=2.9,SNR=27							
AKASG	**Malin Array Be**	**154.49**	**301**	PKPbc	**PKPbc**	**19**	**19**	**06.8 -1.1**
	comp=Z,2.4nm,0.7s,baz=68,slow=2.2,SNR=6.5							
AKASG				PKPab	**PKPab**	**19**	**19**	**21.4 -1.1**
	comp=E,3.2nm,0.5s,baz=69,slow=3.9,SNR=13							
AKBB	**Malin Array Si**	**154.49**	**301**	*c* iPKIKP	**PKiKP**	**19**	**19**	**09.0 +1.0**
MNK	**Minsk**	**154.64**	**310**	*i* PKP	**PKPdf**	**19**	**19**	**00.9 +1.3**
	comp=E,2.0nm,1.3s							
MNK				*i* PKP	**PKPdf**	**19**	**19**	**00.9 +1.3**
	comp=N,59nm,1.0s							
MNK				*i* PKP	**PKPdf**	**19**	**19**	**00.9 +1.3**
	comp=Z,16nm,0.9s,baz=75							
MNK				*i* PP	**PP**	**19**	**22**	**59.9 +0.8**
MNK				*i* SKS	**SKSdf**	**19**	**26**	**08.4 +3.4**
MNK				*i* PPP	PPP	19	26	35.1
MNK				*i* SKKS	**SKKSdf**	**19**	**34**	**47.0 +3.2**
MNK				*i* SS	**SS**	**19**	**42**	**41.5 +2.0**
MNK				*i* SSS	SSS	19	48	37.3
MNK				*i* LR	LR	20	32	49.1
MNK	**Minsk**	**154.64**	**310**	*i* PKIKP	**PKPdf**	**19**	**19**	**00.9 +1.3**
MNK				*i*		19	22	59.9
MNK				*i*		19	26	08.4
MNK				*i* PPP	PPP	19	26	35.1
MNK				*i* SS	SS	19	42	41.5 +2.0
MNK				*i* SSS	SSS	19	48	37.2
MNK				pmax	pmax			
	comp=E,2.0nm,1.3s							
MNK				pmax	pmax			
	comp=N,59nm,1.0s							
MNK				pmax	pmax			
	comp=Z,16nm,0.9s							
NACGM	**Naroch**	**155.15**	**312**	*e*PKP	**PKPdf**	**19**	**19**	**01.7 +1.4**
	comp=Z,9.0nm,0.9s,baz=74							
NB2	**NORSAR Subarra**	**158.54**	**337**	PKP	**PKPab**	**19**	**19**	**37.5 -2.2**
	comp=Z,2.1nm,0.8s,baz=42,slow=4.4							
NOA	**NORSAR Array B**	**158.54**	**337**	PKPab	**PKPab**	**19**	**19**	**38.0 -1.7**
	comp=Z,0.7nm,0.6s,baz=41,slow=4.5,SNR=3.9							
NOA	**NORSAR Array B**	**158.54**	**337**	PKP2	**PKPab**	**19**	**19**	**38.0 -1.7**
KOLS	**Kolonicke sedl**	**159.16**	**298**	*e*PKP	**PKPab**	**19**	**19**	**42.9 +0.1**
KOLS	**Kolonicke sedl**	**159.16**	**298**	*e*PKP2	**PKPab**	**19**	**19**	**42.9 +0.1**
UZH	**Uzhgorod**	**159.19**	**297**	*e*PKP2	**PKPab**	**19**	**19**	**41.7 -1.2**
CRVS	**Cervenica-Dubn**	**159.70**	**298**	*e*PKP	**PKPab**	**19**	**19**	**45.3 +0.2**
CRVS	**Cervenica-Dubn**	**159.70**	**298**	*e*PKP2	**PKPab**	**19**	**19**	**45.3 +0.2**
VYHS	**Vyhne**	**161.48**	**298**	*e*PKP	**PKPab**	**19**	**19**	**52.9 0.0**
VYHS	**Vyhne**	**161.48**	**298**	*e*PKP2	**PKPab**	**19**	**19**	**52.9 0.0**
MAUC	**Maruska**	**161.95**	**301**	*e*PKPAB	**PKPab**	**19**	**19**	**55.0 0.0**
MORC	**Moravsky Berou**	**162.03**	**303**	*e*PKP	**PKPab**	**19**	**19**	**54.5 -0.8**
KRLC	**Kraliky**	**162.41**	**304**	*e*PKPAB	**PKPab**	**19**	**19**	**56.5 -0.5**
KRLC	**Kraliky**	**162.41**	**304**	*e*PKP2	**PKPab**	**19**	**19**	**56.5 -0.5**
OSTC	**Ostas**	**162.61**	**306**	*e*PKPAB	**PKPab**	**19**	**19**	**57.5 -0.3**
DPC	**Dobruska-Polom**	**162.61**	**305**	*e*PKPAB	**PKPab**	**19**	**19**	**57.8 0.0**
DPC	**Dobruska-Polom**	**162.61**	**305**	*e*PKP2	**PKPab**	**19**	**19**	**57.8 0.0**
UPC	**Upice**	**162.75**	**306**	*e*PKPAB	**PKPab**	**19**	**19**	**57.9 -0.5**
UPC	**Upice**	**162.75**	**306**	*e*PKP2	**PKPab**	**19**	**19**	**57.9 -0.5**
VRAC	**Vranov**	**162.75**	**302**	*e*PKP	**PKPab**	**19**	**19**	**58.2 -0.2**
KRUC	**Moravsky**	**162.94**	**301**	*e*PKP	**PKPab**	**19**	**19**	**58.9 -0.4**
RONA	**Rosalia, Austr**	**163.30**	**296**	*e*P	**PKPab**	**19**	**20**	**00.6 -0.4**
	comp=Z,3.3nm,1.0s							
CONA	**Conrad Observa**	**163.54**	**297**	*e*P	**PKPab**	**19**	**20**	**01.9 -0.2**
	comp=Z,6.8nm,1.5s							
PRU	**Pruhonice**	**163.81**	**305**	*e*PKPAB	**PKPab**	**19**	**20**	**03.2 +0.1**
PRU	**Pruhonice**	**163.81**	**305**	*e*PKP2	**PKPab**	**19**	**20**	**03.2 +0.1**
BRG	**Berggiesshubel**	**163.83**	**309**	Amp		19	20	04.0
	comp=Z,9.6nm,1.0s							
BRG	**Berggiesshubel**	**163.83**	**309**	*e*PKP2	**PKPab**	**19**	**20**	**02.6 -0.5**
BRG				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BRG	**Berggiesshubel**	**163.83**	**309**	*e*PKP	**PKPab**	**19**	**20**	**02.7 -0.5**
CKRC	**Cesky Krumlov**	**164.33**	**301**	*e*PKPAB	**PKPab**	**19**	**20**	**05.0 -0.4**
MOA	**Molln**	**164.61**	**298**	*i* P	**PKPab**	**19**	**20**	**06.6 0.0**
	comp=Z,6.2nm,1.2s							
KHC	**Kasperske Hory**	**164.69**	**303**	*e*PKPAB	**PKPab**	**19**	**20**	**06.2 -0.8**
KHC	**Kasperske Hory**	**164.69**	**303**	*e*PKP2	**PKPab**	**19**	**20**	**06.2 -0.8**
GERES	**GERESS Array B**	**164.70**	**302**	PKPab	**PKPab**	**19**	**20**	**05.8 -1.4**
	comp=Z,1.1nm,0.7s,baz=69,slow=4.4,SNR=8.4							
CIMO	**Cimolais**	**166.14**	**293**	PKPab	**PKPab**	**19**	**20**	**12.7 -0.9**
KEST	**Kesra**	**166.30**	**246**	PKPab	**PKPab**	**19**	**20**	**14.8 +0.3**
	comp=Z,5.7nm,1.1s,baz=135,slow=4.3,SNR=4.1							
WTTA	**Wattenberg**	**166.48**	**297**	*i* P	**PKPab**	**19**	**20**	**14.5 -0.6**
	comp=Z,15nm,1.5s							
WATA	**Walderalm**	**166.50**	**298**	*i* P	**PKPab**	**19**	**20**	**14.6 -0.6**
	comp=Z,7.2nm,1.0s							
SQTA	**Sankt Quirin**	**166.77**	**298**	*i* P	**PKPab**	**19**	**20**	**15.9 -0.5**
	comp=Z,9.5nm,1.1s							
MOTA	**Moosalm**	**166.81**	**298**	*i* P	**PKPab**	**19**	**20**	**15.9 -0.6**
	comp=Z,6.5nm,0.9s							
FETA	**Feichten**	**167.14**	**297**	*e*P	**PKPab**	**19**	**20**	**17.8 -0.2**
	comp=Z,7.6nm,1.2s							
FUORN	**Ofenpass-Fuorn**	**167.55**	**296**	PKPab	**PKPab**	**19**	**20**	**20.0 0.0**
DAVA	**Damuels**	**167.62**	**299**	*e*P	**PKPab**	**19**	**20**	**19.2 -1.0**
	comp=Z,10.0nm,1.4s							
ESDC	**Sonseca Array**	**176.87**	**212**	PKP	**PKPdf**	**19**	**19**	**18.4 +0.2**
	comp=Z,1.6nm,0.9s,baz=310,slow=2.4,SNR=7.3							
ESDC				PKPab	**PKPab**	**19**	**21**	**01.3 +0.2**
	comp=Z,0.4nm,0.9s,baz=84,slow=6.1,SNR=4.4							

*NEIC **13** 18:59:51.6±2.2, 42.°05S±0.°05×174.°24E±0.°04, h10km±1km, mb4.8/13, Error ellipse: s-maj=9.6km s-min=3.2km az=29.0*

*IDC **13** 18:59:51.6±0.9, 42.°01S×174.°08E, h0km, mb4.7/6, mbtmp4.7/6, MS4.8/1, Error ellipse: s-maj=49.0km s-min=25.7km az=38.0*

*WEL **13** 18:59:55.8±0.4, 42.°52S±2.°×17.°4E±.°, h7km±2km, M5.3/12, ML5.6/12, MLv5.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=159.2*

ISC 13 18:59:53.8±0.8, 41.79S±0.°04×174.°32E±0.°03, h18km±3km, n48, σ1s38/62, mb4.7/13, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**299**			**Pg**	**Pg**	**18 59 57.6**	**+0.2**
CMWZ	**Cape Campbell**	**0.09**	**299**			P	**Pg**	**18 59 57.9**	**+0.5**
CMWZ						S	**Sg**	**19 00 01.0**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.34**	**283**			**Pg**	**Pg**	**19 00 00.9**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.34**	**283**			P	**Pb**	**19 00 01.8**	**+0.4**
BSWZ						S	**Sb**	**19 00 07.1**	**+0.7**
TUWZ	**Tuamarina**	**0.46**	**322**			Pg	**Pb**	**19 00 03.8**	**+0.4**
TUWZ	**Tuamarina**	**0.46**	**322**			P	**Pb**	**19 00 03.5**	**+0.2**
TUWZ						S	**Sb**	**19 00 10.0**	**+0.2**
SNZO	**South Karori**	**0.56**	**31**			Pg	**Pn**	**19 00 06.5**	**-0.3**
BHW	**Baring Head**	**0.56**	**47**			P	**Pn**	**19 00 06.5**	**-0.3**
TCW	**Tory Channel**	**0.58**	**357**			P	**Pg**	**19 00 05.8**	**+0.4**
TCW						S	**Sg**	**19 00 13.5**	**+0.3**
WEL	**Wellington**	**0.61**	**34**			P	**Pg**	**19 00 06.7**	**+0.9**
WEL						S	**Sg**	**19 00 15.3**	**+1.3**
PLWZ	**Palliser**	**0.73**	**73**			P	**Pn**	**19 00 09.9**	**+0.6**
PLWZ						S	**Sn**	**19 00 22.6**	**+2.6**
MSWZ	**Moikau Station**	**0.79**	**62**			Pg	**Pn**	**19 00 10.9**	**+0.9**
MSWZ	**Moikau Station**	**0.79**	**62**			P	**Pn**	**19 00 10.7**	**+0.7**
MSWZ						S	**Sn**	**19 00 23.7**	**+2.3**
KHZ	**Kahutara**	**0.85**	**223**			P	**Pn**	**19 00 12.6**	**+1.7**
KHZ						S	**Sn**	**19 00 25.9**	**+3.0**
PAWZ	**Paruwai Farm**	**0.93**	**64**			P	**Pn**	**19 00 12.5**	**+0.6**
PAWZ						S	**Sn**	**19 00 26.2**	**+1.5**
DUWZ	**D'Urville Isla**	**1.03**	**343**			P	**Pg**	**19 00 14.7**	**+0.9**
DUWZ						S	**Sb**	**19 00 26.9**	**+0.6**
THZ	**Tophouse**	**1.06**	**271**			P	**Pg**	**19 00 15.5**	**+1.1**
THZ						S	**Sg**	**19 00 31.1**	**+2.9**
MTW	**Mount Morrison**	**1.09**	**55**			P	**Pg**	**19 00 15.0**	**0.0**
MTW						S	**Sg**	**19 00 30.3**	**+1.0**
MRNZ	**Matariki Terra**	**1.24**	**288**			P	**Pg**	**19 00 18.3**	**+0.6**
MRNZ						S	**Sg**	**19 00 35.3**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.27**	**46**			P	**Pg**	**19 00 19.8**	**+1.5**
HOWZ						S	**Sg**	**19 00 34.8**	**0.0**
TKNZ	**Takaka Hill**	**1.27**	**306**			P	**Pg**	**19 00 18.6**	**+0.2**
TKNZ						S	**Sg**	**19 00 35.5**	**+0.4**
MRZ	**Mangatainoka R**	**1.48**	**40**			Pn	**Pb**	**19 00 21.5**	**+0.9**
QRZ	**Quartz Range**	**1.66**	**305**			P	**Pb**	**19 00 24.6**	**+0.9**
CTA	**Charters Tower**	**32.12**	**304**			LR	LR	19 18 51.5	
	comp=Z,1μm,18.1s,baz=118,slow=36								
CTAO	**Charters Tower**	**32.12**	**304**			P	**P**	**19 06 18.3**	**-1.8**
AS31	**Alice Springs**	**38.09**	**286**			P	**P**	**19 07 09.2**	**-2.3**
ASAR	**Alice Springs**	**38.09**	**286**			P	**P**	**19 07 11.2**	**-0.4**
	5.1nm,0.4s,baz=119,slow=6.4,SNR=9.5 5.1nm,0.4s								
FORT	**Forrest**	**38.46**	**271**			P	**P**	**19 07 12.6**	**-2.0**
COEN	**Coen**	**38.70**	**307**			P	**P**	**19 07 15.5**	**-1.1**
COEN						IAmb	IAmb	19 07 33.4	
	comp=Z,21nm,1.2s								
WR0	**Warramunga Arr**	**40.01**	**291**			P	**P**	**19 07 26.0**	**-1.6**
WR0						IAmb	IAmb	19 07 27.8	
	comp=Z,11nm,0.8s								
PMG	**Port Moresby**	**40.16**	**316**			P	**P**	**19 07 29.2**	**+0.4**
PMG						IAmb	IAmb	19 07 44.1	
	comp=Z,23nm,1.0s								
WB2	**Warramunga Arr**	**40.16**	**290**			P	**P**	**19 07 28.8**	**0.0**
WB2						IAmb	IAmb	19 07 30.1	
	comp=Z,14nm,0.6s								
WRA	**Warramunga Arr**	**40.17**	**290**			P	**P**	**19 07 28.8**	**-0.2**
	comp=Z,7.7nm,0.7s,baz=127,slow=8.4,SNR=7.4 comp=Z,7.7nm,0.7s								
WRA	**Warramunga Arr**	**40.17**	**290**			P	**P**	**19 07 29.0**	**+0.1**
WB0	**Warramunga Arr**	**40.25**	**291**			P	**P**	**19 07 29.2**	**-0.3**
WB0						IAmb	IAmb	19 07 34.6	
	comp=Z,11nm,0.9s								
MORW	**Morawa**	**48.31**	**266**			P	**P**	**19 08 31.3**	**-2.8**
QSPA	**South Pole Qui**	**48.34**	**180**			P	**P**	**19 08 31.9**	**-2.0**
	comp=Z,14nm,0.9s,baz=31,slow=5.9,SNR=2.7 comp=Z,14nm,0.9s								
PSA00	**Pilbara Seismi**	**49.67**	**276**			P	**P**	**19 08 41.7**	**-2.8**
PSA00						IAmb	IAmb	19 08 44.8	
	comp=Z,14nm,1.0s								
BELA	**Belgrano 2**	**59.30**	**173**			P	**P**	**19 09 51.2**	**-2.5**
BELA						IAmb	IAmb	19 09 57.3	
	comp=Z,9.2nm,0.8s								
MAW	**Mawson**	**59.44**	**204**			P	**P**	**19 09 52.8**	**-2.0**
PLCA	**Paso Flores**	**79.03**	**136**			P	**P**	**19 11 58.5**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=218,slow=7.6,SNR=3.2 comp=Z,2.0nm,0.7s								
KSRS	**Korea Array**	**89.52**	**325**			P	**P**	**19 12 51.2**	**+1.8**
	comp=Z,4.2nm,0.9s,baz=147,slow=5.4,SNR=4.8 comp=Z,4.2nm,0.9s								
CMAR	**Chiang Mai Arr**	**91.70**	**293**			P	**P**	**19 13 01.1**	**+0.9**
	comp=Z,5.6nm,0.8s,baz=152,slow=3.4,SNR=8.0 comp=Z,5.6nm,0.8s								
YKA	**Yellowknife Ar**	**118.39**	**30**	PKP	**PKiKP**			**19 18 39.8**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=268,slow=1.6,SNR=4.6								
RES	**Resolute Bay**	**130.00**	**20**	PKP	**PKPdf**			**19 19 01.2**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=57,slow=23,SNR=2.2								
DBIC	**Dimbokro**	**145.02**	**181**	PKP	**PKPdf**			**19 19 31.3**	**+1.0**
	comp=Z,10nm,0.9s,baz=243,slow=1.6,SNR=4.2								
ARCES	**ARCESS Array B**	**147.84**	**340**	PKPbc	**PKPbc**			**19 19 35.9**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=20,slow=1.8,SNR=7.7								
ESDC	**Sonseca Array**	**177.51**	**212**	PKP	**PKPdf**			**19 20 04.2**	**+1.4**
	comp=Z,1.9nm,1.1s,baz=168,slow=0.3,SNR=4.7								

WEL 13 19:03:47.3±1.0, 42.°S±4.°×17.°4E±.°, h5km, M3.6/8, ML4.3/5, MLv3.6/8, Error ellipse: s-maj=0.0km s-min=0.0km az=70.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**228**			P	Pg	19 03 49.2	-0.6
KHZ						S	Sg	19 03 50.5	-0.8
GVZ	**Greta Valley S**	**0.78**	**216**			P	Pg	19 04 02.7	+0.4
GVZ						S	Sb	19 04 13.8	-0.5
THZ	**Tophouse**	**0.80**	**315**			P	Pg	19 04 03.0	+0.3
LTZ	**Lake Taylor**	**1.12**	**246**			P	Pg	19 04 08.4	-0.3
LTZ						S	Sb	19 04 24.0	0.0
AMCZ	**Amberley**	**1.12**	**221**			P	Pg	19 04 07.8	-1.0
AMCZ						S	Sb	19 04 23.9	-0.1
MRNZ	**Matariki Terra**	**1.15**	**324**			P	Pn	19 04 10.6	+0.5
TKNZ	**Takaka Hill**	**1.40**	**338**			P	Pg	19 04 15.1	+1.0
DSZ	**Denniston Nort**	**1.50**	**293**			P	Pb	19 04 15.4	-0.3
DSZ						S	Sg	19 04 36.5	+0.9
OXZ	**Oxford**	**1.55**	**230**			P	Pn	19 04 13.4	-2.1
OXZ						S	Sn	19 04 33.3	-2.7
MQZ	**McQueen's Vall**	**1.55**	**208**			P	Pn	19 04 12.6	-2.9
MQZ						S	Sn	19 04 32.0	-4.1

WEL 13 19:04:36.5±0.3, 42.°S±2.°×17.°3E±.°, h8km±2km, M4.1/13, ML4.5/13, MLv4.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=123.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**81**			P	Pg	19 04 41.4	+0.5
KHZ						S	Sg	19 04 45.4	+1.4
GVZ	**Greta Valley S**	**0.54**	**197**			P	Pb	19 04 47.9	-0.3
GVZ						S	Sb	19 04 56.3	+0.2
THZ	**Tophouse**	**0.73**	**340**			P	Pg	19 04 50.8	+0.2
THZ						S	Sg	19 05 02.4	+0.2
LTZ	**Lake Taylor**	**0.79**	**245**			P	Pg	19 04 51.5	-0.3
LTZ						S	Sg	19 05 01.8	-0.3
AMCZ	**Amberley**	**0.85**	**211**			P	Pb	19 04 53.5	+0.1
AMCZ						S	Sn	19 05 06.6	-0.8
BSWZ	**Blackbirch Sta**	**0.87**	**33**			P	Pb	19 04 53.9	0.0
MRNZ	**Matariki Terra**	**1.11**	**341**			P	Pn	19 04 58.4	0.0
TUWZ	**Tuamarina**	**1.15**	**27**			P	Pb	19 04 58.6	0.0
NNZ	**Nelson**	**1.24**	**5**			P	Pn	19 04 59.9	-0.2
OXZ	**Oxford**	**1.25**	**225**			P	Pn	19 04 58.5	-1.8
OXZ						S	Sn	19 05 17.3	+0.1
DSZ	**Denniston Nort**	**1.28**	**303**			P	Pb	19 05 01.1	+0.1
DSZ						S	Sn	19 05 18.8	+0.5
MQZ	**McQueen's Vall**	**1.33**	**199**			P	Pn	19 04 59.5	-1.9
MQZ						S	Sb	19 05 16.7	-2.1
TKNZ	**Takaka Hill**	**1.43**	**351**			P	Pb	19 05 03.2	-0.3
TKNZ						S	Sg	19 05 22.5	-0.1
DUWZ	**D'Urville Isla**	**1.73**	**17**			P	Pb	19 05 08.3	-0.2
WACZ	**Wakanui South**	**1.81**	**214**			P	Pn	19 05 07.0	-1.0
WACZ						S	Sn	19 05 29.0	-2.1
MSWZ	**Moikau Station**	**1.82**	**56**			P	Pn	19 05 07.1	-1.1
PAWZ	**Paruwai Farm**	**1.95**	**57**			P	Pn	19 05 08.5	-1.4
WVZ	**Waitaha Valley**	**1.95**	**251**			P	Pn	19 05 10.4	+0.5
WVZ						S	Sn	19 05 34.0	-0.6
GCSZ	**Gaunt Creek Bo**	**2.31**	**247**			P	Pn	19 05 14.8	-0.2
MKAZ	**Moumakai**	**5.54**	**16**			P	Pn	19 05 59.7	+0.4
RUGZ	**Raukumara Rang**	**5.62**	**39**			P	Pn	19 05 58.7	-1.8
APZ	**The Paps**	**5.76**	**219**			P	Pn	19 06 01.1	-1.3
HAZ	**Te Kaha**	**5.84**	**38**			P	Pn	19 06 01.1	-2.3

*IDC **13** 19:07:37.1±1.2, 42.°48S×173.°45E, h0km, mb4.2/6, mbtmp4.2/7, ML4.7/1, Error ellipse: s-maj=34.8km s-min=25.7km az=79.0*

*WEL **13** 19:07:40.6±0.3, 43.°S±2.°×17.°3E±.°, h14km±2km, M4.6/94, ML4.8/23, MLv4.6/94, Error ellipse: s-maj=0.0km s-min=0.0km az=127.4*

ISC 13 19:07:40.1±1.0, 42.°61S±0.°03×173.°40E±0.°04, h15km±6km, n139, σ1s56/146, mb4.2/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**28**			P	**Pg**	**19 07 45.4**	**+0.4**
KHZ						S	**Sg**	**19 07 48.6**	**+0.3**
GVZ	**Greta Valley S**	**0.45**	**217**			P	**Pn**	**19 07 51.6**	**-0.4**
GVZ						S	**Sn**	**19 07 59.2**	**-0.6**
AMCZ	**Amberley**	**0.79**	**224**			P	**Pn**	**19 07 57.2**	**+0.5**
AMCZ						S	**Sn**	**19 08 10.5**	**+2.2**
LTZ	**Lake Taylor**	**0.85**	**258**			P	**Pb**	**19 07 56.9**	**+0.3**
LTZ						S	**Sb**	**19 08 08.4**	**+0.6**
THZ	**Tophouse**	**0.92**	**336**			P	**Pb**	**19 07 56.8**	**-1.0**
THZ						S	**Sb**	**19 08 07.4**	**-2.6**
BSWZ	**Blackbirch Sta**	**0.96**	**22**			P	**Pb**	**19 07 58.8**	**+0.3**
BSWZ						S	**Sn**	**19 08 13.4**	**+0.8**
MQZ	**McQueen's Vall**	**1.22**	**206**			P	**Pn**	**19 08 02.5**	**-0.2**
MQZ						S	**Sg**	**19 08 19.4**	**-0.2**
OXZ	**Oxford**	**1.23**	**234**			P	**Pn**	**19 08 02.7**	**0.0**
OXZ						S	**Sb**	**19 08 19.0**	**+0.3**
TUWZ	**Tuamarina**	**1.25**	**19**			P	**Pn**	**19 08 03.1**	**+0.1**
TUWZ						S	**Sb**	**19 08 20.0**	**+0.7**
MRNZ	**Matariki Terra**	**1.30**	**338**			P	**Pn**	**19 08 03.4**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.31**	**196**			P	**Pb**	**19 08 04.1**	**-0.3**
NNZ	**Nelson**	**1.39**	**359**			P	**Pn**	**19 08 05.1**	**+0.1**
NNZ						S	**Sn**	**19 08 24.2**	**+1.1**
INZ	**Inchbonnie**	**1.45**	**265**			P	**Pn**	**19 08 06.0**	**+0.2**
RACZ	**Rakaia**	**1.45**	**219**			P	**Pn**	**19 08 05.5**	**-0.3**
TCW	**Tory Channel**	**1.54**	**25**			P	**Pn**	**19 08 07.0**	**-0.1**
TKNZ	**Takaka Hill**	**1.61**	**348**			P	**Pn**	**19 08 08.5**	**+0.5**
WEL	**Wellington**	**1.67**	**38**			P	**Pn**	**19 08 08.7**	**-0.1**
WACZ	**Wakanui South**	**1.75**	**220**			P	**Pn**	**19 08 09.8**	**-0.2**
MSWZ	**Moikau Station**	**1.82**	**50**			P	**Pn**	**19 08 10.5**	**-0.4**
DUWZ	**D'Urville Isla**	**1.85**	**12**			P	**Pn**	**19 08 12.3**	**+0.9**
QRZ	**Quartz Range**	**1.90**	**340**			P	**Pn**	**19 08 12.5**	**+0.5**
PAWZ	**Paruwai Farm**	**1.95**	**52**			P	**Pn**	**19 08 11.9**	**-0.8**
CAW	**Cannon Point**	**1.95**	**40**			P	**Pn**	**19 08 12.3**	**-0.4**
WVZ	**Waitaha Valley**	**2.01**	**256**			P	**Pn**	**19 08 13.3**	**-0.3**
RPZ	**Rata Peaks**	**2.04**	**236**			Pn	**Pn**	**19 08 13.6**	**-0.3**
	222nm,0.3s,baz=88,slow=2.7,SNR=28								
RPZ						Sn	**Sn**	**19 08 37.7**	**-1.5**
	198nm,0.3s,baz=5.7,slow=19,SNR=22								
RPZ	**Rata Peaks**	**2.04**	**236**			P	**Pn**	**19 08 13.7**	**-0.3**
KIW	**Kapiti Island**	**2.08**	**33**			P	**Pn**	**19 08 14.6**	**+0.1**
TRWZ	**Traveller**	**2.09**	**55**			P	**Pn**	**19 08 14.7**	**0.0**
ARCZ	**Arundel**	**2.10**	**230**			P	**Pn**	**19 08 14.3**	**-0.5**
MTW	**Mount Morrison**	**2.14**	**48**			P	**Pb**	**19 08 17.2**	**-1.3**
OGWZ	**Otaki Gorge**	**2.23**	**37**			P	**Pn**	**19 08 16.0**	**-0.5**
HOWZ	**Holdsworth Sta**	**2.33**	**43**			P	**Pn**	**19 08 19.6**	**+1.7**
GCSZ	**Gaunt Creek Bo**	**2.36**	**252**			P	**Pn**	**19 08 19.4**	**+1.1**
TMWZ	**Te Maipa**	**2.39**	**52**			P	**Pn**	**19 08 22.4**	**-0.5**
TMZ	**Tmaru**	**2.48**	**224**			P	**Pn**	**19 08 20.2**	**+0.1**
MRZ	**Mangatainoka R**	**2.54**	**41**			P	**Pn**	**19 08 20.4**	**-0.5**
FOZ	**Fox Glacier**	**2.78**	**249**			P	**Pn**	**19 08 25.7**	**+1.6**
OHWZ	**Ohakea**	**2.80**	**32**			P	**Pb**	**19 08 29.3**	**-0.6**
PRWZ	**Pori Road**	**2.82**	**44**			P	**Pb**	**19 08 29.0**	**-1.1**
POWZ	**Post Office Ro**	**2.84**	**40**			P	**Pn**	**19 08 28.1**	**+3.1**
BFZ	**Birch Farm**	**2.88**	**49**			P	**Pn**	**19 08 25.4**	**0.0**
LBZ	**Lake Benmore**	**2.94**	**232**			P	**Pn**	**19 08 26.4**	**+0.1**
WAZ	**Wanganui**	**3.09**	**23**			P	**Pn**	**19 08 31.8**	**+3.4**
DVHZ	**Dannevirke**	**3.11**	**43**			P	**Pn**	**19 08 29.2**	**+0.6**
ODZ	**Otahua Downs**	**3.15**	**218**			P	**Pn**	**19 08 28.9**	**-0.2**
TSZ	**Takapari Road**	**3.20**	**38**			P	**Pn**	**19 08 30.1**	**+0.2**
NMEZ	**Namu Road**	**3.21**	**7**			P	**Pn**	**19 08 33.0**	**+2.9**
LREZ	**Lake Rotokare**	**3.24**	**14**			P	**Pb**	**19 08 35.7**	**-1.5**
KHEZ	**Kahui Hut**	**3.35**	**8**			P	**Pn**	**19 08 34.9**	**+2.9**
NBEZ	**Newall Road No**	**3.36**	**6**			P	**Pn**	**19 08 33.3**	**+1.2**
NEZ	**North Egmont**	**3.38**	**9**			P	**Pn**	**19 08 37.5**	**-2.2**
PNHZ	**Paikenui**	**3.42**	**39**			P	**Pn**	**19 08 32.9**	**-0.1**
PKE	**Pukeiti**	**3.44**	**8**			P	**Pn**	**19 08 35.1**	**+1.9**
DREZ	**Durham Road**	**3.47**	**10**			P	**Pn**	**19 08 35.4**	**+1.8**
MTVZ	**Mangateitei**	**3.58**	**27**			P	**Pn**	**19 08 39.1**	**+3.9**
MHEZ	**Mangahewa**	**3.60**	**12**			P	**Pn**	**19 08 39.1**	**+3.7**
PKVZ	**Pokaka**	**3.

OGWZ	**Otaki Gorge**	**1.16**	**41**	P	Pb	19 09 36.7	-0.2
TRWZ	**Traveller**	**1.19**	**76**	P	Pb	19 09 35.6	-1.6
HOWZ	**Holdsworth Sta**	**1.30**	**53**	P	Pn	19 09 37.8	-1.1
TMWZ	**Te Maipa**	**1.43**	**66**	P	Pn	19 09 39.2	-1.6
MRZ	**Mangatainoka R**	**1.49**	**47**	P	Pn	19 09 40.6	-0.9
QRZ	**Quartz Range**	**1.50**	**305**	P	Pb	19 09 42.7	0.0
GVZ	**Greta Valley S**	**1.52**	**213**	P	Pb	19 09 42.6	-0.4
TIWZ	**Tintock**	**1.59**	**55**	P	Pn	19 09 42.2	-0.8
OHWZ	**Ohakea**	**1.73**	**31**	P	Pb	19 09 45.8	-0.7
CPWZ	**Castlepoint**	**1.73**	**64**	P	Pg	19 09 50.1	+2.3
LTZ	**Lake Taylor**	**1.77**	**232**	P	Pn	19 09 44.2	-1.3
PRWZ	**Pori Road**	**1.78**	**51**	P	Pn	19 09 44.9	-0.6
POWZ	**Post Office Ro**	**1.78**	**44**	P	Pn	19 09 45.0	-0.6
BFZ	**Birch Farm**	**1.87**	**58**	P	Pg	19 09 50.8	+0.2
DVHZ	**Dannevirke**	**2.06**	**48**	P	Pb	19 09 53.0	+0.7
TSZ	**Takapari Road**	**2.13**	**40**	P	Pn	19 09 49.4	-1.0
INZ	**Inchbonnie**	**2.26**	**242**	P	Pn	19 09 53.7	+1.6
WPHZ	**Waipukurau**	**2.38**	**47**	P	Pg	19 10 00.2	0.0
BHHZ	**Black Hill Sta**	**2.64**	**34**	P	Pb	19 10 02.4	+0.3
TUVZ	**Tukino**	**2.68**	**26**	P	Pb	19 10 02.5	-0.3
WVZ	**Waitaha Valley**	**2.88**	**240**	P	Pb	19 10 04.6	-1.6
WHTZ	**Whakaora**	**3.33**	**25**	P	Pn	19 10 06.7	-0.2

WEL ***13*** *19:09:00,41.70S×174.15E,h17km,ML5.0,Mw4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr2.88; Mθθ1.82; Mϕϕ-4.70; Mrθ-2.12; Mθϕ-2.56; Mϕr3.01; Fault plane solution: M0 6.07000×10¹⁵ NP1: ϕs234.00000°,δ46.00000°,λ152.00000°. NP2: ϕs345.00000°,δ70.00000°,λ48.00000°. Principal axes: T 599.3000, Plg47.0000°, Azm211.0000°; N 16.3900, Plg39.0000°, Azm2.0000°; P -615.6900, Plg14.0000°, Azm104.0000°;*

NEIC ***13*** *19:09:24.2±1.6,41.96S±0.02×174.50E±0.02,h10km±1km, mb4.6/13 Error ellipse: s-maj=4.1km s-min=3.0km az=25.0*

IDC ***13*** *19:09:26.4±0.8,41.71S×174.06E,h0km,mb4.3/11, mbtmp4.3/12,ML4.3/1,MS3.9/1,Error ellipse: s-maj=25.3km s-min=16.5km az=80.0*

WEL ***13*** *19:09:30.0±0.4,42°S±3°×17°4E±°,h6km±3km,M4.9/6, ML5.3/18,MLv4.9/6,Error ellipse: s-maj=0.0km s-min=0.0km az=168.0*

ISC 13 19:09:27.6±0.9, 41.81S±0.04×174.34E±0.02, h15km±5km, n64,σ1$52/86, mb4.3/16, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**303**	Pg	**Pb**	**19 09 32.1**	**+0.7**
CMWZ	**Cape Campbell**	**0.11**	**303**	P	**Pb**	**19 09 32.2**	**+0.8**
CMWZ				S	**Sb**	**19 09 35.3**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.36**	**285**	Pg	**Pg**	**19 09 34.9**	**0.0**
BSWZ	**Blackbirch Sta**	**0.36**	**285**	P	**Pb**	**19 09 35.9**	**+0.3**
BSWZ				S	**Sb**	**19 09 41.8**	**+0.8**
TUWZ	**Tuamarina**	**0.48**	**322**	Pg	**Pb**	19 09 37.3	-0.3
TUWZ	**Tuamarina**	**0.48**	**322**	P	**Pb**	**19 09 37.6**	**-0.1**
TUWZ				S	**Sg**	**19 09 43.7**	**+0.1**
BHW	**Baring Head**	**0.57**	**45**	P	**Pn**	**19 09 40.0**	**-1.1**
SNZO	**South Karori**	**0.57**	**29**	Pg	**Pg**	**19 09 35.6**	**-3.2**
TCW	**Tory Channel**	**0.60**	**356**	P	**Pb**	**19 09 39.4**	**-0.4**
TCW				S	**Sg**	**19 09 46.6**	**-0.7**
WEL	**Wellington**	**0.62**	**32**	P	**Pn**	**19 09 40.9**	**-0.9**
WEL				S	**Sb**	**19 09 48.8**	**+0.4**
PLWZ	**Palliser**	**0.73**	**71**	P	**Pn**	**19 09 44.0**	**+0.6**
PLWZ				S	**Sn**	**19 09 56.3**	**+2.1**
MSWZ	**Moikau Station**	**0.79**	**60**	P	**Pn**	**19 09 44.8**	**+0.7**
MSWZ				S	**Sn**	**19 09 56.9**	**+1.3**
KHZ	**Kahutara**	**0.85**	**224**	Pg	**Pg**	**19 09 40.3**	**-3.8**
CAW	**Cannon Point**	**0.89**	**38**	P	**Pn**	**19 09 45.3**	**-0.2**
CAW				S	**Sb**	**19 09 56.9**	**+0.6**
PAWZ	**Paruwai Farm**	**0.92**	**63**	P	**Pn**	**19 09 46.6**	**+0.6**
PAWZ				S	**Sn**	**19 09 59.4**	**+0.4**
NNZ	**Nelson**	**0.93**	**309**		**Pb**	**19 09 45.1**	**-0.3**
NNZ	**Nelson**	**0.93**	**309**	P	**Pg**	**19 09 45.4**	**-0.1**
NNZ				S	**Sg**	**19 09 57.7**	**-0.1**
KIW	**Kapiti Island**	**1.04**	**25**	P	**Pn**	**19 09 47.5**	**-0.1**
KIW				S	**Sg**	**19 10 01.2**	**-0.1**
DUWZ	**D'Urville Isla**	**1.05**	**343**	P	**Pb**	**19 09 46.3**	**-1.2**
DUWZ				S	**Sb**	**19 10 00.3**	**-0.8**
THZ	**Tophouse**	**1.07**	**272**		**Pb**	**19 09 46.5**	**-1.4**
THZ	**Tophouse**	**1.07**	**272**	P	**Pn**	**19 09 50.2**	**+2.2**
THZ				S	**Sn**	**19 10 05.4**	**+2.7**
MTW	**Mount Morrison**	**1.09**	**54**	P	**Pg**	**19 09 48.1**	**-0.5**
MTW				S	**Sn**	**19 10 05.7**	**+2.7**
OGWZ	**Otaki Gorge**	**1.17**	**33**	P	**Pg**	**19 09 50.3**	**+0.1**
OGWZ				S	**Sb**	**19 10 04.3**	**-0.2**
MRNZ	**Matariki Terra**	**1.25**	**289**	P	**Pb**	**19 09 51.1**	**+0.2**
MRNZ				S	**Sg**	**19 10 09.5**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.27**	**45**	P	**Pg**	**19 09 51.3**	**-0.7**
HOWZ				S	**Sg**	**19 10 09.0**	**+0.4**
TKNZ	**Takaka Hill**	**1.29**	**306**	P	**Pg**	**19 09 52.3**	**-0.2**
TKNZ				S	**Sg**	**19 10 09.4**	**+0.1**
MRZ	**Mangatainoka R**	**1.48**	**40**		**Pn**	**19 09 52.0**	**-1.7**
MRZ	**Mangatainoka R**	**1.48**	**40**	P	**Pb**	**19 09 54.4**	**-0.3**
QRZ	**Quartz Range**	**1.68**	**305**	Pn	**Pn**	**19 09 56.5**	**+0.1**
QRZ	**Quartz Range**	**1.68**	**305**	P	**Pb**	**19 09 58.4**	**+0.2**
QRZ				S	**Sg**	**19 10 20.7**	**-0.9**
OHWZ	**Ohakea**	**1.76**	**25**	P	**Pb**	**19 09 60.0**	**+0.4**
LTZ	**Lake Taylor**	**1.81**	**237**	Pn	**Pn**	**19 09 56.7**	**-1.6**
DSZ	**Denniston Nort**	**1.90**	**271**	Pn	**Pn**	**19 09 59.2**	**-0.2**
RPZ	**Rata Peaks**	**3.08**	**231**	Pn	**Pn**	**19 10 16.4**	**+0.8**
	37nm,0.3s,baz=51,slow=6.5,SNR=1.4						
RPZ				Sn	**Sn**	**19 10 51.8**	**-0.3**
	98nm,0.3s,baz=62,slow=0.8,SNR=5.8						
RPZ				LR	LR	19 11 46.2	
	comp=Z,2μm,18.1s,baz=50,slow=47 121nm,0.4s						
DZM	**Mont Dzumac**	**20.77**	**339**	P	**P**	**19 14 09.1**	**+1.1**
	8.3nm,1.1s,baz=130,slow=19,SNR=1.9 8.3nm,1.1s						
MSVF	**Nonsavu**	**24.20**	**9**	P	**P**	**19 14 45.8**	**+2.1**
	13nm,0.8s,baz=189,slow=16,SNR=6.2 13nm,0.8s						
MSVF	**Nonsavu**	**24.20**	**9**	P	**P**	**19 14 41.6**	**-2.0**
MSVF				IAmb	IAmb	19 14 50.4	
	comp=Z,22nm,1.0s						
BBOO	**Buckleboo**	**31.53**	**274**	P	**P**	**19 15 46.8**	**-2.2**
VNDA	**Vanda**	**36.19**	**185**	P	**P**	**19 16 31.1**	**+2.1**
	comp=Z,1.4nm,1.0s,baz=356,slow=8.2,SNR=6.0 comp=Z,1.4nm,1.0s						
AS31	**Alice Springs**	**38.11**	**286**	P	**P**	**19 16 43.5**	**-2.4**
ASAR	**Alice Springs**	**38.11**	**286**	P	**P**	**19 16 45.1**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=120,slow=6.3,SNR=20						
ASAR				PcP	**PcP**	**19 18 59.4**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=132,slow=4.4,SNR=2.4 comp=Z,2.4nm,0.6s						
ASAR	**Alice Springs**	**38.11**	**286**	P	**P**	**19 16 43.5**	**-2.4**
FORT	**Forrest**	**38.48**	**271**	P	**P**	**19 16 46.9**	**-2.0**
FORT				IAmb	IAmb	19 17 10.7	
	comp=Z,16nm,0.9s						
COEN	**Coen**	**38.72**	**307**	P	**P**	**19 16 50.1**	**-1.0**
COEN				IAmb	IAmb	19 17 15.2	
	comp=Z,7.9nm,1.1s						
WR0	**Warramunga Arr**	**40.03**	**291**	P	**P**	**19 16 59.4**	**-2.6**
PMG	**Port Moresby**	**40.18**	**316**	P	**P**	**19 17 02.9**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=139,slow=11,SNR=2.0 comp=Z,1.9nm,0.3s						
WB2	**Warramunga Arr**	**40.18**	**290**	P	**P**	**19 17 00.1**	**-3.1**
WB2				IAmb	IAmb	19 17 04.4	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**40.19**	**290**	P	**P**	**19 17 02.9**	**-0.5**
	comp=Z,5.3nm,0.7s,baz=126,slow=8.4,SNR=21						
WRA				PcP	**PcP**	**19 19 05.7**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=121,slow=3.7,SNR=3.3 comp=Z,5.3nm,0.7s						
WRA	**Warramunga Arr**	**40.19**	**290**	P	**P**	**19 17 01.2**	**-2.1**
WB0	**Warramunga Arr**	**40.26**	**291**	P	**P**	**19 17 00.6**	**-3.4**
WB0				IAmb	IAmb	19 17 04.0	
	comp=Z,4.8nm,0.7s						
QSPA	**South Pole Qui**	**48.32**	**180**	P	**P**	**19 18 10.2**	**+2.1**
	comp=Z,8.3nm,0.9s,baz=27,slow=3.3,SNR=11 comp=Z,8.3nm,0.9s						
MORW	**Morawa**	**48.32**	**266**	P	**P**	**19 18 07.0**	**-1.4**
PSA00	**Pilbara Seismi**	**49.69**	**276**	P	**P**	**19 18 16.7**	**-2.2**
PSA00				IAmb	IAmb	19 18 18.5	
	comp=Z,9.2nm,0.8s						
MBWA	**Marble Bar**	**50.02**	**277**	P	**P**	**19 18 18.9**	**-2.6**
SOEI	**Soe**	**54.21**	**291**	P	**P**	**19 18 51.2**	**-1.6**
SOEI				IAmb	IAmb	19 19 20.3	
	comp=Z,14nm,0.9s						
MAW	**Mawson**	**59.43**	**204**	P	**P**	**19 19 31.9**	**+2.9**
	comp=Z,2.1nm,0.8s,baz=124,slow=12,SNR=2.3						
	comp=Z,2.1nm,0.8s						
PLCA	**Paso Flores**	**79.01**	**135**	P	**P**	**19 21 34.1**	**+3.2**
	comp=Z,1.8nm,0.8s,baz=301,slow=7.5,SNR=3.6 comp=Z,1.8nm,0.8s						
KSRS	**Korea Array**	**89.54**	**325**	P	**P**	**19 22 25.3**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=129,slow=5.9,SNR=4.4 comp=Z,1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.72**	**293**	P	**P**	**19 22 35.4**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=150,slow=3.7,SNR=17 comp=Z,2.7nm,0.8s						
KBZ	**Khabaz**	**144.70**	**290**	PKP	**PKPab**	**19 29 01.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=149,slow=1.7,SNR=5.5						
DBIC	**Dimbokro**	**145.00**	**181**	PKPbc	**PKPdf**	**19 29 05.4**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=159,slow=2.9,SNR=8.6						
ARCES	**ARCESS Array B**	**147.85**	**340**	PKPbc	**PKPbc**	**19 29 10.0**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=56,slow=1.9,SNR=9.5						
BRTR	**Keskin Array B**	**150.34**	**279**	PKPbc	**PKPbc**	**19 29 17.8**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=138,slow=5.2,SNR=8.5						
FINES	**FINESS Array B**	**152.62**	**327**	PKPbc	**PKPbc**	**19 29 21.6**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=37,slow=2.4,SNR=9.0						

WEL 13 19:11:27.1±0.4, 42°S±2°×17°4E±°, h8km±2km, M4.2/9, ML4.3/9, MLv4.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=99.7, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.18**	**213**	P	Pg	19 11 32.1	+1.2
KHZ				S	Sg	19 11 36.3	+2.8
BSWZ	**Blackbirch Sta**	**0.57**	**16**	S	Sg	19 11 46.0	+0.5
THZ	**Tophouse**	**0.76**	**311**	P	Pg	19 11 42.0	+0.3
THZ				S	Sg	19 11 51.8	+0.2
GVZ	**Greta Valley S**	**0.85**	**214**	P	Pn	19 11 45.4	0.0
GVZ				S	Sn	19 11 58.8	+0.8
TUWZ	**Tuamarina**	**0.85**	**14**	P	Pg	19 11 43.4	-0.1
TUWZ				S	Sb	19 11 55.8	+0.1
MRNZ	**Matariki Terra**	**1.10**	**321**	P	Pn	19 11 48.6	-0.2
MRNZ				S	Sb	19 12 03.2	+0.4
AMCZ	**Amberley**	**1.19**	**219**	P	Pb	19 11 48.4	-1.4
WEL	**Wellington**	**1.27**	**40**	P	Pn	19 11 50.3	-0.8
WEL				S	Sb	19 12 07.7	-0.2
TKNZ	**Takaka Hill**	**1.34**	**336**	P	Pn	19 11 52.1	0.0
TKNZ				S	Sg	19 12 10.6	+0.5
OKCZ	**Okains Bay**	**1.53**	**197**	P	Pn	19 11 54.4	-0.3
MQZ	**McQueen's Vall**	**1.63**	**207**	P	Pn	19 11 54.9	-1.1
MQZ				S	Sn	19 12 15.7	-1.4
QRZ	**Quartz Range**	**1.67**	**329**	P	Pb	19 11 57.9	-0.2
QRZ				S	Sb	19 12 19.9	+0.6
RACZ	**Rakaia**	**1.85**	**217**	P	Pn	19 11 58.2	-0.8
RACZ				S	Sn	19 12 21.2	-1.4

IDC ***13*** *19:12:34.6±3.2,41.91S×174.54E,h0km,mb3.9/3, mbtmp3.9/4,ML3.9/1,Error ellipse: s-maj=79.7km s-min=51.2km az=139.0*

WEL ***13*** *19:12:40.5±0.3,42°S±2°×17°4E±°,h7km±2km,M4.2/19, ML4.5/19,MLv4.2/19,Error ellipse: s-maj=0.0km s-min=0.0km az=168.3*

ISC 13 19:12:40.1±0.8, 41.77S±0.04×174.21E±0.02, h13km±5km, n43,σ1$06/58, mb3.7/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.02**	**14**	P	**Pg**	**19 12 42.1**	**-0.4**
CMWZ				S	**Sg**	**19 12 44.1**	**0.0**
BSWZ	**Blackbirch Sta**	**0.25**	**281**	P	**Pg**	**19 12 45.7**	**+0.2**
BSWZ				S	**Sg**	**19 12 50.3**	**+1.2**
TUWZ	**Tuamarina**	**0.39**	**329**	P	**Pg**	**19 12 48.0**	**+0.1**
TUWZ				S	**Sb**	**19 12 53.8**	**-0.9**
TCW	**Tory Channel**	**0.56**	**5**	P	**Pg**	**19 12 50.7**	**-0.2**
TCW				S	**Sb**	**19 12 58.8**	**-0.7**
BHW	**Baring Head**	**0.61**	**55**	P	**Pg**	**19 12 52.3**	**+0.3**
WEL	**Wellington**	**0.64**	**41**	P	**Pg**	**19 12 52.7**	**+0.2**
WEL				S	**Sb**	**19 13 02.1**	**+0.3**
PLWZ	**Palliser**	**0.81**	**76**	P	**Pb**	**19 12 56.8**	**+0.8**
PLWZ				S	**Sn**	**19 13 09.7**	**+0.7**
NNZ	**Nelson**	**0.83**	**311**	P	**Pg**	**19 12 55.8**	**-0.3**
NNZ				S	**Sb**	**19 13 07.5**	**+0.2**
MSWZ	**Moikau Station**	**0.86**	**66**	P	**Pb**	**19 12 57.4**	**+0.6**
CAW	**Cannon Point**	**0.92**	**45**	P	**Pg**	**19 12 57.6**	**-0.3**
CAW				S	**Sb**	**19 13 10.6**	**+0.6**
THZ	**Tophouse**	**0.97**	**270**	P	**Pg**	**19 12 59.4**	**+0.5**
THZ				S	**Sb**	**19 13 12.6**	**+1.0**
DUWZ	**D'Urville Isla**	**0.99**	**347**	P	**Pg**	**19 12 57.9**	**-1.2**
PAWZ	**Paruwai Farm**	**0.99**	**68**	P	**Pg**	**19 12 59.5**	**+0.3**
PAWZ				S	**Sn**	**19 13 14.5**	**+0.9**
KIW	**Kapiti Island**	**1.05**	**31**	P	**Pg**	**19 12 59.7**	**-0.6**
KIW				S	**Sb**	**19 13 14.1**	**+0.5**
MTW	**Mount Morrison**	**1.15**	**58**	P	**Pg**	**19 13 01.3**	**-0.8**
MTW				S	**Sg**	**19 13 16.8**	**-0.3**
MRNZ	**Matariki Terra**	**1.15**	**288**	P	**Pb**	**19 13 02.4**	**+0.7**
MRNZ				S	**Sn**	**19 13 18.9**	**+1.5**
TRWZ	**Traveller**	**1.17**	**72**	P	**Pg**	**19 13 01.2**	**-1.3**
TKNZ	**Takaka Hill**	**1.19**	**308**	P	**Pg**	**19 13 02.9**	**-0.1**
OGWZ	**Otaki Gorge**	**1.19**	**38**	P	**Pg**	**19 13 02.5**	**-0.5**
OGWZ				S	**Sg**	**19 13 18.0**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.31**	**49**	P	**Pn**	**19 13 02.7**	**-1.3**
HOWZ				S	**Sg**	**19 13 22.1**	**-0.3**
TMWZ	**Te Maipa**	**1.43**	**63**	P	**Pn**	**19 13 04.5**	**-1.1**
MRZ	**Mangatainoka R**	**1.51**	**44**	P	**Pn**	**19 13 06.6**	**-0.2**
QRZ	**Quartz Range**	**1.58**	**306**	P	**Pb**	**19 13 09.2**	**+0.1**
CPWZ	**Castlepoint**	**1.73**	**61**	P	**Pg**	**19 13 15.5**	**+2.3**
PRWZ	**Pori Road**	**1.80**	**48**	P	**Pg**	**19 13 14.1**	**-0.4**
BFZ	**Birch Farm**	**1.88**	**56**	P	**Pg**	**19 13 16.3**	**+0.1**
DVHZ	**Dannevirke**	**2.08**	**46**	P	**Pg**	**19 13 19.7**	**-0.3**
PRHZ	**Porangahau**	**2.37**	**52**	P	**Pg**	**19 13 25.3**	**-0.1**
MOVZ	**Moawhango**	**2.63**	**27**	P	**Pb**	**19 13 27.5**	**+0.4**
PXZ	**Pawanui**	**2.66**	**50**	P	**Pb**	**19 13 29.8**	**-1.2**
BHHZ	**Black Hill Sta**	**2.68**	**32**	P	**Pb**	**19 13 29.3**	**+1.4**
FWVZ	**Far West T-bar**	**2.71**	**23**	P	**Pb**	**19 13 30.1**	**+1.6**
SNVZ	**South Ngauruho**	**2.80**	**23**	P	**Pb**	**19 13 30.9**	**+1.0**
ETVZ	**East Tongariro**	**2.87**	**24**	P	**Pb**	**19 13 32.6**	**+1.5**
KRVZ	**Karewarewa**	**2.88**	**23**	P	**Pb**	**19 13 32.7**	**+1.3**
WVZ	**Waitaha Valley**	**2.88**	**242**	P	**Pn**	**19 13 25.9**	**+0.3**
RPZ	**Rata Peaks**	**3.03**	**229**	Pn	**Pn**	**19 13 25.0**	**-2.7**
	15nm,0.3s,baz=7.2,slow=18,SNR=1.7						
RPZ				Sn	Sn	19 13 56.7	-7.2
	41nm,0.3s,baz=187,slow=23,SNR=9.7 134nm,0.5s						
RPZ	**Rata Peaks**	**3.03**	**229**	P	**Pn**	**19 13 26.2**	**-1.5**
CTZ	**Chatham Island**	**7.03**	**109**	P	**Pn**	**19 14 21.8**	**-0.9**
ASAR	**Alice Springs**	**39.00**	**286**	P	**P**	**19 19 56.5**	**-1.4**
	0.8nm,0.7s,baz=131,slow=8.0,SNR=4.5 0.8nm,0.7s						
WRA	**Warramunga Arr**	**40.08**	**291**	P	**P**	**19 20 13.6**	**-1.6**
	0.8nm,0.5s,baz=125,slow=8.3,SNR=4.4 0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.62**	**293**	P	**P**	**19 25 46.4**	**-0.5**
	0.6nm,0.8s,baz=165,slow=2.7,SNR=5.2 0.6nm,0.8s						
FINES	**FINESS Array B**	**152.53**	**327**	PKPbc	**PKPdf**	**19 32 31.3**	**+3.3**
	1.4nm,0.8s,baz=41,slow=4.4,SNR=2.1						

WEL 13 19:15:02.9±0.6, 42°S±5°×17°4E±°, h9km±4km, M4.0/17, ML4.3/17, MLv4.0/17, Error ellipse: s-maj=0.0km s-min=0.0km az=174.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.21**	**324**	P	Pg	19 15 08.2	+1.0
BSWZ				S	Sg	19 15 11.7	+1.7
TUWZ	**Tuamarina**	**0.46**	**351**	P	Pb	19 15 12.6	-0.6
TUWZ				S	Sb	19 15 19.2	-0.9
TCW	**Tory Channel**	**0.70**	**15**	P	Pg	19 15 16.5	+0.2
TCW				S	Sg	19 15 25.5	+0.1
WEL	**Wellington**	**0.81**	**43**	P	Pb	19 15 19.3	+0.1
WEL				S	Sn	19 15 31.9	-0.8
NNZ	**Nelson**	**0.83**	**323**	P	Pb	19 15 19.2	-0.3
NNZ				S	Sg	19 15 29.8	+0.2
THZ	**Tophouse**	**0.85**	**278**	P	Pg	19 15 18.1	-1.3
THZ				S	Sb	19 15 32.0	+0.4
PLWZ	**Palliser**	**0.96**	**71**	P	Pb	19 15 21.7	-0.1
PLWZ				S	Sn	19 15 35.7	-0.8
MSWZ	**Moikau Station**	**1.02**	**63**	P	Pg	19 15 22.5	0.0
MSWZ				S	Sn	19 15 37.4	-0.5
MRNZ	**Matariki Terra**	**1.07**	**296**	P	Pn	19 15 24.6	+0.4
MRNZ				S	Sb	19 15 38.2	+0.4
DUWZ	**D'Urville Isla**	**1.08**	**355**	P	Pg	19 15 23.4	-0.3
DUWZ				S	Sg	19 15 37.5	-0.3
CAW	**Cannon Point**	**1.09**	**45**	P	Pb	19 15 24.0	0.0
CAW				S	Sb	19 15 39.0	+0.6
PAWZ	**Paruwai Farm**	**1.16**	**65**	P	Pb	19 15 24.1	-1.0
PAWZ				S	Sb	19 15 40.2	0.0
TKNZ	**Takaka Hill**	**1.17**	**316**	P	Pg	19 15 25.4	0.0
TKNZ				S	Sn	19 15 41.5	-0.1
KIW	**Kapiti Island**	**1.21**	**33**	P	Pb	19 15 25.8	-0.2
KIW				S	Sg	19 15 42.3	+0.3
MTW	**Mount Morrison**	**1.32**	**57**	P	Pn	19 15 26.3	-1.2
MTW				S	Sb	19 15 43.6	-1.2
TRWZ	**Traveller**	**1.33**	**69**	P	Pn	19 15 26.2	-1.5
TRWZ				S	Sb	19 15 43.8	-1.3
OGWZ	**Otaki Gorge**	**1.36**	**39**	P	Pn	19 15 27.7	-0.4
HOWZ	**Holdsworth Sta**	**1.48**	**49**	P	Pn	19 15 28.7	-1.1
QRZ	**Quartz Range**	**1.55**	**312**	P	Pb	19 15 32.1	+0.3
TMWZ	**Te Maipa**	**1.59**	**61**	P	Pn	19 15 29.7	-1.6
MRZ	**Mangatainoka R**	**1.69**	**44**	P	Pn	19 15 31.7	-0.9
TIWZ	**Tintock**	**1.78**	**52**	P	Pn	19 15 32.6	-1.3
OHWZ	**Ohakea**	**1.94**	**30**	P	Pn	19 15 36.9	+1.0
PRWZ	**Pori Road**	**1.97**	**48**	P	Pn	19 15 35.1	-1.4
POWZ	**Post Office Ro**	**1.98**	**42**	P	Pn	19 15 35.7	-0.9
BFZ	**Birch Farm**	**2.05**	**55**	P	Pn	19 15 35.6	-2.0
DVHZ	**Dannevirke**	**2.26**	**46**	P	Pn	19 15 38.6	-1.8
TSZ	**Takapari Road**	**2.33**	**39**	P	Pn	19 15 40.4	-1.0
PRHZ	**Porangahau**	**2.54**	**51**	P	Pn	19 15 42.3	-2.0
PNHZ	**Pukenui**	**2.56**	**40**	P	Pn	19 15 43.2	-1.4

ROM 13 19:15:16.9±0.0, 42.924N±0.002×13.022E±0.004, h11km, ML1.5/8, Error ellipse: s-maj=0.3km s-min=0.2km az=242.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1216	**Preci, Frazion**	**0.03**	**184**	P	Pg	19 15 19.4	+0.4
T1216				S	Sg	19 15 20.8	+0.3
T1216				AML	AML		
	comp=N,1473μm,0.1s						
T1216				AML	AML		
	comp=E,1403μm,0.1s						
FEMA	**Monte Fema**	**0.04**	**28**	P	Pg	19 15 19.6	+0.4
FEMA				S	Sg	19 15 21.3	+0.4
NRCA	**Norcia**	**0.11**	**143**	P	Pg	19 15 20.3	+0.4
NRCA				S	Sg	19 15 22.4	+0.4
CESI	**CESI - Serrava**	**0.12**	**313**	P	Pg	19 15 20.5	+0.5
CESI				S	Sg	19 15 22.8	+0.6
FDMO	**Fiordimonte**	**0.12**	**23**	P	Pg	19 15 20.4	+0.4
FDMO				S	Sg	19 15 22.8	+0.6
FDMO				AML	AML		
	comp=N,696μm,0.2s						
FDMO				AML	AML		
	comp=E,620μm,0.3s						
T1219	**Muccia, Frazio**	**0.13**	**355**	P	Pg	19 15 20.6	+0.4
T1219				S	Sg	19 15 23.0	+0.5
T1219				AML	AML		
	comp=N,128μm,0.2s						
T1219				AML	AML		
	comp=E,134μm,0.1s						
T1219				AML	AML		
	comp=N,123μm,0.2s						
T1219				AML	AML		
	comp=E,264μm,0.2s						
T1245	**Castelsantange**	**0.14**	**119**	P	Pg	19 15 20.8	+0.4
T1245				S	Sg	19 15 23.4	+0.7
T1245				AML	AML		
	comp=E,932μm,1.6s						
T1245				AML	AML		
	comp=N,1250μm,0.2s						
T1245				AML	AML		
	comp=E,1445μm,0.8s						
T1245				AML	AML		
	comp=N,1295μm,0.2s						
T1215	**Vallo di Nera,**	**0.17**	**223**	P	Pg	19 15 21.1	+0.5
T1215				S	Sg	19 15 23.9	+0.7
T1215				AML	AML		
	comp=E,205μm,0.5s						
T1215				AML	AML		
	comp=N,220μm,0.2s						
T1215				AML	AML		
	comp=N,192μm,0.1s						
T1215				AML	AML		
	comp=E,170μm,0.1s						
T1256	**Bolognola (MC)**	**0.17

CAW				S	Sg	19 16 20.3	+1.0		
THZ	**Tophouse**	**1.05**	**272**	P	**Pn**	**19 16 10.6**	**+0.5**		
THZ				S	**Sn**	**19 16 27.8**	**+3.2**		
MTW	**Mount Morrison**	**1.10**	**55**	P	Pg	19 16 09.8	-1.6		
TKNZ	**Takaka Hill**	**1.27**	**307**	P	**Pn**	**19 16 13.6**	**+0.4**		
TKNZ				S	**Sn**	**19 16 32.0**	**+2.0**		
HOWZ	**Holdsworth Sta**	**1.28**	**46**	P	**Pn**	**19 16 12.7**	**-0.6**		
RPZ	**Rata Peaks**	**3.06**	**230**	Pn	**Pn**	**19 16 37.1**	**-0.7**		
	13nm,0.3s,baz=58,slow=14,SNR=1.9								
RPZ				Sn	**Sn**	**19 17 13.1**	**-1.1**		
	baz=344,slow=20								
	54nm,0.5s								
ASAR	**Alice Springs**	**38.09**	**286**	P	**P**	**19 23 07.7**	**-0.5**		
	0.3nm,0.6s,baz=116,slow=6.3,SNR=6.4								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**40.16**	**290**	P	**P**	**19 23 23.6**	**-1.9**		
	0.4nm,0.6s,baz=127,slow=8.3,SNR=2.1								
	0.4nm,0.6s								
FINES	**FINESS Array B**	**152.60**	**327**	PKPbc	**PKiKP**	**19 35 47.2**	**+2.4**		
	2.1nm,0.9s,baz=46,slow=4.0,SNR=2.6								

STR 13 19:17:30.0±1.4, 44°N±9°×±°, h5km, MLv0.0/1, Error ellipse: s-maj=0.0km s-min=0.0km az=37.6, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAUF	**Jausiers**	**0.05**	**106**	Pg	Pg	19 17 31.5	0.0
JAUF				Sg	Sg	19 17 32.6	0.0
SURF	**Saint Ours**	**0.10**	**69**	Pg	Pg	19 17 32.3	0.0
SURF				Sg	Sg	19 17 33.8	0.0
CREF	**Crivoux**	**0.11**	**339**	Pg	Pg	19 17 32.7	+0.3
CREF				Sg	Sg	19 17 33.9	-0.2

STR 13 19:17:47.9±1.5, 44°N±9°×±°, h6km, MLv0.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=35.1, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAUF	**Jausiers**	**0.05**	**100**	Pg	Pg	19 17 49.6	+0.1
JAUF				Sg	Sg	19 17 50.7	+0.1
SURF	**Saint Ours**	**0.10**	**64**	Pg	Pg	19 17 50.2	-0.1
SURF				Sg	Sg	19 17 51.8	-0.1
CREF	**Crivoux**	**0.12**	**338**	Pg	Pg	19 17 50.6	0.0
CREF				Sg	Sg	19 17 52.4	0.0

WEL 13 19:25:07.7±0.3, 42°S±3°×17°4E±°, h12km, M4.1/31, ML4.2/31, MLv4.1/31, Error ellipse: s-maj=0.0km s-min=0.0km az=127.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**252**	P	Pb	19 25 14.5	-0.4
KHZ				S	Sb	19 25 19.0	-0.7
BSWZ	**Blackbirch Sta**	**0.61**	**357**	P	Pg	19 25 19.6	0.0
BSWZ				S	Sb	19 25 28.4	-0.5
CMWZ	**Cape Campbell**	**0.62**	**21**	P	Pg	19 25 19.9	+0.1
TUWZ	**Tuamarina**	**0.90**	**1**	P	Pb	19 25 25.1	-0.1
TUWZ				S	Sb	19 25 38.0	+0.9
GVZ	**Greta Valley S**	**0.91**	**225**	P	Pn	19 25 27.1	+0.8
GVZ				S	Sb	19 25 38.4	+0.9
THZ	**Tophouse**	**0.94**	**307**	P	Pg	19 25 24.8	-1.0
THZ				S	Sg	19 25 35.8	-2.3
TCW	**Tory Channel**	**1.15**	**14**	P	Pb	19 25 29.3	-0.2
NNZ	**Nelson**	**1.18**	**340**	P	Pb	19 25 29.4	-0.6
WEL	**Wellington**	**1.22**	**32**	P	Pb	19 25 30.8	+0.1
PLWZ	**Palliser**	**1.25**	**53**	P	Pb	19 25 31.3	0.0
AMCZ	**Amberley**	**1.26**	**227**	P	Pn	19 25 29.6	-1.5
MRNZ	**Matariki Terra**	**1.27**	**317**	P	Pn	19 25 31.1	-0.1
LTZ	**Lake Taylor**	**1.30**	**249**	P	Pb	19 25 31.9	-0.1
LTZ				S	Sb	19 25 48.2	-0.4
MSWZ	**Moikau Station**	**1.35**	**48**	P	Pn	19 25 32.4	0.0
PAWZ	**Paruwai Farm**	**1.47**	**51**	P	Pn	19 25 33.8	-0.3
TKNZ	**Takaka Hill**	**1.48**	**331**	P	Pn	19 25 34.3	+0.2
TKNZ				S	Sb	19 25 53.9	0.0
CAW	**Cannon Point**	**1.49**	**36**	P	Pn	19 25 34.3	0.0
CAW				S	Sn	19 25 53.7	0.0
DUWZ	**D'Urville Isla**	**1.52**	**0**	P	Pn	19 25 34.7	-0.1
DUWZ				S	Sb	19 25 55.3	0.0
OKCZ	**Okains Bay**	**1.53**	**204**	P	Pn	19 25 35.3	-0.5
TRWZ	**Traveller**	**1.62**	**56**	P	Pn	19 25 35.7	-0.3
KIW	**Kapiti Island**	**1.65**	**27**	P	Pn	19 25 36.7	+0.3
MQZ	**McQueen's Vall**	**1.66**	**213**	P	Pn	19 25 36.2	-0.4
MTW	**Mount Morrison**	**1.67**	**46**	P	Pn	19 25 36.4	-0.3
DSZ	**Denniston Nort**	**1.68**	**290**	P	Pb	19 25 37.8	-0.7
OXZ	**Oxford**	**1.70**	**233**	P	Pn	19 25 36.7	-0.5
AKCZ	**Akaroa Harbour**	**1.71**	**205**	P	Pn	19 25 37.6	+0.3
OGWZ	**Otaki Gorge**	**1.78**	**32**	P	Pn	19 25 38.2	-0.1
QRZ	**Quartz Range**	**1.82**	**325**	P	Pn	19 25 39.6	+0.7
HOWZ	**Holdsworth Sta**	**1.87**	**41**	P	Pn	19 25 39.3	-0.2
INZ	**Inchbonnie**	**1.87**	**257**	P	Pn	19 25 39.7	+0.2
RACZ	**Rakaia**	**1.91**	**222**	P	Pn	19 25 39.6	-0.4
TMWZ	**Te Maipa**	**1.92**	**51**	P	Pn	19 25 39.6	-0.6
MRZ	**Mangatainoka R**	**2.08**	**37**	P	Pn	19 25 42.0	-0.4
TIWZ	**Tintock**	**2.14**	**44**	P	Pn	19 25 43.2	-0.1
WACZ	**Wakanui South**	**2.22**	**223**	P	Pn	19 25 44.1	-0.2
PRWZ	**Pori Road**	**2.35**	**42**	P	Pn	19 25 45.5	-0.6
POWZ	**Post Office Ro**	**2.38**	**36**	P	Pn	19 25 46.2	-0.4
BFZ	**Birch Farm**	**2.40**	**48**	P	Pn	19 25 46.1	-0.7
WVZ	**Waitaha Valley**	**2.46**	**251**	P	Pn	19 25 47.9	+0.4
RPZ	**Rata Peaks**	**2.51**	**236**	P	Pn	19 25 46.9	-1.5
TSZ	**Takapari Road**	**2.74**	**35**	P	Pn	19 25 51.0	-0.6
TMZ	**Timaru**	**2.95**	**225**	P	Pn	19 25 54.5	+0.1
NBEZ	**Newall Road No**	**3.06**	**359**	P	Pb	19 26 00.1	-1.9
NEZ	**North Egmont**	**3.06**	**3**	P	Pb	19 25 59.2	-2.9
PKE	**Pukeiti**	**3.13**	**1**	P	Pn	19 25 59.4	+2.5
VRZ	**Vera Road**	**3.26**	**12**	P	Pn	19 26 00.4	+1.7
WHVZ	**Whangaehu Hut**	**3.30**	**23**	P	Pn	19 26 01.6	+2.2
TUVZ	**Tukino**	**3.33**	**24**	P	Pn	19 26 00.8	+1.0
SNVZ	**South Ngauruho**	**3.40**	**23**	P	Pn	19 26 01.6	+0.8
OTVZ	**Oturere**	**3.43**	**23**	P	Pn	19 26 04.6	+3.4
ETVZ	**East Tongariro**	**3.47**	**24**	P	Pn	19 26 03.5	+1.9
TMVZ	**Te Maari**	**3.48**	**24**	P	Pn	19 26 03.9	+2.1
KRVZ	**Karewarewa**	**3.49**	**23**	P	Pn	19 26 04.3	+2.4
NTVZ	**North Tongarir**	**3.49**	**23**	P	Pn	19 26 02.7	+0.7
HIZ	**Hauiti**	**3.88**	**11**	P	Pn	19 26 08.7	+1.5
MRHZ	**Matea Rd**	**3.98**	**29**	P	Pn	19 26 07.1	-1.4
TLZ	**Tolley Road**	**4.18**	**18**	P	Pn	19 26 12.3	+0.9
HHSZ	**Highcliff Hill**	**4.28**	**213**	P	Pn	19 26 12.4	-0.3
TOZ	**Tahuroa Road**	**4.75**	**15**	P	Pn	19 26 19.4	+0.3
AWAZ	**Awhitu Peninsu**	**5.29**	**6**	P	Pn	19 26 27.0	+0.5
MKAZ	**Moumakai**	**5.30**	**11**	P	Pn	19 26 27.0	+0.3
SYZ	**Scrubby Hill**	**5.42**	**217**	P	Pn	19 26 28.7	+0.4
HAZ	**Te Kaha**	**5.45**	**34**	P	Pn	19 26 27.1	-1.5
WIAZ	**Waiheke Island**	**5.61**	**10**	P	Pn	19 26 31.8	+1.0
KUZ	**Kuaotunu**	**5.75**	**15**	P	Pn	19 26 32.5	-0.3
APZ	**The Paps**	**6.18**	**221**	P	Pn	19 26 38.1	-0.6

IDC ***13*** *19:26:39.3±0.8, 42°.59S×172°.90E, h0km, mb4.2/11, mbtmp4.2/11, Error ellipse: s-maj=25.6km s-min=18.2km az=84.0*

ISC 13 19:26:40.8±0.7, 42°.63S±0°.10×172°.8E±0°.1, h10km, n26, σ1§06/26, mb4.2/11, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**1.69**	**229**	Pn	**Pn**	**19 27 10.3**	**-0.1**
	378nm,0.3s,baz=348,slow=2.8,SNR=28						
RPZ				Sn	**Sn**	**19 27 30.7**	**-1.4**
	346nm,0.3s,baz=237,slow=18,SNR=8.0						
DZM	**Mont Dzumac**	**21.18**	**343**	P	**P**	**19 31 26.1**	**-0.3**
	4.1nm,0.8s,baz=273,slow=23,SNR=2.9						
	4.1nm,0.8s						
MSVF	**Nonsavu**	**25.21**	**12**	P	**P**	**19 32 07.0**	**+0.2**
	4.3nm,0.8s,baz=70,slow=18,SNR=1.7						
	4.3nm,0.8s						
STKA	**Stephens Creek**	**26.93**	**283**	P	**P**	**19 32 23.0**	**+0.8**
	2.3nm,0.8s,baz=112,slow=11,SNR=1.8						
	2.3nm,0.8s						
ASAR	**Alice Springs**	**37.26**	**288**	P	**P**	**19 33 53.0**	**+0.2**
	3.2nm,0.9s,baz=126,slow=7.5,SNR=20						
	3.2nm,0.9s						
WRA	**Warramunga Arr**	**39.43**	**293**	P	**P**	**19 34 11.5**	**+0.4**
	2.2nm,0.7s,baz=130,slow=7.6,SNR=16						
	2.2nm,0.7s						
PMG	**Port Moresby**	**40.00**	**318**	P	**P**	**19 34 16.6**	**+0.8**
	6.2nm,0.8s,baz=160,slow=16,SNR=2.8						
	6.2nm,0.8s						

QSPA	**South Pole Qui**	**47.50**	**180**	P	**P**	**19 35 16.9**	**+1.0**		
	9.6nm,0.8s,baz=18,slow=2.2,SNR=28								
	9.6nm,0.8s								
TROLL	**Troll, Antarti**	**65.47**	**183**	P	**P**	**19 37 25.0**	**+1.4**		
SNAA	**Sanae**	**65.97**	**182**	P	**P**	**19 37 27.5**	**+0.7**		
	3.7nm,1.1s,baz=216,slow=10,SNR=5.4								
	3.7nm,1.1s								
VNA3	**Neumayer Olymp**	**66.43**	**179**	P	**P**	**19 37 30.8**	**+1.1**		
MJAR	**Matsushiro Arr**	**84.88**	**333**	P	**P**	**19 39 16.1**	**+0.5**		
	0.9nm,0.8s,baz=149,slow=5.3,SNR=2.6								
	0.9nm,0.8s								
KSRS	**Korea Array**	**89.57**	**326**	P	**P**	**19 39 39.8**	**+1.6**		
	1.0nm,0.7s,baz=195,slow=40,SNR=3.2								
	1.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**91.02**	**294**	P	**P**	**19 39 46.7**	**+1.3**		
	0.8nm,0.6s,baz=159,slow=3.9,SNR=9.3								
	0.8nm,0.6s								
BELG	**Belogornoye**	**142.55**	**305**	PKhKP	PKPpre	19 46 08.6			
	8.9nm,0.9s,baz=338,slow=2.2,SNR=4.1								
KBZ	**Khabaz**	**143.91**	**289**	PKP	PKPbc	19 46 13.3	-0.4		
	1.4nm,0.8s,baz=58,slow=3.9,SNR=2.4								
DBIC	**Dimbokro**	**144.13**	**184**	PKP	**PKPdf**	**19 46 15.4**	**-1.8**		
	1.3nm,0.4s,baz=180,slow=20,SNR=5.5								
MMAI	**Mount Meron Ar**	**145.33**	**268**	PKPbc	**PKPab**	**19 46 19.0**	**+0.1**		
	6.0nm,0.7s,baz=107,slow=4.5,SNR=8.8								
SFJD	**Kangerlussuaq**	**146.21**	**29**	PKPbc	**PKPab**	**19 46 19.8**	**-1.1**		
	10nm,1.0s,baz=196,slow=7.4,SNR=1.5								
ARCES	**ARCESS Array B**	**148.22**	**339**	PKPbc	**PKPbc**	**19 46 24.8**	**-1.0**		
	4.9nm,0.7s,baz=56,slow=2.9,SNR=14								
OBN	**Obninsk**	**149.15**	**309**	PKPbc	**PKPbc**	**19 46 27.6**	**-0.9**		
	2.0nm,0.5s,baz=354,slow=19,SNR=3.0								
BRTR	**Keskin Array B**	**149.34**	**279**	PKPbc	**PKiKP**	**19 46 29.6**	**-1.3**		
	2.4nm,0.6s,baz=144,slow=5.1,SNR=16								
FINES	**FINESS Array B**	**152.66**	**325**	PKPbc	**PKiKP**	**19 46 35.2**	**-1.6**		
	2.3nm,0.6s,baz=90,slow=3.3,SNR=10								
AKASG	**Malin Array Be**	**153.96**	**301**	PKPbc	**PKiKP**	**19 46 39.4**	**-0.5**		
	0.2nm,0.3s,baz=73,slow=2.9,SNR=12								
AKASG				PKPab	**PKPab**	**19 46 53.0**	**-0.2**		
	1.0nm,0.6s,baz=78,slow=3.8,SNR=6.2								
HFS	**Hagfors**	**158.32**	**331**	PKPab	**PKPab**	**19 47 10.2**	**-1.5**		
	3.7nm,0.8s,baz=90,slow=4.4,SNR=3.3								
DAVOX	**Davos/Dischmat**	**167.17**	**295**	PKPab	**PKPab**	**19 47 51.4**	**+0.2**		
	1.5nm,0.7s,baz=94,slow=3.7,SNR=4.0								

NEIC ***13*** *19:28:07.0±2.3, 19°.98S±0°.03×69°.18W±0°.10, h111km±6km, mb4.0/8, ML4.3(GUC), Error ellipse: s-maj=13.4km s-min=4.3km az=98.0*

GUC ***13*** *19:28:08.3±0.8, 19°.94S×69°.13W, h98km±2km, ML4.3*

IDC ***13*** *19:28:09.5±1.0, 20°.02S×68°.65W, h118km±14km, mb3.3/1, mbtmp4.1/6, Error ellipse: s-maj=29.4km s-min=8.9km az=97.0*

ISC 13 19:28:06.3±0.7, 19°.94S±0°.03×69°.17W±0°.05, h103km±6km, n68, σ1§55/89, 12C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.20**	**175**		**Pn**	**19 28 21.9**	**+0.4**
PB08	**IPOC Station P**	**0.20**	**175**	↓*iP*	**Pn**	**19 28 22.4**	**+1.0**
PB08				*i* S	**Sn**	**19 28 33.6**	**+0.9**
PB08				IAML		19 28 34.7	
	comp=N,15μm,0.2s						
GO01	**Chusmiza**	**0.27**	**356**		**Pn**	**19 28 22.7**	**+0.8**
GO01	**Chusmiza**	**0.27**	**356**	↓*iP*	**Pn**	**19 28 22.9**	**+1.0**
GO01				*eS*	**Sn**	**19 28 34.2**	**+0.8**
GO01				IAML		19 28 36.1	
	comp=E,30μm,0.2s						
PB11	**IPOC Station P**	**0.49**	**291**		**Pn**	**19 28 23.2**	**+0.6**
PB11	**IPOC Station P**	**0.49**	**291**	↓*iP*	**Pn**	**19 28 23.6**	**+0.9**
PB11				*i* S	**Sn**	**19 28 35.1**	**+0.3**
PB11				IAML		19 28 36.3	
	comp=E,8μm,0.4s						
HMBC	**Humberstone**	**0.75**	**243**	↑*iP*	**Pn**	**19 28 25.7**	**+1.0**
HMBC				*i* S	**Sn**	**19 28 39.5**	**+1.0**
HMBC				IAML		19 28 43.4	
	comp=N,7μm,0.2s						
MNMC	**Minye Minye**	**0.90**	**334**		**Pn**	**19 28 27.4**	**+1.0**
MNMC	**Minye Minye**	**0.90**	**334**	↓*iP*	**Pn**	**19 28 28.2**	**+1.9**
MNMC				*i* S	**Sn**	**19 28 43.2**	**+1.9**
MNMC				IAML		19 28 44.2	
	comp=E,22μm,0.4s						
PSGC	**Pisagua**	**0.96**	**291**	↑*iP*	**Pn**	**19 28 27.8**	**+1.1**
PSGC				*i* S	**Sn**	**19 28 42.9**	**+0.9**
PSGC				IAML		19 28 44.0	
	comp=N,8μm,0.4s						
PSGCX	**Pisagua**	**0.96**	**291**		**Pn**	**19 28 27.2**	**+0.5**
TA02	**Huaiquique**	**0.96**	**250**		**Pn**	**19 28 27.0**	**+0.4**
TA02	**Huaiquique**	**0.96**	**250**	*eP*	**Pn**	**19 28 27.8**	**+1.2**
TA02				*i* S	**Sn**	**19 28 43.1**	**+1.2**
TA02				IAML		19 28 45.9	
	comp=N,15μm,0.2s						
TA01	**Diego Aracena**	**1.13**	**237**		**Pn**	**19 28 29.2**	**+0.8**
TA01	**Diego Aracena**	**1.13**	**237**	↑*iP*	**Pn**	**19 28 29.5**	**+1.1**
TA01				*eS*	**Sn**	**19 28 46.1**	**+0.9**
PB01	**IPOC Station P**	**1.14**	**195**		**Pn**	**19 28 29.3**	**+0.6**
PB01	**IPOC Station P**	**1.14**	**195**	↑*iP*	**Pn**	**19 28 29.9**	**+1.3**
PB01				*i* S	**Sn**	**19 28 46.6**	**+1.1**
PB01				IAML		19 28 48.4	
	comp=N,5μm,0.5s						
PATCX	**Punta Patache**	**1.27**	**226**		**Pn**	**19 28 31.0**	**+0.9**
PATCX	**Punta Patache**	**1.27**	**226**	↓*iP*	**Pn**	**19 28 31.2**	**+1.0**
PATCX				*i* S	**Sn**	**19 28 49.0**	**+0.8**
PB02	**IPOC Station P**	**1.53**	**206**		**Pn**	**19 28 34.3**	**+1.0**
PB02	**IPOC Station P**	**1.53**	**206**	↓*iP*	**Pn**	**19 28 34.5**	**+1.2**
PB02				*i* S	**Sn**	**19 28 55.1**	**+1.4**
PB02				IAML		19 29 01.8	
	comp=E,5μm,0.2s						
PB16	**IPOC Station P**	**1.63**	**349**		**Pn**	**19 28 37.4**	**+2.4**
PB16	**IPOC Station P**	**1.63**	**349**	↑*iP*	**Pn**	**19 28 37.4**	**+2.4**
PB16				*i* S	**Sn**	**19 28 59.0**	**+2.4**
PB12	**IPOC Station P**	**1.71**	**320**	Pn	**Pn**	**19 28 36.6**	**+1.0**
PB12	**IPOC Station P**	**1.71**	**320**	*eP*	**Pn**	**19 28 36.7**	**+1.2**
PB12				*i* S	**Sn**	**19 28 58.8**	**+1.0**
PB12				IAML		19 29 07.5	
	comp=N,3μm,0.2s						
PB09	**IPOC Station P**	**1.85**	**182**		**Pn**	**19 28 38.9**	**+1.6**
PB09	**IPOC Station P**	**1.85**	**182**	↑*iP*	**Pn**	**19 28 39.2**	**+1.9**
PB09				*i* S	**Sn**	**19 29 02.6**	**+1.8**
PB09				IAML		19 29 08.0	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**1.90**	**200**		**Pn**	**19 28 39.1**	**+1.1**
PB07	**IPOC Station P**	**1.90**	**200**	↑*iP*	**Pn**	**19 28 39.3**	**+1.3**
PB07				*i* S	**Sn**	**19 29 03.0**	**+0.9**
PB07				IAML		19 29 11.2	
	comp=E,2μm,0.4s						
AP01	**Chacalluta**	**1.91**	**324**		**Pn**	**19 28 39.4**	**+1.4**
AP01	**Chacalluta**	**1.91**	**324**	↑*iP*	**Pn**	**19 28 39.4**	**+1.4**
AP01				*i* S	**Sn**	**19 29 03.2**	**+1.1**
AP01				IAML		19 29 13.2	
	comp=N,6μm,0.2s						
PB03	**IPOC Station P**	**2.17**	**194**		**Pn**	**19 28 42.3**	**+0.9**
PB03	**IPOC Station P**	**2.17**	**194**	↑*iP*	**Pn**	**19 28 42.5**	**+1.1**
PB03				*i* S	**Sn**	**19 29 11.0**	**+2.9**
PB03				IAML		19 29 18.0	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**2.55**	**201**	Pn	**Pn**	**19 28 47.8**	**+1.4**
PB04	**IPOC Station P**	**2.55**	**201**	*eP*	**Pn**	**19 28 47.9**	**+1.5**
PB04				IAML		19 29 29.6	
	comp=E,1μm,0.3s						
LVC	**Limon Verde**	**2.67**	**175**	P	**Pn**	**19 28 50.7**	**+2.6**
	comp=E,150nm,0.2s,baz=13,slow=10,SNR=152						
LVC				S	**Sn**	**19 29 22.7**	**+2.5**
	comp=E,290nm,0.4s,baz=157,slow=21,SNR=11						
LVC	**Limon Verde**	**2.67**	**175**	Pn	**Pn**	**19 28 50.3**	**+2.1**
LVC	**Limon Verde**	**2.67**	**175**	↑*iP*	**Pn**	**19 28 50.1**	**+2.0**
LVC				*i* S	**Sn**	**19 29 22.4**	**+2.3**
PB06	**IPOC Station P**	**2.78**	**188**		**Pn**	**19 28 50.4**	**+1.0**
PB06	**IPOC Station P**	**2.78**	**188**	↑*iP*	**Pn**	**19 28 50.7**	**+1.4**
PB06				*i* S	**Sn**	**19 29 24.3**	**+1.8**
PB06				IAML		19 29 35.8	
	comp=N,1μm,0.5s						
PB15	**IPOC Station P**	**3.26**	**185**		**Pn**	**19 28 56.4**	**+0.5**
PB15	**IPOC Station P**	**3.26**	**185**	*eP*	**Pn**	**19 28 57.5**	**+1.6**
PB15				*eS*	**Sn**	**19 29 37.3**	**+3.2**
LPAZ	**La Paz**	**3.77**	**15**	P	**Pn**	**19 29 06.7**	**+3.7**
	comp=N,29nm,0.4s,baz=183,slow=7.9,SNR=155						
LPAZ				S	**Sn**	**19 29 49.8**	**+3.0**
	comp=N,7.5nm,0.5s,baz=243,slow=14,SNR=1.4						
PB10	**IPOC Station P**	**3.78**	**200**	Pn	**Pn**	**19 29 02.4**	**-0.3**
PB10	**IPOC Station P**	**3.78**	**200**	↑*iP*	**Pn**	**19 29 01.9**	**-0.8**
PB10				IAML		19 30 02.2	
	comp=E,360nm,0.5s						
GO02	**Mina Guanaco**	**5.21**	**184**	Pn	**Pn**	**19 29 22.2**	**-0.1**
AC01	**Pan de Azucar**	**6.32**	**192**	Pn	**Pn**	**19 29 34.5**	**-2.5**

AC02	**Maricunga**	**6.86**	**180**	Pn	**Pn**	**19 29 44.8**	**-0.1**		
GO03	**Copiap**	**7.68**	**187**	Pn	**Pn**	**19 29 55.6**	**0.0**		
SIV	**San Ignacio**	**8.65**	**64**	P	**Pn**	**19 30 06.4**	**-2.3**		
	comp=E,4.9nm,0.6s,baz=256,slow=9.3,SNR=22								
NNA	**Nana**	**10.81**	**316**	P	Pn	19 30 48.2	+10		
	comp=E,3.0nm,0.4s,baz=130,slow=17,SNR=2.0								
VILB	**Vilhena**	**11.06**	**52**	Pn	**Pn**	**19 30 40.3**	**-1.2**		
SAML	**Samuel**	**12.37**	**29**	Pn	**Pn**	**19 30 56.9**	**-2.0**		
CPUP	**Villa Florida**	**12.61**	**122**	P	**Pn**	**19 31 00.4**	**-1.6**		
	comp=E,5.7nm,1.0s,baz=293,slow=12,SNR=10								
CPUP	**Villa Florida**	**12.61**	**122**		**Pn**	**19 30 59.9**	**-2.2**		
MT02	**Curacav**	**13.38**	**187**	Pn	**Pn**	**19 31 09.1**	**-3.0**		
BO01	**Tunca**	**14.49**	**186**	Pn	**Pn**	**19 31 27.1**	**+0.6**		
BO02	**Sierra Bellavi**	**14.86**	**185**	P	**P**	**19 31 36.9**	**+2.5**		
MCRA	**Macar, Loja**	**18.71**	**324**	P	**Pn**	**19 32 19.3**	**+0.8**		
MCRA				IAmb	IAmb	19 32 21.4			
	comp=Z,5.8nm,0.9s								
BOSC	**San Juan Bosco**	**19.01**	**330**	P	**Pn**	**19 32 22.7**	**+0.6**		
BOSC				IAmb	IAmb	19 32 24.6			
	comp=Z,9.3nm,0.7s								
TRQA	**Tornquist**	**19.10**	**162**	P	**P**	**19 32 21.7**	**+0.7**		
TRQA				IAmb	IAmb	19 32 27.2			
	comp=Z,12nm,1.3s								
GO06	**Curarrehue**	**19.68**	**185**	P	**P**	**19 32 26.1**	**-1.2**		
GO06				IAmb	IAmb	19 32 30.2			
	comp=E,5.1nm,0.7s								
PLCA	**Paso Flores**	**20.76**	**183**	P	**P**	**19 32 40.3**	**+1.3**		
	comp=Z,2.4nm,0.7s,baz=9.4,slow=13,SNR=6.4								
	comp=Z,2.4nm,0.7s								
PLCA	**Paso Flores**	**20.76**	**183**	P	**P**	**19 32 39.5**	**+0.5**		
BOAV	**Boa Vista**	**23.77**	**22**	P	**P**	**19 33 08.7**	**-0.8**		
BOAV				IAmb	IAmb	19 33 17.2			
	comp=E,6.3nm,1.4s								
MG05	**Puerto Natales**	**31.78**	**184**	P	**P**	**19 34 19.6**	**-1.1**		
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**19 39 07.4**	**-0.7**		
SONM	**Songino Array**	**151.94**	**6**	PKPbc	**PKiKP**	**19 47 50.1**	**+0.3**		
	comp=Z,0.4nm,0.5s,baz=344,slow=1.1,SNR=2.3								

NEIC ***13*** *19:28:41.9±1.6, 41°.84S±0°.04×174°.47E±0°.04, h11km±6km, mb4.5/9, Error ellipse: s-maj=6.5km s-min=2.1km az=145.0*

IDC ***13*** *19:28:42.3±2.4, 41°.74S×174°.36E, h0km, mb3.8/3, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=65.3km s-min=43.3km az=150.0*

WEL ***13*** *19:28:44.7±0.5, 42°.S±4°×17°4E±°, h6km±4km, M4.2/17, ML5.1/17, MLv4.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=165.0*

ISC 13 19:28:43.5±0.8, 41°.73S±0°.03×174°.28E±0°.02, h15km±4km, n114, σ1§46/118, mb4.1/9, MS5.5/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**245**	Pg	**Pg**	**19 28 46.3**	**-0.1**
CMWZ	**Cape Campbell**	**0.05**	**245**	P	**Pg**	**19 28 46.4**	**0.0**
CMWZ				S	**Sg**	**19 28 49.1**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.30**	**272**	Pg	**Pb**	**19 28 51.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.30**	**272**	P	**Pb**	**19 28 52.0**	**+1.4**
BSWZ				S	**Sn**	**19 28 57.9**	**-1.6**
TUWZ	**Tuamarina**	**0.39**	**320**	Pg	**Pb**	**19 28 51.9**	**-0.2**
TUWZ	**Tuamarina**	**0.39**	**320**	P	**

	1.0nm,0.9s							
ASAR	**Alice Springs**	**38.04**	**285**	P	**P**	**19 36 01.0**	**-0.3**
FORT	**Forest**	**38.43**	**271**	P	**P**	**19 36 04.6**	**+0.1**
FORT				IAmb	IAmb	19 36 16.9	
	comp=Z,15nm,0.9s						
PPT2	**Papeete2**	**39.13**	**63**	*e*S	**S**	**19 42 13.0**	**+3.1**
	comp=Z,530nm,22.8s						
PPT2				*e*LR	LR	19 46 51.0	
	comp=Z,7µm,25.8s						
PPT2				*e*LR	LR	19 46 51.2	
	comp=Z,7µm,22.0s						
WR0	**Warramunga Arr**	**39.96**	**291**	P	**P**	**19 36 16.7**	**-0.6**
WR0				IAmb	IAmb	19 36 20.4	
	comp=Z,5.1nm,1.2s						
WB2	**Warramunga Arr**	**40.10**	**290**	P	**P**	**19 36 18.6**	**0.0**
WB2				IAmb	IAmb	19 36 32.9	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**19 36 20.0**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=126,slow=8.7,SNR=7.0						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**19 36 18.8**	**+0.1**
WB0	**Warramunga Arr**	**40.19**	**291**	P	**P**	**19 36 17.0**	**-2.3**
WB0				IAmb	IAmb	19 36 21.7	
	comp=Z,3.0nm,1.0s						
MTN	**Manton Dam**	**47.22**	**295**	P	**P**	**19 37 15.0**	**-0.9**
MORW	**Morawa**	**48.28**	**266**	P	**P**	**19 37 23.6**	**-0.4**
TAOE	**Nuku Hiva Isla**	**51.74**	**64**	*e*S	**S**	**19 45 13.9**	**+2.0**
	comp=Z,785nm,22.9s						
TAOE				*e*LR	LR	19 52 41.3	
	comp=Z,8µm,22.3s						
SOEI	**Soe**	**54.14**	**291**	P	**P**	**19 38 07.3**	**-0.9**
SOEI				IAmb	IAmb	19 38 09.4	
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**59.48**	**204**	P	**P**	**19 38 42.1**	**-3.1**
GULI	**GuiLin**	**89.07**	**306**	S	**S**	**19 52 22.3**	**-3.7**
GULI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GULI				LR	LR		
	comp=N,860nm,25.1s						
GULI				LR	LR		
	comp=E,500nm,28.2s						
GULI				LR	LR		
	comp=Z,2µm,25.3s						
CMAR	**Chiang Mai Arr**	**91.65**	**293**	P	**P**	**19 41 52.1**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=152,slow=4.1,SNR=2.5						
	comp=Z,0.6nm,0.9s						
ARCES	**ARCESS Array B**	**147.76**	**340**	PKPbc	**PKiKP**	**19 48 27.9**	**-0.5**
	comp=Z,7.2nm,1.1s,baz=31,slow=2.6,SNR=4.5						
FINES	**FINESS Array B**	**152.53**	**327**	PKPbc	**PKiKP**	**19 48 38.8**	**+0.5**
	comp=Z,2.0nm,0.9s,baz=64,slow=3.2,SNR=4.0						

WEL ***13*** *19:28:00,42.˙30S×173.˙73E,h6km,ML5.6,Mw5.7, Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁷Nm; Mrr1.50; Mθθ 1.22; Mϕϕ-2.72; Mrθ0.76; Mθϕ-4.02; Mϕr-1.75; Fault plane solution: M₀4.99000×10¹⁷ NP1: ϕs74.00000°,δ63.00000°,λ166.00000°. NP2: ϕs171.00000°,δ77.00000°,λ27.00000°. Principal axes: T -54059.5700, Plg29.0000°, Azm35.0000°; N 45713.1700, Plg60.0000°, Azm194.0000°; P 8346.4000, Plg9.0000°, Azm300.0000°;*

IDC ***13*** *19:28:56.4±0.4,42.˙12S×173.˙76E,h0km,mb4.9/16, mbtmp4.9/17,ML5.3/1,MS5.6/27 Error ellipse: s-maj=15.0km s-min=11.5km az=43.0*

WEL ***13*** *19:28:56.9±0.7,42˚S±3˚×17˚4E±˚,h5km,M5.6/9,mB6.1/1, ML5.8/8,MLv5.6/9,Mw(mB)5.8/1,Error ellipse: s-maj=0.0km s-min=0.0km az=113.5*

NEIC ***13*** *19:28:56.7±2.5,42.˙37S±0.˙04×173.˙94E±0.˙06,h10km±1km, mb5.3/51,Ms_20 5.8/369,Mww5.7,ML5.1(WEL),Error ellipse: s-maj=8.3km s-min=5.9km az=119.0*

MOS ***13*** *19:28:57.5±1.4,42.˙21S×173.˙68E,h10km,mb5.5/14, MS5.5/7,Error ellipse: s-maj=13.8km s-min=9.8km az=111.6*

NOU ***13*** *19:28:58.9,42.˙50S×174.˙29E,h24km,ML5.4/88,Off E. Coast of S. Island, N.Z.*

NEIC ***13*** *19:29:01,42.˙33S×174.˙34E,h16km,Moment Tensor Solution. Duration: 34s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.72; Mθθ2.92; Mϕϕ-3.64; Mrθ1.19; Mθϕ-3.42; Mϕr-1.66; Fault plane solution: M₀5.20000×10¹⁷ NP1:ϕs66.00000°, δ67.00000°,λ171.00000°. NP2:ϕs160.00000°,δ82.00000°, λ24.00000°. Principal axes: T 5.0933, Plg22.0000°, Azm26.0000°; N 0.2022, Plg65.0000°, Azm178.0000°; P -5.2954, Plg11.0000°, Azm291.0000°;*

GCMT ***13*** *19:29:01.7±0.2,42.˙28S±0.˙01×173.˙86E±0.˙02,h12km, MW5.7/135,Moment Tensor Solution. s32,c38; s135,c235; Duration: 1s8 Moment tensor: Scale 10¹⁷ Nm; Mrr1.70±.12; Mθθ1.27±.10; Mϕϕ-2.97±.10; Mrθ-0.58±.30; Mθϕ-3.17±.07; Mϕr2.69±.32; Best double couple: M₀4.86100×10¹⁷ NP1:ϕs351.00000°,δ77.00000°, λ42.00000°. NP2:ϕs249.00000°,δ49.00000°,λ163.00000°. Principal axes: T 4.3960, Plg38.0000°, Azm219.0000°; N 0.9310, Plg46.0000°, Azm5.0000°; P -5.3270, Plg17.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC ***13*** **19:28:57.8±0.9,42˚38S±0.˙03×173˚96E±0.˙03,h9km±4km, n647,σ1s90/444,mb5.2/69,MS5.8/226,11C-19D,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KHZ	**Kahutara**	**0.31**	**264**		**Pg**	**Pg**	**19 29 03.6**	**-0.4**
KHZ	**Kahutara**	**0.31**	**264**	P	**Pg**	**Pg**	**19 29 02.4**	**-1.6**
KHZ				S	**Sg**	**Sg**	**19 29 08.8**	**+0.7**
CMWZ	**Cape Campbell**	**0.66**	**17**		**Pn**	**Pn**	**19 29 13.1**	**-0.2**
CMWZ	**Cape Campbell**	**0.66**	**17**	S	**Sg**	**Sg**	**19 29 17.3**	**-1.8**
BSWZ	**Blackbirch Sta**	**0.67**	**355**	Pg	**Pg**	**Pg**	**19 29 10.2**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.67**	**355**	P	**Pg**	**Pg**	**19 29 10.0**	**-0.7**
BSWZ				S	**Sg**	**Sg**	**19 29 20.0**	**+0.5**
GVZ	**Greta Valley S**	**0.90**	**229**	Pn	**Pb**	**Pb**	**19 29 15.9**	**+0.4**
GVZ	**Greta Valley S**	**0.90**	**229**	P	**Pb**	**Pb**	**19 29 16.0**	**+0.5**
GVZ	**Greta Valley S**	**0.90**	**229**	P	**Pb**	**Pb**	**19 29 15.8**	**+0.2**
GVZ				S	**Sn**	**Sn**	**19 29 30.6**	**+0.9**
TUWZ	**Tuamarina**	**0.95**	**359**	Pg	**Pg**	**Pg**	**19 29 14.8**	**-1.3**
TUWZ	**Tuamarina**	**0.95**	**359**	P	**Pg**	**Pg**	**19 29 13.9**	**-2.2**
THZ	**Tophouse**	**1.00**	**308**		**Pg**	**Pg**	**19 29 15.1**	**-1.9**
THZ	**Tophouse**	**1.00**	**308**	P	**Pg**	**Pg**	**19 29 15.3**	**-1.7**
THZ				S	**Sg**	**Sg**	**19 29 29.4**	**-0.6**
SNZO	**South Karori**	**1.21**	**28**	Pn	**Pn**	**Pn**	**19 29 20.7**	**-0.1**
NNZ	**Nelson**	**1.24**	**339**	S	**Sb**	**Sb**	**19 29 37.2**	**-0.2**
LTZ	**Lake Taylor**	**1.31**	**252**	Pn	**Pn**	**Pn**	**19 29 21.1**	**-1.2**
LTZ	**Lake Taylor**	**1.31**	**252**	P	**Pn**	**Pn**	**19 29 21.4**	**-0.9**
MRNZ	**Matariki Terra**	**1.33**	**317**	P	**Pn**	**Pn**	**19 29 21.2**	**-1.4**
MRNZ				S	**Sg**	**Sg**	**19 29 41.4**	**+0.9**
TKNZ	**Takaka Hill**	**1.54**	**331**	P	**Pn**	**Pn**	**19 29 24.5**	**-0.9**
MQZ	**McQueen's Vall**	**1.63**	**215**	Pn	**Pn**	**Pn**	**19 29 24.7**	**-2.0**
MQZ	**McQueen's Vall**	**1.63**	**215**	P	**Pn**	**Pn**	**19 29 25.0**	**-1.7**
OXZ	**Oxford**	**1.70**	**236**	Pn	**Pn**	**Pn**	**19 29 25.8**	**-1.8**
DSZ	**Denniston Nort**	**1.73**	**291**	Pn	**Pn**	**Pn**	**19 29 28.3**	**+0.3**
DSZ	**Denniston Nort**	**1.73**	**291**	P	**Pn**	**Pn**	**19 29 28.6**	**+0.6**
DSZ				S	**Sg**	**Sg**	**19 29 53.3**	**+0.1**
CSHS	**Castle Hill**	**1.85**	**242**	P	**Pn**	**Pn**	**19 29 28.4**	**-1.3**
INZ	**Inchbonnie**	**1.89**	**259**	P	**Pn**	**Pn**	**19 29 29.4**	**-0.8**
INZ	**Inchbonnie**	**1.89**	**259**	P	**Pn**	**Pn**	**19 29 29.5**	**-0.8**
QRZ	**Quartz Range**	**1.89**	**325**		**Pn**	**Pn**	**19 29 30.3**	**+0.1**
MRZ	**Mangatainoka R**	**2.11**	**36**		**Pn**	**Pn**	**19 29 31.1**	**-2.1**
BFZ	**Birch Farm**	**2.42**	**46**	Pn	**Pn**	**Pn**	**19 29 37.5**	**0.0**
RPZ	**Rata Peaks**	**2.51**	**237**	Pn	**Pn**	**Pn**	**19 29 37.5**	**-1.3**
	622nm,0.3s,baz=60,slow=0.2,SNR=99							
RPZ				Sn	**Sn**	**Sn**	**19 30 08.3**	**-1.3**
	227nm,0.3s,baz=210,slow=19,SNR=6.1							
RPZ				LR	LR	LR	19 30 32.2	
	comp=Z,23µm,20.2s,baz=127,slow=38 5µm,0.6s							
RPZ	**Rata Peaks**	**2.51**	**237**	Pn	**Pn**	**Pn**	**19 29 37.0**	**-1.8**
RPZ	**Rata Peaks**	**2.51**	**237**	P	**Pn**	**Pn**	**19 29 37.7**	**-1.1**
FOZ	**Fox Glacier**	**3.25**	**248**	Pn	**Pn**	**Pn**	**19 29 47.5**	**-1.4**
LBZ	**Lake Benmore**	**3.40**	**233**	Pn	**Pn**	**Pn**	**19 29 50.4**	**-0.6**
LBZ	**Lake Benmore**	**3.40**	**233**	P	**Pn**	**Pn**	**19 29 50.9**	**-0.2**
ODZ	**Otahua Downs**	**3.58**	**221**	Pn	**Pn**	**Pn**	**19 29 51.8**	**-1.7**
ODZ	**Otahua Downs**	**3.58**	**221**	P	**Pn**	**Pn**	**19 29 52.2**	**-1.3**
BKZ	**Black Stump Fm**	**3.75**	**32**	P	**Pn**	**Pn**	**19 29 53.5**	**-2.3**
HIZ	**Hauiti**	**3.92**	**10**	Pn	**Pn**	**Pn**	**19 29 56.0**	**-2.2**
JCZ	**Jackson Bay**	**4.14**	**244**	P	**Pn**	**Pn**	**19 30 02.0**	**+0.7**
JCZ	**Jackson Bay**	**4.14**	**244**	P	**Pn**	**Pn**	**19 30 00.6**	**-0.7**
HHSZ	**Highcliff Hill**	**4.26**	**213**	P	**Pn**	**Pn**	**19 30 01.4**	**-1.3**
EAZ	**Earnscleugh**	**4.41**	**228**	P	**Pn**	**Pn**	**19 30 03.9**	**-1.0**
TUZ	**Tuapeka**	**4.74**	**220**	P	**Pn**	**Pn**	**19 30 08.3**	**-1.0**
URZ	**Urewera**	**4.77**	**31**	P	**Pn**	**Pn**	**19 30 06.8**	**-3.0**
MSZ	**Milford Sound**	**4.95**	**240**	P	**Pn**	**Pn**	**19 30 12.0**	**-0.2**
MLZ	**Mavora Lakes**	**5.17**	**233**	P	**Pn**	**Pn**	**19 30 15.5**	**+0.2**
MLZ	**Mavora Lakes**	**5.17**	**233**	P	**Pn**	**Pn**	**19 30 14.7**	**-0.7**
SYZ	**Scrubby Hill**	**5.40**	**218**	P	**Pn**	**Pn**	**19 30 17.3**	**-1.1**
SYZ	**Scrubby Hill**	**5.40**	**218**	P	**Pn**	**Pn**	**19 30 17.6**	**-0.8**
KUZ	**Kuaotunu**	**5.79**	**14**	P	**Pn**	**Pn**	**19 30 25.0**	**+1.2**
KUZ	**Kuaotunu**	**5.79**	**14**	P	**Pn**	**Pn**	**19 30 24.6**	**+0.8**
DCZ	**Deep Cove**	**5.80**	**236**	P	**Pn**	**Pn**	**19 30 22.9**	**-1.1**
MXZ	**Matakaoa Point**	**5.86**	**36**	P	**Pn**	**Pn**	**19 30 22.0**	**-2.7**
	784nm,0.9s							
APZ	**The Paps**	**6.16**	**222**	P	**Pn**	**Pn**	**19 30 28.1**	**-0.8**
GRZ	**Great Barrier**	**6.23**	**11**	P	**Pn**	**Pn**	**19 30 28.6**	**-1.2**
WCZ	**Waipu Caves**	**6.44**	**3**	P	**Pn**	**Pn**	**19 30 34.9**	**+2.2**
PYZ	**Pupsegur Point**	**6.45**	**232**	P	**Pn**	**Pn**	**19 30 35.1**	**+2.2**
CTZ	**Chatham Island**	**7.03**	**104**	P	**Pn**	**Pn**	**19 30 38.3**	**-2.6**
OUZ	**Omahuta**	**7.16**	**358**	P	**Pn**	**Pn**	**19 30 45.2**	**+2.6**
NFK	**Norfolk Island**	**14.17**	**338**	P	**P**	**P**	**19 32 23.3**	**-3.0**
	baz=14							
RAO	**Raoul Island**	**14.65**	**29**	LR	LR	LR	19 38 07.0	
	comp=Z,48µm,18.0s,baz=188,slow=38							
MCQ	**Macquarie Isla**	**15.64**	**214**	P	**Pn**	**Pn**	**19 32 37.8**	**-0.4**
	baz=16,SNR=4.9							
MCQ	**Macquarie Isla**	**15.64**	**214**	Pn	**Pn**	**Pn**	**19 32 38.1**	**-0.1**
MCQ	**Macquarie Isla**	**15.64**	**214**	P	**Pn**	**Pn**	**19 32 38.3**	**+0.1**
MCQ	**Macquarie Isla**	**15.64**	**214**	P	**Pn**	**Pn**	**19 32 38.2**	**-0.1**
MCQ				pmax	pmax			
	comp=Z,102nm,1.7s							
GLAD	**Gladstone**	**19.41**	**265**	P	**Pn**	**Pn**	**19 33 25.6**	**+0.3**
TAU	**Tasmania Unive**	**19.58**	**259**	P	**Pn**	P	19 33 18.5	-7.4
TAU				IAmb	IAmb	IAmb	19 33 32.8	
	comp=Z,221nm,1.9s							
MILA	**Mila**	**19.78**	**277**	P	**P**	**P**	**19 33 27.7**	**-0.5**
	baz=20,SNR=4.3							
MILA	**Mila**	**19.78**	**277**	P	**Pn**	**Pn**	**19 33 31.2**	**+1.5**
RIV	**Riverview**	**19.83**	**288**	P	**Pn**	**Pn**	**19 33 34.6**	**+4.4**
	comp=Z,126nm,1.3s							
CNB	**Canberra Magne**	**20.37**	**282**	P	**Pn**	**Pn**	19 33 36.0	-0.8
	baz=20,SNR=5.0							
CNB	**Canberra Magne**	**20.37**	**282**	P	**Pn**	**Pn**	19 33 37.5	+0.7
AUSMG	**Snowy Mountain**	**20.43**	**278**	P	**Pn**	**Pn**	19 33 37.6	+0.1
CAN	**Canberra**	**20.63**	**282**	P	**P**	**P**	**19 33 32.5**	**-5.1**
CAN	**Canberra**	**20.63**	**282**	P	**Pn**	**Pn**	19 33 40.6	+0.8
CAN	**Canberra**	**20.63**	**282**	P	**Pn**	**Pn**	19 33 39.9	+0.1
CAN				pmax	pmax			
	comp=Z,109nm,1.2s							
OUENC	**Ouen Island, N**	**20.78**	**341**	P	**P**	**P**	**19 33 37.7**	**-1.4**
OUENC				IAmb	IAmb	IAmb	19 33 41.5	
	comp=Z,114nm,1.2s							
OUENC	**Ouen Island, N**	**20.78**	**341**	P	**Pn**	**Pn**	19 33 40.3	-1.2
ONTNC	**Ouen Toro**	**20.98**	**340**	P	**P**	**P**	**19 33 39.9**	**-1.4**
ONTNC				IAmb	IAmb	IAmb	19 33 44.2	
	comp=Z,157nm,1.2s							
ONTNC	**Ouen Toro**	**20.98**	**340**	P	**Pn**	**Pn**	19 33 42.7	-1.1
YATNC	**Mamie plateau,**	**21.11**	**342**	P	**P**	**P**	**19 33 47.0**	**+4.3**
DZM	**Mont Dzumac**	**21.21**	**340**	*e*LR	LR	LR	19 38 19.4	
	comp=Z,17µm,26.7s							
DZM	**Mont Dzumac**	**21.21**	**340**	P	**P**	**P**	**19 33 42.9**	**-0.9**
	comp=Z,64nm,1.0s,baz=139,slow=11,SNR=16							
DZM				LR	LR	LR	19 41 28.0	
	comp=Z,17µm,18.2s,baz=177,slow=36							
DZM	**Mont Dzumac**	**21.21**	**340**	P	**P**	**P**	**19 33 44.4**	**+0.6**
DZM				IAmb	IAmb	IAmb	19 33 46.3	
	comp=Z,94nm,1.1s							
DZM	**Mont Dzumac**	**21.21**	**340**	P	**P**	**P**	**19 33 45.4**	**+1.6**
DZM	**Mont Dzumac**	**21.21**	**340**	*e*Pn	**P**	**P**	**19 33 38.3**	**-5.5**
	comp=Z,196nm,1.1s							
NOUC	**Port Laguerre**	**21.21**	**340**	P	**P**	**P**	**19 33 44.7**	**+0.9**
ARMA	**Armidale**	**21.51**	**296**	P	**P**	**P**	**19 33 48.1**	**+1.0**
	baz=22,SNR=6.9							
ARMA	**Armidale**	**21.51**	**296**	P	**P**	**P**	**19 33 47.1**	**0.0**
ARMA	**Armidale**	**21.51**	**296**	P	**P**	**P**	**19 33 48.3**	**+1.3**
LIFNC	**LIFOU**	**22.27**	**343**	P	**P**	**P**	**19 33 55.7**	**+0.6**
LIFNC	**LIFOU**	**22.27**	**343**	P	**P**	**P**	**19 33 56.9**	**+1.8**
TOO	**Toolangi**	**22.29**	**273**	P	**P**	**P**	**19 33 53.9**	**-1.3**
	baz=22,SNR=9.5							
TOO	**Toolangi**	**22.29**	**273**	P	**P**	**P**	**19 33 52.2**	**-3.1**
TOO				IAmb	IAmb	IAmb	19 33 58.5	
	comp=Z,162nm,1.6s							
TOO	**Toolangi**	**22.29**	**273**	P	**P**	**P**	**19 33 57.1**	**+1.8**
TOO	**Toolangi**	**22.29**	**273**	P	**P**	**P**	**19 33 52.2**	**-3.1**
TOO				pmax	pmax			
	comp=Z,162nm,1.7s							
AUBSH	**Beerwah State**	**23.12**	**305**	P	**P**	**P**	**19 34 05.6**	**+1.6**
KOUNC	**Koumac, New Ca**	**23.24**	**336**	P	**P**	**P**	**19 34 03.6**	**-1.8**
KOUNC	**Koumac, New Ca**	**23.24**	**336**	P	**P**	**P**	**19 34 07.3**	**+1.9**
BRAT	**Ballarat**	**23.45**	**272**	P	**P**	**P**	**19 34 11.5**	**+4.2**
AULRC	**Lightning Ridg**	**24.58**	**293**	P	**P**	**P**	**19 34 18.9**	**+0.8**
	comp=Z,142nm,1.5s							
MSVF	**Nonsavu**	**24.82**	**9**	P	**P**	**P**	**19 34 18.1**	**-2.3**
	comp=Z,18nm,0.8s,baz=176,slow=5.5,SNR=8.7							
MSVF				LR	LR	LR	19 43 05.9	
	comp=Z,33µm,19.2s,baz=203,slow=35							
	comp=Z,18nm,0.8s							
MSVF	**Nonsavu**	**24.82**	**9**	P	**P**	**P**	**19 34 16.1**	**-4.3**
MSVF				IAmb	IAmb	IAmb	19 34 27.6	
	comp=Z,42nm,0.8s							
MSVF	**Nonsavu**	**24.82**	**9**	IAMs_20	IAMs_20	IAMs_20	19 42 55.0	
	comp=Z,32µm,19.0s							
MSVF	**Nonsavu**	**24.82**	**9**	P	**P**	**P**	**19 34 19.0**	**-1.3**
MSVF	**Nonsavu**	**24.82**	**9**	*e*P	**P**	**P**	**19 34 18.6**	**-1.7**
MSVF				pmax	pmax			
	comp=Z,48nm,0.9s							
CMSA	**Cobar Meteorol**	**24.94**	**286**	P	**P**	**P**	**19 34 20.8**	**-0.5**
	baz=25,SNR=11							
CMSA	**Cobar Meteorol**	**24.94**	**286**	P	**P**	**P**	**19 34 21.4**	**+0.1**
ARPS	**Mount Arapiles**	**25.29**	**272**	P	**P**	**P**	**19 34 24.9**	**+0.5**
EIDS	**Eidsvold**	**25.35**	**305**	P	**P**	**P**	**19 34 25.3**	**+0.2**
	baz=25,SNR=4.3							
EIDS	**Eidsvold**	**25.35**	**305**	P	**P**	**P**	**19 34 19.8**	**-5.2**
EIDS				IAmb	IAmb	IAmb	19 34 53.1	
	comp=Z,121nm,1.8s							
EIDS	**Eidsvold**	**25.35**	**305**	P	**P**	**P**	**19 34 25.6**	**+0.6**
RMQ	**Roma**	**26.01**	**300**	P	**P**	**P**	**19 34 32.2**	**+1.1**
	baz=26,SNR=10							
RMQ	**Roma**	**26.01**	**300**	P	**P**	**P**	**19 34 36.2**	**+5.2**
STKA	**Stephens Creek**	**27.70**	**282**	P	**P**	**P**	**19 34 45.7**	**-0.6**
	comp=Z,8.7nm,0.7s,baz=103,slow=11,SNR=10							
STKA				PcP	**PcP**	**PcP**	**19 38 02.7**	**-0.3**
	comp=Z,8.2nm,1.0s,baz=66,slow=4.1,SNR=3.3							
STKA				LR	LR	LR	19 44 05.5	
	comp=Z,13µm,21.2s,baz=115,slow=33							
	comp=Z,8.7nm,0.7s							
STKA	**Stephens Creek**	**27.70**	**282**	P	**P**	**P**	**19 34 45.9**	**-0.3**
	baz=28,SNR=5.7							
STKA	**Stephens Creek**	**27.70**	**282**	P	**P**	**P**	**19 34 45.1**	**-1.1**
STKA	**Stephens Creek**	**27.70**	**282**	P	**P**	**P**	**19 34 48.4**	**+2.1**
STKA	**Stephens Creek**	**27.70**	**282**	*d*P	**P**	**P**	**19 34 48.1**	**+1.8**
HTT	**Hallett**	**28.89**	**276**	P	**P**	**P**	**19 34 56.2**	**-0.7**
	baz=29,SNR=4.7							
QLP	**Quilpie**	**28.94**	**293**	P	**P**	**P**	**19 34 57.7**	**+0.3**
	baz=29,SNR=4.8							
QLP	**Quilpie**	**28.94**	**293**	P	**P**	**P**	**19 34 57.7**	**+0.3**
RAR	**Rarotonga**	**30.51**	**54**	P	**P**	**P**	**19 35 10.9**	**-0.4**
	comp=Z,29nm,0.8s,baz=209,slow=8.7,SNR=4.6							
	comp=Z,29nm,0.8s							
INKA	**Innaminka**	**30.64**	**288**	P	**P**	**P**	**19 35 14.5**	**+2.1**
LCRK	**Leigh Creek**	**30.91**	**281**	P	**P**	**P**	**19 35 14.2**	**-0.6**
BBOO	**Buckleboo**	**31.29**	**275**	P	**P**	**P**	**19 35 16.6**	**-1.5**
	baz=31,SNR=6.4							
BBOO	**Buckleboo**	**31.29**	**275**	P	**P**	**P**	**19 35 15.7**	**-2.4**
BBOO				IAmb	IAmb	IAmb	19 35 20.5	
	comp=Z,69nm,1.2s							
BBOO	**Buckleboo**	**31.29**	**275**	P	**P**	**P**	**19 35 19.4**	**+1.3**
CTA	**Charters Tower**	**32.24**	**305**	P	**P**	**P**	**19 35 24.7**	**-1.8**
	comp=Z,23nm,1.0s,baz=147,slow=9.0,SNR=12							
CTA				LR	LR	LR	19 48 18.5	
	comp=Z,17µm,18.1s,baz=126,slow=36							
	comp=Z,23nm,1.0s							
CTA	**Charters Tower**	**32.24**	**305**	P	**P**	**P**	**19 35 27.4**	**+0.9**
	comp=Z,34nm,1.0s							
CTAO	**Charters Tower**	**32.24**	**305**	P	**P**	**P**	**19 35 24.0**	**-2.5**
CTAO				IAmb	IAmb	IAmb	19 35 28.1	
	comp=Z,26nm,1.0s							
CTAO	**Charters Tower**	**32.24**	**305**	IAMs_20	IAMs_20	IAMs_20	19 48 24.5	
	comp=Z,20µm,18.0s							
CTAO	**Charters Tower**	**32.24**	**305**	P	**P**	**P**	**19 35 27.3**	**+0.8**
CTAO	**Charters Tower**	**32.24**	**305**	P	**P**	**P**	**19 35 24.0**	**-2.5**
CTAO				pmax	pmax			
	comp=Z,26nm,1.0s							
CTAO				MLR	MLR			
	comp=Z,20µm,18.0s							
FUNA	**Funafuti**	**34.03**	**9**	IAMs_20	IAMs_20	IAMs_20	19 47 23.6	
	comp=Z,17µm,18.0s							
MULG	**Mulgathing**	**34.04**	**278**	P	**P**	**P**	**19 35 43.2**	**+1.0**
	comp=Z,32nm,1.5s							
OOD	**Oodnadatta**	**34.22**	**283**	P	**P**	**P**	**19 35 42.3**	**-1.5**
MTSU	**Mount Surprise**	**34.90**	**305**	P	**P**	**P**	**19 35 49.0**	**-0.7**
	baz=35,SNR=13							
MTSU	**Mount Surprise**	**34.90**	**305**	P	**P**	**P**	**19 35 49.0**	**-0.7**
HNR	**Honiara**	**35.05**	**335**	P	**P**	**P**	**19 35 49.6**	**-1.4**
	comp=Z,216nm,0.3s,baz=174,slow=10,SNR=1.6							
HNR				LR	LR	LR	19 48 39.2	
	comp=Z,80µm,19.4s,baz=168,slow=34							
VNDA	**Vanda**	**35.60**	**184**	P	**P**	**P**	**19 35 56.9**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=4.0,slow=6.5,SNR=6.3							
VNDA	**Vanda**	**35.60**	**184**	P	**P**	**P**	**19 35 54.0**	**-1.1**
SBA	**Scott Base**	**35.70**	**183**	P	**P**	**P**	**19 35 58.0**	**+2.0**
SBA	**Scott Base**	**35.70**	**183**	P	**P**	**P**	**19 35 58.0**	**+2.0**
SBA				pmax	pmax			
	comp=Z,31nm,1.5s							
SBA				MLR	MLR			
	comp=Z,4µm,19.0s							
TBI	**Tubuai**	**35.76**	**70**	*e*LR	LR	LR	19 45 04.4	
	comp=Z,30µm,22.8s							
TBI	**Tubuai**	**35.76**	**70**	*e*LR	LR	LR	19 45 04.4	
	comp=Z,166µm,22.2s							
QIS	**Mount Isa**	**36.13**	**296**	P	**P**	**P**	**19 36 00.3**	**-0.1**
	baz=36,SNR=10.0							
QIS	**Mount Isa**	**36.13**	**296**	P	**P**	**P**	**19 36 00.4**	**+0.1**
	comp=Z,23nm,1.3s							
AS01	**Alice Springs**	**37.96**	**287**	P	**P**	**P**	**19 36 15.3**	**-0.6**
AS31	**Alice Springs**	**38.00**	**287**	P	**P**	**P**	**19 36 13.5**	**-2.7**
ASAR	**Alice Springs**	**38.00**	**287**	P	**P**	**P**	**19 36 14.3**	**-1.9**
	comp=Z,13nm,0.7s,baz=134,slow=9.3,SNR=36							
ASAR				PcP	**PcP**	**PcP**	**19 38 30.0**	**-1.7**
	comp=Z,3.2nm,0.6s,baz=124,slow=4.6,SNR=5.2							
ASAR				S	**S**	**S**	**19 42 07.2**	**-1.3**
	comp=Z,3.1nm,1.0s,baz=136,slow=15,SNR=7.4							
ASAR				ScP	**ScP**	**ScP**	**19 42 17.9**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=137,slow=4.3,SNR=2.1							
ASAR				LR	LR	LR	19 51 42.4	
	comp=Z,14µm,19.0s,baz=133,slow=36							
	comp=Z,13nm,0.7s							
FORT	**Forest**	**38.21**	**272**	P	**P**	**P**	**19 36 19.5**	**+1.6**
	baz=38,SNR=9.0							
FORT	**Forest**	**38.21**	**272**	P	**P**	**P**	**19 36 13.4**	**-4.4**
FORT				IAmb	IAmb	IAmb	19 36 22.0	
	comp=Z,75nm,0.9s							
FORT	**Forest**	**38.21**	**272**	P	**P**	**P**	**19 36 19.5**	**+1.6**
COEN	**Coen**	**38.84**	**308**	P	**P**	**P**	**19 36 22.6**	**-0.6**
	baz=39,SNR=9.3							
COEN	**Coen**	**38.84**	**308**	P	**P**	**P**	**19 36 21.1**	**-2.1**
**

SOEI Soe 54.16 292 P P 19 38 25.6 +1.9
BATI Baumata 54.26 291 LR LR 20 02 35.0
comp=Z,9μm,18.4s,baz=153,slow=37
BATI Baumata 54.26 291 P P 19 38 23.7 -0.6
comp=Z,2μmcomp=Z,50nm,1.0s
SIJI Sorong 56.31 305 LR LR 20 04 51.4
comp=Z,6μm,18.3s,baz=126,slow=38
SIJI Sorong 56.31 305 P P 19 38 37.6 -1.5
comp=Z,22nm,0.9s
MMRI Maumere 56.36 291 P P 19 38 35.0 -4.4
MMRI IAmb IAmb 19 38 40.7
comp=Z,44nm,0.8s
MMRI IAMs_20 IAMs_20 20 01 49.7
comp=Z,6μm,20.0s
MMRI Maumere 56.36 291 P P 19 38 38.5 -0.9
comp=Z,2μmcomp=Z,62nm,1.3s
MMRI Maumere 56.36 291 P P 19 38 40.1 +0.7
BBSI Bau Bau 58.39 294 P P 19 38 52.4 -1.4
comp=Z,699nmcomp=Z,17nm,1.0s
SANI Sanana 58.70 300 P P 19 38 52.0 -3.8
comp=Z,854nmcomp=Z,28nm,0.8s
SANI Sanana 58.70 300 P P 19 38 54.2 -1.6
BELA Belgrano 2 58.74 173 P P 19 38 55.4 0.0
BELA IAmb IAmb 19 39 04.5
comp=Z,19nm,1.0s
MAW Mawson 58.79 205 P P 19 38 57.6 +1.9
comp=Z,10.0nm,1.0s,baz=106,slow=9.4,SNR=9.6
MAW LR LR 20 03 45.0
comp=Z,18μm,18.0s,baz=106,slow=35
comp=Z,10.0nm,1.0s
MAW Mawson 58.79 205 P P 19 38 52.4 -3.4
baz=58,SNR=6.1
MAW Mawson 58.79 205 P P 19 38 58.4 +2.6
LBMI Labuha 58.81 302 P P 19 38 55.7 -1.0
comp=Z,1μmcomp=Z,67nm,1.2s
BSSI Bau Bau, Buton 59.34 292 P P 19 39 03.3 +3.0
PLAI Plampang 59.34 287 P P 19 39 01.3 +1.0
PLAI Plampang 59.34 287 P P 19 38 59.8 -0.5
TWSI Taliwang, Sumb 60.04 287 P P 19 39 06.2 +1.1
BKSI Bulukumba 60.18 292 P P 19 39 07.2 +1.1
KAPI Kappang 60.66 292 LR LR 20 05 47.6
comp=Z,4μm,19.1s,baz=138,slow=37
KAPI Kappang 60.66 292 P P 19 39 05.8 -3.6
KAPI Kappang 60.66 292 P P 19 39 11.5 +2.1
comp=Z,883nmcomp=Z,26nm,1.7s
KAPI Kappang 60.66 292 P P 19 39 11.5 +2.1
comp=Z,29nm,1.7s
KAPI Kappang 60.66 292 *d i* P P 19 39 10.2 +0.8
KAPI pmax pmax
comp=Z,52nm,1.6s
JOHN Johnston Islan 60.76 18 IAMs_20 IAMs_20 20 08 47.5
comp=Z,6μm,18.0s
SMAI San Martin Ant 60.77 158 P P 19 39 06.7 -2.7
SMAI IAmb IAmb 19 39 20.2
comp=Z,31nm,1.0s
KLNI Mataram 60.81 286 P P 19 39 10.9 +0.4
BNSI Bone 60.86 293 P P 19 39 12.5 +1.8
SPSI Sidrap Palu 61.41 293 P P 19 39 15.6 +1.2
LUWI Luwuk 61.55 298 P P 19 39 12.7 -2.6
LUWI Luwuk 61.55 298 P P 19 39 16.3 +0.9
LUWI Luwuk 61.55 298 P P 19 39 16.5 +1.1
SRBI Singaraja 61.67 286 P P 19 39 17.2 +0.9
WAKE Wake Island 61.72 352 IAMs_20 IAMs_20 20 02 18.7
comp=Z,6μm,19.0s
GUMO Guam 61.79 328 LR LR 20 07 14.6
comp=Z,1μm,18.1s,baz=154,slow=37
JAGI Jajag, Banyuwa 62.17 285 P P 19 39 23.2 +3.6
JAGI Jajag, Banyuwa 62.17 285 P P 19 39 18.8 -0.8
ABJI Asem Bagus 62.57 285 P P 19 39 25.9 +3.6
RPN Rapa Nui 62.84 103 LR LR 20 01 11.7
comp=Z,8μm,19.6s,baz=226,slow=31
MRSI Marisa 63.23 298 P P 19 39 29.5 +2.8
KMMI Kalianget 63.28 286 P P 19 39 27.9 +0.9
PMSA Palmer Station 63.99 156 P P 19 39 28.7 -2.3
PMSA IAmb IAmb 19 41 08.3
comp=Z,52nm,1.3s
TOLI2 Tolitoli 64.47 298 P P 19 39 33.5 -1.3
TOLI2 IAmb IAmb 19 39 51.0
comp=Z,21nm,1.1s
TOLI2 Tolitoli 64.47 298 P P 19 39 36.6 +1.8
MPSI Mapaga 64.47 296 P P 19 39 35.1 +0.2
UGM Wanagama 65.16 282 IAMs_20 IAMs_20 20 07 27.0
comp=Z,6μm,19.0s
BBKI Banjar Baru 65.17 289 P P 19 39 40.2 +0.8
TROLL Troll, Antarti 65.75 183 P P 19 39 45.2 +2.6
SMRI Semarang 65.81 283 P P 19 39 41.2 -2.4
SMRI IAMs_20 IAMs_20 20 07 34.2
comp=Z,5μm,21.0s
SMRI Semarang 65.81 283 P P 19 39 48.2 +4.6
DAV Davao City (W) 66.03 306 LR LR 20 08 59.6
comp=Z,3μm,20.4s,baz=133,slow=36
DAV Davao City (W) 66.03 306 P P 19 39 41.9 -3.0
comp=Z,280nm,0.5s
SNAA Sanae 66.23 181 P P 19 39 47.8 +2.3
SNAA Sanae 66.23 181 P P 19 39 47.2 +1.7
comp=Z,6.7nm,1.0s,baz=158,slow=5.7,SNR=9.0
SNAA LR LR 20 08 18.2
comp=Z,2μm,18.2s,baz=186,slow=36
comp=Z,6.7nm,1.0s
SNAA Sanae 66.23 181 P P 19 39 46.2 +0.7
SNAA IAmb IAmb 19 40 18.2
comp=Z,32nm,1.3s
SNAA Sanae 66.23 181 *d i* P P 19 39 46.9 +1.3
SNAA pmax pmax
comp=Z,26nm,1.7s
NVL N'lazarevskaya 66.42 186 *e* P P 19 39 48.3 +1.6
NVL *e* S S 19 48 29.6 -6.9
NVL pmax pmax
comp=Z,52nm,1.1s
NVL MLR MLR
comp=Z,4μm,14.0s
VNA3 Neumayer Olymp 66.65 179 P P 19 39 54.8 +6.6
CTJI Waduk Cacaban 66.75 282 P P 19 39 50.8 +1.2
MTKI Muara Teweh, K 66.93 291 P P 19 39 51.6 +0.8
VNA2 Neumayer--Watz 67.00 180 P P 19 39 53.1 +2.7
baz=177,slow=7.0
VNA1 Neumayer--Stat 67.27 179 P P 19 39 55.0 +2.9
BBJI Bungbulang 67.55 281 P P 19 39 55.6 +0.8
LEM Lembang 68.00 281 P P 19 39 57.3 -0.5
LEM pmax pmax
comp=Z,98nm,1.1s
CNJI Cibinong 68.03 280 P P 19 40 01.4 +3.7
SKJI Sukabumi 68.66 280 P P 19 40 04.7 +3.1
MYLDM Lahad Datu 69.01 299 P P 19 40 07.5 +3.7
MYLDM IAMs_20 IAMs_20 20 10 52.1
comp=Z,4μm,19.0s
MYLDM Lahad Datu 69.01 299 P P 19 40 14.2 +10
USHA Ushuaia 69.57 147 LR LR 20 04 08.1
comp=Z,8μm,19.5s,baz=234,slow=30
KLI Kotabumi 71.34 281 P P 19 40 21.2 +3.1
KLI Kotabumi 71.34 281 P P 19 40 18.7 +0.6
KLI pmax pmax
comp=Z,83nm,1.1s
KSM Kuching 71.84 289 P P 19 40 22.1 +0.9
comp=Z,694nmcomp=Z,38nm,1.3s
KSM Kuching 71.84 289 P P 19 40 19.5 -1.7
PPBI Pangkal Pinang 72.26 284 P P 19 40 24.8 +1.1
KSI Kapahiang 73.81 280 P P 19 40 36.2 +3.2
MASI Maura Aman, Be 74.42 280 P P 19 40 40.2 +3.7
COYC Coyhaique 74.53 138 IAMs_20 IAMs_20 20 05 42.2
comp=Z,5μm,20.0s
JCJ Chichijima 75.09 331 LR LR 20 11 52.8
comp=Z,1μm,20.2s,baz=137,slow=34
TPRI Tanjung Pinang 75.55 285 P P 19 40 43.7 +0.8
EFI East Falkland 76.02 150 IAMs_20 IAMs_20 20 08 01.0
comp=Z,4μm,19.0s
EFI East Falkland 76.02 150 *de* P P 19 40 48.9 +3.9
EFI pmax pmax
comp=Z,96nm,1.6s
SDSI Sungai Dareh 76.51 281 P P 19 40 48.5 +0.1
MYKOM Kota Tinggi 76.64 285 IAMs_20 IAMs_20 20 14 39.3
comp=Z,4μm,20.0s
MYKOM Kota Tinggi 76.64 285 P P 19 40 50.4 +1.3
comp=Z,822nmcomp=Z,40nm,1.2s
PDSI Padang 77.23 281 P P 19 40 51.7 -0.8
SISI Saibi 77.95 279 P P 19 41 01.6 +5.1
PLCA Paso Flores 78.80 136 P P 19 41 04.0 +3.0
comp=Z,4.1nm,0.9s,baz=189,slow=5.9,SNR=3.7
comp=Z,4.1nm,0.9s
MNSI Mandailing Nat 79.03 281 P P 19 41 04.8 +2.3
H03N3 Juan Fernandez 79.27 126 T T 21 06 30.2
baz=229,slow=72,SNR=71
H03N2 Juan Fernandez 79.28 126 T T 21 06 35.3
baz=229,slow=72,SNR=72
H03N1 Juan Fernandez 79.29 126 T T 21 06 33.6
baz=229,slow=72,SNR=52
IPM Ipoh 80.52 285 IAMs_20 IAMs_20 20 17 06.1
comp=Z,4μm,21.0s
IPM Ipoh 80.52 285 P P 19 41 10.9 +0.3
comp=Z,619nmcomp=Z,32nm,0.9s
IPM Ipoh 80.52 285 P P 19 41 09.3 -1.3
GSI Gunungsitoli 80.84 280 IAMs_20 IAMs_20 20 22 59.6
comp=Z,3μm,18.0s
GSI Gunungsitoli 80.84 280 P P 19 41 13.5 +1.2
GSI Gunungsitoli 80.84 280 P P 19 41 12.4 +0.1
PSI Prapat 80.88 282 P P 19 41 11.9 -0.7
KULM Kulim 81.35 285 IAMs_20 IAMs_20 20 16 07.1
comp=Z,4μm,22.0s
KULM Kulim 81.35 285 P P 19 41 15.7 +0.8
JHJ Hachijo jima 2 81.42 332 LR LR 20 17 51.1
comp=Z,670nm,18.1s,baz=163,slow=36
SSLB Suanglung 82.01 312 P P 19 41 18.3 +0.1
KCSI Kotacane, Aceh 82.21 282 P P 19 41 20.1 +0.6
MLSI Meulaboh, Aceh 83.71 282 P P 19 41 28.0 +0.7
LHMI Lhok Sumawe 83.97 283 IAMs_20 IAMs_20 20 22 23.6
comp=Z,3μm,19.0s
JMN Monobe 84.19 327 P P 19 41 27.0 -2.2
INU Inuyama 84.42 330 P P 19 41 31.5 +1.2
comp=Z,13nm,1.1s
SURA Surathani 84.76 287 P P 19 41 34.9 +2.3
QIZ Qiongzhong 84.93 301 P P 19 41 26.9 -6.4
QIZ Qiongzhong 84.93 301 S S 19 51 53.0 -9.2
QIZ Qiongzhong 84.93 301 SS SS 19 57 27.3 -8.2
QIZ LR LR
comp=N,1μm,22.4s
QIZ LR LR
comp=E,730nm,18.2s
QIZ LR LR
comp=Z,1μm,20.6s
MJAR Matsushiro Arr 85.06 332 P P 19 41 33.1 -0.4
comp=Z,2.8nm,1.0s,baz=165,slow=6.0,SNR=6.5
comp=Z,2.8nm,1.0s
MAJO Matsushiro 85.06 332 ⇑ *e* P P 19 41 33.4 -0.1
MAJO pmax pmax
comp=Z,12nm,1.3s
TRQA Tornquist 85.14 139 IAMs_20 IAMs_20 20 12 31.0
comp=Z,3μm,20.0s
SSE Sheshan 87.74 317 S S 19 52 32.9 +3.8
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,87nm,4.4s
SSE LR LR
comp=N,680nm,18.9s
SSE LR LR
comp=E,520nm,18.9s
ERM Erimo 88.49 338 IAMs_20 IAMs_20 20 15 59.4
comp=Z,4μm,20.0s
NONG Nongkai 88.59 296 P P 19 41 51.5 +0.4
GULI GuiLin 89.26 306 ⇑ P P 19 41 53.3 -0.8
NJ2 Nanjing 89.70 316 ⇓ P P 19 41 56.9 +0.9
NJ2 sP sP 19 42 25.5 +26
NJ2 PP PP 19 45 31.8 +3.3
NJ2 Nanjing 89.70 316 S S 19 52 35.6 -12
NJ2 Nanjing 89.70 316 *e* P P 19 42 00.1 +4.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSRS Korea Array 89.85 325 P P 19 41 56.5 -0.1
comp=Z,8.0nm,1.1s,baz=143,slow=5.3,SNR=14
KSRS LR LR 20 21 11.4
comp=Z,500nm,19.0s,baz=140,slow=35
comp=Z,8.0nm,1.1s
WHN Wuhan 90.93 312 ⇑ P P 19 42 03.1 +1.3
CM31 Chiang Mai Arr 91.69 293 P P 19 42 04.4 -1.2
CM31 IAmb IAmb 19 42 10.7
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 91.69 293 P P 19 42 05.2 -0.5
comp=Z,9.6nm,0.9s,baz=148,slow=3.4,SNR=34
CMAR PP PP 19 45 40.8 -3.7
comp=Z,1.3nm,0.9s,baz=150,slow=6.2,SNR=3.3
comp=Z,9.6nm,0.9s
CMAR Chiang Mai Arr 91.69 293 P P 19 42 04.1 -1.5
YSS Yuzh-Sakhalins 93.16 339 IAMs_20 IAMs_20 20 24 16.1
comp=Z,4μm,19.0s
ENH Enshi 93.48 309 P P 19 42 13.9 +0.2
comp=Z,17nm,1.1s
DL2 Dalian 93.83 322 P P 19 42 16.0 +1.0
DL2 Dalian 93.83 322 S S 19 53 20.3 -4.2
DL2 pmax pmax
comp=Z,37nm,1.0s
DL2 pmax pmax
comp=Z,190nm,6.2s
DL2 LR LR
comp=N,1μm,23.7s
DL2 LR LR
comp=E,940nm,19.3s
DL2 LR LR
comp=Z,2μm,23.9s
TIA Tai'an 93.86 317 P P 19 42 15.9 +0.7
TIA pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 93.86 301 ⇓ P P 19 42 17.5 +1.7
KMI pP sP 19 42 20.0 +0.5
KMI sP pP 19 42 21.8 +3.3
KMI Kunming 93.86 301 S S 19 53 23.5 -2.4
KMI Kunming 93.86 301 SS SS 19 59 42.6 -3.0
KMI pmax pmax
comp=Z,10.0nm,1.1s
KMI LR LR
comp=N,590nm,19.1s
KMI LR LR
comp=E,1μm,21.3s
KMI LR LR
comp=Z,2μm,24.9s
SKR Severo-Kuril's 93.99 349 *e* P P 19 42 14.9 -0.5
SKR *e* S S 19 53 24.3 -1.0
SKR pmax pmax
comp=Z,100nm,8.6s
SKR MLR MLR
comp=Z,1μm,16.0s
SHEM Shemya Is, Ala 94.73 0 LR LR 20 20 48.8
comp=Z,2μm,20.3s,baz=203,slow=33
SNY Shenyang 95.34 325 ⇓ P P 19 42 32.3 +10
SNY Shenyang 95.34 325 S S 19 53 39.4 +1.9
SNY LR LR
comp=N,570nm,17.8s
SNY LR LR
comp=E,750nm,18.0s
SNY LR LR
comp=Z,2μm,37.4s
PZH PanZhiHua 95.47 301 P P 19 42 11.8 -11
PZH PanZhiHua 95.47 301 S S 19 53 38.4 -1.3
PZH PanZhiHua 95.47 301 SS SS 19 59 57.4 -11
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH LR LR
comp=N,1μm,22.6s
PZH LR LR
comp=E,1μm,21.6s
PZH LR LR
comp=Z,2μm,25.0s
NNA Nana 95.73 112 LR LR 20 16 47.7
comp=Z,7μm,20.3s,baz=234,slow=30
PET Petropavlovsk 95.94 351 IAMs_20 IAMs_20 20 18 53.6
comp=Z,3μm,22.0s
PET Petropavlovsk 95.94 351 *e* P P 19 42 13.8 -10
HNS HongShan 96.00 317 ⇑ P P 19 42 13.8 -11
HNS HongShan 96.00 317 S S 19 53 40.5 -2.9
HNS pmax pmax
comp=Z,3.0nm,0.9s
HNS LR LR
comp=N,1μm,18.2s
HNS LR LR
comp=E,1μm,19.0s
HNS LR LR
comp=Z,2μm,18.4s
MND Mandalay 96.06 294 P P 19 42 27.8 +2.2
comp=Z,3.5nm,1.3s
CN2 Changchun 96.19 327 *e* P P 19 42 26.3 +0.6
CN2 *e* PP PP 19 46 22.8 +3.4
CN2 Changchun 96.19 327 *e* sS sS 19 53 49.8 +0.5
CN2 Changchun 96.19 327 *e* SS SS 20 00 20.8 +3.0
CN2 LR LR
comp=N,560nm,21.0s
CN2 LR LR
comp=E,580nm,21.0s
CN2 LR LR
comp=Z,2μm,23.0s
TNCH TengChong 96.52 298 ⇑ P P 19 42 31.3 +3.4
TNCH pP sP 19 42 34.4 +2.8
TNCH PP PP 19 46 27.6 +5.1
TNCH TengChong 96.52 298 S S 19 53 48.8 -0.2
TNCH TengChong 96.52 298 SS SS 20 00 26.5 +3.2
TNCH pmax pmax
comp=Z,13nm,0.6s
TNCH pmax pmax
comp=Z,130nm,5.3s
TNCH LR LR
comp=N,440nm,17.4s
TNCH LR LR
comp=E,520nm,17.5s
TNCH LR LR
comp=Z,1μm,20.1s
XAN Xi'an 96.58 311 ⇓ P P 19 42 28.5 +0.7
XAN pP sP 19 42 36.4 +4.9
XAN sP pP 19 42 39.9 +9.4
XAN Xi'an 96.58 311 S S 19 53 49.8 +1.0
XAN Xi'an 96.58 311 sS sS 19 54 00.0 +6.7
XAN Xi'an 96.58 311 SS SS 20 00 28.3 +4.6
XAN pmax pmax
comp=Z,9.0nm,1.1s
XAN LR LR
comp=N,1μm,21.3s
XAN LR LR
comp=E,260nm,22.7s
XAN LR LR
comp=Z,2μm,22.0s
CPUP Villa Florida 96.87 135 P P 19 42 32.2 +2.8
comp=Z,2.4nm,0.9s,baz=210,slow=7.5,SNR=3.8
comp=Z,2.4nm,0.9s
109C Camp Elliot, M 97.98 52 IAMs_20 IAMs_20 20 24 03.0
comp=Z,3μm,18.0s
SAO San Andreas Ge 98.33 47 IAMs_20 IAMs_20 20 22 46.0
comp=Z,4μm,21.0s
MCCM Marconi Confer 98.59 45 IAMs_20 IAMs_20 20 23 43.6
comp=Z,3μm,20.0s
PFO Pinyon Flats O 98.88 52 IAMs_20 IAMs_20 20 24 38.7
comp=Z,3μm,18.0s
VOI Vohitsoka 99.59 229 IAMs_20 IAMs_20 20 21 25.7
comp=Z,3μm,20.0s
CMB Columbia Colle 99.84 47 IAMs_20 IAMs_20 20 24 04.9
comp=Z,3μm,20.0s
HEH HeiHe 100.83 332 *e* P Pdif 19 42 49.1 +2.8
HEH pmax pmax
comp=Z,4.0nm,1.7s
HEH LR LR
comp=N,390nm,19.6s
HEH LR LR
comp=E,830nm,18.8s
HEH LR LR
comp=Z,1μm,20.9s
TUC Tucson 101.39 57 IAMs_20 IAMs_20 20 22 41.6
comp=Z,3μm,19.0s
ABPO Ambohimpanom 101.64 231 IAMs_20 IAMs_20 20 26 57.5
comp=Z,2μm,18.0s
MOD Modoc Plateau 102.69 44 IAMs_20 IAMs_20 20 27 32.0
comp=Z,3μm,20.0s
WUAZ Wupatki 103.22 54 IAMs_20 IAMs_20 20 27 18.6
comp=Z,2μm,18.0s
MA2 Magadan 103.39 348 IAMs_20 IAMs_20 20 24 10.4
comp=Z,3μm,22.0s
KDAK Kodiak Island 103.65 18 IAMs_20 IAMs_20 20 20 37.7
comp=Z,4μm,21.0s
EPT El Paso 103.73 60 IAMs_20 IAMs_20 20 24 02.4
comp=Z,2μm,19.0s
TXAR Lajitas Array 103.97 63 PKKPbc PKKPbc 19 58 51.6 +1.7
comp=Z,0.3nm,0.8s,baz=73,slow=2.0,SNR=2.2
P18K Big Mountain, 104.56 16 IAMs_20 IAMs_20 20 25 07.7
comp=Z,2μm,20.0s
O18K Koktuh Hills 104.99 16 IAMs_20 IAMs_20 20 29 03.1
comp=Z,3μm,19.0s
HDC Heredia 105.47 91 IAMs_20 IAMs_20 20 29 02.7
comp=Z,2μm,18.0s
O19K Port Alsworth 105.48 16 IAMs_20 IAMs_20 20 25 46.1
comp=Z,3μm,20.0s
DUG Dugway, Tooele 105.54 50 IAMs_20 IAMs_20 20 31 01.0
comp=Z,3μm,18.0s
N18K Kilae Creek 105.62 15 IAMs_20 IAMs_20 20 29 43.7
comp=Z,3μm,21.0s
N19K Bonanza Creek 106.02 15 IAMs_20 IAMs_20 20 29 36.2
comp=Z,3μm,18.0s
MVCO Mesa Verde 106.07 54 IAMs_20 IAMs_20 20 28 51.1
comp=Z,3μm,19.0s
MFID Camas Ranch 106.09 46 IAMs_20 IAMs_20 20 27 43.2
comp=Z,2μm,21.0s
BMO Blue Mountains 106.32 44 IAMs_20 IAMs_20 20 30 30.1
comp=Z,3μm,19.0s
KVTX Kingsville 106.72 68 IAMs_20 IAMs_20 20 29 39.2
comp=Z,2μm,18.0s
O22K Cooper Landing 106.73 18 IAMs_20 IAMs_20 20 23 57.2
comp=Z,2μm,22.0s
HLID Hailey 106.94 46 IAMs_20 IAMs_20 20 28 30.8
comp=Z,3μm,20.0s
M19K Big River Lodg 107.04 15 IAMs_20 IAMs_20 20 30 18.1
comp=Z,2μm,20.0s
PLID Pearl Lake 107.15 44 IAMs_20 IAMs_20 20 27 44.1
comp=Z,2μm,20.0s
L19K White Mountain 107.20 15 IAMs_20 IAMs_20 20 31 40.5
comp=Z,2μm,19.0s
M20K Styx River 107.26 16 IAMs_20 IAMs_20 20 27 16.2
comp=Z,3μm,22.0s
JCT Junction City 107.28 64 IAMs_20 IAMs_20 20 23 33.7
comp=Z,3μm,21.0s
SUA Susitna One 107.38 17 IAMs_20 IAMs_20 20 27 28.4
comp=Z,3μm,21.0s
PWL Port Wells 107.38 18 IAMs_20 IAMs_20 20 36 18.6
comp=Z,2μm,20.0s
M22K Willow 107.78 17 IAMs_20 IAMs_20 20 31 20.8
comp=Z,3μm,20.0s
SONM Songino Array 107.80 319 PKKPbc PKKPbc 19 58 41.1 +2.4
comp=Z,1.1nm,0.9s,baz=301,slow=5.2,SNR=4.5
ANM Nome 107.84 9 IAMs_20 IAMs_20 20 31 16.8
comp=Z,2μm,19.0s
GHO Glory Hole Cre 108.06 18 IAMs_20 IAMs_20 20 27 35.3
comp=Z,2μm,21.0s
BCIP Isla Barro Col 108.09 94 IAMs_20 IAMs_20 20 26 29.9
comp=Z,2μm,19.0s
BERG Berg Lake 108.12 21 IAMs_20 IAMs_20 20 24 12.3
comp=Z,3μm,21.0s
AHID Auburn Hatcher 108.22 48 IAMs_20 IAMs_20 20 29 27.6
comp=Z,3μm,20.0s
SML Sawmill 108.22 18 IAMs_20 IAMs_20 20 31 35.7
comp=Z,2μm,20.0s
SMCO Snowmass 108.26 53 IAMs_20 IAMs_20 20 30 05.1
comp=Z,2μm,18.0s
WAX Waxell Ridge 108.39 21 IAMs_20 IAMs_20 20 24 22.5
comp=Z,4μm,22.0s
MESA MESA 108.40 22 IAMs_20 IAMs_20 20 28 14.9
comp=Z,3μm,20.0s
K20K Telida 108.43 15 IAMs_20 IAMs_20 20 32 00.9
comp=Z,2μm,19.0s
SCM Sheep Creek Mo 108.47 18 IAMs_20 IAMs_20 20 30 49.4
comp=Z,2μm,20.0s
KLU Klutina 108.51 19 IAMs_20 IAMs_20 20 25 16.4
comp=Z,2μm,22.0s
ISLE Juniper Island 108.66 21 IAMs_20 IAMs_20 20 24 50.6
comp=Z,3μm,21.0s
REDW Red Top Meadow 108.75 48 IAMs_20 IAMs_20 20 29 54.6
comp=Z,3μm,20.0s
TPAW Teton Pass 108.77 48 IAMs_20 IAMs_20 20 29 56.3
comp=Z,3μm,20.0s
AMTX Amarillo 108.81 60 IAMs_20 IAMs_20 20 27 16.2
comp=Z,2μm,20.0s
FXWY Fox Creek 108.83 48 IAMs_20 IAMs_20 20 29 56.8
comp=Z,3μm,20.0s
BCPM Bancas Point 108.86 23 IAMs_20 IAMs_20 20 28 38.1
comp=Z,3μm,20.0s
CAST Castle Rocks 108.86 15 IAMs_20 IAMs_20 20 28 07.5
comp=Z,3μm,21.0s
SNOW Snow King Moun 108.86 48 IAMs_20 IAMs_20 20 29 58.7
comp=Z,3μm,20.0s
VRDI Verde Repeater 108.90 20 IAMs_20 IAMs_20 20 30 48.8
comp=Z,2μm,20.0s
N25K Chitina, Valde 108.93 20 IAMs_20 IAMs_20 20 24 54.7
comp=Z,3μm,21.0s
435B Jarrell 108.95 65 IAMs_20 IAMs_20 20 25 57.2
comp=Z,3μm,20.0s
LOHW Long Hollow 109.05 48 IAMs_20 IAMs_20 20 30 03.6
comp=Z,3μm,20.0s
IMW Indian Meadow 109.05 48 IAMs_20 IAMs_20 20 34 07.4
comp=Z,2μm,18.0s
MOOW Moose Ponds 109.06 48 IAMs_20 IAMs_20 20 30 04.8
comp=Z,3μm,20.0s
MCARA McCarthy VSAT 109.14 20 IAMs_20 IAMs_20 20 24 56.2
comp=Z,2μm,20.0s
J20K Nowinta River 109.16 14 IAMs_20 IAMs_20 20 31 03.2
comp=Z,2μm,20.0s
KTH Kantishna Hill 109.22 16 IAMs_20 IAMs_20 20 28 25.8
comp=Z,3μm,21.0s

BARN	**Barnard Glacie**	**109.22**	**21**	IAMs_20	IAMs_20	20 29 12.5			
	comp=Z,2μm,20.0s								
FLWY	**Flagg Ranch**	**109.30**	**48**	IAMs_20	IAMs_20	20 30 11.2			
	comp=Z,2μm,20.0s								
RND	**Reindeer**	**109.52**	**17**	IAMs_20	IAMs_20	20 28 44.8			
	comp=Z,2μm,21.0s								
HKT	**Hockley**	**109.63**	**67**	IAMs_20	IAMs_20	20 31 15.3			
	comp=Z,2μm,18.0s								
BPAW	**Bear Paw Mtn.**	**109.69**	**16**	IAMs_20	IAMs_20	20 28 41.4			
	comp=Z,3μm,20.0s								
RWWY	**Rawlins**	**109.72**	**51**	IAMs_20	IAMs_20	20 26 59.8			
	comp=Z,3μm,20.0s								
MCK	**McKinley**	**109.79**	**17**	IAMs_20	IAMs_20	20 28 42.0			
	comp=Z,3μm,20.0s								
M26K	**Nabesna, AK**	**110.01**	**20**	IAMs_20	IAMs_20	20 25 52.1			
	comp=Z,2μm,21.0s								
YAK	**Yakutsk**	**110.01**	**339**	IAMs_20	IAMs_20	20 33 06.6			
	comp=Z,2μm,19.0s								
M27K	**Edge Creek, AK**	**110.25**	**20**	IAMs_20	IAMs_20	20 36 32.7			
	comp=Z,2μm,20.0s								
L26K	**Log Cabin Wild**	**110.45**	**19**	IAMs_20	IAMs_20	20 26 27.8			
	comp=Z,2μm,21.0s								
NEA2	**Nenana**	**110.52**	**16**	IAMs_20	IAMs_20	20 29 17.3			
	comp=Z,3μm,22.0s								
MLY	**Manley**	**110.58**	**15**	IAMs_20	IAMs_20	20 33 25.6			
	comp=Z,3μm,19.0s								
RIDG	**Independent Ri**	**110.70**	**18**	IAMs_20	IAMs_20	20 32 37.3			
	comp=Z,2μm,20.0s								
BRIGG	**Briggsdale**	**110.73**	**54**	IAMs_20	IAMs_20	20 36 54.5			
	comp=Z,2μm,18.0s								
RLMT	**Red Lodge**	**110.75**	**47**	IAMs_20	IAMs_20	20 30 59.6			
	comp=Z,2μm,20.0s								
H21K	**Melozitna Rive**	**110.75**	**14**	IAMs_20	IAMs_20	20 32 21.2			
	comp=Z,2μm,19.0s								
L27K	**Beaver Creek,**	**110.86**	**20**	IAMs_20	IAMs_20	20 31 55.6			
	comp=Z,2μm,20.0s								
I23K	**Minto, Yukon-K**	**110.95**	**16**	IAMs_20	IAMs_20	20 29 30.7			
	comp=Z,3μm,22.0s								
MDM	**Murphy Dome**	**111.01**	**16**	IAMs_20	IAMs_20	20 29 52.4			
	comp=Z,3μm,20.0s								
ILAR	**Eielson Array**	**111.13**	**17**	*i* PKIKP	**PKiKP**	**19 47 29.9**	**-0.6**		
	comp=Z,2.8nm,1.0s,baz=242,slow=3.4,SNR=11								
ILAR				PKKPbc	**PKKPbc**	**19 58 29.7**	**+1.5**		
	comp=Z,0.5nm,0.9s,baz=2.3,slow=4.5,SNR=2.3								
ILAR	**Eielson Array**	**111.13**	**17**	*i* PKIKP	**PKiKP**	**19 47 30.0**	**-0.6**		
J25K	**Salcha River**	**111.33**	**18**	IAMs_20	IAMs_20	20 29 06.9			
	comp=Z,2μm,22.0s								
RDOG	**Red Dog Mine**	**111.48**	**9**	IAMs_20	IAMs_20	20 41 45.1			
	comp=Z,3μm,20.0s								
H23K	**Yukon River**	**111.51**	**15**	IAMs_20	IAMs_20	20 34 12.5			
	comp=Z,2μm,19.0s								
NATX	**Nacogdoches**	**111.53**	**66**	IAMs_20	IAMs_20	20 27 49.6			
	comp=Z,2μm,20.0s								
OK038	**West end E0370**	**111.68**	**60**	IAMs_20	IAMs_20	20 38 04.0			
	comp=Z,2μm,19.0s								
OK035	**E0210 Rd and N**	**111.84**	**60**	IAMs_20	IAMs_20	20 38 07.2			
	comp=Z,2μm,18.0s								
M31M	**Drury Creek, Y**	**112.19**	**23**	IAMs_20	IAMs_20	20 30 47.3			
	comp=Z,3μm,21.0s								
OK032	**Salt Plains WL**	**112.22**	**60**	IAMs_20	IAMs_20	20 29 26.2			
	comp=Z,2μm,19.0s								
EGMT	**Eagleton**	**112.33**	**45**	IAMs_20	IAMs_20	20 33 42.1			
	comp=Z,2μm,20.0s								
I26K	**Coal Creek Min**	**112.42**	**18**	IAMs_20	IAMs_20	20 30 28.8			
	comp=Z,2μm,20.0s								
EGAK	**Eagle**	**112.45**	**19**	IAMs_20	IAMs_20	20 27 08.6			
	comp=Z,2μm,22.0s								
OK045	**Pawnee Station**	**112.83**	**61**	IAMs_20	IAMs_20	20 33 09.6			
	comp=Z,2μm,18.0s								
J29M	**Klondike Camp**	**112.92**	**20**	IAMs_20	IAMs_20	20 30 52.3			
	comp=Z,2μm,22.0s								
FYU	**Fort Yukon**	**113.03**	**16**	IAMs_20	IAMs_20	20 38 03.8			
	comp=Z,2μm,19.0s								
LAO	**LASA Array**	**113.39**	**48**	IAMs_20	IAMs_20	20 32 34.5			
	comp=Z,2μm,20.0s								
I29M	**Ogilvie Camp,**	**113.63**	**20**	IAMs_20	IAMs_20	20 32 51.9			
	comp=Z,2μm,21.0s								
MIAR	**Mount Ida**	**113.92**	**64**	IAMs_20	IAMs_20	20 28 19.5			
	comp=Z,2μm,20.0s								
KSU1	**Kansas State U**	**114.59**	**59**	IAMs_20	IAMs_20	20 30 38.0			
	comp=Z,3μm,19.0s								
SDV	**Santo Domingo**	**114.66**	**101**	IAMs_20	IAMs_20	20 26 30.7			
	comp=Z,3μm,22.0s								
EPYK	**Eagle Plains**	**114.83**	**20**	IAMs_20	IAMs_20	20 29 03.7			
	comp=Z,2μm,21.0s								
WMQ	**Urumqi**	**115.37**	**307**	*e*P	PKPdf	19 47 26.1	-13		
WMQ				LR	LR				
	comp=N,840nm,25.3s								
WMQ				LR	LR				
	comp=E,540nm,25.3s								
WMQ				LR	LR				
	comp=Z,830nm,29.1s								
DGMT	**Dagmar**	**115.55**	**47**	IAMs_20	IAMs_20	20 37 58.7			
	comp=Z,2μm,19.0s								
INK	**Inuvik**	**117.12**	**19**	PKP	**PKPdf**	**19 47 40.7**	**-1.2**		
	comp=Z,6.6nm,0.9s,baz=166,slow=3.1,SNR=13								
ECSD	**EROS Data Cent**	**117.21**	**55**	IAMs_20	IAMs_20	20 35 51.1			
	comp=Z,2μm,18.0s								
PLAL	**Pickwick Lake**	**117.88**	**67**	IAMs_20	IAMs_20	20 37 52.7			
	comp=Z,2μm,20.0s								
HATO	**Hato, Curacao**	**118.08**	**99**	IAMs_20	IAMs_20	20 31 26.4			
	comp=Z,2μm,20.0s								
TIXI	**Tiksi**	**118.12**	**345**	IAMs_20	IAMs_20	20 37 10.6			
	comp=Z,2μm,21.0s								
TIXI	**Tiksi**	**118.12**	**345**	⇑*i* PKIKP	**PKPdf**	**19 47 42.6**	**-1.1**		
WVT	**Waverly**	**118.68**	**66**	IAMs_20	IAMs_20	20 34 18.9			
	comp=Z,2μm,20.0s								
DGZ	**Jazzator, Alta**	**118.79**	**312**	⇓*i* PKIKP	**PKiKP**	**19 47 48.1**	**+2.1**		
YKA	**Yellowknife Ar**	**119.03**	**30**	PKP	**PKPdf**	**19 47 44.8**	**-1.0**		
	comp=Z,14nm,1.0s,baz=229,slow=2.1,SNR=16								
AGMN	**Agassiz Natior**	**120.10**	**51**	IAMs_20	IAMs_20	20 37 42.2			
	comp=Z,2μm,20.0s								
FFC	**Flin Flon**	**120.17**	**42**	IAMs_20	IAMs_20	20 38 32.5			
	comp=Z,2μm,19.0s								
MKAR	**Makanchi Array**	**120.19**	**307**	PKP	**PKPdf**	**19 47 46.6**	**-1.9**		
	comp=Z,3.0nm,0.8s,baz=249,slow=3.4,SNR=12								
KIBK	**Kibwezi**	**120.30**	**234**	IAMs_20	IAMs_20	20 28 58.9			
	comp=Z,2μm,21.0s								
KSH	**Kashi**	**120.35**	**297**	PKP	**PKiKP**	**19 47 54.9**	**+5.6**		
KSH				LR	LR				
	comp=N,1μm,21.7s								
KSH				LR	LR				
	comp=E,810nm,20.7s								
KSH				LR	LR				
	comp=Z,1μm,22.7s								
JFWS	**Jewell Farm**	**120.70**	**58**	IAMs_20	IAMs_20	20 36 06.8			
	comp=Z,3μm,19.0s								
WCI	**Wyandotte Cave**	**120.84**	**65**	IAMs_20	IAMs_20	20 41 19.8			
	comp=Z,2μm,18.0s								
ULM	**Lac du Bonnet**	**121.08**	**49**	PKP	**PKiKP**	**19 47 51.0**	**+0.8**		
	comp=Z,4.6nm,0.7s,baz=257,slow=5.1,SNR=3.6								
ULM	**Lac du Bonnet**	**121.08**	**49**	PKIKP	**PKiKP**	**19 47 51.0**	**+0.8**		
TKL	**Tuckaleechee C**	**121.20**	**68**	PKP	**PKPdf**	**19 47 49.6**	**-1.3**		
	comp=Z,2.8nm,0.8s,baz=350,slow=8.8,SNR=1.9								
NRN	**Naryn**	**121.33**	**299**	PKIKP	**PKiKP**	**19 47 52.2**	**+0.8**		
HQIL	**Hanson Quary C**	**121.66**	**60**	IAMs_20	IAMs_20	20 35 20.2			
	comp=Z,3μm,20.0s								
A36M	**Sachs Harbour**	**121.72**	**19**	PKPdf	**PKPdf**	**19 47 49.8**	**-0.8**		
KMBO	**Kilima Mbogo**	**121.74**	**234**	IAMs_20	IAMs_20	20 29 42.5			
	comp=Z,2μm,21.0s								
TZTN	**Tazewell**	**121.82**	**68**	IAMs_20	IAMs_20	20 42 15.0			
	comp=Z,2μm,19.0s								
SHEL	**Horse Pasture**	**121.95**	**180**	IAMs_20	IAMs_20	20 37 41.9			
	comp=Z,2μm,20.0s								
ZALV	**Zalesovo Beam**	**122.35**	**316**	PKP	**PKPdf**	**19 47 49.6**	**-2.8**		
	comp=Z,1.4nm,0.6s,baz=132,slow=2.2,SNR=6.2								
GRTK	**Grand Turk**	**122.37**	**90**	IAMs_20	IAMs_20	20 36 01.6			
	comp=Z,1μm,19.0s								
EYMN	**Ely**	**122.46**	**53**	IAMs_20	IAMs_20	20 36 47.7			
	comp=Z,2μm,20.0s								
P49A	**Miami Univ. Ec**	**122.57**	**64**	IAMs_20	IAMs_20	20 38 33.5			
	comp=Z,3μm,20.0s								
AAK	**Ala-Archa**	**122.90**	**300**	PKP	**PKPdf**	**19 47 52.4**	**-1.7**		
	comp=Z,1.4nm,0.6s,baz=216,slow=7.9,SNR=5.6								
GRGR	**Grenville**	**123.33**	**105**	IAMs_20	IAMs_20	20 32 50.4			
	comp=Z,2μm,22.0s								
WSAR	**Wadi Sarin**	**123.71**	**272**	PKP	**PKPdf**	**19 47 55.5**	**-0.5**		
	comp=Z,3.9nm,0.9s,baz=315,slow=1.4,SNR=2.8								
SJG	**San Juan**	**123.97**	**96**	IAMs_20	IAMs_20	20 37 25.6			
	comp=Z,2μm,18.0s								
KURK	**Kurchatov**	**124.21**	**310**	PKIKP	**PKPdf**	**19 47 54.3**	**-1.8**		
KURBB	**Kurchatov Arra**	**124.22**	**310**	PKP	**PKPdf**	**19 47 54.2**	**-1.8**		
	comp=Z,3.9nm,0.7s,baz=115,slow=1.8,SNR=32								
BLA	**Blacksburg**	**124.31**	**69**	IAMs_20	IAMs_20	20 37 21.0			
	comp=Z,2μm,20.0s								
P52A	**Corning**	**124.35**	**65**	IAMs_20	IAMs_20	20 39 50.7			
	comp=Z,2μm,20.0s								
RCBR	**Riachuelo**	**124.86**	**143**	IAMs_20	IAMs_20	20 35 11.8			
	comp=Z,2μm,21.0s								
GLMI	**Grayling**	**125.19**	**59**	IAMs_20	IAMs_20	20 38 44.5			
	comp=Z,2μm,20.0s								
O53A	**New Philadelph**	**125.27**	**65**	IAMs_20	IAMs_20	20 40 09.9			
	comp=Z,2μm,19.0s								
BIM	**Bigot**	**125.35**	**103**	IAMs_20	IAMs_20	20 36 28.0			
	comp=Z,2μm,20.0s								
FDF	**Fort de France**	**125.44**	**103**	IAMs_20	IAMs_20	20 37 45.3			
	comp=Z,2μm,20.0s								
MPOM	**Morne Pois Mar**	**125.45**	**104**	IAMs_20	IAMs_20	20 33 22.7			
	comp=Z,2μm,22.0s								
ILAM	**Ilet Lapin Mar**	**125.66**	**103**	IAMs_20	IAMs_20	20 33 16.2			
	comp=Z,2μm,22.0s								
SEUS	**St. Eustatius**	**125.90**	**99**	IAMs_20	IAMs_20	20 38 43.7			
	comp=Z,2μm,20.0s								
MBAR	**Mbarara**	**125.90**	**228**	⇓*i* PKIKP	**PKiKP**	**19 48 02.8**	**+1.6**		
MCWV	**Mont Chateau**	**125.91**	**66**	IAMs_20	IAMs_20	20 36 27.1			
	comp=Z,2μm,20.0s								
CBE	**Ff, Capester**	**125.98**	**101**	IAMs_20	IAMs_20	20 42 16.7			
	comp=Z,1μm,18.0s								
MAGL	**Barre de l'ile**	**126.14**	**102**	IAMs_20	IAMs_20	20 39 19.0			
	comp=Z,2μm,18.0s								
SMRT	**St. Maarten**	**126.19**	**99**	IAMs_20	IAMs_20	20 37 07.3			
	comp=Z,2μm,20.0s								
ABD	**La Joyeuse, An**	**126.33**	**101**	IAMs_20	IAMs_20	20 40 17.1			
	comp=Z,2μm,20.0s								
LODK	**Lodwar**	**126.48**	**235**	IAMs_20	IAMs_20	20 39 11.3			
	comp=Z,2μm,19.0s								
GDSD	**La Dsirade Is**	**126.53**	**102**	IAMs_20	IAMs_20	20 39 57.4			
	comp=Z,1μm,18.0s								
ANWB	**Willy Bob**	**126.89**	**100**	IAMs_20	IAMs_20	20 34 31.8			
	comp=Z,2μm,22.0s								
CBN	**Corbin Frederi**	**126.90**	**69**	IAMs_20	IAMs_20	20 39 26.7			
	comp=Z,2μm,19.0s								
NRIK	**Noril'sk**	**127.69**	**333**	PKP	**PKPdf**	**19 48 00.7**	**-1.5**		
	comp=Z,1.3nm,0.5s,baz=100,slow=8.4,SNR=2.1								
NRIK	**Noril'sk**	**127.69**	**333**	⇓*e*PKIKP	**PKiKP**	**19 48 05.6**	**+2.9**		
FURI	**Furi**	**128.56**	**243**	IAMs_20	IAMs_20	20 49 02.7			
	comp=Z,2μm,18.0s								
ASCN	**Ascension**	**129.35**	**169**	IAMs_20	IAMs_20	20 42 42.3			
	comp=Z,2μm,20.0s								
BVAR	**Borovoye Array**	**129.81**	**310**	PKP	**PKPdf**	**19 48 05.7**	**-1.0**		
	comp=Z,3.5nm,0.8s,baz=54,slow=1.1,SNR=9.8								
BVAR				SKPbc	SKPab	19 51 27.4	-1.2		
	comp=Z,1.7nm,0.8s,baz=111,slow=3.2,SNR=4.1								
BRVK	**Borovoye**	**129.88**	**310**	⇓*e*PKIKP	**PKiKP**	**19 48 07.4**	**-0.2**		
PAL	**Palisades**	**130.56**	**67**	IAMs_20	IAMs_20	20 45 46.4			
	comp=Z,2μm,20.0s								
RES	**Resolute Bay**	**130.65**	**20**	PKP	**PKPdf**	**19 48 07.1**	**-0.6**		
	comp=Z,5.3nm,0.9s,baz=250,slow=6.7,SNR=4.1								
WSPT	**Westport, CT**	**131.03**	**67**	IAMs_20	IAMs_20	20 49 05.7			
	comp=Z,2μm,19.0s								
YLE	**Yale**	**131.35**	**67**	IAMs_20	IAMs_20	20 44 04.7			
	comp=Z,2μm,19.0s								
TRY	**Troy**	**131.44**	**65**	IAMs_20	IAMs_20	20 40 52.5			
	comp=Z,2μm,20.0s								
GEYT	**Alibeck**	**131.80**	**287**	PKP	**PKPdf**	**19 48 10.0**	**-1.1**		
	comp=Z,4.2nm,0.8s,baz=260,slow=2.7,SNR=8.5								
GEYT				SKPbc	**SKPbc**	**19 51 35.4**	**-1.5**		
	comp=Z,6.0nm,1.2s,baz=4.1,slow=2.0,SNR=6.8								
QUA2	**Belchertown**	**132.15**	**66**	IAMs_20	IAMs_20	20 53 18.4			
	comp=Z,2μm,18.0s								
BRYW	**Bryant College**	**132.56**	**67**	IAMs_20	IAMs_20	20 40 22.3			
	comp=Z,2μm,20.0s								
HRV	**Adam Dziewonsk**	**132.78**	**66**	IAMs_20	IAMs_20	20 45 02.1			
	comp=Z,2μm,20.0s								
WES	**Weston**	**132.89**	**67**	IAMs_20	IAMs_20	20 51 56.1			
	comp=Z,2μm,18.0s								
BCX	**Boston College**	**132.97**	**67**	IAMs_20	IAMs_20	20 51 52.3			
	comp=Z,2μm,20.0s								
SVE	**Sverdlovsk**	**136.24**	**313**	*e*PKIKP	**PKPdf**	**19 48 19.5**	**+0.8**		
TULEG	**Thule**	**137.08**	**18**	IAMs_20	IAMs_20	20 46 07.3			
	comp=Z,2μm,20.0s								
ARU	**Arti**	**137.30**	**312**	PKP	**PKPdf**	**19 48 19.9**	**-0.7**		
	comp=Z,2.3nm,0.5s,baz=168,slow=3.2,SNR=6.0								
ARU	**Arti**	**137.30**	**312**	*i* PKIKP	**PKPdf**	**19 48 20.8**	**+0.1**		
ARU						19 51 01.5			
ARU				MLR	MLR				
	comp=Z,1μm,21.0s								
MAK	**Makhachkala**	**141.19**	**290**	*i* PKIKP	**PKPdf**	**19 48 27.1**	**-1.1**		
MAK				*e*PPP	PPP	19 54 38.4			
MAK				*e*		19 55 40.5			
KBS	**Kingsbay**	**142.67**	**354**	IAMs_20	IAMs_20	20 51 31.7			
	comp=Z,1μm,20.0s								
BELG	**Belogornoye**	**143.10**	**305**	PKhKP	PKPpre	19 48 25.5			
	comp=Z,14nm,0.8s,baz=145,slow=8.9,SNR=5.3								
BELG	**Belogornoye**	**143.10**	**305**	*d* PKIKP	PKPab	19 48 27.2	+0.5		
LIC	**Lamto**	**143.98**	**182**	⇑*e*P	**PKPdf**	**19 48 33.1**	**-1.0**		
	comp=Z,22nm,0.7s								
PRGR	**Permogore**	**144.05**	**320**	*e*PKHKP	PKPpre	19 48 22.6			
PRGR				pmax	pmax				
	comp=Z,7.0nm,1.0s								
NCK	**Nalchik**	**144.08**	**289**	⇓*e*PKIKP	**PKPdf**	**19 48 34.8**	**+1.4**		
KIC	**Kosan Boka**	**144.11**	**182**	⇑*e*P	**PKPdf**	**19 48 33.6**	**-0.7**		
	comp=Z,7.1nm,0.5s								
TIC	**Toumodi**	**144.40**	**182**	⇑*e*P	**PKPab**	**19 48 31.4**	**-1.5**		
	comp=Z,20nm,0.9s								
DBIC	**Dimbokro**	**144.42**	**182**	PKP	**PKPdf**	**19 48 35.2**	**+0.4**		
	comp=Z,5.2nm,0.6s,baz=154,slow=3.3,SNR=8.6								
KBZ	**Khabaz**	**144.63**	**289**	PKP	**PKPab**	**19 48 31.5**	**-1.4**		
	comp=Z,15nm,0.8s,baz=130,slow=2.8,SNR=22								
KBZ	**Khabaz**	**144.63**	**289**	⇓*e*PKIKP	**PKPab**	**19 48 32.1**	**-0.8**		
ASF	**Jabal al Asfar**	**144.68**	**268**	PKP	**PKPab**	**19 48 33.2**	**-0.4**		
	comp=Z,15nm,1.0s,baz=155,slow=1.8,SNR=10								
EIL	**Elat**	**144.83**	**262**	PKP	PKPbc	19 48 34.1	0.0		
	comp=Z,49nm,1.0s,baz=22,slow=2.6,SNR=14								
KIV	**Kislovodsk**	**144.84**	**290**	*i* PKIKP	**PKPdf**	**19 48 36.1**	**+1.3**		
KIV				pmax	pmax				
	comp=Z,13nm,1.1s								
GOF	**Gofitskoye**	**144.86**	**291**	⇑*e*PKIKP	**PKPdf**	**19 48 34.6**	**0.0**		
DAG	**Danmarks Havn**	**145.09**	**5**	*i* P	**PKPbc**	**19 48 32.0**	**-1.6**		
SFJD	**Kangerlussuaq**	**145.59**	**29**	PKPbc	**PKPdf**	**19 48 34.3**	**-0.8**		
	comp=Z,120nm,0.9s,baz=260,slow=1.8,SNR=25								
SFJD	**Kangerlussuaq**	**145.59**	**29**	PKPdf	**PKPdf**	**19 48 34.2**	**-0.9**		
SFJD	**Kangerlussuaq**	**145.59**	**29**	*e*P	**PKPab**	**19 48 36.4**	**+0.7**		
SUMG	**Summit**	**145.98**	**17**	*i* P	**PKPbc**	**19 48 37.0**	**-0.1**		
NUUK	**Nuuk**	**146.14**	**34**	*e*P	**PKPdf**	**19 48 36.4**	**+0.2**		
MMAI	**Mount Meron Ar**	**146.19**	**268**	PKPbc	**PKPbc**	**19 48 38.7**	**+0.2**		
	comp=Z,44nm,0.8s,baz=93,slow=5.8,SNR=21								
LVZ	**Lovozero**	**146.54**	**333**	⇑*i* PKP2	**PKiKP**	**19 48 43.4**	**+2.2**		
VRH	**Novokhopyorsk**	**146.65**	**302**	*e*PKIKP	**PKPdf**	**19 48 37.1**	**-0.4**		
VRH				pmax	pmax				
	comp=Z,50nm,1.2s								
SOC	**Sochi**	**146.83**	**288**	*i* PKP2	**PKPab**	**19 48 41.5**	**+0.3**		
SOC				*e*		19 52 01.7			
SOC				*e*PPP	PPP	19 55 18.1			
SOC				pmax	pmax				
	comp=Z,31nm,0.8s								
KLMR	**Klimovskoe**	**147.09**	**320**	*e*PKPdf	**PKPdf**	**19 48 38.7**	**+0.8**		
KLMR				AMP		19 48 47.0			
	comp=Z,42nm,1.0s								
KLMR	**Klimovskoe**	**147.09**	**320**	*e*PKP2	**PKPdf**	**19 48 38.6**	**+0.7**		
KLMR				pmax	pmax				
	comp=Z,42nm,1.0s								
VORR	**Voronezh**	**148.25**	**303**	*e*PKP2	**PKPbc**	**19 48 44.2**	**+0.7**		
VORR				pmax	pmax				
	comp=Z,65nm,1.9s								
VSR	**Storozhevoye**	**148.26**	**302**	*e*PKP2	**PKPbc**	**19 48 43.1**	**-0.4**		
VSR				pmax	pmax				
	comp=Z,30nm,1.6s								
ARCES	**ARCESS Array B**	**148.29**	**340**	PKPbc	**PKPdf**	**19 48 41.1**	**+1.4**		
	comp=Z,5.2nm,0.5s,baz=31,slow=1.5,SNR=12								
LPSR	**Galich'ya Gora**	**148.42**	**305**	*e*PKP2	**PKPbc**	**19 48 44.5**	**+0.6**		
LPSR				pmax	pmax				
	comp=Z,40nm,1.2s								
SACV	**Santiago Islan**	**148.77**	**146**	IAMs_20	IAMs_20	20 50 45.3			
	comp=Z,1μm,19.0s								
MOS	**Moscow**	**148.98**	**311**	*e*PKIKP	**PKPdf**	**19 48 42.0**	**+0.8**		
MOS				pmax	pmax				
	comp=Z,67nm,1.3s								
MOS				MLR	MLR				
	comp=Z,2μm,21.0s								
OBN	**Obninsk**	**149.65**	**310**	PKPbc	**PKPbc**	**19 48 45.7**	**-1.2**		
	comp=Z,5.1nm,0.8s,baz=332,slow=14,SNR=1.9								
OBN	**Obninsk**	**149.65**	**310**	IAMs_20	IAMs_20	21 03 38.5			
	comp=Z,1μm,20.0s								
OBN	**Obninsk**	**149.65**	**310**	*e*PKIKP	**PKPdf**	**19 48 43.2**	**+1.0**		
OBN				*e*PPP	PPP	19 55 37.9			
OBN				*e*		19 55 49.6			
OBN				*e*SS	SS	20 11 33.6	-2.0		
OBN				*e*SSS	SSS	20 17 07.7			
OBN				pmax	pmax				
	comp=Z,25nm,0.9s								
NRS	**Narsarsuaq**	**149.89**	**38**	*e*P	**PKiKP**	**19 48 48.4**	**+0.1**		
BRTR	**Keskin Array B**	**150.15**	**278**	PKPbc	**PKPbc**	**19 48 47.7**	**-1.1**		
	comp=Z,23nm,0.9s,baz=138,slow=6.1,SNR=19								
FINES	**FINESS Array B**	**152.94**	**326**	PKPbc	**PKPbc**	**19 48 52.9**	**-1.5**		
	comp=Z,7.5nm,0.8s,baz=74,slow=6.8,SNR=10								
KARP	**Karpathos**	**153.41**	**266**	IAMs_20	IAMs_20	21 03 35.3			
	comp=Z,1μm,20.0s								
AKASG	**Malin Array Be**	**154.56**	**301**	PKPbc	**PKPbc**	**19 48 56.3**	**-1.9**		
	comp=Z,2.3nm,0.6s,baz=72,slow=2.7,SNR=7.3								
MNK	**Minsk**	**154.70**	**310**	*i* PKP	**PKPdf**	**19 48 52.6**	**+2.8**		
	comp=E,4.0nm,1.2s								
MNK				*i* PKP	**PKPdf**	**19 48 52.6**	**+2.8**		
	comp=N,42nm,1.0s								
MNK				*i* PKP	**PKPdf**	**19 48 52.6**	**+2.8**		
	comp=Z,39nm,1.2s,baz=75								
MNK				*i* PP	**PP**	**19 52 47.7**	**-1.8**		
MNK				*i* SKS	**SKSdf**	**19 55 59.0**	**+2.8**		
MNK				*i* PPP	PPP	19 56 20.2			
MNK				*i* SKKS	**SKKSdf**	**20 04 38.5**	**+3.6**		
MNK				*i* SS	**SS**	**20 12 31.7**	**+0.5**		
MNK				*i* SSS	SSS	20 18 26.1			
MNK				*i* LR	LR	21 01 11.8			
MNK				*i* LRM	MLR	21 05 44.0			
	comp=Z,1μm,28.0s								
MNK				*i* LRM	MLR	21 07 09.2			
	comp=E,55nm,14.6s								
MNK	**Minsk**	**154.70**	**310**	*i* PKIKP	**PKPdf**	**19 48 52.6**	**+2.8**		
MNK				*i*		19 52 47.7			
MNK				*i*		19 55 59.0			
MNK				*i* PPP	PPP	19 56 20.1			
MNK				*i* SS	SS	20 12 31.7	+0.5		
MNK				*i* SSS	SSS	20 18 26.1			
MNK				pmax	pmax				
	comp=N,42nm,1.0s								
MNK				pmax	pmax				
	comp=Z,39nm,1.2s								
MNK				pmax	pmax				
	comp=E,4.0nm,1.2s								
IDI	**Anoyia**	**154.98**	**264**	PKPbc	**PKPbc**	**19 48 58.7**	**-1.0**		
	comp=E,12nm,1.1s,baz=45,slow=10.0,SNR=1.9								
IDI	**Anoyia**	**154.98**	**264**	IAMs_20	IAMs_20	21 12 39.8			
	comp=Z,1μm,20.0s								
NACGM	**Naroch**	**155.21**	**312**	*e*PKP	**PKPdf**	**19 48 47.9**	**-2.6**		
	comp=Z,13nm,1.0s								
PABE	**Paberze**	**156.54**	**314**	IAMs_20	IAMs_20	20 59 34.2			
	comp=Z,2μm,22.0s								
VTS	**Vitosha**	**158.46**	**281**	PKP2	**PKPab**	**19 49 31.1**	**+0.9**		
HFS	**Hagfors**	**158.51**	**333**	PKPab	**PKPab**	**19 49 27.5**	**-2.1**		
	comp=Z,1.2nm,0.5s,baz=165,slow=

CMWZ	**Cape Campbell**	**0.48**	**12**	P	**Pb**	**19 32 53.5**	**0.0**
CMWZ				S	**Sg**	**19 32 57.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.53**	**343**	P	**Pb**	**19 32 54.2**	**-0.1**
BSWZ				S	**Sg**	**19 32 58.0**	**-1.1**
TUWZ	**Tuamarina**	**0.79**	**352**	P	**Pg**	**19 32 58.1**	**+0.5**
TUWZ				S	**Sg**	**19 33 04.6**	**-3.2**
THZ	**Tophouse**	**0.99**	**297**	P	**Pn**	**19 33 03.5**	**+0.1**
TCW	**Tory Channel**	**1.02**	**8**	P	**Pg**	**19 33 01.7**	**-0.1**
WEL	**Wellington**	**1.06**	**29**	P	**Pn**	**19 33 04.1**	**-0.3**
WEL				S	**Sb**	**19 33 16.6**	**-1.2**
GVZ	**Greta Valley S**	**1.08**	**226**	P	**Pb**	**19 33 03.8**	**0.0**
GVZ				S	**Sb**	**19 33 18.4**	**0.0**
PLWZ	**Palliser**	**1.09**	**54**	P	**Pn**	**19 33 06.5**	**+1.8**
PLWZ				S	**Sn**	**19 33 19.6**	**-0.8**
NNZ	**Nelson**	**1.13**	**332**	P	**Pn**	**19 33 04.6**	**0.0**
NNZ				S	**Sg**	**19 33 16.4**	**-2.2**
MSWZ	**Moikau Station**	**1.18**	**48**	P	**Pn**	**19 33 07.1**	**+1.1**
MRNZ	**Matariki Terra**	**1.28**	**309**	P	**Pg**	**19 33 10.2**	**+3.3**
PAWZ	**Paruwai Farm**	**1.31**	**51**	P	**Pg**	**19 33 09.2**	**+1.9**
CAW	**Cannon Point**	**1.33**	**34**	P	**Pg**	**19 33 08.5**	**+0.7**
DUWZ	**D'Urville Isla**	**1.42**	**355**	P	**Pn**	**19 33 08.7**	**-0.5**
AMCZ	**Amberley**	**1.43**	**227**	P	**Pg**	**19 33 10.0**	**+0.4**
TRWZ	**Traveller**	**1.45**	**56**	P	**Pg**	**19 33 12.8**	**+2.7**
TKNZ	**Takaka Hill**	**1.45**	**324**	P	**Pg**	**19 33 11.0**	**+0.8**
LTZ	**Lake Taylor**	**1.46**	**247**	P	**Pn**	**19 33 09.8**	**+0.1**
KIW	**Kapiti Island**	**1.49**	**25**	P	**Pg**	**19 33 10.5**	**-0.4**
MTW	**Mount Morrison**	**1.50**	**46**	P	**Pg**	**19 33 10.8**	**-0.2**
OGWZ	**Otaki Gorge**	**1.62**	**31**	P	**Pb**	**19 33 12.3**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.70**	**40**	P	**Pb**	**19 33 13.7**	**-0.7**
TMWZ	**Te Maipa**	**1.75**	**51**	P	**Pb**	**19 33 14.3**	**-0.9**
QRZ	**Quartz Range**	**1.81**	**319**	P	**Pg**	**19 33 17.6**	**+0.5**
MQZ	**McQueen's Vall**	**1.82**	**215**	P	**Pn**	**19 33 13.8**	**-1.0**
AKCZ	**Akaroa Harbour**	**1.86**	**207**	P	**Pn**	**19 33 15.0**	**-0.3**
OXZ	**Oxford**	**1.87**	**233**	P	**Pb**	**19 33 16.7**	**-0.6**
MRZ	**Mangatainoka R**	**1.92**	**36**	P	**Pb**	**19 33 16.3**	**-1.8**
TIWZ	**Tintock**	**1.98**	**44**	P	**Pb**	**19 33 17.2**	**-1.9**
INZ	**Inchbonnie**	**2.02**	**255**	P	**Pn**	**19 33 17.8**	**+0.4**
RACZ	**Rakaia**	**2.08**	**223**	P	**Pn**	**19 33 17.5**	**-0.7**
PRWZ	**Pori Road**	**2.19**	**41**	P	**Pn**	**19 33 20.2**	**+0.4**
WACZ	**Wakanui South**	**2.38**	**223**	P	**Pn**	**19 33 21.7**	**-0.8**
WVZ	**Waitaha Valley**	**2.61**	**250**	P	**Pn**	**19 33 26.1**	**+0.4**
RPZ	**Rata Peaks**	**2.68**	**235**	Pn	**Pn**	**19 33 25.7**	**-0.9**
	78nm,0.3s,baz=257,slow=21,SNR=1.7						
RPZ				Sn	**Sn**	**19 33 56.0**	**-3.7**
	67nm,0.3s,baz=328,slow=18,SNR=7.4						
	464nm,0.6s						
RPZ	**Rata Peaks**	**2.68**	**235**	P	**Pn**	**19 33 25.9**	**-0.7**
ARCZ	**Arundel**	**2.74**	**230**	P	**Pn**	**19 33 26.8**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.98**	**247**	P	**Pn**	**19 33 31.3**	**+0.6**
MOVZ	**Moawhango**	**3.08**	**25**	P	**Pb**	**19 33 37.1**	**-0.9**
BHHZ	**Black Hill Sta**	**3.11**	**30**	P	**Pb**	**19 33 37.9**	**-0.5**
TMZ	**Timaru**	**3.12**	**225**	P	**Pn**	**19 33 33.1**	**+0.5**
TUVZ	**Tukino**	**3.18**	**23**	P	**Pb**	**19 33 39.0**	**-0.6**
SNVZ	**South Ngauruho**	**3.25**	**22**	P	**Pb**	**19 33 39.8**	**-1.1**
OTVZ	**Oturere**	**3.28**	**22**	P	**Pb**	**19 33 40.5**	**-0.8**
WTVZ	**West Tongariro**	**3.30**	**21**	P	**Pb**	**19 33 42.1**	**+0.3**
ETVZ	**East Tongariro**	**3.32**	**22**	P	**Pb**	**19 33 40.9**	**-1.1**
KRVZ	**Karewarewa**	**3.34**	**21**	P	**Pb**	**19 33 41.5**	**-0.8**
NTVZ	**North Tongarir**	**3.34**	**22**	P	**Pb**	**19 33 41.2**	**-1.2**
KATZ	**Kakaramea**	**3.46**	**21**	P	**Pb**	**19 33 44.6**	**+0.1**
WATZ	**Wairara**	**3.72**	**20**	P	**Pb**	**19 33 47.1**	**-1.8**
HIZ	**Hauiti**	**3.75**	**9**	P	**Pb**	**19 33 47.4**	**-1.9**
ALRZ	**Allen Road**	**4.04**	**26**	P	**Pb**	**19 33 51.6**	**-2.6**
HHSZ	**Highcliff Hill**	**4.45**	**213**	P	**Pn**	**19 33 50.8**	**0.0**
MKAZ	**Moumakai**	**5.17**	**10**	P	**Pn**	**19 34 03.7**	**+2.9**
WIAZ	**Waiheke Island**	**5.48**	**9**	P	**Pn**	**19 34 08.8**	**+3.8**
MSVF	**Nonsavu**	**24.64**	**9**	P	**P**	**19 38 06.2**	**+1.7**
	2.0nm,0.5s,baz=180,slow=10,SNR=1.7						
	2.0nm,0.5s						
ASAR	**Alice Springs**	**38.04**	**286**	P	**P**	**19 40 03.9**	**+1.6**
	1.5nm,0.7s,baz=119,slow=6.6,SNR=4.7						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**40.15**	**291**	P	**P**	**19 40 20.5**	**+0.5**
	4.8nm,0.9s,baz=126,slow=8.3,SNR=5.7						
	4.8nm,0.9s						
PMG	**Port Moresby**	**40.34**	**316**	P	**P**	**19 40 22.8**	**+1.3**
	6.1nm,0.6s,baz=158,slow=5.4,SNR=2.3						
	6.1nm,0.6s						
KURBB	**Kurchatov Arra**	**124.19**	**310**	PKP	**PKiKP**	**19 51 41.6**	**-0.6**
	0.3nm,0.5s,baz=112,slow=1.8,SNR=2.3						
MMAI	**Mount Meron Ar**	**146.28**	**268**	PKPbc	**PKiKP**	**19 52 26.9**	**-0.8**
	1.8nm,0.5s,baz=96,slow=4.3,SNR=3.4						
ARCES	**ARCESS Array B**	**148.17**	**340**	PKPbc	**PKiKP**	**19 52 28.7**	**-1.7**
	4.0nm,1.0s,baz=46,slow=2.6,SNR=1.8						
BRTR	**Keskin Array B**	**150.21**	**279**	PKPbc	**PKiKP**	**19 52 36.1**	**+0.3**
	1.6nm,0.8s,baz=95,slow=3.0,SNR=3.3						
FINES	**FINESS Array B**	**152.85**	**326**	PKPbc	**PKiKP**	**19 52 41.7**	**+1.5**
	1.0nm,0.7s,baz=46,slow=6.0,SNR=1.3						

*IDC **13** 19:38:06.8±0.7, 41°.59S×174°.12E, h0km, mb4.4/10, mbtmp4.4/11, ML4.3/1, Error ellipse: s-maj=26.9km s-min=17.3km az=74.0*

*NEIC **13** 19:38:07.5±2.8, 41°.78S±0°.03×174°.30E±0°.03, h10km±1km, mb4.7/16, Error ellipse: s-maj=4.9km s-min=3.5km az=22.0*

*WEL **13** 19:38:09.3±0.3, 42°.5S±2°×17°.4E±°, h11km±2km, M4.8/25, ML5.1/25, MLv4.8/25, Error ellipse: s-maj=0.0km s-min=0.0km az=154.0*

*NOU **13** 19:38:09.5, 41°.85S×174°.42E, h24km, mb4.8/26, Cook Strait, New Zealand*

ISC 13 19:38:08.7±0.8, 41°.76S±0°.03×174°.33E±0°.02, h16km±4km, n231, σ1°.34/240, mb4.5/17, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.09**	**280**	Pg	**Pg**	**19 38 12.3**	**+0.3**
CMWZ	**Cape Campbell**	**0.09**	**280**	P	**Pg**	**19 38 12.3**	**+0.3**
CMWZ				S	**Sg**	**19 38 14.6**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.34**	**278**		**Pg**	**19 38 15.8**	**0.0**
BSWZ	**Blackbirch Sta**	**0.34**	**278**	P	**Pb**	**19 38 16.1**	**-0.3**
BSWZ				S	**Sb**	**19 38 21.9**	**+0.4**
TUWZ	**Tuamarina**	**0.44**	**319**		**Pg**	**19 38 17.0**	**-0.6**
TUWZ	**Tuamarina**	**0.44**	**319**	P	**Pg**	**19 38 17.5**	**-0.1**
TUWZ				S	**Sg**	**19 38 23.2**	**-0.4**
SNZO	**South Karori**	**0.54**	**32**		**Pb**	**19 38 19.8**	**+0.2**
SNZO	**South Karori**	**0.54**	**32**	P	**Pb**	**19 38 19.8**	**+0.2**
BHW	**Baring Head**	**0.54**	**49**	P	**Pb**	**19 38 20.1**	**+0.3**
TCW	**Tory Channel**	**0.55**	**356**	P	**Pg**	**19 38 19.4**	**-0.2**
TCW				S	**Sg**	**19 38 26.6**	**-0.5**
WEL	**Wellington**	**0.58**	**35**	P	**Pb**	**19 38 20.8**	**+0.3**
WEL				S	**Sb**	**19 38 29.0**	**+0.5**
PLWZ	**Palliser**	**0.72**	**75**		**Pg**	**19 38 23.7**	**+0.8**
PLWZ	**Palliser**	**0.72**	**75**	P	**Pn**	**19 38 24.4**	**+0.2**
PLWZ				S	**Sn**	**19 38 36.0**	**+1.0**
MSWZ	**Moikau Station**	**0.78**	**64**		**Pg**	**19 38 24.3**	**+0.5**
MSWZ	**Moikau Station**	**0.78**	**64**	P	**Pn**	**19 38 24.9**	**0.0**
MSWZ				S	**Sn**	**19 38 37.2**	**+1.0**
CAW	**Cannon Point**	**0.86**	**41**	P	**Pg**	**19 38 25.5**	**+0.1**
KHZ	**Kahutara**	**0.88**	**222**		**Pn**	**19 38 27.1**	**+0.8**
NNZ	**Nelson**	**0.90**	**307**		**Pb**	**19 38 25.5**	**-0.4**
NNZ	**Nelson**	**0.90**	**307**	P	**Pb**	**19 38 25.5**	**-0.3**
NNZ				S	**Sg**	**19 38 37.9**	**0.0**
PAWZ	**Paruwai Farm**	**0.91**	**66**	P	**Pn**	**19 38 27.0**	**+0.2**
PAWZ				S	**Sn**	**19 38 40.8**	**+1.2**
KIW	**Kapiti Island**	**1.00**	**26**	P	**Pb**	**19 38 27.8**	**+0.2**
DUWZ	**D'Urville Isla**	**1.01**	**342**	P	**Pn**	**19 38 27.4**	**-0.3**
DUWZ				S	**Sb**	**19 38 40.5**	**-0.2**
THZ	**Tophouse**	**1.06**	**270**		**Pg**	**19 38 29.2**	**0.0**
THZ	**Tophouse**	**1.06**	**270**	P	**Pg**	**19 38 29.2**	**0.0**
MTW	**Mount Morrison**	**1.07**	**56**	P	**Pn**	**19 38 29.2**	**+0.2**
TRWZ	**Traveller**	**1.08**	**71**	P	**Pb**	**19 38 29.1**	**+0.1**
OGWZ	**Otaki Gorge**	**1.14**	**34**	P	**Pb**	**19 38 30.3**	**+0.3**
MRNZ	**Matariki Terra**	**1.23**	**287**	P	**Pg**	**19 38 32.2**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.25**	**46**	P	**Pn**	**19 38 31.7**	**+0.3**
TKNZ	**Takaka Hill**	**1.26**	**305**	P	**Pb**	**19 38 32.0**	**0.0**
TMWZ	**Te Maipa**	**1.35**	**61**	P	**Pn**	**19 38 32.7**	**-0.1**
MRZ	**Mangatainoka R**	**1.45**	**41**		**Pn**	**19 38 34.6**	**+0.4**
MRZ	**Mangatainoka R**	**1.45**	**41**	P	**Pn**	**19 38 34.6**	**+0.4**
TIWZ	**Tintock**	**1.54**	**50**	P	**Pn**	**19 38 35.3**	**-0.1**
GVZ	**Greta Valley S**	**1.54**	**218**		**Pn**	**19 38 35.9**	**+0.5**
GVZ	**Greta Valley S**	**1.54**	**218**	P	**Pb**	**19 38 36.1**	**-0.7**
QRZ	**Quartz Range**	**1.65**	**304**		**Pb**	**19 38 38.5**	**-0.1**
QRZ	**Quartz Range**	**1.65**	**304**	P	**Pb**	**19 38 38.9**	**+0.3**
QRZ	**Quartz Range**	**1.65**	**304**	P	**Pb**	**19 38 38.6**	**0.0**
CPWZ	**Castlepoint**	**1.65**	**59**	P	**Pn**	**19 38 36.9**	**0.0**
OHWZ	**Ohakea**	**1.73**	**26**	P	**Pb**	**19 38 40.0**	**0.0**
PRWZ	**Pori Road**	**1.73**	**46**	P	**Pn**	**19 38 38.2**	**+0.1**
POWZ	**Post Office Ro**	**1.75**	**39**	P	**Pn**	**19 38 38.6**	**+0.2**
BFZ	**Birch Farm**	**1.81**	**54**	Pn	**Pn**	**19 38 39.0**	**-0.1**
BFZ	**Birch Farm**	**1.81**	**54**	P	**Pn**	**19 38 39.0**	**-0.1**
BFZ	**Birch Farm**	**1.81**	**54**	P	**Pn**	**19 38 38.4**	**-0.7**
LTZ	**Lake Taylor**	**1.83**	**236**		**Pn**	**19 38 40.2**	**+0.7**
LTZ	**Lake Taylor**	**1.83**	**236**	P	**Pn**	**19 38 40.2**	**+0.7**
AMCZ	**Amberley**	**1.88**	**221**	P	**Pg**	**19 38 46.9**	**+2.2**
DSZ	**Denniston Nort**	**1.89**	**270**	P	**Pb**	**19 38 42.2**	**-0.6**
DVHZ	**Dannevirke**	**2.02**	**44**	P	**Pn**	**19 38 41.5**	**-0.5**
WAZ	**Wanganui**	**2.07**	**14**	P	**Pb**	**19 38 46.3**	**+0.4**
ANWZ	**Angora Road**	**2.08**	**52**	P	**Pn**	**19 38 42.2**	**-0.7**
TSZ	**Takapari Road**	**2.11**	**37**	P	**Pn**	**19 38 43.3**	**0.0**
OKCZ	**Okains Bay**	**2.17**	**205**	P	**Pn**	**19 38 43.8**	**-0.3**
MQZ	**McQueen's Vall**	**2.30**	**212**		**Pn**	**19 38 44.9**	**-1.0**
MQZ	**McQueen's Vall**	**2.30**	**212**	P	**Pn**	**19 38 44.9**	**-0.9**
PRHZ	**Porangahau**	**2.30**	**55**	P	**Pn**	**19 38 44.9**	**-1.0**
OXZ	**Oxford**	**2.30**	**227**		**Pn**	**19 38 45.0**	**-0.9**
OXZ	**Oxford**	**2.30**	**227**	P	**Pn**	**19 38 45.8**	**-0.1**
LREZ	**Lake Rotokare**	**2.30**	**1**	P	**Pb**	**19 38 49.1**	**-0.7**
PNHZ	**Pukenui**	**2.33**	**38**	P	**Pn**	**19 38 46.1**	**-0.3**
WPHZ	**Waipukurau**	**2.33**	**44**	P	**Pn**	**19 38 46.0**	**-0.3**
INZ	**Inchbonnie**	**2.35**	**245**	P	**Pn**	**19 38 47.5**	**+1.0**
AKCZ	**Akaroa Harbour**	**2.35**	**206**	P	**Pn**	**19 38 46.2**	**-0.4**
NMEZ	**Namu Road**	**2.37**	**352**	P	**Pb**	**19 38 49.8**	**-1.2**
KHEZ	**Kahui Hut**	**2.48**	**354**	P	**Pb**	**19 38 51.9**	**-0.9**
KHEZ	**Kahui Hut**	**2.48**	**354**	P	**Pb**	**19 38 51.9**	**-0.9**
NEZ	**North Egmont**	**2.50**	**356**	P	**Pb**	**19 38 52.0**	**-1.2**
NBEZ	**Newall Road No**	**2.52**	**352**	P	**Pb**	**19 38 51.7**	**-1.7**
MTVZ	**Mangateitei**	**2.53**	**21**	P	**Pb**	**19 38 51.7**	**-2.1**
RACZ	**Rakaia**	**2.54**	**219**	P	**Pn**	**19 38 48.3**	**-0.8**
DREZ	**Durham Road**	**2.57**	**358**	P	**Pb**	**19 38 52.7**	**-1.7**
PKE	**Pukeiti**	**2.58**	**354**	P	**Pb**	**19 38 52.7**	**-1.8**
PXZ	**Pawanui**	**2.59**	**49**	P	**Pn**	**19 38 48.4**	**-1.4**
PKVZ	**Pokaka**	**2.59**	**18**	P	**Pn**	**19 38 52.2**	**+2.3**
MOVZ	**Moawhango**	**2.59**	**25**	P	**Pn**	**19 38 50.8**	**+0.8**
WNVZ	**Wahianoa**	**2.62**	**22**	P	**Pn**	**19 38 51.9**	**+1.4**
BHHZ	**Black Hill Sta**	**2.63**	**31**	P	**Pn**	**19 38 51.3**	**+0.8**
TRVZ	**Turoa**	**2.63**	**21**	P	**Pn**	**19 38 52.6**	**+1.9**
VRZ	**Vera Road**	**2.66**	**7**	P	**Pb**	**19 38 53.3**	**-2.5**
DRZ	**Dome Shelter**	**2.66**	**21**	P	**Pn**	**19 38 53.4**	**+2.3**
WHVZ	**Whangaehu Hut**	**2.66**	**22**	P	**Pn**	**19 38 52.5**	**+1.5**
FWVZ	**Far West T-bar**	**2.67**	**21**	P	**Pn**	**19 38 52.9**	**+1.7**
MHEZ	**Mangahewa**	**2.69**	**360**	P	**Pb**	**19 38 55.2**	**-1.1**
TUVZ	**Tukino**	**2.69**	**23**	P	**Pn**	**19 38 52.8**	**+1.4**
KAHZ	**Kahuranaki**	**2.76**	**45**	P	**Pn**	**19 38 51.4**	**-0.9**
NGZ	**Ngauruhoe**	**2.76**	**21**	P	**Pn**	**19 38 54.0**	**+1.6**
SNVZ	**South Ngauruho**	**2.76**	**22**	P	**Pn**	**19 38 53.8**	**+1.4**
OTVZ	**Oturere**	**2.79**	**22**	P	**Pn**	**19 38 54.4**	**+1.6**
NNVZ	**North Ngauruho**	**2.81**	**21**	P	**Pn**	**19 38 54.6**	**+1.6**
WTVZ	**West Tongariro**	**2.82**	**20**	P	**Pn**	**19 38 54.8**	**+1.8**
TWVZ	**Taurewa**	**2.82**	**18**	P	**Pn**	**19 38 54.9**	**+1.7**
ETVZ	**East Tongariro**	**2.83**	**22**	P	**Pn**	**19 38 54.7**	**+1.4**
KWHZ	**Kaweka Forest**	**2.83**	**35**	P	**Pn**	**19 38 52.9**	**-0.3**
WACZ	**Wakanui South**	**2.84**	**219**	P	**Pn**	**19 38 53.0**	**-0.4**
TMVZ	**Te Maari**	**2.85**	**22**	P	**Pn**	**19 38 55.0**	**+1.5**
KRVZ	**Karewarewa**	**2.85**	**21**	P	**Pn**	**19 38 55.7**	**+2.1**
NTVZ	**North Tongarir**	**2.85**	**22**	P	**Pn**	**19 38 55.0**	**+1.3**
MCHZ	**McNeill Hill**	**2.94**	**39**	P	**Pn**	**19 38 54.1**	**-0.6**
WVZ	**Waitaha Valley**	**2.96**	**243**	P	**Pn**	**19 38 56.1**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.97**	**46**	P	**Pn**	**19 38 54.1**	**-0.9**
KATZ	**Kakaramea**	**2.98**	**21**	P	**Pn**	**19 38 57.4**	**+2.1**
RITZ	**Rihia Road**	**3.02**	**23**	P	**Pn**	**19 38 58.5**	**+2.7**
BKZ	**Black Stump Fm**	**3.08**	**33**	P	**Pn**	**19 38 56.2**	**-0.4**
RATZ	**Rangitukua**	**3.10**	**21**	P	**Pb**	**19 39 00.9**	**-2.4**
RPZ	**Rata Peaks**	**3.10**	**230**	Pn	**Pn**	**19 38 56.6**	**-0.3**
	39nm,0.3s,baz=92,slow=3.1,SNR=11						
	153nm,0.4s						
RPZ	**Rata Peaks**	**3.10**	**230**		**Pn**	**19 38 57.0**	**+0.1**
RPZ	**Rata Peaks**	**3.10**	**230**	P	**Pn**	**19 38 56.7**	**-0.2**
HATZ	**Hinemaiaia**	**3.17**	**26**	P	**Pb**	**19 39 05.1**	**+0.5**
ARCZ	**Arundel**	**3.18**	**226**	P	**Pn**	**19 38 57.8**	**-0.2**
ARHZ	**Aropaoanui**	**3.22**	**40**	P	**Pn**	**19 38 57.7**	**-0.9**
WATZ	**Wairara**	**3.24**	**20**	P	**Pb**	**19 39 04.9**	**-0.9**
NMHZ	**Naumai**	**3.27**	**36**	P	**Pn**	**19 38 58.7**	**-0.6**
HIZ	**Hauiti**	**3.27**	**7**	Pn	**Pn**	**19 39 01.5**	**+2.2**
HIZ	**Hauiti**	**3.27**	**7**	P	**Pn**	**19 39 01.3**	**+2.0**
HIZ	**Hauiti**	**3.27**	**7**	P	**Pn**	**19 39 01.3**	**+2.0**
MRHZ	**Matea Rd**	**3.33**	**29**	P	**Pn**	**19 38 59.7**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**3.34**	**241**	P	**Pn**	**19 39 01.5**	**+1.3**
MTHZ	**Maungataniwha**	**3.49**	**34**	P	**Pn**	**19 39 02.1**	**-0.1**
RAHZ	**Arahi**	**3.54**	**37**	P	**Pn**	**19 39 02.4**	**-0.5**
ALRZ	**Allen Road**	**3.55**	**26**	P	**Pn**	**19 39 03.4**	**+0.2**
TLZ	**Tolley Road**	**3.55**	**16**	P	**Pn**	**19 39 04.6**	**+1.5**
TMZ	**Timaru**	**3.57**	**222**	P	**Pn**	**19 39 03.2**	**-0.2**
HRRZ	**Handcock Road**	**3.69**	**25**	P	**Pn**	**19 39 05.9**	**+0.9**
RTZ	**Ruatahuna**	**3.74**	**34**	P	**Pn**	**19 39 05.2**	**-0.6**
KNZ	**Kokohu**	**3.75**	**44**	P	**Pn**	**19 39 04.1**	**-1.6**
FOZ	**Fox Glacier**	**3.77**	**241**		**Pn**	**19 39 08.8**	**+2.7**
FOZ	**Fox Glacier**	**3.77**	**241**	P	**Pn**	**19 39 07.5**	**+1.5**
MHGZ	**Mahia Peninsul**	**3.78**	**47**	P	**Pn**	**19 39 05.4**	**-0.8**
TARZ	**Mount Tarawera**	**3.90**	**26**	P	**Pn**	**19 39 07.8**	**-0.2**
LBZ	**Lake Benmore**	**4.01**	**228**		**Pn**	**19 39 10.4**	**+1.1**
LBZ	**Lake Benmore**	**4.01**	**228**	P	**Pn**	**19 39 09.4**	**0.0**
RIGZ	**Rimuhau**	**4.03**	**42**	P	**Pn**	**19 39 08.2**	**-1.5**
URZ	**Urewera**	**4.10**	**32**	P	**Pn**	**19 39 10.7**	**+0.1**
KMRZ	**Kaimai**	**4.11**	**18**	P	**Pn**	**19 39 11.9**	**+1.2**
TOZ	**Tahuroa Road**	**4.13**	**13**	P	**Pn**	**19 39 12.2**	**+1.2**
ODZ	**Otahua Downs**	**4.24**	**218**	P	**Pn**	**19 39 12.8**	**+0.3**
ODZ	**Otahua Downs**	**4.24**	**218**	P	**Pn**	**19 39 11.5**	**-0.9**
WHRZ	**Whale Island**	**4.40**	**28**	P	**Pn**	**19 39 19.0**	**+4.1**
CNRZ	**Carnagh Statio**	**4.42**	**44**	P	**Pn**	**19 39 14.1**	**-1.0**
TWGZ	**Tauwhareparae**	**4.55**	**39**	P	**Pn**	**19 39 16.0**	**-0.9**
RUGZ	**Raukumara Rang**	**4.59**	**35**	P	**Pn**	**19 39 15.8**	**-1.7**
JCZ	**Jackson Bay**	**4.68**	**239**	P	**Pn**	**19 39 19.6**	**+0.9**
JCZ	**Jackson Bay**	**4.68**	**239**	P	**Pn**	**19 39 18.9**	**+0.2**
MKAZ	**Moumakai**	**4.70**	**8**	P	**Pn**	**19 39 20.0**	**+1.2**
AWAZ	**Awhitu Peninsu**	**4.70**	**3**	P	**Pn**	**19 39 20.9**	**+2.0**
MYRZ	**Mayor Island**	**4.72**	**19**	P	**Pn**	**19 39 23.6**	**+4.5**
HAZ	**Te Kaha**	**4.81**	**35**	P	**Pn**	**19 39 19.2**	**-1.1**
ETAZ	**East Tamaki Re**	**4.83**	**6**	P	**Pn**	**19 39 22.8**	**+2.2**
PKGZ	**Pakihiroa**	**4.83**	**38**	P	**Pn**	**19 39 19.1**	**-1.6**
WTAZ	**Waiatarua**	**4.83**	**2**	P	**Pn**	**19 39 23.3**	**+2.6**
HHSZ	**Highcliff Hill**	**4.92**	**212**	P	**Pn**	**19 39 21.2**	**-0.7**
WKZ	**Wanaka**	**4.94**	**230**	P	**Pn**	**19 39 21.7**	**-0.5**
WIAZ	**Waiheke Island**	**5.00**	**7**	P	**Pn**	**19 39 25.0**	**+1.9**
MBAZ	**Motutapu North**	**5.01**	**5**	P	**Pn**	**19 39 25.1**	**+2.0**
EAZ	**Earnscleugh**	**5.03**	**225**	P	**Pn**	**19 39 22.8**	**-0.6**
KUZ	**Kuaotunu**	**5.13**	**15**	P	**Pn**	**19 39 24.7**	**+1.3**
ABAZ	**Army Bay**	**5.17**	**5**	P	**Pn**	**19 39 27.6**	**+2.2**
MXZ	**Matakaoa Point**	**5.20**	**37**	P	**Pn**	**19 39 24.8**	**-0.9**
MXZ	**Matakaoa Point**	**5.20**	**37**	P	**Pn**	**19 39 23.9**	**-1.8**
TUZ	**Tuapeka**	**5.39**	**217**	P	**Pn**	**19 39 28.1**	**-0.2**
MSZ	**Milford Sound**	**5.51**	**236**	P	**Pn**	**19 39 34.1**	**+4.2**
GRZ	**Great Barrier**	**5.58**	**9**	P	**Pn**	**19 39 34.0**	**+3.2**
MLZ	**Mavora Lakes**	**5.77**	**229**	P	**Pn**	**19 39 32.9**	**-0.7**
WCZ	**Waipu Caves**	**5.82**	**0**	P	**Pn**	**19 39 37.9**	**+3.7**
SYZ	**Scrubby Hill**	**6.06**	**216**	P	**Pn**	**19 39 37.2**	**-0.2**
DCZ	**Deep Cove**	**6.39**	**232**		**Pn**	**19 39 39.6**	**-2.4**
OUZ	**Omahuta**	**6.56**	**355**	Pn	**Pn**	**19 39 45.0**	**+0.6**
OUZ	**Omahuta**	**6.56**	**355**	P	**Pn**	**19 39 47.0**	**+2.6**
OUZ	**Omahuta**	**6.56**	**355**	P	**Pn**	**19 39 47.4**	**+3.0**
APZ	**The Paps**	**6.81**	**220**	P	**Pn**	**19 39 47.3**	**-0.5**
CTZ	**Chatham Island**	**6.95**	**109**	P	**Pn**	**19 39 49.2**	**-0.5**
CTZ	**Chatham Island**	**6.95**	**109**	P	**Pn**	**19 39 49.3**	**-0.5**
PYZ	**Puysegur Point**	**7.05**	**229**	P	**Pn**	**19 39 52.6**	**+1.4**
PYZ	**Puysegur Point**	**7.05**	**229**	P	**Pn**	**19 39 51.6**	**+0.5**
DZM	**Motu Ozumac**	**20.72**	**339**	P	**Pn**	19 42 49.8	-1.1
	4.9nm,0.9s,baz=242,slow=17,SNR=2.0						
MSVF	**Nonsavu**	**24.16**	**9**	P	**P**	**19 43 24.8**	**+0.6**
	5.9nm,0.7s,baz=152,slow=11,SNR=4.9						
	5.9nm,0.7s						
MSVF	**Nonsavu**	**24.16**	**9**	P	**P**	**19 43 25.4**	**+1.2**
LCRK	**Leigh Creek**	**31.07**	**280**	P	**P**	**19 44 26.4**	**+0.4**
BBOO	**Buckleboo**	**31.52**	**274**	P	**P**	**19 44 29.7**	**-0.2**
OOD	**Oodnadatta**	**34.36**	**281**	P	**P**	**19 44 55.5**	**+0.7**
VNDA	**Vanda**	**36.24**	**185**	P	**P**	**19 45 12.4**	**+2.0**
	1.5nm,0.9s,baz=4.6,slow=7.6,SNR=7.1						
	1.5nm,0.9s						
VNDA	**Vanda**	**36.24**	**185**	P	**P**	**19 45 07.5**	**-2.9**
AS01	**Alice Springs**	**38.06**	**286**	P	**P**	**19 45 25.9**	**-0.6**
AS31	**Alice Springs**	**38.09**	**285**	P	**P**	**19 45 25.9**	**-0.9**
ASAR	**Alice Springs**	**38.09**	**285**	P	**P**	**19 45 25.6**	**-1.1**
	1.9nm,0.3s,baz=120,slow=6.3,SNR=53						
	1.9nm,0.3s						
ASAR	**Alice Springs**	**38.09**	**285**	P	**P**	**19 45 25.7**	**-1.0**
FORT	**Forrest**	**38.47**	**271**	P	**P**	**19 45 29.8**	**0.0**
COEN	**Coen**	**38.68**	**307**	P	**P**	**19 45 29.0**	**-2.7**
COEN					IAmb	IAmb	19 45 31.8
	comp=Z,21nm,1.4s						
WR0	**Warramunga Arr**	**40.01**	**291**	P	**P**	**19 45 41.5**	**-1.3**
PMG	**Port Moresby**	**40.14**	**316**	P	**P**	**19 45 43.6**	**-0.3**
	comp=Z,9.1nm,0.9s,baz=169,slow=7.1,SNR=4.4						
	comp=Z,9.1nm,0.9s						
PMG	**Port Moresby**	**40.14**	**316**	P	**P**	**19 45 42.1**	**-1.8**
PMG					IAmb	IAmb	19 45 56.6
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**40.15**	**290**	P	**P**	**19

RPZ	**Rata Peaks**	**1.81**	**235**	Pn		**Pn**	**19 45 21.9**	**0.0**
	94nm,0.3s,baz=46,slow=5.6,SNR=9.4							
RPZ				Sn		**Sn**	**19 45 44.6**	**+0.1**
	32nm,0.3s,baz=297,slow=23,SNR=6.9							
RPZ	**Rata Peaks**	**1.81**	**235**	P		**Pn**	**19 45 21.9**	**0.0**
ARCZ	**Arundel**	**1.88**	**227**	P		**Pn**	**19 45 22.8**	**-0.1**
FOZ	**Fox Glacier**	**2.54**	**249**	P		**Pn**	**19 45 33.8**	**+1.8**
LBZ	**Lake Benmore**	**2.71**	**230**	P		**Pn**	**19 45 35.6**	**+1.3**
JCZ	**Jackson Bay**	**3.43**	**245**	P		**Pn**	**19 45 44.5**	**+0.3**
HHSZ	**Highcliff Hill**	**3.66**	**208**	P		**Pn**	**19 45 46.9**	**-0.5**
APZ	**The Paps**	**5.51**	**219**	P		**Pn**	**19 46 12.7**	**0.0**
ASAR	**Alice Springs**	**37.47**	**288**	P		**P**	**19 52 02.4**	**-1.8**
	0.5nm,0.8s,baz=129,slow=7.7,SNR=6.1 0.5nm,0.8s							
WRA	**Warramunga Arr**	**39.65**	**293**	P		**P**	**19 52 21.4**	**-1.1**
	0.5nm,0.9s,baz=128,slow=8.5,SNR=1.7 0.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**91.23**	**294**	P		**P**	**19 57 55.3**	**-0.6**
	0.2nm,0.6s,baz=142,slow=3.1,SNR=2.0 0.2nm,0.6s							

ROM 13 19:47:02.0±0.0, 42°36.736'N×0°00.003'×13°13.189'E±0°00.004, h11km,ML1.3/6,Error ellipse: s-maj=0.3km s-min=0.1km az=228.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1218	**Civita (PG)**	**0.09**	**219**	P	Pg	19 47 04.7	+0.1
T1218				AML	AML		
	comp=E,388μm,1.2s						
T1218				AML	AML		
	comp=N,382μm,0.4s						
T1218				AML	AML		
	comp=E,388μm,1.2s						
NRCA	**Norcia**	**0.11**	**331**	P	Pg	19 47 05.2	+0.3
NRCA				S	Sg	19 47 07.4	+0.3
NRCA				AML	AML		
	comp=N,350μm,0.1s						
NRCA				AML	AML		
	comp=E,444μm,0.2s						
NRCA				AML	AML		
	comp=N,256μm,0.1s						
T1245	**Castelsantange**	**0.12**	**360**	P	Pg	19 47 05.5	+0.3
T1245				S	Sg	19 47 08.0	+0.6
T1245				AML	AML		
	comp=N,1054μm,0.8s						
T1245				AML	AML		
	comp=E,1070μm,0.3s						
T1245				AML	AML		
	comp=N,1054μm,0.8s						
T1245				AML	AML		
	comp=E,231μm,0.2s						
T1245				AML	AML		
	comp=N,234μm,0.2s						
SMA1	**SAN MARTINO**	**0.15**	**134**	P	Pg	19 47 06.0	+0.5
SMA1				S	Sg	19 47 09.4	+1.4
SMA1				AML	AML		
	comp=E,106μm,0.4s						
SMA1				AML	AML		
	comp=N,136μm,0.3s						
LNSS	**Leonessa**	**0.17**	**219**	P	Pg	19 47 06.5	+0.6
LNSS				AML	AML		
	comp=E,61μm,0.4s						
LNSS				AML	AML		
	comp=N,216μm,0.1s						
LNSS				AML	AML		
	comp=E,61μm,0.4s						
MMO1	**Montemonaco**	**0.19**	**32**	P	Pg	19 47 06.8	+0.6
MMO1				S	Sg	19 47 10.4	+1.3
T1243	**Rocca Santa Ma**	**0.20**	**102**	P	Pg	19 47 06.6	+0.4
T1243				S	Sg	19 47 10.1	+1.0
T1216	**Preci, Frazion**	**0.20**	**321**	P	Pg	19 47 06.9	+0.6
T1216				AML	AML		
	comp=E,325μm,1.6s						
T1216				AML	AML		
	comp=N,895μm,1.6s						
RM33	**Pellescritta (**	**0.23**	**175**	P	Pg	19 47 07.2	+0.4
RM33				S	Sg	19 47 11.1	+1.1
RM33				AML	AML		
	comp=E,43μm,0.7s						
RM33				AML	AML		
	comp=N,40μm,1.5s						
T1215	**Vallo di Nera,**	**0.24**	**286**	P	Pg	19 47 07.7	+0.6
T1215				S	Sg	19 47 11.8	+1.3
CAMP	**Campotosto**	**0.26**	**141**	P	Pb	19 47 08.3	-0.5
T1246	**Crognaleto (TE**	**0.27**	**124**	P	Pg	19 47 08.0	+0.4
T1246				S	Sg	19 47 12.4	+1.1
FDMO	**Fiordimonte**	**0.31**	**346**	S	Sb	19 47 14.0	-0.7
T1211	**Morro Reatino**	**0.32**	**231**	P	Pb	19 47 09.2	-0.6
T1211				S	Sb	19 47 13.9	-1.1
TERO	**Teramo**	**0.33**	**110**	P	Pg	19 47 08.9	+0.3
TERO				S	Sb	19 47 14.1	-1.1
TERO				AML	AML		
	comp=E,35μm,0.6s						
TERO				AML	AML		
	comp=N,38μm,0.4s						
TERO				AML	AML		
	comp=N,19μm,0.1s						
CESI	**CESI - Serrava**	**0.34**	**322**	P	Pg	19 47 09.1	+0.3
CESI				S	Sb	19 47 15.2	-0.5
ASSB	**Assisi San Ben**	**0.50**	**308**	P	Pg	19 47 12.0	+0.3

WEL 13 19:48:08.2±0.4, 42°S±2°×17°4E±°, h10km±3km, M3.7/18, ML3.9/18, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=159.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**210**	P	Pg	19 48 10.7	+0.5
CMWZ				S	Sg	19 48 13.0	+1.4
BSWZ	**Blackbirch Sta**	**0.28**	**269**	P	Pg	19 48 14.4	+0.6
BSWZ				S	Sb	19 48 19.2	-0.8
TUWZ	**Tuamarina**	**0.36**	**321**	P	Pb	19 48 16.0	-0.6
TUWZ				S	Sb	19 48 21.9	-0.4
TCW	**Tory Channel**	**0.50**	**3**	P	Pg	19 48 18.3	+0.4
TCW				S	Sb	19 48 25.5	-0.9
BHW	**Baring Head**	**0.56**	**58**	P	Pg	19 48 19.5	+0.4
WEL	**Wellington**	**0.58**	**43**	P	Pb	19 48 20.0	-0.4
WEL				S	Sb	19 48 28.8	+0.1
PLWZ	**Palliser**	**0.77**	**80**	P	Pb	19 48 23.7	0.0
PLWZ				S	Sb	19 48 34.0	-0.3
MSWZ	**Moikau Station**	**0.81**	**69**	P	Pb	19 48 24.4	+0.1
MSWZ				S	Sn	19 48 36.9	-0.8
NNZ	**Nelson**	**0.81**	**307**	P	Pg	19 48 24.1	+0.2
NNZ				S	Sb	19 48 35.6	+0.1
CAW	**Cannon Point**	**0.86**	**46**	P	Pg	19 48 24.9	+0.1
CAW				S	Sb	19 48 36.7	-0.1
DUWZ	**D'Urville Isla**	**0.94**	**345**	P	Pb	19 48 26.4	-0.1
DUWZ				S	Sn	19 48 40.3	-0.7
PAWZ	**Paruwai Farm**	**0.95**	**70**	P	Pg	19 48 26.2	-0.2
PAWZ				S	Sn	19 48 40.4	-0.8
KIW	**Kapiti Island**	**0.98**	**31**	P	Pg	19 48 26.9	-0.2
KIW				S	Sb	19 48 40.5	+0.1
MTW	**Mount Morrison**	**1.09**	**60**	P	Pb	19 48 28.3	-0.9
MTW				S	Sn	19 48 44.3	-0.5
TRWZ	**Traveller**	**1.13**	**74**	P	Pb	19 48 28.4	-1.4
OGWZ	**Otaki Gorge**	**1.13**	**38**	P	Pb	19 48 29.5	-0.3
MRNZ	**Matariki Terra**	**1.16**	**285**	P	Pn	19 48 30.8	+0.4
TKNZ	**Takaka Hill**	**1.18**	**305**	P	Pg	19 48 31.1	+0.3
HOWZ	**Holdsworth Sta**	**1.25**	**50**	P	Pn	19 48 30.7	-1.1
TMWZ	**Te Maipa**	**1.38**	**65**	P	Pn	19 48 31.8	-1.7
MRZ	**Mangatainoka R**	**1.45**	**44**	P	Pn	19 48 33.6	-0.9
GVZ	**Greta Valley S**	**1.54**	**215**	P	Pn	19 48 35.3	-0.5
TIWZ	**Tintock**	**1.55**	**54**	P	Pn	19 48 34.3	-1.6
QRZ	**Quartz Range**	**1.56**	**304**	P	Pb	19 48 37.6	+0.4
CPWZ	**Castlepoint**	**1.68**	**62**	P	Pg	19 48 42.9	+2.6
PRWZ	**Pori Road**	**1.74**	**49**	P	Pn	19 48 37.1	-1.4
BFZ	**Birch Farm**	**1.83**	**56**	P	Pn	19 48 37.6	-2.0
DVHZ	**Dannevirke**	**2.03**	**47**	P	Pn	19 48 40.5	-1.9
TSZ	**Takapari Road**	**2.10**	**39**	P	Pn	19 48 42.3	-1.1
PRHZ	**Porangahau**	**2.31**	**52**	P	Pn	19 48 44.1	-2.3
PNHZ	**Pukenui**	**2.33**	**40**	P	Pn	19 48 45.1	-1.5
WPHZ	**Waipukurau**	**2.34**	**46**	P	Pg	19 48 52.9	-0.1
RACZ	**Rakaia**	**2.54**	**217**	P	Pn	19 48 47.4	-2.1
MOVZ	**Moawhango**	**2.57**	**27**	P	Pn	19 48 49.9	0.0
BHHZ	**Black Hill Sta**	**2.62**	**33**	P	Pb	19 48 55.1	-0.1
WHVZ	**Whangaehu Hut**	**2.63**	**23**	P	Pn	19 48 51.9	+1.0
FWVZ	**Far West T-bar**	**2.65**	**23**	P	Pn	19 48 52.0	+0.9
TUVZ	**Tukino**	**2.67**	**24**	P	Pn	19 48 52.3	+1.0
NGZ	**Ngauruhoe**	**2.73**	**23**	P	Pb	19 48 57.7	+0.5
SNVZ	**South Ngauruho**	**2.74**	**23**	P	Pb	19 48 57.9	+0.6
KAHZ	**Kahuranaki**	**2.77**	**47**	P	Pn	19 48 50.1	-2.5
NNVZ	**North Ngauruho**	**2.78**	**23**	P	Pb	19 48 57.5	-0.5
WTVZ	**West Tongariro**	**2.79**	**22**	P	Pb	19 48 58.9	+0.7
TMVZ	**Te Maari**	**2.82**	**24**	P	Pn	19 48 54.4	+1.0
KRVZ	**Karewarewa**	**2.82**	**23**	P	Pn	19 48 54.6	+1.2
WACZ	**Wakanui South**	**2.85**	**218**	P	Pn	19 48 51.4	-2.2
WVZ	**Waitaha Valley**	**2.93**	**241**	P	Pb	19 48 57.9	-2.6
RPZ	**Rata Peaks**	**3.09**	**228**	P	Pn	19 48 55.7	-1.3
ARCZ	**Arundel**	**3.18**	**224**	P	Pn	19 48 56.2	-2.0
WTAZ	**Waiatarua**	**4.78**	**3**	P	Pn	19 49 20.7	+0.5

ROM 13 19:48:15.0±0.1, 42°773N±0°003×13°294E±0°004, h16km,ML1.3/7,4C-4D,Error ellipse: s-maj=0.3km s-min=0.2km az=205.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.11**	**317**	⇓P	Pb	19 48 18.9	+0.1
T1245				S	Sb	19 48 21.7	+0.2
T1245				AML	AML		
	comp=E,347μm,0.6s						
T1245				AML	AML		
	comp=N,442μm,0.4s						
T1245				AML	AML		
	comp=E,348μm,0.6s						
T1245				AML	AML		
	comp=N,442μm,0.4s						
MMO1	**Montemonaco**	**0.13**	**11**	P	Pb	19 48 19.1	0.0
MMO1				S	Sb	19 48 21.9	+0.1
T1243	**Rocca Santa Ma**	**0.14**	**124**	⇓P	Pb	19 48 19.2	0.0
T1243				S	Sb	19 48 22.1	+0.1
SMA1	**SAN MARTINO**	**0.14**	**168**	P	Pb	19 48 19.3	-0.1
SMA1				S	Sb	19 48 22.1	-0.2
SMA1				AML	AML		
	comp=N,95μm,0.4s						
SMA1				AML	AML		
	comp=N,95μm,0.4s						
SMA1				AML	AML		
	comp=E,104μm,0.2s						
T1218	**Civita (PG)**	**0.17**	**232**	⇑P	Pb	19 48 19.6	-0.1
T1218				S	Sb	19 48 22.8	-0.1
T1216	**Preci, Frazion**	**0.23**	**300**	⇓P	Pg	19 48 20.5	+0.2
T1216				AML	AML		
	comp=N,1155μm,1.6s						
T1216				AML	AML		
	comp=E,335μm,1.6s						
T1256	**Bolognola (MC)**	**0.24**	**348**	P	Pg	19 48 20.6	+0.1
T1256				S	Sg	19 48 24.6	+0.3
LNSS	**Leonessa**	**0.25**	**228**	P	Pg	19 48 20.8	+0.2
LNSS				S	Sb	19 48 25.4	+0.1
LNSS				AML	AML		
	comp=E,38μm,0.3s						
LNSS				AML	AML		
	comp=N,76μm,1.2s						
RM33	**Pellescritta (**	**0.27**	**193**	P	Pg	19 48 21.2	+0.2
RM33				S	Sb	19 48 25.4	-0.4
RM33				AML	AML		
	comp=E,56μm,0.9s						
RM33				AML	AML		
	comp=E,56μm,0.9s						
RM33				AML	AML		
	comp=N,56μm,0.2s						
TERO	**Teramo**	**0.27**	**123**	⇓P	Pb	19 48 21.2	-0.3
TERO				S	Sb	19 48 25.6	-0.2
TERO				AML	AML		
	comp=N,52μm,0.4s						
TERO				AML	AML		
	comp=E,36μm,0.3s						
FDMO	**Fiordimonte**	**0.30**	**330**	P	Pg	19 48 21.4	-0.1
FDMO				AML	AML		
	comp=E,86μm,0.1s						
FDMO				AML	AML		
	comp=N,54μm,0.2s						
FDMO				AML	AML		
	comp=N,81μm,0.1s						
FDMO				AML	AML		
	comp=E,150μm,0.1s						
T1215	**Vallo di Nera,**	**0.32**	**275**	P	Pg	19 48 21.7	+0.1
T1215				S	Sg	19 48 26.5	+0.3
CSP1	**Cessapalombo**	**0.33**	**348**	⇑P	Pb	19 48 22.2	-0.3
T1247	**Pizzolo (AQ)**	**0.33**	**179**	S	Sb	19 48 29.0	+1.4
T1219	**Muccia, Frazio**	**0.35**	**323**	⇑P	Pg	19 48 22.5	+0.2
GIGS	**Gran Sasso**	**0.38**	**148**	⇑P	Pb	19 48 23.3	-0.1
T1211	**Morro Reatino**	**0.40**	**234**	P	Pg	19 48 23.3	+0.1
T1211				S	Sb	19 48 29.9	+0.2
ARRO	**Arrone**	**0.43**	**244**	P	Pg	19 48 24.0	+0.2

*IDC **13** 19:48:49.5±6.5, 41°.66S×174°.31E, h0km, mb3.5/3, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=125.2km s-min=52.5km az=107.0*

*WEL **13** 19:48:53.8±0.5, 42°S±4°×17°4E±°, h7km±2km, M3.8/15, ML4.1/15, MLv3.8/15, Error ellipse: s-maj=0.0km s-min=0.0km az=164.1*

ISC 13 19:48:52.8±1.1, 41°81S±0°04×174°35E±0°03, h18km±4km, n34, σ0°80/49, mb3.3/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**302**	P	Pg	**19 48 57.0**	**+0.3**
CMWZ				S	Sg	**19 48 59.4**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.37**	**285**	P	Pg	**19 49 00.7**	**+0.2**
BSWZ				S	Sg	**19 49 06.4**	**+0.6**
TUWZ	**Tuamarina**	**0.49**	**321**	P	Pg	**19 49 02.5**	**-0.2**
TUWZ				S	Sg	**19 49 08.9**	**-0.5**
TCW	**Tory Channel**	**0.60**	**355**	P	Pb	**19 49 03.8**	**-0.9**
TCW				S	Sb	**19 49 12.3**	**-0.6**
WEL	**Wellington**	**0.61**	**31**	P	Pg	**19 49 05.7**	**+0.8**
WEL				S	Sg	**19 49 14.3**	**+1.1**
PLWZ	**Palliser**	**0.72**	**71**	P	Pn	**19 49 08.6**	**+0.6**
MSWZ	**Moikau Station**	**0.78**	**60**	P	Pn	**19 49 09.5**	**+0.6**
MSWZ				S	Sn	**19 49 21.8**	**+1.6**
CAW	**Cannon Point**	**0.89**	**38**	P	Pn	**19 49 10.6**	**+0.3**
CAW				S	Sn	**19 49 23.5**	**+0.8**
NNZ	**Nelson**	**0.94**	**309**	P	Pb	**19 49 10.5**	**0.0**
NNZ				S	Sn	**19 49 25.0**	**+1.0**
KIW	**Kapiti Island**	**1.04**	**24**	P	Pn	**19 49 12.7**	**+0.3**
KIW				S	Sn	**19 49 26.2**	**-0.3**
THZ	**Tophouse**	**1.08**	**272**	P	Pg	**19 49 14.2**	**+0.4**
THZ				S	Sn	**19 49 28.6**	**+0.9**
MTW	**Mount Morrison**	**1.08**	**53**	P	Pn	**19 49 13.5**	**+0.5**
TRWZ	**Traveller**	**1.08**	**68**	P	Pn	**19 49 13.2**	**+0.1**
OGWZ	**Otaki Gorge**	**1.17**	**32**	P	Pb	**19 49 14.9**	**+0.5**
OGWZ				S	Sg	**19 49 30.4**	**-0.3**
MRNZ	**Matariki Terra**	**1.26**	**289**	P	Pb	**19 49 16.7**	**+0.7**
MRNZ				S	Sg	**19 49 34.5**	**+0.8**
TKNZ	**Takaka Hill**	**1.30**	**306**	P	Pb	**19 49 17.1**	**+0.3**
TKNZ				S	Sb	**19 49 34.4**	**+1.3**
QRZ	**Quartz Range**	**1.69**	**305**	P	Pb	**19 49 23.4**	**+0.1**
QRZ				S	Sb	**19 49 45.1**	**+0.9**
LTZ	**Lake Taylor**	**1.82**	**237**	P	Pn	**19 49 24.1**	**+0.9**
DSZ	**Denniston Nort**	**1.91**	**271**	P	Pb	**19 49 27.0**	**-0.1**
OKCZ	**Okains Bay**	**2.13**	**206**	P	Pn	**19 49 27.5**	**-0.1**
INZ	**Inchbonnie**	**2.34**	**246**	P	Pb	**19 49 34.3**	**-0.1**
TRVZ	**Turoa**	**2.67**	**20**	P	Pn	**19 49 33.6**	**-1.5**
TMVZ	**Te Maari**	**2.88**	**21**	P	Pn	**19 49 37.0**	**-1.0**
WVZ	**Waitaha Valley**	**2.96**	**244**	P	Pb	**19 49 45.6**	**+0.7**
RPZ	**Rata Peaks**	**3.08**	**231**	Pn	Pn	**19 49 40.5**	**-0.1**
	8.1nm,0.3s,baz=271,slow=1.3,SNR=7.3						
RPZ				Sn	Sn	**19 50 15.6**	**-1.4**
	14nm,0.3s,baz=354,slow=3.8,SNR=4.5 18nm,0.3s						
ALRZ	**Allen Road**	**3.59**	**26**	P	Pn	**19 49 48.6**	**+1.1**
ODZ	**Otahua Downs**	**4.21**	**219**	P	Pn	**19 49 55.2**	**-0.8**
JCZ	**Jackson Bay**	**4.67**	**239**	P	Pn	**19 50 04.2**	**+1.8**
HHSZ	**Highcliff Hill**	**4.89**	**212**	P	Pn	**19 50 05.2**	**-0.2**
SYZ	**Scrubby Hill**	**6.03**	**217**	P	Pn	**19 50 21.3**	**+0.3**
CTZ	**Chatham Island**	**6.92**	**109**	P	Pn	**19 50 33.0**	**-0.2**
ASAR	**Alice Springs**	**38.12**	**286**	P	P	**19 56 09.6**	**-1.3**
	0.2nm,0.4s,baz=129,slow=7.4,SNR=8.2 0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.20**	**290**	P	P	**19 56 27.1**	**-1.1**
	0.2nm,0.3s,baz=126,slow=8.3,SNR=7.4 0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**91.73**	**293**	P	P	**20 01 58.7**	**-0.7**
	0.3nm,0.7s,baz=134,slow=3.9,SNR=2.9 0.3nm,0.7s						

WEL 13 19:51:52.6±0.5, 42°S±3°×17°4E±°, h5km, M3.0/12, ML3.5/10, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=144.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**241**	P	Pg	19 51 54.8	+0.3
CMWZ				S	Sg	19 51 57.4	+1.5
BSWZ	**Blackbirch Sta**	**0.33**	**268**	P	Pg	19 51 58.8	-0.2
BSWZ				S	Sg	19 52 04.1	+0.8
TUWZ	**Tuamarina**	**0.39**	**314**	P	Pg	19 52 00.5	+0.3
TUWZ				S	Sb	19 52 06.9	-1.4
TCW	**Tory Channel**	**0.49**	**356**	P	Pg	19 52 02.4	+0.3
TCW				S	Sb	19 52 10.0	-1.3
WEL	**Wellington**	**0.54**	**39**	P	Pg	19 52 03.5	+0.6
WEL				S	Sg	19 52 10.9	+0.9
PLWZ	**Palliser**	**0.71**	**79**	P	Pg	19 52 06.8	+0.5
PLWZ				S	Sb	19 52 18.7	+1.0
MSWZ	**Moikau Station**	**0.76**	**68**	P	Pb	19 52 07.9	-0.4
MSWZ				S	Sb	19 52 20.2	+1.3
CAW	**Cannon Point**	**0.82**	**44**	P	Pg	19 52 08.5	+0.2
KHZ	**Kahutara**	**0.92**	**219**	P	Pn	19 52 11.6	-0.5
KIW	**Kapiti Island**	**0.95**	**28**	P	Pg	19 52 10.7	-0.1
MTW	**Mount Morrison**	**1.04**	**59**	P	Pg	19 52 11.7	-0.9
OGWZ	**Otaki Gorge**	**1.10**	**36**	P	Pg	19 52 13.4	-0.2
LTZ	**Lake Taylor**	**1.86**	**234**	P	Pb	19 52 26.2	-1.0
OKCZ	**Okains Bay**	**2.22**	**204**	P	Pb	19 52 32.3	-0.9
MQZ	**McQueen's Vall**	**2.35**	**211**	P	Pn	19 52 33.1	+1.4
AKCZ	**Akaroa Harbour**	**2.40**	**205**	P	Pb	19 52 34.6	-1.7

*WEL **13** 19:52:40.5±1.2, 42°S±3°×17°4E±°, h12km±8km, M3.5/7, ML3.9/7, MLv3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=91.5*

*IDC **13** 19:52:40.1±2.4, 42°.73S×173°.34E, h0km, mb4.0/3, mbtmp3.9/3, Error ellipse: s-maj=63.2km s-min=32.6km az=141.0*

ISC 13 19:52:40.8±0.8, 41°.69S±0°.05×174°.21E±0°.03, h14km±6km, n25, σ0°92/35, mb3.9/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**179**	P	Pg	**19 52 43.5**	**0.0**
CMWZ				S	Sg	**19 52 46.0**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.25**	**264**	P	Pb	**19 52 46.8**	**-0.4**
BSWZ				S	Sb	**19 52 51.8**	**+0.3**
TUWZ	**Tuamarina**	**0.33**	**322**	P	Pb	**19 52 48.4**	**-0.1**
TUWZ				S	Sb	**19 52 54.1**	**+0.5**
TCW	**Tory Channel**	**0.48**	**6**	P	Pb	**19 52 50.4**	**-0.6**
TCW				S	Sb	**19 52 57.9**	**-0.1**
BHW	**Baring Head**	**0.57**	**61**	P	Pb	**19 52 52.4**	**-0.2**
BHW				S	Sb	**19 53 00.9**	**+0.4**
WEL	**Wellington**	**0.58**	**46**	P	Pb	**19 52 52.5**	**-0.3**
WEL				S	Sb	**19 53 01.1**	**+0.3**
PLWZ	**Palliser**	**0.79**	**82**	P	Pn	**19 52 56.8**	**-0.8**
PLWZ				S	Sb	**19 53 07.0**	**0.0**
MSWZ	**Moikau Station**	**0.82**	**71**	P	Pb	**19 52 56.7**	**-0.3**
CAW	**Cannon Point**	**0.86**	**48**	P	Pb	**19 52 57.6**	**0.0**
CAW				S	Sb	**19 53 08.9**	**-0.2**
PAWZ	**Paruwai Farm**	**0.96**	**72**	P	Pg	**19 52 58.8**	**-0.6**
PAWZ				S	Sn	**19 53 13.5**	**+0.1**
KIW	**Kapiti Island**	**0.98**	**33**	P	Pg	**19 52 59.4**	**-0.3**
KIW				S	Sb	**19 53 12.2**	**-0.2**
THZ	**Tophouse**	**0.98**	**265**	P	Pg	**19 52 57.9**	**-1.8**
MTW	**Mount Morrison**	**1.10**	**62**	P	Pb	**19 53 01.0**	**-0.8**
MTW				S	Sn	**19 53 18.9**	**+1.9**
MRNZ	**Matariki Terra**	**1.13**	**284**	P	Pg	**19 53 03.3**	**+0.8**
OGWZ	**Otaki Gorge**	**1.13**	**40**	P	Pb	**19 53 01.3**	**-0.8**
HOWZ	**Holdsworth Sta**	**1.26**	**52**	P	Pb	**19 53 04.2**	**-0.2**
TMWZ	**Te Maipa**	**1.39**	**66**	P	Pn	**19 53 05.3**	**-0.5**
MRZ	**Mangatainoka R**	**1.45**	**46**	P	Pb	**19 53 07.0**	**-0.7**
DSZ	**Denniston Nort**	**1.80**	**267**	P	Pn	**19 53 11.1**	**-0.5**
RPZ	**Rata Peaks**	**3.09**	**228**	Pn	Pn	19 53 14.9	-14
	9.2nm,0.3s,baz=43,slow=13,SNR=6.8						
RPZ				Sn	Sn	19 53 39.4	-27
	24nm,0.3s,baz=356,slow=6.1,SNR=3.9						
ASAR	**Alice Springs**	**37.99**	**285**	P	P	**19 59 57.6**	**-0.8**
	0.8nm,0.6s,baz=128,slow=7.1,SNR=12 0.8nm,0.6s						
WRA	**Warramunga Arr**	**40.05**	**290**	P	P	**20 00 14.4**	**-1.3**
	1.9nm,0.8s,baz=131,slow=7.6,SNR=11 1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.59**	**293**	P	P	**20 05 48.5**	**+1.1**
	0.3nm,0.4s,baz=144,slow=2.6,SNR=5.4 0.3nm,0.4s						
BRTR	**Keskin Array B**	**150.22**	**280**	PKPbc	**PKPbc**	**20 12 30.4**	**-1.0**
	1.6nm,0.9s,baz=103,slow=3.9,SNR=4.3						
FINES	**FINESS Array B**	**152.47**	**327**	PKPbc	**PKiKP**	**20 12 38.7**	**+2.9**
	2.2nm,0.9s,baz=64,slow=3.2,SNR=2.5						

WEL 13 19:58:22.3±0.4, 42°S±2°×17°4E±°, h13km±3km, M3.6/8, ML3.8/8, MLv3.6/8, Error ellipse: s-maj=0.0km s-min=0.0km az=89.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**178**	P	Pb	19 58 27.7	+0.2
KHZ				S	Sb	19 58 31.2	+0.2
BSWZ	**Blackbirch Sta**	**0.58**	**27**	P	Pb	19 58 34.5	+0.3
BSWZ				S	Sb	19 58 42.6	+0.2
THZ	**Tophouse**	**0.66**	**315**	P	Pb	19 58 36.3	+0.6
GVZ	**Greta Valley S**	**0.82**	**206**	P	Pn	19 58 40.4	+0.8
GVZ				S	Sn	19 58 52.7	+1.1
TUWZ	**Tuamarina**	**0.86**	**21**	P	Pn	19 58 39.8	-0.3
TUWZ				S	Sb	19 58 51.3	+0.9
MRNZ	**Matariki Terra**	**1.01**	**325**	P	Pn	19 58 43.3	+1.1
MRNZ				S	Sg	19 58 55.2	+0.2
LTZ	**Lake Taylor**	**1.08**	**239**	P	Pn	19 58 44.0	+0.9
LTZ				S	Sn	19 58 57.9	-0.1
AMCZ	**Amberley**	**1.14**	**214**	P	Pg	19 58 44.2	-0.1
OKCZ	**Okains Bay**	**1.53**	**193**	P	Pn	19 58 49.1	-0.2
MQZ	**McQueen's Vall**	**1.61**	**203**	P	Pn	19 58 49.6	-0.7
MQZ				S	Sn	19 59 09.9	-1.0
AKCZ	**Akaroa Harbour**	**1.70**	**195**	P	Pn	19 58 51.3	-0.3
AKCZ				S	Sn	19 59 12.7	-0.

TUWZ	**Tuamarina**	**0.49**	**352**	P	Pb	20 02 22.4	+0.2
TUWZ				S	Sb	20 02 28.8	-0.5
TCW	**Tory Channel**	**0.73**	**15**	P	Pg	20 02 25.9	+0.2
TCW				S	Sb	20 02 35.7	-0.4
BHW	**Baring Head**	**0.81**	**51**	P	Pb	20 02 27.8	+0.3
WEL	**Wellington**	**0.84**	**41**	P	Pb	20 02 28.3	+0.2
WEL				S	Sb	20 02 40.0	+0.7
NNZ	**Nelson**	**0.85**	**325**	P	Pn	20 02 29.6	+0.3
NNZ				S	Sb	20 02 40.0	+0.3
DUWZ	**D'Urville Isla**	**1.12**	**356**	P	Pn	20 02 33.0	0.0
DUWZ				S	Sb	20 02 47.0	-0.3
CAW	**Cannon Point**	**1.12**	**44**	P	Pb	20 02 32.7	-0.1
CAW				S	Sb	20 02 47.4	0.0
KIW	**Kapiti Island**	**1.25**	**32**	P	Pn	20 02 34.8	+0.1
KIW				S	Sb	20 02 50.5	-0.5
MTW	**Mount Morrison**	**1.34**	**56**	P	Pn	20 02 35.1	-1.0
OGWZ	**Otaki Gorge**	**1.40**	**38**	P	Pn	20 02 36.5	-0.2
MRZ	**Mangatainoka R**	**1.71**	**43**	P	Pn	20 02 40.5	-0.7
MOVZ	**Moawhango**	**2.83**	**28**	P	Pb	20 02 59.8	-2.2

*IDC **13** 20:03:08.0±3.3,41.°05S×174.°39E,h0km,mb3.4/2, mbtmp3.6/3,ML4.3/1,Error ellipse: s-maj=69.1km s-min=37.2km az=116.0*
*WEL **13** 20:03:10.9±0.4,42.°2S×17.°4E±.°,h9km±3km,M4.0/17, ML4.3/17,MLv4.0/17,Error ellipse: s-maj=0.0km s-min=0.0km az=171.8*

ISC 13 20:03:10.7±0.9,41.°74S±0.°03×174.°22E±0.°02,h16km±6km, n77,σ1°00/94,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.01**	**202**	P	**Pg**	**20 03 13.2**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.26**	**275**	P	**Pg**	**20 03 16.7**	**+0.3**
BSWZ				S	**Sg**	**20 03 20.8**	**+0.5**
TUWZ	**Tuamarina**	**0.37**	**326**	P	**Pb**	**20 03 18.5**	**-0.4**
TUWZ				S	**Sb**	**20 03 24.3**	**-0.2**
TCW	**Tory Channel**	**0.53**	**5**	P	**Pg**	**20 03 20.9**	**-0.3**
TCW				S	**Sb**	**20 03 28.5**	**-0.4**
BHW	**Baring Head**	**0.59**	**56**	P	**Pb**	**20 03 22.5**	**-0.1**
BHW				S	**Sb**	**20 03 30.6**	**-0.1**
WEL	**Wellington**	**0.61**	**42**	P	**Pg**	**20 03 22.8**	**0.0**
WEL				S	**Sb**	**20 03 31.7**	**+0.3**
PLWZ	**Palliser**	**0.79**	**78**	P	**Pb**	**20 03 26.9**	**+0.8**
PLWZ				S	**Sn**	**20 03 39.3**	**+0.6**
NNZ	**Nelson**	**0.82**	**309**	P	**Pg**	**20 03 26.4**	**-0.3**
NNZ				S	**Sb**	**20 03 37.3**	**0.0**
MSWZ	**Moikau Station**	**0.84**	**68**	P	**Pg**	**20 03 27.1**	**+0.1**
MSWZ				S	**Sn**	**20 03 40.2**	**+0.4**
CAW	**Cannon Point**	**0.90**	**46**	P	**Pg**	**20 03 27.8**	**-0.3**
CAW				S	**Sb**	**20 03 40.8**	**+0.3**
DUWZ	**D'Urville Isla**	**0.96**	**346**	P	**Pg**	**20 03 28.5**	**-0.9**
DUWZ				S	**Sg**	**20 03 41.0**	**-1.0**
PAWZ	**Paruwai Farm**	**0.97**	**69**	P	**Pg**	**20 03 29.3**	**-0.3**
KIW	**Kapiti Island**	**1.02**	**31**	P	**Pg**	**20 03 29.4**	**-1.0**
KIW				S	**Sb**	**20 03 43.2**	**+0.1**
MTW	**Mount Morrison**	**1.12**	**59**	P	**Pg**	**20 03 31.5**	**-1.0**
MRNZ	**Matariki Terra**	**1.15**	**287**	P	**Pn**	**20 03 33.0**	**+0.9**
MRNZ				S	**Sn**	**20 03 49.6**	**+2.1**
MRNZ	**Matariki Terra**	**1.15**	**287**	P	**Pn**	**20 03 32.8**	**+0.7**
TRWZ	**Traveller**	**1.15**	**73**	P	**Pb**	**20 03 31.6**	**-0.7**
OGWZ	**Otaki Gorge**	**1.17**	**38**	P	**Pb**	**20 03 32.0**	**-0.5**
OGWZ				S	**Sg**	**20 03 47.5**	**-1.0**
TKNZ	**Takaka Hill**	**1.18**	**306**	P	**Pb**	**20 03 32.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.29**	**50**	P	**Pn**	**20 03 33.8**	**-0.2**
HOWZ				S	**Sn**	**20 03 51.8**	**+0.9**
TMWZ	**Te Maipa**	**1.41**	**64**	P	**Pn**	**20 03 34.8**	**-0.9**
TMWZ				S	**Sb**	**20 03 54.2**	**0.0**
MRZ	**Mangatainoka R**	**1.49**	**44**	P	**Pn**	**20 03 36.8**	**+0.1**
MRZ				S	**Sb**	**20 03 56.9**	**+0.3**
QRZ	**Quartz Range**	**1.57**	**305**	P	**Pb**	**20 03 39.5**	**+0.2**
TIWZ	**Tintock**	**1.58**	**53**	P	**Pn**	**20 03 38.5**	**+0.4**
CPWZ	**Castlepoint**	**1.71**	**62**	P	**Pg**	**20 03 43.9**	**+0.4**
OHWZ	**Ohakea**	**1.74**	**29**	P	**Pb**	**20 03 42.5**	**+0.2**
PRWZ	**Pori Road**	**1.77**	**49**	P	**Pn**	**20 03 41.1**	**+0.4**
POWZ	**Post Office Ro**	**1.78**	**42**	P	**Pn**	**20 03 41.5**	**+0.7**
DSZ	**Denniston Nort**	**1.81**	**269**	P	**Pn**	**20 03 38.3**	**-2.9**
BFZ	**Birch Farm**	**1.86**	**56**	P	**Pn**	**20 03 41.6**	**-0.3**
DVHZ	**Dannevirke**	**2.06**	**46**	P	**Pg**	**20 03 50.5**	**+0.3**
WAZ	**Wanganui**	**2.06**	**17**	P	**Pb**	**20 03 48.7**	**+0.9**
TSZ	**Takapari Road**	**2.13**	**39**	P	**Pn**	**20 03 46.4**	**+0.7**
NMEZ	**Namu Road**	**2.34**	**353**	P	**Pb**	**20 03 53.5**	**+1.1**
PRHZ	**Porangahau**	**2.35**	**52**	P	**Pn**	**20 03 48.6**	**0.0**
PNHZ	**Pukenui**	**2.36**	**40**	P	**Pn**	**20 03 48.8**	**0.0**
KHEZ	**Kahui Hut**	**2.45**	**356**	P	**Pb**	**20 03 55.1**	**+0.7**
NBEZ	**Newall Road No**	**2.48**	**354**	P	**Pb**	**20 03 55.9**	**+1.0**
MTVZ	**Mangateitei**	**2.54**	**222**	P	**Pb**	**20 03 57.3**	**+1.1**
DREZ	**Durham Road**	**2.55**	**360**	P	**Pg**	**20 03 57.8**	**-1.8**
PKE	**Pukeiti**	**2.55**	**356**	P	**Pg**	**20 03 58.4**	**-1.2**
PKVZ	**Pokaka**	**2.59**	**20**	P	**Pb**	**20 03 57.5**	**+0.7**
MOVZ	**Moawhango**	**2.60**	**27**	P	**Pb**	**20 03 57.1**	**0.0**
WNVZ	**Wahianoa**	**2.63**	**24**	P	**Pb**	**20 03 55.7**	**-1.8**
TRVZ	**Turoa**	**2.64**	**23**	P	**Pb**	**20 03 58.5**	**+0.8**
VRZ	**Vera Road**	**2.64**	**9**	P	**Pb**	**20 03 56.0**	**-1.6**
BHHZ	**Black Hill Sta**	**2.65**	**33**	P	**Pb**	**20 03 58.2**	**+0.4**
DRZ	**Dome Shelter**	**2.67**	**23**	P	**Pb**	**20 03 58.0**	**-0.2**
WHVZ	**Whangaehu Hut**	**2.67**	**23**	P	**Pb**	**20 03 58.4**	**+0.2**
FWVZ	**Far West T-bar**	**2.68**	**23**	P	**Pb**	**20 03 58.9**	**+0.5**
TUVZ	**Tukino**	**2.70**	**24**	P	**Pb**	**20 03 57.7**	**-1.0**
NGZ	**Ngauruhoe**	**2.77**	**23**	P	**Pb**	**20 04 00.4**	**+0.6**
SNVZ	**South Ngauruho**	**2.77**	**23**	P	**Pb**	**20 03 60.0**	**0.0**
OTVZ	**Oturere**	**2.80**	**24**	P	**Pb**	**20 03 59.8**	**-0.6**
NNVZ	**North Ngauruho**	**2.81**	**23**	P	**Pb**	**20 04 01.6**	**+1.0**
WTVZ	**West Tongariro**	**2.82**	**22**	P	**Pb**	**20 04 01.4**	**+0.6**
TWVZ	**Taurewa**	**2.82**	**20**	P	**Pb**	**20 04 00.9**	**+0.1**
ETVZ	**East Tongariro**	**2.84**	**24**	P	**Pb**	**20 04 01.6**	**+0.6**
TMVZ	**Te Maari**	**2.85**	**24**	P	**Pb**	**20 04 01.4**	**0.0**
KRVZ	**Karewarewa**	**2.85**	**23**	P	**Pb**	**20 04 02.3**	**+0.9**
KWHZ	**Kaweka Forest**	**2.86**	**37**	P	**Pb**	**20 04 02.7**	**+1.4**
NTVZ	**North Tongarir**	**2.86**	**23**	P	**Pb**	**20 04 02.2**	**+0.7**
KATZ	**Kakaramea**	**2.98**	**23**	P	**Pb**	**20 04 04.1**	**+0.6**
RITZ	**Rihia Road**	**3.03**	**25**	P	**Pb**	**20 04 04.7**	**+0.4**
RPZ	**Rata Peaks**	**3.06**	**229**	Pn	**Pb**	**20 04 05.2**	**+0.5**
	25nm,0.3s,baz=90,slow=13,SNR=6.7						
RPZ				Sn	**Sg**	**20 04 50.4**	**+1.5**
	13nm,0.3s,baz=352,slow=9.6,SNR=3.7 122nm,0.6s						
BKZ	**Black Stump Fm**	**3.10**	**35**	P	**Pb**	**20 04 06.5**	**+1.0**
HATZ	**Hinemaiaia**	**3.18**	**27**	P	**Pb**	**20 04 07.3**	**+0.4**
WATZ	**Wairara**	**3.24**	**21**	P	**Pb**	**20 04 08.5**	**+0.6**
HIZ	**Hauiti**	**3.26**	**9**	P	**Pb**	**20 04 08.7**	**+0.5**
ALRZ	**Allen Road**	**3.56**	**28**	P	**Pb**	**20 04 13.0**	**-0.3**
TOZ	**Tahuroa Road**	**4.12**	**14**	P	**Pn**	**20 04 16.9**	**+4.0**
AWAZ	**Awhitu Peninsu**	**4.68**	**4**	P	**Pn**	**20 04 24.0**	**+3.4**
MKAZ	**Moumakai**	**4.69**	**9**	P	**Pn**	**20 04 23.1**	**+2.4**
CTZ	**Chatham Island**	**7.04**	**110**	P	**Pn**	**20 04 52.4**	**-0.5**
ASAR	**Alice Springs**	**38.01**	**286**	P	**P**	**20 10 26.9**	**-1.2**
	0.2nm,0.3s,baz=123,slow=6.5,SNR=9.0 0.2nm,0.3s						
WRA	**Warramunga Arr**	**40.08**	**290**	P	**P**	**20 10 44.6**	**-0.8**
	0.5nm,0.7s,baz=127,slow=8.3,SNR=6.9 0.5nm,0.7s						
FINES	**FINESS Array B**	**152.51**	**327**	PKPbc	**PKPbc**	**20 23 04.0**	**-1.1**
	1.4nm,0.8s,baz=48,slow=2.1,SNR=1.9						

WEL 13 20:03:11.8±0.6,43.°3S±3.°×17.°3E±.°,h5km,M3.6/7,ML3.8/7, MLv3.6/7,Error ellipse: s-maj=0.0km s-min=0.0km az=114.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**68**	P	Pg	20 03 17.3	-0.7
GVZ	**Greta Valley S**	**0.44**	**190**	P	Pg	20 03 20.9	+0.5
GVZ				S	Sg	20 03 27.4	+1.3
LTZ	**Lake Taylor**	**0.69**	**249**	P	Pg	20 03 25.5	+0.4
LTZ				S	Sg	20 03 34.9	+0.9
AMCZ	**Amberley**	**0.74**	**209**	P	Pb	20 03 26.7	-0.4
AMCZ				S	Sb	20 03 37.2	-0.3
OXZ	**Oxford**	**1.13**	**225**	P	Pg	20 03 32.9	-0.6
OXZ				S	Sg	20 03 48.1	-0.2
DSZ	**Denniston Nort**	**1.27**	**308**	P	Pn	20 03 37.0	+0.7

WEL 13 20:07:08.3±0.4,42.°5S±2.°×17.°4E±.°,h5km,M4.0/8,ML4.2/8, MLv4.0/8,Error ellipse: s-maj=0.0km s-min=0.0km az=151.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.37**	**195**	P	Pg	20 07 15.6	+0.1
KHZ				S	Sg	20 07 21.5	+1.2
BSWZ	**Blackbirch Sta**	**0.38**	**25**	P	Pg	20 07 15.7	+0.1
BSWZ				S	Sg	20 07 21.8	+1.3
THZ	**Tophouse**	**0.64**	**297**	P	Pg	20 07 20.7	+0.1
THZ				S	Sg	20 07 29.8	+0.9
TUWZ	**Tuamarina**	**0.66**	**18**	P	Pg	20 07 21.1	+0.1
TUWZ				S	Sb	20 07 31.2	-0.6
NNZ	**Nelson**	**0.87**	**346**	P	Pg	20 07 25.0	+0.1
NNZ				S	Sg	20 07 35.3	-0.9
TCW	**Tory Channel**	**0.96**	**29**	S	Sb	20 07 40.6	+0.2
WEL	**Wellington**	**1.13**	**47**	P	Pg	20 07 29.6	-0.4
WEL				S	Sn	20 07 46.4	-0.3
TKNZ	**Takaka Hill**	**1.15**	**332**	P	Pg	20 07 30.5	+0.1
TKNZ				S	Sn	20 07 46.9	-0.3
DUWZ	**D'Urville Isla**	**1.27**	**9**	P	Pg	20 07 32.1	-0.6
DUWZ				S	Sg	20 07 48.5	-0.6
QRZ	**Quartz Range**	**1.50**	**325**	P	Pb	20 07 36.7	+0.1
QRZ				S	Sn	20 07 55.6	-0.2
KIW	**Kapiti Island**	**1.52**	**38**	P	Pn	20 07 35.9	-0.2
KIW				S	Sg	20 07 57.2	+0.1
MTW	**Mount Morrison**	**1.64**	**57**	P	Pg	20 07 40.4	+0.6
MTW				S	Sg	20 08 01.8	+0.7
HOWZ	**Holdsworth Sta**	**1.81**	**51**	P	Pb	20 07 42.2	+0.3
TMWZ	**Te Maipa**	**1.92**	**61**	P	Pg	20 07 45.8	+0.6
TIWZ	**Tintock**	**2.10**	**53**	P	Pg	20 07 48.3	-0.3
CPWZ	**Castlepoint**	**2.22**	**60**	P	Pg	20 07 53.7	+2.8
OHWZ	**Ohakea**	**2.23**	**34**	P	Pb	20 07 49.4	+0.3
OHWZ				S	Sg	20 08 20.5	+0.6
PRWZ	**Pori Road**	**2.30**	**50**	P	Pg	20 07 52.8	+0.5
POWZ	**Post Office Ro**	**2.30**	**44**	P	Pg	20 07 51.5	-0.9
BFZ	**Birch Farm**	**2.38**	**56**	P	Pg	20 07 53.8	-0.1
WAZ	**Wanganui**	**2.51**	**24**	P	Pb	20 07 53.3	-0.5
DVHZ	**Dannevirke**	**2.58**	**48**	P	Pg	20 07 57.1	-0.6
TSZ	**Takapari Road**	**2.65**	**42**	P	Pb	20 07 56.3	+0.1
NMEZ	**Namu Road**	**2.65**	**4**	P	Pb	20 07 56.2	0.0
LREZ	**Lake Rotokare**	**2.66**	**12**	P	Pb	20 07 54.9	-1.4
KHEZ	**Kahui Hut**	**2.77**	**6**	P	Pb	20 07 56.9	-1.6
NEZ	**North Egmont**	**2.80**	**7**	P	Pb	20 07 58.3	-0.7
PRHZ	**Porangahau**	**2.87**	**52**	P	Pg	20 08 04.0	+0.8
PNHZ	**Pukenui**	**2.88**	**43**	P	Pb	20 08 00.5	+0.4
WPHZ	**Waipukurau**	**2.89**	**47**	P	Pg	20 08 03.5	-0.2
DREZ	**Durham Road**	**2.90**	**8**	P	Pb	20 07 57.9	-2.5
MTVZ	**Mangateitei**	**3.00**	**28**	P	Pb	20 08 02.7	+0.4
MHEZ	**Mangahewa**	**3.02**	**10**	P	Pb	20 08 03.2	+0.6
PKVZ	**Pokaka**	**3.05**	**25**	P	Pb	20 08 02.9	-0.1
VRZ	**Vera Road**	**3.05**	**16**	P	Pb	20 08 00.6	-2.4
MOVZ	**Moawhango**	**3.09**	**32**	P	Pb	20 08 01.2	-2.6
WNVZ	**Wahianoa**	**3.10**	**29**	P	Pn	20 08 00.7	+2.7
TRVZ	**Turoa**	**3.11**	**28**	P	Pn	20 08 00.7	+2.5
DRZ	**Dome Shelter**	**3.13**	**28**	P	Pb	20 08 01.7	-3.0
WHVZ	**Whangaehu Hut**	**3.13**	**28**	P	Pn	20 08 01.0	+2.4
BHHZ	**Black Hill Sta**	**3.15**	**36**	P	Pb	20 08 04.1	-0.7
FWVZ	**Far West T-bar**	**3.15**	**28**	P	Pn	20 08 01.2	+2.4
PXZ	**Pawanui**	**3.15**	**51**	P	Pg	20 08 08.0	-0.7
TUVZ	**Tukino**	**3.17**	**29**	P	Pb	20 08 04.9	-0.3
NGZ	**Ngauruhoe**	**3.23**	**28**	P	Pn	20 08 02.2	+2.3
SNVZ	**South Ngauruho**	**3.24**	**28**	P	Pn	20 08 02.9	+2.9
OTVZ	**Oturere**	**3.27**	**28**	P	Pn	20 08 03.1	+2.8
TWVZ	**Taurewa**	**3.27**	**25**	P	Pb	20 08 03.8	-3.2
NNVZ	**North Ngauruho**	**3.28**	**28**	P	Pb	20 08 05.4	-1.7
WTVZ	**West Tongariro**	**3.28**	**27**	P	Pb	20 08 05.1	-2.0
ETVZ	**East Tongariro**	**3.31**	**29**	P	Pb	20 08 06.0	-1.6
KAHZ	**Kahuranaki**	**3.32**	**48**	P	Pg	20 08 12.2	+0.3
KRVZ	**Karewarewa**	**3.32**	**28**	P	Pb	20 08 07.3	-0.4
TMVZ	**Te Maari**	**3.32**	**28**	P	Pn	20 08 03.6	+2.5
NTVZ	**North Tongarir**	**3.33**	**28**	P	Pb	20 08 06.9	-1.0
KWHZ	**Kaweka Forest**	**3.36**	**39**	P	Pb	20 08 09.4	+1.0
KATZ	**Kakaramea**	**3.45**	**27**	P	Pb	20 08 09.3	-0.6
LBZ	**Lake Benmore**	**3.45**	**226**	P	Pb	20 08 09.9	+0.1
MCHZ	**McNeill Hill**	**3.48**	**42**	P	Pb	20 08 12.5	+2.1
RITZ	**Rihia Road**	**3.50**	**29**	P	Pb	20 08 11.9	+1.1
RATZ	**Rangitukua**	**3.57**	**27**	P	Pb	20 08 12.1	+0.2
BKZ	**Black Stump Fm**	**3.60**	**38**	P	Pb	20 08 11.6	-0.9
HIZ	**Hauiti**	**3.66**	**15**	P	Pn	20 08 08.1	+2.6
HATZ	**Hinemaiaia**	**3.67**	**31**	P	Pb	20 08 12.9	-0.7
WATZ	**Wairara**	**3.70**	**26**	P	Pb	20 08 14.0	-0.2
NMHZ	**Naumai**	**3.80**	**40**	P	Pb	20 08 17.6	+1.6
MRHZ	**Matea Rd**	**3.84**	**34**	P	Pb	20 08 16.9	+0.2
TLZ	**Tolley Road**	**3.99**	**22**	P	Pb	20 08 15.6	-3.5
MTHZ	**Maungataniwha**	**4.01**	**38**	P	Pb	20 08 18.6	-1.0
ALRZ	**Allen Road**	**4.05**	**31**	P	Pb	20 08 18.9	-1.2
RAHZ	**Arahi**	**4.08**	**41**	P	Pb	20 08 21.7	+1.1
TOZ	**Tahuroa Road**	**4.55**	**19**	P	Pn	20 08 21.0	+3.3
AWAZ	**Awhitu Peninsu**	**5.04**	**9**	P	Pn	20 08 27.0	+2.4
MKAZ	**Moumakai**	**5.08**	**14**	P	Pn	20 08 23.7	+2.2
RUGZ	**Raukumara Rang**	**5.12**	**38**	P	Pb	20 08 35.8	-2.6
MBAZ	**Motutapu North**	**5.37**	**11**	P	Pn	20 08 31.4	+2.3

*IDC **13** 20:08:01.4±1.2,42.°63S×173.°40E,h0km,mb4.1/7, mbtmp4.1/8,ML4.6/1,Error ellipse: s-maj=32.2km s-min=23.1km az=123.0*
*WEL **13** 20:08:04.7±0.3,43.°3S±2.°×17.°3E±.°,h5km,M4.5/7,ML4.8/7, MLv4.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=124.4*

ISC 13 20:08:04.2±0.9,42.°55S±0.°03×173.°42E±0.°05,h13km±6km, n23,σ1°20/33,mb4.1/7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.16**	**34**	P	**Pg**	**20 08 07.7**	**-0.2**
KHZ				S	**Sg**	**20 08 10.3**	**-0.4**
GVZ	**Greta Valley S**	**0.50**	**214**	P	**Pg**	**20 08 15.1**	**+1.0**
GVZ				S	**Sb**	**20 08 23.4**	**+1.2**
AMCZ	**Amberley**	**0.84**	**222**	P	**Pb**	**20 08 21.4**	**+0.8**
AMCZ				S	**Sb**	**20 08 34.1**	**+2.2**
THZ	**Tophouse**	**0.87**	**334**	P	**Pg**	**20 08 20.5**	**-0.6**
LTZ	**Lake Taylor**	**0.88**	**254**	P	**Pg**	**20 08 21.0**	**-0.1**
LTZ				S	**Sg**	**20 08 32.9**	**+0.3**
TUWZ	**Tuamarina**	**1.19**	**20**	P	**Pg**	**20 08 26.9**	**-0.1**
TUWZ				S	**Sb**	**20 08 42.9**	**+1.1**
OKCZ	**Okains Bay**	**1.20**	**192**	P	**Pg**	**20 08 26.0**	**-1.3**
OKCZ				S	**Sg**	**20 08 43.2**	**+0.3**
MRNZ	**Matariki Terra**	**1.25**	**337**	P	**Pg**	**20 08 28.0**	**-0.2**
MRNZ				S	**Sb**	**20 08 44.6**	**+0.9**
TKNZ	**Takaka Hill**	**1.55**	**347**	P	**Pn**	**20 08 32.6**	**+1.0**
TKNZ				S	**Sg**	**20 08 53.5**	**-0.7**
WVZ	**Waitaha Valley**	**2.04**	**254**	P	**Pn**	**20 08 37.9**	**-0.4**
WVZ				S	**Sn**	**20 09 02.5**	**-1.1**
RPZ	**Rata Peaks**	**2.08**	**235**	Pn	**Pn**	**20 08 37.7**	**-1.2**
	221nm,0.3s,baz=55,slow=2.4,SNR=13						
RPZ				Sn	**Sn**	**20 09 02.9**	**-1.8**
	424nm,0.3s,baz=132,slow=23,SNR=44 738nm,0.4s						
RPZ	**Rata Peaks**	**2.08**	**235**	P	**Pn**	**20 08 38.1**	**-0.8**
MSVF	**Nonsavu**	**25.05**	**10**	P	**P**	**20 13 28.3**	**0.0**
	8.4nm,0.9s,baz=172,slow=11,SNR=2.8 8.4nm,0.9s						
ASAR	**Alice Springs**	**37.66**	**287**	P	**P**	**20 15 18.1**	**-1.0**
	0.7nm,0.6s,baz=129,slow=6.8,SNR=10 0.7nm,0.6s						
WRA	**Warramunga Arr**	**39.82**	**292**	P	**P**	**20 15 36.0**	**-1.2**
	0.7nm,0.5s,baz=131,slow=7.9,SNR=6.9 0.7nm,0.5s						
PMG	**Port Moresby**	**40.24**	**317**	P	**P**	**20 15 41.0**	**+0.2**
	7.2nm,0.9s,baz=241,slow=13,SNR=1.2 7.2nm,0.9s						
QSPA	**South Pole Qui**	**47.58**	**180**	P	**P**	**20 16 38.5**	**-0.9**
	1.1nm,0.8s,baz=25,slow=4.3,SNR=2.0 1.1nm,0.8s						
KSRS	**Korea Array**	**89.76**	**325**	P	**P**	**20 21 02.1**	**+0.2**
	1.4nm,0.8s,baz=146,slow=3.8,SNR=4.0 1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.39**	**294**	P	**P**	**20 21 10.7**	**+0.7**
	0.7nm,0.8s,baz=148,slow=4.1,SNR=4.3 0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**124.02**	**310**	PKP	**PKPdf**	**20 26 59.6**	**-1.9**
	0.3nm,0.5s,baz=110,slow=1.7,SNR=3.2						
ARCES	**ARCESS Array B**	**148.31**	**339**	PKPbc	**PKPdf**	**20 27 48.4**	**+2.9**
	7.4nm,1.1s,baz=54,slow=2.1,SNR=3.7						
BRTR	**Keskin Array B**	**149.77**	**278**	PKPbc	**PKPdf**	**20 27 51.0**	**+2.1**
	0.2nm,0.4s,baz=160,slow=6.7,SNR=1.5						
FINES	**FINESS Array B**	**152.85**	**325**	PKPbc	**PKPbc**	**20 27 58.6**	**-1.3**
	1.7nm,0.9s,baz=38,slow=7.0,SNR=1.8						

*IDC **13** 20:09:58.0±0.9,41.°94S×173.°77E,h0km,mb4.3/10, mbtmp4.4/11,ML4.3/1,Error ellipse: s-maj=27.0km s-min=21.6km az=79.0*
*NEIC **13** 20:09:59.6±2.0,42.°11S±0.°04×173.°68E±0.°05,h10km±1km, mb4.5/9,Error ellipse: s-maj=8.5km s-min=3.0km az=317.0*
*WEL **13** 20:10:00.42.°10S×173.°72E,h12km,ML4.6,Mw4.5, Moment Tensor Solution. s4 Moment tensor: Scale 1015 Nm; Mrr-1.12; Mθθ5.62; Mϕϕ-4.50; Mrθ4.10; Mϕϕ-2.89; Mθr-0.08; Fault plane solution: Mo6.84000×10^15 NP1: ϕs153.00000°,δ61.00000°,λ5.00000°. NP2:ϕs61.00000°, δ86.00000°,λ151.00000°. Principal axes: T 811.4900, Plg23.0000°, Azm13.0000°; N -254.6900, Plg61.0000°, Azm233.0000°; P -556.8000, Plg17.0000°, Azm111.0000°;*
*WEL **13** 20:10:00.2±0.2,42.°S±2.°×17.°4E±.°,h12km,M4.6/25, ML4.9/25,MLv4.6/25 Error ellipse: s-maj=0.0km s-min=0.0km az=133.1*

ISC 13 20:09:59.8±1.0,42.°04S±0.°02×173.°75E±0.°02,h14km±6km, n157,σ1°34/155,mb4.3/12,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.34**	**16**		**Pb**	**20 10 07.8**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.34**	**16**	P	**Pn**	**20 10 08.0**	**-2.3**
BSWZ				S	**Sn**	**20 10 14.4**	**-2.6**
KHZ	**Kahutara**	**0.41**	**202**	Pg	**Pg**	**20 10 07.9**	**-0.2**
KHZ	**Kahutara**	**0.41**	**202**	P	**Pb**	**20 10 08.1**	**-0.7**
KHZ				S	**Sg**	**20 10 13.4**	**-0.2**
CMWZ	**Cape Campbell**	**0.45**	**50**		**Pn**	**20 10 11.0**	**-0.9**
CMWZ	**Cape Campbell**	**0.45**	**50**	P	**Pn**	**20 10 11.2**	**-0.7**
CMWZ				S	**Sn**	**20 10 19.8**	**0.0**
TUWZ	**Tuamarina**	**0.62**	**13**		**Pn**	**20 10 12.8**	**-1.5**
TUWZ	**Tuamarina**	**0.62**	**13**	P	**Pn**	**20 10 13.4**	**-0.9**
TUWZ				S	**Sn**	**20 10 23.2**	**-0.8**
THZ	**Tophouse**	**0.69**	**293**		**Pg**	**20 10 12.7**	**-0.5**
THZ	**Tophouse**	**0.69**	**293**	P	**Pb**	**20 10 13.0**	**-0.6**
THZ				S	**Sb**	**20 10 22.4**	**-0.6**
NNZ	**Nelson**	**0.86**	**341**		**Pn**	**20 10 16.9**	**-0.7**
NNZ	**Nelson**	**0.86**	**341**	P	**Pn**	**20 10 17.0**	**-0.6**
TCW	**Tory Channel**	**0.92**	**26**	P	**Pn**	**20 10 18.3**	**0.0**
TCW				S	**Sn**	**20 10 32.6**	**+1.3**
MRNZ	**Matariki Terra**	**0.98**	**310**	P	**Pn**	**20 10 19.0**	**-0.2**
MRNZ				S	**Sn**	**20 10 33.3**	**+0.5**
SNZO	**South Karori**	**1.02**	**45**		**Pn**	**20 10 21.0**	**+1.3**
GVZ	**Greta Valley S**	**1.07**	**209**		**Pg**	**20 10 20.1**	**-0.4**
GVZ	**Greta Valley S**	**1.07**	**209**	P	**Pg**	**20 10 20.8**	**+0.3**
GVZ				S	**Sn**	**20 10 36.3**	**+1.2**
WEL	**Wellington**	**1.07**	**46**	P	**Pn**	**20 10 21.8**	**+1.4**
WEL				S	**Sn**	**20 10 38.4**	**+3.3**
TKNZ	**Takaka Hill**	**1.17**	**329**	P	**Pg**	**20 10 22.4**	**+0.1**
TKNZ				S	**Sn**	**20 10 40.3**	**+2.8**
PLWZ	**Palliser**	**1.22**	**68**	Pn	**Pg**	**20 10 22.8**	**-0.5**
PLWZ	**Palliser**	**1.22**	**68**	P	**Pg**	**20 10 23.2**	**-0.1**
DUWZ	**D'Urville Isla**	**1.24**	**6**	P	**Pg**	**20 10 24.0**	**+0.3**
DUWZ				S	**Sg**	**20 10 43.1**	**+3.2**
MSWZ	**Moikau Station**	**1.28**

14nm,1.2s
MSVF **Nonsavu** 24.50 10 P P 20 15 18.9 +0.1
5.2nm,0.7s,baz=176,slow=20,SNR=1.5
5.2nm,0.7s
STKA **Stephens Creek** 27.48 281 P P 20 15 47.3 +1.7
1.8nm,0.7s,baz=122,slow=15,SNR=2.5
1.8nm,0.7s
CTA **Charters Tower** 31.91 305 P P 20 16 25.4 +0.4
2.8nm,0.8s,baz=141,slow=14,SNR=2.4
2.8nm,0.8s
AS31 **Alice Springs** 37.75 286 P P 20 17 16.4 +1.0
ASAR **Alice Springs** 37.75 286 P P 20 17 15.7 +0.3
4.2nm,1.1s,baz=125,slow=7.0,SNR=17
ASAR PcP PcP 20 19 32.7 +0.4
0.4nm,0.7s,baz=126,slow=3.7,SNR=2.1
4.2nm,1.1s
ASAR **Alice Springs** 37.75 286 P P 20 17 15.4 0.0
FORT **Forrest** 38.04 272 P P 20 17 15.4 -2.4
WR0 **Warramunga Arr** 39.70 291 P P 20 17 30.1 -1.8
WR0 IAmb IAmb 20 17 35.8
comp=Z,9.3nm,1.2s
WB2 **Warramunga Arr** 39.85 291 P P 20 17 32.5 -0.5
WB2 IAmb IAmb 20 17 37.0
comp=Z,13nm,1.2s
WRA **Warramunga Arr** 39.86 291 P P 20 17 32.5 -0.6
comp=Z,2.9nm,0.6s,baz=128,slow=8.0,SNR=18
WRA PcP PcP 20 19 38.7 -0.1
comp=Z,0.7nm,0.8s,baz=145,slow=3.5,SNR=3.3
comp=Z,2.9nm,0.6s
WRA **Warramunga Arr** 39.86 291 P P 20 17 32.7 -0.4
WB0 **Warramunga Arr** 39.94 292 P P 20 17 32.7 -1.0
WB0 IAmb IAmb 20 17 39.0
comp=Z,4.3nm,0.7s
PMG **Port Moresby** 40.04 317 P P 20 17 35.0 +0.5
comp=Z,23nm,1.0s,baz=176,slow=6.4,SNR=4.5
comp=Z,23nm,1.0s
PMG **Port Moresby** 40.04 317 P P 20 17 35.9 +1.4
PMG IAmb IAmb 20 17 38.4
comp=Z,16nm,0.8s
KNRA **Kununurra** 46.63 290 P P 20 18 27.9 +0.1
QSPA **South Pole Qui** 48.09 180 P P 20 18 41.1 +2.3
comp=Z,10nm,1.0s,baz=13,slow=3.7,SNR=9.6
comp=Z,10nm,1.0s
QSPA **South Pole Qui** 48.09 180 P P 20 18 38.2 -0.6
QSPA IAmb IAmb 20 18 42.3
comp=Z,7.6nm,0.8s
TROLL **Troll, Antarti** 66.09 183 P P 20 20 47.4 +1.4
SNAA **Sanae** 66.57 181 P P 20 20 49.7 +0.6
H03S2 **Juan Fernandez** 79.33 126 T T 21 49 16.1
baz=225,slow=74,SNR=5.5
H03S1 **Juan Fernandez** 79.34 126 T T 21 49 16.1
baz=225,slow=74,SNR=6.7
H03S3 **Juan Fernandez** 79.35 126 T T 21 49 16.1
baz=225,slow=74,SNR=6.6
KSRS **Korea Array** 89.48 325 P P 20 22 56.6 +0.6
comp=Z,1.4nm,0.7s,baz=140,slow=5.6,SNR=6.4
comp=Z,1.4nm,0.7s
CMAR **Chiang Mai Arr** 91.41 294 P P 20 23 06.8 +1.2
comp=Z,0.8nm,0.9s,baz=175,slow=3.6,SNR=5.4
comp=Z,0.8nm,0.9s
YKA **Yellowknife Ar** 118.81 30 PKP PKiKP 20 28 47.3 +0.7
comp=Z,1.1nm,0.7s,baz=255,slow=1.7,SNR=2.7
MKAR **Makanchi Array** 119.85 308 PKP PKiKP 20 28 50.0 +0.7
comp=Z,0.8nm,0.8s,baz=233,slow=30,SNR=1.3
KURBB **Kurchatov Arra** 123.88 310 PKP PKPdf 20 28 55.8 -0.9
comp=Z,0.2nm,0.5s,baz=118,slow=1.6,SNR=2.9
KBZ **Khabaz** 144.37 290 PKP PKPdf 20 29 34.4 -0.6
comp=Z,1.8nm,0.7s,baz=71,slow=9.2,SNR=5.1
DBIC **Dimbokro** 144.76 182 PKP PKPdf 20 29 36.9 +0.2
comp=Z,1.9nm,0.6s,baz=164,slow=3.1,SNR=4.5
ARCES **ARCESS Array B** 147.92 340 PKPbc PKPbc 20 29 42.3 -1.1
comp=Z,2.8nm,0.7s,baz=74,slow=3.6,SNR=5.8
BRTR **Keskin Array B** 149.34 279 PKPbc PKPbc 20 29 48.0 -1.7
comp=Z,0.6nm,0.7s,baz=132,slow=5.8,SNR=2.7
FINES **FINESS Array B** 152.56 326 PKPbc PKPbc 20 29 54.0 -0.8
comp=Z,2.1nm,0.7s,baz=50,slow=3.0,SNR=6.2
AKASG **Malin Array Be** 154.24 302 PKPab PKPab 20 30 11.9 -0.9
comp=Z,1.3nm,0.8s,baz=67,slow=4.8,SNR=4.5
GERES **GERESS Array B** 164.45 303 PKPab PKPab 20 30 56.6 -0.8
comp=Z,0.3nm,0.6s,baz=64,slow=3.6,SNR=2.3

WEL ***13*** *20:14:00, 42.˚24S×173.˚89E, h14km, ML5.0, Mw4.5, Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁵ Nm; Mrr6.35; Mθθ 0.66; Mϕϕ -7.01; Mrθ 0.64; Mθϕ -3.12; Mϕr -0.88; Fault plane solution: M₀ 7.35000×10¹⁵ NP1: ϕs 30.00000°, δ44.00000°, λ 106.00000°. NP2: ϕs 189.00000°, δ48.00000°, λ 76.00000°. Principal axes: T -814.7400, Plg79.0000°, Azm30.0000°; N 160.1500, Plg11.0000°, Azm198.0000°; P 654.6000, Plg2.0000°, Azm289.0000°;*

IDC ***13*** *20:14:49.4± 0.7, 42.˚15S×173.˚90E, h0km, mb4.5/12, mbtmp4.6/13, ML5.3/1 Error ellipse: s-maj=23.8km s-min=18.5km az=79.0*

NEIC ***13*** *20:14:50.9± 2.0, 42.˚37S± 0.˚02×173.˚88E± 0.˚04, h10km± 1km, mb4.9/25, Mwr4.5/21, Error ellipse: s-maj=6.7km s-min=2.9km az=305.0*

NEIC ***13*** *20:14:50.8, 42.˚37S×173.˚89E, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵ Nm; Mrr6.51; Mθθ 0.25; Mϕϕ -6.76; Mrθ -1.42; Mθϕ -3.54; Mϕr -0.52; Fault plane solution: M₀ 7.67000×10¹⁵ NP1: ϕs 10.26000°, δ42.37000°, λ 71.74000°. NP2: ϕs 214.33000°, δ50.21000°, λ 105.95000°. Principal axes: T 6.8195, Plg77.0000°, Azm185.0000°; N 1.4846, Plg12.0000°, Azm24.0000°; P -8.3041, Plg4.0000°, Azm293.0000°;*

WEL ***13*** *20:14:51.8± 0.7, 42˚S± 5˚×17˚4E± ˚, h5km, M4.8/15, ML5.1/15, MLv4.8/15 Error ellipse: s-maj=0.0km s-min=0.0km az=164.0*

NOU ***13*** *20:14:54.1, 42.˚41S×173.˚97E, h34km, mb5.0/28, South Island, New Zealand*

ISC 13 20:14:51.3±1.0, 42.˚38S±0.˚03×173.˚90E±0.˚03, h15km±6km, n219, σ1$26/236, mb4.7/25, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	0.27	262		Pg	20 14 57.2	+0.2
KHZ				Sg	Sg	20 14 59.1	-1.8
KHZ	**Kahutara**	0.27	262	P	Pg	20 14 57.6	+0.6
BSWZ	**Blackbirch Sta**	0.67	359	Pg	Pb	20 15 02.1	-2.5
BSWZ	**Blackbirch Sta**	0.67	359	P	Pb	20 15 04.6	0.0
BSWZ				S	Sg	20 15 13.1	0.0
TUWZ	**Tuamarina**	0.95	2	Pg	Pb	20 15 09.8	+0.3
TUWZ	**Tuamarina**	0.95	2	P	Pn	20 15 10.5	+0.4
TUWZ				S	Sg	20 15 22.9	+0.8
THZ	**Tophouse**	0.96	310		Pb	20 15 09.1	-0.6
THZ	**Tophouse**	0.96	310	P	Pb	20 15 09.1	-0.6
THZ				S	Sb	20 15 21.7	-0.6
TCW	**Tory Channel**	1.20	14	P	Pn	20 15 13.9	+0.3
TCW				S	Sb	20 15 29.3	+0.2
NNZ	**Nelson**	1.23	341		Pn	20 15 13.2	-0.7
NNZ	**Nelson**	1.23	341	P	Pn	20 15 14.1	+0.2
NNZ				S	Sb	20 15 29.8	0.0
SNZO	**South Karori**	1.23	30		Pn	20 15 13.8	-0.1
LTZ	**Lake Taylor**	1.27	251		Pb	20 15 15.5	+0.6
WEL	**Wellington**	1.27	31	P	Pb	20 15 15.4	+0.4
WEL				S	Sb	20 15 30.8	-0.3
PLWZ	**Palliser**	1.30	52	P	Pb	20 15 16.1	+0.7
MRNZ	**Matariki Terra**	1.30	319	P	Pn	20 15 15.5	+0.6
MRNZ				S	Sb	20 15 33.0	+1.1
MSWZ	**Moikau Station**	1.40	47	Pn	Pn	20 15 17.0	+0.8
MSWZ	**Moikau Station**	1.40	47	P	Pb	20 15 17.2	+0.1
MSWZ				S	Sn	20 15 34.5	+0.1
PAWZ	**Paruwai Farm**	1.52	49	P	Pn	20 15 18.7	+0.7
TKNZ	**Takaka Hill**	1.52	332	P	Pn	20 15 18.6	+0.6
CAW	**Cannon Point**	1.54	35	P	Pn	20 15 19.0	+0.7
DUWZ	**D'Urville Isla**	1.58	1	P	Pb	20 15 20.1	-0.1
DUWZ				S	Sn	20 15 39.0	+0.1
MQZ	**McQueen's Vall**	1.61	214		Pn	20 15 19.8	+0.6
TRWZ	**Traveller**	1.66	54	P	Pn	20 15 20.4	+0.5
OXZ	**Oxford**	1.66	235		Pn	20 15 20.3	+0.4
DSZ	**Denniston Nort**	1.68	291	Pn	Pn	20 15 19.8	-0.4
DSZ	**Denniston Nort**	1.68	291	P	Pn	20 15 21.5	+1.3
KIW	**Kapiti Island**	1.70	27	P	Pn	20 15 21.3	+0.9
QRZ	**Quartz Range**	1.86	326		Pn	20 15 23.5	+0.9
QRZ	**Quartz Range**	1.86	326	P	Pn	20 15 24.1	+1.4
QRZ	**Quartz Range**	1.86	326	P	Pn	20 15 24.0	+1.3
TMWZ	**Te Maipa**	1.96	50	P	Pn	20 15 24.5	+0.4
MRZ	**Mangatainoka R**	2.13	37		Pn	20 15 26.2	-0.1
MRZ	**Mangatainoka R**	2.13	37	P	Pn	20 15 26.7	+0.4
CPWZ	**Castlepoint**	2.27	50	P	Pn	20 15 29.0	+0.8
OHWZ	**Ohakea**	2.42	27	P	Pn	20 15 32.1	+1.8
POWZ	**Post Office Ro**	2.44	36	P	Pn	20 15 30.7	+0.2
BFZ	**Birch Farm**	2.45	47	Pn	Pn	20 15 29.9	-0.9
BFZ	**Birch Farm**	2.45	47	P	Pn	20 15 30.6	-0.1
RPZ	**Rata Peaks**	2.48	236	Pn	Pn	20 15 31.6	+0.5
	551nm,0.3s,baz=91,slow=2.3,SNR=83						
RPZ				Sn	Sn	20 15 59.5	-1.5
	663nm,0.3s,baz=31,slow=23,SNR=39						
	2µm,0.4s						
RPZ	**Rata Peaks**	2.48	236	P	Pn	20 15 32.0	+0.9
WAZ	**Wanganui**	2.75	18	P	Pn	20 15 37.2	+2.4
TSZ	**Takapari Road**	2.79	35	P	Pn	20 15 35.5	0.0
LREZ	**Lake Rotokare**	2.94	8	P	Pn	20 15 40.0	+2.5
PRHZ	**Porangahau**	2.95	45	P	Pn	20 15 37.5	-0.1
NMEZ	**Namu Road**	2.96	360	P	Pb	20 15 42.9	-0.9
PNHZ	**Pukenui**	3.02	36	P	Pn	20 15 38.3	-0.3
KHEZ	**Kahui Hut**	3.08	2	P	Pn	20 15 42.9	+3.3
NBEZ	**Newall Road No**	3.11	360	P	Pn	20 15 43.1	+3.3
NEZ	**North Egmont**	3.11	3	P	Pn	20 15 43.5	+3.6
PKE	**Pukeiti**	3.18	1	P	Pn	20 15 43.4	+2.5
DREZ	**Durham Road**	3.20	4	P	Pn	20 15 43.5	+2.5
FOZ	**Fox Glacier**	3.21	248		Pn	20 15 42.6	+1.4
FOZ	**Fox Glacier**	3.21	248	P	Pn	20 15 42.8	+1.6
MTVZ	**Mangateitei**	3.22	22	P	Pn	20 15 43.2	+1.8
PXZ	**Pawanui**	3.24	45	P	Pn	20 15 41.7	+0.1
PKVZ	**Pokaka**	3.28	20	P	Pn	20 15 43.9	+1.7
MOVZ	**Moawhango**	3.29	26	P	Pn	20 15 42.9	+0.6
WNVZ	**Wahianoa**	3.31	23	P	Pn	20 15 44.6	+1.8
MHEZ	**Mangahewa**	3.32	6	P	Pn	20 15 45.4	+2.7
VRZ	**Vera Road**	3.32	12	P	Pn	20 15 44.8	+2.2
TRVZ	**Turoa**	3.32	23	P	Pn	20 15 44.6	+1.6
DRZ	**Dome Shelter**	3.35	23	P	Pn	20 15 45.0	+1.6
FWVZ	**Far West T-bar**	3.37	22	P	Pn	20 15 44.8	+1.3
LBZ	**Lake Benmore**	3.37	232	Pn	Pn	20 15 44.4	+1.0
LBZ	**Lake Benmore**	3.37	232	P	Pn	20 15 44.4	+1.0
TUVZ	**Tukino**	3.38	24	P	Pn	20 15 45.1	+1.4
KAHZ	**Kahuranaki**	3.43	42	P	Pn	20 15 43.6	-0.6
NGZ	**Ngauruhoe**	3.45	23	P	Pn	20 15 46.1	+1.4
OTVZ	**Oturere**	3.48	23	P	Pn	20 15 46.5	+1.4
NNVZ	**North Ngauruho**	3.50	22	P	Pn	20 15 46.9	+1.6
WTVZ	**West Tongariro**	3.50	22	P	Pn	20 15 47.1	+1.7
TWVZ	**Taurewa**	3.51	20	P	Pn	20 15 46.6	+1.3
KWHZ	**Kaweka Forest**	3.52	34	P	Pn	20 15 45.1	-0.4
ETVZ	**East Tongariro**	3.52	24	P	Pn	20 15 47.3	+1.7
TMVZ	**Te Maari**	3.54	23	P	Pn	20 15 47.2	+1.4
NTVZ	**North Tongarir**	3.55	23	P	Pn	20 15 47.2	+1.2
ODZ	**Otahua Downs**	3.56	220		Pn	20 15 46.7	+0.7
ODZ	**Otahua Downs**	3.56	220	P	Pn	20 15 47.0	+1.0
ODZ	**Otahua Downs**	3.56	220	P	Pn	20 15 46.7	+0.7
MCHZ	**McNeill Hill**	3.62	37	P	Pn	20 15 45.7	-1.1
KATZ	**Kakaramea**	3.67	22	P	Pn	20 15 50.1	+2.5
RATZ	**Rangitukua**	3.79	23	P	Pn	20 15 51.7	+2.5
ARHZ	**Aropaoanui**	3.90	38	P	Pn	20 15 50.5	-0.2
WATZ	**Wairara**	3.93	21	P	Pn	20 15 53.3	+2.2
HIZ	**Hauiti**	3.93	11	Pn	Pn	20 15 52.7	+1.6
HIZ	**Hauiti**	3.93	11	P	Pn	20 15 53.3	+2.2
HIZ	**Hauiti**	3.93	11	P	Pn	20 15 53.0	+1.8
MRHZ	**Matea Rd**	4.03	29	P	Pn	20 15 51.5	-1.0
JCZ	**Jackson Bay**	4.10	244	P	Pn	20 15 54.7	+1.2
MTHZ	**Maungataniwha**	4.17	33	P	Pn	20 15 54.5	0.0
RAHZ	**Arahi**	4.22	36	P	Pn	20 15 54.1	-1.1
HHSZ	**Highcliff Hill**	4.23	213	P	Pn	20 15 56.1	+0.8
TLZ	**Tolley Road**	4.24	18	P	Pn	20 15 56.5	+1.2
ALRZ	**Allen Road**	4.25	27	P	Pn	20 15 54.6	-0.9
WKZ	**Wanaka**	4.31	234	Pn	Pn	20 15 56.6	+0.3
WKZ	**Wanaka**	4.31	234	P	Pn	20 15 56.5	+0.3
EAZ	**Earnscleugh**	4.38	228	P	Pn	20 15 57.7	+0.5
HRRZ	**Handcock Road**	4.38	25	P	Pn	20 15 57.1	-0.3
KNZ	**Kokohu**	4.42	42	P	Pn	20 15 57.1	-0.6
MHGZ	**Mahia Peninsul**	4.43	45	P	Pn	20 15 57.5	-0.6
RTZ	**Ruatahuna**	4.43	33	P	Pn	20 15 57.0	-1.2
MUGZ	**Murupara**	4.47	30	P	Pn	20 15 57.3	-1.2
TARZ	**Mount Tarawera**	4.59	27	P	Pn	20 15 59.7	-0.7
OMRZ	**Omania**	4.67	25	P	Pn	20 16 03.3	+2.0
RIGZ	**Rimuhau**	4.71	40	P	Pn	20 16 00.8	-1.0
TUZ	**Tuapeka**	4.71	219	P	Pn	20 16 02.8	+1.0
KMRZ	**Kaimai**	4.79	20	P	Pn	20 16 03.5	+0.5
URZ	**Urewera**	4.79	32	P	Pn	20 16 03.1	+0.2
TOZ	**Tahuroa Road**	4.80	15	P	Pn	20 16 03.8	+0.7
MARZ	**Manawahe**	4.88	27	P	Pn	20 16 04.1	0.0
OPRZ	**Opunepenea**	4.97	25	P	Pn	20 16 05.3	0.0
CNGZ	**Carnegh Statio**	5.09	42	P	Pn	20 16 05.7	-1.4
WHRZ	**Whale Island**	5.10	29	P	Pn	20 16 09.1	+2.0
MLZ	**Mavora Lakes**	5.13	232		Pn	20 16 07.5	-0.2
MLZ	**Mavora Lakes**	5.13	232	P	Pn	20 16 07.7	0.0
TWGZ	**Tauwhareparae**	5.23	38	P	Pn	20 16 08.2	-0.8
AWAZ	**Awhitu Peninsu**	5.34	6	P	Pn	20 16 12.1	+1.6
MKAZ	**Moumakai**	5.36	11	P	Pn	20 16 11.5	+0.8
SYZ	**Scrubby Hill**	5.37	218	P	Pn	20 16 12.2	+1.3
SYZ	**Scrubby Hill**	5.37	218	P	Pn	20 16 11.9	+1.1
MYRZ	**Mayor Island**	5.40	20	P	Pn	20 16 13.1	+1.7
PUZ	**Puketiti**	5.45	39	P	Pn	20 16 15.7	+3.8
WTAZ	**Waiatarua**	5.47	6	P	Pn	20 16 14.0	+1.8
ETAZ	**East Tamaki Re**	5.48	9	P	Pn	20 16 13.9	+1.5
PKGZ	**Pakihiroa**	5.51	37	P	Pn	20 16 11.5	-1.4
EPAZ	**Eden Park BICE**	5.54	7	P	Pn	20 16 15.0	+1.9
WHZ	**Wether Hill Ro**	5.54	229	Pn	Pn	20 16 12.9	-0.3
WHZ	**Wether Hill Ro**	5.54	229	P	Pn	20 16 12.8	-0.3
RVAZ	**Rivershead Bore**	5.63	6	P	Pn	20 16 16.0	+0.4
MBAZ	**Motutapu North**	5.66	8	P	Pn	20 16 16.1	+1.2
WIAZ	**Waiheke Island**	5.66	10	P	Pn	20 16 15.9	+1.0
DCZ	**Deep Cove**	5.76	235	P	Pn	20 16 16.4	+0.1
KUZ	**Kuaotunu**	5.80	15	P	Pn	20 16 17.2	+0.4
KUZ	**Kuaotunu**	5.80	15	P	Pn	20 16 16.9	+0.1
ABAZ	**Army Bay**	5.82	7	P	Pn	20 16 18.5	+1.5
MXZ	**Matakaoa Point**	5.88	37	P	Pn	20 16 18.2	+0.3
APZ	**The Paps**	6.13	221	P	Pn	20 16 21.4	+0.1
GRZ	**Great Barrier**	6.24	12	P	Pn	20 16 23.0	+0.1
PYZ	**Puysegur Point**	6.42	231	P	Pn	20 16 25.3	+0.1
PYZ	**Puysegur Point**	6.42	231	P	Pn	20 16 24.3	-0.9
WCZ	**Waipu Caves**	6.44	3	P	Pn	20 16 27.4	+1.8
CTZ	**Chatham Island**	7.08	104	P	Pn	20 16 35.5	+1.2
CTZ	**Chatham Island**	7.08	104	P	Pn	20 16 35.3	+1.0
OUZ	**Omahuta**	7.15	358	P	Pn	20 16 38.0	+2.6
OUZ	**Omahuta**	7.15	358	P	Pn	20 16 37.6	+2.3
DZM	**Mount Dzumac**	21.19	341	P	P	20 19 35.1	-1.3
	12nm,0.9s,baz=146,slow=17,SNR=4.9						
	12nm,0.9s						
ARMA	**Armidale**	21.46	297	P	P	20 19 39.5	+0.2
ARMA				IAmb	IAmb	20 20 03.7	
	comp=Z,42nm,1.4s						
TOO	**Toolangi**	22.24	273	P	P	20 19 45.1	-2.4
TOO	**Toolangi**	22.24	273	P	P	20 19 50.8	+3.3
KOUNC	**Koumac, New Ca**	23.22	337	P	P	20 19 58.2	+0.4
KOUNC				IAmb	IAmb	20 20 00.8	
	comp=Z,86nm,1.5s						
MSVF	**Nonsavu**	24.82	9	P	P	20 20 11.2	-1.9
	comp=Z,6.0nm,0.7s,baz=77,slow=11,SNR=3.0						
	comp=Z,6.0nm,0.7s						
EIDS	**Eidsvold**	25.31	305	P	P	20 20 16.0	-1.3
EIDS				IAmb	IAmb	20 20 28.5	
	comp=Z,19nm,1.2s						
GD1S	**Gladstone Soft**	26.40	307	P	P	20 20 30.0	+2.8
STKA	**Stephens Creek**	27.66	282	P	P	20 20 38.4	-0.2
	comp=Z,5.2nm,0.8s,baz=97,slow=8.8,SNR=7.6						
	comp=Z,5.2nm,0.8s						
HTT	**Hallett**	28.84	276	P	P	20 20 50.0	+0.9
LCRK	**Leigh Creek**	30.87	281	P	P	20 21 08.1	+1.1
BBOO	**Buckleboo**	31.25	275	P	P	20 21 07.8	-2.5
BBOO				IAmb	IAmb	20 21 32.7	
	comp=Z,47nm,1.5s						
BBOO	**Buckleboo**	31.25	275	P	P	20 21 11.0	+0.6
CTA	**Charters Tower**	32.20	305	P	P	20 21 18.6	-0.3
	comp=Z,8.8nm,0.9s,baz=137,slow=9.1,SNR=7.6						
	comp=Z,8.8nm,0.9s						
OOD	**Oodnadatta**	34.18	283	P	P	20 21 37.0	+1.0
AS01	**Alice Springs**	37.92	287	P	P	20 22 08.1	-0.1
AS31	**Alice Springs**	37.95	287	P	P	20 22 07.9	-0.5
ASAR	**Alice Springs**	37.95	287	P	P	20 22 07.8	-0.7
	comp=Z,5.2nm,0.5s,baz=120,slow=6.6,SNR=90						
ASAR				PcP	PcP	20 24 23.5	-0.7
	comp=Z,2.7nm,0.7s,baz=127,slow=4.2,SNR=6.9						
	comp=Z,5.2nm,0.5s						
FORT	**Forrest**	38.16	272	P	P	20 22 09.5	-0.6
FORT				IAmb	IAmb	20 22 11.6	
	comp=Z,36nm,0.8s						
FORT	**Forrest**	38.16	272	P	P	20 22 10.4	+0.3
COEN	**Coen**	38.80	308	P	P	20 22 14.2	-1.4
COEN	**Coen**	38.80	308	P	P	20 22 15.2	-0.8
WR0	**Warramunga Arr**	39.93	292	P	P	20 22 24.2	-0.8
WR0				IAmb	IAmb	20 22 25.6	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	40.08	292	P	P	20 22 25.7	-0.5
WB2				IAmb	IAmb	20 22 28.0	
	comp=Z,24nm,0.7s						
WRAB	**Tennant Creek**	40.08	292	P	P	20 22 25.6	-0.7
WRAB				IAmb	IAmb	20 22 28.4	
	comp=Z,26nm,0.7s						
WRAB	**Tennant Creek**	40.08	292	P	P	20 22 25.8	-0.5
WRA	**Warramunga Arr**	40.08	291	P	P	20 22 25.7	-0.6
	comp=Z,16nm,0.7s,baz=130,slow=7.4,SNR=105						
WRA				PcP	PcP	20 24 30.3	-0.5
	comp=Z,2.3nm,0.8s,baz=128,slow=2.9,SNR=4.8						
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	40.08	291	P	P	20 22 23.5	-2.8
WB0	**Warramunga Arr**	40.16	292	P	P	20 22 26.5	-0.5
WB0				IAmb	IAmb	20 22 27.3	
	comp=Z,19nm,0.7s						
PMG	**Port Moresby**	40.36	317	P	P	20 22 28.0	-0.5
	comp=Z,22nm,0.9s,baz=147,slow=4.9,SNR=8.8						
	comp=Z,22nm,0.9s						
WRKA	**Warakurna**	41.16	280	P	P	20 22 34.3	-0.9
CASY	**Casey**	41.53	213	P	P	20 22 39.2	+1.5
CASY				IAmb	IAmb	20 23 06.2	
	comp=Z,34nm,1.1s						
RABL	**Rabaul**	42.67	327	P	P	20 22 46.3	-1.2
BLDU	**Ballidu**	46.65	265	P	P	20 23 19.6	+0.4
KNRA	**Kununurra**	46.86	291	P	P	20 23 21.6	+0.7
KNRA	**Kununurra**	46.86	291	P	P	20 23 21.3	+0.4
MTN	**Manton Dam**	47.24	296	P	P	20 23 23.7	-0.3
MEEK	**Meekatharra**	47.38	271	P	P	20 23 24.6	-0.3
QSPA	**South Pole Qui**	47.75	180	P	P	20 23 30.3	+2.8
	comp=Z,1.6nm,0.4s,baz=19,slow=6.0,SNR=6.2						
	comp=Z,1.6nm,0.4s						
MORW	**Morawa**	47.96	266	P	P	20 23 28.9	-0.5
MORW				IAmb	IAmb	20 23 29.0	
	comp=Z,15nm,1.3s						
MORW	**Morawa**	47.96	266	P	P	20 23 29.8	+0.4
MBWA	**Marble Bar**	49.77	278	P	P	20 23 41.2	-2.1
MBWA				IAmb	IAmb	20 23 43.3	
	comp=Z,11nm,1.1s						
GIRL	**Giralia**	52.93	272	P	P	20 24 07.7	+0.7
GIRL	**Giralia**	52.93	272	P	P	20 24 07.5	+0.5
FAKI	**Fak Fak**	54.06	305	P	P	20 24 14.0	-1.4
SOEI	**Soe**	54.12	292	P	P	20 24 13.7	-2.2
MAW	**Mawson**	58.77	205	P	P	20 24 51.2	+3.0
	comp=Z,3.7nm,0.9s,baz=129,slow=8.9,SNR=3.0						
MAW				PcP	PcP	20 25 40.0	+2.2
	comp=Z,2.7nm,0.5s,baz=124,slow=3.4,SNR=8.2						
	comp=Z,3.7nm,0.9s						
MAW	**Mawson**	58.77	205	P	P	20 24 47.9	-0.4
UGM	**Wanagama**	65.12	283	P	P	20 25 30.6	-1.1
SNAA	**Sanae**	66.23	181	P	P	20 25 37.3	-0.8
SNAA				IAmb	IAmb	20 25 46.4	
	comp=Z,5.8nm,1.0s						
SBUM	**Sibu**	71.17	292	P	P	20 26 10.6	+0.9
MJAR	**Matsushiro Arr**	85.04	332	P	P	20 27 26.1	+0.1
	comp=Z,0.8nm,0.6s,baz=166,slow=6.9,SNR=4.2						
	comp=Z,0.8nm,0.6s						
KSRS	**Korea Array**	89.82	325	P	P	20 27 49.2	+0.2
	comp=Z,2.8nm,0.8s,baz=144,slow=5.5,SNR=10						
	comp=Z,2.8nm,0.8s						
CMAR	**Chiang Mai Arr**	91.65	294	P	P	20 27 58.8	+0.8
	comp=Z,2.5nm,0.6s,baz=153,slow=3.5,SNR=22						
CMAR				PP	PP	20 31 36.5	-0.3
	comp=Z,0.6nm,0.8s,baz=146,slow=6.6,SNR=5.7						
	comp=Z,2.5nm,0.6s						
TIXI	**Tiksi**	118.11	345	PKP	PKPdf	20 33 34.8	-1.4
	comp=Z,0.6nm,0.3s,baz=179,slow=2.0,SNR=5.5						
YKA	**Yellowknife Ar**	119.05	30	PKP	PKiKP	20 33 38.8	+0.4
	comp=Z,3.7nm,0.7s,baz=264,slow=1.9,SNR=8.0						
MKAR	**Makanchi Array**	120.15	307	PKP	PKPdf	20 33 40.8	-0.2
	comp=Z,0.9nm,0.5s,baz=160,slow=4.6,SNR=14						
ZALV	**Zalesovo Beam**	122.32	316	PKP	PKPdf	20 33 44.2	-0.7
	comp=Z,0.8nm,0.6s,baz=157,slow=4.1,SNR=3.8						
KURBB	**Kurchatov Arra**	124.18	310	PKP	PKPdf	20 33 47.9	-0.6
	comp=Z,1.9nm,0.5s,baz=115,slow=1.9,SNR=38						
BVAR	**Borovoye Array**	129.77

NNZ				S	Sb	20 21 56.1	+0.3	
KHZ	Kahutara	0.90	221	P	Pg	20 21 45.0	+0.3	
PAWZ	Paruwai Farm	0.90	67	P	Pg	20 21 44.7	0.0	
KIW	Kapiti Island	0.98	27	P	Pg	20 21 45.8	-0.5	
DUWZ	D'Urville Isla	0.98	342	P	Pb	20 21 45.7	-0.3	
MTW	Mount Morrison	1.05	57	P	Pg	20 21 46.9	-0.8	
THZ	Tophouse	1.07	268	P	Pb	20 21 47.7	+0.3	
TRWZ	Traveller	1.07	72	P	Pg	20 21 46.9	-1.2	
OGWZ	Otaki Gorge	1.12	35	P	Pb	20 21 48.1	-0.1	
HOWZ	Holdsworth Sta	1.23	47	P	Pn	20 21 49.3	-0.4	
MRNZ	Matariki Terra	1.23	286	P	Pg	20 21 50.4	-0.6	
TKNZ	Takaka Hill	1.25	304	P	Pn	20 21 50.3	+0.3	
TMWZ	Te Maipa	1.33	62	P	Pn	20 21 50.3	-0.9	
MRZ	Mangatainoka R	1.43	42	P	Pn	20 21 52.3	-0.3	
TIWZ	Tintock	1.52	51	P	Pn	20 21 53.0	-0.8	
GVZ	Greta Valley S	1.56	218	P	Pb	20 21 56.5	+0.7	
CPWZ	Castlepoint	1.64	60	P	Pn	20 21 54.7	-0.6	
QRZ	Quartz Range	1.64	303	P	Pb	20 21 56.8	-0.3	
OHWZ	Ohakea	1.70	26	P	Pb	20 21 57.8	-0.4	
PRWZ	Pori Road	1.71	47	P	Pn	20 21 55.8	-0.7	
POWZ	Post Office Ro	1.73	39	P	Pn	20 21 56.3	-0.3	
BFZ	Birch Farm	1.79	55	P	Pn	20 21 56.2	-1.3	
LTZ	Lake Taylor	1.85	235	P	Pn	20 21 58.1	-0.3	
AMCZ	Amberley	1.90	220	P	Pg	20 22 05.4	+1.7	
DVHZ	Dannevirke	2.00	45	P	Pn	20 21 59.2	-1.2	
WAZ	Wanganui	2.04	14	P	Pg	20 22 05.2	-1.3	
ANWZ	Angora Road	2.06	52	P	Pn	20 21 59.7	-1.6	
TSZ	Takapari Road	2.08	37	P	Pn	20 22 01.0	-0.6	
OKCZ	Okains Bay	2.19	205	P	Pn	20 22 01.6	-1.5	
LREZ	Lake Rotokare	2.28	1	P	Pb	20 22 08.9	+0.9	
PRHZ	Porangahau	2.28	51	P	Pn	20 22 02.6	-1.7	
PNHZ	Pukenui	2.31	39	P	Pn	20 22 03.8	-1.0	
WPHZ	Waipukurau	2.31	44	P	Pn	20 22 03.7	-1.0	
OXZ	Oxford	2.32	226	P	Pb	20 22 09.4	+0.6	
NMEZ	Namu Road	2.35	351	P	Pb	20 22 09.8	+0.7	
INZ	Inchbonnie	2.36	244	P	Pb	20 22 08.7	-0.7	
KHEZ	Kahui Hut	2.45	354	P	Pb	20 22 11.0	0.0	
NEZ	North Egmont	2.47	356	P	Pb	20 22 11.6	+0.3	
NBEZ	Newall Road No	2.49	352	P	Pb	20 22 11.6	-0.1	
MTVZ	Mangateitei	2.51	21	P	Pb	20 22 13.0	+1.1	
DREZ	Durham Road	2.55	358	P	Pb	20 22 11.2	-1.4	
PKE	Pukeiti	2.56	354	P	Pb	20 22 12.9	+0.1	
PKVZ	Pokaka	2.57	18	P	Pb	20 22 13.8	+0.9	
PXZ	Pawanui	2.57	49	P	Pn	20 22 06.2	-2.0	
MOVZ	Moawhango	2.57	25	P	Pn	20 22 08.8	+0.5	
WNVZ	Wahianoa	2.59	22	P	Pn	20 22 10.8	+2.0	
BHHZ	Black Hill Sta	2.60	31	P	Pb	20 22 13.8	+0.1	
TRVZ	Turoa	2.61	21	P	Pb	20 22 13.7	0.0	
VRZ	Vera Road	2.63	21	P	Pb	20 22 12.2	-1.8	
DRZ	Dome Shelter	2.63	21	P	Pb	20 22 15.1	+0.8	
WHVZ	Whangaehu Hut	2.63	22	P	Pn	20 22 11.7	+2.3	
FWVZ	Far West T-bar	2.65	21	P	Pb	20 22 14.4	-0.1	
MHEZ	Mangahewa	2.66	360	P	Pg	20 22 16.5	-1.8	
TUVZ	Tukino	2.67	23	P	Pb	20 22 14.0	-0.7	
NGZ	Ngauruhoe	2.74	21	P	Pb	20 22 16.7	+0.7	
SNVZ	South Ngauruho	2.74	22	P	Pn	20 22 13.0	+2.3	
KAHZ	Kahuranaki	2.74	46	P	Pn	20 22 08.8	-1.9	
OTVZ	Oturere	2.77	22	P	Pb	20 22 16.9	+0.5	
NNVZ	North Ngauruho	2.78	21	P	Pb	20 22 16.9	+0.2	
WTVZ	West Tongariro	2.79	21	P	Pb	20 22 17.1	+0.3	
TWVZ	Taurewa	2.80	18	P	Pb	20 22 18.4	+1.5	
ETVZ	East Tongariro	2.81	23	P	Pb	20 22 17.0	-0.1	
TMVZ	Te Maari	2.82	22	P	Pb	20 22 17.8	+0.4	
KRVZ	Karewarewa	2.82	21	P	Pb	20 22 18.1	+0.7	
NTVZ	North Tongarir	2.83	22	P	Pn	20 22 13.0	+1.0	
KATZ	Kakaramea	2.95	21	P	Pb	20 22 20.6	+1.0	
WVZ	Waitaha Valley	2.98	25	P	Pb	20 22 20.0	+0.1	
RPZ	Rata Peaks	3.12	230	Pn	Pb	20 22 21.1	-1.3	
	56nm,0.3s,baz=198,slow=1.9,SNR=11							
RPZ				Sn	Sg	20 23 05.7	-1.7	
	228nm,0.3s,baz=344,slow=3.5,SNR=11							
	104nm,0.5s							
RPZ	Rata Peaks	3.12	230	P	Pn	20 22 14.7	-1.1	
WATZ	Wairara	3.21	20	P	Pb	20 22 23.7	-0.3	
HIZ	Hauiti	3.25	7	P	Pn	20 22 21.0	+3.4	
MRHZ	Matea Rd	3.31	30	P	Pn	20 22 17.2	-1.3	
GCSZ	Gaunt Creek Bo	3.35	241	P	Pb	20 22 23.8	-2.5	
TLZ	Tolley Road	3.53	16	P	Pb	20 22 28.6	-0.8	
TMZ	Timaru	3.59	222	P	Pn	20 22 21.5	-0.8	
FOZ	Fox Glacier	3.78	240	P	Pn	20 22 26.8	+1.9	
TARZ	Mount Tarawera	3.88	26	P	Pn	20 22 27.4	+1.1	
LBZ	Lake Benmore	4.03	228	P	Pn	20 22 28.6	+0.3	
TOZ	Tahuroa Road	4.10	13	P	Pn	20 22 31.4	+2.1	
MKAZ	Moumakai	4.67	8	P	Pn	20 22 38.9	+1.8	
AWAZ	Awhitu Peninsu	4.67	3	P	Pn	20 22 39.1	+2.0	
JCZ	Jackson Bay	4.69	238	P	Pn	20 22 40.4	+2.9	
HHSZ	Highcliff Hill	4.95	212	P	Pn	20 22 39.5	-1.4	
MBAZ	Motutapu North	4.98	5	P	Pb	20 22 48.7	-5.4	
MSZ	Milford Sound	5.52	236	P	Pn	20 22 55.9	+7.1	
CTZ	Chatham Island	6.96	110	P	Pn	20 23 07.2	-1.3	
VNDA	Vanda	36.26	185	P	P	20 28 30.2	+1.0	
	0.6nm,1.0s,baz=8.3,slow=5.9,SNR=2.3							
	0.6nm,1.0s							
ASAR	Alice Springs	38.08	285	P	P	20 28 43.5	-1.9	
	0.6nm,0.6s,baz=119,slow=6.3,SNR=11							
	0.6nm,0.6s							
WRA	Warramunga Arr	40.16	290	P	P	20 29 00.7	-2.0	
	1.9nm,0.7s,baz=129,slow=7.7,SNR=17							
	1.9nm,0.7s							
QSPA	South Pole Qui	48.39	180	P	P	20 30 09.9	+1.7	
	1.4nm,0.3s,baz=95,slow=2.1,SNR=6.9							
	1.4nm,0.3s							
CMAR	Chiang Mai Arr	91.69	293	P	P	20 34 33.2	-0.8	
	0.9nm,0.7s,baz=142,slow=4.3,SNR=6.8							
	0.9nm,0.7s							
ARCES	ARCESS Array B	147.79	340	PKPbc	PKPdf	20 41 07.7	+0.5	
	3.6nm,0.8s,baz=22,slow=1.0,SNR=2.3							
BRTR	Keskin Array B	150.32	279	PKPbc	PKPdf	20 41 16.1	+3.7	
	1.1nm,0.9s,baz=142,slow=6.3,SNR=5.0							
FINES	FINESS Array B	152.56	327	PKPbc	PKPbc	20 41 19.6	-2.2	
	0.8nm,0.6s,baz=8.1,slow=4.0,SNR=5.4							

WEL ***13*** *20:22:00,42°.31S×173°.82E,h11km,ML5.0,Mw4.6, Moment Tensor Solution. s10 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.01; $M_{\theta\theta}$0.68; $M_{\phi\phi}$-0.67; $M_{r\theta}$0.54; $M_{\theta\phi}$-0.64; $M_{\phi r}$0.41; Fault plane solution: $M_0$1.14000×10^{16} NP1: ϕ_s155.00000°,δ55.00000°,λ-5.00000°. NP2:ϕ_s247.00000°, δ86.00000°,λ-145.00000°. Principal axes: T -1216.4600, Plg21.0000°, Azm16.0000°; N 1066.5700, Plg55.0000°, Azm252.0000°; P 149.8900, Plg27.0000°, Azm117.0000°;*

IDC ***13*** *20:22:11.8±0.8, 42°.28S×173°.85E, h0km, mb4.3/11, mbtmp4.4/12, ML4.6/1 Error ellipse: s-maj=24.9km s-min=20.8km az=55.0*

NEIC ***13*** *20:22:14.1±2.6, 42°.22S±0°.02×173°.67E±0°.05, h10km±1km, mb4.8/17, Error ellipse: s-maj=6.2km s-min=3.3km az=111.0*

WEL ***13*** *20:22:15.3±0.5, 42°.3S×17°.4E±°, h9km±3km, M5.0/9, ML5.3/9, MLv5.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=120.9*

ISC 13 20:22:14.8±0.9,**42°.30S**±0°.03×**173°.78E**±0°.03,**h18**km±4km, **n107,σ1s07**/117,**mb4.5**/18,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.21	237	Pg		Pb	20 22 20.2	+0.3
KHZ	Kahutara	0.21	237	P		Pb	20 22 20.3	+0.3
KHZ				S		Sg	20 22 24.3	+0.8
BSWZ	Blackbirch Sta	0.59	7			Pb	20 22 26.4	-0.1
BSWZ	Blackbirch Sta	0.59	7	P		Pb	20 22 26.6	+0.1
BSWZ				S		Sg	20 22 35.3	+0.9
CMWZ	Cape Campbell	0.64	31	P		Pn	20 22 29.0	0.0
CMWZ				S		Sn	20 22 40.2	+1.6
THZ	Tophouse	0.84	309			Pb	20 22 30.2	-0.7
THZ	Tophouse	0.84	309	P		Pb	20 22 31.2	+0.3
THZ				S		Sg	20 22 42.5	0.0
GVZ	Greta Valley S	0.87	219			Pn	20 22 32.7	+0.6
GVZ	Greta Valley S	0.87	219	P		Pn	20 22 32.6	+0.5
GVZ				S		Sn	20 22 45.2	+0.9
TUWZ	Tuamarina	0.88	8			Pb	20 22 32.0	+0.6
TUWZ	Tuamarina	0.88	8	P		Pg	20 22 32.2	+0.3
TUWZ				S		Sn	20 22 44.8	+0.3
NNZ	Nelson	1.12	344			Pn	20 22 35.4	-0.2
NNZ	Nelson	1.12	344	P		Pb	20 22 35.9	+0.3
TCW	Tory Channel	1.15	19	P		Pn	20 22 35.8	-0.1
TCW				S		Sg	20 22 52.7	+0.6
MRNZ	Matariki Terra	1.18	319	P		Pg	20 22 37.9	+0.3
MRNZ				S		Sg	20 22 54.5	+1.5
SNZO	South Karori	1.21	35			Pn	20 22 36.5	-0.2
AMCZ	Amberley	1.21	223	P		Pg	20 22 38.1	-0.1
LTZ	Lake Taylor	1.22	246	P		Pb	20 22 37.3	0.0
LTZ				S		Sg	20 22 54.4	+0.1
WEL	Wellington	1.25	36	P		Pn	20 22 37.6	+0.1
WEL				S		Sn	20 22 53.8	0.0
PLWZ	Palliser	1.32	57	Pn		Pn	20 22 37.9	-0.5
PLWZ	Palliser	1.32	57	P		Pn	20 22 37.8	-0.6
TKNZ	Takaka Hill	1.41	334	P		Pb	20 22 40.7	+0.2
TKNZ				S		Sg	20 23 00.4	+0.2
MSWZ	Moikau Station	1.41	52			Pn	20 22 37.8	-1.8
OKCZ	Okains Bay	1.52	200	P		Pn	20 22 40.4	-0.8
CAW	Cannon Point	1.53	39	P		Pn	20 22 41.0	-0.2
CAW				S		Sn	20 22 59.5	-1.1
DSZ	Denniston Nort	1.57	290	Pn		Pn	20 22 39.1	-2.8
MQZ	McQueen's Vall	1.63	210	Pn		Pn	20 22 42.3	-0.3
MQZ	McQueen's Vall	1.63	210	P		Pn	20 22 41.9	-0.7
MQZ				S		Sn	20 23 02.0	-1.1
OXZ	Oxford	1.64	231	Pn		Pn	20 22 43.4	+0.6
OXZ	Oxford	1.64	231	P		Pn	20 22 42.5	-0.3
OXZ				S		Sn	20 23 03.0	-0.5
KIW	Kapiti Island	1.67	31	P		Pn	20 22 42.9	-0.2
KIW				S		Sn	20 23 03.8	-0.3
AKCZ	Akaroa Harbour	1.70	202	P		Pn	20 22 43.6	+0.1
MTW	Mount Morrison	1.72	49	P		Pn	20 22 42.6	-1.2
QRZ	Quartz Range	1.75	327	P		Pb	20 22 46.2	0.0
QRZ				S		Sb	20 23 09.4	+1.6
INZ	Inchbonnie	1.78	255	P		Pn	20 22 45.7	+1.0
OGWZ	Otaki Gorge	1.81	36	P		Pn	20 22 44.6	-0.5
RACZ	Rakaia	1.87	220	P		Pn	20 22 45.9	0.0
RACZ				S		Sn	20 23 08.6	-0.3
HOWZ	Holdsworth Sta	1.91	43	P		Pg	20 22 51.5	0.0
MRZ	Mangatainoka R	2.12	40	Pn		Pn	20 22 50.0	+0.6
MRZ	Mangatainoka R	2.12	40	P		Pn	20 22 49.8	+0.4
MRZ				S		Sn	20 23 13.1	-2.2
WACZ	Wakanui South	2.17	220	P		Pn	20 22 49.8	-0.2
WACZ				S		Sn	20 22 49.9	-0.2
RPZ	Rata Peaks	2.45	234	Pn		Pn	20 22 54.0	+0.1
	127nm,0.3s,baz=80,slow=3.6,SNR=7.3							
RPZ				Sn		Sn	20 23 22.2	-1.2
	227nm,0.3s,baz=36,slow=19,SNR=16							
	1μm,0.6s							
BKZ	Black Stump Fm	3.75	34	Pn		Pn	20 23 12.4	+0.7
HHSZ	Highcliff Hill	4.25	212	P		Pn	20 23 17.8	-0.9
TUZ	Tuapeka	4.72	218	P		Pn	20 23 25.7	+0.6
TOZ	Tahuroa Road	4.75	17	P		Pn	20 23 26.0	+0.5
MKAZ	Moumakai	5.29	12	P		Pn	20 23 33.6	+0.6
MYRZ	Mayor Island	5.36	22	P		Pn	20 23 40.5	+6.7
SYZ	Scrubby Hill	5.38	217	P		Pn	20 23 34.7	+0.5
MBAZ	Motutapu North	5.59	9	P		Pn	20 23 39.1	+2.1
WIAZ	Waiheke Island	5.60	11	P		Pn	20 23 38.6	+1.4
ABAZ	Army Bay	5.75	8	P		Pn	20 23 40.7	+1.5
MXZ	Matakaoa Point	5.87	38	Pn		Pn	20 23 39.2	-1.6
APZ	The Paps	6.13	220	P		Pn	20 23 44.5	0.0
GRZ	Great Barrier	6.18	13	P		Pn	20 23 51.4	+6.3
OUZ	Omahuta	7.07	359	Pn		Pn	20 23 56.5	-0.8
DZM	Mont Dzumac	21.09	341	*e*LR		LR	20 31 59.3	
	comp=Z,835nm,24.1s							
DZM	Mont Dzumac	21.09	341	P		P	20 26 59.2	+1.0
	12nm,0.9s,baz=155,slow=17,SNR=4.4							
	12nm,0.9s							
MSVF	Nonsavu	24.75	10	P		P	20 27 35.9	+0.4
	7.6nm,0.8s,baz=190,slow=12,SNR=5.1							
	7.6nm,0.8s							
MSVF	Nonsavu	24.75	10	P		P	20 27 34.7	-0.8
MSVF				IAmb	IAmb		20 28 00.3	
	comp=Z,20nm,1.1s							
EIDS	Eidsvold	25.19	305	P		P	20 27 38.8	-0.5
EIDS				IAmb	IAmb		20 27 45.7	
	comp=Z,54nm,1.8s							
STKA	Stephens Creek	27.55	282	P		P	20 28 02.8	+2.1
	comp=Z,5.0nm,0.9s,baz=115,slow=10,SNR=4.8							
	comp=Z,5.0nm,0.9s							
CTA	Charters Tower	32.08	305	P		P	20 28 41.4	+0.6
	comp=Z,3.4nm,0.8s,baz=153,slow=8.6,SNR=2.3							
	comp=Z,3.4nm,0.8s							
TBI	Tubuai	35.85	70	*e*LR		LR	20 38 48.9	
	comp=Z,2μm,29.0s							
TBI				*e*LR		LR	20 38 48.9	
	comp=Z,6μm,24.0s							
AS31	Alice Springs	37.84	287	P		P	20 29 30.9	+0.4
ASAR	Alice Springs	37.84	287	P		P	20 29 30.0	-0.5
	comp=Z,1.6nm,0.6s,baz=122,slow=6.6,SNR=12							
ASAR				PcP		PcP	20 31 46.6	-0.2
	comp=Z,1.1nm,0.7s,baz=128,slow=3.9,SNR=4.0							
	comp=Z,1.6nm,0.6s							
ASAR	Alice Springs	37.84	287	P		P	20 29 29.2	-1.4
FORT	Forrest	38.08	272	P		P	20 29 31.8	-0.6
FORT				IAmb	IAmb		20 29 55.3	
	comp=Z,34nm,1.1s							
COEN	Coen	38.68	308	P		P	20 29 35.0	-2.6
COEN				IAmb	IAmb		20 30 17.3	
	comp=Z,30nm,1.7s							
PPT2	Papeete2	39.72	63	*e*LR		LR	20 40 36.5	
	comp=Z,513nm,25.5s							
PPT2				*e*LR		LR	20 40 36.6	
	comp=Z,419nm,40.8s							
WR0	Warramunga Arr	39.82	292	P		P	20 29 44.9	-2.2
WR0				IAmb	IAmb		20 29 45.4	
	comp=Z,18nm,0.6s							
WB2	Warramunga Arr	39.96	292	P		P	20 29 47.2	-1.1
WB2				IAmb	IAmb		20 29 54.5	
	comp=Z,17nm,0.8s							
WRA	Warramunga Arr	39.97	292	P		P	20 29 47.6	-0.8
	comp=Z,7.1nm,0.8s,baz=130,slow=7.5,SNR=23							
WRA				PcP		PcP	20 31 54.0	+0.5
	comp=Z,1.1nm,0.8s,baz=127,slow=3.0,SNR=2.9							
	comp=Z,7.1nm,0.8s							
WRA	Warramunga Arr	39.97	292	P		P	20 29 45.3	-3.1
WB0	Warramunga Arr	40.05	292	P		P	20 29 46.6	-2.4
PMG	Port Moresby	40.24	317	P		P	20 29 50.5	0.0
	comp=Z,14nm,0.8s,baz=139,slow=5.9,SNR=2.5							
	comp=Z,14nm,0.8s							
PMG	Port Moresby	40.24	317	P		P	20 29 47.5	-3.0
PMG				IAmb	IAmb		20 29 52.2	
	comp=Z,20nm,0.9s							
RABL	Rabaul	42.56	327	P		P	20 30 07.8	-1.8
KNRA	Kununurra	46.75	291	P		P	20 30 42.5	-0.5
MTN	Manton Dam	47.13	296	P		P	20 30 44.9	-1.2
QSPA	South Pole Qui	47.83	180	P		P	20 30 52.3	+1.3
	comp=Z,2.6nm,0.9s,baz=344,slow=5.3,SNR=3.5							
	comp=Z,2.6nm,0.9s							
QSPA	South Pole Qui	47.83	180	P		P	20 30 52.7	+1.6
QSPA				IAmb	IAmb		20 31 22.2	
	comp=Z,8.0nm,0.9s							
MAW	Mawson	58.81	205	P		P	20 32 10.0	-1.5
SNAA	Sanae	66.31	181	P		P	20 33 02.6	+1.0
SNAA				IAmb	IAmb		20 33 47.0	
	comp=Z,15nm,1.5s							
PLCA	Paso Flores	78.95	136	P		P	20 34 17.8	+0.4
	comp=Z,2.7nm,0.8s,baz=222,slow=10,SNR=3.2							
	comp=Z,2.7nm,0.8s							
H03S2	Juan Fernandez	79.16	126	T		T	21 59 33.0	
	baz=225							
H03S1	Juan Fernandez	79.17	126	T		T	21 59 34.2	
	baz=225							
H03S3	Juan Fernandez	79.18	126	T		T	21 59 31.0	
	baz=225							
H03N3	Juan Fernandez	79.42	126	T		T	21 59 50.8	
	baz=228							
H03N2	Juan Fernandez	79.43	126	T		T	21 59 49.6	
	baz=228							
H03N1	Juan Fernandez	79.44	126	T		T	21 59 49.8	
	baz=228							
CO03	El Pedregal	86.16	129	P		P	20 34 57.4	+2.3
KSRS	Korea Array	89.70	325	P		P	20 35 11.9	+0.5
	comp=Z,1.6nm,1.0s,baz=138,slow=5.5,SNR=2.8							
	comp=Z,1.6nm,1.0s							
CMAR	Chiang Mai Arr	91.54	294	P		P	20 35 20.7	+0.2
	comp=Z,1.5nm,1.0s,baz=152,slow=2.6,SNR=7.5							
	comp=Z,1.5nm,1.0s							
CMAR	Chiang Mai Arr	91.54	294	P		P	20 35 19.2	-1.3
PZH	PanZhiHua	95.31	301	P		P	20 35 39.3	+1.5
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HHC	Hu-ho-hao-te	100.05	317	*e*P		Pdif	20 36 00.1	+1.3
HHC				pmax	pmax			
	comp=Z,30nm,0.9s							
HHC				pmax	pmax			
	comp=Z,340nm,5.8s							
HHC				LR	LR			
	comp=N,340nm,15.2s							
HHC				LR	LR			
	comp=E,470nm,15.2s							
HHC				LR	LR			
	comp=Z,580nm,15.2s							
WMQ	Urumqi	115.21	307	*e*P		PKiKP	20 40 54.8	+0.2
WMQ				LR	LR			
	comp=N,450nm,17.3s							
WMQ				LR	LR			
	comp=E,380nm,15.9s							
WMQ				LR	LR			
	comp=Z,470nm,17.3s							
YKA	Yellowknife Ar	119.03	30	PKP		PKPdf	20 41 01.1	-0.1
	comp=Z,1.9nm,0.8s,baz=269,slow=2.3,SNR=2.6							
KURBB	Kurchatov Arra	124.06	310	PKP		PKPdf	20 41 10.0	-1.3
	comp=Z,0.3nm,0.3s,baz=122,slow=1.7,SNR=5.4							
BVAR	Borovoye Array	129.65	310	PKP		PKPdf	20 41 21.7	-0.2
	comp=Z,0.2nm,0.4s,baz=116,slow=3.4,SNR=2.3							
KBZ	Khabaz	144.48	289	PKP		PKPab	20 41 47.7	-0.1
	comp=Z,5.6nm,0.7s,baz=135,slow=1.4,SNR=4.3							
DBIC	Dimbokro	144.50	182	PKP		PKPbc	20 41 49.0	+0.1
	comp=Z,2.2nm,0.7s,baz=209,slow=4.9,SNR=3.5							
SUMG	Summit	145.94	17	*i* P		PKPdf	20 41 52.0	+0.3
ARCES	ARCESS Array B	148.17	339	PKPbc		PKPbc	20 41 56.7	-1.6
	comp=Z,1.2nm,0.5s,baz=46,slow=3.5,SNR=6.9							
BRTR	Keskin Array B	150.00	279	PKPbc		PKPbc	20 42 03.5	-0.5
	comp=Z,2.5nm,0.8s,baz=140,slow=5.8,SNR=10.0							
FINES	FINESS Array B	152.79	326	PKPbc		PKPbc	20 42 08.9	-0.6
	comp=Z,1.9nm,0.6s,baz=102,slow=3.4,SNR=1.6							

WEL ***13*** *20:27:00, 42°.70S×172°.80E, h4km, ML4.5, Mw4.6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.02; $M_{\theta\theta}$0.79; $M_{\phi\phi}$-0.77; $M_{r\theta}$0.23; $M_{\theta\phi}$-0.51; $M_{\phi r}$0.53; Fault plane solution: $M_0$1.07000×10^{16} NP1: ϕ_s148.00000°,δ68.00000°,λ-15.00000°. NP2: ϕ_s244.00000°,δ76.00000°,λ-157.00000°. Principal axes: T -1202.8800, Plg5.0000°, Azm15.0000°; N 945.6200, Plg63.0000°, Azm273.0000°; P 257.2600, Plg26.0000°, Azm107.0000°;*

WEL ***13*** *20:27:23.0±0.3, 43°S×172°.3E×°, h6km±3km, M4.5/14, ML4.7/14, MLv4.5/14 Error ellipse: s-maj=0.0km s-min=0.0km az=117.9*

IDC ***13*** *20:27:23.2±1.3, 42°.65S×172°.51E, h0km, mb3.7/5, mbtmp3.7/5, MS3.7/1, Error ellipse: s-maj=32.2km s-min=22.0km az=87.0*

ISC 13 20:27:22.6±1.2,**42°.69S**±0°.02×**172°.82E**±0°.03,**h4**km±8km, **n92,σ1s54**/102,**mb3.5**/5,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.32	150	P		Pg	20 27 30.1	+1.3
GVZ				S		Sg	20 27 36.1	-0.3
LTZ	Lake Taylor	0.41	257	P		Pg	20 27 31.0	+0.4
LTZ				S		Sg	20 27 37.2	+1.2
AMCZ	Amberley	0.50	194	P		Pb	20 27 33.8	-0.2
AMCZ				S		Sb	20 27 40.9	-0.7
KHZ	Kahutara	0.60	63	P		Pg	20 27 34.9	+0.8
KHZ				S		Sb	20 27 43.7	-0.7
OXZ	Oxford	0.85	222	P		Pb	20 27 40.0	-0.1
OXZ				S		Sb	20 27 53.1	+1.2
THZ	Tophouse	0.93	4	P		Pg	20 27 40.0	-0.5
THZ				S		Sb	20 27 53.1	-1.1
INZ	Inchbonnie	1.01	268	P		Pg	20 27 41.9	-0.2
INZ				S		Sn	20 27 59.0	+0.6
MQZ	McQueen's Vall	1.02	187	P		Pg	20 27 42.0	-0.2
MQZ				S		Sg	20 27 56.1	+0.7
OKCZ	Okains Bay	1.04	170	P		Pg	20 27 42.8	+0.1
OKCZ				S		Sn	20 27 59.4	+0.1
RACZ	Rakaia	1.15	205	P		Pg	20 27 44.0	-0.6
AKCZ	Akaroa Harbour	1.18	177	P		Pg	20 27 44.6	-0.6
MRNZ	Matariki Terra	1.29	358	P		Pn	20 27 47.3	-0.2
WACZ	Wakanui South	1.44	209	P		Pn	20 27 48.1	-1.4
TUWZ	Tuamarina	1.51	34	P		Pb	20 27 51.3	0.0
NNZ	Nelson	1.53	16	P		Pn	20 27 50.8	0.0
WVZ	Waitaha Valley	1.58	255	P		Pn	20 27 51.7

2.0nm,0.7s
CMAR Chiang Mai Arr 91.05 294 P **P** **20 40 28.7 +0.3**
0.3nm,0.7s,baz=148,slow=3.8,SNR=1.8
0.3nm,0.7s
BRTR Keskin Array B 149.36 278 PKPbc **PKPbc** **20 47 12.8 +0.1**
0.9nm,0.8s,baz=143,slow=4.9,SNR=2.0
FINES FINESS Array B 152.72 325 PKPbc **PKiKP** **20 47 20.9 +1.1**
2.2nm,1.0s,baz=64,slow=6.5,SNR=1.8

WEL 13 20:28:15.9±0.4, 42°S±2°×17°3E±°, h5km, M4.1/3, ML4.2/3, MLv4.1/3, Error ellipse: s-maj=0.0km s-min=0.0km az=70.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.10**	**154**	P	Pg	20 28 18.1	0.0
KHZ				S	Sg	20 28 20.4	+0.9
BSWZ	**Blackbirch Sta**	**0.68**	**26**	P	Pg	20 28 28.7	-0.1
BSWZ				S	Sb	20 28 40.0	+0.2
THZ	**Tophouse**	**0.70**	**322**	P	Pb	20 28 30.3	-0.4
THZ				S	Sb	20 28 39.8	-0.9
NNZ	**Nelson**	**1.11**	**356**	P	Pg	20 28 37.3	+0.1
NNZ				S	Sb	20 28 52.0	-0.2
DUWZ	**D'Urville Isla**	**1.56**	**12**	P	Pn	20 28 44.5	+0.3
DUWZ				S	Sg	20 29 06.9	+1.0
PAWZ	**Paruwai Farm**	**1.73**	**58**	P	Pn	20 28 43.9	-2.8
BFZ	**Birch Farm**	**2.65**	**53**	S	Sn	20 29 28.7	-3.0
TSZ	**Takapari Road**	**2.94**	**40**	P	Pn	20 28 58.4	-4.8
PRHZ	**Porangahau**	**3.14**	**50**	P	Pn	20 29 06.1	+0.1
PRHZ				S	Sn	20 29 42.9	-1.1
PNHZ	**Pukenui**	**3.17**	**41**	S	Sn	20 29 42.5	-2.0
KAHZ	**Kahuranaki**	**3.60**	**47**	S	Sn	20 29 52.9	-2.4

*IDC **13** 20:30:12.6±3.1, 42°34S×173°65E, h0km, mb3.3/2, mbtmp3.4/3, ML4.0/1, Error ellipse: s-maj=72.6km s-min=52.9km az=127.0*
*WEL **13** 20:30:18.5±0.6, 42°S±4°×17°4E±°, h14km±4km, M3.2/13, ML3.4/13, MLv3.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=174.1*
ISC 13 20:30:18.2±1.1, 41°76S±0°06×174°28E±0°03, h18km±3km, n22, σ1§18/30, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**279**	P	**Pg**	**20 30 21.5**	**0.0**
CMWZ				S	**Sg**	**20 30 24.8**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.30**	**278**	P	**Pb**	**20 30 25.3**	**+0.2**
BSWZ				S	**Sb**	**20 30 30.7**	**+0.9**
TUWZ	**Tuamarina**	**0.41**	**322**	P	**Pb**	**20 30 27.3**	**+0.3**
TUWZ				S	**Sb**	**20 30 33.8**	**+0.9**
TCW	**Tory Channel**	**0.55**	**360**	P	**Pb**	**20 30 29.1**	**0.0**
WEL	**Wellington**	**0.60**	**38**	P	**Pg**	**20 30 29.7**	**-0.4**
WEL				S	**Sb**	**20 30 38.5**	**+0.4**
PLWZ	**Palliser**	**0.75**	**76**	P	**Pb**	**20 30 33.6**	**+0.8**
PLWZ				S	**Sn**	**20 30 45.9**	**+0.9**
MSWZ	**Moikau Station**	**0.80**	**65**	P	**Pb**	**20 30 34.5**	**+0.9**
MSWZ				S	**Sn**	**20 30 47.0**	**+0.8**
CAW	**Cannon Point**	**0.88**	**43**	P	**Pg**	**20 30 35.2**	**-0.1**
PAWZ	**Paruwai Farm**	**0.94**	**67**	P	**Pb**	**20 30 36.2**	**+0.2**
DUWZ	**D'Urville Isla**	**0.99**	**344**	P	**Pn**	**20 30 37.6**	**+0.4**
KIW	**Kapiti Island**	**1.01**	**28**	P	**Pb**	**20 30 37.4**	**+0.2**
KIW				S	**Sg**	**20 30 51.1**	**0.0**
MTW	**Mount Morrison**	**1.10**	**57**	P	**Pb**	**20 30 38.3**	**-0.3**
OGWZ	**Otaki Gorge**	**1.15**	**36**	P	**Pb**	**20 30 39.2**	**-0.4**
OGWZ				S	**Sg**	**20 30 55.4**	**-0.3**
MRNZ	**Matariki Terra**	**1.20**	**287**	P	**Pn**	**20 30 38.2**	**-1.9**
MRNZ				S	**Sg**	**20 30 58.2**	**+1.2**
TKNZ	**Takaka Hill**	**1.23**	**306**	P	**Pn**	**20 30 40.3**	**-0.2**
TMWZ	**Te Maipa**	**1.37**	**62**	P	**Pn**	**20 30 42.0**	**-0.5**
MRZ	**Mangatainoka R**	**1.47**	**42**	P	**Pn**	**20 30 43.9**	**+0.1**
MRZ				S	**Sb**	**20 31 03.9**	**+0.6**
QRZ	**Quartz Range**	**1.61**	**305**	P	**Pn**	**20 30 46.4**	**+0.6**
RPZ	**Rata Peaks**	**3.08**	**229**	Pn	Pn	20 30 51.5	-14
	38nm,0.3s,baz=67,slow=1.9,SNR=2.4						
RPZ				Sn	Sn	20 31 17.5	-25
	32nm,0.3s,baz=334,slow=19,SNR=10						
	92nm,0.4s						
ASAR	**Alice Springs**	**38.05**	**286**	P	P	20 37 31.0	-4.7
	0.2nm,0.7s,baz=120,slow=6.8,SNR=1.7						
ASAR				PcP	**PcP**	**20 39 46.4**	**-4.4**
	0.2nm,0.6s,baz=121,slow=3.4,SNR=2.0						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**40.13**	**290**	P	P	20 37 47.7	-5.3
	0.6nm,0.8s,baz=130,slow=7.5,SNR=3.3						
	0.6nm,0.8s						
BRTR	**Keskin Array B**	**150.28**	**279**	PKPbc	**PKPdf**	**20 50 05.0**	**+2.1**
	0.3nm,0.5s,baz=141,slow=5.5,SNR=1.5						

WEL 13 20:33:03.4±0.5, 42°S±3°×17°4E±°, h15km±3km, M3.9/23, ML4.2/8, MLv3.9/23, Error ellipse: s-maj=0.0km s-min=0.0km az=102.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.07**	**236**	P	Pg	20 33 06.4	0.0
KHZ				S	Sg	20 33 09.1	+0.7
GVZ	**Greta Valley S**	**0.73**	**216**	P	Pn	20 33 19.5	+0.2
GVZ				S	Sn	20 33 31.8	+1.6
THZ	**Tophouse**	**0.81**	**319**	P	Pg	20 33 17.8	-1.4
TUWZ	**Tuamarina**	**0.97**	**14**	S	Sn	20 33 36.4	+0.3
AMCZ	**Amberley**	**1.07**	**221**	P	Pn	20 33 23.8	-0.1
LTZ	**Lake Taylor**	**1.08**	**247**	P	Pn	20 33 24.0	0.0
LTZ				S	Sn	20 33 39.3	+0.6
MRNZ	**Matariki Terra**	**1.17**	**326**	P	Pn	20 33 24.4	-0.9
MRNZ				S	Sg	20 33 41.3	+0.1
OKCZ	**Okains Bay**	**1.41**	**197**	P	Pn	20 33 27.9	-0.6
OKCZ				S	Sb	20 33 47.2	0.0
TKNZ	**Takaka Hill**	**1.43**	**339**	P	Pn	20 33 28.2	-0.6
TKNZ				S	Sn	20 33 47.4	0.0
OXZ	**Oxford**	**1.50**	**230**	P	Pn	20 33 28.9	-0.9
OXZ				S	Sn	20 33 48.9	-0.2
MQZ	**McQueen's Vall**	**1.51**	**208**	P	Pn	20 33 28.7	-1.1
MQZ				S	Sn	20 33 48.2	-1.1
AKCZ	**Akaroa Harbour**	**1.58**	**199**	P	Pn	20 33 30.2	-0.8
AKCZ				S	Sn	20 33 50.8	-0.4
DUWZ	**D'Urville Isla**	**1.59**	**8**	P	Pn	20 33 30.3	-0.7
INZ	**Inchbonnie**	**1.65**	**257**	P	Pn	20 33 31.9	+0.1
INZ				S	Sn	20 33 53.3	+0.6
PAWZ	**Paruwai Farm**	**1.67**	**54**	S	Sn	20 33 52.4	-1.0
RACZ	**Rakaia**	**1.73**	**218**	P	Pn	20 33 32.0	-1.0
RACZ				S	Sn	20 33 54.2	-0.6
QRZ	**Quartz Range**	**1.75**	**332**	P	Pn	20 33 33.5	+0.3
QRZ				S	Sn	20 33 56.0	+0.8
WACZ	**Wakanui South**	**2.04**	**219**	P	Pn	20 33 36.4	-0.7
WACZ				S	Sn	20 34 02.0	-0.3
WVZ	**Waitaha Valley**	**2.24**	**251**	P	Pn	20 33 40.2	+0.3
WVZ				S	Sn	20 34 07.6	+0.3
RPZ	**Rata Peaks**	**2.31**	**234**	P	Pn	20 33 40.2	-0.8
ARCZ	**Arundel**	**2.38**	**228**	P	Pn	20 33 41.2	-0.7
ARCZ				S	Sn	20 34 09.6	-1.2
TMZ	**Timaru**	**2.77**	**223**	P	Pn	20 33 46.4	-0.8
FOZ	**Fox Glacier**	**3.02**	**246**	P	Pn	20 33 51.4	+0.7
ODZ	**Otahua Downs**	**3.43**	**218**	P	Pn	20 33 55.2	-1.1
HHSZ	**Highcliff Hill**	**4.13**	**211**	P	Pn	20 34 04.8	-1.1
EAZ	**Earnscleugh**	**4.23**	**226**	P	Pn	20 34 06.4	-0.9
TUZ	**Tuapeka**	**4.59**	**217**	P	Pn	20 34 11.3	-0.8
SYZ	**Scrubby Hill**	**5.25**	**216**	P	Pn	20 34 20.7	-0.6
APZ	**The Paps**	**6.00**	**220**	P	Pn	20 34 30.5	-1.2

*NEIC **13** 20:34:33.9±1.5, 19°.10N±0°.07×145°.8E±0°.3, h184km±12km, mb3.7/8, Error ellipse: s-maj=40.1km s-min=7.5km az=98.0*
*IDC **13** 20:34:34.7±2.6, 18°.99N×145°.83E, h186km±24km, mb3.2/8, mbtmp3.8/10, Error ellipse: s-maj=43.7km s-min=15.0km az=85.0*
ISC 13 20:34:31.2±0.9, 19°.17N±0°.07×145°.8E±0°.3, h150km, n22, σ1§54/22, mb3.7/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.62**	**190**	P	**Pn**	**20 35 56.2**	**+3.3**
	23nm,0.3s,baz=346,slow=5.8,SNR=7.6						
GUMO				S	**Sn**	**20 36 56.5**	**-0.3**
	29nm,0.3s,baz=20,slow=22,SNR=2.2						
GUMO	**Guam**	**5.62**	**190**	Pn	**Pn**	**20 35 53.6**	**+0.7**
JGF	**Kuroka**	**18.00**	**337**	P	**P**	**20 38 29.7**	**-0.8**
MJAR	**Matsushiro Arr**	**18.56**	**340**	P	**P**	**20 38 39.0**	**+2.4**
	0.7nm,0.5s,baz=168,slow=11,SNR=4.1						
WB0	**Warramunga Arr**	**40.29**	**197**	P	**P**	**20 41 51.7**	**-2.1**
WB0				IAmb	IAmb	20 42 08.9	
	comp=Z,2.7nm,1.1s						
WR0	**Warramunga Arr**	**40.43**	**197**	P	**P**	**20 41 53.0**	**-2.0**
WR0				IAmb	IAmb	20 41 58.8	
	comp=Z,2.0nm,1.1s						
WB2	**Warramunga Arr**	**40.47**	**197**	P	**P**	**20 41 53.1**	**-2.2**
WRA	**Warramunga Arr**	**40.47**	**197**	P	**P**	**20 41 53.9**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=20,slow=9.1,SNR=11						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**40.47**	**197**	P	**P**	**20 41 54.2**	**-1.1**
SONM	**Songino Array**	**42.86**	**321**	P	**P**	**20 42 15.6**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=121,slow=6.8,SNR=6.5						
	comp=Z,0.2nm,0.4s						
SONM	**Songino Array**	**42.86**	**321**	P	**P**	**20 42 14.5**	**-0.2**
ASAR	**Alice Springs**	**44.13**	**196**	P	**P**	**20 42 23.8**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=22,slow=7.3,SNR=5.8						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**44.13**	**196**	P	P	20 42 22.1	-2.8
ZALV	**Zalesovo Beam**	**57.73**	**322**	P	**P**	**20 44 06.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=97,slow=6.1,SNR=2.0						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**58.23**	**314**	P	**P**	**20 44 11.4**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=108,slow=7.8,SNR=4.1						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**61.01**	**318**	P	**P**	**20 44 27.9**	**-0.8**
KURK				IAmb	IAmb	20 44 43.1	
	comp=Z,1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**61.06**	**318**	P	**P**	**20 44 29.2**	**+0.2**
	comp=Z,1.1nm,0.2s,baz=102,slow=7.0,SNR=4.0						
	comp=Z,1.1nm,0.2s						
ILAR	**Eielson Array**	**63.17**	**26**	P	**P**	**20 44 43.8**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=259,slow=3.2,SNR=2.2						
	comp=Z,0.4nm,0.7s						
BRVK	**Borovoye**	**66.26**	**320**	P	**P**	**20 45 01.5**	**-1.6**
BRVK				IAmb	IAmb	20 45 03.8	
	comp=Z,1.3nm,0.8s						
C36M	**Paulatuk**	**72.27**	**22**	P	**P**	**20 45 39.0**	**-0.7**
ABKAR	**Akbulak array**	**73.09**	**317**	P	**P**	**20 45 43.9**	**-1.1**
FINES	**FINESS Array B**	**86.52**	**335**	P	**P**	**20 46 56.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=65,slow=5.5,SNR=8.1						
	comp=Z,0.5nm,0.3s						

WEL 13 20:37:19.5±0.5, 42°S±4°×17°3E±°, h18km±4km, M3.4/6, ML3.6/6, MLv3.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=156.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.09**	**63**	P	Pg	20 37 24.0	+0.9
KHZ				S	Sg	20 37 26.5	+1.1
GVZ	**Greta Valley S**	**0.58**	**210**	P	Pn	20 37 32.6	-0.4
GVZ				S	Sn	20 37 41.8	-0.4
LTZ	**Lake Taylor**	**0.91**	**249**	P	Pn	20 37 37.9	+0.3
LTZ				S	Sn	20 37 50.4	+0.2
AMCZ	**Amberley**	**0.92**	**218**	P	Pn	20 37 37.8	+0.3
OKCZ	**Okains Bay**	**1.29**	**192**	P	Pn	20 37 42.6	-0.1
MQZ	**McQueen's Vall**	**1.37**	**204**	P	Pn	20 37 43.0	-0.8
MQZ				S	Sn	20 38 00.2	-1.3
AKCZ	**Akaroa Harbour**	**1.46**	**195**	P	Pn	20 37 44.5	-0.6
WACZ	**Wakanui South**	**1.88**	**218**	P	Pn	20 37 50.4	-0.4

WEL 13 20:38:24.2±0.5, 42°S±3°×17°4E±°, h6km±4km, M3.9/7, ML4.2/7, MLv3.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=132.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.36**	**25**	P	Pg	20 38 31.9	+0.7
BSWZ				S	Sb	20 38 37.9	-0.9
THZ	**Tophouse**	**0.64**	**296**	P	Pg	20 38 37.0	+0.5
THZ				S	Sb	20 38 46.0	-0.9
TUWZ	**Tuamarina**	**0.64**	**19**	P	Pg	20 38 37.1	+0.5
TUWZ				S	Sb	20 38 46.8	-0.2
NNZ	**Nelson**	**0.85**	**345**	P	Pg	20 38 40.4	-0.1
TCW	**Tory Channel**	**0.95**	**29**	P	Pg	20 38 42.1	-0.2
TCW				S	Sb	20 38 55.4	-0.3
GVZ	**Greta Valley S**	**1.04**	**207**	P	Pg	20 38 43.3	-0.9
GVZ				S	Sn	20 38 59.6	-0.5
WEL	**Wellington**	**1.12**	**48**	P	Pb	20 38 46.0	+0.1
WEL				S	Sb	20 39 00.8	+0.2
DUWZ	**D'Urville Isla**	**1.25**	**9**	P	Pg	20 38 46.1	-2.1
LTZ	**Lake Taylor**	**1.27**	**234**	P	Pn	20 38 48.0	-0.5
DSZ	**Denniston Nort**	**1.42**	**281**	P	Pg	20 38 51.9	+0.4
KIW	**Kapiti Island**	**1.50**	**39**	P	Pn	20 38 51.0	-0.6
KIW				S	Sn	20 39 10.8	-0.7
OGWZ	**Otaki Gorge**	**1.66**	**43**	P	Pb	20 38 55.2	0.0
INZ	**Inchbonnie**	**1.79**	**247**	P	Pn	20 38 56.4	+0.8
MQZ	**McQueen's Vall**	**1.82**	**204**	P	Pn	20 38 53.4	-2.7
RPZ	**Rata Peaks**	**2.55**	**228**	P	Pn	20 39 04.8	-1.3

WEL 13 20:43:24.1±0.4, 42°S±3°×17°4E±°, h5km±3km, M3.7/12, ML3.8/12, MLv3.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=143.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.30**	**0**	P	Pg	20 43 30.3	+0.3
BSWZ				S	Sg	20 43 35.2	+1.3
CMWZ	**Cape Campbell**	**0.37**	**44**	P	Pb	20 43 32.3	-0.8
KHZ	**Kahutara**	**0.47**	**212**	S	Sg	20 43 40.6	+1.2
TUWZ	**Tuamarina**	**0.59**	**5**	P	Pg	20 43 35.9	+0.5
TUWZ				S	Sg	20 43 44.2	+1.1
THZ	**Tophouse**	**0.77**	**289**	P	Pg	20 43 38.9	+0.1
THZ				S	Sb	20 43 49.9	-0.8
TCW	**Tory Channel**	**0.86**	**21**	P	Pg	20 43 40.5	-0.1
TCW				S	Sb	20 43 53.6	+0.3
NNZ	**Nelson**	**0.88**	**335**	P	Pg	20 43 40.5	-0.5
NNZ				S	Sg	20 43 52.5	+0.1
WEL	**Wellington**	**0.99**	**43**	P	Pb	20 43 43.6	-0.2
WEL				S	Sg	20 43 56.3	+0.4
MRNZ	**Matariki Terra**	**1.04**	**306**	P	Pg	20 43 44.2	+0.1
MRNZ				S	Sb	20 43 59.2	+0.7
MSWZ	**Moikau Station**	**1.19**	**60**	P	Pg	20 43 45.2	-1.8
DUWZ	**D'Urville Isla**	**1.21**	**2**	P	Pg	20 43 46.9	-0.5
DUWZ				S	Sg	20 44 02.6	-0.5
CAW	**Cannon Point**	**1.27**	**45**	P	Pg	20 43 48.1	-0.5
PAWZ	**Paruwai Farm**	**1.32**	**62**	P	Pn	20 43 46.9	-2.3
KIW	**Kapiti Island**	**1.39**	**34**	P	Pn	20 43 50.1	0.0
MTW	**Mount Morrison**	**1.49**	**55**	P	Pb	20 43 52.4	+0.1
OGWZ	**Otaki Gorge**	**1.54**	**40**	P	Pn	20 43 51.4	-0.8
MRZ	**Mangatainoka R**	**1.86**	**44**	P	Pn	20 43 54.6	-2.0
INZ	**Inchbonnie**	**1.94**	**248**	P	Pn	20 43 57.9	+0.2
MOVZ	**Moawhango**	**2.97**	**29**	P	Pb	20 44 17.6	+0.1
BHHZ	**Black Hill Sta**	**3.02**	**34**	P	Pb	20 44 18.6	+0.2

*WEL **13** 20:44:00, 42°.37S×173°.92E, h17km, ML4.6, Mw4.2, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁵ Nm; Mrr1.40; Mθθ0.67; Mϕϕ-2.07; Mrθ0.64; Mrϕ-1.38; Mθϕ0.02; Fault plane solution: M₀2.29000×10¹⁵ NP1: ϕs169.00000°, δ54.00000°, λ37.00000°. NP2:ϕs55.00000°, δ61.00000°, λ138.00000°. Principal axes: T -265.8600, Plg49.0000°, Azm19.0000°; N 73.9700, Plg40.0000°, Azm206.0000°; P 191.8900, Plg4.0000°, Azm113.0000°;*
*IDC **13** 20:44:20.0±1.4, 42°.28S×173°.91E, h0km, mb4.3/3, mbtmp4.4/4, ML4.7/1 Error ellipse: s-maj=53.2km s-min=34.9km az=161.0*
*NEIC **13** 20:44:21.9±1.8, 42°.41S±0°.04×173°.98E±0°.03, h10km±2km, mb4.4/4, Error ellipse: s-maj=7.1km s-min=3.0km az=148.0*
*WEL **13** 20:44:23.0±0.4, 42°S±3°×17°4E±°, h12km, M4.4/18, ML4.7/18, MLv4.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=136.3*
*NOU **13** 20:44:22.1, 42°.42S×173°.91E, h0km, MLv4.7/8, South Island, New Zealand*
ISC 13 20:44:20.8±1.3, 42°39S±0°03×173°96E±0°03, h5km±8km, n166, σ1§43/184, mb4.4/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.31**	**264**	Pg	**Pb**	**20 44 29.6**	**+0.7**
KHZ	**Kahutara**	**0.31**	**264**	P	**Pb**	**20 44 29.7**	**+0.9**
KHZ				S	**Sb**	**20 44 33.8**	**-0.4**
CMWZ	**Cape Campbell**	**0.66**	**17**	Pg	**Pn**	**20 44 37.7**	**+0.9**
CMWZ	**Cape Campbell**	**0.66**	**17**	P	**Pb**	**20 44 36.1**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.67**	**355**	Pg	**Pg**	**20 44 34.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.67**	**355**	P	**Pb**	**20 44 35.6**	**+0.6**
BSWZ				S	**Sb**	**20 44 44.0**	**-0.6**
GVZ	**Greta Valley S**	**0.90**	**229**		**Pn**	**20 44 41.3**	**+1.2**
TUWZ	**Tuamarina**	**0.96**	**359**	Pg	**Pn**	**20 44 41.1**	**+0.2**
TUWZ	**Tuamarina**	**0.96**	**359**	P	**Pn**	**20 44 41.4**	**+0.5**
TUWZ				S	**Sb**	**20 44 53.6**	**+0.9**
THZ	**Tophouse**	**1.00**	**308**	Pg	**Pg**	**20 44 40.3**	**+0.3**
THZ	**Tophouse**	**1.00**	**308**	P	**Pb**	**20 44 40.6**	**-0.1**
THZ				S	**Sg**	**20 44 51.9**	**-1.1**
TCW	**Tory Channel**	**1.20**	**12**	P	**Pn**	**20 44 45.0**	**+0.8**
TCW				S	**Sn**	**20 45 01.0**	**+0.2**
SNZO	**South Karori**	**1.21**	**28**		**Pn**	**20 44 45.6**	**+1.3**
AMCZ	**Amberley**	**1.25**	**230**	P	**Pn**	**20 44 46.2**	**+1.3**
NNZ	**Nelson**	**1.25**	**340**		**Pn**	**20 44 45.1**	**+0.3**
NNZ	**Nelson**	**1.25**	**340**	P	**Pn**	**20 44 45.3**	**+0.5**
NNZ				S	**Sg**	**20 44 60.0**	**-0.8**
WEL	**Wellington**	**1.26**	**29**	P	**Pg**	**20 44 44.8**	**0.0**
WEL				S	**Sn**	**20 45 02.5**	**+0.3**
PLWZ	**Palliser**	**1.27**	**50**		**Pn**	**20 44 46.0**	**+0.8**
PLWZ	**Palliser**	**1.27**	**50**	P	**Pn**	**20 44 47.0**	**+1.8**
LTZ	**Lake Taylor**	**1.31**	**252**		**Pn**	**20 44 46.5**	**+0.8**
LTZ	**Lake Taylor**	**1.31**	**252**	P	**Pn**	**20 44 46.4**	**+0.7**
LTZ				S	**Sg**	**20 45 02.7**	**-0.1**
MRNZ	**Matariki Terra**	**1.33**	**317**	P	**Pg**	**20 44 46.6**	**+0.3**
MRNZ				S	**Sg**	**20 45 03.0**	**-0.6**
MSWZ	**Moikau Station**	**1.37**	**45**		**Pn**	**20 44 46.1**	**-0.4**
MSWZ	**Moikau Station**	**1.37**	**45**	P	**Pn**	**20 44 47.3**	**+0.8**
MSWZ				S	**Sb**	**20 45 05.2**	**+0.6**
PAWZ	**Paruwai Farm**	**1.49**	**48**	P	**Pb**	**20 44 49.4**	**+0.5**
PAWZ				S	**Sn**	**20 45 08.4**	**+0.4**
OKCZ	**Okains Bay**	**1.49**	**206**	P	**Pb**	**20 44 49.9**	**+1.0**
CAW	**Cannon Point**	**1.52**	**33**	P	**Pn**	**20 44 48.8**	**+0.1**
TKNZ	**Takaka Hill**	**1.54**	**331**	P	**Pn**	**20 44 49.9**	**+0.1**
TKNZ				S	**Sn**	**20 45 09.2**	**-0.2**
DUWZ	**D'Urville Isla**	**1.58**	**359**	P	**Pb**	**20 44 50.5**	**0.0**
TRWZ	**Traveller**	**1.63**	**53**	P	**Pn**	**20 44 51.1**	**+1.1**
MQZ	**McQueen's Vall**	**1.63**	**215**	Pn	**Pn**	**20 44 50.5**	**+0.4**
KIW	**Kapiti Island**	**1.68**	**25**	P	**Pn**	**20 44 51.8**	**+0.9**
MTW	**Mount Morrison**	**1.69**	**44**	P	**Pn**	**20 44 51.4**	**+0.5**
OXZ	**Oxford**	**1.69**	**236**	Pn	**Pn**	**20 44 51.3**	**+0.2**
OXZ	**Oxford**	**1.69**	**236**	P	**Pn**	**20 44 51.4**	**+0.4**
DSZ	**Denniston Nort**	**1.73**	**291**	Pn	**Pn**	**20 44 52.2**	**+0.7**
OGWZ	**Otaki Gorge**	**1.81**	**31**	P	**Pn**	**20 44 52.2**	**-0.4**
INZ	**Inchbonnie**	**1.89**	**259**	P	**Pn**	**20 44 54.4**	**+0.8**
RACZ	**Rakaia**	**1.89**	**224**	P	**Pn**	**20 44 54.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.89**	**39**	P	**Pn**	**20 44 54.5**	**+0.8**
QRZ	**Quartz Range**	**1.89**	**325**	Pn	**Pn**	**20 44 53.4**	**-0.3**
QRZ	**Quartz Range**	**1.89**	**325**	P	**Pn**	**20 44 55.4**	**-0.4**
QRZ	**Quartz Range**	**1.89**	**325**	P	**Pb**	**20 44 55.1**	**-0.6**
QRZ				S	**Sn**	**20 45 18.0**	**+0.1**
TMWZ	**Te Maipa**	**1.93**	**49**	P	**Pn**	**20 44 55.3**	**+1.0**
MRZ	**Mangatainoka R**	**2.11**	**36**	Pn	**Pn**	**20 44 57.6**	**+0.9**
MRZ	**Mangatainoka R**	**2.11**	**36**	P	**Pn**	**20 44 56.1**	**-0.7**
TIWZ	**Tintock**	**2.16**	**43**	P	**Pn**	**20 44 59.1**	**+1.6**
WACZ	**Wakanui South**	**2.20**	**224**	P	**Pn**	**20 44 58.4**	**+0.5**
OHWZ	**Ohakea**	**2.41**	**26**	P	**Pn**	**20 45 03.2**	**+2.4**
POWZ	**Post Office Ro**	**2.41**	**35**	P	**Pn**	**20 45 01.4**	**+0.5**
BFZ	**Birch Farm**	**2.42**	**46**	Pn	**Pn**	**20 45 01.3**	**+0.4**
BFZ	**Birch Farm**	**2.42**	**46**	P	**Pn**	**20 45 01.6**	**+0.6**
WVZ	**Waitaha Valley**	**2.47**	**253**	P	**Pn**	**20 45 02.6**	**+1.0**
RPZ	**Rata Peaks**	**2.51**	**237**	Pn	**Pn**	**20 45 02.5**	**+0.3**
	163nm,0.3s,baz=85,slow=3.0,SNR=55						
RPZ				Sn	**Sn**	**20 45 31.0**	**-2.2**
	270nm,0.3s,baz=23,slow=19,SNR=47						
	433nm,0.3s						
RPZ	**Rata Peaks**	**2.51**	**237**	P	**Pn**	**20 45 01.7**	**-0.5**
RPZ	**Rata Peaks**	**2.51**	**237**	P	**Pn**	**20 45 02.8**	**+0.6**
RPZ	**Rata Peaks**	**2.51**	**237**	P	**Pn**	**20 45 02.7**	**+0.4**
ARCZ	**Arundel**	**2.56**	**232**	P	**Pn**	**20 45 03.6**	**+0.6**
DVHZ	**Dannevirke**	**2.67**	**39**	P	**Pn**	**20 45 04.4**	**0.0**
WAZ	**Wanganui**	**2.74**	**17**	P	**Pb**	**20 45 09.4**	**-0.9**
TSZ	**Takapari Road**	**2.77**	**34**	P	**Pn**	**20 45 06.4**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**2.83**	**250**	P	**Pn**	**20 45 07.7**	**+1.2**
PRHZ	**Porang

PYZ	Puysegur Point	6.45	232	P		Pn	20 45 57.5	+1.2
PYZ	Puysegur Point	6.45	232	P		Pn	20 45 56.2	-0.1
CTZ	Chatham Island	7.03	104	P		Pn	20 46 06.1	+1.7
OUZ	Omahuta	7.16	358	P		Pn	20 46 09.2	+3.1
OUZ	Omahuta	7.16	358	P		Pn	20 46 09.2	+3.1
AS31	Alice Springs	38.00	287	P		P	20 51 38.8	-0.9
ASAR	Alice Springs	38.00	287	P		P	20 51 38.9	-0.9
	1.5nm,0.5s,baz=126,slow=6.6,SNR=43							
ASAR				PcP		PcP	20 53 54.5	-0.9
	0.8nm,0.6s,baz=128,slow=3.9,SNR=7.7							
	1.5nm,0.5s							
ASAR	Alice Springs	38.00	287	P		P	20 51 38.1	-1.7
FORT	Forrest	38.21	272	P		P	20 51 41.4	-0.1
WB2	Warramunga Arr	40.12	291	P		P	20 51 57.2	-0.4
WB2				IAmb		IAmb	20 51 57.7	
	comp=Z,7.0nm,0.8s							
WRA	Warramunga Arr	40.13	291	P		P	20 51 56.9	-0.7
	comp=Z,6.1nm,0.8s,baz=129,slow=8.6,SNR=44							
WRA				PcP		PcP	20 54 00.7	-1.4
	comp=Z,0.8nm,0.7s,baz=133,slow=2.9,SNR=5.7							
	comp=Z,6.1nm,0.8s							
WB0	Warramunga Arr	40.21	292	P		P	20 51 57.7	-0.6
WB0				IAmb		IAmb	20 51 58.4	
	comp=Z,6.0nm,0.6s							
CMAR	Chiang Mai Arr	91.69	293	P		P	20 57 29.6	+0.3
	comp=Z,1.0nm,0.6s,baz=147,slow=3.2,SNR=9.4							
	comp=Z,1.0nm,0.6s							
KBZ	Khabaz	144.63	289	PKP		PKPab	21 03 56.9	+0.3
	comp=Z,3.8nm,0.8s,baz=102,slow=5.1,SNR=7.5							
ARCES	ARCESS Array B	148.30	340	PKPbc		PKPdf	21 04 05.8	+2.4
	comp=Z,1.3nm,0.5s,baz=43,slow=2.4,SNR=11							
BRTR	Keskin Array B	150.14	278	PKP		PKPdf	21 04 07.1	-0.4
	comp=Z,0.7nm,0.9s,baz=57,slow=39,SNR=5.4							
BRTR				PKPbc		PKPbc	21 04 12.2	-0.3
	comp=Z,2.5nm,0.8s,baz=144,slow=6.5,SNR=12							
FINES	FINESS Array B	152.94	326	PKPbc		PKPbc	21 04 17.3	-0.7
	comp=Z,1.6nm,0.7s,baz=64,slow=4.4,SNR=6.3							
FINES				PKPab		PKPab	21 04 28.8	-0.5
	comp=Z,2.5nm,0.9s,baz=94,slow=4.2,SNR=2.7							
AKASG	Malin Array Be	154.56	301	PKPbc		PKiKP	21 04 22.9	+1.1
	comp=Z,0.1nm,0.3s,baz=34,slow=0.8,SNR=1.5							

WEL 13 20:48:25.5±0.3, 42°S±2°×17°4E±°, h14km±2km, M4.5/18, ML4.8/18, MLv4.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=144.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.04	4	P	Pg	20 48 29.1	+1.0
CMWZ				S	Sg	20 48 31.8	+2.0
BSWZ	Blackbirch Sta	0.26	287	P	Pg	20 48 31.5	+0.5
TUWZ	Tuamarina	0.41	331	P	Pb	20 48 34.4	-0.2
TUWZ				S	Sb	20 48 40.7	-0.1
TCW	Tory Channel	0.58	5	P	Pb	20 48 37.2	-0.3
TCW				S	Sb	20 48 46.7	+1.0
BHW	Baring Head	0.63	52	P	Pb	20 48 38.7	+0.4
BHW				S	Sn	20 48 48.5	-1.3
WEL	Wellington	0.66	40	P	Pb	20 48 39.0	+0.2
WEL				S	Sn	20 48 49.6	-1.0
KHZ	Kahutara	0.80	218	P	Pb	20 48 41.5	+0.4
KHZ				S	Sn	20 48 54.0	-0.1
PLWZ	Palliser	0.81	74	P	Pb	20 48 41.6	+0.1
NNZ	Nelson	0.85	312	P	Pg	20 48 41.9	0.0
NNZ				S	Sb	20 48 53.7	-0.5
MSWZ	Moikau Station	0.87	65	P	Pb	20 48 42.4	+0.1
MSWZ				S	Sn	20 48 55.0	-0.8
CAW	Cannon Point	0.94	44	P	Pg	20 48 44.0	+0.3
CAW				S	Sg	20 48 56.7	+0.8
THZ	Tophouse	0.98	271	P	Pb	20 48 44.3	0.0
PAWZ	Paruwai Farm	1.00	66	P	Pb	20 48 44.1	-0.6
PAWZ				S	Sn	20 48 58.5	-0.6
DUWZ	D'Urville Isla	1.01	348	P	Pb	20 48 44.8	0.0
DUWZ				S	Sn	20 48 58.9	-0.5
KIW	Kapiti Island	1.07	30	P	Pb	20 48 45.9	0.0
KIW				S	Sn	20 49 01.2	+0.4
MRNZ	Matariki Terra	1.16	289	P	Pg	20 48 47.6	-0.2
MRNZ				S	Sn	20 49 03.9	+1.0
MTW	Mount Morrison	1.16	57	P	Pb	20 48 46.2	-1.1
TRWZ	Traveller	1.18	71	P	Pn	20 48 46.3	-1.3
TKNZ	Takaka Hill	1.21	309	P	Pb	20 48 48.0	0.0
TKNZ				S	Sg	20 49 04.7	+0.3
OGWZ	Otaki Gorge	1.21	37	P	Pn	20 48 47.7	-0.4
HOWZ	Holdsworth Sta	1.33	48	P	Pn	20 48 48.7	-1.0
TMWZ	Te Maipa	1.44	62	P	Pn	20 48 49.7	-1.5
GVZ	Greta Valley S	1.46	216	P	Pn	20 48 50.8	-0.7
MRZ	Mangatainoka R	1.53	43	P	Pn	20 48 51.6	-0.9
MRZ				S	Sn	20 49 11.9	-0.3
QRZ	Quartz Range	1.59	307	P	Pb	20 48 54.3	-0.4
TIWZ	Tintock	1.62	52	P	Pn	20 48 53.1	-0.6
TIWZ				S	Sn	20 49 13.7	-0.8
CPWZ	Castlepoint	1.74	60	P	Pn	20 48 54.0	-1.3
LTZ	Lake Taylor	1.75	235	P	Pn	20 48 54.1	-1.4
LTZ				S	Sn	20 49 15.8	-1.8
OHWZ	Ohakea	1.79	28	P	Pn	20 48 57.0	+1.0
AMCZ	Amberley	1.80	219	P	Pg	20 49 00.0	0.0
PRWZ	Pori Road	1.82	48	P	Pn	20 48 55.6	-0.7
POWZ	Post Office Ro	1.83	41	P	Pn	20 48 55.9	-0.7
BFZ	Birch Farm	1.99	55	P	Pn	20 48 56.0	-1.4
DVHZ	Dannevirke	2.10	45	P	Pn	20 48 58.6	-1.8
OKCZ	Okains Bay	2.11	203	P	Pn	20 48 58.4	-2.0
WAZ	Wanganui	2.12	16	P	Pb	20 49 04.4	+0.6
TSZ	Takapari Road	2.18	38	P	Pn	20 49 00.4	-1.1
OXZ	Oxford	2.22	226	P	Pb	20 49 05.9	+0.5
INZ	Inchbonnie	2.25	245	P	Pn	20 49 02.8	+0.4
LREZ	Lake Rotokare	2.33	4	P	Pb	20 49 07.0	-0.4
PRHZ	Porangahau	2.39	51	P	Pn	20 49 02.3	-1.9
PRHZ				P	Pb	20 49 02.4	-5.8
NMEZ	Namu Road	2.39	354	P	Pb	20 49 07.6	-0.7
PNHZ	Pukenui	2.41	39	P	Pn	20 49 03.1	-1.5
WPHZ	Waipukurau	2.42	45	P	Pb	20 49 09.9	+1.2
RACZ	Rakaia	2.46	218	P	Pn	20 49 02.3	-2.9
KHEZ	Kahui Hut	2.50	357	P	Pb	20 49 10.2	0.0
NEZ	North Egmont	2.52	358	P	Pb	20 49 09.3	-1.3
NBEZ	Newall Road No	2.54	354	P	Pb	20 49 09.8	-1.0
MTVZ	Mangateitei	2.59	22	P	Pb	20 49 11.3	-0.5
DREZ	Durham Road	2.60	358	P	Pb	20 49 10.6	-1.3
PKE	Pukeiti	2.60	356	P	Pb	20 49 10.3	-1.7
PKVZ	Pokaka	2.65	19	P	Pb	20 49 11.7	-1.1
MOVZ	Moawhango	2.66	27	P	Pn	20 49 07.9	-0.1
PXZ	Pawanui	2.67	50	P	Pn	20 49 06.3	-1.8
PXZ				P	Pb	20 49 14.2	+1.1
WNVZ	Wahianoa	2.68	24	P	Pb	20 49 11.7	-1.6
TRVZ	Turoa	2.69	23	P	Pb	20 49 12.4	-1.2
VRZ	Vera Road	2.70	9	P	Pb	20 49 11.1	-2.4
BHHZ	Black Hill Sta	2.70	32	P	Pn	20 49 10.9	+2.4
MHEZ	Mangahewa	2.71	2	P	Pb	20 49 12.4	-1.4
DRZ	Dome Shelter	2.72	23	P	Pb	20 49 14.4	+0.3
WHVZ	Whangaehu Hut	2.72	23	P	Pb	20 49 13.2	-0.9
FWVZ	Far West T-bar	2.73	22	P	Pn	20 49 11.3	+2.1
TUVZ	Tukino	2.75	24	P	Pb	20 49 13.4	-1.2
WACZ	Wakanui South	2.77	218	P	Pn	20 49 07.6	-1.8
NGZ	Ngauruhoe	2.82	23	P	Pb	20 49 14.2	-1.5
SNVZ	South Ngauruho	2.82	23	P	Pb	20 49 12.3	+1.9
KAHZ	Kahuranaki	2.84	46	P	Pn	20 49 08.6	-1.9
OTVZ	Oturere	2.85	23	P	Pb	20 49 15.8	-0.5
NNVZ	North Ngauruho	2.87	22	P	Pb	20 49 14.9	-1.6
WVZ	Waitaha Valley	2.87	242	P	Pb	20 49 14.5	-2.1
WTVZ	West Tongariro	2.87	22	P	Pb	20 49 14.7	-2.0
TWVZ	Taurewa	2.88	19	P	Pb	20 49 14.2	-2.4
ETVZ	East Tongariro	2.89	24	P	Pb	20 49 14.5	-2.4
KWHZ	Kaweka Forest	2.91	36	P	Pb	20 49 18.1	+1.0
TMVZ	Te Maari	2.91	24	P	Pb	20 49 15.9	-1.3
KRVZ	Karewarewa	2.91	23	P	Pb	20 49 15.0	-2.2
NTVZ	North Tongarir	2.92	23	P	Pn	20 49 13.6	+2.0
RPZ	Rata Peaks	3.02	229	P	Pn	20 49 12.1	-0.8
KATZ	Kakaramea	3.04	22	P	Pb	20 49 18.8	-0.6
RITZ	Rihia Road	3.08	25	P	Pb	20 49 19.3	-0.8
ARCZ	Arundel	3.10	225	P	Pn	20 49 12.8	-1.2
BKZ	Black Stump Fm	3.15	34	P	Pb	20 49 22.2	+0.9
RATZ	Rangitukua	3.16	23	P	Pb	20 49 19.4	-2.0
HATZ	Hinemataia	3.24	27	P	Pb	20 49 21.5	-1.2
GCSZ	Gaunt Creek Bo	3.25	241	P	Pn	20 49 16.1	+0.1
WATZ	Wairara	3.29	21	P	Pb	20 49 22.6	-1.2
HIZ	Hauiti	3.31	9	P	Pn	20 49 19.9	+2.9
WHTZ	Whakaora	3.40	24	P	Pb	20 49 24.6	-1.0
MRHZ	Matea Rd	3.40	30	P	Pn	20 49 17.3	-0.9
MTHZ	Maungataniwha	3.56	35	P	Pn	20 49 24.2	+3.8
TLZ	Tolley Road	3.61	17	P	Pn	20 49 23.1	+2.1
ALRZ	Allen Road	3.62	28	P	Pn	20 49 22.3	+1.2
FOZ	Fox Glacier	3.68	240	P	Pn	20 49 22.8	+0.9
HRRZ	Handcock Road	3.75	26	P	Pn	20 49 26.8	+3.7
HSRZ	Hossack Road	3.81	25	P	Pb	20 49 30.4	-2.1
RRRZ	Republican Roa	3.88	28	P	Pb	20 49 30.5	-3.2
OMRZ	Omania	4.04	25	P	Pb	20 49 33.3	-3.2
KMRZ	Kaimai	4.16	19	P	Pb	20 49 36.3	-2.2
TOZ	Tahuroa Road	4.18	14	P	Pn	20 49 30.6	+1.8
WHRZ	Whale Island	4.47	29	P	Pb	20 49 40.2	-3.6
JCZ	Jackson Bay	4.59	238	P	Pn	20 49 35.9	+1.3
TWGZ	Tauwhareparae	4.63	40	P	Pn	20 49 33.1	-2.0
AWAZ	Awhitu Peninsu	4.74	4	P	Pn	20 49 39.2	+2.7
MKAZ	Moumakai	4.74	9	P	Pn	20 49 37.4	+0.9
HHSZ	Highcliff Hill	4.85	211	P	Pn	20 49 36.2	-1.9
WTAZ	Waiatarua	4.86	3	P	Pn	20 49 42.1	+3.8
ETAZ	East Tamaki Re	4.87	7	P	Pn	20 49 41.2	+2.9
WIAZ	Waiheke Island	5.04	8	P	Pn	20 49 42.4	+1.7
MBAZ	Motutapu North	5.05	6	P	Pn	20 49 44.0	+3.3
KUZ	Kuaotunu	5.17	14	P	Pn	20 49 44.7	+2.2
MSZ	Milford Sound	5.42	236	P	Pn	20 49 51.0	+5.1
GRZ	Great Barrier	5.62	10	P	Pn	20 49 50.7	+2.0
SYZ	Scrubby Hill	5.98	216	P	Pn	20 49 52.2	-1.4
OUZ	Omahuta	6.58	356	P	Pn	20 50 05.0	+3.1
PYZ	Puysegur Point	6.97	229	P	Pn	20 50 06.6	-0.6
CTZ	Chatham Island	7.02	109	P	Pn	20 50 05.6	-2.3

WEL 13 20:51:00.42°±18.5km×173.04°E±6.8km, h68km±6.5km, ML5.1, Mw4.7, Moment Tensor Solution. s7 Moment tensor: Scale 10^16 Nm; Mrr=0.78; Mθθ=0.72; Mφφ=-1.49; Mrθ=0.79; Mrφ=0.05; Mθφ=0.52; Fault plane solution: M0=1.60000×10^16 NP1: φ=144.00000°, δ=47.00000°, λ=29.00000°. NP2: φ=33.00000°, δ=69.00000°, λ=133.00000°. Principal axes: T 1591.3300, Plg=47.0000°, Azm=349.0000°; N 21.8500, Plg=40.0000°, Azm=194.0000°; P -1613.1800, Plg=13.0000°, Azm=93.0000°;
IDC 13 20:51:11.3±1.8, 41.64°S×173.34°E, h0km, mb4.6/2, mbtmp4.6/3, ML4.4/1, MS4.3/1 Error ellipse: s-maj=85.1km s-min=37.2km az=109.0
WEL 13 20:51:22.3±0.5, 42°S±3°×173°E±°, h63km±6km, M5.1/103, ML5.0/16, MLv5.1/103, Error ellipse: s-maj=0.0km s-min=0.0km az=118.9

ISC 13 20:51:21.8±0.8, 42.11°S±0.03°×172.94°E±0.03°, h78km±6km, n144, σ1°91/171, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THZ	Tophouse	0.35	355	P	Pn	20 51 33.9	-0.4
THZ				S	Sn	20 51 41.4	-2.1
KHZ	Kahutara	0.54	125	P	Pn	20 51 36.6	+1.0
KHZ				S	Sn	20 51 46.6	+0.7
MRNZ	Matariki Terra	0.73	349	P	Pn	20 51 37.1	-0.5
MRNZ				S	Sn	20 51 48.1	-1.3
BSWZ	Blackbirch Sta	0.80	60	P	Pn	20 51 39.4	+0.9
BSWZ				S	Sn	20 51 52.4	+1.6
LTZ	Lake Taylor	0.83	216	P	Pn	20 51 39.1	+0.2
LTZ				S	Sn	20 51 51.3	-0.2
GVZ	Greta Valley S	0.86	176	P	Pn	20 51 40.1	+1.0
GVZ				S	Sn	20 51 52.9	+1.0
DSZ	Denniston Nort	0.93	293	P	Pn	20 51 38.9	-1.0
DSZ				S	Sn	20 51 50.7	-2.7
NNZ	Nelson	0.95	20	P	Pn	20 51 40.3	+0.1
NNZ				S	Sn	20 51 53.5	-0.3
TUWZ	Tuamarina	1.01	48	P	Pn	20 51 41.4	+0.5
TUWZ				S	Sn	20 51 54.7	-0.4
CMWZ	Cape Campbell	1.02	69	P	Pn	20 51 41.3	+0.4
TKNZ	Takaka Hill	1.08	1	P	Pn	20 51 41.7	-0.1
TKNZ				S	Sn	20 51 55.9	-0.7
AMCZ	Amberley	1.08	191	P	Pn	20 51 42.4	+0.6
AMCZ				S	Sn	20 51 55.9	-0.8
INZ	Inchbonnie	1.27	241	P	Pn	20 51 43.9	-0.1
INZ				S	Sn	20 52 00.4	-0.4
QRZ	Quartz Range	1.32	346	P	Pn	20 51 44.2	-0.6
QRZ				S	Sn	20 51 59.8	-2.2
TCW	Tory Channel	1.35	48	P	Pn	20 51 45.4	+0.4
TCW				S	Sn	20 52 01.7	-0.8
OXZ	Oxford	1.38	209	P	Pn	20 51 45.2	-0.3
OXZ				S	Sn	20 52 02.3	-1.1
DUWZ	D'Urville Isla	1.50	30	P	Pn	20 51 48.1	+0.9
DUWZ				S	Sn	20 52 07.4	+1.2
WEL	Wellington	1.60	59	P	Pn	20 51 48.4	+0.1
WEL				S	Sn	20 52 07.2	-1.2
MQZ	McQueen's Vall	1.60	188	P	Pn	20 51 48.1	-0.3
MQZ				S	Sn	20 52 07.3	-1.2
OKCZ	Okains Bay	1.61	177	P	Pn	20 51 49.1	+0.5
OKCZ				S	Sn	20 52 07.6	-1.2
RACZ	Rakaia	1.72	200	P	Pn	20 51 48.5	-0.4
RACZ				S	Sn	20 52 10.4	-0.8
AKCZ	Akaroa Harbour	1.76	181	P	Pn	20 51 50.6	+0.2
AKCZ				S	Sn	20 52 11.2	-1.0
PLWZ	Palliser	1.81	73	P	Pn	20 51 50.7	-0.4
PLWZ				S	Sn	20 52 12.1	-1.3
MSWZ	Moikau Station	1.86	69	P	Pn	20 51 51.3	-0.5
MSWZ				S	Sn	20 52 12.9	-1.7
CAW	Cannon Point	1.88	58	P	Pn	20 51 51.8	-0.2
CAW				S	Sn	20 52 13.8	-1.3
WVZ	Waitaha Valley	1.89	239	P	Pn	20 51 52.3	+0.1
WVZ				S	Sn	20 52 14.2	-1.1
KIW	Kapiti Island	1.94	50	P	Pn	20 51 52.9	+0.1
KIW				S	Sn	20 52 14.9	-1.6
PAWZ	Paruwai Farm	2.00	69	P	Pn	20 51 53.0	-0.7
PAWZ				S	Sn	20 52 16.0	-1.8
WACZ	Wakanui South	2.00	204	P	Pn	20 51 53.3	-0.3
WACZ				S	Sn	20 52 17.0	-0.8
OGWZ	Otaki Gorge	2.12	53	P	Pn	20 51 55.0	-0.2
OGWZ				S	Sn	20 52 19.2	-1.5
RPZ	Rata Peaks	2.12	220	Pn	Pn	20 51 55.5	+0.2
	61nm,0.3s,baz=242,slow=2.2,SNR=20						
RPZ				Sn	Sn	20 52 19.7	-1.0
	270nm,0.3s,baz=359,slow=10.0,SNR=40						
	378nm,0.5s						
RPZ	Rata Peaks	2.12	220	P	Pn	20 51 55.0	-0.2
MTW	Mount Morrison	2.14	64	P	Pn	20 51 54.6	-0.9
TRWZ	Traveller	2.17	72	P	Pn	20 51 55.1	-0.9
ARCZ	Arundel	2.24	215	P	Pn	20 51 57.1	+0.2
GCSZ	Gaunt Creek Bo	2.27	237	P	Pn	20 51 57.6	+0.3
HOWZ	Holdsworth Sta	2.28	59	P	Pn	20 51 56.6	-0.9
TMWZ	Te Maipa	2.43	66	P	Pn	20 51 58.3	-1.1
MRZ	Mangatainoka R	2.46	55	P	Pn	20 51 59.2	-0.6
TIWZ	Tintock	2.58	60	P	Pn	20 52 00.4	-1.1
OHWZ	Ohakea	2.62	44	P	Pn	20 52 02.3	+0.4
TMZ	Timaru	2.67	211	P	Pn	20 52 02.4	-0.3
FOZ	Fox Glacier	2.70	237	P	Pn	20 52 02.7	-0.3
CPWZ	Castlepoint	2.73	65	P	Pn	20 52 02.4	-1.0
POWZ	Post Office Ro	2.74	52	P	Pn	20 52 02.6	-0.9
PRWZ	Pori Road	2.76	57	P	Pn	20 52 02.9	-1.0
NMEZ	Namu Road	2.79	15	P	Pn	20 52 05.4	+1.2
WAZ	Wanganui	2.82	34	P	Pn	20 52 06.0	+1.3
BFZ	Birch Farm	2.87	61	P	Pn	20 52 03.8	-1.5
LREZ	Lake Rotokare	2.87	23	P	Pn	20 52 07.3	+1.9
NBEZ	Newall Road No	2.93	14	P	Pn	20 52 07.5	+1.4
KHEZ	Kahui Hut	2.93	16	P	Pn	20 52 07.4	+1.1
NEZ	North Egmont	2.97	18	P	Pn	20 52 08.1	+1.3
PKE	Pukeiti	3.02	16	P	Pn	20 52 08.4	+0.9
DVHZ	Dannevirke	3.03	54	P	Pn	20 52 06.1	-1.5
LBZ	Lake Benmore	3.04	221	P	Pn	20 52 07.0	-0.6
TSZ	Takapari Road	3.07	49	P	Pn	20 52 07.0	-1.1
DREZ	Durham Road	3.08	19	P	Pn	20 52 09.0	+0.8
ANWZ	Angora Road	3.13	59	P	Pn	20 52 07.2	-1.7
MHEZ	Mangahewa	3.21	20	P	Pn	20 52 11.9	+1.9
VRZ	Vera Road	3.29	25	P	Pn	20 52 12.1	+1.1
PNHZ	Pukenui	3.30	49	P	Pn	20 52 09.9	-1.4
MTVZ	Mangateitei	3.33	36	P	Pn	20 52 12.2	+0.5
PRHZ	Porangahau	3.34	58	P	Pn	20 52 09.7	-2.1
WPHZ	Waipukurau	3.34	53	P	Pn	20 52 10.3	-1.5
PKVZ	Pokaka	3.36	34	P	Pn	20 52 12.2	+0.1
ODZ	Otahua Downs	3.37	209	P	Pn	20 52 12.2	0.0
WNVZ	Wahianoa	3.44	37	P	Pn	20 52 13.5	+0.2
TRVZ	Turoa	3.44	36	P	Pn	20 52 13.4	+0.1
MOVZ	Moawhango	3.44	39	P	Pn	20 52 12.7	-0.5
DRZ	Dome Shelter	3.46	36	P	Pn	20 52 14.0	+0.2
WHVZ	Whangaehu Hut	3.47	36	P	Pn	20 52 13.8	+0.1
FWVZ	Far West T-bar	3.48	36	P	Pn	20 52 13.9	+0.1
TUVZ	Tukino	3.51	37	P	Pn	20 52 14.4	+0.2
BHHZ	Black Hill Sta	3.53	43	P	Pn	20 52 13.6	-0.8
NGZ	Ngauruhoe	3.56	35	P	Pn	20 52 14.9	0.0
SNVZ	South Ngauruho	3.57	36	P	Pn	20 52 15.2	+0.2
TWVZ	Taurewa	3.58	33	P	Pn	20 52 14.9	-0.2
OTVZ	Oturere	3.60	36	P	Pn	20 52 15.8	+0.3
NNVZ	North Ngauruho	3.61	35	P	Pn	20 52 15.5	0.0
WTVZ	West Tongariro	3.61	35	P	Pn	20 52 15.5	0.0
JCZ	Jackson Bay	3.62	236	P	Pn	20 52 14.8	-0.8
PXZ	Pawanui	3.62	56	P	Pn	20 52 13.3	-2.2
ETVZ	East Tongariro	3.65	36	P	Pn	20 52 16.1	+0.1
KRVZ	Karewarewa	3.65	35	P	Pn	20 52 16.1	0.0
TMVZ	Te Maari	3.66	36	P	Pn	20 52 16.5	+0.3
NTVZ	North Tongarir	3.66	36	P	Pn	20 52 16.4	+0.2
KWHZ	Kaweka Forest	3.77	46	P	Pn	20 52 16.4	-1.2
KATZ	Kakaramea	3.77	35	P	Pn	20 52 18.3	+0.5
KAHZ	Kahuranaki	3.77	53	P	Pn	20 52 15.7	-2.0
RITZ	Rihia Road	3.84	36	P	Pn	20 52 18.3	-0.2
HIZ	Hauiti	3.88	23	P	Pn	20 52 19.2	0.0
RATZ	Rangitukua	3.90	35	P	Pn	20 52 20.5	+1.1
MCHZ	McNeill Hill	3.90	48	P	Pn	20 52 18.5	-0.9
WKZ	Wanaka	3.94	225	P	Pn	20 52 17.7	-2.2
CKHZ	Cape Kidnapper	3.98	53	P	Pn	20 52 18.0	-2.4
BKZ	Black Stump Fm	4.00	44	P	Pn	20 52 19.0	-1.7
WATZ	Wairara	4.01	33	P	Pn	20 52 21.1	+0.2
EAZ	Earnscleugh	4.08	219	P	Pn	20 52 20.2	-1.6
HHSZ	Highcliff Hill	4.13	203	P	Pn	20 52 22.2	-0.3
ARHZ	Aropaoanui	4.20	49	P	Pn	20 52 22.0	-1.3
NMHZ	Naumai	4.21	46	P	Pn	20 52 21.9	-1.7
MRHZ	Matea Rd	4.21	40	P	Pn	20 52 21.6	-2.0
TLZ	Tolley Road	4.27	29	P	Pn	20 52 24.7	+0.3
ALRZ	Allen Road	4.40	37	P	Pn	20 52 24.6	-1.6
MTHZ	Maungataniwha	4.41	44	P	Pn	20 52 24.2	-2.2
WHHZ	Waihua	4.46	49	P	Pn	20 52 25.4	-1.5
MSZ	Milford Sound	4.46	233	P	Pn	20 52 26.8	-0.2
RAHZ	Arahi	4.49	46	P	Pn	20 52 25.4	-2.0
TUZ	Tuapeka	4.52	211	P	Pn	20 52 27.5	-0.2
RTZ	Ruatahuna	4.66	43	P	Pn	20 52 27.5	-2.3
MUGZ	Murupara	4.66	40	P	Pn	20 52 27.3	-2.5
TARZ	Mount Tarawera	4.74	36	P	Pn	20 52 29.2	-1.7
MLZ	Mavora Lakes	4.77	225	P	Pn	20 52 29.9	-1.3
MHGZ	Mahia Peninsul	4.80	54	P	Pn	20 52 28.8	-2.8
TOZ	Tahuroa Road	4.80	25	P	Pn	20 52 31.7	+0.1
SYZ	Scrubby Hill	5.20	210	P	Pn	20 52 36.3	-0.7
AWAZ	Awhitu Peninsu	5.21	15	P	Pn	20 52 37.7	+0.5
WHZ	Wether Hill Ro	5.22	222	P	Pn	20 52 34.7	-2.6
MKAZ	Moumakai	5.29	20	P	Pn	20 52 38.5	+0.2
WTAZ	Waiatarua	5.33	14	P	Pn	20 52 39.8	+1.0
DCZ	Deep Cove	5.36	229	P	Pn	20 52 38.6	-0.7
ETAZ	East Tamaki Re	5.38	17	P	Pn	20 52 40.0	+0.5
MYRZ	Mayor Island	5.46	29	P	Pn	20 52 47.2	+6.7
TWGZ	Tauwhareparae	5.51	46	P	Pn	20 52 38.9	-2.5
MBAZ	Motutapu North	5.55	16	P	Pn	20 52 42.3	+0.5
WIAZ	Waiheke Island	5.58	18	P	Pn	20 52 42.3	+0.1
ABAZ	Army Bay	5.70	15	P	Pn	20 52 44.4	+0.5
PUZ	Puketiti	5.74	47	P	Pn	20 52 41.9	-2.5
KUZ	Kuaotunu	5.78	23	P	Pn	20 52 44.7	-0.2
APZ	The Paps	5.90	215	P	Pn	20 52 45.1	-1.5
PYZ	Puysegur Point	6.06	226	P	Pn	20 52 47.3	-1.5
GRZ	Great Barrier	6.17	19	P	Pn	20 52 51.5	+1.1
WCZ	Waipu Caves	6.26	10	P

comp=Z,71nm,0.7s
MTN Manton Dam 19.17 248 P **P** 20 56 24.3 +0.3
EIDS Eidsvold 19.20 175 P **Pn** 20 56 25.6 -0.1
baz=19,SNR=9.7
EIDS Eidsvold 19.20 175 P **Pn** 20 56 25.3 -0.4
EIDS Eidsvold 19.20 175 P **Pn** 20 56 25.9 +0.2
BNDI Bandanaira 19.44 274 P **P** 20 56 25.1 -1.8
comp=Z,4µmcomp=Z,186nm,0.9s
BNDI Bandanaira 19.44 274 P **P** 20 56 26.0 -0.9
WB0 Warramunga Arr 19.89 226 P **P** 20 56 32.1 +0.4
WB0 IAmb IAmb 20 56 45.7
comp=Z,228nm,1.2s
WR0 Warramunga Arr 19.91 225 P **P** 20 56 32.8 +0.8
WR0 IAmb IAmb 20 56 46.0
comp=Z,138nm,1.0s
WRAB Tennant Creek 20.03 225 P **P** 20 56 33.9 +0.5
WRAB IAmb IAmb 20 56 47.2
comp=Z,192nm,1.1s
WRAB Tennant Creek 20.03 225 P **P** 20 56 34.1 +0.8
WRAB Tennant Creek 20.03 225*ce*P **P** 20 56 34.1 +0.8
WRAB pmax pmax
comp=Z,149nm,1.7s
WB2 Warramunga Arr 20.04 225 P **P** 20 56 34.0 +0.6
WB2 IAmb IAmb 20 56 47.3
comp=Z,183nm,1.0s
WRA Warramunga Arr 20.04 225 P **P** 20 56 33.7 +0.2
comp=Z,43nm,0.6s,baz=51,slow=11,SNR=83
WRA S **S** 21 00 10.6 -4.8
comp=Z,12nm,0.9s,baz=52,slow=20,SNR=8.1
WRA PcP **PcP** 21 00 47.8 +0.5
comp=Z,12nm,0.8s,baz=31,slow=1.3,SNR=6.2
WRA ScP **ScP** 21 04 18.7 +0.4
comp=Z,7.4nm,0.9s,baz=41,slow=2.6,SNR=4.7
WRA LR LR 21 05 41.0
comp=Z,1µm,19.0s,baz=34,slow=41
comp=Z,43nm,0.6s
WRA Warramunga Arr 20.04 225 P **P** 20 56 33.1 -0.3
WB1 Warramunga Ar. 20.05 225 P **P** 20 56 34.2 +0.7
GUMO Guam 20.09 347 P **P** 20 56 34.0 0.0
comp=Z,76nm,1.0s,baz=156,slow=7.6,SNR=2.4
GUMO LR LR 21 03 33.5
comp=Z,442nm,21.3s,baz=166,slow=34
comp=Z,76nm,1.0s
GUMO Guam 20.09 347 P **P** 20 56 34.0 0.0
RMQ Roma 20.25 182 P Pn 20 56 37.7 -0.5
baz=20,SNR=81
RMQ Roma 20.25 182 P Pn 20 56 37.5 -0.6
AUBSH Beerwah State 20.90 171 P Pn 20 56 44.5 -1.2
QLP Quilpie 20.92 193 P **P** 20 56 44.1 +1.2
baz=21,SNR=45
AAI Ambon 21.23 276 P **P** 20 56 46.4 +0.1
comp=Z,1µmcomp=Z,61nm,0.8s
AAI Ambon 21.23 276 P **P** 20 56 48.4 +2.1
AAI pmax pmax
comp=Z,59nm,0.8s
AUWSH Wavell State H 21.44 171 P **P** 20 56 49.7 +1.3
KNRA Kununurra 22.32 243 P **P** 20 56 57.0 -0.9
baz=22,SNR=78
KNRA Kununurra 22.32 243 P **P** 20 56 57.1 -0.8
KNRA Kununurra 22.32 243 P **P** 20 56 58.2 +0.2
LBMI Labuha 22.49 283 P **P** 20 57 00.0 +0.2
comp=Z,1µmcomp=Z,51nm,0.7s
LIFNC LIFOU 22.64 132 P **P** 20 57 04.8 +3.5
NOUC Port Laguerre 22.80 136 P **P** 20 57 09.4 +6.3
DZM Mont Dzumac 22.88 136 *e*P **P** 20 57 00.6 -3.4
comp=Z,228nm,1.5s
DZM *e*S **S** 21 01 05.7 -3.3
comp=Z,2µm,25.8s
DZM *e*LR LR 21 02 42.4
comp=Z,4µm,23.3s
DZM Mont Dzumac 22.88 136 P **P** 20 57 03.7 -0.3
comp=Z,30nm,0.5s,baz=273,slow=7.1,SNR=43
comp=Z,30nm,0.5s
DZM Mont Dzumac 22.88 136 P **P** 20 57 03.4 -0.5
DZM IAmb IAmb 20 57 16.4
comp=Z,78nm,1.0s
DZM Mont Dzumac 22.88 136 P **P** 20 57 04.5 +0.5
AS01 Alice Springs 22.89 219 P **P** 20 57 04.5 +0.5
AS31 Alice Springs 22.92 219 P **P** 20 57 04.7 +0.4
ASAR Alice Springs 22.92 219 P **P** 20 57 04.6 +0.3
comp=Z,43nm,0.8s,baz=57,slow=9.3,SNR=182
ASAR PcP **PcP** 21 00 53.5 +0.6
comp=Z,13nm,0.8s,baz=70,slow=3.0,SNR=7.7
ASAR S **S** 21 01 10.1 +0.6
comp=Z,10.0nm,1.1s,baz=53,slow=10,SNR=2.0
ASAR ScP **ScP** 21 04 25.2 -0.1
comp=Z,3.3nm,0.9s,baz=53,slow=3.4,SNR=4.5
ASAR LR LR 21 06 11.1
comp=Z,2µm,19.5s,baz=43,slow=37
comp=Z,43nm,0.8s
ASAR Alice Springs 22.92 219 P **P** 20 57 04.5 +0.2
INKA Innaminka 23.00 200 P **P** 20 57 06.1 +1.1
YATNC Mamie plateau, 23.19 135 P **P** 20 57 08.6 +1.7
AULRC Lightning Ridg 23.21 183 P **P** 20 57 07.8 +0.8
SANI Sanana 23.66 279 P **P** 20 57 11.5 +0.1
comp=Z,612nmcomp=Z,29nm,0.6s
SANI Sanana 23.66 279 P **P** 20 57 12.2 +0.8
ARMA Armidale 24.26 175 P **P** 20 57 18.2 +1.4
baz=24,SNR=7.1
ARMA Armidale 24.26 175 P **P** 20 57 17.5 +0.8
ARMA Armidale 24.26 175 P **P** 20 57 18.1 +1.4
AUPHS Peel High Scho 24.88 177 P **P** 20 57 25.5 +3.2
SOEI Soe 25.11 260 P **P** 20 57 24.2 -0.5
SOEI Soe 25.11 260 P **P** 20 57 25.0 +0.3
comp=Z,3µmcomp=Z,109nm,0.8s
SOEI Soe 25.11 260 P **P** 20 57 25.3 +0.6
OOD Oodnadatta 25.16 210 P **P** 20 57 25.8 +1.0
CMSA Cobar Meteorol 25.51 187 P **P** 20 57 28.5 +0.5
baz=26,SNR=9.8
CMSA Cobar Meteorol 25.51 187 P **P** 20 57 28.5 +0.5
SGSI Sangihe 25.72 292 P P 20 57 45.6 +16
BATI Baumata 25.75 259 P **P** 20 57 29.8 -0.6
comp=Z,122nm,0.6s,baz=141,slow=6.5,SNR=20
comp=Z,122nm,0.6s
BATI Baumata 25.75 259 P **P** 20 57 30.6 +0.2
comp=Z,2µmcomp=Z,140nm,1.1s
AUDCS Dubbo College 25.98 181 P **P** 20 57 35.0 +2.8
comp=Z,43nm,1.4s
FITZ Fitzroy Crossi 26.03 241 P **P** 20 57 31.9 -0.9
baz=138,slow=12
LCRK Leigh Creek 26.37 202 P **P** 20 57 36.3 +0.6
STKA Stephens Creek 26.63 195 P **P** 20 57 37.9 -0.1
comp=Z,30nm,0.8s,baz=9.3,slow=11,SNR=28
STKA LR LR 21 08 32.2
comp=Z,1µm,19.9s,baz=19,slow=37
comp=Z,30nm,0.8s
STKA Stephens Creek 26.63 195 P **P** 20 57 40.0 +1.9
baz=27,SNR=7.1
STKA Stephens Creek 26.63 195 P **P** 20 57 39.0 +0.9
STKA Stephens Creek 26.63 195 P **P** 20 57 40.7 +2.6
STKA Stephens Creek 26.63 195⇑*e*P **P** 20 57 39.3 +1.2
BBSI Bau Bau 26.66 270 P **P** 20 57 38.4 -0.2
comp=Z,528nmcomp=Z,47nm,1.1s
LUWI Luwuk 27.01 280 P **P** 20 57 42.5 +0.8
comp=Z,µmcomp=Z,65nm,1.4s
MMRI Maumere 27.01 263 P **P** 20 57 39.1 -2.7
MMRI Maumere 27.01 263 P **P** 20 57 39.4 -2.4
comp=Z,1µmcomp=Z,157nm,0.9s
MMRI Maumere 27.01 263 P **P** 20 57 40.1 -1.7
DAV Davao City (W) 27.11 299 LR LR 21 07 54.6
comp=Z,282nm,21.9s,baz=138,slow=35
WRKA Warakurna 27.58 225 P **P** 20 57 46.8 0.0
baz=28,SNR=76
WRKA Warakurna 27.58 225 P **P** 20 57 46.9 +0.1
MULG Mulgathing 28.01 209 P **P** 20 57 51.1 +0.6
BSSI Bau Bau, Buton 28.71 268 P **P** 20 57 58.3 +1.4
comp=Z,38nm,1.0s
HTT Hallett 28.85 198 P **P** 20 57 58.5 +0.5
baz=29,SNR=4.4
HTT Hallett 28.85 198 P P 20 58 03.2 +5.2
CNB Canberra Magne 29.05 180 P **P** 20 57 59.8 +0.1
baz=29,SNR=5.4
BBOO Buckleboo 29.30 203 P **P** 20 58 02.1 +0.2
baz=29,SNR=5.7
KAPI Kappang 29.49 271 P **P** 20 58 02.7 -1.2
comp=Z,3.3nm,0.3s,baz=131,slow=7.8,SNR=3.7
KAPI LR LR 21 12 33.4
comp=Z,387nm,21.1s,baz=88,slow=42
comp=Z,3.3nm,0.3s
KAPI Kappang 29.49 271 P P 20 58 13.7 +10
MSVF Nonsavu 30.29 115 P **P** 20 58 11.8 +0.9
comp=Z,6.3nm,0.7s,baz=321,slow=10,SNR=2.9
comp=Z,6.3nm,0.7s
MSVF Nonsavu 30.29 115 P **P** 20 58 12.0 +1.0
MSVF IAmb IAmb 20 58 18.0
comp=Z,37nm,0.8s
MSVF Nonsavu 30.29 115 P **P** 20 58 17.3 +6.4
MSVF Nonsavu 30.29 115 P **P** 20 58 12.0 +1.0
MSVF pmax pmax
comp=Z,37nm,0.8s
MSVF Nonsavu 30.29 115 P P 20 58 17.0 +6.1
MSVF pP sP 20 58 30.3 -3.6
ARPS Mount Arapiles 31.27 192 P **P** 20 58 20.4 +1.2
baz=31,SNR=5.0
ARPS Mount Arapiles 31.27 192 P **P** 20 58 20.6 +1.4
FORT Forrest 31.64 217 P **P** 20 58 23.2 +0.5
baz=32,SNR=11
FORT Forrest 31.64 217 P **P** 20 58 21.1 -1.5
FORT Forrest 31.64 217 P **P** 20 58 23.0 +0.4
MBWA Marble Bar 32.35 240 P **P** 20 58 28.6 -0.4
MBWA IAmb IAmb 20 58 29.9
comp=Z,46nm,1.0s
MBWA Marble Bar 32.35 240 P **P** 20 58 29.1 +0.1
MBWA Marble Bar 32.35 240 P **P** 20 58 28.8 -0.2
MBWA pP **pP** 20 58 41.9 -2.3
PSA00 Pilbara Seismi 32.42 239 P **P** 20 58 28.5 -1.1
PSA00 IAmb IAmb 20 58 43.6
comp=Z,38nm,0.9s
PSA00 PcP **PcP** 21 01 13.6 -2.3
PSA00 Pilbara Seismi 32.42 239 P **P** 20 58 30.0 +0.4
JAGI Jajag, Banyuwa 35.00 264 P **P** 20 58 50.1 -2.0
MEEK Meekatharra 35.69 232 P **P** 20 58 58.3 +0.4
baz=36,SNR=53
MEEK Meekatharra 35.69 232 P **P** 20 58 58.0 +0.1
KMBL Kambalda 35.95 222 P **P** 20 59 00.4 +0.3
baz=36,SNR=8.8
KMBL Kambalda 35.95 222 P **P** 20 59 00.5 +0.4
GIRL Giralia 37.64 241 P **P** 20 59 15.8 +1.3
baz=38,SNR=5.3
RAO Raoul Island 38.50 131 LR LR 21 12 51.5
comp=Z,403nm,19.8s,baz=138,slow=32
JOW Kunigami 38.61 329 P **P** 20 59 21.3 -1.3
comp=Z,38nm,0.6s,baz=146,slow=4.6,SNR=9.8
JOW LR LR 21 12 00.0
comp=Z,907nm,22.0s,baz=148,slow=31
comp=Z,38nm,0.6s
JOW Kunigami 38.61 329 P **P** 20 59 24.7 +2.1
MORW Morawa 38.87 230 P **P** 20 59 24.8 +0.1
baz=39,SNR=9.3
MORW Morawa 38.87 230 P **P** 20 59 23.8 -0.9
MORW Morawa 38.87 230 P **P** 20 59 24.7 0.0
KLBR Kellerberrin 38.93 225 P **P** 20 59 24.8 -0.4
baz=39,SNR=40
KLBR Kellerberrin 38.93 225 P **P** 20 59 24.9 -0.4
AFI Afiamalu 38.99 104 LR LR 21 13 07.0
comp=Z,526nm,19.6s,baz=258,slow=32
BLDU Ballidu 39.15 227 P **P** 20 59 26.8 -0.3
baz=39,SNR=9.2
TWGBT Beinan 39.91 317 P **P** 20 59 34.1 +0.6
TWG Pinlang 39.92 317 P **P** 20 59 32.1 -1.4
TWG IAmb IAmb 20 59 34.6
comp=Z,28nm,0.6s
NWAO Narrogin (SRO) 40.04 224 P **P** 20 59 33.2 -1.3
comp=Z,11nm,0.7s,baz=339,slow=8.6,SNR=6.8
NWAO LR LR 21 17 26.8
comp=Z,1µm,19.1s,baz=260,slow=38
comp=Z,11nm,0.7s
NWAO Narrogin (SRO) 40.04 224 P **P** 20 59 34.4 -0.1
baz=40,SNR=5.0
NWAO P **P** 20 59 34.4 -0.1
baz=40,SNR=5.0
JHJ Hachijo jima 2 40.08 347 LR LR 21 14 16.1
comp=Z,411nm,22.0s,baz=132,slow=33
YULB Yu-li 40.16 318 P **P** 20 59 35.2 -0.3
YULB Yu-li 40.16 318 P **P** 20 59 36.9 +1.4
MUN Mundaring 40.24 226 P **P** 20 59 36.3 +0.1
baz=40,SNR=6.1
NACB Ninganchiao 40.50 319 P **P** 20 59 38.0 -0.3
NACB Ninganchiao 40.50 319 P **P** 20 59 39.3 +1.0
TPUB Ta-pu 40.54 317 P **P** 20 59 37.5 -1.3
TPUB PcP **PcP** 21 01 36.6 -3.6
TPUB Ta-pu 40.54 317 P **P** 20 59 39.4 +0.7
SSLB Suanglung 40.66 318 P **P** 20 59 39.1 -0.5
SSLB IAmb IAmb 20 59 44.0
comp=Z,27nm,0.6s
SSLB Suanglung 40.66 318 P **P** 20 59 40.5 +0.8
NNZ Nelson 40.99 152 P **P** 20 59 43.1 +0.9
YHNB Yeheng 40.99 319 P **P** 20 59 41.9 -0.6
YHNB IAmb IAmb 20 59 47.1
comp=Z,38nm,0.6s
YHNB Yeheng 40.99 319 P **P** 20 59 44.4 +1.9
TATO Taipei 41.13 320 P **P** 20 59 42.7 -0.8
TATO Taipei 41.13 320 P **P** 20 59 45.6 +2.1
TATO Taipei 41.13 320 P **P** 20 59 45.3 +1.8
RKGY Rocky Gully 41.19 222 P **P** 20 59 44.9 +1.0
baz=41,SNR=5.0
BBJI Bungbulang 41.43 266 P **P** 20 59 43.9 -2.4
LEM Lembang 41.48 267 P **P** 20 59 44.6 -2.1
comp=Z,31nm,0.8s,baz=113,slow=13,SNR=6.7
LEM LR LR 21 20 34.2
comp=Z,256nm,20.7s,baz=149,slow=41
comp=Z,31nm,0.8s
CNJI Cibinong 41.95 266 P **P** 20 59 49.6 -0.8
comp=Z,512nmcomp=Z,50nm,1.0s
RPZ Rata Peaks 42.01 156 LR LR 21 15 11.0
comp=Z,987nm,21.2s,baz=333,slow=33
JMN Monobe 42.27 341 P **P** 20 59 51.5 -1.3
JMN IAmb IAmb 21 00 08.2
comp=Z,71nm,1.0s
JMN Monobe 42.27 341 P **P** 20 59 55.3 +2.6
JNU Nakatsue 42.80 337 P **P** 20 59 57.0 -0.1
JNU IAmb IAmb 21 00 10.8
comp=Z,55nm,0.9s
JNU Nakatsue 42.80 337 P **P** 21 00 00.7 +3.6
KNMB Chin-men Tao 42.84 316 P **P** 20 59 58.8 +1.4
INU Inuyama 42.86 345 P **P** 20 59 57.3 -0.2
INU Inuyama 42.86 345 P **P** 20 59 56.8 -0.7
INU pP **pP** 21 00 10.6 -3.0
JGF Kuroka 43.02 346 P **P** 20 59 57.7 -1.0
JGF IAmb IAmb 21 00 12.0
comp=Z,30nm,1.1s
JGF Kuroka 43.02 346 P **P** 20 59 58.4 -0.4
QZH Quanzhou 43.02 317⇓*i*P **P** 21 00 00.8 +1.9
QZH pmax pmax
comp=Z,67nm,0.6s
JHS Saijyo 43.68 341 P **P** 21 00 07.6 +3.5
MJAR Matsushiro Arr 43.72 347 P **P** 21 00 02.9 -1.4
comp=Z,19nm,1.1s,baz=164,slow=8.9,SNR=32
MJAR PcP **PcP** 21 01 50.5 +0.1
comp=Z,4.4nm,0.7s,baz=161,slow=4.2,SNR=6.7
MJAR ScP **ScP** 21 05 37.3 +0.7
comp=Z,3.3nm,0.9s,baz=173,slow=5.1,SNR=6.3
MJAR LR LR 21 16 20.5
comp=Z,448nm,21.8s,baz=187,slow=33
comp=Z,19nm,1.1s
MAJO Matsushiro 43.72 347 P **P** 21 00 02.3 -2.0
MAJO IAmb IAmb 21 00 04.8
comp=Z,52nm,1.2s
MAJO Matsushiro 43.72 347 P **P** 21 00 03.9 -0.4
MAJO Matsushiro 43.72 347*de*P **P** 21 00 02.6 -1.7
MAJO pmax pmax
comp=Z,50nm,1.2s
MAJO Matsushiro 43.72 347 P **P** 21 00 03.4 -1.0
MAJO pP **pP** 21 00 17.1 -3.5
MJB9 Matsu-Tunnel 43.72 347 P **P** 21 00 02.3 -2.1
MJB9 IAmb IAmb 21 00 04.8
comp=Z,52nm,1.2s
JSD Sado 45.14 348 P **P** 21 00 16.6 +1.0
QIZ Qiongzhong 46.27 304 P **P** 21 00 26.0 +1.1
QIZ S **S** 21 07 09.3 +1.9
QIZ pmax pmax
comp=Z,15nm,0.9s
QIZ LR LR
comp=Z,290nm,15.9s
QIZ LR LR
comp=Z,280nm,17.6s
QIZ LR LR
comp=Z,360nm,30.2s
JTM Tenmabayashi 47.30 351 P **P** 21 00 32.8 +0.2
JTM Tenmabayashi 47.30 351 P **P** 21 00 33.3 +0.7
KSRS Korea Array 47.75 337 P **P** 21 00 36.0 -0.1
comp=Z,9.7nm,0.6s,baz=156,slow=7.2,SNR=34
KSRS LR LR 21 18 01.2
comp=Z,334nm,21.9s,baz=135,slow=33
comp=Z,9.7nm,0.6s
KSRS Korea Array 47.75 337 P **P** 21 00 36.0 -0.1
KSAR Wonju Array Be 47.76 337 P **P** 21 00 37.5 +1.3
KSAR Wonju Array Be 47.76 337 P **P** 21 00 37.5 +1.3
NJ2 Nanjing 47.82 324 *e*P **P** 21 00 41.0 +4.2
NJ2 pmax pmax
comp=Z,15nm,0.5s
SDSI Sungai Dareh 48.10 274 P **P** 21 00 41.4 +2.1
comp=Z,14nm,0.7s
CNSH ChangSha 48.97 316⇑P **P** 21 00 47.8 +2.1
PDSI Padang 49.06 274 P **P** 21 00 48.9 +2.2
comp=Z,12nm,0.4s
WHN Wuhan 49.54 319⇓P **P** 21 00 52.5 +2.5
JKA Kamikawa-asahi 50.38 354 P **P** 21 00 55.7 -0.4
ASAJ Asahikawa 50.38 354 LR LR 21 22 21.8
comp=Z,168nm,19.3s,baz=185,slow=36
ASAJ Asahikawa 50.38 354 P **P** 21 00 55.7 -0.4
ASAJ pmax pmax
comp=Z,74nm,1.2s
KUR Kuril'sk 51.15 359⇑*e*P **P** 21 01 02.4 +0.6
NONG Nongkai 51.55 299 P **P** 21 01 02.7 -2.7
TIA Tai'an 51.84 327 P **P** 21 01 06.3 -1.0
TIA pmax pmax
comp=Z,33nm,0.7s
GSI Gunungsitoli 52.23 276 P **P** 21 01 12.0 +1.5
comp=Z,25µmcomp=Z,23nm,0.5s
GSI Gunungsitoli 52.23 276 P **P** 21 01 12.1 +1.5
comp=Z,23nm,0.6s
KCSI Kotacane, Aceh 52.40 279 P **P** 21 01 11.6 -0.2
comp=Z,20nm,0.8s
USA0B Ussuriysk Arra 52.49 344 P **P** 21 01 12.8 +0.9
USA0B IAmb IAmb 21 01 19.5
comp=Z,29nm,1.1s
USA0B Ussuriysk Arra 52.49 344 P **P** 21 01 12.8 +0.9
USA0B pmax pmax
comp=Z,29nm,1.1s
USRK Ussuriysk Ar. 52.49 344 P **P** 21 01 12.9 +1.0
comp=Z,10nm,0.6s,baz=172,slow=6.6,SNR=32
USRK LR LR 21 21 20.6
comp=Z,491nm,21.0s,baz=132,slow=34
comp=Z,10nm,0.6s
USRK Ussuriysk Ar. 52.49 344 P **P** 21 01 12.8 +0.9
GYA Guiyang 52.55 310⇓*i*P **P** 21 01 15.8 +3.0
GYA sP sP 21 01 39.5 +2.8
GYA pmax pmax
comp=Z,7.0nm,0.6s
ENH Enshi 52.63 316 P **P** 21 01 14.6 +1.4
ENH Enshi 52.63 316 P **P** 21 01 14.5 +1.2
ENH sP **sP** 21 01 38.3 +1.1
YSS Yuzh-Sakhalins 53.17 354 P **P** 21 01 19.0 +2.2
YSS Yuzh-Sakhalins 53.17 354 *e*P **P** 21 01 19.1 +2.2
YSS pmax pmax
comp=Z,40nm,1.0s
MDJ Mudanjiang 53.55 343 P **P** 21 01 18.3 -1.4
MDJ Mudanjiang 53.55 343 P **P** 21 01 20.3 +0.6
MDJ pP pP 21 01 35.8 -0.6
MDJ sP sP 21 01 44.6 +0.9
MDJ pmax pmax
comp=Z,20nm,1.1s
MDJ pmax pmax
comp=Z,260nm,3.6s
MDJ LR LR
comp=Z,750nm,24.4s
MDJ Mudanjiang 53.55 343 P **P** 21 01 20.9 +1.2
MDJ Mudanjiang 53.55 343 P **P** 21 01 20.7 +1.0
MDJ pP **pP** 21 01 35.8 -0.6
HNS HongShan 54.04 326⇓P **P** 21 01 23.3 -0.1
HNS PP **PP** 21 03 33.3 +7.8
HNS S **S** 21 08 58.3 +3.4
HNS pmax pmax
comp=Z,35nm,0.7s
HNS LR LR
comp=Z,430nm,19.8s
HNS LR LR
comp=Z,470nm,20.7s
HNS LR LR
comp=Z,790nm,21.6s
CN2 Changchun 54.20 339 *e*P **P** 21 01 24.1 -0.3
CN2 sP sP 21 01 47.1 -1.4
CN2 PP **PP** 21 03 27.9 +1.1
CN2 S **S** 21 08 55.1 -1.7
CN2 LR LR
comp=Z,310nm,18.0s
CN2 LR LR
comp=Z,250nm,18.0s
CN2 LR LR
comp=Z,640nm,20.0s
PHRA Phrae 54.27 298 P **P** 21 01 23.5 -1.9
KMI Kunming 54.95 306⇑P **P** 21 01 32.6 +2.1
KMI pP pP 21 01 48.3 +1.0
KMI sP sP 21 01 55.8 +1.3
KMI pmax pmax
comp=Z,6.0nm,0.6s
BJT Baijiatuau 55.17 329 P **P** 21 01 33.5 +1.9
BJT Baijiatuau 55.17 329 P **P** 21 01 33.0 +1.4
BJI Beijing 55.19 329 P **P** 21 01 33.3 +1.7
BJI pP **pP** 21 01 49.3 +0.9
BJI sP **sP** 21 01 55.9 +0.2
BJI sS **sS** 21 09 40.4 +2.8
BJI pmax pmax
comp=Z,16nm,0.7s
BJI LR LR
comp=Z,67nm,22.9s
BJI LR LR
comp=Z,260nm,20.6s
BJI LR LR
comp=Z,580nm,20.4s
BNX BinXian 55.24 341⇓P **P** 21 01 32.1 +0.2
BNX pmax pmax
comp=Z,16nm,1.2s
XAN Xi'an 55.30 319⇑P **P** 21 01 30.3 -2.4
XAN pmax pmax
comp=Z,10.0nm,1.0s
XAN LR LR
comp=Z,350nm,19.2s
XAN LR LR
comp=Z,560nm,24.0s
UGL Uglegorsk 55.34 354 *e*P **P** 21 01 33.2 +0.6
UGL *e*S **S** 21 09 14.1 +2.1
UGL pmax pmax
comp=Z,90nm,0.7s
UGL pmax pmax
comp=Z,190nm,1.5s
UGL smax smax
comp=E,550nm,11.0s
UGL smax smax
comp=N,1µm,10.0s
CMAR Chiang Mai Arr 55.39 297 P **P** 21 01 31.3 -2.2
comp=N,3.2nm,0.6s,baz=119,slow=5.1,SNR=33
comp=N,3.2nm,0.6s
CMAR Chiang Mai Arr 55.39 297 *i* P **P** 21 01 32.4 -1.1
CMAR pmax pmax
comp=Z,4.0nm,0.6s
PZH PanZhiHua 56.39 307 P **P** 21 01 43.1 +2.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
SKR Severo-Kuril's 56.88 5 *e*P **P** 21 01 42.1 -1.4
SKR *e*S S 21 09 22.7 -10
SKR pmax pmax
comp=Z,19nm,0.9s
SKR pmax pmax
comp=Z,100nm,6.6s
SKR MLR MLR
comp=Z,200nm,20.0s
TYV Tymovskoe 57.06 355 *e*P **P** 21 01 42.3 -2.5
TYV *e*S **S** 21 09 29.6 -5.1
TYV pmax pmax
comp=Z,200nm,3.4s
TYV pmax pmax
comp=Z,35nm,1.4s
TYV smax smax
comp=E,400nm,4.0s
KLR Kul'dur 57.23 346 P **P** 21 01 45.5 -0.6
comp=E,6.7nm,0.5s,baz=185,slow=5.3,SNR=25
comp=E,6.7nm,0.5s
KLR Kul'dur 57.23 346*c i* P **P** 21 01 45.4 -0.6
KLR pmax pmax
comp=Z,24nm,1.3s
GRNR Gornyy 57.76 350⇓*i*P **P** 21 01 50.7 +0.9
XLT XiLinHaoTe 58.16 332 *e*P **P** 21 01 55.3 +2.5
XLT pP pP 21 02 11.8 +2.1
XLT sP sP 21 02 18.6 +1.7
XLT S **S** 21 09 46.4 -3.2
XLT sS sS 21 10 21.5 +4.4
XLT pmax pmax
comp=Z,25nm,0.7s
XLT pmax pmax
comp=Z,130nm,4.1s
XLT LR LR
comp=Z,470nm,18.2s
XLT LR LR
comp=Z,560nm,21.6s

HHC Hu-ho-hao-te 58.20 327 *e*P **P 21 01 55.8 +2.6**
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,460nm,5.8s
HHC LR LR
comp=Z,490nm,18.4s
HHC LR LR
comp=Z,390nm,18.4s
HHC LR LR
comp=Z,550nm,17.8s
TNCH TengChong 58.33 304 *e*P **P 21 01 55.0 +0.5**
TNCH pP pP 21 02 12.1 +0.7
TNCH S **S 21 09 52.3 -0.4**
TNCH pmax pmax
comp=Z,8.0nm,0.6s
TNCH pmax pmax
comp=Z,47nm,4.3s
TNCH LR LR
comp=Z,130nm,16.1s
TNCH LR LR
comp=Z,220nm,16.1s
TNCH LR LR
comp=Z,420nm,16.7s
MND Mandalay 59.16 300 P **P 21 02 01.8 +1.7**
HEH HeiHe 59.29 344 *e*P **P 21 02 00.6 +0.2**
HEH pP **pP 21 02 15.6 -1.8**
HEH pmax pmax
comp=Z,33nm,0.7s
HEH pmax pmax
comp=Z,280nm,8.7s
HEH LR LR
comp=Z,360nm,19.9s
HEH LR LR
comp=Z,310nm,18.3s
HEH LR LR
comp=Z,510nm,17.8s
PEA0B Petropavlovsk- 59.43 6 P **P 21 02 00.9 -0.4**
PEA0B Petropavlovsk- 59.43 6 *d*P **P 21 02 01.5 +0.2**
PETK Petropavlovsk- 59.43 6 P **P 21 02 00.7 -0.7**
comp=Z,26nm,0.6s,baz=166,slow=6.6,SNR=54
PETK LR LR 21 23 28.6
comp=Z,351nm,22.0s,baz=230,slow=32
comp=Z,26nm,0.6s
PETK Petropavlovsk- 59.43 6 P **P 21 02 00.4 -0.9**
PET Petropavlovsk 59.45 7 P **P 21 02 03.5 +2.1**
PET Petropavlovsk 59.45 7 *e*P **P 21 02 01.6 +0.2**
PET pmax pmax
comp=Z,68nm,0.8s
LZH Lanzhou 59.86 318 *e*P **P 21 02 02.5 -2.3**
LZH pP pP 21 02 19.4 -2.4
LZH sP sP 21 02 32.6 +3.6
LZH pmax pmax
comp=Z,11nm,1.4s
LZH LR LR
comp=Z,340nm,19.2s
LZH LR LR
comp=Z,310nm,18.6s
LZH LR LR
comp=Z,640nm,17.9s
DRV Dumont d'Urvil 60.78 184 P **P 21 02 11.1 +0.8**
DRV pP **pP 21 02 24.3 -2.4**
DRV sP **sP 21 02 33.1 -0.6**
HIA Hailar 60.92 338 P **P 21 02 11.6 0.0**
HIA Hailar 60.92 338 P **P 21 02 13.6 +2.0**
HIA Hailar 60.92 338 P **P 21 02 11.6 0.0**
HIA pmax pmax
comp=Z,39nm,0.7s
HIA Hailar 60.92 338 P **P 21 02 12.7 +1.1**
TBI Tubuai 61.16 113 *e*LR LR 21 20 25.6
comp=Z,4µm,35.0s
TBI *e*LR LR 21 20 25.6
comp=Z,6µm,31.5s
SHEM Shemya Is, Ala 62.29 17 LR LR 21 26 36.2
comp=Z,311nm,19.5s,baz=218,slow=33
VAH Vaihoa 62.40 104 *e*P **P 21 02 22.8 +0.6**
comp=Z,16nm,1.0s
ZEA Zeya 62.49 345 *e*P **P 21 02 23.3 +1.3**
ZEA *e* 21 02 36.2
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=S,50nm,0.8s
SHL Shillong 64.07 302 P **P 21 02 31.4 -1.9**
SHL Shillong 64.07 302 P **P 21 02 31.4 -1.9**
SHL pmax pmax
comp=Z,12nm,0.8s
GTA Gaotai 64.36 319 *e*P **P 21 02 35.4 +0.5**
GTA pP pP 21 02 51.3 -0.7
GTA sP sP 21 02 58.1 -1.1
GTA pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 65.37 330 P **P 21 02 41.2 -0.1**
ULN Ulaanbaatar 65.37 330 P **P 21 02 42.0 +0.7**
comp=Z,2µmcomp=Z,52nm,0.7s
ULN Ulaanbaatar 65.37 330⇑ *e*P **P 21 02 41.8 +0.5**
ULN pmax pmax
comp=Z,8.0nm,0.6s
ULN Ulaanbaatar 65.37 330 P **P 21 02 43.9 +2.6**
ULN pP **pP 21 02 57.8 -0.8**
MA2 Magadan 65.50 1 P **P 21 02 41.8 +0.1**
comp=Z,14nm,0.8s,baz=135,slow=14,SNR=2.0
comp=Z,14nm,0.8s
SONM Songino Array 65.68 330 P **P 21 02 42.3 -1.0**
comp=Z,7.6nm,0.6s,baz=149,slow=5.1,SNR=60
comp=Z,7.6nm,0.6s
SONM Songino Array 65.68 330 P **P 21 02 42.9 -0.4**
SONM Songino Array 65.68 330 P **P 21 02 42.9 -0.4**
SONM pmax pmax
comp=Z,8.0nm,0.6s
ZAK Zakamensk 68.89 330 *e*P **P 21 03 02.9 -0.6**
ZAK pmax pmax
comp=Z,15nm,1.1s
SEY Seymchan 68.90 1⇑ *e*P **P 21 03 03.9 +0.7**
SEY pmax pmax
comp=Z,25nm,1.3s
YAK Yakutsk 69.64 350⇓ *e*P **P 21 03 08.7 +1.0**
YAK pmax pmax
comp=Z,9.0nm,0.7s
UNV Unalaska Valle 70.28 26 P **P 21 03 10.4 -1.4**
CCD Concordia, Ant 70.52 187 P **P 21 03 13.9 +0.4**
SPIA Saint Paul Isl 71.12 22 P **P 21 03 17.6 +0.7**
baz=223
VNDA Vanda 71.66 177 P **P 21 03 20.4 +0.6**
comp=Z,12nm,0.8s,baz=330,slow=6.6,SNR=97
VNDA LR LR 21 31 14.6
comp=Z,240nm,19.2s,baz=331,slow=33
comp=Z,12nm,0.8s
VNDA Vanda 71.66 177 P **P 21 03 20.7 +0.9**
VNDA IAmb IAmb 21 03 35.0
comp=Z,36nm,1.1s
VNDA Vanda 71.66 177 P **P 21 03 20.7 +0.9**
VNDA pmax pmax
comp=Z,36nm,1.1s
VNDA Vanda 71.66 177 P **P 21 03 20.6 +0.7**
VNDA pP **pP 21 03 34.0 -2.4**
VNDA sP **sP 21 03 45.0 +1.9**
KNGR Kungurtug, Tuv 71.96 328⇓ *i*P **P 21 03 24.7 +2.5**
KNGR pmax pmax
comp=Z,11nm,0.9s
SBA Scott Base 72.26 176 P **P 21 03 24.5 +1.1**
SBA IAmb IAmb 21 03 39.7
comp=Z,22nm,1.1s
SBA Scott Base 72.26 176 P **P 21 03 24.5 +1.1**
SBA pmax pmax
comp=Z,22nm,1.2s
HYBB Hyderabad (bro 73.71 290 *e*P **P 21 03 33.9 +0.7**
SDPT Sand Point 73.93 27 P **P 21 03 34.3 +0.7**
baz=233
WMQ Urumqi 74.43 319 *e*P **P 21 03 38.6 +1.7**
WMQ PcP **PcP 21 03 51.0 -0.2**
WMQ pP pP 21 03 54.6 +0.2
WMQ sP sP 21 04 02.3 +0.8
WMQ pmax pmax
comp=Z,7.0nm,0.9s
WMQ LR LR
comp=Z,550nm,10.1s
WMQ LR LR
comp=Z,220nm,10.1s
WMQ LR LR
comp=Z,460nm,16.7s
BILL Bilibino 74.95 7 *i*P **P 21 03 39.9 +0.6**
BILL *i* 21 03 53.3
BILL *i* 21 04 01.5
BILL pmax pmax
comp=Z,14nm,1.0s
DGZ Jazzator, Alta 77.11 324 *d*iP **P 21 03 51.1 -1.1**
DGZ pmax pmax
comp=Z,9.0nm,0.6s
O16K Kokwok River B 77.51 24 P **P 21 03 54.0 0.0**
baz=234
SII Sitkinak Islan 77.53 28 P **P 21 03 55.0 +0.8**
baz=238
Q16K King Salmon 77.58 26 P **P 21 03 55.0 +0.6**
baz=235
Q17K Contact Creek 77.68 26 P **P 21 03 55.9 +0.8**
baz=236
O17K Koliganek Bris 78.03 25 P **P 21 03 57.5 +0.6**
baz=235
Q18K Katmai Hardscr 78.28 26 P **P 21 03 58.8 +0.4**
baz=237
TIXI Tiksi 78.79 354 P **P 21 04 01.6 +0.8**
TIXI Tiksi 78.79 354⇑ *e*P **P 21 04 01.0 +0.2**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
O18K Koktuh Hills 78.86 25 P **P 21 04 02.4 +0.9**
baz=236
N18K Kilae Creek 79.04 24 P **P 21 04 03.0 +0.5**
N18K IAmb IAmb 21 05 28.8
comp=Z,102nm,1.8s
MKAR Makanchi Array 79.10 320 P **P 21 04 02.0 -1.1**
comp=Z,3.1nm,0.5s,baz=98,slow=7.9,SNR=23
comp=Z,3.1nm,0.5s
MKAR Makanchi Array 79.10 320 *i*P **P 21 04 04.4 +1.3**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MAKZ Makanchi 79.31 320 P **P 21 04 02.8 -1.4**
MAKZ Makanchi 79.31 320 P **P 21 04 02.8 -1.4**
MAKZ pmax pmax
comp=Z,14nm,1.3s
HOM Homer 80.29 26 P **P 21 04 09.2 +0.1**
L19K White Mountain 80.29 23 P **P 21 04 09.1 -0.1**
L19K IAmb IAmb 21 05 59.5
comp=Z,59nm,1.6s
L19K White Mountain 80.29 23 P **P 21 04 09.7 +0.5**
baz=236
M19K Big River Lodg 80.32 24 P **P 21 04 10.6 +1.2**
baz=237
ZAA0 Zalesovo Array 80.38 327 P **P 21 04 08.1 -1.7**
ZALV Zalesovo Beam 80.38 327 P **P 21 04 08.4 -1.4**
comp=Z,9.9nm,0.6s,baz=111,slow=5.8,SNR=40
ZALV PKKPbc **PKKPbc 21 22 52.0 -2.2**
comp=Z,0.6nm,0.4s,baz=297,slow=4.6,SNR=5.7
ZALV LR LR 21 40 49.9
comp=Z,368nm,20.2s,baz=276,slow=36
comp=Z,9.9nm,0.6s
ZALV Zalesovo Beam 80.38 327 *i*P **P 21 04 10.1 +0.3**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
CNPM China Poot 80.40 26 P **P 21 04 09.1 -0.7**
BRLK Bradley Lake 80.67 26 P **P 21 04 10.8 -0.5**
M20K Styx River 80.81 24 P **P 21 04 11.2 -0.9**
M20K IAmb IAmb 21 05 08.7
comp=Z,31nm,1.5s
M20K Styx River 80.81 24 P **P 21 04 12.7 +0.6**
baz=238
L20K Farewell, AK 80.83 23 P **P 21 04 12.5 +0.4**
baz=237
KSH Kashi 81.22 311 P **P 21 04 19.5 +4.7**
KSH sP sP 21 04 39.3 -0.3
KSH pmax pmax
comp=Z,4.0nm,0.8s
K20K Telida 81.24 22 P **P 21 04 14.6 +0.4**
K20K Telida 81.24 22 P **P 21 04 15.2 +1.0**
baz=237
J20K Nowinta River 81.66 22 P **P 21 04 16.1 -0.3**
J20K Nowinta River 81.66 22 P **P 21 04 17.6 +1.2**
baz=237
PPLA Purkeypile 81.72 23 P **P 21 04 15.9 -1.1**
PPLA IAmb IAmb 21 06 50.7
comp=Z,102nm,1.9s
CAST Castle Rocks 82.03 23 P **P 21 04 17.5 -0.9**
CAST Castle Rocks 82.03 23 P **P 21 04 17.9 -0.5**
baz=239,SNR=6.5
BOOM Boomskoye usch 82.04 314 P **P 21 04 18.2 -1.0**
BOOM Boomskoye usch 82.04 314 P **P 21 04 18.2 -1.0**
BOOM pmax pmax
comp=Z,12nm,1.1s
CHUM Lake Minchumin 82.18 22 P **P 21 04 20.0 +0.9**
baz=239,SNR=8.3
PWL Port Wells 82.31 26 P **P 21 04 19.4 -0.5**
PWL IAmb IAmb 21 04 22.7
comp=Z,27nm,0.9s
PWL Port Wells 82.31 26 P **P 21 04 20.7 +0.7**
baz=243
PMR Palmer 82.31 25 P **P 21 04 20.3 +0.4**
baz=242
P23K Montague Islan 82.33 27 P **P 21 04 22.1 +2.0**
baz=244
KNK Knik Glacier 82.52 25 P **P 21 04 18.7 -2.3**
KTH Kantishna Hill 82.55 23 P **P 21 04 19.5 -1.6**
KTH IAmb IAmb 21 04 22.2
comp=Z,17nm,1.0s
TRF Thorofare Moun 82.74 23 P **P 21 04 20.8 -1.5**
TRF IAmb IAmb 21 04 32.1
comp=Z,75nm,2.0s
TRF Thorofare Moun 82.74 23 P **P 21 04 22.0 -0.3**
baz=241
SML Sawmill 82.75 25 P **P 21 04 22.6 +0.4**
baz=242
IMAR Indian Mountai 82.79 20 P **P 21 04 22.4 +0.1**
BPAW Bear Paw Mtn. 82.80 22 P **P 21 04 22.6 +0.2**
baz=240
H21K Melozitna Rive 82.94 21 P **P 21 04 22.3 -0.8**
H21K IAmb IAmb 21 05 07.4
comp=Z,38nm,1.8s
H21K Melozitna Rive 82.94 21 P **P 21 04 23.9 +0.8**
baz=238
I21K Tanana 82.98 21 P **P 21 04 23.8 +0.5**
baz=239
MAW Mawson 83.03 203 P **P 21 04 23.1 -0.5**
comp=Z,11nm,0.8s,baz=89,slow=6.5,SNR=17
MAW LR LR 21 38 55.6
comp=Z,307nm,21.6s,baz=82,slow=34
comp=Z,11nm,0.8s
MAW Mawson 83.03 203 P **P 21 04 24.1 +0.6**
baz=83,SNR=13
MAW Mawson 83.03 203 P **P 21 04 23.2 -0.3**
MAW Mawson 83.03 203 P **P 21 04 23.2 -0.3**
MAW pmax pmax
comp=Z,14nm,1.6s
AAK Ala-Archa 83.11 314 P **P 21 04 23.2 -1.4**
AAK Ala-Archa 83.11 314⇓ *e*P **P 21 04 24.1 -0.6**
AAK pmax pmax
comp=Z,3.0nm,0.7s
WAT1 Susitna Watana 83.14 24 P **P 21 04 24.6 +0.4**
baz=242
G21K Allakaket 83.16 20 P **P 21 04 25.0 +0.9**
baz=237
SCM Sheep Creek Mo 83.19 25 P **P 21 04 24.9 +0.3**
baz=243
RND Reindeer 83.29 24 P **P 21 04 23.7 -1.3**
RND IAmb IAmb 21 04 26.5
comp=Z,16nm,0.8s
RND Reindeer 83.29 24 P **P 21 04 23.7 -1.3**
RND pmax pmax
comp=Z,17nm,0.8s
WAT6 Susitna Watana 83.35 25 P **P 21 04 25.7 +0.2**
baz=243
MLY Manley 83.36 22 P **P 21 04 25.2 -0.1**
MLY Manley 83.36 22 P **P 21 04 25.4 +0.1**
baz=240
MCK McKinley 83.41 23 P **P 21 04 24.0 -1.6**
MCK IAmb IAmb 21 04 26.7
comp=Z,38nm,1.0s
MCK McKinley 83.41 23 P **P 21 04 26.1 +0.5**
baz=242,SNR=13
MCK McKinley 83.41 23 P **P 21 04 24.0 -1.6**
MCK pmax pmax
comp=Z,38nm,1.0s
F21K Alatna River 83.55 19 P **P 21 04 26.7 +0.5**
baz=237
KLU Klutina 83.64 26 P **P 21 04 27.2 +0.3**
baz=245
DHY Denali Highway 83.73 24 P **P 21 04 27.3 -0.1**
baz=243
NEA2 Nenana 83.77 22 P **P 21 04 27.2 -0.2**
baz=242
M24K Tolsona, Glenn 83.80 25 P **P 21 04 28.8 +1.1**
baz=244
QSPA South Pole Qui 83.84 180 P **P 21 04 27.8 -0.1**
comp=Z,31nm,0.9s,baz=339,slow=1.4,SNR=84
QSPA LR LR 21 41 01.4
comp=Z,265nm,18.0s,baz=335,slow=35
comp=Z,31nm,0.9s
QSPA South Pole Qui 83.84 180 P **P 21 04 27.9 0.0**
I23K Minto, Yukon-K 83.92 22 P **P 21 04 27.3 -0.8**
I23K IAmb IAmb 21 05 13.1
comp=Z,38nm,1.8s
I23K Minto, Yukon-K 83.92 22 P **P 21 04 28.3 +0.2**
baz=241
BMRM Bremner River 84.00 27 P **P 21 04 28.2 -0.5**
baz=246
G22K Bettles 84.05 20 P **P 21 04 29.3 +0.5**
baz=239
F22K John River 84.13 19 P **P 21 04 29.7 +0.5**
baz=238
H23K Yukon River 84.19 21 P **P 21 04 29.5 0.0**
H23K IAmb IAmb 21 05 30.8
comp=Z,48nm,1.9s
H23K Yukon River 84.19 21 P **P 21 04 30.2 +0.7**
baz=241
CCB Clear Creek Bu 84.27 23 P **P 21 04 28.1 -1.8**
TCOL CIGO, UAF Yank 84.36 22 P **P 21 04 30.2 -0.1**
baz=243
COLA College 84.36 22 P **P 21 04 30.2 -0.1**
baz=243
COLA College 84.36 22⇓ *i*P **P 21 04 29.1 -1.2**
COLA pmax pmax
comp=Z,19nm,0.9s
G23K Bananza Creek 84.45 20 P **P 21 04 31.6 +0.7**
baz=240
PAX Paxson 84.46 25 P **P 21 04 31.9 +0.8**
baz=245
HDA Harding Lake 84.50 23 P **P 21 04 31.8 +0.8**
baz=244
E22K Anaktuvuk Pass 84.58 19 P **P 21 04 32.0 +0.6**
baz=239
POKR Poker Plat Res 84.63 22 P **P 21 04 31.8 +0.1**
baz=243
COLD Coldfoot 84.65 20 P **P 21 04 30.7 -1.0**
COLD Coldfoot 84.65 20 P **P 21 04 32.5 +0.7**
baz=240
IL31 84.68 23 P **P 21 04 30.5 -1.4**
IL31 IAmb IAmb 21 04 32.5
comp=Z,15nm,0.8s
ILAR Eielson Array 84.68 23 P **P 21 04 30.4 -1.5**
comp=Z,13nm,0.8s,baz=254,slow=5.1,SNR=64
comp=Z,13nm,0.8s
ILAR Eielson Array 84.68 23 P **P 21 04 30.0 -2.0**
K24K Donnelly Dome 84.69 24 P **P 21 04 33.4 +1.3**
baz=245
H24K Noodor Dome 84.80 22 P **P 21 04 32.5 -0.1**
H24K IAmb IAmb 21 05 25.4
comp=Z,26nm,1.6s
H24K Noodor Dome 84.80 22 P **P 21 04 32.9 +0.3**
baz=243
J25K Salcha River, 85.20 23 P **P 21 04 32.8 -1.8**
J25K IAmb IAmb 21 04 35.7
comp=Z,22nm,0.8s
J25K Salcha River, 85.20 23 P **P 21 04 34.9 +0.2**
baz=245
E23K Chandalar 85.25 19 P **P 21 04 35.6 +0.7**
baz=241
DOT Dot Lake 85.32 24 P **P 21 04 34.4 -0.9**
DOT IAmb IAmb 21 04 37.6
comp=Z,15nm,0.9s
G24K Hadweenzic Riv 85.34 21 P **P 21 04 36.3 +1.1**
baz=243
D23K Nanushuk River 85.36 18 P **P 21 04 36.4 +1.1**
baz=240,SNR=13
GAR Garm 85.37 310 P **P 21 04 34.4 -1.8**
GAR IAmb IAmb 21 05 05.5
comp=Z,20nm,1.3s
L26K Log Cabin Wild 85.37 25 P **P 21 04 35.5 0.0**
baz=247
SCRK Sand Creek 85.49 24 P **P 21 04 36.4 +0.2**
baz=246
TOLK Toolik Lake Re 85.55 19 P **P 21 04 36.5 +0.2**
TOLK Toolik Lake Re 85.55 19 P **P 21 04 37.3 +1.0**
baz=241,SNR=6.3
F24K Squaw Lake 85.57 20 P **P 21 04 36.8 +0.4**
baz=242
E24K Your Creek 85.63 19 P **P 21 04 36.5 -0.2**
baz=242
PINM Pinnacle 85.67 28 P **P 21 04 37.2 +0.1**
baz=250
M27K Edge Creek, AK 85.74 26 P **P 21 04 36.2 -1.3**
M27K IAmb IAmb 21 04 40.7
comp=Z,17nm,0.9s
M27K Edge Creek, AK 85.74 26 P **P 21 04 38.0 +0.4**
baz=248
C23K Itkillik River 85.83 18 P **P 21 04 38.7 +1.1**
baz=240
G25K Bearman Lake 85.86 21 P **P 21 04 38.2 +0.5**
baz=244
J26L Joseph Creek 85.87 24 P **P 21 04 37.0 -1.0**
J26L Joseph Creek 85.87 24 P **P 21 04 38.2 +0.1**
baz=247
L27K Beaver Creek, 86.03 25 P **P 21 04 38.2 -0.6**
L27K IAmb IAmb 21 05 34.3
comp=Z,24nm,1.6s
L27K Beaver Creek, 86.03 25 P **P 21 04 39.7 +0.9**
baz=248
D24K Happy Valley 86.04 18 P **P 21 04 39.7 +1.1**
baz=241
BCAR Beaver Creek A 86.05 25 P **P 21 04 37.5 -1.4**
KKAR Karatay Array 86.07 314 P **P 21 04 36.8 -2.6**
KKAR Karatay Array 86.07 314 P **P 21 04 36.8 -2.6**
NRIK Noril'sk 86.13 342 P **P 21 04 37.8 -1.3**
comp=Z,5.0nm,0.4s,baz=155,slow=3.0,SNR=8.7
comp=Z,5.0nm,0.4s
NRIK Noril'sk 86.13 342⇑ *e*P **P 21 04 39.8 +0.7**
NRIK pmax pmax
comp=Z,7.0nm,0.8s
YUK3 Moose Creek 86.16 27 P **P 21 04 40.6 +0.9**
baz=250
CHGR Chuyangaron 86.19 309 P **P 21 04 38.6 -1.5**
CHGR IAmb IAmb 21 05 09.4
comp=Z,22nm,1.0s
CHGR Chuyangaron 86.19 309 P **P 21 04 38.7 -1.5**
CHGR pmax pmax
comp=Z,22nm,1.0s
BVCY Beaver Creek 86.21 26 P **P 21 04 40.9 +1.2**
baz=249
YUK8 Steele Glacier 86.30 27 P **P 21 04 41.3 +0.9**
baz=250
I26K Coal Creek Min 86.35 23 P **P 21 04 38.3 -1.9**
I26K IAmb IAmb 21 05 25.8
comp=Z,28nm,1.6s
I26K Coal Creek Min 86.35 23 P **P 21 04 40.4 +0.2**
baz=247
C24K Franklin Bluff 86.35 18 P **P 21 04 41.2 +1.1**
baz=242,SNR=9.4
F25K Christian Rive 86.38 20 P **P 21 04 41.2 +0.8**
baz=244
E25K Arctic Village 86.63 20 P **P 21 04 42.2 +0.6**
baz=245
BMAR Burnt Mountain 86.68 21 P **P 21 04 40.9 -1.0**
G26K Porcupine Rive 86.76 21 P **P 21 04 43.2 +1.0**
baz=246
YUK4 Talbot Arm 86.83 27 P **P 21 04 44.3 +1.4**
baz=251
D25K Kavik River 86.89 19 P **P 21 04 43.7 +0.8**
baz=244
EGAK Eagle 86.93 24 P **P 21 04 41.6 -1.5**
EGAK IAmb IAmb 21 04 45.9
comp=Z,17nm,0.9s
EGAK Eagle 86.93 24 P **P 21 04 44.4 +1.2**
baz=249,SNR=11
F26K Sheenjek River 86.94 21 P **P 21 04 43.8 +0.7**
baz=246
I27K Kandik River 87.05 23 P **P 21 04 44.6 +0.8**
baz=248,SNR=13
HYT Haines Junctio 87.19 28 P **P 21 04 43.7 -1.0**
HYT IAmb IAmb 21 04 48.1
comp=Z,21nm,0.9s
HYT Haines Junctio 87.19 28 P **P 21 04 45.9 +1.3**
baz=252
M29M Somme Creek 87.27 26 P **P 21 04 45.7 +0.8**
baz=251
H27K Steamboat Moun 87.32 22 P **P 21 04 46.1 +1.1**
baz=248,SNR=11
DAWY Dawson 87.40 25 P **P 21 04 46.3 +0.8**
baz=250
G27K Doyon Strip 87.49 22 P **P 21 04 47.0 +1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=248						
N30M	Aishikik Lake	87.58	27	P	P	21 04 47.2	+0.8
	baz=253						
C26K	Camden Bay	87.61	18	P	P	21 04 47.5	+1.2
	baz=245,SNR=18						
L29M	L29M	87.62	26	P	P	21 04 47.2	+0.6
	baz=252						
O30N	Mendenhall	87.84	28	P	P	21 04 49.0	+1.4
	baz=254						
C27K	Jago River	87.87	19	P	P	21 04 49.0	+1.4
	baz=246						
E27K	Coleen River	88.02	20	P	P	21 04 49.3	+1.0
	baz=248,SNR=12						
M30M	Minto, Yukon	88.05	26	P	P	21 04 49.0	+0.5
M30M				IAmb	IAmb	21 04 52.3	
	comp=Z,11nm,1.1s						
M30M	Minto, Yukon	88.05	26	P	P	21 04 49.7	+1.1
	baz=253						
K29M	Barlow Dome	88.11	25	P	P	21 04 50.6	+1.6
	baz=252						
N31M	Braeburn, Yuko	88.19	28	P	P	21 04 50.4	+1.2
	baz=254						
I29M	Ogilvie Camp,	88.27	24	P	P	21 04 48.5	-1.0
I29M				IAmb	IAmb	21 04 51.7	
	comp=Z,12nm,0.9s						
I29M	Ogilvie Camp,	88.27	24	P	P	21 04 50.4	+0.9
	baz=251						
BRVK	Borovoye	88.33	324	P	P	21 04 48.9	-1.2
BRVK	Borovoye	88.33	324⇓	eP	P	21 04 49.0	-1.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WHY	Whitehorse	88.38	29	P	P	21 04 50.9	+0.6
	baz=255						
EPYK	Eagle Plains	89.20	23	P	P	21 04 54.3	+0.4
EPYK				IAmb	IAmb	21 04 55.3	
	comp=Z,31nm,1.4s						
EPYK	Eagle Plains	89.20	23	P	P	21 04 54.4	+0.5
	baz=253						
N32M	Quiet Lake	89.36	28	P	P	21 04 55.7	+0.9
	baz=256						
FARO	Faro, Yukon	89.50	27	P	P	21 04 56.5	+1.1
	baz=256						
G30M	tAoh Zraii Nji	89.57	22	P	P	21 04 55.8	+0.2
	baz=253						
S34M	Telegraph Cree	89.60	32	P	P	21 04 56.5	+0.6
	baz=258						
BBB	Bella Bella	90.22	38	LR	LR	21 37 51.8	
	comp=Z,304nm,21.1s,baz=2.0,slow=30						
DLBC	Dease Lake	90.28	31	LR	LR	21 45 25.6	
	comp=Z,426nm,18.0s,baz=30,slow=36						
MMPY	Sheldon Lake,	90.53	27	P	P	21 04 59.7	-0.6
	baz=258						
INK	Inuvik	90.92	21	P	P	21 05 02.1	+0.4
	comp=Z,7.9nm,0.9s,baz=231,slow=7.6,SNR=18						
	comp=Z,7.9nm,0.9s						
INK	Inuvik	90.92	21	P	P	21 05 00.6	-1.2
INK				IAmb	IAmb	21 05 04.3	
	comp=Z,11nm,1.1s						
INK	Inuvik	90.92	21	P	P	21 05 02.4	+0.6
	baz=256						
YBH	Yreka Blue Hor	92.49	48	P	P	21 05 11.0	+1.2
	comp=Z,3.4nm,0.9s,baz=260,slow=2.1,SNR=6.6						
YBH				LR	LR	21 39 31.5	
	comp=Z,426nm,21.2s,baz=20,slow=31						
	comp=Z,3.4nm,0.9s						
SCZ2	Santa Cruz Isl	94.21	56	P	P	21 05 16.5	-1.4
	baz=266						
A36M	Sachs Harbour	94.35	18	P	P	21 05 16.8	-0.8
A36M				IAmb	IAmb	21 05 19.4	
	comp=Z,14nm,0.9s						
A36M	Sachs Harbour	94.35	18	P	P	21 05 17.5	-0.1
	baz=264						
C36M	Paulatuk	94.47	21	P	P	21 05 17.7	-0.5
	baz=265						
NVAR	Mina Array Bea	95.59	52	P	P	21 05 24.0	-0.3
	comp=Z,2.8nm,1.0s,baz=258,slow=6.2,SNR=13						
NVAR				LR	LR	21 41 00.8	
	comp=Z,308nm,21.1s,baz=356,slow=31						
	comp=Z,2.8nm,1.0s						
EDW2	Edwards Air Fo	95.63	56	P	P	21 05 24.8	+0.4
	baz=266						
CWC	Cottonwood Cre	95.65	54	P	P	21 05 25.2	+0.6
	baz=267						
LRMC	Laurel Mtn Rad	95.92	55	P	P	21 05 26.4	+0.6
	baz=267						
MPMC	Manual Prospec	96.11	54	P	P	21 05 27.9	+1.1
	baz=267						
FURC	Furnace Creek,	96.63	54	P	P	21 05 30.0	+1.2
	baz=267						
MONP2	Monument Peak	96.82	58	P	P	21 05 30.9	+0.9
	baz=267						
PFO	Pinyon Flats O	96.83	57	P	P	21 05 31.1	+1.1
	baz=267						
TPFO	Pinon Flats	96.83	57	P	P	21 05 30.5	+0.5
	baz=267						
NEW	Newport	96.87	42	P	P	21 05 30.0	+0.4
	comp=Z,2.2nm,0.9s,baz=244,slow=7.3,SNR=4.4						
NEW				LR	LR	21 46 18.2	
	comp=Z,381nm,18.2s,baz=26,slow=34						
	comp=Z,2.2nm,0.9s						
NEW	Newport	96.87	42	P	P	21 05 30.0	+0.4
	baz=268						
TPNV	Topopah Spring	97.15	54	P	Pdif	21 05 31.9	+0.4
	baz=268						
BELC	Belle Mtn. Jos	97.23	57	P	P	21 05 31.1	-0.7
	baz=268						
TUQ	Turquoise Moun	97.35	55	P	P	21 05 31.8	-0.5
	baz=268						
TROLL	Troll, Antarti	99.08	190	Pdiff	Pdif	21 05 39.0	-0.3
SNAA	Sanae	100.23	189	Pdiff	Pdif	21 05 43.8	-0.6
SNAA	Sanae	100.23	189⇓	eP	Pdif	21 05 44.1	-0.2
SNAA				pmax	pmax		
	comp=Z,16nm,2.4s						
BOZ	Bozeman (W)	100.65	45	P	Pdif	21 05 46.0	-0.8
	baz=272						
EGMT	Eagleton	101.81	42	P	Pdif	21 05 51.1	-0.7
	baz=274						
PDAR	Pinedale Array	102.27	48	P	Pdif	21 05 54.0	-0.1
	comp=Z,0.9nm,0.8s,baz=250,slow=2.0,SNR=4.5						
ARCES	ARCESS Array B	107.11	342	Pdiff	Pdif	21 06 15.6	+0.8
	comp=Z,2.8nm,0.8s,baz=56,slow=4.5,SNR=6.9						
OBN	Obninsk	107.95	326	eP	Pdif	21 06 19.4	+0.6
OBN				e		21 10 49.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	110.81	335	Pdiff	Pdif	21 06 31.0	-0.4
	comp=Z,2.1nm,0.9s,baz=70,slow=6.3,SNR=2.3						
BOSA	Boshof	116.09	234	PKP	PKPdf	21 10 42.0	-0.2
	comp=Z,1.9nm,0.5s,baz=126,slow=2.4,SNR=6.9						
BOSA	Boshof	116.09	234	PKIKP	PKPdf	21 10 42.0	-0.2
STHS	Stebnicka Huta	118.76	324	ePKP	PKPdf	21 10 46.4	-0.1
STHS	Stebnicka Huta	118.76	324	ePKIKP	PKPdf	21 10 46.4	-0.1
VYHS	Vyhne	120.60	324	ePKP	PKPdf	21 10 48.8	-1.3
VYHS	Vyhne	120.60	324	ePKIKP	PKPdf	21 10 48.8	-1.3
PLCA	Paso Flores	120.71	145	PKP	PKiKP	21 10 50.7	-0.1
	comp=Z,2.8nm,0.5s,baz=255,slow=2.8,SNR=13						
KRLC	Kraliky	120.97	326	ePKPDF	PKPdf	21 10 48.0	-2.8
KRLC	Kraliky	120.97	326	ePKIKP	PKPdf	21 10 48.0	-2.8
OSTC	Ostas	121.03	327	ePKPDF	PKiKP	21 10 51.5	+0.5
DPC	Dobruska-Polom	121.08	327	ePKPDF	PKPdf	21 10 50.6	-0.4
DPC	Dobruska-Polom	121.08	327	ePKIKP	PKPdf	21 10 50.6	-0.4
LRAL	Lakeview Retre	121.35	55	P	PKPdf	21 10 51.1	-0.9
	baz=284						
MODS	Modra-Piesok	121.56	324	ePKP	PKiKP	21 10 53.0	+0.9
MODS	Modra-Piesok	121.56	324	ePKIKP	PKiKP	21 10 53.0	+0.9
CLL	Collm	122.29	329	i PKPdf	PKPdf	21 10 53.0	-0.2
	comp=Z,5.0nm,0.9s						
CLL				L	L	22 03 00.0	
	comp=Z,400nm,21.1s						
CLL	Collm	122.29	329	i PKIKP	PKPdf	21 10 53.0	-0.2
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL				MLR	MLR		
	comp=Z,400nm,21.1s						
CKRC	Cesky Krumlov	123.01	326	ePKPDF	PKPdf	21 10 54.3	-0.4
P52A	Corning	123.05	46	P	PKPdf	21 10 54.0	-1.1
	baz=292						
KHC	Kasperske Hory	123.24	327	ePKPDF	PKPdf	21 10 54.9	-0.3
KHC	Kasperske Hory	123.24	327	ePKIKP	PKPdf	21 10 54.9	-0.3
GERES	GERESS Array B	123.33	326	PKP	PKPdf	21 10 54.5	-1.0
	comp=Z,1.8nm,0.8s,baz=343,slow=1.4,SNR=11						
ABTA	Abfaltersbach	125.16	325	i P	PKPdf	21 10 59.1	+0.1
	comp=Z,6.3nm,1.1s						
WATA	Walderalm	125.36	326	eP	PKPdf	21 10 59.0	-0.4
	comp=Z,4.5nm,1.0s						
WTTA	Wattenberg	125.36	326	i P	PKPdf	21 10 59.3	-0.2
	comp=Z,8.0nm,1.0s						
MOTA	Moosalm	125.61	326	i P	PKPdf	21 10 59.5	-0.4
	comp=Z,7.6nm,0.9s						
SQTA	Sankt Quirin	125.63	326	i P	PKPdf	21 10 59.7	-0.2
	comp=Z,3.5nm,0.8s						
FETA	Feichten	126.01	326	i P	PKPdf	21 11 00.7	0.0
	comp=Z,5.7nm,0.9s						
DAVA	Damuels	126.32	327	i P	PKPdf	21 11 01.2	-0.1
	comp=Z,4.9nm,0.9s						
HDC	Heredia	126.95	82	eP	PKiKP	21 11 04.9	+1.0
TRQA	Tornquist	127.25	149	eP	PKPdf	21 11 02.7	-0.5
LCO	Las Campanas	127.98	134	PKPdf	PKiKP	21 11 05.5	-0.3
LCO	Las Campanas	127.98	134	PKIKP	PKiKP	21 11 05.5	-0.3
LVC	Limon Verde	132.91	129	eP	PKPdf	21 11 15.1	+0.3
KEST	Kesra	132.97	314	PKP	PKPdf	21 11 12.9	-1.3
	comp=Z,0.8nm,0.7s,baz=31,slow=15,SNR=1.3						
CZSB	Cruzeiro do Su	135.84	108	eP	PKPdf	21 11 18.9	-1.1
ROSC	El Rosal	136.50	89	PKP	PKPdf	21 11 20.2	-1.6
	comp=Z,13nm,0.6s,baz=157,slow=17,SNR=5.6						
ITQB	Itaqui	136.52	146	eP	PKPdf	21 11 20.3	-0.6
LPAZ	La Paz	136.73	121	PKP	PKPdf	21 11 22.8	+0.4
	comp=Z,12nm,0.9s,baz=18,slow=3.5,SNR=24						
LPAZ	La Paz	136.73	121	eP	PKPdf	21 11 20.9	-1.5
RODS	Rosario do Sul	136.76	148	eP	PKPdf	21 11 19.8	-1.6
CPSB	Cacapava Do Su	137.60	150	eP	PKPdf	21 11 22.8	-0.1
UNIS	Unistalda (Bra	137.84	147	eP	PKPdf	21 11 22.9	-0.4
AZCA	Azaras, Argent	138.10	145	eP	PKPdf	21 11 22.8	-1.1
CPUP	Villa Florida	138.63	142	PKP	PKPdf	21 11 24.8	-0.1
	comp=Z,9.7nm,1.0s,baz=348,slow=2.2,SNR=12						
CPUP	Villa Florida	138.63	142	eP	PKPdf	21 11 24.3	-0.6
ESDC	Sonseca Array	138.87	328	PKP	PKPdf	21 11 24.1	-0.9
	comp=Z,0.5nm,0.9s,baz=12,slow=3.4,SNR=2.6						
ALGR	Alto Alegre (B	139.12	149	eP	PKPdf	21 11 24.9	-0.9
SDV	Santo Domingo	140.26	84	eP	PKPdf	21 11 27.8	-0.6
ITAB	Concordia	140.85	149	eP	PKPdf	21 11 28.7	-0.2
FRBT	Francisco Belt	141.37	147	eP	PKPdf	21 11 28.9	-1.1
MURT	Porto Murtinho	141.76	137	eP	PKPdf	21 11 30.4	-0.3
MCR1	Marechal Candi	142.00	144	eP	PKPdf	21 11 30.3	-0.8
BBRB	Robore, Bolivi	142.36	131	eP	PKPdf	21 11 31.4	-0.4
ANTJ	Antonio Joao (	142.59	139	eP	PKPdf	21 11 31.7	-0.6
PTGB	Pitanga	142.91	147	eP	PKPdf	21 11 30.4	-2.4
AQDB	Aquidauana	143.87	138	eP	PKPbc	21 11 32.2	0.0
PTLB	Pontes e Lacer	144.55	128	PKPdf	PKPbc	21 11 34.9	+0.4
VILB	Vilhena	145.04	123	eP	PKPdf	21 11 37.9	+1.2
FRTB	Fartura	145.36	148	eP	PKPbc	21 11 35.2	-1.7
VAO	Valinhos	146.94	152	eP	PKPdf	21 11 39.6	-0.1
ITRB	Iturama	147.82	143	eP	PKPdf	21 11 41.8	+0.6
MACA	Manacapuru-AM	148.61	106		PKPbc	21 11 46.8	+0.4
ARAG	Araguaiana, MT	149.83	136	eP	PKPdf	21 11 45.0	+0.4
BOAV	Boa Vista	149.97	96		PKPbc	21 11 48.8	-1.0
BOAV	Boa Vista	149.97	96	eP	PKPbc	21 11 47.9	-1.9
BDFB	Brasilia	152.36	142	PKP	PKPdf	21 11 48.7	+0.2
	comp=Z,9.5nm,0.9s,baz=175,slow=2.3,SNR=13						
BDFB				PKPbc	PKPbc	21 11 55.1	-0.3
	comp=Z,38nm,0.5s,baz=224,slow=0.9,SNR=68						
BDFB				PKPab	PKPab	21 12 05.1	-0.3
	comp=Z,13nm,0.7s,baz=159,slow=5.6,SNR=5.5						
BDFB	Brasilia	152.36	142	PKPbc	PKiKP	21 11 55.6	-0.1
BDFB	Brasilia	152.36	142	PKIKP	PKiKP	21 11 55.6	-0.1
SNDB	Serra Nova Dou	152.69	131	eP	PKPdf	21 11 49.7	+0.8
KIC	Kosan Boka	154.26	272⇑	ePKIKP	PKiKP	21 12 00.9	+1.4
	comp=Z,3.6nm,0.5s						
DBIC	Dimbokro	154.38	273	PKPbc	PKPbc	21 11 58.9	-0.9
	comp=Z,4.6nm,0.7s,baz=154,slow=3.1,SNR=5.8						
DBIC				PKPab	PKPab	21 12 13.3	-0.7
	comp=Z,4.5nm,0.7s,baz=90,slow=2.5,SNR=4.4						
TIC	Toumodi	154.54	273⇑	ePKIKP	PKiKP	21 12 01.0	+0.9
	comp=Z,9.0nm,0.5s						
LIC	Lamto	154.54	272⇑	ePKIKP	PKiKP	21 12 01.0	+0.9
	comp=Z,20nm,0.7s						

*NEIC **13** 20:55:26.3±2.5, 6°.2S±0°.1×149°.5E±0°.1, h77km±9km, mb4.7/17, Error ellipse: s-maj=19.4km s-min=11.4km az=131.0*

*IDC **13** 20:55:26.3±1.8, 6°.14S×149°.43E, h65km±17km, mb3.9/14, mbtmp4.3/17, Error ellipse: s-maj=20.6km s-min=12.5km az=109.0*

ISC 13 20:55:25.1±0.5, **6°.14S**±0°.06×**149°.42E**±0°.08, **h58**km, **n38**, σ**1s.32**/41, **mb4.3**/17, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.17	55	P	Pn	20 56 13.8	+1.3
	331nm,0.5s,baz=169,slow=5.2,SNR=1.2						
RABL	Rabaul	3.35	55	Pn	Pn	20 56 15.8	+0.8
PMG	Port Moresby	3.94	214	P	Pn	20 56 24.4	+1.3
	241nm,0.4s,baz=9.5,slow=6.1,SNR=8.2						
PMG				S	Sn	20 57 10.0	+1.9
	484nm,0.6s,baz=8.7,slow=19,SNR=3.2						
PMG	Port Moresby	3.94	214		Pn	20 56 24.7	+1.6
CTA	Charters Tower	14.20	192	P	Pn	20 58 44.6	+1.3
	8.3nm,0.8s,baz=44,slow=14,SNR=2.8						
EIDS	Eidsvold	19.19	175	P	P	20 59 41.5	-2.6
EIDS				IAmb	IAmb	20 59 46.6	
	comp=Z,29nm,1.3s						
MTN	Manton Dam	19.22	248	P	P	20 59 42.7	-1.8
MTN				IAmb	IAmb	21 00 20.8	
	comp=Z,42nm,0.9s						
WB0	Warramunga Arr	19.92	226	P	P	20 59 51.8	-0.4
WB0				IAmb	IAmb	21 00 16.1	
	comp=Z,49nm,1.1s						
WR0	Warramunga Arr	19.94	225	P	P	20 59 50.9	-1.5
WRAB	Tennant Creek	20.06	225	P	P	20 59 52.1	-1.7
WB2	Warramunga Arr	20.07	225	P	P	20 59 51.5	-2.3
WB2				IAmb	IAmb	21 00 26.5	
	comp=Z,57nm,1.1s						
WRA	Warramunga Arr	20.07	225	P	P	20 59 54.5	+0.6
	comp=Z,14nm,0.6s,baz=52,slow=11,SNR=6.1						
WRA				PcP	PcP	21 04 07.8	+0.1
	comp=Z,1.4nm,0.7s,baz=50,slow=1.4,SNR=2.5						
WRA				ScP	ScP	21 07 38.3	-1.0
	comp=Z,0.9nm,0.9s,baz=45,slow=2.5,SNR=4.8						
	comp=Z,14nm,0.6s						
WRA	Warramunga Arr	20.07	225	P	P	20 59 52.0	-1.9
DZM	Mont Dzumac	22.84	136	P	P	21 00 24.3	+0.7
	comp=Z,13nm,0.6s,baz=275,slow=8.3,SNR=12						
	comp=Z,13nm,0.6s						
DZM	Mont Dzumac	22.84	136	P	P	21 00 21.4	-2.2
DZM				IAmb	IAmb	21 00 24.5	
	comp=Z,12nm,0.7s						
AS31	Alice Springs	22.94	219	P	P	21 00 24.9	+0.3
ASAR	Alice Springs	22.95	219	P	P	21 00 24.9	+0.2
	comp=Z,8.5nm,0.6s,baz=56,slow=9.2,SNR=8.3						
	comp=Z,8.5nm,0.6s						
ASAR	Alice Springs	22.95	219	P	P	21 00 24.5	-0.1
ARMA	Armidale	24.24	175	P	P	21 00 35.8	-1.0
ARMA				IAmb	IAmb	21 01 06.0	
	comp=Z,40nm,1.4s						
STKA	Stephens Creek	26.63	195	P	P	21 01 00.0	+1.7
	comp=Z,8.4nm,0.7s,baz=28,slow=9.9,SNR=3.9						
	comp=Z,8.4nm,0.7s						
STKA	Stephens Creek	26.63	195	P	P	21 00 58.8	+0.5
FORT	Forrest	31.67	217	P	P	21 01 43.4	+0.3
MBWA	Marble Bar	32.39	240	P	P	21 01 47.2	-2.3
MBWA				IAmb	IAmb	21 01 50.4	
	comp=Z,19nm,1.2s						
SBUM	Sibu	38.11	282	P	P	21 02 37.3	-1.5
SBUM				IAmb	IAmb	21 02 37.9	
	comp=Z,5.5nm,0.5s						
YULB	Yu-li	40.20	318	P	P	21 02 55.9	-0.2
YULB				IAmb	IAmb	21 02 59.6	
	comp=Z,6.1nm,0.6s						
TPUB	Ta-pu	40.59	317	P	P	21 02 58.6	-0.7
KSRS	Korea Array	47.78	337	P	P	21 03 58.0	+1.4
	comp=Z,1.3nm,0.6s,baz=152,slow=8.1,SNR=2.4						
	comp=Z,1.3nm,0.6s						
USRK	Ussuriysk Ar.	52.52	344	P	P	21 04 34.2	+1.9
	comp=Z,2.4nm,0.6s,baz=172,slow=7.1,SNR=3.1						
	comp=Z,2.4nm,0.6s						
CMAR	Chiang Mai Arr	55.44	297	P	P	21 04 55.4	+1.2
	comp=Z,0.8nm,0.9s,baz=119,slow=5.6,SNR=1.4						
	comp=Z,0.8nm,0.9s						
PETK	Petropavlovsk-	59.44	6	P	P	21 05 21.7	0.0
	comp=Z,4.8nm,0.5s,baz=181,slow=8.5,SNR=19						
	comp=Z,4.8nm,0.5s						
SONM	Songino Array	65.71	330	P	P	21 06 04.3	+0.5
	comp=Z,0.7nm,0.5s,baz=136,slow=5.3,SNR=8.0						
	comp=Z,0.7nm,0.5s						
VNDA	Vanda	71.65	177	P	P	21 06 41.0	+0.9
	comp=Z,0.8nm,0.6s,baz=333,slow=9.1,SNR=1.6						
	comp=Z,0.8nm,0.6s						
VNDA	Vanda	71.65	177	P	P	21 06 38.9	-1.2
MKAR	Makanchi Array	79.14	320	P	P	21 07 22.9	-0.7
	comp=Z,2.2nm,1.0s,baz=98,slow=9.0,SNR=2.1						
	comp=Z,2.2nm,1.0s						
ZALV	Zalesovo Beam	80.42	327	P	P	21 07 31.1	+0.7
	comp=Z,0.6nm,0.5s,baz=101,slow=6.3,SNR=2.0						
	comp=Z,0.6nm,0.5s						
QSPA	South Pole Qui	83.83	180	P	P	21 07 48.7	+0.5
	comp=Z,2.0nm,0.6s,baz=354,slow=3.9,SNR=2.0						
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	84.67	23	P	P	21 07 51.8	-0.5
	comp=Z,1.3nm,0.9s,baz=252,slow=4.9,SNR=3.2						
	comp=Z,1.3nm,0.9s						
GERES	GERESS Array B	123.36	326	PKP	PKPdf	21 14 15.7	-0.2
	comp=Z,0.1nm,0.3s,baz=107,slow=3.3,SNR=1.8						

WEL 13 20:57:30.4±0.4, **42°S**±2°×**17°4E**±°, **h7**km±3km, **M3.6**/6, **ML3.9**/9, **MLv3.6**/6, **Error ellipse: s-maj=0.0km s-min=0.0km az=124.8, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.36	23	P	Pg	20 57 38.3	+0.8
BSWZ				S	Sb	20 57 44.4	-0.7
KHZ	Kahutara	0.38	197	P	Pg	20 57 38.2	+0.4
THZ	Tophouse	0.65	296	P	Pg	20 57 43.3	+0.4
THZ				S	Sg	20 57 52.0	+0.6
TUWZ	Tuamarina	0.65	17	P	Pg	20 57 43.4	+0.5
TUWZ				S	Sb	20 57 53.1	-0.2
NNZ	Nelson	0.87	344	P	Pg	20 57 47.2	+0.3
TCW	Tory Channel	0.95	28	P	Pg	20 57 48.8	+0.2
TCW				S	Sb	20 58 01.8	-0.1
GVZ	Greta Valley S	1.03	208	P	Pb	20 57 50.8	+0.2
GVZ				S	Sn	20 58 05.9	-0.1
WEL	Wellington	1.12	47	P	Pg	20 57 51.2	-0.5
PLWZ	Palliser	1.27	68	P	Pn	20 57 53.2	-1.3
LTZ	Lake Taylor	1.28	235	P	Pn	20 57 54.4	-0.3
LTZ				S	Sb	20 58 11.3	-0.1
AMCZ	Amberley	1.36	214	P	Pn	20 57 55.0	-0.8
OKCZ	Okains Bay	1.73	195	P	Pn	20 57 59.4	-1.5
OKCZ				S	Sn	20 58 19.6	-3.7
OXZ	Oxford	1.76	223	P	Pn	20 57 59.9	-1.4
OXZ				S	Sn	20 58 22.7	-1.2
INZ	Inchbonnie	1.79	247	P	Pn	20 58 02.3	+0.6
INZ				S	Sb	20 58 26.0	-0.1
MQZ	McQueen's Vall	1.82	204	P	Pn	20 57 59.9	-2.2
MQZ				S	Sn	20 58 21.9	-3.5
AKCZ	Akaroa Harbour	1.91	197	P	Pn	20 58 01.7	-1.6
AKCZ				S	Sn	20 58 24.8	-2.8
RACZ	Rakaia	2.02	214	P	Pn	20 58 02.9	-2.0
RACZ				S	Sn	20 58 28.2	-2.2
WACZ	Wakanui South	2.33	215	P	Pn	20 58 07.4	-1.7
WACZ				S	Sn	20 58 35.8	-2.0
WVZ	Waitaha Valley	2.41	244	P	Pn	20 58 10.4	+0.3
WVZ				S	Sn	20 58 39.1	-0.7
RPZ	Rata Peaks	2.55	228	P	Pn	20 58 11.1	-1.1
RPZ				S	Sn	20 58 41.1	-2.3
ANWZ	Angora Road	2.64	54	S	Sn	20 58 44.1	-1.4
ARCZ	Arundel	2.64	223	P	Pn	20 58 11.9	-1.5
ARCZ				S	Sn	20 58 43.6	-2.1
GCSZ	Gaunt Creek Bo	2.78	242	P	Pn	20 58 14.8	-0.5
GCSZ				S	Sn	20 58 48.8	-0.3
TMZ	Timaru	3.04	219	P	Pn	20 58 17.5	-1.4
TMZ				S	Sn	20 58 52.6	-3.0
FOZ	Fox Glacier	3.21	241	P	Pn	20 58 21.5	+0.3
FOZ				S	Sn	20 58 59.7	+0.1
LBZ	Lake Benmore	3.46	226	P	Pn	20 58 24.1	-0.6
LBZ				S	Sn	20 59 03.2	-2.7
ODZ	Otahua Downs	3.72	215	P	Pn	20 58 26.0	-2.2
ODZ				S	Sn	20 59 08.3	-3.9
HHSZ	Highcliff Hill	4.43	209	P	Pn	20 58 35.5	-2.5
HHSZ				S	Sn	20 59 26.4	-3.4
EAZ	Earnscleugh	4.49	224	P	Pn	20 58 37.3	-1.6
EAZ				S	Sn	20 59 27.5	-3.8
SYZ	Scrubby Hill	5.54	215	P	Pn	20 58 52.1	-1.2
SYZ				S	Sn	20 59 53.0	-4.2
APZ	The Paps	6.28	219	P	Pn	20 59 02.0	-1.4
APZ				S	Sn	21 00 10.3	-5.1

WEL 13 20:59:14.5±0.3, **43°S**±2°×**17°3E**±°, **h8**km±2km, **M3.7**/17, **ML4.0**/14, **MLv3.7**/17, **Error ellipse: s-maj=0.0km s-min=0.0km az=101.3, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.33	148	P	Pg	20 59 21.8	+0.8
GVZ				S	Sb	20 59 27.8	-0.4
LTZ	Lake Taylor	0.40	256	P	Pg	20 59 22.5	+0.2
LTZ				S	Sb	20 59 29.0	-1.2
AMCZ	Amberley	0.50	192	P	Pb	20 59 25.4	-0.2
AMCZ				S	Sb	20 59 34.1	+1.0
KHZ	Kahutara	0.61	64	P	Pg	20 59 26.8	+0.5
OXZ	Oxford	0.85	221	P	Pb	20 59 31.6	+0.1
OXZ				S	Sb	20 59 43.7	+0.6
THZ	Tophouse	0.93	5	P	Pg	20 59 32.0	-0.3
INZ	Inchbonnie	1.00	267	P	Pg	20 59 33.4	-0.3
MQZ	McQueen's Vall	1.02	186	P	Pg	20 59 33.6	-0.6
MQZ				S	Sg	20 59 47.6	+0.1
OKCZ	Okains Bay	1.05	170	P	Pg	20 59 34.6	-0.1
OKCZ				S	Sn	20 59 50.4	-0.2
RACZ	Rakaia	1.15	205	P	Pg	20 59 35.7	-0.8
RACZ				S	Sg	20 59 51.3	-0.1
AKCZ	Akaroa Harbour	1.19	176	P	Pb	20 59 36.1	-1.2
AKCZ				S	Sg	20 59 52.2	-0.6
DSZ	Denniston Nort	1.19	322	P	Pb	20 59 37.1	-0.3
DSZ				S	Sn	20 59 53.9	0.0
DSZ	Denniston Nort	1.19	322	P	Pb	20 59 37.2	-0.2
MRNZ	Matariki Terra	1.29	359	P	Pn	20 59 38.8	0.0
MRNZ				S	Sb	20 59 55.7	+0.1
WACZ	Wakanui South	1.44	209	P	Pn	20 59 39.6	-1.3
WVZ	Waitaha Valley	1.56	255	P	Pn	20 59 43.0	+0.4
WVZ				S	Sb	21 00 03.5	0.0
RPZ	Rata Peaks	1.64	231	P	Pn	20 59 42.8	-0.9
RPZ				S	Sn	21 00 03.2	-1.7
ARCZ	Arundel	1.73	223	P	Pn	20 59 43.9	-1.0
ARCZ				S	Sn	21 00 04.8	-2.3
GCSZ	Gaunt Creek Bo	1.92	250	P	Pn	20 59 47.7	+0.2
GCSZ				S	Sn	21 00 11.7	0.0
AWAZ	Awhitu Peninsu	5.79	15	P	Pn	21 00 44.2	+3.5
MKAZ	Moumakai	5.86	19	P	Pn	21 00 43.4	+1.8
WIAZ	Waiheke Island	6.15	18	P	Pn	21 00 48.1	+2.4

*IDC **13** 21:00:17.8±1.7, 42°.73S×172°.89E, h0km, mb3.9/3, mbtmp3.9/3, MS4.1/1, Error ellipse: s-maj=53.8km s-min=15.0km az=137.0*

*WEL **13** 21:00:20.9±0.3, 43°S±2°×17°3E±°, h5km±2km, M4.3/18, ML4.5/18, MLv4.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5*

*NEIC **13** 21:00:20.9±1.9, 42°.69S±0°.05×172°.78E±0°.05, h10km±1km, mb4.3/4, Error ellipse: s-maj=10.0km s-min=3.0km az=328.0*

ISC 13 21:00:20.7±1.0, **42°.70S**±0°.02×**172°.82E**±0°.02, **h14**km±7km, **n143**, σ**1s.57**/156, **mb4.0**/5, **South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.31	150		Pb	21 00 27.8	-0.3
GVZ				Sg	Sg	21 00 32.0	+0.4
GVZ	Greta Valley S	0.31	150	P	Pb	21 00 27.8	-0.3
GVZ				S	Sb	21 00 33.7	+0.6
LTZ	Lake Taylor	0.41	258		Pg	21 00 29.0	-0.1
LTZ				Sg	Sb	21 00 35.3	-0.7
LTZ	Lake Taylor	0.41	258	P	Pg	21 00 29.0	-0.1
LTZ				S	Sg	21 00 34.8	+0.1
AMCZ	Amberley	0.49	195	P	Pb	21 00 31.7	+0.5
AMCZ				S	Sb	21 00 39.7	+1.4
KHZ	Kahutara	0.60	62		Pb	21 00 32.9	0.0
KHZ				Sg	Sb	21 00 41.9	+0.7
KHZ	Kahutara	0.60	62	P	Pb	21 00 32.8	-0.1
KHZ				S	Sb	21 00 41.8	+0.6
OXZ	Oxford	0.85	222		Pn	21 00 37.8	-0.5
OXZ				Sg	Sg	21 00 48.2	-0.2
OXZ	Oxford	0.85	222	P	Pn	21 00 38.0	-0.3
OXZ				S	Sn	21 00 50.3	-0.2
THZ	Tophouse	0.94	4		Pb	21 00 38.2	-0.5
THZ	Tophouse	0.94	4	P	Pb	21 00 38.0	-0.7
MQZ	McQueen's Vall	1.02	187		Pb	21 00 40.0	-0.1
MQZ	McQueen's Vall	1.02	187	P	Pb	21 00 39.9	-0.1
MQZ				S	Sn	21 00 54.1	-0.4
INZ	Inchbonnie	1.02	268	P	Pb	21 00 39.8	-0.3
OKCZ	Okains Bay	1.04	171	P	Pb	21 00 40.3	-0.2

OKCZ				S		Sn	21 00 56.4	+1.2
RACZ	**Rakaia**	**1.14**	**206**	P		**Pb**	**21 00 42.1**	**-0.2**
RACZ				S		**Sg**	**21 00 58.6**	**+0.8**
AKCZ	**Akaroa Harbour**	**1.18**	**177**	P		**Pn**	**21 00 42.3**	**-0.4**
AKCZ				S		**Sb**	**21 00 57.9**	**0.0**
BSWZ	**Blackbirch Sta**	**1.25**	**39**			**Pg**	**21 00 45.0**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.25**	**39**	P		**Pb**	**21 00 44.2**	**+0.1**
MRNZ	**Matariki Terra**	**1.30**	**358**	P		**Pb**	**21 00 44.6**	**-0.3**
CMWZ	**Cape Campbell**	**1.40**	**48**	Pn		**Pb**	**21 00 46.9**	**+0.2**
CMWZ	**Cape Campbell**	**1.40**	**48**	P		**Pg**	**21 00 47.7**	**0.0**
CMWZ				P		**Pg**	**21 00 47.7**	**0.0**
WACZ	**Wakanui South**	**1.44**	**210**	P		**Pn**	**21 00 45.9**	**-0.4**
TUWZ	**Tuamarina**	**1.52**	**34**			**Pb**	**21 00 48.4**	**-0.2**
TUWZ	**Tuamarina**	**1.52**	**34**	P		**Pb**	**21 00 48.7**	**+0.1**
NNZ	**Nelson**	**1.54**	**16**			**Pn**	**21 00 47.8**	**+0.1**
NNZ	**Nelson**	**1.54**	**16**	P		**Pb**	**21 00 48.7**	**-0.2**
WVZ	**Waitaha Valley**	**1.58**	**255**	P		**Pb**	**21 00 49.5**	**-0.1**
RPZ	**Rata Peaks**	**1.65**	**231**	Pg		**Pn**	**21 00 48.6**	**-0.6**
	134nm,0.3s,baz=62,slow=18,SNR=14							
RPZ				Lg	Lg		21 01 09.8	
	80nm,0.3s,baz=130,slow=24,SNR=19							
RPZ				LR	LR		21 01 31.9	
	comp=Z,378nm,19.8s,baz=326,slow=45							
RPZ	**Rata Peaks**	**1.65**	**231**			**Pn**	**21 00 49.1**	**-0.1**
RPZ	**Rata Peaks**	**1.65**	**231**	P		**Pn**	**21 00 49.5**	**+0.3**
TKNZ	**Takaka Hill**	**1.67**	**4**	P		**Pb**	**21 00 50.5**	**-0.7**
ARCZ	**Arundel**	**1.73**	**223**	P		**Pn**	**21 00 50.5**	**+0.1**
TCW	**Tory Channel**	**1.84**	**37**	P		**Pb**	**21 00 53.7**	**-0.4**
QRZ	**Quartz Range**	**1.88**	**353**			**Pb**	**21 00 53.6**	**-1.2**
QRZ	**Quartz Range**	**1.88**	**353**	P		**Pb**	**21 00 53.9**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**1.93**	**250**	P		**Pb**	**21 00 54.3**	**-1.4**
SNZO	**South Karori**	**1.97**	**46**	Pn		**Pn**	**21 00 53.9**	**+0.2**
WEL	**Wellington**	**2.02**	**46**	P		**Pn**	**21 00 54.6**	**+0.3**
DUWZ	**D'Urville Isla**	**2.06**	**24**	P		**Pb**	**21 00 56.9**	**-1.1**
PLWZ	**Palliser**	**2.13**	**59**	Pn		**Pn**	**21 00 55.6**	**-0.3**
PLWZ	**Palliser**	**2.13**	**59**	P		**Pn**	**21 00 55.6**	**-0.3**
TMZ	**Timaru**	**2.14**	**217**	P		**Pn**	**21 00 56.5**	**+0.4**
MSWZ	**Moikau Station**	**2.21**	**55**	Pn		**Pn**	**21 00 56.5**	**-0.5**
MSWZ	**Moikau Station**	**2.21**	**55**	P		**Pn**	**21 00 56.6**	**-0.5**
CAW	**Cannon Point**	**2.31**	**47**	P		**Pn**	**21 00 58.2**	**-0.1**
PAWZ	**Paruwai Farm**	**2.34**	**57**	P		**Pn**	**21 00 58.0**	**-0.8**
FOZ	**Fox Glacier**	**2.35**	**248**	Pn		**Pn**	**21 00 60.0**	**+1.1**
FOZ	**Fox Glacier**	**2.35**	**248**	P		**Pb**	**21 01 01.1**	**-1.8**
KIW	**Kapiti Island**	**2.41**	**41**	P		**Pn**	**21 01 00.1**	**+0.4**
LBZ	**Lake Benmore**	**2.56**	**228**	P		**Pn**	**21 01 02.5**	**+0.8**
OGWZ	**Otaki Gorge**	**2.57**	**44**	P		**Pn**	**21 01 01.9**	**0.0**
HOWZ	**Holdsworth Sta**	**2.70**	**49**	P		**Pb**	**21 01 10.5**	**+1.7**
ODZ	**Otahua Downs**	**2.83**	**213**	Pn		**Pn**	**21 01 05.9**	**+0.5**
ODZ	**Otahua Downs**	**2.83**	**213**	P		**Pn**	**21 01 04.8**	**-0.6**
MRZ	**Mangatainoka R**	**2.90**	**46**	Pn		**Pn**	**21 01 05.8**	**-0.6**
MRZ	**Mangatainoka R**	**2.90**	**46**	P		**Pn**	**21 01 05.8**	**-0.6**
OHWZ	**Ohakea**	**3.12**	**38**	P		**Pb**	**21 01 14.6**	**-1.2**
PRWZ	**Pori Road**	**3.19**	**49**	P		**Pn**	**21 01 09.8**	**-0.5**
POWZ	**Post Office Ro**	**3.19**	**45**	P		**Pn**	**21 01 10.5**	**0.0**
JCZ	**Jackson Bay**	**3.25**	**244**	P		**Pn**	**21 01 14.2**	**+2.9**
BFZ	**Birch Farm**	**3.26**	**53**	Pn		**Pn**	**21 01 12.0**	**+0.7**
BFZ	**Birch Farm**	**3.26**	**53**	P		**Pn**	**21 01 12.1**	**+0.7**
NMEZ	**Namu Road**	**3.38**	**14**	P		**Pb**	**21 01 16.7**	**-3.6**
LREZ	**Lake Rotokare**	**3.45**	**21**	P		**Pb**	**21 01 20.2**	**-1.3**
DVHZ	**Dannevirke**	**3.47**	**47**	P		**Pn**	**21 01 12.8**	**-1.5**
WKZ	**Wanaka**	**3.48**	**231**	Pn		**Pn**	**21 01 13.8**	**-0.6**
NBEZ	**Newall Road No**	**3.52**	**13**	P		**Pn**	**21 01 18.5**	**+3.6**
KHEZ	**Kahui Hut**	**3.52**	**15**	P		**Pn**	**21 01 18.5**	**+3.5**
TSZ	**Takapari Road**	**3.54**	**43**	P		**Pn**	**21 01 14.8**	**-0.4**
NEZ	**North Egmont**	**3.56**	**16**	P		**Pn**	**21 01 19.2**	**+3.6**
HHSZ	**Highcliff Hill**	**3.56**	**206**	P		**Pn**	**21 01 15.5**	**0.0**
EAZ	**Earnscleugh**	**3.58**	**224**	P		**Pn**	**21 01 15.9**	**+0.1**
PKE	**Pukeiti**	**3.61**	**15**	P		**Pn**	**21 01 19.7**	**+3.5**
DREZ	**Durham Road**	**3.66**	**17**	P		**Pn**	**21 01 19.8**	**+3.0**
MHEZ	**Mangahewa**	**3.79**	**18**	P		**Pb**	**21 01 23.2**	**-4.2**
VRZ	**Vera Road**	**3.86**	**23**	P		**Pn**	**21 01 22.5**	**+3.0**
PKVZ	**Pokaka**	**3.90**	**30**	P		**Pb**	**21 01 25.5**	**-3.8**
MOVZ	**Moawhango**	**3.96**	**35**	P		**Pn**	**21 01 21.9**	**+0.8**
WNVZ	**Wahianoa**	**3.97**	**33**	P		**Pn**	**21 01 22.6**	**+1.3**
TRVZ	**Turoa**	**3.97**	**32**	P		**Pn**	**21 01 22.1**	**+0.7**
TUZ	**Tuapeka**	**3.98**	**214**	P		**Pn**	**21 01 21.0**	**-0.3**
DRZ	**Dome Shelter**	**4.00**	**32**	P		**Pn**	**21 01 25.5**	**+3.7**
WHVZ	**Whangaehu Hut**	**4.00**	**32**	P		**Pn**	**21 01 22.6**	**+0.9**
FWVZ	**Far West T-bar**	**4.01**	**32**	P		**Pn**	**21 01 22.7**	**+0.8**
BHHZ	**Black Hill Sta**	**4.03**	**38**	P		**Pn**	**21 01 22.2**	**+0.1**
SNVZ	**South Ngauruho**	**4.11**	**32**	P		**Pn**	**21 01 24.0**	**+0.8**
TWVZ	**Taurewa**	**4.13**	**30**	P		**Pn**	**21 01 25.5**	**+2.1**
OTVZ	**Oturere**	**4.13**	**32**	P		**Pn**	**21 01 24.5**	**+1.0**
NNVZ	**North Ngauruho**	**4.14**	**32**	P		**Pn**	**21 01 24.6**	**+1.0**
WTVZ	**West Tongariro**	**4.15**	**31**	P		**Pn**	**21 01 24.6**	**+1.0**
WTVZ				P		**Pb**	**21 01 31.1**	**-2.5**
ETVZ	**East Tongariro**	**4.18**	**33**	P		**Pn**	**21 01 24.7**	**+0.6**
KRVZ	**Karewarewa**	**4.18**	**32**	P		**Pn**	**21 01 26.9**	**+2.7**
TMVZ	**Te Maari**	**4.19**	**32**	P		**Pn**	**21 01 25.0**	**+0.7**
NTVZ	**North Tongariro**	**4.20**	**32**	P		**Pn**	**21 01 25.7**	**+1.3**
KATZ	**Kakaramea**	**4.31**	**31**	P		**Pn**	**21 01 30.4**	**+4.4**
MLZ	**Mavora Lakes**	**4.32**	**230**	Pn		**Pn**	**21 01 27.1**	**+1.1**
RITZ	**Rihia Road**	**4.37**	**33**	P		**Pn**	**21 01 29.5**	**+2.8**
RATZ	**Rangitukua**	**4.43**	**31**	P		**Pb**	**21 01 34.5**	**-3.8**
HIZ	**Hauiti**	**4.46**	**21**			**Pn**	**21 01 29.4**	**+1.5**
HIZ	**Hauiti**	**4.46**	**21**	P		**Pn**	**21 01 29.3**	**+1.5**
BKZ	**Black Stump Fm**	**4.49**	**39**	Pn		**Pn**	**21 01 27.8**	**-0.5**
BKZ	**Black Stump Fm**	**4.49**	**39**	P		**Pn**	**21 01 28.2**	**-0.2**
WATZ	**Wairara**	**4.56**	**30**	P		**Pn**	21 01 34.7	+5.4
SYZ	**Scrubby Hill**	**4.65**	**213**	P		**Pn**	**21 01 30.8**	**+0.3**
WHZ	**Wether Hill Ro**	**4.74**	**226**	Pn		**Pn**	**21 01 31.6**	**-0.1**
TLZ	**Tolley Road**	**4.83**	**26**	P		**Pn**	**21 01 35.1**	**+2.1**
DCZ	**Deep Cove**	**4.93**	**234**	Pn		**Pn**	**21 01 34.5**	**+0.2**
DCZ	**Deep Cove**	**4.93**	**234**	P		**Pn**	**21 01 34.6**	**+0.3**
HSRZ	**Hossack Road**	**5.10**	**32**	P		Pn	21 01 41.9	+5.2
NGRZ	**Ngongotaha**	**5.26**	**30**	P		Pb	21 01 46.5	-5.9
OMRZ	**Omania**	**5.33**	**32**	P		**Pn**	**21 01 44.2**	**+4.4**
TOZ	**Tahuroa Road**	**5.37**	**23**	P		**Pn**	**21 01 41.1**	**+0.7**
APZ	**The Paps**	**5.38**	**218**	P		**Pn**	**21 01 40.9**	**+0.4**
PYZ	**Puysegur Point**	**5.60**	**230**	Pn		**Pn**	**21 01 43.5**	**0.0**
MWZ	**Matawai**	**5.64**	**41**	P		**Pn**	**21 01 43.1**	**-1.1**
AWAZ	**Awhitu Peninsu**	**5.80**	**15**	P		**Pn**	**21 01 48.1**	**+1.8**
MKAZ	**Moumakai**	**5.87**	**19**	P		**Pn**	**21 01 48.2**	**+1.0**
WTAZ	**Waiatarua**	**5.91**	**14**	P		**Pn**	**21 01 51.7**	**+3.2**
ETAZ	**East Tamaki Re**	**5.96**	**16**	P		**Pn**	**21 01 50.2**	**+1.7**
TWGZ	**Tauwhareparae**	**5.99**	**43**	P		**Pn**	**21 01 48.5**	**-0.4**
RUGZ	**Raukumara Rang**	**6.01**	**40**	P		**Pn**	**21 01 48.3**	**-1.0**
MYRZ	**Mayor Island**	**6.01**	**27**	P		**Pn**	**21 01 51.8**	**+2.6**
MBAZ	**Motutapu North**	**6.13**	**16**	P		**Pn**	**21 01 54.4**	**+3.6**
WIAZ	**Waiheke Island**	**6.16**	**18**	P		**Pn**	**21 01 52.9**	**+1.7**
HAZ	**Te Kaha**	**6.22**	**39**	P		**Pn**	**21 01 50.5**	**-1.6**
PKGZ	**Pakihiroa**	**6.26**	**42**	P		**Pn**	**21 01 51.5**	**-1.1**
ABAZ	**Army Bay**	**6.28**	**15**	P		**Pn**	**21 01 55.8**	**+2.9**
KUZ	**Kuaotunu**	**6.35**	**22**	P		**Pn**	**21 01 56.2**	**+2.3**
GRZ	**Great Barrier**	**6.75**	**18**	P		**Pn**	**21 02 02.5**	**+3.2**
WCZ	**Waipu Caves**	**6.85**	**10**	P		**Pn**	**21 02 03.9**	**+3.2**
OUZ	**Omahuta**	**7.49**	**5**	P		**Pn**	**21 02 12.7**	**+3.2**
SBA	**Scott Base**	**35.35**	**182**	P		**P**	**21 07 16.6**	**+1.5**
SBA				IAmb	IAmb		21 07 21.5	
	comp=Z,6.2nm,1.4s							
ASAR	**Alice Springs**	**37.29**	**288**	P		**P**	**21 07 31.9**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=128,slow=7.8,SNR=6.6							
ASAR				PcP	PcP		21 09 50.0	-1.7
	comp=Z,0.6nm,0.8s,baz=132,slow=3.1,SNR=2.9							
	comp=Z,1.8nm,0.9s							
WB2	**Warramunga Arr**	**39.46**	**293**	P		**P**	**21 07 49.2**	**-1.4**
WB2				IAmb	IAmb		21 07 52.9	
	comp=Z,8.7nm,1.2s							
WRA	**Warramunga Arr**	**39.47**	**293**	P		**P**	**21 07 50.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=131,slow=8.2,SNR=9.1							
WRA				LR	LR		21 23 40.0	
	comp=Z,239nm,18.9s,baz=113,slow=36							
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**39.47**	**293**	P		**P**	**21 07 51.3**	**+0.6**
KNRA	**Kununurra**	**46.23**	**292**	P		**P**	**21 08 45.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**91.05**	**294**	P		**P**	**21 13 25.9**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=126,slow=4.6,SNR=2.4							
	comp=Z,0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**123.78**	**310**	PKP		**PKPdf**	**21 19 15.8**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=126,slow=2.4,SNR=2.0							
ARCES	**ARCESS Array B**	**148.29**	**339**	PKPbc	**PKPbc**		**21 20 04.4**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=46,slow=3.9,SNR=7.1							
BRTR	**Keskin Array B**	**149.36**	**278**	PKPbc	**PKPbc**		**21 20 08.7**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=155,slow=4.5,SNR=6.0							
FINES	**FINESS Array B**	**152.72**	**325**	PKPbc	**PKPbc**		**21 20 15.0**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=57,slow=5.1,SNR=4.6							

MAN 13 21:00:58.3, 14°20N×121°73E, h32km, mb4.0, ML2.8, MS2.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LQP	**Lukban**	**0.20**	**244**	i*eP*	Pn	21 01 06.1	+0.8
LQP				*i* S	Sn	21 01 11.9	+2.3
PCPH	**Palayan**	**1.48**	**336**	i*eP*	Pn	21 01 23.1	+0.3
PCPH				*eS*	Sn	21 01 41.5	+0.4

WEL 13 21:03:40.2±0.4, 43°S±2°×17°3E±°, h14km±2km, M3.5/7, ML3.7/7, MLv3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=127.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**62**	P	Pb	21 03 46.5	-0.1
KHZ				S	Sb	21 03 50.6	-0.2
GVZ	**Greta Valley S**	**0.46**	**199**	P	Pb	21 03 50.8	+0.6
GVZ				S	Sb	21 03 58.1	+1.2
LTZ	**Lake Taylor**	**0.76**	**251**	P	Pb	21 03 55.9	+0.6
LTZ				S	Sb	21 04 06.6	+1.1
AMCZ	**Amberley**	**0.78**	**214**	P	Pn	21 03 56.9	+0.1
AMCZ				S	Sn	21 04 09.0	+0.7
THZ	**Tophouse**	**0.81**	**342**	P	Pn	21 03 56.9	-0.4
THZ				S	Sb	21 04 07.3	+0.4
OXZ	**Oxford**	**1.19**	**228**	P	Pn	21 04 02.2	-0.2
OXZ				S	Sg	21 04 19.0	+0.2
OKCZ	**Okains Bay**	**1.20**	**186**	P	Pn	21 04 02.3	-0.4
MQZ	**McQueen's Vall**	**1.25**	**200**	P	Pn	21 04 02.8	-0.5
MQZ				S	Sb	21 04 18.4	-1.2
RACZ	**Rakaia**	**1.44**	**214**	P	Pn	21 04 05.6	-0.3
RACZ				S	Sn	21 04 24.7	+0.1
WACZ	**Wakanui South**	**1.74**	**216**	P	Pn	21 04 09.9	-0.2
WACZ				S	Sn	21 04 31.7	-0.4
WVZ	**Waitaha Valley**	**1.92**	**253**	P	Pn	21 04 13.6	+1.1
WVZ				S	Sn	21 04 37.6	+1.1
RPZ	**Rata Peaks**	**1.99**	**233**	P	Pn	21 04 13.8	+0.3
RPZ				S	Sn	21 04 38.0	-0.2
ARCZ	**Arundel**	**2.07**	**226**	P	Pn	21 04 14.2	-0.4
ARCZ				S	Sn	21 04 39.9	-0.3
GCSZ	**Gaunt Creek Bo**	**2.28**	**249**	P	Pn	21 04 19.3	+1.8
GCSZ				S	Sn	21 04 46.4	+1.0
TMZ	**Timaru**	**2.46**	**221**	P	Pn	21 04 19.4	-0.6
FOZ	**Fox Glacier**	**2.70**	**247**	P	Pn	21 04 21.9	-1.4
FOZ				S	Sn	21 04 56.8	+1.1
ODZ	**Otahua Downs**	**3.14**	**216**	P	Pn	21 04 28.8	-0.4
ODZ				S	Sn	21 05 04.0	-2.5

WEL 13 21:04:29.7±0.3, 42°S±3°×17°4E±°, h11km±2km, M3.8/19, ML4.1/19, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=130.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.34**	**229**	P	Pb	21 04 37.3	-0.4
KHZ				S	Sb	21 04 42.7	-0.4
BSWZ	**Blackbirch Sta**	**0.48**	**359**	P	Pg	21 04 39.2	+0.1
BSWZ				S	Sg	21 04 46.0	+0.6
CMWZ	**Cape Campbell**	**0.51**	**29**	P	Pb	21 04 40.4	-0.2
TUWZ	**Tuamarina**	**0.76**	**3**	P	Pg	21 04 44.5	+0.1
TUWZ				S	Sb	21 04 55.6	+0.3
THZ	**Tophouse**	**0.84**	**300**	P	Pg	21 04 45.4	-0.6
THZ				S	Sg	21 04 56.0	-1.1
GVZ	**Greta Valley S**	**1.00**	**219**	P	Pn	21 04 49.5	-0.1
GVZ				S	Sn	21 05 04.3	+0.6
TCW	**Tory Channel**	**1.02**	**17**	P	Pb	21 04 49.2	-0.2
TCW				S	Sn	21 05 03.9	-0.3
NNZ	**Nelson**	**1.04**	**339**	P	Pb	21 04 48.7	-1.0
WEL	**Wellington**	**1.12**	**36**	P	Pb	21 04 51.0	-0.1
WEL				S	Sn	21 05 07.3	+0.6
MRNZ	**Matariki Terra**	**1.16**	**313**	P	Pg	21 04 52.1	+0.2
MRNZ				S	Sb	21 05 06.7	+0.1
PLWZ	**Palliser**	**1.20**	**59**	P	Pn	21 04 51.7	-0.7
MSWZ	**Moikau Station**	**1.28**	**53**	P	Pn	21 04 52.8	-0.7
MSWZ				S	Sb	21 05 10.4	+0.1
LTZ	**Lake Taylor**	**1.33**	**243**	P	Pn	21 04 53.9	-0.3
LTZ				S	Sn	21 05 11.8	0.0
DUWZ	**D'Urville Isla**	**1.39**	**1**	P	Pb	21 04 55.4	-0.3
DUWZ				S	Sg	21 05 14.1	-0.3
CAW	**Cannon Point**	**1.40**	**40**	P	Pn	21 04 54.7	-0.4
CAW				S	Sn	21 05 13.2	-0.4
PAWZ	**Paruwai Farm**	**1.41**	**55**	P	Pn	21 04 54.3	-1.0
PAWZ				S	Sn	21 05 13.7	-0.1
KIW	**Kapiti Island**	**1.54**	**30**	P	Pn	21 04 57.2	+0.2
MTW	**Mount Morrison**	**1.59**	**50**	P	Pn	21 04 56.8	-1.0
DSZ	**Denniston Nort**	**1.61**	**285**	P	Pb	21 04 59.4	-0.1
DSZ				S	Sb	21 05 20.6	+0.8
OKCZ	**Okains Bay**	**1.65**	**201**	P	Pn	21 04 58.1	-0.5
OGWZ	**Otaki Gorge**	**1.68**	**36**	P	Pn	21 04 58.5	-0.5
INZ	**Inchbonnie**	**1.88**	**253**	P	Pn	21 05 02.4	+0.7
INZ				S	Sn	21 05 25.2	-0.2
MRZ	**Mangatainoka R**	**1.99**	**40**	P	Pn	21 05 02.3	-0.9
MRZ				S	Sn	21 05 27.5	-0.7
WACZ	**Wakanui South**	**2.30**	**220**	P	Pn	21 05 06.3	-1.2
WACZ				S	Sn	21 05 33.7	-2.1
RPZ	**Rata Peaks**	**2.57**	**233**	P	Pn	21 05 09.7	-1.5
RPZ				S	Sn	21 05 40.5	-2.0
APZ	**The Paps**	**6.26**	**220**	P	Pn	21 06 00.1	-1.9
CTZ	**Chatham Island**	**7.14**	**106**	P	Pn	21 06 12.1	-1.9

WEL 13 21:08:45.3±0.4, 42°S±3°×17°4E±°, h10km±3km, M3.6/12, ML3.7/12, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=160.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**219**	P	Pg	21 08 48.5	+0.8
BSWZ	**Blackbirch Sta**	**0.31**	**263**	P	Pg	21 08 52.1	+0.5
BSWZ				S	Sb	21 08 58.0	-0.1
TUWZ	**Tuamarina**	**0.36**	**313**	P	Pb	21 08 53.5	-0.3
TUWZ				S	Sb	21 08 59.7	+0.3
TCW	**Tory Channel**	**0.47**	**359**	P	Pb	21 08 55.2	-0.3
TCW				S	Sb	21 09 02.2	-0.4
BHW	**Baring Head**	**0.51**	**58**	P	Pg	21 08 55.6	+0.4
BHW				S	Sb	21 09 04.5	+0.7
WEL	**Wellington**	**0.53**	**42**	P	Pb	21 08 56.5	-0.2
WEL				S	Sb	21 09 04.6	+0.3
PLWZ	**Palliser**	**0.73**	**82**	P	Pb	21 08 59.9	-0.2
PLWZ				S	Sb	21 09 11.3	+1.1
MSWZ	**Moikau Station**	**0.77**	**70**	P	Pb	21 09 00.5	-0.2
MSWZ				S	Sb	21 09 12.1	+0.9
CAW	**Cannon Point**	**0.81**	**46**	P	Pb	21 09 01.4	-0.1
CAW				S	Sn	21 09 14.4	-0.6
NNZ	**Nelson**	**0.83**	**304**	P	Pb	21 09 01.5	-0.2
KIW	**Kapiti Island**	**0.94**	**30**	P	Pb	21 09 03.6	-0.1
KIW				S	Sn	21 09 17.2	-0.8
THZ	**Tophouse**	**1.04**	**265**	P	Pg	21 09 04.6	-0.7
MTW	**Mount Morrison**	**1.05**	**61**	P	Pn	21 09 04.4	-1.0
MTW				S	Sb	21 09 19.2	-0.1
OGWZ	**Otaki Gorge**	**1.09**	**38**	P	Pb	21 09 05.8	-0.3
OGWZ				S	Sb	21 09 20.8	+0.4
MRNZ	**Matariki Terra**	**1.19**	**283**	P	Pb	21 09 07.8	0.0
MRNZ				S	Sn	21 09 24.5	+0.4
MRZ	**Mangatainoka R**	**1.41**	**44**	P	Pn	21 09 09.7	-1.2
MRZ				S	Sn	21 09 28.6	-0.9
LTZ	**Lake Taylor**	**1.86**	**233**	P	Pn	21 09 16.7	-0.5

WEL 13 21:10:20.5±0.4, 42°S±3°×17°4E±°, h7km±3km, M3.7/16, ML4.0/16, MLv3.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=164.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**224**	P	Pg	21 10 22.4	+0.2
CMWZ				S	Sg	21 10 26.3	+2.9
BSWZ	**Blackbirch Sta**	**0.29**	**268**	P	Pg	21 10 26.5	+0.2
BSWZ				S	Sg	21 10 31.2	+1.1
TUWZ	**Tuamarina**	**0.37**	**318**	P	Pg	21 10 28.0	+0.4
TUWZ				S	Sg	21 10 33.8	+1.3
TCW	**Tory Channel**	**0.49**	**1**	P	Pg	21 10 30.2	+0.2
TCW				S	Sb	21 10 37.8	-1.0
BHW	**Baring Head**	**0.54**	**57**	P	Pb	21 10 31.6	-0.6
WEL	**Wellington**	**0.56**	**42**	P	Pg	21 10 31.8	+0.5
WEL				S	Sb	21 10 40.6	-0.3
PLWZ	**Palliser**	**0.75**	**80**	P	Pb	21 10 35.5	-0.4
MSWZ	**Moikau Station**	**0.79**	**69**	P	Pb	21 10 36.5	0.0
MSWZ				S	Sn	21 10 48.8	-1.2
NNZ	**Nelson**	**0.83**	**306**	P	Pg	21 10 36.0	-0.4
NNZ				S	Sb	21 10 48.9	+0.5
CAW	**Cannon Point**	**0.85**	**45**	P	Pg	21 10 36.9	+0.2
PAWZ	**Paruwai Farm**	**0.93**	**70**	P	Pg	21 10 38.1	-0.1
PAWZ				S	Sn	21 10 52.8	-0.7
DUWZ	**D'Urville Isla**	**0.94**	**344**	P	Pg	21 10 38.4	0.0
DUWZ				S	Sb	21 10 51.4	-0.3
KIW	**Kapiti Island**	**0.97**	**30**	P	Pg	21 10 38.8	-0.3
KIW				S	Sb	21 10 53.2	+0.5
MTW	**Mount Morrison**	**1.08**	**60**	P	Pg	21 10 40.2	-0.8
MTW				S	Sb	21 10 56.2	+0.6
TRWZ	**Traveller**	**1.11**	**74**	P	Pg	21 10 40.3	-1.4
OGWZ	**Otaki Gorge**	**1.12**	**38**	P	Pg	21 10 41.5	-0.3
OGWZ				S	Sn	21 10 58.8	+0.6
MRNZ	**Matariki Terra**	**1.18**	**285**	P	Pg	21 10 42.6	-0.4
MRNZ				S	Sn	21 10 59.3	-0.3
HOWZ	**Holdsworth Sta**	**1.24**	**50**	P	Pb	21 10 42.6	-1.6
TMWZ	**Te Maipa**	**1.36**	**64**	P	Pn	21 10 43.7	-2.2
MRZ	**Mangatainoka R**	**1.44**	**44**	P	Pn	21 10 45.5	-1.4
MRZ				S	Sn	21 11 05.4	-0.7
TIWZ	**Tintock**	**1.53**	**53**	P	Pn	21 10 46.2	-2.1
QRZ	**Quartz Range**	**1.58**	**303**	P	Pn	21 10 48.7	-0.1
QRZ				S	Sb	21 11 09.9	-0.2
CPWZ	**Castlepoint**	**1.66**	**62**	P	Pn	21 10 47.8	-2.2
OHWZ	**Ohakea**	**1.69**	**28**	P	Pn	21 10 50.8	+0.4
PRWZ	**Pori Road**	**1.72**	**49**	P	Pn	21 10 49.1	-1.8
POWZ	**Post Office Ro**	**1.73**	**41**	P	Pn	21 10 49.6	-1.4
BFZ	**Birch Farm**	**1.81**	**56**	P	Pn	21 10 49.4	-2.6
DVHZ	**Dannevirke**	**2.01**	**46**	P	Pn	21 10 52.4	-2.4
WAZ	**Wanganui**	**2.02**	**16**	P	Pb	21 10 58.2	+0.6
TSZ	**Takapari Road**	**2.09**	**38**	P	Pn	21 10 54.2	-1.6
LREZ	**Lake Rotokare**	**2.25**	**3**	P	Pb	21 11 01.9	+0.6
NMEZ	**Namu Road**	**2.31**	**352**	P	Pb	21 11 02.3	-0.1
PNHZ	**Pukenui**	**2.31**	**40**	P	Pn	21 10 57.5	-2.0
INZ	**Inchbonnie**	**2.33**	**243**	P	Pg	21 11 04.1	+1.0
KHEZ	**Kahui Hut**	**2.42**	**355**	P	Pb	21 11 03.9	-0.4
NBEZ	**Newall Road No**	**2.45**	**353**	P	Pb	21 11 04.9	0.0
DREZ	**Durham Road**	**2.51**	**359**	P	Pb	21 11 05.6	-0.3
PKE

MRNZ	Matariki Terra	1.24	304	P		Pn	21 13 50.8	+0.9
DUWZ	D'Urville Isla	1.31	353	P		Pg	21 13 50.5	-0.6
KIW	Kapiti Island	1.37	26	P		Pn	21 13 52.1	+0.4
TKNZ	Takaka Hill	1.38	320	P		Pn	21 13 52.2	+0.4
TKNZ				S		Sb	21 14 09.9	-0.2
MTW	Mount Morrison	1.40	48	P		Pn	21 13 51.8	-0.2
OGWZ	Otaki Gorge	1.50	32	P		Pn	21 13 53.5	+0.1
AMCZ	Amberley	1.53	225	P		Pn	21 13 51.0	-2.8
LTZ	Lake Taylor	1.53	243	P		Pn	21 13 49.7	-4.2
HOWZ	Holdsworth Sta	1.59	41	P		Pn	21 13 54.5	-0.2
TMWZ	Te Maipa	1.65	54	P		Pn	21 13 55.1	-0.5
QRZ	Quartz Range	1.75	316	P		Pb	21 13 58.8	+0.3
DSZ	Denniston Nort	1.77	281	P		Pg	21 14 00.1	+0.1
OKCZ	Okains Bay	1.80	206	P		Pn	21 13 59.8	+2.2
MRZ	Mangatainoka R	1.81	38	P		Pn	21 13 57.4	-0.3
TIWZ	Tintock	1.87	45	P		Pn	21 13 58.8	+0.3
PRWZ	Pori Road	2.08	43	P		Pn	21 14 01.3	-0.1
OHWZ	Ohakea	2.10	26	P		Pn	21 14 02.7	+1.1
POWZ	Post Office Ro	2.11	36	P		Pn	21 14 01.7	-0.1
BFZ	Birch Farm	2.13	49	P		Pn	21 14 00.9	-1.2
DVHZ	Dannevirke	2.37	41	P		Pn	21 14 04.2	-1.2
TSZ	Takapari Road	2.47	35	P		Pn	21 14 06.2	-0.5
PNHZ	Pukenui	2.69	36	P		Pn	21 14 08.9	-0.9
NMEZ	Namu Road	2.69	356	P		Pn	21 14 11.5	+1.7
KHEZ	Kahui Hut	2.81	358	P		Pb	21 14 15.7	-0.9
NEZ	North Egmont	2.83	359	P		Pb	21 14 16.7	-0.2
PKE	Pukeiti	2.91	358	P		Pb	21 14 16.7	-1.6
PKVZ	Pokaka	2.96	19	P		Pb	21 14 19.3	+0.1
MOVZ	Moawhango	2.96	25	P		Pb	21 14 19.0	-0.2
TRVZ	Turoa	3.00	22	P		Pb	21 14 19.5	-0.5
VRZ	Vera Road	3.01	9	P		Pn	21 14 16.2	+2.0
WHVZ	Whangaehu Hut	3.03	22	P		Pb	21 14 20.9	+0.4
FWVZ	Far West T-bar	3.04	21	P		Pb	21 14 20.4	-0.3
TUVZ	Tukino	3.06	23	P		Pn	21 14 16.4	+1.4
NGZ	Ngauruhoe	3.13	21	P		Pb	21 14 22.0	-0.1
SNVZ	South Ngauruho	3.13	22	P		Pn	21 14 18.3	+2.3
OTVZ	Oturere	3.16	22	P		Pb	21 14 20.9	-1.8
NNVZ	North Ngauruho	3.18	21	P		Pb	21 14 23.2	+0.3
ETVZ	East Tongariro	3.20	23	P		Pb	21 14 23.5	+0.2
TMVZ	Te Maari	3.22	22	P		Pb	21 14 23.2	-0.4
TLZ	Tolley Road	3.92	16	P		Pn	21 14 28.3	+1.6
MUGZ	Murupara	4.15	30	P		Pn	21 14 29.4	-0.4
TARZ	Mount Tarawera	4.27	26	P		Pn	21 14 30.5	-1.1
TOZ	Tahuroa Road	4.49	14	P		Pn	21 14 35.2	+0.7
HHSZ	Highcliff Hill	4.56	213	P		Pn	21 14 36.4	+1.0
RUGZ	Raukumara Rang	4.95	35	P		Pn	21 14 40.6	-0.4
AWAZ	Awhitu Peninsu	5.05	5	P		Pn	21 14 44.0	+1.8
MKAZ	Moumakai	5.05	9	P		Pn	21 14 42.9	+0.7
WTAZ	Waiatarua	5.17	4	P		Pn	21 14 46.7	+2.7
ETAZ	East Tamaki Re	5.18	7	P		Pn	21 14 45.3	+1.3
PKGZ	Pakihiroa	5.19	37	P		Pn	21 14 42.9	-1.2
WIAZ	Waiheke Island	5.36	9	P		Pn	21 14 47.8	+1.3
MXZ	Matakaoa Point	5.56	37	P		Pn	21 14 46.9	-2.3
APZ	The Paps	6.45	221	P		Pn	21 15 04.6	+3.1
OUZ	Omahuta	6.88	356	P		Pn	21 15 10.5	+3.1
CTZ	Chatham Island	6.99	107	P		Pn	21 15 09.3	+0.5
ASAR	Alice Springs	38.04	286	P		P	21 20 44.7	-0.5
	0.4nm,0.5s,baz=125,slow=6.7,SNR=10							
ASAR				PcP		PcP	21 23 00.4	-0.1
	0.2nm,0.5s,baz=120,slow=3.3,SNR=1.5							
	0.4nm,0.5s							
WRA	Warramunga Arr	40.14	291	P		P	21 21 02.6	-0.2
	1.1nm,0.8s,baz=131,slow=7.6,SNR=7.4							
	1.1nm,0.8s							
FINES	FINESS Array B	152.78	326	PKPbc		PKPbc	21 33 22.2	-0.4
	1.9nm,0.9s,baz=62,slow=3.3,SNR=6.2							

WEL 13 21:17:11.7±0.4, 42°S±5°×17°4E±°, h13km±3km, M3.6/18, ML4.1/17, MLv3.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=140.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.36	213	P	Pb	21 17 20.6	+0.5
BSWZ	Blackbirch Sta	0.40	8	P	Pb	21 17 20.4	-0.3
BSWZ				S	Sb	21 17 26.6	-0.1
TUWZ	Tuamarina	0.69	9	P	Pb	21 17 25.9	+0.3
THZ	Tophouse	0.76	297	P	Pb	21 17 27.3	+0.5
THZ				S	Sb	21 17 37.8	+0.7
TCW	Tory Channel	0.97	22	P	Pg	21 17 30.7	+0.3
GVZ	Greta Valley S	1.03	213	P	Pn	21 17 32.7	+0.8
WEL	Wellington	1.10	41	P	Pn	21 17 32.8	0.0
MSWZ	Moikau Station	1.28	58	P	Pn	21 17 35.2	-0.3
LTZ	Lake Taylor	1.32	239	P	Pn	21 17 37.2	+0.1
AMCZ	Amberley	1.36	218	P	Pn	21 17 36.2	-0.4
CAW	Cannon Point	1.38	44	P	Pn	21 17 36.8	+0.1
PAWZ	Paruwai Farm	1.42	60	P	Pn	21 17 36.8	-0.5
KIW	Kapiti Island	1.50	34	P	Pn	21 17 38.6	+0.2
DSZ	Denniston Nort	1.54	283	P	Pg	21 17 41.5	+0.3
OKCZ	Okains Bay	1.70	198	P	Pn	21 17 41.1	-0.1
MQZ	McQueen's Vall	1.81	208	P	Pn	21 17 41.7	-0.9
INZ	Inchbonnie	1.85	250	P	Pn	21 17 43.5	+0.2
INZ				S	Sb	21 18 08.2	-0.4
AKCZ	Akaroa Harbour	1.88	200	P	Pn	21 17 43.3	-0.4
RACZ	Rakaia	2.03	217	P	Pn	21 17 45.4	-0.2
WACZ	Wakanui South	2.33	218	P	Pn	21 17 49.7	-0.1
RPZ	Rata Peaks	2.58	231	P	Pn	21 17 53.5	+0.3
RPZ				S	Sn	21 18 23.7	-0.9
ARCZ	Arundel	2.66	225	P	Pn	21 17 54.2	-0.2
ARCZ				S	Sn	21 18 25.9	-0.7
TMZ	Timaru	3.06	221	P	Pn	21 17 59.7	-0.2
HHSZ	Highcliff Hill	4.43	210	P	Pn	21 18 17.6	-1.0
SYZ	Scrubby Hill	5.55	216	P	Pn	21 18 34.0	0.0
CTZ	Chatham Island	7.22	106	P	Pn	21 18 55.0	-2.0

WEL 13 21:18:12.4±0.3, 42°S±2°×17°4E±°, h5km, M4.2/12, ML4.4/12, MLv4.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=128.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.37	21	P	Pg	21 18 19.9	+0.3
BSWZ				S	Sg	21 18 25.5	+1.0
CMWZ	Cape Campbell	0.50	51	P	Pg	21 18 22.2	+0.2
CMWZ				S	Sb	21 18 31.2	0.0
TUWZ	Tuamarina	0.66	16	P	Pg	21 18 25.3	+0.3
TUWZ				S	Sb	21 18 34.8	-1.0
THZ	Tophouse	0.66	297	P	Pg	21 18 25.2	+0.1
THZ				S	Sg	21 18 34.4	+0.7
TCW	Tory Channel	0.95	27	P	Pg	21 18 30.3	-0.5
TCW				S	Sg	21 18 43.5	+0.4
MRNZ	Matariki Terra	0.96	313	P	Pg	21 18 30.5	-0.4
GVZ	Greta Valley S	1.03	208	P	Pb	21 18 32.6	-0.2
GVZ				S	Sn	21 18 47.8	-0.5
WEL	Wellington	1.12	46	P	Pg	21 18 33.8	-0.1
WEL				S	Sb	21 18 49.2	+0.2
DUWZ	D'Urville Isla	1.27	8	P	Pg	21 18 36.5	-0.3
DUWZ				S	Sb	21 18 53.4	0.0
LTZ	Lake Taylor	1.28	235	P	Pg	21 18 36.3	-0.7
LTZ				S	Sn	21 18 54.3	-0.2
MSWZ	Moikau Station	1.33	62	P	Pn	21 18 35.9	-1.7
MSWZ				S	Sg	21 18 54.1	-1.0
CAW	Cannon Point	1.40	48	P	Pn	21 18 38.8	+0.2
CAW				S	Sb	21 18 56.5	-0.7
KIW	Kapiti Island	1.51	38	P	Pn	21 18 39.7	-0.4
KIW				S	Sg	21 19 01.5	+0.6
OGWZ	Otaki Gorge	1.67	42	P	Pn	21 18 41.2	-1.0
HOWZ	Holdsworth Sta	1.79	50	P	Pg	21 18 46.9	+0.1
MQZ	McQueen's Vall	1.81	205	P	Pn	21 18 41.5	-2.8
MQZ				S	Sn	21 19 03.7	-4.0

WEL 13 21:21:45.6±0.4, 42°S±3°×17°4E±°, h5km, M3.4/7, ML3.8/7, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=145.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.37	195	S	Sg	21 21 58.9	+1.1
BSWZ	Blackbirch Sta	0.38	25	P	Pg	21 21 53.4	+0.5
BSWZ				S	Sg	21 21 59.1	+1.3
THZ	Tophouse	0.64	297	P	Pg	21 21 58.3	+0.4
THZ				S	Sg	21 22 07.2	+1.0
TUWZ	Tuamarina	0.66	18	P	Pg	21 21 58.7	+0.4
TUWZ				S	Sb	21 22 08.3	-0.8
TCW	Tory Channel	0.96	29	P	Pg	21 22 03.6	-0.5
TCW				S	Sb	21 22 18.3	+0.5
WEL	Wellington	1.13	47	P	Pg	21 22 07.1	-0.2
WEL				S	Sn	21 22 23.6	-0.4
LTZ	Lake Taylor	1.26	234	P	Pg	21 22 09.0	-0.9
LTZ				S	Sn	21 22 27.1	-0.2
DUWZ	D'Urville Isla	1.27	9	P	Pg	21 22 09.3	-0.7
DUWZ				S	Sn	21 22 27.7	+0.2
MSWZ	Moikau Station	1.35	62	P	Pn	21 22 09.3	-1.8
MSWZ				S	Sb	21 22 27.9	-1.0
CAW	Cannon Point	1.42	48	S	Sb	21 22 30.8	-0.1
OGWZ	Otaki Gorge	1.68	43	P	Pn	21 22 14.5	-1.2
WNVZ	Wahianoa	3.10	29	P	Pb	21 22 40.4	-0.9
BHHZ	Black Hill Sta	3.14	36	P	Pb	21 22 41.8	-0.2
FWVZ	Far West T-bar	3.15	28	P	Pb	21 22 42.1	-0.1
PXZ	Pawanui	3.15	51	P	Pg	21 22 47.3	+1.3
TUVZ	Tukino	3.17	29	P	Pb	21 22 42.0	-0.5
SNVZ	South Ngauruho	3.24	28	P	Pb	21 22 44.0	+0.3
NNVZ	North Ngauruho	3.28	28	P	Pb	21 22 45.2	+0.9
WTVZ	West Tongariro	3.28	27	P	Pb	21 22 44.3	-0.2
ETVZ	East Tongariro	3.31	29	P	Pb	21 22 44.3	-0.5
KRVZ	Karewarewa	3.32	28	P	Pb	21 22 44.6	-0.5
TMVZ	Te Maari	3.32	29	P	Pb	21 22 44.9	-0.1
NTVZ	North Tongariro	3.33	28	P	Pb	21 22 45.0	-0.2
KWHZ	Kaweka Forest	3.36	39	P	Pb	21 22 46.9	+1.2
KATZ	Kakaramea	3.44	27	P	Pb	21 22 47.9	+0.7
RTZ	Ruatahuna	4.27	37	P	Pb	21 23 04.0	+2.8

*NEIC **13** 21:22:24.7±1.4, 10°.69N±0°.08×93°.68E±0°.07, h9km±6km, mb4.6/26, Error ellipse: s-maj=13.5km s-min=5.8km az=217.0*
*DJA **13** 21:22:24.7±0.3, 10°N±3°×9°3E±°, h10km, M4.7/12, mB5.7/2, mb4.8/12, MLv4.7/3, Mw(mB)5.3/2*
*NDI **13** 21:22:24.6±3.3, 10°.45N×93°.67E, h10km, ML3.9, mb4.6(NEIC)*
*IDC **13** 21:22:28.1±3.3, 10°.54N×93°.51E, h52km±29km, mb3.9/20, mbtmp4.1/22, ML3.6/2, MS3.9/5, Error ellipse: s-maj=19.5km s-min=12.2km az=50.0*

ISC 13 21:22:25.7±0.4, 10°.56N±0°.05×93°.41E±0°.05, h25km, n109, σ2s29/109, mb4.4/41, MS3.9/6, 1C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.27	329	Pn	Pb	21 22 49.6	+0.6
PBA				Sn	Sb	21 23 07.2	+2.3
PBA	Port Blair	1.27	329	eP	Pb	21 22 49.6	+0.6
PBA				IAML		21 23 08.3	
	comp=N,1μm,0.5s						
DGPR	DIGLIPUR	2.64	350	eP	Pb	21 23 10.3	-2.1
LHMI	Lhok Sumawe	6.35	146	Pn	Pn	21 23 57.0	-0.7
LHMI	Lhok Sumawe	6.35	146	P	Pn	21 23 58.4	+0.7
	comp=N,0.5nmcomp=N,2μmcomp=N,176nm,0.8s						
SRIT	Nakonsritamara	6.41	107	Pn	Pn	21 23 53.1	-5.4
MLSI	Meulaboh, Aceh	6.92	154	P	Pn	21 24 04.9	-0.7
	comp=N,0.4nmcomp=N,77nm,0.7s						
KCSI	Kotacane, Aceh	8.22	148	P	Pn	21 24 23.5	0.0
	comp=N,42nm,1.0s						
KULM	Kulim	8.88	126	Pn	Pn	21 24 25.0	-7.4
PSI	Prapat	9.45	144	P	Pn	21 24 41.8	+1.3
	comp=N,27nm,1.3s						
CM31	Chiang Mai Arr	9.50	34	Pn	Pn	21 24 37.5	-3.5
CMAR	Chiang Mai Arr	9.50	34	P	Pn	21 24 41.6	+0.6
	comp=N,0.2nm,0.3s,baz=228,slow=15,SNR=22						
	comp=N,4.0nm,0.8s						
CHTO	Chiang Mai	9.79	32	Pn	Pn	21 24 43.1	-1.9
GSI	Gunungsitoli	10.08	156	Pn	Pn	21 24 49.0	0.0
TRSI	Tarutung	10.11	147	P	Pn	21 24 49.9	+0.4
	comp=N,11μmcomp=N,445nm,0.4s						
VIS	Vishakhapatnam	12.09	307	eP	Pn	21 25 20.5	+4.0
VIS				eS	Sn	21 27 24.4	-6.3
VIS				IAML		21 27 43.1	
	comp=E,20nm,0.9s						
VIS				IAML		21 27 44.2	
	comp=N,25nm,1.1s						
BWNR	Bhubaneshwar	12.14	324	eP	Pn	21 25 19.3	+2.1
BWNR				eS	Sn	21 27 29.6	-2.1
RAGD	RAYAGADA	12.92	313	eP	Pn	21 25 30.5	+2.7
PALK	Pallekele	12.98	256	P	Pn	21 25 32.6	+4.0
	comp=N,0.2nm,0.3s,baz=138,slow=17,SNR=1.9						
PALK				S	Sn	21 27 44.5	-7.8
	comp=N,2.8nm,0.4s,baz=102,slow=19,SNR=1.2						
PALK				LR	LR	21 30 40.0	
	comp=N,360nm,18.1s,baz=208,slow=38						
	comp=N,0.9nm,0.3s						
PALK	Pallekele	12.98	256	Pn	Pn	21 25 33.2	+4.5
TPRI	Tanjung Pinang	14.62	130	P	Pn	21 25 53.1	+2.0
	comp=N,42nm,1.1s						
SALM	Salem	14.97	276	eP	Pn	21 25 58.8	+3.0
SALM				eS	Sn	21 28 34.9	-6.0
SHL	Shillong	15.00	355		P	21 25 59.3	-2.3
TNCH	TengChong	15.19	18	⇑P	Pn	21 26 00.0	+1.2
TNCH				pP	P	21 26 02.3	-1.3
TNCH				sP	pP	21 26 05.6	-4.5
TNCH				PP	sP	21 26 12.3	-0.9
TNCH				S	Sn	21 28 48.8	+2.4
TNCH				pmax	pmax		
	comp=Z,23nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,130nm,5.6s						
TNCH				LR	LR		
	comp=N,180nm,16.4s						
TNCH				LR	LR		
	comp=E,130nm,12.1s						
TNCH				LR	LR		
	comp=Z,420nm,16.7s						
KOD	Kodaikanal	15.69	270	eS	Sn	21 28 52.4	-6.5
MASI	Maura Aman, Be	16.20	147	P	Pn	21 26 11.6	-0.3
	comp=Z,34nm,1.0s						
PCHI	Peechi	16.78	271	eP	P	21 26 23.8	+2.6
PCHI				eS	Sn	21 29 17.7	-7.4
KMI	Kunming	16.98	30	⇓P	P	21 26 24.8	+1.3
KMI				pP	pwP	21 26 32.4	+0.5
KMI				sP	sP	21 26 37.3	+4.3
KMI				pmax	pmax		
	comp=Z,19μm,3.5s						
NGP	Nagpur	17.36	309	eP	P	21 26 31.7	+4.1
RAMN	Ramite	17.52	339	eP	P	21 26 33.0	+3.4
	comp=Z,34nm,0.8s						
TAPN	Taplejung	17.55	343	eP	P	21 26 32.9	+3.0
	comp=Z,30nm,0.9s						
PZH	PanZhiHua	17.70	25	P	P	21 26 32.9	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,120nm,4.3s						
JIRN	Jiri	18.32	339	eP	Pn	21 26 41.5	+3.0
	comp=Z,24nm,0.9s						
PKI	Pulchoki	18.52	337	eP	Pn	21 26 43.0	+2.0
	comp=Z,58nm,1.0s						
PKIN	Phulchoki	18.53	337	eP	Pn	21 26 44.6	+3.5
	comp=Z,38nm,0.9s						
GUN	Gumba	18.66	339	eP	Pn	21 26 45.8	+3.2
	comp=Z,38nm,1.1s						
LSA	Lhasa	19.16	354	P	Pn	21 26 48.3	-0.5
GKN	Gorkha	19.21	336	eP	Pn	21 26 50.2	+1.0
	comp=Z,19nm,0.8s						
DANN	Dangsing	19.88	334	eP	Pn	21 26 57.8	+0.5
	comp=Z,56nm,1.3s						
SBUM	Sibu	20.33	112	P	P	21 26 56.7	-3.6
SBUM	Sibu	20.33	112	P	Pn	21 27 03.0	+0.6
	comp=Z,8.8nm,1.1s						
ENH	Enshi	24.67	35	P	P	21 27 42.6	-2.1
BBKI	Banjar Baru	25.48	122	P	P	21 27 58.3	+6.2
GOMU	GeErMu	25.55	3	P	P	21 27 52.4	-0.6
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GOMU				LR	LR		
	comp=N,270nm,20.5s						
GOMU				LR	LR		
	comp=E,95nm,19.4s						
GOMU				LR	LR		
	comp=Z,300nm,21.9s						
XAN	Xi'an	27.35	29	⇓P	P	21 28 06.8	-2.1
XAN				pP	sP	21 28 16.9	-2.0
XAN				sP	pwP	21 28 21.6	+5.6
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				LR	LR		
	comp=E,330nm,17.2s						
XAN				LR	LR		
	comp=Z,410nm,23.4s						
H08S3	Diego Garcia H	27.58	230	T	T	21 57 10.8	
	baz=48,slow=76						
H08S2	Diego Garcia H	27.58	230	T	T	21 57 11.1	
	baz=48,slow=76						
H08S1	Diego Carcia H	27.60	230	T	T	21 57 12.4	
	baz=48,slow=76						
GTA	Gaotai	29.29	10	eP	P	21 28 26.8	+0.5
GTA				sP	sP	21 28 41.3	+4.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.8s						
NIL	Nilore	29.50	324	P	P	21 28 29.2	+1.2
NIL				IAmb	IAmb	21 28 38.6	
	comp=Z,12nm,1.1s						
KAPI	Kappang	30.45	119	P	P	21 28 36.7	+0.1
	comp=Z,2.3nm,0.6s,baz=270,slow=15,SNR=2.3						
	comp=Z,2.3nm,0.6s						
BKSI	Bulukumba	30.92	119	P	P	21 28 42.5	+1.7
	comp=Z,38nm,0.9s						
NJ2	Nanjing	31.77	44	eP	P	21 28 49.5	+1.4
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HNS	HongShan	32.89	32	⇓P	P	21 28 57.8	0.0
HNS				pmax	pmax		
	comp=Z,12nm,0.8s						
TIA	Tai'an	33.37	36	P	P	21 29 01.8	-0.2
TIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TARG	Taragay, Kyrgy	33.94	339	P	P	21 29 07.9	+0.4
TARG				IAmb	IAmb	21 29 18.1	
	comp=Z,13nm,1.2s						
NRN	Naryn	34.36	337	P	P	21 29 11.6	+0.7
NRN				IAmb	IAmb	21 29 20.6	
	comp=Z,7.2nm,1.1s						
DRK	Karamyk	34.63	330	P	P	21 29 12.7	-0.6
GAR	Garm	35.03	328	P	P	21 29 17.1	+0.6
CHGR	Chuyangaron	35.40	326	P	P	21 29 20.8	+1.1
BTK	Batken	35.56	330	P	P	21 29 21.5	+0.4
AAK	Ala-Archa	35.98	336	P	P	21 29 23.6	-1.1
AAK				IAmb	IAmb	21 29 39.9	
	comp=Z,15nm,1.2s						
BATI	Baumata	36.48	123	P	P	21 29 27.9	-1.3
	comp=Z,9.5nm,0.4s,baz=266,slow=13,SNR=2.9						
	comp=Z,9.5nm,0.4s						
SOEI	Soe	36.73	122	P	P	21 29 39.0	+7.6
MKAR	Makanchi Array	37.33	347	P	P	21 29 35.1	-0.9
	comp=Z,2.4nm,0.7s,baz=142,slow=6.1,SNR=9.3						
	comp=Z,2.4nm,0.7s						
MKAR	Makanchi Array	37.33	347	P	P	21 29 34.5	-1.5
KK31	Karatay Array	38.06	332	P	P	21 29 42.8	+0.6
KK31				IAmb	IAmb	21 29 51.8	
	comp=Z,9.0nm,1.1s						
KKAR	Karatay Array	38.06	332	P	P	21 29 43.4	+1.1
SONM	Songino Array	38.73	14	P	P	21 29 47.4	-0.5
	comp=Z,1.1nm,0.7s,baz=198,slow=8.7,SNR=10						
SONM				PcP	PcP	21 31 58.5	-0.9
	comp=Z,0.6nm,0.9s,baz=198,slow=3.8,SNR=1.5						
	comp=Z,1.1nm,0.7s						
SONM	Songino Array	38.73	14	P	P	21 29 47.2	-0.7
KSAR	Wonju Array Be	40.94	43	P	P	21 30 05.0	-1.2
KSRS	Korea Array	40.97	43	P	P	21 30 05.1	-1.4
	comp=Z,3.6nm,0.9s,baz=254,slow=8.9,SNR=11						
	comp=Z,3.6nm,0.9s						
GEYT	Alibeck	41.75	317	P	P	21 30 15.4	+2.4
	comp=Z,6.9nm,0.7s,baz=142,slow=7.5,SNR=17						
GEYT				LR	LR	21 47 38.8	
	comp=Z,237nm,19.5s,baz=76,slow=36						
GEYT	Alibeck	41.75	317	P	P	21 30 14.6	+1.6
GEYT				IAmb	IAmb	21 30 32.7	
	comp=Z,14nm,1.1s						
GYA0B	ALIBECK ARRAY	41.75	317	P	P	21 30 15.5	+2.5
GYA0B				IAmb	IAmb	21 30 32.6	
	comp=Z,10nm,0.7s						
KURK	Kurchatov	41.85	346	P	P	21 30 13.2	-0.3
ZAA0	Zalesovo Array	43.82	353	P	P	21 30 29.1	-0.4
ZAA0				IAmb	IAmb	21 30 30.6	
	comp=Z,11nm,0.9s						
ZALV	Zalesovo Beam	43.82	353	P	P	21 30 29.4	0.0
	comp=Z,4.4nm,0.4s,baz=174,slow=8.8,SNR=41						
	comp=Z,4.4nm,0.4s						
ZALV	Zalesovo Beam	43.82	353	P	P	21 30 28.7	-0.7
ABKAR	Akbulak array	47.55	331	P	P	21 30 59.8	+0.8
MJAR	Matsushiro Arr	47.94	50	P	P	21 31 01.1	-1.2
	comp=Z,0.5nm,0.4s,baz=160,slow=8.5,SNR=2.5						
	comp=Z,0.5nm,0.4s						
WB0	Warramunga Arr	50.36	127	P	P	21 31 20.5	-0.6
WB0				IAmb	IAmb	21 31 25.9	
	comp=Z,6.8nm,0.6s						
WRA	Warramunga Arr	50.42	127	P	P	21 31 18.5	-3.0
	comp=Z,0.8nm,0.5s,baz=304,slow=8.7,SNR=8.3						
WRA				LR	LR	21 53 30.6	
	comp=Z,110nm,18.5s,baz=88,slow=37						
	comp=Z,0.8nm,0.5s						
WRA	Warramunga Arr	50.42	127	P	P	21 31 24.9	+3.4
WB2	Warramunga Arr	50.43	127	P	P	21 31 25.1	+3.6
WB2				IAmb	IAmb	21 31 26.1	
	comp=Z,6.0nm,0.6s						
WR0	Warramunga Arr	50.59	127	P	P	21 31 25.0	+2.3
WR0				IAmb	IAmb	21 31 34.2	
	comp=Z,10nm,1.2s						
GNI	Garni	52.07	313	LR	LR	21 57 15.8	
	comp=Z,106nm,18.3s,baz=84,slow=40						
AS31	Alice Springs	52.20	131	P	P	21 31 36.5	+1.7
ASAR	Alice Springs	52.20	131	P	P	21 31 32.0	-2.8
	comp=Z,1.4nm,0.8s,baz=314,slow=7.9,SNR=21						
	comp=Z,1.4nm,0.8s						
ASAR	Alice Springs	52.20	131	P	P	21 31 35.4	+0.6
KBZ	Khabaz	54.64	317	P	P	21 31 51.8	-0.6
	comp=Z,2.4nm,0.8s,baz=152,slow=8.8,SNR=3.1						
	comp=Z,2.4

BHW	**Baring Head**	**0.85**	**48**	P	Pn	21 22 54.3	-0.2
BHW				S	Sn	21 23 07.3	+0.6
WEL	**Wellington**	**0.89**	**39**	P	Pn	21 22 55.2	+0.2
WEL				S	Sn	21 23 08.8	+1.2
PLWZ	**Palliser**	**1.01**	**66**	P	Pb	21 22 55.4	-0.7
MSWZ	**Moikau Station**	**1.07**	**59**	P	Pb	21 22 55.6	-1.6
MSWZ				S	Sb	21 23 09.2	-2.0
CAW	**Cannon Point**	**1.17**	**42**	P	Pn	21 22 55.5	-3.3
DUWZ	**D'Urville Isla**	**1.18**	**356**	P	Pb	21 22 59.3	+0.2
DUWZ				S	Sg	21 23 16.1	+1.2
KIW	**Kapiti Island**	**1.30**	**31**	P	Pn	21 22 59.2	-1.4
KIW				S	Sg	21 23 20.1	+1.4
TRWZ	**Traveller**	**1.37**	**66**	P	Pn	21 22 59.8	-1.8
MTW	**Mount Morrison**	**1.38**	**54**	P	Pn	21 23 00.4	-1.3
OGWZ	**Otaki Gorge**	**1.45**	**37**	P	Pn	21 23 01.7	-0.9
HOWZ	**Holdsworth Sta**	**1.56**	**47**	P	Pn	21 23 02.8	-1.4
HOWZ				S	Sn	21 23 22.4	-1.8
DSZ	**Denniston Nort**	**1.68**	**277**	P	Pg	21 23 08.6	-0.4
DSZ				S	Sg	21 23 31.2	+0.4

WEL 13 21:26:44.1±0.5,42°S±2°×17°4E±°,h6km±3km,M4.0/73, ML4.2/13,MLv4.0/73,Error ellipse: s-maj=0.0km s-min=0.0km az=166.6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**154**	P	Pg	21 26 45.7	+0.1
CMWZ				S	Sg	21 26 47.8	+1.2
BSWZ	**Blackbirch Sta**	**0.23**	**267**	P	Pg	21 26 49.2	+0.6
BSWZ				S	Sg	21 26 53.6	+1.9
TUWZ	**Tuamarina**	**0.33**	**327**	P	Pb	21 26 51.4	-0.9
TUWZ				S	Sb	21 26 56.9	-0.9
TCW	**Tory Channel**	**0.50**	**8**	P	Pg	21 26 54.0	+0.4
TCW				S	Sb	21 27 01.9	-0.8
BHW	**Baring Head**	**0.59**	**61**	P	Pg	21 26 55.5	0.0
WEL	**Wellington**	**0.61**	**47**	P	Pg	21 26 56.0	+0.2
WEL				S	Sb	21 27 05.4	-0.5
NNZ	**Nelson**	**0.78**	**309**	P	Pg	21 26 59.2	+0.2
NNZ				S	Sb	21 27 10.5	-0.2
PLWZ	**Palliser**	**0.81**	**81**	P	Pg	21 27 00.0	+0.3
PLWZ				S	Sb	21 27 12.7	+0.8
MSWZ	**Moikau Station**	**0.85**	**71**	P	Pg	21 27 00.6	+0.2
MSWZ				S	Sb	21 27 13.9	+0.9
KHZ	**Kahutara**	**0.86**	**214**	P	Pg	21 27 00.8	+0.2
KHZ				S	Sn	21 27 14.5	-1.1
CAW	**Cannon Point**	**0.89**	**48**	P	Pg	21 27 01.0	-0.2
CAW				S	Sb	21 27 13.6	-0.6
DUWZ	**D'Urville Isla**	**0.92**	**348**	P	Pg	21 27 01.8	0.0
THZ	**Tophouse**	**0.96**	**266**	P	Pg	21 27 02.6	+0.1
PAWZ	**Paruwai Farm**	**0.99**	**71**	P	Pg	21 27 02.3	-0.7
PAWZ				S	Sb	21 27 17.4	+0.4
KIW	**Kapiti Island**	**1.00**	**33**	P	Pg	21 27 02.9	-0.5
MRNZ	**Matariki Terra**	**1.11**	**285**	P	Pb	21 27 05.7	0.0
MTW	**Mount Morrison**	**1.13**	**62**	P	Pg	21 27 04.5	-1.3
TKNZ	**Takaka Hill**	**1.14**	**306**	P	Pg	21 27 05.6	-0.3
OGWZ	**Otaki Gorge**	**1.16**	**40**	P	Pg	21 27 05.5	-0.8
TRWZ	**Traveller**	**1.17**	**75**	P	Pg	21 27 04.4	-2.1
HOWZ	**Holdsworth Sta**	**1.29**	**52**	P	Pn	21 27 06.9	-1.7
TMWZ	**Te Maipa**	**1.29**	**66**	P	Pn	21 27 08.3	-2.4
MRZ	**Mangatainoka R**	**1.48**	**46**	P	Pn	21 27 09.6	-1.7
QRZ	**Quartz Range**	**1.52**	**305**	P	Pb	21 27 12.4	-0.4
TIWZ	**Tintock**	**1.58**	**55**	P	Pn	21 27 11.4	-1.3
CPWZ	**Castlepoint**	**1.71**	**63**	P	Pn	21 27 12.7	-1.8
OHWZ	**Ohakea**	**1.72**	**30**	P	Pn	21 27 15.1	+0.5
PRWZ	**Pori Road**	**1.77**	**50**	P	Pn	21 27 13.6	-1.7
POWZ	**Post Office Ro**	**1.77**	**43**	P	Pn	21 27 14.0	-1.3
BFZ	**Birch Farm**	**1.86**	**57**	P	Pn	21 27 13.8	-2.7
WAZ	**Wanganui**	**2.04**	**18**	P	Pb	21 27 22.0	+0.5
DVHZ	**Dannevirke**	**2.05**	**48**	P	Pn	21 27 16.8	-2.4
TSZ	**Takapari Road**	**2.12**	**40**	P	Pn	21 27 18.7	-1.5
LREZ	**Lake Rotokare**	**2.25**	**4**	P	Pb	21 27 25.1	+0.1
PRHZ	**Porangahau**	**2.35**	**53**	P	Pn	21 27 20.3	-2.9
PNHZ	**Pukenui**	**2.35**	**41**	P	Pn	21 27 21.5	-1.8
WPHZ	**Waipukurau**	**2.37**	**47**	P	Pn	21 27 21.4	-2.1
KHEZ	**Kahui Hut**	**2.41**	**357**	P	Pb	21 27 27.9	0.0
NEZ	**North Egmont**	**2.43**	**358**	P	Pb	21 27 27.7	-0.6
NBEZ	**Newall Road No**	**2.44**	**354**	P	Pb	21 27 28.4	-1.0
DREZ	**Durham Road**	**2.51**	**0**	P	Pb	21 27 28.5	-1.1
PKE	**Pukeiti**	**2.51**	**357**	P	Pb	21 27 27.8	-1.8
MTVZ	**Mangateitei**	**2.52**	**23**	P	Pb	21 27 30.0	+0.3
MOVZ	**Moawhango**	**2.59**	**28**	P	Pn	21 27 26.1	-0.4
WNVZ	**Wahianoa**	**2.61**	**25**	P	Pn	21 27 27.0	+0.1
VRZ	**Vera Road**	**2.61**	**10**	P	Pn	21 27 28.3	+1.5
TRVZ	**Turoa**	**2.62**	**24**	P	Pn	21 27 28.4	+1.3
PXZ	**Pawanui**	**2.63**	**51**	P	Pn	21 27 24.0	-3.1
BHHZ	**Black Hill Sta**	**2.63**	**34**	P	Pn	21 27 26.5	-0.7
DRZ	**Dome Shelter**	**2.64**	**24**	P	Pb	21 27 31.6	-0.4
WHVZ	**Whangaehu Hut**	**2.64**	**24**	P	Pn	21 27 27.9	+0.4
FWVZ	**Far West T-bar**	**2.66**	**24**	P	Pn	21 27 28.3	+0.6
TUVZ	**Tukino**	**2.68**	**25**	P	Pn	21 27 28.8	+0.9
NGZ	**Ngauruhoe**	**2.75**	**24**	P	Pb	21 27 33.8	+0.1
SNVZ	**South Ngauruho**	**2.75**	**24**	P	Pn	21 27 29.4	+0.5
OTVZ	**Oturere**	**2.78**	**25**	P	Pb	21 27 32.6	-1.6
NNVZ	**North Ngauruho**	**2.79**	**24**	P	Pn	21 27 30.6	+1.2
KAHZ	**Kahuranaki**	**2.80**	**48**	P	Pn	21 27 26.6	-2.8
WTVZ	**West Tongariro**	**2.80**	**23**	P	Pb	21 27 34.0	-0.6
ETVZ	**East Tongariro**	**2.82**	**25**	P	Pn	21 27 30.4	+0.7
KRVZ	**Karewarewa**	**2.83**	**24**	P	Pn	21 27 32.5	+2.5
TMVZ	**Te Maari**	**2.83**	**25**	P	Pn	21 27 30.0	0.0
NTVZ	**North Tongariro**	**2.84**	**24**	P	Pn	21 27 30.2	+0.1
KWHZ	**Kaweka Forest**	**2.84**	**38**	P	Pb	21 27 35.9	+0.6
KATZ	**Kakaramea**	**2.96**	**23**	P	Pb	21 27 36.5	-0.8
RITZ	**Rihia Road**	**3.01**	**26**	P	Pb	21 27 38.0	-0.1
HATZ	**Hinemaiaia**	**3.17**	**28**	P	Pb	21 27 40.3	-0.4
HIZ	**Hauiti**	**3.23**	**9**	P	Pb	21 27 39.0	-2.8
MRHZ	**Matea Rd**	**3.34**	**32**	P	Pn	21 27 34.6	-2.2
TLZ	**Tolley Road**	**3.53**	**18**	P	Pn	21 27 40.3	+0.9
TOZ	**Tahuroa Road**	**4.09**	**15**	P	Pn	21 27 48.1	+0.8
RUGZ	**Raukumara Rang**	**4.60**	**37**	P	Pn	21 27 51.6	-2.7
AWAZ	**Awhitu Peninsu**	**4.65**	**5**	P	Pn	21 27 57.1	+2.3
MKAZ	**Moumakai**	**4.66**	**10**	P	Pn	21 27 55.2	+0.3
WTAZ	**Waiatarua**	**4.77**	**66**	P	Pn	21 28 01.8	+4.9
HAZ	**Te Kaha**	**4.82**	**36**	P	Pn	21 27 54.9	-2.3
PKGZ	**Pakihiroa**	**4.85**	**39**	P	Pn	21 27 54.6	-3.0

WEL 13 21:31:42.3±0.6,42°S±3°×17°4E±°,h5km,M3.3/6,ML3.5/6, MLv3.3/6,Error ellipse: s-maj=0.0km s-min=0.0km az=155.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**191**	P	Pg	21 31 48.3	+0.5
BSWZ	**Blackbirch Sta**	**0.47**	**25**	P	Pg	21 31 51.5	+0.3
BSWZ				S	Sg	21 31 58.5	+1.1
CMWZ	**Cape Campbell**	**0.59**	**49**	P	Pb	21 31 54.6	-0.5
THZ	**Tophouse**	**0.65**	**305**	P	Pg	21 31 55.1	+0.4
THZ				S	Sg	21 32 04.1	+1.1
TUWZ	**Tuamarina**	**0.75**	**19**	P	Pg	21 31 56.7	0.0
TUWZ				S	Sb	21 32 08.4	+0.1
NNZ	**Nelson**	**0.94**	**349**	P	Pg	21 32 00.0	-0.2
TCW	**Tory Channel**	**1.05**	**29**	P	Pg	21 32 01.9	-0.5
TKNZ	**Takaka Hill**	**1.21**	**336**	P	Pg	21 32 05.1	-0.3
TKNZ				S	Sg	21 32 20.7	-0.3
WEL	**Wellington**	**1.22**	**46**	P	Pg	21 32 03.8	-1.8
WEL				S	Sn	21 32 23.1	+0.4

WEL 13 21:32:20.8±0.3,43°S±2°×17°3E±°,h13km±2km,M3.3/14, ML3.5/14,MLv3.3/14,Error ellipse: s-maj=0.0km s-min=0.0km az=121.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.30**	**165**	P	Pb	21 32 28.4	+0.4
GVZ				S	Sb	21 32 34.1	+1.2
LTZ	**Lake Taylor**	**0.50**	**258**	P	Pb	21 32 31.4	-0.1
LTZ				S	Sb	21 32 38.6	0.0
AMCZ	**Amberley**	**0.54**	**202**	P	Pn	21 32 33.2	-1.0
AMCZ				S	Sn	21 32 42.2	-0.9
THZ	**Tophouse**	**0.92**	**359**	P	Pg	21 32 37.8	-0.8
THZ				S	Sg	21 32 47.8	-2.7
OXZ	**Oxford**	**0.92**	**225**	P	Pn	21 32 39.1	-0.4
OXZ				S	Sn	21 32 52.2	-0.3
MQZ	**McQueen's Vall**	**1.05**	**191**	P	Pb	21 32 40.4	-0.4
MQZ				S	Sg	21 32 54.7	+0.1
OKCZ	**Okains Bay**	**1.05**	**175**	P	Pg	21 32 41.0	0.0
AKCZ	**Akaroa Harbour**	**1.19**	**181**	P	Pn	21 32 42.4	-0.8
AKCZ				S	Sb	21 32 58.4	-0.2

RACZ	**Rakaia**	**1.20**	**209**	P	Pn	21 32 42.6	-0.6
RACZ				S	Sb	21 32 58.9	+0.2
DSZ	**Denniston Nort**	**1.25**	**318**	P	Pn	21 32 44.2	+0.1
DSZ				S	Sg	21 33 01.4	+0.1
TUWZ	**Tuamarina**	**1.46**	**31**	P	Pn	21 32 47.2	+0.4
WACZ	**Wakanui South**	**1.49**	**212**	P	Pn	21 32 46.9	-0.4
WACZ				S	Sn	21 33 06.1	-0.5
NNZ	**Nelson**	**1.50**	**13**	P	Pn	21 32 47.7	+0.4
NNZ				S	Sb	21 33 07.7	+0.3
WVZ	**Waitaha Valley**	**1.66**	**256**	P	Pn	21 32 50.2	+0.6
WVZ				S	Sn	21 33 11.4	+0.6
ARCZ	**Arundel**	**1.80**	**225**	P	Pn	21 32 50.2	-1.3
ARCZ				S	Sn	21 33 13.7	-0.6
GCSZ	**Gaunt Creek Bo**	**2.02**	**251**	P	Pn	21 32 55.7	+1.2
GCSZ				S	Sn	21 33 19.9	+0.4
TMZ	**Timaru**	**2.21**	**219**	P	Pn	21 32 57.0	-0.1
ODZ	**Otahua Downs**	**2.89**	**214**	P	Pn	21 33 05.8	-0.6

WEL 13 21:35:13.7±0.3,42°S±2°×17°4E±°,h17km±2km,M3.8/22, ML4.2/15,MLv3.8/22,Error ellipse: s-maj=0.0km s-min=0.0km az=113.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**188**	P	Pb	21 35 19.5	+0.9
KHZ				S	Sb	21 35 23.0	+1.2
BSWZ	**Blackbirch Sta**	**0.57**	**23**	P	Pb	21 35 25.2	+0.1
BSWZ				S	Sb	21 35 33.6	+0.8
CMWZ	**Cape Campbell**	**0.68**	**45**	P	Pn	21 35 28.6	+0.1
CMWZ				S	Sn	21 35 38.9	+0.2
THZ	**Tophouse**	**0.69**	**313**	P	Pg	21 35 27.0	-0.2
THZ				S	Sb	21 35 36.5	0.0
GVZ	**Greta Valley S**	**0.83**	**208**	P	Pn	21 35 31.3	+0.7
GVZ				S	Sn	21 35 44.1	+1.6
TUWZ	**Tuamarina**	**0.85**	**19**	P	Pg	21 35 30.3	0.0
TUWZ				S	Sg	21 35 42.1	+0.6
NNZ	**Nelson**	**1.03**	**352**	P	Pb	21 35 32.9	-0.1
NNZ				S	Sg	21 35 47.1	0.0
MRNZ	**Matariki Terra**	**1.03**	**324**	P	Pb	21 35 32.9	-0.2
MRNZ				S	Sb	21 35 46.6	+0.2
LTZ	**Lake Taylor**	**1.11**	**240**	P	Pn	21 35 34.6	+0.2
LTZ				S	Sn	21 35 49.0	-0.2
TCW	**Tory Channel**	**1.15**	**27**	P	Pn	21 35 34.9	-0.1
TCW				S	Sg	21 35 51.2	+0.2
AMCZ	**Amberley**	**1.16**	**216**	P	Pb	21 35 35.4	+0.1
TKNZ	**Takaka Hill**	**1.29**	**339**	P	Pb	21 35 37.9	+0.5
TKNZ				S	Sb	21 35 52.9	-0.7
WEL	**Wellington**	**1.30**	**44**	P	Pn	21 35 37.2	+0.2
DSZ	**Denniston Nort**	**1.41**	**290**	P	Pb	21 35 40.0	+0.5
DSZ				S	Sg	21 35 58.2	-0.9
OKCZ	**Okains Bay**	**1.53**	**194**	P	Pn	21 35 40.2	-0.1
OKCZ				S	Sn	21 35 59.7	-0.1
OXZ	**Oxford**	**1.57**	**226**	P	Pn	21 35 40.2	-0.5
MQZ	**McQueen's Vall**	**1.62**	**204**	P	Pn	21 35 40.5	-0.9
MQZ				S	Sn	21 36 00.9	-0.9
INZ	**Inchbonnie**	**1.65**	**252**	P	Pb	21 35 42.9	-0.7
INZ				S	Sb	21 36 03.8	-0.2
AKCZ	**Akaroa Harbour**	**1.71**	**196**	P	Pn	21 35 42.2	-0.4
AKCZ				S	Sn	21 36 04.2	-0.1
RACZ	**Rakaia**	**1.82**	**215**	P	Pn	21 35 43.5	-0.7
OGWZ	**Otaki Gorge**	**1.86**	**41**	P	Pn	21 35 44.7	+0.1
OGWZ				S	Sn	21 36 07.4	-0.2
WACZ	**Wakanui South**	**2.13**	**216**	P	Pn	21 35 46.6	-1.8
WACZ				S	Sn	21 36 13.9	-0.4
WVZ	**Waitaha Valley**	**2.25**	**247**	P	Pn	21 35 50.9	+0.8
WVZ				S	Sn	21 36 17.9	+0.4
RPZ	**Rata Peaks**	**2.37**	**231**	P	Pn	21 35 50.7	-1.0
ARCZ	**Arundel**	**2.45**	**225**	P	Pn	21 35 52.3	-0.6
GCSZ	**Gaunt Creek Bo**	**2.62**	**245**	P	Pn	21 35 55.9	+0.7
GCSZ				S	Sn	21 36 27.0	+0.4
FOZ	**Fox Glacier**	**3.05**	**244**	P	Pn	21 36 02.2	+1.2
ODZ	**Otahua Downs**	**3.52**	**216**	P	Pn	21 36 06.6	-0.9
JCZ	**Jackson Bay**	**3.96**	**241**	P	Pn	21 36 13.1	-0.5
HHSZ	**Highcliff Hill**	**4.23**	**209**	P	Pn	21 36 16.5	-0.8
EAZ	**Earnscleugh**	**4.30**	**224**	P	Pn	21 36 17.8	-0.5
MLZ	**Mavora Lakes**	**5.04**	**230**	P	Pn	21 36 28.1	-0.3
SYZ	**Scrubby Hill**	**5.35**	**215**	P	Pn	21 36 32.1	-0.5
APZ	**The Paps**	**6.09**	**219**	P	Pn	21 36 42.8	0.0

IDC 13 21:35:59.5±2.9,41°81S×174°01E,h0km,mb3.6/2, mbtmp3.6/2,Error ellipse: s-maj=203.7km s-min=50.4km az=7.0

WEL 13 21:36:03.4±0.6,42°S±4°×17°4E±°,h8km±3km,M4.0/10, ML4.3/10,MLv4.0/10,Error ellipse: s-maj=0.0km s-min=0.0km az=153.6

ISC 13 21:36:04.0±1.1,41°96S±0°04×173°89E±0°04,h12km±7km, n19,σ1s49/27,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.25**	**358**	P	Pg	21 36 09.6	+0.4
BSWZ				S	Sb	21 36 14.3	+1.6
CMWZ	**Cape Campbell**	**0.32**	**49**	P	Pb	21 36 11.3	-0.3
CMWZ				S	Sb	21 36 17.8	+1.0
KHZ	**Kahutara**	**0.52**	**210**	P	Pg	21 36 13.5	-0.7
TUWZ	**Tuamarina**	**0.53**	**5**	P	Pg	21 36 13.1	-1.3
THZ	**Tophouse**	**0.76**	**285**	S	Pg	21 36 29.0	+0.4
TCW	**Tory Channel**	**0.81**	**21**	P	Pg	21 36 19.3	-0.3
TCW				S	Sb	21 36 32.0	+1.4
NNZ	**Nelson**	**0.83**	**333**	P	Pg	21 36 17.7	-2.4
NNZ				S	Sn	21 36 33.8	+0.1
WEL	**Wellington**	**0.94**	**45**	P	Pb	21 36 22.2	-0.1
WEL				S	Sn	21 36 36.9	+0.5
MRNZ	**Matariki Terra**	**1.01**	**303**	P	Pn	21 36 24.6	+0.6
DUWZ	**D'Urville Isla**	**1.16**	**1**	P	Pb	21 36 25.6	-0.3
DUWZ				S	Sb	21 36 42.0	+1.1
TKNZ	**Takaka Hill**	**1.16**	**323**	P	Pb	21 36 26.1	+0.1
TKNZ				S	Sb	21 36 42.2	+1.4
KIW	**Kapiti Island**	**1.34**	**35**	P	Pn	21 36 27.8	-0.7
OGWZ	**Otaki Gorge**	**1.50**	**41**	P	Pn	21 36 29.5	-1.1
OGWZ				S	Sn	21 36 49.3	-0.7
DSZ	**Denniston Nort**	**1.57**	**277**	S	Sg	21 36 54.3	-0.2
ASAR	**Alice Springs**	**37.83**	**286**	P	P	21 43 18.1	-2.4
	0.5nm,0.5s,baz=128,slow=7.8,SNR=8.5 0.5nm,0.5s						
WRA	**Warramunga Arr**	**39.92**	**291**	P	P	21 43 35.7	-2.3
	0.7nm,0.6s,baz=130,slow=7.4,SNR=7.2 0.7nm,0.6s						
ARCES	**ARCESS Array B**	**147.88**	**340**	PKPbc	PKPdf	21 55 44.9	+0.3
	5.7nm,1.0s,baz=36,slow=3.4,SNR=2.5						
BRTR	**Keskin Array B**	**150.03**	**279**	PKPbc	PKPdf	21 55 51.8	+2.6
	0.7nm,0.9s,baz=108,slow=4.0,SNR=3.5						
FINES	**FINESS Array B**	**152.56**	**326**	PKPbc	PKPdf	21 55 55.8	+3.7
	1.6nm,0.9s,baz=41,slow=2.6,SNR=3.8						

NEIC 13 21:37:50.2±1.9,42°05S±0°03×174°48E±0°05,h10km±2km, mb4.1/5,Error ellipse: s-maj=6.2km s-min=5.1km az=287.0

WEL 13 21:37:55.1±0.3,42°S±2°×17°4E±°,h6km±2km,M3.6/18, ML4.0/18,MLv3.6/18,Error ellipse: s-maj=0.0km s-min=0.0km az=158.0

IDC 13 21:38:02.9±1.4,42°09S×172°44E,h0km,mb3.9/4, mbtmp3.9/4,Error ellipse: s-maj=40.2km s-min=24.1km az=93.0

ISC 13 21:37:54.8±0.8,41°66S±0°03×174°34E±0°02,h18km±4km, n55,σ0s79/70,mb4.1/7,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**226**	P	Pg	21 37 58.3	-0.5
CMWZ				Sg	Sg	21 38 01.0	+0.5
CMWZ	**Cape Campbell**	**0.13**	**226**	P	Pg	21 37 58.5	-0.3
CMWZ				S	Sg	21 38 02.6	+1.1
BSWZ	**Blackbirch Sta**	**0.35**	**261**		Pb	21 38 02.3	-0.2
BSWZ					Sb	21 38 08.4	+0.6
BSWZ	**Blackbirch Sta**	**0.35**	**261**	P	Pb	21 38 02.4	-0.2
BSWZ				S	Sb	21 38 08.5	+0.6
TUWZ	**Tuamarina**	**0.38**	**308**		Pg	21 38 02.6	-0.1
TUWZ	**Tuamarina**	**0.38**	**308**	P	Pg	21 38 02.6	-0.1
TUWZ				S	Sg	21 38 08.2	+0.2
SNZO	**South Karori**	**0.44**	**38**		Pg	21 38 03.4	-0.4
TCW	**Tory Channel**	**0.45**	**354**	P	Pg	21 38 03.6	-0.4
TCW				S	Sg	21 38 10.4	+0.3
BHW	**Baring Head**	**0.47**	**58**	P	Pg	21 38 03.7	-0.6
WEL	**Wellington**	**0.49**	**41**	P	Pg	21 38 04.4	-0.4
WEL				S	Sb	21 38 12.6	+0.7
PLWZ	**Palliser**	**0.69**	**83**		Pb	21 38 07.3	-1.1

PLWZ	**Palliser**	**0.69**	**83**	P	Pg	21 38 08.4	0.0
MSWZ	**Moikau Station**	**0.72**	**71**		Pb	21 38 08.2	-0.7
MSWZ	**Moikau Station**	**0.72**	**71**	P	Pb	21 38 08.6	-0.3
MSWZ				S	Sg	21 38 19.1	+0.4
CAW	**Cannon Point**	**0.78**	**45**	P	Pb	21 38 09.2	-0.6
CAW				S	Sn	21 38 24.0	+1.9
NNZ	**Nelson**	**0.85**	**301**		Pg	21 38 11.0	-0.3
NNZ	**Nelson**	**0.85**	**301**	P	Pg	21 38 11.1	-0.3
NNZ				S	Sn	21 38 23.5	-0.3
PAWZ	**Paruwai Farm**	**0.86**	**72**	P	Pb	21 38 11.4	+0.1
PAWZ				S	Sn	21 38 24.9	+0.6
KIW	**Kapiti Island**	**0.91**	**28**	P	Pb	21 38 11.5	-0.5
KIW				S	Sg	21 38 24.6	+0.2
DUWZ	**D'Urville Isla**	**0.91**	**340**	P	Pb	21 38 11.8	-0.4
DUWZ				S	Sg	21 38 24.8	+0.1
MTW	**Mount Morrison**	**1.01**	**61**	P	Pb	21 38 13.6	-0.2
MTW				S	Sn	21 38 28.9	+1.0
TRWZ	**Traveller**	**1.05**	**76**	P	Pn	21 38 14.5	-0.1
TRWZ				S	Sg	21 38 30.5	+1.7
OGWZ	**Otaki Gorge**	**1.05**	**37**	P	Pb	21 38 14.1	-0.4
OGWZ				S	Sg	21 38 31.3	+2.4
THZ	**Tophouse**	**1.08**	**264**		Pb	21 38 14.7	-0.3
THZ	**Tophouse**	**1.08**	**264**	P	Pg	21 38 15.3	-0.5
HOWZ	**Holdsworth Sta**	**1.17**	**50**	P	Pb	21 38 16.4	-0.1
HOWZ				S	Sn	21 38 31.9	+0.1
TKNZ	**Takaka Hill**	**1.21**	**301**	P	Pg	21 38 17.6	-0.7
TKNZ				S	Sg	21 38 33.9	-0.2
MRNZ	**Matariki Terra**	**1.22**	**282**	P	Pg	21 38 18.3	-0.1
TMWZ	**Te Maipa**	**1.29**	**65**	P	Pn	21 38 18.0	0.0
MRZ	**Mangatainoka R**	**1.37**	**44**		Pn	21 38 19.0	-0.1
MRZ	**Mangatainoka R**	**1.37**	**44**	P	Pn	21 38 19.3	+0.3
MRZ				S	Sg	21 38 38.4	-0.7
CPWZ	**Castlepoint**	**1.59**	**63**	P	Pn	21 38 21.6	-0.5
QRZ	**Quartz Range**	**1.60**	**301**		Pb	21 38 24.0	+0.1
QRZ	**Quartz Range**	**1.60**	**301**	P	Pb	21 38 24.3	+0.4
PRWZ	**Pori Road**	**1.66**	**49**	P	Pn	21 38 23.5	+0.5
BFZ	**Birch Farm**	**1.74**	**56**	Pn	Pn	21 38 24.7	+0.6
DVHZ	**Dannevirke**	**1.94**	**46**	P	Pg	21 38 30.9	-1.2
TSZ	**Takapari Road**	**2.02**	**38**	P	Pb	21 38 29.7	-1.3
PNHZ	**Pukenui**	**2.25**	**40**	P	Pn	21 38 30.9	-0.2
MOVZ	**Moawhango**	**2.50**	**26**	P	Pb	21 38 38.9	-0.2
SNVZ	**South Ngauruho**	**2.66**	**22**	P	Pb	21 38 42.6	+0.6
TMVZ	**Te Maari**	**2.75**	**23**	P	Pb	21 38 43.9	+0.4
BKZ	**Black Stump Fm**	**2.98**	**34**	Pn	Pn	21 38 41.7	+0.4
OUENC	**Ouen Island, N**	**20.19**	**340**	P	P	21 42 28.2	-0.3
AS31	**Alice Springs**	**38.07**	**285**	P	P	21 45 10.1	-2.4
ASAR	**Alice Springs**	**38.07**	**285**	P	P	21 45 12.9	+0.4
	0.2nm,0.4s,baz=118,slow=6.9,SNR=5.1						
ASAR				PcP	PcP	21 47 35.2	+7.6
	0.2nm,0.5s,baz=121,slow=4.3,SNR=1.3 0.2nm,0.4s						
WB2	**Warramunga Arr**	**40.13**	**290**	P	P	21 45 29.3	-0.4
WB2				IAmb	IAmb	21 45 55.0	
	comp=Z,6.4nm,1.2s						
WRA	**Warramunga Arr**	**40.13**	**290**	P	P	21 45 29.9	+0.2
	comp=Z,0.4nm,0.6s,baz=127,slow=8.5,SNR=4.5 comp=Z,0.4nm,0.6s						
WB0	**Warramunga Arr**	**40.21**	**291**	P	P	21 45 28.1	-2.3
WB0				IAmb	IAmb	21 45 37.7	
	comp=Z,4.0nm,0.9s						
QSPA	**South Pole Qui**	**48.47**	**180**	P	P	21 46 42.8	+6.8
	comp=Z,1.1nm,0.3s,baz=9.9,slow=4.5,SNR=5.2 comp=Z,1.1nm,0.3s						
MAW	**Mawson**	**59.56**	**204**	P	P	21 47 51.2	-5.6
MAW				IAmb	IAmb	21 47 53.9	
	comp=Z,1.3nm,1.3s						
CMAR	**Chiang

0.9nm,0.6s
ILAR Eielson Array 85.95 12 P P 21 53 09.3 0.0
0.5nm,0.9s,baz=223,slow=5.2,SNR=7.0
0.5nm,0.9s

WEL 13 21:43:22.0±0.6, 43°S±3°×17°3E±°, h9km±3km, M3.4/16, ML3.7/6, MLv3.4/16, Error ellipse: s-maj=0.0km s-min=0.0km az=140.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.48	206	P	Pb	21 43 32.2	-0.6
GVZ				S	Sb	21 43 40.2	+0.2
AMCZ	Amberley	0.81	217	P	Pb	21 43 38.5	+0.2
AMCZ				S	Sn	21 43 51.1	-0.7
LTZ	Lake Taylor	0.81	252	P	Pb	21 43 38.1	-0.2
LTZ				S	Sb	21 43 49.2	-0.3
THZ	Tophouse	0.83	338	P	Pg	21 43 38.3	+0.3
OKCZ	Okains Bay	1.21	189	P	Pb	21 43 43.6	-1.5
MRNZ	Matariki Terra	1.21	339	P	Pg	21 43 45.4	+0.2
OXZ	Oxford	1.23	229	P	Pn	21 43 44.0	-1.4
OXZ				S	Sg	21 44 01.8	+0.2
MQZ	McQueen's Vall	1.27	202	P	Pn	21 43 43.8	-2.2
MQZ				S	Sb	21 43 59.9	-2.7
AKCZ	Akaroa Harbour	1.37	193	P	Pn	21 43 44.9	-2.5
AKCZ				S	Sb	21 44 02.6	-2.9
DSZ	Denniston Nort	1.38	304	P	Pb	21 43 47.9	0.0
DSZ				S	Sg	21 44 07.2	+0.9
INZ	Inchbonnie	1.40	262	P	Pn	21 43 47.8	0.0
INZ				S	Sg	21 44 06.8	-0.2
RACZ	Rakaia	1.47	216	P	Pn	21 43 46.9	-1.9
RACZ				S	Sn	21 44 05.5	-2.7
TKNZ	Takaka Hill	1.52	350	P	Pb	21 43 50.7	+0.3
TKNZ				S	Sg	21 44 10.9	-0.1
WACZ	Wakanui South	1.78	217	P	Pn	21 43 51.1	-1.9
WACZ				S	Sn	21 44 12.4	-3.2
QRZ	Quartz Range	1.81	341	P	Pn	21 43 52.5	-0.9
QRZ				S	Sb	21 44 18.1	+0.1
RPZ	Rata Peaks	2.04	234	P	Pn	21 43 55.2	-1.3
RPZ				S	Sn	21 44 19.6	-2.5
ARCZ	Arundel	2.11	227	P	Pn	21 43 55.9	-1.7
ARCZ				S	Sn	21 44 20.5	-3.4
GCSZ	Gaunt Creek Bo	2.33	249	P	Pn	21 44 00.7	+0.2
GCSZ				S	Sn	21 44 27.3	-2.1
TMZ	Timaru	2.50	222	P	Pn	21 44 01.4	-1.5
FOZ	Fox Glacier	2.76	248	P	Pn	21 44 06.4	0.0
FOZ				S	Sn	21 44 39.3	-0.5
LBZ	Lake Benmore	2.94	230	P	Pn	21 44 07.9	-1.0
LBZ				S	Sn	21 44 41.2	-3.1
ODZ	Otahua Downs	3.17	217	P	Pn	21 44 10.1	-2.0
ODZ				S	Sn	21 44 46.1	-4.0
JCZ	Jackson Bay	3.65	244	P	Pn	21 44 17.8	-1.0
HHSZ	Highcliff Hill	3.88	209	P	Pn	21 44 19.7	-2.1
WMGZ	Waiomatatini S	6.11	41	P	Pn	21 44 52.7	+0.2
OUZ	Omahuta	7.31	2	P	Pn	21 45 11.3	+2.4

IDC 13 21:43:53.2±1.2, 57°12S×24°84W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=63.1km s-min=31.1km az=71.0

ISC 13 21:43:53.8±1.2, 57°1S±0°2×24°3W±0°4, h10km, n8, σ1s33/8, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	15.47	162	P	Pn	21 47 30.1	-1.7
SNAA	Sanae	17.13	157	P	P	21 47 54.6	-0.1
QSPA	South Pole Qui	33.13	180	P	P	21 50 32.0	+2.2
	1.5nm,0.2s,baz=239,slow=5.9,SNR=2.1						
	1.5nm,0.2s						
VNDA	Vanda	45.57	182	P	P	21 52 12.5	-0.6
	0.6nm,0.6s,baz=180,slow=4.0,SNR=2.9						
	0.6nm,0.6s						
LPAZ	La Paz	52.28	303	P	P	21 53 05.4	-0.7
	0.7nm,0.5s,baz=144,slow=4.8,SNR=4.6						
	0.7nm,0.5s						
FINES	FINESS Array B	124.61	27	PKP	PKiKP	22 02 52.5	+0.3
	0.9nm,0.8s,baz=191,slow=1.4,SNR=3.9						
SONM	Songino Array	149.22	86	PKPbc	PKiKP	22 03 43.4	+0.5
	0.4nm,0.7s,baz=231,slow=3.7,SNR=2.4						
ILAR	Eielson Array	152.01	310	PKPbc	PKiKP	22 03 47.9	-0.1
	0.7nm,0.9s,baz=130,slow=1.6,SNR=6.8						

WEL 13 21:45:06.2±0.8, 42°S±3°×17°3E±°, h14km±5km, M3.1/3, ML3.5/3, MLv3.1/3, Error ellipse: s-maj=0.0km s-min=0.0km az=110.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.49	191	P	Pb	21 45 17.5	+0.8
GVZ				S	Sb	21 45 24.6	+0.9
LTZ	Lake Taylor	0.72	246	P	Pn	21 45 21.6	-0.5
LTZ				S	Sb	21 45 31.5	+1.0
MQZ	McQueen's Vall	1.27	197	P	Pn	21 45 29.2	-0.4
MQZ				S	Sb	21 45 45.0	-1.3

IDC 13 21:45:27.9±1.6, 42°17S×174°28E, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=108.9km s-min=41.5km az=11.0

WEL 13 21:45:32.9±0.3, 42°S±2°×17°4E±°, h11km±2km, M4.4/18, ML4.8/18, MLv4.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=161.1

ISC 13 21:45:32.4±1.3, 41°70S±0°04×174°27E±0°02, h17km±8km, n89, σ1s93/80, mb4.1/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUWZ	Tuamarina	0.37	318	P	Pb	21 45 40.8	+0.3
TUWZ				S	Sb	21 45 46.5	+0.6
TCW	Tory Channel	0.49	0	P	Pb	21 45 43.0	+0.4
TCW				S	Sb	21 45 50.3	+0.9
WEL	Wellington	0.56	42	P	Pb	21 45 44.4	+0.6
WEL				S	Sb	21 45 52.1	+0.7
PLWZ	Palliser	0.75	80	P	Pb	21 45 48.3	+1.3
PLWZ				S	Sn	21 45 59.5	+0.2
MSWZ	Moikau Station	0.79	69	P	Pb	21 45 48.6	+1.0
MSWZ				S	Sn	21 46 00.6	+0.4
NNZ	Nelson	0.83	305	P	Pg	21 45 48.9	+0.4
CAW	Cannon Point	0.84	46	P	Pg	21 45 48.8	+0.1
CAW				S	Sn	21 46 03.4	+1.9
PAWZ	Paruwai Farm	0.92	70	P	Pg	21 45 50.6	+0.2
PAWZ				S	Sn	21 46 04.3	+0.7
DUWZ	D'Urville Isla	0.94	344	P	Pn	21 45 51.5	+0.6
DUWZ				S	Sn	21 46 04.6	+0.7
KIW	Kapiti Island	0.97	30	P	Pg	21 45 51.2	0.0
KIW				S	Sb	21 46 04.9	+1.7
THZ	Tophouse	1.02	266	P	Pg	21 45 52.5	+0.2
THZ				S	Sn	21 46 08.9	+2.8
MTW	Mount Morrison	1.07	60	P	Pb	21 45 52.7	+0.1
MTW				S	Sn	21 46 08.6	+1.4
TRWZ	Traveller	1.10	75	P	Pb	21 45 55.5	+2.4
TRWZ				S	Sb	21 46 08.2	+0.9
OGWZ	Otaki Gorge	1.11	38	P	Pb	21 45 53.8	+0.6
OGWZ				S	Sb	21 46 08.0	+0.6
MRNZ	Matariki Terra	1.18	284	P	Pn	21 45 55.3	+1.2
MRNZ				S	Sn	21 46 12.1	+2.3
TKNZ	Takaka Hill	1.19	304	P	Pb	21 45 55.2	+0.7
HOWZ	Holdsworth Sta	1.23	50	P	Pn	21 45 55.7	+0.7
HOWZ				S	Sn	21 46 13.5	+2.3
TMWZ	Te Maipa	1.35	65	P	Pn	21 45 56.4	-0.2
TMWZ				S	Sb	21 46 11.2	-3.2
MRZ	Mangatainoka R	1.43	44	P	Pn	21 45 57.9	+0.2
MRZ				S	Sb	21 46 18.0	+1.3
TIWZ	Tintock	1.53	53	P	Pn	21 45 57.9	-1.1
QRZ	Quartz Range	1.58	303	P	Pb	21 46 01.7	+0.6
QRZ				S	Sg	21 46 23.4	+0.2
LTZ	Lake Taylor	1.84	233	P	Pn	21 46 03.9	+0.6
LREZ	Lake Rotokare	2.24	3	P	Pn	21 46 04.9	-3.8
NMZ	Namu Road	2.30	352	P	Pn	21 46 05.5	-4.1
PNHZ	Pukenui	2.31	40	P	Pn	21 46 03.8	-5.9
OXZ	Oxford	2.32	225	P	Pn	21 46 09.2	-0.6
WPHZ	Waipukurau	2.32	46	P	Pn	21 46 07.6	-2.3
INZ	Inchbonnie	2.34	243	P	Pn	21 46 07.8	-2.3
KHEZ	Kahui Hut	2.41	355	P	Pn	21 46 09.1	-2.1
NEZ	North Egmont	2.43	357	P	Pn	21 46 09.2	-2.2
NBEZ	Newall Road No	2.45	353	P	Pn	21 46 09.6	-2.1
MTVZ	Mangateitei	2.49	22	P	Pn	21 46 09.7	-2.5
PKE	Pukeiti	2.51	355	P	Pn	21 46 08.2	-4.3
PKVZ	Pokaka	2.54	19	P	Pn	21 46 08.6	-4.3
MOVZ	Moawhango	2.55	27	P	Pn	21 46 08.3	-4.9
RACZ	Rakaia	2.56	217	P	Pn	21 46 11.1	-2.1
PXZ	Pawanui	2.58	51	P	Pn	21 46 11.3	-2.1
WNVZ	Wahianoa	2.58	24	P	Pn	21 46 08.0	-5.6
TRVZ	Turoa	2.59	23	P	Pn	21 46 09.7	-4.1
BHHZ	Black Hill Sta	2.60	32	P	Pn	21 46 09.0	-4.7
VRZ	Vera Road	2.60	8	P	Pn	21 46 10.4	-3.3
DRZ	Dome Shelter	2.62	23	P	Pn	21 46 10.4	-3.8
WHVZ	Whangaehu Hut	2.62	23	P	Pn	21 46 09.4	-4.7
FWVZ	Far West T-bar	2.63	22	P	Pn	21 46 10.2	-4.2
TUVZ	Tukino	2.65	24	P	Pn	21 46 09.6	-4.9
NGZ	Ngauruhoe	2.72	22	P	Pn	21 46 11.5	-4.0
SNVZ	South Ngauruho	2.72	23	P	Pn	21 46 11.5	-4.0
KAHZ	Kahuranaki	2.75	47	P	Pn	21 46 06.4	-9.3
OTVZ	Oturere	2.75	23	P	Pn	21 46 11.7	-4.2
NNVZ	North Ngauruho	2.76	22	P	Pn	21 46 10.3	-5.8
WTVZ	West Tongariro	2.77	22	P	Pn	21 46 12.8	-3.4
TWVZ	Taurewa	2.77	19	P	Pn	21 46 12.6	-3.6
ETVZ	East Tongariro	2.79	24	P	Pn	21 46 12.5	-3.9
KWHZ	Kaweka Forest	2.80	36	P	Pn	21 46 14.3	-2.2
TMVZ	Te Maari	2.80	23	P	Pn	21 46 12.6	-4.1
KRVZ	Karewarewa	2.81	22	P	Pn	21 46 13.1	-3.5
NTVZ	North Tongarir	2.81	23	P	Pn	21 46 13.0	-3.7
WACZ	Wakanui South	2.87	218	P	Pn	21 46 16.5	-0.9
KATZ	Kakaramea	2.93	22	P	Pn	21 46 15.3	-3.1
RITZ	Rihia Road	2.98	25	P	Pn	21 46 15.8	-3.2
BKZ	Black Stump Fm	3.05	35	P	Pn	21 46 17.2	-2.7
RATZ	Rangitukua	3.05	23	P	Pn	21 46 17.7	-2.3
HATZ	Hinemaiaia	3.13	27	P	Pn	21 46 18.2	-2.8
WATZ	Wairara	3.19	21	P	Pn	21 46 20.8	-1.1
HIZ	Hauiti	3.21	8	P	Pn	21 46 19.2	-3.0
MRHZ	Matea Rd	3.30	31	P	Pn	21 46 20.2	-3.2
TLZ	Tolley Road	3.50	17	P	Pn	21 46 24.7	-1.5
TMZ	Timaru	3.59	221	P	Pn	21 46 26.7	-0.7
FOZ	Fox Glacier	3.76	239	P	Pn	21 46 30.0	+0.4
TOZ	Tahuroa Road	4.08	14	P	Pn	21 46 28.8	-5.2
ODZ	Otahua Downs	4.26	217	P	Pn	21 46 35.2	-1.3
AWAZ	Awhitu Peninsu	4.64	4	P	Pn	21 46 37.1	-4.6
MKAZ	Moumakai	4.64	9	P	Pn	21 46 37.3	-4.5
JCZ	Jackson Bay	4.68	238	P	Pn	21 46 39.7	-2.6
HAZ	Te Kaha	4.78	36	P	Pn	21 46 37.9	-5.7
PKGZ	Pakihiroa	4.80	39	P	Pn	21 46 36.1	-8.0
WIAZ	Waiheke Island	4.95	8	P	Pn	21 46 41.3	-4.6
HHSZ	Highcliff Hill	4.96	211	P	Pn	21 46 41.6	-4.4
SYZ	Scrubby Hill	6.08	216	P	Pn	21 47 00.3	-1.2
APZ	The Paps	6.83	219	P	Pn	21 47 09.7	-2.2
ASAR	Alice Springs	38.03	285	P	P	21 52 48.5	-1.4
	0.7nm,0.3s,baz=124,slow=6.2,SNR=8.2						
	0.7nm,0.3s						
WRA	Warramunga Arr	40.10	290	P	P	21 53 06.5	-0.7
	1.2nm,0.4s,baz=127,slow=8.3,SNR=8.5						
	1.2nm,0.4s						
KSRS	Korea Array	89.42	325	P	P	21 58 28.6	+0.6
	0.9nm,0.6s,baz=141,slow=6.2,SNR=2.8						
	0.9nm,0.6s						
CMAR	Chiang Mai Arr	91.64	293	P	P	21 58 38.5	-0.3
	0.4nm,0.3s,baz=143,slow=3.7,SNR=4.2						
	0.4nm,0.3s						
NRIK	Noril'sk	127.18	334	PKP	PKPdf	22 04 33.3	-1.3
	3.6nm,0.5s,baz=153,slow=4.5,SNR=7.5						
DBIC	Dimbokro	145.11	182	PKP	PKPbc	22 05 05.9	-2.9
	1.9nm,0.8s,baz=127,slow=5.1,SNR=2.2						
ARCES	ARCESS Array B	147.74	340	PKPbc	PKPdf	22 05 13.9	+1.8
	1.8nm,0.8s,baz=36,slow=3.8,SNR=5.9						
BRTR	Keskin Array B	150.27	279	PKPbc	PKPbc	22 05 21.4	-1.1
	1.0nm,0.8s,baz=156,slow=2.6,SNR=6.3						
FINES	FINESS Array B	152.50	327	PKPbc	PKPdf	22 05 24.6	+4.8
	1.2nm,0.6s,baz=38,slow=3.4,SNR=7.0						

MAN 13 21:47:17.1, 18°01N×119°71E, h2km, mb4.2, ML3.0, MS2.7, Philippine Islands region

WEL 13 21:47:23.8±0.8, 42°S±3°×17°4E±°, h9km±6km, M3.6/9, ML3.8/9, MLv3.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=106.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.25	275	P	Pg	21 47 29.5	+0.6
BSWZ				S	Sb	21 47 34.2	-0.9
TUWZ	Tuamarina	0.37	327	P	Pb	21 47 31.9	-0.6
TUWZ				S	Sb	21 47 37.8	-0.7
TCW	Tory Channel	0.53	5	P	Pg	21 47 34.7	+0.6
TCW				S	Sb	21 47 42.7	-0.4
BHW	Baring Head	0.59	56	P	Pg	21 47 35.7	+0.3
WEL	Wellington	0.62	43	P	Pb	21 47 36.4	-0.4
WEL				S	Sb	21 47 45.6	0.0
PLWZ	Palliser	0.80	78	P	Pb	21 47 39.7	-0.3
PLWZ				S	Sb	21 47 51.8	+0.9
NNZ	Nelson	0.81	310	P	Pb	21 47 40.0	-0.2
NNZ				S	Sn	21 47 54.0	+0.3
MSWZ	Moikau Station	0.84	68	P	Pb	21 47 40.6	-0.1
MSWZ				S	Sg	21 47 51.6	+0.5
CAW	Cannon Point	0.90	46	P	Pg	21 47 41.1	-0.1
CAW				S	Sb	21 47 53.9	+0.1
PAWZ	Paruwai Farm	0.98	69	P	Pg	21 47 42.3	-0.4
PAWZ				S	Sb	21 47 56.5	+0.5
KIW	Kapiti Island	1.02	31	P	Pg	21 47 43.3	-0.2
KIW				S	Sb	21 47 57.1	-0.1
MTW	Mount Morrison	1.13	59	P	Pg	21 47 44.3	-1.2
MTW				S	Sb	21 48 00.7	+0.3
MRNZ	Matariki Terra	1.14	287	P	Pn	21 47 46.2	+0.2
MRNZ				S	Sn	21 48 02.6	+0.7

WEL 13 21:49:55.1±0.5, 42°S±3°×17°4E±°, h6km±3km, M3.8/13, ML4.0/13, MLv3.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=155.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.31	29	P	Pb	21 50 02.3	-0.9
CMWZ				S	Sb	21 50 07.5	-1.0
BSWZ	Blackbirch Sta	0.32	342	P	Pg	21 50 02.0	+0.5
BSWZ				S	Sg	21 50 05.8	+0.1
TUWZ	Tuamarina	0.60	355	P	Pg	21 50 07.0	+0.4
TUWZ				S	Sg	21 50 15.2	+0.9
TCW	Tory Channel	0.84	14	P	Pg	21 50 11.1	0.0
THZ	Tophouse	0.86	287	P	Pb	21 50 12.6	0.0
WEL	Wellington	0.93	38	P	Pb	21 50 13.8	+0.1
NNZ	Nelson	0.93	329	P	Pg	21 50 12.9	-0.2
NNZ				S	Sg	21 50 25.5	+0.3
MSWZ	Moikau Station	1.11	57	P	Pg	21 50 15.9	-0.5
MSWZ				S	Sb	21 50 31.7	+0.3
MRNZ	Matariki Terra	1.13	303	P	Pn	21 50 17.3	-0.1
MRNZ				S	Sn	21 50 33.0	-0.2
GVZ	Greta Valley S	1.19	217	P	Pb	21 50 18.1	0.0
GVZ				S	Sg	21 50 33.2	-0.1
CAW	Cannon Point	1.21	41	P	Pg	21 50 17.6	-0.8
CAW				S	Sb	21 50 34.6	+0.3
DUWZ	D'Urville Isla	1.22	357	P	Pg	21 50 17.9	-0.6
DUWZ				S	Sb	21 50 34.7	0.0
PAWZ	Paruwai Farm	1.24	59	P	Pg	21 50 17.0	-1.9
PAWZ				S	Sg	21 50 34.6	-0.4
TKNZ	Takaka Hill	1.26	321	P	Pn	21 50 19.3	0.0
TKNZ				S	Sg	21 50 35.8	0.0
KIW	Kapiti Island	1.34	31	P	Pn	21 50 19.8	-0.6
MTW	Mount Morrison	1.41	53	P	Pn	21 50 19.8	-1.6
OGWZ	Otaki Gorge	1.49	36	P	Pn	21 50 21.4	-1.0
LTZ	Lake Taylor	1.49	239	P	Pb	21 50 23.1	-0.2
LTZ				S	Sn	21 50 39.7	-2.7
HOWZ	Holdsworth Sta	1.60	46	P	Pn	21 50 22.1	-1.8
DSZ	Denniston Nort	1.67	279	P	Pb	21 50 26.5	+0.2
DSZ				S	Sg	21 50 49.4	+0.6
TMWZ	Te Maipa	1.68	58	P	Pn	21 50 23.1	-2.0
TMWZ				S	Sn	21 50 44.7	-2.3
MRZ	Mangatainoka R	1.80	41	P	Pn	21 50 25.3	-1.4
OKCZ	Okains Bay	1.84	202	P	Pn	21 50 26.4	-0.9
OKCZ				S	Sn	21 50 49.7	-1.1
OXZ	Oxford	1.95	227	P	Pn	21 50 28.0	-0.7
OXZ				S	Sn	21 50 52.3	-1.3
MQZ	McQueen's Vall	1.96	210	P	Pn	21 50 28.4	-0.4
MQZ				S	Sn	21 50 49.3	-4.3
AKCZ	Akaroa Harbour	2.02	203	P	Pn	21 50 29.0	-0.7
AKCZ				S	Sn	21 50 51.9	-3.3
INZ	Inchbonnie	2.03	249	P	Pn	21 50 30.7	+0.9
INZ				S	Sn	21 50 53.5	-1.9
BFZ	Birch Farm	2.15	52	P	Pn	21 50 29.2	-2.4
RACZ	Rakaia	2.19	218	P	Pn	21 50 31.7	-0.3
DVHZ	Dannevirke	2.37	44	P	Pn	21 50 32.1	-2.5
WAZ	Wanganui	2.38	18	P	Pb	21 50 37.8	-0.7
TSZ	Takapari Road	2.46	38	P	Pn	21 50 34.0	-1.7
PNHZ	Pukenui	2.68	39	P	Pn	21 50 36.7	-2.1
RPZ	Rata Peaks	2.75	231	P	Pn	21 50 39.7	-0.1
PKE	Pukeiti	2.83	360	P	Pb	21 50 44.1	-1.9
MOVZ	Moawhango	2.93	27	P	Pn	21 50 41.4	-0.9
VRZ	Vera Road	2.95	11	P	Pb	21 50 45.9	-2.2
TRVZ	Turoa	2.96	24	P	Pb	21 50 46.9	-1.5
BHHZ	Black Hill Sta	2.97	32	P	Pn	21 50 41.9	-0.9
WHVZ	Whangaehu Hut	2.99	24	P	Pn	21 50 47.1	-1.8
FWVZ	Far West T-bar	3.00	24	P	Pn	21 50 43.5	+0.1
SNVZ	South Ngauruho	3.09	24	P	Pn	21 50 45.4	+0.8
OTVZ	Oturere	3.12	24	P	Pb	21 50 49.0	-2.1
WTVZ	West Tongariro	3.14	23	P	Pb	21 50 51.0	-0.5
ETVZ	East Tongariro	3.16	25	P	Pb	21 50 50.1	-1.7
TMVZ	Te Maari	3.18	25	P	Pb	21 50 49.7	-2.3
KWHZ	Kaweka Forest	3.18	36	P	Pb	21 50 51.2	-0.8
EAZ	Earnscleugh	4.68	225	P	Pn	21 51 06.0	-0.3
MKAZ	Moumakai	4.99	11	P	Pn	21 51 11.2	+0.6

WEL 13 21:52:55.7±0.3, 43°S±2°×17°3E±°, h7km±2km, M3.8/18, ML4.0/18, MLv3.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=122.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.35	59	P	Pg	21 53 02.7	+0.2
KHZ				S	Sg	21 53 08.1	+0.9
GVZ	Greta Valley S	0.38	191	P	Pb	21 53 04.2	-0.4
GVZ				S	Sb	21 53 10.9	+0.2
LTZ	Lake Taylor	0.66	254	P	Pg	21 53 08.9	+0.5
LTZ				S	Sb	21 53 18.6	-0.4
AMCZ	Amberley	0.68	211	P	Pb	21 53 10.0	+0.2
THZ	Tophouse	0.85	348	P	Pg	21 53 11.8	-0.3
THZ				S	Sg	21 53 23.1	0.0
BSWZ	Blackbirch Sta	1.04	32	P	Pg	21 53 15.7	0.0
OXZ	Oxford	1.08	228	P	Pg	21 53 16.1	-0.4
OXZ				S	Sb	21 53 31.4	+0.4
OKCZ	Okains Bay	1.12	183	P	Pg	21 53 16.8	-0.5
MQZ	McQueen's Vall	1.16	197	P	Pg	21 53 16.3	-1.6
MQZ				S	Sg	21 53 31.9	-1.1
MRNZ	Matariki Terra	1.23	347	P	Pb	21 53 19.0	-0.3
INZ	Inchbonnie	1.25	264	P	Pn	21 53 19.4	-0.2
AKCZ	Akaroa Harbour	1.28	187	P	Pn	21 53 18.3	-1.7
DSZ	Denniston Nort	1.31	310	P	Pg	21 53 20.6	-0.1
TUWZ	Tuamarina	1.31	28	P	Pn	21 53 20.2	-0.2
RACZ	Rakaia	1.34	213	P	Pn	21 53 19.4	-1.4
NNZ	Nelson	1.39	8	P	Pn	21 53 21.3	-0.2
MHCZ	Mount Hutt	1.48	230	P	Pn	21 53 21.7	-1.0
TKNZ	Takaka Hill	1.57	355	P	Pn	21 53 24.3	+0.3
TCW	Tory Channel	1.63	32	P	Pn	21 53 24.9	+0.2
WACZ	Wakanui South	1.64	215	P	Pn	21 53 23.6	-1.3
WEL	Wellington	1.79	43	P	Pn	21 53 26.5	-0.4
WVZ	Waitaha Valley	1.83	254	P	Pn	21 53 27.3	-0.1
QRZ	Quartz Range	1.83	345	P	Pb	21 53 28.6	-0.9
PLWZ	Palliser	1.88	58	P	Pn	21 53 26.2	-2.1
RPZ	Rata Peaks	1.89	233	P	Pn	21 53 27.2	-1.0
DUWZ	D'Urville Isla	1.89	18	P	Pb	21 53 29.9	-0.6
ARCZ	Arundel	1.96	226	P	Pn	21 53 28.1	-1.3
MSWZ	Moikau Station	1.97	54	P	Pn	21 53 26.9	-2.5
CAW	Cannon Point	2.08	45	P	Pn	21 53 29.8	-1.0
PAWZ	Paruwai Farm	2.10	55	P	Pn	21 53 28.4	-2.8
GCSZ	Gaunt Creek Bo	2.18	250	P	Pn	21 53 32.6	+0.3
KIW	Kapiti Island	2.19	38	P	Pn	21 53 32.0	-0.4
TRWZ	Traveller	2.25	59	P	Pn	21 53 31.7	-1.6
OGWZ	Otaki Gorge	2.34	41	P	Pn	21 53 33.9	-0.7
TMZ	Timaru	2.36	220	P	Pn	21 53 33.7	-1.2
FOZ	Fox Glacier	2.60	248	P	Pn	21 53 38.9	+0.8
MRZ	Mangatainoka R	2.67	44	P	Pn	21 53 38.1	-0.9
LBZ	Lake Benmore	2.79	229	P	Pn	21 53 39.9	-0.9
ODZ	Otahua Downs	3.04	216	P	Pn	21 53 42.4	-1.6
TSZ	Takapari Road	3.31	41	P	Pn	21 53 48.2	+0.3
NBEZ	Newall Road No	3.37	10	P	Pn	21 53 52.0	+3.3
NEZ	North Egmont	3.41	13	P	Pn	21 53 53.2	-3.1
PKE	Pukeiti	3.46	11	P	Pn	21 53 53.1	+3.3
JCZ	Jackson Bay	3.50	244	P	Pn	21 53 49.9	-0.6
VRZ	Vera Road	3.68	20	P	Pn	21 53 56.3	+3.3
WKZ	Wanaka	3.72	232	P	Pn	21 53 52.3	-1.2
MOVZ	Moawhango	3.75	33	P	Pn	21 53 57.8	+3.8
HHSZ	Highcliff Hill	3.76	208	P	Pn	21 53 52.2	-1.8
WNVZ	Wahianoa	3.76	31	P	Pn	21 53 55.2	+1.0
TRVZ	Turoa	3.77	30	P	Pn	21 53 56.6	+2.2
WHVZ	Whangaehu Hut	3.80	30	P	Pb	21 53 59.8	-3.3
FWVZ	Far West T-bar	3.81	30	P	Pn	21 53 57.7	+2.8
EAZ	Earnsc

mb4.7/11,Mwr4.2/23,Error ellipse: s-maj=7.8km s-min=3.7km az=312.0
NOU ***13*** *21:57:39.8,42°.39S×173°.90E,h0km,MLv4.8/10,South Island, New Zealand*
WEL ***13*** *21:57:40.7±0.3,42°S±2°×17°4E±°,h12km,2km,M4.4/20, ML4.7/20,MLv4.4/20,Error ellipse: s-maj=0.0km s-min=0.0km az=125.1*
NEIC ***13*** *21:57:40.5,42°.30S×173°.78E,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.77; Mθθ-0.27; Mϕϕ-1.50; Mrθ0.85; Mrϕ-0.59; Mθϕ1.24; Fault plane solution: Mo2.31000×10¹⁵ NP1:ϕs194.47000°, δ25.41000°,λ75.89000°. NP2:ϕs30.02000°,δ65.40000°, λ96.61000°. Principal axes: T 2.3381, Plg69.0000°, Azm313.0000°; N -0.0667, Plg6.0000°, Azm207.0000°; P -2.2714, Plg20.0000°, Azm115.0000°;*

ISC 13 21:57:40.0±0.9, 42°.35S±0°.02×173°.88E±0°.03, h15km±5km, n170, σ1s31/191, mb4.6/15, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**255**	Pg	**Pg**	**21 57 45.9**	**+0.3**
KHZ				Sg	**Sg**	**21 57 49.3**	**-0.2**
KHZ	**Kahutara**	**0.26**	**255**	P	**Pg**	**21 57 46.0**	**+0.3**
KHZ				S	**Sg**	**21 57 49.3**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.64**	**360**		**Pg**	**21 57 52.8**	**+0.3**
BSWZ				Sg	**Sg**	**21 57 59.8**	**-1.1**
BSWZ	**Blackbirch Sta**	**0.64**	**360**	P	**Pg**	**21 57 52.8**	**+0.3**
BSWZ				S	**Sg**	**21 58 01.3**	**+0.4**
CMWZ	**Cape Campbell**	**0.65**	**23**	Pg	**Pg**	**21 57 49.9**	**-2.9**
CMWZ				Sg	**Sn**	**21 58 04.8**	**+0.1**
GVZ	**Greta Valley S**	**0.88**	**225**		**Pn**	**21 57 58.8**	**+1.0**
GVZ	**Greta Valley S**	**0.88**	**225**	P	**Pn**	**21 57 59.0**	**+1.2**
GVZ				S	**Sn**	**21 58 11.9**	**+1.7**
TUWZ	**Tuamarina**	**0.92**	**3**		**Pb**	**21 57 57.7**	**+0.1**
TUWZ	**Tuamarina**	**0.92**	**3**	P	**Pg**	**21 57 58.3**	**+0.5**
TUWZ				S	**Sn**	**21 58 12.3**	**+1.0**
THZ	**Tophouse**	**0.93**	**309**	Pg	**Pb**	**21 57 57.0**	**-0.9**
TCW	**Tory Channel**	**1.18**	**15**	P	**Pb**	**21 58 02.8**	**+0.7**
TCW				S	**Sg**	**21 58 19.0**	**+0.9**
NNZ	**Nelson**	**1.19**	**342**		**Pn**	**21 58 01.2**	**-0.9**
NNZ	**Nelson**	**1.19**	**342**	P	**Pn**	**21 58 02.0**	**-0.1**
SNZO	**South Karori**	**1.21**	**31**		**Pb**	**21 58 03.4**	**+0.9**
AMCZ	**Amberley**	**1.22**	**227**	P	**Pn**	**21 58 01.7**	**-0.8**
AMCZ				S	**Sg**	**21 58 20.9**	**+1.3**
WEL	**Wellington**	**1.26**	**32**	P	**Pb**	**21 58 04.2**	**+0.9**
WEL				S	**Sg**	**21 58 21.2**	**+0.6**
LTZ	**Lake Taylor**	**1.26**	**250**	Pn	**Pn**	**21 58 03.3**	**+0.2**
MRNZ	**Matariki Terra**	**1.27**	**318**	P	**Pb**	**21 58 03.6**	**+0.1**
MRNZ				S	**Sn**	**21 58 20.0**	**+0.1**
PLWZ	**Palliser**	**1.29**	**53**	Pn	**Pb**	**21 58 04.7**	**+0.8**
PLWZ	**Palliser**	**1.29**	**53**	P	**Pb**	**21 58 04.8**	**+0.8**
MSWZ	**Moikau Station**	**1.39**	**48**		**Pn**	**21 58 05.6**	**+0.8**
MSWZ	**Moikau Station**	**1.39**	**48**	P	**Pb**	**21 58 05.9**	**+0.3**
MSWZ				S	**Sg**	**21 58 24.8**	**+0.1**
TKNZ	**Takaka Hill**	**1.48**	**332**	P	**Pb**	**21 58 07.2**	**-0.1**
TKNZ				S	**Sb**	**21 58 26.5**	**+0.6**
OKCZ	**Okains Bay**	**1.50**	**203**	P	**Pb**	**21 58 07.6**	**+0.1**
PAWZ	**Paruwai Farm**	**1.51**	**51**	P	**Pn**	**21 58 07.4**	**+0.9**
PAWZ				S	**Sn**	**21 58 25.8**	**0.0**
CAW	**Cannon Point**	**1.53**	**36**	P	**Pb**	**21 58 07.9**	**-0.1**
CAW				S	**Sb**	**21 58 27.7**	**+0.6**
MQZ	**McQueen's Vall**	**1.63**	**213**	Pn	**Pn**	**21 58 08.1**	**+0.1**
MQZ	**McQueen's Vall**	**1.63**	**213**	P	**Pn**	**21 58 08.4**	**+0.4**
MQZ				S	**Sn**	**21 58 29.1**	**+0.4**
TRWZ	**Traveller**	**1.65**	**55**	P	**Pn**	**21 58 09.3**	**+0.9**
DSZ	**Denniston Nort**	**1.66**	**291**	P	**Pn**	**21 58 09.4**	**+0.9**
DSZ				S	**Sb**	**21 58 31.4**	**+0.5**
OXZ	**Oxford**	**1.67**	**234**		**Pn**	**21 58 08.4**	**-0.2**
OXZ	**Oxford**	**1.67**	**234**	P	**Pn**	**21 58 08.7**	**0.0**
OXZ				S	**Sn**	**21 58 29.6**	**-0.2**
KIW	**Kapiti Island**	**1.68**	**28**	P	**Pb**	**21 58 10.2**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.68**	**205**	P	**Pn**	**21 58 09.7**	**+0.9**
AKCZ				S	**Sb**	**21 58 31.3**	**-0.2**
OGWZ	**Otaki Gorge**	**1.81**	**33**	P	**Pn**	**21 58 11.7**	**+1.0**
QRZ	**Quartz Range**	**1.83**	**326**		**Pn**	**21 58 12.1**	**+1.3**
QRZ	**Quartz Range**	**1.83**	**326**	P	**Pb**	**21 58 12.6**	**-0.5**
QRZ	**Quartz Range**	**1.83**	**326**	P	**Pb**	**21 58 12.6**	**-0.5**
INZ	**Inchbonnie**	**1.84**	**257**	P	**Pn**	**21 58 11.7**	**+0.7**
RACZ	**Rakaia**	**1.88**	**222**	P	**Pn**	**21 58 11.8**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.90**	**41**	P	**Pn**	**21 58 12.6**	**+0.7**
TMWZ	**Te Maipa**	**1.95**	**51**	P	**Pn**	**21 58 13.1**	**+0.5**
MRZ	**Mangatainoka R**	**2.12**	**38**		**Pn**	**21 58 15.3**	**+0.5**
MRZ	**Mangatainoka R**	**2.12**	**38**	P	**Pn**	**21 58 15.5**	**+0.7**
WACZ	**Wakanui South**	**2.18**	**222**	P	**Pn**	**21 58 16.2**	**+0.5**
CPWZ	**Castlepoint**	**2.26**	**51**	P	**Pb**	**21 58 19.4**	**-1.0**
PRWZ	**Pori Road**	**2.39**	**42**	P	**Pn**	**21 58 19.2**	**+0.7**
OHWZ	**Ohakea**	**2.40**	**27**	P	**Pn**	**21 58 21.1**	**+2.4**
POWZ	**Post Office Ro**	**2.42**	**37**	P	**Pn**	**21 58 19.6**	**+0.6**
WVZ	**Waitaha Valley**	**2.43**	**252**	P	**Pn**	**21 58 19.9**	**+0.9**
BFZ	**Birch Farm**	**2.44**	**48**	Pn	**Pn**	**21 58 19.4**	**+0.1**
BFZ	**Birch Farm**	**2.44**	**48**	P	**Pn**	**21 58 19.7**	**+0.5**
BFZ	**Birch Farm**	**2.44**	**48**	P	**Pn**	**21 58 19.5**	**+0.3**
RPZ	**Rata Peaks**	**2.48**	**236**	Pn	**Pn**	**21 58 19.7**	**-0.2**
	76nm,0.3s,baz=3.2,slow=18,SNR=21						
RPZ				Sn	**Sn**	**21 58 49.1**	**-0.7**
	189nm,0.3s,baz=325,slow=22,SNR=45 425nm,0.6s						
RPZ	**Rata Peaks**	**2.48**	**236**	Pn	**Pn**	**21 58 19.5**	**-0.4**
RPZ	**Rata Peaks**	**2.48**	**236**	P	**Pn**	**21 58 20.0**	**+0.2**
ARCZ	**Arundel**	**2.54**	**230**	P	**Pn**	**21 58 20.8**	**+0.1**
DVHZ	**Dannevirke**	**2.68**	**41**	P	**Pn**	**21 58 22.4**	**-0.2**
WAZ	**Wanganui**	**2.73**	**18**	P	**Pn**	**21 58 26.0**	**+2.8**
TSZ	**Takapari Road**	**2.78**	**35**	P	**Pn**	**21 58 24.3**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**2.79**	**249**	P	**Pn**	**21 58 24.8**	**+0.8**
LREZ	**Lake Rotokare**	**2.92**	**8**	P	**Pb**	**21 58 29.1**	**-2.6**
TMZ	**Timaru**	**2.92**	**225**	P	**Pn**	**21 58 26.1**	**+0.3**
PNHZ	**Pukenui**	**3.00**	**37**	P	**Pn**	**21 58 27.0**	**0.0**
MTVZ	**Mangateitei**	**3.20**	**23**	P	**Pn**	**21 58 32.4**	**+2.6**
FOZ	**Fox Glacier**	**3.21**	**247**	Pn	**Pn**	**21 58 28.7**	**-1.1**
FOZ	**Fox Glacier**	**3.21**	**247**	P	**Pn**	**21 58 31.0**	**+1.2**
PXZ	**Pawanui**	**3.23**	**45**	P	**Pn**	**21 58 32.0**	**+1.9**
PKVZ	**Pokaka**	**3.25**	**20**	P	**Pn**	**21 58 31.8**	**+2.3**
MOVZ	**Moawhango**	**3.27**	**26**	P	**Pn**	**21 58 31.8**	**+1.1**
WNVZ	**Wahianoa**	**3.29**	**24**	P	**Pn**	**21 58 33.5**	**+2.3**
VRZ	**Vera Road**	**3.29**	**12**	P	**Pn**	**21 58 33.7**	**+2.7**
TRVZ	**Turoa**	**3.30**	**23**	P	**Pn**	**21 58 33.4**	**+2.1**
BHHZ	**Black Hill Sta**	**3.30**	**31**	P	**Pn**	**21 58 32.2**	**+1.0**
WHVZ	**Whangaehu Hut**	**3.33**	**24**	P	**Pn**	**21 58 33.6**	**+1.9**
FWVZ	**Far West T-bar**	**3.34**	**23**	P	**Pn**	**21 58 34.0**	**+2.1**
TUVZ	**Tukino**	**3.36**	**24**	P	**Pn**	**21 58 33.9**	**+1.8**
LBZ	**Lake Benmore**	**3.38**	**232**	Pn	**Pn**	**21 58 32.4**	**+0.2**
LBZ	**Lake Benmore**	**3.38**	**232**	P	**Pn**	**21 58 32.8**	**+0.7**
KAHZ	**Kahuranaki**	**3.41**	**43**	P	**Pn**	**21 58 32.7**	**0.0**
NGZ	**Ngauruhoe**	**3.43**	**23**	P	**Pn**	**21 58 35.2**	**+2.1**
SNVZ	**South Ngauruho**	**3.43**	**24**	P	**Pn**	**21 58 35.0**	**+1.9**
OTVZ	**Oturere**	**3.46**	**24**	P	**Pn**	**21 58 35.3**	**+1.8**
NNVZ	**North Ngauruho**	**3.48**	**23**	P	**Pn**	**21 58 35.8**	**+2.1**
WTVZ	**West Tongariro**	**3.48**	**22**	P	**Pn**	**21 58 35.7**	**+2.0**
TWVZ	**Taurewa**	**3.48**	**20**	P	**Pn**	**21 58 35.5**	**+1.7**
ETVZ	**East Tongariro**	**3.50**	**24**	P	**Pn**	**21 58 36.2**	**+2.3**
KWHZ	**Kaweka Forest**	**3.50**	**34**	P	**Pb**	**21 58 39.5**	**-2.2**
TMVZ	**Te Maari**	**3.52**	**24**	P	**Pn**	**21 58 36.0**	**+1.8**
KRVZ	**Karewarewa**	**3.52**	**23**	P	**Pn**	**21 58 36.2**	**+2.0**
NTVZ	**North Tongarir**	**3.52**	**23**	P	**Pn**	**21 58 36.1**	**+1.8**
ODZ	**Otahua Downs**	**3.57**	**220**		**Pn**	**21 58 33.8**	**-1.0**
ODZ	**Otahua Downs**	**3.57**	**220**	P	**Pn**	**21 58 35.0**	**+0.2**
KATZ	**Kakaramea**	**3.64**	**23**	P	**Pn**	**21 58 39.1**	**+3.1**
RITZ	**Rihia Road**	**3.69**	**25**	P	**Pn**	**21 58 38.8**	**+2.3**
BKZ	**Black Stump Fm**	**3.75**	**33**		**Pn**	**21 58 38.3**	**+0.9**
BKZ	**Black Stump Fm**	**3.75**	**33**	P	**Pn**	**21 58 39.5**	**+2.2**
RATZ	**Rangitukua**	**3.77**	**23**	P	**Pb**	**21 58 44.4**	**-1.8**
WATZ	**Wairara**	**3.90**	**22**	P	**Pn**	**21 58 41.9**	**+2.5**
HIZ	**Hauiti**	**3.91**	**11**	Pn	**Pn**	**21 58 40.3**	**+0.9**
HIZ	**Hauiti**	**3.91**	**11**	P	**Pn**	**21 58 42.4**	**+3.0**
HIZ	**Hauiti**	**3.91**	**11**	P	**Pn**	**21 58 42.0**	**+2.6**
NMHZ	**Naumai**	**3.94**	**35**	P	**Pb**	**21 58 46.8**	**-2.4**
MRHZ	**Matea Rd**	**4.01**	**30**	P	**Pn**	**21 58 40.7**	**-0.2**
JCZ	**Jackson Bay**	**4.10**	**243**	P	**Pn**	**21 58 43.6**	**+1.4**
JCZ	**Jackson Bay**	**4.10**	**243**	P	**Pn**	**21 58 43.5**	**+1.3**
MTHZ	**Maungataniwha**	**4.16**	**34**	P	**Pn**	**21 58 43.6**	**+0.7**
RAHZ	**Arahi**	**4.21**	**36**	P	Pn	21 58 49.0	+5.3
TLZ	**Tolley Road**	**4.21**	**18**	P	**Pn**	**21 58 45.5**	**+1.8**
HHSZ	**Highcliff Hill**	**4.25**	**213**	P	**Pn**	**21 58 44.4**	**+0.3**
WKZ	**Wanaka**	**4.31**	**233**	Pn	**Pn**	**21 58 45.1**	**0.0**
WKZ	**Wanaka**	**4.31**	**233**	P	**Pn**	**21 58 45.2**	**+0.2**
EAZ	**Earnscleugh**	**4.39**	**227**	P	**Pn**	**21 58 46.0**	**0.0**
OMRZ	**Omania**	**4.65**	**25**	P	**Pn**	**21 58 52.9**	**+3.3**
TUZ	**Tuapeka**	**4.72**	**219**	P	**Pn**	**21 58 51.4**	**+0.8**
URZ	**Urewera**	**4.78**	**32**	P	**Pn**	**21 58 54.5**	**+3.1**
TOZ	**Tahuroa Road**	**4.78**	**16**	P	**Pn**	**21 58 52.8**	**+1.4**
MLZ	**Mavora Lakes**	**5.14**	**232**	Pn	**Pn**	**21 58 56.3**	**-0.1**
MLZ	**Mavora Lakes**	**5.14**	**232**	P	**Pn**	**21 58 56.3**	**-0.1**
TWGZ	**Tauwhareparae**	**5.22**	**38**	P	**Pn**	**21 58 57.0**	**-0.5**
RUGZ	**Raukumara Rang**	**5.26**	**35**	P	**Pn**	**21 58 56.7**	**-1.4**
AWAZ	**Awhitu Peninsu**	**5.31**	**7**	P	**Pn**	**21 59 01.0**	**+2.2**
MKAZ	**Moumakai**	**5.33**	**11**	P	**Pn**	**21 59 00.3**	**+1.3**
SYZ	**Scrubby Hill**	**5.39**	**217**	P	**Pn**	**21 59 00.9**	**+1.2**
SYZ	**Scrubby Hill**	**5.39**	**217**	P	**Pn**	**21 59 01.0**	**+1.2**
WTAZ	**Waiatarua**	**5.44**	**6**	P	**Pn**	**21 59 02.8**	**+2.3**
ETAZ	**East Tamaki Re**	**5.45**	**9**	P	**Pn**	**21 59 03.1**	**+2.4**
HAZ	**Te Kaha**	**5.48**	**34**	P	**Pn**	**21 59 00.6**	**-0.4**
WHZ	**Wether Hill Ro**	**5.55**	**228**	Pn	**Pn**	**21 59 01.8**	**-0.2**
MBAZ	**Motutapu North**	**5.63**	**8**	P	**Pn**	**21 59 05.0**	**+1.9**
WIAZ	**Waiheke Island**	**5.63**	**10**	P	**Pn**	**21 59 02.9**	**-0.3**
DCZ	**Deep Cove**	**5.77**	**235**	Pn	**Pn**	**21 59 04.1**	**-0.9**
KUZ	**Kuaotunu**	**5.78**	**15**	P	**Pn**	**21 59 05.9**	**+0.8**
ABAZ	**Army Bay**	**5.79**	**8**	P	**Pn**	**21 59 07.7**	**+2.4**
MXZ	**Matakaoa Point**	**5.87**	**37**	P	**Pn**	**21 59 08.2**	**+1.8**
APZ	**The Paps**	**6.14**	**221**	P	**Pn**	**21 59 10.1**	**-0.1**
GRZ	**Great Barrier**	**6.21**	**12**	P	**Pn**	**21 59 11.9**	**+0.7**
PYZ	**Puysegur Point**	**6.42**	**231**	P	**Pn**	**21 59 15.5**	**+1.5**
PYZ	**Puysegur Point**	**6.42**	**231**	P	**Pn**	**21 59 15.5**	**+1.5**
CTZ	**Chatham Island**	**7.10**	**104**	P	**Pn**	**21 59 24.7**	**+1.4**
CTZ	**Chatham Island**	**7.10**	**104**	P	**Pn**	**21 59 24.9**	**+1.7**
OUZ	**Omahuta**	**7.12**	**358**	Pn	**Pn**	**21 59 24.3**	**+0.7**
OUZ	**Omahuta**	**7.12**	**358**	P	**Pn**	**21 59 26.8**	**+3.2**
CTA	**Charters Tower**	**32.17**	**305**	P	**P**	**22 04 06.1**	**-1.1**
	2.2nm,0.6s,baz=152,slow=12,SNR=2.6 2.2nm,0.6s						
AS31	**Alice Springs**	**37.93**	**287**	P	**P**	**22 04 56.6**	**-0.3**
ASAR	**Alice Springs**	**37.93**	**287**	P	**P**	**22 04 56.4**	**-0.5**
	2.4nm,0.5s,baz=125,slow=6.7,SNR=49						
ASAR				PcP	**PcP**	**22 07 12.2**	**-0.5**
	1.4nm,0.6s,baz=126,slow=3.9,SNR=8.7 2.4nm,0.5s						
FORT	**Forrest**	**38.15**	**272**	P	**P**	**22 04 57.5**	**-1.1**
FORT				IAmb	IAmb	22 04 59.8	
	comp=Z,19nm,0.9s						
COEN	**Coen**	**38.77**	**308**	P	**P**	**22 05 03.2**	**-0.7**
COEN				IAmb	IAmb	22 05 10.4	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**39.91**	**292**	P	**P**	**22 05 12.6**	**-0.8**
WR0				IAmb	IAmb	22 05 14.2	
	comp=Z,11nm,1.0s						
WB2	**Warramunga Arr**	**40.05**	**291**	P	**P**	**22 05 14.4**	**-0.2**
WB2				IAmb	IAmb	22 05 15.2	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**40.06**	**291**	P	**P**	**22 05 13.8**	**-0.9**
	comp=Z,2nm,0.6s,baz=130,slow=8.5,SNR=66 comp=Z,2nm,0.6s						
WRA	**Warramunga Arr**	**40.06**	**291**	P	**P**	**22 05 13.6**	**-1.1**
WB0	**Warramunga Arr**	**40.14**	**292**	P	**P**	**22 05 15.1**	**-0.3**
WB0				IAmb	IAmb	22 05 15.5	
	comp=Z,10nm,0.6s						
PMG	**Port Moresby**	**40.33**	**317**	P	**P**	**22 05 17.6**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=109,slow=5.4,SNR=6.5 comp=Z,3.7nm,0.3s						
MORW	**Morawa**	**47.94**	**266**	P	**P**	**22 06 18.2**	**+0.3**
FAKI	**Fak Fak**	**54.03**	**305**	P	**P**	**22 07 02.0**	**-1.8**
FAKI				IAmb	IAmb	22 07 19.3	
	comp=Z,15nm,1.3s						
BATI	**Baumata**	**54.19**	**291**	P	**P**	**22 07 06.5**	**+1.6**
	comp=Z,10nm,0.4s,baz=235,slow=3.6,SNR=3.9 comp=Z,10nm,0.4s						
SNAA	**Sanae**	**66.26**	**181**	P	**P**	**22 08 29.1**	**+2.1**
SNAA				IAmb	IAmb	22 08 53.8	
	comp=Z,12nm,1.5s						
MJAR	**Matsushiro Arr**	**85.00**	**332**	P	**P**	**22 10 13.1**	**-1.3**
	comp=Z,8nm,0.6s,baz=156,slow=7.3,SNR=1.7 comp=Z,0.8nm,0.6s						
KSRS	**Korea Array**	**89.79**	**325**	P	**P**	**22 10 37.2**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=134,slow=3.6,SNR=4.6 comp=Z,1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.62**	**294**	P	**P**	**22 10 47.4**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=150,slow=3.1,SNR=10 comp=Z,1.1nm,0.3s						
INK	**Inuvik**	**117.11**	**19**	PKP	**PKiKP**	**22 16 23.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=207,slow=2.3,SNR=1.3						
MKAR	**Makanchi Array**	**120.12**	**307**	PKP	**PKPdf**	**22 16 29.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=150,slow=1.2,SNR=4.7						
DBIC	**Dimbokro**	**144.45**	**182**	PKP	**PKPdf**	**22 17 16.1**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=179,slow=3.4,SNR=5.1						
KBZ	**Khabaz**	**144.56**	**289**	PKP	**PKPab**	**22 17 14.0**	**+0.2**
	comp=Z,6.5nm,0.8s,baz=118,slow=2.2,SNR=14						
ARCES	**ARCESS Array B**	**148.24**	**339**	PKPbc	**PKPbc**	**22 17 23.4**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=61,slow=2.9,SNR=21						
BRTR	**Keskin Array B**	**150.08**	**279**	PKPbc	**PKPbc**	**22 17 30.1**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=142,slow=6.4,SNR=13						
FINES	**FINESS Array B**	**152.88**	**326**	PKPbc	**PKPbc**	**22 17 34.4**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=153,slow=0.9,SNR=8.4						
FINES				PKPab	**PKPab**	**22 17 46.0**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=50,slow=4.6,SNR=7.0						
AKASG	**Malin Array Be**	**154.49**	**301**	PKPab	**PKPab**	**22 17 52.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=71,slow=5.3,SNR=1.8						
GERES	**GERESS Array B**	**164.70**	**302**	PKPab	**PKPab**	**22 18 38.2**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=70,slow=8.6,SNR=1.5						

RSPR 13 21:58:29.2,17°.93N×65°.62W,h6km±2km, MD3.0/8,7C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUMP	**Col San Antoni**	**0.30**	**314**	↑eP	Pg	21 58 35.5	+0.4
HUMP	**Col San Antoni**	**0.30**	**314**	eS	Sg	21 58 40.6	+1.5
HUMP	**Col San Antoni**	**0.30**	**314**		Pg	21 58 35.5	+0.4
HUMP					Sg	21 58 40.6	+1.5
HUMP	**Col San Antoni**	**0.30**	**314**	IAML		21 58 41.1	
	comp=E,199nm,0.2s						
HUMP				IAML		21 58 41.4	
	comp=N,323nm,0.2s						
CBYP	**Canovanas**	**0.41**	**327**	↑eP	Pg	21 58 37.5	+0.4
CBYP	**Canovanas**	**0.41**	**327**	eS	Sb	21 58 44.1	-1.3
CBYP	**Canovanas**	**0.41**	**327**		Pg	21 58 37.5	+0.4
CBYP					Sb	21 58 44.1	-1.3
CBYP	**Canovanas**	**0.41**	**327**	IAML		21 58 44.5	
	comp=E,263nm,0.2s						
CBYP				IAML		21 58 44.9	
	comp=N,377nm,0.1s						
IGPR	**InterUniversit**	**0.46**	**274**	↑eP	Pg	21 58 37.7	-0.4
IGPR	**InterUniversit**	**0.46**	**274**	eS	Sg	21 58 44.4	+0.2
CUPR	**Culebra, Puert**	**0.49**	**41**	↓eP	Pg	21 58 38.9	+0.2
CUPR	**Culebra, Puert**	**0.49**	**41**	eS	Sg	21 58 46.4	+1.2
CUPR	**Culebra, Puert**	**0.49**	**41**		Pg	21 58 38.9	+0.2
CUPR					Sg	21 58 46.4	+1.2
CUPR	**Culebra, Puert**	**0.49**	**41**	IAML		21 58 46.9	
	comp=E,162nm,0.4s						
CUPR				IAML		21 58 47.0	
	comp=N,133nm,0.5s						
GCPR	**Guaynabo City**	**0.58**	**311**	↑eP	Pg	21 58 40.1	-0.2
GCPR	**Guaynabo City**	**0.58**	**311**	eS	Sg	21 58 48.6	+0.7
GCPR	**Guaynabo City**	**0.58**	**311**		Pg	21 58 40.1	-0.2
GCPR					Sg	21 58 48.6	+0.7
STVI	**Saint Thomas**	**0.76**	**56**	↑eP	Pg	21 58 42.9	-0.9
STVI	**Saint Thomas**	**0.76**	**56**	eS	Sg	21 58 53.1	-0.6
STVI	**Saint Thomas**	**0.76**	**56**		Pg	21 58 42.9	-0.9
STVI					Sg	21 58 53.1	-0.6
STVI	**Saint Thomas**	**0.76**	**56**	IAML		21 58 59.4	
	comp=N,52nm,0.2s						
CDVI	**St. Croix**	**0.83**	**102**	↓eP	Pg	21 58 44.1	-1.1
CDVI	**St. Croix**	**0.83**	**102**	eS	Sg	21 58 56.6	+0.6
CDVI	**St. Croix**	**0.83**	**102**		Pg	21 58 44.1	-1.1
CDVI					Sg	21 58 56.6	+0.6
SJVI	**Gifft Hill Sch**	**0.90**	**64**	↑eP	Pg	21 58 45.3	-1.2
SJVI	**Gifft Hill Sch**	**0.90**	**64**	eS	Sg	21 58 57.2	-1.0
SJVI	**Gifft Hill Sch**	**0.90**	**64**		Pg	21 58 45.3	-1.2
SJVI					Sg	21 58 57.2	-1.0
TBVI	**Tortola**	**1.07**	**63**	eS	Sg	21 59 02.0	-1.7
TBVI	**Tortola**	**1.07**	**63**		Sg	21 59 02.0	-1.7
AOPR	**Arecibo Observ**	**1.15**	**291**	↑eP	Pg	21 58 49.4	-1.9
AOPR	**Arecibo Observ**	**1.15**	**291**	eS	Sg	21 59 04.5	-1.8
AOPR	**Arecibo Observ**	**1.15**	**291**		Pg	21 58 49.4	-1.9
AOPR					Sg	21 59 04.5	-1.8
AOPR	**Arecibo Observ**	**1.15**	**291**	IAML		21 59 15.1	
	comp=N,69nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.42**	**273**	↓eP	Pb	21 58 56.1	0.0
CRPR	**Cabo Rojo, PR**	**1.42**	**273**		Pb	21 58 56.1	0.0
CRPR	**Cabo Rojo, PR**	**1.42**	**273**	IAML		21 59 04.7	
	comp=N,47nm,2.3s						
CRPR				IAML		21 59 24.9	
	comp=E,25nm,1.6s						

WEL 13 22:00:33.6±0.5, 42°S±3°×17°4E±°, h8km±4km, M3.4/15, ML3.6/15, MLv3.4/15, Error ellipse: s-maj=0.0km s-min=0.0km az=162.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.06**	**357**	P	Pg	22 00 36.6	+1.2
BSWZ	**Blackbirch Sta**	**0.27**	**290**	P	Pg	22 00 39.5	+0.4
TUWZ	**Tuamarina**	**0.43**	**331**	P	Pg	22 00 42.4	+0.4
TUWZ				S	Sg	22 00 48.5	+0.8
TCW	**Tory Channel**	**0.60**	**4**	P	Pg	22 00 45.2	0.0
TCW				S	Sb	22 00 54.2	-0.8
BHW	**Baring Head**	**0.63**	**51**	P	Pb	22 00 46.4	-0.5
WEL	**Wellington**	**0.67**	**38**	P	Pg	22 00 46.9	+0.4
WEL				S	Sb	22 00 57.7	+0.8
PLWZ	**Palliser**	**0.81**	**73**	P	Pg	22 00 49.6	+0.3
NNZ	**Nelson**	**0.86**	**313**	P	Pg	22 00 49.8	-0.4
NNZ				S	Sb	22 01 03.4	+0.8
MSWZ	**Moikau Station**	**0.87**	**63**	P	Pg	22 00 50.6	+0.3
MSWZ				S	Sn	22 01 03.9	-1.1
CAW	**Cannon Point**	**0.95**	**43**	P	Pg	22 00 51.9	+0.1
CAW				S	Sb	22 01 05.5	+0.6
THZ	**Tophouse**	**0.98**	**272**	P	Pg	22 00 52.3	-0.2
PAWZ	**Paruwai Farm**	**1.00**	**65**	P	Pg	22 00 52.2	-0.7
DUWZ	**D'Urville Isla**	**1.03**	**347**	P	Pg	22 00 52.8	-0.6
DUWZ				S	Sb	22 01 07.2	-0.1
KIW	**Kapiti Island**	**1.08**	**29**	P	Pg	22 00 53.9	-0.4
MTW	**Mount Morrison**	**1.16**	**56**	P	Pg	22 00 54.5	-1.5
MRNZ	**Matariki Terra**	**1.17**	**290**	P	Pg	22 00 55.9	-0.2
MRNZ				S	Sn	22 01 13.0	+0.6
TRWZ	**Traveller**	**1.18**	**70**	P	Pb	22 00 54.3	-1.9
TKNZ	**Takaka Hill**	**1.22**	**309**	P	Pb	22 00 56.3	-0.7
OGWZ	**Otaki Gorge**	**1.22**	**36**	P	Pb	22 00 55.9	-1.1
HOWZ	**Holdsworth Sta**	**1

RAR	**Rarotonga**	**31.24 104**	LR	LR	22 18 43.5		
	comp=Z,151nm,20.8s,baz=270,slow=34						
WR0	**Warramunga Arr**	**31.66 258**	P	**P**	**22 07 17.7**	**+0.2**	
SMPI	**Sarmi**	**31.77 293**	P	P	22 07 23.8	+5.3	
	comp=Z,4µmcomp=Z,31nm,1.4s						
WB0	**Warramunga Arr**	**31.80 258**	P	**P**	**22 07 18.5**	**-0.2**	
WB0			IAmb	IAmb	22 07 23.5		
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	**31.84 258**	P	**P**	**22 07 19.6**	**+0.5**	
WRAB	**Tennant Creek**	**31.84 258**	P	**P**	**22 07 18.4**	**-0.7**	
WRAB			pP	**pP**	**22 07 32.8**	**+0.6**	
WRAB			sP	**sP**	**22 07 38.2**	**+0.1**	
WRA	**Warramunga Arr**	**31.85 258**	P	**P**	**22 07 16.4**	**-2.8**	
	comp=Z,1.4nm,0.8s,baz=88,slow=8.5,SNR=4.9						
WRA			ScP	**ScP**	**22 13 54.3**	**+5.6**	
	comp=Z,2.0nm,1.2s,baz=88,slow=4.4,SNR=5.4						
WRA			LR	LR	22 19 09.3		
	comp=Z,835nm,20.3s,baz=88,slow=34						
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**32.52 251**	P	**P**	**22 07 22.8**	**-2.4**	
	comp=Z,10nm,0.8s,baz=77,slow=9.1,SNR=26						
ASAR			ScP	**ScP**	**22 13 57.9**	**+7.0**	
	comp=Z,2.5nm,1.0s,baz=74,slow=4.0,SNR=10.0						
ASAR			LR	LR	22 19 55.5		
	comp=Z,1µm,19.5s,baz=86,slow=35						
	comp=Z,10nm,0.8s						
MTN	**Manton Dam**	**35.47 270**	P	**P**	**22 07 51.1**	**+0.4**	
	baz=35,SNR=4.3						
GUMO	**Guam**	**37.15 321**	LR	LR	22 21 40.2		
	comp=Z,628nm,21.1s,baz=134,slow=34						
FAKI	**Fak Fak**	**37.21 287**	P	**P**	**22 08 04.4**	**-1.2**	
KNRA	**Kununurra**	**37.35 265**	P	**P**	**22 08 06.8**	**+0.1**	
	baz=37,SNR=5.0						
WRKA	**Warakurna**	**37.76 250**	P	**P**	**22 08 13.5**	**+3.3**	
	baz=37,SNR=4.9						
BNDI	**Bandanaira**	**38.80 283**	P	**P**	**22 08 22.4**	**+3.4**	
	comp=Z,8µmcomp=Z,90nm,1.6s						
FORT	**Forrest**	**38.89 241**	P	**P**	**22 08 18.8**	**-0.8**	
FORT			IAmb	IAmb	22 08 32.9		
	comp=Z,34nm,0.8s						
SIJI	**Sorong**	**38.93 289**	P	**P**	**22 08 18.5**	**-1.6**	
	comp=Z,1.7nm,0.3s,baz=232,slow=23,SNR=2.0						
SIJI			LR	LR	22 24 06.2		
	comp=Z,930nm,21.3s,baz=136,slow=36						
	comp=Z,1.7nm,0.3s						
SIJI	**Sorong**	**38.93 289**	P	**P**	**22 08 23.1**	**+3.0**	
	comp=Z,16nm,1.1s						
SWI	**Sorong**	**38.94 289**	P	**P**	**22 08 22.5**	**+2.3**	
	comp=Z,27nm,1.1s						
TBI	**Tubuai**	**40.89 107**	eLR	LR	22 19 40.4		
	comp=Z,12µm,22.2s						
TBI			eLR	LR	22 19 40.9		
	comp=Z,3µm,23.8s						
PPT2	**Papeete2**	**40.91 98**	eLR	LR	22 19 41.7		
	comp=Z,659nm,26.0s						
PPT2			eLR	LR	22 19 41.8		
	comp=Z,792nm,24.8s						
LBMI	**Labuha**	**42.46 287**	P	P	22 08 59.0	+10	
BATI	**Baumata**	**43.16 272**	P	**P**	**22 08 54.0**	**-0.9**	
	comp=Z,6.9nm,0.4s,baz=163,slow=6.2,SNR=3.1						
BATI			LR	LR	22 26 26.4		
	comp=Z,827nm,21.4s,baz=116,slow=36						
	comp=Z,6.9nm,0.4s						
SANI	**Sanana**	**43.33 285**	P	P	22 09 01.7	+5.5	
	comp=Z,20nm,1.4s						
MBWA	**Marble Bar**	**45.53 256**	P	**P**	**22 09 18.0**	**+4.3**	
MEEK	**Meekatharra**	**46.58 248**	P	**P**	**22 09 23.1**	**+1.1**	
	baz=46,SNR=3.1						
KLBR	**Kellerberrin**	**47.73 242**	P	**P**	**22 09 32.2**	**+1.4**	
	baz=47,SNR=5.8						
BKSI	**Bulukumba**	**47.80 278**	P	P	22 09 38.6	+7.0	
	comp=Z,326nmcomp=Z,9.2nm,1.0s						
BNSI	**Bone**	**48.08 279**	P	P	22 09 40.1	+6.3	
KAPI	**Kappang**	**48.24 278**	P	**P**	**22 09 37.9**	**+2.9**	
	comp=Z,15nm,1.0s,baz=112,slow=12,SNR=3.7						
KAPI			LR	LR	22 29 14.5		
	comp=Z,248nm,21.4s,baz=95,slow=35						
KAPI	**Kappang**	**48.24 278**	P	**P**	**22 09 35.7**	**+0.7**	
KAPI			IAmb	IAmb	22 09 42.9		
	comp=Z,19nm,0.9s						
KAPI	**Kappang**	**48.24 278**	P	P	22 09 40.2	+5.3	
NWAO	**Narrogin (SRO)**	**48.34 240**	P	**P**	**22 09 34.9**	**-0.7**	
	comp=Z,8.4nm,1.0s,baz=54,slow=8.7,SNR=2.1						
	comp=Z,8.4nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.34 240**	P	**P**	**22 09 37.9**	**+2.4**	
	baz=48,SNR=3.9						
NWAO			P	**P**	**22 09 37.9**	**+2.4**	
	baz=48,SNR=3.9						
NWAO	**Narrogin (SRO)**	**48.34 240**	P	**P**	**22 09 35.4**	**-0.1**	
NWAO			IAmb	IAmb	22 09 44.1		
	comp=Z,27nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.34 240**	P	P	22 09 42.9	+7.4	
NWAO			pP	sP	22 09 57.4	+2.4	
NWAO			sP	pP	22 10 02.5	+13	
JCJ	**Chichijima**	**49.59 330**	LR	LR	22 28 52.9		
	comp=Z,240nm,21.2s,baz=114,slow=34						
TAOE	**Nuku Hiva Isla**	**51.38 88**	eLR	LR	22 24 32.6		
	comp=Z,414nm,26.9s						
JOW	**Kunigami**	**57.34 318**	P	**P**	**22 10 39.4**	**-2.5**	
	comp=Z,11nm,0.8s,baz=163,slow=10.0,SNR=2.1						
JOW			LR	LR	22 33 30.7		
	comp=Z,153nm,22.0s,baz=103,slow=34						
	comp=Z,11nm,0.8s						
JMN	**Monobe**	**59.14 327**	P	**P**	**22 10 55.2**	**+0.8**	
MJAR	**Matsushiro Arr**	**59.33 333**	P	**P**	**22 10 53.5**	**-2.1**	
	comp=Z,0.8nm,0.5s,baz=155,slow=9.0,SNR=4.1						
	comp=Z,0.8nm,0.5s						
LEM	**Lembang**	**59.37 272**	P	**P**	**22 10 57.0**	**+0.4**	
	comp=Z,9.7nm,0.8s,baz=151,slow=19,SNR=1.5						
	comp=Z,9.7nm,0.8s						
TPUB	**Ta-pu**	**60.41 309**	P	**P**	**22 11 04.9**	**+1.5**	
VNDA	**Vanda**	**61.45 181**	P	**P**	**22 11 10.3**	**+0.8**	
	comp=Z,3.3nm,1.0s,baz=359,slow=7.4,SNR=11						
	comp=Z,3.3nm,1.0s						
VNDA	**Vanda**	**61.45 181**	P	**P**	**22 11 09.0**	**-0.5**	
VNDA			IAmb	IAmb	22 11 13.4		
	comp=Z,39nm,1.8s						
VNDA	**Vanda**	**61.45 181**	P	**P**	**22 11 10.7**	**+1.1**	
VNDA			pP	**pP**	**22 11 24.5**	**+0.9**	
VNDA			sP	**sP**	**22 11 29.9**	**+0.6**	
SBA	**Scott Base**	**61.72 180**	P	**P**	**22 11 10.6**	**-0.7**	
CCD	**Concordia, Ant**	**63.58 192**	P	**P**	**22 11 25.0**	**+0.7**	
CCD			pP	**pP**	**22 11 39.2**	**+0.8**	
CCD			sP	**sP**	**22 11 45.3**	**+1.2**	
KSRS	**Korea Array**	**65.11 326**	P	**P**	**22 11 32.4**	**-2.0**	
	comp=Z,0.5nm,0.4s,baz=147,slow=6.8,SNR=1.9						
KSRS			LR	LR	22 37 48.5		
	comp=Z,95nm,21.4s,baz=150,slow=34						
	comp=Z,0.5nm,0.4s						
NJ2	**Nanjing**	**66.94 316**	⇑P	P	22 11 53.3	+7.1	
NJ2			pmax	pmax			
	comp=Z,20nm,0.9s						
USRK	**Ussuriysk Ar.**	**68.31 333**	P	**P**	**22 11 53.1**	**-1.4**	
	comp=Z,2.7nm,0.8s,baz=167,slow=7.2,SNR=1.9						
USRK			LR	LR	22 39 25.9		
	comp=Z,72nm,20.5s,baz=156,slow=34						
	comp=Z,2.7nm,0.8s						
SHEM	**Shemya Is, Ala**	**68.83 4**	LR	LR	22 36 51.9		
	comp=Z,234nm,20.3s,baz=244,slow=32						
WHN	**Wuhan**	**69.16 312**	⇑P	P	22 12 06.8	+6.7	
WHN			sP	pP	22 12 10.3	-4.0	
WHN			pmax	pmax			
	comp=Z,68nm,1.2s						
PEA0B	**Petropavlovsk-**	**69.51 354**	P	**P**	**22 12 01.5**	**-0.3**	
PETK	**Petropavlovsk-**	**69.51 354**	P	**P**	**22 11 59.3**	**-2.6**	
	comp=Z,9.6nm,0.8s,baz=142,slow=7.2,SNR=14						
PETK			LR	LR	22 41 35.7		
	comp=Z,66nm,18.3s,baz=165,slow=35						
	comp=Z,9.6nm,0.8s						
PETK	**Petropavlovsk-**	**69.51 354**	P	**P**	**22 12 01.6**	**-0.3**	
TIA	**Tai'an**	**70.64 319**	P	**P**	**22 12 07.4**	**-1.7**	
TIA			pmax	pmax			
	comp=Z,7.0nm,0.8s						
CN2	**Changchun**	**71.05 329**	*e*P	P	22 12 16.3	+4.9	
CN2			sP	pP	22 12 23.3	-2.2	
CN2			sS	sS	22 21 39.4	-8.0	
CN2			SKS	**ScS**	**22 22 14.3**	**+2.9**	
CN2			SS	**SS**	**22 25 55.8**	**-2.7**	
CN2			LR	LR			
	comp=Z,190nm,20.0s						
CN2			LR	LR			
	comp=Z,120nm,20.0s						
CN2			LR	LR			
	comp=Z,170nm,21.0s						
BNX	**BinXian**	**71.56 332**	⇓P	**P**	**22 12 12.6**	**-1.9**	
BNX			pmax	pmax			
	comp=Z,6.0nm,0.7s						
BNX			pmax	pmax			
	comp=Z,170nm,3.5s						
KLR	**Kul'dur**	**72.45 336**	P	**P**	**22 12 18.3**	**-1.5**	
	comp=Z,3.8nm,1.1s,baz=61,slow=5.6,SNR=4.7						
	comp=Z,3.8nm,1.1s						
ENH	**Enshi**	**72.54 310**	P	**P**	**22 12 17.9**	**-2.9**	
ENH			IAmb	IAmb	22 12 28.7		
	comp=Z,51nm,1.2s						
LYN	**LuoYang**	**72.73 315**	⇓P	P	22 12 28.4	+6.7	
LYN			sP	pP	22 12 33.9	-1.8	
LYN			pmax	pmax			
	comp=Z,30nm,1.3s						
LYN			LR	LR			
	comp=Z,270nm,22.6s						
LYN			LR	LR			
	comp=Z,170nm,21.8s						
LYN			LR	LR			
	comp=Z,420nm,22.9s						
HNS	**HongShan**	**72.90 318**	⇓P	**P**	**22 12 22.0**	**-0.6**	
HNS			pmax	pmax			
	comp=Z,13nm,0.9s						
BJT	**Baijiatuau**	**73.58 321**	P	**P**	**22 12 25.8**	**-0.9**	
BJT			IAmb	IAmb	22 12 34.7		
	comp=Z,28nm,1.3s						
QSPA	**South Pole Qui**	**73.88 180**	P	**P**	**22 12 28.9**	**+0.7**	
	comp=Z,8.2nm,0.7s,baz=29,slow=0.8,SNR=23						
	comp=Z,8.2nm,0.7s						
QSPA	**South Pole Qui**	**73.88 180**	P	**P**	**22 12 27.8**	**-0.4**	
TIY	**Taiyuan**	**74.55 317**	*e*P	P	22 12 40.5	+8.1	
TIY			PP	PP	22 15 35.8	+16	
TIY			S	**SKiKP**	**22 21 55.8**	**+1.4**	
TIY			pmax	pmax			
	comp=Z,36nm,1.0s						
TIY			LR	LR			
	comp=N,170nm,19.2s						
TIY			LR	LR			
	comp=E,190nm,17.9s						
TIY			LR	LR			
	comp=Z,220nm,20.6s						
XAN	**Xi'an**	**74.91 313**	⇓P	**P**	**22 12 33.4**	**-1.2**	
XAN			sP	PcP	22 12 40.8	-7.5	
XAN			pmax	pmax			
	comp=Z,10.0nm,1.2s						
XAN			LR	LR			
	comp=Z,250nm,19.9s						
XAN			LR	LR			
	comp=Z,160nm,19.2s						
XAN			LR	LR			
	comp=Z,390nm,21.3s						
HEH	**HeiHe**	**74.99 335**	*e*P	P	22 12 40.8	+6.2	
HEH			pmax	pmax			
	comp=Z,8.0nm,0.9s						
HEH			pmax	pmax			
	comp=Z,230nm,9.6s						
KMI	**Kunming**	**75.36 302**	⇑P	**P**	**22 12 36.4**	**-1.2**	
KMI			pP	PcP	22 12 44.8	-5.8	
KMI			pmax	pmax			
	comp=Z,10.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**75.85 294**	P	**P**	**22 12 39.1**	**-1.2**	
	comp=Z,0.6nm,0.3s,baz=132,slow=4.4,SNR=4.5						
	comp=Z,0.6nm,0.3s						
MA2	**Magadan**	**76.70 351**	LR	LR	22 41 35.1		
	comp=Z,363nm,21.8s,baz=167,slow=32						
PZH	**PanZhiHua**	**76.77 303**	P	**P**	**22 12 44.4**	**-1.0**	
PZH			pmax	pmax			
	comp=Z,10.0nm,0.9s						
PZH			pmax	pmax			
	comp=Z,130nm,5.3s						
BTO	**Baotou**	**77.73 319**	*e*P	P	22 12 59.1	+8.6	
TNCH	**TengChong**	**78.79 300**	*e*P	P	22 13 02.3	+5.5	
TNCH			pP	PcP	22 13 05.3	-0.2	
TNCH			pmax	pmax			
	comp=Z,10.0nm,0.7s						
LZH	**Lanzhou**	**79.54 312**	⇓P	**P**	**22 13 00.8**	**+0.2**	
LZH			pP	PcP	22 13 07.3	-1.2	
LZH			pmax	pmax			
	comp=Z,13nm,1.4s						
SEY	**Seymchan**	**79.73 353**	P	**P**	**22 12 59.3**	**-1.5**	
	comp=Z,6.7nm,0.8s,baz=148,slow=5.7,SNR=5.6						
SEY			LR	LR	22 42 30.2		
	comp=Z,399nm,22.0s,baz=151,slow=31						
	comp=Z,6.7nm,0.8s						
YAK	**Yakutsk**	**83.49 343**	LR	LR	22 46 15.7		
	comp=Z,178nm,21.4s,baz=90,slow=33						
SONM	**Songino Array**	**83.85 324**	P	**P**	**22 13 21.0**	**-2.1**	
	comp=Z,2.3nm,0.8s,baz=144,slow=5.6,SNR=14						
	comp=Z,2.3nm,0.8s						
GTA	**Gaotai**	**83.91 314**	⇑P	**P**	**22 13 21.6**	**-2.0**	
GTA			sP	PcP	22 13 30.9	+3.4	
GTA			pmax	pmax			
	comp=Z,6.0nm,1.7s						
ILAR	**Eielson Array**	**87.77 18**	P	**P**	**22 13 38.9**	**-3.1**	
	comp=Z,1.4nm,0.9s,baz=226,slow=4.8,SNR=8.2						
	comp=Z,1.4nm,0.9s						
NV11	**Mina Array Sit**	**88.04 49**	P	**P**	**22 13 42.0**	**-2.0**	
NV11			IAmb	IAmb	22 13 48.1		
	comp=Z,17nm,0.8s						
TIXI	**Tiksi**	**91.43 349**	P	**P**	**22 13 57.3**	**-1.6**	
	comp=Z,1.8nm,0.7s,baz=282,slow=0.1,SNR=6.5						
TIXI			LR	LR	22 50 18.5		
	comp=Z,91nm,21.8s,baz=76,slow=32						
	comp=Z,1.8nm,0.7s						
TROLL	**Troll, Antarti**	**91.47 185**	P	**P**	**22 13 59.5**	**0.0**	
SNAA	**Sanae**	**92.15 183**	P	**P**	**22 14 02.2**	**-0.4**	
SNAA	**Sanae**	**92.15 183**	P	**P**	**22 14 02.4**	**-0.1**	
	comp=Z,2.9nm,0.8s,baz=187,slow=6.4,SNR=7.1						
	comp=Z,2.9nm,0.8s						
SNAA	**Sanae**	**92.15 183**	P	**P**	**22 14 02.2**	**-0.4**	
SNAA			IAmb	IAmb	22 14 03.8		
	comp=Z,13nm,1.3s						
INK	**Inuvik**	**94.12 19**	LR	LR	22 51 08.0		
	comp=Z,259nm,19.9s,baz=218,slow=32						
MKAR	**Makanchi Array**	**98.48 316**	P	**P**	**22 14 31.6**	**-0.1**	
ZAA0	**Zalesovo Array**	**98.75 324**	P	Pdif	22 14 33.5	+0.8	
ZAA0			IAmb	IAmb	22 14 40.3		
	comp=Z,16nm,1.8s						
ZALV	**Zalesovo Beam**	**98.75 324**	P	**P**	**22 14 30.3**	**-2.3**	
	comp=Z,1.0nm,0.6s,baz=111,slow=7.9,SNR=5.6						
ZALV			LR	LR	23 00 20.3		
	comp=Z,83nm,19.4s,baz=102,slow=36						
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**98.75 324**	P	**P**	**22 14 30.8**	**-1.9**	
ARCES	**ARCESS Array B**	**121.72 345**	PKP	**PKPdf**	**22 19 45.0**	**-1.4**	
	comp=Z,2.7nm,0.5s,baz=52,slow=1.5,SNR=27						
KLMR	**Klimovskoe**	**122.11 333**	*e*PKPdf	**PKiKP**	**22 19 53.8**	**+6.2**	
KLMR			AMP		22 19 56.3		
	comp=Z,24nm,1.4s						
FINES	**FINESS Array B**	**127.17 338**	PKP	**PKPdf**	**22 19 55.5**	**-1.6**	
	comp=Z,1.1nm,0.7s,baz=33,slow=3.3,SNR=5.6						
GURO	**Guroymak-BITLI**	**127.61 306**		**PKPdf**	**22 19 58.1**	**-0.8**	
NB2	**NORSAR Subarra**	**132.09 345**	PKPdf	**PKPdf**	**22 20 05.9**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**132.09 345**	PKP	**PKPdf**	**22 20 05.6**	**-0.9**	
	comp=Z,0.6nm,0.7s,baz=29,slow=2.1,SNR=3.8						
AKASG	**Malin Array Be**	**132.11 325**	PKP	**PKPdf**	**22 20 06.0**	**-0.8**	
	comp=Z,0.7nm,0.6s,baz=75,slow=1.1,SNR=5.1						
AKASG			SKPbc	**SKPab**	**22 23 32.1**	**+2.1**	
	comp=Z,0.4nm,0.5s,baz=41,slow=3.6,SNR=1.8						
KOLS	**Kolonicke sedl**	**136.83 327**	*e*PKP	**PKiKP**	**22 20 22.3**	**+4.8**	
TRPA	**Tarpa**	**137.17 326**	PKP	PKiKP	22 20 28.0	+10	
LTVH	**Ltavrtes, Hu**	**137.95 325**	PKP	**PKiKP**	**22 20 19.6**	**-0.2**	
OSTC	**Ostas**	**138.70 332**	*e*PKP	**PKiKP**	**22 20 28.1**	**+6.8**	
KRLC	**Kraliky**	**138.79 332**	*e*PKP	**PKiKP**	**22 20 28.3**	**+6.8**	
VYHS	**Vyhne**	**138.88 328**	*e*PKP	**PKiKP**	**22 20 21.2**	**-0.5**	
CLL	**Collm**	**139.50 336**	*e*PKiKP	**PKiKP**	**22 20 23.0**	**+0.1**	
MODS	**Modra-Piesok**	**139.73 329**	*e*PKP	**PKiKP**	**22 20 24.4**	**+0.9**	
PRU	**Pruhonice**	**139.85 333**	*e*PKP	PKiKP	22 20 31.9	+8.3	
EKA	**Eskdalemuir Ar**	**140.26 352**	PKP	**PKPdf**	**22 20 21.7**	**-0.1**	
	comp=Z,0.4nm,0.4s,baz=18,slow=2.5,SNR=4.2						
MORH	**Mrgy, Hungar**	**140.44 326**	PKP	**PKPdf**	**22 20 23.3**	**+1.0**	
KOVH	**Kovagotottos**	**140.81 326**	PKP	**PKiKP**	**22 20 29.4**	**+3.7**	
CKRC	**Cesky Krumlov**	**140.81 332**	*e*PKP	**PKiKP**	**22 20 31.2**	**+5.5**	
KHC	**Kasperske Hory**	**140.91 333**	*e*PKP	**PKiKP**	**22 20 25.4**	**-0.5**	
GERES	**GERESS Array B**	**141.07 332**	PKhKP	PKPpre	22 20 18.2		
	comp=Z,0.4nm,0.7s,baz=51,slow=1.9,SNR=1.7						
WTTA	**Wattenberg**	**143.17 332**	*e*P	**PKPdf**	**22 20 27.3**	**-0.3**	
	comp=Z,12nm,1.4s						
MOTA	**Moosalm**	**143.34 333**	*e*P	**PKPdf**	**22 20 27.4**	**-0.4**	
	comp=Z,13nm,1.7s						
RETA	**Reutte**	**143.38 333**	*e*P	**PKPdf**	**22 20 27.4**	**-0.3**	
	comp=Z,3.4nm,1.0s						
SQTA	**Sankt Quirin**	**143.39 333**	*e*P	**PKPdf**	**22 20 27.6**	**-0.2**	
	comp=Z,8.1nm,1.1s						
FETA	**Feichten**	**143.76 333**	*e*P	**PKPdf**	**22 20 28.3**	**-0.3**	
	comp=Z,7.4nm,0.9s						
DAVA	**Damuels**	**143.91 334**	*i* P	**PKPdf**	**22 20 28.6**	**-0.2**	
	comp=Z,8.7nm,1.3s						
SENIN	**Lac Senin/Sane**	**145.71 336**		**PKPdf**	**22 20 30.5**	**-1.5**	
TIP	**Timpagrande**	**145.74 318**		**PKPdf**	**22 20 31.5**	**-0.6**	
BNI	**Bardonecchia**	**147.03 335**	PKPdf	**PKPdf**	**22 20 33.5**	**-0.7**	
SSB	**Saint Sauveur**	**147.68 337**		**PKPdf**	**22 20 35.3**	**+0.2**	
RAFF	**Raffo Rosso**	**148.40 317**		**PKPdf**	**22 20 35.8**	**-0.8**	
KEST	**Kesra**	**152.53 319**	PKPbc	**PKPbc**	**22 20 49.2**	**-0.9**	
	comp=Z,5.7nm,0.7s,baz=120,slow=1.0,SNR=6.8						
ESDC	**Sonseca Array**	**155.45 344**	PKPbc	PKPdf	22 20 55.3	+8.3	
	comp=Z,0.7nm,0.9s,baz=13,slow=3.6,SNR=3.6						
ESDC			PKPab	pPKPbc	22 21 11.1	-0.1	
	comp=Z,2.8nm,1.3s,baz=45,slow=2.9,SNR=5.2						
DBIC	**Dimbokro**	**168.04 219**	PKPab	**PKPab**	**22 22 08.4**	**+0.2**	
	comp=Z,2.4nm,1.0s,baz=211,slow=5.9,SNR=1.8						

MAN ***13*** *22:06:06.0,14.˚19N×125.˚19E,h32km,mb4.6,ML3.4, MS3.3*
IDC ***13*** *22:06:12.8±1.3, 12.˚92N×125.˚19E,h0km,mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=44.2km s-min=27.4km az=64.0*

ISC 13 22:06:06.3±2.3, 14˚2N±0˚2×125˚2E±0˚2, h27km, n7, σ0 6 1/5, mb3.6/4, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**3.57**	**223**	‖ *e*P		**Pn**	**22 06 59.6**	**-0.4**
LQP	**Lukban**	**3.59**	**269**	‖ *e*P		**Pn**	**22 07 01.0**	**+0.5**
PCPH	**Palayan**	**4.24**	**289**	‖ *e*P		**Pn**	**22 07 08.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**25.58**	**283**	P		P	22 11 46.3	+13
	1.7nm,0.3s,baz=94,slow=7.7,SNR=5.9							
	1.7nm,0.3s							
WRA	**Warramunga Arr**	**35.08**	**165**	P		**P**	**22 12 57.5**	**+0.2**
	0.5nm,0.8s,baz=343,slow=9.4,SNR=2.8							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**38.56**	**167**	P		**P**	**22 13 27.1**	**+0.2**
	0.5nm,0.5s,baz=349,slow=7.5,SNR=10							
	0.5nm,0.5s							
ILAR	**Eielson Array**	**76.38**	**26**	P		P	22 18 10.3	+17
	0.9nm,1.1s,baz=255,slow=6.5,SNR=4.0							
	0.9nm,1.1s							

WEL 13 22:10:14.2±0.6, 42˚S±4˚×17˚4E±˚, h5km, M3.8/17, ML4.1/17, MLv3.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=151.4, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.50**	**2**	P		Pg	22 10 23.5	-0.3
KHZ	**Kahutara**	**0.51**	**251**	P		Pg	22 10 22.8	-1.2
TUWZ	**Tuamarina**	**0.84**	**347**	P		Pb	22 10 31.5	+0.2
TUWZ				S		Sg	22 10 41.6	+0.5
BHW	**Baring Head**	**0.98**	**31**	P		Pg	22 10 32.0	-1.0
BHW				S		Sb	22 10 46.8	-0.1
TCW	**Tory Channel**	**1.04**	**4**	P		Pb	22 10 34.4	-0.2
TCW				S		Sb	22 10 48.6	0.0
PLWZ	**Palliser**	**1.04**	**50**	P		Pg	22 10 33.2	-1.0
WEL	**Wellington**	**1.05**	**24**	P		Pb	22 10 34.9	0.0
WEL				S		Sn	22 10 51.2	+0.5
THZ	**Tophouse**	**1.07**	**296**	P		Pg	22 10 33.9	-0.9
THZ				S		Sg	22 10 48.2	-0.5
NNZ	**Nelson**	**1.20**	**329**	P		Pg	22 10 36.5	-0.6
NNZ				S		Sg	22 10 52.8	+0.2
MRNZ	**Matariki Terra**	**1.37**	**308**	P		Pn	22 10 39.0	-1.0
MRNZ				S		Sn	22 10 59.0	+0.5
DUWZ	**D'Urville Isla**	**1.46**	**352**	P		Pn	22 10 40.4	-0.8
KIW	**Kapiti Island**	**1.49**	**21**	P		Pn	22 10 41.5	-0.1
TKNZ	**Takaka Hill**	**1.52**	**322**	P		Pn	22 10 40.7	-1.5
TKNZ				S		Sn	22 11 01.3	-1.0
HOWZ	**Holdsworth Sta**	**1.68**	**37**	P		Pn	22 10 43.7	-0.5
DSZ	**Denniston Nort**	**1.85**	**285**	P		Pn	22 10 47.1	+0.5
QRZ	**Quartz Range**	**1.89**	**318**	P		Pn	22 10 47.0	-0.1
QRZ				S		Sn	22 11 11.6	+0.2
INZ	**Inchbonnie**	**2.09**	**256**	P		Pn	22 10 50.9	+1.0
TSZ	**Takapari Road**	**2.56**	**32**	P		Pn	22 10 55.9	-0.5
BHHZ	**Black Hill Sta**	**3.10**	**28**	P		Pn	22 11 02.9	-1.0
VRZ	**Vera Road**	**3.15**	**8**	P		Pn	22 11 06.0	+1.5
TUVZ	**Tukino**	**3.18**	**21**	P		Pn	22 11 05.6	+0.6
MKAZ	**Moumakai**	**5.19**	**9**	P		Pn	22 11 32.5	0.0

WEL 13 22:13:44.7±0.5, 42˚S±3˚×17˚4E±˚, h5km, M3.8/62, ML3.9/14, MLv3.8/62, Error ellipse: s-maj=0.0km s-min=0.0km az=148.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.22**	**31**	P		Pg	22 13 50.2	+1.2
BSWZ	**Blackbirch Sta**	**0.26**	**327**	P		Pg	22 13 50.1	+0.4
BSWZ				S		Sg	22 13 54.1

BKZ	**Black Stump Fm**	**3.33**	**35**	P		Pb	22 14 43.5	-0.7
RATZ	**Rangitukua**	**3.33**	**24**	P		Pb	22 14 45.2	+1.0
WATZ	**Wairara**	**3.47**	**22**	P		Pb	22 14 47.6	+1.1
HIZ	**Hauiti**	**3.47**	**10**	P		Pn	22 14 42.5	+3.1
MRHZ	**Matea Rd**	**3.58**	**31**	P		Pb	22 14 48.6	+0.1
MTHZ	**Maungataniwha**	**3.74**	**35**	P		Pb	22 14 51.3	+0.1
ODZ	**Otahua Downs**	**3.98**	**218**	P		Pn	22 14 43.9	-2.5
JCZ	**Jackson Bay**	**4.42**	**239**	P		Pn	22 14 55.0	+2.5

WEL **13** *22:14:04.5±0.7,36°S±5°×17°8W±°, h33km, M4.8/19, mB5.1/4, ML5.2/19, MLv4.9/19, Mw(mB)4.5/4, Error ellipse: s-maj=0.0km s-min=0.0km az=122.9*

NEIC **13** *22:14:08.4±1.7,35.57S±0.08×179.5W±0.1, h10km±1km, mb4.8/17, Error ellipse: s-maj=20.5km s-min=11.4km az=60.0*

IDC **13** *22:14:27.6±8.2,35.26S×179.97E, h158km±69km, mb4.3/9, mbtmp4.7/10, MS4.7/2, Error ellipse: s-maj=39.3km s-min=18.9km az=68.0*

ISC 13 22:14:11.5±0.7, 35.45S±0.06×179.22W±0.09, h47km, n91, σ1§70/95, mb4.8/17, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.90**	**223**		**Pn**	**22 14 53.0**	**-2.2**
MXZ	**Matakaoa Point**	**2.90**	**223**	P	**Pn**	**22 14 53.3**	**-1.8**
MXZ				S	**Sn**	**22 15 27.5**	**-1.2**
WMGZ	**Waiomatatini S**	**3.03**	**218**	P	**Pn**	**22 14 55.5**	**-1.4**
WMGZ				S	**Sn**	**22 15 33.9**	**+1.9**
PKGZ	**Pakihiroa**	**3.26**	**221**	P	**Pn**	**22 14 59.2**	**-0.9**
PKGZ	**Pakihiroa**	**3.26**	**221**	P	**Pn**	**22 14 59.3**	**-0.8**
PKGZ				S	**Sn**	**22 15 36.7**	**-1.0**
PUZ	**Puketiti**	**3.31**	**217**	P	**Pn**	**22 14 59.7**	**-1.0**
PUZ	**Puketiti**	**3.31**	**217**	P	**Pn**	**22 14 59.8**	**-1.0**
PUZ				S	**Sn**	**22 15 38.9**	**+0.1**
HAZ	**Te Kaha**	**3.33**	**225**	P	**Pn**	**22 15 00.4**	**-0.6**
HAZ	**Te Kaha**	**3.33**	**225**	P	**Pn**	**22 15 00.4**	**-0.6**
HAZ				S	**Sn**	**22 15 40.9**	**+1.6**
TWGZ	**Tauwhareparae**	**3.53**	**219**	P	**Pn**	**22 15 03.0**	**-0.8**
TWGZ	**Tauwhareparae**	**3.53**	**219**	P	**Pn**	**22 15 02.7**	**-1.0**
TWGZ				S	**Sn**	**22 15 44.8**	**+0.5**
RUGZ	**Raukumara Rang**	**3.54**	**224**	P	**Pn**	**22 15 03.1**	**-0.9**
RUGZ	**Raukumara Rang**	**3.54**	**224**	P	**Pn**	**22 15 03.3**	**-0.7**
RUGZ				S	**Sn**	**22 15 44.0**	**-0.6**
CNGZ	**Carnagh Statio**	**3.66**	**213**	P	**Pn**	**22 15 04.6**	**-0.9**
TKGZ	**Te Karaka**	**3.79**	**217**	P	**Pn**	**22 15 07.1**	**-0.3**
MWZ	**Matawai**	**3.88**	**221**	P	**Pn**	**22 15 06.9**	**-1.7**
RIGZ	**Rimuhau**	**4.04**	**216**	P	**Pn**	**22 15 09.4**	**-1.5**
RIGZ				S	**Sn**	**22 15 56.8**	**-0.2**
RAGZ	**Rawiri**	**4.06**	**221**	P	**Pn**	**22 15 10.0**	**-1.1**
KUZ	**Kuaotunu**	**4.29**	**251**	P	**Pn**	**22 15 10.4**	**-0.8**
KNZ	**Kokohu**	**4.34**	**214**	P	**Pn**	**22 15 12.1**	**-2.7**
KNZ				S	**Sn**	**22 16 00.3**	**-3.9**
MHGZ	**Mahia Peninsul**	**4.34**	**211**	P	**Pn**	**22 15 12.7**	**-2.3**
GRZ	**Great Barrier**	**4.39**	**258**	P	**Pn**	**22 15 17.3**	**+1.6**
MUGZ	**Murupara**	**4.41**	**226**	P	**Pn**	**22 15 14.3**	**-1.5**
MUGZ				S	**Sn**	**22 16 03.8**	**-2.0**
RAHZ	**Arahi**	**4.54**	**219**	P	**Pn**	**22 15 15.9**	**-1.8**
RAHZ				S	**Sn**	**22 16 09.4**	**+0.1**
WIAZ	**Waiheke Island**	**4.76**	**252**	P	**Pn**	**22 15 20.2**	**-0.4**
TOZ	**Tahuroa Road**	**4.82**	**240**	P	**Pn**	**22 15 19.8**	**-1.6**
BKZ	**Black Stump Fm**	**5.04**	**221**	Pn	**Pn**	**22 15 20.9**	**-3.7**
BKZ	**Black Stump Fm**	**5.04**	**221**	P	**Pn**	**22 15 23.0**	**-1.6**
BKZ				S	**Sn**	**22 16 19.1**	**-2.4**
MCHZ	**McNeill Hill**	**5.14**	**218**	P	**Pn**	**22 15 25.8**	**-0.1**
MCHZ				S	**Sn**	**22 16 21.5**	**-2.4**
RATZ	**Rangitukua**	**5.25**	**228**	P	**Pn**	**22 15 27.7**	**+0.2**
RATZ				S	**Sn**	**22 16 31.2**	**+4.5**
KWHZ	**Kaweka Forest**	**5.26**	**220**	P	**Pn**	**22 15 26.3**	**-1.3**
KAHZ	**Kahuranaki**	**5.33**	**214**	P	**Pn**	**22 15 25.5**	**-2.9**
KAHZ				S	**Sn**	**22 16 25.7**	**-2.8**
HIZ	**Hauiti**	**5.64**	**235**	Pn	Pn	22 15 27.2	-5.5
OUZ	**Omahuta**	**5.88**	**270**		**Pn**	**22 15 34.2**	**-1.7**
GLKZ	**Green Lake**	**6.27**	**10**	P	Pn	22 15 35.9	-5.5
GLKZ				S	**Sn**	**22 16 44.2**	**-7.5**
RPZ	**Rata Peaks**	**11.14**	**219**	LR	LR	22 21 18.2	
	comp=Z,19μm,18.0s,baz=27,slow=38						
MARNC	**Mare, Loyalty**	**17.84**	**318**	Pn	**Pn**	**22 18 14.4**	**-1.9**
DZM	**Mont Dzumac**	**18.29**	**313**	P	**Pn**	**22 18 22.6**	**+0.7**
	2.7nm,0.6s,baz=156,slow=17,SNR=1.6						
DZM	**Mont Dzumac**	**18.29**	**313**		**P**	**22 18 21.2**	**-0.4**
KOUNC	**Koumac, New Ca**	**20.75**	**311**	P	**P**	**22 18 48.9**	**+0.6**
KOUNC				IAmb	IAmb	22 18 50.3	
	comp=Z,23nm,0.8s						
ARMA	**Armidale**	**24.93**	**273**	P	**P**	**22 19 30.2**	**-0.2**
ARMA				IAmb	IAmb	22 19 42.8	
	comp=Z,36nm,1.7s						
STKA	**Stephens Creek**	**32.66**	**265**	P	**P**	**22 20 38.8**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=109,slow=15,SNR=4.0						
	comp=Z,3.0nm,0.8s						
CTA	**Charters Tower**	**33.96**	**288**	P	**P**	**22 20 50.3**	**-0.3**
	comp=Z,13nm,0.9s,baz=111,slow=9.4,SNR=10						
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**33.96**	**288**	P	**P**	**22 20 50.7**	**+0.1**
CTAO				IAmb	IAmb	22 20 52.1	
	comp=Z,18nm,1.1s						
COEN	**Coen**	**39.97**	**293**	P	**P**	**22 21 42.0**	**+0.3**
COEN				IAmb	IAmb	22 21 42.7	
	comp=Z,14nm,1.0s						
PMG	**Port Moresby**	**40.13**	**302**	P	**P**	**22 21 42.4**	**-0.4**
	comp=Z,4.1nm,0.4s,baz=157,slow=7.7,SNR=3.1						
	comp=Z,4.1nm,0.4s						
KRVT	**Keravat (AS076**	**40.81**	**313**	P	**P**	**22 21 49.5**	**+0.9**
	comp=Z,21nm,0.5s,baz=176,slow=18,SNR=1.0						
	comp=Z,21nm,0.5s						
AS31	**Alice Springs**	**42.08**	**273**	P	**P**	**22 21 58.7**	**-0.3**
ASAR	**Alice Springs**	**42.08**	**273**	P	**P**	**22 21 58.4**	**-0.6**
	comp=Z,11nm,0.7s,baz=116,slow=7.5,SNR=101						
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**42.08**	**273**	P	**P**	**22 21 58.5**	**-0.4**
VNDA	**Vanda**	**42.98**	**186**	P	P	22 22 11.7	+6.2
	comp=Z,0.8nm,1.0s,baz=16,slow=4.1,SNR=3.6						
WR0	**Warramunga Arr**	**43.35**	**278**	P	**P**	**22 22 08.8**	**-0.5**
WR0				IAmb	IAmb	22 22 09.2	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**43.51**	**278**	P	**P**	**22 22 10.0**	**-0.6**
WB2				IAmb	IAmb	22 22 10.8	
	comp=Z,24nm,0.6s						
WRAB	**Tennant Creek**	**43.52**	**278**	P	**P**	**22 22 10.0**	**-0.7**
WRA	**Warramunga Arr**	**43.52**	**278**	P	**P**	**22 22 09.9**	**-0.8**
	comp=Z,16nm,0.6s,baz=122,slow=7.5,SNR=101						
WRA				PcP	**PcP**		
	comp=Z,0.7nm,0.7s,baz=113,slow=3.5,SNR=2.3					**22 23 58.2**	**+0.2**
	comp=Z,16nm,0.6s						
WRA	**Warramunga Arr**	**43.52**	**278**	P	**P**	**22 22 10.1**	**-0.5**
WB0	**Warramunga Arr**	**43.57**	**278**	P	**P**	**22 22 10.3**	**-0.7**
WB0				IAmb	IAmb	22 22 10.9	
	comp=Z,18nm,0.7s						
FORT	**Forrest**	**43.97**	**260**	P	**P**	**22 22 13.4**	**-0.7**
FORT				IAmb	IAmb	22 22 16.5	
	comp=Z,18nm,0.9s						
KNRA	**Kununurra**	**50.28**	**279**	P	**P**	**22 23 03.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**51.81**	**253**	LR	LR	22 43 42.4	
	comp=Z,140nm,18.5s,baz=246,slow=34						
MORW	**Morawa**	**54.26**	**257**	P	**P**	**22 23 31.9**	**-0.9**
PSA00	**Pilbara Seismi**	**54.53**	**267**	P	**P**	**22 23 33.1**	**-1.8**
QSPA	**South Pole Qui**	**54.67**	**180**	P	P	22 23 41.1	+5.6
	comp=Z,1.2nm,0.3s,baz=93,slow=3.3,SNR=3.7						
	comp=Z,1.2nm,0.3s						
SIJI	**Sorong**	**57.40**	**295**	P	**P**	**22 23 54.6**	**-0.9**
	comp=Z,6.4nm,0.6s,baz=125,slow=4.1,SNR=4.0						
	comp=Z,6.4nm,0.6s						
BELA	**Belgrano 2**	**64.93**	**172**	P	**P**	**22 24 47.5**	**+2.0**
BELA				IAmb	IAmb	22 25 30.5	
	comp=Z,15nm,1.6s						
H03S2	**Juan Fernandez**	**78.55**	**123**	T	T	23 52 56.0	
	baz=234						
H03S1	**Juan Fernandez**	**78.56**	**123**	T	T	23 53 04.8	
	baz=234						
H03S3	**Juan Fernandez**	**78.56**	**123**	T	T	23 52 53.8	
	baz=234						
H03N3	**Juan Fernandez**	**78.77**	**123**	T	T	23 53 12.2	
	baz=231						
H03N2	**Juan Fernandez**	**78.77**	**123**	T	T	23 53 16.4	
	baz=231						
H03N1	**Juan Fernandez**	**78.78**	**123**	T	T	23 53 24.4	
	baz=231						
PETK	**Petropavlovsk-**	**90.45**	**346**	P	**P**	**22 27 09.0**	**+1.6**
	comp=Z,4.5nm,0.7s,baz=155,slow=7.7,SNR=8.0						
	comp=Z,4.5nm,0.7s						
BVAR	**Borovoye Array**	**129.20**	**313**	PKP	**PKiKP**	**22 33 15.3**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=107,slow=1.5,SNR=8.0						
ARU	**Arti**	**136.21**	**317**	PKP	**PKiKP**	**22 33 29.9**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=90,slow=20,SNR=4.1						
ARCES	**ARCESS Array B**	**143.26**	**346**	PKhKP	PKPpre	22 33 38.0	
	comp=Z,9.0nm,1.1s,baz=22,slow=5.1,SNR=2.8						
OBN	**Obninsk**	**148.55**	**320**	PKPbc	**PKPbc**	**22 33 52.4**	**0.0**
	comp=Z,4.4nm,0.5s,baz=66,slow=4.1,SNR=5.9						
FINES	**FINESS Array B**	**149.44**	**336**	PKPbc	**PKiKP**	**22 33 55.8**	**+0.2**
	comp=Z,7.0nm,0.6s,baz=36,slow=4.9,SNR=24						
DBIC	**Dimbokro**	**150.89**	**168**	PKPbc	**PKiKP**	**22 34 02.3**	**+2.2**
	comp=Z,3.2nm,0.9s,baz=204,slow=3.7,SNR=5.1						
MEF	**Metsahovi**	**150.90**	**336**	*eP*	**PKiKP**	**22 33 58.9**	**+0.3**
RAF	**Rauma**	**151.11**	**339**	*eP*	**PKiKP**	**22 33 59.2**	**+0.2**
VSU	**Vasula**	**151.29**	**331**	*eP*	**PKiKP**	**22 34 01.0**	**+1.5**
MTSE	**Matsula**	**152.21**	**334**	*eP*	**PKiKP**	**22 34 02.6**	**+1.2**
IZAR	**Zarasai**	**153.26**	**327**	*eP*	**PKiKP**	**22 34 06.8**	**+3.1**
ISAL	**Salakas**	**153.42**	**327**	*eP*	**PKiKP**	**22 34 06.5**	**+2.5**
IIGN	**Ignalina**	**153.52**	**327**	*eP*	**PKiKP**	**22 34 06.2**	**+1.9**
NB2	**NORSAR Subarra**	**153.54**	**349**	PKP	**PKiKP**	**22 34 05.4**	**+1.2**
	comp=Z,8.0nm,0.8s,baz=39,slow=4.4						
NOA	**NORSAR Array B**	**153.54**	**349**	PKPbc	**PKiKP**	**22 34 05.8**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=16,slow=4.0,SNR=4.3						
BRTR	**Keskin Array B**	**153.70**	**289**	PKPbc	**PKiKP**	**22 34 05.8**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=122,slow=3.5,SNR=7.0						
VSVD	**Vaisvydziai**	**154.09**	**330**	*eP*	**PKiKP**	**22 34 07.4**	**+2.1**
AKASG	**Malin Array Be**	**154.44**	**315**	PKPbc	**PKiKP**	**22 34 07.2**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=55,slow=2.8,SNR=5.9						
EKA	**Eskdalemuir Ar**	**159.93**	**7**	PKPab	**PKPab**	**22 34 45.5**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=317,slow=3.4,SNR=3.8						

WEL **13** *22:15:00, 42.71S×172.70E, h10km, ML4.7, Mw4.7, Moment Tensor Solution. s8 Moment tensor: Scale 10^16 Nm; Mrr0.96; Mθθ-0.43; Mϕϕ-0.53; Mrθ0.07; Mθϕ-1.36; Mϕr0.28; Fault plane solution: M0 1.47000×10^16 NP1: ϕs255.00000°, δ50.00000°, λ138.00000°. NP2: ϕs16.00000°, δ59.00000°, λ48.00000°. Principal axes: T -1859.6500, Plg55.0000°, Azm232.0000°; N 777.4200, Plg34.0000°, Azm40.0000°; P 1082.2200, Plg5.0000°, Azm134.0000°;*

NEIC **13** *22:15:11.4±2.1, 42.97S±0.05×172.87E±0.06, h10km±1km, mb4.6/6 Error ellipse: s-maj=10.0km s-min=5.0km az=318.0*

WEL **13** *22:15:12.7±0.4, 43.3S±2.2×17.3E±°, h5km±2km, M4.5/13, ML4.8/13, MLv4.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=128.0*

IDC **13** *22:15:12.0±1.9, 42.89S×172.80E, h0km, mb4.5/6, mbtmp4.5/6, Error ellipse: s-maj=48.2km s-min=15.6km az=137.0*

ISC 13 22:15:11.7±1.2, 42.72S±0.02×172.76E±0.02, h2km±8km, n102, σ1§53/137, mb4.4/9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.32**	**140**	P	**Pb**	**22 15 20.4**	**+0.3**
LTZ	**Lake Taylor**	**0.36**	**261**	P	**Pg**	**22 15 19.0**	**+0.3**
LTZ				S	**Sg**	**22 15 24.4**	**+1.0**
AMCZ	**Amberley**	**0.46**	**190**	P	**Pb**	**22 15 23.1**	**+0.6**
KHZ	**Kahutara**	**0.65**	**62**	Pg	**Pg**	**22 15 25.4**	**+1.2**
KHZ				Sg	**Sb**	**22 15 34.7**	**-0.6**
KHZ	**Kahutara**	**0.65**	**62**	P	**Pb**	**22 15 26.0**	**+0.2**
KHZ				S	**Sb**	**22 15 36.7**	**+1.3**
CACS	**Harewood**	**0.78**	**192**	P	**Pb**	**22 15 28.9**	**+0.9**
CACS				S	**Sn**	**22 15 42.4**	**+0.5**
OXZ	**Oxford**	**0.80**	**221**	P	**Pb**	**22 15 29.1**	**+0.8**
OXZ				S	**Sn**	**22 15 41.2**	**-1.3**
REHS	**Christchurch**	**0.80**	**186**	P	**Pn**	**22 15 29.9**	**-0.1**
REHS				S	**Sn**	**22 15 43.5**	**+1.0**
THZ	**Tophouse**	**0.97**	**7**	P	**Pg**	**22 15 30.0**	**-0.2**
THZ				S	**Sg**	**22 15 42.0**	**-0.8**
INZ	**Inchbonnie**	**0.97**	**270**	P	**Pg**	**22 15 29.7**	**-0.5**
MQZ	**McQueen's Vall**	**0.98**	**184**	P	**Pb**	**22 15 32.1**	**+0.6**
MQZ				S	**Sn**	**22 15 46.5**	**-0.5**
OKCZ	**Okains Bay**	**1.02**	**168**	P	**Pb**	**22 15 32.8**	**+0.7**
OKCZ				S	**Sn**	**22 15 48.7**	**+0.7**
RACZ	**Rakaia**	**1.10**	**204**	P	**Pg**	**22 15 31.8**	**-1.0**
RACZ				S	**Sn**	**22 15 50.0**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.15**	**175**	P	**Pg**	**22 15 34.4**	**+0.5**
AKCZ				S	**Sn**	**22 15 50.5**	**-0.6**
MHCZ	**Mount Hutt**	**1.19**	**227**	P	**Pg**	**22 15 33.0**	**-1.4**
MHCZ				S	**Sn**	**22 15 51.7**	**-0.4**
DSZ	**Denniston Nort**	**1.21**	**324**	P	**Pg**	**22 15 33.7**	**-1.2**
DSZ				S	**Sb**	**22 15 51.7**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.31**	**40**		**Pb**	**22 15 37.3**	**+0.4**
BSWZ				Sg	**Sn**	**22 15 57.2**	**+2.3**
BSWZ	**Blackbirch Sta**	**1.31**	**40**	P	**Pg**	**22 15 37.4**	**+0.7**
BSWZ				S	**Sn**	**22 15 56.5**	**+1.5**
CMWZ	**Cape Campbell**	**1.46**	**48**		**Pb**	**22 15 39.8**	**+0.3**
WVZ	**Waitaha Valley**	**1.53**	**256**	P	**Pb**	**22 15 40.3**	**-0.3**
WVZ				S	**Sg**	**22 16 01.9**	**+1.2**
TUWZ	**Tuamarina**	**1.57**	**35**		**Pb**	**22 15 41.3**	**-0.1**
TUWZ	**Tuamarina**	**1.57**	**35**	P	**Pb**	**22 15 41.3**	**-0.1**
TUWZ				S	**Sn**	**22 16 01.5**	**+0.2**
NNZ	**Nelson**	**1.58**	**17**		**Pn**	**22 15 41.0**	**+0.3**
NNZ	**Nelson**	**1.58**	**17**	P	**Pn**	**22 15 39.8**	**-0.8**
NNZ				S	**Sb**	**22 16 01.9**	**0.0**
RPZ	**Rata Peaks**	**1.59**	**231**	Pg	**Pn**	**22 15 39.8**	**-1.0**
	243nm,0.3s,baz=67,slow=3.5,SNR=32						
RPZ				Lg	Lg	22 16 00.8	
	226nm,0.3s,baz=72,slow=20,SNR=23						
ARCZ	**Arundel**	**1.68**	**223**	P	**Pn**	**22 15 41.5**	**-0.6**
ARCZ				S	**Sn**	**22 16 03.0**	**-1.2**
TKNZ	**Takaka Hill**	**1.70**	**5**	P	**Pb**	**22 15 43.6**	**-0.1**
TKNZ				S	**Sn**	**22 16 03.2**	**-1.4**
GCSZ	**Gaunt Creek Bo**	**1.88**	**251**	P	**Pn**	**22 15 45.1**	**+0.3**
GCSZ				S	**Sn**	**22 16 08.9**	**-0.2**
TCW	**Tory Channel**	**1.89**	**37**	P	**Pn**	**22 15 46.0**	**+1.1**
TCW				S	**Sb**	**22 16 11.2**	**+0.2**
QRZ	**Quartz Range**	**1.91**	**355**		**Pn**	**22 15 46.1**	**+0.9**
QRZ	**Quartz Range**	**1.91**	**355**	P	**Pn**	**22 15 46.3**	**+1.1**
QRZ				S	**Sn**	**22 16 09.5**	**-0.2**
SNZO	**South Karori**	**2.02**	**46**		**Pn**	**22 15 48.0**	**+1.2**
WEL	**Wellington**	**2.08**	**47**	P	**Pn**	**22 15 47.5**	**-0.1**
WEL				S	**Sn**	**22 16 12.8**	**-1.1**
TMZ	**Timaru**	**2.09**	**217**	P	**Pn**	**22 15 47.1**	**-0.6**
TMZ				S	**Sn**	**22 16 12.1**	**-2.2**
DUWZ	**D'Urville Isla**	**2.11**	**25**	P	**Pb**	**22 15 49.6**	**-1.0**
DUWZ				S	**Sb**	**22 16 18.1**	**+0.8**
PLWZ	**Palliser**	**2.19**	**59**		**Pn**	**22 15 49.1**	**0.0**
MSWZ	**Moikau Station**	**2.27**	**56**		**Pn**	**22 15 49.4**	**-0.8**
MSWZ	**Moikau Station**	**2.27**	**56**	P	**Pn**	**22 15 49.3**	**-0.9**
MSWZ				S	**Sn**	**22 16 16.8**	**-1.9**
FOZ	**Fox Glacier**	**2.30**	**248**	P	**Pn**	**22 15 51.5**	**+0.9**
PAWZ	**Paruwai Farm**	**2.40**	**57**	P	**Pn**	**22 15 50.7**	**-1.3**
PAWZ				S	**Sn**	**22 16 20.1**	**-1.9**
KIW	**Kapiti Island**	**2.46**	**42**	P	**Pn**	**22 15 52.3**	**-0.5**
KIW				S	**Sn**	**22 16 22.6**	**-0.8**
TRWZ	**Traveller**	**2.55**	**60**	P	**Pn**	**22 15 53.6**	**-0.5**
TRWZ				S	**Sn**	**22 16 23.7**	**-2.0**
MTW	**Mount Morrison**	**2.58**	**54**	P	**Pn**	**22 15 52.7**	**-1.7**
MTW				S	**Sn**	**22 16 24.3**	**-2.0**
OGWZ	**Otaki Gorge**	**2.62**	**44**	P	**Pn**	**22 15 54.6**	**-0.5**
OGWZ				S	**Sn**	**22 16 25.6**	**-1.8**
HOWZ	**Holdsworth Sta**	**2.75**	**49**	P	**Pn**	**22 15 56.1**	**-0.8**
HOWZ				S	**Sn**	**22 16 28.6**	**-2.1**
MRZ	**Mangatainoka R**	**2.95**	**47**		**Pn**	**22 15 58.9**	**-0.6**
MRZ	**Mangatainoka R**	**2.95**	**47**	P	**Pn**	**22 15 58.3**	**-1.3**
MRZ				S	**Sn**	**22 16 33.1**	**-2.4**
OHWZ	**Ohakea**	**3.17**	**38**	P	**Pn**	**22 16 02.5**	**+0.1**
JCZ	**Jackson Bay**	**3.19**	**244**	P	**Pn**	**22 16 03.3**	**+0.3**
PRWZ	**Pori Road**	**3.24**	**49**	P	**Pn**	**22 16 09.3**	**-0.6**
BFZ	**Birch Farm**	**3.31**	**53**	Pn	**Pn**	**22 16 03.3**	**-0.7**
WKZ	**Wanaka**	**3.43**	**231**		**Pn**	**22 16 02.1**	**-4.0**
LREZ	**Lake Rotokare**	**3.49**	**21**	P	**Pn**	**22 16 13.8**	**-0.4**
HHSZ	**Highcliff Hill**	**3.52**	**205**	P	**Pn**	**22 16 06.5**	**-0.9**
EAZ	**Earnscleugh**	**3.53**	**224**	P	**Pn**	**22 16 06.6**	**-0.9**
NBEZ	**Newall Road No**	**3.55**	**14**	P	**Pn**	**22 16 10.1**	**+2.3**
KHEZ	**Kahui Hut**	**3.56**	**16**	P	**Pb**	**22 16 13.1**	**-2.3**
TSZ	**Takapari Road**	**3.59**	**43**	P	**Pb**	**22 16 15.7**	**-0.2**
PKE	**Pukeiti**	**3.65**	**15**	P	**Pn**	**22 16 11.8**	**+2.7**
DREZ	**Durham Road**	**3.70**	**18**	P	**Pn**	**22 16 13.1**	**+3.3**
VRZ	**Vera Road**	**3.90**	**24**	P	**Pn**	**22 16 15.5**	**+2.8**
TUZ	**Tuapeka**	**3.93**	**214**	P	**Pn**	**22 16 12.3**	**-0.7**
MSZ	**Milford Sound**	**4.01**	**239**	P	**Pn**	**22 16 12.0**	**-2.1**
WNVZ	**Wahianoa**	**4.02**	**33**	P	**Pn**	**22 16 15.0**	**+0.7**
WHVZ	**Whangaehu Hut**	**4.05**	**33**	P	**Pn**	**22 16 16.0**	**+1.1**
TUVZ	**Tukino**	**4.09**	**33**	P	**Pb**	**22 16 20.6**	**-3.9**
NNVZ	**North Ngauruho**	**4.19**	**32**	P	**Pn**	**22 16 21.3**	**+4.5**
MLZ	**Mavora Lakes**	**4.26**	**230**	P	**Pn**	**22 16 15.4**	**-2.2**
KWHZ	**Kaweka Forest**	**4.31**	**41**	P	**Pb**	**22 16 25.1**	**-3.1**
KWHZ	**Kaweka Forest**	**4.31**	**41**	S	Pn	22 16 24.6	+6.4
HIZ	**Hauiti**	**4.50**	**21**	Pn	**Pn**	**22 16 22.4**	**+1.5**
HIZ	**Hauiti**	**4.50**	**21**	P	**Pn**	**22 16 22.8**	**+1.9**
SYZ	**Scrubby Hill**	**4.60**	**213**	P	**Pn**	**22 16 21.6**	**-0.6**
WHZ	**Wether Hill Ro**	**4.69**	**226**		**Pn**	**22 16 21.8**	**-1.6**
TLZ	**Tolley Road**	**4.87**	**27**	S	**Pn**	**22 16 27.4**	**+1.3**
TLZ	**Tolley Road**	**4.87**	**27**	P	**Pn**	**22 16 27.3**	**+1.3**
DCZ	**Deep Cove**	**4.88**	**234**		**Pn**	**22 16 24.3**	**-1.7**
DCZ	**Deep Cove**	**4.88**	**234**	P	**Pn**	**22 16 24.1**	**-1.9**
APZ	**The Paps**	**5.33**	**218**	P	**Pn**	**22 16 31.4**	**-0.8**
TOZ	**Tahuroa Road**	**5.41**	**24**	P	**Pn**	**22 16 36.0**	**+2.6**
TOZ	**Tahuroa Road**	**5.41**	**24**	S	**Pn**	**22 16 33.2**	**-0.1**
PYZ	**Puysegur Point**	**5.55**	**230**		**Pn**	**22 16 33.6**	**-1.6**
PYZ	**Puysegur Point**	**5.55**	**230**	P	**Pn**	**22 16 33.2**	**-2.0**
AWAZ	**Awhitu Peninsu**	**5.84**	**15**	S	**Pn**	**22 16 42.1**	**+2.9**
AWAZ	**Awhitu Peninsu**	**5.84**	**15**	P	**Pn**	**22 16 41.8**	**+2.6**
MKAZ	**Moumakai**	**5.91**	**19**	P	**Pn**	**22 16 42.3**	**+2.1**
WTAZ	**Waiatarua**	**5.95**	**14**	P	**Pn**	**22 16 43.4**	**+2.7**
WIAZ	**Waiheke Island**	**6.20**	**18**	P	**Pn**	**22 16 46.8**	**+2.6**
STKA	**Stephens Creek**	**26.91**	**283**	P	**P**	**22 20 54.1**	**+0.1**
	4.0nm,0.7s,baz=121,slow=7.2,SNR=4.6						
	4.0nm,0.7s						
STKA	**Stephens Creek**	**26.91**	**283**	P	**P**	**22 20 53.4**	**-0.7**
STKA				IAmb	IAmb	22 20 59.4	
	comp=Z,1.4nm,1.0s						
BBOO	**Buckleboo**	**30.45**	**277**	P	**P**	**22 21 23.3**	**-2.3**
BBOO				IAmb	IAmb	22 21 41.5	
	comp=Z,27nm,1.4s						
ASAR	**Alice Springs**	**37.25**	**288**	P	**P**	**22 22 25.6**	**+0.8**
	comp=Z,6.6nm,0.9s,baz=130,slow=8.7,SNR=9.8						
ASAR				PcP	**PcP**	**22 24 44.3**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=116,slow=4.2,SNR=1.6						
	comp=Z,6.6nm,0.9s						
WB2	**Warramunga Arr**	**39.42**	**293**	P	**P**	**22 22 43.9**	**+0.7**
WB2				IAmb	IAmb	22 22 45.0	
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**39.43**	**293**	P	**P**	**22 22 44.3**	**+1.0**
	comp=Z,4.3nm,0.7s,baz=130,slow=7.6,SNR=2.1						
WRA				PcP	**PcP**	**22 24 51.6**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=133,slow=2.5,SNR=3.2						
	comp=Z,4.3nm,0.7s						
WRA	**Warramunga Arr**	**39.43**	**293**	P	**P**	**22 22 44.2**	**+1.0**
PMG	**Port Moresby**	**40.05**	**319**	P	**P**	**22 22 50.5**	**+2.2**
	comp=Z,6.5nm,0.4s,baz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.32	99	P	Pg	22 19 39.5	+0.6
KHZ				Sg	Sg	22 19 44.8	+1.6
KHZ	Kahutara	0.32	99	P	Pg	22 19 39.5	+0.6
KHZ	Kahutara	0.32	99	P	Pg	22 19 39.5	+0.6
KHZ				S	Sg	22 19 44.6	+1.4
GVZ	Greta Valley S	0.60	186	Pg	Pb	22 19 45.2	+0.2
GVZ				Sg	Sg	22 19 52.8	+0.5
GVZ	Greta Valley S	0.60	186	P	Pb	22 19 45.2	+0.3
GVZ				S	Sb	22 19 54.8	+1.4
THZ	Tophouse	0.62	345	Pg	Pg	22 19 44.5	-0.2
THZ				Sg	Sg	22 19 51.9	-1.0
THZ	Tophouse	0.62	345	P	Pg	22 19 44.5	-0.2
THZ				S	Sb	22 19 52.8	-1.2
LTZ	Lake Taylor	0.75	236	Pg	Pg	22 19 46.5	-0.6
LTZ				Sg	Sg	22 19 55.6	-1.4
LTZ	Lake Taylor	0.75	236	P	Pg	22 19 46.5	-0.6
LTZ				S	Sg	22 19 56.0	-0.9
BSWZ	Blackbirch Sta	0.86	41		Pg	22 19 48.9	-0.2
BSWZ				Sg	Sg	22 20 00.4	0.0
BSWZ	Blackbirch Sta	0.86	41	P	Pb	22 19 49.2	-0.1
AMCZ	Amberley	0.88	203	P	Pb	22 19 50.2	+0.6
MRNZ	Matariki Terra	1.00	344	P	Pb	22 19 51.5	-0.3
CMWZ	Cape Campbell	1.02	53		Pn	22 19 52.7	+0.1
CMWZ	Cape Campbell	1.02	53	P	Pn	22 19 53.5	+1.0
TUWZ	Tuamarina	1.12	34		Pb	22 19 53.2	-0.6
TUWZ	Tuamarina	1.12	34	P	Pb	22 19 53.3	-0.4
DSZ	Denniston Nort	1.16	302	Pn	Pg	22 19 54.2	-0.6
DSZ	Denniston Nort	1.16	302	P	Pg	22 19 54.4	-0.3
NNZ	Nelson	1.16	10		Pb	22 19 53.2	-1.3
NNZ	Nelson	1.16	10	P	Pb	22 19 54.9	-0.5
OXZ	Oxford	1.25	219		Pn	22 19 54.5	-1.2
OXZ	Oxford	1.25	219	P	Pn	22 19 54.7	-0.9
INZ	Inchbonnie	1.29	253	P	Pn	22 19 55.7	-0.5
TKNZ	Takaka Hill	1.33	355	P	Pb	22 19 56.9	-0.5
OKCZ	Okains Bay	1.36	182	P	Pn	22 19 56.2	-1.0
MQZ	McQueen's Vall	1.38	194	Pn	Pn	22 19 55.9	-1.7
MQZ	McQueen's Vall	1.38	194	P	Pn	22 19 55.9	-1.6
TCW	Tory Channel	1.44	37	P	Pn	22 19 58.5	+0.1
AKCZ	Akaroa Harbour	1.51	186	P	Pn	22 19 58.2	-1.2
RACZ	Rakaia	1.54	207	P	Pn	22 19 58.4	-1.2
SNZO	South Karori	1.59	49		Pn	22 20 00.3	0.0
QRZ	Quartz Range	1.60	344		Pb	22 20 01.1	-0.8
QRZ	Quartz Range	1.60	344	P	Pb	22 20 01.5	-0.4
QRZ	Quartz Range	1.60	344	P	Pb	22 20 01.3	-0.6
MHCZ	Mount Hutt	1.63	224	P	Pn	22 20 00.3	-0.6
WEL	Wellington	1.64	49	P	Pn	22 20 01.6	+0.5
DUWZ	D'Urville Isla	1.67	21	P	Pn	22 20 02.2	+0.7
PLWZ	Palliser	1.78	64	Pn	Pn	22 20 02.2	-0.9
PLWZ	Palliser	1.78	64	P	Pn	22 20 02.1	-0.9
WACZ	Wakanui South	1.83	210	P	Pn	22 20 02.4	-1.3
MSWZ	Moikau Station	1.85	60		Pn	22 20 02.8	-1.2
MSWZ	Moikau Station	1.85	60	P	Pn	22 20 03.4	-0.6
WVZ	Waitaha Valley	1.89	247	P	Pn	22 20 04.8	+0.3
CAW	Cannon Point	1.93	50	P	Pn	22 20 05.1	+0.1
PAWZ	Paruwai Farm	1.98	61	P	Pn	22 20 04.9	-0.9
KIW	Kapiti Island	2.02	42	P	Pn	22 20 06.7	+0.5
RPZ	Rata Peaks	2.03	228	Pn	Pn	22 20 05.7	-0.7
	422nm,0.3s,baz=60,slow=4.7,SNR=71						
RPZ				Sn	Sn	22 20 30.6	-1.0
	1μm,0.3s,baz=9.9,slow=18,SNR=7.8						
	2μm,0.6s						
RPZ	Rata Peaks	2.03	228	Pn	Pn	22 20 05.5	-0.9
RPZ	Rata Peaks	2.03	228	P	Pn	22 20 05.6	-0.9
RPZ	Rata Peaks	2.03	228	P	Pn	22 20 05.5	-0.9
ARCZ	Arundel	2.12	221	P	Pn	22 20 06.9	-0.8
TRWZ	Traveller	2.15	64	P	Pn	22 20 07.0	-1.1
MTW	Mount Morrison	2.15	57	P	Pn	22 20 07.1	-1.0
OGWZ	Otaki Gorge	2.18	46	P	Pn	22 20 08.4	-0.2
GCSZ	Gaunt Creek Bo	2.26	244	P	Pn	22 20 09.9	+0.3
HOWZ	Holdsworth Sta	2.32	52	P	Pn	22 20 09.8	-0.7
TMWZ	Te Maipa	2.43	60	P	Pn	22 20 10.5	-1.4
MRZ	Mangatainoka R	2.51	48		Pn	22 20 12.2	-0.9
MRZ	Mangatainoka R	2.51	48	P	Pn	22 20 12.1	-0.9
TMZ	Timaru	2.54	217	P	Pn	22 20 12.3	-1.1
TIWZ	Tintock	2.61	54	P	Pn	22 20 14.4	-0.1
FOZ	Fox Glacier	2.69	243	Pn	Pn	22 20 15.4	0.0
FOZ	Fox Glacier	2.69	243	P	Pn	22 20 16.4	+0.9
OHWZ	Ohakea	2.72	38	P	Pn	22 20 17.2	+1.4
CPWZ	Castlepoint	2.73	59	P	Pn	22 20 15.2	-0.9
POWZ	Post Office Ro	2.80	46	P	Pn	22 20 16.8	-0.3
PRWZ	Pori Road	2.81	51	P	Pn	22 20 16.4	-0.7
BFZ	Birch Farm	2.89	55		Pn	22 20 17.4	-0.8
BFZ	Birch Farm	2.89	55	P	Pn	22 20 17.1	-1.1
LBZ	Lake Benmore	2.94	226		Pn	22 20 18.8	-0.2
LBZ	Lake Benmore	2.94	226	P	Pn	22 20 18.6	-0.4
WAZ	Wanganui	2.97	29	P	Pn	22 20 21.8	+2.5
NMEZ	Namu Road	3.00	11	P	Pn	22 20 22.4	+2.6
LREZ	Lake Rotokare	3.06	19	P	Pb	22 20 24.6	-2.2
DVHZ	Dannevirke	3.09	49	P	Pn	22 20 19.4	-1.6
KHEZ	Kahui Hut	3.14	13	P	Pb	22 20 25.0	-3.3
KHEZ	Kahui Hut	3.14	13	P	Pb	22 20 25.5	-2.8
NBEZ	Newall Road No	3.15	11	P	Pn	22 20 24.3	+2.5
TSZ	Takapari Road	3.15	44	P	Pn	22 20 20.8	-1.0
NEZ	North Egmont	3.18	14	P	Pn	22 20 25.3	+3.0
ODZ	Otahua Downs	3.22	213		Pn	22 20 21.0	-1.4
ODZ	Otahua Downs	3.22	213	P	Pn	22 20 21.4	-1.4
ODZ	Otahua Downs	3.22	213	P	Pn	22 20 21.2	-1.6
PKE	Pukeiti	3.24	12	P	Pn	22 20 25.8	+2.7
DREZ	Durham Road	3.28	15	P	Pn	22 20 26.2	+2.6
PNHZ	Pukenui	3.38	45	P	Pn	22 20 23.7	-1.3
PRHZ	Porangahau	3.38	53	P	Pn	22 20 22.9	-2.1
WPHZ	Waipukurau	3.40	49	P	Pn	22 20 26.4	+1.1
MHEZ	Mangahewa	3.41	16	P	Pn	22 20 28.8	+3.4
VRZ	Vera Road	3.47	22	P	Pn	22 20 28.8	+2.6
MTVZ	Mangateitei	3.47	32	P	Pb	22 20 31.3	-2.6
PKVZ	Pokaka	3.51	30	P	Pn	22 20 28.7	+1.9
MOVZ	Moawhango	3.57	35	P	Pn	22 20 28.0	+0.4
WNVZ	Wahianoa	3.57	33	P	Pn	22 20 29.2	+1.4
TRVZ	Turoa	3.58	32	P	Pn	22 20 29.0	+1.2
JCZ	Jackson Bay	3.60	240	P	Pn	22 20 28.2	+0.1
JCZ	Jackson Bay	3.60	240	P	Pn	22 20 28.2	+0.2
DRZ	Dome Shelter	3.60	32	P	Pn	22 20 29.7	+1.4
WHWZ	Whangaehu Hut	3.60	32	P	Pn	22 20 29.4	+1.1
FWVZ	Far West T-bar	3.62	32	P	Pn	22 20 29.5	+1.1
BHHZ	Black Hill Sta	3.64	39	P	Pn	22 20 28.8	+0.2
TUVZ	Tukino	3.64	33	P	Pn	22 20 30.0	+1.2
PXZ	Pawanui	3.66	52	P	Pn	22 20 26.7	-2.1
NGZ	Ngauruhoe	3.70	31	P	Pn	22 20 30.7	+1.1
SNVZ	South Ngauruho	3.71	32	P	Pn	22 20 30.8	+1.1
TWVZ	Taurewa	3.73	29	P	Pn	22 20 31.1	+1.2
OTVZ	Oturere	3.74	32	P	Pn	22 20 32.0	+2.0
NNVZ	North Ngauruho	3.75	31	P	Pn	22 20 31.7	+1.5
WTVZ	West Tongariro	3.75	31	P	Pn	22 20 31.1	+0.9
ETVZ	East Tongariro	3.78	32	P	Pn	22 20 31.4	+0.8
KRVZ	Karewarewa	3.79	31	P	Pn	22 20 33.3	+2.6
TMVZ	Te Maari	3.79	32	P	Pn	22 20 31.6	+0.8
NTVZ	North Tongarir	3.80	32	P	Pn	22 20 32.2	+1.4
KAHZ	Kahuranaki	3.83	49	P	Pn	22 20 29.7	-1.6
KWHZ	Kaweka Forest	3.86	42	P	Pb	22 20 37.8	-2.7
WKZ	Wanaka	3.86	229		Pn	22 20 30.4	-1.3
WKZ	Wanaka	3.86	229	P	Pn	22 20 30.4	-1.2
KATZ	Kakaramea	3.91	31	P	Pn	22 20 36.3	+3.9
HHSZ	Highcliff Hill	3.96	206	P	Pn	22 20 31.5	-1.4
RITZ	Rihia Road	3.97	33	P	Pn	22 20 36.1	+2.9
EAZ	Earnscleugh	3.98	223	P	Pn	22 20 32.0	-1.2
CKHZ	Cape Kidnapper	4.04	49	P	Pn	22 20 33.0	-1.0
RATZ	Rangitukua	4.04	31	P	Pb	22 20 39.6	-3.9
HIZ	Hauiti	4.07	20	Pn	Pn	22 20 35.9	+1.5
HIZ	Hauiti	4.07	20	P	Pn	22 20 36.3	+1.8
HIZ	Hauiti	4.07	20	P	Pn	22 20 36.3	+1.9
BKZ	Black Stump Fm	4.10	40	Pn	Pn	22 20 34.2	-0.6
BKZ	Black Stump Fm	4.10	40	P	Pn	22 20 34.6	-0.3
HATZ	Hinemaiaia	4.14	34	P	Pb	22 20 40.8	-4.5
WATZ	Wairara	4.16	29	P	Pn	22 20 38.6	+2.9
ARHZ	Aropaoanui	4.27	45	P	Pn	22 20 36.9	-0.4
WHTZ	Whakaora	4.28	31	P	Pb	22 20 44.3	-3.4
NMHZ	Naumai	4.30	42	P	Pn	22 20 37.4	-0.3
MRHZ	Matea Rd	4.33	37	P	Pn	22 20 36.8	-1.3
TUZ	Tuapeka	4.38	214	P	Pn	22 20 37.5	-1.2
MSZ	Milford Sound	4.42	237	P	Pn	22 20 37.6	-1.7
TLZ	Tolley Road	4.43	25	P	Pn	22 20 41.4	+1.9
MTHZ	Maungataniwha	4.51	40	P	Pn	22 20 39.9	-0.6
ALRZ	Allen Road	4.53	34	P	Pn	22 20 39.9	-0.8
WHHZ	Waihua	4.54	45	P	Pn	22 20 41.7	+0.8
RAHZ	Arahi	4.58	43	P	Pn	22 20 40.5	-1.0
GRRZ	Galatos Road	4.62	31	P	Pn	22 20 44.6	+2.6
HRRZ	Handcock Road	4.65	32	P	Pn	22 20 43.3	+0.9
MLZ	Mavora Lakes	4.70	229		Pn	22 20 42.6	-0.5
MLZ	Mavora Lakes	4.70	229	P	Pn	22 20 41.7	-1.4
HSRZ	Hossack Road	4.70	32	P	Pb	22 20 50.2	-4.6
RTZ	Ruatahuna	4.76	39	P	Pn	22 20 43.0	-1.1
HLRZ	Highlands Stat	4.79	32	P	Pn	22 20 44.9	+0.4
UTU	Utuhina	4.80	30	P	Pn	22 20 47.8	+3.3
MHGZ	Mahia Peninsul	4.85	50	P	Pn	22 20 43.8	-1.4
NGRZ	Ngongotaha	4.86	30	P	Pn	22 20 48.2	+2.8
NGRZ				P	Pb	22 20 51.1	-6.4
TARZ	Mount Tarawera	4.87	33	P	Pn	22 20 45.9	+0.3
OMRZ	Omania	4.93	31	P	Pn	22 20 48.7	+2.4
KARZ	Kaharoa	4.96	30	P	Pn	22 20 48.5	+1.8
TOZ	Tahuroa Road	4.98	22	P	Pn	22 20 47.7	+0.8
KMRZ	Kaimai	5.01	27	P	Pn	22 20 49.1	+1.7
SYZ	Scrubby Hill	5.05	213	P	Pn	22 20 46.4	-1.5
SYZ	Scrubby Hill	5.05	213	P	Pn	22 20 46.7	-1.2
RAGZ	Rawiri	5.07	42	P	Pn	22 20 46.6	-1.7
EDRZ	Edgecumbe	5.08	34	P	Pn	22 20 46.7	-1.7
EDRZ				P	Pn	22 20 46.7	-1.7
RIGZ	Rimuhau	5.09	46	P	Pn	22 20 45.9	-2.6
URZ	Urewera	5.11	38	P	Pn	22 20 47.9	-0.9
WHZ	Wether Hill Ro	5.13	225		Pn	22 20 47.8	-1.2
WHZ	Wether Hill Ro	5.13	225	P	Pn	22 20 48.1	-0.9
MARZ	Manawahe	5.15	33	P	Pn	22 20 51.8	+2.5
TGRZ	Tauranga	5.22	29	P	Pn	22 20 48.9	-1.4
OPRZ	Ohinepanea	5.23	31	P	Pn	22 20 49.8	-0.6
DCZ	Deep Cove	5.31	232	Pn	Pn	22 20 50.1	-1.3
DCZ	Deep Cove	5.31	232	P	Pn	22 20 50.5	-0.9
TKGZ	Te Karaka	5.33	44	P	Pn	22 20 52.3	+0.5
WHRZ	Whale Island	5.39	35	P	Pn	22 20 55.0	+2.5
AWAZ	Awhitu Peninsu	5.42	13	P	Pn	22 20 54.7	+1.6
MKAZ	Moumakai	5.49	17	P	Pn	22 20 55.0	+1.1
CNGZ	Carnagh Statio	5.49	47	P	Pn	22 20 53.8	-0.2
WTAZ	Waiatarua	5.54	12	P	Pn	22 20 56.9	+2.2
ETAZ	East Tamaki Re	5.58	15	P	Pn	22 20 56.9	+1.7
TWGZ	Tauwhareparae	5.60	43	P	Pn	22 20 55.2	-0.3
RUGZ	Raukumara Rang	5.61	40	P	Pn	22 20 54.4	-1.4
MYRZ	Mayor Island	5.62	26	P	Pn	22 20 56.6	+0.8
EPAZ	Eden Park BICE	5.62	13	P	Pn	22 20 58.0	+2.2
HBAZ	Herne Bay Bore	5.65	13	P	Pn	22 20 58.6	+2.5
RVAZ	Riverhead Bore	5.70	12	P	Pn	22 20 59.2	+2.4
MBAZ	Motutapu North	5.75	14	P	Pn	22 20 59.7	+2.1
APZ	The Paps	5.77	218	P	Pn	22 20 55.9	-2.0
WIAZ	Waiheke Island	5.78	16	P	Pn	22 20 59.8	+1.8
PUZ	Puketiti	5.82	44	P	Pn	22 20 57.8	-0.7
HAZ	Te Kaha	5.83	39	P	Pn	22 20 56.9	-1.7
PKGZ	Pakihiroa	5.87	42	P	Pn	22 20 57.4	-1.8
ABAZ	Army Bay	5.91	14	P	Pn	22 21 01.6	+1.9
KUZ	Kuaotunu	5.96	21	P	Pn	22 21 00.7	+0.3
KUZ	Kuaotunu	5.98	21	P	Pn	22 21 00.8	+0.4
PYZ	Puysegur Point	5.98	228	Pn	Pn	22 20 59.9	-0.8
PYZ	Puysegur Point	5.98	228	P	Pn	22 20 59.9	-0.8
PYZ	Puysegur Point	5.98	228	P	Pn	22 20 59.0	-1.7
WMGZ	Waiomatatini S	6.09	44	P	Pn	22 21 00.4	-1.8
MXZ	Matakaoa Point	6.24	41	Pn	Pn	22 21 04.2	0.0
GRZ	Great Barrier	6.37	17	P	Pn	22 21 07.0	+1.0
WCZ	Waipu Caves	6.49	9	P	Pn	22 21 09.7	+2.1
OUZ	Omahuta	7.14	3		Pn	22 21 16.6	-0.1
OUZ	Omahuta	7.14	3	P	Pn	22 21 18.8	+2.1
OUZ	Omahuta	7.14	3	P	Pn	22 21 18.7	+2.0
CTZ	Chatham Island	7.64	104	P	Pn	22 21 21.4	-2.1
CTZ	Chatham Island	7.64	104	P	Pn	22 21 21.6	-1.9
MCQ	Macquarie Isla	15.31	213	P	Pn	22 23 09.1	+0.9
	baz=16,SNR=5.3						
MCQ	Macquarie Isla	15.31	213		Pn	22 23 08.2	0.0
MCQ				IAmb	IAmb	22 23 15.3	
	comp=Z,126nm,1.2s						
TAU	Tasmania Unive	18.97	260	P	P	22 23 53.1	-0.3
TAU				IAmb	IAmb	22 24 02.6	
	comp=Z,110nm,1.6s						
MOO	Moorlands	19.13	261	P	Pn	22 23 56.3	+0.2
	baz=19,SNR=4.4						
MILA	Mila	19.16	278	P	Pn	22 23 57.1	+0.5
	baz=19,SNR=5.1						
CNB	Canberra Magne	19.76	283	P	Pn	22 24 04.3	+0.5
OUENC	Ouen Island, N	20.57	343	P	P	22 24 10.2	-0.8
DZM	Mont Dzumac	20.99	342	ePn	P	22 24 16.4	+0.7
	comp=Z,79nm,1.1s						
DZM				eLR	LR	22 29 15.2	
	comp=Z,2μm,29.9s						
DZM	Mont Dzumac	20.99	342	P	P	22 24 15.3	-0.4
	comp=Z,4.3nm,0.8s,baz=95,slow=13,SNR=1.9						
DZM				LR	LR	22 32 16.5	
	comp=Z,1μm,19.0s,baz=178,slow=37						
	comp=Z,4.3nm,0.8s						
EIDS	Eidsvold	24.83	306	P	P	22 24 55.8	+1.3
	baz=25,SNR=3.8						
EIDS	Eidsvold	24.83	306	P	P	22 24 54.9	+0.4
EIDS				IAmb	IAmb	22 25 21.8	
	comp=Z,44nm,1.4s						
MSVF	Nonsavu	24.91	11	P	P	22 24 54.8	-0.5
	comp=Z,6.8nm,0.7s,baz=140,slow=17,SNR=2.4						
MSVF				LR	LR	22 34 11.2	
	comp=Z,2μm,19.1s,baz=187,slow=36						
	comp=Z,6.8nm,0.7s						
MSVF	Nonsavu	24.91	11	P	P	22 24 55.2	-0.1
RMQ	Roma	25.46	301	P	P	22 25 01.4	+1.2
	baz=26,SNR=4.3						
STKA	Stephens Creek	27.09	282	P	P	22 25 15.2	+0.3
	comp=Z,3.2nm,0.6s,baz=118,slow=13,SNR=4.2						
STKA				LR	LR	22 34 09.5	
	comp=Z,449nm,21.9s,baz=101,slow=32						
	comp=Z,3.2nm,0.6s						
HTT	Hallett	28.27	277	P	P	22 25 26.2	+0.7
LCRK	Leigh Creek	30.30	282	P	P	22 25 43.8	+0.3
BBOO	Buckleboo	30.67	276	P	P	22 25 47.0	+0.2
	baz=31,SNR=6.1						
BBOO	Buckleboo	30.67	276	P	P	22 25 46.6	-0.2
BBOO	Buckleboo	30.67	276	P	P	22 25 46.6	-0.2
RAR	Rarotonga	31.01	56	LR	LR	22 36 58.3	
	comp=Z,985nm,21.2s,baz=230,slow=34						
CTA	Charters Tower	31.72	306	P	P	22 25 55.5	-0.6
	comp=Z,7.3nm,1.0s,baz=138,slow=12,SNR=6.1						
CTA				LR	LR	22 37 37.2	
	comp=Z,531nm,18.4s,baz=122,slow=34						
	comp=Z,7.3nm,1.0s						
CTAO	Charters Tower	31.72	306	P	P	22 25 55.4	-0.8
CTAO				IAmb	IAmb	22 26 24.0	
	comp=Z,33nm,1.7s						
OOD	Oodnadatta	33.61	283	P	P	22 26 13.0	+0.4
MTSU	Mount Surprise	34.38	306	P	P	22 26 20.3	+0.9
	baz=35,SNR=4.4						
QIS	Mount Isa	35.57	297	P	P	22 26 30.3	+0.6
	baz=36,SNR=3.5						
QIS	Mount Isa	35.57	297	P	P	22 26 30.0	+0.4
VNDA	Vanda	35.57	184	P	P	22 26 32.5	+3.4
	comp=Z,0.2nm,0.5s,baz=0.0,slow=8.1,SNR=1.1						
TBI	Tubuai	36.34	70	eLR	LR	22 36 23.0	
	comp=Z,3μm,24.5s						
TBI				eLR	LR	22 36 23.5	
	comp=Z,13μm,23.2s						
TBI	Tubuai	36.34	70	eT	T	23 04 27.7	
	comp=Z,24nm,0.3s						
AS01	Alice Springs	37.36	287	P	P	22 26 44.5	-0.5
AS31	Alice Springs	37.40	287	P	P	22 26 44.6	-0.7
ASAR	Alice Springs	37.40	287	P	P	22 26 44.4	-0.9
	comp=Z,3.9nm,0.8s,baz=126,slow=7.0,SNR=28						
ASAR				LR	LR	22 40 24.7	
	comp=Z,566nm,18.6s,baz=138,slow=34						
	comp=Z,3.9nm,0.8s						
ASAR	Alice Springs	37.40	287	P	P	22 26 43.9	-1.4
FORT	Forrest	37.59	273	P	P	22 26 45.8	-0.9
FORT				IAmb	IAmb	22 26 59.7	
	comp=Z,31nm,0.9s						
FORT	Forrest	37.59	273	P	P	22 26 46.8	+0.1
	comp=Z,35nm,1.0s						
COEN	Coen	38.34	309	P	P	22 26 53.5	+0.3
	baz=39,SNR=4.8						
COEN	Coen	38.34	309	P	P	22 26 53.3	+0.2
COEN				IAmb	IAmb	22 27 04.1	
	comp=Z,32nm,1.6s						
WR0	Warramunga Arr	39.39	292	P	P	22 27 01.8	-0.3
WR0				IAmb	IAmb	22 27 30.6	
	comp=Z,39nm,1.6s						
WB2	Warramunga Arr	39.53	292	P	P	22 27 02.5	-0.7
WRAB	Tennant Creek	39.54	292	P	P	22 27 02.8	-0.5
	comp=Z,18nm,0.8s						
WRA	Warramunga Arr	39.54	292	P	P	22 27 02.1	-1.2
	comp=Z,6.0nm,0.9s,baz=133,slow=7.8,SNR=21						
WRA				LR	LR	22 44 30.0	
	comp=Z,992nm,18.0s,baz=108,slow=38						
	comp=Z,6.0nm,0.9s						
WRA	Warramunga Arr	39.54	292	P	P	22 27 02.2	-1.2
WB0	Warramunga Arr	39.62	293	P	P	22 27 03.2	-0.8
PMG	Port Moresby	39.96	318	P	P	22 27 07.7	+1.0
	comp=Z,8.9nm,0.3s,baz=127,slow=6.4,SNR=11						
PMG				LR	LR	22 41 52.4	
	comp=Z,1μm,19.5s,baz=137,slow=34						
	comp=Z,8.9nm,0.3s						
PMG	Port Moresby	39.96	318	P	P	22 27 05.3	-1.4
PMG				IAmb	IAmb	22 27 18.1	
	comp=Z,31nm,0.8s						
PAE	Paea	40.13	64	eT	T	23 09 24.2	
	comp=Z,4.8nm,0.3s						
PPT2	Papeete2	40.19	64	eLR	LR	22 38 10.6	
	comp=Z,979nm,23.5s						
PPT2				eLR	LR	22 38 10.9	
	comp=Z,727nm,23.5s						
PPT2	Papeete2	40.19	64	eT	T	23 09 30.5	
	comp=Z,4.5nm,0.3s						
PPT	Papeete	40.20	64	LR	LR	22 40 45.9	
	comp=Z,707nm,20.2s,baz=214,slow=32						
WRKA	Warakurna	40.59	281	P	P	22 27 10.9	-1.1
	baz=41,SNR=30						
WRKA	Warakurna	40.59	281	P	P	22 27 10.9	-1.1
VAH	Vaihoa	43.17	63	eT	T	23 13 38.9	
	comp=Z,5.4nm,0.2s						
KNRA	Kununurra	46.31	291	P	P	22 27 58.6	+0.5
	baz=46,SNR=3.9						
KNRA	Kununurra	46.31	291	P	P	22 27 58.6	+0.5
MEEK	Meekatharra	46.80	271	P	P	22 28 01.4	-0.5
	baz=47,SNR=12						
MEEK	Meekatharra	46.80	271	P	P	22 28 01.4	-0.5
QSPA	South Pole Qui	47.76	180	P	P	22 28 11.0	+1.9
	comp=Z,5.6nm,0.7s,baz=3.8,slow=4.2,SNR=9.0						
QSPA				LR	LR	22 46 25.8	
	comp=Z,619nm,20.6s,baz=40,slow=34						
	comp=Z,5.6nm,0.7s						
QSPA	South Pole Qui	47.76	180	P	P	22 28 10.1	+1.0
SAUI	Saumlaki	50.23	301	P	P	22 28 27.0	-1.4
GIRL	Giralia	52.35	273	P	P	22 28 45.3	+1.0
TAOE	Nuku Hiva Isla	52.80	65	eLR	LR	22 44 00.3	
	comp=Z,671nm,22.3s						
SOEI	Soe	53.58	293	P	P	22 28 53.8	+0.3
SOEI				IAmb	IAmb	22 29 11.3	
	comp=Z,22nm,0.7s						
BATI	Baumata	53.67	292	P	P	22 28 53.4	-0.7
	comp=Z,9.0nm,0.5s,baz=112,slow=5.4,SNR=1.2						
BATI				LR	LR	22 52 52.8	
	comp=Z,919nm,18.9s,baz=122,slow=37						
	comp=Z,9.0nm,0.5s						
MMRI	Maumere	55.77	292	P	P	22 29 08.2	-1.1
MMRI				IAmb	IAmb	22 29 32.1	
	comp=Z,36nm,1.1s						
SIJI	Sorong	55.80	306	P	P	22 29 09.2	-0.4
	comp=Z,13nm,0.2s,baz=139,slow=19,SNR=7.2						
SIJI				LR	LR	22 53 01.2	
	comp=Z,392nm,20.1s,baz=112,slow=36						
MAW	Mawson	58.54	205	P	P	22 29 28.7	+0.6
	comp=Z,2.3nm,0.9s,baz=77,slow=14,SNR=2.1						
	comp=Z,2.3nm,0.9s						
BELA	Belgrano 2	58.83	173	P	P	22 29 29.9	-0.3
BELA				IAmb	IAmb	22 29 44.3	
	comp=Z,8.5nm,0.9s						
KAPI	Kappang	60.08	293	P	P	22 29 39.8	+0.2
	comp=Z,2.6nm,0.3s,baz=162,slow=5.1,SNR=4.8						
	comp=Z,2.6nm,0.3s						
KAPI	Kappang	60.08	293	P	P

JCJ	**Chichijima**	**5.48**	**352**	P		**Pn**	**22 21 15.1**	**-1.1**
	94nm,0.4s,baz=208,slow=2.1,SNR=16								
JCJ				S		**S**	**22 22 21.1**	**-2.3**
	215nm,0.5s,baz=305,slow=21,SNR=9.7								
JCJ	**Chichijima**	**5.48**	**352**	Pn		**Pn**	**22 21 15.5**	**-0.7**
JCJ				Sn		**S**	**22 22 22.0**	**-1.5**
GUMO	**Guam**	**8.20**	**168**	P		**Pn**	**22 21 49.5**	**+0.5**
	193nm,1.0s,baz=0.0,slow=2.0,SNR=5.3								
JHJ2	**Mitsune**	**11.77**	**347**	Pn		**Pn**	**22 22 32.0**	**-0.3**
JHJ	**Hachijo jima 2**	**11.79**	**346**	P		**Pn**	**22 22 31.8**	**-0.7**
	227nm,1.1s,baz=108,slow=20,SNR=2.3								
JHJ				S		**S**	**22 24 43.9**	**0.0**
	53nm,0.6s,baz=90,slow=20,SNR=1.5								
JMN	**Monobe**	**14.51**	**328**	Pn		**Pn**	**22 23 06.4**	**+1.3**
INU	**Inuyama**	**14.64**	**340**	P		**P**	**22 23 05.7**	**+0.4**
JGF	**Kuroka**	**14.77**	**341**	P		**P**	**22 23 06.7**	**0.0**
MJAR	**Matsushiro Arr**	**15.43**	**345**	P		**P**	**22 23 13.8**	**-0.1**
	5.2nm,0.4s,baz=159,slow=8.4,SNR=16								
MJAR				S		**S**	**22 26 00.8**	**0.0**
	1.4nm,0.7s,baz=176,slow=16,SNR=3.5								
MAJO	**Matsushiro**	**15.43**	**345**	P		**P**	**22 23 14.2**	**+0.3**
MAJO				IAmb		IAmb	22 23 20.9		
	comp=Z,10nm,0.7s								
MJB9	**Matsu-Tunnel**	**15.43**	**345**	P		**P**	**22 23 14.1**	**+0.1**
MJB9				IAmb		IAmb	22 23 20.9		
	comp=Z,10nm,0.6s								
JHS	**Saijyo**	**15.91**	**329**			**Pn**	**22 23 21.5**	**+0.1**
JMM	**Marumori**	**16.28**	**354**	P		**P**	**22 23 23.9**	**+0.8**
JSD	**Sado**	**16.85**	**347**	P		**P**	**22 23 29.5**	**+0.2**
ERM	**Erimo**	**20.30**	**0**	P		**P**	**22 24 07.9**	**+1.9**
KSRS	**Korea Array**	**20.49**	**324**	P		**P**	**22 24 08.0**	**+0.2**
	comp=Z,1nm,0.6s,baz=144,slow=8.8,SNR=11								
	comp=Z,2.1nm,0.6s								
USA0B	**Ussuriysk Arra**	**24.29**	**340**	P		**P**	**22 24 42.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**24.29**	**340**	P		**P**	**22 24 42.9**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=146,slow=7.9,SNR=9.9								
	comp=Z,1.5nm,0.6s								
USRK	**Ussuriysk Ar.**	**24.29**	**340**	P		**P**	**22 24 42.5**	**0.0**
KLR	**Kul'dur**	**28.96**	**345**	P		**P**	**22 25 24.4**	**+0.4**
	comp=Z,7.8nm,0.6s,baz=159,slow=8.2,SNR=30								
KLR				PcP		**PcP**	**22 28 24.7**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=225,slow=2.9,SNR=4.7								
	comp=Z,7.8nm,0.6s								
SONM	**Songino Array**	**39.30**	**321**	P		**P**	**22 26 53.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=130,slow=8.1,SNR=8.4								
SONM				PcP		**PcP**	**22 28 53.8**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=118,slow=3.3,SNR=2.5								
	comp=Z,0.3nm,0.4s								
SONM	**Songino Array**	**39.30**	**321**	P		**P**	**22 26 52.9**	**+0.5**
KNRA	**Kununurra**	**39.66**	**202**	P		**P**	**22 26 54.6**	**-0.9**
KNRA				IAmb		IAmb	22 26 55.3		
	comp=Z,14nm,1.0s								
CMAR	**Chiang Mai Arr**	**41.47**	**274**	P		**P**	**22 27 11.4**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=83,slow=6.5,SNR=7.0								
	comp=Z,0.9nm,0.3s								
WRA	**Warramunga Arr**	**42.21**	**192**	P		**P**	**22 27 15.4**	**-0.8**
	comp=Z,3.9nm,0.5s,baz=12,slow=8.3,SNR=19								
	comp=Z,3.9nm,0.5s								
KULM	**Kulim**	**44.15**	**255**	P		**P**	**22 27 33.0**	**+1.3**
KULM				IAmb		IAmb	22 27 33.8		
	comp=Z,6.0nm,0.6s								
ASAR	**Alice Springs**	**45.92**	**192**	P		**P**	**22 27 44.5**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=20,slow=11,SNR=6.9								
	comp=Z,1.3nm,0.6s								
PSA00	**Pilbara Seismi**	**48.57**	**209**	P		**P**	**22 28 05.2**	**-0.5**
PSA00				IAmb		IAmb	22 28 05.9		
	comp=Z,6.5nm,0.9s								
GSI	**Gunungsitoli**	**48.68**	**252**	P		**P**	**22 28 06.4**	**-0.3**
GSI				IAmb		IAmb	22 28 07.4		
	comp=Z,10nm,0.5s								
STKA	**Stephens Creek**	**53.24**	**182**	P		**P**	**22 28 39.2**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=355,slow=11,SNR=1.3								
	comp=Z,1.4nm,0.4s								
STKA	**Stephens Creek**	**53.24**	**182**	P		**P**	**22 28 39.3**	**-0.7**
FORT	**Forrest**	**54.09**	**196**	P		**P**	**22 28 45.1**	**-1.0**
FORT				IAmb		IAmb	22 28 56.3		
	comp=Z,11nm,1.0s								
ZALV	**Zalesovo Beam**	**54.18**	**322**	P		**P**	**22 28 46.3**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=116,slow=6.6,SNR=4.1								
ZALV				PcP		**PcP**	**22 29 46.2**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=138,slow=4.1,SNR=8.9								
	comp=Z,0.8nm,0.5s								
MKAR	**Makanchi Array**	**54.65**	**313**	P		**P**	**22 28 50.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=82,slow=9.9,SNR=9.3								
MKAR				PcP		**PcP**	**22 29 48.5**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=70,slow=7.1,SNR=7.1								
	comp=Z,0.5nm,0.4s								
MKAR	**Makanchi Array**	**54.65**	**313**	P		**P**	**22 28 50.4**	**+0.3**
KURK	**Kurchatov**	**57.43**	**317**	P		**P**	**22 29 09.5**	**0.0**
KURBB	**Kurchatov Arra**	**57.48**	**317**	P		**P**	**22 29 09.9**	**0.0**
	comp=Z,2.0nm,0.3s,baz=94,slow=7.5,SNR=18								
KURBB				PcP		**PcP**	**22 30 00.4**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=89,slow=3.8,SNR=2.0								
	comp=Z,2.0nm,0.3s								
BOOM	**Boomskoye usch**	**59.05**	**307**	P		**P**	**22 29 22.1**	**+1.1**
PPLA	**Purkeypile**	**59.48**	**29**	P		**P**	**22 29 24.1**	**+0.5**
PPLA				IAmb		IAmb	22 29 35.5		
	comp=Z,6.7nm,1.2s								
BRLK	**Bradley Lake**	**59.50**	**32**	P		**P**	**22 29 23.0**	**-0.7**
SKT	**Skwentna**	**59.59**	**30**	P		**P**	**22 29 23.8**	**-0.4**
CAST	**Castle Rocks**	**59.64**	**28**	P		**P**	**22 29 25.3**	**+0.8**
CAST				IAmb		IAmb	22 29 27.0		
	comp=Z,3.1nm,0.7s								
SUA	**Susitna One**	**59.86**	**31**	P		**P**	**22 29 26.4**	**+0.3**
H21K	**Melozitna Rive**	**59.86**	**26**	P		**P**	**22 29 27.0**	**+1.0**
H21K				IAmb		IAmb	22 29 28.0		
	comp=Z,5.0nm,1.1s								
BPAW	**Bear Paw Mtn.**	**60.26**	**28**	P		**P**	**22 29 29.7**	**+1.0**
RC01	**Rabbit Creek A**	**60.28**	**31**	P		**P**	**22 29 28.9**	**+0.1**
TRF	**Thorofare Moun**	**60.44**	**28**	P		**P**	**22 29 30.2**	**+0.2**
PWL	**Port Wells**	**60.92**	**31**	P		**P**	**22 29 33.3**	**+0.1**
KNK	**Knik Glacier**	**60.94**	**31**	P		**P**	**22 29 32.9**	**-0.4**
KNK				IAmb		IAmb	22 29 35.0		
	comp=Z,6.9nm,1.1s								
SML	**Sawmill**	**61.05**	**30**	P		**P**	**22 29 34.5**	**+0.4**
I23K	**Minto, Yukon-K**	**61.16**	**26**	P		**P**	**22 29 35.6**	**+1.0**
I23K				IAmb		IAmb	22 29 37.0		
	comp=Z,4.7nm,0.8s								
H23K	**Yukon River**	**61.22**	**26**	P		**P**	**22 29 36.0**	**+1.0**
MDM	**Murphy Dome**	**61.59**	**27**	P		**P**	**22 29 37.5**	**-0.1**
CCB	**Clear Creek Bu**	**61.72**	**27**	P		**P**	**22 29 37.9**	**-0.5**
TOLK	**Toolik Lake Re**	**61.80**	**23**	P		**P**	**22 29 40.4**	**+1.4**
TOLK				IAmb		IAmb	22 29 40.8		
	comp=Z,2.9nm,0.6s								
H24K	**Noodor Dome**	**61.89**	**26**	P		**P**	**22 29 40.4**	**+0.8**
H24K				IAmb		IAmb	22 29 41.3		
	comp=Z,2.6nm,0.8s								
POKR	**Poker Plat Res**	**61.95**	**27**	P		**P**	**22 29 40.9**	**+1.0**
IL31		**62.13**	**27**	P		**P**	**22 29 40.4**	**-0.7**
ILAR	**Eielson Array**	**62.13**	**27**	P		**P**	**22 29 40.2**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=256,slow=4.9,SNR=35								
	comp=Z,1.7nm,0.6s								
ILAR	**Eielson Array**	**62.13**	**27**	P		**P**	**22 29 40.4**	**-0.7**
KLU	**Klutina**	**62.16**	**31**	P		**P**	**22 29 42.0**	**+0.6**
KLU				IAmb		IAmb	22 29 57.2		
	comp=Z,11nm,1.2s								
PAX	**Paxson**	**62.52**	**29**	P		**P**	**22 29 43.9**	**0.0**
PAX				IAmb		IAmb	22 30 00.2		
	comp=Z,3.7nm,1.1s								
BVAR	**Borovoye Array**	**62.63**	**320**	P		**P**	**22 29 45.1**	**+0.5**
	comp=Z,6.1nm,0.4s,baz=97,slow=7.6,SNR=61								
BVAR				PcP		**PcP**	**22 30 20.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=95,slow=4.8,SNR=3.9								
	comp=Z,6.1nm,0.4s								
BRVK	**Borovoye**	**62.70**	**320**	P		**P**	**22 29 45.7**	**+0.6**
BRVK				IAmb		IAmb	22 29 46.3		
	comp=Z,4.1nm,0.7s								
BMRM	**Bremner River**	**62.75**	**32**	P		**P**	**22 29 46.0**	**+0.7**
INK	**Inuvik**	**67.65**	**24**	P		**P**	**22 30 15.6**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=277,slow=3.3,SNR=5.6								
	comp=Z,0.8nm,0.4s								
ARU	**Arti**	**69.24**	**324**	P		**P**	**22 30 26.1**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=102,slow=9.3,SNR=5.4								
	comp=Z,2.0nm,0.3s								
ABKAR	**Akbulak array**	**69.50**	**316**	P		**P**	**22 30 28.4**	**+0.3**
KIRV	**Kirov**	**73.65**	**327**	P		**P**	**22 30 52.8**	**+0.4**
	comp=Z,5.0nm,0.4s,baz=130,slow=7.9,SNR=6.0								
	comp=Z,5.0nm,0.4s								
YKA	**Yellowknife Ar**	**76.55**	**28**	P		**P**	**22 31 08.8**	**0.0**
	comp=Z,3.6nm,0.7s,baz=291,slow=6.4,SNR=6.7								
	comp=Z,3.6nm,0.7s								
RES	**Resolute Bay**	**77.15**	**13**	P		**P**	**22 31 11.8**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=276,slow=3.0,SNR=4.9								
	comp=Z,2.0nm,0.7s								
ARCES	**ARCESS Array B**	**78.93**	**341**	P		**P**	**22 31 22.4**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=73,slow=8.5,SNR=26								
	comp=Z,3.3nm,0.5s								

CMB	**Columbia Colle**	**81.88**	**52**	P		**P**	**22 31 38.9**	**+0.8**
CMB				IAmb		IAmb	22 31 39.3		
	comp=Z,3.3nm,0.7s								
KBZ	**Khabaz**	**82.32**	**314**	P		**P**	**22 31 41.2**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=79,slow=16,SNR=7.9								
	comp=Z,4.3nm,0.8s								
KVN	**Kaiserville**	**83.17**	**51**	P		**P**	**22 31 45.4**	**+0.5**
KVN				IAmb		IAmb	22 31 46.1		
	comp=Z,2.2nm,0.7s								
FINES	**FINESS Array B**	**83.17**	**334**	P		**P**	**22 31 43.4**	**-0.8**
	comp=Z,2.9nm,0.4s,baz=68,slow=4.9,SNR=58								
	comp=Z,2.9nm,0.4s								
NVAR	**Mina Array Bea**	**83.26**	**51**	P		**P**	**22 31 46.1**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=274,slow=5.4,SNR=25								
	comp=Z,2.6nm,0.7s								
HRY	**Holter Researc**	**84.30**	**42**	P		**P**	**22 31 51.0**	**+0.7**
GMN	**Gold Mountain**	**84.45**	**52**	P		**P**	**22 31 52.0**	**+0.6**
GMN				IAmb		IAmb	22 31 52.6		
	comp=Z,2.4nm,1.0s								
ELK	**Elko**	**84.54**	**48**	P		**P**	**22 31 52.5**	**+0.7**
ELK				IAmb		IAmb	22 31 53.1		
	comp=Z,5.4nm,1.1s								
TPNV	**Topopah Spring**	**85.33**	**52**	P		**P**	**22 31 56.0**	**+0.2**
TPNV				IAmb		IAmb	22 31 57.2		
	comp=Z,4.8nm,0.9s								
DUG	**Dugway, Tooele**	**86.45**	**48**	P		**P**	**22 32 01.7**	**+0.6**
DUG				IAmb		IAmb	22 32 02.1		
	comp=Z,2.1nm,0.7s								
AKASG	**Malin Array Be**	**87.48**	**324**	P		**P**	**22 32 04.3**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=49,slow=5.2,SNR=2.6								
	comp=Z,0.2nm,0.4s								
PDAR	**Pinedale Array**	**87.50**	**45**	P		**P**	**22 32 06.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=169,slow=1.4,SNR=6.7								
	comp=Z,0.5nm,0.6s								
HFS	**Hagfors**	**88.73**	**337**	P		**P**	**22 32 09.3**	**-1.9**
	comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=15								
	comp=Z,1.1nm,0.4s								
NOA	**NORSAR Array B**	**88.95**	**339**	P		**P**	**22 32 10.6**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=52,slow=5.0,SNR=1.6								
	comp=Z,0.6nm,0.8s								
BRTR	**Keskin Array B**	**90.29**	**313**	P		**P**	**22 32 17.8**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=37,slow=3.8,SNR=1.7								
	comp=Z,0.5nm,0.6s								
TXAR	**Lajitas Array**	**98.17**	**54**	P		**P**	**22 32 54.8**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=282,slow=0.8,SNR=1.7								
	comp=Z,0.1nm,0.6s								
PLCA	**Paso Flores**	**145.81**	**132**	PKPbc		**PKPbc**	**22 38 55.7**	**-0.2**
	comp=Z,7.0nm,0.6s,baz=246,slow=4.5,SNR=19								
AC05	**El Transito**	**149.08**	**110**			**PKPdf**	**22 39 02.1**	**+1.5**
PB16	**IPOC Station P**	**149.25**	**90**	PKPdf		**PKPdf**	**22 39 02.6**	**+0.9**
MDP	**Montagnes des**	**149.28**	**32**	PKPbc		**PKPbc**	**22 39 06.1**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=306,slow=4.9,SNR=7.1								
PB11	**IPOC Station P**	**149.37**	**92**			**PKPdf**	**22 39 02.8**	**+1.5**
GO01	**Chusmiza**	**149.78**	**92**			**PKiKP**	**22 39 08.3**	**+0.1**
LPAZ	**La Paz**	**150.05**	**85**	PKPbc		**PKPbc**	**22 39 08.8**	**+0.4**
	comp=Z,4.6nm,0.6s,baz=331,slow=4.4,SNR=4.9								

WEL 13 22:24:39.1±0.5,**42°S**±2°×**17°4E**±°,**h10**km±3km,**M4.0**/18, **ML4.2**/18,**MLv4.0**/18,**Error ellipse: s-maj=0.0km s-min=0.0km az=166.7,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.17**	**16**	P	Pb	22 24 44.2	-0.3
CMWZ				S	Sg	22 24 48.1	+2.6
BSWZ	**Blackbirch Sta**	**0.29**	**315**	P	Pb	22 24 45.8	-0.6
BSWZ				S	Sb	22 24 50.4	-0.9
TUWZ	**Tuamarina**	**0.51**	**342**	P	Pb	22 24 50.0	-0.2
TUWZ				S	Sb	22 24 57.2	-0.4
KHZ	**Kahutara**	**0.67**	**222**	P	Pn	22 24 54.0	-0.7
TCW	**Tory Channel**	**0.71**	**8**	P	Pb	22 24 53.3	-0.3
BHW	**Baring Head**	**0.74**	**47**	P	Pb	22 24 54.7	+0.6
BHW				S	Sn	22 25 06.9	0.0
WEL	**Wellington**	**0.78**	**36**	P	Pb	22 24 55.2	+0.3
WEL				S	Sn	22 25 07.8	-0.3
PLWZ	**Palliser**	**0.90**	**68**	P	Pb	22 24 57.0	+0.2
NNZ	**Nelson**	**0.91**	**320**	P	Pb	22 24 56.8	-0.1
NNZ				S	Sg	22 25 08.5	+0.2
THZ	**Tophouse**	**0.94**	**279**	P	Pb	22 24 57.9	+0.3
THZ				S	Sb	22 25 10.8	+0.7
MSWZ	**Moikau Station**	**0.96**	**59**	P	Pb	22 24 57.9	0.0
CAW	**Cannon Point**	**1.06**	**41**	P	Pb	22 24 59.6	0.0
PAWZ	**Paruwai Farm**	**1.10**	**61**	P	Pb	22 24 59.5	-0.7
DUWZ	**D'Urville Isla**	**1.13**	**351**	P	Pb	22 25 00.6	-0.1
MRNZ	**Matariki Terra**	**1.16**	**296**	P	Pg	22 25 02.0	+0.5
KIW	**Kapiti Island**	**1.20**	**29**	P	Pn	22 25 02.0	+0.1
TKNZ	**Takaka Hill**	**1.26**	**314**	P	Pg	22 25 03.1	-0.1
TRWZ	**Traveller**	**1.26**	**66**	P	Pn	22 25 01.4	-1.4
MTW	**Mount Morrison**	**1.27**	**54**	P	Pn	22 25 01.7	-1.1
OGWZ	**Otaki Gorge**	**1.34**	**35**	P	Pn	22 25 03.5	-0.4
HOWZ	**Holdsworth Sta**	**1.45**	**46**	P	Pn	22 25 04.5	-0.9
TMWZ	**Te Maipa**	**1.54**	**59**	P	Pn	22 25 05.2	-1.5
MRZ	**Mangatainoka R**	**1.65**	**41**	P	Pn	22 25 07.3	-0.9
TIWZ	**Tintock**	**1.73**	**49**	P	Pn	22 25 08.7	-0.7
POWZ	**Post Office Ro**	**1.95**	**39**	P	Pn	22 25 11.6	-0.8

*IDC **13** 22:25:33.4±8.0, 40°.85S×174°.57E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=599.1km s-min=68.7km az=4.0*

*WEL **13** 22:25:36.6±0.5, 42°S±3°×17°4E±°, h7km±4km, M3.9/16, ML4.3/16, MLv3.9/16, Error ellipse: s-maj=0.0km s-min=0.0km az=10.8*

ISC 13 22:25:36.5±1.0,**41°.74S**±0°.05×**174°.22E**±0°.03,**h11**km±6km, **n27**,σ1§**12**/35,**mb3.5**/3,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.01**	**209**	P	**Pg**	**22 25 37.6**	**-0.8**
BSWZ	**Blackbirch Sta**	**0.26**	**275**	P	**Pg**	**22 25 42.3**	**+0.5**
BSWZ				S	**Sg**	**22 25 47.3**	**+1.8**
TUWZ	**Tuamarina**	**0.37**	**326**	P	**Pg**	**22 25 43.0**	**-0.9**
TUWZ				S	**Sb**	**22 25 50.2**	**-0.8**
TCW	**Tory Channel**	**0.53**	**4**	P	**Pg**	**22 25 46.9**	**+0.2**
TCW				S	**Sb**	**22 25 55.1**	**-0.4**
BHW	**Baring Head**	**0.59**	**56**	P	**Pg**	**22 25 48.1**	**+0.2**
WEL	**Wellington**	**0.61**	**42**	P	**Pg**	**22 25 48.8**	**+0.4**
PLWZ	**Palliser**	**0.79**	**78**	P	**Pb**	**22 25 52.8**	**+0.5**
PLWZ				S	**Sn**	**22 26 05.7**	**+0.1**
MSWZ	**Moikau Station**	**0.83**	**68**	P	**Pg**	**22 25 52.4**	**-0.2**
MSWZ				S	**Sn**	**22 26 06.8**	**+0.2**
CAW	**Cannon Point**	**0.89**	**46**	P	**Pg**	**22 25 53.7**	**0.0**
PAWZ	**Paruwai Farm**	**0.97**	**69**	P	**Pg**	**22 25 53.9**	**-1.3**
KIW	**Kapiti Island**	**1.02**	**31**	P	**Pg**	**22 25 55.9**	**-0.2**
KIW				S	**Sg**	**22 26 09.6**	**+0.3**
MTW	**Mount Morrison**	**1.12**	**59**	P	**Pg**	**22 25 57.5**	**-0.6**
MTW				S	**Sg**	**22 26 13.3**	**+0.6**
MRNZ	**Matariki Terra**	**1.15**	**287**	P	**Pn**	**22 25 59.0**	**+0.4**
TRWZ	**Traveller**	**1.15**	**73**	P	**Pn**	**22 25 60.0**	**+1.4**
OGWZ	**Otaki Gorge**	**1.16**	**38**	P	**Pg**	**22 25 58.5**	**-0.4**
OGWZ				S	**Sn**	**22 26 16.1**	**+1.4**
TKNZ	**Takaka Hill**	**1.18**	**306**	P	**Pg**	**22 25 58.8**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.28**	**50**	P	**Pn**	**22 26 00.7**	**+0.2**
TMWZ	**Te Maipa**	**1.40**	**64**	P	**Pn**	**22 26 01.1**	**-1.1**
MRZ	**Mangatainoka R**	**1.48**	**44**	P	**Pn**	**22 26 02.4**	**-0.8**
TIWZ	**Tintock**	**1.58**	**53**	P	**Pn**	**22 26 05.7**	**+1.2**
PRWZ	**Pori Road**	**1.77**	**49**	P	**Pn**	**22 26 07.2**	**0.0**
BFZ	**Birch Farm**	**1.85**	**56**	P	**Pn**	**22 26 08.9**	**+0.6**
DVHZ	**Dannevirke**	**2.06**	**46**	P	**Pn**	**22 26 10.7**	**-0.3**
ASAR	**Alice Springs**	**38.01**	**286**	P	**P**	**22 32 52.5**	**-2.2**
	0.4nm,0.5s,baz=129,slow=9.7,SNR=3.1						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**40.08**	**290**	P	**P**	**22 33 10.5**	**-1.6**
	0.5nm,0.5s,baz=127,slow=8.0,SNR=3.4						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.62**	**293**	P	**P**	**22 38 42.8**	**-1.0**
	0.4nm,0.3s,baz=155,slow=4.5,SNR=1.7						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**152.51**	**327**	PKPbc	**PKPdf**	**22 45 28.6**	**+3.6**
	1.7nm,0.9s,baz=50,slow=2.2,SNR=1.9						

WEL 13 22:27:13.5±0.4,**42°S**±2°×**17°3E**±°,**h12**km,**M3.4**/8,**ML3.6**/8, **MLv3.4/8**,**Error ellipse: s-maj=0.0km s-min=0.0km az=115.0,South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.21**	**85**	P	Pg	22 27 18.3	+0.1
GVZ	**Greta Valley S**	**0.56**	**197**	P	Pb	22 27 25.5	+0.3
GVZ				S	Sb	22 27 34.3	+1.2
THZ	**Tophouse**	**0.72**	**339**	P	Pb	22 27 28.4	+0.4
THZ				S	Sb	22 27 37.9	0.0
LTZ	**Lake Taylor**	**0.80**	**244**	P	Pb	22 27 29.9	+0.5
BSWZ	**Blackbirch Sta**	**0.86**	**33**	P	Pb	22 27 30.3	-0.1
AMCZ	**Amberley**	**0.86**	**211**	P	Pn	22 27 31.6	+0.1
DSZ	**Denniston Nort**	**1.28**	**302**	P	Pg	22 27 39.0	+0.9
MQZ	**McQueen's Vall**	**1.34**	**199**	P	Pn	22 27 37.1	-1.0
MQZ				S	Sb	22 27 54.6	-1.2
TCW	**Tory Channel**	**1.45**	**32**	P	Pb	22 27 40.6	+0.2
WVZ	**Waitaha Valley**	**1.96**	**250**	P	Pn	22 27 47.8	+1.3
RPZ	**Rata Peaks**	**2.06**	**231**	P	Pn	22 27 47.9	0.0

WEL 13 22:30:38.4±0.5,**42°S**±2°×**17°3E**±°,**h5**km±2km,**M3.5**/8, **ML3.6**/8,**MLv3.5**/8,**Error ellipse: s-maj=0.0km s-min=0.0km az=82.4,South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.18**	**169**	P	Pg	22 30 42.3	+0.4
KHZ				S	Sg	22 30 45.6	+1.3
BSWZ	**Blackbirch Sta**	**0.60**	**29**	P	Pg	22 30 49.7	-0.2
BSWZ				S	Sg	22 30 58.7	+1.0
THZ	**Tophouse**	**0.65**	**317**	P	Pg	22 30 51.0	+0.1
THZ				S	Sg	22 31 00.3	+1.0
GVZ	**Greta Valley S**	**0.80**	**205**	P	Pb	22 30 55.1	+0.2
GVZ				S	Sg	22 31 03.0	-1.2
TUWZ	**Tuamarina**	**0.88**	**23**	P	Pg	22 30 55.1	-0.2
TUWZ				S	Sb	22 31 08.1	-0.1
AMCZ	**Amberley**	**1.12**	**213**	P	Pb	22 31 00.4	0.0
DSZ	**Denniston Nort**	**1.35**	**291**	P	Pg	22 31 04.7	+0.3
DUWZ	**D'Urville Isla**	**1.47**	**13**	P	Pn	22 31 05.9	+0.2
OXZ	**Oxford**	**1.52**	**224**	P	Pn	22 31 06.3	-0.1
MQZ	**McQueen's Vall**	**1.59**	**203**	P	Pn	22 31 05.2	-2.0
INZ	**Inchbonnie**	**1.59**	**252**	P	Pb	22 31 07.9	-0.4
RACZ	**Rakaia**	**1.79**	**213**	P	Pn	22 31 08.7	-1.3
WACZ	**Wakanui South**	**2.09**	**215**	P	Pn	22 31 12.9	-1.2
WVZ	**Waitaha Valley**	**2.20**	**247**	P	Pn	22 31 16.0	+0.5
RPZ	**Rata Peaks**	**2.32**	**230**	P	Pn	22 31 17.2	-0.1
ARCZ	**Arundel**	**2.41**	**224**	P	Pn	22 31 17.7	-0.8
GCSZ	**Gaunt Creek Bo**	**2.57**	**244**	P	Pn	22 31 22.3	+1.6
TMZ	**Timaru**	**2.81**	**219**	P	Pn	22 31 23.7	-0.3
FOZ	**Fox Glacier**	**3.00**	**243**	P	Pn	22 31 29.0	+2.5
ODZ	**Otahua Downs**	**3.48**	**215**	P	Pn	22 31 32.2	-1.1
EAZ	**Earnscleugh**	**4.26**	**224**	P	Pn	22 31 43.2	-0.8
SYZ	**Scrubby Hill**	**5.31**	**215**	P	Pn	22 31 58.3	0.0

*IDC **13** 22:32:46.8±2.1, 4°.24S×152°.

comp=Z,1.3nm,0.6s,baz=148,slow=7.1,SNR=4.8
comp=Z,1.3nm,0.6s
USRK Ussuriysk Ar. 51.76 341 P **P** **22 41 51.9 +0.7**
comp=Z,1.4nm,0.7s,baz=126,slow=7.3,SNR=2.6
comp=Z,1.4nm,0.7s
KLR Kul'dur 56.34 343 P **P** **22 42 24.9 +0.4**
comp=Z,4.2nm,0.8s,baz=166,slow=6.6,SNR=11
comp=Z,4.2nm,0.8s
PETK Petropavlovsk- 57.28 3 P **P** **22 42 31.7 +0.5**
comp=Z,2.3nm,0.4s,baz=192,slow=8.9,SNR=4.3
comp=Z,2.3nm,0.4s
CMAR Chiang Mai Arr 57.74 295 P **P** **22 42 35.3 +0.3**
comp=Z,0.7nm,0.3s,baz=120,slow=4.1,SNR=2.7
comp=Z,0.7nm,0.3s
SONM Songino Arrav 65.91 328 P **P** **22 43 29.4 -0.3**
comp=Z,0.7nm,0.6s,baz=142,slow=5.0,SNR=4.7
comp=Z,0.7nm,0.6s
VNDA Vanda 73.38 178 P **P** **22 44 15.8 +0.7**
comp=Z,2.7nm,0.7s,baz=335,slow=6.5,SNR=15
comp=Z,2.7nm,0.7s
KDAK Kodiak Island 75.63 27 LR LR 23 11 39.0
comp=Z,336nm,21.2s,baz=206,slow=31
ILAR Eielson Array 81.60 22 P **P** **22 44 59.6 -1.6**
comp=Z,2.1nm,0.8s,baz=245,slow=5.5,SNR=26
ILAR LR LR 23 16 47.0
comp=Z,129nm,19.3s,baz=211,slow=32
comp=Z,2.1nm,0.8s
AAK Ala-Archa 84.36 313 P **P** **22 45 16.6 +0.5**
comp=Z,1.6nm,0.8s,baz=96,slow=6.1,SNR=5.4
comp=Z,1.6nm,0.8s
QSPA South Pole Qui 85.72 180 P **P** **22 45 22.7 +0.3**
comp=Z,5.3nm,0.7s,baz=29,slow=19,SNR=20
comp=Z,5.3nm,0.7s
QSPA South Pole Qui 85.72 180 P **P** **22 45 22.3 -0.1**
BBB Bella Bella 86.59 37 LR LR 23 19 15.2
comp=Z,154nm,19.2s,baz=236,slow=32
DLBC Dease Lake 86.85 31 LR LR 23 17 51.1
comp=Z,380nm,20.7s,baz=252,slow=31
INK Inuvik 87.89 21 LR LR 23 21 32.1
comp=Z,102nm,19.1s,baz=215,slow=33
CLL Collm 122.42 331 *e*PKPdf **PKPdf** **22 51 38.0 -0.8**
GERES GERESS Array B 123.64 329 PKP **PKPdf** **22 51 40.9 -0.4**
comp=Z,0.6nm,0.6s,baz=92,slow=2.3,SNR=4.3
BDFB Brasilia 151.38 134 PKPbc **PKPbc** **22 52 38.2 -0.3**
comp=Z,4.8nm,0.6s,baz=264,slow=1.8,SNR=11

MAN ***13*** *22:33:15.4, 7.°30N×126.°74E, h14km, mb4.9, ML3.9, MS3.9*
IDC ***13*** *22:33:17.6±2.5, 7.°41N×126.°91E, h82km±24km, mb3.8/11, mbtmp4.1/11, Error ellipse: s-maj=29.1km s-min=15.7km az=82.0*
NEIC ***13*** *22:33:18.2±1.2, 7.°31N±0.°05×126.°9E±0.°1, h82km±8km, mb5.0/19, Error ellipse: s-maj=16.3km s-min=5.1km az=105.0*

ISC 13 22:33:15.3±1.7, 7.°38N±0.°05×127.°0E±0.°1, h59km±15km, n48, σ1§83/56, mb4.5/22, 3C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.04**	**320**	⇓ *i*	P	**Pn**	**22 33 31.5**	**-2.3**
BIPH				*i*	S	**Sn**	**22 33 44.4**	**-3.2**
DAV	**Davao City (W)**	**1.47**	**258**	P		**Pn**	**22 33 40.2**	**+0.6**
	1μm,0.4s,baz=64,slow=4.1,SNR=36							
DAV				S		**Sn**	**22 33 59.0**	**+1.1**
	3μm,0.6s,baz=78,slow=23,SNR=16							
DAV	**Davao City (W)**	**1.47**	**258**	Pn		**Pn**	**22 33 40.4**	**+0.8**
DAV				Sn		**Sn**	**22 33 58.3**	**+0.4**
KCP	**Kidapawan**	**1.96**	**259**	⇓ *e*P		**Pn**	**22 33 44.7**	**-1.6**
KCP				*i* S		**Sn**	**22 34 16.7**	**+6.9**
CGP	**Cagayan de Oro**	**2.55**	**295**	⇑ *e*P		**Pn**	**22 33 54.6**	**+0.3**
CGP				*i* S		**Sn**	**22 34 23.4**	**-0.8**
CTBH	**Cotabato--PC H**	**2.77**	**267**	⇑ *i*P		**Pn**	**22 33 57.4**	**+0.2**
SCPH	**Surigao**	**2.83**	**328**	⇑ *e*P		**Pn**	**22 34 00.7**	**+2.6**
SCPH				*e*S		**Sn**	**22 34 37.1**	**+6.0**
DCPH	**Dipolog City**	**3.83**	**288**	⇓ *e*P		**Pn**	**22 34 15.1**	**+3.3**
TBP	**Tagbilaran**	**3.89**	**307**	⇓ *i*P		**Pn**	**22 34 12.7**	**+0.1**
TBP				*i* S		**Sn**	**22 34 56.2**	**-0.8**
SNPH	**Sibulan**	**4.23**	**298**	⇓ *e*P		**Pn**	**22 34 17.2**	**-0.1**
SNPH				*e*S		**Sn**	**22 35 03.8**	**-1.8**
KNRA	**Kununurra**	**22.97**	**176**	P		**P**	**22 38 14.8**	**-0.1**
WRA	**Warramunga Arr**	**28.08**	**165**	P		**P**	**22 39 02.6**	**+1.1**
	1.3nm,0.7s,baz=345,slow=10,SNR=1.4							
	1.3nm,0.7s							
INU	**Inuyama**	**29.31**	**17**	P		**P**	**22 39 13.4**	**+1.1**
PSA00	**Pilbara Seismi**	**29.62**	**194**	P		**P**	**22 39 13.9**	**-1.3**
PSA00	**Pilbara Seismi**	**29.62**	**194**	P		**P**	**22 39 13.9**	**-1.3**
MJAR	**Matsushiro Arr**	**30.77**	**18**	P		**P**	**22 39 25.0**	**-0.3**
	1.9nm,0.7s,baz=190,slow=9.3,SNR=6.0							
	1.9nm,0.7s							
ASAR	**Alice Springs**	**31.57**	**168**	P		**P**	**22 39 32.8**	**+0.3**
	0.7nm,0.3s,baz=335,slow=7.3,SNR=10							
ASAR				PcP		**PcP**	**22 42 23.7**	**-0.3**
	1.2nm,0.4s,baz=348,slow=2.5,SNR=6.3							
	0.7nm,0.3s							
JMM	**Marumori**	**32.82**	**20**	P		**P**	**22 39 44.9**	**+1.7**
JMM				IAmb		IAmb	22 39 46.2	
	comp=Z,50nm,1.4s							
USA0B	**Ussuriysk Arra**	**36.94**	**6**	P		**P**	**22 40 19.7**	**+1.2**
USA0B				IAmb		IAmb	22 40 21.0	
	comp=Z,46nm,1.8s							
USRK	**Ussuriysk Ar.**	**36.94**	**6**	P		**P**	**22 40 19.2**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=187,slow=9.0,SNR=7.6							
	comp=Z,3.4nm,0.7s							
USRK	**Ussuriysk Ar.**	**36.94**	**6**	P		**P**	**22 40 19.6**	**+1.1**
MORW	**Morawa**	**37.75**	**196**	P		**P**	**22 40 23.7**	**-2.0**
FORT	**Forrest**	**37.95**	**179**	P		**P**	**22 40 26.9**	**-0.4**
BBOO	**Buckleboo**	**40.88**	**168**	P		**P**	**22 40 51.1**	**-0.6**
BBOO				IAmb		IAmb	22 41 03.3	
	comp=Z,46nm,1.5s							
NWAO	**Narrogin (SRO)**	**41.15**	**193**	P		**P**	**22 40 53.4**	**-0.5**
NWAO				IAmb		IAmb	22 41 01.4	
	comp=Z,30nm,1.3s							
KLR	**Kul'dur**	**41.90**	**5**	P		**P**	**22 41 00.2**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=124,slow=7.1,SNR=5.8							
	comp=Z,1.1nm,0.5s							
SONM	**Songino Arrav**	**43.98**	**340**	P		**P**	**22 41 16.1**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=155,slow=9.9,SNR=1.4							
PETK	**Petropavlovsk-**	**51.97**	**23**	P		**P**	**22 42 19.5**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=201,slow=7.6,SNR=3.3							
	comp=Z,2.5nm,0.6s							
MKAR	**Makanchi Array**	**54.78**	**324**	P		**P**	**22 42 38.0**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=110,slow=7.2,SNR=12							
	comp=Z,0.6nm,0.4s							
ZALV	**Zalesovo Seismi**	**57.51**	**332**	P		**P**	**22 42 57.3**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=139,slow=6.8,SNR=2.2							
	comp=Z,0.3nm,0.4s							
ABKAR	**Akbulak array**	**69.55**	**320**	P		**P**	**22 44 16.5**	**-1.5**
H23K	**Yukon River**	**80.62**	**24**	P		**P**	**22 45 22.4**	**+1.0**
H23K				IAmb		IAmb	22 45 25.9	
	comp=Z,36nm,2.0s							
I23K	**Minto, Yukon-K**	**80.66**	**25**	P		**P**	**22 45 22.4**	**+0.8**
I23K				IAmb		IAmb	22 45 26.1	
	comp=Z,29nm,1.7s							
H24K	**Noodor Dome**	**81.31**	**25**	P		**P**	**22 45 26.3**	**+1.2**
H24K				IAmb		IAmb	22 46 23.6	
	comp=Z,20nm,1.6s							
CCB	**Clear Creek Bu**	**81.31**	**26**	P		**P**	**22 45 25.1**	**0.0**
ILAR	**Eielson Array**	**81.71**	**26**	P		**P**	**22 45 25.4**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=247,slow=5.0,SNR=5.8							
	comp=Z,0.9nm,0.8s							
ILAR	**Eielson Array**	**81.71**	**26**	P		**P**	**22 45 25.5**	**-1.7**
BMAR	**Burnt Mountain**	**82.62**	**23**	P		**P**	**22 45 34.0**	**+2.0**
J26L	**Joseph Creek**	**83.14**	**26**	P		**P**	**22 45 35.2**	**+0.4**
J26L				IAmb		IAmb	22 47 09.2	
	comp=Z,19nm,1.8s							
I26K	**Coal Creek Min**	**83.28**	**25**	P		**P**	**22 45 36.4**	**+1.0**
I26K				IAmb		IAmb	22 46 12.5	
	comp=Z,22nm,1.6s							
WAX	**Waxell Ridge**	**83.70**	**30**	P		**P**	**22 45 39.9**	**+2.2**
BCAR	**Beaver Creek A**	**84.02**	**27**	P		**P**	**22 45 40.9**	**+1.6**
VNDA	**Vanda**	**86.98**	**173**	P		**P**	**22 45 53.6**	**0.0**
ARCES	**ARCESS Array B**	**87.15**	**340**	P		**P**	**22 45 54.1**	**-0.5**
	comp=Z,3.5nm,1.0s,baz=81,slow=5.8,SNR=1.6							
	comp=Z,3.5nm,1.0s							
FINES	**FINESS Array B**	**88.78**	**332**	P		**P**	**22 46 01.0**	**-1.5**
	comp=Z,2.8nm,1.0s,baz=5.2,slow=4.6,SNR=2.4							
	comp=Z,2.8nm,1.0s							
C36M	**Paulatuk**	**89.70**	**20**	P		**P**	**22 46 06.6**	**0.0**
MORC	**Moravsky Berou**	**96.74**	**322**	P		P	22 46 28.8	-11
MORC				IAmb		IAmb	22 48 44.6	
	comp=Z,12nm,1.7s							
TXAR	**Lajitas Array**	**119.11**	**51**	PKP		**PKiKP**	**22 51 59.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=310,slow=2.0,SNR=7.0							

WEL 13 22:34:49.4±0.4, 42.°3S±3.°×17.°4E±.°, h8km±3km, M4.1/18, ML4.4/18, MLv4.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=153.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**203**	P	Pg	22 34 52.5	+1.3
BSWZ	**Blackbirch Sta**	**0.27**	**267**	P	Pg	22 34 55.2	+0.3
BSWZ				S	Sg	22 34 59.7	+1.2
TUWZ	**Tuamarina**	**0.35**	**320**	P	Pg	22 34 57.0	+0.7
TUWZ				S	Sb	22 35 02.4	-1.2
TCW	**Tory Channel**	**0.49**	**3**	P	Pg	22 34 59.5	+0.6
TCW				S	Sb	22 35 06.8	-0.8
BHW	**Baring Head**	**0.56**	**59**	P	Pb	22 35 01.0	-0.4
WEL	**Wellington**	**0.57**	**44**	P	Pb	22 35 01.5	-0.2
WEL				S	Sb	22 35 10.0	0.0
PLWZ	**Palliser**	**0.77**	**81**	P	Pb	22 35 05.2	+0.2
MSWZ	**Moikau Station**	**0.81**	**70**	P	Pb	22 35 06.1	+0.4
NNZ	**Nelson**	**0.81**	**306**	P	Pg	22 35 04.5	-0.4
CAW	**Cannon Point**	**0.86**	**47**	P	Pb	22 35 06.4	-0.1
DUWZ	**D'Urville Isla**	**0.93**	**345**	P	Pb	22 35 07.8	+0.1
DUWZ				S	Sb	22 35 20.2	-0.1
PAWZ	**Paruwai Farm**	**0.94**	**71**	P	Pg	22 35 07.6	0.0
KIW	**Kapiti Island**	**0.98**	**31**	P	Pg	22 35 08.3	+0.1
MTW	**Mount Morrison**	**1.09**	**61**	P	Pg	22 35 09.8	-0.5
MTW				S	Sb	22 35 24.8	-0.2
OGWZ	**Otaki Gorge**	**1.13**	**39**	P	Pb	22 35 11.1	0.0
OGWZ				S	Sn	22 35 26.6	-0.5
TRWZ	**Traveller**	**1.13**	**75**	P	Pg	22 35 09.8	-1.3
MRNZ	**Matariki Terra**	**1.15**	**285**	P	Pg	22 35 11.3	-0.2
MRNZ				S	Sn	22 35 27.4	-0.4
TKNZ	**Takaka Hill**	**1.17**	**304**	P	Pg	22 35 11.1	-0.8
HOWZ	**Holdsworth Sta**	**1.25**	**51**	P	Pn	22 35 12.1	-1.1
TMWZ	**Te Maipa**	**1.38**	**65**	P	Pn	22 35 13.4	-1.5
MRZ	**Mangatainoka R**	**1.45**	**45**	P	Pn	22 35 15.0	-0.8
TIWZ	**Tintock**	**1.55**	**54**	P	Pn	22 35 16.1	-1.2
GVZ	**Greta Valley S**	**1.55**	**215**	P	Pn	22 35 17.3	-0.1
QRZ	**Quartz Range**	**1.56**	**304**	P	Pn	22 35 17.7	+0.2
CPWZ	**Castlepoint**	**1.57**	**63**	P	Pn	22 35 18.7	-0.3
OHWZ	**Ohakea**	**1.70**	**29**	P	Pb	22 35 20.4	-0.4
PRWZ	**Pori Road**	**1.74**	**49**	P	Pn	22 35 18.6	-1.3
POWZ	**Post Office Ro**	**1.74**	**42**	P	Pn	22 35 19.1	-0.9
LTZ	**Lake Taylor**	**1.82**	**233**	P	Pn	22 35 19.6	-1.4
BFZ	**Birch Farm**	**1.82**	**57**	P	Pn	22 35 19.1	-1.9
DSZ	**Denniston Nort**	**1.82**	**268**	P	Pb	22 35 22.1	-0.9
AMCZ	**Amberley**	**1.89**	**218**	P	Pg	22 35 27.3	+1.7
DVHZ	**Dannevirke**	**2.02**	**47**	P	Pn	22 35 22.1	-1.7
WAZ	**Wanganui**	**2.02**	**16**	P	Pb	22 35 26.8	+0.4
ANWZ	**Angora Road**	**2.09**	**54**	P	Pn	22 35 23.0	-1.8
TSZ	**Takapari Road**	**2.10**	**39**	P	Pn	22 35 23.9	-1.0
LREZ	**Lake Rotokare**	**2.24**	**3**	P	Pg	22 35 31.7	-0.6
NMEZ	**Namu Road**	**2.30**	**353**	P	Pg	22 35 32.4	-1.0
PRHZ	**Porangahau**	**2.31**	**52**	P	Pn	22 35 25.6	-2.2
INZ	**Inchbonnie**	**2.32**	**243**	P	Pb	22 35 29.7	-1.7
MQZ	**McQueen's Vall**	**2.32**	**210**	P	Pn	22 35 24.4	-3.5
PNHZ	**Pukenui**	**2.32**	**40**	P	Pn	22 35 26.8	-1.4
WPHZ	**Waipukurau**	**2.33**	**46**	P	Pn	22 35 26.4	-1.7
KHEZ	**Kahui Hut**	**2.41**	**356**	P	Pb	22 35 33.1	0.0
NEZ	**North Egmont**	**2.43**	**357**	P	Pb	22 35 32.8	-0.6
NBEZ	**Newall Road No**	**2.45**	**353**	P	Pb	22 35 34.0	+0.4
MTVZ	**Mangateitei**	**2.50**	**22**	P	Pb	22 35 34.9	+0.4
DREZ	**Durham Road**	**2.51**	**359**	P	Pb	22 35 33.4	-1.2
PKE	**Pukeiti**	**2.51**	**355**	P	Pb	22 35 34.3	-0.4
RACZ	**Rakaia**	**2.55**	**217**	P	Pn	22 35 28.1	-2.9
PKVZ	**Pokaka**	**2.55**	**20**	P	Pb	22 35 35.9	+0.4
MOVZ	**Moawhango**	**2.56**	**27**	P	Pb	22 35 35.3	-0.4
WNVZ	**Wahianoa**	**2.59**	**24**	P	Pn	22 35 33.7	+2.0
PXZ	**Pawanui**	**2.59**	**51**	P	Pn	22 35 29.1	-2.6
TRVZ	**Turoa**	**2.60**	**23**	P	Pb	22 35 36.1	-0.2
VRZ	**Vera Road**	**2.60**	**9**	P	Pb	22 35 34.4	-1.8
BHHZ	**Black Hill Sta**	**2.61**	**33**	P	Pb	22 35 36.7	+0.3
DRZ	**Dome Shelter**	**2.62**	**23**	P	Pb	22 35 37.7	+0.9
WHVZ	**Whangaehu Hut**	**2.62**	**23**	P	Pb	22 35 36.3	-0.5
FWZ	**Far West T-bar**	**2.64**	**23**	P	Pb	22 35 36.8	-0.3
TUVZ	**Tukino**	**2.66**	**24**	P	Pb	22 35 36.8	-0.3
NGZ	**Ngauruhoe**	**2.73**	**23**	P	Pb	22 35 38.0	-0.5
SNVZ	**South Ngauruho**	**2.73**	**23**	P	Pb	22 35 38.5	0.0
OTVZ	**Oturere**	**2.76**	**24**	P	Pb	22 35 38.6	-0.4
KAHZ	**Kahuranaki**	**2.76**	**47**	P	Pn	22 35 31.5	-2.5
NNVZ	**North Ngauruho**	**2.77**	**23**	P	Pb	22 35 39.4	+0.2
WTVZ	**West Tongariro**	**2.78**	**22**	P	Pb	22 35 39.3	-0.1
ETVZ	**East Tongariro**	**2.80**	**24**	P	Pb	22 35 38.9	-0.8
KRVZ	**Karewarewa**	**2.81**	**23**	P	Pb	22 35 40.0	0.0
TMVZ	**Te Maari**	**2.81**	**24**	P	Pb	22 35 39.3	-0.6
NTVZ	**North Tongarir**	**2.82**	**23**	P	Pb	22 35 40.0	-0.1
RPZ	**Rata Peaks**	**3.09**	**228**	P	Pb	22 35 43.0	-1.6
HATZ	**Hinemaiaia**	**3.14**	**27**	P	Pb	22 35 44.6	-0.9
ARCZ	**Arundel**	**3.18**	**224**	P	Pn	22 35 37.2	-2.5
ARHZ	**Aropaoanui**	**3.21**	**42**	P	Pn	22 35 37.3	-2.9
HIZ	**Hauiti**	**3.22**	**9**	P	Pb	22 35 43.8	-2.9
MRHZ	**Matea Rd**	**3.31**	**31**	P	Pn	22 35 40.1	-1.4
GCSZ	**Gaunt Creek Bo**	**3.31**	**240**	P	Pb	22 35 45.2	-3.2
TLZ	**Tolley Road**	**3.51**	**17**	P	Pb	22 35 48.3	-3.5
RAHZ	**Arahi**	**3.53**	**39**	P	Pn	22 35 42.0	-2.5
KNZ	**Kokohu**	**3.75**	**46**	P	Pn	22 35 43.9	-3.6
MWZ	**Matawai**	**4.20**	**38**	P	Pn	22 35 50.3	-3.5
RUGZ	**Raukumara Rang**	**4.57**	**36**	P	Pn	22 35 55.8	-3.2
AWAZ	**Awhitu Peninsu**	**4.64**	**4**	P	Pn	22 36 01.8	+2.0
MKAZ	**Moumakai**	**4.64**	**9**	P	Pn	22 36 01.9	+2.1
JCZ	**Jackson Bay**	**4.66**	**238**	P	Pn	22 36 02.6	+2.5
HAZ	**Te Kaha**	**4.79**	**36**	P	Pn	22 35 59.5	-2.3
PKGZ	**Pakihiroa**	**4.82**	**39**	P	Pn	22 35 59.1	-3.2
SYZ	**Scrubby Hill**	**6.07**	**215**	P	Pn	22 36 17.1	-2.3
CTZ	**Chatham Island**	**7.03**	**110**	P	Pn	22 36 29.9	-2.7

WEL 13 22:39:32.0±0.7, 42.°3S±3.°×17.°4E±.°, h8km±6km, M3.2/9, ML3.5/10, MLv3.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=121.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.06**	**163**	P	Pg	22 39 34.5	+0.7
BSWZ	**Blackbirch Sta**	**0.24**	**265**	P	Pg	22 39 37.6	+0.8
BSWZ				S	Sg	22 39 41.7	+1.7
TUWZ	**Tuamarina**	**0.33**	**325**	P	Pb	22 39 39.4	-0.6
TUWZ				S	Sb	22 39 44.9	-0.6
TCW	**Tory Channel**	**0.49**	**7**	P	Pg	22 39 42.0	+0.4
TCW				S	Sb	22 39 49.3	-0.9
WEL	**Wellington**	**0.60**	**47**	P	Pg	22 39 43.9	+0.3
WEL				S	Sb	22 39 53.0	-0.2
NNZ	**Nelson**	**0.78**	**308**	P	Pg	22 39 47.3	+0.3
PLWZ	**Palliser**	**0.81**	**81**	P	Pb	22 39 48.0	-0.3
MSWZ	**Moikau Station**	**0.84**	**71**	P	Pb	22 39 48.6	-0.3
KHZ	**Kahutara**	**0.87**	**214**	P	Pb	22 39 49.1	-0.2
CAW	**Cannon Point**	**0.88**	**48**	P	Pg	22 39 49.0	0.0
DUWZ	**D'Urville Isla**	**0.92**	**347**	P	Pg	22 39 49.6	0.0
KIW	**Kapiti Island**	**0.99**	**33**	P	Pg	22 39 50.7	-0.4
MRNZ	**Matariki Terra**	**1.12**	**285**	P	Pg	22 39 53.4	-0.1
MTW	**Mount Morrison**	**1.12**	**62**	P	Pg	22 39 51.8	-1.7
MTW				S	Sg	22 40 08.1	0.0
OGWZ	**Otaki Gorge**	**1.15**	**40**	P	Pg	22 39 53.7	-0.3
OGWZ				S	Sb	22 40 09.6	+0.5
MRZ	**Mangatainoka R**	**1.47**	**46**	P	Pn	22 39 57.7	-1.1

WEL ***13*** *22:40:23.4±0.3, 42.°2S±2.°×17.°4E±.°, h12km, M4.2/18, ML4.5/18, MLv4.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=135.4*
IDC ***13*** *22:40:24.4±2.1, 42.°16S×173.°50E, h0km, mb3.8/3, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=41.4km s-min=31.1km az=79.0*

ISC 13 22:40:23.2±1.1, 42.°09S±0.°03×173.°70E±0.°03, h7km±9km, n45, σ1§01/63, mb3.7/3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.34**	**199**	P	**Pb**	**22 40 31.4**	**-0.2**
KHZ				S	**Sb**	**22 40 36.9**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.40**	**20**	P	**Pg**	**22 40 31.3**	**+0.4**
BSWZ				S	**Sg**	**22 40 37.6**	**+1.5**
CMWZ	**Cape Campbell**	**0.52**	**49**	P	**Pg**	**22 40 34.5**	**+1.4**
THZ	**Tophouse**	**0.67**	**299**	P	**Pg**	**22 40 36.4**	**+0.2**
THZ				S	**Sb**	**22 40 45.5**	**-1.3**
TUWZ	**Tuamarina**	**0.69**	**16**	P	**Pg**	**22 40 36.8**	**+0.4**
TUWZ				S	**Sg**	**22 40 45.8**	**+0.5**
NNZ	**Nelson**	**0.90**	**345**	P	**Pg**	**22 40 40.2**	**-0.3**
NNZ				S	**Sg**	**22 40 50.9**	**-1.3**
TCW	**Tory Channel**	**0.98**	**27**	P	**Pg**	**22 40 41.8**	**-0.2**
TCW				S	**Sg**	**22 40 55.4**	**+0.7**
MRNZ	**Matariki Terra**	**0.98**	**314**	P	**Pb**	**22 40 42.4**	**-0.1**
MRNZ				S	**Sg**	**22 40 54.5**	**-0.3**
GVZ	**Greta Valley S**	**1.00**	**209**	P	**Pn**	**22 40 44.0**	**+0.3**
GVZ				S	**Sn**	**22 40 57.0**	**-1.0**
WEL	**Wellington**	**1.14**	**45**	P	**Pg**	**22 40 45.2**	**+0.2**
WEL				S	**Sg**	**22 40 59.1**	**-0.7**
TKNZ	**Takaka Hill**	**1.19**	**332**	P	**Pg**	**22 40 44.7**	**-1.3**
TKNZ				S	**Sg**	**22 41 00.0**	**-1.4**
LTZ	**Lake Taylor**	**1.26**	**236**	P	**Pn**	**22 40 47.5**	**+0.3**
LTZ				S	**Sb**	**22 41 02.5**	**-1.2**
PLWZ	**Palliser**	**1.28**	**66**	P	**Pn**	**22 40 46.2**	**-1.3**
DUWZ	**D'Urville Isla**	**1.30**	**8**	P	**Pn**	**22 40 47.8**	**+0.1**
DUWZ				S	**Sb**	**22 41 04.6**	**-0.2**
AMCZ	**Amberley**	**1.33**	**215**	P	**Pg**	**22 40 48.6**	**-0.1**
MSWZ	**Moikau Station**	**1.34**	**60**	P	**Pn**	**22 40 47.4**	**-0.9**
MSWZ				S	**Sb**	**22 41 04.9**	**-1.2**
CAW	**Cannon Point**	**1.42**	**47**	P	**Pn**	**22 40 49.0**	**-0.4**
CAW				S	**Sn**	**22 41 06.5**	**-1.9**
PAWZ	**Paruwai Farm**	**1.48**	**62**	P	**Pn**	**22 40 49.1**	**-1.0**
KIW	**Kapiti Island**	**1.53**	**37**	P	**Pn**	**22 40 50.9**	**0.0**
KIW				S	**Sn**	**22 41 10.6**	**-0.5**
QRZ	**Quartz Range**	**1.54**	**325**	P	**Pn**	**22 40 51.4**	**+0.4**
QRZ				S	**Sn**	**22 41 09.4**	**-1.8**
MTW	**Mount Morrison**	**1.64**	**56**	P	**Pn**	**22 40 51.3**	**-1.1**
TRWZ	**Traveller**	**1.64**	**66**	P	**Pn**	**22 40 51.2**	**-1.2**
OGWZ	**Otaki Gorge**	**1.69**	**42**	P	**Pn**	**22 40 52.6**	**-0.5**
OGWZ				S	**Sn**	**22 41 14.7**	**-0.2**
OKCZ	**Okains Bay**	**1.70**	**196**	P	**Pn**	**22 40 52.8**	**-0.5**
OXZ	**Oxford**	**1.74**	**224**	P	**Pb**	**22 40 55.2**	**-0.1**
INZ	**Inchbonnie**	**1.78**	**248**	P	**Pb**	**22 40 54.9**	**-1.3**
MQZ	**McQueen's Vall**	**1.79**	**205**	P	**Pn**	**22 40 53.1**	**-1.3**
HOWZ	**Holdsworth Sta**	**1.81**	**50**	P	**Pn**	**22 40 53.7**	**-1.1**
AKCZ	**Akaroa Harbour**	**1.87**	**198**	P	**Pn**	**22 40 55.2**	**-0.4**
TMWZ	**Te Maipa**	**1.92**	**60**	P	**Pn**	**22 40 54.8**	**-1.4**
RACZ	**Rakaia**	**2.00**	**214**	P	**Pn**	**22 40 56.4**	**-0.8**
MRZ	**Mangatainoka R**	**2.01**	**45**	P	**Pn**	**22 40 56.5**	**-1.0**
WACZ	**Wakanui South**	**2.30**	**216**	P	**Pn**	**22 41 00.8**	**-0.6**
POWZ	**Post Office Ro**	**2.31**	**43**	P	**Pn**	**22 41 01.2**	**-0.4**
WVZ	**Waitaha Valley**	**2.40**	**245**	P	**Pn**	**22 41 04.2**	**+1.4**
RPZ	**Rata Peaks**	**2.53**	**229**	Pn	**Pn**	**22 41 04.3**	**-0.4**
	38nm,0.3s,baz=46,slow=4.1,SNR=10						
RPZ				Sn	**Sn**	**22 41 35.2**	**-0.5**
	55nm,0.3s,baz=22,slow=19,SNR=11						
	84nm,0.4s						
RPZ	**Rata Peaks**	**2.53**	**229**	P	**Pn**	**22 41 04.5**	**-0.1**
ARCZ	**Arundel**	**2.62**	**224**	P	**Pn**	**22 41 05.6**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.77**	**243**	P	**Pn**	**22 41 08.8**	**+0.9**
OUZ	**Omahuta**	**6.86**	**359**	P	**Pn**	**22 42 05.4**	**+1.2**
CTZ	**Chatham Island**	**7.30**	**106**	P	**Pn**	**22 42 07.8**	**-2.4**
ASAR	**Alice Springs**	**37.73**	**286**	P	**P**	**22 47 41.6**	**+2.1**
	0.3nm,0.4s,baz=126,slow=7.1,SNR=4.6						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**39.84**	**291**	P	**P**	**22 47 58.0**	**+0.7**
	1.3nm,0.8s,baz=129,slow=8.1,SN

KHEZ	Kahui Hut	3.38	11	P		Pn	22 44 46.4	+3.5
NBEZ	Newall Road No	3.38	9	P		Pn	22 44 46.2	+3.2
PKE	Pukeiti	3.47	10	P		Pn	22 44 46.7	+2.5
JCZ	Jackson Bay	3.53	244	P		Pn	22 44 46.0	+1.0
HHSZ	Highcliff Hill	3.76	209	P		Pn	22 44 47.9	-0.2
TRVZ	Turoa	3.77	29	P		Pb	22 44 55.5	-1.4
TUVZ	Tukino	3.83	30	P		Pn	22 44 50.2	+1.0
EAZ	Earnscleugh	3.83	226	P		Pn	22 44 48.7	-0.4
TWVZ	Taurewa	3.93	26	P		Pn	22 44 56.5	+5.9
HIZ	Hauiti	4.29	18	P		Pn	22 44 57.2	+1.8
MLZ	Mavora Lakes	4.58	231	P		Pn	22 44 59.0	-0.3
TLZ	Tolley Road	4.64	23	P		Pn	22 45 02.2	+1.9
SYZ	Scrubby Hill	4.87	215	P		Pn	22 45 03.5	+0.2
TOZ	Tahuroa Road	5.19	21	P		Pn	22 45 08.4	+0.6
APZ	The Paps	5.61	220	P		Pn	22 45 13.3	-0.3
AWAZ	Awhitu Peninsu	5.66	12	P		Pn	22 45 15.6	+1.4
MKAZ	Moumakai	5.71	16	P		Pn	22 45 15.5	+0.6
WTAZ	Waiatarua	5.78	11	P		Pn	22 45 18.3	+2.5
MBAZ	Motutapu North	5.99	13	P		Pn	22 45 21.2	+2.5
WIAZ	Waiheke Island	6.01	15	P		Pn	22 45 20.5	+1.5
OUZ	Omahuta	7.39	3	P		Pn	22 45 40.6	+2.6
ASAR	Alice Springs	37.52	288	P		P	22 51 03.9	-0.3
	0.9nm,0.7s,baz=129,slow=7.1,SNR=6.6							
ASAR				PcP		PcP	22 53 20.0	-2.2
	0.3nm,0.6s,baz=123,slow=4.5,SNR=2.2							
	0.9nm,0.7s							
WRA	Warramunga Arr	39.68	292	P		P	22 51 22.0	-0.3
	1.9nm,0.9s,baz=131,slow=7.7,SNR=7.5							
	1.9nm,0.9s							
QSPA	South Pole Qui	47.51	180	P		P	22 52 27.1	+2.1
	3.1nm,0.8s,baz=71,slow=2.1,SNR=8.6							
	3.1nm,0.8s							
CMAR	Chiang Mai Arr	91.26	294	P		P	22 56 56.5	+1.0
	1.4nm,0.3s,baz=131,slow=4.2,SNR=5.0							
	1.4nm,0.3s							
ARCES	ARCESS Array B	148.31	339	PKPbc		PKPbc	23 03 34.3	-0.8
	2.5nm,0.8s,baz=18,slow=4.2,SNR=4.4							
BRTR	Keskin Array B	149.61	278	PKPbc		PKPbc	23 03 38.9	-0.6
	1.5nm,0.8s,baz=120,slow=5.1,SNR=7.9							
FINES	FINESS Array B	152.81	325	PKPbc		PKPbc	23 03 44.8	-1.2
	1.1nm,0.7s,baz=57,slow=5.1,SNR=1.2							

WEL 13 22:45:59.4±0.3, 42°S±2°×17°4E±°, h5km, M3.9/13, ML4.1/13, MLv3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=118.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BSWZ	Blackbirch Sta	0.46	20	P		Pg	22 46 08.4	+0.2
BSWZ				S		Sb	22 46 15.6	-1.3
CMWZ	Cape Campbell	0.57	46	P		Pb	22 46 11.2	-0.6
THZ	Tophouse	0.68	304	P		Pg	22 46 12.4	0.0
THZ				S		Sg	22 46 21.9	+0.6
TUWZ	Tuamarina	0.74	16	P		Pg	22 46 13.7	+0.1
TUWZ				S		Sb	22 46 24.5	-0.7
GVZ	Greta Valley S	0.95	209	P		Pb	22 46 18.1	-0.2
GVZ				S		Sn	22 46 32.6	-0.6
NNZ	Nelson	0.95	347	P		Pg	22 46 17.0	-0.6
MRNZ	Matariki Terra	1.00	317	P		Pg	22 46 18.6	0.0
MRNZ				S		Sb	22 46 33.4	+0.7
WEL	Wellington	1.19	44	P		Pg	22 46 21.5	-0.7
WEL				S		Sb	22 46 38.5	+0.4
LTZ	Lake Taylor	1.21	238	P		Pg	22 46 21.8	-0.8
LTZ				S		Sb	22 46 39.0	+0.2
TKNZ	Takaka Hill	1.23	334	P		Pg	22 46 22.4	-0.5
QRZ	Quartz Range	1.57	327	P		Pb	22 46 28.4	-0.5
KIW	Kapiti Island	1.59	37	P		Pn	22 46 27.2	-0.9
OKCZ	Okains Bay	1.64	195	P		Pn	22 46 27.2	-1.7
INZ	Inchbonnie	1.74	250	P		Pn	22 46 30.0	-0.2
OGWZ	Otaki Gorge	1.74	41	P		Pn	22 46 29.1	-1.1
AKCZ	Akaroa Harbour	1.81	197	P		Pn	22 46 29.2	-2.1
RPZ	Rata Peaks	2.48	230	P		Pn	22 46 38.8	-1.6

IDC 13 22:46:43.4±3.8, 42°.27S×173°.57E, h0km, mb3.4/2, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=79.0km s-min=36.8km az=122.0

WEL 13 22:46:46.7±0.5, 42°S±4°×17°4E±°, h9km±6km, M4.1/7, ML4.3/7, MLv4.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=127.5

ISC 13 22:46:46.5±1.2, 42°21S±0°.06×173°51E±0°.08, h10km±11km, n11, σ1§35/18, South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.20	175	P		Pg	22 46 50.7	-0.1
KHZ				S		Sg	22 46 53.6	-0.2
BSWZ	Blackbirch Sta	0.56	29	P		Pb	22 46 58.4	-0.1
BSWZ				S		Sb	22 47 07.3	+0.7
CMWZ	Cape Campbell	0.70	49	P		Pb	22 47 00.9	+0.1
GVZ	Greta Valley S	0.83	205	P		Pb	22 47 03.4	+0.3
GVZ				S		Sb	22 47 15.9	+1.5
TUWZ	Tuamarina	0.84	23	P		Pb	22 47 03.7	+0.5
TUWZ				S		Sn	22 47 17.3	+0.4
LTZ	Lake Taylor	1.08	238	P		Pg	22 47 07.7	+0.4
LTZ				S		Sb	22 47 23.7	+2.2
TCW	Tory Channel	1.15	30	P		Pb	22 47 08.2	-0.3
TCW				S		Sb	22 47 24.0	+0.5
RPZ	Rata Peaks	2.35	229	Pn		Pn	22 47 24.1	-1.1
	30nm,0.3s,baz=173,slow=3.1,SNR=7.8							
RPZ				Sn		Sn	22 47 51.9	-2.2
	63nm,0.3s,baz=177,slow=23,SNR=14							
	71nm,0.3s							
ASAR	Alice Springs	37.63	287	P		P	22 53 59.8	-1.9
	0.2nm,0.4s,baz=129,slow=7.3,SNR=3.0							
	0.2nm,0.4s							
WRA	Warramunga Arr	39.76	292	P		P	22 54 18.9	-0.6
	0.4nm,0.6s,baz=126,slow=9.0,SNR=4.8							
	0.4nm,0.6s							
BRTR	Keskin Array B	149.79	279	PKPbc		PKPdf	23 06 34.5	+2.7
	0.8nm,1.0s,baz=129,slow=4.5,SNR=2.2							

IDC 13 22:47:31.2±2.5, 42°.45S×173°.48E, h0km, mb3.7/3, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=66.7km s-min=33.4km az=136.0

WEL 13 22:47:33.5±0.5, 42°S±2°×17°4E±°, h6km±3km, M4.0/8, ML4.1/8, MLv4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=116.4

ISC 13 22:47:32.8±0.9, 42°43S±0°.04×173°53E±0°.06, h7km±5km, n17, σ1§17/26, mb3.5/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.01	39	P		Pg	22 47 34.0	-0.1
KHZ				S		Sg	22 47 34.7	-0.3
GVZ	Greta Valley S	0.65	214	P		Pb	22 47 47.3	+0.8
GVZ				S		Sb	22 47 58.2	+2.4
BSWZ	Blackbirch Sta	0.76	20	P		Pg	22 47 48.2	+0.8
THZ	Tophouse	0.81	325	P		Pg	22 47 48.8	+0.4
THZ				S		Sb	22 48 00.2	-0.2
AMCZ	Amberley	0.99	220	P		Pg	22 47 52.9	+1.1
LTZ	Lake Taylor	0.99	249	P		Pg	22 47 52.6	+0.8
LTZ				S		Sg	22 48 06.3	+1.5
TUWZ	Tuamarina	1.04	17	P		Pb	22 47 53.7	+0.6
TUWZ				S		Sb	22 48 08.0	+1.0
MRNZ	Matariki Terra	1.18	331	P		Pg	22 47 55.1	-0.3
NNZ	Nelson	1.21	355	P		Pg	22 47 56.1	0.0
NNZ				S		Sb	22 48 12.5	+0.5
TCW	Tory Channel	1.34	25	P		Pn	22 47 58.2	+0.4
TCW				S		Sb	22 48 15.2	-0.3
MQZ	McQueen's Vall	1.43	206	P		Pn	22 47 57.8	-1.3
MQZ				S		Sb	22 48 16.5	-1.6
RPZ	Rata Peaks	2.22	234	Pn		Pn	22 48 09.4	-0.6
	58nm,0.3s,baz=7.1,slow=8.1,SNR=3.0							
RPZ				Sn		Sn	22 48 35.5	-2.3
	1.5nm,0.3s,baz=18,slow=20,SNR=1.3							
	234nm,0.5s							
ASAR	Alice Springs	37.70	287	P		P	22 54 48.0	-0.9
	0.4nm,0.6s,baz=130,slow=7.6,SNR=4.6							
	0.4nm,0.6s							
WRA	Warramunga Arr	39.84	292	P		P	22 55 06.0	-1.0
	0.8nm,0.7s,baz=129,slow=8.1,SNR=4.8							
	0.8nm,0.7s							
CMAR	Chiang Mai Arr	91.42	294	P		P	23 00 40.1	+0.4
	0.2nm,0.3s,baz=109,slow=2.2,SNR=1.2							
	0.2nm,0.3s							
ARCES	ARCESS Array B	148.22	339	PKPbc		PKPdf	23 07 16.7	+1.8
	3.1nm,0.9s,baz=73,slow=3.1,SNR=3.7							
BRTR	Keskin Array B	149.84	279	PKPbc		PKPbc	23 07 22.2	-1.2
	1.0nm,0.8s,baz=120,slow=3.1,SNR=3.9							

IDC 13 22:48:06.8±5.0, 36°.36N×71°.40E, h94km±30km, mb3.5/6, mbtmp4.0/12, MS4.0/1, Error ellipse: s-maj=60.5km s-min=21.8km az=167.0

NNC 13 22:48:11.6±5.0, 36°.82N×70°.97E, h108km±117km, mb3.8, mpv4.4, Error ellipse: s-maj=45.3km s-min=25.6km az=152.0

ISC 13 22:48:06.8±0.9, 36°.41N±0°.08×71°.28E±0°.06, h100km, n35, σ1§57/40, mb3.9/6, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AML	Almayashu	6.02	17	P		Pn	22 49 34.8	+1.2
	SNR=71							
UCH	Uchtor	6.33	22	P		Pn	22 49 39.3	+1.3
	SNR=33							
EKS2	Erkin-Say	6.54	16	P		Pn	22 49 41.9	+1.5
	SNR=29							
AAK	Ala-Archa	6.70	21	P		Pn	22 49 44.2	+1.6
	SNR=20							
AAK	Ala-Archa	6.70	21	P		Pn	22 49 44.0	+1.3
	14nm,0.3s,baz=196,slow=8.2,SNR=56							
AAK				S		Sn	22 50 55.5	-2.1
	18nm,0.5s,baz=6.8,slow=17,SNR=15							
KK31	Karatay Array	6.72	355	P		Pn	22 49 43.8	+1.1
	23nm,0.3s,baz=181,slow=13,SNR=169							
KK31				⇓S		Sn	22 50 54.8	-2.9
	13nm,0.4s,baz=171,slow=21							
KBK	Karagaybulak	6.86	23	P		Pn	22 49 47.0	+2.2
	SNR=10							
CHMS	Chumysh	7.11	21	P		Pn	22 49 49.8	+1.7
	SNR=11							
CHMS	Chumysh	7.11	21	⇑P		Pn	22 49 49.1	+1.0
	18nm,0.8s							
CHMS				⇑S		Sn	22 51 04.0	-3.3
	20nm,0.6s							
USP	Ospenovka	7.29	19	P		Pn	22 49 51.8	+1.2
	SNR=23							
TKM2	Tokmak 2	7.31	26	P		Pn	22 49 52.4	+1.4
	SNR=7.5							
TKM2	Tokmak 2	7.31	26	⇑P		Pn	22 49 52.0	+1.0
	10nm,0.5s							
TKM2				⇑S		Sn	22 51 11.8	-0.6
	7.4nm,0.8s							
GEYT	Alibeck	10.61	282	P		Pn	22 50 36.8	+1.0
	2.3nm,0.4s,baz=108,slow=9.3,SNR=9.7							
GEYT				S		Sn	22 52 30.4	-2.2
	3.2nm,0.5s,baz=274,slow=22,SNR=7.7							
GYA0B	ALIBECK ARRAY	10.61	282	⇑P		Pn	22 50 35.0	-0.8
GYA0B				⇓S		Sn	22 52 29.0	-3.6
MKAR	Makanchi Array	13.24	35	P		Pn	22 51 10.8	+0.1
	2.0nm,0.9s,baz=218,slow=9.1,SNR=4.6							
DANN	Dangsing	13.25	124	*eP*		Pn	22 51 09.6	-1.6
	9.6nm,0.4s							
GKN	Gorkha	14.06	123	*eP*		Pn	22 51 20.0	-1.7
	34nm,0.7s							
DMN	Daman	14.64	123	*eP*		Pn	22 51 28.1	-1.0
	8.0nm,0.2s							
PKIN	Phulchoki	14.85	122	*eP*		Pn	22 51 30.9	-1.0
	17nm,0.4s							
PKI	Pulchoki	14.87	122	*eP*		Pn	22 51 31.0	-1.1
GUN	Gumba	14.98	120	*eP*		Pn	22 51 32.4	-1.1
	7.9nm,0.4s							
KURBB	Kurchatov Arra	15.14	18	P		P	22 51 36.9	-0.9
	1.8nm,0.8s,baz=209,slow=11,SNR=8.4							
AB31	Akbulak array	15.28	331	P		Pn	22 51 36.6	-0.1
	1.6nm,0.3s,baz=139,slow=12,SNR=121							
AB31				⇓S		Sn	22 54 13.3	-12
	1.4nm,0.5s							
RAMN	Ramite	16.08	122	*eP*		Pn	22 51 46.6	-0.6
	11nm,0.5s							
BVAR	Borovoye Array	16.63	358	P		Pn	22 51 53.4	-0.2
	2.0nm,0.4s,baz=170,slow=12,SNR=14							
AKTO	Aktyubinsk	16.97	330	⇑P		P	22 51 59.7	+1.6
	3.6nm,0.7s							
AKTO				⇓S		Sn	22 54 56.9	-9.4
	2.2nm,0.8s							
ZALV	Zalesovo Beam	19.91	24	P		P	22 52 29.7	-0.5
	3.6nm,0.3s,baz=223,slow=11,SNR=30							
ARU	Arti	21.79	341	P		P	22 52 51.0	+0.6
	1.8nm,0.4s,baz=139,slow=11,SNR=6.5							
	1.8nm,0.4s							
SONM	Songino Array	28.21	55	P		P	22 53 50.1	+0.1
	0.4nm,0.6s,baz=268,slow=8.7,SNR=2.5							
	0.4nm,0.6s							
AKASG	Malin Array Be	33.18	309	P		P	22 54 35.1	+1.6
	0.2nm,0.3s,baz=81,slow=7.0,SNR=6.8							
	0.2nm,0.3s							
FINES	FINESS Array B	37.69	326	P		P	22 55 13.6	+1.6
	1.0nm,0.4s,baz=121,slow=9.3,SNR=20							
	1.0nm,0.4s							
ARCES	ARCESS Array B	41.32	338	P		P	22 55 43.7	+1.6
	1.6nm,0.6s,baz=117,slow=9.2,SNR=9.6							
	1.6nm,0.6s							
HFS	Hagfors	43.28	322	LR		LR	23 16 20.9	
	comp=Z,167nm,18.2s,baz=49,slow=39							
NB2	NORSAR Subarra	44.59	323	P		P	22 56 09.3	+0.7
	comp=Z,1.3nm,0.5s,baz=97,slow=7.9							
NOA	NORSAR Array B	44.59	323	P		P	22 56 09.8	+1.2
	comp=Z,1.6nm,0.5s,baz=96,slow=7.7,SNR=12							
	comp=Z,1.6nm,0.5s							

WEL 13 22:50:44.8±0.5, 42°S±3°×17°4E±°, h17km±3km, M4.3/7, ML4.5/7, MLv4.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=116.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.12	236	P		Pb	22 50 54.1	+5.5
KHZ				S		Sb	22 50 56.2	+5.1
BSWZ	Blackbirch Sta	0.65	14	P		Pn	22 50 58.6	-0.7
BSWZ				S		Sb	22 51 07.4	+0.9
GVZ	Greta Valley S	0.77	217	P		Pn	22 51 01.1	+0.2
GVZ				S		Sn	22 51 12.8	+0.5
GVZ	Greta Valley S	0.77	217	P		Pn	22 51 01.0	0.0
GVZ				S		Sn	22 51 12.6	+0.3
THZ	Tophouse	0.82	316	P		Pn	22 51 06.1	+4.5
AMCZ	Amberley	1.11	222	P		Pn	22 51 05.9	+0.3
AMCZ				S		Sg	22 51 22.9	+2.0
AMCZ	Amberley	1.11	222	P		Pn	22 51 05.8	+0.1
AMCZ				S		Sg	22 51 23.1	+2.1
LTZ	Lake Taylor	1.12	247	P		Pb	22 51 05.6	-0.2
LTZ				S		Sb	22 51 20.0	0.0
LTZ	Lake Taylor	1.12	247	P		Pn	22 51 05.8	0.0
LTZ				S		Sb	22 51 19.9	-0.1
OKCZ	Okains Bay	1.44	198	P		Pn	22 51 10.0	-0.1
OKCZ				S		Sb	22 51 29.3	0.0
MQZ	McQueen's Vall	1.54	208	P		Pn	22 51 10.6	-0.9
MQZ				S		Sn	22 51 29.5	-1.7
AKCZ	Akaroa Harbour	1.62	200	P		Pn	22 51 12.0	-0.6
AKCZ				S		Sn	22 51 32.4	-0.7
RACZ	Rakaia	1.77	219	P		Pn	22 51 14.1	-0.6
RACZ				S		Sn	22 51 36.2	-0.6
OGWZ	Otaki Gorge	1.90	37	P		Pn	22 51 17.1	+0.7
MHCZ	Mount Hutt	1.94	232	P		Pn	22 51 16.4	-0.7
MHCZ				S		Sn	22 51 40.0	-1.1
HOWZ	Holdsworth Sta	2.01	44	P		Pn	22 51 17.8	-0.2
TMWZ	Te Maipa	2.08	54	P		Pn	22 51 18.3	-0.5
WACZ	Wakanui South	2.08	219	P		Pn	22 51 18.6	-0.3
WACZ				S		Sn	22 51 43.6	-0.8
MRZ	Mangatainoka R	2.22	41	P		Pn	22 51 21.0	+0.2
WVZ	Waitaha Valley	2.28	251	P		Pn	22 51 23.0	+1.3
WVZ				S		Sn	22 51 47.6	-1.7
RPZ	Rata Peaks	2.35	234	P		Pn	22 51 22.3	-0.4
RPZ				S		Sn	22 51 49.8	-1.4
ARCZ	Arundel	2.42	228	P		Pn	22 51 23.2	-0.5
ARCZ				S		Sn	22 51 51.1	-1.8
TMZ	Timaru	2.81	223	P		Pn	22 51 29.0	0.0
FOZ	Fox Glacier	3.06	246	P		Pn	22 51 34.0	+1.6
ODZ	Otahua Downs	3.47	218	P		Pn	22 51 37.3	-0.8
ODZ				S		Sn	22 52 15.4	-3.4
HHSZ	Highcliff Hill	4.17	211	P		Pn	22 51 47.0	-0.6
HHSZ				S		Sn	22 52 31.3	-4.6
EAZ	Earnscleugh	4.27	226	P		Pn	22 51 48.4	-0.7
EAZ				S		Sn	22 52 34.9	-3.6
TUZ	Tuapeka	4.63	218	P		Pn	22 51 53.4	-0.5
SYZ	Scrubby Hill	5.29	216	P		Pn	22 52 02.9	-0.1
APZ	The Paps	6.04	220	P		Pn	22 52 13.0	-0.4

WEL 13 22:54:00.42°.33S×173°.54E, h15km, ML4.8, Mw4.8, Moment Tensor Solution. s10 Moment tensor: Scale 10^16 Nm; Mrr 0.31; Mθθ 1.40; Mφφ -1.71; Mrθ 0.04; Mrφ -0.82; Mθφ 0.44; Fault plane solution: M0 1.81000×10^16 NP1: φs 239.00000°, δ80.00000°, λ-174.00000°. NP2: φs 149.00000°, δ85.00000°, λ-10.00000°. Principal axes: T -2000.0300, Plg4.0000°, Azm194.0000°; N 1611.3200, Plg79.0000°, Azm302.0000°; P 388.7100, Plg11.0000°, Azm104.0000°;

IDC 13 22:54:16.0±0.8, 42°.24S×173°.49E, h0km, mb4.3/10, mbtmp4.3/11, ML4.7/1, MS4.0/13 Error ellipse: s-maj=24.4km s-min=20.0km az=65.0

NEIC 13 22:54:17.2, 42°.43S×173°.64E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 0.31; Mθθ 0.93; Mφφ -1.44; Mrθ 0.55; Mθφ -0.68; Mφr -0.00; Fault plane solution: M0 1.54000×10^16 NP1: φs 153.90000°, δ65.99000°, λ19.82000°. NP2: φs 55.55000°, δ71.95000°, λ154.66000°. Principal axes: T 1.4242, Plg30.0000°, Azm13.0000°; N 0.2066, Plg59.0000°, Azm202.0000°; P -1.6308, Plg4.0000°, Azm106.0000°;

NEIC 13 22:54:18.3±1.4, 42°.36S±0°.03×173°.61E±0°.06, h17km±2km, mb4.5/13, Mwr4.7/22 Error ellipse: s-maj=6.9km s-min=3.6km az=116.0

NOU 13 22:54:18.3, 42°.44S×173°.63E, h16km, MLv5.1/22, South Island, New Zealand

WEL 13 22:54:18.5±0.3, 42°S±2°×17°4E±°, h21km±2km, M4.8/23, ML5.0/23, MLv4.8/23, Error ellipse: s-maj=0.0km s-min=0.0km az=123.4

ISC 13 22:54:18.6±0.8, 42°39S±0°.02×173°.60E±0°.03, h19km±2km, n233, σ1§31/257, mb4.3/15, MS4.0/15, South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.05	243	Pg		Pg	22 54 21.7	-0.3
KHZ				Sg		Sg	22 54 25.4	-0.5
KHZ	Kahutara	0.05	243	P		Pg	22 54 21.6	-0.4
KHZ	Kahutara	0.05	243	P		Pg	22 54 21.7	-0.3
KHZ				S		Sg	22 54 23.9	-0.5
BSWZ	Blackbirch Sta	0.71	17			Pb	22 54 32.1	-0.2
BSWZ	Blackbirch Sta	0.71	17	P		Pb	22 54 32.3	0.0
BSWZ				S		Sb	22 54 42.1	+0.5
GVZ	Greta Valley S	0.71	216			Pn	22 54 33.7	+0.1
GVZ				Sn		Sn	22 54 44.3	+0.3
GVZ	Greta Valley S	0.71	216	P		Pn	22 54 33.8	+0.2
GVZ				S		Sn	22 54 45.2	+1.2
THZ	Tophouse	0.81	320	Pg		Pb	22 54 33.1	-1.1
THZ	Tophouse	0.81	320	P		Pb	22 54 33.1	-1.1
THZ				S		Sb	22 54 43.0	-1.7
TUWZ	Tuamarina	1.00	15			Pb	22 54 37.1	-0.1
TUWZ	Tuamarina	1.00	15	P		Pn	22 54 37.4	-0.1
TUWZ				S		Sg	22 54 50.0	-1.1
AMCZ	Amberley	1.05	221	P		Pn	22 54 38.6	+0.4
AMCZ				S		Sg	22 54 52.8	+0.1
LTZ	Lake Taylor	1.05	248	Pn		Pb	22 54 38.1	-0.2
LTZ	Lake Taylor	1.05	248	P		Pb	22 54 38.0	-0.2
MRNZ	Matariki Terra	1.18	327	P		Pn	22 54 39.7	-0.3
MRNZ				S		Sg	22 54 55.7	-1.1
NNZ	Nelson	1.19	352			Pn	22 54 39.8	-0.4
NNZ	Nelson	1.19	352	P		Pn	22 54 39.9	-0.3
NNZ				S		Sn	22 54 55.2	-0.5
TCW	Tory Channel	1.29	23	P		Pb	22 54 42.1	0.0
TCW				S		Sg	22 54 59.3	-1.0
SNZO	South Karori	1.36	38			Pn	22 54 42.2	-0.3
SNZO	South Karori	1.36	38	P		Pb	22 54 43.3	-0.1
OKCZ	Okains Bay	1.39	196	P		Pn	22 54 43.2	+0.3
OKCZ				S		Sb	22 55 01.9	+0.7
WEL	Wellington	1.41	39	P		Pb	22 54 44.0	-0.2
WEL				S		Sn	22 55 01.0	-0.3
TKNZ	Takaka Hill	1.44	340	P		Pb	22 54 43.4	-0.5
TKNZ				S		Sn	22 55 01.1	-0.9
OXZ	Oxford	1.48	230			Pn	22 54 43.6	-0.6
OXZ	Oxford	1.48	230	P		Pn	22 54 43.6	-0.5
OXZ				S		Sn	22 55 00.2	-2.8
MQZ	McQueen's Vall	1.48	208			Pn	22 54 43.6	-0.6
MQZ	McQueen's Vall	1.48	208	P		Pn	22 54 43.6	-0.6
MQZ				S		Sn	22 55 00.9	-2.1
PLWZ	Palliser	1.48	57			Pn	22 54 43.4	-0.9
PLWZ	Palliser	1.48	57	P		Pn	22 54 44.3	+0.1
DSZ	Denniston Nort	1.48	295	Pn		Pn	22 54 44.4	+0.1
AKCZ	Akaroa Harbour	1.56	199	P		Pn	22 54 45.3	0.0
AKCZ				S		Sn	22 55 04.0	-1.1
MSWZ	Moikau Station	1.57	52			Pn	22 54 45.1	-0.4
MSWZ	Moikau Station	1.57	52	P		Pn	22 54 45.6	+0.1
DUWZ	D'Urville Isla	1.61	9	P		Pb	22 54 46.6	-1.0
DUWZ				S		Sn	22 55 05.4	-0.8
INZ	Inchbonnie	1.63	258	P		Pn	22 54 46.6	+0.4
INZ				S		Sn	22 55 05.5	-1.1
CAW	Cannon Point	1.69	41	P		Pn	22 54 47.5	-0.4
CAW				S		Sn	22 55 08.0	-0.1
PAWZ	Paruwai Farm	1.70	54	P		Pn	22 54 47.0	-0.2
PAWZ				S		Sn	22 55 06.9	-1.5
RACZ	Rakaia	1.71	218	P		Pn	22 54 46.7	-0.6
RACZ				S		Sn	22 55 06.9	-1.7
QRZ	Quartz Range	1.76	333			Pn	22 54 48.4	+0.4
QRZ	Quartz Range	1.76	333	P		Pb	22 54 49.4	-0.8
QRZ	Quartz Range	1.76	333	P		Pn	22 54 49.4	-0.8
QRZ				S		Sn	22 55 09.1	-0.8
KIW	Kapiti

MOVZ	Moawhango	3.40	29	P		Pn	22 55 11.1	+0.5
ODZ	Otahua Downs	3.41	218			Pn	22 55 10.0	-0.7
ODZ	Otahua Downs	3.41	218	P		Pn	22 55 10.5	-0.2
ODZ	Otahua Downs	3.41	218	P		Pn	22 55 09.9	-0.7
PXZ	Pawanui	3.41	47	P		Pn	22 55 09.9	-0.8
WNVZ	Wahianoa	3.42	27	P		Pn	22 55 11.9	+0.9
TRVZ	Turoa	3.43	26	P		Pn	22 55 12.4	+1.3
BHHZ	Black Hill Sta	3.45	34	P		Pn	22 55 11.3	0.0
DRZ	Dome Shelter	3.45	26	P		Pn	22 55 13.3	+1.7
WHVZ	Whangaehu Hut	3.46	27	P		Pn	22 55 12.8	+1.3
FWVZ	Far West T-bar	3.47	26	P		Pn	22 55 12.9	+1.2
TUVZ	Tukino	3.49	27	P		Pn	22 55 13.1	+1.2
NGZ	Ngauruhoe	3.56	26	P		Pn	22 55 13.7	+0.9
SNVZ	South Ngauruho	3.56	26	P		Pn	22 55 13.9	+1.0
KAHZ	Kahuranaki	3.59	45	P		Pn	22 55 12.1	-1.1
OTVZ	Oturere	3.59	27	P		Pn	22 55 14.3	+1.0
NNVZ	North Ngauruho	3.60	26	P		Pn	22 55 14.7	+1.3
TWVZ	Taurewa	3.60	23	P		Pn	22 55 14.2	+0.7
WTVZ	West Tongariro	3.61	25	P		Pn	22 55 14.4	+0.8
ETVZ	East Tongariro	3.63	27	P		Pn	22 55 14.9	+1.1
KRVZ	Karewarewa	3.64	26	P		Pn	22 55 15.1	+1.1
TMVZ	Te Maari	3.64	27	P		Pn	22 55 15.1	+1.0
NTVZ	North Tongarir	3.65	26	P		Pn	22 55 15.1	+1.0
KWHZ	Kaweka Forest	3.66	37	P		Pn	22 55 13.4	-0.7
MCHZ	McNeill Hill	3.77	40	P		Pn	22 55 15.0	-0.7
KATZ	Kakaramea	3.77	26	P		Pn	22 55 17.4	+1.6
CKHZ	Cape Kidnapper	3.79	45	P		Pn	22 55 15.8	-0.2
RATZ	Rangitukua	3.89	26	P		Pn	22 55 20.3	+2.9
JCZ	Jackson Bay	3.90	243	P		Pn	22 55 18.0	+0.5
JCZ	Jackson Bay	3.90	243	P		Pn	22 55 17.9	+0.4
BKZ	Black Stump Fm	3.90	35			Pn	22 55 16.9	-0.6
BKZ	Black Stump Fm	3.90	35	P		Pn	22 55 16.9	-0.6
HIZ	Hauiti	3.99	14	Pn		Pn	22 55 19.8	+1.1
HIZ	Hauiti	3.99	14	P		Pn	22 55 20.9	+2.2
HIZ	Hauiti	3.99	14	P		Pn	22 55 20.6	+1.9
WATZ	Wairara	4.02	25	P		Pn	22 55 20.8	+1.6
ARHZ	Aropaoanui	4.05	41	P		Pn	22 55 19.3	-0.2
NMHZ	Naumai	4.10	38	P		Pn	22 55 19.5	-0.8
HHSZ	Highcliff Hill	4.10	211	P		Pn	22 55 19.7	-0.6
WKZ	Wanaka	4.12	232			Pn	22 55 20.2	-0.3
WKZ	Wanaka	4.12	232			Pn	22 55 20.1	-0.4
MRHZ	Matea Rd	4.15	32	P		Pn	22 55 19.7	-1.2
EAZ	Earnscleugh	4.21	226	P		Pn	22 55 20.8	-0.8
MTHZ	Maungataniwha	4.31	36	P		Pn	22 55 21.9	-1.2
TLZ	Tolley Road	4.32	21	P		Pn	22 55 23.8	+0.5
ALRZ	Allen Road	4.36	30	P		Pn	22 55 23.3	-0.6
RAHZ	Arahi	4.37	39	P		Pn	22 55 25.0	+1.0
TUZ	Tuapeka	4.56	217	P		Pn	22 55 26.2	-0.4
RTZ	Ruatahuna	4.57	35	P		Pn	22 55 28.5	+1.8
KNZ	Kokohu	4.58	44	P		Pn	22 55 25.3	-1.4
MUGZ	Murupara	4.60	33	P		Pn	22 55 26.2	-0.9
MHGZ	Mahia Peninsul	4.60	47	P		Pn	22 55 26.1	-1.0
TARZ	Mount Tarawera	4.71	29	P		Pn	22 55 29.1	+0.4
MSZ	Milford Sound	4.71	239	P		Pn	22 55 27.6	-1.0
OMRZ	Omania	4.78	27	P		Pn	22 55 33.5	+4.0
RIGZ	Rimuhau	4.86	42	P		Pn	22 55 29.1	-1.6
RAGZ	Rawiri	4.86	38	P		Pn	22 55 30.2	-0.5
TOZ	Tahuroa Road	4.88	18	P		Pn	22 55 31.6	+0.7
URZ	Urewera	4.92	34	P		Pn	22 55 31.2	-0.3
MLZ	Mavora Lakes	4.95	231			Pn	22 55 30.7	-1.2
MLZ	Mavora Lakes	4.95	231	P		Pn	22 55 31.0	-1.0
TKGZ	Te Karaka	5.11	41	P		Pn	22 55 35.9	+1.8
SYZ	Scrubby Hill	5.23	216	P		Pn	22 55 36.1	+0.4
SYZ	Scrubby Hill	5.23	216	P		Pn	22 55 35.6	-0.1
CNGZ	Carnagh Statio	5.25	44	P		Pn	22 55 36.8	+0.7
WHZ	Wether Hill Ro	5.36	227			Pn	22 55 35.0	-2.5
WHZ	Wether Hill Ro	5.36	227	P		Pn	22 55 35.9	-1.6
TWGZ	Tauwhareparae	5.38	40	P		Pn	22 55 36.4	-1.5
AWAZ	Awhitu Peninsu	5.38	9	P		Pn	22 55 39.2	+1.4
RUGZ	Raukumara Rang	5.41	37	P		Pn	22 55 36.3	-2.1
MKAZ	Moumakai	5.42	13	P		Pn	22 55 38.9	+0.7
ETAZ	East Tamaki Re	5.53	11	P		Pn	22 55 41.3	+1.5
DCZ	Deep Cove	5.58	234	P		Pn	22 55 39.4	-1.0
RVAZ	Riverhead Bore	5.67	8	P		Pn	22 55 44.6	+2.9
MBAZ	Motutapu North	5.71	11	P		Pn	22 55 43.9	+1.7
WIAZ	Waiheke Island	5.72	12	P		Pn	22 55 43.6	+1.2
ABAZ	Army Bay	5.86	10	P		Pn	22 55 46.1	+1.6
WMGZ	Waiomatatini S	5.87	41	P		Pn	22 55 44.1	-0.5
KUZ	Kuaotunu	5.87	17	P		Pn	22 55 45.2	+0.6
KUZ	Kuaotunu	5.87	17	P		Pn	22 55 45.2	+0.7
APZ	The Paps	5.98	220	P		Pn	22 55 45.4	-0.5
MXZ	Matakaoa Point	6.03	38			Pn	22 55 43.2	-3.5
MXZ	Matakaoa Point	6.03	38	P		Pn	22 55 46.1	-0.6
MXZ	Matakaoa Point	6.03	38	P		Pn	22 55 44.8	-1.9
PYZ	Puysegur Point	6.24	235			Pn	22 55 48.5	-1.0
PYZ	Puysegur Point	6.24	230	P		Pn	22 55 51.2	+1.7
PYZ	Puysegur Point	6.24	230	P		Pn	22 55 48.6	-0.9
GRZ	Great Barrier	6.30	14	P		Pn	22 55 52.0	+1.6
WCZ	Waipu Caves	6.47	5	P		Pn	22 55 55.2	+2.5
OUZ	Omahuta	7.16	360	P		Pn	22 56 04.0	+1.7
OUZ	Omahuta	7.16	360	P		Pn	22 56 04.8	+2.6
CTZ	Chatham Island	7.29	104	P		Pn	22 56 03.3	-0.7
CTZ	Chatham Island	7.29	104	P		Pn	22 56 02.9	-1.0
RAO	Raoul Island	14.80	30	LR		LR	23 03 25.6	
	comp=Z,702nm,21.0s,baz=153,slow=37							
DZM	Mont Dzumac	21.13	341	eLR		LR	23 04 12.3	
	comp=Z,454nm,23.4s							
DZM	Mont Dzumac	21.13	341	P		P	22 59 02.3	0.0
	11nm,0.9s,baz=178,slow=16,SNR=5.7							
DZM				LR		LR	23 06 48.3	
	comp=Z,414nm,18.1s,baz=202,slow=36							
	11nm,0.9s							
DZM	Mont Dzumac	21.13	341	P		P	22 59 01.6	-0.8
DZM				IAmb		IAmb	22 59 11.6	
	comp=Z,18nm,1.0s							
KOUNC	Koumac, New Ca	23.15	337	P		P	22 59 22.5	-1.3
KOUNC				IAmb		IAmb	22 59 30.1	
	comp=Z,23nm,0.9s							
MSVF	Nonsavu	24.87	10	P		P	22 59 39.8	-0.3
	comp=Z,2.7nm,0.6s,baz=253,slow=19,SNR=2.1							
MSVF				LR		LR	23 08 20.0	
	comp=Z,322nm,21.0s,baz=205,slow=34							
	comp=Z,2.7nm,0.6s							
EIDS	Eidsvold	25.14	305	P		P	22 59 41.8	-0.6
STKA	Stephens Creek	27.44	282	P		P	23 00 03.8	+0.6
	comp=Z,2.3nm,0.7s,baz=121,slow=10.0,SNR=3.8							
STKA				LR		LR	23 09 33.7	
	comp=Z,275nm,20.6s,baz=99,slow=34							
	comp=Z,2.3nm,0.7s							
RAR	Rarotonga	30.74	55	LR		LR	23 11 38.9	
	comp=Z,243nm,21.3s,baz=254,slow=34							
BBOO	Buckleboo	31.03	275	P		P	23 00 35.1	0.0
BBOO				IAmb		IAmb	23 00 40.5	
	comp=Z,12nm,1.0s							
BBOO	Buckleboo	31.03	275	P		P	23 00 35.2	+0.2
CTA	Charters Tower	32.02	305	P		P	23 00 43.8	-0.1
	comp=Z,4.7nm,0.8s,baz=145,slow=8.4							
CTA				LR		LR	23 11 23.6	
	comp=Z,202nm,21.3s,baz=98,slow=32							
	comp=Z,4.7nm,0.8s							
MULG	Mulgathing	33.78	278	P		P	23 00 58.5	-0.7
OOD	Oodnadatta	33.97	283	P		P	23 01 01.3	+0.5
VNDA	Vanda	35.57	184	LR		LR	23 13 28.4	
	comp=Z,280nm,20.0s,baz=8.0,slow=32							
SBA	Scott Base	35.68	182	P		P	23 01 16.9	+1.9
TBI	Tubuai	36.01	70	eLR		LR	23 11 01.4	
	comp=Z,5µm,23.0s							
TBI				eLR		LR	23 11 01.5	
	comp=Z,1µm,26.0s							
TBI	Tubuai	36.01	70	eT		T	23 39 02.5	
	comp=Z,54nm,0.3s							
AS01	Alice Springs	37.71	287	P		P	23 01 33.5	+0.5
ASAR	Alice Springs	37.74	287	P		P	23 01 32.5	-0.8
	comp=Z,1.9nm,0.6s,baz=130,slow=6.7,SNR=18							
ASAR				PcP		PcP	23 03 49.0	-1.1
	comp=Z,0.7nm,0.6s,baz=120,slow=4.4,SNR=2.1							
ASAR				LR		LR	23 16 43.0	
	comp=Z,152nm,19.2s,baz=149,slow=36							
	comp=Z,1.9nm,0.6s							
ASAR	Alice Springs	37.74	287	P		P	23 01 31.3	-2.0
FORT	Forrest	37.95	273	P		P	23 01 34.7	-0.2
FORT	Forrest	37.95	273	P		P	23 01 35.3	+0.4
WR0	Warramunga Arr	39.73	292	P		P	23 01 49.9	0.0
WR0				IAmb		IAmb	23 01 54.3	
	comp=Z,8.0nm,1.1s							
PAE	Paea	39.83	63	eT		T	23 44 07.7	
	comp=Z,7.7nm,0.3s							
WB2	Warramunga Arr	39.87	292	P		P	23 01 50.5	-0.6
WB2				IAmb		IAmb	23 02 13.7	
	comp=Z,6.4nm,0.9s							
WRAB	Tennant Creek	39.88	292	P		P	23 01 51.1	-0.1
PPT2	Papeete2	39.88	63	eLR		LR	23 12 49.2	
	comp=Z,325nm,25.0s							
PPT2				eLR		LR	23 12 49.5	
	comp=Z,243nm,27.0s							
PPT2	Papeete2	39.88	63	eT		T	23 44 12.0	
	comp=Z,7.7nm,0.3s							
WRA	Warramunga Arr	39.88	292	P		P	23 01 50.5	-0.7
	comp=Z,1.5nm,0.3s,baz=126,slow=8.5,SNR=34							
WRA				PcP		PcP	23 03 55.0	-1.8
	comp=Z,1.1nm,0.8s,baz=121,slow=3.3,SNR=3.4							
WRA				LR		LR	23 18 14.3	
	comp=Z,280nm,18.8s,baz=112,slow=36							
	comp=Z,1.5nm,0.3s							
WRA	Warramunga Arr	39.88	292	P		P	23 01 50.7	-0.5
PPT	Papeete	39.90	63	LR		LR	23 17 00.4	
	comp=Z,230nm,18.6s,baz=194,slow=34							
WB0	Warramunga Arr	39.97	292	P		P	23 01 51.2	-0.7
WRKA	Warakurna	40.94	280	P		P	23 01 59.2	-0.8
MTN	Manton Dam	47.05	296	P		P	23 02 48.2	-0.8
MEEK	Meekatharra	47.16	271	P		P	23 02 49.5	-0.3
QSPA	South Pole Qui	47.73	180	P		P	23 02 56.6	+2.7
	comp=Z,1.2nm,0.4s,baz=15,slow=1.9,SNR=16							
QSPA				LR		LR	23 21 50.7	
	comp=Z,176nm,18.2s,baz=44,slow=35							
	comp=Z,1.2nm,0.4s							
QSPA	South Pole Qui	47.73	180	P		P	23 02 56.6	+2.7
QSPA				IAmb		IAmb	23 03 40.5	
	comp=Z,7.0nm,1.1s							
TAOE	Nuku Hiva Isla	52.49	64	eLR		LR	23 18 39.6	
	comp=Z,285nm,25.2s							
MAW	Mawson	58.67	205	LR		LR	23 28 21.7	
	comp=Z,182nm,18.8s,baz=104,slow=35							
BELA	Belgrano 2	58.76	173	P		P	23 04 14.6	-0.1
BELA				IAmb		IAmb	23 04 17.1	
	comp=Z,4.2nm,0.8s							
TROLL	Troll, Antarti	65.73	183	P		P	23 05 03.3	+1.8
SNAA	Sanae	66.21	181	P		P	23 05 06.2	+1.6
VNA3	Neumayer Olymp	66.65	179	P		P	23 05 09.0	+1.7
VNA2	Neumayer--Watz	66.99	180	P		P	23 05 10.0	+0.5
	baz=175,slow=7.0							
PLCA	Paso Flores	78.98	136	P		P	23 06 23.7	+2.6
	comp=Z,2.4nm,0.8s,baz=228,slow=8.7,SNR=3.2							
	comp=Z,2.4nm,0.8s							
KSRS	Korea Array	89.71	325	P		P	23 07 15.1	+0.1
	comp=Z,1.9nm,0.9s,baz=143,slow=6.1,SNR=4.7							
	comp=Z,1.9nm,0.9s							
CMAR	Chiang Mai Arr	91.45	294	P		P	23 07 23.8	+0.1
	comp=Z,1.9nm,0.6s,baz=147,slow=3.2,SNR=7.7							
	comp=Z,1.3nm,0.6s							
SHEM	Shemya Is, Ala	94.75	0	LR		LR	23 45 12.9	
	comp=Z,93nm,20.6s,baz=36,slow=32							
KBZ	Khabaz	144.38	289	PKP		PKPbc	23 13 51.7	+0.3
	comp=Z,3.4nm,0.9s,baz=86,slow=11,SNR=3.5							
SFJD	Kangerlussuaq	145.72	29	PKPbc		PKPdf	23 13 54.2	-0.3
	comp=Z,10nm,0.9s,baz=302,slow=17,SNR=4.2							
ARCES	ARCESS Array B	148.21	339	PKPbc		PKPbc	23 14 01.1	-0.8
	2.3nm,0.7s,baz=62,slow=2.1,SNR=9.9							
BRTR	Keskin Array B	149.88	279	PKPbc		PKPbc	23 14 06.8	-0.5
	comp=Z,2.7nm,0.6s,baz=123,slow=5.3,SNR=15							
FINES	FINESS Array B	152.80	326	PKPbc		PKPbc	23 14 12.3	-0.8
	comp=Z,3.1nm,0.9s,baz=54,slow=2.6,SNR=15							

IDC ***13*** *22:56:07.2±2.0,41.64S×173.87E,h0km,mb4.0/4, mbtmp4.1/5,ML3.7/1,Error ellipse: s-maj=46.0km s-min=32.5km az=82.0*

ISC 13 22:56:09.5±1.6,41.6S±0.2×173.9E±0.2,h18km,n6, σ0.7s7/7,mb3.9/4,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	2.98	224	Pn		Pn		22 56 55.1	-0.8
	11nm,0.3s,baz=65,slow=19,SNR=0.8								
RPZ				Sn		Sn		22 57 31.8	+0.7
	baz=10,slow=19								
	188nm,0.7s								
ASAR	Alice Springs	37.76	286	P		P		23 03 24.6	0.0
	0.8nm,0.6s,baz=124,slow=6.5,SNR=3.4								
	0.8nm,0.6s								
WRA	Warramunga Arr	39.83	291	P		P		23 03 41.9	0.0
	1.3nm,0.7s,baz=133,slow=7.4,SNR=4.5								
	1.3nm,0.7s								
QSPA	South Pole Qui	48.51	180	P		P		23 04 51.4	+0.3
	0.8nm,0.6s,baz=347,slow=1.2,SNR=1.2								
	0.8nm,0.6s								
CMAR	Chiang Mai Arr	91.37	294	P		P		23 09 15.1	+0.7
	1.0nm,0.3s,baz=149,slow=4.2,SNR=1.3								
	1.0nm,0.3s								
BRTR	Keskin Array B	150.00	280	PKPbc		PKiKP		23 15 58.8	-0.9
	1.2nm,0.8s,baz=99,slow=2.5,SNR=3.3								

UPA ***13*** *22:56:49.9±0.4,8.30N×93.96W,h116km±32km, MW3.5*
UCR ***13*** *22:56:49.6±1.6,8.83N×84.17W,h15km±184km, MW3.7*

ISC 13 22:56:48.6±2.0,8.9N±0.1×84.10W±0.0?,h10km±12km,n15, σ0.9s76/22,1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.46	30	eP		Pb		22 56 59.0	+0.1
EDDO				eS		Sb		22 57 07.5	+1.7
EDPN	Palmar Norte	0.64	80	eP		Pn		22 57 03.1	-0.7
EDPN				eS		Sn		22 57 14.0	-0.1
CDM	Cerro de Muert	0.77	25	eP		Pb		22 57 04.3	-0.2
CDM				eS		Sn		22 57 16.9	-1.1
LCR2	La Lucha 2	0.89	6	eP		Pb		22 57 06.3	-0.1
LCR2				eS		Sn		22 57 19.8	-0.8
JACO	JACO, Garabito	0.98	326	eP		Pg		22 57 07.3	-0.1
POTG	Potrero Grande	0.99	78	eP		Pn		22 57 09.3	+0.7
OCM	Ochomogo	1.05	7	eP		Pb		22 57 09.0	0.0
HDC	Heredia	1.14	359	eP		Pn		22 57 10.9	0.0
HAYA	Volcan Irazu	1.15	13	eP		Pn		22 57 11.2	0.0
MRVA	Moravia de Chi	1.17	34	eP		Pn		22 57 11.7	+0.5
CVTR	Volcan Turrial	1.21	16	eP		Pn		22 57 12.3	+0.3
BRU2	Volcan	1.39	92	eP		Pg		22 57 15.7	+0.3
BRU2	Volcan	1.39	92	eP		Pg		22 57 15.6	+0.3
BRU2				eS		Sg		22 57 34.8	+1.3
BCO2	Palmira	1.56	95	eP		Pg		22 57 18.2	-0.3
BCO2				eS		Sg		22 57 37.6	-1.1
CNI2	El Empalme, Bo	1.71	70	eP		Pg		22 57 20.2	-1.1
CNI2				eS		Sg		22 57 43.5	-0.1

WEL 13 22:58:15.8±0.4,42°S±3°×17°4E±°,h7km±3km,M3.7/12, ML4.0/12,MLv3.7/12,Error ellipse: s-maj=0.0km s-min=0.0km az=146.9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.04	22	P		Pg		22 58 17.2	-0.1
CMWZ				S		Sg		22 58 19.1	+0.7
BSWZ	Blackbirch Sta	0.25	287	P		Pg		22 58 20.8	+0.1
BSWZ				S		Sg		22 58 26.7	+2.7
TUWZ	Tuamarina	0.41	332	P		Pg		22 58 23.5	-0.1
TUWZ				S		Sb		22 58 31.6	0.0
TCW	Tory Channel	0.58	6	P		Pg		22 58 26.7	-0.3
TCW				S		Sb		22 58 36.7	0.0
BHW	Baring Head	0.64	53	P		Pg		22 58 28.2	+0.2
WEL	Wellington	0.67	41	P		Pg		22 58 28.9	+0.4
WEL				S		Sb		22 58 39.4	+0.4
PLWZ	Palliser	0.83	75	P		Pg		22 58 31.7	+0.1
NNZ	Nelson	0.84	313	P		Pg		22 58 32.1	+0.3
MSWZ	Moikau Station	0.88	65	P		Pb		22 58 33.2	-0.1
MSWZ				S		Sn		22 58 46.9	-0.5
THZ	Tophouse	0.96	271	P		Pb		22 58 35.1	+0.3
THZ				S		Sb		22 58 48.7	+1.0
KIW	Kapiti Island	1.07	30	P		Pg		22 58 36.0	-0.3
OGWZ	Otaki Gorge	1.22	37	P		Pb		22 58 39.0	-0.1
HOWZ	Holdsworth Sta	1.34	49	P		Pb		22 58 41.1	0.0

WEL 13 22:58:52.3±0.3,43°S±2°×17°3E±°,h11km±2km,M4.2/11, ML4.4/11,MLv4.2/11,Error ellipse: s-maj=0.0km s-min=0.0km az=108.4,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.37	146	P		Pb		22 59 00.5	-0.3
GVZ				S		Sb		22 59 06.7	+0.1
LTZ	Lake Taylor	0.37	251	P		Pb		22 59 00.3	-0.6
LTZ				S		Sb		22 59 05.9	-0.8
AMCZ	Amberley	0.52	188	P		Pb		22 59 03.6	+0.2
AMCZ				S		Sb		22 59 11.7	+0.9
KHZ	Kahutara	0.63	67	P		Pb		22 59 05.7	+0.4
KHZ				S		Sb		22 59 13.6	-0.4
NNBS	New Brighton	0.83	182	S		Sb		22 59 20.1	+0.2
CACS	Harewood	0.84	191	P		Pb		22 59 08.8	0.0
CACS				S		Sn		22 59 21.4	-0.9
PPHS	Papanui	0.84	187	P		Pn		22 59 09.7	-0.3
PPHS				S		Sn		22 59 21.5	-0.7
OXZ	Oxford	0.84	218	P		Pb		22 59 08.9	0.0
OXZ				S		Sb		22 59 20.9	+0.6
THZ	Tophouse	0.91	7	P		Pb		22 59 10.0	0.0
INZ	Inchbonnie	0.97	266	P		Pb		22 59 10.9	0.0
INZ				S		Sb		22 59 23.9	+0.2
MQZ	McQueen's Vall	1.04	184	P		Pb		22 59 11.3	-1.0
MQZ				S		Sg		22 59 25.5	-0.5
OKCZ	Okains Bay	1.08	168	P		Pb		22 59 12.6	-0.4
OKCZ				S		Sg		22 59 27.3	+0.1
RACZ	Rakaia	1.15	203	P		Pb		22 59 12.9	-1.2
RACZ				S		Sb		22 59 28.0	-1.1
DSZ	Denniston Nort	1.16	322	P		Pg		22 59 15.0	+0.5
AKCZ	Akaroa Harbour	1.21	175	P		Pn		22 59 13.9	-1.3
AKCZ				S		Sb		22 59 29.3	-1.6
MHCZ	Mount Hutt	1.23	225	P		Pn		22 59 14.5	-0.8
WACZ	Wakanui South	1.44	207	P		Pn		22 59 16.8	-1.4
WACZ				S		Sn		22 59 35.2	-1.9
WVZ	Waitaha Valley	1.54	254	P		Pn		22 59 20.0	+0.4
WVZ				S		Sn		22 59 39.6	+0.1
RPZ	Rata Peaks	1.63	229	P		Pn		22 59 19.9	-0.9
ARCZ	Arundel	1.72	221	P		Pn		22 59 20.9	-1.2
GCSZ	Gaunt Creek Bo	1.90	249	P		Pn		22 59 24.9	+0.4
GCSZ				S		Sn		22 59 48.0	-0.3
TMZ	Timaru	2.14	216	P		Pn		22 59 26.6	-1.2
FOZ	Fox Glacier	2.32	247	P		Pn		22 59 30.7	+0.4
ODZ	Otahua Downs	2.83	212	P		Pn		22 59 35.8	-1.5
JCZ	Jackson Bay	3.22	243	P		Pn		22 59 42.1	-0.6
HHSZ	Highcliff Hill	3.57	205	P		Pn		22 59 45.6	-1.9
EAZ	Earnscleugh	3.57	223	P		Pn		22 59 46.0	-1.6
TUZ	Tuapeka	3.98	213	P		Pn		22 59 51.6	-1.5
HIZ	Hauiti	4.45	22	P		Pn		23 00 01.8	+2.2
SYZ	Scrubby Hill	4.65	212	P		Pn		23 00 00.9	-1.5
APZ	The Paps	5.37	218	P		Pn		23 00 10.7	-1.7
MKAZ	Moumakai	5.85	19	P		Pn		23 00 23.6	+4.7

IDC ***13*** *23:00:00.9±2.2,42.31S×173.91E,h0km,mb3.8/2, mbtmp4.0/3,ML4.7/1,Error ellipse: s-maj=66.6km s-min=41.2km az=149.0*
WEL ***13*** *23:00:04.4±0.5,42°S±4°×17°4E±°,h15km±3km,M3.9/13, ML4.2/13,MLv3.9/13,Error ellipse: s-maj=0.0km s-min=0.0km az=165.7*

ISC 13 22:59:59.2±1.7,42.07S±0.06×174.29E±0.03,h3km±11km, n27,σ1.46/34,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.32	350	P		Pb		23 00 47.0	-0.6
BSWZ	Blackbirch Sta	0.47	319	P		Pn		23 00 11.7	-1.1
BSWZ				S		Sb		23 00 17.6	+0.2
TUWZ	Tuamarina	0.69	338	P		Pb		23 00 13.4	-0.3
TUWZ				S		Sg		23 00 20.2	-1.1
BHW	Baring Head	0.79	34	P		Pn		23 00 16.3	-0.9
TCW	Tory Channel	0.86	359	P		Pg		23 00 15.4	-0.2
WEL	Wellington	0.86	25	P		Pb		23 00 16.5	-0.2
PLWZ	Palliser	0.88	56	P		Pn		23 00 20.1	+1.7
MSWZ	Moikau Station	0.97	48	P		Pn		23 00 21.0	+1.3
MSWZ				S		Sn		23 00 33.9	-0.1
THZ	Tophouse	1.08	286	P		Pn		23 00 24.6	+3.4
THZ				S		Sn		23 00 35.1	-1.6
NNZ	Nelson	1.09	321	P		Pn		23 00 21.5	+0.2
PAWZ	Paruwai Farm	1.09	52	P		Pn		23 00 22.7	+1.2
PAWZ				S		Sn		23 00 36.3	-0.8
CAW	Cannon Point	1.12	32	P		Pn		23 00 21.3	-0.5
CAW				S

0.5nm,0.7s,baz=305,slow=3.2,SNR=3.9
0.5nm,0.7s
LPAZ La Paz 149.44 66 PKPbc **PKiKP 23 20 53.9 +0.4**
1.0nm,0.9s,baz=301,slow=0.7,SNR=4.9

WEL 13 23:04:16.8±0.3, 42°S±2°×17°4E±°, h5km, M3.9/12, ML4.2/12, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=138.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**191**	P	Pg	23 04 18.4	-0.3
BSWZ	**Blackbirch Sta**	**0.28**	**259**	P	Pg	23 04 22.6	+0.4
BSWZ				S	Sg	23 04 27.3	+1.5
TUWZ	**Tuamarina**	**0.32**	**317**	P	Pg	23 04 23.5	+0.4
TUWZ				S	Sg	23 04 28.6	+1.3
TCW	**Tory Channel**	**0.45**	**4**	P	Pg	23 04 25.9	+0.3
TCW				S	Sg	23 04 32.3	+0.8
WEL	**Wellington**	**0.55**	**47**	P	Pg	23 04 27.0	-0.4
WEL				S	Sb	23 04 35.9	-1.2
PLWZ	**Palliser**	**0.77**	**83**	P	Pg	23 04 31.7	+0.1
PLWZ				S	Sb	23 04 44.5	+1.1
MSWZ	**Moikau Station**	**0.80**	**72**	P	Pg	23 04 32.1	0.0
MSWZ				S	Sn	23 04 46.0	-1.0
CAW	**Cannon Point**	**0.84**	**49**	P	Pg	23 04 33.1	+0.2
KHZ	**Kahutara**	**0.91**	**214**	P	Pg	23 04 34.6	+0.3
KHZ				S	Sb	23 04 48.0	+0.4
PAWZ	**Paruwai Farm**	**0.94**	**73**	P	Pg	23 04 34.7	0.0
KIW	**Kapiti Island**	**0.95**	**33**	P	Pg	23 04 34.6	-0.4
KIW				S	Sb	23 04 48.0	-0.5
MTW	**Mount Morrison**	**1.08**	**62**	P	Pg	23 04 36.9	-0.5
MTW				S	Sn	23 04 53.2	-0.7
OGWZ	**Otaki Gorge**	**1.10**	**40**	P	Pg	23 04 37.5	-0.4
OGWZ				S	Sb	23 04 53.0	0.0
TRWZ	**Traveller**	**1.12**	**77**	P	Pg	23 04 36.9	-1.4
TKNZ	**Takaka Hill**	**1.15**	**303**	P	Pg	23 04 37.7	-1.1
TKNZ				S	Sb	23 04 54.4	+0.1
HOWZ	**Holdsworth Sta**	**1.23**	**52**	P	Pg	23 04 39.3	-1.0
HOWZ				S	Sb	23 04 56.9	+0.2
TMWZ	**Te Maipa**	**1.36**	**66**	P	Pn	23 04 40.4	-2.1
MRZ	**Mangatainoka R**	**1.43**	**46**	P	Pn	23 04 42.1	-1.2
TIWZ	**Tintock**	**1.53**	**55**	P	Pn	23 04 43.1	-1.6
GVZ	**Greta Valley S**	**1.58**	**214**	P	Pn	23 04 43.7	-1.8
CPWZ	**Castlepoint**	**1.66**	**64**	P	Pn	23 04 44.3	-2.3
OHWZ	**Ohakea**	**1.67**	**30**	P	Pn	23 04 47.3	+0.6
PRWZ	**Pori Road**	**1.72**	**50**	P	Pn	23 04 45.8	-1.6
POWZ	**Post Office Ro**	**1.72**	**43**	P	Pn	23 04 46.6	-0.7
BFZ	**Birch Farm**	**1.81**	**58**	P	Pn	23 04 46.1	-2.5
LTZ	**Lake Taylor**	**1.84**	**232**	P	Pn	23 04 47.6	-1.4
AMCZ	**Amberley**	**1.91**	**217**	P	Pg	23 04 54.2	+0.7
WAZ	**Wanganui**	**1.99**	**17**	P	Pb	23 04 53.9	+0.4
DVHZ	**Dannevirke**	**2.00**	**48**	P	Pn	23 04 49.1	-2.1
TSZ	**Takapari Road**	**2.07**	**40**	P	Pn	23 04 50.9	-1.3
ANWZ	**Angora Road**	**2.08**	**55**	P	Pg	23 04 57.0	+0.4
LREZ	**Lake Rotokare**	**2.20**	**3**	P	Pn	23 04 58.1	-0.9
PRHZ	**Porangahau**	**2.29**	**53**	P	Pn	23 04 52.8	-2.4
PNHZ	**Pukenui**	**2.30**	**41**	P	Pn	23 04 53.7	-1.7
WPHZ	**Waipukurau**	**2.31**	**47**	P	Pg	23 05 01.0	-0.1
KHEZ	**Kahui Hut**	**2.37**	**356**	P	Pb	23 05 00.5	+0.4
NEZ	**North Egmont**	**2.39**	**357**	P	Pb	23 05 00.6	+0.2
NBEZ	**Newall Road No**	**2.41**	**353**	P	Pg	23 05 01.9	-1.0
PKE	**Pukeiti**	**2.47**	**355**	P	Pb	23 05 00.7	-1.0
MOVZ	**Moawhango**	**2.53**	**28**	P	Pb	23 05 01.4	-1.3
WNVZ	**Wahianoa**	**2.55**	**24**	P	Pn	23 05 00.8	+1.7
TRVZ	**Turoa**	**2.56**	**23**	P	Pb	23 05 03.3	-0.1
VRZ	**Vera Road**	**2.57**	**9**	P	Pb	23 05 01.3	-2.0
BHHZ	**Black Hill Sta**	**2.58**	**33**	P	Pb	23 05 03.4	-0.2
DRZ	**Dome Shelter**	**2.59**	**23**	P	Pb	23 05 04.6	+0.7
WHVZ	**Whangaehu Hut**	**2.59**	**24**	P	Pb	23 05 03.6	-0.2
FWVZ	**Far West T-bar**	**2.61**	**23**	P	Pb	23 05 03.8	-0.3
TUVZ	**Tukino**	**2.63**	**25**	P	Pb	23 05 02.6	-1.8
NGZ	**Ngauruhoe**	**2.69**	**23**	P	Pb	23 05 04.7	-0.9
SNVZ	**South Ngauruho**	**2.70**	**24**	P	Pb	23 05 05.3	-0.4
OTVZ	**Oturere**	**2.73**	**24**	P	Pb	23 05 05.4	-0.8
NNVZ	**North Ngauruho**	**2.74**	**23**	P	Pb	23 05 05.6	-0.8
KAHZ	**Kahuranaki**	**2.74**	**48**	P	Pn	23 04 59.1	-2.3
TWVZ	**Taurewa**	**2.75**	**20**	P	Pb	23 05 05.9	-0.5
WTVZ	**West Tongariro**	**2.75**	**23**	P	Pb	23 05 06.1	-0.4
ETVZ	**East Tongariro**	**2.76**	**25**	P	Pb	23 05 05.7	-1.1
KRVZ	**Karewarewa**	**2.78**	**23**	P	Pb	23 05 07.1	+0.1
TMVZ	**Te Maari**	**2.78**	**24**	P	Pb	23 05 06.7	-0.4
NTVZ	**North Tongarir**	**2.79**	**24**	P	Pb	23 05 06.6	-0.6
KWHZ	**Kaweka Forest**	**2.79**	**37**	P	Pb	23 05 07.5	+0.4
WACZ	**Wakanui South**	**2.88**	**217**	P	Pn	23 05 00.6	-2.7
BKZ	**Black Stump Fm**	**3.03**	**35**	P	Pb	23 05 11.4	+0.1
RATZ	**Rangitukua**	**3.03**	**23**	P	Pb	23 05 11.5	+0.3
RPZ	**Rata Peaks**	**3.12**	**228**	P	Pn	23 05 04.2	-2.4
ARCZ	**Arundel**	**3.27**	**224**	P	Pn	23 05 05.0	-2.9
GCSZ	**Gaunt Creek Bo**	**3.33**	**239**	P	Pn	23 05 08.7	-1.8
FOZ	**Fox Glacier**	**3.76**	**239**	P	Pn	23 05 16.3	+0.9
LBZ	**Lake Benmore**	**4.03**	**226**	P	Pn	23 05 20.2	+1.1
TOZ	**Tahuroa Road**	**4.05**	**14**	P	Pn	23 05 23.2	+3.8
ODZ	**Otahua Downs**	**4.28**	**217**	P	Pn	23 05 19.6	-2.9
AWAZ	**Awhitu Peninsu**	**4.60**	**4**	P	Pn	23 05 29.6	+2.5
MKAZ	**Moumakai**	**4.61**	**9**	P	Pn	23 05 29.6	+2.5
JCZ	**Jackson Bay**	**4.67**	**237**	P	Pn	23 05 28.7	+0.6
HHSZ	**Highcliff Hill**	**4.97**	**211**	P	Pn	23 05 28.7	-3.4
CTZ	**Chatham Island**	**7.05**	**110**	P	Pn	23 05 57.4	-3.2

JMA 13 23:06:36.3±0.2, 34°N±2°×13°9E±°, h287km, MV3.1/23, FAR S OFF TOKAI DISTRICT
IDC 13 23:06:37.8±0.7, 33.56N×138.41E, h279km±8km, mb3.1/10, mbtmp3.7/12, Error ellipse: s-maj=26.1km s-min=15.3km az=51.0

ISC 13 23:06:38.1±0.7, 33°62N±0°08×138°49E±0°07, h287km, n30, σ1§43/34, mb3.5/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.69**	**298**	P	**Pn**	**23 07 14.4**	**-1.0**
TK03	**Tokai 3**	**0.70**	**321**	P	**Pn**	**23 07 14.9**	**-0.7**
JKO	**Kozu shima**	**0.78**	**43**	*eP*	**Pn**	**23 07 15.0**	**-1.0**
TTO4	**TONANKAI O.B.S**	**0.88**	**296**	P	**Pn**	**23 07 14.7**	**-1.4**
TTO5	**TONANKAI O.B.S**	**0.90**	**315**	*eP*	**Pn**	**23 07 15.2**	**-1.1**
JMKN	**Mikurajimanish**	**0.96**	**73**	P	**Pn**	**23 07 15.4**	**-1.4**
JHJ	**Hachijo jima 2**	**1.19**	**114**	P	**Pn**	**23 07 16.6**	**-1.4**
	89nm,0.4s,baz=99,slow=22,SNR=8.9						
JHJ				S	**S**	**23 07 49.1**	**-0.7**
	129nm,1.0s,baz=99,slow=18,SNR=1.8						
JHJ2	**Mitsune**	**1.22**	**114**	*eP*	**Pn**	**23 07 16.6**	**-1.6**
TTO1	**TONANKAI O.B.S**	**1.42**	**271**	P	**Pn**	**23 07 17.6**	**-1.5**
JIE	**Ise**	**1.67**	**298**	P	**Pn**	**23 07 19.5**	**-1.6**
BSO1	**Boso 1**	**2.31**	**63**	P	**Pn**	**23 07 23.8**	**-1.8**
BSO1				*eS*	**S**	**23 08 00.7**	**-2.8**
JTNC	**Tanabenakahech**	**2.41**	**275**	P	**Pn**	**23 07 25.0**	**-2.2**
JRY	**Ryogami san**	**2.41**	**8**	P	**Pn**	**23 07 26.9**	**-0.4**
JYTA	**Yamagatataniai**	**2.44**	**324**	P	**Pn**	**23 07 26.5**	**-1.0**
JWY	**Kouya**	**2.48**	**285**	P	**Pn**	**23 07 26.3**	**-1.6**
JAG	**Ashikaga**	**2.91**	**16**	P	**Pn**	**23 07 30.4**	**-1.5**
JAG				*eS*	**S**	**23 08 11.7**	**-3.2**
MJAR	**Matsushiro Arr**	**2.92**	**356**	P	**Pn**	**23 07 31.2**	**-0.9**
	1.7nm,0.3s,baz=178,slow=12,SNR=1.8						
JWT	**Wachi**	**3.04**	**304**	*eP*	**Pn**	**23 07 31.8**	**-1.5**
JMN	**Monobe**	**3.85**	**273**	P	**Pn**	**23 07 40.0**	**-1.9**
KSRS	**Korea Array**	**9.42**	**297**	P	**Pn**	**23 08 49.4**	**+0.4**
	3.1nm,0.8s,baz=106,slow=13,SNR=8.6						
SONM	**Songino Array**	**27.93**	**310**	P	**P**	**23 12 03.0**	**+0.7**
	0.8nm,0.6s,baz=109,slow=8.6,SNR=9.2						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**44.00**	**305**	P	**P**	**23 14 17.1**	**-0.3**
	1.3nm,0.4s,baz=76,slow=11,SNR=19						
	1.3nm,0.4s						
BVAR	**Borovoye Array**	**51.16**	**314**	P	**P**	**23 15 12.6**	**+0.6**
	0.7nm,0.4s,baz=104,slow=8.0,SNR=4.4						
BVAR				PcP	**PcP**	**23 16 23.4**	**+0.3**
	0.2nm,0.4s,baz=93,slow=3.2,SNR=1.6						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**53.41**	**185**	P	**P**	**23 15 27.7**	**-1.2**
	0.1nm,0.3s,baz=0.2,slow=7.5,SNR=1.5						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**57.14**	**185**	P	**P**	**23 15 56.1**	**+0.8**
	0.1nm,0.5s,baz=21,slow=10,SNR=1.1						
	0.1nm,0.5s						
FINES	**FINESS Array B**	**70.70**	**332**	P	**P**	**23 17 23.1**	**+0.5**
	0.8nm,0.5s,baz=57,slow=7.0,SNR=6.5						
	0.8nm,0.5s						
AKASG	**Malin Array Be**	**75.51**	**322**	P	**P**	**23 17 51.2**	**+0.4**
	0.7nm,0.4s,baz=52,slow=6.3,SNR=7.0						
	0.7nm,0.4s						
NVAR	**Mina Array Bea**	**78.97**	**51**	P	**P**	**23 18 12.0**	**+1.4**
	0.3nm,0.5s,baz=277,slow=5.6,SNR=2.9						
	0.3nm,0.5s						
GERES	**GERESS Array B**	**84.30**	**327**	P	**P**	**23 18 38.6**	**+0.7**
	0.4nm,0.6s,baz=27,slow=6.6,SNR=2.9						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**94.11**	**51**	P	**P**	**23 19 25.5**	**+0.9**
	0.4nm,0.7s,baz=308,slow=3.0,SNR=4.9						
	0.4nm,0.7s						

IDC 13 23:07:29.4±2.4, 42°29S×173°84E, h0km, mb3.7/2, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=62.4km s-min=31.9km az=138.0
WEL 13 23:07:31.6±0.5, 42°S±3°×17°4E±°, h11km±3km, M3.8/18, ML4.0/18, MLv3.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=121.7

ISC 13 23:07:31.8±1.1, 42°38S±0°03×173°96E±0°03, h18km±4km, n86, σ1§07/103, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**263**	P	**Pg**	**23 07 38.2**	**-0.4**
KHZ				S	**Sg**	**23 07 42.4**	**-0.8**
CMWZ	**Cape Campbell**	**0.66**	**17**	P	**Pn**	**23 07 46.6**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.67**	**355**	P	**Pb**	**23 07 44.4**	**-0.5**
BSWZ				S	**Sb**	**23 07 52.9**	**-0.9**
GVZ	**Greta Valley S**	**0.90**	**229**	P	**Pg**	**23 07 50.4**	**+1.0**
GVZ				S	**Sn**	**23 08 03.8**	**+1.6**
TUWZ	**Tuamarina**	**0.95**	**359**	P	**Pb**	**23 07 49.8**	**+0.1**
TUWZ				S	**Sg**	**23 08 03.2**	**+0.4**
THZ	**Tophouse**	**1.00**	**308**	P	**Pb**	**23 07 49.5**	**-1.2**
TCW	**Tory Channel**	**1.19**	**12**	P	**Pn**	**23 07 53.6**	**+0.1**
TCW				S	**Sg**	**23 08 11.1**	**+0.6**
NNZ	**Nelson**	**1.24**	**339**	P	**Pn**	**23 07 54.0**	**-0.3**
NNZ				S	**Sn**	**23 08 11.2**	**+0.7**
AMCZ	**Amberley**	**1.25**	**230**	P	**Pb**	**23 07 55.6**	**+0.7**
WEL	**Wellington**	**1.25**	**29**	P	**Pb**	**23 07 54.9**	**+0.1**
WEL				S	**Sg**	**23 08 12.4**	**0.0**
PLWZ	**Palliser**	**1.26**	**50**	P	**Pb**	**23 07 54.9**	**-0.1**
LTZ	**Lake Taylor**	**1.31**	**252**	P	**Pn**	**23 07 55.7**	**+0.4**
MRNZ	**Matariki Terra**	**1.33**	**317**	P	**Pn**	**23 07 55.8**	**+0.3**
MSWZ	**Moikau Station**	**1.36**	**45**	P	**Pn**	**23 07 56.3**	**+0.3**
PAWZ	**Paruwai Farm**	**1.48**	**48**	P	**Pn**	**23 07 57.8**	**+0.2**
PAWZ				S	**Sn**	**23 08 16.5**	**0.0**
OKCZ	**Okains Bay**	**1.50**	**206**	P	**Pn**	**23 07 58.6**	**+0.8**
CAW	**Cannon Point**	**1.52**	**33**	P	**Pn**	**23 07 58.5**	**+0.4**
CAW				S	**Sb**	**23 08 18.2**	**-0.1**
TKNZ	**Takaka Hill**	**1.54**	**331**	P	**Pn**	**23 07 58.9**	**+0.5**
DUWZ	**D'Urville Isla**	**1.58**	**359**	P	**Pn**	**23 07 59.5**	**+0.6**
DUWZ				S	**Sb**	**23 08 20.1**	**0.0**
TRWZ	**Traveller**	**1.62**	**53**	P	**Pn**	**23 07 59.6**	**+0.1**
TRWZ				S	**Sn**	**23 08 20.4**	**+0.5**
MQZ	**McQueen's Vall**	**1.64**	**215**	P	**Pn**	**23 07 59.7**	**+0.1**
MQZ				S	**Sn**	**23 08 20.1**	**-0.1**
KIW	**Kapiti Island**	**1.68**	**25**	P	**Pn**	**23 08 00.9**	**+0.6**
AKCZ	**Akaroa Harbour**	**1.68**	**207**	P	**Pn**	**23 08 00.7**	**+0.4**
AKCZ				S	**Sn**	**23 08 21.9**	**+0.6**
OXZ	**Oxford**	**1.70**	**236**	P	**Pn**	**23 08 00.5**	**-0.1**
DSZ	**Denniston Nort**	**1.73**	**291**	P	**Pb**	**23 08 02.4**	**-0.6**
DSZ				S	**Sb**	**23 08 24.6**	**+0.2**
OGWZ	**Otaki Gorge**	**1.81**	**31**	P	**Pn**	**23 08 02.3**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.89**	**39**	P	**Pn**	**23 08 03.2**	**0.0**
QRZ	**Quartz Range**	**1.89**	**325**	P	**Pn**	**23 08 04.3**	**+1.1**
QRZ				S	**Sb**	**23 08 28.3**	**-0.7**
INZ	**Inchbonnie**	**1.89**	**259**	P	**Pn**	**23 08 03.5**	**+0.3**
RACZ	**Rakaia**	**1.90**	**224**	P	**Pn**	**23 08 03.3**	**+0.1**
TMWZ	**Te Maipa**	**1.93**	**49**	P	**Pn**	**23 08 03.5**	**-0.2**
TMWZ				S	**Sn**	**23 08 28.1**	**+0.7**
MRZ	**Mangatainoka R**	**2.10**	**36**	P	**Pn**	**23 08 06.1**	**0.0**
MRZ				S	**Sn**	**23 08 32.0**	**+0.1**
WACZ	**Wakanui South**	**2.20**	**224**	P	**Pn**	**23 08 07.5**	**+0.1**
CPWZ	**Castlepoint**	**2.23**	**50**	P	**Pn**	**23 08 07.8**	**-0.1**
PRWZ	**Pori Road**	**2.37**	**40**	P	**Pn**	**23 08 09.7**	**-0.1**
POWZ	**Post Office Ro**	**2.41**	**35**	P	**Pn**	**23 08 10.5**	**+0.2**
BFZ	**Birch Farm**	**2.41**	**46**	P	**Pn**	**23 08 09.8**	**-0.6**
WVZ	**Waitaha Valley**	**2.47**	**253**	P	**Pn**	**23 08 11.8**	**+0.6**
RPZ	**Rata Peaks**	**2.51**	**237**	Pn	**Pn**	**23 08 11.6**	**-0.1**
	23nm,0.3s,baz=90,slow=1.8,SNR=7.1						
RPZ				Sn	**Sn**	**23 08 41.6**	**-0.3**
	29nm,0.3s,baz=164,slow=22,SNR=16						
	90nm,0.4s						
RPZ	**Rata Peaks**	**2.51**	**237**	P	**Pn**	**23 08 11.7**	**-0.1**
ARCZ	**Arundel**	**2.57**	**231**	P	**Pn**	**23 08 12.8**	**+0.2**
WAZ	**Wanganui**	**2.73**	**17**	P	**Pn**	**23 08 17.0**	**+2.2**
TSZ	**Takapari Road**	**2.77**	**34**	P	**Pn**	**23 08 15.0**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.83**	**249**	P	**Pn**	**23 08 17.1**	**+1.0**
PRHZ	**Porangahau**	**2.92**	**45**	P	**Pn**	**23 08 16.8**	**-0.5**
TMZ	**Timaru**	**2.94**	**226**	P	**Pn**	**23 08 18.3**	**+0.6**
NEZ	**North Egmont**	**3.11**	**2**	P	**Pb**	**23 08 25.8**	**-0.8**
NBEZ	**Newall Road No**	**3.11**	**359**	P	**Pb**	**23 08 24.7**	**-1.8**
PKE	**Pukeiti**	**3.18**	**0**	P	**Pn**	**23 08 23.7**	**+2.7**
FOZ	**Fox Glacier**	**3.25**	**248**	P	**Pn**	**23 08 23.4**	**+1.5**
MOVZ	**Moawhango**	**3.27**	**25**	P	**Pn**	**23 08 22.4**	**+0.2**
WNVZ	**Wahianoa**	**3.29**	**23**	P	**Pn**	**23 08 24.7**	**+2.1**
BHHZ	**Black Hill Sta**	**3.30**	**30**	P	**Pn**	**23 08 23.8**	**+1.2**
TRVZ	**Turoa**	**3.31**	**22**	P	**Pn**	**23 08 25.6**	**+2.7**
VRZ	**Vera Road**	**3.31**	**11**	P	**Pn**	**23 08 24.6**	**+1.9**
WHVZ	**Whangaehu Hut**	**3.33**	**22**	P	**Pn**	**23 08 25.3**	**+2.1**
FWVZ	**Far West T-bar**	**3.35**	**22**	P	**Pn**	**23 08 25.2**	**+1.7**
LBZ	**Lake Benmore**	**3.41**	**233**	P	**Pn**	**23 08 24.4**	**+0.4**
NGZ	**Ngauruhoe**	**3.44**	**22**	P	**Pn**	**23 08 26.7**	**+2.1**
SNVZ	**South Ngauruho**	**3.44**	**22**	P	**Pn**	**23 08 25.6**	**+1.0**
OTVZ	**Oturere**	**3.46**	**23**	P	**Pn**	**23 08 25.7**	**+0.7**
NNVZ	**North Ngauruho**	**3.48**	**22**	P	**Pn**	**23 08 28.0**	**+2.8**
WTVZ	**West Tongariro**	**3.49**	**21**	P	**Pn**	**23 08 27.6**	**+2.4**
TWVZ	**Taurewa**	**3.49**	**19**	P	**Pn**	**23 08 26.7**	**+1.4**
KWHZ	**Kaweka Forest**	**3.49**	**33**	P	**Pn**	**23 08 25.2**	**-0.1**
ETVZ	**East Tongariro**	**3.50**	**23**	P	**Pn**	**23 08 28.0**	**+2.5**
TMVZ	**Te Maari**	**3.52**	**23**	P	**Pn**	**23 08 27.8**	**+2.0**
KRVZ	**Karewarewa**	**3.52**	**22**	P	**Pn**	**23 08 28.7**	**+2.9**
NTVZ	**North Tongarir**	**3.53**	**22**	P	**Pn**	**23 08 27.4**	**+1.6**
ODZ	**Otahua Downs**	**3.59**	**221**	P	**Pn**	**23 08 26.7**	**+0.2**
BKZ	**Black Stump Fm**	**3.74**	**32**	P	**Pn**	**23 08 29.4**	**+0.7**
HIZ	**Hauiti**	**3.92**	**10**	P	**Pn**	**23 08 32.9**	**+1.8**
JCZ	**Jackson Bay**	**4.14**	**244**	P	**Pn**	**23 08 33.7**	**-0.5**
TLZ	**Tolley Road**	**4.22**	**17**	P	**Pn**	**23 08 36.4**	**+1.1**
HHSZ	**Highcliff Hill**	**4.26**	**213**	P	**Pn**	**23 08 36.1**	**+0.4**
TOZ	**Tahuroa Road**	**4.79**	**15**	P	**Pn**	**23 08 43.8**	**+0.8**
MSZ	**Milford Sound**	**4.95**	**240**	P	Pn	23 08 50.1	+4.9
AWAZ	**Awhitu Peninsu**	**5.33**	**6**	P	**Pn**	**23 08 52.1**	**+1.5**
MKAZ	**Moumakai**	**5.35**	**10**	P	**Pn**	**23 08 51.4**	**+0.7**
SYZ	**Scrubby Hill**	**5.40**	**218**	P	**Pn**	**23 08 52.0**	**+0.6**
WMGZ	**Waiomatatini S**	**5.69**	**38**	P	**Pn**	**23 08 55.8**	**+0.4**
ASAR	**Alice Springs**	**38.00**	**287**	P	**P**	**23 14 48.2**	**-0.6**
	0.5nm,0.5s,baz=122,slow=6.5,SNR=10						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**40.13**	**291**	P	**P**	**23 15 06.2**	**-0.5**
	1.1nm,0.6s,baz=129,slow=8.0,SNR=13						
	1.1nm,0.6s						
ARCES	**ARCESS Array B**	**148.29**	**340**	PKPbc	**PKPbc**	**23 27 15.2**	**-0.4**
	3.9nm,1.1s,baz=30,slow=2.2,SNR=0.7						
BRTR	**Keskin Array B**	**150.15**	**278**	PKPbc	**PKPbc**	**23 27 21.8**	**+0.4**
	0.5nm,0.5s,baz=90,slow=2.0,SNR=4.6						
FINES	**FINESS Array B**	**152.94**	**326**	PKPab	**PKPab**	**23 27 37.3**	**-0.8**
	1.8nm,1.0s,baz=51,slow=5.5,SNR=3.4						

WEL 13 23:17:00, 42°13S×173°86E, h8km, ML5.2, Mw4.8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16} Nm; M_{rr}=1.78; $M_{\theta\theta}$=0.14; $M_{\phi\phi}$=-1.92; $M_{r\theta}$=0.52; $M_{\theta\phi}$=-1.29; $M_{\phi r}$=0.03; Fault plane solution: M_0=2.26000×10^{16} NP1: ϕ_s=185.00000°, δ=46.00000°, λ=60.00000°. NP2:ϕ_s=45.00000°, δ=51.00000°, λ=118.00000°. Principal axes: T -2548.4000, Plg69.0000°, Azm19.0000°; N 569.7300, Plg21.0000°, Azm206.0000°; P 1978.6700, Plg3.0000°, Azm116.0000°;
IDC 13 23:17:30.6±0.6, 41°88S×173°88E, h0km, mb4.8/12, mbtmp4.8/13, ML5.2/1, MS4.1/20 Error ellipse: s-maj=20.7km s-min=16.5km az=71.0
BJI 13 23:17:31.7±0.0, 42°45S×173°38E, h14km, mb5.4/14, mB5.7/4, Ms5.2/2, Ms7.5/0/2
WEL 13 23:17:33.3±0.3, 42°S±2°×17°4E±°, h10km±3km, M5.2/42, ML5.4/17, MLv5.2/42, Error ellipse: s-maj=0.0km s-min=0.0km az=133.8
NEIC 13 23:17:33.4, 42°10S×173°81E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=1.54; $M_{\theta\theta}$=1.12; $M_{\phi\phi}$=-1.66; $M_{r\theta}$=0.39; $M_{\theta\phi}$=-0.90; $M_{\phi r}$=0.21; Fault plane solution: M_0=1.89000×10^{16} NP1:ϕ_s=188.65000°, δ=41.21000°, λ=69.30000°. NP2:ϕ_s=35.32000°, δ=51.96000°, λ=107.20000°. Principal axes: T 1.6372, Plg75.0000°, Azm1.0000°; N 0.4304, Plg13.0000°, Azm205.0000°; P -2.0676, Plg6.0000°, Azm113.0000°;
NEIC 13 23:17:33.2±2.2, 42°08S±0°02×173°81E±0°03, h9km±2km, mb5.0/70, Mwr4.8/37 Error ellipse: s-maj=3.9km s-min=2.4km az=129.0

ISC 13 23:17:33.6±0.9, 42°12S±0°02×173°82E±0°02, h18km±4km, n278, σ1§26/284, mb5.0/36, MS4.1/24, 3C-1D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**215**	P	**Pg**	**23 17 40.8**	**-0.5**
KHZ				*Sg*	**Sb**	**23 17 47.5**	**+0.6**
KHZ	**Kahutara**	**0.36**	**215**	P	**Pg**	**23 17 40.7**	**-0.6**
KHZ				S	**Sg**	**23 17 46.6**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.41**	**6**	Pg	**Pg**	**23 17 41.0**	**-1.0**
BSWZ				Sg	**Sg**	**23 17 47.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.41**	**6**	P	**Pg**	**23 17 41.3**	**-0.7**
BSWZ				S	**Sg**	**23 17 46.9**	**-0.7**
CMWZ	**Cape Campbell**	**0.47**	**39**	Pg	**Pg**	**23 17 43.0**	**-0.2**
CMWZ				Sg	**Sn**	**23 17 52.5**	**-0.9**
CMWZ	**Cape Campbell**	**0.47**	**39**	P	**Pb**	**23 17 43.4**	**-0.1**
CMWZ				S	**Sb**	**23 17 51.1**	**+1.1**
TUWZ	**Tuamarina**	**0.69**	**8**	Pg	**Pb**	**23 17 46.7**	**-0.5**
TUWZ				Sg	**Sn**	**23 17 57.4**	**-1.5**
TUWZ	**Tuamarina**	**0.69**	**8**	P	**Pb**	**23 17 46.7**	**-0.5**
TUWZ				S	**Sg**	**23 17 56.9**	**+0.3**
THZ	**Tophouse**	**0.77**	**297**	Pg	**Pb**	**23 17 48.0**	**-0.5**
THZ				Sg	**Sn**	**23 17 59.5**	**-1.4**
THZ	**Tophouse**	**0.77**	**297**	P	**Pg**	**23 17 48.3**	**-0.4**
THZ				S	**Sn**	**23 17 59.3**	**-1.5**
NNZ	**Nelson**	**0.96**	**340**		**Pb**	**23 17 51.3**	**-0.4**
NNZ				Sg	**Sn**	**23 18 05.0**	**-0.4**
NNZ	**Nelson**	**0.96**	**340**	P	**Pb**	**23 17 51.3**	**-0.4**
TCW	**Tory Channel**	**0.97**	**21**	P	**Pb**	**23 17 51.6**	**-0.3**
TCW				S	**Sg**	**23 18 04.9**	**-0.3**
GVZ	**Greta Valley S**	**1.03**	**214**		**Pn**	**23 17 53.5**	**+0.3**
GVZ	**Greta Valley S**	**1.03**	**214**	P	**Pg**	**23 17 53.9**	**+0.3**
GVZ				S	**Sg**	**23 18 07.5**	**+0.4**
SNZO	**South Karori**	**1.04**	**40**		**Pb**	**23 17 53.2**	**+0.1**
SNZO					**Sg**	**23 18 08.9**	**+1.3**
MRNZ	**Matariki Terra**	**1.07**	**312**	P	**Pg**	**23 17 54.1**	**-0.3**
MRNZ				S	**Sg**	**23 18 08.5**	**+0.1**
WEL	**Wellington**	**1.09**	**41**	P	**Pb**	**23 17

	comp=Z,26nm,0.8s						
MSVF	**Nonsavu**	**24.57**	**10**	P		**P**	**23 22 51.3 -1.3**
CMSA	**Cobar Meteorol**	**24.77**	**286**	P		**P**	**23 22 55.7 +1.4**
	baz=25,SNR=9.1						
EIDS	**Eidsvold**	**25.11**	**305**	P		**P**	**23 22 57.9 +0.5**
	baz=25,SNR=3.5						
EIDS	**Eidsvold**	**25.11**	**305**	P		**P**	**23 22 57.6 +0.2**
STKA	**Stephens Creek**	**27.55**	**281**	P		**P**	**23 23 20.4 +1.0**
	comp=Z,5.1nm,0.8s,baz=101,slow=10,SNR=5.9						
STKA				LR		LR	23 32 37.5
	comp=Z,407nm,21.6s,baz=136,slow=33						
	comp=Z,5.1nm,0.8s						
RAR	**Rarotonga**	**30.45**	**55**	LR		LR	23 34 39.6
	comp=Z,260nm,20.0s,baz=246,slow=34						
BBOO	**Buckleboo**	**31.17**	**275**	P		**P**	**23 23 51.0 -0.5**
	baz=31,SNR=6.0						
CTA	**Charters Tower**	**32.00**	**305**	LR		LR	23 36 45.8
	comp=Z,208nm,18.1s,baz=112,slow=36						
CTAO	**Charters Tower**	**32.00**	**305**	P		**P**	**23 23 59.0 +0.1**
CTAO				IAmb		IAmb	23 24 00.2
	comp=Z,11nm,0.8s						
MTSU	**Mount Surprise**	**34.67**	**305**	P		**P**	**23 24 22.8 +0.6**
	baz=35,SNR=16						
HNR	**Honiara**	**34.77**	**335**	LR		LR	23 37 14.4
	comp=Z,3µm,18.6s,baz=144,slow=34						
TBI	**Tubuai**	**35.76**	**70**	*e*LR		LR	23 34 07.2
	comp=Z,7µm,24.5s						
TBI				*e*LR		LR	23 34 07.4
	comp=Z,2µm,25.5s						
VNDA	**Vanda**	**35.85**	**184**	P		**P**	**23 24 34.0 +2.2**
	comp=Z,0.4nm,0.7s,baz=293,slow=2.9,SNR=2.8						
QIS	**Mount Isa**	**35.93**	**296**	P		**P**	**23 24 33.4 +0.3**
	baz=36,SNR=3.4						
SBA	**Scott Base**	**35.96**	**183**	P		**P**	**23 24 32.9 +0.2**
AS31	**Alice Springs**	**37.82**	**286**	P		**P**	**23 24 48.9 -0.3**
ASAR	**Alice Springs**	**37.82**	**286**	P		**P**	**23 24 48.5 -0.6**
	comp=Z,9.2nm,0.5s,baz=122,slow=6.6,SNR=122						
ASAR				PcP		**PcP**	**23 27 04.0 -1.6**
	comp=Z,2.5nm,0.7s,baz=124,slow=4.3,SNR=5.1						
ASAR				LR		LR	23 39 54.1
	comp=Z,283nm,18.1s,baz=154,slow=36						
	comp=Z,9.2nm,0.5s						
FORT	**Forrest**	**38.10**	**272**	P		**P**	**23 24 51.6 +0.2**
	baz=38,SNR=13						
FORT	**Forrest**	**38.10**	**272**	P		**P**	**23 24 51.2 -0.2**
COEN	**Coen**	**38.59**	**308**	P		**P**	**23 24 55.4 -0.3**
	baz=39,SNR=16						
COEN	**Coen**	**38.59**	**308**	P		**P**	**23 24 55.4 -0.3**
COEN				IAmb		IAmb	23 24 56.2
	comp=Z,14nm,0.7s						
PPT2	**Papeete2**	**39.61**	**63**	*e*LR		LR	23 35 54.1
	comp=Z,301nm,24.8s						
PPT2				*e*LR		LR	23 35 54.9
	comp=Z,330nm,23.5s						
PPT	**Papeete**	**39.63**	**63**	LR		LR	23 37 03.6
	comp=Z,274nm,19.7s,baz=220,slow=30						
WR0	**Warramunga Arr**	**39.78**	**291**	P		**P**	**23 25 05.1 -0.5**
WR0				IAmb		IAmb	23 25 08.0
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**39.93**	**291**	P		**P**	**23 25 06.3 -0.5**
WRAB	**Tennant Creek**	**39.93**	**291**	P		**P**	**23 25 06.2 -0.6**
WRA	**Warramunga Arr**	**39.94**	**291**	P		**P**	**23 25 06.4 -0.5**
	comp=Z,30nm,0.8s,baz=128,slow=8.6,SNR=150						
WRA				PcP		**PcP**	**23 27 10.8 -1.4**
	comp=Z,1.8nm,0.6s,baz=143,slow=3.0,SNR=4.7						
WRA				LR		LR	23 41 52.8
	comp=Z,204nm,18.3s,baz=116,slow=37						
	comp=Z,30nm,0.8s						
WB0	**Warramunga Arr**	**40.02**	**292**	P		**P**	**23 25 06.9 -0.6**
WB0				IAmb		IAmb	23 25 07.8
	comp=Z,26nm,0.8s						
PMG	**Port Moresby**	**40.13**	**317**	P		**P**	**23 25 09.5 +1.0**
WRKA	**Warakurna**	**41.06**	**280**	P		**P**	**23 25 15.1 -1.1**
	baz=41,SNR=31						
KRVT	**Keravat (AS076**	**42.38**	**327**	LR		LR	23 42 20.7
	comp=Z,256nm,18.7s,baz=293,slow=35						
NWAO	**Narrogin (SRO)**	**45.09**	**262**	LR		LR	23 41 22.1
	comp=Z,128nm,21.0s,baz=99,slow=32						
KNRA	**Kununurra**	**46.71**	**290**	P		**P**	**23 26 03.0 +1.4**
	baz=47,SNR=5.4						
KNRA	**Kununurra**	**46.71**	**290**	P		**P**	**23 26 01.3 -0.3**
MTN	**Manton Dam**	**47.08**	**295**	P		**P**	**23 26 04.8 +0.3**
MEEK	**Meekatharra**	**47.32**	**271**	P		**P**	**23 26 05.6 -0.7**
	baz=47,SNR=16						
MORW	**Morawa**	**47.91**	**266**	P		**P**	**23 26 09.6 -1.3**
MORW				IAmb		IAmb	23 26 28.2
	comp=Z,7.0nm,0.8s						
QSPA	**South Pole Qui**	**48.01**	**180**	P		**P**	**23 26 13.6 +2.3**
	comp=Z,15nm,0.9s,baz=42,slow=2.9,SNR=27						
QSPA				LR		LR	23 44 44.1
	comp=Z,178nm,21.1s,baz=44,slow=34						
	comp=Z,15nm,0.9s						
PSA00	**Pilbara Seismi**	**49.34**	**277**	P		**P**	**23 26 21.1 -0.8**
TAOE	**Nuku Hiva Isla**	**52.22**	**64**	*e*LR		LR	23 41 43.9
	comp=Z,291nm,22.6s						
FAKI	**Fak Fak**	**53.87**	**305**	P		**P**	**23 26 53.3 -2.4**
FAKI				IAmb		IAmb	23 26 55.2
	comp=Z,14nm,0.7s						
SOEI	**Soe**	**53.97**	**292**	P		**P**	**23 26 57.1 +0.4**
BATI	**Baumata**	**54.07**	**291**	LR		LR	23 49 31.9
	comp=Z,291nm,21.1s,baz=134,slow=36						
SIJI	**Sorong**	**56.08**	**305**	P		**P**	**23 27 10.7 -1.1**
	comp=Z,7.2nm,0.4s,baz=102,slow=6.9,SNR=8.0						
	comp=Z,7.2nm,0.4s						
MMRI	**Maumere**	**56.16**	**291**	P		**P**	**23 27 11.7 -0.7**
MAW	**Mawson**	**58.99**	**205**	P		**P**	**23 27 33.5 +1.9**
	comp=Z,7.9nm,1.0s,baz=104,slow=8.9,SNR=7.4						
	comp=Z,7.9nm,1.0s						
MAW	**Mawson**	**58.99**	**205**	P		**P**	**23 27 34.3 +2.7**
	baz=59,SNR=5.2						
MAW	**Mawson**	**58.99**	**205**	P		**P**	**23 27 33.6 +2.1**
BELA	**Belgrano 2**	**59.02**	**173**	P		**P**	**23 27 32.7 +1.0**
BELA				IAmb		IAmb	23 27 33.9
	comp=Z,7.8nm,0.8s						
KAPI	**Kappang**	**60.47**	**292**	P		**P**	**23 27 42.9 +0.5**
	comp=Z,23nm,0.3s,baz=164,slow=8.2,SNR=4.7						
	comp=Z,2.3nm,0.3s						
KAPI	**Kappang**	**60.47**	**292**	P		**P**	**23 27 43.3 +0.8**
SMAI	**San Martin Ant**	**61.05**	**158**	P		**P**	**23 27 46.9 +1.2**
SMAI				IAmb		IAmb	23 27 49.7
	comp=Z,12nm,1.0s						
RPN	**Rapa Nui**	**63.00**	**103**	LR		LR	23 50 47.1
	comp=Z,178nm,19.0s,baz=232,slow=32						
TOLI2	**Tolitoli**	**64.25**	**298**	IAmb		IAmb	23 28 09.4
	comp=Z,7.2nm,0.8s						
PMSA	**Palmer Station**	**64.27**	**156**	LR		LR	23 51 06.3
	comp=Z,109nm,19.9s,baz=272,slow=31						
TROLL	**Troll, Antarti**	**66.01**	**183**	P		**P**	**23 28 19.4 +0.8**
SNAA	**Sanae**	**66.49**	**181**	P		**P**	**23 28 22.6 +0.9**
SNAA	**Sanae**	**66.49**	**181**	LR		LR	23 55 58.3
	comp=Z,155nm,20.4s,baz=191,slow=35						
SNAA	**Sanae**	**66.49**	**181**	P		**P**	**23 28 22.3 +0.6**
VNA3	**Neumayer Olymp**	**66.92**	**179**	P		**P**	**23 28 25.2 +0.9**
VNA2	**Neumayer--Watz**	**67.26**	**180**	P		**P**	**23 28 27.0 +0.6**
	baz=164,slow=6.0						
LEM	**Lembang**	**67.85**	**281**	LR		LR	23 57 24.9
	comp=Z,130nm,21.2s,baz=109,slow=35						
MYLDM	**Lahad Datu**	**68.80**	**299**	P		**P**	**23 28 37.3 +0.5**
BKNI	**Bangkinang**	**77.50**	**282**	P		**P**	**23 29 26.5 -1.8**
PLCA	**Paso Flores**	**79.06**	**136**	P		**P**	**23 29 37.4 +0.6**
	comp=Z,4.6nm,1.0s,baz=248,slow=3.0,SNR=4.5						
PLCA				LR		LR	23 56 16.7
	comp=Z,121nm,20.2s,baz=203,slow=29						
	comp=Z,4.6nm,1.0s						
H03S2	**Juan Fernandez**	**79.24**	**126**	T		T	00 54 56.9
	baz=225						
H03S1	**Juan Fernandez**	**79.25**	**126**	T		T	00 54 59.3
	baz=225						
H03S3	**Juan Fernandez**	**79.26**	**126**	T		T	00 54 57.7
	baz=225						
H03N3	**Juan Fernandez**	**79.50**	**126**	T		T	00 55 09.3
	baz=228						
H03N2	**Juan Fernandez**	**79.51**	**126**	T		T	00 55 05.1
	baz=228						
H03N1	**Juan Fernandez**	**79.52**	**126**	T		T	00 55 19.9
	baz=228						
IPM	**Ipoh**	**80.35**	**285**	IAmb		IAmb	23 29 44.8
	comp=Z,13nm,0.8s						
GSI	**Gunungsitoli**	**80.69**	**280**	P		**P**	**23 29 46.0 +0.2**
KULM	**Kulim**	**81.18**	**285**	P		**P**	**23 29 48.1 -0.4**
KULM				IAmb		IAmb	23 29 48.9
	comp=Z,18nm,1.0s						
BO02	**Sierra Bellavi**	**83.28**	**132**	P		**P**	**23 29 59.2 -0.1**
VA05	**Santo Domingo**	**83.65**	**130**	P		**P**	**23 30 02.7 +1.6**
MT01	**Popeta**	**83.70**	**131**	P		**P**	**23 30 02.8 +1.4**
JMN	**Monobe**	**83.91**	**327**	P		**P**	**23 30 01.5 -0.7**
INU	**Inuyama**	**84.14**	**331**	P		**P**	**23 30 02.8 -0.5**

JGF	**Kuroka**	**84.24**	**331**	P		**P**	**23 30 03.4 -0.5**
JGF				IAmb		IAmb	23 30 03.8
	comp=Z,11nm,1.0s						
LMEL	**Las Melosas**	**84.30**	**131**	P		**P**	**23 30 04.7 0.0**
LMEL				IAmb		IAmb	23 30 14.7
	comp=Z,14nm,1.0s						
MT05	**Renca**	**84.34**	**131**	P		**P**	**23 30 05.7 +0.9**
JNU	**Nakatsue**	**84.63**	**325**	P		**P**	**23 30 05.2 -0.7**
MJAR	**Matsushiro Arr**	**84.78**	**332**	P		**P**	**23 30 05.5 -1.0**
	comp=Z,5.0nm,0.9s,baz=166,slow=6.1,SNR=4.0						
	comp=Z,5.0nm,0.9s						
MJB9	**Matsu-Tunnel**	**84.78**	**332**	P		**P**	**23 30 05.7 -0.9**
MJB9				IAmb		IAmb	23 30 09.2
	comp=Z,7.6nm,1.1s						
TRQA	**Tornquist**	**85.41**	**139**	P		**P**	**23 30 11.3 +1.3**
CO02	**Combarbal**	**85.80**	**129**	P		**P**	**23 30 13.8 +1.6**
CO03	**El Pedregal**	**86.25**	**129**	P		**P**	**23 30 15.0 +0.7**
CO05	**La Serena**	**86.61**	**128**	P		**P**	**23 30 16.6 +0.6**
GO04	**Tololo Observa**	**86.67**	**128**	P		**P**	**23 30 16.4 -0.3**
ZON	**Zonda**	**86.87**	**131**	P		**P**	**23 30 17.4 0.0**
LCO	**Las Campanas**	**87.59**	**128**	P		**P**	**23 30 20.3 -0.9**
LCO				IAmb		IAmb	23 30 24.5
	comp=Z,10nm,0.9s						
AC05	**El Transito**	**87.97**	**128**	P		**P**	**23 30 22.4 -0.4**
NJ2	**Nanjing**	**89.44**	**316**	*e*P		**P**	**23 30 32.1 +2.9**
NJ2				pmax		pmax	
	comp=Z,7.0nm,0.5s						
KSRS	**Korea Array**	**89.57**	**325**	P		**P**	**23 30 30.0 +0.4**
	comp=Z,9.0nm,0.7s,baz=144,slow=5.5,SNR=30						
	comp=Z,9.0nm,0.7s						
KSAR	**Wonju Array Be**	**89.58**	**325**	P		**P**	**23 30 29.8 +0.1**
AC02	**Maricunga**	**90.13**	**127**	P		**P**	**23 30 30.8 -2.7**
PHRA	**Phrae**	**90.65**	**294**	P		**P**	**23 30 35.6 +0.5**
GO02	**Mina Guanaco**	**91.10**	**126**	P		**P**	**23 30 36.6 -1.1**
GO02				IAmb		IAmb	23 30 42.0
	comp=Z,13nm,0.9s						
CM31	**Chiang Mai Arr**	**91.49**	**294**	P		**P**	**23 30 39.4 +0.3**
CM31				IAmb		IAmb	23 30 40.5
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**91.49**	**294**	P		**P**	**23 30 39.5 +0.4**
	comp=Z,5.0nm,0.8s,baz=150,slow=3.4,SNR=34						
CMAR				PP		**PP**	**23 34 18.1 +0.7**
	comp=Z,0.8nm,0.3s,baz=145,slow=6.3,SNR=5.2						
CMAR				LR		LR	00 17 03.1
	comp=Z,42nm,18.0s,baz=160,slow=39						
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**91.74**	**294**	P		**P**	**23 30 39.3 -1.0**
PB15	**IPOC Station P**	**92.63**	**125**	P		**P**	**23 30 44.8 +0.1**
PB15				IAmb		IAmb	23 30 48.7
	comp=Z,14nm,1.1s						
ENH	**Enshi**	**93.23**	**309**	P		**P**	**23 30 46.3 -0.6**
PB03	**IPOC Station P**	**93.31**	**124**	P		**P**	**23 30 48.1 +0.3**
PB03				IAmb		IAmb	23 30 53.8
	comp=Z,4.7nm,0.9s						
LVC	**Limon Verde**	**93.42**	**125**	LR		LR	00 02 57.5
	comp=Z,68nm,20.3s,baz=244,slow=29						
TIA	**Tai'an**	**93.59**	**317**	P		**P**	**23 30 48.8 +0.4**
TIA				pmax		pmax	
	comp=Z,8.0nm,0.9s						
TA02	**Huaiquique**	**94.39**	**122**	P		**P**	**23 30 53.1 +0.5**
PB11	**IPOC Station P**	**95.07**	**122**	P		**P**	**23 30 57.0 +1.1**
PZH	**PanZhiHua**	**95.25**	**301**	P		**P**	**23 30 58.8 +2.4**
PZH				pmax		pmax	
	comp=Z,10.0nm,0.6s						
PZH				pmax		pmax	
	comp=Z,80nm,4.3s						
XAN	**Xi'an**	**96.33**	**311**	⇓P		**P**	**23 31 00.3 -0.7**
XAN				pP		sP	23 31 10.9 +1.3
XAN				pmax		pmax	
	comp=Z,6.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**99.94**	**317**	*e*P		**Pdif**	**23 31 18.4 +1.2**
HHC				pmax		pmax	
	comp=Z,87nm,4.8s						
LZH	**Lanzhou**	**100.69**	**309**	*e*P		**Pdif**	**23 31 25.1 +4.4**
LZH				pP		sP	23 31 32.0 +2.6
LZH				pmax		pmax	
	comp=Z,17nm,1.4s						
LZH				LR		LR	
	comp=Z,330nm,14.4s						
LZH				LR		LR	
	comp=Z,330nm,15.1s						
LZH				LR		LR	
	comp=Z,360nm,13.4s						
NVAR	**Mina Array Bea**	**101.16**	**48**	P		**Pdif**	**23 31 23.3 +0.5**
	comp=Z,0.1nm,0.3s,baz=253,slow=0.9,SNR=1.6						
TXAR	**Lajitas Array**	**103.95**	**63**	Pdiff		**Pdif**	**23 31 26.8 -8.5**
	comp=Z,0.3nm,0.6s,baz=318,slow=1.7,SNR=3.5						
TXAR				PKKPbc		**PKKPbc**	**23 47 26.6 +2.4**
	comp=Z,0.8nm,0.7s,baz=78,slow=3.8,SNR=10.0						
PDAR	**Pinedale Array**	**108.98**	**49**	PKKPbc	PKKPbc		23 47 06.1 -3.1
	comp=Z,0.2nm,0.3s,baz=46,slow=4.3,SNR=5.8						
ILAR	**Eielson Array**	**110.91**	**17**	PKiKP		**PKiKP**	**23 36 03.8 -0.7**
	comp=Z,0.9nm,0.8s,baz=240,slow=1.9,SNR=7.5						
ILAR				PKKPab		**PKKPab**	**23 47 11.7 +2.6**
	comp=Z,0.9nm,0.8s,baz=12,slow=6.0,SNR=9.1						
WMQ	**Urumqi**	**115.13**	**307**	*e*PKP		**PKiKP**	**23 36 14.3 +1.0**
ECSD	**EROS Data Cent**	**117.14**	**55**			**PKiKP**	**23 36 17.6 +0.5**
YKA	**Yellowknife Ar**	**118.86**	**30**	PKP		**PKPdf**	**23 36 19.5 -0.2**
	comp=Z,7.6nm,0.8s,baz=249,slow=1.9,SNR=11						
YKA	**Yellowknife Ar**	**118.86**	**30**	PKPdf		**PKPdf**	**23 36 19.8 +0.1**
MKAR	**Makanchi Array**	**119.94**	**308**	PKP		**PKPdf**	**23 36 20.8 -1.6**
	comp=Z,1.1nm,0.7s,baz=236,slow=1.1,SNR=5.9						
WCI	**Wyandotte Cave**	**120.82**	**65**	PKPdf		**PKiKP**	**23 36 25.1 +0.7**
ULM	**Lac du Bonnet**	**120.99**	**48**	PKP		**PKPdf**	**23 36 24.1 -0.2**
	comp=Z,13nm,0.9s,baz=224,slow=2.7,SNR=8.2						
KMBO	**Kilima Mbogo**	**121.81**	**234**	PKP		**PKiKP**	**23 36 28.4 +0.8**
	comp=Z,4.5nm,0.9s,baz=68,slow=3.0,SNR=13						
EYMN	**Ely**	**122.38**	**53**			**PKiKP**	**23 36 27.7 +0.5**
GAR	**Garm**	**123.65**	**294**			**PKPdf**	**23 36 29.9 -0.1**
UOSS	**Minazif**	**126.39**	**272**	PKPdf		**PKPdf**	**23 36 34.9 -0.6**
LODK	**Lodwar**	**126.55**	**235**			**PKiKP**	**23 36 36.8 +0.2**
GEYT	**Alibeck**	**131.62**	**288**	PKP		**PKiKP**	**23 36 46.0 0.0**
	comp=Z,1.0nm,0.5s,baz=177,slow=2.9,SNR=3.7						
MARD	**Mardin**	**143.92**	**278**	PKPdf	PKPbc		23 37 05.7 +0.1
LIC	**Lamto**	**144.24**	**182**⇑	*e*PKP1	PKPdf		**23 37 08.1 -0.8**
	comp=Z,41nm,0.7s						
KIC	**Kosan Boka**	**144.37**	**182**⇑	*e*PKP1	PKPbc		23 37 07.6 +0.2
	comp=Z,15nm,0.6s						
KBZ	**Khabaz**	**144.44**	**290**	PKP		**PKPab**	**23 37 06.2 -0.4**
	comp=Z,6.6nm,0.7s,baz=137,slow=4.1,SNR=21						
KIV	**Kislovodsk**	**144.65**	**290**			**PKPdf**	**23 37 08.5 -0.3**
TIC	**Toumodi**	**144.66**	**182**⇑	*e*PKP1	PKPbc		23 37 08.5 +0.1
	comp=Z,37nm,0.8s						
DBIC	**Dimbokro**	**144.68**	**182**	PKP	PKPbc		23 37 09.1 +0.7
	comp=Z,15nm,0.9s,baz=196,slow=3.1,SNR=15						
DBIC	**Dimbokro**	**144.68**	**182**	PKPdf		**PKPdf**	**23 37 09.6 -0.1**
DAG	**Danmarks Havn**	**144.84**	**5**	*i* P		**PKPab**	**23 37 04.0 -3.1**
SFJD	**Kangerlussuaq**	**145.41**	**29**	*e*P		**PKPbc**	**23 37 08.4 -0.8**
SUMG	**Summit**	**145.76**	**17**	*i* P		**PKPdf**	**23 37 09.0 -1.2**
NUUK	**Nuuk**	**145.98**	**34**	*e*P		**PKiKP**	**23 37 13.4 -1.0**
KLMR	**Klimovskoe**	**146.83**	**320**	*e*		**PKPdf**	**23 37 10.8 -1.0**
KLMR				AMP			23 37 12.9
	comp=Z,20nm,0.8s						
ARCES	**ARCESS Array B**	**148.01**	**340**	PKPbc		**PKPdf**	**23 37 14.8 +1.3**
	comp=Z,7.1nm,0.6s,baz=57,slow=3.3,SNR=40						
KTK1	**Kautokeino**	**148.96**	**340**	*e*P		**PKPbc**	**23 37 17.4 -1.7**
TRO	**Tromso**	**149.51**	**343**	*e*P		**PKPbc**	**23 37 18.8 -1.7**
NRS	**Narsarsuaq**	**149.74**	**37**			**PKPbc**	**23 37 21.0 -0.2**
BRTR	**Keskin Array B**	**150.00**	**279**	PKPbc		**PKPbc**	**23 37 22.0 -0.8**
	comp=Z,8.5nm,0.8s,baz=136,slow=4.8,SNR=28						
STEI	**Steigen**	**151.69**	**343**	*e*P		**PKPbc**	**23 37 24.5 -1.2**
FAUS	**Fauske**	**152.13**	**342**	*e*P		**PKPbc**	**23 37 25.3 -1.4**
FIA1	**FINESS Array S**	**152.66**	**326**			**PKPbc**	**23 37 27.0 -1.0**
FINES	**FINESS Array B**	**152.66**	**326**	PKPbc		**PKPbc**	**23 37 26.9 -1.2**
	comp=Z,6.4nm,0.6s,baz=50,slow=3.9,SNR=41						
AKASG	**Malin Array Be**	**154.33**	**302**	PKPbc		**PKPbc**	**23 37 30.5 -1.5**
	comp=Z,0.5nm,0.5s,baz=76,slow=2.6,SNR=4.5						
AKASG				PKPab		**PKPab**	**23 37 45.0 -1.3**
	comp=Z,7.8nm,0.7s,baz=68,slow=4.6,SNR=19						
NB2	**NORSAR Subarra**	**158.32**	**337**	PKP		**PKPab**	**23 38 01.2 -1.9**
	comp=Z,2.4nm,0.8s,baz=39,slow=4.4						
NOA	**NORSAR Array B**	**158.32**	**337**	PKPab		**PKPab**	**23 38 00.9 -2.2**
	comp=Z,1.4nm,0.7s,baz=38,slow=4.6,SNR=5.9						
TAM	**Tamanrasset**	**158.39**	**211**	PKPdf		**PKPdf**	**23 37 30.9 +0.7**
TAM				PKPab		**PKPab**	**23 38 05.1 +0.5**
MAUC	**Maruska**	**161.79**	**302**	*e*PKPAB		**PKPab**	**23 38 18.7 0.0**
KRLC	**Kraliky**	**162.25**	**304**	*e*PKPAB		**PKPab**	**23 38 20.4 -0.3**
OSTC	**Ostas**	**162.44**	**306**	*e*PKPAB		**PKPab**	**23 38 21.3 -0.1**
DPC	**Dobruska-Polom**	**162.44**	**306**	*e*PKPAB		**PKPab**	**23 38 21.1 -0.4**
UPC	**Upice**	**162.57**	**306**	*e*PKPAB		**PKPab**	**23 38 21.4 -0.6**
TREC	**Trest**	**163.29**	**303**	*e*PKPAB		**PKPab**	**23 38 24.8 -0.4**
PVCC	**Panska Ves**	**163.43**	**308**	*e*PKPAB		**PKPab**	**23 38 25.7 0.0**
PRU	**Pruhonice**	**163.64**	**306**	*e*PKPAB		**PKPab**	**23 38 26.6 -0.1**
CLL	**Collm**	**163.99**	**312**	*e*PKPab		**PKPab**	**23 38 27.0 -1.2**
CKRC	**Cesky Krumlov**	**164.17**	**302**	*e*PKPAB		**PKPab**	**23 38 28.6 -0.5**

KHC	**Kasperske Hory**	**164.53**	**304**	*e*PKPAB		**PKPab**	**23 38 30.0 -0.7**
GERES	**GERESS Array B**	**164.54**	**303**	PKPab		**PKPab**	**23 38 30.5 -0.4**
	comp=Z,2.2nm,0.7s,baz=67,slow=4.5,SNR=10						
WTTA	**Wattenberg**	**166.33**	**298**	*i* P		**PKPab**	**23 38 38.2 -0.7**
	comp=Z,9.5nm,1.3s						
WATA	**Walderalm**	**166.35**	**298**	*e*P		**PKPab**	**23 38 38.2 -0.7**
	comp=Z,6.0nm,0.7s						
SQTA	**Sankt Quirin**	**166.62**	**298**	*i* P		**PKPab**	**23 38 39.6 -0.6**
	comp=Z,4.3nm,0.9s						
MOTA	**Moosalm**	**166.66**	**299**	*i* P		**PKPab**	**23 38 39.6 -0.7**
	comp=Z,6.5nm,0.9s						
FETA	**Feichten**	**166.99**	**298**	*i* P		**PKPab**	**23 38 41.5 -0.4**
	comp=Z,4.1nm,1.0s						
PVAQ	**Vaqueiros**	**175.14**	**165**	*e*LR		LR	23 52 39.6
	comp=Z,216nm,18.0s						
PCVE	**Castro Verde**	**175.30**	**162**	*e*PKP		**PKPdf**	**23 37 44.2 +2.0**
PNCL	**Nicolau / Gran**	**175.61**	**155**	*e*PKP		**PKPdf**	**23 37 44.6 +2.4**
PBEJ	**Beja**	**175.71**	**162**	*e*PKP		**PKPdf**	**23 37 43.6 +1.3**
PBAR	**Barrancos**	**176.01**	**170**	*e*PKP		**PKPdf**	**23 37 43.8 +1.5**
PESTR	**Estremoz**	**176.58**	**161**	*e*PKP		**PKPdf**	**23 37 43.5 +1.1**
ESDC	**Sonseca Array**	**177.04**	**215**	PKP		**PKPdf**	**23 37 42.7 +0.2**
	comp=Z,4.1nm,1.1s,baz=354,slow=2.1,SNR=17						
PCBR	**Castelo Branco**	**177.52**	**156**	*e*PKP		**PKPdf**	**23 37 43.9 +1.4**
MTE	**Manteigas**	**178.00**	**149**	*e*LR		LR	23 47 20.6
	comp=Z,212nm,20.0s						
PGAV	**Gavieira, Arco**	**178.44**	**95**	*e*LR		LR	23 50 17.2
	comp=Z,262nm,20.0s						
MVO	**Moncorvo**	**178.85**	**146**	*e*LR		LR	23 49 09.9
	comp=Z,217nm,18.0s						
PBRG	**Braganca**	**179.48**	**127**	*e*PKP		**PKPdf**	**23 37 41.5 -1.2**

KRSC 13 23:20:34.8±2.1, 55°57N×165°83E, h30km±12km, ML3.6,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**168**	*e*P	Pn	23 20 44.1	0.1
BKI				*e*S	Sb	23 20 49.0	-0.1
KBTR	**Krutoberegovo**	**1.81**	**292**	*e*P	Pn	23 21 04.8	+0.9
KBTR				*e*S	Sn	23 21 25.3	-0.5
SMKR	**Semkarok**	**2.65**	**294**	*e*P	Pn	23 21 18.1	+2.6
SMKR				*e*S	Sn	23 21 48.5	+2.0
SRKR	**Sorokina**	**2.83**	**294**	*e*P	Pn	23 21 20.8	+2.9
KRSR	**Krestovskiy**	**3.04**	**284**	*e*P	Pn	23 21 24.1	+3.3
BZWR	**Bezymyannyi-We**	**3.04**	**280**	*e*P	Pb	23 21 25.3	-2.9
BZMR	**Bezymyannaya**	**3.04**	**279**	*e*P	Pn	23 21 24.2	+3.3
TUMD	**Tumrok D**	**3.12**	**265**	*e*P	Pb	23 21 25.8	-3.7
KIRR	**Kirishev**	**3.12**	**279**	*e*P	Pn	23 21 25.7	+3.6
KMNR	**Kamenistaya**	**3.17**	**276**	*e*P	Pb	23 21 26.7	-3.8
KPT	**Kopyto**	**3.19**	**279**	*e*P	Pn	23 21 26.8	+3.8
TUMR	**Tumrok**	**3.25**	**267**	*e*P	Pb	23 21 28.0	-3.8
SRDR	**Sredinnyy**	**3.52**	**285**	*e*P	Pn	23 21 31.0	+3.6
SPN	**Mys Shipunski**	**4.21**	**236**	*e*P	Pn	23 21 40.5	+3.7
SPN				*e*S	Sn	23 22 28.3	+3.5
SDLR	**Sedlovina**	**4.66**	**243**	*e*P	Pn	23 21 47.5	+4.3
SMAR	**Somma**	**4.71**	**244**	*e*P	Pn	23 21 48.4	+4.5
KRER	**Koryakskii**	**4.72**	**244**	*e*P	Pn	23 21 48.9	+4.9
UGLR	**Uglovaya**	**4.73**	**243**	*e*P	Pn	23 21 48.7	+4.6
KOK	**Koryaka**	**4.78**	**244**	*e*P	Pn

PAWZ	**Paruwai Farm**	**1.39**	**64**	P	Pn	23 23 42.5	-1.8
KIW	**Kapiti Island**	**1.43**	**38**	P	Pn	23 23 44.4	-0.4
AMCZ	**Amberley**	**1.43**	**214**	P	Pg	23 23 46.8	+1.1
MTW	**Mount Morrison**	**1.56**	**58**	P	Pg	23 23 47.9	-0.1
TRWZ	**Traveller**	**1.56**	**68**	P	Pn	23 23 44.4	-2.3
OGWZ	**Otaki Gorge**	**1.59**	**43**	P	Pn	23 23 45.8	-1.2
HOWZ	**Holdsworth Sta**	**1.72**	**51**	P	Pn	23 23 49.1	+0.3
OXZ	**Oxford**	**1.84**	**223**	P	Pn	23 23 48.2	-2.2
INZ	**Inchbonnie**	**1.86**	**246**	P	Pn	23 23 50.7	0.0
PRWZ	**Pori Road**	**2.21**	**50**	P	Pb	23 23 59.2	+0.7
BFZ	**Birch Farm**	**2.29**	**56**	P	Pg	23 24 02.4	+0.4
TSZ	**Takapari Road**	**2.56**	**41**	P	Pb	23 24 05.1	+0.5
PNHZ	**Pukenui**	**2.79**	**42**	P	Pb	23 24 08.6	+0.1
MOVZ	**Moawhango**	**3.00**	**31**	P	Pb	23 24 10.8	-1.4
WNVZ	**Wahianoa**	**3.01**	**28**	P	Pb	23 24 12.5	+0.1
TRVZ	**Turoa**	**3.02**	**27**	P	Pb	23 24 12.4	-0.2
FWVZ	**Far West T-bar**	**3.06**	**27**	P	Pb	23 24 12.7	-0.6
NGZ	**Ngauruhoe**	**3.15**	**27**	P	Pb	23 24 14.8	+0.1
SNVZ	**South Ngauruho**	**3.15**	**28**	P	Pb	23 24 15.1	+0.3
OTVZ	**Oturere**	**3.18**	**28**	P	Pb	23 24 15.1	-0.2
NNVZ	**North Ngauruho**	**3.19**	**27**	P	Pb	23 24 15.6	+0.1
WTVZ	**West Tongariro**	**3.20**	**26**	P	Pb	23 24 15.2	-0.3
ETVZ	**East Tongariro**	**3.22**	**28**	P	Pb	23 24 15.7	-0.3
KRVZ	**Karewarewa**	**3.23**	**27**	P	Pb	23 24 15.7	-0.5
TMVZ	**Te Maari**	**3.24**	**28**	P	Pb	23 24 15.1	-1.1
HIZ	**Hauiti**	**3.58**	**14**	P	Pn	23 24 17.1	+2.7
RIZ	**Raoul Island**	**14.40**	**31**	P	Pn	23 26 42.6	0.0

WEL 13 23:27:21.9±0.5,**42°S**±3°×**17°4E**±°, **h6**km±3km, **M3.7**/33, **ML4.0**/16,**MLv3.7**/33, **Error ellipse: s-maj=0.0km s-min=0.0km az=158.7, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**349**	P	Pg	23 27 23.7	+0.4
CMWZ				S	Sg	23 27 25.7	+1.4
BSWZ	**Blackbirch Sta**	**0.27**	**287**	P	Pg	23 27 27.5	+0.2
BSWZ				S	Sg	23 27 31.8	+1.0
TUWZ	**Tuamarina**	**0.42**	**330**	P	Pg	23 27 30.1	+0.1
TUWZ				S	Sg	23 27 36.7	+1.1
TCW	**Tory Channel**	**0.58**	**4**	P	Pg	23 27 33.0	-0.1
TCW				S	Sg	23 27 41.6	+0.8
WEL	**Wellington**	**0.65**	**39**	P	Pg	23 27 34.9	+0.5
WEL				S	Sb	23 27 44.7	-0.3
PLWZ	**Palliser**	**0.80**	**74**	P	Pb	23 27 38.4	+0.1
MSWZ	**Moikau Station**	**0.86**	**64**	P	Pg	23 27 38.3	0.0
NNZ	**Nelson**	**0.86**	**312**	P	Pg	23 27 37.5	-0.8
CAW	**Cannon Point**	**0.93**	**43**	P	Pg	23 27 39.8	0.0
CAW				S	Sb	23 27 53.0	0.0
PAWZ	**Paruwai Farm**	**0.99**	**66**	P	Pg	23 27 41.0	+0.1
DUWZ	**D'Urville Isla**	**1.02**	**347**	P	Pg	23 27 40.8	-0.6
DUWZ				S	Sb	23 27 55.9	+0.4
KIW	**Kapiti Island**	**1.07**	**29**	P	Pg	23 27 41.8	-0.5
MTW	**Mount Morrison**	**1.15**	**57**	P	Pg	23 27 43.1	-0.8
MTW				S	Sn	23 28 01.2	+0.7
MRNZ	**Matariki Terra**	**1.17**	**289**	P	Pb	23 27 44.6	+0.1
MRNZ				S	Sn	23 28 01.1	+0.1
OGWZ	**Otaki Gorge**	**1.21**	**36**	P	Pg	23 27 44.4	-0.6
TKNZ	**Takaka Hill**	**1.22**	**308**	P	Pg	23 27 44.4	-0.8
TKNZ				S	Sn	23 28 01.8	-0.4
HOWZ	**Holdsworth Sta**	**1.32**	**48**	P	Pn	23 27 45.5	-1.4
TMWZ	**Te Maipa**	**1.43**	**62**	P	Pn	23 27 46.6	-1.7
MRZ	**Mangatainoka R**	**1.52**	**42**	P	Pn	23 27 48.4	-1.2
TIWZ	**Tintock**	**1.61**	**51**	P	Pn	23 27 49.6	-1.2
OHWZ	**Ohakea**	**1.79**	**28**	P	Pn	23 27 53.8	+0.6
PRWZ	**Pori Road**	**1.81**	**47**	P	Pn	23 27 51.9	-1.6
POWZ	**Post Office Ro**	**1.82**	**40**	P	Pn	23 27 52.8	-1.0
BFZ	**Birch Farm**	**1.89**	**55**	P	Pg	23 27 58.4	+0.4
DVHZ	**Dannevirke**	**2.10**	**45**	P	Pn	23 27 55.3	-2.2
WAZ	**Wanganui**	**2.12**	**16**	P	Pb	23 28 00.3	-0.3
TSZ	**Takapari Road**	**2.18**	**38**	P	Pn	23 27 58.1	-0.5
LREZ	**Lake Rotokare**	**2.34**	**3**	P	Pb	23 28 03.6	-0.8
PRHZ	**Porangahau**	**2.38**	**51**	P	Pn	23 27 59.2	-2.1
PNHZ	**Pukenui**	**2.40**	**39**	P	Pn	23 27 59.9	-1.8
KHEZ	**Kahui Hut**	**2.50**	**356**	P	Pb	23 28 06.7	-0.5
NEZ	**North Egmont**	**2.52**	**358**	P	Pb	23 28 06.8	-0.8
NBEZ	**Newall Road No**	**2.54**	**354**	P	Pb	23 28 07.9	+0.1
PKE	**Pukeiti**	**2.60**	**356**	P	Pb	23 28 08.5	-0.4
MOVZ	**Moawhango**	**2.65**	**26**	P	Pn	23 28 05.1	-0.1
WNVZ	**Wahianoa**	**2.68**	**23**	P	Pn	23 28 06.5	+0.9
TRVZ	**Turoa**	**2.69**	**22**	P	Pn	23 28 07.9	+2.1
BHHZ	**Black Hill Sta**	**2.69**	**32**	P	Pb	23 28 10.2	-0.3
VRZ	**Vera Road**	**2.70**	**9**	P	Pn	23 28 06.9	+1.1
DRZ	**Dome Shelter**	**2.71**	**22**	P	Pb	23 28 11.2	+0.2
WHVZ	**Whangaehu Hut**	**2.72**	**23**	P	Pn	23 28 06.5	+0.3
FWVZ	**Far West T-bar**	**2.73**	**22**	P	Pn	23 28 06.8	+0.4
TUVZ	**Tukino**	**2.75**	**24**	P	Pn	23 28 06.6	0.0

*IDC **13** 23:27:43.6±2.1,42°.63S×173°.99E, h0km, mb3.8/2, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=68.1km s-min=38.9km az=159.0*

*WEL **13** 23:27:47.7±0.4,42°S±3°×17°4E±°, h13km±5km, M4.0/8, ML4.3/8,MLv4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=111.9*

ISC 13 23:27:47.0±1.6,**42°.33S**±0°.06×**173°.87E**±0°.06, **h14**km±10km, **n17**, σ0**93**/27, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**250**	P	**Pb**	**23 27 54.7**	**+1.1**
KHZ				S	**Sb**	**23 27 59.3**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.61**	**0**	P	**Pg**	**23 27 59.1**	**+0.2**
BSWZ				S	**Sb**	**23 28 07.3**	**-0.7**
TUWZ	**Tuamarina**	**0.90**	**3**	P	**Pb**	**23 28 04.6**	**+0.2**
TUWZ				S	**Sn**	**23 28 17.1**	**-0.9**
TCW	**Tory Channel**	**1.15**	**15**	P	**Pn**	**23 28 09.0**	**+0.2**
TCW				S	**Sn**	**23 28 24.3**	**-0.1**
BHW	**Baring Head**	**1.18**	**39**	P	**Pg**	**23 28 09.7**	**-0.1**
WEL	**Wellington**	**1.24**	**33**	P	**Pb**	**23 28 10.1**	**-0.1**
WEL				S	**Sn**	**23 28 26.6**	**+0.2**
PLWZ	**Palliser**	**1.28**	**54**	P	**Pn**	**23 28 10.6**	**0.0**
TKNZ	**Takaka Hill**	**1.46**	**332**	P	**Pb**	**23 28 14.4**	**+0.4**
TKNZ				S	**Sg**	**23 28 33.8**	**-0.3**
CAW	**Cannon Point**	**1.51**	**37**	P	**Pn**	**23 28 13.7**	**0.0**
CAW				S	**Sb**	**23 28 33.5**	**-0.4**
KIW	**Kapiti Island**	**1.66**	**28**	P	**Pn**	**23 28 16.0**	**+0.2**
KIW				S	**Sn**	**23 28 36.9**	**+0.1**
OGWZ	**Otaki Gorge**	**1.79**	**33**	P	**Pn**	**23 28 17.8**	**+0.2**
OGWZ				S	**Sn**	**23 28 39.5**	**-0.7**
RPZ	**Rata Peaks**	**2.49**	**235**	Pn	**Pn**	**23 28 24.3**	**-2.9**
	28nm,0.3s,baz=175,slow=0.4,SNR=14						
RPZ				Sn	**Sn**	**23 28 57.9**	**+0.5**
	49nm,0.3s,baz=163,slow=21,SNR=19 50nm,0.3s						
ASAR	**Alice Springs**	**37.92**	**287**	P	**P**	**23 35 04.5**	**+0.4**
	0.8nm,0.7s,baz=132,slow=7.5,SNR=8.9 0.8nm,0.7s						
WRA	**Warramunga Arr**	**40.05**	**291**	P	**P**	**23 35 21.6**	**-0.3**
	1.3nm,0.7s,baz=131,slow=7.3,SNR=12 1.3nm,0.7s						
ARCES	**ARCESS Array B**	**148.22**	**339**	PKPbc	**PKPdf**	**23 47 30.2**	**+2.1**
	4.7nm,0.9s,baz=90,slow=1.8,SNR=4.0						
BRTR	**Keskin Array B**	**150.07**	**279**	PKPbc	**PKPbc**	**23 47 36.1**	**-1.0**
	0.8nm,1.0s,baz=103,slow=2.8,SNR=4.6						
FINES	**FINESS Array B**	**152.86**	**326**	PKPbc	**PKPbc**	**23 47 42.3**	**-0.3**
	5.5nm,1.2s,baz=42,slow=2.8,SNR=4.5						

WEL 13 23:30:51.7±0.4,**42°S**±2°×**17°4E**±°, **h8**km±3km, **M3.8**/13, **ML3.9**/13,**MLv3.8**/13, **Error ellipse: s-maj=0.0km s-min=0.0km az=120.2, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.34**	**10**	P	Pb	23 30 59.2	-0.8
BSWZ				S	Sb	23 31 04.6	-1.1
KHZ	**Kahutara**	**0.41**	**208**	P	Pg	23 30 59.6	-0.1
CMWZ	**Cape Campbell**	**0.43**	**46**	P	Pb	23 31 01.3	-0.3
TUWZ	**Tuamarina**	**0.63**	**10**	P	Pb	23 31 04.7	-0.2
TUWZ				S	Sb	23 31 14.1	+0.2
NNZ	**Nelson**	**0.89**	**339**	P	Pg	23 31 09.1	+0.3
NNZ				S	Sb	23 31 21.1	-0.4
TCW	**Tory Channel**	**0.91**	**23**	P	Pg	23 31 09.3	0.0
TCW				S	Sb	23 31 22.8	+0.7
WEL	**Wellington**	**1.06**	**44**	P	Pb	23 31 12.5	+0.3
GVZ	**Greta Valley S**	**1.07**	**211**	P	Pb	23 31 12.7	+0.1
GVZ				S	Sn	23 31 27.9	-0.4
PLWZ	**Palliser**	**1.19**	**67**	P	Pg	23 31 13.4	-1.1
DUWZ	**D'Urville Isla**	**1.25**	**4**	P	Pn	23 31 15.4	-0.1
MSWZ	**Moikau Station**	**1.26**	**60**	P	Pn	23 31 14.6	-1.1
CAW	**Cannon Point**	**1.34**	**46**	P	Pn	23 31 16.2	-0.6
PAWZ	**Paruwai Farm**	**1.39**	**62**	P	Pn	23 31 16.1	-1.3
KIW	**Kapiti Island**	**1.45**	**36**	P	Pn	23 31 18.2	-0.1
TRWZ	**Traveller**	**1.56**	**66**	P	Pn	23 31 18.2	-1.5
MTW	**Mount Morrison**	**1.56**	**56**	P	Pn	23 31 18.4	-1.4
OGWZ	**Otaki Gorge**	**1.61**	**40**	P	Pn	23 31 20.2	-0.2
HOWZ	**Holdsworth Sta**	**1.73**	**49**	P	Pg	23 31 25.1	+0.3
TMWZ	**Te Maipa**	**1.83**	**60**	P	Pn	23 31 22.0	-1.6
MRZ	**Mangatainoka R**	**1.93**	**45**	P	Pn	23 31 24.0	-0.9
PRWZ	**Pori Road**	**2.22**	**48**	P	Pn	23 31 28.6	-0.2
POWZ	**Post Office Ro**	**2.23**	**43**	P	Pn	23 31 29.1	+0.2

WEL 13 23:32:20.4±0.7,**42°S**±2°×**17°4E**±°, **h7**km±4km, **M3.7**/22, **ML4.0**/10,**MLv3.7**/22, **Error ellipse: s-maj=0.0km s-min=0.0km az=145.2, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**180**	P	Pg	23 32 22.8	+0.3
CMWZ				S	Sg	23 32 25.3	+1.4
BSWZ	**Blackbirch Sta**	**0.26**	**259**	P	Pg	23 32 26.1	+0.6
BSWZ				S	Sb	23 32 30.9	-1.1
TUWZ	**Tuamarina**	**0.31**	**319**	P	Pb	23 32 27.5	-0.7
TUWZ				S	Sb	23 32 33.3	-0.2
TCW	**Tory Channel**	**0.46**	**6**	P	Pg	23 32 29.8	+0.5
TCW				S	Sb	23 32 37.1	-0.7
BHW	**Baring Head**	**0.56**	**63**	P	Pg	23 32 31.5	+0.4
WEL	**Wellington**	**0.56**	**48**	P	Pg	23 32 31.8	+0.5
WEL				S	Sb	23 32 41.4	+0.6
NNZ	**Nelson**	**0.77**	**305**	P	Pg	23 32 35.6	+0.4
PLWZ	**Palliser**	**0.79**	**83**	P	Pb	23 32 36.3	-0.1
PLWZ				S	Sb	23 32 47.5	+0.3
MSWZ	**Moikau Station**	**0.82**	**72**	P	Pg	23 32 35.6	-0.4
MSWZ				S	Sn	23 32 49.7	-0.9
CAW	**Cannon Point**	**0.85**	**49**	P	Pg	23 32 37.1	+0.3
DUWZ	**D'Urville Isla**	**0.89**	**346**	P	Pg	23 32 37.8	+0.3
PAWZ	**Paruwai Farm**	**0.95**	**73**	P	Pg	23 32 38.7	0.0
KIW	**Kapiti Island**	**0.96**	**33**	P	Pg	23 32 38.6	-0.2
THZ	**Tophouse**	**0.98**	**264**	P	Pn	23 32 42.6	+1.9
MTW	**Mount Morrison**	**1.09**	**63**	P	Pg	23 32 40.8	-0.5
OGWZ	**Otaki Gorge**	**1.11**	**41**	P	Pg	23 32 41.4	-0.3
MRNZ	**Matariki Terra**	**1.12**	**283**	P	Pb	23 32 42.5	-0.1
TKNZ	**Takaka Hill**	**1.14**	**303**	P	Pg	23 32 42.1	0.0
TRWZ	**Traveller**	**1.14**	**77**	P	Pg	23 32 40.9	-1.3
HOWZ	**Holdsworth Sta**	**1.25**	**52**	P	Pn	23 32 43.3	-0.9
TMWZ	**Te Maipa**	**1.38**	**67**	P	Pn	23 32 44.4	-1.7
MRZ	**Mangatainoka R**	**1.44**	**46**	P	Pn	23 32 46.1	-0.7
QRZ	**Quartz Range**	**1.52**	**303**	P	Pb	23 32 48.9	0.0
TIWZ	**Tintock**	**1.54**	**55**	P	Pn	23 32 47.7	-0.6
PRWZ	**Pori Road**	**1.73**	**51**	P	Pn	23 32 50.4	-0.5
BFZ	**Birch Farm**	**1.82**	**58**	P	Pn	23 32 50.5	-1.6
DVHZ	**Dannevirke**	**2.01**	**48**	P	Pn	23 32 53.9	-0.8
TSZ	**Takapari Road**	**2.08**	**40**	P	Pb	23 32 57.8	-0.7

WEL 13 23:32:29.7±0.4,**43°S**±3°×**17°3E**±°, **h13**km±2km, **M3.9**/13, **ML4.0**/13,**MLv3.9**/13, **Error ellipse: s-maj=0.0km s-min=0.0km az=146.4, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.21**	**59**	P	Pb	23 32 35.4	0.0
KHZ	**Kahutara**	**0.21**	**59**	P	Pb	23 32 35.4	+0.1
KHZ				S	Sb	23 32 38.9	-0.3
GVZ	**Greta Valley S**	**0.48**	**203**	P	Pb	23 32 40.3	+0.2
GVZ				S	Sb	23 32 47.6	+0.5
LTZ	**Lake Taylor**	**0.80**	**251**	P	Pb	23 32 45.7	+0.3
LTZ				S	Sb	23 32 56.8	+0.5
AMCZ	**Amberley**	**0.81**	**216**	P	Pn	23 32 46.2	-0.6
AMCZ				S	Sn	23 32 58.6	+0.1
THZ	**Tophouse**	**0.82**	**339**	P	Pn	23 32 46.7	-0.3
OKCZ	**Okains Bay**	**1.21**	**188**	P	Pn	23 32 51.1	-1.3
OKCZ				S	Sn	23 33 08.4	-0.2
OXZ	**Oxford**	**1.22**	**229**	P	Pn	23 32 52.0	-0.5
MQZ	**McQueen's Vall**	**1.27**	**201**	P	Pn	23 32 51.7	-1.4
AKCZ	**Akaroa Harbour**	**1.38**	**192**	P	Pn	23 32 53.4	-1.2
INZ	**Inchbonnie**	**1.38**	**261**	P	Pb	23 32 55.5	+0.1
RACZ	**Rakaia**	**1.47**	**215**	P	Pn	23 32 54.6	-1.2
WACZ	**Wakanui South**	**1.77**	**216**	P	Pn	23 32 58.9	-1.1
WVZ	**Waitaha Valley**	**1.96**	**253**	P	Pn	23 33 03.4	+0.8
RPZ	**Rata Peaks**	**2.03**	**233**	P	Pn	23 33 02.8	-0.8
SYZ	**Scrubby Hill**	**4.99**	**215**	P	Pn	23 33 43.3	-0.9

WEL 13 23:39:24.5±0.4,**42°S**±3°×**17°4E**±°, **h12**km±2km, **M3.6**/53, **ML4.1**/19,**MLv3.6**/53, **Error ellipse: s-maj=0.0km s-min=0.0km az=176.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.18**	**51**	P	Pb	23 39 30.0	+0.2
BSWZ	**Blackbirch Sta**	**0.19**	**323**	P	Pb	23 39 29.6	-0.3
BSWZ				S	Sg	23 39 32.6	+1.1
TUWZ	**Tuamarina**	**0.44**	**352**	P	Pb	23 39 34.2	+0.1
TUWZ				S	Sb	23 39 40.7	0.0
TCW	**Tory Channel**	**0.68**	**16**	P	Pb	23 39 38.1	-0.2
TCW	**Tory Channel**	**0.68**	**16**	P	Pb	23 39 38.2	-0.1
BHW	**Baring Head**	**0.78**	**55**	P	Pn	23 39 40.7	-0.6
WEL	**Wellington**	**0.80**	**44**	P	Pn	23 39 41.0	-0.6
WEL				S	Sn	23 39 54.4	+0.9
NNZ	**Nelson**	**0.81**	**323**	P	Pb	23 39 40.8	+0.4
THZ	**Tophouse**	**0.84**	**277**	P	Pn	23 39 41.8	-0.5
PLWZ	**Palliser**	**0.96**	**73**	P	Pg	23 39 43.0	-0.1
MSWZ	**Moikau Station**	**1.02**	**64**	P	Pb	23 39 43.9	-0.2
DUWZ	**D'Urville Isla**	**1.06**	**356**	P	Pg	23 39 45.0	+0.1
CAW	**Cannon Point**	**1.09**	**46**	P	Pg	23 39 45.4	0.0
PAWZ	**Paruwai Farm**	**1.15**	**66**	P	Pb	23 39 45.6	-0.8
TKNZ	**Takaka Hill**	**1.15**	**316**	P	Pg	23 39 46.9	+0.2
KIW	**Kapiti Island**	**1.20**	**34**	P	Pg	23 39 47.5	-0.1
MTW	**Mount Morrison**	**1.31**	**58**	P	Pn	23 39 47.5	-1.1
GVZ	**Greta Valley S**	**1.33**	**213**	P	Pn	23 39 52.2	+2.2
GVZ	**Greta Valley S**	**1.33**	**213**	P	Pg	23 39 52.2	+2.2
TRWZ	**Traveller**	**1.33**	**70**	P	Pn	23 39 47.5	-1.4
OGWZ	**Otaki Gorge**	**1.35**	**40**	P	Pn	23 39 48.7	-0.5
HOWZ	**Holdsworth Sta**	**1.48**	**50**	P	Pn	23 39 50.1	-0.9
QRZ	**Quartz Range**	**1.53**	**312**	P	Pg	23 39 53.5	-0.4
TMWZ	**Te Maipa**	**1.59**	**62**	P	Pn	23 39 51.1	-1.4
AMCZ	**Amberley**	**1.66**	**217**	P	Pg	23 40 00.2	+3.8
DSZ	**Denniston Nort**	**1.67**	**273**	P	Pg	23 39 56.1	-0.4
MRZ	**Mangatainoka R**	**1.68**	**45**	P	Pn	23 39 52.8	-0.9
TIWZ	**Tintock**	**1.77**	**53**	P	Pn	23 39 53.9	-1.1
CPWZ	**Castlepoint**	**1.89**	**60**	P	Pg	23 40 01.4	+0.6
PRWZ	**Pori Road**	**1.96**	**49**	P	Pn	23 39 56.6	-1.1
POWZ	**Post Office Ro**	**1.97**	**42**	P	Pn	23 39 57.0	-0.7
OKCZ	**Okains Bay**	**1.99**	**201**	P	Pg	23 40 06.3	+3.6
BFZ	**Birch Farm**	**2.05**	**56**	P	Pg	23 40 04.7	+0.9
OXZ	**Oxford**	**2.07**	**224**	P	Pg	23 40 07.2	+2.9
INZ	**Inchbonnie**	**2.10**	**245**	P	Pb	23 40 01.7	-0.8
MQZ	**McQueen's Vall**	**2.10**	**208**	P	Pg	23 40 06.9	+2.2
AKCZ	**Akaroa Harbour**	**2.17**	**202**	P	Pg	23 40 08.5	+2.4
WAZ	**Wanganui**	**2.23**	**19**	P	Pb	23 40 05.5	+0.8
DVHZ	**Dannevirke**	**2.25**	**47**	P	Pn	23 39 59.9	-1.7
TSZ	**Takapari Road**	**2.32**	**40**	P	Pn	23 40 01.6	-1.0
RACZ	**Rakaia**	**2.32**	**216**	P	Pg	23 40 10.2	+1.1
PRHZ	**Porangahau**	**2.54**	**52**	P	Pn	23 40 03.4	-2.1
PNHZ	**Pukenui**	**2.55**	**41**	P	Pn	23 40 04.5	-1.2
NBEZ	**Newall Road No**	**2.60**	**357**	P	Pg	23 40 12.8	-1.4
WACZ	**Wakanui South**	**2.63**	**217**	P	Pg	23 40 14.9	+0.1
PKE	**Pukeiti**	**2.67**	**359**	P	Pb	23 40 13.7	+1.5
WVZ	**Waitaha Valley**	**2.72**	**242**	P	Pb	23 40 11.1	-1.9
MOVZ	**Moawhango**	**2.78**	**29**	P	Pn	23 40 09.5	+0.6
WNVZ	**Wahianoa**	**2.80**	**26**	P	Pn	23 40 11.6	+2.3
TRVZ	**Turoa**	**2.81**	**25**	P	Pb	23 40 12.7	-2.1
BHHZ	**Black Hill Sta**	**2.83**	**34**	P	Pb	23 40 15.4	+0.4
WHVZ	**Whangaehu Hut**	**2.84**	**25**	P	Pb	23 40 15.0	-0.3
FWVZ	**Far West T-bar**	**2.85**	**25**	P	Pn	23 40 11.3	+1.2
RPZ	**Rata Peaks**	**2.87**	**229**	P	Pg	23 40 18.6	-0.8
TUVZ	**Tukino**	**2.87**	**26**	P	Pn	23 40 15.9	+0.1
SNVZ	**South Ngauruho**	**2.94**	**25**	P	Pn	23 40 12.5	+1.3
ARCZ	**Arundel**	**2.95**	**224**	P	Pb	23 40 19.5	-1.6
OTVZ	**Oturere**	**2.97**	**25**	P	Pn	23 40 14.0	+2.3
NNVZ	**North Ngauruho**	**2.98**	**24**	P	Pb	23 40 17.4	-0.3
TWVZ	**Taurewa**	**2.99**	**22**	P	Pb	23 40 17.9	+0.1
ETVZ	**East Tongariro**	**3.01**	**26**	P	Pb	23 40 17.7	-0.5
KRVZ	**Karewarewa**	**3.03**	**25**	P	Pb	23 40 19.0	+0.6
TMVZ	**Te Maari**	**3.03**	**26**	P	Pb	23 40 17.4	-1.0
GCSZ	**Gaunt Creek Bo**	**3.09**	**241**	P	Pb	23 40 17.4	-2.1
HIZ	**Hauiti**	**3.41**	**11**	P	Pb	23 40 21.2	-3.5
FOZ	**Fox Glacier**	**3.52**	**240**	P	Pb	23 40 23.0	-3.8
JCZ	**Jackson Bay**	**4.43**	**238**	P	Pn	23 40 34.9	+3.3

WEL 13 23:39:37.6±0.9,**42°S**±3°×**17°4E**±°, **h12**km±6km, **M3.9**/5, **ML4.2**/5,**MLv3.9**/5, **Error ellipse: s-maj=0.0km s-min=0.0km az=126.1, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.35**	**16**	P	Pb	23 39 45.6	-0.1
BSWZ				S	Sb	23 39 51.4	+0.2
KHZ	**Kahutara**	**0.40**	**203**	P	Pb	23 39 46.0	-0.5
KHZ				S	Sb	23 39 52.5	0.0
CMWZ	**Cape Campbell**	**0.46**	**49**	P	Pb	23 39 47.9	+0.3
CMWZ				S	Sb	23 39 56.1	+1.6
TUWZ	**Tuamarina**	**0.64**	**13**	P	Pb	23 39 50.8	+0.2
TUWZ				S	Sb	23 40 00.7	+1.1
THZ	**Tophouse**	**0.69**	**294**	P	Pb	23 39 52.2	+0.6
TMZ	**Timaru**	**3.07**	**220**	P	Pn	23 40 24.3	-1.6
LBZ	**Lake Benmore**	**3.50**	**227**	P	Pn	23 40 30.9	-0.8
ODZ	**Otahua Downs**	**3.75**	**216**	P	Pn	23 40 33.4	-1.7
WKZ	**Wanaka**	**4.42**	**230**	P	Pn	23 40 42.8	-1.7
HHSZ	**Highcliff Hill**	**4.46**	**210**	P	Pn	23 40 43.1	-1.8
EAZ	**Earnscleugh**	**4.53**	**224**	P	Pn	23 40 44.5	-1.4
TUZ	**Tuapeka**	**4.90**	**216**	P	Pn	23 40 49.6	-1.5
MLZ	**Mavora Lakes**	**5.25**	**229**	P	Pn	23 40 54.4	-1.6
SYZ	**Scrubby Hill**	**5.57**	**215**	P	Pn	23 40 59.0	-1.3
APZ	**The Paps**	**6.31**	**219**	P	Pn	23 41 08.5	-1.9

WEL 13 23:40:51.7±0.5,**42°S**±2°×**17°3E**±°, **h5**km±4km, **M4.3**/7, **ML4.5**/7,**MLv4.3**/7, **Error ellipse: s-maj=0.0km s-min=0.0km az=119.7, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.06**	**150**	P	Pg	23 40 53.3	0.0
KHZ				S	Sg	23 40 54.7	+0.4
GVZ	**Greta Valley S**	**0.70**	**209**	P	Pg	23 41 05.7	+0.6
GVZ				S	Sb	23 41 16.9	+0.6
BSWZ	**Blackbirch Sta**	**0.70**	**24**	P	Pg	23 41 05.5	+0.3
BSWZ				S	Sg	23 41 15.4	+1.0
THZ	**Tophouse**	**0.74**	**323**	P	Pg	23 41 06.4	+0.4
THZ				S	Sg	23 41 16.3	+0.7
TUWZ	**Tuamarina**	**0.99**	**20**	P	Pg	23 41 10.7	0.0
TUWZ				S	Sb	23 41 24.5	-0.1
LTZ	**Lake Taylor**	**1.00**	**245**	P	Pg	23 41 10.7	-0.1
LTZ				S	Sg	23 41 23.3	-0.5
AMCZ	**Amberley**	**1.03**	**217**	P	Pg	23 41 11.4	0.0
MRNZ	**Matariki Terra

comp=Z,500nm,12.1s
GAMI Galela, Maluku 16.15 157 P P 23 51 49.6 +8.6
GTOI Gorontalo 16.23 175 P **P** 23 51 44.4 +2.5
comp=Z,208nmcomp=Z,9.7nm,1.1s
MRSI Marisa 16.34 179 P **P** 23 51 49.8 +6.7
comp=Z,3µmcomp=Z,27nm,1.2s
MPSI Mapaga 16.57 186 P **P** 23 51 49.8 +4.2
comp=Z,391nmcomp=Z,14nm,2.7s
SBUM Sibu 17.11 214 Pn **Pn** 23 51 48.2 -2.1
SBUM Sibu 17.11 214 P **Pn** 23 51 48.0 -2.2
APSI Ampana 17.71 180 P **P** 23 52 02.4 +4.1
comp=Z,63nm,1.4s
LUWI Luwuk 17.88 176 P **P** 23 52 05.6 +5.5
comp=Z,3µmcomp=Z,122nm,1.0s
LBMI Labuha 18.37 161 P **Pn** 23 52 12.0 +6.3
comp=Z,34nm,1.1s
KSM Kuching 18.98 217 P **Pn** 23 52 17.1 +3.9
comp=Z,21nm,1.5s
SANI Sanana 19.32 167 P **Pn** 23 52 17.1 -0.1
KMI Kunming 19.45 298 ⇓P **Pn** 23 52 21.3 +2.4
KMI pP pP 23 52 27.3 +1.1
KMI S Sn 23 56 16.0 +20
KMI pmax pmax
comp=Z,25nm,1.1s
KMI pmax pmax
comp=Z,420nm,5.9s
KMI LR LR
comp=N,560nm,12.2s
KMI LR LR
comp=E,830nm,14.4s
KMI LR LR
comp=Z,790nm,14.9s
TIA Tai'an 19.64 349 P **Pn** 23 52 22.4 +1.5
TIA pmax pmax
comp=Z,10.0nm,0.8s
SIJI Sorong 20.05 151 P Pn 23 52 31.2 +5.3
comp=Z,1µmcomp=Z,19nm,1.5s
PMSI Majene 20.47 188 P Pn 23 52 31.8 +1.0
comp=Z,1µmcomp=Z,67nm,1.3s
PHRA Phrae 20.48 278 P **P** 23 52 29.6 +0.9
XAN Xi'an 20.53 329 P Pn 23 52 32.6 +1.1
XAN pP sP 23 52 43.3 +1.5
XAN sP pP 23 52 48.4 +11
XAN S Sn 23 56 21.3 -0.9
XAN pmax pmax
comp=Z,15nm,1.2s
XAN pmax pmax
comp=Z,240nm,9.6s
XAN LR LR
comp=N,590nm,13.7s
XAN LR LR
comp=E,350nm,15.8s
XAN LR LR
comp=Z,520nm,15.1s
JHS Saijyo 20.71 27 P **P** 23 52 31.7 +0.7
PZH PanZhiHua 20.80 301 P Pn 23 52 34.8 +0.1
PZH pP pP 23 52 41.1 +0.3
PZH PP **PnPn** 23 53 00.3 +9.4
PZH S Sn 23 56 33.1 +4.3
PZH SS SnSn 23 57 11.3 +28
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,140nm,3.5s
PZH LR LR
comp=N,860nm,12.6s
PZH LR LR
comp=E,570nm,13.6s
PZH LR LR
comp=Z,620nm,14.0s
SPSI Sidrap Palu 20.83 185 P Pn 23 52 39.2 +4.2
comp=Z,18nm,1.4s
KKSI Kolaka, Sulawe 20.95 180 P Pn 23 52 42.3 +5.9
KSAR Wonju Array Be 21.17 14 P **P** 23 52 35.7 -0.2
KSRS Korea Array 21.19 14 P **P** 23 52 35.8 -0.4
comp=Z,6.9nm,0.4s,baz=196,slow=11,SNR=31
comp=Z,6.9nm,0.4s
KS19 Wonju Array Si 21.22 14 P **P** 23 52 36.1 -0.4
KS19 IAmb IAmb 23 52 36.5
comp=Z,14nm,0.4s
BNSI Bone 21.24 184 P **P** 23 52 40.6 +3.8
comp=Z,473nmcomp=Z,14nm,3.0s
HNS HongShan 21.31 345 ⇑P **P** 23 52 39.4 +2.0
HNS sP sP 23 53 02.0 +12
HNS S Sn 23 56 41.4 +0.8
HNS pmax pmax
comp=Z,10.0nm,1.2s
HNS LR LR
comp=N,290nm,13.9s
HNS LR LR
comp=Z,300nm,13.5s
BBKI Banjar Baru 21.34 199 P P 23 52 48.0 +10
CMAR Chiang Mai Arr 21.70 277 P **P** 23 52 42.4 +0.5
comp=Z,1.7nm,0.5s,baz=100,slow=8.7,SNR=18
comp=Z,1.7nm,0.5s
CHTO Chiang Mai 21.70 278 P **P** 23 52 42.1 +0.2
KAPI Kappang 21.87 185 P **P** 23 52 43.4 -0.3
comp=Z,3.1nm,0.3s,baz=9.3,slow=6.2,SNR=12
comp=Z,3.1nm,0.3s
KAPI Kappang 21.87 185 P **P** 23 52 44.5 +0.9
KAPI Kappang 21.87 185 P **P** 23 52 43.3 -0.3
BKSI Bulukumba 22.15 184 P **P** 23 52 52.4 +5.8
comp=Z,9.8nm,0.7s
BBSI Bau Bau 22.28 178 P **P** 23 52 55.0 +7.0
comp=Z,16nm,0.7s
FAKI Fak Fak 22.31 151 P **P** 23 52 47.9 -0.5
FAKI IAmb IAmb 23 52 57.9
comp=Z,16nm,0.9s
FAKI Fak Fak 22.31 151 P **P** 23 52 48.8 +0.5
GUMO Guam 22.63 95 LR LR 00 00 36.7
comp=Z,223nm,19.2s,baz=294,slow=34
BNDI Bandanaira 22.80 158 P **P** 23 52 59.4 +5.8
comp=Z,16µmcomp=Z,83nm,1.1s
BSSI Bau Bau, Buton 22.94 183 P **P** 23 53 00.3 +5.3
comp=Z,22nm,1.4s
TNCH TengChong 23.04 294 ⇑*eP* **P** 23 52 51.6 -4.7
TNCH sP pP 23 52 56.8 -8.2
TNCH PP **PnPn** 23 53 25.0 +3.2
TNCH S **S** 23 57 03.5 -1.7
TNCH sS pS 23 57 08.3 -7.2
TNCH pmax pmax
comp=Z,45nm,1.1s
TNCH pmax pmax
comp=Z,300nm,3.7s
TNCH LR LR
comp=N,220nm,12.4s
TNCH LR LR
comp=E,260nm,10.4s
TNCH LR LR
comp=Z,400nm,13.9s
JGF Kuroka 23.27 34 P **P** 23 52 58.3 0.0
BJT Baijiatuau 23.51 349 P **P** 23 53 00.9 +0.4
BJT IAmb IAmb 23 53 06.7
comp=Z,14nm,0.7s
KULM Kulim 23.60 243 P **P** 23 53 07.3 +5.7
comp=Z,12nm,1.5s
IPM Ipoh 23.71 241 P **P** 23 53 01.2 -1.5
IPM IAmb IAmb 23 53 06.8
comp=Z,13nm,1.0s
MJAR Matsushiro Arr 24.43 34 P **P** 23 53 08.3 -0.9
comp=Z,0.9nm,0.3s,baz=223,slow=9.6,SNR=1.5
comp=Z,0.9nm,0.3s
KMMI Kalianget 25.00 198 P **P** 23 53 20.4 +6.0
comp=Z,24nm,1.7s
PLAI Plampang 25.87 189 P P 23 53 30.5 +8.2
comp=Z,33nm,1.4s
SOEI Soe 26.62 174 P **P** 23 53 29.5 +0.2
SOEI IAmb IAmb 23 53 42.8
comp=Z,22nm,1.1s
BATI Baumata 27.02 176 P **P** 23 53 31.1 -1.6
comp=Z,13nm,0.3s,baz=281,slow=14,SNR=3.7
BATI Baumata 27.02 176 P P 23 53 42.5 +10
XLT XiLinHaoTe 27.31 351 *eP* **P** 23 53 36.3 +1.1
XLT pmax pmax
comp=Z,15nm,1.2s
USRK Ussuriysk Ar. 28.56 16 P **P** 23 53 44.8 -1.4
comp=Z,0.8nm,0.3s,baz=180,slow=8.6,SNR=1.7
USRK LR LR 00 06 08.0
comp=Z,124nm,18.5s,baz=160,slow=38
comp=Z,0.8nm,0.3s
SHL Shillong 29.01 292 P **P** 23 53 50.2 -0.4
SHL IAmb IAmb 23 53 56.5
comp=Z,15nm,1.0s
LSA Lhasa 30.67 300 P **P** 23 54 05.8 +0.1
LSA IAmb IAmb 23 54 12.1
comp=Z,14nm,1.1s

ASAJ Asahikawa 32.37 29 LR LR 00 07 06.4
comp=Z,155nm,21.0s,baz=200,slow=36
TAPN Taplejung 33.02 294 *eP* **P** 23 54 25.6 -0.6
ULN Ulaanbaatar 33.12 342 P **P** 23 54 27.5 +0.9
ULN IAmb IAmb 23 54 46.2
comp=Z,4.4nm,0.8s
ULN Ulaanbaatar 33.12 342 P **P** 23 54 28.1 +1.5
KLR Kul'dur 33.26 12 P **P** 23 54 26.8 -0.8
comp=Z,8.7nm,1.1s,baz=216,slow=6.9,SNR=11
comp=Z,8.7nm,1.1s
SONM Songino Array 33.29 341 P **P** 23 54 27.7 -0.4
comp=Z,2.1nm,0.6s,baz=158,slow=9.5,SNR=18
SONM LR LR 00 11 04.9
comp=Z,83nm,18.5s,baz=157,slow=42
comp=Z,2.1nm,0.6s
SONM Songino Array 33.29 341 P **P** 23 54 28.2 +0.1
HEH HeiHe 33.58 7 *eP* **P** 23 54 30.5 +0.1
HEH pmax pmax
comp=Z,8.0nm,1.2s
HEH LR LR
comp=N,160nm,13.2s
HEH LR LR
comp=E,260nm,14.3s
HEH LR LR
comp=Z,320nm,13.4s
RAMN Ramite 33.92 293 *eP* **P** 23 54 33.5 -0.5
comp=Z,28nm,0.7s
JIRN Jiri 34.41 294 *eP* **P** 23 54 37.8 -0.6
comp=Z,19nm,0.7s
GUN Gumba 34.73 295 *eP* **P** 23 54 40.5 -0.6
comp=Z,67nm,1.0s
PKI Pulchoki 35.07 294 *eP* **P** 23 54 43.0 -1.1
comp=Z,33nm,1.2s
PKIN Phulchoki 35.09 294 *eP* **P** 23 54 42.9 -1.2
GKN Gorkha 35.82 295 *eP* **P** 23 54 49.2 -1.1
comp=Z,48nm,1.0s
DANN Dangsing 36.65 295 *eP* **P** 23 54 56.3 -1.2
comp=Z,48nm,1.2s
KRVT Keravat (AS076 36.67 122 LR LR 00 11 10.2
comp=Z,135nm,18.1s,baz=130,slow=38
WB0 Warramunga Arr 38.54 161 P **P** 23 55 11.6 -1.6
WB0 IAmb IAmb 23 55 13.0
comp=Z,6.4nm,0.8s
WRA Warramunga Arr 38.69 161 P **P** 23 55 11.9 -2.5
comp=Z,2.9nm,0.8s,baz=341,slow=9.3,SNR=17
comp=Z,2.9nm,0.8s
WRA Warramunga Arr 38.69 161 P **P** 23 55 12.8 -1.5
WB2 Warramunga Arr 38.69 161 P **P** 23 55 12.9 -1.5
WB2 IAmb IAmb 23 55 29.9
comp=Z,10nm,0.8s
WR0 Warramunga Arr 38.77 160 P **P** 23 55 13.6 -1.4
WR0 IAmb IAmb 23 55 20.9
comp=Z,5.4nm,0.7s
PALK Pallekele 41.10 262 P **P** 23 55 34.0 -0.7
ASAR Alice Springs 42.07 163 P **P** 23 55 41.2 -1.1
comp=Z,1.1nm,0.4s,baz=338,slow=6.9,SNR=26
comp=Z,1.1nm,0.4s
H11S3 WAKE ISLAND Hy 42.84 81 T T 00 40 58.2
baz=276,slow=74,SNR=79
H11S1 WAKE ISLAND Hy 42.85 81 T T 00 40 52.7
baz=276,slow=74,SNR=30
H11S2 WAKE ISLAND Hy 42.86 81 T T 00 41 02.9
baz=276,slow=74,SNR=39
H11N1 WAKE ISLAND Hy 42.93 79 T T 00 41 11.5
baz=274,slow=74,SNR=14
H11N2 WAKE ISLAND Hy 42.94 79 T T 00 41 07.6
baz=274,slow=74,SNR=13
H11N3 WAKE ISLAND Hy 42.95 79 T T 00 41 09.7
baz=274,slow=74,SNR=15
MKAR Makanchi Array 44.06 321 P **P** 23 55 57.2 -1.1
comp=Z,0.7nm,0.5s,baz=98,slow=11,SNR=9.4
comp=Z,0.7nm,0.5s
MKAR Makanchi Array 44.06 321 P **P** 23 55 58.1 -0.2
MAKZ Makanchi 44.26 321 P **P** 23 56 00.5 +0.6
PEA0B Petropavlovsk- 45.78 30 P **P** 23 56 11.8 -0.1
PEA0B IAmb IAmb 23 56 18.2
comp=Z,13nm,1.1s
PETK Petropavlovsk- 45.78 30 P **P** 23 56 11.3 -0.5
comp=Z,1.5nm,0.3s,baz=194,slow=3.1,SNR=4.2
comp=Z,1.5nm,0.3s
PETK Petropavlovsk- 45.78 30 P **P** 23 56 10.6 -1.2
NRN Naryn 46.08 312 P **P** 23 56 13.9 -0.9
NRN IAmb IAmb 23 56 24.2
comp=Z,7.6nm,1.2s
NIL Nilore 46.41 301 P **P** 23 56 16.4 -0.7
ZAA0 Zalesovo Array 46.68 331 P **P** 23 56 19.3 +0.5
ZALV Zalesovo Beam 46.68 331 P **P** 23 56 19.3 +0.4
comp=Z,0.4nm,0.4s,baz=130,slow=7.4,SNR=2.8
comp=Z,0.4nm,0.4s
ZALV Zalesovo Beam 46.68 331 P **P** 23 56 17.9 -1.0
AAK Ala-Archa 47.52 313 LR LR 00 19 52.8
comp=Z,176nm,18.7s,baz=98,slow=40
AAK Ala-Archa 47.52 313 P **P** 23 56 26.4 +0.6
FORT Forrest 47.82 173 P **P** 23 56 27.8 -0.1
KURK Kurchatov 48.09 324 P **P** 23 56 29.7 -0.1
DRK Karamyk 48.65 308 P **P** 23 56 34.1 -0.7
DRK IAmb IAmb 23 56 43.2
comp=Z,7.8nm,1.1s
BTK Batken 49.51 309 P **P** 23 56 41.2 0.0
BTK IAmb IAmb 23 56 46.9
comp=Z,4.8nm,1.1s
GAR Garm 49.67 307 P **P** 23 56 42.1 -0.3
KBL Kabul 49.99 301 P **P** 23 56 43.9 -1.1
KK31 Karatay Array 50.45 312 P **P** 23 56 47.6 -0.6
KKAR Karatay Array 50.45 312 P **P** 23 56 47.5 -0.6
CHGR Chuyangaron 50.50 306 P **P** 23 56 47.8 -0.9
STKA Stephens Creek 52.15 158 P **P** 23 57 00.4 -0.5
BRVK Borovoye 53.76 324 P **P** 23 57 12.0 -0.5
BRVK IAmb IAmb 23 57 29.4
comp=Z,4.6nm,0.8s
TIXI Tiksi 54.89 3 P **P** 23 57 19.5 -1.0
TIXI IAmb IAmb 23 57 25.2
comp=Z,9.6nm,1.1s
HRA Herat 55.57 300 P **P** 23 57 25.4 -0.9
HRA IAmb IAmb 23 57 34.2
comp=Z,3.8nm,0.9s
NRIK Noril'sk 56.52 346 P **P** 23 57 32.2 0.0
comp=Z,5.4nm,0.9s,baz=142,slow=9.3,SNR=3.7
NRIK LR LR 00 25 14.9
comp=Z,86nm,19.4s,baz=176,slow=40
comp=Z,5.4nm,0.9s
NRIK Noril'sk 56.52 346 P **P** 23 57 31.9 -0.2
ABKAR Akbulak array 58.96 318 P **P** 23 57 48.3 -1.3
GEYT Alibeck 59.05 304 P **P** 23 57 50.6 0.0
comp=Z,2.2nm,1.0s,baz=164,slow=7.5,SNR=6.4
comp=Z,2.2nm,1.0s
GEYT Alibeck 59.05 304 **P** 23 57 51.3 +0.7
GYA0B ALIBECK ARRAY 59.05 304 P **P** 23 57 50.9 +0.3
ARU Arti 61.25 326 P **P** 23 58 04.7 -0.5
ARU IAmb IAmb 23 58 19.2
comp=Z,4.0nm,0.6s
KIV Kislovodsk 70.60 311 P **P** 23 59 05.2 -0.5
GEVA Gevas 70.89 305 P **P** 23 59 07.5 -0.3
GEVA IAmb IAmb 23 59 17.5
comp=Z,5.9nm,1.1s
RAYN Ar Rayn 71.04 290 P **P** 23 59 08.0 -0.7
RAYN IAmb IAmb 23 59 16.8
comp=Z,7.8nm,1.1s
GURO Guroymak-BITLI 71.67 306 P **P** 23 59 11.8 -0.6
GURO IAmb IAmb 23 59 21.9
comp=Z,5.1nm,1.0s
IMAR Indian Mountai 72.49 25 P **P** 23 59 16.8 +0.2
CAST Castle Rocks 73.36 28 P **P** 23 59 21.6 -0.2
CAST IAmb IAmb 23 59 37.2
comp=Z,5.2nm,0.9s
MDM Murphy Dome 74.88 26 P **P** 23 59 31.6 +0.9
MDM IAmb IAmb 23 59 44.8
comp=Z,4.9nm,1.0s
ILAR Eielson Array 75.47 26 P **P** 23 59 31.8 -2.2
comp=Z,0.5nm,0.5s,baz=267,slow=4.7,SNR=10.0
comp=Z,0.5nm,0.5s
BMAR Burnt Mountain 75.96 23 P **P** 23 59 37.8 +1.0
ARCES ARCESS Array B 76.43 339 P **P** 23 59 38.5 -1.0
comp=Z,5.3nm,0.9s,baz=48,slow=5.5,SNR=5.1
comp=Z,5.3nm,0.9s
DOT Dot Lake 76.88 27 P **P** 23 59 42.6 +0.4
DOT IAmb IAmb 23 59 49.0
comp=Z,9.7nm,1.2s
J26L Joseph Creek 76.93 26 P **P** 23 59 42.7 +0.3
BR131 Keskin Array S 77.91 308 P **P** 23 59 48.1 -0.3
BRTR Keskin Array B 77.91 308 P **P** 23 59 48.3 -0.2
comp=Z,0.4nm,0.6s,baz=116,slow=6.6,SNR=1.6
comp=Z,0.4nm,0.6s
FINES FINESS Array B 77.95 331 P **P** 23 59 46.7 -1.3
comp=Z,0.7nm,0.4s,baz=40,slow=5.5,SNR=23
comp=Z,0.7nm,0.4s

AKASG Malin Array Be 78.62 320 P **P** 23 59 50.0 -2.0
comp=Z,0.9nm,0.6s,baz=60,slow=4.7,SNR=8.5
comp=Z,0.9nm,0.6s
AKASG Malin Array Be 78.62 320 P **P** 23 59 50.8 -1.2
A36M Sachs Harbour 80.91 17 P **P** 00 00 03.7 -0.3
A36M IAmb IAmb 00 00 19.6
comp=Z,4.6nm,0.8s
C36M Paulatuk 82.48 19 P **P** 00 00 12.2 -0.2
C36M IAmb IAmb 00 00 24.9
comp=Z,5.3nm,0.8s
OJC Ojcow 84.54 321 P **P** 00 00 20.8 -2.5
OJC IAmb IAmb 00 00 34.4
comp=Z,5.7nm,1.0s
NB2 NORSAR Subarra 84.84 333 P **P** 00 00 23.1 -1.6
baz=66,slow=5.1
NB2 NORSAR Subarra 84.84 333 P **P** 00 00 23.1 -1.6
comp=Z,16nm,1.2s,baz=66,slow=5.1
NOA NORSAR Array B 84.84 333 P **P** 00 00 23.2 -1.6
comp=Z,4.5nm,1.1s,baz=64,slow=5.1,SNR=7.0
comp=Z,4.5nm,1.1s
CEL Celeste 91.52 311 P **P** 00 00 55.0 -2.1
CAMP Campotosto 91.54 315 P **P** 00 00 56.4 -0.9
SALO Salr 92.08 319 P **P** 00 00 59.4 -0.1

WEL 13 23:48:16.3±0.3, 43°S±2°×17°3E±°, h5km, M3.8/27, ML4.2/7, MLv3.8/27, Error ellipse: s-maj=0.0km s-min=0.0km az=126.7, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.38**	**71**	P	Pg	23 48 23.5	0.0
KHZ				S	Sb	23 48 30.4	-1.1
GVZ	**Greta Valley S**	**0.43**	**183**	P	Pg	23 48 24.7	+0.2
GVZ				S	Sg	23 48 31.4	+1.3
LTZ	**Lake Taylor**	**0.63**	**247**	P	Pg	23 48 28.5	+0.1
LTZ				S	Sb	23 48 37.8	-1.1
AMCZ	**Amberley**	**0.70**	**205**	P	Pg	23 48 30.2	+0.4
THZ	**Tophouse**	**0.79**	**351**	P	Pg	23 48 31.6	+0.3
BSWZ	**Blackbirch Sta**	**1.02**	**37**	P	Pg	23 48 36.2	+0.3
OXZ	**Oxford**	**1.09**	**223**	P	Pg	23 48 36.3	-0.8
MRNZ	**Matariki Terra**	**1.16**	**349**	P	Pg	23 48 38.5	0.0
OKCZ	**Okains Bay**	**1.18**	**180**	P	Pg	23 48 37.4	-1.5
MQZ	**McQueen's Vall**	**1.20**	**194**	P	Pg	23 48 36.9	-2.4
DSZ	**Denniston Nort**	**1.23**	**310**	P	Pb	23 48 40.0	0.0
TUWZ	**Tuamarina**	**1.29**	**31**	P	Pn	23 48 40.6	-0.3
AKCZ	**Akaroa Harbour**	**1.34**	**185**	P	Pn	23 48 38.8	-2.8
NNZ	**Nelson**	**1.34**	**10**	P	Pn	23 48 41.4	-0.2
RACZ	**Rakaia**	**1.36**	**209**	P	Pn	23 48 39.6	-2.3
TKNZ	**Takaka Hill**	**1.51**	**357**	P	Pn	23 48 44.1	+0.1
WACZ	**Wakanui South**	**1.66**	**212**	P	Pn	23 48 43.8	-2.2
QRZ	**Quartz Range**	**1.76**	**347**	P	Pn	23 48 48.1	+0.7
WVZ	**Waitaha Valley**	**1.79**	**252**	P	Pn	23 48 47.2	-0.6
RPZ	**Rata Peaks**	**1.88**	**231**	P	Pn	23 48 47.3	-1.8
ARCZ	**Arundel**	**1.97**	**224**	P	Pn	23 48 48.3	-2.0
GCSZ	**Gaunt Creek Bo**	**2.15**	**248**	P	Pn	23 48 53.7	+0.9
TMZ	**Timaru**	**2.37**	**218**	P	Pn	23 48 54.1	-1.8
FOZ	**Fox Glacier**	**2.58**	**246**	P	Pn	23 48 59.2	+0.5
ODZ	**Otahua Downs**	**3.05**	**214**	P	Pn	23 49 02.5	-2.7
NBEZ	**Newall Road No**	**3.33**	**11**	P	Pn	23 49 11.6	+2.7
PKEZ	**Pukeiti**	**3.42**	**12**	P	Pn	23 49 12.7	+2.5
JCZ	**Jackson Bay**	**3.48**	**242**	P	Pn	23 49 11.2	+0.1
HHSZ	**Highcliff Hill**	**3.78**	**207**	P	Pn	23 49 12.4	-2.8
TLZ	**Tolley Road**	**4.61**	**25**	P	Pn	23 49 30.0	+3.4
TOZ	**Tahuroa Road**	**5.16**	**22**	P	Pn	23 49 36.2	+2.1
AWAZ	**Awhitu Peninsu**	**5.60**	**13**	P	Pn	23 49 42.1	+1.8
MKAZ	**Moumakai**	**5.67**	**17**	P	Pn	23 49 41.3	+0.3
RUGZ	**Raukumara Rang**	**5.78**	**39**	P	Pn	23 49 44.9	+2.2
MBAZ	**Motutapu North**	**5.94**	**14**	P	Pn	23 49 46.5	+1.7
HAZ	**Te Kaha**	**5.99**	**39**	P	Pn	23 49 46.2	+0.7

*WEL **13** 23:49:00, 41°.71S×174°.35E, h20km, ML5.2, Mw4.9, Moment Tensor Solution. s6 Moment tensor: Scale 10^16 Nm; Mrr3.02; Mθθ-0.21; Mϕϕ-2.81; Mrθ-0.63; Mrϕ0.79; Mθϕ0.66; Fault plane solution: M0 3.16000×10^16 NP1: ϕs172.00000°, δ38.00000°, λ102.00000°. NP2: ϕs337.00000°, δ53.00000°, λ81.00000°. Principal axes: T -3143.4400, Plg79.0000°, Azm209.0000°; N -41.7500, Plg7.0000°, Azm342.0000°; P 3185.1900, Plg8.0000°, Azm74.0000°;*

*IDC **13** 23:49:08.9±0.7, 41°.59S×174°.28E, h0km, mb4.7/13, mbtmp4.7/14, ML4.3/1, MS4.3/11 Error ellipse: s-maj=24.0km s-min=16.4km az=69.0*

*MOS **13** 23:49:10.3±0.8, 41°.70S×174°.19E, h17km, mb5.2/10, Error ellipse: s-maj=19.4km s-min=12.7km az=95.2*

*NEIC **13** 23:49:10.2±2.0, 41°.79S±0°.03×174°.47E±0°.02, h10km±1km, mb5.2/43, Mwr4.9/36, Error ellipse: s-maj=6.1km s-min=2.9km az=20.0*

*NEIC **13** 23:49:10.3, 41°.79S×174°.47E, h17km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr2.17; Mθθ-0.04; Mϕϕ-2.12; Mrθ-0.55; Mϕθ0.28; Mrϕ0.80; Fault plane solution: M0 2.37000×10^16 NP1: ϕs182.55000°, δ34.96000°, λ107.01000°. NP2: ϕs342.08000°, δ56.78000°, λ78.44000°. Principal axes: T 2.4107, Plg75.0000°, Azm218.0000°; N -0.0820, Plg10.0000°, Azm348.0000°; P -2.3287, Plg11.0000°, Azm80.0000°;*

*NOU **13** 23:49:11.6, 41°.87S×174°.47E, h23km, mb5.2/27, Cook Strait, New Zealand*

*WEL **13** 23:49:12.1±0.3, 42°.5S±2°×17°4E±°, h7km±2km, M5.2/18, ML5.5/18, MLv5.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=153.6*

ISC 13 23:49:09.9±0.8, 41°.79S±0°.02×174°.43E±0°.02, h10km±4km, n366, σ1º48/398, mb5.2/51, MS4.3/12, 9C-5D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.17**	**285**	Pg	**Pg**	**23 49 14.8**	**+1.3**
CMWZ				Sg	**Sg**	**23 49 17.9**	**+2.0**
CMWZ	**Cape Campbell**	**0.17**	**285**	P	**Pg**	**23 49 14.9**	**+1.3**
CMWZ				S	**Sg**	**23 49 18.0**	**+2.0**
BSWZ	**Blackbirch Sta**	**0.42**	**280**	Pg	**Pb**	**23 49 19.1**	**-0.3**
BSWZ				Sg	**Sg**	**23 49 24.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.42**	**280**	P	**Pb**	**23 49 19.2**	**-0.3**
BSWZ				S	**Sb**	**23 49 24.9**	**-1.0**
BHW	**Baring Head**	**0.51**	**41**	P	**Pn**	**23 49 22.3**	**-1.0**
TUWZ	**Tuamarina**	**0.51**	**315**	Pg	**Pb**	**23 49 20.7**	**-0.3**
TUWZ				Sg	**Sb**	**23 49 27.6**	**-1.0**
TUWZ	**Tuamarina**	**0.51**	**315**	P	**Pb**	**23 49 20.8**	**-0.2**
TUWZ				S	**Sg**	**23 49 27.2**	**+0.6**
SNZO	**South Karori**	**0.53**	**24**		**Pb**	**23 49 22.0**	**+0.8**
SNZO	**South Karori**	**0.53**	**24**	P	**Pb**	**23 49 22.4**	**+1.2**
WEL	**Wellington**	**0.57**	**27**	P	**Pb**	**23 49 22.9**	**+0.9**
WEL	**Wellington**	**0.57**	**27**	P	**Pb**	**23 49 22.9**	**+0.9**
WEL				S	**Sb**	**23 49 31.6**	**+1.4**
TCW	**Tory Channel**	**0.59**	**349**	P	**Pb**	**23 49 22.3**	**-0.1**
TCW				S	**Sb**	**23 49 30.1**	**-0.7**
PLWZ	**Palliser**	**0.66**	**71**		**Pn**	**23 49 26.3**	**+0.9**
PLWZ	**Palliser**	**0.66**	**71**	P	**Pn**	**23 49 26.4**	**+1.0**
PLWZ				S	**Sn**	**23 49 37.5**	**+1.6**
MSWZ	**Moikau Station**	**0.72**	**59**		**Pn**	**23 49 26.8**	**+0.5**
MSWZ	**Moikau Station**	**0.72**	**59**	P	**Pn**	**23 49 27.1**	**+0.8**
MSWZ				S	**Sn**	**23 49 38.6**	**+1.2**
CAW	**Cannon Point**	**0.84**	**35**	P	**Pn**	**23 49 27.8**	**0.0**
CAW				S	**Sn**	**23 49 40.2**	**0.0**
PAWZ	**Paruwai Farm**	**0.85**	**62**	P	**Pn**	**23 49 29.0**	**+0.9**
PAWZ				S	**Sn**	**23 49 42.5**	**+1.7**
KHZ	**Kahutara**	**0.91**	**226**	Pn	**Pn**	**23 49 29.3**	**+0.5**
KHZ	**Kahutara**	**0.91**	**226**	P	**Pn**	**23 49 29.6**	**+0.8**
KHZ	**Kahutara**	**0.91**	**226**	P	**Pn**	**23 49 29.4**	**+0.7**
KHZ				S	**Sn**	**23 49 42.8**	**+0.9**
NNZ	**Nelson**	**0.97**	**306**		**Pg**	**23 49 28.6**	**0.0**
NNZ	**Nelson**	**0.97**	**306**	P	**Pb**	**23 49 28.9**	**0.0**
NNZ				S	**Sg**	**23 49 41.3**	**0.0**
KIW	**Kapiti Island**	**1.00**	**22**	P	**Pn**	**23 49 30.2**	**+0.1**
KIW				S	**Sb**	**23 49 43.2**	**+0.7**
TRWZ	**Traveller**	**1.02**	**68**	P	**Pn**	**23 49 31.3**	**+0.9**
TRWZ				S	**Sn**	**23 49 46.1**	**+1.2**
MTW	**Mount Morrison**	**1.03**	**52**	P	**Pn**	**23 49 31.4**	**+0.9**
MTW				S	**Sn**	**23 49 45.7**	**+0.8**
DUWZ	**D'Urville Isla**	**1.06**	**339**	P	**Pn**	**23 49 31.0**	**+0.1**
DUWZ				S	**Sb**	**23 49 44.2**	**-0.1**
OGWZ	**Otaki Gorge**	**1.12**	**30**	P	**Pn**	**23 49 32.5**	**+0.8**
OGWZ				S	**Sn**	**23 49 48.7**	**+1.4**
THZ	**Tophouse**	**1.14**	**271**		**Pn**	**23 49 32.6**	**+0.6**
THZ	**Tophouse**	**1.14**	**271**	P	**Pn**	**23 49 32.5**	**+0.6**
THZ				S	**Sn**	**23 49 47.4**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.21**	**43**	P	**Pg**	**23 49 33.9**	**+0.7**

HOWZ				S	Sn	23 49 50.7	+1.1
TMWZ	Te Maipa	1.30	59	P	Pg	23 49 34.8	0.0
MRNZ	Matariki Terra	1.31	287	P	Pg	23 49 35.3	+0.2
MRNZ				S	Sg	23 49 52.9	+0.8
TKNZ	Takaka Hill	1.34	304	P	Pg	23 49 35.4	-0.2
MRZ	Mangatainoka R	1.43	38		Pb	23 49 36.8	+0.3
MRZ	Mangatainoka R	1.43	38	P	Pb	23 49 36.9	+0.3
MRZ				S	Sg	23 49 56.1	+0.4
TIWZ	Tintock	1.50	48	P	Pb	23 49 37.5	-0.3
TIWZ				S	Sn	23 49 55.7	-0.9
GVZ	Greta Valley S	1.56	221		Pb	23 49 38.6	-0.4
GVZ	Greta Valley S	1.56	221	P	Pb	23 49 38.6	-0.4
CPWZ	Castlepoint	1.60	57	P	Pb	23 49 39.2	-0.4
PRWZ	Pori Road	1.70	44	P	Pn	23 49 40.3	+0.6
PRWZ				S	Sb	23 50 03.4	+0.7
OHWZ	Ohakea	1.72	23	P	Pg	23 49 42.6	-0.3
OHWZ				S	Sg	23 50 04.6	-0.6
QRZ	Quartz Range	1.73	303		Pb	23 49 41.6	-0.1
QRZ	Quartz Range	1.73	303	P	Pb	23 49 41.9	+0.2
QRZ	Quartz Range	1.73	303	P	Pb	23 49 41.8	0.0
QRZ				S	Sb	23 50 03.8	+0.3
POWZ	Post Office Ro	1.73	36	P	Pn	23 49 41.0	+0.9
POWZ				S	Sg	23 50 06.0	+0.6
BFZ	Birch Farm	1.77	52	Pn	Pn	23 49 40.7	+0.1
BFZ	Birch Farm	1.77	52	P	Pn	23 49 41.0	+0.4
BFZ	Birch Farm	1.77	52	P	Pn	23 49 41.0	+0.4
LTZ	Lake Taylor	1.88	238	Pn	Pn	23 49 43.2	+1.0
LTZ	Lake Taylor	1.88	238	P	Pn	23 49 42.8	+0.6
LTZ				S	Sn	23 50 04.8	-1.3
DSZ	Denniston Nort	1.96	271	Pn	Pb	23 49 44.6	-1.2
DSZ	Denniston Nort	1.96	271	P	Pb	23 49 45.0	-0.8
DSZ				S	Sb	23 50 10.0	-0.3
DVHZ	Dannevirke	1.99	42	P	Pn	23 49 43.8	+0.1
DVHZ				S	Sg	23 50 13.9	0.0
ANWZ	Angora Road	2.04	50	P	Pn	23 49 44.7	+0.4
WAZ	Wanganui	2.08	12	P	Pb	23 49 48.6	+0.9
WAZ				S	Sg	23 50 17.0	+0.3
TSZ	Takapari Road	2.09	34	P	Pn	23 49 45.7	+0.7
OKCZ	Okains Bay	2.18	207	P	Pn	23 49 46.2	-0.1
PRHZ	Porangahau	2.26	48	P	Pn	23 49 47.2	-0.3
WPHZ	Waipukurau	2.30	42	P	Pn	23 49 48.5	+0.5
PNHZ	Pukenui	2.31	36	P	Pn	23 49 48.5	+0.4
MQZ	McQueen's Vall	2.32	214	Pn	Pn	23 49 47.8	-0.3
MQZ	McQueen's Vall	2.32	214	P	Pn	23 49 47.3	-0.9
LREZ	Lake Rotokare	2.33	360	P	Pb	23 49 52.9	+0.9
OXZ	Oxford	2.34	228		Pn	23 49 49.3	+0.8
OXZ	Oxford	2.34	228	P	Pn	23 49 48.6	+0.1
AKCZ	Akaroa Harbour	2.36	208	P	Pn	23 49 48.6	-0.2
INZ	Inchbonnie	2.40	246	P	Pb	23 49 51.5	-1.8
NMEZ	Namu Road	2.41	350	P	Pb	23 49 53.6	+0.2
KHEZ	Kahui Hut	2.52	353	P	Pb	23 49 54.9	-0.3
KHEZ				S	Sb	23 50 25.4	-0.9
NEZ	North Egmont	2.53	354	P	Pb	23 49 55.7	+0.2
MTVZ	Mangateitei	2.53	19	P	Pb	23 49 54.9	-0.7
MTVZ				S	Sb	23 50 26.3	-0.5
PXZ	Pawanui	2.55	47	P	Pn	23 49 51.0	-0.4
NBEZ	Newall Road No	2.56	350	P	Pb	23 49 55.2	-0.7
NBEZ				S	Sb	23 50 26.5	-0.9
RACZ	Rakaia	2.56	220	P	Pn	23 49 51.4	-0.1
MOVZ	Moawhango	2.59	23	P	Pn	23 49 53.7	+1.7
MOVZ				S	Sb	23 50 27.1	-1.3
PKVZ	Pokaka	2.60	16	P	Pb	23 49 55.3	-1.3
PKVZ				S	Sb	23 50 27.8	-0.9
DREZ	Durham Road	2.61	356	P	Pb	23 49 56.1	-0.7
DREZ				S	Sb	23 50 27.5	-1.3
BHHZ	Black Hill Sta	2.62	29	P	Pn	23 49 54.0	+1.7
PKE	Pukeiti	2.62	352	P	Pb	23 49 57.0	+0.1
PKE				S	Sb	23 50 27.0	-2.2
WNVZ	Wahianoa	2.62	20	P	Pn	23 49 54.6	+2.2
TRVZ	Turoa	2.63	19	P	Pb	23 49 55.2	-2.1
DRZ	Dome Shelter	2.66	19	P	Pb	23 49 55.9	-1.9
WHVZ	Whangaehu Hut	2.66	20	P	Pn	23 49 55.5	+2.4
FWVZ	Far West T-bar	2.68	19	P	Pn	23 49 55.5	+2.2
VRZ	Vera Road	2.68	6	P	Pb	23 49 56.3	-1.6
TUVZ	Tukino	2.69	21	P	Pn	23 49 55.5	+2.1
MHEZ	Mangahewa	2.71	358	P	Pb	23 49 58.3	-0.2
KAHZ	Kahuranaki	2.73	44	P	Pn	23 49 53.3	-0.6
NGZ	Ngauruhoe	2.76	19	P	Pn	23 49 57.0	+2.6
SNVZ	South Ngauruho	2.76	20	P	Pn	23 49 56.7	+2.3
OTVZ	Oturere	2.79	20	P	Pn	23 49 57.1	+2.3
NNVZ	North Ngauruho	2.81	19	P	Pn	23 49 57.4	+2.3
KWHZ	Kaweka Forest	2.81	33	P	Pn	23 49 55.6	+0.5
WTVZ	West Tongariro	2.82	19	P	Pb	23 49 58.4	-2.0
TWVZ	Taurewa	2.83	16	P	Pn	23 49 57.7	+2.4
ETVZ	East Tongariro	2.83	21	P	Pn	23 49 57.6	+2.2
TMVZ	Te Maari	2.85	20	P	Pn	23 49 58.0	+2.4
KRVZ	Karewarewa	2.85	19	P	Pn	23 49 58.1	+2.5
NTVZ	North Tongarir	2.85	20	P	Pn	23 49 57.7	+2.0
WACZ	Wakanui South	2.87	221	P	Pn	23 49 55.5	-0.2
MCHZ	McNeill Hill	2.91	37	P	Pn	23 49 56.9	+0.5
CKHZ	Cape Kidnapper	2.93	44	P	Pn	23 49 55.8	-0.8
KATZ	Kakaramea	2.98	19	P	Pb	23 50 00.8	-2.4
RITZ	Rihia Road	3.02	22	P	Pb	23 50 00.9	-2.9
WVZ	Waitaha Valley	3.02	244	P	Pn	23 49 59.7	+1.9
BKZ	Black Stump Fm	3.06	32		Pn	23 49 58.3	-0.2
BKZ	Black Stump Fm	3.06	32	P	Pn	23 49 59.2	+0.8
BKZ	Black Stump Fm	3.06	32	P	Pn	23 49 58.6	+0.2
RATZ	Rangitukua	3.10	20	P	Pb	23 50 04.0	-1.2
RPZ	Rata Peaks	3.14	231	Pn	Pn	23 49 58.9	-0.6
	30nm,0.3s,baz=69,slow=3.2,SNR=2.2						
RPZ				Sn	Sn	23 50 36.8	-0.3
	70nm,0.3s,baz=21,slow=9.4,SNR=1.9						
RPZ				LR	LR	23 51 06.1	
	comp=Z,2µm,20.7s,baz=96,slow=37						
	125nm,0.3s						
RPZ	Rata Peaks	3.14	231	Pn	Pn	23 50 00.7	+1.2
RPZ	Rata Peaks	3.14	231	P	Pn	23 49 59.4	-0.1
HATZ	Hinemaiaia	3.17	24	P	Pb	23 50 05.9	-0.4
ARHZ	Aropaoanui	3.20	39	P	Pn	23 49 60.0	-0.3
ARCZ	Arundel	3.22	227	P	Pn	23 50 00.7	+0.1
WATZ	Wairara	3.24	18	P	Pn	23 50 03.5	+2.6
NMHZ	Naumai	3.25	35	P	Pn	23 50 01.3	+0.3
HIZ	Hauiti	3.29	6		Pn	23 50 02.9	+1.3
HIZ	Hauiti	3.29	6	P	Pn	23 50 04.9	+3.3
HIZ	Hauiti	3.29	6	P	Pn	23 50 04.8	+3.2
MRHZ	Matea Rd	3.32	28	P	Pn	23 50 02.2	+0.2
GCSZ	Gaunt Creek Bo	3.39	242	P	Pn	23 50 05.4	+2.4
WHHZ	Waihua	3.46	39	P	Pn	23 50 04.1	+0.3
MTHZ	Maungataniwha	3.47	33	P	Pn	23 50 04.8	+0.7
RAHZ	Arahi	3.52	36	P	Pn	23 50 04.4	-0.3
ALRZ	Allen Road	3.54	25	P	Pn	23 50 05.4	+0.4
TLZ	Tolley Road	3.56	14	P	Pn	23 50 08.0	+2.6
HRRZ	Handcock Road	3.68	23	P	Pn	23 50 08.2	+1.2
KNZ	Kokohu	3.71	43	P	Pn	23 50 06.0	-1.3
RTZ	Ruatahuna	3.73	32	P	Pn	23 50 07.6	0.0
MHGZ	Mahia Peninsul	3.74	46	P	Pn	23 50 06.8	-0.9
HSRZ	Hossack Road	3.75	22	P	Pn	23 50 10.0	+2.2
MUGZ	Murupara	3.77	29	P	Pn	23 50 09.9	+1.8
FOZ	Fox Glacier	3.82	241		Pn	23 50 09.7	+0.9
FOZ	Fox Glacier	3.82	241	P	Pn	23 50 10.6	+1.8
TARZ	Mount Tarawera	3.89	25	P	Pn	23 50 10.1	+0.1
MKRZ	Makatiti	3.97	24	P	Pb	23 50 16.3	-3.8
OMRZ	Omania	3.97	23	P	Pn	23 50 12.7	+1.7
RIGZ	Rimuhau	4.00	41	P	Pn	23 50 10.5	-0.9
RAGZ	Rawiri	4.01	36	P	Pn	23 50 10.7	-0.8
LBZ	Lake Benmore	4.05	229	Pn	Pn	23 50 13.2	+1.3
LBZ	Lake Benmore	4.05	229	P	Pn	23 50 13.6	+1.6
URZ	Urewera	4.09	31	P	Pn	23 50 12.8	+0.3
EDRZ	Edgecumbe	4.09	27	P	Pn	23 50 13.5	+0.9
KMRZ	Kaimai	4.11	17	P	Pb	23 50 19.9	-2.5
TOZ	Tahuroa Road	4.14	12	P	Pn	23 50 15.8	+2.6
MARZ	Manawahe	4.18	25	P	Pn	23 50 14.5	+0.7
ODZ	Otahua Downs	4.26	219	Pn	Pn	23 50 15.4	+0.5
OPRZ	Ohinepanea	4.27	23	P	Pn	23 50 15.8	+0.8
WHRZ	Whale Island	4.39	27	P	Pn	23 50 17.8	+1.1
CNGZ	Carnagh Statio	4.39	42	P	Pn	23 50 15.7	-1.0
TWGZ	Tauwhareparae	4.53	38	P	Pn	23 50 18.1	-0.5
RUGZ	Raukumara Rang	4.57	34	P	Pn	23 50 18.1	-1.1
MKAZ	Moumakai	4.72	7	P	Pn	23 50 23.3	+2.2
MYRZ	Mayor Island	4.72	18	P	Pb	23 50 29.1	-3.7
AWAZ	Awhitu Peninsu	4.72	2	P	Pn	23 50 24.3	+3.0
JCZ	Jackson Bay	4.73	239	P	Pn	23 50 24.6	+3.2
PUZ	Puketiti	4.74	40	P	Pn	23 50 20.3	-1.2
HAZ	Te Kaha	4.79	34	P	Pn	23 50 21.3	-0.8
ETAZ	East Tamaki Re	4.85	5	P	Pn	23 50 25.8	+2.9
WTAZ	Waiatarua	4.86	1	P	Pn	23 50 26.7	+3.6
EPAZ	Eden Park BICE	4.92	3	P	Pn	23 50 29.8	+5.9
HHSZ	Highcliff Hill	4.94	213	P	Pn	23 50 23.9	-0.3
HBAZ	Herne Bay Bore	4.94	3	P	Pn	23 50 28.0	+3.8
WKZ	Wanaka	4.98	231	Pn	Pn	23 50 26.0	+1.2
RVAZ	Riverhead Bore	5.02	1	P	Pn	23 50 30.7	+5.5
WIAZ	Waiheke Island	5.02	7	P	Pn	23 50 27.6	+2.3
MBAZ	Motutapu North	5.03	4	P	Pn	23 50 29.9	+4.5
KUZ	Kuaotunu	5.14	12	P	Pn	23 50 28.2	+1.2
KUZ	Kuaotunu	5.14	12	P	Pn	23 50 29.0	+2.0
MXZ	Matakaoa Point	5.18	37	Pn	Pn	23 50 27.0	-0.4
MXZ	Matakaoa Point	5.18	37	P	Pn	23 50 26.9	-0.6
ABAZ	Army Bay	5.19	4	P	Pn	23 50 30.9	+3.2
GRZ	Great Barrier	5.59	9	P	Pn	23 50 34.9	+1.7
MLZ	Mavora Lakes	5.81	230	Pn	Pn	23 50 36.0	-0.2
MLZ					Pg	23 51 01.9	+0.7
WCZ	Waipu Caves	5.84	359	P	Pn	23 50 39.9	+3.2
SYZ	Scrubby Hill	6.08	217	P	Pn	23 50 40.6	+0.8
WHZ	Wether Hill Ro	6.22	227		Pn	23 50 41.4	-0.4
DCZ	Deep Cove	6.43	233		Pn	23 50 44.3	-0.3
OUZ	Omahuta	6.59	354		Pn	23 50 48.8	+1.9
OUZ	Omahuta	6.59	354	P	Pn	23 50 50.0	+3.1
OUZ	Omahuta	6.59	354	P	Pn	23 50 50.0	+3.1
CTZ	Chatham Island	6.87	109	P	Pn	23 50 51.2	+0.5
CTZ	Chatham Island	6.87	109	P	Pn	23 50 51.1	+0.4
PYZ	Puysegur Point	7.09	229		Pn	23 50 54.9	+1.2
PYZ	Puysegur Point	7.09	229	P	Pn	23 50 56.6	+2.9
RAO	Raoul Island	13.97	29	LR	LR	23 57 47.7	
	comp=Z,2µm,20.3s,baz=178,slow=38						
ONTNC	Ouen Toro	20.55	339	P	P	23 53 47.0	-1.7
DZM	Mont Dzumac	20.78	339	*e*Pn	P	23 53 51.8	+0.5
	86nm,1.3s						
DZM				*e*S	S	23 57 41.2	-2.0
	280nm,23.0s						
DZM				*e*LR	LR	23 58 48.2	
	comp=Z,680nm,23.9s						
DZM	Mont Dzumac	20.78	339	P	Pn	23 53 53.4	-0.2
	21nm,1.1s,baz=148,slow=12,SNR=5.9						
DZM				LR	LR	00 01 47.1	
	comp=Z,697nm,18.5s,baz=210,slow=37						
DZM	Mont Dzumac	20.78	339	P	P	23 53 51.1	-0.2
MARNC	Mare, Loyalty	20.96	343	P	P	23 53 52.6	-0.5
KOUNC	Koumac, New Ca	22.85	335	P	P	23 54 13.1	-0.3
KOUNC				IAmb	IAmb	23 54 18.5	
	comp=Z,195nm,1.8s						
MSVF	Nonsavu	24.18	8	P	P	23 54 26.6	0.0
	comp=Z,22nm,1.0s,baz=168,slow=8.5,SNR=9.8						
MSVF				LR	LR	00 03 21.9	
	comp=Z,1µm,18.1s,baz=196,slow=36						
	comp=Z,22nm,1.0s						
MSVF	Nonsavu	24.18	8	P	P	23 54 26.8	+0.2
MSVF				IAmb	IAmb	23 54 53.1	
	comp=Z,33nm,1.0s						
MSVF	Nonsavu	24.18	8	P	P	23 54 28.5	+1.9
	comp=Z,38nm,1.1s						
MSVF	Nonsavu	24.18	8	P	P	23 54 26.8	+0.2
MSVF				pmax	pmax		
	comp=Z,33nm,1.0s						
STKA	Stephens Creek	27.93	280	P	P	23 55 01.4	+1.0
	comp=Z,2.7nm,0.6s,baz=129,slow=9.3,SNR=4.6						
STKA				LR	LR	00 05 18.4	
	comp=Z,738nm,19.0s,baz=124,slow=35						
	comp=Z,2.7nm,0.6s						
STKA	Stephens Creek	27.93	280⇓	*e*P	P	23 55 04.1	+3.7
RAR	Rarotonga	29.89	55	LR	LR	00 06 09.3	
	comp=Z,302nm,19.5s,baz=248,slow=34						
BBOO	Buckleboo	31.59	274	P	P	23 55 32.7	-0.1
BBOO				IAmb	IAmb	23 55 35.3	
	comp=Z,72nm,1.6s						
BBOO	Buckleboo	31.59	274	P	P	23 55 32.7	-0.1
CTA	Charters Tower	32.19	304	P	P	23 55 38.0	-0.2
	comp=Z,12nm,1.0s,baz=156,slow=8.5,SNR=8.7						
	comp=Z,12nm,1.0s						
CTAO	Charters Tower	32.19	304	P	P	23 55 38.3	+0.1
CTAO				IAmb	IAmb	23 55 39.5	
	comp=Z,17nm,1.0s						
CTAO	Charters Tower	32.19	304	P	P	23 55 38.3	+0.1
CTAO				pmax	pmax		
	comp=Z,17nm,1.0s						
MULG	Mulgathing	34.31	276	P	P	23 55 55.8	-0.8
OOD	Oodnadatta	34.44	281	P	P	23 55 57.9	+0.2
TBI	Tubuai	35.23	70	*e*S	S	00 01 38.8	+0.7
	comp=Z,1µm,44.5s						
TBI				*e*LR	LR	00 05 28.3	
	comp=Z,1µm,24.0s						
TBI				*e*LR	LR	00 05 28.7	
	comp=Z,7µm,23.5s						
TBI	Tubuai	35.23	70	*e*T	T	00 34 00.4	
	comp=Z,16nm,0.3s						
VNDA	Vanda	36.22	185	P	P	23 56 15.2	+2.8
	comp=Z,2.2nm,0.9s,baz=355,slow=7.9,SNR=11						
VNDA				LR	LR	00 08 55.8	
	comp=Z,340nm,19.3s,baz=19,slow=33						
	comp=Z,2.2nm,0.9s						
VNDA	Vanda	36.22	185	P	P	23 56 15.0	+2.6
VNDA	Vanda	36.22	185	P	P	23 56 15.0	+2.6
VNDA				pmax	pmax		
	comp=Z,11nm,1.8s						
SBA	Scott Base	36.31	183	P	P	23 56 15.8	+2.6
SBA				IAmb	IAmb	23 56 19.1	
	comp=Z,21nm,1.1s						
SBA	Scott Base	36.31	183	P	P	23 56 15.8	+2.6
SBA				pmax	pmax		
	comp=Z,21nm,1.2s						
AS01	Alice Springs	38.13	285	P	P	23 56 29.3	-0.1
AS31	Alice Springs	38.17	285	P	P	23 56 29.1	-0.6
ASAR	Alice Springs	38.17	285	P	P	23 56 28.4	-1.3
	comp=Z,6.7nm,0.5s,baz=128,slow=6.9,SNR=38						
ASAR				LR	LR	00 12 13.5	
	comp=Z,787nm,18.3s,baz=142,slow=36						
	comp=Z,6.7nm,0.5s						
ASAR	Alice Springs	38.17	285	P	P	23 56 29.5	-0.2
ASAR	Alice Springs	38.17	285	P	P	23 56 29.5	-0.2
FORT	Forrest	38.54	271	P	P	23 56 32.4	-0.3
FORT				IAmb	IAmb	23 56 35.2	
	comp=Z,27nm,0.8s						
FORT	Forrest	38.54	271	P	P	23 56 33.7	+1.0
COEN	Coen	38.76	306	P	P	23 56 34.3	-0.3
PAE	Paea	39.01	63	*e*T	T	00 39 05.7	
	comp=Z,1.4nm,0.3s						
PPT2	Papeete2	39.06	63	*e*S	S	00 02 38.2	+1.5
	comp=Z,132nm,23.0s						
PPT2				*e*LR	LR	00 07 15.1	
	comp=Z,370nm,25.8s						
PPT2				*e*LR	LR	00 07 15.3	
	comp=Z,494nm,24.5s						
PPT	Papeete	39.08	63	LR	LR	00 12 57.0	
	comp=Z,309nm,18.3s,baz=192,slow=37						
WR0	Warramunga Arr	40.09	290	P	P	23 56 44.6	-1.2
PMG	Port Moresby	40.21	316	P	P	23 56 47.2	+0.4
PMG				IAmb	IAmb	23 56 48.7	
	comp=Z,78nm,1.2s						
PMG	Port Moresby	40.21	316	P	P	23 56 47.3	+0.6
	comp=Z,648nmcomp=Z,49nm,1.4s						
PMG	Port Moresby	40.21	316*c*	*i*P	P	23 56 47.5	+0.8
PMG				pmax	pmax		
	comp=Z,76nm,1.3s						
WB1	Warramunga Ar.	40.23	290	P	P	23 56 45.9	-1.0
WB2	Warramunga Arr	40.23	290	P	P	23 56 45.6	-1.3
WB2				IAmb	IAmb	23 56 48.0	
	comp=Z,25nm,0.7s						
WRAB	Tennant Creek	40.24	290	P	P	23 56 46.2	-0.8
WRAB				IAmb	IAmb	23 56 47.9	
	comp=Z,22nm,0.7s						
WRAB	Tennant Creek	40.24	290	P	P	23 56 46.2	-0.8
WRAB	Tennant Creek	40.24	290	P	P	23 56 46.2	-0.8
WRAB				pmax	pmax		
	comp=Z,22nm,0.7s						
WRA	Warramunga Arr	40.24	290	P	P	23 56 45.3	-1.7
	comp=Z,14nm,0.7s,baz=128,slow=7.8,SNR=48						
	comp=Z,14nm,0.7s						
WRA	Warramunga Arr	40.24	290		P	23 56 46.1	-0.9
WB0	Warramunga Arr	40.32	291	P	P	23 56 46.3	-1.3
WB0					pP	23 56 46.9	-3.7
WRKA	Warakurna	41.45	279	P	P	23 56 55.8	-1.2
RABL	Rabaul	42.40	326	P	P	23 57 04.7	-0.1
NWAO	Narrogin (SRO)	45.58	262	LR	LR	00 15 25.3	
	comp=Z,333nm,18.0s,baz=294,slow=35						
KNRA	Kununurra	47.02	290	P	P	23 57 41.6	-0.1
KNRA	Kununurra	47.02	290	P	P	23 57 42.7	+1.1
BLDU	Ballidu	47.10	264	P	P	23 57 42.1	0.0
MEEK	Meekatharra	47.77	270	P	P	23 57 45.7	-1.7
QSPA	South Pole Qui	48.34	180	P	P	23 57 54.1	+2.6
	comp=Z,8.6nm,0.7s,baz=32,slow=1.9,SNR=22						
QSPA				LR	LR	00 16 56.1	
	comp=Z,116nm,18.1s,baz=43,slow=34						
	comp=Z,8.6nm,0.7s						
QSPA	South Pole Qui	48.34	180	P	P	23 57 54.2	+2.7
QSPA				IAmb	IAmb	23 57 56.2	
	comp=Z,22nm,1.1s						
MORW	Morawa	48.39	266	P	P	23 57 51.1	-1.1
MORW				IAmb	IAmb	23 57 52.4	
	comp=Z,19nm,0.8s						
PSA00	Pilbara Seismi	49.75	276	P	P	23 58 01.7	-1.0
PSA00	Pilbara Seismi	49.75	276	P	P	23 58 01.2	-1.5
PSA00				IAmb	IAmb	23 58 02.1	
	comp=Z,22nm,1.0s						
PSA00	Pilbara Seismi	49.75	276	P	P	23 58 01.9	-0.8
MBWA	Marble Bar	50.09	277	P	P	23 58 03.6	-1.6
MBWA				IAmb	IAmb	23 58 05.0	
	comp=Z,28nm,0.8s						
MBWA	Marble Bar	50.09	277	P	P	23 58 04.5	-0.7
SAUI	Saumlaki	50.79	299	P	P	23 58 10.9	+0.3
SAUI	Saumlaki	50.79	299	P	P	23 58 09.2	-1.4
	comp=Z,40nm,0.8s						
TAOE	Nuku Hiva Isla	51.67	64	*e*S	S	00 05 38.7	-0.2
	comp=Z,183nm,26.8s						
TAOE				*e*LR	LR	00 13 06.0	
	comp=Z,372nm,23.9s						
GIRL	Giralia	53.30	271	P	P	23 58 29.6	+0.3
SOEI	Soe	54.27	291	P	P	23 58 37.3	+0.8
SOEI	Soe	54.27	291	P	P	23 58 36.4	-0.1
	comp=Z,1µmcomp=Z,51nm,1.3s						
BATI	Baumata	54.37	290	P	P	23 58 35.9	-1.3
	comp=Z,18nm,0.5s,baz=165,slow=6.5,SNR=4.7						
	comp=Z,18nm,0.5s						
MSAI	Masohi	55.82	301	P	P	23 58 45.5	-2.1
	comp=Z,6.4nm,0.5s						
AAI	Ambon	56.04	300	P	P	23 58 47.1	-2.1
	comp=Z,48nm,0.5s						
KRAI	Karang Ratu	56.19	300	P	P	23 58 47.8	-2.4
	comp=Z,12nm,1.1s						
SIJI	Sorong	56.26	305	P	P	23 58 48.7	-2.1
	comp=Z,4.6nm,0.4s,baz=113,slow=4.6,SNR=12						
	comp=Z,4.6nm,0.4s						
SIJI	Sorong	56.26	305	P	P	23 58 48.3	-2.4
	comp=Z,14nm,1.2s						
SWI	Sorong	56.27	305	P	P	23 58 48.1	-2.7
	comp=Z,1µmcomp=Z,20nm,0.7s						
SWI	Sorong	56.27	305	P	P	23 58 49.7	-1.1
SWI				pmax	pmax		
	comp=Z,19nm,0.5s						
MMRI	Maumere	56.47	290	P	P	23 58 51.6	-0.7
MMRI				IAmb	IAmb	23 58 55.1	
	comp=Z,31nm,0.9s						
MMRI	Maumere	56.47	290	P	P	23 58 51.3	-1.0
	comp=Z,43nm,0.8s						
NLAI	Namlea	57.09	299	P	P	23 58 55.5	-1.1
BBSI	Bau Bau	58.48	293	P	P	23 59 06.2	-0.2
	comp=Z,16nm,0.8s						
SANI	Sanana	58.71	299	P	P	23 59 06.3	-1.7
	comp=Z,20nm,0.9s						
LBMI	Labuha	58.80	301	P	P	23 59 08.5	-0.1
	comp=Z,36nm,0.7s						
BELA	Belgrano 2	59.29	173	P	P	23 59 12.4	+1.2
BELA				IAmb	IAmb	23 59 14.7	
	comp=Z,10nm,1.0s						
BSSI	Bau Bau, Buton	59.45	291	P	P	23 59 12.0	-1.2
	comp=Z,28nm,0.8s						
MAW	Mawson	59.47	204	P	P	23 59 13.9	+1.3
	comp=Z,5.3nm,0.9s,baz=117,slow=8.6,SNR=5.0						
	comp=Z,5.3nm,0.9s						
MAW	Mawson	59.47	204	P	P	23 59 14.1	+1.6
MAW	Mawson	59.47	204	P	P	23 59 14.1	+1.6
MAW				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TNTI	Ternate	59.97	302	P	P	23 59 15.5	-1.2
TWSI	Taliwang, Sumb	60.20	286	P	P	23 59 16.8	-1.6
	comp=Z,19nm,1.0s						
BKSI	Bulukumba	60.29	291	P	P	23 59 17.2	-1.7
	comp=Z,503nmcomp=Z,17nm,0.9s						
KAPI	Kappang	60.77	291	P	P	23 59 21.9	-0.2
	comp=Z,8.8nm,0.7s,baz=183,slow=10,SNR=9.4						
	comp=Z,8.8nm,0.7s						
KAPI	Kappang	60.77	291	P	P	23 59 21.9	-0.2
KAPI	Kappang	60.77	291	P	P	23 59 20.1	-2.1
	comp=Z,10nm,0.9s						
KAPI	Kappang	60.77	291⇓	*i*P	P	23 59 22.0	-0.2
KAPI				pmax	pmax		
	comp=Z,18nm,1.2s						
SPSI	Sidrap Palu	61.50	292	P	P	23 59 25.0	-2.2
	comp=Z,18nm,1.5s						
LUWI	Luwuk	61.59	297	P	P	23 59 27.8	+0.1
LUWI	Luwuk	61.59	297	P	P	23 59 26.7	-1.0
	comp=Z,58nm,0.4s						
SRBI	Singaraja	61.85	285	P	P	23 59 27.3	-2.2
	comp=Z,20nm,0.6s						
PMSI	Majene	62.42	292	P	P	23 59 32.5	-0.9
APSI	Ampana	62.43	296	P	P	23 59 32.7	-0.7
	comp=Z,2µmcomp=Z,19nm,0.9s						
MPSI	Mapaga	64.53	296	P	P	23 59 44.5	-2.8
	comp=Z,28nm,1.0s						
BBKI	Banjar Baru	65.31	289	P	P	23 59 50.2	-2.2
	comp=Z,9µmcomp=Z,50nm,0.5s						
SMKI	Samarinda	65.80	293	P	P	23 59 56.0	+0.5
TROLL	Troll, Antarti	66.36	183	P	P	00 00 00.2	+1.7
SNAA	Sanae	66.83	181	P	P	00 00 02.3	+0.8
SNAA	Sanae	66.83	181	P	P	00 00 02.3	+0.8
SNAA				IAmb	IAmb	00 00 04.5	
	comp=Z,13nm,1.0s						
SNAA	Sanae	66.83	181*d*	*e*P	P	00 00 02.7	+1.3
SNAA				pmax	pmax		
	comp=Z,19nm,1.1s						
NVL	N'lazarevskaya	67.05	186	*e*P	P	00 00 04.6	+1.9
NVL				pmax	pmax		
	comp=Z,13nm,0.9s						
VNA3	Neumayer Olymp	67.23	179	P	P	00 00 05.6	+1.6
VNA2	Neumayer--Watz	67.58	179	P	P	00 00 08.1	+1.9
	baz=169,slow=6.0						
VNA1	Neumayer--Stat	67.85	179	P	P	00 00 09.9	+2.1
KKM	Kota Kinabalu	71.20	297	P	P	00 00 21.6	-7.8
PLCA	Paso Flores	78.98	135	P	P	00 01 11.1	-2.9
PLCA	Paso Flores	78.98	135	P	P	00 01 11.1	-2.9
PLCA				pmax	pmax		
	comp=Z,15nm,1.3s						
GO06	Curarrehue	79.32	134	P	P	00 01 17.0	+1.0
GO06				IAmb	IAmb	00 02 45.0	
	comp=Z,26nm,1.4s						
GSI	Gunungsitoli	81.08	280	P	P	00 01 25.0	-0.6
BO02	Sierra Bellavi	83.16	131	P	P	00 01 34.6	-1.8
BO02				IAmb	IAmb	00 02 18.1	
	comp=Z,30nm,1.6s						
MT09	Talagante	83.78	130	P	P	00 01 39.4	-0.3
MT09				IAmb	IAmb	00 04 00.4	
	comp=Z,33nm,1.5s						
JWT	Wachi	84.64	329	P	P	00 01 42.8	-0.7
MAJO	Matsushiro	84.71	331	P	P	00 01 43.8	0.0
MAJO				IAmb	IAmb	00 03 43.2	
	comp=Z,34nm,1.9s						
MAJO	Matsushiro	84.71	331	P	P	00 01 43.8	0.0
MAJO				pmax	pmax		
	comp=Z,34nm,1.9s						
JHS	Saijyo	85.29	327	P	P	00 01 46.8	0.0
TRQA	Tornquist	85.36	139	P	P	00 01 48.2	+0.8
TRQA				IAmb	IAmb	00 03 22.0	
	comp=Z,38nm,1.9s						
TRQA	Tornquist	85.36	139	P	P	00 01 48.2	+0.8
TRQA				pmax	pmax		
	comp=Z,38nm,1.9s						
CO02	Combarbal	85.65	129	P	P	00 01 50.4	+1.3
CO02				IAmb	IAmb	00 02 01.4	
	comp=Z,30nm,1.4s						
TJN	Taejon	88.91	324⇓	*e*P	P	00 02 02.3	-2.0
KSRS	Korea Array	89.57	325	P	P	00 02 08.2	+0.9
	comp=Z,6.1nm,0.9s,baz=141,slow=5.6,SNR=14						
	comp=Z,6.1nm,0.9s						
KSAR	Wonju Array Be	89.57	325		P	00 02 07.4	0.0
KSAR	Wonju Array Be	89.57	325	P	P	00 02 07.4	0.0
CMAR	Chiang Mai Arr	91.78	293	P	P	00 02 18.2	+0.1
	comp=Z,6.4nm,0.8s,baz=145,slow=3.8,SNR=7.8						
	comp=Z,6.4nm,0.8s						
CMAR	Chiang Mai Arr	91.78	293	*i* P	P	00 02 19.2	+1.1
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC	Hu-ho-hao-te	100.01	317	*e*P	Pdif	00 02 57.0	+1.8
HHC				pmax	pmax		
	comp=Z,24nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.9s						
WMQ	Urumqi	115.29	307	*e*P	PKiKP	00 07 52.0	+0.7
YKA	Yellowknife Ar	118.35	30	PKP	PKPdf	00 07 56.0	-0.5
	comp=Z,3.4nm,0.8s,baz=256,slow=1.4,SNR=5.8						
MKAR	Makanchi Array	120.10	307	PKP	PKPdf	00 07 59.3	-1.2
	comp=Z,1.4nm,0.9s,baz=86,slow=2.0,SNR=2.0						
ZALV	Zalesovo Beam	122.17	316	PKP	PKPdf	00 08 02.8	-1.3
	comp=Z,0.5nm,0.5s,baz=173,slow=3.6,SNR=1.9						

KMBO	**Kilima Mbogo**	122.37	234	PKP		**PKiKP**	00 08 07.4	+1.0	
	comp=Z,2.5nm,0.9s,baz=230,slow=1.6,SNR=6.0								
BRVK	**Borovoye**	129.77	310⇑	*e*PKiKP		**PKPdf**	00 08 18.7	0.0	
LIC	**Lamto**	144.58	181⇑	*e*PKiKP		**PKPdf**	00 08 47.5	+0.3	
	comp=Z,35nm,0.6s								
KIC	**Kosan Boka**	144.71	181⇑	*e*PKiKP		**PKPdf**	00 08 47.8	+0.3	
	comp=Z,13nm,0.6s								
KBZ	**Khabaz**	144.76	290	PKP		**PKPab**	00 08 45.0	-0.4	
	comp=Z,5.0nm,0.7s,baz=155,slow=3.4,SNR=9.2								
NEY	**Neytrino**	144.76	289⇂	*i*PKiKP		**PKiKP**	00 08 49.1	-1.5	
GOF	**Gofitskoye**	144.96	292⇑	*e*PKiKP		**PKPab**	00 08 45.5	-0.7	
KIV	**Kislovodsk**	144.96	290⇓	*e*PKiKP		**PKPdf**	00 08 48.9	+1.8	
TIC	**Toumodi**	145.00	181⇑	*e*PKiKP		**PKPdf**	00 08 47.7	-0.3	
	comp=Z,26nm,0.9s								
DBIC	**Dimbokro**	145.02	181	PKPbc		**PKPdf**	00 08 48.1	+0.1	
	comp=Z,7.8nm,0.6s,baz=168,slow=2.7,SNR=13								
SUMG	**Summit**	145.31	17	*i* P		**PKPbc**	00 08 46.0	-1.0	
VRH	**Novokhopyorsk**	146.63	303	*e*PKP2		**PKPdf**	00 08 49.6	+0.1	
VRH				pmax	pmax				
	comp=Z,30nm,1.1s								
KLMR	**Klimovskoe**	146.86	321	*e*PKPdf		**PKPbc**	00 08 51.5	0.0	
KLMR				AMP			00 08 59.6		
	comp=Z,51nm,1.9s								
KLMR	**Klimovskoe**	146.86	321	*e*PKP2		**PKPbc**	00 08 51.4	0.0	
KLMR				pmax	pmax				
	comp=Z,51nm,1.9s								
ARCES	**ARCESS Array B**	147.86	340	PKPbc		**PKPbc**	00 08 53.2	-0.9	
	comp=Z,4.3nm,0.5s,baz=56,slow=1.3,SNR=25								
VORR	**Voronezh**	148.21	304	*e*PKP2		**PKPbc**	00 08 55.0	-0.5	
VORR				pmax	pmax				
	comp=Z,10.0nm,0.4s								
VSR	**Storozhevoye**	148.24	303	*e*PKP2		**PKPbc**	00 08 55.8	+0.3	
VSR				pmax	pmax				
	comp=Z,20nm,1.8s								
LPSR	**Galich'ya Gora**	148.37	305	*e*PKP2		**PKiKP**	00 08 57.4	0.0	
LPSR				pmax	pmax				
	comp=Z,20nm,1.3s								
OBN	**Obninsk**	149.54	310⇑	*e*PKiKP		**PKPdf**	00 08 53.5	-0.6	
OBN				*e*			00 12 31.4		
OBN				pmax	pmax				
	comp=Z,30nm,1.5s								
BRTR	**Keskin Array B**	150.40	279	PKPbc		**PKPbc**	00 09 01.4	-0.2	
	comp=Z,7.6nm,0.9s,baz=139,slow=4.2,SNR=16								
FINES	**FINESS Array B**	152.64	327	PKPbc		**PKPbc**	00 09 04.7	-1.1	
	comp=Z,4.1nm,0.6s,baz=83,slow=2.5,SNR=7.7								
AKASG	**Malin Array Be**	154.54	302	PKPbc		**PKPbc**	00 09 09.2	-1.0	
	comp=Z,0.7nm,0.6s,baz=55,slow=2.2,SNR=3.0								
KOLS	**Kolonicke sedl**	159.25	300	*e*PKP2		**PKPab**	00 09 46.9	+1.6	
UZH	**Uzhgorod**	159.29	299⇑	*i*PKiKP		**PKPdf**	00 09 06.8	-1.1	
UZH				*e*			00 09 16.0		
VYHS	**Vyhne**	161.57	300	*e*PKP2		**PKPab**	00 09 56.9	+1.5	
RONA	**Rosalia, Austr**	163.40	298	*e*P		**PKPab**	00 09 59.6	-3.9	
	comp=Z,6.3nm,1.4s								
BRG	**Berggiesshubel**	163.79	311	*e*PKP2		**PKPab**	00 10 04.9	-0.1	
BRG				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BRG	**Berggiesshubel**	163.79	311	*e*PKP		**PKPab**	00 10 04.9	-0.1	
ARSA	**Arzberg**	164.01	297	*e*P		**PKPab**	00 10 01.1	-5.1	
	comp=Z,7.5nm,1.5s								
SOKA	**Soboth**	164.46	295	*e*P		**PKPab**	00 10 05.6	-2.7	
	comp=Z,11nm,1.5s								
MOA	**Molln**	164.69	300	*e*P		**PKPab**	00 10 06.5	-2.7	
	comp=Z,10nm,1.8s								
OBKA	**Obir**	164.82	295	*e*P		**PKPab**	00 10 04.9	-5.0	
	comp=Z,5.9nm,0.9s								
MYKA	**Terra Mystica**	165.41	296	*e*P		**PKPab**	00 10 09.8	-2.6	
	comp=Z,5.8nm,0.9s								
ABTA	**Abfaltersbach**	166.13	297	*e*P		PKPab	00 10 07.8	-7.9	
	comp=Z,7.0nm,1.2s								
WTTA	**Wattenberg**	166.57	300	*e*P		**PKPab**	00 10 14.8	-2.9	
	comp=Z,15nm,1.7s								
SQTA	**Sankt Quirin**	166.86	300	*e*P		**PKPab**	00 10 16.2	-2.7	
	comp=Z,8.3nm,1.4s								
MOTA	**Moosalm**	166.88	301	*e*P		**PKPab**	00 10 18.6	-0.5	
	comp=Z,6.3nm,1.2s								
FETA	**Feichten**	167.23	300	*e*P		**PKPab**	00 10 16.1	-4.5	
	comp=Z,9.1nm,1.4s								
ESDC	**Sonseca Array**	177.56	211	PKP		**PKPdf**	00 09 20.5	+0.1	
	comp=Z,3.2nm,1.2s,baz=344,slow=2.0,SNR=9.0								
ESDC				PKPab		PKPab	00 11 07.2	+0.9	
	comp=Z,1.7nm,1.1s,baz=122,slow=2.6,SNR=5.9								

WEL 13 23:53:01.9±0.3, 42°S±3°×17°4E±°, h5km, M3.5/15, ML3.8/15, MLv3.5/15, Error ellipse: s-maj=0.0km s-min=0.0km az=153.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	0.12	224	P	Pg	23 53 04.9	+0.5
BSWZ	**Blackbirch Sta**	0.34	261	P	Pg	23 53 07.9	-0.6
BSWZ				S	Sg	23 53 13.9	+0.9
TUWZ	**Tuamarina**	0.37	309	P	Pg	23 53 09.4	+0.4
TUWZ				S	Sb	23 53 16.3	-0.7
TCW	**Tory Channel**	0.46	355	P	Pg	23 53 10.5	-0.2
TCW				S	Sb	23 53 18.9	-0.5
BHW	**Baring Head**	0.48	58	P	Pg	23 53 11.2	0.0
BHW				S	Sg	23 53 18.7	+1.2
WEL	**Wellington**	0.51	41	P	Pg	23 53 12.0	+0.4
WEL				S	Sb	23 53 20.2	-0.7
PLWZ	**Palliser**	0.70	83	P	Pg	23 53 15.2	-0.2
PLWZ				S	Sb	23 53 27.0	+0.3
MSWZ	**Moikau Station**	0.74	71	P	Pg	23 53 16.1	+0.1
MSWZ				S	Sb	23 53 28.3	+0.7
PAWZ	**Paruwai Farm**	0.87	72	P	Pg	23 53 18.1	-0.6
PAWZ				S	Sb	23 53 32.1	+0.5
KIW	**Kapiti Island**	0.92	29	P	Pg	23 53 19.1	-0.4
MTW	**Mount Morrison**	1.02	61	P	Pg	23 53 21.0	-0.5
MTW				S	Sn	23 53 36.8	-0.8
OGWZ	**Otaki Gorge**	1.06	37	P	Pg	23 53 21.5	-0.7
TKNZ	**Takaka Hill**	1.21	301	P	Pg	23 53 24.4	-0.6
MRNZ	**Matariki Terra**	1.21	282	P	Pg	23 53 24.3	-0.7
GVZ	**Greta Valley S**	1.62	216	P	Pn	23 53 31.6	+0.5
LTZ	**Lake Taylor**	1.89	233	P	Pn	23 53 32.3	-2.6
AMCZ	**Amberley**	1.95	219	P	Pn	23 53 35.1	-0.6
OXZ	**Oxford**	2.37	225	P	Pn	23 53 41.2	-0.3
MQZ	**McQueen's Vall**	2.38	211	P	Pb	23 53 43.5	-1.8
RACZ	**Rakaia**	2.62	217	P	Pn	23 53 46.0	+1.2

INET 13 23:53:07.9±0.8, 12°.61N×87°.94W, h59km±10km, MW3.0
SNET 13 23:53:07.1±1.0, 12°.62N×88°.08W, h33km±7km, ML3.4
ISC 13 23:53:05.7±2.2, 12°.53N±0°.10×88°.06W±0°.07, h31km±14km, n12, σ0°.60/20, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	0.77	17	*e*P	**Pn**	**23 53 20.7**	**+0.1**
CNCH				*e*S	**Sn**	**23 53 31.0**	**-0.1**
LCND	**La Caada**	0.79	12	*e*P	**Pn**	**23 53 20.8**	**+0.1**
LCND				*e*P	**Pb**	**23 53 21.0**	**+0.1**
LCND				*e*S	**Sn**	**23 53 31.3**	**-0.1**
LCND				*e*S	**Sb**	**23 53 31.6**	**+0.3**
LCND				IAML		23 53 33.5	
	comp=Z,2μm,0.3s						
CRIN	**San Cristobal**	1.00	80	*e*P	**Pn**	**23 53 24.4**	**+0.7**
CRIN				*e*S	**Sn**	**23 53 38.0**	**+1.2**
PQSS	**Presa 15 de Se**	1.19	336	*e*P	**Pn**	**23 53 26.6**	**+0.5**
PQSS				*e*S	**Sb**	**23 53 41.8**	**-0.9**
CAHU	**Cacacuatique**	1.24	353	*e*P	**Pn**	**23 53 27.4**	**+0.4**
SCLA	**Alcaldia de Sa**	1.33	331	*e*P	**Pn**	**23 53 28.8**	**+0.6**
COEG	**Centro de Oper**	1.34	324	*e*S	**Sn**	**23 53 44.9**	**-0.3**
COEG				IAML		23 53 47.7	
	comp=Z,548nm,0.3s						
MOMN	**Momotombo**	1.49	95	*e*P	**Pn**	**23 53 30.6**	**+0.3**
MOMN				*e*S	**Sn**	**23 53 48.0**	**-0.8**
P5NO	**Presa 5 de nov**	1.59	335	*e*P	**Pn**	**23 53 31.9**	**+0.1**
TGUH	**Tegucigalpa,Un**	1.70	27	*e*P	**Pn**	**23 53 33.4**	**+0.1**
MATN	**Matagalpa**	2.12	79	*e*P	**Pn**	**23 53 39.0**	**-0.1**
MATN				*e*S	**Sn**	**23 54 03.4**	**-1.1**
BOAB	**BOACO BROADBAN**	2.34	92	*e*P	**Pn**	**23 53 42.0**	**0.0**

WEL 13 23:54:44.8±0.4, 43°S±2°×17°3E±°, h8km±3km, M4.0/8, ML4.1/8, MLv4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=126.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	0.28	70	P	Pg	23 54 51.0	+0.7
KHZ				S	Sg	23 54 54.8	+0.7
GVZ	**Greta Valley S**	0.47	194	P	Pb	23 54 54.7	-0.6
GVZ				S	Sb	23 55 02.3	-0.2
LTZ	**Lake Taylor**	0.73	248	P	Pg	23 54 59.1	+0.3
LTZ				S	Sb	23 55 09.5	-0.4
AMCZ	**Amberley**	0.77	210	P	Pb	23 55 00.6	+0.1
AMCZ				S	Sb	23 55 11.9	+0.8
THZ	**Tophouse**	0.78	344	P	Pb	23 55 00.2	-0.4
THZ				S	Sb	23 55 10.6	-0.7
OXZ	**Oxford**	1.17	226	P	Pb	23 55 06.1	-1.1
OXZ				S	Sg	23 55 22.4	-0.1
MQZ	**McQueen's Vall**	1.26	198	P	Pn	23 55 06.8	-1.8
MQZ				S	Sb	23 55 23.2	-1.8
DSZ	**Denniston Nort**	1.28	306	P	Pg	23 55 09.9	+0.5
RACZ	**Rakaia**	1.44	212	P	Pn	23 55 09.7	-1.3
WACZ	**Wakanui South**	1.74	214	P	Pn	23 55 13.9	-1.3
WVZ	**Waitaha Valley**	1.89	252	P	Pn	23 55 17.8	+0.5
RPZ	**Rata Peaks**	1.97	232	P	Pn	23 55 17.7	-0.7
WAZ	**Wanganui**	3.07	27	P	Pn	23 55 35.7	+2.1
MTVZ	**Mangateitei**	3.57	30	P	Pn	23 55 41.5	+1.0
VRZ	**Vera Road**	3.59	20	P	Pn	23 55 41.9	+1.3
PKVZ	**Pokaka**	3.61	28	P	Pn	23 55 43.8	+2.7
TRVZ	**Turoa**	3.67	30	P	Pn	23 55 41.7	-0.3
DRZ	**Dome Shelter**	3.70	30	P	Pn	23 55 45.9	+3.4
FWVZ	**Far West T-bar**	3.71	30	P	Pn	23 55 41.4	-1.2
TWVZ	**Taurewa**	3.84	27	P	Pn	23 55 43.3	-0.9
WTVZ	**West Tongariro**	3.85	29	P	Pn	23 55 45.6	+1.2
KRVZ	**Karewarewa**	3.89	29	P	Pn	23 55 44.5	-0.4
NTVZ	**North Tongarir**	3.90	30	P	Pn	23 55 43.9	-1.1
KATZ	**Kakaramea**	4.01	29	P	Pn	23 55 51.1	+4.5
RITZ	**Rihia Road**	4.07	31	P	Pn	23 55 49.2	+1.8
RATZ	**Rangitukua**	4.14	29	P	Pn	23 55 52.6	+4.3
BKZ	**Black Stump Fm**	4.18	38	P	Pn	23 55 50.2	+1.3
HIZ	**Hauiti**	4.19	18	P	Pn	23 55 50.5	+1.6
HATZ	**Hinemaiaia**	4.24	32	P	Pn	23 55 53.6	+4.0
WATZ	**Wairara**	4.26	28	P	Pn	23 55 54.0	+4.0
NMHZ	**Naumai**	4.38	40	P	Pn	23 55 54.9	+3.3
TLZ	**Tolley Road**	4.55	24	P	Pn	23 55 56.0	+2.2
ALRZ	**Allen Road**	4.62	32	P	Pn	23 55 58.6	+3.8
MKAZ	**Moumakai**	5.61	16	P	Pn	23 56 08.7	+0.2
TWGZ	**Tauwhareparae**	5.67	42	P	Pn	23 56 08.1	-1.3
WIAZ	**Waiheke Island**	5.91	15	P	Pn	23 56 13.7	+1.2
KUZ	**Kuaotunu**	6.08	20	P	Pn	23 56 17.0	+2.1

IDC 13 23:54:55.2±0.9, 41°.65S×174°.07E, h0km, mb4.5/6, mbtmp4.5/7, ML3.9/1, Error ellipse: s-maj=28.7km s-min=22.3km az=105.0
WEL 13 23:54:58.3±0.3, 42°.5S±2°×17°4E±°, h11km±2km, M4.8/76, ML4.9/10, MLv4.8/76, Error ellipse: s-maj=0.0km s-min=0.0km az=138.4
NEIC 13 23:54:58.4±2.1, 41°.72S±0°.03×174°.33E±0°.03, h15km±3km, mb4.6/13, Mwr4.3/39, Error ellipse: s-maj=5.2km s-min=1.5km az=149.0
NEIC 13 23:54:58.5, 41°.73S×174°.33E, h19km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.24; Mθθ-0.01; Mϕϕ-3.23; Mrθ0.83; Mrϕ1.08; Mθϕ1.56; Fault plane solution: M₀3.84000×10¹⁵ NP1:φ₁1.68000°, δ58.06000°, λ111.59000°. NP2:φ₂144.89000°, δ37.90000°, λ59.45000°. Principal axes: T 3.8871, Plg69.0000°, Azm318.0000°; N -0.0894, Plg18.0000°, Azm170.0000°; P -3.7977, Plg11.0000°, Azm76.0000°;
ISC 13 23:54:57.6±0.7, 41°.74S±0°.03×174°.38E±0°.02, h17km±2km, n129, σ1°.21/151, mb4.5/11, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	0.13	266	Pg	**Pg**	**23 55 01.6**	**+0.1**
CMWZ				Sg	**Sb**	**23 55 05.1**	**+0.9**
CMWZ	**Cape Campbell**	0.13	266	P	**Pg**	**23 55 01.6**	**+0.1**
CMWZ				S	**Sb**	**23 55 05.1**	**+0.9**
BSWZ	**Blackbirch Sta**	0.38	274	Pg	**Pg**	**23 55 05.5**	**-0.1**
BSWZ	**Blackbirch Sta**	0.38	274	P	**Pg**	**23 55 05.6**	**+0.1**
BSWZ				S	**Sb**	**23 55 11.5**	**-0.1**
TUWZ	**Tuamarina**	0.45	313	**Pg**	**Pg**	**23 55 07.0**	**+0.2**
TUWZ				Sg	**Sb**	**23 55 13.1**	**-0.5**
TUWZ	**Tuamarina**	0.45	313	P	**Pg**	**23 55 07.0**	**+0.2**
TUWZ				S	**Sb**	**23 55 13.7**	**+0.1**
SNZO	**South Karori**	0.49	29		**Pb**	**23 55 08.0**	**+0.2**
SNZO					**Sb**	**23 55 15.8**	**+1.1**
BHW	**Baring Head**	0.49	48	P	**Pb**	**23 55 08.5**	**+0.7**
TCW	**Tory Channel**	0.54	351	P	**Pb**	**23 55 08.6**	**0.0**
TCW				S	**Sb**	**23 55 16.1**	**+0.2**
WEL	**Wellington**	0.54	32	P	**Pb**	**23 55 09.2**	**+0.6**
WEL				S	**Sb**	**23 55 17.7**	**+1.6**
PLWZ	**Palliser**	0.67	76		**Pn**	**23 55 12.4**	**-0.1**
PLWZ	**Palliser**	0.67	76	P	**Pn**	**23 55 12.5**	**0.0**
PLWZ				S	**Sn**	**23 55 23.6**	**+1.1**
MSWZ	**Moikau Station**	0.72	64		**Pn**	**23 55 13.2**	**+0.1**
MSWZ	**Moikau Station**	0.72	64	P	**Pn**	**23 55 13.3**	**+0.2**
CAW	**Cannon Point**	0.81	39	P	**Pg**	**23 55 13.9**	**+0.4**
CAW				S	**Sn**	**23 55 26.4**	**+0.5**
PAWZ	**Paruwai Farm**	0.86	66	P	**Pg**	**23 55 15.1**	**+0.7**
NNZ	**Nelson**	0.92	304		**Pb**	**23 55 15.1**	**+0.1**
NNZ	**Nelson**	0.92	304		**Pb**	**23 55 15.1**	**+0.1**
NNZ				S	**Sg**	**23 55 27.5**	**-0.1**
KHZ	**Kahutara**	0.92	223	Pg	**Pb**	**23 55 15.8**	**+0.6**
KHZ					**Sn**	**23 55 29.2**	**+0.6**
KHZ	**Kahutara**	0.92	223	P	**Pb**	**23 55 15.7**	**+0.5**
KHZ				S	**Sn**	**23 55 29.6**	**+1.0**
KIW	**Kapiti Island**	0.96	24	P	**Pg**	**23 55 16.4**	**0.0**
KIW				S	**Sn**	**23 55 29.8**	**+0.2**
DUWZ	**D'Urville Isla**	1.00	339	P	**Pb**	**23 55 16.7**	**+0.2**
DUWZ				S	**Sg**	**23 55 29.9**	**-0.3**
MTW	**Mount Morrison**	1.02	56	P	**Pb**	**23 55 17.3**	**+0.5**
MTW				S	**Sn**	**23 55 31.6**	**+0.5**
TRWZ	**Traveller**	1.04	71	P	**Pb**	**23 55 17.2**	**+0.1**
OGWZ	**Otaki Gorge**	1.10	33	P	**Pn**	**23 55 18.7**	**+0.5**
OGWZ				S	**Sg**	**23 55 34.7**	**+1.5**
THZ	**Tophouse**	1.11	268		**Pg**	**23 55 19.1**	**+0.1**
THZ				Sg	**Sg**	**23 55 35.4**	**+1.9**
THZ	**Tophouse**	1.11	268	P	**Pb**	**23 55 18.2**	**-0.2**
THZ				S	**Sg**	**23 55 34.6**	**+1.1**
HOWZ	**Holdsworth Sta**	1.20	46	P	**Pn**	**23 55 19.8**	**+0.3**
TMWZ	**Te Maipa**	1.30	61	P	**Pn**	**23 55 20.8**	**-0.2**
MRZ	**Mangatainoka R**	1.41	40		**Pn**	**23 55 23.1**	**+0.7**
MRZ	**Mangatainoka R**	1.41	40	P	**Pn**	**23 55 22.9**	**+0.4**
MRZ				S	**Sb**	**23 55 41.2**	**+0.2**
TIWZ	**Tintock**	1.49	50	P	**Pn**	**23 55 23.7**	**+0.1**
TIWZ				S	**Sb**	**23 55 44.1**	**+0.7**
CPWZ	**Castlepoint**	1.60	59	P	**Pn**	**23 55 25.2**	**+0.1**
QRZ	**Quartz Range**	1.67	303		**Pb**	**23 55 27.9**	**0.0**
PRWZ	**Pori Road**	1.69	46	P	**Pn**	**23 55 26.4**	**+0.1**
OHWZ	**Ohakea**	1.69	25	P	**Pb**	**23 55 28.5**	**+0.3**
POWZ	**Post Office Ro**	1.71	38	P	**Pn**	**23 55 27.0**	**+0.4**
BFZ	**Birch Farm**	1.76	54		**Pn**	**23 55 28.0**	**+0.7**
BFZ	**Birch Farm**	1.76	54	P	**Pn**	**23 55 26.7**	**-0.6**
LTZ	**Lake Taylor**	1.88	236	Pn	**Pn**	**23 55 30.0**	**+1.0**
LTZ	**Lake Taylor**	1.88	236	P	**Pn**	**23 55 29.2**	**+0.2**
DSZ	**Denniston Nort**	1.93	269	Pn	**Pn**	**23 55 28.1**	**-1.5**
DVHZ	**Dannevirke**	1.97	44	P	**Pn**	**23 55 29.8**	**-0.5**
ANWZ	**Angora Road**	2.03	52	P	**Pn**	**23 55 30.5**	**-0.6**
TSZ	**Takapari Road**	2.06	36	P	**Pn**	**23 55 31.8**	**+0.3**
PRHZ	**Porangahau**	2.25	50	P	**Pn**	**23 55 33.2**	**-0.9**
LREZ	**Lake Rotokare**	2.28	0	P	**Pb**	**23 55 38.9**	**+0.6**
PNHZ	**Pukenui**	2.29	38	P	**Pn**	**23 55 34.5**	**-0.1**
WPHZ	**Waipukurau**	2.29	44	P	**Pn**	**23 55 34.5**	**0.0**
MQZ	**McQueen's Vall**	2.34	212		**Pn**	**23 55 37.1**	**+1.8**
NMEZ	**Namu Road**	2.36	350	P	**Pb**	**23 55 39.2**	**-0.3**
KHEZ	**Kahui Hut**	2.46	353	P	**Pb**	**23 55 40.8**	**-0.6**
NEZ	**North Egmont**	2.48	355	P	**Pb**	**23 55 41.2**	**-0.5**
NBEZ	**Newall Road No**	2.50	351	P	**Pb**	**23 55 40.5**	**-1.5**
PXZ	**Pawanui**	2.54	49	P	**Pn**	**23 55 36.9**	**-1.1**
DREZ	**Durham Road**	2.55	357	P	**Pn**	**23 55 41.7**	**-1.2**
MOVZ	**Moawhango**	2.55	25	P	**Pn**	**23 55 39.6**	**+1.3**
PKE	**Pukeiti**	2.56	353	P	**Pb**	**23 55 41.4**	**-1.7**
WNVZ	**Wahianoa**	2.58	21	P	**Pn**	**23 55 40.4**	**+1.6**
BHHZ	**Black Hill Sta**	2.59	30	P	**Pn**	**23 55 40.2**	**+1.5**
WHVZ	**Whangaehu Hut**	2.62	21	P	**Pn**	**23 55 41.2**	**+1.8**
TUVZ	**Tukino**	2.65	22	P	**Pn**	**23 55 41.2**	**+1.5**
MHEZ	**Mangahewa**	2.66	359	P	**Pb**	**23 55 44.3**	**-0.5**
KAHZ	**Kahuranaki**	2.71	45	P	**Pn**	**23 55 39.5**	**-0.9**
NGZ	**Ngauruhoe**	2.72	20	P	**Pn**	**23 55 42.5**	**+1.8**
SNVZ	**South Ngauruho**	2.73	21	P	**Pn**	**23 55 42.4**	**+1.6**
OTVZ	**Oturere**	2.75	21	P	**Pn**	**23 55 42.8**	**+1.7**
NNVZ	**North Ngauruho**	2.77	20	P	**Pn**	**23 55 43.2**	**+1.9**
ETVZ	**East Tongariro**	2.79	22	P	**Pn**	**23 55 43.6**	**+2.0**
TMVZ	**Te Maari**	2.81	21	P	**Pn**	**23 55 43.2**	**+1.4**
BKZ	**Black Stump Fm**	3.03	33	Pg	**Pb**	**23 55 52.5**	**+1.4**
RPZ	**Rata Peaks**	3.15	230	Pn	**Pn**	**23 55 42.6**	**-3.8**
	14nm,0.3s,baz=340,slow=8.2,SNR=6.6						
RPZ				Sn	**Sn**	**23 56 21.7**	**-1.9**
	1.9nm,0.3s,baz=2.8,slow=12,SNR=2.3						
RPZ	**Rata Peaks**	3.15	230		**Pn**	**23 55 48.6**	**+2.2**
HIZ	**Hauiti**	3.24	7	Pn	**Pn**	**23 55 49.8**	**+2.1**
MRHZ	**Matea Rd**	3.29	29	P	**Pn**	**23 55 48.5**	**0.0**
KNZ	**Kokohu**	3.70	44	P	**Pn**	**23 55 52.8**	**-1.2**
MHGZ	**Mahia Peninsul**	3.73	47	P	**Pn**	**23 55 53.5**	**-0.9**
FOZ	**Fox Glacier**	3.82	240		**Pn**	**23 55 58.9**	**+3.4**
TARZ	**Mount Tarawera**	3.86	26	P	**Pn**	**23 55 55.9**	**-0.4**
RIGZ	**Rimuhau**	3.98	42	P	**Pn**	**23 55 58.1**	**+0.2**
LBZ	**Lake Benmore**	4.06	228		**Pn**	**23 55 59.7**	**+0.8**
TOZ	**Tahuroa Road**	4.09	13	P	**Pn**	**23 56 00.5**	**+1.1**
MWZ	**Matawai**	4.17	36	P	**Pn**	**23 55 58.6**	**-1.9**
OPRZ	**Ohinepanea**	4.23	24	P	**Pn**	**23 56 00.3**	**-1.0**
ODZ	**Otahua Downs**	4.28	218		**Pn**	**23 56 01.9**	**-0.1**
RUGZ	**Raukumara Rang**	4.54	35	P	**Pn**	**23 56 04.4**	**-1.3**
AWAZ	**Awhitu Peninsu**	4.67	3	P	**Pn**	**23 56 09.8**	**+2.4**
HAZ	**Te Kaha**	4.76	34	P	**Pn**	**23 56 08.1**	**-0.4**
PKGZ	**Pakihiroa**	4.78	38	P	**Pn**	**23 56 08.2**	**-0.8**
ETAZ	**East Tamaki Re**	4.80	5	P	**Pn**	**23 56 11.6**	**+2.5**
WTAZ	**Waiatarua**	4.80	2	P	**Pn**	**23 56 13.2**	**+4.0**
MBAZ	**Motutapu North**	4.98	5	P	**Pn**	**23 56 14.6**	**+3.1**
WKZ	**Wanaka**	4.99	230		**Pn**	**23 56 12.4**	**+0.7**
MXZ	**Matakaoa Point**	5.15	37		**Pn**	**23 56 13.8**	**-0.1**
MXZ	**Matakaoa Point**	5.15	37	P	**Pn**	**23 56 12.2**	**-1.7**
MLZ	**Mavora Lakes**	5.82	229		**Pn**	**23 56 24.0**	**+0.8**
OUZ	**Omahuta**	6.54	354	Pn	**Pn**	**23 56 35.7**	**+2.7**
PYZ	**Puysegur Point**	7.10	229	Pn	**Pn**	**23 56 42.5**	**+1.8**
MSVF	**Nonsavu**	24.13	9	P	**P**	**00 00 12.4**	**-0.3**
	9.6nm,0.9s,baz=167,slow=11,SNR=5.4						
	9.6nm,0.9s						
MSVF	**Nonsavu**	24.13	9	P	**P**	**00 00 12.6**	**-0.1**
MSVF				IAmb	IAmb	00 00 14.7	
	comp=Z,14nm,1.0s						
BBOO	**Buckleboo**	31.56	274	P	**P**	**00 01 18.5**	**-0.5**
AS31	**Alice Springs**	38.12	285	P	**P**	**00 02 15.6**	**-0.2**
ASAR	**Alice Springs**	38.12	285	P	**P**	**00 02 13.6**	**-2.2**
	comp=Z,2.9nm,0.6s,baz=118,slow=6.5,SNR=28						
	comp=Z,2.9nm,0.6s						
ASAR	**Alice Springs**	38.12	285	P	**P**	**00 02 14.1**	**-1.8**
COEN	**Coen**	38.70	306		**P**	**00 02 20.5**	**-0.2**
COEN				IAmb	IAmb	00 02 38.0	
	comp=Z,9.1nm,1.4s						
WR0	**Warramunga Arr**	40.04	290	P	**P**	**00 02 30.8**	**-1.1**
WB2	**Warramunga Arr**	40.19	290	P	**P**	**00 02 32.0**	**-1.0**
WB2				IAmb	IAmb	00 02 33.6	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	40.19	290	P	**P**	**00 02 31.8**	**-1.3**

APSI	Ampana	14.64	176	P	Pn	00 00 04.8	-0.1		
	2µm52nm,0.7s								
UBPT	Khong Chiam	14.77	278	Pn	Pn	00 00 07.1	+0.6		
UBPT	Khong Chiam	14.77	278	P	P	00 00 15.2	+6.0		
JOW	Kunigami	14.81	28	P	P	00 00 08.8	-0.6		
	34nm,0.9s,baz=239,slow=7.4,SNR=5.7								
JOW	Kunigami	14.81	28	Pn	Pn	00 00 05.8	-1.1		
LUWI	Luwuk	14.89	172	Pn	Pn	00 00 09.2	+1.2		
LUWI					PcP	00 05 09.4	-0.1		
BKB	Balikpapan	15.41	194	P	Pn	00 00 15.1	+0.6		
BKB				IAmb	IAmb	00 00 20.6			
	comp=Z,41nm,0.7s								
KSM	Kuching	15.95	221	P	P	00 00 24.4	+2.1		
KSM				IAmb	IAmb	00 00 28.1			
	comp=Z,27nm,0.7s								
KSM	Kuching	15.95	221	P	P	00 00 27.0	+4.7		
	comp=Z,44nm,0.8s								
SANI	Sanana	16.61	161	P	Pn	00 00 26.4	-2.8		
	comp=Z,27nm,1.1s								
PMSI	Majene	17.27	186	P	Pn	00 00 39.7	+2.4		
	comp=Z,3µmcomp=Z,55nm,0.9s								
WHN	Wuhan	17.66	342	⇑P	Pn	00 00 42.8	+1.0		
WHN				pmax	pmax				
	comp=Z,94nm,1.0s								
SPSI	Sidrap Palu	17.66	183	P	Pn	00 00 43.9	+1.9		
	comp=Z,20nm,0.9s								
BNSI	Bone	18.08	182	P	Pn	00 00 47.8	+0.8		
	comp=Z,13nm,0.7s								
BBKI	Banjar Baru	18.09	199	P	Pn	00 00 49.5	+2.4		
	comp=Z,66nm,0.8s								
NLAI	Namlea	18.09	159	P	P	00 00 44.0	-1.8		
NJ2	Nanjing	18.25	355	eP	Pn	00 00 49.8	+0.9		
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								
KRAI	Karang Ratu	18.66	155	P	P	00 00 48.6	-3.4		
	comp=Z,45nm,0.9s								
KAPI	Kappang	18.70	183	P	P	00 00 53.3	+0.7		
	comp=Z,19nm,0.6s,baz=331,slow=5.5,SNR=14								
KAPI	Kappang	18.70	183	P	Pn	00 00 53.6	-0.8		
KAPI				IAmb	IAmb	00 00 56.3			
	comp=Z,19nm,0.6s								
KAPI	Kappang	18.70	183	P	Pn	00 00 54.9	+0.5		
	comp=Z,23nm,0.8s								
BKSI	Bulukumba	19.00	182	P	P	00 00 56.0	+0.3		
	comp=Z,26nm,0.7s								
ENH	Enshi	19.37	330	IAmb	IAmb	00 01 09.4			
	comp=Z,55nm,1.0s								
JSU	Suzuyama	19.80	25	P	P	00 01 00.4	-3.9		
BSSI	Bau Bau, Buton	19.81	180	P	P	00 01 05.1	+0.6		
	comp=Z,562nmcomp=Z,41nm,1.2s								
PHRA	Phrae	20.16	286	P	P	00 01 09.0	+0.7		
FAKI	Fak Fak	20.20	144	P	P	00 01 09.3	+0.6		
KMI	Kunming	20.28	306	⇑P	Pn	00 01 12.3	-0.7		
KMI				pmax	pmax				
	comp=Z,26nm,0.8s								
CM31	Chiang Mai Arr	21.36	285	P	P	00 01 22.6	+1.4		
CM31				IAmb	IAmb	00 01 25.1			
	comp=Z,31nm,0.9s								
CMAR	Chiang Mai Arr	21.36	285	P	P	00 01 22.7	+1.5		
	comp=Z,12nm,0.8s,baz=97,slow=7.0,SNR=51								
CMAR				PcP	PcP	00 05 22.0	+1.7		
	comp=Z,0.5nm,0.3s,baz=346,slow=1.5,SNR=1.3								
CMAR				ScP	ScP	00 08 47.0	+1.2		
	comp=Z,0.8nm,0.3s,baz=53,slow=0.8,SNR=4.6								
	comp=Z,12nm,0.8s								
CMAR	Chiang Mai Arr	21.36	285	P	P	00 01 22.4	+1.2		
CHTO	Chiang Mai	21.42	286	P	P	00 01 22.4	+0.5		
CHTO				IAmb	IAmb	00 01 25.1			
	comp=Z,16nm,0.8s								
KULM	Kulim	21.44	249	P	P	00 01 24.3	+2.2		
KULM				pP	pP	00 01 42.3	-1.9		
IPM	Ipoh	21.45	246	P	P	00 01 22.1	-0.1		
IPM					pP	00 01 45.2	+0.7		
IPM	Ipoh	21.45	246	P	P	00 01 22.5	+0.3		
	comp=Z,19nm,1.1s								
KMMI	Kalianget	21.74	198	P	P	00 01 26.7	+1.4		
	comp=Z,54nm,1.0s								
PZH	PanZhiHua	21.76	308	⇑P	P	00 01 26.4	+0.9		
PZH				pP	pP	00 01 48.3	+0.2		
PZH				sP	sP	00 02 05.3	+1.6		
PZH				S	S	00 05 15.8	-2.6		
PZH				sS	sS	00 05 57.0	-1.3		
PZH				pmax	pmax				
	comp=Z,40nm,1.0s								
LYN	LuoYang	21.95	342	⇑/P	P	00 01 27.9	+0.6		
LYN				pmax	pmax				
	comp=Z,50nm,1.1s								
MMRI	Maumere	22.34	176	P	P	00 01 32.0	+0.6		
MMRI				pP	pP	00 01 59.0	+4.1		
TIA	Tai'an	22.55	353	P	P	00 01 33.8	+0.5		
TIA				pmax	pmax				
	comp=Z,31nm,0.9s								
PLAI	Plampang	22.65	187	P	P	00 01 35.3	+0.8		
	comp=Z,109nm,1.0s								
XAN	Xi'an	22.79	334	⇑P	P	00 01 35.3	-0.5		
XAN				pP	pP	00 02 00.9	+1.0		
XAN				sP	sP	00 02 12.8	-2.9		
XAN				S	S	00 05 33.8	-1.5		
XAN				pmax	pmax				
	comp=Z,58nm,0.8s								
XAN				LR	LR				
	comp=Z,150nm,14.4s								
XAN				LR	LR				
	comp=Z,310nm,15.8s								
XAN				LR	LR				
	comp=Z,370nm,14.4s								
RTBI	Rangdo, Negare	22.82	195	P	P	00 01 38.6	+2.5		
	comp=Z,66nm,0.7s								
JAGI	Jajag, Banyuwa	23.04	197	P	P	00 01 39.2	+1.0		
JAGI				IAmb	IAmb	00 01 41.5			
	comp=Z,30nm,0.8s								
JAGI	Jajag, Banyuwa	23.04	197	P	P	00 01 38.8	+0.6		
	comp=Z,42nm,0.9s								
CD2	Chengdu	23.06	320	P	P	00 01 39.1	+0.8		
CD2				pmax	pmax				
	comp=Z,150nm,0.9s								
JMN	Monobe	23.20	29	P	P	00 01 39.3	-0.3		
JMN				IAmb	IAmb	00 01 42.4			
	comp=Z,41nm,1.0s								
GUMO	Guam	23.53	88	P	P	00 01 42.7	0.0		
JHS	Saijyo	23.93	26	P	P	00 01 46.2	0.0		
JHS				IAmb	IAmb	00 01 47.7			
	comp=Z,24nm,1.1s								
BATI	Baumata	24.03	173	P	P	00 01 46.5	-0.7		
	comp=Z,108nm,0.5s,baz=284,slow=4.2,SNR=11								
BATI	Baumata	24.03	173	P	P	00 01 46.4	-0.7		
	comp=Z,2µmcomp=Z,130nm,0.6s								
PSI	Prapat	24.08	245	P	P	00 01 54.0	+6.1		
HNS	HongShan	24.10	348	⇑P	P	00 01 48.0	+0.4		
HNS				pmax	pmax				
	comp=Z,47nm,0.8s								
KSRS	Korea Array	24.44	14	P	P	00 01 49.3	-1.4		
	comp=Z,2.4nm,0.8s,baz=196,slow=10,SNR=7.6								
	comp=Z,2.4nm,0.8s								
TIY	Taiyuan	24.92	344	eP	P	00 01 55.8	+0.6		
TIY				S	S	00 06 03.1	-6.2		
TIY				pmax	pmax				
	comp=Z,21nm,0.5s								
BJT	Baijiatuau	26.42	352	P	P	00 02 09.1	+0.5		
BJT				IAmb	IAmb	00 02 10.4			
	comp=Z,15nm,0.8s								
BJI	Beijing	26.44	352	P	P	00 02 09.9	+1.1		
BJI				pmax	pmax				
	comp=Z,20nm,1.2s								
LZH	Lanzhou	26.84	329	⇓P	P	00 02 14.1	+1.5		
LZH				pmax	pmax				
	comp=Z,47nm,1.5s								
BTO	Baotou	28.29	343	eP	P	00 02 27.3	+1.9		
BRDH	Bariadhala	28.89	292	LR	LR	00 15 05.3			
	comp=Z,118nm,18.9s,baz=66,slow=38								
SHL	Shillong	29.44	298	P	P	00 02 36.1	+0.2		
XLT	XiLinHaoTe	30.26	353	⇑/P	P	00 02 44.6	+1.8		
XLT				pP	pP	00 03 12.3	+2.0		
XLT				sP	sP	00 03 27.0	+2.1		
XLT				pmax	pmax				
	comp=Z,21nm,0.9s								
XLT				pmax	pmax				
	comp=Z,81nm,4.3s								
GTA	Gaotai	31.44	328	⇑P	P	00 02 54.3	+1.0		
GTA				pmax	pmax				
	comp=Z,28nm,1.0s								
GTA				pmax	pmax				
	comp=Z,43nm,5.8s								
GTA				LR	LR				
	comp=Z,190nm,17.8s								
GTA				LR	LR				
	comp=Z,170nm,16.0s								
GTA				LR	LR				
	comp=Z,170nm,16.7s								
LSA	Lhasa	31.52	305	P	P	00 02 55.9	+1.4		
USRK	Ussuriysk Ar.	31.82	16	P	P	00 02 56.4	+0.1		
	comp=Z,2.9nm,0.7s,baz=188,slow=9.5,SNR=4.3								
	comp=Z,2.9nm,0.7s								
USRK	Ussuriysk Ar.	31.82	16	P	P	00 02 55.9	-0.5		
GOMU	GeErMu	32.16	319	P	P	00 03 00.9	+1.0		
GOMU				pmax	pmax				
	comp=Z,12nm,1.2s								
GOMU				pmax	pmax				
	comp=Z,91nm,4.3s								
GOMU				LR	LR				
	comp=Z,130nm,12.1s								
GOMU				LR	LR				
	comp=Z,98nm,11.4s								
GOMU				LR	LR				
	comp=Z,150nm,13.7s								
RAMN	Ramite	34.38	298	eP	P	00 03 20.3	+1.1		
JIRN	Jiri	34.92	299	eP	P	00 03 24.8	+0.8		
PSA00	Pilbara Seismi	35.15	181	P	P	00 03 24.6	-0.9		
PSA00	Pilbara Seismi	35.15	181	P	P	00 03 24.9	-0.6		
PSA00				IAmb	IAmb	00 03 25.6			
	comp=Z,13nm,0.8s								
GUN	Gumba	35.26	299	eP	P	00 03 27.7	+0.9		
PKI	Pulchoki	35.57	298	eP	P	00 03 29.6	+0.1		
PKIN	Phulchoki	35.58	298	eP	P	00 03 29.8	+0.3		
KKN	Kakani	35.73	299	eP	P	00 03 31.0	+0.2		
KKN	Kakani	35.73	299	eP	P	00 03 31.3	+0.5		
ULN	Ulaanbaatar	35.81	344	P	P	00 03 31.4	+0.4		
ULN	Ulaanbaatar	35.81	344	P	P	00 03 30.8	-0.2		
	comp=Z,1µmcomp=Z,85nm,0.9s								
DMN	Daman	35.84	298	eP	P	00 03 32.1	+0.4		
SONM	Songino Array	35.96	344	P	P	00 03 32.7	+0.4		
	comp=Z,21nm,0.7s,baz=161,slow=9.5,SNR=149								
SONM				ScP	ScP	00 09 31.2	+0.2		
	comp=Z,0.7nm,0.8s,baz=163,slow=5.6,SNR=4.5								
	comp=Z,21nm,0.7s								
SONM	Songino Array	35.96	344	P	P	00 03 32.6	+0.4		
WB0	Warramunga Arr	35.99	158	P	P	00 03 30.9	-1.7		
WB0				IAmb	IAmb	00 03 48.7			
	comp=Z,5.1nm,0.7s								
WRA	Warramunga Arr	36.13	158	P	P	00 03 31.9	-2.0		
	comp=Z,3.9nm,0.5s,baz=335,slow=9.6,SNR=16								
WRA				S	S	00 08 58.3	-6.0		
	comp=Z,4.3nm,1.1s,baz=340,slow=15,SNR=7.5								
WRA				ScP	ScP	00 09 32.2	+0.4		
	comp=Z,2.4nm,0.8s,baz=340,slow=4.1,SNR=8.3								
	comp=Z,3.9nm,0.5s								
WRA	Warramunga Arr	36.13	158	P	P	00 03 32.6	-1.3		
WB2	Warramunga Arr	36.13	158	P	P	00 03 32.3	-1.6		
WB2				IAmb	IAmb	00 03 39.6			
	comp=Z,6.4nm,0.7s								
WR0	Warramunga Arr	36.22	158	P	P	00 03 33.4	-1.2		
GKN	Gorkha	36.34	299	eP	P	00 03 35.7	-0.2		
KLR	Kul'dur	36.50	12	P	P	00 03 37.0	+0.3		
	comp=Z,5.4nm,0.7s,baz=252,slow=7.7,SNR=19								
	comp=Z,5.4nm,0.7s								
GIRL	Giralia	36.75	190	P	P	00 03 39.4	+0.3		
HEH	HeiHe	36.78	7	eP	P	00 03 39.5	+0.5		
HEH				pmax	pmax				
	comp=Z,13nm,0.9s								
HEH				pmax	pmax				
	comp=Z,120nm,3.6s								
DANN	Dangsing	37.18	299	eP	P	00 03 43.1	0.0		
ZAK	Zakamensk	39.14	342	eP	P	00 03 57.8	-1.2		
ZAK	Zakamensk	39.14	342	pmax	pmax				
	comp=Z,10.0nm,0.9s								
AS31	Alice Springs	39.42	161	P	P	00 04 00.5	-1.1		
ASAR	Alice Springs	39.42	161	P	P	00 04 00.2	-1.3		
	comp=Z,2.1nm,0.3s,baz=336,slow=6.7,SNR=36								
ASAR				PcP	PcP	00 06 07.5	+0.2		
	comp=Z,2.0nm,0.7s,baz=344,slow=3.0,SNR=5.3								
ASAR				ScP	ScP	00 09 45.0	+0.8		
	comp=Z,1.2nm,0.8s,baz=346,slow=3.7,SNR=6.6								
ASAR				S	S	00 09 52.4	-1.7		
	comp=Z,1.7nm,0.8s,baz=355,slow=19,SNR=5.0								
	comp=Z,2.1nm,0.3s								
ASAR	Alice Springs	39.42	161	P	P	00 04 00.7	-0.8		
WMQ	Urumqi	41.10	323	eP	P	00 04 17.8	+2.5		
WMQ				pP	pP	00 04 49.4	+6.1		
WMQ				pmax	pmax				
	comp=Z,15nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,130nm,4.3s								
WMQ				LR	LR				
	comp=Z,460nm,12.7s								
WMQ				LR	LR				
	comp=Z,320nm,9.7s								
WMQ				LR	LR				
	comp=Z,140nm,16.9s								
CTA	Charters Tower	42.05	143	P	P	00 04 22.9	-0.3		
	comp=Z,6.0nm,0.7s,baz=328,slow=11,SNR=7.6								
	comp=Z,6.0nm,0.7s								
CTAO	Charters Tower	42.05	143	P	P	00 04 23.4	+0.3		
CTAO				IAmb	IAmb	00 04 23.9			
	comp=Z,9.9nm,0.9s								
FORT	Forrest	44.88	171	P	P	00 04 45.4	-0.3		
MKAR	Makanchi Array	45.93	324	P	P	00 04 54.9	+1.1		
	comp=Z,20nm,0.9s,baz=130,slow=9.2,SNR=39								
MKAR				ScP	ScP	00 10 10.6	+0.3		
	comp=Z,1.6nm,0.8s,baz=66,slow=5.9,SNR=3.8								
	comp=Z,20nm,0.9s								
MKAR	Makanchi Array	45.93	324	P	P	00 04 55.0	+1.1		
MAKZ	Makanchi	46.12	323	P	P	00 04 56.5	+1.2		
MAKZ				IAmb	IAmb	00 04 57.4			
	comp=Z,11nm,0.7s								
TARG	Taragay, Kyrgy	46.35	315	P	P	00 04 59.8	+2.1		
TARG				IAmb	IAmb	00 05 00.7			
	comp=Z,9.3nm,0.8s								
NWAO	Narrogin (SRO)	46.57	184	P	P	00 04 57.7	-1.2		
	comp=Z,18nm,0.8s,baz=219,slow=7.6,SNR=7.6								
	comp=Z,18nm,0.8s								
NWAO	Narrogin (SRO)	46.57	184	P	P	00 04 58.4	-0.5		
KSH	Kashi	46.80	312	P	P	00 05 04.5	+3.6		
KSH				pmax	pmax				
	comp=Z,11nm,0.9s								
NIL	Nilore	47.22	303	P	P	00 05 04.0	-0.1		
NIL				IAmb	IAmb	00 05 04.9			
	comp=Z,9.2nm,0.8s								
NRN	Naryn	47.48	314	P	P	00 05 07.2	+0.9		
NRN				IAmb	IAmb	00 05 08.7			
	comp=Z,19nm,0.9s								
ULHL	Ulahol	47.62	315	P	P	00 05 08.8	+1.5		
	SNR=6.4								
BOOM	Boomskoye usch	47.92	315	P	P	00 05 10.0	+0.3		
TKM2	Tokmak 2	48.33	316	P	P	00 05 14.1	+1.4		
	SNR=11								
BBOO	Buckleboo	48.62	163	P	P	00 05 13.4	-1.4		
BBOO				IAmb	IAmb	00 05 22.1			
	comp=Z,9.1nm,0.9s								
KBK	Karagaybulak	48.66	315	P	P	00 05 17.2	+1.9		
	SNR=11								
UCH	Uchtor	48.80	315	P	P	00 05 18.8	+2.0		
	SNR=19								
CHMS	Chumysh	48.93	316	P	P	00 05 18.4	+1.3		
	SNR=11								
ZAA0	Zalesovo Array	48.95	333	P	P	00 05 17.0	-0.1		
ZAA0				IAmb	IAmb	00 05 18.1			
	comp=Z,9.5nm,1.1s								
ZALV	Zalesovo Beam	48.95	333	P	P	00 05 17.1	0.0		
	comp=Z,4.8nm,0.5s,baz=123,slow=6.4,SNR=25								
ZALV				S	S	00 12 10.6	-0.8		
	comp=Z,0.4nm,0.4s,baz=134,slow=12,SNR=4.4								
	comp=Z,4.8nm,0.5s								
AAK	Ala-Archa	48.97	315	P	P	00 05 19.5	+1.9		
	SNR=6.0								
AAK	Ala-Archa	48.97	315	P	P	00 05 19.3	+1.7		
AAK				IAmb	IAmb	00 05 20.9			
	comp=Z,7.2nm,0.8s								
PETK	Petropavlovsk-	48.97	29	P	P	00 05 17.8	+0.6		
	comp=Z,3.0nm,0.8s,baz=198,slow=9.1,SNR=4.3								
	comp=Z,3.0nm,0.8s								
USP	Ospenovka	49.20	316	P	P	00 05 20.5	+1.3		
	SNR=15								
AML	Almayashu	49.34	314	P	P	00 05 22.5	+1.8		
	SNR=14								
EKS2	Erkin-Say	49.47	315	P	P	00 05 23.0	+1.6		
	SNR=14								
STKA	Stephens Creek	49.65	156	P	P	00 05 21.1	-1.6		
	comp=Z,3.0nm,0.6s,baz=324,slow=8.3,SNR=5.4								
	comp=Z,3.0nm,0.6s								
DRK	Karamyk	49.85	310	P	P	00 05 24.3	-0.3		
DRK				IAmb	IAmb	00 05 25.9			
	comp=Z,17nm,0.9s								
KURK	Kurchatov	50.09	326	P	P	00 05 26.2	+0.5		
BTK	Batken	50.74	311	P	P	00 05 31.7	+0.7		
BTK				IAmb	IAmb	00 05 33.7			
	comp=Z,11nm,1.1s								
KBL	Kabul	50.82	303	P	P	00 05 31.9	+0.2		
KBL				IAmb	IAmb	00 05 33.5			
	comp=Z,10nm,1.0s								
GAR	Garm	50.82	309	P	P	00 05 32.4	+0.7		
CHGR	Chuyangaron	51.61	309	P	P	00 05 38.0	+0.4		
CHGR					pP	00 06 05.2	-1.6		
KKAR	Karatay Array	51.88	314		pP	00 06 07.0	-1.4		
SEY	Seymchan	53.94	17	P	P	00 05 54.8	+0.8		
	comp=Z,2.4nm,0.5s,baz=243,slow=4.4,SNR=3.7								
	comp=Z,2.4nm,0.5s								
BRVK	Borovoye	55.74	326	P	P	00 06 08.0	+0.8		
HRA	Herat	56.35	302	P	P	00 06 12.4	+0.3		
HRA				IAmb	IAmb	00 06 13.6			
	comp=Z,7.6nm,0.9s								
TIXI	Tiksi	58.04	3	P	P	00 06 22.4	-0.7		
TIXI				IAmb	IAmb	00 06 23.3			
	comp=Z,6.7nm,0.9s								
WSAR	Wadi Sarin	59.19	289	LR	LR	00 36 35.2			
	comp=Z,46nm,18.2s,baz=94,slow=40								
NRIK	Noril'sk	59.31	347	P	P	00 06 32.1	+0.2		
	comp=Z,10nm,0.8s,baz=120,slow=6.5,SNR=6.3								
	comp=Z,10nm,0.8s								
NRIK	Noril'sk	59.31	347	P	P	00 06 31.6	-0.3		
NRIK				IAmb	IAmb	00 06 33.0			
	comp=Z,9.5nm,0.8s								
GEYT	Alibeck	60.04	306	P	P	00 06 39.0	+1.4		
	comp=Z,11nm,0.8s,baz=147,slow=3.5,SNR=24								
	comp=Z,11nm,0.8s								
GEYT	Alibeck	60.04	306	P	P	00 06 38.8	+1.2		
GYA0B	ALIBECK ARRAY	60.04	306	P	P	00 06 38.5	+1.0		
ABKAR	Akbulak array	60.63	319	P	P	00 06 41.5	+0.2		
BILL	Bilibino	61.63	18	P	P	00 06 48.0	+0.3		
BILL				IAmb	IAmb	00 06 49.1			
	comp=Z,5.4nm,0.8s								
ARU	Arti	63.28	327	P	P	00 06 58.2	-0.6		
ARU				IAmb	IAmb	00 06 59.2			
	comp=Z,6.8nm,0.6s								
MSVF	Nonsavu	64.71	117	P	P	00 07 09.6	+0.7		
	comp=Z,7.2nm,0.9s,baz=239,slow=4.7,SNR=3.8								
	comp=Z,7.2nm,0.9s								
GNI	Garni	70.52	308	P	P	00 07 46.1	+0.8		
GNI				IAmb	IAmb	00 07 52.6			
	comp=Z,8.7nm,0.9s								
RAYN	Ar Rayn	71.18	290	P	P	00 07 49.8	+0.4		
RAYN				IAmb	IAmb	00 07 51.0			
	comp=Z,9.9nm,0.9s								
GEVA	Gevas	71.91	306	P	P	00 07 54.3	+0.6		
GEVA				IAmb	IAmb	00 07 55.7			
	comp=Z,9.7nm,1.0s								
KIV	Kislovodsk	71.93	312	P	P	00 07 53.9	+0.3		
KIV				IAmb	IAmb	00 07 55.1			
	comp=Z,9.8nm,0.8s								
GURO	Guroymak-BITLI	72.70	306	P	P	00 07 58.4	+0.1		
GURO				IAmb	IAmb	00 08 00.8			
	comp=Z,8.5nm,0.9s								
IMAR	Indian Mountai	75.72	25	P	P	00 08 15.6	+0.5		
I21K	Tanana	76.49	26	P	P	00 08 21.1	+1.6		
PPLA	Purkeypile	76.55	28	P	P	00 08 21.1	+1.1		
PPLA				IAmb	IAmb	00 08 31.9			
	comp=Z,13nm,1.1s								
CAST	Castle Rocks	76.56	28	P	P	00 08 20.9	+0.9		
CAST				IAmb	IAmb	00 08 21.7			
	comp=Z,6.0nm,0.7s								
MLY	Manley	77.03	26	P	P	00 08 23.8	+1.2		
TRF	Thorofare Moun	77.36	27	P	P	00 08 25.4	+0.7		
I23K	Minto, Yukon-K	77.60	26	P	P	00 08 27.2	+1.5		
MCK	McKinley	77.94	27	P	P	00 08 28.2	+0.6		
MCK				IAmb	IAmb	00 08 28.4			
	comp=Z,8.1nm,0.8s								
MDM	Murphy Dome	78.09	26	P	P	00 08 29.6	+1.1		
H24K	Noodor Dome	78.13	25	P	P	00 08 30.0	+1.3		
SML	Sawmill	78.45	29	P	P	00 08 31.1	+0.6		
SML				IAmb	IAmb	00 08 31.7			
	comp=Z,23nm,1.2s								
PWL	Port Wells	78.57	30	P	P	00 08 31.4	+0.2		
PWL				IAmb	IAmb	00 08 34.0			
	comp=Z,15nm,1.0s								
ILAR	Eielson Array	78.69	26	P	P	00 08 30.8	-0.9		
	comp=Z,0.5nm,0.6s,baz=278,slow=4.1,SNR=2.8								
	comp=Z,0.5nm,0.6s								
SCM	Sheep Creek Mo	78.92	29	P	P	00 08 33.8	+0.7		
SCM				IAmb	IAmb	00 08 37.3			
	comp=Z,13nm,1.2s								
ARCES	ARCESS Array B	78.98	339	P	P	00 08 32.2	-1.0		
	comp=Z,3.5nm,0.8s,baz=67,slow=6.9,SNR=11								
	comp=Z,3.5nm,0.8s								
BRTR	Keskin Array B	79.06	308	P	P	00 08 34.5	+0.1		
	comp=Z,1.6nm,0.8s,baz=128,slow=4.8,SNR=7.9								
	comp=Z,1.6nm,0.8s								
BMAR	Burnt Mountain	79.20	23	P	P	00 08 35.9	+1.4		
M24K	Tolsona, Glenn	79.41	29	P	P	00 08 36.9	+1.1		
M24K				IAmb	IAmb	00 08 55.9			
	comp=Z,19nm,1.1s								
KLU	Klutina	79.63	29	P	P	00 08 37.9	+0.8		
CSS	Mathiatis	80.07	304	P	P	00 08 40.8	+1.0		
CSS				IAmb	IAmb	00 08 59.9			
	comp=Z,13nm,0.9s								
J26L	Joseph Creek	80.14	26	P	P	00 08 39.7	0.0		
I26K	Coal Creek Min	80.16	25	P	P	00 08 40.2	+0.6		
FINES	FINESS Array B	80.18	331	P	P	00 08 38.9	-0.9		
	comp=Z,1.6nm,0.7s,baz=78,slow=7.3,SNR=9.3								
	comp=Z,1.6nm,0.7s			

comp=Z,0.2nm,0.4s,baz=271,slow=0.3,SNR=7.2
PLCA **Paso Flores** 151.43 162 PKPbc **PKPbc** 00 16 23.3 +0.2
comp=Z,6.8nm,0.8s,baz=209,slow=1.3,SNR=13
CPUP **Villa Florida** 167.38 188 PKPab **PKPab** 00 17 39.8 -1.2
comp=Z,1.9nm,0.8s,baz=210,slow=4.5,SNR=4.9
LPAZ **La Paz** 171.16 107 PKPab **PKPab** 00 17 59.8 +0.7
comp=Z,3.7nm,0.9s,baz=275,slow=4.6,SNR=9.8

WEL 13 23:57:41.1±0.5, 42°S±4°×17°4E±°, h12km±4km, M3.9/25, ML4.4/15, MLv3.9/25, Error ellipse: s-maj=0.6km s-min=0.6km az=121.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**233**	P	Pb	23 57 48.6	+0.1
KHZ				S	Sb	23 57 53.4	0.0
BSWZ	**Blackbirch Sta**	**0.52**	**1**	P	Pg	23 57 51.6	+0.4
BSWZ				S	Sb	23 57 58.9	-0.8
TUWZ	**Tuamarina**	**0.81**	**4**	P	Pg	23 57 56.8	+0.1
THZ	**Tophouse**	**0.85**	**303**	P	Pg	23 57 57.6	0.0
TCW	**Tory Channel**	**1.07**	**17**	P	Pb	23 58 01.6	0.0
WEL	**Wellington**	**1.17**	**36**	P	Pn	23 58 03.3	0.0
AMCZ	**Amberley**	**1.30**	**223**	P	Pn	23 58 04.8	-0.3
CAW	**Cannon Point**	**1.44**	**39**	P	Pn	23 58 06.8	-0.3
KIW	**Kapiti Island**	**1.58**	**30**	P	Pn	23 58 08.9	-0.1
OKCZ	**Okains Bay**	**1.60**	**201**	P	Pn	23 58 09.5	+0.2
DSZ	**Denniston Nort**	**1.61**	**287**	P	Pb	23 58 10.6	-0.3
MQZ	**McQueen's Vall**	**1.72**	**211**	P	Pn	23 58 09.9	-1.0
OGWZ	**Otaki Gorge**	**1.72**	**35**	P	Pn	23 58 10.7	-0.3
AKCZ	**Akaroa Harbour**	**1.78**	**203**	P	Pn	23 58 11.4	-0.3
INZ	**Inchbonnie**	**1.85**	**254**	P	Pn	23 58 13.6	+0.8
RACZ	**Rakaia**	**1.96**	**220**	P	Pn	23 58 13.3	-0.8
WVZ	**Waitaha Valley**	**2.45**	**249**	P	Pn	23 58 21.8	+0.8
ARCZ	**Arundel**	**2.61**	**228**	P	Pn	23 58 22.4	-0.8
TMZ	**Timaru**	**2.99**	**223**	P	Pn	23 58 28.4	-0.1
FOZ	**Fox Glacier**	**3.25**	**245**	P	Pn	23 58 33.0	+1.1
LBZ	**Lake Benmore**	**3.44**	**230**	P	Pn	23 58 34.7	+0.1
ALRZ	**Allen Road**	**4.13**	**28**	P	Pn	23 58 44.4	+0.4
HRRZ	**Handcock Road**	**4.26**	**27**	P	Pn	23 58 44.9	-1.1
HHSZ	**Highcliff Hill**	**4.34**	**212**	P	Pn	23 58 46.8	-0.2
SYZ	**Scrubby Hill**	**5.47**	**217**	P	Pn	23 59 02.9	+0.5

*IDC **13** 23:57:46.3±2.3, 42°62S×173°38E, h0km, mb4.3/2, mbtmp4.4/3, ML4.3/1, Error ellipse: s-maj=81.3km s-min=39.7km az=140.0*
*WEL **13** 23:57:49.5±0.4, 43°S±2°×17°3E±°, h12km±3km, M4.1/19, ML4.3/10, MLv4.1/19, Error ellipse: s-maj=0.6km s-min=0.0km az=123.6*

ISC 13 23:57:49.7±1.4, 42°57S±0°04×173°18E±0°04, h17km±10km, n19, σ0.68/25, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**61**	P	**Pb**	**23 57 57.0**	**+0.3**
KHZ				S	**Sb**	**23 58 01.9**	**+0.5**
GVZ	**Greta Valley S**	**0.41**	**195**	P	**Pb**	**23 57 58.9**	**+0.4**
GVZ				S	**Sb**	**23 58 05.8**	**+1.2**
LTZ	**Lake Taylor**	**0.70**	**252**	P	**Pb**	**23 58 03.5**	**0.0**
THZ	**Tophouse**	**0.83**	**346**	P	**Pb**	**23 58 06.0**	**+0.3**
THZ				S	**Sb**	**23 58 16.6**	**0.0**
BSWZ	**Blackbirch Sta**	**1.00**	**32**	P	**Pn**	**23 58 09.6**	**+0.7**
BSWZ				S	**Sg**	**23 58 21.4**	**-0.7**
OXZ	**Oxford**	**1.13**	**227**	P	**Pb**	**23 58 10.5**	**-0.3**
DSZ	**Denniston Nort**	**1.31**	**308**	P	**Pg**	**23 58 14.7**	**-0.2**
DSZ				S	**Sg**	**23 58 32.7**	**+0.6**
MHCZ	**Mount Hutt**	**1.52**	**230**	P	**Pn**	**23 58 16.1**	**-0.1**
TCW	**Tory Channel**	**1.58**	**32**	P	**Pn**	**23 58 16.1**	**-0.9**
WACZ	**Wakanui South**	**1.69**	**215**	P	**Pn**	**23 58 17.8**	**-0.6**
RPZ	**Rata Peaks**	**1.93**	**233**	Pn	**Pn**	**23 58 21.6**	**-0.2**
	118nm,0.3s,baz=44,slow=3.1,SNR=22						
RPZ				Sn	**Sn**	**23 58 45.0**	**-0.7**
	144nm,0.3s,baz=348,slow=23,SNR=26						
	280nm,0.3s						
RPZ	**Rata Peaks**	**1.93**	**233**	P	**Pn**	**23 58 21.6**	**-0.2**
CAW	**Cannon Point**	**2.03**	**45**	P	**Pn**	**23 58 23.4**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**2.22**	**249**	P	**Pn**	**23 58 26.9**	**+1.1**
WRA	**Warramunga Arr**	**39.66**	**292**	P	**P**	**00 05 20.8**	**0.0**
	1.4nm,0.9s,baz=131,slow=8.3,SNR=3.4						
	1.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.24**	**294**	P	**P**	**00 10 55.3**	**+1.2**
	1.6nm,0.3s,baz=143,slow=2.3,SNR=5.1						
	1.6nm,0.3s						
ARCES	**ARCESS Array B**	**148.26**	**339**	PKPbc	**PKPbc**	**00 17 32.6**	**-1.0**
	3.5nm,0.9s,baz=45,slow=1.7,SNR=1.6						
BRTR	**Keskin Array B**	**149.60**	**278**	PKPbc	**PKPbc**	**00 17 37.4**	**-0.7**
	1.4nm,0.8s,baz=149,slow=8.4,SNR=6.8						
FINES	**FINESS Array B**	**152.76**	**325**	PKPbc	**PKPbc**	**00 17 43.8**	**-0.7**
	1.8nm,0.8s,baz=75,slow=5.9,SNR=3.5						

WEL 13 23:59:13.7±0.4, 42°S±2°×17°4E±°, h5km±2km, M3.5/11, ML3.7/11, MLv3.5/11, Error ellipse: s-maj=0.0km s-min=0.0km az=128.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.29**	**22**	P	Pg	23 59 19.7	+0.4
BSWZ				S	Sg	23 59 24.4	+1.3
CMWZ	**Cape Campbell**	**0.43**	**57**	P	Pg	23 59 22.8	+0.8
KHZ	**Kahutara**	**0.46**	**198**	P	Pg	23 59 22.3	-0.2
KHZ				S	Sg	23 59 29.4	+0.9
TUWZ	**Tuamarina**	**0.57**	**16**	P	Pg	23 59 25.1	+0.3
TUWZ				S	Sb	23 59 34.0	-0.7
THZ	**Tophouse**	**0.65**	**289**	P	Pg	23 59 26.7	+0.4
THZ				S	Sb	23 59 36.1	-1.0
NNZ	**Nelson**	**0.81**	**341**	P	Pg	23 59 29.7	+0.4
NNZ				S	Sg	23 59 40.1	+0.4
TCW	**Tory Channel**	**0.87**	**28**	P	Pg	23 59 30.2	-0.3
TCW				S	Sg	23 59 42.4	+0.7
WEL	**Wellington**	**1.04**	**48**	P	Pg	23 59 33.8	+0.1
WEL				S	Sn	23 59 49.4	-0.5
GVZ	**Greta Valley S**	**1.11**	**207**	P	Pg	23 59 34.6	-0.5
GVZ				S	Sb	23 59 50.6	+0.4
CAW	**Cannon Point**	**1.33**	**49**	P	Pn	23 59 38.3	-0.7
LTZ	**Lake Taylor**	**1.34**	**233**	P	Pn	23 59 38.2	-1.0
LTZ				S	Sg	23 59 56.1	-0.9
KIW	**Kapiti Island**	**1.43**	**39**	P	Pn	23 59 38.8	-1.5
KIW				S	Sb	23 59 59.3	0.0
DSZ	**Denniston Nort**	**1.46**	**279**	P	Pg	23 59 41.6	0.0
DSZ				S	Sg	00 00 01.5	+1.0

WEL 14 00:01:04.4±0.7, 42°S±4°×17°4E±°, h12km±4km, M3.9/12, ML4.1/12, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=1.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**289**	P	Pg	00 01 07.9	+1.1
CMWZ				S	Sg	00 01 10.6	+1.9
BSWZ	**Blackbirch Sta**	**0.32**	**280**	P	Pb	00 01 11.7	-0.3
TUWZ	**Tuamarina**	**0.43**	**322**	P	Pb	00 01 13.7	-0.1
TUWZ				S	Sb	00 01 21.2	+0.9
TCW	**Tory Channel**	**0.56**	**359**	P	Pb	00 01 16.0	-0.1
TCW				S	Sb	00 01 24.3	+0.3
BHW	**Baring Head**	**0.56**	**50**	P	Pg	00 01 15.6	+0.2
BHW				S	Sb	00 01 25.1	+1.0
WEL	**Wellington**	**0.60**	**36**	P	Pb	00 01 16.5	-0.3
PLWZ	**Palliser**	**0.75**	**75**	P	Pb	00 01 19.5	+0.2
PLWZ				S	Sn	00 01 31.1	-0.9
MSWZ	**Moikau Station**	**0.80**	**64**	P	Pb	00 01 20.4	+0.2
MSWZ				S	Sn	00 01 33.0	-0.3
CAW	**Cannon Point**	**0.88**	**42**	P	Pg	00 01 21.2	-0.1
CAW				S	Sn	00 01 34.5	-0.8
NNZ	**Nelson**	**0.88**	**308**	P	Pn	00 01 22.4	-0.2
NNZ				S	Sn	00 01 37.4	+2.1
PAWZ	**Paruwai Farm**	**0.93**	**66**	P	Pg	00 01 22.1	-0.3
PAWZ				S	Sb	00 01 35.7	+0.8
DUWZ	**D'Urville Isla**	**1.01**	**344**	P	Pn	00 01 24.2	-0.1
DUWZ				S	Sn	00 01 38.2	-0.2
KIW	**Kapiti Island**	**1.02**	**27**	P	Pb	00 01 23.7	-0.2
KIW				S	Sn	00 01 38.4	-0.3
MTW	**Mount Morrison**	**1.09**	**56**	P	Pb	00 01 24.3	-0.9
MTW				S	Sn	00 01 41.3	+0.8
TRWZ	**Traveller**	**1.11**	**71**	P	Pb	00 01 24.3	-1.2
OGWZ	**Otaki Gorge**	**1.16**	**35**	P	Pb	00 01 26.1	-0.2
OGWZ				S	Sg	00 01 41.7	0.0
HOWZ	**Holdsworth Sta**	**1.27**	**47**	P	Pn	00 01 27.0	-0.9
TMWZ	**Te Maipa**	**1.37**	**62**	P	Pn	00 01 28.1	-1.3
MRZ	**Mangatainoka R**	**1.47**	**42**	P	Pn	00 01 30.0	-0.7
OHWZ	**Ohakea**	**1.74**	**27**	P	Pb	00 01 35.7	-0.5
PRWZ	**Pori Road**	**1.75**	**47**	P	Pn	00 01 33.6	-1.0
BFZ	**Birch Farm**	**1.83**	**54**	P	Pg	00 01 39.1	-0.4
DVHZ	**Dannevirke**	**2.04**	**45**	P	Pg	00 01 44.5	+1.0
WAZ	**Wanganui**	**2.08**	**15**	P	Pb	00 01 42.5	+0.5
ANWZ	**Angora Road**	**2.10**	**52**	P	Pg	00 01 46.0	+1.3
TSZ	**Takapari Road**	**2.13**	**37**	P	Pn	00 01 38.9	-0.8
PNHZ	**Pukenui**	**2.35**	**39**	P	Pn	00 01 41.6	-1.2
WPHZ	**Waipukurau**	**2.35**	**44**	P	Pg	00 01 49.4	-0.1
PKE	**Pukeiti**	**2.58**	**355**	P	Pb	00 01 50.1	-0.5
MOVZ	**Moawhango**	**2.61**	**26**	P	Pn	00 01 46.3	-0.1
PXZ	**Pawanui**	**2.61**	**49**	P	Pg	00 01 52.9	-1.5
BHHZ	**Black Hill Sta**	**2.65**	**31**	P	Pb	00 01 52.3	+0.5
TRVZ	**Turoa**	**2.65**	**22**	P	Pb	00 01 52.5	+0.7
WHVZ	**Whangaehu Hut**	**2.67**	**22**	P	Pb	00 01 52.0	-0.3
FWVZ	**Far West T-bar**	**2.69**	**21**	P	Pb	00 01 52.9	+0.3
TUVZ	**Tukino**	**2.71**	**23**	P	Pn	00 01 48.6	+0.8
SNVZ	**South Ngauruho**	**2.78**	**22**	P	Pn	00 01 49.7	+0.9
OTVZ	**Oturere**	**2.81**	**22**	P	Pb	00 01 54.7	+0.2
WTVZ	**West Tongariro**	**2.83**	**21**	P	Pb	00 01 54.0	-0.8
ETVZ	**East Tongariro**	**2.84**	**23**	P	Pb	00 01 54.9	-0.3
TMVZ	**Te Maari**	**2.86**	**23**	P	Pn	00 01 50.2	+0.3
KRVZ	**Karewarewa**	**2.86**	**21**	P	Pb	00 01 56.2	+0.7
RITZ	**Rihia Road**	**3.04**	**24**	P	Pb	00 01 58.3	-0.1
HIZ	**Hauiti**	**3.28**	**8**	P	Pn	00 01 56.9	+1.3

WEL 14 00:02:13.8±0.6, 42°S±4°×17°4E±°, h5km, M3.8/13, ML4.1/13, MLv3.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=155.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**260**	P	Pg	00 02 16.8	0.0
CMWZ				S	Sg	00 02 20.7	+2.0
BSWZ	**Blackbirch Sta**	**0.39**	**271**	P	Pg	00 02 21.3	-0.1
BSWZ				S	Sg	00 02 27.5	+0.9
TUWZ	**Tuamarina**	**0.45**	**311**	P	Pg	00 02 22.6	0.0
BHW	**Baring Head**	**0.47**	**48**	P	Pb	00 02 24.0	-0.6
BHW				S	Sb	00 02 32.2	+0.3
WEL	**Wellington**	**0.52**	**32**	P	Pb	00 02 25.0	-0.4
TCW	**Tory Channel**	**0.52**	**350**	P	Pb	00 02 24.1	+0.2
PLWZ	**Palliser**	**0.66**	**77**	P	Pb	00 02 28.0	+0.1
PLWZ				S	Sn	00 02 39.4	-1.3
MSWZ	**Moikau Station**	**0.71**	**64**	P	Pb	00 02 28.8	+0.2
CAW	**Cannon Point**	**0.80**	**39**	P	Pg	00 02 29.3	+0.3
PAWZ	**Paruwai Farm**	**0.84**	**66**	P	Pb	00 02 30.8	-0.1
NNZ	**Nelson**	**0.92**	**303**	P	Pg	00 02 30.7	-0.8
KIW	**Kapiti Island**	**0.94**	**24**	P	Pg	00 02 31.9	-0.1
KIW				S	Sb	00 02 45.2	-0.3
DUWZ	**D'Urville Isla**	**0.99**	**338**	P	Pb	00 02 33.2	-0.3
MTW	**Mount Morrison**	**1.00**	**56**	P	Pg	00 02 32.6	-0.4
OGWZ	**Otaki Gorge**	**1.08**	**33**	P	Pg	00 02 34.1	-0.3
OGWZ				S	Sn	00 02 50.2	-0.7
THZ	**Tophouse**	**1.12**	**268**	P	Pg	00 02 34.8	-0.5
HOWZ	**Holdsworth Sta**	**1.18**	**46**	P	Pn	00 02 36.8	-0.1
MRNZ	**Matariki Terra**	**1.28**	**284**	P	Pg	00 02 37.2	-1.1
TKNZ	**Takaka Hill**	**1.29**	**302**	P	Pn	00 02 37.2	-1.2
QRZ	**Quartz Range**	**1.67**	**302**	P	Pn	00 02 43.5	-0.3
LTZ	**Lake Taylor**	**1.90**	**236**	P	Pb	00 02 48.0	-0.3
CTZ	**Chatham Island**	**6.91**	**110**	P	Pn	00 03 52.5	-3.2

WEL 14 00:03:18.6±0.3, 42°S±3°×17°4E±°, h9km±3km, M3.8/15, ML4.1/15, MLv3.8/15, Error ellipse: s-maj=0.0km s-min=0.0km az=141.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**27**	P	Pg	00 03 21.8	+1.4
CMWZ				S	Sg	00 03 25.4	+3.7
BSWZ	**Blackbirch Sta**	**0.25**	**285**	P	Pg	00 03 24.4	+0.8
BSWZ				S	Sg	00 03 28.8	+1.8
TUWZ	**Tuamarina**	**0.40**	**332**	P	Pb	00 03 27.5	-0.3
TUWZ				S	Sb	00 03 33.7	-0.3
TCW	**Tory Channel**	**0.57**	**6**	P	Pb	00 03 30.4	-0.4
TCW				S	Sb	00 03 39.1	+0.1
BHW	**Baring Head**	**0.63**	**54**	P	Pb	00 03 32.0	+0.2
WEL	**Wellington**	**0.66**	**41**	P	Pb	00 03 32.2	0.0
KHZ	**Kahutara**	**0.80**	**217**	P	Pg	00 03 34.2	+0.1
NNZ	**Nelson**	**0.83**	**312**	P	Pb	00 03 35.4	+0.2
MSWZ	**Moikau Station**	**0.87**	**66**	P	Pb	00 03 35.7	-0.2
CAW	**Cannon Point**	**0.94**	**45**	P	Pb	00 03 37.0	0.0
THZ	**Tophouse**	**0.96**	**271**	P	Pg	00 03 36.8	-0.4
KIW	**Kapiti Island**	**1.07**	**31**	P	Pb	00 03 39.2	0.0
MRNZ	**Matariki Terra**	**1.14**	**289**	P	Pb	00 03 40.5	0.0
MTW	**Mount Morrison**	**1.16**	**58**	P	Pb	00 03 39.5	-1.4
TKNZ	**Takaka Hill**	**1.19**	**308**	P	Pn	00 03 41.0	-0.3
OGWZ	**Otaki Gorge**	**1.21**	**38**	P	Pb	00 03 41.0	-0.7
TMWZ	**Te Maipa**	**1.44**	**63**	P	Pn	00 03 43.0	-1.9
MRZ	**Mangatainoka R**	**1.53**	**44**	P	Pn	00 03 44.9	-1.2
QRZ	**Quartz Range**	**1.57**	**307**	P	Pb	00 03 47.4	-0.4
DSZ	**Denniston Nort**	**1.79**	**270**	P	Pn	00 03 50.3	+0.7

WEL 14 00:05:06.5±0.5, 42°S±2°×17°4E±°, h5km, M3.4/3, ML3.8/3, MLv3.4/3, Error ellipse: s-maj=0.0km s-min=0.0km az=105.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**196**	P	Pg	00 05 12.8	+0.1
KHZ				S	Sg	00 05 17.4	+0.5
BSWZ	**Blackbirch Sta**	**0.43**	**22**	P	Pg	00 05 15.6	+0.8
BSWZ				S	Sb	00 05 22.0	-1.3
CMWZ	**Cape Campbell**	**0.55**	**49**	P	Pg	00 05 15.7	-1.4
THZ	**Tophouse**	**0.66**	**302**	P	Pb	00 05 19.9	-0.7
THZ				S	Sb	00 05 29.4	-0.7
TUWZ	**Tuamarina**	**0.71**	**17**	P	Pb	00 05 20.9	-0.5
TUWZ				S	Sg	00 05 28.1	-1.4
TCW	**Tory Channel**	**1.01**	**27**	P	Pg	00 05 23.2	-2.8
LTZ	**Lake Taylor**	**1.23**	**236**	P	Pg	00 05 29.2	-0.8
OKCZ	**Okains Bay**	**1.67**	**195**	P	Pn	00 05 33.9	-2.6

WEL 14 00:05:38.4±0.7, 43°S±3°×17°3E±°, h8km±4km, M3.7/12, ML4.5/4, MLv3.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=142.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**72**	P	Pg	00 05 44.3	+0.4
KHZ				S	Sg	00 05 49.0	+1.4
GVZ	**Greta Valley S**	**0.48**	**193**	P	Pg	00 05 48.0	+0.3
GVZ				S	Sb	00 05 55.4	-1.0
LTZ	**Lake Taylor**	**0.73**	**247**	P	Pg	00 05 52.8	+0.4
LTZ				S	Sb	00 06 03.2	-0.4
AMCZ	**Amberley**	**0.78**	**210**	P	Pb	00 05 54.1	-0.2
AMCZ				S	Sb	00 06 05.4	+0.4
OXZ	**Oxford**	**1.18**	**225**	P	Pg	00 06 00.0	-1.0
OXZ				S	Sg	00 06 15.6	-0.7
OKCZ	**Okains Bay**	**1.23**	**184**	P	Pb	00 06 00.4	-1.5
MQZ	**McQueen's Vall**	**1.27**	**198**	P	Pn	00 05 59.7	-2.8
DSZ	**Denniston Nort**	**1.27**	**306**	P	Pg	00 06 03.8	+1.0
INZ	**Inchbonnie**	**1.30**	**259**	P	Pn	00 06 03.0	+0.1
WACZ	**Wakanui South**	**1.74**	**214**	P	Pn	00 06 07.3	-1.7
WACZ				S	Sn	00 06 29.4	-2.0
WVZ	**Waitaha Valley**	**1.89**	**251**	P	Pn	00 06 11.1	+0.2
WVZ				S	Sn	00 06 35.1	+0.1
RPZ	**Rata Peaks**	**1.98**	**231**	P	Pn	00 06 11.1	-1.1
RPZ				S	Sn	00 06 35.0	-2.2
ARCZ	**Arundel**	**2.06**	**225**	P	Pn	00 06 12.0	-1.3
ARCZ				S	Sn	00 06 37.1	-2.1
GCSZ	**Gaunt Creek Bo**	**2.25**	**248**	P	Pn	00 06 17.2	+1.1
TMZ	**Timaru**	**2.46**	**219**	P	Pn	00 06 18.6	-0.3
FOZ	**Fox Glacier**	**2.68**	**246**	P	Pn	00 06 22.8	+1.1
ODZ	**Otahua Downs**	**3.14**	**215**	P	Pn	00 06 26.3	-1.9
JCZ	**Jackson Bay**	**3.57**	**242**	P	Pn	00 06 32.9	-1.4
JCZ				S	Sn	00 07 15.2	-1.5

WEL 14 00:07:26.4±0.8, 42°S±3°×17°3E±°, h7km±5km, M3.7/11, ML3.9/4, MLv3.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=132.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.09**	**78**	P	Pg	00 07 28.7	+0.3
KHZ				S	Sg	00 07 30.4	+0.5
GVZ	**Greta Valley S**	**0.61**	**208**	P	Pg	00 07 38.5	+0.4
GVZ				S	Sb	00 07 48.1	0.0
THZ	**Tophouse**	**0.78**	**330**	P	Pg	00 07 41.7	+0.4
THZ				S	Sb	00 07 52.7	-0.3
LTZ	**Lake Taylor**	**0.92**	**247**	P	Pg	00 07 44.3	+0.2
LTZ				S	Sb	00 07 57.2	0.0
AMCZ	**Amberley**	**0.94**	**217**	P	Pb	00 07 45.1	+0.1
AMCZ				S	Sn	00 07 59.3	-0.3
OKCZ	**Okains Bay**	**1.32**	**192**	P	Pn	00 07 48.4	-2.8
OKCZ				S	Sb	00 08 06.1	-2.4
OXZ	**Oxford**	**1.35**	**228**	P	Pn	00 07 51.0	-0.8
OXZ				S	Sb	00 08 07.9	-1.8
DSZ	**Denniston Nort**	**1.39**	**299**	P	Pg	00 07 53.4	+0.3
DSZ				S	Sg	00 08 11.6	+0.6
MQZ	**McQueen's Vall**	**1.39**	**204**	P	Pn	00 07 50.0	-2.2
MQZ				S	Sb	00 08 07.8	-2.9
AKCZ	**Akaroa Harbour**	**1.49**	**195**	P	Pn	00 07 49.7	-3.9
RACZ	**Rakaia**	**1.60**	**216**	P	Pn	00 07 53.2	-1.9
RPZ	**Rata Peaks**	**2.16**	**233**	P	Pn	00 08 01.5	-1.3
RPZ				S	Sn	00 08 27.8	-2.0
ARCZ	**Arundel**	**2.23**	**227**	P	Pn	00 08 02.2	-1.7

*IDC **14** 00:08:04.1±8.7, 40°87S×174°29E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=596.7km s-min=66.2km az=3.0*
*WEL **14** 00:08:05.9±0.4, 42°S±3°×17°4E±°, h8km±3km, M3.8/18, ML4.1/18, MLv3.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=166.1*

ISC 14 00:08:05.5±1.0, 41°74S±0°04×174°27E±0°03, h13km±7km, n37, σ1.14/45, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**251**	P	**Pg**	**00 08 07.3**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.29**	**274**	P	**Pg**	**00 08 11.9**	**+0.3**
BSWZ				S	**Sb**	**00 08 16.9**	**-0.5**
TUWZ	**Tuamarina**	**0.39**	**321**	P	**Pg**	**00 08 13.6**	**+0.2**
TUWZ				S	**Sb**	**00 08 19.4**	**-0.8**
TCW	**Tory Channel**	**0.52**	**1**	P	**Pg**	**00 08 15.7**	**-0.1**
TCW				S	**Sg**	**00 08 23.0**	**+0.3**
WEL	**Wellington**	**0.59**	**40**	P	**Pg**	**00 08 17.2**	**+0.3**
WEL				S	**Sb**	**00 08 26.4**	**+0.5**
PLWZ	**Palliser**	**0.76**	**78**	P	**Pb**	**00 08 21.2**	**+0.6**
PLWZ				S	**Sn**	**00 08 33.9**	**+0.6**
MSWZ	**Moikau Station**	**0.80**	**67**	P	**Pg**	**00 08 21.5**	**+0.4**
MSWZ				S	**Sn**	**00 08 34.6**	**+0.3**
NNZ	**Nelson**	**0.84**	**307**	P	**Pg**	**00 08 21.6**	**-0.2**
CAW	**Cannon Point**	**0.87**	**44**	P	**Pg**	**00 08 22.0**	**-0.3**
CAW				S	**Sn**	**00 08 36.5**	**+0.5**
KHZ	**Kahutara**	**0.87**	**218**	P	**Pb**	**00 08 23.6**	**+1.1**
PAWZ	**Paruwai Farm**	**0.94**	**68**	P	**Pg**	**00 08 23.8**	**+0.2**
DUWZ	**D'Urville Isla**	**0.97**	**344**	P	**Pg**	**00 08 23.9**	**-0.6**
KIW	**Kapiti Island**	**1.00**	**29**	P	**Pg**	**00 08 24.2**	**-0.5**
MTW	**Mount Morrison**	**1.09**	**59**	P	**Pg**	**00 08 26.0**	**-0.5**
TRWZ	**Traveller**	**1.12**	**73**	P	**Pg**	**00 08 26.0**	**-1.0**
OGWZ	**Otaki Gorge**	**1.14**	**37**	P	**Pg**	**00 08 26.9**	**-0.6**
MRNZ	**Matariki Terra**	**1.18**	**286**	P	**Pg**	**00 08 28.3**	**0.0**
MRNZ				S	**Sn**	**00 08 45.1**	**+1.3**
TKNZ	**Takaka Hill**	**1.21**	**305**	P	**Pg**	**00 08 28.7**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.26**	**49**	P	**Pn**	**00 08 28.8**	**-0.1**
TMWZ	**Te Maipa**	**1.37**	**63**	P	**Pn**	**00 08 29.6**	**-0.8**
MRZ	**Mangatainoka R**	**1.46**	**43**	P	**Pn**	**00 08 31.5**	**-0.1**
TIWZ	**Tintock**	**1.55**	**52**	P	**Pn**	**00 08 32.4**	**-0.4**
QRZ	**Quartz Range**	**1.59**	**304**	P	**Pb**	**00 08 35.4**	**+0.6**
CPWZ	**Castlepoint**	**1.67**	**61**	P	**Pn**	**00 08 34.2**	**-0.2**
PRWZ	**Pori Road**	**1.74**	**48**	P	**Pn**	**00 08 35.2**	**-0.3**
BFZ	**Birch Farm**	**1.83**	**55**	P	**Pn**	**00 08 38.5**	**+1.9**
DVHZ	**Dannevirke**	**2.03**	**46**	P	**Pb**	**00 08 43.3**	**+1.1**
TSZ	**Takapari Road**	**2.11**	**38**	P	**Pn**	**00 08 41.4**	**+0.9**
PRHZ	**Porangahau**	**2.31**	**51**	P	**Pn**	**00 08 42.3**	**-1.1**
OTVZ	**Oturere**	**2.78**	**23**	P	**Pb**	**00 08 55.4**	**+0.2**
KRVZ	**Karewarewa**	**2.84**	**22**	P	**Pb**	**00 08 56.8**	**+0.7**
BKZ	**Black Stump Fm**	**3.08**	**34**	P	**Pb**	**00 09 01.1**	**+1.0**
AWAZ	**Awhitu Peninsu**	**4.67**	**4**	P	**Pn**	**00 09 19.4**	**+3.6**
MSZ	**Milford Sound**	**5.49**	**236**	P	**Pn**	**00 09 31.0**	**+4.1**
ASAR	**Alice Springs**	**38.04**	**285**	P	**P**	**00 15 22.3**	**-1.4**
	0.4nm,0.4s,baz=126,slow=6.8,SNR=8.4						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**00 15 39.4**	**-1.6**
	0.6nm,0.7s,baz=129,slow=8.5,SNR=5.1						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**152.53**	**327**	PKPbc	**PKPbc**	**00 27 59.6**	**-1.0**
	3.1nm,1.1s,baz=29,slow=3.2,SNR=3.4						

**IDC

BKZ	**Black Stump Fm**	**3.72**	**35**	P		Pb	00 16 40.1	-3.6
HIZ	**Hauiti**	**3.83**	**13**	P		Pn	00 16 37.9	+1.1
JCZ	**Jackson Bay**	**4.07**	**242**	P		Pn	00 16 42.4	+2.3
TLZ	**Tolley Road**	**4.15**	**20**	P		Pn	00 16 41.6	+0.3
HHSZ	**Highcliff Hill**	**4.28**	**211**	P		Pn	00 16 40.6	-2.4
EAZ	**Earnscleugh**	**4.39**	**226**	P		Pn	00 16 42.1	-2.3
TOZ	**Tahuroa Road**	**4.72**	**17**	P		Pn	00 16 48.7	-0.3
MLZ	**Mavora Lakes**	**5.13**	**231**	P		Pn	00 16 52.7	-1.9
TWGZ	**Tauwhareparae**	**5.20**	**40**	P		Pn	00 16 55.2	-0.5
AWAZ	**Awhitu Peninsu**	**5.23**	**8**	P		Pn	00 16 56.9	+0.8
RUGZ	**Raukumara Rang**	**5.23**	**36**	P		Pn	00 16 54.5	-1.7
MKAZ	**Moumakai**	**5.26**	**12**	P		Pn	00 16 56.4	-0.1
WTAZ	**Waiatarua**	**5.36**	**7**	P		Pn	00 16 58.9	+1.1
ETAZ	**East Tamaki Re**	**5.38**	**10**	P		Pn	00 16 59.0	+1.0
SYZ	**Scrubby Hill**	**5.41**	**216**	P		Pn	00 16 56.6	-1.8
MBAZ	**Motutapu North**	**5.55**	**9**	P		Pn	00 17 01.8	+1.3
WIAZ	**Waiheke Island**	**5.56**	**11**	P		Pn	00 17 00.6	0.0
APZ	**The Paps**	**6.16**	**220**	P		Pn	00 17 06.9	-1.9

WEL ***14*** *00:17:00.42˚48S×173˚28E,h7km,ML4.0,Mw3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15} Nm; M_{rr}0.93; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-0.85; $M_{r\theta}$0.20; $M_{\theta\phi}$-0.42; $M_{r\phi}$-0.08; Fault plane solution: $M_0$1.01000×10^{15} NP1: ϕ_s190.00000°,δ46.00000°,λ71.00000°. NP2:ϕ_s37.00000°, δ47.00000°,λ109.00000°. Principal axes: T -103.1400, Plg76.0000°, Azm22.0000°; N 5.0800, Plg14.0000°, Azm203.0000°; P 98.0600, Plg1.0000°, Azm114.0000°;*

WEL 14 00:17:57.9±0.3,42˚S±3˚×17˚3E±˚,h12km,M4.0/11, ML4.3/11,MLv4.0/11 Error ellipse: s-maj=0.0km s-min=0.0km az=136.5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**81**	P	Pg	00 18 03.1	+0.5
KHZ				S	Sg	00 18 07.1	+1.3
GVZ	**Greta Valley S**	**0.54**	**197**	P	Pb	00 18 09.5	+0.2
GVZ				S	Sb	00 18 18.1	+1.1
THZ	**Tophouse**	**0.73**	**340**	P	Pg	00 18 12.0	-0.1
THZ				S	Sg	00 18 21.2	-0.6
LTZ	**Lake Taylor**	**0.79**	**245**	P	Pg	00 18 12.7	-0.5
LTZ				S	Sb	00 18 24.6	+0.3
AMCZ	**Amberley**	**0.84**	**211**	P	Pn	00 18 15.2	-0.5
AMCZ				S	Sn	00 18 27.4	-0.6
BSWZ	**Blackbirch Sta**	**0.87**	**33**	P	Pb	00 18 15.1	+0.1
TUWZ	**Tuamarina**	**1.15**	**27**	P	Pg	00 18 19.9	-0.1
NNZ	**Nelson**	**1.24**	**5**	P	Pg	00 18 21.6	-0.1
OXZ	**Oxford**	**1.24**	**225**	P	Pn	00 18 21.2	+0.1
OXZ				S	Sg	00 18 38.0	0.0
OKCZ	**Okains Bay**	**1.28**	**186**	P	Pn	00 18 21.2	-0.4
DSZ	**Denniston Nort**	**1.28**	**303**	P	Pb	00 18 22.2	+0.1
DSZ				S	Sg	00 18 40.8	+1.5
MQZ	**McQueen's Vall**	**1.33**	**199**	P	Pn	00 18 20.9	-1.3
MQZ				S	Sb	00 18 38.0	-1.7
TKNZ	**Takaka Hill**	**1.43**	**351**	P	Pb	00 18 24.4	-0.2
AKCZ	**Akaroa Harbour**	**1.44**	**190**	P	Pn	00 18 22.8	-1.0
RACZ	**Rakaia**	**1.51**	**212**	P	Pn	00 18 23.6	-1.1
RACZ				S	Sn	00 18 43.8	-0.5
QRZ	**Quartz Range**	**1.71**	**342**	P	Pb	00 18 29.1	-0.2
QRZ				S	Sg	00 18 51.9	-1.1
DUWZ	**D'Urville Isla**	**1.73**	**17**	P	Pb	00 18 29.5	0.0
WACZ	**Wakanui South**	**1.81**	**214**	P	Pn	00 18 27.8	-1.0
WACZ				S	Sn	00 18 51.0	-0.7
CAW	**Cannon Point**	**1.91**	**46**	P	Pn	00 18 30.1	-0.2
WVZ	**Waitaha Valley**	**1.95**	**251**	P	Pn	00 18 32.0	+1.2
RPZ	**Rata Peaks**	**2.04**	**231**	P	Pn	00 18 31.6	-0.5
ARCZ	**Arundel**	**2.12**	**225**	P	Pn	00 18 32.4	-0.9
OGWZ	**Otaki Gorge**	**2.18**	**42**	P	Pn	00 18 33.8	-0.2
PKE	**Pukeiti**	**3.30**	**10**	P	Pb	00 18 53.1	-3.4
HHSZ	**Highcliff Hill**	**3.92**	**208**	P	Pn	00 18 56.8	-1.2
TLZ	**Tolley Road**	**4.47**	**24**	P	Pn	00 19 08.1	+2.5
TOZ	**Tahuroa Road**	**5.02**	**21**	P	Pn	00 19 14.2	+1.1
AWAZ	**Awhitu Peninsu**	**5.49**	**12**	P	Pn	00 19 21.3	+1.9
MKAZ	**Moumakai**	**5.54**	**16**	P	Pn	00 19 21.3	+1.1
WIAZ	**Waiheke Island**	**5.84**	**15**	P	Pn	00 19 26.0	+1.7

WEL 14 00:19:52.1±0.5,42˚S±4˚×17˚4E±˚,h8km±5km,M3.8/14, ML4.0/14,MLv3.8/14,Error ellipse: s-maj=0.0km s-min=0.0km az=145.9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.11**	**270**	P	Pg	00 19 55.7	+1.0
CMWZ				S	Sg	00 19 58.7	+1.8
BSWZ	**Blackbirch Sta**	**0.37**	**275**	P	Pg	00 19 59.7	+0.4
BSWZ				S	Sb	00 20 05.7	-1.0
TUWZ	**Tuamarina**	**0.45**	**315**	P	Pg	00 20 01.4	+0.6
TUWZ				S	Sb	00 20 08.3	-0.7
BHW	**Baring Head**	**0.51**	**48**	P	Pb	00 20 02.8	-0.4
TCW	**Tory Channel**	**0.54**	**353**	P	Pb	00 20 03.2	-0.6
TCW				S	Sb	00 20 11.3	-0.4
WEL	**Wellington**	**0.56**	**33**	P	Pb	00 20 03.5	-0.5
WEL				S	Sn	00 20 14.6	-1.0
PLWZ	**Palliser**	**0.69**	**75**	P	Pb	00 20 06.6	+0.2
MSWZ	**Moikau Station**	**0.74**	**64**	P	Pb	00 20 07.6	+0.4
CAW	**Cannon Point**	**0.83**	**40**	P	Pb	00 20 08.4	-0.3
PAWZ	**Paruwai Farm**	**0.88**	**66**	P	Pg	00 20 09.2	+0.3
KHZ	**Kahutara**	**0.91**	**222**	P	Pg	00 20 09.4	-0.1
KHZ				S	Sb	00 20 22.5	+0.3
NNZ	**Nelson**	**0.91**	**305**	P	Pg	00 20 09.5	0.0
KIW	**Kapiti Island**	**0.98**	**25**	P	Pg	00 20 11.0	+0.1
DUWZ	**D'Urville Isla**	**1.00**	**340**	P	Pb	00 20 11.8	+0.1
MTW	**Mount Morrison**	**1.04**	**56**	P	Pg	00 20 11.6	-0.5
TRWZ	**Traveller**	**1.05**	**71**	P	Pg	00 20 11.4	-1.0
THZ	**Tophouse**	**1.09**	**269**	P	Pg	00 20 12.8	-0.2
OGWZ	**Otaki Gorge**	**1.11**	**33**	P	Pg	00 20 13.2	-0.2
HOWZ	**Holdsworth Sta**	**1.22**	**46**	P	Pb	00 20 14.2	-1.1
MRNZ	**Matariki Terra**	**1.25**	**286**	P	Pn	00 20 15.7	-0.2
TKNZ	**Takaka Hill**	**1.27**	**304**	P	Pn	00 20 15.9	-0.2
TMWZ	**Te Maipa**	**1.31**	**61**	P	Pn	00 20 15.1	-1.7
MRZ	**Mangatainoka R**	**1.42**	**41**	P	Pn	00 20 17.1	-1.0
TIWZ	**Tintock**	**1.50**	**50**	P	Pn	00 20 18.1	-1.2
CPWZ	**Castlepoint**	**1.62**	**59**	P	Pn	00 20 19.5	-1.4
QRZ	**Quartz Range**	**1.66**	**303**	P	Pb	00 20 22.2	-0.7
OHWZ	**Ohakea**	**1.70**	**25**	P	Pb	00 20 22.8	-0.7
PRWZ	**Pori Road**	**1.70**	**46**	P	Pn	00 20 20.6	-1.4
POWZ	**Post Office Ro**	**1.72**	**39**	P	Pn	00 20 21.5	-0.8
BFZ	**Birch Farm**	**1.78**	**54**	P	Pn	00 20 22.1	-1.0
LTZ	**Lake Taylor**	**1.86**	**230**	P	Pn	00 20 20.1	-3.4
DSZ	**Denniston Nort**	**1.92**	**269**	P	Pn	00 20 25.3	+0.3
DVHZ	**Dannevirke**	**1.99**	**44**	P	Pn	00 20 24.1	-1.9
WAZ	**Wanganui**	**2.05**	**14**	P	Pb	00 20 29.4	-0.1
TSZ	**Takapari Road**	**2.08**	**36**	P	Pn	00 20 26.0	-1.2
PRHZ	**Porangahau**	**2.27**	**50**	P	Pn	00 20 27.9	-1.9
PNHZ	**Pukenui**	**2.30**	**38**	P	Pn	00 20 28.8	-1.5
WPHZ	**Waipukurau**	**2.30**	**44**	P	Pn	00 20 29.3	-1.0
INZ	**Inchbonnie**	**2.38**	**245**	P	Pb	00 20 33.8	-1.3
MOVZ	**Moawhango**	**2.57**	**25**	P	Pn	00 20 33.4	-0.6
PKE	**Pukeiti**	**2.57**	**353**	P	Pb	00 20 37.6	-0.8
BHHZ	**Black Hill Sta**	**2.60**	**30**	P	Pn	00 20 33.6	-0.8
TRVZ	**Turoa**	**2.61**	**21**	P	Pn	00 20 35.1	+0.4
WHVZ	**Whangaehu Hut**	**2.63**	**21**	P	Pn	00 20 35.4	+0.3
TUVZ	**Tukino**	**2.67**	**22**	P	Pn	00 20 35.7	+0.2
SNVZ	**South Ngauruho**	**2.74**	**21**	P	Pn	00 20 36.7	+0.3
OTVZ	**Oturere**	**2.77**	**21**	P	Pn	00 20 37.2	+0.4
NNVZ	**North Ngauruho**	**2.78**	**20**	P	Pn	00 20 37.5	+0.5
WTVZ	**West Tongariro**	**2.79**	**20**	P	Pn	00 20 42.9	+0.7
TMVZ	**Te Maari**	**2.82**	**22**	P	Pn	00 20 37.4	-0.1
KRVZ	**Karewarewa**	**2.83**	**21**	P	Pn	00 20 37.8	+0.2
KATZ	**Kakaramea**	**2.95**	**21**	P	Pb	00 20 45.6	+0.7
RITZ	**Rihia Road**	**3.00**	**23**	P	Pb	00 20 45.3	-0.3
BKZ	**Black Stump Fm**	**3.05**	**33**	P	Pn	00 20 38.9	-1.6
TLZ	**Tolley Road**	**3.53**	**15**	P	Pb	00 20 51.1	-3.7

NCEDC ***14*** *00:22:38.8±2.5,40˚40N±0˚03×124˚49W±0˚09,h25km±7km, ML3.0/14,ML2.9/80(NEIC),Error ellipse: s-maj=10.1km s-min=3.8km az=73.0*

NEIC 14 00:22:34.7±3.0,40˚43N±0˚02×124˚75W±0˚04,h10km±1km, Error ellipse: s-maj=5.4km s-min=3.1km az=58.0,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.32**	**82**		Sb	00 22 49.1	+1.2
KMPM	**Mount Pierce**	**0.48**	**92**		Pb	00 22 45.7	+0.3
KMPM					Sg	00 22 51.0	+0.4
KSMM	**Slide Mountain**	**0.51**	**119**		Pb	00 22 46.1	+0.4
JCC	**Jacoby Creek,**	**0.67**	**55**		Sg	00 22 56.2	-0.3
JCC	**Jacoby Creek,**	**0.67**	**55**		Pb	00 22 48.6	+0.1
JCC	**Jacoby Creek,**	**0.67**	**55**	IAML		00 22 56.6	
	comp=E,483nm,0.8s						
JCC				IAML		00 22 56.8	
	comp=N,482nm,0.3s						
KCRM	**Chalk Rock**	**0.71**	**90**		Pb	00 22 49.0	-0.3
KMRM	**Mail Ridge**	**0.83**	**104**		Pg	00 22 50.9	+0.2
KMRM	**Mail Ridge**	**0.83**	**104**		Sg	00 22 59.9	-1.5
KMRM				IAML		00 23 01.9	
	comp=N,1μm,0.7s						
KMRM				IAML		00 23 03.2	
	comp=E,1μm,0.5s						
KHMM	**Horse Mountain**	**0.90**	**60**		Pg	00 22 52.2	+0.2
KHMM					Sg	00 23 02.4	-1.3
KRPM	**Rodgers**	**0.91**	**37**		Pb	00 22 53.1	+0.4
KRPM	**Rodgers**	**0.91**	**37**		Sg	00 23 03.7	-0.6
KRPM				IAML		00 23 04.6	
	comp=N,535nm,0.5s						
KRPM				IAML		00 23 04.7	
	comp=E,327nm,0.8s						
KPPM	**Pickett Peak**	**1.07**	**94**		Pg	00 22 54.2	-1.0
KIPM	**Iron Peak**	**1.16**	**122**		Pb	00 22 55.6	-1.3
KCPM	**Cahto Peak**	**1.17**	**129**		Pb	00 22 55.6	-1.5
KCPM				Sn	Sb	00 23 08.2	-4.1
KCPM				IAML		00 23 09.2	
	comp=N,493nm,0.3s						
KHBM	**Hayfork Bally**	**1.19**	**78**		Pb	00 22 55.8	-1.8
KFPM	**Farley Peak**	**1.29**	**127**		Pn	00 22 57.2	-1.7
KOMM	**Orleans Mounta**	**1.30**	**49**		Pn	00 22 58.2	-0.9
KBNM	**Bluenose Ridge**	**1.31**	**114**		Pn	00 22 58.1	-1.2
GTC	**Three Chop Rid**	**1.38**	**138**		Pn	00 22 58.6	-1.5
LBPM	**Beegum Peak**	**1.44**	**94**		Pn	00 22 58.9	-2.0
GNAM	**Navarro Ridge**	**1.51**	**145**		Pn	00 23 00.4	-1.4
LGPM	**Granite Peak**	**1.54**	**71**		Pn	00 23 00.9	-1.5
GWRM	**Wonder Ranch**	**1.66**	**137**		Pn	00 23 02.4	-1.5
GHOM	**Hamilton Openi**	**1.67**	**146**		Pn	00 23 02.7	-1.4
GROM	**Round Mountain**	**1.68**	**107**		Pn	00 23 03.0	-1.3
GHMM	**Hull Mountain**	**1.69**	**123**		Pn	00 23 02.7	-1.6
LBKM	**Bonanza King**	**1.71**	**67**		Pn	00 23 03.5	-1.3
GVV	**Valley View**	**1.72**	**112**		Pn	00 23 03.7	-1.2
KTRM	**Thompson Ridge**	**1.81**	**35**		Pn	00 23 05.9	-0.1
KBO	**Bosley Butte**	**1.82**	**12**	Pn	Pn	00 23 06.3	0.0
KBO				IAML		00 23 26.6	
	comp=E,96nm,2.1s						
KBO				Sn	Sn	00 23 27.2	-2.3
KBO				IAML		00 23 28.7	
	comp=N,166nm,1.4s						
GGUM	**Gualala**	**1.85**	**148**		Pn	00 23 05.1	-1.4
GHLM	**Highland Sprin**	**1.93**	**136**		Pn	00 23 06.1	-1.6
HOPS	**Hopland Field**	**1.94**	**137**		Pn	00 23 06.3	-1.4
HOPS	**Hopland Field**	**1.94**	**137**	Pn	Pn	00 23 06.0	-1.7
HOPS	**Hopland Field**	**1.94**	**137**	Sn	Sn	00 23 27.3	-4.7
GHGM	**Hogback Ridge**	**1.98**	**131**		Pn	00 23 06.9	-1.4
GCK	**Clark Valley**	**1.99**	**116**		Pn	00 23 08.0	-0.4
LAMM	**Antelope Mount**	**1.99**	**53**		Pn	00 23 08.1	-0.6
GTSM	**Trough Springs**	**2.00**	**123**		Pn	00 23 07.3	-1.3
YBH	**Yreka Blue Hor**	**2.02**	**49**		Pn	00 23 08.3	-0.6
YBH	**Yreka Blue Hor**	**2.02**	**49**		Pn	00 23 08.6	-0.3
YBH				Sn	Sn	00 23 31.6	-2.6
YBH				IAML		00 23 33.4	
	comp=N,49nm,0.4s						
YBH				IAML		00 23 33.4	
	comp=E,55nm,0.5s						
LTCM	**Tuscan Springs**	**2.02**	**95**		Pn	00 23 07.2	-1.7
LCSM	**College of the**	**2.04**	**60**		Pn	00 23 08.8	-0.4
LSHM	**Sage Hen Hill**	**2.10**	**79**		Pn	00 23 08.8	-1.1
M03C	**McCloud**	**2.17**	**66**		Pn	00 23 10.6	-0.4
GFC	**Funks Creek**	**2.19**	**119**		Pn	00 23 10.3	-0.9
GDXM	**Geysers**	**2.22**	**136**	Pn	Pn	00 23 11.2	-0.4
LMPM	**Military Pass**	**2.23**	**61**		Pn	00 23 12.2	+0.3
B040	**Montague**	**2.25**	**51**		Pn	00 23 11.8	-0.2
LHEM	**Herd Peak**	**2.26**	**57**		Pn	00 23 12.3	-0.1
LDBM	**Digger Butte**	**2.27**	**89**		Pn	00 23 10.5	-1.9
LBFM	**Black Fox Moun**	**2.36**	**66**		Pn	00 23 13.6	-0.1
LMEM	**Manzanita Entr**	**2.43**	**86**		Pn	00 23 13.4	-1.3
KEBM	**Edson Butte**	**2.46**	**7**	Pn	Pn	00 23 16.2	+1.3
KEBM				IAML		00 23 42.4	
	comp=E,80nm,2.6s						
KEBM				IAML		00 24 45.7	
	comp=N,79nm,2.6s						
LCMM	**Colby Mountain**	**2.49**	**96**		Pn	00 23 14.1	-1.4
LRDM	**Redding Peak**	**2.51**	**88**		Pn	00 23 14.9	-0.8
OSUM	**Sutter Buttes**	**2.52**	**116**		Pn	00 23 13.8	-1.8
OGOM	**Van Goodin Ran**	**2.53**	**107**		Pn	00 23 14.0	-1.9
HATC	**Hat Creek Radi**	**2.54**	**80**		Pn	00 23 15.0	-1.0
HUMO	**Hull Mountain**	**2.56**	**31**		Pn	00 23 16.7	+0.4
HUMO	**Hull Mountain**	**2.56**	**31**		Pn	00 23 16.9	+0.6
HUMO				IAML		00 23 47.9	
	comp=N,25nm,0.3s						
HUMO				IAML		00 23 48.8	
	comp=E,23nm,0.4s						
SUTB	**Sutter Butte**	**2.58**	**117**		Pn	00 23 14.6	-2.0
LTIM	**Timbered Crate**	**2.59**	**72**		Pn	00 23 15.8	-0.9
LBCM	**Butte Creek Ri**	**2.62**	**80**		Pn	00 23 16.2	-1.1
ORV	**Oroville**	**2.65**	**108**		Pn	00 23 15.4	-2.1
ORV	**Oroville**	**2.65**	**108**		Pn	00 23 15.7	-1.8
ORV				IAML		00 23 45.4	
	comp=E,17nm,0.6s						
ORV				IAML		00 23 45.9	
	comp=N,18nm,0.2s						
PAM	**Palermo**	**2.67**	**111**		Pn	00 23 15.7	-2.1
OWYM	**Wyandotte**	**2.69**	**110**		Pn	00 23 16.1	-2.1
MCCM	**Marconi Confer**	**2.71**	**147**	Pn	Pn	00 23 17.4	-0.9
MCCM				IAML		00 23 47.5	
	comp=N,51nm,2.2s						
MCCM				IAML		00 25 01.1	
	comp=E,50nm,2.2s						
OHCM	**Honcut**	**2.74**	**112**		Pn	00 23 16.6	-2.2
KPK	**Kanaka Peak**	**2.78**	**107**		Pn	00 23 18.1	-1.3
DBO	**Dodson Butte**	**2.91**	**22**	Pn	Pn	00 23 22.6	+1.4
DBO				IAML		00 23 51.4	
	comp=E,27nm,4.6s						
DBO				IAML		00 24 02.6	
	comp=N,28nm,2.6s						
BEKR	**Beckworth**	**3.42**	**98**	Pn	Pn	00 23 27.4	-0.8
BEKR				IAML		00 24 09.1	
	comp=N,22nm,0.6s						
MOD	**Modoc Plateau**	**3.67**	**65**		Pn	00 23 30.2	-1.5
K05A	**Summer Lake**	**3.69**	**50**		Pn	00 23 32.5	+0.5
K05A				IAML		00 24 33.9	
	comp=E,24nm,4.4s						
K05A				IAML		00 25 12.1	
	comp=N,25nm,4.5s						
MPK	**Martis Peak**	**3.81**	**106**		Pn	00 23 32.8	-1.0
MPK				IAML		00 24 05.2	
	comp=N,19nm,4.6s						
MPK				IAML		00 24 06.7	
	comp=E,13nm,2.7s						
EMB	**Emerald Bay**	**3.87**	**111**		Pn	00 23 34.2	-0.4
EMB				IAML		00 24 12.1	
	comp=E,13nm,4.9s						
BUCK	**Buck Mountain**	**3.98**	**19**	Pn	Pn	00 23 37.4	+1.5
VCNR	**Virginia City**	**4.09**	**104**		Pn	00 23 38.9	+1.4
VCNR				IAML		00 26 09.0	
	comp=N,12nm,4.8s						
PNTR	**Pine Nut**	**4.19**	**107**	Pn	Pn	00 23 38.8	-0.1
PNTR				IAML		00 25 07.1	
	comp=E,13nm,4.2s						
COR	**Corvallis**	**4.29**	**14**	Pn	Pn	00 23 41.0	+1.0
PINE	**Pine Mountain**	**4.39**	**39**	Pn	Pn	00 23 43.1	+1.4
PINE				IAML		00 24 51.4	
	comp=N,23nm,4.7s						
PINE				IAML		00 25 51.5	
	comp=E,23nm,4.3s						
SAO	**San Andreas Ge**	**4.49**	**144**	Pn	Pn	00 23 42.6	-0.1
YERR	**Yerington**	**4.49**	**107**		Pn	00 23 42.8	-0.2
YERR				IAML		00 24 46.6	
	comp=E,10nm,3.1s						
WAKR	**Walker**	**4.54**	**113**	Pn	Pn	00 23 44.7	+0.9
WAKR				IAML		00 24 30.7	
	comp=N,7.8nm,4.0s						
WAKR				IAML		00 25 32.5	
	comp=E,8.5nm,4.5s						
H04A	**Detroit Lake**	**4.65**	**23**	Pn	Pn	00 23 46.9	+1.8
BBGB	**Big Mountain B**	**4.83**	**142**	Pn	Pn	00 23 48.7	+1.2
WVOR	**Wild Horse Val**	**5.01**	**65**	Pn	Pn	00 23 49.6	-0.6
WVOR				IAML		00 24 47.0	
	comp=E,11nm,4.5s						
WVOR				IAML		00 25 24.3	
	comp=E,12nm,5.0s						
RYN	**Ryan**	**5.14**	**109**	Pn	Pn	00 23 51.4	-0.5
RYN				IAML		00 27 10.0	
	comp=E,6.2nm,5.0s						
MDPB	**Devils Postpil**	**5.23**	**121**	Pn	Pn	00 23 53.1	-0.1
MDPB				IAML		00 26 00.1	
	comp=E,4.6nm,4.9s						
MDPB				IAML		00 26 28.4	
	comp=N,5.8nm,4.8s						
PMPB	**Monarch Peak**	**5.23**	**142**	Pn	Pn	00 23 52.0	-1.1
OMMB	**Old Mammoth Mi**	**5.29**	**120**	Pn	Pn	00 23 54.2	+0.1
OMMB				IAML		00 25 30.9	
	comp=E,7.7nm,4.9s						
OMMB				IAML		00 26 23.7	
	comp=N,5.8nm,4.9s						
KVN	**Kaiserville**	**5.31**	**103**	IAML		00 24 52.0	
	comp=N,5.5nm,4.1s						
KVN				IAML		00 24 58.5	
	comp=E,6.3nm,4.2s						
LHV	**Little Huntoon**	**5.31**	**112**	Pn	Pn	00 23 55.0	+1.0
LHV				IAML		00 26 52.4	
	comp=N,8.3nm,4.5s						
NVAR	**Mina Array Bea**	**5.38**	**110**	Pn	Pn	00 23 54.5	-0.7
NV11	**Mina Array Sit**	**5.49**	**109**	Pn	Pn	00 23 56.5	-0.1
NV11				IAML		00 25 38.3	
	comp=E,3.8nm,3.4s						
NV11				IAML		00 25 46.9	
	comp=N,4.8nm,4.2s						
ISA	**Isabella, Lake**	**6.87**	**132**	Pn	Pn	00 24 17.7	+2.1

WEL 14 00:23:17.6±0.8,42˚S±4˚×17˚4E±˚,h5km,M3.4/7,ML3.7/7, MLv3.4/7,Error ellipse: s-maj=0.0km s-min=0.0km az=127.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.54**	**0**	P	Pg	00 23 27.7	-0.4
BSWZ				S	Sg	00 23 36.3	+1.2
TUWZ	**Tuamarina**	**0.83**	**4**	P	Pg	00 23 32.8	-0.8
TUWZ				S	Sb	00 23 45.6	-0.4
THZ	**Tophouse**	**0.87**	**304**	P	Pb	00 23 35.1	-0.2
THZ				S	Sg	00 23 45.8	+0.1
MRNZ	**Matariki Terra**	**1.20**	**316**	P	Pg	00 23 40.1	-0.5
MRNZ				S	Sb	00 23 57.1	+0.5
LTZ	**Lake Taylor**	**1.29**	**246**	P	Pn	00 23 41.2	-1.2
LTZ				S	Sg	00 23 58.8	-0.4
TKNZ	**Takaka Hill**	**1.40**	**331**	P	Pn	00 23 43.1	-0.7
TKNZ				S	Sn	00 24 03.0	+0.2
DUWZ	**D'Urville Isla**	**1.46**	**2**	P	Pn	00 23 43.9	-0.7
DUWZ				S	Sb	00 24 03.8	-0.3
DSZ	**Denniston Nort**	**1.62**	**288**	P	Pb	00 23 47.6	-0.5
DSZ				S	Sg	00 24 10.1	+0.3
QRZ	**Quartz Range**	**1.75**	**324**	P	Pn	00 23 49.1	+0.4
QRZ				S	Sb	00 24 12.2	-0.3
RPZ	**Rata Peaks**	**2.53**	**234**	P	Pn	00 23 57.1	-2.3
RPZ				S	Sn	00 24 27.2	-3.3

WEL 14 00:27:24.8±0.6,42˚S±3˚×17˚4E±˚,h5km,M3.6/8,ML3.9/8, MLv3.6/8,Error ellipse: s-maj=0.0km s-min=0.0km az=114.1,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.40**	**249**	P	Pg	00 27 32.3	-0.1
KHZ				S	Sg	00 27 37.2	-0.4
BSWZ	**Blackbirch Sta**	**0.57**	**348**	P	Pg	00 27 35.9	+0.2
THZ	**Tophouse**	**0.98**	**301**	P	Pb	00 27 44.4	+0.1
THZ				S	Sg	00 27 55.6	-0.8
GVZ	**Greta Valley S**	**1.01**	**226**	P	Pb	00 27 44.7	-0.1
GVZ				S	Sb	00 27 58.5	+0.1
NNZ	**Nelson**	**1.16**	**335**	P	Pg	00 27 45.2	-1.9
MRNZ	**Matariki Terra**	**1.29**	**312**	P	Pn	00 27 48.5	-1.0
MRNZ				S	Sn	00 28 06.8	-0.3
LTZ	**Lake Taylor**	**1.40**	**248**	P	Pn	00 27 50.2	-0.8
LTZ				S	Sn	00 28 10.2	+0.3
TRWZ	**Traveller**	**1.51**	**55**	P	Pn	00 27 52.3	-0.2
OKCZ	**Okains Bay**	**1.62**	**206**	P	Pn	00 27 52.9	-1.1
OKCZ				S	Sn	00 28 14.0	-1.2
DSZ	**Denniston Nort**	**1.75**	**287**	P	Pb	00 27 57.4	+0.1
DSZ				S	Sb	00 28 19.6	+0.1
MQZ	**McQueen's Vall**	**1.76**

CTZ	Chatham Island	7.09	105	P	Pn	00 32 44.2 -1.5

WEL ***14*** *00:34:00,42.˙56S×173.˙32E,h10km,ML6.3,Mw6.5, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁸ Nm; Mrr-0.16; Mθθ4.15; Mϕϕ-3.99; Mrθ-0.24; Mrϕ-4.45; Mθϕ0.98; Fault plane solution: Mo6.11000×10¹⁸ NP1: ϕs249.00000°,δ81.00000°,λ-178.00000°. NP2: ϕs159.00000°,δ88.00000°,λ-9.00000°. Principal axes: T 616657.1200, Plg5.0000°, Azm204.0000°; N -605962.2600, Plg81.0000°, Azm326.0000°; P -10694.8500, Plg8.0000°, Azm114.0000°;*

IDC ***14*** *00:34:20.9±0.4,42˙.37S×172˙.99E,h0km,mb5.0/20, mbtmp5.0/20,MS6.2/42 Error ellipse: s-maj=13.3km s-min=12.9km az=58.0*

BJI ***14*** *00:34:21.6±0.0,42˙.50S×173˙.19E,h10km,mb5.4/33, mB6.0/43,Ms6.3/65,Ms7 6.2/61*

MOS ***14*** *00:34:22.2±1.4,42˙.54S×172˙.99E,h12km,mb6.1/18, MS6.3/27,Error ellipse: s-maj=11.5km s-min=9.0km az=119.4*

NEIC ***14*** *00:34:22.6±2.1,42˙.61S±0˙.04×173˙.25E±0˙.05,h9km±1km, mb5.9/138,Ms_20 6.5/411,Mww6.5,Error ellipse: s-maj=7.7km s-min=4.8km az=325.0*

WEL ***14*** *00:34:23.4±0.3,42˙S±2˙×17˙3E±˙,h5km,M6.7/54, ML6.4/10,MLv6.7/54,Error ellipse: s-maj=0.0km s-min=0.0km az=128.7*

NOU ***14*** *00:34:24.6,42˙.69S×173˙.48E,h27km,ML6.0/121,South Island, New Zealand*

NEIC ***14*** *00:34:30,42˙.48S×173˙.12E,h16km,Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10¹⁸Nm; Mrr-0.42; Mθθ3.65; Mϕϕ-3.23; Mrθ2.88; Mrϕ-4.26; Mθϕ-0.23; Fault plane solution: Mo6.20000×10¹⁸ NP1: ϕs162.00000°,δ66.00000°,λ6.00000°. NP2:ϕs70.00000°, δ85.00000°,λ155.00000°. Principal axes: T 6.7124, Plg21.0000°, Azm24.0000°; N -1.2050, Plg65.0000°, Azm239.0000°; P -5.5074, Plg13.0000°, Azm119.0000°;*

GCMT ***14*** *00:34:30.6±0.0,42˙.44S×173˙.07E,h12km,MW6.4/167, Moment Tensor Solution. s167,c420; s164,c545; Duration: 3s8 Moment tensor: Scale 10¹⁸Nm; Mrr-0.14±.02; Mθθ3.29±.03; Mϕϕ-3.15±.02; Mrθ-0.42±.05; Mθϕ-3.45±.02; Mrϕ-0.07±.05; Best double couple: Mo4.73800×10¹⁸ NP1:ϕs248.00000°,δ89.00000°, λ175.00000°. NP2:ϕs339.00000°,δ85.00000°,λ1.00000°. Principal axes: T 4.8150, Plg4.0000°, Azm203.0000°; N -0.1490, Plg85.0000°, Azm59.0000°; P -4.6610, Plg3.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 14 00:34:24.2±0.3,42˙56S±0˙.02×173˙24E±0˙.02,h16km±1km, h17km:pP-P,n1235,σ2s32/988,mb5.8/152,MS6.4/289, 63C-56D,South Island

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.27	56	Op Pg	Pg	00 34 29.3	-0.7
KHZ				Sg	Sb	00 34 34.9	0.0
KHZ	Kahutara	0.27	56	⇓P	Pg	00 34 29.3	-0.7
KHZ	Kahutara	0.27	56	P	Pg	00 34 29.4	-0.6
KHZ				S	Sg	00 34 33.9	-0.1
GVZ	Greta Valley S	0.43	200		Pb	00 34 33.7	+0.3
GVZ	Greta Valley S	0.43	200	P	Pb	00 34 33.6	+0.2
LTZ	Lake Taylor	0.75	253	Pg	Pg	00 34 36.8	-2.0
LTZ	Lake Taylor	0.75	253	P	Pg	00 34 36.8	-2.0
LTZ				S	Sg	00 34 46.9	-1.9
AMCZ	Amberley	0.75	215	P	Pg	00 34 39.0	+0.2
THZ	Tophouse	0.84	343	Pg	Pg	00 34 37.6	-2.9
THZ	Tophouse	0.84	343	P	Pg	00 34 37.6	-2.9
THZ				S	Sg	00 34 48.3	-3.3
BSWZ	Blackbirch Sta	0.97	29	Pg	Pb	00 34 41.8	-0.8
BSWZ	Blackbirch Sta	0.97	29	P	Pb	00 34 41.2	-1.5
CMWZ	Cape Campbell	1.09	42		Pb	00 34 44.0	-0.7
CMWZ	Cape Campbell	1.09	42	P	Pb	00 34 44.3	-0.4
CMWZ				S	Sn	00 35 02.0	+2.5
OXZ	Oxford	1.17	229		Pn	00 34 44.1	-1.8
OKCZ	Okains Bay	1.17	186	P	Pn	00 34 43.8	-2.1
MQZ	McQueen's Vall	1.22	200	Pn	Pn	00 34 44.6	-1.9
MQZ	McQueen's Vall	1.22	200	P	Pn	00 34 44.7	-1.9
TUWZ	Tuamarina	1.25	25		Pn	00 34 45.5	-1.4
TUWZ	Tuamarina	1.25	25	P	Pn	00 34 45.6	-1.4
TUWZ				S	Sg	00 35 05.4	+0.8
AKCZ	Akaroa Harbour	1.33	190	P	Pn	00 34 46.4	-1.7
INZ	Inchbonnie	1.33	262	P	Pn	00 34 46.5	-1.7
INZ				S	Sg	00 35 08.2	+0.8
DSZ	Denniston Nort	1.34	307	Pn	Pn	00 34 46.7	-1.6
DSZ	Denniston Nort	1.34	307	P	Pn	00 34 46.4	-1.9
NNZ	Nelson	1.35	4		Pn	00 34 47.0	-1.3
NNZ	Nelson	1.35	4	P	Pn	00 34 46.7	-1.6
NNZ				S	Sg	00 35 07.2	-0.6
RACZ	Rakaia	1.42	214	P	Pn	00 34 47.4	-1.8
TKNZ	Takaka Hill	1.54	352	P	Pn	00 34 49.7	-1.3
TCW	Tory Channel	1.56	30	P	Pn	00 34 49.8	-1.4
TCW				S	Sg	00 35 13.6	-0.8
SNZO	South Karori	1.66	42		Pn	00 34 51.0	-1.6
WEL	Wellington	1.71	42	P	Pn	00 34 51.9	-1.4
WACZ	Wakanui South	1.72	216	P	Pn	00 34 51.7	-1.7
PLWZ	Palliser	1.80	57		Pn	00 34 52.2	-2.3
PLWZ	Palliser	1.80	57	P	Pn	00 34 52.5	-2.1
PLWZ				S	Sn	00 35 17.6	+0.6
QRZ	Quartz Range	1.82	343		Pn	00 34 53.3	-1.4
QRZ	Quartz Range	1.82	343	P	Pn	00 34 53.9	-0.9
DUWZ	D'Urville Isla	1.83	16	P	Pn	00 34 54.8	-0.2
DUWZ				S	Sg	00 35 21.5	-1.7
MSWZ	Moikau Station	1.89	53		Pn	00 34 53.2	-2.5
MSWZ	Moikau Station	1.89	53	P	Pn	00 34 53.6	-2.1
MSWZ				S	Sn	00 35 18.2	-1.0
WVZ	Waitaha Valley	1.91	254	P	Pn	00 34 54.6	-1.4
RPZ	Rata Peaks 2µm,0.3s,baz=74,slow=2.8,SNR=1112	1.97	234	Pn	Pn	00 34 54.9	-2.0
RPZ	9µm,0.3s,baz=360,slow=2.1,SNR=4.7			Sn	Sn	00 35 21.8	+0.6
RPZ	comp=Z,207µm,21.3s,baz=164,slow=42			LR	LR	00 35 42.2	
RPZ	Rata Peaks	1.97	234	Pn	Pn	00 34 55.2	-1.8
RPZ	Rata Peaks	1.97	234	P	Pn	00 34 55.1	-1.8
CAW	Cannon Point	2.00	44	P	Pn	00 34 55.4	-1.8
PAWZ	Paruwai Farm	2.01	55	P	Pn	00 34 55.1	-2.4
PAWZ				S	Sn	00 35 21.1	-1.2
ARCZ	Arundel	2.05	227	P	Pn	00 34 56.1	-1.8
ARCZ				S	Sn	00 35 24.7	+1.6
KIW	Kapiti Island	2.11	37	P	Pn	00 34 57.3	-1.5
TRWZ	Traveller	2.17	58	P	Pn	00 34 57.1	-2.4
MTW	Mount Morrison	2.20	51	P	Pn	00 34 57.6	-2.3
OGWZ	Otaki Gorge	2.27	40	P	Pn	00 34 59.1	-1.8
GCSZ	Gaunt Creek Bo	2.27	250	P	Pn	00 34 59.8	-1.2
HOWZ	Holdsworth Sta	2.38	46	P	Pn	00 35 00.1	-2.5
TMZ	Timaru	2.44	221	P	Pn	00 35 01.7	-1.7
TMWZ	Te Maipa	2.46	55	P	Pn	00 35 00.9	-2.7
MRZ	Mangatainoka R	2.59	43		Pn	00 35 02.9	-2.4
MRZ	Mangatainoka R	2.59	43	P	Pn	00 35 03.0	-2.3
TIWZ	Tintock	2.67	49	P	Pn	00 35 04.3	-2.2
FOZ	Fox Glacier	2.69	248	Pn	Pn	00 35 05.3	-1.4
FOZ	Fox Glacier	2.69	248	P	Pn	00 35 05.6	-1.2
CPWZ	Castlepoint	2.76	54	P	Pn	00 35 05.5	-2.3
OHWZ	Ohakea	2.83	34	P	Pn	00 35 07.9	-0.7
PRWZ	Pori Road	2.87	47	P	Pn	00 35 07.2	-2.0
LBZ	Lake Benmore	2.88	230	Pn	Pn	00 35 07.6	-1.7
LBZ	Lake Benmore	2.88	230	P	Pn	00 35 07.7	-1.6
POWZ	Post Office Ro	2.88	42	P	Pn	00 35 06.9	-2.5
BFZ	Birch Farm	2.94	51		Pn	00 35 07.1	-2.0
BFZ	Birch Farm	2.94	51	P	Pn	00 35 08.8	-1.3
BFZ	Birch Farm	2.94	51	P	Pn	00 35 07.2	-3.0
WAZ	Wanganui	3.10	26	P	Pn	00 35 12.8	+0.4
ODZ	Otahua Downs	3.11	216		Pn	00 35 10.7	-1.9
ODZ	Otahua Downs	3.11	216	P	Pn	00 35 11.1	-1.4
ODZ	Otahua Downs	3.11	216	⇑P	Pn	00 35 09.6	-3.0
ODZ	Otahua Downs	3.11	216	P	Pn	00 35 10.4	-2.1
DVHZ	Dannevirke	3.16	45	P	Pn	00 35 10.0	-3.2
NMEZ	Namu Road	3.18	9	P	Pn	00 35 14.3	+0.8
ANWZ	Angora Road	3.21	50	P	Pn	00 35 10.9	-3.0
LREZ	Lake Rotokare	3.22	16	P	Pn	00 35 14.6	+0.6
TSZ	Takapari Road	3.23	40	P	Pn	00 35 11.6	-2.7
KHEZ	Kahui Hut	3.32	10	P	Pn	00 35 17.6	+2.1
KHEZ	Kahui Hut	3.32	10	P	Pn	00 35 16.3	+0.8
NBEZ	Newall Road No	3.33	8	P	Pn	00 35 15.5	0.0
NEZ	North Egmont	3.35	11	P	Pn	00 35 16.8	+0.8
PKE	Pukeiti	3.41	10	P	Pn	00 35 17.0	+0.3
PRHZ	Porangahau	3.43	49	P	Pn	00 35 13.6	-3.4
DREZ	Durham Road	3.45	13	P	Pn	00 35 17.4	+0.2
PNHZ	Pukenui	3.46	41	P	Pn	00 35 14.5	-3.0
WPHZ	Waipukurau	3.47	45	P	Pn	00 35 14.5	-3.0
MHEZ	Mangahewa	3.58	14	P	Pn	00 35 20.0	+1.0
JCZ	Jackson Bay	3.58	244	P	Pn	00 35 18.7	-0.4
JCZ	Jackson Bay	3.58	244	P	Pn	00 35 17.2	-1.9
MTVZ	Mangateitei	3.60	29	P	Pn	00 35 19.0	-0.3
VRZ	Vera Road	3.62	19	P	Pn	00 35 19.6	0.0
PKVZ	Pokaka	3.64	27	P	Pn	00 35 19.4	-0.4
MOVZ	Moawhango	3.68	32	P	Pn	00 35 18.6	-1.8
WNVZ	Wahianoa	3.69	30	P	Pn	00 35 19.8	-0.9
TRVZ	Turoa	3.70	29	P	Pn	00 35 19.7	-1.2
PXZ	Pawanui	3.72	48	P	Pn	00 35 17.3	-3.6
DRZ	Dome Shelter	3.73	29	P	Pn	00 35 20.2	-1.1
WHVZ	Whangaehu Hut	3.73	29	P	Pn	00 35 20.2	-1.1
BHHZ	Black Hill Sta	3.74	36	P	Pn	00 35 19.3	-1.9
FWVZ	Far West T-bar	3.74	29	P	Pn	00 35 20.1	-1.3
TUVZ	Tukino	3.77	30	P	Pn	00 35 20.9	-0.8
WKZ	Wanaka	3.81	232		Pn	00 35 20.0	-2.2
WKZ	Wanaka	3.81	232	P	Pn	00 35 19.6	-2.5
HHSZ	Highcliff Hill	3.83	209	P	Pn	00 35 20.4	-1.9
NGZ	Ngauruhoe	3.83	29	P	Pn	00 35 21.5	-1.0
SNVZ	South Ngauruho	3.83	29	P	Pn	00 35 21.6	-1.0
OTVZ	Oturere	3.86	29	P	Pn	00 35 22.0	-1.1
TWVZ	Taurewa	3.87	26	P	Pn	00 35 21.9	-1.2
NNVZ	North Ngauruho	3.87	29	P	Pn	00 35 22.0	-1.2
WTVZ	West Tongariro	3.88	28	P	Pn	00 35 22.0	-1.2
KAHZ	Kahuranaki	3.90	46	P	Pn	00 35 19.7	-3.7
KAHZ				P	Pn	00 35 19.9	-3.5
EAZ	Earnscleugh	3.90	225	P	Pn	00 35 21.1	-2.3
ETVZ	East Tongariro	3.90	30	P	Pn	00 35 22.5	-1.1
KRVZ	Karewarewa	3.92	29	P	Pn	00 35 22.7	-1.0
TMVZ	Te Maari	3.92	29	P	Pn	00 35 22.5	-1.2
NTVZ	North Tongarir	3.92	29	P	Pn	00 35 22.7	-1.1
KWHZ	Kaweka Forest	3.95	39	P	Pn	00 35 21.2	-3.0
MCHZ	McNeill Hill	4.07	41	P	Pn	00 35 22.4	-3.3
RITZ	Rihia Road	4.10	30	P	Pn	00 35 24.7	-1.4
CKHZ	Cape Kidnapper	4.10	46	P	Pn	00 35 22.7	-3.4
RATZ	Rangitukua	4.16	28	P	Pn	00 35 26.5	-0.6
BKZ	Black Stump Fm	4.20	37		Pn	00 35 24.6	-2.9
BKZ	Black Stump Fm	4.20	37	P	Pn	00 35 26.3	-1.2
HIZ	Hauiti	4.23	17		Pn	00 35 26.8	-1.1
TUZ	Tuapeka	4.27	216	P	Pn	00 35 26.9	-1.5
NMHZ	Naumai	4.39	39	P	Pn	00 35 26.9	-3.4
MLZ	Mavora Lakes	4.64	231	Pn	Pn	00 35 30.8	-2.8
SYZ	Scrubby Hill	4.94	215	P	Pn	00 35 37.3	-0.3
URZ	Urewera	5.22	36	P	Pn	00 35 38.9	-2.6
URZ	Urewera	5.22	36	⇓P	Pn	00 35 36.8	-4.6
DCZ	Deep Cove	5.26	234	Pn	Pn	00 35 39.3	-2.7
PYZ	Puysegur Point	5.92	230	Pn	Pn	00 35 47.0	-4.1
PYZ	Puysegur Point	5.92	230	P	Pn	00 35 50.4	-0.8
KUZ	Kuaotunu	6.12	19	P	Pn	00 35 52.1	-1.7
MXZ	Matakaoa Point	6.33	40	Pn	Pn	00 35 53.5	-3.2
MXZ	Matakaoa Point	6.33	40	P	Pn	00 35 54.0	-2.7
OUZ	Omahuta	7.34	2	Pn	Pn	00 36 10.4	-0.2
OUZ	Omahuta	7.34	2	P	Pn	00 36 11.1	+0.5
OUZ	Omahuta	7.34	2	⇑P	Pn	00 36 09.2	-1.4
CTZ	Chatham Island	7.51	102	P	Pn	00 36 11.6	-1.3
NFK	Norfolk Island baz=14,SNR=4.2	14.15	341	P	Pn	00 37 46.3	+2.3
NFK	Norfolk Island	14.15	341	P	Pn	00 37 46.4	+2.4
NFK	Norfolk Island	14.15	341	⇑P	Pn	00 37 47.1	+3.1
MCQ	Macquarie Isla baz=15,SNR=17	15.20	213	P	Pn	00 37 56.4	-1.5
MCQ	Macquarie Isla	15.20	213		Pn	00 37 55.6	-2.3
MCQ	Macquarie Isla	15.20	213	⇑P	Pn	00 37 59.7	+1.8
MCQ	Macquarie Isla	15.20	213	P	Pn	00 37 55.6	-2.3
MCQ	comp=Z,215nm,1.7s			pmax	pmax		
LHI	Lord Howe Isla baz=16,SNR=5.3	15.78	310	P	Pn	00 38 05.7	+0.1
LHI	Lord Howe Isla	15.78	310	Pn	Pn	00 38 04.5	-1.1
I05AU	HOBART INFRASO baz=100,slow=324,SNR=0.8	18.82	262	I	I	02 26 10.0	
GLAD	Gladstone	18.87	266	P	Pn	00 38 45.2	+1.0
TAU	Tasmania Unive	19.02	260		P	00 38 43.4	-1.8
TAU	Tasmania Unive	19.02	260	P	Pn	00 38 47.6	+1.6
TAU	Tasmania Unive	19.02	260	⇓P	Pn	00 38 47.2	+1.2
TAU	Tasmania Unive	19.02	260	P	P	00 38 43.4	-1.8
TAU	comp=Z,680nm,1.9s			pmax	pmax		
AUUHS	Ulladulla High	19.08	285	P	Pn	00 38 50.5	+3.8
MOO	Moorlands baz=19,SNR=11	19.19	262	P	Pn	00 38 47.9	-0.1
MOO	Moorlands	19.19	262	P	Pn	00 38 48.7	+0.7
MILA	Mila baz=19,SNR=9.7	19.28	279	P	P	00 38 48.0	-0.1
MILA	Mila	19.28	279	P	Pn	00 38 51.1	+1.9
MILA	Mila	19.28	279	⇓P	Pn	00 38 49.2	+0.1
RIV	Riverview baz=20,SNR=3.4	19.38	289	P	Pn	00 38 49.8	-0.6
RIV	Riverview	19.38	289	P	Pn	00 38 54.4	+4.0
RIV	Riverview	19.38	289	⇓P	Pn	00 38 52.0	+1.6
RIV	Riverview	19.38	289	⇓P	Pn	00 38 51.0	+0.6
AULHS	Lilydale High	19.39	265	P	Pn	00 38 52.4	+2.0
NTLH	Newcastle Hard	19.53	293	P	P	00 38 49.7	-1.1
MGCD	Mangrove Creek baz=20,SNR=9.8	19.76	291	P	P	00 38 52.4	-1.0
MGCD	Mangrove Creek	19.76	291	P	Pn	00 38 58.7	+3.8
CNB	Canberra Magne	19.89	283	P	Pn	00 38 56.2	-0.4
CAN	Canberra	20.15	283	P	P	00 38 53.6	-4.1
CAN	Canberra	20.15	283	P	P	00 38 58.3	+0.6
CAN	Canberra	20.15	283	⇑P	P	00 38 58.0	+0.2
OUENC	Ouen Island, N	20.79	343	P	P	00 39 02.0	-2.5
OUENC	Ouen Island, N	20.79	343	P	P	00 39 05.5	+0.9
ONTNC	Ouen Toro	20.98	342		P	00 39 05.8	-0.8
ONTNC	Ouen Toro	20.98	342	P	P	00 39 07.5	+0.9
ONTNC	Ouen Toro	20.98	342	⇑P	P	00 39 06.7	+0.1
ARMA	Armidale baz=21,SNR=7.7	21.12	298	P	P	00 39 08.9	+0.7
ARMA	Armidale	21.12	298	P	P	00 39 07.8	-0.4
ARMA	Armidale	21.12	298	P	P	00 39 09.6	+1.4
ARMA	Armidale	21.12	298	⇑P	P	00 39 09.2	+1.0
YATNC	Mamie plateau,	21.12	343	P	P	00 39 09.7	+1.5
DZM	Mont Dzumac	21.21	342	ePn	P	00 39 10.0	+0.8
DZM	comp=Z,134µm,26.6s			eLR	LR	00 44 12.7	
DZM	Mont Dzumac	21.21	342	P	P	00 39 09.0	-0.2
DZM	comp=Z,278nm,1.1s,baz=141,slow=11,SNR=31			LR	LR	00 46 49.7	
DZM	comp=Z,94µm,18.8s,baz=175,slow=36			IAmb	IAmb	00 39 22.6	
DZM	Mont Dzumac	21.21	342	P	P	00 39 07.9	-1.4
DZM	comp=Z,505nm,1.1s			pmax	pmax		
DZM	Mont Dzumac	21.21	342	P	P	00 39 10.4	+1.2
DZM	Mont Dzumac	21.21	342	⇑P	P	00 39 09.3	+0.1
NOUC	Port Laguerre	21.21	342	P	P	00 39 10.1	+1.0
MARNC	Mare, Loyalty	21.47	347	P	P	00 39 11.7	-0.2
MARNC	Mare, Loyalty	21.47	347	P	P	00 39 13.1	+1.2
MARNC	Mare, Loyalty	21.47	347	⇑P	P	00 39 12.0	+0.1
TOO	Toolangi baz=22,SNR=8.7	21.77	274	P	P	00 39 14.6	-0.5
TOO	Toolangi	21.77	274	P	P	00 39 15.0	0.0
TOO	comp=Z,516nm,1.5s			IAmb	IAmb	00 39 31.7	
TOO	Toolangi	21.77	274	P	P	00 39 15.1	0.0
TOO	Toolangi	21.77	274	⇓P	P	00 39 15.1	0.0
TOO	Toolangi	21.77	274	P	P	00 39 15.0	0.0
TOO	comp=Z,516nm,1.5s			pmax	pmax		
AUDCS	Dubbo College	22.03	290	P	P	00 39 19.2	+1.3
LIFNC	LIFOU	22.30	345	P	P	00 39 20.4	-0.4
LIFNC	comp=Z,123µm,18.0s			IAMs_20	IAMs_20	00 48 12.4	
LIFNC	LIFOU	22.30	345	P	P	00 39 20.9	+0.1
AUWSH	Wavell State H	22.34	306	P	P	00 39 22.5	+1.3
AUBSH	Beerwah State comp=Z,423nm,2.0s	22.80	307	P	P	00 39 27.8	+1.7
BRAT	Ballarat	22.93	273	P	P	00 39 28.3	+1.0
KOUNC	Koumac, New Ca	23.21	338	P	P	00 39 29.3	-1.0
KOUNC	Koumac, New Ca	23.21	338	P	P	00 39 30.6	+0.3
KOUNC	Koumac, New Ca	23.21	338	⇓P	P	00 39 30.1	-0.2
CMSA	Cobar Meteorol baz=25,SNR=10	24.48	288	P	P	00 39 41.6	-0.9
CMSA	Cobar Meteorol	24.48	288	P	P	00 39 41.1	-1.4
ARPS	Mount Arapiles baz=25,SNR=14	24.77	273	P	P	00 39 44.1	-0.9
ARPS	Mount Arapiles	24.77	273	P	P	00 39 44.8	-0.2
EIDS	Eidsvold baz=25,SNR=4.8	25.02	306	P	P	00 39 47.9	+0.6
EIDS	Eidsvold	25.02	306	P	P	00 39 47.1	-0.3
EIDS				IAmb	IAmb	00 40 16.4	
EIDS	comp=Z,329nm,1.4s Eidsvold	25.02	306	P	P	00 39 48.1	+0.7
EIDS	Eidsvold	25.02	306	⇑P	P	00 39 48.1	+0.7
RTV	Rentapao	25.03	349	P	P	00 39 48.6	+1.2
MSVF	Nonsavu	25.09	11	P	P	00 39 47.4	-0.7
MSVF	comp=Z,32nm,0.8s,baz=142,slow=6.9,SNR=12			LR	LR	00 49 17.5	
MSVF	comp=Z,148µm,18.0s,baz=187,slow=36						
MSVF	comp=Z,32nm,0.8s Nonsavu	25.09	11	P	P	00 39 45.4	-2.6
MSVF				IAmb	IAmb	00 40 11.7	
MSVF	comp=Z,341nm,1.1s Nonsavu	25.09	11	IAMs_20	IAMs_20	00 48 58.0	
MSVF	comp=Z,148µm,18.0s Nonsavu	25.09	11	P	P	00 39 48.5	+0.4
MSVF	Nonsavu	25.09	11	⇑P	P	00 39 48.1	0.0
MSVF	Nonsavu	25.09	11	⇑eP	P	00 39 48.1	0.0
MSVF	comp=Z,374nm,1.2s			pmax	pmax		
MSVF				MLR	MLR		
DVP	comp=Z,135µm,15.0s Devils Point	25.13	349	P	P	00 39 50.4	+2.1
RMQ	Roma baz=26,SNR=13	25.64	301	P	P	00 39 53.1	+0.1
RMQ	Roma	25.64	301	P	P	00 39 54.2	+1.2
STKA	Stephens Creek comp=Z,38nm,1.1s,baz=113,slow=12,SNR=15	27.22	283	P	P	00 40 06.0	-1.2
STKA				LR	LR	00 49 08.5	
STKA	comp=Z,46µm,21.0s,baz=135,slow=33 Stephens Creek	27.22	283	P	P	00 40 06.7	-0.6
STKA	comp=Z,38nm,1.1s baz=27,SNR=13 Stephens Creek	27.22	283	P	P	00 40 06.0	-1.2
STKA	Stephens Creek	27.22	283	P	P	00 40 06.5	-0.7
STKA	Stephens Creek	27.22	283	⇓eP	P	00 40 05.5	-1.7
HTT	Hallett baz=28,SNR=4.4	28.38	277	P	P	00 40 17.7	0.0
HTT	Hallett	28.38	277	P	P	00 40 19.5	+1.8
HTT	Hallett	28.38	277	⇑P	P	00 40 20.9	+3.2
QLP	Quilpie baz=29,SNR=5.4	28.53	295	P	P	00 40 18.5	-0.4
QLP	Quilpie	28.53	295	P	P	00 40 19.0	0.0
QLP	Quilpie	28.53	295	⇓P	P	00 40 22.7	+3.7
FUTU	Fugatoga	29.13	17	P	P	00 40 27.2	+2.9
WHYH	Whyalla	29.56	277	P	P	00 40 30.4	+2.3
LCRK	Leigh Creek	30.43	282	P	P	00 40 35.2	-0.6
BBOO	Buckleboo baz=31,SNR=14	30.78	276	P	P	00 40 37.7	-1.2
BBOO	Buckleboo	30.78	276	P	P	00 40 38.0	-0.9
BBOO	comp=Z,174nm,1.2s			IAmb	IAmb	00 40 49.2	
BBOO	Buckleboo	30.78	276	P	P	00 40 39.0	+0.1
RAR	Rarotonga comp=Z,24nm,0.7s,baz=160,slow=18,SNR=3.5	31.05	55	P	P	00 40 42.3	+1.0
RAR				LR	LR	00 51 54.7	
RAR	comp=Z,71µm,21.8s,baz=218,slow=34 Rarotonga	31.05	55	IAMs_20	IAMs_20	00 51 44.4	
AFI	comp=Z,24nm,0.7s Afiamalu	31.35	29	P	P	00 40 42.1	-2.0
AFI	comp=Z,11nm,0.3s,baz=231,slow=8.3,SNR=2.4			LR	LR	00 53 15.6	
CTA	comp=Z,25µm,20.6s,baz=190,slow=36 comp=Z,11nm,0.3s Charters Tower	31.91	306	P	P	00 40 47.0	-1.9
CTA	comp=Z,12nm,0.8s,baz=145,slow=10.0,SNR=12			LR	LR	00 52 56.0	
CTA	comp=Z,64µm,18.6s,baz=120,slow=35 comp=Z,12nm,0.8s Charters Tower	31.91	306	P	P	00 40 48.5	-0.4
CTAO	Charters Tower	31.91	306	P	P	00 40 47.4	-1.5
CTAO	comp=Z,160nm,1.1s			IAmb	IAmb	00 41 15.8	
CTAO	Charters Tower comp=Z,63µm,19.0s	31.91	306	IAMs_20	IAMs_20	00 52 44.5	
CTAO	Charters Tower	31.91	306	P	P	00 40 48.6	-0.4
CTAO	Charters Tower	31.91	306	P	P	00 40 47.4	-1.5
CTAO	comp=Z,160nm,1.2s			pmax	pmax		
CTAO	comp=Z,63µm,19.0s			MLR	MLR		
TV1H	Townsville Har	32.23	308	P	P	00 40 53.4	+1.7
MULG	Mulgathing	33.54	278	P	P	00 41 01.1	-2.0
OOD	Oodnadatta	33.75	284	P	P	00 41 03.5	-1.4
MTSU	Mount Surprise baz=35,SNR=9.5	34.57	306	P	P	00 41 11.2	-1.0
MTSU	Mount Surprise	34.57	306	P	P	00 41 12.3	+0.1
HNR	Honiara comp=Z,1096µm,18.6s,baz=166,slow=35	35.00	337	LR	LR	00 54 34.2	
HNR	Honiara comp=Z,81µm,18.0s	35.00	337	IAMs_20	IAMs_20	00 54 14.3	
VNDA	Vanda comp=Z,3.4nm,0.8s,baz=360,slow=9.0,SNR=10	35.38	184	P	P	00 41 19.7	+1.2
VNDA	Vanda	35.38	184	P	P	00 41 19.3	+0.8
SB

comp=Z,77nm,1.4s
PAE Paea 40.14 63 *e*T T 01 23 51.4
comp=Z,30nm,0.3s
PMG Port Moresby 40.17 318 P **P** **00 41 59.2 -0.3**
comp=Z,92nm,0.9s,baz=128,slow=4.8,SNR=44
PMG LR LR 00 57 00.4
comp=Z,71µm,18.9s,baz=147,slow=34
PMG Port Moresby 40.17 318 P **P** **00 41 59.2 -0.3**
PMG Port Moresby 40.17 318 IAMs_20 IAMs_20 00 56 40.4
comp=Z,73µm,19.0s
PMG Port Moresby 40.17 318 P **P** **00 41 58.5 -1.1**
comp=Z,6µmcomp=Z,599nm,1.1s
PMG Port Moresby 40.17 318 P **P** **00 42 01.1 +1.5**
PMG Port Moresby 40.17 318 *c iP* **P** **00 41 59.3 -0.3**
PMG pmax pmax
comp=Z,677nm,1.1s
PMG MLR MLR
comp=Z,79µm,15.0s
PPT2 Papeete2 40.20 63 *e*P **P** **00 41 58.4 -1.5**
comp=Z,232nm,1.2s
PPT2 *e*S **S** **00 48 06.9 +0.7**
comp=Z,7µm,26.8s
PPT2 *e*LR LR 00 52 59.0
comp=Z,42µm,23.8s
PPT2 *e*LR LR 00 52 59.4
comp=Z,57µm,23.5s
PPT2 Papeete2 40.20 63 *e*T T 01 23 51.4
comp=Z,26nm,0.3s
PPTF Pamatai, Papee 40.20 63 P **P** **00 41 58.5 -1.5**
PPTF IAmb IAmb 00 42 30.0
comp=Z,331nm,1.2s
PPTF Pamatai, Papee 40.20 63 ⇓sP sP 00 42 09.1 +1.8
PPT Papeete 40.21 63 P **P** **00 42 00.5 +0.6**
comp=Z,39nm,0.9s,baz=232,slow=18,SNR=3.1
PPT LR LR 00 55 54.2
comp=Z,33µm,21.9s,baz=234,slow=32
comp=Z,39nm,0.9s
TIAR Tiarei 40.37 63 *e*P **P** **00 42 02.8 +1.5**
comp=Z,28nm,1.1s
WRKA Warakurna 40.71 281 P **P** **00 42 01.6 -2.6**
baz=41,SNR=41
WRKA Warakurna 40.71 281 P **P** **00 42 01.6 -2.6**
WRKA Warakurna 40.71 281 ⇑P **P** **00 42 01.5 -2.6**
CASY Casey 41.12 213 P **P** **00 42 05.3 -1.6**
CASY Casey 41.12 213 IAMs_20 IAMs_20 00 56 50.7
comp=Z,66µm,19.0s
KMBL Kambalda 41.95 268 P **P** **00 42 12.8 -1.4**
baz=42,SNR=6.9
KMBL Kambalda 41.95 268 P **P** **00 42 13.7 -0.5**
KRVT Keravat (AS076 42.52 328 P **P** **00 42 17.3 -1.6**
comp=Z,20nm,0.5s,baz=165,slow=11,SNR=8.9
KRVT LR LR 00 59 06.7
comp=Z,24µm,18.6s,baz=286,slow=35
comp=Z,20nm,0.5s
RABL Rabaul 42.57 328 P **P** **00 42 18.4 -0.9**
RABL Rabaul 42.57 328 P **P** **00 42 21.0 +1.7**
comp=Z,577nm,1.4s
VAH Vaihoa 43.18 63 *e*T T 01 28 02.0
comp=Z,37nm,0.3s
TARA Tarawa 43.72 360 P **P** **00 42 26.9 -1.6**
TARA Tarawa 43.72 360 P **P** **00 42 27.3 -1.2**
TARA Tarawa 43.72 360 ⇑P **P** **00 42 25.9 -2.7**
NWAO Narrogin (SRO) 44.60 263 P **P** **00 42 32.5 -3.1**
comp=Z,7.4nm,0.9s,baz=209,slow=18,SNR=2.6
NWAO LR LR 00 58 57.0
comp=Z,22µm,18.5s,baz=342,slow=33
comp=Z,7.4nm,0.9s
NWAO Narrogin (SRO) 44.60 263 P **P** **00 42 33.8 -1.8**
NWAO Narrogin (SRO) 44.60 263 P **P** **00 42 35.0 -0.6**
NWAO Narrogin (SRO) 44.60 263 P **P** **00 42 33.8 -1.8**
NWAO pmax pmax
comp=Z,123nm,1.5s
KLBR Kellerberrin 44.88 265 P **P** **00 42 36.0 -1.9**
baz=45,SNR=6.6
KLBR Kellerberrin 44.88 265 P **P** **00 42 37.7 -0.1**
MUN Mundaring 45.83 264 P **P** **00 42 43.8 -1.5**
baz=46,SNR=7.1
MUN Mundaring 45.83 264 P **P** **00 42 45.9 +0.6**
MUN Mundaring 45.83 264 P **P** **00 42 44.5 -0.8**
KDU Kakadu 46.12 298 P **P** **00 42 45.8 -2.0**
baz=46,SNR=9.4
KDU Kakadu 46.12 298 P **P** **00 42 46.1 -1.6**
KDU Kakadu 46.12 298 ⇑P **P** **00 42 46.1 -1.6**
BLDU Ballidu 46.15 266 P **P** **00 42 47.0 -0.9**
baz=46,SNR=4.9
BLDU Ballidu 46.15 266 P **P** **00 42 50.5 +2.6**
KNRA Kununurra 46.47 291 P **P** **00 42 49.5 -1.0**
baz=47,SNR=6.0
KNRA Kununurra 46.47 291 P **P** **00 42 49.5 -1.0**
KNRA Kununurra 46.47 291 P **P** **00 42 51.3 +0.8**
MANU Manus Island 46.51 323 P **P** **00 42 50.4 -0.5**
MANU Manus Island 46.51 323 P **P** **00 42 52.3 +1.5**
MTN Manton Dam 46.89 296 P **P** **00 42 52.2 -1.6**
baz=47,SNR=3.6
MTN Manton Dam 46.89 296 P **P** **00 42 52.3 -1.6**
MTN IAmb IAmb 00 43 03.4
comp=Z,111nm,0.8s
MTN Manton Dam 46.89 296 P **P** **00 42 55.1 +1.3**
MORW Morawa 47.46 267 P **P** **00 42 56.4 -1.8**
MORW Morawa 47.46 267 P **P** **00 42 56.7 -1.5**
QSPA South Pole Qui 47.56 180 P **P** **00 43 00.1 +1.4**
comp=Z,56nm,0.9s,baz=13,slow=3.3,SNR=32
comp=Z,56nm,0.9s
QSPA South Pole Qui 47.56 180 P **P** **00 42 59.4 +0.8**
QSPA South Pole Qui 47.56 180 IAMs_20 IAMs_20 01 00 37.2
comp=Z,58µm,20.0s
PSA00 Pilbara Seismi 48.97 278 P **P** **00 43 08.1 -1.9**
PSA00 Pilbara Seismi 48.97 278 IAmb IAmb 00 43 19.6
comp=Z,105nm,1.2s
PSA00 Pilbara Seismi 48.97 278 P **P** **00 43 09.5 -0.4**
MBWA Marble Bar 49.31 278 P **P** **00 43 09.9 -2.5**
MBWA IAmb IAmb 00 43 25.1
comp=Z,362nm,1.9s
MBWA Marble Bar 49.31 278 IAMs_20 IAMs_20 01 05 19.1
comp=Z,42µm,18.0s
MBWA Marble Bar 49.31 278 P **P** **00 43 12.4 -0.1**
MBWA Marble Bar 49.31 278 ⇓P **P** **00 43 10.0 -2.5**
GENI Genyem 49.55 314 P **P** **00 43 11.6 -2.7**
comp=Z,4µmcomp=Z,116nm,1.4s
SAUI Saumlaki 50.41 301 P **P** **00 43 21.0 +0.1**
SAUI Saumlaki 50.41 301 P **P** **00 43 19.0 -1.9**
comp=Z,13µmcomp=Z,19µmcomp=Z,260nm,1.0s
SMPI Sarmi 50.84 313 P P 00 43 32.8 +8.7
SRPI Serui, Papua 52.30 311 P **P** **00 43 32.8 -2.2**
comp=Z,87nm,0.4s
GIRL Giralia 52.45 273 P **P** **00 43 32.2 -3.9**
baz=52,SNR=6.6
GIRL Giralia 52.45 273 ⇓sP sP 00 43 45.2 +1.7
TAOE Nuku Hiva Isla 52.80 64 *e*P **P** **00 43 39.6 +0.7**
comp=Z,1µm,24.3s
TAOE *e*S **S** **00 51 06.4 -0.4**
comp=Z,5µm,25.4s
TAOE *e*SS **SS** **00 54 46.5 +0.9**
comp=Z,9µm,27.8s
TAOE *e*LR LR 00 58 49.7
comp=Z,54µm,22.7s
TAOE Nuku Hiva Isla 52.80 64 P **P** **00 43 36.6 -2.3**
TAOE IAmb IAmb 00 43 51.8
comp=Z,145nm,1.2s
SOEI Soe 53.74 293 P **P** **00 43 44.6 -1.2**
comp=Z,12µmcomp=Z,6µmcomp=Z,380nm,1.2s
SOEI Soe 53.74 293 P **P** **00 43 46.5 +0.7**
RKPI Ransiki, Papua 53.77 309 P **P** **00 43 46.2 +0.3**
comp=Z,12µmcomp=Z,112nm,1.2s
FAKI Fak Fak 53.77 306 P **P** **00 43 43.8 -2.1**
FAKI IAmb IAmb 00 43 55.7
comp=Z,109nm,0.9s
FAKI IAMs_20 IAMs_20 01 06 28.8
comp=Z,33µm,21.0s
FAKI Fak Fak 53.77 306 P **P** **00 43 42.8 -3.1**
comp=Z,3µmcomp=Z,152nm,1.0s
BATI Baumata 53.83 292 P **P** **00 43 46.0 -0.3**
comp=Z,18nm,0.3s,baz=180,slow=1.0,SNR=2.4
BATI LR LR 01 07 42.2
comp=Z,61µm,18.2s,baz=102,slow=37
BATI Baumata 53.83 292 P **P** **00 43 46.3 -0.1**
comp=Z,9µmcomp=Z,5µmcomp=Z,175nm,1.9s
BNDI Bandanaira 53.95 302 P **P** **00 43 45.8 -1.4**
comp=Z,115nm,1.1s
BNDI Bandanaira 53.95 302 P **P** **00 43 49.8 +2.6**
comp=Z,157nm,1.2s
MWPI Manokwari, Pap 54.32 309 P **P** **00 43 49.2 -0.7**
comp=Z,12µmcomp=Z,4µmcomp=Z,263nm,1.2s
MSAI Masohi 55.47 302 P **P** **00 43 56.8 -1.4**
comp=Z,19nm,0.8s
AAI Ambon 55.67 301 P **P** **00 43 59.6 -0.1**
comp=Z,4µmcomp=Z,108nm,0.5s
KRAI Karang Ratu 55.83 302 P **P** **00 43 57.9 -2.9**
comp=Z,3µmcomp=Z,92nm,1.8s
MMRI Maumere 55.93 292 P **P** **00 44 00.7 -0.9**
MMRI Maumere 55.93 292 P **P** **00 43 59.4 -2.1**
comp=Z,6µmcomp=Z,230nm,1.1s
MMRI Maumere 55.93 292 P **P** **00 44 02.7 +1.2**
SIJI Sorong 55.99 306 P **P** **00 43 59.9 -2.1**
comp=Z,16nm,0.3s,baz=86,slow=3.7,SNR=15
SIJI LR LR 01 07 01.5
comp=Z,25µm,21.6s,baz=128,slow=35
SIJI Sorong 55.99 306 P **P** **00 43 58.4 -3.6**
comp=Z,15µmcomp=Z,241nm,1.3s
SWI Sorong 56.00 306 P **P** **00 43 59.4 -2.6**
comp=Z,4µmcomp=Z,346nm,1.2s
NLAI Namlea 56.71 301 P **P** **00 44 04.0 -3.1**
comp=Z,12µmcomp=Z,105nm,1.7s
BBSI Bau Bau 57.98 295 P **P** **00 44 14.6 -1.5**
comp=Z,3µmcomp=Z,128nm,1.8s
SANI Sanana 58.33 300 P **P** **00 44 14.7 -3.8**
comp=Z,8µmcomp=Z,4µmcomp=Z,187nm,0.9s
SANI Sanana 58.33 300 P **P** **00 44 17.0 -1.5**
MAW Mawson 58.40 205 P **P** **00 44 18.9 +0.6**
comp=Z,12nm,1.0s,baz=108,slow=12,SNR=9.3
MAW LR LR 01 08 02.1
comp=Z,58µm,19.5s,baz=108,slow=34
MAW PKP2ab 01 14 20.4
comp=Z,3.7nm,1.0s,baz=310,slow=3.8,SNR=4.1
comp=Z,12nm,1.0s
MAW Mawson 58.40 205 P **P** **00 44 16.7 -1.6**
baz=58,SNR=8.7
MAW Mawson 58.40 205 P **P** **00 44 19.1 +0.8**
MAW Mawson 58.40 205 ⇑P **P** **00 44 19.7 +1.4**
MAW Mawson 58.40 205 P **P** **00 44 19.1 +0.8**
MAW pmax pmax
comp=Z,36nm,1.4s
LBMI Labuha 58.46 303 P **P** **00 44 18.2 -1.3**
comp=Z,17µmcomp=Z,356nm,1.2s
BELA Belgrano 2 58.62 173 P **P** **00 44 19.4 -0.4**
BELA IAmb IAmb 00 44 41.0
comp=Z,83nm,1.0s
PLAI Plampang 58.89 288 P **P** **00 44 21.4 -1.0**
comp=Z,8µmcomp=Z,4µmcomp=Z,142nm,1.0s
PLAI Plampang 58.89 288 P **P** **00 44 23.6 +1.2**
BSSI Bau Bau, Buton 58.92 292 P **P** **00 44 19.8 -2.8**
comp=Z,3µmcomp=Z,121nm,0.9s
KKSI Kolaka, Sulawe 59.57 295 P **P** **00 44 24.5 -2.6**
comp=Z,3µmcomp=Z,191nm,1.4s
TWSI Taliwang, Sumb 59.58 287 P **P** **00 44 26.1 -1.1**
comp=Z,8µmcomp=Z,4µmcomp=Z,193nm,1.4s
TNTI Ternate 59.65 304 P **P** **00 44 26.7 -1.0**
TNTI IAmb IAmb 00 44 43.5
comp=Z,84nm,0.9s
TNTI Ternate 59.65 304 P sP 00 44 35.6 +0.5
TNTI Ternate 59.65 304 P **P** **00 44 31.0 +3.3**
comp=Z,112nm,2.5s
BKSI Bulukumba 59.76 293 P **P** **00 44 28.7 +0.2**
comp=Z,3µmcomp=Z,83nm,1.3s
GAMI Galela, Maluku 60.23 305 P P 00 44 40.6 +8.9
KAPI Kappang 60.24 293 P **P** **00 44 30.3 -1.4**
comp=Z,13nm,0.8s,baz=159,slow=4.9,SNR=14
KAPI LR LR 01 12 44.6
comp=Z,20µm,18.3s,baz=140,slow=38
comp=Z,13nm,0.8s
KAPI Kappang 60.24 293 P **P** **00 44 30.9 -0.8**
KAPI Kappang 60.24 293 P **P** **00 44 31.1 -0.6**
comp=Z,5µmcomp=Z,161nm,1.8s
KAPI Kappang 60.24 293 P **P** **00 44 31.2 -0.5**
KAPI Kappang 60.24 293 ⇓P **P** **00 44 30.5 -1.3**
KAPI Kappang 60.24 293 P **P** **00 44 30.9 -0.8**
KAPI pmax pmax
comp=Z,508nm,1.7s
KLNI Mataram 60.36 287 P **P** **00 44 35.6 +3.0**
BNSI Bone 60.44 293 P **P** **00 44 34.3 +1.2**
comp=Z,3µmcomp=Z,90nm,1.8s
SMAI San Martin Ant 60.80 158 P **P** **00 44 35.5 +0.7**
SMAI IAmb IAmb 00 44 54.3
comp=Z,187nm,1.4s
SPSI Sidrap Palu 60.99 294 P **P** **00 44 36.9 +0.1**
comp=Z,9µmcomp=Z,4µmcomp=Z,156nm,1.6s
JOHN Johnston Islan 61.10 19 IAMs_20 IAMs_20 01 09 42.6
comp=Z,25µm,19.0s
RTBI Rangdo, Negare 61.15 286 P pP 00 44 44.4 +1.0
LUWI Luwuk 61.16 298 P **P** **00 44 37.1 -0.9**
LUWI Luwuk 61.16 298 P **P** **00 44 38.8 +0.8**
comp=Z,11µmcomp=Z,8µmcomp=Z,670nm,1.1s
LUWI Luwuk 61.16 298 P **P** **00 44 37.1 -0.9**
SRBI Singaraja 61.22 287 P **P** **00 44 42.4 +4.0**
GUMO Guam 61.66 328 LR LR 01 08 35.6
comp=Z,11µm,21.9s,baz=154,slow=34
JAGI Jajag, Banyuwa 61.70 285 P **P** **00 44 40.8 -0.9**
JAGI IAmb IAmb 00 45 32.6
comp=Z,97nm,1.1s
JAGI IAMs_20 IAMs_20 01 15 22.6
comp=Z,24µm,19.0s
JAGI Jajag, Banyuwa 61.70 285 P sP 00 44 50.6 +1.4
JAGI Jajag, Banyuwa 61.70 285 P **P** **00 44 42.7 +1.0**
WAKE Wake Island 61.84 353 IAMs_20 IAMs_20 01 08 07.5
comp=Z,21µm,20.0s
PMSI Majene 61.91 293 P pP 00 44 49.1 +0.6
APSI Ampana 61.99 297 P pP 00 44 49.4 +0.3
KMMI Kaliastet 62.82 286 P **P** **00 44 51.0 +1.8**
comp=Z,5µmcomp=Z,102nm,0.9s
MRSI Marisa 62.85 299 P **P** **00 44 50.9 +1.6**
comp=Z,8µmcomp=Z,2µmcomp=Z,120nm,1.3s
RPN Rapa Nui 63.32 103 P **P** **00 44 53.4 +1.0**
comp=Z,36nm,0.7s,baz=270,slow=5.1,SNR=2.1
RPN LR LR 01 05 51.6
comp=Z,12µm,21.7s,baz=236,slow=30
comp=Z,36nm,0.7s
PMSA Palm Station 64.03 156 LR LR 01 08 23.1
comp=Z,15µm,20.7s,baz=232,slow=32
PMSA Palmer Station 64.03 156 *e*P **P** **00 44 55.1 -1.3**
MPSI Mapaga 64.08 297 P **P** **00 44 55.9 -1.6**
comp=Z,3µmcomp=Z,110nm,1.1s
TOLI2 Tolitoli 64.08 298 P **P** **00 44 55.5 -2.0**
NGJI Ngawi 64.38 284 P pP 00 45 05.5 +0.5
BBKI Banjar Baru 64.73 290 P **P** **00 45 01.6 -0.2**
comp=Z,327nm,1.3s
BKB Balikpapan 64.91 293 P **P** **00 45 01.8 -1.2**
BKB Balikpapan 64.91 293 P sP 00 45 14.8 +4.3
SMRI Semarang 65.33 284 P **P** **00 45 05.2 -0.5**
SMRI Semarang 65.33 284 P **P** **00 45 10.4 +4.7**
SMRI Semarang 65.33 284 P **P** **00 45 07.5 +1.8**
TROLL Troll, Antarti 65.54 183 pP **P** **00 45 06.6 +0.1**
DAV Davao City (W) 65.70 306 LR LR 01 13 20.2
comp=Z,12µm,19.7s,baz=120,slow=36
SNAA Sanae 66.04 181 pP **P** **00 45 09.6 +0.1**
SNAA Sanae 66.04 181 LR LR 01 12 35.2
comp=Z,36µm,21.4s,baz=185,slow=35
SNAA PKP2ab 01 13 54.4
comp=Z,3.1nm,1.1s,baz=290,slow=3.0,SNR=3.8
SNAA Sanae 66.04 181 P **P** **00 45 09.3 -0.2**
SNAA IAMs_20 IAMs_20 01 12 12.3
comp=Z,40µm,21.0s
SNAA Sanae 66.04 181 *d iP* **P** **00 45 10.5 +1.0**
SNAA pmax pmax
comp=Z,43nm,1.7s
SNAA MLR MLR
comp=Z,22µm,16.0s
NVL N'lazarevskaya 66.18 187 *e*P **P** **00 45 11.0 +0.6**
NVL *e*S **S** **00 53 49.9 -8.1**
NVL pmax pmax
comp=Z,312nm,1.3s
NVL MLR MLR
comp=Z,25µm,17.0s
CTJI Waduk Cacaban 66.27 283 P **P** **00 45 12.6 +0.9**
comp=Z,4µmcomp=Z,180nm,1.0s
VNA3 Neumayer Olymp 66.48 179 pP **P** **00 45 12.5 +0.1**
MTKI Muara Teweh, K 66.50 292 P pP 00 45 18.0 -0.7
VNA2 Neumayer--Watz 66.82 180 pP **P** **00 45 14.8 +0.3**
baz=168,slow=6.0
BBJI Bungbulang 67.06 281 P **P** **00 45 17.7 +0.8**
VNA1 Neumayer--Stat 67.09 179 sP **P** **00 45 18.1 +1.9**
LEM Lembang 67.52 282 LR LR 01 15 19.1
comp=Z,9µm,19.9s,baz=120,slow=36
CNJI Cibinong 67.55 281 P pP 00 45 24.4 -1.0
MYLDM Lahad Datu 68.63 299 P **P** **00 45 27.9 +1.3**
MYLDM Lahad Datu 68.63 299 P pP 00 45 31.5 -0.7
MYLDM Lahad Datu 68.63 299 ⇑P **P** **00 45 28.0 +1.3**
AIS Amsterdam Isla 69.30 237 IAMs_20 IAMs_20 01 09 23.4
comp=Z,19µm,20.0s
SPMM Sapulut 69.60 297 P **P** **00 45 32.0 -0.7**
USHA Ushuaia 69.70 147 LR LR 01 11 08.6
comp=Z,23µm,18.0s,baz=224,slow=32
GO09 Cerro Castillo 70.58 143 P **P** **00 45 37.9 -0.3**
GO09 IAmb IAmb 00 46 08.7
comp=Z,91nm,1.1s
KKM Kota Kinabalu 70.77 298 IAmb IAmb 00 45 55.2
comp=Z,112nm,1.0s
KKM Kota Kinabalu 70.77 298 P **P** **00 45 40.4 +0.5**
comp=Z,3µmcomp=Z,108nm,1.1s
KKM Kota Kinabalu 70.77 298 P **P** **00 45 38.4 -1.5**
KKM Kota Kinabalu 70.77 298 ⇑P **P** **00 45 38.9 -1.0**
SBUM Sibu 70.79 292 P **P** **00 45 38.9 -1.1**
SBUM Sibu 70.79 292 P **P** **00 45 41.0 +1.0**
comp=Z,1µmcomp=Z,45nm,1.7s
SBUM Sibu 70.79 292 P **P** **00 45 41.0 +1.0**
SBUM Sibu 70.79 292 ⇑sP sP 00 45 47.3 -0.3
MIDW Midway 70.96 9 IAMs_20 IAMs_20 01 14 17.8
comp=Z,28µm,20.0s
KSM Kuching 71.41 290 P **P** **00 45 41.4 -2.3**
KSM IAmb IAmb 00 45 56.8
comp=Z,203nm,1.5s
KSM IAMs_20 IAMs_20 01 16 19.7
comp=Z,18µm,21.0s
KSM Kuching 71.41 290 P **P** **00 45 41.7 -2.0**
comp=Z,2µmcomp=Z,59nm,1.0s
KSM Kuching 71.41 290 P **P** **00 45 42.7 -1.0**
PPBI Pangkal Pinang 71.79 284 P pP 00 45 50.7 -0.9
COCO West Island 71.87 270 IAMs_20 IAMs_20 01 18 37.3
comp=Z,19µm,19.0s
PMBI Palembang 72.24 283 IAMs_20 IAMs_20 01 19 42.5
comp=Z,21µm,18.0s
MASI Maura Aman, Be 73.93 281 P **P** **00 45 59.7 +0.9**
comp=Z,2µmcomp=Z,97nm,0.9s
DSRI Dabo 74.07 284 P **PcP** **00 46 12.0 -2.7**
COYC Coyhaique 74.75 139 P **P** **00 46 03.0 -0.1**
COYC IAmb IAmb 00 46 19.9
comp=Z,253nm,1.7s
COYC Coyhaique 74.75 139 IAMs_20 IAMs_20 01 12 39.5
comp=Z,15µm,19.0s
JCJ Chichijima 75.00 332 LR LR 01 14 14.8
comp=Z,8µm,22.0s,baz=150,slow=32
TPRI Tanjung Pinang 75.08 285 P **PcP** **00 46 17.0 -2.0**
SDSI Sungai Dareh 76.03 282 P sP 00 46 18.7 +0.2
MYKOM Kota Tinggi 76.17 286 P **P** **00 46 11.9 +0.2**
MYKOM IAmb IAmb 00 46 23.6
comp=Z,60nm,0.8s
MYKOM IAMs_20 IAMs_20 01 23 12.1
comp=Z,16µm,18.0s
MYKOM Kota Tinggi 76.17 286 P pP 00 46 17.8 +0.6
MYKOM Kota Tinggi 76.17 286 P **PcP** **00 46 23.0 -0.7**
PDSI Padang 76.74 281 P **P** **00 46 14.1 -0.9**
comp=Z,44nm,1.9s
BKNI Bangkinang 77.17 282 IAMs_20 IAMs_20 01 25 13.4
comp=Z,18µm,19.0s
CRZF Crozet Islands 77.25 217 IAMs_20 IAMs_20 01 19 40.0
comp=Z,15µm,19.0s
SISI Saibi 77.45 280 P pP 00 46 25.1 +0.6
LL04 Puerto Octay 77.95 135 P **P** **00 46 21.5 +0.1**
LL04 IAmb IAmb 00 46 37.5
comp=Z,206nm,1.8s
MNSI Mandailing Nat 78.55 282 P **P** **00 46 24.0 -1.0**
comp=Z,68nm,1.0s
PBSI Pulau Batu 78.91 280 P **PcP** **00 46 39.3 +3.7**
PLCA Paso Flores 79.04 136 P **P** **00 46 30.2 +2.7**
comp=Z,5.2nm,0.7s,baz=251,slow=4.2,SNR=14
PLCA LR LR 01 15 49.0
comp=Z,13µm,18.4s,baz=216,slow=31
comp=Z,5.2nm,0.7s
PLCA Paso Flores 79.04 136 P **P** **00 46 26.6 -0.9**
PLCA IAmb IAmb 00 46 44.2
comp=Z,202nm,1.6s
PLCA Paso Flores 79.04 136 ⇑p **P** **00 46 31.1 +3.6**
PLCA Paso Flores 79.04 136 *e*P **P** **00 46 26.7 -0.9**
PLCA Paso Flores 79.04 136 P **P** **00 46 26.6 -0.9**
PLCA pmax pmax
comp=Z,202nm,1.6s
GO06 Curarrehue 79.41 135 P **P** **00 46 28.8 -0.8**
IPM Ipoh 80.06 285 P **P** **00 46 33.1 -0.1**
comp=Z,2µmcomp=Z,84nm,1.3s
IPM Ipoh 80.06 285 P **P** **00 46 34.0 +0.8**
IPM Ipoh 80.06 285 P **P** **00 46 31.3 -1.9**
DLV T Lat 80.22 296 P **P** **00 46 35.0 +0.7**
HOPE Hope Point 80.23 163 P **P** **00 46 32.9 -0.6**
HOPE IAmb IAmb 00 47 28.7
comp=Z,367nm,1.6s
HOPE Hope Point 80.23 163 IAMs_20 IAMs_20 01 23 23.5
comp=Z,23µm,18.0s
HOPE Hope Point 80.23 163 P **P** **00 46 32.9 -0.6**
HOPE pmax pmax
comp=Z,367nm,1.7s
HOPE MLR MLR
comp=Z,24µm,18.0s
GSI Gunungsitoli 80.35 281 P **P** **00 46 34.3 -0.5**
GSI IAMs_20 IAMs_20 01 26 20.6
comp=Z,22µm,20.0s
GSI Gunungsitoli 80.35 281 P **P** **00 46 34.1 -0.7**
comp=Z,5µmcomp=Z,226nm,1.4s
GSI Gunungsitoli 80.35 281 P **P** **00 46 34.1 -0.7**
JOW Kunigami 80.53 320 LR LR 01 19 56.5
comp=Z,6µm,21.1s,baz=146,slow=34
JOW Kunigami 80.53 320 P **P** **00 46 35.0 -0.4**
BI05 Punta Hualpn 80.55 132 P **P** **00 46 35.7 +0.1**
BI05 IAmb IAmb 00 46 49.1
comp=Z,109nm,1.1s
KULM Kulim 80.89 286 IAmb IAmb 00 46 49.0
comp=Z,170nm,1.3s
KULM Kulim 80.89 286 P **P** **00 46 37.4 -0.3**
comp=Z,2µmcomp=Z,116nm,1.4s
KULM Kulim 80.89 286 P **P** **00 46 37.0 -0.7**
TWG Pinlang 80.90 312 P **P** **00 46 35.9 -1.6**
TWG IAmb IAmb 00 47 05.5
comp=Z,126nm,1.5s
TSI Tuntungan 81.14 283 P sP 00 46 50.9 +4.2
YOJ Yonaguni jima 81.19 315 P **P** **00 46 39.0 0.0**
YOJ IAmb IAmb 00 47 01.0
comp=Z,160nm,1.2s
YOJ Yonaguni jima 81.19 315 P **P** **00 46 40.0 +1.0**
YOJ Yonaguni jima 81.19 315 P **P** **00 46 39.0 0.0**
YOJ pmax pmax
comp=Z,160nm,1.2s
YULB Yu-li 81.24 313 P **P** **00 46 37.8 -1.5**
YULB Yu-li 81.24 313 P **P** **00 46 38.2 -1.1**
JHJ Hachijo jima 2 81.33 332 LR LR 01 23 34.8
comp=Z,7µm,18.1s,baz=157,slow=36
TPUB Ta-pu 81.53 312 P **P** **00 46 39.7 -1.1**
NACB Ninganchiao 81.70 314 P **P** **00 46 41.5 -0.2**
KCSI Kotacane, Aceh 81.73 282 P **P** **00 46 41.2 -1.0**
comp=Z,2µmcomp=Z,73nm,1.3s
SSLB Suanglung 81.74 313 IAMs_20 IAMs_20 01 18 56.9
comp=Z,13µm,20.0s
SSLB Suanglung 81.74 313 P **P** **00 46 41.6 -0.4**
SKLT Songkhla 82.22 287 P pP 00 46 50.4 +0.1
SKLT Songkhla 82.22 287 P **P** **00 46 45.5 +0.8**
YHNB Yeheng 82.22 314 P **P** **00 46 42.6 -1.9**
ML02 Panimavida 82.24 132 P **P** **00 46 43.7 -0.9**
ML02 IAmb IAmb 00 47 46.5
comp=Z,231nm,1.6s
TATO Taipei 82.41 314 P **P** **00 46 43.8 -1.6**
TATO IAmb IAmb 00 46 55.6
comp=Z,85nm,1.0s
GO05 Huala 82.52 131 P **P** **00 46 45.1 -1.0**
GO05 IAmb IAmb 00 47 02.4
comp=Z,88nm,1.2s
GO05 Huala 82.52 131 ⇓*iP* sP 00 46 53.2 -0.5
MLSI Meulaboh, Aceh 83.22 282 P **P** **00 46 48.9 -1.1**
comp=Z,4µmcomp=Z,129nm,1.0s
BO02 Sierra Bellavi 83.31 132 P **P** **00 46 49.5 -0.8**
BO02 IAmb IAmb 00 47 03.8
comp=Z,125nm,1.2s
LHMI Lhok Sumawe 83.49 283 IAMs_20 IAMs_20 01 26 07.0
comp=Z,14µm,20.0s
JSU Suzuyama 83.53 324 P **P** **00 46 50.5 -0.6**
JSU IAmb IAmb 00 47 04.7
comp=Z,142nm,1.4s
VA05 Santo Domingo 83.69 131 P **P** **00 46 51.5 -0.7**
VA05 IAmb IAmb 00 47 08.0
comp=Z,69nm,1.2s
MT01 Popeta 83.74 131 P **P** **00 46 52.3 -0.1**
SRIT Nakonsritamara 83.93 287 P **P** **00 46 52.3 -1.2**
SRIT IAmb IAmb 00 47 06.4
comp=Z,60nm,0.9s
SRIT Nakonsritamara 83.93 287 P **P** **00 46 55.9 +2.4**
MT09 Talagante 83.95 131 P **P** **00 46 52.1 -1.6**
MT09 IAmb IAmb 00 47 09.8
comp=Z,75nm,1.1s
QZH Quanzhou 83.95 312 ⇑*iP* **P** **00 46 52.8 -0.5**
QZH S **S** **00 57 13.9 -2.6**
QZH LR LR

QZH LR LR
comp=Z,4µm,20.8s
QZH LR LR
comp=Z,4µm,20.8s
QZH LR LR
comp=Z,9µm,25.1s
BO04 La Punta 84.00 131 P **P** **00 46 52.2 -1.6**
BO04 IAmb IAmb 00 47 21.8
comp=Z,105nm,1.3s
JMN Monobe 84.06 328 P **P** **00 46 53.2 -0.5**
JMN IAmb IAmb 00 47 08.7
comp=Z,83nm,0.9s
JMN Monobe 84.06 328 P **P** **00 46 53.7 0.0**
JMN Monobe 84.06 328 ⇓P **P** **00 46 53.3 -0.5**
VA01 Torpederas 84.14 130 P **P** **00 46 52.8 -1.6**
SURA Surathani 84.31 288 P **P** **00 46 54.8 -0.7**
INU Inuyama 84.32 331 IAmb IAmb 00 47 08.8
comp=Z,68nm,1.0s
INU Inuyama 84.32 331 P **P** **00 46 53.4 -1.6**
INU Inuyama 84.32 331 ⇑P **P** **00 46 53.2 -1.8**
LMEL Las Melosas 84.33 132 P **P** **00 46 54.5 -1.2**
LMEL IAmb IAmb 00 47 12.4
comp=Z,102nm,1.1s
MT05 Renca 84.38 131 P **P** **00 46 55.8 +0.1**
JGF Kuroka 84.42 331 P **P** **00 46 53.3 -2.3**
JGF Kuroka 84.42 331 P **P** **00 46 55.7 +0.1**
MT03 Universidad Ad 84.43 131 P **P** **00 46 55.1 -1.0**
MT03 IAmb IAmb 00 47 35.1
comp=Z,74nm,1.1s
ROC1 El Roble 84.53 130 *i* P sP 00 47 06.4 +2.0
QIZ Qiongzhong 84.58 302 P **P** **00 46 56.2 -0.5**
QIZ IAmb IAmb 00 47 07.9
comp=Z,62nm,1.1s
QIZ Qiongzhong 84.58 302 P **P** **00 46 55.5 -1.2**
QIZ sP **pP** **00 47 02.4 +0.1**
QIZ PP **PP** **00 50 16.1 +3.5**
QIZ S **S** **00 57 22.9 -0.2**
QIZ sS **ScS** **00 57 34.9 +0.5**
QIZ SS **SS** **01 02 55.8 +1.1**
QIZ LR LR
comp=Z,5µm,20.7s
QIZ LR LR
comp=Z,4µm,23.9s
QIZ LR LR
comp=Z,9µm,30.3s
QIZ Qiongzhong 84.58 302 P **P** **00 46 57.6 +0.9**
PEL Peldehue 84.59 131 *i* P sP 00 47 06.7 +2.3
UBPT Khong Chiam 84.65 296 P **P** **00 46 56.6 -0.5**
UBPT Khong Chiam 84.65 296 P sP 00 47 07.4 +2.6
VA06 Catapilco 84.68 130 P **P** **00 46 57.6 +0.5**
VA06 IAmb IAmb 00 47 09.6
comp=Z,214nm,1.8s
JNU Nakatsue 84.75 325 P **P** **00 46 55.1 -2.2**
VA03 San Esteban 84.95 131 P **P** **00 46 58.3 -0.4**
MJAR Matsushiro Arr 84.97 332 P **P** **00 46 55.1 -3.2**
comp=Z,2.2nm,0.4s,baz=166,slow=6.1,SNR=11
MJAR LR LR 01 24 04.1
comp=Z,4µm,18.8s,baz=149,slow=35
comp=Z,2.2nm,0.4s
MAJO Matsushiro 84.97 332 P **P** **00 46 57.7 -0.6**
MAJO IAmb IAmb 00 47 11.2
comp=Z,194nm,1.9s
MAJO Matsushiro 84.97 332 P **P** **00 46 58.2 -0.1**
MAJO Matsushiro 84.97 332 ⇓*e*P **P** **00 46 57.1 -1.2**
MAJO pmax pmax
comp=Z,81nm,1.8s
MAJO MLR MLR
comp=Z,5µm,19.0s
MJB9 Matsu-Tunnel 84.98 332 IAmb IAmb 00 47 11.2
comp=Z,185nm,1.9s
JMM Marumori 85.33 335 IAmb IAmb 00 47 17.9
comp=Z,52nm,1.0s
JMM Marumori 85.33 335 P **P** **00 46 59.9 -0.1**
TRQA Tornquist 85.35 139 P **P** **00 47 00.1 -0.4**
TRQA IAmb IAmb 00 47 22.2
comp=Z,104nm,1.4s
TRQA IAMs_20 IAMs_20 01 18 32.0
comp=Z,13µm,19.0s
TRQA Tornquist 85.35 139 P **P** **00 47 00.1 -0.4**
TRQA pmax pmax
comp=Z,104nm,1.5s
JHS Saijyo 85.47 328 IAmb IAmb 00 47 35.0
comp=Z,66nm,1.2s
JHS Saijyo 85.47 328 P **P** **00 47 01.7 +0.9**
GZH Guangzhou 85.50 307 P P 00 47 10.3 +9.1
GZH PP **PP** **00 50 24.4 +4.3**
GZH Guangzhou 85.50 307 S **S** **00 57 30.3 -1.7**
GZH LR LR
comp=N,830nm,16.8s
GZH LR LR
comp=E,1µm,15.9s
CO02 Combarbal 85.85 129 P **P** **00 47 03.4 +0.1**
CO02 IAmb IAmb 00 47 19.2
comp=Z,115nm,0.9s
CO06 Fray Jorge 85.88 129 P **P** **00 47 03.2 0.0**
CO06 IAmb IAmb 00 47 30.8
comp=Z,100nm,1.3s
CO03 El Pedregal 86.30 129 P **P** **00 47 04.0 -1.4**
JSD Sado 86.31 333 IAmb IAmb 00 47 20.6
comp=Z,56nm,0.9s
JSD Sado 86.31 333 P **P** **00 47 05.5 +0.7**
JSD Sado 86.31 333 ⇑P **P** **00 47 05.0 +0.2**
RTLS Leoncito 86.37 131 *i* P sP 00 47 16.6 +2.9
CO05 La Serena 86.67 128 P **P** **00 47 05.9 -1.2**
GO04 Tololo Observa 86.73 129 P **P** **00 47 06.7 -1.1**
GO04 IAmb IAmb 00 47 23.8
comp=Z,102nm,1.1s
GO04 Tololo Observa 86.73 129 ⇓*i* P sP 00 47 17.5 +2.1
NAYO Nakonayok 86.75 293 P **P** **00 47 08.4 +0.8**
ZON Zonda 86.91 131 *i* P pP 00 47 13.8 -0.1
RTLL Cerro Villicun 87.18 131 *i* P sP 00 47 17.2 -0.2
CO01 Juntas del Tor 87.29 129 P **P** **00 47 10.7 +0.2**
ACCO Cerro Coronel 87.41 130 *i* P **P** **00 47 15.6 +4.5**
AROD Rodeo 87.50 130 *i* P **P** **00 47 15.3 +3.7**
SSE Sheshan 87.52 317 P **P** **00 47 10.3 -0.6**
SSE S **S** **00 57 47.8 -3.5**
SSE pmax pmax
comp=Z,29nm,0.7s
SSE pmax pmax
comp=Z,210nm,3.8s
SSE LR LR
comp=Z,4µm,22.7s
SSE LR LR
comp=Z,4µm,22.7s
LCO Las Campanas 87.66 128 P **P** **00 47 11.5 -0.8**
LCO Las Campanas 87.66 128 ⇑P **P** **00 47 16.0 +3.7**
LCO Las Campanas 87.66 128 P **P** **00 47 11.5 -0.8**
LCO pmax pmax
comp=Z,164nm,1.5s
ACDV Cuesta del Vie 87.70 130 *i* P sP 00 47 22.1 +2.1
JTM Tenmabayashi 87.92 336 P **P** **00 47 13.8 +1.3**
JTM IAmb IAmb 00 48 07.5
comp=Z,136nm,1.5s
AC05 El Transito 88.03 128 P **P** **00 47 13.7 -0.2**
AC04 Llanos de Chal 88.04 127 P **P** **00 47 10.6 -3.2**
NONG Nongkai 88.19 296 P **P** **00 47 13.2 -1.2**
ERM Erimo 88.45 338 IAMs_20 IAMs_20 01 20 53.5
comp=Z,21µm,21.0s
GULI GuiLin 88.94 306 ⇑P **P** **00 47 18.9 +1.1**
GULI PP **PP** **00 50 51.6 +3.8**
GULI pmax pmax
comp=Z,10.0nm,0.9s
GULI LR LR
comp=Z,5µm,22.8s
GULI LR LR
comp=Z,5µm,21.7s
GULI LR LR
comp=Z,9µm,23.9s
APLL PUNTA DE LOS L 88.98 132 *i* P sP 00 47 27.0 +1.1
GO03 Copiap 88.99 127 *i* P pP 00 47 24.6 +0.6
NJ2 Nanjing 89.46 316 ⇓P **P** **00 47 20.3 +0.2**
NJ2 pP **pP** **00 47 23.6 -2.1**
NJ2 sP **sP** **00 47 26.9 -0.9**
NJ2 SKS **SKSac** **00 57 48.3 -1.1**
NJ2 S **SKKSac** **00 58 04.4 +2.6**
NJ2 sS **sS** **00 58 18.8 -0.2**
NJ2 pmax pmax
comp=Z,51nm,1.0s
NJ2 pmax pmax
comp=Z,510nm,3.7s
NJ2 LR LR
comp=Z,13µm,23.2s
NJ2 LR LR
comp=Z,17µm,22.3s
NJ2 LR LR
comp=Z,14µm,24.6s
ACLC CERRO LA CRUZ 89.48 131 *i* P pP 00 47 25.8 -0.6
CNSH ChangSha 89.63 310 ⇑P **P** **00 47 16.6 -4.4**
CNSH S **S** **00 58 03.6 -7.9**
CNSH LR LR
comp=Z,4µm,21.2s
CNSH LR LR
comp=Z,4µm,22.2s
CNSH LR LR
comp=Z,7µm,22.2s
YUK Yuzh-Kuril'sk 89.64 341 *e*P **P** **00 47 20.4 -0.2**
YUK *e*S **SKSac** **00 57 51.4 +1.6**
YUK *e*SS **SS** **01 04 13.5 +5.3**
YUK pmax pmax
comp=Z,829nm,1.4s
YUK pmax pmax
comp=Z,714nm,1.1s
KSRS Korea Array 89.69 326 P **P** **00 47 19.9 -1.2**
comp=Z,17nm,0.9s,baz=147,slow=5.8,SNR=36
KSRS LR LR 01 23 27.9
comp=Z,5µm,21.8s,baz=170,slow=33
comp=Z,17nm,0.9s
KS19 Wonju Array Si 89.76 326 IAmb IAmb 00 47 36.2
comp=Z,71nm,1.0s
AC01 Pan de Azucar 89.85 126 P **P** **00 47 20.3 -2.1**
AC01 IAmb IAmb 00 48 05.8
comp=Z,70nm,0.9s
AC02 Maricunga 90.20 128 P **P** **00 47 24.5 -0.1**
AC02 IAmb IAmb 00 48 03.4
comp=Z,113nm,1.6s
INCN Inchon 90.27 325 P **P** **00 47 23.8 +0.1**
INCN IAmb IAmb 00 47 38.5
comp=Z,107nm,1.2s
INCN Inchon 90.27 325 P **P** **00 47 23.8 +0.1**
INCN pmax pmax
comp=Z,107nm,1.2s
INCN MLR MLR
comp=Z,7µm,19.0s
ASAJ Asahikawa 90.56 338 LR LR 01 23 03.4
comp=Z,14µm,21.6s,baz=166,slow=32
ROCAM Rodrigues Isla 90.58 242 IAMs_20 IAMs_20 01 20 29.2
comp=Z,18µm,18.0s
WHN Wuhan 90.66 312 P **P** **00 47 25.8 +0.1**
WHN LR LR
comp=Z,14µm,18.7s
WHN LR LR
comp=Z,7µm,15.0s
WHN LR LR
comp=Z,28µm,27.2s
CYA Choya 90.88 131 *i* P P **00 47 30.7 +3.6**
CYA *i* P **sP** **00 47 34.4 -0.4**
PBA Port Blair 90.91 285 *e*P P 00 47 34.3 +7.0
PB14 IPOC Station P 91.10 125 P **P** **00 47 29.2 +0.6**
PB14 IAmb IAmb 00 48 04.4
comp=Z,31nm,0.8s
HJU Haeju 91.12 324 P **P** **00 47 29.1 +1.4**
HJU sP **sP** **00 47 34.6 -0.8**
HJU S **S** **00 58 27.3 +2.6**
HJU AmB
comp=Z,322nm,1.7s
HJU AMS AMS
comp=N,1µm,31.3s
HJU AMS AMS
comp=E,732nm,16.8s
HJU AMS AMS
comp=Z,81nm,1.9s
CM31 Chiang Mai Arr 91.28 294 P **P** **00 47 28.4 -0.5**
CM31 IAmb IAmb 00 47 40.5
comp=Z,98nm,1.1s
CMAR Chiang Mai Arr 91.28 294 P **P** **00 47 28.1 -0.8**
comp=Z,13nm,0.8s,baz=152,slow=3.6,SNR=33
CMAR PP **PP** **00 51 07.5 +1.0**
comp=Z,1.1nm,0.3s,baz=153,slow=6.1,SNR=1.2
CMAR LR LR 01 31 47.6
comp=Z,5µm,20.3s,baz=135,slow=38
comp=Z,13nm,0.8s
CHTO Chiang Mai 91.53 294 P **P** **00 47 29.2 -0.9**
CHTO Chiang Mai 91.53 294 P **P** **00 47 29.2 -0.9**
DGPR DIGLIPUR 91.81 286 *e*P P 00 47 38.4 +6.9
PYAG Pyongyang 91.95 325 P **P** **00 47 32.8 +1.2**
PYAG sP **sP** **00 47 38.3 -0.9**
PYAG S **S** **00 58 34.3 +2.1**
PYAG AmB
comp=Z,124nm,1.1s
PYAG AMS AMS
comp=N,3µm,24.5s
PYAG AMS AMS
comp=E,1µm,11.4s
PYAG AMS AMS
comp=Z,310nm,2.5s
HHU Hamhung 91.96 327 P **P** **00 47 32.9 +1.4**
HHU sP **sP** **00 47 39.8 +0.7**
HHU S **S** **00 58 34.7 +2.6**
HHU AmB
comp=Z,606nm,3.7s
HHU AMS AMS
comp=N,8µm,13.9s
HHU AMS AMS
comp=E,7µm,13.0s
HHU AMS AMS
comp=Z,9µm,15.7s
GYA Guiyang 92.03 305 ⇓P **P** **00 47 35.3 +2.9**
GYA S **S** **00 58 34.1 +0.3**
GYA pmax pmax
comp=Z,15nm,1.0s
GYA pmax pmax
comp=Z,520nm,7.8s
GYA LR LR
comp=Z,3µm,24.3s
GYA LR LR
comp=Z,4µm,18.0s
GYA LR LR
comp=Z,7µm,22.4s
PB06 IPOC Station P 93.04 125 P **P** **00 47 34.6 -2.8**
YSS Yuzh-Sakhalins 93.14 340 IAMs_20 IAMs_20 01 27 32.6
comp=Z,16µm,21.0s
YSS Yuzh-Sakhalins 93.14 340 *e*P **P** **00 47 38.6 +1.8**
YSS *e* 00 51 19.4
YSS *e* 00 58 10.7
YSS *e*S **S** **00 58 42.3 -0.1**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,200nm,5.7s
YSS pmax pmax
comp=Z,200nm,5.1s
YSS pmax pmax
comp=N,200nm,4.0s
ENH Enshi 93.17 309 P **P** **00 47 37.9 +0.4**
ENH IAmb IAmb 00 47 59.6
comp=Z,63nm,1.2s
SUJ Sinuiju 93.37 325 P **P** **00 47 39.4 +1.4**
SUJ sP **sP** **00 47 45.8 +0.1**
SUJ S **S** **00 58 48.2 +3.5**
SUJ AmB
comp=Z,612nm,2.4s
SUJ AMS AMS
comp=N,10µm,21.9s
SUJ AMS AMS
comp=E,2µm,3.5s
SUJ AMS AMS
comp=Z,8µm,17.4s
PB03 IPOC Station P 93.42 124 P **P** **00 47 39.2 +0.1**
PB03 IAmb IAmb 00 48 07.0
comp=Z,56nm,1.4s
KMI Kunming 93.50 301 ⇓P P 00 47 46.1 +6.8
KMI PP **PP** **00 51 23.3 -0.9**
KMI Kunming 93.50 301 S **S** **00 58 46.5 -0.6**
LVC Limon Verde 93.51 125 LR LR 01 21 32.6
comp=Z,3µm,20.9s,baz=216,slow=30
LVC Limon Verde 93.51 125 P **P** **00 47 39.9 +0.1**
LVC Limon Verde 93.51 125 *e*P **P** **00 47 37.9 -1.9**
LVC Limon Verde 93.51 125 P **P** **00 47 39.9 +0.1**
LVC pmax pmax
comp=Z,19nm,0.7s
PB07 IPOC Station P 93.58 124 P **P** **00 47 39.3 -0.7**
TIA Tai'an 93.63 318 P **P** **00 47 37.4 -2.0**
TIA PP **PP** **00 51 29.4 +4.6**
TIA pmax pmax
comp=Z,29nm,1.1s
TIA pmax pmax
comp=Z,310nm,10.7s
TIA LR LR
comp=Z,5µm,23.5s
TIA LR LR
comp=Z,5µm,23.5s
TIA LR LR
comp=Z,9µm,39.2s
DL2 Dalian 93.65 322 P **P** **00 47 39.8 +0.5**
DL2 pmax pmax
comp=Z,50nm,1.3s
DL2 pmax pmax
comp=Z,330nm,10.2s
DL2 LR LR
comp=Z,9µm,24.7s
DL2 LR LR
comp=Z,6µm,23.9s
DL2 LR LR
comp=Z,12µm,27.5s
PB02 IPOC Station P 93.88 124 P **P** **00 47 41.2 0.0**
PB02 IAmb IAmb 00 48 10.3
comp=Z,85nm,1.5s
PB09 IPOC Station P 93.92 124 P **P** **00 47 41.1 -0.4**
PB09 IAmb IAmb 00 48 36.9
comp=Z,50nm,1.3s
USA0B Ussuriysk Arra 93.94 332 P **P** **00 47 41.1 +0.6**
USA0B IAmb IAmb 00 49 27.6
comp=Z,82nm,1.8s
USA0B Ussuriysk Arra 93.94 332 P **P** **00 47 41.1 +0.6**
USA0B pmax pmax
comp=Z,82nm,1.8s
USRK Ussuriysk Ar. 93.94 332 P **P** **00 47 40.7 +0.2**
comp=Z,3.0nm,0.8s,baz=143,slow=5.0,SNR=2.8
comp=Z,3.0nm,0.8s
USRK Ussuriysk Ar. 93.94 332 P **P** **00 47 41.6 +1.0**
USRK Ussuriysk Ar. 93.94 332 P **P** **00 47 41.6 +1.0**
TA01 Diego Aracena 94.27 123 P **P** **00 47 39.8 -3.0**
TA01 IAmb IAmb 00 47 57.7
comp=Z,54nm,1.3s
PLTB Pedras Altas 94.44 141 P **P** **00 47 42.6 -0.9**
ADK Adak 94.47 6 IAMs_20 IAMs_20 01 30 03.3
comp=Z,12µm,20.0s
LYN LuoYang 94.75 314 *e*P **P** **00 47 44.1 -0.4**
LYN PP **PP** **00 51 33.5 -0.1**
LYN pmax pmax
comp=Z,240nm,3.3s
LYN LR LR
comp=Z,5µm,22.4s
LYN LR LR
comp=Z,7µm,19.8s
LYN LR LR
comp=Z,11µm,23.9s
RODS Rosario do Sul 94.87 140 *e*P **P** **00 47 44.7 -0.8**
SHEM Shemya Is, Ala 94.92 1 LR LR 01 25 14.1
comp=Z,19µm,21.7s,baz=181,slow=32
PZH PanZhiHua 95.11 301 P **P** **00 47 48.3 +1.7**
PZH sP **sP** **00 47 55.8 +1.6**
PZH SKS **SKSac** **00 58 23.6 +1.9**
PZH S **S** **00 58 57.1 -3.8**
PZH SS **SS** **01 05 23.0 -4.6**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,260nm,6.9s
PZH LR LR
comp=Z,5µm,22.7s
PZH LR LR
comp=Z,6µm,22.0s
PZH LR LR
comp=Z,9µm,25.0s
SNY Shenyang 95.19 325 ⇓P **P** **00 47 49.8 +3.5**
SNY pmax pmax
comp=Z,210nm,12.0s
SNY LR LR
comp=Z,7µm,25.0s
SNY LR LR
comp=Z,8µm,22.9s
SNY LR LR
comp=Z,7µm,24.6s
MND Mandalay 95.65 295 P **P** **00 47 47.6 -1.3**
CPSB Cacapava Do Su 95.65 141 *e*P **P** **00 47 47.6 -1.4**
MNMC Minye Minye 95.70 122 P **P** **00 47 47.1 -2.7**
MNMC IAmb IAmb 00 48 06.0
comp=Z,42nm,1.2s
HNS HongShan 95.77 317 ⇑P P 00 47 56.8 +7.7
PET Petropavlovsk 96.04 351 IAMs_20 IAMs_20 01 27 50.9
comp=Z,14µm,20.0s
CN2 Changchun 96.05 327 *e*P **P** **00 47 51.8 +1.5**
CN2 sP sP 00 47 58.0 +0.1
CN2 S **S** **00 59 08.3 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,5µm,22.0s
CN2 LR LR
comp=Z,4µm,22.0s
CN2 LR LR
comp=Z,4µm,23.0s
TNCH TengChong 96.14 298 *e*P **P** **00 47 53.1 +1.7**
TNCH pP pP 00 47 56.3 -0.7
TNCH sP sP 00 47 58.0 -1.1
TNCH PP **PP** **00 51 48.8 +4.1**
TNCH SKS **SKSac** **00 58 28.3 +1.0**
TNCH S **S** **00 59 09.8 -0.2**
TNCH SS **SS** **01 05 46.3 +3.9**
TNCH pmax pmax
comp=Z,260nm,2.9s
TNCH LR LR
comp=Z,2µm,21.6s
TNCH LR LR
comp=Z,2µm,24.2s
TNCH LR LR
comp=Z,6µm,27.5s
NNA Nana 96.15 112 LR LR 01 23 54.8
comp=Z,11µm,18.4s,baz=231,slow=31
NNA Nana 96.15 112 IAMs_20 IAMs_20 01 23 41.1
comp=Z,12µm,19.0s
PETK Petropavlovsk- 96.23 351 P **P** **00 47 53.0 +2.1**
comp=Z,2.6nm,0.9s,baz=101,slow=6.0,SNR=1.8
PETK LR LR 01 27 52.1
comp=Z,15µm,19.3s,baz=159,slow=33
XAN Xi'an 96.30 311 ⇑P **P** **00 47 50.4 -1.3**
XAN pP pP 00 47 55.0 -2.4
XAN sP sP 00 47 57.4 -2.0
XAN SKS **SKSac** **00 58 24.6 -2.8**
XAN S **S** **00 59 05.9 -4.8**
XAN SS **SS** **01 05 46.3 +2.1**
XAN pmax pmax
comp=Z,16nm,1.2s
XAN pmax pmax
comp=Z,310nm,8.2s
XAN LR LR
comp=Z,6µm,23.4s
XAN LR LR
comp=Z,3µm,25.4s
XAN LR LR
comp=Z,10µm,30.2s
LPIG La Paz 96.63 63 LR LR 01 23 06.0
comp=Z,27µm,20.8s,baz=223,slow=30
PALK Pallekele 96.73 274 LR LR 01 30 12.5
comp=Z,9µm,18.8s,baz=236,slow=35
PALK Pallekele 96.73 274 IAMs_20 IAMs_20 01 32 20.4
comp=Z,19µm,19.0s
PALK Pallekele 96.73 274 P sP 00 48 05.3 +3.4
CD2 Chengdu 97.00 306 P **P** **00 47 58.3 +3.3**
CD2 PP **PP** **00 51 57.3 +6.1**
CD2 SKS **SKSac** **00 58 30.1 -1.2**
CD2 S **S** **00 59 13.8 -3.1**
CD2 SS **SS** **01 05 50.0 -4.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,2µm,15.2s
CD2 LR LR
comp=Z,2µm,17.2s
CD2 LR LR
comp=Z,7µm,31.4s
BJI Beijing 97.09 320 P Pdif 00 47 55.5 +0.4
BJI pP pP 00 48 00.3 -0.4
BJI sP sP 00 48 02.6 -0.1
BJI PP **PP** **00 51 51.0 -0.7**
BJI SKS **SKSac** **00 58 29.3 -1.8**
BJI S **S** **00 59 15.8 -1.3**
BJI LR LR
comp=Z,2µm,20.5s
BJI LR LR
comp=Z,7µm,20.5s
BJI LR LR
comp=Z,9µm,21.5s
CPUP Villa Florida 97.11 136 P Pdif 00 47 58.2 +2.4

CPUP LR LR 01 24 47.9
comp=Z,2.6nm,1.1s,baz=89,slow=4.3,SNR=2.9
comp=Z,6µm,20.7s,baz=208,slow=31
comp=Z,2.6nm,1.1s
TIY Taiyuan 97.17 316 *e*P Pdif 00 47 56.6 +0.9
TIY S **S** **00 59 11.4 -6.7**
TIY pmax pmax
comp=Z,130nm,4.3s
TIY LR LR
comp=Z,5µm,22.0s
TIY LR LR
comp=Z,5µm,25.4s
TIY LR LR
comp=Z,10µm,23.4s
KAAM Kaadhehdhoo 97.88 263 IAMs_20 IAMs_20 01 29 39.4
comp=Z,10µm,18.0s
KAAM Kaadhehdhoo 97.88 263 P sP 00 48 10.8 +3.7
SAIH SAIHA 98.08 293 *e*P Pdif 00 48 09.0 +8.8
KLR Kul'dur 98.40 334 P Pdif 00 48 01.2 +0.4
comp=Z,1.5nm,1.0s,baz=150,slow=20,SNR=2.1
KLR PP **PP** **00 52 04.8 +3.3**
comp=Z,7.2nm,1.2s,baz=124,slow=6.6,SNR=4.2
KLR LR LR 01 31 35.6
comp=Z,6µm,19.3s,baz=151,slow=35
ATAH Atahualpa 98.50 108 LR LR 01 22 28.6
comp=Z,5µm,19.5s,baz=229,slow=29
109C Camp Elliot, M 98.52 53 IAMs_20 IAMs_20 01 26 45.1
comp=Z,13µm,20.0s
LPAZ La Paz 98.75 121 P Pdif 00 48 08.0 +4.0
comp=Z,0.9nm,0.8s,baz=255,slow=3.9,SNR=2.3
LPAZ PP PP 00 52 13.0 +8.3
comp=Z,6.6nm,1.2s,baz=222,slow=5.9,SNR=4.2
LPAZ LR LR 01 22 49.1
comp=Z,4µm,21.1s,baz=193,slow=29
LPAZ La Paz 98.75 121 ⇓sP sP 00 48 19.2 +7.6
LPAZ La Paz 98.75 121 *e*P **P** **00 48 01.5 -2.5**
PASC Pasadena Art C 98.80 51 IAMs_20 IAMs_20 01 26 53.7
comp=Z,20µm,20.0s
SAO San Andreas Ge 98.85 48 IAMs_20 IAMs_20 01 27 13.0
comp=Z,20µm,20.0s
ELS Elsinore Mount 98.87 52 P **P** **00 48 02.8 -0.5**
IMP Imphal 99.02 295 *e*P Pdif 00 48 11.4 +7.2
IMP IAmb IAmb 00 48 14.2
comp=Z,17nm,0.8s
VOI Vohitsoka 99.07 229 IAMs_20 IAMs_20 01 28 43.7
comp=Z,16µm,18.0s
MCCM Marconi Confer 99.09 46 IAMs_20 IAMs_20 01 29 20.5
comp=Z,18µm,20.0s
BRDH Bariadhala 99.13 292 LR LR 01 38 53.5
comp=Z,7µm,18.5s,baz=155,slow=39
PFO Pinyon Flats O 99.41 53 P **Pdif** **00 48 05.2 -0.6**
PFO Pinyon Flats O 99.41 53 IAMs_20 IAMs_20 01 25 07.9
comp=Z,17µm,20.0s
PFO Pinyon Flats O 99.41 53 P **Pdif** **00 48 05.3 -0.6**
PFO pmax pmax
comp=Z,32nm,1.7s
KOHI KOHIMA 99.51 296 *e*P **Pdif** **00 48 11.5 +5.0**
MOKO MOKOCHONG 99.65 297 *e*P **Pdif** **00 48 12.6 +5.6**
MOKO IAmb IAmb 00 48 22.1
comp=Z,67nm,1.4s
CNBA Chernabura Isl 99.74 16 IAMs_20 IAMs_20 01 28 19.8
comp=Z,20µm,20.0s
HHC Hu-ho-hao-te 99.97 317 *e*P **Pdif** **00 48 09.6 +1.5**
HHC S **S** **00 59 44.3 +2.5**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,210nm,5.8s
HHC LR LR
comp=Z,9µm,18.6s
HHC LR LR
comp=Z,6µm,20.2s
HHC LR LR
comp=Z,21µm,18.8s
XLT XiLinHaoTe 100.14 322 *e*P **Pdif** **00 48 14.0 +5.2**
XLT PP **PP** **00 52 18.8 +3.8**
XLT S **Sdif** **00 59 47.8 +4.8**
XLT sS sS 00 59 57.3 +4.9
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,140nm,4.7s
XLT LR LR
comp=Z,540nm,18.1s
XLT LR LR
comp=Z,5µm,19.9s
XLT LR LR
comp=Z,6µm,20.2s
JCC Jacoby Creek, 100.48 43 IAMs_20 IAMs_20 01 30 22.2
comp=Z,13µm,20.0s
TRIS Tristan da Cun 100.58 175 IAMs_20 IAMs_20 01 31 02.9
comp=Z,10µm,20.0s
LZH Lanzhou 100.64 310 ⇓P **Pdif** **00 48 21.8 +11**
LZH pP sP 00 48 24.8 +5.8
LZH PP PP 00 52 27.3 +8.2
LZH Lanzhou 100.64 310 SS SS 01 06 55.5 +10
LZH pmax pmax
comp=Z,12nm,1.5s
LZH LR LR
comp=N,3µm,16.5s
LZH LR LR
comp=E,4µm,18.6s
LZH LR LR
comp=Z,8µm,17.2s
ITAN ITANAGAR 100.72 297 *e*P **Pdif** **00 48 19.8 +8.2**
ITAN IAmb IAmb 00 48 28.5
comp=Z,326nm,2.1s
HEH HeiHe 100.74 332 P **Pdif** **00 48 10.6 -0.5**
HEH PP **PP** **00 52 16.8 -2.5**
HEH SKS **SKSac** **00 58 52.3 +3.5**
HEH LR LR
comp=Z,3µm,19.4s
HEH LR LR
comp=Z,5µm,19.2s
HEH LR LR
comp=Z,8µm,20.7s
ORV Oroville 100.86 46 IAMs_20 IAMs_20 01 30 26.2
comp=Z,13µm,19.0s
SHL Shillong 100.89 295 *e*P **Pdif** **00 48 17.7 +5.0**
UNM Universidad Na 101.09 74 IAMs_20 IAMs_20 01 26 21.9
comp=Z,14µm,20.0s
ABPO Ambohimpanom 101.11 231 IAMs_20 IAMs_20 01 27 29.2
comp=Z,14µm,19.0s
NVAR Mina Array Bea 101.78 48 P **Pdif** **00 48 19.4 +3.0**
comp=Z,0.2nm,0.5s,baz=219,slow=7.0,SNR=2.3
NVAR PP **PP** **00 52 33.4 +5.7**
comp=Z,5.1nm,1.2s,baz=214,slow=9.1,SNR=3.9
NVAR PKKPbc **PKKPbc** **01 04 22.4 +0.4**
comp=Z,0.5nm,0.7s,baz=49,slow=2.7,SNR=3.7
YBH Yreka Blue Hor 101.83 43 IAMs_20 IAMs_20 01 25 43.8
comp=Z,13µm,22.0s
TPNV Topopah Spring 101.88 51 ⇓P **Pdif** **00 48 27.6 +11**
TUC Tucson 101.94 57 IAMs_20 IAMs_20 01 30 49.7
comp=Z,17µm,18.0s
PCHI Peechi 102.10 273 *e*P **Pdif** **00 48 20.1 +2.1**
PCHI *e*S **SKSac** **00 58 52.7 -4.4**
HUMO Hull Mountain 102.34 43 IAMs_20 IAMs_20 01 32 03.5
comp=Z,11µm,20.0s
SII Sitkinak Islan 102.51 18 IAMs_20 IAMs_20 01 30 38.6
comp=Z,17µm,21.0s
SIV San Ignacio 103.30 127 PP **PKiKP** **00 52 43.3 +0.5**
comp=Z,0.5nm,0.7s,baz=235,slow=8.5,SNR=3.7
MA2 Magadan 103.45 348 IAMs_20 IAMs_20 01 30 20.0
comp=Z,14µm,22.0s
WUAZ Wupatki 103.75 54 IAMs_20 IAMs_20 01 29 41.7
comp=Z,16µm,20.0s
KDAK Kodiak Island 103.98 18 IAMs_20 IAMs_20 01 33 20.7
comp=Z,15µm,20.0s
EPT El Paso 104.28 60 IAMs_20 IAMs_20 01 27 14.6
comp=Z,13µm,22.0s
WVOR Wild Horse Val 104.43 45 IAMs_20 IAMs_20 01 32 53.8
comp=Z,18µm,20.0s
TXAR Lajitas Array 104.53 64 Pdiff **Pdif** **00 48 31.5 +2.8**
comp=Z,0.2nm,0.8s,baz=235,slow=3.2,SNR=1.2
TXAR PP **PP** **00 52 48.8 +0.5**
comp=Z,0.8nm,0.9s,baz=213,slow=6.0,SNR=3.6
TXAR PKKPbc **PKKPbc** **01 04 13.2 0.0**
comp=Z,0.5nm,0.6s,baz=70,slow=3.1,SNR=8.1
P18K Big Mountain, 104.88 16 IAMs_20 IAMs_20 01 31 30.4
comp=Z,14µm,20.0s
GTA Gaotai 105.24 310 Pdif **Pdif** **00 48 42.9 +11**
GTA PP **PP** **00 52 59.9 +6.4**
GTA Gaotai 105.24 310 SS SS 01 07 59.9 +11
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,390nm,7.6s
GTA LR LR
comp=N,3µm,21.8s
GTA LR LR
comp=E,4µm,21.4s
GTA LR LR
comp=Z,4µm,22.2s
O18K Koktuh Hills 105.31 16 IAMs_20 IAMs_20 01 32 14.7
comp=Z,13µm,21.0s
NLWA Neilton Lookou 105.41 39 IAMs_20 IAMs_20 01 29 46.6
comp=Z,17µm,20.0s
P19K Oil Pt 105.54 17 IAMs_20 IAMs_20 01 32 41.8
comp=Z,15µm,20.0s
N18K Kilae Creek 105.94 15 IAMs_20 IAMs_20 01 46 08.2
comp=Z,10µm,19.0s
DUG Dugway, Tooele 106.07 50 IAMs_20 IAMs_20 01 32 51.0
comp=Z,16µm,19.0s
N19K Bonanza Creek 106.33 16 IAMs_20 IAMs_20 01 32 34.8
comp=Z,13µm,21.0s
LBTB Lobatse 106.43 210 PKKP **PKKPdf** **01 04 18.4 +0.7**
comp=Z,3.9nm,0.8s,baz=339,slow=4.2,SNR=4.2
BOAB BOACO BROADBA 106.45 88 IAMs_20 IAMs_20 01 29 38.6
comp=Z,12µm,20.0s
MFID Camas Ranch 106.60 46 IAMs_20 IAMs_20 01 33 42.1
comp=Z,11µm,20.0s
MVCO Mesa Verde 106.61 55 IAMs_20 IAMs_20 01 31 22.3
comp=Z,16µm,20.0s
HAWA Hanford 106.77 42 IAMs_20 IAMs_20 01 35 01.5
comp=Z,13µm,20.0s
BMO Blue Mountains 106.81 44 IAMs_20 IAMs_20 01 34 51.8
comp=Z,16µm,20.0s
O22K Cooper Landing 107.06 18 IAMs_20 IAMs_20 01 30 16.1
comp=Z,11µm,22.0s
KVTX Kingsville 107.28 68 IAMs_20 IAMs_20 01 29 02.1
comp=Z,12µm,22.0s
M19K Big River Lodg 107.35 15 IAMs_20 IAMs_20 01 33 27.6
comp=Z,9µm,20.0s
HLID Hailey 107.45 47 IAMs_20 IAMs_20 01 32 36.7
comp=Z,13µm,20.0s
L19K White Mountain 107.52 15 IAMs_20 IAMs_20 01 43 11.0
comp=Z,8µm,19.0s
FIS Fire Island 107.54 18 IAMs_20 IAMs_20 01 35 58.7
comp=Z,13µm,20.0s
M20K Styx River 107.58 16 IAMs_20 IAMs_20 01 33 45.9
comp=Z,13µm,21.0s
SONM Songino Array 107.59 319 Pdiff **Pdif** **00 48 41.0 -0.8**
comp=Z,0.6nm,0.8s,baz=150,slow=6.3,SNR=4.4
SONM PP **PP** **00 53 09.0 -1.6**
comp=Z,1.3nm,1.0s,baz=132,slow=6.4,SNR=1.8
SONM PKKPbc **PKKPbc** **01 04 05.7 +1.2**
comp=Z,0.4nm,0.6s,baz=274,slow=2.0,SNR=2.1
RC01 Rabbit Creek A 107.60 18 IAMs_20 IAMs_20 01 30 45.3
comp=Z,11µm,22.0s
PLID Pearl Lake 107.65 45 IAMs_20 IAMs_20 01 35 07.9
comp=Z,16µm,20.0s
HWUT Hardware Ranch 107.71 50 IAMs_20 IAMs_20 01 34 03.6
comp=Z,16µm,20.0s
PWL Port Wells 107.72 19 IAMs_20 IAMs_20 01 31 14.5
comp=Z,10µm,21.0s
HIN Hinchinbrook I 107.76 20 IAMs_20 IAMs_20 01 38 25.6
comp=Z,11µm,20.0s
KAIM Kayak Island 107.89 21 IAMs_20 IAMs_20 01 38 11.0
comp=Z,14µm,19.0s
SKT Skwentna 108.00 17 IAMs_20 IAMs_20 01 33 39.9
comp=Z,16µm,21.0s
ANM Nome 108.11 10 IAMs_20 IAMs_20 01 37 55.6
comp=Z,13µm,20.0s
KNK Knik Glacier 108.18 18 IAMs_20 IAMs_20 01 34 47.6
comp=Z,11µm,22.0s
SUCK Suckling Hills 108.19 21 IAMs_20 IAMs_20 01 48 10.7
comp=Z,15µm,18.0s
RAGM Ragged Mountai 108.22 21 IAMs_20 IAMs_20 01 38 34.6
comp=Z,12µm,18.0s
HMT Hamilton 108.28 21 IAMs_20 IAMs_20 01 41 33.3
comp=Z,15µm,18.0s
GHO Glory Hole Cre 108.39 18 IAMs_20 IAMs_20 01 31 31.2
comp=Z,11µm,22.0s
BERG Berg Lake 108.48 21 IAMs_20 IAMs_20 01 38 12.5
comp=Z,13µm,19.0s
SNH Sunshine Point 108.53 21 IAMs_20 IAMs_20 01 48 21.8
comp=Z,14µm,18.0s
SML Sawmill 108.56 18 IAMs_20 IAMs_20 01 36 28.5
comp=Z,8µm,20.0s
CUT Chulitna 108.65 17 IAMs_20 IAMs_20 01 34 22.1
comp=Z,18µm,21.0s
K20K Telida 108.74 15 IAMs_20 IAMs_20 01 43 41.3
comp=Z,8µm,19.0s
WRAK Wrangell Islan 108.75 29 IAMs_20 IAMs_20 01 31 12.7
comp=Z,17µm,21.0s
WAX Waxell Ridge 108.75 21 IAMs_20 IAMs_20 01 48 38.7
comp=Z,15µm,18.0s
MESA MESA 108.77 22 IAMs_20 IAMs_20 01 38 40.2
comp=Z,15µm,20.0s
SMCO Snowmass 108.80 54 IAMs_20 IAMs_20 01 30 53.3
comp=Z,14µm,21.0s
KLU Klutina 108.85 19 IAMs_20 IAMs_20 01 31 35.4
comp=Z,13µm,21.0s
YAH Yahtse 108.98 22 IAMs_20 IAMs_20 01 38 46.6
comp=Z,14µm,20.0s
ISLE Juniper Island 109.02 21 IAMs_20 IAMs_20 01 35 03.8
comp=Z,13µm,20.0s
CAST Castle Rocks 109.18 16 IAMs_20 IAMs_20 01 35 16.1
comp=Z,11µm,20.0s
TABL Table Mountain 109.21 22 IAMs_20 IAMs_20 01 38 55.9
comp=Z,15µm,19.0s
REDW Red Top Meadow 109.26 49 IAMs_20 IAMs_20 01 35 30.6
comp=Z,17µm,20.0s
TPAW Teton Pass 109.29 48 IAMs_20 IAMs_20 01 35 42.2
comp=Z,14µm,20.0s
M24K Tolsona, Glenn 109.32 19 IAMs_20 IAMs_20 01 38 58.8
comp=Z,10µm,20.0s
FXWY Fox Creek 109.34 48 IAMs_20 IAMs_20 01 35 32.8
comp=Z,14µm,21.0s
AMTX Amarillo 109.36 60 IAMs_20 IAMs_20 01 30 38.4
comp=Z,15µm,21.0s
SNOW Snow King Moun 109.38 48 IAMs_20 IAMs_20 01 35 34.7
comp=Z,17µm,20.0s
J20K Nowinta River 109.47 14 IAMs_20 IAMs_20 01 37 32.7
comp=Z,9µm,19.0s
KTH Kantishna Hill 109.54 16 IAMs_20 IAMs_20 01 46 12.5
comp=Z,15µm,20.0s
IMW Indian Meadow 109.56 48 IAMs_20 IAMs_20 01 35 39.4
comp=Z,14µm,20.0s
LOHW Long Hollow 109.56 48 IAMs_20 IAMs_20 01 35 41.5
comp=Z,15µm,20.0s
MOOW Moose Ponds 109.57 48 IAMs_20 IAMs_20 01 35 40.8
comp=Z,16µm,20.0s
BARN Barnard Glacie 109.58 21 IAMs_20 IAMs_20 01 32 36.7
comp=Z,10µm,20.0s
BW06 Boulder Array 109.60 50 IAMs_20 IAMs_20 01 34 02.5
comp=Z,17µm,20.0s
PDAR Pinedale Array 109.60 50 Pdiff **Pdif** **00 48 54.1 +3.1**
comp=Z,0.1nm,0.6s,baz=256,slow=3.6,SNR=1.4
PDAR PP **PP** **00 53 27.4 +1.9**
comp=Z,1.4nm,0.9s,baz=250,slow=4.3,SNR=4.6
PDAR PKKPab **PKKPab** **01 04 06.7 -0.7**
comp=Z,0.8nm,0.8s,baz=89,slow=6.7,SNR=4.7
FLWY Flagg Ranch 109.81 48 IAMs_20 IAMs_20 01 35 47.2
comp=Z,14µm,20.0s
RND Reindeer 109.84 17 IAMs_20 IAMs_20 01 35 19.6
comp=Z,11µm,20.0s
BPAW Bear Paw Mtn. 110.01 16 IAMs_20 IAMs_20 01 46 37.0
comp=Z,12µm,19.0s
HKT Hockley 110.19 68 IAMs_20 IAMs_20 01 30 55.6
comp=Z,10µm,20.0s
RWWY Rawlins 110.25 52 IAMs_20 IAMs_20 01 34 18.9
comp=Z,13µm,20.0s
BOZ Bozeman (W) 110.29 46 IAMs_20 IAMs_20 01 34 08.8
comp=Z,16µm,20.0s
M26K Nabesna, AK 110.36 20 IAMs_20 IAMs_20 01 39 57.3
comp=Z,10µm,20.0s
BILL Bilibino 110.40 357 IAMs_20 IAMs_20 01 33 37.0
comp=Z,11µm,22.0s
M27K Edge Creek, AK 110.61 21 IAMs_20 IAMs_20 01 43 07.9
comp=Z,8µm,18.0s
I21K Tanana 110.78 15 IAMs_20 IAMs_20 01 40 18.4
comp=Z,12µm,19.0s
L26K Log Cabin Wild 110.80 20 IAMs_20 IAMs_20 01 31 44.8
comp=Z,11µm,21.0s
NEA2 Nenana 110.84 16 IAMs_20 IAMs_20 01 35 40.0
comp=Z,16µm,21.0s
MLY Manley 110.89 15 IAMs_20 IAMs_20 01 40 41.2
comp=Z,10µm,18.0s
PHWY Pilot Hill 111.04 53 IAMs_20 IAMs_20 01 35 32.6
comp=Z,12µm,19.0s
RIDG Independent Ri 111.04 19 IAMs_20 IAMs_20 01 38 23.2
comp=Z,11µm,20.0s
H21K Melozitna Rive 111.06 14 IAMs_20 IAMs_20 01 40 45.7
comp=Z,10µm,19.0s
HDA Harding Lake 111.14 17 IAMs_20 IAMs_20 01 39 04.8
comp=Z,10µm,20.0s
L27K Beaver Creek, 111.21 20 IAMs_20 IAMs_20 01 36 49.7
comp=Z,10µm,21.0s
BRIGG Briggsdale 111.27 54 IAMs_20 IAMs_20 01 34 44.7
comp=Z,15µm,20.0s
RLMT Red Lodge 111.27 48 IAMs_20 IAMs_20 01 36 35.6
comp=Z,12µm,20.0s
I23K Minto, Yukon-K 111.27 16 IAMs_20 IAMs_20 01 38 32.3
comp=Z,11µm,20.0s
MDM Murphy Dome 111.34 17 IAMs_20 IAMs_20 01 36 15.1
comp=Z,16µm,20.0s
COLA College 111.34 17 IAMs_20 IAMs_20 01 36 15.2
comp=Z,16µm,20.0s
SCRK Sand Creek 111.44 19 IAMs_20 IAMs_20 01 32 58.9
comp=Z,9µm,21.0s
ILAR Eielson Array 111.46 17 PKiKP **PKiKP** **00 52 55.5 -0.8**
comp=Z,0.7nm,0.9s,baz=240,slow=3.0,SNR=4.8
ILAR PKKPab **PKKPab** **01 03 58.9 +1.3**
comp=Z,1.5nm,0.8s,baz=7.7,slow=2.4,SNR=6.9
N31M Braeburn, Yuko 111.60 24 IAMs_20 IAMs_20 01 36 12.0
comp=Z,15µm,20.0s
J25K Salcha River, 111.66 18 IAMs_20 IAMs_20 01 32 29.8
comp=Z,11µm,22.0s
RDOG Red Dog Mine 111.75 9 IAMs_20 IAMs_20 01 47 50.9
comp=Z,13µm,20.0s
H23K Yukon River 111.83 16 IAMs_20 IAMs_20 01 41 17.1
comp=Z,9µm,19.0s
J26L Joseph Creek 111.99 19 IAMs_20 IAMs_20 01 41 06.3
comp=Z,11µm,20.0s
H24K Noodor Dome 112.18 16 IAMs_20 IAMs_20 01 36 32.3
comp=Z,16µm,21.0s
OK038 West end E0370 112.23 60 IAMs_20 IAMs_20 01 32 32.2
comp=Z,11µm,21.0s
OK035 E0210 Rd and N 112.39 60 IAMs_20 IAMs_20 01 32 45.4
comp=Z,11µm,21.0s
PRP Porcupine Dome 112.40 17 IAMs_20 IAMs_20 01 36 58.2
comp=Z,11µm,20.0s
I26K Coal Creek Min 112.76 18 IAMs_20 IAMs_20 01 38 55.9
comp=Z,9µm,20.0s
OK032 Salt Plains WL 112.77 60 IAMs_20 IAMs_20 01 35 33.4
comp=Z,13µm,19.0s
EGAK Eagle 112.80 19 IAMs_20 IAMs_20 01 33 05.7
comp=Z,9µm,22.0s
EGMT Eagleton 112.83 45 IAMs_20 IAMs_20 01 37 51.9
comp=Z,14µm,20.0s
CBKS Cedar Bluff 113.00 58 IAMs_20 IAMs_20 01 35 24.6
comp=Z,14µm,20.0s
J29M Klondike Camp 113.28 21 IAMs_20 IAMs_20 01 39 51.4
comp=Z,10µm,21.0s
FYU Fort Yukon 113.36 17 IAMs_20 IAMs_20 01 37 47.5
comp=Z,11µm,20.0s
LAO LASA Array 113.90 48 IAMs_20 IAMs_20 01 38 29.4
comp=Z,9µm,20.0s
I29M Ogilvie Camp, 113.98 20 IAMs_20 IAMs_20 01 50 22.0
comp=Z,8µm,18.0s
TOLK Toolik Lake Re 114.30 14 IAMs_20 IAMs_20 01 35 49.3
comp=Z,14µm,22.0s
MIAR Mount Ida 114.47 65 IAMs_20 IAMs_20 01 33 26.6
comp=Z,13µm,21.0s
WMQ Urumqi 115.05 307 *e*Pdif **Pdif** **00 49 18.8 +3.7**
WMQ AMB AMB
comp=Z,250nm,5.7s
WMQ LR LR
comp=Z,4µm,23.9s
WMQ LR LR
comp=Z,5µm,23.9s
WMQ LR LR
comp=Z,5µm,25.7s
KSU1 Kansas State U 115.14 59 IAMs_20 IAMs_20 01 34 39.2
comp=Z,12µm,20.0s
EPYK Eagle Plains 115.18 20 IAMs_20 IAMs_20 01 39 14.7
comp=Z,8µm,21.0s
DGMT Dagmar 116.06 47 IAMs_20 IAMs_20 01 35 56.6
comp=Z,12µm,21.0s
LCAR Lake Charles 116.97 65 **PKiKP** **00 53 08.6 +0.8**
OXF Oxford 117.27 67 IAMs_20 IAMs_20 01 35 41.9
comp=Z,9µm,22.0s
INK Inuvik 117.47 20 PKP **PKPdf** **00 53 07.2 -0.5**
comp=Z,2.2nm,0.7s,baz=241,slow=3.6,SNR=7.9
INK PKKPab **PKKPbc** **01 03 32.3 +0.8**
comp=Z,2.0nm,0.9s,baz=21,slow=6.6,SNR=4.6
INK Inuvik 117.47 20 P **PKPdf** **00 53 07.8 +0.1**
baz=222
ECSD EROS Data Cent 117.75 55 IAMs_20 IAMs_20 01 37 36.3
comp=Z,13µm,21.0s
LRAL Lakeview Retre 118.09 70 IAMs_20 IAMs_20 01 38 31.5
comp=Z,7µm,20.0s
TIXI Tiksi 118.16 345 PKP **PKPdf** **00 53 07.2 -1.8**
comp=Z,0.9nm,0.3s,baz=206,slow=1.3,SNR=4.8
TIXI PKKPbc **PKKPbc** **01 03 30.2 +1.1**
comp=Z,0.8nm,0.6s,baz=13,slow=0.0,SNR=1.4
TIXI Tiksi 118.16 345 IAMs_20 IAMs_20 01 45 47.4
comp=Z,9µm,19.0s
TIXI Tiksi 118.16 345 ⇑*i*PKIKP **PKPdf** **00 53 07.0 -2.0**
TIXI MLR MLR
comp=Z,9µm,18.0s
PLAL Pickwick Lake 118.44 67 IAMs_20 IAMs_20 01 36 16.6
comp=Z,13µm,22.0s
DGZ Jazzator, Alta 118.52 313 *d i*PKIKP **PKiKP** **00 53 11.5 +0.9**
DGZ MLR MLR
comp=Z,7µm,20.0s
WVT Waverly 119.24 66 **PKPdf** **00 53 12.2 0.0**
WVT Waverly 119.24 66 PKIKP **PKPdf** **00 53 12.2 0.0**
YKA Yellowknife Ar 119.46 31 PKP **PKPdf** **00 53 10.1 -1.6**
comp=Z,1.9nm,0.7s,baz=265,slow=1.7,SNR=4.7
YKA PKKPbc **PKKPbc** **01 03 23.8 -0.4**
comp=Z,3.7nm,1.0s,baz=38,slow=4.7,SNR=4.5
YKA Yellowknife Ar 119.46 31 PKPdf **PKPdf** **00 53 11.7 0.0**
YKA Yellowknife Ar 119.46 31 PKIKP **PKPdf** **00 53 11.7 0.0**
SHLS Shalkode 119.67 303 *e*PKP **PKPdf** **00 53 09.8 -3.1**
baz=303
SHLS *e*PP **PP** **00 54 36.0 -0.5**
baz=303
SHLS Shalkode 119.67 303 *e*PKIKP **PKPdf** **00 53 09.8 -3.1**
SHLS *e* 00 54 35.9
PDGK Podgornoye 119.74 303 PKIKP **PKPdf** **00 53 10.4 -2.7**
MKAR Makanchi Array 119.87 308 PKP **PKPdf** **00 53 09.9 -3.2**
comp=Z,2.2nm,0.6s,baz=94,slow=1.4,SNR=12
MKAR PKKPbc **PKKPbc** **01 03 25.6 +3.3**
comp=Z,0.5nm,0.6s,baz=312,slow=4.7,SNR=1.9
KSH Kashi 119.96 298 PKP **PKiKP** **00 53 15.9 +2.2**
KSH PP **PP** **00 54 36.5 -2.1**
KSH AMB AMB
comp=Z,550nm,10.0s
KSH LR LR
comp=Z,6µm,20.6s
KSH LR LR
comp=Z,5µm,22.0s
KSH LR LR
comp=Z,9µm,25.4s
SATY Saty 120.27 302 *e*PKP **PKPdf** **00 53 14.2 +0.1**
baz=302
SATY Saty 120.27 302 *e*PKIKP **PKPdf** **00 53 14.2 +0.1**
KPKS Kokpek 120.31 303 *e*PKP **PKPdf** **00 53 11.6 -2.5**
baz=303
KPKS Kokpek 120.31 303 *e*PKIKP **PKPdf** **00 53 11.6 -2.5**
AGMN Agassiz Nation 120.62 51 P **PKPdf** **00 53 14.6 +0.1**
baz=239
C36M Paulatuk 120.65 21 IAMs_20 IAMs_20 01 43 41.3
comp=Z,10µm,20.0s
FFC Flin Flon 120.66 42 PKPdf **PKPdf** **00 53 14.4 +0.1**
FFC Flin Flon 120.66 42 IAMs_20 IAMs_20 01 43 39.0
comp=Z,12µm,20.0s
FFC Flin Flon 120.66 42 PKIKP **PKPdf** **00 53 14.4 +0.1**
FFC MLR MLR
comp=Z,12µm,20.0s
MCPB Macapa, AP 121.03 124 *e*P **PKPdf** **00 53 15.0 -1.4**
TNSS Tian-Shan 121.18 302 *e*PKP **PKiKP** **00 53 16.6 +0.3**
baz=302
TNSS Tian-Shan 121.18 302 *e*PKIKP **PKiKP** **00 53 16.6 +0.3**
MDOK Medeo 121.18 302 *e*PKP **PKPdf** **00 53 13.8 -2.1**
baz=302
MDOK *e*PP **PP** **00 54 45.0 -1.9**
baz=302
MDOK *e*SS SS 01 11 59.6 +40
baz=302
MDOK Medeo 121.18 302 *e*PKIKP **PKPdf** **00 53 13.7 -2.1**
MDOK *e* 00 54 44.9
KMBO Kilima Mbogo 121.20 234 PKP **PKPdf** **00 53 16.1 -0.9**
comp=Z,2.1nm,0.7s,baz=115,slow=1.1,SNR=8.2
KMBO Kilima Mbogo 121.20 234 IAMs_20 IAMs_20 01 34 44.0
comp=Z,16µm,22.0s
KMBO Kilima Mbogo 121.20 234 PKiKP **PKiKP** **00 53 18.9 +1.7**
KMBO Kilima Mbogo 121.20 234 ⇓*i*PKIKP **PKPdf** **00 53 15.8 -1.2**
TDK Taldyorghan 121.27 304 *e*PKP **PKPdf** **00 53 15.5 -0.4**
baz=304

TDK eLR LR 01 42 53.9
comp=Z,5µm,23.5s,baz=304
TDK Taldyqorghan 121.27 304 *e*PKIKP **PKPdf** **00 53 15.4 -0.4**
TDK MLR MLR
comp=Z,5µm,23.0s
WCI Wyandotte Cave 121.40 65 PKPdf **PKPdf** **00 53 14.8 -1.5**
WCI Wyandotte Cave 121.40 65 P **PKPdf** **00 53 15.4 -0.9**
baz=238
WCI Wyandotte Cave 121.40 65 PKIKP **PKPdf** **00 53 14.8 -1.5**
ULM Lac du Bonnet 121.60 49 PKP **PKPdf** **00 53 13.8 -2.4**
comp=Z,13nm,0.9s,baz=244,slow=2.8,SNR=8.5
KUU Kurty 121.99 302 *e*PKP **PKPdf** **00 53 15.8 -1.5**
baz=302
KUU Kurty 121.99 302 *e*PKIKP **PKPdf** **00 53 15.7 -1.5**
KBL Kabul 122.00 289 **PKiKP** **00 53 18.2 +0.2**
KBL Kabul 122.00 289 PKIKP **PKiKP** **00 53 18.2 +0.2**
A36M Sachs Harbour 122.06 19 IAMs_20 IAMs_20 01 43 25.6
comp=Z,7µm,21.0s
ZALV Zalesovo Beam 122.11 316 PKP **PKPdf** **00 53 13.7 -3.4**
comp=Z,1.7nm,0.6s,baz=153,slow=1.0,SNR=4.5
ZALV SKKP 01 07 22.9
comp=Z,0.8nm,0.3s,baz=298,slow=6.2,SNR=4.2
HQIL Hanson Quary C 122.21 61 IAMs_20 IAMs_20 01 43 46.4
comp=Z,15µm,19.0s
TZTN Tazewell 122.38 68 IAMs_20 IAMs_20 01 38 39.9
comp=Z,13µm,21.0s
AAK Ala-Archa 122.53 300 PKPdf **PKPdf** **00 53 18.7 +0.2**
AAK Ala-Archa 122.53 300 PKIKP **PKiKP** **00 53 20.0 +1.3**
AAK Ala-Archa 122.53 300 ⇓*i* PKIKP **PKiKP** **00 53 20.1 +1.4**
AAK MLR MLR
comp=Z,6µm,23.0s
SGDS Sogindy 122.85 301 *e*PKP **PKPdf** **00 53 16.4 -2.6**
baz=301
SGDS Sogindy 122.85 301 *e*PKIKP **PKPdf** **00 53 16.4 -2.6**
EYMN Ely 122.99 53 P **PKiKP** **00 53 19.5 +0.3**
baz=241
P49A Miami Univ. Ec 123.13 65 P **PKiKP** **00 53 20.6 +0.9**
baz=240
O48B Farmland 123.20 64 P **PKiKP** **00 53 20.3 +0.5**
baz=240
ROSB Rosrio 123.55 133 *e*P **PKPdf** **00 53 19.0 -2.2**
KURBB Kurchatov Arra 123.93 310 PKKPbc PKKPbc 01 03 09.2 +2.4
comp=Z,0.6nm,0.8s,baz=294,slow=4.8,SNR=4.3
KURBB SKKP 01 07 21.9
comp=Z,0.6nm,0.7s,baz=286,slow=3.8,SNR=4.1
KURBB Kurchatov Arra 123.93 310 PKIKP **PKPdf** **00 53 18.8 -1.9**
BLA Blacksburg 124.87 69 IAMs_20 IAMs_20 01 40 10.0
comp=Z,11µm,21.0s
BLA Blacksburg 124.87 69 P **PKiKP** **00 53 23.8 +0.4**
baz=240
P52A Corning 124.91 66 P **PKPdf** **00 53 22.0 -1.0**
baz=240
RCBR Riachuelo 125.03 144 IAMs_20 IAMs_20 01 47 28.9
comp=Z,8µm,19.0s
IUG Iuzhnay 125.18 298 *e*PKP **PKPdf** **00 53 22.4 -1.1**
baz=298
IUG Iuzhnay 125.18 298 *e*PKIKP **PKPdf** **00 53 22.4 -1.1**
KK31 Karatay Array 125.32 299 *i* PKIKP **PKiKP** **00 53 26.4 +2.4**
GLMI Grayling 125.74 59 IAMs_20 IAMs_20 01 43 07.7
comp=Z,12µm,20.0s
ALNE Al Ain 125.80 271 PKiKP **PKPdf** **00 53 24.5 -0.7**
LODK Lodwar 125.94 236 IAMs_20 IAMs_20 01 42 04.8
comp=Z,12µm,20.0s
HATD Hatta, Dubai 125.97 272 *i* PKPdf **PKPdf** **00 53 24.2 -1.2**
SNR=6.7
UOSS Minazif 125.98 272 PKPdf **PKPdf** **00 53 25.0 -0.5**
UOSS Minazif 125.98 272 PKiKP **PKPdf** **00 53 24.8 -0.7**
MDH Madha 126.12 273 *i* PKiKP **PKiKP** **00 53 27.2 +1.1**
SNR=5.6
MSFE Esma-Masafi 126.25 273 PKiKP **PKiKP** **00 53 26.8 +0.3**
FAQ Al Faqa, Dubai 126.32 272 PKiKP **PKiKP** **00 53 30.7 +4.2**
NAZ Nazwa, Dubai 126.41 272 PKiKP **PKiKP** **00 53 29.2 +2.5**
ASUD Al Ashush, Dub 126.44 272 PKiKP **PKiKP** **00 53 29.5 +2.7**
MCWV Mont Chateau 126.46 67 IAMs_20 IAMs_20 01 45 34.1
comp=Z,8µm,19.0s
BRZS Berezniki 127.02 307 *e*PKP **PKPdf** **00 53 26.6 -0.2**
baz=307
BRZS Berezniki 127.02 307 *e*PKIKP **PKPdf** **00 53 26.5 -0.2**
CBN Corbin Frederi 127.47 69 IAMs_20 IAMs_20 01 41 50.5
comp=Z,10µm,21.0s
NRIK Noril'sk 127.61 333 PKP **PKPdf** **00 53 25.2 -2.0**
comp=Z,3.6nm,0.7s,baz=30,slow=5.6,SNR=1.8
NRIK Noril'sk 127.61 333 ⇓*i* PKIKP **PKPdf** **00 53 27.4 +0.2**
NRIK MLR MLR
comp=Z,7µm,20.0s
ANKE Ethiopia-Afar 127.82 245 *e*P **PKiKP** **00 53 32.4 +2.0**
FURI Furi 128.01 243 IAMs_20 IAMs_20 01 39 23.2
comp=Z,13µm,21.0s
SSPA Standing Stone 128.25 66 IAMs_20 IAMs_20 01 47 36.2
comp=Z,8µm,19.0s
DESE Dese 128.99 246 *e*P PKiKP 00 53 41.4 +8.8
ASCN Ascension 129.27 170 IAMs_20 IAMs_20 01 44 42.9
comp=Z,10µm,21.0s
BRVK Borovoye 129.59 310 PKPdf **PKPdf** **00 53 30.8 -0.6**
BRVK Borovoye 129.59 310 ⇑*e*PKIKP **PKPdf** **00 53 30.1 -1.3**
BRVK MLR MLR
comp=Z,5µm,22.0s
RES Resolute Bay 131.00 21 SKP **SKPdf** **00 57 08.0 +0.2**
comp=Z,11nm,1.1s,baz=210,slow=6.8,SNR=4.9
PAL Palisades 131.12 68 IAMs_20 IAMs_20 01 46 24.2
comp=Z,8µm,20.0s
GEYT Alibeck 131.34 288 PKP **PKPdf** **00 53 34.1 -1.3**
comp=Z,2.9nm,0.7s,baz=197,slow=1.5,SNR=5.0
GEYT PP **PP** **00 55 55.6 +1.3**
comp=Z,1.2nm,0.6s,baz=23,slow=7.8,SNR=1.4
GEYT SKP **SKPdf** **00 57 09.7 -0.1**
comp=Z,10nm,1.0s,baz=180,slow=0.6,SNR=5.5
GYA0 ALIBECK ARRAY 131.34 288 PKIKP **PKPdf** **00 53 32.7 -2.6**
WSPT Westport, CT 131.59 68 IAMs_20 IAMs_20 01 46 36.6
comp=Z,7µm,20.0s
YLE Yale 131.91 68 IAMs_20 IAMs_20 01 48 16.6
comp=Z,7µm,19.0s
RAYN Ar Rayn 133.04 263 IAMs_20 IAMs_20 01 56 49.0
comp=Z,7µm,18.0s
RAYN Ar Rayn 133.04 263 *i* PKiKP **PKiKP** **00 53 40.3 +0.2**
SNR=6.4
RAYN Ar Rayn 133.04 263 PKIKP **PKPdf** **00 53 39.4 +0.4**
BRYW Bryant College 133.12 68 IAMs_20 IAMs_20 01 55 50.1
comp=Z,10µm,20.0s
HRV Adam Dziewonsk 133.34 67 IAMs_20 IAMs_20 01 55 41.9
comp=Z,8µm,18.0s
WES Weston 133.45 67 IAMs_20 IAMs_20 01 50 53.9
comp=Z,8µm,19.0s
BCX Boston College 133.53 67 IAMs_20 IAMs_20 01 45 53.2
comp=Z,9µm,22.0s
AB31 Akbulak array 134.47 303 *i* PKIKP **PKPdf** **00 53 39.0 -1.8**
SVE Sverdlovsk 135.98 313 *i* PKIKP **PKPdf** **00 53 43.8 +0.5**
SVE pmax pmax
comp=Z,24nm,1.2s
SVE MLR MLR
comp=Z,8µm,23.0s
SVE MLR MLR
comp=E,7µm,23.0s
AKTO Aktyubinsk 136.01 304 PKIKP **PKPdf** **00 53 39.9 -3.7**
ARU Arti 137.03 312 PKPdf **PKPdf** **00 53 44.9 -0.4**
ARU IAMs_20 IAMs_20 01 56 56.2
comp=Z,8µm,21.0s
ARU Arti 137.03 312 *i* PKIKP **PKiKP** **00 53 46.7 -0.4**
ARU 00 56 26.6
TULEG Thule 137.41 18 IAMs_20 IAMs_20 01 55 40.2
comp=Z,10µm,19.0s
SCHQ Schefferville 139.72 51 PKP **PKPdf** **00 53 47.7 -2.7**
comp=Z,5.5nm,0.9s,baz=249,slow=8.6,SNR=2.3
AKT Akhty 140.10 288 *e*PKIKP **PKiKP** **00 53 55.7 +1.6**
AKT *e* 00 56 54.4
AKT pmax pmax
comp=Z,31nm,1.2s
MAK Makhachkala 140.75 290 *e*P **Pdif** **00 51 03.3 -5.9**
MAK *i* 00 53 50.5
MAK *e* 00 56 48.1
MAK *e*PPP PPP 00 59 54.6
MAK *e*SSS SSS 01 20 29.0
MAK pmax pmax
comp=Z,421nm,1.4s
GNI Garni 141.75 284 PKP **PKPdf** **00 53 53.9 -0.8**
comp=Z,5.0nm,0.9s,baz=162,slow=3.2,SNR=3.3
GNI Garni 141.75 284 ⇓*i* PKIKP **PKiKP** **00 53 57.4 -0.2**
GROC Groznyy 142.01 289 *e*PKIKP **PKPdf** **00 53 54.4 -0.4**
GROC *e* 00 57 02.4
GROC *e* 01 01 04.3
GROC pmax pmax
comp=Z,73nm,1.2s
KIRV Kirov 142.14 315 ⇑*i* PKIKP **PKiKP** **00 53 57.9 +0.4**
BELG Belogornoye 142.77 305 PKhKP PKPpre 00 53 50.5
comp=Z,56nm,0.9s,baz=157,slow=3.0,SNR=10
BELG Belogornoye 142.77 305*c* *i* PKIKP **PKPdf** **00 53 53.8 -2.0**

KBS Kingsbay 142.80 354 IAMs_20 IAMs_20 01 58 21.7
comp=Z,8µm,21.0s
HOPEN Hopen 143.38 348 *e*PKPdf **PKPdf** **00 53 55.3 -1.0**
MARD Mardin 143.56 278 PKPbc 00 53 55.4 0.0
NCK Nalchik 143.63 289 ⇓*i* PKIKP **PKiKP** **00 54 02.1 +1.0**
NCK MLR MLR
comp=Z,3µm,18.0s
LIC Lamto 143.78 183 ⇑*e*P PKPbc 00 53 56.8 +0.4
comp=Z,35nm,0.7s
PRGR Permogore 143.85 320 *e*PKIKP PKPbc 00 53 55.3 +0.1
PRGR pmax pmax
comp=Z,16nm,1.1s
KIC Kosan Boka 143.90 183 ⇑*e*P PKPab 00 53 55.4 -0.8
comp=Z,12nm,0.5s
ASF Jabal al Asfar 144.14 268 PKP **PKPab** **00 53 56.2 -0.6**
comp=Z,6.5nm,0.9s,baz=133,slow=1.9,SNR=11
NEY Neytrino 144.18 288 ⇑*e*PKIKP PKPbc 00 53 57.4 +0.3
KBZ Khabaz 144.19 289 *c* *i* PKIKP PKPpre 00 53 54.8
comp=Z,9.1nm,0.8s,baz=82,slow=2.9,SNR=15
KBZ Khabaz 144.19 289*c* *i* PKIKP **PKPdf** **00 53 59.0 +0.4**
TIC Toumodi 144.20 183 ⇑*e*P PKPbc 00 53 58.3 +0.6
comp=Z,26nm,0.8s
DBIC Dimbokro 144.21 183 PKP **PKPab** **00 53 56.7 -0.7**
comp=Z,8.7nm,0.7s,baz=192,slow=4.1,SNR=16
DBIC Dimbokro 144.21 183 PKPdf PKPbc 00 53 58.2 +0.4
DBIC Dimbokro 144.21 183 ⇓PKIKP **PKPdf** **00 54 00.2 +0.6**
EIL Elat 144.28 263 PKP PKPbc 00 53 58.0 +0.4
comp=Z,9.9nm,0.8s,baz=45,slow=1.4,SNR=6.6
KVAR Kislovodsk Arr 144.39 290 PKP **PKPdf** **00 53 59.6 +0.4**
comp=Z,4.0nm,0.8s,baz=37,slow=17,SNR=3.0
KIV Kislovodsk 144.40 290 ⇓P **PKiKP** **00 54 06.1 +3.3**
KIV Kislovodsk 144.40 290 *i* PKiKP **PKPdf** **00 54 00.5 +1.4**
SNR=8.6
KIV Kislovodsk 144.40 290 *e*PKIKP **PKPab** **00 53 55.7 -1.6**
KIV *i* 00 53 59.3
KIV *e* 00 57 12.1
KIV *e*SS SS 01 15 58.1 -3.5
KIV pmax pmax
comp=Z,35nm,1.0s
GOF Gofitskoye 144.43 291 ⇑*e*PKIKP **PKPab** **00 53 55.4 -1.9**
GOF pmax pmax
comp=Z,616nm,1.2s
DRLN Deer Lake 144.63 61 PKPdf **PKPab** **00 53 57.5 -0.4**
GHAJ Ghor Haditha 144.68 266 IAMs_20 IAMs_20 01 57 59.6
comp=Z,8µm,19.0s
DAG Danmarks Havn 145.32 5 *i* P **PKPbc** **00 53 55.0 -4.5**
MMAI Mount Meron Ar 145.65 268 PKPbc **PKPdf** **00 54 00.7 -1.0**
comp=Z,74nm,1.2s,baz=103,slow=6.1,SNR=17
SFJD Kangerlussuaq 146.00 29 **PKPab** **00 54 02.6 +0.2**
SFJD Kangerlussuaq 146.00 29 *e*P **PKPdf** **00 53 59.4 -1.6**
SFJD Kangerlussuaq 146.00 29 PKP2 **PKPab** **00 54 02.6 +0.2**
SFJD MLR MLR
comp=Z,15µm,21.0s
VRH Novokhopyorsk 146.30 302 *e*PKP2 **PKPdf** **00 54 01.2 -0.8**
VRH pmax pmax
comp=Z,160nm,1.1s
SUMG Summit 146.31 17 *i* P **PKiKP** **00 54 06.0 -0.2**
SOC Sochi 146.38 288 *i* PKP2 **PKPab** **00 54 05.2 +0.6**
SOC *e* 00 57 22.6
SOC *e*PPP PPP 01 00 41.2
SOC *e*SS SS 01 16 27.7 +3.7
SOC *e*SSS SSS 01 21 50.8
SOC pmax pmax
comp=Z,142nm,1.2s
LVZ Lovozero 146.46 333 **PKPdf** **00 54 02.0 +0.1**
LVZ IAMs_20 IAMs_20 01 59 57.1
comp=Z,10µm,22.0s
LVZ Lovozero 146.46 333 PKP2 **PKPdf** **00 54 02.0 +0.1**
LVZ MLR MLR
comp=Z,10µm,22.0s
NUUK Nuuk 146.59 34 *e*P **PKPdf** **00 54 02.4 +0.3**
VADS Vadso 146.87 338 *e*PKPdf **PKPdf** **00 54 02.4 0.0**
VADS IVmBBB 00 54 12.2
comp=Z,1µm,2.6s
VADS *e*SS SS 01 16 28.4 +0.7
VADS *i* 01 35 01.7
VADS IVMs_BB IVMs_BB 01 39 25.9
comp=Z,2µm,3.4s
KLMR Klimovskoe 146.89 320 *e*PKPdf **PKPdf** **00 54 01.6 -1.1**
KLMR AMP 00 54 19.6
comp=Z,270nm,1.3s
KLMR *e*SKP 00 57 38.0
KLMR LQ LQ 01 37 39.3
KLMR LQ LQ 01 37 39.3
KLMR LR LR 01 46 26.2
KLMR AMP 02 02 02.0
comp=Z,9µm,21.1s
KLMR Klimovskoe 146.89 320 *e*PKIKP **PKPdf** **00 54 01.6 -1.1**
KLMR *e* 00 57 38.0
KLMR pmax pmax
comp=Z,270nm,1.3s
KLMR MLR MLR
comp=Z,9µm,21.0s
APA Apatity 147.03 333 ⇓*i* PKIKP **PKPdf** **00 54 00.5 -2.3**
APA *i* 00 57 29.0
APA pmax pmax
comp=Z,64nm,0.7s
KEV Kevo 147.73 339 IAMs_20 IAMs_20 02 00 17.5
comp=Z,9µm,22.0s
VORR Voronezh 147.90 303 *e*PKP2 **PKPdf** **00 54 05.8 +1.1**
VORR pmax pmax
comp=Z,50nm,0.6s
VSR Storozhevoye 147.90 302 *e*PKP2 **PKPbc** **00 54 06.7 -1.0**
VSR pmax pmax
comp=Z,130nm,1.2s
HAMF Hammerfest 147.97 341 *e*PKPbc **PKPbc** **00 54 06.8 -0.6**
HAMF IVmB_BB 00 54 14.2
comp=Z,2µm,3.4s
HAMF *e*SS SS 01 16 42.2 +2.2
HAMF IVMs_BB IVMs_BB 01 40 08.1
comp=Z,3µm,4.2s
CSS Mathiatis 148.07 270 IAMs_20 IAMs_20 02 00 23.2
comp=Z,7µm,20.0s
LPSR Galich'ya Gora 148.09 304 *e*PKP2 **PKPbc** **00 54 07.9 -0.3**
LPSR pmax pmax
comp=Z,70nm,1.0s
ANN Anapa 148.25 289 *i* PKP2 **PKPab** **00 54 13.8 +1.8**
ANN *e* 00 57 37.2
ANN *e* 01 01 13.4
ANN pmax pmax
comp=Z,261nm,1.1s
ARA0 ARCESS Array S 148.28 339 *e*PKPdf **PKPdf** **00 54 04.8 0.0**
ARA0 *e*SS SS 01 16 42.2 -1.4
ARCES ARCESS Array B 148.28 339 PKP **PKPdf** **00 54 04.6 -0.2**
comp=Z,16nm,0.9s,baz=47,slow=1.5,SNR=16
ARCES PKPbc **PKPbc** **00 54 07.1 -1.1**
comp=Z,6.9nm,0.5s,baz=66,slow=3.1,SNR=7.1
MOS Moscow 148.69 310 *e*PKP2 **PKPbc** **00 54 08.1 -1.5**
MOS pmax pmax
comp=Z,157nm,1.4s
MOS MLR MLR
comp=Z,6µm,21.0s
DIKM Dikmen 149.04 283 ⇑P **PKPab** **00 54 17.1 +1.8**
KTK1 Kautokeino 149.23 339 *e*PKPdf **PKPdf** **00 54 06.1 -0.3**
KTK1 *e*SS SS 01 16 52.1 -2.1
OBN Obninsk 149.36 309 ⇑P **PKPbc** **00 54 10.2 -1.1**
OBN Obninsk 149.36 309 PKPbc **PKPdf** **00 54 09.2 +2.3**
comp=Z,9.6nm,0.7s,baz=40,slow=5.9,SNR=11
OBN Obninsk 149.36 309 **PKPbc** **00 54 09.5 -1.8**
OBN IAMs_20 IAMs_20 02 05 38.4
comp=Z,7µm,21.0s
OBN Obninsk 149.36 309 ⇓*e*PKIKP **PKPdf** **00 54 06.8 -0.1**
OBN *e* 00 57 44.2
OBN pmax pmax
comp=Z,130nm,1.3s
JETT Jettan, Norway 149.53 342 *e*PKPdf **PKPdf** **00 54 07.3 +0.4**
BRTR Keskin Array B 149.65 278 PKPbc **PKPdf** **00 54 10.5 +2.4**
comp=Z,9.3nm,0.8s,baz=139,slow=6.0,SNR=26
TRO Tromso 149.81 342 *e*PKPdf **PKPdf** **00 54 07.1 -0.1**
TRO IVmB_BB 00 54 27.1
comp=Z,2µm,2.9s
TRO *e*SS SS 01 17 01.9 +1.4
TRO IVMs_BB IVMs_BB 01 41 59.0
comp=Z,2µm,4.4s
BZK Bozkurt 150.03 283 ⇓P **PKPbc** **00 54 13.1 -0.3**
ANTO Ankara 150.31 278 ⇓P **PKiKP** **00 54 15.4 +0.3**
ANTO Ankara 150.31 278 IAMs_20 IAMs_20 02 08 07.7
comp=Z,5µm,19.0s
SIM Simferopol' 150.60 289 *i* PKIKP **PKPbc** **00 54 12.5 -2.2**
SIM pmax pmax
comp=Z,80nm,1.4s
ISP Isparta 151.29 273 IAMs_20 IAMs_20 02 02 28.0
comp=Z,6µm,20.0s
STEI Steigen 151.99 342 *e*pPKPdf **PKPdf** **00 54 13.4 +2.8**
STEI *e*SS SS 01 17 26.1 +1.4

FAUS Fauske 152.42 342 *e*PKPdf **PKPdf** **00 54 10.9 -0.4**
FAUS *e*SS SS 01 17 30.7 +1.3
FAUS IVMs_BB IVMs_BB 01 37 13.8
comp=Z,2µm,4.4s
FINES FINESS Array B 152.79 325 PKPbc **PKPbc** **00 54 16.0 -3.1**
comp=Z,11nm,0.7s,baz=104,slow=6.1,SNR=21
KARP Karpathos 152.87 266 IAMs_20 IAMs_20 02 01 26.4
comp=Z,6µm,21.0s
MOR8 Moi Rana 153.59 341 *e*PKPdf **PKPdf** **00 54 12.6 -0.5**
MOR8 *e*SS SS 01 17 40.8 -1.6
VSU Vasula 153.79 319 *e*P **PKPab** **00 54 31.7 -2.8**
MEF Metsahovi 154.10 324 *e*P **PKiKP** **00 54 26.4 +4.3**
AKASG Malin Array Be 154.19 301 PKPbc **PKPbc** **00 54 21.1 -1.5**
comp=Z,4.3nm,0.6s,baz=70,slow=2.6,SNR=10
MNK Minsk 154.41 310 *i* PKP **PKPdf** **00 54 12.4 -2.1**
MNK *i* PKP **PKPdf** **00 54 12.4 -2.1**
MNK *i* PKP **PKPdf** **00 54 12.4 -2.1**
baz=256
MNK *i* PKiKP **sPKPdf** **00 54 21.5 -0.9**
comp=E,3.0nm,1.1s
MNK *i* PKiKP **sPKPdf** **00 54 21.5 -0.9**
comp=N,32nm,0.8s
MNK *i* PKiKP **sPKPdf** **00 54 21.5 -0.9**
comp=Z,17nm,0.9s
MNK *i* PP **PP** **00 58 10.7 -2.4**
MNK *i* SKS **SKSdf** **01 01 19.4 -0.8**
MNK *i* PPP PPP 01 01 40.0
MNK *i* SKKS **SKKSdf** **01 09 58.6 -1.1**
MNK *i* SS **SS** **01 17 51.9 -0.6**
MNK *i* SSS SSS 01 23 42.0
MNK *i* LR LR 01 58 51.6
MNK *i* LRM MLR 02 02 14.7
comp=N,3µm,20.4s
MNK *i* LRM MLR 02 02 14.7
comp=Z,8µm,24.3s
MNK *i* LRM MLR 02 02 32.6
comp=E,903nm,19.2s
MNK Minsk 154.41 310 *i* PKIKP **PKPdf** **00 54 12.4 -2.1**
MNK *i* 00 54 21.5
MNK *i* 00 58 10.6
MNK *i* 01 01 19.3
MNK *i* PPP PPP 01 01 39.9
MNK *i* SS SS 01 17 51.9 -0.6
MNK *i* SSS SSS 01 23 42.0
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,32nm,0.8s
IDI Anoyia 154.43 264 PKPbc **PKPbc** **00 54 22.3 -1.4**
comp=N,18nm,0.9s,baz=169,slow=1.7,SNR=4.2
IDI PKPab **PKPab** **00 54 35.8 -2.3**
comp=N,40nm,0.8s,baz=140,slow=4.6,SNR=12
KIS Kishinev 154.50 292 *e*PP PP 00 58 20.0 +6.0
KIS *e*L L 01 46 35.0
KIS LRM MLR 02 07 12.0
comp=N,2µm,21.0s
MILM Milestii Mici 154.50 292 *e*PP PP 00 58 16.0 +2.1
MILM *e*L L 01 59 55.0
MILM LRM MLR 02 07 04.0
comp=N,4µm,22.0s
MILM Milestii Mici 154.50 292 ⇑P **PKiKP** **00 54 26.3 +2.9**
TPGR Topolog 154.59 287 ⇓P **PKiKP** **00 54 25.9 +2.3**
RAF Rauma 154.79 327 *e*P **PKiKP** **00 54 23.9 +0.4**
TLBR Topalu 154.81 286 ⇑P **PKiKP** **00 54 30.6 +6.5**
CFR Carcaliu 154.82 288 ⇑P **PKiKP** **00 54 26.1 +2.0**
SORM Soroca 154.85 295 ⇓P **PKiKP** **00 54 25.6 +1.5**
HARR Harsova 154.91 287 ⇓P **PKiKP** **00 54 28.5 +4.2**
NACGM Naroch 154.93 311 *e*PKP **PKPbc** **00 54 21.9 -2.1**
comp=Z,59nm,0.9s,baz=74
IZAR Zarasai 154.98 313 *e*P **PKPab** **00 54 34.5 -5.2**
PRD Provadia 155.06 283 P **PKPab** **00 54 40.6 +0.2**
MTSE Matsula 155.07 321 *e*P PKPbc 00 54 23.3
ISAL Salakas 155.10 313 *e*P **PKPab** **00 54 34.5 -5.7**
IIGN Ignalina 155.12 312 *e*P **PKPab** **00 54 35.3 -4.9**
VRI Vrincioaia 155.87 289 ⇑P **PKPab** **00 54 45.0 +1.1**
VRI Vrincioaia 155.87 289 ⇑PKP2 **PKPab** **00 54 45.0 +1.1**
PLOR Plostina 155.93 289 ⇓P **PKPab** **00 54 46.2 +2.1**
PLOR Plostina 155.93 289 ⇓PKP2 **PKPab** **00 54 46.3 +2.1**
TESR Tescani 155.97 291 ⇑P **PKPab** **00 54 41.0 -3.3**
SULR 156.09 286 ⇑P **PKPab** **00 54 42.9 -1.9**
VSVD Vaisvydziai 156.13 315 *e*P PKPdf 00 54 27.5 +11
COVR Voineasa-Covas 156.24 289 ⇑P PKPab 00 54 35.9 -10
BORG Borgarnes 156.28 16 IAMs_20 IAMs_20 02 08 30.6
comp=Z,8µm,19.0s
PABE Paberze 156.28 314 IAMs_20 IAMs_20 02 05 32.2
comp=Z,10µm,22.0s
PABE Paberze 156.28 314 *e*P PKPdf 00 54 28.3 +11
MLR Muntele Rosu 156.39 288 ⇑P **PKPab** **00 54 40.2 -6.1**
MLR Muntele Rosu 156.39 288 PKPab **PKPab** **00 54 43.4 -2.9**
comp=Z,11nm,0.9s,baz=104,slow=7.8,SNR=5.1
MLR Muntele Rosu 156.39 288 IAMs_20 IAMs_20 02 16 06.5
comp=Z,9µm,20.0s
COPA Copaceanca 156.77 285 ⇑P PKPdf 00 54 30.6 +13
BURAR Bucovina Array 156.97 294 ⇓P **PKPdf** **00 54 26.1 +7.7**
ARR Arges 157.30 288 ⇑P **PKPdf** **00 54 25.9 +7.1**
ARCR ARCALIA 157.56 292 ⇓P PKPdf 00 54 31.4 +12
LVV L'vov 157.60 300 *i* PKIKP PKPdf 00 54 31.0 +12
LOT Lotru 157.92 288 ⇓P **PKPab** **00 54 48.2 -4.7**
VTS Vitosha 157.97 280 ⇑P PKPdf 00 54 35.2 +15
BMR Baia Mare 158.13 294 ⇑P **PKPdf** **00 54 27.3 +7.6**
MOL Molde 158.25 342 *e*PKPdf **PKPdf** **00 54 19.8 +0.5**
MOL *e* 01 07 50.1
SRE Strehaia 158.26 286 ⇓P **PKPab** **00 54 59.7 +5.5**
SRE Strehaia 158.26 286 ⇓PKP2 **PKPab** **00 54 59.7 +5.5**
HFS Hagfors 158.42 332 PKPab **PKPab** **00 54 50.1 -4.2**
comp=Z,5.1nm,0.7s,baz=123,slow=5.5,SNR=8.3
NB2 NORSAR Subarra 158.55 336 P **PKPab** **00 54 51.6 -3.3**
comp=Z,2.9nm,0.6s,baz=47,slow=4.8
NOA NORSAR Array A 158.55 336 PKPab **PKPab** **00 54 51.8 -3.1**
comp=Z,3.3nm,0.6s,baz=41,slow=4.5,SNR=10
GZR Gura Zlata 158.61 288 ⇑P PKPdf 00 54 33.5 +13
NC602 NORSAR Array S 158.69 335 *e*PKPdf **PKPdf** **00 54 20.0 +0.1**
NC602 *e*SS SS 01 18 38.7 +1.3
TRPA Tarpa 158.74 295 ⇑P PKPdf 00 54 36.2 +16
HERR Herculane 158.84 286 ⇓P PKPdf 00 54 33.3 +13
KOLS Kolonicke sedl 158.84 298 *e*PKP **PKPab** **00 54 57.5 +0.9**
KOLS Kolonicke sedl 158.84 298 *e*PKP2 **PKPab** **00 54 57.5 +0.9**
UZH Uzhgorod 158.86 297 *e*PKIKP **PKPdf** **00 54 21.0 +0.5**
UZH *e* 00 54 26.4
UZH *e* 00 54 56.2
UZH *i* 00 58 43.0
SURR Surduc 159.08 289 ⇑P **PKPdf** **00 54 23.4 +2.5**
MDVR Moldovita 159.33 286 ⇑P **PKPab** **00 55 00.7 +1.8**
CRVS Cervenica-Dubn 159.38 298 *e*PKP **PKPab** **00 55 02.8 +3.8**
CRVS Cervenica-Dubn 159.38 298 *e*PKP2 **PKPab** **00 55 02.8 +3.8**
SIRR Siria 159.41 290 ⇓P PKPdf 00 54 31.8 +11
BZS Buzias 159.44 288 ⇑P PKPdf 00 54 33.0 +12
STHS Stebnicka Huta 159.45 299 *e*PKP **PKPab** **00 54 59.7 +0.4**
STHS Stebnicka Huta 159.45 299 *e*PKP2 **PKPab** **00 54 59.7 +0.4**
OSL Oslo 159.56 334 *e*PKPdf **PKPdf** **00 54 18.9 -2.0**
SKAR Skarslia 159.68 338 *e*PKPdf **PKPdf** **00 54 19.1 -2.1**
SKAR *e*SS SS 01 18 47.2 -0.7
SKAR IVMs_BB IVMs_BB 01 44 54.5
comp=Z,2µm,4.9s
KONO Kongsberg 160.15 335 *e*PKPdf **PKPdf** **00 54 20.8 -0.8**
KONO *e*SS SS 01 18 53.9 +1.2
KONO IVMs_BB IVMs_BB 01 43 37.0
comp=Z,2µm,4.3s
SUE Sulen 160.21 343 *e*PKPdf **PKPdf** **00 54 21.7 +0.1**
OJC Ojcow 160.22 302 *e*L L 02 03 51.2
comp=Z,10µm,25.7s
OJC Ojcow 160.22 302 *e*PKP **PKPab** **00 55 08.1 +5.6**
ODD1 Odda 160.78 339 *e*PKPdf **PKPdf** **00 54 21.2 -1.2**
ODD1 *e*SS SS 01 19 02.7 +3.3
ODD1 IVMs_BB IVMs_BB 01 42 14.2
comp=Z,2µm,4.1s
VYHS Vyhne 161.16 297 *e* **PKPab** **00 55 12.6 +5.9**
VYHS Vyhne 161.16 297 *e*PKIKP **PKPdf** **00 54 27.4 +4.3**
VYHS Vyhne 161.16 297 *e*PKP **PKPdf** **00 54 27.4 +4.3**
BLS5 Blasjo 161.25 339 *e*PKPdf **PKPdf** **00 54 22.4 -0.5**
OKC Ostrava-Krasne 161.34 302 *e*PKPAB PKPab 00 55 19.8 +12
OKC AMS AMS 01 53 10.0
comp=Z,4µm,37.7s
MORH Mrgy, Hungar 161.51 290 ⇓P **PKPdf** **00 54 27.9 +4.4**
MORH Mrgy, Hungar 161.51 290 PKP **PKPdf** **00 54 24.3 +0.8**
HOMB Homborsund 161.59 334 *e*PKPdf **PKPdf** **00 54 21.8 -1.4**
HOMB IVMs_BB IVMs_BB 01 38 04.2
comp=Z,1µm,4.3s
MAUC Maruska 161.65 300 *e*PKPDF **PKPdf** **00 54 24.8 +1.2**
MAUC *e*PKPAB **sPKPab** **00 55 18.7 +2.1**
MAUC AMS AMS 01 56 50.0

comp=Z,4μm,21.6s
MORC Moravsky Berou 161.74 302 *e* **PKPab 00 55 16.9 +7.6**
MORC Moravsky Berou 161.74 302 *e*PKP **PKPdf 00 54 28.0 +4.3**
TIP Timpagrande 161.91 267 ⇑P **PKPdf 00 54 31.8 +7.5**
KRLC Kraliky 162.14 303 *e*PKPDF **PKPdf 00 54 25.4 +1.3**
KRLC *e*PKPAB **PKPab 00 55 10.8 -0.2**
KRLC AMS AMS 01 59 20.0
comp=Z,4μm,23.9s
KRLC Kraliky 162.14 303 *e*PKIKP **PKPdf 00 54 25.4 +1.3**
KRLC *e* 00 55 10.8
KRLC MLR MLR
comp=Z,4μm,23.9s
KSP Ksiaz 162.21 306 *e*PKP **PKPab 00 55 11.1 -0.1**
KSP *e*L L 02 05 59.9
comp=Z,8μm,26.2s
DPC Dobruska-Polom 162.34 304 *e*PKPDF **PKPdf 00 54 22.4 -1.9**
DPC *e*PKPAB **PKPab 00 55 10.3 -1.6**
DPC AMS AMS 01 57 30.0
comp=Z,4μm,29.9s
DPC Dobruska-Polom 162.34 304 *e*PKIKP **PKPdf 00 54 22.4 -1.9**
DPC *e* 00 55 10.3
OSTC Ostas 162.34 305 *e*PKPDF **PKPdf 00 54 27.3 +3.0**
OSTC *e*PKPAB **sPKPab 00 55 21.5 +1.9**
OSTC AMS AMS 01 58 20.0
comp=Z,5μm,28.5s
VRAC Vranov 162.45 301 *e* **PKPab 00 55 20.1 +7.7**
VRAC Vranov 162.45 301 *e*PKP **PKPdf 00 54 29.1 +4.7**
UPC Upice 162.48 305 *e*PKPDF PKPdf 00 54 32.8 +8.4
UPC AMS AMS 01 59 10.0
comp=Z,6μm,26.9s
KRUC Moravsky 162.64 300 *e*PKP **PKPdf 00 54 29.0 +4.4**
PCED Cedros 162.89 96 *e*PKP PKPdf 00 54 38.0 +13
RONA Rosalia, Austr 162.96 295 *e*P PKPdf 00 54 36.4 +11
comp=Z,12nm,1.6s
PICO Pico 163.05 97 *e*PKP PKPdf 00 54 43.0 +18
TREC Trest 163.16 301 *e*PKPAB PKPab 00 55 24.7 +9.2
TREC AMS AMS 01 58 10.0
comp=Z,5μm,29.8s
CONA Conrad Observa 163.22 296 *e*P **PKPdf 00 54 32.8 +7.5**
comp=Z,6.1nm,1.3s
PID Ribeirinha 163.25 97 *e*PKP PKPdf 00 54 38.0 +12
ROSA Rosais 163.26 96 *e*PKP PKPdf 00 54 35.9 +10
PMAN Manadas 163.34 96 *e*PKP PKPdf 00 54 39.0 +13
PVCC Panska Ves 163.35 306 AMS AMS 01 57 50.0
comp=Z,6μm,30.5s
GOPC GO Pecny, Ondr 163.42 304 AMS AMS 01 57 20.0
comp=Z,5μm,27.8s
SRBC Serra Branca 163.51 95 *e*PKP PKPdf 00 54 36.9 +11
PRU Pruhonice 163.54 304 *e*PKPAB PKPab 00 55 26.7 +10
PRU AMS AMS 01 57 10.0
comp=Z,5μm,24.6s
ARSA Arzberg 163.55 294 *e*P **PKPdf 00 54 32.3 +6.7**
comp=Z,15nm,2.0s
PGRA Graciosa 163.55 95 *e*PKP PKPdf 00 54 43.1 +17
BRG Berggiesshubel 163.59 308 *e*PKP2 **PKPab 00 55 17.7 +0.4**
BRG pmax pmax
comp=Z,55nm,1.3s
BRG Berggiesshubel 163.59 308‖ *e*PKPf PKPdf 00 54 33.8 +8.4
BRG Berggiesshubel 163.59 308 Amp 00 54 38.3
comp=Z,18nm,1.6s
BRG Berggiesshubel 163.59 308 *e*PKPab **PKPab 00 55 17.7 +0.4**
BRG Berggiesshubel 163.59 308 Amp 00 55 32.3
comp=Z,55nm,1.3s
CLL Collm 163.96 310 *e*PKPdf **PKPdf 00 54 33.0 +7.2**
comp=Z,12nm,1.4s
CLL *i* PKPab **PKPab 00 55 19.3 +0.5**
comp=Z,50nm,1.5s
CLL *i* x x 00 55 35.1
CLL *e*PPlp 00 59 06.0
CLL *e*PP PP 00 59 17.0 +12
comp=Z,80nm,1.9s
CLL *e*PPP PPP 01 03 00.0
CLL *e*PPPP 01 05 24.0
CLL *e*PPPrev 01 06 30.0
CLL *e*PSKS 01 09 34.0
CLL *e*PSKSrev 01 12 12.0
CLL *e*x x 01 16 02.0
CLL *e*SS SS 01 19 30.0 -3.5
CLL *e*SSS SSS 01 26 00.0
CLL *e*SSSS 01 30 24.0
CLL *e*x x 01 33 12.0
CLL Lmax 02 14 00.0
CLL LmV 02 15 00.0
comp=Z,9μm,20.8s
SOKA Soboth 163.96 292 *e*P **PKPdf 00 54 28.3 +2.2**
comp=Z,14nm,1.5s
CKRC Cesky Krumlov 164.03 300 *e*PKPDF **PKPdf 00 54 32.7 +6.7**
CKRC *e*PKPAB **sPKPab 00 55 28.7 +1.7**
PAGU Agualva, Azore 164.05 97 *e*PKP PKPdf 00 54 38.5 +12
PSCM Serra do Cume 164.08 97 *e*PKP PKPdf 00 54 39.0 +13
MOA Molln 164.28 297 *e*P **PKPdf 00 54 32.3 +6.0**
comp=Z,8.6nm,1.6s
OBKA Obir 164.31 292 *i* P PKPdf 00 54 36.8 +10
comp=Z,11nm,1.3s
KHC Kasperske Hory 164.40 302 *e*PKPDF **PKPdf 00 54 29.5 +3.2**
KHC *e*PKPAB **sPKPab 00 55 29.1 +0.4**
KHC AMS AMS 01 57 40.0
comp=Z,5μm,32.9s
KHC Kasperske Hory 164.40 302 *e*PKIKP **PKPdf 00 54 29.5 +3.2**
GERES GERESS Array B 164.41 301 PKP **PKPdf 00 54 25.2 -1.2**
comp=Z,0.2nm,0.3s,baz=112,slow=3.1,SNR=2.5
GERES PKPab **PKPab 00 55 19.3 -1.8**
comp=Z,1.6nm,0.8s,baz=72,slow=3.4,SNR=2.5
BIOA Bad Ischl, Aus 164.73 297 *e*P **PKPdf 00 54 34.1 +7.5**
comp=Z,1.7nm,0.4s
PSET Sete Cidades 164.76 102 *e*PKP PKPdf 00 54 38.0 +11
PDA Ponta Delgada 164.77 102 *e*PKP PKPdf 00 54 38.5 +12
PSMN Pico do Norte, 164.88 105 *e*PKP **PKPdf 00 54 34.1 +7.0**
CMLA Cha da Macela 164.88 102 *e*PKP PKPdf 00 54 37.4 +10
MYKA Terra Mystica 164.92 293 *e*P PKPdf 00 54 39.2 +12
comp=Z,12nm,1.0s
PCALD Caldeiras da R 164.92 102 *e*PKP PKPdf 00 54 39.5 +12
PGRON Lagoa das Cont 164.99 102 *e*PKP PKPdf 00 54 45.7 +18
KBA Koelnbreinsper 165.05 294 *e*P **PKPdf 00 54 33.7 +6.6**
comp=Z,13nm,1.1s
BART Pico Bartolome 165.14 103 *e*PKP PKPdf 00 54 38.0 +11
ABTA Abfaltersbach 165.66 294 *e*P **PKPdf 00 54 34.7 +7.2**
comp=Z,9.7nm,1.2s
KEST Kesra 165.77 247 PKP **PKPdf 00 54 28.2 +0.2**
comp=Z,2.1nm,0.8s,baz=153,slow=9.0,SNR=2.4
KEST PKPab **PKPab 00 55 26.2 -1.2**
comp=Z,5.2nm,0.8s,baz=96,slow=2.8,SNR=1.8
WTTA Wattenberg 166.15 296 *e*P PKPdf 00 54 39.3 +11
comp=Z,23nm,1.5s
WATA Walderalm 166.17 296 *e*P **PKPdf 00 54 33.7 +5.7**
comp=Z,5.6nm,1.2s
SQTA Sankt Quirin 166.44 296 *e*P PKPdf 00 54 40.2 +12
comp=Z,14nm,1.6s
MOTA Moosalm 166.48 297 *e*P **PKPdf 00 54 35.8 +7.6**
comp=Z,6.5nm,0.8s
RETA Reutte 166.67 298 *e*P **PKPdf 00 54 34.8 +6.5**
comp=Z,22nm,1.4s
FETA Feichten 166.81 296 *e*P **PKPdf 00 54 33.2 +4.7**
comp=Z,15nm,1.3s
PMOZ Porto Moniz, M 167.25 136 *e*LR LR 01 59 41.9
comp=Z,7μm,20.0s
DAVA Damuels 167.30 298 *e*P PKPdf 00 54 37.3 +8.5
comp=Z,18nm,2.0s
PMAR Madeira 167.31 137 *i* LQ LQ 00 56 00.8
DAVOX Davos/Dischmat 167.43 295 PKP **PKPdf 00 54 27.9 -1.1**
comp=Z,2.0nm,0.7s,baz=146,slow=2.5,SNR=2.9
DAVOX PKPab **PKPab 00 55 32.8 -1.9**
comp=Z,18nm,0.9s,baz=111,slow=5.7,SNR=8.3
OUK Oukaimeden 168.63 175 P PKPdf 00 54 43.0 +12
FIGM Figuig 168.71 205 P PKPdf 00 54 42.0 +12
MDT Midelt 170.12 191 PKP **PKPdf 00 54 30.6 -0.5**
comp=Z,1.7nm,0.8s,baz=197,slow=3.3,SNR=4.3
MDT PKPab **PKPab 00 55 45.7 -0.8**
comp=Z,5.5nm,1.0s,baz=163,slow=2.6,SNR=2.0
MDT Midelt 170.12 191 P PKPdf 00 54 43.1 +12
AVE Averroes 170.74 177 PKP **PKPdf 00 54 31.4 +0.1**
LCRM LCR 171.01 190 P PKPdf 00 54 44.0 +12
JBK JBK 171.15 203 P PKPdf 00 54 43.0 +11
CHAS Isla Isabel II 171.90 206 PKP PKPdf 00 54 41.9 +10
WMELI Melilla 172.18 204 PKP **PKPdf 00 54 28.0 -3.9**
PVLZ Peæn de 172.38 195 PKP **PKPdf 00 54 33.7 +1.7**
CEU Ceuta 173.26 190 PKP **PKPdf 00 54 35.5 +3.2**
CART Cartagena 173.35 224 PKP **PKPdf 00 54 35.6 +3.3**
CART Cartagena 173.35 224 P PKPdf 00 54 43.0 +11
PFVI Vila Bisbo 174.35 163 *e*PKP PKPdf 00 54 41.9 +9.2
ARNO Arenosillo 174.54 180 PKP **PKPdf 00 54 34.7 +1.9**
MORF Marmelete 174.55 164 *e*PKPdf **PKPdf 00 54 32.2 -0.7**
MORF *e*SS SS 01 21 20.0 +2.3
MORF IAMs_20 IAMs_20 02 16 26.2
comp=Z,11μm,15.4s
MORF Marmelete 174.55 164 *e*PKIKP **PKPdf 00 54 32.1 -0.7**
MORF *e*SS SS 01 21 20.0 +2.3
PVAQ Vaqueiros 174.79 172 *e*PKP PKPdf 00 54 43.6 +11
PVAQ *i* LQ LQ 00 56 53.1
PVAQ Vaqueiros 174.79 172 *e*SS SS 01 21 25.4 +5.6
PVAQ Vaqueiros 174.79 172 *e*LQ LQ 01 48 26.7
PVAQ Vaqueiros 174.79 172 *e*LR LR 01 58 34.0
comp=Z,9μm,20.0s
PCVE Castro Verde 174.98 168 *e*PKP PKPdf 00 54 40.9 +8.0
MESJ Messejana 175.15 166 *e*PKPdf **PKPdf 00 54 32.6 -0.4**
MESJ *e*SS SS 01 21 25.7 +2.3
MESJ IAMs_20 IAMs_20 02 12 43.9
comp=Z,17μm,25.9s
MESJ Messejana 175.15 166 *e*PKP **PKPdf 00 54 40.7 +7.8**
MESJ *i* LQ LQ 00 56 40.6
MESJ Messejana 175.15 166 *e*PKIKP **PKPdf 00 54 32.5 -0.4**
MESJ *e*SS SS 01 21 25.6 +2.2
PNCL Nicolau / Gran 175.35 163 *e*PKP PKPdf 00 54 43.6 +11
PBEJ Beja 175.39 169 *e*PKP PKPdf 00 54 43.7 +11
PBEJ *i* LQ LQ 00 56 41.3
PBAR Barrancos 175.61 177 *e*PKP PKPdf 00 54 43.6 +11
LIS Lisbon 175.75 154 *e*PKPdf **PKPdf 00 54 32.6 -0.5**
LIS *e*SS SS 01 21 31.3 +1.9
LIS IAMs_20 IAMs_20 02 13 05.7
comp=Z,17μm,18.5s
LIS Lisbon 175.75 154 *e*PKIKP **PKPdf 00 54 32.5 -0.5**
LIS *e*SS SS 01 21 31.3 +1.9
EVO Evora 175.86 166 PKP **PKPdf 00 54 34.8 +1.7**
PMAFR Mafra 175.92 151 *e*PKP PKPdf 00 54 41.5 +8.4
PMAFR *i* LQ LQ 00 56 19.3
PESTR Estremoz 176.25 170 *e*PKP PKPdf 00 54 41.4 +8.2
PESTR *i* LQ LQ 00 56 58.1
PESTR Estremoz 176.25 170 P PKPdf 00 54 43.7 +10
PMTG Montargil 176.34 162 *e*PKP **PKPdf 00 54 35.9 +2.7**
PMTG *i* LQ LQ 00 56 25.2
ESDC Sonseca Array 176.42 217 PKP **PKPdf 00 54 32.0 -1.3**
comp=Z,1.3nm,1.0s,baz=66,slow=1.6,SNR=7.5
ESDC PKPab **PKPab 00 56 14.2 -0.2**
comp=Z,2.7nm,1.1s,baz=144,slow=2.2,SNR=1.2
ESDC PP **PP 01 00 09.1 +1.9**
comp=Z,1.4nm,1.1s,baz=133,slow=5.4,SNR=2.4
ESDC Sonseca Array 176.42 217 **PKPdf 00 54 31.8 -1.5**
PAB San Pablo 176.48 212 P PKPdf 00 54 43.6 +10
UCM Universidad Co 176.53 231 PKP **PKPdf 00 54 36.6 +3.4**
PSBE So Bento 176.59 153 *i* LQ LQ 00 56 27.0
PMRV Marv??o 176.83 171 *i* LQ LQ 00 56 38.1
PMRV Marv??o 176.83 171 *e*SS SS 01 21 48.2 +8.9
PMRV Marv??o 176.83 171 *e*LQ LQ 01 48 17.9
PMRV Marv??o 176.83 171 *e*LR LR 01 59 21.0
comp=Z,14μm,20.0s
PCAS Casmilo, Conde 177.17 152 *e*PKP **PKPdf 00 54 34.7 +1.4**
PCAS *i* LQ LQ 00 56 28.7
PCBR Castelo Branco 177.23 169 *e*PKP **PKPdf 00 54 35.4 +2.1**
MTE Manteigas 177.76 164 *e*PKP **PKPdf 00 54 37.1 +3.6**
MTE *i* LQ LQ 00 56 33.4
MTE Manteigas 177.76 164 *e*SS SS 01 22 01.1 +13
MTE Manteigas 177.76 164 *e*LQ LQ 01 48 12.8
MTE Manteigas 177.76 164 *e*LR LR 01 59 13.2
comp=Z,14μm,20.0s
PVIS Viseu 177.97 155 *e*PKP **PKPdf 00 54 37.2 +3.7**
PVIS *i* LQ LQ 00 56 21.0
PVRL Vila Real 178.53 151 *e*PKP PKPdf 00 54 43.6 +10
PVRL *i* LQ LQ 00 56 32.0
POLO Lamas de Olo 178.58 147 *e*PKP **PKPdf 00 54 40.6 +7.0**
POLO *i* LQ LQ 00 56 33.6
MVO Moncorvo 178.59 172 *e*PKP **PKPdf 00 54 41.2 +7.7**
MVO *i* LQ LQ 00 56 33.6
MVO Moncorvo 178.59 172 *e*SS SS 01 21 59.0 +3.0
MVO Moncorvo 178.59 172 *e*LQ LQ 01 49 28.1
MVO Moncorvo 178.59 172 *e*LR LR 02 03 37.1
comp=Z,15μm,18.0s
PGAV Gavieira, Arco 178.73 118 *e*SS SS 01 22 15.3 +16
PGAV Gavieira, Arco 178.73 118 *e*LQ LQ 01 47 45.8
PGAV Gavieira, Arco 178.73 118 *e*LR LR 01 58 29.5
comp=Z,13μm,18.0s
PBRG Braganca 179.24 181 *e*PKP **PKPdf 00 54 36.4 +2.9**
PBRG *i* LQ LQ 00 56 31.1

UPP **14** *00:37:57.9±0.0, 67.85N×20.21E, h0km, ML2.4, Explosion*
HEL **14** *00:37:58.5±0.0, 67.84N×20.21E, h0km, ML2.1, ML2.4(UPP), Explosion*
IDC **14** *00:37:59.8±1.2, 67.80N×20.76E, h0km, mbtmp2.8/3, ML1.8/3, Error ellipse: s-maj=18.9km s-min=9.0km az=114.0*

ISC 14 00:37:58.2±0.7, 67.84N±0.02×20.24E±0.02, h0km, n38, σ1s07/59, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**267**	P		**Pg**	**00 38 02.5**	**-0.3**
RATU				S		**Sg**	**00 38 06.1**	**+0.1**
RATU	**Laukkuluspa**	**0.24**	**267**	*i* P		**Pg**	**00 38 02.5**	**-0.3**
RATU				*i* S		**Sg**	**00 38 06.1**	**+0.1**
KOVU	**Salmi**	**0.39**	**356**	P		**Pg**	**00 38 05.1**	**-0.4**
KOVU				S		**Sg**	**00 38 10.2**	**-0.3**
KOVU	**Salmi**	**0.39**	**356**	*i* P		**Pg**	**00 38 05.1**	**-0.4**
KOVU				*i* S		**Sg**	**00 38 10.2**	**-0.3**
NIKU	**Nikkaluokta**	**0.46**	**274**	P		**Pg**	**00 38 06.4**	**-0.5**
NIKU	**Nikkaluokta**	**0.46**	**274**	*i* P		**Pg**	**00 38 06.4**	**-0.5**
LANU	**Lannavaara**	**0.69**	**71**	P		**Pg**	**00 38 11.2**	**-0.3**
LANU	**Lannavaara**	**0.69**	**71**	*e*P		**Pg**	**00 38 11.1**	**-0.3**
LANU				*e*S		**Sg**	**00 38 20.3**	**-0.1**
DUNU	**Dundret**	**0.73**	**170**	P		**Pg**	**00 38 11.7**	**-0.4**
DUNU	**Dundret**	**0.73**	**170**	*i* P		**Pg**	**00 38 11.7**	**-0.4**
MASU	**Masugnsbyn**	**0.78**	**119**	P		**Pg**	**00 38 12.8**	**-0.2**
MASU	**Masugnsbyn**	**0.78**	**119**	*i* P		**Pg**	**00 38 12.8**	**-0.2**
SALU	**Saltoluokta**	**0.81**	**236**	P		**Pg**	**00 38 12.9**	**-0.7**
SALU	**Saltoluokta**	**0.81**	**236**	*i* P		**Pg**	**00 38 12.9**	**-0.7**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PB		**Pg**	**00 38 21.0**	**+0.1**
KIF				MSG			00 38 35.6	
	comp=Z,28nm,0.2s							
KIF				*e*S		**Sg**	**00 38 36.4**	**+0.1**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P		**Pg**	**00 38 21.1**	**+0.1**
PAJU	**Pajala**	**1.38**	**125**	P		**Pg**	**00 38 23.4**	**-1.1**
PAJU	**Pajala**	**1.38**	**125**	*e*P		**Pg**	**00 38 23.4**	**-1.1**
HEF	**Hetta**	**1.41**	**64**	*e*P		**Pn**	**00 38 23.8**	**-1.2**
	baz=249							
HEF				MSG			00 38 41.1	
	comp=Z,17nm,0.2s							
HEF				*e*SB		**Sg**	**00 38 42.5**	**-0.7**
HEF	**Hetta**	**1.41**	**64**	*e*P		**Pn**	**00 38 24.0**	**-1.0**
ERTU	**Ertsjaerv**	**1.50**	**149**	P		**Pn**	**00 38 25.5**	**-0.8**
ERTU	**Ertsjaerv**	**1.50**	**149**	*e*P		**Pn**	**00 38 25.3**	**-1.0**
ERTU				*e*SN		**Sn**	**00 38 46.5**	**+0.1**
KLF	**Kolari**	**1.56**	**111**	*e*PG		**Pn**	**00 38 26.7**	**-0.4**
KLF				*e*SN		**Sg**	**00 38 48.5**	**+0.5**
KTK1	**Kautokeino**	**1.62**	**42**	*e*PG		**Pn**	**00 38 27.8**	**-0.2**
KTK1				*e*SN		**Sn**	**00 38 49.5**	**0.0**
TRO	**Tromso**	**1.86**	**346**	*e*PN		**Pn**	**00 38 31.5**	**+0.2**
TRO				*e*SG		**Sb**	**00 38 56.7**	**-0.2**
KALU	**Kalix**	**2.34**	**147**	*e*S		**Sn**	**00 39 05.2**	**-1.9**
TOF	**Tornio**	**2.39**	**136**	*e*PB		**Pn**	**00 38 39.8**	**+1.3**
TOF				MSG			00 39 09.3	
	comp=Z,8.8nm,0.2s							
TOF				*e*SG		**Sb**	**00 39 11.9**	**0.0**
SGF	**Sodankyl**	**2.44**	**96**	*e*P		**Pn**	**00 38 40.1**	**+0.9**
SGF				*e*SG		**Sb**	**00 39 13.6**	**+0.3**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB		**Pn**	**00 38 42.4**	**+1.6**
RNF				*e*SG		**Sb**	**00 39 16.7**	**-0.2**
ARA0	**ARCESS Array S**	**2.57**	**46**	*e*P		**Pn**	**00 38 41.3**	**+0.3**
ARA0				*e*SB		**Sb**	**00 39 15.9**	**-1.3**
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn		**Pn**	**00 38 41.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=229,slow=15,SNR=13							
ARCES				Sn		**Sn**	**00 39 13.8**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=226,slow=25,SNR=15							
	comp=Z,0.8nm,0.3s							
KEV	**Kevo**	**3.12**	**49**	*e*P		**Pn**	**00 38 50.2**	**+1.6**
KEV				*e*S		**Sn**	**00 39 27.4**	**+0.9**
KEV				MSG			00 39 30.5	
	comp=Z,6.7nm,0.2s							
BURU	**Burvik**	**3.30**	**171**	*e*P		**Pn**	**00 38 53.0**	**+2.0**
VRF	**Varrio**	**3.56**	**87**	*e*PB		**Pn**	**00 38 57.7**	**+3.1**
VRF				*e*S		**Sn**	**00 39 33.7**	**-3.6**
OUL	**Oulu**	**3.58**	**138**	*e*PG		**Pb**	**00 39 03.2**	**+1.0**
OUL				*e*SG		**Sb**	**00 39 47.4**	**+1.4**
KU6	**Riekki**	**4.21**	**111**	*e*PG		**Pb**	**00 39 13.8**	**+0.8**
	baz=295							
FINES	**FINESS Array B**	**6.89**	**156**	Pn		**Pn**	**00 39 40.4**	**+0.2**
	baz=345,slow=10,SNR=1.3							
FINES				Sn		**Sn**	**00 40 57.3**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=349,slow=21,SNR=4.0							
FINES				Lg		Lg	00 41 33.1	
	comp=Z,0.3nm,0.3s,baz=341,slow=29,SNR=1.8							
	comp=Z,1.7nm,0.9s							
NOA	**NORSAR Array B**	**7.85**	**214**	Pn		**Pn**	**00 39 55.2**	**+1.7**
	baz=15,slow=12,SNR=1.1							
NOA				Sn		**Sn**	**00 41 21.3**	**-1.6**
	baz=29,slow=21,SNR=1.9							
NOA				Lg		Lg	00 42 02.6	
	baz=33,slow=18,SNR=1.6							
	comp=Z,0.5nm,0.8s							

MAN 14 00:38:10.7, 16.73N×121.53E, h1km, mb4.0, ML2.8, MS2.4, 5C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SAMP	**Sagada Mountai**	**0.69**	**300**‖	*e*P		Pg	00 38 23.4	-0.7
BALP	**Baler**	**0.98**	**177**‖	*e*P		Pb	00 38 30.1	-0.5
BALP				*e*S		Sb	00 38 45.0	+1.0
SMPP	**San Manuel, Pa**	**1.00**	**235**‖	*e*P		Pb	00 38 30.9	+0.1
SMPP				*e*S		Sn	00 38 46.7	+0.1
PCPH	**Palayan**	**1.23**	**200**‖	*e*P		Pn	00 38 39.7	+4.7
SGCP	**Gonzaga**	**1.58**	**18**‖	*e*P		Pn	00 38 40.0	0.0
SGCP				*e*S		Sn	00 38 55.6	-5.5
QVP	**Quezon City--P**	**2.15**	**194**‖	*e*P		Pn	00 38 49.1	+1.4
QVP				*e*S		Sg	00 39 22.1	+2.2
LQP	**Lukban**	**2.60**	**180**‖	*e*P		Pg	00 39 01.7	+1.1
JCNP	**Jose Panganiba**	**2.67**	**155**‖	*e*P		Pn	00 38 55.9	+1.0
JCNP				*e*S		Sn	00 39 19.6	-8.4
LUBP	**Lubang**	**3.22**	**203**‖	*e*P		Pn	00 39 01.9	-0.6
LUBP				*e*S		Pg	00 39 12.9	+0.4

TAP 14 00:42:45.5, 24.13N×121.65E, h11km, ML2.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.07**	**308**	*e*P		Pg	00 42 48.6	+0.7
	baz=307							
NACB				*i* S		Sg	00 42 50.5	+0.9
	baz=307							
TWD	**Chiawan**	**0.07**	**226**	*i* P		Pg	00 42 48.3	+0.4
	baz=221							
TWD				*e*S		Sg	00 42 50.1	+0.4
	baz=221							
HWA	**Hwalien**	**0.16**	**196**	*e*P		Pb	00 42 50.1	-0.4
	baz=193							
ETLH	**Xiulin Townshi**	**0.17**	**295**	*e*P		Pb	00 42 50.4	-0.5
	baz=295							
ETLH				S		Sg	00 42 53.5	+1.3
	baz=295							
ETM	**Tongmen**	**0.22**	**222**	*e*P		Pg	00 42 50.6	+0.4
	baz=221							
ETM				*e*S		Sg	00 42 53.8	+0.4
	baz=221							
TEYL	**Yanliau Villag**	**0.27**	**191**	*e*P		Pb	00 42 52.0	-0.3
	baz=191							
ENA	**Nanau**	**0.30**	**15**	P		Pb	00 42 52.5	-0.6
	baz=16							
ENA				*e*S		Sg	00 42 56.9	+1.1
	baz=16							
WHF	**Hehuan Shan**	**0.36**	**272**	*e*P		Pb	00 42 53.6	-0.5
	baz=271							
WHF				*e*S		Sb	00 42 59.0	-0.9
	baz=271							
ESL	**Shilin**	**0.38**	**213**	*e*P		Pg	00 42 53.2	+0.1
	baz=211							
NNSB	**Datong**	**0.39**	**320**	*e*P		Pb	00 42 54.5	0.0
	baz=320							
NNSB				*i* S		Sb	00 43 00.3	-0.2
	baz=320							
NNSH	**Datong**	**0.39**	**320**	*e*P		Pg	00 42 53.5	+0.2
	baz=320							
NNSH				*e*S		Sb	00 42 59.5	-0.9
	baz=320							
FUSS	**Fushou**	**0.39**	**287**	*e*P		Pb	00 42 54.6	0.0
	baz=287							
FUSS				*e*S		Sb	00 43 00.9	+0.1
	baz=287							
NNS	**Nan Shan**	**0.40**	**320**	*e*P		Pg	00 42 53.7	+0.2
	baz=320							
NNS				*e*S		Sb	00 43 00.0	-0.9
	baz=320							
LATG	**Datong**	**0.42**	**344**	P		Pb	00 42 54.8	-0.2
	baz=343							
LATG				S		Sb	00 43 01.4	0.0
	baz=343							
CHGB	**Renai**	**0.44**	**261**	*e*P		Pb	00 42 55.4	-0.1
	baz=260							
CHGB				*e*S		Sb	00 43 01.8	-0.5
	baz=260							
TWT	**Tachien**	**0.45**	**286**	*e*P		Pb	00 42 56.2	+0.5
	baz=284							
TWT				*e*S		Sb	00 43 03.1	+0.7
	baz=284							
TDCB	**Techi**	**0.47**	**285**	*e*P		Pb	00 42 56.1	+0.2
	baz=284							
TDCB				*i* S		Sb	00 43 03.0	+0.1
	baz=284							
EGFH	**Guangfu**	**0.51**	**204**	*e*P		Pg	00 42 55.9	+0.4
	baz=204							
EGFH				S		Sb	00 43 04.1	+0.3
	baz=204							
TWC	**Suao**	**0.51**	**20**	*i* P		Pb	00 42 56.4	-0.1
	baz=21							
TWC				*e*S		Sb	00 43 03.8	-0.1
	baz=21							
WUSB	**Renai**	**0.51**	**254**	*e*P		Pb	00 42 56.5	-0.1
	baz=254							
WUSB				S		Sb	00 43 04.0	0.0
	baz=254							
ENTT	**Nioudou**	**0.51**	**351**	*e*P		Pg	00 42 55.8	+0.3
	baz=351							
TWE	**Neicheng**	**0.59**	**1**	*e*P		Pb	00 42 58.0	+0.2
	baz=2.0							
YHNB	**Yeheng**	**0.59**	**335**	*e*P		Pb	00 42 58.6	+0.7
	baz=334							
YHNB				*e*S		Sb	00 43 06.8	+0.3
	baz=334							
VWDT	**VWDT**	**0.60**	**231**	P		Pb	00 42 58.0	0.0
	baz=231							
VWDT				*e*S		Sb	00 43 06.8	+0.2
	baz=231							
NSK	**Sanguang**	**0.60**	**334**	*i* P		Pb	00 42 57.9	-0.3
	baz=334							
NSK				*e*S		Sb	00 43 06.5	-0.3
	baz=334							
FUSB	**Fushanzhiwuyua**	**0.63**	**354**	*e*P		Pb	00 42 59.0	+0.4
	baz=354							
FUSB				*e*S		Sb	00 43 08.2	+0.7
	baz=354							
WPL	**Puli Township**	**0.65**	**260**	*e*P		Pb	00 42 59.3	+0.5
	baz=259							
WPL				*e*S		Sb	00 43 08.5	+0.6
	baz=259							
NWLT	**Wulai**	**0.66**	**348**	*e*P		Pb	00 42 58.8	-0.2
	baz=347							
HGSD	**Ruisui**	**0.67**	**198**	*e*P		Pn	00 43 00.1	-0.8
	baz=198							
WCS	**Beigang Elemen**	**0.68**	**264**	*e*P		Pb	00 42 59.2	-0.3
	baz=263							
EHY	**Hungye**	**0.69**	**206**	*e*P		Pb	00 42 59.6	-0.1
	baz=205							
NFF	**Wufeng Townshi**	**0.70**	**316**	*e*P		Pb	00 42 59.8	0.0
	baz=315							
SSLB	**Suanglung**	**0.73**	**242**	*e*P		Pb	00 43 00.2	0.0
	baz=241							
SMLT	**Sun Moon Lake**	**0.73**	**250**	*e*P		Pb	00 43 00.6	+0.2
	baz=249							
SMLT				*e*S		Sb	00 43 11.0	+0.6
	baz=249							
LIOB	**

WHYT	**Xinyi Township** baz=239	**0.85**	**240**	*eP*	Pn	00 43 03.2	-0.3
WHYT	baz=239			*eS*	Sb	00 43 14.7	+0.8
YUS	**Yu-Shan** baz=224	**0.91**	**225**	*eP*	Pg	00 43 03.2	+0.1
TWB1	**Santiao Chiao** baz=19	**0.92**	**19**	*eP*	Pb	00 43 03.9	+0.3
WCKO	**Fanlu** baz=234	**1.18**	**235**	*eP*	Pg	00 43 08.5	+0.2
EDH	**Donghe** baz=195	**1.20**	**196**	*eP*	Pn	00 43 08.1	-0.1
CHN4	**Tsaushan** baz=231	**1.25**	**232**	*eP*	Pg	00 43 09.4	0.0
STYH	**Taoyuan** baz=220	**1.25**	**220**	*eP*	Pb	00 43 09.1	0.0
TPUB	**Ta-pu** baz=228	**1.25**	**229**	*eP*	Pg	00 43 10.1	+0.5
WTP	**Ta-pu** baz=226	**1.30**	**227**	*eP*	Pg	00 43 10.3	-0.2
TWK	**Hsinying** baz=230	**1.37**	**231**	*eP*	Pb	00 43 11.3	0.0
CHN1	**Nanshi** baz=227	**1.40**	**228**	*eP*	Pg	00 43 12.1	-0.3

WEL 14 00:44:23.6±0.5, 42°S±2°×17°4E±°, h5km±2km, M3.3/7, ML3.5/7, MLv3.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=115.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.32**	**32**	P	Pg	00 44 30.3	+0.5
BSWZ				S	Sg	00 44 35.0	+1.1
KHZ	**Kahutara**	**0.44**	**191**	P	Pg	00 44 32.0	0.0
KHZ				S	Sg	00 44 38.8	+1.0
TUWZ	**Tuamarina**	**0.60**	**21**	P	Pg	00 44 35.3	+0.2
TUWZ				S	Sb	00 44 44.3	-1.0
NNZ	**Nelson**	**0.80**	**345**	S	Sb	00 44 50.2	-0.8
TCW	**Tory Channel**	**0.91**	**31**	P	Pg	00 44 40.1	-0.9
TCW				S	Sb	00 44 54.1	-0.1
CAW	**Cannon Point**	**1.38**	**51**	P	Pb	00 44 49.8	-0.1
CAW				S	Sb	00 45 06.7	-1.0
KIW	**Kapiti Island**	**1.47**	**40**	P	Pn	00 44 50.3	-0.5
KIW				S	Sg	00 45 11.3	+0.5
MTW	**Mount Morrison**	**1.61**	**60**	P	Pb	00 44 54.0	+0.1
OGWZ	**Otaki Gorge**	**1.63**	**45**	P	Pn	00 44 50.6	-2.5
OGWZ				S	Sb	00 45 15.4	+0.3
HOWZ	**Holdsworth Sta**	**1.77**	**53**	P	Pb	00 44 56.3	-0.3
PRWZ	**Pori Road**	**2.26**	**51**	P	Pb	00 45 05.9	+1.0
WAZ	**Wanganui**	**2.45**	**25**	P	Pb	00 45 08.0	-0.1
TSZ	**Takapari Road**	**2.60**	**43**	P	Pb	00 45 10.7	0.0
PNHZ	**Pukenui**	**2.83**	**44**	P	Pb	00 45 14.1	-0.5
WPHZ	**Waipukurau**	**2.85**	**49**	P	Pg	00 45 17.1	-1.2
MOVZ	**Moawhango**	**3.03**	**32**	P	Pb	00 45 15.8	-2.3
WNVZ	**Wahianoa**	**3.04**	**30**	P	Pb	00 45 17.5	-0.8
TRVZ	**Turoa**	**3.05**	**29**	P	Pb	00 45 16.8	-1.6
WHVZ	**Whangaehu Hut**	**3.08**	**29**	P	Pb	00 45 17.1	-1.9
FWVZ	**Far West T-bar**	**3.09**	**29**	P	Pb	00 45 17.6	-1.6
TUVZ	**Tukino**	**3.11**	**30**	P	Pb	00 45 20.3	+0.7
NGZ	**Ngauruhoe**	**3.17**	**28**	P	Pb	00 45 19.9	-0.8
SNVZ	**South Ngauruho**	**3.18**	**29**	P	Pb	00 45 19.1	-1.6
OTVZ	**Oturere**	**3.21**	**29**	P	Pb	00 45 20.2	-1.0
NNVZ	**North Ngauruho**	**3.22**	**28**	P	Pb	00 45 20.4	-1.0
WTVZ	**West Tongariro**	**3.23**	**28**	P	Pb	00 45 20.8	-0.7
ETVZ	**East Tongariro**	**3.25**	**30**	P	Pb	00 45 21.6	-0.3
KRVZ	**Karewarewa**	**3.26**	**28**	P	Pb	00 45 21.7	-0.4
TMVZ	**Te Maari**	**3.27**	**29**	P	Pb	00 45 21.7	-0.5
NTVZ	**North Tongarir**	**3.27**	**29**	P	Pb	00 45 22.7	+0.4
KWHZ	**Kaweka Forest**	**3.31**	**40**	P	Pb	00 45 22.2	-0.7
KATZ	**Kakaramea**	**3.39**	**28**	P	Pb	00 45 24.5	+0.3
RATZ	**Rangitukua**	**3.51**	**28**	P	Pb	00 45 27.4	+1.1
BKZ	**Black Stump Fm**	**3.55**	**38**	P	Pb	00 45 26.2	-0.8
WATZ	**Wairara**	**3.64**	**27**	P	Pb	00 45 29.0	+0.5

WEL 14 00:45:50.7±0.5, 42°S±3°×17°4E±°, h12km, M3.4/12, ML3.5/12, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=150.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**271**	P	Pg	00 45 53.4	+0.6
CMWZ				S	Sg	00 45 56.3	+1.8
BSWZ	**Blackbirch Sta**	**0.29**	**277**	P	Pg	00 45 57.0	+0.4
BSWZ				S	Sg	00 46 01.4	+0.8
TUWZ	**Tuamarina**	**0.40**	**323**	P	Pb	00 45 59.1	-0.5
TUWZ				S	Sb	00 46 05.4	-0.3
TCW	**Tory Channel**	**0.54**	**2**	P	Pb	00 46 01.7	-0.3
TCW				S	Sb	00 46 09.4	-0.3
WEL	**Wellington**	**0.60**	**40**	P	Pb	00 46 02.8	-0.3
WEL				S	Sb	00 46 11.8	+0.3
MSWZ	**Moikau Station**	**0.82**	**66**	P	Pb	00 46 06.8	0.0
MSWZ				S	Sb	00 46 18.5	+0.7
NNZ	**Nelson**	**0.85**	**309**	P	Pb	00 46 07.5	+0.2
NNZ				S	Sn	00 46 20.1	-0.6
CAW	**Cannon Point**	**0.88**	**44**	P	Pg	00 46 07.8	+0.1
CAW				S	Sn	00 46 21.1	-0.6
THZ	**Tophouse**	**1.01**	**269**	P	Pn	00 46 10.5	-0.3
KIW	**Kapiti Island**	**1.01**	**29**	P	Pb	00 46 09.9	-0.3
KIW				S	Sn	00 46 24.5	-0.4
MTW	**Mount Morrison**	**1.11**	**58**	P	Pb	00 46 10.6	-1.1
OGWZ	**Otaki Gorge**	**1.16**	**37**	P	Pb	00 46 11.8	-0.8
OGWZ				S	Sb	00 46 27.6	0.0
MRNZ	**Matariki Terra**	**1.18**	**287**	P	Pb	00 46 12.6	-0.4
TKNZ	**Takaka Hill**	**1.21**	**306**	P	Pn	00 46 13.2	-0.2
TKNZ				S	Sn	00 46 30.4	+0.7
QRZ	**Quartz Range**	**1.60**	**305**	P	Pb	00 46 19.9	-0.1

*IDC **14** 00:46:30.6±2.5, 42°46S×173°35E, h0km, mb3.7/2, mbtmp3.9/3, ML4.4/1, Error ellipse: s-maj=61.9km s-min=39.2km az=140.0*
*NOU **14** 00:46:33.3, 42°00S×171°21E, h175km, MLv5.1/7, South Island, New Zealand*
*WEL **14** 00:46:34.2±0.3, 42°S±2°×17°3E±°, h8km±2km, M4.1/15, ML4.3/15, MLv4.1/15, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1*

ISC 14 00:46:33.7±1.2, 42°51S±0°03×173°22E±0°03, h11km±9km, n115, σ1ᵖ52/128, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**69**	P	**Pb**	**00 46 40.6**	**+0.3**
KHZ				S	**Sb**	**00 46 45.4**	**+0.6**
GVZ	**Greta Valley S**	**0.48**	**196**	P	**Pb**	**00 46 45.1**	**+0.9**
GVZ				S	**Sb**	**00 46 52.9**	**+1.6**
LTZ	**Lake Taylor**	**0.75**	**248**	P	**Pg**	**00 46 48.3**	**+0.1**
LTZ				S	**Sb**	**00 46 59.0**	**-0.1**
THZ	**Tophouse**	**0.78**	**343**	P	**Pg**	**00 46 48.7**	**-0.1**
THZ				S	**Sg**	**00 46 58.2**	**-0.7**
AMCZ	**Amberley**	**0.79**	**212**	P	**Pb**	**00 46 50.7**	**+1.2**
AMCZ				S	**Sb**	**00 47 02.0**	**+1.9**
BSWZ	**Blackbirch Sta**	**0.93**	**32**	P	**Pb**	**00 46 52.4**	**+0.5**
MRNZ	**Matariki Terra**	**1.16**	**343**	P	**Pb**	**00 46 55.7**	**0.0**
MRNZ				S	**Sn**	**00 47 11.0**	**-0.8**
OXZ	**Oxford**	**1.19**	**226**	P	**Pb**	**00 46 56.3**	**0.0**
OXZ				S	**Sg**	**00 47 12.4**	**+0.4**
TUWZ	**Tuamarina**	**1.21**	**27**	P	**Pg**	**00 46 57.0**	**+0.2**
OKCZ	**Okains Bay**	**1.22**	**185**	P	**Pn**	**00 46 57.4**	**+0.6**
MQZ	**McQueen's Vall**	**1.27**	**199**	P	**Pn**	**00 46 56.8**	**-0.6**
MQZ				S	**Sb**	**00 47 14.4**	**+0.6**
NNZ	**Nelson**	**1.29**	**5**	P	**Pn**	**00 46 57.7**	**0.0**
NNZ				S	**Sn**	**00 47 15.3**	**+0.2**
DSZ	**Denniston Nort**	**1.30**	**305**	P	**Pg**	**00 46 58.3**	**-0.3**
DSZ				S	**Sn**	**00 47 15.0**	**-0.3**
INZ	**Inchbonnie**	**1.33**	**260**	P	**Pn**	**00 46 58.5**	**+0.3**
INZ				S	**Sn**	**00 47 16.7**	**+0.8**
AKCZ	**Akaroa Harbour**	**1.38**	**189**	P	**Pn**	**00 46 58.5**	**-0.5**
AKCZ				S	**Sb**	**00 47 17.5**	**+0.2**
RACZ	**Rakaia**	**1.45**	**213**	P	**Pn**	**00 46 59.4**	**-0.5**
TKNZ	**Takaka Hill**	**1.48**	**352**	P	**Pb**	**00 47 01.0**	**-0.3**
TCW	**Tory Channel**	**1.52**	**32**	P	**Pn**	**00 47 01.6**	**+0.8**
MHCZ	**Mount Hutt**	**1.58**	**229**	P	**Pn**	**00 47 01.5**	**-0.3**
WEL	**Wellington**	**1.68**	**44**	P	**Pn**	**00 47 03.6**	**+0.5**
WACZ	**Wakanui South**	**1.75**	**215**	P	**Pn**	**00 47 03.7**	**-0.4**
QRZ	**Quartz Range**	**1.76**	**343**	P	**Pb**	**00 47 05.1**	**-0.8**
QRZ	**Quartz Range**	**1.76**	**343**	P	**Pb**	**00 47 05.2**	**-0.8**
DUWZ	**D'Urville Isla**	**1.78**	**17**	P	**Pb**	**00 47 06.3**	**-0.1**
PLWZ	**Palliser**	**1.78**	**59**	P	**Pn**	**00 47 04.3**	**-0.3**
MSWZ	**Moikau Station**	**1.87**	**55**	P	**Pn**	**00 47 05.5**	**-0.1**
WVZ	**Waitaha Valley**	**1.91**	**252**	P	**Pn**	**00 47 07.0**	**+0.8**
CAW	**Cannon Point**	**1.97**	**45**	P	**Pn**	**00 47 07.3**	**+0.3**
RPZ	**Rata Peaks**	**1.99**	**232**	Pn	**Pn**	**00 47 07.0**	**-0.4**
RPZ	120nm,0.3s,baz=46,slow=3.2,SNR=33			Sn	**Sn**	**00 47 30.9**	**-1.5**
	62nm,0.3s,baz=138,slow=22,SNR=24 284nm,0.4s						
RPZ	**Rata Peaks**	**1.99**	**232**	P	**Pn**	**00 47 07.0**	**-0.4**
RPZ	**Rata Peaks**	**1.99**	**232**	P	**Pn**	**00 47 07.2**	**-0.2**
PAWZ	**Paruwai Farm**	**2.00**	**56**	P	**Pn**	**00 47 06.9**	**-0.5**
ARCZ	**Arundel**	**2.07**	**225**	P	**Pn**	**00 47 08.2**	**-0.3**
KIW	**Kapiti Island**	**2.08**	**38**	P	**Pn**	**00 47 09.1**	**+0.6**
TRWZ	**Traveller**	**2.15**	**60**	P	**Pn**	**00 47 09.1**	**-0.4**
MTW	**Mount Morrison**	**2.17**	**52**	P	**Pb**	**00 47 12.8**	**-0.3**
OGWZ	**Otaki Gorge**	**2.23**	**42**	P	**Pn**	**00 47 10.9**	**+0.2**
GCSZ	**Gaunt Creek Bo**	**2.27**	**248**	P	**Pn**	**00 47 12.4**	**+1.2**
HOWZ	**Holdsworth Sta**	**2.35**	**48**	P	**Pg**	**00 47 19.4**	**+0.5**
TMZ	**Timaru**	**2.47**	**220**	P	**Pn**	**00 47 13.7**	**-0.2**
MRZ	**Mangatainoka R**	**2.56**	**45**	P	**Pn**	**00 47 14.8**	**-0.3**
FOZ	**Fox Glacier**	**2.70**	**247**	P	**Pn**	**00 47 18.5**	**+1.5**
OHWZ	**Ohakea**	**2.79**	**35**	P	**Pb**	**00 47 25.2**	**+1.7**
LBZ	**Lake Benmore**	**2.90**	**229**	P	**Pn**	**00 47 19.7**	**-0.1**
BFZ	**Birch Farm**	**2.91**	**52**	P	**Pn**	**00 47 21.4**	**+1.4**
WAZ	**Wanganui**	**3.06**	**26**	P	**Pb**	**00 47 25.7**	**-2.4**
DVHZ	**Dannevirke**	**3.13**	**46**	P	**Pn**	**00 47 21.7**	**-1.3**
NMEZ	**Namu Road**	**3.13**	**9**	P	**Pn**	**00 47 25.9**	**+2.9**
ODZ	**Otahua Downs**	**3.15**	**215**	P	**Pn**	**00 47 22.6**	**-0.6**
ODZ	**Otahua Downs**	**3.15**	**215**	P	**Pb**	**00 47 22.4**	**-0.9**
LREZ	**Lake Rotokare**	**3.17**	**17**	P	**Pb**	**00 47 28.6**	**-1.5**
TSZ	**Takapari Road**	**3.20**	**41**	P	**Pn**	**00 47 23.4**	**-0.6**
KHEZ	**Kahui Hut**	**3.27**	**11**	P	**Pn**	**00 47 28.6**	**+3.6**
KHEZ	**Kahui Hut**	**3.27**	**11**	P	**Pb**	**00 47 28.7**	**-3.0**
NBEZ	**Newall Road No**	**3.27**	**9**	P	**Pn**	**00 47 28.2**	**+3.2**
NEZ	**North Egmont**	**3.30**	**12**	P	**Pn**	**00 47 29.0**	**+3.5**
PKE	**Pukeiti**	**3.36**	**10**	P	**Pn**	**00 47 29.2**	**+3.0**
DREZ	**Durham Road**	**3.40**	**13**	P	**Pn**	**00 47 30.0**	**+3.3**
PRHZ	**Porangahau**	**3.41**	**50**	P	**Pn**	**00 47 29.3**	**+2.5**
MHEZ	**Mangahewa**	**3.53**	**14**	P	**Pn**	**00 47 32.6**	**+4.1**
VRZ	**Vera Road**	**3.58**	**20**	P	**Pn**	**00 47 31.6**	**+2.5**
JCZ	**Jackson Bay**	**3.59**	**243**	P	**Pn**	**00 47 29.9**	**+0.5**
MOVZ	**Moawhango**	**3.64**	**33**	P	**Pn**	**00 47 31.7**	**+1.6**
WNVZ	**Wahianoa**	**3.65**	**30**	P	**Pn**	**00 47 31.7**	**+1.3**
TRVZ	**Turoa**	**3.66**	**30**	P	**Pn**	**00 47 31.6**	**+1.1**
WHVZ	**Whangaehu Hut**	**3.69**	**30**	P	**Pn**	**00 47 32.1**	**+1.2**
FWVZ	**Far West T-bar**	**3.70**	**29**	P	**Pn**	**00 47 33.6**	**+2.5**
BHHZ	**Black Hill Sta**	**3.71**	**36**	P	**Pn**	**00 47 34.7**	**+3.7**
TUVZ	**Tukino**	**3.73**	**31**	P	**Pn**	**00 47 32.7**	**+1.4**
NGZ	**Ngauruhoe**	**3.79**	**29**	P	**Pn**	**00 47 33.5**	**+1.4**
SNVZ	**South Ngauruho**	**3.79**	**30**	P	**Pn**	**00 47 34.2**	**+1.9**
OTVZ	**Oturere**	**3.82**	**30**	P	**Pb**	**00 47 38.8**	**-2.5**
TWVZ	**Taurewa**	**3.82**	**27**	P	**Pb**	**00 47 38.1**	**-3.1**
WKZ	**Wanaka**	**3.83**	**231**	P	**Pn**	**00 47 31.7**	**-1.0**
NNVZ	**North Ngauruho**	**3.83**	**29**	P	**Pb**	**00 47 40.3**	**-1.1**
WTVZ	**West Tongariro**	**3.84**	**29**	P	**Pb**	**00 47 40.8**	**-0.7**
ETVZ	**East Tongariro**	**3.86**	**30**	P	**Pn**	**00 47 34.6**	**+1.4**
ETVZ				P	Pb	00 47 35.7	-6.3
HHSZ	**Highcliff Hill**	**3.87**	**208**	P	**Pn**	**00 47 32.4**	**-0.7**
KRVZ	**Karewarewa**	**3.87**	**29**	P	**Pb**	**00 47 41.2**	**-0.9**
TMVZ	**Te Maari**	**3.88**	**30**	P	**Pn**	**00 47 34.5**	**+1.1**
NTVZ	**North Tongarir**	**3.88**	**30**	P	**Pn**	**00 47 34.4**	**+0.9**
EAZ	**Earnscleugh**	**3.92**	**225**	P	**Pn**	**00 47 33.3**	**-0.6**
KATZ	**Kakaramea**	**4.00**	**29**	P	**Pb**	**00 47 42.2**	**-2.1**
RITZ	**Rihia Road**	**4.06**	**31**	P	**Pb**	**00 47 43.5**	**-1.7**
RATZ	**Rangitukua**	**4.12**	**29**	P	**Pb**	**00 47 44.2**	**-2.1**
BKZ	**Black Stump Fm**	**4.16**	**38**	P	**Pb**	**00 47 46.2**	**-0.8**
HIZ	**Hauiti**	**4.18**	**18**	P	**Pn**	**00 47 39.3**	**+1.9**
HIZ	**Hauiti**	**4.18**	**18**	P	**Pn**	**00 47 39.4**	**+1.9**
TUZ	**Tuapeka**	**4.30**	**216**	P	**Pn**	**00 47 39.1**	**0.0**
TLZ	**Tolley Road**	**4.53**	**24**	P	**Pn**	**00 47 44.4**	**+2.0**
MTHZ	**Maungataniwha**	**4.57**	**38**	P	**Pn**	**00 47 44.5**	**+1.7**
MLZ	**Mavora Lakes**	**4.66**	**230**	P	**Pn**	**00 47 43.4**	**-0.7**
SYZ	**Scrubby Hill**	**4.97**	**214**	P	**Pn**	**00 47 48.1**	**-0.2**
TOZ	**Tahuroa Road**	**5.08**	**21**	P	**Pn**	**00 47 50.8**	**+0.9**
MWZ	**Matawai**	**5.31**	**40**	P	**Pn**	**00 47 54.6**	**+1.6**
TKGZ	**Te Karaka**	**5.38**	**43**	P	**Pn**	**00 47 54.7**	**+0.8**
AWAZ	**Awhitu Peninsu**	**5.55**	**12**	P	**Pn**	**00 47 58.1**	**+1.9**
MKAZ	**Moumakai**	**5.60**	**16**	P	**Pn**	**00 47 57.9**	**+1.0**
TWGZ	**Tauwhareparae**	**5.65**	**42**	P	**Pn**	**00 47 58.3**	**+0.5**
WTAZ	**Waiatarua**	**5.67**	**11**	P	**Pn**	**00 48 00.7**	**+2.8**
RUGZ	**Raukumara Rang**	**5.68**	**38**	P	**Pn**	**00 47 57.9**	**-0.2**
ETAZ	**East Tamaki Re**	**5.70**	**14**	P	**Pn**	**00 48 00.1**	**+1.8**
APZ	**The Paps**	**5.71**	**219**	P	**Pn**	**00 47 57.5**	**-1.0**
MBAZ	**Motutapu North**	**5.88**	**13**	P	**Pn**	**00 48 02.8**	**+2.1**
WIAZ	**Waiheke Island**	**5.89**	**15**	P	**Pn**	**00 48 02.9**	**+1.9**
PYZ	**Puysegur Point**	**5.95**	**230**	P	**Pn**	**00 48 05.2**	**+3.5**
ABAZ	**Army Bay**	**6.03**	**12**	P	**Pn**	**00 48 04.7**	**+1.9**
KUZ	**Kuaotunu**	**6.07**	**19**	P	**Pn**	**00 48 04.2**	**+0.8**
KUZ	**Kuaotunu**	**6.07**	**19**	P	**Pn**	**00 48 04.1**	**+0.7**
GRZ	**Great Barrier**	**6.49**	**16**	P	**Pn**	**00 48 11.7**	**+2.6**
CTZ	**Chatham Island**	**7.54**	**103**	P	**Pn**	**00 48 22.9**	**-0.6**
ASAR	**Alice Springs** 0.7nm,0.6s,baz=128,slow=7.2,SNR=5.9 0.7nm,0.6s	**37.51**	**287**	P	**P**	**00 53 46.6**	**-1.1**
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=131,slow=7.8,SNR=13 0.7nm,0.5s	**39.66**	**292**	P	**P**	**00 54 04.9**	**-0.9**
ARCES	**ARCESS Array B** 1.9nm,0.7s,baz=48,slow=1.3,SNR=1.5	**148.22**	**339**	PKPbc	**PKPdf**	**01 06 16.9**	**+1.6**
FINES	**FINESS Array B** 1.7nm,1.0s,baz=60,slow=3.4,SNR=5.6	**152.73**	**325**	PKPbc	**PKPbc**	**01 06 27.9**	**-1.6**

WEL 14 00:48:46.2±0.5, 42°S±3°×17°4E±°, h5km, M3.6/7, ML3.8/7, MLv3.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=116.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**226**	P	Pg	00 48 49.9	-0.1
BSWZ	**Blackbirch Sta**	**0.58**	**11**	P	Pg	00 48 57.3	0.0
BSWZ				S	Sg	00 49 05.8	+1.0
THZ	**Tophouse**	**0.80**	**310**	P	Pg	00 49 01.2	-0.4
THZ				S	Sg	00 49 12.5	+0.5
TUWZ	**Tuamarina**	**0.87**	**11**	P	Pg	00 49 02.7	-0.2
TUWZ				S	Sb	00 49 15.0	-0.7
MRNZ	**Matariki Terra**	**1.14**	**320**	P	Pg	00 49 08.1	0.0
MRNZ				S	Sn	00 49 25.0	+0.2
TCW	**Tory Channel**	**1.15**	**21**	P	Pg	00 49 07.6	-0.6
TCW				S	Sb	00 49 23.9	+0.2
LTZ	**Lake Taylor**	**1.18**	**245**	P	Pg	00 49 08.7	-0.2
AMCZ	**Amberley**	**1.19**	**221**	P	Pg	00 49 09.2	+0.1
WEL	**Wellington**	**1.27**	**38**	P	Pg	00 49 08.9	-1.5
WEL				S	Sb	00 49 27.2	+0.1
TKNZ	**Takaka Hill**	**1.37**	**335**	P	Pn	00 49 11.4	-0.7
TKNZ				S	Sn	00 49 32.1	+1.5
MSWZ	**Moikau Station**	**1.43**	**53**	P	Pn	00 49 10.7	-2.1
DUWZ	**D'Urville Isla**	**1.49**	**6**	P	Pn	00 49 13.1	-0.5
DUWZ				S	Sn	00 49 33.4	0.0
OKCZ	**Okains Bay**	**1.52**	**198**	P	Pn	00 49 12.3	-1.8
DSZ	**Denniston Nort**	**1.53**	**290**	P	Pb	00 49 14.6	-0.4
DSZ				S	Sg	00 49 36.6	+1.3
CAW	**Cannon Point**	**1.55**	**41**	P	Pn	00 49 12.7	-1.7
CAW				S	Sn	00 49 33.4	-1.5
PAWZ	**Paruwai Farm**	**1.56**	**55**	P	Pn	00 49 12.2	-2.5
OXZ	**Oxford**	**1.62**	**229**	P	Pn	00 49 13.6	-1.8
MQZ	**McQueen's Vall**	**1.62**	**209**	P	Pn	00 49 13.0	-2.4
MQZ				S	Sn	00 49 34.1	-2.6
KIW	**Kapiti Island**	**1.68**	**32**	P	Pn	00 49 15.2	-1.0
KIW				S	Sn	00 49 36.8	-1.3
QRZ	**Quartz Range**	**1.71**	**328**	P	Pn	00 49 17.3	+0.7
QRZ				S	Sn	00 49 39.4	+0.5
OGWZ	**Otaki Gorge**	**1.82**	**37**	P	Pn	00 49 16.5	-1.7
OGWZ				S	Sn	00 49 39.9	-1.8
RACZ	**Rakaia**	**1.85**	**218**	P	Pn	00 49 16.5	-2.1

WEL 14 00:51:31.7±0.4, 42°S±2°×17°3E±°, h5km±2km, M3.8/7, ML4.0/7, MLv3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=119.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**92**	P	Pg	00 51 36.2	-0.2
KHZ				S	Sg	00 51 40.0	+0.5
GVZ	**Greta Valley S**	**0.57**	**193**	P	Pg	00 51 43.1	+0.4
GVZ				S	Sb	00 51 51.6	-1.2
THZ	**Tophouse**	**0.69**	**340**	P	Pg	00 51 45.4	+0.5
THZ				S	Sg	00 51 54.4	+0.6
LTZ	**Lake Taylor**	**0.79**	**242**	P	Pg	00 51 46.5	-0.4
LTZ				S	Sb	00 51 58.3	-0.7
BSWZ	**Blackbirch Sta**	**0.85**	**36**	P	Pb	00 51 48.5	-0.5
AMCZ	**Amberley**	**0.87**	**208**	P	Pb	00 51 49.0	-0.3
AMCZ				S	Sb	00 52 01.2	-0.1
NNZ	**Nelson**	**1.20**	**6**	P	Pg	00 51 53.9	-0.8
NNZ				S	Sn	00 52 12.4	+0.6
MQZ	**McQueen's Vall**	**1.36**	**197**	P	Pn	00 51 54.3	-3.1
MQZ				S	Sb	00 52 11.1	-4.2
WVZ	**Waitaha Valley**	**1.94**	**249**	P	Pn	00 52 04.8	-0.5
WVZ				S	Sn	00 52 28.9	-1.2
RPZ	**Rata Peaks**	**2.05**	**230**	P	Pn	00 52 05.0	-1.9
RPZ				S	Sn	00 52 29.0	-3.9
ARCZ	**Arundel**	**2.14**	**223**	P	Pn	00 52 05.8	-2.3
ARCZ				S	Sn	00 52 30.9	-4.2
GCSZ	**Gaunt Creek Bo**	**2.31**	**246**	P	Pn	00 52 09.9	-0.5
GCSZ				S	Sn	00 52 37.1	-2.1
TMZ	**Timaru**	**2.54**	**218**	P	Pn	00 52 11.6	-2.1
FOZ	**Fox Glacier**	**2.73**	**245**	P	Pn	00 52 16.2	-0.1
FOZ				S	Sn	00 52 47.7	-2.0
LBZ	**Lake Benmore**	**2.96**	**227**	P	Pn	00 52 17.5	-1.9
LBZ				S	Sn	00 52 51.6	-3.7
ODZ	**Otahua Downs**	**3.23**	**214**	P	Pn	00 52 20.1	-2.9
JCZ	**Jackson Bay**	**3.64**	**241**	P	Pn	00 52 27.7	-1.1
JCZ				S	Sn	00 53 09.2	-3.0
HHSZ	**Highcliff Hill**	**3.95**	**208**	P	Pn	00 52 30.1	-2.9
EAZ	**Earnscleugh**	**3.99**	**224**	P	Pn	00 52 30.9	-2.7

ROM 14 00:52:16.4±0.0, 42°814N±0°002×13°183E±0°004, h10km, ML2.8/12, Error ellipse: s-maj=0.3km s-min=0.1km az=75.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.04**	**5**	P	Pg	00 52 18.7	+0.2
T1245				S	Sg	00 52 20.1	+0.1
NRCA	**Norcia**	**0.05**	**291**	P	Pg	00 52 18.7	+0.2
NRCA				S	Sg	00 52 20.0	0.0
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
MMO1	**Montemonaco**	**0.14**	**51**	P	Pg	00 52 20.2	+0.6
MMO1				S	Sg	00 52 22.8	+1.0
T1216	**Preci, Frazion**	**0.14**	**302**	P	Pg	00 52 20.1	+0.5
T1216				S	Sg	00 52 23.1	+1.1
T1216				AML	AML		
	comp=E,5100μm,1.3s						
T1216				AML	AML		
	comp=E,5090μm,1.3s						
T1216				AML	AML		
	comp=N,6810μm,0.3s						
T1216				AML	AML		
	comp=E,5080μm,1.3s						
T1216				AML	AML		
	comp=N,6805μm,0.3s						
T1218	**Civita (PG)**	**0.15**	**199**	P	Pg	00 52 20.5	+0.7
T1218				S	Sg	00 52 23.3	+1.1
T1218				AML	AML		
	comp=E,4420μm,0.6s						
T1218				AML	AML		
	comp=N,9030μm,1.0s						
T1218				AML	AML		
	comp=E,4170μm,0.6s						
T1218				AML	AML		
	comp=N,9085μm,1.0s						
FEMA	**Monte Fema**	**0.18**	**326**	P	Pg	00 52 20.8	+0.5
FEMA				S	Sg	00 52 24.2	+1.3
T1256	**Bolognola (MC)**	**0.19**	**9**	P	Pg	00 52 21.2	+0.6
T1256				S	Sg	00 52 24.6	+1.1
T1256				AML	AML		
	comp=E,3690μm,0.4s						

ASSB					AML	AML			
	comp=E,1320µm,1.4s								
ASSB					AML	AML			
	comp=N,1700µm,0.2s								
CESX	**Cesi**	**0.49**	**246**	P		Pg	00 52 26.4		+0.5

DDA ***14*** *00:53:18.9±0.0, 37°.44N×26°.68E, h7km±2km, ML2.0*
ISK ***14*** *00:53:19.3, 37°.49N×26°.69E, h6km, ML2.9/19*
THE ***14*** *00:53:19.9, 37°.47N×26°.72E, h8km±2km, ML2.1/3, Error ellipse: s-maj=2.9km s-min=1.0km az=31.0*
ATH ***14*** *00:53:20.1, 37°.53N×26°.71E, h20km±5km, ML2.3/4, Error ellipse: s-maj=5.4km s-min=1.2km az=59.0*

ISC 14 00:53:20.0±1.0, 37°.47N±0°.02×26°.70E±0°.02, h10km±9km, n55, σ0ᵗ74/75, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.26**	**25**	P	**Pg**	**00 53 25.0**	**-0.3**
SMG				S	**Sg**	**00 53 29.5**	**+0.6**
	1µm,0.4s						
SMG	**Samos**	**0.26**	**25**	P	**Pg**	**00 53 24.9**	**-0.4**
SMG				S	**Sg**	**00 53 28.9**	**+0.1**
SMG				AML	AML	00 53 29.8	
	comp=E,3170µm,0.4s						
SMG				AML	AML	00 53 30.2	
	comp=N,2398µm,0.4s						
DDIM	**Aydin, Didim**	**0.43**	**92**	P	**Pg**	**00 53 28.2**	**-0.3**
DDIM				S	**Sb**	**00 53 35.4**	**-0.9**
DDIM				*i* AML	AML	00 53 36.0	
	comp=N,82nm,0.6s						
DDIM				*i* AML	AML	00 53 40.0	
	comp=N,82nm,0.3s						
GCAM	**G?zelcaml?**	**0.48**	**61**	PG	**Pg**	**00 53 29.2**	**-0.2**
GCAM				SG	**Sb**	**00 53 36.6**	**-1.1**
GCAM	**G?zelcaml?**	**0.48**	**61**	P	**Pg**	**00 53 29.2**	**-0.2**
GCAM				S	**Sb**	**00 53 36.8**	**-0.9**
GCAM				*i* AML	AML	00 53 37.0	
	comp=N,167nm,0.3s						
GCAM				*i* AML	AML	00 53 41.0	
	comp=N,195nm,0.2s						
DGB	**zmir**	**0.60**	**14**	P	**Pg**	**00 53 31.1**	**-0.4**
DGB				S	**Sb**	**00 53 40.4**	**-0.7**
DGB				*i* AML	AML	00 53 42.0	
	comp=N,108nm,0.3s						
DGB				*i* AML	AML	00 53 43.0	
	comp=N,160nm,0.4s						
BODT	**Bodrum**	**0.64**	**130**	P	**Pg**	**00 53 30.6**	**-1.7**
BODT				S	**Sg**	**00 53 40.0**	**-0.6**
BDRM	**Kayabasi**	**0.72**	**124**	P	**Pg**	**00 53 32.9**	**-0.9**
BDRM				S	**Sg**	**00 53 43.1**	**-0.2**
BDRM				*i* AML	AML	00 53 46.0	
	comp=N,52nm,0.3s						
KOSK	**Kos Island**	**0.75**	**163**	PG	**Pg**	**00 53 34.7**	**+0.2**
KOSK				SG	**Sb**	**00 53 45.6**	**+0.2**
KOSK	**Kos Island**	**0.75**	**163**	P	**Pg**	**00 53 34.5**	**+0.1**
KOSK				S	**Sb**	**00 53 45.8**	**+0.4**
	comp=N,205nm,0.4s						
KOSK	**Kos Island**	**0.75**	**163**	P	**Pg**	**00 53 34.6**	**+0.1**
KOSK				S	**Sb**	**00 53 46.2**	**+0.8**
KOSK				AML	AML	00 53 47.8	
	comp=N,1023µm,0.4s						
KOSK				AML	AML	00 53 49.0	
	comp=E,1392µm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**0.78**	**349**	P	**Pg**	**00 53 34.5**	**-0.6**
ZEYE				S	**Sb**	**00 53 46.6**	**+0.2**
ZEYE				*i* AML	AML	00 53 48.0	
	comp=E,120nm,0.2s						
URLA	**Izmir**	**0.89**	**355**	PG	**Pg**	**00 53 35.9**	**-1.3**
URLA				SG	**Sg**	**00 53 48.9**	**+0.1**
NISR	**Nisiros**	**0.92**	**158**	P	**Pg**	**00 53 37.9**	**+0.2**
NIS1	**Nisyros Isl.**	**0.95**	**156**	PG	**Pg**	**00 53 38.2**	**0.0**
NIS1				SG	**Sn**	**00 53 52.4**	**-0.6**
NIS1	**Nisyros Isl.**	**0.95**	**156**	P	**Pb**	**00 53 38.7**	**+0.2**
NIS1				S	**Sb**	**00 53 51.7**	**+0.6**
NIS1	**Nisyros Isl.**	**0.95**	**156**	P	**Pg**	**00 53 38.4**	**+0.2**
BLCB	**Balcova**	**0.95**	**16**	PG	**Pg**	**00 53 37.9**	**-0.4**
BLCB	**Balcova**	**0.95**	**16**	P	**Pg**	**00 53 37.6**	**-0.7**
BLCB				S	**Sb**	**00 53 51.5**	**+0.2**
AYDN	**Tasoluk**	**0.96**	**78**	P	**Pg**	**00 53 37.7**	**-0.7**
AYDN				S	**Sg**	**00 53 51.0**	**+0.1**
AYDN				*i* AML	AML	00 53 55.0	
	comp=E,40nm,0.4s						
AYDN				*i* AML	AML	00 53 55.0	
	comp=E,21nm,0.2s						
APE	**Apeiranthos**	**1.01**	**247**	⇑P	Pn	00 53 52.2	+12
APE	**Apeiranthos**	**1.01**	**247**	PG	**Pg**	**00 53 39.2**	**-0.3**
APE	**Apeiranthos**	**1.01**	**247**	P	**Pg**	**00 53 38.7**	**-0.8**
APE				S	**Sg**	**00 53 52.8**	**+0.1**
	comp=E,45nm,0.2s						
APE	**Apeiranthos**	**1.01**	**247**	P	**Pg**	**00 53 38.7**	**-0.8**
APE				S	**Sb**	**00 53 53.2**	**+0.1**
APE				AML	AML	00 53 55.3	
	comp=E,76µm,0.2s						
APE				AML	AML	00 53 56.3	
	comp=N,103µm,0.2s						
DAT	**Datca**	**1.02**	**136**	PG	**Pg**	**00 53 39.3**	**-0.3**
DAT	**Datca**	**1.02**	**136**	P	**Pg**	**00 53 38.9**	**-0.7**
DAT				S	**Sg**	**00 53 52.9**	**0.0**
CHOS	**Chios island**	**1.05**	**331**	PG	**Pg**	**00 53 39.4**	**-0.7**
CHOS	**Chios island**	**1.05**	**331**	P	**Pg**	**00 53 39.4**	**-0.7**
CHOS	**Chios island**	**1.05**	**331**	P	**Pg**	**00 53 38.9**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**63**	PG	**Pg**	**00 53 40.2**	**-0.1**
YER	**Yerkesik**	**1.31**	**104**	PN	**Pb**	**00 53 44.8**	**+0.1**
YER	**Yerkesik**	**1.31**	**104**	P	**Pn**	**00 53 43.9**	**-0.5**
YER				S	**Sb**	**00 54 00.0**	**-1.5**
TURN	**Turunc**	**1.42**	**119**	PN	**Pb**	**00 53 46.4**	**-0.1**
SANT	**Santorini**	**1.48**	**223**	P	**Pn**	**00 53 47.2**	**+0.4**
THR3	**Thira Island,**	**1.48**	**225**	P	**Pb**	**00 53 47.3**	**-0.3**
THR6	**Thira Island,**	**1.52**	**224**	P	**Pb**	**00 53 48.3**	**0.0**
DALY	**Dalyan (Mula)**	**1.69**	**112**	PN	**Pb**	**00 53 50.9**	**-0.3**
ARG	**Arkhangelos**	**1.70**	**137**	PN	**Pb**	**00 53 50.5**	**-0.8**
PRK	**Paraskevi**	**1.80**	**349**	P	**Pn**	**00 53 51.2**	**+0.1**
PRK				S	**Sn**	**00 54 13.5**	**-0.6**
PRK	**Paraskevi**	**1.80**	**349**	P	**Pn**	**00 53 51.0**	**-0.1**
PRK				AML	AML	00 54 21.4	
	comp=N,124µm,0.6s						
PRK				AML	AML	00 54 21.7	
	comp=E,126µm,1.0s						
SIGR	**SIGRI**	**1.86**	**339**	PN	**Pn**	**00 53 52.3**	**+0.4**
SIGR	**SIGRI**	**1.86**	**339**	P	**Pn**	**00 53 50.9**	**-1.0**
APMY	**Acipayam-Denizli**	**2.07**	**89**	PN	**Pn**	**00 53 55.4**	**+0.5**
FETY	**Fethiye**	**2.08**	**113**	PN	**Pn**	**00 53 55.6**	**+0.6**
CAME	**Cameli-Denizli**	**2.14**	**103**	PN	**Pn**	**00 53 56.9**	**+0.9**
AKAS	**Kas**	**2.64**	**117**	PN	**Pn**	**00 54 03.9**	**+1.2**
GEDZ	**Gediz**	**2.65**	**53**	PN	**Pn**	**00 54 03.6**	**+0.7**
ELL	**Elmali**	**2.67**	**105**	PN	**Pn**	**00 54 04.3**	**+1.2**
BASM	**Basmaki-Afyon**	**2.69**	**79**	PN	**Pn**	**00 54 04.4**	**+0.9**
TVSB	**Tavsanli**	**2.93**	**47**	PN	**Pn**	**00 54 07.8**	**+1.0**
KORT	**Korkueli**	**2.95**	**98**	PN	**Pn**	**00 54 07.8**	**+0.7**
BCK	**Bucak**	**3.10**	**89**	PN	**Pn**	**00 54 10.2**	**+1.2**
SHUT	**Suhut-Afyon**	**3.23**	**69**	PN	**Pn**	**00 54 11.9**	**+1.0**
RZN	**Rozhen**	**4.48**	**341**	P	Pg	00 54 52.0	+6.2
JMB	**Yambol**	**4.99**	**359**	P	**Pb**	**00 54 50.0**	**+2.6**

NEIC ***14*** *00:54:20.9±1.5, 42°.35S±0°.03×173°.99E±0°.05, h10km±1km, mb4.6/8, Error ellipse: s-maj=7.6km s-min=2.9km az=305.0*
NOU ***14*** *00:54:20.6, 42°.43S×174°.08E, h6km, MLv5.2/10, Off E. Coast of S. Island, N.Z.*
IDC ***14*** *00:54:20.2±0.9, 42°.36S×173°.78E, h0km, mb4.5/6, mbtmp4.5/7, ML4.8/1, Error ellipse: s-maj=28.9km s-min=23.5km az=139.0*
WEL ***14*** *00:54:22.0±0.4, 42°.S±3'×17°.4E±', h11km±3km, M4.7/12, ML5.0/12, MLv4.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=123.7*

ISC 14 00:54:20.6±1.3, 42°.33S±0°.03×173°.97E±0°.03, h5km±8km, n187, σ1ᵗ23/205, mb4.5/11, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**255**	Pg	**Pg**	**00 54 27.8**	**+0.8**
KHZ	**Kahutara**	**0.33**	**255**	P	**Pg**	**00 54 28.0**	**+1.0**
KHZ				S	**Sg**	**00 54 32.2**	**+0.8**
CMWZ	**Cape Campbell**	**0.61**	**17**		**Pb**	**00 54 33.7**	**0.0**
CMWZ	**Cape Campbell**	**0.61**	**17**	P	**Pb**	**00 54 33.8**	**0.0**
BSWZ	**Blackbirch Sta**	**0.62**	**353**		**Pg**	**00 54 33.1**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.62**	**353**	P	**Pb**	**00 54 33.3**	**-0.6**
BSWZ				S	**Sb**	**00 54 42.2**	**-0.7**
TUWZ	**Tuamarina**	**0.90**	**359**		**Pb**	**00 54 38.4**	**-0.3**
TUWZ	**Tuamarina**	**0.90**	**359**	P	**Pb**	**00 54 38.7**	**0.0**
TUWZ				S	**Sn**	**00 54 51.6**	**-1.7**
GVZ	**Greta Valley S**	**0.94**	**227**		**Pg**	**00 54 39.5**	**+1.0**
GVZ	**Greta Valley S**	**0.94**	**227**	P	**Pb**	**00 54 40.3**	**+1.0**
GVZ				S	**Sn**	**00 54 54.2**	**-0.1**
THZ	**Tophouse**	**0.98**	**305**		**Pg**	**00 54 39.0**	**-0.3**
THZ	**Tophouse**	**0.98**	**305**	P	**Pg**	**00 54 38.9**	**-0.3**
THZ				S	**Sg**	**00 54 50.6**	**-1.3**
TCW	**Tory Channel**	**1.14**	**12**	P	**Pb**	**00 54 42.6**	**-0.2**
TCW				S	**Sn**	**00 54 58.3**	**-1.0**
SNZO	**South Karori**	**1.16**	**28**		**Pb**	**00 54 43.1**	**0.0**
SNZO	**South Karori**	**1.16**	**28**	P	**Pb**	**00 54 43.2**	**+0.1**
NNZ	**Nelson**	**1.20**	**338**		**Pg**	**00 54 43.3**	**-0.2**
NNZ	**Nelson**	**1.20**	**338**	P	**Pb**	**00 54 43.1**	**-0.7**
NNZ				S	**Sb**	**00 54 57.2**	**-2.3**
WEL	**Wellington**	**1.21**	**30**	P	**Pb**	**00 54 43.8**	**-0.1**
WEL				S	**Sn**	**00 55 00.5**	**-0.3**
PLWZ	**Palliser**	**1.22**	**52**		**Pn**	**00 54 44.0**	**-0.4**
PLWZ	**Palliser**	**1.22**	**52**	P	**Pn**	**00 54 44.0**	**-0.4**
AMCZ	**Amberley**	**1.29**	**229**	P	**Pn**	**00 54 45.2**	**0.0**
MRNZ	**Matariki Terra**	**1.30**	**315**	P	**Pg**	**00 54 45.3**	**-0.2**
MRNZ				S	**Sn**	**00 55 03.1**	**0.0**
MSWZ	**Moikau Station**	**1.32**	**47**		**Pn**	**00 54 45.1**	**-0.6**
MSWZ	**Moikau Station**	**1.32**	**47**	P	**Pn**	**00 54 45.1**	**-0.6**
LTZ	**Lake Taylor**	**1.33**	**250**		**Pn**	**00 54 45.5**	**-0.4**
LTZ	**Lake Taylor**	**1.33**	**250**	P	**Pn**	**00 54 45.4**	**-0.5**
LTZ				S	**Sb**	**00 55 02.4**	**-1.1**
PAWZ	**Paruwai Farm**	**1.44**	**49**	P	**Pn**	**00 54 46.6**	**-0.8**
CAW	**Cannon Point**	**1.47**	**34**	P	**Pn**	**00 54 47.3**	**-0.4**
CAW				S	**Sn**	**00 55 05.2**	**-2.2**
TKNZ	**Takaka Hill**	**1.50**	**329**	P	**Pb**	**00 54 48.5**	**-0.4**
TKNZ				S	**Sb**	**00 55 06.5**	**-1.9**
DUWZ	**D'Urville Isla**	**1.53**	**359**	P	**Pn**	**00 54 48.7**	**+0.1**
DUWZ				S	**Sb**	**00 55 07.7**	**-1.4**
OKCZ	**Okains Bay**	**1.54**	**205**	P	**Pn**	**00 54 48.5**	**-0.2**
TRWZ	**Traveller**	**1.59**	**55**	P	**Pn**	**00 54 48.5**	**-0.8**
KIW	**Kapiti Island**	**1.63**	**26**	P	**Pn**	**00 54 49.8**	**-0.1**
KIW				S	**Sn**	**00 55 09.3**	**-2.0**
MTW	**Mount Morrison**	**1.64**	**45**	P	**Pn**	**00 54 49.3**	**-0.8**
MQZ	**McQueen's Vall**	**1.68**	**215**		**Pn**	**00 54 50.0**	**-0.6**
MQZ	**McQueen's Vall**	**1.68**	**215**	P	**Pn**	**00 54 49.3**	**-1.3**
DSZ	**Denniston Nort**	**1.72**	**289**	Pn	**Pn**	**00 54 51.2**	**+0.1**
DSZ	**Denniston Nort**	**1.72**	**289**	P	**Pb**	**00 54 52.1**	**-0.5**
DSZ				S	**Sb**	**00 55 12.9**	**-1.6**
AKCZ	**Akaroa Harbour**	**1.72**	**206**	P	**Pn**	**00 54 50.9**	**-0.4**
OXZ	**Oxford**	**1.73**	**234**		**Pn**	**00 54 50.5**	**-0.8**
OXZ	**Oxford**	**1.73**	**234**	P	**Pn**	**00 54 50.3**	**-1.1**
OGWZ	**Otaki Gorge**	**1.76**	**31**	P	**Pn**	**00 54 51.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.84**	**39**	P	**Pn**	**00 54 52.4**	**-0.5**
QRZ	**Quartz Range**	**1.85**	**324**		**Pb**	**00 54 53.4**	**-1.5**
QRZ	**Quartz Range**	**1.85**	**324**	P	**Pb**	**00 54 54.1**	**-0.8**
QRZ				S	**Sb**	**00 55 17.1**	**-1.3**
TMWZ	**Te Maipa**	**1.89**	**50**	P	**Pn**	**00 54 52.4**	**-1.1**
INZ	**Inchbonnie**	**1.91**	**257**	P	**Pn**	**00 54 54.0**	**+0.3**
RACZ	**Rakaia**	**1.94**	**223**	P	**Pn**	**00 54 53.0**	**-1.1**
MRZ	**Mangatainoka R**	**2.06**	**36**		**Pn**	**00 54 55.4**	**-0.5**
MRZ	**Mangatainoka R**	**2.06**	**36**	P	**Pn**	**00 54 55.1**	**-0.8**
TIWZ	**Tintock**	**2.12**	**43**	P	**Pn**	**00 54 55.5**	**-1.2**
CPWZ	**Castlepoint**	**2.19**	**50**	P	**Pn**	**00 54 56.8**	**-0.8**
WACZ	**Wakanui South**	**2.24**	**223**	P	**Pn**	**00 54 57.3**	**-1.0**
PRWZ	**Pori Road**	**2.33**	**41**	P	**Pn**	**00 54 58.8**	**-0.8**
OHWZ	**Ohakea**	**2.35**	**26**	P	**Pn**	**00 55 00.9**	**+1.0**
POWZ	**Post Office Ro**	**2.36**	**36**	P	**Pn**	**00 54 59.4**	**-0.6**
BFZ	**Birch Farm**	**2.38**	**47**		**Pn**	**00 54 59.3**	**-0.9**
BFZ	**Birch Farm**	**2.38**	**47**	P	**Pn**	**00 54 59.5**	**-0.7**
BFZ	**Birch Farm**	**2.38**	**47**	P	**Pn**	**00 54 58.8**	**-1.4**
WWZ	**Waitaha Valley**	**2.50**	**252**	P	**Pn**	**00 55 01.7**	**-0.1**
RPZ	**Rata Peaks**	**2.55**	**236**	Pn	**Pn**	**00 55 01.2**	**-1.4**
	238nm,0.3s,baz=69,slow=4.6,SNR=52						
RPZ				Sn	**Sn**	**00 55 31.0**	**-2.9**
	160nm,0.3s,baz=201,slow=22,SNR=5.4						
	486nm,0.4s						
RPZ	**Rata Peaks**	**2.55**	**236**	Pn	**Pn**	**00 55 02.0**	**-0.6**
RPZ	**Rata Peaks**	**2.55**	**236**	P	**Pn**	**00 55 02.0**	**-0.6**
RPZ	**Rata Peaks**	**2.55**	**236**	P	**Pn**	**00 55 01.5**	**-1.0**
ARCZ	**Arundel**	**2.60**	**231**	P	**Pn**	**00 55 02.0**	**-1.4**
DVHZ	**Dannevirke**	**2.62**	**40**	P	**Pn**	**00 55 01.9**	**-1.7**
ANWZ	**Angora Road**	**2.66**	**46**	P	**Pn**	**00 55 02.6**	**-1.4**
WAZ	**Wanganui**	**2.69**	**17**	P	**Pn**	**00 55 06.4**	**+1.9**
TSZ	**Takapari Road**	**2.72**	**34**	P	**Pn**	**00 54 04.0**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.85**	**249**	P	**Pn**	**00 55 07.2**	**+0.5**
PRHZ	**Porangahau**	**2.88**	**45**	P	**Pn**	**00 55 05.3**	**-1.8**
LREZ	**Lake Rotokare**	**2.89**	**7**	P	**Pb**	**00 55 12.0**	**-0.5**
WPHZ	**Waipukurau**	**2.93**	**40**	P	**Pn**	**00 55 06.8**	**-1.1**
PNHZ	**Pukenui**	**2.94**	**36**	P	**Pn**	**00 55 06.7**	**-1.4**
TMZ	**Timaru**	**2.98**	**226**	P	**Pn**	**00 55 07.8**	**-0.7**
KHEZ	**Kahui Hut**	**3.04**	**1**	P	**Pn**	**00 55 11.5**	**+2.2**
KHEZ	**Kahui Hut**	**3.04**	**1**	P	**Pb**	**00 55 12.9**	**-2.3**
NEZ	**North Egmont**	**3.06**	**2**	P	**Pb**	**00 55 15.2**	**-0.4**
NBEZ	**Newall Road No**	**3.06**	**359**	P	**Pb**	**00 55 12.8**	**-2.8**
PKE	**Pukeiti**	**3.13**	**0**	P	**Pb**	**00 55 13.7**	**-3.1**
DREZ	**Durham Road**	**3.15**	**3**	P	**Pb**	**00 55 15.1**	**-1.9**
MTVZ	**Mangateitei**	**3.16**	**22**	P	**Pn**	**00 55 12.9**	**+1.9**
PXZ	**Pawanui**	**3.17**	**44**	P	**Pn**	**00 55 09.1**	**-1.9**
PKVZ	**Pokaka**	**3.21**	**19**	P	**Pn**	**00 55 12.9**	**+1.2**
MOVZ	**Moawhango**	**3.22**	**25**	P	**Pn**	**00 55 11.3**	**-0.5**
WNVZ	**Wahianoa**	**3.25**	**23**	P	**Pn**	**00 55 12.9**	**+0.6**
BHHZ	**Black Hill Sta**	**3.25**	**30**	P	**Pn**	**00 55 12.0**	**-0.3**
TRVZ	**Turoa**	**3.26**	**22**	P	**Pn**	**00 55 13.4**	**+0.8**
VRZ	**Vera Road**	**3.26**	**11**	P	**Pn**	**00 55 13.8**	**+1.4**
MHEZ	**Mangahewa**	**3.26**	**5**	P	**Pn**	**00 55 17.2**	**-1.8**
FOZ	**Fox Glacier**	**3.28**	**247**		**Pn**	**00 55 12.4**	**-0.2**
FOZ	**Fox Glacier**	**3.28**	**247**	P	**Pn**	**00 55 12.7**	**+0.1**
DRZ	**Dome Shelter**	**3.29**	**22**	P	**Pn**	**00 55 14.2**	**+1.3**
WHVZ	**Whangaehu Hut**	**3.29**	**22**	P	**Pn**	**00 55 13.3**	**+0.4**
FWVZ	**Far West T-bar**	**3.30**	**22**	P	**Pn**	**00 55 13.6**	**+0.5**
TUVZ	**Tukino**	**3.32**	**23**	P	**Pn**	**00 55 13.7**	**+0.5**
KAHZ	**Kahuranaki**	**3.35**	**42**	P	**Pn**	**00 55 11.6**	**-2.1**
NGZ	**Ngauruhoe**	**3.39**	**22**	P	**Pn**	**00 55 15.1**	**+0.8**
SNVZ	**South Ngauruho**	**3.39**	**23**	P	**Pn**	**00 55 14.7**	**+0.4**
OTVZ	**Oturere**	**3.42**	**23**	P	**Pn**	**00 55 15.1**	**+0.4**
NNVZ	**North Ngauruho**	**3.43**	**22**	P	**Pn**	**00 55 15.5**	**+0.6**
LBZ	**Lake Benmore**	**3.44**	**232**		**Pn**	**00 55 14.5**	**-0.3**
LBZ	**Lake Benmore**	**3.44**	**232**	P	**Pn**	**00 55 14.3**	**-0.6**
WTVZ	**West Tongariro**	**3.44**	**21**	P	**Pn**	**00 55 15.6**	**+0.7**
TWVZ	**Taurewa**	**3.44**	**19**	P	**Pn**	**00 55 15.6**	**+0.6**
KWHZ	**Kaweka Forest**	**3.45**	**33**	P	**Pn**	**00 55 13.9**	**-1.1**
ETVZ	**East Tongariro**	**3.46**	**23**	P	**Pn**	**00 55 15.7**	**+0.5**
TMVZ	**Te Maari**	**3.47**	**23**	P	**Pn**	**00 55 15.7**	**+0.3**
KRVZ	**Karewarewa**	**3.48**	**22**	P	**Pn**	**00 55 16.1**	**+0.7**
NTVZ	**North Tongarir**	**3.48**	**22**	P	**Pn**	**00 55 15.8**	**+0.3**
KATZ	**Kakaramea**	**3.60**	**22**	P	**Pn**	**00 55 19.1**	**+1.9**
ODZ	**Otahua Downs**	**3.63**	**221**		**Pn**	**00 55 16.2**	**-1.2**
ODZ	**Otahua Downs**	**3.63**	**221**	P	**Pn**	**00 55 16.5**	**-0.9**
ODZ	**Otahua Downs**	**3.63**	**221**	P	**Pn**	**00 55 16.4**	**-0.9**
RITZ	**Rihia Road**	**3.65**	**24**	P	**Pn**	**00 55 20.4**	**+2.8**
BKZ	**Black Stump Fm**	**3.70**	**32**		**Pb**	**00 55 29.2**	**+2.8**
BKZ	**Black Stump Fm**	**3.70**	**32**	P	**Pn**	**00 55 17.4**	**-1.1**
ARHZ	**Aropaoanui**	**3.83**	**38**	P	**Pn**	**00 55 19.3**	**-0.9**
WATZ	**Wairara**	**3.86**	**21**	P	**Pn**	**00 55 22.1**	**+1.4**
HIZ	**Hauiti**	**3.88**	**10**	Pn	**Pn**	**00 55 21.4**	**+0.6**
HIZ	**Hauiti**	**3.88**	**10**	P	**Pn**	**00 55 22.1**	**+1.3**
HIZ	**Hauiti**	**3.88**	**10**	P	**Pn**	**00 55 22.0**	**+1.2**
NMHZ	**Naumai**	**3.88**	**35**	P	**Pn**	**00 55 22.8**	**+1.8**
MRHZ	**Matea Rd**	**3.96**	**29**	P	**Pn**	**00 55 20.6**	**-1.5**
MTHZ	**Maungataniwha**	**4.11**	**33**	P	**Pn**	**00 55 23.5**	**-0.5**
RAHZ	**Arahi**	**4.16**	**36**	P	**Pn**	**00 55 24.7**	**0.0**
JCZ	**Jackson Bay**	**4.17**	**244**	P	**Pn**	**00 55 24.2**	**-0.7**
TLZ	**Tolley Road**	**4.17**	**17**	P	**Pn**	**00 55 25.4**	**+0.4**
ALRZ	**Allen Road**	**4.18**	**26**	P	**Pn**	**00 55 23.8**	**-1.2**
HHSZ	**Highcliff Hill**	**4.30**	**213**	P	**Pn**	**00 55 25.7**	**-1.0**
WKZ	**Wanaka**	**4.38**	**234**		**Pg**	**00 55 43.1**	**-1.3**
WKZ	**Wanaka**	**4.38**	**234**	P	**Pn**	**00 55 26.3**	**-1.4**
EAZ	**Earnscleugh**	**4.45**	**228**	P	**Pn**	**00 55 27.6**	**-1.1**
URZ	**Urewera**	**4.72**	**32**	P	**Pn**	**00 55 32.5**	**0.0**
TOZ	**Tahuroa Road**	**4.74**	**15**	P	**Pn**	**00 55 33.1**	**+0.4**
TUZ	**Tuapeka**	**4.78**	**219**	P	**Pn**	**00 55 32.7**	**-0.5**
MWZ	**Matawai**	**4.83**	**35**	P	**Pn**	**00 55 31.8**	**-2.2**
MSZ	**Milford Sound**	**4.98**	**240**	P	**Pn**	**00 55 37.9**	**+1.9**
TWGZ	**Tauwhareparae**	**5.16**	**38**	P	**Pn**	**00 55 38.3**	**-0.2**
RUGZ	**Raukumara Rang**	**5.21**	**34**	P	**Pn**	**00 55 36.4**	**-2.8**
MLZ	**Mavora Lakes**	**5.21**	**232**		**Pn**	**00 55 38.3**	**-0.8**
MLZ	**Mavora Lakes**	**5.21**	**232**	P	**Pn**	**00 55 38.2**	**-0.9**
AWAZ	**Awhitu Peninsu**	**5.29**	**6**	P	**Pn**	**00 55 41.2**	**+1.0**
MKAZ	**Moumakai**	**5.30**	**10**	P	**Pn**	**00 55 40.5**	**+0.1**
WTAZ	**Waiatarua**	**5.41**	**5**	P	**Pn**	**00 55 43.4**	**+1.5**
ETAZ	**East Tamaki Re**	**5.42**	**8**	P	**Pn**	**00 55 43.5**	**+1.4**
HAZ	**Te Kaha**	**5.43**	**34**	P	**Pn**	**00 55 40.8**	**-1.3**
PKGZ	**Pakihiroa**	**5.44**	**37**	P	**Pn**	**00 55 40.2**	**-2.2**
SYZ	**Scrubby Hill**	**5.44**	**218**	P	**Pn**	**00 55 42.2**	**-0.1**
SYZ	**Scrubby Hill**	**5.44**	**218**	P	**Pn**	**00 55 42.1**	**-0.2**
MBAZ	**Motutapu North**	**5.60**	**8**	P	**Pn**	**00 55 49.1**	**+4.5**
WIAZ	**Waiheke Island**	**5.61**	**10**	P	**Pn**	**00 55 45.5**	**+0.9**
MXZ	**Matakaoa Point**	**5.81**	**36**	Pn	**Pn**	**00 55 45.5**	**-1.9**
MXZ	**Matakaoa Point**	**5.81**	**36**	P	**Pn**	**00 55 45.0**	**-2.4**
DCZ	**Deep Cove**	**5.84**	**235**	Pn	**Pn**	**00 55 46.6**	**-1.1**
DCZ				Pg	**Pg**	**00 56 12.2**	**-0.1**
APZ	**The Paps**	**6.20**	**221**	P	**Pn**	**00 55 52.2**	**-0.6**
PYZ	**Puysegur Point**	**6.49**	**231**		**Pn**	**00 55 55.4**	**-1.3**
PYZ	**Puysegur Point**	**6.49**	**231**		**Pn**	**00 55 57.3**	**+0.6**
PYZ	**Puysegur Point**	**6.49**	**231**	P	**Pn**	**00 55 56.8**	**+0.2**
CTZ	**Chatham Island**	**7.04**	**105**	P	**Pn**	**00 56 03.4**	**-0.8**
CTZ	**Chatham Island**	**7.04**	**105**	P	**Pn**	**00 56 03.1**	**-1.1**
OUZ	**Omahuta**	**7.11**	**358**	P	**Pn**	00 56 09.9	+4.7
DZM	**Mont Dzumac**	**21.16**	**340**	P	**P**	**00 59 10.0**	**+3.3**
	20nm,0.9s,baz=160,slow=12,SNR=8.2						
MSVF	**Nonsavu**	**24.77**	**9**	P	**P**	**00 59 43.7**	**+0.4**
	2.1nm,0.5s,baz=180,slow=20,SNR=2.2						
	2.1nm,0.5s						
CTA	**Charters Tower**	**32.21**	**305**	P	**P**	**01 00 51.1**	**+1.4**
	8.0nm,1.0s,baz=152,slow=9.2,SNR=6.8						
	8.0nm,1.0s						
AS31	**Alice Springs**	**37.99**	**287**	P	**P**	**01 01 38.6**	**-1.0**
ASAR	**Alice Springs**	**37.99**	**287**	P	**P**	**01 01 37.8**	**-1.7**
	11nm,0.3s,baz=127,slow=6.6,SNR=11						
	11nm,0.3s						
FORT	**Forrest**	**38.22**	**272**	P	**P**	**01 01 40.3**	**-1.0**
WR0	**Warramunga Arr**	**39.97**	**292**	P	**P**	**01 01 55.5**	**-0.6**
WR0				IAmb	IAmb	01 01 58.2	
	comp=Z,6.7nm,0.8s						
WB2	**Warramunga Arr**	**40.11**	**291**	P	**P**	**01 01 56.1**	**-1.1**
WB2				IAmb	IAmb	01 01 59.4	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**40.12**	**291**	P	**P**	**01 01 55.7**	**-1.7**
	comp=Z,8.2nm,0.8s,baz=131,slow=7.6,SNR=23						
	com

KIW	Kapiti Island	1.82	33	P	Pn	00 59 00.3	+0.1
TRWZ	Traveller	1.85	58	P	Pn	00 58 59.7	-0.8
MTW	Mount Morrison	1.89	49	P	Pn	00 59 00.8	-0.3
OGWZ	Otaki Gorge	1.97	37	P	Pn	00 59 01.9	-0.3
WACZ	Wakanui South	2.01	220	P	Pn	00 59 02.2	-0.6
HOWZ	Holdsworth Sta	2.08	44	P	Pb	00 59 07.6	+0.9
TMWZ	Te Maipa	2.14	54	P	Pn	00 59 03.6	-1.0
WVZ	Waitaha Valley	2.22	251	P	Pn	00 59 06.0	+0.3
MRZ	Mangatainoka R	2.28	41	P	Pn	00 59 05.9	-0.7
RPZ	Rata Peaks	2.29	234	P	Pn	00 59 05.9	-0.7
PRWZ	Pori Road	2.56	45	P	Pb	00 59 14.6	-0.3
TMZ	Timaru	2.74	223	P	Pn	00 59 13.6	+0.7
DVHZ	Dannevirke	2.85	43	P	Pg	00 59 27.4	+3.6
ANWZ	Angora Road	2.90	49	P	Pg	00 59 30.0	+5.2
TSZ	Takapari Road	2.94	38	P	Pb	00 59 18.9	-2.5
NMEZ	Namu Road	3.00	4	P	Pg	00 59 24.9	-1.7
NBEZ	Newall Road No	3.14	4	P	Pg	00 59 27.5	-1.8
PNHZ	Pukenui	3.16	39	P	Pg	00 59 28.4	-1.3
WPHZ	Waipukurau	3.17	43	P	Pg	00 59 32.5	+2.6
PKE	Pukeiti	3.22	5	P	Pb	00 59 23.2	-3.0
MTVZ	Mangateitei	3.33	26	P	Pb	00 59 28.3	+0.2
MOVZ	Moawhango	3.41	29	P	Pn	00 59 22.1	+0.1
WNVZ	Wahianoa	3.42	27	P	Pn	00 59 23.4	+1.1
TRVZ	Turoa	3.43	26	P	Pn	00 59 23.3	+0.8
BHHZ	Black Hill Sta	3.45	33	P	Pb	00 59 31.4	+1.2
WHVZ	Whangaehu Hut	3.46	26	P	Pn	00 59 23.7	+0.7
FWVZ	Far West T-bar	3.47	26	P	Pb	00 59 32.2	+1.5
TUVZ	Tukino	3.50	27	P	Pb	00 59 32.6	+1.6
NGZ	Ngauruhoe	3.56	26	P	Pb	00 59 33.4	+1.2
SNVZ	South Ngauruho	3.56	26	P	Pn	00 59 25.1	+0.7
OTVZ	Oturere	3.59	26	P	Pb	00 59 31.0	-1.6
NNVZ	North Ngauruho	3.61	26	P	Pb	00 59 35.0	+2.2
WTVZ	West Tongariro	3.61	25	P	Pb	00 59 34.2	+1.2
ETVZ	East Tongariro	3.63	27	P	Pb	00 59 33.9	+0.6
KRVZ	Karewarewa	3.65	26	P	Pb	00 59 34.7	+1.2
TMVZ	Te Maari	3.65	27	P	Pb	00 59 35.2	+1.6
NTVZ	North Tongarir	3.66	26	P	Pn	00 59 26.7	+1.1
KWHZ	Kaweka Forest	3.66	37	P	Pb	00 59 35.6	+1.9
MCHZ	McNeill Hill	3.77	39	P	Pg	00 59 41.1	-0.3
KATZ	Kakaramea	3.77	26	P	Pb	00 59 37.0	+1.3
RITZ	Rihia Road	3.83	27	P	Pb	00 59 39.5	+3.0
BKZ	Black Stump Fm	3.91	35	P	Pb	00 59 39.2	+1.3
HATZ	Hinemaiaia	3.98	29	P	Pb	00 59 40.8	+1.5
WATZ	Wairara	4.03	24	P	Pb	00 59 41.6	+1.5
HHSZ	Highcliff Hill	4.10	211	P	Pn	00 59 30.5	-1.0
MRHZ	Matea Rd	4.16	32	P	Pb	00 59 44.1	+1.9
TLZ	Tolley Road	4.33	21	P	Pn	00 59 34.9	+0.2
AWAZ	Awhitu Peninsu	5.39	9	P	Pn	00 59 50.3	+1.1
MKAZ	Moumakai	5.43	13	P	Pn	00 59 49.9	+0.1
EAZ	East Tamaki Re	5.54	11	P	Pn	00 59 52.2	+0.9
MBAZ	Motutapu North	5.71	10	P	Pn	00 59 54.7	+1.0
WIAZ	Waiheke Island	5.73	12	P	Pn	00 59 54.8	+0.9
CTZ	Chatham Island	7.28	104	P	Pn	01 00 14.0	-1.1

WEL 14 00:59:00.9±0.6, **42°S**±3°×**17°4E**±°, **h10**km±5km, **M4.3**/38, **ML4.5**/6, **MLv4.3**/38, **Error ellipse: s-maj=0.0km s-min=0.0km az=147.9, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.05	193	P	Pg	00 59 03.7	+0.8
BSWZ	Blackbirch Sta	0.27	267	P	Pg	00 59 07.0	+0.7
BSWZ				S	Sb	00 59 11.7	-0.7
TUWZ	Tuamarina	0.35	322	P	Pb	00 59 08.6	-0.6
TUWZ				S	Sb	00 59 13.9	-0.8
TCW	Tory Channel	0.49	4	P	Pg	00 59 10.8	+0.4
TCW				S	Sb	00 59 18.1	-0.8
TCW	Tory Channel	0.49	4	S	Pg	00 59 10.6	+0.1
BHW	Baring Head	0.56	59	P	Pb	00 59 12.8	-0.1
BHW				S	Sb	00 59 21.4	+0.3
WEL	Wellington	0.58	44	P	Pb	00 59 13.0	-0.2
WEL	Wellington	0.58	44	S	Pb	00 59 13.4	+0.2
NNZ	Nelson	0.80	307	P	Pb	00 59 16.4	0.0
MSWZ	Moikau Station	0.82	70	P	Pb	00 59 17.8	+0.6
MSWZ				S	Sn	00 59 31.1	+0.3
CAW	Cannon Point	0.87	47	P	Pb	00 59 18.3	+0.2
CAW				S	Sb	00 59 32.1	+0.4
DUWZ	D'Urville Isla	0.93	345	P	Pg	00 59 18.9	+0.1
DUWZ				S	Sn	00 59 32.6	-0.9
PAWZ	Paruwai Farm	0.95	71	P	Pb	00 59 19.6	0.0
PAWZ				S	Sn	00 59 33.7	-0.4
KIW	Kapiti Island	0.98	32	P	Pb	00 59 20.1	0.0
KIW				S	Sn	00 59 34.0	-0.8
MTW	Mount Morrison	1.10	61	P	Pg	00 59 21.6	-0.4
MTW				S	Sn	00 59 38.0	+0.3
OGWZ	Otaki Gorge	1.13	39	P	Pn	00 59 22.9	0.0
TRWZ	Traveller	1.14	75	P	Pb	00 59 21.9	-0.8
HOWZ	Holdsworth Sta	1.26	51	P	Pn	00 59 24.0	-0.6
TMWZ	Te Maipa	1.38	65	P	Pn	00 59 25.2	-1.1
MRZ	Mangatainoka R	1.46	45	P	Pn	00 59 26.9	-0.4
QRZ	Quartz Range	1.55	304	S	Sb	00 59 50.1	+0.7
TIWZ	Tintock	1.55	54	P	Pn	00 59 27.9	-0.9
CPWZ	Castlepoint	1.68	63	P	Pg	00 59 35.5	+2.3
POWZ	Post Office Ro	1.75	42	P	Pn	00 59 30.0	-1.4
PRHZ	Porangahau	2.32	53	P	Pn	00 59 37.1	-2.1
PXZ	Pawanui	2.60	51	P	Pn	00 59 40.9	-2.2
KAHZ	Kahuranaki	2.77	47	P	Pn	00 59 43.5	-2.0

WEL 14 01:00:08.8±0.5, **42°S**±4°×**17°4E**±°, **h6**km±5km, **M4.1**/13, **ML4.4**/13, **MLv4.1**/13, **Error ellipse: s-maj=0.0km s-min=0.0km az=151.4, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.09	232	P	Pg	01 00 12.2	+1.3
BSWZ	Blackbirch Sta	0.33	266	P	Pg	01 00 15.5	+0.3
BSWZ				S	Sg	01 00 20.7	+1.1
TUWZ	Tuamarina	0.38	313	P	Pg	01 00 17.1	+0.9
TCW	Tory Channel	0.48	357	P	Pb	01 00 19.0	-0.7
BHW	Baring Head	0.51	56	P	Pb	01 00 19.6	-0.5
WEL	Wellington	0.53	40	P	Pb	01 00 20.1	-0.4
PLWZ	Palliser	0.72	80	P	Pg	01 00 23.0	+0.4
MSWZ	Moikau Station	0.76	69	P	Pb	01 00 24.4	0.0
CAW	Cannon Point	0.81	44	P	Pb	01 00 25.0	-0.4
KHZ	Kahutara	0.93	218	P	Pg	01 00 26.3	-0.3
KIW	Kapiti Island	0.94	29	P	Pg	01 00 27.2	+0.2
MTW	Mount Morrison	1.04	60	P	Pg	01 00 28.1	-0.6
THZ	Tophouse	1.06	266	P	Pg	01 00 28.9	-0.2
OGWZ	Otaki Gorge	1.09	37	P	Pg	01 00 29.6	-0.1
MRNZ	Matariki Terra	1.20	284	P	Pg	01 00 31.6	-0.3
TKNZ	Takaka Hill	1.21	302	P	Pg	01 00 31.7	-0.4
MRZ	Mangatainoka R	1.41	43	P	Pn	01 00 33.6	-1.4
LIRZ	Lichensteins R	4.01	24	P	Pn	01 01 10.9	0.0

*IDC **14** 01:03:20.5±1.2, 42°.31S×173°.33E, h0km, mb4.5/5, mbtmp4.5/6, ML4.6/1, Error ellipse: s-maj=38.4km s-min=26.5km az=67.0*
*WEL **14** 01:03:21.4±0.4, 42°S±2°×17°3E±°, h5km±2km, M4.5/9, ML4.7/9, MLv4.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2*

ISC 14 01:03:21.6±0.9, **42.40S**±0°.03×**173.41E**±0°.03, **h10**km±6km, **n98**, σ1°**72**/104, **mb4.5**/5, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.10	101	P	**Pg**	**01 03 24.3**	**+0.1**
KHZ				S	**Sg**	**01 03 27.0**	**+1.0**
GVZ	Greta Valley S	0.63	206	P	**Pg**	**01 03 34.3**	**+0.4**
GVZ				S	**Sb**	**01 03 44.6**	**+0.9**
THZ	Tophouse	0.74	329	P	**Pb**	**01 03 35.5**	**-1.1**
THZ				S	**Sb**	**01 03 45.7**	**-1.0**
BSWZ	Blackbirch Sta	0.77	27	P	**Pg**	**01 03 35.3**	**-1.1**
LTZ	Lake Taylor	0.92	245	P	**Pg**	**01 03 38.0**	**-1.4**
LTZ				S	**Sb**	**01 03 51.9**	**-0.2**
AMCZ	Amberley	0.96	215	P	**Pg**	**01 03 40.3**	**+0.3**
AMCZ				S	**Sn**	**01 03 55.1**	**+0.3**
TUWZ	Tuamarina	1.05	23	P	**Pg**	**01 03 40.8**	**-0.9**
MRNZ	Matariki Terra	1.11	334	P	**Pn**	**01 03 43.2**	**+0.1**
NNZ	Nelson	1.18	359	P	**Pn**	**01 03 44.3**	**+0.2**
OKCZ	Okains Bay	1.35	191	P	**Pn**	**01 03 45.4**	**-1.1**
TCW	Tory Channel	1.35	29	P	**Pn**	**01 03 45.5**	**-1.0**
DSZ	Denniston Nort	1.36	298	P	**Pg**	**01 03 46.8**	**-0.9**
OXZ	Oxford	1.37	227	P	**Pn**	**01 03 45.5**	**-1.3**
TKNZ	Takaka Hill	1.40	346	P	**Pg**	**01 03 47.9**	**-0.6**
MQZ	McQueen's Vall	1.42	203	P	**Pn**	**01 03 45.6**	**-1.9**
INZ	Inchbonnie	1.49	257	P	**Pn**	**01 03 48.2**	**-0.1**
WEL	Wellington	1.51	43	P	**Pn**	**01 03 48.4**	**-0.2**
AKCZ	Akaroa Harbour	1.52	194	P	**Pn**	**01 03 47.2**	**-1.6**
PLWZ	Palliser	1.61	60	P	**Pn**	**01 03 49.3**	**-0.8**
RACZ	Rakaia	1.62	215	P	**Pn**	**01 03 48.6**	**-1.6**
DUWZ	D'Urville Isla	1.64	14	P	**Pb**	**01 03 51.9**	**0.0**
MSWZ	Moikau Station	1.69	55	P	**Pn**	**01 03 50.3**	**-0.8**
QRZ	Quartz Range	1.70	337	P	**Pg**	**01 03 52.9**	**-1.3**
CAW	Cannon Point	1.79	44	P	**Pn**	**01 03 52.0**	**-0.5**
PAWZ	Paruwai Farm	1.82	57	P	**Pn**	**01 03 51.8**	**-1.1**
KIW	Kapiti Island	1.90	37	P	**Pn**	**01 03 54.2**	**+0.1**
WACZ	Wakanui South	1.92	216	P	**Pn**	**01 03 52.9**	**-1.4**
TRWZ	Traveller	1.97	60	P	**Pn**	**01 03 53.7**	**-1.4**
MTW	Mount Morrison	2.00	52	P	**Pn**	**01 03 54.1**	**-1.3**
OGWZ	Otaki Gorge	2.06	41	P	**Pn**	**01 03 55.8**	**-0.4**
WVZ	Waitaha Valley	2.08	250	P	**Pn**	**01 03 56.5**	**0.0**
RPZ	Rata Peaks	2.17	232	Pn	**Pn**	**01 03 56.5**	**-1.2**
RPZ	194nm,0.3s,baz=56,slow=1.1,SNR=22			Sn	**Sn**	**01 04 22.5**	**-2.2**
	127nm,0.3s,baz=150,slow=23,SNR=24 903nm,0.5s						
RPZ	Rata Peaks	2.17	232	P	**Pn**	**01 03 56.6**	**-1.2**
HOWZ	Holdsworth Sta	2.18	47	P	**Pb**	**01 04 00.4**	**-0.6**
ARCZ	Arundel	2.25	226	P	**Pn**	**01 03 57.5**	**-1.4**
TMWZ	Te Maipa	2.26	56	P	**Pn**	**01 03 57.5**	**-1.5**
MRZ	Mangatainoka R	2.38	44	P	**Pn**	**01 03 59.7**	**-1.0**
GCSZ	Gaunt Creek Bo	2.44	247	P	**Pn**	**01 04 02.6**	**+1.1**
CPWZ	Castlepoint	2.57	56	P	**Pn**	**01 04 04.1**	**+0.9**
OHWZ	Ohakea	2.62	34	P	**Pn**	**01 04 07.4**	**+0.1**
TMZ	Timaru	2.65	221	P	**Pn**	**01 04 04.2**	**-0.1**
PRWZ	Pori Road	2.66	47	P	**Pb**	**01 04 07.8**	**-1.6**
POWZ	Post Office Ro	2.68	42	P	**Pn**	**01 04 04.4**	**-0.3**
BFZ	Birch Farm	2.73	52	P	**Pn**	**01 04 03.8**	**-1.7**
FOZ	Fox Glacier	2.87	246	P	**Pn**	**01 04 08.8**	**+1.5**
WAZ	Wanganui	2.90	25	P	**Pb**	**01 04 13.3**	**0.0**
DVHZ	Dannevirke	2.95	46	P	**Pn**	**01 04 06.5**	**-2.0**
NMEZ	Namu Road	3.00	7	P	**Pb**	**01 04 14.1**	**-1.0**
LREZ	Lake Rotokare	3.03	15	P	**Pb**	**01 04 16.4**	**+0.8**
LBZ	Lake Benmore	3.08	229	P	**Pb**	**01 04 16.0**	**-0.4**
KHEZ	Kahui Hut	3.13	9	P	**Pb**	**01 04 18.0**	**+0.6**
NBEZ	Newall Road No	3.15	7	P	**Pb**	**01 04 15.8**	**-1.7**
PKE	Pukeiti	3.23	8	P	**Pb**	**01 04 16.8**	**-2.2**
ODZ	Otahua Downs	3.32	216	P	**Pn**	**01 04 12.1**	**-1.4**
VRZ	Vera Road	3.43	18	P	**Pb**	**01 04 20.8**	**-1.5**
PKVZ	Pokaka	3.44	26	P	**Pb**	**01 04 20.9**	**-1.7**
MOVZ	Moawhango	3.48	32	P	**Pn**	**01 04 18.5**	**+2.7**
WNVZ	Wahianoa	3.49	29	P	**Pn**	**01 04 19.2**	**+3.2**
TRVZ	Turoa	3.50	28	P	**Pb**	**01 04 20.6**	**-3.1**
PXZ	Pawanui	3.52	49	P	**Pn**	**01 04 20.2**	**+4.0**
WHVZ	Whangaehu Hut	3.52	29	P	**Pb**	**01 04 21.5**	**-2.7**
BHHZ	Black Hill Sta	3.53	36	P	**Pb**	**01 04 22.1**	**-2.1**
TUVZ	Tukino	3.56	29	P	**Pn**	**01 04 19.7**	**+2.7**
NGZ	Ngauruhoe	3.62	28	P	**Pn**	**01 04 21.7**	**+3.8**
SNVZ	South Ngauruho	3.63	29	P	**Pn**	**01 04 21.6**	**+3.6**
OTVZ	Oturere	3.66	29	P	**Pb**	**01 04 22.6**	**-3.8**
TWVZ	Taurewa	3.66	26	P	**Pn**	**01 04 21.9**	**+3.6**
WTVZ	West Tongariro	3.67	28	P	**Pb**	**01 04 24.8**	**-1.9**
ETVZ	East Tongariro	3.70	29	P	**Pn**	**01 04 21.5**	**+2.6**
KRVZ	Karewarewa	3.71	28	P	**Pb**	**01 04 25.3**	**-2.0**
TMVZ	Te Maari	3.71	29	P	**Pb**	**01 04 23.5**	**-3.9**
NTVZ	North Tongarir	3.72	28	P	**Pb**	**01 04 25.1**	**-2.3**
HHSZ	Highcliff Hill	4.03	209	P	**Pn**	**01 04 21.9**	**-1.4**
HIZ	Hauiti	4.04	16	P	**Pn**	**01 04 24.0**	**+0.6**
EAZ	Earnscleugh	4.10	225	P	**Pn**	**01 04 23.0**	**-1.4**
TLZ	Tolley Road	4.38	23	P	**Pn**	**01 04 31.5**	**+3.4**
TUZ	Tuapeka	4.47	216	P	**Pn**	**01 04 28.4**	**-1.0**
TOZ	Tahuroa Road	4.93	20	P	**Pn**	**01 04 37.1**	**+1.4**
SYZ	Scrubby Hill	5.14	215	P	**Pn**	**01 04 37.7**	**-0.9**
AWAZ	Awhitu Peninsu	5.41	11	P	**Pn**	**01 04 44.4**	**+2.1**
MKAZ	Moumakai	5.46	15	P	**Pn**	**01 04 44.4**	**+1.5**
WTAZ	Waiatarua	5.53	10	P	**Pn**	**01 04 46.9**	**+3.0**
ETAZ	East Tamaki Re	5.56	13	P	**Pn**	**01 04 46.3**	**+2.0**
MBAZ	Motutapu North	5.74	12	P	**Pn**	**01 04 49.1**	**+2.3**
WIAZ	Waiheke Island	5.75	14	P	**Pn**	**01 04 48.9**	**+1.9**
APZ	The Paps	5.88	219	P	**Pn**	**01 04 47.5**	**-1.3**
ABAZ	Army Bay	5.89	11	P	**Pn**	**01 04 50.9**	**+2.0**
PYZ	Puysegur Point	6.12	230	P	**Pn**	**01 04 51.8**	**-0.3**
CTZ	Chatham Island	7.43	104	P	**Pn**	**01 05 08.2**	**-1.7**
ASAR	Alice Springs	37.61	287	P	**P**	**01 10 36.8**	**+0.3**
	11nm,0.3s,baz=136,slow=9.1,SNR=3.9 11nm,0.3s						
WRA	Warramunga Arr	39.75	292	P	**P**	**01 10 54.2**	**-0.4**
	2.4nm,0.8s,baz=132,slow=7.6,SNR=10 2.4nm,0.8s						
QSPA	South Pole Qui	47.73	180	P	**P**	**01 12 00.1**	**+1.8**
	3.3nm,0.9s,baz=327,slow=2.3,SNR=5.5 3.3nm,0.9s						
SNAA	Sanae	66.21	181	P	**P**	**01 14 10.0**	**+0.9**
	3.8nm,1.0s,baz=277,slow=7.9,SNR=3.1 3.8nm,1.0s						
CMAR	Chiang Mai Arr	91.32	294	P	**P**	**01 16 28.0**	**+0.4**
	1.5nm,0.3s,baz=118,slow=2.9,SNR=5.9 1.5nm,0.3s						
KURBB	Kurchatov Arra	123.92	310	PKP	**PKPdf**	**01 22 17.6**	**-1.6**
	0.3nm,0.5s,baz=107,slow=2.2,SNR=2.8						
ARCES	ARCESS Array B	149.17	339	PKPbc	**PKPdf**	**01 23 05.1**	**+2.0**
	2.8nm,0.8s,baz=32,slow=3.6,SNR=4.1						
BRTR	Keskin Array B	149.74	279	PKPbc	**PKiKP**	**01 23 13.7**	**+1.2**
	2.0nm,0.8s,baz=147,slow=6.0,SNR=6.8						
FINES	FINESS Array B	152.72	326	PKPbc	**PKPbc**	**01 23 16.9**	**-0.6**
	2.1nm,0.9s,baz=35,slow=5.1,SNR=2.1						

WEL 14 01:05:47.5±0.8, **42°S**±3°×**17°4E**±°, **h11**km±4km, **M2.5**/5, **ML3.4**/5, **MLv2.5**/5, **Error ellipse: s-maj=0.0km s-min=0.0km az=32.4, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.12	88	S	Sg	01 05 53.8	+1.2
BSWZ	Blackbirch Sta	0.14	286	P	Pb	01 05 52.2	+0.1
BSWZ				S	Sg	01 05 55.6	+2.4
TUWZ	Tuamarina	0.34	345	P	Pb	01 05 55.1	-0.3
TUWZ				S	Sb	01 06 00.6	-0.2
TCW	Tory Channel	0.57	17	P	Pg	01 05 58.4	-0.2
TCW				S	Sg	01 06 06.4	+0.4
BHW	Baring Head	0.70	61	P	Pg	01 06 00.7	-0.4
BHW				S	Sb	01 06 12.6	+1.2
OGWZ	Otaki Gorge	1.26	42	P	Pn	01 06 10.5	-0.5
OGWZ				S	Sb	01 06 27.2	-0.1

*IDC **14** 01:06:43.8±2.9, 42°.26S×173°.75E, h0km, mb4.5/2, mbtmp4.5/3, ML4.4/1, Error ellipse: s-maj=66.5km s-min=36.5km az=127.0*
*NEIC **14** 01:06:45.4±1.6, 42°.30S±0°.04×173°.94E±0°.03, h19km±5km, mb4.1/3, ML4.2(WEL), Error ellipse: s-maj=5.7km s-min=3.0km az=171.0*
*WEL **14** 01:06:46.2±0.6, 42°S±4°×17°4E±°, h10km±3km, M4.2/11, ML4.5/11, MLv4.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=123.9*

ISC 14 01:06:45.1±1.2, **42.32S**±0°.03×**173.93E**±0°.04, **h14**km±8km, **n94**, σ1°**17**/106, **mb4.3**/4, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.31	252		**Pg**	**01 06 52.4**	**+0.9**
KHZ				Sg	**Sb**	**01 06 57.1**	**-0.2**
KHZ	Kahutara	0.31	252	P	**Pg**	**01 06 52.6**	**+1.1**
KHZ				S	**Sb**	**01 06 57.2**	**-0.1**
BSWZ	Blackbirch Sta	0.61	356	Pg	**Pg**	**01 06 56.7**	**-0.3**
BSWZ				Sg	**Sg**	**01 07 04.6**	**-0.4**
BSWZ	Blackbirch Sta	0.61	356	P	**Pg**	**01 06 57.1**	**+0.1**
BSWZ				S	**Sb**	**01 07 05.5**	**-0.4**
CMWZ	Cape Campbell	0.61	20	Pg	**Pb**	**01 06 58.5**	**+0.9**
CMWZ	Cape Campbell	0.61	20	P	**Pb**	**01 06 58.7**	**+1.2**
TUWZ	Tuamarina	0.89	1	Pg	**Pg**	**01 07 02.4**	**0.0**
TUWZ	Tuamarina	0.89	1	P	**Pg**	**01 07 02.6**	**+0.3**
TUWZ				S	**Sb**	**01 07 15.2**	**+1.1**
GVZ	Greta Valley S	0.93	225		**Pb**	**01 07 04.4**	**+1.4**
GVZ	Greta Valley S	0.93	225	P	**Pn**	**01 07 04.9**	**+1.1**
THZ	Tophouse	0.95	306		**Pg**	**01 07 02.6**	**-0.8**
THZ	Tophouse	0.95	306	P	**Pg**	**01 07 02.8**	**-0.7**
THZ				S	**Sg**	**01 07 14.5**	**-1.3**
TCW	Tory Channel	1.14	13	P	**Pb**	**01 07 06.8**	**+0.2**
TCW				S	**Sb**	**01 07 22.0**	**+0.7**
SNZO	South Karori	1.16	30		**Pb**	**01 07 06.9**	**-0.1**
NNZ	Nelson	1.18	339		**Pb**	**01 07 07.0**	**-0.2**
NNZ	Nelson	1.18	339	P	**Pb**	**01 07 06.8**	**-0.5**
NNZ				S	**Sn**	**01 07 23.7**	**+0.6**
WEL	Wellington	1.21	31	P	**Pb**	**01 07 08.2**	**+0.4**
WEL				S	**Sn**	**01 07 25.0**	**+1.2**
PLWZ	Palliser	1.24	53	Pn	**Pn**	**01 07 08.4**	**+0.3**
PLWZ	Palliser	1.24	53	P	**Pn**	**01 07 08.7**	**+0.5**
MRNZ	Matariki Terra	1.27	316	P	**Pn**	**01 07 08.8**	**+0.3**
LTZ	Lake Taylor	1.31	249		**Pn**	**01 07 08.8**	**-0.3**
LTZ	Lake Taylor	1.31	249	P	**Pn**	**01 07 09.5**	**+0.4**
LTZ				S	**Sb**	**01 07 26.8**	**+0.5**
MSWZ	Moikau Station	1.34	48	Pn	**Pn**	**01 07 09.7**	**+0.3**
CAW	Cannon Point	1.48	35	P	**Pn**	**01 07 11.7**	**+0.3**
DUWZ	D'Urville Isla	1.52	360	P	**Pn**	**01 07 13.2**	**+1.2**
OKCZ	Okains Bay	1.54	204	P	**Pn**	**01 07 13.2**	**+0.9**
TRWZ	Traveller	1.60	56	P	**Pn**	**01 07 12.8**	**-0.3**
KIW	Kapiti Island	1.63	27	P	**Pn**	**01 07 13.9**	**+0.5**
MTW	Mount Morrison	1.65	46	P	**Pn**	**01 07 13.9**	**+0.2**
MQZ	McQueen's Vall	1.67	214	Pn	**Pn**	**01 07 13.4**	**-0.6**
MQZ	McQueen's Vall	1.67	214	P	**Pn**	**01 07 14.0**	**0.0**
DSZ	Denniston Nort	1.69	289	P	**Pb**	**01 07 16.0**	**+0.1**
DSZ				S	**Sb**	**01 07 37.6**	**+0.6**
AKCZ	Akaroa Harbour	1.72	205	P	**Pn**	**01 07 15.3**	**+0.5**
OGWZ	Otaki Gorge	1.77	32	P	**Pn**	**01 07 15.6**	**+0.2**
QRZ	Quartz Range	1.83	324	Pn	**Pn**	**01 07 17.0**	**+0.9**
QRZ	Quartz Range	1.83	324	P	**Pn**	**01 07 17.5**	**+1.4**
INZ	Inchbonnie	1.88	257	P	**Pn**	**01 07 17.6**	**+0.7**
MRZ	Mangatainoka R	2.07	37	P	**Pn**	**01 07 19.9**	**+0.4**
WACZ	Wakanui South	2.23	223	P	**Pn**	**01 07 21.8**	**+0.1**
OHWZ	Ohakea	2.36	27	P	**Pn**	**01 07 25.9**	**+2.5**
POWZ	Post Office Ro	2.37	36	P	**Pn**	**01 07 24.1**	**+0.5**
WVZ	Waitaha Valley	2.47	251	P	**Pn**	**01 07 25.7**	**+0.7**
RPZ	Rata Peaks	2.53	236	Pn	**Pn**	**01 07 25.7**	**-0.2**
RPZ	89nm,0.3s,baz=90,slow=3.0,SNR=13			Sn	**Sn**	**01 07 55.4**	**-1.1**
	155nm,0.3s,baz=38,slow=21,SNR=36 222nm,0.3s						
RPZ	Rata Peaks	2.53	236	Pn	**Pn**	**01 07 25.4**	**-0.4**
RPZ	Rata Peaks	2.53	236	P	**Pn**	**01 07 25.9**	**0.0**
ARCZ	Arundel	2.59	230	P	**Pn**	**01 07 26.8**	**+0.1**
DVHZ	Dannevirke	2.63	41	P	**Pn**	**01 07 26.0**	**-1.2**
GCSZ	Gaunt Creek Bo	2.83	248	P	**Pn**	**01 07 31.2**	**+1.2**
PNHZ	Pukenui	2.95	36	P	**Pn**	**01 07 31.2**	**-0.5**
TMZ	Timaru	2.97	225	P	**Pn**	**01 07 32.2**	**+0.3**
MOVZ	Moawhango	3.22	26	P	**Pn**	**01 07 38.0**	**+2.6**
WNVZ	Wahianoa	3.25	23	P	**Pb**	**01 07 41.0**	**-1.7**
VRZ	Vera Road	3.25	11	P	**Pn**	**01 07 37.8**	**+2.1**
TRVZ	Turoa	3.26	23	P	**Pb**	**01 07 41.5**	**-1.4**
DRZ	Dome Shelter	3.28	23	P	**Pb**	**01 07 41.1**	**-2.3**
WHVZ	Whangaehu Hut	3.29	23	P	**Pb**	**01 07 40.9**	**-2.4**
FWVZ	Far West T-bar	3.30	22	P	**Pb**	**01 07 42.8**	**-0.8**
TUVZ	Tukino	3.32	24	P	**Pn**	**01 07 40.1**	**+3.3**
SNVZ	South Ngauruho	3.39	23	P	**Pn**	**01 07 40.3**	**+2.5**
OTVZ	Oturere	3.42	23	P	**Pn**	**01 07 41.4**	**+3.3**
LBZ	Lake Benmore	3.42	232	Pn	**Pn**	**01 07 37.6**	**-0.5**
LBZ	Lake Benmore	3.42	232	P	**Pn**	**01 07 38.3**	**+0.2**
NNVZ	North Ngauruho	3.43	22	P	**Pb**	**01 07 44.9**	**-0.9**
TWVZ

MOZ	McQueen's Vall	1.29	199	P		Pn	01 11 46.9	-2.5
MOZ				S		Sg	01 12 03.8	-2.4
DSZ	Denniston Nort	1.29	304	P		Pb	01 11 49.6	0.0
DSZ				S		Sn	01 12 08.3	+1.1
INZ	Inchbonnie	1.34	259	P		Pn	01 11 49.9	-0.1
INZ				S		Sb	01 12 07.8	0.0
AKCZ	Akaroa Harbour	1.41	189	P		Pn	01 11 49.2	-1.8
AKCZ				S		Sb	01 12 06.8	-2.8
TKNZ	Takaka Hill	1.47	352	P		Pg	01 11 52.7	-0.1
TKNZ				S		Sg	01 12 12.1	+0.4
RACZ	Rakaia	1.48	212	P		Pn	01 11 50.2	-1.8
RACZ				S		Sn	01 12 09.3	-2.3
TCW	Tory Channel	1.50	32	P		Pg	01 11 53.2	-0.1
WEL	Wellington	1.66	44	P		Pn	01 11 54.8	+0.3
WEL				S		Sb	01 12 16.9	-0.1
QRZ	Quartz Range	1.74	342	P		Pg	01 11 57.7	-0.3
QRZ				S		Sg	01 12 20.2	-0.4
DUWZ	D'Urville Isla	1.76	17	P		Pn	01 11 56.6	+0.7
WACZ	Wakanui South	1.78	214	P		Pn	01 11 54.3	-1.7
WACZ				S		Sn	01 12 15.6	-3.4
MSWZ	Moikau Station	1.85	55	P		Pn	01 11 53.3	-3.7
WVZ	Waitaha Valley	1.93	251	P		Pn	01 11 57.8	-0.3
CAW	Cannon Point	1.94	46	P		Pn	01 11 55.2	-3.2
PAWZ	Paruwai Farm	1.98	57	P		Pn	01 11 56.8	-2.1
RPZ	Rata Peaks	2.01	232	P		Pn	01 11 58.1	-1.2
KIW	Kapiti Island	2.05	38	P		Pn	01 11 57.7	-2.2
ARCZ	Arundel	2.09	225	P		Pn	01 11 58.8	-1.6
OGWZ	Otaki Gorge	2.21	42	P		Pn	01 12 00.2	-1.9
GCSZ	Gaunt Creek Bo	2.29	248	P		Pn	01 12 03.0	-0.1
TMZ	Timaru	2.49	220	P		Pn	01 12 04.9	-1.1
MRZ	Mangatainoka R	2.54	45	P		Pn	01 12 06.0	-0.5
FOZ	Fox Glacier	2.71	226	P		Pn	01 12 09.1	+0.2
LBZ	Lake Benmore	2.92	228	P		Pn	01 12 10.9	-0.9
DVHZ	Dannevirke	3.11	46	P		Pn	01 12 12.9	-1.5
ODZ	Otahua Downs	3.17	215	P		Pn	01 12 13.3	-1.9
KHEZ	Kahui Hut	3.24	11	P		Pb	01 12 20.2	-2.6
NBEZ	Newall Road No	3.25	9	P		Pn	01 12 19.3	+3.0
PKE	Pukeiti	3.34	10	P		Pn	01 12 20.5	+2.9
PNHZ	Pukenui	3.41	42	P		Pn	01 12 17.2	-1.4
VRZ	Vera Road	3.55	20	P		Pn	01 12 22.9	+2.4
WNVZ	Wahianoa	3.63	30	P		Pn	01 12 22.9	+1.2
FWVZ	Far West T-bar	3.68	29	P		Pn	01 12 23.4	+0.9
BHHZ	Black Hill Sta	3.68	37	P		Pn	01 12 25.3	+3.0
NGZ	Ngauruhoe	3.76	29	P		Pn	01 12 24.5	+1.0
OTVZ	Oturere	3.80	30	P		Pn	01 12 26.3	+2.3
NNVZ	North Ngauruho	3.81	29	P		Pn	01 12 25.7	+1.6
ETVZ	East Tongariro	3.84	30	P		Pn	01 12 25.5	+0.9
HHSZ	Highcliff Hill	3.89	208	P		Pn	01 12 22.9	-2.2
BKZ	Black Stump Fm	4.14	38	P		Pn	01 12 29.2	+0.6
HIZ	Hauiti	4.16	19	P		Pn	01 12 30.8	+2.0
TLZ	Tolley Road	4.51	24	P		Pn	01 12 36.1	+2.4
TOZ	Tahuroa Road	5.06	21	P		Pn	01 12 42.1	+0.9
AWAZ	Awhitu Peninsu	5.52	12	P		Pn	01 12 49.3	+1.7
MKAZ	Moumakai	5.58	16	P		Pn	01 12 49.4	+1.1
ETAZ	East Tamaki Re	5.68	14	P		Pn	01 12 51.3	+1.6
WIAZ	Waiheke Island	5.87	15	P		Pn	01 12 54.2	+1.8

WEL 14 01:15:44.0±0.4, 42°S±2°×17°4E±°, h8km±2km, M3.8/14, ML4.2/14, MLv3.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=174.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.08	118	P	Pg	01 15 47.2	+1.0
BSWZ	Blackbirch Sta	0.18	269	P	Pg	01 15 48.9	+1.1
BSWZ				S	Sg	01 15 52.5	+2.1
TUWZ	Tuamarina	0.31	335	P	Pb	01 15 51.5	-0.3
TUWZ				S	Sb	01 15 56.9	-0.1
TCW	Tory Channel	0.51	13	P	Pb	01 15 54.7	-0.6
TCW				S	Sb	01 16 02.1	-0.7
BHW	Baring Head	0.64	62	P	Pg	01 15 56.9	+0.5
BHW				S	Sb	01 16 06.9	+0.4
WEL	Wellington	0.65	49	P	Pb	01 15 57.2	-0.3
WEL				S	Sb	01 16 06.8	+0.1
NNZ	Nelson	0.74	311	P	Pb	01 15 59.2	0.0
NNZ				S	Sg	01 16 07.9	-0.1
PLWZ	Palliser	0.86	81	P	Pg	01 16 00.6	0.0
PLWZ				S	Sb	01 16 13.8	+0.9
MSWZ	Moikau Station	0.90	71	P	Pg	01 16 01.5	+0.2
MSWZ				S	Sb	01 16 14.7	+0.8
THZ	Tophouse	0.91	266	P	Pb	01 16 02.0	-0.1
THZ				S	Sb	01 16 14.6	+0.3
DUWZ	D'Urville Isla	0.92	351	P	Pb	01 16 02.0	-0.2
DUWZ				S	Sb	01 16 14.9	+0.3
CAW	Cannon Point	0.93	50	P	Pb	01 16 02.2	-0.2
CAW				S	Sb	01 16 15.7	+0.8
PAWZ	Paruwai Farm	1.03	72	P	Pg	01 16 03.2	-0.6
PAWZ				S	Sb	01 16 18.4	+0.5
KIW	Kapiti Island	1.04	35	P	Pg	01 16 03.8	-0.1
KIW				S	Sb	01 16 18.4	+0.5
MRNZ	Matariki Terra	1.07	287	P	Pn	01 16 05.3	+0.1
MRNZ				S	Sn	01 16 19.9	-0.4
TKNZ	Takaka Hill	1.10	307	P	Pg	01 16 04.0	-1.2
TKNZ				S	Sg	01 16 19.7	+0.1
MTW	Mount Morrison	1.18	62	P	Pg	01 16 20.3	-1.3
MTW				S	Sg	01 16 21.0	-0.8
OGWZ	Otaki Gorge	1.19	42	P	Pb	01 16 06.5	-0.4
OGWZ				S	Sg	01 16 22.0	-0.4
TRWZ	Traveller	1.22	76	P	Pb	01 16 05.3	-2.0
HOWZ	Holdsworth Sta	1.33	53	P	Pn	01 16 07.6	-1.2
HOWZ				S	Sb	01 16 25.4	-0.9
TMWZ	Te Maipa	1.46	66	P	Pn	01 16 08.9	-1.8
TMWZ				S	Sn	01 16 28.6	-1.4
MRZ	Mangatainoka R	1.52	47	P	Pn	01 16 10.4	-1.1
MRZ				S	Sn	01 16 29.5	-1.9
TIWZ	Tintock	1.63	56	P	Pn	01 16 11.5	-1.5
TIWZ				S	Sn	01 16 32.5	-1.6
OHWZ	Ohakea	1.75	31	P	Pb	01 16 15.7	-0.8
CPWZ	Castlepoint	1.76	64	P	Pg	01 16 18.3	+0.6
POWZ	Post Office Ro	1.81	44	P	Pn	01 16 14.7	-0.8
PRWZ	Pori Road	1.81	51	P	Pn	01 16 13.9	-1.6
PRWZ				S	Sn	01 16 37.6	-1.0
BFZ	Birch Farm	1.91	58	P	Pn	01 16 15.3	-1.5
BFZ				S	Sn	01 16 38.6	-2.3
WAZ	Wanganui	2.06	19	P	Pb	01 16 22.6	+0.9
DVHZ	Dannevirke	2.10	48	P	Pn	01 16 17.3	-2.1
DVHZ				S	Sn	01 16 43.0	-2.6
TSZ	Takapari Road	2.16	41	P	Pn	01 16 19.2	-1.1
ANWZ	Angora Road	2.17	56	P	Pn	01 16 18.4	-2.1
ANWZ				S	Sn	01 16 45.2	-2.4
LREZ	Lake Rotokare	2.26	6	P	Pb	01 16 25.3	+0.2
NMEZ	Namu Road	2.30	355	P	Pg	01 16 28.0	-0.2
PRHZ	Porangahau	2.39	54	P	Pn	01 16 20.6	-2.8
PNHZ	Pukenui	2.39	42	P	Pn	01 16 21.9	-1.6
WPHZ	Waipukurau	2.41	48	P	Pn	01 16 22.4	-1.3
KHEZ	Kahui Hut	2.42	358	P	Pb	01 16 28.1	+0.4
NEZ	North Egmont	2.44	360	P	Pb	01 16 28.4	+0.3
NBEZ	Newall Road No	2.45	355	P	Pb	01 16 28.0	-0.2
PKE	Pukeiti	2.52	358	P	Pb	01 16 30.1	+0.7
DREZ	Durham Road	2.52	1	P	Pn	01 16 26.6	+1.4
MOVZ	Moawhango	2.62	29	P	Pn	01 16 26.2	-0.4
VRZ	Vera Road	2.63	11	P	Pn	01 16 29.4	-1.9
WNVZ	Wahianoa	2.63	26	P	Pn	01 16 30.5	-1.0
TRVZ	Turoa	2.64	25	P	Pn	01 16 31.3	-0.4
BHHZ	Black Hill Sta	2.67	34	P	Pb	01 16 31.8	-0.2
DRZ	Dome Shelter	2.67	25	P	Pb	01 16 33.1	+0.8
PXZ	Pawanui	2.67	52	P	Pn	01 16 24.5	-2.8
WHVZ	Whangaehu Hut	2.67	25	P	Pb	01 16 30.8	-1.4
FWVZ	Far West T-bar	2.69	24	P	Pb	01 16 30.9	-1.6
TUVZ	Tukino	2.71	26	P	Pb	01 16 32.6	-0.1
NGZ	Ngauruhoe	2.77	25	P	Pb	01 16 33.6	-0.3
SNVZ	South Ngauruho	2.78	25	P	Pb	01 16 32.3	-1.6
OTVZ	Oturere	2.81	25	P	Pb	01 16 34.2	-0.2
TWVZ	Taurewa	2.82	21	P	Pb	01 16 35.2	+0.5
WTVZ	West Tongariro	2.83	24	P	Pb	01 16 34.6	-0.1
KAHZ	Kahuranaki	2.84	48	P	Pn	01 16 27.4	-2.2
KRVZ	Karewarewa	2.86	24	P	Pb	01 16 35.4	+0.1
TMVZ	Te Maari	2.86	26	P	Pb	01 16 35.0	-0.4
NTVZ	North Tongarir	2.87	25	P	Pn	01 16 30.6	+0.5
HIZ	Hauiti	3.24	10	P	Pb	01 16 39.0	-2.9
MRHZ	Matea Rd	3.37	32	P	Pn	01 16 35.0	-1.9
TOZ	Tahuroa Road	4.12	15	P	Pb	01 16 52.3	-4.3
JCZ	Jackson Bay	4.58	237	P	Pn	01 16 56.8	+3.2
WMGZ	Waiomatatini S	5.10	42	P	Pn	01 17 05.2	+4.4

WEL 14 01:17:06.8±0.3, 42°S±2°×17°4E±°, h5km, M3.3/10, ML3.6/10, MLv3.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=136.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	194	P	Pg	01 17 09.2	+0.9
BSWZ	Blackbirch Sta	0.27	265	P	Pg	01 17 12.4	+0.4
BSWZ				S	Sg	01 17 16.9	+1.4
TUWZ	Tuamarina	0.34	320	P	Pg	01 17 14.3	+0.9
TUWZ				S	Sb	01 17 19.8	-1.3
TCW	Tory Channel	0.48	4	P	Pg	01 17 16.4	+0.3
TCW				S	Sb	01 17 23.8	-1.4
BHW	Baring Head	0.56	60	P	Pg	01 17 18.1	+0.6
WEL	Wellington	0.57	45	P	Pb	01 17 18.6	-0.7
WEL				S	Sb	01 17 26.7	-1.0
NNZ	Nelson	0.80	306	P	Pg	01 17 22.2	+0.1
MSWZ	Moikau Station	0.81	70	P	Pb	01 17 23.1	-0.3
CAW	Cannon Point	0.86	47	P	Pg	01 17 23.5	+0.3
KHZ	Kahutara	0.89	215	P	Pg	01 17 23.9	0.0
MTW	Mount Morrison	1.09	61	P	Pg	01 17 26.9	-0.9
MTW				S	Sb	01 17 42.7	0.0
OGWZ	Otaki Gorge	1.12	39	P	Pg	01 17 28.3	-0.1

IDC 14 01:22:40.5±0.6, 11°.50N×125°.72E, h0km, mb4.2/18, mbtmp4.2/18, Error ellipse: s-maj=27.7km s-min=13.2km az=75.0

MAN 14 01:22:45.7, 11°.54N×125°.70E, h11km, mb5.0, ML3.9, MS4.0

ISC 14 01:22:42.6±2.0, 11°.57N±0°.03×125°.86E±0°.05, h11km±12km, n48, σ1s80/60, mb4.2/18, 11C-14D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	1.33	247	eP	Pb	01 23 07.6	+0.1
OCLP				eS	Sg	01 23 23.5	-1.9
CNP	Catarman	1.49	309	eP	Pn	01 23 10.1	+0.7
CNP				eS	Sg	01 23 30.5	-0.2
MSLP	Maasin	1.73	214	eP	Pb	01 23 15.2	+0.7
MSLP				eS	Sg	01 23 39.2	+0.8
GLSP	General Luna,	1.80	171	eP	Pn	01 23 14.2	+0.6
SCPH	Surigao	1.82	191	eP	Pn	01 23 15.7	+1.9
SCPH				eS	Sn	01 23 37.5	+0.7
LLP	Lapu-Lapu	2.24	236	eP	Pn	01 23 21.0	+1.4
LLP				eS	Sg	01 23 52.5	-2.1
MMPH	Masbate	2.32	290	iP	Pn	01 23 22.1	+1.4
MMPH				iS	Sn	01 23 50.0	+0.8
PVCP	Virac	2.61	321	eP	Pn	01 23 29.0	+4.3
PVCP				eS	Sb	01 24 02.4	+1.0
TBP	Tagbilaran	2.71	227	eP	Pn	01 23 28.5	+2.4
TBP				iS	Sb	01 24 04.7	+0.3
RCP	Roxas	3.05	270	eP	Pn	01 23 32.2	+1.4
RCP				eS	Sn	01 24 06.3	-1.0
CGP	Cagayan de Oro	3.30	200	eP	Pn	01 23 37.8	+3.5
CGP				eS	Sn	01 24 15.5	+1.9
GUIM	Jordan	3.34	254	eP	Pn	01 23 36.3	+1.5
GUIM				eS	Sn	01 24 15.3	+0.8
SNPH	Sibulan	3.40	230	iP	Pn	01 23 37.8	+2.1
SNPH				iS	Sn	01 24 03.7	-12
BIPH	Bislig	3.40	172	eP	Pn	01 23 36.0	+0.3
BIPH				iS	Sn	01 24 07.3	-8.8
AUQP	San Andres	3.56	300	eP	Pn	01 23 41.8	+4.0
CNOP	Candoni, Negro	3.60	242	eP	Pn	01 23 39.6	+1.2
CNOP				eS	Sn	01 24 20.4	-0.6
BUKP	Musuan	3.75	192	eP	Pn	01 23 43.8	+3.3
OTRP	Odiongan	3.83	282	eP	Pn	01 23 42.7	+1.1
DCPH	Dipolog City	3.86	220	eP	Pn	01 23 43.8	+1.9
JCNP	Jose Panganiba	4.09	312	eP	Pn	01 23 47.5	+2.4
PAGZ	Pagadian	4.43	214	eP	Pn	01 23 52.4	+2.6
PAGZ				eS	Sn	01 24 46.0	+4.6
KCP	Kidapawan	4.60	190	eP	Pn	01 23 53.1	+3.9
KCP	Kidapawan	4.60	190	eP	Pb	01 24 02.7	-0.7
SJMP	San Jose	4.72	281	eP	Pn	01 23 56.0	+2.3
LQP	Lukban	4.91	301	eP	Pn	01 23 57.9	+1.3
DDMP	Don Marcelino,	5.43	182	eP	Pn	01 24 05.6	+1.9
SMPP	San Manuel, Pa	6.78	313	eP	Pn	01 24 24.2	+2.1
KSRS	Korea Array 3.3nm,0.8s,baz=181,slow=10,SNR=10 3.3nm,0.8s	25.84	4	P	P	01 28 14.9	+0.9
CMAR	Chiang Mai Arr 0.9nm,0.3s,baz=101,slow=7.8,SNR=7.8 0.9nm,0.3s	26.86	288	P	P	01 28 22.8	-0.7
WRA	Warramunga Arr 0.4nm,0.5s,baz=346,slow=9.3,SNR=5.3	32.41	165	P	P	01 29 11.5	-1.3
WRA				PcP	PcP	01 31 59.2	-1.0
	0.9nm,0.7s,baz=341,slow=3.0,SNR=6.7 0.4nm,0.5s						
ASAR	Alice Springs 0.6nm,0.4s,baz=349,slow=7.1,SNR=10	35.90	167	P	P	01 29 42.9	-0.1
ASAR				PcP	PcP	01 32 08.9	-1.2
	0.8nm,0.7s,baz=339,slow=2.3,SNR=6.0 0.6nm,0.4s						
SONM	Songino Array 0.9nm,0.5s,baz=158,slow=9.9,SNR=8.1 0.9nm,0.5s	39.66	339	P	P	01 30 14.5	-0.2
H11N1	WAKE ISLAND Hy baz=265,slow=75,SNR=46	40.25	73	T	T	02 13 39.9	
H11N2	WAKE ISLAND Hy baz=265,slow=75,SNR=41	40.26	73	T	T	02 13 44.0	
H11N3	WAKE ISLAND Hy baz=265,slow=75,SNR=41	40.27	73	T	T	02 13 41.1	
NWAO	Narrogin (SRO) 2.4nm,0.6s,baz=301,slow=13,SNR=1.2 2.4nm,0.6s	45.01	190	P	P	01 30 57.3	-0.9
STKA	Stephens Creek 1.6nm,0.5s,baz=330,slow=9.7,SNR=6.7 1.6nm,0.5s	45.76	161	P	P	01 31 03.9	-0.3
PETK	Petropavlovsk- 2.2nm,0.5s,baz=219,slow=5.0,SNR=6.9 2.2nm,0.5s	48.63	25	P	P	01 31 28.1	+1.7
MKAR	Makanchi Array 4.4nm,0.6s,baz=102,slow=7.9,SNR=27 4.4nm,0.6s	50.75	322	P	P	01 31 43.0	+0.3
ZALV	Zalesovo Beam 0.5nm,0.3s,baz=90,slow=8.9,SNR=3.9 0.5nm,0.3s	53.30	331	P	P	01 32 00.8	-0.6
BVAR	Borovoye Array 2.6nm,0.8s,baz=134,slow=6.5,SNR=12 2.6nm,0.8s	60.37	325	P	P	01 32 51.5	-0.2
NRIK	Noril'sk 2.9nm,0.6s,baz=160,slow=3.6,SNR=5.7 2.9nm,0.6s	62.66	346	P	P	01 33 06.6	-0.2
ARU	Arti 2.7nm,0.5s,baz=157,slow=3.6,SNR=9.7 2.7nm,0.5s	67.92	326	P	P	01 33 40.5	-0.8
ILAR	Eielson Array 0.9nm,0.7s,baz=233,slow=5.9,SNR=9.6 0.9nm,0.7s	78.45	26	P	P	01 34 43.4	0.0
ARCES	ARCESS Array B 3.0nm,0.7s,baz=66,slow=6.8,SNR=11 3.0nm,0.7s	82.84	340	P	P	01 35 06.5	-0.3
INK	Inuvik 1.1nm,0.7s,baz=292,slow=4.4,SNR=7.8 1.1nm,0.7s	83.23	22	P	P	01 35 08.7	-0.1
FINES	FINESS Array B 1.9nm,0.5s,baz=74,slow=4.8,SNR=15 1.9nm,0.5s	84.56	332	P	P	01 35 14.9	-0.8
AKASG	Malin Array Be 1.1nm,0.7s,baz=66,slow=4.8,SNR=4.4 1.1nm,0.7s	85.30	321	P	P	01 35 18.0	-1.7

WEL 14 01:23:39.9±0.5, 42°S±2°×17°4E±°, h6km±5km, M4.1/8, ML4.3/8, MLv4.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.20	183	P	Pg	01 23 44.2	+0.3
KHZ				S	Sg	01 23 47.4	+0.9
BSWZ	Blackbirch Sta	0.56	26	P	Pg	01 23 51.1	+0.5
BSWZ				S	Sb	01 23 59.4	-1.0
THZ	Tophouse	0.66	313	P	Pg	01 23 52.9	+0.2
THZ				S	Sb	01 24 02.5	-1.0
TUWZ	Tuamarina	0.84	20	P	Pg	01 23 56.4	+0.4
TUWZ				S	Sb	01 24 08.4	0.0
GVZ	Greta Valley S	0.84	207	P	Pb	01 23 56.9	-0.1
GVZ				S	Sb	01 24 09.3	+0.7
NNZ	Nelson	1.01	353	P	Pg	01 23 59.0	-0.3
NNZ				S	Sb	01 24 13.5	+0.2
MRNZ	Matariki Terra	1.01	324	P	Pg	01 23 59.4	+0.1
MRNZ				S	Sb	01 24 13.8	+0.4
LTZ	Lake Taylor	1.10	239	P	Pg	01 24 00.1	-1.0
LTZ				S	Sg	01 24 14.5	-0.9
TCW	Tory Channel	1.14	29	P	Pg	01 24 01.0	-0.8
TCW				S	Sb	01 24 17.2	0.0
AMCZ	Amberley	1.17	214	P	Pg	01 24 01.1	-1.2
TKNZ	Takaka Hill	1.26	339	P	Pg	01 24 03.7	-0.4
TKNZ				S	Sg	01 24 20.3	-0.2
WEL	Wellington	1.30	45	P	Pn	01 24 03.2	-1.5
WEL				S	Sg	01 24 21.0	-0.8
DSZ	Denniston Nort	1.39	289	P	Pn	01 24 06.0	+0.1
DUWZ	D'Urville Isla	1.44	11	P	Pn	01 24 06.2	-0.4
MSWZ	Moikau Station	1.50	58	P	Pn	01 24 05.3	-2.1
OKCZ	Okains Bay	1.55	193	P	Pn	01 24 05.7	-2.4
OXZ	Oxford	1.57	225	P	Pn	01 24 05.9	-2.5
CAW	Cannon Point	1.59	46	P	Pn	01 24 07.0	-1.6
QRZ	Quartz Range	1.59	331	P	Pb	01 24 09.2	-0.5
MOZ	McQueen's Vall	1.63	204	P	Pn	01 24 06.0	-3.1
PAWZ	Paruwai Farm	1.63	60	P	Pn	01 24 06.9	-2.4
INZ	Inchbonnie	1.64	251	P	Pn	01 24 08.2	-0.1
KIW	Kapiti Island	1.69	37	P	Pn	01 24 09.0	-1.1
AKCZ	Akaroa Harbour	1.72	196	P	Pn	01 24 07.9	-2.5
TRWZ	Traveller	1.79	64	P	Pn	01 24 08.6	-2.8
MTW	Mount Morrison	1.80	55	P	Pn	01 24 09.1	-2.5
RACZ	Rakaia	1.83	214	P	Pn	01 24 08.7	-3.2
OGWZ	Otaki Gorge	1.85	41	P	Pn	01 24 10.7	-1.6
HOWZ	Holdsworth Sta	1.98	49	P	Pn	01 24 11.8	-2.2
TMWZ	Te Maipa	2.07	58	P	Pn	01 24 12.5	-2.8
WACZ	Wakanui South	2.13	215	P	Pn	01 24 13.7	-2.4
MRZ	Mangatainoka R	2.18	45	P	Pn	01 24 14.6	-2.1
WVZ	Waitaha Valley	2.25	247	P	Pn	01 24 16.8	-0.9
RPZ	Rata Peaks	2.37	230	P	Pn	01 24 17.3	-2.1
OHWZ	Ohakea	2.41	34	P	Pb	01 24 22.9	-0.8
ARCZ	Arundel	2.45	224	P	Pn	01 24 18.0	-2.5
PRWZ	Pori Road	2.46	48	P	Pn	01 24 18.1	-2.6
POWZ	Post Office Ro	2.47	43	P	Pn	01 24 18.5	-2.2
BFZ	Birch Farm	2.54	54	P	Pn	01 24 18.5	-3.2
GCSZ	Gaunt Creek Bo	2.62	244	P	Pn	01 24 22.2	-0.5
WAZ	Wanganui	2.69	24	P	Pn	01 24 24.9	+1.1
DVHZ	Dannevirke	2.75	47	P	Pn	01 24 21.5	-3.1
NMEZ	Namu Road	2.81	5	P	Pb	01 24 31.8	+1.2
TSZ	Takapari Road	2.82	41	P	Pn	01 24 23.3	-2.3
LREZ	Lake Rotokare	2.83	13	P	Pb	01 24 29.5	-1.3
TMZ	Timaru	2.85	220	P	Pn	01 24 23.7	-2.3
KHEZ	Kahui Hut	2.94	7	P	Pb	01 24 31.1	-1.7
NBEZ	Newall Road No	2.96	5	P	Pn	01 24 30.1	+2.7
NEZ	North Egmont	2.97	8	P	Pn	01 24 30.5	+2.7
PRHZ	Porangahau	3.03	51	P	Pn	01 24 26.3	-2.2
PKE	Pukeiti	3.04	6	P	Pn	01 24 30.7	+2.1
FOZ	Fox Glacier	3.04	243	P	Pn	01 24 28.0	-0.6
PNHZ	Pukenui	3.05	42	P	Pn	01 24 26.0	-2.7
DREZ	Durham Road	3.06	9	P	Pn	01 24 31.8	+2.8
VRZ	Vera Road	3.22	17	P	Pn	01 24 32.0	+1.0
MOVZ	Moawhango	3.27	31	P	Pn	01 24 32.1	+0.4
LBZ	Lake Benmore	3.28	227	P	Pn	01 24 30.0	-1.9
WNVZ	Wahianoa	3.28	29	P	Pn	01 24 31.8	-0.2
TRVZ	Turoa	3.29	28	P	Pn	01 24 31.9	-0.3
WHVZ	Whangaehu Hut	3.31	28	P	Pn	01 24 32.4	-0.2
BHHZ	Black Hill Sta	3.32	36	P	Pn	01 24 31.4	-1.2
FWVZ	Far West T-bar	3.33	28	P	Pn	01 24 32.3	-0.4
TUVZ	Tukino	3.35	29	P	Pn	01 24 33.1	+0.1
NGZ	Ngauruhoe	3.41	28	P	Pn	01 24 33.5	-0.4
SNVZ	South Ngauruho	3.42	28	P	Pn	01 24 33.5	-0.5
OTVZ	Oturere	3.45	28	P	Pn	01 24 33.9	-0.5
TWVZ	Taurewa	3.46	25	P	Pn	01 24 33.9	-0.5
NNVZ	North Ngauruho	3.46	28	P	Pn	01 24 34.4	-0.1
WTVZ	West Tongariro	3.46	27	P	Pn	01 24 33.9	-0.6
ETVZ	East Tongariro	3.49	29	P	Pn	01 24 34.7	-0.2
KAHZ	Kahuranaki	3.49	47	P	Pn	01 24 31.4	-3.4
KRVZ	Karewarewa	3.50	28	P	Pn	01 24 36.0	+0.9
TMVZ	Te Maari	3.50	29	P	Pn	01 24 34.5	-0.5
NTVZ	North Tongarir	3.51	28	P	Pn	01 24 35.1	-0.4
ODZ	Otahua Downs	3.53	216	P	Pn	01 24 32.8	-2.5
BKZ	Black Stump Fm	3.78	37	P	Pn	01 24 35.9	-2.9
HIZ	Hauiti	3.83	15	P	Pn	01 24 40.4	+0.9
JCZ	Jackson Bay	3.95	240	P	Pn	01 24 42.7	+1.5
TLZ	Tolley Road	4.17	22	P	Pn	01 24 44.3	+0.1
MTHZ	Maungataniwha	4.19	38	P	Pn	01 24 42.4	-2.1
WKZ	Wanaka	4.21	230	P	Pn	01 24 43.8	-0.9
HHSZ	Highcliff Hill	4.24	209	P	Pn	01 24 42.3	-2.8
EAZ	Earnscleugh	4.31	224	P	Pn	01 24 44.2	-1.8
TOZ	Tahuroa Road	4.72	19	P	Pn	01 24 51.0	-0.7
AWAZ	Awhitu Peninsu	5.21

LTZ Lake Taylor 1.43 238 P Pn 01 28 48.0 +0.5
TRWZ Traveller 1.47 65 P Pn 01 28 47.2 -0.7
MTW Mount Morrison 1.48 54 P Pn 01 28 47.5 -0.5
AMCZ Amberley 1.48 219 P Pn 01 28 47.9 -0.2
OGWZ Otaki Gorge 1.54 38 P Pn 01 28 49.0 +0.2
QRZ Quartz Range 1.59 319 P Pn 01 28 50.9 +1.3
DSZ Denniston Nort 1.60 280 P Pb 01 28 51.7 +0.3
HOWZ Holdsworth Sta 1.65 47 P Pn 01 28 50.0 -0.4
TMWZ Te Maipa 1.75 59 P Pn 01 28 50.9 -0.9
OKCZ Okains Bay 1.80 200 P Pn 01 28 52.0 -0.6
MRZ Mangatainoka R 1.85 43 Pn Pn 01 28 52.5 -0.8
MRZ Mangatainoka R 1.85 43 P Pn 01 28 52.9 -0.3
OXZ Oxford 1.90 226 Pn Pn 01 28 52.8 -1.0
OXZ Oxford 1.90 226 P Pn 01 28 53.0 -0.8
MQZ McQueen's Vall 1.91 209 Pn Pn 01 28 52.3 -1.7
MQZ McQueen's Vall 1.91 209 P Pn 01 28 52.6 -1.4
TIWZ Tintock 1.94 50 P Pn 01 28 53.9 -0.5
INZ Inchbonnie 1.96 248 P Pn 01 28 55.4 +0.7
AKCZ Akaroa Harbour 1.98 202 P Pn 01 28 54.2 -0.8
CPWZ Castlepoint 2.05 58 P Pn 01 28 55.5 -0.4
OHWZ Ohakea 2.11 31 P Pn 01 28 58.3 +1.6
PRWZ Pori Road 2.14 47 P Pn 01 28 56.6 -0.6
RACZ Rakaia 2.14 217 P Pn 01 28 56.0 -1.1
POWZ Post Office Ro 2.15 41 P Pn 01 28 57.3 -0.1
BFZ Birch Farm 2.21 53 Pn Pn 01 28 56.6 -1.6
BFZ Birch Farm 2.21 53 P Pn 01 28 57.9 -0.3
BFZ Birch Farm 2.21 53 P Pn 01 28 57.1 -1.0
MHCZ Mount Hutt 2.29 228 P Pn 01 28 58.8 -0.5
WAZ Wanganui 2.42 20 P Pn 01 29 04.0 -1.2
DVHZ Dannevirke 2.42 45 P Pn 01 28 59.8 -1.3
WACZ Wakanui South 2.44 218 P Pn 01 29 00.3 -1.0
ANWZ Angora Road 2.49 52 P Pn 01 29 01.3 -0.6
TSZ Takapari Road 2.50 39 P Pn 01 29 02.0 -0.3
WVZ Waitaha Valley 2.57 245 P Pn 01 29 03.6 +0.5
LREZ Lake Rotokare 2.60 8 P Pb 01 29 07.0 -1.2
NMEZ Namu Road 2.62 359 P Pb 01 29 07.5 -1.0
RPZ Rata Peaks 2.69 230 Pn Pn 01 29 04.0 -0.8
214nm,0.3s,baz=66,slow=0.7,SNR=70
RPZ Sn Sn 01 29 36.5 -0.6
192nm,0.3s,baz=356,slow=23,SNR=14
1µm,0.5s
RPZ Rata Peaks 2.69 230 Pn Pn 01 29 03.6 -1.1
RPZ Rata Peaks 2.69 230 P Pn 01 29 04.4 -0.4
PRNZ Porangahau 2.71 50 P Pn 01 29 03.8 -1.2
PNHZ Pukenui 2.73 40 P Pn 01 29 04.5 -0.8
KHEZ Kahui Hut 2.74 2 P Pb 01 29 09.5 -1.2
KHEZ Kahui Hut 2.74 2 P Pb 01 29 09.3 -1.3
WPHZ Waipukurau 2.74 45 P Pn 01 29 05.3 -0.1
NBEZ Newall Road No 2.76 359 P Pb 01 29 09.5 -1.5
NEZ North Egmont 2.76 3 P Pb 01 29 09.8 -1.3
ARCZ Arundel 2.78 225 P Pn 01 29 05.1 -0.8
PKE Pukeiti 2.84 1 P Pn 01 29 10.2 +3.4
DREZ Durham Road 2.85 4 P Pb 01 29 10.6 -1.9
MTVZ Mangateitei 2.90 25 P Pn 01 29 10.0 +2.4
GCSZ Gaunt Creek Bo 2.94 243 P Pn 01 29 08.8 +0.6
PKVZ Pokaka 2.95 22 P Pb 01 29 12.4 -1.9
MHEZ Mangahewa 2.97 6 P Pb 01 29 12.6 -2.0
MOVZ Moawhango 2.97 29 P Pn 01 29 09.3 +0.7
VRZ Vera Road 2.98 13 P Pn 01 29 11.0 +2.4
WNVZ Wahianoa 2.99 26 P Pn 01 29 10.5 +1.5
PXZ Pawanui 2.99 49 P Pn 01 29 07.9 -1.0
TRVZ Turoa 3.00 25 P Pn 01 29 10.8 +1.5
BHHZ Black Hill Sta 3.02 33 P Pn 01 29 10.6 +1.3
DRZ Dome Shelter 3.02 25 P Pn 01 29 11.4 +1.8
WHVZ Whangaehu Hut 3.03 25 P Pn 01 29 11.3 +1.7
FWVZ Far West T-bar 3.04 25 P Pn 01 29 11.1 +1.3
TUVZ Tukino 3.06 26 P Pn 01 29 11.6 +1.6
NGZ Ngauruhoe 3.13 25 P Pn 01 29 12.6 +1.7
SNVZ South Ngauruho 3.13 25 P Pn 01 29 12.9 +2.0
OTVZ Oturere 3.16 25 P Pn 01 29 12.9 +1.5
KAHZ Kahuranaki 3.17 46 P Pn 01 29 10.1 -1.3
TMZ Timaru 3.17 221 P Pn 01 29 10.5 -0.9
NNVZ North Ngauruho 3.17 25 P Pn 01 29 12.9 +1.4
TWVZ Taurewa 3.18 22 P Pn 01 29 12.7 +1.1
WTVZ West Tongariro 3.18 24 P Pn 01 29 14.0 +2.4
ETVZ East Tongariro 3.20 26 P Pn 01 29 13.2 +1.4
KRVZ Karewarewa 3.21 25 P Pn 01 29 14.9 +2.9
TMVZ Te Maari 3.22 26 P Pn 01 29 13.2 +1.1
NTVZ North Tongarir 3.22 25 P Pn 01 29 13.9 +1.8
KWHZ Kaweka Forest 3.23 37 P Pb 01 29 10.3 +0.1
KATZ Kakaramea 3.34 25 P Pn 01 29 18.0 +4.2
FOZ Fox Glacier 3.37 242 Pn Pn 01 29 14.1 +0.1
FOZ Fox Glacier 3.37 242 P Pn 01 29 14.5 +0.5
RITZ Rihia Road 3.39 27 P Pn 01 29 18.0 +3.6
RATZ Rangitukua 3.46 25 P Pb 01 29 20.7 -2.4
BKZ Black Stump Fm 3.47 35 Pn Pn 01 29 14.7 -0.9
BKZ Black Stump Fm 3.47 35 P Pn 01 29 20.3 +4.8
BKZ Black Stump Fm 3.47 35 P Pn 01 29 14.8 -0.7
HATZ Hinemaiaia 3.55 29 P Pb 01 29 21.7 -2.8
HIZ Hauiti 3.59 12 Pn Pn 01 29 18.2 +1.1
HIZ Hauiti 3.59 12 P Pn 01 29 19.5 +2.4
WATZ Wairara 3.60 23 P Pn 01 29 18.8 +1.5
LBZ Lake Benmore 3.60 228 Pn Pn 01 29 16.8 -0.5
LBZ Lake Benmore 3.60 228 P Pn 01 29 17.0 -0.3
NMHZ Naumai 3.67 38 P Pb 01 29 21.7 +3.5
NMHZ 01 29 21.8 -4.7
WHTZ Whakaora 3.71 26 P Pn 01 29 23.7 +4.9
MRHZ Matea Rd 3.72 32 P Pn 01 29 18.3 -0.7
ODZ Otahua Downs 3.84 217 Pn Pn 01 29 18.9 -1.6
ODZ Otahua Downs 3.84 217 P Pn 01 29 19.2 -1.2
MTHZ Maungataniwha 3.88 36 P Pn 01 29 22.0 +0.9
TLZ Tolley Road 3.90 19 P Pn 01 29 23.1 +1.6
ALRZ Allen Road 3.93 29 P Pn 01 29 21.3 -0.5
GRRZ Galatos Road 4.04 25 P Pn 01 29 27.4 +4.1
HRRZ Handcock Road 4.06 27 P Pn 01 29 24.4 +0.7
HSRZ Hossack Road 4.12 26 P Pn 01 29 26.5 +2.0
KNZ Kokohu 4.15 45 P Pn 01 29 26.1 +1.3
MHGZ Mahia Peninsul 4.18 48 P Pn 01 29 25.1 -0.1
JCZ Jackson Bay 4.28 240 P Pn 01 29 27.1 +0.5
JCZ Jackson Bay 4.28 240 P Pn 01 29 26.6 0.0
TARZ Mount Tarawera 4.28 28 P Pn 01 29 26.2 -0.5
NGRZ Ngongotaha 4.29 25 P Pb 01 29 33.3 -3.9
OMRZ Omania 4.35 26 P Pn 01 29 30.9 +3.4
TOZ Tahuroa Road 4.47 16 P Pn 01 29 29.9 +0.8
WKZ Wanaka 4.53 230 Pn Pn 01 29 28.7 -1.4
WKZ Wanaka 4.53 230 P Pn 01 29 28.9 -1.2
HHSZ Highcliff Hill 4.54 211 P Pn 01 29 29.0 -1.1
EAZ Earnscleugh 4.63 225 P Pn 01 29 30.3 -1.1
OPRZ Ohinepanea 4.65 27 P Pb 01 29 39.0 -4.2
TGRZ Tauranga 4.66 24 P Pn 01 29 35.0 +3.2
WHRZ Whale Island 4.79 30 P Pb 01 29 41.1 -4.5
CNGZ Carnagh Statio 4.83 44 P Pn 01 29 36.4 +2.3
TWGZ Tauwhareparae 4.95 40 P Pn 01 29 37.9 +2.0
RUGZ Raukumara Rang 4.98 37 P Pn 01 29 37.2 +0.8
TUZ Tuapeka 4.99 217 P Pn 01 29 35.3 -1.0
AWAZ Awhitu Peninsu 4.99 7 P Pn 01 29 38.5 +2.1
MKAZ Moumakai 5.01 11 P Pn 01 29 37.8 +1.1
MYRZ Mayor Island 5.07 21 P Pn 01 29 40.7 +3.2
MSZ Milford Sound 5.10 237 P Pn 01 29 36.1 -1.8
WTAZ Waiatarua 5.12 6 P Pn 01 29 41.2 +3.0
ETAZ East Tamaki Re 5.13 9 P Pn 01 29 40.6 +2.4
EPVZ Eden Park BICE 5.19 9 P Pn 01 29 42.7 +3.6
HAZ Te Kaha 5.20 36 P Pn 01 29 40.3 +1.0
HBAZ Herne Bay Bore 5.21 7 P Pn 01 29 44.0 +4.7
RVAZ Riverhead Bore 5.28 6 P Pn 01 29 43.1 +2.8
MBAZ Motutapu North 5.31 9 P Pn 01 29 43.8 +3.0
WIAZ Waiheke Island 5.32 11 P Pn 01 29 42.6 +1.8
MLZ Mavora Lakes 5.36 230 P Pn 01 29 40.4 -1.1
WMGZ Waiomatatini S 5.45 41 P Pn 01 29 42.4 -0.2
KUZ Kuaotunu 5.46 15 P Pn 01 29 43.3 +0.5
KUZ Kuaotunu 5.46 15 P Pn 01 29 44.8 +2.0
ABAZ Army Bay 5.47 8 P Pn 01 29 45.7 +2.7
MXZ Matakaoa Point 5.60 39 Pn Pn 01 29 42.2 -2.5
MXZ Matakaoa Point 5.60 39 P Pn 01 29 45.0 +0.3
SYZ Scrubby Hill 5.66 216 P Pn 01 29 45.3 -0.2
SYZ Scrubby Hill 5.66 216 P Pn 01 29 44.8 -0.7
WHZ Wether Hill Ro 5.78 226 P Pn 01 29 45.7 -1.5
GRZ Great Barrier 5.90 12 P Pn 01 29 52.3 +3.5
DCZ Deep Cove 5.98 233 P Pn 01 29 48.1 -1.8
APZ The Paps 6.41 219 P Pn 01 29 54.4 -1.4
PYZ Puysegur Point 6.65 229 P Pn 01 29 59.1 0.0
PYZ Puysegur Point 6.65 229 P Pn 01 29 57.8 -1.2
OUZ Omahuta 6.81 358 Pn Pn 01 30 02.5 +1.2
OUZ Omahuta 6.81 358 P Pn 01 30 04.2 +2.9
OUZ Omahuta 6.81 358 P Pn 01 30 04.2 +2.9
CTZ Chatham Island 7.16 107 P Pn 01 30 03.8 -2.3
CTZ Chatham Island 7.16 107 P Pn 01 30 03.9 -2.1
MCQ Macquarie Isla 15.92 213 P Pn 01 32 06.2 +1.0
baz=16,SNR=4.1
MCQ Macquarie Isla 15.92 213 Pn Pn 01 32 03.6 -1.6
MCQ Macquarie Isla 15.92 213 P Pn 01 32 05.4 +0.2
MCQ Macquarie Isla 15.92 213 P Pn 01 32 03.6 -1.6
MCQ pmax pmax
comp=Z,135nm,1.5s
TAU Tasmania Unive 19.62 258 P Pn 01 32 54.6 +3.5
AULHS Lilydale High 19.95 263 P Pn 01 32 57.2 +2.2
MGCD Mangrove Creek 20.05 289 P Pn 01 33 00.8 +4.4
CNB Canberra Magne 20.27 281 P P 01 32 56.9 -0.2
baz=20,SNR=4.2
CNB Canberra Magne 20.27 281 P Pn 01 33 00.2 +1.2
OUENC Ouen Island, N 20.44 341 IAmb IAmb 01 33 01.3
comp=Z,76nm,1.0s
OUENC Ouen Island, N 20.44 341 P P 01 33 00.4 +1.6
CAN Canberra 20.54 281 P P 01 33 00.7 +0.8
CAN Canberra 20.54 281 P Pn 01 33 02.8 +0.7
CAN Canberra 20.54 281 P P 01 33 00.7 +0.8
CAN pmax pmax
comp=Z,31nm,1.0s
ONTNC Ouen Toro 20.64 340 P P 01 33 01.2 +0.3
ONTNC IAmb IAmb 01 33 03.9
comp=Z,137nm,1.1s
ONTNC Ouen Toro 20.64 340 P P 01 33 02.6 +1.6
YATNC Mamie plateau, 20.77 341 P P 01 33 04.3 +1.9
DZM Mont Dzumac 20.87 340 P P 01 33 02.9 -0.6
comp=Z,63nm,0.9s,baz=145,slow=12,SNR=29
comp=Z,63nm,0.9s
DZM Mont Dzumac 20.87 340 P P 01 33 04.4 +0.8
DZM IAmb IAmb 01 33 06.1
comp=Z,103nm,1.1s
DZM Mont Dzumac 20.87 340 P P 01 33 05.1 +1.6
NOUC Port Laguerre 20.88 340 P P 01 33 04.8 +1.3
MARNC Mare, Loyalty 21.08 345 P P 01 33 07.6 +1.9
ARMA Armidale 21.33 296 P P 01 33 09.8 +1.3
LIFNC LIFOU 21.93 343 P P 01 33 14.6 -0.2
LIFNC IAmb IAmb 01 33 20.2
comp=Z,194nm,1.0s
LIFNC LIFOU 21.93 343 P P 01 33 16.1 +1.3
AUBSH Beerwah State 22.89 305 P P 01 33 27.0 +1.9
KOUNC Koumac, New Ca 22.91 336 P P 01 33 25.0 -0.3
KOUNC Koumac, New Ca 22.91 336 P P 01 33 26.7 +1.4
AULRC Lightning Ridg 24.42 293 P P 01 33 42.3 +2.4
MSVF Nonsavu 24.48 10 P P 01 33 38.6 -2.0
comp=Z,41nm,0.8s,baz=147,slow=11,SNR=13
comp=Z,41nm,0.8s
MSVF Nonsavu 24.48 10 P P 01 33 37.7 -2.9
MSVF IAmb IAmb 01 33 44.3
comp=Z,47nm,0.8s
MSVF Nonsavu 24.48 10 P P 01 33 39.2 -1.4
MSVF Nonsavu 24.48 10 *i* P P 01 33 38.2 -2.4
MSVF pmax pmax
comp=Z,43nm,0.9s
CMSA Cobar Meteorol 24.81 286 P P 01 33 43.8 +0.3
baz=25,SNR=6.5
CMSA Cobar Meteorol 24.81 286 P P 01 33 44.0 +0.5
RMQ Roma 25.81 299 P P 01 33 54.4 +1.8
STKA Stephens Creek 27.60 281 P P 01 34 08.4 -0.3
comp=Z,10nm,1.1s,baz=80,slow=6.4,SNR=5.1
comp=Z,10nm,1.1s
STKA Stephens Creek 27.60 281 P P 01 34 10.2 +1.6
baz=27,SNR=4.6
STKA Stephens Creek 27.60 281 P P 01 34 06.9 -1.8
STKA Stephens Creek 27.60 281 P P 01 34 10.3 +1.6
STKA Stephens Creek 27.60 281 *eP* P 01 34 07.9 -0.8
STKA pmax pmax
comp=Z,10.0nm,1.0s
QLP Quilpie 28.78 293 P P 01 34 19.6 +0.4
RAR Rarotonga 30.34 55 P P 01 34 35.0 +2.0
comp=Z,41nm,0.9s,baz=151,slow=4.3,SNR=4.4
comp=Z,41nm,0.9s
RAR Rarotonga 30.34 55 P P 01 34 35.0 +2.0
INKA Innaminka 30.50 287 P P 01 34 35.1 +0.6
LCRK Leigh Creek 30.82 280 P P 01 34 37.5 +0.3
BBOO Buckleboo 31.23 275 P P 01 34 40.9 0.0
baz=31,SNR=7.0
BBOO Buckleboo 31.23 275 P P 01 34 41.2 +0.3
CTA Charters Tower 32.01 305 P P 01 34 47.1 -0.7
comp=Z,13nm,0.8s,baz=137,slow=10,SNR=16
comp=Z,13nm,0.8s
CTA Charters Tower 32.01 305 P P 01 34 48.1 +0.2
comp=Z,26nm,0.9s
CTAO Charters Tower 32.01 305 P P 01 34 47.2 -0.6
CTAO Charters Tower 32.01 305 P P 01 34 48.0 +0.2
CTAO Charters Tower 32.01 305 P P 01 34 47.2 -0.6
CTAO pmax pmax
comp=Z,13nm,0.9s
MULG Mulgathing 33.97 277 P P 01 35 04.1 -0.7
OOD Oodnadatta 34.12 282 P P 01 35 06.6 +0.4
MTSU Mount Surprise 34.68 304 P P 01 35 11.3 +0.1
baz=34,SNR=19
MTSU Mount Surprise 34.68 304 P P 01 35 11.2 +0.1
VNDA Vanda 35.95 184 P P 01 35 22.8 +1.4
comp=Z,2.8nm,1.0s,baz=356,slow=7.7,SNR=10
comp=Z,2.8nm,1.0s
VNDA Vanda 35.95 184 P P 01 35 20.6 -0.8
VNDA Vanda 35.95 184 P P 01 35 20.6 -0.8
VNDA pmax pmax
comp=Z,18nm,1.6s
QIS Mount Isa 35.95 296 P P 01 35 21.8 -0.3
baz=36,SNR=5.7
QIS Mount Isa 35.95 296 P P 01 35 21.9 -0.2
SBA Scott Base 36.05 183 P P 01 35 21.6 -0.7
SBA IAmb IAmb 01 35 30.2
comp=Z,41nm,1.4s
SBA Scott Base 36.05 183 P P 01 35 21.6 -0.7
SBA pmax pmax
comp=Z,41nm,1.4s
AS01 Alice Springs 37.84 286 P P 01 35 37.2 -0.9
ASAR Alice Springs 37.87 286 P P 01 35 37.0 -1.4
comp=Z,16nm,0.8s,baz=126,slow=6.8,SNR=77
comp=Z,16nm,0.8s
ASAR Alice Springs 37.87 286 P 01 35 36.6 -1.8
FORT Forrest 38.17 272 P P 01 35 39.8 -0.9
baz=38,SNR=18
FORT Forrest 38.17 272 P P 01 35 39.5 -1.3
FORT IAmb IAmb 01 35 40.9
comp=Z,38nm,0.8s
FORT Forrest 38.17 272 P P 01 35 40.3 -0.5
COEN Coen 38.60 307 P P 01 35 43.7 -0.8
baz=38,SNR=6.2
COEN Coen 38.60 307 P P 01 35 44.1 -0.4
PPT Papeete 39.52 63 P P 01 35 54.1 +1.9
comp=Z,58nm,1.1s,baz=180,slow=12,SNR=4.5
PPT LR LR 01 51 34.6
comp=Z,1µm,19.0s,baz=266,slow=35
comp=Z,58nm,1.1s
WB1 Warramunga Ar. 39.95 291 P P 01 35 59.1 +3.2
WB2 Warramunga Arr 39.96 291 P P 01 35 54.4 -1.5
baz=40
WB2 Warramunga Arr 39.96 291 P P 01 35 54.4 -1.5
WB2 IAmb IAmb 01 35 57.8
comp=Z,31nm,0.8s
WRAB Tennant Creek 39.97 291 P P 01 35 54.3 -1.6
WRAB IAmb IAmb 01 35 57.8
comp=Z,31nm,0.8s
WRAB Tennant Creek 39.97 291 P P 01 35 54.7 -1.3
comp=Z,50nm,0.9s
WRAB Tennant Creek 39.97 291 *i* P P 01 35 53.7 -2.3
WRAB pmax pmax
comp=Z,34nm,0.9s
WRA Warramunga Arr 39.97 291 P P 01 35 54.8 -1.2
comp=Z,29nm,1.0s,baz=127,slow=7.8,SNR=132
comp=Z,29nm,1.0s
WB0 Warramunga Arr 40.05 291 P P 01 35 54.6 -2.1
PMG Port Moresby 40.12 316 P P 01 35 56.7 -0.5
comp=Z,104nm,1.0s,baz=131,slow=4.9,SNR=46
comp=Z,104nm,1.0s
PMG Port Moresby 40.12 316 P P 01 35 56.5 -0.7
PMG IAmb IAmb 01 35 58.8
comp=Z,112nm,1.0s
PMG Port Moresby 40.12 316 P P 01 35 57.6 +0.4
comp=Z,119nm,1.1s
PMG Port Moresby 40.12 316 P P 01 35 57.7 +0.5
WRKA Warakurna 41.11 280 P P 01 36 03.4 -2.1
baz=41,SNR=34
WRKA Warakurna 41.11 280 P P 01 36 03.4 -2.1
KRVT Keravat (AS076 42.34 326 P P 01 36 13.8 -1.7
comp=Z,71nm,0.9s,baz=191,slow=18,SNR=1.6
comp=Z,71nm,0.9s
RABL Rabaul 42.39 327 P P 01 36 14.9 -1.0
RABL Rabaul 42.39 327 P P 01 36 16.5 +0.6
comp=Z,318nm,1.2s
KLBR Kellerberrin 45.43 264 P P 01 36 40.4 +0.2
KDU Kakadu 46.33 297 P P 01 36 47.8 +0.4
baz=46,SNR=4.6
MUN Mundaring 46.39 263 P P 01 36 47.6 -0.2
baz=46
MANU Manus Island 46.40 322 P P 01 36 47.2 -0.7
MANU Manus Island 46.40 322 P P 01 36 48.3 +0.4
KNRA Kununurra 46.75 290 P P 01 36 50.8 +0.1
baz=47,SNR=5.5
KNRA Kununurra 46.75 290 P P 01 36 50.2 -0.5
KNRA Kununurra 46.75 290 P P 01 36 51.1 +0.4
MEEK Meekatharra 47.39 271 P P 01 36 54.0 -1.7
baz=47
QSPA South Pole Qui 48.09 180 P P 01 37 03.2 +2.4
comp=Z,56nm,1.0s,baz=29,slow=2.4,SNR=80
comp=Z,56nm,1.0s
PSA00 Pilbara Seismi 49.40 277 P P 01 37 08.1 -3.1
PSA00 IAmb IAmb 01 37 10.6
comp=Z,18nm,1.2s
MBWA Marble Bar 49.74 277 P P 01 37 12.1 -1.7
MBWA IAmb IAmb 01 37 13.2
comp=Z,42nm,1.1s
GIRL Giralia 52.93 272 P P 01 37 36.4 -1.3
SOEI Soe 54.00 292 IAmb IAmb 01 38 02.0
comp=Z,43nm,0.9s
SOEI Soe 54.00 292 P P 01 37 47.3 +1.5
comp=Z,49nm,1.3s
BATI Baumata 54.10 291 P P 01 37 46.4 0.0
comp=Z,32nm,0.6s,baz=84,slow=7.6,SNR=6.6
comp=Z,32nm,0.6s
SIJI Sorong 56.09 305 P P 01 37 59.3 -1.4
comp=Z,7.0nm,0.4s,baz=133,slow=5.2,SNR=9.9
comp=Z,7.0nm,0.4s
MAW Mawson 59.09 205 P P 01 38 23.2 +2.1
comp=Z,20nm,0.9s,baz=124,slow=9.0,SNR=21
comp=Z,20nm,0.9s
MAW Mawson 59.09 205 P P 01 38 23.2 +2.1
baz=59,SNR=9.6
MAW Mawson 59.09 205 P P 01 38 22.1 +1.0
MAW Mawson 59.09 205 P P 01 38 22.2 +1.0
PLAI Plampang 59.21 287 P P 01 38 22.3 -0.4
KAPI Kappang 60.50 292 P P 01 38 30.9 -0.7
KAPI IAmb IAmb 01 38 41.3
comp=Z,22nm,1.2s
KAPI Kappang 60.50 292 P P 01 38 31.8 +0.2
comp=Z,13nm,1.1s
KAPI Kappang 60.50 292 P P 01 38 31.9 +0.3
KAPI Kappang 60.50 292 P P 01 38 30.9 -0.7
KAPI pmax pmax
comp=Z,22nm,1.2s
TOLI2 Tolitoli 64.28 297 P P 01 38 55.8 -1.0
MPSI Mapaga 64.29 296 P P 01 38 56.9 0.0
comp=Z,18nm,0.5s
PMSA Palmer Station 64.32 156 P P 01 38 58.8 +2.5
comp=Z,24nm,0.8s,baz=199,slow=1.4,SNR=5.1
comp=Z,24nm,0.8s
BBKI Banjar Baru 65.03 289 P P 01 39 01.0 -0.8
comp=Z,9µmcomp=Z,50nm,0.8s
TROLL Troll, Antarti 66.10 183 pP P 01 39 09.4 +1.3
SNAA Sanae 66.58 181 pP P 01 39 11.3 +0.2
SNAA Sanae 66.58 181 P P 01 39 10.1 -1.0
SNAA IAmb IAmb 01 39 13.3
comp=Z,50nm,1.4s
SNAA Sanae 66.58 181 P P 01 39 10.1 -1.0
SNAA pmax pmax
comp=Z,51nm,1.4s
NVL N'lazarevskaya 66.77 186 *eP* P 01 39 12.0 -0.1
NVL pmax pmax
comp=Z,53nm,1.3s
VNA3 Neumayer Olymp 67.00 179 pP P 01 39 14.9 +1.2
VNA2 Neumayer--Watz 67.35 180 pP P 01 39 17.0 +1.1
baz=171,slow=6.0
BBJI Bungbulang 67.46 281 P P 01 39 16.1 -1.3
VNA1 Neumayer--Stat 67.62 179 pP P 01 39 18.6 +1.1
MYLDM Lahad Datu 68.82 298 P P 01 39 24.7 -1.1
MYLDM IAmb IAmb 01 39 38.4
comp=Z,32nm,0.9s
LL02 Futaleuf 76.63 137 P P 01 40 12.1 +0.2
LL02 IAmb IAmb 01 40 15.1
comp=Z,35nm,1.1s
BKNI Bangkinang 77.55 282 P P 01 40 15.3 -2.2
PLCA Paso Flores 79.07 136 P P 01 40 27.8 +2.1
comp=Z,18nm,1.0s,baz=225,slow=6.4,SNR=15
comp=Z,18nm,1.0s
PLCA Paso Flores 79.07 136 P P 01 40 25.1 -0.6
PLCA IAmb IAmb 01 40 29.2
comp=Z,38nm,1.1s
PLCA Paso Flores 79.07 136 *eP* P 01 40 28.5 +2.8
PLCA Paso Flores 79.07 136 P P 01 40 25.1 -0.6
PLCA pmax pmax
comp=Z,38nm,1.2s
GSI Gunungsitoli 80.75 280 P P 01 40 33.5 -1.5
GSI Gunungsitoli 80.75 280 P P 01 40 35.4 +0.4
KULM Kulim 81.23 285 P P 01 40 34.6 -3.0
KULM IAmb IAmb 01 40 37.6
comp=Z,37nm,1.3s
SSLB Suanglung 81.75 312 IAmb IAmb 01 40 39.6
comp=Z,18nm,1.1s
SSLB Suanglung 81.75 312 P P 01 40 39.4 -0.6
comp=Z,17nm,1.1s
JMN Monobe 83.88 327 P P 01 40 49.7 -1.2
JMN Monobe 83.88 327 P P 01 40 50.3 -0.6
INU Inuyama 84.10 330 P P 01 40 49.9 -2.0
INU IAmb IAmb 01 40 51.6
comp=Z,22nm,0.8s
INU Inuyama 84.10 330 P P 01 40 51.0 -0.9
JGF Kuroka 84.20 331 P P 01 40 50.5 -1.9
JGF IAmb IAmb 01 41 01.3
comp=Z,21nm,1.1s
MT05 Renca 84.34 131 P P 01 40 52.5 -1.1
ROC1 El Roble 84.49 130 *i* P P 01 40 52.5 -2.1
JNU Nakatsue 84.60 325 IAmb IAmb 01 40 57.3
comp=Z,22nm,0.9s
SURA Surathani 84.63 287 P P 01 40 55.9 +0.8
comp=Z,25nm,1.2s
MJA0 Matsu Arr-Jizo 84.72 332 *eP* P 01 40 53.6 -1.5
MJA0 pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 84.74 332 P P 01 40 53.7 -1.5
comp=Z,6.6nm,0.9s,baz=169,slow=5.8,SNR=8.4
comp=Z,6.6nm,0.9s
MAJO Matsushiro 84.74 332 P P 01 40 54.5 -0.7
comp=Z,16nm,0.9s
TRQA Tornquist 85.43 139 P P 01 41 00.0 +1.1
TRQA Tornquist 85.43 139 *eP* P 01 41 03.3 +4.4
TRQA Tornquist 85.43 139 P P 01 41 00.0 +1.1
TRQA pmax pmax
comp=Z,38nm,1.1s
JSD Sado 86.06 333 IAmb IAmb 01 41 01.8
comp=Z,26nm,0.9s
JSD Sado 86.06 333 P P 01 41 01.1 -0.6
RTLS Leoncito 86.33 130 *i* P P 01 41 05.3 +1.4
ACCO Cerro Coronel 87.37 130 *i* P P 01 41 11.4 +2.4
AROD Rodeo 87.45 129 *i* P P 01 41 12.0 +2.6
MRA San Martin 87.86 133 *i* P P 01 41 12.8 +1.8
NONG Nongkai 88.41 296 P P 01 41 13.2 -0.3
APLL PUNTA DE LOS L 88.95 131 *i* P P 01 41 18.2 +2.0
NJ2 Nanjing 89.43 316 *eP* P 01 41 21.8 +3.8
NJ2 pmax pmax
comp=Z,12nm,0.5s
ACLC CERRO LA CRUZ 89.45 130 *i* P P 01 41 18.9 +0.2
KSRS Korea Array 89.55 325 P P 01 41 18.4 +0.1
comp=Z,13nm,0.7s,baz=144,slow=5.6,SNR=36
comp=Z,13nm,0.7s
KSRS Korea Array 89.55 325 *eP* P 01 41 18.4 +0.1
KSRS pmax pmax
comp=Z,14nm,0.8s
KS19 Wonju Array Si 89.61 325 IAmb IAmb 01 41 19.2
comp=Z,17nm,0.9s
CYA Choya 90.85 130 *i* P P 01 41 26.7 +1.7
CMAR Chiang Mai Arr 91.52 293 P P 01 41 27.9 -0.2
comp=Z,12nm,0.8s,baz=151,slow=3.4,SNR=51
comp=Z,12nm,0.8s
CHTO Chiang Mai 91.77 294 P P 01 41 28.1 -1.1
CHTO IAmb IAmb 01 41 30.0
comp=Z,12nm,0.9s
CHTO Chiang Mai 91.77 294 P P 01 41 28.1 -1.1
CHTO pmax pmax
comp=Z,12nm,1.0s
GYA Guiyang 92.14 304 ⇑P P 01 41 32.3 +1.4
GYA pmax pmax
comp=Z,17nm,1.1s
YSS Yuzh-Sakhalins 92.82 339 *i* P P 01 41 33.6 +0.2
YSS pmax pmax
comp=Z,13nm,1.0s
ENH Enshi 93.23 309 P P 01 41 35.2 -0.6
comp=Z,22nm,1.1s
LVC Limon Verde 93.41 125 *eP* P 01 41 39.7 +2.3
TIA Tai'an 93.58 317 ⇓P P 01 41 36.3 -0.9

TIA						pmax		pmax	
	comp=Z,12nm,1.1s								
USRK	**Ussuriysk Ar.**	**93.72**	**331**		P		**P**		**01 41 37.1 -0.4**
	comp=Z,3.2nm,1.0s,baz=186,slow=13,SNR=3.0								
	comp=Z,3.2nm,1.0s								
PLTB	**Pedras Altas**	**94.54**	**141**		*e*P		**P**		**01 41 46.7 +4.7**
ITQB	**Itaqui**	**94.79**	**138**		*e*P		**P**		**01 41 46.6 +3.4**
RODS	**Rosario do Sul**	**94.94**	**139**		*e*P		**P**		**01 41 46.9 +3.0**
PZH	**PanZhiHua**	**95.26**	**301**		P		**P**		**01 41 47.6 +2.3**
PZH						pmax		pmax	
	comp=Z,10.0nm,0.6s								
CPSB	**Cacapava Do Su**	**95.74**	**140**		*e*P		**P**		**01 41 51.8 +4.3**
PETK	**Petropavlovsk-**	**95.79**	**350**		P		**P**		**01 41 48.0 +1.2**
	comp=Z,4.1nm,0.9s,baz=167,slow=7.2,SNR=4.3								
	comp=Z,4.1nm,0.9s								
XAN	**Xi'an**	**96.33**	**311**		⇑P		**P**		**01 41 49.3 -0.6**
XAN						pP		sP	01 41 58.8 +1.9
XAN						pmax		pmax	
	comp=Z,11nm,1.3s								
CPUP	**Villa Florida**	**97.14**	**135**		P		**P**		**01 41 55.0 +1.1**
	comp=Z,3.1nm,0.9s,baz=242,slow=5.5,SNR=5.9								
CPUP						PKKPbc		**PKKPbc**	**01 58 26.6 -5.3**
	comp=Z,1.4nm,1.0s,baz=205,slow=9.1,SNR=2.8								
	comp=Z,3.1nm,0.9s								
KLR	**Kul'dur**	**98.15**	**334**		*i* P		**P**		**01 41 55.2 -2.4**
KLR						pmax		pmax	
	comp=Z,8.0nm,1.6s								
LPAZ	**La Paz**	**98.59**	**121**		P		Pdif		01 42 03.9 +2.5
	comp=Z,1.3nm,0.9s,baz=209,slow=1.8,SNR=5.1								
	comp=Z,1.3nm,0.9s								
LPAZ	**La Paz**	**98.59**	**121**		*e*P		**P**		**01 42 03.0 +1.6**
TER01	**Tubaro-SC**	**99.33**	**143**		*e*P		**Pdif**		**01 42 08.5 +4.8**
HHC	**Hu-ho-hao-te**	**99.93**	**317**		*e*P		**Pdif**		**01 42 07.9 +1.9**
HHC						pmax		pmax	
	comp=Z,16nm,0.9s								
NVAR	**Mina Array Bea**	**101.05**	**48**		P		**Pdif**		**01 42 13.7 +2.5**
	comp=Z,0.9nm,0.9s,baz=214,slow=9.6,SNR=2.9								
NVAR						PKKPbc		**PKKPbc**	**01 58 23.2 +1.0**
	comp=Z,0.6nm,0.7s,baz=54,slow=6.1,SNR=6.2								
CZSB	**Cruzeiro do Su**	**101.76**	**112**		*e*P		**Pdif**		**01 42 15.1 +0.4**
BBSD	**Serra de San D**	**102.55**	**127**		*e*P		**Pdif**		**01 42 20.7 +2.5**
TXAR	**Lajitas Array**	**103.84**	**63**		PKKPbc		PKKPbc		01 58 15.2 +1.8
	comp=Z,0.6nm,0.7s,baz=87,slow=3.7,SNR=7.8								
SONM	**Songino Array**	**107.52**	**319**		PKKP		**PKKPdf**		**01 58 19.0 +2.2**
	comp=Z,0.3nm,0.5s,baz=309,slow=1.2,SNR=3.5								
PDAR	**Pinedale Array**	**108.87**	**49**		PKiKP		**PKiKP**		**01 46 51.1 +0.6**
	comp=Z,1.1nm,1.0s,baz=132,slow=2.2,SNR=4.2								
PDAR						PKKPbc		**PKKPbc**	**01 57 58.6 +0.1**
	comp=Z,1.3nm,0.8s,baz=77,slow=5.7,SNR=8.9								
H21K	**Melozitna Rive**	**110.42**	**14**		P		**PKiKP**		**01 46 52.4 0.0**
	baz=206								
HDA	**Harding Lake**	**110.48**	**17**		P		**PKiKP**		**01 46 52.8 +0.2**
	baz=210								
L27K	**Beaver Creek,**	**110.54**	**20**		P		**PKiKP**		**01 46 52.8 +0.1**
	baz=214								
ILAR	**Eielson Array**	**110.81**	**17**		PKiKP		**PKiKP**		**01 46 52.4 -0.8**
	comp=Z,1.8nm,0.8s,baz=255,slow=2.7,SNR=11								
ILAR						PKKPab		**PKKPab**	**01 58 00.5 +2.0**
	comp=Z,1.8nm,0.9s,baz=7.3,slow=3.6,SNR=12								
J26L	**Joseph Creek**	**111.33**	**18**		P		**PKiKP**		**01 46 54.5 +0.2**
	baz=213								
L29M	**L29M**	**111.55**	**21**		P		**PKiKP**		**01 46 55.4 +0.8**
	baz=216								
DAWY	**Dawson**	**111.99**	**20**		P		**PKiKP**		**01 46 55.8 +0.3**
	baz=216								
FARO	**Faro, Yukon**	**112.22**	**24**		P		**PKiKP**		**01 46 56.0 0.0**
	baz=220								
COLD	**Coldfoot**	**112.30**	**14**		P		**PKiKP**		**01 46 56.7 +0.8**
	baz=208								
G24K	**Hadweenzic Riv**	**112.36**	**16**		P		**PKiKP**		**01 46 56.8 +0.7**
	baz=210								
G25K	**Bearman Lake**	**112.70**	**16**		P		**PKiKP**		**01 46 56.8 +0.2**
	baz=211								
RSSD	**Black Hills**	**112.86**	**51**		P		**PKiKP**		**01 46 58.5 +0.5**
	baz=233								
F24K	**Squaw Lake**	**112.99**	**15**		P		**PKiKP**		**01 46 57.9 +0.6**
	baz=210								
E23K	**Chandalar**	**113.14**	**14**		P		**PKiKP**		**01 46 57.8 +0.2**
	baz=209								
LAO	**LASA Array**	**113.17**	**47**		P		**PKiKP**		**01 46 59.7 +1.4**
	baz=233								
F25K	**Christian Rive**	**113.50**	**16**		P		**PKiKP**		**01 46 59.4 +1.1**
	baz=212								
KOTAN	**Kotaneelee Air**	**113.74**	**29**		P		**PKiKP**		**01 47 00.8 +1.9**
	baz=226								
E25K	**Arctic Village**	**113.96**	**15**		P		**PKiKP**		**01 46 59.5 +0.3**
	baz=212								
EPYK	**Eagle Plains**	**114.51**	**20**		P		PKPdf		01 47 00.6 +0.3
	baz=218								
C23K	**Itkillik River**	**114.54**	**13**		P		PKPdf		01 47 00.3 +0.2
	baz=208								
C24K	**Franklin Bluff**	**114.76**	**13**		P		PKPdf		01 47 01.0 +0.5
	baz=210								
BGNE	**Belgrade**	**114.79**	**56**		P		PKPdf		01 47 02.6 +1.0
	baz=235								
LSZ	**Lusaka**	**114.80**	**217**		PKKPbc		PKKPbc		01 57 38.6 +0.4
	comp=Z,1.1nm,0.3s,baz=270,slow=2.0,SNR=4.7								
E27K	**Coleen River**	**114.84**	**17**		P		PKPdf		01 47 01.3 +0.5
	baz=215								
G30M	**tAoh Zraii Nji**	**115.12**	**19**		P		**PKPdf**		**01 47 01.2 -0.2**
	baz=219								
WMQ	**Urumqi**	**115.13**	**307**		*e*PKP		**PKPdf**		**01 47 02.8 +0.6**
DGMT	**Dagmar**	**115.34**	**47**				**PKPdf**		**01 47 02.1 -0.2**
HILA	**High Level**	**115.37**	**33**		PKPdf		**PKPdf**		**01 47 01.0 -1.0**
C27K	**Jago River**	**115.60**	**15**		P		**PKPdf**		**01 47 02.7 +0.5**
	baz=214								
C26K	**Camden Bay**	**115.61**	**15**		P		**PKPdf**		**01 47 02.9 +0.7**
	baz=213								
WRGLY	**Wrigley**	**116.08**	**27**		P		**PKPdf**		**01 47 03.5 +0.3**
	baz=227								
LCAR	**Lake Charles**	**116.29**	**64**		PKPdf		**PKPdf**		**01 47 02.8 -1.8**
INK	**Inuvik**	**116.80**	**19**		PKP		**PKPdf**		**01 47 03.7 -0.7**
	comp=Z,5.4nm,0.8s,baz=174,slow=2.1,SNR=10								
INK	**Inuvik**	**116.80**	**19**		PKPdf		**PKPdf**		**01 47 03.6 -0.9**
INK	**Inuvik**	**116.80**	**19**		P		**PKPdf**		**01 47 04.1 -0.3**
	baz=222								
ECSD	**EROS Data Cent**	**117.03**	**54**		PKPdf		**PKPdf**		**01 47 04.6 -1.2**
ECSD	**EROS Data Cent**	**117.03**	**54**		P		**PKPdf**		**01 47 05.8 +0.1**
	baz=237								
P40A	**Paris**	**117.61**	**61**		PKPdf		**PKPdf**		**01 47 06.3 -0.6**
PLAL	**Pickwick Lake**	**117.77**	**67**		PKPdf		**PKPdf**		**01 47 06.1 -1.3**
TIXI	**Tiksi**	**117.78**	**345**		*i* PKIKP		**PKPdf**		**01 47 01.8 -4.5**
TIXI						pmax		pmax	
	comp=Z,2.0nm,1.1s								
WVT	**Waverly**	**118.56**	**66**		PKPdf		**PKPdf**		**01 47 07.6 -1.3**
WVT	**Waverly**	**118.56**	**66**		P		**PKPdf**		**01 47 07.8 -1.1**
	baz=237								
WVT	**Waverly**	**118.56**	**66**		PKIKP		**PKPdf**		**01 47 07.6 -1.3**
YKA	**Yellowknife Ar**	**118.75**	**30**		PKP		**PKPdf**		**01 47 08.0 -0.4**
	comp=Z,9.1nm,0.6s,baz=251,slow=1.9,SNR=24								
YKA						PKKPbc		**PKKPab**	**01 57 24.7 +0.7**
	comp=Z,0.8nm,0.7s,baz=37,slow=4.1,SNR=3.7								
YKA	**Yellowknife Ar**	**118.75**	**30**		PKPdf		**PKPdf**		**01 47 07.5 -0.9**
AGMN	**Agassiz Nation**	**119.90**	**50**		P		**PKPdf**		**01 47 10.9 -0.1**
	baz=239								
FFC	**Flin Flon**	**119.93**	**42**		PKPdf		**PKPdf**		**01 47 10.3 -0.6**
FFC	**Flin Flon**	**119.93**	**42**		PKIKP		**PKPdf**		**01 47 10.3 -0.6**
MKAR	**Makanchi Array**	**119.95**	**308**		PKP		**PKPdf**		**01 47 09.2 -2.1**
	comp=Z,3.4nm,1.0s,baz=70,slow=1.7,SNR=5.2								
MKAR	**Makanchi Array**	**119.95**	**308**		*e*PKIKP		**PKPdf**		**01 47 11.7 +0.4**
MKAR						pmax		pmax	
	comp=Z,3.0nm,1.0s								
C36M	**Paulatuk**	**119.98**	**21**		P		**PKPdf**		**01 47 10.0 -0.5**
	baz=229								
JFWS	**Jewell Farm**	**120.54**	**58**		P		**PKPdf**		**01 47 12.5 0.0**
	baz=239								
WCI	**Wyandotte Cave**	**120.72**	**65**		PKPdf		**PKPdf**		**01 47 12.7 -0.3**
WCI	**Wyandotte Cave**	**120.72**	**65**		P		**PKPdf**		**01 47 13.5 +0.5**
	baz=238								
WCI	**Wyandotte Cave**	**120.72**	**65**		PKIKP		**PKPdf**		**01 47 12.7 -0.3**
ULM	**Lac du Bonnet**	**120.88**	**48**		PKP		**PKPdf**		**01 47 12.4 -0.4**
	comp=Z,24nm,0.9s,baz=256,slow=2.2,SNR=18								
ULM	**Lac du Bonnet**	**120.88**	**48**		*e*PKIKP		**PKPdf**		**01 47 10.8 -2.1**
ULM						pmax		pmax	
	comp=Z,24nm,0.9s								
MCPB	**Macapa, AP**	**120.90**	**123**		*e*P		**PKPdf**		**01 47 15.1 +0.9**
A36M	**Sachs Harbour**	**121.40**	**19**		P		**PKPdf**		**01 47 12.8 -0.4**
	baz=230								
TMAB	**Tom-Au,PA,Br**	**121.71**	**128**		*e*P		**PKPdf**		**01 47 17.6 +1.9**
KMBO	**Kilima Mbogo**	**121.92**	**234**		PKP		**PKPdf**		**01 47 16.6 +0.2**
	comp=Z,8.6nm,1.1s,baz=56,slow=2.0,SNR=12								
KMBO	**Kilima Mbogo**	**121.92**	**234**		*i* PKIKP		**PKPdf**		**01 47 13.6 -2.8**
ZALV	**Zalesovo Beam**	**122.08**	**316**		PKP		**PKPdf**		**01 47 12.7 -2.4**
	comp=Z,0.9nm,0.5s,baz=128,slow=2.4,SNR=4.4								
ZALV	**Zalesovo Beam**	**122.08**	**316**		*e*PKIKP		**PKPdf**		**01 47 12.4 -2.7**
ZALV						pmax		pmax	
	comp=Z,1.0nm,0.5s								
EYMN	**Ely**	**122.27**	**52**		P		**PKPdf**		**01 47 16.3 +0.6**
	baz=241								
P49A	**Miami Univ. Ec**	**122.44**	**64**		P		**PKPdf**		**01 47 16.4 +0.2**
	baz=240								
ROSB	**Rosrio**	**123.54**	**132**		*e*P		**PKiKP**		**01 47 21.8 +2.3**
BTK	**Batken**	**123.86**	**296**		PKPdf		**PKPdf**		**01 47 17.0 -2.1**
BTK	**Batken**	**123.86**	**296**		PKIKP		**PKPdf**		**01 47 17.0 -2.1**
ACSO	**Alum Creek Sta**	**123.95**	**64**		P		**PKPdf**		**01 47 19.6 +0.5**
	baz=241								
BLA	**Blacksburg**	**124.21**	**68**		P		**PKPdf**		**01 47 21.1 +1.3**
	baz=240								
P52A	**Corning**	**124.23**	**65**		P		**PKPdf**		**01 47 20.3 +0.6**
	baz=241								
O53A	**New Philadelph**	**125.14**	**65**		P		**PKPdf**		**01 47 22.4 +0.9**
	baz=242								
RCBR	**Riachuelo**	**125.16**	**143**		*e*P		**PKiKP**		**01 47 25.0 +2.3**
KKAR	**Karatay Array**	**125.50**	**299**		PKPdf		**PKPdf**		**01 47 19.6 -2.5**
KKAR	**Karatay Array**	**125.50**	**299**		PKIKP		**PKPdf**		**01 47 19.6 -2.5**
MCWV	**Mont Chateau**	**125.79**	**66**		P		**PKPdf**		**01 47 22.9 +0.3**
	baz=242								
UOSS	**Minazif**	**126.46**	**272**		PKPdf		**PKPdf**		**01 47 22.7 -1.8**
NRIK	**Noril'sk**	**127.36**	**334**		PKP		**PKPdf**		**01 47 23.6 -1.2**
	comp=Z,2.3nm,0.5s,baz=72,slow=4.9,SNR=3.7								
NRIK	**Noril'sk**	**127.36**	**334**		*i* PKIKP		**PKPdf**		**01 47 23.7 -1.1**
NRIK						pmax		pmax	
	comp=Z,2.0nm,0.9s								
SSPA	**Standing Stone**	**127.57**	**66**		PKPdf		**PKPdf**		**01 47 25.3 -0.7**
SSPA	**Standing Stone**	**127.57**	**66**		P		**PKPdf**		**01 47 26.3 +0.3**
	baz=243								
BRVK	**Borovoye**	**129.63**	**310**		*i* PKIKP		**PKPdf**		**01 47 28.9 -0.7**
BRVK						pmax		pmax	
	comp=Z,2.0nm,1.0s								
RES	**Resolute Bay**	**130.33**	**20**		PKPdf		**PKPdf**		**01 47 28.3 -2.0**
RES	**Resolute Bay**	**130.33**	**20**		PKIKP		**PKPdf**		**01 47 28.3 -2.0**
GEYT	**Alibeck**	**131.66**	**288**		PKP		**PKPdf**		**01 47 33.9 -0.1**
	comp=Z,2.8nm,0.7s,baz=117,slow=2.3,SNR=4.7								
GEYT	**Alibeck**	**131.66**	**288**		PKPdf		**PKPdf**		**01 47 33.0 -1.0**
ARU	**Arti**	**137.05**	**313**		*i* PKIKP		**PKPdf**		**01 47 42.5 -0.9**
SCHQ	**Schefferville**	**139.00**	**50**		PKP		**PKPdf**		**01 47 47.5 +0.4**
	comp=Z,13nm,0.9s,baz=278,slow=2.9,SNR=4.8								
KIRV	**Kirov**	**142.12**	**315**		PKP		**PKPdf**		**01 47 51.5 -1.0**
	comp=Z,5.7nm,0.5s,baz=61,slow=5.3,SNR=3.8								
BELG	**Belogornoye**	**142.88**	**305**		PKhKP		PKPpre		01 47 48.5
	comp=Z,16nm,0.8s,baz=332,slow=0.8,SNR=7.4								
BELG						PKP		**PKPdf**	**01 47 54.3 +0.2**
	comp=Z,21nm,0.7s,baz=36,slow=0.4,SNR=9.4								
MARD	**Mardin**	**143.98**	**278**		PKPdf		PKPab		01 47 53.4 -0.7
LIC	**Lamto**	**144.33**	**182**	⇑	*e*PKIKP		**PKPab**		**01 47 56.8 +1.0**
	comp=Z,78nm,0.8s								
KIC	**Kosan Boka**	**144.46**	**182**	⇑	*e*PKIKP		**PKPab**		**01 47 56.8 +0.5**
	comp=Z,26nm,0.6s								
KBZ	**Khabaz**	**144.48**	**290**		PKP		**PKPab**		**01 47 54.6 -0.9**
	comp=Z,21nm,0.8s,baz=137,slow=3.9,SNR=42								
KBZ	**Khabaz**	**144.48**	**290**		*i* PKIKP		**PKPab**		**01 47 53.5 -2.1**
KBZ						pmax		pmax	
	comp=Z,20nm,0.9s								
SHA1	**Shidzhatmaz**	**144.66**	**290**		*i* PKIKP		**PKPab**		**01 47 53.9 -2.6**
ASF	**Jabal al Asfar**	**144.66**	**268**		PKP		**PKPab**		**01 47 56.8 +0.1**
	comp=Z,17nm,0.8s,baz=151,slow=2.5,SNR=35								
KVAR	**Kislovodsk Arr**	**144.68**	**290**		PKP		**PKPab**		**01 47 56.6 +0.1**
	comp=Z,3.6nm,0.7s,baz=42,slow=21,SNR=2.7								
KIV	**Kislovodsk**	**144.69**	**290**		*e*PKIKP		**PKPab**		**01 47 56.3 -0.2**
KIV						pmax		pmax	
	comp=Z,10.0nm,1.0s								
GOF	**Gofitskoye**	**144.70**	**292**	⇑	*e*PKIKP		**PKPab**		**01 47 55.1 -1.3**
GOF						pmax		pmax	
	comp=Z,119nm,0.9s								
DAG	**Danmarks Havn**	**144.75**	**5**		*i* P		**PKPab**		**01 47 52.5 -3.1**
TIC	**Toumodi**	**144.75**	**182**	⇑	*e*PKIKP		**PKPab**		**01 47 56.9 -0.5**
	comp=Z,36nm,0.8s								
DBIC	**Dimbokro**	**144.77**	**182**		PKP		**PKPab**		**01 47 58.0 +0.6**
	comp=Z,12nm,0.7s,baz=180,slow=3.2,SNR=18								
DBIC	**Dimbokro**	**144.77**	**182**		PKPdf		**PKPab**		**01 47 56.4 -1.1**
EIL	**Elat**	**144.85**	**263**		PKP		**PKPab**		**01 47 57.0 -0.3**
	comp=Z,20nm,0.8s,baz=190,slow=4.5,SNR=17								
SFJD	**Kangerlussuaq**	**145.29**	**29**				**PKPbc**		**01 47 56.4 -1.3**
SFJD	**Kangerlussuaq**	**145.29**	**29**		*e*P		**PKPbc**		**01 47 57.1 -0.6**
SFJD	**Kangerlussuaq**	**145.29**	**29**		PKP2		**PKPbc**		**01 47 56.4 -1.3**
SUMG	**Summit**	**145.65**	**17**		*i* P		**PKPdf**		**01 47 57.9 -1.0**
NUUK	**Nuuk**	**145.87**	**34**		*e*P		**PKPdf**		**01 47 59.6 +0.7**
MMAI	**Mount Meron Ar**	**146.17**	**268**		PKPbc		**PKPdf**		**01 48 02.0 +1.5**
	comp=Z,20nm,0.6s,baz=100,slow=4.7,SNR=36								
VRH	**Novokhopyorsk**	**146.44**	**303**		*e*PKIKP		**PKPdf**		**01 47 58.2 -2.1**
VRH						pmax		pmax	
	comp=Z,70nm,0.8s								
APA	**Apatity**	**146.79**	**334**	⇓	*i* PKIKP		**PKPdf**		**01 47 58.8 -1.6**
APA						pmax		pmax	
	comp=Z,30nm,0.8s								
KLMR	**Klimovskoe**	**146.81**	**320**		*e*PKPdf		**PKPdf**		**01 47 59.7 -0.9**
KLMR						AMP			01 48 05.8
	comp=Z,56nm,0.9s								
KLMR	**Klimovskoe**	**146.81**	**320**		*e*PKIKP		**PKPdf**		**01 47 59.7 -0.9**
KLMR						pmax		pmax	
	comp=Z,56nm,0.9s								
ARCES	**ARCESS Array B**	**147.96**	**340**		PKPbc		**PKPdf**		**01 48 03.9 +1.6**
	comp=Z,11nm,0.7s,baz=45,slow=2.0,SNR=31								
ARCES	**ARCESS Array B**	**147.96**	**340**		PKPdf		**PKPdf**		**01 48 03.5 +1.1**
ARCES	**ARCESS Array B**	**147.96**	**340**		*e*PKIKP		**PKPdf**		**01 48 02.5 +0.2**
ARCES						pmax		pmax	
	comp=Z,11nm,0.7s								
VORR	**Voronezh**	**148.03**	**303**		*e*PKP2		**PKPdf**		**01 48 04.3 +1.4**
VORR						pmax		pmax	
	comp=Z,20nm,0.4s								
VSR	**Storozhevoye**	**148.05**	**302**		*e*PKIKP		**PKPdf**		**01 48 02.3 -0.7**
VSR						pmax		pmax	
	comp=Z,10.0nm,0.9s								
LPSR	**Galich'ya Gora**	**148.20**	**305**		*e*PKIKP		**PKPdf**		**01 48 03.0 -0.2**
LPSR						pmax		pmax	
	comp=Z,50nm,1.0s								
MOS	**Moscow**	**148.73**	**311**		*e*PKIKP		**PKPdf**		**01 48 03.9 0.0**
OBN	**Obninsk**	**149.41**	**310**		PKPbc		**PKPdf**		**01 48 08.3 +3.3**
	comp=Z,3.1nm,0.5s,baz=10,slow=6.1,SNR=5.4								
OBN	**Obninsk**	**149.41**	**310**	⇓	*e*PKHKP		PKPpre		01 48 02.0
OBN						*e*			01 51 43.6
OBN						pmax		pmax	
	comp=Z,17nm,1.0s								
NRS	**Narsarsuaq**	**149.63**	**37**				**PKPdf**		**01 48 07.8 +2.6**
NRS	**Narsarsuaq**	**149.63**	**37**		*e*P		**PKPdf**		**01 48 08.0 +2.8**
NRS	**Narsarsuaq**	**149.63**	**37**		PKHKP		**PKPdf**		**01 48 07.8 +2.6**
BRTR	**Keskin Array B**	**150.06**	**279**		PKPbc		**PKPdf**		**01 48 10.6 +3.7**
	comp=Z,20nm,0.9s,baz=143,slow=5.3,SNR=62								
ANTO	**Ankara**	**150.73**	**279**				**PKPdf**		**01 48 06.1 -1.7**
ANTO	**Ankara**	**150.73**	**279**		PKIKP		**PKPdf**		**01 48 06.1 -1.7**
ISP	**Isparta**	**151.76**	**274**		PKPdf		**PKPdf**		**01 48 07.4 -2.1**
ISP						PKPbc		**pPKPdf**	**01 48 14.4 -0.4**
ISP	**Isparta**	**151.76**	**274**		PKIKP		**PKPdf**		**01 48 07.4 -2.1**
ISP									01 48 14.4
FIA1	**FINESS Array S**	**152.63**	**326**		PKPbc		**PKPdf**		**01 48 14.7 +4.9**
FINES	**FINESS Array B**	**152.63**	**326**		PKPbc		**PKPdf**		**01 48 15.1 +5.2**
	comp=Z,9.8nm,0.6s,baz=48,slow=3.4,SNR=50								
AKASG	**Malin Array Be**	**154.35**	**302**		PKPbc		**PKPdf**		**01 48 18.6 +5.9**
	comp=Z,2.3nm,0.8s,baz=66,slow=2.1,SNR=6.0								
AKASG						PKPab		**PKPab**	**01 48 33.4 -1.8**
	comp=Z,10nm,0.7s,baz=65,slow=4.1,SNR=21								
AKBB	**Malin Array Si**	**154.35**	**302**		PKPab		**PKPab**		**01 48 33.2 -1.9**
AKBB	**Malin Array Si**	**154.35**	**302**		PKP2		**PKPab**		**01 48 33.3 -1.9**
IDI	**Anoyia**	**154.99**	**265**		PKPab		**PKPab**		**01 48 38.3 -0.2**
	comp=Z,14nm,0.9s,baz=88,slow=6.7,SNR=3.7								
BUR08	**Bucovina Ar. S**	**157.22**	**295**				**PKPab**		**01 48 46.7 -1.1**
NB2	**NORSAR Subarra**	**158.27**	**337**		PKP		**PKPab**		**01 48 49.5 -2.3**
	comp=Z,1.0nm,0.6s,baz=37,slow=5.1								
NOA	**NORSAR Array B**	**158.27**	**337**		PKPab		**PKPab**		**01 48 49.6 -2.1**
	comp=Z,2.6nm,0.9s,baz=38,slow=4.6,SNR=6.8								
KOLS	**Kolonicke sedl**	**159.04**	**299**		*e*PKP2		**PKPab**		**01 48 55.4 -0.1**
UZH	**Uzhgorod**	**159.07**	**298**		*e*PKP2		**PKPab**		**01 48 54.7 -0.9**
CRVS	**Cervenica-Dubn**	**159.57**	**299**		*e*PKP2		**PKPab**		**01 48 57.5 -0.3**
STHS	**Stebnicka Huta**	**159.62**	**301**		*e*PKP2		**PKPab**		**01 48 57.4 -0.6**
VYHS	**Vyhne**	**161.35**	**299**		*e*PKP2		**PKPab**		**01 49 04.6 -1.0**
MAUC	**Maruska**	**161.81**	**302**		*e*PKPAB		**PKPab**		**01 49 05.2 -2.4**
KRLC	**Kraliky**	**162.26**	**305**		*e*PKPAB		**PKPab**		**01 49 08.4 -1.2**
KRLC	**Kraliky**	**162.26**	**305**		*e*PKP2		**PKPab**		**01 49 08.4 -1.2**
OSTC	**Ostas**	**162.44**	**307**		*e*PKPAB		**PKPab**		**01 49 09.3 -1.0**
DPC	**Dobruska-Polom**	**162.45**	**306**		*e*PKPAB		**PKPab**		**01 49 09.2 -1.2**
DPC	**Dobruska-Polom**	**162.45**	**306**		*e*PKP2		**PKPab**		**01 49 09.2 -1.2**
UPC	**Upice**	**162.58**	**307**		*e*PKPAB		**PKPab**		**01 49 09.7 -1.2**
UPC	**Upice**	**162.58**	**307**		*e*PKP2		**PKPab**		**01 49 09.7 -1.2**
RONA	**Rosalia, Austr**	**163.18**	**297**		*e*P		**PKPab**		**01 49 12.6 -1.1**
	comp=Z,7.5nm,1.7s								
TREC	**Trest**	**163.30**	**303**		*e*PKPAB		**PKPab**		**01 49 12.9 -1.2**
TREC	**Trest**	**163.30**	**303**		*e*PKP2		**PKPab**		**01 49 12.9 -1.2**
CONA	**Conrad Observa**	**163.42**	**298**		*e*P		**PKPab**		**01 49 14.5 -0.3**
	comp=Z,5.9nm,1.4s								
PVCC	**Panska Ves**	**163.43**	**308**		*e*PKPAB		**PKPab**		**01 49 13.7 -0.9**
PVCC	**Panska Ves**	**163.43**	**308**		*e*PKP2		**PKPab**		**01 49 13.7 -0.9**
PRU	**Pruhonice**	**163.65**	**306**		*e*PKPAB		**PKPab**		**01 49 14.7 -0.9**
PRU	**Pruhonice**	**163.65**	**306**		*e*PKP2		**PKPab**		**01 49 14.7 -0.9**
BRG	**Berggiesshubel**	**163.65**	**310**		*e*PKP2		**PKPab**		**01 49 15.1 -0.5**
BRG						pmax		pmax	
	comp=Z,12nm,1.1s								
ARSA	**Arzberg**	**163.78**	**296**		*e*P		**PKPab**		**01 49 16.0 -0.4**
	comp=Z,8.2nm,1.4s								
CLL	**Collm**	**163.99**	**312**		*e*PKPab		**PKPab**		**01 49 19.0 +2.0**
CKRC	**Cesky Krumlov**	**164.18**	**302**		*e*PKPAB		**PKPab**		**01 49 13.9 -4.1**
MOA	**Molln**	**164.48**	**299**		*e*P		**PKPab**		**01 49 18.7 -0.7**
	comp=Z,10nm,1.5s								
KHC	**Kasperske Hory**	**164.54**	**304**		*e*PKPAB		**PKPab**		**01 49 18.8 -0.8**
KHC	**Kasperske Hory**	**164.54**	**304**		*e*PKP2		**PKPab**		**01 49 18.8 -0.8**
GERES	**GERESS Array B**	**164.56**	**303**		PKPab		**PKPab**		**01 49 18.9 -0.9**
	comp=Z,3.8nm,0.9s,baz=85,slow=4.3,SNR=15								
BIOA	**Bad Ischl, Aus**	**164.93**	**299**		*e*P		**PKPab**		**01 49 20.5 -0.9**

RPZ Sn **Sn** **01 31 20.6 -0.8**
1µm,0.3s,baz=3.0,slow=23,SNR=18
4µm,0.8s
RPZ **Rata Peaks** **2.40 237** P **Pn** **01 30 52.0 -0.2**
RPZ S **Sn** **01 31 18.3 -3.1**
ARCZ **Arundel** **2.46 231** P **Pn** **01 30 52.8 -0.2**
ARCZ S **Sn** **01 31 20.4 -2.4**
GCSZ **Gaunt Creek Bo** **2.72 250** P **Pn** **01 30 58.4 +1.9**
GCSZ S **Sn** **01 31 27.0 -2.3**
TMZ **Timaru** **2.83 226** P **Pn** **01 30 58.5 +0.4**
FOZ **Fox Glacier** **3.14 248** P **Pb** **01 31 07.0 -2.0**
PKE **Pukeiti** **3.24 2** P **Pb** **01 31 09.7 -0.9**
LBZ **Lake Benmore** **3.29 232** Pn **Pn** **01 31 04.3 -0.2**
LBZ **Lake Benmore** **3.29 232** P **Pb** **01 31 10.4 -1.2**
ODZ **Otahua Downs** **3.48 220** Pn **Pn** **01 31 06.8 -0.3**
HHSZ **Highcliff Hill** **4.16 213** P **Pn** **01 31 16.2 -0.1**
HHSZ S **Sn** **01 32 00.5 -4.2**
TUZ **Tuapeka** **4.64 219** P **Pn** **01 31 23.6 +0.8**
TUZ S **Sn** **01 32 12.6 -3.8**
SYZ **Scrubby Hill** **5.30 218** P **Pn** **01 31 32.5 +0.6**
2µm,1.3s
SYZ **Scrubby Hill** **5.30 218** P **Pn** **01 31 30.4 -1.5**
AWAZ **Awhitu Peninsu** **5.40 7** P **Pn** **01 31 34.7 +1.4**
ETAZ **East Tamaki Re** **5.54 9** P **Pn** **01 31 37.0 +1.7**
APZ **The Paps** **6.06 221** P **Pn** **01 31 42.8 +0.4**
PYZ **Puysegur Point** **6.34 232** Pn **Pn** **01 31 45.5 -0.8**
MCQ **Macquarie Isla** **15.55 214** P **Pn** **01 33 53.1 +1.2**
baz=16
MCQ **Macquarie Isla** **15.55 214** Pn **Pn** **01 33 49.9 -2.0**
MCQ **Macquarie Isla** **15.55 214** P **Pn** **01 33 49.9 -2.0**
MCQ pmax pmax
comp=Z,81nm,1.6s
LHI **Lord Howe Isla** **16.03 308** P **Pn** **01 33 59.9 +1.6**
baz=16
GLAD **Gladstone** **19.31 266** P **Pn** **01 34 44.7 +5.8**
comp=Z,72nm,1.1s
TAU **Tasmania Unive** **19.48 260** **P** **01 34 38.7 -0.9**
TAU **Tasmania Unive** **19.48 260** P **Pn** **01 34 45.9 +5.1**
comp=Z,88nm,1.2s
TAU **Tasmania Unive** **19.48 260** P **P** **01 34 38.7 -0.9**
TAU pmax pmax
comp=Z,117nm,1.4s
MOO **Moorlands** **19.64 261** P **Pn** **01 34 43.5 +0.7**
baz=20,SNR=3.2
MILA **Mila** **19.69 278** P **Pn** **01 34 45.5 +2.0**
baz=20,SNR=5.0
MILA **Mila** **19.69 278** P **Pn** **01 34 48.3 +4.8**
comp=Z,106nm,1.1s
MGCD **Mangrove Creek** **20.12 290** P Pn 01 34 49.4 +0.8
baz=20,SNR=5.9
CNB **Canberra Magne** **20.29 282** P Pn 01 34 50.6 0.0
baz=20,SNR=5.8
CNB **Canberra Magne** **20.29 282** P Pn 01 34 50.9 +0.3
comp=Z,50nm,1.0s
CAN **Canberra** **20.55 282** P **P** **01 34 50.1 -1.4**
CAN **Canberra** **20.55 282** P Pn 01 34 57.4 +3.7
comp=Z,91nm,1.0s
CAN **Canberra** **20.55 282** P **P** **01 34 50.1 -1.4**
CAN pmax pmax
comp=Z,112nm,1.3s
OUENC **Ouen Island, N** **20.80 342** P **P** **01 34 53.0 -1.1**
OUENC **Ouen Island, N** **20.80 342** P Pn 01 34 57.6 +1.1
comp=Z,87nm,0.9s
ONTNC **Ouen Toro** **21.00 341** P **P** **01 34 55.8 -0.5**
ONTNC IAmb IAmb 01 35 01.5
comp=Z,211nm,1.1s
ONTNC **Ouen Toro** **21.00 341** P Pn 01 34 58.9 +0.1
comp=Z,193nm,1.3s
DZM **Mont Dzumac** **21.23 341** P **P** **01 34 59.0 +0.2**
comp=Z,104nm,1.0s,baz=142,slow=13,SNR=7.3
DZM LR LR 01 42 26.7
comp=Z,3µm,18.3s,baz=224,slow=35
comp=Z,104nm,1.0s
DZM **Mont Dzumac** **21.23 341** P **P** **01 34 57.5 -1.3**
DZM IAmb IAmb 01 35 04.3
comp=Z,170nm,1.1s
DZM **Mont Dzumac** **21.23 341** P **P** **01 35 00.3 +1.5**
comp=Z,179nm,1.2s
NOUC **Port Laguerre** **21.23 340** P **P** **01 35 01.8 +3.0**
comp=Z,75nm,2.1s
ARMA **Armidale** **21.45 297** P **P** **01 35 02.8 +1.6**
baz=22,SNR=8.9
ARMA **Armidale** **21.45 297** P **P** **01 35 00.1 -1.0**
ARMA **Armidale** **21.45 297** P **P** **01 35 03.3 +2.1**
comp=Z,74nm,1.5s
MARNC **Mare, Loyalty** **21.45 345** P **P** **01 35 00.2 -1.0**
MARNC **Mare, Loyalty** **21.45 345** P **P** **01 35 03.4 +2.3**
comp=Z,2.0nm,1.2s
AUPHS **Peel High Scho** **21.51 294** P **P** **01 35 05.2 +3.4**
comp=Z,58nm,1.2s
TOO **Toolangi** **22.19 273** P **P** **01 35 10.2 +1.1**
baz=22,SNR=3.7
TOO **Toolangi** **22.19 273** P **P** **01 35 13.0 +3.9**
comp=Z,39nm,1.1s
LIFNC **LIFOU** **22.30 344** P **P** **01 35 08.3 -1.9**
LIFNC **LIFOU** **22.30 344** P **P** **01 35 10.6 +0.4**
comp=Z,315nm,1.6s
AUWSH **Wavell State H** **22.62 305** P **P** **01 35 15.9 +2.3**
comp=Z,109nm,1.1s
GEXS **Deakin Univers** **22.86 271** P **P** **01 35 21.2 +5.1**
comp=Z,152nm,1.1s
KOUNC **Koumac, New Ca** **23.25 337** P **P** **01 35 19.8 -0.4**
KOUNC **Koumac, New Ca** **23.25 337** P **P** **01 35 21.6 +1.4**
comp=Z,260nm,1.6s
BRAT **Ballarat** **23.36 272** P **P** **01 35 22.6 +1.5**
comp=Z,64nm,1.1s
AULRC **Lightning Ridg** **24.52 294** P **P** **01 35 33.3 +1.1**
comp=Z,205nm,1.4s
CMSA **Cobar Meteorol** **24.86 287** P **P** **01 35 35.5 +0.2**
baz=25,SNR=5.7
CMSA **Cobar Meteorol** **24.86 287** P **P** **01 35 39.0 +3.7**
comp=Z,29nm,1.1s
MSVF **Nonsavu** **24.88 10** P **P** **01 35 36.4 +0.7**
comp=Z,5.5nm,0.5s,baz=92,slow=19,SNR=5.3
comp=Z,5.5nm,0.5s
MSVF **Nonsavu** **24.88 10** P **P** **01 35 34.0 -1.7**
comp=Z,70nm,1.0s
MSVF **Nonsavu** **24.88 10** *i* P **P** **01 35 32.8 -2.9**
MSVF pmax pmax
comp=Z,65nm,1.0s
ARPS **Mount Arapiles** **25.20 272** P **P** **01 35 39.7 +1.3**
baz=25,SNR=7.9
ARPS **Mount Arapiles** **25.20 272** P **P** **01 35 43.0 +4.7**
comp=Z,101nm,0.9s
EIDS **Eidsvold** **25.30 305** P **P** **01 35 39.6 +0.2**
baz=26,SNR=7.8
EIDS **Eidsvold** **25.30 305** P **P** **01 35 38.0 -1.3**
EIDS IAmb IAmb 01 35 45.3
comp=Z,125nm,1.4s
EIDS **Eidsvold** **25.30 305** P **P** **01 35 39.8 +0.5**
comp=Z,71nm,1.2s
RMQ **Roma** **25.95 300** P **P** **01 35 45.6 +0.3**
baz=26,SNR=6.1
RMQ **Roma** **25.95 300** P **P** **01 35 51.0 +5.7**
comp=Z,34nm,0.9s
STKA **Stephens Creek** **27.62 282** P **P** **01 36 00.6 +0.3**
comp=Z,30nm,1.1s,baz=128,slow=9.7,SNR=8.7
comp=Z,30nm,1.1s
STKA **Stephens Creek** **27.62 282** P **P** **01 36 01.1 +0.8**
baz=28,SNR=10
STKA **Stephens Creek** **27.62 282** P **P** **01 35 59.3 -0.9**
STKA **Stephens Creek** **27.62 282** P **P** **01 36 01.7 +1.5**
comp=Z,8.8nm,1.1s
STKA **Stephens Creek** **27.62 282** *i* P **P** **01 36 00.0 -0.2**
QLP **Quilpie** **28.88 294** P **P** **01 36 13.6 +2.1**
comp=Z,105nm,1.9s
RAR **Rarotonga** **30.62 55** LR LR 01 47 24.5
comp=Z,1µm,18.8s,baz=258,slow=34
LCRK **Leigh Creek** **30.83 281** P **P** **01 36 29.5 +0.8**
comp=Z,251nm,0.9s
BBOO **Buckleboo** **31.20 275** P **P** **01 36 32.5 +0.4**
baz=31,SNR=4.9
BBOO **Buckleboo** **31.20 275** P **P** **01 36 30.3 -1.8**
BBOO IAmb IAmb 01 36 36.0
comp=Z,45nm,1.0s
BBOO **Buckleboo** **31.20 275** P **P** **01 36 34.9 +2.9**
comp=Z,50nm,1.1s
CTA **Charters Tower** **32.19 305** P **P** **01 36 40.6 -0.2**
comp=Z,47nm,1.2s,baz=150,slow=7.2,SNR=8.5
CTA LR LR 01 47 23.2
comp=Z,2µm,20.2s,baz=194,slow=32
comp=Z,47nm,1.2s
CTA **Charters Tower** **32.19 305** P **P** **01 36 41.1 +0.3**
comp=Z,51nm,1.3s
CTAO **Charters Tower** **32.19 305** P **P** **01 36 39.9 -0.9**
CTAO IAmb IAmb 01 36 45.0
comp=Z,45nm,1.1s
CTAO **Charters Tower** **32.19 305** P **P** **01 36 41.0 +0.3**
comp=Z,43nm,1.3s
CTAO **Charters Tower** **32.19 305** P **P** **01 36 39.9 -0.9**
CTAO pmax pmax
comp=Z,45nm,1.1s
TV1H **Townsville Har** **32.50 307** P **P** **01 36 44.4 +0.9**
comp=Z,7nm,1.0s
MULG **Mulgathing** **33.95 278** P **P** **01 36 56.1 0.0**
comp=Z,39nm,2.5s
OOD **Oodnadatta** **34.14 283** P **P** **01 36 58.6 +0.8**
comp=Z,73nm,0.9s
MTSU **Mount Surprise** **34.85 305** P **P** **01 37 04.4 +0.4**
baz=35,SNR=11
MTSU **Mount Surprise** **34.85 305** P **P** **01 37 04.1 0.0**
comp=Z,18nm,1.0s
QIS **Mount Isa** **36.07 296** P **P** **01 37 14.6 +0.1**
baz=36,SNR=10.0
QIS **Mount Isa** **36.07 296** P **P** **01 37 14.3 -0.2**
comp=Z,39nm,1.7s
AS01 **Alice Springs** **37.89 287** P **P** **01 37 29.7 -0.3**
comp=Z,24nm,1.0s
AS31 **Alice Springs** **37.92 287** P **P** **01 37 29.4 -0.9**
ASAR **Alice Springs** **37.92 287** P **P** **01 37 29.6 -0.7**
comp=Z,15nm,1.0s,baz=134,slow=5.0,SNR=11
ASAR PcP **PcP** **01 39 45.2 -0.9**
comp=Z,5.5nm,0.5s,baz=123,slow=4.0,SNR=8.2
ASAR S **S** **01 43 18.8 -2.7**
comp=Z,1.1nm,0.9s,baz=134,slow=13,SNR=4.2
comp=Z,15nm,1.0s
ASAR **Alice Springs** **37.92 287** P **P** **01 37 29.0 -1.2**
FORT **Forest** **38.12 272** P **P** **01 37 31.4 -0.4**
FORT IAmb IAmb 01 37 36.4
comp=Z,100nm,1.1s
FORT **Forest** **38.12 272** P **P** **01 37 31.7 -0.1**
comp=Z,94nm,1.1s
COEN **Coen** **38.79 308** P **P** **01 37 37.4 -0.1**
baz=39,SNR=9.4
COEN **Coen** **38.79 308** P **P** **01 37 36.5 -1.1**
COEN **Coen** **38.79 308** P **P** **01 37 37.5 -0.1**
comp=Z,29nm,0.8s
WR0 **Warramunga Arr** **39.91 292** P **P** **01 37 45.6 -1.3**
WR0 IAmb IAmb 01 37 50.5
comp=Z,79nm,1.1s
WB2 **Warramunga Arr** **40.05 292** IAmb IAmb 01 37 51.6
comp=Z,78nm,1.1s
WRAB **Tennant Creek** **40.06 292** P **P** **01 37 46.5 -1.6**
WRAB IAmb IAmb 01 37 51.6
comp=Z,67nm,1.0s
WRAB **Tennant Creek** **40.06 292** P **P** **01 37 47.8 -0.3**
comp=Z,79nm,1.1s
WRAB **Tennant Creek** **40.06 292** *ce* P **P** **01 37 47.8 -0.3**
WRAB pmax pmax
comp=Z,76nm,1.0s
WRA **Warramunga Arr** **40.06 292** P **P** **01 37 47.5 -0.7**
comp=Z,46nm,1.0s,baz=128,slow=8.6,SNR=15
WRA PcP **PcP** **01 39 52.0 -0.9**
comp=Z,6.1nm,0.7s,baz=128,slow=2.9,SNR=5.8
WRA S **S** **01 43 52.4 -1.3**
comp=Z,3.3nm,1.1s,baz=137,slow=16,SNR=5.2
comp=Z,46nm,1.0s
WB0 **Warramunga Arr** **40.14 292** P **P** **01 37 47.8 -1.0**
WB0 IAmb IAmb 01 37 52.2
comp=Z,64nm,1.0s
PMG **Port Moresby** **40.37 317** P **P** **01 37 50.7 +0.1**
comp=Z,134nm,0.9s,baz=134,slow=3.7,SNR=13
comp=Z,134nm,0.9s
PMG **Port Moresby** **40.37 317** P **P** **01 37 50.8 +0.1**
PMG IAmb IAmb 01 37 55.9
comp=Z,205nm,1.1s
PMG **Port Moresby** **40.37 317** P **P** **01 37 50.8 +0.1**
comp=Z,181nm,1.1s
PMG **Port Moresby** **40.37 317** P **P** **01 37 52.1 +1.4**
comp=Z,185nm,1.1s
PMG **Port Moresby** **40.37 317** P **P** **01 37 51.8 +1.1**
comp=Z,185nm,1.1s
PMG **Port Moresby** **40.37 317** P **P** **01 37 50.8 +0.1**
PMG pmax pmax
comp=Z,205nm,1.1s
WRKA **Warakurna** **41.12 280** P **P** **01 37 56.1 -0.8**
baz=41,SNR=15
WRKA **Warakurna** **41.12 280** P **P** **01 37 56.0 -0.9**
comp=Z,73nm,1.0s
KMBL **Kambalda** **42.39 268** P **P** **01 38 07.5 +0.2**
baz=42,SNR=12
KRVT **Keravat (AS076** **42.64 327** LR LR 01 54 11.2
comp=Z,1µm,20.2s,baz=228,slow=34
RABL **Rabaul** **42.69 327** P **P** **01 38 08.6 -1.2**
TARA **Tarawa** **43.60 359** P **P** **01 38 14.8 -2.2**
NWAO **Narrogin (SRO)** **45.05 263** P **P** **01 38 28.3 -0.3**
comp=Z,19nm,0.9s,baz=32,slow=9.5,SNR=5.7
comp=Z,19nm,0.9s
NWAO **Narrogin (SRO)** **45.05 263** P **P** **01 38 28.8 +0.2**
baz=45,SNR=3.9
NWAO P **P** **01 38 28.8 +0.2**
baz=45,SNR=3.9
NWAO **Narrogin (SRO)** **45.05 263** P **P** **01 38 28.9 +0.3**
comp=Z,36nm,1.3s
KLBR **Kellerberrin** **45.33 265** P **P** **01 38 31.0 +0.1**
baz=45,SNR=14
KLBR **Kellerberrin** **45.33 265** P **P** **01 38 30.9 +0.1**
comp=Z,113nm,1.0s
AUHAR **St Anne's Scho** **45.96 262** P P 01 38 40.6 +4.8
comp=Z,159nm,1.2s
MUN **Mundaring** **46.27 263** P **P** **01 38 38.7 +0.4**
baz=46,SNR=3.0
MUN **Mundaring** **46.27 263** P **P** **01 38 39.0 +0.7**
comp=Z,67nm,1.1s
KDU **Kakadu** **46.45 297** P **P** **01 38 39.5 -0.3**
baz=47,SNR=7.3
KDU **Kakadu** **46.45 297** P **P** **01 38 39.4 -0.4**
comp=Z,73nm,1.3s
BLDU **Ballidu** **46.60 265** P **P** **01 38 41.3 +0.4**
baz=47,SNR=4.6
BLDU **Ballidu** **46.60 265** P **P** **01 38 41.2 +0.4**
comp=Z,43nm,1.4s
KNRA **Kununurra** **46.83 291** P **P** **01 38 43.5 +0.8**
baz=47,SNR=5.6
KNRA **Kununurra** **46.83 291** P **P** **01 38 43.7 +1.0**
comp=Z,89nm,1.1s
MTN **Manton Dam** **47.22 296** P **P** **01 38 45.4 -0.4**
baz=48,SNR=6.3
MTN **Manton Dam** **47.22 296** P **P** **01 38 45.1 -0.7**
MTN **Manton Dam** **47.22 296** P **P** **01 38 46.1 +0.3**
comp=Z,100nm,0.8s
QSPA **South Pole Qui** **47.69 180** P **P** **01 38 50.3 +1.2**
comp=Z,14nm,1.0s,baz=52,slow=4.9,SNR=4.3
comp=Z,14nm,1.0s
MORW **Morawa** **47.90 267** P **P** **01 38 49.1 -1.9**
MORW IAmb IAmb 01 38 56.6
comp=Z,40nm,0.9s
MORW **Morawa** **47.90 267** P **P** **01 38 51.5 +0.5**
comp=Z,55nm,1.0s
PSA00 **Pilbara Seismi** **49.39 277** P **P** **01 39 01.4 -1.1**
PSA00 IAmb IAmb 01 39 05.6
comp=Z,32nm,1.2s
PSA00 **Pilbara Seismi** **49.39 277** P **P** **01 39 05.5 +3.0**
comp=Z,44nm,1.3s
MBWA **Marble Bar** **49.73 278** P **P** **01 39 08.0 +2.9**
comp=Z,22nm,1.1s
SAUI **Saumlaki** **50.72 300** P **P** **01 39 12.7 0.0**
SAUI IAmb IAmb 01 39 14.2
comp=Z,100nm,1.0s
GIRL **Giralia** **52.88 272** P **P** **01 39 29.8 +1.0**
baz=53,SNR=5.3
FAKI **Fak Fak** **54.05 305** P **P** **01 39 35.2 -2.2**
comp=Z,40nm,0.6s
FAKI **Fak Fak** **54.05 305** P **P** **01 39 38.3 +0.9**
comp=Z,36nm,0.8s
SOEI **Soe** **54.09 292** P **P** **01 39 39.1 +1.2**
comp=Z,169nm,1.4s
SOEI **Soe** **54.09 292** P **P** **01 39 39.6 +1.7**
comp=Z,167nm,1.4s
BATI **Baumata** **54.19 291** P **P** **01 39 39.5 +1.1**
comp=Z,113nm,0.9s,baz=148,slow=2.5,SNR=13
comp=Z,113nm,0.9s
BATI **Baumata** **54.19 291** P **P** **01 39 39.1 +0.7**
comp=Z,136nm,1.1s
SIJI **Sorong** **56.27 306** P **P** **01 39 51.4 -2.0**
comp=Z,8.5nm,0.6s,baz=112,slow=6.2,SNR=4.8
comp=Z,8.5nm,0.6s
SIJI **Sorong** **56.27 306** P **P** **01 39 51.9 -1.5**
comp=Z,21nm,1.0s
MMRI **Maumere** **56.29 291** P **P** **01 39 52.8 -0.7**
MMRI **Maumere** **56.29 291** P **P** **01 39 51.9 -1.6**
comp=Z,108nm,1.1s
MMRI **Maumere** **56.29 291** P **P** **01 39 54.0 +0.5**
comp=Z,108nm,1.1s
NLAI **Namlea** **57.02 300** P **P** **01 40 02.2 +3.5**
BELA **Belgrano 2** **58.70 173** P **P** **01 40 10.4 +0.6**
BELA IAmb IAmb 01 40 11.9
comp=Z,18nm,0.8s
MAW **Mawson** **58.70 205** P **P** **01 40 10.9 +1.1**
comp=Z,7.9nm,1.0s,baz=118,slow=12,SNR=3.3
comp=Z,7.9nm,1.0s
PLAI **Plampang** **59.27 287** P **P** **01 40 13.7 -0.8**
comp=Z,70nm,0.9s
PLAI **Plampang** **59.27 287** P **P** **01 40 14.4 -0.1**
comp=Z,75nm,1.3s
BSSI **Bau Bau, Buton** **59.27 292** P **P** **01 40 13.7 -0.8**
comp=Z,63nm,1.4s
TNTI **Ternate** **59.94 303** P **P** **01 40 18.3 -0.8**
TNTI IAmb IAmb 01 41 47.3
comp=Z,27nm,0.7s
TWSI **Taliwang, Sumb** **59.96 287** P **P** **01 40 18.7 -0.6**
comp=Z,77nm,1.2s
BKSI **Bulukumba** **60.12 292** P **P** **01 40 20.7 +0.4**
comp=Z,36nm,1.4s
KAPI **Kappang** **60.59 292** P **P** **01 40 23.0 -0.6**
KAPI IAmb IAmb 01 40 28.2
comp=Z,99nm,1.4s
KAPI **Kappang** **60.59 292** P **P** **01 40 23.4 -0.2**
comp=Z,2µmcomp=Z,42nm,1.7s
KAPI **Kappang** **60.59 292** P **P** **01 40 24.9 +1.3**
comp=Z,47nm,1.7s
KAPI **Kappang** **60.59 292** *i* P **P** **01 40 23.1 -0.5**
KAPI pmax pmax
comp=Z,39nm,1.3s
KLNI **Mataram** **60.74 286** P **P** **01 40 23.4 -1.2**
comp=Z,31nm,1.2s
SMAI **San Martin Ant** **60.75 158** P **P** **01 40 24.5 +0.6**
SMAI IAmb IAmb 01 40 28.3
comp=Z,32nm,1.1s
BNSI **Bone** **60.79 293** P **P** **01 40 24.2 -0.8**
comp=Z,24nm,1.8s
SPSI **Sidrap Palu** **61.34 293** P **P** **01 40 26.5 -2.2**
comp=Z,4µmcomp=Z,33nm,1.2s
LUWI **Luwuk** **61.49 298** P **P** **01 40 29.1 -0.5**
RTBI **Rangdo, Negare** **61.53 286** P **P** **01 40 30.0 0.0**
comp=Z,83nm,1.0s
SRBI **Singaraja** **61.60 286** P **P** **01 40 33.7 +3.3**
JAGI **Jajag, Banyuwa** **62.09 285** P **P** **01 40 33.0 -0.8**
JAGI IAmb IAmb 01 40 34.1
comp=Z,72nm,1.4s
KMMI **Kalianget** **63.20 286** P **P** **01 40 44.3 +3.1**
TOLI2 **Tolitoli** **64.41 298** P **P** **01 40 48.3 -0.8**
TOLI2 IAmb IAmb 01 40 53.9
comp=Z,20nm,0.8s
TOLI2 **Tolitoli** **64.41 298** P **P** **01 40 50.6 +1.5**
comp=Z,31nm,0.9s
MPSI **Mapaga** **64.41 296** P **P** **01 40 51.9 +2.8**
PCJI **Pacitan** **64.42 283** P **P** **01 40 52.8 +3.6**
NGJI **Ngawi** **64.78 284** P P 01 41 01.2 +10
BBKI **Banjar Baru** **65.10 289** P **P** **01 40 54.8 +1.2**
BKB **Balikpapan** **65.26 293** P **P** **01 40 54.2 -0.4**
TROLL **Troll, Antarti** **65.70 183** sP **P** **01 40 58.6 +1.7**
SMRI **Semarang** **65.73 283** P **P** **01 40 57.2 -0.6**
SNAA **Sanae** **66.18 181** sP **P** **01 41 01.5 +1.6**
SNAA **Sanae** **66.18 181** P **P** **01 41 00.9 +1.0**
comp=Z,11nm,1.1s,baz=194,slow=6.5,SNR=2.5
comp=Z,11nm,1.1s
SNAA **Sanae** **66.18 181** P **P** **01 41 00.2 +0.4**
SNAA IAmb IAmb 01 41 12.2
comp=Z,26nm,1.1s
SNAA **Sanae** **66.18 181** *ce* P **P** **01 40 59.9 0.0**
SNAA pmax pmax
comp=Z,38nm,1.7s
NVL **N'lazarevskaya** **66.36 186** *e* P **P** **01 41 01.2 +0.2**
NVL pmax pmax
comp=Z,63nm,1.2s
VNA3 **Neumayer Olymp** **66.60 179** sP **P** **01 41 04.0 +1.5**
CTJI **Waduk Cacaban** **66.66 282** P **P** **01 41 06.3 +2.6**
MTKI **Muara Teweh, K** **66.86 291** P **P** **01 41 08.8 +3.8**
VNA2 **Neumayer--Watz** **66.95 180** sP **P** **01 41 06.7 +2.0**
baz=169,slow=6.0
VNA1 **Neumayer--Stat** **67.22 179** sP **P** **01 41 08.3 +1.9**
BBJI **Bungbulang** **67.47 281** P **P** **01 41 11.5 +2.6**
comp=Z,50nm,0.9s
CNJI **Cibinong** **67.95 281** P **P** **01 41 15.3 +3.4**
KKM **Kota Kinabalu** **67.99 297** P P 01 41 36.2 +4.8
comp=Z,41nm,1.0s
KKM **Kota Kinabalu** **71.09 297** P **P** **01 41 31.6 +0.2**
comp=Z,41nm,1.0s
SBUM **Sibu** **71.15 292** P **P** **01 41 31.9 +0.3**
comp=Z,20nm,1.2s
KSM **Kuching** **71.77 290** P **P** **01 41 33.5 -1.8**
KSM IAmb IAmb 01 41 40.7
comp=Z,34nm,0.9s
KSM **Kuching** **71.77 290** P **P** **01 41 35.2 -0.2**
comp=Z,44nm,1.0s
KSM **Kuching** **71.77 290** P **P** **01 41 35.4 0.0**
comp=Z,44nm,1.0s
PPBI **Pangkal Pinang** **72.18 284** P **P** **01 41 39.5 +1.6**
MASI **Maura Aman, Be** **74.33 280** P **P** **01 41 55.0 +4.4**
DSRI **Dabo** **74.47 284** P **P** **01 41 54.6 +3.3**
TPRI **Tanjung Pinang** **75.47 285** P P 01 42 02.1 +5.0
MYKOM **Kota Tinggi** **76.56 285** P **P** **01 42 06.2 +2.9**
comp=Z,71nm,1.3s
PDSI **Padang** **77.14 281** P **P** **01 42 06.5 -0.2**
SISI **Saibi** **77.86 279** P P 01 42 15.7 +5.0
PLCA **Paso Flores** **78.83 136** P **P** **01 42 18.2 +2.4**
comp=Z,12nm,0.9s,baz=233,slow=4.7,SNR=7.8
comp=Z,12nm,0.9s
MNSI **Mandailing Nat** **78.95 281** P **P** **01 42 19.1 +2.4**
IPM **Ipoh** **80.44 285** P **P** **01 42 24.6 -0.2**
comp=Z,48nm,0.8s
IPM **Ipoh** **80.44 285** P **P** **01 42 24.8 0.0**
comp=Z,48nm,0.8s
DLV **T Lat** **80.56 296** P **P** **01 42 25.8 +0.2**
comp=Z,44nm,1.3s
GSI **Gunungsitoli** **80.75 280** P **P** **01 42 27.8 +1.3**
GSI **Gunungsitoli** **80.75 280** P **P** **01 42 27.9 +1.4**
comp=Z,135nm,1.8s
KULM **Kulim** **81.27 285** P **P** **01 42 27.9 -1.2**
KULM IAmb IAmb 01 42 33.6
comp=Z,63nm,1.1s
KULM **Kulim** **81.27 285** P **P** **01 42 29.3 +0.1**
comp=Z,62nm,1.4s
SSLB **Suanglung** **81.97 312** P **P** **01 42 30.9 -1.8**
SSLB IAmb IAmb 01 42 35.2
comp=Z,33nm,1.2s
SSLB **Suanglung** **81.97 312** P **P** **01 42 30.9 -1.8**
comp=Z,27nm,1.1s
KCSI **Kotacane, Aceh** **82.13 282** P **P** **01 42 36.6 +2.9**
SKLT **Songkhla** **82.60 287** P **P** **01 42 40.7 +4.6**
comp=Z,45nm,0.9s
MLSI **Meulaboh, Aceh** **83.62 282** P **P** **01 42 42.7 +1.2**
INU **Inuyama** **84.42 331** P **P** **01 42 48.1 +3.2**
comp=Z,24nm,0.9s
SURA **Surathani** **84.69 287** P **P** **01 42 48.2 +1.4**
comp=Z,24nm,0.6s
MJAR **Matsushiro Arr** **85.06 332** P **P** **01 42 46.4 -1.8**
comp=Z,1.6nm,0.3s,baz=165,slow=5.1,SNR=3.1
comp=Z,1.6nm,0.3s
NONG **Nongkai** **88.52 296** P **P** **01 43 06.0 +0.5**
GULI **GuiLin** **89.21 306** *eP* **P** **01 43 05.8 -2.8**
NJ2 **Nanjing** **89.67 316** *eP* **P** **01 43 15.3 +4.8**
NJ2 pmax pmax
comp=Z,18nm,0.5s
KSRS **Korea Array** **89.84 325** P **P** **01 43 11.1 0.0**
comp=Z,8.9nm,1.0s,baz=141,slow=5.7,SNR=9.2
comp=Z,8.9nm,1.0s
KSAR **Wonju Array Be** **89.84 325** P **P** **01 43 10.1 -1.1**
KSAR **Wonju Array Be** **89.84 325** P **P** **01 43 10.1 -1.1**
PHRA **Phrae** **90.78 294** P **P** **01 43 16.3 +0.2**
WHN **Wuhan** **90.89 312** ⇑P P **01 43 15.9 -0.4**
CMAR **Chiang Mai Arr** **91.62 294** P **P** **01 43 20.6 +0.6**
comp=Z,15nm,1.0s,baz=152,slow=3.3,SNR=13
CMAR PP **PP** **01 46 57.5 -1.3**
comp=Z,1.9nm,0.3s,baz=156,slow=6.9,SNR=4.1
comp=Z,15nm,1.0s
CMAR **Chiang Mai Arr** **91.62 294** P **P** **01 43 19.7 -0.3**
CHTO **Chiang Mai** **91.87 294** P **P** **01 43 20.1 -1.1**
CHTO **Chiang Mai** **91.87 294** P **P** **01 43 20.1 -1.1**
GYA **Guiyang** **92.31 304** ⇑P **P** **01 43 24.8 +1.6**
GYA pmax pmax
comp=Z,13nm,1.1s
YSS **Yuzh-Sakhalins** **93.18 339** *i* P **P** **01 43 25.4 -1.0**
YSS pmax pmax
comp=Z,14nm,1.1s
ENH **Enshi** **93.43 309** P **P** **01 43 28.0 -0.1**
comp=Z,27nm,0.9s
PZH **PanZhiHua** **95.41 301** P **P** **01 43 37.6 +0.2**
PZH pmax pmax

comp=Z,10.0nm,0.7s
HNS HongShan 95.97 317 ⇓P **P** **01 43 40.3 +0.8**
HNS pmax pmax
comp=Z,9.0nm,1.0s
XAN Xi'an 96.54 311 P **P** **01 43 42.3 0.0**
XAN pP sP 01 43 49.5 +1.0
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN LR LR
comp=Z,1μm,17.2s
XAN LR LR
comp=Z,2μm,15.8s
CPUP Villa Florida 96.90 135 P **P** **01 43 45.2 +1.0**
comp=Z,2.0nm,1.1s,baz=237,slow=19,SNR=2.3
comp=Z,2.0nm,1.1s
PALK Pallekele 97.16 273 *i* P **P** **01 43 44.6 -1.0**
PALK pmax pmax
comp=Z,9.0nm,1.0s
KLR Kul'dur 98.48 334 *i* P **P** **01 43 50.5 0.0**
KLR pmax pmax
comp=Z,9.0nm,2.8s
HHC Hu-ho-hao-te 100.18 317 *e*P **Pdif** **01 43 58.9 +0.4**
HHC pmax pmax
comp=Z,18nm,0.6s
NVAR Mina Array Bea 101.36 48 P **Pdif** **01 44 09.9 +5.9**
comp=Z,0.9nm,0.9s,baz=243,slow=8.0,SNR=3.4
TXAR Lajitas Array 104.08 63 PKKPbc PKKPbc 02 00 06.3 +2.2
comp=Z,0.4nm,0.7s,baz=90,slow=3.6,SNR=4.7
SONM Songino Array 107.78 319 PKKPbc PKKPbc 01 59 57.4 +4.0
comp=Z,0.6nm,0.6s,baz=299,slow=2.8,SNR=5.0
PDAR Pinedale Array 109.18 49 PKKPbc PKKPbc 01 59 51.4 +2.6
comp=Z,1.0nm,1.0s,baz=70,slow=5.8,SNR=4.3
ILAR Eielson Array 111.21 17 PKiKP **PKiKP** **01 48 45.1 -0.2**
comp=Z,4.5nm,1.1s,baz=254,slow=3.1,SNR=8.0
F25K Christian Rive 113.90 16 P **PKiKP** **01 48 51.7 +1.3**
baz=212
KOTAN Kotaneelee Air 114.12 29 P **PKiKP** **01 48 52.2 +1.2**
baz=226
D23K Nanushuk River 114.16 13 P **PKiKP** **01 48 52.3 +1.4**
baz=208
LSZ Lusaka 114.44 217 PKKPbc PKKPbc 01 59 30.0 -0.8
comp=Z,1.1nm,0.3s,baz=247,slow=5.4,SNR=4.2
EPYK Eagle Plains 114.91 20 P **PKiKP** **01 48 54.6 +2.2**
baz=218
WMQ Urumqi 115.32 307 *e*PKP **PKiKP** **01 48 54.3 +0.3**
G30M tAoh Zraii Nji 115.52 19 P **PKiKP** **01 48 54.1 +0.5**
baz=219
C27K Jago River 116.00 15 P **PKiKP** **01 48 55.3 +0.9**
baz=214
INK Inuvik 117.20 19 P **PKiKP** **01 48 57.6 +0.9**
baz=221
ECSD EROS Data Cent 117.32 55 P **PKiKP** **01 48 58.2 +0.5**
baz=236
TIXI Tiksi 118.15 345*c* *i*PKIKP **PKPdf** **01 48 55.7 -2.7**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
YKA Yellowknife Ar 119.12 30 PKP **PKPdf** **01 49 00.5 0.0**
comp=Z,17nm,0.9s,baz=228,slow=2.1,SNR=11
YKA PKKPbc **PKKPbc** **01 59 17.5 +2.6**
comp=Z,2.5nm,0.9s,baz=49,slow=4.4,SNR=4.0
YKA Yellowknife Ar 119.12 30 PKPdf **PKPdf** **01 49 00.1 -0.4**
MKAR Makanchi Array 120.14 307 PKP **PKPdf** **01 49 02.0 -1.0**
comp=Z,3.1nm,0.7s,baz=112,slow=0.7,SNR=7.0
MKAR Makanchi Array 120.14 307 PKPdf **PKPdf** **01 49 01.3 -1.8**
FFC Flin Flon 120.27 42 PKPdf **PKPdf** **01 49 02.7 -0.3**
FFC Flin Flon 120.27 42 PKiKP **PKPdf** **01 49 02.7 -0.3**
KSH Kashi 120.29 297 PKP **PKiKP** **01 49 06.0 +2.2**
MAKZ Makanchi 120.33 307 PKiKP **PKPdf** **01 48 58.8 -4.6**
C36M Paulatuk 120.37 21 PKPdf **PKPdf** **01 49 02.1 -0.6**
C36M Paulatuk 120.37 21 P **PKPdf** **01 49 02.8 0.0**
baz=229
WCI Wyandotte Cave 120.95 65 P **PKiKP** **01 49 06.9 +2.0**
baz=238
ULM Lac du Bonnet 121.19 49 PKP **PKPdf** **01 49 04.0 -0.9**
comp=Z,2.0nm,0.6s,baz=289,slow=16,SNR=1.6
ULM Lac du Bonnet 121.19 49 *i* PKIKP **PKiKP** **01 49 05.5 +0.5**
KMBO Kilima Mbogo 121.63 234 *i* PKIKP **PKiKP** **01 49 07.6 +0.2**
A36M Sachs Harbour 121.80 19 PKPdf **PKPdf** **01 49 05.2 -0.3**
A36M Sachs Harbour 121.80 19 P **PKiKP** **01 49 06.0 +0.5**
baz=230
ZALV Zalesovo Beam 122.32 316 PKP **PKPdf** **01 49 05.2 -1.7**
comp=Z,1.5nm,0.8s,baz=147,slow=3.0,SNR=4.6
KBL Kabul 122.37 289 PKPdf **PKPdf** **01 49 07.6 -0.4**
KBL Kabul 122.37 289 PKIKP **PKPdf** **01 49 07.6 -0.4**
AAK Ala-Archa 122.84 300 PKP **PKPdf** **01 49 07.5 -1.1**
baz=119,slow=12
AAK Ala-Archa 122.84 300 PKPdf **PKPdf** **01 49 07.7 -0.9**
AAK Ala-Archa 122.84 300 PKIKP **PKPdf** **01 49 07.7 -0.9**
WSAR Wadi Sarin 123.62 272 PKP **PKiKP** **01 49 10.6 -0.1**
comp=Z,6.4nm,0.9s,baz=73,slow=6.4,SNR=2.6
ACSO Alum Creek Sta 124.18 64 P **PKiKP** **01 49 13.1 +1.8**
baz=240
KURBB Kurchatov Arra 124.18 310 PKKPbc PKKPbc 01 59 00.0 +4.8
comp=Z,0.4nm,0.7s,baz=296,slow=4.2,SNR=4.0
KURBB Kurchatov Arra 124.18 310 PKIKP **PKPdf** **01 49 09.2 -1.4**
P52A Corning 124.46 65 P **PKiKP** **01 49 13.0 +1.1**
baz=240
O53A New Philadelph 125.37 65 P **PKiKP** **01 49 15.1 +1.5**
baz=241
KK31 Karatay Array 125.64 299 *i* PKIKP **PKPdf** **01 49 13.5 -0.2**
UOSS Minazif 126.41 272 PKPdf **PKPdf** **01 49 14.0 -1.8**
OTUK Ortayu 126.77 305 PKIKP PKPdf 01 49 07.8 -7.9
NRIK Noril'sk 127.69 333 PKP **PKPdf** **01 49 16.6 -0.2**
comp=Z,8.9nm,0.9s,baz=114,slow=3.3,SNR=4.3
NRIK Noril'sk 127.69 333*c* *i*PKIKP **PKPdf** **01 49 14.8 -2.0**
NRIK pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array 129.77 310 SKPbc SKPab 01 52 41.2 -1.2
comp=Z,2.8nm,1.0s,baz=132,slow=4.2,SNR=5.8
BRVK Borovoye 129.84 310 PKPdf **PKPdf** **01 49 20.2 -1.1**
BRVK Borovoye 129.84 310*c* *i*PKIKP **PKPdf** **01 49 21.4 0.0**
BRVK pmax pmax
comp=Z,14nm,1.7s
GEYT Alibeck 131.72 287 PKP **PKiKP** **01 49 26.0 -0.5**
comp=Z,6.7nm,0.8s,baz=180,slow=0.7,SNR=9.0
GEYT SKPbc **SKPbc** **01 52 50.4 -0.2**
comp=Z,3.4nm,0.9s,baz=188,slow=5.5,SNR=7.6
GYA0 ALIBECK ARRAY 131.72 287 PKIKP **PKPdf** **01 49 25.3 -0.2**
AB31 Akbulak array 134.77 302 *i* PKIKP **PKPdf** **01 49 30.7 -0.1**
SVE Sverdlovsk 136.21 313 *e*PKIKP **PKPdf** **01 49 33.4 +0.2**
SVE pmax pmax
comp=Z,20nm,1.2s
AKTO Aktyubinsk 136.30 304 PKIKP **PKPdf** **01 49 32.7 -0.9**
ARU Arti 137.27 312 PKP **PKPdf** **01 49 34.2 -1.0**
baz=198,slow=3.2
ARU Arti 137.27 312 *i* PKIKP **PKPdf** **01 49 35.3 +0.1**
ARU 01 52 18.0
ARU SS SS 02 10 17.8 -9.3
GNI Garni 142.14 284 *i* PKIKP **PKPdf** **01 49 43.9 -1.0**
GNI pmax pmax
comp=Z,12nm,1.0s
BELG Belogornoye 143.06 305 PKhKP PKPpre 01 49 41.3
comp=Z,25nm,0.9s,baz=137,slow=6.6,SNR=5.0
BELG SKPbc **SKPbc** **01 53 22.9 -0.5**
comp=Z,21nm,0.9s,baz=185,slow=2.8,SNR=6.1
GURO Guroymak-BITLI 143.53 280 PKPdf PKPbc 01 49 44.9 +0.2
LIC Lamto 143.93 182⇑ *e*P **PKPdf** **01 49 50.3 +1.7**
comp=Z,48nm,0.8s
MARD Mardin 143.97 278 PKPab 01 49 45.7 +0.2
PRGR Permogore 144.03 320 *e*PKIKP **PKiKP** **01 49 49.3 -1.4**
PRGR pmax pmax
comp=Z,10.0nm,0.8s
KIC Kosan Boka 144.05 182⇑ *e*P PKPbc 01 49 47.7 +1.0
comp=Z,10nm,0.6s
TIC Toumodi 144.34 182⇑ *e*P **PKPdf** **01 49 49.2 -0.2**
comp=Z,19nm,0.8s
DBIC Dimbokro 144.36 182 PKP **PKPdf** **01 49 48.8 -0.5**
comp=Z,15nm,0.9s,baz=168,slow=3.3,SNR=5.6
NEY Neytrino 144.55 288 *i* PKIKP PKPbc 01 49 48.1 +0.4
NEY pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 144.56 289 PKP **PKPab** **01 49 47.1 -0.1**
comp=Z,13nm,0.7s,baz=138,slow=2.7,SNR=16
KBZ Khabaz 144.56 289 *i* PKIKP **PKPab** **01 49 46.5 -0.7**
KBZ pmax pmax
comp=Z,25nm,0.8s
ASF Jabal al Asfar 144.58 268 PKP **PKPdf** **01 49 49.2 -0.1**
comp=Z,23nm,1.0s,baz=178,slow=3.3,SNR=9.3
SHA1 Shidzhatmaz 144.73 289 *i* PKIKP PKPbc 01 49 48.4 +0.1
EIL Elat 144.73 262 PKP PKPbc 01 49 49.0 +0.5
comp=Z,12nm,0.8s,baz=97,slow=3.7,SNR=5.2
KVAR Kislovodsk Arr 144.76 290 PKP **PKPdf** **01 49 49.1 -0.1**
comp=Z,3.1nm,0.6s,baz=93,slow=24,SNR=1.4
KIV Kislovodsk 144.76 290 PKPdf PKPbc 01 49 48.3 +0.1
KIV Kislovodsk 144.76 290 *e*PKIKP **PKPdf** **01 49 51.0 +1.7**
KIV pmax pmax
comp=Z,25nm,1.1s
GOF Gofitskoye 144.79 291⇑ *e*PKIKP **PKPab** **01 49 47.6 -0.5**
GOF pmax pmax
comp=Z,168nm,1.4s
DAG Danmarks Havn 145.15 5 *i* P **PKPbc** **01 49 46.0 -2.4**
SFJD Kangerlussuaq 145.68 29 PKPdf **PKPdf** **01 49 49.5 -0.5**
SFJD Kangerlussuaq 145.68 29 *e*P **PKPdf** **01 49 49.3 -0.7**
SFJD Kangerlussuaq 145.68 29 PKIKP **PKPdf** **01 49 49.5 -0.5**
SUMG Summit 146.06 17 *i* P **PKPdf** **01 49 51.0 0.0**
MMAI Mount Meron Ar 146.09 268 PKPbc **PKPab** **01 49 54.2 +0.8**
comp=Z,35nm,0.8s,baz=103,slow=3.8,SNR=15
NUUK Nuuk 146.24 34 *e*P **PKPbc** **01 49 52.4 +0.3**
VRH Novokhopyorsk 146.60 302 *e*PKIKP **PKPdf** **01 49 51.9 -0.1**
VRH pmax pmax
comp=Z,80nm,0.8s
SOC Sochi 146.75 288 *i* PKIKP **PKPab** **01 49 55.6 +0.1**
SOC *e* 01 53 14.8
SOC pmax pmax
comp=Z,32nm,1.1s
KLMR Klimovskoe 147.07 320 *e*PKPdf **PKPdf** **01 49 52.6 +0.1**
KLMR AMP 01 50 01.8
comp=Z,70nm,1.2s
KLMR Klimovskoe 147.07 320 *e*PKIKP **PKPdf** **01 49 52.5 +0.1**
KLMR pmax pmax
comp=Z,70nm,1.2s
APA Apatity 147.12 333 ⇓ *i*PKIKP **PKPdf** **01 49 52.8 +0.4**
APA pmax pmax
comp=Z,23nm,0.8s
VORR Voronezh 148.19 303 *e*PKP2 **PKPbc** **01 49 57.6 -0.4**
VORR pmax pmax
comp=Z,142nm,1.2s
VSR Storozhevoye 148.21 302 *e*PKP2 **PKPbc** **01 49 56.7 -1.3**
VSR pmax pmax
comp=Z,60nm,1.2s
ARCES ARCESS Array B 148.31 339 PKPbc **PKPbc** **01 49 56.4 -1.3**
comp=Z,15nm,0.8s,baz=88,slow=0.9,SNR=10
ARCES ARCESS Array B 148.31 339 PKPdf **PKPdf** **01 49 53.8 -0.6**
ARCES ARCESS Array B 148.31 339 PKIKP **PKPdf** **01 49 53.8 -0.6**
LPSR Galich'ya Gora 148.37 305 *e*PKP2 **PKPbc** **01 49 57.8 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
CSS Mathiatis 148.50 270 **PKPbc** **01 49 59.3 0.0**
MOS Moscow 148.94 311 *e*PKP2 **PKPbc** **01 49 58.1 -1.6**
MOS pmax pmax
comp=Z,59nm,1.2s
NRS Narsarsuaq 149.99 38 **PKPbc** **01 50 02.5 +0.3**
NRS Narsarsuaq 149.99 38 *e*P **PKPbc** **01 50 00.7 -1.5**
NRS Narsarsuaq 149.99 38 PKP2 **PKPbc** **01 50 02.5 +0.3**
BRTR Keskin Array B 150.06 278 PKPbc **PKPbc** **01 50 03.0 -0.3**
comp=Z,38nm,0.8s,baz=140,slow=4.7,SNR=20
BRTR Keskin Array B 150.06 278 PKP2 **PKPbc** **01 50 03.0 -0.3**
ANGG Ammassalik, Gr 150.90 26 *e*P **PKPbc** **01 50 02.7 -1.4**
FIA1 FINESS Array S 152.93 326 PKPbc **PKPbc** **01 50 06.2 -2.8**
FINES FINESS Array B 152.93 326 PKPbc **PKPbc** **01 50 08.2 -0.7**
comp=Z,14nm,0.7s,baz=94,slow=5.7,SNR=12
FINES FINESS Array B 152.93 326 PKPbc **PKPbc** **01 50 06.7 -2.2**
FINES FINESS Array B 152.93 326 PKIKP **PKPbc** **01 50 06.7 -2.2**
AKASG Malin Array Be 154.50 301 PKPbc **PKPbc** **01 50 12.2 -0.5**
comp=Z,4.6nm,0.8s,baz=69,slow=2.2,SNR=7.3
AKASG Malin Array Be 154.50 301 PKPbc **PKPbc** **01 50 09.3 -3.3**
AKASG **PKPab** **01 50 26.6 -0.6**
AKASG Malin Array Be 154.50 301 PKP2 **PKPab** **01 50 26.7 -0.6**
IDI Anoyia 154.88 264 PKPbc **PKiKP** **01 50 14.9 +0.8**
comp=Z,18nm,0.7s,baz=214,slow=5.4,SNR=7.2
CFR Carcaliu 155.20 288 ⇓P **PKPdf** **01 50 02.8 -2.5**
VRI Vrincioaia 156.24 290 ⇓P PKPdf 01 49 56.5 -10
PLOR Plostina 156.30 290 ⇑P PKPdf 01 49 55.6 -11
BURAR Bucovina Array 157.31 294 PKPdf **PKPdf** **01 50 07.9 -0.4**
BURAR PKPab **PKPab** **01 50 37.4 -2.2**
NB2 NORSAR Subarra 158.61 337 PKP **PKPab** **01 50 44.3 -0.4**
comp=Z,1.6nm,0.7s,baz=40,slow=5.1
NOA NORSAR Array B 158.61 337 PKPab **PKPab** **01 50 44.2 -0.4**
comp=Z,2.3nm,0.7s,baz=42,slow=4.8,SNR=3.0
KOLS Kolonicke sedl 159.17 298 *e*PKP **PKPab** **01 50 48.0 +0.5**
KOLS Kolonicke sedl 159.17 298 *e*PKP2 **PKPab** **01 50 48.0 +0.5**
UZH Uzhgorod 159.19 297 ⇓ *i*PKP2 **PKPab** **01 50 46.8 -0.8**
CRVS Cervenica-Dubn 159.71 298 *e*PKP **PKPab** **01 50 50.4 +0.6**
CRVS Cervenica-Dubn 159.71 298 *e*PKP2 **PKPab** **01 50 50.4 +0.6**
DIVS Divibare 160.90 284 PKPab **PKPab** **01 50 53.5 -1.8**
VYHS Vyhne 161.49 298 *e*PKP **PKPab** **01 50 58.0 +0.4**
VYHS Vyhne 161.49 298 *e*PKP2 **PKPab** **01 50 58.0 +0.4**
OKC Ostrava-Krasne 161.65 302 *e*PKPAB **PKPab** **01 50 58.6 +0.4**
OKC Ostrava-Krasne 161.65 302 *e*PKP2 **PKPab** **01 50 58.6 +0.4**
MAUC Maruska 161.96 301 *e*PKPAB **PKPab** **01 51 00.3 +0.6**
MORC Moravsky Berou 162.04 302 PKPdf **PKPab** **01 50 11.7 -1.8**
MORC PKPab **PKPab** **01 50 58.3 -1.8**
MORC Moravsky Berou 162.04 302 *e*PKP **PKPab** **01 51 00.6 +0.5**
MORC Moravsky Berou 162.04 302 PKIKP **PKPdf** **01 50 11.7 -1.8**
MORC 01 50 58.3
KRLC Kraliky 162.43 304 *e*PKPAB **PKPab** **01 51 00.8 -0.9**
KRLC Kraliky 162.43 304 *e*PKP2 **PKPab** **01 51 00.8 -0.9**
MODS Modra-Piesok 162.53 298 *e*PKP2 **PKPab** **01 51 02.3 +0.1**
OSTC Ostas 162.63 306 *e*PKPAB **PKPab** **01 51 02.1 -0.5**
DPC Dobruska-Polom 162.63 305 *e*PKPAB **PKPab** **01 51 02.3 -0.3**
DPC Dobruska-Polom 162.63 305 *e*PKP2 **PKPab** **01 51 02.3 -0.3**
VRAC Vranov 162.76 301 *e*PKP **PKPab** **01 51 02.8 -0.4**
UPC Upice 162.76 306 *e*PKPAB **PKPab** **01 51 03.3 +0.2**
UPC Upice 162.76 306 *e*PKP2 **PKPab** **01 51 03.3 +0.2**
KRUC Moravsky 162.95 301 *e*PKP **PKPab** **01 51 03.7 -0.3**
RONA Rosalia, Austr 163.30 296 *e*P **PKPab** **01 51 06.9 +1.2**
comp=Z,7.8nm,1.3s
CONA Conrad Observa 163.55 297 *e*P **PKPab** **01 51 08.3 +1.5**
comp=Z,5.4nm,1.1s
PVCC Panska Ves 163.62 307 *e*PKPAB **PKPab** **01 51 06.8 -0.1**
PVCC Panska Ves 163.62 307 *e*PKP2 **PKPab** **01 51 06.8 -0.1**
PRU Pruhonice 163.83 305 *e*PKPAB **PKPab** **01 51 07.7 -0.1**
PRU Pruhonice 163.83 305 *e*PKP2 **PKPab** **01 51 07.7 -0.1**
BRG Berggiesshubel 163.85 308 Amp 02 07 19.0
comp=N,4.6nm,24.5s
BRG Berggiesshubel 163.85 308 *i* PKP2 **PKPab** **01 51 08.1 +0.2**
BRG pmax pmax
comp=Z,20nm,1.2s
BRG Berggiesshubel 163.85 308 *i* PKP **PKPab** **01 51 08.1 +0.2**
BRG Berggiesshubel 163.85 308 Amp 01 51 12.2
comp=Z,20nm,1.2s
BRG Berggiesshubel 163.85 308 Amp 02 07 15.0
comp=E,5.8nm,25.6s
BRG Berggiesshubel 163.85 308 Amp 02 07 16.0
comp=Z,8.8nm,29.6s
ARSA Arzberg 163.89 295 *e*P **PKPab** **01 51 11.0 +2.7**
comp=Z,12nm,1.4s
CKRC Cesky Krumlov 164.34 301 *e*PKPAB **PKPab** **01 51 09.8 -0.3**
MOA Mohe 164.61 298 *e*P **PKPab** **01 51 11.1 -0.3**
comp=Z,11nm,1.8s
OBKA Obir 164.67 292 *e*P **PKPab** **01 51 12.0 +0.2**
comp=Z,8.0nm,1.1s
KHC Kasperske Hory 164.70 303 *e*PKPAB **PKPab** **01 51 09.9 -1.9**
KHC Kasperske Hory 164.70 303 *e*PKP2 **PKPab** **01 51 09.9 -1.9**
GERES GERESS Array B 164.72 302 PKPab **PKPab** **01 51 11.4 -0.5**
comp=Z,2.0nm,0.9s,baz=56,slow=3.7,SNR=6.3
BIOA Bad Ischl, Aus 165.06 297 *e*P **PKPab** **01 51 13.2 -0.2**
comp=Z,10nm,1.3s
KBA Koelnbreinsper 165.39 295 *e*P **PKPab** **01 51 17.5 +2.5**
comp=Z,5.1nm,0.9s
ABTA Abfaltersbach 166.01 294 *e*P **PKPab** **01 51 18.3 +0.7**
comp=Z,12nm,1.7s
CIMO Cimolais 166.14 293 PKPab **PKPab** **01 51 17.2 -1.0**
KEST Kesra 166.22 246 PKPab **PKPab** **01 51 20.2 +1.3**
comp=Z,20nm,0.9s,baz=1.8,slow=1.0,SNR=13
WTTA Wattenberg 166.48 297 *e*P **PKPab** **01 51 19.1 -0.7**
comp=Z,22nm,1.2s
WATA Walderalm 166.50 297 *e*P **PKPab** **01 51 18.9 -1.0**
comp=Z,12nm,1.5s
SQTA Sankt Quirin 166.78 297 *e*P **PKPab** **01 51 19.9 -1.2**
comp=Z,5.1nm,0.9s
MOTA Moosalm 166.81 298 *e*P **PKPab** **01 51 20.3 -0.9**
comp=Z,13nm,1.3s
FETA Feichten 167.14 297 *e*P **PKPab** **01 51 22.5 -0.2**
comp=Z,9.3nm,1.2s
DAVA Damuels 167.63 299 *e*P **PKPab** **01 51 24.7 -0.2**
comp=Z,9.2nm,1.3s
DAVOX Davos/Dischmat 167.77 296 PKPab **PKPab** **01 51 25.0 -0.6**
comp=Z,10nm,1.0s,baz=62,slow=2.7,SNR=7.7
ESDC Sonseca Array 176.78 212 PKPab **PKPab** **01 52 08.6 +3.2**
comp=Z,2.6nm,0.9s,baz=152,slow=3.8,SNR=5.9

LDG **14** *01:33:43.0±0.1, 42.˚85N×13.˚20E, h10km, Md4.0/1, Ml3.6/35, Error ellipse: s-maj=2.0km s-min=1.2km az=54.0*
PRU **14** *01:33:43.2±0.0, 42.˚86N×13.˚18E, h0km, M4.2*
ROM **14** *01:33:44.0±0.0, 42.˚859N±0.˚001×13.˚156E±0.˚003, h11km, ML4.1/132, Error ellipse: s-maj=0.2km s-min=0.0km az=256.0*

STR **14** *01:33:43.3±3.0, 43˚N±15˚×1˚3'E±2˚1, h10km, MLv4.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=123.5, preliminary*
PDG **14** *01:33:44.3±0.6, 42.˚87N×13.˚17E, h15km, ML3.9/13, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
NEIC **14** *01:33:44.8±1.9, 42.˚85N±0.˚05×13.˚11E±0.˚07, h10km±1km, mb4.2/13, ML4.0(VIE), ML4.0(ROM), Error ellipse: s-maj=9.9km s-min=7.8km az=218.0*
IDC **14** *01:33:46.0±1.0, 43.˚10N×13.˚35E, h0km, mb3.9/10, mbtmp3.9/19, ML3.5/8, Error ellipse: s-maj=18.2km s-min=11.4km az=77.0*

ISC 14 01:33:44.8±0.6, 42.˚85N±0.˚01×13.˚15E±0.˚02, h13km±3km, n466, σ2.˚18/569, mb4.1/16, 65C-37D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**239**			**Pg**	**01 33 45.8**	**-1.5**
NRCA	**Norcia**	**0.03**	**239**	⇑P		**Pg**	**01 33 46.5**	**-0.8**
NRCA				S		**Sg**	**01 33 47.9**	**-1.1**
NRCA					AML	AML		
NRCA					AML	AML		
NRCA					AML	AML		
NRCA					AML	AML		
NRCA					AML	AML		
T1245	**Castelsantange**	**0.03**	**75**	⇓P		**Pg**	**01 33 46.4**	**-1.0**
T1245				S		**Sg**	**01 33 47.9**	**-1.4**
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
T1216	**Preci, Frazion**	**0.10**	**295**	⇑P		**Pg**	**01 33 47.3**	**-0.7**
T1216				S		**Sg**	**01 33 49.4**	**-0.7**
T1216					AML	AML		
T1216					AML	AML		
T1216					AML	AML		
T1216					AML	AML		
T1212	**Cascia, Frazio**	**0.12**	**218**	⇑P		**Pg**	**01 33 47.9**	**-0.3**
T1212				S		**Sg**	**01 33 50.5**	**-0.1**
T1213	**Norcia, Frazio**	**0.12**	**187**	⇑P		**Pg**	**01 33 47.8**	**-0.5**
T1213				S		**Sg**	**01 33 50.2**	**-0.4**
FEMA	**Monte Fema**	**0.13**	**328**	⇓P		**Pg**	**01 33 47.7**	**-0.8**
FEMA				S		**Sg**	**01 33 50.0**	**-1.0**
FEMA					AML	AML		
FEMA					AML	AML		
FEMA					AML	AML		
T1256	**Bolognola (MC)**	**0.17**	**20**	⇑P		**Pg**	**01 33 48.0**	**-1.0**
T1256				S		**Sg**	**01 33 50.7**	**-1.1**
T1256					AML	AML		
T1256					AML	AML		
T1256					AML	AML		
T1256					AML	AML		
T1256					AML	AML		
T1218	**Civita (PG)**	**0.18**	**187**	⇑P		**Pg**	**01 33 48.8**	**-0.3**
T1218				S		**Sg**	**01 33 52.2**	**+0.2**
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
FDMO	**Fiordimonte**	**0.19**	**347**	Pg		**Pg**	**01 33 48.0**	**-1.2**
FDMO	**Fiordimonte**	**0.19**	**347**	⇓P		**Pg**	**01 33 48.4**	**-0.8**
FDMO				S		**Sg**	**01 33 51.4**	**-0.9**
FDMO					AML	AML		
FDMO					AML	AML		
T1201	**Domo (RI)**	**0.21**	**158**	⇑P		**Pg**	**01 33 49.3**	**-0.1**
T1201				S		**Sg**	**01 33 53.4**	**+0.8**
T1215	**Vallo di Nera,**	**0.21**	**257**	⇑P		**Pg**	**01 33 49.2**	**-0.3**
T1215				S		**Sg**	**01 33 52.9**	**+0.2**
T1215					AML	AML		
	comp=E,32550μm,0.6s							
T1215					AML	AML		
	comp=N,62850μm,0.9s							
T1215					AML	AML		
	comp=N,64300μm,0.9s							
T1215					AML	AML		
	comp=E,32600μm,0.6s							
T1215					AML	AML		
	comp=N,62900μm,0.9s							
T1215					AML	AML		
	comp=E,30900μm,1.3s							
T1215					AML	AML		
	comp=E,32550μm,0.6s							
T1215					AML	AML		
	comp=N,64300μm,0.9s							
T1221	**Campello sul C**	**0.22**	**273**	⇑P		**Pg**	**01 33 49.4**	**-0.3**
T1221				S		**Sg**	**01 33 53.2**	**+0.2**
T1219	**Muccia, Frazio**	**0.23**	**334**	⇓P		**Pg**	**01 33 49.1**	**-0.7**
T1219				S		**Sg**	**01 33 52.8**	**-0.5**
T1219					AML	AML		
T1219					AML	AML		
T1219					AML	AML		
T1219					AML	AML		
T1219					AML	AML		
T1219					AML	AML		
T1219					AML	AML		
T1219					AML	AML		
T1219					AML	AML		
CESI	**CESI - Serrava**	**0.24**	**312**	P		**Pg**	**01 33 49.5**	**-0.5**
CESI				S		**Sg**	**01 33 53.4**	**-0.1**
CSP1	**Cessapalombo**	**0.25**	**10**	⇑P		**Pg**	**01 33 49.3**	**-0.9**
CSP1				S		**Sg**	**01 33 53.1**	**-0.7**
CSP1					AML	AML		
CSP1					AML	AML		
CSP1					AML	AML		
GUMA	**Gualdo di Mace**	**0.26**	**33**	⇑P		**Pg**	**01 33 49.7**	**-0.6**
GUMA				S		**Sg**	**01 33 53.8**	**-0.2**
GUMA					AML	AML		
GUMA					AML	AML		
GUMA					AML	AML		
GUMA					AML	AML		
GUMA					AML	AML		
GUMA					AML	AML		
GUMA					AML	AML		
LNSS	**Leonessa**	**0.26**	**198**	⇑P		**Pg**	**01 33 50.0**	**-0.3**
LNSS				S		**Sg**	**01 33 54.4**	**+0.4**
LNSS					AML	AML		
LNSS					AML	AML		
	comp=E,29600μm,0.2s							
SMA1	**SAN MARTINO**	**0.26**	**147**	⇑P		**Pg**	**01 33 49.8**	**-0.6**
SMA1				S		**Sg**	**01 33 53.9**	**-0.2**
SMA1					AML	AML		
	comp=N,83250μm,0.7s							
SMA1					AML	AML		
	comp=E,63250μm,0.6s							
SMA1					AML	AML		
	comp=N,83200μm,0.7s							
T1220	**Camerino, Fraz**	**0.27**	**351**	P		**Pg**	**01 33 49.7**	**-0.8**
T1220				S		**Sg**	**01 33 53.9**	**-0.3**
T1243	**Rocca Santa Ma**	**0.27**	**124**	⇑P		**Pg**	**01 33 49.8**	**-0.8**
T1243				S		**Sb**	**01 33 54.2**	**-1.9**
SEF1	**Sefro**	**0.33**	**334**	⇑P		**Pg**	**01 33 50.9**	**-0.7**
SEF1					AML	AML		
	comp=N,77400μm,1.2s							
SEF1					AML	AML		
	comp=E,84250μm,0.8s							
RM33	**Pellescritta (**	**0.34**	**172**	⇑P		**Pg**	**01 33 51.4**	**-0.5**
RM33				S		**Sg**	**01 33 56.6**	**+0.1**
RM33					AML	AML		
	comp=E,54450μm,1.5s							
RM33					AML	AML		
	comp=N,38250μm,0.4s							
RM33					AML	AML		
	comp=N,38400μm,0.4s							
RM33					AML	AML		
	comp=E,54500μm,1.5s							
RM33					AML	AML		
	comp=N,38350μm,0.4s							
RM33					AML	AML		
	comp=E,55750μm,1.5s							
MDAR	**Monte D'Aria**	**0.34**	**360**	P		**Pg**	**01 33 50.9**	**-1.0**
MDAR				S		**Sg**	**01 33 55.9**	**-0.7**
MDAR					AML	AML		
	comp=E,83700μm,0.6s							
MDAR					AML	AML		
MDAR					AML	AML		
	comp=E,83750μm,0.5s							
PIO1	**Pioraco**	**0.35**	**340**	P		**Pg**	**01 33 51.1**	**-0.8**
CAMP	**Campotosto**	**0.37**	**148**	Pg		**Pg**	**01 33 51.4**	**-0.8**

CAMP	**Campotosto**	**0.37**	**148**	⇑P		**Pg**	**01 33 51.5**	**-0.7**
CAMP				S		**Sg**	**01 33 56.8**	**-0.5**
CAMP				AML	AML			
	comp=N,33700µm,1.0s							
CAMP				AML	AML			
	comp=E,41350µm,0.3s							
T1246	**Crognaleto (TE**	**0.37**	**136**	⇓P		**Pg**	**01 33 51.6**	**-0.7**
T1246				S		**Sb**	**01 33 57.5**	**-1.5**
MNTP	**Montappone**	**0.37**	**39**	⇑P		**Pb**	**01 33 52.0**	**-1.3**
MNTP				AML	AML			
MNTP				AML	AML			
MNTP				AML	AML			
MNTP				AML	AML			
FIU1	**Fiuminata**	**0.38**	**335**	P		**Pg**	**01 33 51.6**	**-0.8**
FIU1				S		**Sg**	**01 33 57.5**	**0.0**
SSM1	**San Severino M**	**0.38**	**3**	P		**Pg**	**01 33 51.6**	**-0.9**
SSM1				S		**Sb**	**01 33 57.4**	**-1.9**
T1211	**Morro Reatino**	**0.38**	**214**	⇑P		**Pg**	**01 33 52.1**	**-0.4**
T1211				S		**Sb**	**01 33 58.9**	**-0.4**
T1211				AML	AML			
	comp=E,35600µm,1.1s							
T1211				AML	AML			
	comp=E,35950µm,1.1s							
T1211				AML	AML			
T1211				AML	AML			
T1211				AML	AML			
	comp=E,35600µm,1.1s							
T1211				AML	AML			
	comp=E,36000µm,1.1s							
T1211				AML	AML			
ARRO	**Arrone**	**0.39**	**226**	⇑P		**Pg**	**01 33 52.3**	**-0.3**
ARRO				AML	AML			
	comp=N,18250µm,0.3s							
ARRO				AML	AML			
	comp=E,18350µm,0.3s							
TERO	**Teramo**	**0.41**	**124**	P		**Pg**	**01 33 52.0**	**-0.9**
TERO				S		**Sb**	**01 33 58.4**	**-1.6**
TERO				AML	AML			
	comp=E,34200µm,0.2s							
TERO				AML	AML			
	comp=N,25650µm,0.4s							
TERO				AML	AML			
	comp=N,26750µm,0.5s							
TERO				AML	AML			
	comp=N,25700µm,0.4s							
TERO				AML	AML			
	comp=E,36400µm,0.2s							
TERO				AML	AML			
	comp=E,34250µm,0.2s							
OFFI	**Offida**	**0.41**	**77**	P		**Pb**	**01 33 52.8**	**-1.1**
OFFI				AML	AML			
	comp=N,87650µm,0.6s							
OFFI				AML	AML			
	comp=E,53900µm,0.7s							
ASSB	**Assisi San Ben**	**0.41**	**299**	AML	AML			
	comp=N,33850µm,1.0s							
ASSB				AML	AML			
	comp=E,39000µm,0.7s							
T1247	**Pizzolo (AQ)**	**0.42**	**165**	⇑P		**Pg**	**01 33 52.7**	**-0.6**
T1247				S		**Sb**	**01 33 59.2**	**-1.2**
T1247				AML	AML			
	comp=E,42250µm,1.4s							
T1247				AML	AML			
	comp=N,43250µm,0.4s							
SNTG	**Esanatoglia**	**0.43**	**340**	⇑P		**Pg**	**01 33 52.5**	**-1.0**
SNTG				S		**Sg**	**01 33 59.1**	**-0.2**
SNTG				AML	AML			
	comp=E,22350µm,0.8s							
SNTG				AML	AML			
	comp=N,32900µm,0.3s							
SNTG				AML	AML			
	comp=N,34050µm,0.3s							
SNTG				AML	AML			
	comp=E,21000µm,0.8s							
SNTG				AML	AML			
	comp=E,22300µm,0.8s							
SNTG				AML	AML			
	comp=N,32850µm,0.3s							
CESX	**Cesi**	**0.48**	**241**	Pg		**Pg**	**01 33 53.6**	**-0.7**
CESX	**Cesi**	**0.48**	**241**	⇑P		**Pg**	**01 33 53.7**	**-0.6**
CESX				S		**Sb**	**01 34 01.7**	**-0.4**
CESX				AML	AML			
	comp=N,37100µm,0.4s							
CESX				AML	AML			
	comp=E,35000µm,0.4s							
EL6	**Elcito**	**0.48**	**356**	⇑P		**Pg**	**01 33 53.4**	**-1.0**
EL6				AML	AML			
	comp=N,84300µm,0.5s							
EL6				AML	AML			
	comp=E,50950µm,1.6s							
ATCC	**AVT- Casa Cast**	**0.50**	**312**	⇑P		**Pg**	**01 33 54.0**	**-0.7**
ATCC				S		**Sg**	**01 34 01.6**	**+0.2**
GIGS	**Gran Sasso**	**0.51**	**142**	P		**Pg**	**01 33 53.7**	**-1.1**
GIGS				S		**Sg**	**01 34 01.1**	**-0.4**
GIGS				AML	AML			
	comp=N,4975µm,0.2s							
GIGS				AML	AML			
	comp=E,6430µm,1.1s							
FOSV	**Fossato di Vic**	**0.53**	**328**	⇑P		**Pg**	**01 33 54.3**	**-0.9**
FOSV				S		**Sg**	**01 34 02.1**	**-0.2**
FOSV				AML	AML			
	comp=N,28200µm,0.5s							
FOSV				AML	AML			
	comp=E,27150µm,0.7s							
AQU	**L'Aquila**	**0.53**	**159**	Pg		**Pg**	**01 33 54.4**	**-0.8**
AQU	**L'Aquila**	**0.53**	**159**	⇑P		**Pg**	**01 33 54.4**	**-0.8**
AQU				S		**Sb**	**01 34 02.4**	**-1.1**
AQU				AML	AML			
	comp=N,15300µm,0.5s							
AQU				AML	AML			
	comp=N,15350µm,0.5s							
AQU				AML	AML			
	comp=E,19950µm,0.7s							
AQU				AML	AML			
	comp=E,20100µm,0.7s							
AQU				AML	AML			
	comp=N,14400µm,0.5s							
CING	**Cingoli**	**0.53**	**4**	⇑P		**Pg**	**01 33 54.1**	**-1.1**
CING				S		**Sb**	**01 34 02.3**	**-1.2**
CING				AML	AML			
	comp=N,22700µm,0.4s							
CING				AML	AML			
	comp=E,51250µm,0.6s							
TRTR	**Tortoreto Alta**	**0.57**	**94**	⇑P		**Pb**	**01 33 56.1**	**-0.5**
TRTR				AML	AML			
	comp=E,43450µm,0.5s							
TRTR				AML	AML			
	comp=N,50700µm,0.3s							
CADA	**Capodarco di F**	**0.57**	**52**	P		**Pb**	**01 33 56.5**	**-0.1**
FIAM	**Fiamignano**	**0.58**	**182**	⇑P		**Pg**	**01 33 55.3**	**-0.9**
FIAM				S		**Sg**	**01 34 04.1**	**+0.2**
CIMA	**Civitanova Mar**	**0.60**	**40**	P		**Pb**	**01 33 56.3**	**-0.8**
MMUR	**Monte Murano**	**0.60**	**350**	P		**Pg**	**01 33 55.6**	**-1.1**
MMUR				S		**Sb**	**01 34 04.8**	**-0.9**
MMUR				AML	AML			
	comp=E,41150µm,1.4s							
MMUR				AML	AML			
	comp=N,34500µm,1.5s							
MMUR				AML	AML			
	comp=N,34450µm,1.4s							
MMUR				AML	AML			
	comp=E,41200µm,1.4s							
MURB	**Monte Urbino**	**0.62**	**313**	Pg		**Pg**	**01 33 56.0**	**-0.9**
MURB	**Monte Urbino**	**0.62**	**313**	P		**Pg**	**01 33 56.0**	**-0.9**
MURB				AML	AML			
	comp=N,46700µm,0.4s							
MURB				AML	AML			
	comp=E,49450µm,1.0s							
PP3	**Marolino**	**0.63**	**32**	⇑P		**Pb**	**01 33 56.8**	**-0.9**
PP3				AML	AML			
	comp=E,51450µm,0.3s							
PP3				AML	AML			
	comp=E,52650µm,0.3s							
PP3				AML	AML			
	comp=N,45100µm,0.9s							
PP3				AML	AML			
	comp=E,51400µm,0.3s							
PP3				AML	AML			
	comp=E,52600µm,0.3s							
PP3				AML	AML			
	comp=N,45150µm,0.9s							
PP3				AML	AML			
	comp=N,45050µm,0.9s							
SSFR	**Montelago di S**	**0.65**	**336**	P		**Pg**	**01 33 56.3**	**-1.2**
SSFR				S		**Sb**	**01 34 06.2**	**-0.7**
SSFR				AML	AML			
	comp=E,40800µm,0.2s							
SSFR				AML	AML			
	comp=N,26900µm,0.2s							
SSFR				AML	AML			
	comp=N,27200µm,1.0s							
SSFR				AML	AML			
	comp=E,43350µm,0.2s							
FAGN	**Fagnano**	**0.67**	**151**	P		**Pg**	**01 33 56.6**	**-1.2**
FAGN				AML	AML			
	comp=E,38200µm,0.3s							
FAGN				AML	AML			
	comp=N,31800µm,1.6s							
ARVD	**Arcevia**	**0.67**	**347**	⇑P		**Pg**	**01 33 56.6**	**-1.2**
ARVD				AML	AML			
	comp=N,13350µm,1.0s							
ARVD				AML	AML			
	comp=E,13250µm,0.6s							
ATFO	**Monte Foce - G**	**0.67**	**321**	P		**Pg**	**01 33 56.8**	**-1.1**
ATFO				AML	AML			
	comp=N,18050µm,1.4s							
ATFO				AML	AML			
	comp=E,20050µm,0.8s							
ATTE	**AVT- Monte Tez**	**0.68**	**301**	AML	AML			
	comp=N,11400µm,1.5s							
ATTE				AML	AML			
	comp=E,9535µm,0.4s							
VCEL	**Villa Celiera**	**0.68**	**131**	AML	AML			
	comp=N,19300µm,0.3s							
VCEL				AML	AML			
	comp=E,15900µm,0.5s							
VCEL				AML	AML			
	comp=N,19250µm,0.3s							
ATLO	**AVT- Montelove**	**0.71**	**311**	⇑P		**Pg**	**01 33 57.6**	**-1.1**
FRON	**Frontone**	**0.74**	**335**	⇑P		**Pg**	**01 33 57.7**	**-1.4**
FRON				AML	AML			
	comp=E,11450µm,0.8s							
FRON				AML	AML			
	comp=N,21000µm,0.4s							
ATVO	**AVT- Monte Val**	**0.76**	**315**	⇑P		**Pg**	**01 33 58.4**	**-1.2**
ATVO				AML	AML			
	comp=E,8380µm,0.4s							
ATVO				AML	AML			
	comp=N,10135µm,0.7s							
MGAB	**Montegabbione**	**0.76**	**275**	⇑P		**Pg**	**01 33 58.8**	**-0.8**
MGAB				AML	AML			
	comp=E,25300µm,0.6s							
MGAB				AML	AML			
	comp=N,32700µm,0.4s							
MGAB				AML	AML			
	comp=E,30150µm,0.6s							
MGAB				AML	AML			
	comp=N,32050µm,1.3s							
ATVA	**AVT- Monte Val**	**0.76**	**305**	P		**Pg**	**01 33 58.5**	**-1.2**
SRES	**S.Oreste - Sor**	**0.77**	**218**	⇑P		**Pg**	**01 33 58.7**	**-1.1**
SRES				AML	AML			
	comp=N,8875µm,0.4s							
SRES				AML	AML			
	comp=E,7805µm,0.6s							
AOI	**Ancona**	**0.78**	**25**	P		**Pg**	**01 33 58.6**	**-1.3**
AOI				AML	AML			
	comp=E,11265µm,0.8s							
AOI				AML	AML			
	comp=N,16850µm,0.5s							
T0110	**Collepietro**	**0.78**	**143**	P		**Pg**	**01 33 58.5**	**-1.5**
T0110				AML	AML			
	comp=E,13900µm,0.7s							
T0110				AML	AML			
	comp=N,15650µm,0.5s							
COR1	**Corinaldo**	**0.79**	**352**	P		**Pb**	**01 33 59.6**	**-0.8**
COR1				AML	AML			
	comp=E,49650µm,1.5s							
COR1				AML	AML			
	comp=N,39950µm,0.4s							
COR1				AML	AML			
	comp=E,25650µm,1.6s							
COR1				AML	AML			
	comp=N,37150µm,0.4s							
COR1				AML	AML			
	comp=E,49700µm,1.5s							
COR1				AML	AML			
	comp=N,40000µm,0.4s							
COR1				AML	AML			
	comp=N,37200µm,0.4s							
COR1				AML	AML			
	comp=E,25700µm,1.6s							
ATMI	**Monte Miggiano**	**0.81**	**307**	P		**Pg**	**01 33 59.8**	**-0.6**
ATMI				AML	AML			
	comp=E,28850µm,0.6s							
ATMI				AML	AML			
	comp=N,29350µm,0.5s							
PCRO	**Pietralacroce**	**0.81**	**20**	P		**Pb**	**01 33 59.8**	**-0.9**
ATPI	**Pietralunga -**	**0.81**	**318**	P		**Pg**	**01 33 59.4**	**-1.2**
ATPI				AML	AML			
	comp=E,9455µm,1.1s							
ATPI				AML	AML			
	comp=N,8030µm,0.9s							
ATPI				AML	AML			
	comp=E,9450µm,1.1s							
MPAG	**Monte Paganucc**	**0.83**	**340**	⇑P		**Pg**	**01 33 59.6**	**-1.4**
MPAG				AML	AML			
	comp=E,16350µm,0.7s							
MPAG				AML	AML			
	comp=E,16750µm,0.7s							
MPAG				AML	AML			
	comp=N,12150µm,0.4s							
MPAG				AML	AML			
	comp=E,16350µm,0.7s							
MPAG				AML	AML			
	comp=N,12350µm,0.4s							
PTQR	**Pietraquaria**	**0.85**	**167**	⇑P		**Pg**	**01 33 59.5**	**-1.7**
PTQR				AML	AML			
	comp=E,4610µm,0.3s							
PTQR				AML	AML			
	comp=N,3800µm,0.4s							
SENI	**Senigallia**	**0.86**	**4**	⇑P		**Pb**	**01 34 00.9**	**-0.6**
SENI				AML	AML			
	comp=E,53150µm,0.5s							
SENI				AML	AML			
	comp=N,76150µm,0.4s							
SENI				AML	AML			
	comp=E,17800µm,0.8s							
SENI				AML	AML			
	comp=N,15000µm,0.9s							
SENI				AML	AML			
	comp=N,76100µm,0.4s							
SENI				AML	AML			
	comp=E,53100µm,0.5s							
MTCE	**Montecelio**	**0.88**	**200**	⇑P		**Pg**	**01 34 00.2**	**-1.6**
MTCE				AML	AML			
	comp=E,8010µm,1.5s							
MTCE				AML	AML			
	comp=N,4950µm,0.8s							
FSSB	**Fossombrone**	**0.89**	**342**	P		**Pg**	**01 34 00.6**	**-1.4**
FSSB				AML	AML			
	comp=E,28950µm,0.4s							
FSSB				AML	AML			
	comp=N,64250µm,0.3s							
CERT	**Cerreto**	**0.91**	**188**	P		**Pg**	**01 34 00.6**	**-1.8**
CERT				AML	AML			
	comp=E,13100µm,0.5s							
CERT				AML	AML			
	comp=N,9840µm,1.1s							
SACS	**San Casciano d**	**0.91**	**270**	P		**Pg**	**01 34 01.2**	**-1.2**
SACS				AML	AML			
	comp=E,10700µm,0.8s							
SACS				AML	AML			
	comp=N,12250µm,0.7s							
SACS				AML	AML			
	comp=N,12250µm,0.7s							
SACS				AML	AML			
	comp=E,10050µm,0.8s							
BADI	**Badiali**	**0.93**	**315**	AML	AML			
	comp=N,7035µm,0.7s							
BADI				AML	AML			
	comp=E,434µm,0.4s							
CAFI	**Castiglion Fio**	**0.99**	**299**	P		**Pg**	**01 34 02.5**	**-1.4**
CAFI				AML	AML			
	comp=E,8265µm,0.7s							
CAFI				AML	AML			
	comp=N,7565µm,0.9s							
CAFI				AML	AML			
	comp=N,7925µm,0.9s							
CAFI				AML	AML			
	comp=E,8210µm,0.7s							
RCAV	**Rocca di Cave**	**1.01**	**189**	P		**Pg**	**01 34 02.4**	**-2.0**
RCAV				AML	AML			
	comp=E,12450µm,0.5s							
RCAV				AML	AML			
	comp=N,10305µm,0.5s							
LATE	**Laterza**	**1.02**	**257**	Pg		**Pg**	**01 34 03.5**	**-0.9**
LATE	**Laterza**	**1.02**	**257**	⇑P		**Pg**	**01 34 03.5**	**-0.9**
SSP9	**Sansepolcro**	**1.04**	**315**	P		**Pg**	**01 34 03.7**	**-1.1**
SSP9				AML	AML			
	comp=N,6835µm,0.6s							
SSP9				AML	AML			
	comp=E,8345µm,0.8s							
VVLD	**Villa Vallelon**	**1.04**	**160**	P		**Pg**	**01 34 03.5**	**-1.3**
GUAR	**Guarcino**	**1.06**	**173**	P		**Pg**	**01 34 03.7**	**-1.6**
GUAR				AML	AML			
	comp=E,5875µm,0.4s							
GUAR				AML	AML			
	comp=N,6910µm,0.6s							
CAFR	**Castel Frentan**	**1.08**	**125**	P		**Pg**	**01 34 03.9**	**-1.7**
CAFR				AML	AML			
	comp=N,5430µm,0.4s							
CAFR				AML	AML			
	comp=E,3685µm,0.3s							
MCIV	**Monte Civitell**	**1.08**	**267**	P		**Pb**	**01 34 04.3**	**-1.1**
MCIV				AML	AML			
	comp=N,5020µm,0.6s							
MCIV				AML	AML			
	comp=E,4465µm,1.1s							
RMP	**Rome, Mte Porz**	**1.09**	**198**	P		**Pb**	**01 34 03.8**	**-1.6**
RMP				AML	AML			
	comp=N,8340µm,0.4s							
RMP				AML	AML			
	comp=E,8905µm,0.5s							
SF04	**Casetta**	**1.09**	**270**	P		**Pb**	**01 34 04.7**	**-0.9**
SF04				AML	AML			
	comp=E,4655µm,1.0s							
SF04				AML	AML			
	comp=N,5590µm,1.5s							
LPEL	**Lama dei Pelig**	**1.11**	**136**	P		**Pg**	**01 34 03.8**	**-2.4**
LPEL				AML	AML			
	comp=N,6105µm,1.4s							
LPEL				AML	AML			
	comp=E,5975µm,0.9s							
PESA	**Pesaro**	**1.11**	**349**	AML	AML			
	comp=E,22950µm,0.6s							
PESA				AML	AML			
	comp=N,18550µm,0.8s							
CPGN	**Carpegna, Ital**	**1.13**	**328**	P		**Pb**	**01 34 05.7**	**-0.6**
CPGN				AML	AML			
	comp=N,12600µm,0.6s							
CPGN				AML	AML			
	comp=N,15550µm,1.0s							
CPGN				AML	AML			
	comp=E,13650µm,0.6s							
CPGN				AML	AML			
	comp=E,12550µm,1.0s							
VIVA	**Pratoni del Vi**	**1.13**	**194**	P		**Pb**	**01 34 04.5**	**-1.7**
VIVA				AML	AML			
	comp=E,18800µm,0.3s							
VIVA				AML	AML			
	comp=N,14650µm,0.4s							
RDP	**Rocca di Papa**	**1.14**	**196**	AML	AML			
	comp=E,15450µm,1.5s							
RDP				AML	AML			
	comp=N,13100µm,0.6s							
MA9	**Marino**	**1.14**	**199**	P		**Pb**	**01 34 04.6**	**-1.7**
MA9				AML	AML			
	comp=E,11500µm,0.6s							
MA9				AML	AML			
	comp=N,8510µm,0.7s							
TOLF	**Tolfa**	**1.16**	**228**	⇑P		**Pb**	**01 34 05.7**	**-0.9**
TOLF				AML	AML			
	comp=N,4585µm,0.6s							
TOLF				AML	AML			
	comp=E,5985µm,0.9s							
SF01	**Poggio Pratacc**	**1.17**	**269**	P		**Pb**	**01 34 06.0**	**-0.8**
SF01				AML	AML			
	comp=E,7295µm,0.8s							
SF01				AML	AML			
	comp=N,6325µm,0.4s							
POFI	**Posta Fibreno**	**1.21**	**159**	P		**Pb**	**01 34 06.1**	**-1.4**
POFI				AML	AML			
	comp=N,2730µm,0.9s							
POFI				AML	AML			
	comp=N,2720µm,0.9s							
POFI				AML	AML			
	comp=E,3035µm,1.4s							
POFI				AML	AML			
	comp=E,2960µm,1.4s							
LAV9	**Lanuvio**	**1.22**	**196**	P		**Pn**	**01 34 06.2**	**-1.3**
LAV9				AML	AML			
	comp=N,11400µm,0.5s							
LAV9				AML	AML			
	comp=E,10900µm,0.4s							
LAV9				AML	AML			
	comp=N,11450µm,0.5s							
LAV9				AML	AML			
	comp=E,10600µm,0.5s							
LRP	**Arpino**	**1.24**	**165**	P		**Pb**	**01 34 07.6**	**-0.6**
LRP				AML	AML			
	comp=E,2085µm,0.3s							
LRP				AML	AML			
	comp=N,2910µm,0.9s							
GIUL	**Giuliano Di Ro**	**1.29**	**176**	P		**Pn**	**01 34 07.3**	**-1.3**
GIUL				AML	AML			
	comp=N,2795µm,0.7s							
GIUL				AML	AML			
	comp=E,2530µm,0.9s							
LATB	**Latina**	**1.36**	**186**	P		**Pn**	**01 34 08.0**	**-1.4**
LATB				AML	AML			
	comp=E,1079µm,1.6s							
LATB				AML	AML			
	comp=N,867µm,0.6s							
RNI2	**Rionero Sannit**	**1.37**	**147**	P		**Pn**	**01 34 09.3**	**-0.4**
ASQU	**Asqua**	**1.37**	**314**	P		**Pn**	**01 34 08.9**	**-0.8**
ASQU				AML	AML			
	comp=E,2825µm,0.6s							
ASQU				AML	AML			
	comp=N,3525µm,0.6s							
LIK	**San Giovanni I**	**1.38**	**167**	P		**Pn**	**01 34 09.4**	**-0.3**
LIK				AML	AML			
	comp=N,4855µm,1.6s							
LIK				AML	AML			
	comp=E,4280µm,1.0s							
BLLA	**Bellaria**	**1.39**	**339**	P		**Pn**	**01 34 08.7**	**-1.1**
BLLA				AML	AML			
	comp=E,11415µm,1.4s							
BLLA				AML	AML			
	comp=N,10195µm,1.5s							
CERA	**Filignano**	**1.41**	**152**	P		**Pn**	**01 34 09.0**	**-1.1**
SFI	**Santa Sofia**	**1.42**	**319**	P		**Pn**	**01 34 09.8**	**-0.5**
SFI				AML	AML			
	comp=E,2800µm,1.2s							
SFI				AML	AML			
	comp=N,3010µm,1.0s							
SFI				AML	AML			
	comp=N,3025µm,1.0s							
SFI				AML	AML			
	comp=E,2795µm,1.2s							
FRES	**Fresagrandinar**	**1.43**	**127**	P		**Pn**	**01 34 09.2**	**-1.2**
FRES				AML	AML			
	comp=E,2145µm,0.6s							
FRES				AML	AML			
	comp=N,1255µm,1.2s							
MIDA	**Miranda**	**1.46**	**145**	P		**Pn**	**01 34 09.9**	**-1.0**
MIDA				AML	AML			
	comp=E,2660µm,0.8s							
MIDA				AML	AML			
	comp=N,1985µm,1.1s							
MIDA				AML	AML			
	comp=E,2545µm,0.8s							
MIDA				AML	AML			
	comp=N,2195µm,1.0s							
TRIV	**Trivento**	**1.50**	**136**	AML	AML			
	comp=N,3340µm,0.7s							
TRIV				AML	AML			
	comp=E,1930µm,1.1s							
FROS	**Frosini**	**1.50**	**285**	⇑P		**Pn**	**01 34 11.2**	**-0.2**
FROS				AML	AML			
	comp=E,2820µm,0.5s							
FROS				AML	AML			
	comp=N,2760µm,0.9s							
MAON	**Monte Argentar**	**1.54**	**255**	P		**Pn**	**01 34 11.5**	**-0.5**
MAON				AML	AML			
	comp=N,1360µm,1.1s							
MAON				AML	AML			
	comp=E,1950µm,1.4s							
OSSC	**Osservatorio P**	**1.54**	**297**	Pn		**Pn**	**01 34 12.0**	**0.0**
OSSC	**Osservatorio P**	**1.54**	**297**	P		**Pn**	**01 34 12.1**	**0.0**

OSSC AML AML
comp=N,2630µm,0.6s
OSSC AML AML
comp=E,1980µm,1.0s
OSSC AML AML
comp=E,2610µm,0.6s
OSSC AML AML
comp=N,1970µm,0.8s
RUFI Rufina 1.55 310 P **Pn** 01 34 11.6 -0.5
LMD Lutirano 1.61 320 P **Pn** 01 34 13.3 +0.3
VAGA Valle Agricola 1.64 150 P **Pb** 01 34 13.7 -1.3
VAGA AML AML
comp=E,1135µm,0.6s
VAGA AML AML
comp=N,1745µm,0.7s
VAGA AML AML
comp=N,1720µm,0.7s
VAGA AML AML
comp=E,1180µm,0.6s
TRIF Trifonti 1.67 280 AML AML
comp=E,1154µm,1.0s
TRIF AML AML
comp=N,1250µm,0.7s
CASP Castiglione de 1.68 269 Pn **Pn** 01 34 13.0 -0.9
CASP Castiglione de 1.68 269 P **Pn** 01 34 13.2 -0.7
CASP AML AML
comp=N,570µm,0.7s
CASP AML AML
comp=E,559µm,1.2s
BSSO Busso 1.69 140 P **Pb** 01 34 14.5 -1.3
BSSO AML AML
comp=N,1970µm,0.7s
BSSO AML AML
comp=N,776µm,0.7s
BSSO AML AML
comp=E,1635µm,1.4s
BSSO AML AML
comp=E,674µm,1.4s
CIGN Sant'Elia a Pi 1.77 132 AML AML
comp=E,1290µm,1.5s
CIGN AML AML
comp=N,934µm,1.0s
MODR Mondragone 1.79 162 P **Pb** 01 34 16.0 -1.4
MODR AML AML
comp=N,1065µm,1.6s
MODR AML AML
comp=E,1001µm,0.8s
PIGN Pignataro Magg 1.82 155 P **Pb** 01 34 16.6 -1.3
PIGN AML AML
comp=E,729µm,0.9s
PIGN AML AML
comp=N,712µm,1.4s
PIGN AML AML
comp=E,688µm,0.9s
PIGN AML AML
comp=N,729µm,1.1s
SACR S. Croce Del S 1.86 141 P **Pb** 01 34 18.0 -0.6
MELA Melanico ??? S 1.86 127 P **Pb** 01 34 17.1 -1.5
MELA AML AML
comp=E,3025µm,0.8s
MELA AML AML
comp=E,2870µm,0.8s
MELA AML AML
comp=N,3675µm,0.7s
MELA AML AML
comp=N,3660µm,0.7s
TREM Isole Tremiti 1.89 112 P **Pb** 01 34 17.3 -1.9
TREM AML AML
comp=E,2665µm,1.1s
TREM AML AML
comp=N,3385µm,0.6s
MTCR Monte La Croce 1.96 308 P **Pn** 01 34 17.5 -0.3
MTCR AML AML
comp=E,1432µm,0.8s
MTCR AML AML
comp=N,2055µm,0.7s
VITU Vitulano (BN) 2.00 146 P **Pn** 01 34 19.0 +0.7
VITU AML AML
comp=N,845µm,0.7s
VITU AML AML
comp=E,1200µm,0.5s
VITU AML AML
comp=N,851µm,0.4s
VITU AML AML
comp=E,458µm,1.6s
APRC Apricena 2.08 121 P **Pn** 01 34 19.1 -0.4
APRC AML AML
comp=E,1460µm,0.7s
APRC AML AML
comp=N,1820µm,0.5s
PAOL Paolisi 2.10 149 Pn **Pn** 01 34 20.5 +0.7
BRJN Brijuni 2.10 12 P **Pn** 01 34 18.9 -0.7
CELB S.Piero in Cam 2.16 268 AML AML
comp=E,349µm,0.6s
CELB AML AML
comp=N,334µm,0.8s
MAIM Mastiano 2.21 300 P **Pn** 01 34 21.0 -0.2
MAIM AML AML
comp=E,832µm,0.5s
MAIM AML AML
comp=N,590µm,0.5s
SGRT San Giovanni R 2.21 119 Pn **Pn** 01 34 21.9 +0.6
SGRT San Giovanni R 2.21 119 P **Pn** 01 34 21.6 +0.2
SGRT AML AML
comp=N,1298µm,0.6s
SGRT AML AML
comp=E,1420µm,1.4s
MSAG Monte S. Angel 2.34 118 P **Pn** 01 34 23.4 +0.3
SGTA Sant Agata di 2.38 135 P **Pn** 01 34 24.1 +0.6
SGTA AML AML
comp=E,970µm,0.8s
SGTA AML AML
comp=N,548µm,1.0s
SGTA AML AML
comp=N,612µm,0.7s
SGTA AML AML
comp=E,909µm,0.8s
GSCL Gusciola 2.39 310 P **Pn** 01 34 24.1 +0.4
GSCL AML AML
comp=E,1216µm,0.7s
GSCL AML AML
comp=N,1255µm,0.8s
VLC Villacollemand 2.40 304 Pn **Pn** 01 34 23.7 -0.1
VLC Villacollemand 2.40 304 P **Pn** 01 34 23.5 -0.3
VLC AML AML
comp=N,465µm,0.8s
VLC AML AML
comp=N,458µm,0.8s
VLC AML AML
comp=E,406µm,1.0s
VLC AML AML
comp=E,396µm,1.0s
SARO Sassorosso 2.40 305 AML AML
comp=E,1285µm,0.6s
SARO AML AML
comp=N,1585µm,0.6s
EQUI Equi 2.54 302 P **Pn** 01 34 25.6 -0.2
EQUI AML AML
comp=E,428µm,0.7s
EQUI AML AML
comp=N,421µm,0.7s
MCRV Calabrutti - M 2.56 143 P **Pn** 01 34 26.6 +0.6
CAPA Cerignola FG 2.61 129 P **Pn** 01 34 26.7 0.0
CAPA AML AML
comp=E,1285µm,1.0s
CAPA AML AML
comp=N,1270µm,1.0s
VULT Monte Vulture 2.64 135 AML AML
comp=N,847µm,0.5s
VULT AML AML
comp=E,666µm,0.5s
VULT AML AML
comp=E,706µm,0.9s
VULT AML AML
comp=N,814µm,0.7s
PLMA Palmaria, Port 2.68 298 AML AML
comp=N,331µm,0.5s
PLMA AML AML
comp=E,282µm,0.9s
TEOL Teolo 2.73 338 Pn **Pn** 01 34 27.8 -0.5
TEOL Teolo 2.73 338 P **Pn** 01 34 28.3 0.0
SKDS Skadanscina 2.77 13 *i* Pn **Pn** 01 34 28.0 -0.9
MORSI Morsiglia 2.78 273 P **Pn** 01 34 29.7 +0.7
PRMA PARMA 2.81 314 Pn **Pn** 01 34 29.1 -0.3
PALZ Palazzo San Ge 2.83 131 P **Pn** 01 34 30.4 +0.6
PALZ AML AML
comp=E,1127µm,1.3s
PALZ AML AML
comp=N,1345µm,1.6s
A050A Klekovaca 2.95 55 *e*Pn **Pn** 01 34 32.2 +0.8
SMPL Sampolo 2.95 257 P **Pn** 01 34 31.1 -0.3
SMPL AML AML
comp=N,66µm,1.1s
SMPL AML AML
comp=E,69µm,0.5s
SMPL Sampolo 2.95 257 P **Pn** 01 34 32.5 +1.1
SMPL S **Sn** 01 35 09.8 +3.1
MSSA Maissana 3.02 300 Pn **Pn** 01 34 32.5 +0.2
MSSA Maissana 3.02 300 P **Pn** 01 34 32.6 +0.2
CEY Cerknica 3.03 17 *e*Pn **Pn** 01 34 31.9 -0.6
BOJS Bojanci 3.06 29 *e*Pn **Pn** 01 34 32.7 -0.1
BOJS Bojanci 3.06 29 P **Pn** 01 34 32.6 -0.1
BOJS AML AML
comp=E,2810µm,1.2s
BOJS AML AML
comp=N,1775µm,0.9s
PGF Pioggiola 3.07 266 *e*P **Pn** 01 34 33.8 +0.7
PGF *e*Sn **Sn** 01 35 05.5 -4.2
comp=N,61nm,0.6s
PGF Pioggiola 3.07 266 AML AML
comp=E,101µm,1.1s
PGF AML AML
comp=N,100µm,1.0s
PGF Pioggiola 3.07 266 P **Pn** 01 34 33.7 +0.6
SABO M.te Sabotino 3.15 6 Pn **Pn** 01 34 33.6 -0.5
SABO M.te Sabotino 3.15 6 ⇑P **Pn** 01 34 33.6 -0.5
SABO AML AML
comp=N,10085µm,0.7s
SABO AML AML
comp=N,2580µm,0.7s
SABO AML AML
comp=E,7595µm,0.7s
SABO AML AML
comp=E,1695µm,0.7s
ROVR Rover Verones 3.17 333 P **Pn** 01 34 35.1 +0.6
SRKY Kupres RS 3.17 66 *e*Pn **Pn** 01 34 35.8 +1.3
CGRP Cima Grappa 3.18 343 P **Pn** 01 34 34.6 -0.1
CGRP AML AML
comp=E,1795µm,0.7s
CGRP AML AML
comp=N,1745µm,0.6s
CGRP AML AML
comp=N,1710µm,0.6s
CGRP AML AML
comp=E,1835µm,0.7s
PTRP Pietrapertosa 3.19 136 P **Pn** 01 34 35.2 +0.5
PTRP AML AML
comp=E,445µm,0.8s
PTRP AML AML
comp=N,504µm,0.8s
AMUR Altamura 3.23 126 P **Pn** 01 34 35.7 +0.5
AMUR AML AML
comp=E,379µm,0.5s
AMUR AML AML
comp=N,398µm,1.4s
VARN Col Varnada, M 3.23 347 P **Pn** 01 34 34.8 -0.5
VARN AML AML
comp=E,2235µm,0.6s
VARN AML AML
comp=N,1670µm,0.5s
VARN AML AML
comp=N,1665µm,0.5s
VARN AML AML
comp=E,2220µm,0.6s
MGRS Mrkonjic Grad 3.26 60 *e*Pn **Pn** 01 34 37.1 +1.5
MIGL Miglionico 3.33 131 P **Pn** 01 34 37.3 +0.7
MIGL AML AML
comp=N,1405µm,1.0s
MIGL AML AML
comp=E,1250µm,1.4s
DOSS Dosso del Somm 3.34 336 P **Pn** 01 34 36.6 -0.3
DOSS AML AML
comp=N,1210µm,0.5s
DOSS AML AML
comp=E,869µm,0.7s
DOSS AML AML
comp=N,825µm,0.7s
DOSS AML AML
comp=E,1174µm,0.5s
PRIJ Prijedor 3.34 49 *e*Pn **Pn** 01 34 36.9 +0.2
LJU Ljubljana 3.34 17 *i* Pn **Pn** 01 34 36.9 +0.1
LJU Ljubljana 3.34 17 ⇑P **Pn** 01 34 36.9 +0.1
LJU AML AML
comp=E,5320µm,0.5s
LJU AML AML
comp=N,8605µm,0.7s
STON Ston 3.35 88 *e*Pn **Pn** 01 34 35.5 -1.3
STON Ston 3.35 88 AML AML
comp=N,212µm,1.4s
STON AML AML
comp=E,180µm,0.9s
SALO Salr 3.35 327 Pn **Pn** 01 34 37.9 +1.0
SALO Salr 3.35 327 AML AML
comp=E,1012µm,1.0s
SALO AML AML
comp=N,1325µm,1.2s
CTI Castel Tesino 3.37 342 Pn **Pn** 01 34 37.5 +0.2
CTI Castel Tesino 3.37 342 P **Pn** 01 34 37.4 +0.1
CTI AML AML
comp=E,843µm,0.6s
CTI AML AML
comp=N,780µm,1.0s
AJAC Base Areonaval 3.38 256 P **Pn** 01 34 37.5 +0.3
AJAC AML AML
comp=E,181µm,1.5s
AJAC AML AML
comp=N,162µm,0.5s
AJAC Base Areonaval 3.38 256 P **Pn** 01 34 38.3 +1.1
MPRI Monte Prat 3.40 358 ⇑P **Pn** 01 34 37.5 0.0
MPRI AML AML
comp=E,1180µm,0.7s
MPRI AML AML
comp=E,1523µm,0.8s
MPRI AML AML
comp=N,1560µm,0.7s
MPRI AML AML
comp=N,2055µm,1.2s
CADS Cadrg 3.41 7 *i* Pn **Pn** 01 34 36.9 -0.7
CRES Cresnjev 3.41 28 *e*Pn **Pn** 01 34 37.3 -0.3
STAL STALIGIAL 3.43 355 Pn **Pn** 01 34 37.5 -0.4
STAL STALIGIAL 3.43 355 ⇑P **Pn** 01 34 37.5 -0.4
STAL AML AML
comp=E,1470µm,0.8s
STAL AML AML
comp=N,1100µm,1.0s
MATE Matera 3.45 128 ⇑P **Pn** 01 34 38.6 +0.4
A051A Mrakovica 3.47 50 *e*Pn **Pn** 01 34 38.8 +0.2
BLY Banja Luka 3.49 56 *e*Pn **Pn** 01 34 39.4 +0.7
BLY Banja Luka 3.49 56 AML AML
comp=N,562µm,0.8s
BLY AML AML
comp=E,728µm,0.8s
BLY AML AML
comp=N,582µm,0.8s
BLY AML AML
comp=E,722µm,0.8s
CUC Castrocucco 3.49 144 Pn **Pn** 01 34 38.2 -0.6
LUSI Trento, Gardas 3.49 334 P **Pn** 01 34 39.2 +0.4
LUSI AML AML
comp=N,909µm,0.6s
LUSI AML AML
comp=E,871µm,0.7s
CIMO Cimolais 3.50 352 Pn **Pn** 01 34 38.5 -0.4
CIMO Cimolais 3.50 352 ⇑P **Pn** 01 34 38.5 -0.4
CIMO AML AML
comp=N,392µm,0.6s
CIMO AML AML
comp=E,362µm,0.6s
CIMO AML AML
comp=N,406µm,0.6s
CIMO AML AML
comp=E,364µm,0.6s
PTCC Patocco-Chiusa 3.56 2 ⇑P **Pn** 01 34 39.1 -0.7
PTCC AML AML
comp=E,568µm,0.8s
PTCC AML AML
comp=N,562µm,0.6s
NOCI Noci 3.58 124 P **Pn** 01 34 40.4 +0.4
NOCI AML AML
comp=E,252µm,0.5s
NOCI AML AML
comp=N,390µm,0.9s
GAGG Gaggia 3.59 335 AML AML
comp=N,886µm,1.1s
GAGG AML AML
comp=E,849µm,1.1s
GAGG AML AML
comp=E,1140µm,0.9s
GAGG AML AML
comp=N,1129µm,0.9s
PRED Cave del Predi 3.61 5 Pn **Pn** 01 34 39.6 -0.9
CLUD Cludinico 3.61 357 Pn **Pn** 01 34 39.8 -0.7
CLUD Cludinico 3.61 357 P **Pn** 01 34 40.1 -0.4
CLUD AML AML
comp=E,735µm,1.0s
CLUD AML AML
comp=N,810µm,0.8s
CLUD AML AML
comp=E,742µm,1.0s
CLUD AML AML
comp=N,814µm,1.0s
ZONE Zone 3.64 324 P **Pn** 01 34 41.2 +0.4
ZONE AML AML
comp=E,445µm,0.4s
ZONE AML AML
comp=N,442µm,0.4s
DGI Dorgali Grotta 3.67 228 P **Pn** 01 34 41.8 +0.6
ACOM Acomizza, Ital 3.71 4 P **Pn** 01 34 41.7 -0.2
ACOM AML AML
comp=N,1074µm,0.7s
ACOM AML AML
comp=E,948µm,0.9s
ACOM AML AML
comp=E,996µm,0.8s
ACOM AML AML
comp=N,1144µm,0.7s
ZOU Zoufplan 3.71 358 ⇑P **Pn** 01 34 41.8 -0.2
ZOU AML AML
comp=E,1185µm,1.4s
ZOU AML AML
comp=E,1155µm,1.4s
ZOU AML AML
comp=N,995µm,1.3s
ZOU AML AML
comp=N,987µm,1.4s
ORI Oriolo Calabro 3.73 137 AML AML
comp=N,275µm,0.5s
ORI AML AML
comp=E,296µm,0.4s
FVI Forni Avoltri 3.76 356 P **Pn** 01 34 42.4 -0.1
FVI AML AML
comp=N,723µm,0.9s
FVI AML AML
comp=E,603µm,0.5s
OBKA Obir 3.79 15 *e*Pn **Pn** 01 34 41.8 -1.2
OBKA Obir 3.79 15 *e*Pn **Pn** 01 34 42.4 -0.6
comp=E,7.3nm,0.3s
OBKA *e*Sn **Sg** 01 35 42.0 -4.6
comp=E,307nm,0.8s
MYKA Terra Mystica 3.80 5 *i* Pn **Pn** 01 34 43.2 +0.1
comp=E,9.9nm,0.2s,SNR=11
MYKA *e*Sn **Sn** 01 35 29.5 +1.9
comp=E,68nm,0.5s
SALB San Lorenzo Be 3.82 140 P **Pn** 01 34 43.9 +0.5
KOSI Kohlern 3.83 341 AML AML
comp=E,1072µm,1.0s
KOSI AML AML
comp=N,1076µm,1.1s
TREB Trebinje 3.83 90 *e*Pn **Pn** 01 34 44.3 +0.8
TAR1 Taranto 3.87 125 AML AML
comp=N,258µm,1.0s
TAR1 AML AML
comp=E,276µm,0.9s
APPI Appiano 3.88 340 P **Pn** 01 34 44.8 +0.6
ABTA Abfaltersbach 3.92 354 *i* Pn **Pn** 01 34 45.5 +0.7
comp=E,62nm,0.4s,SNR=52
ABTA *e*Sn **Sn** 01 35 30.4 -0.4
comp=E,133nm,0.6s
BRY Bratogost 3.96 87 *e*Pn **Pn** 01 34 46.0 +0.6
BRY Bratogost 3.96 87 ⇑*i* Pn **Pn** 01 34 45.8 +0.4
BRY *i* Sn **Sn** 01 35 31.9 +0.1
HCY Herceg Novi 3.96 94 *e*Pn **Pn** 01 34 45.7 +0.4
HCY Herceg Novi 3.96 94 ⇑*i* Pn **Pn** 01 34 45.9 +0.6
HCY *i* Sn **Sn** 01 35 32.0 +0.4
DOB Doboj 4.05 61 *e*Pn **Pn** 01 34 45.7 -0.8
SOKA Soboth 4.06 19 *e*Pn **Pn** 01 34 46.5 -0.2
comp=E,6.4nm,0.3s
SOKA *e*Sn **Sn** 01 35 33.5 -0.5
comp=E,64nm,0.8s
RISI Rein 4.17 350 P **Pn** 01 34 49.1 +0.8
RISI AML AML
comp=E,1485µm,0.5s
RISI AML AML
comp=N,1525µm,0.5s
KOGS Kog 4.23 31 P **Pn** 01 34 48.0 -0.8
KOGS AML AML
comp=E,3380µm,1.5s
KOGS AML AML
comp=N,2690µm,1.0s
SAOF Saorge 4.23 288 P **Pn** 01 34 50.0 +1.1
KBA Koelnbreinsper 4.23 2 *i* Pn **Pn** 01 34 49.5 +0.4
comp=N,12nm,0.2s,SNR=33
KBA *e*Sn **Sn** 01 35 38.3 -0.1
comp=N,86nm,0.6s
UPM Unac-Piva 4.24 83 *e*Pn **Pn** 01 34 50.9 +1.7
UPM Unac-Piva 4.24 83 *e*Pn **Pn** 01 34 49.7 +0.5
UPM *i* Sn **Sn** 01 35 38.6 0.0
MUGIO Muggio 4.25 318 P **Pn** 01 34 49.6 +0.3
MUGIO AML AML
comp=N,175µm,0.6s
MUGIO AML AML
comp=E,134µm,0.8s
ROSI Rosskopf 4.26 344 P **Pn** 01 34 50.4 +0.9
ROSI AML AML
comp=N,1165µm,1.6s
ROSI AML AML
comp=E,788µm,0.5s
CEME Cevo 4.26 92 ⇓*i* Pn **Pn** 01 34 50.0 +0.5
CEME *i* Sn **Sn** 01 35 39.4 +0.3
NKME Niksic 4.27 89 ⇑*i* Pn **Pn** 01 34 50.1 +0.5
NKME *i* Sn **Sn** 01 35 39.5 +0.2
BUM Brajici-Budva 4.28 95 ⇑*i* Pn **Pn** 01 34 50.3 +0.6
BUM *i* Sn **Sn** 01 35 39.7 +0.2
SBF Sospel 4.29 286 *e*P **Pn** 01 34 50.4 +0.6
SBF *e*Sn **Sn** 01 35 34.4 -5.2
comp=E,52nm,0.5s
FUORN Ofenpass-Fuorn 4.29 332 Pn **Pn** 01 34 50.2 +0.2
TURF col de Turini 4.34 287 P **Pn** 01 34 51.3 +0.6
VARE Varese 4.35 315 P **Pn** 01 34 51.4 +0.7
VARE AML AML
comp=E,376µm,0.6s
VARE AML AML
comp=N,242µm,0.8s
VSL Villasalto 4.39 222 P **Pn** 01 34 51.9 +0.7
HAPS Han Pijesak,BI 4.40 72 *e*Pn **Pn** 01 34 52.1 +0.7
BEHE Becsehely 4.45 34 P **Pn** 01 34 51.9 -0.1
SPIF crte de Spivo 4.47 288 P **Pn** 01 34 55.1 +2.7
DRME Dracevica, Mon 4.51 96 *e*Pn **Pn** 01 34 53.4 +0.6
DRME Dracevica, Mon 4.51 96 ⇓*i* Pn **Pn** 01 34 53.5 +0.6
DRME *i* Sn **Sn** 01 35 45.4 +0.3
FETA Feichten 4.51 338 *i* Pn **Pn** 01 34 54.6 +1.7
comp=N,9.0nm,0.4s,SNR=27
FETA *e*Sn **Sn** 01 35 49.6 +4.3
comp=N,16nm,0.4s
TUE Stuetta 4.53 325 Pn **Pn** 01 34 52.4 -0.8
PDG Podgorica 4.53 93 ⇓P **Pn** 01 34 55.1 +2.2
PDG Podgorica 4.53 93 Pn **Pn** 01 34 53.7 +0.8
TTG Podgorica 4.53 93 ⇑*i* Pn **Pn** 01 34 53.8 +0.8
TTG *i* Sn **Sn** 01 35 45.8 +0.4
WTTA Wattenberg 4.54 347 *i* Pn **Pn** 01 34 55.1 +1.7
comp=N,10nm,0.3s,SNR=19
WTTA *e*Sn **Sn** 01 35 49.6 +3.5
comp=N,76nm,0.4s
DAVOX Davos/Dischmat 4.57 331 Pn **Pn** 01 34 55.8 +2.0
comp=N,9.5nm,0.3s,baz=130,slow=8.6,SNR=86
DAVOX Sn **Sn** 01 35 48.9 +2.1
comp=N,5.2nm,0.3s,baz=306,slow=23,SNR=2.0
comp=N,31nm,0.4s
TIP Timpagrande 4.57 142 ⇓P **Pb** 01 35 00.4 -4.5
TIP Timpagrande 4.57 142 Pn **Pn** 01 34 54.5 +0.8
SQTA Sankt Quirin 4.58 343 **Pn** 01 34 55.3 +1.4
SQTA **Sn** 01 35 50.9 +3.9
SQTA Sankt Quirin 4.58 343 *i* Pn **Pn** 01 34 55.3 +1.4
comp=N,23nm,0.5s,SNR=23
SQTA *e*Sn **Sn** 01 35 50.9 +3.9
comp=N,35nm,0.4s
PLE Pljevlja 4.60 82 ⇓*i* Pn **Pn** 01 34 54.6 +0.5
PLE *i* Sn **Sn** 01 35 47.3 -0.1

ULC	**Ulcinj**	**4.60**	**99**	⇓	*i* Pn	**Pn**	**01 34 54.8**	**+0.7**
ULC					*i* Sn	**Sn**	**01 35 47.3**	**0.0**
RUDO	**Rudo**	**4.61**	**78**		*e*Pn	**Pn**	**01 34 54.5**	**+0.3**
WATA	**Walderalm**	**4.62**	**347**			**Pn**	**01 34 56.3**	**+1.8**
WATA						**Sn**	**01 35 50.5**	**+2.5**
WATA	**Walderalm**	**4.62**	**347**		*i* Pn	**Pn**	**01 34 56.3**	**+1.8**
	comp=N,39nm,0.5s,SNR=20							
WATA					*e*Sn	**Sn**	**01 35 50.5**	**+2.5**
	comp=N,38nm,0.3s							
CALF	**Calern**	**4.63**	**283**		P	**Pn**	**01 34 55.1**	**+0.5**
PZZ	**Stroppo**	**4.68**	**293**		P	**Pn**	**01 34 55.3**	**+0.1**
KOME	**Kolasin**	**4.68**	**88**	⇑	*i* Pn	**Pn**	**01 34 55.8**	**+0.6**
KOME					*i* Sn	**Sn**	**01 35 49.5**	**+0.1**
TRAV	**Traversella**	**4.71**	**306**		P	**Pn**	**01 34 55.6**	**0.0**
TRAV					AML	AML		
	comp=N,106µm,0.9s							
TRAV					AML	AML		
	comp=E,120µm,1.0s							
ARSA	**Arzberg**	**4.71**	**20**		*i* Pn	**Pn**	**01 34 55.1**	**-0.5**
	comp=E,4.6nm,0.2s,SNR=7.1							
ARSA					*e*Sn	**Sn**	**01 35 48.2**	**-1.9**
	comp=E,12nm,0.4s							
ARSA	**Arzberg**	**4.71**	**20**		P	**Pn**	**01 34 55.3**	**-0.3**
ARSA					AML	AML		
	comp=N,99µm,1.3s							
ARSA					AML	AML		
	comp=E,118µm,1.4s							
MOTA	**Moosalm**	**4.72**	**343**			**Pn**	**01 34 57.3**	**+1.5**
MOTA						**Sn**	**01 35 53.7**	**+3.2**
MOTA	**Moosalm**	**4.72**	**343**		*i* Pn	**Pn**	**01 34 57.3**	**+1.5**
	comp=E,20nm,0.6s,SNR=23							
MOTA					*e*Sn	**Sn**	**01 35 53.7**	**+3.2**
	comp=E,122nm,0.7s							
KOVH	**Kovagotottos**	**4.80**	**46**		P	**Pn**	**01 34 55.7**	**-1.1**
KOVH					S	**Sn**	**01 35 48.9**	**-3.4**
FUSIO	**Fusio**	**4.82**	**320**		P	**Pn**	**01 34 57.5**	**+0.4**
BIOA	**Bad Ischl, Aus**	**4.86**	**4**			**Pn**	**01 34 57.8**	**+0.3**
BIOA						**Sn**	**01 35 56.8**	**+3.2**
BIOA	**Bad Ischl, Aus**	**4.86**	**4**		*i* Pn	**Pn**	**01 34 57.8**	**+0.3**
	comp=E,20nm,0.2s,SNR=30							
BIOA					*e*Sn	**Sn**	**01 35 56.8**	**+3.2**
	comp=E,179nm,0.8s							
SCTE	**Santa Cesarea**	**4.87**	**123**		Pn	**Pn**	**01 34 58.0**	**+0.4**
SURF	**Saint Ours**	**4.88**	**292**		P	**Pn**	**01 34 58.6**	**+0.7**
LMR	**La Mourre**	**4.88**	**278**		*e*P	**Pn**	**01 34 57.8**	**-0.1**
LMR					*e*Sn	**Sn**	**01 35 48.4**	**-5.9**
	comp=E,4.4nm,0.3s							
JAUF	**Jausiers**	**4.90**	**291**		P	**Pn**	**01 34 59.6**	**+1.2**
RETA	**Reutte**	**4.94**	**341**		*i* Pn	**Pn**	**01 35 00.5**	**+1.8**
	comp=E,2.3nm,0.2s,SNR=19							
RETA					*e*Sn	**Sn**	**01 35 59.2**	**+3.5**
	comp=E,50nm,0.6s							
IVA	**Berane**	**4.96**	**87**	⇓	*i* Pn	**Pn**	**01 34 59.7**	**+0.7**
IVA					*i* Sn	**Sn**	**01 35 56.2**	**-0.1**
MBDF	**Montbardon**	**4.98**	**294**		*e*P	**Pn**	**01 35 00.1**	**+0.7**
MBDF					*e*Sn	**Sn**	**01 35 51.0**	**-5.9**
	comp=E,20nm,0.5s							
TRIGF	**Trigance**	**5.00**	**283**		P	**Pn**	**01 35 00.7**	**+1.1**
DAVA	**Damuels**	**5.00**	**334**		*i* Pn	**Pn**	**01 35 01.6**	**+1.9**
	comp=E,5.4nm,0.3s,SNR=20							
DAVA					*e*Sn	**Sn**	**01 36 00.6**	**+3.1**
	comp=E,51nm,0.6s							
PVY	**Plav**	**5.03**	**91**	⇑	*i* Pn	**Pn**	**01 35 00.6**	**+0.6**
PVY					*i* Sn	**Sn**	**01 35 57.9**	**0.0**
CREF	**Crivoux**	**5.03**	**292**		P	**Pn**	**01 35 02.3**	**+2.2**
MOA	**Molln**	**5.06**	**9**		*i* Pn	**Pn**	**01 35 00.5**	**+0.1**
	comp=E,3.4nm,0.2s,SNR=20							
MOA					*e*Sn	**Sn**	**01 35 55.6**	**-3.1**
	comp=E,106nm,0.6s							
DIVS	**Divibare**	**5.14**	**74**		Pn	**Pn**	**01 35 02.1**	**+0.7**
DIVS	**Divibare**	**5.14**	**74**		*e*Pn	**Pn**	**01 35 02.0**	**+0.5**
BNI	**Bardonecchia**	**5.16**	**297**		Pn	**Pn**	**01 35 01.6**	**-0.3**
MORH	**Mrgy, Hungar**	**5.17**	**48**	⇓	P	**Pn**	**01 35 01.0**	**-0.9**
MORH	**Mrgy, Hungar**	**5.17**	**48**		P	**Pn**	**01 35 00.8**	**-1.1**
TIR	**Tirane**	**5.22**	**104**	⇑	P	**Pn**	**01 35 03.5**	**+1.0**
TIR	**Tirane**	**5.22**	**104**		Pn	**Pn**	**01 35 03.1**	**+0.6**
TIR	**Tirane**	**5.22**	**104**		P	**Pn**	**01 35 02.5**	**-0.1**
DIX	**Grande Dixence**	**5.22**	**310**		P	**Pn**	**01 35 04.6**	**+1.7**
LPG	**La Plagne**	**5.31**	**302**		*e*P	**Pn**	**01 35 05.7**	**+1.7**
LPG					*e*Sn	**Sn**	**01 35 59.0**	**-6.1**
	comp=E,29nm,0.5s							
VLO	**Vlora**	**5.32**	**114**		Pn	**Pn**	**01 35 04.3**	**+0.5**
MPLH	**Magyarpolny**	**5.33**	**34**		P	**Pn**	**01 35 02.8**	**-1.2**
MPLH					S	**Sn**	**01 35 58.5**	**-6.6**
LPL	**La Plagne**	**5.33**	**302**		*e*P	**Pn**	**01 35 05.7**	**+1.5**
LPL					*e*Sn	**Sn**	**01 35 59.2**	**-6.3**
	comp=E,18nm,0.4s							
FRGS	**Fruska Gora**	**5.33**	**62**		*e*Pn	**Pn**	**01 35 03.3**	**-0.8**
RONA	**Rosalia, Austr**	**5.34**	**24**			**Pn**	**01 35 03.8**	**-0.4**
RONA						**Sn**	**01 36 01.7**	**-3.8**
RONA	**Rosalia, Austr**	**5.34**	**24**		*i* Pn	**Pn**	**01 35 03.8**	**-0.4**
	comp=E,10nm,0.5s,SNR=7.3							
RONA					*e*Sn	**Sn**	**01 36 01.7**	**-3.8**
	comp=E,8.1nm,0.4s							
SOP	**Sopron**	**5.40**	**25**		P	**Pn**	**01 35 04.6**	**-0.4**
ARTF	**Artigues**	**5.42**	**280**		P	**Pn**	**01 35 06.2**	**+1.0**
CONA	**Conrad Observa**	**5.43**	**20**		*i* Pn	**Pn**	**01 35 05.0**	**-0.5**
	comp=E,9.5nm,0.3s,SNR=15							
CONA					*e*Sn	**Sn**	**01 36 05.3**	**-2.5**
	comp=E,13nm,0.4s							
SENIN	**Lac Senin/Sane**	**5.46**	**312**		Pn	**Pn**	**01 35 07.3**	**+1.3**
RSL	**Roselend**	**5.48**	**303**		P	**Pn**	**01 35 08.9**	**+2.7**
ZUR	**Degenried**	**5.56**	**326**		P	**Pn**	**01 35 08.8**	**+1.6**
BSTF	**la Bastide-des**	**5.56**	**283**		P	**Pn**	**01 35 08.4**	**+1.1**
OGSI	**Sixt**	**5.59**	**307**		P	**Pn**	**01 35 10.5**	**+2.8**
SMRF	**Simiane la Rot**	**5.63**	**284**		*e*P	**Pn**	**01 35 09.9**	**+1.7**
SMRF					*e*Sn	**Sn**	**01 36 06.3**	**-6.4**
	comp=E,8.0nm,0.5s							
AIGLE	**Aigle**	**5.63**	**310**		P	**Pn**	**01 35 11.4**	**+3.1**
ORIF	**Oris-en-Rattie**	**5.64**	**294**		*e*P	**Pn**	**01 35 10.2**	**+1.8**
ORIF					*e*Sn	**Sn**	**01 36 06.7**	**-6.4**
	comp=E,30nm,0.7s							
ORIF	**Oris-en-Rattie**	**5.64**	**294**		P	**Pn**	**01 35 11.1**	**+2.6**
SULZ	**Cheisacher**	**5.88**	**324**		P	**Pn**	**01 35 13.2**	**+1.7**
TORNY	**Torny/Romont**	**5.90**	**314**		P	**Pn**	**01 35 14.0**	**+2.1**
KEK	**Kerkira**	**5.91**	**120**		Pn	**Pn**	**01 35 12.4**	**+0.4**
SLE	**Schleitheim**	**5.91**	**328**		P	**Pn**	**01 35 12.8**	**+0.8**
BALST	**Balsthal**	**5.92**	**321**		P	**Pn**	**01 35 13.5**	**+1.4**
OHR	**Ohrid**	**5.96**	**104**		*i* Pn	**Pn**	**01 35 14.5**	**+1.7**
GEC2	**GERESS Array S**	**6.01**	**4**		Pn	**Pn**	**01 35 11.8**	**-1.7**
GERES	**GERESS Array B**	**6.01**	**4**		Pn	**Pn**	**01 35 12.6**	**-0.9**
	comp=E,2.5nm,0.3s,baz=174,slow=13,SNR=84							
GERES					Sn	**Sn**	**01 36 19.5**	**-2.7**
	comp=E,9.8nm,0.3s,baz=203,slow=28,SNR=13							
	comp=E,3.8nm,0.4s							
GERES	**GERESS Array B**	**6.01**	**4**		Pn	**Pn**	**01 35 12.4**	**-1.0**
OGSM	**Saint Maurice**	**6.02**	**300**		P	**Pn**	**01 35 16.0**	**+2.4**
ZST	**Bratislava**	**6.03**	**26**		*e*PN	**Pn**	**01 35 12.8**	**-0.8**
ZST					*e*SN	**Sn**	**01 36 18.8**	**-3.6**
CKRC	**Cesky Krumlov**	**6.03**	**7**		*e*PN	**Pn**	**01 35 12.5**	**-1.1**
CKRC					*e*SN	**Sn**	**01 36 18.9**	**-3.6**
KBN	**Korca**	**6.13**	**109**		Pn	**Pn**	**01 35 15.6**	**+0.5**
GIMEL	**St. Georges /**	**6.13**	**309**		P	**Pn**	**01 35 16.7**	**+1.6**
SRO	**Srobarova**	**6.16**	**34**		*e*PN	**Pn**	**01 35 15.3**	**-0.1**
BOURR	**Bourrignon**	**6.18**	**319**		P	**Pn**	**01 35 17.0**	**+1.3**
MODS	**Modra-Piesok**	**6.24**	**26**		*e*PN	**Pn**	**01 35 15.7**	**-0.8**
BRANT	**Les Verrieres**	**6.26**	**313**		P	**Pn**	**01 35 18.6**	**+1.7**
CABF	**La Chapelle**	**6.28**	**309**		*e*P	**Pn**	**01 35 18.2**	**+1.0**
CABF					*e*Sn	**Sn**	**01 36 22.0**	**-6.8**
	comp=E,6.1nm,0.4s							
KHC	**Kasperske Hory**	**6.29**	**3**		Pn	**Pn**	**01 35 16.2**	**-1.1**
KHC	**Kasperske Hory**	**6.29**	**3**		*e*PN	**Pn**	**01 35 16.1**	**-1.1**
KHC					*e*SN	**Sn**	**01 36 27.2**	**-1.8**
OG35	**Corcelles**	**6.29**	**303**		P	**Pn**	**01 35 19.0**	**+1.7**
OG35					S	**Sn**	**01 36 28.0**	**-1.0**
KIZ	**Kirchzarten**	**6.29**	**326**		P	**Pn**	**01 35 17.6**	**+0.3**
CHMF	**Charmoille**	**6.36**	**316**		P	**Pn**	**01 35 19.6**	**+1.3**
BFO	**Black Forest**	**6.44**	**330**		Pn	**Pn**	**01 35 19.3**	**0.0**
VIVF	**Saint-Julien-l**	**6.45**	**291**		*e*P	**Pn**	**01 35 21.6**	**+2.2**
VIVF					*e*Sn	**Sn**	**01 36 25.9**	**-6.9**
	comp=E,8.1nm,0.6s							
FNA	**Florina**	**6.49**	**106**		Pn	**Pn**	**01 35 21.4**	**+1.4**
MDVR	**Moldovita**	**6.49**	**70**	⇓	P	**Pn**	**01 35 19.0**	**-1.0**
VOGT	**Vogtsburg - To**	**6.50**	**326**		P	**Pn**	**01 35 21.0**	**+0.9**
MOF	**Molkenrain**	**6.55**	**322**		P	**Pn**	**01 35 21.7**	**+0.7**
KRUC	**Moravsky**	**6.61**	**19**		*e*PN	**Pn**	**01 35 20.7**	**-1.0**
KRUC					*e*SN	**Sn**	**01 36 32.3**	**-4.5**
TREC	**Trest**	**6.65**	**13**		*e*PN	**Pn**	**01 35 20.1**	**-2.1**
TREC					*e*SN	**Sn**	**01 36 34.9**	**-2.9**
SSB	**Saint Sauveur**	**6.66**	**294**		Pn	**Pn**	**01 35 23.3**	**+0.9**
HINF	**Hinteralfeld**	**6.66**	**320**		*e*P	**Pn**	**01 35 22.5**	**+0.2**
HINF					*e*Sn	**Sn**	**01 36 30.7**	**-7.3**
	comp=E,87nm,0.6s							

RONF	**Ronchamp**	**6.68**	**319**		P	**Pn**	**01 35 23.8**	**+1.2**
BZS	**Buzias**	**6.68**	**63**	⇑	P	**Pn**	**01 35 21.8**	**-0.9**
STIP	**Stip**	**6.80**	**97**		*i* Pn	**Pn**	**01 35 27.1**	**+2.8**
ECH	**Echery**	**6.82**	**324**		Pn	**Pn**	**01 35 24.4**	**-0.1**
ECH	**Echery**	**6.82**	**324**		P	**Pn**	**01 35 25.1**	**+0.7**
LASF	**Ste Croix**	**6.87**	**283**		*e*P	**Pn**	**01 35 26.1**	**+0.9**
LASF					*e*Sn	**Sn**	**01 36 36.2**	**-7.0**
	comp=E,1.5nm,0.4s							
VRAC	**Vranov**	**6.89**	**19**		Pn	**Pn**	**01 35 24.6**	**-0.8**
	comp=E,0.6nm,0.3s,baz=212,slow=14,SNR=5.5							
VRAC					Sn	**Sn**	**01 36 39.6**	**-4.1**
	comp=E,1.2nm,0.3s,baz=302,slow=19,SNR=6.0							
	comp=E,2.3nm,0.4s							
VRAC	**Vranov**	**6.89**	**19**		*e*PN	**Pn**	**01 35 24.8**	**-0.7**
VYHS	**Vyhne**	**6.91**	**33**		*e*PN	**Pn**	**01 35 25.1**	**-0.6**
VYHS					*e*SN	**Sn**	**01 36 43.0**	**-1.2**
CDF	**Champ du Feu**	**6.92**	**326**		*e*P	**Pn**	**01 35 26.2**	**+0.3**
CDF					*e*Sn	**Sn**	**01 36 37.0**	**-7.5**
	comp=E,40nm,0.6s							
PSZ	**Piszkesteto**	**6.95**	**41**	⇓	P	Pb	01 35 39.4	-6.0
PSZ	**Piszkesteto**	**6.95**	**41**		Pn	**Pn**	**01 35 26.5**	**+0.2**
PSZ	**Piszkesteto**	**6.95**	**41**		P	**Pn**	**01 35 26.0**	**-0.3**
GRFO	**Grafenberg**	**6.97**	**350**		Pn	**Pn**	**01 35 27.0**	**+0.4**
GRA1	**Grafenberg Arr**	**6.97**	**350**		Pn	**Pn**	**01 35 27.4**	**+0.8**
SIRR	**Siria**	**6.97**	**58**	⇑	P	**Pn**	**01 35 27.4**	**+0.7**
HAU	**Haudompre**	**7.03**	**320**		*e*P	**Pn**	**01 35 27.8**	**+0.4**
HAU					*e*Sn	**Sn**	**01 36 39.7**	**-7.5**
	comp=E,73nm,0.5s							
SURR	**Surduc**	**7.07**	**63**	⇑	P	**Pn**	**01 35 28.4**	**+0.5**
GOPC	**GO Pecny, Ondr**	**7.16**	**9**		*e*PN	**Pn**	**01 35 27.6**	**-1.5**
VAY	**Valandovo**	**7.17**	**99**		*e*Pn	**Pn**	**01 35 30.8**	**+1.4**
PRU	**Pruhonice**	**7.21**	**7**		*e*PN	**Pn**	**01 35 27.9**	**-1.9**
PRU					*e*SN	**Sn**	**01 36 48.2**	**-3.2**
PLYF	**Puligny Montra**	**7.24**	**307**		P	**Pn**	**01 35 31.8**	**+1.5**
MAUC	**Maruska**	**7.28**	**25**		*e*PN	**Pn**	**01 35 30.0**	**-0.9**
MAUC					*e*SN	**Sn**	**01 36 49.6**	**-3.8**
GZR	**Gura Zlata**	**7.38**	**67**	⇓	P	**Pn**	**01 35 32.3**	**0.0**
VTS	**Vitosha**	**7.43**	**88**	⇓	P	**Pn**	**01 35 34.6**	**+1.8**
VTS	**Vitosha**	**7.43**	**88**		Pn	**Pn**	**01 35 33.6**	**+0.8**
MORC	**Moravsky Berou**	**7.57**	**22**	⇓	P	Pn	01 35 29.5	-5.3
MORC	**Moravsky Berou**	**7.57**	**22**		Pn	**Pn**	**01 35 34.0**	**-0.8**
MORC	**Moravsky Berou**	**7.57**	**22**		*e*PN	**Pn**	**01 35 34.0**	**-0.8**
SMF	**Signal de Mont**	**7.63**	**303**		*e*P	**Pn**	**01 35 36.4**	**+0.7**
SMF					*e*Sn	**Sn**	**01 36 54.1**	**-7.9**
	comp=E,27nm,0.5s							
KRLC	**Kraliky**	**7.65**	**18**		*e*PN	**Pn**	**01 35 34.9**	**-1.0**
KRLC					*e*SN	**Sn**	**01 36 58.2**	**-4.2**
KEST	**Kesra**	**7.69**	**204**		Pn	Pn	01 35 41.9	+5.4
	comp=E,1.1nm,0.3s,baz=307,slow=4.5,SNR=20							
KEST					Sn	**Sn**	**01 37 05.9**	**+2.3**
	comp=E,0.1nm,0.3s,baz=341,slow=22,SNR=1.2							
	comp=E,9.3nm,0.6s							
PAGF	**Fort de Pagny**	**7.71**	**320**		*e*P	**Pn**	**01 35 37.8**	**+1.0**
PAGF					*e*Sn	**Sn**	**01 36 56.1**	**-7.8**
	comp=E,32nm,0.6s							
SFTF	**Sexfontaines**	**7.81**	**316**		*e*P	**Pn**	**01 35 39.1**	**+1.0**
	baz=130							
SFTF					*e*Sn	**Sn**	**01 36 58.4**	**-8.0**
	comp=E,29nm,0.7s							
DPC	**Dobruska-Polom**	**7.82**	**15**		*e*PN	**Pn**	**01 35 37.0**	**-1.2**
LOR	**Lormes**	**7.92**	**307**		*e*P	**Pn**	**01 35 40.5**	**+0.9**
	baz=125							
LOR					*e*Sn	**Sn**	**01 37 01.1**	**-7.9**
	comp=E,17nm,0.5s							
OSTC	**Ostas**	**7.99**	**14**		*e*PN	**Pn**	**01 35 39.5**	**-1.1**
AVF	**Avril sur Loir**	**8.00**	**303**		*e*P	**Pn**	**01 35 41.5**	**+0.8**
AVF					*e*Sn	**Sn**	**01 37 02.9**	**-8.0**
	comp=E,6.8nm,0.6s							
MEZF	**Maizieres J'vi**	**8.00**	**318**		*e*P	**Pn**	**01 35 41.7**	**+1.0**
	baz=135							
MEZF					*e*Sn	**Sn**	**01 37 02.7**	**-8.3**
	comp=E,10nm,0.5s							
MTLF	**Montolieu**	**8.02**	**277**		*e*P	**Pn**	**01 35 43.1**	**+2.2**
MTLF					*e*Sn	**Sn**	**01 37 03.4**	**-8.0**
	comp=E,1.6nm,0.4s							
SSF	**Saint Saulge**	**8.03**	**305**		*e*P	**Pn**	**01 35 41.6**	**+0.5**
SSF					*e*Sn	**Sn**	**01 37 03.8**	**-7.9**
	comp=E,11nm,0.5s							
SAVF	**Savonnieres en**	**8.04**	**319**		*e*P	**Pn**	**01 35 43.5**	**+2.2**
SAVF					*e*Sn	**Sn**	**01 37 03.7**	**-8.3**
	comp=E,16nm,0.6s							
BRG	**Berggiesshubel**	**8.05**	**4**		*e*P	**Pn**	**01 35 39.3**	**-2.0**
BRG					Amp		01 35 46.6	
	comp=Z,3.8nm,0.6s							
BRG					*ex*	x	01 36 18.9	
BRG					*ex*	x	01 37 07.1	
BRG					*ex*	x	01 38 00.2	
BRG					Amp		01 38 22.3	
	comp=Z,31nm,1.2s							
BGF	**Bois d'Agland**	**8.22**	**300**		*e*P	**Pn**	**01 35 45.0**	**+1.3**
BGF					*e*Sn	**Sn**	**01 37 07.8**	**-8.6**
	comp=Z,12nm,0.5s							
CAF	**Calviac**	**8.27**	**288**		*e*P	**Pn**	**01 35 46.3**	**+1.9**
CAF					*e*Sn	**Sn**	**01 37 09.5**	**-8.2**
	comp=Z,0.6nm,0.3s							
WLF	**Walferdange**	**8.36**	**327**		Pn	**Pn**	**01 35 46.0**	**+0.4**
WLF	**Walferdange**	**8.36**	**327**		*d*P	**Pn**	**01 35 47.6**	**+2.0**
TRPA	**Tarpa**	**8.45**	**48**	⇑	P	**Pn**	**01 35 49.4**	**+2.6**
TRPA	**Tarpa**	**8.45**	**48**		P	Pn	01 35 51.4	+4.6
CLL	**Collm**	**8.46**	**359**		Pn	**Pn**	**01 35 45.3**	**-1.7**
CLL	**Collm**	**8.46**	**359**		*i* Pn	**Pn**	**01 35 46.2**	**-0.8**
	comp=Z,12nm,1.4s							
CLL					*e*Sn	**Sn**	**01 37 19.0**	**-3.3**
CLL					*i* x	x	01 38 00.3	
CLL					*i* Sg	Sg	01 38 25.6	+9.4
	comp=Z,71nm,1.3s							
TCF	**Toulx Ste Croi**	**8.53**	**298**		*e*P	**Pn**	**01 35 50.3**	**+2.3**
TCF					*e*Sn	**Sn**	**01 37 15.5**	**-8.6**
	comp=Z,4.7nm,0.5s							
STHS	**Stebnicka Huta**	**8.64**	**38**		*e*PN	**Pn**	**01 35 50.1**	**+0.6**
HYF	**Humbligny**	**8.65**	**304**		*e*P	**Pn**	**01 35 52.2**	**+2.6**
HYF					*e*Sn	**Sn**	**01 37 18.4**	**-8.5**
RJF	**Les Rejaudoux**	**8.73**	**290**		*e*P	**Pn**	**01 35 53.3**	**+2.7**
RJF					*e*Sn	**Sn**	**01 37 20.3**	**-8.5**
	comp=Z,0.6nm,0.2s							
HUMR	**Humele**	**8.74**	**75**	⇓	P	**Pn**	**01 35 46.8**	**-4.0**
VOIR		**8.94**	**69**	⇑	P	**Pn**	**01 35 55.0**	**+1.3**
RCHB	**Rochefort**	**9.12**	**326**		*d*P	**Pn**	**01 35 58.2**	**+2.2**
RCHB					*dk*	x	01 36 17.6	
RCHB					*d*S	**Sn**	**01 37 34.2**	**-4.2**
MEM	**Membach**	**9.18**	**330**		*d*P	**Pn**	**01 35 59.3**	**+2.5**
MEM					*d*S	**Sn**	**01 37 37.0**	**-2.9**
LFF	**La Frestale**	**9.20**	**287**		*e*P	**Pn**	**01 35 59.1**	**+2.0**
GIVF	**Givet**	**9.25**	**325**		*e*P	**Pn**	**01 36 00.4**	**+2.6**
BCLA	**Clavier**	**9.29**	**327**		*d*P	**Pn**	**01 36 00.2**	**+1.8**
BCLA					*d*PP	**PbPb**	**01 36 29.9**	**+1.4**
BCLA					*d*S	**Sn**	**01 37 40.1**	**-2.5**
DOU	**Dourbes**	**9.34**	**324**		*d*P	**Pn**	**01 35 59.1**	**0.0**
DOU					*d*PP	**PbPb**	**01 36 29.3**	**0.0**
DOU					*d*S	**Sn**	**01 37 41.7**	**-2.1**
BGES	**Gesves**	**9.35**	**326**		*d*P	**Pn**	**01 36 01.5**	**+2.3**
BGES					*d*PP	**PbPb**	**01 36 27.6**	**-1.8**
BGES					*d*S	**Sn**	**01 37 41.5**	**-2.7**
RDO	**Rodhopi**	**9.38**	**96**		Pn	**Pn**	**01 36 00.3**	**+0.7**
BMRD	**Maredsous**	**9.42**	**325**		*d*P	**Pn**	**01 36 02.2**	**+2.1**
BMRD					*d*S	**Sn**	**01 37 45.5**	**-0.3**
BAIF	**Baives**	**9.48**	**323**		*e*P	**Pn**	**01 36 03.6**	**+2.6**
SNF	**Seneffe**	**9.78**	**325**		*d*P	**Pn**	**01 36 06.9**	**+1.8**
MFF	**Saint Martin d**	**10.18**	**296**		*e*P	**Pn**	**01 36 13.2**	**+2.7**
MFF					*e*Sn	Sn	01 37 54.8	-10
	comp=Z,0.9nm,0.3s							
LDF	**La Druitiere**	**10.90**	**306**		*e*P	**Pn**	**01 36 22.7**	**+2.2**
LDF					*e*Sn	Sn	01 38 12.1	-10
	comp=Z,1.6nm,0.4s							
GRR	**Gorron**	**11.26**	**304**		*e*P	**Pn**	**01 36 27.9**	**+2.6**
GRR					*e*Sn	Sn	01 38 20.7	-10
	comp=Z,1.7nm,0.4s							
IDI	**Anoyia**	**11.84**	**126**		Pn	**Pn**	**01 36 34.8**	**+1.5**
	comp=Z,6.9nm,0.8s,baz=303,slow=7.8,SNR=1.8							
IDI					Sn	**Sn**	**01 38 38.0**	**-7.3**
	comp=Z,0.5nm,0.3s,baz=328,slow=18,SNR=2.3							
SGMF	**Saint Gilles**	**12.26**	**302**		*e*P	**Pn**	**01 36 41.4**	**+2.5**
SGMF					*e*Sn	Sn	01 38 44.4	-11
	comp=Z,1.1nm,0.4s							
ESDC	**Sonseca Array**	**13.26**	**262**		Pn	Pn	01 36 57.4	+4.7
	baz=72,slow=12,SNR=2.2							
	comp=Z,0.3nm,0.7s							
ELL	**Elmali**	**14.24**	**110**		P	**P**	**01 37 16.1**	**+2.5**
EKA	**Eskdalemuir Ar**	**16.38**	**325**		Pn	**P**	**01 37 36.8**	**-0.3**
	baz=138,slow=13							
	comp=Z,0.5nm,0.4s							
NB2	**NORSAR Subarra**	**18.26**	**357**		P	**P**	**01 37 58.8**	**+1.0**
	comp=Z,6.8nm,1.2s,baz=175,slow=11							
NOA	**NORSAR Array B**	**18.26**	**357**		P	**P**	**01 37 57.6**	**-0.2**
	baz=175,slow=12,SNR=3.9							
	comp=Z,1.1nm,0.9s							
MMAI	**Mount Meron Ar**	**20.06**	**112**		P	Pn	01 38 19.3	-0.3
	comp=Z,3.3nm,0.6s,baz=330,slow=8.3,SNR=4.5							
	comp=Z,3.3nm,0.6s							
FINES	**FINESS Array B**	**20.17**	**18**		P	**P**	**01 38 18.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=193,slow=7.8,SNR=8.9							
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**20.17**	**18**		P	**P**	**01 38 18.8**	**+0.1**
FIA1	**FINESS Array S**	**20.17**	**18**		P	**P**	**01 38 18.7**	**0.0**
FIA1					IAmb	IAmb	01 38 29.7	
	comp=Z,14nm,1.1s							
TAM	**Tamanrasset**	**20.98**	**200**		P	**P**	**01 38 28.0**	**+0.1**
ASF	**Jabal al Asfar**	**21.58**	**112**		P	**P**	**01 38 37.2**	**+3.0**
	comp=Z,2.0nm,0.7s,baz=279,slow=3.3,SNR=4.2							
	comp=Z,2.0nm,0.7s							
KBZ	**Khabaz**	**21.63**	**77**		P	**P**	**01 38 36.0**	**+1.5**
	comp=Z,5.3nm,1.1s,baz=282,slow=18,SNR=4.7							
	comp=Z,5.3nm,1.1s							
MARD	**Mardin**	**21.80**	**95**		P	**P**	**01 38 38.6**	**+2.0**
BELG	**Belogornoye**	**24.91**	**55**		P	**P**	**01 39 08.6**	**+1.4**
	comp=Z,2.2nm,0.9s,baz=266,slow=4.4,SNR=9.0							
	comp=Z,2.0nm,0.9s							
ARU	**Arti**	**31.77**	**49**		P	**P**	**01 40 08.8**	**+0.4**
ARU					IAmb	IAmb	01 40 11.4	
	comp=Z,6.3nm,0.8s							
ABKAR	**Akbulak array**	**32.67**	**62**		P	**P**	**01 40 17.3**	**+0.9**
GEYT	**Alibeck**	**34.29**	**83**		P	**P**	**01 40 33.1**	**+2.4**
	comp=Z,0.9nm,0.4s,baz=249,slow=7.6,SNR=2.2							
	comp=Z,0.9nm,0.4s							
BRVK	**Borovoye**	**38.64**	**54**		P	**P**	**01 41 08.2**	**+0.6**
BRVK

BHHZ	**Black Hill Sta**	**2.66**	**32**	P		Pn	01 36 33.0	-0.2
DRZ	**Dome Shelter**	**2.68**	**23**	P		Pb	01 36 36.4	-1.9
WHVZ	**Whangaehu Hut**	**2.68**	**23**	P		Pn	01 36 33.0	-0.7
FWVZ	**Far West T-bar**	**2.69**	**23**	P		Pn	01 36 33.4	-0.5
TUVZ	**Tukino**	**2.71**	**24**	P		Pn	01 36 35.1	+1.0
NGZ	**Ngauruhoe**	**2.78**	**23**	P		Pn	01 36 36.3	+1.3
SNVZ	**South Ngauruho**	**2.78**	**23**	P		Pn	01 36 34.7	-0.3
OTVZ	**Oturere**	**2.81**	**24**	P		Pn	01 36 34.8	-0.6
NNVZ	**North Ngauruho**	**2.83**	**23**	P		Pn	01 36 35.4	-0.3
WTVZ	**West Tongariro**	**2.83**	**22**	P		Pn	01 36 35.1	-0.6
TWVZ	**Taurewa**	**2.84**	**19**	P		Pb	01 36 38.9	-2.0
ETVZ	**East Tongariro**	**2.85**	**24**	P		Pn	01 36 34.8	-1.1
KWHZ	**Kaweka Forest**	**2.87**	**36**	P		Pn	01 36 36.5	+0.4
TMVZ	**Te Maari**	**2.87**	**24**	P		Pn	01 36 34.4	-1.7
KRVZ	**Karewarewa**	**2.87**	**23**	P		Pn	01 36 36.3	+0.1
NTVZ	**North Tongarir**	**2.88**	**23**	P		Pn	01 36 36.6	+0.3
KATZ	**Kakaramea**	**3.00**	**23**	P		Pb	01 36 41.3	-2.3
RITZ	**Rihia Road**	**3.04**	**25**	P		Pb	01 36 41.7	-2.7
BKZ	**Black Stump Fm**	**3.11**	**35**	P		Pn	01 36 39.6	+0.2
RATZ	**Rangitukua**	**3.12**	**23**	P		Pb	01 36 43.8	-1.9
HIZ	**Hauiti**	**3.27**	**9**	P		Pn	01 36 40.9	-0.7
GCSZ	**Gaunt Creek Bo**	**3.27**	**240**	P		Pn	01 36 41.0	-0.6
FOZ	**Fox Glacier**	**3.71**	**240**	P		Pn	01 36 48.0	+0.5

*IDC **14** 01:37:34.1±2.7, 42°.47S×174°.07E, h0km, mb3.4/2, mbtmp3.6/3, ML4.3/1, Error ellipse: s-maj=74.3km s-min=45.8km az=147.0*

*WEL **14** 01:37:38.8±0.7, 42°.5S±3°×17°.4E±°, h4km±3km, M3.9/7, ML4.2/7, MLv3.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3*

ISC 14 01:37:37.9±1.7, 42°.44S±0°.04×173°.76E±0°.07, h5km±10km, n32, σ1°64/37, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.17**	**278**	P	**Pg**	**01 37 41.3**	**0.0**
KHZ				S	**Sg**	**01 37 44.0**	**+0.6**
GVZ	**Greta Valley S**	**0.75**	**225**	P	**Pg**	**01 37 54.3**	**+1.9**
GVZ				S	**Sb**	**01 38 06.6**	**+2.4**
THZ	**Tophouse**	**0.93**	**316**	P	**Pg**	**01 37 54.8**	**-1.0**
TUWZ	**Tuamarina**	**1.02**	**8**	P	**Pg**	**01 37 57.2**	**-0.3**
TUWZ				S	**Sn**	**01 38 12.0**	**-1.6**
AMCZ	**Amberley**	**1.10**	**228**	P	**Pg**	**01 37 59.1**	**+0.1**
LTZ	**Lake Taylor**	**1.15**	**252**	P	**Pg**	**01 37 59.9**	**-0.1**
LTZ				S	**Sb**	**01 38 16.8**	**+1.1**
MRNZ	**Matariki Terra**	**1.28**	**324**	P	**Pb**	**01 38 02.0**	**-0.6**
OKCZ	**Okains Bay**	**1.38**	**202**	P	**Pn**	**01 38 02.9**	**-1.1**
MQZ	**McQueen's Vall**	**1.50**	**212**	P	**Pn**	**01 38 03.8**	**-1.8**
TKNZ	**Takaka Hill**	**1.53**	**337**	P	**Pn**	**01 38 05.5**	**-0.5**
OXZ	**Oxford**	**1.55**	**234**	P	**Pn**	**01 38 04.5**	**-1.7**
AKCZ	**Akaroa Harbour**	**1.56**	**203**	P	**Pn**	**01 38 05.1**	**-1.3**
DSZ	**Denniston Nort**	**1.61**	**295**	P	**Pn**	**01 38 07.3**	**+0.1**
RACZ	**Rakaia**	**1.75**	**222**	P	**Pn**	**01 38 07.4**	**-1.6**
QRZ	**Quartz Range**	**1.86**	**330**	P	**Pn**	**01 38 10.7**	**+0.3**
WACZ	**Wakanui South**	**2.06**	**222**	P	**Pn**	**01 38 11.8**	**-1.4**
WVZ	**Waitaha Valley**	**2.32**	**253**	P	**Pn**	**01 38 16.3**	**-0.5**
RPZ	**Rata Peaks**	**2.36**	**236**	Pn	**Pn**	**01 38 15.7**	**-1.7**
	55nm,0.3s,baz=34,slow=7.3,SNR=29						
RPZ				Sn	**Sn**	**01 38 44.2**	**-2.5**
	59nm,0.3s,baz=329,slow=23,SNR=18						
	217nm,0.4s						
RPZ	**Rata Peaks**	**2.36**	**236**	P	**Pn**	**01 38 15.8**	**-1.7**
ARCZ	**Arundel**	**2.42**	**231**	P	**Pn**	**01 38 16.3**	**-1.9**
GCSZ	**Gaunt Creek Bo**	**2.67**	**250**	P	**Pn**	**01 38 21.4**	**-0.3**
TMZ	**Timaru**	**2.79**	**225**	P	**Pn**	**01 38 22.1**	**-1.3**
LBZ	**Lake Benmore**	**3.25**	**232**	P	**Pn**	**01 38 28.5**	**-1.2**
ODZ	**Otahua Downs**	**3.45**	**220**	P	**Pn**	**01 38 30.7**	**-1.6**
HHSZ	**Highcliff Hill**	**4.13**	**212**	P	**Pn**	**01 38 39.8**	**-1.9**
EAZ	**Earnscleugh**	**4.26**	**228**	P	**Pn**	**01 38 41.7**	**-1.9**
TUZ	**Tuapeka**	**4.60**	**219**	P	**Pn**	**01 38 46.6**	**-1.5**
SYZ	**Scrubby Hill**	**5.26**	**217**	P	**Pn**	**01 38 56.0**	**-1.3**
ASAR	**Alice Springs**	**37.87**	**287**	P	**P**	**01 44 55.7**	**-0.3**
	0.3nm,0.6s,baz=128,slow=7.5,SNR=1.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**40.01**	**292**	P	**P**	**01 45 11.8**	**-2.1**
	0.9nm,0.9s,baz=129,slow=7.9,SNR=2.7						
	0.9nm,0.9s						
BRTR	**Keskin Array B**	**150.01**	**278**	PKPbc	**PKPdf**	**01 57 26.8**	**+2.3**
	0.9nm,0.9s,baz=134,slow=6.2,SNR=3.9						
FINES	**FINESS Array B**	**152.90**	**326**	PKPbc	**PKPdf**	**01 57 32.1**	**+4.2**
	3.2nm,1.0s,baz=45,slow=2.2,SNR=2.3						

WEL 14 01:39:55.0±0.4, 42°S±2°×17°4E±°, h5km, M3.7/11, ML3.9/11, MLv3.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=112.3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.37**	**207**	P	Pg	01 40 02.3	+0.1
KHZ	**Kahutara**	**0.37**	**207**	P	Pg	01 40 02.3	+0.1
KHZ				S	Sg	01 40 08.6	+1.5
BSWZ	**Blackbirch Sta**	**0.38**	**12**	P	Pg	01 40 02.7	+0.4
BSWZ				S	Sg	01 40 08.6	+1.4
BSWZ	**Blackbirch Sta**	**0.38**	**12**	P	Pg	01 40 02.7	+0.4
BSWZ				S	Sg	01 40 08.7	+1.5
TUWZ	**Tuamarina**	**0.67**	**11**	P	Pg	01 40 08.3	+0.5
TUWZ				S	Sb	01 40 18.2	-0.5
TUWZ	**Tuamarina**	**0.67**	**11**	P	Pg	01 40 08.3	+0.5
TUWZ				S	Sb	01 40 18.3	-0.3
THZ	**Tophouse**	**0.72**	**296**	P	Pg	01 40 09.1	+0.3
THZ				S	Sb	01 40 19.2	-1.0
THZ	**Tophouse**	**0.72**	**296**	P	Pg	01 40 08.8	0.0
THZ				S	Sg	01 40 19.1	+0.9
NNZ	**Nelson**	**0.91**	**341**	P	Pg	01 40 12.5	+0.1
NNZ				S	Sb	01 40 25.2	-0.6
TCW	**Tory Channel**	**0.95**	**24**	P	Pg	01 40 13.0	-0.2
MRNZ	**Matariki Terra**	**1.02**	**312**	P	Pb	01 40 15.4	+0.2
GVZ	**Greta Valley S**	**1.03**	**211**	P	Pg	01 40 14.8	0.0
GVZ				P	Pb	01 40 14.9	-0.5
GVZ	**Greta Valley S**	**1.03**	**211**	P	Pg	01 40 14.6	-0.2
GVZ				S	Sb	01 40 29.9	+0.6
BHW	**Baring Head**	**1.07**	**51**	P	Pg	01 40 15.1	-0.3
BHW				S	Sb	01 40 30.9	+0.7
WEL	**Wellington**	**1.10**	**43**	P	Pg	01 40 16.0	0.0
TKNZ	**Takaka Hill**	**1.21**	**330**	P	Pg	01 40 18.1	-0.1
DUWZ	**D'Urville Isla**	**1.29**	**5**	P	Pn	01 40 19.2	-0.4
MSWZ	**Moikau Station**	**1.29**	**59**	P	Pn	01 40 17.9	-1.8
LTZ	**Lake Taylor**	**1.31**	**237**	P	Pn	01 40 19.2	-0.8
LTZ	**Lake Taylor**	**1.31**	**237**	P	Pn	01 40 19.0	-0.9
LTZ				S	Sb	01 40 37.4	+0.2
CACS	**Harewood**	**1.67**	**213**	P	Pn	01 40 23.0	-1.9
CACS				S	Sn	01 40 44.8	-1.8
OKCZ	**Okains Bay**	**1.72**	**197**	P	Pn	01 40 23.2	-2.3
OKCZ				S	Sn	01 40 45.1	-2.8
OXZ	**Oxford**	**1.78**	**225**	P	Pn	01 40 24.2	-2.2
OXZ				S	Sn	01 40 46.6	-2.8
MQZ	**McQueen's Vall**	**1.82**	**206**	P	Pn	01 40 24.1	-2.7
MQZ				S	Sn	01 40 46.7	-3.5
AKCZ	**Akaroa Harbour**	**1.89**	**199**	P	Pn	01 40 25.4	-2.6
AKCZ				S	Sn	01 40 48.9	-3.4
RACZ	**Rakaia**	**2.03**	**216**	P	Pn	01 40 27.0	-2.8
RACZ				S	Sn	01 40 52.4	-3.2
WACZ	**Wakanui South**	**2.33**	**217**	P	Pn	01 40 31.4	-2.6
WACZ				S	Sn	01 41 00.1	-2.9
ARCZ	**Arundel**	**2.66**	**225**	P	Pn	01 40 36.4	-2.1
ARCZ				S	Sn	01 41 07.8	-3.3

*WEL **14** 01:40:54.8±0.5, 42°.5S±3°×17°.4E±°, h8km±5km, M3.8/12, ML4.1/12, MLv3.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=129.0*

*IDC **14** 01:40:54.5±3.8, 41°.60S×173°.82E, h0km, mb3.5/2, mbtmp3.5/3, Error ellipse: s-maj=75.9km s-min=38.2km az=110.0*

ISC 14 01:40:54.8±0.9, 41°.73S±0°.04×174°.28E±0°.02, h15km±5km, n68, σ1°28/74, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**244**	P	**Pg**	**01 40 56.5**	**-1.2**
CMWZ				S	**Sg**	**01 41 01.2**	**+1.6**
BSWZ	**Blackbirch Sta**	**0.30**	**272**	P	**Pg**	**01 41 01.5**	**+0.4**
BSWZ				S	**Sb**	**01 41 06.5**	**-0.1**
TUWZ	**Tuamarina**	**0.39**	**320**	P	**Pb**	**01 41 02.8**	**-0.5**
TUWZ				S	**Sb**	**01 41 09.3**	**+0.2**
TCW	**Tory Channel**	**0.51**	**360**	P	**Pb**	**01 41 04.7**	**-0.8**
BHW	**Baring Head**	**0.55**	**55**	P	**Pg**	**01 41 04.9**	**-0.7**
WEL	**Wellington**	**0.57**	**40**	P	**Pb**	**01 41 05.9**	**-0.6**
PLWZ	**Palliser**	**0.75**	**78**	P	**Pb**	**01 41 09.9**	**+0.3**
PLWZ				S	**Sn**	**01 41 22.6**	**+0.7**
MSWZ	**Moikau Station**	**0.79**	**67**	P	**Pb**	**01 41 10.2**	**-0.1**
NNZ	**Nelson**	**0.84**	**307**	P	**Pg**	**01 41 10.4**	**-0.8**
CAW	**Cannon Point**	**0.86**	**44**	P	**Pg**	**01 41 10.7**	**-0.7**
KHZ	**Kahutara**	**0.88**	**218**	P	**Pb**	**01 41 12.8**	**+1.0**
PAWZ	**Paruwai Farm**	**0.93**	**69**	P	**Pb**	**01 41 12.6**	**0.0**
DUWZ	**D'Urville Isla**	**0.96**	**344**	P	**Pn**	**01 41 13.9**	**+0.2**
KIW	**Kapiti Island**	**0.99**	**29**	P	**Pg**	**01 41 13.0**	**-0.9**
MTW	**Mount Morrison**	**1.08**	**59**	P	**Pg**	**01 41 14.8**	**-0.8**
MTW				S	**Sn**	**01 41 32.2**	**+2.1**
TRWZ	**Traveller**	**1.11**	**73**	P	**Pg**	**01 41 14.8**	**-1.3**
OGWZ	**Otaki Gorge**	**1.13**	**37**	P	**Pg**	**01 41 14.5**	**-2.1**
MRNZ	**Matariki Terra**	**1.19**	**285**	P	**Pn**	**01 41 17.8**	**+0.9**
TKNZ	**Takaka Hill**	**1.21**	**304**	P	**Pb**	**01 41 15.8**	**-1.6**
HOWZ	**Holdsworth Sta**	**1.25**	**49**	P	**Pb**	**01 41 17.6**	**-0.4**
TMWZ	**Te Maipa**	**1.36**	**64**	P	**Pn**	**01 41 18.4**	**-0.8**
MRZ	**Mangatainoka R**	**1.45**	**43**	P	**Pn**	**01 41 20.3**	**-0.1**
TIWZ	**Tintock**	**1.54**	**53**	P	**Pn**	**01 41 22.3**	**+0.6**
QRZ	**Quartz Range**	**1.59**	**304**	P	**Pb**	**01 41 24.3**	**+0.4**
CPWZ	**Castlepoint**	**1.66**	**61**	P	**Pg**	**01 41 27.7**	**+1.0**
OHWZ	**Ohakea**	**1.71**	**28**	P	**Pg**	**01 41 26.9**	**-0.7**
PRWZ	**Pori Road**	**1.73**	**48**	P	**Pb**	**01 41 26.6**	**+0.3**
POWZ	**Post Office Ro**	**1.75**	**41**	P	**Pn**	**01 41 25.2**	**+0.7**
BFZ	**Birch Farm**	**1.81**	**56**	P	**Pb**	**01 41 27.8**	**+0.1**
DVHZ	**Dannevirke**	**2.02**	**46**	P	**Pb**	**01 41 32.0**	**+0.8**
WAZ	**Wanganui**	**2.04**	**16**	P	**Pg**	**01 41 35.5**	**+1.6**
ANWZ	**Angora Road**	**2.09**	**53**	P	**Pg**	**01 41 35.9**	**+1.1**
TSZ	**Takapari Road**	**2.10**	**38**	P	**Pn**	**01 41 29.3**	**0.0**
PNHZ	**Pukenui**	**2.33**	**39**	P	**Pn**	**01 41 31.9**	**-0.6**
WPHZ	**Waipukurau**	**2.33**	**45**	P	**Pn**	**01 41 38.7**	**-0.8**
MOVZ	**Moawhango**	**2.57**	**26**	P	**Pb**	**01 41 38.6**	**-2.0**
WNVZ	**Wahianoa**	**2.60**	**23**	P	**Pn**	**01 41 38.2**	**+1.8**
TRVZ	**Turoa**	**2.61**	**22**	P	**Pn**	**01 41 39.8**	**-1.6**
BHHZ	**Black Hill Sta**	**2.62**	**32**	P	**Pb**	**01 41 41.6**	**+0.3**
VRZ	**Vera Road**	**2.62**	**8**	P	**Pb**	**01 41 39.8**	**-1.7**
DRZ	**Dome Shelter**	**2.64**	**22**	P	**Pn**	**01 41 39.2**	**+2.2**
WHVZ	**Whangaehu Hut**	**2.64**	**23**	P	**Pb**	**01 41 39.5**	**-2.3**
FWVZ	**Far West T-bar**	**2.65**	**22**	P	**Pb**	**01 41 41.4**	**-0.7**
TUVZ	**Tukino**	**2.67**	**24**	P	**Pb**	**01 41 42.2**	**-0.2**
NGZ	**Ngauruhoe**	**2.74**	**22**	P	**Pb**	**01 41 43.3**	**-0.2**
SNVZ	**South Ngauruho**	**2.74**	**23**	P	**Pb**	**01 41 44.0**	**+0.4**
OTVZ	**Oturere**	**2.77**	**23**	P	**Pb**	**01 41 43.7**	**-0.3**
NNVZ	**North Ngauruho**	**2.79**	**22**	P	**Pb**	**01 41 41.7**	**-2.6**
WTVZ	**West Tongariro**	**2.79**	**21**	P	**Pb**	**01 41 45.5**	**+1.1**
TWVZ	**Taurewa**	**2.80**	**19**	P	**Pb**	**01 41 43.5**	**-1.0**
ETVZ	**East Tongariro**	**2.81**	**23**	P	**Pb**	**01 41 44.5**	**-0.2**
KWHZ	**Kaweka Forest**	**2.82**	**36**	P	**Pb**	**01 41 44.6**	**-0.3**
TMVZ	**Te Maari**	**2.83**	**23**	P	**Pb**	**01 41 45.2**	**+0.2**
KRVZ	**Karewarewa**	**2.83**	**22**	P	**Pb**	**01 41 43.7**	**-1.3**
NTVZ	**North Tongarir**	**2.83**	**23**	P	**Pb**	**01 41 44.5**	**-0.6**
KATZ	**Kakaramea**	**2.95**	**22**	P	**Pb**	**01 41 47.7**	**+0.5**
RITZ	**Rihia Road**	**3.00**	**24**	P	**Pb**	**01 41 49.1**	**+1.2**
BKZ	**Black Stump Fm**	**3.06**	**34**	P	**Pb**	**01 41 49.3**	**+0.3**
RATZ	**Rangitukua**	**3.08**	**22**	P	**Pb**	**01 41 50.5**	**+1.3**
RPZ	**Rata Peaks**	**3.10**	**229**	Pn	**Pn**	**01 41 42.6**	**-0.5**
	28nm,0.6s,baz=123,slow=20,SNR=1.3						
RPZ				Sn	**Sn**	**01 42 18.6**	**-1.3**
	6.7nm,0.3s,baz=16,slow=18,SNR=1.5						
HIZ	**Hauiti**	**3.24**	**8**	P	**Pb**	**01 41 49.7**	**-2.3**
RIGZ	**Rimuhau**	**4.03**	**43**	P	**Pn**	**01 41 54.0**	**-1.9**
AWAZ	**Awhitu Peninsu**	**4.66**	**4**	P	**Pn**	**01 42 09.0**	**+4.4**
MKAZ	**Moumakai**	**4.67**	**9**	P	**Pn**	**01 42 07.3**	**+2.6**
CTZ	**Chatham Island**	**7.00**	**110**	P	**Pn**	**01 42 35.1**	**-1.6**
ASAR	**Alice Springs**	**36.04**	**285**	P	**P**	**01 48 11.5**	**-1.1**
	0.2nm,0.4s,baz=123,slow=6.4,SNR=9.0						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	**01 48 28.9**	**-1.1**
	0.3nm,0.3s,baz=127,slow=8.4,SNR=8.5						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**150.28**	**279**	PKPbc	**PKPbc**	**02 00 46.2**	**+1.1**
	0.3nm,0.7s,baz=98,slow=2.0,SNR=1.8						

WEL 14 01:42:12.5±0.6, 42°S±2°×17°4E±°, h5km, M3.7/7, ML3.9/6, MLv3.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=78.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**188**	P	Pg	01 42 18.3	+0.4
KHZ				S	Sg	01 42 22.4	+0.9
BSWZ	**Blackbirch Sta**	**0.48**	**27**	P	Pg	01 42 22.5	+0.8
THZ	**Tophouse**	**0.64**	**307**	P	Pg	01 42 25.5	+0.7
THZ				S	Sb	01 42 34.4	-1.0
TUWZ	**Tuamarina**	**0.76**	**20**	P	Pb	01 42 27.9	-0.4
GVZ	**Greta Valley S**	**0.92**	**206**	P	Pg	01 42 30.5	+0.3
MRNZ	**Matariki Terra**	**0.97**	**320**	P	Pb	01 42 32.0	+0.2
LTZ	**Lake Taylor**	**1.17**	**236**	P	Pg	01 42 34.1	-0.7

WEL 14 01:42:58.3, 38°S±1°×17°6E±°, h5km±2km, M1.6/8, ML1.9/8, MLv1.6/8, Error ellipse: s-maj=0.0km s-min=0.0km az=56.2, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UTU	**Utuhina**	**0.03**	**232**	P	Pg	01 42 59.8	+0.4
NGRZ	**Ngongotaha**	**0.06**	**333**	P	Pg	01 43 00.3	+0.5
OMRZ	**Omania**	**0.13**	**66**	P	Pg	01 43 01.5	+0.6
OMRZ				S	Sg	01 43 03.4	+0.8
HLRZ	**Highlands Stat**	**0.14**	**133**	P	Pg	01 43 02.4	+1.3
HLRZ				S	Sg	01 43 04.6	+1.6
KARZ	**Kaharoa**	**0.14**	**7**	P	Pg	01 43 02.2	+1.2
HSRZ	**Hossack Road**	**0.15**	**174**	P	Pg	01 43 02.6	+1.2
HSRZ				S	Sg	01 43 04.5	+1.0
MKRZ	**Makatiti**	**0.19**	**84**	P	Pg	01 43 03.8	+1.7
MKRZ				S	Sg	01 43 06.2	+1.5
LIRZ	**Lichensteins R**	**0.20**	**39**	P	Pg	01 43 05.9	+3.7
GRRZ	**Galatos Road**	**0.21**	**205**	P	Pg	01 43 03.7	+1.3
GRRZ				S	Sg	01 43 06.4	+1.2
TARZ	**Mount Tarawera**	**0.23**	**109**	P	Pg	01 43 04.3	+1.4
HRRZ	**Handcock Road**	**0.24**	**169**	P	Pg	01 43 04.1	+1.2
OPRZ	**Ohinepanea**	**0.41**	**40**	P	Pg	01 43 06.8	+0.7
OPRZ				S	Sg	01 43 12.2	+0.7

WEL 14 01:44:00.7±0.8, 42°S±3°×17°4E±°, h7km±4km, M3.0/8, ML3.3/8, MLv3.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=53.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**84**	P	Pg	01 44 04.2	+0.8
CMWZ				S	Sg	01 44 06.7	+1.4
CMWZ	**Cape Campbell**	**0.13**	**84**	P	Pg	01 44 04.0	+0.6
BSWZ	**Blackbirch Sta**	**0.13**	**291**	P	Pg	01 44 04.4	+0.9
BSWZ				S	Sg	01 44 06.6	+1.2
BSWZ	**Blackbirch Sta**	**0.13**	**291**	P	Pg	01 44 04.4	+0.9
BSWZ				S	Sg	01 44 07.6	+2.2
TUWZ	**Tuamarina**	**0.34**	**348**	P	Pg	01 44 08.1	+0.8
TUWZ				S	Sb	01 44 13.6	-1.1
TCW	**Tory Channel**	**0.58**	**18**	P	Pg	01 44 12.0	+0.1
TCW				S	Sg	01 44 20.2	+0.9
WEL	**Wellington**	**0.73**	**49**	P	Pg	01 44 15.0	+0.3
WEL				S	Sb	01 44 25.6	-0.1
DUWZ	**D'Urville Isla**	**0.96**	**355**	P	Pg	01 44 18.8	-0.4
DUWZ				S	Sg	01 44 31.7	0.1
MSWZ	**Moikau Station**	**0.97**	**69**	P	Pb	01 44 19.9	+0.1
CAW	**Cannon Point**	**1.01**	**50**	P	Pg	01 44 19.8	-0.3
CAW				S	Sn	01 44 36.1	+0.4
OGWZ	**Otaki Gorge**	**1.27**	**42**	P	Pn	01 44 24.4	-0.4
OGWZ				S	Sn	01 44 42.5	+0.4

MAN 14 01:44:39.3, 5°.96N×125°.39E, h14km, mb3.8, ML2.6, MS2.1, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.35**	**66**	i	eP	01 44 47.6	+0.2
DDMP					eS	01 44 57.5	+0.6
GSPH	**General Santos**	**0.45**	**286**	i	eP	01 44 46.1	-2.3
GSPH					i S	01 44 56.2	+0.4
SKMP	**Bagumbayan, Su**	**1.01**	**304**	i	eP	01 44 57.6	-1.0
SKMP					eS	01 45 13.4	+0.3

WEL 14 01:45:22.2±0.5, 42°S±2°×17°4E±°, h9km±4km, M3.4/20, ML4.4/13, MLv3.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=115.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**278**	P	Pg	01 45 26.9	-0.5
BSWZ	**Blackbirch Sta**	**0.74**	**360**	P	Pg	01 45 36.2	-0.2
BSWZ				S	Sb	01 45 48.2	+0.9
CMWZ	**Cape Campbell**	**0.74**	**20**	P	Pb	01 45 37.8	+0.6
TUWZ	**Tuamarina**	**1.02**	**3**	P	Pg	01 45 41.8	0.0
TUWZ				S	Sn	01 45 56.6	-0.5
AMCZ	**Amberley**	**1.16**	**231**	P	Pn	01 45 44.8	+0.3
AMCZ				S	Sn	01 46 02.4	+1.9
LTZ	**Lake Taylor**	**1.23**	**254**	P	Pn	01 45 45.6	0.0
LTZ				S	Sn	01 46 02.2	-0.2
TCW	**Tory Channel**	**1.27**	**14**	P	Pn	01 45 45.4	-0.8
NNZ	**Nelson**	**1.29**	**343**	P	Pn	01 45 45.9	-0.4
NNZ				S	Sb	01 46 01.4	-1.8
WEL	**Wellington**	**1.34**	**30**	P	Pn	01 45 46.3	-0.7
MRNZ	**Matariki Terra**	**1.34**	**321**	P	Pn	01 45 47.0	-0.1
MRNZ				S	Sb	01 46 04.5	-0.3
PLWZ	**Palliser**	**1.35**	**50**	P	Pn	01 45 46.6	-0.6
PLWZ				S	Sb	01 46 02.9	-2.2
OKCZ	**Okains Bay**	**1.41**	**205**	P	Pb	01 45 48.6	0.0
OKCZ				S	Sg	01 46 07.7	+0.3
MSWZ	**Moikau Station**	**1.45**	**45**	P	Pn	01 45 47.9	-0.7
MQZ	**McQueen's Vall**	**1.54**	**215**	P	Pn	01 45 49.1	-0.7
MQZ				S	Sn	01 46 09.0	-0.9
PAWZ	**Paruwai Farm**	**1.57**	**48**	P	Pn	01 45 49.4	-0.9
TKNZ	**Takaka Hill**	**1.58**	**334**	P	Pn	01 45 50.4	+0.1
TKNZ				S	Sb	01 46 11.6	+0.2
AKCZ	**Akaroa Harbour**	**1.59**	**206**	P	Pn	01 45 50.6	+0.1
AKCZ				S	Sn	01 46 11.1	+0.1
CAW	**Cannon Point**	**1.61**	**34**	P	Pn	01 45 50.2	-0.6
OXZ	**Oxford**	**1.61**	**237**	P	Pn	01 45 49.0	-0.8
OXZ				S	Sn	01 46 10.2	-1.4
DSZ	**Denniston Nort**	**1.70**	**294**	P	Pn	01 45 52.4	+0.4
DSZ				S	Sb	01 46 15.1	0.0
INZ	**Inchbonnie**	**1.82**	**261**	P	Pn	01 45 53.5	-0.1
INZ				S	Sn	01 46 16.4	-0.4
OGWZ	**Otaki Gorge**	**1.90**	**31**	P	Pn	01 45 54.0	-0.7
QRZ	**Quartz Range**	**1.92**	**328**	P	Pn	01 45 55.6	+0.7
QRZ				S	Sb	01 46 20.5	-0.7
WACZ	**Wakanui South**	**2.11**	**224**	P	Pn	01 45 57.1	-0.4
MRZ	**Mangatainoka R**	**2.20**	**36**	P	Pn	01 45 57.8	-1.0
WVZ	**Waitaha Valley**	**2.40**	**254**	P	Pn	01 46 01.6	+0.1
RPZ	**Rata Peaks**	**2.42**	**238**	P	Pn	01 46 01.2	-0.8
ARCZ	**Arundel**	**2.48**	**232**	P	Pn	01 46 02.0	-0.7
TMZ	**Timaru**	**2.85**	**226**	P	Pn	01 46 07.4	-0.4
ODZ	**Otahua Downs**	**3.49**	**221**	P	Pn	01 46 16.1	-0.6
EAZ	**Earnscleugh**	**4.32**	**228**	P	Pn	01 46 27.5	-0.5

*IDC **14** 01:46:15.4±2.2, 42°.72S×173°.36E, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=82.0km s-min=29.8km az=142.0*

*NEIC **14** 01:46:18.6±1.6, 42°.65S±0°.03×173°.22E±0°.05, h21km±14km, Error ellipse: s-maj=5.4km s-min=3.4km az=124.0*

*WEL **14** 01:46:19.0±0.3, 43°S±2°×17°3E±°, h7km±3km, M4.3/7, ML4.5/6, MLv4.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=114.0*

**ISC 14 01:46:18.7±1.1, 42°.61S±0°.03×173°.21E±0°.03, h17km±8

ASAR	**Alice Springs**	**20.55**	**194**	P	**P**	**01 51 58.1**	**+2.0**
	1.7nm,0.6s,baz=24,slow=9.0,SNR=21							
ASAR				S	**S**	**01 55 40.5**	**-3.5**
	0.9nm,0.6s,baz=14,slow=27,SNR=4.1							
	1.7nm,0.6s							
KSRS	**Korea Array**	**42.31**	**346**	P	**P**	**01 55 10.4**	**-0.4**
	1.5nm,0.6s,baz=161,slow=9.1,SNR=6.4							
	1.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**45.52**	**300**	P	**P**	**01 55 37.8**	**+1.0**
	0.7nm,0.3s,baz=108,slow=8.6,SNR=1.5							
	0.7nm,0.3s							
PETK	**Petropavlovsk-**	**58.66**	**13**	P	**P**	**01 57 12.5**	**-1.5**
	0.8nm,0.7s,baz=165,slow=6.0,SNR=1.2							
	0.8nm,0.7s							
ILAR	**Eielson Array**	**86.45**	**24**	P	**P**	**01 59 55.2**	**-3.8**
	1.7nm,0.8s,baz=262,slow=4.8,SNR=14							
	1.7nm,0.8s							
DBIC	**Dimbokro**	**144.28**	**276**	PKP	**PKPab**	**02 06 52.0**	**+0.3**
	4.5nm,0.5s,baz=88,slow=3.2,SNR=12							
LPAZ	**La Paz**	**146.31**	**127**	PKPbc	**PKPbc**	**02 06 58.4**	**-0.7**
	1.3nm,0.8s,baz=187,slow=1.5,SNR=5.4							

WEL 14 01:47:39.8±0.4,**42°S**±3°×**17°4E**±°,**h5**km,**M3.8/6,ML4.1/6, MLv3.8/6,Error ellipse: s-maj=0.0km s-min=0.0km az=138.0,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.06**	**253**	P	Pg	01 47 40.7	-0.5
KHZ				S	Sg	01 47 42.2	0.0
GVZ	**Greta Valley S**	**0.71**	**217**	P	Pg	01 47 53.8	+0.4
BSWZ	**Blackbirch Sta**	**0.71**	**16**	P	Pg	01 47 53.0	-0.5
BSWZ				S	Sb	01 48 04.6	-0.2
CMWZ	**Cape Campbell**	**0.79**	**35**	P	Pb	01 47 55.7	-0.3
CMWZ				S	Sg	01 48 05.2	-0.1
THZ	**Tophouse**	**0.82**	**320**	P	Pg	01 47 54.7	-0.9
THZ				S	Sb	01 48 07.4	-0.7
TUWZ	**Tuamarina**	**1.00**	**15**	P	Pg	01 47 58.4	-0.6
TUWZ				S	Sb	01 48 13.4	+0.4
MRNZ	**Matariki Terra**	**1.19**	**327**	P	Pg	01 48 01.6	-0.9
MRNZ				S	Sn	01 48 19.9	+0.3
TCW	**Tory Channel**	**1.29**	**23**	P	Pn	01 48 02.2	-2.3
TCW				S	Sg	01 48 20.7	-0.5
WEL	**Wellington**	**1.41**	**38**	P	Pn	01 48 03.6	-2.5
TKNZ	**Takaka Hill**	**1.45**	**340**	P	Pn	01 48 06.1	-0.7
TKNZ				S	Sg	01 48 26.9	+0.5
PLWZ	**Palliser**	**1.48**	**56**	P	Pn	01 48 03.8	-3.4
MSWZ	**Moikau Station**	**1.57**	**52**	P	Pn	01 48 05.2	-3.2
CAW	**Cannon Point**	**1.69**	**41**	P	Pn	01 48 07.3	-2.7
PAWZ	**Paruwai Farm**	**1.70**	**54**	P	Pn	01 48 06.7	-3.4
PAWZ				S	Sn	01 48 28.1	-4.1
QRZ	**Quartz Range**	**1.77**	**332**	P	Pn	01 48 11.2	+0.1
QRZ				S	Sb	01 48 34.6	-0.6
OGWZ	**Otaki Gorge**	**1.97**	**37**	P	Pn	01 48 11.1	-2.7

ROM 14 01:48:49.9±0.1,**42°862N**±0°004×**13°149E**±0°006, **h12**km,**ML1.8/6,6C-1D,Error ellipse: s-maj=0.5km s-min=0.1km az=90.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.03**	**100**	⇓P	Pg	01 48 52.6	+0.2
T1245				S	Sg	01 48 54.1	+0.1
T1245				AML	AML		
	comp=N,3200μm,1.0s						
T1245				AML	AML		
	comp=E,3065μm,0.7s						
NRCA	**Norcia**	**0.04**	**223**	P	Pg	01 48 52.6	+0.4
NRCA				S	Sg	01 48 54.1	+0.2
T1216	**Preci, Frazion**	**0.10**	**287**	P	Pb	01 48 53.3	-0.5
T1216				S	Sg	01 48 55.3	+0.4
T1216				AML	AML		
	comp=E,856μm,0.4s						
T1216				AML	AML		
	comp=N,1164μm,0.3s						
MMO1	**Montemonaco**	**0.14**	**74**	⇑P	Pg	01 48 53.6	+0.3
MMO1				S	Sg	01 48 56.0	+0.2
T1256	**Bolognola (MC)**	**0.15**	**21**	P	Pg	01 48 53.9	+0.2
T1256				S	Sg	01 48 56.7	+0.3
T1256				AML	AML		
	comp=E,394μm,0.3s						
T1256				AML	AML		
	comp=N,318μm,1.3s						
FDMO	**Fiordimonte**	**0.18**	**345**	P	Pg	01 48 54.4	+0.4
FDMO				S	Sg	01 48 57.4	+0.5
FDMO				AML	AML		
	comp=N,238μm,0.2s						
FDMO				AML	AML		
	comp=E,197μm,0.3s						
T1218	**Civita (PG)**	**0.19**	**187**	P	Pg	01 48 54.8	+0.6
T1218				S	Sg	01 48 58.0	+0.8
T1218				AML	AML		
	comp=E,387μm,1.3s						
T1218				AML	AML		
	comp=N,475μm,0.5s						
T1218				AML	AML		
	comp=E,387μm,1.3s						
T1215	**Vallo di Nera,**	**0.21**	**254**	⇑P	Pb	01 48 55.2	-0.6
T1215				S	Sg	01 48 58.8	+1.1
T1219	**Muccia, Frazio**	**0.22**	**332**	P	Pg	01 48 55.0	+0.4
T1219				S	Sg	01 48 58.7	+0.7
CESI	**CESI - Serrava**	**0.23**	**309**	⇑P	Pg	01 48 55.4	+0.6
CESI				S	Sg	01 48 59.3	+1.1
CESI				AML	AML		
	comp=E,298μm,0.2s						
CESI				AML	AML		
	comp=N,614μm,0.1s						
CESI				AML	AML		
	comp=N,614μm,0.1s						
CSP1	**Cessapalombo**	**0.23**	**10**	P	Pg	01 48 55.3	+0.3
CSP1				S	Sg	01 48 59.1	+0.7
GUMA	**Gualdo di Mace**	**0.24**	**34**	⇑P	Pb	01 48 55.7	-0.6
GUMA				S	Sg	01 48 59.9	+1.4
GUMA				AML	AML		
	comp=E,332μm,0.5s						
GUMA				AML	AML		
	comp=N,384μm,0.4s						
LNSS	**Leonessa**	**0.27**	**197**	P	Pg	01 48 55.4	-0.2
LNSS				AML	AML		
	comp=E,257μm,0.2s						
LNSS				AML	AML		
	comp=N,698μm,0.3s						
T1243	**Rocca Santa Ma**	**0.28**	**127**	P	Pg	01 48 56.1	+0.5
T1243				S	Sb	01 49 00.5	-0.9
T1211	**Morro Reatino**	**0.39**	**214**	⇑P	Pg	01 48 57.5	-0.3
ARRO	**Arrone**	**0.40**	**225**	P	Pb	01 48 58.5	-0.4
OFFI	**Offida**	**0.40**	**79**	P	Pb	01 48 59.0	+0.1
ASSB	**Assisi San Ben**	**0.40**	**297**	P	Pg	01 48 58.3	+0.4
ASSB				AML	AML		
	comp=N,70μm,0.2s						
ASSB				AML	AML		
	comp=E,74μm,0.7s						
TERO	**Teramo**	**0.41**	**125**	P	Pg	01 48 57.4	-0.7
TERO				AML	AML		
	comp=E,116μm,0.1s						
TERO				AML	AML		
	comp=N,122μm,0.1s						
TERO				AML	AML		
	comp=E,116μm,0.1s						
EL6	**Elcito**	**0.47**	**356**	⇑P	Pg	01 48 59.6	+0.4
EL6				AML	AML		
	comp=E,110μm,1.6s						
EL6				AML	AML		
	comp=N,90μm,1.4s						
CING	**Cingoli**	**0.52**	**4**	P	Pg	01 49 00.3	+0.3
ARVD	**Arcevia**	**0.65**	**347**	S	Sn	01 49 14.0	-1.3

WEL 14 01:53:11.9±0.3,**42°S**±2°×**17°3E**±°,**h8**km±2km,**M3.6**/13, **ML3.8**/13,**MLv3.6**/13,**Error ellipse: s-maj=0.0km s-min=0.0km az=119.0,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**81**	P	Pg	01 53 19.0	+0.6
KHZ				S	Sg	01 53 24.2	+1.3
GVZ	**Greta Valley S**	**0.50**	**185**	P	Pb	01 53 22.6	-0.4
GVZ				S	Sb	01 53 30.0	-0.5
LTZ	**Lake Taylor**	**0.69**	**242**	P	Pg	01 53 25.3	+0.1
LTZ				S	Sg	01 53 34.0	0.0
THZ	**Tophouse**	**0.72**	**349**	P	Pb	01 53 26.5	-0.2
THZ				S	Sg	01 53 35.9	+0.8
AMCZ	**Amberley**	**0.78**	**205**	P	Pb	01 53 27.8	0.0
BSWZ	**Blackbirch Sta**	**0.95**	**38**	P	Pb	01 53 30.8	+0.1
BSWZ				S	Sg	01 53 42.7	+0.2
OXZ	**Oxford**	**1.16**	**222**	P	Pg	01 53 33.0	-1.1
DSZ	**Denniston Nort**	**1.20**	**306**	P	Pn	01 53 35.5	+0.4
TUWZ	**Tuamarina**	**1.22**	**32**	P	Pg	01 53 35.4	+0.2
TUWZ				S	Sn	01 53 51.9	+0.1
INZ	**Inchbonnie**	**1.25**	**258**	P	Pn	01 53 35.5	-0.2
OKCZ	**Okains Bay**	**1.25**	**181**	P	Pn	01 53 34.2	-1.6
MQZ	**McQueen's Vall**	**1.28**	**195**	P	Pn	01 53 33.8	-2.3
AKCZ	**Akaroa Harbour**	**1.41**	**185**	P	Pn	01 53 35.9	-2.0
TKNZ	**Takaka Hill**	**1.44**	**356**	P	Pg	01 53 39.3	-0.2
RACZ	**Rakaia**	**1.44**	**209**	P	Pn	01 53 36.4	-1.9
WACZ	**Wakanui South**	**1.74**	**212**	P	Pn	01 53 40.7	-1.7
WVZ	**Waitaha Valley**	**1.84**	**250**	P	Pn	01 53 43.5	-0.3
RPZ	**Rata Peaks**	**1.95**	**230**	P	Pn	01 53 44.1	-1.2
CAW	**Cannon Point**	**2.00**	**48**	P	Pn	01 53 45.2	-0.9
ARCZ	**Arundel**	**2.04**	**223**	P	Pn	01 53 44.9	-1.6
GCSZ	**Gaunt Creek Bo**	**2.21**	**246**	P	Pn	01 53 48.8	0.0
TMZ	**Timaru**	**2.45**	**218**	P	Pn	01 53 50.6	-1.6
FOZ	**Fox Glacier**	**2.63**	**245**	P	Pn	01 53 55.0	+0.3
LBZ	**Lake Benmore**	**2.86**	**227**	P	Pn	01 53 56.8	-1.0
PKE	**Pukeiti**	**3.34**	**12**	P	Pn	01 54 06.8	+2.4
EAZ	**Earnscleugh**	**3.89**	**223**	P	Pn	01 54 09.8	-2.2
HIZ	**Hauiti**	**4.17**	**19**	P	Pn	01 54 18.0	+2.2
TOZ	**Tahuroa Road**	**5.08**	**22**	P	Pn	01 54 30.7	+2.4
MKAZ	**Moumakai**	**5.59**	**17**	P	Pn	01 54 36.1	+0.8

WEL 14 01:54:38.6±0.4,**42°S**±2°×**17°3E**±°,**h5**km,**M3.8/9,ML4.0/8, MLv3.8/9,Error ellipse: s-maj=0.0km s-min=0.0km az=116.2,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**77**	P	Pg	01 54 43.5	+0.6
KHZ				S	Sg	01 54 46.6	+0.7
GVZ	**Greta Valley S**	**0.53**	**197**	P	Pg	01 54 49.4	+0.7
GVZ				S	Sb	01 54 57.8	-0.5
THZ	**Tophouse**	**0.75**	**340**	P	Pg	01 54 53.3	+0.3
THZ				S	Sg	01 55 03.4	+0.7
LTZ	**Lake Taylor**	**0.79**	**246**	P	Pg	01 54 53.7	0.0
LTZ				S	Sg	01 55 04.6	+0.6
AMCZ	**Amberley**	**0.83**	**211**	P	Pb	01 54 55.4	-0.3
AMCZ				S	Sb	01 55 08.0	+0.8
BSWZ	**Blackbirch Sta**	**0.88**	**32**	P	Pb	01 54 56.6	+0.1
TUWZ	**Tuamarina**	**1.16**	**27**	P	Pb	01 55 01.1	0.0
OXZ	**Oxford**	**1.24**	**225**	P	Pg	01 55 01.1	-1.3
OXZ				S	Sg	01 55 17.0	-1.4
DSZ	**Denniston Nort**	**1.29**	**303**	P	Pb	01 55 03.4	0.0
DSZ				S	Sn	01 55 21.0	0.0
MQZ	**McQueen's Vall**	**1.31**	**199**	P	Pn	01 55 01.2	-2.5
MQZ				S	Sg	01 55 18.1	-2.8
RACZ	**Rakaia**	**1.50**	**212**	P	Pn	01 55 04.2	-2.0

*IDC **14** 01:56:05.2±6.5,41°.71S×173°.85E,h0km,mb3.8/3, mbtmp3.8/4,ML3.7/1,Error ellipse: s-maj=128.2km s-min=52.3km az=104.0*
*NEIC **14** 01:56:06.6±1.5,41°.94S±0°.03×173°.93E±0°.04,h19km±2km, Error ellipse: s-maj=4.5km s-min=4.0km az=153.0*
*WEL **14** 01:56:07.2±0.7,42°.5S±4°×17°4E±°,h11km±2km,M4.1/12, ML4.4/12,MLv4.1/12,Error ellipse: s-maj=0.0km s-min=0.0km az=59.1*

ISC 14 01:56:07.4±1.0,**41°.90S**±0°.05×**173°.93E**±0°.03,**h19**km±2km, **n35**,σ=**0°.72**/49,**mb4.2**/5,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.18**	**348**	Pg	**Pg**	**01 56 12.2**	**0.0**
BSWZ				Sg	**Sg**	**01 56 15.4**	**0.0**
BSWZ	**Blackbirch Sta**	**0.18**	**348**	P	**Pg**	**01 56 12.5**	**+0.4**
BSWZ				S	**Sg**	**01 56 15.8**	**+0.4**
CMWZ	**Cape Campbell**	**0.26**	**56**	Pg	**Pb**	**01 56 13.5**	**+0.2**
CMWZ				Sg	**Sb**	**01 56 17.7**	**+0.4**
CMWZ	**Cape Campbell**	**0.26**	**56**	P	**Pg**	**01 56 13.8**	**+0.5**
CMWZ				S	**Sg**	**01 56 18.7**	**+1.3**
TUWZ	**Tuamarina**	**0.47**	**2**	Pg	**Pb**	**01 56 17.2**	**+0.1**
TUWZ				Sg	**Sb**	**01 56 24.0**	**+0.5**
TUWZ	**Tuamarina**	**0.47**	**2**	P	**Pb**	**01 56 17.4**	**+0.4**
TUWZ				S	**Sb**	**01 56 24.2**	**+0.7**
TCW	**Tory Channel**	**0.73**	**21**	P	**Pb**	**01 56 21.4**	**-0.1**
TCW				S	**Sg**	**01 56 32.2**	**+0.7**
NNZ	**Nelson**	**0.79**	**329**	Pg	**Pb**	**01 56 22.4**	**-0.1**
NNZ				Sg	**Sg**	**01 56 33.3**	**-0.1**
SNZO	**South Karori**	**0.83**	**45**	Pg	**Pb**	**01 56 23.5**	**+0.4**
SNZO				Sg	**Sn**	**01 56 35.6**	**-0.1**
WEL	**Wellington**	**0.88**	**46**	P	**Pg**	**01 56 24.8**	**+0.3**
WEL				S	**Sn**	**01 56 38.3**	**+1.3**
PLWZ	**Palliser**	**1.05**	**72**	Pg	**Pb**	**01 56 26.0**	**-0.9**
PLWZ	**Palliser**	**1.05**	**72**	P	**Pb**	**01 56 26.7**	**-0.3**
DUWZ	**D'Urville Isla**	**1.09**	**360**	P	**Pg**	**01 56 28.4**	**-0.2**
DUWZ				S	**Sg**	**01 56 44.1**	**+1.2**
MSWZ	**Moikau Station**	**1.10**	**65**	Pg	**Pn**	**01 56 26.7**	**-1.2**
MSWZ	**Moikau Station**	**1.10**	**65**	P	**Pn**	**01 56 27.6**	**-0.3**
TKNZ	**Takaka Hill**	**1.13**	**320**	P	**Pb**	**01 56 28.3**	**0.0**
CAW	**Cannon Point**	**1.16**	**48**	P	**Pn**	**01 56 29.0**	**+0.3**
CAW				S	**Sg**	**01 56 45.0**	**-0.1**
PAWZ	**Paruwai Farm**	**1.24**	**66**	P	**Pn**	**01 56 29.3**	**-0.4**
KIW	**Kapiti Island**	**1.27**	**36**	P	**Pb**	**01 56 31.0**	**+0.2**
KIW				S	**Sg**	**01 56 48.9**	**+0.3**
MTW	**Mount Morrison**	**1.39**	**59**	P	**Pn**	**01 56 31.3**	**-0.5**
OGWZ	**Otaki Gorge**	**1.43**	**41**	P	**Pn**	**01 56 32.8**	**+0.5**
QRZ	**Quartz Range**	**1.50**	**315**	Pn	**Pb**	**01 56 34.0**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.56**	**51**	P	**Pn**	**01 56 34.7**	**+0.5**
MRZ	**Mangatainoka R**	**1.75**	**46**	Pn	**Pn**	**01 56 36.2**	**-0.6**
MRZ	**Mangatainoka R**	**1.75**	**46**	P	**Pn**	**01 56 36.6**	**-0.2**
BFZ	**Birch Farm**	**2.13**	**56**	Pn	**Pn**	**01 56 40.9**	**-1.1**
RPZ	**Rata Peaks**	**2.79**	**228**	Pn	**Pn**	**01 56 52.1**	**+1.1**
	12nm,0.3s,baz=37,slow=5.1,SNR=1.1						
RPZ				Sn	**Sn**	**01 57 24.0**	**-0.2**
	7.1nm,0.3s,baz=333,slow=18,SNR=1.1						
	84nm,0.4s						
BKZ	**Black Stump Fm**	**3.36**	**37**	Pn	**Pn**	**01 56 57.0**	**-1.9**
MXZ	**Matakana Point**	**5.49**	**39**	Pn	**Pn**	**01 57 27.1**	**-1.0**
ASAR	**Alice Springs**	**37.84**	**286**	P	**P**	**02 03 22.7**	**-0.2**
	0.3nm,0.5s,baz=119,slow=7.4,SNR=2.6						
	0.3nm,0.5s						
WB2	**Warramunga Arr**	**39.92**	**291**	P	**P**	**02 03 38.4**	**-2.0**
WB2				IAmb	IAmb	02 03 59.4	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**39.93**	**291**	P	**P**	**02 03 40.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=131,slow=7.5,SNR=5.2						
	comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**	**39.93**	**291**	P	**P**	**02 03 39.8**	**-0.7**
WRA				IAmb	IAmb	02 03 51.9	
	comp=Z,0.1nm,1.1s						
WB0	**Warramunga Arr**	**40.01**	**291**	P	**P**	**02 03 40.9**	**-0.3**
WB0				IAmb	IAmb	02 04 00.6	
	comp=Z,7.2nm,1.4s						
CMAR	**Chiang Mai Arr**	**91.47**	**293**	P	**P**	**02 09 13.1**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=158,slow=2.9,SNR=1.8						
	comp=Z,0.8nm,0.3s						

WEL 14 01:58:38.2±0.5,**42°S**±2°×**17°4E**±°,**h8**km±4km,**M3.5**/8, **ML3.8**/8,**MLv3.5**/8,**Error ellipse: s-maj=0.0km s-min=0.0km az=146.7,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.28**	**267**	P	Pg	01 58 44.4	+0.6
BSWZ				S	Sb	01 58 49.5	-0.8
TUWZ	**Tuamarina**	**0.35**	**320**	P	Pb	01 58 46.2	-0.5
TUWZ				S	Sb	01 58 52.3	-0.1
TCW	**Tory Channel**	**0.49**	**2**	P	Pb	01 58 48.4	-0.6
TCW				S	Sb	01 58 56.0	-0.3
BHW	**Baring Head**	**0.55**	**58**	P	Pg	01 58 49.4	+0.6
BHW				S	Sb	01 58 58.1	+0.1
WEL	**Wellington**	**0.57**	**43**	P	Pb	01 58 50.1	-0.2
WEL				S	Sb	01 58 59.0	+0.4
PLWZ	**Palliser**	**0.77**	**81**	P	Pb	01 58 53.6	-0.1
MSWZ	**Moikau Station**	**0.80**	**70**	P	Pb	01 58 54.3	-0.1
MSWZ				S	Sb	01 59 05.9	+0.5
CAW	**Cannon Point**	**0.85**	**46**	P	Pb	01 58 55.2	0.0
OGWZ	**Otaki Gorge**	**1.12**	**39**	P	Pg	01 58 59.5	-0.2
OGWZ				S	Sn	01 59 15.3	-0.5
MRNZ	**Matariki Terra**	**1.16**	**285**	P	Pg	01 59 00.3	-0.1

*WEL **14** 02:01:12.5±0.5,43°S±2°×17°4E±°,h10km±3km,M4.1/33, ML4.3/22,MLv4.1/33,Error ellipse: s-maj=0.0km s-min=0.0km az=117.5*
*IDC **14** 02:01:12.5±2.1,42°.16S×173°.54E,h0km,mb3.4/2, mbtmp3.6/3,ML4.1/1,Error ellipse: s-maj=56.2km s-min=31.2km az=134.0*

ISC 14 02:01:12.2±1.2,**42°.53S**±0°.03×**173°.92E**±0°.04,**h10**km±8km, **n53**,σ=**1°.50**/60,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**292**	P	**Pg**	**02 01 19.1**	**+0.9**
KHZ				S	**Sg**	**02 01 21.9**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.81**	**358**	P	**Pn**	**02 01 29.6**	**0.0**
BSWZ				S	**Sb**	**02 01 40.0**	**+0.6**
THZ	**Tophouse**	**1.07**	**315**	P	**Pg**	**02 01 31.9**	**-0.9**
THZ				S	**Sg**	**02 01 47.4**	**+0.6**
TUWZ	**Tuamarina**	**1.10**	**1**	P	**Pg**	**02 01 32.8**	**-0.5**
TUWZ				S	**Sb**	**02 01 48.1**	**+0.6**
AMCZ	**Amberley**	**1.13**	**235**	P	**Pg**	**02 01 34.3**	**+0.3**
LTZ	**Lake Taylor**	**1.24**	**258**	P	**Pn**	**02 01 33.7**	**-1.9**
OKCZ	**Okains Bay**	**1.35**	**207**	P	**Pn**	**02 01 35.7**	**-1.3**
NNZ	**Nelson**	**1.37**	**343**	P	**Pn**	**02 01 38.2**	**+0.9**
NNZ				S	**Sb**	**02 01 55.8**	**+0.4**
MRNZ	**Matariki Terra**	**1.42**	**322**	S	**Sn**	**02 01 56.9**	**+0.1**
MSWZ	**Moikau Station**	**1.49**	**42**	P	**Pn**	**02 01 39.0**	**0.0**
MSWZ				S	**Sg**	**02 02 00.4**	**+0.2**
MQZ	**McQueen's Vall**	**1.50**	**218**	P	**Pn**	**02 01 36.8**	**-2.2**
AKCZ	**Akaroa Harbour**	**1.53**	**208**	P	**Pn**	**02 01 38.5**	**-1.0**
OXZ	**Oxford**	**1.59**	**239**	P	**Pn**	**02 01 39.9**	**-0.5**
PAWZ	**Paruwai Farm**	**1.61**	**45**	P	**Pb**	**02 01 41.2**	**-0.7**
TKNZ	**Takaka Hill**	**1.66**	**334**	P	**Pn**	**02 01 42.2**	**+1.0**
CAW	**Cannon Point**	**1.66**	**32**	P	**Pb**	**02 01 42.5**	**-0.3**
DUWZ	**D'Urville Isla**	**1.73**	**0**	P	**Pb**	**02 01 43.7**	**-0.3**
DUWZ				S	**Sn**	**02 02 04.4**	**+0.1**
DSZ	**Denniston Nort**	**1.75**	**296**	P	**Pn**	**02 01 41.3**	**-1.4**
RACZ	**Rakaia**	**1.77**	**227**	P	**Pn**	**02 01 40.5**	**-2.2**
KIW	**Kapiti Island**	**1.82**	**24**	P	**Pn**	**02 01 43.9**	**+0.4**
INZ	**Inchbonnie**	**1.83**	**263**	P	**Pn**	**02 01 44.5**	**+0.8**
OGWZ	**Otaki Gorge**	**1.95**	**29**	P	**Pb**	**02 01 46.6**	**-1.1**
QRZ	**Quartz Range**	**1.99**	**328**	P	**Pn**	**02 01 44.1**	**-1.8**
TMWZ	**Te Maipa**	**2.05**	**47**	P	**Pb**	**02 01 47.8**	**-1.7**
MRZ	**Mangatainoka R**	**2.25**	**34**	P	Pn	02 01 43.1	-6.3
WVZ	**Waitaha Valley**	**2.40**	**256**	P	**Pn**	**02 01 51.5**	**0.0**
RPZ	**Rata Peaks**	**2.41**	**240**	Pn	**Pn**	**02 01 53.1**	**+1.6**
	44nm,0.3s,baz=194,slow=1.4,SNR=7.7						
RPZ				Sn	**Sn**	**02 02 22.4**	**+1.3**
	120nm,0.3s,baz=180,slow=20,SNR=29						
	127nm,0.4s						
RPZ	**Rata Peaks**	**2.41**	**240**	P	**Pn**	**02 01 51.8**	**+0.2**
ARCZ	**Arundel**	**2.45**	**234**	P	**Pn**	**02 01 52.5**	**+0.2**
PRWZ	**Pori Road**	**2.50**	**39**	P	**Pn**	**02 01 53.9**	**+1.0**
BFZ	**Birch Farm**	**2.54**	**44**	P	**Pn**	**02 01 53.4**	**0.0**
GCSZ	**Gaunt Creek Bo**	**2.75**	**252**	P	**Pn**	**02 01 57.3**	**+1.0**
TMZ	**Timaru**	**2.81**	**228**	P	**Pn**	**02 01 59.8**	**+2.6**
NBEZ	**Newall Road No**	**3.26**	**359**	P	**Pn**	**02 02 05.0**	**+1.7**
LBZ	**Lake Benmore**	**3.29**	**234**	P	**Pn**	**02 02 06.6**	**+2.9**
MOVZ	**Moawhango**	**3.42**	**25**	P	**Pn**	**02 02 06.9**	**+1.4**
ODZ	**Otahua Downs**	**3.45**	**222**	P	**Pn**	**02 02 08.4**	**+2.4**
VRZ	**Vera Road**	**3.46**	**11**	P	**Pn**	**02 02 02.7**	**-3.4**
FWVZ	**Far West T-bar**	**3.50**	**21**	P	**Pn**	**02 02 07.6**	**+0.8**
OTVZ	**Oturere**	**3.61**	**22**	P	**Pn**	**02 02 09.6**	**+1.3**
HIZ	**Hauiti**	**4.08**	**10**	P	**Pn**	**02 02 16.6**	**+2.1**
HHSZ	**Highcliff Hill**	**4.12**	**214**	P	**Pn**	**02 02 17.9**	**+2.8**
EAZ	**Earnscleugh**	**4.29**	**229**	P	**Pn**	**02 02 19.9**	**+2.5**
TOZ	**Tahuroa Road**	**4.94**	**15**	P	**Pn**	**02 02 27.8**	**+1.4**
AWAZ	**Awhitu Peninsu**	**5.49**	**6**	P	**Pn**	**02 02 31.5**	**-2.4**
MKAZ	**Moumakai**	**5.50**	**10**	P	**Pn**	**02 02 31.5**	**-2.6**
WMGZ	**Waiomatatini S**	**5.83**	**38**	P	**Pn**	**02 02 38.7**	**+0.1**
APZ	**The Paps**	**6.03**	**222**	P	**Pn**	**02 02 44.1**	**+2.7**
ASAR	**Alice Springs**	**38.01**	**287**	P	**P**	**02 08 30.5**	**+0.1**
	0.3nm,0.5s,baz=128,slow=6.8,SNR=5.4						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**40.15**	**292**	P	**P**	**02 08 45.7**	**-2.7**
	0.5nm,0.6s,baz=129,slow=8.2,SNR=9.8						
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**148.42**	**339**	PKPbc	**PKPbc**	**02 20 57.5**	**-0.1**
	11nm,1.3s,baz=80,slow=2.1,SNR=1.6						
BRTR	**Keskin Array B**	**150.13**	**278**	PKPbc	**PKiKP**	**02 21 04.9**	**+1.1**
	1.4nm,0.9s,baz=152,slow=5.1,SNR=5.5						
FINES	**FINESS Array B**	**153.04**	**326**	PKPbc	**PKPbc**	**02 21 08.9**	**+0.2**
	3.0nm,1.0s,baz=111,slow=3.1,SNR=4.5						

WEL 14 02:02:49.9±0.4,**42°S**±3°×**17°4E**±°,**h7**km±3km,**M3.6**/14, **ML4.1**/13,**MLv3.6**/14,**Error ellipse: s-maj=0.0km s-min=0.0km az=143.5,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape

LBZ	**Lake Benmore**	**3.33 233**	P		**Pn**	**02 03 49.5**	**-0.3**
ODZ	**Otahua Downs**	**3.51 221**	P		**Pn**	**02 03 51.6**	**-0.8**
JCZ	**Jackson Bay**	**4.07 244**	P		**Pn**	**02 04 01.0**	**+1.0**
HHSZ	**Highcliff Hill**	**4.19 213**	P		**Pn**	**02 04 00.7**	**-0.9**
TUZ	**Tuapeka**	**4.67 219**	P		**Pn**	**02 04 07.5**	**-0.6**
SYZ	**Scrubby Hill**	**5.33 218**	P		**Pn**	**02 04 16.9**	**-0.3**
ASAR	**Alice Springs**	**37.94 287**	P		**P**	**02 10 17.1**	**+1.5**
	0.7nm,0.5s,baz=130,slow=8.6,SNR=15						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**40.08 292**	P		**P**	**02 10 35.1**	**+1.7**
	1.4nm,0.6s,baz=127,slow=8.6,SNR=13						
	1.4nm,0.6s						
BRTR	**Keskin Array B**	**150.08 278**	PKPbc		**PKPbc**	**02 22 48.5**	**0.0**
	0.8nm,0.8s,baz=100,slow=3.4,SNR=2.0						

PRU **14** *02:06:42.7±0.0, 47°.79N×8°.80E, h0km*
BUG **14** *02:06:44.9±0.0, 47°.80N×8°.77E, h9km±4km, MD3.2/11, ML3.2/11*
ZUR **14** *02:06:44.6, 47°.78N×8°.78E, h8km, MLh2.7/83, Error ellipse: s-maj=1.1km s-min=0.3km az=34.0*
STR **14** *02:06:45.2±0.2, 48°N±2°×√2, h4km±4km, MLv2.7/30, Error ellipse: s-maj=0.0km s-min=0.0km az=166.3, preliminary*
LDG **14** *02:06:45.1±0.0, 47°.77N×8°.77E, h9km, Md2.8/2, Ml2.8/33, Error ellipse: s-maj=0.7km s-min=0.6km az=42.0*
BGR **14** *02:06:45.2±0.2, 47°.80N×8°.77E, h10km, ML2.6/11, Error ellipse: s-maj=1.1km s-min=1.1km az=180.0*

ISC 14 02:06:43.9±0.7, 47.79N±0.01×8.747E±0.009, h16km±3km, n275, σ1°29/471, 89C-53D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHS	**Schaffhausen,**	**0.11**	**224**	⇑Pg	**Pg**	**02 06 47.5**	**+0.1**
SCHS				Sg	**Sg**	**02 06 49.5**	**-0.3**
SCHS	**Schaffhausen,**	**0.11**	**224**	⇑Pg	**Pg**	**02 06 47.5**	**+0.1**
SCHS				Sg	**Sg**	**02 06 49.5**	**-0.3**
SCHS	**Schaffhausen,**	**0.11**	**224**	⇑Pg	**Pg**	**02 06 47.5**	**+0.1**
SCHS				Sg	**Sg**	**02 06 49.5**	**-0.3**
EMING	**Emmingen-Lipti**	**0.12**	**32**	⇓Pg	**Pg**	**02 06 47.6**	**-0.1**
EMING				Sg	**Sg**	**02 06 49.6**	**-0.5**
STEIN	**Stein am Rhein**	**0.14**	**145**	⇓Pg	**Pg**	**02 06 47.6**	**-0.2**
STEIN				Sg	**Sg**	**02 06 49.8**	**-0.7**
STEIN	**Stein am Rhein**	**0.14**	**145**	⇓Pg	**Pg**	**02 06 47.6**	**-0.2**
STEIN				Sg	**Sg**	**02 06 49.8**	**-0.7**
STEIN	**Stein am Rhein**	**0.14**	**145**	⇓Pg	**Pg**	**02 06 47.6**	**-0.2**
STEIN				Sg	**Sg**	**02 06 49.8**	**-0.7**
STEIN	**Stein am Rhein**	**0.14**	**145**	⇓*i*Pg	**Pg**	**02 06 47.6**	**-0.2**
STEIN				Sg	**Sg**	**02 06 49.8**	**-0.7**
TRULL	**Truellikon**	**0.15**	**198**	⇓Pg	**Pg**	**02 06 48.1**	**+0.2**
TRULL				Sg	**Sg**	**02 06 50.5**	**0.0**
TRULL	**Truellikon**	**0.15**	**198**	⇓Pg	**Pg**	**02 06 48.1**	**+0.2**
TRULL				Sg	**Sg**	**02 06 50.5**	**0.0**
TRULL	**Truellikon**	**0.15**	**198**	⇓Pg	**Pg**	**02 06 48.1**	**+0.2**
TRULL				Sg	**Sg**	**02 06 50.5**	**0.0**
SLE	**Schleitheim**	**0.17**	**262**	⇑Pg	**Pg**	**02 06 48.9**	**+0.6**
SLE	**Schleitheim**	**0.17**	**262**	⇑Pg	**Pg**	**02 06 48.9**	**+0.6**
SLE	**Schleitheim**	**0.17**	**262**	⇑Pg	**Pg**	**02 06 48.9**	**+0.6**
SLE	**Schleitheim**	**0.17**	**262**	⇑*i*Pg	**Pg**	**02 06 48.9**	**+0.6**
SLE				*e*Sg	**Sg**	**02 06 51.6**	**+0.4**
SLE	**Schleitheim**	**0.17**	**262**	⇑Pg	**Pg**	**02 06 48.8**	**+0.6**
FLACH	**Flaach**	**0.25**	**209**	⇑Pg	**Pg**	**02 06 50.1**	**+0.7**
FLACH				Sg	**Sg**	**02 06 53.9**	**+0.8**
FLACH	**Flaach**	**0.25**	**209**	⇑Pg	**Pg**	**02 06 50.1**	**+0.7**
FLACH				Sg	**Sg**	**02 06 53.9**	**+0.8**
FLACH	**Flaach**	**0.25**	**209**	⇑Pg	**Pg**	**02 06 50.1**	**+0.7**
FLACH				Sg	**Sg**	**02 06 53.9**	**+0.8**
WALHA	**Wallhausen, DE**	**0.26**	**98**	⇑Pg	**Pg**	**02 06 49.6**	**+0.1**
WALHA	**Wallhausen, DE**	**0.26**	**98**	⇑Pg	**Pg**	**02 06 49.6**	**+0.1**
WALHA	**Wallhausen, DE**	**0.26**	**98**	⇑Pg	**Pg**	**02 06 49.6**	**+0.1**
WALHA	**Wallhausen, DE**	**0.26**	**98**	⇑*i*Pg	**Pg**	**02 06 49.6**	**+0.1**
WALHA				Sg	**Sg**	**02 06 53.0**	**-0.4**
SWIS	**Winterthur Spi**	**0.28**	**182**	⇓Pg	**Pg**	**02 06 50.5**	**+0.5**
SWIS				Sg	**Sg**	**02 06 54.6**	**+0.5**
STIEG	**Stiegenhof Hun**	**0.30**	**192**	⇓Pg	**Pg**	**02 06 50.9**	**+0.6**
STIEG				Sg	**Sg**	**02 06 55.2**	**+0.6

SMF				*e*Sg		**Sg**	**02 08 36.1**	**-1.3**
	5.7nm,0.3s							
SSF	**Saint Saulge**	**3.63**	**260**	*e*Pn		**Pn**	**02 07 40.7**	**+1.2**
SSF	**Saint Saulge**	**3.63**	**260**	*e*Pg		**Pg**	**02 07 52.5**	**-1.0**
SSF				*e*Sn		**Sn**	**02 08 20.2**	**-1.8**
SSF				*e*Sg		**Sg**	**02 08 39.2**	**-1.3**
	3.1nm,0.2s							
MOA	**Molln**	**3.72**	**87**	*e*Pn		**Pn**	**02 07 42.4**	**+1.7**
	0.1nm,0.1s							
MOA				*e*Sn		**Sn**	**02 08 24.2**	**0.0**
	0.5nm,0.1s							
BAIF	**Baives**	**3.76**	**309**	*e*Pn		**Pn**	**02 07 42.6**	**+1.4**
BAIF	**Baives**	**3.76**	**309**	*e*Pg		**Pg**	**02 07 54.1**	**-1.8**
BAIF				*e*Sn		**Sn**	**02 08 23.7**	**-1.4**
	2.8nm,0.4s							
BAIF				*e*Sg		**Sg**	**02 08 43.3**	**-1.2**
	1.4nm,0.3s							
AVF	**Avril sur Loir**	**3.81**	**257**	*e*Pn		**Pn**	**02 07 43.4**	**+1.6**
AVF	**Avril sur Loir**	**3.81**	**257**	*e*Pg		**Pg**	**02 07 55.9**	**-0.9**
AVF				*e*Sn		**Sn**	**02 08 24.4**	**-1.8**
AVF				*e*Sg		**Sg**	**02 08 44.4**	**-1.6**
	1.7nm,0.3s							
CKRC	**Cesky Krumlov**	**3.85**	**72**	*e*PN		**Pn**	**02 07 43.6**	**+1.1**
CKRC				*e*SN		**Sn**	**02 08 26.1**	**-1.4**
CKRC				*e*SG		**Sg**	**02 08 46.4**	**-1.2**
SBF	**Sospel**	**4.03**	**194**	*e*Pn		**Pn**	**02 07 45.0**	**0.0**
SBF	**Sospel**	**4.03**	**194**	*e*Pg		**Pg**	**02 07 59.4**	**-1.7**
SBF				*e*Sg		**Sg**	**02 08 50.8**	**-2.5**
	16nm,0.6s							
VIVF	**Saint-Julien-l**	**4.07**	**225**	*e*Pn		**Pn**	**02 07 45.3**	**-0.2**
VIVF	**Saint-Julien-l**	**4.07**	**225**	*e*Pg		**Pg**	**02 08 01.0**	**-0.9**
VIVF				*e*Sn		**Sn**	**02 08 30.5**	**-2.4**
VIVF				*e*Sg		**Sg**	**02 08 51.6**	**-3.0**
	5.8nm,0.3s							
OBKA	**Obir**	**4.16**	**106**	*e*Pn		**Pn**	**02 07 49.9**	**+3.0**
	0.4nm,0.2s							
OBKA				*e*Sn		**Sg**	**02 08 58.3**	**+0.8**
	4.4nm,0.7s							
HYF	**Humbligny**	**4.17**	**265**	*e*Pg		**Pg**	**02 08 02.3**	**-1.5**
BGF	**Bois d'Agland**	**4.21**	**255**	*e*Pn		**Pn**	**02 07 47.9**	**+0.5**
BGF	**Bois d'Agland**	**4.21**	**255**	*e*Pg		**Pg**	**02 08 02.9**	**-1.6**
BGF				*e*Sn		**Sn**	**02 08 34.0**	**-2.2**
BGF				*e*Sg		**Sg**	**02 08 57.2**	**-1.8**
	6.7nm,0.4s							
SMRF	**Simiane la Rot**	**4.41**	**211**	*e*Pn		**Pn**	**02 07 49.9**	**-0.3**
SMRF				*e*Sn		**Sn**	**02 08 38.7**	**-2.5**
	0.7nm,0.2s							
PRU	**Pruhonice**	**4.41**	**58**	*e*SG		**Sg**	**02 09 03.6**	**-1.9**
	comp=Z,14nm,1.2s							
SOKA	**Soboth**	**4.42**	**102**	*e*Pn		**Pn**	**02 07 52.6**	**+2.1**
	0.6nm,0.2s							
SOKA				*e*Sn		**Sn**	**02 08 43.6**	**+2.0**
	0.1nm,0.1s							
CLL	**Collm**	**4.48**	**37**	*e*Pg		**Pg**	**02 08 10.0**	**+0.3**
CLL				*i* Sg		**Sg**	**02 09 05.7**	**-2.0**
	comp=Z,6.0nm,0.5s							
GOPC	**GO Pecny, Ondr**	**4.52**	**60**	*e*SG		**Sg**	**02 09 06.3**	**-2.6**
BRG	**Berggiesshubel**	**4.59**	**46**	Sg		**Sg**	**02 09 08.9**	**-2.3**
BRG				Amp			02 09 18.2	
	comp=Z,3.8nm,0.5s							
PVCC	**Panska Ves**	**4.70**	**52**	*e*SG		**Sg**	**02 09 11.9**	**-2.9**
	comp=Z,7.0nm,0.3s							
TCF	**Toulx Ste Croi**	**4.71**	**254**	*e*Pn		**Pn**	**02 07 54.2**	**-0.2**
TCF	**Toulx Ste Croi**	**4.71**	**254**	*e*Pg		**Pg**	**02 08 12.2**	**-2.0**
TCF				*e*Sn		**Sn**	**02 08 46.0**	**-2.7**
TCF				*e*Sg		**Sg**	**02 09 13.1**	**-2.1**
	comp=Z,2.3nm,0.4s							
LMR	**La Mourre**	**4.72**	**200**	*e*Pn		**Pn**	**02 07 54.2**	**-0.3**
LMR				*e*Sn		**Sn**	**02 08 45.7**	**-3.2**
	comp=Z,0.4nm,0.2s							
CONA	**Conrad Observa**	**4.79**	**86**	*e*Pn		**Pn**	**02 07 57.0**	**+1.5**
	comp=Z,0.9nm,0.2s							
CONA				*e*Sn		**Sn**	**02 08 48.5**	**-2.2**
	comp=Z,1.2nm,0.2s							
LASF	**Ste Croix**	**5.04**	**224**	*e*Pn		**Pn**	**02 07 58.6**	**-0.3**
LASF	**Ste Croix**	**5.04**	**224**	*e*Pg		**Pg**	**02 08 18.2**	**-2.2**
LASF				*e*Sn		**Sn**	**02 08 53.5**	**-3.3**
LASF				*e*Sg		**Sg**	**02 09 22.7**	**-3.0**
	comp=Z,1.5nm,0.3s							
KRUC	**Moravsky**	**5.25**	**73**	*e*PN		**Pn**	**02 08 02.5**	**+0.8**
KRUC				*e*SN		**Sn**	**02 08 58.2**	**-3.6**
VRAC	**Vranov**	**5.43**	**71**	*e*PN		**Pn**	**02 08 05.5**	**+1.3**
VRAC				*e*SN		**Sn**	**02 09 02.9**	**-3.4**
CAF	**Calviac**	**5.44**	**241**	*e*Pg		**Pg**	**02 08 25.8**	**-2.2**
CAF				*e*Sg		**Sg**	**02 09 35.2**	**-3.2**
	comp=Z,1.4nm,0.3s							
DPC	**Dobruska-Polom**	**5.60**	**60**	*e*SN		**Sn**	**02 09 06.3**	**-4.2**
DPC				*e*SG		**Sg**	**02 09 40.5**	**-3.0**
	comp=Z,3.2nm,0.6s							
OSTC	**Ostas**	**5.63**	**58**	*e*SG		**Sg**	**02 09 40.7**	**-3.7**
	comp=Z,12nm,1.2s							
KRLC	**Kraliky**	**5.77**	**64**	*e*SG		**Sg**	**02 09 46.5**	**-2.4**
	comp=Z,5.2nm,0.9s							
LDF	**La Druitiere**	**5.99**	**281**	*e*Pn		**Pn**	**02 08 11.5**	**-0.3**
LDF	**La Druitiere**	**5.99**	**281**	*e*Pg		**Pg**	**02 08 36.1**	**-2.4**
LDF				*e*Sn		**Sn**	**02 09 16.8**	**-3.2**
LDF				*e*Sg		**Sg**	**02 09 52.7**	**-3.2**
	comp=Z,1.7nm,0.3s							
MFF	**Saint Martin d**	**6.18**	**262**	*e*Pn		**Pn**	**02 08 15.6**	**+1.2**
MFF	**Saint Martin d**	**6.18**	**262**	*e*Pg		**Pg**	**02 08 39.3**	**-2.8**
MFF				*e*Sn		**Sn**	**02 09 21.0**	**-3.7**
MFF				*e*Sg		**Sg**	**02 09 58.1**	**-3.9**
	comp=Z,0.9nm,0.3s							
MAUC	**Maruska**	**6.23**	**72**	*e*SG		**Sg**	**02 10 00.1**	**-3.6**
LFF	**La Frestale**	**6.23**	**246**	*e*Pn		**Pn**	**02 08 13.2**	**-2.0**
FLN	**La Foliniere**	**6.24**	**282**	*e*Pn		**Pn**	**02 08 16.4**	**+1.1**
FLN	**La Foliniere**	**6.24**	**282**	*e*Pg		**Pg**	**02 08 41.0**	**-2.3**
FLN				*e*Sg		**Sg**	**02 10 00.7**	**-3.3**
	comp=Z,2.0nm,0.4s							
GRR	**Gorron**	**6.46**	**279**	*e*Pn		**Pn**	**02 08 18.4**	**0.0**
GRR	**Gorron**	**6.46**	**279**	*e*Pg		**Pg**	**02 08 45.3**	**-2.3**
GRR				*e*Sn		**Sn**	**02 09 27.9**	**-3.8**
GRR				*e*Sg		**Sg**	**02 10 08.0**	**-3.2**
	comp=Z,1.3nm,0.3s							

WEL 14 02:06:53.9±0.6, 42°S±2°×17°4E±°, h5km±2km, M3.1/9, ML3.1/9, MLv3.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=91.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**176**	P	Pg	02 06 56.1	+0.2
CMWZ				S	Sg	02 06 58.5	+1.2
BSWZ	**Blackbirch Sta**	**0.25**	**257**	P	Pg	02 06 59.4	+0.5
BSWZ				S	Sb	02 07 04.0	-1.7
TUWZ	**Tuamarina**	**0.30**	**319**	P	Pg	02 07 00.5	+0.8
TUWZ				S	Sg	02 07 05.3	+1.6
TCW	**Tory Channel**	**0.45**	**7**	P	Pg	02 07 02.8	+0.3
TCW				S	Sg	02 07 09.3	+0.9
WEL	**Wellington**	**0.56**	**49**	P	Pg	02 07 05.1	+0.4
WEL				S	Sb	02 07 13.7	-0.9
MSWZ	**Moikau Station**	**0.82**	**73**	P	Pb	02 07 10.5	-0.2
CAW	**Cannon Point**	**0.85**	**50**	P	Pg	02 07 09.8	-0.4
DUWZ	**D'Urville Isla**	**0.88**	**346**	P	Pb	02 07 11.3	-0.4
DUWZ				S	Sb	02 07 23.8	0.0
KIW	**Kapiti Island**	**0.96**	**34**	P	Pg	02 07 11.9	-0.4
KIW				S	Sb	02 07 25.7	-0.2
MTW	**Mount Morrison**	**1.09**	**63**	P	Pg	02 07 14.2	-0.7
MTW				S	Sb	02 07 30.1	+0.2
OGWZ	**Otaki Gorge**	**1.11**	**41**	P	Pg	02 07 14.8	-0.4
OGWZ				S	Sn	02 07 32.1	+0.3

IDC ***14*** *02:07:24.4±0.6, 40°.43N×73°.41E, h0km, mb4.2/24, mbtmp4.2/31, ML3.4/6, MS5.1/1, Error ellipse: s-maj=11.0km s-min=9.1km az=140.0*
KRNET ***14*** *02:07:25.6±0.1, 40°.48N×73°.40E, h27km, mb4.8*
BJI ***14*** *02:07:26.4±0.0, 40°.47N×73°.12E, h31km, mb4.3/19, mB4.8/4, ML4.3/5, Ms4.1/3, Ms7 4.1/3*
MOS ***14*** *02:07:26.9±1.1, 40°.52N×73°.34E, h38km, mb4.6/20, Error ellipse: s-maj=5.1km s-min=3.5km az=69.8*
SOME ***14*** *02:07:27.0, 40°.60N×73°.43E, h20km, MS4.0*
ISU ***14*** *02:07:28, 40°.67N×73°.36E, h8km*
NNC ***14*** *02:07:29.4±0.8, 40°.70N×73°.47E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=6.8km s-min=4.1km az=174.0*
NEIC ***14*** *02:07:31.7±1.6, 40°.57N±0°.06×73°.31E±0°.07, h44km±7km, mb4.4/33, Error ellipse: s-maj=9.5km s-min=7.1km az=138.0*
ISC 14 02:07:26.5±1.0, 40°60N±0°02×73°42E±0°02, h9km±6km, n302, σ1s88/383, mb4.4/50, 49C-27D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.49**	**261**	⇑*i*P	**Pg**	**02 07 35.2**	**-0.9**
	baz=76						
OHH				⇑*i*S	**Sg**	**02 07 42.0**	**-0.6**
	baz=76						
OHH	**Osh**	**0.49**	**261**	P	**Pg**	**02 07 35.1**	**-1.0**
OHH				S	**Sg**	**02 07 41.9**	**-0.6**
OHH	**Osh**	**0.49**	**261**	*i* PG	**Pg**	**02 07 35.2**	**-0.9**
OHH				*i* S	**Sg**	**02 07 42.0**	**-0.6**
TSTA	**Tashata**	**0.72**	**268**	P	**Pg**	**02 07 39.8**	**-0.6**
TSTA				S	**Sg**	**02 07 50.3**	**+0.5**
ANR	**Andizhan**	**0.82**	**281**	P	**Pb**	**02 07 44.3**	**+1.3**
ANR				S	**Sb**	**02 07 55.8**	**+1.6**
FRG	**Fergana**	**1.27**	**260**	P	**Pn**	**02 07 53.2**	**+2.7**
FRG				S	**Sn**	**02 08 10.5**	**+2.7**
NAM	**Namangan**	**1.39**	**287**	P	**Pb**	**02 07 54.4**	**+1.6**
NAM				S	**Sn**	**02 08 13.2**	**+2.4**
ARLS	**Aral**	**1.43**	**28**	⇓*i*P	**Pn**	**02 07 53.5**	**+0.6**
	baz=27						
ARLS				⇓*i*S	**Sn**	**02 08 13.8**	**+1.9**
	baz=27						
ARLS	**Aral**	**1.43**	**28**	⇓*i*P*	**Pn**	**02 07 53.5**	**+0.6**
ARLS				*i* S	**Sn**	**02 08 13.8**	**+1.9**
AML	**Almayashu**	**1.54**	**8**	P	**Pb**	**02 07 56.3**	**+0.7**
	SNR=1121						
AML	**Almayashu**	**1.54**	**8**	*i* PN	**Pb**	**02 07 55.8**	**+0.2**
AML				*i* S	**Sn**	**02 08 17.6**	**+2.6**
ARK	**Arkit**	**1.62**	**318**	⇑*i*P	**Pn**	**02 07 56.3**	**+0.8**
	baz=21						
ARK				⇑*i*S	**Sg**	**02 08 18.4**	**-0.4**
	baz=21						
ARK	**Arkit**	**1.62**	**318**	P	**Pg**	**02 07 57.7**	**0.0**
ARK				S	**Sg**	**02 08 19.2**	**+0.4**
ARK	**Arkit**	**1.62**	**318**	*i* PN	**Pn**	**02 07 56.3**	**+0.8**
ARK				*i* S	**Sg**	**02 08 18.4**	**-0.4**
DRK	**Karamyk**	**1.68**	**229**	⇑*i*P	**Pn**	**02 07 54.3**	**-2.1**
	baz=31						
DRK				⇑*i*S	**Sn**	**02 08 15.2**	**-2.9**
	baz=31						
DRK	**Karamyk**	**1.68**	**229**		**Pn**	**02 07 55.5**	**-0.9**
UCH	**Uchtor**	**1.82**	**26**	P	**Pg**	**02 08 01.2**	**-0.3**
	SNR=524						
UCH	**Uchtor**	**1.82**	**26**	⇑*i*P	**Pn**	**02 07 59.3**	**+0.8**
	baz=25						
UCH				⇑*i*S	**Sb**	**02 08 23.8**	**+0.4**
	baz=25						
UCH	**Uchtor**	**1.82**	**26**	*i* PN	**Pn**	**02 07 59.3**	**+0.8**
UCH				*i* S	**Sb**	**02 08 23.8**	**+0.4**
MINT	**Mingtut**	**1.87**	**267**	P	**Pb**	**02 08 02.0**	**+1.1**
MINT				S	**Sg**	**02 08 27.5**	**+0.9**
TRKS	**Terek-Say**	**1.96**	**299**	⇓*i*P	**Pn**	**02 07 59.4**	**-0.7**
	baz=1.0						
TRKS				⇓*i*S	**Sn**	**02 08 24.3**	**-0.7**
	baz=1.0						
TRKS	**Terek-Say**	**1.96**	**299**	⇓*i*PN	**Pn**	**02 07 59.4**	**-0.7**
TRKS				*i* S	**Sn**	**02 08 24.3**	**-0.7**
BTK	**Batken**	**2.06**	**256**	⇑*i*P	**Pn**	**02 08 00.1**	**-1.4**
	baz=59						
BTK				⇑*i*S	**Sn**	**02 08 25.4**	**-2.0**
	baz=59						
BTK	**Batken**	**2.06**	**256**	Pn	**Pn**	**02 08 02.9**	**+1.4**
BTK	**Batken**	**2.06**	**256**	PN	**Pn**	**02 08 02.9**	**+1.4**
EKS2	**Erkin-Say**	**2.08**	**7**	P	**Pg**	**02 08 05.5**	**-0.8**
	SNR=505						
EKS2	**Erkin-Say**	**2.08**	**7**	⇑*i*P	**Pn**	**02 08 03.0**	**+1.3**
	baz=7.0						
EKS2				⇑*i*S	**Sb**	**02 08 30.0**	**-0.5**
	baz=7.0						
EKS2	**Erkin-Say**	**2.08**	**7**	*i* PN	**Pn**	**02 08 03.0**	**+1.3**
EKS2				*i* S	**Sb**	**02 08 30.0**	**-0.5**
NRN	**Naryn**	**2.12**	**66**	⇑*e*P	**Pn**	**02 08 02.5**	**0.0**
	baz=63						
NRN				⇑*i*S	**Sn**	**02 08 29.2**	**0.0**
	baz=63						
NRN	**Naryn**	**2.12**	**66**	Pn	**Pb**	**02 08 05.2**	**-0.2**
NRN	**Naryn**	**2.12**	**66**	PN	**Pb**	**02 08 05.2**	**-0.2**
MRKS	**Merke**	**2.15**	**356**	*e*P	**Pg**	**02 08 06.7**	**-1.0**
	256nm,0.3s						
MRKS				*e*S	**Sg**	**02 08 35.2**	**-0.3**
	3µm,0.4s						
MRKS	**Merke**	**2.15**	**356**	Pg	**Pg**	**02 08 06.7**	**-1.0**
	256nm,0.3s						
MRKS				Lg	Lg	02 08 35.2	
	3µm,0.4s						
AAK	**Ala-Archa**	**2.19**	**21**	P	**Pg**	**02 08 07.7**	**-0.8**
	SNR=464						
AAK	**Ala-Archa**	**2.19**	**21**	Pn	**Pg**	**02 08 07.7**	**-0.8**
	334nm,0.3s,baz=190,slow=6.1,SNR=1930						
AAK				Lg	Lg	02 08 37.3	
	379nm,0.3s,baz=92,slow=19,SNR=16						
AAK	**Ala-Archa**	**2.19**	**21**	⇑*i*P	**Pn**	**02 08 04.3**	**+1.0**
	baz=21						
AAK				⇑*i*S	**Sn**	**02 08 32.6**	**+2.0**
	baz=21						
AAK	**Ala-Archa**	**2.19**	**21**	Pn	**Pg**	**02 08 07.5**	**-0.9**
KSH	**Kashi**	**2.24**	**118**	Pg	**Pb**	**02 08 07.3**	**0.0**
KSH				Sg	**Sn**	**02 08 35.4**	**+3.6**
KSH				smax	smax		
	comp=N,2µm,0.5s						
KSH				smax	smax		
	comp=E,2µm,0.5s						
KBK	**Karagaybulak**	**2.35**	**29**	P	**Pb**	**02 08 10.4**	**+1.2**
	SNR=259						
KBK	**Karagaybulak**	**2.35**	**29**	⇑*i*P	**Pn**	**02 08 06.7**	**+1.1**
	baz=28						
KBK				⇑*i*S	**Sn**	**02 08 36.5**	**+1.8**
	baz=28						
KBK	**Karagaybulak**	**2.35**	**29**	*i* PN	**Pn**	**02 08 06.7**	**+1.1**
KBK				*i* S	**Sn**	**02 08 36.5**	**+1.8**
CHMS	**Chumysh**	**2.59**	**22**	P	**Pb**	**02 08 13.3**	**0.0**
	SNR=86						
CHMS	**Chumysh**	**2.59**	**22**	⇓*i*P	**Pn**	**02 08 10.1**	**+1.3**
	baz=21						
CHMS				⇓*i*S	**Sn**	**02 08 42.3**	**+1.9**
	baz=21						
CHMS	**Chumysh**	**2.59**	**22**	Pg	Pg	02 08 29.7	+13
	2.9nm,0.5s						
CHMS				Lg	Lg	02 09 14.4	
	1µm,0.6s						
CHMS	**Chumysh**	**2.59**	**22**	*e*PN	**Pn**	**02 08 10.1**	**+1.3**
BOOM	**Boomskoye usch**	**2.67**	**44**	⇑*i*P	**Pn**	**02 08 11.0**	**+1.0**
	baz=43						
BOOM				⇑*i*S	**Sn**	**02 08 43.9**	**+1.3**
	baz=43						
BOOM	**Boomskoye usch**	**2.67**	**44**	Pn	**Pb**	**02 08 13.6**	**-1.1**
BOOM	**Boomskoye usch**	**2.67**	**44**	PN	**Pb**	**02 08 13.6**	**-1.1**
ULHL	**Ulahol**	**2.68**	**51**	P	**Pb**	**02 08 13.9**	**-0.9**
	SNR=22						
ULHL	**Ulahol**	**2.68**	**51**	⇑*i*P	**Pn**	**02 08 10.8**	**+0.7**
	baz=50						
ULHL				⇑*i*S	**Sn**	**02 08 43.6**	**+0.7**
	baz=50						
ULHL	**Ulahol**	**2.68**	**51**	*i* PN	**Pn**	**02 08 10.8**	**+0.7**
ULHL				*i* S	**Sn**	**02 08 43.6**	**+0.7**
DZA	**Taraz**	**2.77**	**326**	*e*P	**Pg**	**02 08 19.2**	**-0.4**
	115nm,0.1s						
DZA				*e*S	**Sg**	**02 08 56.2**	**+0.6**
	2µm,0.5s						
DZA	**Taraz**	**2.77**	**326**	*e*Pg	**Pg**	**02 08 19.4**	**-0.2**
	baz=325						
DZA				*e*Lg	Lg	02 08 56.0	
	baz=325						
DZA	**Taraz**	**2.77**	**326**	*e*PN	**Pg**	**02 08 19.3**	**-0.4**
DZA				*e*		02 08 56.0	
USP	**Ospenovka**	**2.78**	**16**	P	**Pb**	**02 08 15.4**	**-1.1**
	SNR=72						
USP	**Ospenovka**	**2.78**	**16**	⇓*i*P	**Pn**	**02 08 12.6**	**+1.2**
	baz=16						
USP				⇓*i*S	**Sn**	**02 08 46.8**	**+1.7**
	baz=16						
USP	**Ospenovka**	**2.78**	**16**	*e*PN	**Pn**	**02 08 12.6**	**+1.2**
CHRV	**Charvak**	**2.82**	**293**	S	**Sg**	**02 08 57.0**	**-0.1**
TKM2	**Tokmak 2**	**2.83**	**34**	P	**Pb**	**02 08 16.3**	**-1.1**
	SNR=305						
TKM2	**Tokmak 2**	**2.83**	**34**	⇑*i*P	**Pn**	**02 08 13.4**	**+1.2**
	baz=33						
TKM2				⇑*i*S	**Sn**	**02 08 48.0**	**+1.4**
	baz=33						
TKM2	**Tokmak 2**	**2.83**	**34**	⇑Pn	**Pn**	**02 08 15.2**	**+3.0**
TKM2				⇑Lg	Lg	02 08 55.6	
TKM2	**Tokmak 2**	**2.83**	**34**	*e*PN	**Pn**	**02 08 13.4**	**+1.2**
GAR	**Garm**	**2.88**	**237**	Pn	**Pn**	**02 08 15.5**	**+2.8**
IUG	**luzhnay**	**2.98**	**302**	*e*P	**Pg**	**02 08 22.0**	**-1.6**
	6µm,0.5s						
IUG				*e*S	**Sg**	**02 09 00.9**	**-1.4**
	1µm,0.8s						
IUG	**luzhnay**	**2.98**	**302**	*e*Pn	**Pn**	**02 08 16.4**	**+2.2**
	baz=300						
IUG				*e*Pg	**Pg**	**02 08 23.0**	**-0.6**
	baz=300						
IUG				*e*Lg	Lg	02 09 01.8	
	baz=300						
IUG	**luzhnay**	**2.98**	**302**	*e*PN	**Pn**	**02 08 16.4**	**+2.2**
IUG				*e*		02 08 23.0	
IUG				*e*		02 09 01.8	
SGDS	**Sogindy**	**2.99**	**17**	*e*P	**Pb**	**02 08 21.3**	**+1.3**
	172nm,0.8s						
SGDS				*e*S	**Sg**	**02 09 00.5**	**-2.0**
	1µm,1.3s						
SGDS	**Sogindy**	**2.99**	**17**	*e*Pn	**Pb**	**02 08 17.9**	**-2.2**
	baz=18						
SGDS				*e*Pg	**Pg**	**02 08 24.8**	**+1.0**
	baz=18						
SGDS				*e*Lg	Lg	02 09 02.0	
	baz=18						
SGDS	**Sogindy**	**2.99**	**17**	Pg	**Pb**	**02 08 21.3**	**+1.3**
	172nm,0.8s						
SGDS				Lg	Lg	02 09 00.5	
	1µm,1.3s						
SGDS	**Sogindy**	**2.99**	**17**	*e*PN	**Pb**	**02 08 17.8**	**-2.2**
SGDS				*e*		02 08 24.7	
SGDS				*e*		02 09 01.9	
KST	**Kastek**	**3.09**	**37**	*e*P	**Pg**	**02 08 24.1**	**-1.6**
	399nm,1.0s						
KST				*e*S	**Sg**	**02 09 05.1**	**-0.8**
	1µm,0.8s						
KST	**Kastek**	**3.09**	**37**	Pg	**Pg**	**02 08 24.1**	**-1.6**
	399nm,1.0s						
KST				Lg	Lg	02 09 05.1	
	1µm,0.8s						
DGS	**Degeres**	**3.17**	**33**	*e*P	**Pg**	**02 08 26.1**	**-1.2**
	796nm,0.8s						
DGS				*e*S	**Sg**	**02 09 08.3**	**0.0**
	1µm,0.7s						
DGS	**Degeres**	**3.17**	**33**	Pg	**Pg**	**02 08 26.1**	**-1.2**
	796nm,0.8s						
DGS				Lg	Lg	02 09 08.3	
	1µm,0.7s						
TAS	**Tashkent**	**3.21**	**284**	⇑*i*P	**Pn**	**02 08 17.0**	**-0.2**
	baz=87						
TAS				⇑*i*S	**Sn**	**02 08 54.4**	**-1.1**
	baz=87						
TAS	**Tashkent**	**3.21**	**284**	Pn	**Pn**	**02 08 17.7**	**+0.5**
TAS	**Tashkent**	**3.21**	**284**	S	**Sg**	**02 09 10.1**	**+0.6**
TAS	**Tashkent**	**3.21**	**284**	PN	**Pn**	**02 08 17.7**	**+0.5**
KUMR	**Kumaryk**	**3.22**	**283**	S	**Sg**	**02 09 09.0**	**+0.3**
KK31	**Karatay Array**	**3.31**	**320**	Pn	**Pn**	**02 08 21.1**	**+2.5**
KK31	**Karatay Array**	**3.31**	**320**	Pn	**Pn**	**02 08 20.9**	**+2.2**
	5.6nm,0.3s,baz=122,slow=12,SNR=510						
KK31				⇑Pg	**Pg**	**02 08 29.1**	**-0.9**
	69nm,0.6s,baz=137,slow=17,SNR=13						
KK31				⇓Lg	Lg	02 09 11.9	
	664nm,0.8s						
KK31	**Karatay Array**	**3.31**	**320**	*i* PN	**Pn**	**02 08 20.8**	**+2.2**
KK31				*e*		02 08 29.0	
KK31						02 09 11.9	
KKAR	**Karatay Array**	**3.31**	**320**	Pn	**Pn**	**02 08 20.4**	**+1.8**
KKAR	**Karatay Array**	**3.31**	**320**	PN	**Pn**	**02 08 20.4**	**+1.8**
NZBK	**Nazarbek**	**3.32**	**282**	S	**Sg**	**02 09 11.9**	**-1.3**
CHM	**Chimkent**	**3.34**	**302**	*e*P	**Pg**	**02 08 29.7**	**-0.9**
	2.9nm,0.5s						
CHM				*e*S	**Sg**	**02 09 14.4**	**+0.6**
	1µm,0.6s						
MTBS	**Maitube**	**3.38**	**41**	*e*P	**Pg**	**02 08 30.0**	**-1.3**
	347nm,0.8s						
MTBS				*e*S	**Sg**	**02 09 14.9**	**-0.2**
	1µm,0.5s						
MTBS	**Maitube**	**3.38**	**41**	Pg	**Pg**	**02 08 30.0**	**-1.3**
	347nm,0.8s						
MTBS				Lg	Lg	02 09 14.9	
	1µm,0.5s						
IZV	**Izvestkoviy**	**3.41**	**43**	*e*P	**Pg**	**02 08 30.1**	**-1.7**
	289nm,0.7s						
IZV				*e*S	**Sg**	**02 09 15.3**	**-0.7**
	760nm,0.8s						
IZV	**Izvestkoviy**	**3.41**	**43**	Pg	**Pg**	**02 08 30.1**	**-1.7**
	289nm,0.7s						
IZV				Lg	Lg	02 09 15.3	
	760nm,0.8s						
KRBS	**Karabastau**	**3.52**	**28**	*e*P	**Pg**	**02 08 31.9**	**-2.0**
	123nm,0.4s						
KRBS				*e*S	**Sg**	**02 09 18.1**	**-1.3**
	340nm,0.7s						
KRBS	**Karabastau**	**3.52**	**28**	Pg	**Pg**	**02 08 31.9**	**-2.0**
	123nm,0.4s						
KRBS				Lg	Lg	02 09 18.1	
	340nm,0.7s						
TNSS	**Tian-Shan**	**3.59**	**46**	*e*P	**Pg**	**02 08 33.5**	**-1.7**
	192nm,0.3s						
TNSS				*e*S	**Sg**	**02 09 20.9**	**-0.8**
	387nm,0.5s						
TNSS	**Tian-Shan**	**3.59**	**46**	*e*Pn	**Pn**	**02 08 26.6**	**+3.8**

204nm,0.8s
KUU *eS* **Sg** **02 09 30.8 -2.2**
323nm,0.7s
KUU Kurty 3.94 32 *e*Pn **Pn** **02 08 30.5 +3.2**
baz=33
KUU *i* Pg **Pg** **02 08 39.3 -2.6**
baz=33
KUU *i* Lg Lg 02 09 31.2
baz=33
KUU Kurty 3.94 32 Pg **Pg** **02 08 39.1 -2.8**
204nm,0.8s
KUU Lg Lg 02 09 30.8
323nm,0.7s
KUU Kurty 3.94 32 *e*PN **Pn** **02 08 30.4 +3.2**
KUU *i* 02 08 39.3
KUU *i* 02 09 31.2
KTBS Karatobe 3.94 37 *e*P **Pg** **02 08 39.9 -2.2**
78nm,1.0s
KTBS *eS* **Sg** **02 09 31.7 -1.4**
1µm,0.7s
KTBS Karatobe 3.94 37 Pg **Pg** **02 08 39.9 -2.2**
78nm,1.0s
KTBS Lg Lg 02 09 31.7
1µm,0.7s
CHKK Chushkaly 4.19 38 *e*P **Pg** **02 08 45.1 -1.8**
56nm,0.9s
CHKK *eS* **Sg** **02 09 40.7 -0.4**
325nm,0.6s
CHKK Chushkaly 4.19 38 *e*Pn **Pn** **02 08 33.9 +3.2**
baz=39
CHKK *i* Pg **Pg** **02 08 46.7 -0.1**
baz=39
CHKK *i* Lg Lg 02 09 40.9
baz=39
CHKK Chushkaly 4.19 38 Pg **Pg** **02 08 45.1 -1.8**
56nm,0.9s
CHKK Lg Lg 02 09 40.7
325nm,0.6s
CHKK Chushkaly 4.19 38 *e*PN **Pn** **02 08 33.9 +3.2**
CHKK *i* 02 08 46.6
CHKK *i* 02 09 40.9
BTLS Baital 4.46 6 *e*P **Pg** **02 08 49.7 -2.3**
110nm,1.0s
BTLS *eS* **Sg** **02 09 48.7 -1.0**
268nm,0.6s
BTLS Baital 4.46 6 Pg **Pg** **02 08 49.7 -2.3**
110nm,1.0s
BTLS Lg Lg 02 09 48.7
268nm,0.6s
BTLS Baital 4.46 6 *e*PN **Pn** **02 08 37.6 +3.2**
SATY Saty 4.46 55 *e*Pn **Pn** **02 08 37.7 +3.2**
baz=56
SATY *i* Pg **Pg** **02 08 49.3 -2.7**
baz=56
SATY *i* Lg Lg 02 09 48.4
baz=56
SATY Saty 4.46 55 *e*PN **Pn** **02 08 37.7 +3.2**
SATY *i* 02 08 49.2
SATY *i* 02 09 48.4
ZHN Zhinishke 4.54 54 *e*P **Pg** **02 08 50.6 -2.8**
41nm,0.3s
ZHN *eS* **Sg** **02 09 50.2 -2.0**
230nm,1.2s
ZHN Zhinishke 4.54 54 *e*Pn **Pn** **02 08 39.1 +3.5**
baz=55
ZHN *e*Pg **Pg** **02 08 52.3 -1.1**
baz=55
ZHN *i* Lg Lg 02 09 49.7
baz=55
ZHN Zhinishke 4.54 54 Pg **Pg** **02 08 50.6 -2.8**
41nm,0.3s
ZHN Lg Lg 02 09 50.2
230nm,1.2s
ZHN Zhinishke 4.54 54 *e*PN **Pn** **02 08 39.0 +3.5**
ZHN *e* 02 08 52.2
ZHN *i* 02 09 49.6
KURS Kuram 4.56 49 *e*P **Pb** **02 08 49.4 +2.6**
77nm,0.9s
KURS *eS* **Sg** **02 09 48.8 -4.3**
309nm,0.8s
KURS Kuram 4.56 49 Pg **Pb** **02 08 49.4 +2.6**
77nm,0.9s
KURS Lg Lg 02 09 48.8
309nm,0.8s
KPKS Kokpek 4.85 52 *e*P **Pb** **02 08 55.8 +4.0**
50nm,0.4s
KPKS *eS* **Sg** **02 09 59.6 -2.7**
260nm,0.9s
KPKS Kokpek 4.85 52 *i* Pn **Pn** **02 08 43.6 +3.8**
baz=53
KPKS *e*Lg Lg 02 10 00.5
baz=53
KPKS Kokpek 4.85 52 Pg **Pb** **02 08 55.8 +4.0**
50nm,0.4s
KPKS Lg Lg 02 09 59.6
260nm,0.9s
KPKS Kokpek 4.85 52 *i* PN **Pn** **02 08 43.6 +3.8**
KPKS *e* 02 10 00.5
ARXS Arharly 4.86 41 *e*P **Pg** **02 08 56.3 -3.4**
349nm,0.9s
ARXS *eS* **Sg** **02 10 00.1 -2.5**
301nm,0.7s
ARXS Arharly 4.86 41 Pg **Pg** **02 08 56.3 -3.4**
349nm,0.9s
ARXS Lg Lg 02 10 00.2
301nm,0.7s
UZB Uzynbulak 4.89 57 *e*P **Pb** **02 08 55.9 +3.4**
46nm,0.7s
UZB *eS* **Sg** **02 09 59.9 -3.7**
460nm,0.8s
UZB Uzynbulak 4.89 57 *e*Pn **Pn** **02 08 43.4 +2.9**
baz=58
UZB *i* Pg **Pg** **02 08 57.0 -3.2**
8.8nm,0.3s,baz=58
UZB *e*Lg Lg 02 10 00.5
baz=58
UZB Uzynbulak 4.89 57 Pg **Pb** **02 08 55.9 +3.4**
46nm,0.7s
UZB Lg Lg 02 09 59.9
460nm,0.8s
UZB Uzynbulak 4.89 57 *e*PN **Pn** **02 08 43.4 +2.9**
UZB *i* 02 08 57.0
UZB *e* 02 10 00.5
UZB pmax pmax
comp=Z,9.0nm,0.3s
BLB Baldybastay 5.12 45 *e*P **Pb** **02 09 00.6 +4.2**
comp=Z,204nm,0.8s
BLB *eS* **Sg** **02 10 08.1 -2.9**
comp=Z,321nm,0.7s
BLB Baldybastay 5.12 45 Pg **Pb** **02 09 00.6 +4.2**
comp=Z,204nm,0.8s
BLB Lg Lg 02 10 08.1
comp=Z,321nm,0.7s
SHLS Shalkode 5.18 59 *e*P **Pg** **02 09 07.8 +2.0**
comp=Z,94nm,0.7s
SHLS *eS* **Sg** **02 10 19.8 +6.9**
comp=Z,419nm,0.8s
SHLS Shalkode 5.18 59 *e*Pn Pn 02 08 50.3 +5.9
baz=61
SHLS *i* Pg **Pg** **02 09 09.5 +3.8**
baz=61
SHLS *i* Lg Lg 02 10 20.4
baz=61
SHLS Shalkode 5.18 59 Pg **Pg** **02 09 07.8 +2.0**
comp=Z,94nm,0.7s
SHLS Lg Lg 02 10 19.8
comp=Z,419nm,0.8s
SHLS Shalkode 5.18 59 *e*PN Pn 02 08 50.3 +5.9
SHLS *i* 02 09 09.5
PDGK Podgornoye 5.28 57 Pg **Pb** **02 09 02.6 +3.5**
comp=Z,27nm,0.5s
PDGK Lg Lg 02 10 11.4
comp=Z,128nm,1.0s
PDGK Podgornoye 5.28 57 ⇑Pn **Pn** **02 08 48.5 +2.6**
comp=Z,47nm,0.8s
PDGK ⇑Pg **Pb** **02 09 01.7 +2.6**
comp=Z,73nm,0.8s
PDGK ⇑Lg Lg 02 10 09.9
comp=Z,394nm,0.8s
PDGK Podgornoye 5.28 57 PN **Pn** **02 08 48.4 +2.6**
PDGK 02 09 01.7
PDGK 02 10 09.9
TDK Taldyqorghan 5.72 38 *e*P **Pg** **02 09 12.4 -3.7**
comp=Z,264nm,0.8s
TDK *eS* **Sg** **02 10 27.7 -2.5**
comp=Z,468nm,1.5s
TDK Taldyqorghan 5.72 38 *e*Pn **Pn** **02 08 54.2 +2.4**
baz=39
TDK *i* Lg Lg 02 10 27.9
baz=39
TDK Taldyqorghan 5.72 38 Pg **Pg** **02 09 12.4 -3.7**
comp=Z,264nm,0.8s
TDK Lg Lg 02 10 27.7
comp=Z,468nm,1.5s
TDK Taldyqorghan 5.72 38 *e*PN **Pn** **02 08 54.1 +2.4**
TDK *i* 02 10 27.9
DJR Jarkent 6.00 50 *e*P Pb 02 09 16.3 +4.8
comp=Z,28nm,0.9s
DJR *eS* **Sg** **02 10 34.4 -4.9**
comp=Z,122nm,0.9s
DJR Jarkent 6.00 50 Pg Pb 02 09 16.3 +4.8
comp=Z,28nm,0.9s
DJR Lg Lg 02 10 34.4
comp=Z,122nm,0.9s
CEP Cherat 6.87 191 P **Pn** **02 09 11.5 +3.8**
NIL Nilore 6.94 181 Pn **Pn** **02 09 10.3 +1.8**
NIL Nilore 6.94 181 PN **Pn** **02 09 10.3 +1.8**
KBL Kabul 6.98 211 Pn **Pn** **02 09 12.1 +2.9**
KBL Kabul 6.98 211 PN **Pn** **02 09 12.1 +2.9**
OTUK Ortayu 7.68 355 ⇑Pn **Pn** **02 09 22.1 +3.4**
comp=Z,9.9nm,0.8s
OTUK ⇑Pg **Pg** **02 09 51.8 -1.7**
comp=Z,7.4nm,0.6s
OTUK ⇓Lg Lg 02 11 25.7
comp=Z,563nm,1.5s
OTUK Ortayu 7.68 355 P **Pn** **02 09 22.0 +3.4**
THW Thamme Wali 7.91 190 P **Pn** **02 09 23.2 +1.4**
MAKZ Makanchi 8.76 42 ⇓Pn **Pn** **02 09 35.3 +1.8**
comp=Z,9.9nm,0.8s
MAKZ ⇑Lg Lg 02 11 59.9
comp=Z,54nm,1.2s
MAKZ Makanchi 8.76 42 P **Pn** **02 09 35.3 +1.8**
MKAR Makanchi Array 8.92 43 Pn **Pn** **02 09 38.1 +2.5**
comp=Z,2.2nm,0.3s,baz=232,slow=14,SNR=67
MKAR Lg Lg 02 12 07.1
comp=Z,1.3nm,0.3s,baz=214,slow=28,SNR=2.5
comp=Z,5.5nm,0.5s
MKAR Makanchi Array 8.92 43 Pn **Pn** **02 09 38.0 +2.5**
MKAR Makanchi Array 8.92 43 *i* P **Pn** **02 09 38.5 +2.9**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
BRZS Berezniki 9.39 357 *e*Pn **Pn** **02 09 43.0 +0.9**
baz=357
BRZS *i* Lg Lg 02 12 23.2
baz=357
BRZS Berezniki 9.39 357 *e*P **Pn** **02 09 43.0 +0.9**
KURBB Kurchatov Arra 10.64 18 Pn **Pn** **02 09 59.9 +0.8**
comp=Z,0.2nm,0.3s,baz=207,slow=12,SNR=14
KURBB Lg Lg 02 12 58.9
comp=Z,0.3nm,0.3s,baz=205,slow=31,SNR=7.3
comp=Z,2.1nm,0.6s
KURBB Kurchatov Arra 10.64 18 ⇑Pn **Pn** **02 09 59.8 +0.8**
comp=Z,5.1nm,0.7s
KURBB ⇑Lg Lg 02 13 02.0
comp=Z,198nm,1.0s
KURBB Kurchatov Arra 10.64 18 P **Pn** **02 09 59.8 +0.8**
KURK Kurchatov 10.74 18 P **Pn** **02 09 59.9 -0.6**
HRA Herat 10.83 239 Pn **Pn** **02 09 60.0 -2.0**
WMQ Urumqi 11.06 68 *e*P Pn 02 10 11.0 +6.0
GEYT Alibeck 12.16 262 Pn **Pn** **02 10 17.0 -3.0**
comp=Z,1.1nm,0.3s,baz=81,slow=9.2,SNR=12
GEYT Sn Sn 02 12 26.8 -8.9
comp=Z,0.7nm,0.3s,baz=57,slow=16,SNR=1.7
comp=Z,5.7nm,0.7s
GYA0 ALIBECK ARRAY 12.16 262 P **Pn** **02 10 17.6 -2.4**
GYA0B ALIBECK ARRAY 12.16 262 Pn **Pn** **02 10 17.4 -2.5**
BVA0 Borovoye Array 12.60 352 ⇑Pn **Pn** **02 10 25.6 -0.3**
BVA0 ⇓Lg Lg 02 13 59.5
BVA0 Borovoye Array 12.60 352 P **Pn** **02 10 25.6 -0.3**
BVAR Borovoye Array 12.60 352 Pn **Pn** **02 10 25.2 -0.7**
comp=Z,0.1nm,0.3s,baz=164,slow=12,SNR=6.7
BVAR Sn **Sn** **02 12 44.2 -2.0**
baz=136,slow=30,SNR=1.8
BVAR Lg Lg 02 14 02.3
comp=Z,0.1nm,0.3s,baz=172,slow=22,SNR=1.8
comp=Z,2.4nm,0.5s
BRVK Borovoye 12.64 351 Pn **Pn** **02 10 24.7 -1.8**
BRVK Borovoye 12.64 351 ⇓*e*P **Pn** **02 10 27.1 +0.6**
AB31 Akbulak array 12.87 317 *i* P **Pn** **02 10 28.4 -1.2**
ABKAR Akbulak array 12.87 317 Pn **Pn** **02 10 27.6 -2.0**
DGZ Jazzator, Alta 13.42 43 ⇓*e*P **Pn** **02 10 40.9 +3.7**
AKTO Aktyubinsk 14.58 318 *i* P **Pn** **02 10 52.1 -0.8**
AKTO pmax pmax
comp=Z,7.0nm,0.8s
ZAA0 Zalesovo Array 15.40 26 Pn **Pn** **02 11 04.9 +1.0**
ZALV Zalesovo Beam 15.40 26 Pn **Pn** **02 11 03.6 -0.3**
comp=Z,0.6nm,0.3s,baz=222,slow=12,SNR=18
comp=Z,3.5nm,0.6s
ZALV Zalesovo Beam 15.40 26 Pn **Pn** **02 11 04.9 +1.0**
ZALV Zalesovo Beam 15.40 26 P **Pn** **02 11 04.9 +1.0**
GOMU GeErMu 17.33 98 P **Pn** **02 11 28.1 -0.9**
GOMU pP sP 02 11 37.6 +3.1
GOMU pmax pmax
comp=Z,4.0nm,0.8s
SVE Sverdlovsk 18.25 337 *e*P **P** **02 11 41.4 +1.4**
ARU Arti 18.58 333 P **P** **02 11 43.5 -0.2**
baz=146,slow=16,SNR=7.8
ARU Lg Lg 02 17 12.6
baz=295,slow=24,SNR=1.2
comp=Z,3.8nm,0.6s
ARU Arti 18.58 333 **P** **02 11 44.5 +0.8**
ARU Arti 18.58 333 *d* iP **Pn** **02 11 45.5 +1.6**
ARU S **S** **02 15 17.0 +1.5**
ARU pmax pmax
comp=Z,10.0nm,1.5s
AKT Akhty 19.38 281 *e*P **P** **02 11 53.7 +0.9**
AKT pmax pmax
comp=Z,9.0nm,0.4s
KNGR Kungurtug, Tuv 19.52 51 ⇑*i*P **Pn** **02 11 57.2 +1.7**
KNGR pmax pmax
comp=Z,13nm,1.0s
GTA Gaotai 20.23 85 ⇓P **P** **02 12 04.3 +2.2**
GTA pP Pn 02 12 10.8 +6.8
GTA pmax pmax
comp=Z,18nm,0.9s
GROC Groznyy 20.69 286 *e*P **P** **02 12 07.5 +0.6**
GROC *e* 02 12 25.2
GROC pmax pmax
comp=Z,178nm,1.0s
BELG Belogornoye 21.19 312 P **P** **02 12 11.9 -0.2**
comp=Z,22nm,0.9s,baz=76,slow=1.0,SNR=5.4
comp=Z,22nm,0.9s
UOSS Minazif 21.23 228 P **P** **02 12 11.3 -1.5**
UOSS IAmb IAmb 02 12 13.5
comp=Z,9.8nm,0.7s
WSAR Wadi Sarin 21.33 220 P **P** **02 12 12.1 -1.8**
comp=Z,2.2nm,0.5s,baz=99,slow=3.1,SNR=4.5
comp=Z,2.2nm,0.5s
SHL Shillong 21.48 129 P **P** **02 12 14.4 -1.3**
SHL IAmb IAmb 02 12 18.9
comp=Z,12nm,0.9s
SHL Shillong 21.48 129 P **P** **02 12 14.4 -1.3**
SHL pmax pmax
comp=Z,12nm,0.9s
GNI Garni 21.82 278 P **P** **02 12 19.8 +0.6**
comp=Z,9.4nm,0.9s,baz=200,slow=19,SNR=2.2
comp=Z,9.4nm,0.9s
GNI Garni 21.82 278 P **P** **02 12 19.5 +0.2**
NCK Nalchik 22.28 287 ⇓*e*P **P** **02 12 23.6 -0.4**
NCK pmax pmax
comp=Z,15nm,0.7s
ONI Oni 22.45 285 P **P** **02 12 26.5 +0.6**
ONI IAmb IAmb 02 12 32.5
comp=Z,18nm,1.0s
ONI Oni 22.45 285 P **P** **02 12 26.5 +0.6**
ONI pmax pmax
comp=Z,18nm,1.0s
KBZ Khabaz 22.78 288 P **P** **02 12 28.2 -1.0**
comp=Z,2.1nm,0.6s,baz=119,slow=0.8,SNR=7.6
KBZ LR LR 02 23 16.2
comp=Z,4µm,19.7s,baz=348,slow=42
comp=Z,2.1nm,0.6s
KBZ Khabaz 22.78 288 ⇓*e*P **P** **02 12 30.2 +1.0**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KVAR Kislovodsk Arr 22.91 289 P **P** **02 12 32.9 +2.1**
comp=Z,2.7nm,0.7s,baz=273,slow=22,SNR=2.3
KIV Kislovodsk 22.92 289 P **P** **02 12 30.5 -0.4**
KIV IAmb IAmb 02 12 38.0
comp=Z,7.7nm,0.7s
KIV Kislovodsk 22.92 289 *e*P **P** **02 12 30.7 -0.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 22.96 55 *e*P **P** **02 12 32.8 +1.5**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
GEVA Gevas 23.50 274 P **P** **02 12 37.6 +0.7**
GEVA IAmb IAmb 02 12 43.1
comp=Z,11nm,1.0s
KIRV Kirov 23.57 328 P **P** **02 12 36.7 -0.5**
comp=Z,9.0nm,0.8s,baz=8.5,slow=22,SNR=4.6
comp=Z,9.0nm,0.8s
KIRV Kirov 23.57 328 ⇓*e*P **P** **02 12 38.0 +0.8**
GURO Guroymak-BITLI 24.22 275 P **P** **02 12 44.3 +0.6**
SONM Songino Array 24.58 62 P **P** **02 12 47.1 +0.2**
comp=Z,3.7nm,0.8s,baz=275,slow=10,SNR=22
comp=Z,3.7nm,0.8s
SONM Songino Array 24.58 62 P **P** **02 12 47.7 +0.8**
SONM IAmb IAmb 02 12 50.3
comp=Z,9.3nm,1.3s
SONM Songino Array 24.58 62 P **P** **02 12 47.7 +0.8**
SONM pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 25.02 62 P **P** **02 12 51.6 +0.7**
ULN IAmb IAmb 02 12 54.6
comp=Z,9.5nm,1.1s
ULN Ulaanbaatar 25.02 62 ⇑*e*P **P** **02 12 52.1 +1.2**
ULN pmax pmax
comp=Z,12nm,1.1s
MARD Mardin 25.52 273 P **P** **02 12 54.6 -0.9**
MARD IAmb IAmb 02 13 01.9
comp=Z,8.1nm,1.0s
PZH PanZhiHua 27.33 112 P **P** **02 13 14.1 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 28.76 77 *e*P **P** **02 13 26.8 +2.2**
HHC pmax pmax
comp=Z,29nm,0.5s
HHC pmax pmax
comp=Z,380nm,4.7s
RAYN Ar Rayn 28.98 243 P **P** **02 13 25.8 -0.8**
RAYN pmax pmax
comp=Z,19nm,1.5s
BR131 Keskin Array S 30.24 282 P **P** **02 13 37.9 +0.1**
BR131 IAmb IAmb 02 13 39.5
comp=Z,11nm,1.3s
BR131 Keskin Array S 30.24 282 ⇑*e*P **P** **02 13 38.1 +0.3**
BRTR Keskin Array B 30.24 282 P **P** **02 13 37.7 -0.1**
comp=Z,1.3nm,0.6s,baz=92,slow=8.4,SNR=8.3
comp=Z,1.3nm,0.6s
AKASG Malin Array Be 32.06 303 P **P** **02 13 53.8 +0.3**
comp=Z,2.1nm,0.9s,baz=79,slow=7.7,SNR=9.8
comp=Z,2.1nm,0.9s
AKBB Malin Array Si 32.06 303 ⇑*e*P **P** **02 13 53.7 +0.2**
AKBB pmax pmax
comp=Z,33nm,3.2s
MNK Minsk 33.11 310 *i* P **P** **02 14 00.3 -2.4**
comp=E,1.0nm,0.8s
MNK *i* P **P** **02 14 00.3 -2.4**
comp=N,18nm,0.7s
MNK *i* P **P** **02 14 00.3 -2.4**
comp=Z,7.0nm,1.1s,baz=276
MNK *i* PP **PnPn** **02 15 10.7 -1.4**
MNK *i* PPP PPP 02 15 21.9
MNK *i* S **S** **02 19 18.2 -3.5**
MNK *i* SS **SnSn** **02 21 20.1 0.0**
MNK *i* SSS SSS 02 21 36.5
MNK *i* LQ LQ 02 25 00.0
MNK *i* LR LR 02 27 21.5
MNK *i* LRM MLR 02 28 49.9
comp=E,307nm,17.4s
MNK *i* LRM MLR 02 29 14.3
comp=Z,2µm,18.7s
MNK *i* LRM MLR 02 29 15.6
comp=N,893nm,20.0s
MNK Minsk 33.11 310 *i* P **P** **02 14 00.2 -2.4**
MNK *i* 02 15 10.6
MNK *i* 02 16 42.5
MNK *i* S **S** **02 19 18.2 -3.5**
MNK *i* SS **SnSn** **02 21 20.0 0.0**
MNK *i* 02 24 24.6
MNK pmax pmax
comp=N,18nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,1.0s
MNK MLR MLR
comp=E,307nm,17.0s
MNK MLR MLR
comp=Z,2µm,19.0s
MNK MLR MLR
comp=N,893nm,20.0s
BURAR Bucovina Array 34.84 298 P **P** **02 14 17.2 -0.7**
BURAR Bucovina Array 34.84 298 P **P** **02 14 18.8 +0.9**
BURAR pmax pmax
comp=Z,2.0nm,1.0s
BUR08 Bucovina Ar. S 34.85 298 P **P** **02 14 17.1 -0.9**
BUR08 IAmb IAmb 02 14 25.9
comp=Z,4.6nm,1.1s
FIA1 FINESS Array S 35.27 322 P **P** **02 14 21.5 +0.2**
FINES FINESS Array B 35.27 322 P **P** **02 14 21.8 +0.5**
comp=Z,1.5nm,0.6s,baz=109,slow=9.3,SNR=18
comp=Z,1.5nm,0.6s
VTS Vitosha 37.13 290 P **P** **02 14 38.0 +0.3**
VTS IAmb IAmb 02 14 43.7
comp=Z,10.0nm,1.5s
VTS Vitosha 37.13 290 P **P** **02 14 38.0 +0.3**
VTS pmax pmax
comp=Z,10.0nm,1.5s
ARCES ARCESS Array B 38.16 335 P **P** **02 14 46.3 +0.5**
comp=Z,1.1nm,0.4s,baz=106,slow=8.9,SNR=13
comp=Z,1.1nm,0.4s
ARCES ARCESS Array B 38.16 335 P **P** **02 14 46.4 +0.6**
HEH HeiHe 38.33 57 *e*P **P** **02 14 48.8 +1.3**
HEH pmax pmax
comp=Z,7.0nm,0.8s
VYHS Vyhne 38.96 300 *e*P **P** **02 14 54.3 +1.4**
VYHS Vyhne 38.96 300 *e*P **P** **02 14 54.3 +1.4**
FNA Florina 38.98 288 P **P** **02 14 52.3 -0.8**
FNA Florina 38.98 288 P **P** **02 14 52.3 -0.8**
FNA pmax pmax
comp=Z,4.0nm,1.4s
YAK Yakutsk 39.55 38 P **P** **02 14 57.6 +0.1**
comp=Z,11nm,0.4s,baz=90,slow=0.1,SNR=5.0
comp=Z,11nm,0.4s
YAK Yakutsk 39.55 38 ⇑*e*P **P** **02 14 58.8 +1.3**
YAK pmax pmax
comp=Z,50nm,1.0s
KRLC Kraliky 40.04 303 *e*P **P** **02 15 03.0 +1.1**
KRLC Kraliky 40.04 303 *e*P **P** **02 15 03.0 +1.1**
DPC Dobruska-Polom 40.29 304 *e*P **P** **02 15 04.8 +0.8**
DPC Dobruska-Polom 40.29 304 *e*P **P** **02 15 04.8 +0.8**
UPC Upice 40.47 304 *e*P **P** **02 15 06.9 +1.6**
UPC Upice 40.47 304 *e*P **P** **02 15 06.9 +1.6**
TIXI Tiksi 41.26 23 P **P** **02 15 12.3 +0.7**
comp=Z,3.8nm,0.4s,baz=41,slow=0.1,SNR=22
TIXI PcP **PcP** **02 17 09.2 -0.9**
comp=Z,3.4nm,0.7s,baz=180,slow=0.4,SNR=5.8
comp=Z,3.8nm,0.4s
TIXI Tiksi 41.26 23 P **P** **02 15 11.7 +0.1**
TIXI IAmb IAmb 02 15 13.4
comp=Z,8.5nm,0.8s
TIXI Tiksi 41.26 23 ⇓*i*P **P** **02 15 12.8 +1.2**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
KLR Kul'dur 41.27 58 P **P** **02 15 12.4 +0.4**
comp=Z,0.8nm,0.4s,baz=298,slow=7.5,SNR=5.3
comp=Z,0.8nm,0.4s
KLR Kul'dur 41.27 58 ⇓*e*P **P** **02 15 12.7 +0.7**
KLR pmax pmax
comp=Z,5.0nm,1.5s
BRG Berggiesshubel 41.71 305 *e*P **P** **02 15 16.7 +1.1**
BRG Amp 02 15 20.5
comp=Z,4.4nm,0.9s
BRG Berggiesshubel 41.71 305 *e*P **P** **02 15 16.6 +1.1**
BRG pmax pmax
comp=Z,4.0nm,0.9s
CKRC Cesky Krumlov 41.85 302 *e*P **P** **02 15 17.3 +0.5**
KSRS Korea Array 41.89 76 P **P** **02 15 15.7 -1.4**
comp=Z,0.6nm,0.4s,baz=287,slow=6.3,SNR=2.1
comp=Z,0.6nm,0.4s
CLL Collm 42.22 306 *i* P **P** **02 15 19.9 +0.2**
CLL Collm 42.22 306 *i* P **P** **02 15 19.9 +0.2**
GEC2 GERESS Array S 42.24 302 P **P** **02 15 20.1 0.0**
GEC2 GERESS Array S 42.24 302 P **P** **02 15 20.1 0.0**
GEC2 pmax pmax
comp=Z,4.0nm,1.0s
GERES GERESS Array B 42.24 302 P **P** **02 15 20.5 +0.5**

comp=Z,3.0nm,0.8s,baz=69,slow=7.6,SNR=17
comp=Z,3.0nm,0.8s

GERES	GERESS Array B	42.24	302	P		P	02 15 20.8	+0.7
GERES	GERESS Array B	42.24	302	P		P	02 15 20.8	+0.7
KHC	Kasperske Hory	42.26	302	*eP*		P	02 15 20.3	+0.1
KHC	Kasperske Hory	42.26	302	*eP*		P	02 15 21.3	+1.1
KHC				pmax	pmax			

comp=Z,11nm,1.2s

NB2	NORSAR Subarra	42.34	320	P		P	02 15 20.7	0.0

comp=Z,0.9nm,0.5s,baz=90,slow=8.6

NOA	NORSAR Array B	42.34	320	P		P	02 15 20.4	-0.2

comp=Z,0.9nm,0.5s,baz=91,slow=8.0,SNR=8.5
comp=Z,0.9nm,0.5s

FUORN	Ofenpass-Fuorn	45.04	300	P		P	02 15 41.5	-1.3
JOW	Kunigami	46.94	89	P		P	02 15 56.3	-1.5

comp=Z,10nm,0.6s,baz=98,slow=22,SNR=2.1
comp=Z,10nm,0.6s

SENIN	Lac Senin/Sane	47.07	300	P		P	02 15 58.2	-0.6
MAJO	Matsushiro	49.79	73	*eP*		P	02 16 18.2	-1.5
MAJO				pmax	pmax			

comp=Z,16nm,2.1s

MJAR	Matsushiro Arr	49.80	73	P		P	02 16 19.1	-0.6

comp=Z,3.4nm,0.8s,baz=292,slow=9.0,SNR=7.5
comp=Z,3.4nm,0.8s

ERM	Erimo	51.04	64	*ceP*		P	02 16 31.7	+2.8
ERM				pmax	pmax			

comp=Z,107nm,1.7s

ESDC	Sonseca Array	57.28	296	P		P	02 17 14.2	-0.4

comp=Z,1.0nm,0.7s,baz=53,slow=6.8,SNR=11
comp=Z,1.0nm,0.7s

ESDC	Sonseca Array	57.28	296	P		P	02 17 13.9	-0.7
A36M	Sachs Harbour	66.94	6	P		P	02 18 19.9	+1.0
A36M				IAmb	IAmb		02 18 20.5	

comp=Z,7.1nm,0.8s

DBIC	Dimbokro	76.79	267	P		P	02 19 17.8	-1.1

comp=Z,2.4nm,0.5s,baz=40,slow=7.5,SNR=3.4
comp=Z,2.4nm,0.5s

DBIC	Dimbokro	76.79	267	P		P	02 19 18.0	-0.9
DBIC	Dimbokro	76.79	267	P		P	02 19 18.0	-0.9
DBIC				pmax	pmax			

comp=Z,15nm,1.4s

LBTB	Lobatse	78.98	223	P		P	02 19 30.8	-0.1
LBTB	Lobatse	78.98	223	P		P	02 19 30.8	-0.1
LBTB				pmax	pmax			

comp=Z,14nm,1.2s

BOSA	Boshof	82.09	221	P		P	02 19 46.5	-1.0

comp=Z,5.1nm,1.1s,baz=90,slow=5.1,SNR=2.0
comp=Z,5.1nm,1.1s

WB0	Warramunga Arr	82.53	124	P		P	02 19 49.4	-0.4
WRA	Warramunga Arr	82.62	124	P		P	02 19 49.2	-1.1

comp=Z,1.7nm,0.8s,baz=328,slow=5.2,SNR=13
comp=Z,1.7nm,0.8s

WRA	Warramunga Arr	82.62	124	P		P	02 19 48.8	-1.6
WB2	Warramunga Arr	82.63	124	P		P	02 19 50.1	-0.3
WB2				IAmb	IAmb		02 19 55.0	

comp=Z,5.7nm,1.2s

PMG	Port Moresby	83.97	108	P		P	02 19 56.8	-0.6

comp=Z,3.7nm,0.3s,baz=242,slow=3.6,SNR=4.0
comp=Z,3.7nm,0.3s

ASAR	Alice Springs	85.11	127	P		P	02 20 01.4	-1.7

comp=Z,1.8nm,0.8s,baz=320,slow=5.4,SNR=20
comp=Z,1.8nm,0.8s

IDC ***14*** *02:07:36.8±3.7, 42.°61S×173.°97E, h0km, mb3.5/2, mbtmp3.7/3, ML4.8/1, Error ellipse: s-maj=84.2km s-min=48.1km az=140.0*

NOU ***14*** *02:07:42.2, 42.°70S×173.°60E, h0km, MLv4.6/9, South Island, New Zealand*

NEIC ***14*** *02:07:43.4±1.9, 42.°52S±0.°05×173.°33E±0.°08, h13km±3km, Error ellipse: s-maj=10.1km s-min=5.4km az=126.0*

WEL ***14*** *02:07:44.4±0.3, 42.°S±2.°×17.°3E±.°, h5km, M4.4/6, ML4.6/6, MLv4.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=128.1*

ISC 14 02:07:44.4±0.9, 42.°49S±0.°03×173.°29E±0.°03, h20km±6km, n154, σ1§38/160, mb3.8/4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.20	67	Pg		Pg	02 07 49.3	-0.2
KHZ	Kahutara	0.20	67	P		Pg	02 07 49.4	-0.1
KHZ				S		Sg	02 07 53.5	+0.5
GVZ	Greta Valley S	0.51	202	Pg		Pg	02 07 55.6	+0.8
GVZ	Greta Valley S	0.51	202	P		Pg	02 07 55.7	+0.8
GVZ				S		Sb	02 08 04.5	+2.7
THZ	Tophouse	0.78	338	Pg		Pb	02 07 58.1	-1.4
THZ	Tophouse	0.78	338	P		Pb	02 07 58.2	-1.2
THZ				S		Sb	02 08 07.8	-1.9
LTZ	Lake Taylor	0.81	249	Pg		Pg	02 07 58.8	-1.5
LTZ	Lake Taylor	0.81	249	P		Pg	02 07 59.0	-1.3
LTZ				S		Sb	02 08 10.6	+0.3
AMCZ	Amberley	0.83	214	P		Pg	02 08 01.4	+0.7
BSWZ	Blackbirch Sta	0.89	29	Pg		Pg	02 08 01.1	-0.7
BSWZ	Blackbirch Sta	0.89	29	P		Pb	02 08 01.6	+0.5
CMWZ	Cape Campbell	1.01	43	Pg		Pn	02 08 04.8	+1.3
CMWZ	Cape Campbell	1.01	43	P		Pn	02 08 04.9	+1.4
CMWZ				S		Sg	02 08 16.6	-0.8
MRNZ	Matariki Terra	1.16	340	P		Pb	02 08 05.0	-0.9
TUWZ	Tuamarina	1.17	25			Pg	02 08 06.0	-1.1
TUWZ	Tuamarina	1.17	25	P		Pb	02 08 06.1	+0.2
OKCZ	Okains Bay	1.24	188	P		Pn	02 08 07.3	+0.6
OXZ	Oxford	1.24	227			Pg	02 08 06.3	-2.2
OXZ	Oxford	1.24	227	P		Pg	02 08 06.7	-1.9
NNZ	Nelson	1.27	3	Pn		Pg	02 08 07.2	-1.9
MQZ	McQueen's Vall	1.30	201	Pn		Pn	02 08 07.1	-0.4
MQZ	McQueen's Vall	1.30	201	P		Pn	02 08 07.3	-0.2
DSZ	Denniston Nort	1.34	303	P		Pn	02 08 08.4	+0.4
INZ	Inchbonnie	1.39	260	P		Pn	02 08 09.1	+0.4
AKCZ	Akaroa Harbour	1.41	191	P		Pn	02 08 09.1	+0.2
TCW	Tory Channel	1.48	30	P		Pn	02 08 10.9	+1.0
TKNZ	Takaka Hill	1.48	350	P		Pb	02 08 10.7	-0.6
RACZ	Rakaia	1.50	214	P		Pn	02 08 10.0	-0.2
RACZ				S		Sn	02 08 29.7	+0.6
SNZO	South Karori	1.58	42	Pn		Pn	02 08 11.8	+0.4
WEL	Wellington	1.63	43	P		Pn	02 08 12.7	+0.7
PLWZ	Palliser	1.73	58	Pn		Pn	02 08 13.1	-0.3
PLWZ	Palliser	1.73	58	P		Pn	02 08 13.6	+0.2
DUWZ	D'Urville Isla	1.75	16	P		Pb	02 08 15.7	-0.2
QRZ	Quartz Range	1.76	341	Pn		Pb	02 08 14.8	-1.2
QRZ	Quartz Range	1.76	341	P		Pb	02 08 15.2	-0.8
WACZ	Wakanui South	1.80	216	P		Pn	02 08 14.1	-0.2
MSWZ	Moikau Station	1.81	54	Pn		Pn	02 08 14.4	-0.2
CAW	Cannon Point	1.92	44	P		Pn	02 08 16.4	+0.4
PAWZ	Paruwai Farm	1.94	56	P		Pn	02 08 16.2	-0.1
WVZ	Waitaha Valley	1.97	252	P		Pn	02 08 17.3	+0.6
KIW	Kapiti Island	2.03	37	P		Pn	02 08 18.4	+0.9
RPZ	Rata Peaks	2.05	233	Pn		Pn	02 08 17.7	-0.1

206nm,0.3s,baz=64,slow=3.8,SNR=156

RPZ				Sn		Sn	02 08 42.3	-0.4

90nm,0.3s,baz=341,slow=22,SNR=16
584nm,0.4s

RPZ	Rata Peaks	2.05	233	P		Pn	02 08 17.7	-0.1
RPZ	Rata Peaks	2.05	233	P		Pn	02 08 17.7	-0.1
TRWZ	Traveller	2.09	59	P		Pn	02 08 17.9	-0.5
ARCZ	Arundel	2.12	226	P		Pn	02 08 18.7	-0.2
OGWZ	Otaki Gorge	2.19	41	P		Pn	02 08 20.1	+0.4
HOWZ	Holdsworth Sta	2.30	47	P		Pn	02 08 21.2	-0.1
GCSZ	Gaunt Creek Bo	2.33	248	P		Pn	02 08 22.7	+1.0
MRZ	Mangatainoka R	2.51	44	Pn		Pn	02 08 23.8	-0.3
MRZ	Mangatainoka R	2.51	44	P		Pn	02 08 23.9	-0.1
TMZ	Timaru	2.52	221	P		Pn	02 08 24.0	-0.3
CPWZ	Castlepoint	2.69	55	P		Pn	02 08 26.3	-0.3
OHWZ	Ohakea	2.74	34	P		Pn	02 08 28.9	+1.6
FOZ	Fox Glacier	2.75	247	Pn		Pn	02 08 26.7	-0.8
FOZ	Fox Glacier	2.75	247	P		Pn	02 08 28.8	+1.3
PRWZ	Pori Road	2.79	47	P		Pn	02 08 27.3	-0.6
POWZ	Post Office Ro	2.80	42	P		Pn	02 08 28.0	-0.1
BFZ	Birch Farm	2.86	52	Pn		Pn	02 08 27.3	-1.6
BFZ	Birch Farm	2.86	52	P		Pn	02 08 28.1	-0.8
LBZ	Lake Benmore	2.95	229	Pn		Pn	02 08 30.2	0.0
LBZ	Lake Benmore	2.95	229	P		Pn	02 08 30.1	-0.1
WAZ	Wanganui	3.02	26	P		Pb	02 08 35.3	-2.2
DVHZ	Dannevirke	3.08	46	P		Pn	02 08 31.0	-0.9
NMEZ	Namu Road	3.11	8	P		Pb	02 08 36.3	-2.7
ANWZ	Angora Road	3.14	51	P		Pn	02 08 31.8	-0.9
LREZ	Lake Rotokare	3.14	16	P		Pb	02 08 38.5	-1.1
ODZ	Otahua Downs	3.19	216	Pn		Pn	02 08 32.7	-0.8
ODZ	Otahua Downs	3.19	216	P		Pn	02 08 33.1	-0.4
ODZ	Otahua Downs	3.19	216	P		Pn	02 08 32.9	-0.6
KHEZ	Kahui Hut	3.24	10	P		Pn	02 08 36.9	+2.7
NBEZ	Newall Road No	3.25	8	P		Pn	02 08 37.3	+3.0
NEZ	North Egmont	3.27	11	P		Pn	02 08 37.9	+3.1
PKE	Pukeiti	3.34	9	P		Pn	02 08 38.3	+2.8
PRHZ	Porangahau	3.36	50	P		Pn	02 08 34.4	-1.4
DREZ	Durham Road	3.37	12	P		Pn	02 08 39.2	+3.3
PNHZ	Pukenui	3.38	41	P		Pn	02 08 35.3	-0.8
WPHZ	Waipukurau	3.39	45	P		Pn	02 08 35.8	-0.4
MHEZ	Mangahewa	3.50	13	P		Pn	02 08 40.6	+2.9
VRZ	Vera Road	3.54	19	P		Pn	02 08 41.0	+2.7
MOVZ	Moawhango	3.60	32	P		Pn	02 08 39.6	+0.5
WNVZ	Wahianoa	3.61	30	P		Pn	02 08 41.0	+1.6
PXZ	Pawanui	3.64	49	P		Pn	02 08 38.2	-1.5
DRZ	Dome Shelter	3.65	29	P		Pn	02 08 41.8	+1.8
WHVZ	Whangaehu Hut	3.65	29	P		Pn	02 08 41.4	+1.4
JCZ	Jackson Bay	3.65	243	P		Pn	02 08 41.9	+2.0
JCZ	Jackson Bay	3.65	243	P		Pn	02 08 41.0	+1.1
BHHZ	Black Hill Sta	3.66	36	P		Pn	02 08 40.5	+0.5
FWVZ	Far West T-bar	3.66	29	P		Pn	02 08 41.4	+1.3
TUVZ	Tukino	3.68	30	P		Pn	02 08 41.7	+1.3
NGZ	Ngauruhoe	3.75	29	P		Pn	02 08 42.5	+1.2
SNVZ	South Ngauruho	3.75	29	P		Pn	02 08 42.8	+1.4
OTVZ	Oturere	3.78	29	P		Pn	02 08 43.3	+1.6
TWVZ	Taurewa	3.79	26	P		Pn	02 08 43.0	+1.2
NNVZ	North Ngauruho	3.79	28	P		Pn	02 08 43.8	+1.9
WTVZ	West Tongariro	3.80	28	P		Pn	02 08 42.9	+1.0
KAHZ	Kahuranaki	3.82	46	P		Pn	02 08 40.5	-1.7
ETVZ	East Tongariro	3.82	29	P		Pn	02 08 43.4	+1.1
KRVZ	Karewarewa	3.83	28	P		Pn	02 08 44.3	+1.9
TMVZ	Te Maari	3.84	29	P		Pn	02 08 43.9	+1.4
NTVZ	North Tongarir	3.84	29	P		Pn	02 08 43.9	+1.4
WKZ	Wanaka	3.88	232	Pn		Pn	02 08 41.8	-1.2
WKZ	Wanaka	3.88	232	P		Pn	02 08 42.6	-0.4
HHSZ	Highcliff Hill	3.91	209	P		Pn	02 08 43.1	-0.2
EAZ	Earnscleugh	3.98	225	P		Pn	02 08 43.6	-0.6
MCHZ	McNeill Hill	3.99	41	P		Pn	02 08 43.5	-0.9
BKZ	Black Stump Fm	4.11	37	Pn		Pn	02 08 44.8	-1.5
BKZ	Black Stump Fm	4.11	37	P		Pn	02 08 45.8	-0.4
HIZ	Hauiti	4.15	17	Pn		Pn	02 08 48.4	+1.8
HIZ	Hauiti	4.15	17	P		Pn	02 08 48.9	+2.2
HIZ	Hauiti	4.15	17	P		Pn	02 08 48.9	+2.2
ARHZ	Aropaoanui	4.28	42	P		Pn	02 08 49.8	+1.4
TUZ	Tuapeka	4.35	216	P		Pn	02 08 49.1	-0.3
TLZ	Tolley Road	4.50	23	P		Pn	02 08 53.8	+2.3
MTHZ	Maungataniwha	4.53	38	P		Pn	02 08 52.8	+0.9
MLZ	Mavora Lakes	4.71	231	Pn		Pn	02 08 53.5	-0.9
MLZ	Mavora Lakes	4.71	231	P		Pn	02 08 53.9	-0.6
RTZ	Ruatahuna	4.78	37	P		Pn	02 08 54.2	-1.3
KNZ	Kokohu	4.80	45	P		Pn	02 08 54.2	-1.4
MHGZ	Mahia Peninsul	4.83	48	P		Pn	02 08 55.1	-1.0
OMRZ	Omania	4.97	29	P		Pn	02 09 05.1	+7.1
SYZ	Scrubby Hill	5.02	215	P		Pn	02 08 58.6	+0.1
SYZ	Scrubby Hill	5.02	215	P		Pn	02 08 58.8	+0.2
TOZ	Tahuroa Road	5.05	20	P		Pn	02 08 60.0	+1.0
WHZ	Wether Hill Ro	5.13	227	Pn		Pn	02 08 58.2	-1.9
URZ	Urewera	5.13	36	P		Pn	02 09 00.4	+0.2
DCZ	Deep Cove	5.33	234	Pn		Pn	02 09 01.4	-1.5
AWAZ	Awhitu Peninsu	5.52	11	P		Pn	02 09 07.6	+2.1
MKAZ	Moumakai	5.57	16	P		Pn	02 09 07.3	+1.1
TWGZ	Tauwhareparae	5.60	41	P		Pn	02 09 07.3	+0.6
RUGZ	Raukumara Rang	5.63	38	P		Pn	02 09 05.7	-1.4
WTAZ	Waiatarua	5.64	10	P		Pn	02 09 09.5	+2.4
ETAZ	East Tamaki Re	5.67	13	P		Pn	02 09 09.5	+1.9
APZ	The Paps	5.76	219	P		Pn	02 09 08.1	-0.6
HAZ	Te Kaha	5.85	38	P		Pn	02 09 08.4	-1.6
MBAZ	Motutapu North	5.85	13	P		Pn	02 09 12.2	+2.3
WIAZ	Waiheke Island	5.87	15	P		Pn	02 09 12.2	+2.0
PKGZ	Pakihiroa	5.88	40	P		Pn	02 09 09.3	-1.2
PYZ	Puysegur Point	6.00	230	Pn		Pn	02 09 10.6	-1.4
PYZ	Puysegur Point	6.00	230	P		Pn	02 09 13.1	+1.1
PYZ	Puysegur Point	6.00	230	P		Pn	02 09 11.7	-0.3
ABAZ	Army Bay	6.00	12	P		Pn	02 09 14.2	+2.1
KUZ	Kuaotunu	6.04	19	P		Pn	02 09 14.5	+1.9
KUZ	Kuaotunu	6.04	19	P		Pn	02 09 14.0	+1.4
MXZ	Matakaoa Point	6.25	40	Pn		Pn	02 09 14.3	-1.1
GRZ	Great Barrier	6.45	16	P		Pn	02 09 21.3	+3.0
OUZ	Omahuta	7.26	2	Pn		Pn	02 09 29.5	+0.1
OUZ	Omahuta	7.26	2	P		Pn	02 09 32.1	+2.7
ASAR	Alice Springs	37.56	287	P		P	02 14 56.5	-1.0

0.4nm,0.6s,baz=131,slow=7.4,SNR=7.0
0.4nm,0.6s

WB2	Warramunga Arr	39.70	292	P		P	02 15 14.8	-0.7
WB2				IAmb	IAmb		02 15 49.3	

comp=Z,11nm,1.4s

WRA	Warramunga Arr	39.71	292	P		P	02 15 15.6	+0.1

comp=Z,0.7nm,0.9s,baz=129,slow=8.4,SNR=6.4
comp=Z,0.7nm,0.9s

WRA	Warramunga Arr	39.71	292	P		P	02 15 15.1	-0.4
WRA				IAmb	IAmb		02 15 20.9	

comp=Z,0.1nm,1.0s

WB0	Warramunga Arr	39.79	292	P		P	02 15 15.9	-0.3
WB0				IAmb	IAmb		02 15 45.0	

comp=Z,8.6nm,1.5s

FINES	FINESS Array B	152.75	325	PKPbc		PKPdf	02 27 35.3	+3.7

comp=Z,1.5nm,0.8s,baz=60,slow=5.5,SNR=1.5

IDC ***14*** *02:12:12.1±0.3, 51.°04N×178.°86E, h0km, mb4.9/50, mbtmp4.9/55, ML5.5/3, MS5.1/14, Error ellipse: s-maj=10.4km s-min=8.4km az=162.0*

AEIC ***14*** *02:12:14.9±2.4, 50.°95N±0.°04×178.°72E±0.°07, h11km±3km, Error ellipse: s-maj=7.6km s-min=4.6km az=136.0*

BJI ***14*** *02:12:15.5±0.0, 51.°32N×178.°76E, h32km, mb5.1/74, mB5.7/42, Ms5.5/57, Ms7 5.3/57*

MOS ***14*** *02:12:16.4±1.1, 51.°05N×178.°91E, h43km, mb5.4/91, MS5.3/15, Error ellipse: s-maj=6.9km s-min=5.2km az=118.2*

NEIC ***14*** *02:12:17.5±2.0, 51.°07N±0.°08×178.°84E±0.°05, h34km±3km, mb5.4/525, Ms_20 5.2/160, Mww5.6, ML5.4(AEIC), Error ellipse: s-maj=12.0km s-min=4.7km az=174.0*

GCMT ***14*** *02:12:19.5±0.2, 51.°00N±0.°01×178.°86E±0.°03, h21km, MW5.7/146, Moment Tensor Solution. s76,c105; s146,c251; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr3.56±.14; Mθθ-3.39±.09; Mϕϕ-0.17±.08; Mrθ2.74±.15; Mθϕ-0.70±.04; Mϕr1.18±.17; Best double couple: M=4.63500×10^17 NP1:ϕ=71.00000°, δ=65.00000°, λ=84.00000°. NP2:ϕ=265.00000°, δ=26.00000°, λ=103.00000°. Principal axes: T 4.6760, Plg69.0000°, Azm329.0000°; N -0.0890, Plg6.0000°, Azm74.0000°; P -4.5930, Plg20.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *02:12:22, 51.°29N×178.°86E, h26km, Moment Tensor Solution. Duration: 10§6 Moment tensor: Scale 10^17 Nm; Mrr1.69; Mθθ-1.58; Mϕϕ-0.11; Mrθ2.58; Mθϕ-0.81; Mϕr0.56; Fault plane solution: M=3.21000×10^17 NP1: ϕ=234.00000°, δ=18.00000°, λ=69.00000°. NP2:ϕ=76.00000°, δ=73.00000°, λ=97.00000°. Principal axes: T 3.1167, Plg61.0000°, Azm356.0000°; N 0.1881, Plg6.0000°, Azm254.0000°; P -3.3049, Plg28.0000°, Azm161.0000°;*

ISC 14 02:12:16.8±0.3, 51.°00N±0.°04×178.°85E±0.°03, h29km±1km, h198km; pP-P, n1322, σ1§28/1136, mb5.3/432, MS5.2/125, 57C-46D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AMKA	Amchitka	0.47	37			Pb	02 12 26.3	-0.6
AMKA						Sn	02 12 34.0	-1.0
KIWB	Kanaga Island	2.65	70			Pn	02 12 57.9	+0.4
ADK	Adak	2.93	71	Pn		Pn	02 13 02.1	+0.7
ADK	Adak	2.93	71	P		Pn	02 13 02.7	+1.3
ADK	Adak	2.93	71	P		Pn	02 13 02.1	+0.7
GSTR	Great Sitkin T	3.36	69	Pn		Pn	02 13 06.8	-0.6
SHEM	Shemya Is, Ala	3.41	302	Pn		Pn	02 13 07.3	-0.7

248nm,0.3s,baz=130,slow=0.7,SNR=41

SHEM				Sn		Sb	02 13 53.9	-3.7

201nm,0.3s,baz=122,slow=23,SNR=9.5
354nm,0.3s

SMY	Shemya	3.41	302	Pn		Pn	02 13 08.2	+0.2
SMY	Shemya	3.41	302	P		Pn	02 13 08.2	+0.2
NIKH	Nikolski High	7.85	71	Pn		Pn	02 14 08.0	-0.9
NIKH	Nikolski High	7.85	71	P		Pn	02 14 08.6	-0.3

baz=260

SPIA	Saint Paul Isl	8.90	42			Sn	02 16 07.9	+5.4
SPIA	Saint Paul Isl	8.90	42	Pn		Pn	02 14 24.8	+1.5
SPIA	Saint Paul Isl	8.90	42	P		Pn	02 14 23.9	+0.6

baz=231

UNV	Unalaska Valle	9.39	67	Pn		Pn	02 14 30.0	-0.1
UNV	Unalaska Valle	9.39	67	P		Pn	02 14 30.6	+0.5

baz=258,SNR=11

AKUT	Akutan	9.88	66	Pn		Pn	02 14 37.1	+0.4
FALS	False Pass	11.37	63	Pn		Pn	02 14 57.7	+0.6
FALS	False Pass	11.37	63	P		Pn	02 14 57.6	+0.4

baz=257

PET	Petropavlovsk	12.60	287	Pn		Pn	02 15 12.7	-1.2
PET	Petropavlovsk	12.60	287	*eP*		Pn	02 15 16.6	+2.7
PET				*eS*		Sn	02 17 38.9	+5.8
PET				pmax	pmax			

comp=Z,65nm,1.1s

PET				pmax	pmax			

comp=Z,2µm,12.2s

PET				MLR	MLR			

comp=Z,4µm,19.0s

SDPT	Sand Point	13.13	63	Pn		Pn	02 15 21.6	+0.5
SDPT	Sand Point	13.13	63	P		Pn	02 15 20.9	-0.2

baz=259

PEA0B	Petropavlovsk-	13.18	287	Pn		Pn	02 15 21.5	-0.3
PEA0B	Petropavlovsk-	13.18	287	*ceP*		Pn	02 15 23.4	+1.6
PETK	Petropavlovsk-	13.18	287	Pn		Pn	02 15 21.9	+0.1

comp=Z,31nm,1.0s,baz=86,slow=12,SNR=25

PETK				Sn		Sn	02 17 43.8	-3.4

comp=Z,0.5nm,0.3s,baz=114,slow=16,SNR=0.7

PETK				LR	LR		02 21 18.9	

comp=Z,3µm,18.6s,baz=97,slow=42

CNBA	Chernabura Isl	13.55	65	Pn		Pn	02 15 26.0	-0.8
CHNA	Chernabura Isl	13.55	65	P		Pn	02 15 25.9	-0.9

baz=262

SKR	Severo-Kuril's	14.36	278	*iP*		Pn	02 15 39.3	+1.4
CHGN	Chignik	14.46	60	P		Pn	02 15 38.9	-0.3

baz=258

P16K	Nushagak River	15.46	50	P		Pn	02 15 52.9	+0.3

baz=249

O16K	Kokwok River B	15.63	48	P		Pn	02 15 55.2	+0.5

baz=247,SNR=16

N16K	Nishlik Lake	15.70	44	P		Pn	02 15 55.7	0.0

baz=243

ANM	Nome	15.92	25	P		Pn	02 15 58.8	+0.4

baz=219

CHIR	Chirikof Islan	15.93	62	P		Pn	02 15 58.8	+0.2

baz=263

Q16K	King Salmon	16.00	52	P		Pn	02 15 59.6	+0.1

baz=252

O17K	Koliganek Bris	16.16	48	P		Pn	02 16 01.2	-0.4

baz=248

Q17K	Contact Creek	16.26	54	P		Pn	02 16 03.1	+0.1

baz=254,SNR=11

P17K	Kvichak River	16.27	50	P		Pn	02 16 03.1	+0.2

baz=251

Q18K	Katmai Hardscr	16.81	53	P		Pn	02 16 10.1	+0.1

baz=254,SNR=15

SII	Sitkinak Islan	16.82	60	Pn		Pn	02 16 08.0	-1.9
SII				IAmb	IAmb		02 16 17.0	

comp=Z,

CUT	**Chulitna**	**20.21**	**44**	P	**P**	**02 16 48.0**	**-1.0**
	baz=250,SNR=17						
KTH	**Kantishna Hill**	**20.37**	**40**	P	**P**	**02 16 51.1**	**+0.3**
KTH				IAmb	IAmb	02 16 57.9	
	comp=Z,222nm,0.8s						
PMR	**Palmer**	**20.46**	**46**	P	**P**	**02 16 51.2**	**-0.5**
	baz=253,SNR=9.9						
IMAR	**Indian Mountai**	**20.48**	**33**	P	**P**	**02 16 52.3**	**+0.3**
BPAW	**Bear Paw Mtn.**	**20.57**	**39**	IAmb	IAmb	02 17 07.9	
	comp=Z,17nm,1.0s						
BPAW	**Bear Paw Mtn.**	**20.57**	**39**	P	**P**	**02 16 52.3**	**-0.6**
	baz=245,SNR=31						
TRF	**Thorofare Moun**	**20.59**	**41**	IAmb	IAmb	02 17 10.1	
	comp=Z,318nm,1.2s						
TRF	**Thorofare Moun**	**20.59**	**41**	P	**P**	**02 16 51.7**	**-1.6**
	baz=247,SNR=34						
GHO	**Glory Hole Cre**	**20.61**	**46**	IAMs_20	IAMs_20	02 26 03.1	
	comp=Z,10µm,19.0s						
H21K	**Melozitna Rive**	**20.63**	**34**	P	**P**	**02 16 53.2**	**-0.4**
	baz=238						
PWL	**Port Wells**	**20.64**	**49**	IAmb	IAmb	02 17 04.2	
	comp=Z,84nm,0.6s						
PWL	**Port Wells**	**20.64**	**49**	P	**P**	**02 16 53.2**	**-0.6**
	baz=256						
I21K	**Tanana**	**20.69**	**36**	P	**P**	**02 16 53.3**	**-0.8**
	baz=241						
KNK	**Knik Glacier**	**20.73**	**47**	IAMs_20	IAMs_20	02 25 33.2	
	comp=Z,13µm,22.0s						
KNK	**Knik Glacier**	**20.73**	**47**	P	**P**	**02 16 53.9**	**-0.7**
	baz=255,SNR=11						
G21K	**Allakaket**	**20.86**	**31**	P	**P**	**02 16 55.6**	**-0.5**
	baz=236,SNR=59						
SML	**Sawmill**	**20.89**	**46**	IAmb	IAmb	02 17 07.4	
	comp=Z,106nm,0.7s						
SML	**Sawmill**	**20.89**	**46**	P	**P**	**02 16 55.7**	**-0.7**
	baz=254,SNR=17						
P23K	**Montague Islan**	**20.91**	**51**	P	**P**	**02 16 55.5**	**-1.1**
	baz=260						
MLY	**Manley**	**21.08**	**37**	P	**P**	**02 16 58.0**	**-0.5**
	baz=243,SNR=33						
WAT1	**Susitna Watana**	**21.10**	**43**	P	**P**	**02 16 58.2**	**-0.5**
	baz=251						
M23K	**Glacier View**	**21.16**	**46**	P	**P**	**02 16 58.1**	**-1.3**
	baz=255,SNR=29						
MCK	**McKinley**	**21.25**	**41**	P	**P**	**02 16 58.8**	**-1.6**
MCK				IAmb	IAmb	02 17 20.1	
	comp=Z,127nm,1.0s						
MCK				IAMs_20	IAMs_20	02 26 07.0	
	comp=Z,10µm,20.0s						
MCK	**McKinley**	**21.25**	**41**	P	**P**	**02 16 58.7**	**-1.6**
	baz=248,SNR=14						
MCK	**McKinley**	**21.25**	**41**	P	**P**	**02 16 58.8**	**-1.6**
MCK				pmax	pmax		
	comp=Z,127nm,1.0s						
MCK				MLR	MLR		
	comp=Z,10µm,20.0s						
H22K	**Ishtalitna Cre**	**21.26**	**34**	P	**P**	**02 17 00.4**	**+0.1**
	baz=240,SNR=36						
F21K	**Alatna River**	**21.28**	**30**	P	**P**	**02 17 00.6**	**0.0**
	baz=234						
Q23K	**Middleton Isla**	**21.35**	**53**	P	**P**	**02 17 00.3**	**-1.0**
	baz=262						
SCM	**Sheep Creek Mo**	**21.36**	**46**	IAmb	IAmb	02 17 06.7	
	comp=Z,141nm,0.9s						
SCM	**Sheep Creek Mo**	**21.36**	**46**	P	**P**	**02 16 59.7**	**-1.8**
	baz=255,SNR=24						
KUR	**Kuril'sk**	**21.37**	**266**	*i*eP	**P**	**02 17 03.2**	**+1.6**
WAT6	**Susitna Watana**	**21.38**	**44**	P	**P**	**02 16 59.9**	**-2.0**
	baz=253,SNR=53						
HIN	**Hinchinbrook I**	**21.43**	**51**	IAMs_20	IAMs_20	02 26 07.9	
	comp=Z,8µm,21.0s						
NEA2	**Nenana**	**21.53**	**39**	P	**P**	**02 17 02.7**	**-0.6**
	baz=246,SNR=67						
I23K	**Minto, Yukon-K**	**21.66**	**37**	P	**P**	**02 17 04.4**	**-0.1**
	baz=244,SNR=23						
DHY	**Denali Highway**	**21.69**	**43**	IAmb	IAmb	02 17 08.5	
	comp=Z,172nm,0.8s						
DHY	**Denali Highway**	**21.69**	**43**	P	**P**	**02 17 04.6**	**-0.6**
	baz=252,SNR=76						
G22K	**Bettles**	**21.75**	**32**	P	**P**	**02 17 05.0**	**-0.6**
	baz=238,SNR=20						
EYAK	**Cordova Ski Ar**	**21.82**	**50**	P	**P**	**02 17 05.7**	**-0.7**
EYAK	**Cordova Ski Ar**	**21.82**	**50**	P	**P**	**02 17 04.7**	**-1.7**
	baz=260						
EYAK	**Cordova Ski Ar**	**21.82**	**50**	P	**P**	**02 17 05.2**	**-1.2**
F22K	**John River**	**21.86**	**30**	P	**P**	**02 17 05.9**	**-0.8**
	baz=235						
WRH	**Wood River Hil**	**21.88**	**39**	P	**P**	**02 17 03.6**	**-3.3**
H23K	**Yukon River**	**21.89**	**35**	IAmb	IAmb	02 17 25.5	
	comp=Z,148nm,1.1s						
H23K	**Yukon River**	**21.89**	**35**	P	**P**	**02 17 06.8**	**-0.3**
	baz=243,SNR=28						
DIV	**Divide**	**21.92**	**49**	IAmb	IAmb	02 17 17.2	
	comp=Z,71nm,0.6s						
KLU	**Klutina**	**21.93**	**48**	IAmb	IAmb	02 17 18.0	
	comp=Z,74nm,0.6s						
KLU				IAMs_20	IAMs_20	02 26 19.0	
	comp=Z,9µm,18.0s						
KLU	**Klutina**	**21.93**	**48**	P	**P**	**02 17 07.5**	**-0.1**
	baz=258,SNR=18						
M24K	**Tolsona, Glenn**	**21.95**	**46**	IAMs_20	IAMs_20	02 26 47.7	
	comp=Z,7µm,19.0s						
M24K	**Tolsona, Glenn**	**21.95**	**46**	P	**P**	**02 17 06.8**	**-1.1**
	baz=256,SNR=31						
MDM	**Murphy Dome**	**22.01**	**38**	IAmb	IAmb	02 17 19.0	
	comp=Z,109nm,0.8s						
TCOL	**CIGO, UAF Yank**	**22.12**	**38**	IAmb	IAmb	02 17 27.8	
	comp=Z,108nm,0.8s						
TCOL	**CIGO, UAF Yank**	**22.12**	**38**	P	**P**	**02 17 09.0**	**-0.5**
	baz=247,SNR=21						
COLA	**College**	**22.13**	**38**	P	**P**	**02 17 09.1**	**-0.5**
COLA				IAmb	IAmb	02 17 24.3	
	comp=Z,109nm,0.8s						
COLA	**College**	**22.13**	**38**	P	**P**	**02 17 08.8**	**-0.8**
	baz=247						
COLA	**College**	**22.13**	**38**	P	**P**	**02 17 08.4**	**-1.2**
COLA	**College**	**22.13**	**38**	*de*P	**P**	**02 17 10.7**	**+1.1**
COLA				pmax	pmax		
	comp=Z,111nm,0.8s						
G23K	**Bananza Creek**	**22.14**	**33**	P	**P**	**02 17 09.3**	**-0.6**
	baz=240						
HDA	**Harding Lake**	**22.31**	**40**	P	**P**	**02 17 11.9**	**+0.2**
	baz=249,SNR=20						
RAGM	**Ragged Mountai**	**22.32**	**51**	IAMs_20	IAMs_20	02 26 18.6	
	comp=Z,11µm,21.0s						
E22K	**Anaktuvuk Pass**	**22.34**	**29**	P	**P**	**02 17 11.6**	**-0.4**
	baz=235						
COLD	**Coldfoot**	**22.35**	**32**	IAmb	IAmb	02 17 31.8	
	comp=Z,235nm,1.7s						
COLD	**Coldfoot**	**22.35**	**32**	P	**P**	**02 17 11.6**	**-0.5**
	baz=239,SNR=35						
POKR	**Poker Plat Res**	**22.39**	**38**	IAmb	IAmb	02 17 14.8	
	comp=Z,83nm,0.8s						
POKR	**Poker Plat Res**	**22.39**	**38**	P	**P**	**02 17 12.4**	**0.0**
	baz=247,SNR=19						
KAIM	**Kayak Island**	**22.39**	**52**	IAMs_20	IAMs_20	02 27 18.3	
	comp=Z,8µm,19.0s						
KAIM	**Kayak Island**	**22.39**	**52**	P	**P**	**02 17 12.3**	**-0.2**
	baz=263						
BMRM	**Bremner River**	**22.45**	**50**	IAmb	IAmb	02 17 34.9	
	comp=Z,127nm,0.8s						
BMRM	**Bremner River**	**22.45**	**50**	P	**P**	**02 17 12.9**	**-0.2**
	baz=260,SNR=11						
IL31		**22.47**	**39**	P	**P**	**02 17 11.0**	**-2.2**
ILAR	**Eielson Array**	**22.47**	**39**	P	**P**	**02 17 11.4**	**-2.0**
	comp=Z,18nm,0.6s,baz=243,slow=9.1,SNR=71						
ILAR				PcP	**PcP**	**02 21 05.6**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=242,slow=1.9,SNR=2.2						
ILAR				ScP	**ScP**	**02 24 42.7**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=281,slow=3.5,SNR=5.6						
ILAR				SKKS	**SKKSdf**	**02 50 53.6**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=45,slow=4.0,SNR=4.7						
	comp=Z,18nm,0.6s						
HARP	**HAARP**	**22.49**	**46**	P	**P**	**02 17 12.8**	**-0.8**
	baz=256,SNR=18						
PAX	**Paxson**	**22.49**	**44**	P	**P**	**02 17 12.4**	**-1.3**
PAX				IAmb	IAmb	02 17 27.4	
	comp=Z,113nm,1.0s						
PAX	**Paxson**	**22.49**	**44**	P	**P**	**02 17 12.6**	**-1.1**
	baz=254,SNR=44						
PAX	**Paxson**	**22.49**	**44**	P	**P**	**02 17 12.4**	**-1.3**
PAX				pmax	pmax		
	comp=Z,113nm,1.0s						
H24K	**Noodor Dome**	**22.51**	**36**	P	**P**	**02 17 13.4**	**-0.4**
	baz=245						
HMT	**Hamilton**	**22.52**	**51**	IAMs_20	IAMs_20	02 26 21.8	
	comp=Z,11µm,22.0s						
N25K	**Chitina, Valde**	**22.57**	**48**	IAmb	IAmb	02 17 21.3	
	comp=Z,76nm,0.7s						
N25K				IAMs_20	IAMs_20	02 26 41.0	
	comp=Z,9µm,19.0s						
N25K	**Chitina, Valde**	**22.57**	**48**	P	**P**	**02 17 14.0**	**-0.5**
	baz=259,SNR=34						
K24K	**Donnelly Dome**	**22.60**	**42**	P	**P**	**02 17 13.3**	**-1.5**
	baz=252,SNR=19						
TYV	**Tymovskoe**	**22.67**	**284**	*e*P	**P**	**02 17 17.3**	**+1.8**
TYV				pmax	pmax		
	comp=Z,2µm,4.3s						
TYV				pmax	pmax		
	comp=Z,44nm,1.5s						
TYV				MLR	MLR		
	comp=N,5µm,14.0s						
TYV				MLR	MLR		
	comp=Z,6µm,14.0s						
SUCK	**Suckling Hills**	**22.73**	**52**	IAMs_20	IAMs_20	02 27 37.2	
	comp=Z,12µm,18.0s						
BERG	**Berg Lake**	**22.80**	**51**	IAmb	IAmb	02 17 34.4	
	comp=Z,163nm,1.4s						
BERG				IAMs_20	IAMs_20	02 27 43.3	
	comp=Z,8µm,21.0s						
GLB	**Gilahina Butte**	**22.91**	**48**	IAmb	IAmb	02 17 32.2	
	comp=Z,354nm,1.8s						
GLB				IAMs_20	IAMs_20	02 27 01.0	
	comp=Z,11µm,22.0s						
RIDG	**Independent Ri**	**22.98**	**42**	IAMs_20	IAMs_20	02 26 37.6	
	comp=Z,8µm,20.0s						
RIDG	**Independent Ri**	**22.98**	**42**	P	**P**	**02 17 17.5**	**-1.2**
	baz=254						
BGLC	**Bering Glacier**	**22.98**	**52**	P	**P**	**02 17 17.7**	**-0.9**
	baz=264						
E23K	**Chandalar**	**22.98**	**30**	P	**P**	**02 17 18.0**	**-0.7**
	baz=238						
J25K	**Salcha River,**	**23.03**	**40**	IAMs_20	IAMs_20	02 27 45.9	
	comp=Z,9µm,19.0s						
J25K	**Salcha River,**	**23.03**	**40**	P	**P**	**02 17 17.0**	**-2.2**
	baz=251,SNR=23						
G24K	**Hadweenzic Riv**	**23.03**	**34**	P	**P**	**02 17 18.8**	**-0.4**
	baz=244						
VRDI	**Verde Repeater**	**23.05**	**49**	IAMs_20	IAMs_20	02 27 23.6	
	comp=Z,11µm,22.0s						
D23K	**Nanushuk River**	**23.16**	**28**	P	**P**	**02 17 20.4**	**-0.1**
	baz=235						
YUK	**Yuzh-Kuril'sk**	**23.20**	**265**	‖*e*P	**P**	**02 17 22.0**	**+1.0**
SNH	**Sunshine Point**	**23.20**	**52**	IAMs_20	IAMs_20	02 27 54.9	
	comp=Z,9µm,19.0s						
A21K	**Barrow**	**23.23**	**20**	IAMs_20	IAMs_20	02 26 49.8	
	comp=Z,7µm,19.0s						
A21K	**Barrow**	**23.23**	**20**	P	**P**	**02 17 20.0**	**-1.1**
	baz=222,SNR=6.9						
MENT	**Mentasta**	**23.26**	**45**	P	**P**	**02 17 21.0**	**-0.5**
F24K	**Squaw Lake**	**23.27**	**32**	P	**P**	**02 17 21.6**	**0.0**
	baz=241,SNR=57						
MCARA	**McCarthy VSAT**	**23.27**	**49**	IAmb	IAmb	02 17 45.9	
MCARA	comp=Z,89nm,0.9s			IAMs_20	IAMs_20	02 27 21.7	
	comp=Z,12µm,22.0s						
MCARA	**McCarthy VSAT**	**23.27**	**49**	P	**P**	**02 17 20.6**	**-1.1**
	baz=261,SNR=7.3						
PRP	**Porcupine Dome**	**23.28**	**38**	P	**P**	**02 17 19.4**	**-2.4**
	baz=249,SNR=57						
DOT	**Dot Lake**	**23.29**	**43**	IAmb	IAmb	02 17 44.5	
	comp=Z,100nm,1.1s						
TOLK	**Toolik Lake Re**	**23.31**	**29**	P	**P**	**02 17 21.2**	**-0.8**
TOLK				IAMs_20	IAMs_20	02 26 39.0	
	comp=Z,11µm,18.0s						
TOLK	**Toolik Lake Re**	**23.31**	**29**	P	**P**	**02 17 21.8**	**-0.2**
	baz=237,SNR=58						
E24K	**Your Creek**	**23.35**	**31**	P	**P**	**02 17 22.0**	**-0.4**
	baz=240						
SCRK	**Sand Creek**	**23.41**	**42**	IAmb	IAmb	02 17 24.0	
	comp=Z,68nm,0.8s						
SCRK				IAMs_20	IAMs_20	02 26 52.0	
	comp=Z,7µm,20.0s						
SCRK	**Sand Creek**	**23.41**	**42**	P	**P**	**02 17 21.0**	**-2.1**
	baz=254,SNR=84						
L26K	**Log Cabin Wild**	**23.44**	**45**	IAmb	IAmb	02 17 48.5	
	comp=Z,93nm,0.9s						
L26K				IAMs_20	IAMs_20	02 27 35.0	
	comp=Z,12µm,19.0s						
L26K	**Log Cabin Wild**	**23.44**	**45**	P	**P**	**02 17 22.6**	**-0.8**
	baz=257,SNR=34						
H25L	**Birch Creek**	**23.45**	**36**	P	**P**	**02 17 23.1**	**-0.3**
	baz=247						
M26K	**Nabesna, AK**	**23.47**	**46**	IAMs_20	IAMs_20	02 27 02.7	
	comp=Z,7µm,20.0s						
M26K	**Nabesna, AK**	**23.47**	**46**	P	**P**	**02 17 22.5**	**-1.1**
	baz=259						
UGL	**Uglegorsk**	**23.55**	**280**	*c i*P	**P**	**02 17 25.9**	**+1.5**
UGL				pmax	pmax		
	comp=Z,3µm,6.0s						
UGL				MLR	MLR		
	comp=N,4µm,16.0s						
UGL				MLR	MLR		
	comp=E,4µm,16.0s						
G25K	**Bearman Lake**	**23.55**	**35**	P	**P**	**02 17 23.7**	**-0.7**
	baz=245,SNR=49						
MESA	**MESA**	**23.64**	**52**	IAMs_20	IAMs_20	02 28 17.6	
	comp=Z,9µm,18.0s						
MESA	**MESA**	**23.64**	**52**	P	**P**	**02 17 24.4**	**-1.1**
	baz=265						
C23K	**Itkillik River**	**23.70**	**26**	P	**P**	**02 17 25.5**	**-0.2**
	baz=233						
J26L	**Joseph Creek**	**23.73**	**41**	IAMs_20	IAMs_20	02 28 15.6	
	comp=Z,10µm,22.0s						
J26L	**Joseph Creek**	**23.73**	**41**	P	**P**	**02 17 24.4**	**-1.8**
	baz=253						
YAH	**Yahtse**	**23.77**	**52**	IAMs_20	IAMs_20	02 28 22.6	
	comp=Z,8µm,18.0s						
D24K	**Happy Valley**	**23.82**	**28**	P	**P**	**02 17 26.3**	**-0.5**
	baz=237						
YSS	**Yuzh-Sakhalins**	**23.87**	**274**	P	**P**	**02 17 28.2**	**+0.6**
YSS				IAmb	IAmb	02 17 32.3	
	comp=Z,193nm,1.3s						
YSS	**Yuzh-Sakhalins**	**23.87**	**274**	*e*P	**P**	**02 17 28.9**	**+1.4**
YSS				*e*		02 17 58.4	
YSS				*e*S	**S**	**02 21 43.6**	**+2.0**
YSS				*e*SS	SnSn	02 22 51.4	+30
YSS				pmax	pmax		
	comp=Z,100nm,1.1s						
YSS				pmax	pmax		
	comp=Z,100nm,1.0s						
YSS				MLR	MLR		
	comp=E,2µm,16.0s						
BARN	**Barnard Glacie**	**23.88**	**50**	IAMs_20	IAMs_20	02 27 17.8	
	comp=Z,7µm,22.0s						
M27K	**Edge Creek, AK**	**23.97**	**47**	IAMs_20	IAMs_20	02 28 03.1	
	comp=Z,12µm,21.0s						
M27K	**Edge Creek, AK**	**23.97**	**47**	P	**P**	**02 17 27.7**	**-0.8**
	baz=260						
TABL	**Mountain**	**24.07**	**51**	IAmb	IAmb	02 17 48.5	
	comp=Z,125nm,1.0s						
TABL				IAMs_20	IAMs_20	02 28 32.8	
	comp=Z,7µm,19.0s						
F25K	**Christian Rive**	**24.07**	**33**	P	**P**	**02 17 28.7**	**-0.6**
	baz=244,SNR=107						
L27K	**Beaver Creek,**	**24.13**	**45**	IAMs_20	IAMs_20	02 28 05.1	
	comp=Z,9µm,19.0s						
L27K	**Beaver Creek,**	**24.13**	**45**	P	**P**	**02 17 28.2**	**-1.7**
	baz=258						
I26K	**Coal Creek Min**	**24.14**	**39**	IAMs_20	IAMs_20	02 28 31.3	
	comp=Z,7µm,18.0s						
I26K	**Coal Creek Min**	**24.14**	**39**	P	**P**	**02 17 27.1**	**-2.8**
	baz=252						
C24K	**Franklin Bluff**	**24.17**	**27**	P	**P**	**02 17 30.1**	**0.0**
	baz=236						
E25K	**Arctic Village**	**24.33**	**32**	P	**P**	**02 17 31.4**	**-0.2**
	baz=243,SNR=81						
BVCY	**Beaver Creek**	**24.45**	**47**	P	**P**	**02 17 32.8**	**0.0**
	baz=241,SNR=33						
G26K	**Porcupine Rive**	**24.47**	**35**	P	**P**	**02 17 32.5**	**-0.3**
	baz=248						
PCA	**Pinnacle**	**24.48**	**52**	IAmb	IAmb	02 17 57.1	
	comp=Z,283nm,1.6s						
PINM	**Pinnacle**	**24.49**	**52**	P	**P**	**02 17 32.4**	**-0.8**
	baz=267						
YUK3	**Moose Creek**	**24.54**	**48**	P	**P**	**02 17 32.2**	**-1.7**
	baz=263,SNR=138						
O28M	**Mount Upton**	**24.57**	**51**	P	**P**	**02 17 33.1**	**-1.1**
	baz=265						
F26K	**Sheenjek River**	**24.63**	**33**	P	**P**	**02 17 34.2**	**-0.2**
	baz=246						
D25K	**Kavik River**	**24.65**	**29**	P	**P**	**02 17 34.0**	**-0.6**
	baz=240						
BCPM	**Bancas Point**	**24.79**	**53**	IAMs_20	IAMs_20	02 28 19.8	
	comp=Z,10µm,21.0s						
EGAK	**Eagle**	**24.81**	**41**	P	**P**	**02 17 35.3**	**-0.7**
	baz=256,SNR=107						
YUK8	**Steele Glacier**	**24.82**	**50**	P	**P**	**02 17 35.8**	**-0.6**
	baz=264,SNR=16						
I27K	**Kandik River**	**24.84**	**39**	P	**P**	**02 17 35.3**	**-1.1**
	baz=253						
PNL	**Peninsula**	**24.90**	**53**	P	**P**	**02 17 35.5**	**-1.3**
	baz=268						
PNL	**Peninsula**	**24.90**	**53**	P	**P**	**02 17 36.0**	**-0.9**
H27K	**Steamboat Moun**	**25.07**	**38**	P	**P**	**02 17 37.4**	**-0.9**
	baz=252						
G27K	**Doyon Strip**	**25.20**	**36**	P	**P**	**02 17 39.1**	**-0.5**
	baz=251						
JKA	**Kamikawa-asahi**	**25.21**	**268**	P	**P**	**02 17 40.3**	**+0.5**
JKA				IAmb	IAmb	02 17 45.1	
	comp=Z,170nm,1.2s						
ASAJ	**Asahikawa**	**25.22**	**268**	LR	LR	02 27 23.1	
	comp=Z,2µm,21.1s,baz=100,slow=36						
ASAJ	**Asahikawa**	**25.22**	**268**	P	**P**	**02 17 40.3**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,169nm,1.2s						
O29M	**Mount Kennedy**	**25.33**	**52**	P	**P**	**02 17 38.9**	**-2.0**
	baz=268						
YUK4	**Talbot Arm**	**25.36**	**49**	P	**P**	**02 17 41.2**	**0.0**
	baz=265,SNR=15						
C26K	**Camden Bay**	**25.39**	**28**	P	**P**	**02 17 41.3**	**+0.1**
	baz=241						
DAWY	**Dawson**	**25.40**	**43**	P	**P**	**02 17 40.8**	**-0.5**
DAWY				IAmb	IAmb	02 17 50.7	
	comp=Z,122nm,0.7s						
DAWY	**Dawson**	**25.40**	**43**	P	**P**	**02 17 41.5**	**+0.1**
	baz=259,SNR=57						
YUK6	**Outpost Mounta**	**25.47**	**50**	P	**P**	**02 17 40.8**	**-1.4**
	baz=266						
M29M	**Somme Creek**	**25.56**	**47**	P	**P**	**02 17 41.5**	**-1.4**
	baz=263						
C27K	**Jago River**	**25.62**	**29**	P	**P**	**02 17 42.8**	**-0.5**
	baz=243,SNR=71						
E27K	**Coleen River**	**25.71**	**33**	P	**P**	**02 17 44.0**	**-0.1**
	baz=248						
P29M	**Windy Craggy**	**25.74**	**54**	IAMs_20	IAMs_20	02 28 23.0	
	comp=Z,10µm,21.0s						
P29M	**Windy Craggy**	**25.74**	**54**	P	**P**	**02 17 43.5**	**-1.0**
	baz=270						
L29M	**L29M**	**25.80**	**45**	P	**P**	**02 17 44.4**	**-0.6**
	baz=262,SNR=22						
HYT	**Haines Junctio**	**25.88**	**51**	P	**P**	**02 17 45.0**	**-0.9**
	baz=268						
ERM	**Erimo**	**25.93**	**264**	IAMs_20	IAMs_20	02 27 05.7	
	comp=Z,5µm,18.0s						
ERM	**Erimo**	**25.93**	**264**	‖*e*P	**P**	**02 17 49.5**	**+3.2**
J29M	**Klondike Camp**	**25.97**	**42**	IAMs_20	IAMs_20	02 29 53.8	
	comp=Z,8µm,18.0s						
J29M	**Klondike Camp**	**25.97**	**42**	P	**P**	**02 17 45.7**	**-0.9**
	baz=259						
I29M	**Ogilvie Camp,**	**26.12**	**40**	IAmb	IAmb	02 18 15.6	
	comp=Z,81nm,0.9s						
I29M				IAMs_20	IAMs_20	02 29 18.6	
	comp=Z,8µm,19.0s						
I29M	**Ogilvie Camp,**	**26.12**	**40**	P	**P**	**02 17 46.7**	**-1.2**
	baz=258,SNR=25						
N30M	**Aishikik Lake**	**26.12**	**49**	P	**P**	**02 17 47.2**	**-0.7**
	baz=267						
P30M	**Million Dollar**	**26.14**	**52**	P	**P**	**02 17 47.3**	**-0.8**
	baz=270						
K29M	**Barlow Dome**	**26.17**	**44**	P	**P**	**02 17 47.7**	**-0.8**
	baz=261						
M30M	**Minto, Yukon**	**26.34**	**47**	IAMs_20	IAMs_20	02 29 33.7	
	comp=Z,10µm,21.0s						
M30M	**Minto, Yukon**	**26.34**	**47**	P	**P**	**02 17 49.4**	**-0.6**
	baz=265						
PLBC	**Pleasant Camp**	**26.44**	**54**	P	**P**	**02 17 49.1**	**-1.6**
	baz=271						
GRNR	**Gornyy**	**26.50**	**286**	‖*i*P	**P**	**02 17 51.5**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
O30N	**Mendenhall**	**26.57**	**51**	P	**P**	**02 17 51.3**	**-0.7**
	baz=269						
N31M	**Braeburn, Yuko**	**26.75**	**49**	IAMs_20	IAMs_20	02 29 00.5	
	comp=Z,7µm,20.0s						
N31M	**Braeburn, Yuko**	**26.75**	**49**	P	**P**	**02 17 53.5**	**-0.1**
	baz=268						
R31K	**City Hall, Gus**	**26.81**	**56**	P	**P**	**02 17 53.0**	**-1.0**
	baz=274						
SKAG	**Skagway**	**26.97**	**54**	P	**P**	**02 17 55.4**	**-0.2**
	baz=272						
EPYK	**Eagle Plains**	**26.98**	**38**	IAMs_20	IAMs_20	02 30 28.3	
	comp=Z,8µm,18.0s						
EPYK	**Eagle Plains**	**26.98**	**38**	P	**P**	**02 17 54.8**	**-0.8**
	baz=257,SNR=29						
SIT	**Sitka**	**27.16**	**59**	P	**P**	**02 17 56.7**	**-0.6**
	baz=277						
WHY	**Whitehorse**	**27.17**	**51**	P	**P**	**02 17 57.0**	**-0.5**
	baz=270						
G30M	**tAoh Zraii Nji**	**27.31**	**37**	P	**P**	**02 17 58.5**	**-0.1**
	baz=257						
M31M	**Drury Creek, Y**	**27.43**	**48**	P	**P**	**02 17 58.9**	**-0.9**
M31M				IAMs_20	IAMs_20	02 29 51.6	
	comp=Z,5µm,19.0s						
M31M	**Drury Creek, Y**	**27.43**	**48**	P	**P**	**02 17 59.5**	**-0.2**
	baz=268						
JIS	**Juneau Island**	**27.54**	**56**	IAMs_20	IAMs_20	02 28 58.6	
	comp=Z,5µm,21.0s						
P32M	**Atlin**	**27.79**	**53**	P	**P**	**02 18 02.5**	**-0.4**
	baz=273						
FARO	**Faro, Yukon**	**27.92**	**48**	P	**P**	**02 18 04.0**	**-0.2**
	baz=269						
N32M	**Quiet Lake**	**28.04**	**50**	P	**P**	**02 18 05.0**	**-0.2**
	baz=271						
P33M	**Teslin, Yukon**	**28.20**	**52**	IAMs_20	IAMs_20	02 30 14.1	
	comp=Z,10µm,21.0s						
P33M	**Teslin, Yukon**	**28.20**	**52**	P	**P**	**02 18 06.2**	**-0.5**
	baz=273						
F31M	**Tsiigehtchic**	**28.35**	**37**	P	**P**	**02 18 07.3**	**-0.5**
	baz=258,SNR=24						
U33K	**Whale Pass**	**28.51**	**61**	P	**P**	**02 18 09.3**	**+0.1**
	baz=280						
YAK	**Yakutsk**	**28.56**	**312**	P	**P**	**02 18 07.6**	**-2.1**
	comp=Z,14nm,0.4

baz=270,SNR=14
R33M Jennings River 29.20 54 P P 02 18 15.6 0.0
baz=276
S34M Telegraph Cree 29.30 57 P P 02 18 15.2 -1.1
baz=278
DLBC Dease Lake 29.80 55 P P 02 18 20.9 0.0
comp=Z,2.7nm,0.6s,baz=282,slow=20,SNR=1.3
comp=Z,2.7nm,0.6s
KLR Kul'dur 29.85 285 P P 02 18 21.2 -0.1
comp=Z,32nm,0.6s,baz=60,slow=6.3,SNR=77
KLR LR LR 02 31 10.4
comp=Z,4µm,19.3s,baz=62,slow=38
comp=Z,32nm,0.6s
KLR Kul'dur 29.85 285*c iP* P 02 18 21.0 -0.3
KLR pmax pmax
comp=Z,50nm,1.0s
T35M Bob Quinn 29.92 58 P P 02 18 20.2 -1.7
baz=280
WTLY Watson Lake, Y 30.22 52 P P 02 18 24.7 +0.2
baz=276
TIXI Tiksi 30.25 331 P P 02 18 23.8 -0.8
comp=Z,3.3nm,0.5s,baz=266,slow=0.4,SNR=8.4
TIXI PcP PcP 02 21 24.0 -0.3
comp=Z,4.2nm,0.4s,baz=20,slow=0.2,SNR=2.0
TIXI LR LR 02 31 05.8
comp=Z,6µm,18.9s,baz=219,slow=38
comp=Z,3.3nm,0.5s
TIXI Tiksi 30.25 331 P P 02 18 24.0 -0.5
TIXI IAMs_20 IAMs_20 02 30 55.2
comp=Z,6µm,19.0s
TIXI Tiksi 30.25 331⇓*eP* P 02 18 25.2 +0.7
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 30.25 331 P P 02 18 25.5 +1.0
TGTN Hyland Airport 30.34 49 P P 02 18 25.7 +0.1
baz=274,SNR=8.7
ZEA Zeya 31.05 296 *eP* P 02 18 31.0 -0.9
ZEA *e* 02 18 43.7
ZEA *eS* S 02 23 29.1 -5.8
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA smax smax
comp=E,1µm,14.8s
ZEA MLR MLR
comp=N,800nm,13.0s
ZEA MLR MLR
comp=Z,3µm,15.0s
JSD Sado 31.30 261 IAmb IAmb 02 18 49.4
comp=Z,47nm,1.0s
LIRD Liard River Hi 31.66 53 P P 02 18 36.5 -0.7
baz=279
USA0B Ussuriysk Arra 31.87 276⇑*eP* P 02 18 40.5 +1.4
USRK Ussuriysk Ar. 31.87 276 P P 02 18 39.1 0.0
comp=Z,11nm,0.9s,baz=76,slow=8.0,SNR=12
USRK PcP PcP 02 21 30.0 +0.8
comp=Z,8.4nm,0.9s,baz=349,slow=0.3,SNR=5.1
USRK LR LR 02 30 17.9
comp=Z,2µm,21.8s,baz=53,slow=34
comp=Z,11nm,0.9s
HEH HeiHe 32.09 289 *eP* P 02 18 39.4 -1.6
HEH PcP PcP 02 21 27.6 -2.1
HEH S S 02 23 49.4 -1.8
HEH pmax pmax
comp=Z,23nm,2.0s
HEH pmax pmax
comp=Z,730nm,11.2s
HEH LR LR
comp=Z,6µm,15.0s
HEH LR LR
comp=Z,2µm,14.5s
HEH LR LR
comp=Z,4µm,16.9s
A36M Sachs Harbour 32.13 29 P P 02 18 41.3 +0.2
baz=260,SNR=16
C36M Paulatuk 32.17 34 IAmb IAmb 02 18 54.5
comp=Z,44nm,0.8s
C36M IAMs_20 IAMs_20 02 32 39.3
comp=Z,4µm,21.0s
C36M Paulatuk 32.17 34 P P 02 18 40.2 -1.3
baz=265,SNR=7.0
MJAR Matsushiro Arr 32.26 259 P P 02 18 43.0 +0.3
comp=Z,5.1nm,0.8s,baz=50,slow=7.9,SNR=12
MJAR PcP PcP 02 21 32.2 +1.8
comp=Z,1.6nm,0.2s,baz=32,slow=2.7,SNR=3.2
MJAR ScP ScP 02 25 15.1 +3.3
comp=Z,0.7nm,0.3s,baz=41,slow=2.7,SNR=1.5
MJAR LR LR 02 29 39.8
comp=Z,3µm,21.8s,baz=62,slow=32
comp=Z,5.1nm,0.8s
MAJO Matsushiro 32.26 259 P P 02 18 42.6 -0.1
MAJO Matsushiro 32.26 259*c iP* P 02 18 44.0 +1.3
MAJO pmax pmax
comp=Z,39nm,1.3s
MAJO Matsushiro 32.26 259 P P 02 18 43.2 +0.6
MAJO pP pwP 02 18 55.7 +0.8
MJB9 Matsu-Tunnel 32.26 259 P P 02 18 42.5 -0.2
BBB Bella Bella 32.37 67 P P 02 18 43.0 -0.4
comp=Z,21nm,1.0s,baz=147,slow=13,SNR=2.1
comp=Z,21nm,1.0s
WRGLY Wrigley 32.44 46 P P 02 18 43.5 -0.4
baz=275,SNR=9.3
KOTAN Kotaneelee Air 32.56 51 P P 02 18 45.8 +0.7
baz=280,SNR=10.0
H11N2 WAKE ISLAND Hy 32.60 201 T T 02 54 03.0
baz=20,slow=76,SNR=100
H11N3 WAKE ISLAND Hy 32.61 201 T T 02 54 26.0
baz=20,slow=76,SNR=99
H11N1 WAKE ISLAND Hy 32.62 201 T T 02 54 00.8
baz=20,slow=76,SNR=103
FLDN Fort Liard 32.83 51 P P 02 18 47.8 +0.4
baz=280
WAKE Wake Island 33.09 201 IAMs_20 IAMs_20 02 32 05.3
comp=Z,4µm,20.0s
MDJ Mudanjiang 33.17 279 IAMs_20 IAMs_20 02 30 39.5
comp=Z,5µm,22.0s
MSHR Mys Shultsa 33.21 274⇓*eP* P 02 18 51.2 +0.3
MSHR pmax pmax
comp=Z,72nm,1.3s
JGF Kuroka 33.39 259 IAmb IAmb 02 19 08.4
comp=Z,58nm,1.2s
JHJ Hachijo jima 2 33.57 253 LR LR 02 29 42.8
comp=Z,1µm,21.5s,baz=75,slow=31
H11S1 WAKE ISLAND Hy 33.83 201 T T 02 55 28.8
baz=18
H11S3 WAKE ISLAND Hy 33.84 201 T T 02 55 42.1
baz=18,slow=74
H11S2 WAKE ISLAND Hy 33.84 201 T T 02 55 35.0
baz=18,slow=74
BNX BinXian 33.99 282 ⇑P P 02 18 56.0 -1.7
BNX pmax pmax
comp=Z,28nm,0.9s
BNX pmax pmax
comp=Z,560nm,10.3s
JOHN Johnston Islan 35.43 161 IAMs_20 IAMs_20 02 32 41.4
comp=Z,6µm,19.0s
CN2 Changchun 36.16 280 *eP* P 02 19 16.4 +0.1
CN2 pP pP 02 19 20.5 -3.4
CN2 S S 02 24 54.0 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,4µm,18.0s
CN2 LR LR
comp=Z,4µm,18.0s
CN2 LR LR
comp=Z,4µm,19.0s
WAPA Wapiti River 36.33 59 IAmb IAmb 02 20 31.4
comp=Z,46nm,1.3s
JHS Saijyo 36.42 262 IAmb IAmb 02 19 33.9
comp=Z,31nm,0.8s
HILA High Level 36.43 53 P P 02 19 17.3 -1.2
YKA Yellowknife Ar 36.56 46 P P 02 19 19.2 -0.4
comp=Z,19nm,0.8s,baz=283,slow=8.6,SNR=23
YKA PcP PcP 02 21 41.5 -0.7
comp=Z,3.0nm,0.8s,baz=290,slow=3.9,SNR=1.8
YKA S S 02 24 55.5 -4.3
comp=Z,0.9nm,0.8s,baz=283,slow=16,SNR=1.4
YKA ScP ScP 02 25 29.2 +2.6
comp=Z,4.3nm,0.8s,baz=290,slow=3.6,SNR=6.4
comp=Z,19nm,0.8s
LLLB Lillooet 36.57 67 P P 02 19 20.7 +0.8
JCJ Chichijima 36.58 243 LR LR 02 39 15.3
comp=Z,1µm,18.2s,baz=26,slow=44
HHU Hamhung 36.95 273 P P 02 19 24.4 +1.4
BOD Bodaibo 37.01 306 *eP* P 02 19 22.2 -1.2
BOD pmax pmax
comp=Z,72nm,1.6s
POHA Pohakuloa 37.15 138 IAMs_20 IAMs_20 02 32 42.5
comp=Z,5µm,19.0s
KSRS Korea Array 38.16 269 P P 02 19 34.1 +0.8
comp=Z,20nm,0.9s,baz=58,slow=8.1,SNR=43
KSRS LR LR 02 35 46.8
comp=Z,1µm,19.3s,baz=260,slow=37
comp=Z,20nm,0.9s
KS19 Wonju Array Si 38.16 270 P P 02 19 33.9 +0.4
SNY Shenyang 38.37 278 ⇑P P 02 19 35.4 +0.3
SNY S S 02 25 33.3 +5.6
SNY pmax pmax
comp=Z,17nm,0.9s
SNY pmax pmax
comp=Z,620nm,3.5s
SNY LR LR
comp=Z,4µm,16.9s
SNY LR LR
comp=Z,2µm,16.3s
SNY LR LR
comp=Z,4µm,18.4s
COR Corvallis 38.51 76 P P 02 19 35.2 -1.0
COR Corvallis 38.51 76 IAMs_20 IAMs_20 02 31 29.8
comp=Z,4µm,20.0s
COR Corvallis 38.51 76 P P 02 19 35.2 -1.0
COR pmax pmax
comp=Z,114nm,1.1s
COR Corvallis 38.51 76 P P 02 19 39.3 +3.1
COR pP pwP 02 19 51.6 +3.9
COR sP sP 02 19 56.6 +9.4
PYAG Pyongyang 38.57 273 P P 02 19 38.0 +1.2
PYAG pP sP 02 19 46.3 -1.2
PYAG S S 02 25 35.5 +4.7
PYAG AmB
comp=Z,64nm,0.9s
PYAG AMS AMS
comp=N,142nm,1.6s
PYAG AMS AMS
comp=E,140nm,1.6s
PYAG AMS AMS
comp=Z,185nm,2.1s
SUJ Sinuiju 38.76 275 P P 02 19 39.6 +1.3
SUJ pP sP 02 19 48.6 -0.5
SUJ S S 02 25 37.2 +3.5
SUJ AmB
comp=Z,173nm,1.5s
SUJ AMS AMS
comp=N,921nm,3.8s
SUJ AMS AMS
comp=E,984nm,4.1s
SUJ AMS AMS
comp=Z,2µm,9.8s
LTY Liberty 38.78 71 IAmb IAmb 02 19 55.2
comp=Z,117nm,1.8s
INCN Inchon 38.95 270 P P 02 19 39.5 -0.5
INCN IAmb IAmb 02 20 59.4
comp=Z,65nm,1.0s
INCN Inchon 38.95 270 P P 02 19 39.6 -0.5
INCN pmax pmax
comp=Z,65nm,1.0s
B08A Colville Reser 39.06 69 IAmb IAmb 02 20 17.0
comp=Z,123nm,1.6s
H04A Detroit Lake 39.15 76 IAmb IAmb 02 20 06.6
comp=Z,108nm,1.2s
HOOD Mount Hood Mea 39.15 74 IAmb IAmb 02 20 06.5
comp=Z,81nm,0.9s
TJN Taejon 39.17 269*ceP* P 02 19 43.4 +1.5
HJU Haeju 39.19 272 P P 02 19 43.1 +1.1
HJU pP sP 02 19 51.1 -1.6
HJU S S 02 25 44.4 +4.3
HJU AmB
comp=Z,965nm,3.6s
HJU AMS AMS
comp=N,4µm,9.9s
HJU AMS AMS
comp=E,811nm,1.9s
HJU AMS AMS
comp=Z,6µm,14.9s
CIT Chita 39.41 298 *eP* P 02 19 41.9 -1.9
CIT *e* 02 19 54.2
CIT *e* 02 20 02.2
CIT *e* 02 21 56.8
CIT pmax pmax
comp=Z,189nm,2.3s
HUMO Hull Mountain 39.77 79 IAMs_20 IAMs_20 02 34 58.2
comp=Z,3µm,20.0s
G06A Carlson Farm, 39.81 74 IAmb IAmb 02 20 11.9
comp=Z,164nm,1.9s
HAWA Hanford 39.89 72 IAMs_20 IAMs_20 02 37 42.0
comp=Z,3µm,19.0s
F07A Phinny Hill Vi 39.90 73 IAmb IAmb 02 20 09.5
comp=Z,47nm,0.8s
D08A Wollman Farm, 39.93 71 IAmb IAmb 02 19 50.0
comp=Z,176nm,2.0s
C09A Chrisman Ranch 39.95 69 IAmb IAmb 02 20 04.4
comp=Z,32nm,0.7s
KHMM Horse Mountain 40.25 82 IAmb IAmb 02 20 18.1
comp=Z,107nm,1.5s
PINE Pine Mountain 40.38 76 IAmb IAmb 02 20 16.9
comp=Z,120nm,1.6s
NEW Newport 40.40 68 P P 02 19 52.2 +0.1
comp=Z,26nm,0.7s,baz=298,slow=7.8,SNR=64
comp=Z,26nm,0.7s
NEW Newport 40.40 68 P P 02 19 51.5 -0.5
NEW IAmb IAmb 02 20 05.5
comp=Z,40nm,0.8s
NEW Newport 40.40 68 P P 02 19 51.4 -0.6
baz=299,SNR=30
YBH Yreka Blue Hor 40.40 80 P P 02 19 54.6 +2.4
comp=Z,15nm,0.9s,baz=339,slow=8.1,SNR=19
YBH Yreka Blue Hor 40.40 80 IAMs_20 IAMs_20 02 32 47.1
comp=Z,4µm,21.0s
JSU Suzuyama 40.41 260 P P 02 19 52.6 +0.4
JSU IAmb IAmb 02 19 56.0
comp=Z,93nm,1.2s
KMRM Mid Ridge 40.63 82 P P 02 19 54.2 +0.1
KMRM IAmb IAmb 02 20 18.6
comp=Z,186nm,2.0s
E09A Wood Farm, Sta 40.66 71 IAmb IAmb 02 20 10.4
comp=Z,111nm,1.5s
RES Resolute Bay 40.70 24 P P 02 19 54.0 -0.1
comp=Z,12nm,0.9s,baz=278,slow=7.0,SNR=14
RES PcP PcP 02 21 54.5 -0.5
comp=Z,5.4nm,0.7s,baz=273,slow=4.3,SNR=4.2
comp=Z,12nm,0.9s
RES Resolute Bay 40.70 24 P P 02 19 53.2 -0.8
G08A Pilot Rock 40.80 73 P P 02 19 55.1 -0.3
K05A Summer Lake 40.98 77 P P 02 19 58.0 +0.9
K05A IAmb IAmb 02 20 25.9
comp=Z,79nm,1.0s
EUNU Eureka 41.05 15 P P 02 19 55.7 -1.3
I07A Izee 41.10 75 IAmb IAmb 02 20 22.1
comp=Z,64nm,1.1s
MOD Modoc Plateau 41.80 78 IAmb IAmb 02 20 14.9
comp=Z,37nm,0.7s
MOD IAMs_20 IAMs_20 02 40 02.9
comp=Z,4µm,18.0s
XLT XiLinHaoTe 41.88 286⇑*iP* P 02 20 04.8 +0.5
XLT pP sP 02 20 12.8 -2.3
XLT sP pwP 02 20 18.3 +1.9
XLT PP PnPn 02 21 45.4 -0.9
XLT S S 02 26 26.8 +6.5
XLT SS SS 02 29 17.5 -9.3
XLT pmax pmax
comp=Z,38nm,1.5s
XLT pmax pmax
comp=Z,1µm,11.0s
XLT LR LR
comp=Z,5µm,17.4s
XLT LR LR
comp=Z,4µm,18.7s
BMO Blue Mountains 42.02 73 IAMs_20 IAMs_20 02 40 14.5
comp=Z,3µm,19.0s
MCCM Marconi Confer 42.38 84 IAMs_20 IAMs_20 02 33 30.6
comp=Z,4µm,20.0s
ORV Oroville 42.40 82 P P 02 20 06.6 -1.9
ORV Oroville 42.40 82 P P 02 20 06.6 -1.9
ORV pmax pmax
comp=Z,26nm,1.2s
WVOR Wild Horse Val 42.53 76 P P 02 20 10.8 +1.1
WVOR pmax pmax
comp=Z,36nm,0.8s
PLID Pearl Lake 42.68 71 IAMs_20 IAMs_20 02 39 19.9
comp=Z,4µm,20.0s
BEKR Beckworth 42.93 81 P P 02 20 12.8 -0.3
MSO Missoula 42.99 68 IAMs_20 IAMs_20 02 39 14.8
comp=Z,4µm,19.0s
MSO Missoula 42.99 68 P P 02 20 13.1 -0.2
baz=301,SNR=27
ALE Alert 43.25 10 P P 02 20 14.6 -0.3
ALE pP pwP 02 20 26.6 +0.5
MPK Martis Peak 43.48 81 IAmb IAmb 02 21 06.0
comp=Z,67nm,1.1s
MFID Camas Ranch 43.70 73 IAmb IAmb 02 20 37.6
comp=Z,90nm,1.6s
MFID IAMs_20 IAMs_20 02 35 36.9
comp=Z,3µm,21.0s
VCNR Virginia City 43.71 81 IAmb IAmb 02 20 45.1
comp=Z,53nm,1.0s
PNTR Pine Nut 43.87 81 IAmb IAmb 02 20 46.9
comp=Z,73nm,0.8s
NRIK Noril'sk 43.98 329 P P 02 20 21.3 +0.4
comp=Z,35nm,1.1s,baz=73,slow=8.8,SNR=22
comp=Z,35nm,1.1s
NRIK Noril'sk 43.98 329 P P 02 20 19.5 -1.4
NRIK Noril'sk 43.98 329*ceP* P 02 20 20.5 -0.4
NRIK pmax pmax
comp=Z,61nm,1.3s
BJI Beijing 44.00 281 P P 02 20 20.8 -0.5
BJI pP sP 02 20 30.4 -1.8
BJI sP pwP 02 20 34.8 +1.3
BJI PP PP 02 22 04.5 +0.6
BJI ScP ScP 02 25 57.5 +1.5
BJI pmax pmax
comp=Z,23nm,1.9s
BJI pmax pmax
comp=Z,850nm,8.2s
BJI LR LR
comp=Z,470nm,20.3s
BJI LR LR
comp=Z,2µm,18.0s
BJI LR LR
comp=Z,3µm,20.6s
CMB Columbia Colle 44.01 83 IAMs_20 IAMs_20 02 34 37.7
comp=Z,4µm,21.0s
BJT Baijiatuau 44.01 281 IAMs_20 IAMs_20 02 38 07.4
comp=Z,3µm,21.0s
WAKR Walker 44.32 81 IAmb IAmb 02 20 35.3
comp=Z,128nm,1.7s
HLID Hailey 44.47 72 IAmb IAmb 02 20 49.6
comp=Z,51nm,1.0s
HLID IAMs_20 IAMs_20 02 41 52.2
comp=Z,4µm,21.0s
HLID Hailey 44.47 72 P P 02 20 24.3 -1.0
baz=304,SNR=65
BBGB Big Mountain B 44.49 85 IAmb IAmb 02 21 04.6
comp=Z,105nm,1.1s
BMN Battle Mountai 44.55 78 P P 02 20 26.6 +0.6
BMN IAmb IAmb 02 20 36.8
comp=Z,41nm,0.8s
BMN Battle Mountai 44.55 78 P P 02 20 26.6 +0.6
BMN pmax pmax
comp=Z,41nm,0.8s
EGMT Eagleton 44.78 65 IAmb IAmb 02 21 28.1
comp=Z,40nm,0.9s
EGMT IAMs_20 IAMs_20 02 41 45.1
comp=Z,3µm,20.0s
EGMT Eagleton 44.78 65 P P 02 20 27.4 -0.3
baz=302,SNR=12
RYN Ryan 44.81 81 IAmb IAmb 02 20 49.0
comp=Z,34nm,0.9s
BOZ Bozeman (W) 45.00 68 IAmb IAmb 02 20 45.4
comp=Z,46nm,0.9s
BOZ IAMs_20 IAMs_20 02 40 51.1
comp=Z,3µm,20.0s
BOZ Bozeman (W) 45.00 68 P P 02 20 29.3 -0.2
baz=303,SNR=32
JOW Kunigami 45.04 257 P P 02 20 29.7 -0.2
comp=Z,21nm,0.8s,baz=26,slow=11,SNR=4.2
comp=Z,21nm,0.8s
LHV Little Huntoon 45.06 81 IAmb IAmb 02 20 56.1
comp=Z,42nm,1.0s
NVAR Mina Array Bea 45.07 81 P P 02 20 30.7 +0.4
comp=Z,8.7nm,0.7s,baz=293,slow=7.1,SNR=78
NVAR ScP ScP 02 26 04.1 +3.3
comp=Z,0.9nm,0.8s,baz=289,slow=3.6,SNR=3.2
comp=Z,8.7nm,0.7s
ULN Ulaanbaatar 45.09 295 P P 02 20 29.7 -0.5
ULN Ulaanbaatar 45.09 295⇑*eP* P 02 20 30.5 +0.3
ULN pmax pmax
comp=Z,27nm,0.8s
ULN Ulaanbaatar 45.09 295 P P 02 20 30.5 +0.3
ULN pP pwP 02 20 41.7 -0.8
ULN sP sP 02 20 46.9 +5.8
MLAC Mammoth, Mammo 45.23 82 P P 02 20 32.2 +0.6
baz=308
SONM Songino Array 45.48 296 P P 02 20 33.5 +0.3
comp=Z,15nm,0.8s,baz=58,slow=7.1,SNR=62
SONM ScP ScP 02 26 04.2 +2.0
comp=Z,1.1nm,0.8s,baz=31,slow=4.2,SNR=2.7
comp=Z,15nm,0.8s
SONM Songino Array 45.48 296 P P 02 20 32.5 -0.7
FFC Flin Flon 45.56 53 P P 02 20 33.3 -0.3
FFC Flin Flon 45.56 53 P P 02 20 33.3 -0.3
FFC pmax pmax
comp=Z,21nm,1.0s
FFC MLR MLR
comp=Z,6µm,21.0s
ELK Elko 45.59 76 IAmb IAmb 02 20 45.5
comp=Z,33nm,0.8s
VOG Valley Oaks Go 45.70 84 P P 02 20 35.4 +0.5
baz=309
YHB Horse Butte 45.72 69 IAmb IAmb 02 21 04.1
comp=Z,53nm,0.9s
TIA Tai'an 45.73 276 ⇑P P 02 20 35.4 +0.1
TIA pmax pmax
comp=Z,48nm,0.9s
TIA LR LR
comp=Z,2µm,20.6s
TIA LR LR
comp=Z,1µm,17.2s
TIA LR LR
comp=Z,3µm,17.6s
TULEG Thule 45.79 18 P P 02 20 33.7 -1.4
TULEG IAmb IAmb 02 20 49.2
comp=Z,48nm,1.3s
TULEG Thule 45.79 18 *eP* P 02 20 34.4 -0.8
TULEG IAmb IAmb 02 20 36.8
comp=Z,30nm,1.0s
ZAK Zakamensk 45.87 300 *eP* P 02 20 35.9 -0.4
ZAK pmax pmax
comp=Z,29nm,1.4s
ZAK pmax pmax
comp=Z,27nm,1.4s
YMR Madison River 45.91 69 IAmb IAmb 02 21 22.7
comp=Z,55nm,1.0s
SMMC Simmler 45.95 85 P P 02 20 37.3 +0.3
baz=310
TIN Tinemaha, Big 45.96 82 P P 02 20 37.8 +0.6
baz=309,SNR=8.7
YUF Upper Falls 46.15 69 IAmb IAmb 02 20 55.1
comp=Z,59nm,1.2s
VES Vestal, Richgr 46.19 84 P P 02 20 38.9 +0.1
baz=309,SNR=9.5
LCH Last Change Ra 46.22 82 P P 02 20 39.1 -0.1
LCH IAmb IAmb 02 20 49.9
comp=Z,92nm,1.6s
H17A Grant Village 46.29 69 IAmb IAmb 02 20 57.3
comp=Z,48nm,0.8s
H17A Grant Village 46.29 69 P P 02 20 40.6 +0.7
baz=304,SNR=15
PKM Mcpherson Peak 46.34 86 P P 02 20 40.5 +0.2
baz=310
YMP Mirror Lake Pl 46.34 69 IAmb IAmb 02 20 56.6
comp=Z,48nm,1.2s
IMW Indian Meadow 46.36 70 IAmb IAmb 02 21 01.8
comp=Z,36nm,1.1s
IMW IAMs_20 IAMs_20 02 37 33.1
comp=Z,3µm,20.0s
HHC Hu-ho-hao-te 46.36 285 *eP* P 02 20 41.0 +0.7
HHC S S 02 27 31.5 +5.8
HHC sS sS 02 27 40.1 +1.6
HHC pmax pmax
comp=Z,56nm,0.9s
HHC pmax pmax
comp=Z,1µm,6.7s
HHC LR LR
comp=Z,7µm,16.5s
HHC LR LR

HHC comp=Z,4µm,17.7s LR LR
FLWY Flagg Ranch 46.40 70 IAmb IAmb 02 21 10.1
FLWY comp=Z,6µm,19.8s IAMs_20 IAMs_20 02 40 14.1
CWC Cottonwood Cre 46.44 83 P P 02 20 41.0 0.0
baz=309
FXWY Fox Creek 46.45 70 IAMs_20 IAMs_20 02 40 26.7
comp=Z,3µm,20.0s
HVU Hansel Valley 46.48 74 IAmb IAmb 02 20 44.2
comp=Z,44nm,0.8s
HNS HongShan 46.51 279 ⇑P P 02 20 42.1 +0.8
HNS S S 02 27 29.1 +1.5
HNS SS ScS 02 30 38.9 +5.0
HNS pmax pmax
comp=Z,36nm,1.4s
HNS LR LR
comp=Z,2µm,16.1s
HNS LR LR
comp=Z,1µm,14.3s
HNS LR LR
comp=Z,3µm,22.4s
GRAC Grapevine Rang 46.54 82 P P 02 20 40.4 -1.2
GRAC Grapevine Rang 46.54 82 P P 02 20 41.6 0.0
baz=309,SNR=11
TPAW Teton Pass 46.58 71 IAmb IAmb 02 21 01.1
comp=Z,123nm,1.9s
RLMT Red Lodge 46.65 68 IAmb IAmb 02 21 03.9
comp=Z,57nm,1.0s
RLMT IAMs_20 IAMs_20 02 35 35.7
comp=Z,3µm,21.0s
RLMT Red Lodge 46.65 68 P P 02 20 42.6 0.0
baz=304,SNR=32
ISA Isabella, Lake 46.68 84 P P 02 20 42.0 -0.8
ISA Isabella, Lake 46.68 84 P P 02 20 42.9 +0.1
baz=310,SNR=10
ISA Isabella, Lake 46.68 84 P P 02 20 42.0 -0.8
ISA pmax pmax
comp=Z,16nm,1.0s
REDW Red Top Meadow 46.72 71 IAmb IAmb 02 21 02.0
comp=Z,79nm,1.6s
ARVC Arvin 46.80 85 P P 02 20 44.2 +0.6
baz=310
R11A Troy Canyon, C 46.81 79 IAmb IAmb 02 20 53.6
comp=Z,28nm,0.8s
R11A Troy Canyon, C 46.81 79 P P 02 20 44.5 +0.6
baz=308,SNR=52
BGU Big Grassy Mou 46.83 75 IAmb IAmb 02 21 09.6
comp=Z,48nm,1.0s
AHID Auburn Hatcher 46.91 71 IAmb IAmb 02 21 06.5
comp=Z,54nm,1.1s
SPUT South Promonto 46.95 74 IAmb IAmb 02 20 48.6
comp=Z,39nm,1.1s
MPMC Manual Prospec 47.05 83 P P 02 20 46.1 +0.3
baz=309,SNR=11
S11A Rachel 47.15 80 P P 02 20 45.9 -0.6
FURC Furnace Creek, 47.19 82 P P 02 20 47.4 +0.8
baz=309,SNR=9.9
SPR3 Spring Creek 3 47.19 78 IAmb IAmb 02 21 03.7
comp=Z,122nm,1.8s
OSI Osito Audit: C 47.20 85 P P 02 20 46.8 0.0
baz=310
TPNV Topopah Spring 47.27 81 P P 02 20 47.8 +0.4
baz=309,SNR=46
LRMC Laurel Mtn Rad 47.30 84 P P 02 20 47.2 -0.4
baz=310,SNR=12
HWUT Hardware Ranch 47.31 73 IAmb IAmb 02 21 08.8
comp=Z,44nm,1.1s
NJ2 Nanjing 47.34 270 ⇑P P 02 20 47.9 +0.1
NJ2 pmax pmax
comp=Z,39nm,1.1s
NJ2 LR LR
comp=Z,2µm,17.5s
NJ2 LR LR
comp=Z,1µm,21.3s
NJ2 LR LR
comp=Z,2µm,22.7s
DUG Dugway, Tooele 47.40 75 IAmb IAmb 02 21 02.6
comp=Z,60nm,0.9s
DUG IAMs_20 IAMs_20 02 43 39.9
comp=Z,4µm,18.0s
DUG Dugway, Tooele 47.40 75 P P 02 20 49.0 +0.6
baz=307,SNR=50
DUG Dugway, Tooele 47.40 75 P P 02 20 49.4 +1.0
DUG pmax pmax
comp=Z,75nm,1.0s
BTO Baotou 47.45 285 eP P 02 20 49.9 +1.2
EDW2 Edwards Air Fo 47.48 84 P P 02 20 50.0 +1.0
baz=310,SNR=13
LAO LASA Array 47.52 64 IAmb IAmb 02 21 26.1
comp=Z,52nm,1.0s
LAO IAMs_20 IAMs_20 02 44 05.7
comp=Z,4µm,20.0s
LAO LASA Array 47.52 64 P P 02 20 50.0 +0.7
baz=304,SNR=6.8
LAO LASA Array 47.52 64 P P 02 20 50.0 +0.7
baz=304,SNR=6.8
DGMT Dagmar 47.67 61 P P 02 20 48.7 -1.6
DGMT IAmb IAmb 02 21 55.1
comp=Z,40nm,1.1s
DGMT Dagmar 47.67 61 P P 02 20 50.4 +0.1
baz=304
DECC Green Verdugo 47.68 85 P P 02 20 51.5 +1.0
baz=311
TIY Taiyuan 47.73 281 eP P 02 20 52.9 +2.0
TIY S S 02 27 41.0 -4.2
TIY pmax pmax
comp=Z,27nm,0.9s
TIY pmax pmax
comp=Z,680nm,5.8s
TIY LR LR
comp=Z,2µm,18.6s
TIY LR LR
comp=Z,1µm,21.3s
TIY LR LR
comp=Z,2µm,22.0s
CTU Camp Tracy 47.75 74 IAmb IAmb 02 21 14.9
comp=Z,38nm,0.9s
BW06 Boulder Array 47.83 71 P P 02 20 50.6 -1.3
BW06 IAmb IAmb 02 20 54.7
comp=Z,52nm,0.9s
BW06 Boulder Array 47.83 71 P P 02 20 52.5 +0.7
baz=306,SNR=46
PD31 Pinedale Array 47.83 71 IAmb IAmb 02 20 54.7
comp=Z,47nm,0.9s
PDAR Pinedale Array 47.83 71 P P 02 20 52.4 +0.5
comp=Z,37nm,0.7s,baz=307,slow=2.8,SNR=252
comp=Z,37nm,0.7s
SHOC Shoshone, Teco 47.91 82 P P 02 20 53.1 +0.8
baz=310,SNR=13
GSC Goldstone, Bar 47.96 83 IAmb IAmb 02 21 11.1
comp=Z,31nm,0.7s
GSC Goldstone, Bar 47.96 83 P P 02 20 54.1 +1.3
baz=310,SNR=21
JLU Jordanelle 47.98 74 IAmb IAmb 02 20 56.6
comp=Z,44nm,1.0s
NLU North Lily Min 47.99 75 IAmb IAmb 02 21 12.8
comp=Z,31nm,0.9s
FMP Fort Macarthur 48.05 86 P P 02 20 53.7 +0.3
baz=311
BFSC Mount Baldy Ra 48.11 85 P P 02 20 54.4 +0.4
baz=311,SNR=11
MPU Maple Canyon 48.23 75 IAmb IAmb 02 21 09.8
comp=Z,22nm,0.9s
TUQ Turquoise Moun 48.43 82 P P 02 20 56.9 +0.5
baz=310,SNR=11
BBRC Big Bear Solar 48.56 84 P P 02 20 58.1 +0.6
baz=311
HEC Hector,Ludlow 48.56 83 P P 02 20 58.1 +0.7
baz=310
TCRU Three Creeks R 48.59 77 P P 02 20 55.9 -1.9
TCRU IAmb IAmb 02 21 24.4
comp=Z,74nm,1.2s
CCUT Cedar City 48.69 78 IAmb IAmb 02 21 14.8
comp=Z,95nm,1.7s
MURC Murrieta 48.82 85 P P 02 21 00.4 +1.1
baz=311
KNGR Kungurtug, Tuv 48.85 303 ⇓eP P 02 21 00.4 +0.9
KNGR pmax pmax
comp=Z,17nm,0.9s
GMRC Granite Mounta 49.01 83 P P 02 21 01.4 +0.5
baz=310,SNR=18
LCMT Little Creek M 49.10 79 IAmb IAmb 02 21 11.7
comp=Z,50nm,0.9s
MTPU Mount Pierson 49.11 77 IAmb IAmb 02 21 18.4
comp=Z,32nm,0.9s

KULLO Kullorsuaq 49.27 17 eP P 02 21 01.5 -0.7
KULLO IAmb IAmb 02 21 03.5
comp=Z,38nm,0.9s
PFO Pinyon Flats O 49.27 85 P P 02 21 02.6 -0.3
PFO Pinyon Flats O 49.27 85 P P 02 21 03.4 +0.4
baz=311,SNR=6.2
PFO Pinyon Flats O 49.27 85 P P 02 21 02.6 -0.3
PFO pmax pmax
comp=Z,27nm,1.3s
PFO Pinyon Flats O 49.27 85 P P 02 21 03.8 +0.8
TPFO Pinon Flats 49.28 85 P P 02 21 03.1 +0.2
baz=311,SNR=5.2
P18A Preston Nutter 49.31 74 IAmb IAmb 02 21 28.9
comp=Z,51nm,0.8s
BELC Belle Mtn. Jos 49.31 84 P P 02 21 03.1 -0.2
baz=311,SNR=12
109C Camp Elliot, M 49.34 86 IAmb IAmb 02 21 14.2
comp=Z,22nm,0.8s
109C Camp Elliot, M 49.34 86 P P 02 21 03.4 +0.1
baz=312
KNB Kanab 49.36 79 IAmb IAmb 02 21 29.0
comp=Z,57nm,1.0s
PKCU Pink Cliffs 49.40 78 IAmb IAmb 02 21 20.8
comp=Z,53nm,1.1s
K22A Casper 49.70 69 IAmb IAmb 02 21 26.1
comp=Z,34nm,1.0s
K22A Casper 49.70 69 P P 02 21 05.9 -0.3
baz=307,SNR=12
K22A Casper 49.70 69 P P 02 21 05.4 -0.7
baz=307,SNR=12
LYN LuoYang 49.72 278 ⇓P P 02 21 07.6 +1.5
LYN sP sP 02 21 16.4 -0.7
LYN PcP PcP 02 22 24.5 -2.4
LYN S S 02 28 11.3 -1.8
LYN pmax pmax
comp=Z,30nm,1.5s
LYN pmax pmax
comp=Z,620nm,8.8s
LYN LR LR
comp=Z,2µm,16.1s
LYN LR LR
comp=Z,2µm,16.1s
LYN LR LR
comp=Z,2µm,15.9s
TARA Tarawa 49.72 188 IAMs_20 IAMs_20 02 39 04.2
comp=Z,2µm,19.0s
IRM Iron Mountain 49.74 83 P P 02 21 06.3 -0.1
baz=311,SNR=8.0
BAR Barrett 49.75 86 IAmb IAmb 02 21 18.3
comp=Z,31nm,1.0s
MONP2 Monument Peak 49.77 85 P P 02 21 06.6 -0.2
baz=312,SNR=7.8
RWWY Rawlins 49.88 70 IAmb IAmb 02 21 28.2
comp=Z,49nm,1.1s
BC3 Big Chuckawall 49.88 84 P P 02 21 08.3 +0.8
baz=311,SNR=7.4
SWSC Sam W. Stewart 50.13 85 P P 02 21 09.5 +0.3
baz=312
IKP In-Ko-Pah, Jac 50.13 85 P P 02 21 09.9 +0.5
baz=312,SNR=5.1
RMX La Rumorosa 50.18 85 IAmb IAmb 02 21 47.9
comp=Z,52nm,1.6s
O20A White River Ci 50.21 72 P P 02 21 09.7 -0.3
baz=308,SNR=42
RSSD Black Hills 50.27 66 P P 02 21 08.4 -2.1
RSSD IAmb IAmb 02 21 53.9
comp=Z,56nm,1.6s
RSSD Black Hills 50.27 66 P P 02 21 10.4 -0.1
baz=307,SNR=6.0
RSSD Black Hills 50.27 66 P P 02 21 09.8 -0.7
baz=307
RSSD Black Hills 50.27 66 P P 02 21 08.4 -2.1
RSSD pmax pmax
comp=Z,56nm,1.7s
RSSD Black Hills 50.27 66 P P 02 21 09.9 -0.6
RSSD pP pwP 02 21 21.9 -0.4
PDMCI Parker Dam,Lak 50.28 82 P P 02 21 10.9 +0.5
baz=311,SNR=13
BLYC Blythe 50.40 83 IAmb IAmb 02 21 34.5
comp=Z,29nm,0.8s
MDND Maddock 50.55 60 P P 02 21 12.1 -0.2
baz=306
SPA0 Spitsbergen Ar 50.64 355 eP P 02 21 11.5 -1.1
SPA0 IAmb IAmb 02 21 18.5
comp=Z,121nm,1.2s
SPITS Spitsbergen Ar 50.64 355 P P 02 21 11.4 -1.2
comp=Z,8.0nm,0.4s,baz=46,slow=7.1,SNR=16
comp=Z,8.0nm,0.4s
SPITS Spitsbergen Ar 50.64 355 P P 02 21 13.1 +0.5
SPITS pmax pmax
comp=Z,122nm,1.3s
SPB2 Spitsbergen Ar 50.64 355 P P 02 21 12.0 -0.6
ESJX Sierra Juarez 50.66 86 IAmb IAmb 02 21 28.0
comp=Z,55nm,1.6s
GLA Glamis 50.67 84 IAmb IAmb 02 21 43.0
comp=Z,35nm,0.8s
GLA Glamis 50.67 84 P P 02 21 13.7 +0.3
baz=312,SNR=7.2
PV23 Carpenter Ridg 50.79 75 P P 02 21 14.2 -0.4
PV23 IAmb IAmb 02 21 40.1
comp=Z,54nm,0.8s
PV10 Paradox Valley 50.82 75 IAmb IAmb 02 21 28.6
comp=Z,56nm,0.8s
PV07 Paradox Valley 51.02 74 IAmb IAmb 02 21 31.3
comp=Z,44nm,1.0s
N23A Red Feather La 51.12 70 IAmb IAmb 02 22 05.3
comp=Z,53nm,1.2s
N23A Red Feather La 51.12 70 P P 02 21 17.0 0.0
baz=308,SNR=13
ULM Lac du Bonnet 51.12 55 P P 02 21 15.7 -0.8
comp=Z,3.4nm,0.5s,baz=313,slow=9.7,SNR=2.7
ULM LR LR 02 43 03.3
comp=Z,8µm,20.8s,baz=356,slow=36
comp=Z,3.4nm,0.5s
PV15 Paradox Valley 51.19 74 IAmb IAmb 02 21 51.6
comp=Z,60nm,1.1s
WHN Wuhan 51.20 272 ⇓P P 02 21 18.4 +1.1
WHN pmax pmax
comp=Z,140nm,1.3s
WUAZ Wupatki 51.21 79 IAmb IAmb 02 21 31.0
comp=Z,41nm,0.8s
WUAZ Wupatki 51.21 79 P P 02 21 17.8 +0.1
baz=311,SNR=26
SSLB Suanglung 51.79 261 P P 02 21 20.7 -1.2
SSLB IAmb IAmb 02 21 42.9
comp=Z,54nm,1.0s
SSLB IAMs_20 IAMs_20 02 40 45.5
comp=Z,2µm,22.0s
YULB Yu-li 51.87 260 IAmb IAmb 02 21 47.0
comp=Z,110nm,1.5s
MVCO Mesa Verde 51.90 76 IAmb IAmb 02 22 02.7
comp=Z,37nm,0.9s
MVCO Mesa Verde 51.90 76 P P 02 21 22.9 +0.1
baz=310,SNR=14
DAG Danmarks Havn 52.01 5 iP P 02 21 21.0 -1.8
DAG IAmb IAmb 02 21 24.1
comp=Z,29nm,1.1s
DAG Danmarks Havn 52.01 5 P P 02 21 21.9 -0.9
DAG pmax pmax
comp=Z,28nm,2.3s
XAN Xi'an 52.27 280 ⇑P P 02 21 25.0 -0.4
XAN pP pP 02 21 33.3 +0.1
XAN sP pwP 02 21 37.4 -0.3
XAN pmax pmax
comp=Z,26nm,1.3s
XAN LR LR
comp=Z,900nm,17.2s
XAN LR LR
comp=Z,3µm,15.8s
XAN LR LR
comp=Z,3µm,17.9s
BRIGG Briggsdale 52.28 70 P P 02 21 25.1 -0.4
BRIGG IAmb IAmb 02 21 46.8
comp=Z,41nm,1.0s
AGMN Agassiz Nation 52.30 57 P P 02 21 24.5 -0.8
baz=307
TPUB Ta-pu 52.35 261 P P 02 21 25.1 -1.0
TPUB IAmb IAmb 02 21 29.3
comp=Z,54nm,1.0s
TPUB IAMs_20 IAMs_20 02 42 34.3
comp=Z,2µm,20.0s
QZH Quanzhou 52.43 264 ⇑iP P 02 21 27.5 +0.9
QZH S S 02 28 53.4 +2.6
QZH pmax pmax
comp=Z,40nm,1.4s
QZH LR LR
comp=Z,540nm,16.6s

QZH LR LR
comp=Z,790nm,15.2s
QZH LR LR
comp=Z,980nm,20.2s
W18A Petrified Fore 52.49 78 P P 02 21 27.9 +0.8
baz=311
S22A 4UR Rach, Cre 52.57 74 IAmb IAmb 02 21 52.4
comp=Z,47nm,1.0s
S22A 4UR Ranch, Cre 52.57 74 P P 02 21 28.3 +0.4
baz=310,SNR=37
214A Organ Pipe Nat 52.67 84 P P 02 21 28.6 +0.3
baz=312
Q24A Divide 52.80 72 P P 02 21 29.8 +0.2
baz=310,SNR=6.3
SUSD Miller 52.97 63 IAmb IAmb 02 22 07.7
comp=Z,44nm,0.8s
SUSD Miller 52.97 63 P P 02 21 31.0 +0.6
baz=308
ZAA0 Zalesovo Array 53.20 313 P P 02 21 30.1 -1.9
ZALV Zalesovo Beam 53.20 313 P P 02 21 30.7 -1.3
comp=Z,4.6nm,0.5s,baz=53,slow=7.6,SNR=15
comp=Z,4.6nm,0.5s
ZALV Zalesovo Beam 53.20 313 iP P 02 21 30.8 -1.2
ZALV pmax pmax
comp=Z,5.0nm,0.5s
SDCO Great Sand Dun 53.37 73 IAmb IAmb 02 21 37.4
comp=Z,34nm,1.1s
SDCO Great Sand Dun 53.37 73 P P 02 21 34.8 +1.0
baz=310,SNR=43
SDCO Great Sand Dun 53.37 73 P P 02 21 34.4 +0.6
baz=310,SNR=43
OGNE Ogallala 53.39 68 P P 02 21 33.6 0.0
baz=310
OGNE Ogallala 53.39 68 P P 02 21 33.7 +0.1
baz=310
TUC Tucson 53.70 82 P P 02 21 35.1 -0.9
TUC Tucson 53.70 82 P P 02 21 37.3 +1.2
baz=312
TUC Tucson 53.70 82 P P 02 21 35.1 -0.9
TUC pmax pmax
comp=Z,16nm,1.0s
TUC MLR MLR
comp=Z,4µm,19.0s
TUC Tucson 53.70 82 P P 02 21 37.2 +1.2
SUMG Summit 54.01 13 iP P 02 21 37.0 -1.1
SUMG IAmb IAmb 02 21 39.8
comp=Z,50nm,1.0s
LZH Lanzhou 54.06 285 eP P 02 21 38.9 +0.2
LZH pP sP 02 21 47.5 -2.1
LZH sP pwP 02 21 51.9 +1.0
LZH pmax pmax
comp=Z,46nm,1.4s
K31A O'Neill 54.22 64 IAmb IAmb 02 23 09.5
comp=Z,44nm,0.8s
KSCO Kaye Shedlock' 54.28 70 P P 02 21 40.3 0.0
KSCO Kaye Shedlock' 54.28 70 P P 02 21 41.9 +1.7
baz=310,SNR=5.7
KSCO Kaye Shedlock' 54.28 70 P P 02 21 41.1 +0.9
baz=310,SNR=5.7
GTA Gaotai 54.32 291 ⇑P P 02 21 40.8 +0.3
GTA pP sP 02 21 49.5 -2.0
GTA sP pwP 02 21 53.1 +0.4
GTA pmax pmax
comp=Z,36nm,1.1s
GTA pmax pmax
comp=Z,1µm,9.5s
GTA LR LR
comp=Z,3µm,16.0s
GTA LR LR
comp=Z,4µm,16.4s
GTA LR LR
comp=Z,5µm,16.7s
T25A Trinidad 54.43 73 P P 02 21 42.4 +0.9
baz=311,SNR=38
DGZ Jazzator, Alta 54.59 307 ceP P 02 21 42.2 -0.2
DGZ pmax pmax
comp=Z,36nm,1.2s
ANMO Albuquerque 54.62 76 P P 02 21 42.8 -0.1
ANMO Albuquerque 54.62 76 P P 02 21 43.6 +0.8
baz=312,SNR=8.8
ANMO Albuquerque 54.62 76 P P 02 21 43.2 +0.4
baz=312
ANMO Albuquerque 54.62 76 ⇓eP P 02 21 43.7 +0.8
ANMO pmax pmax
comp=Z,18nm,1.1s
ANMO Albuquerque 54.62 76 P P 02 21 44.3 +1.4
ECSD EROS Data Cent 54.72 62 P P 02 21 43.0 -0.2
baz=310
EYMN Ely 54.81 55 P P 02 21 44.3 +0.5
baz=309
LENM Lemitar 54.82 77 P P 02 21 44.0 -0.3
Y22F Passcal Instru 54.92 77 P P 02 21 45.7 +0.8
baz=312
Y22D IRIS PASSCAL I 54.92 77 P P 02 21 45.5 +0.6
baz=312
Y22A Socorro 54.98 78 P P 02 21 46.5 +1.0
baz=312,SNR=13
319A Douglas 55.27 82 IAmb IAmb 02 22 09.4
comp=Z,32nm,1.1s
BGNE Belgrade 55.35 65 IAmb IAmb 02 22 21.4
comp=Z,48nm,0.8s
BGNE Belgrade 55.35 65 P P 02 21 48.0 +0.2
baz=310
121A Cookes Peak, D 55.42 79 IAmb IAmb 02 22 01.6
comp=Z,18nm,0.7s
121A Cookes Peak, D 55.42 79 P P 02 21 50.1 +1.5
baz=313,SNR=7.7
121A Cookes Peak, D 55.42 79 P P 02 21 49.2 +0.6
baz=313,SNR=7.7
E38A The Farm, Brul 55.64 57 IAmb IAmb 02 22 03.6
comp=Z,38nm,0.9s
E38A The Farm, Brul 55.64 57 P P 02 21 49.2 -0.5
baz=310
SPMN Marine on St. 55.86 59 P P 02 21 50.1 -1.3
SPMN Marine on St. 55.86 59 P P 02 21 51.6 +0.3
baz=310
CBKS Cedar Bluff 56.12 69 P P 02 21 54.2 +0.8
baz=311,SNR=9.7
CBKS Cedar Bluff 56.12 69 P P 02 21 53.6 +0.3
baz=311,SNR=9.7
I37A Lemond, Waseca 56.32 60 IAmb IAmb 02 22 07.8
comp=Z,48nm,1.2s
I37B Waseca 56.32 60 P P 02 21 54.7 0.0
baz=311
R32A Long Quarter, 56.98 68 IAmb IAmb 02 22 35.3
comp=Z,44nm,0.9s
R32A Long Quarter, 56.98 68 P P 02 22 00.2 +0.7
baz=312,SNR=5.8
N35A Tabor 57.14 64 P P 02 22 00.7 +0.1
baz=312,SNR=16
ZSN Zaisan 57.35 306 eP P 02 22 01.4 -0.6
comp=Z,92nm,2.8s,baz=306
ZSN eS S 02 29 58.2 +1.9
comp=Z,91nm,4.1s,baz=306
ZSN Zaisan 57.35 306 eP P 02 22 01.3 -0.6
ZSN eS S 02 29 58.2 +1.9
ZSN pmax pmax
comp=Z,92nm,2.8s
ZSN smax smax
comp=N,91nm,4.1s
GULI GuiLin 57.38 271 eP P 02 21 59.0 -3.4
MSTX Muleshoe 57.53 75 IAmb IAmb 02 22 44.1
comp=Z,43nm,1.1s
MSTX Muleshoe 57.53 75 P P 02 22 03.7 +0.2
baz=313,SNR=15
MSTX Muleshoe 57.53 75 P P 02 22 03.7 +0.2
baz=313,SNR=15
AMTX Amarillo 57.58 73 P P 02 22 03.5 -0.3
AMTX IAmb IAmb 02 22 18.6
comp=Z,37nm,0.9s
AMTX Amarillo 57.58 73 P P 02 22 04.1 +0.2
baz=313,SNR=6.9
AMTX Amarillo 57.58 73 P P 02 22 03.7 -0.1
baz=313
KSU1 Kansas State U 57.75 66 IAmb IAmb 02 22 24.6
comp=Z,37nm,0.9s
KSU1 Kansas State U 57.75 66 P P 02 22 03.4 -1.5
baz=312,SNR=8.1
KSU1 Kansas State U 57.75 66 P P 02 22 04.8 0.0
baz=312,SNR=8.1
SCIA State Center 57.81 62 P P 02 22 04.9 -0.3
baz=312
I40A Norwalk 57.91 59 IAmb IAmb 02 22 40.9
comp=Z,33nm,1.1s
F42A Maple Grove Fa 57.98 56 IAmb IAmb 02 22 14.4
comp=Z,29nm,0.7s
ELIS Ellis County 58.14 71 IAmb IAmb 02 22 10.8

comp=Z,88nm,1.4s
E43A Lone Tree Farm 58.16 54 IAmb IAmb 02 22 22.1
comp=Z,37nm,0.9s
E43A Lone Tree Farm 58.16 54 P **P** **02 22 07.8 +0.1**
baz=312
KURK Kurchatov 58.20 313 P **P** **02 22 07.9 +0.1**
KURK Kurchatov 58.20 313 P **P** **02 22 07.8 0.0**
KURK pP **pwP** **02 22 19.9 -0.3**
ARA0 ARCESS Array S 58.20 349 *eP* **P** **02 22 06.9 -0.7**
ARA0 IAmb IAmb 02 22 13.8
comp=Z,180nm,2.0s
ARCES ARCESS Array B 58.20 349 P **P** **02 22 06.0 -1.6**
comp=Z,4.2nm,0.6s,baz=30,slow=8.5,SNR=14
ARCES PcP **PcP** **02 22 56.9 -1.8**
comp=Z,9.8nm,0.9s,baz=25,slow=4.3,SNR=5.1
comp=Z,4.2nm,0.6s
WMQ Urumqi 58.29 302 ⇑P **P** **02 22 09.3 +0.6**
WMQ pP pwP 02 22 20.3 -0.7
WMQ sP sP 02 22 27.3 +7.6
WMQ pmax pmax
comp=Z,41nm,0.9s
WMQ LR LR
comp=Z,7μm,19.9s
WMQ LR LR
comp=Z,4μm,16.9s
WMQ LR LR
comp=Z,5μm,21.7s
KURBB Kurchatov Arra 58.30 313 P **P** **02 22 07.9 -0.6**
comp=Z,17nm,0.7s,baz=45,slow=6.6,SNR=55
KURBB S **S** **02 30 05.3 -3.3**
comp=Z,0.9nm,0.9s,baz=44,slow=13,SNR=2.9
comp=Z,17nm,0.7s
KURBB Kurchatov Arra 58.30 313 P **P** **02 22 07.0 -1.5**
KAN09 Caldwell North 58.48 69 P **P** **02 22 08.1 -2.0**
KAN09 IAmb IAmb 02 22 12.3
comp=Z,57nm,1.0s
N38A Joes South For 58.54 63 P **P** **02 22 09.9 -0.5**
baz=312,SNR=9.0
JETT Jettan, Norway 58.72 351 *eP* **P** **02 22 11.1 -0.1**
JFWS Jewell Farm 58.77 59 P **P** **02 22 10.4 -1.5**
baz=312
JFWS Jewell Farm 58.77 59 P **P** **02 22 11.2 -0.7**
baz=312
TRO Tromso 58.78 352 *eP* **P** **02 22 11.3 -0.3**
TRO IAmb IAmb 02 22 16.2
comp=Z,121nm,1.7s
L40A Anamosa 58.81 61 IAmb IAmb 02 22 25.1
comp=Z,37nm,0.8s
L40A Anamosa 58.81 61 P **P** **02 22 11.8 -0.4**
baz=313,SNR=8.9
I42A Draeger Farm, 58.83 58 P **P** **02 22 11.3 -1.0**
baz=313
GYA Guiyang 58.88 275 ⇑P **P** **02 22 15.8 +2.7**
GYA pmax pmax
comp=Z,32nm,1.0s
APA Apatity 58.93 345 ⇓*iP* **P** **02 22 11.6 -1.1**
APA pmax pmax
comp=Z,7.0nm,1.2s
KTK1 Kautokeino 58.96 350 *eP* **P** **02 22 12.2 -0.6**
KTK1 IAmb IAmb 02 22 19.4
comp=Z,174nm,2.0s
MKAR Makanchi Array 59.09 307 P **P** **02 22 13.3 -0.9**
comp=Z,9.2nm,0.8s,baz=54,slow=7.6,SNR=20
comp=Z,9.2nm,0.8s
P38A Dawn 59.16 64 P **P** **02 22 13.9 -0.9**
baz=313,SNR=15
MAKZ Makanchi 59.24 307 P **P** **02 22 13.1 -2.1**
MAKZ IAmb IAmb 02 22 17.0
comp=Z,26nm,1.1s
MAKZ Makanchi 59.24 307 P **P** **02 22 13.1 -2.1**
MAKZ pmax pmax
comp=Z,26nm,1.1s
MAKZ Makanchi 59.24 307 P **P** **02 22 14.5 -0.7**
T35A Sooner Cattle 59.28 68 IAmb IAmb 02 22 36.6
comp=Z,29nm,1.0s
T35B Sooner Cattle 59.28 68 P **P** **02 22 15.1 -0.5**
baz=313,SNR=8.3
GOMU GeErMu 59.41 291 P **P** **02 22 17.0 +0.1**
GOMU pmax pmax
comp=Z,21nm,0.9s
GOMU pmax pmax
comp=Z,340nm,6.2s
GOMU LR LR
comp=Z,1μm,15.4s
GOMU LR LR
comp=Z,1μm,14.1s
GOMU LR LR
comp=Z,1μm,16.5s
WMOK Wichita Mounta 59.42 71 IAmb IAmb 02 22 19.2
comp=Z,28nm,0.8s
WMOK Wichita Mounta 59.42 71 P **P** **02 22 17.2 +0.6**
baz=314,SNR=25
WMOK Wichita Mounta 59.42 71 P **P** **02 22 17.2 +0.6**
baz=313,SNR=25
L42A Oliver, Polo 59.70 60 IAmb IAmb 02 22 32.6
comp=Z,33nm,0.8s
L42A Oliver, Polo 59.70 60 P **P** **02 22 16.7 -1.7**
baz=313
OK052 Battle Ridge R 59.74 69 IAmb IAmb 02 23 37.8
comp=Z,60nm,1.2s
OK030 Cody Creek RV 59.80 69 IAmb IAmb 02 23 37.6
comp=Z,48nm,1.1s
N41A Harden Midland 59.93 61 P **P** **02 22 19.0 -1.0**
baz=313,SNR=13
P40A Paris 60.07 63 P **P** **02 22 20.0 -0.9**
baz=313,SNR=28
X34A Smith Ranch, M 60.08 71 IAmb IAmb 02 22 40.0
comp=Z,63nm,1.2s
TX31 Lajitas Ar. Si 60.18 79 P **P** **02 22 22.2 +0.3**
baz=315,SNR=26
TX32 Lajitas Array 60.18 79 IAmb IAmb 02 22 35.0
comp=Z,20nm,0.8s
TXAR Lajitas Array 60.18 79 P **P** **02 22 22.1 +0.1**
comp=Z,3.7nm,0.4s,baz=298,slow=4.7,SNR=64
comp=Z,3.7nm,0.4s
BVA0 Borovoye Array 60.21 319 P **P** **02 22 21.4 -0.3**
BVAR Borovoye Array 60.21 319 P **P** **02 22 21.7 0.0**
comp=Z,57nm,0.8s,baz=51,slow=6.9,SNR=109
comp=Z,57nm,0.8s
BRVK Borovoye 60.23 319 P **P** **02 22 21.6 -0.2**
BRVK IAmb IAmb 02 22 30.6
comp=Z,37nm,0.8s
BRVK Borovoye 60.23 319*c iP* **P** **02 22 21.5 -0.3**
BRVK pmax pmax
comp=Z,40nm,1.0s
BRVK Borovoye 60.23 319 P **P** **02 22 21.9 0.0**
BRVK pP **pwP** **02 22 34.2 -0.1**
ABTX Abilene, Hawle 60.36 74 P **P** **02 22 23.7 +0.6**
baz=314,SNR=17
ABTX Abilene, Hawle 60.36 74 P **P** **02 22 23.7 +0.6**
baz=314,SNR=17
TUL1 Leonard 60.39 69 IAmb IAmb 02 22 59.3
comp=Z,32nm,0.9s
TUL1 Leonard 60.39 69 P **P** **02 22 22.5 -0.7**
baz=314,SNR=11
TUL1 Leonard 60.39 69 P **P** **02 22 23.2 0.0**
baz=314,SNR=11
GLMI Grayling 60.44 54 P **P** **02 22 22.3 -1.1**
baz=314
L44A Lake County Fo 60.53 58 P **P** **02 22 22.0 -2.1**
baz=314
S39A Bolivar 60.60 65 P **P** **02 22 23.0 -1.6**
baz=314
HPIG 60.62 83 P **P** **02 22 25.1 0.0**
RLO Rose Lookout 60.67 68 IAmb IAmb 02 23 01.9
comp=Z,38nm,1.3s
R40A Maddies Statio 60.79 64 IAmb IAmb 02 22 39.0
comp=Z,25nm,0.6s
R40A Maddies Statio 60.79 64 P **P** **02 22 24.4 -1.5**
baz=314,SNR=24
HQIL Hanson Quary C 60.83 59 IAMs_20 IAMs_20 02 49 43.2
comp=Z,6μm,21.0s
U38A Gravette 60.85 67 IAmb IAmb 02 23 08.2
comp=Z,18nm,0.8s
U38A Gravette 60.85 67 P **P** **02 22 25.0 -1.4**
baz=314,SNR=9.3
LOOK Love County 60.89 71 IAmb IAmb 02 22 30.1
comp=Z,144nm,1.4s
HDIL Hopedale 60.90 61 P **P** **02 22 26.2 -0.4**
baz=314
M44A Midewin, Midew 61.01 59 P **P** **02 22 26.4 -0.9**
baz=314
SVE Sverdlovsk 61.10 326 *eP* **P** **02 22 28.8 +1.1**
SVE pmax pmax
comp=Z,91nm,1.5s
SCHQ Schefferville 61.21 37 P **P** **02 22 27.4 -1.0**
comp=Z,13nm,1.1s,baz=297,slow=5.7,SNR=6.5
comp=Z,13nm,1.1s
SCHQ Schefferville 61.21 37 P **P** **02 22 28.0 -0.5**
HHAR Hobbs 61.22 67 P **P** **02 22 27.4 -1.5**
baz=314
FAUS Fauske 61.29 353 *eP* **P** **02 22 29.3 +0.5**
FAUS IAmb IAmb 02 22 34.9
comp=Z,218nm,2.0s
Z35A Perchaven, San 61.31 72 IAmb IAmb 02 22 42.4
comp=Z,40nm,0.8s
Z35A Perchaven, San 61.31 72 P **P** **02 22 29.5 0.0**
baz=314,SNR=6.3
BRZS Berezniki 61.42 315 *eP* **P** **02 22 29.3 -0.8**
comp=Z,25nm,1.3s,baz=315
BRZS Berezniki 61.42 315 *eP* **P** **02 22 29.2 -0.8**
BRZS pmax pmax
comp=Z,25nm,1.3s
J47A Sunmer 61.44 56 P **P** **02 22 29.2 -1.0**
baz=314
J47A P **P** **02 22 29.2 -1.0**
baz=314
CCM Cathedral Cave 61.54 64 P **P** **02 22 29.2 -1.7**
CCM IAmb IAmb 02 22 38.4
comp=Z,18nm,0.6s
CCM Cathedral Cave 61.54 64 P **P** **02 22 30.1 -0.9**
baz=314,SNR=11
CCM Cathedral Cave 61.54 64 P **P** **02 22 30.1 -0.9**
baz=314
CCM Cathedral Cave 61.54 64 P **P** **02 22 29.2 -1.7**
CCM pmax pmax
comp=Z,18nm,0.6s
CCM Cathedral Cave 61.54 64 P **P** **02 22 29.8 -1.1**
CCM pP **sP** **02 22 40.5 -1.7**
CCM sP **pwP** **02 22 45.9 +2.9**
X37A Clayton 61.55 69 P **P** **02 22 31.4 +0.3**
baz=314,SNR=12
MGMO Mountain Grove 61.58 65 IAmb IAmb 02 23 19.0
comp=Z,25nm,1.1s
O44A Mansfield 61.63 60 P **P** **02 22 31.1 -0.5**
baz=314
PRGR Permogore 61.68 337 *eP* **P** **02 22 30.3 -1.2**
PRGR pmax pmax
comp=Z,29nm,1.0s
SLM Saint Louis 61.70 63 IAmb IAmb 02 22 56.0
comp=Z,36nm,0.9s
JCT Junction City 61.76 76 IAmb IAmb 02 22 47.9
comp=Z,49nm,1.1s
JCT Junction City 61.76 76 P **P** **02 22 32.5 -0.1**
baz=315
JCT Junction City 61.76 76 P **P** **02 22 32.5 -0.1**
baz=315
PZH PanZhiHua 61.94 278 P **P** **02 22 34.0 0.0**
PZH sP **pwP** **02 22 47.5 +1.2**
PZH S **S** **02 30 55.0 -1.2**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,560nm,11.3s
PZH LR LR
comp=Z,1μm,16.9s
PZH LR LR
comp=Z,1μm,17.5s
PZH LR LR
comp=Z,2μm,19.1s
WHTX Lake Whitney, 62.12 73 P **P** **02 22 35.6 +0.6**
baz=315,SNR=11
WHTX Lake Whitney, 62.12 73 P **P** **02 22 36.2 +1.2**
baz=315,SNR=11
ARU Arti 62.13 327 P **P** **02 22 34.7 0.0**
comp=Z,58nm,0.7s,baz=13,slow=2.6,SNR=68
comp=Z,58nm,0.7s
ARU Arti 62.13 327 P **P** **02 22 34.8 +0.1**
ARU Arti 62.13 327*c iP* **P** **02 22 35.0 +0.4**
ARU 02 23 14.2
ARU 02 24 52.1
ARU S **S** **02 31 01.6 +4.1**
ARU SS **SS** **02 35 00.1 +0.5**
ARU pmax pmax
comp=Z,139nm,1.4s
ARU MLR MLR
comp=Z,4μm,16.0s
ARU Arti 62.13 327 P **P** **02 22 35.0 +0.4**
Q44A Meyer Farm, Va 62.20 62 P **P** **02 22 35.3 -0.1**
baz=315
SFIN Lafayette 62.22 59 P **P** **02 22 35.4 -0.1**
baz=315
QIZ Qiongzhong 62.26 266 P **P** **02 22 38.1 +2.0**
QIZ pmax pmax
comp=Z,20nm,1.1s
TDK Taldyqorghan 62.29 308 *eP* **P** **02 22 35.1 -0.9**
baz=308
TDK Taldyqorghan 62.29 308 *eP* **P** **02 22 35.0 -0.9**
KMI Kunming 62.30 276 ⇑P **P** **02 22 38.5 +2.0**
KMI pmax pmax
comp=Z,15nm,1.2s
HNR Honiara 62.38 201 IAMs_20 IAMs_20 02 48 24.6
comp=Z,2μm,19.0s
MIAR Mount Ida 62.64 68 P **P** **02 22 38.5 +0.1**
baz=315,SNR=27
MIAR Mount Ida 62.64 68 P **P** **02 22 38.1 -0.4**
baz=315,SNR=27
AAM Ann Arbor 62.71 56 P **P** **02 22 38.7 0.0**
baz=315
Z38A Mt. Pleasant 62.71 70 P **P** **02 22 39.2 +0.3**
baz=315,SNR=12
GENI Genyem 62.74 225 P **P** **02 22 38.6 -0.6**
OLIL Olney 62.83 61 P **P** **02 22 38.2 -1.4**
OTUK Ortayu 62.84 314 P **P** **02 22 38.4 -1.2**
SMPI Sarmi 62.87 226 P **P** **02 22 39.7 -0.3**
comp=Z,9μmcomp=Z,41nm,1.5s
435B Jarrell 62.90 74 IAmb IAmb 02 23 15.6
comp=Z,43nm,1.0s
435B Jarrell 62.90 74 P **P** **02 22 41.9 +1.7**
baz=315
435B Jarrell 62.90 74 P **P** **02 22 39.7 -0.4**
baz=315
S44A Carbondale 62.92 63 IAmb IAmb 02 22 53.6
comp=Z,34nm,0.8s
S44A Carbondale 62.92 63 P **P** **02 22 39.9 -0.3**
baz=315
PDGK Podgornoye 62.94 306 P **P** **02 22 39.4 -1.0**
CGM3 Cape Girardeau 62.97 64 P **P** **02 22 40.0 -0.5**
CGM3 IAmb IAmb 02 22 48.0
comp=Z,11nm,0.8s
LCAR Lake Charles 62.98 65 IAmb IAmb 02 22 47.7
comp=Z,19nm,0.9s
LCAR Lake Charles 62.98 65 P **P** **02 22 39.2 -1.4**
baz=315,SNR=13
SHLS Shalkode 63.07 306 *eP* **P** **02 22 38.9 -2.5**
comp=Z,29nm,1.2s,baz=306
SHLS Shalkode 63.07 306 *eP* **P** **02 22 38.8 -2.5**
SHLS pmax pmax
comp=Z,29nm,1.2s
237A Washetta, Mont 63.11 72 P **P** **02 22 41.9 +0.4**
baz=315,SNR=6.3
UALR University of 63.20 67 IAmb IAmb 02 22 57.3
comp=Z,66nm,1.4s
SADO Sadowa 63.24 51 LR LR 02 50 51.4
comp=Z,4μm,19.3s,baz=4.0,slow=37
KPKS Kokpek 63.25 307 *eP* **P** **02 22 41.6 -0.9**
comp=Z,38nm,1.3s,baz=307
KPKS *eS* **S** **02 31 14.8 +2.6**
comp=Z,70nm,4.5s,baz=307
KPKS Kokpek 63.25 307 *eP* **P** **02 22 41.5 -0.9**
KPKS *eS* **S** **02 31 14.8 +2.6**
KPKS pmax pmax
comp=Z,38nm,1.3s
KPKS smax smax
comp=N,70nm,4.5s
KIRV Kirov 63.25 333 P **P** **02 22 42.5 +0.4**
comp=N,30nm,0.7s,baz=333,slow=2.0,SNR=11
comp=N,30nm,0.7s
KIRV Kirov 63.25 333*c iP* **P** **02 22 42.3 +0.3**
UZB Uzynbulak 63.30 306 *eP* **P** **02 22 41.9 -1.0**
baz=306
UZB Uzynbulak 63.30 306 *eP* **P** **02 22 41.9 -1.0**
O48B Farmland 63.36 58 P **P** **02 22 41.4 -1.7**
baz=316,SNR=11
O48B Farmland 63.36 58 P **P** **02 22 42.4 -0.7**
baz=315,SNR=11
N49A Columbus Grove 63.41 57 IAmb IAmb 02 22 50.1
comp=Z,61nm,1.4s
N49A Columbus Grove 63.41 57 P **P** **02 22 42.1 -1.3**
baz=316
N49A P **P** **02 22 42.1 -1.3**
baz=316
WLAR White Oak Lake 63.52 69 P **P** **02 22 44.4 +0.2**
833A Chaparral WMA, 63.53 77 P **P** **02 22 45.8 +1.3**
baz=316
833A Chaparral WMA, 63.53 77 P **P** **02 22 44.5 0.0**
baz=316
SATY Saty 63.68 306 *eP* **P** **02 22 44.7 -0.7**
baz=306
SATY Saty 63.68 306 *eP* **P** **02 22 44.6 -0.8**
P48A Milroy 63.78 59 IAmb IAmb 02 23 19.6
comp=Z,52nm,1.1s
P48A Milroy 63.78 59 P **P** **02 22 44.6 -1.3**
baz=316,SNR=14
P48A P **P** **02 22 44.6 -1.3**
baz=316,SNR=14
KLMR Klimovskoe 63.82 339 *eP* **P** **02 22 45.5 -0.2**
KLMR AMP 02 22 53.2
comp=Z,24nm,1.2s
KLMR Klimovskoe 63.82 339 *eP* **P** **02 22 45.5 -0.2**
KLMR pmax pmax
comp=Z,24nm,1.2s
NATX Nacogdoches 63.97 71 IAmb IAmb 02 22 50.7
comp=Z,45nm,0.8s
NATX Nacogdoches 63.97 71 P **P** **02 22 47.6 +0.4**
baz=316,SNR=8.3
NATX Nacogdoches 63.97 71 P **P** **02 22 46.8 -0.4**
baz=316,SNR=8.3
P49A Miami Univ. Ec 64.11 59 IAmb IAmb 02 23 18.9
comp=Z,26nm,0.9s
P49A Miami Univ. Ec 64.11 59 P **P** **02 22 47.1 -0.9**
baz=316
KUU Kurty 64.11 308 *eP* **P** **02 22 47.0 -1.1**
comp=Z,13nm,0.7s,baz=308
KUU Kurty 64.11 308 *eP* **P** **02 22 47.0 -1.1**
KUU pmax pmax
comp=Z,13nm,0.7s
DELO Deloro Mine 64.17 51 IAmb IAmb 02 23 44.0
comp=Z,47nm,1.3s
MWPI Manokwari, Pap 64.17 232 P **P** **02 22 48.3 -0.3**
comp=Z,70nm,0.5s
WCI Wyandotte Cave 64.19 61 P **P** **02 22 47.0 -1.6**
WCI IAmb IAmb 02 23 22.7
comp=Z,42nm,1.1s
WCI Wyandotte Cave 64.19 61 P **P** **02 22 47.6 -0.9**
baz=316
WCI Wyandotte Cave 64.19 61 P **P** **02 22 47.0 -1.6**
WCI pmax pmax
comp=Z,42nm,1.1s
WCI Wyandotte Cave 64.19 61 P **P** **02 22 49.0 +0.4**
MDOK Medeo 64.29 307 P **P** **02 22 48.8 -0.6**
AAA Alma-Ata 64.33 307 *eP* **P** **02 22 49.6 +0.1**
baz=308
AAA Alma-Ata 64.33 307 *eP* **P** **02 22 49.6 +0.1**
NSS Namsos 64.36 354 *eP* **P** **02 22 49.2 0.0**
TNSS Tian-Shan 64.43 307 *eP* **P** **02 22 49.3 -1.4**
baz=307
TNSS Tian-Shan 64.43 307 *eP* **P** **02 22 49.2 -1.4**
ACSO Alum Creek Sta 64.54 57 IAmb IAmb 02 23 48.7
comp=Z,58nm,1.5s
ACSO Alum Creek Sta 64.54 57 P **P** **02 22 49.9 -1.0**
baz=316
HKT Hockley 64.55 73 P **P** **02 22 51.7 +0.8**
baz=316
HKT Hockley 64.55 73 P **P** **02 22 52.4 +1.4**
HKT pP **pwP** **02 23 05.3 +2.4**
T47A Sharon Grove 64.62 62 P **P** **02 22 51.3 -0.1**
baz=316,SNR=11
WVT Waverly 64.83 63 P **P** **02 22 51.5 -1.2**
WVT IAmb IAmb 02 23 11.4
comp=Z,25nm,0.9s
WVT Waverly 64.83 63 P **P** **02 22 51.5 -1.2**
baz=316,SNR=7.4
WVT Waverly 64.83 63 P **P** **02 22 52.2 -0.6**
baz=316
WVT Waverly 64.83 63 P **P** **02 22 51.6 -1.2**
WVT pmax pmax
comp=Z,25nm,0.9s
WVT MLR MLR
comp=Z,3μm,19.0s
WVT Waverly 64.83 63 P **P** **02 22 52.6 -0.2**
WVT pP **pwP** **02 23 05.2 +0.3**
WVT sP sP 02 23 10.6 +6.5
M53A WI Miller and 64.87 55 P **P** **02 22 52.0 -1.0**
baz=317
TNCH TengChong 65.01 279 P **P** **02 22 54.3 -0.1**
TNCH pmax pmax
comp=Z,370nm,3.6s
P51A Williamsport 65.04 58 IAmb IAmb 02 23 45.5
comp=Z,89nm,1.8s
OXF Oxford 65.09 66 P **P** **02 22 54.1 -0.4**
baz=316
OXF Oxford 65.09 66 P **P** **02 22 54.0 -0.4**
baz=316
TKM2 Tokmak 2 65.19 308 P **P** **02 22 55.6 +0.3**
SNR=15
Q51A Peebles 65.22 58 P **P** **02 22 54.6 -0.7**
baz=317,SNR=14
Q51A P **P** **02 22 54.6 -0.7**
baz=317,SNR=14
WVNY West Valley, N 65.22 53 IAmb IAmb 02 23 03.4
comp=Z,38nm,0.8s
R50A Paris 65.22 59 IAmb IAmb 02 23 54.1
comp=Z,27nm,1.0s
O52A Adamsville 65.23 56 P **P** **02 22 54.5 -0.8**
baz=317,SNR=9.3
O52A P **P** **02 22 54.5 -0.8**
baz=317,SNR=9.3
SGDS Sogindy 65.28 309 *eP* **P** **02 22 55.2 -0.5**
comp=Z,72nm,2.6s,baz=309
SGDS Sogindy 65.28 309 *eP* **P** **02 22 55.2 -0.5**
SGDS pmax pmax
comp=Z,72nm,2.6s
MMNY Mt. Morris Dam 65.33 52 IAmb IAmb 02 23 03.4
comp=Z,43nm,0.8s
BOOM Boomskoye usch 65.34 308 IAmb IAmb 02 24 15.3
comp=Z,28nm,1.1s
P52A Corning 65.42 57 IAmb IAmb 02 23 26.1
comp=Z,30nm,1.1s
P52A Corning 65.42 57 P **P** **02 22 55.9 -0.7**
baz=317
O53A New Philadelph 65.46 56 IAmb IAmb 02 23 48.0
comp=Z,87nm,1.6s
O53A New Philadelph 65.46 56 P **P** **02 22 56.4 -0.4**
baz=317
Y45A Yeager Farm, C 65.47 66 P **P** **02 22 57.2 +0.2**
baz=316,SNR=14
USP Ospenovka 65.48 309 P **P** **02 22 57.5 +0.5**
SNR=24
SIJI Sorong 65.51 234 P **P** **02 22 57.9 +0.4**
comp=Z,66nm,1.0s,baz=23,slow=7.1,SNR=24
comp=Z,66nm,1.0s
SIJI Sorong 65.51 234 P **P** **02 22 57.0 -0.4**
comp=Z,63nm,0.9s
PLAL Pickwick Lake 65.51 64 IAmb IAmb 02 23 24.6
comp=Z,42nm,0.8s
LONY Lake Ozonia 65.55 49 P **P** **02 22 56.6 -0.8**
baz=318
ZAIG Zacatecas 65.56 84 P **P** **02 22 58.0 -0.2**
342B Flagon Creek P 65.63 70 P **P** **02 22 59.9 +1.9**
baz=316
V48A Smith Brothers 65.68 63 IAmb IAmb 02 23 26.5
comp=Z,28nm,0.9s
V48A Smith Brothers 65.68 63 P **P** **02 22 58.3 0.0**
baz=316
U49A Red Boiling Sp 65.70 62 IAmb IAmb 02 23 26.8
comp=Z,62nm,1.4s
U49A Red Boiling Sp 65.70 62 P **P** **02 22 56.9 -1.5**
baz=317
KBK Karagaybulak 65.71 308 P **P** **02 22 59.2 +0.5**
SNR=7.1
FINES FINESS Array B 65.81 346 P **P** **02 22 56.9 -1.8**
comp=Z,10nm,0.8s,baz=36,slow=7.3,SNR=32
comp=Z,10nm,0.8s
FINES FINESS Array B 65.81 346 *i* P **P** **02 22 57.5 -1.2**
FINES pmax pmax
comp=Z,10.0nm,0.8s
T50A Nancy 65.86 61 P **P** **02 22 58.5 -1.0**
baz=317
T50A P **P** **02 22 58.5 -1.0**
baz=317
P53A Whipple 65.92 57 IAmb IAmb 02 24 12.8
comp=Z,54nm,1.4s
O54A Avella 65.94 56 P **P** **02 22 59.4 -0.6**
baz=317
O54A P **P** **02 22 59.4 -0.6**
baz=317
L56A Greenwood 65.95 52 P **P** **02 22 59.7 -0.3**
baz=318,SNR=21
L56A P **P** **02 22 59.7 -0.3**
baz=318,SNR=21

AAK	Ala-Archa	65.95	308		P		P	02 23 00.6	+0.4	
	SNR=14									
AAK	Ala-Archa	65.95	308		P		P	02 22 58.1	-2.1	
AAK					IAmb		IAmb	02 23 13.5		
	comp=Z,76nm,1.7s									
AAK	Ala-Archa	65.95	308	*c*	*i*P		P	02 23 00.3	+0.1	
AAK					pmax		pmax			
	comp=Z,65nm,2.5s									
AAK	Ala-Archa	65.95	308		P		P	02 23 00.5	+0.3	
K57A	Scipio Center	66.02	51		P		P	02 22 58.0	-2.4	
	baz=318									
S51A	Beattyville	66.09	59		IAmb		IAmb	02 23 32.3		
	comp=Z,24nm,1.1s									
VBMS	Vicksburg	66.09	68		P		P	02 23 01.7	+0.8	
	baz=316,SNR=7.3									
VBMS	Vicksburg	66.09	68		P		P	02 23 00.5	-0.5	
	baz=316,SNR=7.3									
PMG	Port Moresby	66.13	215		P		P	02 23 01.2	-0.1	
	comp=Z,8nm,0.3s,baz=25,slow=18,SNR=4.7									
	comp=Z,2.8nm,0.3s									
J58A	Remsen	66.16	50		IAmb		IAmb	02 24 37.3		
	comp=Z,48nm,1.4s									
D62A	Allapoint, All	66.21	44		IAmb		IAmb	02 23 14.4		
	comp=Z,20nm,0.8s									
UCH	Uchtor	66.25	308		P		P	02 23 03.0	+0.6	
	SNR=8.2									
EKS2	Erkin-Say	66.29	309		P		P	02 23 03.0	+0.7	
	SNR=17									
J59A	Piesco	66.45	50		IAmb		IAmb	02 23 09.7		
	comp=Z,44nm,1.5s									
R53A	Hurricane	66.47	58		IAmb		IAmb	02 23 35.7		
	comp=Z,35nm,0.9s									
X48A	Hartselle	66.48	64		IAmb		IAmb	02 23 30.1		
	comp=Z,22nm,0.9s									
X48A	Hartselle	66.48	64		P		P	02 23 03.0	-0.5	
	baz=317,SNR=7.4									
344A	Westbrook Farm	66.52	69		P		P	02 23 04.2	+0.5	
	baz=317,SNR=9.1									
SWET	Sewanee	66.56	63		IAmb		IAmb	02 23 31.9		
	comp=Z,28nm,0.9s									
MCWV	Mont Chateau	66.61	56		P		P	02 23 03.0	-1.2	
	baz=318									
146A	Union	66.64	67		P		P	02 23 04.8	+0.3	
	baz=317,SNR=15									
BINY	Binghamton	66.68	51		P		P	02 23 03.6	-1.1	
	baz=318									
AML	Almayashu	66.72	309		P		P	02 23 06.2	+0.8	
	SNR=17									
FAKI	Fak Fak	66.77	232		P		P	02 23 04.4	-1.1	
FAKI					IAmb		IAmb	02 23 09.6		
	comp=Z,60nm,1.3s									
FAKI	Fak Fak	66.77	232		P		P	02 23 05.1	-0.4	
	comp=Z,32nm,1.0s									
Z47A	Carrollton	66.80	66		P		P	02 23 04.6	-0.9	
	baz=317									
RAF	Rauma	66.82	348		*e*P		P	02 23 05.2	+0.1	
SSPA	Standing Stone	66.89	54		P		P	02 23 04.1	-1.9	
SSPA					IAmb		IAmb	02 23 13.9		
	comp=Z,20nm,0.8s									
SSPA	Standing Stone	66.89	54		P		P	02 23 05.5	-0.5	
	baz=318									
SSPA	Standing Stone	66.89	54		P		P	02 23 05.8	-0.2	
	baz=318									
SSPA	Standing Stone	66.89	54		P		P	02 23 05.4	-0.6	
TZTN	Tazewell	66.91	60		P		P	02 23 05.1	-1.2	
	baz=317									
W50A	Signal Mountai	66.92	62		IAmb		IAmb	02 23 34.6		
	comp=Z,40nm,0.9s									
W50A	Signal Mountai	66.92	62		P		P	02 23 05.8	-0.5	
	baz=317									
ACCN	Adirondack Com	66.92	49		IAmb		IAmb	02 23 13.5		
	comp=Z,26nm,1.1s									
ACCN	Adirondack Com	66.92	49		P		P	02 23 05.0	-1.1	
	baz=319									
G62A	West of Eustis	66.98	46		IAmb		IAmb	02 23 20.3		
	comp=Z,21nm,0.8s									
V51A	Loudon	67.01	61		IAmb		IAmb	02 23 35.1		
	comp=Z,57nm,1.2s									
LBNH	Lisbon	67.09	47		P		P	02 23 05.9	-1.4	
	baz=320									
AKTO	Aktyubinsk	67.12	323		P		P	02 23 07.7	+0.4	
L59A	Walton	67.15	51		IAmb		IAmb	02 23 32.2		
	comp=Z,33nm,1.0s									
H62A	Milan	67.19	47		IAmb		IAmb	02 23 22.9		
	comp=Z,29nm,0.9s									
FPAL	Fort Paine	67.23	63		IAmb		IAmb	02 23 36.3		
	comp=Z,42nm,0.9s									
MEF	Metsahovi	67.23	346		*e*P		P	02 23 08.0	+0.2	
F63A	Nahmakanta, Br	67.25	45		P		P	02 23 07.3	-0.9	
	baz=321									
F63A					P		P	02 23 07.3	-0.9	
	baz=321									
KSPA	Keystone Colle	67.27	52		IAmb		IAmb	02 24 44.9		
	comp=Z,97nm,1.8s									
KSPA	Keystone Colle	67.27	52		P		P	02 23 07.4	-1.0	
	baz=319									
LBMI	Labuha	67.29	238		P		P	02 23 08.3	-0.5	
	comp=Z,1µmcomp=Z,62nm,1.0s									
346A	Big Creek Wild	67.31	68		P		P	02 23 09.3	+0.5	
AB31	Akbulak array	67.33	322	*i*	P		P	02 23 08.6	0.0	
ABKAR	Akbulak array	67.33	322		P		P	02 23 08.5	-0.1	
N58A	Sunbury	67.33	53		IAmb		IAmb	02 23 23.3		
	comp=Z,28nm,0.9s									
TKL	Tuckaleechee C	67.44	61		IAmb		IAmb	02 23 40.2		
	comp=Z,42nm,0.9s									
R55A	Marlinton	67.48	57		P		P	02 23 08.3	-1.6	
	baz=318									
R55A					P		P	02 23 08.3	-1.6	
	baz=318									
PKME	Peaks-Kenny Pk	67.51	45		P		P	02 23 08.5	-1.3	
	baz=321									
KSH	Kashi	67.52	305		P		P	02 23 14.6	+4.4	
KSH					sP		pwP	02 23 26.8	+4.1	
KSH					pmax		pmax			
	comp=Z,39nm,1.2s									
KSH					LR		LR			
	comp=Z,2µm,17.9s									
KSH					LR		LR			
	comp=Z,3µm,15.8s									
KSH					LR		LR			
	comp=Z,4µm,16.1s									
KK31	Karatay Array	67.53	311		P		P	02 23 08.6	-1.5	
KK31	Karatay Array	67.53	311	*i*	P		P	02 23 09.9	-0.2	
LRAL	Lakeview Retre	67.54	65		IAmb		IAmb	02 23 37.6		
	comp=Z,27nm,1.1s									
LRAL	Lakeview Retre	67.54	65		P		P	02 23 09.5	-0.7	
	baz=317									
LRAL	Lakeview Retre	67.54	65		P		P	02 23 09.7	-0.5	
	baz=317									
MYLDM	Lahad Datu	67.61	249		P		P	02 23 10.3	-0.5	
	comp=Z,2µmcomp=Z,60nm,1.2s									
NC303	NORSAR Array S	67.68	353		IAmb		IAmb	02 24 05.5		
	comp=Z,57nm,1.4s									
W52A	Murphy	67.76	62		IAmb		IAmb	02 23 26.8		
	comp=Z,25nm,1.0s									
NB2	NORSAR Subarra	67.87	354		P		P	02 23 10.4	-1.5	
	baz=7.8,slow=6.5									
NB2	NORSAR Subarra	67.87	354		P		P	02 23 10.4	-1.5	
	comp=Z,14nm,0.9s,baz=7.8,slow=6.5									
NOA	NORSAR Array B	67.87	354		P		P	02 23 10.7	-1.2	
	comp=Z,6.8nm,0.8s,baz=8.9,slow=6.4,SNR=29									
	comp=Z,6.8nm,0.8s									
L61B	Northampton	68.10	49		P		P	02 23 12.3	-1.3	
	baz=320									
BLA	Blacksburg	68.11	58		P		P	02 23 11.8	-2.1	
	baz=318									
NC602	NORSAR Array S	68.15	353		*e*P		P	02 23 14.1	+0.5	
NORES	NORESS Array B	68.15	353		P		P	02 23 16.6	+3.0	
LUPA	Lehigh Univers	68.19	52		IAmb		IAmb	02 23 22.8		
	comp=Z,39nm,1.0s									
KKM	Kota Kinabalu	68.29	252		P		P	02 23 15.9	+0.7	
KKM					IAmb		IAmb	02 23 18.4		
	comp=Z,24nm,0.9s									
KKM	Kota Kinabalu	68.29	252		P		P	02 23 14.1	-1.1	
	comp=Z,31nm,1.4s									
Z51A	Franklin	68.37	64		IAmb		IAmb	02 23 43.1		
	comp=Z,25nm,0.9s									
BG3	Lake Jocassee	68.39	61		IAmb		IAmb	02 23 44.3		
	comp=Z,55nm,1.1s									
MSVF	Nonsavu	68.44	181		P		P	02 23 14.6	-1.3	
	comp=Z,0.9nm,0.3s,baz=90,slow=20,SNR=2.2									
	comp=Z,0.9nm,0.3s									
IUG	luzhnay	68.49	311		*e*P		P	02 23 16.5	+0.3	
	baz=311									
IUG	luzhnay	68.49	311		*e*P		P	02 23 16.5	+0.3	
VSU	Vasula	68.54	345		*e*P		P	02 23 16.3	+0.2	
VSU	Vasula	68.54	345	⇓	*e*P		P	02 23 16.9	+0.8	
VSU					pmax		pmax			
	comp=Z,139nm,2.4s									
HRV	Adam Dziewonsk	68.59	48		P		P	02 23 14.3	-2.4	
	baz=320									
Y52A	Lilburn	68.59	62		IAmb		IAmb	02 23 35.0		
	comp=Z,22nm,0.8s									
PAL	Palisades	68.60	51		P		P	02 23 14.4	-2.3	
	baz=320									
GTOI	Gorontalo	68.69	243		P		P	02 23 17.0	-0.6	
	comp=Z,246nmcomp=Z,7.6nm,0.9s									
V55A	Taylorsville	68.69	59		IAmb		IAmb	02 24 00.2		
	comp=Z,60nm,1.5s									
SHL	Shillong	68.72	285		IAmb		IAmb	02 23 20.1		
	comp=Z,60nm,1.1s									
250A	Grady	68.73	65		P		P	02 23 17.7	0.0	
	baz=318,SNR=9.6									
MTSE	Matsula	68.76	346		*e*P		P	02 23 17.7	+0.2	
MOS	Moscow	68.86	338		*e*P		P	02 23 17.1	-1.0	
MOS					*e*			02 23 39.6		
MOS					pmax		pmax			
	comp=Z,44nm,1.2s									
MOS					MLR		MLR			
	comp=N,3µm,17.0s									
MOS					MLR		MLR			
	comp=E,2µm,17.0s									
MOS					MLR		MLR			
	comp=Z,3µm,17.0s									
BRAL	Brewton	68.87	66		P		P	02 23 19.2	+0.6	
	baz=318,SNR=6.4									
BRAL	Brewton	68.87	66		P		P	02 23 18.3	-0.3	
	baz=318,SNR=6.4									
BELG	Belogornoye	69.06	330		P		P	02 23 19.4	-0.1	
	comp=Z,102nm,0.9s,baz=86,slow=1.6,SNR=26									
	comp=Z,102nm,0.9s									
BELG	Belogornoye	69.06	330	*c*	*i*P		P	02 23 19.7	+0.3	
BELG					pmax		pmax			
	comp=Z,19nm,0.9s									
KRAI	Karang Ratu	69.08	236		P		P	02 23 19.6	-0.4	
	comp=Z,18nm,1.0s									
KMSC	Kings Mountain	69.16	60		IAmb		IAmb	02 23 34.5		
	comp=Z,42nm,0.9s									
KMSC	Kings Mountain	69.16	60		P		P	02 23 19.8	-0.6	
	baz=318,SNR=6.7									
KMSC	Kings Mountain	69.16	60		P		P	02 23 20.1	-0.2	
	baz=318,SNR=6.7									
GOGA	Godfrey	69.26	62		IAmb		IAmb	02 24 09.7		
	comp=Z,29nm,1.1s									
GOGA	Godfrey	69.26	62		P		P	02 23 20.1	-0.9	
	baz=318									
SANI	Sanana	69.28	238		P		P	02 23 20.5	-0.8	
	comp=Z,26nm,1.1s									
CHTO	Chiang Mai	69.30	275		P		P	02 23 20.4	-1.1	
CHTO	Chiang Mai	69.30	275		P		P	02 23 20.4	-1.1	
CHTO					MLR		MLR			
	comp=Z,1µm,21.0s									
HODGE	Hodges	69.33	61		IAmb		IAmb	02 23 44.5		
	comp=Z,24nm,0.7s									
HODGE	Hodges	69.33	61		P		P	02 23 20.9	-0.5	
	baz=318									
TAOE	Nuku Hiva Isla	69.35	136		*e*S		S	02 32 26.6	0.0	
	comp=Z,691nm,26.6s									
TAOE	Nuku Hiva Isla	69.35	136		*e*LR		LR	02 44 25.5		
	comp=Z,4µm,22.1s									
TAOE	Nuku Hiva Isla	69.35	136		*e*T		T	03 39 10.2		
	comp=Z,46nm,0.3s									
KONO	Kongsberg	69.36	354		*e*P		P	02 23 21.8	+0.6	
MRSI	Marisa	69.43	243		P		P	02 23 21.4	-0.8	
	comp=Z,1µmcomp=Z,66nm,0.9s									
AAI	Ambon	69.49	235		P		P	02 23 22.2	-0.4	
	comp=Z,66nm,1.0s									
TOLI2	Tolitoli	69.57	245		IAmb		IAmb	02 24 40.9		
	comp=Z,32nm,0.9s									
CMAR	Chiang Mai Arr	69.57	274		P		P	02 23 23.1	0.0	
	comp=Z,5.1nm,0.6s,baz=25,slow=6.8,SNR=24									
	comp=Z,5.1nm,0.6s									
OBN	Obninsk	69.68	338		P		P	02 23 22.2	-1.0	
	comp=Z,3.5nm,0.6s,baz=360,slow=9.1,SNR=4.6									
	comp=Z,3.5nm,0.6s									
OBN	Obninsk	69.68	338		P		P	02 23 22.2	-1.0	
OBN					IAmb		IAmb	02 23 52.4		
	comp=Z,36nm,1.1s									
OBN	Obninsk	69.68	338	⇑	*e*P		P	02 23 23.3	+0.1	
OBN					*e*			02 23 43.3		
OBN					*e*			02 25 57.1		
OBN					*e*PPP		PPP	02 27 41.2		
OBN					*e*S		SKiKP	02 33 05.5	-2.8	
OBN					pmax		pmax			
	comp=Z,26nm,1.0s									
NLAI	Namlea	69.69	237		P		P	02 23 23.4	-0.4	
	comp=Z,6µmcomp=Z,12nm,0.8s									
T59A	Double "B" Far	69.81	56		IAmb		IAmb	02 24 17.7		
	comp=Z,78nm,1.8s									
JSC	Jenkinsville	69.84	60		IAmb		IAmb	02 23 38.3		
	comp=Z,25nm,0.7s									
TAPN	Taplejung	69.94	289		*e*P		P	02 23 26.2	+0.6	
LUWI	Luwuk	70.21	242		P		P	02 23 25.3	-1.7	
	comp=Z,8µmcomp=Z,58nm,0.6s									
ODAN	Odare	70.49	289		*e*P		P	02 23 28.8	-0.1	
GUN	Gumba	70.61	290		*e*P		P	02 23 30.5	+0.7	
	comp=Z,380nm,1.0s									
JIRN	Jiri	70.61	290		*e*P		P	02 23 30.4	+0.6	
TIGA	Tifton	70.66	64		P		P	02 23 29.3	-0.3	
	baz=318									
MPSI	Mapaga	70.70	245		P		P	02 23 28.5	-1.5	
	comp=Z,4µmcomp=Z,50nm,0.9s									
APSI	Ampana	70.73	243		P		P	02 23 29.2	-0.9	
	comp=Z,928nmcomp=Z,66nm,1.3s									
RAMN	Ramite	70.89	289		*e*P		P	02 23 31.7	+0.3	
BRDH	Bariadhala	71.00	283		P		P	02 23 33.5	+1.7	
	comp=Z,64nm,0.3s,baz=40,slow=16,SNR=4.5									
KKN	Kakani	71.06	291		*e*P		P	02 23 32.5	+0.2	
PKI	Pulchoki	71.14	291		*e*P		P	02 23 32.9	-0.1	
PKIN	Phulchoki	71.14	291		*e*P		P	02 23 33.0	+0.1	
IZAR	Zarasai	71.21	344		*e*P		P	02 23 33.0	+0.5	
GKN	Gorkha	71.28	291		*e*P		P	02 23 34.0	+0.4	
	comp=Z,132nm,0.7s									
DMN	Daman	71.29	291		*e*P		P	02 23 34.5	+0.7	
	comp=Z,98nm,0.8s									
LPSR	Galich'ya Gora	71.38	336		*e*P		P	02 23 33.0	-0.6	
LPSR					pmax		pmax			
	comp=Z,10.0nm,0.9s									
ISAL	Salakas	71.40	344		*e*P		P	02 23 34.8	+1.1	
DANN	Dangsing	71.53	292		*e*P		P	02 23 35.7	+0.4	
	comp=Z,273nm,0.9s									
IIGN	Ignalina	71.59	344		*e*P		P	02 23 35.9	+1.0	
SIMJ	Simiganj	71.68	309		P		P	02 23 35.9	0.0	
SIMJ					sP		PcP	02 23 51.9	-3.0	
PABE	Paberze	71.82	345		*e*P		P	02 23 37.3	+1.1	
VRH	Novokhopyorsk	71.87	333		*e*P		P	02 23 34.8	-1.8	
VRH					pmax		pmax			
	comp=Z,30nm,0.9s									
NACGM	Naroch	71.92	343	⇑	*i*P		P	02 23 38.9	+2.1	
	comp=Z,32nm,0.9s,baz=18									
MNK	Minsk	72.10	343		*i* P		P	02 23 39.2	+1.3	
MNK					*i* P		P	02 23 39.2	+1.3	
	comp=N,39nm,0.9s									
MNK					*i* P		P	02 23 39.2	+1.3	
	comp=Z,33nm,0.9s,baz=19									
MNK					*i* PcP		PcP	02 23 57.4	+1.2	
MNK					*i* PP		PP	02 26 19.1	+1.6	
MNK					*i* PPP		PPP	02 28 02.9		
MNK					*i* S		S	02 33 00.6	+3.0	
MNK					*i* SS		SS	02 37 38.6	+4.8	
MNK					*i* SSS		SSS	02 40 58.3		
MNK					*i* LQ		LQ	02 50 25.3		
MNK					*i* LR		LR	02 55 54.4		
MNK					*i* LRM		MLR	02 59 04.4		
	comp=E,271nm,18.0s									
MNK					*i* LRM		MLR	02 59 36.7		
	comp=N,1µm,15.5s									
MNK					*i* LRM		MLR	02 59 38.0		
	comp=Z,2µm,18.1s									
MNK	Minsk	72.10	343		*i* P		P	02 23 39.2	+1.3	
MNK					*i*			02 23 57.4		
MNK					*i*			02 26 19.0		
MNK					*i* PPP		PPP	02 28 02.8		
MNK					*i* S		S	02 33 00.5	+3.0	
MNK					*i*			02 33 43.9		
MNK					*i* SS		SS	02 37 38.5	+4.8	
MNK					pmax		pmax			
	comp=Z,33nm,0.9s									
MNK					pmax		pmax			
	comp=E,2.0nm,0.8s									
MNK					pmax		pmax			
	comp=N,39nm,0.9s									
MNK					MLR		MLR			
	comp=E,271nm,18.0s									
MNK					MLR		MLR			
	comp=N,1µm,15.0s									
MNK					MLR		MLR			
	comp=Z,2µm,18.0s									
VORR	Voronezh	72.14	335		*e*P		P	02 23 39.2	+1.0	
VORR					pmax		pmax			
	comp=Z,10.0nm,0.4s									
VSR	Storozhevoye	72.57	335		*e*P		P	02 23 38.9	-1.8	
VSR					pmax		pmax			
	comp=Z,10.0nm,0.9s									
NIL	Nilore	73.39	303		P		P	02 23 46.1	+0.1	
NIL	Nilore	73.39	303		P		P	02 23 46.1	+0.1	
NIL					pmax		pmax			
	comp=Z,113nm,1.3s									
NIL					MLR		MLR			
	comp=Z,3µm,18.0s									
SBUM	Sibu	73.54	253		P		P	02 23 45.4	-1.6	
	comp=Z,9.1nm,2.4s									
DZM	Mont Dzumac	73.57	192		*e*LR		LR	02 46 24.4		
	comp=Z,4µm,23.7s									
DZM	Mont Dzumac	73.57	192		P		P	02 23 46.3	-0.7	
	comp=Z,7.8nm,0.9s,baz=287,slow=22,SNR=2.0									
	comp=Z,7.8nm,0.9s									
PPT2	Papeete2	73.70	149		*e*S		S	02 33 16.8	+0.2	
	comp=Z,2µm,29.2s									
PPT2					*e*SS		SS	02 38 02.2	+1.2	
	comp=Z,805nm,23.2s									
PPT2					*e*LR		LR	02 46 27.3		
	comp=Z,3µm,21.8s									
PPT2					*e*LR		LR	02 46 28.2		
	comp=Z,3µm,25.8s									
PPT2	Papeete2	73.70	149		*e*T		T	03 44 40.0		
	comp=Z,10nm,0.2s									
BKB	Balikpapan	73.73	247		P		P	02 23 46.8	-1.3	
	comp=Z,8µmcomp=Z,91nm,0.8s									
PAE	Paea	73.77	149		*e*T		T	03 44 43.7		
	comp=Z,3.1nm,0.3s									
BBSI	Bau Bau	74.00	239		P		P	02 23 49.2	-0.5	
	comp=Z,17nm,1.1s									
EKA	Eskdalemuir Ar	74.02	1		P		P	02 23 49.8	+0.5	
SPSI	Sidrap Palu	74.29	243		P		P	02 23 50.3	-1.1	
	comp=Z,20nm,0.9s									
DWPF	Disney Wildern	74.39	65		P		P	02 23 51.8	-0.1	
	baz=320									
BNSI	Bone	74.46	242		P		P	02 23 51.8	-0.5	
	comp=Z,21nm,1.2s									
MEH	Mehetia	74.47	147		*e*T		T	03 45 41.2		
	comp=Z,18nm,0.3s									
KBL	Kabul	74.89	306		P		P	02 23 53.6	-1.3	
KBL					IAmb		IAmb	02 23 57.5		
	comp=Z,51nm,1.1s									
KBL	Kabul	74.89	306		P		P	02 23 53.6	-1.3	
KBL					pmax		pmax			
	comp=Z,51nm,1.1s									
KAPI	Kappang	75.17	242		P		P	02 23 55.8	-0.6	
	comp=Z,10nm,0.8s,baz=17,slow=5.0,SNR=8.7									
	comp=Z,10nm,0.8s									
KAPI	Kappang	75.17	242		P		P	02 23 55.8	-0.6	
KAPI	Kappang	75.17	242		P		P	02 23 55.9	-0.6	
	comp=Z,642nmcomp=Z,20nm,1.4s									
KAPI	Kappang	75.17	242		P		P	02 23 55.8	-0.6	
KAPI					pmax		pmax			
	comp=Z,17nm,1.0s									
BKSI	Bulukumba	75.21	242		P		P	02 23 56.1	-0.6	
	comp=Z,29nm,0.9s									
AKASG	Malin Array Be	75.43	341		P		P	02 23 56.0	-1.5	
	comp=Z,6.4nm,0.4s,baz=21,slow=6.3,SNR=36									
	comp=Z,6.4nm,0.4s									
AKASG	Malin Array Be	75.43	341	*i*	P		P	02 23 56.7	-0.8	
AKASG					pmax		pmax			
	comp=Z,6.0nm,0.4s									
AKBB	Malin Array Si	75.43	341		IAmb		IAmb	02 23 58.8		
	comp=Z,23nm,0.8s									
AKBB	Malin Array Si	75.43	341	*c*	*e*P		P	02 23 57.0	-0.5	
AKBB					pmax		pmax			
	comp=Z,24nm,0.8s									
BSSI	Bau Bau, Buton	75.69	241		P		P	02 23 57.9	-1.5	
	comp=Z,22nm,1.1s									
CTA	Charters Tower	76.36	211		P		P	02 24 04.4	+1.3	
CTAO	Charters Tower	76.36	211		P		P	02 24 03.1	0.0	
CTAO	Charters Tower	76.36	211		P		P	02 24 03.1	0.0	
CTAO					pmax		pmax			
	comp=Z,24nm,1.3s									
SOEI	Soe	76.67	236		P		P	02 24 04.7	-0.4	
	comp=Z,36nm,1.5s									
GOF	Gofitskoye	76.96	330	⇑	*e*P		P	02 24 06.9	+0.6	
GOF					pmax		pmax			
	comp=Z,112nm,0.9s									
LVV	L'vov	77.28	344		*e*P		P	02 24 07.9	-0.1	
LVV					MLR		MLR			
	comp=E,1µm,18.0s									
LVV					MLR		MLR			
	comp=N,2µm,17.0s									
LVV					MLR		MLR			
	comp=Z,2µm,17.0s									
GEYT	Alibeck	77.34	316		P		P	02 24 08.0	-0.6	
	comp=Z,5.2nm,0.7s,baz=0.0,slow=4.4,SNR=12									
	comp=Z,5.2nm,0.7s									
GEYT	Alibeck	77.34	316		IAmb		IAmb	02 24 33.5		
	comp=Z,64nm,1.6s									
GYA0B	ALIBECK ARRAY	77.34	316		IAmb		IAmb	02 24 33.4		
	comp=Z,89nm,1.8s									
CLL	Collm	77.36	351	*i*	P		P	02 24 08.3	-0.1	
	comp=Z,8.0nm,1.0s									
CLL					LmV			03 06 00.0		
	comp=Z,2µm,18.5s									
CLL	Collm	77.36	351	*i*	P		P	02 24 08.3	-0.1	
CLL					pmax		pmax			
	comp=Z,8.0nm,1.0s								

NCK	**Nalchik**	**78.17**	**328**	⇓	*i*	P	**P**	**02 24 14.5**	**+1.4**
NCK						pmax	pmax		
	comp=Z,77nm,1.2s								
KBZ	**Khabaz**	**78.19**	**329**			P	**P**	**02 24 14.1**	**+1.0**
	comp=Z,17nm,0.8s,baz=52,slow=3.1,SNR=27								
	comp=Z,17nm,0.8s								
KBZ	**Khabaz**	**78.19**	**329**	*d*	*i*	P	**P**	**02 24 11.8**	**-1.3**
KBZ						pmax	pmax		
	comp=Z,27nm,0.9s								
MORC	**Moravsky Berou**	**78.34**	**348**	⇑		P	**P**	**02 24 14.6**	**+0.6**
MORC	**Moravsky Berou**	**78.34**	**348**		*e*	P	**P**	**02 24 15.4**	**+1.4**
MORC	**Moravsky Berou**	**78.34**	**348**			P	**P**	**02 24 14.5**	**+0.6**
HRA	**Herat**	**78.36**	**311**			IAmb	IAmb	02 24 18.6	
	comp=Z,25nm,0.9s								
KOLS	**Kolonicke sedl**	**78.44**	**344**		*e*	P	**P**	**02 24 15.4**	**+0.9**
KOLS	**Kolonicke sedl**	**78.44**	**344**		*e*	P	**P**	**02 24 15.5**	**+0.9**
AKT	**Akhty**	**78.51**	**325**		*e*	P	**P**	**02 24 15.7**	**+0.6**
AKT					*e*			02 24 24.8	
AKT						pmax	pmax		
	comp=Z,54nm,0.9s								
MEM	**Membach**	**78.58**	**355**		*d*	P	**P**	**02 24 15.9**	**+0.7**
BTNL	**Ternell**	**78.60**	**355**		*d*	P	**P**	**02 24 16.8**	**+1.4**
CRVS	**Cervenica-Dubn**	**78.61**	**345**		*e*	P	**P**	**02 24 17.3**	**+1.9**
CRVS	**Cervenica-Dubn**	**78.61**	**345**		*e*	P	**P**	**02 24 17.3**	**+1.9**
CRVS						pmax	pmax		
	comp=Z,20nm,0.9s								
MAUC	**Maruska**	**78.70**	**347**		*e*	P	**P**	**02 24 17.4**	**+1.4**
UZH	**Uzhgorod**	**78.73**	**344**	⇓	*i*	P	**P**	**02 24 16.0**	**-0.1**
UZH					*e*			02 24 23.5	
UZH					*i*			02 24 26.8	
SNF	**Seneffe**	**78.76**	**356**		*d*	P	**P**	**02 24 16.7**	**+0.5**
BCLA	**Clavier**	**78.81**	**356**		*d*	P	**P**	**02 24 16.4**	**0.0**
BGES	**Gesves**	**78.85**	**356**		*d*	P	**P**	**02 24 17.9**	**+1.2**
BGES					*d*	PcP	**pP**	**02 24 24.0**	**-1.4**
ANN	**Anapa**	**78.89**	**333**		*e*	P	**P**	**02 24 12.3**	**-4.7**
ANN						pmax	pmax		
	comp=Z,223nm,1.1s								
VRAC	**Vranov**	**78.92**	**348**	⇑		P	**P**	**02 24 17.1**	**0.0**
VRAC	**Vranov**	**78.92**	**348**		*e*	P	**P**	**02 24 18.9**	**+1.7**
VRAC	**Vranov**	**78.92**	**348**			P	**P**	**02 24 17.1**	**0.0**
BMRD	**Maredsous**	**78.95**	**356**		*d*	P	**P**	**02 24 18.6**	**+1.4**
RCHB	**Rochefort**	**79.07**	**356**		*d*	P	**P**	**02 24 18.6**	**+0.7**
TREC	**Trest**	**79.07**	**349**			P	**P**	**02 24 18.7**	**+0.7**
MILM	**Milestii Mici**	**79.10**	**340**	⇓		P	**P**	**02 24 17.9**	**-0.3**
MILM	**Milestii Mici**	**79.10**	**340**			P	**P**	**02 24 17.8**	**-0.3**
TBI	**Tubuai**	**79.12**	**151**		*e*	SS	SS	02 39 23.8	+1.0
	comp=Z,2µm,23.0s								
TBI					*e*	LR	LR	02 48 58.4	
	comp=Z,76µm,20.2s								
TBI					*e*	LR	LR	02 48 58.5	
	comp=Z,13µm,22.5s								
TBI	**Tubuai**	**79.12**	**151**		*e*	T	T	03 51 33.0	
	comp=Z,5.7nm,0.3s								
BUR08	**Bucovina Ar. S**	**79.16**	**342**			IAmb	IAmb	02 24 21.7	
	comp=Z,30nm,0.9s								
DOU	**Dourbes**	**79.16**	**356**		*d*	P	**P**	**02 24 19.6**	**+1.2**
TRPA	**Tarpa**	**79.17**	**344**	⇑		P	**P**	**02 24 18.5**	**0.0**
BURAR	**Bucovina Array**	**79.18**	**342**	⇓		P	**P**	**02 24 19.0**	**+0.3**
BURAR	**Bucovina Array**	**79.18**	**342**			IAmb	IAmb	02 24 21.7	
	comp=Z,37nm,0.8s								
BURAR	**Bucovina Array**	**79.18**	**342**			P	**P**	**02 24 19.0**	**+0.3**
KRUC	**Moravsky**	**79.19**	**348**		*e*	P	**P**	**02 24 20.0**	**+1.4**
BAIF	**Baives**	**79.21**	**356**		*e*	P	**P**	**02 24 19.6**	**+0.9**
BAIF						pmax	pmax		
	comp=Z,10.0nm,1.0s								
SOC	**Sochi**	**79.32**	**331**		*e*	P	**P**	**02 24 16.9**	**-2.5**
SOC					*e*	PPP	PPP	02 29 05.3	
SOC					*e*	S	**S**	**02 34 15.1**	**-2.6**
SOC					*e*	SS	**SS**	**02 39 23.6**	**+0.1**
SOC						pmax	pmax		
	comp=Z,32nm,1.1s								
PLAI	**Plampang**	**79.40**	**242**			P	**P**	**02 24 16.8**	**-3.3**
	comp=Z,30nm,1.1s								
VYHS	**Vyhne**	**79.41**	**347**		*e*	P	**P**	**02 24 21.4**	**+1.6**
VYHS	**Vyhne**	**79.41**	**347**		*e*	P	**P**	**02 24 21.4**	**+1.6**
VYHS						pmax	pmax		
	comp=Z,9.0nm,1.0s								
BMR	**Baia Mare**	**79.44**	**343**	⇓		P	**P**	**02 24 20.0**	**-0.1**
BMR	**Baia Mare**	**79.44**	**343**			P	**P**	**02 24 19.9**	**-0.1**
KHC	**Kasperske Hory**	**79.45**	**350**		*e*	P	**P**	**02 24 21.6**	**+1.5**
KHC	**Kasperske Hory**	**79.45**	**350**	⇑	*i*	P	**P**	**02 24 22.0**	**+1.9**
KHC						pmax	pmax		
	comp=Z,29nm,1.9s								
WLF	**Walferdange**	**79.52**	**355**		*d*	P	**P**	**02 24 21.8**	**+1.4**
CKRC	**Cesky Krumlov**	**79.68**	**350**		*e*	P	**P**	**02 24 21.5**	**+0.2**
GERES	**GERESS Array B**	**79.72**	**350**			P	**P**	**02 24 21.8**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=19,slow=5.7,SNR=9.9								
	comp=Z,1.7nm,0.8s								
GERES	**GERESS Array B**	**79.72**	**350**			P	**P**	**02 24 20.1**	**-1.5**
MODS	**Modra-Piesok**	**79.75**	**348**		*e*	P	**P**	**02 24 23.9**	**+2.2**
MODS	**Modra-Piesok**	**79.75**	**348**		*e*	P	**P**	**02 24 23.9**	**+2.2**
MODS						pmax	pmax		
	comp=Z,22nm,0.9s								
PSZ	**Piszkesteto**	**79.81**	**346**	⇓		P	**P**	**02 24 21.9**	**-0.2**
PSZ	**Piszkesteto**	**79.81**	**346**			P	**P**	**02 24 24.2**	**+2.1**
PSZ	**Piszkesteto**	**79.81**	**346**			P	**P**	**02 24 21.9**	**-0.2**
ARCR	**ARCALIA**	**79.85**	**343**	⇓		P	**P**	**02 24 22.8**	**+0.6**
ZST	**Bratislava**	**79.95**	**348**		*e*	P	**P**	**02 24 24.7**	**+2.0**
ZST	**Bratislava**	**79.95**	**348**		*e*	P	**P**	**02 24 24.7**	**+2.0**
ZST						pmax	pmax		
	comp=Z,35nm,1.0s								
MESR	**Meseseni**	**80.05**	**344**	⇑		P	**P**	**02 24 22.8**	**-0.5**
KMMI	**Kalianget**	**80.11**	**246**			P	**P**	**02 24 22.1**	**-1.9**
	comp=Z,52nm,1.4s								
CBBR	**Cluj-Babes-Bol**	**80.31**	**343**	⇑		P	**P**	**02 24 25.7**	**+1.0**
CJR	**Cluj-Napoca**	**80.35**	**343**	⇑		P	**P**	**02 24 25.9**	**+0.9**
CJR	**Cluj-Napoca**	**80.35**	**343**			P	**P**	**02 24 25.9**	**+0.9**
CONA	**Conrad Observa**	**80.37**	**348**		*e*	P	**P**	**02 24 24.3**	**-0.9**
	comp=Z,8.4nm,0.9s								
PANC	**Panciu**	**80.45**	**340**	⇑		P	**P**	**02 24 25.9**	**+0.4**
RONA	**Rosalia, Austr**	**80.54**	**348**		*e*	P	**P**	**02 24 24.2**	**-1.8**
	comp=Z,6.2nm,1.0s								
WB0	**Warramunga Arr**	**80.55**	**222**			P	**P**	**02 24 25.4**	**-0.8**
VRI	**Vrincioaia**	**80.55**	**341**	⇓		P	**P**	**02 24 26.0**	**-0.1**
VRI	**Vrincioaia**	**80.55**	**341**			P	**P**	**02 24 25.9**	**-0.1**
ODBI	**Odobesti**	**80.58**	**340**	⇓		P	**P**	**02 24 27.4**	**+1.3**
PLOR	**Plostina**	**80.58**	**341**	⇓		P	**P**	**02 24 26.4**	**+0.2**
PLOR	**Plostina**	**80.58**	**341**			P	**P**	**02 24 26.4**	**+0.2**
FLN	**La Foliniere**	**80.61**	**360**		*e*	P	**P**	**02 24 25.8**	**-0.5**
FLN						pmax	pmax		
	comp=Z,25nm,1.2s								
MOA	**Molln**	**80.64**	**350**		*e*	P	**P**	**02 24 25.7**	**-0.8**
	comp=Z,4.9nm,1.1s								
COVR	**Voineasa-Covas**	**80.68**	**341**	⇓		P	**P**	**02 24 27.4**	**+0.6**
CDF	**Champ du Feu**	**80.70**	**354**		*e*	P	**P**	**02 24 27.3**	**+0.4**
CDF						pmax	pmax		
	comp=Z,4.0nm,0.8s								
WRAB	**Tennant Creek**	**80.71**	**222**	⇑	*e*	P	**P**	**02 24 26.4**	**-0.7**
WRAB						pmax	pmax		
	comp=Z,22nm,1.0s								
DOPR	**Dopca**	**80.72**	**342**	⇑		P	**P**	**02 24 27.4**	**+0.4**
WRA	**Warramunga Arr**	**80.73**	**222**			P	**P**	**02 24 26.3**	**-0.9**
	comp=Z,14nm,1.0s,baz=36,slow=6.3,SNR=48								
	comp=Z,14nm,1.0s								
WRA	**Warramunga Arr**	**80.73**	**222**		*i*	P	**P**	**02 24 26.6**	**-0.6**
WRA						pmax	pmax		
	comp=Z,15nm,1.0s								
GNI	**Garni**	**80.75**	**326**			P	**P**	**02 24 27.3**	**-0.1**
GNI						IAmb	IAmb	02 24 46.6	
	comp=Z,47nm,1.1s								
GNI	**Garni**	**80.75**	**326**	*c*	*i*	P	**P**	**02 24 29.0**	**+1.6**
GNI						pmax	pmax		
	comp=Z,34nm,1.1s								
LDF	**La Druitiere**	**80.78**	**359**		*e*	P	**P**	**02 24 26.6**	**-0.6**
LDF						pmax	pmax		
	comp=Z,43nm,1.4s								
BIOA	**Bad Ischl, Aus**	**80.87**	**350**		*e*	P	**P**	**02 24 25.0**	**-2.7**
	comp=Z,2.2nm,0.5s								
CFR	**Carcaliu**	**80.90**	**339**	⇑		P	**P**	**02 24 28.1**	**+0.2**
CFR	**Carcaliu**	**80.90**	**339**			P	**P**	**02 24 28.1**	**+0.2**
GRR	**Gorron**	**80.99**	**360**		*e*	P	**P**	**02 24 27.0**	**-1.3**
GRR						pmax	pmax		
	comp=Z,27nm,1.2s								
MLR	**Muntele Rosu**	**81.07**	**341**	⇑		P	**P**	**02 24 28.7**	**-0.3**
ARSA	**Arzberg**	**81.08**	**349**		*e*	P	**P**	**02 24 27.2**	**-1.7**
	comp=Z,8.1nm,0.9s								
SGMF	**Saint Gilles**	**81.12**	**1**		*e*	P	**P**	**02 24 29.4**	**+0.4**
SGMF						pmax	pmax		
	comp=Z,124nm,2.0s								
SIRR	**Siria**	**81.13**	**344**	⇑		P	**P**	**02 24 29.6**	**+0.5**
TPGR	**Topolog**	**81.14**	**339**	⇓		P	**P**	**02 24 30.0**	**+0.8**
HAU	**Haudompre**	**81.16**	**355**		*e*	P	**P**	**02 24 30.7**	**+1.4**
HAU						pmax	pmax		
	comp=Z,6.0nm,0.9s								

ISR	**Istrita**	**81.30**	**341**	⇑		P	**P**	**02 24 30.6**	**+0.4**
ISR	**Istrita**	**81.30**	**341**			P	**P**	**02 24 30.5**	**+0.4**
VOIR		**81.30**	**342**	⇓		P	**P**	**02 24 29.9**	**-0.3**
VOIR		**81.30**	**342**			P	**P**	**02 24 29.8**	**-0.3**
HINF	**Hinteralfeld**	**81.32**	**355**		*e*	P	**P**	**02 24 30.5**	**+0.3**
HINF						pmax	pmax		
	comp=Z,7.0nm,1.2s								
RETA	**Reutte**	**81.36**	**352**		*e*	P	**P**	**02 24 29.8**	**-0.6**
	comp=Z,4.1nm,0.9s								
HARR	**Harsova**	**81.41**	**339**	⇑		P	**P**	**02 24 30.3**	**-0.3**
HARR	**Harsova**	**81.41**	**339**			P	**P**	**02 24 30.2**	**-0.3**
WATA	**Walderalm**	**81.43**	**351**			P	**P**	**02 24 31.0**	**+0.1**
	comp=Z,12nm,0.8s,SNR=5.2								
MOTA	**Moosalm**	**81.47**	**352**		*i*	P	**P**	**02 24 32.4**	**+1.3**
	comp=Z,15nm,1.1s,SNR=15								
PSI	**Prapat**	**81.48**	**264**			P	**P**	**02 24 28.4**	**-3.2**
WTTA	**Wattenberg**	**81.50**	**351**			P	**P**	**02 24 32.7**	**+1.4**
	comp=Z,19nm,1.1s,SNR=8.9								
KBA	**Koelnbreinsper**	**81.50**	**350**		*e*	P	**P**	**02 24 31.7**	**+0.4**
	comp=Z,25nm,0.8s								
SURR	**Surduc**	**81.55**	**344**	⇓		P	**P**	**02 24 31.0**	**-0.3**
SQTA	**Sankt Quirin**	**81.58**	**352**		*i*	P	**P**	**02 24 33.5**	**+1.8**
	comp=Z,10nm,0.9s,SNR=6.4								
DAVA	**Damuels**	**81.63**	**352**		*e*	P	**P**	**02 24 33.2**	**+1.2**
	comp=Z,7.5nm,1.1s								
KTUT	**Trabzon**	**81.66**	**330**	⇑		P	**P**	**02 24 32.5**	**+0.5**
MORH	**Mrgy, Hungar**	**81.67**	**346**	⇓		P	**P**	**02 24 32.4**	**+0.5**
MORH	**Mrgy, Hungar**	**81.67**	**346**			P	**P**	**02 24 29.9**	**-2.0**
SOKA	**Soboth**	**81.70**	**349**			P	**P**	**02 24 33.1**	**+0.9**
	comp=Z,19nm,0.9s,SNR=14								
BZS	**Buzias**	**81.77**	**344**	⇑		P	**P**	**02 24 32.0**	**-0.5**
BZS	**Buzias**	**81.77**	**344**			P	**P**	**02 24 32.0**	**-0.5**
GZR	**Gura Zlata**	**81.78**	**343**	⇑		P	**P**	**02 24 32.3**	**-0.3**
GZR	**Gura Zlata**	**81.78**	**343**			P	**P**	**02 24 32.3**	**-0.3**
SULR		**81.78**	**341**	⇑		P	**P**	**02 24 34.0**	**+1.5**
FETA	**Feichten**	**81.82**	**352**		*e*	P	**P**	**02 24 34.5**	**+1.6**
	comp=Z,13nm,0.9s								
ABTA	**Abfaltersbach**	**81.92**	**351**			P	**P**	**02 24 34.4**	**+1.0**
	comp=Z,11nm,0.9s,SNR=8.0								
OBKA	**Obir**	**81.93**	**349**		*e*	P	**P**	**02 24 34.2**	**+0.7**
OBKA	**Obir**	**81.93**	**349**			P	**P**	**02 24 32.7**	**-0.8**
	comp=Z,17nm,0.8s,SNR=8.0								
ICOR	**Ion Corvin**	**81.98**	**339**	⇓		P	**P**	**02 24 33.0**	**-0.6**
LOR	**Lormes**	**82.02**	**357**		*e*	P	**P**	**02 24 34.4**	**+0.6**
LOR						pmax	pmax		
	comp=Z,22nm,1.5s								
SSF	**Saint Saulge**	**82.24**	**357**		*e*	P	**P**	**02 24 35.7**	**+0.8**
SSF						pmax	pmax		
	comp=Z,22nm,1.5s								
KOPT	**Kop Dagi**	**82.31**	**329**			IAmb	IAmb	02 24 40.3	
	comp=Z,27nm,0.9s								
HERR	**Herculane**	**82.34**	**343**	⇑		P	**P**	**02 24 34.9**	**-0.6**
CRES	**Cresnjev**	**82.49**	**348**		*e*	P	**P**	**02 24 35.5**	**-0.8**
AVF	**Avril sur Loir**	**82.51**	**357**		*e*	P	**P**	**02 24 37.1**	**+0.7**
AVF						pmax	pmax		
	comp=Z,10.0nm,1.0s								
FRGS	**Fruska Gora**	**82.52**	**345**		*e*	P	**P**	**02 24 36.5**	**+0.1**
MDVR	**Moldovita**	**82.56**	**344**	⇓		P	**P**	**02 24 36.8**	**0.0**
SMF	**Signal de Mont**	**82.64**	**357**		*e*	P	**P**	**02 24 37.7**	**+0.6**
SMF						pmax	pmax		
	comp=Z,14nm,1.0s								
CEY	**Cerknica**	**82.70**	**349**		*e*	P	**P**	**02 24 37.2**	**-0.2**
MFF	**Saint Martin d**	**82.77**	**359**		*e*	P	**P**	**02 24 38.5**	**+0.8**
MFF						pmax	pmax		
	comp=Z,72nm,2.0s								
SDSI	**Sungai Dareh**	**82.81**	**260**			P	**P**	**02 24 35.9**	**-2.4**
	comp=Z,16nm,1.0s								
BJII	**Banjamegara**	**82.82**	**249**			P	**P**	**02 24 36.6**	**-1.8**
	comp=Z,425nmcomp=Z,19nm,0.9s								
BOJS	**Bojanci**	**82.83**	**348**		*e*	P	**P**	**02 24 37.8**	**-0.3**
HYBB	**Hyderabad (bro**	**82.94**	**289**		*e*	P	**P**	**02 24 38.6**	**-0.5**
HYBB					*e*	SKSac	**S**	**02 34 56.7**	**+0.5**
A051A	**Mrakovica**	**83.09**	**347**		*e*	P	**P**	**02 24 40.3**	**+0.8**
GURO	**Guroymak-BITLI**	**83.12**	**327**			IAmb	IAmb	02 24 44.4	
	comp=Z,63nm,1.9s								
SALO	**Salr**	**83.23**	**352**			IAmb	IAmb	02 24 42.9	
	comp=Z,25nm,0.8s								
TOKA	**Tokat**	**83.28**	**332**			IAmb	IAmb	02 24 44.6	
	comp=Z,50nm,1.4s								
BLY	**Banja Luka**	**83.31**	**347**		*e*	P	**P**	**02 24 39.7**	**-0.9**
PLVB	**Pleven**	**83.36**	**341**	⇓		P	**P**	**02 24 40.3**	**-0.4**
DIVS	**Divibare**	**83.52**	**345**		*e*	P	**P**	**02 24 41.1**	**-0.6**
LPL	**La Plagne**	**83.62**	**354**		*e*	P	**P**	**02 24 43.9**	**+1.5**
LPL						pmax	pmax		
	comp=Z,6.0nm,0.9s								
LPG	**La Plagne**	**83.64**	**354**		*e*	P	**P**	**02 24 44.3**	**+1.7**
LPG						pmax	pmax		
	comp=Z,13nm,1.1s								
MGRS	**Mrkonjic Grad**	**83.65**	**347**		*e*	P	**P**	**02 24 43.2**	**+0.8**
A050A	**Klekovaca**	**83.67**	**347**		*e*	P	**P**	**02 24 45.0**	**+2.5**
HAPS	**Han Pijesak,Bl**	**83.70**	**346**		*e*	P	**P**	**02 24 43.2**	**+0.5**
SRKY	**Kupres RS**	**83.98**	**347**		*e*	P	**P**	**02 24 44.7**	**+0.6**
BNI	**Barnecchia**	**84.09**	**354**			P	**P**	**02 24 46.7**	**+2.0**
AS31	**Alice Springs**	**84.22**	**221**			P	**P**	**02 24 44.6**	**-0.8**
ASAR	**Alice Springs**	**84.22**	**221**			P	**P**	**02 24 45.3**	**0.0**
	comp=Z,9.8nm,0.8s,baz=26,slow=4.8,SNR=60								
ASAR						PKKPbc	**PKKPbc**	**02 42 57.5**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=192,slow=2.3,SNR=4.4								
	comp=Z,9.8nm,0.8s								
ORIF	**Oris-en-Rattie**	**84.27**	**355**		*e*	P	**P**	**02 24 47.9**	**+2.3**
ORIF						pmax	pmax		
	comp=Z,10.0nm,0.8s								
VTS	**Vitosha**	**84.37**	**342**	⇓		P	**P**	**02 24 45.5**	**-0.7**
VTS	**Vitosha**	**84.37**	**342**			P	**P**	**02 24 45.6**	**-0.6**
VIVF	**Saint-Julien-l**	**84.39**	**356**		*e*	P	**P**	**02 24 48.0**	**+1.9**
VIVF						pmax	pmax		
	comp=Z,5.0nm,0.8s								
MBDF	**Montbardon**	**84.41**	**354**		*e*	P	**P**	**02 24 48.7**	**+2.4**
MBDF						pmax	pmax		
	comp=Z,10.0nm,0.8s								
CAF	**Calviac**	**84.41**	**358**		*e*	P	**P**	**02 24 47.3**	**+1.1**
CAF						pmax	pmax		
	comp=Z,32nm,1.6s								
BR131	**Keskin Array S**	**84.65**	**334**			IAmb	IAmb	02 24 50.2	
	comp=Z,31nm,0.9s								
BR131	**Keskin Array S**	**84.65**	**334**	*c*	*i*	P	**P**	**02 24 47.6**	**-0.1**
BRTR	**Keskin Array B**	**84.65**	**334**			P	**P**	**02 24 48.0**	**+0.3**
	comp=Z,17nm,0.8s,baz=51,slow=2.7,SNR=53								
	comp=Z,17nm,0.8s								
BRTR	**Keskin Array B**	**84.65**	**334**			P	**P**	**02 24 48.0**	**+0.3**
BR231	**Keskin MP Arra**	**84.78**	**334**			P	**P**	**02 24 47.5**	**-0.8**
BR231						IAmb	IAmb	02 24 52.0	
	comp=Z,35nm,1.2s								
POO	**Poona**	**84.85**	**293**		*e*	P		02 24 42.5	-6.4
BRY	**Bratogost**	**84.92**	**346**		*e*	P	**P**	**02 24 48.3**	**-0.6**
STON	**Ston**	**85.08**	**346**		*e*	P	**P**	**02 24 46.2**	**-3.3**
TREB	**Trebinje**	**85.13**	**346**		*e*	P	**P**	**02 24 49.5**	**-0.3**
SBF	**Sospel**	**85.22**	**354**		*e*	P	**P**	**02 24 51.4**	**+1.0**
SBF						pmax	pmax		
	comp=Z,12nm,0.7s								
OSSC	**Osservatorio P**	**85.24**	**351**			IAmb	IAmb	02 26 08.8	
	comp=Z,28nm,0.9s								
PDG	**Podgorica**	**85.26**	**345**	⇓		P	**P**	**02 24 51.0**	**+0.5**
RDO	**Rodhopi**	**85.31**	**340**			IAmb	IAmb	02 24 54.1	
	comp=Z,23nm,0.9s								
BORA	**Essehir**	**85.36**	**336**			IAmb	IAmb	02 24 54.2	
	comp=Z,33nm,1.0s								
MTLF	**Montolieu**	**85.99**	**358**		*e*	P	**P**	**02 24 56.0**	**+1.9**
MTLF						pmax	pmax		
	comp=Z,26nm,1.3s								
PGF	**Pioggiola**	**86.41**	**352**		*e*	P	**P**	**02 24 56.1**	**-0.2**
PGF						pmax	pmax		
	comp=Z,20nm,0.9s								
HDC	**Heredia**	**86.71**	**78**		*e*	P	**P**	**02 24 59.6**	**+1.4**
SDDR	**Presa de Saban**	**87.28**	**63**			IAmb	IAmb	02 25 03.4	
	comp=Z,22nm,0.9s								
STKA	**Stephens Creek**	**88.82**	**211**			P	**P**	**02 25 07.7**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=342,slow=8.5,SNR=8.7								
	comp=Z,7.4nm,0.8s								
STKA	**Stephens Creek**	**88.82**	**211**			P	**P**	**02 25 08.0**	**+0.5**
STKA	**Stephens Creek**	**88.82**	**211**	⇑	*i*	P	**P**	**02 25 08.9**	**+1.3**
COI	**Coimbra**	**88.95**	**6**			IAMs_20	IAMs_20	03 00 31.6	
	comp=Z,1µm,21.0s								
UOSS	**Minazif**	**89.10**	**310**			IAMs_20	IAMs_20	03 04 29.1	
	comp=Z,1µm,20.0s								
CSS	**Mathiatis**	**89.18**	**332**			IAmb	IAmb	02 25 12.0	
	comp=Z,20nm,1.1s								
ESDC	**Sonseca Array**	**89.67**	**2**			P	**P**	**02 25 09.1**	**-2.8**
	comp=Z,1.5nm,0.8s,baz=1.8,slow=4.1,SNR=9.2								
BCIP	**Isla Barro Col**	**89.99**	**76**			IAMs_20	IAMs_20	03 03 08.0	
	comp=Z,691nm,18.0s								
SJG	**San Juan**	**90.83**	**60**			P	**P**	**02 25 17.7**	**+0.2**
SJG	**San Juan**	**90.83**	**60**			P	**P**	**02 25 17.7**	**+0.2**
SJG						pmax	pmax		
	comp=Z,41nm,1.0s								

KEST	**Kesra**	**93.14**	**351**			P	**P**	**02 25 26.8**	**-1.3**
	comp=Z,4.9nm,0.8s,baz=284,slow=2.3,SNR=6.8								
	comp=Z,4.9nm,0.8s								
RAYN	**Ar Rayn**	**95.19**	**318**			P	**P**	**02 25 36.9**	**-0.7**
RAYN						IAmb	IAmb	02 26 00.3	
	comp=Z,18nm,1.7s								
RAYN	**Ar Rayn**	**95.19**	**318**			P	**P**	**02 25 36.9**	**-0.7**
RAYN						pmax	pmax		
	comp=Z,18nm,1.7s								
BAUV	**El Baul**	**97.20**	**66**			IAmb	IAmb	02 25 57.4	
	comp=Z,23nm,1.2s								
LPAZ	**La Paz**	**116.96**	**83**			PKP	**PKPdf**	**02 30 58.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=48,slow=14,SNR=1.9								
CLDB	**Colider**	**120.29**	**68**		*e*	P	**PKiKP**	**02 31 07.2**	**+1.9**
KMBO	**Kilima Mbogo**	**120.68**	**314**			PKP	**PKPdf**	**02 31 05.2**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=334,slow=4.8,SNR=8.8								
KMBO	**Kilima Mbogo**	**120.68**	**314**		*e*	P	**PKiKP**	**02 31 06.8**	**+0.3**
SIV	**San Ignacio**	**121.12**	**76**			PKP	**PKPdf**	**02 31 05.6**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=93,slow=2.7,SNR=9.0								
PTLB	**Pontes e Lacer**	**121.89**	**74**		*e*	P	**PKiKP**	**02 31 09.5**	**+1.2**
DBIC	**Dimbokro**	**122.47**	**4**			PKP	**PKPdf**	**02 31 08.9**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=4.1,slow=3.4,SNR=9.3								
DBIC	**Dimbokro**	**122.47**	**4**		*e*	P	**PKPdf**	**02 31 09.1**	**-0.4**
BBRB	**Robore, Bolivi**	**123.64**	**77**		*e*	P	**PKiKP**	**02 31 13.1**	**+1.3**
ARAG	**Araguaiana, MT**	**126.46**	**68**		*e*	P	**PKiKP**	**02 31 19.0**	**+1.6**
AQDB	**Aquidauana**	**127.82**	**75**			P	**PKPdf**	**02 31 17.9**	**-1.6**
AQDB	**Aquidauana**	**127.82**	**75**		*e*	P	**PKiKP**	**02 31 21.3**	**+1.3**
BDFB	**Brasilia**	**128.60**	**64**			PKP	**PKPdf**	**02 31 20.7**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=261,slow=3.5,SNR=6.3								
VNDA	**Vanda**	**128.69**	**185**			PKP	**PKiKP**	**02 31 20.2**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=256,slow=2.2,SNR=4.3								
SBA	**Scott Base**	**128.80**	**183**			PKP	**PKiKP**	**02 31 21.6**	**+1.3**
SBA	**Scott Base**	**128.80**	**183**			PKIKP	**PKiKP**	**02 31 21.6**	**+1.3**
JANB	**Januaria**	**130.20**	**60**		*e*	P	**

MRZ	**Mangatainoka R**	**1.48**	**40**	P		**Pb**	**02 13 51.6**	**-0.3**
TIWZ	**Tintock**	**1.56**	**49**	P		**Pn**	**02 13 52.4**	**+0.7**
QRZ	**Quartz Range**	**1.67**	**305**	P		**Pb**	**02 13 56.2**	**+1.0**
PRWZ	**Pori Road**	**1.75**	**45**	P		**Pn**	**02 13 55.1**	**+0.6**
POWZ	**Post Office Ro**	**1.78**	**38**	P		**Pn**	**02 13 56.0**	**+1.2**
LTZ	**Lake Taylor**	**1.82**	**237**	P		**Pn**	**02 13 55.4**	**0.0**
DVHZ	**Dannevirke**	**2.04**	**43**	P		**Pn**	**02 13 58.4**	**0.0**
PNHZ	**Pukenui**	**2.36**	**37**	P		**Pn**	**02 14 03.0**	**+0.2**
NEZ	**North Egmont**	**2.54**	**356**	P		**Pg**	**02 14 12.6**	**-1.1**
MOVZ	**Moawhango**	**2.63**	**25**	P		**Pb**	**02 14 13.0**	**+1.5**
WNVZ	**Wahianoa**	**2.65**	**22**	P		**Pg**	**02 14 14.6**	**-1.4**
BHHZ	**Black Hill Sta**	**2.66**	**30**	P		**Pg**	**02 14 14.7**	**-1.4**
TRVZ	**Turoa**	**2.67**	**21**	P		**Pb**	**02 14 14.5**	**+2.2**
WHVZ	**Whangaehu Hut**	**2.69**	**21**	P		**Pb**	**02 14 14.9**	**+2.1**
VRZ	**Vera Road**	**2.69**	**7**	P		**Pb**	**02 14 15.0**	**+2.3**
FWVZ	**Far West T-bar**	**2.71**	**20**	P		**Pb**	**02 14 14.4**	**+1.4**
KAHZ	**Kahuranaki**	**2.78**	**45**	P		**Pn**	**02 14 07.9**	**-0.8**
NGZ	**Ngauruhoe**	**2.80**	**21**	P		**Pb**	**02 14 16.0**	**+1.5**
NNVZ	**North Ngauruho**	**2.84**	**21**	P		**Pb**	**02 14 17.2**	**+1.9**
ETVZ	**East Tongariro**	**2.86**	**22**	P		**Pb**	**02 14 17.4**	**+1.7**
TMVZ	**Te Maari**	**2.88**	**22**	P		**Pb**	**02 14 17.1**	**+1.2**
KRVZ	**Karewarewa**	**2.88**	**21**	P		**Pb**	**02 14 17.5**	**+1.5**
RPZ	**Rata Peaks**	**3.08**	**231**	Pn		**Pn**	**02 14 13.1**	**+0.4**
	14nm,0.3s,baz=321,slow=2.2,SNR=2.6							
RPZ				Sn		**Sn**	**02 14 48.3**	**-0.8**
	baz=305,slow=11 32nm,0.6s							
HIZ	**Hauiti**	**3.31**	**7**	P		**Pb**	**02 14 22.2**	**-0.9**
MWZ	**Matawai**	**4.24**	**36**	P		**Pn**	**02 14 27.3**	**-1.4**
ASAR	**Alice Springs**	**38.10**	**286**	P		**P**	**02 20 42.4**	**-0.5**
	0.3nm,0.4s,baz=130,slow=8.6,SNR=2.9 0.3nm,0.4s							
WRA	**Warramunga Arr**	**40.18**	**290**	P		**P**	**02 20 59.2**	**-1.0**
	0.7nm,0.7s,baz=127,slow=8.0,SNR=6.0 0.7nm,0.7s							
FINES	**FINESS Array B**	**152.61**	**327**	PKPbc		**PKPbc**	**02 33 18.3**	**-1.0**
	2.6nm,1.1s,baz=45,slow=0.4,SNR=3.7							

IDC ***14*** *02:13:29.7±0.5,51°.03N×178°.88E,h0km,mb4.9/35, mbtmp4.9/38,ML4.3/3,MS5.3/5, Error ellipse: s-maj=16.6km s-min=11.3km az=162.0*

NEIC ***14*** *02:13:34.1±1.8,51°.04N±0°.08×178°.8E±0°.1,h23km±5km, mb5.2/58,ML4.7(AEIC), Error ellipse: s-maj=11.3km s-min=9.3km az=171.0*

AEIC ***14*** *02:13:34.0±1.9,51°.04N±0°.09×178°.7E±0°.1,h12km±4km, Error ellipse: s-maj=15.6km s-min=4.8km az=141.0*

ISC 14 02:13:35.7±0.5,51°.01N±0°.09×178°.92E±0°.05,h41km,n151, σ1ᵍ14/151,mb5.1/61,MS5.2/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.44**	**33**		**Pn**	**02 13 43.4**	**-2.3**
SHEM	**Shemya Is, Ala**	**3.45**	**302**	Pn	**Pn**	**02 14 26.1**	**-0.7**
	49nm,0.3s,baz=97,slow=13,SNR=1.2						
SHEM				Sn	**Sn**	**02 15 10.8**	**+4.4**
	baz=253,slow=22 2um,1.0s						
PEA0B	**Petropavlovsk-**	**13.22**	**287**	Pn	**Pn**	**02 16 42.7**	**+2.0**
PETK	**Petropavlovsk-**	**13.22**	**287**	Pn	**Pn**	**02 16 38.6**	**-2.0**
	1.3nm,0.3s,baz=83,slow=17,SNR=4.1						
PETK				Sn	Sn	02 18 55.7	-10
	baz=97,slow=18 20nm,0.8s						
PETK	**Petropavlovsk-**	**13.22**	**287**	Pn	**Pn**	**02 16 40.9**	**+0.2**
CNBA	**Chernabura Isl**	**13.50**	**65**	Pn	**Pn**	**02 16 42.1**	**-2.3**
O16K	**Kokwok River B**	**15.58**	**48**	P	**P**	**02 17 16.4**	**+0.5**
	baz=247						
CHIR	**Chirikof Islan**	**15.88**	**62**	Pn	**Pn**	**02 17 16.9**	**+0.9**
CHIR				IAmb	IAmb	02 17 19.3	
	comp=Z,330nm,1.3s						
Q18K	**Katmai Hardscr**	**16.77**	**53**	P	**P**	**02 17 29.1**	**-0.1**
	baz=254						
SII	**Sitkinak Islan**	**16.77**	**60**		**Pn**	**02 17 28.7**	**+1.4**
O18K	**Koktuh Hills**	**17.04**	**49**		**P**	**02 17 33.5**	**+1.5**
O18K	**Koktuh Hills**	**17.04**	**49**	P	**P**	**02 17 33.8**	**+1.7**
	baz=250						
KDAK	**Kodiak Island**	**17.82**	**57**	P	**Pn**	**02 17 38.3**	**-2.0**
	comp=Z,4.2nm,0.3s,baz=101,slow=23,SNR=1.1						
KDAK				LR	LR	02 25 23.5	
	comp=Z,22μm,18.8s,baz=255,slow=40 comp=Z,15nm,0.3s						
KDAK	**Kodiak Island**	**17.82**	**57**		**Pn**	**02 17 40.5**	**+0.2**
SPU	**Mount Spurr**	**18.95**	**46**	P	**Pn**	**02 17 56.4**	**+2.3**
J20K	**Nowinta River**	**19.34**	**37**	P	**Pn**	**02 17 58.5**	**-0.2**
SKT	**Skwentna**	**19.46**	**44**	P	**Pn**	**02 18 01.1**	**+0.9**
SKT				IAmb	IAmb	02 18 01.6	
	comp=Z,210nm,1.2s						
SUA	**Susitna One**	**19.64**	**46**	P	**P**	**02 18 00.8**	**0.0**
IMAR	**Indian Mountai**	**20.45**	**33**	P	**P**	**02 18 09.3**	**0.0**
BPAW	**Bear Paw Mtn.**	**20.53**	**39**	P	Pn	02 18 13.0	+0.4
	baz=245						
H21K	**Melozitna Rive**	**20.59**	**34**	P	**P**	**02 18 12.2**	**+1.3**
H21K				IAmb	IAmb	02 18 16.8	
	comp=Z,193nm,1.4s						
I21K	**Tanana**	**20.65**	**36**	P	**P**	**02 18 12.6**	**+1.1**
I21K				IAmb	IAmb	02 18 13.6	
	comp=Z,157nm,1.1s						
I21K	**Tanana**	**20.65**	**36**	P	**P**	**02 18 13.0**	**+1.5**
	baz=241						
F21K	**Alatna River**	**21.25**	**30**	P	**P**	**02 18 19.5**	**+1.5**
	baz=234						
NEA2	**Nenana**	**21.49**	**39**	P	**P**	**02 18 20.2**	**-0.3**
NEA2	**Nenana**	**21.49**	**39**	P	**P**	**02 18 22.3**	**+1.7**
	baz=246						
DHY	**Denali Highway**	**21.65**	**43**	P	**P**	**02 18 21.7**	**-0.7**
DHY				IAmb	IAmb	02 18 37.4	
	comp=Z,86nm,0.8s						
DIV	**Divide**	**21.88**	**49**	P	**P**	**02 18 25.6**	**+0.8**
DIV				IAmb	IAmb	02 18 27.4	
	comp=Z,70nm,1.0s						
M24K	**Tolsona, Glenn**	**21.91**	**46**	P	**P**	**02 18 25.1**	**0.0**
G23K	**Bananza Creek**	**22.11**	**33**	P	**P**	**02 18 28.7**	**+1.5**
	baz=240						
POKR	**Poker Plat Res**	**22.34**	**38**	P	**P**	**02 18 29.5**	**-0.3**
ILAR	**Eielson Array**	**22.43**	**39**	P	**P**	**02 18 29.6**	**-1.0**
	comp=Z,7.5nm,0.7s,baz=256,slow=11,SNR=0.8 comp=Z,7.5nm,0.7s						
H24K	**Noodor Dome**	**22.47**	**36**	P	**P**	**02 18 31.4**	**+0.3**
H24K				IAmb	IAmb	02 18 33.5	
	comp=Z,65nm,0.9s						
N25K	**Chitina, Valde**	**22.52**	**48**	P	**P**	**02 18 30.5**	**-1.3**
N25K				IAmb	IAmb	02 18 33.1	
	comp=Z,63nm,0.8s						
N25K	**Chitina, Valde**	**22.52**	**48**	P	**P**	**02 18 31.7**	**-0.1**
	baz=259						
G24K	**Hadweenzic Riv**	**23.00**	**34**	P	**P**	**02 18 37.7**	**+1.2**
	baz=244						
A21K	**Barrow**	**23.20**	**20**	P	**P**	**02 18 37.6**	**-0.9**
A21K				IAmb	IAmb	02 18 39.4	
	comp=Z,90nm,0.8s						
A21K	**Barrow**	**23.20**	**20**	P	**P**	**02 18 37.8**	**-0.7**
	baz=222						
TOLK	**Toolik Lake Re**	**23.27**	**29**	P	**P**	**02 18 39.1**	**-0.2**
TOLK				IAmb	IAmb	02 18 43.4	
	comp=Z,39nm,0.7s						
SCRK	**Sand Creek**	**23.36**	**42**	P	**P**	**02 18 39.3**	**-1.0**
	baz=254						
L26K	**Log Cabin Wild**	**23.40**	**45**	P	**P**	**02 18 41.3**	**+0.7**
L26K				IAmb	IAmb	02 18 59.0	
	comp=Z,46nm,0.8s						
J26L	**Joseph Creek**	**23.69**	**41**	P	**P**	**02 18 42.2**	**-1.2**
	baz=253						
FYU	**Fort Yukon**	**23.75**	**36**	P	**P**	**02 18 44.1**	**+0.3**
M27K	**Edge Creek, AK**	**23.93**	**47**	P	**P**	**02 18 46.1**	**+0.4**
M27K				IAmb	IAmb	02 18 49.1	
	comp=Z,108nm,1.1s						
TABL	**Table Mountain**	**24.02**	**51**	P	**P**	**02 18 46.0**	**-0.7**
TABL				IAmb	IAmb	02 18 51.8	
	comp=Z,74nm,1.0s						
F25K	**Christian Rive**	**24.03**	**33**	P	**P**	**02 18 48.0**	**+1.5**
	baz=244						
BVCY	**Beaver Creek**	**24.40**	**47**	P	**P**	**02 18 51.3**	**+1.4**
	baz=261						
YUK3	**Moose Creek**	**24.50**	**48**	P	**P**	**02 18 50.8**	**-0.2**
	baz=263						
EGAK	**Eagle**	**24.76**	**41**	P	**P**	**02 18 53.1**	**0.0**
EGAK	**Eagle**	**24.76**	**41**	P	**P**	**02 18 54.0**	**+0.9**
	baz=256						
JKA	**Kamikawa-asahi**	**25.27**	**268**	P	**P**	**02 18 57.6**	**-0.2**
DAWY	**Dawson**	**25.35**	**43**	P	**P**	**02 19 01.0**	**+2.5**
	baz=259						
E27K	**Coleen River**	**25.68**	**33**	P	**P**	**02 19 02.2**	**+0.8**
	baz=248						

INK	**Inuvik**	**28.58**	**35**	P		**P**	**02 19 27.0**	**-0.4**
	comp=Z,18nm,0.9s,baz=256,slow=5.2,SNR=1.6 comp=Z,18nm,0.9s							
YAK	**Yakutsk**	**28.59**	**312**	P		**P**	**02 19 24.6**	**-2.9**
	comp=Z,13nm,0.5s,baz=185,slow=2.6,SNR=4.1							
KLR	**Kul'dur**	**29.90**	**285**	P		**P**	**02 19 38.8**	**-0.5**
	comp=Z,39nm,0.7s,baz=69,slow=7.6,SNR=6.0 comp=Z,39nm,0.7s							
USA0B	**Ussuriysk Arra**	**31.92**	**276**	P		**P**	**02 19 56.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**31.92**	**276**	P		**P**	**02 19 56.3**	**-0.8**
	comp=Z,5.3nm,0.6s,baz=60,slow=9.8,SNR=5.8 comp=Z,5.3nm,0.6s							
USRK	**Ussuriysk Ar.**	**31.92**	**276**	P		**P**	**02 19 56.6**	**-0.5**
MJAR	**Matsushiro Arr**	**32.31**	**259**	P		**P**	**02 19 60.0**	**-0.7**
	comp=Z,2.2nm,0.3s,baz=130,slow=11,SNR=4.2 comp=Z,2.2nm,0.3s							
JGF	**Kuroka**	**33.44**	**259**	P		**P**	**02 20 10.9**	**+0.3**
JGF				IAmb	IAmb		02 20 24.1	
	comp=Z,30nm,1.0s							
JHS	**Saijyo**	**36.47**	**262**	P		**P**	**02 20 36.8**	**+0.1**
JHS				IAmb	IAmb		02 20 38.1	
	comp=Z,20nm,0.9s							
YKA	**Yellowknife Ar**	**36.52**	**46**	P		**P**	**02 20 36.6**	**-0.1**
	comp=Z,12nm,0.9s,baz=281,slow=8.3,SNR=1.4 comp=Z,12nm,0.9s							
E03A	**Lebam**	**37.33**	**74**	P		**P**	**02 20 45.2**	**+1.4**
F03A	**Seaside**	**37.63**	**75**	P		**P**	**02 20 48.7**	**+2.3**
D05A	**Enumclaw**	**37.98**	**72**	P		**P**	**02 20 51.8**	**+2.5**
D05A				IAmb	IAmb		02 20 52.8	
	comp=Z,49nm,0.9s							
KSRS	**Korea Array**	**38.21**	**269**	P		**P**	**02 20 51.8**	**+0.5**
	comp=Z,23nm,0.8s,baz=58,slow=8.3,SNR=12 comp=Z,23nm,0.8s							
KS19	**Wonju Array Si**	**38.21**	**270**	P		**P**	**02 20 52.3**	**+0.9**
KS19				IAmb	IAmb		02 20 53.0	
	comp=Z,34nm,0.9s							
KSAR	**Wonju Array Be**	**38.24**	**269**	P		**P**	**02 20 51.9**	**+0.3**
LON	**Longmire**	**38.29**	**73**	P		**P**	**02 20 53.8**	**+1.7**
H04A	**Detroit Lake**	**39.09**	**76**	P		**P**	**02 21 00.7**	**+1.9**
H04A				IAmb	IAmb		02 21 01.5	
	comp=Z,46nm,0.9s							
NEW	**Newport**	**40.35**	**68**	P		**P**	**02 21 09.4**	**+0.2**
	comp=Z,12nm,0.7s,baz=302,slow=11,SNR=1.4 comp=Z,12nm,0.7s							
NEW	**Newport**	**40.35**	**68**	P		**P**	**02 21 10.3**	**+1.2**
YBH	**Yreka Blue Hor**	**40.35**	**80**	P		**P**	**02 21 10.9**	**+1.6**
	comp=Z,7.6nm,0.7s,baz=70,slow=1.7,SNR=1.0 comp=Z,7.6nm,0.7s							
EUNU	**Eureka**	**41.02**	**15**	P		**P**	**02 21 14.2**	**-0.1**
I07A	**Izee**	**41.05**	**75**	P		**P**	**02 21 16.4**	**+1.4**
RYN	**Ryan**	**44.76**	**81**	P		**P**	**02 21 46.6**	**+1.3**
RYN				IAmb	IAmb		02 22 00.9	
	comp=Z,23nm,1.0s							
NVAR	**Mina Array Bea**	**45.02**	**81**	P		**P**	**02 21 47.8**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=311,slow=7.1,SNR=1.1 comp=Z,5.2nm,0.7s							
MDPB	**Devils Postpil**	**45.02**	**82**	P		**P**	**02 21 48.6**	**+1.2**
SONM	**Songino Array**	**45.52**	**296**	P		**P**	**02 21 51.2**	**+0.1**
	comp=Z,12nm,0.8s,baz=65,slow=6.6,SNR=5.1							
SONM				PcP		**PcP**	**02 23 28.5**	**-0.7**
	comp=Z,8.4nm,0.9s,baz=74,slow=2.8,SNR=3.5 comp=Z,12nm,0.8s							
SONM	**Songino Array**	**45.52**	**296**	P		**P**	**02 21 50.8**	**-0.3**
SONM				IAmb	IAmb		02 22 04.8	
	comp=Z,21nm,1.0s							
HVU	**Hansel Valley**	**46.43**	**74**	P		**P**	**02 22 00.2**	**+1.9**
HVU				IAmb	IAmb		02 22 11.3	
	comp=Z,28nm,0.8s							
PDAR	**Pinedale Array**	**47.78**	**71**	P		**P**	**02 22 09.7**	**+0.7**
	comp=Z,20nm,0.8s,baz=306,slow=5.1,SNR=1.8 comp=Z,20nm,0.8s							
PDAR	**Pinedale Array**	**47.78**	**71**	P		**P**	**02 22 10.2**	**+1.2**
SPITS	**Spitsbergen Ar**	**50.63**	**355**	P		**P**	**02 22 29.6**	**-0.4**
	comp=Z,8.3nm,0.6s,baz=5.0,slow=3.3,SNR=1.2							
SPITS				LR		LR	02 42 27.2	
	comp=Z,1μm,20.7s,baz=178,slow=34 comp=Z,8.3nm,0.6s							
FRB	**Frobisher Bay**	**54.08**	**30**	LR		LR	02 47 38.0	
	comp=Z,6μm,19.7s,baz=300,slow=38							
KSCO	**Kaye Shedlock'**	**54.23**	**70**	P		**P**	**02 22 59.3**	**+2.0**
	baz=310							
T25A	**Trinidad**	**54.38**	**73**	P		**P**	**02 23 00.3**	**+1.8**
	baz=311							
MSTX	**Muleshoe**	**57.48**	**75**	P		**P**	**02 23 21.7**	**+1.0**
MSTX				IAmb	IAmb		02 23 34.0	
	comp=Z,55nm,1.4s							
ARCES	**ARCESS Array B**	**58.20**	**349**	P		**P**	**02 23 24.4**	**-0.6**
	comp=Z,3.6nm,0.7s,baz=22,slow=9.8,SNR=1.1							
ARCES				PcP		**PcP**	**02 24 15.0**	**-1.0**
	comp=Z,8.8nm,0.8s,baz=17,slow=4.1,SNR=3.9							
ARCES				LR		LR	02 48 57.7	
	comp=Z,2μm,20.5s,baz=334,slow=37 comp=Z,3.6nm,0.7s							
KURBB	**Kurchatov Arra**	**58.33**	**313**	P		**P**	**02 23 25.9**	**-0.3**
	comp=Z,14nm,0.6s,baz=42,slow=6.7,SNR=1.9 comp=Z,14nm,0.6s							
JFWS	**Jewell Farm**	**58.72**	**59**	P		**P**	**02 23 29.6**	**+0.5**
	baz=313							
MKAR	**Makanchi Array**	**59.13**	**307**	P		**P**	**02 23 31.0**	**-0.8**
	comp=Z,10nm,0.8s,baz=40,slow=6.4,SNR=2.5 comp=Z,10nm,0.8s							
MKAR	**Makanchi Array**	**59.13**	**307**	P		**P**	**02 23 31.1**	**-0.8**
WMOK	**Wichita Mounta**	**59.37**	**72**	P		**P**	**02 23 35.1**	**+1.4**
	baz=314							
TXAR	**Lajitas Array**	**60.13**	**79**	P		**P**	**02 23 37.6**	**-1.4**
	comp=Z,7.8nm,0.8s,baz=303,slow=4.7,SNR=1.9 comp=Z,7.8nm,0.8s							
TXAR	**Lajitas Array**	**60.13**	**79**	P		**P**	**02 23 40.1**	**+1.0**
BVAR	**Borovoye Array**	**60.23**	**319**	P		**P**	**02 23 39.2**	**-0.1**
	comp=Z,29nm,0.6s,baz=50,slow=7.2,SNR=5.1 comp=Z,29nm,0.6s							
BRVK	**Borovoye**	**60.25**	**319**	P		**P**	**02 23 39.3**	**-0.1**
ARU	**Arti**	**62.15**	**327**	P		**P**	**02 23 52.6**	**+0.4**
	baz=18,slow=7.6							
ARU	**Arti**	**62.15**	**327**	P		**P**	**02 23 52.5**	**+0.4**
FCAR	**Ozark Folk Cen**	**62.49**	**66**	P		**P**	**02 23 54.5**	**-0.3**
MIAR	**Mount Ida**	**62.59**	**68**	P		**P**	**02 23 56.8**	**+1.3**
	baz=315							
Z38A	**Mt. Pleasant**	**62.66**	**70**	P		**P**	**02 23 56.3**	**+0.4**
KIRV	**Kirov**	**63.27**	**333**	P		**P**	**02 23 59.6**	**+0.1**
	comp=Z,28nm,0.8s,baz=182,slow=1.3,SNR=5.3 comp=Z,28nm,0.8s							
NATX	**Nacogdoches**	**63.91**	**71**	P		**P**	**02 24 05.8**	**+1.5**
	baz=316							
SIJI	**Sorong**	**65.56**	**234**	P		**P**	**02 24 15.3**	**+0.1**
	comp=Z,58nm,0.8s,baz=33,slow=6.3,SNR=6.0 comp=Z,58nm,0.8s							
FINES	**FINESS Array B**	**65.81**	**346**	P		**P**	**02 24 14.5**	**-1.6**
	comp=Z,6.6nm,0.7s,baz=8.9,slow=9.8,SNR=5.4 comp=Z,6.6nm,0.7s							
VBMS	**Vicksburg**	**66.04**	**68**	P		**P**	**02 24 19.9**	**+1.8**
	baz=316							
ABKAR	**Akbulak array**	**67.35**	**322**	P		**P**	**02 24 26.2**	**0.0**
KK31	**Karatay Array**	**67.56**	**311**	P		**P**	**02 24 27.8**	**+0.2**
KK31				IAmb	IAmb		02 24 28.2	
	comp=Z,18nm,0.9s							
KKAR	**Karatay Array**	**67.56**	**311**	P		**P**	**02 24 27.8**	**+0.2**
NOA	**NORSAR Array B**	**67.86**	**354**	P		**P**	**02 24 27.9**	**-1.4**
	comp=Z,5.1nm,0.8s,baz=9.0,slow=6.4,SNR=1.8 comp=Z,5.1nm,0.8s							
BRAL	**Brewton**	**68.82**	**66**	P		**P**	**02 24 36.8**	**+1.1**
	baz=318							
BELG	**Belogornoye**	**69.08**	**330**	P		**P**	**02 24 37.0**	**+0.1**
	comp=Z,53nm,0.8s,baz=325,slow=1.5,SNR=4.7 comp=Z,53nm,0.8s							
CMAR	**Chiang Mai Arr**	**69.62**	**274**	P		**P**	**02 24 39.8**	**-1.0**
	comp=Z,7.0nm,0.7s,baz=26,slow=6.5,SNR=4.9 comp=Z,7.0nm,0.7s							
DWPF	**Disney Wildern**	**74.34**	**65**	P		**P**	**02 25 10.7**	**+1.7**
	baz=320							
KAPI	**Kappang**	**75.22**	**242**	P		**P**	**02 25 14.7**	**+0.6**
	comp=Z,9.2nm,0.8s,baz=23,slow=4.2,SNR=4.1 comp=Z,9.2nm,0.8s							
AKASG	**Malin Array Be**	**75.44**	**341**	P		**P**	**02 25 14.5**	**-0.4**
	comp=Z,4.1nm,0.4s,baz=25,slow=6.2,SNR=5.0 comp=Z,4.1nm,0.4s							
AKBB	**Malin Array Si**	**75.44**	**341**	P		**P**	**02 25 14.6**	**-0.3**
AKBB				IAmb	IAmb		02 25 15.6	
	comp=Z,14nm,0.8s							
MTN	**Manton Dam**	**75.95**	**228**	P		**P**	**02 25 17.9**	**-0.3**
MTN				IAmb	IAmb		02 25 18.8	
	comp=Z,30nm,0.9s							
CLL	**Collm**	**77.36**	**351**	*e*P		**P**	**02 25 28.0**	**+2.2**
GEYT	**Alibeck**	**77.37**	**316**	P		**P**	**02 25 26.2**	**+0.1**
	comp=Z,5.3nm,0.9s,baz=19,slow=4.9,SNR=1.4 comp=Z,5.3nm,0.9s							
BATI	**Baumata**	**77.42**	**236**	P		**P**	**02 25 26.3**	**-0.3**
	comp=Z,42nm,0.7s,baz=49,slow=2.6,SNR=4.7 comp=Z,42nm,0.7s							
SOR	**Soroa**	**77.48**	**69**	P		**P**	**02 25 28.3**	**+1.4**
SOR				IAmb	IAmb		02 25 29.1	
	comp=Z,42nm,1.4s							
KBZ	**Khabaz**	**78.20**	**329**	P		**P**	**02 25 30.9**	**+0.3**
	comp=Z,16nm,0.8s,baz=77,slow=2.7,SNR=5.7 comp=Z,16nm,0.8s							
BUR08	**Bucovina Ar. S**	**79.16**	**342**	P		**P**	**02 25 36.7**	**+0.7**
BUR08				IAmb	IAmb		02 25 38.5	
	comp=Z,23nm,0.8s							
BURAR	**Bucovina Array**	**79.18**	**342**	P		**P**	**02 25 36.0**	**-0.1**
WB0	**Warramunga Arr**	**80.59**	**222**	P		**P**	**02 25 42.7**	**-1.1**
WB0				IAmb	IAmb		02 25 43.9	
	comp=Z,18nm,0.8s							
WR0	**Warramunga Arr**	**80.70**	**222**	P		**P**	**02 25 43.1**	**-1.2**
WR0				IAmb	IAmb		02 25 44.4	
	comp=Z,15nm,0.8s							
WB2	**Warramunga Arr**	**80.76**	**222**	P		**P**	**02 25 43.2**	**-1.5**
WB2				IAmb	IAmb		02 25 44.9	
	comp=Z,19nm,0.8s							
WRA	**Warramunga Arr**	**80.77**	**222**	P		**P**	**02 25 44.0**	**-0.8**
	comp=Z,13nm,0.7s,baz=31,slow=5.8,SNR=10 comp=Z,13nm,0.7s							
WRA	**Warramunga Arr**	**80.77**	**222**	P		**P**	**02 25 43.0**	**-1.8**
AS31	**Alice Springs**	**84.26**	**221**	P		**P**	**02 26 02.8**	**-0.1**
ASAR	**Alice Springs**	**84.26**	**221**	P		**P**	**02 26 03.1**	**+0.2**
	comp=Z,11nm,0.7s,baz=23,slow=5.5,SNR=9.0 comp=Z,11nm,0.7s							
ASAR	**Alice Springs**	**84.26**	**221**	P		**P**	**02 26 02.8**	**-0.1**
BR131	**Keskin Array S**	**84.66**	**334**	P		**P**	**02 26 05.6**	**+0.5**
BRTR	**Keskin Array B**	**84.66**	**334**	P		**P**	**02 26 05.5**	**+0.4**
	comp=Z,13nm,0.8s,baz=48,slow=3.1,SNR=9.4 comp=Z,13nm,0.8s							
BRTR	**Keskin Array B**	**84.66**	**334**	P		**P**	**02 26 04.9**	**-0.2**
BNN	**Bunyan**	**84.84**	**332**	P		**P**	**02 26 05.2**	**-0.7**
ESDC	**Sonseca Array**	**89.66**	**2**	P		**P**	**02 26 29.8**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=344,slow=4.1,SNR=1.1 comp=Z,1.1nm,0.9s							
GCPR	**Guaynabo City**	**90.66**	**59**	P		**P**	**02 26 34.6**	**+0.6**
SJG	**San Juan**	**90.78**	**60**	LR		LR	03 11 01.8	
	comp=Z,989nm,18.3s,baz=326,slow=38							
KEST	**Kesra**	**93.14**	**352**	P		**P**	**02 26 45.5**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=300,slow=4.9,SNR=1.6 comp=Z,3.0nm,0.8s							
ROSC	**El Rosal**	**96.69**	**74**	P		**P**	**02 27 02.3**	**0.0**
	comp=Z,7.3nm,0.4s,baz=135,slow=20,SNR=2.8 comp=Z,7.3nm,0.4s							
KMBO	**Kilima Mbogo**	**120.70**	**314**	PKP		**PKPdf**	**02 32 23.9**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=353,slow=4.6,SNR=4.0							
DBIC	**Dimbokro**	**122.46**	**4**	PKP		**PKPdf**	**02 32 26.4**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=38,slow=3.1,SNR=4.0							
BDFB	**Brasilia**	**128.55**	**64**	PKP		**PKPdf**	**02 32 38.4**	**0.0**
	comp=Z,2.3nm,0.7s,baz=22,slow=5.2,SNR=3.5							
PLCA	**Paso Flores**	**132.24**	**106**	PKP		**PKPdf**	**02 32 44.9**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=18,slow=0.8,SNR=3.7							
MAW	**Mawson**	**145.32**	**217**	PKPbc		**PKPbc**	**02 33 07.4**	**0.0**
	comp=Z,17nm,1.0s,baz=119,slow=5.6,SNR=4.4							
BOSA	**Boshof**	**150.12**	**308**	PKPbc		**PKiKP**	**02 33 22.6**	**-0.2**
	comp=Z,15nm,0.7s,baz=295,slow=1.5,SNR=4.3							

NEIC ***14*** *02:16:05.6±1.2,11°.7N±0°.1×142°.9E±0°.2,h10km±1km, mb4.6/17, Error ellipse: s-maj=30.4km s-min=16.8km az=113.0*

IDC ***14*** *02:16:11.3±2.6,11°.67N×143°.24E,h67km±26km,mb3.9/11, mbtmp4.2/12, Error ellipse: s-maj=32.8km s-min=14.9km az=104.0*

ISC 14 02:16:07.8±0.7,11°.6N±0°.1×143°.0E±0°.1,h32km,n35, σ0ᵍ95/33,mb4.5/19,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.67**	**43**	P	**Pn**	**02 16 49.7**	**+1.0**
	110nm,0.4s,baz=199,slow=6.8,SNR=14						
GUMO				S	**Sn**	**02 17 19.4**	**-0.6**
	184nm,0.5s,baz=25,slow=23,SNR=15						
GUMO	**Guam**	**2.67

TCW	**Tory Channel**	**0.66**	**18**	P	Pg	02 17 10.1	+0.4
TCW				S	Sb	02 17 19.7	+0.1
BHW	**Baring Head**	**0.78**	**57**	P	Pb	02 17 12.6	+0.1
BHW				S	Sb	02 17 24.3	+1.1
WEL	**Wellington**	**0.80**	**47**	P	Pb	02 17 12.9	0.0
WEL				S	Sn	02 17 25.2	-0.8
PLWZ	**Palliser**	**0.97**	**75**	P	Pg	02 17 15.3	-0.5
MSWZ	**Moikau Station**	**1.02**	**66**	P	Pg	02 17 16.2	-0.6
CAW	**Cannon Point**	**1.08**	**48**	P	Pb	02 17 17.6	-0.1
PAWZ	**Paruwai Farm**	**1.16**	**68**	P	Pb	02 17 17.7	-1.4
KIW	**Kapiti Island**	**1.19**	**35**	P	Pb	02 17 19.4	-0.1
MTW	**Mount Morrison**	**1.31**	**60**	P	Pn	02 17 19.9	-1.4
TRWZ	**Traveller**	**1.34**	**72**	P	Pn	02 17 19.8	-1.8
GVZ	**Greta Valley S**	**1.34**	**212**	P	Pb	02 17 22.4	+0.2
OGWZ	**Otaki Gorge**	**1.34**	**41**	P	Pn	02 17 21.3	-0.4
HOWZ	**Holdsworth Sta**	**1.48**	**51**	P	Pb	02 17 25.3	0.0
LTZ	**Lake Taylor**	**1.59**	**233**	P	Pn	02 17 25.6	+0.4
TMWZ	**Te Maipa**	**1.59**	**63**	P	Pn	02 17 23.4	-1.8
MRZ	**Mangatainoka R**	**1.67**	**46**	P	Pn	02 17 25.2	-1.0
PRWZ	**Pori Road**	**1.96**	**50**	P	Pg	02 17 34.1	-0.5
BFZ	**Birch Farm**	**2.05**	**56**	P	Pg	02 17 36.9	+0.7
INZ	**Inchbonnie**	**2.10**	**244**	P	Pb	02 17 34.8	-0.3
MQZ	**McQueen's Vall**	**2.12**	**208**	P	Pg	02 17 39.4	+1.8

WEL 14 02:17:46.2±0.4,**42°S**±2°×**17°4E**±°,**h7**km±3km,**M3.4**/19, **ML4.2**/15,**MLv3.4**/19,**Error ellipse: s-maj=0.0km s-min=0.0km az=149.6,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.02**	**198**	P	Pg	02 17 47.7	+0.2
CMWZ				S	Sg	02 17 49.4	+0.9
BSWZ	**Blackbirch Sta**	**0.26**	**272**	P	Pg	02 17 51.9	+0.6
BSWZ				S	Sb	02 17 57.0	-0.9
TUWZ	**Tuamarina**	**0.36**	**325**	P	Pg	02 17 53.9	+0.7
TUWZ				S	Sb	02 17 60.0	-0.8
TCW	**Tory Channel**	**0.52**	**4**	P	Pg	02 17 56.3	+0.1
BHW	**Baring Head**	**0.58**	**57**	P	Pg	02 17 57.8	+0.5
WEL	**Wellington**	**0.60**	**43**	P	Pb	02 17 58.1	+0.4
PLWZ	**Palliser**	**0.79**	**79**	P	Pb	02 18 02.3	+0.1
MNZ	**Nelson**	**0.81**	**308**	P	Pb	02 18 01.9	+0.1
MSWZ	**Moikau Station**	**0.83**	**68**	P	Pb	02 18 03.1	+0.2
KHZ	**Kahutara**	**0.86**	**216**	P	Pg	02 18 02.4	-0.3
CAW	**Cannon Point**	**0.89**	**46**	P	Pb	02 18 03.6	-0.3
DUWZ	**D'Urville Isla**	**0.95**	**346**	P	Pb	02 18 05.3	+0.3
PAWZ	**Paruwai Farm**	**0.97**	**70**	P	Pg	02 18 04.7	0.0
KIW	**Kapiti Island**	**1.01**	**31**	P	Pg	02 18 05.2	-0.3
MTW	**Mount Morrison**	**1.12**	**60**	P	Pg	02 18 06.9	-0.6
TRWZ	**Traveller**	**1.15**	**74**	P	Pg	02 18 07.0	-1.1
MRNZ	**Matariki Terra**	**1.15**	**286**	P	Pg	02 18 08.2	0.0
OGWZ	**Otaki Gorge**	**1.16**	**38**	P	Pg	02 18 08.0	-0.3
TKNZ	**Takaka Hill**	**1.18**	**306**	P	Pg	02 18 08.6	-0.1
HOWZ	**Holdsworth Sta**	**1.28**	**50**	P	Pn	02 18 09.5	-0.9
TMWZ	**Te Maipa**	**1.40**	**64**	P	Pn	02 18 10.5	-1.6
MRZ	**Mangatainoka R**	**1.48**	**44**	P	Pn	02 18 12.3	-0.8
QRZ	**Quartz Range**	**1.56**	**305**	P	Pb	02 18 15.5	+0.1
PRWZ	**Pori Road**	**1.76**	**49**	P	Pg	02 18 19.8	-0.2
DSZ	**Denniston Nort**	**1.81**	**269**	P	Pb	02 18 19.6	0.0

WEL 14 02:18:11.9±0.4,**42°S**±3°×**17°4E**±°,**h6**km±3km,**M4.2**/9, **ML4.4**/9,**MLv4.2**/9,**Error ellipse: s-maj=0.0km s-min=0.0km az=155.5,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.27**	**341**	P	Pg	02 18 17.5	+0.4
BSWZ				S	Sg	02 18 22.0	+1.4
CMWZ	**Cape Campbell**	**0.27**	**37**	P	Pg	02 18 17.9	+0.7
TUWZ	**Tuamarina**	**0.54**	**356**	P	Pg	02 18 22.3	+0.2
TUWZ				S	Sg	02 18 29.5	+0.3
KHZ	**Kahutara**	**0.56**	**217**	P	Pg	02 18 23.1	+0.3
TCW	**Tory Channel**	**0.78**	**16**	P	Pg	02 18 26.3	-0.6
TCW				S	Sb	02 18 39.0	+0.1
THZ	**Tophouse**	**0.84**	**284**	P	Pg	02 18 28.2	+0.2
THZ				S	Sb	02 18 40.1	-0.3
BHW	**Baring Head**	**0.86**	**50**	P	Pg	02 18 28.0	-0.4
BHW				S	Sb	02 18 41.2	+0.1
NNZ	**Nelson**	**0.88**	**328**	P	Pg	02 18 28.2	-0.5
NNZ				S	Sb	02 18 41.2	-0.3
WEL	**Wellington**	**0.90**	**41**	P	Pg	02 18 28.9	-0.2
WEL				S	Sb	02 18 43.1	+1.0
MRNZ	**Matariki Terra**	**1.08**	**301**	P	Pn	02 18 33.5	-0.2
MRNZ				S	Sn	02 18 48.4	-0.7
TKNZ	**Takaka Hill**	**1.21**	**320**	P	Pg	02 18 34.6	-0.5
TKNZ				S	Sb	02 18 51.3	+0.1
LTZ	**Lake Taylor**	**1.51**	**237**	P	Pn	02 18 38.7	-1.0
LTZ				S	Sn	02 18 57.9	-1.9
DSZ	**Denniston Nort**	**1.65**	**277**	P	Pn	02 18 42.0	+0.5
DSZ				S	Sg	02 19 06.4	+1.5
MQZ	**McQueen's Vall**	**2.00**	**209**	P	Pn	02 18 43.1	-3.1
MQZ				S	Sn	02 19 07.3	-4.3
OHWZ	**Ohakea**	**2.02**	**30**	P	Pn	02 18 45.8	-0.7
INZ	**Inchbonnie**	**2.04**	**247**	P	Pn	02 18 46.4	-0.3
AKCZ	**Akaroa Harbour**	**2.06**	**202**	P	Pn	02 18 44.8	-2.4
TSZ	**Takapari Road**	**2.42**	**39**	P	Pn	02 18 48.5	-3.5
NMEZ	**Namu Road**	**2.55**	**358**	P	Pb	02 18 58.0	-0.1
WVZ	**Waitaha Valley**	**2.65**	**244**	P	Pn	02 18 55.2	0.0
NBEZ	**Newall Road No**	**2.70**	**358**	P	Pb	02 19 00.0	-0.5
PKE	**Pukeiti**	**2.77**	**360**	P	Pb	02 19 00.8	-1.0
DREZ	**Durham Road**	**2.78**	**3**	P	Pn	02 18 59.3	+2.3
RPZ	**Rata Peaks**	**2.78**	**230**	P	Pn	02 18 54.4	-2.6
RPZ				S	Sn	02 19 27.0	-3.9
VRZ	**Vera Road**	**2.90**	**12**	P	Pn	02 19 01.3	-2.7
GCSZ	**Gaunt Creek Bo**	**3.02**	**242**	P	Pn	02 18 59.7	-0.6
OTVZ	**Oturere**	**3.08**	**25**	P	Pb	02 19 05.4	-1.7
FOZ	**Fox Glacier**	**3.45**	**242**	P	Pn	02 19 06.1	-0.1
LBZ	**Lake Benmore**	**3.69**	**228**	P	Pn	02 19 07.5	-2.0
ODZ	**Otahua Downs**	**3.92**	**217**	P	Pn	02 19 09.7	-3.0
JCZ	**Jackson Bay**	**4.36**	**239**	P	Pn	02 19 20.6	+1.8
HHSZ	**Highcliff Hill**	**4.62**	**211**	P	Pn	02 19 19.8	-2.5
EAZ	**Earnscleugh**	**4.71**	**225**	P	Pn	02 19 20.9	-2.7
AWAZ	**Awhitu Peninsu**	**4.92**	**6**	P	Pn	02 19 27.9	+1.5
MKAZ	**Moumakai**	**4.94**	**11**	P	Pn	02 19 28.3	+1.6
MBAZ	**Motutapu North**	**5.24**	**8**	P	Pn	02 19 33.4	+2.6
MLZ	**Mavora Lakes**	**5.45**	**229**	P	Pn	02 19 30.7	-3.0

*AEIC **14** 02:18:49.8±1.6,57°.13N±0°.06×157°.5W±0°.1,h6km±8km, ML2.8,ML3.4/26(NEIC),Error ellipse: s-maj=11.6km s-min=6.0km az=125.0*

NEIC 14 02:18:50.3±2.3,**57°.07N**±0°.06×**157°.30W**±0°.05, **h18**km±12km,**Error ellipse: s-maj=8.8km s-min=3.3km az=169.0,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.99**	**219**	Pg	Pb	02 19 07.1	-1.8
OHAK	**Old Harbor**	**2.19**	**84**	Pn	Pn	02 19 24.7	-1.1
SDPT	**Sand Point**	**2.48**	**227**	Pn	Pn	02 19 30.9	+1.2
SDPT				IAML		02 20 15.6	
	comp=E,229nm,2.4s						
SDPT				IAML		02 20 17.8	
	comp=N,143nm,2.4s						
P18K	**Big Mountain.**	**2.57**	**24**	Pn	Pn	02 19 30.1	-1.0
CNBA	**Chernabura Isl**	**2.60**	**211**	Pn	Pn	02 19 31.3	-0.1
CNBA				IAML		02 20 34.0	
	comp=N,120nm,3.7s						
CNBA				IAML		02 21 11.6	
	comp=E,115nm,3.1s						
KDAK	**Kodiak Island**	**2.65**	**72**	Pn	Pn	02 19 33.6	+1.5
KDAK				IAML		02 19 58.1	
	comp=E,153nm,3.8s						
KDAK				IAML		02 20 17.4	
	comp=E,154nm,4.0s						
KDAK	**Kodiak Island**	**2.65**	**72**	S	Pn	02 19 33.1	+1.1
	comp=E,14nm,0.6s,baz=297,slow=24,SNR=1.5						
O18K	**Koktuh Hills**	**3.00**	**21**	Pn	Pn	02 19 36.9	0.0
O18K				IAML		02 19 57.8	
	comp=E,69nm,4.5s						
O18K				IAML		02 20 01.9	
	comp=N,84nm,4.0s						
P19K	**Oil Pt**	**3.36**	**38**	Pn	Pn	02 19 42.4	+0.5
P19K				IAML		02 20 08.8	
	comp=N,141nm,3.7s						
P19K				IAML		02 21 23.7	
	comp=E,152nm,3.8s						
N18K	**Kilae Creek**	**3.69**	**11**	Pn	Pn	02 19 46.4	-0.1
N18K				IAML		02 20 56.5	
	comp=E,56nm,3.9s						
N18K				IAML		02 21 06.0	
	comp=N,54nm,4.1s						
N19K	**Bonanza Creek**	**4.03**	**20**	Pn	Pn	02 19 50.6	-0.5
N19K				IAML		02 20 38.9	
	comp=N,74nm,3.4s						
N19K				IAML		02 21 07.9	
	comp=E,64nm,3.6s						
BRLK	**Bradley Lake**	**4.32**	**49**	Pn	Pn	02 19 57.1	+2.0
M19K	**Big River Lodg**	**5.07**	**16**	Pn	Pn	02 20 04.8	-0.6
L19K	**White Mountain**	**5.27**	**13**	Pn	Pn	02 20 08.2	0.0
KNK	**Knik Glacier**	**6.28**	**42**	Pn	Pn	02 20 21.8	-0.2
GHO	**Glory Hole Cre**	**6.36**	**39**	Pn	Pn	02 20 20.8	-2.3
TRF	**Thorofare Moun**	**7.28**	**26**	Pn	Pn	02 20 39.0	+3.2

WEL 14 02:21:21.9±0.5,**40°S**±1°×**17°6E**±°,**h10**km±4km,**M3.0**/27, **ML3.2**/26,**MLv3.0**/27,**Error ellipse: s-maj=0.0km s-min=0.0km az=75.8,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.24**	**3**	P	Pg	02 21 27.7	+0.9
MOVZ				S	Sg	02 21 31.9	+1.8
BHHZ	**Black Hill Sta**	**0.30**	**58**	P	Pg	02 21 28.5	+0.7
BHHZ				S	Sb	02 21 33.3	-1.0
MTVZ	**Mangateitei**	**0.33**	**321**	P	Pb	02 21 29.5	-0.5
MTVZ				S	Sb	02 21 35.0	-0.4
WNVZ	**Wahianoa**	**0.34**	**341**	P	Pb	02 21 29.5	-0.5
WNVZ				S	Sb	02 21 34.8	-0.7
TRVZ	**Turoa**	**0.38**	**337**	P	Pb	02 21 30.2	-0.5
TRVZ				S	Sb	02 21 39.1	+2.3
WHVZ	**Whangaehu Hut**	**0.38**	**342**	P	Pb	02 21 30.3	-0.5
TUVZ	**Tukino**	**0.38**	**350**	P	Pb	02 21 30.3	-0.5
TUVZ				S	Sb	02 21 36.3	-0.6
DRZ	**Dome Shelter**	**0.39**	**340**	P	Pb	02 21 30.6	-0.6
FWVZ	**Far West T-bar**	**0.42**	**340**	P	Pb	02 21 30.8	-0.7
FWVZ				S	Sb	02 21 38.6	+0.7
PNHZ	**Pukenui**	**0.45**	**127**	P	Pb	02 21 31.3	-0.6
PNHZ				S	Sg	02 21 37.5	+1.0
TSZ	**Takapari Road**	**0.45**	**157**	P	Pg	02 21 31.3	+0.6
TSZ				S	Sg	02 21 37.6	+1.0
SNVZ	**South Ngauruho**	**0.47**	**351**	P	Pb	02 21 31.7	-0.5
SNVZ				S	Sg	02 21 37.8	+0.7
PKVZ	**Pokaka**	**0.47**	**319**	P	Pg	02 21 31.6	+0.6
COVZ	**Chateau Observ**	**0.47**	**341**	P	Pb	02 21 31.7	-0.6
NGZ	**Ngauruhoe**	**0.48**	**347**	P	Pb	02 21 32.0	-0.6
NGZ				S	Sb	02 21 40.1	+0.4
OTVZ	**Oturere**	**0.48**	**353**	P	Pb	02 21 32.1	-0.5
OTVZ				S	Sg	02 21 38.4	+0.7
ETVZ	**East Tongariro**	**0.51**	**358**	P	Pb	02 21 32.4	-0.6
ETVZ				S	Sg	02 21 39.3	+0.7
NNVZ	**North Ngauruho**	**0.52**	**349**	P	Pb	02 21 32.8	-0.5
TMVZ	**Te Maari**	**0.53**	**357**	P	Pg	02 21 32.7	+0.5
TMVZ				S	Sg	02 21 39.6	+0.4
WTVZ	**West Tongariro**	**0.54**	**348**	P	Pb	02 21 33.0	-0.5
NTVZ	**North Tongarir**	**0.55**	**355**	P	Pg	02 21 33.0	+0.5
NTVZ				S	Sg	02 21 40.3	+0.5
KRVZ	**Karewarewa**	**0.56**	**352**	P	Pg	02 21 33.2	+0.5
KWHZ	**Kaweka Forest**	**0.57**	**68**	P	Pb	02 21 33.6	-0.5
KWHZ				S	Sb	02 21 42.2	-0.1
WAZ	**Wanganui**	**0.59**	**259**	P	Pb	02 21 33.8	-0.5
WAZ				S	Sb	02 21 42.0	-0.8
TWVZ	**Taurewa**	**0.62**	**338**	P	Pg	02 21 34.1	+0.2
OHWZ	**Ohakea**	**0.65**	**210**	P	Pg	02 21 34.4	0.0
OHWZ				S	Sb	02 21 43.7	-0.7
KATZ	**Kakaramea**	**0.67**	**357**	P	Pg	02 21 35.3	+0.4
RITZ	**Rihia Road**	**0.67**	**8**	P	Pg	02 21 35.3	+0.4
WPHZ	**Waipukurau**	**0.68**	**128**	P	Pb	02 21 36.2	+0.3
WPHZ				S	Sb	02 21 46.5	+1.1
DVHZ	**Dannevirke**	**0.73**	**153**	P	Pb	02 21 36.5	-0.3
POWZ	**Post Office Ro**	**0.75**	**178**	P	Pg	02 21 36.4	+0.1
BKZ	**Black Stump Fm**	**0.76**	**51**	P	Pg	02 21 36.4	0.0
MCHZ	**McNeill Hill**	**0.77**	**75**	P	Pn	02 21 38.2	-0.6
HATZ	**Hinemaiaia**	**0.80**	**20**	P	Pg	02 21 37.2	-0.2
KAHZ	**Kahuranaki**	**0.89**	**100**	P	Pn	02 21 41.3	+0.7
VRZ	**Vera Road**	**0.92**	**304**	P	Pb	02 21 40.3	+0.4
PRWZ	**Pori Road**	**0.93**	**169**	P	Pb	02 21 40.1	0.0
PRHZ	**Porangahau**	**0.93**	**132**	P	Pn	02 21 40.8	-0.2
MRHZ	**Matea Rd**	**0.97**	**33**	P	Pg	02 21 40.3	-0.2
ANWZ	**Angora Road**	**0.99**	**145**	P	Pn	02 21 42.2	+0.4
NMHZ	**Naumai**	**0.99**	**57**	P	Pn	02 21 41.7	-0.3
CKHZ	**Cape Kidnapper**	**1.03**	**91**	P	Pn	02 21 43.5	+1.1
ARHZ	**Aropaoanui**	**1.05**	**69**	P	Pn	02 21 43.5	+0.9
BFZ	**Birch Farm**	**1.11**	**160**	P	Pn	02 21 43.4	0.0
TIWZ	**Tintock**	**1.14**	**174**	P	Pn	02 21 44.1	+0.2
MTHZ	**Maungataniwha**	**1.17**	**48**	P	Pb	02 21 43.9	-0.3
ALRZ	**Allen Road**	**1.18**	**24**	P	Pb	02 21 43.5	-0.9
OGWZ	**Otaki Gorge**	**1.25**	**200**	P	Pn	02 21 44.6	-0.8
RAHZ	**Arahi**	**1.27**	**56**	P	Pg	02 21 46.7	+0.3
CPWZ	**Castlepoint**	**1.31**	**164**	P	Pg	02 21 47.4	+0.4
HIZ	**Hauiti**	**1.32**	**328**	P	Pn	02 21 46.1	-0.3
TLZ	**Tolley Road**	**1.32**	**353**	P	Pn	02 21 46.1	-0.4
KIW	**Kapiti Island**	**1.37**	**207**	P	Pn	02 21 46.0	-1.1
RTZ	**Ruatahuna**	**1.41**	**44**	P	Pb	02 21 48.5	+0.1
MUGZ	**Murupara**	**1.42**	**35**	P	Pb	02 21 48.4	0.0
MTW	**Mount Morrison**	**1.52**	**187**	P	Pb	02 21 50.2	0.0
TARZ	**Mount Tarawera**	**1.53**	**23**	P	Pg	02 21 51.5	+0.2
CAW	**Cannon Point**	**1.55**	**199**	P	Pn	02 21 49.9	+0.4
PAWZ	**Paruwai Farm**	**1.75**	**188**	P	Pg	02 21 55.9	+0.5
DUWZ	**D'Urville Isla**	**1.81**	**230**	P	Pb	02 21 54.2	-0.9
MSWZ	**Moikau Station**	**1.81**	**192**	P	Pb	02 21 54.3	-0.7
TOZ	**Tahuroa Road**	**1.92**	**354**	P	Pb	02 21 56.7	-0.2
PLWZ	**Palliser**	**1.96**	**191**	P	Pn	02 21 53.4	-1.7
WMGZ	**Waiomatatini S**	**2.78**	**50**	P	Pb	02 22 10.0	-1.5

WEL 14 02:21:32.4±0.4,**42°S**±2°×**17°4E**±°,**h5**km,**M3.1**/10, **ML3.3**/10,**MLv3.1**/10,**Error ellipse: s-maj=0.0km s-min=0.0km az=130.3,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.31**	**12**	P	Pg	02 21 38.9	+0.5
BSWZ				S	Sg	02 21 44.1	+1.6
CMWZ	**Cape Campbell**	**0.42**	**50**	P	Pg	02 21 38.0	-2.4
TUWZ	**Tuamarina**	**0.60**	**11**	P	Pg	02 21 44.2	+0.4
TUWZ				S	Sb	02 21 53.6	-0.5
THZ	**Tophouse**	**0.71**	**291**	P	Pg	02 21 46.2	+0.2
THZ				S	Sg	02 21 55.9	+0.8
NNZ	**Nelson**	**0.86**	**339**	P	Pg	02 21 48.8	0.0
NNZ				S	Sb	02 22 01.6	+0.1
TCW	**Tory Channel**	**0.89**	**24**	P	Pg	02 21 49.1	-0.3
BHW	**Baring Head**	**1.01**	**53**	P	Pg	02 21 51.4	-0.4
WEL	**Wellington**	**1.04**	**45**	P	Pg	02 21 52.1	-0.1
WEL				S	Sn	02 22 08.2	-0.2
GVZ	**Greta Valley S**	**1.10**	**210**	P	Pg	02 21 52.7	-0.7
GVZ				S	Sb	02 22 08.7	+0.2
TKNZ	**Takaka Hill**	**1.17**	**327**	P	Pg	02 21 54.5	-0.2
LTZ	**Lake Taylor**	**1.36**	**235**	P	Pn	02 21 57.0	-1.0
QRZ	**Quartz Range**	**1.52**	**321**	P	Pb	02 22 00.7	-0.4
INZ	**Inchbonnie**	**1.88**	**247**	P	Pn	02 22 04.7	-0.4

WEL 14 02:23:19.5±0.8,**42°S**±5°×**17°4E**±°,**h5**km,**M3.4**/6,**ML3.7**/6, **MLv3.4**/6,**Error ellipse: s-maj=0.0km s-min=0.0km az=141.7,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**269**	P	Pg	02 23 24.9	+0.4
KHZ				S	Sg	02 23 28.3	+0.3
BSWZ	**Blackbirch Sta**	**0.70**	**359**	P	Pg	02 23 33.0	+0.2
THZ	**Tophouse**	**0.98**	**311**	P	Pg	02 23 37.1	-1.2
TUWZ	**Tuamarina**	**0.98**	**2**	P	Pg	02 23 38.1	-0.2
TCW	**Tory Channel**	**1.23**	**14**	P	Pg	02 23 42.4	-0.7
WEL	**Wellington**	**1.30**	**30**	P	Pn	02 23 43.6	-0.7
WEL				S	Sb	02 24 01.4	0.0
MRNZ	**Matariki Terra**	**1.32**	**320**	P	Pn	02 23 43.7	-0.9
MRNZ				S	Sn	02 24 03.5	+1.0
PLWZ	**Palliser**	**1.32**	**51**	P	Pn	02 23 43.2	-1.4
OKCZ	**Okains Bay**	**1.45**	**205**	P	Pn	02 23 44.7	-1.6
OKCZ				S	Sb	02 24 03.6	-2.1
PAWZ	**Paruwai Farm**	**1.54**	**49**	P	Pn	02 23 46.1	-1.5
PAWZ				S	Sn	02 24 06.2	-1.8
TKNZ	**Takaka Hill**	**1.54**	**333**	P	Pn	02 23 47.1	-0.5
TKNZ				S	Sn	02 24 08.1	+0.1

*IDC **14** 02:23:17.1±1.0,50°.88N×178°.79E,h0km,mb3.5/7, mbtmp3.6/8,ML4.1/1,Error ellipse: s-maj=31.8km s-min=23.0km az=174.0*

*AEIC **14** 02:23:23.0±0.6,51°.10N±0°.08×178°.9E±0°.1,h29km±8km, ML3.0,Error ellipse: s-maj=14.1km s-min=6.4km az=142.0*

*NEIC **14** 02:23:23.8±1.2,51°.20N±0°.08×179°.0E±0°.1,h36km±12km, Error ellipse: s-maj=12.2km s-min=8.8km az=140.0*

ISC 14 02:23:23.3±1.0,**51°.1N**±0°.2×**178°.91E**±0°.06,**h41**km,**n13, σ1§04/14,mb3.6/7,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.36**	**44**	Pg	Pn	**02 23 31.3**	**-1.0**
AMKA				Sg	Sn	**02 23 37.1**	**-1.5**
KIWB	**Kanaga Island**	**2.57**	**72**	Pn	Pn	**02 24 01.6**	**-0.8**
ADK	**Adak**	**2.86**	**73**	Pn	Pn	**02 24 06.8**	**+0.4**
GSTR	**Great Sitkin T**	**3.29**	**71**	Pn	Pn	**02 24 12.4**	**+0.2**
SHEM	**Shemya Is, Ala**	**3.38**	**300**	Pn	Pn	**02 24 13.8**	**+0.3**
	18nm,0.3s,baz=348,slow=0.7,SNR=8.5						
SHEM				Sn	Sn	02 25 01.0	+8.6
	17nm,0.3s,baz=288,slow=18,SNR=6.5						
	45nm,0.4s						
SMY	**Shemya**	**3.38**	**300**	Pn	Pn	**02 24 13.2**	**-0.3**
ILAR	**Eielson Array**	**22.35**	**39**	P	P	**02 28 19.1**	**+1.8**
	0.4nm,0.8s,baz=251,slow=10,SNR=1.9						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**47.76**	**71**	P	P	**02 31 57.6**	**+1.2**
	0.7nm,0.8s,baz=330,slow=5.2,SNR=5.6						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**58.25**	**313**	P	P	**02 33 12.8**	**-0.4**
	0.4nm,0.6s,baz=46,slow=6.9,SNR=4.4						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**60.12**	**79**	P	P	**02 33 26.5**	**0.0**
	0.1nm,0.5s,baz=292,slow=4.8,SNR=1.3						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**60.14**	**319**	P	P	**02 33 26.8**	**+0.5**
	1.1nm,0.6s,baz=52,slow=7.4,SNR=5.9						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**80.84**	**222**	P	P	**02 35 31.1**	**-1.6**
	0.5nm,0.6s,baz=32,slow=6.2,SNR=5.4						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**84.34**	**221**	P	P	**02 35 50.6**	**-0.3**
	0.3nm,0.6s,baz=24,slow=5.2,SNR=3.0						
	0.3nm,0.6s						

WEL 14 02:30:15.0±0.5,**42°S**±3°×**17°4E**±°,**h10**km±3km,**M3.6**/55, **ML3.7**/14,**MLv3.6**/55,**Error ellipse: s-maj=0.0km s-min=0.0km az=148.5,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**208**	P	Pg	02 30 17.9	+0.8
CMWZ				S	Sg	02 30 20.5	+1.9
BSWZ	**Blackbirch Sta**	**0.28**	**266**	P	Pg	02 30 21.3	+0.7
BSWZ				S	Sb	02 30 26.4	-0.5
TUWZ	**Tuamarina**	**0.35**	**319**	P	Pb	02 30 23.1	-0.3
TUWZ				S	Sb	02 30 29.0	+0.1
TCW	**Tory Channel**	**0.49**	**2**	P	Pb	02 30 25.1	-0.5
BHW	**Baring Head**	**0.55**	**58**	P	Pb	02 30 26.3	-0.3
WEL	**Wellington**	**0.57**	**43**	P	Pb	02 30 26.7	-0.2
WEL				S	Sb	02 30 36.0	+0.9
PLWZ	**Palliser**	**0.76**	**81**	P	Pb	02 30 30.2	-0.1
MSWZ	**Moikau Station**	**0.80**	**70**	P	Pb	02 30 30.8	-0.1
MSWZ				S	Sb	02 30 43.0	+1.1
NNZ	**Nelson**	**0.81**	**306**	P	Pb	02 30 31.0	-0.1
CAW	**Cannon Point**	**0.85**	**46**	P	Pb	02 30 31.6	-0.2
KHZ	**Kahutara**	**0.89**	**216**	P	Pg	02 30 32.1	0.0
DUWZ	**D'Urville Isla**	**0.93**	**344**	P	Pg	02 30 32.9	+0.1
PAWZ	**Paruwai Farm**	**0.94**	**71**	P	Pg	02 30 32.8	-0.2
KIW	**Kapiti Island**	**0.97**	**31**	P	Pg	02 30 33.7	0.0
THZ	**Tophouse**	**1.01**	**266**	P	Pb	02 30 34.5	-0.1
MTW	**Mount Morrison**	**1.08**	**61**	P	Pb	02 30 35.0	-0.8
TRWZ	**Traveller**	**1.12**	**75**	P	Pb	02 30 34.8	-1.5
OGWZ	**Otaki Gorge**	**1.12**	**39**	P	Pb	02 30 36.2	-0.2
MRNZ	**Matariki Terra**	**1.16**	**284**

CAW	**Cannon Point**	**1.28**	**48**	P		Pn		02 31 49.9	-1.3
CAW				S		Sb		02 32 08.3	+0.3
PAWZ	**Paruwai Farm**	**1.36**	**65**	P		Pn		02 31 50.1	-2.1
KIW	**Kapiti Island**	**1.39**	**38**	P		Pn		02 31 52.2	-0.4
LTZ	**Lake Taylor**	**1.39**	**233**	P		Pn		02 31 51.8	-0.9
LTZ				S		Sg		02 32 11.4	+0.1
DSZ	**Denniston Nort**	**1.50**	**278**	P		Pb		02 31 54.9	0.0
MTW	**Mount Morrison**	**1.52**	**59**	P		Pb		02 31 55.1	0.0
OGWZ	**Otaki Gorge**	**1.54**	**43**	P		Pn		02 31 53.6	-1.2
HOWZ	**Holdsworth Sta**	**1.68**	**51**	P		Pg		02 31 58.8	+0.1
OXZ	**Oxford**	**1.88**	**223**	P		Pg		02 32 03.9	+1.3
INZ	**Inchbonnie**	**1.90**	**245**	P		Pn		02 31 59.1	-0.5
TSZ	**Takapari Road**	**2.51**	**42**	P		Pb		02 32 12.5	+0.3
MOVZ	**Moawhango**	**2.96**	**31**	P		Pb		02 32 18.2	-1.5
WNVZ	**Wahianoa**	**2.97**	**28**	P		Pb		02 32 20.4	+0.3
TRVZ	**Turoa**	**2.98**	**27**	P		Pb		02 32 20.3	+0.1
BHHZ	**Black Hill Sta**	**3.01**	**36**	P		Pb		02 32 20.7	-0.1
FWVZ	**Far West T-bar**	**3.02**	**27**	P		Pb		02 32 20.7	-0.2
TUVZ	**Tukino**	**3.04**	**28**	P		Pb		02 32 20.9	-0.4
OTVZ	**Oturere**	**3.14**	**28**	P		Pb		02 32 21.7	-1.3
NNVZ	**North Ngauruho**	**3.15**	**27**	P		Pb		02 32 22.4	-0.7
WTVZ	**West Tongariro**	**3.16**	**26**	P		Pb		02 32 23.0	-0.2
ETVZ	**East Tongariro**	**3.18**	**28**	P		Pb		02 32 22.7	-0.9
TMVZ	**Te Maari**	**3.19**	**28**	P		Pb		02 32 23.2	-0.7
KNZ	**Kokohu**	**4.17**	**47**	P		Pn		02 32 28.1	-2.7

WEL 14 02:34:40.9±0.5, 42°S±2°×17°4E±°, h7km±4km, M3.5/12, ML3.8/12, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=137.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**195**	P	Pg	02 34 43.3	+0.7
BSWZ	**Blackbirch Sta**	**0.27**	**266**	P	Pg	02 34 46.7	+0.5
BSWZ				S	Sb	02 34 51.3	-1.5
TUWZ	**Tuamarina**	**0.34**	**321**	P	Pb	02 34 48.6	-0.7
TUWZ				S	Sb	02 34 54.2	-0.8
TCW	**Tory Channel**	**0.49**	**4**	P	Pg	02 34 51.0	+0.7
TCW				S	Sb	02 34 58.4	-0.7
BHW	**Baring Head**	**0.56**	**59**	P	Pb	02 34 52.4	-0.6
BHW				S	Sb	02 35 01.5	+0.3
WEL	**Wellington**	**0.58**	**44**	P	Pb	02 34 52.6	-0.4
PLWZ	**Palliser**	**0.78**	**81**	P	Pb	02 34 56.7	-0.1
NNZ	**Nelson**	**0.80**	**307**	P	Pg	02 34 56.0	-0.2
MSWZ	**Moikau Station**	**0.81**	**70**	P	Pb	02 34 57.3	0.0
CAW	**Cannon Point**	**0.86**	**47**	P	Pg	02 34 57.7	+0.3
CAW				S	Sb	02 35 10.0	+0.1
KHZ	**Kahutara**	**0.88**	**216**	P	Pg	02 34 58.0	+0.1
KHZ				S	Sb	02 35 11.0	+0.5
DUWZ	**D'Urville Isla**	**0.93**	**345**	P	Pg	02 34 58.6	0.0
PAWZ	**Paruwai Farm**	**0.95**	**71**	P	Pg	02 34 58.7	-0.4
KIW	**Kapiti Island**	**0.98**	**32**	P	Pg	02 34 59.7	0.0
KIW				S	Sb	02 35 13.2	-0.1
MTW	**Mount Morrison**	**1.10**	**61**	P	Pg	02 35 01.1	-0.8
OGWZ	**Otaki Gorge**	**1.13**	**39**	P	Pg	02 35 02.3	-0.3
TRWZ	**Traveller**	**1.13**	**75**	P	Pg	02 35 01.0	-1.6
HOWZ	**Holdsworth Sta**	**1.25**	**51**	P	Pn	02 35 03.6	-1.3
TMWZ	**Te Maipa**	**1.38**	**65**	P	Pn	02 35 04.6	-1.9
MRZ	**Mangatainoka R**	**1.45**	**45**	P	Pn	02 35 06.4	-1.0
TIWZ	**Tintock**	**1.55**	**54**	P	Pn	02 35 07.0	-1.9
QRZ	**Quartz Range**	**1.55**	**304**	P	Pn	02 35 05.1	-3.8
CPWZ	**Castlepoint**	**1.68**	**63**	P	Pn	02 35 09.0	-1.6
OHWZ	**Ohakea**	**1.70**	**29**	P	Pb	02 35 11.7	-0.7
PRWZ	**Pori Road**	**1.74**	**50**	P	Pn	02 35 09.9	-1.5
POWZ	**Post Office Ro**	**1.75**	**42**	P	Pn	02 35 10.4	-1.2
BFZ	**Birch Farm**	**1.83**	**57**	P	Pn	02 35 10.3	-2.4
DVHZ	**Dannevirke**	**2.02**	**47**	P	Pn	02 35 13.4	-2.0
WAZ	**Wanganui**	**2.02**	**17**	P	Pb	02 35 18.6	+0.7
ANWZ	**Angora Road**	**2.10**	**55**	P	Pn	02 35 13.9	-2.5
PRHZ	**Porangahau**	**2.31**	**53**	P	Pn	02 35 16.8	-2.6
PNHZ	**Pukenui**	**2.33**	**41**	P	Pn	02 35 17.9	-1.7
KHEZ	**Kahui Hut**	**2.41**	**356**	P	Pb	02 35 24.8	+0.3
NBEZ	**Newall Road No**	**2.44**	**353**	P	Pb	02 35 24.2	-0.9
PKE	**Pukeiti**	**2.51**	**356**	P	Pb	02 35 26.6	+0.4
MOVZ	**Moawhango**	**2.56**	**27**	P	Pn	02 35 22.5	-0.4
WNVZ	**Wahianoa**	**2.59**	**24**	P	Pn	02 35 23.6	+0.4
TRVZ	**Turoa**	**2.60**	**23**	P	Pn	02 35 24.4	+1.0
PXZ	**Pawanui**	**2.60**	**51**	P	Pn	02 35 20.3	-3.0
VRZ	**Vera Road**	**2.60**	**9**	P	Pn	02 35 24.9	+1.6
BHHZ	**Black Hill Sta**	**2.61**	**33**	P	Pb	02 35 22.7	-0.8
DRZ	**Dome Shelter**	**2.62**	**23**	P	Pb	02 35 29.6	+1.3
WHVZ	**Whangaehu Hut**	**2.62**	**24**	P	Pn	02 35 24.2	+0.4
FWVZ	**Far West T-bar**	**2.64**	**23**	P	Pn	02 35 24.6	+0.5
TUVZ	**Tukino**	**2.66**	**25**	P	Pn	02 35 24.6	+0.3
NGZ	**Ngauruhoe**	**2.73**	**23**	P	Pn	02 35 25.9	+0.7
SNVZ	**South Ngauruho**	**2.73**	**24**	P	Pn	02 35 25.8	+0.6
OTVZ	**Oturere**	**2.76**	**24**	P	Pn	02 35 26.1	+0.5
KAHZ	**Kahuranaki**	**2.77**	**47**	P	Pn	02 35 22.9	-2.7
NNVZ	**North Ngauruho**	**2.77**	**23**	P	Pn	02 35 27.0	+1.2
WTVZ	**West Tongariro**	**2.78**	**22**	P	Pb	02 35 31.7	+0.8
TWVZ	**Taurewa**	**2.78**	**20**	P	Pn	02 35 26.8	+1.0
ETVZ	**East Tongariro**	**2.80**	**24**	P	Pn	02 35 26.2	+0.1
TMVZ	**Te Maari**	**2.81**	**24**	P	Pn	02 35 26.4	+0.1
KRVZ	**Karewarewa**	**2.81**	**22**	P	Pn	02 35 27.1	+0.8
NTVZ	**North Tongarir**	**2.82**	**23**	P	Pn	02 35 26.6	+0.1
HIZ	**Hauiti**	**3.22**	**9**	P	Pn	02 35 34.4	+2.6

NEIC ***14*** *02:34:40.7±2.9, 35°.18N×0°.08×25°.01E±0°.08, h43km±12km, mb4.0/15, ML3.6(THE), ML3.9(ATH), Error ellipse: s-maj=11.8km s-min=9.1km az=183.0*
ISK ***14*** *02:34:41.9, 35°.38N×25°.02E, h8km, ML3.7/22*
IDC ***14*** *02:34:41.7±0.6, 35°.36N×25°.05E, h58km±5km, mb3.7/11, mbtmp4.0/18, Error ellipse: s-maj=16.0km s-min=12.5km az=168.0*
HLW ***14*** *02:34:41.4, 35°.17N×25°.30E, h22km±20km, Md4.5, Ml4.3*
ATH ***14*** *02:34:42.8, 35°.38N×25°.03E, h63km±2km, ML3.8/11, Error ellipse: s-maj=2.7km s-min=0.9km az=179.0*
THE ***14*** *02:34:44.3, 35°.37N×25°.05E, h58km±1km, ML3.6/17, Error ellipse: s-maj=1.7km s-min=0.6km az=175.0*
DDA ***14*** *02:34:45.0±0.0, 35°.68N×25°.44E, h7km±2km, ML2.8*
GII ***14*** *02:34:47.2±0.4, 34°.95N×25°.62E, h80km, Mm4.0/3*

ISC 14 02:34:42.2±0.6, 35°26N±0°.03×25°.16E±0°.03, h72km±5km, n217, σ2s10/285, mb4.0/16, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRKL	**Herakleio**	**0.07**	**322**	PG	**Pn**	**02 34 52.7**	**0.0**
HRKL	**Herakleio**	**0.07**	**322**	P	**Pn**	**02 34 52.6**	**0.0**
HRKL				S	**Sn**	**02 34 59.7**	**-0.6**
	13μm,0.4s						
HRKL	**Herakleio**	**0.07**	**322**	P	**Pn**	**02 34 52.6**	**0.0**
HRKL				S	**Sn**	**02 34 59.5**	**-0.8**
KSTL	**Kastelli Herak**	**0.08**	**305**	P	**Pn**	**02 34 53.6**	**+0.9**
KSTL				S	**Sn**	**02 35 00.1**	**-0.3**
IACM	**Heraklion**	**0.08**	**306**	P	**Pn**	**02 34 52.5**	**-0.2**
IACM				S	**Sn**	**02 34 59.7**	**-0.7**
	35μm,0.4s						
IACM	**Heraklion**	**0.08**	**306**	P	**Pn**	**02 34 52.5**	**-0.2**
IACM				S	**Sn**	**02 34 58.8**	**-1.6**
IACM				AML	AML	02 35 00.9	
	comp=N,70988μm,0.3s						
IACM				AML	AML	02 35 02.7	
	comp=E,53123μm,0.2s						
IDI	**Anoyia**	**0.22**	**278**	P	**Pn**	**02 34 52.6**	**-0.7**
	comp=E,820nm,0.4s,baz=349,slow=8.5,SNR=1147						
IDI				S	**Sn**	**02 34 59.2**	**-2.2**
	comp=E,2μm,0.3s,baz=244,slow=24,SNR=47						
TMBK	**Timbaki Herakl**	**0.37**	**240**	P	**Pn**	**02 34 54.1**	**0.0**
TMBK				S	**Sn**	**02 35 03.0**	**+0.2**
	comp=E,4μm,0.4s						
TMBK	**Timbaki Herakl**	**0.37**	**240**	P	**Pn**	**02 34 53.9**	**-0.2**
TMBK				S	**Sn**	**02 35 02.0**	**-0.8**
TMBK				AML	AML	02 35 04.2	
	comp=E,26024μm,0.4s						
TMBK				AML	AML	02 35 07.1	
	comp=N,22822μm,0.4s						
SIVA	**Sivas**	**0.37**	**230**	P	**Pn**	**02 34 54.2**	**+0.1**
SIVA				S	**Sn**	**02 35 02.2**	**-0.6**
	comp=N,30μm,0.4s						
SIVA	**Sivas**	**0.37**	**230**	P	**Pn**	**02 34 54.0**	**-0.2**
SIVA				S	**Sn**	**02 35 01.9**	**-0.9**
SIVA				AML	AML	02 35 03.2	
	comp=N,34066μm,0.4s						
SIVA				AML	AML	02 35 03.3	
	comp=E,87100μm,0.5s						
FRMA	**Ierapetra Chan**	**0.53**	**117**	P	**Pn**	**02 34 58.8**	**+3.3**
FRMA				S	**Sn**	**02 35 10.3**	**+5.0**
	comp=E,2μm,0.5s						
FRMA	**Ierapetra Chan**	**0.53**	**117**	P	**Pn**	**02 34 58.8**	**+3.3**
FRMA				S	**Sn**	**02 35 09.8**	**+4.5**
FRMA				AML	AML	02 35 14.3	
	comp=E,13212μm,0.4s						
FRMA				AML	AML	02 35 15.2	
	comp=N,10942μm,0.6s						
PRNS	**Prines Rethymn**	**0.55**	**282**	P	**Pn**	**02 34 55.8**	**+0.2**
PRNS				S	**Sn**	**02 35 05.6**	**+0.1**
	comp=N,9μm,0.4s						
STIA	**Sitia Lasithi**	**0.77**	**94**	P	**Pn**	**02 35 01.0**	**+3.0**
STIA				S	**Sn**	**02 35 12.5**	**+2.7**
STIA	**Sitia Lasithi**	**0.77**	**94**	P	**Pn**	**02 35 00.7**	**+2.7**
STIA				S	**Sn**	**02 35 12.6**	**+2.9**
STIA				AML	AML	02 35 16.6	
	comp=N,7353μm,0.5s						
STIA				AML	AML	02 35 19.6	
	comp=E,8868μm,0.5s						
ZKR	**Zakros**	**0.88**	**99**	PG	**Pn**	**02 35 02.5**	**+3.1**
ZKR	**Zakros**	**0.88**	**99**	P	**Pn**	**02 35 02.5**	**+3.1**
ZKR				S	**Sn**	**02 35 15.7**	**+3.6**
	comp=E,2μm,0.7s						
ZKR	**Zakros**	**0.88**	**99**	P	**Pn**	**02 35 02.6**	**+3.1**
ZKR				S	**Sn**	**02 35 15.8**	**+3.6**
ZKR				AML	AML	02 35 21.1	
	comp=N,1935μm,0.5s						
ZKR				AML	AML	02 35 22.1	
	comp=E,4838μm,0.9s						
CHAN	**Chania**	**0.95**	**286**	P	**Pn**	**02 35 00.5**	**+0.4**
CHAN				S	**Sn**	**02 35 11.9**	**-1.6**
CHAN				AML	AML	02 35 16.6	
	comp=N,8913μm,0.5s						
CHAN				AML	AML	02 35 17.7	
	comp=E,9038μm,0.4s						
GVDS	**Gavdos**	**0.97**	**245**	PG	**Pn**	**02 35 00.8**	**+0.3**
GVDS	**Gavdos**	**0.97**	**245**	P	**Pn**	**02 35 00.7**	**+0.3**
GVDS				S	**Sn**	**02 35 15.8**	**+1.9**
	comp=E,2μm,0.3s						
GVD	**Gavdhos**	**0.97**	**245**	PG	**Pn**	**02 35 00.9**	**+0.4**
GVD	**Gavdhos**	**0.97**	**245**	P	**Pn**	**02 35 00.5**	**0.0**
GVD	**Gavdhos**	**0.97**	**245**	P	**Pn**	**02 35 00.3**	**-0.1**
IMMV	**Iera Moni Meta**	**0.98**	**282**	PG	**Pn**	**02 35 00.9**	**+0.3**
IMMV				SG	**Sn**	**02 35 13.4**	**-0.9**
IMMV	**Iera Moni Meta**	**0.98**	**282**	P	**Pn**	**02 35 01.1**	**+0.5**
IMMV				S	**Sn**	**02 35 13.0**	**-1.3**
	comp=E,6μm,0.6s						
IMMV	**Iera Moni Meta**	**0.98**	**282**	P	**Pn**	**02 35 00.8**	**+0.2**
IMMV				S	**Sn**	**02 35 12.5**	**-1.8**
IMMV				AML	AML	02 35 15.7	
	comp=N,11137μm,0.7s						
IMMV				AML	AML	02 35 16.4	
	comp=E,12282μm,0.5s						
THR9	**Santorini-Faro**	**1.11**	**8**	P	**Pn**	**02 35 02.5**	**+0.3**
THR6	**Thira Island,**	**1.11**	**10**	P	**Pn**	**02 35 02.5**	**+0.2**
SANT	**Santorini**	**1.14**	**12**	PG	**Pn**	**02 35 02.5**	**-0.2**
SANT				SG	**Sn**	**02 35 17.3**	**-0.6**
SANT	**Santorini**	**1.14**	**12**		**Pn**	**02 35 02.1**	**-0.5**
SANT	**Santorini**	**1.14**	**12**	P	**Pn**	**02 35 02.4**	**-0.2**
SANT				S	**Sn**	**02 35 17.4**	**-0.5**
	comp=E,3μm,0.2s						
SANT	**Santorini**	**1.14**	**12**	P	**Pn**	**02 35 02.5**	**-0.2**
SANT				S	**Sn**	**02 35 16.3**	**-1.6**
SANT				AML	AML	02 35 19.0	
	comp=N,2992μm,0.2s						
SANT				AML	AML	02 35 19.9	
	comp=E,10326μm,0.2s						
THR3	**Thira Island,**	**1.17**	**10**	P	**Pn**	**02 35 03.4**	**+0.5**
THR5	**Thira Island,**	**1.17**	**8**	P	**Pn**	**02 35 03.3**	**+0.4**
THR5	**Thira Island,**	**1.17**	**8**	P	**Pn**	**02 35 03.4**	**+0.4**
THR8	**Santorini-Mono**	**1.18**	**13**	P	**Pn**	**02 35 02.8**	**-0.2**
THR8	**Santorini-Mono**	**1.18**	**13**	P	**Pn**	**02 35 02.9**	**-0.2**
SFIR	**Foira Santorin**	**1.19**	**11**	P	**Pn**	**02 35 03.3**	**+0.1**
SFIR				S	**Sn**	**02 35 18.5**	**-0.4**
	comp=E,5μm,0.4s						
SAP3	**Santorini-Thir**	**1.19**	**7**	P	**Pn**	**02 35 03.4**	**+0.2**
SAP3				S	**Sn**	**02 35 17.7**	**-1.2**
THT2	**Imerovigli**	**1.20**	**10**	PN	**Pn**	**02 35 03.6**	**+0.2**
THT2	**Imerovigli**	**1.20**	**10**	P	**Pn**	**02 35 03.5**	**+0.2**
KNDR	**Palaiochora Ch**	**1.20**	**269**	PN	**Pn**	**02 35 03.9**	**+0.5**
KNDR	**Palaiochora Ch**	**1.20**	**269**	P	**Pn**	**02 35 04.2**	**+0.9**
KNDR				S	**Sn**	**02 35 19.1**	**-0.1**
	comp=E,800nm,0.7s						
KNDR	**Palaiochora Ch**	**1.20**	**269**	P	**Pn**	**02 35 04.2**	**+0.9**
THR2	**Thira island,**	**1.21**	**11**	P	**Pn**	**02 35 03.4**	**-0.1**
CMBO	**Columbo, Santo**	**1.23**	**9**	P	**Pn**	**02 35 04.1**	**+0.4**
CMBO				S	**Sn**	**02 35 18.1**	**-1.2**
CMBO	**Columbo, Santo**	**1.23**	**9**	P	**Pn**	**02 35 04.2**	**+0.4**
CMBO				S	**Sn**	**02 35 18.1**	**-1.8**
CMBO				AML	AML	02 35 21.4	
	comp=N,7313μm,0.5s						
CMBO				AML	AML	02 35 22.6	
	comp=E,14831μm,0.5s						
MHLO	**Agia Marina, M**	**1.56**	**337**	P	**Pn**	**02 35 07.5**	**-0.5**
MHLO				S	**Sn**	**02 35 26.1**	**-1.3**
	comp=E,6μm,0.4s						
MHLO	**Agia Marina, M**	**1.56**	**337**	P	**Pn**	**02 35 07.5**	**-0.5**
MHLO				S	**Sn**	**02 35 24.4**	**-3.1**
ANKY	**Antikythira Is**	**1.63**	**292**	P	**Pn**	**02 35 08.7**	**-0.3**
ANKY				S	**Sn**	**02 35 28.5**	**-0.7**
	comp=E,1μm,0.7s						
ANKY	**Antikythira Is**	**1.63**	**292**	P	**Pn**	**02 35 08.5**	**-0.4**
KARP	**Karpathos**	**1.67**	**79**	PN	**Pn**	**02 35 12.2**	**+2.7**
KARP	**Karpathos**	**1.67**	**79**	Pn	**Pn**	**02 35 10.6**	**+1.2**
KARP	**Karpathos**	**1.67**	**79**	P	**Pn**	**02 35 11.4**	**+1.9**
KARP				S	**Sn**	**02 35 33.1**	**+3.0**
	comp=E,738nm,0.2s						
KARP	**Karpathos**	**1.67**	**79**	P	**Pn**	**02 35 11.4**	**+1.9**
APE	**Apeiranthos**	**1.83**	**9**	PN	**Pn**	**02 35 11.7**	**-0.1**
APE	**Apeiranthos**	**1.83**	**9**	P	**Pn**	**02 35 11.9**	**+0.1**
APE				S	**Sn**	**02 35 32.9**	**-1.3**
	comp=E,2μm,0.3s						
APE	**Apeiranthos**	**1.83**	**9**	P	**Pn**	**02 35 11.7**	**-0.1**
APE				S	**Sn**	**02 35 31.9**	**-2.2**
APE				AML	AML	02 35 34.1	
	comp=E,3750μm,0.3s						
APE				AML	AML	02 35 34.3	
	comp=N,3169μm,0.4s						
KTHA	**Kythira Island**	**1.97**	**301**	PN	**Pn**	**02 35 12.8**	**-0.8**
KTHA	**Kythira Island**	**1.97**	**301**	P	**Pn**	**02 35 12.6**	**-1.0**
KTHA				S	**Sn**	**02 35 34.4**	**-3.0**
	comp=N,665nm,0.3s						
KTHA	**Kythira Island**	**1.97**	**301**	P	**Pn**	**02 35 12.5**	**-1.0**
KTHR	**Kythira**	**2.02**	**300**	P	**Pn**	**02 35 13.3**	**-0.8**
KTHR				S	**Sn**	**02 35 37.8**	**-0.6**
KTHR	**Kythira**	**2.02**	**300**	P	**Pn**	**02 35 13.5**	**-0.7**
NISR	**Nisiros**	**2.10**	**49**	P	**Pn**	**02 35 16.5**	**+1.3**
KOSK	**Kos Island**	**2.10**	**44**	PN	**Pn**	**02 35 16.7**	**+1.5**
KOSK	**Kos Island**	**2.10**	**44**	P	**Pn**	**02 35 16.5**	**+1.3**
KOSK				S	**Sn**	**02 35 40.6**	**+0.2**
KOSK	**Kos Island**	**2.10**	**44**	P	**Pn**	**02 35 16.2**	**+1.0**
NIS1	**Nisyros Isl.**	**2.12**	**50**	PN	**Pn**	**02 35 16.7**	**+1.1**
NIS1	**Nisyros Isl.**	**2.12**	**50**	P	**Pn**	**02 35 17.6**	**+2.0**
NIS1	**Nisyros Isl.**	**2.12**	**50**	P	**Pn**	**02 35 17.6**	**+2.0**
MNVA	**Monemvasia**	**2.23**	**310**	P	**Pn**	**02 35 16.2**	**-0.8**
TNSA	**Tinos**	**2.28**	**0**	P	**Pn**	**02 35 17.5**	**-0.1**
TNSA				S	**Sn**	**02 35 42.1**	**-2.7**
VLI	**Veliai**	**2.32**	**310**	P	**Pn**	**02 35 17.1**	**-1.1**
VLI				S	**Sn**	**02 35 42.7**	**-3.0**
VLI	**Veliai**	**2.32**	**310**	P	**Pn**	**02 35 17.4**	**-0.8**
DAT	**Datca**	**2.45**	**53**	PN	**Pn**	**02 35 21.8**	**+1.6**
DAT	**Datca**	**2.45**	**53**	P	**Pn**	**02 35 21.7**	**+1.6**
YDRA	**Hydra**	**2.50**	**327**	P	**Pn**	**02 35 20.1**	**-0.4**
BODT	**Bodrum**	**2.51**	**43**	PN	**Pn**	**02 35 21.4**	**+0.6**
BODT	**Bodrum**	**2.51**	**43**	P	**Pn**	**02 35 21.0**	**+0.2**
BDRM	**Kayabasi**	**2.59**	**45**	P	**Pn**	**02 35 23.0**	**+1.1**
BDRM				S	**Sn**	**02 35 52.3**	**0.0**
BDRM				*i* AML	AML	02 35 54.0	
	comp=N,36nm,0.7s						
ARG	**Arkhangelos**	**2.60**	**68**	PN	**Pn**	**02 35 24.5**	**+2.5**
ARG	**Arkhangelos**	**2.60**	**68**	Pn	**Pn**	**02 35 23.2**	**+1.1**
ARG	**Arkhangelos**	**2.60**	**68**	P	**Pn**	**02 35 24.3**	**+2.3**
ARG				S	**Sn**	**02 35 54.9**	**+2.3**
ARG	**Arkhangelos**	**2.60**	**68**	P	**Pn**	**02 35 24.3**	**+2.3**
DDIM	**Aydin, Didim**	**2.77**	**37**	P	**Pn**	**02 35 26.0**	**+1.7**
DDIM				*i* AML	AML	02 36 01.0	
	comp=N,63nm,0.4s						
DDIM				*i* AML	AML	02 36 01.0	
	comp=N,67nm,0.6s						
SMG	**Samos**	**2.80**	**28**	P	**Pn**	**02 35 25.6**	**+0.9**
SMG				S	**Sn**	**02 35 57.1**	**-0.3**
SMG	**Samos**	**2.80**	**28**	P	**Pn**	**02 35 25.6**	**+0.9**
VLY	**Voula,Athens**	**2.81**	**337**	P	**Pn**	**02 35 25.1**	**+0.2**
VLY	**Voula,Athens**	**2.81**	**337**	P	**Pn**	**02 35 25.1**	**+0.2**
ATHU	**Athens Univers**	**2.92**	**338**	P	**Pn**	**02 35 26.6**	**+0.2**
TURN	**Turunc**	**2.93**	**58**	PN	**Pn**	**02 35 29.2**	**+2.7**
TURN	**Turunc**	**2.93**	**58**	P	**Pn**	**02 35 29.1**	**+2.7**
TURN				S	**Sn**	**02 36 01.9**	**+1.4**
TURN				*i* AML	AML	02 36 08.0	
	comp=N,80nm,0.3s						
TURN				*i* AML	AML	02 36 12.0	
	comp=N,72nm,0.3s						
ATH	**Athens Observa**	**2.95**	**337**	P	**Pn**	**02 35 26.5**	**-0.2**
GCAM	**G?zelcami?**	**2.96**	**34**	PN	**Pn**	**02 35 28.7**	**+1.8**
GCAM	**G?zelcami?**	**2.96**	**34**	P	**Pn**	**02 35 27.9**	**+1.0**
GCAM				S	**Sn**	**02 36 02.1**	**+0.9**
GCAM				*i* AML	AML	02 36 05.0	
	comp=N,73nm,0.2s						
GCAM				*i* AML	AML	02 36 05.0	
	comp=N,68nm,0.3s						
DGB	**zmir**	**3.12**	**26**	P	**Pn**	**02 35 29.7**	**+0.7**
DGB				S	**Sn**	**02 36 04.9**	**-0.1**
DGB				*i* AML	AML	02 36 07.0	
	comp=N,43nm,0.5s						
DGB				*i* AML	AML	02 36 08.0	
	comp=N,31nm,0.3s						
YER	**Yerkesik**	**3.15**	**53**	PN	**Pn**	**02 35 31.3**	**+1.8**
PYL	**PYLOS**	**3.21**	**302**	P	**Pn**	**02 35 28.9**	**-1.4**
DALY	**Dalyan (Mula)**	**3.23**	**60**	PN	**Pn**	**02 35 33.5**	**+2.9**
ITM	**Ithomi**	**3.24**	**307**	Pn	**Pn**	**02 35 30.3**	**-0.4**
ITM	**Ithomi**	**3.24**	**307**	P	**Pn**	**02 35 30.3**	**-0.4**
LOUT	**Loutraki**	**3.24**	**328**	P	**Pn**	**02 35 30.7**	**-0.1**
MULA	**Mugla, Merkez-**	**3.25**	**51**	P	**Pn**	**02 35 33.9**	**+3.0**
MULA				S	**Sn**	**02 36 12.7**	**+4.3**
MULA				*i* AML	AML	02 36 13.0	
	comp=N,50nm,0.7s						
MULA				*i* AML	AML	02 36 15.0	
	comp=N,21nm,0.9s						
AYDN	**Tasoluk**	**3.25**	**42**	P	**Pn**	**02 35 32.5**	**+1.6**
AYDN				S	**Sn**	**02 36 08.4**	**-0.1**
AYDN				*i* AML	AML	02 36 11.0	
	comp=N,22nm,0.5s						
AYDN				*i* AML	AML	02 36 16.0	
	comp=N,27nm,0.4s						
URLA	**Izmir**	**3.31**	**20**	PN	**Pn**	**02 35 31.3**	**-0.4**
THAL	**Thalero**	**3.42**	**325**	P	**Pn**	**02 35 32.7**	**-0.5**
BLCB	**Balcova**	**3.47**	**25**	PN	**Pn**	**02 35 35.2**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**3.47**	**39**	PN	**Pn**	**02 35 35.5**	**+1.5**
FETY	**Fethiye**	**3.47**	**66**	PN	**Pn**	**02 35 35.3**	**+1.4**
AKAS	**Kas**	**3.75**	**74**	PN	**Pn**	**02 35 39.5**	**+1.7**
AKAS	**Kas**	**3.75**	**74**	Pn	**Pn**	**02 35 37.8**	**0.0**
AKAS	**Kas**	**3.75**	**74**	P	**Pn**	**02 35 38.7**	**+0.9**
AKAS				S	**Sn**	**02 36 20.1**	**-0.7**
TAVA	**DENIZLI_Tavas**	**3.75**	**53**	P	**Pn**	**02 35 40.7**	**+2.9**
TAVA				*i* AML	AML	02 36 27.0	
	comp=N,17nm,0.2s						
TAVA				*i* AML	AML	02 36 29.0	
	comp=N,16nm,0.3s						
SLUM	**Salum**	**3.75**	**179**	P	**Pn**	**02 35 37.2**	**-0.6**
	baz=182						
SLUM				S	**Sn**	**02 36 17.0**	**-3.7**
	baz=182						
CAME	**Cameli-Denizli**	**3.76**	**62**	PN	**Pn**	**02 35 40.6**	**+2.7**
CAEL	**Denizli, Camel**	**3.85**	**60**	P	**Pn**	**02 35 41.9**	**+2.7**
CAEL				S	**Sn**	**02 36 24.8**	**+1.6**
CAEL				*i* AML	AML	02 36 28.0	
	comp=N,108nm,0.8s						
CAEL				*i* AML	AML	02 36 37.0	
	comp=N,73nm,0.3s						
DRO	**Drossia**	**3.86**	**315**	P	**Pn**	**02 35 39.8**	**+0.5**
LAKA	**Lakka**	**3.92**	**320**	P	**Pn**	**02 35 39.3**	**-0.7**
APMY	**Acipayam-Deniz**	**4.01**	**55**	PN	**Pn**	**

comp=N,1.1nm,0.3s,baz=45,slow=1.4,SNR=6.9

ASF				S	Sn	02 38 55.0	-4.9	
	comp=N,1.7nm,0.3s,baz=22,slow=9.7,SNR=2.4							
KEST	**Kesra**	**12.89**	**277**	P	Pn	02 37 41.0	-1.5	
	comp=N,1.8nm,0.9s,baz=191,slow=12,SNR=1.3							
CASP	**Castiglione de**	**13.41**	**308**	Pn	Pn	02 37 47.0	-2.3	
ZCCA	**Zocca**	**14.17**	**314**	Pn	Pn	02 37 58.1	-1.3	
VLC	**Villacollemand**	**14.41**	**313**	Pn	Pn	02 37 59.1	-3.4	
CTI	**Castel Tesino**	**14.85**	**321**		P	02 38 11.1	-1.2	
SALO	**Salr**	**15.18**	**317**	Pn	Pn	02 38 11.9	-0.5	
SALO				IAmb	IAmb	02 38 16.8		
	comp=Z,12nm,0.6s							
VRAC	**Vranov**	**15.39**	**338**	P	P	02 38 17.1	-1.0	
	comp=Z,0.7nm,0.3s,baz=175,slow=11,SNR=3.6							
AKASG	**Malin Array Be**	**15.72**	**10**	P	P	02 38 20.9	-0.8	
	comp=Z,3.9nm,0.5s,baz=202,slow=11,SNR=13							
AKASG	**Malin Array Be**	**15.72**	**10**	Pn	P	02 38 20.3	-1.5	
AKBB	**Malin Array Si**	**15.72**	**10**		P	02 38 21.2	-0.5	
AKBB				IAmb	IAmb	02 38 21.8		
	comp=Z,6.4nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**15.95**	**320**		P	02 38 26.0	+1.4	
FUORN				IAmb	IAmb	02 38 26.9		
	comp=Z,4.3nm,0.7s							
GEC2	**GERESS Array S**	**16.00**	**332**	P	P	02 38 24.4	-0.5	
GEC2				IAmb	IAmb	02 38 28.7		
	comp=Z,4.6nm,1.4s							
GERES	**GERESS Array B**	**16.00**	**332**	P	P	02 38 22.4	-2.6	
	comp=Z,1.4nm,0.5s,baz=143,slow=13,SNR=16							
GERES	**GERESS Array B**	**16.00**	**332**	P	P	02 38 24.6	-0.4	
DAVOX	**Davos/Dischmat**	**16.26**	**320**	P	Pn	02 38 24.8	-1.4	
	comp=Z,1.1nm,0.5s,baz=197,slow=19,SNR=1.7							
KHC	**Kasperske Hory**	**16.27**	**332**	P	P	02 38 28.5	+0.5	
SENIN	**Lac Senin/Sane**	**17.44**	**315**	P	P	02 38 40.0	-1.1	
SENIN				IAmb	IAmb	02 38 42.7		
	comp=Z,13nm,0.8s							
TAM	**Tamanrasset**	**21.14**	**239**	P	P	02 39 24.3	+2.8	
TAM				IAmb	IAmb	02 39 27.1		
	comp=Z,3.9nm,1.4s							
ESBB	**Sonseca Array**	**23.48**	**289**	P	P	02 39 44.9	-0.6	
ESBB				IAmb	IAmb	02 39 55.3		
	comp=Z,8.3nm,1.5s							
ESDC	**Sonseca Array**	**23.48**	**289**	P	P	02 39 45.3	-0.2	
	comp=Z,0.6nm,0.5s,baz=81,slow=9.5,SNR=16							
	comp=Z,0.6nm,0.5s							
ESDC	**Sonseca Array**	**23.48**	**289**	P	P	02 39 46.0	+0.5	
HFS	**Hagfors**	**25.98**	**347**	P	P	02 40 07.0	-0.9	
	comp=Z,3.2nm,1.0s,baz=180,slow=13,SNR=4.2							
	comp=Z,3.2nm,1.0s							
FINES	**FINESS Array B**	**26.21**	**1**	P	P	02 40 08.5	-1.5	
	comp=Z,1.2nm,0.6s,baz=163,slow=11,SNR=13							
	comp=Z,1.2nm,0.6s							
FIA1	**FINESS Array S**	**26.21**	**1**	P	P	02 40 08.4	-1.5	
FIA1				IAmb	IAmb	02 40 18.8		
	comp=Z,14nm,1.4s							
GEYT	**Alibeck**	**26.52**	**74**	P	P	02 40 15.0	+1.9	
	comp=Z,0.8nm,0.5s,baz=286,slow=7.3,SNR=1.5							
	comp=Z,0.8nm,0.5s							
NC602	**NORSAR Array S**	**26.96**	**345**	P	P	02 40 17.1	+0.4	
EKA	**Eskdalemuir Ar**	**27.96**	**325**	P	P	02 40 25.5	-0.2	
	comp=Z,0.8nm,0.3s,baz=125,slow=10.0,SNR=9.4							
	comp=Z,0.8nm,0.3s							
ESK	**Eskdalemuir**	**27.97**	**325**	P	P	02 40 27.8	+2.0	
ARCES	**ARCESS Array B**	**34.33**	**0**	P	P	02 41 19.9	-1.6	
	comp=Z,2.0nm,0.8s,baz=64,slow=2.8,SNR=5.6							
	comp=Z,2.0nm,0.8s							
DBIC	**Dimbokro**	**39.62**	**231**	P	P	02 42 07.7	+0.7	
	comp=Z,1.0nm,0.4s,baz=65,slow=9.6,SNR=5.1							
	comp=Z,1.0nm,0.4s							
DBIC	**Dimbokro**	**39.62**	**231**	P	P	02 42 07.6	+0.6	
DBIC				IAmb	IAmb	02 42 25.7		
	comp=Z,6.8nm,1.1s							
MKAR	**Makanchi Array**	**43.73**	**57**	P	P	02 42 41.7	+1.5	
	comp=Z,0.3nm,0.3s,baz=272,slow=9.3,SNR=1.6							
	comp=Z,0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**44.94**	**46**	P	P	02 42 51.3	+1.6	
	comp=Z,1.0nm,0.4s,baz=284,slow=7.9,SNR=3.7							
	comp=Z,1.0nm,0.4s							
WMQ	**Urumqi**	**47.96**	**60**	*e*P	P	02 43 17.0	+3.4	
SCHQ	**Schefferville**	**63.11**	**320**	P	P	02 45 02.5	+0.5	
	comp=Z,9.5nm,1.1s,baz=65,slow=14,SNR=2.2							
	comp=Z,9.5nm,1.1s							
BOSA	**Boshof**	**63.53**	**180**	P	P	02 45 06.2	+1.1	
	comp=Z,4.4nm,1.1s,baz=14,slow=6.4,SNR=6.7							
	comp=Z,4.4nm,1.1s							
BOSA	**Boshof**	**63.53**	**180**	P	P	02 45 06.4	+1.4	
HHC	**Hu-ho-hao-te**	**65.59**	**56**	*e*P	P	02 45 21.6	+3.0	
HHC				pmax	pmax			
	comp=Z,27nm,1.0s							
MJAR	**Matsushiro Arr**	**85.26**	**48**	P	P	02 47 18.8	+7.6	
	comp=Z,3.3nm,0.6s,baz=298,slow=5.8,SNR=5.5							

WEL 14 02:35:44.1±0.4, 42°S±3°×17°3E±°, h5km, M3.9/5, ML3.9/7, MLv3.9/5, Error ellipse: s-maj=0.0km s-min=0.0km az=141.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**98**	P	Pg	02 35 46.3	-0.4
KHZ				S	Sg	02 35 49.2	+0.8
GVZ	**Greta Valley S**	**0.62**	**203**	P	Pg	02 35 56.4	+0.3
GVZ				S	Sb	02 36 06.3	-0.3
THZ	**Tophouse**	**0.72**	**331**	P	Pg	02 35 57.6	-0.4
BSWZ	**Blackbirch Sta**	**0.78**	**29**	P	Pg	02 35 59.6	+0.5
BSWZ				S	Sb	02 36 12.0	+1.0
LTZ	**Lake Taylor**	**0.90**	**244**	P	Pg	02 36 00.0	-1.3
LTZ				S	Sg	02 36 13.5	+0.5
AMCZ	**Amberley**	**0.94**	**214**	P	Pg	02 36 02.3	+0.1
AMCZ				S	Sb	02 36 16.1	+0.4
TUWZ	**Tuamarina**	**1.06**	**24**	P	Pg	02 36 04.6	+0.2
DSZ	**Denniston Nort**	**1.34**	**299**	P	Pn	02 36 08.7	-0.8
OXZ	**Oxford**	**1.35**	**226**	P	Pn	02 36 07.3	-2.4
OXZ				S	Sb	02 36 25.4	-2.1
MQZ	**McQueen's Vall**	**1.41**	**202**	P	Pn	02 36 07.7	-2.7
MQZ				S	Sb	02 36 26.8	-2.4
RACZ	**Rakaia**	**1.61**	**214**	P	Pn	02 36 10.5	-2.7
WACZ	**Wakanui South**	**1.91**	**215**	P	Pn	02 36 14.9	-2.4
ARCZ	**Arundel**	**2.23**	**225**	P	Pn	02 36 19.2	-2.6

WEL 14 02:37:09.4±0.6, 42°S±3°×17°4E±°, h18km±3km, M3.4/9, ML3.8/9, MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=153.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**49**	P	Pg	02 37 12.8	+0.2
CMWZ				S	Sg	02 37 16.2	+1.5
BSWZ	**Blackbirch Sta**	**0.23**	**284**	P	Pb	02 37 16.2	+1.1
TUWZ	**Tuamarina**	**0.39**	**333**	P	Pb	02 37 18.5	+0.8
TUWZ				S	Sb	02 37 25.0	+1.6
TCW	**Tory Channel**	**0.57**	**8**	P	Pb	02 37 21.2	+0.4
TCW				S	Sb	02 37 29.3	+0.8
BHW	**Baring Head**	**0.63**	**55**	P	Pg	02 37 22.5	+0.6
BHW				S	Sn	02 37 32.4	-0.7
WEL	**Wellington**	**0.66**	**42**	P	Pg	02 37 22.8	+0.4
NNZ	**Nelson**	**0.82**	**312**	P	Pn	02 37 26.7	+0.6
PLWZ	**Palliser**	**0.83**	**76**	P	Pb	02 37 25.5	+0.1
MSWZ	**Moikau Station**	**0.88**	**66**	P	Pg	02 37 26.4	-0.2
CAW	**Cannon Point**	**0.94**	**45**	P	Pg	02 37 27.7	0.0
THZ	**Tophouse**	**0.95**	**270**	P	Pb	02 37 26.5	-1.0
DUWZ	**D'Urville Isla**	**0.99**	**349**	P	Pg	02 37 28.8	+0.2
PAWZ	**Paruwai Farm**	**1.01**	**68**	P	Pb	02 37 28.0	-0.5
KIW	**Kapiti Island**	**1.06**	**31**	P	Pg	02 37 29.9	-0.1
MRNZ	**Matariki Terra**	**1.13**	**289**	P	Pg	02 37 32.2	+0.9
MTW	**Mount Morrison**	**1.17**	**59**	P	Pn	02 37 30.2	-0.7
TRWZ	**Traveller**	**1.19**	**72**	P	Pn	02 37 30.0	-1.2
OGWZ	**Otaki Gorge**	**1.21**	**38**	P	Pb	02 37 31.9	+0.1
HOWZ	**Holdsworth Sta**	**1.33**	**49**	P	Pn	02 37 33.3	+0.1
TMWZ	**Te Maipa**	**1.45**	**63**	P	Pn	02 37 33.8	-1.0
GVZ	**Greta Valley S**	**1.47**	**215**	P	Pn	02 37 32.7	-2.3
MRZ	**Mangatainoka R**	**1.53**	**44**	P	Pn	02 37 35.8	-0.1
QRZ	**Quartz Range**	**1.56**	**307**	P	Pg	02 37 39.1	-0.4
TIWZ	**Tintock**	**1.63**	**53**	P	Pn	02 37 37.7	+0.5
BFZ	**Birch Farm**	**1.90**	**56**	P	Pg	02 37 46.4	+0.4
KHEZ	**Kahui Hut**	**2.48**	**357**	P	Pg	02 37 55.3	-1.6
PKE	**Pukeiti**	**2.58**	**357**	P	Pb	02 37 54.5	-0.6
MOVZ	**Moawhango**	**2.65**	**27**	P	Pb	02 37 56.8	+0.4

WEL 14 02:45:20.2±0.4, 42°S±3°×17°4E±°, h9km±3km, M3.3/13, ML3.5/13, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=146.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.27**	**3**	P	Pb	02 45 26.3	-0.8
BSWZ				S	Sb	02 45 30.8	-0.9
CMWZ	**Cape Campbell**	**0.35**	**49**	P	Pb	02 45 28.4	-0.2
CMWZ				S	Sb	02 45 35.2	+0.9
KHZ	**Kahutara**	**0.49**	**208**	P	Pb	02 45 30.5	-0.5
TUWZ	**Tuamarina**	**0.56**	**7**	P	Pg	02 45 31.4	+0.5
TUWZ				S	Sb	02 45 40.2	+0.1
THZ	**Tophouse**	**0.74**	**287**	P	Pg	02 45 34.8	+0.3
THZ				S	Sg	02 45 44.4	+0.3
TCW	**Tory Channel**	**0.83**	**22**	P	Pg	02 45 36.0	-0.2
TCW				S	Sb	02 45 48.5	+0.4
NNZ	**Nelson**	**0.84**	**335**	P	Pn	02 45 36.5	+0.1
NNZ				S	Sb	02 45 48.0	-0.3
BHW	**Baring Head**	**0.95**	**53**	P	Pg	02 45 37.6	-0.9
WEL	**Wellington**	**0.98**	**45**	P	Pg	02 45 38.3	-0.6
WEL				S	Sn	02 45 53.6	-0.3
MRNZ	**Matariki Terra**	**1.01**	**305**	P	Pg	02 45 39.5	0.0
MRNZ				S	Sb	02 45 53.7	+0.7
GVZ	**Greta Valley S**	**1.16**	**211**	P	Pb	02 45 42.2	-0.1
GVZ				S	Sb	02 45 57.6	+0.2
TKNZ	**Takaka Hill**	**1.16**	**324**	P	Pb	02 45 42.2	-0.2
TKNZ				S	Sn	02 45 58.4	-0.1
MSWZ	**Moikau Station**	**1.19**	**62**	P	Pb	02 45 42.6	-0.2
CAW	**Cannon Point**	**1.26**	**47**	P	Pn	02 45 42.9	-1.0
CAW				S	Sb	02 45 59.7	-0.7
KIW	**Kapiti Island**	**1.37**	**36**	P	Pn	02 45 44.5	-0.9
OGWZ	**Otaki Gorge**	**1.53**	**41**	P	Pn	02 45 46.7	-0.9
DSZ	**Denniston Nort**	**1.55**	**278**	P	Pb	02 45 48.6	-0.4
HOWZ	**Holdsworth Sta**	**1.65**	**50**	P	Pg	02 45 52.0	+0.1
MRZ	**Mangatainoka R**	**1.85**	**45**	P	Pn	02 45 50.5	-1.5
WACZ	**Wakanui South**	**2.46**	**216**	P	Pg	02 46 06.0	-1.2

IDC 14 02:45:52.3±4.8, 51°.66N×178°.24E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=359.0km s-min=31.2km az=152.0
AEIC 14 02:45:57.9±0.4, 51°.00N±0°.08×178°.8E±0°.1, h20km±4km, ML3.0, Error ellipse: s-maj=13.9km s-min=6.2km az=138.0
NEIC 14 02:46:00.2±0.3, 51°.2N±0°.2×178°.9E±0°.1, h30km±14km, Error ellipse: s-maj=30.9km s-min=9.4km az=179.0

ISC 14 02:45:59.8±1.1, 51°.1N±0°.2×178°.84E±0°.07, h41km, n9, σ0°67/10, mb3.4/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.38**	**49**		**Pn**	**02 46 08.0**	**-1.1**
AMKA				Sg	**Sn**	**02 46 15.4**	**-0.1**
KIWB	**Kanaga Island**	**2.61**	**72**	Pn	**Pn**	**02 46 39.7**	**+0.4**
ADK	**Adak**	**2.90**	**73**	Pn	**Pn**	**02 46 44.0**	**+0.6**
SMY	**Shemya**	**3.34**	**300**	Pn	**Pn**	**02 46 49.7**	**+0.2**
NVAR	**Mina Array Bea**	**45.05**	**81**	P	**P**	**02 54 11.7**	**+0.1**
	0.1nm,0.3s,baz=294,slow=8.8,SNR=1.6						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**47.79**	**71**	P	**P**	**02 54 33.1**	**0.0**
	0.4nm,0.8s,baz=303,slow=6.8,SNR=3.5						
	0.4nm,0.8s						
DAG	**Danmarks Havn**	**51.88**	**5**	*i* P	**P**	**02 55 04.0**	**+0.6**
WRA	**Warramunga Arr**	**80.82**	**222**	P	**P**	**02 58 08.1**	**-1.0**
	0.2nm,0.5s,baz=30,slow=5.7,SNR=1.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**84.32**	**221**	P	**P**	**02 58 27.2**	**0.0**
	0.1nm,0.3s,baz=15,slow=4.0,SNR=2.3						
	0.1nm,0.3s						

IDC 14 02:50:46.3±1.8, 41°.45S×174°.10E, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=50.8km s-min=30.2km az=55.0
WEL 14 02:50:49.5±0.4, 42°.5S±2°×17°4E±°, h6km±3km, M4.1/17, ML4.4/17, MLv4.1/17, Error ellipse: s-maj=0.0km s-min=0.0km az=135.6

ISC 14 02:50:49.5±0.8, 41°.70S±0°.02×174°.27E±0°.02, h13km±5km, n101, σ1°38/112, mb3.5/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**219**	P	**Pg**	**02 50 51.9**	**-0.2**
CMWZ				S	**Sg**	**02 50 54.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.29**	**267**	P	**Pg**	**02 50 55.2**	**-0.3**
BSWZ				S	**Sg**	**02 51 00.3**	**+0.7**
TUWZ	**Tuamarina**	**0.36**	**318**	P	**Pg**	**02 50 56.7**	**-0.1**
TUWZ				S	**Sb**	**02 51 02.5**	**-0.9**
TCW	**Tory Channel**	**0.49**	**1**	P	**Pg**	**02 50 58.9**	**-0.2**
TCW				S	**Sg**	**02 51 05.9**	**+0.3**
BHW	**Baring Head**	**0.54**	**58**	P	**Pg**	**02 51 00.1**	**0.0**
WEL	**Wellington**	**0.56**	**42**	P	**Pg**	**02 51 00.7**	**+0.3**
WEL				S	**Sb**	**02 51 09.4**	**+0.4**
PLWZ	**Palliser**	**0.75**	**80**	P	**Pb**	**02 51 04.8**	**+0.4**
MSWZ	**Moikau Station**	**0.79**	**69**	P	**Pb**	**02 51 05.3**	**+0.2**
MSWZ				S	**Sn**	**02 51 18.7**	**+0.7**
NNZ	**Nelson**	**0.82**	**306**	P	**Pn**	**02 51 04.7**	**-0.7**
NNZ				S	**Sb**	**02 51 16.8**	**+0.2**
CAW	**Cannon Point**	**0.84**	**46**	P	**Pg**	**02 51 05.6**	**-0.2**
KHZ	**Kahutara**	**0.90**	**217**	P	**Pg**	**02 51 06.9**	**0.0**
KHZ				S	**Sb**	**02 51 20.9**	**+2.1**
PAWZ	**Paruwai Farm**	**0.93**	**70**	P	**Pg**	**02 51 07.3**	**-0.1**
DUWZ	**D'Urville Isla**	**0.93**	**344**	P	**Pg**	**02 51 07.1**	**-0.4**
DUWZ				S	**Sb**	**02 51 20.7**	**+0.8**
KIW	**Kapiti Island**	**0.97**	**30**	P	**Pg**	**02 51 07.6**	**-0.6**
THZ	**Tophouse**	**1.02**	**266**	P	**Pg**	**02 51 08.5**	**-0.7**
MTW	**Mount Morrison**	**1.07**	**60**	P	**Pg**	**02 51 09.4**	**-0.8**
TRWZ	**Traveller**	**1.11**	**75**	P	**Pg**	**02 51 09.5**	**-1.4**
OGWZ	**Otaki Gorge**	**1.11**	**38**	P	**Pg**	**02 51 10.2**	**-0.8**
MRNZ	**Matariki Terra**	**1.17**	**284**	P	**Pg**	**02 51 11.4**	**-0.7**
MRNZ				S	**Sn**	**02 51 28.5**	**+1.1**
TKNZ	**Takaka Hill**	**1.19**	**304**	P	**Pg**	**02 51 11.2**	**-1.2**
HOWZ	**Holdsworth Sta**	**1.23**	**50**	P	**Pg**	**02 51 12.2**	**-1.1**
TMWZ	**Te Maipa**	**1.36**	**65**	P	**Pn**	**02 51 13.1**	**-1.0**
MRZ	**Mangatainoka R**	**1.43**	**44**	P	**Pn**	**02 51 14.7**	**-0.5**
TIWZ	**Tintock**	**1.53**	**53**	P	**Pn**	**02 51 16.9**	**+0.3**
GVZ	**Greta Valley S**	**1.56**	**215**	P	**Pn**	**02 51 16.6**	**-0.4**
QRZ	**Quartz Range**	**1.57**	**303**	P	**Pn**	**02 51 17.8**	**+0.7**
CPWZ	**Castlepoint**	**1.66**	**62**	P	**Pg**	**02 51 22.7**	**+1.4**
OHWZ	**Ohakea**	**1.69**	**28**	P	**Pb**	**02 51 20.6**	**+0.2**
PRWZ	**Pori Road**	**1.72**	**49**	P	**Pn**	**02 51 18.9**	**-0.2**
POWZ	**Post Office Ro**	**1.73**	**41**	P	**Pn**	**02 51 19.2**	**-0.1**
BFZ	**Birch Farm**	**1.81**	**56**	P	**Pn**	**02 51 19.4**	**-0.9**
LTZ	**Lake Taylor**	**1.83**	**233**	P	**Pn**	**02 51 19.8**	**-0.9**
DSZ	**Denniston Nort**	**1.84**	**268**	P	**Pn**	**02 51 22.0**	**+1.1**
AMCZ	**Amberley**	**1.90**	**218**	P	**Pg**	**02 51 27.8**	**+1.9**
DVHZ	**Dannevirke**	**2.01**	**46**	P	**Pn**	**02 51 22.0**	**-1.0**
WAZ	**Wanganui**	**2.02**	**16**	P	**Pb**	**02 51 26.3**	**+0.3**
ANWZ	**Angora Road**	**2.08**	**54**	P	**Pb**	**02 51 27.8**	**+0.8**
TSZ	**Takapari Road**	**2.08**	**39**	P	**Pn**	**02 51 24.2**	**0.0**
LREZ	**Lake Rotokare**	**2.24**	**3**	P	**Pb**	**02 51 30.8**	**+1.0**
PRHZ	**Porangahau**	**2.29**	**52**	P	**Pn**	**02 51 25.7**	**-1.3**
NMEZ	**Namu Road**	**2.30**	**352**	P	**Pg**	**02 51 32.9**	**-0.7**
PNHZ	**Pukenui**	**2.31**	**40**	P	**Pn**	**02 51 26.9**	**-0.3**
OXZ	**Oxford**	**2.31**	**225**	P	**Pb**	**02 51 30.4**	**-0.7**
WPHZ	**Waipukurau**	**2.32**	**46**	P	**Pg**	**02 51 32.9**	**-1.0**
INZ	**Inchbonnie**	**2.33**	**243**	P	**Pb**	**02 51 30.3**	**-1.1**
KHEZ	**Kahui Hut**	**2.41**	**355**	P	**Pb**	**02 51 32.6**	**-0.1**
NEZ	**North Egmont**	**2.43**	**357**	P	**Pb**	**02 51 33.0**	**-0.1**
NBEZ	**Newall Road No**	**2.45**	**353**	P	**Pb**	**02 51 31.7**	**-1.6**
MTVZ	**Mangateitei**	**2.49**	**22**	P	**Pb**	**02 51 35.1**	**+1.1**
DREZ	**Durham Road**	**2.51**	**359**	P	**Pg**	**02 51 36.4**	**-1.2**
PKE	**Pukeiti**	**2.51**	**355**	P	**Pb**	**02 51 33.1**	**-1.4**
MOVZ	**Moawhango**	**2.55**	**27**	P	**Pb**	**02 51 34.8**	**-0.4**
RACZ	**Rakaia**	**2.56**	**217**	P	**Pn**	**02 51 28.7**	**-2.0**
WNVZ	**Wahianoa**	**2.58**	**24**	P	**Pb**	**02 51 34.4**	**-1.3**
PXZ	**Pawanui**	**2.58**	**51**	P	**Pn**	**02 51 28.9**	**-2.0**
TRVZ	**Turoa**	**2.59**	**23**	P	**Pb**	**02 51 35.5**	**-0.4**
BHHZ	**Black Hill Sta**	**2.60**	**32**	P	**Pb**	**02 51 35.9**	**0.0**
VRZ	**Vera Road**	**2.60**	**8**	P	**Pb**	**02 51 36.4**	**+2.2**
DRZ	**Dome Shelter**	**2.62**	**23**	P	**Pb**	**02 51 36.6**	**+0.2**
WHVZ	**Whangaehu Hut**	**2.62**	**23**	P	**Pb**	**02 51 34.9**	**-1.5**
MHEZ	**Mangahewa**	**2.62**	**1**	P	**Pb**	**02 51 36.3**	**0.0**
FWVZ	**Far West T-bar**	**2.63**	**22**	P	**Pb**	**02 51 33.9**	**+2.0**
TUVZ	**Tukino**	**2.65**	**24**	P	**Pb**	**02 51 36.4**	**-0.5**
NGZ	**Ngauruhoe**	**2.72**	**22**	P	**Pb**	**02 51 38.4**	**+0.3**
SNVZ	**South Ngauruho**	**2.72**	**23**	P	**Pb**	**02 51 37.1**	**-1.0**
KAHZ	**Kahuranaki**	**2.75**	**47**	P	**Pn**	**02 51 31.8**	**-1.5**
OTVZ	**Oturere**	**2.75**	**23**	P	**Pb**	**02 51 38.3**	**-0.3**
NNVZ	**North Ngauruho**	**2.76**	**22**	P	**Pb**	**02 51 38.5**	**-0.4**
WTVZ	**West Tongariro**	**2.77**	**22**	P	**Pb**	**02 51 38.4**	**-0.5**
TWVZ	**Taurewa**	**2.77**	**19**	P	**Pb**	**02 51 38.7**	**-0.3**
ETVZ	**East Tongariro**	**2.79**	**24**	P	**Pb**	**02 51 39.2**	**0.0**
KWHZ	**Kaweka Forest**	**2.80**	**37**	P	**Pb**	**02 51 40.4**	**+1.0**
TMVZ	**Te Maari**	**2.80**	**23**	P	**Pb**	**02 51 39.5**	**0.0**
KRVZ	**Karewarewa**	**2.81**	**22**	P	**Pb**	**02 51 39.0**	**-0.5**
NTVZ	**North Tongarir**	**2.81**	**23**	P	**Pb**	**02 51 39.0**	**-0.6**
KATZ	**Kakaramea**	**2.93**	**22**	P	**Pb**	**02 51 41.9**	**+0.3**
WVZ	**Waitaha Valley**	**2.95**	**241**	P	**Pn**	**02 51 39.8**	**+3.7**
RITZ	**Rihia Road**	**2.98**	**25**	P	**Pb**	**02 51 42.6**	**+0.2**
BKZ	**Black Stump Fm**	**3.05**	**35**	P	**Pb**	**02 51 43.7**	**+0.1**
RATZ	**Rangitukua**	**3.06**	**23**	P	**Pb**	**02 51 44.6**	**+0.9**
RPZ	**Rata Peaks**	**3.10**	**229**	Pn	**Pn**	**02 51 36.5**	**-1.8**
	4.8nm,0.3s,baz=31,slow=14,SNR=2.2						
RPZ				Sn	**Sn**	**02 52 12.7**	**-2.6**
	6.8nm,0.3s,baz=27,slow=4.5,SNR=1.9						
	13nm,0.4s						
RPZ	**Rata Peaks**	**3.11**	**229**	P	**Pb**	**02 51 43.1**	**-1.5**
HATZ	**Hinemaiaia**	**3.13**	**27**	P	**Pb**	**02 51 45.1**	**0.0**
WATZ	**Wairara**	**3.19**	**21**	P	**Pb**	**02 51 46.8**	**+0.7**
HIZ	**Hauiti**	**3.21**	**8**	P	**Pb**	**02 51 43.8**	**-2.6**
MRHZ	**Matea Rd**	**3.30**	**31**	P	**Pb**	**02 51 48.0**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**3.33**	**240**	P	**Pn**	**02 51 45.4**	**+4.1**
TLZ	**Tolley Road**	**3.50**	**17**	P	**Pb**	**02 51 49.7**	**-1.7**
ALRZ	**Allen Road**	**3.51**	**28**	P	**Pb**	**02 51 51.1**	**-0.4**
FOZ	**Fox Glacier**	**3.76**	**239**	P	**Pn**	**02 51 51.0**	**+3.8**
TOZ	**Tahuroa Road**	**4.08**	**14**	P	**Pn**	**02 51 55.4**	**+3.9**
AWAZ	**Awhitu Peninsu**	**4.64**	**4**	P	**Pn**	**02 52 01.7**	**+2.4**
MKAZ	**Moumakai**	**4.64**	**9**	P	**Pn**	**02 52 01.2**	**+1.9**
JCZ	**Jackson Bay**	**4.67**	**238**	P	**Pn**	**02 52 02.1**	**+3.0**
HAZ	**Te Kaha**	**4.78**	**36**	P	**Pn**	**02 51 48.0**	**-0.2**
CTZ	**Chatham Island**	**7.01**	**110**	P	**Pn**	**02 52 30.6**	**-1.3**
ASAR	**Alice Springs**	**38.03**	**285**	P	**P**	**02 58 04.5**	**-3.0**
	0.3nm,0.5s,baz=128,slow=7.1,SNR=6.9						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**40.10**	**290**	P	**P**	**02 58 22.6**	**-2.3**
	0.6nm,0.6s,baz=127,slow=8.6,SNR=8.7						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**48.43**	**180**	P	**P**	**02 59 32.2**	**+1.0**
	1.4nm,0.7s,baz=288,slow=1.7,SNR=5.5						
	1.4nm,0.7s						
DBIC	**Dimbokro**	**145.11**	**182**	PKPbc	**PKPbc**	**03 10 26.0**	**-0.5**
	1.2nm,0.5s,baz=266,slow=5.5,SNR=4.2						
FINES	**FINESS Array B**	**152.50**	**327**	PKPbc	**PKPdf**	**03 10 41.6**	**+4.1**
	1.8nm,0.9s,baz=87,slow=2.9,SNR=1.7						

WEL 14 02:55:25.8±0.4, 42°S±3°×17°4E±°, h9km±3km, M3.5/16, ML3.8/16, MLv3.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=163.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**283**	P	Pg	02 55 26.7	-0.7
CMWZ				S	Sg	02 55 28.7	+0.1
BSWZ	**

DSZ			S	**Sg**	**02 56 56.2**	**+1.5**
INZ	**Inchbonnie**	**1.69**	**260**	P	**Pb**	**02 56 35.5**	**+0.1**
INZ				S	**Sg**	**02 56 58.1**	**-0.4**
RACZ	**Rakaia**	**1.72**	**221**	P	**Pn**	**02 56 34.8**	**+0.5**
RACZ				S	**Sb**	**02 56 57.5**	**-0.1**
WACZ	**Wakanui South**	**2.02**	**222**	P	**Pn**	**02 56 39.2**	**+0.7**
WVZ	**Waitaha Valley**	**2.27**	**253**	P	**Pb**	**02 56 43.7**	**-1.7**
RPZ	**Rata Peaks**	**2.32**	**236**	Pn	**Pn**	**02 56 42.9**	**+0.4**
RPZ	**Rata Peaks**	**2.32**	**236**	P	**Pn**	**02 56 43.1**	**+0.6**
ARCZ	**Arundel**	**2.38**	**230**	P	**Pn**	**02 56 43.9**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**2.63**	**249**	P	**Pn**	**02 56 49.0**	**+2.2**
TMZ	**Timaru**	**2.76**	**224**	P	**Pn**	**02 56 49.6**	**+1.0**
FOZ	**Fox Glacier**	**3.05**	**248**	Pn	**Pn**	**02 56 53.6**	**+1.0**
FOZ	**Fox Glacier**	**3.05**	**248**	P	**Pn**	**02 56 55.2**	**+2.6**
LBZ	**Lake Benmore**	**3.21**	**232**	Pn	**Pn**	**02 56 55.1**	**+0.2**
LBZ	**Lake Benmore**	**3.21**	**232**	P	**Pn**	**02 56 55.8**	**+0.9**
MHEZ	**Mangahewa**	**3.40**	**8**	P	**Pn**	**02 56 58.0**	**+0.7**
ODZ	**Otahua Downs**	**3.42**	**219**	Pn	**Pn**	**02 56 57.5**	**-0.1**
ODZ	**Otahua Downs**	**3.42**	**219**	P	**Pn**	**02 56 58.0**	**+0.4**
JCZ	**Jackson Bay**	**3.94**	**244**	P	**Pb**	**02 57 10.0**	**-3.9**
HHSZ	**Highcliff Hill**	**4.10**	**212**	P	**Pn**	**02 57 07.7**	**+0.6**
EAZ	**Earnscleugh**	**4.23**	**227**	P	**Pn**	**02 57 09.0**	**+0.2**
TUZ	**Tuapeka**	**4.57**	**218**	P	**Pn**	**02 57 14.6**	**+1.2**
LIRZ	**Lichensteins R**	**4.89**	**26**	P	**Pb**	**02 57 25.5**	**-4.5**
MLZ	**Mavora Lakes**	**4.98**	**232**	Pn	**Pn**	**02 57 18.3**	**-0.9**
MLZ	**Mavora Lakes**	**4.98**	**232**	P	**Pn**	**02 57 19.1**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.42**	**8**	P	**Pn**	**02 57 27.6**	**+2.4**
DCZ	**Deep Cove**	**5.61**	**235**	Pn	**Pn**	**02 57 23.9**	**-3.8**
APZ	**The Paps**	**5.99**	**221**	P	**Pn**	**02 57 33.8**	**+0.8**
MXZ	**Matakaoa Point**	**6.02**	**37**	Pn	**Pn**	**02 57 32.9**	**-0.5**
PYZ	**Puysegur Point**	**6.26**	**231**	Pn	**Pn**	**02 57 34.4**	**-2.3**
ASAR	**Alice Springs**	**37.83**	**287**	P	**P**	**03 03 20.4**	**-0.8**
	0.6nm,0.5s,baz=132,slow=7.6,SNR=9.6						
ASAR				PcP	**PcP**	**03 05 37.2**	**-0.5**
	0.3nm,0.5s,baz=121,slow=3.7,SNR=7.0 0.6nm,0.5s						
ASAR	**Alice Springs**	**37.83**	**287**	P	**P**	**03 03 21.5**	**+0.3**
WB2	**Warramunga Arr**	**39.96**	**292**	P	**P**	**03 03 39.2**	**+0.1**
WB2				IAmb	IAmb	03 04 04.0	
	comp=Z,10.0nm,1.4s						
WRA	**Warramunga Arr**	**39.97**	**292**	P	**P**	**03 03 38.6**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=132,slow=7.7,SNR=11 comp=Z,1.1nm,0.7s						
WRA	**Warramunga Arr**	**39.97**	**292**	P	**P**	**03 03 39.5**	**+0.4**
WRA				IAmb	IAmb	03 04 07.7	
	comp=Z,0.3nm,1.4s						
WB0	**Warramunga Arr**	**40.05**	**292**	P	**P**	**03 03 39.4**	**-0.4**
WB0				IAmb	IAmb	03 04 18.1	
	comp=Z,3.7nm,1.0s						
BRTR	**Keskin Array B**	**149.96**	**278**	PKPbc	**PKPbc**	**03 15 55.0**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=117,slow=4.2,SNR=6.4						
FINES	**FINESS Array B**	**152.88**	**326**	PKPbc	**PKPbc**	**03 16 00.4**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=12,slow=20,SNR=1.4						

WEL 14 02:58:51.2±0.4, 42°S±3°×17°4E±°, h8km±4km, M3.5/19, ML3.8/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=158.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**278**	P	**Pg**	02 58 54.1	+1.4
CMWZ				S	**Sg**	02 58 56.4	+2.5
BSWZ	**Blackbirch Sta**	**0.28**	**278**	P	**Pg**	02 58 57.7	+0.8
BSWZ				S	**Sg**	02 59 02.1	+1.4
TUWZ	**Tuamarina**	**0.40**	**324**	P	**Pb**	02 58 59.8	-0.7
TUWZ				S	**Sb**	02 59 06.1	-0.7
TCW	**Tory Channel**	**0.54**	**2**	P	**Pg**	02 59 02.3	+0.6
TCW				S	**Sb**	02 59 10.2	-0.7
BHW	**Baring Head**	**0.58**	**54**	P	**Pb**	02 59 03.5	0.0
WEL	**Wellington**	**0.61**	**40**	P	**Pb**	02 59 03.9	-0.1
WEL				S	**Sb**	02 59 13.0	+0.3
PLWZ	**Palliser**	**0.77**	**77**	P	**Pb**	02 59 07.1	+0.1
MSWZ	**Moikau Station**	**0.82**	**66**	P	**Pb**	02 59 08.0	+0.3
NNZ	**Nelson**	**0.85**	**309**	P	**Pb**	02 59 07.9	-0.3
CAW	**Cannon Point**	**0.89**	**44**	P	**Pb**	02 59 08.9	0.0
PAWZ	**Paruwai Farm**	**0.96**	**68**	P	**Pg**	02 59 09.6	0.0
DUWZ	**D'Urville Isla**	**0.98**	**345**	P	**Pb**	02 59 10.6	+0.1
THZ	**Tophouse**	**1.01**	**269**	P	**Pb**	02 59 10.9	-0.1
KIW	**Kapiti Island**	**1.02**	**29**	P	**Pg**	02 59 10.9	+0.2
MTW	**Mount Morrison**	**1.11**	**58**	P	**Pg**	02 59 11.8	-0.8
TRWZ	**Traveller**	**1.13**	**72**	P	**Pg**	02 59 11.6	-1.3
OGWZ	**Otaki Gorge**	**1.16**	**37**	P	**Pg**	02 59 13.3	-0.2
MRNZ	**Matariki Terra**	**1.18**	**287**	P	**Pn**	02 59 14.1	+0.2
TKNZ	**Takaka Hill**	**1.21**	**306**	P	**Pn**	02 59 14.5	+0.1
HOWZ	**Holdsworth Sta**	**1.28**	**48**	P	**Pn**	02 59 14.2	-1.2
TMWZ	**Te Maipa**	**1.39**	**63**	P	**Pn**	02 59 15.4	-1.5
MRZ	**Mangatainoka R**	**1.48**	**43**	P	**Pn**	02 59 17.2	-1.0
GVZ	**Greta Valley S**	**1.51**	**216**	P	**Pn**	02 59 17.5	-1.2
TIWZ	**Tintock**	**1.57**	**52**	P	**Pn**	02 59 18.0	-1.4
QRZ	**Quartz Range**	**1.60**	**305**	P	**Pb**	02 59 21.0	+0.1
CPWZ	**Castlepoint**	**1.69**	**61**	P	**Pb**	02 59 26.7	+3.1
PRWZ	**Pori Road**	**1.77**	**48**	P	**Pn**	02 59 20.7	-1.4
POWZ	**Post Office Ro**	**1.78**	**25**	P	**Pn**	02 59 21.1	-1.1
LTZ	**Lake Taylor**	**1.79**	**234**	P	**Pn**	02 59 23.1	-1.3
DSZ	**Denniston Nort**	**1.83**	**269**	P	**Pb**	02 59 24.2	-0.9
BFZ	**Birch Farm**	**1.85**	**55**	P	**Pn**	02 59 21.0	-2.1
DVHZ	**Dannevirke**	**2.05**	**46**	P	**Pn**	02 59 24.1	-1.9
ANWZ	**Angora Road**	**2.12**	**53**	P	**Pn**	02 59 25.0	-1.9
TSZ	**Takapari Road**	**2.13**	**38**	P	**Pn**	02 59 25.9	-1.2
INZ	**Inchbonnie**	**2.30**	**244**	P	**Pb**	02 59 31.5	-1.5
PNHZ	**Pukenui**	**2.36**	**39**	P	**Pn**	02 59 28.7	-1.6
WPHZ	**Waipukurau**	**2.37**	**45**	P	**Pg**	02 59 36.6	+0.1
NBEZ	**Newall Road No**	**2.50**	**353**	P	**Pb**	02 59 36.6	+0.2
PKE	**Pukeiti**	**2.56**	**355**	P	**Pb**	02 59 36.1	-1.4
MOVZ	**Moawhango**	**2.61**	**26**	P	**Pn**	02 59 34.1	+0.3
BHHZ	**Black Hill Sta**	**2.65**	**32**	P	**Pb**	02 59 39.9	+1.0
VRZ	**Vera Road**	**2.65**	**9**	P	**Pn**	02 59 35.9	+1.6
WHVZ	**Whangaehu Hut**	**2.67**	**23**	P	**Pn**	02 59 36.4	+1.7
FWVZ	**Far West T-bar**	**2.69**	**22**	P	**Pn**	02 59 35.6	+0.7
NGZ	**Ngauruhoe**	**2.77**	**22**	P	**Pn**	02 59 41.3	+0.1
SNVZ	**South Ngauruho**	**2.77**	**22**	P	**Pb**	02 59 41.2	+0.1
OTVZ	**Oturere**	**2.80**	**23**	P	**Pb**	02 59 41.2	-0.5
NNVZ	**North Ngauruho**	**2.82**	**22**	P	**Pb**	02 59 41.7	-0.2
WTVZ	**West Tongariro**	**2.83**	**22**	P	**Pb**	02 59 41.8	-0.2
ETVZ	**East Tongariro**	**2.84**	**24**	P	**Pb**	02 59 41.9	-0.3
TMVZ	**Te Maari**	**2.86**	**23**	P	**Pn**	02 59 37.3	+0.1
KRVZ	**Karewarewa**	**2.86**	**22**	P	**Pb**	02 59 43.1	+0.6
WVZ	**Waitaha Valley**	**2.92**	**242**	P	**Pb**	02 59 41.2	-2.3
RPZ	**Rata Peaks**	**3.07**	**229**	P	**Pn**	02 59 38.2	-1.7
HIZ	**Hauiti**	**3.27**	**8**	P	**Pn**	02 59 44.5	+1.8
GCSZ	**Gaunt Creek Bo**	**3.29**	**240**	P	**Pb**	02 59 47.3	-2.6
MKRZ	**Makatiti**	**3.99**	**26**	P	**Pn**	02 59 54.9	+2.2

*IDC **14** 02:59:13.1±3.7, 42°.01S×173°.57E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=340.6km s-min=63.9km az=11.0*

*WEL **14** 02:59:15.7±0.5, 43°S±4°×17°4E±°, h5km, M3.8/6, ML4.0/6, MLv3.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=137.1*

ISC 14 02:59:14.4±1.4, 42°.51S±0°.05×173°.59E±0°.09, h10km±8km, n23, σ0s92/30, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**338**	P	**Pg**	**02 59 16.9**	**-0.1**
GVZ	**Greta Valley S**	**0.61**	**222**	P	**Pb**	**02 59 29.1**	**+1.9**
GVZ				S	**Sn**	**02 59 39.0**	**0.0**
AMCZ	**Amberley**	**0.96**	**226**	P	**Pn**	**02 59 34.7**	**+0.8**
AMCZ				S	**Sn**	**02 59 49.9**	**+2.3**
LTZ	**Lake Taylor**	**1.01**	**254**	P	**Pb**	**02 59 34.4**	**+0.5**
OKCZ	**Okains Bay**	**1.27**	**198**	P	**Pb**	**02 59 39.4**	**+1.0**
MQZ	**McQueen's Vall**	**1.38**	**210**	P	**Pn**	**02 59 40.0**	**+0.4**
MQZ				S	**Sg**	**02 59 57.8**	**-1.0**
OXZ	**Oxford**	**1.40**	**234**	P	**Pn**	**02 59 39.6**	**-0.3**
OXZ				S	**Sb**	**02 59 58.1**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.45**	**200**	P	**Pn**	**02 59 41.4**	**+0.8**
DSZ	**Denniston Nort**	**1.53**	**299**	P	**Pn**	**02 59 43.1**	**+1.3**
DSZ				S	**Sb**	**03 00 02.8**	**+1.0**
RACZ	**Rakaia**	**1.62**	**221**	P	**Pn**	**02 59 42.1**	**-0.7**
WACZ	**Wakanui South**	**1.92**	**221**	P	**Pn**	**02 59 47.5**	**+0.4**
RPZ	**Rata Peaks**	**2.21**	**236**	P	**Pn**	**02 59 51.5**	**+0.4**
RPZ				S	**Sn**	**03 00 18.3**	**-0.3**
ARCZ	**Arundel**	**2.28**	**230**	P	**Pn**	**02 59 52.2**	**+0.3**
TMZ	**Timaru**	**2.66**	**224**	P	**Pn**	**02 59 57.7**	**+0.5**
LBZ	**Lake Benmore**	**3.11**	**232**	P	**Pn**	**03 00 02.8**	**-0.7**
ODZ	**Otahua Downs**	**3.31**	**219**	P	**Pn**	**03 00 06.4**	**+0.2**
HHSZ	**Highcliff Hill**	**4.00**	**212**	P	**Pn**	**03 00 15.9**	**+0.2**
EAZ	**Earnscleugh**	**4.12**	**227**	P	**Pn**	**03 00 17.7**	**+0.3**
SYZ	**Scrubby Hill**	**5.13**	**217**	P	**Pn**	**03 00 32.0**	**+0.9**
APZ	**The Paps**	**5.88**	**221**	P	**Pn**	**03 00 41.3**	**-0.2**
ASAR	**Alice Springs**	**37.77**	**287**	P	**P**	**03 06 29.5**	**-1.2**
	0.2nm,0.5s,baz=130,slow=8.6,SNR=4.6						
ASAR				PcP	**PcP**	**03 08 47.1**	**-0.3**
	0.2nm,0.6s,baz=127,slow=3.7,SNR=4.8 0.2nm,0.5s						
WRA	**Warramunga Arr**	**39.92**	**292**	P	**P**	**03 06 47.3**	**-1.4**
	0.5nm,0.7s,baz=131,slow=8.5,SNR=2.7 0.5nm,0.7s						
FINES	**FINESS Array B**	**152.89**	**326**	PKPbc	**PKPbc**	**03 19 10.1**	**-0.5**
	2.5nm,1.0s,baz=72,slow=4.5,SNR=2.2						

WEL 14 03:03:12.2±0.4, 43°S±2°×17°3E±°, h11km±2km, M3.7/13, ML4.0/10, MLv3.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=120.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.33**	**161**	P	**Pb**	03 03 20.2	+0.1
GVZ				S	**Sb**	03 03 25.8	+0.4
LTZ	**Lake Taylor**	**0.47**	**254**	P	**Pb**	03 03 22.4	-0.2
LTZ				S	**Sb**	03 03 29.4	-0.2
KHZ	**Kahutara**	**0.54**	**64**	P	**Pb**	03 03 23.3	-0.3
KHZ				S	**Sb**	03 03 31.2	0.0
AMCZ	**Amberley**	**0.55**	**199**	P	**Pb**	03 03 24.6	+0.7
AMCZ				S	**Sb**	03 03 32.5	+0.7
THZ	**Tophouse**	**0.89**	**1**	P	**Pg**	03 03 29.4	-0.1
THZ				S	**Sg**	03 03 40.1	-0.9
OXZ	**Oxford**	**0.92**	**223**	P	**Pb**	03 03 30.3	+0.2
OXZ				S	**Sb**	03 03 42.7	+0.4
MQZ	**McQueen's Vall**	**1.07**	**189**	P	**Pb**	03 03 31.8	-0.8
MQZ				S	**Sb**	03 03 45.8	-0.8
OKCZ	**Okains Bay**	**1.08**	**173**	P	**Pb**	03 03 32.7	-0.1
OKCZ				S	**Sb**	03 03 46.7	-0.2
BSWZ	**Blackbirch Sta**	**1.19**	**38**	P	**Pg**	03 03 35.2	+0.1
BSWZ				S	**Sn**	03 03 52.7	+1.8
RACZ	**Rakaia**	**1.21**	**207**	P	**Pn**	03 03 33.8	-1.1
DSZ	**Denniston Nort**	**1.22**	**318**	P	**Pg**	03 03 35.7	+0.1
DSZ				S	**Sn**	03 03 51.8	+0.2
AKCZ	**Akaroa Harbour**	**1.22**	**179**	P	**Pn**	03 03 33.6	-1.5
AKCZ				S	**Sb**	03 03 49.7	-1.3
WACZ	**Wakanui South**	**1.50**	**210**	P	**Pn**	03 03 38.3	-0.7
WVZ	**Waitaha Valley**	**1.64**	**254**	P	**Pn**	03 03 41.0	+0.1
ARCZ	**Arundel**	**1.80**	**223**	P	**Pn**	03 03 42.4	-0.8
ARCZ				S	**Sn**	03 04 04.7	-1.3
WEL	**Wellington**	**1.96**	**46**	P	**Pn**	03 03 44.9	-0.4
GCSZ	**Gaunt Creek Bo**	**1.99**	**250**	P	**Pn**	03 03 46.6	+0.8
TMZ	**Timaru**	**2.21**	**218**	P	**Pn**	03 03 49.3	+0.5
FOZ	**Fox Glacier**	**2.42**	**248**	P	**Pn**	03 03 52.8	+1.2
MLZ	**Mavora Lakes**	**4.38**	**230**	P	**Pn**	03 04 18.4	-0.2
SYZ	**Scrubby Hill**	**4.72**	**213**	P	**Pn**	03 04 22.7	-0.5
APZ	**The Paps**	**5.44**	**218**	P	**Pn**	03 04 32.8	-0.4
MKAZ	**Moumakai**	**5.81**	**18**	P	**Pn**	03 04 39.2	+0.9

WEL 14 03:05:24.4±0.4, 43°S±3°×17°2E±°, h5km, M2.8/10, ML2.9/10, MLv2.8/10, Error ellipse: s-maj=0.0km s-min=0.0km az=31.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.35**	**316**	P	**Pg**	03 05 31.7	+0.6
INZ				S	**Sg**	03 05 36.6	+0.9
OXZ	**Oxford**	**0.40**	**151**	P	**Pg**	03 05 32.1	0.0
OXZ				S	**Sg**	03 05 38.1	+0.7
LTZ	**Lake Taylor**	**0.42**	**62**	P	**Pg**	03 05 32.8	+0.4
LTZ				S	**Sg**	03 05 38.7	+0.9
AMCZ	**Amberley**	**0.68**	**108**	P	**Pb**	03 05 38.2	-0.5
WVZ	**Waitaha Valley**	**0.76**	**262**	P	**Pg**	03 05 39.3	+0.3
WVZ				S	**Sg**	03 05 48.8	-0.1
RACZ	**Rakaia**	**0.80**	**160**	P	**Pg**	03 05 40.0	+0.3
RACZ				S	**Sg**	03 05 50.6	+0.6
RPZ	**Rata Peaks**	**0.90**	**215**	P	**Pg**	03 05 41.9	+0.1
WACZ	**Wakanui South**	**0.97**	**177**	P	**Pg**	03 05 43.2	+0.3
WACZ				S	**Sg**	03 05 55.9	+0.4
ARCZ	**Arundel**	**1.06**	**204**	P	**Pg**	03 05 44.7	+0.5
ARCZ				S	**Sb**	03 05 59.6	+1.1
GCSZ	**Gaunt Creek Bo**	**1.11**	**252**	P	**Pg**	03 05 45.6	-0.1
GCSZ				S	**Sb**	03 06 00.9	+0.1
TMZ	**Timaru**	**1.51**	**201**	P	**Pb**	03 05 52.8	-0.2
TMZ				S	**Sn**	03 06 09.4	-2.8
FOZ	**Fox Glacier**	**1.53**	**248**	P	**Pn**	03 05 52.8	+0.4
FOZ				S	**Sg**	03 06 14.2	+0.6
LBZ	**Lake Benmore**	**1.82**	**219**	P	**Pg**	03 05 59.1	-0.2

*IDC **14** 03:05:58.4±3.7, 42°.26S×173°.63E, h0km, mb3.4/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=76.5km s-min=37.2km az=121.0*

*WEL **14** 03:06:01.2±0.5, 42°S±3°×17°4E±°, h12km±4km, M3.8/16, ML4.0/16, MLv3.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=118.4*

ISC 14 03:06:00.3±1.2, 42°.39S±0°.04×173°.86E±0°.04, h17km±7km, n50, σ1s29/56, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**264**	P	**Pg**	**03 06 06.0**	**+0.2**
KHZ				S	**Sg**	**03 06 09.7**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.67**	**1**	P	**Pg**	**03 06 13.5**	**0.0**
BSWZ				S	**Sb**	**03 06 22.7**	**+0.1**
GVZ	**Greta Valley S**	**0.84**	**226**	P	**Pb**	**03 06 18.3**	**+1.8**
GVZ				S	**Sn**	**03 06 30.7**	**+1.3**
THZ	**Tophouse**	**0.95**	**311**	P	**Pg**	**03 06 17.4**	**-1.4**
THZ				S	**Sg**	**03 06 29.7**	**-1.6**
TUWZ	**Tuamarina**	**0.96**	**4**	P	**Pg**	**03 06 18.8**	**-0.2**
TUWZ				S	**Sb**	**03 06 32.0**	**+1.1**
TCW	**Tory Channel**	**1.22**	**15**	P	**Pb**	**03 06 22.9**	**0.0**
NNZ	**Nelson**	**1.23**	**343**	P	**Pb**	**03 06 22.9**	**-0.1**
LTZ	**Lake Taylor**	**1.24**	**251**	P	**Pn**	**03 06 23.6**	**+0.7**
MRNZ	**Matariki Terra**	**1.29**	**320**	P	**Pn**	**03 06 24.2**	**+0.7**
WEL	**Wellington**	**1.29**	**32**	P	**Pn**	**03 06 24.3**	**+0.7**
OKCZ	**Okains Bay**	**1.46**	**204**	P	**Pn**	**03 06 26.8**	**+0.9**
TKNZ	**Takaka Hill**	**1.51**	**333**	P	**Pn**	**03 06 27.6**	**+0.9**
PAWZ	**Paruwai Farm**	**1.54**	**50**	P	**Pn**	**03 06 26.8**	**-0.3**
CAW	**Cannon Point**	**1.56**	**35**	P	**Pn**	**03 06 27.6**	**+0.2**
DUWZ	**D'Urville Isla**	**1.59**	**2**	P	**Pn**	**03 06 28.9**	**+1.3**
MQZ	**McQueen's Vall**	**1.59**	**214**	P	**Pn**	**03 06 27.5**	**-0.1**
OXZ	**Oxford**	**1.64**	**235**	P	**Pn**	**03 06 28.8**	**+0.5**
DSZ	**Denniston Nort**	**1.66**	**292**	P	**Pb**	**03 06 30.2**	**-0.3**
TRWZ	**Traveller**	**1.68**	**55**	P	**Pn**	**03 06 28.8**	**-0.2**
KIW	**Kapiti Island**	**1.72**	**28**	P	**Pn**	**03 06 30.4**	**+1.0**
INZ	**Inchbonnie**	**1.82**	**259**	P	**Pn**	**03 06 31.4**	**+0.5**
QRZ	**Quartz Range**	**1.86**	**327**	P	**Pn**	**03 06 32.9**	**+1.6**
WACZ	**Wakanui South**	**2.15**	**223**	P	**Pn**	**03 06 35.4**	**+0.1**
MRZ	**Mangatainoka R**	**2.15**	**37**	P	**Pn**	**03 06 35.7**	**+0.3**
WVZ	**Waitaha Valley**	**2.40**	**252**	P	**Pn**	**03 06 39.8**	**+0.9**
RPZ	**Rata Peaks**	**2.45**	**236**	Pn	**Pn**	**03 06 39.4**	**-0.1**
	22nm,0.3s,baz=59,slow=6.4,SNR=5.5						
RPZ				Sn	**Sn**	**03 07 08.2**	**-0.9**
	29nm,0.3s,baz=206,slow=23,SNR=10.0 86nm,0.5s						
RPZ	**Rata Peaks**	**2.45**	**236**	P	**Pn**	**03 06 39.6**	**+0.1**
BFZ	**Birch Farm**	**2.47**	**47**	P	**Pn**	**03 06 39.1**	**-0.7**
ARCZ	**Arundel**	**2.51**	**231**	P	**Pn**	**03 06 40.1**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.76**	**249**	P	**Pn**	**03 06 44.6**	**+0.8**
TMZ	**Timaru**	**2.88**	**225**	P	**Pn**	**03 06 46.2**	**+0.8**
LREZ	**Lake Rotokare**	**2.95**	**8**	P	**Pb**	**03 06 52.5**	**0.0**
KHEZ	**Kahui Hut**	**3.09**	**2**	P	**Pb**	**03 06 55.7**	**+0.8**
NBEZ	**Newall Road No**	**3.12**	**0**	P	**Pb**	**03 06 56.0**	**+0.8**
PKE	**Pukeiti**	**3.19**	**2**	P	**Pb**	**03 06 54.8**	**-1.8**
WHVZ	**Wahianoa**	**3.33**	**24**	P	**Pn**	**03 06 54.0**	**+2.3**
VRZ	**Vera Road**	**3.33**	**12**	P	**Pn**	**03 06 53.7**	**+2.1**
BHHZ	**Black Hill Sta**	**3.34**	**31**	P	**Pn**	**03 06 55.3**	**+3.5**
LBZ	**Lake Benmore**	**3.34**	**232**	P	**Pn**	**03 06 52.7**	**+0.9**
FWVZ	**Far West T-bar**	**3.38**	**23**	P	**Pb**	**03 06 59.0**	**-0.9**
NGZ	**Ngauruhoe**	**3.47**	**23**	P	**Pn**	**03 06 57.6**	**+3.9**
SNVZ	**South Ngauruho**	**3.47**	**23**	P	**Pn**	**03 06 57.0**	**+3.2**
OTVZ	**Oturere**	**3.50**	**24**	P	**Pb**	**03 07 01.9**	**-0.1**
HIZ	**Hauiti**	**3.94**	**11**	P	**Pn**	**03 07 02.1**	**+2.1**
AWAZ	**Awhitu Peninsu**	**5.35**	**7**	P	**Pn**	**03 07 20.9**	**+1.5**
MKAZ	**Moumakai**	**5.37**	**11**	P	**Pn**	**03 07 20.1**	**+0.5**
CTZ	**Chatham Island**	**7.10**	**104**	P	**Pn**	**03 07 43.4**	**+0.1**
ASAR	**Alice Springs**	**37.93**	**287**	P	**P**	**03 13 15.8**	**-1.1**
	0.2nm,0.5s,baz=125,slow=7.1,SNR=4.6 0.2nm,0.5s						
WRA	**Warramunga Arr**	**40.06**	**292**	P	**P**	**03 13 33.7**	**-1.1**
	0.5nm,0.5s,baz=128,slow=8.6,SNR=8.5 0.5nm,0.5s						
BRTR	**Keskin Array B**	**150.08**	**278**	PKPbc	**PKPbc**	**03 25 49.7**	**-0.1**
	0.6nm,0.8s,baz=89,slow=1.6,SNR=2.0						

WEL 14 03:07:20.8±0.7, 43°S±6°×17°3E±°, h5km, M3.6/4, ML3.8/4, MLv3.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=149.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**73**	P	**Pg**	03 07 27.2	+0.6
KHZ				S	**Sg**	03 07 32.0	+1.6
GVZ	**Greta Valley S**	**0.47**	**191**	P	**Pg**	03 07 29.7	-0.2
GVZ				S	**Sg**	03 07 37.3	+1.2
LTZ	**Lake Taylor**	**0.71**	**247**	P	**Pg**	03 07 34.8	+0.2
LTZ				S	**Sg**	03 07 44.7	+0.9
AMCZ	**Amberley**	**0.77**	**209**	P	**Pg**	03 07 36.1	+0.4
AMCZ				S	**Sb**	03 07 47.2	-0.3
BSWZ	**Blackbirch Sta**	**0.95**	**34**	P	**Pn**	03 07 40.6	-0.3
BSWZ				S	**Sn**	03 07 55.5	+0.7
OXZ	**Oxford**	**1.16**	**225**	P	**Pg**	03 07 41.5	-1.7
OXZ				S	**Sg**	03 07 56.8	-1.5
DSZ	**Denniston Nort**	**1.26**	**306**	P	**Pb**	03 07 45.1	0.0
INZ	**Inchbonnie**	**1.28**	**260**	P	**Pb**	03 07 43.0	-2.5
RACZ	**Rakaia**	**1.43**	**211**	P	**Pn**	03 07 44.7	-2.7
RACZ				S	**Sb**	03 08 02.9	-3.7
WVZ	**Waitaha Valley**	**1.87**	**251**	P	**Pn**	03 07 52.6	-0.9
WVZ				S	**Sn**	03 08 15.4	-2.1
RPZ	**Rata Peaks**	**1.96**	**231**	P	**Pn**	03 07 52.7	-2.1
CAW	**Cannon Point**	**2.00**	**46**	P	**Pn**	03 07 53.8	-1.4
ARCZ	**Arundel**	**2.04**	**224**	P	**Pn**	03 07 53.6	-2.4

WEL 14 03:10:00.9±0.3, 42°S±2°×17°4E±°, h12km, M3.8/18, ML4.0/18, MLv3.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=121.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**234**	P	**Pb**	03 10 07.7	-0.1
KHZ				S	**Sb**	03 10 12.5	0.0
BSWZ	**Blackbirch Sta**	**0.54**	**3**	P	**Pg**	03 10 11.7	+0.3
BSWZ				S	**Sb**	03 10 20.4	+0.4
TUWZ	**Tuamarina**	**0.82**	**5**	P	**Pb**	03 10 17.3	+0.2
TUWZ				S	**Sn**	03 10 30.0	-0.4
THZ	**Tophouse**	**0.85**	**305**	P	**Pb**	03 10 17.5	-0.1
THZ				S	**Sb**	03 10 29.2	+0.2
GVZ	**Greta Valley S**	**0.93**	**219**	P	**Pn**	03 10 19.9	+0.1
GVZ

FWVZ	Far West T-bar	3.27	25	P	Pn	03 22 12.4	+0.7
NGZ	Ngauruhoe	3.36	25	P	Pn	03 22 13.3	+0.5
SNVZ	South Ngauruho	3.36	25	P	Pn	03 22 14.2	+1.3
OTVZ	Oturere	3.39	25	P	Pn	03 22 14.7	+1.4
NNVZ	North Ngauruho	3.40	25	P	Pb	03 22 20.0	-0.6
ETVZ	East Tongariro	3.43	26	P	Pn	03 22 14.8	+1.0
TMVZ	Te Maari	3.44	26	P	Pn	03 22 15.2	+1.2
NTVZ	North Tongarir	3.45	25	P	Pb	03 22 20.8	-0.6
KATZ	Kakaramea	3.57	24	P	Pn	03 22 19.6	+3.8
RATZ	Rangitukua	3.69	25	P	Pb	03 22 23.9	-1.6
BKZ	Black Stump Pn	3.69	35	P	Pb	03 22 21.6	-3.8
HIZ	Hauiti	3.81	13	P	Pn	03 22 19.7	+0.8
TOZ	Tahuroa Road	4.69	17	P	Pn	03 22 30.4	-0.6
AWAZ	Awhitu Peninsu	5.21	7	P	Pn	03 22 38.4	+0.2
MKAZ	Moumakai	5.24	12	P	Pn	03 22 37.9	-0.7

NOU ***14*** *03:25:08.1, 42.67S×173.47E, h0km, MLv4.4/9, South Island, New Zealand*
WEL ***14*** *03:25:09.3±0.3, 42.5S±2.2×17.3E±., h11km±3km, M3.8/12, ML4.0/12, MLv3.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=111.4*
ISC 14 03:25:09.5±1.0, **42.49S**±0.03×**173.23E**±0.04, **h12**km±9km, **n25**, σ0.94/36, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.24	73	P	Pg	03 25 14.5	-0.1
KHZ				S	Sg	03 25 18.5	+0.5
GVZ	Greta Valley S	0.50	196	P	Pb	03 25 20.7	+0.4
GVZ				S	Sb	03 25 29.5	+2.0
THZ	Tophouse	0.76	342	P	Pg	03 25 23.8	-0.5
THZ				S	Sg	03 25 32.9	-1.4
LTZ	Lake Taylor	0.77	247	P	Pn	03 25 26.3	+0.1
AMCZ	Amberley	0.81	211	P	Pb	03 25 26.3	+0.8
AMCZ				S	Sn	03 25 38.8	+0.2
BSWZ	Blackbirch Sta	0.91	32	P	Pb	03 25 26.9	-0.3
BSWZ				S	Sn	03 25 40.0	-1.0
MRNZ	Matariki Terra	1.14	342	P	Pb	03 25 30.7	-0.5
TUWZ	Tuamarina	1.18	27	P	Pg	03 25 31.5	-0.8
OXZ	Oxford	1.21	226	P	Pn	03 25 31.7	-0.6
OXZ				S	Sb	03 25 48.2	+0.3
OKCZ	Okains Bay	1.24	186	P	Pn	03 25 31.8	-0.9
OKCZ				S	Sg	03 25 50.4	+0.8
NNZ	Nelson	1.27	5	P	Pb	03 25 32.9	-0.5
MQZ	McQueen's Vall	1.29	199	P	Pn	03 25 32.2	-1.1
MQZ				S	Sb	03 25 49.2	-1.0
DSZ	Denniston Nort	1.29	304	P	Pb	03 25 33.7	-0.1
DSZ				S	Sg	03 25 51.3	+0.2
INZ	Inchbonnie	1.34	259	P	Pn	03 25 34.2	+0.3
INZ				S	Sg	03 25 52.7	+0.1
AKCZ	Akaroa Harbour	1.40	189	P	Pn	03 25 34.0	-0.9
AKCZ				S	Sn	03 25 52.5	-0.8
RACZ	Rakaia	1.47	212	P	Pn	03 25 35.0	-0.8
RPZ	Rata Peaks	2.01	232	P	Pn	03 25 42.9	-0.3
ODZ	Otahua Downs	3.17	215	P	Pn	03 25 58.3	-0.8
KHEZ	Kahui Hut	3.24	11	P	Pn	03 26 02.9	+2.6
JCZ	Jackson Bay	3.61	242	P	Pn	03 26 05.8	+0.5
HIZ	Hauiti	4.16	18	P	Pn	03 26 14.6	+1.9
SYZ	Scrubby Hill	5.00	214	P	Pn	03 26 24.2	0.0
URZ	Urewera	5.16	36	P	Pn	03 26 26.3	-0.2
PYZ	Puysegur Point	5.96	230	P	Pn	03 26 38.4	+0.9
MXZ	Matakaoa Point	6.27	40	P	Pn	03 26 42.2	+0.4

WEL 14 03:27:58.0±0.5, **42.2S**±4.×**17.4E**±., **h17**km±4km, **M3.7**/16, **ML4.0**/16, **MLv3.7**/16, **Error ellipse: s-maj=0.0km s-min=0.0km az=133.7, Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.27	9	P	Pb	03 28 05.3	+1.0
CMWZ				S	Sg	03 28 07.8	-0.1
BSWZ	Blackbirch Sta	0.36	324	P	Pb	03 28 06.9	+0.9
TUWZ	Tuamarina	0.60	344	P	Pb	03 28 10.8	+0.7
TUWZ				S	Sg	03 28 17.1	-0.9
KHZ	Kahutara	0.61	229	P	Pb	03 28 10.9	+0.6
KHZ				S	Sg	03 28 17.7	-0.6
BHW	Baring Head	0.80	42	P	Pb	03 28 13.0	-0.5
TCW	Tory Channel	0.81	6	P	Pb	03 28 12.8	-0.7
WEL	Wellington	0.86	32	P	Pb	03 28 14.1	-0.4
PLWZ	Palliser	0.93	62	P	Pn	03 28 16.9	+0.5
THZ	Tophouse	0.97	284	P	Pb	03 28 16.3	0.0
THZ				S	Sb	03 28 27.4	-1.5
NNZ	Nelson	0.99	323	P	Pg	03 28 18.2	+1.0
MSWZ	Moikau Station	1.01	54	P	Pg	03 28 18.0	+0.4
CAW	Cannon Point	1.13	37	P	Pn	03 28 18.7	-0.3
MRNZ	Matariki Terra	1.22	300	P	Pg	03 28 21.7	+0.2
DUWZ	D'Urville Isla	1.22	351	P	Pg	03 28 21.2	-0.5
GVZ	Greta Valley S	1.27	221	P	Pb	03 28 22.0	+0.5
KIW	Kapiti Island	1.28	26	P	Pn	03 28 21.0	-0.2
TRWZ	Traveller	1.30	62	P	Pb	03 28 21.8	-0.1
MTW	Mount Morrison	1.32	50	P	Pn	03 28 21.9	+0.3
TKNZ	Takaka Hill	1.33	317	P	Pg	03 28 24.2	+0.5
OGWZ	Otaki Gorge	1.42	33	P	Pn	03 28 23.4	+0.4
HOWZ	Holdsworth Sta	1.51	43	P	Pn	03 28 24.2	-0.1
LTZ	Lake Taylor	1.60	241	P	Pb	03 28 26.9	-0.1
MRZ	Mangatainoka R	1.72	39	P	Pn	03 28 27.3	+0.1
DSZ	Denniston Nort	1.78	278	P	Pb	03 28 30.9	+0.7
CPWZ	Castlepoint	1.89	55	P	Pg	03 28 36.2	+1.9
PRWZ	Pori Road	2.00	44	P	Pg	03 28 35.8	-0.6
BFZ	Birch Farm	2.06	50	P	Pg	03 28 37.5	0.0
INZ	Inchbonnie	2.13	250	P	Pb	03 28 35.0	-1.2
DVHZ	Dannevirke	2.29	42	P	Pg	03 28 40.8	-1.1
PKE	Pukeiti	2.82	357	P	Pg	03 28 50.0	-2.0

WEL 14 03:31:48.4±0.5, **42.5S**±4.×**17.4E**±., **h5**km, **M3.6**/13, **ML4.0**/15, **MLv3.6**/13, **Error ellipse: s-maj=0.0km s-min=0.0km az=171.6, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.09	334	P	Pg	03 31 49.9	-0.5
CMWZ				S	Sg	03 31 52.2	+0.6
BSWZ	Blackbirch Sta	0.31	291	P	Pg	03 31 54.4	-0.1
TUWZ	Tuamarina	0.47	329	P	Pg	03 31 57.2	-0.2
TCW	Tory Channel	0.62	1	P	Pg	03 31 59.7	-0.6
BHW	Baring Head	0.62	47	P	Pg	03 32 00.7	+0.4
WEL	Wellington	0.66	35	P	Pb	03 32 01.4	+0.2
PLWZ	Palliser	0.79	71	P	Pb	03 32 04.9	+0.3
MSWZ	Moikau Station	0.84	61	P	Pb	03 32 05.5	-0.1
NNZ	Nelson	0.90	312	P	Pg	03 32 05.2	-0.6
PAWZ	Paruwai Farm	0.98	63	P	Pg	03 32 07.5	+0.3
THZ	Tophouse	1.02	273	P	Pg	03 32 08.0	0.0
DUWZ	D'Urville Isla	1.06	346	P	Pg	03 32 07.8	-0.9
DUWZ				S	Sn	03 32 24.7	-0.4
KIW	Kapiti Island	1.08	27	P	Pg	03 32 08.7	-0.5
MTW	Mount Morrison	1.15	55	P	Pg	03 32 10.1	-0.3
TRWZ	Traveller	1.15	69	P	Pg	03 32 09.6	-0.9
MRNZ	Matariki Terra	1.21	290	P	Pg	03 32 11.3	-0.3
MRNZ				S	Sn	03 32 30.1	+1.3
OGWZ	Otaki Gorge	1.22	34	P	Pg	03 32 11.0	-0.8
OGWZ				S	Sn	03 32 31.2	+2.2
TKNZ	Takaka Hill	1.26	309	P	Pg	03 32 11.7	-1.0
TKNZ				S	Sn	03 32 30.9	+0.8
HOWZ	Holdsworth Sta	1.32	46	P	Pn	03 32 12.5	-1.1
TMWZ	Te Maipa	1.42	60	P	Pn	03 32 13.4	-1.5
MRZ	Mangatainoka R	1.53	41	P	Pn	03 32 15.3	-1.1
TIWZ	Tintock	1.61	50	P	Pn	03 32 18.0	+0.4
QRZ	Quartz Range	1.65	307	P	Pg	03 32 18.2	+0.2
QRZ				S	Sg	03 32 43.6	+2.3
LTZ	Lake Taylor	1.76	237	P	Pn	03 32 19.5	-0.1
DVHZ	Dannevirke	2.10	44	P	Pn	03 32 23.3	-1.0
WAZ	Wanganui	2.14	15	P	Pb	03 32 28.1	+0.4
TSZ	Takapari Road	2.19	37	P	Pn	03 32 25.3	-0.2
INZ	Inchbonnie	2.28	246	P	Pb	03 32 29.3	-0.7
LREZ	Lake Rotokare	2.37	3	P	Pb	03 32 32.3	+0.7
PNHZ	Pukenui	2.41	38	P	Pn	03 32 27.3	-1.2
WPHZ	Waipukurau	2.41	44	P	Pn	03 32 28.0	-0.6
KHEZ	Kahui Hut	2.54	356	P	Pb	03 32 34.1	-0.4
NEZ	North Egmont	2.56	357	P	Pb	03 32 34.4	-0.4
NBEZ	Newall Road No	2.58	353	P	Pb	03 32 35.5	+0.4
PKE	Pukeiti	2.64	355	P	Pg	03 32 38.2	-0.8
MOVZ	Moawhango	2.67	26	P	Pb	03 32 36.0	-0.8
WNVZ	Wahianoa	2.70	23	P	Pb	03 32 36.6	-0.7
BHHZ	Black Hill Sta	2.71	31	P	Pb	03 32 36.3	-1.1
TRVZ	Turoa	2.71	22	P	Pb	03 32 37.5	-0.1
VRZ	Vera Road	2.73	8	P	Pb	03 32 35.5	-2.1
DRZ	Dome Shelter	2.73	22	P	Pb	03 32 38.3	+0.3
WHVZ	Whangaehu Hut	2.73	22	P	Pn	03 32 35.0	+1.8
FWVZ	Far West T-bar	2.75	21	P	Pb	03 32 37.2	-1.0
TUVZ	Tukino	2.77	23	P	Pb	03 32 37.7	-0.8
NGZ	Ngauruhoe	2.84	21	P	Pb	03 32 39.4	-0.3
SNVZ	South Ngauruho	2.84	22	P	Pb	03 32 39.1	-0.6
OTVZ	Oturere	2.87	22	P	Pb	03 32 39.7	-0.5
NNVZ	North Ngauruho	2.88	21	P	Pb	03 32 39.4	-1.0
WTVZ	West Tongariro	2.89	21	P	Pb	03 32 39.3	-1.3
TWVZ	Taurewa	2.90	18	P	Pb	03 32 39.4	-1.3
ETVZ	East Tongariro	2.91	23	P	Pb	03 32 40.2	-0.6
KWHZ	Kaweka Forest	2.91	35	P	Pb	03 32 42.2	+1.3
TMVZ	Te Maari	2.92	23	P	Pb	03 32 40.7	-0.4
KRVZ	Karewarewa	2.92	21	P	Pb	03 32 39.9	-1.2
NTVZ	North Tongarir	2.93	22	P	Pn	03 32 37.5	+1.7
RPZ	Rata Peaks	3.02	230	P	Pn	03 32 36.7	-0.3
KATZ	Kakaramea	3.05	21	P	Pb	03 32 43.0	-0.3
RITZ	Rihia Road	3.10	24	P	Pb	03 32 43.7	-0.3
ARCZ	Arundel	3.10	226	P	Pg	03 32 46.7	-1.2
BKZ	Black Stump Fm	3.15	33	P	Pb	03 32 45.3	+0.2
GCSZ	Gaunt Creek Bo	3.27	242	P	Pb	03 32 44.8	-2.1
HIZ	Hauiti	3.34	8	P	Pn	03 32 44.5	+3.1
TLZ	Tolley Road	3.63	16	P	Pb	03 32 51.7	-1.4
FOZ	Fox Glacier	3.70	241	P	Pb	03 32 52.0	-2.2
GRRZ	Galatos Road	3.75	23	P	Pb	03 32 51.9	-3.3
LBZ	Lake Benmore	3.93	228	P	Pn	03 32 52.0	+2.5
TOZ	Tahuroa Road	4.20	14	P	Pn	03 32 57.5	+4.4
JCZ	Jackson Bay	4.61	239	P	Pn	03 33 00.8	+2.0
AWAZ	Awhitu Peninsu	4.77	4	P	Pn	03 33 03.8	+2.9
MKAZ	Moumakai	4.77	9	P	Pn	03 33 03.0	+2.0

IDC ***14*** *03:32:18.1±1.0, 12.27N×141.30E, h35km±7km, mb3.8/8, mbtmp4.0/9, ML4.3/1, Error ellipse: s-maj=26.3km s-min=16.3km az=85.0*
ISC 14 03:32:18.2±0.7, **12.3N**±0.1×**141.2E**±0.1, **h35**km, **n10**, σ1.9**07**/13, **mb4.2/8**, **South of Marianas Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	3.80	70	Pn	Pn	03 33 14.9	+0.7
	22nm,0.3s,baz=197,slow=10,SNR=8.3 133nm,0.5s						
WRA	Warramunga Arr	32.75	192	P	P	03 38 47.4	-0.5
	2.7nm,0.8s,baz=11,slow=9.3,SNR=14						
WRA				pP	pP	03 38 56.8	+0.2
	4.3nm,0.9s,baz=11,slow=9.3,SNR=16 2.7nm,0.8s						
ASAR	Alice Springs	36.45	191	P	P	03 39 20.7	+0.8
	0.2nm,0.4s,baz=20,slow=12,SNR=9.2						
ASAR				pP	pP	03 39 29.9	+1.2
	0.9nm,0.6s,baz=18,slow=12,SNR=6.7 0.2nm,0.4s						
KLR	Kul'dur	37.64	350	P	P	03 39 30.6	+0.9
	2.6nm,0.8s,baz=150,slow=9.7,SNR=6.3 2.6nm,0.8s						
CMAR	Chiang Mai Arr	41.12	284	P	P	03 40 00.8	+1.6
	1.7nm,0.3s,baz=78,slow=6.0,SNR=5.6						
CMAR				pP	sP	03 40 11.2	-1.4
	1.0nm,0.3s,baz=87,slow=5.9,SNR=1.2 1.7nm,0.3s						
STKA	Stephens Creek	43.93	180	P	P	03 40 21.1	-0.7
	2.6nm,0.7s,baz=351,slow=8.7,SNR=5.2 2.6nm,0.7s						
MKAR	Makanchi Array	59.96	317	P	P	03 42 21.2	+0.2
	1.7nm,0.9s,baz=122,slow=5.4,SNR=3.3 1.7nm,0.9s						
ILAR	Eielson Array	71.26	25	P	P	03 43 32.7	-0.9
	0.3nm,0.8s,baz=260,slow=5.4,SNR=2.0 0.3nm,0.8s						
FINES	FINESS Array B	90.78	334	P	P	03 45 16.1	-1.4
	0.6nm,0.5s,baz=80,slow=3.1,SNR=6.2 0.6nm,0.5s						
LPAZ	La Paz	151.32	101	PKPbc	PKiKP	03 52 10.1	-0.2
	1.5nm,0.9s,baz=297,slow=5.4,SNR=4.8						

WEL 14 03:33:12.5±0.6, **42.5S**±3.×**17.4E**±., **h7**km±4km, **M3.8/7**, **ML3.9/7**, **MLv3.8/7**, **Error ellipse: s-maj=0.0km s-min=0.0km az=145.3, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.21	40	P	Pg	03 33 16.7	+0.1
BSWZ	Blackbirch Sta	0.23	328	P	Pg	03 33 17.6	+0.6
BSWZ				S	Sg	03 33 21.6	+1.5
TUWZ	Tuamarina	0.48	351	P	Pg	03 33 22.4	+0.5
TUWZ				S	Sb	03 33 30.0	-0.6
KHZ	Kahutara	0.63	216	P	Pb	03 33 25.7	-0.1
TCW	Tory Channel	0.72	14	P	Pg	03 33 25.9	-0.4
BHW	Baring Head	0.80	52	P	Pg	03 33 28.1	+0.3
BHW				S	Sb	03 33 40.4	+0.7
WEL	Wellington	0.83	42	P	Pg	03 33 28.4	0.0
WEL				S	Sn	03 33 41.9	-1.2
NNZ	Nelson	0.85	324	P	Pg	03 33 29.0	+0.1
THZ	Tophouse	0.86	279	P	Pb	03 33 29.8	0.0
THZ				S	Sb	03 33 42.1	+0.6
PLWZ	Palliser	0.97	70	P	Pg	03 33 30.5	-0.7
MSWZ	Moikau Station	1.03	62	P	Pg	03 33 31.4	-0.9
MRNZ	Matariki Terra	1.09	298	P	Pn	03 33 34.3	+0.1
DUWZ	D'Urville Isla	1.11	355	P	Pg	03 33 33.3	-0.5
CAW	Cannon Point	1.11	44	P	Pg	03 33 33.1	-0.7
PAWZ	Paruwai Farm	1.17	64	P	Pg	03 33 32.9	-2.0
TKNZ	Takaka Hill	1.18	317	P	Pg	03 33 35.2	-0.1
KIW	Kapiti Island	1.23	32	P	Pn	03 33 36.3	-0.9
GVZ	Greta Valley S	1.29	215	P	Pn	03 33 36.3	+0.7
MTW	Mount Morrison	1.33	56	P	Pn	03 33 35.4	-2.1
TRWZ	Traveller	1.34	68	P	Pn	03 33 35.1	-2.5
OGWZ	Otaki Gorge	1.38	38	P	Pn	03 33 36.9	-1.3
HOWZ	Holdsworth Sta	1.50	48	P	Pn	03 33 38.3	-1.6
QRZ	Quartz Range	1.57	313	P	Pb	03 33 41.9	0.0
LTZ	Lake Taylor	1.57	236	P	Pn	03 33 40.7	-0.2
AMCZ	Amberley	1.63	218	P	Pn	03 33 40.6	-1.0
DSZ	Denniston Nort	1.68	275	P	Pb	03 33 43.5	-0.2
MRZ	Mangatainoka R	1.70	43	P	Pn	03 33 41.1	-1.6
TIWZ	Tintock	1.79	52	P	Pn	03 33 42.4	-1.5
OKCZ	Okains Bay	1.95	201	P	Pn	03 33 44.1	-2.0
BFZ	Birch Farm	2.07	54	P	Pg	03 33 52.1	0.0
MQZ	McQueen's Vall	2.07	209	P	Pn	03 33 45.1	-2.4
INZ	Inchbonnie	2.09	246	P	Pn	03 33 48.5	+0.6
AKCZ	Akaroa Harbour	2.13	203	P	Pn	03 33 46.5	-2.0
RACZ	Rakaia	2.29	217	P	Pn	03 33 49.2	-1.5
WACZ	Wakanui South	2.60	218	P	Pn	03 33 53.3	-1.6
RPZ	Rata Peaks	2.84	230	P	Pn	03 33 57.2	-1.2

WEL 14 03:34:16.9±0.5, **42.5S**±2.×**17.4E**±., **h7**km±4km, **M3.6**/12, **ML3.9**/12, **MLv3.6**/12, **Error ellipse: s-maj=0.0km s-min=0.0km az=145.7, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.07	198	P	Pg	03 34 19.4	+0.6
CMWZ				S	Sg	03 34 21.8	+1.8
BSWZ	Blackbirch Sta	0.28	263	P	Pg	03 34 22.8	+0.4
BSWZ				S	Sb	03 34 27.7	-1.5
TUWZ	Tuamarina	0.34	318	P	Pg	03 34 24.3	+0.7
TUWZ				S	Sb	03 34 30.0	-0.9
TCW	Tory Channel	0.47	3	P	Pg	03 34 26.5	+0.4
TCW				S	Sb	03 34 33.8	-1.0
BHW	Baring Head	0.55	60	P	Pg	03 34 27.9	+0.5
WEL	Wellington	0.56	45	P	Pb	03 34 28.5	-0.6
WEL				S	Sb	03 34 37.0	-0.3
PLWZ	Palliser	0.77	82	P	Pb	03 34 32.5	-0.1
NNZ	Nelson	0.80	305	P	Pg	03 34 32.3	0.0
NNZ				S	Sb	03 34 43.5	-0.7
MSWZ	Moikau Station	0.80	71	P	Pb	03 34 33.3	0.0
MSWZ				S	Sn	03 34 45.8	-1.1
CAW	Cannon Point	0.84	47	P	Pg	03 34 33.3	+0.1
CAW				S	Sb	03 34 45.3	-0.2
KHZ	Kahutara	0.90	215	P	Pg	03 34 34.4	+0.1
DUWZ	D'Urville Isla	0.91	344	P	Pb	03 34 35.2	+0.1
DUWZ				S	Sb	03 34 47.5	0.0
PAWZ	Paruwai Farm	0.94	72	P	Pg	03 34 34.9	0.0
KIW	Kapiti Island	0.96	32	P	Pg	03 34 35.3	-0.1
MTW	Mount Morrison	1.08	61	P	Pg	03 34 37.0	-0.7
OGWZ	Otaki Gorge	1.11	39	P	Pg	03 34 38.0	-0.3
TRWZ	Traveller	1.12	76	P	Pg	03 34 37.1	-1.3
MRNZ	Matariki Terra	1.15	284	P	Pg	03 34 39.0	0.0
TKNZ	Takaka Hill	1.16	303	P	Pg	03 34 39.1	-0.1
HOWZ	Holdsworth Sta	1.24	51	P	Pb	03 34 40.0	-0.7
MRZ	Mangatainoka R	1.43	45	P	Pn	03 34 42.4	-1.0
QRZ	Quartz Range	1.55	303	P	Pb	03 34 45.6	-0.4
GVZ	Greta Valley S	1.57	215	P	Pn	03 34 44.2	-1.0
BFZ	Birch Farm	1.81	57	P	Pg	03 34 52.3	+0.6
LTZ	Lake Taylor	1.83	232	P	Pn	03 34 48.0	-0.9

TEH ***14*** *03:35:40.3, 38.07N×46.31E, h8km, ML3.6*
AZER ***14*** *03:35:40.8±0.4, 38.11N×46.18E, h20km±3km, Error ellipse: s-maj=8.3km s-min=3.9km az=34.0*
NSSP ***14*** *03:35:44.4, 38.22N×45.92E, h7km, Ms3.7*
ISC 14 03:35:40.8±1.0, **38.05N**±0.02×**46.31E**±0.02, **h5**km±7km, **n74**, σ1.**84**/107, **2D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAB1	Tabriz	0.02	86	ePg	Pg	03 35 42.8	+0.8
IAZR	Azarshahr	0.45	215	ePg	Pb	03 35 49.9	-1.5
IAZR				eSg	Sb	03 35 56.9	-1.6
TVRZ	Varzaqan	0.54	32	ePg	Pg	03 35 51.1	-0.1
IBST	Bostanabad	0.58	126	ePg	Pg	03 35 51.0	-1.0
ISHB	Shabestar	0.59	294	ePg	Pg	03 35 51.0	-1.2
IHRS	Heris	0.64	65	ePg	Pg	03 35 52.6	-0.6
IMRD	Marand	0.82	325	ePg	Pg	03 35 55.7	-0.8
ORD	Ordubad	0.91	345	P	Pg	03 35 57.8	-0.6
	SNR=339						
ORD				S	Sb	03 36 10.0	-1.8
IHSH	Hashtrud	1.06	134	ePg	Pg	03 35 59.8	-1.4
IHSH				eSg	Sg	03 36 14.5	-0.4
ISRB	Sarab	1.10	101	ePg	Pg	03 36 01.0	-0.9
ISRB				e		03 36 20.3	
	comp=Z,27μm,0.3s						
NAX	Nakhchivan	1.29	331	P	Pb	03 36 04.5	-1.2
	SNR=618						
NAX				S	Sb	03 36 21.1	-1.6
MAHB	Mahabad	1.36	201	e		03 36 29.3	
	comp=Z,32μm,0.4s						
MAHB				ePg	Pb	03 36 06.2	-0.7
GRS	Goris	1.45	1	iP	Pg	03 36 11.0	+2.3
GRS				iS	Sg	03 36 30.0	+2.5
SBZ	Shahbuz	1.47	337	P	Pb	03 36 07.6	-1.2
	SNR=604						
SBZ				S	Sg	03 36 27.9	-0.3
QRD	Qoradiz	1.62	29	P	Pb	03 36 10.3	-1.0
	SNR=20						
QRD				S	Sb	03 36 31.9	-0.1
LRK	Lerik	1.71	69	P	Pb	03 36 12.0	-0.9
	SNR=150						
LRK				S	Sg	03 36 36.0	+0.3
YRD	Yardimli	1.75	60	P	Pb	03 36 12.5	-1.1
	SNR=62						
YRD				S	Sg	03 36 36.7	-0.4
MAKU	Maku	1.82	316	ePg	Pb	03 36 13.2	-1.6
MAKU				e		03 36 38.6	
	comp=Z,99nm,0.3s						
BLQ	Beylaqan	1.94	30	P	Pb	03 36 15.7	-0.9
	SNR=28						
BLQ				S	Sg	03 36 42.3	-0.8
HYR	Heyderabad	2.02	326	P	Pb	03 36 17.2	-0.8
	SNR=32						
HYR				S	Sb	03 36 40.8	-2.7
ASTR	Astara	2.02	75	P	Pb	03 36 16.8	-1.3
	SNR=50						
ASTR				S	Sg	03 36 45.0	-0.7
GLBA	Clilabad	2.02	53	P	Pb	03 36 17.5	-0.6
	SNR=105						
GLBA				S	Sg	03 36 45.2	-0.7
GAS1	Astara - Iran	2.02	80	ePn	Pn	03 36 15.8	+0.2
LKRN	Lenkeran, Azer	2.05	70	P	Pb	03 36 18.2	-0.4
	SNR=18						
LKRN				S	Sg	03 36 47.8	+1.0
AGDM	Agdam	2.15	17	P	Pb	03 36 19.4	-0.9
	SNR=50						
AGDM				S	Sb	03 36 47.7	+0.4
CSN1	Caspian	2.26	101	ePn	Pb	03 36 20.9	-1.2
BRDA	Brd	2.32	17	P	Pb	03 36 21.7	-1.4
	SNR=10						
BRDA				S	Sb	03 36 49.8	-2.2
ZNJK	Zanjan	2.34	125	ePn	Pn	03 36 20.7	+0.5
SAAT	Saatly	2.45	42	P	Pb	03 36 23.8	-1.6
	SNR=7.5						
SAAT				S	Sb	03 36 56.3	+0.5
ZRD	Zardab	2.47	25	P	Pb	03 36 23.6	-2.2
	SNR=4.1						
ZRD				S	Sb	03 36 54.3	-2.3
GANJ	Ganja	2.60	0	P	Pb	03 36 26.7	-1.2
	SNR=12						
GANJ				S	Sb	03 36 58.4	-1.7
GDB	GEDABAY	2.71	351	P	Pb	03 36 29.4	-0.4
	SNR=21						
GDB				S	Sb	03 37 01.5	-1.9
KDMR	Kurdemir	2.75	32	S	Sb	03 37 06.1	+1.8
QSDN	Sirdan	2.76	123	ePn	Pn	03 36 26.4	+0.5

WEL 14 03:36:09.9±0.5, 42°S×3°×17°4E±°, h8km±5km, M3.8/13, ML4.1/13, MLv3.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=139.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.09**	**245**	P	Pg	03 36 12.8	+0.7
CMWZ				S	Sg	03 36 15.4	+1.9
BSWZ	**Blackbirch Sta**	**0.33**	**270**	P	Pg	03 36 16.9	+0.5
BSWZ				S	Sb	03 36 23.0	-0.6
TUWZ	**Tuamarina**	**0.40**	**315**	P	Pb	03 36 18.7	-0.5
TUWZ				S	Sb	03 36 25.4	0.0
TCW	**Tory Channel**	**0.50**	**356**	P	Pb	03 36 20.8	-0.2
TCW				S	Sb	03 36 29.0	+0.6
BHW	**Baring Head**	**0.52**	**54**	P	Pg	03 36 19.9	+0.1
WEL	**Wellington**	**0.55**	**38**	P	Pg	03 36 20.3	-0.1
WEL				S	Sb	03 36 30.7	+1.0
PLWZ	**Palliser**	**0.72**	**79**	P	Pb	03 36 24.5	-0.1
PLWZ				S	Sn	03 36 37.3	-0.3
MSWZ	**Moikau Station**	**0.76**	**67**	P	Pb	03 36 25.0	-0.3
CAW	**Cannon Point**	**0.83**	**43**	P	Pg	03 36 25.3	-0.5
NNZ	**Nelson**	**0.86**	**305**	P	Pg	03 36 26.7	+0.2
PAWZ	**Paruwai Farm**	**0.90**	**69**	P	Pb	03 36 27.6	-0.1
KHZ	**Kahutara**	**0.91**	**219**	P	Pg	03 36 27.5	+0.1
DUWZ	**D'Urville Isla**	**0.96**	**342**	P	Pn	03 36 29.4	-0.3
KIW	**Kapiti Island**	**0.96**	**28**	P	Pg	03 36 27.4	-0.9
MTW	**Mount Morrison**	**1.05**	**58**	P	Pg	03 36 29.9	-0.1
THZ	**Tophouse**	**1.06**	**267**	P	Pg	03 36 30.3	+0.1
TRWZ	**Traveller**	**1.07**	**73**	P	Pg	03 36 29.8	-0.7
OGWZ	**Otaki Gorge**	**1.10**	**36**	P	Pg	03 36 29.8	-1.2
MRNZ	**Matariki Terra**	**1.21**	**284**	P	Pn	03 36 33.3	+0.2
HOWZ	**Holdsworth Sta**	**1.22**	**48**	P	Pb	03 36 32.6	-0.6
TKNZ	**Takaka Hill**	**1.23**	**303**	P	Pg	03 36 33.5	+0.1
TMWZ	**Te Maipa**	**1.33**	**63**	P	Pn	03 36 33.5	-1.3
MRZ	**Mangatainoka R**	**1.42**	**43**	P	Pn	03 36 35.4	-0.6
TIWZ	**Tintock**	**1.51**	**52**	P	Pn	03 36 36.5	-0.8
GVZ	**Greta Valley S**	**1.57**	**217**	P	Pb	03 36 38.8	-0.5
QRZ	**Quartz Range**	**1.61**	**303**	P	Pb	03 36 39.8	-0.1
CPWZ	**Castlepoint**	**1.63**	**61**	P	Pn	03 36 38.0	-0.9
OHWZ	**Ohakea**	**1.69**	**27**	P	Pb	03 36 41.4	+0.3
PRWZ	**Pori Road**	**1.70**	**48**	P	Pn	03 36 39.0	-0.9
POWZ	**Post Office Ro**	**1.72**	**40**	P	Pn	03 36 39.8	-0.3
BFZ	**Birch Farm**	**1.78**	**55**	P	Pn	03 36 39.4	-1.6
LTZ	**Lake Taylor**	**1.86**	**234**	P	Pn	03 36 40.8	-1.2
DSZ	**Denniston Nort**	**1.88**	**268**	P	Pb	03 36 44.1	-0.4
AMCZ	**Amberley**	**1.91**	**220**	P	Pg	03 36 46.9	+0.4
DVHZ	**Dannevirke**	**1.99**	**45**	P	Pn	03 36 42.4	-1.4
WAZ	**Wanganui**	**2.02**	**15**	P	Pg	03 36 47.9	-0.7
TSZ	**Takapari Road**	**2.07**	**38**	P	Pn	03 36 44.3	-0.7
OKCZ	**Okains Bay**	**2.21**	**204**	P	Pn	03 36 44.3	-2.7
PRHZ	**Porangahau**	**2.27**	**51**	P	Pn	03 36 45.9	-1.9
PNHZ	**Pukenui**	**2.30**	**39**	P	Pn	03 36 47.1	-1.0
WPHZ	**Waipukurau**	**2.30**	**45**	P	Pn	03 36 46.8	-1.4
INZ	**Inchbonnie**	**2.36**	**244**	P	Pn	03 36 50.2	+1.2
NBEZ	**Newall Road No**	**2.47**	**352**	P	Pb	03 36 54.9	+0.4
PKE	**Pukeiti**	**2.53**	**354**	P	Pb	03 36 56.4	+0.8
MOVZ	**Moawhango**	**2.55**	**26**	P	Pn	03 36 52.9	+1.2
WNVZ	**Wahianoa**	**2.58**	**23**	P	Pn	03 36 53.7	+1.6
TRVZ	**Turoa**	**2.59**	**22**	P	Pb	03 36 56.8	+0.2
BHHZ	**Black Hill Sta**	**2.59**	**31**	P	Pn	03 36 52.5	+0.4
VRZ	**Vera Road**	**2.61**	**8**	P	Pb	03 36 56.7	-0.2
DRZ	**Dome Shelter**	**2.61**	**22**	P	Pg	03 36 59.5	-0.4
WHVZ	**Whangaehu Hut**	**2.61**	**22**	P	Pn	03 36 54.5	+1.8
FWVZ	**Far West T-bar**	**2.63**	**21**	P	Pn	03 36 54.8	+1.9
TUVZ	**Tukino**	**2.65**	**23**	P	Pn	03 36 54.2	+1.2
NGZ	**Ngauruhoe**	**2.72**	**22**	P	Pn	03 36 56.1	+2.1
SNVZ	**South Ngauruho**	**2.72**	**22**	P	Pn	03 36 55.7	+1.6
KAHZ	**Kahuranaki**	**2.73**	**46**	P	Pn	03 36 52.0	-2.1
OTVZ	**Oturere**	**2.75**	**22**	P	Pn	03 36 56.0	+1.6
NNVZ	**North Ngauruho**	**2.76**	**21**	P	Pn	03 36 56.4	+1.8
WTVZ	**West Tongariro**	**2.77**	**21**	P	Pb	03 36 58.8	-0.9
TWVZ	**Taurewa**	**2.77**	**18**	P	Pb	03 36 59.6	-0.1
ETVZ	**East Tongariro**	**2.79**	**23**	P	Pn	03 36 56.1	+1.2
TMVZ	**Te Maari**	**2.80**	**23**	P	Pn	03 36 56.1	+1.0
KRVZ	**Karewarewa**	**2.80**	**22**	P	Pb	03 36 56.7	-1.6
NTVZ	**North Tongarir**	**2.81**	**22**	P	Pn	03 36 56.2	+0.9
KATZ	**Kakaramea**	**2.93**	**21**	P	Pb	03 37 04.0	+1.6
RITZ	**Rihia Road**	**2.98**	**24**	P	Pb	03 37 04.1	+0.9
WVZ	**Waitaha Valley**	**2.98**	**242**	P	Pb	03 37 01.8	-1.4
RPZ	**Rata Peaks**	**3.13**	**229**	P	Pn	03 36 57.6	-1.9
HIZ	**Hauiti**	**3.22**	**8**	P	Pb	03 37 05.2	-2.2
MRHZ	**Matea Rd**	**3.29**	**30**	P	Pn	03 37 00.8	-1.1
TLZ	**Tolley Road**	**3.51**	**16**	P	Pb	03 37 10.6	-1.6
TMZ	**Timaru**	**3.61**	**221**	P	Pn	03 37 03.7	-2.4
MKAZ	**Moumakai**	**4.65**	**8**	P	Pn	03 37 22.5	+2.2

*WEL **14** 03:40:00, 41°.74S×174°.39E, h20km, ML4.8, Mw4.7, Moment Tensor Solution. s7 Moment tensor: Scale 10^16 Nm; Mrr1.15; Mθθ0.09; Mϕϕ-1.24; Mrθ-0.08; Mθϕ0.09; Mϕr0.09; Fault plane solution: M0 1.21000×10^16 NP1: ϕs180.00000°, δ43.00000°, λ96.00000°. NP2: ϕs352.00000°, δ47.00000°, λ84.00000°. Principal axes: T -1249.7200, Plg86.0000°, Azm203.0000°; N 85.6800, Plg4.0000°, Azm355.0000°; P 1164.0500, Plg2.0000°, Azm86.0000°;*

*IDC **14** 03:40:14.9±0.9, 41°.69S×174°.22E, h0km, mb4.5/7, mbtmp4.5/8, ML3.9/1 Error ellipse: s-maj=26.9km s-min=21.4km az=97.0*

*NEIC **14** 03:40:17.4, 41°.75S×174°.31E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr4.93; Mθθ-0.79; Mϕϕ-4.14; Mrθ2.61; Mϕθ4.49; Mϕr5.14; Fault plane solution: M0 8.63000×10^15 NP1: ϕs358.43000°, δ67.40000°, λ126.61000°. NP2: ϕs115.78000°, δ42.18000°, λ34.92000°. Principal axes: T 9.1584, Plg53.0000°, Azm313.0000°; N -1.1791, Plg33.0000°, Azm162.0000°; P -7.9793, Plg15.0000°, Azm63.0000°;*

*WEL **14** 03:40:18.7±0.4, 42°S×3°×17°4E±°, h9km±3km, M4.8/16, ML5.1/16, MLv4.8/16 Error ellipse: s-maj=0.0km s-min=0.0km az=160.8*

*NEIC **14** 03:40:18.5±1.5, 41°.74S±0°.03×174°.33E±0°.02, h18km±3km, mb4.6/17, Mwr4.6/41, ML4.8(WEL), Error ellipse: s-maj=4.3km s-min=2.1km az=153.0*

*NOU **14** 03:40:18.1, 41°.85S×174°.48E, h18km, MLv5.1/20, Cook Strait, New Zealand*

ISC 14 03:40:17.9±0.8, 41°80S±0°03×174°38E±0°02, h15km±5km, n180, σ1s29/210, mb4.5/14, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**290**	Pg	**Pg**	**03 40 21.3**	**-0.4**
CMWZ				Sg	**Sg**	**03 40 24.4**	**+0.3**
CMWZ	**Cape Campbell**	**0.13**	**290**	P	**Pg**	**03 40 21.7**	**0.0**
CMWZ				S	**Sg**	**03 40 24.8**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.39**	**282**	Pg	**Pg**	**03 40 25.4**	**-0.4**
BSWZ				Sg	**Sg**	**03 40 31.3**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.39**	**282**	P	**Pg**	**03 40 25.7**	**0.0**
BSWZ				S	**Sb**	**03 40 33.2**	**+1.0**
TUWZ	**Tuamarina**	**0.49**	**318**	Pg	**Pg**	**03 40 27.3**	**-0.4**
TUWZ				Sg	**Sb**	**03 40 34.0**	**-1.2**
TUWZ	**Tuamarina**	**0.49**	**318**	P	**Pg**	**03 40 27.7**	**0.0**
TUWZ				S	**Sb**	**03 40 34.4**	**-0.7**
SNZO	**South Karori**	**0.54**	**27**	Pg	**Pg**	**03 40 28.3**	**-0.3**
SNZO				Sg	**Sb**	**03 40 36.3**	**-0.3**
SNZO	**South Karori**	**0.54**	**27**	P	**Pg**	**03 40 29.5**	**+0.4**
WEL	**Wellington**	**0.59**	**30**	P	**Pb**	**03 40 29.9**	**+0.1**
WEL				S	**Sb**	**03 40 38.8**	**+0.8**
TCW	**Tory Channel**	**0.59**	**352**	P	**Pg**	**03 40 29.2**	**-0.3**
TCW				S	**Sb**	**03 40 36.7**	**-1.3**
PLWZ	**Palliser**	**0.69**	**71**	Pg	**Pg**	**03 40 32.1**	**+0.7**
PLWZ					**Sn**	**03 40 44.9**	**+1.2**
PLWZ	**Palliser**	**0.69**	**71**	P	**Pb**	**03 40 33.1**	**+1.4**
PLWZ				S	**Sn**	**03 40 45.0**	**+1.3**
MSWZ	**Moikau Station**	**0.75**	**60**	Pg	**Pg**	**03 40 33.4**	**+0.8**
MSWZ					**Sn**	**03 40 45.7**	**+0.6**
MSWZ	**Moikau Station**	**0.75**	**60**	P	**Pb**	**03 40 34.0**	**+1.3**
MSWZ				S	**Sn**	**03 40 46.4**	**+1.3**
CAW	**Cannon Point**	**0.86**	**37**	P	**Pg**	**03 40 34.7**	**+0.1**
CAW				S	**Sb**	**03 40 46.5**	**+0.7**
KHZ	**Kahutara**	**0.88**	**225**		**Pg**	**03 40 35.7**	**+0.6**
KHZ					**Sb**	**03 40 49.0**	**+2.6**
PAWZ	**Paruwai Farm**	**0.89**	**63**	P	**Pg**	**03 40 35.7**	**+0.6**
PAWZ				S	**Sn**	**03 40 49.2**	**+0.8**
NNZ	**Nelson**	**0.95**	**307**	Pg	**Pg**	**03 40 35.4**	**-0.9**
NNZ					**Sb**	**03 40 48.5**	**+0.2**
NNZ	**Nelson**	**0.95**	**307**	P	**Pg**	**03 40 35.5**	**-0.8**
KIW	**Kapiti Island**	**1.01**	**23**	P	**Pg**	**03 40 37.1**	**-0.4**
KIW				S	**Sb**	**03 40 50.6**	**+0.3**
DUWZ	**D'Urville Isla**	**1.05**	**341**	P	**Pb**	**03 40 37.8**	**0.0**
DUWZ				S	**Sb**	**03 40 50.7**	**-0.7**
MTW	**Mount Morrison**	**1.06**	**53**	P	**Pg**	**03 40 38.0**	**-0.3**
MTW				S	**Sb**	**03 40 53.0**	**+1.6**
TRWZ	**Traveller**	**1.06**	**68**	P	**Pg**	**03 40 37.8**	**-0.5**
TRWZ				S	**Sb**	**03 40 53.1**	**+1.5**
THZ	**Tophouse**	**1.10**	**271**	Pn	**Pg**	**03 40 38.9**	**-0.4**
THZ	**Tophouse**	**1.10**	**271**	P	**Pb**	**03 40 39.7**	**+1.0**
THZ				S	**Sn**	**03 40 55.4**	**+1.5**
OGWZ	**Otaki Gorge**	**1.14**	**32**	P	**Pg**	**03 40 39.4**	**-0.6**
OGWZ				S	**Sn**	**03 40 55.1**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.24**	**44**	P	**Pb**	**03 40 40.6**	**-0.4**
HOWZ				S	**Sg**	**03 40 57.8**	**-0.2**
MRNZ	**Matariki Terra**	**1.28**	**287**	P	**Pn**	**03 40 42.2**	**+0.9**
MRNZ				S	**Sn**	**03 40 59.2**	**+1.1**
TKNZ	**Takaka Hill**	**1.31**	**305**	P	**Pn**	**03 40 42.2**	**+0.5**
TKNZ				S	**Sn**	**03 41 00.1**	**+1.2**
TMWZ	**Te Maipa**	**1.33**	**59**	P	**Pn**	**03 40 41.5**	**-0.4**
MRZ	**Mangatainoka R**	**1.45**	**39**		**Pn**	**03 40 43.2**	**-0.3**
MRZ	**Mangatainoka R**	**1.45**	**39**	P	**Pn**	**03 40 43.6**	**+0.1**
MRZ				S	**Sn**	**03 41 03.1**	**+0.9**
TIWZ	**Tintock**	**1.52**	**49**	P	**Pn**	**03 40 44.2**	**-0.4**
CPWZ	**Castlepoint**	**1.63**	**58**	P	**Pn**	**03 40 45.9**	**-0.1**
QRZ	**Quartz Range**	**1.70**	**304**	Pn	**Pn**	**03 40 48.1**	**+1.2**
QRZ	**Quartz Range**	**1.70**	**304**	P	**Pn**	**03 40 48.3**	**+1.3**
QRZ	**Quartz Range**	**1.70**	**304**	P	**Pb**	**03 40 48.5**	**-0.3**
PRWZ	**Pori Road**	**1.73**	**45**	P	**Pn**	**03 40 47.0**	**-0.3**
OHWZ	**Ohakea**	**1.74**	**24**	P	**Pb**	**03 40 49.2**	**-0.3**
POWZ	**Post Office Ro**	**1.75**	**37**	P	**Pn**	**03 40 47.6**	**-0.1**
BFZ	**Birch Farm**	**1.79**	**52**	Pn	**Pn**	**03 40 47.8**	**-0.5**
BFZ	**Birch Farm**	**1.79**	**52**	P	**Pn**	**03 40 47.4**	**-0.9**
BFZ	**Birch Farm**	**1.79**	**52**	P	**Pn**	**03 40 47.3**	**-1.0**
LTZ	**Lake Taylor**	**1.85**	**237**	Pn	**Pn**	**03 40 49.4**	**+0.3**
LTZ	**Lake Taylor**	**1.85**	**237**	P	**Pn**	**03 40 49.6**	**+0.5**
DSZ	**Denniston Nort**	**1.93**	**271**	P	**Pn**	**03 40 51.5**	**+1.3**
DVHZ	**Dannevirke**	**2.02**	**43**	P	**Pn**	**03 40 50.4**	**-0.9**
ANWZ	**Angora Road**	**2.07**	**51**	P	**Pn**	**03 40 50.9**	**-1.1**
WAZ	**Wanganui**	**2.09**	**13**	P	**Pb**	**03 40 54.6**	**-0.9**
TSZ	**Takapari Road**	**2.11**	**35**	P	**Pn**	**03 40 52.4**	**-0.2**
PRHZ	**Porangahau**	**2.29**	**49**	P	**Pn**	**03 40 53.7**	**-1.4**
MQZ	**McQueen's Vall**	**2.29**	**213**	Pn	**Pn**	**03 40 53.2**	**-1.9**
MQZ	**McQueen's Vall**	**2.29**	**213**	P	**Pn**	**03 40 54.3**	**-0.8**
MQZ				S	**Sn**	**03 41 21.5**	**-1.6**
OXZ	**Oxford**	**2.31**	**228**	Pn	**Pn**	**03 40 54.6**	**-0.8**
OXZ	**Oxford**	**2.31**	**228**	P	**Pn**	**03 40 54.6**	**-0.8**
WPHZ	**Waipukurau**	**2.33**	**43**	P	**Pn**	**03 40 54.9**	**-0.8**
PNHZ	**Pukenui**	**2.33**	**37**	P	**Pn**	**03 40 55.0**	**-0.7**
LREZ	**Lake Rotokare**	**2.33**	**0**	P	**Pb**	**03 40 58.9**	**-0.8**
AKCZ	**Akaroa Harbour**	**2.34**	**207**	P	**Pn**	**03 40 54.6**	**-1.2**
MTVZ	**Mangateitei**	**2.55**	**19**	P	**Pb**	**03 41 03.9**	**+0.6**
NBEZ	**Newall Road No**	**2.56**	**351**	P	**Pn**	**03 41 01.0**	**+2.3**
PXZ	**Pawanui**	**2.58**	**48**	P	**Pn**	**03 40 57.6**	**-1.5**
MOVZ	**Moawhango**	**2.60**	**24**	P	**Pn**	**03 40 59.7**	**+0.2**
PKVZ	**Pokaka**	**2.61**	**17**	P	**Pn**	**03 41 03.9**	**-0.5**
WNVZ	**Wahianoa**	**2.63**	**21**	P	**Pn**	**03 41 01.0**	**+1.0**
BHHZ	**Black Hill Sta**	**2.63**	**30**	P	**Pn**	**03 40 60.0**	**+0.1**
TRVZ	**Turoa**	**2.65**	**20**	P	**Pn**	**03 41 01.3**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.67**	**21**	P	**Pn**	**03 41 01.5**	**+0.9**
DRZ	**Dome Shelter**	**2.67**	**20**	P	**Pn**	**03 41 01.9**	**+1.2**
VRZ	**Vera Road**	**2.68**	**6**	P	**Pn**	**03 41 02.5**	**+2.0**
FWVZ	**Far West T-bar**	**2.69**	**20**	P	**Pn**	**03 41 01.8**	**+1.0**
TUVZ	**Tukino**	**2.71**	**21**	P	**Pn**	**03 41 02.0**	**+1.0**
KAHZ	**Kahuranaki**	**2.75**	**44**	P	**Pn**	**03 41 00.0**	**-1.5**
NGZ	**Ngauruhoe**	**2.78**	**20**	P	**Pn**	**03 41 02.8**	**+0.8**
SNVZ	**South Ngauruho**	**2.78**	**21**	P	**Pn**	**03 41 02.9**	**+0.9**
OTVZ	**Oturere**	**2.81**	**21**	P	**Pn**	**03 41 03.4**	**+1.0**
NNVZ	**North Ngauruho**	**2.82**	**20**	P	**Pn**	**03 41 03.7**	**+1.1**
WTVZ	**West Tongariro**	**2.83**	**19**	P	**Pn**	**03 41 03.7**	**+1.0**
KWHZ	**Kaweka Forest**	**2.83**	**34**	P	**Pn**	**03 41 01.7**	**-0.9**
TWVZ	**Taurewa**	**2.84**	**17**	P	**Pn**	**03 41 03.7**	**+0.9**
ETVZ	**East Tongariro**	**2.84**	**21**	P	**Pn**	**03 41 03.5**	**+0.6**
TMVZ	**Te Maari**	**2.86**	**21**	P	**Pn**	**03 41 03.4**	**+0.3**
KRVZ	**Karewarewa**	**2.86**	**20**	P	**Pn**	**03 41 04.1**	**+1.0**
NTVZ	**North Tongarir**	**2.87**	**21**	P	**Pn**	**03 41 04.0**	**+0.8**
MCHZ	**McNeill Hill**	**2.94**	**38**	P	**Pn**	**03 41 03.1**	**-0.9**
CKHZ	**Cape Kidnapper**	**2.96**	**45**	P	**Pn**	**03 41 02.7**	**-1.6**
KATZ	**Kakaramea**	**2.99**	**20**	P	**Pn**	**03 41 06.5**	**+1.6**
RITZ	**Rihia Road**	**3.03**	**22**	P	**Pn**	**03 41 07.4**	**+2.0**
BKZ	**Black Stump Fm**	**3.08**	**32**	Pn	**Pn**	**03 41 05.2**	**-0.9**
BKZ	**Black Stump Fm**	**3.08**	**32**	P	**Pn**	**03 41 05.2**	**-0.9**
BKZ	**Black Stump Fm**	**3.08**	**32**	P	**Pn**	**03 41 04.9**	**-1.1**
RPZ	**Rata Peaks**	**3.11**	**231**	Pn	**Pn**	**03 41 06.0**	**-0.4**
	14nm,0.3s,baz=231,slow=2.1,SNR=16						
RPZ					Sn	**03 41 41.7**	**-1.6**
	34nm,0.3s,baz=340,slow=23,SNR=7.8 36nm,0.4s						
RPZ	**Rata Peaks**	**3.11**	**231**	Pn	**Pn**	**03 41 05.9**	**-0.5**
RATZ	**Rangitukua**	**3.11**	**20**	P	**Pb**	**03 41 10.5**	**-2.5**
ARHZ	**Aropaoanui**	**3.22**	**39**	P	**Pn**	**03 41 07.1**	**-0.8**
WATZ	**Wairara**	**3.25**	**19**	P	**Pb**	**03 41 13.8**	**-1.5**
NMHZ	**Naumai**	**3.27**	**35**	P	**Pn**	**03 41 07.4**	**-1.3**
HIZ	**Hauiti**	**3.30**	**6**	Pn	**Pn**	**03 41 09.6**	**+0.6**
HIZ	**Hauiti**	**3.30**	**6**	P	**Pn**	**03 41 11.0**	**+2.0**
HIZ	**Hauiti**	**3.30**	**6**	P	**Pn**	**03 41 10.7**	**+1.7**
MRHZ	**Matea Rd**	**3.34**	**28**	P	**Pn**	**03 41 08.5**	**-1.1**
WHHZ	**Whihua**	**3.48**	**40**	P	**Pn**	**03 41 10.4**	**-1.1**
MTHZ	**Maungataniwha**	**3.49**	**33**	P	**Pn**	**03 41 10.8**	**-0.9**
ALRZ	**Allen Road**	**3.56**	**26**	P	**Pn**	**03 41 12.1**	**-0.5**
TLZ	**Tolley Road**	**3.57**	**15**	P	**Pn**	**03 41 14.1**	**+1.3**
KNZ	**Kokohu**	**3.74**	**43**	P	**Pn**	**03 41 12.8**	**-2.2**
FOZ	**Fox Glacier**	**3.79**	**241**	Pn	**Pn**	**03 41 16.4**	**+0.7**
TARZ	**Mount Tarawera**	**3.91**	**25**	P	**Pn**	**03 41 16.6**	**-0.9**
OMRZ	**Omania**	**3.99**	**23**	P	**Pn**	**03 41 23.1**	**+4.6**
LBZ	**Lake Benmore**	**4.02**	**228**	Pn	**Pn**	**03 41 18.7**	**-0.2**
RIGZ	**Rimuhau**	**4.03**	**41**	P	**Pn**	**03 41 17.0**	**-2.0**
URZ	**Urewera**	**4.11**	**32**	P	**Pn**	**03 41 18.9**	**-1.2**
TOZ	**Tahuroa Road**	**4.15**	**12**	P	**Pn**	**03 41 21.3**	**+0.6**
ODZ	**Otahua Downs**	**4.24**	**219**	Pn	**Pn**	**03 41 20.9**	**-1.0**
ODZ	**Otahua Downs**	**4.24**	**219**	P	**Pn**	**03 41 20.9**	**-1.0**
CNGZ	**Carnagh Statio**	**4.42**	**43**	P	**Pn**	**03 41 22.2**	**-2.2**
TWGZ	**Tauwhareparae**	**4.55**	**39**	P	**Pn**	**03 41 24.2**	**-2.1**
RUGZ	**Raukumara Rang**	**4.59**	**35**	P	**Pn**	**03 41 24.5**	**-2.4**
JCZ	**Jackson Bay**	**4.70**	**239**	P	**Pn**	**03 41 28.8**	**+0.5**
MKAZ	**Moumakai**	**4.72**	**8**	P	**Pn**	**03 41 29.4**	**+0.9**
AWAZ	**Awhitu Peninsu**	**4.73**	**3**	P	**Pn**	**03 41 30.6**	**+2.0**
HAZ	**Te Kaha**	**4.81**	**34**	P	**Pn**	**03 41 27.7**	**-2.0**
ETAZ	**East Tamaki Re**	**4.85**	**5**	P	**Pn**	**03 41 32.3**	**+2.0**
WTAZ	**Waiatarua**	**4.86**	**2**	P	**Pn**	**03 41 32.7**	**+2.3**
MBAZ	**Motutapu North**	**5.04**	**5**	P	**Pn**	**03 41 34.7**	**+1.9**
KUZ	**Kuaotunu**	**5.15**	**12**	P	**Pn**	**03 41 35.5**	**+1.1**
KUZ	**Kuaotunu**	**5.15**	**12**	P	**Pn**	**03 41 35.2**	**+0.8**
ABAZ	**Army Bay**	**5.20**	**4**	P	**Pn**	**03 41 38.7**	**+3.6**
MXZ	**Matakaoa Point**	**5.20**	**37**	Pn	**Pn**	**03 41 32.8**	**-2.3**
MXZ	**Matakaoa Point**	**5.20**	**37**	P	**Pn**	**03 41 33.7**	**-1.4**
MXZ	**Matakaoa Point**	**5.20**	**37**	P	**Pn**	**03 41 32.8**	**-2.3**
MLZ	**Mavora Lakes**	**5.78**	**230**	Pn	**Pn**	**03 41 41.2**	**-1.9**
SYZ	**Scrubby Hill**	**6.05**	**217**	P	**Pn**	**03 41 46.3**	**-0.5**
OUZ	**Omahuta**	**6.59**	**354**	Pn	**Pn**	**03 41 54.7**	**+0.4**
OUZ	**Omahuta**	**6.59**	**354**	P	**Pn**	**03 41 56.7**	**+2.5**
CTZ	**Chatham Island**	**6.90**	**109**	P	**Pn**	**03 41 57.8**	**+0.7**
PYZ	**Puysegur Point**	**7.07**	**229**	Pn	**Pn**	**03 42 00.9**	**+0.2**
PYZ	**Puysegur Point**	**7.07**	**229**	P	**Pn**	**03 42 02.2**	**+1.5**
OUENC	**Ouen Island, N**	**20.33**	**340**	P	**Pn**	**03 44 56.0**	**+0.5**
MSVF	**Nonsavu**	**24.19**	**9**	P	**P**	**03 45 32.8**	**-1.0**
	5.4nm,0.6s,baz=156,slow=14,SNR=5.5 5.4nm,0.6s						
MSVF	**Nonsavu**	**24.19**	**9**	P	**P**	**03 45 32.8**	**-1.0**
MSVF					IAmb	IAmb	03 45 59.7
	comp=Z,13nm,1.0s						
MSVF	**Nonsavu**	**24.19**	**9**	P	**P**	**03 45 32.7**	**-1.0**
BBOO	**Buckleboo**	**31.56**	**274**	P	**P**	**03 46 38.6**	**-1.1**
SBA	**Scott Base**	**36.30**	**183**	P	**P**	**03 47 21.3**	**+1.0**
SBA					IAmb	IAmb	03 47 25.3
	comp=Z,11nm,1.4s						
AS01	**Alice Springs**	**38.10**	**286**	P	**P**	**03 47 36.2**	**-0.1**
AS31	**Alice Springs**	**38.14**	**285**	P	**P**	**03 47 34.9**	**-1.7**
ASAR	**Alice Springs**	**38.14**	**285**	P	**P**	**03 47 34.8**	**-1.7**
	comp=Z,3.5nm,0.8s,baz=127,slow=7.0,SNR=23						
ASAR					PcP	**PcP**	**03 49 49.6**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=207,slow=2.5,SNR=4.3 comp=Z,3.5nm,0.8s						
ASAR	**Alice Springs**	**38.14**	**285**	P	**P**	**03 47 35.6**	**-0.9**
FORT	**Forrest**	**38.51**	**271**	P	**P**	**03 47 38.2**	**-1.3**
FORT					IAmb	IAmb	03 47 44.3
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**38.51**	**271**	P	**P**	**03 47 40.9**	**+1.4**
	comp=Z,12nm,1.6s						
WR0	**Warramunga Arr**	**40.06**	**291**	P	**P**	**03 47 50.5**	**-2.1**
PMG	**Port Moresby**	**40.19**	**316**	P	**P**	**03 47 52.1**	**-1.6**
	comp=Z,5.3nm,0.3s,baz=109,slow=9.1,SNR=8.8 comp=Z,5.3nm,0.3s						
PMG	**Port Moresby**	**40.19**	**316**	P	**P**	**03 47 52.5**	**-1.1**
PMG					IAmb	IAmb	03 47 55.3
	comp=Z,25nm,1.1s						
WB2	**Warramunga Arr**	**40.20**	**290**	P	**P**	**03 47 52.4**	**-1.4**
WB2					IAmb	IAmb	03 47 53.1
	comp=Z,6.8nm,0.8s						
WRAB	**Tennant Creek**	**40.21**	**290**	P	**P**	**03 47 52.9**	**-1.0**
WRA	**Warramunga Arr**	**40.21**	**290**	P	**P**	**03 47 51.8**	**-2.1**
	comp=Z,4.2nm,0.8s,baz=127,slow=8.4,SNR=28						
WRA					PcP	**PcP**	**03 49 56.0**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=123,slow=3.7,SNR=5.0 comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**40.21**	**290**	P	**P**	**03 47 52.2**	**-1.7**
WB0	**Warramunga Arr**	**40.29**	**291**	P	**P**	**03 47 52.0**	**-2.6**
WRKA	**Warakurna**	**41.42**	**279**	P	**P**	**03 48 02.4**	**-1.4**
MTN	**Manton Dam**	**47.32**	**295**	P	**P**	**03 48 50.4**	**-0.7**
QSPA	**South Pole Qui**	**48.33**	**180**	P	**P**	**03 48 58.8**	**+0.3**
	comp=Z,7.0nm,1.0s,baz=24,slow=4.1,SNR=9.4 comp=Z,7.0nm,1.0s						
QSPA	**South Pole Qui**	**48.33**	**180**	P	**P**	**03 49 00.6**	**+2.1**
QSPA					IAmb	IAmb	03 49 02.6
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**49.72**	**276**	P	**P**	**03 49 08.2**	**-1.3**
PSA00					IAmb	IAmb	03 49 08.8
	comp=Z,11nm,1.5s						
BELA	**Belgrano 2**	**59.29**	**173**	P	**P**	**03 50 18.6**	**+0.3**
BELA					IAmb	IAmb	03 50 56.6
	comp=Z

MQZ	McQueen's Vall	2.05	211	P	Pn	03	44	59.3 -1.2
OXZ	Oxford	2.06	228	Pn	Pn	03	44	59.4 -1.2
OXZ	Oxford	2.06	228	P	Pn	03	45	00.3 -0.3
AKCZ	Akaroa Harbour	2.11	205	P	Pn	03	45	00.8 -0.5
INZ	Inchbonnie	2.13	248	P	Pn	03	45	02.5 +1.0
DVHZ	Dannevirke	2.26	44	P	Pn	03	45	01.7 -1.7
RACZ	Rakaia	2.29	219	P	Pn	03	45	03.3 -0.4
WAZ	Wanganui	2.30	17	P	Pb	03	45	06.9 -0.5
TSZ	Takapari Road	2.35	37	P	Pn	03	45	04.0 -0.6
LREZ	Lake Rotokare	2.51	5	P	Pb	03	45	10.1 -0.9
PRHZ	Porangahau	2.54	49	P	Pn	03	45	06.3 -0.9
NMEZ	Namu Road	2.55	356	P	Pb	03	45	12.3 +0.5
PNHZ	Pukenui	2.58	38	P	Pn	03	45	06.4 -1.3
WPHZ	Waipukurau	2.58	44	P	Pb	03	45	13.5 +1.2
WACZ	Wakanui South	2.60	220	P	Pn	03	45	06.0 -1.9
KHEZ	Kahui Hut	2.66	358	P	Pb	03	45	13.2 -0.5
NEZ	North Egmont	2.69	359	P	Pb	03	45	13.7 -0.4
NBEZ	Newall Road No	2.70	356	P	Pb	03	45	13.2 -1.0
WVZ	Waitaha Valley	2.74	245	P	Pn	03	45	10.7 +0.8
PKE	Pukeiti	2.77	358	P	Pb	03	45	13.7 -1.7
PKVZ	Pokaka	2.82	20	P	Pb	03	45	15.3 -1.1
MOVZ	Moawhango	2.83	26	P	Pb	03	45	16.0 -0.6
WNVZ	Wahianoa	2.86	24	P	Pb	03	45	16.4 -0.7
RPZ	Rata Peaks	2.86	231	Pn	Pn	03	45	11.3 -0.3
	37nm,0.3s,baz=142,slow=0.7,SNR=10							
RPZ				Sn	Sn	03	45	46.1 +0.1
	74nm,0.3s,baz=28,slow=22,SNR=30							
	139nm,0.4s							
RPZ	Rata Peaks	2.86	231	Pn	Pn	03	45	10.7 -0.9
RPZ	Rata Peaks	2.86	231	P	Pn	03	45	11.5 -0.1
TRVZ	Turoa	2.87	23	P	Pb	03	45	15.8 -1.5
BHHZ	Black Hill Sta	2.87	31	P	Pb	03	45	16.9 -0.4
VRZ	Vera Road	2.87	10	P	Pn	03	45	14.7 +3.0
DRZ	Dome Shelter	2.90	23	P	Pb	03	45	17.8 0.0
WHVZ	Whangaehu Hut	2.90	23	P	Pb	03	45	17.4 -0.4
FWVZ	Far West T-bar	2.91	22	P	Pb	03	45	17.0 -1.0
TUVZ	Tukino	2.93	24	P	Pn	03	45	15.1 +2.4
ARCZ	Arundel	2.94	226	P	Pn	03	45	11.0 -1.6
NGZ	Ngauruhoe	3.00	22	P	Pn	03	45	16.3 +2.7
SNVZ	South Ngauruho	3.00	23	P	Pn	03	45	17.0 +3.3
KAHZ	Kahuranaki	3.00	45	P	Pn	03	45	12.5 -1.1
OTVZ	Oturere	3.03	23	P	Pn	03	45	17.0 +3.0
NNVZ	North Ngauruho	3.04	22	P	Pb	03	45	20.3 0.0
WTVZ	West Tongariro	3.05	22	P	Pb	03	45	19.5 -0.9
TWVZ	Taurewa	3.05	20	P	Pb	03	45	18.1 -2.3
ETVZ	East Tongariro	3.07	24	P	Pb	03	45	18.4 -2.2
TMVZ	Te Maari	3.08	23	P	Pb	03	45	18.9 -2.0
KRVZ	Karewarewa	3.09	22	P	Pb	03	45	20.8 -0.1
NTVZ	North Tongarir	3.09	23	P	Pb	03	45	20.1 -1.0
GCSZ	Gaunt Creek Bo	3.11	243	P	Pn	03	45	16.5 +1.5
KATZ	Kakaramea	3.21	22	P	Pb	03	45	22.9 -0.3
RITZ	Rihia Road	3.26	24	P	Pb	03	45	23.5 -0.4
TMZ	Timaru	3.33	222	P	Pn	03	45	18.5 +0.5
HIZ	Hauiti	3.49	9	Pn	Pn	03	45	20.7 +0.5
HIZ	Hauiti	3.49	9	P	Pn	03	45	24.0 +3.8
FOZ	Fox Glacier	3.54	242	Pn	Pn	03	45	22.0 +1.1
LBZ	Lake Benmore	3.77	229	Pn	Pn	03	45	24.1 +0.1
LBZ	Lake Benmore	3.77	229	P	Pn	03	45	24.4 +0.3
TLZ	Tolley Road	3.78	17	P	Pn	03	45	27.8 +3.5
ODZ	Otahua Downs	3.99	218	Pn	Pn	03	45	26.6 -0.5
ODZ	Otahua Downs	3.99	218	P	Pn	03	45	26.6 -0.5
TOZ	Tahuroa Road	4.35	18	P	Pn	03	45	35.3 +3.5
JCZ	Jackson Bay	4.45	240	P	Pn	03	45	34.6 +1.1
HHSZ	Highcliff Hill	4.68	212	P	Pn	03	45	36.1 -0.4
AWAZ	Awhitu Peninsu	4.91	5	P	Pn	03	45	42.6 +2.9
MKAZ	Moumakai	4.92	10	P	Pn	03	45	41.2 +1.4
MXZ	Matakaoa Point	5.45	38	Pn	Pn	03	45	45.6 -1.5
MLZ	Mavora Lakes	5.53	230	Pn	Pn	03	45	48.2 -0.1
SYZ	Scrubby Hill	5.81	216	P	Pn	03	45	52.3 +0.3
WHZ	Wether Hill Ro	5.95	227	Pn	Pn	03	45	53.5 -0.4
OUZ	Omahuta	6.74	356	Pn	Pn	03	46	05.5 +0.6
PYZ	Puysegur Point	6.81	229	Pn	Pn	03	46	05.5 -0.3
PYZ	Puysegur Point	6.81	229	P	Pn	03	46	07.6 +1.7
CTZ	Chatham Island	7.03	108	P	Pn	03	46	07.3 -1.5
AS31	Alice Springs	38.00	286	P	P	03	51	42.8 -1.3
AS31				IAmb	IAmb	03	51	45.5
	comp=Z,1.2nm,1.1s							
ASAR	Alice Springs	38.00	286	P	P	03	51	42.2 -2.0
	comp=Z,1.0nm,0.5s,baz=126,slow=7.0,SNR=9.3							
	comp=Z,1.0nm,0.5s							
ASAR	Alice Springs	38.00	286	P	P	03	51	43.7 -0.4
WB2	Warramunga Arr	40.08	291	P	P	03	52	00.2 -1.4
WB2				IAmb	IAmb	03	52	02.8
	comp=Z,3.5nm,0.9s							
WRA	Warramunga Arr	40.09	291	P	P	03	51	59.6 -2.1
	comp=Z,1.1nm,0.8s,baz=128,slow=8.0,SNR=10							
	comp=Z,1.1nm,0.8s							
WRA	Warramunga Arr	40.09	291	P	P	03	52	00.2 -1.4
WB0	Warramunga Arr	40.17	291	P	P	03	52	00.3 -2.1
WB0				IAmb	IAmb	03	52	38.2
	comp=Z,6.6nm,1.2s							
QSPA	South Pole Qui	48.17	180	P	P	03	53	06.8 +0.8
	comp=Z,3.4nm,0.9s,baz=3.1,slow=3.3,SNR=6.8							
	comp=Z,3.4nm,0.9s							
QSPA	South Pole Qui	48.17	180	P	P	03	53	05.9 -0.2
PSA00	Pilbara Seismi	49.55	277	P	P	03	53	15.6 -1.5
PSA00				IAmb	IAmb	03	53	20.9
	comp=Z,4.0nm,1.0s							
BELA	Belgrano 2	59.15	173	P	P	03	54	26.6 +0.5
BELA				IAmb	IAmb	03	54	37.1
	comp=Z,2.7nm,1.1s							
CMAR	Chiang Mai Arr	91.64	293	P	P	03	57	33.0 -0.4
	comp=Z,1.6nm,0.3s,baz=154,slow=3.4,SNR=5.6							
	comp=Z,1.6nm,0.3s							
BRTR	Keskin Array B	150.20	279	PKPbc	PKPbc	04	04	16.3 -0.7
	comp=Z,0.5nm,0.7s,baz=126,slow=4.0,SNR=1.4							
FINES	FINESS Array B	152.66	326	PKPbc	PKPdf	04	04	19.0 +4.4
	comp=Z,1.4nm,0.8s,baz=46,slow=5.5,SNR=3.5							

WEL 14 03:47:05.5±0.7, 42°S±5°×17°4E±°, h6km±4km, M3.3/13, ML3.6/13, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=164.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.17	5	P	Pg	03 47 10.4	+1.5
BSWZ	Blackbirch Sta	0.31	310	P	Pg	03 47 12.1	+0.5
BSWZ				S	Sg	03 47 16.6	+0.8
TUWZ	Tuamarina	0.52	339	P	Pg	03 47 16.2	+0.6
TCW	Tory Channel	0.71	5	P	Pg	03 47 18.6	-0.5
BHW	Baring Head	0.72	45	P	Pg	03 47 18.8	-0.5
WEL	Wellington	0.77	34	P	Pg	03 47 19.5	-0.7
PLWZ	Palliser	0.87	67	P	Pg	03 47 22.5	+0.4
NNZ	Nelson	0.93	319	P	Pg	03 47 23.4	+0.1
MSWZ	Moikau Station	0.94	58	P	Pg	03 47 23.1	-0.3
THZ	Tophouse	0.98	279	P	Pb	03 47 24.6	-0.2
THZ				S	Sb	03 47 38.3	+0.3
CAW	Cannon Point	1.04	39	P	Pg	03 47 24.4	-1.1
PAWZ	Paruwai Farm	1.07	60	P	Pg	03 47 25.1	-0.9
DUWZ	D'Urville Isla	1.14	349	P	Pg	03 47 27.2	-0.1
KIW	Kapiti Island	1.19	27	P	Pg	03 47 26.9	-1.4
MRNZ	Matariki Terra	1.20	295	P	Pn	03 47 28.8	+0.1
MTW	Mount Morrison	1.24	53	P	Pg	03 47 27.4	-1.9
TKNZ	Takaka Hill	1.28	313	P	Pn	03 47 29.8	-0.1
OGWZ	Otaki Gorge	1.32	34	P	Pn	03 47 29.1	-1.4
GVZ	Greta Valley S	1.35	219	P	Pn	03 47 30.5	-0.4
HOWZ	Holdsworth Sta	1.42	45	P	Pn	03 47 30.1	-1.8
TMWZ	Te Maipa	1.51	58	P	Pn	03 47 31.0	-2.1
MRZ	Mangatainoka R	1.63	40	P	Pn	03 47 32.9	-1.8
QRZ	Quartz Range	1.66	311	P	Pn	03 47 32.8	-2.3
LTZ	Lake Taylor	1.67	238	P	Pn	03 47 35.6	+0.4
AMCZ	Amberley	1.70	222	P	Pg	03 47 38.9	+0.9
DSZ	Denniston Nort	1.79	275	P	Pb	03 47 39.0	+0.3
PRWZ	Pori Road	1.91	45	P	Pn	03 47 37.6	-0.9
BFZ	Birch Farm	1.98	52	P	Pn	03 47 38.3	-1.2
OKCZ	Okains Bay	1.99	204	P	Pn	03 47 38.9	-0.7
INZ	Inchbonnie	2.19	248	P	Pn	03 47 43.5	+1.1
DVHZ	Dannevirke	2.20	43	P	Pn	03 47 41.0	-1.5
WAZ	Wanganui	2.24	18	P	Pb	03 47 45.0	-0.8
PNHZ	Pukenui	2.52	38	P	Pn	03 47 45.8	-1.1
NBEZ	Newall Road No	2.66	355	P	Pb	03 47 53.2	-0.3
MOVZ	Moawhango	2.78	26	P	Pn	03 47 51.1	+0.6
WNVZ	Wahianoa	2.80	23	P	Pn	03 47 53.1	+2.1
WVZ	Waitaha Valley	2.81	245	P	Pb	03 47 54.6	-1.3
BHHZ	Black Hill Sta	2.81	31	P	Pb	03 47 56.6	+0.5
VRZ	Vera Road	2.83	9	P	Pn	03 47 52.8	+1.8
WHVZ	Whangaehu Hut	2.84	22	P	Pn	03 47 52.4	+0.9
FWVZ	Far West T-bar	2.85	22	P	Pn	03 47 52.8	+1.0
TUVZ	Tukino	2.87	23	P	Pb	03 47 57.3	+0.1
NGZ	Ngauruhoe	2.94	22	P	Pb	03 47 56.1	-2.2
SNVZ	South Ngauruho	2.94	22	P	Pn	03 47 53.9	+1.1
OTVZ	Oturere	2.97	23	P	Pb	03 47 57.7	-1.2
NNVZ	North Ngauruho	2.99	22	P	Pn	03 47 55.5	+2.0
WTVZ	West Tongariro	3.00	21	P	Pb	03 47 57.8	-1.5
ETVZ	East Tongariro	3.01	23	P	Pb	03 47 58.2	-1.3
TMVZ	Te Maari	3.03	23	P	Pb	03 47 59.3	-0.5
KRVZ	Karewarewa	3.03	22	P	Pb	03 47 58.8	-1.0
NTVZ	North Tongarir	3.04	22	P	Pn	03 47 54.8	+0.7
HIZ	Hauiti	3.44	9	P	Pn	03 48 02.6	+3.1
AWAZ	Awhitu Peninsu	4.86	4	P	Pn	03 48 22.1	+3.0

IDC 14 03:54:34.2±4.6, 21°12N×117°67W, h0km, mb3.8/3, mbtmp3.6/6, ML3.1/3, MS3.2/1, Error ellipse: s-maj=78.8km s-min=59.4km az=168.0

ISC 14 03:54:36.3±4.1, 21°2N±0°5×117°8W±0°2, h10km, n7, σ0s22/6, mb3.8/3, Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	7.47	66	LR	LR	03 58 36.2	
	comp=Z,177nm,18.1s,baz=350,slow=33						
TXAR	Lajitas Array	15.10	55	Pn	Pn	03 58 10.0	+0.1
	baz=238,slow=14,SNR=5.4						
	0.5nm,0.8s						
NVAR	Mina Array Bea	17.16	359	P	P	03 58 38.4	+0.2
	0.1nm,0.3s,baz=181,slow=12,SNR=4.0						
	0.5nm,0.9s						
ELK	Elko	19.59	6	P	P	03 59 04.8	0.0
	baz=192,slow=10,SNR=4.1						
	0.8nm,0.8s						
PDAR	Pinedale Array	22.57	16	P	P	03 59 36.8	-0.3
	1.1nm,0.8s,baz=195,slow=8.6,SNR=8.3						
	1.1nm,0.8s						
ILAR	Eielson Array	47.59	344	P	P	04 03 11.9	-0.1
	0.8nm,0.9s,baz=156,slow=8.2,SNR=8.7						
	0.8nm,0.9s						
ARCES	ARCESS Array B	85.77	12	P	P	04 07 15.6	+0.1
	4.1nm,0.9s,baz=321,slow=7.0,SNR=2.1						
	4.1nm,0.9s						

WEL 14 03:54:54.6±0.5, 42°S±4°×17°4E±°, h18km±5km, M2.8/13, ML3.7/10, MLv2.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=102.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.04	164	P	Pg	03 54 58.4	+0.6
BSWZ	Blackbirch Sta	0.24	270	P	Pb	03 55 00.8	+0.4
BSWZ				S	Sb	03 55 06.9	+2.6
TUWZ	Tuamarina	0.34	326	P	Pb	03 55 03.0	+0.8
TUWZ				S	Sn	03 55 09.4	-1.8
TCW	Tory Channel	0.51	6	P	Pb	03 55 05.4	+0.4
TCW				S	Sb	03 55 13.5	+1.5
WEL	Wellington	0.60	45	P	Pb	03 55 06.9	+0.3
WEL				S	Sn	03 55 16.9	-0.8
PLWZ	Palliser	0.80	80	P	Pb	03 55 09.7	-0.4
MSWZ	Moikau Station	0.84	70	P	Pg	03 55 10.9	-0.1
CAW	Cannon Point	0.89	47	P	Pb	03 55 11.6	+0.1
THZ	Tophouse	0.97	267	P	Pb	03 55 13.0	0.0
KIW	Kapiti Island	1.01	32	P	Pg	03 55 14.4	+0.2
MTW	Mount Morrison	1.12	61	P	Pn	03 55 14.7	-0.7
OGWZ	Otaki Gorge	1.16	39	P	Pb	03 55 16.2	+0.1
MRZ	Mangatainoka R	1.48	45	P	Pb	03 55 21.3	-0.3
GVZ	Greta Valley S	1.52	214	P	Pn	03 55 17.1	-3.8
LTZ	Lake Taylor	1.79	233	P	Pn	03 55 21.0	-3.7
OKCZ	Okains Bay	2.18	202	P	Pn	03 55 26.1	-3.9
OXZ	Oxford	2.27	224	P	Pn	03 55 26.3	-5.0
INZ	Inchbonnie	2.28	243	P	Pn	03 55 28.6	-2.8
MQZ	McQueen's Vall	2.29	209	P	Pn	03 55 26.4	-5.2
MQZ				S	Sn	03 55 47.0	-12
AKCZ	Akaroa Harbour	2.36	203	P	Pn	03 55 28.3	-4.1
AKCZ				S	Sn	03 55 49.7	-11
RACZ	Rakaia	2.52	216	P	Pn	03 55 29.3	-5.3
JCZ	Jackson Bay	4.62	238	P	Pn	03 55 58.7	-4.9

WEL 14 03:55:37.6±0.5, 42°S±3°×17°4E±°, h5km, M3.8/9, ML4.1/9, MLv3.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=146.1

IDC 14 03:55:37.1±3.3, 42°18S×173°37E, h0km, mb3.7/2, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=68.7km s-min=32.1km az=122.0

ISC 14 03:55:37.2±1.1, 42°37S±0°04×173°87E±0°03, h13km±7km, n30, σ1s14/43, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.25	258	P	Pg	03 55 42.9	+0.4
KHZ				S	Sg	03 55 46.5	+0.5
BSWZ	Blackbirch Sta	0.65	1	P	Pg	03 55 49.7	-0.2
BSWZ				S	Sg	03 55 57.9	-0.6
THZ	Tophouse	0.94	310	P	Pg	03 55 53.9	-1.4
TUWZ	Tuamarina	0.94	3	P	Pg	03 55 55.1	-0.2
TUWZ				S	Sb	03 56 08.8	+1.1
TCW	Tory Channel	1.20	15	P	Pg	03 55 59.5	-0.7
TCW				S	Sb	03 56 15.9	+0.8
NNZ	Nelson	1.21	342	P	Pg	03 55 58.8	-1.6
WEL	Wellington	1.27	32	P	Pg	03 56 00.7	-1.0
WEL				S	Sg	03 56 17.9	-0.3
PLWZ	Palliser	1.31	53	P	Pn	03 56 01.5	+0.3
PLWZ				S	Sb	03 56 19.4	+1.1
MSWZ	Moikau Station	1.40	48	P	Pn	03 56 00.9	-1.7
MSWZ				S	Sb	03 56 21.6	+0.5
TKNZ	Takaka Hill	1.50	333	P	Pn	03 56 04.0	+0.2
TKNZ				S	Sb	03 56 24.5	+0.8
PAWZ	Paruwai Farm	1.52	50	P	Pn	03 56 04.0	-0.2
PAWZ				S	Sg	03 56 26.3	+0.1
CAW	Cannon Point	1.55	36	S	Sn	03 56 25.7	+1.2
DUWZ	D'Urville Isla	1.56	2	P	Pn	03 56 05.2	+0.5
DUWZ				S	Sg	03 56 27.3	-0.2
DSZ	Denniston Nort	1.66	291	P	Pn	03 56 06.3	+0.3
DSZ				S	Sn	03 56 28.6	+1.4
TRWZ	Traveller	1.67	55	S	Sn	03 56 28.2	+0.8
KIW	Kapiti Island	1.69	28	S	Sb	03 56 30.3	+0.8
INZ	Inchbonnie	1.83	258	P	Pn	03 56 08.6	+0.2
OGWZ	Otaki Gorge	1.83	33	S	Sn	03 56 32.8	+1.3
QRZ	Quartz Range	1.84	326	P	Pn	03 56 09.4	+0.9
QRZ				S	Sn	03 56 32.6	+1.0
RPZ	Rata Peaks	2.46	236	Pn	Pn	03 56 16.4	-0.7
	18nm,0.3s,baz=309,slow=4.7,SNR=13						
RPZ				Sn	Sn	03 56 45.8	-1.3
	12nm,0.3s,baz=156,slow=23,SNR=11						
	77nm,0.5s						
RPZ	Rata Peaks	2.46	236	P	Pn	03 56 16.9	-0.3
ARCZ	Arundel	2.52	230	P	Pn	03 56 17.8	-0.2
GCSZ	Gaunt Creek Bo	2.77	249	P	Pn	03 56 22.4	+1.0
TMZ	Timaru	2.90	225	P	Pn	03 56 25.3	+2.1
VRZ	Vera Road	3.31	12	P	Pn	03 56 30.2	+1.4
OTVZ	Oturere	3.48	24	P	Pn	03 56 33.8	+2.6
ODZ	Otahua Downs	3.55	220	P	Pn	03 56 34.1	+2.0
ASAR	Alice Springs	37.93	287	P	P	04 02 52.2	-2.2
	0.4nm,0.8s,baz=130,slow=7.5,SNR=8.6						
	0.4nm,0.6s						
WRA	Warramunga Arr	40.06	292	P	P	04 03 10.8	-1.5
	1.6nm,0.8s,baz=129,slow=8.0,SNR=13						
	1.6nm,0.8s						
ARCES	ARCESS Array B	148.26	339	PKPbc	PKPbc	04 15 22.3	+0.5
	5.3nm,1.0s,baz=57,slow=3.3,SNR=4.4						

WEL 14 04:01:22.9±0.3, 42°S±2°×17°3E±°, h5km, M3.5/11, ML3.7/11, MLv3.5/11, Error ellipse: s-maj=0.0km s-min=0.0km az=118.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.39	81	P	Pg	04 01 30.7	+0.2
KHZ				S	Sg	04 01 36.8	+1.1
GVZ	Greta Valley S	0.49	178	P	Pg	04 01 32.7	+0.4
GVZ				S	Sb	04 01 40.3	-1.2
LTZ	Lake Taylor	0.63	241	P	Pg	04 01 35.0	0.0
LTZ				S	Sg	04 01 43.8	+0.7
THZ	Tophouse	0.72	354	P	Pg	04 01 37.2	+0.5
THZ				S	Sg	04 01 46.5	+0.5
AMCZ	Amberley	0.75	201	P	Pg	04 01 37.7	+0.5
MRNZ	Matariki Terra	1.09	350	P	Pg	04 01 43.8	-0.1
OXZ	Oxford	1.11	220	P	Pg	04 01 43.1	-1.0
DSZ	Denniston Nort	1.16	309	P	Pb	04 01 45.6	+0.1
INZ	Inchbonnie	1.18	257	P	Pg	04 01 44.9	-0.7
OKCZ	Okains Bay	1.25	178	P	Pg	04 01 44.9	-1.9
TUWZ	Tuamarina	1.26	34	P	Pg	04 01 46.2	-0.7
NNZ	Nelson	1.29	12	P	Pn	04 01 46.8	-0.7
AKCZ	Akaroa Harbour	1.40	183	P	Pn	04 01 46.3	-2.7
RACZ	Rakaia	1.40	207	P	Pn	04 01 46.7	-2.4
TKNZ	Takaka Hill	1.44	358	P	Pb	04 01 50.1	-0.1
TCW	Tory Channel	1.58	37	P	Pn	04 01 51.8	+0.3
QRZ	Quartz Range	1.69	347	S	Sb	04 02 15.6	-0.4
WVZ	Waitaha Valley	1.78	250	P	Pn	04 01 53.7	-0.6
RPZ	Rata Peaks	1.89	229	P	Pn	04 01 53.9	-2.0
ARCZ	Arundel	1.99	222	P	Pn	04 01 55.0	-2.2
GCSZ	Gaunt Creek Bo	2.14	246	P	Pn	04 01 59.4	+0.1
FOZ	Fox Glacier	2.57	245	P	Pn	04 02 05.4	+0.2
LBZ	Lake Benmore	2.81	226	P	Pn	04 02 06.5	-1.9
ODZ	Otahua Downs	3.09	213	P	Pn	04 02 09.7	-2.5
JCZ	Jackson Bay	3.47	241	P	Pn	04 02 17.9	+0.3

IDC 14 04:04:31.8±0.7, 6°79N×72°94W, h157km±9km, mb3.3/6, mbtmp4.0/10, MS3.6/1, Error ellipse: s-maj=26.5km s-min=7.2km az=132.0

RSNC 14 04:04:33.0±1.0, 6°77N×73°12W, h143km±4km, ML3.6, Mw3.9

ISC 14 04:04:31.5±0.7, 6°84N±0°03×73°10W±0°04, h151km±6km, n46, σ1s85/81, mb3.4/6, 1C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	200	⇓iP	Pn	04 04 52.4	+0.1
BARC				eS	Sn	04 05 06.8	-1.4
BARC				IAML		04 05 08.1	
	comp=Z,1µm,0.3s						
PAMC	Pamplona, Colo	0.64	38	eP	Pn	04 04 55.3	+1.0
PAMC				eS	Sn	04 05 12.0	+0.4
PAMC				IAML		04 05 15.3	
	comp=Z,805nm,0.4s						
BRRC	Barranca, Sant	0.67	294	⇓iP	Pn	04 04 54.3	+0.4
BRRC				eS	Sn	04 05 11.2	+0.2
BRRC				IAML		04 05 14.2	
	comp=Z,562nm,0.2s						
TAMC	Tame, Arauca	1.35	107	⇓iP	Pn	04 05 00.8	+1.1
TAMC				eS	Sn	04 05 21.1	-0.1
TAMC				IAML		04 05 22.8	
	comp=Z,427nm,0.3s						
PTBC	PUERTO BERRIO,	1.38	258	eP	Pn	04 04 59.0	-0.9
PTBC				eS	Sn	04 05 19.3	-2.3
PTBC				IAML		04 05 24.0	
	comp=Z,480nm,0.2s						
ZARC	Zaragoza, Cauc	1.87	291	eP	Pn	04 05 05.5	+0.3
ZARC				eS	Sn	04 05 31.1	+0.1
ZARC				IAML		04 05 37.2	
	comp=Z,426nm,0.3s						
NORC	Norcasia	2.17	234	eP	Pn	04 05 08.5	-0.3
NORC				eS	Sn	04 05 35.7	-1.6
NORC				IAML		04 05 42.2	
	comp=Z,424nm,0.4s						
CHIC	Chingaza	2.28	196	eP	Pn	04 05 10.6	+0.2
CHIC				eS	Sn	04 05 39.4	-1.0
CHIC				IAML		04 05 43.0	
	comp=Z,197nm,0.3s						
ROSC	El Rosal	2.33	212	P	Pn	04 05 12.8	+1.9
	comp=Z,135nm,0.3s,baz=346,slow=2.3,SNR=170						
ROSC				S	Sn	04 05 43.5	+2.2
	comp=Z,331nm,0.4s,baz=41,slow=21,SNR=15						
ROSC	El Rosal	2.33	212	eP	Pn	04 05 12.3	+1.4
ROSC				eS	Sn	04 05 42.9	+1.6
ROSC				IAML		04 05 47.1	
	comp=Z,411nm,0.4s						
UREC	San Jos de Ur	2.58	291	eP	Pn	04 05 12.8	-0.9
UREC				eS	Sn	04 05 44.9	-1.4
UREC				IAML		04 05 56.6	
	comp=Z,249nm,0.2s						
LL1C	La Loma 1 Cana	2.73	350	eP	Pn	04 05 17.6	+2.1
LL1C				eS	Sn	04 05 52.5	+3.0
LL1C				IAML		04 06 03.8	
	comp=Z,454nm,0.4s						
PTGC	Puerto Gaitan,	2.79	160	⇓iP	Pn	04 05 15.6	-0.7
PTGC				eS	Sn	04 05 47.8	-3.1
PTGC				IAML		04 05 51.4	
	comp=Z,273nm

comp=Z,0.7nm,0.6s,baz=130,slow=9.1,SNR=12
TXAR PcP **PcP** **04 13 44.3 +1.3**
comp=Z,0.2nm,0.9s,baz=139,slow=4.6,SNR=3.5
comp=Z,0.7nm,0.6s
SADO Sadowa 38.15 353 LR LR 04 29 20.3
comp=Z,87nm,18.2s,baz=35,slow=39
ULM Lac du Bonnet 47.28 340 P **P** **04 12 49.6 +0.1**
comp=Z,3.0nm,0.5s,baz=153,slow=7.7,SNR=2.7
comp=Z,3.0nm,0.5s
PDAR Pinedale Array 48.08 324 P **P** **04 12 56.9 +0.7**
comp=Z,0.3nm,0.5s,baz=127,slow=9.0,SNR=5.1
comp=Z,0.3nm,0.5s
NVAR Mina Array Bea 51.49 315 P **P** **04 13 23.0 +1.1**
comp=Z,0.2nm,0.5s,baz=123,slow=7.9,SNR=4.0
comp=Z,0.2nm,0.5s
YKA Yellowknife Ar 63.26 340 P **P** **04 14 44.0 +0.3**
comp=Z,1.9nm,0.6s,baz=134,slow=6.2,SNR=6.7
comp=Z,1.9nm,0.6s
ILAR Eielson Array 76.96 335 P **P** **04 16 07.5 +0.3**
comp=Z,0.3nm,0.7s,baz=94,slow=5.1,SNR=4.6
comp=Z,0.3nm,0.7s
ASAR Alice Springs 149.14 234 PKPbc **PKPbc** **04 24 02.0 -1.0**
comp=Z,0.7nm,0.5s,baz=118,slow=3.5,SNR=8.3
WRA Warramunga Arr 150.37 241 PKPbc **PKPbc** **04 24 05.2 -0.8**
comp=Z,0.6nm,0.4s,baz=108,slow=2.6,SNR=15

WEL ***14*** *04:05:00,42.˚31S×173.˚66E,h11km,ML4.7,Mw4.6, Moment Tensor Solution. s9 Moment tensor: Scale 10^{15} Nm; M_{rr}-0.35; $M_{\theta\theta}$7.35; $M_{\phi\phi}$-7.00; $M_{r\theta}$1.71; $M_{\theta\phi}$-2.39; $M_{\phi r}$3.49; Fault plane solution: M_o8.45000×10^{15} NP1: ϕ_s142.00000˚,δ67.00000˚,λ-11.00000˚. NP2: ϕ_s236.00000˚,δ80.00000˚,λ-157.00000˚. Principal axes: T 791.0100, Plg9.0000˚, Azm7.0000˚; N -899.9100, Plg65.0000˚, Azm257.0000˚; P 108.8900, Plg23.0000˚, Azm101.0000˚;*

IDC ***14*** *04:05:44.3±0.9,42.˚22S×173.˚70E,h0km,mb4.1/6, mbtmp4.2/7,ML4.2/1,MS4.1/1 Error ellipse: s-maj=29.9km s-min=23.3km az=54.0*

NEIC ***14*** *04:05:45.7±1.3,42.˚39S±0.˚05×173.˚86E±0.˚06,h13km±4km, mb4.5/12,Mwr4.5/34,ML4.7(WEL),Error ellipse: s-maj=8.2km s-min=4.7km az=143.0*

NEIC ***14*** *04:05:46,42.˚38S×173.˚83E,h8km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.83; $M_{\theta\theta}$1.59; $M_{\phi\phi}$-7.42; $M_{r\theta}$2.51; $M_{\theta\phi}$-1.49; $M_{\phi r}$-3.16; Fault plane solution: M_o8.02000×10^{15} NP1:ϕ_s34.06000˚, δ39.85000˚,λ131.21000˚. NP2:ϕ_s165.29000˚,δ61.18000˚, λ61.19000˚. Principal axes: T 7.7979, Plg62.0000˚, Azm29.0000˚; N 0.4248, Plg25.0000˚, Azm180.0000˚; P -8.2227, Plg12.0000˚, Azm276.0000˚;*

WEL ***14*** *04:05:47.5±0.4,42.˚5S×17.˚4E±,h7km±3km,M4.8/11, ML5.1/11,MLv4.8/11 Error ellipse: s-maj=0.0km s-min=0.0km az=118.0*

ISC 14 04:05:46.7±1.1,42.˚35S±0.˚03×173.˚77E±0.˚03,h16km±6km, n177,σ1§19/193,mb4.5/12,South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**249**	P	Pg	**Pb**	**04 05 51.5**	**-0.1**
KHZ					Sg	**Sb**	**04 05 54.2**	**-0.7**
KHZ	**Kahutara**	**0.18**	**249**	P	P	**Pb**	**04 05 51.5**	**-0.1**
KHZ					S	**Sb**	**04 05 54.3**	**-0.7**
BSWZ	**Blackbirch Sta**	**0.64**	**7**	Pg	Pg	**Pb**	**04 05 59.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.64**	**7**	P	Pb	**Pb**	**04 05 59.0**	**-0.4**
BSWZ					S	**Sb**	**04 06 08.0**	**-0.2**
CMWZ	**Cape Campbell**	**0.69**	**29**			**Pn**	**04 06 01.9**	**+0.2**
CMWZ	**Cape Campbell**	**0.69**	**29**	P	P	**Pn**	**04 06 02.0**	**+0.3**
CMWZ					S	**Sn**	**04 06 14.2**	**+2.1**
GVZ	**Greta Valley S**	**0.82**	**221**	Pg	Pg	**Pn**	**04 06 03.8**	**+0.3**
GVZ	**Greta Valley S**	**0.82**	**221**	P	Pn	**Pn**	**04 06 04.2**	**+0.7**
GVZ					S	**Sn**	**04 06 15.9**	**+0.6**
THZ	**Tophouse**	**0.87**	**312**	Pn	Pb	**Pb**	**04 06 02.0**	**-1.4**
THZ	**Tophouse**	**0.87**	**312**	P	Pb	**Pb**	**04 06 02.3**	**-1.1**
THZ					S	**Sb**	**04 06 12.6**	**-2.2**
TUWZ	**Tuamarina**	**0.93**	**8**	Pn	Pb	**Pb**	**04 06 04.0**	**-0.4**
TUWZ	**Tuamarina**	**0.93**	**8**	P	Pb	**Pb**	**04 06 04.6**	**+0.2**
TUWZ					S	**Sn**	**04 06 18.7**	**+0.7**
AMCZ	**Amberley**	**1.16**	**224**	P	Pn	**Pn**	**04 06 08.8**	**+0.4**
NNZ	**Nelson**	**1.17**	**346**			**Pn**	**04 06 07.3**	**-1.1**
NNZ	**Nelson**	**1.17**	**346**	P	Pn	**Pn**	**04 06 07.7**	**-0.7**
NNZ					S	**Sb**	**04 06 23.4**	**0.0**
LTZ	**Lake Taylor**	**1.18**	**248**	Pn	Pn	**Pn**	**04 06 08.2**	**-0.4**
LTZ	**Lake Taylor**	**1.18**	**248**	P	Pn	**Pn**	**04 06 08.8**	**+0.1**
LTZ					S	**Sb**	**04 06 24.0**	**+0.1**
TCW	**Tory Channel**	**1.20**	**19**	P	Pn	**Pn**	**04 06 09.1**	**+0.2**
TCW					S	**Sb**	**04 06 23.7**	**-0.7**
MRNZ	**Matariki Terra**	**1.21**	**321**	P	Pn	**Pn**	**04 06 08.7**	**-0.2**
MRNZ					S	**Sb**	**04 06 23.7**	**-1.0**
SNZO	**South Karori**	**1.26**	**34**			**Pn**	**04 06 09.9**	**+0.4**
WEL	**Wellington**	**1.30**	**35**	P	Pn	**Pn**	**04 06 10.7**	**+0.5**
WEL					S	**Sn**	**04 06 26.0**	**-1.3**
PLWZ	**Palliser**	**1.36**	**55**	Pn	Pn	**Pn**	**04 06 10.1**	**-0.9**
PLWZ	**Palliser**	**1.36**	**55**	P	Pn	**Pn**	**04 06 11.2**	**+0.2**
TKNZ	**Takaka Hill**	**1.45**	**335**	P	Pn	**Pn**	**04 06 12.7**	**+0.5**
TKNZ					S	**Sn**	**04 06 29.4**	**-1.5**
MSWZ	**Moikau Station**	**1.45**	**50**	Pn	Pn	**Pn**	**04 06 12.0**	**-0.2**
MSWZ	**Moikau Station**	**1.45**	**50**	P	Pn	**Pn**	**04 06 12.5**	**+0.2**
OKCZ	**Okains Bay**	**1.47**	**200**	P	Pn	**Pn**	**04 06 12.8**	**+0.3**
DUWZ	**D'Urville Isla**	**1.55**	**4**	P	Pn	**Pn**	**04 06 14.4**	**+0.7**
DUWZ					S	**Sn**	**04 06 31.6**	**-1.8**
PAWZ	**Paruwai Farm**	**1.57**	**53**	P	Pn	**Pn**	**04 06 13.9**	**-0.1**
CAW	**Cannon Point**	**1.58**	**39**	P	Pn	**Pn**	**04 06 14.4**	**+0.4**
MQZ	**McQueen's Vall**	**1.58**	**211**	Pn	Pn	**Pn**	**04 06 13.0**	**-1.0**
MQZ	**McQueen's Vall**	**1.58**	**211**	P	Pn	**Pn**	**04 06 13.2**	**-0.8**
DSZ	**Denniston Nort**	**1.58**	**292**	P	Pn	**Pn**	**04 06 14.6**	**+0.5**
DSZ					S	**Sb**	**04 06 35.0**	**-0.2**
OXZ	**Oxford**	**1.60**	**232**	Pn	Pn	**Pn**	**04 06 13.6**	**-0.7**
OXZ	**Oxford**	**1.60**	**232**	P	Pn	**Pn**	**04 06 13.7**	**-0.6**
OXZ					S	**Sn**	**04 06 33.7**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.64**	**202**	P	Pn	**Pn**	**04 06 14.9**	**-0.1**
KIW	**Kapiti Island**	**1.72**	**30**	P	Pn	**Pn**	**04 06 16.6**	**+0.6**
KIW					S	**Sn**	**04 06 36.8**	**-0.7**
TRWZ	**Traveller**	**1.72**	**57**	P	Pn	**Pn**	**04 06 15.7**	**-0.3**
INZ	**Inchbonnie**	**1.75**	**257**	P	Pn	**Pn**	**04 06 16.7**	**+0.3**
INZ					S	**Sn**	**04 06 36.2**	**-2.2**
MTW	**Mount Morrison**	**1.76**	**48**	P	Pn	**Pn**	**04 06 16.4**	**-0.2**
QRZ	**Quartz Range**	**1.79**	**328**	Pn	Pn	**Pn**	**04 06 17.0**	**+0.1**
QRZ	**Quartz Range**	**1.79**	**328**	P	Pn	**Pn**	**04 06 18.0**	**+1.2**
QRZ					S	**Sn**	**04 06 38.7**	**-0.5**
RACZ	**Rakaia**	**1.82**	**220**	P	Pn	**Pn**	**04 06 16.7**	**-0.6**
OGWZ	**Otaki Gorge**	**1.86**	**35**	P	Pn	**Pn**	**04 06 18.1**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.96**	**43**	P	Pn	**Pn**	**04 06 19.0**	**-0.2**
MHCZ	**Mount Hutt**	**2.00**	**233**	P	Pn	**Pn**	**04 06 19.4**	**-0.5**
TMWZ	**Te Maipa**	**2.02**	**53**	P	Pn	**Pn**	**04 06 19.7**	**-0.4**
WACZ	**Wakanui South**	**2.12**	**221**	P	Pn	**Pn**	**04 06 21.2**	**-0.2**
MRZ	**Mangatainoka R**	**2.17**	**39**	Pn	Pn	**Pn**	**04 06 21.2**	**-0.9**
MRZ	**Mangatainoka R**	**2.17**	**39**	P	Pn	**Pn**	**04 06 21.9**	**-0.2**
TIWZ	**Tintock**	**2.24**	**46**	P	Pn	**Pn**	**04 06 23.6**	**+0.5**
CPWZ	**Castlepoint**	**2.33**	**53**	P	Pn	**Pn**	**04 06 25.0**	**-0.3**
CPWZ					P	**Pn**	**04 06 24.0**	**-0.3**
WVZ	**Waitaha Valley**	**2.35**	**251**	P	Pn	**Pn**	**04 06 24.9**	**+0.4**
RPZ	**Rata Peaks**	**2.41**	**235**	Pn	Pn	**Pn**	**04 06 24.4**	**-1.0**
	51nm,0.3s,baz=217,slow=0.4,SNR=29							
RPZ					Sn	**Sn**	**04 06 53.3**	**-1.3**
	216nm,0.3s,baz=158,slow=23,SNR=31							
	321nm,0.5s							
RPZ	**Rata Peaks**	**2.41**	**235**	Pn	Pn	**Pn**	**04 06 23.8**	**-1.6**
RPZ	**Rata Peaks**	**2.41**	**235**	P	Pn	**Pn**	**04 06 25.0**	**-0.5**
OHWZ	**Ohakea**	**2.44**	**29**	P	Pn	**Pn**	**04 06 27.6**	**+1.8**
PRWZ	**Pori Road**	**2.44**	**43**	P	Pn	**Pn**	**04 06 25.4**	**-0.5**
POWZ	**Post Office Ro**	**2.47**	**38**	P	Pn	**Pn**	**04 06 26.0**	**-0.3**
ARCZ	**Arundel**	**2.48**	**229**	P	Pn	**Pn**	**04 06 25.6**	**-0.6**
BFZ	**Birch Farm**	**2.50**	**49**	Pn	Pn	**Pn**	**04 06 25.4**	**-1.3**
BFZ	**Birch Farm**	**2.50**	**49**	P	Pn	**Pn**	**04 06 25.8**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.71**	**248**	P	Pn	**Pn**	**04 06 30.5**	**+1.0**
DVHZ	**Dannevirke**	**2.73**	**42**	P	Pn	**Pn**	**04 06 28.8**	**-1.1**
WAZ	**Wanganui**	**2.75**	**20**	P	Pn	**Pn**	**04 06 32.2**	**+2.1**
ANWZ	**Angora Road**	**2.78**	**48**	P	Pn	**Pn**	**04 06 29.6**	**-0.9**
TSZ	**Takapari Road**	**2.83**	**37**	P	Pn	**Pn**	**04 06 30.7**	**-0.5**
TMZ	**Timaru**	**2.86**	**224**	P	Pn	**Pn**	**04 06 31.3**	**-0.3**
LREZ	**Lake Rotokare**	**2.93**	**10**	P	Pb	**Pb**	**04 06 37.0**	**-1.5**
NMEZ	**Namu Road**	**2.94**	**2**	P	Pb	**Pb**	**04 06 36.8**	**-1.8**
PRHZ	**Porangahau**	**3.00**	**47**	P	Pn	**Pn**	**04 06 33.1**	**-0.5**
WPHZ	**Waipukurau**	**3.05**	**42**	P	Pn	**Pn**	**04 06 34.7**	**+0.4**
PNHZ	**Pukenui**	**3.05**	**38**	P	Pn	**Pn**	**04 06 33.5**	**-0.8**
KHEZ	**Kahui Hut**	**3.06**	**4**	P	Pb	**Pb**	**04 06 38.5**	**-2.3**
NBEZ	**Newall Road No**	**3.08**	**1**	P	Pn	**Pn**	**04 06 36.9**	**+2.3**
NEZ	**North Egmont**	**3.09**	**5**	P	Pb	**Pb**	**04 06 38.7**	**-2.6**
FOZ	**Fox Glacier**	**3.13**	**247**	Pn	Pn	**Pn**	**04 06 35.8**	**+0.5**
FOZ	**Fox Glacier**	**3.13**	**247**	P	Pn	**Pn**	**04 06 35.9**	**+0.6**
PKE	**Pukeiti**	**3.16**	**3**	P	Pn	**Pn**	**04 06 38.5**	**+2.7**
DREZ	**Durham Road**	**3.18**	**6**	P	Pn	**Pn**	**04 06 35.0**	**-1.0**
PKVZ	**Pokaka**	**3.29**	**22**	P	Pn	**Pn**	**04 06 39.1**	**+1.5**
PXZ	**Pawanui**	**3.29**	**46**	P	Pn	**Pn**	**04 06 38.0**	**+0.4**
MOVZ	**Moawhango**	**3.31**	**28**	P	Pn	**Pn**	**04 06 38.0**	**+0.2**
LBZ	**Lake Benmore**	**3.31**	**231**	Pn	Pn	**Pn**	**04 06 37.4**	**-0.4**
LBZ	**Lake Benmore**	**3.31**	**231**	P	Pn	**Pn**	**04 06 37.7**	**-0.1**
VRZ	**Vera Road**	**3.31**	**14**	P	Pn	**Pn**	**04 06 39.9**	**+2.1**
WNVZ	**Wahianoa**	**3.33**	**25**	P	Pn	**Pn**	**04 06 39.3**	**+1.1**
TRVZ	**Turoa**	**3.34**	**25**	P	Pn	**Pn**	**04 06 39.6**	**+1.2**
BHHZ	**Black Hill Sta**	**3.35**	**32**	P	Pn	**Pn**	**04 06 38.5**	**+0.1**
DRZ	**Dome Shelter**	**3.36**	**25**	P	Pn	**Pn**	**04 06 40.3**	**+1.5**
WHVZ	**Whangaehu Hut**	**3.36**	**25**	P	Pn	**Pn**	**04 06 40.0**	**+1.2**
FWVZ	**Far West T-bar**	**3.38**	**24**	P	Pn	**Pn**	**04 06 40.3**	**+1.3**
TUVZ	**Tukino**	**3.40**	**26**	P	Pn	**Pn**	**04 06 40.2**	**+1.1**
NGZ	**Ngauruhoe**	**3.47**	**24**	P	Pn	**Pn**	**04 06 41.1**	**+1.1**
SNVZ	**South Ngauruho**	**3.47**	**25**	P	Pn	**Pn**	**04 06 41.1**	**+1.0**
KAHZ	**Kahuranaki**	**3.47**	**44**	P	Pn	**Pn**	**04 06 38.9**	**-1.2**
OTVZ	**Oturere**	**3.50**	**25**	P	Pn	**Pn**	**04 06 41.5**	**+1.0**
NNVZ	**North Ngauruho**	**3.51**	**24**	P	Pn	**Pn**	**04 06 41.9**	**+1.2**
TWVZ	**Taurewa**	**3.52**	**22**	P	Pn	**Pn**	**04 06 41.6**	**+0.9**
ODZ	**Otahua Downs**	**3.52**	**219**	Pn	Pn	**Pn**	**04 06 39.9**	**-0.7**
ODZ	**Otahua Downs**	**3.52**	**219**	P	Pn	**Pn**	**04 06 40.1**	**-0.5**
WTVZ	**West Tongariro**	**3.52**	**24**	P	Pn	**Pn**	**04 06 41.7**	**+0.9**
ETVZ	**East Tongariro**	**3.54**	**25**	P	Pn	**Pn**	**04 06 41.9**	**+0.9**
KRVZ	**Karewarewa**	**3.55**	**24**	P	Pn	**Pn**	**04 06 42.9**	**+1.6**
TMVZ	**Te Maari**	**3.55**	**25**	P	Pn	**Pn**	**04 06 42.3**	**+1.1**
NTVZ	**North Tongarir**	**3.56**	**25**	P	Pn	**Pn**	**04 06 42.6**	**+1.3**
MCHZ	**McNeill Hill**	**3.66**	**38**	P	Pn	**Pn**	**04 06 42.2**	**-0.4**
RITZ	**Rihia Road**	**3.73**	**26**	P	Pn	**Pn**	**04 06 45.2**	**+1.7**
BKZ	**Black Stump Fm**	**3.80**	**34**	Pn	Pn	**Pn**	**04 06 43.0**	**-1.5**
BKZ	**Black Stump Fm**	**3.80**	**34**	P	Pn	**Pn**	**04 06 43.3**	**-1.3**
HIZ	**Hauiti**	**3.92**	**13**	Pn	Pn	**Pn**	**04 06 47.6**	**+1.4**
HIZ	**Hauiti**	**3.92**	**13**	P	Pn	**Pn**	**04 06 48.3**	**+2.1**
NMHZ	**Naumai**	**3.99**	**36**	P	Pn	**Pn**	**04 06 51.4**	**+4.2**
JCZ	**Jackson Bay**	**4.03**	**243**	P	Pn	**Pn**	**04 06 48.1**	**+0.4**
MRHZ	**Matea Rd**	**4.05**	**31**	P	Pn	**Pn**	**04 06 46.9**	**-1.2**
HHSZ	**Highcliff Hill**	**4.20**	**212**	P	Pn	**Pn**	**04 06 49.7**	**-0.4**
MTHZ	**Maungataniwha**	**4.21**	**35**	P	Pn	**Pn**	**04 06 50.3**	**+0.2**
TLZ	**Tolley Road**	**4.24**	**19**	P	Pn	**Pn**	**04 06 51.4**	**+0.8**
WKZ	**Wanaka**	**4.24**	**233**	Pn	Pn	**Pn**	**04 06 50.0**	**-0.7**
WKZ	**Wanaka**	**4.24**	**233**	P	Pn	**Pn**	**04 06 50.1**	**-0.5**
EAZ	**Earnscleugh**	**4.32**	**227**	P	Pn	**Pn**	**04 06 51.1**	**-0.6**
TUZ	**Tuapeka**	**4.67**	**218**	P	Pn	**Pn**	**04 06 56.2**	**-0.2**
TOZ	**Tahuroa Road**	**4.80**	**17**	P	Pn	**Pn**	**04 06 59.0**	**+0.7**
MSZ	**Milford Sound**	**4.84**	**239**	P	Pn	**Pn**	**04 07 03.5**	**+4.7**
MLZ	**Mavora Lakes**	**5.07**	**232**	P	Pn	**Pn**	**04 07 02.4**	**+0.3**
TWGZ	**Tauwhareparae**	**5.27**	**39**	P	Pn	**Pn**	**04 07 03.6**	**-1.1**
AWAZ	**Awhitu Peninsu**	**5.32**	**8**	P	Pn	**Pn**	**04 07 07.0**	**+1.6**
SYZ	**Scrubby Hill**	**5.34**	**217**	P	Pn	**Pn**	**04 07 05.6**	**0.0**
MKAZ	**Moumakai**	**5.35**	**12**	P	Pn	**Pn**	**04 07 06.5**	**+0.7**
WTAZ	**Waiatarua**	**5.45**	**7**	P	Pn	**Pn**	**04 07 09.1**	**+1.9**
ETAZ	**East Tamaki Re**	**5.46**	**10**	P	Pn	**Pn**	**04 07 08.9**	**+1.5**
WHZ	**Wether Hill Ro**	**5.48**	**228**	Pn	Pn	**Pn**	**04 07 05.8**	**-1.8**
WHZ	**Wether Hill Ro**	**5.48**	**228**	P	Pn	**Pn**	**04 07 06.7**	**-1.0**
HAZ	**Te Kaha**	**5.53**	**35**	P	Pn	**Pn**	**04 07 06.9**	**-1.4**
PKGZ	**Pakihiroa**	**5.55**	**38**	P	Pn	**Pn**	**04 07 06.9**	**-1.8**
MBAZ	**Motutapu North**	**5.64**	**9**	P	Pn	**Pn**	**04 07 13.2**	**+3.4**
WIAZ	**Waiheke Island**	**5.65**	**11**	P	Pn	**Pn**	**04 07 08.6**	**-1.3**
KUZ	**Kuaotunu**	**5.80**	**16**	P	Pn	**Pn**	**04 07 12.6**	**+0.6**
ABAZ	**Army Bay**	**5.80**	**9**	P	Pn	**Pn**	**04 07 13.6**	**+1.5**
MXZ	**Matakaoa Point**	**5.92**	**38**	Pn	Pn	**Pn**	**04 07 10.8**	**-2.9**
APZ	**The Paps**	**6.09**	**221**	P	Pn	**Pn**	**04 07 15.1**	**-0.9**
PYZ	**Puysegur Point**	**6.36**	**231**	Pn	Pn	**Pn**	**04 07 18.5**	**-1.1**
PYZ	**Puysegur Point**	**6.36**	**231**	P	Pn	**Pn**	**04 07 20.7**	**+1.1**
OUZ	**Omahuta**	**7.12**	**359**	Pn	Pn	**Pn**	**04 07 30.2**	**0.0**
OUZ	**Omahuta**	**7.12**	**359**	P	Pn	**Pn**	**04 07 33.1**	**+3.0**
CTZ	**Chatham Island**	**7.18**	**104**	P	Pn	**Pn**	**04 07 30.6**	**-0.3**
DZM	**Mont Dzumac**	**21.13**	**341**	P	**P**	**Pn**	**04 10 30.6**	**-0.3**
	4.0nm,0.9s,baz=102,slow=19,SNR=1.8							
	4.0nm,0.9s							
DZM	**Mont Dzumac**	**21.13**	**341**	P	**P**	**04 10 32.5**	**+1.6**	
DZM				IAmb	IAmb	04 10 39.0		
	comp=Z,21nm,1.2s							
EIDS	**Eidsvold**	**25.21**	**305**	P	**P**	**04 11 12.0**	**+0.3**	
EIDS				IAmb	IAmb	04 11 24.0		
	comp=Z,26nm,1.5s							
ASAR	**Alice Springs**	**37.85**	**287**	P	**P**	**04 13 02.2**	**-0.5**	
	comp=Z,0.6nm,0.4s,baz=123,slow=6.8,SNR=13							
ASAR				LR	LR	04 28 01.4		
	comp=Z,254nm,18.7s,baz=164,slow=35							
	comp=Z,0.6nm,0.4s							
ASAR	**Alice Springs**	**37.85**	**287**	P	**P**	**04 13 03.4**	**+0.6**	
COEN	**Coen**	**38.70**	**308**	P	**P**	**04 13 09.3**	**-0.6**	
WR0	**Warramunga Arr**	**39.83**	**292**	P	**P**	**04 13 16.7**	**-2.6**	
WB2	**Warramunga Arr**	**39.97**	**292**	P	**P**	**04 13 19.6**	**-1.0**	
WB2				IAmb	IAmb	04 13 26.1		
	comp=Z,10nm,1.0s							
WRA	**Warramunga Arr**	**39.98**	**292**	P	**P**	**04 13 20.3**	**-0.3**	
	comp=Z,2.5nm,0.7s,baz=129,slow=7.7,SNR=33							
	comp=Z,2.5nm,0.7s							
WRA	**Warramunga Arr**	**39.98**	**292**	P	**P**	**04 13 19.6**	**-1.0**	
WB0	**Warramunga Arr**	**40.06**	**292**	P	**P**	**04 13 20.7**	**-0.6**	
WB0				IAmb	IAmb	04 13 27.8		
	comp=Z,14nm,1.3s							
MTN	**Manton Dam**	**47.15**	**296**	P	**P**	**04 14 17.8**	**-0.5**	
QSPA	**South Pole Qui**	**47.78**	**180**	P	**P**	**04 14 25.2**	**+2.4**	
	comp=Z,1.8nm,1.0s,baz=106,slow=3.1,SNR=6.8							
	comp=Z,1.8nm,1.0s							
QSPA	**South Pole Qui**	**47.78**	**180**	P	**P**	**04 14 22.5**	**-0.3**	
PSA00	**Pilbara Seismi**	**49.33**	**277**	P	**P**	**04 14 34.7**	**-0.4**	
BELA	**Belgrano 2**	**58.79**	**173**	P	**P**	**04 15 43.0**	**-0.5**	
BELA				IAmb	IAmb	04 16 16.4		
	comp=Z,4.0nm,1.0s							
TROLL	**Troll, Antarti**	**65.78**	**183**	sP	sP	04 16 35.8	-1.9	
SNAA	**Sanae**	**66.26**	**181**	sP	sP	04 16 38.3	-2.4	
SNAA	**Sanae**	**66.26**	**181**	P	**P**	**04 16 32.9**	**-0.6**	
SNAA				IAmb	IAmb	04 16 56.3		
	comp=Z,6.5nm,1.3s							
VNA3	**Neumayer Olymp**	**66.69**	**179**	sP	sP	04 16 41.4	-2.1	
PLCA	**Paso Flores**	**78.92**	**136**	P	**P**	**04 17 50.9**	**+1.5**	
	comp=Z,3.4nm,1.0s,baz=162,slow=4.2,SNR=3.2							
	comp=Z,3.4nm,1.0s							
CMAR	**Chiang Mai Arr**	**91.55**	**294**	P	**P**	**04 18 54.2**	**+1.5**	
	comp=Z,1.4nm,0.3s,baz=145,slow=2.7,SNR=4.3							
	comp=Z,1.4nm,0.3s							
PZH	**PanZhiHua**	**95.33**	**301**	P	**P**	**04 19 12.8**	**+2.7**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,130nm,7.5s							
HHC	**Hu-ho-hao-te**	**100.08**	**317**	*e*P	**Pdif**	**04 19 32.9**	**+1.8**	
HHC				pmax	pmax			
	comp=Z,18nm,0.7s							
HHC				pmax	pmax			
	comp=Z,150nm,4.7s							
LZH	**Lanzhou**	**100.81**	**309**	*e*P	**Pdif**	**04 19 37.6**	**+3.1**	
LZH				pP	sPdif	04 19 43.1	+1.1	
LZH				pmax	pmax			
	comp=Z,16nm,0.9s							
DBIC	**Dimbokro**	**144.44**	**182**	PKP	PKPbc	04 25 21.4	+0.5	
	comp=Z,2.3nm,0.8s,baz=198,slow=3.2,SNR=2.6							
KBZ	**Khabaz**	**144.48**	**289**	PKP	**PKPdf**	**04 25 21.7**	**+0.1**	
	comp=Z,3.0nm,0.8s,baz=139,slow=4.1,SNR=4.3							
SFJD	**Kangerlussuaq**	**145.63**	**29**	PKPbc	**PKPdf**	**04 25 22.9**	**0.0**	
	comp=Z,9.6nm,0.6s,baz=181,slow=0.9,SNR=4.5							
ARCES	**ARCESS Array B**	**148.22**	**339**	PKPbc	**PKPdf**	**04 25 28.7**	**+1.5**	
	comp=Z,3.7nm,0.8s,baz=54,slow=6.2,SNR=6.9							
BRTR	**Keskin Array B**	**150.00**	**279**	PKPbc	**PKPbc**	**04 25 34.6**	**-1.6**	
	comp=Z,1.7nm,0.8s,baz=148,slow=5.6,SNR=4.7							
FINES	**FINESS Array B**	**152.83**	**326**	PKPbc	**PKPbc**	**04 25 40.6**	**-1.1**	
	comp=Z,1.9nm,0.8s,baz=2.9,slow=3.8,SNR=4.3							

WEL ***14*** *04:10:00,42.˚16S×173.˚60E,h5km,ML4.9,Mw4.6, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.33; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-0.09; $M_{r\theta}$0.08; $M_{\theta\phi}$-1.06; $M_{\phi r}$0.23; Fault plane solution: M_o1.13000×10^{16} NP1: ϕ_s265.00000˚,δ75.00000˚,λ-168.00000˚. NP2: ϕ_s172.00000˚,δ79.00000˚,λ-16.00000˚. Principal axes: T 1252.3100, Plg3.0000˚, Azm219.0000˚; N -1002.4800, Plg71.0000˚, Azm317.0000˚; P -249.8200, Plg19.0000˚, Azm128.0000˚;*

IDC ***14*** *04:10:19.2±1.1,42.˚08S×173.˚59E,h0km,mb4.4/6, mbtmp4.4/7,ML4.4/1,MS4.1/8 Error ellipse: s-maj=31.0km s-min=22.9km az=79.0*

NEIC ***14*** *04:10:20.9±1.8,42.˚19S±0.˚03×173.˚64E±0.˚06,h19km±4km, mb4.6/12,Mwr4.6/39,ML4.9(WEL),Error ellipse: s-maj=6.5km s-min=4.2km az=103.0*

NEIC ***14*** *04:10:21.1,42.˚18S×173.˚62E,h8km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-0.13; $M_{r\theta}$-0.03; $M_{\theta\phi}$-1.02; $M_{\phi r}$0.10; Fault plane solution: M_o1.05000×10^{16} NP1:ϕ_s264.67000˚, δ84.16000˚,λ179.73000˚. NP2:ϕ_s354.70000˚,δ89.73000˚, λ5.84000˚. Principal axes: T 1.1048, Plg4.0000˚, Azm220.0000˚; N -0.1314, Plg84.0000˚, Azm357.0000˚; P -0.9733, Plg4.0000˚, Azm130.0000˚;*

NOU ***14*** *04:10:21.1,42.˚37S×173.˚87E,h8km,MLv5.2/14,South Island, New Zealand*

WEL ***14*** *04:10:21.8±0.3,42.˚5S±2.˚×17.˚4E±,h5km,M5.1/72,ML5.1/6, MLv5.1/72,Error ellipse: s-maj=0.0km s-min=0.0km az=112.8*

ISC 14 04:10:20.4±1.1,42.˚19S±0.˚02×173.˚68E±0.˚03,h13km±7km, n168,σ1§64/180,mb4.5/14,MS4.1/8,South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**204**	Pg	Pg	**Pb**	**04 10 27.0**	**+0.2**
KHZ					Sg	**Sb**	**04 10 31.4**	**+0.3**
KHZ	**Kahutara**	**0.25**	**204**	P	P	**Pb**	**04 10 27.0**	**+0.2**
KHZ	**Kahutara**	**0.25**	**204**	P	P	**Pb**	**04 10 27.4**	**+0.6**
KHZ					S	**Sb**	**04 10 31.6**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.49**	**18**	Pg	Pg	**Pb**	**04 10 31.2**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.49**	**18**	P	Pb	**

GRZ	Great Barrier	6.09 14	P	Pn	04 11 54.6	+4.6
APZ	The Paps	6.17 219	P	Pn	04 11 51.1	-0.1
WCZ	Waipu Caves	6.26 5	P	Pn	04 11 56.2	+3.7
PYZ	Puysegur Point	6.41 229	Pn	Pn	04 11 54.0	-0.5
PYZ	Puysegur Point	6.41 229	P	Pn	04 11 56.8	+2.3
PYZ	Puysegur Point	6.41 229	P	Pn	04 11 54.6	+0.1
OUZ	Omahuta	6.96 359	P	Pn	04 12 05.9	+3.9
OUZ	Omahuta	6.96 359	P	Pn	04 12 06.3	+4.3
CTZ	Chatham Island	7.29 106	P	Pn	04 12 05.8	-0.7
CTZ	Chatham Island	7.29 106	P	Pn	04 12 05.3	-1.2
RAO	Raoul Island	14.59 30	LR	LR	04 19 08.6	
	comp=Z,713nm,19.6s,baz=174,slow=36					
GLAD	Gladstone	19.22 265	P	Pn	04 14 49.1	+4.0
MGCD	Mangrove Creek	19.93 289	P	Pn	04 14 53.7	+0.1
ARMA	Armidale	21.23 296	P	P	04 15 10.4	+4.2
MSVF	Nonsavu	24.66 10	P	P	04 15 41.0	+0.1
	5.6nm,0.6s,baz=188,slow=23,SNR=2.3					
MSVF			LR	LR	04 24 24.0	
	comp=Z,649nm,19.3s,baz=176,slow=34					
	5.6nm,0.6s					
EIDS	Eidsvold	25.06 305	P	P	04 15 43.5	-1.0
EIDS			IAmb	IAmb	04 16 03.9	
	comp=Z,27nm,1.4s					
BBOO	Buckleboo	31.07 275	P	P	04 16 37.4	-0.7
BBOO			IAmb	IAmb	04 16 39.4	
	comp=Z,14nm,1.2s					
CTA	Charters Tower	31.95 305	P	P	04 16 47.2	+1.2
	comp=Z,3.8nm,0.9s,baz=157,slow=13,SNR=3.1					
	comp=Z,3.8nm,0.9s					
HNR	Honiara	34.79 336	LR	LR	04 30 18.7	
	comp=Z,4µm,18.0s,baz=100,slow=35					
AS31	Alice Springs	37.74 287	P	P	04 17 33.1	-2.9
ASAR	Alice Springs	37.74 287	P	P	04 17 35.9	-0.2
	comp=Z,27nm,0.7s,baz=128,slow=8.0,SNR=15					
	comp=Z,2.7nm,0.7s					
ASAR	Alice Springs	37.74 287	P	P	04 17 33.9	-2.1
FORT	Forrest	37.99 272	P	P	04 17 35.3	-2.8
COEN	Coen	38.55 308	P	P	04 17 41.6	-1.3
WR0	Warramunga Arr	39.71 292	P	P	04 17 50.7	-1.8
WR0			IAmb	IAmb	04 17 59.8	
	comp=Z,8.6nm,1.1s					
WB2	Warramunga Arr	39.85 292	P	P	04 17 51.8	-2.0
WB2			IAmb	IAmb	04 17 59.4	
	comp=Z,13nm,1.1s					
WRA	Warramunga Arr	39.86 291	P	P	04 17 53.8	-0.1
	comp=Z,4.7nm,0.6s,baz=129,slow=8.7,SNR=44					
	comp=Z,4.7nm,0.6s					
WRA	Warramunga Arr	39.86 291	P	P	04 17 51.3	-2.5
WB0	Warramunga Arr	39.94 292	P	P	04 17 52.0	-2.5
WB0			IAmb	IAmb	04 17 59.0	
	comp=Z,7.6nm,0.7s					
PMG	Port Moresby	40.11 317	P	P	04 17 56.0	+0.1
	comp=Z,6.8nm,0.6s,baz=74,slow=4.2,SNR=5.4					
	comp=Z,6.8nm,0.6s					
QSPA	South Pole Qui	47.94 180	P	P	04 19 01.0	+2.7
	comp=Z,3.1nm,0.8s,baz=324,slow=1.8,SNR=14					
	comp=Z,3.1nm,0.8s					
QSPA	South Pole Qui	47.94 180	P	P	04 18 59.8	+1.5
MBWA	Marble Bar	49.58 278	P	P	04 19 10.2	-1.2
MAW	Mawson	58.88 205	LR	LR	04 44 19.5	
	comp=Z,290nm,19.0s,baz=112,slow=35					
RPN	Rapa Nui	63.09 103	LR	LR	04 43 46.6	
	comp=Z,128nm,18.9s,baz=246,slow=32					
TROLL	Troll, Antarti	65.94 183	sP	P	04 21 07.7	+1.9
SNAA	Sanae	66.42 181	sP	P	04 21 10.4	+1.6
SNAA	Sanae	66.42 181	P	P	04 21 06.0	-2.8
SNAA			IAmb	IAmb	04 21 22.8	
	comp=Z,7.4nm,1.3s					
VNA3	Neumayer Olymp	66.85 179	sP	P	04 21 13.9	+2.4
PLCA	Paso Flores	79.09 136	LR	LR	04 53 10.6	
	comp=Z,95nm,18.2s,baz=184,slow=32					
KSRS	Korea Array	89.57 325	LR	LR	04 59 14.5	
	comp=Z,46nm,20.8s,baz=35,slow=33					
PZH	PanZhiHua	95.19 301	P	P	04 23 42.5	-1.2
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,140nm,5.2s					
NNA	Nana	96.00 112	LR	LR	04 56 41.0	
	comp=Z,53nm,20.4s,baz=220,slow=29					
LPIG	La Paz	96.18 63	LR	LR	04 59 35.2	
	comp=Z,66nm,20.2s,baz=220,slow=31					
HHC	Hu-ho-hao-te	99.92 317	eP	Pdif	04 24 04.4	-0.3
HHC			pmax	pmax		
	comp=Z,22nm,0.9s					
HHC			pmax	pmax		
	comp=Z,190nm,5.6s					
WMQ	Urumqi	115.08 307	eP	PKPdf	04 28 59.0	-1.8
KBZ	Khabaz	144.37 290	PKP	PKPdf	04 29 57.1	+1.3
	comp=Z,4.7nm,1.0s,baz=261,slow=2.9,SNR=3.9					
DBIC	Dimbokro	144.61 183	PKP	PKPdf	04 29 58.0	+0.8
	comp=Z,1.6nm,0.4s,baz=151,slow=3.1,SNR=5.0					
ARCES	ARCESS Array B	148.04 339	PKPbc	PKPbc	04 30 03.3	-1.2
	comp=Z,2.2nm,0.8s,baz=45,slow=3.1,SNR=5.0					
BRTR	Keskin Array B	149.91 279	PKPbc	PKPbc	04 30 10.4	+0.2
	comp=Z,1.0nm,0.5s,baz=146,slow=5.1,SNR=5.1					
FINES	FINESS Array B	152.66 326	PKPbc	PKPbc	04 30 14.6	-1.1
	comp=Z,1.8nm,0.8s,baz=48,slow=2.8,SNR=4.8					

WEL 14 04:14:32.9±0.4, 42°S±3°×17°3E±°, h5km, M4.0/19, ML4.2/6, MLv4.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=151.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.13	83	P	Pg	04 14 35.5	0.0
KHZ				S	Sg	04 14 38.1	+0.8
GVZ	Greta Valley S	0.59	204	P	Pg	04 14 44.8	+0.6
GVZ				S	Sb	04 14 53.6	-0.7
THZ	Tophouse	0.75	333	P	Pg	04 14 46.8	-0.6
THZ				S	Sg	04 14 56.9	-0.2
LTZ	Lake Taylor	0.88	246	P	Pg	04 14 49.2	-0.6
LTZ				S	Sg	04 15 01.7	+0.5
AMCZ	Amberley	0.91	215	P	Pg	04 14 50.7	+0.3
AMCZ				S	Sb	04 15 04.3	+0.7
MRNZ	Matariki Terra	1.13	336	P	Pg	04 14 54.1	-0.4
MRNZ				S	Sn	04 15 11.3	0.0
NNZ	Nelson	1.21	0	P	Pg	04 14 55.8	-0.4
OKCZ	Okains Bay	1.31	190	P	Pn	04 14 55.9	-2.0
DSZ	Denniston Nort	1.35	300	P	Pn	04 14 58.3	-0.2
DSZ				S	Sn	04 15 16.6	-0.2
TCW	Tory Channel	1.40	29	P	Pn	04 14 56.0	-3.0
RACZ	Rakaia	1.58	214	S	Sn	04 15 19.2	-3.0
DUWZ	D'Urville Isla	1.68	15	P	Pn	04 15 03.6	+0.7
QRZ	Quartz Range	1.72	338	P	Pb	04 15 04.4	-0.6
WACZ	Wakanui South	1.88	216	P	Pn	04 15 03.4	-2.3
WVZ	Waitaha Valley	2.04	251	P	Pn	04 15 06.8	-1.1
RPZ	Rata Peaks	2.12	232	P	Pn	04 15 07.2	-1.9
ARCZ	Arundel	2.20	226	P	Pn	04 15 08.0	-2.2
GCSZ	Gaunt Creek Bo	2.40	247	P	Pn	04 15 12.9	0.0
TMZ	Timaru	2.60	221	P	Pn	04 15 14.6	-1.0
HHSZ	Highcliff Hill	3.98	209	P	Pn	04 15 31.9	-2.7
SYZ	Scrubby Hill	5.10	215	P	Pn	04 15 48.0	-1.9
TGRZ	Tauranga	5.20	26	P	Pn	04 15 49.6	-1.7
AWAZ	Awhitu Peninsu	5.45	11	P	Pn	04 15 55.6	+0.9
MKAZ	Moumakai	5.50	15	P	Pn	04 15 55.5	+0.1
WIAZ	Waiheke Island	5.79	14	P	Pn	04 16 00.2	+0.7

WEL 14 04:18:54.0±0.8, 43°S±5°×17°3E±°, h11km±5km, M3.0/7, ML3.2/7, MLv3.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=16.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.38	72	P	Pb	04 19 03.4	+0.7
GVZ	Greta Valley S	0.43	182	P	Pb	04 19 03.2	-0.5
GVZ				S	Sb	04 19 11.4	+1.2
LTZ	Lake Taylor	0.63	247	P	Pg	04 19 05.4	-0.8
LTZ				S	Sb	04 19 16.3	+0.5
AMCZ	Amberley	0.70	205	P	Pb	04 19 08.8	+0.5
OXZ	Oxford	1.09	223	P	Pb	04 19 14.6	-0.2
MQZ	McQueen's Vall	1.21	194	P	Pn	04 19 14.9	-1.9
DSZ	Denniston Nort	1.22	310	P	Pn	04 19 16.6	-0.4
RACZ	Rakaia	1.37	209	P	Pn	04 19 17.8	-1.2
RACZ				S	Sb	04 19 36.6	-0.4
TCW	Tory Channel	1.61	35	P	Pb	04 19 23.5	-0.2
WEL	Wellington	1.79	46	P	Pn	04 19 24.7	-0.1
RPZ	Rata Peaks	1.88	230	P	Pn	04 19 25.7	-0.4
ARCZ	Arundel	1.97	224	P	Pn	04 19 26.4	-0.9
CAW	Cannon Point	2.07	47	P	Pn	04 19 29.7	+1.0
KIW	Kapiti Island	2.17	40	P	Pb	04 19 31.8	-1.5

WEL 14 04:19:03.6±0.7, 42°S±4°×17°4E±°, h5km, M3.1/18, ML3.4/6, MLv3.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=144.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.24	260	P	Pg	04 19 08.5	+0.1
KHZ				S	Sg	04 19 12.1	+0.6
BSWZ	Blackbirch Sta	0.66	1	P	Pb	04 19 17.8	+0.3
BSWZ				S	Sg	04 19 25.3	+0.5
CMWZ	Cape Campbell	0.68	23	P	Pg	04 19 15.8	-0.8
GVZ	Greta Valley S	0.85	226	P	Pb	04 19 21.3	+0.4
GVZ				S	Sn	04 19 34.1	-0.9
THZ	Tophouse	0.94	310	P	Pb	04 19 22.4	0.0
THZ				S	Sb	04 19 35.1	-0.1
TUWZ	Tuamarina	0.95	4	P	Pg	04 19 21.6	-0.1
NNZ	Nelson	1.21	342	P	Pn	04 19 27.5	+0.4
LTZ	Lake Taylor	1.24	250	P	Pg	04 19 27.5	+0.1
LTZ				S	Sg	04 19 43.4	-0.2
PLWZ	Palliser	1.31	53	P	Pn	04 19 28.2	-0.4
MSWZ	Moikau Station	1.41	48	P	Pn	04 19 29.3	-0.6
MSWZ	Moikau Station	1.41	48	P	Pn	04 19 28.9	-1.0
PAWZ	Paruwai Farm	1.53	50	P	Pn	04 19 31.1	-0.5
DUWZ	D'Urville Isla	1.57	2	P	Pb	04 19 33.1	-0.1
MQZ	McQueen's Vall	1.60	213	P	Pn	04 19 29.9	-2.6
MQZ				S	Sn	04 19 51.6	-1.9
OXZ	Oxford	1.64	234	P	Pn	04 19 31.6	-1.6
DSZ	Denniston Nort	1.66	292	P	Pb	04 19 34.9	+0.2
DSZ				S	Sg	04 19 57.2	+0.4
TRWZ	Traveller	1.68	55	P	Pn	04 19 32.9	-0.7
MTW	Mount Morrison	1.73	46	P	Pn	04 19 33.1	-1.2
OGWZ	Otaki Gorge	1.84	33	P	Pn	04 19 34.3	-1.5
RACZ	Rakaia	1.85	223	S	Sn	04 19 57.9	-1.7
HOWZ	Holdsworth Sta	1.93	41	P	Pn	04 19 35.7	-1.4
MRZ	Mangatainoka R	2.14	37	P	Pn	04 19 38.5	-1.5
RPZ	Rata Peaks	2.46	236	P	Pn	04 19 43.1	-1.2
RPZ				S	Sn	04 20 12.7	-2.0
ARCZ	Arundel	2.52	230	P	Pn	04 19 43.6	-1.5

WEL 14 04:22:39.5±0.7, 42°S±4°×17°4E±°, h12km±5km, M3.0/14, ML3.3/13, MLv3.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=0.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.13	275	P	Pb	04 22 43.8	-0.1
BSWZ	Blackbirch Sta	0.39	277	P	Pb	04 22 48.4	+0.2
BSWZ				S	Sb	04 22 55.3	+1.1
TUWZ	Tuamarina	0.47	314	P	Pb	04 22 49.4	-0.3
TUWZ				S	Sb	04 22 57.0	+0.5
WEL	Wellington	0.55	31	P	Pg	04 22 49.7	-0.7
TCW	Tory Channel	0.56	351	P	Pg	04 22 50.1	-0.2
TCW				S	Sg	04 22 57.9	+0.1
PLWZ	Palliser	0.68	74	P	Pg	04 22 52.9	+0.2
PLWZ				S	Sn	04 23 04.0	-1.3
MSWZ	Moikau Station	0.73	62	P	Pg	04 22 53.4	-0.3
MSWZ				S	Sn	04 23 05.5	-1.2
PAWZ	Paruwai Farm	0.87	64	P	Pg	04 22 56.0	-0.2
PAWZ				S	Sn	04 23 09.4	-0.6
KIW	Kapiti Island	0.98	24	P	Pb	04 22 57.1	-1.3
KIW				S	Sn	04 23 13.0	+0.2
DUWZ	D'Urville Isla	1.02	340	P	Pn	04 22 59.6	0.0
DUWZ				S	Sn	04 23 14.0	+0.1
MTW	Mount Morrison	1.03	55	P	Pb	04 22 58.2	-1.0
MTW				S	Sg	04 23 13.2	+0.4
TRWZ	Traveller	1.04	70	P	Pb	04 22 57.5	-1.9
TRWZ				S	Sn	04 23 16.3	+2.1
OGWZ	Otaki Gorge	1.11	32	P	Pb	04 22 59.4	-1.2
OGWZ				S	Sn	04 23 16.6	+0.5
TMWZ	Te Maipa	1.30	60	P	Pn	04 23 01.7	-1.8
MRZ	Mangatainoka R	1.42	40	P	Pn	04 23 04.0	-1.0
MRZ				S	Sg	04 23 25.9	+0.7
CPWZ	Castlepoint	1.61	59	P	Pn	04 23 03.6	-4.1
PRWZ	Pori Road	1.70	45	P	Pn	04 23 08.1	-0.8
POWZ	Post Office Ro	1.72	38	P	Pn	04 23 08.4	-0.8
BFZ	Birch Farm	1.77	53	P	Pn	04 23 10.3	+0.5
DVHZ	Dannevirke	1.98	43	P	Pb	04 23 16.3	+0.8
MOVZ	Moawhango	2.57	24	P	Pn	04 23 21.2	+0.3
WNVZ	Wahianoa	2.60	21	P	Pn	04 23 21.7	+0.2
BHHZ	Black Hill Sta	2.60	30	P	Pb	04 23 24.1	-1.9
WHVZ	Whangaehu Hut	2.64	21	P	Pn	04 23 22.4	+0.4
VRZ	Vera Road	2.65	6	P	Pn	04 23 24.7	-2.1
FWVZ	Far West T-bar	2.66	20	P	Pn	04 23 22.7	+0.4
NGZ	Ngauruhoe	2.74	20	P	Pn	04 23 28.0	-0.5
SNVZ	South Ngauruho	2.74	21	P	Pn	04 23 23.7	+0.2
OTVZ	Oturere	2.77	21	P	Pb	04 23 27.7	-1.3
NNVZ	North Ngauruho	2.79	20	P	Pn	04 23 24.7	+0.7
WTVZ	West Tongariro	2.80	20	P	Pb	04 23 28.2	-1.2
ETVZ	East Tongariro	2.81	21	P	Pn	04 23 24.6	+0.3
TMVZ	Te Maari	2.83	21	P	Pn	04 23 24.6	0.0
KRVZ	Karewarewa	2.83	20	P	Pb	04 23 29.6	-0.4
NTVZ	North Tongarir	2.83	21	P	Pn	04 23 24.7	+0.1
KATZ	Kakaramea	2.96	20	P	Pb	04 23 31.8	-0.4
BKZ	Black Stump Fm	3.05	32	P	Pb	04 23 32.2	-1.5
HIZ	Hauiti	3.26	6	P	Pb	04 23 34.5	-2.8
TLZ	Tolley Road	3.54	15	P	Pb	04 23 39.5	-2.5
WTAZ	Waiatarua	4.82	2	P	Pn	04 23 53.9	+2.1

WEL 14 04:22:49.2±0.4, 42°S±2°×17°4E±°, h14km±2km, M3.5/13, ML3.8/13, MLv3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=120.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.22	250	P	Pg	04 22 54.5	+0.4
KHZ				S	Sg	04 22 58.1	+0.7
BSWZ	Blackbirch Sta	0.63	4	P	Pb	04 23 02.7	+0.8
BSWZ				S	Sg	04 23 10.0	+0.3
GVZ	Greta Valley S	0.85	223	P	Pb	04 23 07.1	+0.3
GVZ				S	Sn	04 23 20.1	+1.0
THZ	Tophouse	0.89	310	P	Pb	04 23 08.5	-0.7
THZ				S	Sg	04 23 18.0	-0.2
TUWZ	Tuamarina	0.92	6	P	Pg	04 23 07.0	+0.1
TUWZ				S	Sn	04 23 20.2	-0.3
TCW	Tory Channel	1.18	17	P	Pn	04 23 10.7	-0.5
TCW				S	Sn	04 23 27.1	+0.1
LTZ	Lake Taylor	1.23	248	P	Pb	04 23 12.3	+0.2
LTZ				S	Sg	04 23 28.9	+0.1
LTZ	Lake Taylor	1.23	248	P	Pb	04 23 12.2	0.0
WEL	Wellington	1.27	34	P	Pn	04 23 12.4	-0.1
WEL				S	Sn	04 23 29.3	0.0
PLWZ	Palliser	1.32	55	P	Pn	04 23 12.6	-0.6
MSWZ	Moikau Station	1.41	50	P	Pn	04 23 13.9	-0.5
PAWZ	Paruwai Farm	1.54	52	P	Pn	04 23 15.2	-0.9
MQZ	McQueen's Vall	1.61	212	P	Pn	04 23 16.5	-0.7
MQZ				S	Sn	04 23 36.8	-0.9
DSZ	Denniston Nort	1.62	291	P	Pb	04 23 18.5	-0.2
DSZ				S	Sb	04 23 39.7	+0.7
OXZ	Oxford	1.64	232	P	Pn	04 23 16.8	-0.8
OXZ				S	Sn	04 23 37.7	-0.8
AKCZ	Akaroa Harbour	1.67	203	P	Pn	04 23 18.2	+0.2
AKCZ				S	Sn	04 23 39.1	-0.1
KIW	Kapiti Island	1.69	29	P	Pn	04 23 18.5	+0.3
KIW				S	Sn	04 23 39.1	-0.5
RACZ	Rakaia	1.85	221	P	Pn	04 23 19.7	-0.8
RACZ				S	Sn	04 23 43.6	-0.2

WEL 14 04:25:43.1±0.3, 42°S±2°×17°3E±°, h5km, M3.5/11, ML3.6/11, MLv3.5/11, Error ellipse: s-maj=0.0km s-min=0.0km az=130.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.24	75	P	Pg	04 25 47.7	-0.1
KHZ				S	Sg	04 25 51.7	+0.8
THZ	Tophouse	0.75	341	P	Pg	04 25 56.9	-0.7
THZ				S	Sg	04 26 07.4	+0.1
LTZ	Lake Taylor	0.77	246	P	Pg	04 25 58.1	+0.1
LTZ				S	Sg	04 26 08.2	+0.2
AMCZ	Amberley	0.82	211	P	Pb	04 25 59.7	-0.2
AMCZ				S	Sb	04 26 11.8	+0.6
BSWZ	Blackbirch Sta	0.90	32	P	Pg	04 26 00.7	+0.3
BSWZ				S	Sb	04 26 13.3	-0.2
TUWZ	Tuamarina	1.17	27	P	Pg	04 26 05.1	-0.5
TUWZ				S	Sn	04 26 22.0	-0.6
OXZ	Oxford	1.22	225	P	Pg	04 26 05.4	-1.2
OXZ				S	Sg	04 26 20.9	-1.4
NNZ	Nelson	1.26	5	P	Pg	04 26 05.9	-1.4
NNZ				S	Sb	04 26 24.3	+0.4
DSZ	Denniston Nort	1.29	304	P	Pg	04 26 07.2	-0.6
DSZ				S	Sn	04 26 25.5	+0.1
TKNZ	Takaka Hill	1.46	352	P	Pn	04 26 09.9	-0.2
TKNZ				S	Sg	04 26 31.8	+1.9
QRZ	Quartz Range	1.73	342	P	Pn	04 26 13.8	-0.1
DUWZ	D'Urville Isla	1.75	17	P	Pn	04 26 14.1	-0.1
WVZ	Waitaha Valley	1.93	251	P	Pn	04 26 14.6	-2.0
RPZ	Rata Peaks	2.02	231	P	Pn	04 26 15.9	-1.9

MAN 14 04:31:53.0, 11°61N×125°63E, h12km, mb4.0, ML2.8, MS2.4, 3C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.19	266↑	eP	Pb	04 31 58.6	+0.1
BESP				eS	Sg	04 32 03.8	+3.7
CNP	Catarman	1.30	313↑	eP	Pn	04 32 16.3	-0.7
CNP				eS	Sg	04 32 34.8	-0.2
MSLP	Maasin	1.66	207↓	eP	Pn	04 32 21.9	0.0
MSLP				eS	Sg	04 32 45.7	-0.6
GLSP	General Luna,	1.88	165↓	eP	Pn	04 32 20.3	-4.7
PVCP	Virac	2.44	324↑	eP	Pb	04 32 35.6	-1.3
PVCP				eS	Sb	04 33 08.8	+1.8

IDC 14 04:32:48.6±1.2, 42°41S×173°68E, h0km, mb4.2/6, mbtmp4.2/7, ML4.1/1, MS3.8/3, Error ellipse: s-maj=30.4km s-min=27.8km az=108.0
NEIC 14 04:32:49.7±1.4, 42°48S±0°04×173°77E±0°05, h10km±2km, mb4.0/3, ML4.3(WEL), Error ellipse: s-maj=8.1km s-min=4.7km az=144.0
WEL 14 04:32:51.0±0.3, 42°S±2°×17°4E±°, h7km±2km, M4.2/13, ML4.4/13, MLv4.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7

ISC 14 04:32:49.0±1.1, 42°46S±0°03×173°75E±0°03, h4km±8km, n76, σ0°971/88, mb4.1/8, MS3.8/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.16	286	Pg	Pg	04 32 52.3	+0.1
KHZ	Kahutara	0.16	286	P	Pg	04 32 52.3	+0.1
KHZ				S	Sg	04 32 53.9	-0.4
GVZ	Greta Valley S	0.73	226		Pn	04 33 06.4	+0.4
GVZ	Greta Valley S	0.73	226	P	Pn	04 33 06.5	+0.5
GVZ				S	Sn	04 33 18.1	+0.5
THZ	Tophouse	0.94	318	Pg	Pg	04 33 06.8	-0.2
THZ	Tophouse	0.94	318	P	Pg	04 33 06.8	-0.2
THZ				S	Sg	04 33 18.7	-0.5
TUWZ	Tuamarina	1.04	8	Pg	Pb	04 33 09.8	+0.3
TUWZ	Tuamarina	1.04	8	P	Pn	04 33 10.2	-0.1
TUWZ				S	Sn	04 33 24.7	-0.5
AMCZ	Amberley	1.08	228	P	Pn	04 33 11.9	+1.1
LTZ	Lake Taylor	1.14	253		Pn	04 33 11.8	+1.0
LTZ	Lake Taylor	1.14	253	P	Pn	04 33 12.0	+0.4
LTZ				S	Sn	04 33 28.5	+0.8
MRNZ	Matariki Terra	1.30	325	P	Pb	04 33 14.1	+0.3
TCW	Tory Channel	1.31	18	P	Pb	04 33 14.5	+0.4
TCW				S	Sn	04 33 32.7	+0.8
BHW	Baring Head	1.34	39	P	Pg	04 33 14.9	+0.2
OKCZ	Okains Bay	1.36	202	P	Pg	04 33 15.7	+0.7
WEL	Wellington	1.40	33	P	Pg	04 33 16.3	+0.5
WEL				S	Sn	04 33 34.9	+0.8
PLWZ	Palliser	1.43	52		Pb	04 33 15.9	+0.3
PLWZ	Palliser	1.43	52	P	Pg	04 33 16.2	-0.2
PLWZ				S	Sn	04 33 36.4	+1.4
MQZ	McQueen's Vall	1.48	213	Pn	Pn	04 33 16.0	-0.3
MQZ	McQueen's Vall	1.48	213	P	Pb	04 33 16.5	-0.5
OXZ	Oxford	1.53	235	Pn	Pn	04 33 16.8	-0.2
OXZ	Oxford	1.53	235	P	Pb	04 33 17.5	-0.3
MSWZ	Moikau Station	1.53	47	Pn	Pn	04 33 17.1	+0.1
MSWZ	Moikau Station	1.53	47	P	Pb	04 33 17.5	-0.4
MSWZ				S	Sg	04 33 38.2	0.0
AKCZ	Akaroa Harbour	1.54	203	P	Pg	04 33 17.9	-0.6
AKCZ				S	Sg	04 33 39.3	+1.0
DSZ	Denniston Nort	1.62	296	Pn	Pb	04 33 19.1	-0.2
DSZ	Denniston Nort	1.62	296	P	Pb	04 33 19.3	-0.1
DSZ				S	Sn	04 33 40.0	+0.5
CAW	Cannon Point	1.67	36	P	Pn	04 33 19.5	+0.5
CAW				S	Sb	04 33 41.2	-0.5
INZ	Inchbonnie	1.72	260	P	Pn	04 33 20.5	-0.6
RACZ	Rakaia	1.73	222	P	Pn	04 33 20.0	+0.3
QRZ	Quartz Range	1.87	330	Pn	Pn	04 33 22.4	+0.6
WACZ	Wakanui South	2.04	223	P	Pn	04 33 24.4	+0.5
MRZ	Mangatainoka R	2.26	38	Pn	Pn	04 33 26.9	-0.2
WVZ	Waitaha Valley	2.30	254	P	Pn	04 33 28.7	+1.1
RPZ	Rata Peaks	2.34	237	Pn	Pn	04 33 27.6	-0.5
	46nm,0.3s,baz=66,slow=2.2,SNR=39						
RPZ				Sn	Sn	04 33 56.5	-0.8
	75nm,0.3s,baz=164,slow=23,SNR=19						
	430nm,0.6s						
RPZ	Rata Peaks	2.34	237	Pn	Pn	04 33 28.4	+0.2
RPZ	Rata Peaks	2.34	237	P	Pn	04 33 28.3	+0.2
ARCZ	Arundel	2.40	231	P	Pn	04 33 28.9	0.0
BFZ	Birch Farm	2.58	47	Pn	Pn	04 33 30.5	-0.9
GCSZ	Gaunt Creek Bo	2.66	250	P	Pn	04 33 33

comp=Z,1.2nm,0.9s,baz=64,slow=4.3,SNR=4.4

MAN 14 04:37:34.5, 11°.64N×125°.77E, h10km, mb4.0, ML2.8, MS2.4, 3C-4D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.33**	**263**	‖eP	Pb	04 37 41.8	-0.6
OCLP	**Ormoc**	**1.28**	**243**	‖eP	Pn	04 37 58.6	+0.1
OCLP				eS	Sb	04 38 13.4	-1.9
CNP	**Catarman**	**1.39**	**309**	‖eP	Pn	04 37 59.3	-0.7
MSLP	**Maasin**	**1.74**	**211**	‖eP	Pn	04 38 05.4	+0.5
MSLP				eS	Sb	04 38 29.8	+0.3
GLSP	**General Luna,**	**1.88**	**169**	‖eP	Pn	04 38 03.8	-2.9
PVCP	**Virac**	**2.50**	**321**	‖eP	Pb	04 38 19.1	-0.5
PVCP				eS	Sg	04 38 53.9	-1.2
KCP	**Kidapawan**	**4.65**	**188**	‖eP	Pn	04 38 38.4	-6.6

MAN 14 04:38:34.7, 11°.51N×125°.74E, h1km, mb4.0, ML2.8, MS2.4, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.31**	**287**	‖eP	Pg	04 38 40.6	0.0
BESP				eS	Sg	04 38 45.9	+1.2
MSLP	**Maasin**	**1.62**	**212**	‖eP	Pn	04 39 04.8	+0.4
MSLP				eS	Sg	04 39 28.0	+1.2

IDC ***14*** *04:39:57.6±2.2,5°.95S×148°.92E, h58km±21km, mb3.7/11, mbtmp4.1/15, ML4.3/3, Error ellipse: s-maj=21.9km s-min=13.2km az=112.0*
NEIC ***14*** *04:39:58.7±1.4, 6°.0S±0°.1×148°.9E±0°.1, h65km±7km, mb4.3/15, Error ellipse: s-maj=24.5km s-min=6.5km az=134.0*

ISC 14 04:39:57.9±0.6, 5°.96S±0°.07×148°.89E±0°.09, h60km, n37, σ0s84/40, mb4.0/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.53**	**62**	P	**Pn**	**04 40 49.7**	**-0.6**
	24nm,0.3s,baz=212,slow=4.4,SNR=5.4						
	122nm,0.5s						
RABL	**Rabaul**	**3.71**	**62**	Pn	**Pn**	**04 40 54.1**	**+1.4**
PMG	**Port Moresby**	**3.83**	**206**	P	**Pn**	**04 40 54.8**	**+0.5**
	231nm,0.4s,baz=34,slow=5.1,SNR=78						
PMG				S	**Sn**	**04 41 38.9**	**+0.8**
	342nm,0.4s,baz=345,slow=21,SNR=14						
PMG	**Port Moresby**	**3.83**	**206**	Pn	**Pn**	**04 40 54.3**	**0.0**
COEN	**Coen**	**9.73**	**215**	Pn	**Pn**	**04 42 14.0**	**-1.3**
CTA	**Charters Tower**	**14.27**	**190**	P	**Pn**	**04 43 17.9**	**+0.8**
	0.5nm,0.3s,baz=9.4,slow=13,SNR=8.4						
	2.6nm,0.5s						
CTAO	**Charters Tower**	**14.27**	**190**	Pn	**Pn**	**04 43 17.5**	**+0.5**
MTN	**Manton Dam**	**18.80**	**247**	P	**P**	**04 44 13.4**	**+0.8**
MTN				IAmb	IAmb	04 44 34.8	
	comp=Z,20nm,1.3s						
WB0	**Warramunga Arr**	**19.67**	**224**	P	**P**	**04 44 22.1**	**-0.1**
WR0	**Warramunga Arr**	**19.70**	**224**	P	**P**	**04 44 21.9**	**-0.6**
WR0				IAmb	IAmb	04 44 23.3	
	comp=Z,16nm,1.3s						
WRAB	**Tennant Creek**	**19.81**	**224**	P	**P**	**04 44 23.7**	**-0.1**
WRAB				IAmb	IAmb	04 44 27.3	
	comp=Z,7.7nm,0.6s						
WB2	**Warramunga Arr**	**19.82**	**224**	P	**P**	**04 44 23.7**	**-0.1**
WB2				IAmb	IAmb	04 44 27.4	
	comp=Z,7.1nm,0.6s						
WRA	**Warramunga Arr**	**19.83**	**224**	P	**P**	**04 44 22.9**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=52,slow=10,SNR=54						
WRA				S	**Sn**	**04 48 10.0**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=43,slow=17,SNR=6.2						
	comp=Z,3.7nm,0.3s						
WRA	**Warramunga Arr**	**19.83**	**224**	P	**P**	**04 44 22.5**	**-1.4**
KNRA	**Kununurra**	**21.98**	**242**	P	**P**	**04 44 46.9**	**-0.2**
KNRA				IAmb	IAmb	04 44 49.8	
	comp=Z,13nm,0.8s						
AS31	**Alice Springs**	**22.75**	**218**	P	**P**	**04 44 54.2**	**-1.2**
ASAR	**Alice Springs**	**22.75**	**218**	P	**P**	**04 44 55.1**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=52,slow=9.4,SNR=68						
ASAR				S	**S**	**04 48 59.6**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=29,slow=23,SNR=9.2						
	comp=Z,4.7nm,0.6s						
ASAR	**Alice Springs**	**22.75**	**218**	P	**P**	**04 44 54.7**	**-0.7**
DZM	**Mont Dzumac**	**23.33**	**135**	P	**P**	**04 45 00.7**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=225,slow=13,SNR=2.3						
	comp=Z,3.4nm,0.6s						
DZM	**Mont Dzumac**	**23.33**	**135**	P	**P**	**04 45 00.4**	**-0.8**
DZM				IAmb	IAmb	04 45 17.3	
	comp=Z,13nm,1.0s						
STKA	**Stephens Creek**	**26.67**	**194**	P	**P**	**04 45 32.5**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=6.5,slow=9.6,SNR=3.3						
	comp=Z,1.3nm,0.5s						
KAPI	**Kappang**	**29.02**	**270**	P	**P**	**04 45 53.4**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=250,slow=6.0,SNR=3.6						
	comp=Z,2.5nm,0.5s						
FORT	**Forrest**	**31.50**	**216**	P	**P**	**04 46 12.3**	**-1.9**
FORT				IAmb	IAmb	04 46 38.3	
	comp=Z,9.4nm,0.9s						
MJAR	**Matsushiro Arr**	**43.45**	**347**	P	**P**	**04 47 54.5**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=132,slow=5.9,SNR=1.5						
	comp=Z,1.3nm,0.5s						
KSRS	**Korea Array**	**47.42**	**337**	P	**P**	**04 48 26.7**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=155,slow=8.9,SNR=3.0						
	comp=Z,1.1nm,0.6s						
PEA0B	**Petropavlovsk-**	**59.32**	**6**	P	**P**	**04 49 54.0**	**+0.5**
PETK	**Petropavlovsk-**	**59.32**	**6**	P	**P**	**04 49 53.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=162,slow=7.4,SNR=5.0						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**65.30**	**330**	P	**P**	**04 50 34.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=142,slow=4.9,SNR=2.9						
	comp=Z,0.4nm,0.7s						
VNDA	**Vanda**	**71.85**	**177**	P	**P**	**04 51 14.3**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=337,slow=7.1,SNR=10.0						
	comp=Z,0.9nm,0.5s						
VNDA	**Vanda**	**71.85**	**177**	P	**P**	**04 51 14.0**	**+0.1**
VNDA				IAmb	IAmb	04 51 30.0	
	comp=Z,3.6nm,1.5s						
ZALV	**Zalesovo Beam**	**79.99**	**327**	P	**P**	**04 51 60.0**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=107,slow=9.2,SNR=1.9						
	comp=Z,0.6nm,0.5s						
L19K	**White Mountain**	**80.33**	**23**	P	**P**	**04 52 02.7**	**+0.4**
CAST	**Castle Rocks**	**82.06**	**23**	P	**P**	**04 52 11.0**	**-0.5**
CAST				IAmb	IAmb	04 52 12.7	
	comp=Z,5.7nm,1.1s						
QSPA	**South Pole Qui**	**84.00**	**180**	P	**P**	**04 52 21.1**	**-0.6**
ILAR	**Eielson Array**	**84.71**	**23**	P	**P**	**04 52 24.1**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=242,slow=5.0,SNR=7.7						
	comp=Z,0.9nm,0.8s						
ILAR	**Eielson Array**	**84.71**	**23**	P	**P**	**04 52 24.3**	**-0.8**
BDFB	**Brasilia**	**152.78**	**142**	PKPbc	**PKPbc**	**04 59 49.0**	**-0.3**
	comp=Z,4.7nm,0.5s,baz=180,slow=1.1,SNR=14						

WEL 14 04:41:57.6±0.3, 42°S±2°×17°4E±°, h7km±2km, M3.6/18, ML3.9/18, MLv3.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=175.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**122**	P	Pg	04 42 00.2	+0.9
BSWZ	**Blackbirch Sta**	**0.20**	**271**	P	Pg	04 42 02.4	+0.8
BSWZ				S	Sg	04 42 06.6	+2.1
TUWZ	**Tuamarina**	**0.33**	**332**	P	Pb	04 42 04.9	-0.8
TUWZ				S	Sb	04 42 10.4	-0.7
TCW	**Tory Channel**	**0.52**	**11**	P	Pg	04 42 07.9	+0.4
TCW				S	Sg	04 42 15.3	+1.0
WEL	**Wellington**	**0.64**	**47**	P	Pb	04 42 10.4	-0.6
WEL				S	Sb	04 42 20.3	+0.2
NNZ	**Nelson**	**0.76**	**311**	P	Pg	04 42 12.5	+0.2
PLWZ	**Palliser**	**0.84**	**80**	P	Pb	04 42 14.5	-0.1
PLWZ				S	Sn	04 42 27.5	-1.0
MSWZ	**Moikau Station**	**0.88**	**70**	P	Pb	04 42 14.8	-0.3
MSWZ				S	Sn	04 42 28.5	-0.8
CAW	**Cannon Point**	**0.92**	**49**	P	Pg	04 42 15.5	+0.2
CAW				S	Sb	04 42 28.8	+0.6
DUWZ	**D'Urville Isla**	**0.93**	**349**	P	Pg	04 42 15.2	-0.2
DUWZ				S	Sb	04 42 29.3	+0.7
THZ	**Tophouse**	**0.93**	**267**	P	Pb	04 42 16.0	0.0
PAWZ	**Paruwai Farm**	**1.02**	**71**	P	Pg	04 42 16.7	-0.4
KIW	**Kapiti Island**	**1.03**	**34**	P	Pg	04 42 17.1	-0.3
KIW				S	Sb	04 42 31.3	-0.1
MRNZ	**Matariki Terra**	**1.09**	**287**	P	Pn	04 42 19.1	-0.2
MRNZ				S	Sn	04 42 34.8	+0.3
TKNZ	**Takaka Hill**	**1.12**	**307**	P	Pg	04 42 19.2	+0.1
TKNZ				S	Sn	04 42 35.3	-0.1
MTW	**Mount Morrison**	**1.16**	**62**	P	Pg	04 42 18.8	-1.0
MTW				S	Sb	04 42 35.2	0.0
OGWZ	**Otaki Gorge**	**1.19**	**41**	P	Pg	04 42 20.0	-0.3
OGWZ				S	Sb	04 42 36.3	+0.5
TRWZ	**Traveller**	**1.20**	**75**	P	Pg	04 42 18.9	-1.7
HOWZ	**Holdsworth Sta**	**1.32**	**52**	P	Pn	04 42 21.1	-1.2
TMWZ	**Te Maipa**	**1.45**	**66**	P	Pn	04 42 22.4	-1.8
MRZ	**Mangatainoka R**	**1.51**	**46**	P	Pn	04 42 24.1	-0.9
TIWZ	**Tintock**	**1.61**	**55**	P	Pn	04 42 25.0	-1.5
OHWZ	**Ohakea**	**1.75**	**31**	P	Pb	04 42 29.4	-0.6
DSZ	**Denniston Nort**	**1.75**	**268**	P	Pb	04 42 29.5	-0.6
PRWZ	**Pori Road**	**1.80**	**50**	P	Pn	04 42 27.7	-1.3
POWZ	**Post Office Ro**	**1.81**	**43**	P	Pn	04 42 28.0	-1.0
BFZ	**Birch Farm**	**1.89**	**58**	P	Pn	04 42 28.0	-2.3
WAZ	**Wanganui**	**2.06**	**18**	P	Pb	04 42 34.8	-0.5
DVHZ	**Dannevirke**	**2.08**	**48**	P	Pn	04 42 31.2	-1.7
TSZ	**Takapari Road**	**2.15**	**40**	P	Pn	04 42 33.4	-0.4
ANWZ	**Angora Road**	**2.16**	**55**	P	Pn	04 42 33.5	-0.4
PRHZ	**Porangahau**	**2.38**	**53**	P	Pn	04 42 34.6	-2.3
PNHZ	**Pukenui**	**2.38**	**42**	P	Pn	04 42 35.5	-1.5
KHEZ	**Kahui Hut**	**2.42**	**358**	P	Pb	04 42 41.7	+0.2
NBEZ	**Newall Road No**	**2.46**	**355**	P	Pb	04 42 42.8	+0.8
PKE	**Pukeiti**	**2.52**	**357**	P	Pb	04 42 44.0	+0.8
MTVZ	**Mangateitei**	**2.54**	**24**	P	Pb	04 42 43.6	+0.2
MOVZ	**Moawhango**	**2.61**	**28**	P	Pb	04 42 44.3	-0.4
VRZ	**Vera Road**	**2.63**	**10**	P	Pn	04 42 42.1	+1.7
WNVZ	**Wahianoa**	**2.63**	**25**	P	Pb	04 42 44.6	-0.5
TRVZ	**Turoa**	**2.64**	**24**	P	Pb	04 42 44.7	-0.6
BHHZ	**Black Hill Sta**	**2.66**	**34**	P	Pb	04 42 45.4	-0.2
DRZ	**Dome Shelter**	**2.67**	**24**	P	Pb	04 42 45.9	+0.1
WHVZ	**Whangaehu Hut**	**2.67**	**25**	P	Pb	04 42 44.7	-1.1
FWVZ	**Far West T-bar**	**2.68**	**24**	P	Pb	04 42 44.5	-1.6
TUVZ	**Tukino**	**2.70**	**26**	P	Pb	04 42 46.3	-0.1
NGZ	**Ngauruhoe**	**2.77**	**24**	P	Pb	04 42 47.3	-0.2
SNVZ	**South Ngauruho**	**2.77**	**25**	P	Pb	04 42 46.6	-0.9
WACZ	**Wakanui South**	**2.80**	**217**	P	Pn	04 42 33.1	-10
OTVZ	**Oturere**	**2.80**	**25**	P	Pb	04 42 46.6	-1.4
NNVZ	**North Ngauruho**	**2.82**	**24**	P	Pb	04 42 47.6	-0.6
TWVZ	**Taurewa**	**2.82**	**21**	P	Pb	04 42 48.0	-0.3
WTVZ	**West Tongariro**	**2.82**	**23**	P	Pb	04 42 48.7	+0.4
ETVZ	**East Tongariro**	**2.84**	**25**	P	Pb	04 42 48.2	-0.5
KRVZ	**Karewarewa**	**2.86**	**24**	P	Pb	04 42 48.8	-0.1
TMVZ	**Te Maari**	**2.86**	**25**	P	Pb	04 42 48.2	-0.7
NTVZ	**North Tongarir**	**2.87**	**25**	P	Pb	04 42 47.6	-1.5
KATZ	**Kakaramea**	**2.98**	**24**	P	Pb	04 42 51.5	+0.4
RPZ	**Rata Peaks**	**3.03**	**228**	P	Pn	04 42 36.8	-9.1
BKZ	**Black Stump Fm**	**3.12**	**36**	P	Pn	04 42 53.9	+0.6
HIZ	**Hauiti**	**3.25**	**10**	P	Pn	04 42 51.6	+2.7
TLZ	**Tolley Road**	**3.55**	**18**	P	Pb	04 42 57.9	-2.8
LIRZ	**Lichensteins R**	**4.09**	**26**	P	Pn	04 43 03.4	+2.9
TOZ	**Tahuroa Road**	**4.12**	**15**	P	Pn	04 43 05.0	+4.2
AWAZ	**Awhitu Peninsu**	**4.66**	**5**	P	Pn	04 43 11.1	+2.8
MKAZ	**Moumakai**	**4.67**	**10**	P	Pn	04 43 10.4	+1.9
SYZ	**Scrubby Hill**	**6.02**	**215**	P	Pn	04 43 17.7	-9.2

WEL 14 04:44:13.1±0.5, 42°S±3°×17°4E±°, h6km±3km, M3.4/7, ML3.6/7, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=138.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.02**	**303**	P	Pg	04 44 13.1	-1.0
GVZ	**Greta Valley S**	**0.67**	**216**	P	Pg	04 44 26.3	+0.4
GVZ				S	Sb	04 44 36.5	-0.2
AMCZ	**Amberley**	**1.00**	**222**	P	Pg	04 44 32.0	-0.4
LTZ	**Lake Taylor**	**1.02**	**249**	P	Pg	04 44 32.1	-0.5
LTZ				S	Sg	04 44 46.2	+0.4
TUWZ	**Tuamarina**	**1.04**	**16**	P	Pb	04 44 33.8	+0.3
TCW	**Tory Channel**	**1.33**	**24**	S	Sb	04 44 54.1	-1.6
OKCZ	**Okains Bay**	**1.35**	**196**	P	Pn	04 44 36.7	-1.9
DSZ	**Denniston Nort**	**1.48**	**297**	P	Pb	04 44 40.8	-0.3
DSZ				S	Sg	04 45 02.1	+1.6
AKCZ	**Akaroa Harbour**	**1.52**	**198**	P	Pn	04 44 38.6	-2.4
AKCZ				S	Sn	04 44 58.2	-2.9
INZ	**Inchbonnie**	**1.59**	**259**	P	Pn	04 44 41.6	-0.4
INZ				S	Sb	04 45 03.4	0.0
MSWZ	**Moikau Station**	**1.61**	**52**	S	Sg	04 45 08.7	+3.7
KIW	**Kapiti Island**	**1.86**	**33**	S	Sn	04 45 10.0	+0.5
MTW	**Mount Morrison**	**1.93**	**49**	S	Sg	04 45 15.3	+0.3
WVZ	**Waitaha Valley**	**2.18**	**252**	P	Pn	04 44 49.6	-0.3
RPZ	**Rata Peaks**	**2.24**	**234**	P	Pn	04 44 48.9	-2.0
RPZ				S	Sn	04 45 15.6	-3.3

WEL 14 04:47:53.6±0.3, 42°S±2°×17°4E±°, h11km±3km, M3.2/14, ML3.5/14, MLv3.2/14, Error ellipse: s-maj=0.0km s-min=0.0km az=128.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**14**	P	Pb	04 48 01.8	-0.3
BSWZ				S	Sb	04 48 07.5	-0.3
KHZ	**Kahutara**	**0.38**	**205**	P	Pb	04 48 01.9	-0.6
KHZ				S	Sb	04 48 07.7	-0.7
TUWZ	**Tuamarina**	**0.66**	**12**	P	Pb	04 48 07.2	+0.1
TUWZ				S	Sb	04 48 17.3	+1.2
THZ	**Tophouse**	**0.71**	**295**	P	Pg	04 48 07.6	+0.3
THZ				S	Sb	04 48 17.5	-0.3
TCW	**Tory Channel**	**0.94**	**24**	P	Pg	04 48 11.6	-0.2
TCW				S	Sn	04 48 26.2	0.0
MRNZ	**Matariki Terra**	**1.00**	**311**	P	Pn	04 48 12.5	-0.4
GVZ	**Greta Valley S**	**1.04**	**211**	P	Pn	04 48 14.1	-0.2
GVZ				S	Sn	04 48 29.7	+0.8
WEL	**Wellington**	**1.09**	**44**	P	Pg	04 48 14.6	0.0
WEL				S	Sn	04 48 30.3	+0.4
TKNZ	**Takaka Hill**	**1.20**	**330**	P	Pb	04 48 14.0	-2.4
PLWZ	**Palliser**	**1.23**	**66**	P	Pn	04 48 15.6	-1.2
MSWZ	**Moikau Station**	**1.29**	**60**	P	Pn	04 48 16.6	-1.1
LTZ	**Lake Taylor**	**1.31**	**237**	P	Pb	04 48 18.2	-0.1
CAW	**Cannon Point**	**1.37**	**46**	P	Pn	04 48 18.3	-0.5
CAW				S	Sn	04 48 37.1	+0.2
PAWZ	**Paruwai Farm**	**1.43**	**62**	P	Pn	04 48 18.2	-1.3
KIW	**Kapiti Island**	**1.49**	**36**	P	Pn	04 48 20.4	+0.1
KIW				S	Sg	04 48 41.8	+0.4
QRZ	**Quartz Range**	**1.55**	**323**	P	Pn	04 48 20.7	-0.5
TRWZ	**Traveller**	**1.59**	**66**	P	Pn	04 48 20.0	-1.8
MTW	**Mount Morrison**	**1.59**	**56**	P	Pn	04 48 20.4	-1.3
OGWZ	**Otaki Gorge**	**1.64**	**41**	P	Pn	04 48 22.0	-0.4
OKCZ	**Okains Bay**	**1.73**	**197**	P	Pn	04 48 22.6	-1.1
OKCZ				S	Sn	04 48 44.6	-1.3
HOWZ	**Holdsworth Sta**	**1.77**	**49**	P	Pn	04 48 23.0	-1.1
OXZ	**Oxford**	**1.78**	**225**	P	Pn	04 48 23.3	-1.1
MQZ	**McQueen's Vall**	**1.83**	**206**	P	Pn	04 48 23.3	-1.7
MQZ				S	Sn	04 48 45.6	-2.5
INZ	**Inchbonnie**	**1.83**	**248**	P	Pn	04 48 26.0	+0.9
INZ				S	Sb	04 48 49.5	-0.7
TMWZ	**Te Maipa**	**1.87**	**60**	P	Pn	04 48 23.8	-1.8
AKCZ	**Akaroa Harbour**	**1.91**	**199**	P	Pn	04 48 24.8	-1.3
AKCZ				S	Sn	04 48 47.6	-2.5
MRZ	**Mangatainoka R**	**1.96**	**45**	P	Pn	04 48 25.9	-1.0
MRZ				S	Sn	04 48 50.6	-0.9
RACZ	**Rakaia**	**2.04**	**215**	P	Pn	04 48 26.4	-1.5
RACZ				S	Sn	04 48 52.0	-1.3
WACZ	**Wakanui South**	**2.34**	**216**	P	Pn	04 48 30.8	-1.2
WACZ				S	Sn	04 48 58.8	-2.0
RPZ	**Rata Peaks**	**2.58**	**229**	P	Pn	04 48 34.7	-0.6
RPZ				S	Sn	04 49 04.9	-1.9
ARCZ	**Arundel**	**2.67**	**224**	P	Pn	04 48 35.2	-1.3
ARCZ				S	Sn	04 49 07.1	-1.8
PRHZ	**Porangahau**	**2.82**	**51**	P	Pn	04 48 36.9	-1.7
TMZ	**Timaru**	**3.06**	**220**	P	Pn	04 48 40.8	-1.3
LBZ	**Lake Benmore**	**3.49**	**227**	P	Pn	04 48 46.7	-1.2
ODZ	**Otahua Downs**	**3.74**	**216**	P	Pn	04 48 49.5	-1.8
JCZ	**Jackson Bay**	**4.16**	**240**	P	Pn	04 48 58.4	+1.3
EAZ	**Earnscleugh**	**4.52**	**224**	P	Pn	04 49 00.3	-1.7
CTZ	**Chatham Island**	**7.26**	**106**	P	Pn	04 49 36.6	-3.1

IDC 14 04:48:24.9±4.8, 25°.01S×177°.54W, h0km, mb3.6/4, mbtmp3.6/4, MS3.5/1, Error ellipse: s-maj=318.6km s-min=30.8km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**35.76**	**300**	LR	LR	05 08 16.1	
	comp=Z,77nm,20.9s,baz=355,slow=33						
ASAR	**Alice Springs**	**44.08**	**261**	P	P	04 56 35.1	0.0
	0.5nm,0.7s,baz=97,slow=7.4,SNR=6.1						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**44.58**	**266**	P	P	04 56 38.7	-0.4
	0.4nm,0.7s,baz=106,slow=7.7,SNR=3.0						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**84.01**	**43**	P	P	05 00 58.0	+0.4
	0.5nm,0.7s,baz=222,slow=8.1,SNR=4.5						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**91.94**	**43**	P	P	05 01 35.0	-0.6
	0.4nm,0.7s,baz=207,slow=5.6,SNR=3.5						
	0.4nm,0.7s						

WEL 14 04:54:08.2±0.9, 42°S±6°×17°4E±°, h5km, M3.5/9, ML3.8/9, MLv3.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=168.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**349**	P	Pg	04 54 10.4	-0.5
BSWZ	**Blackbirch Sta**	**0.32**	**301**	P	Pg	04 54 15.1	+0.6
BSWZ				S	Sb	04 54 20.6	-1.4
TUWZ	**Tuamarina**	**0.51**	**333**	P	Pg	04 54 17.7	-0.3
BHW	**Baring Head**	**0.66**	**45**	P	Pg	04 54 21.4	+0.4
TCW	**Tory Channel**	**0.67**	**2**	P	Pg	04 54 20.7	-0.4
TCW				S	Sg	04 54 30.3	+0.6
WEL	**Wellington**	**0.71**	**33**	P	Pg	04 54 22.1	+0.3
WEL				S	Sb	04 54 32.6	-0.5
PLWZ	**Palliser**	**0.81**	**68**	P	Pb	04 54 25.0	+0.1
NNZ	**Nelson**	**0.93**	**315**	P	Pg	04 54 28.8	-0.2
THZ	**Tophouse**	**1.01**	**276**	P	Pb	04 54 28.1	-0.2
TKNZ	**Takaka Hill**	**1.29**	**311**	P	Pg	04 54 32.9	0.0
HOWZ	**Holdsworth Sta**	**1.37**	**45**	P	Pn	04 54 32.9	-1.1
TMWZ	**Te Maipa**	**1.46**	**58**	P	Pn	04 54 33.8	-1.4
MRZ	**Mangatainoka R**	**1.58**	**40**	P	Pn	04 54 35.9	-1.0
QRZ	**Quartz Range**	**1.67**	**309**	P	Pb	04 54 39.5	+0.1
LTZ	**Lake Taylor**	**1.72**	**238**	P	Pn	04 54 35.3	-3.6
PRWZ	**Pori Road**	**1.86**	**45**	P	Pn	04 54 39.3	-1.4
OHWZ	**Ohakea**	**1.86**	**26**	P	Pb	04 54 42.4	-0.2
POWZ	**Post Office Ro**	**1.88**	**38**	P	Pn	04 54 40.7	-0.3
BFZ	**Birch Farm**	**1.92**	**52**	P	Pn	04 54 40.8	-0.8
DVHZ	**Dannevirke**	**2.15**	**43**	P	Pn	04 54 42.4	-2.3
MQZ	**McQueen's Vall**	**2.17**	**212**	P	Pn	04 54 40.6	-4.4
AKCZ	**Akaroa Harbour**	**2.22**	**206**	P	Pn	04 54 42.4	-3.3
TSZ	**Takapari Road**	**2.23**	**36**	P	Pn	04 54 44.6	-1.3
INZ	**Inchbonnie**	**2.25**	**247**	P	Pn	04 54 45.9	-0.1
RACZ	**Rakaia**	**2.41**	**219**	P	Pn	04 54 43.4	-4.9
RPZ	**Rata Peaks**	**2.98**	**231**	P	Pn	04 54 52.1	-4.0
ARCZ	**Arundel**	**3.06**	**227**	P	Pn	04 54 53.6	-3.7

WEL 14 05:05:00.3±0.5, 42°S±2°×17°4E±°, h10km±3km, M3.3/18, ML3.6/10, MLv3.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=107.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**226**	P	Pg	05 05 05.4	+0.6
KHZ				S	Sg	05 05 09.1	+1.4
BSWZ	**Blackbirch Sta**	**0.56**	**10**	P	Pg	05 05 08.8	-2.3
THZ	**Tophouse**	**0.81**	**308**	P	Pb	05 05 16.9	+0.5
THZ				S	Sb	05 05 27.6	+0.3
TUWZ	**Tuamarina**	**0.85**	**10**	P	Pb	05 05 17.6	+0.5
GVZ	**Greta Valley S**	**0.88**	**217**	P	Pb	05 05 17.7	+0.2
GVZ				S	Sb	05 05 30.3	+0.9
NNZ	**Nelson**	**1.08**	**345**	P	Pg	05 05 19.8	-1.3
TCW	**Tory Channel**	**1.13**	**21**	P	Pb	05 05 21.4	-0.5
TCW				S	Sg	05 05 37.1	+0.5
MRNZ	**Matariki Terra**	**1.14**	**319**	P	Pn	05 05 23.1	+0.8
MRNZ				S	Sb	05 05 35.6	-1.3
LTZ	**Lake Taylor**	**1.21**	**244**	P	Pb	05 05 22.8	-0.4
LTZ				S	Sb	05 05 37.6	-1.3
AMCZ	**Amberley**	**1.22**	**221**	P	Pn	05 05 23.2	-0.1
AMCZ				S	Sb	05 05 38.9	-0.3
WEL	**Wellington**	**1.24**	**38**	P	Pn	05 05

TMVZ	Te Maari	2.82	22	P		Pn	05 12 28.6	+1.0	
KRVZ	Karewarewa	2.83	21	P		Pb	05 12 34.4	+1.4	
NTVZ	North Tongariro	2.83	21	P		Pn	05 12 28.9	+1.2	
KATZ	Kakaramea	2.95	21	P		Pb	05 12 36.7	+1.5	
RPZ	Rata Peaks	3.13	230	Pn		Pn	05 12 30.3	-1.4	
	3.3nm,0.3s,baz=63,slow=12,SNR=1.5								
RPZ				Sn		Sn	05 13 06.7	-2.4	
	3.9nm,0.3s,baz=22,slow=7.2,SNR=1.6								
	8.0nm,0.3s								
HIZ	Hauiti	3.25	7	P		Pn	05 12 37.1	+3.7	
TLZ	Tolley Road	3.53	15	P		Pb	05 12 42.1	-2.9	
MKAZ	Moumakai	4.68	8	P		Pn	05 12 54.7	+1.8	
HAZ	Te Kaha	4.78	35	P		Pn	05 12 53.1	-1.3	
PKGZ	Pakihiroa	4.80	38	P		Pn	05 12 53.2	-1.6	
ASAR	Alice Springs	38.10	285	P		P	05 18 59.4	-2.1	
	0.2nm,0.6s,baz=124,slow=7.2,SNR=4.9								
	0.2nm,0.6s								
WRA	Warramunga Arr	40.17	290	P		P	05 19 16.1	-2.7	
	0.4nm,0.6s,baz=127,slow=8.4,SNR=6.6								
	0.4nm,0.6s								
TORD	Torodi Ar. Bea	150.80	195	PKPbc		PKPbc	05 31 35.3	0.0	
	0.4nm,0.6s,baz=142,slow=2.9,SNR=4.7								

WEL ***14*** *05:16:00,42.˚44S×173.˚49E,h11km,ML5.0,Mw4.8, Moment Tensor Solution. s12 Moment tensor: Scale 10^16Nm; Mrr0.90; Mθθ0.47; Mϕϕ-1.36; Mrθ0.94; Mrϕ-1.79; Mθϕ0.20; Fault plane solution: M0 2.31000×10^16 NP1: ϕs170.00000°,δ58.00000°,λ18.00000°. NP2:ϕs70.00000°, δ75.00000°,λ147.00000°. Principal axes: T -2587.8600, Plg34.0000°, Azm26.0000°; N 2026.7900, Plg54.0000°, Azm228.0000°; P 561.0700, Plg11.0000°, Azm123.0000°;*

IDC ***14*** *05:16:28.1±0.8,42.˚46S×173.˚50E,h0km,mb4.4/8, mbtmp4.4/9,ML5.1/1,MS4.0/30 Error ellipse: s-maj=25.4km s-min=19.6km az=109.0*

NEIC ***14*** *05:16:29.8±2.7,42.˚38S±0.˚03×173.˚62E±0.˚05,h18km, mb4.9/33,Mwr4.8/32,Error ellipse: s-maj=5.7km s-min=3.5km az=120.0*

NOU ***14*** *05:16:30.6,42.˚56S×173.˚60E,h12km,MLv5.3/25,South Island, New Zealand*

NEIC ***14*** *05:16:30.4,42.˚41S×173.˚57E,h16km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.53; Mθθ1.09; Mϕϕ-1.62; Mrθ0.98; Mϕϕ-1.34; Mθr-0.04; Fault plane solution: M0 2.19000×10^16 NP1:ϕs161.13000°, δ63.60000°,λ16.76000°. NP2:ϕs63.51000°,δ75.03000°, λ152.60000°. Principal axes: T 2.1669, Plg30.0000°, Azm20.0000°; N 0.0457, Plg59.0000°, Azm217.0000°; P -2.2126, Plg8.0000°, Azm114.0000°;*

WEL ***14*** *05:16:32.5±0.4,42˚S×17˚3E±˚,h5km,M5.2/7,ML5.3/7, MLv5.2/7 Error ellipse: s-maj=0.0km s-min=0.0km az=143.2*

ISC 14 05:16:30.7±0.4, 42˚48S±0.˚02×173˚57E±0.˚03, h20km±3km, n298, σt1§61/292, mb4.8/27, MS4.0/32, South Island

Code	Station Name	Δ°	Az°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.06	338	Pg		Pb	05 16 34.8	+0.3
KHZ				Sg		Sb	05 16 36.9	0.0
KHZ	Kahutara	0.06	338	P		Pb	05 16 34.8	+0.3
KHZ	Kahutara	0.06	338	P		Pb	05 16 34.8	+0.3
KHZ				S		Sb	05 16 37.2	+0.2
GVZ	Greta Valley S	0.63	219	Pg		Pb	05 16 42.8	-0.4
GVZ				Sg		Sn	05 16 54.2	+0.2
GVZ	Greta Valley S	0.63	219	P		Pn	05 16 44.9	+0.4
GVZ				S		Sn	05 16 54.6	+0.6
BSWZ	Blackbirch Sta	0.79	17	Pg		Pb	05 16 42.7	-3.1
BSWZ	Blackbirch Sta	0.79	17	P		Pn	05 16 47.2	+0.5
THZ	Tophouse	0.87	325	Pg		Pb	05 16 46.6	-0.5
THZ				Sg		Sb	05 16 56.5	-1.8
THZ	Tophouse	0.87	325	P		Pb	05 16 46.6	-0.5
THZ				S		Sb	05 16 56.6	-1.7
CMWZ	Cape Campbell	0.87	34	Pg		Pb	05 16 44.2	-2.9
CMWZ	Cape Campbell	0.87	34	P		Pn	05 16 50.5	+2.7
AMCZ	Amberley	0.97	224	P		Pn	05 16 50.1	+0.9
LTZ	Lake Taylor	1.01	252			Pb	05 16 49.0	-0.5
LTZ						Sb	05 17 02.7	+0.4
LTZ	Lake Taylor	1.01	252	P		Pb	05 16 49.0	-0.5
LTZ				S		Sn	05 17 03.6	+0.3
TUWZ	Tuamarina	1.08	15			Pn	05 16 49.0	-1.6
MRNZ	Matariki Terra	1.23	330	P		Pb	05 16 53.3	0.0
NNZ	Nelson	1.27	353			Pn	05 16 52.4	-0.8
NNZ	Nelson	1.27	353	P		Pn	05 16 53.2	0.0
NNZ				S		Sb	05 17 14.2	+4.5
OKCZ	Okains Bay	1.30	197	P		Pb	05 16 55.0	+0.5
TCW	Tory Channel	1.37	23	P		Pb	05 16 55.4	-0.2
MQZ	McQueen's Vall	1.40	208			Pn	05 16 55.3	+0.2
MQZ	McQueen's Vall	1.40	208	P		Pn	05 16 55.4	+0.2
OXZ	Oxford	1.41	232			Pn	05 16 55.4	+0.1
OXZ	Oxford	1.41	232	P		Pn	05 16 55.4	+0.1
SNZO	South Karori	1.44	36			Pn	05 16 55.6	0.0
SNZO	South Karori	1.44	36	P		Pb	05 16 57.7	+0.9
AKCZ	Akaroa Harbour	1.48	199	P		Pb	05 16 57.0	-0.4
WEL	Wellington	1.49	37	P		Pb	05 16 58.3	+0.7
WEL				S		Sb	05 17 19.1	+3.0
DSZ	Denniston Nort	1.50	298	P		Pb	05 16 57.4	-0.5
DSZ				S		Sb	05 17 18.9	+2.4
TKNZ	Takaka Hill	1.51	342	P		Pb	05 16 58.1	0.0
TKNZ				S		Sb	05 17 17.7	+1.0
PLWZ	Palliser	1.55	55			Pn	05 16 54.4	-2.7
PLWZ	Palliser	1.55	55	P		Pn	05 16 54.5	-2.7
INZ	Inchbonnie	1.59	260	P		Pn	05 16 58.3	+0.6
RACZ	Rakaia	1.63	219	P		Pn	05 16 58.5	+0.2
RACZ				S		Sb	05 17 19.4	-0.8
MSWZ	Moikau Station	1.64	50	Pn		Pn	05 16 54.9	-3.5
MSWZ	Moikau Station	1.64	50	P		Pb	05 17 00.4	+0.2
DUWZ	D'Urville Isla	1.69	9	P		Pb	05 17 01.1	0.0
DUWZ				S		Sb	05 17 26.4	+4.4
PAWZ	Paruwai Farm	1.76	52	P		Pb	05 17 01.6	-0.8
CAW	Cannon Point	1.77	40	P		Pb	05 17 02.5	+0.1
CAW				S		Sb	05 17 25.1	+1.0
MHCZ	Mount Hutt	1.81	234	P		Pn	05 17 01.2	+0.5
QRZ	Quartz Range	1.82	334			Pn	05 16 58.4	-2.5
QRZ	Quartz Range	1.82	334	P		Pb	05 17 03.1	-0.3
QRZ	Quartz Range	1.82	334	P		Pb	05 17 03.0	-0.3
QRZ				S		Sb	05 17 26.8	+1.0
KIW	Kapiti Island	1.90	32	P		Pb	05 17 04.0	-0.6
KIW				P		Pb	05 17 04.0	-0.6
TRWZ	Traveller	1.91	56	P		Pn	05 17 02.8	+0.7
WACZ	Wakanui South	1.94	220	P		Pn	05 17 02.9	+0.5
WVZ	Waitaha Valley	2.17	253	P		Pn	05 17 06.6	+0.9
RPZ	Rata Peaks	2.22	235	Pn		Pn	05 17 06.1	-0.2
	509nm,0.3s,baz=126,slow=0.7,SNR=274							
RPZ				Sn		Sn	05 17 32.6	-0.6
	708nm,0.3s,baz=345,slow=23,SNR=28							
	2µm,0.4s							
RPZ	Rata Peaks	2.22	235	P		Pn	05 17 06.6	+0.2
RPZ	Rata Peaks	2.22	235	P		Pn	05 17 06.6	+0.2
RPZ				S		Sn	05 17 34.1	+0.8
ARCZ	Arundel	2.29	229	P		Pn	05 17 07.4	+0.1
MRZ	Mangatainoka R	2.36	40			Pn	05 17 08.1	-0.1
TIWZ	Tintock	2.43	46	P		Pn	05 17 10.4	+1.1
CPWZ	Castlepoint	2.52	52	P		Pn	05 17 11.8	+1.4
GCSZ	Gaunt Creek Bo	2.53	249	P		Pn	05 17 11.7	+1.2
OHWZ	Ohakea	2.62	31	P		Pb	05 17 14.6	-2.3
PRWZ	Pori Road	2.63	44	P		Pn	05 17 12.3	+0.2
POWZ	Post Office Ro	2.66	39	P		Pn	05 17 13.5	+1.1
TMZ	Timaru	2.67	224	P		Pn	05 17 12.8	+0.3
BFZ	Birch Farm	2.69	49	Pn		Pn	05 17 13.2	+0.4
BFZ	Birch Farm	2.69	49	P		Pn	05 17 13.3	+0.4
BFZ	Birch Farm	2.69	49	P		Pn	05 17 13.4	+0.6
WAZ	Wanganui	2.92	22	P		Pb	05 17 19.8	-2.2
DVHZ	Dannevirke	2.92	43	P		Pn	05 17 16.4	+0.4
FOZ	Fox Glacier	2.95	248	Pn		Pn	05 17 16.9	+0.5
FOZ	Fox Glacier	2.95	248	P		Pn	05 17 17.5	+1.2
ANWZ	Angora Road	2.97	48	P		Pn	05 17 17.3	+0.6
TSZ	Takapari Road	3.01	38	P		Pn	05 17 18.1	+0.8
NMEZ	Namu Road	3.07	4	P		Pb	05 17 22.3	-2.3
LREZ	Lake Rotokare	3.08	12	P		Pb	05 17 21.9	-2.9
LBZ	Lake Benmore	3.12	231	Pn		Pn	05 17 19.2	+0.5
LBZ	Lake Benmore	3.12	231	P		Pn	05 17 19.2	+0.5
PRHZ	Porangahau	3.19	47	P		Pn	05 17 20.1	+0.4
KHEZ	Kahui Hut	3.19	6	P		Pb	05 17 23.8	-3.0
KHEZ	Kahui Hut	3.19	6	P		Pb	05 17 23.6	-3.2
NBEZ	Newall Road No	3.21	4	P		Pn	05 17 23.2	+3.2
NEZ	North Egmont	3.23	7	P		Pn	05 17 23.5	+3.2
WPHZ	Waipukurau	3.24	43	P		Pn	05 17 21.3	+0.9
PNHZ	Pukenui	3.24	39	P		Pn	05 17 21.0	+0.6
PKE	Pukeiti	3.29	6	P		Pn	05 17 24.6	+3.5
DREZ	Durham Road	3.32	8	P		Pn	05 17 25.2	+3.7
ODZ	Otahua Downs	3.33	219			Pn	05 17 21.7	+0.1
ODZ	Otahua Downs	3.33	219	P		Pn	05 17 21.6	0.0
ODZ	Otahua Downs	3.33	219	P		Pn	05 17 21.6	0.0
MTVZ	Mangateitei	3.41	26	P		Pn	05 17 25.4	+2.7
MHEZ	Mangahewa	3.44	10	P		Pn	05 17 27.2	+4.1
PKVZ	Pokaka	3.46	24	P		Pn	05 17 26.2	+2.8
VRZ	Vera Road	3.47	15	P		Pn	05 17 26.7	+3.2
PXZ	Pawanui	3.48	47	P		Pn	05 17 24.2	+0.5
MOVZ	Moawhango	3.48	29	P		Pn	05 17 25.1	+1.3
WNVZ	Wahianoa	3.50	27	P		Pn	05 17 25.7	+1.6
TRVZ	Turoa	3.51	26	P		Pn	05 17 26.7	+2.4
BHHZ	Black Hill Sta	3.53	33	P		Pn	05 17 25.8	+1.4
DRZ	Dome Shelter	3.54	26	P		Pn	05 17 27.3	+2.6
WHVZ	Whangaehu Hut	3.54	26	P		Pn	05 17 27.2	+2.5
FWVZ	Far West T-bar	3.55	26	P		Pn	05 17 27.1	+2.2
TUVZ	Tukino	3.57	27	P		Pn	05 17 27.7	+2.6
NGZ	Ngauruhoe	3.64	26	P		Pn	05 17 28.4	+2.4
SNVZ	South Ngauruho	3.64	26	P		Pn	05 17 28.3	+2.3
KAHZ	Kahuranaki	3.66	44	P		Pn	05 17 26.2	0.0
OTVZ	Oturere	3.67	26	P		Pn	05 17 28.7	+2.3
NNVZ	North Ngauruho	3.68	26	P		Pn	05 17 28.9	+2.3
TWVZ	Taurewa	3.68	23	P		Pn	05 17 28.8	+2.2
WTVZ	West Tongariro	3.69	25	P		Pn	05 17 28.9	+2.2
ETVZ	East Tongariro	3.71	27	P		Pn	05 17 29.1	+2.2
KRVZ	Karewarewa	3.73	26	P		Pn	05 17 29.2	+2.1
TMVZ	Te Maari	3.73	26	P		Pn	05 17 29.4	+2.2
NTVZ	North Tongariro	3.73	26	P		Pn	05 17 29.6	+2.3
KWHZ	Kaweka Forest	3.73	36	P		Pn	05 17 27.7	+0.4
JCZ	Jackson Bay	3.84	244	P		Pn	05 17 29.4	+0.7
JCZ	Jackson Bay	3.84	244	P		Pn	05 17 29.5	+0.8
MCHZ	McNeill Hill	3.84	39	P		Pn	05 17 29.4	+0.8
KATZ	Kakaramea	3.85	25	P		Pn	05 17 31.2	+2.3
CKHZ	Cape Kidnapper	3.87	44	P		Pn	05 17 29.4	+0.4
RATZ	Rangitukua	3.97	26	P		Pn	05 17 33.1	+2.6
BKZ	Black Stump Fm	3.98	35			Pn	05 17 30.6	0.0
BKZ	Black Stump Fm	3.98	35	P		Pn	05 17 32.1	+0.6
BKZ	Black Stump Fm	3.98	35	P		Pn	05 17 31.0	+0.4
HHSZ	Highcliff Hill	4.02	211	P		Pn	05 17 31.4	+0.2
WKZ	Wanaka	4.05	233			Pn	05 17 31.4	-0.2
WKZ	Wanaka	4.05	233	P		Pn	05 17 31.5	0.0
HIZ	Hauiti	4.08	14	Pn		Pn	05 17 30.6	-1.3
HIZ	Hauiti	4.08	14	P		Pn	05 17 35.0	+3.1
HIZ	Hauiti	4.08	14	P		Pn	05 17 34.9	+3.0
WATZ	Wairara	4.11	24	P		Pn	05 17 34.2	+1.9
ARHZ	Aropaoanui	4.13	40	P		Pn	05 17 32.7	+0.1
EAZ	Earnscleugh	4.13	227	P		Pn	05 17 32.4	-0.2
NMHZ	Naumai	4.17	37	P		Pn	05 17 33.6	+0.3
WHTZ	Whakaora	4.22	26	P		Pn	05 17 37.1	+3.3
MRHZ	Matea Rd	4.23	32	P		Pn	05 17 34.4	+0.3
WHHZ	Waihua	4.39	41	P		Pn	05 17 36.9	+0.7
MTHZ	Maungataniwha	4.39	36	P		Pn	05 17 36.6	+0.4
TLZ	Tolley Road	4.41	21	P		Pn	05 17 38.2	+1.8
ALRZ	Allen Road	4.44	29	P		Pn	05 17 37.5	+0.6
RAHZ	Arahi	4.45	38	P		Pn	05 17 36.8	-0.2
TUZ	Tuapeka	4.49	218	P		Pn	05 17 38.1	+0.6
GRRZ	Galatos Road	4.55	26	P		Pn	05 17 40.1	+1.6
HRRZ	Handcock Road	4.58	28	P		Pn	05 17 40.4	+1.7
HSRZ	Hossack Road	4.63	27	P		Pn	05 17 40.8	+1.3
KNZ	Kokohu	4.65	43	P		Pn	05 17 39.7	0.0
RTZ	Ruatahuna	4.65	35	P		Pn	05 17 40.7	+0.8
MSZ	Milford Sound	4.65	240	P		Pn	05 17 39.2	-0.5
MHGZ	Mahia Peninsul	4.67	46	P		Pn	05 17 40.5	+0.4
MUGZ	Murupara	4.68	32	P		Pn	05 17 42.2	+2.0
RRRZ	Republican Roa	4.70	30	P		Pn	05 17 41.3	+0.8
HLRZ	Highlands Stat	4.72	28	P		Pn	05 17 43.3	+2.5
UTU	Utuhina	4.74	26	P		Pn	05 17 42.9	+2.0
TARZ	Mount Tarawera	4.79	29	P		Pn	05 17 42.7	+0.9
NGRZ	Ngongotaha	4.80	25	P		Pn	05 17 44.3	+2.4
OMRZ	Omania	4.86	27	P		Pn	05 17 44.4	+1.7
MLZ	Mavora Lakes	4.88	232	Pn		Pn	05 17 42.4	-0.6
MLZ	Mavora Lakes	4.88	232	P		Pn	05 17 42.5	-0.6
KARZ	Kaharoa	4.90	26	P		Pn	05 17 45.6	+2.4
RIGZ	Rimuhau	4.94	42	P		Pn	05 17 43.6	-0.1
TOZ	Tahuroa Road	4.96	18	P		Pn	05 17 45.9	+1.8
KMRZ	Kaimai	4.97	22	P		Pn	05 17 45.9	+1.7
URZ	Urewera	5.00	34	P		Pn	05 17 45.4	+0.8
	462nm,0.6s							
MARZ	Manawahe	5.08	29	P		Pn	05 17 45.7	+0.1
SYZ	Scrubby Hill	5.15	216	P		Pn	05 17 47.6	+1.0
	322nm,0.5s							
SYZ	Scrubby Hill	5.15	216	P		Pn	05 17 47.3	+0.7
OPRZ	Ohinepanea	5.16	27	P		Pn	05 17 47.8	+1.0
TKGZ	Te Karaka	5.19	40	P		Pn	05 17 46.7	-0.4
WHZ	Wether Hill Ro	5.29	228	Pn		Pn	05 17 47.3	-1.2
WHZ	Wether Hill Ro	5.29	228	P		Pn	05 17 47.4	-1.2
WHRZ	Whale Island	5.30	31	P		Pn	05 17 49.9	+1.2
CNGZ	Carnagh Statio	5.33	43	P		Pn	05 17 50.8	+1.7
TWGZ	Tauwhareparae	5.46	40	P		Pn	05 17 50.5	-0.4
AWAZ	Awhitu Peninsu	5.47	9	P		Pn	05 17 53.6	+2.6
RUGZ	Raukumara Rang	5.49	36	P		Pn	05 17 50.4	-1.0
MKAZ	Moumakai	5.50	13	P		Pn	05 17 53.3	+1.9
DCZ	Deep Cove	5.51	235	Pn		Pn	05 17 50.4	-1.2
DCZ	Deep Cove	5.51	235	P		Pn	05 17 51.2	-0.3
MYRZ	Mayor Island	5.58	22	P		Pn	05 17 54.8	+2.2
WTAZ	Waiatarua	5.59	8	P		Pn	05 17 55.6	+2.9
ETAZ	East Tamaki Re	5.61	11	P		Pn	05 17 55.6	+2.7
EPAZ	Eden Park BICE	5.67	10	P		Pn	05 17 56.5	+2.8
HBAZ	Herne Bay Bore	5.69	9	P		Pn	05 17 56.4	+2.9
RVAZ	Riverhead Bore	5.75	8	P		Pn	05 17 57.5	+2.6
MBAZ	Motutapu North	5.79	11	P		Pn	05 17 58.2	+2.8
WIAZ	Waiheke Island	5.80	13	P		Pn	05 17 57.8	+2.3
APZ	The Paps	5.90	221	P		Pn	05 17 57.0	+0.1
ABAZ	Army Bay	5.95	10	P		Pn	05 18 00.3	+2.7
WMGZ	Waiomatatini S	5.95	40	P		Pn	05 17 57.2	-0.4
KUZ	Kuaotunu	5.96	17	P		Pn	05 17 58.8	+1.1
	111nm,0.5s							
KUZ	Kuaotunu	5.96	17	P		Pn	05 17 58.8	+1.1
MXZ	Matakaoa Point	6.11	38	Pn		Pn	05 17 58.5	-1.2
MXZ	Matakaoa Point	6.11	38	P		Pn	05 17 59.1	-0.6
	233nm,0.7s							
MXZ	Matakaoa Point	6.11	38	P		Pn	05 17 59.2	-0.6
PYZ	Puysegur Point	6.17	231	Pn		Pn	05 17 59.3	-1.2
PYZ	Puysegur Point	6.17	231	P		Pn	05 18 00.8	+0.2
	189nm,1.2s							
PYZ	Puysegur Point	6.17	231	P		Pn	05 17 59.4	-1.2
GRZ	Great Barrier	6.39	14	P		Pn	05 18 04.9	+1.4
WCZ	Waipu Caves	6.55	6	P		Pn	05 18 08.9	+3.0
OUZ	Omahuta	7.25	0	Pn		Pn	05 18 15.1	-0.3
OUZ	Omahuta	7.25	0	P		Pn	05 18 18.4	+3.0
	148nm,0.6s							
OUZ	Omahuta	7.25	0	P		Pn	05 18 18.3	+2.9
CTZ	Chatham Island	7.29	103	P		Pn	05 18 17.3	+1.3
	86nm,1.2s							
CTZ	Chatham Island	7.29	103	P		Pn	05 18 17.0	+1.0
TAU	Tasmania Unive	19.28	260	P		P	05 20 51.3	-2.7
TAU						IAmb	IAmb		05 21 05.8
	comp=Z,124nm,1.9s								
CAN	Canberra	20.37	282	P		P	05 21 05.1	-0.9	
CAN						IAmb	IAmb		05 21 18.6
	comp=Z,73nm,1.7s								
OUENC	Ouen Island, N	20.78	342	P		P	05 21 09.3	-1.1	
DZM	Mont Dzumac	21.20	341	ePn		P	05 21 15.0	-0.1	
	comp=Z,69nm,1.3s								
DZM					eLR	LR			05 26 18.4
	comp=Z,798nm,22.1s								
DZM	Mont Dzumac	21.20	341	P		P	05 21 16.5	+1.4	
	comp=Z,11nm,0.7s,baz=180,slow=9.0,SNR=11								
DZM						LR	LR		05 28 51.2
	comp=Z,787nm,19.1s,baz=192,slow=35								
	comp=Z,11nm,0.7s								
DZM	Mont Dzumac	21.20	341	P		P	05 21 14.7	-0.4	
DZM	Mont Dzumac	21.20	341	P		P	05 21 17.0	+1.9	
	comp=Z,28nm,1.3s								
ARMA	Armidale	21.29	297	P		P	05 21 14.0	-2.0	
ARMA						IAmb	IAmb		05 21 32.5
	comp=Z,35nm,1.4s								
LIFNC	LIFOU	22.28	344	P		P	05 21 22.3	-4.2	
LIFNC						IAmb	IAmb		05 21 45.0
	comp=Z,99nm,1.1s								
KOUNC	Koumac, New Ca	23.22	337	P		P	05 21 32.9	-3.5	
KOUNC						IAmb	IAmb		05 21 39.9
	comp=Z,113nm,1.5s								
MSVF	Nonsavu	24.96	10	P		P	05 21 53.8	+1.0	
	comp=Z,9.5nm,0.6s,baz=241,slow=14,SNR=8.2								
MSVF						LR	LR		05 30 52.8
	comp=Z,1µm,18.1s,baz=192,slow=35								
	comp=Z,9.5nm,0.6s								
MSVF	Nonsavu	24.96	10	P		P	05 21 51.6	-1.2	
MSVF						IAmb	IAmb		05 22 22.3
	comp=Z,29nm,1.1s								
MSVF	Nonsavu	24.96	10	P		P	05 21 54.3	+1.5	
	comp=Z,27nm,1.2s								
EIDS	Eidsvold	25.16	306	P		P	05 21 56.2	+1.6	
	baz=25,SNR=5.2								
EIDS	Eidsvold	25.16	306	P		P	05 21 55.6	+1.0	
EIDS						IAmb	IAmb		05 22 04.1
	comp=Z,24nm,1.0s								
STKA	Stephens Creek	27.44	282	P		P	05 22 15.0	-0.2	
	comp=Z,1.1nm,0.5s,baz=104,slow=8.5,SNR=3.6								
STKA						LR	LR		05 31 37.6
	comp=Z,186nm,19.7s,baz=162,slow=33								
	comp=Z,1.1nm,0.5s								
STKA	Stephens Creek	27.44	282	P		P	05 22 14.5	-0.6	
LCRK	Leigh Creek	30.65	281	P		P	05 22 45.3	+1.7	
	comp=Z,36nm,0.8s								
BBOO	Buckleboo	31.02	276	P		P	05 22 45.6	-1.2	
BBOO						IAmb	IAmb		05 23 44.0
	comp=Z,64nm,1.8s								
AFI	Afiamalu	31.16	28	P		P	05 22 45.3	-3.0	
CTA	Charters Tower	32.05	306	LR		LR	05 35 44.2		
	comp=Z,189nm,18.9s,baz=100,slow=36								
CTAO	Charters Tower	32.05	306	P		P	05 22 54.3	-1.8	
CTAO						IAmb	IAmb		05 23 06.3
	comp=Z,13nm,1.1s								
OOD	Oodnadatta	33.97	283	P		P	05 23 13.7	+1.0	
	comp=Z,14nm,1.4s								
MTSU	Mount Surprise	34.72	305	P		P	05 23 20.0	+0.6	
	baz=35								
VNDA	Vanda	35.48	184	LR		LR	05 37 09.4		
	comp=Z,479nm,18.1s,baz=20,slow=35								
SBA	Scott Base	35.60	182	P		P	05 23 26.3	0.0	
SBA						IAmb	IAmb		05 23 36.7
	comp=Z,37nm,1.8s								
AS01	Alice Springs	37.72	287	P		P	05 23 45.1	+0.1	
	comp=Z,4.5nm,0.7s								
AS31	Alice Springs	37.75	287	P		P	05 23 43.3	-2.0	
ASAR	Alice Springs	37.75	287	P		P	05 23 45.4	+0.1	
	comp=Z,2.1nm,0.6s,baz=134,slow=7.5,SNR=40								
ASAR				PcP		PcP	05 26 02.1	+0.1	
	comp=Z,1.0nm,0.6s,baz=126,slow=3.8,SNR=5.2								
ASAR						LR	LR		05 37 27.1
	comp=Z,119nm,19.8s,baz=161,slow=33								
	comp=Z,2.1nm,0.6s								
ASAR	Alice Springs	37.75	287	P		P	05 23 42.9	-2.4	
COEN	Coen	38.67	308	P		P	05 23 51.2	-1.8	
WR0	Warramunga Arr	39.74	292	P		P	05 24 01.7	-0.3	
WB2	Warramunga Arr	39.88	292	P		P	05 24 03.2	0.0	
	baz=40								
WB2	Warramunga Arr	39.88	292	P		P	05 24 03.7	+0.5	
WRAB	Tennant Creek	39.89	292	P		P	05 24 02.4	-0.8	
WRAB						IAmb	IAmb		05 24 39.5
	comp=Z,14nm,1.0s								
WRAB	Tennant Creek	39.89	292	P		P	05 24 04.0	+0.8	
	comp=Z,8.5nm,0.7s								
WRA	Warramunga Arr	39.89	292	P		P	05 24 03.4	+0.1	
	comp=Z,3.0nm,0.6s,baz=129,slow=7.8,SNR=56								
WRA						LR	LR		05 40 16.2
	comp=Z,160nm,20.1s,baz=121,slow=36								
	comp=Z,3.0nm,0.6s								
WRA	Warramunga Ar

MKAR	**Makanchi Array**	**120.01**	**308**	PKP	**PKPdf**	**05**	**35**	**19.3 +0.1**
	comp=Z,0.7nm,0.5s,baz=210,slow=1.5,SNR=5.5							
DBIC	**Dimbokro**	**144.31**	**183**	PKP	**PKPdf**	**05**	**36**	**07.5 +1.9**
	comp=Z,2.1nm,0.8s,baz=223,slow=3.8,SNR=3.7							
KBZ	**Khabaz**	**144.39**	**289**	PKP	**PKiKP**	**05**	**36**	**07.3 -1.1**
	comp=Z,3.1nm,1.0s,baz=38,slow=7.0,SNR=5.0							
DAG	**Danmarks Havn**	**145.21**	**5**	*eP*	**PKPbc**	**05**	**36**	**04.4 -0.6**
SUMG	**Summit**	**146.15**	**17**	*iP*	**PKiKP**	**05**	**36**	**11.0 -0.8**
ARCES	**ARCESS Array B**	**148.28**	**339**	PKPbc	**PKPbc**	**05**	**36**	**12.8 -1.3**
	comp=Z,3.6nm,0.6s,baz=66,slow=4.1,SNR=19							
BRTR	**Keskin Array B**	**149.87**	**278**	PKPbc	**PKPbc**	**05**	**36**	**18.6 -0.6**
	comp=Z,1.9nm,0.6s,baz=141,slow=5.1,SNR=9.7							
TORD	**Torodi Ar. Bea**	**149.94**	**196**	PKPbc	**PKPbc**	**05**	**36**	**20.1 +0.3**
	comp=Z,2.6nm,0.7s,baz=180,slow=1.4,SNR=17							
FINES	**FINESS Array B**	**152.85**	**326**	PKPbc	**PKPbc**	**05**	**36**	**24.3 -0.8**
	comp=Z,1.8nm,0.6s,baz=90,slow=3.8,SNR=8.4							
AKASG	**Malin Array Be**	**154.36**	**301**	PKPbc	**PKiKP**	**05**	**36**	**29.0 +0.2**
	comp=Z,0.9nm,0.5s,baz=73,slow=2.8,SNR=6.5							
NOA	**NORSAR Array B**	**158.57**	**336**	PKPab	**PKPbc**	**05**	**37**	**00.5 -0.4**
	comp=Z,0.7nm,0.6s,baz=41,slow=4.4,SNR=4.8							

WEL 14 05:19:22.5±0.3, 42°S±2°×17°3E±°, h5km, M3.4/9, ML3.7/9, MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=106.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**74**	P	Pg	05 19 27.9	+0.3
GVZ	**Greta Valley S**	**0.50**	**194**	P	Pg	05 19 32.4	+0.3
GVZ				S	Sb	05 19 40.1	-1.2
LTZ	**Lake Taylor**	**0.75**	**246**	P	Pg	05 19 37.0	+0.1
THZ	**Tophouse**	**0.76**	**343**	P	Pg	05 19 37.6	+0.6
THZ				S	Sg	05 19 47.5	+0.6
AMCZ	**Amberley**	**0.80**	**210**	P	Pg	05 19 38.4	+0.5
BSWZ	**Blackbirch Sta**	**0.92**	**33**	P	Pb	05 19 40.7	-0.2
TUWZ	**Tuamarina**	**1.19**	**28**	P	Pg	05 19 45.1	-0.3
OKCZ	**Okains Bay**	**1.24**	**185**	P	Pg	05 19 44.1	-2.2
NNZ	**Nelson**	**1.27**	**6**	P	Pb	05 19 47.6	+0.5
DSZ	**Denniston Nort**	**1.28**	**305**	P	Pg	05 19 46.8	-0.2
TKNZ	**Takaka Hill**	**1.46**	**353**	P	Pn	05 19 49.9	+0.2

WEL 14 05:20:52.0±0.5, 43°S±3°×17°3E±°, h7km±4km, M3.7/8, ML3.8/8, MLv3.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=131.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**62**	P	Pg	05 20 56.5	+0.7
KHZ				S	Sg	05 20 59.9	+1.5
GVZ	**Greta Valley S**	**0.51**	**204**	P	Pg	05 21 02.5	+0.7
GVZ				S	Sb	05 21 10.3	-0.6
THZ	**Tophouse**	**0.80**	**338**	P	Pb	05 21 07.9	-0.4
THZ				S	Sg	05 21 18.2	+0.4
LTZ	**Lake Taylor**	**0.82**	**250**	P	Pg	05 21 07.9	+0.1
LTZ				S	Sg	05 21 18.8	+0.5
AMCZ	**Amberley**	**0.83**	**216**	P	Pg	05 21 08.1	+0.1
BSWZ	**Blackbirch Sta**	**0.89**	**28**	P	Pg	05 21 08.4	-0.7
TUWZ	**Tuamarina**	**1.17**	**24**	P	Pg	05 21 14.1	-0.4
OKCZ	**Okains Bay**	**1.23**	**189**	P	Pg	05 21 13.4	-2.2
OXZ	**Oxford**	**1.25**	**228**	P	Pb	05 21 13.7	-2.2
NNZ	**Nelson**	**1.29**	**2**	P	Pb	05 21 16.5	0.0
MQZ	**McQueen's Vall**	**1.29**	**202**	P	Pn	05 21 13.6	-3.0
DSZ	**Denniston Nort**	**1.36**	**304**	P	Pn	05 21 17.5	0.0
AKCZ	**Akaroa Harbour**	**1.40**	**192**	P	Pn	05 21 15.3	-2.7
RACZ	**Rakaia**	**1.49**	**215**	P	Pn	05 21 16.6	-2.7
TKNZ	**Takaka Hill**	**1.49**	**350**	P	Pb	05 21 20.1	-0.1
DUWZ	**D'Urville Isla**	**1.76**	**15**	P	Pn	05 21 23.5	+0.5
WACZ	**Wakanui South**	**1.80**	**216**	P	Pn	05 21 20.8	-2.6
CAW	**Cannon Point**	**1.92**	**44**	P	Pn	05 21 22.2	-2.9
RPZ	**Rata Peaks**	**2.05**	**233**	P	Pn	05 21 24.8	-2.1
OGWZ	**Otaki Gorge**	**2.19**	**40**	P	Pn	05 21 26.0	-2.8

WEL 14 05:21:14.6±0.4, 42°S±3°×17°4E±°, h13km±3km, M3.7/17, ML4.0/17, MLv3.7/17, Error ellipse: s-maj=0.0km s-min=0.0km az=140.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.32**	**271**	P	Pb	05 21 21.9	-0.2
BSWZ				S	Sb	05 21 27.3	+0.1
BSWZ	**Blackbirch Sta**	**0.32**	**271**	S	Sg	05 21 21.8	-3.8
TUWZ	**Tuamarina**	**0.40**	**317**	P	Pb	05 21 23.7	+0.2
TUWZ				S	Sb	05 21 30.0	+0.5
TCW	**Tory Channel**	**0.51**	**358**	P	Pb	05 21 25.6	+0.2
TCW				S	Sb	05 21 33.3	+0.5
WEL	**Wellington**	**0.56**	**39**	P	Pb	05 21 26.8	+0.5
PLWZ	**Palliser**	**0.73**	**78**	P	Pb	05 21 29.8	+0.6
CAW	**Cannon Point**	**0.84**	**43**	P	Pn	05 21 31.7	-0.4
NNZ	**Nelson**	**0.86**	**306**	P	Pb	05 21 31.7	+0.3
KHZ	**Kahutara**	**0.90**	**219**	P	Pb	05 21 32.2	+0.2
PAWZ	**Paruwai Farm**	**0.91**	**68**	P	Pb	05 21 32.4	+0.2
DUWZ	**D'Urville Isla**	**0.96**	**343**	P	Pn	05 21 33.9	0.0
KIW	**Kapiti Island**	**0.97**	**28**	P	Pn	05 21 33.9	-0.1
THZ	**Tophouse**	**1.05**	**267**	P	Pn	05 21 35.4	+0.4
MTW	**Mount Morrison**	**1.06**	**58**	P	Pb	05 21 34.6	-0.2
TRWZ	**Traveller**	**1.09**	**72**	P	Pb	05 21 34.5	-0.8
OGWZ	**Otaki Gorge**	**1.12**	**36**	P	Pn	05 21 34.6	-1.2
MRNZ	**Matariki Terra**	**1.20**	**285**	P	Pn	05 21 36.0	-1.1
HOWZ	**Holdsworth Sta**	**1.23**	**48**	P	Pn	05 21 37.0	-0.5
TMWZ	**Te Maipa**	**1.34**	**63**	P	Pn	05 21 38.0	-1.1
MRZ	**Mangatainoka R**	**1.43**	**43**	P	Pn	05 21 39.9	-0.3
TIWZ	**Tintock**	**1.52**	**52**	P	Pn	05 21 40.6	-0.9
QRZ	**Quartz Range**	**1.61**	**303**	P	Pb	05 21 44.3	+0.2
CPWZ	**Castlepoint**	**1.65**	**61**	P	Pn	05 21 42.4	-0.8
OHWZ	**Ohakea**	**1.70**	**27**	P	Pb	05 21 45.4	-0.2
PRWZ	**Pori Road**	**1.72**	**48**	P	Pn	05 21 43.5	-0.7
POWZ	**Post Office Ro**	**1.73**	**40**	P	Pn	05 21 43.9	-0.4
BFZ	**Birch Farm**	**1.80**	**55**	P	Pn	05 21 44.0	-1.3
DVHZ	**Dannevirke**	**2.00**	**45**	P	Pn	05 21 46.9	-1.2
WAZ	**Wanganui**	**2.03**	**15**	P	Pb	05 21 51.3	-0.1
ANWZ	**Angora Road**	**2.07**	**53**	P	Pn	05 21 47.5	-1.5
TSZ	**Takapari Road**	**2.08**	**38**	P	Pn	05 21 48.7	-0.5
LREZ	**Lake Rotokare**	**2.26**	**2**	P	Pb	05 21 55.6	+0.3
PRHZ	**Porangahau**	**2.29**	**51**	P	Pn	05 21 50.3	-1.7
PNHZ	**Pukenui**	**2.31**	**39**	P	Pn	05 21 51.5	-0.8
WPHZ	**Waipukurau**	**2.32**	**45**	P	Pn	05 21 51.3	-1.1
NMEZ	**Namu Road**	**2.33**	**352**	P	Pg	05 21 58.0	-1.2
INZ	**Inchbonnie**	**2.35**	**244**	P	Pb	05 21 57.5	+0.8
KHEZ	**Kahui Hut**	**2.44**	**355**	P	Pb	05 21 59.7	+1.4
NBEZ	**Newall Road No**	**2.47**	**352**	P	Pb	05 21 59.0	+0.1
PKE	**Pukeiti**	**2.54**	**354**	P	Pb	05 22 00.1	+0.1
MOVZ	**Moawhango**	**2.56**	**26**	P	Pn	05 21 56.4	+0.6
WNVZ	**Wahianoa**	**2.59**	**23**	P	Pn	05 21 57.7	+1.4
TRVZ	**Turoa**	**2.60**	**22**	P	Pb	05 22 02.6	+1.4
BHHZ	**Black Hill Sta**	**2.60**	**32**	P	Pn	05 21 56.8	+0.4
VRZ	**Vera Road**	**2.62**	**8**	P	Pb	05 21 59.0	-2.4
DRZ	**Dome Shelter**	**2.63**	**22**	P	Pb	05 22 02.8	+1.1
WHVZ	**Whangaehu Hut**	**2.63**	**22**	P	Pn	05 21 58.0	+1.1
FWVZ	**Far West T-bar**	**2.64**	**22**	P	Pn	05 21 58.6	+1.5
NGZ	**Ngauruhoe**	**2.73**	**22**	P	Pb	05 22 04.1	+0.7
SNVZ	**South Ngauruho**	**2.73**	**22**	P	Pn	05 21 59.7	+1.4
KAHZ	**Kahuranaki**	**2.75**	**46**	P	Pn	05 21 56.4	-1.9
OTVZ	**Oturere**	**2.76**	**23**	P	Pb	05 22 04.4	+0.5
NNVZ	**North Ngauruho**	**2.77**	**22**	P	Pn	05 22 00.2	+1.3
WTVZ	**West Tongariro**	**2.78**	**21**	P	Pn	05 22 00.9	+1.9
TWVZ	**Taurewa**	**2.79**	**18**	P	Pb	05 22 06.2	+1.9
ETVZ	**East Tongariro**	**2.80**	**23**	P	Pn	05 22 00.4	+1.3
TMVZ	**Te Maari**	**2.81**	**23**	P	Pn	05 22 00.2	+0.8
KRVZ	**Karewarewa**	**2.82**	**22**	P	Pn	05 22 01.1	+1.7
NTVZ	**North Tongarir**	**2.82**	**22**	P	Pn	05 22 00.5	+1.0
RATZ	**Rangitukua**	**3.07**	**22**	P	Pb	05 22 10.1	+1.0
HIZ	**Hauiti**	**3.23**	**8**	P	Pn	05 22 07.8	+2.7

IDC 14 05:22:22.5±4.7, 34°68S×179°72W, h0km, mb4.3/2, mbtmp4.3/2, Error ellipse: s-maj=210.5km s-min=53.5km az=164.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.63**	**273**	P	P	05 30 12.3	-0.3
	1.9nm,0.6s,baz=114,slow=7.8,SNR=22 1.9nm,0.6s						
WRA	**Warramunga Arr**	**43.01**	**278**	P	P	05 30 23.9	0.0
	2.7nm,0.5s,baz=119,slow=7.6,SNR=44 2.7nm,0.5s						
FINES	**FINESS Array B**	**148.57**	**336**	PKPbc	PKPbc	05 42 09.9	-0.6
	2.9nm,0.8s,baz=33,slow=5.3,SNR=11						

WEL 14 05:24:25.6±0.3, 42°S±2°×17°4E±°, h7km±2km, M3.5/22, ML3.8/22, MLv3.5/22, Error ellipse: s-maj=0.0km s-min=0.0km az=138.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**206**	P	Pg	05 24 27.4	+0.2
CMWZ				S	Sg	05 24 29.5	+1.1
BSWZ	**Blackbirch Sta**	**0.28**	**267**	P	Pg	05 24 31.4	+0.3
BSWZ				S	Sg	05 24 36.2	+1.5
TUWZ	**Tuamarina**	**0.35**	**320**	P	Pg	05 24 32.9	+0.4
TUWZ				S	Sg	05 24 38.6	+1.4
TCW	**Tory Channel**	**0.49**	**3**	P	Pg	05 24 35.0	-0.1
BHW	**Baring Head**	**0.56**	**58**	P	Pg	05 24 36.8	+0.4
WEL	**Wellington**	**0.57**	**43**	P	Pg	05 24 37.2	+0.5
WEL				S	Sb	05 24 45.8	-0.6
PLWZ	**Palliser**	**0.77**	**80**	P	Pb	05 24 41.4	0.0
PLWZ				S	Sn	05 24 54.4	-0.5
MSWZ	**Moikau Station**	**0.81**	**70**	P	Pb	05 24 41.8	-0.2
NNZ	**Nelson**	**0.81**	**306**	P	Pg	05 24 41.0	-0.2
CAW	**Cannon Point**	**0.86**	**46**	P	Pg	05 24 42.3	+0.1
KHZ	**Kahutara**	**0.89**	**216**	P	Pb	05 24 43.6	+0.3
DUWZ	**D'Urville Isla**	**0.93**	**345**	P	Pg	05 24 43.7	+0.2
PAWZ	**Paruwai Farm**	**0.94**	**71**	P	Pb	05 24 44.1	-0.3
KIW	**Kapiti Island**	**0.98**	**31**	P	Pg	05 24 44.2	-0.2
THZ	**Tophouse**	**1.00**	**266**	P	Pg	05 24 45.1	+0.2
MTW	**Mount Morrison**	**1.09**	**60**	P	Pg	05 24 46.2	-0.3
TRWZ	**Traveller**	**1.13**	**75**	P	Pg	05 24 46.3	-0.9
OGWZ	**Otaki Gorge**	**1.13**	**39**	P	Pg	05 24 47.2	-0.1
MRNZ	**Matariki Terra**	**1.16**	**285**	P	Pb	05 24 47.9	-0.1
TKNZ	**Takaka Hill**	**1.18**	**304**	P	Pg	05 24 47.9	-0.3
HOWZ	**Holdsworth Sta**	**1.25**	**50**	P	Pb	05 24 48.7	-0.9
TMWZ	**Te Maipa**	**1.37**	**65**	P	Pn	05 24 49.8	-1.6
MRZ	**Mangatainoka R**	**1.45**	**44**	P	Pn	05 24 51.6	-0.7
TIWZ	**Tintock**	**1.55**	**54**	P	Pn	05 24 53.7	0.0
GVZ	**Greta Valley S**	**1.55**	**215**	P	Pn	05 24 50.0	-3.7
QRZ	**Quartz Range**	**1.56**	**304**	P	Pb	05 24 54.9	0.0
PRWZ	**Pori Road**	**1.74**	**49**	P	Pn	05 24 56.3	0.0
POWZ	**Post Office Ro**	**1.75**	**42**	P	Pn	05 24 56.5	+0.2
DVHZ	**Dannevirke**	**2.02**	**47**	P	Pn	05 24 58.6	-1.6
TSZ	**Takapari Road**	**2.10**	**39**	P	Pn	05 25 01.3	+0.1
OKCZ	**Okains Bay**	**2.20**	**203**	P	Pn	05 25 00.5	-2.1
OXZ	**Oxford**	**2.30**	**224**	P	Pn	05 25 01.7	-2.3
INZ	**Inchbonnie**	**2.32**	**243**	P	Pn	05 25 04.7	+0.5
MQZ	**McQueen's Vall**	**2.32**	**210**	P	Pn	05 25 01.5	-2.7
AKCZ	**Akaroa Harbour**	**2.38**	**204**	P	Pn	05 25 04.5	-0.6
RACZ	**Rakaia**	**2.55**	**217**	P	Pn	05 25 04.9	-2.6
MOVZ	**Moawhango**	**2.56**	**27**	P	Pb	05 25 11.5	-0.6
BHHZ	**Black Hill Sta**	**2.61**	**33**	P	Pb	05 25 13.1	+0.3
NGZ	**Ngauruhoe**	**2.73**	**23**	P	Pb	05 25 15.1	+0.2
OTVZ	**Oturere**	**2.76**	**24**	P	Pb	05 25 16.0	+0.6
NNVZ	**North Ngauruho**	**2.77**	**23**	P	Pb	05 25 16.0	+0.3
WTVZ	**West Tongariro**	**2.78**	**22**	P	Pb	05 25 15.9	+0.2
ETVZ	**East Tongariro**	**2.80**	**24**	P	Pb	05 25 16.7	+0.7
TMVZ	**Te Maari**	**2.81**	**24**	P	Pb	05 25 16.8	+0.5
KRVZ	**Karewarewa**	**2.81**	**23**	P	Pb	05 25 17.1	+0.7
WACZ	**Wakanui South**	**2.85**	**218**	P	Pn	05 25 10.7	-1.5
WVZ	**Waitaha Valley**	**2.94**	**241**	P	Pn	05 25 12.7	0.0
KATZ	**Kakaramea**	**2.94**	**23**	P	Pb	05 25 19.2	+0.7
BKZ	**Black Stump Fm**	**3.06**	**35**	P	Pb	05 25 20.7	+0.3
RPZ	**Rata Peaks**	**3.09**	**228**	P	Pn	05 25 12.8	-2.1
ARCZ	**Arundel**	**3.18**	**224**	P	Pn	05 25 13.6	-2.5
GCSZ	**Gaunt Creek Bo**	**3.31**	**240**	P	Pn	05 25 18.0	0.0
TLZ	**Tolley Road**	**3.51**	**17**	P	Pb	05 25 25.9	-2.3
TMZ	**Timaru**	**3.58**	**220**	P	Pn	05 25 19.8	-1.8

WEL 14 05:27:06.0±0.5, 42°S±3°×17°4E±°, h8km±4km, M4.0/43, ML4.3/15, MLv4.0/43, Error ellipse: s-maj=0.0km s-min=0.0km az=115.9
NEIC 14 05:27:05.7±2.1, 42°42S±0°03×173°44E±0°03, h10km±6km, mb4.2/4, Error ellipse: s-maj=5.5km s-min=1.2km az=148.0
IDC 14 05:27:06.4±2.7, 42°35S×173°16E, h0km, mb3.4/2, mbtmp3.6/3, ML4.2/1, MS3.5/1, Error ellipse: s-maj=52.2km s-min=34.7km az=112.0

ISC 14 05:27:05.5±0.8, 42°48S±0°03×173°54E±0°03, h8km±5km, n92, σ1°05/106, mb3.7/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.06**	**2**	P	**Pg**	**05 27 26.6**	**+0.3**
KHZ				Sg	**Sg**	**05 27 08.6**	**-0.1**
KHZ	**Kahutara**	**0.06**	**2**	P	**Pg**	**05 27 07.6**	**+0.3**
KHZ				S	**Sg**	**05 27 08.6**	**-0.1**
GVZ	**Greta Valley S**	**0.61**	**217**	P	**Pn**	**05 27 20.2**	**-0.3**
GVZ				S	**Sn**	**05 27 30.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.80**	**19**		**Pg**	**05 27 20.3**	**-0.6**
BSWZ				Sg	**Sb**	**05 27 32.8**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.80**	**19**	P	**Pb**	**05 27 21.7**	**+0.1**
BSWZ				S	**Sb**	**05 27 33.2**	**+0.6**
THZ	**Tophouse**	**0.85**	**326**		**Pn**	**05 27 22.4**	**-1.4**
THZ				Sg	**Sb**	**05 27 31.6**	**-2.5**
THZ	**Tophouse**	**0.85**	**326**	P	**Pn**	**05 27 22.5**	**-1.3**
CMWZ	**Cape Campbell**	**0.89**	**35**	Pg	**Pg**	**05 27 21.7**	**-0.8**
AMCZ	**Amberley**	**0.95**	**223**	P	**Pn**	**05 27 25.8**	**+0.7**
AMCZ				S	**Sn**	**05 27 41.1**	**+2.2**
LTZ	**Lake Taylor**	**0.98**	**251**	P	**Pn**	**05 27 25.8**	**+0.3**
LTZ				S	**Sn**	**05 27 40.6**	**+0.9**
TUWZ	**Tuamarina**	**1.09**	**16**		**Pg**	**05 27 24.9**	**-1.5**
TUWZ	**Tuamarina**	**1.09**	**16**	P	**Pg**	**05 27 42.5**	**+0.3**
TUWZ				S	**Sn**	**05 27 29.4**	**+0.5**
MRNZ	**Matariki Terra**	**1.22**	**331**	P	**Pn**	**05 27 47.8**	**+2.2**
MRNZ				S	**Sn**	**05 27 29.3**	**-0.1**
NNZ	**Nelson**	**1.26**	**355**		**Pn**	**05 27 29.7**	**+0.3**
NNZ	**Nelson**	**1.26**	**355**	P	**Pn**	**05 27 30.1**	**+0.2**
OKCZ	**Okains Bay**	**1.29**	**195**	P	**Pn**	**05 27 31.1**	**+0.1**
TCW	**Tory Channel**	**1.38**	**24**	P	**Pn**	**05 27 30.8**	**-0.4**
MQZ	**McQueen's Vall**	**1.39**	**207**		**Pn**	**05 27 30.7**	**-0.4**
MQZ	**McQueen's Vall**	**1.39**	**207**	P	**Pn**	**05 27 50.1**	**+0.6**
MQZ				S	**Sb**	**05 27 30.8**	**-0.4**
OXZ	**Oxford**	**1.39**	**232**		**Pn**	**05 27 31.1**	**-0.1**
OXZ	**Oxford**	**1.39**	**232**	P	**Pn**	**05 27 50.2**	**0.0**
OXZ				S	**Sg**	**05 27 31.7**	**-0.3**
SNZO	**South Karori**	**1.46**	**37**		**Pn**	**05 27 32.3**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.47**	**198**	P	**Pn**	**05 27 52.3**	**+0.7**
AKCZ				S	**Sn**	**05 27 32.4**	**-1.4**
DSZ	**Denniston Nort**	**1.48**	**299**	Pn	**Pg**	**05 27 33.8**	**0.0**
DSZ	**Denniston Nort**	**1.48**	**299**	P	**Pg**	**05 27 55.3**	**+2.2**
DSZ				S	**Sg**	**05 27 34.1**	**-0.2**
TKNZ	**Takaka Hill**	**1.50**	**343**	P	**Pg**	**05 27 34.1**	**-0.2**
WEL	**Wellington**	**1.51**	**38**	P	**Pn**	**05 27 32.5**	**-0.2**
INZ	**Inchbonnie**	**1.56**	**260**	P	**Pg**	**05 27 34.4**	**-1.1**
PLWZ	**Palliser**	**1.57**	**55**		**Pn**	**05 27 33.1**	**-0.6**
PLWZ	**Palliser**	**1.57**	**55**	P	**Pn**	**05 27 32.7**	**-0.9**
RACZ	**Rakaia**	**1.61**	**219**	P	**Pn**	**05 27 34.1**	**-0.1**
MSWZ	**Moikau Station**	**1.66**	**51**		**Pn**	**05 27 33.8**	**-1.1**
MSWZ	**Moikau Station**	**1.66**	**51**	P	**Pn**	**05 27 33.8**	**-1.1**
DUWZ	**D'Urville Isla**	**1.70**	**10**	P	**Pg**	**05 27 37.3**	**-0.8**
CAW	**Cannon Point**	**1.78**	**40**	P	**Pn**	**05 27 34.0**	**-2.6**
PAWZ	**Paruwai Farm**	**1.79**	**53**	P	**Pn**	**05 27 35.3**	**-1.3**
QRZ	**Quartz Range**	**1.81**	**335**	P	**Pg**	**05 27 39.0**	**-1.2**
KIW	**Kapiti Island**	**1.92**	**33**	P	**Pn**	**05 27 38.6**	**+0.3**
WACZ	**Wakanui South**	**1.92**	**220**	P	**Pn**	**05 27 38.4**	**0.0**
TRWZ	**Traveller**	**1.93**	**57**	P	**Pn**	**05 27 37.6**	**-1.0**
OGWZ	**Otaki Gorge**	**2.06**	**37**	P	**Pn**	**05 27 39.8**	**-0.5**
WVZ	**Waitaha Valley**	**2.15**	**253**	P	**Pn**	**05 27 42.6**	**-1.9**
HOWZ	**Holdsworth Sta**	**2.17**	**44**	P	**Pn**	**05 27 43.3**	**+1.5**
RPZ	**Rata Peaks**	**2.20**	**235**	Pn	**Pn**	**05 27 42.3**	**0.0**
	80nm,0.3s,baz=92,slow=2.4,SNR=40						
RPZ				Sn	**Sn**	**05 28 09.3**	**-0.4**
	100nm,0.3s,baz=184,slow=23,SNR=25 322nm,0.4s						
RPZ	**Rata Peaks**	**2.20**	**235**		**Pn**	**05 27 42.5**	**+0.2**
RPZ	**Rata Peaks**	**2.20**	**235**	P	**Pn**	**05 27 42.4**	**+0.1**
ARCZ	**Arundel**	**2.27**	**229**	P	**Pn**	**05 27 42.8**	**-0.4**
MRZ	**Mangatainoka R**	**2.38**	**41**	Pn	**Pn**	**05 27 44.5**	**-0.2**
MRZ	**Mangatainoka R**	**2.38**	**41**	P	**Pn**	**05 27 44.7**	**0.0**
GCSZ	**Gaunt Creek Bo**	**2.50**	**249**	P	**Pn**	**05 27 47.8**	**+1.4**
TMZ	**Timaru**	**2.65**	**223**	P	**Pn**	**05 27 48.5**	**0.0**
BFZ	**Birch Farm**	**2.71**	**49**	Pn	**Pn**	**05 27 50.5**	**+1.2**
BFZ	**Birch Farm**	**2.71**	**49**	P	**Pn**	**05 27 50.7**	**+1.4**
FOZ	**Fox Glacier**	**2.93**	**248**	Pn	**Pn**	**05 27 50.7**	**-1.5**
FOZ	**Fox Glacier**	**2.93**	**248**	P	**Pn**	**05 27 53.6**	**+1.3**
WAZ	**Wanganui**	**2.93**	**22**	P	**Pn**	**05 27 54.8**	**+2.5**
TSZ	**Takapari Road**	**3.03**	**38**	P	**Pb**	**05 27 58.9**	**-0.7**
LBZ	**Lake Benmore**	**3.10**	**231**	Pn	**Pn**	**05 27 54.3**	**-0.4**
LBZ	**Lake Benmore**	**3.10**	**231**	P	**Pn**	**05 27 54.8**	**+0.2**
NBEZ	**Newall Road No**	**3.21**	**5**	P	**Pb**	**05 28 02.8**	**0.0**
ODZ	**Otahua Downs**	**3.31**	**218**		**Pn**	**05 27 57.4**	**-0.2**
ODZ	**Otahua Downs**	**3.31**	**218**	P	**Pn**	**05 27 57.3**	**-0.3**
VRZ	**Vera Road**	**3.48**	**16**	P	**Pb**	**05 28 04.5**	**-2.7**
WNVZ	**Wahianoa**	**3.51**	**27**	P	**Pb**	**05 28 06.5**	**-1.5**
NNVZ	**North Ngauruho**	**3.69**	**26**	P	**Pb**	**05 28 09.6**	**-1.5**
JCZ	**Jackson Bay**	**3.82**	**244**	P	**Pn**	**05 28 05.7**	**+1.1**
BKZ	**Black Stump Fm**	**4.00**	**35**	Pn	**Pn**	**05 28 06.9**	**-0.1**
HHSZ	**Highcliff Hill**	**4.01**	**211**	P	**Pn**	**05 28 06.7**	**-0.4**
WKZ	**Wanaka**	**4.03**	**233**	Pn	**Pn**	**05 28 06.9**	**-0.6**
EAZ	**Earnscleugh**	**4.11**	**227**	P	**Pn**	**05 28 08.1**	**-0.5**
MLZ	**Mavora Lakes**	**4.86**	**232**	Pn	**Pn**	**05 28 18.4**	**-0.5**
MLZ	**Mavora Lakes**	**4.86**	**232**	P	**Pn**	**05 28 18.2**	**-0.7**
TOZ	**Tahuroa Road**	**4.97**	**18**	P	**Pn**	**05 28 22.8**	**+2.4**
SYZ	**Scrubby Hill**	**5.13**	**216**	P	**Pn**	**05 28 22.8**	**+0.3**
WHZ	**Wether Hill Ro**	**5.27**	**228**	Pn	**Pn**	**05 28 24.8**	**+0.3**
AWAZ	**Awhitu Peninsu**	**5.47**	**9**	P	**Pn**	**05 28 28.8**	**+1.5**
DCZ	**Deep Cove**	**5.49**	**235**	Pn	**Pn**	**05 28 26.1**	**-1.4**
MKAZ	**Moumakai**	**5.51**	**14**	P	**Pn**	**05 28 28.7**	**+1.0**
ETAZ	**East Tamaki Re**	**5.62**	**11**	P	**Pn**	**05 28 31.3**	**+2.0**
WSRZ	**White Island S**	**5.69**	**31**	P	**Pn**	**05 28 28.8**	**-1.4**
APZ	**The Paps**	**5.88**	**220**	P	**Pn**	**05 28 32.6**	**-0.3**
PYZ	**Puysegur Point**	**6.15**	**231**	P	**Pn**	**05 28 37.8**	**+1.3**
OUZ	**Omahuta**	**7.25**	**0**	Pn	**Pn**	**05 28 51.3**	**-0.3**
CTZ	**Chatham Island**	**7.32**	**103**	P	**Pn**	**05 28 51.6**	**-1.0**
VNDA	**Vanda**	**35.48**	**184**	LR	LR	05 46 12.9	
	comp=Z,66nm,18.9s,baz=12,slow=32						
ASAR	**Alice Springs**	**37.72**	**287**	P	**P**	**05 34 21.6**	**-0.1**
	0.3nm,0.5s,baz=127,slow=7.4,SNR=4.9 0.3nm,0.5s						
WB2	**Warramunga Arr**	**39.86**	**292**	P	**P**	**05 34 39.3**	**-0.3**
WB2				IAmb	IAmb	05 35 00.7	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**39.87**	**292**	P	**P**	**05

IDC ***14*** *05:42:06.8±10.0, 2.56N×124.37E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=294.0km s-min=165.3km az=68.0*

DJA ***14*** *05:42:36.2±1.5, 0.7N±4.2×12.4E±, h24km±15km, M4.0/9, MLv4.0/9*

ISC 14 05:42:36.7±1.3, **0.05N**±0.09×**124.21E**±0.06, **h35**km, **n11**, σ3$**07**/12, **mb3.4**/3, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**1.33**	**296**	P	**Pn**	**05 43 00.6**	**+1.7**
GTOI				S	**Sn**	**05 43 19.4**	**+4.0**
LUWI	**Luwuk**	**1.80**	**233**	P	**Pn**	**05 43 06.7**	**+1.4**
LUWI				S	**Sn**	**05 43 29.9**	**+3.0**
MRSI	**Marisa**	**2.31**	**281**	P	**Pn**	**05 43 10.0**	**-2.3**
APSI	**Ampana**	**2.73**	**250**	P	**Pn**	**05 43 18.8**	**+0.7**
SANI	**Sanana**	**2.74**	**140**	P	**Pn**	**05 43 19.2**	**+1.0**
LBMI	**Labuha**	**3.36**	**102**	P	**Pn**	**05 43 28.4**	**+1.6**
MPSI	**Mapaga**	**4.32**	**274**	P	**Pn**	**05 43 40.6**	**+0.6**
NLAI	**Namlea**	**4.36**	**139**	P	**Pn**	**05 43 43.0**	**+2.5**
WRA	**Warramunga Arr** 1.1nm,0.7s,baz=335,slow=9.7,SNR=14 1.1nm,0.7s	**22.21**	**154**	P	**P**	**05 47 25.9**	**-4.5**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=345,slow=14,SNR=6.7 0.3nm,0.3s	**25.38**	**159**	P	**P**	**05 47 56.5**	**-4.4**
STKA	**Stephens Creek** 0.8nm,0.4s,baz=348,slow=6.8,SNR=3.5 0.8nm,0.4s	**35.76**	**154**	P	P	05 49 28.1	-4.4

IDC 14 05:43:10.5±6.0, **31.42S**×**179.55E**, **h0**km, **mb3.7**/2, **mbtmp3.7**/2, **Error ellipse: s-maj=234.8km s-min=59.1km az=157.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 0.9nm,0.7s,baz=108,slow=7.1,SNR=11 0.9nm,0.7s	**40.97**	**269**	P	P	05 50 54.9	-0.4
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=114,slow=7.9,SNR=8.2 0.4nm,0.4s	**42.05**	**275**	P	P	05 51 04.3	+0.1
FINES	**FINESS Array B** 1.2nm,0.7s,baz=52,slow=2.5,SNR=5.0	**145.33**	**338**	PKPbc	PKPbc	06 02 48.5	-0.8

WEL 14 05:45:45.5±0.5, **43°S**±2°×**17°3E**±°, **h11**km±3km, **M3.4**/9, **ML3.6**/9, **MLv3.4**/9, **Error ellipse: s-maj=0.0km s-min=0.0km az=91.2, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.35**	**145**	P	Pb	05 45 53.6	-0.1
GVZ				S	Sb	05 45 59.4	+0.1
LTZ	**Lake Taylor**	**0.38**	**254**	P	Pb	05 45 53.8	-0.3
LTZ				S	Sb	05 45 59.2	-0.8
AMCZ	**Amberley**	**0.50**	**189**	P	Pb	05 45 56.7	+0.5
AMCZ				S	Sb	05 46 04.4	+0.8
OXZ	**Oxford**	**0.83**	**219**	P	Pb	05 46 02.3	+0.4
OXZ				S	Sn	05 46 14.4	-1.0
THZ	**Tophouse**	**0.92**	**7**	P	Pg	05 46 03.3	0.0
THZ				S	Sg	05 46 14.8	-0.5
INZ	**Inchbonnie**	**0.97**	**267**	P	Pb	05 46 04.5	+0.2
MQZ	**McQueen's Vall**	**1.03**	**184**	P	Pg	05 46 04.5	-0.7
MQZ				S	Sg	05 46 18.1	-0.5
OKCZ	**Okains Bay**	**1.06**	**168**	P	Pb	05 46 05.7	-0.2
OKCZ				S	Sn	05 46 20.7	-0.5
RACZ	**Rakaia**	**1.14**	**203**	P	Pb	05 46 06.2	-1.0
RACZ				S	Sb	05 46 21.8	-0.2
DSZ	**Denniston Nort**	**1.18**	**322**	P	Pg	05 46 08.5	+0.4
AKCZ	**Akaroa Harbour**	**1.20**	**175**	P	Pn	05 46 07.1	-1.0
AKCZ				S	Sb	05 46 22.5	-1.1
MRNZ	**Matariki Terra**	**1.28**	**360**	P	Pg	05 46 10.0	-0.1
WACZ	**Wakanui South**	**1.43**	**208**	P	Pn	05 46 10.2	-1.1
WACZ				S	Sn	05 46 28.4	-1.6
NNZ	**Nelson**	**1.53**	**18**	P	Pb	05 46 13.7	-0.1
WVZ	**Waitaha Valley**	**1.54**	**255**	P	Pb	05 46 13.7	-0.3
WVZ				S	Sb	05 46 33.4	0.0
RPZ	**Rata Peaks**	**1.62**	**230**	P	Pn	05 46 13.3	-0.7
TKNZ	**Takaka Hill**	**1.65**	**5**	P	Pb	05 46 15.4	-0.5
ARCZ	**Arundel**	**1.71**	**222**	P	Pn	05 46 14.6	-0.7
GCSZ	**Gaunt Creek Bo**	**1.90**	**250**	P	Pb	05 46 19.0	-1.0
DUWZ	**D'Urville Isla**	**2.07**	**25**	P	Pn	05 46 21.2	+1.1
TMZ	**Timaru**	**2.13**	**216**	P	Pn	05 46 20.0	-1.0
ODZ	**Otahua Downs**	**2.81**	**212**	P	Pn	05 46 29.1	-1.2
EAZ	**Earnscleugh**	**3.57**	**223**	P	Pn	05 46 39.6	-1.1
PKE	**Pukeiti**	**3.60**	**15**	P	Pb	05 46 45.5	-3.7
MOVZ	**Moawhango**	**3.98**	**36**	P	Pn	05 46 49.0	+2.6
BHHZ	**Black Hill Sta**	**4.05**	**39**	P	Pn	05 46 50.3	+3.0
PXZ	**Pawanui**	**4.07**	**51**	P	Pn	05 46 51.0	+3.5
OTVZ	**Oturere**	**4.15**	**33**	P	Pn	05 46 52.6	+3.8
NNVZ	**North Ngauruho**	**4.15**	**32**	P	Pn	05 46 53.6	+4.7
WTVZ	**West Tongariro**	**4.16**	**32**	P	Pn	05 46 53.4	+4.5
KRVZ	**Karewarewa**	**4.20**	**32**	P	Pn	05 46 53.4	+3.9
TMVZ	**Te Maari**	**4.20**	**33**	P	Pn	05 46 53.3	+3.8
MKAZ	**Moumakai**	**5.87**	**19**	P	Pn	05 47 13.2	+0.9

IDC ***14*** *05:46:30.0±2.4, 41.76S×174.05E, h0km, mb3.2/2, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=49.3km s-min=40.7km az=116.0*

WEL ***14*** *05:46:32.5±0.3, 42°S±2°×17°4E±°, h10km±2km, M4.1/19, ML4.4/19, MLv4.1/19, Error ellipse: s-maj=0.0km s-min=0.0km az=168.9*

ISC 14 05:46:32.5±0.9, **41.77S**±0.03×**174.17E**±0.02, **h19**km±2km, **n96**, σ1$**25**/119, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.04**	**57**	P	**Pg**	**05 46 36.0**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.23**	**284**	P	**Pb**	**05 46 37.7**	**0.0**
BSWZ				S	**Sb**	**05 46 41.0**	**0.0**
TUWZ	**Tuamarina**	**0.38**	**333**	P	**Pg**	**05 46 40.2**	**-0.3**
TUWZ				S	**Sg**	**05 46 44.6**	**-1.2**
TCW	**Tory Channel**	**0.56**	**8**	P	**Pb**	**05 46 43.4**	**-0.3**
TCW				S	**Sb**	**05 46 50.8**	**-0.4**
BHW	**Baring Head**	**0.64**	**56**	P	**Pg**	**05 46 45.7**	**+0.6**
WEL	**Wellington**	**0.66**	**43**	P	**Pg**	**05 46 45.9**	**+0.4**
WEL				S	**Sg**	**05 46 55.1**	**+0.7**
KHZ	**Kahutara**	**0.80**	**216**	P	**Pn**	**05 46 49.6**	**+0.9**
KHZ				S	**Sn**	**05 47 01.2**	**+1.1**
NNZ	**Nelson**	**0.81**	**313**	P	**Pb**	**05 46 47.7**	**-0.2**
NNZ				S	**Sb**	**05 46 56.7**	**-1.8**
PLWZ	**Palliser**	**0.83**	**77**	P	**Pn**	**05 46 49.7**	**+0.4**
PLWZ				S	**Sb**	**05 46 59.8**	**+0.6**
MSWZ	**Moikau Station**	**0.88**	**67**	P	**Pn**	**05 46 50.5**	**+0.6**
MSWZ				S	**Sg**	**05 47 01.4**	**0.0**
CAW	**Cannon Point**	**0.94**	**46**	P	**Pn**	**05 46 50.8**	**+0.1**
CAW				S	**Sb**	**05 47 02.2**	**-0.1**
THZ	**Tophouse**	**0.95**	**270**	P	**Pg**	**05 46 51.0**	**0.0**
THZ				S	**Sb**	**05 47 02.0**	**-0.5**
DUWZ	**D'Urville Isla**	**0.98**	**349**	P	**Pb**	**05 46 50.7**	**-0.3**
DUWZ				S	**Sb**	**05 47 02.2**	**-1.3**
PAWZ	**Paruwai Farm**	**1.02**	**68**	P	**Pn**	**05 46 52.2**	**+0.4**
PAWZ				S	**Sb**	**05 47 05.3**	**+0.8**
KIW	**Kapiti Island**	**1.06**	**32**	P	**Pn**	**05 46 52.6**	**+0.2**
KIW				S	**Sn**	**05 47 06.7**	**+0.1**
MRNZ	**Matariki Terra**	**1.12**	**289**	P	**Pg**	**05 46 54.1**	**-0.2**
MRNZ				S	**Sn**	**05 47 07.9**	**-0.2**
MTW	**Mount Morrison**	**1.17**	**59**	P	**Pn**	**05 46 54.1**	**+0.2**
MTW				S	**Sb**	**05 47 08.5**	**-0.4**
TKNZ	**Takaka Hill**	**1.17**	**308**	P	**Pb**	**05 46 54.3**	**+0.2**
TKNZ				S	**Sb**	**05 47 07.8**	**-1.1**
TRWZ	**Traveller**	**1.20**	**72**	P	**Pn**	**05 46 54.2**	**0.0**
OGWZ	**Otaki Gorge**	**1.21**	**39**	P	**Pb**	**05 46 55.3**	**+0.4**
OGWZ				S	**Sb**	**05 47 09.9**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.33**	**50**	P	**Pn**	**05 46 56.3**	**+0.2**
HOWZ				S	**Sn**	**05 47 12.9**	**-0.5**
TMWZ	**Te Maipa**	**1.45**	**63**	P	**Pn**	**05 46 57.7**	**-0.1**
GVZ	**Greta Valley S**	**1.46**	**215**	P	**Pg**	**05 47 01.6**	**+0.9**
GVZ				S	**Sn**	**05 47 16.9**	**+0.3**
MRZ	**Mangatainoka R**	**1.53**	**44**	P	**Pn**	**05 46 59.3**	**+0.4**
MRZ				S	**Sn**	**05 47 17.2**	**-1.0**
QRZ	**Quartz Range**	**1.56**	**307**	P	**Pn**	**05 47 00.9**	**+0.2**
QRZ				S	**Sn**	**05 47 19.0**	**+0.2**
TIWZ	**Tintock**	**1.63**	**53**	P	**Pn**	**05 47 00.6**	**+0.5**
TIWZ				S	**Sn**	**05 47 20.0**	**-0.6**
CPWZ	**Castlepoint**	**1.75**	**61**	P	**Pn**	**05 47 02.4**	**+0.6**
DSZ	**Denniston Nort**	**1.77**	**270**	P	**Pb**	**05 47 04.4**	**0.0**
OHWZ	**Ohakea**	**1.79**	**29**	P	**Pb**	**05 47 04.5**	**-0.1**
AMCZ	**Amberley**	**1.80**	**218**	P	**Pb**	**05 47 05.2**	**+0.4**
PRWZ	**Pori Road**	**1.82**	**49**	P	**Pn**	**05 47 02.8**	**0.0**
POWZ	**Post Office Ro**	**1.83**	**42**	P	**Pn**	**05 47 03.4**	**+0.4**
BFZ	**Birch Farm**	**1.91**	**56**	P	**Pn**	**05 47 03.9**	**0.0**
WAZ	**Wanganui**	**2.10**	**17**	P	**Pb**	**05 47 10.5**	**+0.4**
DVHZ	**Dannevirke**	**2.11**	**46**	P	**Pn**	**05 47 06.3**	**-0.4**
ANWZ	**Angora Road**	**2.18**	**54**	P	**Pn**	**05 47 07.0**	**-0.6**
TSZ	**Takapari Road**	**2.18**	**39**	P	**Pn**	**05 47 08.0**	**+0.2**
OXZ	**Oxford**	**2.21**	**225**	P	**Pg**	**05 47 14.5**	**-0.5**
INZ	**Inchbonnie**	**2.24**	**244**	P	**Pb**	**05 47 10.9**	**-1.4**
LREZ	**Lake Rotokare**	**2.31**	**4**	P	**Pb**	**05 47 13.7**	**+0.1**
PRHZ	**Porangahau**	**2.39**	**52**	P	**Pn**	**05 47 09.8**	**-0.9**
PNHZ	**Pukenui**	**2.41**	**40**	P	**Pn**	**05 47 10.8**	**-0.1**
WPHZ	**Waipukurau**	**2.42**	**46**	P	**Pn**	**05 47 11.0**	**0.0**
RACZ	**Rakaia**	**2.46**	**217**	P	**Pn**	**05 47 12.1**	**+0.5**
KHEZ	**Kahui Hut**	**2.48**	**357**	P	**Pb**	**05 47 15.7**	**-0.7**
NEZ	**North Egmont**	**2.50**	**359**	P	**Pb**	**05 47 16.9**	**+0.1**
NBEZ	**Newall Road No**	**2.51**	**355**	P	**Pb**	**05 47 16.5**	**-0.4**
PKE	**Pukeiti**	**2.58**	**357**	P	**Pb**	**05 47 17.4**	**-0.7**
DREZ	**Durham Road**	**2.58**	**1**	P	**Pb**	**05 47 17.9**	**-0.2**
MTVZ	**Mangateitei**	**2.58**	**23**	P	**Pb**	**05 47 18.9**	**+0.7**
PKVZ	**Pokaka**	**2.63**	**20**	P	**Pb**	**05 47 19.4**	**+0.3**
MOVZ	**Moawhango**	**2.65**	**28**	P	**Pn**	**05 47 15.0**	**+0.7**
WNVZ	**Wahianoa**	**2.67**	**24**	P	**Pb**	**05 47 19.6**	**-0.2**
VRZ	**Vera Road**	**2.68**	**10**	P	**Pb**	**05 47 17.3**	**-2.5**
TRVZ	**Turoa**	**2.68**	**23**	P	**Pb**	**05 47 18.9**	**-1.1**
BHHZ	**Black Hill Sta**	**2.69**	**33**	P	**Pn**	**05 47 16.2**	**+1.3**
DRZ	**Dome Shelter**	**2.71**	**24**	P	**Pb**	**05 47 20.2**	**-0.3**
WHVZ	**Whangaehu Hut**	**2.71**	**24**	P	**Pb**	**05 47 19.6**	**-0.9**
FWVZ	**Far West T-bar**	**2.72**	**23**	P	**Pb**	**05 47 19.3**	**-1.4**
TUVZ	**Tukino**	**2.74**	**25**	P	**Pb**	**05 47 18.8**	**-2.2**
NGZ	**Ngauruhoe**	**2.81**	**23**	P	**Pb**	**05 47 20.4**	**-1.7**
SNVZ	**South Ngauruho**	**2.81**	**24**	P	**Pb**	**05 47 20.8**	**-1.4**
OTVZ	**Oturere**	**2.84**	**24**	P	**Pb**	**05 47 22.7**	**0.0**
KAHZ	**Kahuranaki**	**2.85**	**47**	P	**Pn**	**05 47 16.2**	**-0.7**
NNVZ	**North Ngauruho**	**2.85**	**23**	P	**Pb**	**05 47 23.3**	**+0.4**
WVZ	**Waitaha Valley**	**2.86**	**242**	P	**Pb**	**05 47 21.2**	**-1.7**
TWVZ	**Taurewa**	**2.86**	**20**	P	**Pb**	**05 47 22.9**	**-0.2**
WTVZ	**West Tongariro**	**2.86**	**23**	P	**Pb**	**05 47 22.7**	**-0.4**
ETVZ	**East Tongariro**	**2.88**	**25**	P	**Pb**	**05 47 21.4**	**-1.9**
KRVZ	**Karewarewa**	**2.90**	**23**	P	**Pb**	**05 47 24.3**	**+0.6**
TMVZ	**Te Maari**	**2.90**	**24**	P	**Pn**	**05 47 20.3**	**+2.6**
KWHZ	**Kaweka Forest**	**2.90**	**37**	P	**Pb**	**05 47 24.8**	**+1.1**
NTVZ	**North Tongarir**	**2.90**	**24**	P	**Pn**	**05 47 19.6**	**+1.8**
RPZ	**Rata Peaks** 9.4nm,0.3s,baz=328,slow=2.8,SNR=2.4	**3.01**	**229**	Pn	**Pn**	**05 47 18.9**	**-0.2**
RPZ	18nm,0.3s,baz=331,slow=23,SNR=7.2 20nm,0.4s			Sn	**Sn**	**05 47 53.6**	**-1.1**
RPZ	**Rata Peaks**	**3.01**	**229**	P	**Pn**	**05 47 22.4**	**+3.3**
KATZ	**Kakaramea**	**3.02**	**23**	P	**Pb**	**05 47 27.0**	**+1.2**
BKZ	**Black Stump Fm**	**3.15**	**35**	P	**Pb**	**05 47 29.3**	**+1.5**
RATZ	**Rangitukua**	**3.15**	**23**	P	**Pb**	**05 47 29.3**	**+1.4**
GCSZ	**Gaunt Creek Bo**	**3.23**	**240**	P	**Pb**	**05 47 27.0**	**-2.2**
WATZ	**Wairara**	**3.28**	**22**	P	**Pb**	**05 47 29.4**	**-0.8**
HIZ	**Hauiti**	**3.29**	**9**	P	**Pn**	**05 47 26.5**	**+3.5**
ARHZ	**Aropaoanui**	**3.30**	**42**	P	**Pn**	**05 47 22.3**	**-0.8**
MRHZ	**Matea Rd**	**3.40**	**31**	P	**Pn**	**05 47 23.8**	**-0.7**
TLZ	**Tolley Road**	**3.59**	**17**	P	**Pn**	**05 47 29.8**	**+2.6**
TOZ	**Tahuroa Road**	**4.16**	**15**	P	**Pn**	**05 47 42.9**	**-2.1**
JCZ	**Jackson Bay**	**4.58**	**238**	P	**Pn**	**05 47 45.0**	**+4.3**
RUGZ	**Raukumara Rang**	**4.66**	**37**	P	**Pn**	**05 47 40.9**	**-1.0**
AWAZ	**Awhi Peninsu**	**4.71**	**5**	P	**Pn**	**05 47 45.2**	**+2.6**
MKAZ	**Moumakai**	**4.72**	**10**	P	**Pn**	**05 47 44.5**	**+1.9**
WTAZ	**Waiatarua**	**4.84**	**4**	P	**Pn**	**05 47 47.6**	**+3.3**
ETAZ	**East Tamaki Re**	**4.84**	**7**	P	**Pn**	**05 47 47.8**	**+3.5**
OUZ	**Omahuta**	**6.55**	**356**	P	**Pn**	**05 48 11.2**	**+3.4**
CTZ	**Chatham Island**	**7.06**	**109**	P	**Pn**	**05 48 13.7**	**-1.0**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=128,slow=7.1,SNR=2.1 0.2nm,0.6s	**37.98**	**286**	P	**P**	**05 53 49.2**	**0.0**
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=127,slow=8.5,SNR=5.1 0.5nm,1.0s	**40.05**	**291**	P	**P**	**05 54 05.9**	**-0.7**
TORD	**Torodi Ar. Bea** 0.3nm,0.4s,baz=175,slow=3.0,SNR=5.4	**150.74**	**195**	PKPbc	**PKPbc**	**06 06 24.1**	**+0.3**

WEL ***14*** *05:47:00, 41.71S×174.28E, h19km, ML4.4, Mw4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr1.37; Mθθ0.63; Mφφ-2.00; Mrθ-0.90; Mrφ-0.28; Mθφ-0.76; Fault plane solution: Mo2.14000×10^15 NP1: φs337.00000°, δ40.00000°, λ42.00000°. NP2: φs212.00000°, δ65.00000°, λ122.00000°. Principal axes: T 203.0700, Plg58.0000°, Azm166.0000°; N 21.6400, Plg29.0000°, Azm17.0000°; P -224.7000, Plg14.0000°, Azm280.0000°;*

IDC ***14*** *05:47:10.6±1.5, 41.70S×174.08E, h0km, mb3.9/3, mbtmp3.9/3 Error ellipse: s-maj=62.0km s-min=29.5km az=49.0*

NEIC ***14*** *05:47:12.0±1.4, 41.77S±0.04×174.39E±0.02, h10km±1km, mb4.1/5, Error ellipse: s-maj=6.7km s-min=2.9km az=358.0*

WEL ***14*** *05:47:14.2±0.7, 42°S±2°×17°4E±°, h5km±2km, M4.4/9, ML4.5/9, MLv4.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=103.9*

ISC 14 05:47:12.6±0.8, **41.74S**±0.03×**174.37E**±0.03, **h16**km±5km, **n44**, σ0$**80**/55, **mb4.1**/6, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.12**	**263**	Pg	**Pg**	**05 47 15.4**	**-0.8**
CMWZ				Sg	**Sg**	**05 47 18.9**	**+0.2**
CMWZ	**Cape Campbell**	**0.12**	**263**	P	**Pg**	**05 47 16.8**	**+0.6**
CMWZ				S	**Sg**	**05 47 19.2**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.37**	**273**	Pg	**Pg**	**05 47 19.8**	**-0.5**
BSWZ				Sg	**Sb**	**05 47 26.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.37**	**273**	P	**Pb**	**05 47 20.6**	**-0.2**
BSWZ				S	**Sb**	**05 47 25.9**	**-0.6**
TUWZ	**Tuamarina**	**0.45**	**313**	Pg	**Pb**	**05 47 21.2**	**-0.9**
TUWZ				Sg	**Sb**	**05 47 28.3**	**-0.1**
TUWZ	**Tuamarina**	**0.45**	**313**	P	**Pb**	**05 47 22.0**	**-0.1**
TUWZ				S	**Sb**	**05 47 28.4**	**-0.1**
SNZO	**South Karori**	**0.49**	**30**	Pg	**Pg**	**05 47 21.4**	**-1.0**
BHW	**Baring Head**	**0.50**	**49**	P	**Pn**	**05 47 24.7**	**-0.3**
TCW	**Tory Channel**	**0.53**	**352**	P	**Pb**	**05 47 24.3**	**+0.8**
TCW				S	**Sb**	**05 47 31.0**	**+0.1**
PLWZ	**Palliser**	**0.68**	**76**	Pg	**Pg**	**05 47 25.8**	**-0.2**
MSWZ	**Moikau Station**	**0.73**	**64**	Pg	**Pg**	**05 47 26.6**	**-0.3**
NNZ	**Nelson**	**0.91**	**304**	Pg	**Pb**	**05 47 30.0**	**0.0**
NNZ	**Nelson**	**0.91**	**304**	P	**Pb**	**05 47 30.2**	**+0.2**
KHZ	**Kahutara**	**0.92**	**222**	P	**Pn**	**05 47 31.4**	**+0.5**
KHZ				S	**Sn**	**05 47 45.0**	**+1.2**
DUWZ	**D'Urville Isla**	**0.99**	**340**	P	**Pn**	**05 47 32.7**	**+0.8**
DUWZ				S	**Sn**	**05 47 46.1**	**+0.5**
THZ	**Tophouse**	**1.10**	**268**	Pn	**Pb**	**05 47 33.4**	**+0.1**
THZ	**Tophouse**	**1.10**	**268**	P	**Pn**	**05 47 34.2**	**+0.8**
THZ				S	**Sn**	**05 47 49.8**	**+1.5**
MRNZ	**Matariki Terra**	**1.26**	**285**	P	**Pg**	**05 47 36.9**	**0.0**
MRZ	**Mangatainoka R**	**1.41**	**41**	Pn	**Pb**	**05 47 38.4**	**-0.1**
QRZ	**Quartz Range**	**1.66**	**303**	Pn	**Pn**	**05 47 41.2**	**+0.1**
QRZ	**Quartz Range**	**1.66**	**303**	P	**Pg**	**05 47 43.3**	**-1.2**
QRZ				S	**Sg**	**05 48 05.3**	**-0.9**
BFZ	**Birch Farm**	**1.76**	**54**	Pn	**Pn**	**05 47 41.9**	**-0.6**
LTZ	**Lake Taylor**	**1.88**	**235**	Pn	**Pn**	**05 47 44.5**	**+0.4**
DSZ	**Denniston Nort**	**1.92**	**269**	Pn	**Pn**	**05 47 44.7**	**0.0**
MQZ	**McQueen's Vall**	**2.34**	**212**	Pn	**Pn**	**05 47 49.0**	**-1.4**
OXZ	**Oxford**	**2.35**	**227**	Pn	**Pn**	**05 47 49.4**	**-1.1**
BKZ	**Black Stump Fm**	**3.03**	**33**	Pn	**Pn**	**05 48 00.3**	**+0.3**
RPZ	**Rata Peaks**	**3.15**	**230**	Pn	**Pn**	**05 48 01.1**	**-0.5**
HIZ	**Hauiti**	**3.24**	**7**	Pn	**Pn**	**05 48 04.0**	**+1.2**
FOZ	**Fox Glacier**	**3.81**	**240**	Pn	**Pn**	**05 48 10.4**	**-0.2**
LBZ	**Lake Benmore**	**4.05**	**228**	Pn	**Pn**	**05 48 14.5**	**+0.5**
ODZ	**Otahua Downs**	**4.28**	**218**	Pn	**Pn**	**05 48 16.9**	**-0.2**
WKZ	**Wanaka**	**4.98**	**230**	Pn	**Pn**	**05 48 26.7**	**-0.1**
SBA	**Scott Base**	**36.36**	**183**	P	**P**	**05 54 16.1**	**+0.7**
SBA	comp=Z,3.6nm,1.4s				IAmb	IAmb	05 54 36.5
ASAR	**Alice Springs** comp=Z,0.4nm,0.4s,baz=125,slow=6.7,SNR=10 comp=Z,0.4nm,0.4s	**38.12**	**285**	P	**P**	**05 54 28.9**	**-2.1**
WB2	**Warramunga Arr**	**40.18**	**290**	P	**P**	**05 54 47.6**	**-0.5**
WB2	comp=Z,3.0nm,0.7s				IAmb	IAmb	05 54 54.5
WRA	**Warramunga Arr** comp=Z,0.7nm,0.4s,baz=127,slow=8.5,SNR=12 comp=Z,0.7nm,0.4s	**40.19**	**290**	P	**P**	**05 54 47.3**	**-1.0**
WRA	**Warramunga Arr**	**40.19**	**290**	P	**P**	**05 54 46.2**	**-2.1**
WB0	**Warramunga Arr**	**40.26**	**291**	P	**P**	**05 54 48.2**	**-0.7**
WB0	comp=Z,4.1nm,0.9s				IAmb	IAmb	05 54 54.7
QSPA	**South Pole Qui** comp=Z,2.9nm,0.9s,baz=178,slow=0.3,SNR=6.3 comp=Z,2.9nm,0.9s	**48.39**	**180**	P	**P**	**05 55 54.3**	**+0.8**
QSPA	**South Pole Qui**	**48.39**	**180**	P	**P**	**05 55 54.8**	**+1.2**
ARCES	**ARCESS Array B** comp=Z,3.6nm,1.0s,baz=29,slow=2.8,SNR=4.4	**147.79**	**340**	PKPbc	**PKPbc**	**06 06 56.1**	**+0.7**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.5s,baz=154,slow=2.4,SNR=12	**150.81**	**195**	PKPbc	**PKPbc**	**06 07 05.0**	**+0.4**
FINES	**FINESS Array B** comp=Z,1.5nm,0.8s,baz=72,slow=4.5,SNR=1.5	**152.57**	**327**	PKPbc	**PKPbc**	**06 07 06.2**	**-1.0**

IDC ***14*** *05:48:49.2±0.7, 6.77N×72.94W, h155km±9km, mb3.5/7, mbtmp4.1/11, Error ellipse: s-maj=22.5km s-min=7.2km az=132.0*

NEIC ***14*** *05:48:49.7±1.7, 6.77N±0.07×73.02W±0.08, h145km±9km, mb4.2/97, Error ellipse: s-maj=12.9km s-min=8.5km az=125.0*

RSNC ***14*** *05:48:51.0±0.9, 6.78N×73.14W, h143km±3km, ML3.8, Mw4.1*

ISC 14 05:48:49.4±0.6, **6.83N**±0.03×**73.09W**±0.04, **h149**km±6km, **n171**, σ1$**47**/211, **mb4.2**/51, **4C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**201**	⇑*iP*	**Pn**	**05 49 10.2**	**+0.2**
BARC				*eS*	**Sn**	**05 49 25.0**	**-0.7**
BARC	comp=Z,2μm,0.4s			IAML		05 49 26.1	
PAMC	**Pamplona, Colo**	**0.64**	**37**	⇓*iP*	**Pn**	**05 49 13.1**	**+1.0**
PAMC				*eS*	**Sn**	**05 49 29.8**	**+0.5**
PAMC	comp=Z,3μm,0.5s			IAML		05 49 32.2	
BRRC	**Barranca, Sant**	**0.67**	**295**	*eP*	**Pn**	**05 49 12.1**	**+0.4**
BRRC				*eS*	**Sn**	**05 49 28.9**	**+0.3**
BRRC	comp=Z,1μm,0.1s			IAML		05 49 33.4	
TAMC	**Tame, Arauca**	**1.35**	**107**	⇑*iP*	**Pn**	**05 49 18.6**	**+1.2**
TAMC				IAML		05 49 39.5	
TAMC	comp=Z,355nm,0.3s			*eS*	**Sn**	**05 49 40.0**	**+1.3**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*eP*	**Pn**	**05 49 16.9**	**-0.8**
PTBC				*eS*	**Sn**	**05 49 37.8**	**-1.5**
PTBC	comp=Z,583nm,0.3s			IAML		05 49 41.0	
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*eP*	**Pn**	**05 49 23.4**	**+0.4**
ZARC				*eS*	**Sn**	**05 49 49.0**	**+0.2**
ZARC	comp=Z,757nm,0.2s			IAML		05 49 55.1	
NORC	**Norcasia**	**2.17**	**235**	*eP*	**Pn**	**05 49 26.7**	**+0.2**
NORC				*eS*	**Sn**	**05 49 54.0**	**-1.0**
NORC	comp=Z,382nm,0.3s			IAML		05 49 59.5	
CHIC	**Chingaza**	**2.27**	**196**	*eP*	**Pn**	**05 49 28.5**	**+0.4**
CHIC				*eS*	**Sn**	**05 49 57.3**	**-0.6**
CHIC	comp=Z,435nm,0.6s			IAML		05 50 01.2	
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**05 49 30.3**	**+1.6**
ROSC	comp=Z,234nm,0.4s,baz=132,slow=19,SNR=254			S	**Sn**	**05 50 00.3**	**+1.4**
ROSC	**El Rosal**	**2.32**	**212**	⇓*iP*	**Pn**	**05 49 30.2**	**+1.6**
ROSC				*eS*	**Sn**	**05 49 57.7**	**-1.1**
ROSC	comp=Z,960nm,0.4s			IAML		05 50 05.0	
UREC	**San Jos de Ur**	**2.59**	**291**	*eP*	**Pn**	**05 49 30.5**	**-1.1**
UREC				*

GCUF	**Volcan Galeras**	**6.99**	**217**	⇑*iP*		**Pn**	**05 50 30.8 +1.0**
GCUF				*eS*		**Sn**	**05 51 46.0 -2.6**
GCUF				IAML			05 51 54.8
	comp=Z,19nm,0.5s						
TULM	**Tulcn-Chalpat**	**7.67**	**218**			**Pn**	**05 50 40.0 +1.2**
IMBA	**Imbabura, San**	**8.26**	**218**	Pn		**Pn**	**05 50 48.4 +1.6**
PULU	**Pululahua**	**8.65**	**219**			**Pn**	**05 50 50.8 -1.1**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P		**Pn**	**05 50 55.8 -0.5**
	comp=Z,5.3nm,0.4s,baz=277,slow=1.0,SNR=20						
SLOR	**San Lorenzo -**	**9.24**	**216**			**Pn**	**05 50 59.4 -0.4**
BRU2	**Volcan**	**9.71**	**282**	Pn		**Pn**	**05 51 06.9 +1.2**
PRVC	**Isla de Provid**	**10.42**	**309**	*eP*		**Pn**	**05 51 12.5 -2.5**
PRVC				*eS*		**Sn**	**05 53 03.1 -7.2**
SRBA	**San Rafael, Bu**	**10.44**	**284**	Pn		**Pn**	**05 51 16.5 +1.1**
BOSC	**San Juan Bosco**	**11.28**	**209**			**Pn**	**05 51 28.2 +1.7**
LGNH	**Logne**	**11.62**	**2**	Pn		**Pn**	**05 51 29.8 -1.0**
MTDJ	**Mount Denham**	**12.13**	**339**	Pn		**Pn**	**05 51 36.1 -1.4**
SDDR	**Presa de Saban**	**12.21**	**8**	Pn		**Pn**	**05 51 39.3 +0.8**
CELP	**Cerrillos**	**12.86**	**29**	Pn		**Pn**	**05 51 45.0 -1.9**
AOPR	**Arecibo Observ**	**13.01**	**28**	Pn		**Pn**	**05 51 47.3 -1.5**
MCRA	**Macar, Loja**	**13.06**	**212**	Pn		**Pn**	**05 51 46.8 -2.7**
SJG	**San Juan**	**13.10**	**30**	P		**Pn**	**05 51 48.7 -1.2**
	comp=Z,7.3nm,0.5s,baz=202,slow=15,SNR=7.0						
SJG	**San Juan**	**13.10**	**30**	Pn		**Pn**	**05 51 49.4 -0.6**
BOAV	**Boa Vista**	**13.28**	**109**	Pn		**Pn**	**05 51 50.2 -2.1**
GCPR	**Guaynabo City**	**13.30**	**30**	Pn		**Pn**	**05 51 50.7 -1.8**
CBYP	**Canovanas**	**13.38**	**31**	Pn		**Pn**	**05 51 53.1 -0.5**
CDVI	**St. Croix**	**13.56**	**36**	Pn		**Pn**	**05 51 56.0 +0.2**
BOAB	**BOACO BROADBAND**	**13.59**	**295**	Pn		**Pn**	**05 51 57.3 +1.0**
STVI	**Saint Thomas**	**13.93**	**34**	Pn		**Pn**	**05 52 00.8 +0.3**
MACA	**Manacapuru-AM**	**15.87**	**128**			**Pn**	**05 52 23.9 -0.9**
MACA				IAmb	IAmb		05 52 40.4
	comp=Z,9.8nm,0.6s						
MTO3	**Montecristo**	**17.66**	**297**	P		**Pn**	**05 52 46.4 -0.1**
MTO3				IAmb	IAmb		05 52 49.4
	comp=Z,6.3nm,0.9s						
ETMB	**Extrema**	**17.90**	**157**	P		**P**	**05 52 47.1 -0.6**
ETMB				IAmb	IAmb		05 52 47.7
	comp=Z,3.3nm,0.6s						
VILB	**Vilhena**	**23.46**	**147**	P		**P**	**05 53 45.1 -0.4**
VILB				IAmb	IAmb		05 54 16.3
	comp=Z,7.0nm,0.8s						
LPAZ	**La Paz**	**23.48**	**168**	P		**P**	**05 53 44.4 -2.1**
	comp=Z,1.3nm,0.8s,baz=350,slow=6.7,SNR=4.8						
	comp=Z,1.3nm,0.8s						
LPAZ	**La Paz**	**23.48**	**168**	P		**P**	**05 53 45.5 -0.9**
250A	**Grady**	**27.88**	**336**	P		**P**	**05 54 27.7 +2.5**
HODGE	**Hodges**	**28.56**	**344**	P		**P**	**05 54 33.3 +2.1**
LRAL	**Lakeview Retre**	**29.10**	**335**	P		**P**	**05 54 38.1 +2.0**
LRAL				IAmb	IAmb		05 54 48.4
	comp=Z,7.5nm,1.2s						
X48A	**Hartselle**	**30.36**	**337**	P		**P**	**05 54 48.5 +1.4**
X48A				IAmb	IAmb		05 54 49.3
	comp=Z,5.1nm,0.7s						
CPCT	**Cooper Cave**	**30.36**	**341**	P		**P**	**05 54 49.2 +2.1**
CPCT				IAmb	IAmb		05 54 58.7
	comp=Z,7.4nm,1.2s						
W50A	**Signal Mountai**	**30.39**	**340**	P		**P**	**05 54 49.6 +2.1**
W50A				IAmb	IAmb		05 54 50.0
	comp=Z,6.7nm,1.0s						
V51A	**Loudon**	**30.63**	**342**	P		**P**	**05 54 51.6 +2.0**
V48A	**Smith Brothers**	**31.41**	**338**	P		**P**	**05 54 58.2 +1.8**
WVT	**Waverly**	**32.14**	**337**	P		**P**	**05 55 03.9 +1.2**
WVT				IAmb	IAmb		05 55 04.4
	comp=Z,8.4nm,1.1s						
T47A	**Sharon Grove**	**32.63**	**339**	P		**P**	**05 55 08.4 +1.3**
T47A				IAmb	IAmb		05 55 08.6
	comp=Z,4.8nm,0.6s						
WHAR	**Wooly Hollow**	**33.38**	**331**	P		**P**	**05 55 14.0 +0.5**
WHAR				IAmb	IAmb		05 55 15.9
	comp=Z,7.2nm,1.1s						
MIAR	**Mount Ida**	**33.44**	**328**	P		**P**	**05 55 14.5 +0.4**
MIAR				IAmb	IAmb		05 55 23.3
	comp=Z,8.0nm,1.4s						
WCI	**Wyandotte Cave**	**33.47**	**341**	P		**P**	**05 55 15.6 +1.2**
WCI				IAmb	IAmb		05 55 32.0
	comp=Z,8.8nm,1.1s						
LCAR	**Lake Charles**	**33.48**	**333**	P		**P**	**05 55 15.7 +1.3**
LCAR				IAmb	IAmb		05 55 16.1
	comp=Z,4.4nm,1.2s						
P52A	**Corning**	**33.66**	**347**	P		**P**	**05 55 17.7 +1.7**
FCAR	**Ozark Folk Cen**	**33.78**	**332**	P		**P**	**05 55 17.6 +0.6**
FCAR				IAmb	IAmb		05 55 18.2
	comp=Z,8.8nm,1.1s						
CGM3	**Cape Girardeau**	**33.88**	**336**	P		**P**	**05 55 18.6 +0.8**
CGM3				IAmb	IAmb		05 55 18.7
	comp=Z,4.7nm,0.6s						
HHAR	**Hobbs**	**34.98**	**330**	P		**P**	**05 55 27.4 0.0**
HHAR				IAmb	IAmb		05 55 32.4
	comp=Z,4.4nm,1.2s						
CCM	**Cathedral Cave**	**35.18**	**335**	P		**P**	**05 55 29.9 +0.9**
SFIN	**Lafayette**	**35.69**	**342**	P		**P**	**05 55 33.9 +0.6**
R40A	**Maddies Statio**	**35.82**	**334**	P		**P**	**05 55 34.9 +0.4**
R40A				IAmb	IAmb		05 55 59.7
	comp=Z,5.7nm,1.5s						
OK053	**SW of W Deep R**	**36.26**	**327**	P		**P**	**05 55 38.4 +0.1**
TX32	**Lajitas Array**	**36.48**	**312**	P		**P**	**05 55 41.2 +0.8**
TXAR	**Lajitas Array**	**36.48**	**312**	P		**P**	**05 55 41.0 +0.6**
	comp=Z,1.3nm,0.6s,baz=128,slow=8.8,SNR=24						
TXAR				PcP		**PcP**	**05 58 01.5 +0.3**
	comp=Z,0.5nm,1.0s,baz=128,slow=5.8,SNR=4.6						
	comp=Z,1.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**36.48**	**312**	P		**P**	**05 55 41.2 +0.9**
TX31				IAmb	IAmb		05 55 41.3
	comp=Z,3.3nm,0.7s						
WMOK	**Wichita Mounta**	**36.49**	**323**	P		**P**	**05 55 40.5 +0.2**
P40A	**Paris**	**36.76**	**335**	P		**P**	**05 55 42.8 +0.3**
P40A				IAmb	IAmb		05 55 43.2
	comp=Z,6.6nm,0.8s						
T35A	**Sooner Cattle**	**36.78**	**328**	P		**P**	**05 55 45.3 +2.5**
T35A				IAmb	IAmb		05 56 03.0
	comp=Z,3.7nm,0.8s						
P38A	**Dawn**	**37.47**	**334**	P		**P**	**05 55 48.9 +0.4**
P38A				IAmb	IAmb		05 56 13.5
	comp=Z,9.4nm,1.4s						
MNTX	**Cornudas Mount**	**38.99**	**314**	P		**P**	**05 56 02.3 +0.9**
MNTX				IAmb	IAmb		05 56 03.4
	comp=Z,3.3nm,0.8s						
JFWS	**Jewell Farm**	**39.00**	**340**	P		**P**	**05 56 01.2 -0.1**
I42A	**Draeger Farm,**	**39.44**	**342**	P		**P**	**05 56 05.1 +0.3**
E46A	**Sault Ste Mari**	**40.56**	**348**	P		**P**	**05 56 14.9 +0.8**
ECSD	**EROS Data Cent**	**42.15**	**334**	P		**P**	**05 56 27.2 +0.1**
SDCO	**Great Sand Dun**	**42.56**	**321**	P		**P**	**05 56 32.0 +1.2**
S22A	**4UR Ranch, Cre**	**43.40**	**320**	P		**P**	**05 56 39.3 +1.7**
EYMN	**Ely**	**43.87**	**342**	P		**P**	**05 56 40.9 +0.1**
EYMN				IAmb	IAmb		05 56 41.4
	comp=Z,6.6nm,0.7s						
MVCO	**Mesa Verde**	**44.17**	**318**	P		**P**	**05 56 44.9 +1.2**
MVCO				IAmb	IAmb		05 56 45.4
	comp=Z,9.5nm,1.5s						
B35A	**Bob, Littlefor**	**44.95**	**341**	P		**P**	**05 56 49.4 0.0**
B35A				IAmb	IAmb		05 56 57.6
	comp=Z,15nm,1.4s						
WUAZ	**Wupatki**	**45.24**	**315**	P		**P**	**05 56 53.2 +1.1**
WUAZ				IAmb	IAmb		05 56 54.2
	comp=Z,4.6nm,0.9s						
AGMN	**Agassiz Nation**	**45.63**	**339**	P		**P**	**05 56 54.8 0.0**
AGMN				IAmb	IAmb		05 57 22.9
	comp=Z,16nm,1.4s						
U15A	**North Rim**	**46.33**	**315**	P		**P**	**05 57 02.4 +1.6**
KNB	**Kanab**	**47.00**	**316**	P		**P**	**05 57 07.2 +1.3**
KNB				IAmb	IAmb		05 57 08.1
	comp=Z,3.8nm,0.9s						
MTPU	**Mount Pierson**	**47.08**	**317**	P		**P**	**05 57 06.8 +0.1**
LCMT	**Little Creek M**	**47.29**	**315**	P		**P**	**05 57 09.9 +1.8**
ULM	**Lac du Bonnet**	**47.29**	**340**	P		**P**	**05 57 07.0 -0.7**
	comp=Z,3.7nm,0.5s,baz=146,slow=6.0,SNR=5.7						
	comp=Z,3.7nm,0.5s						
MSU	**Marysvale**	**47.32**	**318**	P		**P**	**05 57 09.9 +1.5**
MVU	**Marysvale**	**47.34**	**318**	P		**P**	**05 57 09.3 +0.7**
V12A	**Nelson**	**47.83**	**313**	P		**P**	**05 57 13.4 +1.2**
V12A				IAmb	IAmb		05 57 14.3
	comp=Z,3.8nm,1.1s						
NLU	**North Lily Min**	**48.02**	**319**	P		**P**	**05 57 14.7 +1.0**
BW06	**Boulder Array**	**48.09**	**324**	P		**P**	**05 57 14.5 +0.2**
BW06				IAmb	IAmb		05 57 15.0
	comp=Z,5.3nm,1.4s						
PD31	**Pinedale Array**	**48.09**	**324**	P		**P**	**05 57 14.6 +0.4**
PD31				IAmb	IAmb		05 57 15.0
	comp=Z,4.8nm,1.4s						
PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**	**05 57 14.1 -0.2**
	comp=Z,0.9nm,0.7s,baz=129,slow=9.0,SNR=8.5						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**	**05 57 14.9 +0.6**

TCUT	**Toone Canyon**	**48.24**	**321**	P		**P**	**05 57 16.9 +1.4**
HWUT	**Hardware Ranch**	**48.61**	**322**	P		**P**	**05 57 19.7 +1.5**
DUG	**Dugway, Tooele**	**48.63**	**319**	P		**P**	**05 57 20.3 +2.0**
SPUT	**South Promonto**	**49.00**	**321**	P		**P**	**05 57 22.1 +0.9**
SPR3	**Spring Creek 3**	**49.02**	**317**	P		**P**	**05 57 22.5 +1.0**
SPR3				IAmb	IAmb		05 57 22.8
	comp=Z,0.9nm,0.6s						
GSC	**Goldstone, Bar**	**49.08**	**312**	P		**P**	**05 57 22.6 +0.8**
GSC				IAmb	IAmb		05 57 23.4
	comp=Z,3.1nm,0.9s						
BGU	**Big Grassy Mou**	**49.16**	**320**	P		**P**	**05 57 23.2 +0.8**
BGU				IAmb	IAmb		05 57 23.3
	comp=Z,2.7nm,0.6s						
DGMT	**Dagmar**	**49.16**	**333**	P		**P**	**05 57 23.2 +1.1**
REDW	**Red Top Meadow**	**49.20**	**324**	P		**P**	**05 57 23.6 +0.8**
REDW				IAmb	IAmb		05 57 24.0
	comp=Z,3.7nm,0.7s						
SNOW	**Snow King Moun**	**49.21**	**324**	P		**P**	**05 57 24.5 +1.7**
SNOW				IAmb	IAmb		05 57 25.0
	comp=Z,3.4nm,1.0s						
LOHW	**Long Hollow**	**49.21**	**324**	P		**P**	**05 57 24.1 +1.3**
LOHW				IAmb	IAmb		05 57 24.4
	comp=Z,1.6nm,0.6s						
TPNV	**Topopah Spring**	**49.38**	**314**	P		**P**	**05 57 25.6 +1.4**
R11A	**Troy Canyon, C**	**49.56**	**316**	P		**P**	**05 57 26.5 +1.0**
GCMT	**Greycliff**	**50.03**	**327**	P		**P**	**05 57 30.0 +1.1**
GMN	**Gold Mountain**	**50.26**	**314**	P		**P**	**05 57 31.6 +0.7**
DSP	**Deep Springs**	**50.80**	**314**	P		**P**	**05 57 36.1 +1.5**
DSP				IAmb	IAmb		05 57 36.6
	comp=Z,3.5nm,1.1s						
BOZ	**Bozeman (W)**	**50.99**	**326**	P		**P**	**05 57 36.3 +0.2**
BOZ				IAmb	IAmb		05 57 37.4
	comp=Z,2.3nm,0.8s						
MCMT	**McKenzie Canyo**	**51.23**	**324**	P		**P**	**05 57 39.3 +1.3**
HLID	**Hailey**	**51.45**	**322**	P		**P**	**05 57 40.5 +0.9**
NVAR	**Mina Array Bea**	**51.50**	**315**	P		**P**	**05 57 40.8 +0.7**
	comp=Z,0.7nm,0.6s,baz=122,slow=7.9,SNR=8.6						
	comp=Z,0.7nm,0.6s						
LRM	**Limekiln Ridge**	**51.59**	**326**	P		**P**	**05 57 41.6 +1.0**
WVOR	**Wild Horse Val**	**53.54**	**319**	P		**P**	**05 57 55.4 +0.5**
BEKR	**Beckworth**	**53.56**	**315**	P		**P**	**05 57 56.2 +1.0**
F10A	**Beach Ranch, E**	**54.43**	**323**	P		**P**	**05 58 01.5 +0.2**
F10A				IAmb	IAmb		05 58 09.1
	comp=Z,9.7nm,1.5s						
I07A	**Izee**	**54.88**	**320**	P		**P**	**05 58 05.4 +0.8**
I07A				IAmb	IAmb		05 58 21.8
	comp=Z,7.2nm,1.5s						
G08A	**Pilot Rock**	**55.13**	**322**	P		**P**	**05 58 07.1 +0.8**
PINE	**Pine Mountain**	**55.66**	**319**	P		**P**	**05 58 10.5 +0.2**
YBH	**Yreka Blue Hor**	**55.95**	**317**	P		**P**	**05 58 11.3 -1.0**
KMRM	**Mail Ridge**	**56.05**	**314**	P		**P**	**05 58 13.6 +0.6**
KMPM	**Mount Pierce**	**56.42**	**315**	P		**P**	**05 58 16.8 +1.2**
EDM	**Edmonton**	**56.63**	**332**	P		**P**	**05 58 16.5 -0.3**
EDM				IAmb	IAmb		05 58 24.8
	comp=Z,2.9nm,0.9s						
BUCK	**Buck Mountain**	**57.17**	**319**	P		**P**	**05 58 20.6 -0.2**
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	**05 59 01.4 -0.4**
	comp=Z,2.0nm,0.6s,baz=134,slow=6.1,SNR=7.8						
	comp=Z,2.0nm,0.6s						
M30M	**Minto, Yukon**	**72.04**	**334**	P		**P**	**05 59 57.6 +0.7**
M30M				IAmb	IAmb		05 59 58.1
	comp=Z,3.3nm,0.8s						
A36M	**Sachs Harbour**	**72.44**	**345**	P		**P**	**05 59 59.1 +0.1**
A36M				IAmb	IAmb		05 59 59.5
	comp=Z,6.9nm,0.8s						
M27K	**Edge Creek, AK**	**74.21**	**333**	P		**P**	**06 00 10.9 +1.1**
BCAR	**Beaver Creek A**	**74.37**	**334**	P		**P**	**06 00 10.8 +0.3**
EGAK	**Eagle**	**74.60**	**336**	P		**P**	**06 00 13.5 +1.7**
EGAK				IAmb	IAmb		06 00 28.5
	comp=Z,4.0nm,1.3s						
BMAR	**Burnt Mountain**	**76.67**	**338**	P		**P**	**06 00 23.9 +0.4**
ILAR	**Eielson Array**	**76.97**	**335**	P		**P**	**06 00 25.2 -0.1**
	comp=Z,0.5nm,0.7s,baz=105,slow=7.5,SNR=4.8						
	comp=Z,0.5nm,0.7s						
PPLA	**Purkeypile**	**78.99**	**333**	P		**P**	**06 00 37.0 +0.3**
M20K	**Styx River**	**79.32**	**332**	P		**P**	**06 00 38.5 +0.2**
M20K				IAmb	IAmb		06 01 00.8
	comp=Z,11nm,1.4s						
K20K	**Telida**	**79.89**	**333**	P		**P**	**06 00 41.0 -0.3**
K20K				IAmb	IAmb		06 01 03.4
	comp=Z,6.4nm,1.3s						
J20K	**Nowinta River**	**79.99**	**334**	P		**P**	**06 00 42.0 +0.2**
J20K				IAmb	IAmb		06 00 42.1
	comp=Z,9.5nm,1.2s						
L19K	**White Mountain**	**80.15**	**332**	P		**P**	**06 00 42.3 -0.4**
N18K	**Kilae Creek**	**80.56**	**330**	P		**P**	**06 00 44.7 -0.2**
NBO00	**NORSAR Array S**	**81.10**	**29**	P		**P**	**06 00 48.5 +0.7**

WEL 14 05:50:21.5±0.5, 42°S±4°×17°4E±°, h5km±3km, M3.4/9, ML4.3/22, MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.35**	**258**	P	Pg	05 50 28.7	+0.3
KHZ	**Kahutara**	**0.35**	**258**	P	Pn	05 50 37.2	+3.9
CMWZ	**Cape Campbell**	**0.61**	**14**	P	Pb	05 50 34.5	-0.3
BSWZ	**Blackbirch Sta**	**0.64**	**351**	P	Pb	05 50 35.0	-0.1
TUWZ	**Tuamarina**	**0.92**	**357**	P	Pb	05 50 39.5	-0.4
GVZ	**Greta Valley S**	**0.95**	**229**	P	Pb	05 50 40.6	+0.1
GVZ				S	Sb	05 50 54.5	+1.1
GVZ	**Greta Valley S**	**0.95**	**229**	P	Pn	05 50 49.9	+8.3
THZ	**Tophouse**	**1.01**	**305**	P	Pg	05 50 40.0	-0.8
THZ				S	Sg	05 50 53.0	-0.9
PLWZ	**Palliser**	**1.21**	**51**	P	Pg	05 50 44.2	-0.5
NNZ	**Nelson**	**1.22**	**337**	P	Pg	05 50 44.1	-0.8
NNZ	**Nelson**	**1.22**	**337**	P	Pg	05 50 44.6	-0.3
AMCZ	**Amberley**	**1.30**	**230**	P	Pn	05 50 45.4	-1.0
MSWZ	**Moikau Station**	**1.31**	**45**	P	Pn	05 50 45.5	-1.0
MRNZ	**Matariki Terra**	**1.33**	**315**	P	Pn	05 50 46.5	-0.2
MRNZ				P	Pg	05 50 47.0	0.0
LTZ	**Lake Taylor**	**1.36**	**251**	S	Sn	05 51 11.6	+6.0
LTZ	**Lake Taylor**	**1.36**	**251**	P	Pn	05 50 46.0	-1.2
LTZ	**Lake Taylor**	**1.36**	**251**	P	Pg	05 50 54.5	+7.0
PAWZ	**Paruwai Farm**	**1.43**	**48**	P	Pn	05 50 47.0	-1.2
CAW	**Cannon Point**	**1.47**	**33**	P	Pn	05 50 47.8	-0.8
TKNZ	**Takaka Hill**	**1.53**	**329**	P	Pn	05 50 49.4	-0.1
TKNZ	**Takaka Hill**	**1.53**	**329**	P	Pn	05 50 49.1	-0.4
DUWZ	**D'Urville Isla**	**1.54**	**358**	P	Pn	05 50 50.0	+0.3
OKCZ	**Okains Bay**	**1.54**	**206**	P	Pg	05 50 58.0	+6.9
OKCZ	**Okains Bay**	**1.54**	**206**	P	Pn	05 50 48.5	-1.3
TRWZ	**Traveller**	**1.57**	**54**	P	Pn	05 50 48.7	-1.4
MTW	**Mount Morrison**	**1.63**	**44**	P	Pn	05 50 49.8	-1.1
KIW	**Kapiti Island**	**1.63**	**25**	P	Pn	05 50 50.5	-0.4
MQZ	**McQueen's Vall**	**1.69**	**216**	P	Pg	05 50 58.6	+4.8
MQZ	**McQueen's Vall**	**1.69**	**216**	P	Pn	05 50 49.7	-2.0
AKCZ	**Akaroa Harbour**	**1.73**	**207**	P	Pg	05 51 00.1	+5.5
AKCZ	**Akaroa Harbour**	**1.73**	**207**	P	Pn	05 50 50.9	-1.3
DSZ	**Denniston Nort**	**1.75**	**289**	P	Pn	05 50 52.8	+0.3
DSZ				S	Sn	05 51 15.7	+0.4
OXZ	**Oxford**	**1.75**	**235**	P	Pg	05 50 59.5	+4.5
OXZ	**Oxford**	**1.75**	**235**	P	Pn	05 50 51.1	-1.4
OGWZ	**Otaki Gorge**	**1.76**	**30**	P	Pn	05 50 51.9	-0.8
TMWZ	**Te Maipa**	**1.88**	**49**	P	Pb	05 50 55.9	-0.3
QRZ	**Quartz Range**	**1.88**	**323**	P	Pn	05 50 55.0	+0.7
INZ	**Inchbonnie**	**1.93**	**258**	P	Pg	05 51 00.7	+2.2
INZ	**Inchbonnie**	**1.93**	**258**	P	Pn	05 50 54.4	-0.6
RACZ	**Rakaia**	**1.95**	**224**	P	Pg	05 51 02.3	+3.6
RACZ	**Rakaia**	**1.95**	**224**	P	Pn	05 50 53.6	-1.6
MRZ	**Mangatainoka R**	**2.06**	**36**	P	Pn	05 50 56.3	-0.5
PRWZ	**Pori Road**	**2.32**	**40**	P	Pn	05 51 01.6	+1.2
OHWZ	**Ohakea**	**2.35**	**25**	P	Pb	05 51 03.5	-0.9
OHWZ	**Ohakea**	**2.35**	**25**	P	Pn	05 51 01.4	+0.6
POWZ	**Post Office Ro**	**2.36**	**35**	P	Pn	05 51 02.0	+1.1
BFZ	**Birch Farm**	**2.36**	**46**	P	Pn	05 50 59.3	-1.7
WVZ	**Waitaha Valley**	**2.52**	**252**	P	Pg	05 51 10.0	+0.2
WVZ	**Waitaha Valley**	**2.52**	**252**	P	Pn	05 51 02.4	-0.7
RPZ	**Rata Peaks**	**2.56**	**237**	P	Pg	05 51 10.3	-0.3
RPZ	**Rata Peaks**	**2.56**	**237**	P	Pn	05 51 02.1	-1.6
DVHZ	**Dannevirke**	**2.61**	**39**	P	Pn	05 51 04.9	+0.5
ARCZ	**Arundel**	**2.62**	**231**	P	Pg	05 51 11.5	-0.2
ARCZ	**Arundel**	**2.62**	**231**	P	Pn	05 51 03.3	-1.2
ANWZ	**Angora Road**	**2.64**	**45**	P	Pn	05 51 06.8	+2.0
WAZ	**Wanganui**	**2.69**	**16**	P	Pn	05 51 06.3	+0.8
TSZ	**Takapari Road**	**2.72**	**33**	P	Pn	05 51 07.0	+1.1
TMZ	**Timaru**	**2.99**	**226**	P	Pn	05 51 08.2	-1.4
VRZ	**Vera Road**	**3.27**	**10**	P	Pn	05 51 14.3	+0.9
MKAZ	**Moumakai**	**5.31**	**10**	P	Pn	05 51 41.1	-0.3

WEL 14 05:50:31.3±0.4, 42°S±2°×17°4E±°, h12km, M3.5/7, ML3.8/7, MLv3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=87.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.06**	**113**	P	Pg	05 50 33.9	+0.2
CMWZ				S	Sg	05 50 37.1	+1.6
BSWZ	**Blackbirch Sta**	**0.20**	**273**	P	Pb	05 50 37.3	+0.5
BSWZ				S	Sg	05 50 41.1	+2.6
TCW	**Tory Channel**	**0.52**	**12**	P	Pb	05 50 42.3	-0.1
TCW				S	Sb	05 50 50.0	+0.1
WEL	**Wellington**	**0.65**	**47**	P	Pb	05 50 44.4	0.0
WEL				S	Sb	05 50 53.8	+0.4
KHZ	**Kahutara**	**0.82**	**213**	S	Pg	05 50 44.5	-2.7
PLWZ	**Palliser**	**0.85**	**80**	P	Pb	05 50 48.0	0.0
THZ	**Tophouse**	**0.92**	**267**	P	Pg	05 50 47.0	-2.1
DUWZ	**D'Urville Isla**	**0.94**	**350**	P	Pb	05 50 49.5	+0.1
PAWZ	**Paruwai Farm**	**1.03**	**71**	P	Pb	05 50 50.6	-0.4
TRWZ	**Traveller**	**1.21**	**75**	P	Pn	05 50 52.8	-1.3
HOWZ	**Holdsworth Sta**	**1.33**	**52**	P	Pn	05 50 55.1	-0.5
GVZ	**Greta Valley S**	**1.49**	**213**	S	Pg	05 51 03.9	+4.1
QRZ	**Quartz Range**	**1.51**	**306**	P	Pg	05 51 00.4	+0.2
MRZ	**Mangatainoka R**	**1.52**	**46**	P	Pn	05 50 58.3	0.0
TIWZ	**Tintock**	**1.62**	**55**	P	Pn	05 50 59.0	-0.8

*WEL **14** 05:51:00.42°30S×173°.81E, h9km, ML4.4, Mw4.4, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; Mrr0.23; Mθθ3.61; Mϕϕ-3.84; Mrθ-0.68; Mrϕ1.51; Mθϕ-2.24; Fault plane solution: M0.4.61000×10^{15} NP1: ϕs302.00000°, δ62.00000°, λ-4.00000°. NP2:ϕs34.00000°, δ87.00000°, λ-152.00000°. Principal axes: T 424.7000, Plg17.0000°, Azm165.0000°; N 73.1100, Plg62.0000°, Azm39.0000°; P -497.8100, Plg22.0000°, Azm262.0000°;*

*NEIC **14** 05:51:30.7±1.1, 41°.84S±0°.03×173°.46E±0°.05, h13km±7km, mb4.4/4, ML4.4(WEL) Error ellipse: s-maj=5.7km s-min=4.6km az=56.0*

*IDC **14** 05:51:33.9±1.4, 42°.36S×173°.83E, h0km, mb4.3/3, mbtmp4.3/4, ML4.2/1, MS3.8/10, Error ellipse: s-maj=42.7km s-min=30.2km az=152.0*

*WEL **14** 05:51:36.6±0.4, 42°S±3°×17°4E±°, h12km±3km, M4.4/25, ML4.5/14, MLv4.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=126.2*

ISC 14 05:51:35.7±1.3, 42°41S±0°.04×173°94E±0°.05, h11km±8km, n85, σ0°94/65, mb4.3/5, MS3.6/9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.30**	**269**		**Pg**	**05 51 42.4**	**+0.7**
KHZ	**Kahutara**	**0.30**	**269**	P	**Pg**	**05 51 42.2**	**+0.5**
KHZ				S	**Sg**	**05 51 45.6**	**-0.2**
CMWZ	**Cape Campbell**	**0.69**	**17**	Pg	Pg	05 51 39.1	-10
BSWZ	**Blackbirch Sta**	**0.70**	**356**	Pg	Pg	05 51 38.6	-11
BSWZ	**Blackbirch Sta**	**0.70**	**356**	P	**Pg**	**05 51 49.0**	**-0.2**
BSWZ				S	**Sg**	**05 51 58.5**	**+0.2**
GVZ	**Greta Valley S**	**0.87**	**230**	P	**Pn**	**05 51 54.6**	**+0.7**
GVZ				S	**Sn**	**05 52 08.1**	**+1.5**
TUWZ	**Tuamarina**	**0.98**	**0**	Pg	Pg	05 51 41.6	-13
TUWZ	**Tuamarina**	**0.98**	**0**	P

comp=Z,38nm,18.4s,baz=190,slow=35
CMAR Chiang Mai Arr 91.69 293 P **P** **06 04 43.0 -0.2**
comp=Z,0.9nm,0.3s,baz=126,slow=4.6,SNR=1.8
comp=Z,0.9nm,0.3s
KBZ Khabaz 144.62 289 PKP **PKPab** **06 11 10.7 +0.3**
comp=Z,1.9nm,0.7s,baz=119,slow=2.9,SNR=4.8
ARCES ARCESS Array B 148.31 339 PKPbc **PKPbc** **06 11 19.9 -0.8**
comp=Z,2.8nm,0.9s,baz=70,slow=1.4,SNR=5.9
TORD Torodi Ar. Bea 150.08 195 PKPbc **PKPbc** **06 11 27.6 +0.9**
comp=Z,1.3nm,0.7s,baz=160,slow=0.7,SNR=8.1
BRTR Keskin Array B 150.13 278 PKPbc **PKPdf** **06 11 24.1 +2.7**
comp=Z,1.0nm,0.6s,baz=42,slow=6.7,SNR=1.9
FINES FINESS Array B 152.95 326 PKPbc **PKPbc** **06 11 31.2 -0.8**
comp=Z,2.4nm,1.0s,baz=101,slow=4.4,SNR=2.0

*IDC **14** 05:54:45.2±1.1, 12°.20N×141°.13E, h38km±8km, mb3.9/8, mbtmp4.1/9, ML4.0/1, Error ellipse: s-maj=28.6km s-min=16.4km az=77.0*
ISC 14 05:54:44.7±0.7, 12°.2N±0°.1×141°.1E±0°.1, h34km, n10, σ0s87/13, mb4.2/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.96**	**69**	Pn		**Pn**		**05 55 43.4**	**+0.3**
	10nm,0.3s,baz=197,slow=12,SNR=4.6								
	77nm,0.6s								
CTA	**Charters Tower**	**32.49**	**171**	P		**P**		**06 01 12.6**	**+0.3**
	2.5nm,0.6s,baz=341,slow=9.0,SNR=5.8								
	2.5nm,0.6s								
WRA	**Warramunga Arr**	**32.62**	**192**	P		**P**		**06 01 13.3**	**-0.1**
	3.1nm,0.8s,baz=7.4,slow=9.1,SNR=5.7								
WRA				pP		**pP**		**06 01 22.8**	**+1.0**
	3.3nm,0.9s,baz=11,slow=9.4,SNR=5.1								
	3.1nm,0.8s								
ASAR	**Alice Springs**	**36.33**	**191**	P		**P**		**06 01 46.2**	**+0.7**
	0.7nm,0.8s,baz=18,slow=12,SNR=5.1								
ASAR				pP		**sP**		**06 01 57.2**	**-1.2**
	0.9nm,0.7s,baz=15,slow=14,SNR=3.5								
	0.7nm,0.8s								
KLR	**Kul'dur**	**37.72**	**350**	P		**P**		**06 01 57.3**	**+0.3**
	2.3nm,0.9s,baz=123,slow=14,SNR=5.3								
	2.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**41.02**	**284**	P		**P**		**06 02 26.1**	**+1.1**
	1.0nm,0.3s,baz=94,slow=6.7,SNR=5.0								
CMAR				pP		**sP**		**06 02 36.9**	**-0.6**
	1.4nm,0.3s,baz=85,slow=6.6,SNR=2.8								
	1.0nm,0.3s								
STKA	**Stephens Creek**	**43.83**	**179**	P		**P**		**06 02 47.0**	**-0.5**
	1.7nm,0.5s,baz=351,slow=9.4,SNR=4.3								
	1.7nm,0.5s								
MKAR	**Makanchi Array**	**59.95**	**317**	P		**P**		**06 04 47.9**	**+0.3**
	2.0nm,1.0s,baz=76,slow=6.1,SNR=3.5								
	2.0nm,1.0s								
FINES	**FINESS Array B**	**90.82**	**334**	P		**P**		**06 07 42.8**	**-1.6**
	2.0nm,0.7s,baz=35,slow=4.7,SNR=3.5								
	2.0nm,0.7s								
LPAZ	**La Paz**	**151.43**	**102**	PKPbc		**PKPbc**		**06 14 36.7**	**-0.1**
	1.0nm,0.9s,baz=271,slow=2.7,SNR=5.0								

*NEIC **14** 05:54:51.9±2.7, 4°.9S±0°.2×154°.0E±0°.1, h96km±16km, mb4.3/16, Error ellipse: s-maj=26.1km s-min=14.6km az=190.0*
*IDC **14** 05:54:53.2±3.6, 4°.85S×153°.75E, h107km±27km, mb3.7/8, mbtmp4.2/9, MS4.1/1, Error ellipse: s-maj=38.1km s-min=16.0km az=96.0*
ISC 14 05:54:52.0±0.8, 4°.85S±0°.08×153°.92E±0°.09, h105km, n32, σ1s46/34, mb4.2/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.86**	**290**	Pn		**Pn**		**05 55 25.1**	**+2.0**
RABL				Sn		**Sn**		**05 55 48.2**	**+1.5**
KRVT	**Keravat (AS076**	**1.96**	**286**	P		**Pn**		**05 55 23.7**	**-0.5**
	316nm,0.7s,baz=237,slow=0.5,SNR=14								
KRVT				S		**Sn**		**05 55 46.6**	**-2.2**
	479nm,0.8s,baz=94,slow=21,SNR=6.8								
MANU	**Manus Island**	**7.11**	**293**	Pn		**Pn**		**05 56 29.1**	**-4.3**
HNR	**Honiara**	**7.52**	**128**	LR		LR		05 59 42.4	
	comp=Z,1μm,19.8s,baz=286,slow=38								
PMG	**Port Moresby**	**8.09**	**236**	P		**Pn**		**05 56 47.7**	**+1.0**
	66nm,0.4s,baz=42,slow=7.1,SNR=27								
PMG				S		**Sn**		**05 58 17.0**	**+0.4**
	71nm,0.9s,baz=67,slow=15,SNR=5.0								
PMG	**Port Moresby**	**8.09**	**236**			**Pn**		**05 56 47.4**	**+0.6**
CTAO	**Charters Tower**	**16.88**	**206**			**Pn**		**05 58 41.3**	**-0.7**
EIDS	**Eidsvold**	**20.58**	**187**	P		**P**		**05 59 20.8**	**-1.8**
EIDS				IAmb		IAmb		05 59 42.6	
	comp=Z,29nm,1.3s								
DZM	**Mont Dzumac**	**20.98**	**146**	P		**P**		**05 59 24.9**	**-2.2**
DZM				IAmb		IAmb		05 59 40.3	
	comp=Z,13nm,1.2s								
WR0	**Warramunga Arr**	**24.11**	**230**	P		**P**		**05 59 56.5**	**-1.7**
WR0				IAmb		IAmb		06 00 00.3	
	comp=Z,6.7nm,0.9s								
WB0	**Warramunga Arr**	**24.11**	**230**	P		**P**		**05 59 59.4**	**+1.3**
WB0				IAmb		IAmb		05 59 59.9	
	comp=Z,7.4nm,0.7s								
WRAB	**Tennant Creek**	**24.24**	**230**	P		**P**		**06 00 01.0**	**+1.7**
WRAB				IAmb		IAmb		06 00 01.2	
	comp=Z,8.8nm,0.8s								
WB2	**Warramunga Arr**	**24.25**	**230**	P		**P**		**06 00 01.1**	**+1.8**
WB2				IAmb		IAmb		06 00 01.2	
	comp=Z,7.9nm,0.8s								
WRA	**Warramunga Arr**	**24.25**	**230**	P		**P**		**05 59 59.6**	**+0.2**
	comp=Z,6.0nm,0.7s,baz=54,slow=9.9,SNR=24								
	comp=Z,6.0nm,0.7s								
WRA	**Warramunga Arr**	**24.25**	**230**	P		**P**		**05 59 59.8**	**+0.4**
ARMA	**Armidale**	**25.52**	**185**	P		**P**		**06 00 10.5**	**-0.5**
ARMA				IAmb		IAmb		06 00 22.5	
	comp=Z,24nm,1.5s								
MSVF	**Nonsavu**	**26.86**	**120**	P		**P**		**06 00 21.6**	**-1.5**
MSVF				IAmb		IAmb		06 00 40.3	
	comp=Z,18nm,1.2s								
AS31	**Alice Springs**	**26.87**	**224**	P		**P**		**06 00 23.1**	**0.0**
ASAR	**Alice Springs**	**26.87**	**224**	P		**P**		**06 00 23.2**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=54,slow=9.0,SNR=14								
	comp=Z,2.8nm,1.0s								
ASAR	**Alice Springs**	**26.87**	**224**	P		**P**		**06 00 21.7**	**-1.4**
STKA	**Stephens Creek**	**29.26**	**202**	P		**P**		**06 00 44.5**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=36,slow=14,SNR=9.8								
	comp=Z,4.5nm,0.7s								
STKA	**Stephens Creek**	**29.26**	**202**	P		**P**		**06 00 44.6**	**+0.3**
SOEI	**Soe**	**29.80**	**259**	P		**P**		**06 00 49.9**	**+0.6**
BBOO	**Buckleboo**	**32.43**	**209**	P		**P**		**06 01 12.5**	**+0.3**
FORT	**Forrest**	**35.46**	**220**	P		**P**		**06 01 38.4**	**0.0**
PSA00	**Pilbara Seismi**	**36.97**	**240**	P		**P**		**06 01 50.3**	**-1.0**
SONM	**Songino Array**	**66.96**	**327**	P		**P**		**06 05 35.2**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=145,slow=7.0,SNR=4.1								
	comp=Z,0.7nm,0.6s								
VNDA	**Vanda**	**72.74**	**178**	P		**P**		**06 06 09.5**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=325,slow=10,SNR=3.6								
	comp=Z,0.5nm,0.8s								
MKAR	**Makanchi Array**	**81.09**	**319**	P		**P**		**06 06 56.7**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=103,slow=5.3,SNR=4.2								
	comp=Z,0.8nm,0.7s								
ILAR	**Eielson Array**	**81.79**	**22**	P		**P**		**06 07 00.7**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=232,slow=5.5,SNR=4.6								
	comp=Z,0.6nm,0.8s								
MAW	**Mawson**	**85.95**	**203**	P		**P**		**06 07 19.8**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=87,slow=7.3,SNR=8.9								
	comp=Z,3.7nm,0.7s								
TORD	**Torodi Ar. Bea**	**151.38**	**289**	PKPbc		**PKPbc**		**06 14 33.7**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=61,slow=2.6,SNR=7.6								

WEL 14 05:56:29.1±0.6, 42°S±3°×17°4E±°, h12km, M3.5/6, ML3.7/6, MLv3.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**216**	P		P	Pb	05 56 33.2	-0.5
KHZ				S		S	Sg	05 56 35.9	+1.0
BSWZ	**Blackbirch Sta**	**0.61**	**16**	P		P	Pb	05 56 41.4	-0.3
BSWZ				S		S	Sb	05 56 50.3	+0.1
THZ	**Tophouse**	**0.77**	**314**	P		P	Pg	05 56 43.6	-0.4
THZ				S		S	Sg	05 56 52.8	-1.4
GVZ	**Greta Valley S**	**0.81**	**214**	P		P	Pn	05 56 46.5	+0.2
GVZ				S		S	Sn	05 56 58.9	+0.7
TUWZ	**Tuamarina**	**0.90**	**14**	P		P	Pb	05 56 46.8	+0.3
TUWZ				S		S	Sb	05 56 59.1	+0.6
NNZ	**Nelson**	**1.10**	**349**	P		P	Pb	05 56 49.7	-0.3
NNZ				S		S	Sn	05 57 05.6	+0.2
MRNZ	**Matariki Terra**	**1.12**	**323**	P		P	Pb	05 56 50.1	-0.2
MRNZ				S		S	Sn	05 57 05.8	-0.2
LTZ	**Lake Taylor**	**1.13**	**244**	P		P	Pb	05 56 50.4	-0.1
LTZ				S		S	Sn	05 57 06.7	+0.5
AMCZ	**Amberley**	**1.14**	**220**	P		P	Pb	05 56 50.6	-0.2
TKNZ	**Takaka Hill**	**1.37**	**338**	P		P	Pb	05 56 54.4	-0.2
TKNZ				S		S	Sn	05 57 12.4	+0.4
PLWZ	**Palliser**	**1.40**	**59**	P		P	Pn	05 56 54.0	-0.5
DSZ	**Denniston Nort**	**1.48**	**291**	P		P	Pb	05 56 56.8	+0.2
OKCZ	**Okains Bay**	**1.49**	**197**	P		P	Pn	05 56 55.3	-0.3
OKCZ				S		S	Sn	05 57 14.8	-0.2
DUWZ	**D'Urville Isla**	**1.51**	**8**	P		P	Pb	05 56 57.1	+0.1
DUWZ				S		S	Sg	05 57 17.4	-0.3
OXZ	**Oxford**	**1.57**	**229**	P		P	Pn	05 56 56.1	-0.6
OXZ				S		S	Sn	05 57 15.8	-1.2
MQZ	**McQueen's Vall**	**1.58**	**207**	P		P	Pn	05 56 55.8	-1.1
MQZ				S		S	Sn	05 57 16.0	-1.3
PAWZ	**Paruwai Farm**	**1.61**	**56**	P		P	Pn	05 56 56.8	-0.6
AKCZ	**Akaroa Harbour**	**1.66**	**199**	P		P	Pn	05 56 57.5	-0.5
AKCZ				S		S	Sn	05 57 18.5	-0.9
QRZ	**Quartz Range**	**1.70**	**330**	P		P	Pb	05 56 60.0	-0.2
RACZ	**Rakaia**	**1.81**	**217**	P		P	Pn	05 56 59.1	-0.9
RACZ				S		S	Sn	05 57 21.8	-1.1

*IDC **14** 05:56:59.5±2.4, 42°.40S×173°.10E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=49.2km s-min=35.2km az=118.0*
*WEL **14** 05:57:00.7±0.5, 42°.5S±2°×17°.3E±°, h5km, M3.8/6, ML4.0/6, MLv3.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=103.7*
ISC 14 05:57:00.8±1.0, 42°.44S±0°.03×173°.27E±0°.05, h12km±9km, n18, σ1s01/24, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**84**	P		P	**Pg**	**05 57 05.3**	**+0.1**
KHZ				S		S	**Sg**	**05 57 08.7**	**+0.4**
GVZ	**Greta Valley S**	**0.56**	**198**	P		P	**Pb**	**05 57 12.0**	**-0.5**
GVZ				S		S	**Sb**	**05 57 20.6**	**+0.1**
THZ	**Tophouse**	**0.72**	**338**	P		P	**Pb**	**05 57 15.5**	**+0.1**
THZ				S		S	**Sb**	**05 57 26.1**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.85**	**32**	P		P	**Pg**	**05 57 16.3**	**-0.9**
AMCZ	**Amberley**	**0.87**	**211**	P		P	**Pb**	**05 57 18.1**	**+0.2**
AMCZ				S		S	**Sb**	**05 57 31.1**	**+1.7**
DSZ	**Denniston Nort**	**1.29**	**302**	P		P	**Pn**	**05 57 25.1**	**+0.5**
DSZ				S		S	**Sn**	**05 57 43.2**	**+1.3**
QRZ	**Quartz Range**	**1.70**	**341**	P		P	**Pg**	**05 57 33.1**	**-0.4**
WVZ	**Waitaha Valley**	**1.97**	**250**	P		P	**Pn**	**05 57 34.8**	**+0.8**
RPZ	**Rata Peaks**	**2.06**	**231**	Pn		P	**Pn**	**05 57 34.9**	**-0.4**
	30nm,0.3s,baz=198,slow=1.5,SNR=28								
RPZ				Sn		S	**Sn**	**05 58 00.1**	**-0.8**
	22nm,0.3s,baz=352,slow=21,SNR=9.4								
RPZ	**Rata Peaks**	**2.06**	**231**	P		P	**Pn**	**05 57 35.0**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**2.33**	**247**	P		P	**Pb**	**05 57 40.7**	**-2.1**
MRZ	**Mangatainoka R**	**2.48**	**45**	P		P	**Pn**	**05 57 41.7**	**+0.7**
TMZ	**Timaru**	**2.55**	**219**	P		P	**Pn**	**05 57 43.2**	**+1.2**
FOZ	**Fox Glacier**	**2.76**	**245**	P		P	**Pn**	**05 57 46.8**	**+2.0**
DVHZ	**Dannevirke**	**3.05**	**47**	P		P	**Pn**	**05 57 48.7**	**-0.2**
ASAR	**Alice Springs**	**37.52**	**287**	P		P	**P**	**06 04 13.8**	**-0.9**
	0.2nm,0.5s,baz=123,slow=6.8,SNR=4.2								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**39.67**	**292**	P		**P**	**P**	**06 04 32.3**	**-0.5**
	0.4nm,0.7s,baz=129,slow=8.2,SNR=2.7								
	0.4nm,0.7s								
TORD	**Torodi Ar. Bea**	**149.92**	**197**	PKPbc		**PKPbc**		**06 16 51.5**	**+0.2**
	1.1nm,0.7s,baz=181,slow=3.3,SNR=5.9								

WEL 14 05:59:40.2±0.5, 42°S±4°×17°4E±°, h5km, M3.2/26, ML3.3/15, MLv3.2/26, Error ellipse: s-maj=0.0km s-min=0.0km az=178.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**291**	P		P	Pg	05 59 41.3	-0.4
CMWZ				S		S	Sg	05 59 43.5	+0.6
BSWZ	**Blackbirch Sta**	**0.32**	**280**	P		P	Pg	05 59 46.7	+0.3
BSWZ				S		S	Sb	05 59 52.5	-1.4
TUWZ	**Tuamarina**	**0.44**	**322**	P		P	Pg	05 59 48.4	-0.2
TUWZ				S		S	Sb	05 59 55.7	-1.4
BHW	**Baring Head**	**0.56**	**50**	P		P	Pg	05 59 51.5	+0.5
TCW	**Tory Channel**	**0.56**	**358**	S		S	Sb	05 59 59.6	-1.2
WEL	**Wellington**	**0.60**	**36**	P		P	Pg	05 59 51.7	-0.1
WEL				S		S	Sb	06 00 01.8	-0.2
PLWZ	**Palliser**	**0.74**	**74**	P		P	Pg	05 59 54.8	+0.3
MSWZ	**Moikau Station**	**0.80**	**64**	P		P	Pb	05 59 56.3	-0.2
MSWZ				S		S	Sn	06 00 09.4	-0.9
CAW	**Cannon Point**	**0.88**	**41**	S		S	Sn	06 00 11.9	-0.5
NNZ	**Nelson**	**0.89**	**309**	P		P	Pb	05 59 57.8	-0.2
NNZ				S		S	Sb	06 00 10.5	+0.3
PAWZ	**Paruwai Farm**	**0.93**	**66**	P		P	Pg	05 59 57.8	-0.3
PAWZ				S		S	Sn	06 00 12.7	-1.0
DUWZ	**D'Urville Isla**	**1.01**	**344**	P		P	Pg	05 59 59.4	-0.2
DUWZ				S		S	Sb	06 00 14.2	+0.4
KIW	**Kapiti Island**	**1.02**	**27**	P		P	Pg	05 59 59.2	-0.6
KIW				S		S	Pg	06 00 12.0	-1.0
MTW	**Mount Morrison**	**1.09**	**56**	P		P	Pg	06 00 00.6	-0.6
OGWZ	**Otaki Gorge**	**1.16**	**35**	P		P	Pg	06 00 02.0	-0.4
MRNZ	**Matariki Terra**	**1.22**	**287**	P		P	Pn	06 00 03.8	-0.1
HOWZ	**Holdsworth Sta**	**1.27**	**47**	P		P	Pn	06 00 03.7	-0.8
TMWZ	**Te Maipa**	**1.37**	**61**	P		P	Pn	06 00 04.2	-2.0
MRZ	**Mangatainoka R**	**1.47**	**41**	P		P	Pn	06 00 06.7	-0.7
QRZ	**Quartz Range**	**1.64**	**305**	P		P	Pb	06 00 10.5	-0.4
LTZ	**Lake Taylor**	**1.81**	**236**	P		P	Pn	06 00 11.3	-0.8
OKCZ	**Okains Bay**	**2.15**	**205**	P		P	Pb	06 00 18.9	-0.8
MQZ	**McQueen's Vall**	**2.28**	**212**	P		P	Pn	06 00 19.1	+0.6
OXZ	**Oxford**	**2.28**	**226**	P		P	Pn	06 00 18.9	+0.4
LREZ	**Lake Rotokare**	**2.31**	**2**	P		P	Pg	06 00 24.7	+0.2
AKCZ	**Akaroa Harbour**	**2.33**	**206**	P		P	Pb	06 00 21.0	-1.7
RACZ	**Rakaia**	**2.52**	**218**	P		P	Pn	06 00 22.0	+0.2
MOVZ	**Moawhango**	**2.61**	**26**	P		P	Pb	06 00 26.9	-0.6
WVZ	**Waitaha Valley**	**2.94**	**243**	P		P	Pn	06 00 30.1	+2.6
RPZ	**Rata Peaks**	**3.08**	**230**	P		P	Pn	06 00 30.1	+0.6
ARCZ	**Arundel**	**3.16**	**226**	P		P	Pn	06 00 30.9	+0.3
TMZ	**Timaru**	**3.55**	**222**	P		P	Pn	06 00 37.7	+1.7
ODZ	**Otahua Downs**	**4.22**	**218**	P		P	Pn	06 00 45.2	+0.1

WEL 14 05:59:56.4±0.4, 42°S±3°×17°3E±°, h5km, M3.4/6, ML3.5/5, MLv3.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=141.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**80**	S		S	Sg	06 00 04.2	-3.5
KHZ	**Kahutara**	**0.22**	**80**	P		P	Pg	06 00 00.8	+0.2
KHZ				S		S	Sg	06 00 04.1	+0.6
KHZ	**Kahutara**	**0.22**	**80**	P		P	Pn	06 00 00.9	+2.0
GVZ	**Greta Valley S**	**0.54**	**197**	P		P	Pn	06 00 07.2	-0.9
GVZ	**Greta Valley S**	**0.54**	**197**	P		P	Pn	06 00 07.1	+0.3
GVZ				S		S	Sb	06 00 15.4	-1.3
THZ	**Tophouse**	**0.74**	**339**	P		P	Pb	06 00 11.8	0.0
THZ				S		S	Sb	06 00 21.3	-0.9
LTZ	**Lake Taylor**	**0.80**	**245**	P		P	Pg	06 00 11.9	+0.3
LTZ				S		S	Sb	06 00 23.0	-0.9
AMCZ	**Amberley**	**0.85**	**211**	P		P	Pn	06 00 13.3	+0.6
AMCZ	**Amberley**	**0.85**	**211**	P		P	Pb	06 00 13.3	-0.3
AMCZ				S		S	Sn	06 00 26.8	-1.0
OXZ	**Oxford**	**1.25**	**225**	P		P	Pg	06 00 18.4	-2.0
OXZ				S		S	Sg	06 00 36.0	-0.6

WEL 14 06:01:42.0±0.3, 42°S±2°×17°3E±°, h42km±5km, M3.9/30, ML4.2/19, MLv3.9/30, Error ellipse: s-maj=0.0km s-min=0.0km az=124.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.39**	**90**	P		P	Pn	06 01 52.2	+0.9
KHZ				S		S	Sn	06 02 00.3	+2.3
GVZ	**Greta Valley S**	**0.55**	**179**	P		P	Pn	06 01 55.1	+1.6
GVZ				S		S	Sn	06 02 04.2	+2.6
LTZ	**Lake Taylor**	**0.66**	**236**	P		P	Pn	06 01 55.9	+0.9
LTZ				S		S	Pn	06 02 05.4	+1.2
THZ	**Tophouse**	**0.66**	**353**	P		P	Pn	06 01 54.6	-0.5
THZ				S		S	Sn	06 02 02.9	-1.4
AMCZ	**Amberley**	**0.80**	**199**	P		P	Pn	06 01 58.1	+1.2
AMCZ				S		S	Sn	06 02 09.7	+2.0
BSWZ	**Blackbirch Sta**	**0.95**	**43**	P		P	Pn	06 02 00.0	+1.1
MRNZ	**Matariki Terra**	**1.04**	**349**	P		P	Pn	06 02 00.2	+0.1
DSZ	**Denniston Nort**	**1.13**	**306**	P		P	Pn	06 02 01.2	-0.2
DSZ				S		S	Sn	06 02 14.4	-1.2
OXZ	**Oxford**	**1.16**	**218**	P		P	Pn	06 02 02.0	+0.3
OXZ				S		S	Sn	06 02 16.2	-0.1
INZ	**Inchbonnie**	**1.20**	**255**	P		P	Pn	06 02 03.3	+1.0
INZ				S		S	Sn	06 02 18.6	+1.2
TUWZ	**Tuamarina**	**1.21**	**35**	P		P	Pn	06 02 03.0	+0.6
NNZ	**Nelson**	**1.23**	**13**	P		P	Pn	06 02 03.5	+0.8
NNZ				S		S	Sn	06 02 18.6	+0.4
OKCZ	**Okains Bay**	**1.30**	**179**	P		P	Pn	06 02 04.2	+0.5
MQZ	**McQueen's Vall**	**1.31**	**192**	P		P	Pn	06 02 03.3	-0.5
MQZ				S		S	Sn	06 02 19.9	-0.2
TKNZ	**Takaka Hill**	**1.39**	**358**	P		P	Pn	06 02 05.4	+0.5
TKNZ				S		S	Sn	06 02 22.9	+0.9
AKCZ	**Akaroa Harbour**	**1.45**	**183**	P		P	Pn	06 02 06.1	+0.3
AKCZ				S		S	Sn	06 02 23.6	0.0
RACZ	**Rakaia**	**1.46**	**206**	P		P	Pn	06 02 05.9	+0.1
RACZ				S		S	Sn	06 02 23.2	-0.4
MHCZ	**Mount Hutt**	**1.54**	**223**	P		P	Pn	06 02 07.1	+0.1
MHCZ				S		S	Sn	06 02 25.1	-0.7
WACZ	**Wakanui South**	**1.75**	**209**	P		P	Pn	06 02 10.0	+0.2
WACZ				S		S	Sn	06 02 30.7	-0.2
WVZ	**Waitaha Valley**	**1.80**	**248**	P		P	Pn	06 02 11.3	+0.8
WVZ				S		S	Sn	06 02 32.4	+0.2
PLWZ	**Palliser**	**1.87**	**64**	P		P	Pn	06 02 10.9	-0.6
PLWZ				S		S	Sn	06 02 32.6	-1.4
RPZ	**Rata Peaks**	**1.93**	**227**	P		P	Pn	06 02 12.6	+0.2
RPZ				S		S	Sn	06 02 34.6	-0.9
CAW	**Cannon Point**	**2.02**	**50**	P		P	Pn	06 02 13.2	-0.3
ARCZ	**Arundel**	**2.03**	**221**	P		P	Pn	06 02 13.8	0.0
GCSZ	**Gaunt Creek Bo**	**2.17**	**245**	P		P	Pn	06 02 16.3	+0.7
TMZ	**Timaru**	**2.45**	**216**	P		P	Pn	06 02 19.8	+0.3
FOZ	**Fox Glacier**	**2.60**	**244**	P		P	Pn	06 02 22.3	+0.8
LBZ	**Lake Benmore**	**2.85**	**225**	P		P	Pn	06 02 25.3	+0.3
ODZ	**Otahua Downs**	**3.14**	**212**	P		P	Pn	06 02 28.4	-0.4
PKE	**Pukeiti**	**3.31**	**13**	P		P	Pn	06 02 33.5	+2.3
JCZ	**Jackson Bay**	**3.50**	**240**	P		P	Pn	06 02 34.2	+0.1
WKZ	**Wanaka**	**3.77**	**229**	P		P	Pn	06 02 36.8	-0.8
EAZ	**Earnscleugh**	**3.88**	**222**	P		P	Pn	06 02 38.5	-0.6
TLZ	**Tolley Road**	**4.52**	**26**	P		P	Pn	06 02 48.5	+0.6
SYZ	**Scrubby Hill**	**4.96**	**213**	P		P	Pn	06 02 54.3	+0.4
TOZ	**Tahuroa Road**	**5.06**	**23**	P		P	Pn	06 02 55.7	+0.4
MKAZ	**Moumakai**	**5.56**	**18**	P		P	Pn	06 03 02.5	+0.4
APZ	**The Paps**	**5.69**	**217**	P		P	Pn	06 03 03.3	-0.6
TWGZ	**Tauwhareparae**	**5.69**	**43**	P		P	Pn	06 03 02.7	-1.3
RVAZ	**Riverhead Bore**	**5.77**	**13**	P		P	Pn	06 03 06.7	+1.7
PYZ	**Puysegur Point**	**5.89**	**228**	P		P	Pn	06 03 06.1	-0.6
PUZ	**Puketiti**	**5.91**	**44**	P		P	Pn	06 03 06.1	-0.9

WEL 14 06:02:33.4±0.6, 42°S±2°×17°4E±°, h10km±5km, M3.8/9, ML4.2/9, MLv3.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=88.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**121**	P		P	Pg	06 02 36.0	+0.3
BSWZ	**Blackbirch Sta**	**0.19**	**269**	P		P	Pb	06 02 38.8	-0.1
BSWZ				S		S	Sg	06 02 42.6	+2.5
TUWZ	**Tuamarina**	**0.31**	**333**	P		P	Pb	06 02 40.8	-0.3
TUWZ				S		S	Sb	06 02 46.3	+0.1
TCW	**Tory Channel**	**0.51**	**13**	P		P	Pb	06 02 44.1	-0.4

KSRS	Korea Array	47.18	339	LR	LR	06 28 36.0	
	comp=Z,16nm,20.1s,baz=120,slow=32						
GSI	Gunungsitoli	50.41	277	P	P	06 12 20.9	-2.5
HHC	Hu-ho-hao-te	57.33	328	*eP*	P	06 13 15.4	+1.9
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,4.4s						
SONM	Songino Array	64.88	331	P	P	06 14 02.4	-2.0
	comp=Z,0.6nm,0.5s,baz=140,slow=3.8,SNR=5.1						
	comp=Z,0.6nm,0.5s						
VNDA	Vanda	71.62	177	P	P	06 14 48.1	+2.3
	comp=Z,0.5nm,0.6s,baz=334,slow=5.7,SNR=6.5						
	comp=Z,0.5nm,0.6s						
WMQ	Urumqi	73.32	319	*eP*	P	06 14 58.3	+1.7
MKAR	Makanchi Array	78.02	320	P	P	06 15 20.6	-2.7
	comp=Z,0.3nm,0.4s,baz=92,slow=9.6,SNR=4.2						
	comp=Z,0.3nm,0.4s						
ZALV	Zalesovo Beam	79.51	328	P	P	06 15 29.6	-1.6
	comp=Z,0.7nm,0.5s,baz=90,slow=4.3,SNR=2.3						
	comp=Z,0.7nm,0.5s						
CAST	Castle Rocks	82.88	23	P	P	06 15 48.3	-0.6
IMAR	Indian Mountai	83.56	21	P	P	06 15 51.7	-0.7
TRF	Thorofare Moun	83.60	24	P	P	06 15 51.1	-1.7
TRF				IAmb	IAmb	06 16 20.6	
	comp=Z,9.3nm,1.4s						
I23K	Minto, Yukon-K	84.75	22	P	P	06 15 57.9	-0.4
I23K				IAmb	IAmb	06 16 08.9	
	comp=Z,8.7nm,1.5s						
CCB	Clear Creek Bu	85.12	23	P	P	06 15 58.9	-1.3
IL31		85.53	23	P	P	06 16 00.9	-1.3
IL31				IAmb	IAmb	06 16 08.3	
	comp=Z,9.3nm,1.4s						
ILAR	Eielson Array	85.53	23	P	P	06 15 59.5	-2.8
	comp=Z,1.3nm,0.6s,baz=253,slow=4.7,SNR=20						
	comp=Z,1.3nm,0.6s						
ILAR	Eielson Array	85.53	23	P	P	06 16 00.6	-1.7
J25K	Salcha River,	86.06	23	P	P	06 16 04.2	-0.8
J25K				IAmb	IAmb	06 16 33.9	
	comp=Z,8.7nm,1.4s						
TOLK	Toolik Lake Re	86.28	19	P	P	06 16 06.1	+0.1
TOLK				IAmb	IAmb	06 16 12.0	
	comp=Z,5.2nm,1.2s						
J26L	Joseph Creek	86.74	24	P	P	06 16 08.4	0.0
BVAR	Borovoye Array	87.28	324	P	P	06 16 08.3	-2.8
	comp=Z,0.5nm,0.5s,baz=140,slow=4.1,SNR=3.5						
	comp=Z,0.5nm,0.5s						
BMAR	Burnt Mountain	87.46	21	P	P	06 16 11.0	-0.7
EPYK	Eagle Plains	90.04	23	P	P	06 16 23.4	-0.5
EPYK				IAmb	IAmb	06 16 25.2	
	comp=Z,9.7nm,1.2s						
PLCA	Paso Flores	121.62	147	PKP	PKPdf	06 22 19.7	+1.5
	comp=Z,0.7nm,0.5s,baz=0.0,slow=3.0,SNR=3.7						
GERES	GERESS Array B	122.41	326	PKP	PKPdf	06 22 18.7	-0.8
	comp=Z,0.5nm,0.5s,baz=29,slow=2.2,SNR=4.2						
LPAZ	La Paz	138.22	123	PKP	PKPdf	06 22 52.5	+1.5
	comp=Z,1.3nm,0.7s,baz=250,slow=9.7,SNR=5.0						
CPUP	Villa Florida	139.62	144	PKP	PKPdf	06 22 54.2	+1.7
	comp=Z,1.2nm,0.7s,baz=347,slow=3.8,SNR=3.4						
SIV	San Ignacio	144.09	128	PKP	PKPab	06 22 59.9	+1.4
	comp=Z,3.0nm,0.5s,baz=237,slow=4.3,SNR=34						
TORD	Torodi Ar. Bea	145.65	284	PKPbc	PKPdf	06 23 02.6	-0.8
	comp=Z,2.3nm,0.5s,baz=66,slow=4.1,SNR=19						
DBIC	Dimbokro	152.54	272	PKPbc	PKPbc	06 23 21.2	-0.3
	comp=Z,1.9nm,0.8s,baz=103,slow=2.3,SNR=4.7						
BDFB	Brasilia	153.35	145	PKP	PKPdf	06 23 17.4	+1.6
	comp=Z,0.6nm,0.5s,baz=181,slow=5.1,SNR=3.4						
BDFB				PKPbc	PKPbc	06 23 24.4	+0.9
	comp=Z,1.5nm,0.5s,baz=54,slow=3.0,SNR=6.3						

*NOU **14** 06:16:30.6, 42˚.80S×173˚.14E, h0km, MLv4.6/10, South Island, New Zealand*
*IDC **14** 06:16:30.9±2.4, 42˚.56S×172˚.74E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=47.7km s-min=31.3km az=110.0*
*WEL **14** 06:16:32.1±0.4, 43˚S±2˚×17˚3E±˚, h11km±3km, M3.9/31, ML4.5/6, MLv3.9/31, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5*

ISC 14 06:16:31.6±1.1, 42˚.62S±0˚.02×173˚.01E±0˚.03, h14km±9km, n56, σ0°94/67, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.35	177	P	Pb	06 16 40.7	+1.1
GVZ				S	Sb	06 16 46.6	+1.6
KHZ	Kahutara	0.44	63	P	Pb	06 16 41.7	+0.5
KHZ				S	Sb	06 16 48.1	+0.5
LTZ	Lake Taylor	0.57	253	P	Pb	06 16 43.8	+0.4
LTZ				S	Sb	06 16 51.0	-0.4
AMCZ	Amberley	0.62	205	P	Pb	06 16 45.7	+1.5
AMCZ				S	Sb	06 16 54.2	+1.5
THZ	Tophouse	0.86	355	P	Pb	06 16 48.6	+0.2
THZ				S	Sg	06 16 58.9	-0.6
CACS	Harewood	0.93	202	P	Pg	06 16 50.4	+0.8
CMHS	Cashmere	0.99	197	P	Pg	06 16 51.0	+0.3
OXZ	Oxford	1.00	225	P	Pg	06 16 51.0	0.0
OXZ				S	Sg	06 17 04.2	+0.1
OKCZ	Okains Bay	1.10	178	P	Pb	06 16 52.3	-0.2
BSWZ	Blackbirch Sta	1.11	36	P	Pn	06 16 53.8	+1.0
MQZ	McQueen's Vall	1.12	193	P	Pb	06 16 52.0	-0.8
MQZ				S	Sb	06 17 05.8	-1.3
MRNZ	Matariki Terra	1.23	351	P	Pg	06 16 54.9	-0.4
DSZ	Denniston Nort	1.25	314	P	Pg	06 16 55.5	-0.1
DSZ				S	Sn	06 17 11.4	-0.1
AKCZ	Akaroa Harbour	1.25	183	P	Pn	06 16 54.2	-0.6
RACZ	Rakaia	1.28	210	P	Pn	06 16 54.6	-0.4
RACZ				S	Sb	06 17 10.2	-1.5
TUWZ	Tuamarina	1.38	31	P	Pb	06 16 57.7	+0.6
TUWZ				S	Sb	06 17 14.0	-0.6
MHCZ	Mount Hutt	1.40	229	P	Pn	06 16 56.8	0.0
NNZ	Nelson	1.43	11	P	Pb	06 16 58.2	+0.2
WACZ	Wakanui South	1.57	213	P	Pn	06 16 58.9	-0.2
TKNZ	Takaka Hill	1.58	359	P	Pb	06 17 00.5	-0.2
TCW	Tory Channel	1.70	34	P	Pn	06 16 59.9	-0.9
WVZ	Waitaha Valley	1.73	254	P	Pn	06 17 01.9	+0.6
RPZ	Rata Peaks	1.80	232	Pn	Pn	06 17 02.0	-0.3
	93nm,0.3s,baz=69,slow=2.1,SNR=147						
RPZ				Sn	Sn	06 17 24.2	-0.8
	68nm,0.3s,baz=17,slow=19,SNR=7.3						
RPZ	Rata Peaks	1.80	232	P	Pn	06 17 01.9	-0.4
RPZ	Rata Peaks	1.80	232	P	Pn	06 17 02.1	-0.3
QRZ	Quartz Range	1.83	348	P	Pb	06 17 03.9	-0.9
WEL	Wellington	1.87	45	P	Pn	06 17 03.6	+0.4
ARCZ	Arundel	1.89	225	P	Pn	06 17 03.1	-0.4
DUWZ	D'Urville Isla	1.94	21	P	Pb	06 17 06.5	-0.3
PLWZ	Palliser	1.97	59	P	Pn	06 17 04.1	-0.6
MSWZ	Moikau Station	2.06	55	P	Pn	06 17 05.4	-0.4
GCSZ	Gaunt Creek Bo	2.09	250	P	Pn	06 17 07.0	+0.7
CAW	Cannon Point	2.15	46	P	Pn	06 17 07.2	+0.1
PAWZ	Paruwai Farm	2.19	56	P	Pn	06 17 06.9	-0.7
KIW	Kapiti Island	2.26	40	P	Pn	06 17 09.2	+0.6
TMZ	Timaru	2.29	219	P	Pn	06 17 08.6	-0.4
TRWZ	Traveller	2.34	59	P	Pn	06 17 08.8	-0.9
MTW	Mount Morrison	2.37	53	P	Pn	06 17 09.2	-0.8
OGWZ	Otaki Gorge	2.42	43	P	Pn	06 17 10.9	+0.1
FOZ	Fox Glacier	2.51	248	P	Pn	06 17 12.6	+0.6
HOWZ	Holdsworth Sta	2.54	48	P	Pn	06 17 11.9	-0.6
TMWZ	Te Maipa	2.63	56	P	Pn	06 17 12.7	-1.0
ODZ	Otahua Downs	2.97	214	P	Pn	06 17 17.6	-0.7
ODZ	Otahua Downs	2.97	214	P	Pn	06 17 17.6	-0.7
POWZ	Post Office Ro	3.04	44	P	Pn	06 17 18.8	-0.5
JCZ	Jackson Bay	3.41	243	P	Pn	06 17 24.5	+0.1
KHEZ	Kahui Hut	3.41	13	P	Pn	06 17 27.5	+3.1
HIZ	Hauiti	4.34	20	P	Pn	06 17 39.9	+2.8
SYZ	Scrubby Hill	4.79	214	P	Pn	06 17 43.7	+0.3
URZ	Urewera	5.36	37	P	Pn	06 17 52.5	+1.3
PYZ	Puysegur Point	5.76	230	P	Pn	06 17 56.0	-0.6
KUZ	Kuaotunu	6.23	20	P	Pn	06 18 05.4	+2.3
CTZ	Chatham Island	7.66	102	P	Pn	06 18 21.4	-1.4
ASAR	Alice Springs	37.40	288	P	P	06 23 43.6	-0.6
	0.4nm,0.5s,baz=126,slow=7.1,SNR=13						
	0.4nm,0.5s						
WRA	Warramunga Arr	39.56	293	P	P	06 24 02.1	-0.3
	0.6nm,0.8s,baz=136,slow=6.8,SNR=6.8						
	0.6nm,0.8s						
TORD	Torodi Ar. Bea	149.69	197	PKPbc	PKPbc	06 36 22.4	+1.1
	0.5nm,0.6s,baz=144,slow=2.8,SNR=5.5						

*IDC **14** 06:18:07.1±1.4, 42˚.40S×173˚.09E, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=40.2km s-min=27.8km az=61.0*
*WEL **14** 06:18:09.4±0.4, 43˚S±4˚×17˚3E±˚, h5km±2km, M4.3/6, ML4.5/6, MLv4.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=133.4*

ISC 14 06:18:08.5±0.7, 42˚.59S±0˚.03×173˚.18E±0˚.04, h15km, n53, σ1°40/55, mb4.1/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.32	58	P	Pg	06 18 15.3	+0.3
KHZ				S	Sg	06 18 19.7	+0.2
GVZ	Greta Valley S	0.40	195	P	Pn	06 18 18.7	-0.9
GVZ				S	Sn	06 18 26.0	-1.0
LTZ	Lake Taylor	0.70	253	P	Pn	06 18 23.1	-0.7
AMCZ	Amberley	0.71	213	P	Pn	06 18 24.5	+0.6
THZ	Tophouse	0.85	346	P	Pb	06 18 24.6	-0.3
BSWZ	Blackbirch Sta	1.01	31	P	Pn	06 18 28.2	+0.1
OXZ	Oxford	1.12	228	P	Pg	06 18 30.0	0.0
MQZ	McQueen's Vall	1.18	199	P	Pn	06 18 30.1	-0.4
MRNZ	Matariki Terra	1.23	345	P	Pg	06 18 31.3	-0.8
TUWZ	Tuamarina	1.29	26	P	Pn	06 18 32.1	+0.2
AKCZ	Akaroa Harbour	1.30	189	P	Pn	06 18 32.4	+0.3
DSZ	Denniston Nort	1.32	309	P	Pg	06 18 33.6	-0.4
RACZ	Rakaia	1.37	213	P	Pb	06 18 33.3	-0.5
NNZ	Nelson	1.38	6	P	Pb	06 18 33.7	-0.2
MHCZ	Mount Hutt	1.51	231	P	Pb	06 18 35.6	-0.6
TKNZ	Takaka Hill	1.56	354	P	Pb	06 18 36.8	-0.2
TCW	Tory Channel	1.60	31	P	Pb	06 18 37.4	-0.3
WEL	Wellington	1.76	43	P	Pn	06 18 38.9	+0.5
QRZ	Quartz Range	1.82	344	P	Pb	06 18 41.1	-0.5
PLWZ	Palliser	1.85	57	P	Pn	06 18 39.3	-0.4
WVZ	Waitaha Valley	1.86	254	P	Pb	06 18 41.2	-1.0
DUWZ	D'Urville Isla	1.87	18	P	Pb	06 18 42.4	+0.1
RPZ	Rata Peaks	1.92	233	Pn	Pn	06 18 41.0	+0.3
	487nm,0.3s,baz=232,slow=0.8,SNR=43						
RPZ				Sn	Sb	06 19 04.7	-2.3
	196nm,0.3s,baz=214,slow=9.1,SNR=17						
RPZ				LR	LR	06 19 11.7	
	comp=Z,101nm,19.5s,baz=32,slow=32						
RPZ	Rata Peaks	1.92	233	P	Pn	06 18 41.2	+0.5
MSWZ	Moikau Station	1.94	54	P	Pn	06 18 40.4	-0.4
ARCZ	Arundel	2.00	226	P	Pn	06 18 42.1	+0.4
CAW	Cannon Point	2.04	44	P	Pn	06 18 42.3	0.0
PAWZ	Paruwai Farm	2.06	55	P	Pn	06 18 41.9	-0.7
TRWZ	Traveller	2.22	58	P	Pn	06 18 44.1	-0.6
GCSZ	Gaunt Creek Bo	2.22	250	P	Pb	06 18 46.3	-1.9
OGWZ	Otaki Gorge	2.31	41	P	Pn	06 18 46.1	+0.1
TMZ	Timaru	2.39	221	P	Pn	06 18 48.4	+1.3
FOZ	Fox Glacier	2.64	248	P	Pn	06 18 52.5	-2.9
LBZ	Lake Benmore	2.83	229	P	Pn	06 18 53.7	+0.7
PKE	Pukeiti	3.44	11	P	Pb	06 19 05.2	-4.0
JCZ	Jackson Bay	3.53	244	P	Pn	06 19 04.0	+1.1
HHSZ	Highcliff Hill	3.78	208	P	Pn	06 19 06.3	+0.1
OTVZ	Oturere	3.91	30	P	Pb	06 19 13.7	-3.5
TMVZ	Te Maari	3.96	30	P	Pb	06 19 15.0	-3.0
SYZ	Scrubby Hill	4.89	215	P	Pn	06 19 21.0	+0.4
TGRZ	Tauranga	5.39	27	P	Pn	06 19 34.8	+6.4
AWAZ	Awhitu Peninsu	5.63	12	P	Pn	06 19 33.5	+2.0
MKAZ	Moumakai	5.68	16	P	Pn	06 19 33.7	+1.4
ETAZ	East Tamaki Re	5.79	14	P	Pn	06 19 35.7	+1.9
MBAZ	Motutapu North	5.96	13	P	Pn	06 19 38.1	+1.9
WIAZ	Waiheke Island	5.98	15	P	Pn	06 19 39.7	+3.3
ASAR	Alice Springs	37.50	288	P	P	06 25 21.9	+0.1
	1.0nm,0.6s,baz=129,slow=6.9,SNR=16						
	1.0nm,0.6s						
WRA	Warramunga Arr	39.67	292	P	P	06 25 39.9	0.0
	3.0nm,1.1s,baz=129,slow=8.1,SNR=11						
	3.0nm,1.1s						
QSPA	South Pole Qui	47.54	180	P	P	06 26 46.2	+3.2
	2.2nm,0.7s,baz=15,slow=1.6,SNR=7.5						
	2.2nm,0.7s						
CMAR	Chiang Mai Arr	91.25	294	P	P	06 31 14.4	+1.2
	1.1nm,0.4s,baz=136,slow=4.2,SNR=4.6						
	1.1nm,0.4s						
ARCES	ARCESS Array B	148.28	339	PKPbc	PKPbc	06 37 52.1	-0.6
	4.6nm,0.9s,baz=352,slow=2.5,SNR=4.1						
BRTR	Keskin Array B	149.60	278	PKPbc	PKPbc	06 37 57.0	-0.2
	1.3nm,0.7s,baz=168,slow=6.3,SNR=3.6						
TORD	Torodi Ar. Bea	149.75	197	PKPbc	PKiKP	06 37 58.7	-0.4
	2.0nm,0.8s,baz=182,slow=2.1,SNR=11						

WEL 14 06:25:58.1±0.5, 42˚S±4˚×17˚4E±˚, h8km±3km, M3.6/19, ML4.0/19, MLv3.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=160.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.16	243	P	Pg	06 26 01.6	+0.1
CMWZ				S	Sg	06 26 05.7	+1.8
BSWZ	Blackbirch Sta	0.40	264	P	Pg	06 26 06.2	+0.3
BSWZ				S	Sb	06 26 13.0	-0.7
TUWZ	Tuamarina	0.43	305	P	Pg	06 26 06.9	+0.5
TUWZ				S	Sb	06 26 14.0	-0.5
BHW	Baring Head	0.44	53	P	Pg	06 26 07.2	+0.5
BHW				S	Sb	06 26 14.3	-0.5
TCW	Tory Channel	0.47	348	P	Pg	06 26 07.7	+0.3
WEL	Wellington	0.48	35	P	Pg	06 26 08.0	+0.7
WEL				S	Sb	06 26 15.7	-0.2
PLWZ	Palliser	0.64	81	P	Pb	06 26 11.4	-0.3
MSWZ	Moikau Station	0.68	68	P	Pb	06 26 11.8	-0.5
CAW	Cannon Point	0.75	41	P	Pg	06 26 12.7	+0.1
PAWZ	Paruwai Farm	0.82	69	P	Pb	06 26 14.3	-0.4
KIW	Kapiti Island	0.90	25	P	Pg	06 26 15.3	-0.1
NNZ	Nelson	0.90	300	P	Pg	06 26 15.3	-0.1
DUWZ	D'Urville Isla	0.95	337	P	Pg	06 26 16.2	-0.1
MTW	Mount Morrison	0.97	58	P	Pg	06 26 17.0	+0.2
TRWZ	Traveller	1.00	74	P	Pg	06 26 17.1	-0.2
OGWZ	Otaki Gorge	1.03	34	P	Pg	06 26 17.6	-0.3
THZ	Tophouse	1.13	265	P	Pg	06 26 19.8	+0.1
HOWZ	Holdsworth Sta	1.14	47	P	Pg	06 26 19.6	-0.4
TMWZ	Te Maipa	1.25	63	P	Pn	06 26 20.5	-1.4
TKNZ	Takaka Hill	1.26	300	P	Pn	06 26 21.9	-0.2
MRNZ	Matariki Terra	1.27	282	P	Pb	06 26 22.4	+0.1
MRZ	Mangatainoka R	1.34	41	P	Pn	06 26 22.5	-0.7
TIWZ	Tintock	1.43	52	P	Pn	06 26 23.2	-1.2
CPWZ	Castlepoint	1.55	61	P	Pn	06 26 25.1	-1.0
OHWZ	Ohakea	1.62	25	P	Pb	06 26 27.9	-0.3
PRWZ	Pori Road	1.63	47	P	Pn	06 26 26.0	-1.1
POWZ	Post Office Ro	1.64	39	P	Pn	06 26 26.9	-0.5
QRZ	Quartz Range	1.65	300	P	Pb	06 26 28.4	-0.4
BFZ	Birch Farm	1.71	55	P	Pn	06 26 26.3	-1.9
DVHZ	Dannevirke	1.91	45	P	Pn	06 26 29.5	-1.6
LTZ	Lake Taylor	1.93	234	P	Pb	06 26 34.3	+0.7
DSZ	Denniston Nort	1.95	267	P	Pb	06 26 33.3	-0.6
WAZ	Wanganui	1.97	13	P	Pb	06 26 34.5	+0.3
AMCZ	Amberley	1.98	220	P	Pn	06 26 30.1	-1.9
TSZ	Takapari Road	2.00	37	P	Pn	06 26 31.4	-0.8
PRHZ	Porangahau	2.20	51	P	Pn	06 26 32.8	-2.1
LREZ	Lake Rotokare	2.21	360	P	Pg	06 26 39.7	-0.8
PNHZ	Pukenui	2.23	38	P	Pn	06 26 34.4	-0.9
WPHZ	Waipukurau	2.23	44	P	Pn	06 26 35.2	-0.1
KHEZ	Kahui Hut	2.40	353	P	Pg	06 26 43.5	-0.6
NEZ	North Egmont	2.41	354	P	Pb	06 26 42.1	+0.3
INZ	Inchbonnie	2.44	244	P	Pb	06 26 42.1	-0.1
NBEZ	Newall Road No	2.44	350	P	Pb	06 26 42.9	+0.7
PXZ	Pawanui	2.48	49	P	Pb	06 26 42.9	-0.1
MOVZ	Moawhango	2.49	25	P	Pb	06 26 42.3	-0.8
PKE	Pukeiti	2.50	352	P	Pb	06 26 43.6	+0.3
WNVZ	Wahianoa	2.52	22	P	Pb	06 26 43.2	-0.4
BHHZ	Black Hill Sta	2.52	31	P	Pb	06 26 43.8	+0.1
TRVZ	Turoa	2.53	20	P	Pb	06 26 44.3	+0.4
DRZ	Dome Shelter	2.55	21	P	Pb	06 26 44.9	+0.5
WHVZ	Whangaehu Hut	2.55	21	P	Pb	06 26 42.6	-1.8
VRZ	Vera Road	2.56	6	P	Pn	06 26 38.7	-1.2
FWVZ	Far West T-bar	2.57	20	P	Pb	06 26 43.7	-0.9
TUVZ	Tukino	2.59	22	P	Pb	06 26 44.8	0.0
NGZ	Ngauruhoe	2.66	20	P	Pb	06 26 46.6	+0.5
SNVZ	South Ngauruho	2.66	21	P	Pb	06 26 46.0	0.0
OTVZ	Oturere	2.69	21	P	Pb	06 26 45.0	-1.6
NNVZ	North Ngauruho	2.70	20	P	Pb	06 26 46.7	-0.1
WTVZ	West Tongariro	2.71	20	P	Pb	06 26 47.4	+0.4
TWVZ	Taurewa	2.72	17	P	Pb	06 26 47.3	+0.3
KWHZ	Kaweka Forest	2.72	35	P	Pb	06 26 48.1	+1.0
KWHZ				P	Pg	06 26 48.4	-1.9
ETVZ	East Tongariro	2.73	22	P	Pb	06 26 46.6	-0.5
TMVZ	Te Maari	2.74	22	P	Pb	06 26 46.0	-1.5
KRVZ	Karewarewa	2.75	20	P	Pb	06 26 47.3	-0.2
NTVZ	North Tongarir	2.75	21	P	Pn	06 26 44.2	+1.5
KATZ	Kakaramea	2.87	20	P	Pb	06 26 49.7	0.0
BKZ	Black Stump Fm	2.97	33	P	Pb	06 26 51.9	+0.6
RATZ	Rangitukua	2.99	21	P	Pb	06 26 52.0	+0.2
WVZ	Waitaha Valley	3.06	242	P	Pb	06 26 52.4	-0.3
WATZ	Wairara	3.13	19	P	Pb	06 26 54.0	-0.1
HIZ	Hauiti	3.18	6	P	Pb	06 26 51.9	-2.9
MRHZ	Matea Rd	3.23	29	P	Pb	06 26 56.6	+0.9
TLZ	Tolley Road	3.45	15	P	Pb	06 26 56.1	-3.5
TOZ	Tahuroa Road	4.03	12	P	Pb	06 27 05.2	-4.1
MKAZ	Moumakai	4.60	8	P	Pn	06 27 09.5	+1.5
AWAZ	Awhitu Peninsu	4.61	2	P	Pn	06 27 10.7	+2.7
HAZ	Te Kaha	4.70	35	P	Pn	06 27 08.7	-0.6
ETAZ	East Tamaki Re	4.73	5	P	Pn	06 27 12.3	+2.5
WTAZ	Waiatarua	4.74	2	P	Pb	06 27 15.8	-5.6
RVAZ	Riverhead Bore	4.90	2	P	Pn	06 27 16.3	+4.2
SYZ	Scrubby Hill	6.16	216	P	Pn	06 27 28.1	-1.3

*WEL **14** 06:29:00, 41˚.75S×174˚.30E, h7km, ML4.5, Mw4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr0.88; Mθθ3.40; Mϕϕ-4.28; Mrθ2.88; Mθϕ-2.19; Mϕr-0.39; Fault plane solution: M0 5.29000×10¹⁵ NP1: ϕs154.00000°, δ65.00000°, λ20.00000°. NP2: ϕs56.00000°, δ72.00000°, λ154.00000°. Principal axes: T 570.3500, Plg31.0000°, Azm13.0000°; N -81.8900, Plg59.0000°, Azm203.0000°; P -488.4500, Plg5.0000°, Azm106.0000°;*
*IDC **14** 06:29:03.2±0.9, 41˚.57S×174˚.18E, h0km, mb4.4/7, mbtmp4.4/8, ML4.1/1, MS3.3/2 Error ellipse: s-maj=34.8km s-min=20.1km az=62.0*
*NOU **14** 06:29:04.7, 41˚.86S×174˚.54E, h7km, MLv5.0/12, Cook Strait, New Zealand*
*NEIC **14** 06:29:04.6±1.4, 41˚.81S±0˚.04×174˚.27E±0˚.01, h10km±1km, mb4.6/14, Mwr4.4/24, Error ellipse: s-maj=6.6km s-min=2.8km az=355.0*
*WEL **14** 06:29:05.1±0.5, 42˚S±3˚×17˚4E±˚, h7km±4km, M4.5/16, ML4.8/16, MLv4.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=152.1*
*NEIC **14** 06:29:05.5, 41.77S×174.27E, h7km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.31; Mθθ-0.06; Mϕϕ-3.25; Mrθ-0.23; Mθϕ-2.32; Mϕr2.41; Fault plane solution: M0 4.69000×10¹⁵ NP1: ϕs7.65000°, δ62.28000°, λ66.39000°. NP2: ϕs230.86000°, δ35.80000°, λ127.31000°. Principal axes: T 4.3283, Plg64.0000°, Azm237.0000°; N 0.6498, Plg21.0000°, Azm119.0000°; P -4.9782, Plg14.0000°, Azm115.0000°;*

ISC 14 06:29:04.0±1.0, 41˚.81S±0˚.03×174˚.33E±0˚.02, h7km±6km, n205, σ1°20/220, mb4.5/15, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.10	305	P	Pg	06 29 06.3	0.0
CMWZ				Sg	Sg	06 29 08.9	+1.0
CMWZ	Cape Campbell	0.10	305	P	Pg	06 29 06.3	0.0
BSWZ	Blackbirch Sta	0.35	285		Pg	06 29 11.6	+0.7
BSWZ				Sg	Sb	06 29 16.4	-1.9
BSWZ	Blackbirch Sta	0.35	285	P	Pb	06 29 11.8	-0.8
BSWZ				S	Sb	06 29 17.1	-1.2
TUWZ	Tuamarina	0.47	323		Pg	06 29 13.4	+0.2
TUWZ				Sg	Sb	06 29 20.8	-1.1
TUWZ	Tuamarina	0.47	323	P	Pg	06 29 13.5	+0.3
TUWZ				S	Sb	06 29 21.0	-0.9
SNZO	South Karori	0.57	30		Pg	06 29 15.7	+0.6
SNZO				Sg	Sb	06 29 24.2	-0.5
SNZO	South Karori	0.57	30	P	Pb	06 29 16.1	-0.3
TCW	Tory Channel	0.60	356	P	Pg	06 29 15.7	+0.2
TCW				S	Sb	06 29 24.2	-1.3
WEL	Wellington	0.62	33	P	Pg	06 29 16.7	+0.8
WEL				S	Sb	06 29 25.5	-0.7
PLWZ	Palliser	0.74	71	Pg	Pb	06 29 19.7	+0.5
PLWZ				Sg	Sn	06 29 32.6	+0.1
PLWZ	Palliser	0.74	71	P	Pb	06 29 20.4	+1.1
MSWZ	Moikau Station	0.80	61		Pb	06 29 20.4	+0.2

KWHZ	Kaweka Forest	2.87	35	P		Pn	06 29 49.0	-1.2
ETVZ	East Tongariro	2.87	22	P		Pn	06 29 51.0	+0.6
TMVZ	Te Maari	2.89	22	P		Pn	06 29 51.1	+0.6
KRVZ	Karewarewa	2.89	21	P		Pn	06 29 52.0	+1.3
NTVZ	North Tongariro	2.90	21	P		Pn	06 29 51.3	+0.6
WVZ	Waitaha Valley	2.94	243	P		Pn	06 29 52.3	+1.1
MCHZ	McNeill Hill	2.97	38	P		Pn	06 29 50.5	-1.1
KATZ	Kakaramea	3.02	21	P		Pn	06 29 54.8	+2.4
RPZ	Rata Peaks	3.07	231	Pn		Pn	06 29 52.8	-0.2
	20nm,0.3s,baz=95,slow=0.3,SNR=17							
RPZ				Sn		Sn	06 30 29.5	-0.5
	22nm,0.3s,baz=148,slow=22,SNR=8.6							
RPZ				LR		LR	06 30 45.7	
	comp=Z,256nm,20.1s,baz=4.5,slow=33							
	69nm,0.3s							
RPZ	Rata Peaks	3.07	231	Pn		Pn	06 29 52.5	-0.5
RPZ	Rata Peaks	3.07	231	P		Pn	06 29 52.7	-0.3
BKZ	Black Stump Fm	3.11	33			Pn	06 29 53.2	-0.4
BKZ	Black Stump Fm	3.11	33	P		Pn	06 29 52.7	-1.0
RATZ	Rangitukua	3.14	21	P		Pb	06 29 60.0	-0.2
ARCZ	Arundel	3.15	226	P		Pn	06 29 53.7	-0.4
HATZ	Hinemaiaia	3.21	25	P		Pb	06 30 01.4	0.0
ARHZ	Aropaoanui	3.26	40	P		Pn	06 29 54.9	-0.6
WATZ	Wairara	3.28	20	P		Pn	06 30 02.1	-0.5
NMHZ	Naumai	3.30	36	P		Pn	06 29 55.2	-1.1
GCSZ	Gaunt Creek Bo	3.32	242	P		Pn	06 29 59.1	+2.7
HIZ	Hauiti	3.32	7	Pn		Pn	06 29 57.4	+1.0
HIZ	Hauiti	3.32	7	P		Pn	06 29 58.0	+1.6
HIZ	Hauiti	3.32	7	P		Pn	06 29 58.6	+2.2
MRHZ	Matea Rd	3.37	29	P		Pn	06 29 56.0	-1.2
MTHZ	Maungataniwha	3.52	34	P		Pn	06 29 58.4	-0.9
TMZ	Timaru	3.54	222	P		Pn	06 29 59.1	-0.3
RAHZ	Arahi	3.58	37	P		Pn	06 29 58.1	-1.8
ALRZ	Allen Road	3.59	26	P		Pb	06 30 05.9	-2.0
TLZ	Tolley Road	3.60	15	P		Pn	06 30 01.4	+1.1
FOZ	Fox Glacier	3.75	241	Pn		Pn	06 30 01.8	-0.4
FOZ	Fox Glacier	3.75	241	P		Pn	06 30 03.2	+0.9
KNZ	Kokohu	3.78	44	P		Pn	06 30 00.5	-2.2
MHGZ	Mahia Peninsul	3.81	47	P		Pn	06 30 01.5	-1.6
UTU	Utuhina	3.90	22	P		Pn	06 30 05.7	+1.3
TARZ	Mount Tarawera	3.94	26	P		Pn	06 30 04.0	-1.1
LBZ	Lake Benmore	3.98	228			Pn	06 30 05.3	-0.2
LBZ	Lake Benmore	3.98	228	P		Pn	06 30 05.8	+0.4
RIGZ	Rimuhau	4.06	41	P		Pn	06 30 05.3	-1.4
URZ	Urewera	4.14	32	P		Pn	06 30 06.0	-1.7
TOZ	Tahuroa Road	4.17	13	P		Pn	06 30 09.3	+1.2
ODZ	Otahua Downs	4.20	218			Pn	06 30 07.8	-0.7
TKGZ	Te Karaka	4.31	40	P		Pn	06 30 08.6	-1.5
OPRZ	Ohinepanea	4.32	24	P		Pn	06 30 09.6	-0.5
TGRZ	Tauranga	4.34	21	P		Pn	06 30 12.9	+2.5
TWGZ	Tauwhareparae	4.59	39	P		Pn	06 30 12.5	-1.4
RUGZ	Raukumara Rang	4.62	35	P		Pn	06 30 12.0	-2.4
JCZ	Jackson Bay	4.65	239	P		Pn	06 30 16.8	+1.9
MKAZ	Moumakai	4.74	8	P		Pn	06 30 16.8	+0.8
AWAZ	Awhitu Peninsu	4.74	3	P		Pn	06 30 18.0	+2.0
HAZ	Te Kaha	4.84	34	P		Pn	06 30 16.0	-1.3
PKGZ	Pakihiroa	4.86	38	P		Pn	06 30 15.4	-2.3
ETAZ	East Tamaki Re	4.87	6	P		Pn	06 30 19.5	+1.8
WTAZ	Waiatarua	4.87	2	P		Pn	06 30 20.1	+2.4
HHSZ	Highcliff Hill	4.88	212	P		Pn	06 30 17.3	-0.7
WKZ	Wanaka	4.91	230	Pn		Pn	06 30 18.8	+0.5
EAZ	Earnscleugh	5.00	225	P		Pn	06 30 19.3	-0.2
RVAZ	Riverhead Bore	5.04	2	P		Pn	06 30 21.8	+1.8
MBAZ	Motutapu North	5.05	5	P		Pn	06 30 25.8	+5.6
KUZ	Kuaotunu	5.17	13	P		Pn	06 30 22.4	+0.6
KUZ	Kuaotunu	5.17	13	P		Pn	06 30 25.3	+3.5
MXZ	Matakaoa Point	5.24	37	Pn		Pn	06 30 24.4	+1.7
MXZ	Matakaoa Point	5.24	37	P		Pn	06 30 21.3	-1.4
MXZ	Matakaoa Point	5.24	37	P		Pn	06 30 20.9	-1.9
MSZ	Milford Sound	5.48	236	P		Pn	06 30 32.4	+6.3
MLZ	Mavora Lakes	5.74	230	Pn		Pn	06 30 29.7	0.0
MLZ	Mavora Lakes	5.74	230	P		Pn	06 30 29.6	-0.1
SYZ	Scrubby Hill	6.02	217	P		Pn	06 30 33.4	-0.1
SYZ	Scrubby Hill	6.02	217	P		Pn	06 30 33.1	-0.3
WHZ	Wether Hill Ro	6.16	226	Pn		Pn	06 30 35.2	-0.2
DCZ	Deep Cove	6.36	232	Pn		Pn	06 30 37.4	-0.7
OUZ	Omahuta	6.60	355	Pn		Pn	06 30 41.6	+0.1
OUZ	Omahuta	6.60	355	P		Pn	06 30 43.9	+2.4
OUZ	Omahuta	6.60	355	P		Pn	06 30 45.3	+3.8
APZ	The Paps	6.77	220	P		Pn	06 30 43.7	-0.1
CTZ	Chatham Island	6.94	109	P		Pn	06 30 45.8	-0.3
CTZ	Chatham Island	6.94	109	P		Pn	06 30 45.1	-1.0
PYZ	Puysegur Point	7.03	229	Pn		Pn	06 30 46.0	-1.3
PYZ	Puysegur Point	7.03	229	P		Pn	06 30 49.9	+2.6
PYZ	Puysegur Point	7.03	229	P		Pn	06 30 50.0	+2.7
DZM	Mont Dzumac	20.77	339	LR		LR	06 41 06.7	
	comp=Z,148nm,18.3s,baz=180,slow=35							
BBOO	Buckleboo	31.52	274	P		P	06 35 25.9	-0.9
CTA	Charters Tower	32.14	304	P		P	06 35 32.0	-0.2
	4.0nm,0.9s,baz=102,slow=10.0,SNR=5.3							
	4.0nm,0.9s							
VNDA	Vanda	36.19	185	P		P	06 36 09.3	+2.5
	0.9nm,0.8s,baz=9.3,slow=7.9,SNR=5.9							
	0.9nm,0.8s							
VNDA	Vanda	36.19	185	P		P	06 36 08.2	+1.4
AS31	Alice Springs	38.10	286	P		P	06 36 22.6	-1.0
ASAR	Alice Springs	38.10	286	P		P	06 36 22.0	-1.6
	6.4nm,1.0s,baz=125,slow=6.6,SNR=27							
	6.4nm,1.0s							
ASAR	Alice Springs	38.10	286	P		P	06 36 22.1	-1.6
FORT	Forrest	38.47	271	P		P	06 36 25.3	-1.3
FORT				IAmb		IAmb	06 36 26.3	
	comp=Z,11nm,0.8s							
COEN	Coen	38.71	307	P		P	06 36 28.4	-0.4
COEN				IAmb		IAmb	06 36 33.8	
	comp=Z,10nm,0.9s							
WR0	Warramunga Arr	40.02	291	P		P	06 36 38.7	-1.1
WR0				IAmb		IAmb	06 36 39.1	
	comp=Z,6.2nm,1.0s							
WB2	Warramunga Arr	40.17	290	P		P	06 36 39.6	-1.3
WB2				IAmb		IAmb	06 36 44.9	
	comp=Z,6.8nm,0.8s							
WRAB	Tennant Creek	40.17	290	P		P	06 36 40.2	-0.8
WRAB				IAmb		IAmb	06 36 41.8	
	comp=Z,28nm,1.4s							
WRA	Warramunga Arr	40.18	290	P		P	06 36 39.4	-1.6
	comp=Z,4.4nm,0.8s,baz=126,slow=7.8,SNR=33							
	comp=Z,4.4nm,0.8s							
WRA	Warramunga Arr	40.18	290	P		P	06 36 39.5	-1.5
WB0	Warramunga Arr	40.26	291	P		P	06 36 40.3	-1.4
WB0				IAmb		IAmb	06 36 40.9	
	comp=Z,7.4nm,0.8s							
QSPA	South Pole Qui	48.32	180	P		P	06 37 48.3	+2.4
	comp=Z,14nm,1.0s,baz=49,slow=3.7,SNR=20							
	comp=Z,14nm,1.0s							
QSPA	South Pole Qui	48.32	180	P		P	06 37 48.6	+2.7
PSA00	Pilbara Seismi	49.68	276	P		P	06 37 55.0	-1.7
PSA00				IAmb		IAmb	06 37 55.5	
	comp=Z,11nm,0.8s							
BELA	Belgrano 2	59.28	173	P		P	06 39 06.8	+1.1
BELA				IAmb		IAmb	06 39 09.8	
	comp=Z,5.4nm,1.0s							
TROLL	Troll, Antarti	66.34	183	P		P	06 39 54.1	+1.1
SNAA	Sanae	66.81	181	P		P	06 39 56.4	+0.5
SNAA	Sanae	66.81	181	P		P	06 39 56.8	+0.9
VNA3	Neumayer Olymp	67.22	179	P		P	06 39 59.4	+0.9
VNA1	Neumayer--Stat	67.84	179	P		P	06 40 03.2	+0.9
KSRS	Korea Array	89.54	325	P		P	06 42 01.1	-0.6
	comp=Z,3.0nm,1.0s,baz=133,slow=4.7,SNR=5.1							
	comp=Z,3.0nm,1.0s							
CMAR	Chiang Mai Arr	91.71	293	P		P	06 42 12.2	-0.2
	comp=Z,1.3nm,0.3s,baz=149,slow=3.4,SNR=12							
	comp=Z,1.3nm,0.3s							
KBZ	Khabaz	144.69	290	PKP	PKPbc		06 48 39.7	-0.2
	comp=Z,3.5nm,0.9s,baz=52,slow=6.0,SNR=4.4							
DBIC	Dimbokro	145.00	181	PKPbc	PKPab		06 48 42.0	+0.3
	comp=Z,4.3nm,0.9s,baz=165,slow=4.8,SNR=4.5							
ARCES	ARCESS Array B	147.85	340	PKPbc	PKPbc		06 48 47.4	-1.2
	comp=Z,3.5nm,0.7s,baz=75,slow=1.4,SNR=7.3							
BRTR	Keskin Array B	150.33	279	PKPbc	PKPbc		06 48 55.7	-0.2
	comp=Z,2.4nm,0.8s,baz=98,slow=6.5,SNR=4.1							
TORD	Torodi Ar. Bea	150.73	195	PKP	PKPdf		06 48 52.0	+0.2
	comp=Z,9.4nm,1.1s,baz=222,slow=1.8,SNR=12							
TORD				PKPbc	PKPbc		06 48 57.5	+0.1
	comp=Z,9.6nm,1.1s,baz=152,slow=2.3,SNR=22							
FINES	FINESS Array B	152.61	327	PKPbc	PKPbc		06 48 58.5	-1.8
	comp=Z,1.2nm,0.6s,baz=42,slow=3.1,SNR=5.6							
ESDC	Sonseca Array	177.50	212	PKP	PKPdf		06 49 15.7	+0.8
	comp=Z,0.4nm,0.5s,baz=338,slow=3.0,SNR=4.2							

WEL 14 06:30:25.2±0.3, 43°S±3°×17°3E±°, h15km±2km, M4.1/13, ML4.2/13, MLv4.1/13, Error ellipse: s-maj=0.0km

s-min=0.0km az=131.3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.13	45	P		Pb	06 30 29.3	-0.1
KHZ				S		Sb	06 30 31.7	-0.4
GVZ	Greta Valley S	0.54	211	P		Pg	06 30 36.1	+0.1
THZ	Tophouse	0.84	333	P		Pg	06 30 41.6	+0.2
THZ				S		Sg	06 30 52.3	-0.2
BSWZ	Blackbirch Sta	0.86	23	P		Pn	06 30 42.6	-0.2
AMCZ	Amberley	0.88	220	P		Pn	06 30 43.8	+0.8
LTZ	Lake Taylor	0.89	252	P		Pn	06 30 43.1	-0.2
LTZ				S		Sn	06 30 55.4	-0.5
OKCZ	Okains Bay	1.25	192	P		Pn	06 30 48.2	+0.1
MQZ	McQueen's Vall	1.32	205	P		Pn	06 30 48.6	-0.5
MQZ				S		Sn	06 31 05.1	-1.4
AKVZ	Akaroa Harbour	1.42	195	P		Pn	06 30 51.0	-0.2
AKCZ				S		Sn	06 31 08.0	-0.8
DSZ	Denniston Nort	1.42	302	P		Pb	06 30 51.6	+0.1
TKNZ	Takaka Hill	1.51	347	P		Pb	06 30 53.5	+0.6
RACZ	Rakaia	1.54	217	P		Pn	06 30 51.6	-0.5
MHCZ	Mount Hutt	1.70	232	P		Pn	06 30 54.2	-0.2
RPZ	Rata Peaks	2.11	234	P		Pn	06 30 59.9	-0.1
RPZ				S		Sn	06 31 24.7	-1.3
ARCZ	Arundel	2.18	228	P		Pn	06 31 00.8	-0.2
HHSZ	Highcliff Hill	3.94	210	P		Pn	06 31 24.5	-0.6
APZ	The Paps	5.80	220	P		Pn	06 31 50.4	-0.4

IDC 14 06:35:56.5±2.5, 54°.15N×86°.21E, h0km, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=20.2km s-min=11.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.84	257	I			06 41 00.0	
	baz=74,slow=336,SNR=6.0							
ZALV	Zalesovo Beam	0.84	257	Pg		Pg	06 36 11.4	-1.2
	1.8nm,0.3s,baz=76,slow=18,SNR=29							
ZALV				Lg		Lg	06 36 25.1	
	0.6nm,0.3s,baz=78,slow=29,SNR=5.5							
ZALV				Rg		Rg	06 36 31.1	
	94nm,1.0s,baz=72,slow=34,SNR=28							
KURBB	Kurchatov Arra	5.88	236	Pn		Pn	06 37 25.7	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=28							
	4.1nm,0.7s							
MKAR	Makanchi Array	7.78	200	Pn		Pn	06 37 51.8	+1.0
	0.2nm,0.3s,baz=26,slow=14,SNR=5.1							
	0.4nm,0.4s							

WEL 14 06:37:16.9±0.3, 43°S±2°×17°3E±°, h8km±3km, M3.3/19, ML3.6/13, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=106.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVZ	Greta Valley S	0.34	183	P		Pg	06 37 24.4	-0.7
GVZ				S		Sb	06 37 30.5	-0.3
KHZ	Kahutara	0.41	59	P		Pg	06 37 25.4	+0.5
KHZ				S		Sb	06 37 31.8	-1.1
LTZ	Lake Taylor	0.60	255	P		Pg	06 37 29.1	+0.6
LTZ				S		Sb	06 37 37.5	-0.8
AMCZ	Amberley	0.62	209	P		Pb	06 37 30.2	+0.2
THZ	Tophouse	0.88	352	P		Pg	06 37 33.3	-0.4
THZ				S		Sg	06 37 44.9	-0.2
OXZ	Oxford	1.02	227	P		Pg	06 37 36.3	-0.2
OXZ				S		Sb	06 37 50.9	+0.5
OKCZ	Okains Bay	1.09	180	P		Pg	06 37 37.6	-0.2
BSWZ	Blackbirch Sta	1.10	34	P		Pb	06 37 38.1	0.0
MQZ	McQueen's Vall	1.11	195	P		Pg	06 37 36.8	-1.5
MQZ				S		Sg	06 37 51.8	-1.0
INZ	Inchbonnie	1.20	265	P		Pg	06 37 39.8	0.0
AKCZ	Akaroa Harbour	1.25	185	P		Pn	06 37 39.0	-1.7
MRNZ	Matariki Terra	1.25	350	P		Pg	06 37 40.9	+0.1
DSZ	Denniston Nort	1.29	313	P		Pg	06 37 41.7	+0.2
RACZ	Rakaia	1.29	211	P		Pn	06 37 39.8	-1.3
RACZ				S		Sb	06 37 56.6	-1.4
NNZ	Nelson	1.43	10	P		Pb	06 37 43.5	-0.3
TKNZ	Takaka Hill	1.60	357	P		Pb	06 37 46.7	0.0
WVZ	Waitaha Valley	1.76	255	P		Pn	06 37 47.8	+0.1
RPZ	Rata Peaks	1.82	233	P		Pn	06 37 47.6	-1.0
QRZ	Quartz Range	1.85	347	P		Pb	06 37 51.1	+0.2
ARCZ	Arundel	1.90	226	P		Pn	06 37 48.6	-1.1
GCSZ	Gaunt Creek Bo	2.12	250	P		Pn	06 37 52.7	+0.1
TMZ	Timaru	2.30	220	P		Pn	06 37 55.1	-0.1
LBZ	Lake Benmore	2.73	229	P		Pn	06 38 00.2	-0.9
ODZ	Otahua Downs	2.98	215	P		Pn	06 38 02.9	-1.5
DREZ	Durham Road	3.55	15	P		Pn	06 38 13.1	+0.8
EAZ	Earnscleugh	3.75	225	P		Pn	06 38 13.4	-1.7
MLZ	Mavora Lakes	4.49	231	P		Pn	06 38 24.0	-1.3
MKAZ	Moumakai	5.75	17	P		Pn	06 38 43.7	+1.2

WEL 14 06:38:13.8±0.5, 42°S±3°×17°4E±°, h5km, M3.5/9, ML3.7/9, MLv3.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=117.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.12	256	P		Pg	06 38 16.0	-0.3
KHZ				S		Sg	06 38 18.3	+0.2
BSWZ	Blackbirch Sta	0.68	11	P		Pg	06 38 27.4	+0.5
BSWZ				S		Sb	06 38 37.7	-0.2
CMWZ	Cape Campbell	0.74	31	P		Pn	06 38 30.2	+0.1
GVZ	Greta Valley S	0.76	220	P		Pb	06 38 29.6	0.0
GVZ				S		Sb	06 38 41.6	+1.4
THZ	Tophouse	0.86	316	P		Pg	06 38 30.4	0.0
TUWZ	Tuamarina	0.97	11	P		Pb	06 38 32.9	-0.2
LTZ	Lake Taylor	1.13	249	P		Pg	06 38 35.5	0.0
LTZ				S		Sn	06 38 51.7	-0.6
NNZ	Nelson	1.19	348	P		Pg	06 38 36.4	-0.3
MRNZ	Matariki Terra	1.21	324	P		Pn	06 38 37.5	+0.1
TCW	Tory Channel	1.25	20	P		Pg	06 38 36.9	-0.9
WEL	Wellington	1.36	36	P		Pn	06 38 38.1	-1.3
PLWZ	Palliser	1.42	55	P		Pn	06 38 38.3	-2.0
TKNZ	Takaka Hill	1.46	337	P		Pb	06 38 41.4	-0.1
MSWZ	Moikau Station	1.51	51	P		Pn	06 38 39.8	-1.8
MQZ	McQueen's Vall	1.53	210	P		Pn	06 38 39.4	-2.4
MQZ				S		Sn	06 38 59.4	-2.6
DSZ	Denniston Nort	1.55	294	P		Pb	06 38 42.7	-0.4
DSZ				S		Sg	06 39 05.6	+1.9
AKCZ	Akaroa Harbour	1.59	201	P		Pn	06 38 40.5	-2.2
AKCZ				S		Sn	06 39 01.4	-2.3
DUWZ	D'Urville Isla	1.59	6	P		Pn	06 38 43.1	+0.4
PAWZ	Paruwai Farm	1.63	53	P		Pn	06 38 41.3	-2.0
CAW	Cannon Point	1.64	39	P		Pn	06 38 41.8	-1.4
KIW	Kapiti Island	1.77	31	P		Pn	06 38 44.3	-0.9
TRWZ	Traveller	1.78	57	P		Pn	06 38 42.8	-2.5
QRZ	Quartz Range	1.79	330	P		Pb	06 38 46.6	-0.5
MTW	Mount Morrison	1.82	48	P		Pn	06 38 43.8	-2.0
OGWZ	Otaki Gorge	1.92	36	P		Pn	06 38 45.9	-1.3
HOWZ	Holdsworth Sta	2.02	43	P		Pn	06 38 46.9	-1.6
MRZ	Mangatainoka R	2.23	40	P		Pn	06 38 49.7	-1.7
BFZ	Birch Farm	2.56	49	P		Pn	06 38 53.5	-2.5
WAZ	Wanganui	2.80	21	P		Pb	06 39 05.1	+0.7
VRZ	Vera Road	3.36	14	P		Pn	06 39 08.1	+1.2
MOVZ	Moawhango	3.36	28	P		Pn	06 39 08.1	+1.0
FWZ	Far West T-bar	3.43	25	P		Pn	06 39 10.4	+2.4
ETVZ	East Tongariro	3.59	26	P		Pn	06 39 11.1	+0.9
TMVZ	Te Maari	3.60	26	P		Pn	06 39 12.2	+1.7
BKZ	Black Stump Fm	3.85	34	P		Pn	06 39 17.4	+3.6
HIZ	Hauiti	3.97	13	P		Pn	06 39 17.0	+1.6
TARZ	Mount Tarawera	4.67	28	P		Pn	06 39 23.4	-1.6
TOZ	Tahuroa Road	4.85	17	P		Pn	06 39 27.2	-0.2
AWAZ	Awhitu Peninsu	5.37	8	P		Pn	06 39 35.2	+0.7
MKAZ	Moumakai	5.39	13	P		Pn	06 39 34.7	-0.3
ETAZ	East Tamaki Re	5.51	10	P		Pn	06 39 37.3	+0.8

WEL 14 06:40:54.9±0.5, 42°S±4°×17°4E±°, h9km±4km, M3.4/20, ML3.6/20, MLv3.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=159.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	Cape Campbell	0.27	33	P		Pb	06 41 01.2	-0.8
CMWZ				S		Sb	06 41 06.7	+0.1
BSWZ	Blackbirch Sta	0.28	338	P		Pg	06 41 01.0	+0.5
BSWZ				S		Sg	06 41 05.1	+0.9
TUWZ	Tuamarina	0.55	354	P		Pg	06 41 05.7	+0.2
TUWZ				S		Sg	06 41 13.2	+0.6
TCW	Tory Channel	0.79	14	P		Pg	06 41 09.7	-0.4
BHW	Baring Head	0.85	49	P		Pb	06 41 11.7	-0.2
BHW				S		Sn	06 41 24.8	-0.9
THZ	Tophouse	0.86	284	P		Pb	06 41 11.9	0.0
WEL	Wellington	0.89	40	P		Pb	06 41 12.6	0.0
WEL				S		Sn	06 41 25.8	-0.8
NNZ	Nelson	0.90	328	P		Pg	06 41 12.0	-0.1
NNZ				S		Sg	06 41 23.1	-0.6
PLWZ	Palliser	1.01	67	P		Pg	06 41 13.8	-0.5
MSWZ	Moikau Station	1.08	59	P		Pg	06 41 14.5	-1.2
MRNZ	Matariki Terra	1.10	301	P		Pn	06 41 16.4	-0.2
CAW	Cannon Point	1.17	43	P		Pb	06 41 16.3	-1.0
DUWZ	D'Urville Isla	1.17	357	P		Pb	06 41 16.4	-1.0
PAWZ	Paruwai Farm	1.21	61	P		Pb	06 41 16.5	-1.5
GVZ	Greta Valley S	1.23	216	P		Pn	06 41 18.2	-0.1
TKNZ	Takaka Hill	1.23	320	P		Pn	06 41 17.9	-0.4
KIW	Kapiti Island	1.30	31	P		Pn	06 41 18.9	-0.3
TRWZ	Traveller	1.38	66	P		Pn	06 41 18.4	-1.9
MTW	Mount Morrison	1.38	54	P		Pn	06 41 18.8	-1.6
OGWZ	Otaki Gorge	1.45	37	P		Pn	06 41 20.5	-0.8
LTZ	Lake Taylor	1.52	237	P		Pn	06 41 22.2	-0.1
HOWZ	Holdsworth Sta	1.56	47	P		Pn	06 41 21.5	-1.3
AMCZ	Amberley	1.57	220	P		Pn	06 41 22.1	-0.8
QRZ	Quartz Range	1.60	315	P		Pb	06 41 24.5	-0.2
TMWZ	Te Maipa	1.65	59	P		Pn	06 41 22.2	-1.9
DSZ	Denniston Nort	1.67	277	P		Pb	06 41 25.9	+0.1
MRZ	Mangatainoka R	1.76	42	P		Pn	06 41 24.3	-1.4
OKCZ	Okains Bay	1.88	202	P		Pn	06 41 26.3	-1.0
OXZ	Oxford	1.99	227	P		Pn	06 41 27.6	-1.2
MQZ	McQueen's Vall	2.00	210	P		Pn	06 41 27.1	-1.7
PRWZ	Pori Road	2.05	47	P		Pg	06 41 33.9	-0.2
INZ	Inchbonnie	2.05	248	P		Pn	06 41 30.5	+0.9
POWZ	Post Office Ro	2.06	40	P		Pn	06 41 28.5	-0.8
AKCZ	Akaroa Harbour	2.06	203	P		Pn	06 41 28.6	-1.2
BFZ	Birch Farm	2.12	53	P		Pn	06 41 29.3	-1.2
RACZ	Rakaia	2.23	218	P		Pn	06 41 30.5	-1.5
DVHZ	Dannevirke	2.33	45	P		Pg	06 41 38.7	-0.9
WAZ	Wanganui	2.34	19	P		Pb	06 41 37.4	+0.2
WACZ	Wakanui South	2.53	218	P		Pn	06 41 34.9	-1.3
RPZ	Rata Peaks	2.79	230	P		Pn	06 41 38.9	-0.8
ARCZ	Arundel	2.87	226	P		Pn	06 41 39.8	-1.0
WNVZ	Wahianoa	2.91	25	P		Pb	06 41 45.2	-1.8
FWVZ	Far West T-bar	2.96	24	P		Pb	06 41 47.7	-0.2
OTVZ	Oturere	3.08	25	P		Pb	06 41 49.2	-0.7
TMZ	Timaru	3.26	221	P		Pn	06 41 45.2	-1.0
LBZ	Lake Benmore	3.69	228	P		Pn	06 41 51.6	-0.6
HHSZ	Highcliff Hill	4.62	211	P		Pn	06 42 03.7	-1.2
PKGZ	Pakihiroa	5.14	39	P		Pn	06 42 15.5	+3.5

BJI ***14*** *06:42:57.1±0.0, 41°.94S×174°.47E, h6km, mb5.3/10, mB5.7/5, Ms5.4/5, Ms7.5/2.5*

IDC ***14*** *06:42:57.7±0.6, 41°.54S×174°.04E, h0km, mb4.7/9, mbtmp4.7/10, ML4.9/1, Error ellipse: s-maj=26.5km s-min=17.1km az=85.0*

NEIC ***14*** *06:43:00, 41°.84S×174°.31E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=0.01; $

PRWZ	**Pori Road**	**1.79**	**45**	P		**Pn**	**06 43 29.7**	**-0.2**
PRWZ				S		**Sn**	**06 43 52.7**	**+0.6**
LTZ	**Lake Taylor**	**1.79**	**237**			**Pn**	**06 43 30.0**	**-0.1**
LTZ	**Lake Taylor**	**1.79**	**237**	P		**Pn**	**06 43 30.5**	**+0.5**
OHWZ	**Ohakea**	**1.79**	**25**	P		**Pb**	**06 43 31.6**	**-0.8**
OHWZ				S		**Sb**	**06 43 53.7**	**-0.7**
POWZ	**Post Office Ro**	**1.81**	**38**	P		**Pn**	**06 43 30.2**	**-0.1**
POWZ				S		**Sn**	**06 43 52.6**	**-0.1**
BFZ	**Birch Farm**	**1.85**	**52**			**Pn**	**06 43 29.9**	**-0.9**
BFZ	**Birch Farm**	**1.85**	**52**	P		**Pn**	**06 43 30.0**	**-0.9**
DSZ	**Denniston Nort**	**1.88**	**272**	Pn		**Pn**	**06 43 32.3**	**+1.0**
DVHZ	**Dannevirke**	**2.08**	**43**	P		**Pn**	**06 43 33.1**	**-0.8**
ANWZ	**Angora Road**	**2.13**	**51**	P		**Pn**	**06 43 33.8**	**-0.9**
WAZ	**Wanganui**	**2.14**	**14**	P		**Pb**	**06 43 37.0**	**-1.3**
TSZ	**Takapari Road**	**2.17**	**36**	P		**Pn**	**06 43 35.0**	**-0.2**
MQZ	**McQueen's Vall**	**2.24**	**213**	Pn		**Pn**	**06 43 35.1**	**-1.0**
OXZ	**Oxford**	**2.25**	**228**	Pn		**Pn**	**06 43 35.7**	**-0.6**
WPHZ	**Waipukurau**	**2.39**	**43**	P		**Pn**	**06 43 37.7**	**-0.6**
PNHZ	**Pukenui**	**2.39**	**37**	P		**Pn**	**06 43 37.7**	**-0.6**
NMEZ	**Namu Road**	**2.44**	**352**	P		**Pb**	**06 43 43.0**	**-0.4**
RACZ	**Rakaia**	**2.48**	**219**	P		**Pn**	**06 43 38.8**	**-0.7**
KHEZ	**Kahui Hut**	**2.55**	**355**	P		**Pb**	**06 43 43.6**	**-1.7**
NEZ	**North Egmont**	**2.56**	**356**	P		**Pb**	**06 43 43.7**	**-1.9**
NBEZ	**Newall Road No**	**2.58**	**352**	P		**Pb**	**06 43 43.5**	**-2.3**
MTVZ	**Mangateitei**	**2.60**	**20**	P		**Pn**	**06 43 42.8**	**+1.5**
PXZ	**Pawanui**	**2.64**	**48**	P		**Pn**	**06 43 40.1**	**-1.6**
DREZ	**Durham Road**	**2.64**	**358**	P		**Pb**	**06 43 44.8**	**-2.1**
PKE	**Pukeiti**	**2.65**	**354**	P		**Pb**	**06 43 44.6**	**-2.4**
MOVZ	**Moawhango**	**2.66**	**25**	P		**Pn**	**06 43 42.3**	**+0.3**
PKVZ	**Pokaka**	**2.66**	**18**	P		**Pn**	**06 43 43.6**	**+1.6**
WNVZ	**Wahianoa**	**2.69**	**22**	P		**Pn**	**06 43 43.4**	**+0.9**
BHHZ	**Black Hill Sta**	**2.69**	**30**	P		**Pn**	**06 43 42.5**	**0.0**
TRVZ	**Turoa**	**2.70**	**21**	P		**Pn**	**06 43 43.9**	**+1.1**
DRZ	**Dome Shelter**	**2.73**	**21**	P		**Pn**	**06 43 44.5**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.73**	**21**	P		**Pn**	**06 43 44.0**	**+0.9**
VRZ	**Vera Road**	**2.73**	**7**	P		**Pn**	**06 43 44.9**	**+2.0**
FWVZ	**Far West T-bar**	**2.74**	**21**	P		**Pn**	**06 43 44.2**	**+0.9**
MHEZ	**Mangahewa**	**2.75**	**0**	P		**Pb**	**06 43 46.8**	**-1.9**
TUVZ	**Tukino**	**2.76**	**22**	P		**Pn**	**06 43 44.6**	**+1.1**
KAHZ	**Kahuranaki**	**2.81**	**45**	P		**Pn**	**06 43 42.7**	**-1.4**
NGZ	**Ngauruhoe**	**2.83**	**21**	P		**Pn**	**06 43 45.7**	**+1.2**
SNVZ	**South Ngauruho**	**2.83**	**21**	P		**Pn**	**06 43 45.5**	**+1.0**
OTVZ	**Oturere**	**2.86**	**22**	P		**Pn**	**06 43 45.9**	**+1.0**
NNVZ	**North Ngauruho**	**2.87**	**21**	P		**Pn**	**06 43 46.2**	**+1.1**
WTVZ	**West Tongariro**	**2.88**	**20**	P		**Pn**	**06 43 46.2**	**+1.0**
TWVZ	**Taurewa**	**2.89**	**18**	P		**Pn**	**06 43 46.2**	**+0.9**
KWHZ	**Kaweka Forest**	**2.89**	**34**	P		**Pn**	**06 43 44.4**	**-0.8**
ETVZ	**East Tongariro**	**2.90**	**22**	P		**Pn**	**06 43 46.1**	**+0.7**
TMVZ	**Te Maari**	**2.91**	**22**	P		**Pn**	**06 43 46.3**	**+0.7**
KRVZ	**Karewarewa**	**2.92**	**21**	P		**Pn**	**06 43 46.6**	**+1.0**
NTVZ	**North Tongarir**	**2.92**	**21**	P		**Pn**	**06 43 46.5**	**+0.8**
MCHZ	**McNeill Hill**	**3.00**	**38**	P		**Pn**	**06 43 45.7**	**-0.9**
CKHZ	**Cape Kidnapper**	**3.02**	**45**	P		**Pn**	**06 43 45.3**	**-1.7**
KATZ	**Kakaramea**	**3.04**	**21**	P		**Pn**	**06 43 48.3**	**+0.9**
RPZ	**Rata Peaks**	**3.05**	**231**	Pn		**Pn**	**06 43 46.7**	**-0.7**
	156nm,0.3s,baz=114,slow=1.0,SNR=50							
RPZ						**Sn**	**06 44 22.1**	**-1.2**
	122nm,0.3s,baz=7.3,slow=18,SNR=1.8							
	340nm,0.3s							
RPZ	**Rata Peaks**	**3.05**	**231**	Pn		**Pn**	**06 43 46.4**	**-1.0**
BKZ	**Black Stump Fm**	**3.14**	**33**			**Pn**	**06 43 47.8**	**-0.8**
BKZ	**Black Stump Fm**	**3.14**	**33**	P		**Pn**	**06 43 47.6**	**-1.0**
RATZ	**Rangitukua**	**3.17**	**21**	P		**Pn**	**06 43 49.7**	**+0.7**
HATZ	**Hinemaiaia**	**3.24**	**25**	P		**Pb**	**06 43 55.9**	**-1.1**
ARHZ	**Aropaoanui**	**3.28**	**39**	P		**Pn**	**06 43 49.1**	**-1.4**
WATZ	**Wairara**	**3.30**	**20**	P		**Pn**	**06 43 51.4**	**+0.5**
NMHZ	**Naumai**	**3.33**	**36**	P		**Pn**	**06 43 50.1**	**-1.1**
HIZ	**Hauiti**	**3.34**	**7**			**Pn**	**06 43 52.8**	**+1.4**
HIZ	**Hauiti**	**3.34**	**7**	P		**Pn**	**06 43 53.1**	**+1.8**
MRHZ	**Matea Rd**	**3.40**	**29**	P		**Pn**	**06 43 51.1**	**-1.1**
WHTZ	**Whakaora**	**3.40**	**22**	P		**Pb**	**06 43 58.7**	**-1.2**
WHHZ	**Waihua**	**3.54**	**40**	P		**Pn**	**06 43 52.5**	**-1.6**
MTHZ	**Maungataniwha**	**3.55**	**34**	P		**Pn**	**06 43 52.8**	**-1.5**
RAHZ	**Arahi**	**3.60**	**37**	P		**Pn**	**06 43 53.3**	**-1.6**
ALRZ	**Allen Road**	**3.62**	**26**	P		**Pn**	**06 43 54.2**	**-1.0**
TLZ	**Tolley Road**	**3.62**	**15**	P		**Pn**	**06 43 55.6**	**+0.3**
FOZ	**Fox Glacier**	**3.73**	**241**	Pn		**Pn**	**06 43 57.0**	**+0.4**
GRRZ	**Galatos Road**	**3.74**	**22**	P		**Pn**	**06 43 57.0**	**+0.1**
HRRZ	**Handcock Road**	**3.75**	**24**	P		**Pn**	**06 43 56.9**	**-0.2**
KNZ	**Kokohu**	**3.80**	**44**	P		**Pn**	**06 43 55.5**	**-2.2**
RTZ	**Ruatahuna**	**3.81**	**33**	P		**Pn**	**06 43 56.6**	**-1.2**
HSRZ	**Hossack Road**	**3.81**	**23**	P		**Pn**	**06 43 57.6**	**-0.3**
MHGZ	**Mahia Peninsul**	**3.83**	**47**	P		**Pn**	**06 43 56.2**	**-1.9**
RRRZ	**Republican Roa**	**3.88**	**27**	P		**Pn**	**06 43 57.5**	**-1.3**
UTU	**Utuhina**	**3.93**	**22**	P		**Pn**	**06 43 59.8**	**+0.4**
LBZ	**Lake Benmore**	**3.96**	**228**	Pn		**Pn**	**06 43 59.4**	**-0.4**
TARZ	**Mount Tarawera**	**3.97**	**26**	P		**Pn**	**06 43 59.1**	**-0.9**
NGRZ	**Ngongotaha**	**3.99**	**22**	P		**Pn**	**06 44 00.3**	**-0.1**
MKRZ	**Makatiti**	**4.04**	**25**	P		**Pn**	**06 44 05.8**	**+4.7**
OMRZ	**Omania**	**4.04**	**24**	P		**Pn**	**06 44 00.8**	**-0.3**
KARZ	**Kaharoa**	**4.09**	**22**	P		**Pn**	**06 44 08.7**	**-2.8**
RIGZ	**Rimuhau**	**4.09**	**41**	P		**Pn**	**06 43 59.3**	**-2.4**
RAGZ	**Rawiri**	**4.09**	**36**	P		**Pn**	**06 43 59.8**	**-1.9**
EDRZ	**Edgecumbe**	**4.16**	**27**	P		**Pn**	**06 44 01.4**	**-1.3**
KMRZ	**Kaimai**	**4.17**	**18**	P		**Pn**	**06 44 03.3**	**+0.5**
ODZ	**Otahua Downs**	**4.18**	**219**			**Pn**	**06 44 02.0**	**-0.8**
TOZ	**Tahuroa Road**	**4.20**	**13**	P		**Pn**	**06 44 03.8**	**+0.7**
MARZ	**Manawahe**	**4.25**	**26**	P		**Pn**	**06 44 02.6**	**-1.3**
MWZ	**Matawai**	**4.28**	**36**	P		**Pn**	**06 44 01.4**	**-2.8**
TKGZ	**Te Karaka**	**4.34**	**40**	P		**Pn**	**06 44 02.4**	**-2.6**
OPRZ	**Ohinepanea**	**4.34**	**24**	P		**Pn**	**06 44 03.8**	**-1.2**
TGRZ	**Tauranga**	**4.36**	**21**	P		**Pn**	**06 44 05.5**	**+0.1**
WHRZ	**Whale Island**	**4.47**	**28**	P		**Pn**	**06 44 06.5**	**-0.4**
TWGZ	**Tauwhareparae**	**4.61**	**39**	P		**Pn**	**06 44 06.9**	**-1.9**
RUGZ	**Raukumara Rang**	**4.65**	**35**	P		**Pn**	**06 44 06.7**	**-2.7**
MKAZ	**Moumakai**	**4.77**	**8**	P		**Pn**	**06 44 11.7**	**+0.8**
AWAZ	**Awhitu Peninsu**	**4.77**	**3**	P		**Pn**	**06 44 12.4**	**+1.4**
MYRZ	**Mayor Island**	**4.78**	**19**	P		**Pn**	**06 44 15.2**	**+4.0**
PUZ	**Puketiti**	**4.83**	**40**	P		**Pn**	**06 44 08.9**	**-2.9**
WIZ	**White Island**	**4.84**	**28**	P		**Pn**	**06 44 10.8**	**-1.1**
HAZ	**Te Kaha**	**4.87**	**34**	P		**Pn**	**06 44 09.5**	**-2.8**
PKGZ	**Pakihiroa**	**4.89**	**38**	P		**Pn**	**06 44 09.6**	**-3.0**
WKZ	**Wanaka**	**4.89**	**230**			**Pn**	**06 44 12.3**	**-0.3**
ETAZ	**East Tamaki Re**	**4.89**	**6**	P		**Pn**	**06 44 14.3**	**+1.6**
WTAZ	**Waiatarua**	**4.90**	**2**	P		**Pn**	**06 44 14.8**	**+2.1**
EPAZ	**Eden Park BICE**	**4.96**	**4**	P		**Pn**	**06 44 15.7**	**+2.1**
HBAZ	**Herne Bay Bore**	**4.99**	**4**	P		**Pn**	**06 44 16.1**	**+2.1**
RVAZ	**Riverhead Bore**	**5.06**	**2**	P		**Pn**	**06 44 16.4**	**+1.4**
WIAZ	**Waiheke Island**	**5.07**	**7**	P		**Pn**	**06 44 16.5**	**+1.4**
MBAZ	**Motutapu North**	**5.08**	**5**	P		**Pn**	**06 44 16.8**	**+1.6**
WMGZ	**Waiomatatini S**	**5.10**	**40**	P		**Pn**	**06 44 12.3**	**-3.2**
KUZ	**Kuaotunu**	**5.20**	**13**	P		**Pn**	**06 44 16.9**	**+0.1**
ABAZ	**Army Bay**	**5.24**	**5**	P		**Pn**	**06 44 19.8**	**+2.4**
MXZ	**Matakaoa Point**	**5.26**	**37**	Pn		**Pn**	**06 44 14.6**	**-3.1**
MXZ	**Matakaoa Point**	**5.26**	**37**	P		**Pn**	**06 44 14.8**	**-2.9**
GRZ	**Great Barrier**	**5.64**	**9**	P		**Pn**	**06 44 23.2**	**+0.2**
MLZ	**Mavora Lakes**	**5.72**	**230**			**Pn**	**06 44 23.3**	**-0.8**
WCZ	**Waipu Caves**	**5.88**	**0**	P		**Pn**	**06 44 29.0**	**+2.7**
WHZ	**Wether Hill Ro**	**6.14**	**226**			**Pn**	**06 44 27.9**	**-1.9**
DCZ	**Deep Cove**	**6.34**	**233**	Pn		**Pn**	**06 44 30.3**	**-2.2**
OUZ	**Omahuta**	**6.63**	**355**	Pn		**Pn**	**06 44 38.0**	**+1.5**
OUZ	**Omahuta**	**6.63**	**355**	P		**Pn**	**06 44 38.4**	**+1.9**
PYZ	**Puysegur Point**	**7.00**	**229**			**Pn**	**06 44 42.1**	**+0.4**
LHI	**Lord Howe Isla**	**15.96**	**305**	P		**Pn**	**06 46 43.8**	**+0.1**
	baz=16							
MCQ	**Macquarie Isla**	**16.25**	**214**	P		**Pn**	**06 46 47.4**	**+0.3**
	baz=16							
MCQ	**Macquarie Isla**	**16.25**	**214**	Pn		**Pn**	**06 46 45.1**	**-2.0**
MCQ				IAmb		IAmb	06 46 51.1	
	comp=Z,211nm,1.6s							
MOO	**Moorlands**	**20.10**	**259**	P		**P**	**06 47 31.2**	**-1.4**
	baz=20							
OUENC	**Ouen Island, N**	**20.35**	**340**	P		**P**	**06 47 35.8**	**+0.4**
CNB	**Canberra Magne**	**20.53**	**280**	P		**P**	**06 47 38.1**	**+0.7**
	baz=20							
ONTNC	**Ouen Toro**	**20.56**	**339**	P		**P**	**06 47 38.0**	**+0.3**
DZM	**Mont Dzumac**	**20.79**	**339**	P		Pn	06 47 41.9	-0.8
	comp=Z,24nm,0.9s,baz=137,slow=11,SNR=14							
DZM	**Mont Dzumac**	**20.79**	**339**	P		**P**	**06 47 40.9**	**+0.6**
CAN	**Canberra**	**20.79**	**280**	P		**P**	**06 47 40.5**	**+0.3**
LIFNC	**LIFOU**	**21.83**	**342**	P		**P**	**06 47 49.6**	**-1.7**
LIFNC				IAmb		IAmb	06 48 03.2	
	comp=Z,94nm,1.0s							
TOO	**Toolangi**	**22.53**	**271**	P		**P**	**06 47 59.1**	**+0.2**
TOO				IAmb		IAmb	06 48 09.6	
	comp=Z,82nm,1.9s							
KOUNC	**Koumac, New Ca**	**22.85**	**335**	P		**P**	**06 48 02.3**	**0.0**
MSVF	**Nonsavu**	**24.23**	**9**	P		**P**	**06 48 14.4**	**-1.5**
	comp=Z,52nm,0.8s,baz=155,slow=11,SNR=21							
	comp=Z,52nm,0.8s							
MSVF	**Nonsavu**	**24.23**	**9**	P		**P**	**06 48 15.2**	**-0.6**
MSVF				IAmb		IAmb	06 48 18.4	
	comp=Z,63nm,0.8s							
EIDS	**Eidsvold**	**25.26**	**303**	P		**P**	**06 48 23.3**	**-1.8**
EIDS				IAmb		IAmb	06 48 33.1	
	comp=Z,70nm,1.6s							
STKA	**Stephens Creek**	**27.86**	**280**	P		**P**	**06 48 48.8**	**+0.3**
	baz=28							
CTA	**Charters Tower**	**32.14**	**304**	P		**P**	**06 49 26.8**	**+0.2**
	comp=Z,9.1nm,0.9s,baz=175,slow=13,SNR=3.6							
VNDA	**Vanda**	**36.17**	**185**	P		**P**	**06 50 03.8**	**+2.9**
	comp=Z,1.6nm,0.7s,baz=2.0,slow=7.6,SNR=13							
	comp=Z,1.6nm,0.7s							
VNDA	**Vanda**	**36.17**	**185**	P		**P**	**06 50 01.1**	**+0.3**
SBA	**Scott Base**	**36.26**	**183**	P		**P**	**06 50 02.0**	**+0.4**
SBA				IAmb		IAmb	06 50 07.0	
	comp=Z,28nm,1.3s							
ASAR	**Alice Springs**	**38.10**	**286**	P		**P**	**06 50 16.3**	**-1.6**
	comp=Z,2.8nm,0.4s,baz=122,slow=7.1,SNR=3.7							
	comp=Z,2.8nm,0.4s							
ASAR	**Alice Springs**	**38.10**	**286**	P		**P**	**06 50 16.8**	**-1.1**
FORT	**Forrest**	**38.46**	**271**	P		**P**	**06 50 20.9**	**+0.2**
FORT				IAmb		IAmb	06 50 39.3	
	comp=Z,44nm,0.8s							
COEN	**Coen**	**38.72**	**307**	P		**P**	**06 50 24.6**	**+1.6**
	baz=39,SNR=4.0							
COEN	**Coen**	**38.72**	**307**	P		**P**	**06 50 22.5**	**-0.6**
PPTF	**Pamatai, Papee**	**39.16**	**63**	P		**P**	**06 50 25.5**	**-1.3**
WR0	**Warramunga Arr**	**40.02**	**291**	P		**P**	**06 50 32.1**	**-1.8**
WR0				IAmb		IAmb	06 50 50.6	
	comp=Z,42nm,0.8s							
WB2	**Warramunga Arr**	**40.17**	**290**	P		**P**	**06 50 32.9**	**-2.3**
WB2				IAmb		IAmb	06 50 52.4	
	comp=Z,51nm,0.9s							
WRAB	**Tennant Creek**	**40.18**	**290**	P		**P**	**06 50 32.6**	**-2.6**
WRAB				IAmb		IAmb	06 50 52.3	
	comp=Z,34nm,0.8s							
WRA	**Warramunga Arr**	**40.18**	**290**	P		**P**	**06 50 33.7**	**-1.6**
	comp=Z,5.2nm,0.4s,baz=131,slow=7.4,SNR=5.7							
	comp=Z,5.2nm,0.4s							
WRA	**Warramunga Arr**	**40.18**	**290**	P		**P**	**06 50 33.4**	**-1.8**
PMG	**Port Moresby**	**40.18**	**316**	P		**P**	**06 50 33.8**	**-1.5**
PMG				IAmb		IAmb	06 50 44.9	
	comp=Z,54nm,1.1s							
WB0	**Warramunga Arr**	**40.26**	**291**	P		**P**	**06 50 34.1**	**-1.8**
WB0				IAmb		IAmb	06 50 49.9	
	comp=Z,27nm,1.0s							
CASY	**Casey**	**42.16**	**213**	P		**P**	**06 50 52.2**	**+1.2**
RABL	**Rabaul**	**42.39**	**326**	P		**P**	**06 50 53.6**	**+0.2**
KLBR	**Kellerberrin**	**45.75**	**264**	P		**P**	**06 51 19.7**	**-0.5**
	baz=46,SNR=4.3							
KDU	**Kakadu**	**46.50**	**296**	P		**P**	**06 51 27.4**	**+1.2**
	baz=46							
MUN	**Mundaring**	**46.71**	**262**	P		**P**	**06 51 27.2**	**-0.6**
	baz=46,SNR=3.2							
MTN	**Manton Dam**	**47.29**	**295**	P		**P**	**06 51 32.0**	**-0.5**
	baz=47,SNR=3.9							
MTN	**Manton Dam**	**47.29**	**295**	P		**P**	**06 51 31.8**	**-0.7**
MTN				IAmb		IAmb	06 51 50.9	
	comp=Z,35nm,0.9s							
QSPA	**South Pole Qui**	**48.30**	**180**	P		**P**	**06 51 43.1**	**+3.2**
	comp=Z,21nm,1.0s,baz=18,slow=0.7,SNR=34							
	comp=Z,21nm,1.0s							
QSPA	**South Pole Qui**	**48.30**	**180**	P		**P**	**06 51 40.7**	**+0.8**
QSPA				IAmb		IAmb	06 51 44.4	
	comp=Z,43nm,1.2s							
MORW	**Morawa**	**48.30**	**266**	P		**P**	**06 51 39.5**	**-0.8**
	baz=48,SNR=5.5							
MORW	**Morawa**	**48.30**	**266**	P		**P**	**06 51 38.7**	**-1.5**
MORW				IAmb		IAmb	06 53 00.7	
	comp=Z,69nm,1.8s							
PSA00	**Pilbara Seismi**	**49.67**	**276**	P		**P**	**06 51 48.7**	**-2.1**
MBWA	**Marble Bar**	**50.01**	**277**	P		**P**	**06 51 51.8**	**-1.6**
GIRL	**Giralia**	**53.22**	**271**	P		**P**	**06 52 17.1**	**-0.2**
	baz=53,SNR=4.1							
GIRL	**Giralia**	**53.22**	**271**	P		**P**	**06 52 16.2**	**-1.1**
FAKI	**Fak Fak**	**54.01**	**304**	P		**P**	**06 52 21.6**	**-1.5**
SOEI	**Soe**	**54.20**	**291**	P		**P**	**06 52 23.6**	**-1.2**
BELA	**Belgrano 2**	**59.26**	**173**	P		**P**	**06 53 01.2**	**+1.5**
BELA				IAmb		IAmb	06 53 22.3	
	comp=Z,11nm,0.8s							
MAW	**Mawson**	**59.40**	**204**	P		**P**	**06 53 03.4**	**+2.7**
	comp=Z,4.2nm,0.8s,baz=118,slow=9.9,SNR=5.4							
	comp=Z,4.2nm,0.8s							
MAW	**Mawson**	**59.40**	**204**	P		**P**	**06 53 02.2**	**+1.5**
	baz=59							
MAW	**Mawson**	**59.40**	**204**	P		**P**	**06 53 00.1**	**-0.7**
TROLL	**Troll, Antarti**	**66.31**	**183**	pP		**P**	**06 53 48.7**	**+1.7**
SNAA	**Sanae**	**66.78**	**181**	pP		**P**	**06 53 51.4**	**+1.6**
SNAA	**Sanae**	**66.78**	**181**	P		**P**	**06 53 51.9**	**+2.0**
SNAA				IAmb		IAmb	06 54 07.8	
	comp=Z,23nm,1.2s							
VNA3	**Neumayer Olymp**	**67.20**	**179**	pP		**P**	**06 53 54.0**	**+1.6**
VNA1	**Neumayer--Stat**	**67.81**	**179**	pP		**P**	**06 53 58.2**	**+2.0**
PLCA	**Paso Flores**	**79.01**	**136**	P		**P**	**06 55 05.8**	**+3.0**
	comp=Z,3.0nm,0.9s,baz=217,slow=5.1,SNR=5.0							
	comp=Z,3.0nm,0.9s							
KSRS	**Korea Array**	**89.55**	**325**	P		**P**	**06 55 56.6**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=147,slow=5.7,SNR=12							
	comp=Z,5.2nm,0.8s							
KSAR	**Wonju Array Be**	**89.56**	**325**	P		**P**	**06 55 56.5**	**+0.6**
KS19	**Wonju Array Si**	**89.62**	**325**	P		**P**	**06 55 56.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**91.72**	**293**	P		**P**	**06 56 04.6**	**-1.9**
	comp=Z,4.8nm,0.7s,baz=155,slow=3.1,SNR=19							
	comp=Z,4.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**91.72**	**293**	P		**P**	**06 56 05.2**	**-1.3**
CHTO	**Chiang Mai**	**91.96**	**294**	P		**P**	**06 56 06.8**	**-0.8**
CHTO				IAmb		IAmb	06 59 01.5	
	comp=Z,9.9nm,0.9s							
PZH	**PanZhiHua**	**95.41**	**301**	P		**P**	**06 56 25.3**	**+1.8**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,110nm,7.0s							
XAN	**Xi'an**	**96.42**	**311**	⇑P		**P**	**06 56 29.5**	**+1.7**
XAN				pP		pP	06 56 35.0	+0.7
XAN				sP		sP	06 56 37.9	+1.4
XAN				S		**S**	**07 07 47.1**	**+0.1**
XAN				sS		sS	07 08 00.1	+2.4
XAN				pmax		pmax		
	comp=Z,6.0nm,0.9s							
XAN				LR		LR		
	comp=Z,360nm,19.2s							
XAN				LR		LR		
	comp=Z,470nm,19.9s							
XAN				LR		LR		
	comp=Z,560nm,22.7s							
TNCH	**TengChong**	**96.50**	**298**	P		**P**	**06 56 32.1**	**+3.6**
HHC	**Hu-ho-hao-te**	**99.98**	**317**	*e*P		**Pdif**	**06 56 43.9**	**+0.2**
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				LR		LR		
	comp=Z,800nm,18.2s							
HHC				LR		LR		
	comp=Z,840nm,20.6s							
HHC				LR		LR		
	comp=Z,2μm,19.1s							
ILAR	**Eielson Array**	**110.53**	**17**	PKiKP		**PKiKP**	**07 01 30.3**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=300,slow=1.9,SNR=7.3							
WMQ	**Urumqi**	**115.25**	**307**	*e*PKP		**PKiKP**	**07 01 41.3**	**+1.4**
WMQ				LR		LR		
	comp=Z,260nm,20.3s							
WMQ				LR		LR		
	comp=Z,290nm,20.3s							
WMQ				LR		LR		
	comp=Z,300nm,22.5s							
INK	**Inuvik**	**116.51**	**19**	PKP		**PKPdf**	**07 01 41.3**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=251,slow=7.9,SNR=18							
YKA	**Yellowknife Ar**	**118.42**	**30**	PKP		**PKPdf**	**07 01 45.2**	**0.0**
	comp=Z,5.0nm,0.7s,baz=258,slow=1.9,SNR=9.3							
JFWS	**Jewell Farm**	**120.19**	**58**	PKPdf		**PKPdf**	**07 01 47.6**	**-1.7**
WCI	**Wyandotte Cave**	**120.36**	**64**	PKPdf		**PKPdf**	**07 01 49.6**	**-0.2**
A36M	**Sachs Harbour**	**121.12**	**18**			**PKPdf**	**07 01 49.8**	**-0.3**
KURBB	**Kurchatov Arra**	**124.07**	**310**	PKP		**PKPdf**	**07 01 55.2**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=115,slow=1.9,SNR=2.9							
BVAR	**Borovoye Array**	**129.66**	**310**	PKP		**PKPdf**	**07 02 06.8**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=249,slow=41,SNR=1.8							
KBZ	**Khabaz**	**144.69**	**290**	PKP		**PKPdf**	**07 02 34.9**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=123,slow=2.6,SNR=9.2							
SFJD	**Kangerlussuaq**	**144.98**	**29**			PKPbc	07 02 33.7	-0.5
SFJD	**Kangerlussuaq**	**144.98**	**29**	*e*P		PKPbc	07 02 33.4	-0.7
DBIC	**Dimbokro**	**144.98**	**181**	PKPbc		**PKPdf**	**07 02 36.2**	**-0.2**
	comp=Z,7.9nm,0.9s,baz=166,slow=3.8,SNR=11							
SUMG	**Summit**	**145.38**	**17**	*i* P		**PKPbc**	**07 02 35.0**	**-0.8**
KOPT	**Kop Dagi**	**145.38**	**283**	PKPbc		**PKPbc**	**07 02 33.7**	**-3.0**
KLMR	**Klimovskoe**	**146.84**	**321**	*e*		**PKPbc**	**07 02 39.4**	**-0.6**
KLMR				AMP			07 02 48.7	
	comp=Z,60nm,1.3s							
ARA0	**ARCESS Array S**	**147.87**	**340**	*e*P		**PKPbc**	**07 02 42.4**	**-0.3**
ARCES	**ARCESS Array B**	**147.87**	**340**	PKPbc		**PKPbc**	**07 02 41.9**	**-0.8**
	comp=Z,2.8nm,0.4s,baz=34,slow=2.0,SNR=24							
KTK1	**Kautokeino**	**148.81**	**340**	*e*P		**PKPbc**	**07 02 43.5**	**-1.7**
BR131	**Keskin Array S**	**150.32**	**279**	PKPbc		**PKPbc**	**07 02 50.2**	**+0.3**
BRTR	**Keskin Array B**	**150.32**	**279**	PKPbc		**PKPbc**	**07 02 50.2**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=123,slow=4.6,SNR=7.3							
BRTR	**Keskin Array B**	**150.32**	**279**	PKPdf		**PKPdf**	**07 02 43.1**	**-1.7**
BRTR						**PKPbc**	**07 02 50.2**	**+0.3**
BRTR				PKPab		**pPKPbc**	**07 02 57.4**	**+0.8**
TOA0	**Torodi Ar. Sit**	**150.71**	**195**	PKPbc		**PKPbc**	**07 02 50.0**	**-1.4**
TOA0				PKPab		**pPKPbc**	**07 02 57.9**	**0.0**
TORD	**Torodi Ar. Bea**	**150.71**	**195**	PKPbc		**PKPbc**	**07 02 51.7**	**+0.4**
	comp=Z,6.2nm,0.6s,baz=160,slow=1.4,SNR=20							
STEI	**Steigen**	**151.52**	**344**	*e*P		**PKPbc**	**07 02 50.4**	**-1.2**
FAUS	**Fauske**	**151.96**	**343**	*e*P		**PKPbc**	**07 02 51.4**	**-1.3**
FINES	**FINESS Array B**	**152.63**	**327**	PKPbc		**PKPbc**	**07 02 53.5**	**-0.8**
	comp=Z,2.1nm,0.4s,baz=38,slow=3.4,SNR=19							
AKASG	**Malin Array Be**	**154.49**	**302**	PKPbc		**PKPbc**	**07 02

comp=Z,8.1nm,0.7s
VNDA Vanda 72.50 177 P P 06 54 28.4 +0.6
VNDA IAmb IAmb 06 54 29.3
comp=Z,10nm,0.8s
CHGN Chignik 76.04 28 P P 06 54 49.8 +1.4
MK31 Makanchi Array 76.86 320 P P 06 54 53.4 0.0
MKAR Makanchi Array 76.86 320 P P 06 54 53.0 -0.4
comp=Z,1.8nm,0.5s,baz=90,slow=9.0,SNR=19
comp=Z,1.8nm,0.5s
MKAR Makanchi Array 76.86 320 P P 06 54 53.2 -0.2
MAKZ Makanchi 77.07 320 P P 06 54 54.5 0.0
MAKZ IAmb IAmb 06 55 29.8
comp=Z,21nm,1.4s
ZAA0 Zalesovo Array 78.37 328 P P 06 55 00.4 -1.0
ZALV Zalesovo Beam 78.37 328 P P 06 55 00.1 -1.3
comp=Z,4.4nm,0.5s,baz=109,slow=6.3,SNR=16
comp=Z,4.4nm,0.5s
OHAK Old Harbor 78.94 29 P P 06 55 06.1 +1.7
P18K Big Mountain, 79.12 26 P P 06 55 01.6 -3.9
L19K White Mountain 80.70 24 P P 06 55 15.0 +1.1
L19K IAmb IAmb 06 55 17.2
comp=Z,11nm,1.1s
M19K Big River Lodg 80.75 24 P P 06 55 14.7 +0.6
CNPM China Poot 80.97 27 P P 06 55 15.5 +0.1
BRLK Bradley Lake 81.24 27 P P 06 55 17.5 +0.8
M20K Styx River 81.26 25 P P 06 55 17.0 +0.1
M20K IAmb IAmb 06 55 20.9
comp=Z,10nm,1.1s
SPU Mount Spurr 81.38 25 P P 06 55 18.8 +1.3
K20K Telida 81.61 23 P P 06 55 19.9 +1.3
K20K IAmb IAmb 06 55 20.1
comp=Z,10nm,1.1s
J20K Nowinta River 82.00 22 P P 06 55 21.4 +0.9
J20K IAmb IAmb 06 55 23.6
comp=Z,23nm,1.4s
PPLA Purkeypile 82.13 24 P P 06 55 22.8 +1.2
PPLA IAmb IAmb 06 55 41.8
comp=Z,33nm,1.5s
RC01 Rabbit Creek A 82.34 26 P P 06 55 23.4 +1.0
CAST Castle Rocks 82.42 23 P 06 55 23.8 +0.9
CAST IAmb IAmb 06 55 25.8
comp=Z,12nm,1.2s
M22K Willow 82.47 25 P P 06 55 23.5 +0.5
MAW Mawson 82.66 203 P P 06 55 24.6 +0.6
comp=Z,5.2nm,0.7s,baz=98,slow=7.6,SNR=8.5
comp=Z,5.2nm,0.7s
MAW Mawson 82.66 203 P P 06 55 25.1 +1.1
PMR Palmer 82.82 26 P P 06 55 24.1 -0.7
PMR IAmb IAmb 06 55 54.0
comp=Z,19nm,1.4s
PWL Port Wells 82.86 27 P P 06 55 26.3 +1.1
GAR Garm 82.89 310 P P 06 55 26.5 +0.6
KTH Kantishna Hill 82.95 24 P P 06 55 24.8 -0.9
KTH IAmb IAmb 06 55 25.5
comp=Z,24nm,1.3s
GHO Glory Hole Cre 82.99 26 P P 06 55 25.3 -0.6
GHO IAmb IAmb 06 56 00.2
comp=Z,28nm,1.4s
KNK Knik Glacier 83.03 26 P P 06 55 27.3 +1.3
KNK IAmb IAmb 06 55 54.4
comp=Z,26nm,1.4s
IMAR Indian Mountai 83.06 21 P P 06 55 26.4 +0.4
TRF Thorofare Moun 83.16 24 P P 06 55 25.8 -1.0
TRF IAmb IAmb 06 55 28.0
comp=Z,17nm,1.4s
H21K Melozitna Rive 83.23 21 P P 06 55 27.3 +0.3
SML Sawmill 83.25 26 P P 06 55 27.1 -0.1
I21K Tanana 83.31 22 P P 06 55 28.1 +0.9
I21K IAmb IAmb 06 55 29.0
comp=Z,17nm,1.3s
KKAR Karatay Array 83.67 314 P P 06 55 29.1 -0.6
MLY Manley 83.70 22 P P 06 55 29.6 +0.3
MLY IAmb IAmb 06 55 31.4
comp=Z,7.2nm,0.8s
SCM Sheep Creek Mo 83.70 26 P P 06 55 29.9 +0.4
SCM IAmb IAmb 06 55 34.6
comp=Z,21nm,1.1s
RND Reindeer 83.72 24 P P 06 55 29.2 -0.3
RND IAmb IAmb 06 55 30.3
comp=Z,7.3nm,0.7s
KLU Klutina 84.18 26 P P 06 55 33.4 +1.5
KLU IAmb IAmb 06 55 39.4
comp=Z,15nm,1.2s
I23K Minto, Yukon-K 84.28 22 P P 06 55 31.9 -0.3
M24K Tolsona, Glenn 84.31 26 P P 06 55 33.3 +0.8
H23K Yukon River 84.50 22 P P 06 55 33.6 +0.3
HMT Hamilton 84.51 28 P P 06 55 32.2 -1.3
QSPA South Pole Qui 84.54 180 P P 06 55 33.4 -0.3
comp=Z,9.0nm,0.8s,baz=330,slow=1.3,SNR=10
comp=Z,9.0nm,0.8s
QSPA South Pole Qui 84.54 180 P P 06 55 33.7 0.0
QSPA IAmb IAmb 06 55 34.4
comp=Z,10nm,0.8s
BMRM Bremner River 84.58 27 P P 06 55 33.5 -0.4
BMRM IAmb IAmb 06 55 51.5
comp=Z,20nm,1.2s
MDM Murphy Dome 84.63 23 P P 06 55 32.3 -1.7
NRIK Noril'sk 84.64 342 P P 06 55 33.9 0.0
NRIK IAmb IAmb 06 55 34.4
comp=Z,6.2nm,0.8s
CCB Clear Creek Bu 84.66 23 P P 06 55 33.1 -1.0
CCB IAmb IAmb 06 55 35.0
comp=Z,9.9nm,1.0s
TCOL CIGO, UAF Yank 84.73 23 P P 06 55 33.5 -1.0
TCOL IAmb IAmb 06 55 35.3
comp=Z,9.3nm,0.8s
COLA College 84.74 23 P P 06 55 33.9 -0.6
COLA IAmb IAmb 06 55 35.3
comp=Z,8.8nm,0.6s
COLD Coldfoot 84.90 20 P P 06 55 35.7 +0.4
HDA Harding Lake 84.90 24 P P 06 55 33.7 -1.6
HDA IAmb IAmb 06 55 37.1
comp=Z,5.0nm,0.7s
IL31 85.07 23 P P 06 55 34.6 -1.5
IL31 IAmb IAmb 06 55 35.4
comp=Z,7.2nm,0.8s
ILAR Eielson Array 85.07 23 P P 06 55 34.5 -1.7
comp=Z,6.9nm,0.8s,baz=251,slow=4.6,SNR=52
comp=Z,6.9nm,0.8s
ILAR Eielson Array 85.07 23 P P 06 55 34.3 -1.9
H24K Noodor Dome 85.13 22 P P 06 55 36.4 -0.1
J25K Salcha River, 85.61 24 P P 06 55 38.1 -0.8
J25K IAmb IAmb 06 55 39.1
comp=Z,11nm,0.8s
MENT Mentasta 85.68 25 P P 06 55 39.6 +0.4
DOT Dot Lake 85.78 25 P P 06 55 39.0 -0.7
DOT IAmb IAmb 06 55 42.4
comp=Z,6.1nm,0.8s
L26K Log Cabin Wild 85.87 25 P P 06 55 40.1 0.0
BARN Barnard Glacie 85.96 28 P P 06 55 41.7 +0.8
BVAR Borovoye Array 86.13 324 P P 06 55 40.1 -1.5
comp=Z,1.8nm,0.5s,baz=102,slow=6.8,SNR=6.8
comp=Z,1.8nm,0.5s
M27K Edge Creek, AK 86.28 26 P P 06 55 42.4 +0.1
M27K IAmb IAmb 06 55 44.8
comp=Z,8.6nm,0.7s
J26L Joseph Creek 86.30 24 P P 06 55 42.0 -0.3
BCAR Beaver Creek A 86.55 26 P P 06 55 43.6 +0.1
BMAR Burnt Mountain 86.97 21 P P 06 55 46.0 +0.6
EGAK Eagle 87.36 24 P P 06 55 47.4 +0.1
EGAK IAmb IAmb 06 55 47.6
comp=Z,9.5nm,1.1s
DAWY Dawson 87.88 25 P 06 55 50.7 +0.9
DAWY IAmb IAmb 06 55 51.2
comp=Z,6.4nm,0.9s
I29M Ogilvie Camp, 88.69 24 P P 06 55 51.8 -1.7
EPYK Eagle Plains 89.59 23 P P 06 55 58.0 +0.2
EPYK IAmb IAmb 06 55 59.0
comp=Z,5.4nm,0.8s
ABKAR Akbulak array 91.95 319 P P 06 56 06.9 -2.1
A36M Sachs Harbour 94.51 18 P P 06 56 21.2 +0.9
A36M IAmb IAmb 06 56 38.5
comp=Z,6.0nm,1.4s
BEKR Beckworth 95.70 51 P P 06 56 27.8 +1.2
NVAR Mina Array Bea 97.25 52 P Pdif 06 56 34.7 +0.8
comp=Z,1.1nm,0.8s,baz=247,slow=6.7,SNR=10
comp=Z,1.1nm,0.8s
NVAR Mina Array Bea 97.25 52 P Pdif 06 56 34.4 +0.6
PLCA Paso Flores 122.77 147 PKP PKiKP 07 01 55.6 0.0
comp=Z,5.2nm,0.5s,baz=239,slow=2.3,SNR=14
TORD Torodi Ar. Bea 144.66 285 PKP PKPab 07 02 35.4 -0.7
comp=Z,2.1nm,0.4s,baz=78,slow=5.0,SNR=19
BDFB Brasilia 154.50 145 PKPbc PKPbc 07 03 00.9 0.0
comp=Z,5.6nm,0.4s,baz=223,slow=1.3,SNR=14

WEL **14** *06:47:00, 42.32S×173.97E, h15km, ML5.7, Mw5.7, Moment Tensor Solution. s5 Moment tensor: Scale 10^17 Nm; Mrr2.91; Mθθ-0.26; Mϕϕ-2.65; Mrθ-0.81; Mθϕ-2.87; Mϕr0.41; Fault plane solution: M☐3.97000×10^17 NP1: ϕs9.00000°, δ50.00000°, λ53.00000°. NP2:ϕs238.00000°, δ52.00000°, λ126.00000°. Principal axes: T -45650.5300, Plg63.0000°, Azm212.0000°; N 11820.8100, Plg27.0000°, Azm34.0000°; P 33829.7100, Plg1.0000°, Azm304.0000°;*

BJI **14** *06:47:48.6±0.0, 42.42S×173.93E, h7km, mb5.6/41, mB5.8/31, Ms5.5/46, Ms7 5.3/44*

IDC **14** *06:47:49.9±0.4, 42.10S×173.91E, h0km, mb5.6/20, mbtmp5.5/20, MS5.3/39, Error ellipse: s-maj=18.4km s-min=11.8km az=53.0*

WEL **14** *06:47:50.8±0.5, 42°S±3'×17°4E±', h17km±3km, M5.7/18, ML6.0/18, MLv5.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=126.2*

MOS **14** *06:47:51.0±0.8, 42.20S×173.70E, h12km, mb5.8/24, MS5.4/18, Error ellipse: s-maj=12.0km s-min=9.0km az=120.9*

NEIC **14** *06:47:52, 42.36S×173.86E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.65; Mθθ-0.97; Mϕϕ-1.69; Mrθ-0.19; Mθϕ-2.74; Mϕr0.67; Fault plane solution: M☐3.66000×10^17 NP1:ϕs242.13000°, δ45.89000°, λ120.77000°. NP2:ϕs21.59000°, δ51.91000°, λ62.18000°. Principal axes: T 2.9061, Plg68.0000°, Azm229.0000°; N 1.2016, Plg22.0000°, Azm40.0000°; P -4.1077, Plg3.0000°, Azm131.0000°;*

NEIC **14** *06:47:52.0±1.8, 42.33S±0.03×173.90E±0.05, h12km±1km, mb5.7/107, Ms_20 5.6/282, Mwr5.6/57, Mww5.7 Error ellipse: s-maj=7.1km s-min=2.9km az=120.0*

NOU **14** *06:47:54.7, 42.51S×174.14E, h43km, ML5.7/119, Off E. Coast of S. Island, N.Z.*

NEIC **14** *06:47:54, 42.35S×173.85E, h20km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^17Nm; Mrr2.78; Mθθ-0.89; Mϕϕ-1.89; Mrθ0.81; Mθϕ-2.82; Mϕr1.51; Fault plane solution: M☐4.11000×10^17 NP1: ϕs233.00000°, δ33.00000°, λ109.00000°. NP2: ϕs30.00000°, δ59.00000°, λ78.00000°. Principal axes: T 3.2286, Plg73.0000°, Azm268.0000°; N 1.4022, Plg11.0000°, Azm37.0000°; P -4.6308, Plg13.0000°, Azm129.0000°;*

GCMT **14** *06:47:57.0±0.1, 42.32S±0.01×173.74E±0.01, h19km, MW5.7/139, Moment Tensor Solution. s114,c200; s139,c272; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr2.31±.06; Mθθ-0.88±.04; Mϕϕ-1.44±.04; Mrθ-0.35±.10; Mθϕ-2.58±.03; Mϕr1.74±.11; Best double couple: M☐3.70500×10^17 NP1:ϕs13.00000°, δ63.00000°, λ52.00000°. NP2:ϕs253.00000°, δ46.00000°, λ141.00000°. Principal axes: T 3.4650, Plg54.0000°, Azm234.0000°; N 0.4740, Plg34.0000°, Azm32.0000°; P -3.9450, Plg10.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 06:47:52.9±0.5, 42°36S±0°02×173°92E±0°02, h20km±2km, h20km:pP-P,n1472,s1934/1481,mb5.8/153,MS5.6/204, 55C-22D,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**260**	Pg	**Pg**	**06 47 56.7**	**-2.7**
KHZ				Sg	**Sb**	06 48 01.7	-2.1
KHZ	**Kahutara**	**0.29**	**260**	P	**Pg**	06 47 58.2	-1.2
BSWZ	**Blackbirch Sta**	**0.65**	**357**	Pg	**Pb**	06 48 03.6	-2.0
BSWZ				Sg	**Sb**	06 48 13.8	-0.4
BSWZ	**Blackbirch Sta**	**0.65**	**357**	P	**Pb**	06 48 04.7	-0.9
BSWZ				S	**Sg**	06 48 14.5	0.0
CMWZ	**Cape Campbell**	**0.65**	**20**		**Pb**	06 48 01.8	-3.8
CMWZ				Sg	**Sb**	06 48 12.4	-1.8
CMWZ	**Cape Campbell**	**0.65**	**20**	P	**Pb**	06 48 01.2	-4.5
GVZ	**Greta Valley S**	**0.89**	**227**		**Pb**	06 48 09.8	+0.1
GVZ				Sg	**Sg**	06 48 22.2	+0.1
GVZ	**Greta Valley S**	**0.89**	**227**	P	**Pb**	06 48 10.0	+0.2
GVZ				S	**Sg**	06 48 22.2	+0.1
TUWZ	**Tuamarina**	**0.93**	**1**	Pg	**Pb**	06 48 10.2	-0.3
TUWZ				Sg	**Sb**	06 48 21.3	-1.1
TUWZ	**Tuamarina**	**0.93**	**1**	P	**Pg**	06 48 11.3	+0.1
TUWZ				S	**Sg**	06 48 23.7	+0.2
THZ	**Tophouse**	**0.97**	**308**	Pg	**Pb**	06 48 09.9	-1.2
THZ				Sg	**Sb**	06 48 21.2	-2.3
THZ	**Tophouse**	**0.97**	**308**	P	**Pb**	06 48 09.8	-1.2
THZ				S	**Sb**	06 48 22.1	-1.4
TCW	**Tory Channel**	**1.18**	**13**	P	**Pn**	06 48 14.3	-0.1
TCW				S	**Sb**	06 48 29.2	-0.4
SNKO	**South Karori**	**1.20**	**29**		**Pn**	06 48 14.8	+0.2
NNZ	**Nelson**	**1.22**	**340**		**Pn**	06 48 14.7	-0.1
NNZ	**Nelson**	**1.22**	**340**	P	**Pn**	06 48 14.6	-0.3
NNZ				S	**Sb**	06 48 29.1	-1.4
AMCZ	**Amberley**	**1.24**	**229**	P	**Pn**	06 48 14.9	-0.2
WEL	**Wellington**	**1.25**	**31**	P	**Pb**	06 48 15.7	-0.2
WEL				S	**Sb**	06 48 30.0	-1.5
PLWZ	**Palliser**	**1.27**	**52**		**Pn**	06 48 15.9	+0.3
PLWZ	**Palliser**	**1.27**	**52**	P	**Pn**	06 48 13.9	-1.8
LTZ	**Lake Taylor**	**1.29**	**251**		**Pn**	06 48 15.3	-0.6
LTZ	**Lake Taylor**	**1.29**	**251**	P	**Pn**	06 48 15.3	-0.6
LTZ				S	**Sn**	06 48 30.9	-1.8
MRNZ	**Matariki Terra**	**1.30**	**318**	P	**Pn**	06 48 16.3	+0.3
MRNZ				S	**Sn**	06 48 32.3	-0.5
MSWZ	**Moikau Station**	**1.37**	**47**	Pn	**Pn**	06 48 16.8	-0.2
MSWZ	**Moikau Station**	**1.37**	**47**	P	**Pn**	06 48 14.5	-2.5
PAWZ	**Paruwai Farm**	**1.49**	**49**	P	**Pn**	06 48 15.8	-2.8
OKCZ	**Okains Bay**	**1.50**	**205**	P	**Pn**	06 48 18.2	-0.6
TKNZ	**Takaka Hill**	**1.51**	**331**	P	**Pn**	06 48 19.2	+0.2
TKNZ				S	**Sn**	06 48 38.2	+0.2
CAW	**Cannon Point**	**1.52**	**35**	P	**Pn**	06 48 15.6	-3.4
CAW				S	**Sn**	06 48 33.8	-4.5
DUWZ	**D'Urville Isla**	**1.56**	**360**	P	**Pn**	06 48 17.5	-2.2
DUWZ				S	**Sn**	06 48 38.4	-0.9
MQZ	**McQueen's Vall**	**1.63**	**214**		**Pn**	06 48 19.2	-1.4
MQZ	**McQueen's Vall**	**1.63**	**214**	P	**Pn**	06 48 19.1	-1.4
MQZ				S	**Sn**	06 48 38.2	-2.8
TRWZ	**Traveller**	**1.63**	**54**	P	**Pn**	06 48 20.7	+0.1
TRWZ				S	**Sn**	06 48 38.9	-2.1
KIW	**Kapiti Island**	**1.67**	**27**	P	**Pn**	06 48 17.6	-3.6
KIW				S	**Sn**	06 48 39.0	-3.1
AKCZ	**Akaroa Harbour**	**1.68**	**206**	P	**Pn**	06 48 20.4	-0.8
MTW	**Mount Morrison**	**1.69**	**45**	P	**Pn**	06 48 18.0	-3.3
OXZ	**Oxford**	**1.69**	**235**		**Pn**	06 48 20.1	-1.3
OXZ	**Oxford**	**1.69**	**235**	P	**Pn**	06 48 20.0	-1.3
OXZ				S	**Sn**	06 48 39.6	-2.8
DSZ	**Denniston Nort**	**1.69**	**291**	Pn	**Pn**	06 48 21.2	-0.2
DSZ	**Denniston Nort**	**1.69**	**291**	P	**Pn**	06 48 21.5	0.0
DSZ				S	**Sn**	06 48 43.2	+0.6
OGWZ	**Otaki Gorge**	**1.81**	**32**	P	**Pn**	06 48 19.6	-3.4
OGWZ				S	**Sn**	06 48 42.5	-2.8
QRZ	**Quartz Range**	**1.86**	**325**	Pn	**Pn**	06 48 24.3	+0.6
QRZ	**Quartz Range**	**1.86**	**325**	P	**Pn**	06 48 24.6	+0.9
QRZ				S	**Sn**	06 48 47.6	+1.0
INZ	**Inchbonnie**	**1.87**	**258**	P	**Pn**	06 48 23.1	-0.7
INZ				S	**Sn**	06 48 44.8	-2.0
RACZ	**Rakaia**	**1.89**	**223**	P	**Pn**	06 48 22.8	-1.3
RACZ				S	**Sn**	06 48 45.6	-1.7
HOWZ	**Holdsworth Sta**	**1.89**	**40**	P	**Pn**	06 48 20.8	-3.4
TMWZ	**Te Maipa**	**1.94**	**50**	P	**Pn**	06 48 21.7	-3.1
MHCZ	**Mount Hutt**	**2.09**	**235**	P	**Pn**	06 48 25.9	-1.0
MRZ	**Mangatainoka R**	**2.11**	**37**	Pn	**Pn**	06 48 26.9	-0.2
MRZ	**Mangatainoka R**	**2.11**	**37**	P	**Pn**	06 48 23.5	-3.6
TIWZ	**Tintock**	**2.17**	**44**	P	**Pn**	06 48 28.2	+0.3
WACZ	**Wakanui South**	**2.19**	**223**	P	**Pn**	06 48 27.2	-1.1
CPWZ	**Castlepoint**	**2.24**	**50**	P	**Pn**	06 48 29.1	+0.1
PRWZ	**Pori Road**	**2.37**	**41**	P	**Pn**	06 48 30.4	-0.4
OHWZ	**Ohakea**	**2.40**	**26**	P	**Pn**	06 48 28.8	-2.3
POWZ	**Post Office Ro**	**2.41**	**36**	P	**Pn**	06 48 31.1	-0.2
BFZ	**Birch Farm**	**2.42**	**47**	Pn	**Pn**	06 48 30.9	-0.6
BFZ	**Birch Farm**	**2.42**	**47**	P	**Pn**	06 48 31.8	+0.4
BFZ	**Birch Farm**	**2.42**	**47**	P	**Pn**	06 48 30.7	-0.7
WVZ	**Waitaha Valley**	**2.45**	**252**	P	**Pn**	06 48 31.4	-0.4
WVZ				S	**Sn**	06 48 56.0	-5.2
RPZ	**Rata Peaks**	**2.50**	**236**	Pn	**Pn**	06 48 31.0	-1.5
RPZ	2μm,0.3s,baz=83,slow=1.9,SNR=232			S	**Sn**	06 49 00.5	-2.0
	5μm,0.3s,baz=181,slow=24,SNR=96						
RPZ	**Rata Peaks**	**2.50**	**236**	Pn	**Pn**	06 48 31.1	-1.4
RPZ	**Rata Peaks**	**2.50**	**236**	P	**Pn**	06 48 31.4	-1.1
RPZ				S	**Sn**	06 48 59.1	-3.4
ARCZ	**Arundel**	**2.56**	**231**	P	**Pn**	06 48 32.0	-1.4
ARCZ				S	**Sn**	06 49 01.3	-2.6
DVHZ	**Dannevirke**	**2.67**	**40**	P	**Pn**	06 48 34.0	-0.9
ANWZ	**Angora Road**	**2.70**	**46**	P	**Pn**	06 48 34.9	-0.4
WAZ	**Wanganui**	**2.73**	**17**	P	**Pn**	06 48 36.0	+0.3
TSZ	**Takapari Road**	**2.77**	**34**	P	**Pn**	06 48 35.7	-0.6
GCSZ	**Gaunt Creek Bo**	**2.81**	**249**	P	**Pn**	06 48 36.6	-0.2
LREZ	**Lake Rotokare**	**2.92**	**7**	P	**Pn**	06 48 40.4	+2.1
PRHZ	**Porangahau**	**2.93**	**45**	P	**Pn**	06 48 37.4	-1.0
TMZ	**Timaru**	**2.93**	**226**	P	**Pn**	06 48 37.4	-1.1
NMEZ	**Namu Road**	**2.95**	**359**	P	**Pb**	06 48 43.5	-1.3
WPHZ	**Waipukurau**	**2.98**	**40**	P	**Pn**	06 48 39.3	+0.2
PNHZ	**Pukenui**	**2.99**	**36**	P	**Pn**	06 48 38.6	-0.7
KHEZ	**Kahui Hut**	**3.07**	**1**	P	**Pb**	06 48 43.8	-3.1
KHEZ	**Kahui Hut**	**3.07**	**1**	P	**Pn**	06 48 42.8	+2.4
NBEZ	**Newall Road No**	**3.09**	**359**	P	**Pn**	06 48 41.9	+1.3
NEZ	**North Egmont**	**3.09**	**2**	P	**Pn**	06 48 43.4	+2.6
PKE	**Pukeiti**	**3.17**	**1**	P	**Pn**	06 48 43.4	+1.7
DREZ	**Durham Road**	**3.18**	**4**	P	**Pn**	06 48 44.5	+2.6
MTVZ	**Mangateitei**	**3.20**	**22**	P	**Pn**	06 48 43.9	+1.7
PXZ	**Pawanui**	**3.22**	**45**	P	**Pn**	06 48 41.9	-0.4
FOZ	**Fox Glacier**	**3.23**	**247**	Pn	**Pn**	06 48 41.7	-0.9
FOZ	**Fox Glacier**	**3.23**	**247**	P	**Pn**	06 48 42.1	-0.4
PKVZ	**Pokaka**	**3.26**	**20**	P	**Pn**	06 48 44.0	+1.0
MOVZ	**Moawhango**	**3.26**	**26**	P	**Pn**	06 48 43.1	+0.1
WNVZ	**Wahianoa**	**3.29**	**23**	P	**Pn**	06 48 44.9	+1.3
BHHZ	**Black Hill Sta**	**3.30**	**30**	P	**Pn**	06 48 43.7	+0.2
VRZ	**Vera Road**	**3.30**	**11**	P	**Pn**	06 48 45.2	+1.7
MHEZ	**Mangahewa**	**3.30**	**5**	P	**Pn**	06 48 46.4	+2.9
TRVZ	**Turoa**	**3.30**	**22**	P	**Pn**	06 48 45.3	+1.5
DRZ	**Dome Shelter**	**3.33**	**23**	P	**Pn**	06 48 45.7	+1.5
WHVZ	**Whangaehu Hut**	**3.33**	**23**	P	**Pn**	06 48 45.5	+1.3
FWVZ	**Far West T-bar**	**3.34**	**22**	P	**Pn**	06 48 45.4	+1.1
TUVZ	**Tukino**	**3.36**	**24**	P	**Pn**	06 48 45.8	+1.3
LBZ	**Lake Benmore**	**3.39**	**232**	Pn	**Pn**	06 48 43.8	-1.0
LBZ	**Lake Benmore**	**3.39**	**232**	P	**Pn**	06 48 43.9	-0.9
KAHZ	**Kahuranaki**	**3.40**	**42**	P	**Pn**	06 48 43.9	-1.0
NGZ	**Ngauruhoe**	**3.43**	**22**	P	**Pn**	06 48 47.0	+1.6
SNVZ	**South Ngauruho**	**3.43**	**23**	P	**Pn**	06 48 46.6	+1.1
OTVZ	**Oturere**	**3.46**	**23**	P	**Pn**	06 48 47.0	+1.1
NNVZ	**North Ngauruho**	**3.48**	**22**	P	**Pn**	06 48 47.3	+1.2
WTVZ	**West Tongariro**	**3.48**	**22**	P	**Pn**	06 48 47.5	+1.3
TWVZ	**Taurewa**	**3.49**	**20**	P	**Pn**	06 48 46.7	+0.5
KWHZ	**Kaweka Forest**	**3.50**	**34**	P	**Pn**	06 48 46.4	+0.2
ETVZ	**East Tongariro**	**3.50**	**23**	P	**Pn**	06 48 47.9	+1.5
TMVZ	**Te Maari**	**3.52**	**23**	P	**Pn**	06 48 47.3	+0.7
KRVZ	**Karewarewa**	**3.52**	**22**	P	**Pn**	06 48 47.7	+1.1
NTVZ	**North Tongarir**	**3.52**	**23**	P	**Pn**	06 48 43.9	-2.9
ODZ	**Otahua Downs**	**3.58**	**220**	Pn	**Pn**	06 48 45.9	-1.5
ODZ	**Otahua Downs**	**3.58**	**220**	P	**Pn**	06 48 46.3	-1.1
MCHZ	**McNeill Hill**	**3.59**	**37**	P	**Pn**	06 48 47.5	-0.1
CKHZ	**Cape Kidnapper**	**3.61**	**42**	P	**Pn**	06 48 47.7	0.0
KATZ	**Kakaramea**	**3.64**	**22**	P	**Pn**	06 48 50.3	+2.0
BKZ	**Black Stump Fm**	**3.74**	**32**	Pn	**Pn**	06 48 49.2	-0.5
BKZ	**Black Stump Fm**	**3.74**	**32**	P	**Pn**	06 48 49.0	-0.6
RATZ	**Rangitukua**	**3.77**	**23**	P	**Pn**	06 48 52.4	+2.4
HATZ	**Hinemaiaia**	**3.84**	**26**	P	**Pn**	06 48 52.3	+1.3
ARHZ	**Aropaoanui**	**3.88**	**38**	P	**Pn**	06 48 51.9	+0.4
WATZ	**Wairara**	**3.90**	**21**	P	**Pn**	06 48 53.1	+1.2
HIZ	**Hauiti**	**3.91**	**11**	Pn	**Pn**	06 48 52.6	+0.7
HIZ	**Hauiti**	**3.91**	**11**	P	**Pn**	06 48 53.6	+1.7
NMHZ	**Naumai**	**3.93**	**35**	P	**Pn**	06 48 51.7	-0.6
MRHZ	**Matea Rd**	**4.00**	**29**	P	**Pn**	06 48 51.9	-1.4
WHTZ	**Whakaora**	**4.01**	**23**	P	**Pn**	06 48 56.4	+3.2
JCZ	**Jackson Bay**	**4.12**	**244**	P	**Pn**	06 48 54.8	-0.1
JCZ	**Jackson Bay**	**4.12**	**244**	P	**Pn**	06 48 54.6	-1.0
WHHZ	**Waihua**	**4.14**	**39**	P	**Pn**	06 48 55.7	+0.7
MTHZ	**Maungataniwha**	**4.15**	**33**	P	**Pn**	06 48 55.3	0.0
RAHZ	**Arahi**	**4.20**	**36**	P	**Pn**	06 48 53.5	-2.4
TLZ	**Tolley Road**	**4.21**	**18**	P	**Pn**	06 48 56.9	+0.8
ALRZ	**Allen Road**	**4.22**	**27**	P	**Pn**	06 48 55.2	-1.0
HHSZ	**Highcliff Hill**	**4.26**	**213**	P	**Pn**	06 48 55.5	-1.2
WKZ	**Wanaka**	**4.33**	**234**	Pn	**Pn**	06 48 56.3	-1.4
WKZ	**Wanaka**	**4.33**	**234**	P	**Pn**	06 48 56.3	-1.4
HRRZ	**Handcock Road**	**4.36**	**25**	P	**Pn**	06 48 59.4	+1.3
KNZ	**Kokohu**	**4.39**	**42**	P	**Pn**	06 48 57.5	-0.9
EAZ	**Earnscleugh**	**4.40**	**228**	P	**Pn**	06 48 57.0	-1.7
MHGZ	**Mahia Peninsul**	**4.41**	**45**	P	**Pn**	06 48 57.6	-1.2
RTZ	**Ruatahuna**	**4.41**	**33**	P	**Pn**	06 48 59.1	+0.2
HSRZ	**Hossack Road**	**4.42**	**24**	P	**Pn**	06 48 59.9	+0.9
MUGZ	**Murupara**	**4.45**	**30**	P	**Pn**	06 48 59.9	+0.6
RRRZ	**Republican Roa**	**4.48**	**27**	P	**Pn**	06 49 00.8	+1.0
UTU	**Utuhina**	**4.53**	**23**	P	**Pn**	06 49 01.7	+1.3
TARZ	**Mount Tarawera**	**4.57**	**26**	P	**Pn**	06 49 02.7	-0.7
NGRZ	**Ngongotaha**	**4.60**	**23**	P	**Pn**	06 49 02.6	+1.2
OMRZ	**Omania**	**4.65**	**25**	P	**Pn**	06 49 02.0	-0.1
RIGZ	**Rimuhau**	**4.68**	**40**	P	**Pn**	06 49 01.6	-0.9
KARZ	**Kaharoa**	**4.69**	**23**	P	**Pn**	06 49 04.5	+1.9
RAGZ	**Rawiri**	**4.69**	**36**	P	**Pn**	06 49 02.6	-0.1
TUZ	**Tuapeka**	**4.73**	**219**	P	**Pn**	06 49 02.1	-1.0
URZ	**Urewera**	**4.77**	**32**	P	**Pn**	06 49 04.3	+0.6
KMRZ	**Kaimai**	**4.77**	**20**	P	**Pn**	06 49 04.4	+0.6
TOZ	**Tahuroa Road**	**4.78**	**15**	P	**Pn**	06 49 04.3	+0.4
MARZ	**Manawahe**	**4.86**	**27**	P	**Pn**	06 49 04.4	-0.6
MWZ	**Matawai**	**4.88**	**36**	P	**Pn**	06 49 02.7	-2.5
MSZ	**Milford Sound**	**4.93**	**240**	P	**Pn**	06 49 03.8	-2.1
TKGZ	**Te Karaka**	**4.93**	**39**	P	**Pn**	06 49 05.5	-0.4
**

MOO Moorlands 19.72 261 P Pn 06 52 23.3 +0.6
MILA Mila 19.75 277 P P 06 52 22.2 +0.6
baz=20,SNR=11
MILA Mila 19.75 277 P P 06 52 22.2 +0.6
RIV Riverview 19.80 288 P P 06 52 22.2 +0.2
baz=20,SNR=4.3
RIV Riverview 19.80 288 P Pn 06 52 24.5 +0.9
RIV Riverview 19.80 288 P Pn 06 52 25.1 +1.5
AULHS Lilydale High 19.91 264 P Pn 06 52 25.4 +0.4
NTLH Newcastle Hard 19.93 291 P Pn 06 52 27.6 +2.4
CNB Canberra Magne 20.34 282 P P 06 52 29.2 +1.1
baz=20,SNR=12
CNB Canberra Magne 20.34 282 P Pn 06 52 29.2 -1.0
AUSMG Snowy Mountain 20.41 278 P P 06 52 29.7 +0.9
CAN Canberra 20.61 282 P P 06 52 30.2 -0.7
CAN Canberra 20.61 282 P Pn 06 52 32.1 -1.1
CAN Canberra 20.61 282 P P 06 52 30.2 -0.7
CAN pmax pmax
comp=Z,244nm,1.4s
CAN MLR MLR
comp=Z,10µm,19.0s
OUENC Ouen Island, N 20.75 341 P P 06 52 32.7 +0.2
OUENC Ouen Island, N 20.75 341 P P 06 52 33.3 +0.8
YATNC Mamie plateau, 21.09 342 P P 06 52 37.4 +1.3
DZM Mont Dzumac 21.18 340 ePn P 06 52 36.7 -0.5
comp=Z,412nm,1.3s
DZM eS S 06 56 29.0 -3.0
comp=Z,4µm,26.1s
DZM eLR LR 06 57 40.0
comp=Z,7µm,21.1s
DZM Mont Dzumac 21.18 340 P P 06 52 37.7 +0.4
comp=Z,96nm,1.0s,baz=138,slow=11,SNR=28
DZM LR LR 07 00 37.0
comp=Z,11µm,18.2s,baz=178,slow=37
DZM Mont Dzumac 21.18 340 P P 06 52 37.7 +0.4
DZM Mont Dzumac 21.18 340 P P 06 52 38.1 +0.9
NOUC Port Laguerre 21.19 340 P P 06 52 37.9 +0.7
MARNC Mare, Loyalty 21.40 345 P P 06 52 39.4 -0.1
MARNC Mare, Loyalty 21.40 345 P P 06 52 42.1 +2.6
comp=Z,2.6nm,1.2s
ARMA Armidale 21.48 296 P P 06 52 42.0 +1.7
baz=21,SNR=16
ARMA Armidale 21.48 296 P P 06 52 40.4 +0.1
ARMA Armidale 21.48 296 P P 06 52 41.9 +1.5
comp=Z,179nm,1.7s
LIFNC LIFOU 22.25 343 P P 06 52 48.3 -0.2
LIFNC LIFOU 22.25 343 P P 06 52 49.2 +0.7
TOO Toolangi 22.26 273 P P 06 52 49.0 +0.3
baz=22,SNR=13
TOO Toolangi 22.26 273 P P 06 52 48.0 -0.7
TOO IAmb IAmb 06 52 51.0
comp=Z,438nm,1.6s
TOO Toolangi 22.26 273 P P 06 52 49.0 +0.3
TOO Toolangi 22.26 273 P P 06 52 48.0 -0.7
TOO pmax pmax
comp=Z,438nm,1.7s
AUDCS Dubbo College 22.45 288 P P 06 52 52.6 +1.9
AUWSH Wavell State H 22.64 305 P P 06 52 55.0 +2.3
GEXS Deakin Univers 22.93 270 P P 06 52 57.4 +1.7
comp=Z,133nm,1.1s
AUBSH Beerwah State 23.09 305 P P 06 52 58.8 +1.4
KOUNC Koumac, New Ca 23.22 337 P P 06 52 59.2 +0.4
KOUNC IAmb IAmb 06 53 01.0
comp=Z,771nm,1.5s
KOUNC Koumac, New Ca 23.22 337 P P 06 52 59.5 +0.8
BRAT Ballarat 23.42 272 P P 06 53 01.3 +0.6
AULRC Lightning Ridg 24.55 293 P P 06 53 11.7 +0.3
comp=Z,324nm,1.6s
MSVF Nonsavu 24.80 9 P P 06 53 12.6 -1.2
comp=Z,92nm,1.1s,baz=234,slow=8.8,SNR=11
MSVF LR LR 07 02 01.2
comp=Z,14µm,19.0s,baz=197,slow=35
comp=Z,92nm,1.1s
MSVF Nonsavu 24.80 9 P P 06 53 12.5 -1.2
MSVF Nonsavu 24.80 9 IAMs_20 IAMs_20 07 01 50.8
comp=Z,15µm,19.0s
MSVF Nonsavu 24.80 9 P P 06 53 12.8 -1.0
MSVF Nonsavu 24.80 9 *i* P P 06 53 12.0 -1.8
MSVF pmax pmax
comp=Z,106nm,1.1s
MSVF MLR MLR
comp=Z,13µm,18.0s
CMSA Cobar Meteorol 24.91 286 P P 06 53 14.3 -0.2
baz=25,SNR=8.2
CMSA Cobar Meteorol 24.91 286 P P 06 53 14.7 +0.1
ARPS Mount Arapiles 25.26 272 P P 06 53 17.6 -0.1
baz=25,SNR=8.7
ARPS Mount Arapiles 25.26 272 P P 06 53 18.5 +0.7
EIDS Eidsvold 25.32 305 P P 06 53 17.9 -0.5
baz=25,SNR=14
EIDS Eidsvold 25.32 305 P P 06 53 17.5 -0.8
EIDS Eidsvold 25.32 305 P P 06 53 17.8 -0.5
RMQ Roma 25.98 300 P P 06 53 24.6 +0.3
baz=26,SNR=9.3
RMQ Roma 25.98 300 P P 06 53 25.8 +1.5
NIUE Niue 26.95 35 P P 06 53 33.1 0.0
NIUE IAmb IAmb 06 53 58.6
comp=Z,190nm,1.1s
STKA Stephens Creek 27.67 282 P P 06 53 40.0 +0.4
comp=Z,45nm,1.0s,baz=117,slow=10,SNR=30
STKA PcP PcP 06 56 55.9 -0.5
comp=Z,19nm,0.9s,baz=128,slow=3.2,SNR=4.8
STKA LR LR 07 03 39.5
comp=Z,6µm,18.2s,baz=130,slow=34
comp=Z,45nm,1.0s
STKA Stephens Creek 27.67 282 P P 06 53 40.0 +0.4
baz=28,SNR=20
STKA Stephens Creek 27.67 282 P P 06 53 39.0 -0.5
STKA Stephens Creek 27.67 282 P P 06 53 40.1 +0.5
STKA Stephens Creek 27.67 282 *c i* P P 06 53 39.6 0.0
HTT Hallett 28.86 276 P P 06 53 50.2 0.0
baz=29,SNR=9.6
HTT Hallett 28.86 276 P P 06 53 50.3 +0.1
QLP Quilpie 28.91 293 P P 06 53 50.8 +0.1
baz=29,SNR=4.1
QLP Quilpie 28.91 293 P P 06 53 51.8 +1.2
WHYH Whyalla 30.04 276 P P 06 54 00.7 +0.1
RAR Rarotonga 30.52 54 LR LR 07 06 56.4
comp=Z,5µm,18.0s,baz=218,slow=38
INKA Innaminka 30.61 288 P P 06 54 06.0 +0.4
LCRK Leigh Creek 30.88 281 P P 06 54 07.8 -0.3
comp=Z,392nm,1.1s
BBOO Buckleboo 31.27 275 P P 06 54 10.9 -0.6
baz=31,SNR=24
BBOO Buckleboo 31.27 275 P P 06 54 10.8 -0.6
BBOO IAmb IAmb 06 54 12.2
comp=Z,154nm,1.2s
BBOO PcP 06 57 05.3 -0.2
BBOO Buckleboo 31.27 275 P P 06 54 10.8 -0.6
comp=Z,122nm,1.3s
CTA Charters Tower 32.20 305 P P 06 54 19.5 -0.3
comp=Z,63nm,1.0s,baz=142,slow=7.5,SNR=34
CTA LR LR 07 07 18.2
comp=Z,10µm,18.0s,baz=110,slow=36
comp=Z,63nm,1.0s
CTA Charters Tower 32.20 305 P P 06 54 19.5 -0.3
comp=Z,94nm,1.6s
CTAO Charters Tower 32.20 305 P P 06 54 19.1 -0.6
CTAO IAmb IAmb 06 54 20.7
comp=Z,81nm,1.1s
CTAO Charters Tower 32.20 305 IAMs_20 IAMs_20 07 07 40.7
comp=Z,12µm,18.0s
CTAO Charters Tower 32.20 305 P P 06 54 19.5 -0.3
comp=Z,81nm,1.6s
CTAO Charters Tower 32.20 305 P P 06 54 19.1 -0.6
CTAO pmax pmax
comp=Z,81nm,1.1s
CTAO MLR MLR
comp=Z,12µm,18.0s
TV1H Townsville Har 32.51 307 P P 06 54 22.6 +0.2
MULG Mulgathing 34.01 278 P P 06 54 34.4 -1.1
OOD Oodnadatta 34.19 283 P P 06 54 36.7 -0.4
MTSU Mount Surprise 34.87 305 P P 06 54 42.7 -0.3
baz=35
HNR Honiara 35.03 335 LR LR 07 08 48.7
comp=Z,33µm,18.1s,baz=160,slow=36
VNDA Vanda 35.62 184 P P 06 54 51.1 +2.3
comp=Z,2.5nm,0.8s,baz=1.0,slow=9.3,SNR=7.4
VNDA Vanda 35.62 184 P P 06 54 48.9 +0.1
SBA Scott Base 35.72 183 P P 06 54 50.3 +0.7
SBA Scott Base 35.72 183 P P 06 54 50.3 +0.7
SBA pmax pmax
comp=Z,59nm,1.5s
TBI Tubuai 35.78 70 eLR LR 07 04 27.4
comp=Z,19µm,22.2s
TBI eLR LR 07 04 27.6
comp=Z,107µm,22.2s
TBI Tubuai 35.78 70 eT T 07 32 07.9
comp=Z,98nm,0.3s
QIS Mount Isa 36.10 296 P P 06 54 53.0 -0.6
baz=36,SNR=23
QIS Mount Isa 36.10 296 P P 06 54 53.2 -0.4
AS01 Alice Springs 37.93 287 P P 06 55 08.2 -1.0
AS31 Alice Springs 37.97 287 P P 06 55 08.1 -1.4
ASAR Alice Springs 37.97 287 P P 06 55 08.1 -1.4
comp=Z,20nm,0.5s,baz=126,slow=7.3,SNR=69
ASAR PcP PcP 06 57 23.6 -1.4
comp=Z,10nm,0.6s,baz=130,slow=3.9,SNR=8.1
ASAR PKiKP PKiKP 07 04 38.9 -1.6
comp=Z,1.6nm,1.0s,baz=199,slow=2.1,SNR=5.6
ASAR LR LR 07 10 53.4
comp=Z,11µm,18.2s,baz=142,slow=36
comp=Z,20nm,0.5s
ASAR Alice Springs 37.97 287 P P 06 55 08.2 -1.3
FORT Forrest 38.18 272 P P 06 55 10.6 -0.5
baz=38,SNR=20
FORT Forrest 38.18 272 P P 06 55 10.3 -0.9
FORT IAmb IAmb 06 55 11.8
comp=Z,267nm,1.1s
FORT Forrest 38.18 272 P P 06 55 10.4 -0.8
COEN Coen 38.80 308 P P 06 55 15.8 -0.7
baz=39,SNR=9.4
COEN Coen 38.80 308 P P 06 55 15.4 -1.1
COEN Coen 38.80 308 P P 06 55 15.8 -0.7
PAE Paea 39.60 63 eT T 07 36 57.9
comp=Z,21nm,0.3s
PPT2 Papeete2 39.66 63 eP P 06 55 25.3 +1.6
PPT2 eS S 07 01 28.6 +2.5
comp=Z,1µm,23.0s
PPT2 eLR LR 07 06 16.0
comp=Z,5µm,25.5s
PPT2 eLR LR 07 06 16.0
comp=Z,6µm,23.2s
PPT2 Papeete2 39.66 63 eT T 07 37 09.0
comp=Z,24nm,0.3s
PPTF Pamatai, Papee 39.66 63 P P 06 55 24.1 +0.4
PPTF IAmb IAmb 06 56 11.6
comp=Z,351nm,1.8s
PPT Papeete 39.67 63 LR LR 07 09 26.6
comp=Z,4µm,18.7s,baz=235,slow=33
WR0 Warramunga Arr 39.95 292 P P 06 55 24.9 -1.1
WR0 IAmb IAmb 06 55 27.8
comp=Z,163nm,1.1s
WB2 Warramunga Arr 40.09 291 P P 06 55 26.1 -1.1
baz=40
WB2 Warramunga Arr 40.09 291 P P 06 55 26.3 -0.9
WB2 IAmb IAmb 06 55 27.4
comp=Z,192nm,1.1s
WRAB Tennant Creek 40.09 291 P P 06 55 26.4 -0.9
WRAB Tennant Creek 40.09 291 *ce* P P 06 55 26.1 -1.2
WRAB pmax pmax
comp=Z,172nm,1.0s
WRAB MLR MLR
comp=Z,7µm,13.0s
WRA Warramunga Arr 40.09 291 P P 06 55 26.2 -1.1
comp=Z,115nm,0.8s,baz=130,slow=8.4,SNR=115
WRA PcP PcP 06 57 30.4 -1.3
comp=Z,16nm,0.8s,baz=125,slow=3.2,SNR=5.4
WRA S S 07 01 30.2 -2.3
comp=Z,8.2nm,1.3s,baz=135,slow=14,SNR=11
WRA LR LR 07 12 00.8
comp=Z,7µm,18.1s,baz=128,slow=36
comp=Z,115nm,0.8s
WRA Warramunga Arr 40.09 291 P P 06 55 26.3 -1.0
WRA Warramunga Arr 40.09 291 P P 06 55 26.3 -1.0
WRA pmax pmax
comp=Z,20nm,1.0s
WB0 Warramunga Arr 40.18 292 P P 06 55 27.0 -1.0
WB0 IAmb IAmb 06 55 28.1
comp=Z,189nm,1.1s
PMG Port Moresby 40.36 317 P P 06 55 29.4 -0.1
comp=Z,231nm,1.1s,baz=122,slow=4.9,SNR=75
PMG LR LR 07 11 56.3
comp=Z,10µm,18.4s,baz=150,slow=36
comp=Z,231nm,1.1s
PMG Port Moresby 40.36 317 P P 06 55 28.9 -0.5
PMG IAmb IAmb 06 55 31.0
comp=Z,428nm,1.3s
PMG Port Moresby 40.36 317 P P 06 55 29.0 -0.5
comp=Z,3µmcomp=Z,266nm,1.2s
PMG Port Moresby 40.36 317 P P 06 55 29.6 +0.1
PMG Port Moresby 40.36 317 *ce* P P 06 55 29.3 -0.1
PMG pmax pmax
comp=Z,380nm,1.3s
PMG MLR MLR
comp=Z,11µm,16.0s
WRKA Warakurna 41.17 280 P P 06 55 34.5 -1.6
baz=41,SNR=45
WRKA Warakurna 41.17 280 P P 06 55 34.6 -1.6
CASY Casey 41.56 213 IAMs_20 IAMs_20 07 11 20.5
comp=Z,7µm,18.0s
KMBL Kambalda 42.47 267 P P 06 55 46.0 -0.7
baz=42,SNR=18
KMBL Kambalda 42.47 267 P P 06 55 46.0 -0.7
KRVT Kwet (AS076 42.62 327 P P 06 55 47.4 -0.6
comp=Z,153nm,0.8s,baz=173,slow=17,SNR=4.4
KRVT LR LR 07 13 28.2
comp=Z,4µm,18.7s,baz=295,slow=36
comp=Z,153nm,0.8s
RABL Rabaul 42.67 327 P P 06 55 47.5 -1.0
RABL Rabaul 42.67 327 P P 06 55 48.3 -0.1
TARA Tarawa 43.53 359 P P 06 55 53.9 -1.3
TARA Tarawa 43.53 359 P P 06 55 54.1 -1.2
comp=Z,374nm,1.2s
NWAO Narrogin (SRO) 45.13 263 P P 06 56 07.0 -1.0
comp=Z,48nm,1.2s,baz=358,slow=5.6,SNR=6.4
NWAO LR LR 07 12 18.1
comp=Z,5µm,19.1s,baz=324,slow=32
comp=Z,48nm,1.2s
NWAO Narrogin (SRO) 45.13 263 P P 06 56 07.4 -0.6
baz=45,SNR=5.4
NWAO P P 06 56 07.4 -0.6
baz=45,SNR=5.4
NWAO Narrogin (SRO) 45.13 263 P P 06 56 06.8 -1.2
NWAO IAmb IAmb 06 56 08.6
comp=Z,156nm,1.6s
NWAO Narrogin (SRO) 45.13 263 P P 06 56 07.1 -1.0
NWAO P P 06 56 07.1 -1.0
NWAO Narrogin (SRO) 45.13 263 P P 06 56 07.6 -0.4
comp=Z,83nm,1.9s
KLBR Kellerberrin 45.40 265 P P 06 56 09.6 -0.7
baz=45,SNR=8.6
KLBR Kellerberrin 45.40 265 P P 06 56 09.5 -0.7
comp=Z,178nm,1.1s
AUHAR St Anne's Scho 46.04 262 P P 06 56 15.8 +0.6
comp=Z,294nm,1.5s
MUN Mundaring 46.35 263 P P 06 56 17.2 -0.5
baz=46,SNR=15
MUN Mundaring 46.35 263 P P 06 56 17.2 -0.5
comp=Z,117nm,1.4s
KDU Kakadu 46.48 297 P P 06 56 17.7 -1.1
baz=46,SNR=28
KDU Kakadu 46.48 297 P P 06 56 18.0 -0.8
comp=Z,149nm,1.1s
MANU Manus Island 46.66 322 P P 06 56 20.0 -0.3
MANU Manus Island 46.66 322 P P 06 56 21.3 +1.1
BLDU Ballidu 46.67 265 P P 06 56 19.5 -0.7
baz=46,SNR=11
BLDU Ballidu 46.67 265 P P 06 56 19.5 -0.7
KNRA Kununurra 46.87 291 P P 06 56 21.6 -0.3
baz=47,SNR=23
KNRA Kununurra 46.87 291 P P 06 56 21.4 -0.5
KNRA Kununurra 46.87 291 P P 06 56 21.1 -0.8
MTN Manton Dam 47.26 296 P P 06 56 24.1 -0.7
baz=47,SNR=23
MTN Manton Dam 47.26 296 P P 06 56 24.2 -0.7
MTN Manton Dam 47.26 296 P P 06 56 24.2 -0.7
comp=Z,241nm,1.3s
QSPA South Pole Qui 47.76 180 P P 06 56 30.9 +2.5
comp=Z,53nm,1.0s,baz=22,slow=4.1,SNR=17
comp=Z,53nm,1.0s
MORW Morawa 47.98 266 P P 06 56 29.8 -0.6
baz=48,SNR=13
MORW Morawa 47.98 266 P P 06 56 29.9 -0.5
MORW IAmb IAmb 06 56 30.4
comp=Z,91nm,1.1s
MORW Morawa 47.98 266 P P 06 56 29.9 -0.5
PSA00 Pilbara Seismi 49.45 277 P P 06 56 40.3 -1.5
PSA00 IAmb IAmb 06 56 41.6
comp=Z,104nm,1.4s
PSA00 Pilbara Seismi 49.45 277 P P 06 56 40.3 -1.5
GENI Genyem 49.78 313 P P 06 56 43.9 -0.4
comp=Z,155nm,0.7s
MBWA Marble Bar 49.78 278 P P 06 56 42.9 -1.5
MBWA IAmb IAmb 06 56 44.1
comp=Z,109nm,1.1s
MBWA Marble Bar 49.78 278 P P 06 56 42.5 -1.9
MBWA P P 06 56 42.5 -1.9
MBWA Marble Bar 49.78 278 P P 06 56 42.7 -1.7
SAUI Saumlaki 50.75 300 P P 06 56 50.8 -0.9
TAOE Nuku Hiva Isla 52.26 64 eP P 06 57 04.9 +1.8
comp=Z,153nm,24.2s
TAOE eS S 07 04 28.5 +1.2
comp=Z,1µm,25.5s
TAOE eLR LR 07 12 05.5
comp=Z,6µm,21.9s
GIRL Giralia 52.95 272 P P 06 57 08.0 -0.1
baz=53,SNR=6.9
GIRL Giralia 52.95 272 P P 06 57 07.7 -0.4
GIRL Giralia 52.95 272 P P 06 57 08.1 +0.1
SOEI Soe 54.13 292 P P 06 57 16.4 -0.5
SOEI Soe 54.13 292 P P 06 57 16.7 -0.2
comp=Z,5µmcomp=Z,4µmcomp=Z,253nm,1.1s
SOEI Soe 54.13 292 P P 06 57 18.3 +1.4
comp=Z,253nm,1.1s
BATI Baumata 54.23 291 P P 06 57 18.3 +0.8
comp=Z,194nm,1.0s,baz=176,slow=1.2,SNR=19
BATI LR LR 07 20 50.2
comp=Z,5µm,18.4s,baz=168,slow=37
comp=Z,194nm,1.0s
BATI Baumata 54.23 291 P P 06 57 17.4 -0.1
comp=Z,3µmcomp=Z,191nm,1.1s
SIJI Sorong 56.28 305 P P 06 57 30.8 -1.5
comp=Z,80nm,1.0s,baz=103,slow=5.2,SNR=20
SIJI LR LR 07 23 32.9
comp=Z,4µm,18.4s,baz=132,slow=38
comp=Z,80nm,1.0s
SIJI Sorong 56.28 305 P P 06 57 31.0 -1.3
comp=Z,14µmcomp=Z,82nm,1.5s
SWI Sorong 56.29 305 P P 06 57 31.1 -1.2
comp=Z,2µmcomp=Z,116nm,1.2s
SWI Sorong 56.29 305 P P 06 57 30.8 -1.5
SWI pmax pmax
comp=Z,115nm,1.6s
MMRI Maumere 56.33 291 P P 06 57 32.2 -0.5
MMRI Maumere 56.33 291 P P 06 57 32.4 -0.2
comp=Z,5µmcomp=Z,203nm,2.0s
MMRI Maumere 56.33 291 P P 06 57 32.5 -0.2
comp=Z,222nm,1.4s
BELA Belgrano 2 58.76 173 P P 06 57 49.4 +0.5
BELA IAmb IAmb 06 57 51.8
comp=Z,54nm,1.0s
MAW Mawson 58.80 205 P P 06 57 51.5 +2.2
comp=Z,45nm,1.0s,baz=120,slow=8.0,SNR=38
MAW PcP PcP 06 58 39.4 +0.7
comp=Z,49nm,1.0s,baz=118,slow=2.2,SNR=7.2
MAW LR LR 07 22 39.0
comp=Z,13µm,18.0s,baz=106,slow=35
comp=Z,45nm,1.0s
MAW Mawson 58.80 205 P P 06 57 51.5 +2.2
baz=58,SNR=10
MAW Mawson 58.80 205 P P 06 57 50.3 +1.0
BSSI Bau Bau, Buton 59.31 292 P P 06 57 52.3 -1.3
comp=Z,2µmcomp=Z,128nm,1.4s
PLAI Plampang 59.31 287 P P 06 57 52.8 -0.8
comp=Z,3µmcomp=Z,255nm,1.2s
PLAI Plampang 59.31 287 P P 06 57 52.6 -1.0
TWSI Taliwang, Sumb 60.01 287 P P 06 57 56.3 -2.1
comp=Z,3µmcomp=Z,221nm,1.3s
BKSI Bulukumba 60.15 292 P P 06 57 59.1 -0.3
comp=Z,1µmcomp=Z,76nm,1.3s
KAPI Kappang 60.63 292 LR LR 07 24 26.5
comp=Z,2µm,19.5s,baz=146,slow=36
KAPI Kappang 60.63 292 P P 06 58 02.1 -0.6
KAPI Kappang 60.63 292 P P 06 58 03.0 +0.3
KAPI P P 06 58 03.0 +0.3
KAPI Kappang 60.63 292 P P 06 58 02.3 -0.3
comp=Z,2µmcomp=Z,90nm,2.2s
KAPI Kappang 60.63 292 P P 06 58 03.9 +1.3
KAPI Kappang 60.63 292 *i* P P 06 58 02.6 0.0
KAPI pmax pmax
comp=Z,173nm,1.3s
KAPI MLR MLR
comp=Z,3µm,18.0s
JOHN Johnston Islan 60.75 18 P P 06 58 03.8 +0.5
KLNI Mataram 60.78 286 P P 06 58 02.7 -1.0
comp=Z,2µmcomp=Z,128nm,1.2s
SMAI San Martin Ant 60.79 158 P P 06 58 04.6 +1.6
SMAI IAmb IAmb 06 58 07.6
comp=Z,91nm,1.2s
DNP Denpasar 61.24 285 P P 06 58 06.5 -0.3
comp=Z,701nm,1.2s
DNP Denpasar 61.24 285 P P 06 58 07.0 +0.2
DNP pmax pmax
comp=Z,687nm,1.2s
SPSI Sidrap Palu 61.37 293 P P 06 58 05.9 -1.8
comp=Z,2µmcomp=Z,72nm,2.1s
LUWI Luwuk 61.52 298 P P 06 58 08.3 -0.3
RTBI Rangdo, Negare 61.58 285 P P 06 58 08.7 -0.4
comp=Z,3µmcomp=Z,244nm,1.1s
SRBI Singaraja 61.65 286 P P 06 58 08.9 -0.6
comp=Z,4µmcomp=Z,207nm,1.4s
GUMO Guam 61.76 328 LR LR 07 25 41.9
comp=Z,934nm,18.1s,baz=144,slow=37
JAGI Jajag, Banyuwa 62.14 285 P P 06 58 11.2 -1.7
JAGI IAmb IAmb 06 58 12.9
comp=Z,166nm,1.3s
JAGI IAMs_20 IAMs_20 07 27 49.6
comp=Z,3µm,18.0s
JAGI Jajag, Banyuwa 62.14 285 P P 06 58 11.9 -1.0
comp=Z,2µmcomp=Z,92nm,1.2s
JAGI Jajag, Banyuwa 62.14 285 P P 06 58 11.7 -1.2
ABJI Asem Bagus 62.54 285 P P 06 58 15.5 -0.1
comp=Z,324nm,1.1s
RPN Rapa Nui 62.87 103 LR LR 07 21 32.0
comp=Z,2µm,18.0s,baz=233,slow=32
RPN Rapa Nui 62.87 103 IAMs_20 IAMs_20 07 20 25.3
comp=Z,3µm,19.0s
KMMI Kalianget 63.25 286 P P 06 58 19.8 -0.5
comp=Z,3µmcomp=Z,3µmcomp=Z,209nm,1.3s
PMSA Palmer Station 64.01 156 P P 06 58 27.2 +2.6
comp=Z,51nm,1.2s,baz=360,slow=18,SNR=12
PMSA LR LR 07 21 29.0
comp=Z,1µm,18.9s,baz=233,slow=31
comp=Z,51nm,1.2s
PMSA Palmer Station 64.01 156 P P 06 58 24.8 +0.3
PMSA IAmb IAmb 06 58 28.5
comp=Z,111nm,1.4s
PMSA Palmer Station 64.01 156 *eP* P 06 58 27.9 +3.3
GRJI Gresik 64.40 285 P P 06 58 27.7 -0.2
comp=Z,2µmcomp=Z,166nm,1.1s
TOLI2 Tolitoli 64.43 298 P P 06 58 25.8 -2.2
TOLI2 IAmb IAmb 06 58 29.5
comp=Z,54nm,1.1s
PCJI Pacitan 64.47 283 P P 06 58 28.3 0.0
comp=Z,3µmcomp=Z,163nm,1.2s
NGJI Ngawi 64.83 284 P P 06 58 30.4 -0.2
comp=Z,168nm,1.2s
BWJI Bawean 65.01 286 P P 06 58 31.6 -0.2
comp=Z,496nm,1.3s
UGM Wanagama 65.13 283 P P 06 58 31.3 -1.4
UGM IAMs_20 IAMs_20 07 28 04.9
comp=Z,3µm,18.0s
UGM Wanagama 65.13 283 P P 06 58 33.0 +0.3
comp=Z,3µmcomp=Z,201nm,1.9s
UGM Wanagama 65.13 283 P P 06 58 32.7 0.0
BBKI Banjar Baru 65.14 289 P P 06 58 32.5 -0.2
comp=Z,26µmcomp=Z,444nm,1.2s
BKB Balikpapan 65.30 293 P P 06 58 35.2 +1.6
BKB Balikpapan 65.30 293 P P 06 58 34.1 +0.4
comp=Z,4µmcomp=Z,235nm,1.2s
BKB Balikpapan 65.30 293 P P 06 58 35.8 +2.1
YOGI Yogyakarta 65.36 282 P P 06 58 33.9 -0.2
comp=Z,2µmcomp=Z,152nm,1.5s
TROLL Troll, Antarti 65.77 183 P P 06 58 37.5 +1.4
SMRI Semarang 65.78 283 P P 06 58 35.2 -1.6
SMRI IAMs_20 IAMs_20 07 27 45.6
comp=Z,3µm,18.0s
SMRI Semarang 65.78 283 P P 06 58 37.4 +0.6
comp=Z,164nm,1.4s
SMRI Semarang 65.78 283 P P 06 58 37.5 +0.6
DAV Davao City (W) 66.00 306 P P 06 58 37.7 -0.4
comp=Z,203nm,0.4s,baz=54,slow=4.4,SNR=4.4
DAV LR LR 07 29 01.5
comp=Z,1µm,18.3s,baz=152,slow=38
comp=Z,203nm,0.4s
DAV Davao City (W) 66.00 306 P P 06 58 37.7 -0.4
DAV Davao City (W) 66.00 306 P P 06 58 37.2 -1.0
SNAA Sanae 66.25 181 P P 06 58 40.3 +1.2

SNAA Sanae 66.25 181 LR LR 07 26 03.7
comp=Z,3µm,19.7s,baz=186,slow=34
SNAA Sanae 66.25 181 P **P** **06 58 39.9 +0.8**
SNAA IAmb IAmb 06 58 41.9
comp=Z,107nm,1.2s
SNAA IAMs_20 IAMs_20 07 25 52.8
comp=Z,3µm,19.0s
SNAA Sanae 66.25 181 *ce*P **P** **06 58 40.1 +1.0**
SNAA pmax pmax
comp=Z,109nm,1.2s
SNAA MLR MLR
comp=Z,3µm,18.0s
NVL N'lazarevskaya 66.44 186 *e*P **P** **06 58 38.7 -1.5**
NVL *e*S **S** **07 07 24.4 -4.6**
NVL pmax pmax
comp=Z,120nm,0.9s
VNA3 Neumayer Olymp 66.67 179 P **P** **06 58 42.9 +1.2**
CTJI Waduk Cacaban 66.72 282 P **P** **06 58 42.8 0.0**
comp=Z,4µmcomp=Z,273nm,1.2s
MTKI Muara Teweh, K 66.90 291 P **P** **06 58 43.9 -0.1**
comp=Z,279nm,1.0s
XMI Christmas Isla 66.96 277 P **P** **06 58 44.1 -0.4**
VNA2 Neumayer--Watz 67.02 180 P **P** **06 58 43.1 -0.9**
baz=172,slow=6.0
VNA1 Neumayer--Stat 67.29 179 P **P** **06 58 47.5 +1.9**
BBJI Bungbulang 67.52 281 P **P** **06 58 47.4 -0.6**
LEM Lembang 67.97 281 P **P** **06 58 51.2 +0.2**
comp=Z,164nm,0.9s,baz=113,slow=6.0,SNR=33
LEM LR LR 07 30 56.7
comp=Z,3µm,18.1s,baz=133,slow=38
comp=Z,164nm,0.9s
CNJI Cibinong 68.00 280 P **P** **06 58 50.0 -1.0**
comp=Z,2µmcomp=Z,174nm,1.3s
KIP Kipapa 68.56 28 P **P** **06 58 53.6 -0.6**
KIP Kipapa 68.56 28 P **P** **06 58 53.6 -0.6**
KIP pmax pmax
comp=Z,526nm,2.0s
OPA Opana 68.80 28 P **P** **06 58 54.9 -0.8**
OPA Opana 68.80 28 P **P** **06 58 54.9 -0.8**
OPA pmax pmax
comp=Z,516nm,1.8s
MYLDM Lahad Datu 68.98 299 P **P** **06 58 55.6 -1.4**
MYLDM IAmb IAmb 06 59 21.6
comp=Z,150nm,1.3s
MYLDM Lahad Datu 68.98 299 P **P** **06 58 56.7 -0.3**
comp=Z,2µmcomp=Z,97nm,1.3s
USHA Ushuaia 69.59 147 LR LR 07 24 40.4
comp=Z,2µm,18.0s,baz=214,slow=32
KKM Kota Kinabalu 71.12 297 P **P** **06 59 08.5 -1.8**
KKM IAmb IAmb 06 59 30.4
comp=Z,47nm,0.9s
KKM Kota Kinabalu 71.12 297 P **P** **06 59 10.0 -0.3**
comp=Z,1µmcomp=Z,58nm,1.1s
KKM Kota Kinabalu 71.12 297 P **P** **06 59 09.4 -0.9**
KASI Kota Agung 71.13 280 P **P** **06 59 09.5 -0.8**
comp=Z,68nm,1.3s
SBUM Sibu 71.19 292 P **P** **06 59 09.2 -1.4**
SBUM IAmb IAmb 06 59 11.6
comp=Z,43nm,1.0s
SBUM Sibu 71.19 292 P **P** **06 59 10.2 -0.4**
comp=Z,857nmcomp=Z,53nm,1.5s
LWLI Liwa 71.79 280 P **P** **06 59 13.8 -0.6**
comp=Z,120nm,1.0s
KSM Kuching 71.81 290 P **P** **06 59 13.8 -0.6**
KSM IAmb IAmb 06 59 14.9
comp=Z,177nm,1.1s
KSM Kuching 71.81 290 P **P** **06 59 13.6 -0.8**
comp=Z,2µmcomp=Z,165nm,1.2s
KSM Kuching 71.81 290 P **P** **06 59 13.9 -0.5**
PPBI Pangkal Pinang 72.23 284 P **P** **06 59 16.1 -0.8**
comp=Z,11µmcomp=Z,130nm,1.2s
COCO West Island 72.38 269 IAMs_20 IAMs_20 07 32 00.2
comp=Z,3µm,18.0s
PMBI Palembang 72.69 282 IAMs_20 IAMs_20 07 34 17.1
comp=Z,2µm,18.0s
MNAI Manna 73.04 280 IAMs_20 IAMs_20 07 31 05.0
comp=Z,3µm,20.0s
KSI Kapahiang 73.78 280 P **P** **06 59 25.5 -0.7**
comp=Z,198nm,0.9s
MASI Maura Aman, Be 74.39 280 P **P** **06 59 29.1 -0.6**
comp=Z,2µmcomp=Z,146nm,1.2s
DSRI Dabo 74.52 284 P **P** **06 59 30.3 -0.1**
comp=Z,150nm,1.2s
COYC Coyhaique 74.56 138 P **P** **06 59 30.5 +0.2**
COYC IAmb IAmb 06 59 33.9
comp=Z,60nm,1.3s
JCJ Chichijima 75.06 331 LR LR 07 28 47.0
comp=Z,585nm,20.7s,baz=146,slow=33
TPRI Tanjung Pinang 75.52 285 P **P** **06 59 36.1 -0.1**
comp=Z,9µmcomp=Z,106nm,0.8s
PPSI Pulau Pagai 76.28 279 P **P** **06 59 40.4 -0.1**
comp=Z,3µmcomp=Z,235nm,1.2s
LL02 Futaleuf 76.38 137 P **P** **06 59 39.6 -1.2**
LL02 IAmb IAmb 06 59 44.6
comp=Z,66nm,1.1s
SDSI Sungai Dareh 76.48 281 P **P** **06 59 39.5 -2.2**
comp=Z,775nmcomp=Z,33nm,1.4s
MYKOM Kota Tinggi 76.61 285 P **P** **06 59 41.7 -0.7**
MYKOM IAMs_20 IAMs_20 07 32 13.7
comp=Z,2µm,20.0s
MYKOM Kota Tinggi 76.61 285 P **P** **06 59 42.1 -0.3**
comp=Z,3µmcomp=Z,186nm,1.3s
PDSI Padang 77.20 281 P **P** **06 59 43.5 -2.3**
comp=Z,9µmcomp=Z,127nm,1.2s
BKNI Bangkinang 77.62 282 P **P** **06 59 46.7 -1.4**
BKNI IAMs_20 IAMs_20 07 38 11.0
comp=Z,3µm,18.0s
BKNI Bangkinang 77.62 282 P **P** **06 59 46.7 -1.4**
comp=Z,5µmcomp=Z,236nm,1.2s
BKNI Bangkinang 77.62 282 P **P** **06 59 47.1 -1.0**
PLCA Paso Flores 78.83 136 P **P** **06 59 57.5 +2.9**
comp=Z,17nm,1.0s,baz=220,slow=5.3,SNR=14
PLCA LR LR 07 26 21.7
comp=Z,736nm,20.3s,baz=218,slow=29
comp=Z,17nm,1.0s
PLCA Paso Flores 78.83 136 P **P** **06 59 52.3 -2.3**
PLCA IAmb IAmb 06 59 58.9
comp=Z,59nm,1.2s
PLCA Paso Flores 78.83 136 *e*P **P** **06 59 57.8 +3.2**
MNSI Mandailing Nat 79.00 281 P **P** **06 59 54.2 -1.5**
comp=Z,6µmcomp=Z,148nm,1.1s
GO06 Curarrehue 79.19 134 P **P** **06 59 57.1 +0.5**
VA04 Juan Fernndez 79.23 126 P **P** **06 59 57.1 +0.3**
VA04 IAmb IAmb 07 00 10.1
comp=Z,72nm,1.2s
HOPE Hope Point 80.27 162 *i* P **P** **06 59 59.8 -2.2**
IPM Ipoh 80.49 285 P **P** **07 00 02.4 -1.4**
IPM IAmb IAmb 07 00 04.1
comp=Z,122nm,1.1s
IPM IAMs_20 IAMs_20 07 34 07.6
comp=Z,2µm,20.0s
IPM Ipoh 80.49 285 P **P** **07 00 02.8 -1.0**
comp=Z,2µmcomp=Z,129nm,1.1s
IPM Ipoh 80.49 285 P **P** **07 00 03.3 -0.5**
DLV T Lat 80.59 296 P **P** **07 00 04.8 +0.3**
JOW Kunigami 80.70 320 LR LR 07 32 50.4
comp=Z,1µm,20.6s,baz=170,slow=34
GSI Gunungsitoli 80.81 280 P **P** **07 00 05.7 +0.1**
GSI IAMs_20 IAMs_20 07 39 09.3
comp=Z,3µm,18.0s
GSI Gunungsitoli 80.81 280 P **P** **07 00 05.8 +0.3**
comp=Z,4µmcomp=Z,372nm,1.6s
GSI Gunungsitoli 80.81 280 P **P** **07 00 06.1 +0.6**
TWGBT Beinan 81.13 312 P **P** **07 00 05.7 -1.2**
comp=Z,51nm,1.0s
KULM Kulim 81.32 285 P **P** **07 00 07.3 -0.9**
KULM Kulim 81.32 285 P **P** **07 00 07.3 -0.9**
comp=Z,2µmcomp=Z,152nm,1.3s
JHJ Hachijo jima 2 81.39 332 LR LR 07 30 58.8
comp=Z,308nm,20.5s,baz=141,slow=32
YOJ Yonaguni jima 81.41 314 P **P** **07 00 07.5 -0.9**
YOJ IAmb IAmb 07 00 08.6
comp=Z,133nm,1.2s
YOJ Yonaguni jima 81.41 314 P **P** **07 00 07.6 -0.8**
YOJ Yonaguni jima 81.41 314 P **P** **07 00 07.5 -0.9**
YOJ pmax pmax
comp=Z,133nm,1.2s
YULB Yu-li 81.47 312 P **P** **07 00 05.7 -3.0**
TSI Tuntungan 81.59 283 P **P** **07 00 08.9 -0.7**
comp=Z,24µmcomp=Z,599nm,1.1s
TPUB Ta-pu 81.77 312 P **P** **07 00 08.0 -2.3**
TPUB Ta-pu 81.77 312 P **P** **07 00 08.3 -2.0**
SSLB Suanglung 81.98 312 P **P** **07 00 08.9 -2.5**
SSLB IAmb IAmb 07 00 10.9
comp=Z,48nm,1.0s
SSLB Suanglung 81.98 312 P **P** **07 00 09.6 -1.8**

ML02 Panimavida 82.00 132 P **P** **07 00 10.8 -0.8**
ML02 IAmb IAmb 07 00 14.7
comp=Z,63nm,1.4s
KCSI Kotacane, Aceh 82.18 282 P **P** **07 00 11.2 -1.6**
comp=Z,2µmcomp=Z,100nm,1.2s
GO05 Huala 82.27 131 P **P** **07 00 14.8 +1.8**
GO05 IAmb IAmb 07 00 16.8
comp=Z,74nm,1.2s
YHNB Yeheng 82.45 313 P **P** **07 00 12.0 -2.0**
YHNB Yeheng 82.45 313 P **P** **07 00 15.6 +1.6**
comp=Z,29nm,1.0s
SNSI Sinabang, Aceh 82.47 280 P **P** **07 00 14.6 +0.3**
comp=Z,1µmcomp=Z,101nm,1.2s
TATO Taipei 82.64 314 P **P** **07 00 13.3 -1.5**
TATO IAmb IAmb 07 00 15.0
comp=Z,62nm,1.0s
TATO Taipei 82.64 314 P **P** **07 00 13.6 -1.2**
TATO Taipei 82.64 314 P **P** **07 00 14.9 +0.1**
BO02 Sierra Bellavi 83.07 131 P **P** **07 00 18.6 +1.3**
BO02 IAmb IAmb 07 00 21.3
comp=Z,79nm,1.1s
BO01 Tunca 83.19 131 P **P** **07 00 19.6 +1.8**
BO01 IAmb IAmb 07 00 21.6
comp=Z,90nm,1.8s
VA05 Santo Domingo 83.43 130 P **P** **07 00 18.7 -0.4**
VA05 IAmb IAmb 07 00 23.7
comp=Z,45nm,1.1s
MT01 Popeta 83.49 131 P **P** **07 00 21.1 +1.8**
MT01 IAmb IAmb 07 00 23.1
comp=Z,91nm,1.1s
MLSI Meulaboh, Aceh 83.68 282 P **P** **07 00 19.8 -0.7**
comp=Z,153nm,1.0s
MT09 Talagante 83.70 131 P **P** **07 00 20.7 +0.1**
MT09 IAmb IAmb 07 00 24.3
comp=Z,86nm,1.4s
KNMB Chin-men Tao 83.93 311 P **P** **07 00 20.9 -0.6**
KNMB IAmb IAmb 07 02 23.0
comp=Z,43nm,0.8s
LHMI Lhok Sumawe 83.94 283 P **P** **07 00 20.5 -1.4**
LHMI IAMs_20 IAMs_20 07 39 18.0
comp=Z,3µm,19.0s
MT05 Renca 84.12 131 P **P** **07 00 23.4 +0.7**
JMN Monobe 84.16 327 P **P** **07 00 21.9 -0.6**
JMN IAmb IAmb 07 00 23.0
comp=Z,100nm,1.2s
JMN Monobe 84.16 327 P **P** **07 00 22.0 -0.5**
MT03 Universidad Ad 84.17 131 P **P** **07 00 22.1 -0.9**
MT03 IAmb IAmb 07 00 26.9
comp=Z,119nm,1.6s
QZH Quanzhou 84.19 311 ⇑*i*P **P** **07 00 22.8 0.0**
QZH S **S** **07 10 45.8 -1.1**
QZH pmax pmax
comp=Z,50nm,1.1s
QZH pmax pmax
comp=Z,370nm,3.0s
QZH LR LR
comp=Z,330nm,19.4s
QZH LR LR
comp=Z,390nm,17.1s
QZH LR LR
comp=Z,350nm,13.7s
ROC1 El Roble 84.27 130 P **P** **07 00 22.4 -1.3**
ROC1 IAmb IAmb 07 00 33.0
comp=Z,63nm,1.3s
INU Inuyama 84.39 330 P **P** **07 00 22.3 -1.3**
INU IAmb IAmb 07 00 23.8
comp=Z,54nm,1.2s
INU Inuyama 84.39 330 P **P** **07 00 22.7 -0.9**
VA06 Catapilco 84.42 130 P **P** **07 00 24.9 +0.9**
VA06 IAmb IAmb 07 00 27.9
comp=Z,113nm,1.4s
JGF Kuroka 84.49 331 P **P** **07 00 23.0 -1.2**
JGF Kuroka 84.49 331 P **P** **07 00 22.9 -1.2**
VA03 San Esteban 84.69 130 P **P** **07 00 25.5 -0.1**
VA03 IAmb IAmb 07 00 29.8
comp=Z,98nm,1.4s
HKPS Hong Kong Po S 84.70 307 P **P** **07 00 23.8 -1.7**
HKPS IAmb IAmb 07 00 26.8
comp=Z,117nm,1.4s
SURA Surathani 84.73 287 P **P** **07 00 26.6 +0.8**
JNU Nakatsue 84.87 325 P **P** **07 00 24.7 -1.4**
JNU IAmb IAmb 07 00 25.4
comp=Z,32nm,1.0s
QIZ Qiongzhong 84.90 301 P **P** **07 00 25.6 -0.9**
QIZ IAmb IAmb 07 00 27.7
comp=Z,84nm,1.2s
QIZ Qiongzhong 84.90 301 P **P** **07 00 26.1 -0.5**
QIZ pP **PcP** **07 00 31.3 +1.4**
QIZ PP **PP** **07 03 42.3 -1.3**
QIZ S **S** **07 10 57.8 +3.6**
QIZ SS **SS** **07 16 25.0 -2.5**
QIZ pmax pmax
comp=Z,55nm,1.4s
QIZ LR LR
comp=Z,450nm,15.1s
QIZ LR LR
comp=Z,730nm,18.3s
QIZ LR LR
comp=Z,890nm,19.1s
QIZ Qiongzhong 84.90 301 P **P** **07 00 26.5 -0.1**
UBPT Khong Chiam 85.02 296 IAmb IAmb 07 00 28.4
comp=Z,91nm,1.3s
UBPT Khong Chiam 85.02 296 P **P** **07 00 28.1 +0.9**
MJAR Matsushiro Arr 85.03 332 P **P** **07 00 25.2 -1.6**
comp=Z,7.4nm,0.9s,baz=162,slow=6.2,SNR=11
MJAR LR LR 07 35 04.5
comp=Z,650nm,21.1s,baz=144,slow=33
comp=Z,7.4nm,0.9s
MAJO Matsushiro 85.03 332 P **P** **07 00 26.0 -0.8**
MAJO Matsushiro 85.03 332 P **P** **07 00 26.3 -0.5**
MAJO Matsushiro 85.03 332 *i* P **P** **07 00 25.4 -1.4**
MAJO pmax pmax
comp=Z,31nm,1.4s
MJB9 Matsu-Tunnel 85.04 332 P **P** **07 00 26.1 -0.8**
TRQA Tornquist 85.17 139 P **P** **07 00 27.7 -0.2**
TRQA IAmb IAmb 07 00 31.4
comp=Z,60nm,1.1s
TRQA Tornquist 85.17 139 P **P** **07 00 27.7 -0.2**
TRQA pmax pmax
comp=Z,60nm,1.2s
JHS Saijyo 85.57 327 P **P** **07 00 29.7 +0.1**
RTLS Leoncito 86.12 130 *i* P **P** **07 00 35.7 +2.6**
JSD Sado 86.36 333 P **P** **07 00 32.7 -0.6**
JSD IAmb IAmb 07 00 34.0
comp=Z,65nm,1.2s
JSD Sado 86.36 333 P **P** **07 00 33.3 0.0**
comp=Z,52nm,1.2s
RTLL Cerro Villicun 86.93 131 *i* P **P** **07 00 39.0 +2.3**
NAYO Nakonayok 87.14 292 P **P** **07 00 38.5 +0.8**
ACCO Cerro Coronel 87.15 130 *i* P **P** **07 00 40.9 +2.7**
AROD Rodeo 87.23 129 *i* P **P** **07 00 41.5 +3.0**
ACDV Cuesta del Vie 87.43 129 *i* P **P** **07 00 42.3 +3.0**
SSE Sheshan 87.71 317 P **P** **07 00 38.8 -1.3**
SSE S **S** **07 11 20.8 -0.3**
SSE pmax pmax
comp=Z,29nm,0.6s
SSE pmax pmax
comp=Z,210nm,6.5s
SSE LR LR
comp=Z,370nm,18.6s
SSE LR LR
comp=Z,230nm,18.5s
NONG Nongkai 88.56 296 P **P** **07 00 44.5 +0.1**
APLL PUNTA DE LOS L 88.73 131 *i* P **P** **07 00 47.6 +2.3**
GULI GuiLin 89.23 306 ⇑P **P** **07 00 44.6 -2.8**
GULI S **S** **07 11 32.0 -3.7**
GULI pmax pmax
comp=Z,50nm,1.2s
GULI LR LR
comp=Z,540nm,18.5s
GULI LR LR
comp=Z,440nm,17.8s
GULI LR LR
comp=Z,1µm,18.6s
ACLC CERRO LA CRUZ 89.23 130 *i* P **P** **07 00 48.6 +0.7**
NJ2 Nanjing 89.67 316 *e*P **P** **07 00 48.4 -0.9**
NJ2 PP **PP** **07 04 22.6 +0.8**
NJ2 S **S** **07 11 42.4 +2.9**
NJ2 sS **pS** **07 11 48.6 +0.7**
NJ2 pmax pmax
comp=Z,56nm,0.9s
NJ2 pmax pmax
comp=Z,260nm,4.3s
NJ2 LR LR
comp=Z,750nm,17.5s

NJ2 LR LR
comp=Z,730nm,19.0s
NJ2 LR LR
comp=Z,1µm,18.9s
KSRS Korea Array 89.82 325 P **P** **07 00 49.8 0.0**
comp=Z,25nm,1.0s,baz=146,slow=5.9,SNR=37
comp=Z,25nm,1.0s
KSAR Wonju Array Be 89.83 325 P **P** **07 00 49.7 -0.2**
KSAR Wonju Array Be 89.83 325 P **P** **07 00 49.7 -0.2**
KS19 Wonju Array Si 89.88 325 P **P** **07 00 50.3 +0.1**
KS19 IAmb IAmb 07 00 51.3
comp=Z,55nm,1.2s
CNSH ChangSha 89.89 309 ⇓P **P** **07 00 49.8 -0.6**
CNSH S **S** **07 11 39.9 -1.9**
CNSH pmax pmax
comp=Z,39nm,1.2s
CNSH LR LR
comp=Z,680nm,17.3s
CNSH LR LR
comp=Z,400nm,16.2s
CNSH LR LR
comp=Z,690nm,18.8s
KUR Kuril'sk 90.26 342 P **P** **07 00 52.3 +0.6**
KUR *e* 07 04 24.2
KUR S **SKSac** **07 11 22.5 +1.2**
KUR *e*SSS SSS 07 21 20.5
KUR MLR MLR
comp=Z,1µm,14.0s
ASAJ Asahikawa 90.56 338 LR LR 07 38 26.6
comp=Z,672nm,20.6s,baz=167,slow=34
CYA Choya 90.63 130 *i* P **P** **07 00 56.6 +2.4**
WHN Wuhan 90.90 312 ⇑P **P** **07 00 54.8 -0.3**
WHN S **S** **07 11 51.8 +0.9**
WHN pmax pmax
comp=Z,240nm,1.4s
WHN LR LR
comp=Z,790nm,19.5s
WHN LR LR
comp=Z,1µm,14.9s
WHN LR LR
comp=Z,2µm,20.7s
CM31 Chiang Mai Arr 91.66 293 P **P** **07 00 59.3 +0.4**
CM31 P **P** **07 00 59.3 +0.4**
CMAR Chiang Mai Arr 91.66 293 P **P** **07 00 59.2 +0.3**
comp=Z,62nm,1.1s,baz=154,slow=3.3,SNR=94
CMAR PP **PP** **07 04 37.1 -0.6**
comp=Z,3.5nm,0.8s,baz=149,slow=7.6,SNR=5.3
comp=Z,62nm,1.1s
CMAR Chiang Mai Arr 91.66 293 P **P** **07 00 58.8 -0.2**
CHTO Chiang Mai 91.91 294 P **P** **07 00 58.9 -1.2**
CHTO Chiang Mai 91.91 294 P **P** **07 00 58.9 -1.2**
CHTO pmax pmax
comp=Z,3.0nm,1.2s
GYA Guiyang 92.33 304 ⇑P **P** **07 01 02.6 +0.6**
GYA PP **PP** **07 04 45.0 +1.8**
GYA SKS **SKSac** **07 11 34.3 0.0**
GYA S **S** **07 12 03.5 -0.9**
GYA SS **SS** **07 18 16.1 +0.2**
GYA pmax pmax
comp=Z,45nm,1.9s
GYA pmax pmax
comp=Z,430nm,7.9s
GYA LR LR
comp=Z,330nm,18.0s
GYA LR LR
comp=Z,470nm,22.2s
GYA LR LR
comp=Z,560nm,22.8s
YSS Yuzh-Sakhalins 93.14 339 *e*P **P** **07 01 05.4 +0.4**
YSS *e* 07 11 40.7
YSS *e*S **S** **07 12 09.0 -1.2**
YSS pmax pmax
comp=Z,300nm,8.8s
YSS smax smax
comp=E,400nm,11.3s
LVC Limon Verde 93.21 125 LR LR 07 33 53.1
comp=E,684nm,21.4s,baz=232,slow=30
LVC Limon Verde 93.21 125 *e*P **P** **07 01 09.7 +3.0**
ENH Enshi 93.44 309 P **P** **07 01 07.2 +0.3**
DGAR Diego Garcia 93.45 257 IAMs_20 IAMs_20 07 37 12.3
comp=Z,2µm,19.0s
TIA Tai'an 93.82 317 ⇑P **P** **07 01 07.9 -0.6**
TIA S **S** **07 12 17.3 +0.4**
TIA pmax pmax
comp=Z,40nm,1.2s
TIA pmax pmax
comp=Z,260nm,7.8s
TIA LR LR
comp=Z,780nm,18.6s
TIA LR LR
comp=Z,340nm,17.7s
TIA LR LR
comp=Z,940nm,20.1s
KMI Kunming 93.83 301 ⇑P **P** **07 01 09.5 +0.4**
KMI pP pP 07 01 13.4 -2.0
KMI PP **PP** **07 04 54.3 -0.8**
KMI SKS **SKSac** **07 11 44.9 +2.0**
KMI S **S** **07 12 16.6 -1.3**
KMI pmax pmax
comp=Z,21nm,1.0s
KMI pmax pmax
comp=Z,300nm,4.0s
KMI LR LR
comp=Z,1µm,18.4s
KMI LR LR
comp=Z,770nm,15.4s
KMI LR LR
comp=Z,2µm,18.3s
USRK Ussuriysk Ar. 94.01 331 LR LR 07 40 41.9
comp=Z,363nm,20.4s,baz=147,slow=34
PLTB Pedras Altas 94.28 141 *e*P **P** **07 01 13.4 +2.4**
ITQB Itaqui 94.54 138 *e*P **P** **07 01 15.2 +3.0**
RODS Rosario do Sul 94.69 139 *e*P **P** **07 01 14.4 +1.5**
LYN LuoYang 94.97 313 *e*P **P** **07 01 13.3 -0.5**
LYN PP **PP** **07 05 07.9 +4.3**
LYN SKS **SKSac** **07 11 46.9 -1.2**
LYN S **S** **07 12 25.6 -1.4**
LYN pmax pmax
comp=Z,210nm,8.0s
LYN LR LR
comp=Z,320nm,21.5s
LYN LR LR
comp=Z,570nm,16.8s
LYN LR LR
comp=Z,530nm,20.0s
PZH PanZhiHua 95.44 301 P **P** **07 01 16.1 -0.2**
PZH PP **PP** **07 05 09.4 +1.9**
PZH SKS **SKSac** **07 11 50.8 -0.5**
PZH S **S** **07 12 28.8 -2.9**
PZH SS **SS** **07 18 58.8 -1.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,210nm,9.0s
PZH LR LR
comp=Z,590nm,19.1s
PZH LR LR
comp=Z,870nm,19.6s
PZH LR LR
comp=Z,760nm,17.8s
CPSB Cacapava Do Su 95.49 140 *e*P **P** **07 01 18.2 +1.7**
NNA Nana 95.76 112 LR LR 07 37 01.6
comp=Z,1µm,18.6s,baz=229,slow=31
NNA Nana 95.76 112 IAMs_20 IAMs_20 07 36 47.6
comp=Z,1µm,20.0s
UNIS Unistalda (Bra 95.81 138 *e*P **P** **07 01 20.1 +2.0**
PET Petropavlovsk 95.92 351 *e*P P 07 01 22.9 +5.3
PET *e* 07 05 17.1
PET *e*S **S** **07 12 39.7 +5.5**
PET *e*SSS SSS 07 22 52.0
PET pmax pmax
comp=Z,100nm,14.4s
PET pmax pmax
comp=Z,100nm,22.5s
PET MLR MLR
comp=Z,600nm,20.0s
HNS HongShan 95.97 317 ⇓P **P** **07 01 18.8 +0.6**
HNS S **S** **07 12 36.0 +0.6**
HNS pmax pmax
comp=Z,16nm,1.1s
HNS LR LR
comp=Z,470nm,17.5s
HNS LR LR
comp=Z,770nm,17.6s
HNS LR LR

comp=Z,880nm,19.1s
MND Mandalay 96.03 294 P **P** **07 01 19.0 +0.1**
PETK Petropavlovsk- 96.12 350 LR LR 07 39 50.1
comp=Z,1µm,20.4s,baz=159,slow=33
CN2 Changchun 96.16 327 *e*P **P** **07 01 20.9 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
AZCA Azaras, Argent 96.17 137 *e*P **P** **07 01 24.0 +4.4**
TNCH TengChong 96.49 298 ⇑P **P** **07 01 21.8 +0.6**
TNCH pmax pmax
comp=Z,260nm,3.4s
XAN Xi'an 96.55 311 ⇑P **P** **07 01 18.5 -2.5**
XAN pP sP 07 01 30.0 +0.5
XAN sP pP 07 01 35.3 +7.9
XAN SKS **SKSac** **07 11 59.9 +3.3**
XAN S **S** **07 12 38.4 -2.3**
XAN sS pS 07 12 50.0 +0.7
XAN SS **SS** **07 19 20.1 +4.4**
XAN pmax pmax
comp=Z,30nm,1.2s
XAN pmax pmax
comp=Z,240nm,7.8s
XAN LR LR
comp=Z,970nm,18.5s
XAN LR LR
comp=Z,210nm,18.6s
XAN LR LR
comp=Z,1µm,19.2s
CPUP Villa Florida 96.90 135 P **P** **07 01 25.1 +2.1**
comp=Z,8.3nm,1.1s,baz=190,slow=2.9,SNR=8.7
CPUP LR LR 07 37 29.7
comp=Z,390nm,21.9s,baz=204,slow=31
comp=Z,8.3nm,1.1s
CPUP Villa Florida 96.90 135 P **P** **07 01 22.3 -0.7**
CPUP Villa Florida 96.90 135 *e*P **P** **07 01 25.1 +2.1**
ALGR Alto Alegre (B 97.02 140 *e*P Pdif 07 01 26.7 +3.0
PALK Pallekele 97.22 273 LR LR 07 42 23.7
comp=Z,1µm,19.2s,baz=232,slow=34
PALK Pallekele 97.22 273 IAMs_20 IAMs_20 07 42 31.9
comp=Z,19.0s
CD2 Chengdu 97.30 305 P Pdif 07 01 25.1 +0.5
CD2 pmax pmax
comp=Z,20nm,0.5s
TIY Taiyuan 97.38 315 *e*P Pdif 07 01 25.9 +1.1
TIY PP **PP** **07 05 25.1 +2.8**
TIY SKS **SKSac** **07 12 04.3 +3.5**
TIY S **ScS** **07 12 49.4 +1.4**
TIY sS sS 07 13 01.4 +3.1
TIY pmax pmax
comp=Z,94nm,6.7s
TIY LR LR
comp=Z,400nm,18.6s
TIY LR LR
comp=Z,230nm,17.2s
TIY LR LR
comp=Z,430nm,22.0s
CNLB Canela 97.61 142 *e*P Pdif 07 01 27.6 +1.3
CRSM Crissiumal (Br 97.61 138 *e*P Pdif 07 01 29.6 +3.3
109C Camp Elliot, M 98.00 52 IAMs_20 IAMs_20 07 45 18.9
comp=Z,2µm,18.0s
SAO San Andreas Ge 98.34 47 IAMs_20 IAMs_20 07 42 06.3
comp=Z,2µm,20.0s
MONP2 Monument Peak 98.40 53 P Pdif 07 01 32.1 +2.4
baz=224
KAAM Kaadhehdhoo 98.41 263 IAMs_20 IAMs_20 07 44 10.9
comp=Z,2µm,18.0s
KAAM Kaadhehdhoo 98.41 263 P **P** **07 01 29.3 -0.6**
IKP In-Ko-Pah, Jac 98.41 53 P Pdif 07 01 31.1 +1.5
baz=225
LPAZ La Paz 98.42 121 LR LR 07 37 51.3
comp=Z,288nm,20.4s,baz=201,slow=30
LPAZ La Paz 98.42 121 *e*P Pdif 07 01 33.4 +2.6
KLR Kul'dur 98.45 334 LR LR 07 43 00.4
comp=Z,919nm,21.1s,baz=146,slow=34
KLR Kul'dur 98.45 334 *i* P Pdif 07 01 30.0 +0.8
KLR pmax pmax
comp=Z,3.0nm,1.2s
KLR MLR MLR
comp=Z,923nm,20.0s
MCCM Marconi Confer 98.59 45 IAMs_20 IAMs_20 07 51 06.9
comp=Z,2µm,18.0s
PFO Pinyon Flats O 98.89 52 IAMs_20 IAMs_20 07 38 20.9
comp=Z,2µm,20.0s
PFO Pinyon Flats O 98.89 52 P Pdif 07 01 33.9 +2.2
baz=225
HOPS Hopland Field 99.12 45 IAMs_20 IAMs_20 07 44 36.6
comp=Z,2µm,19.0s
CHNA Chernabura Isl 99.43 15 P **Pdif** **07 01 36.1 +2.8**
baz=200
BELC Belle Mtn. Jos 99.43 52 P **Pdif** **07 01 35.8 +1.6**
baz=225
GLA Glamis 99.46 54 P **Pdif** **07 01 36.1 +1.9**
baz=225
LRMC Laurel Mtn Rad 99.51 50 P **Pdif** **07 01 36.6 +2.2**
baz=224
BC3 Big Chuckawall 99.51 53 P **Pdif** **07 01 36.6 +2.1**
baz=225
BRDH Bariadhala 99.52 292 LR LR 07 54 60.0
comp=Z,902nm,18.1s,baz=144,slow=40
VOI Vohitsoka 99.58 229 IAMs_20 IAMs_20 07 40 30.8
comp=Z,2µm,18.0s
CMB Columbia Colle 99.85 47 IAMs_20 IAMs_20 07 44 29.8
comp=Z,1µm,18.0s
IRM Iron Mountain 100.05 53 P **Pdif** **07 01 39.0 +2.3**
baz=225
HHC Hu-ho-hao-te 100.17 317 *e*P **Pdif** **07 01 38.8 +1.6**
HHC PP **PP** **07 05 47.8 +4.2**
HHC SKS **SKSac** **07 12 17.3 +2.6**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,150nm,4.7s
HHC LR LR
comp=Z,790nm,17.2s
HHC LR LR
comp=Z,840nm,18.3s
HHC LR LR
comp=Z,2µm,19.1s
XLT XiLinHaoTe 100.30 322 *e*PKP **Pdif** **07 01 36.8 -0.9**
XLT PP **PP** **07 05 40.9 -3.6**
XLT XiLinHaoTe 100.30 322 sS sS 07 13 29.9 +7.2
XLT XiLinHaoTe 100.30 322 SS SS 07 20 06.3 -1.8
XLT AMB AMB
comp=Z,140nm,7.0s
XLT LR LR
comp=N,57nm,16.9s
XLT LR LR
comp=E,330nm,19.5s
UNM Universidad Na 100.55 74 IAMs_20 IAMs_20 07 40 52.8
comp=Z,2µm,18.0s
HEH HeiHe 100.80 332 *e*P **Pdif** **07 01 45.3 +5.7**
HEH pmax pmax
comp=Z,120nm,3.9s
HEH LR LR
comp=Z,460nm,17.8s
HEH LR LR
comp=Z,450nm,18.6s
HEH LR LR
comp=Z,720nm,19.2s
LZH Lanzhou 100.90 309 *e*P **Pdif** **07 01 42.0 +1.3**
LZH pP sPdif 07 01 48.3 -0.9
LZH PP **PP** **07 05 52.8 +3.5**
LZH SKS **SKSac** **07 12 18.0 -0.7**
LZH S **Sdif** **07 13 09.3 -8.5**
LZH sS sS 07 13 27.8 -0.6
LZH pmax pmax
comp=Z,13nm,0.8s
LZH pmax pmax
comp=Z,180nm,5.0s
LZH LR LR
comp=Z,630nm,16.5s
LZH LR LR
comp=Z,850nm,19.4s
LZH LR LR
comp=Z,1µm,17.1s
NVAR Mina Array Bea 101.27 48 PKKPbc PKKPbc 07 17 54.0 +2.3
comp=Z,0.3nm,0.5s,baz=80,slow=3.5,SNR=3.6
SHL Shillong 101.27 294 P **Pdif** **07 01 42.4 -0.2**
YBH Yreka Blue Hor 101.33 43 IAMs_20 IAMs_20 07 37 25.4
comp=Z,2µm,20.0s
ABPO Ambohimpanom 101.63 231 IAMs_20 IAMs_20 07 41 16.4
comp=Z,2µm,19.0s
HUMO Hull Mountain 101.86 42 IAMs_20 IAMs_20 07 39 35.8
comp=Z,2µm,22.0s
BBRB Robore, Bolivi 101.96 128 *e*P **Pdif** **07 01 48.6 +2.9**
SII Sitkinak Islan 102.16 17 P **Pdif** **07 01 48.4 +2.9**
baz=204
BBSD Serra de San D 102.35 127 *e*P **Pdif** **07 01 49.6 +2.1**
MOD Modoc Plateau 102.69 44 IAMs_20 IAMs_20 07 47 21.0
comp=Z,2µm,19.0s
HIA Hailar 102.89 327 *e*P **Pdif** **07 01 49.7 +0.7**
HIA pmax pmax
comp=Z,19nm,2.4s
OHAK Old Harbor 102.97 18 P **Pdif** **07 01 52.0 +3.0**
baz=204
WUAZ Wupatki 103.23 54 IAMs_20 IAMs_20 07 46 18.4
comp=Z,2µm,18.0s
FRTB Fartura 103.28 139 *e*P **Pdif** **07 01 54.4 +2.8**
Q17K Contact Creek 103.38 16 P **Pdif** **07 01 53.1 +2.1**
baz=202
EPT El Paso 103.74 60 IAMs_20 IAMs_20 07 46 06.2
comp=Z,2µm,18.0s
WVOR Wild Horse Val 103.94 45 IAMs_20 IAMs_20 07 47 31.9
comp=Z,2µm,20.0s
TXAR Lajitas Array 103.99 63 PKKPbc PKKPbc 07 17 45.3 +2.2
comp=Z,1.8nm,0.9s,baz=74,slow=3.8,SNR=13
TXAR PKPPKP **P'P'df** **07 26 03.5 +0.3**
comp=Z,0.5nm,1.1s,baz=92,slow=3.8,SNR=4.2
ELK Elko 104.58 48 IAMs_20 IAMs_20 07 46 07.0
comp=Z,2µm,19.0s
NLWA Neilton Lookou 104.94 38 IAMs_20 IAMs_20 07 44 08.6
comp=Z,2µm,20.0s
O19K Port Alsworth 105.47 16 IAMs_20 IAMs_20 07 46 21.6
comp=Z,2µm,20.0s
DUG Dugway, Tooele 105.55 50 IAMs_20 IAMs_20 07 43 42.9
comp=Z,2µm,19.0s
N18K Kilae Creek 105.61 15 P **PKiKP** **07 06 15.4 +1.7**
baz=203
N19K Bonanza Creek 106.01 15 IAMs_20 IAMs_20 07 48 24.5
comp=Z,2µm,20.0s
MVCO Mesa Verde 106.08 54 IAMs_20 IAMs_20 07 48 48.9
comp=Z,2µm,18.0s
MFID Camas Ranch 106.10 46 IAMs_20 IAMs_20 07 48 41.2
comp=Z,1µm,19.0s
SALV Santo Antonio 106.21 130 *e*P **Pdif** **07 02 07.2 +2.5**
HAWA Hanford 106.28 41 IAMs_20 IAMs_20 07 48 54.2
comp=Z,2µm,20.0s
KVTX Kingsville 106.74 68 IAMs_20 IAMs_20 07 47 58.7
comp=Z,2µm,18.0s
HLID Hailey 106.95 46 IAMs_20 IAMs_20 07 47 49.7
comp=Z,1µm,20.0s
PLID Pearl Lake 107.16 44 IAMs_20 IAMs_20 07 50 05.1
comp=Z,2µm,20.0s
HWUT Hardware Ranch 107.20 49 IAMs_20 IAMs_20 07 44 55.5
comp=Z,2µm,20.0s
MSEY Mahe Island 107.31 247 IAMs_20 IAMs_20 07 46 16.0
comp=Z,1µm,18.0s
MSTX Muleshoe 107.55 60 P **PKiKP** **07 06 17.9 -0.5**
baz=230
SKT Skwentna 107.67 16 IAMs_20 IAMs_20 07 54 58.7
comp=Z,2µm,18.0s
M22K Willow 107.77 17 IAMs_20 IAMs_20 07 46 46.2
comp=Z,2µm,20.0s
SONM Songino Array 107.77 319 PKKPbc PKKPbc 07 17 33.9 +1.8
comp=Z,2.0nm,0.9s,baz=298,slow=2.6,SNR=9.3
SONM PKKPab **PKKPab** **07 17 42.4 -0.6**
comp=Z,0.4nm,0.4s,baz=308,slow=4.9,SNR=3.6
SONM PKKP **PKKPdf** **07 17 47.8 +1.3**
comp=Z,1.7nm,1.0s,baz=289,slow=4.5,SNR=6.6
ANM Nome 107.83 9 IAMs_20 IAMs_20 07 55 00.7
comp=Z,1µm,19.0s
PMR Palmer 107.84 18 P **PKiKP** **07 06 20.6 +2.8**
baz=208
O20A White River Ci 108.14 52 P **PKiKP** **07 06 21.0 +1.7**
baz=230
SML Sawmill 108.21 18 IAMs_20 IAMs_20 07 50 22.1
comp=Z,1µm,18.0s
SDCO Great Sand Dun 108.24 55 IAMs_20 IAMs_20 07 45 00.3
comp=Z,1µm,20.0s
SDCO Great Sand Dun 108.24 55 P **PKiKP** **07 06 21.6 +1.8**
baz=230
SMCO Snowmass 108.27 53 IAMs_20 IAMs_20 07 49 22.0
comp=Z,2µm,18.0s
CUT Chulitna 108.31 17 IAMs_20 IAMs_20 07 46 43.8
comp=Z,2µm,21.0s
M23K Glacier View 108.34 18 P **PKiKP** **07 06 20.8 +2.1**
baz=209
PPLA Purkeypile 108.36 16 P **PKiKP** **07 06 21.2 +2.3**
baz=206
KLU Klutina 108.50 19 P **PKiKP** **07 06 20.1 +0.9**
baz=210
ISLE Juniper Island 108.65 21 IAMs_20 IAMs_20 07 49 07.7
comp=Z,2µm,20.0s
PNL Peninsula 108.69 23 P **PKiKP** **07 06 20.5 +1.0**
baz=215
REDW Red Top Meadow 108.75 48 IAMs_20 IAMs_20 07 53 52.5
comp=Z,1µm,18.0s
NEW Newport 108.76 41 PKiKP **PKiKP** **07 06 21.6 +1.5**
comp=Z,1.5nm,0.8s,baz=224,slow=3.0,SNR=4.2
NEW Newport 108.76 41 IAMs_20 IAMs_20 07 46 07.5
comp=Z,2µm,20.0s
NEW Newport 108.76 41 P **PKiKP** **07 06 20.2 +0.2**
baz=227
AMTX Amarillo 108.83 60 IAMs_20 IAMs_20 07 47 09.9
comp=Z,1µm,20.0s
FXWY Fox Creek 108.84 48 IAMs_20 IAMs_20 07 54 10.7
comp=Z,1µm,18.0s
CAST Castle Rocks 108.85 15 IAMs_20 IAMs_20 07 51 28.0
comp=Z,2µm,21.0s
M24K Tolsona, Glenn 108.97 19 P **PKiKP** **07 06 21.7 +1.7**
baz=210
WAT6 Susitna Watana 109.03 18 P **PKiKP** **07 06 21.4 +1.2**
baz=209
LOHW Long Hollow 109.05 48 IAMs_20 IAMs_20 07 54 02.4
comp=Z,1µm,18.0s
MOOW Moose Ponds 109.06 48 IAMs_20 IAMs_20 07 55 34.7
comp=Z,2µm,18.0s
BW06 Boulder Array 109.09 49 IAMs_20 IAMs_20 07 46 07.4
comp=Z,2µm,19.0s
PDAR Pinedale Array 109.09 49 PKKPbc PKKPbc 07 17 28.1 +0.2
comp=Z,1.4nm,0.9s,baz=95,slow=4.7,SNR=7.3
PDAR PKKPab **PKKPab** **07 17 39.4 +1.6**
comp=Z,2.2nm,1.0s,baz=81,slow=2.9,SNR=7.3
JIS Juneau Island 109.10 26 IAMs_20 IAMs_20 07 47 55.9
comp=Z,2µm,20.0s
P29M Windy Craggy 109.14 24 P **PKiKP** **07 06 21.0 +0.6**
baz=216
J20K Nowinta River 109.15 14 IAMs_20 IAMs_20 07 48 42.8
comp=Z,1µm,20.0s
J20K Nowinta River 109.15 14 P **PKiKP** **07 06 21.0 +0.8**
baz=204
KTH Kantishna Hill 109.21 16 IAMs_20 IAMs_20 07 50 05.3
comp=Z,1µm,20.0s
BARN Barnard Glacie 109.22 21 IAMs_20 IAMs_20 07 49 35.7
comp=Z,2µm,20.0s
TRF Thorofare Moun 109.24 16 IAMs_20 IAMs_20 07 47 14.3
comp=Z,2µm,20.0s
TRF Thorofare Moun 109.24 16 P **PKiKP** **07 06 22.2 +1.6**
baz=207
FLWY Flagg Ranch 109.31 48 IAMs_20 IAMs_20 07 50 16.1
comp=Z,1µm,19.0s
O28M Mount Upton 109.38 22 P **PKiKP** **07 06 21.8 +0.7**
baz=214
MSO Missoula 109.39 44 IAMs_20 IAMs_20 07 50 13.2
comp=Z,2µm,19.0s
MSO Missoula 109.39 44 P **PKiKP** **07 06 21.7 +0.4**
baz=228
PLBC Pleasant Camp 109.42 24 P **PKiKP** **07 06 21.8 +1.0**
baz=217
HARP HAARP 109.47 19 P **PKiKP** **07 06 21.2 +0.4**
baz=211
T35M Bob Quinn 109.51 29 P **PKiKP** **07 06 22.3 +1.2**
baz=221
RND Reindeer 109.51 17 IAMs_20 IAMs_20 07 49 06.2
comp=Z,2µm,20.0s
HKT Hockley 109.65 67 IAMs_20 IAMs_20 07 45 54.9
comp=Z,2µm,19.0s
BPAW Bear Paw Mtn. 109.68 16 IAMs_20 IAMs_20 07 51 42.9
comp=Z,2µm,20.0s
RWWY Rawlins 109.73 51 IAMs_20 IAMs_20 07 46 09.6
comp=Z,1µm,20.0s
SKAG Skagway 109.74 25 P **PKiKP** **07 06 22.8 +1.4**
baz=218
P30M Million Dollar 109.77 24 P **PKiKP** **07 06 21.8 +0.2**
baz=217
MCK McKinley 109.78 17 IAMs_20 IAMs_20 07 49 34.4
comp=Z,2µm,21.0s
MCK McKinley 109.78 17 P **PKiKP** **07 06 22.9 +1.4**
baz=208
LKWY Lake 109.78 47 IAMs_20 IAMs_20 07 54 16.7
comp=Z,2µm,18.0s
BOZ Bozeman (W) 109.79 46 IAMs_20 IAMs_20 07 50 50.8
comp=Z,1µm,20.0s
BOZ Bozeman (W) 109.79 46 P **PKiKP** **07 06 22.5 +0.3**
baz=229
S34M Telegraph Cree 109.91 28 P **PKiKP** **07 06 21.0 -0.8**
baz=220
YUK8 Steele Glacier 109.92 22 P **PKiKP** **07 06 22.1 0.0**
baz=215
N23A Red Feather La 109.97 53 P **PKiKP** **07 06 22.8 -0.1**
baz=231
M26K Nabesna, AK 110.00 20 P **PKiKP** **07 06 22.9 +1.0**
baz=213
YUK6 Outpost Mounta 110.03 23 P **PKiKP** **07 06 23.3 +1.1**
baz=216
BWN Browne 110.06 16 IAMs_20 IAMs_20 07 48 00.7
comp=Z,2µm,20.0s
YUK3 Moose Creek 110.13 21 P **PKiKP** **07 06 23.2 +0.8**
baz=214
HYT Haines Junctio 110.18 23 P **PKiKP** **07 06 23.6 +1.2**
baz=216
YUK4 Talbot Arm 110.28 22 P **PKiKP** **07 06 23.6 +1.0**
baz=216
Q32M Nakina River 110.33 26 P **PKiKP** **07 06 23.9 +1.0**
baz=220
P32M Atlin 110.35 25 P **PKiKP** **07 06 23.2 +0.6**
baz=219
L26K Log Cabin Wild 110.44 19 P **PKiKP** **07 06 23.4 +0.7**
baz=212
I21K Tanana 110.46 15 IAMs_20 IAMs_20 07 49 43.4
comp=Z,1µm,19.0s
NEA2 Nenana 110.51 16 IAMs_20 IAMs_20 07 48 13.7
comp=Z,2µm,21.0s
K24K Donnelly Dome 110.53 18 P **PKiKP** **07 06 23.6 +0.7**
baz=211
O30N Mendenhall 110.55 24 P **PKiKP** **07 06 24.6 +1.6**
baz=217
BVCY Beaver Creek 110.56 21 P **PKiKP** **07 06 23.6 +0.7**
baz=214
MLY Manley 110.56 15 IAMs_20 IAMs_20 07 52 31.1
comp=Z,2µm,18.0s
MLY Manley 110.56 15 P **PKiKP** **07 06 23.3 +0.4**
baz=207
WRH Wood River Hil 110.61 17 IAMs_20 IAMs_20 07 48 16.3
comp=Z,2µm,20.0s
DLBC Dease Lake 110.69 28 P **PKiKP** **07 06 23.5 +0.2**
baz=221
RIDG Independent Ri 110.69 18 IAMs_20 IAMs_20 07 56 04.6
comp=Z,1µm,20.0s
RIDG Independent Ri 110.69 18 P **PKiKP** **07 06 24.2 +1.0**
baz=212
BRIGG Briggsdale 110.74 54 IAMs_20 IAMs_20 07 46 33.3
comp=Z,2µm,20.0s
H21K Melozitna Rive 110.74 14 IAMs_20 IAMs_20 07 51 06.8
comp=Z,1µm,20.0s
H21K Melozitna Rive 110.74 14 P **PKiKP** **07 06 22.3 -0.9**
baz=206
RLMT Red Lodge 110.76 47 IAMs_20 IAMs_20 07 59 40.9
comp=Z,1µm,18.0s
RLMT Red Lodge 110.76 47 P **PKiKP** **07 06 26.0 +1.9**
baz=230
HDA Harding Lake 110.80 17 P **PKiKP** **07 06 23.1 -0.2**
baz=210
N30M Aishikik Lake 110.81 23 P **PKiKP** **07 06 23.8 +0.3**
baz=217
CCB Clear Creek Bu 110.82 17 IAMs_20 IAMs_20 07 52 04.9
comp=Z,2µm,19.0s
WHY Whitehorse 110.83 24 P **PKiKP** **07 06 24.1 +0.5**
baz=218
L27K Beaver Creek, 110.85 20 P **PKiKP** **07 06 24.2 +0.7**
baz=214
I23K Minto, Yukon-K 110.94 16 IAMs_20 IAMs_20 07 48 17.1
comp=Z,2µm,21.0s
I23K Minto, Yukon-K 110.94 16 P **PKiKP** **07 06 24.0 +0.5**
baz=208
SGCB SCo Gabriel d 111.00 111 *e*P **Pdif** **07 02 28.2 +2.2**
MDM Murphy Dome 111.00 16 IAMs_20 IAMs_20 07 43 42.9
comp=Z,2µm,22.0s
TCOL CIGO, UAF Yank 111.01 16 IAMs_20 IAMs_20 07 52 00.9
comp=Z,2µm,20.0s
COLA College 111.01 16 IAMs_20 IAMs_20 07 52 00.9
comp=Z,2µm,20.0s
SCRK Sand Creek 111.09 18 P **PKiKP** **07 06 24.7 +0.6**
baz=212
R33M Jennings River 111.10 27 P **PKiKP** **07 06 25.0 +0.8**
baz=221
P33M Teslin, Yukon 111.12 25 P **PKiKP** **07 06 24.4 +0.2**
baz=220
ILAR Eielson Array 111.12 17 PKiKP **PKiKP** **07 06 23.5 -0.4**
comp=Z,9.9nm,1.1s,baz=269,slow=2.8,SNR=21
ILAR PKKPab **PKKPab** **07 17 30.1 +2.9**
comp=Z,4.1nm,0.9s,baz=5.9,slow=3.6,SNR=20
N31M Braeburn, Yuko 111.21 23 P **PKiKP** **07 06 24.2 0.0**
baz=218
H22K Ishtalita Cre 111.22 15 P **PKiKP** **07 06 25.2 +1.1**
baz=207
M29M Somme Creek 111.22 22 P **PKiKP** **07 06 25.2 +0.9**
baz=216
POKR Poker Plat Res 111.31 16 IAMs_20 IAMs_20 07 48 36.9
comp=Z,2µm,20.0s
J25K Salcha River, 111.32 18 P **PKiKP** **07 06 25.4 +1.0**
baz=211
G21K Allakaket 111.39 13 P **PKiKP** **07 06 25.6 +1.2**
baz=205
RDOG Red Dog Mine 111.47 9 IAMs_20 IAMs_20 08 00 42.7
comp=Z,1µm,19.0s
H23K Yukon River 111.50 15 IAMs_20 IAMs_20 07 52 50.0
comp=Z,1µm,20.0s
NATX Nacogdoches 111.55 66 IAMs_20 IAMs_20 07 47 00.1
comp=Z,2µm,19.0s
J26L Joseph Creek 111.64 18 P **PKiKP** **07 06 25.3 +0.3**
baz=213
OK038 West end E0370 111.69 60 IAMs_20 IAMs_20 07 49 41.8
comp=Z,2µm,19.0s
M30M Minto, Yukon 111.79 22 IAMs_20 IAMs_20 07 51 07.8
comp=Z,1µm,20.0s
M30M Minto, Yukon 111.79 22 P **PKiKP** **07 06 26.0 +0.7**
baz=217
H24K Noodor Dome 111.85 16 IAMs_20 IAMs_20 07 49 06.1
comp=Z,2µm,21.0s
OK035 E0210 Rd and N 111.85 60 IAMs_20 IAMs_20 07 50 37.0
comp=Z,2µm,18.0s
L29M L29M 111.85 21 P **PKiKP** **07 06 26.8 +1.4**
baz=216
F21K Alatna River 112.04 13 P **PKiKP** **07 06 28.5 +2.9**
baz=206
PRP Porcupine Dome 112.06 17 IAMs_20 IAMs_20 07 53 30.8
comp=Z,1µm,19.0s
G22K Bettles 112.11 14 P **PKiKP** **07 06 27.6 +1.9**
baz=207
M31M Drury Creek, Y 112.19 23 IAMs_20 IAMs_20 07 47 07.3
comp=Z,1µm,21.0s
M31M Drury Creek, Y 112.19 23 P **PKiKP** **07 06 26.0 0.0**
baz=219
G23K Bananza Creek 112.20 15 P **PKiKP** **07 06 27.4 +1.5**
baz=208
DAWY Dawson 112.30 20 P **PKiKP** **07 06 25.7 -0.5**
baz=216,SNR=6.2
EGMT Eagleton 112.33 45 IAMs_20 IAMs_20 07 52 32.1
comp=Z,2µm,20.0s
OGNE Ogallala 112.33 55 IAMs_20 IAMs_20 07 47 24.6
comp=Z,2µm,20.0s
OGNE Ogallala 112.33 55 P **PKiKP** **07 06 27.3 +0.2**
baz=233
I26K Coal Creek Min 112.41 18 IAMs_20 IAMs_20 07 55 41.1
comp=Z,1µm,18.0s
I26K Coal Creek Min 112.41 18 P **PKiKP** **07 06 28.2 +1.8**
baz=213
EGAK Eagle 112.44 19 P **PKiKP** **07 06 27.2 +0.8**
baz=214
FARO Faro, Yukon 112.52 24 P **PKiKP** **07 06 26.7 0.0**
baz=220
F22K John River 112.52 13 P **PKiKP** **07 06 27.4 +0.8**
baz=207
K29M Barlow Dome 112.61 21 P **PKiKP** **07 06 28.5 +1.6**
baz=217
COLD Coldfoot 112.62 14 P **PKiKP** **07 06 27.5 +0.9**
baz=208
G24K Hadweenzic Riv 112.68 16 P **PKiKP** **07 06 27.3 +0.5**
baz=210
LIRD Liard River Hi 112.79 29 P **PKiKP** **07 06 27.5 +0.3**
baz=224
MAYO Mayo, Yukon 112.85 22 P **PKiKP** **07 06 28.7 +1.4**
baz=218
J29M Klondike Camp 112.92 20 IAMs_20 IAMs_20 07 51 35.6
comp=Z,1µm,19.0s
J29M Klondike Camp 112.92 20 P **PKiKP** **07 06 29.5 +2.0**
baz=217
G25K Bearman Lake 113.01 16 P **PKiKP** **07 06 28.6 +1.2**
baz=211
I27K Kandik River 113.02 18 P **PKiKP** **07 06 29.0 +1.4**
baz=214

FYU	**Fort Yukon**	113.02	17	IAMs_20	IAMs_20	07 49 41.2		
	comp=Z,1µm,20.0s							
RSSD	**Black Hills**	113.07	51	P	**PKiKP**	07 06 30.4	+1.8	
	baz=233							
E22K	**Anaktuvuk Pass**	113.14	13	P	**PKiKP**	07 06 28.5	+0.8	
	baz=207							
TUL1	**Leonard**	113.27	62	P	**PKiKP**	07 06 29.0	+0.1	
	baz=234							
F24K	**Squaw Lake**	113.31	15	P	**PKiKP**	07 06 29.2	+1.1	
	baz=210							
LAO	**LASA Array**	113.40	48	IAMs_20	IAMs_20	07 58 05.4		
	comp=Z,2µm,19.0s							
LAO	**LASA Array**	113.40	48	P	**PKiKP**	07 06 28.6	-0.3	
	baz=233							
MMPY	**Sheldon Lake,**	113.44	24	P	**PKiKP**	07 06 27.4	-1.1	
	baz=221							
NPGB	**Novo Progresso**	113.46	125	*e*P	**Pdif**	07 02 39.7	+2.7	
E23K	**Chandalar**	113.46	14	P	**PKiKP**	07 06 28.8	+0.4	
	baz=209							
H27K	**Steamboat Moun**	113.56	18	P	**PKiKP**	07 06 29.0	+0.4	
	baz=215							
TGTN	**Hyland Airport**	113.58	26	P	**PKiKP**	07 06 29.7	+0.9	
	baz=223							
GUA01	**Guaratinga, BA**	113.62	144	*e*P	**Pdif**	07 02 40.0	+2.4	
I29M	**Ogilvie Camp,**	113.62	20	P	**PKiKP**	07 06 28.7	0.0	
	baz=217,SNR=6.6							
G26K	**Porcupine Rive**	113.66	17	P	**PKiKP**	07 06 29.2	+0.5	
	baz=213							
E24K	**Your Creek**	113.68	14	P	**PKiKP**	07 06 28.9	+0.1	
	baz=210							
F25K	**Christian Rive**	113.82	16	P	**PKiKP**	07 06 29.8	+0.8	
	baz=212							
MIAR	**Mount Ida**	113.93	64	IAMs_20	IAMs_20	07 47 11.2		
	comp=Z,2µm,21.0s							
TOLK	**Toolik Lake Re**	113.98	14	IAMs_20	IAMs_20	07 49 37.5		
	comp=Z,1µm,20.0s							
TOLK	**Toolik Lake Re**	113.98	14	P	**PKiKP**	07 06 30.1	+0.8	
	baz=209							
G27K	**Doyon Strip**	114.01	18	P	**PKiKP**	07 06 30.2	+0.8	
	baz=215							
KOTAN	**Kotaneelee Air**	114.03	29	P	**PKiKP**	07 06 30.2	+0.6	
	baz=226							
D23K	**Nanushuk River**	114.08	13	P	**PKiKP**	07 06 30.3	+0.9	
	baz=208							
F26K	**Sheenjek River**	114.21	16	P	**PKiKP**	07 06 30.6	+0.8	
	baz=213							
E25K	**Arctic Village**	114.28	15	P	**PKiKP**	07 06 30.7	+0.8	
	baz=212							
FLDN	**Fort Liard**	114.31	29	P	**PKiKP**	07 06 31.1	+1.0	
	baz=226							
KSU1	**Kansas State U**	114.60	59	IAMs_20	IAMs_20	07 53 36.8		
	comp=Z,1µm,19.0s							
KSU1	**Kansas State U**	114.60	59	P	**PKiKP**	07 06 32.2	+0.9	
	baz=234							
EPYK	**Eagle Plains**	114.82	20	P	PKPdf	07 06 30.6	-0.4	
	baz=218,SNR=7.9							
C23K	**Itkillik River**	114.86	13	P	**PKiKP**	07 06 31.5	+0.6	
	baz=208							
C24K	**Franklin Bluff**	115.08	14	P	**PKPdf**	07 06 31.2	-0.1	
	baz=210							
E27K	**Coleen River**	115.16	17	P	**PKiKP**	07 06 32.0	+0.5	
	baz=215							
A21K	**Barrow**	115.32	10	IAMs_20	IAMs_20	07 50 53.7		
	comp=Z,1µm,21.0s							
WMQ	**Urumqi**	115.34	307	*e*PKP	**PKiKP**	07 06 33.3	+0.6	
WMQ				LR	LR			
	comp=Z,700nm,20.9s							
WMQ				LR	LR			
	comp=Z,520nm,19.1s							
WMQ				LR	LR			
	comp=Z,480nm,24.7s							
G30M	**tAoh Zrail Nji**	115.43	19	P	**PKPdf**	07 06 32.0	-0.1	
	baz=219,SNR=8.9							
DGMT	**Dagmar**	115.56	47	P	**PKiKP**	07 06 34.1	+1.2	
	baz=234							
HILA	**High Level**	115.65	33		**PKiKP**	07 06 33.2	+0.5	
C27K	**Jago River**	115.92	15	P	**PKiKP**	07 06 33.5	+0.5	
	baz=214							
C26K	**Camden Bay**	115.93	15	P	**PKiKP**	07 06 33.5	+0.6	
	baz=213							
WRGLY	**Wrigley**	116.37	27	P	**PKiKP**	07 06 34.4	+0.4	
	baz=227							
F31M	**Tsiigehtchic**	116.40	20	P	**PKPdf**	07 06 33.5	-0.4	
	baz=221,SNR=6.4							
LCAR	**Lake Charles**	116.43	64		**PKPdf**	07 06 34.8	-0.1	
OXF	**Oxford**	116.72	67	IAMs_20	IAMs_20	07 56 07.2		
	comp=Z,1µm,19.0s							
OXF	**Oxford**	116.72	67	P	**PKPdf**	07 06 35.6	0.0	
	baz=235							
INK	**Inuvik**	117.11	19	PKP	**PKiKP**	07 06 35.4	+0.1	
	comp=Z,10nm,0.8s,baz=174,slow=2.8,SNR=16							
INK	**Inuvik**	117.11	19	P	**PKPdf**	07 06 34.4	-0.8	
	baz=221,SNR=12							
ECSD	**EROS Data Cent**	117.22	55	IAMs_20	IAMs_20	07 51 09.9		
	comp=Z,2µm,20.0s							
ECSD	**EROS Data Cent**	117.22	55	P	**PKPdf**	07 06 35.9	-0.4	
	baz=236							
CCM	**Cathedral Cave**	117.48	62	P	**PKiKP**	07 06 37.4	+0.4	
	baz=236							
LRAL	**Lakeview Retre**	117.55	69	P	**PKPdf**	07 06 37.1	-0.1	
	baz=236							
MDND	**Maddock**	117.74	49	P	**PKiKP**	07 06 38.0	+0.8	
	baz=237							
P40A	**Paris**	117.77	61		**PKPdf**	07 06 36.1	-1.3	
PLAL	**Pickwick Lake**	117.90	67	PKPdf	**PKPdf**	07 06 37.6	-0.2	
TIXI	**Tiksi**	118.10	345	PKP	**PKPdf**	07 06 35.9	-1.2	
	comp=Z,3.5nm,0.4s,baz=155,slow=0.2,SNR=7.1							
TIXI				PKKP	**PKKPdf**	07 17 26.4	-0.7	
	comp=Z,1.5nm,0.4s,baz=169,slow=0.4,SNR=4.3							
TIXI	**Tiksi**	118.10	345*c*	*i* PKIKP	**PKPdf**	07 06 35.7	-1.4	
TIXI				pmax	pmax			
	comp=Z,14nm,1.2s							
TIXI				MLR	MLR			
	comp=Z,944nm,19.0s							
HATO	**Hato, Curacao**	118.10	99	IAMs_20	IAMs_20	07 53 08.5		
	comp=Z,1µm,18.0s							
X48A	**Hartselle**	118.31	68	P	**PKiKP**	07 06 39.4	+0.8	
	baz=236							
WVT	**Waverly**	118.70	66		**PKPdf**	07 06 38.0	-1.3	
WVT	**Waverly**	118.70	66	IAMs_20	IAMs_20	07 55 47.4		
	comp=Z,1µm,18.0s							
WVT	**Waverly**	118.70	66	P	**PKiKP**	07 06 40.0	+0.7	
	baz=237							
WVT	**Waverly**	118.70	66	PKIKP	**PKPdf**	07 06 38.0	-1.3	
WVT				MLR	MLR			
	comp=Z,1µm,18.0s							
DGZ	**Jazzator, Alta**	118.76	312	*i* PKIKP	**PKPdf**	07 06 38.4	-0.8	
DGZ				pmax	pmax			
	comp=Z,8.0nm,1.1s							
K38A	**Parkersburg**	118.99	57	PKPdf	**PKPdf**	07 06 39.4	-0.3	
NIL	**Nilore**	119.00	290	PKPdf	**PKPdf**	07 06 39.4	-0.7	
NIL	**Nilore**	119.00	290	PKIKP	**PKPdf**	07 06 39.4	-0.7	
NIL				MLR	MLR			
	comp=Z,700nm,20.0s							
YKA	**Yellowknife Ar**	119.03	30	PKP	**PKPdf**	07 06 39.0	-0.1	
	comp=Z,46nm,1.0s,baz=230,slow=2.2,SNR=50							
YKA				PKKPbc	**PKKPbc**	07 16 54.8	+0.8	
	comp=Z,5.8nm,0.9s,baz=40,slow=4.6,SNR=7.2							
YKA	**Yellowknife Ar**	119.03	30	PKPdf	**PKPdf**	07 06 38.7	-0.4	
YKA	**Yellowknife Ar**	119.03	30	PKIKP	**PKPdf**	07 06 38.7	-0.4	
TIGA	**Tifton**	119.04	73	P	**PKiKP**	07 06 40.3	+0.1	
	baz=236							
V48A	**Smith Brothers**	119.17	67		**PKiKP**	07 06 40.4	+0.1	
HDIL	**Hopedale**	120.10	61	PKPdf	**PKPdf**	07 06 41.2	-0.7	
HDIL	**Hopedale**	120.10	61	P	**PKiKP**	07 06 42.4	+0.4	
	baz=238							
AGMN	**Agassiz Nation**	120.11	51		**PKPdf**	07 06 41.6	0.0	
AGMN	**Agassiz Nation**	120.11	51	P	**PKiKP**	07 06 42.6	+0.9	
	baz=239							
AGMN	**Agassiz Nation**	120.11	51	P	**PKPdf**	07 06 41.4	-0.2	
	baz=239							
MK31	**Makanchi Array**	120.15	307		**PKPdf**	07 06 40.8	-1.1	
MK31	**Makanchi Array**	120.15	307	PKIKP	**PKPdf**	07 06 40.8	-1.1	
MKAR	**Makanchi Array**	120.15	307	PKP	**PKPdf**	07 06 40.5	-1.4	
	comp=Z,7.1nm,0.7s,baz=222,slow=1.7,SNR=29							
FFC	**Flin Flon**	120.18	42	PKPdf	**PKPdf**	07 06 41.1	-0.5	
FFC	**Flin Flon**	120.18	42	PKIKP	**PKPdf**	07 06 41.1	-0.5	
GOGA	**Godfrey**	120.22	71	P	**PKPdf**	07 06 42.2	-0.1	
	baz=237							
F36A	**Milaca**	120.22	54	PKPdf	**PKPdf**	07 06 41.2	-0.8	
C36M	**Paulatuk**	120.28	21	P	**PKPdf**	07 06 41.2	-0.1	
	baz=229,SNR=21							
TARG	**Taragay, Kyrgy**	120.29	300	PKPdf	**PKPdf**	07 06 41.6	-1.2	
TARG	**Taragay, Kyrgy**	120.29	300	PKIKP	**PKPdf**	07 06 41.6	-1.2	
KIBK	**Kibwezi**	120.29	234	IAMs_20	IAMs_20	07 47 19.8		
	comp=Z,1µm,21.0s							
U49A	**Red Boiling Sp**	120.30	67	P	**PKiKP**	07 06 43.3	+0.8	
	baz=238							
KSH	**Kashi**	120.32	297	PKP	**PKiKP**	07 06 43.4	+0.8	
SPMN	**Marine on St.**	120.33	55	P	**PKiKP**	07 06 42.8	+0.6	
	baz=239							
MAKZ	**Makanchi**	120.35	307	⇑PKIKP	**PKPdf**	07 06 40.6	-1.6	
JFWS	**Jewell Farm**	120.72	58	PKPdf	**PKPdf**	07 06 42.1	-0.9	
JFWS	**Jewell Farm**	120.72	58	P	**PKPdf**	07 06 42.9	-0.1	
	baz=239							
JFWS	**Jewell Farm**	120.72	58	PKIKP	**PKPdf**	07 06 42.1	-0.9	
JFWS				MLR	MLR			
	comp=Z,2µm,18.0s							
MCPB	**Macapa, AP**	120.72	123	*e*P	**PKiKP**	07 06 45.3	+1.2	
WCI	**Wyandotte Cave**	120.86	65	PKPdf	**PKPdf**	07 06 43.0	-0.4	
WCI	**Wyandotte Cave**	120.86	65	P	**PKiKP**	07 06 44.5	+1.0	
	baz=238							
WCI	**Wyandotte Cave**	120.86	65	PKIKP	**PKPdf**	07 06 43.0	-0.4	
WCI				MLR	MLR			
	comp=Z,2µm,19.0s							
ULM	**Lac du Bonnet**	121.09	49	PKP	**PKPdf**	07 06 43.5	0.0	
	comp=Z,28nm,1.2s,baz=273,slow=3.2,SNR=9.0							
T50A	**Nancy**	121.20	67		**PKPdf**	07 06 44.0	-0.1	
T50A	**Nancy**	121.20	67	P	**PKiKP**	07 06 45.5	+1.2	
	baz=238							
T50A				P	**PKiKP**	07 06 45.5	+1.2	
	baz=238							
NRN	**Naryn**	121.29	299	PKPdf	**PKPdf**	07 06 44.5	-0.1	
NRN	**Naryn**	121.29	299	PKIKP	**PKPdf**	07 06 44.5	-0.1	
HQIL	**Hanson Quary C**	121.67	60	IAMs_20	IAMs_20	07 47 52.9		
	comp=Z,849nm,21.0s							
A36M	**Sachs Harbour**	121.71	19	P	**PKiKP**	07 06 44.5	+0.4	
	baz=230							
KMBO	**Kilima Mbogo**	121.73	234	PKP	**PKiKP**	07 06 47.0	+0.6	
	comp=Z,1.7nm,0.4s,baz=122,slow=2.7,SNR=9.2							
KMBO				PP	**PP**	07 08 18.8	+0.2	
	comp=Z,2.7nm,0.9s,baz=129,slow=9.2,SNR=6.1							
KMBO	**Kilima Mbogo**	121.73	234	IAMs_20	IAMs_20	07 48 13.3		
	comp=Z,2µm,21.0s							
KMBO	**Kilima Mbogo**	121.73	234	P	**PKiKP**	07 06 46.8	+0.5	
TZTN	**Tazewell**	121.84	68	P	**PKPdf**	07 06 45.0	-0.4	
	baz=238							
R50A	**Paris**	122.21	66	P	**PKiKP**	07 06 47.7	+1.5	
	baz=239							
R50A				P	**PKiKP**	07 06 47.7	+1.5	
	baz=239							
TKM2	**Tokmak 2**	122.30	301	P	**PKPdf**	07 06 45.5	-0.8	
	SNR=8.2							
ZALV	**Zalesovo Beam**	122.32	316	PKP	**PKPdf**	07 06 43.8	-1.9	
	comp=Z,3.7nm,0.7s,baz=147,slow=3.0,SNR=8.0							
S51A	**Beattyville**	122.37	67	PKPdf	**PKiKP**	07 06 46.8	+0.3	
KBL	**Kabul**	122.41	289	PKPdf	**PKPdf**	07 06 46.3	-0.5	
KBL	**Kabul**	122.41	289	P	**PKPdf**	07 06 46.8	-0.1	
	SNR=19							
KBL	**Kabul**	122.41	289	PKIKP	**PKPdf**	07 06 46.3	-0.5	
EYMN	**Ely**	122.47	53	P	**PKiKP**	07 06 47.0	+0.6	
	baz=241							
EYMN	**Ely**	122.47	53	P	**PKiKP**	07 06 46.9	+0.5	
	baz=241							
P49A	**Miami Univ. Ec**	122.58	64	IAMs_20	IAMs_20	07 53 55.2		
	comp=Z,2µm,20.0s							
P49A	**Miami Univ. Ec**	122.58	64	P	**PKiKP**	07 06 47.1	+0.2	
	baz=240							
KMSC	**Kings Mountain**	122.64	70	P	**PKiKP**	07 06 47.5	+0.4	
	baz=238							
UCH	**Uchtor**	122.65	300	P	**PKPdf**	07 06 47.4	0.0	
	SNR=13							
O48B	**Farmland**	122.66	63	P	**PKiKP**	07 06 48.0	+0.9	
	baz=240							
O48B	**Farmland**	122.66	63	P	**PKiKP**	07 06 47.6	+0.6	
	baz=240							
MHTO	**MHTO**	122.83	269	P	**PKPdf**	07 06 46.9	-0.8	
AAK	**Ala-Archa**	122.87	300	PKP	**PKPdf**	07 06 46.9	-0.5	
	comp=Z,4.8nm,0.8s,baz=181,slow=4.9,SNR=9.5							
AAK	**Ala-Archa**	122.87	300	PKPdf	**PKPdf**	07 06 46.7	-0.7	
AAK	**Ala-Archa**	122.87	300	PKPdf	**PKPdf**	07 06 47.1	-0.2	
AAK	**Ala-Archa**	122.87	300*c*	*i* PKIKP	**PKPdf**	07 06 47.2	-0.2	
AAK				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CHMS	**Chumysh**	122.88	300	P	**PKPdf**	07 06 46.5	-0.7	
	SNR=7.5							
WBK	**Wadi Bani Khal**	123.06	271	P	**PKPdf**	07 06 47.9	-0.3	
NGCH	**Negor - Chabah**	123.07	276	P	**PKiKP**	07 06 49.1	+0.8	
AML	**Almayashu**	123.13	299	P	**PKPdf**	07 06 48.3	+0.1	
	SNR=20							
USP	**Ospenovka**	123.17	301	P	**PKPdf**	07 06 46.9	-0.9	
	SNR=9.8							
Q51A	**Peebles**	123.25	65		**PKiKP**	07 06 48.2	0.0	
Q51A	**Peebles**	123.25	65	P	**PKiKP**	07 06 48.3	0.0	
	baz=240,SNR=12							
Q51A				P	**PKiKP**	07 06 48.3	0.0	
	baz=240,SNR=12							
ROSB	**Rosrio**	123.31	133	*e*P	**PKiKP**	07 06 52.1	+2.9	
EKS2	**Erin-Say**	123.34	300	P	**PKPdf**	07 06 47.5	-0.7	
	SNR=11							
RBK	**Rabkut**	123.46	263	P	**PKiKP**	07 06 49.3	0.0	
JMDO	**Jabal Madar**	123.56	271	P	**PKPdf**	07 06 48.4	-0.7	
	SNR=7.8							
N49A	**Columbus Grove**	123.63	63	P	**PKiKP**	07 06 50.1	+1.2	
	baz=240,SNR=6.4							
N49A				P	**PKiKP**	07 06 50.1	+1.2	
	baz=240,SNR=6.4							
P51A	**Williamsport**	123.67	65	P	**PKiKP**	07 06 50.2	+1.2	
	baz=240,SNR=5.9							
P51A				P	**PKiKP**	07 06 50.2	+1.2	
	baz=240,SNR=5.9							
WSAR	**Wadi Sarin**	123.69	272	PKP	**PKPdf**	07 06 48.9	-0.4	
	comp=Z,24nm,1.1s,baz=241,slow=0.7,SNR=9.5							
WSAR	**Wadi Sarin**	123.69	272	P	**PKPdf**	07 06 49.2	-0.1	
	SNR=5.4							
GAR	**Garm**	123.82	294		**PKPdf**	07 06 49.1	-0.1	
U56A	**King**	123.92	69	P	**PKiKP**	07 06 52.3	+2.6	
	baz=239							
U56A				P	**PKiKP**	07 06 52.3	+2.6	
	baz=239							
Q52A	**Bidwell**	123.94	66	P	**PKiKP**	07 06 50.2	+0.6	
	baz=240,SNR=6.5							
Q52A				P	**PKiKP**	07 06 50.2	+0.6	
	baz=240,SNR=6.5							
SMDO	**Samad**	124.01	271	P	**PKPdf**	07 06 49.7	-0.4	
	SNR=8.0							
S54A	**Dingess, Beckl**	124.01	68	P	**PKiKP**	07 06 51.4	+1.6	
	baz=240							
S54A				P	**PKiKP**	07 06 51.4	+1.6	
	baz=240							
ABTO	**Aybut**	124.03	263	P	**PKPdf**	07 06 50.2	0.0	
ACSO	**Alum Creek Sta**	124.09	64		**PKPdf**	07 06 48.8	-0.8	
ACSO	**Alum Creek Sta**	124.09	64	P	**PKPdf**	07 06 49.6	0.0	
	baz=241,SNR=9.1							
ACSO	**Alum Creek Sta**	124.09	64	P	**PKPdf**	07 06 49.5	0.0	
	baz=241,SNR=9.1							
KURK	**Kurchatov**	124.18	310		**PKPdf**	07 06 48.2	-1.1	
KURK	**Kurchatov**	124.18	310	PKIKP	**PKPdf**	07 06 48.2	-1.1	
KURBB	**Kurchatov Arra**	124.19	310	PKP	**PKPdf**	07 06 48.1	-1.2	
	comp=Z,12nm,0.6s,baz=116,slow=2.0,SNR=64							
KURBB				PP	**PP**	07 08 34.2	-0.9	
	comp=Z,0.4nm,0.4s,baz=114,slow=4.6,SNR=4.3							
KURBB				PKKPbc	**PKKPbc**	07 16 36.7	+2.7	
	comp=Z,0.9nm,0.7s,baz=288,slow=4.2,SNR=4.9							
KURBB				SKKPbc	SKKPbc	07 20 26.9	+2.3	
	comp=Z,1.4nm,0.9s,baz=285,slow=4.6,SNR=4.6							
DOK	**Doka**	124.21	264	P	**PKPdf**	07 06 50.1	-0.4	
BIDO	**Bidbid**	124.23	272	P	**PKPdf**	07 06 50.3	-0.1	
	SNR=7.3							
HUMP	**Col San Antoni**	124.23	96	PKPdf	**PKPdf**	07 06 50.5	+0.1	
BLA	**Blacksburg**	124.33	69	IAMs_20	IAMs_20	07 55 24.6		
	comp=Z,1µm,21.0s							
BLA	**Blacksburg**	124.33	69	P	**PKiKP**	07 06 51.8	+1.4	
	baz=240							
BLA	**Blacksburg**	124.33	69	P	**PKiKP**	07 06 51.4	+0.9	
	baz=240							
P52A	**Corning**	124.36	65	P	**PKPdf**	07 06 50.0	-0.2	
	baz=241,SNR=7.4							
BSY	**Bisya**	124.45	270	P	**PKPdf**	07 06 50.1	-0.7	
	SNR=5.2							
AAM	**Ann Arbor**	124.64	62	P	**PKiKP**	07 06 51.4	+0.5	
	baz=242							
P53A	**Whipple**	124.79	66	P	**PKiKP**	07 06 52.3	+1.0	
	baz=241,SNR=9.7							
P53A				P	**PKiKP**	07 06 52.3	+1.0	
	baz=241,SNR=9.7							
O52A	**Adamsville**	124.80	65	P	**PKiKP**	07 06 52.0	+0.8	
	baz=241,SNR=8.5							
O52A				P	**PKiKP**	07 06 52.0	+0.8	
	baz=241,SNR=8.5							
HOQ	**Hoqain**	124.87	271	P	**PKPdf**	07 06 51.0	-0.6	
	SNR=10							
RCBR	**Riachuelo**	124.89	143	*e*P	**PKiKP**	07 06 54.7	+2.4	
Q54A	**Coxs Mills**	124.92	67	P	**PKiKP**	07 06 52.6	+1.0	
	baz=241,SNR=7.5							
Q54A				P	**PKiKP**	07 06 52.6	+1.0	
	baz=241,SNR=7.5							
T57A	**Hurt**	125.03	69	P	**PKiKP**	07 06 51.9	+0.1	
	baz=240,SNR=9.0							
T57A				P	**PKiKP**	07 06 51.9	+0.1	
	baz=240,SNR=9.0							
R55A	**Marlinton**	125.07	68	P	**PKiKP**	07 06 53.7	+1.8	
	baz=240,SNR=9.4							
R55A				P	**PKiKP**	07 06 53.7	+1.8	
	baz=240,SNR=9.4							
O53A	**New Philadelph**	125.28	65	P	**PKiKP**	07 06 52.8	+0.6	
	baz=241,SNR=9.3							
ARQ	**Araqi**	125.31	271	P	**PKPdf**	07 06 51.8	-0.7	
	SNR=10							
SVN	**Savane Anatole**	125.53	103	IAMs_20	IAMs_20	08 00 22.6		
	comp=Z,897nm,18.0s							
S57A	**Dark Hollow, R**	125.61	69		**PKiKP**	07 06 53.8	+0.8	
S57A	**Dark Hollow, R**	125.61	69	P	**PKiKP**	07 06 53.1	+0.1	
	baz=240,SNR=5.9							
S57A				P	**PKiKP**	07 06 53.1	+0.1	
	baz=240,SNR=5.9							
KKAR	**Karatay Array**	125.66	299	PKPdf	**PKPdf**	07 06 51.7	-0.8	
KKAR	**Karatay Array**	125.66	299	PKIKP	**PKPdf**	07 06 51.7	-0.8	
SOHO	**SOHO**	125.77	271	P	**PKPdf**	07 06 52.8	-0.4	
SOHO	**SOHO**	125.77	271	*i* PKPdf	**PKPdf**	07 06 52.4	-0.8	
	SNR=18							
JASK	**Jask, Hormozg**	125.78	274	P	**PKiKP**	07 06 54.2	+0.6	
	SNR=15							
N53A	**Lisbon**	125.80	65	P	**PKiKP**	07 06 54.5	+1.2	
	baz=242							
N53A				P	**PKiKP**	07 06 54.5	+1.2	
	baz=242							
O54A	**Avella**	125.81	65	P	**PKPdf**	07 06 52.5	-0.4	
	baz=242,SNR=14							
O54A				P	**PKPdf**	07 06 52.5	-0.4	
	baz=242,SNR=14							
FCC	**Fort Churchill**	125.90	40	PKPdf	**PKiKP**	07 06 52.8	0.0	
FCC	**Fort Churchill**	125.90	40	PKIKP	**PKiKP**	07 06 52.8	0.0	
MCWV	**Mont Chateau**	125.92	66		**PKiKP**	07 06 53.8	+0.3	
MCWV	**Mont Chateau**	125.92	66	P	**PKPdf**	07 06 53.3	+0.2	
	baz=241							
MCWV	**Mont Chateau**	125.92	66	P	**PKiKP**	07 06 53.8	+0.3	
	baz=241							
SEUS	**St. Eustatius**	125.93	99	IAMs_20	IAMs_20	07 56 18.8		
	comp=Z,946nm,19.0s							
Q56A	**Snyder Ridge,**	126.08	67	P	**PKiKP**	07 06 54.0	+0.1	
	baz=241,SNR=11							
Q56A				P	**PKiKP**	07 06 54.0	+0.1	
	baz=241,SNR=11							
T59A	**Double "B" Far**	126.20	70	P	**PKiKP**	07 06 54.1	-0.1	
	baz=240							
T59A				P	**PKiKP**	07 06 54.1	-0.1	
	baz=240							
M53A	**WI Miller and**	126.20	64	P	**PKiKP**	07 06 54.7	+0.7	
	baz=242							
ALNE	**Al Ain**	126.30	271	P	**PKPdf**	07 06 53.1	-1.3	
	SNR=12							
ALNE	**Al Ain**	126.30	271	*i* PKPdf	**PKPdf**	07 06 54.2	-0.1	
	SNR=6.6							
ASHO	**Ashiyiah**	126.44	272	P	**PKPdf**	07 06 53.9	-0.6	
	SNR=13							
ASHO	**Ashiyiah**	126.44	272	*i* PKPdf	**PKPdf**	07 06 54.0	-0.6	
	SNR=22							
R58B	**Mineral**	126.46	69	PKPdf	**PKiKP**	07 06 54.9	+0.3	
R58B	**Mineral**	126.46	69	P	**PKiKP**	07 06 54.9	+0.3	
	baz=241,SNR=5.4							
R58B				P	**PKiKP**	07 06 54.9	+0.3	
	baz=241,SNR=5.4							
HATD	**Hatta, Dubai**	126.46	272	P	**PKPdf**	07 06 54.2	-0.5	
	SNR=16							
HATD	**Hatta, Dubai**	126.46	272	*i* PKPdf	**PKPdf**	07 06 54.0	-0.6	
	SNR=19							
LODK	**Lodwar**	126.47	235		**PKPdf**	07 06 55.0	-0.1	
LODK				IAMs_20	IAMs_20	07 58 05.2		
	comp=Z,1µm,18.0s							
LODK	**Lodwar**	126.47	235	P	**PKiKP**	07 06 55.5	-0.1	
	SNR=5.2							
UOSS	**Minazif**

	comp=Z,40nm,1.7s							
PAL	**Palisades**	**130.58**	**67**	IAMs_20	IAMs_20	08 03 00.9		
	comp=Z,1µm,20.0s							
PAL	**Palisades**	**130.58**	**67**	P	**PKiKP**	**07 07 02.9**	**+0.2**	
	baz=245							
RES	**Resolute Bay**	**130.64**	**20**	PKP	**PKPdf**	**07 07 00.6**	**-0.4**	
	comp=Z,13nm,1.0s,baz=236,slow=1.1,SNR=8.3							
SHMA	**Al-Shehemyia**	**130.88**	**269**	P	**PKPdf**	**07 07 02.2**	**-0.7**	
SAKB	**Bahrain**	**131.27**	**269**	P	**PKiKP**	**07 07 05.1**	**+0.5**	
YLE	**Yale**	**131.37**	**67**	IAMs_20	IAMs_20	08 00 36.2		
	comp=Z,1µm,20.0s							
LONY	**Lake Ozonia**	**131.60**	**63**	P	**PKiKP**	**07 07 05.2**	**+0.4**	
	baz=247							
GEYT	**Alibeck**	**131.76**	**287**	PKP	**PKPdf**	**07 07 04.2**	**-0.1**	
	comp=Z,20nm,0.9s,baz=169,slow=1.5,SNR=20							
GEYT				PP	**PP**	**07 09 25.3**	**0.0**	
	comp=Z,1.8nm,0.5s,baz=152,slow=9.8,SNR=4.3							
GYA0B	**ALIBECK ARRAY**	**131.76**	**287**	PKPdf	**PKPdf**	**07 07 04.2**	**-0.2**	
L61B	**Northampton**	**132.01**	**66**	P	**PKiKP**	**07 07 06.6**	**+1.0**	
	baz=246							
BRYW	**Bryant College**	**132.57**	**67**	IAMs_20	IAMs_20	08 07 38.8		
	comp=Z,1µm,18.0s							
HRV	**Adam Dziewonsk**	**132.80**	**66**	IAMs_20	IAMs_20	08 03 44.6		
	comp=Z,1µm,19.0s							
HRV	**Adam Dziewonsk**	**132.80**	**66**	P	**PKPdf**	**07 07 05.7**	**-0.4**	
	baz=247							
WES	**Weston**	**132.91**	**67**	IAMs_20	IAMs_20	08 03 55.6		
	comp=Z,2µm,20.0s							
BCX	**Boston College**	**132.99**	**67**	IAMs_20	IAMs_20	07 58 51.8		
	comp=Z,1µm,20.0s							
LBNH	**Lisbon**	**133.21**	**64**	P	**PKiKP**	**07 07 08.2**	**+0.2**	
	baz=248							
RAYN	**Ar Rayn**	**133.56**	**263**	*i* PKiKP	**PKiKP**	**07 07 09.2**	**-0.2**	
	SNR=11							
RAYN	**Ar Rayn**	**133.56**	**263**	⇑PKIKP	**PKiKP**	**07 07 09.3**	**-0.2**	
PKME	**Peaks-Kenny Pk**	**135.33**	**64**	P	**PKiKP**	**07 07 13.1**	**+0.9**	
	baz=250							
SVE	**Sverdlovsk**	**136.21**	**313**	*e*PKIKP	**PKPdf**	**07 07 11.7**	**-0.3**	
SVE				pmax	pmax			
	comp=Z,29nm,1.0s							
TULEG	**Thule**	**137.07**	**18**	IAMs_20	IAMs_20	08 12 41.7		
	comp=Z,951nm,18.0s							
TULEG	**Thule**	**137.07**	**18**	*e*P	**PKiKP**	**07 07 14.4**	**-0.5**	
ARU	**Arti**	**137.27**	**312**	PKP	**PKPdf**	**07 07 12.9**	**-1.0**	
	comp=Z,3.6nm,0.4s,baz=68,slow=1.7,SNR=8.1							
ARU	**Arti**	**137.27**	**312**	PKPdf	**PKPdf**	**07 07 13.0**	**-1.0**	
ARU	**Arti**	**137.27**	**312**	*i* PKIKP	**PKPdf**	**07 07 13.1**	**-0.9**	
KULLO	**Kullorsuaq**	**140.47**	**19**	*e*P	**PKiKP**	**07 07 20.9**	**-1.0**	
AKT	**Akhty**	**140.52**	**287**	*e*PKIKP	**PKPdf**	**07 07 20.5**	**-0.1**	
AKT				*e*		07 10 20.5		
AKT				pmax	pmax			
	comp=Z,55nm,1.0s							
MAK	**Makhachkala**	**141.16**	**290**	*e*P	**Pdif**	**07 04 35.3**	**-4.0**	
MAK				*i*		07 07 20.1		
MAK				*e*		07 10 21.2		
MAK				*e*SS	SS	07 28 44.6	-7.2	
MAK				*e*SSS	SSS	07 34 02.0		
MAK				pmax	pmax			
	comp=Z,361nm,1.9s							
UPNV	**Upernavik**	**141.50**	**22**	*i* P	**PKPdf**	**07 07 20.3**	**-0.9**	
GNI	**Garni**	**142.19**	**284**	P	**PKPdf**	**07 07 24.3**	**+0.6**	
GNI	**Garni**	**142.19**	**284**	*c i*PKIKP	**PKPdf**	**07 07 23.7**	**0.0**	
GNI				pmax	pmax			
	comp=Z,38nm,1.3s							
KIRV	**Kirov**	**142.36**	**315**	PKP	**PKPdf**	**07 07 22.7**	**-0.4**	
	comp=Z,11nm,0.4s,baz=107,slow=3.0,SNR=6.7							
GROC	**Groznyy**	**142.43**	**289**	*e*PKIKP	**PKPdf**	**07 07 23.4**	**-0.4**	
GROC				*e*		07 10 29.8		
GROC				pmax	pmax			
	comp=Z,79nm,0.8s							
KBS	**Kingsbay**	**142.65**	**354**	*e*P	**PKPdf**	**07 07 24.4**	**+1.2**	
BELG	**Belogornoye**	**143.07**	**305**	PKhKP	PKPpre	07 07 19.9		
	comp=Z,81nm,1.0s,baz=304,slow=2.8,SNR=14							
ZEI	**Tsey**	**143.63**	**288**	*i* PKIKP	PKPab	07 07 22.3	-0.6	
ZEI				pmax	pmax			
	comp=Z,40nm,1.2s							
PRGR	**Permogore**	**144.02**	**320**	*e*PKHKP	PKPpre	07 07 21.0		
DRLN	**Deer Lake**	**144.09**	**61**	PKPdf	PKPbc	07 07 25.4	+0.8	
DBIC	**Dimbokro**	**144.44**	**182**	PKP	PKPbc	07 07 27.2	+0.6	
	comp=Z,38nm,1.0s,baz=173,slow=3.0,SNR=15							
DBIC	**Dimbokro**	**144.44**	**182**	PKPdf	**PKPab**	**07 07 25.8**	**-0.6**	
ILULI	**Ilulissat**	**144.50**	**26**	*i* P	PKPbc	07 07 25.6	+0.3	
KBZ	**Khabaz**	**144.60**	**289**	PKP	**PKPab**	**07 07 25.6**	**-0.6**	
	comp=Z,71nm,0.8s,baz=130,slow=2.2,SNR=78							
KBZ				PP	**PP**	**07 10 44.8**	**-0.1**	
	comp=Z,7.3nm,1.1s,baz=189,slow=16,SNR=3.7							
KIV	**Kislovodsk**	**144.80**	**290**	⇑P	**PKPab**	**07 07 26.1**	**-1.0**	
KIV	**Kislovodsk**	**144.80**	**290**	PKPdf	**PKPab**	**07 07 25.9**	**-1.2**	
KIV	**Kislovodsk**	**144.80**	**290**	P	**PKPdf**	**07 07 28.5**	**+0.4**	
KIV	**Kislovodsk**	**144.80**	**290**	*i* PKPab	PKPbc	07 07 27.2	0.0	
	SNR=8.3							
KIV	**Kislovodsk**	**144.80**	**290**	*e*PKHKP	PKPpre	07 07 22.2		
KIV				*i*		07 07 26.2		
KIV				pmax	pmax			
	comp=Z,42nm,1.1s							
GOF	**Gofitskoye**	**144.82**	**292**	⇑*e*PKIKP	**PKPab**	**07 07 26.7**	**-0.3**	
GOF				pmax	pmax			
	comp=Z,306nm,0.8s							
DAG	**Danmarks Havn**	**145.07**	**5**	*i* P	**PKPbc**	**07 07 24.0**	**-2.9**	
GHAJ	**Ghor Haditha**	**145.20**	**265**	IAMs_20	IAMs_20	08 15 07.9		
	comp=Z,928nm,18.0s							
KOPT	**Kop Dagi**	**145.21**	**282**	PKPdf	**PKPdf**	**07 07 29.6**	**+0.4**	
URFA	**Urfa**	**145.52**	**277**	*i* P	**PKPdf**	**07 07 25.3**	**-4.2**	
SFJD	**Kangerlussuaq**	**145.58**	**29**	PKPdf	**PKPbc**	**07 07 28.8**	**0.0**	
SFJD	**Kangerlussuaq**	**145.58**	**29**	*i* P	**PKPdf**	**07 07 28.6**	**+0.1**	
SFJD	**Kangerlussuaq**	**145.58**	**29**	PKIKP	**PKPbc**	**07 07 28.8**	**0.0**	
SUMG	**Summit**	**145.97**	**17**	*i* P	**PKPab**	**07 07 31.4**	**+0.4**	
KTUT	**Trabzon**	**146.05**	**283**	⇑P	**PKPdf**	**07 07 29.2**	**-0.9**	
NUUK	**Nuuk**	**146.14**	**34**	*i* P	**PKPbc**	**07 07 30.4**	**-0.2**	
ARPR	**Arapgir-MALATY**	**146.47**	**280**	P	**PKPdf**	**07 07 31.6**	**+0.4**	
LVZ	**Lovozero**	**146.51**	**333**		**PKPdf**	**07 07 29.9**	**-0.2**	
LVZ	**Lovozero**	**146.51**	**333**	⇑PKHKP	PKPpre	07 07 25.9		
GAZ	**Gaziantep**	**146.60**	**276**	*e*P	**PKPab**	**07 07 33.5**	**-0.5**	
VRH	**Novokhopyorsk**	**146.62**	**302**	*e*PKP2	**PKPdf**	**07 07 31.4**	**+0.6**	
VRH				pmax	pmax			
	comp=Z,180nm,0.8s							
SOC	**Sochi**	**146.80**	**288**	*e*PKIKP	**PKPdf**	**07 07 29.3**	**-2.0**	
SOC				*i*		07 07 34.9		
SOC				*e*PPP	PPP	07 14 10.9		
SOC				pmax	pmax			
	comp=Z,36nm,0.7s							
SOC				pmax	pmax			
	comp=Z,38nm,0.8s							
DARE	**Darende-Malaty**	**146.91**	**278**	*i* P	**PKPdf**	**07 07 32.3**	**+0.4**	
KMRS	**Kahramanmaras**	**146.96**	**276**	*i* P	**PKPbc**	**07 07 34.2**	**+0.3**	
YAYL	**Yayladag**	**146.96**	**273**	*e*P	**PKPbc**	**07 07 34.4**	**+0.3**	
TAHT	**Tahtakopru-Hat**	**147.04**	**274**	*i* P	**PKPbc**	**07 07 34.6**	**+0.5**	
KLMR	**Klimovskoe**	**147.06**	**320**	*e*PKPdf	**PKPdf**	**07 07 31.8**	**+0.5**	
KLMR				LR	LR	08 10 27.6		
KLMR				AMP		08 19 59.0		
	comp=Z,975nm,19.3s							
KLMR	**Klimovskoe**	**147.06**	**320**	*e*PKP2	**PKPdf**	**07 07 31.7**	**+0.5**	
APA	**Apatity**	**147.09**	**333**	⇓*i*PKHKP	PKPpre	07 07 22.0		
APA				*i*		07 10 59.3		
APA				pmax	pmax			
	comp=Z,26nm,1.1s							
SARI	**SarD1z-Kayseri**	**147.64**	**277**	*i* P	**PKPbc**	**07 07 35.0**	**-0.9**	
SVSK	**Karacayir**	**147.72**	**280**	*e*P	**PKPbc**	**07 07 35.2**	**-0.6**	
KOZT	**Kozan**	**147.74**	**276**	*i* P	**PKPdf**	**07 07 32.9**	**-0.2**	
TOKT	**Tokat**	**148.18**	**281**	*i* P	**PKPbc**	**07 07 37.1**	**0.0**	
EREN	**Erenkoy**	**148.19**	**271**	*i* P	**PKPbc**	**07 07 37.7**	**+0.5**	
BNN	**Bunyan**	**148.21**	**278**	*e*P	**PKPbc**	**07 07 36.6**	**-0.8**	
BNN	**Bunyan**	**148.21**	**278**	PKPdf	**PKPdf**	**07 07 32.3**	**-1.8**	
BNN				PKPbc	**PKPbc**	**07 07 37.1**	**-0.3**	
VORR	**Voronezh**	**148.21**	**303**	*e*PKIKP	**PKPdf**	**07 07 32.0**	**-1.4**	
VORR				pmax	pmax			
	comp=Z,150nm,0.4s							
KARA	**Karaisali**	**148.22**	**275**	*i* P	**PKPbc**	**07 07 37.4**	**+0.1**	
VSR	**Storozhevoye**	**148.23**	**302**	*e*PKIKP	**PKPdf**	**07 07 34.3**	**+0.9**	
VSR				pmax	pmax			
	comp=Z,90nm,1.0s							
ARA0	**ARCESS Array S**	**148.27**	**339**	*e*P	**PKPbc**	**07 07 35.5**	**-0.9**	
ARCES	**ARCESS Array B**	**148.27**	**339**	PKPbc	**PKPbc**	**07 07 35.4**	**-1.1**	
	comp=Z,14nm,0.7s,baz=56,slow=3.0,SNR=40							
ARCES	**ARCESS Array B**	**148.27**	**339**	PKPbc	**PKPbc**	**07 07 35.6**	**-0.9**	
LPSR	**Galich'ya Gora**	**148.39**	**305**	*e*PKP2	**PKPdf**	**07 07 35.4**	**+1.7**	
LPSR				pmax	pmax			
	comp=Z,160nm,1.1s							
MERS	**Mersin**	**148.47**	**274**	*e*P	**PKPbc**	**07 07 38.3**	**+0.3**	
LFK	**Lefkose**	**148.56**	**270**	*e*P	**PKPbc**	**07 07 38.7**	**+0.4**	
CSS	**Mathiatis**	**148.57**	**270**	*e*P	**PKPbc**	**07 07 38.5**	**+0.2**	
CSS	**Mathiatis**	**148.57**	**270**	PKPbc	**PKPbc**	**07 07 37.9**	**-0.4**	
CSS				IAMs_20	IAMs_20	08 17 29.1		
	comp=Z,953nm,20.0s							
KIZK	**Mersin**	**148.60**	**273**	*e*P	**PKPbc**	**07 07 38.5**	**+0.2**	
IVI	**Ivigtut**	**148.62**	**39**		**PKiKP**	**07 07 38.3**	**-0.7**	
ANN	**Anapa**	**148.66**	**290**	*i* PKP2	**PKiKP**	**07 07 38.9**	**-0.7**	
ANN				*e*		07 14 35.8		
ANN				pmax	pmax			
	comp=Z,288nm,1.1s							
SILI	**Silifke-Mersin**	**148.71**	**272**	*e*P	**PKPbc**	**07 07 38.9**	**+0.3**	
KVT	**Kavak**	**148.76**	**282**	*e*P	**PKPbc**	**07 07 38.9**	**+0.3**	
IKL	**Isikli**	**148.84**	**272**	*e*P	**PKPbc**	**07 07 38.9**	**0.0**	
YOZ	**Yozgat**	**148.86**	**279**	*i* P	**PKPbc**	**07 07 38.5**	**-0.5**	
KEBE	**Keben-Mersin**	**148.90**	**272**	*e*P	**PKPbc**	**07 07 39.6**	**+0.5**	
AKKU	**Akkuyu-Mersin**	**148.91**	**272**	*e*P	**PKPbc**	**07 07 39.2**	**+0.1**	
MOS	**Moscow**	**148.95**	**311**	*e*PKHKP	PKPpre	07 07 32.7		
MOS				*e*		07 11 10.9		
MOS				pmax	pmax			
	comp=Z,117nm,1.1s							
LEF	**Lefka**	**148.97**	**270**	*e*P	**PKPbc**	**07 07 39.3**	**+0.1**	
KOZK	**Kozakli-Nevseh**	**149.05**	**278**	*e*P	**PKPbc**	**07 07 38.9**	**-0.6**	
TEVE	**Tevekalti-Mers**	**149.10**	**272**	*e*P	**PKPbc**	**07 07 38.9**	**-0.8**	
KTK1	**Kautokeino**	**149.22**	**340**	*e*P	**PKPbc**	**07 07 37.4**	**-1.4**	
GULA	**Gulagac**	**149.22**	**276**	*e*P	**PKPbc**	**07 07 39.2**	**-0.7**	
TEKE	**Tekeli-Mersin**	**149.22**	**272**	*e*P	**PKPbc**	**07 07 38.7**	**-1.2**	
BERE	**Bereket-Mersin**	**149.22**	**272**	*e*P	**PKPbc**	**07 07 40.2**	**+0.1**	
YESY	**Yesilyurt**	**149.38**	**275**	*e*P	**PKPbc**	**07 07 40.4**	**0.0**	
KRMN	**Karaman**	**149.51**	**274**	*e*P	**PKPbc**	**07 07 40.2**	**-0.5**	
CORM	**Corum**	**149.53**	**280**	*e*P	**PKPdf**	**07 07 35.9**	**-0.2**	
OBN	**Obninsk**	**149.62**	**310**	PKPbc	**PKPbc**	**07 07 39.7**	**-0.5**	
	comp=Z,6.1nm,0.4s,baz=41,slow=1.3,SNR=2.6							
OBN	**Obninsk**	**149.62**	**310**					
OBN	**Obninsk**	**149.62**	**310**	⇓*i*PKIKP	**PKPdf**	**07 07 34.7**	**-0.8**	
OBN				*e*		07 11 20.0		
OBN				pmax	pmax			
	comp=Z,316nm,1.7s							
OBN				MLR	MLR			
	comp=Z,689nm,21.0s							
SULT	**Sultanhani-AKS**	**149.70**	**276**	*e*P	**PKPbc**	**07 07 40.7**	**-0.4**	
YAYX	**Yaylak**	**149.74**	**277**	*e*P	**PKPbc**	**07 07 40.7**	**-0.5**	
TRO	**Tromso**	**149.77**	**343**	*e*P	**PKPbc**	**07 07 38.9**	**-1.2**	
GAZI	**Gazipasa**	**149.85**	**271**	*e*P	**PKPbc**	**07 07 40.0**	**-1.4**	
NRS	**Narsarsuaq**	**149.89**	**38**		**PKiKP**	**07 07 41.2**	**-0.4**	
NRS	**Narsarsuaq**	**149.89**	**38**	*i* P	**PKiKP**	**07 07 41.4**	**-0.2**	
NRS	**Narsarsuaq**	**149.89**	**38**	PKP2	**PKiKP**	**07 07 41.2**	**-0.4**	
SERE	**Sereflikochisa**	**149.92**	**277**	P	**PKPbc**	**07 07 41.2**	**-0.5**	
KAMT	**Kaman**	**149.95**	**278**	*e*P	**PKPbc**	**07 07 40.8**	**-0.9**	
HDMB	**Hadim**	**150.01**	**273**	*e*P	**PKPbc**	**07 07 41.2**	**-0.9**	
BR131	**Keskin Array S**	**150.12**	**278**		**PKPdf**	**07 07 35.6**	**-1.5**	
BR131				PKPbc	**PKPbc**	**07 07 42.0**	**-0.2**	
BR131	**Keskin Array S**	**150.12**	**278**	P	**PKPdf**	**07 07 39.5**	**+2.4**	
	SNR=44							
BR131	**Keskin Array S**	**150.12**	**278**	PKIKP	**PKPdf**	**07 07 35.6**	**-1.5**	
BR131						07 07 42.0		
BRTR	**Keskin Array B**	**150.12**	**278**	PKP	**PKPdf**	**07 07 35.9**	**-1.2**	
	comp=Z,6.9nm,1.0s,baz=173,slow=3.2,SNR=13							
BRTR				PKPbc	**PKPbc**	**07 07 41.6**	**-0.5**	
	comp=Z,107nm,1.0s,baz=141,slow=4.1,SNR=93							
BRTR	**Keskin Array B**	**150.12**	**278**	P	**PKPbc**	**07 07 41.2**	**-0.9**	
BRTR	**Keskin Array B**	**150.12**	**278**	PKPdf	**PKPdf**	**07 07 35.1**	**-2.0**	
BRTR				PKPbc	**PKPbc**	**07 07 41.9**	**-0.2**	
TORD	**Torodi Ar. Bea**	**150.12**	**195**	PKP	**PKPdf**	**07 07 37.6**	**0.0**	
	comp=Z,13nm,1.0s,baz=218,slow=0.7,SNR=23							
TORD				PKPbc	**PKPbc**	**07 07 42.9**	**+0.2**	
	comp=Z,94nm,1.1s,baz=162,slow=1.5,SNR=72							
CHBY	**Cihanbeyli**	**150.29**	**276**	*e*P	**PKPbc**	**07 07 40.9**	**-1.7**	
KULU	**Kulu**	**150.37**	**277**	*e*P	**PKPbc**	**07 07 42.6**	**-0.1**	
CANT	**Cankiri**	**150.39**	**280**	*e*P	**PKPbc**	**07 07 41.9**	**-0.8**	
ISCO	**Isortoq, Green**	**150.40**	**27**	*i* P	**PKPbc**	**07 07 41.9**	**+0.2**	
KONT	**Konya--Tatoy**	**150.47**	**274**	*e*P	**PKPbc**	**07 07 41.2**	**-1.7**	
LADK	**Ladik-KONYA**	**150.55**	**275**	P	**PKPbc**	**07 07 41.5**	**-1.7**	
SEYD	**Seydisehir-KON**	**150.66**	**273**	*i* P	**PKPbc**	**07 07 43.6**	**+0.1**	
SCO	**Scoresbysund**	**150.68**	**11**	*i* P	**PKPdf**	**07 07 35.7**	**-1.1**	
ANTO	**Ankara**	**150.78**	**278**	⇑P	**PKPdf**	**07 07 37.9**	**-0.1**	
ANTO	**Ankara**	**150.78**	**278**	*i* P	**PKPbc**	**07 07 43.8**	**+0.1**	
ANTO	**Ankara**	**150.78**	**278**		**PKPdf**	**07 07 37.9**	**-0.1**	
ANTO				PKPbc	**PKPbc**	**07 07 43.7**	**+0.1**	
ANTO				PKPab	**PKPab**	**07 07 50.7**	**-0.1**	
ANTO	**Ankara**	**150.78**	**278**	IAMs_20	IAMs_20	08 22 07.4		
	comp=Z,799nm,18.0s							
ANTO	**Ankara**	**150.78**	**278**	P	**PKPdf**	**07 07 36.0**	**-2.0**	
ANTO	**Ankara**	**150.78**	**278**	⇑PKIKP	**PKPdf**	**07 07 37.9**	**-0.1**	
ANGG	**Ammassalik, Gr**	**150.80**	**26**	*i* P	**PKPbc**	**07 07 40.0**	**-2.7**	
LOD	**Lodumlu**	**150.81**	**278**	*e*P	**PKPbc**	**07 07 42.4**	**-1.3**	
SIM	**Simferopol'**	**151.01**	**289**	*i* PKIKP	**PKPbc**	**07 07 43.8**	**-0.1**	
SIM				pmax	pmax			
	comp=Z,170nm,1.0s							
KIZT	**Kizilcal**	**151.14**	**276**	*i* P	**PKPbc**	**07 07 44.4**	**-0.2**	
SUTC	**Sutluce-Ispart**	**151.30**	**273**	*e*P	**PKPbc**	**07 07 43.3**	**-1.7**	
ANTB	**Antalya**	**151.34**	**271**	*e*P	**PKPbc**	**07 07 44.2**	**-0.7**	
AUSIV	**SIVRIHISAR**	**151.57**	**277**	*e*P	**PKPbc**	**07 07 45.4**	**-0.1**	
SVRH	**Sivrihisar-ESK**	**151.58**	**277**	*e*P	**PKPbc**	**07 07 45.4**	**-0.1**	
BCK	**Bucak**	**151.60**	**272**	*e*P	**PKPbc**	**07 07 42.9**	**-2.7**	
KORT	**Korkueli**	**151.61**	**271**	*e*P	**PKPdf**	**07 07 38.9**	**-0.6**	
AUMIH	**MIHALICIK**	**151.74**	**278**	*e*P	**PKPbc**	**07 07 45.4**	**-0.5**	
YUVA	**Yuva-Kibriscik**	**151.74**	**279**	*e*P	**PKPbc**	**07 07 45.6**	**-0.3**	
PUL	**Pulkovo**	**151.75**	**321**	*c i*PKIKP	**PKPbc**	**07 07 45.2**	**+0.1**	
PUL				pmax	pmax			
	comp=Z,78nm,0.4s							
ISP	**Isparta**	**151.78**	**273**	*e*P	**PKPbc**	**07 07 45.3**	**-0.8**	
ISP	**Isparta**	**151.78**	**273**	IAMs_20	IAMs_20	08 17 08.6		
	comp=Z,973nm,19.0s							
ELL	**Elmali**	**151.84**	**271**	*e*P	**PKPbc**	**07 07 45.8**	**-0.4**	
ELL	**Elmali**	**151.84**	**271**		**PKPdf**	**07 07 39.4**	**-0.4**	
ELL				PKPbc	**pPKPdf**	**07 07 46.5**	**+0.1**	
ELL				PKPab	**sPKPbc**	**07 07 54.8**	**0.0**	
ELL	**Elmali**	**151.84**	**271**	PKIKP	**PKPdf**	**07 07 39.4**	**-0.4**	
ELL						07 07 46.5		
ELL						07 07 54.8		
AKAS	**Kas**	**151.86**	**269**	*e*P	**PKPbc**	**07 07 45.2**	**-1.1**	
CIFT	**Cifteler, Eski**	**151.90**	**276**	*e*P	**PKPbc**	**07 07 45.9**	**-0.3**	
STEI	**Steigen**	**151.94**	**343**	*e*P	**PKPbc**	**07 07 44.2**	**-1.0**	
SHUT	**Suhut-Afyon**	**152.01**	**275**	*e*P	**PKPbc**	**07 07 45.9**	**-0.7**	
MDUB	**Mudurnu**	**152.12**	**279**	*e*P	**PKPbc**	**07 07 45.3**	**-1.4**	
KDZE	**Karadeniz Ereo**	**152.17**	**281**	*e*P	**PKPbc**	**07 07 51.3**	**+4.3**	
CAME	**Cameli-Denizli**	**152.36**	**271**	P	**PKPbc**	**07 07 47.6**	**+0.2**	
FAUS	**Fauske**	**152.38**	**342**	*e*P	**PKPbc**	**07 07 45.3**	**-1.0**	
FETY	**Fethiye**	**152.41**	**270**	*e*P	**PKPbc**	**07 07 46.5**	**-0.9**	
SRCK	**Saricakaya, Es**	**152.42**	**278**	*e*P	**PKPbc**	**07 07 46.9**	**-0.4**	
BORA	**Eskisehir**	**152.50**	**277**	*e*P	**PKPbc**	**07 07 46.3**	**-1.3**	
APMY	**Acipayam-Deniz**	**152.56**	**272**	P	**PKPbc**	**07 07 47.6**	**-0.2**	
GULT	**Gulveren**	**152.61**	**278**	*e*P	**PKiKP**	**07 07 48.2**	**+0.2**	
DALY	**Dalyan (Mula)**	**152.79**	**270**	*e*P	**PKPbc**	**07 07 46.9**	**-1.3**	
SAUV	**Serdivan-Sakar**	**152.84**	**279**	P	**PKPbc**	**07 07 47.5**	**-0.7**	
FIA1	**FINESS Array S**	**152.91**	**326**		**PKPbc**	**07 07 46.8**	**-0.9**	
FINES	**FINESS Array B**	**152.91**	**326**	PKP	**PKPdf**	**07 07 39.5**	**-0.9**	
	comp=Z,5.9nm,1.1s,baz=190,slow=7.7,SNR=4.2							
FINES				PKPbc	**PKPbc**	**07 07 46.6**	**-1.0**	
	comp=Z,37nm,0.8s,baz=95,slow=4.6,SNR=41							
FINES	**FINESS Array B**	**152.91**	**326**		**PKPbc**	**07 07 46.6**	**-1.0**	
FINES				PKPab	**PKPab**	**07 07 57.8**	**-1.1**	
ARG	**Arkhangelos**	**152.95**	**268**	*e*P	**PKPbc**	**07 07 48.6**	**0.0**	
GEDZ	**Gediz**	**153.01**	**275**	*e*P	**PKPbc**	**07 07 47.5**	**-1.2**	
CAVI	**Cavuskoy**	**153.04**	**278**	*e*P	**PKPbc**	**07 07 48.7**	**0.0**	
TURN	**Turunc**	**153.08**	**270**	*e*P	**PKiKP**	**07 07 49.5**	**+0.5**	
TVSB	**Tavsanli**	**153.10**	**276**	*e*P	**PKPbc**	**07 07 48.1**	**-0.9**	
ADVT	**Abdulvahap**	**153.18**	**278**	*e*P	**PKPbc**	**07 07 48.6**	**-0.3**	
YER	**Yerkesik**	**153.19**	**270**	*e*P	**PKiKP**	**07 07 49.4**	**+0.1**	
KARP	**Karpathos**	**153.39**	**266**	IAMs_20	IAMs_20	08 30 54.7		
	comp=Z,952nm,20.0s							
MOR8	**Moi Rana**	**153.57**	**341**	*e*P	**PKPbc**	**07 07 47.5**	**-1.5**	
KONS	**Konsvik**	**153.60**	**343**	*e*P	**PKPbc**	**07 07 47.8**	**-1.1**	
AYDB	**Zeytinkoy-Aydi**	**153.77**	**272**	*e*P	**PKiKP**	**07 07 50.9**	**+0.3**	
AKASG	**Malin Array Be**	**154.52**	**301**	PKP	**PKPdf**	**07 07 40.6**	**-2.4**	
	comp=Z,0.8nm,0.7s,baz=66,slow=1.9,SNR=8.1							
AKASG				PKPbc	**pPKPdf**	**07 07 50.4**	**+0.8**	
	comp=Z,16nm,0.9s,baz=71,slow=2.3,SNR=18							
AKASG				PKPab	**PKPab**	**07 08 04.6**	**-1.6**	
	comp=Z,28nm,0.9s,baz=68,slow=4.1,SNR=26							
AKASG	**Malin Array Be**	**154.52**	**301**		**PKPdf**	**07 07 40.8**	**-2.2**	
AKASG				PKPbc	**PKPbc**	**07 07 50.6**	**-0.8**	
AKASG				PKPab	**PKPab**	**07 08 05.0**	**-1.1**	
AKASG	**Malin Array Be**	**154.52**	**301**	PKIKP	**PKPdf**	**07 07 40.8**	**-2.2**	
AKASG						07 08 05.0		
MNK	**Minsk**	**154.67**	**310**	*i* PKP	**PKPdf**	**07 07 42.2**	**-0.9**	
	comp=E,4.0nm,0.9s							
MNK				*i* PKP	**PKPdf**	**07 07 42.2**	**-0.9**	
	comp=N,17nm,0.8s							
MNK				*i* PKP	**PKPdf**	**07 07 42.2**	**-0.9**	
	comp=Z,17nm,1.0s,baz=256							
MNK				*i* PKiKP	**PKPbc**	**07 07 51.5**	**-0.2**	
	comp=Z,54nm,1.0s							
MNK				*i* PP	**PP**	**07 11 41.6**	**-1.1**	
MNK				*i* SKS	**SKSdf**	**07 14 49.1**	**+0.8**	
MNK				*i* PPP	PPP	07 15 11.5		
MNK				*i* SKKS	**SKKSdf**	**07 23 27.5**	**+0.4**	
MNK				*i* SS	**SS**	**07 31 24.3**	**+1.1**	
MNK				*i* SSS	SSS	07 37 17.6		
MNK				*i* LR	LR	08 15 16.7		
MNK				*i* LRM	MLR	08 21 08.1		
	comp=E,70nm,17.2s							
MNK				*i* LRM	MLR	08 21 08.1		
	comp=Z,840nm,19.8s							
MNK				*i* LRM	MLR	08 21 18.0		
	comp=N,452nm,16.0s							
MNK	**Minsk**	**154.67**	**310**	*i* PKIKP	**PKPdf**	**07 07 42.2**	**-0.9**	
MNK				*i*		07 07 51.5		
MNK				*i*		07 11 41.6		
MNK				*i*		07 14 49.1		
MNK				*i* PPP	PPP	07 15 11.4		
MNK				*i* SS	SS	07 31 24.2	+1.0	
MNK				*i* SSS	SSS	07 37 17.6		
MNK				pmax	pmax			
	comp=N,17nm,0.8s							
MNK				pmax	pmax			
	comp=Z,17nm,1.0s							
MNK				pmax	pmax			
	comp=E,4.0nm,0

	comp=Z,6.2nm,1.1s						
BRG			*i* PKPab	**PKPab**	**07 08 46.4**	**-0.3**	
BRG			Amp		07 08 47.9		
	comp=Z,57nm,1.3s						
BRG			*ex*	x	07 12 33.7		
BRG			Amp		07 12 41.8		
	comp=Z,19nm,1.5s						
BRG	**Berggiesshubel**	**163.87 309**	*e*PKIKP	**PKPdf**	**07 07 53.0**	**-0.9**	
BRG			pmax	pmax			
	comp=Z,6.0nm,1.1s						
ARSA	**Arzberg**	**163.93 295**	*e*P	**PKPdf**	**07 07 53.6**	**-0.6**	
	comp=Z,5.9nm,1.1s						
ARSA			*e*P	**PKPab**	**07 08 47.2**	**+0.1**	
	comp=Z,25nm,1.3s						
CRES	**Cresnjev**	**164.16 290**	*e*P	**PKPab**	**07 08 47.5**	**-0.7**	
CLL	**Collm**	**164.21 311**	PKPdf	**PKPdf**	**07 07 53.2**	**-1.0**	
CLL			PKPab	**PKPab**	**07 08 46.2**	**-2.0**	
CLL	**Collm**	**164.21 311** ⇓	*i* PKPdf	**PKPdf**	**07 07 53.2**	**-1.0**	
	comp=Z,37nm,1.6s						
CLL			*i* PKPab	**PKPab**	**07 08 47.1**	**-1.1**	
	comp=Z,39nm,1.7s						
CLL			*e*PPlp		07 12 36.0		
	comp=Z,200nm,18.4s						
CLL			*e*PP	**PP**	**07 12 39.0**	**+4.5**	
CLL			*e*PPrev		07 15 12.0		
CLL			*e*PPP	PPP	07 16 24.0		
CLL			*e*PPPP		07 17 48.0		
CLL			*e*PPPrev		07 20 02.0		
CLL			*e*PSKS		07 22 58.0		
CLL			*e*PPS	PPS	07 26 14.0		
CLL			*e*(SS)		07 33 42.0		
CLL			*e*PSPS		07 34 53.0		
CLL			*e*SSS	SSS	07 39 36.0		
CLL			*e*SSSS		07 44 00.0		
CLL			*ex*	x	07 51 30.0		
CLL			LmH		08 31 00.0		
	comp=N,500nm,21.0s						
CLL			LmH		08 31 00.0		
	comp=E,800nm,20.0s						
CLL			LmV		08 32 00.0		
	comp=Z,900nm,19.2s						
CLL			Lmax		08 32 00.0		
CLL	**Collm**	**164.21 311** ⇓	*i* PKIKP	**PKPdf**	**07 07 53.2**	**-1.0**	
CLL			*i*		07 08 47.1		
CLL			pmax	pmax			
	comp=Z,37nm,1.6s						
CLL			pmax	pmax			
	comp=Z,39nm,1.7s						
CLL			MLR	MLR			
	comp=Z,900nm,19.2s						
BOJS	**Bojanci**	**164.32 289**	*e*P	**PKPab**	**07 08 48.3**	**-0.6**	
BOJS	**Bojanci**	**164.32 289**	*e*PKPab	**PKPab**	**07 08 48.4**	**-0.6**	
SOKA	**Soboth**	**164.35 293**	*e*P	**PKPdf**	**07 07 53.5**	**-1.1**	
	comp=Z,14nm,1.1s						
SOKA			*e*P	**PKPab**	**07 08 48.7**	**-0.4**	
	comp=Z,26nm,1.4s						
CKRC	**Cesky Krumlov**	**164.36 301**	*e*PKPAB	**PKPab**	**07 08 48.9**	**-0.1**	
MOA	**Molln**	**164.64 298**	*e*P	**PKPdf**	**07 07 55.8**	**+1.0**	
	comp=Z,8.7nm,1.1s						
MOA			*i* P	**PKPab**	**07 08 49.9**	**-0.4**	
	comp=Z,34nm,1.3s,SNR=8.0						
OBKA	**Obir**	**164.70 293**	*e*P	**PKPab**	**07 08 49.7**	**-1.0**	
OBKA	**Obir**	**164.70 293**	*e*P	**PKPdf**	**07 07 54.5**	**-0.4**	
	comp=Z,22nm,1.8s						
OBKA			*e*P	**PKPab**	**07 08 50.4**	**-0.3**	
	comp=Z,27nm,1.3s						
KHC	**Kasperske Hory**	**164.72 303**	PKPdf	**PKPdf**	**07 07 53.3**	**-1.5**	
KHC			PKPab	**PKPab**	**07 08 50.2**	**-0.4**	
KHC	**Kasperske Hory**	**164.72 303**	*e*PKPDF	**PKPdf**	**07 07 52.6**	**-2.2**	
KHC			*e*PKPAB	**PKPab**	**07 08 50.0**	**-0.6**	
KHC	**Kasperske Hory**	**164.72 303**	PKIKP	**PKPdf**	**07 07 53.3**	**-1.5**	
KHC					07 08 50.2		
GEC2	**GERESS Array S**	**164.74 302**	PKPab	**PKPab**	**07 08 49.6**	**-1.1**	
GERES	**GERESS Array B**	**164.74 302**	PKP	**PKPdf**	**07 07 53.5**	**-1.4**	
	comp=Z,1.5nm,1.0s,baz=114,slow=1.6,SNR=5.1						
GERES			PKPab	**PKPab**	**07 08 50.4**	**-0.4**	
	comp=Z,8.2nm,1.0s,baz=73,slow=4.6,SNR=20						
GERES			PP	**PP**	**07 12 39.1**	**+1.5**	
	comp=Z,0.3nm,0.5s,baz=106,slow=2.9,SNR=4.5						
GERES	**GERESS Array B**	**164.74 302**	PKPdf	**PKPdf**	**07 07 53.0**	**-1.9**	
GERES				**PKPab**	**07 08 49.8**	**-1.0**	
LJU	**Ljubljana**	**164.78 291**	*e*PKPab	**PKPab**	**07 08 50.6**	**-0.3**	
CEY	**Cerknica**	**164.88 290**	*e*P	**PKPab**	**07 08 49.8**	**-1.6**	
BIOA	**Bad Ischl, Aus**	**165.09 298**	*e*P	**PKPdf**	**07 07 53.2**	**-1.9**	
	comp=Z,11nm,1.2s						
BIOA			*e*P	**PKPab**	**07 08 51.9**	**-0.4**	
	comp=Z,20nm,1.2s						
MYKA	**Terra Mystica**	**165.30 294**	*e*P	**PKPdf**	**07 07 54.3**	**-1.1**	
	comp=Z,12nm,1.2s						
KBA	**Koelnbreinsper**	**165.42 295**	*e*P	**PKPdf**	**07 07 57.0**	**+1.4**	
	comp=Z,21nm,1.2s						
KBA			*e*P	**PKPab**	**07 08 52.6**	**-1.3**	
	comp=Z,16nm,1.2s						
ABTA	**Abfaltersbach**	**166.04 295**	*e*P	**PKPdf**	**07 07 54.7**	**-1.4**	
	comp=Z,13nm,1.1s						
ABTA			*e*P	**PKPab**	**07 08 54.8**	**-1.8**	
	comp=Z,21nm,1.0s						
KEST	**Kesra**	**166.31 246**	PKPab	**PKPab**	**07 08 58.9**	**+0.8**	
	comp=Z,30nm,1.0s,baz=32,slow=1.0,SNR=12						
KEST	**Kesra**	**166.31 246**	PKPdf	**PKPdf**	**07 07 55.1**	**-1.5**	
KEST			PKPab	**PKPab**	**07 08 58.3**	**+0.2**	
WTTA	**Wattenberg**	**166.51 297**	*e*P	**PKPdf**	**07 07 54.6**	**-1.9**	
	comp=Z,20nm,1.3s						
WTTA			*i* P	**PKPab**	**07 08 57.7**	**-1.1**	
	comp=Z,61nm,1.3s,SNR=10						
WATA	**Walderalm**	**166.53 298**	*e*P	**PKPdf**	**07 07 54.4**	**-2.0**	
	comp=Z,20nm,1.5s						
WATA			*i* P	**PKPab**	**07 08 57.6**	**-1.2**	
	comp=Z,42nm,1.2s,SNR=9.4						
SQTA	**Sankt Quirin**	**166.80 297**	*e*P	**PKPdf**	**07 07 55.4**	**-1.3**	
	comp=Z,8.8nm,0.9s						
SQTA			*i* P	**PKPab**	**07 08 58.6**	**-1.4**	
	comp=Z,37nm,1.0s,SNR=7.2						
MOTA	**Moosalm**	**166.84 298**	*e*P	**PKPdf**	**07 07 55.4**	**-1.3**	
	comp=Z,9.6nm,1.1s						
MOTA			*i* P	**PKPab**	**07 08 59.2**	**-1.0**	
	comp=Z,38nm,1.1s,SNR=9.9						
TEOL	**Teolo**	**166.85 289**	PKPdf	**PKPdf**	**07 07 55.1**	**-1.5**	
TEOL			PKPab	**PKPab**	**07 08 58.6**	**-1.5**	
RETA	**Reutte**	**167.02 299**	*e*P	**PKPdf**	**07 07 55.2**	**-1.5**	
	comp=Z,3.7nm,0.9s						
RETA			*e*P	**PKPab**	**07 09 00.3**	**-0.6**	
	comp=Z,13nm,1.0s						
FETA	**Feichten**	**167.17 297**	*e*P	**PKPdf**	**07 07 55.8**	**-1.2**	
	comp=Z,12nm,1.4s						
FETA			*i* P	**PKPab**	**07 09 01.0**	**-0.7**	
	comp=Z,37nm,1.2s,SNR=8.7						
DAVA	**Damuels**	**167.65 299**	*e*P	**PKPdf**	**07 07 56.1**	**-1.2**	
	comp=Z,11nm,1.2s						
DAVA			*e*P	**PKPab**	**07 09 03.2**	**-0.5**	
	comp=Z,25nm,1.2s						
BFO	**Black Forest**	**168.25 305**	PKPab	**PKPab**	**07 09 04.7**	**-1.5**	
BFO	**Black Forest**	**168.25 305**	PKP2	**PKPab**	**07 09 04.7**	**-1.5**	
BTNL	**Ternell**	**168.25 319**	*d*PKPdf	**PKPdf**	**07 07 56.8**	**-0.6**	
BTNL			*d*PKP	**PKPab**	**07 09 04.5**	**-1.5**	
WLF	**Walferdange**	**168.80 315**	*d*PKPdf	**PKPdf**	**07 07 57.7**	**-0.1**	
BGES	**Gesves**	**168.88 320**	*d*PKPdf	**PKPdf**	**07 07 59.7**	**+1.9**	
BGES			*d*PKP	**PKPab**	**07 09 10.2**	**+1.4**	
ECH	**Echery**	**169.00 307**	PKPab	**PKPab**	**07 09 08.3**	**-1.2**	
ECH	**Echery**	**169.00 307**	PKP2	**PKPab**	**07 09 08.3**	**-1.2**	
BMRD	**Maredsous**	**169.09 320**	*d*PKPdf	**PKPdf**	**07 07 55.8**	**-2.1**	
BMRD			*d*PKP	**PKPab**	**07 09 08.6**	**-1.2**	
SNF	**Seneffe**	**169.17 322**	*d*PKPdf	**PKPdf**	**07 07 57.3**	**-0.7**	
SNF			*d*PKP	**PKPab**	**07 09 08.8**	**-1.2**	
DOU	**Dourbes**	**169.31 320**	*d*PKPdf	**PKPdf**	**07 07 56.5**	**-1.6**	
DOU			*dp*PKPdf	**pPKPdf**	**07 08 01.7**	**-2.8**	
DOU			*d*PKP	**PKPab**	**07 09 07.6**	**-3.1**	
BNI	**Bardonecchia**	**170.38 291**		**PKPdf**	**07 07 58.3**	**-0.8**	
BNI			PKPab	**PKPab**	**07 09 14.1**	**-1.8**	
BNI	**Bardonecchia**	**170.38 291**	PKIKP	**PKPdf**	**07 07 58.3**	**-0.8**	
BNI					07 09 14.1		
SSB	**Saint Sauveur**	**171.79 294**	PKPdf	**PKPdf**	**07 07 58.2**	**-1.5**	
SSB			PKPab	**PKPab**	**07 09 19.7**	**-2.3**	
SSB	**Saint Sauveur**	**171.79 294**	PKIKP	**PKPdf**	**07 07 58.2**	**-1.5**	
SSB					07 09 19.7		
CLF	**Chambon-Foret**	**171.84 317**		**PKPdf**	**07 07 59.3**	**-0.2**	
CLF			PKPab	**PKPab**	**07 09 20.9**	**-1.0**	
PFVI	**Vila Bisbo**	**174.36 157**	*e*PKP	**PKPdf**	**07 08 02.4**	**+1.5**	
MORF	**Marmelete**	**174.57 158**	*e*PKPdf	**PKPdf**	**07 08 01.3**	**+0.2**	
MORF			IAMs_20	IAMs_20	08 25 10.1		
	comp=Z,2µm,25.7s						
MORF	**Marmelete**	**174.57 158**	*e*PKIKP	**PKPdf**	**07 08 01.2**	**+0.2**	
PTEO	**Sao Teotonio**	**174.78 156**	*e*PKP	**PKPdf**	**07 08 02.9**	**+1.9**	
PVAQ	**Vaqueiros**	**174.89 165**	*e*PKP	**PKPdf**	**07 08 01.0**	**-0.1**	
PVAQ	**Vaqueiros**	**174.89 165**	*e*PP	PP	07 13 18.6	-8.9	
PVAQ	**Vaqueiros**	**174.89 165**	*e*SS	SS	07 34 50.3	+1.6	
PVAQ	**Vaqueiros**	**174.89 165**	*e*LR	LR	08 16 51.6		
	comp=Z,1µm,22.0s						
PCVE	**Castro Verde**	**175.04 162**	*e*PKP	**PKPdf**	**07 08 08.1**	**+7.0**	
PCVE	**Castro Verde**	**175.04 162**	*e*PP	PP	07 13 13.8	-15	
MESJ	**Messejana**	**175.19 159**	*e*PKPdf	**PKPdf**	**07 08 01.5**	**+0.4**	
MESJ			*e*PP	**PP**	**07 13 30.3**	**+1.2**	
MESJ			*e*SS	SS	07 34 55.2	+3.3	
MESJ			IAMs_20	IAMs_20	08 28 43.8		
	comp=N,1µm,22.3s						
MESJ	**Messejana**	**175.19 159**	*e*PKP	**PKPdf**	**07 08 02.3**	**+1.1**	
MESJ	**Messejana**	**175.19 159**	*e*PP	**PP**	**07 13 28.0**	**-1.1**	
MESJ	**Messejana**	**175.19 159**	*e*PKIKP	**PKPdf**	**07 08 01.5**	**+0.4**	
MESJ			*e*		07 13 30.3		
MESJ			*e*SS	SS	07 34 55.1	+3.3	
PNCL	**Nicolau / Gran**	**175.36 155**	*e*PKP	**PKPdf**	**07 08 01.5**	**+0.3**	
PNCL	**Nicolau / Gran**	**175.36 155**	*e*PP	**PP**	**07 13 28.2**	**-1.7**	
PBEJ	**Beja**	**175.46 162**	*e*PKP	**PKPdf**	**07 08 02.1**	**+0.9**	
PBEJ	**Beja**	**175.46 162**	*e*PP	PP	07 13 39.5	+9.2	
LIS	**Lisbon**	**175.67 146**	*e*PKPdf	**PKPdf**	**07 08 01.7**	**+0.4**	
LIS			IAMs_20	IAMs_20	08 27 51.9		
	comp=N,7µm,35.2s						
LIS	**Lisbon**	**175.67 146**	*e*PKIKP	**PKPdf**	**07 08 01.6**	**+0.4**	
PBAR	**Barrancos**	**175.75 170**	*e*PKP	**PKPdf**	**07 08 02.2**	**+0.9**	
PBAR	**Barrancos**	**175.75 170**	*e*PP	**PP**	**07 13 35.9**	**+4.3**	
PMAFR	**Mafra**	**175.81 143**	*e*PKP	**PKPdf**	**07 08 03.7**	**+2.4**	
PESTR	**Estremoz**	**176.32 161**	*e*PKP	**PKPdf**	**07 08 02.4**	**+1.0**	
PESTR	**Estremoz**	**176.32 161**	*e*PP	**PP**	**07 13 37.0**	**+2.5**	
PSBE	**So Bento**	**176.49 143**	*e*PKP	**PKPdf**	**07 08 03.0**	**+1.5**	
ESDC	**Sonseca Array**	**176.87 211**	PKP	**PKPdf**	**07 08 02.2**	**+0.6**	
	comp=N,5.4nm,1.1s,baz=341,slow=0.5,SNR=15						
ESDC			PKPab	**PKPab**	**07 09 45.4**	**+0.8**	
	comp=N,3.8nm,1.0s,baz=133,slow=3.4,SNR=9.1						
ESDC			PP	**PP**	**07 13 41.0**	**+3.6**	
	comp=N,0.2nm,0.3s,baz=132,slow=1.9,SNR=4.4						
ESDC	**Sonseca Array**	**176.87 211**		**PKPdf**	**07 08 00.2**	**-1.4**	
ESDC				**PKPab**	**07 09 42.8**	**-1.8**	
PMRV	**Marv??o**	**176.90 161**	*e*PKP	**PKPdf**	**07 08 01.8**	**+0.3**	
PMRV	**Marv??o**	**176.90 161**	*e*PP	**PP**	**07 13 41.3**	**+4.1**	
PMRV	**Marv??o**	**176.90 161**	*e*LR	LR	08 13 23.6		
	comp=N,1µm,18.0s						
PCAS	**Casmilo, Conde**	**177.06 141**	*e*PKP	**PKPdf**	**07 07 59.2**	**-2.3**	
PCAS	**Casmilo, Conde**	**177.06 141**	*e*PP	PP	07 13 08.9	-29	
MTE	**Manteigas**	**177.75 150**	*e*PKP	PKPdf	07 07 48.0	-14	
MTE	**Manteigas**	**177.75 150**	*e*SS	SS	07 35 04.5	-12	
MTE	**Manteigas**	**177.75 150**	*e*LR	LR	08 18 08.8		
	comp=N,971nm,18.0s						
PVIS	**Viseu**	**177.86 140**	*e*PKP	**PKPdf**	**07 08 01.7**	**0.0**	
PGAV	**Gavieira, Arco**	**178.32 103**	*e*LR	LR	08 23 32.3		
	comp=N,2µm,20.0s						
PVRL	**Vila Real**	**178.36 131**	*e*PKP	**PKPdf**	**07 08 02.9**	**+1.2**	
POLO	**Lamas de Olo**	**178.38 127**	*e*PKP	**PKPdf**	**07 08 03.1**	**+1.3**	
POLO	**Lamas de Olo**	**178.38 127**	*e*PP	**PP**	**07 13 51.6**	**+6.5**	
PCAB	**Cabril**	**178.41 114**	*e*PKP	**PKPdf**	**07 08 02.3**	**+0.6**	
MVO	**Moncorvo**	**178.61 149**	*e*PKP	**PKPdf**	**07 08 02.6**	**+0.8**	
MVO	**Moncorvo**	**178.61 149**	*e*PP	**PP**	**07 13 48.3**	**+2.7**	
MVO	**Moncorvo**	**178.61 149**	*e*LR	LR	08 21 34.1		
	comp=N,1µm,18.0s						
PBRG	**Braganca**	**179.25 138**	*e*PP	**PP**	**07 13 49.2**	**+0.4**	

WEL 14 06:51:59.4±0.3, 42°S±3°×17°4E±°, h5km, M3.4/10, ML4.1/12, MLv3.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=138.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.02**	**187**	P	Pg	06 52 00.2	-0.2
BSWZ	**Blackbirch Sta**	**0.26**	**274**	P	Pg	06 52 04.7	+0.3
BSWZ				S	Sg	06 52 09.2	+1.4
TCW	**Tory Channel**	**0.53**	**5**	P	Pg	06 52 09.6	+0.1
TCW				S	Sb	06 52 18.2	-0.8
BHW	**Baring Head**	**0.59**	**57**	P	Pg	06 52 11.1	+0.4
WEL	**Wellington**	**0.61**	**43**	P	Pg	06 52 11.8	+0.6
WEL				S	Sb	06 52 21.4	-0.1
PLWZ	**Palliser**	**0.80**	**78**	P	Pb	06 52 15.9	+0.2
MSWZ	**Moikau Station**	**0.84**	**68**	P	Pb	06 52 16.2	-0.2
KHZ	**Kahutara**	**0.85**	**216**	P	Pb	06 52 16.3	-0.3
CAW	**Cannon Point**	**0.89**	**46**	P	Pg	06 52 16.8	+0.2
DUWZ	**D'Urville Isla**	**0.96**	**346**	P	Pb	06 52 18.8	+0.3
PAWZ	**Paruwai Farm**	**0.97**	**69**	P	Pg	06 52 18.4	+0.3
KIW	**Kapiti Island**	**1.02**	**31**	P	Pg	06 52 18.6	-0.4
MTW	**Mount Morrison**	**1.12**	**60**	P	Pg	06 52 20.7	-0.3
OGWZ	**Otaki Gorge**	**1.16**	**38**	P	Pg	06 52 21.4	-0.3

WEL 14 06:52:53.4±0.3, 42°S±3°×17°4E±°, h12km±2km, M4.5/25, ML4.7/25, MLv4.5/25, Error ellipse: s-maj=0.0km s-min=0.0km az=160.8
NEIC 14 06:52:53.1±1.4, 41°.77S±0°.04×174°.28E±0°.03, h17km±4km, mb4.5/8, Error ellipse: s-maj=5.4km s-min=2.5km az=159.0
IDC 14 06:52:55.6±2.5, 40°.71S×173°.61E, h0km, mb3.8/2, mbtmp4.1/3, ML4.7/1, Error ellipse: s-maj=52.9km s-min=36.0km az=85.0
ISC 14 06:52:52.9±0.8, 41°.76S±0°.02×174°.31E±0°.02, h18km±3km, n116, σ1§14/140, mb4.4/7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**281**	Pg	**Pg**	**06 52 56.8**	**+0.4**
CMWZ				Sg	**Sg**	**06 52 57.3**	**-1.4**
CMWZ	**Cape Campbell**	**0.07**	**281**	P	**Pg**	**06 52 56.9**	**+0.6**
CMWZ				S	**Sg**	**06 52 59.8**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.33**	**278**	Pg	**Pg**	**06 52 58.9**	**-1.0**
BSWZ				Sg	**Sb**	**06 53 05.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.33**	**278**	P	**Pb**	**06 53 00.3**	**+0.1**
BSWZ				S	**Sb**	**06 53 05.4**	**+0.3**
TUWZ	**Tuamarina**	**0.43**	**321**	Pg	**Pb**	**06 53 02.1**	**+0.2**
TUWZ				Sg	**Sb**	**06 53 07.5**	**-0.7**
TUWZ	**Tuamarina**	**0.43**	**321**	P	**Pb**	**06 53 02.2**	**+0.2**
TUWZ				S	**Sb**	**06 53 08.0**	**-0.1**
SNZO	**South Karori**	**0.54**	**34**	Pg	**Pb**	**06 53 04.4**	**+0.6**
SNZO				Sg	**Sb**	**06 53 12.4**	**+1.2**
TCW	**Tory Channel**	**0.55**	**358**	P	**Pb**	**06 53 04.3**	**+0.3**
TCW				S	**Sb**	**06 53 12.0**	**+0.5**
WEL	**Wellington**	**0.59**	**36**	P	**Pn**	**06 53 05.6**	**-0.8**
WEL				S	**Sn**	**06 53 14.2**	**-1.3**
PLWZ	**Palliser**	**0.74**	**75**	Pg	**Pn**	**06 53 08.5**	**0.0**
PLWZ	**Palliser**	**0.74**	**75**	P	**Pg**	**06 53 08.3**	**+0.9**
MSWZ	**Moikau Station**	**0.79**	**64**	Pg	**Pg**	**06 53 08.9**	**+0.6**
MSWZ	**Moikau Station**	**0.79**	**64**	P	**Pn**	**06 53 09.4**	**+0.2**
MSWZ				S	**Sn**	**06 53 21.3**	**+0.9**
KHZ	**Kahutara**	**0.87**	**221**	P	**Pn**	**06 53 10.3**	**+0.1**
KHZ				S	**Sn**	**06 53 23.6**	**+1.2**
CAW	**Cannon Point**	**0.87**	**41**	P	**Pn**	**06 53 10.4**	**+0.2**
CAW				S	**Sn**	**06 53 22.7**	**+0.3**
NNZ	**Nelson**	**0.88**	**308**	Pg	**Pn**	**06 53 09.8**	**-0.6**
NNZ	**Nelson**	**0.88**	**308**	P	**Pn**	**06 53 10.2**	**-0.2**
NNZ				S	**Sn**	**06 53 23.7**	**+1.0**
PAWZ	**Paruwai Farm**	**0.92**	**66**	P	**Pg**	**06 53 11.1**	**+0.2**
PAWZ				S	**Sn**	**06 53 25.8**	**+1.9**
DUWZ	**D'Urville Isla**	**1.00**	**343**	P	**Pn**	**06 53 12.6**	**+0.5**
DUWZ				S	**Sn**	**06 53 25.7**	**0.0**
KIW	**Kapiti Island**	**1.01**	**27**	P	**Pg**	**06 53 12.5**	**0.0**
THZ	**Tophouse**	**1.05**	**270**		**Pg**	**06 53 12.8**	**-0.4**
THZ	**Tophouse**	**1.05**	**270**	P	**Pg**	**06 53 13.6**	**+0.3**
THZ				S	**Sn**	**06 53 27.8**	**+0.9**
MTW	**Mount Morrison**	**1.08**	**57**	P	**Pb**	**06 53 13.2**	**+0.1**
MTW				S	**Sg**	**06 53 29.0**	**+0.9**
TRWZ	**Traveller**	**1.10**	**71**	P	**Pn**	**06 53 13.1**	**-0.3**
OGWZ	**Otaki Gorge**	**1.15**	**35**	P	**Pg**	**06 53 14.7**	**-0.4**
OGWZ				S	**Sg**	**06 53 30.6**	**+0.4**
MRNZ	**Matariki Terra**	**1.22**	**287**	P	**Pg**	**06 53 16.2**	**-0.3**
TKNZ	**Takaka Hill**	**1.25**	**305**	P	**Pg**	**06 53 16.5**	**-0.5**
TKNZ				S	**Sg**	**06 53 33.5**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.26**	**47**	P	**Pn**	**06 53 15.8**	**+0.2**
TMWZ	**Te Maipa**	**1.36**	**62**	P	**Pn**	**06 53 16.7**	**-0.3**
MRZ	**Mangatainoka R**	**1.46**	**42**	Pn	**Pn**	**06 53 18.8**	**+0.5**
MRZ	**Mangatainoka R**	**1.46**	**42**	P	**Pn**	**06 53 18.7**	**+0.3**
MRZ				S	**Sb**	**06 53 38.1**	**+0.3**
GVZ	**Greta Valley S**	**1.53**	**218**	P	**Pb**	**06 53 20.5**	**-0.2**
TIWZ	**Tintock**	**1.55**	**51**	P	**Pn**	**06 53 19.4**	**-0.2**
QRZ	**Quartz Range**	**1.63**	**304**	P	**Pg**	**06 53 22.9**	**-1.5**
QRZ				S	**Sg**	**06 53 44.6**	**-1.0**
CPWZ	**Castlepoint**	**1.66**	**60**	P	**Pn**	**06 53 20.8**	**-0.3**
OHWZ	**Ohakea**	**1.73**	**27**	P	**Pb**	**06 53 23.9**	**-0.3**
PRWZ	**Pori Road**	**1.74**	**47**	P	**Pn**	**06 53 22.2**	**-0.1**
POWZ	**Post Office Ro**	**1.76**	**39**	P	**Pn**	**06 53 22.8**	**+0.4**
BFZ	**Birch Farm**	**1.82**	**54**	Pn	**Pn**	**06 53 22.5**	**-0.8**
BFZ	**Birch Farm**	**1.82**	**54**	P	**Pn**	**06 53 22.5**	**-0.8**
LTZ	**Lake Taylor**	**1.82**	**235**	Pn	**Pn**	**06 53 23.6**	**+0.2**
LTZ	**Lake Taylor**	**1.82**	**235**	P	**Pn**	**06 53 23.7**	**+0.4**
DSZ	**Denniston Nort**	**1.87**	**270**	P	**Pb**	**06 53 27.2**	**+0.6**
DVHZ	**Dannevirke**	**2.03**	**45**	P	**Pn**	**06 53 25.6**	**-0.6**
WAZ	**Wanganui**	**2.07**	**15**	P	**Pg**	**06 53 31.0**	**-1.7**
ANWZ	**Angora Road**	**2.09**	**52**	P	**Pn**	**06 53 26.1**	**-0.9**
ANWZ				P	**Pb**	**06 53 26.6**	**-3.7**
TSZ	**Takapari Road**	**2.12**	**37**	P	**Pn**	**06 53 27.4**	**0.0**
OKCZ	**Okains Bay**	**2.16**	**205**	P	**Pn**	**06 53 27.2**	**-0.9**
OXZ	**Oxford**	**2.29**	**226**	Pn	**Pn**	**06 53 30.1**	**+0.4**
MQZ	**McQueen's Vall**	**2.29**	**212**	Pn	**Pn**	**06 53 28.5**	**-1.3**
LREZ	**Lake Rotokare**	**2.30**	**2**	P	**Pg**	**06 53 35.6**	**-1.5**
PRHZ	**Porangahau**	**2.31**	**50**	P	**Pn**	**06 53 28.9**	**-1.1**
PNHZ	**Pukenui**	**2.34**	**39**	P	**Pn**	**06 53 30.2**	**-0.3**
WPHZ	**Waipukurau**	**2.34**	**44**	P	**Pn**	**06 53 30.1**	**-0.4**
NMEZ	**Namu Road**	**2.37**	**352**	P	**Pb**	**06 53 35.6**	**+0.6**
KHEZ	**Kahui Hut**	**2.48**	**355**	P	**Pb**	**06 53 36.8**	**-0.1**
NEZ	**North Egmont**	**2.50**	**356**	P	**Pb**	**06 53 37.2**	**0.0**
NBEZ	**Newall Road No**	**2.51**	**352**	P	**Pb**	**06 53 37.1**	**-0.3**
RACZ	**Rakaia**	**2.53**	**218**	P	**Pn**	**06 53 31.7**	**-1.3**
DREZ	**Durham Road**	**2.57**	**358**	P	**Pb**	**06 53 38.2**	**-0.3**
PKE	**Pukeiti**	**2.58**	**354**	P	**Pb**	**06 53 37.7**	**-0.9**
MOVZ	**Moawhango**	**2.60**	**26**	P	**Pn**	**06 53 34.9**	**+0.8**
WNVZ	**Wahianoa**	**2.62**	**22**	P	**Pb**	**06 53 38.1**	**-1.4**
BHHZ	**Black Hill Sta**	**2.64**	**31**	P	**Pn**	**06 53 35.2**	**+0.7**
BHHZ				P	**Pn**	**06 53 35.3**	**+0.7**
TRVZ	**Turoa**	**2.64**	**21**	P	**Pb**	**06 53 41.0**	**+1.3**
VRZ	**Vera Road**	**2.66**	**8**	P	**Pb**	**06 53 37.8**	**-2.2**
DRZ	**Dome Shelter**	**2.66**	**22**	P	**Pb**	**06 53 41.2**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.66**	**22**	P	**Pb**	**06 53 36.8**	**+1.7**
FWVZ	**Far West T-bar**	**2.68**	**21**	P	**Pn**	**06 53 37.4**	**+2.1**
MHEZ	**Mangahewa**	**2.68**	**0**	P	**Pb**	**06 53 40.0**	**-0.3**
TUVZ	**Tukino**	**2.70**	**23**	P	**Pn**	**06 53 37.1**	**+1.7**
NGZ	**Ngauruhoe**	**2.77**	**21**	P	**Pb**	**06 53 42.7**	**+0.8**
SNVZ	**South Ngauruho**	**2.77**	**22**	P	**Pn**	**06 53 38.7**	**+2.2**
KAHZ	**Kahuranaki**	**2.77**	**46**	P	**Pn**	**06 53 35.2**	**-1.2**
OTVZ	**Oturere**	**2.80**	**22**	P	**Pb**	**06 53 43.1**	**+0.7**
NNVZ	**North Ngauruho**	**2.81**	**21**	P	**Pn**	**06 53 39.4**	**+2.4**
WTVZ	**West Tongariro**	**2.82**	**21**	P	**Pb**	**06 53 43.5**	**+0.7**
TWVZ	**Taurewa**	**2.83**	**18**	P	**Pb**	**06 53 41.4**	**-1.5**
ETVZ	**East Tongariro**	**2.83**	**23**	P	**Pn**	**06 53 39.0**	**+1.6**
KWHZ	**Kaweka Forest**	**2.84**	**35**	P	**Pn**	**06 53 37.1**	**-0.3**
TMVZ	**Te Maari**	**2.85**	**22**	P	**Pn**	**06 53 39.1**	**+1.5**
KRVZ

	112nm,0.6s,baz=19,slow=4.8,SNR=44							
KAPI				S		Sn	06 55 40.4	+2.6
	7.8nm,0.3s,baz=188,slow=21,SNR=0.8							
KAPI	**Kappang**	**5.96**	**213**			**Pn**	**06 54 31.3**	**+1.5**
KAPI	**Kappang**	**5.96**	**213**	P		**Pn**	**06 54 30.8**	**+0.9**
	0.6nm2µm171nm,0.9s							
KAPI	**Kappang**	**5.96**	**213**	P		**Pn**	**06 54 30.0**	**+0.1**
	0.6nm2µm171nm,0.9s							
BKSI	**Bulukumba**	**6.04**	**208**	P		**Pn**	**06 54 31.4**	**+0.6**
	0.5nm1µm156nm,0.9s							
BKSI	**Bulukumba**	**6.04**	**208**	P		**Pn**	**06 54 31.0**	**+0.2**
	0.5nm1µm156nm,0.9s							
KRAI	**Karang Ratu**	**6.35**	**122**	P		**Pn**	**06 54 35.0**	**0.0**
	0.3nm30nm,0.6s							
BSSI	**Bau Bau, Buton**	**6.62**	**202**	P		**Pn**	**06 54 39.8**	**+1.3**
	0.3nm791nm64nm,0.7s							
BSSI	**Bau Bau, Buton**	**6.62**	**202**	P		**Pn**	**06 54 38.6**	**+0.1**
	0.3nm795nm64nm,0.7s							
MYLDM	**Lahad Datu**	**6.80**	**319**			**Pn**	**06 54 37.9**	**-3.0**
MYLDM	**Lahad Datu**	**6.80**	**319**	P		**Pn**	**06 54 44.6**	**+3.7**
BNDI	**Bandanaira**	**8.26**	**123**	P		**Pn**	**06 55 00.5**	**+0.2**
	129nm,0.7s							
KKM	**Kota Kinabalu**	**9.02**	**312**			**Pn**	**06 55 08.8**	**-1.5**
KKM	**Kota Kinabalu**	**9.02**	**312**	P		**Pn**	**06 55 12.3**	**+1.9**
	27nm,0.7s							
BATI	**Baumata**	**10.19**	**176**	P		**Pn**	**06 55 28.5**	**+2.8**
	67nm,0.6s,baz=123,slow=0.5,SNR=9.3							
BATI	**Baumata**	**10.19**	**176**	P		**Pn**	**06 55 26.7**	**+1.0**
MNAI	**Manna**	**20.48**	**257**	P		**P**	**06 57 28.9**	**+0.7**
BKNI	**Bangkinang**	**21.95**	**271**	P		**P**	**06 57 43.7**	**+0.1**
WB0	**Warramunga Arr**	**22.63**	**151**	P		**P**	**06 57 50.3**	**+0.3**
WB0				IAmb		IAmb	06 58 04.3	
	comp=Z,31nm,1.3s							
WRA	**Warramunga Arr**	**22.75**	**151**	P		**P**	**06 57 50.4**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=328,slow=10,SNR=6.0							
WRA				ScP		**ScP**	**07 04 58.1**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=334,slow=2.6,SNR=13							
	comp=Z,2.2nm,0.6s							
WB2	**Warramunga Arr**	**22.76**	**151**	P		**P**	**06 57 51.4**	**+0.2**
WB2				IAmb		IAmb	06 58 09.0	
	comp=Z,30nm,1.4s							
WR0	**Warramunga Arr**	**22.86**	**151**	P		**P**	**06 57 51.0**	**-1.2**
WR0				IAmb		IAmb	06 57 52.2	
	comp=Z,27nm,1.3s							
TPUB	**Ta-pu**	**23.24**	**355**	P		**P**	**06 57 56.9**	**+1.3**
TPUB				IAmb		IAmb	06 58 00.5	
	comp=Z,18nm,0.8s							
YULB	**Yu-li**	**23.28**	**356**	P		**P**	**06 57 56.0**	**+0.1**
ASAR	**Alice Springs**	**25.83**	**157**	P		**P**	**06 58 20.5**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=337,slow=9.1,SNR=2.0							
ASAR				PcP		**PcP**	**07 01 43.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=350,slow=2.1,SNR=5.3							
ASAR				ScP		**ScP**	**07 05 06.8**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=340,slow=2.7,SNR=15							
	comp=Z,0.8nm,0.5s							
JOW	**Kunigami**	**27.13**	**10**	P		**P**	**06 58 30.1**	**-0.6**
JOW				IAmb		IAmb	06 58 42.7	
	comp=Z,19nm,0.9s							
PHRA	**Phrae**	**28.92**	**311**	P		**P**	**06 58 47.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**29.89**	**309**	P		**P**	**06 58 57.4**	**+2.2**
	comp=Z,2.8nm,0.4s,baz=139,slow=7.1,SNR=12							
	comp=Z,2.8nm,0.4s							
FORT	**Forrest**	**31.02**	**172**	P		**P**	**06 59 04.9**	**-0.1**
FORT				IAmb		IAmb	06 59 12.5	
	comp=Z,18nm,1.0s							
BBOO	**Buckleboo**	**34.91**	**161**	P		**P**	**06 59 40.8**	**+2.0**
BBOO				IAmb		IAmb	06 59 58.6	
	comp=Z,29nm,1.4s							
STKA	**Stephens Creek**	**36.29**	**153**	P		**P**	**06 59 50.5**	**0.0**
	comp=Z,5.4nm,0.8s,baz=331,slow=11,SNR=4.7							
STKA				PcP		**PcP**	**07 02 11.4**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=329,slow=5.9,SNR=1.4							
	comp=Z,5.4nm,0.8s							
STKA	**Stephens Creek**	**36.29**	**153**	P		**P**	**06 59 50.9**	**+0.3**
MJAR	**Matsushiro Arr**	**38.98**	**20**	P		**P**	**07 00 12.4**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=191,slow=9.4,SNR=5.5							
	comp=Z,2.0nm,0.4s							
ARMA	**Armidale**	**40.73**	**141**	P		**P**	**07 00 29.6**	**+1.9**
CAN	**Canberra**	**42.73**	**148**	P		**P**	**07 00 45.3**	**+1.5**
CAN				IAmb		IAmb	07 00 53.8	
	comp=Z,24nm,1.2s							
USRK	**Ussuriysk Ar.**	**44.70**	**9**	P		**P**	**07 00 59.8**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=191,slow=5.7,SNR=5.8							
	comp=Z,1.8nm,0.5s							
KLR	**Kul'dur**	**49.59**	**8**	P		**P**	**07 01 36.7**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=205,slow=1.5,SNR=4.2							
	comp=Z,1.6nm,0.8s							
SONM	**Songino Array**	**49.75**	**345**	P		**P**	**07 01 38.8**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=157,slow=8.8,SNR=20							
SONM				PcP		**PcP**	**07 02 56.1**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=162,slow=5.2,SNR=5.1							
	comp=Z,4.0nm,0.8s							
SONM	**Songino Array**	**49.75**	**345**	P		**P**	**07 01 39.9**	**+1.4**
MK31	**Makanchi Array**	**58.58**	**328**	P		**P**	**07 02 42.6**	**+0.4**
MKAR	**Makanchi Array**	**58.58**	**328**	P		**P**	**07 02 42.4**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=119,slow=8.7,SNR=36							
MKAR				PcP		**PcP**	**07 03 29.5**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=160,slow=5.3,SNR=6.3							
	comp=Z,1.7nm,0.3s							
MKAR	**Makanchi Array**	**58.58**	**328**	P		**P**	**07 02 42.2**	**0.0**
MAKZ	**Makanchi**	**58.75**	**328**	P		**P**	**07 02 43.8**	**+0.4**
MAKZ				IAmb		IAmb	07 03 11.6	
	comp=Z,16nm,1.4s							
PEA0B	**Petropavlovsk-**	**60.27**	**23**	P		**P**	**07 02 54.5**	**+0.9**
PEA0B				IAmb		IAmb	07 03 05.6	
	comp=Z,23nm,1.2s							
PETK	**Petropavlovsk-**	**60.27**	**23**	P		**P**	**07 02 54.4**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=213,slow=4.3,SNR=5.6							
	comp=Z,2.1nm,0.8s							
PETK	**Petropavlovsk-**	**60.27**	**23**	P		**P**	**07 02 54.5**	**+0.9**
KBL	**Kabul**	**60.91**	**310**	P		**P**	**07 02 59.0**	**+0.4**
KBL				IAmb		IAmb	07 02 59.9	
	comp=Z,14nm,0.7s							
GAR	**Garm**	**61.78**	**315**	P		**P**	**07 03 04.0**	**-0.2**
GAR				IAmb		IAmb	07 03 05.2	
	comp=Z,9.9nm,0.9s							
ZALV	**Zalesovo Beam**	**62.28**	**336**	P		**P**	**07 03 05.8**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=145,slow=5.4,SNR=3.6							
	comp=Z,1.0nm,0.5s							
BKZ	**Black Stump Fm**	**62.48**	**135**	P		**P**	**07 03 10.0**	**+1.2**
KURBB	**Kurchatov Arra**	**62.93**	**330**	P		**P**	**07 03 10.8**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=116,slow=6.2,SNR=9.8							
	comp=Z,1.8nm,0.5s							
KURK	**Kurchatov**	**62.94**	**330**	P		**P**	**07 03 11.6**	**0.0**
KURK				IAmb		IAmb	07 03 11.7	
	comp=Z,7.4nm,0.5s							
KK31	**Karatay Array**	**63.48**	**320**	P		**P**	**07 03 15.9**	**+0.6**
KKAR	**Karatay Array**	**63.48**	**320**	P		**P**	**07 03 14.7**	**-0.6**
SEY	**Seymchan**	**66.48**	**14**	P		**P**	**07 03 34.9**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=203,slow=16,SNR=4.8							
	comp=Z,2.6nm,0.6s							
BVAR	**Borovoye Array**	**68.45**	**329**	P		**P**	**07 03 45.8**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=137,slow=9.0,SNR=4.2							
	comp=Z,1.4nm,0.5s							
TIXI	**Tiksi**	**71.61**	**2**	P		**P**	**07 04 04.7**	**-0.9**
	comp=Z,3.1nm,0.4s,baz=214,slow=0.4,SNR=6.4							
	comp=Z,3.1nm,0.4s							
ABKAR	**Akbulak array**	**72.70**	**322**	P		**P**	**07 04 11.4**	**-1.1**
VNDA	**Vanda**	**80.28**	**172**	P		**P**	**07 04 54.5**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=319,slow=6.5,SNR=6.0							
	comp=Z,1.1nm,0.6s							
VNDA	**Vanda**	**80.28**	**172**	P		**P**	**07 04 54.8**	**+0.1**
OHAK	**Old Harbor**	**86.57**	**33**	P		**P**	**07 05 27.6**	**+0.5**
J20K	**Nowinta River**	**86.86**	**26**	P		**P**	**07 05 29.1**	**+0.7**
PPLA	**Purkeypile**	**87.61**	**27**	P		**P**	**07 05 32.7**	**+0.6**
PPLA				IAmb		IAmb	07 05 53.7	
	comp=Z,28nm,1.5s							
CAST	**Castle Rocks**	**87.70**	**27**	P		**P**	**07 05 32.6**	**+0.1**
CAST				IAmb		IAmb	07 05 34.6	
	comp=Z,9.4nm,1.5s							
H23K	**Yukon River**	**88.93**	**24**	P		**P**	**07 05 38.6**	**+0.4**
I23K	**Minto, Yukon-K**	**88.98**	**25**	P		**P**	**07 05 38.7**	**+0.3**
TOLK	**Toolik Lake Re**	**89.04**	**21**	P		**P**	**07 05 35.9**	**-2.8**
TOLK				IAmb		IAmb	07 05 37.8	
	comp=Z,11nm,1.4s							
SML	**Sawmill**	**89.35**	**28**	P		**P**	**07 05 39.9**	**-0.4**
SML				IAmb		IAmb	07 06 07.7	
	comp=Z,26nm,1.4s							
H24K	**Noodor Dome**	**89.62**	**24**	P		**P**	**07 05 41.9**	**+0.5**
SCM	**Sheep Creek Mo**	**89.83**	**28**	P		**P**	**07 05 42.2**	**-0.4**
QSPA	**South Pole Qui**	**89.96**	**180**	P		**P**	**07 05 43.2**	**+0.1**
QSPA				IAmb		IAmb	07 05 43.6	
	comp=Z,9.7nm,1.5s							
ILAR	**Eielson Array**	**90.03**	**25**	P		**P**	**07 05 42.0**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=246,slow=4.8,SNR=7.3							
	comp=Z,0.4nm,0.5s							
BMAR	**Burnt Mountain**	**90.91**	**23**	P		**P**	**07 05 48.3**	**+0.8**

MENT	**Mentasta**	**91.48**	**27**	P		**P**	**07 05 50.4**	**+0.3**
MENT				IAmb		IAmb	07 05 55.3	
	comp=Z,6.9nm,1.3s							
I26K	**Coal Creek Min**	**91.59**	**25**	P		**P**	**07 05 51.4**	**+0.8**
I26K				IAmb		IAmb	07 05 52.7	
	comp=Z,6.6nm,1.3s							
L27K	**Beaver Creek,**	**92.33**	**27**	P		**P**	**07 05 55.0**	**+0.9**
L27K				IAmb		IAmb	07 06 16.9	
	comp=Z,6.9nm,1.3s							
BCAR	**Beaver Creek A**	**92.35**	**27**	P		**P**	**07 05 54.5**	**+0.3**
BARN	**Barnard Glacie**	**92.58**	**29**	P		**P**	**07 05 55.4**	**-0.1**
SPB2	**Spitsbergen Ar**	**93.35**	**349**	P		**P**	**07 05 57.4**	**-1.0**
I29M	**Ogilvie Camp,**	**93.61**	**25**	P		**P**	**07 06 00.1**	**+0.2**
HYT	**Haines Junctio**	**94.62**	**29**	P		**P**	**07 06 05.7**	**+0.9**
HYT				IAmb		IAmb	07 06 08.0	
	comp=Z,12nm,1.2s							
M30M	**Minto, Yukon**	**94.69**	**27**	P		**P**	**07 06 05.9**	**+1.0**
M30M				IAmb		IAmb	07 06 06.9	
	comp=Z,4.2nm,1.1s							
N31M	**Braeburn, Yuko**	**95.34**	**28**	P		**P**	**07 06 08.8**	**+0.9**
FARO	**Faro, Yukon**	**96.33**	**27**	P		**P**	**07 06 13.2**	**+0.8**
NVAR	**Mina Array Bea**	**112.15**	**48**	PKiKP		**PKiKP**	**07 11 19.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=248,slow=3.0,SNR=4.5							
TORD	**Torodi Ar. Bea**	**120.39**	**285**	PKP		**PKPdf**	**07 11 34.0**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=65,slow=2.3,SNR=8.3							
TXAR	**Lajitas Array**	**126.81**	**52**	PKP		**PKiKP**	**07 11 48.0**	**0.0**
	comp=Z,0.3nm,0.6s,baz=192,slow=0.8,SNR=6.6							
VA03	**San Esteban**	**145.03**	**160**			**PKPbc**	**07 12 20.7**	**-0.1**
SOR	**Soroa**	**146.03**	**46**	PKPdf		**PKPdf**	**07 12 23.0**	**+0.1**
CO02	**Combarbal**	**146.28**	**158**	PKPdf		**PKPdf**	**07 12 22.8**	**-0.4**
CO02				PKPbc		**PKPab**	**07 12 25.2**	**-0.4**
CO02				PKPab		**PKiKP**	**07 12 26.3**	**-1.3**
CO03	**El Pedregal**	**146.72**	**158**	PKPbc		**PKPbc**	**07 12 26.0**	**+0.1**
CO03				PKPab		**PKPab**	**07 12 27.9**	**+0.6**
CO01	**Juntas del Tor**	**147.72**	**158**	PKPdf		**PKPdf**	**07 12 23.7**	**-2.1**
CO01						**PKPbc**	**07 12 27.1**	**-1.8**
CO01				PKPab		**PKiKP**	**07 12 29.8**	**-1.0**
PLTB	**Pedras Altas**	**148.27**	**186**	PKPbc		**PKPbc**	**07 12 30.4**	**+0.4**
PLTB				PKPab		**PKPab**	**07 12 33.6**	**+0.2**
LCO	**Las Campanas**	**148.35**	**157**	PKPbc		**PKPbc**	**07 12 30.4**	**-0.2**
AC05	**El Transito**	**148.67**	**157**	PKPbc		**PKPbc**	**07 12 31.8**	**+0.6**
AC05						**PKPab**	**07 12 35.6**	**+0.4**
AC04	**Llanos de Chal**	**148.91**	**155**	PKPbc		**PKPbc**	**07 12 32.0**	**+0.3**
BOAB	**BOACO BROADBAND**	**148.99**	**65**	PKPdf		**PKPdf**	**07 12 27.2**	**-0.8**
BOAB				PKPbc		**PKiKP**	**07 12 33.0**	**-0.4**
ACON	**Acoyapa**	**149.61**	**66**	PKPbc		**PKPbc**	**07 12 34.1**	**+0.3**
ORTG	**Ortega, Santa**	**149.89**	**69**	PKPbc		**PKiKP**	**07 12 35.1**	**-0.3**
DUNO	**Dulce Nombre,**	**149.94**	**70**	PKPdf		**PKPdf**	**07 12 28.7**	**-0.8**
DUNO				PKPbc		**PKiKP**	**07 12 35.1**	**-0.3**
DUNO				PKPab		**PKPab**	**07 12 39.9**	**-0.8**
AC06	**Mina Casimiro**	**149.96**	**156**	PKPdf		**PKPdf**	**07 12 29.2**	**-0.1**
AC06				PKPbc		**PKiKP**	**07 12 35.0**	**-0.2**
JTS	**Las Juntas de**	**150.38**	**69**	PKPbc		**PKPbc**	**07 12 34.7**	**-1.0**
ITQB	**Itaqui**	**150.52**	**181**	PKPbc		**PKPbc**	**07 12 35.4**	**-0.2**
ITQB				PKPab		**PKPab**	**07 12 43.0**	**+0.4**
AC02	**Maricunga**	**150.91**	**157**			**PKPbc**	**07 12 37.5**	**+0.3**
AC02				PKPab		**PKPab**	**07 12 45.4**	**+0.4**
AC01	**Pan de Azucar**	**150.92**	**154**	PKPbc		**PKiKP**	**07 12 37.2**	**+0.1**
HDC	**Heredia**	**151.26**	**69**	PKPdf		**PKPdf**	**07 12 31.0**	**-0.8**
ITAB	**Concordia**	**152.55**	**189**	PKPbc		**PKPbc**	**07 12 40.2**	**-0.1**
SIV	**San Ignacio**	**163.64**	**166**	PKP		**PKPdf**	**07 12 46.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=150,slow=4.3,SNR=3.9							

WEL 14 06:55:49.9±0.4, 42°S±4°×17°4E±°, h8km±4km, M4.0/19, ML4.3/19, MLv4.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=163.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.02**	**339**	P		Pg	06 55 51.3	-0.2
BSWZ	**Blackbirch Sta**	**0.27**	**282**	P		Pg	06 55 55.7	+0.5
BSWZ				S		Sb	06 56 00.6	-1.1
TCW	**Tory Channel**	**0.56**	**4**	P		Pg	06 56 01.0	+0.3
WEL	**Wellington**	**0.63**	**40**	P		Pb	06 56 02.8	-0.4
PLWZ	**Palliser**	**0.80**	**76**	P		Pb	06 56 06.5	+0.4
NNZ	**Nelson**	**0.84**	**311**	P		Pg	06 56 06.4	+0.3
MSWZ	**Moikau Station**	**0.85**	**66**	P		Pb	06 56 07.1	+0.2
CAW	**Cannon Point**	**0.92**	**44**	P		Pg	06 56 07.7	+0.2
PAWZ	**Paruwai Farm**	**0.98**	**67**	P		Pb	06 56 09.1	-0.1
DUWZ	**D'Urville Isla**	**0.99**	**347**	P		Pg	06 56 08.8	-0.2
KIW	**Kapiti Island**	**1.04**	**30**	P		Pg	06 56 09.8	-0.2
MTW	**Mount Morrison**	**1.14**	**58**	P		Pg	06 56 11.2	-0.6
TRWZ	**Traveller**	**1.16**	**72**	P		Pg	06 56 11.0	-1.2
MRNZ	**Matariki Terra**	**1.16**	**288**	P		Pb	06 56 12.3	0.0
OGWZ	**Otaki Gorge**	**1.19**	**37**	P		Pb	06 56 12.5	-0.2
TKNZ	**Takaka Hill**	**1.20**	**307**	P		Pb	06 56 12.7	-0.2
HOWZ	**Holdsworth Sta**	**1.31**	**49**	P		Pn	06 56 13.7	-0.8
TMWZ	**Te Maipa**	**1.42**	**63**	P		Pn	06 56 14.8	-1.2
MRZ	**Mangatainoka R**	**1.51**	**43**	P		Pn	06 56 16.6	-0.6
TIWZ	**Tintock**	**1.60**	**52**	P		Pn	06 56 17.6	-0.9
CPWZ	**Castlepoint**	**1.72**	**61**	P		Pn	06 56 19.6	-0.5
OHWZ	**Ohakea**	**1.77**	**28**	P		Pb	06 56 21.9	-0.6
PRWZ	**Pori Road**	**1.79**	**48**	P		Pn	06 56 20.1	-1.1
POWZ	**Post Office Ro**	**1.81**	**41**	P		Pn	06 56 21.0	-0.3
BFZ	**Birch Farm**	**1.87**	**55**	P		Pn	06 56 21.1	-1.1
DVHZ	**Dannevirke**	**2.08**	**46**	P		Pn	06 56 23.5	-1.6
TSZ	**Takapari Road**	**2.16**	**38**	P		Pn	06 56 25.5	-0.7
PRHZ	**Porangahau**	**2.36**	**51**	P		Pn	06 56 27.1	-1.9
PNHZ	**Pukenui**	**2.38**	**40**	P		Pb	06 56 31.5	-1.6
WPHZ	**Waipukurau**	**2.39**	**45**	P		Pn	06 56 30.4	+1.0
WNVZ	**Wahianoa**	**2.66**	**24**	P		Pb	06 56 38.5	+0.7
TRVZ	**Turoa**	**2.67**	**23**	P		Pb	06 56 37.5	-0.5
BHHZ	**Black Hill Sta**	**2.67**	**32**	P		Pb	06 56 38.2	+0.1
VRZ	**Vera Road**	**2.67**	**9**	P		Pn	06 56 35.6	+2.4
DRZ	**Dome Shelter**	**2.69**	**23**	P		Pb	06 56 38.8	+0.3
WHVZ	**Whangaehu Hut**	**2.69**	**23**	P		Pn	06 56 34.5	+0.8
FWVZ	**Far West T-bar**	**2.71**	**22**	P		Pn	06 56 35.0	+1.1
TUVZ	**Tukino**	**2.73**	**24**	P		Pn	06 56 35.5	+1.4
NGZ	**Ngauruhoe**	**2.80**	**23**	P		Pb	06 56 40.7	+0.5
SNVZ	**South Ngauruho**	**2.80**	**23**	P		Pb	06 56 40.1	-0.2
OTVZ	**Oturere**	**2.83**	**23**	P		Pb	06 56 40.1	-0.6
NNVZ	**North Ngauruho**	**2.84**	**22**	P		Pb	06 56 41.8	+0.8
WTVZ	**West Tongariro**	**2.85**	**22**	P		Pb	06 56 39.0	-2.1
TWVZ	**Taurewa**	**2.85**	**19**	P		Pb	06 56 41.9	+0.8
ETVZ	**East Tongariro**	**2.87**	**24**	P		Pn	06 56 36.7	+0.7
KWHZ	**Kaweka Forest**	**2.88**	**36**	P		Pb	06 56 42.3	+0.7
TMVZ	**Te Maari**	**2.88**	**24**	P		Pn	06 56 36.7	+0.5
KRVZ	**Karewarewa**	**2.88**	**22**	P		Pn	06 56 38.6	+2.3
NTVZ	**North Tongarir**	**2.89**	**23**	P		Pn	06 56 37.0	+0.7
KATZ	**Kakaramea**	**3.01**	**22**	P		Pb	06 56 44.2	+0.4
HIZ	**Hauiti**	**3.29**	**9**	P		Pb	06 56 46.0	-2.5
TOZ	**Tahuroa Road**	**4.15**	**14**	P		Pn	06 56 57.6	+4.1
ETAZ	**East Tamaki Re**	**4.84**	**7**	P		Pn	06 57 05.5	+2.5
CTZ	**Chatham Island**	**7.02**	**109**	P		Pn	06 57 31.0	-1.9

IDC 14 06:55:48.8±2.5, 42°.56S×173°.18E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=50.3km s-min=36.3km az=126.0

WEL 14 06:55:50.3±0.4, 42°S±2°×17°3E±°, h5km, M4.0/4, ML4.2/6, MLv4.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=128.7

ISC 14 06:55:50.2±0.8, 42°.45S±0°.04×173°.20E±0°.05, h10km, n18, σ0°88/23, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.25**	**83**	P		**Pg**	**06 55 55.4**	**+0.1**
KHZ				S		**Sg**	**06 55 59.2**	**+0.6**
GVZ	**Greta Valley S**	**0.54**	**193**	P		**Pg**	**06 56 01.4**	**+0.7**
AMCZ	**Amberley**	**0.84**	**209**	P		**Pb**	**06 56 07.1**	**+0.2**
AMCZ				S		**Sb**	**06 56 19.5**	**+1.4**
NNZ	**Nelson**	**1.23**	**6**	P		**Pg**	**06 56 13.9**	**0.0**
QRZ	**Quartz Range**	**1.70**	**342**	P		**Pn**	**06 56 19.9**	**+0.1**
QRZ	**Quartz Range**	**1.70**	**342**	P		**Pn**	**06 56 19.9**	**+0.1**
QRZ				S		**Sb**	**06 56 42.9**	**+0.1**
WVZ	**Waitaha Valley**	**1.92**	**250**	S		**Sn**	**06 56 47.2**	**-0.1**
WVZ	**Waitaha Valley**	**1.92**	**250**	P		**Pn**	**06 56 23.5**	**+0.5**
WVZ				S		**Sn**	**06 56 47.1**	**-0.1**
WVZ	**Waitaha Valley**	**1.92**	**250**	P		**Pn**	**06 56 23.7**	**+0.7**
RPZ	**Rata Peaks**	**2.02**	**230**	Pn		**Pn**	**06 56 23.6**	**-0.8**
RPZ	72nm,0.3s,baz=92,slow=2.3,SNR=6.5				Sn	**Sn**	**06 56 48.0**	**-1.7**
	62nm,0.3s,baz=346,slow=22,SNR=7.8							
RPZ	**Rata Peaks**	**2.02**	**230**	S		**Sn**	**06 56 49.2**	**-0.5**
RPZ	**Rata Peaks**	**2.02**	**230**	P		**Pn**	**06 56 23.5**	**-0.8**
RPZ	**Rata Peaks**	**2.02**	**230**	P		**Pn**	**06 56 23.6**	**-0.8**
ARCZ	**Arundel**	**2.11**	**224**	S		**Sn**	**06 56 49.8**	**-2.1**
ARCZ	**Arundel**	**2.11**	**224**	P		**Pn**	**06 56 24.5**	**-1.0**
ASAR	**Alice Springs**	**37.48**	**287**	P		**P**	**07 03 03.5**	**-0.5**

	0.6nm,0.9s,baz=125,slow=8.0,SNR=1.9							
	0.6nm,0.9s							
WRA	**Warramunga Arr**	**39.63**	**292**	P		**P**	**07 03 23.0**	**+0.8**
	0.6nm,0.6s,baz=126,slow=8.3,SNR=6.0							
	0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**149.89**	**197**	PKPbc		**PKPbc**	**07 15 40.4**	**-0.6**
	0.4nm,0.4s,baz=157,slow=2.6,SNR=4.2							

KRNET 14 06:56:59.4±0.1, 39°.49N×73°.37E, mb3.4
ISU 14 06:57:01, 39°.52N×73°.29E, h10km
SOME 14 06:57:02.0, 39°.72N×73°.22E, h0km
NNC 14 06:57:05.4±1.8, 39°.72N×73°.37E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.6km s-min=6.4km az=177.0

ISC 14 06:57:01.5±1.4, 39°.68N±0°.04×73°.33E±0°.03, h4km±11km, n61, σ2°09/99, 21C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**0.94**	**334**	⇑*iP*		**Pn**	**06 57 20.8**	**-0.8**
OHH	baz=37			⇑*iS*		**Sn**	**06 57 36.6**	**+1.1**
OHH	**Osh**	**0.94**	**334**	P		**Pb**	**06 57 20.5**	**0.0**
OHH	baz=37			S		**Sn**	**06 57 36.3**	**+0.8**
DRK	**Karamyk**	**1.20**	**261**	⇑*iP*		**Pb**	**06 57 22.6**	**-2.3**
DRK	baz=70			⇑*iS*		**Sb**	**06 57 39.5**	**-1.4**
ANR	**Andizhan**	**1.31**	**326**	S		**Sg**	**06 57 49.5**	**+6.0**
FRG	**Fergana**	**1.37**	**301**	P		**Pg**	**06 57 28.2**	**+0.3**
FRG				S		**Sg**	**06 57 48.3**	**+2.6**
NAM	**Namangan**	**1.83**	**316**	S		**Sg**	**06 58 05.9**	**+5.6**
BTK	**Batken**	**1.97**	**282**	⇑*iP*		**Pb**	**06 57 36.9**	**-1.1**
BTK	baz=87			⇑*iS*		**Sg**	**06 58 04.7**	**-0.1**
BTK	**Batken**	**1.97**	**282**	P		**Pb**	**06 57 37.6**	**-0.4**
BTK	baz=87			S		**Sg**	**06 58 03.8**	**-1.0**
MINT	**Mingtut**	**1.97**	**294**	P		**Pg**	**06 57 40.1**	**+0.8**
MINT				S		**Sg**	**06 58 07.3**	**+2.5**
ARLS	**Aral**	**2.31**	**19**	⇑*eP*

KTBS					*e*S	**Sg**	**06 59 35.8**	**+1.8**
	42nm,0.5s							
KTBS	**Karatobe**	**4.75**	**31**	Pg	**Pg**	**06 58 31.1**	**-1.3**
	3.0nm,0.8s							
KTBS				Lg	Lg	06 59 35.8		
	42nm,0.5s							
KUU	**Kurty**	**4.77**	**27**	*e*P	**Pg**	**06 58 31.4**	**-1.6**
	3.1nm,0.9s							
KUU				*e*S	**Sg**	**06 59 36.3**	**+1.5**
	5.8nm,0.9s							
KUU	**Kurty**	**4.77**	**27**	Pg	**Pg**	**06 58 31.4**	**-1.6**
	3.1nm,0.9s							
KUU				Lg	Lg	06 59 36.3		
	5.8nm,0.9s							
CHKK	**Chushkaly**	**4.99**	**32**	*e*P	**Pg**	**06 58 36.0**	**-1.1**
	1.9nm,0.4s							
CHKK				*e*S	**Sg**	**06 59 43.3**	**+1.6**
	9.5nm,0.8s							
CHKK	**Chushkaly**	**4.99**	**32**	Pg	**Pg**	**06 58 36.0**	**-1.1**
	1.9nm,0.4s							
CHKK				Lg	Lg	06 59 43.3		
	9.5nm,0.8s							
SATY	**Saty**	**5.10**	**47**	*e*P	**Pg**	**06 58 37.2**	**-2.0**
	4.6nm,0.5s							
SATY				*e*S	**Sg**	**06 59 45.5**	**+0.3**
	11nm,1.3s							
SATY	**Saty**	**5.10**	**47**	Pg	**Pg**	**06 58 37.2**	**-2.0**
	4.6nm,0.5s							
SATY				Lg	Lg	06 59 45.5		
	11nm,1.3s							
KURS	**Kuram**	**5.26**	**42**	*e*P	**Pg**	**06 58 41.3**	**-0.9**
	3.2nm,0.5s							
KURS				*e*S	**Sg**	**06 59 52.4**	**+2.0**
	8.6nm,1.1s							
KURS	**Kuram**	**5.26**	**42**	Pg	**Pg**	**06 58 41.3**	**-0.9**
	3.2nm,0.5s							
KURS				Lg	Lg	06 59 52.4		
	8.6nm,1.1s							
BTLS	**Baital**	**5.38**	**5**	*e*P	**Pg**	**06 58 42.2**	**-2.4**
	1.9nm,0.8s							
BTLS				*e*S	**Sg**	**06 59 54.7**	**+0.3**
	5.2nm,0.6s							
BTLS	**Baital**	**5.38**	**5**	Pg	**Pg**	**06 58 42.2**	**-2.4**
	1.9nm,0.8s							
BTLS				Lg	Lg	06 59 54.7		
	5.2nm,0.6s							
UZB	**Uzynbulak**	**5.51**	**49**	*e*P	**Pg**	**06 58 43.9**	**-3.1**
	1.5nm,0.6s							
UZB				*e*S	**Sg**	**06 59 57.0**	**-1.3**
	6.4nm,1.4s							
UZB	**Uzynbulak**	**5.51**	**49**	Pg	**Pg**	**06 58 43.9**	**-3.1**
	1.5nm,0.6s							
UZB				Lg	Lg	06 59 57.0		
	6.4nm,1.4s							
KPKS	**Kokpek**	**5.52**	**45**	*e*P	**Pg**	**06 58 46.2**	**-1.0**
	2.9nm,0.5s							
KPKS				*e*S	**Sg**	**07 00 00.7**	**+2.0**
	12nm,0.5s							
KPKS	**Kokpek**	**5.52**	**45**	Pg	**Pg**	**06 58 46.2**	**-1.0**
	2.9nm,0.5s							
KPKS				Lg	Lg	07 00 00.7		
	12nm,0.5s							
ARXS	**Arharly**	**5.64**	**35**	*e*P	**Pg**	**06 58 46.5**	**-3.0**
	4.4nm,0.5s							
ARXS				*e*S	**Sg**	**07 00 02.0**	**-0.5**
	6.5nm,0.7s							
ARXS	**Arharly**	**5.64**	**35**	Pg	**Pg**	**06 58 46.5**	**-3.0**
	4.4nm,0.5s							
ARXS				Lg	Lg	07 00 02.0		
	6.5nm,0.7s							
SHLS	**Shalkode**	**5.77**	**51**	*e*P	**Pg**	**06 58 54.7**	**+2.6**
	2.4nm,0.2s							
SHLS				*e*S	**Sg**	**07 00 15.4**	**+8.5**
	7.1nm,1.1s							
SHLS	**Shalkode**	**5.77**	**51**	Pg	**Pg**	**06 58 54.7**	**+2.6**
	2.4nm,0.2s							
SHLS				Lg	Lg	07 00 15.4		
	7.1nm,1.1s							
BLB	**Baldybastay**	**5.85**	**39**	*e*P	**Pg**	**06 58 51.2**	**-2.4**
	2.4nm,0.1s							
BLB				*e*S	**Sg**	**07 00 09.6**	**+0.1**
	12nm,0.3s							
PDGK	**Podgornoye**	**5.89**	**50**	Pg	**Pg**	**06 58 51.9**	**-2.5**
	0.6nm,0.3s							
PDGK				Lg	Lg	07 00 10.6		
	3.9nm,1.0s							

WEL 14 06:58:13.3±0.5, 42°S±3°×17°4E±°, h12km, M3.7/9, ML3.9/9, MLv3.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=118.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**241**	P	Pg	06 58 17.9	+0.5
KHZ				S	Sg	06 58 21.6	+1.4
BSWZ	**Blackbirch Sta**	**0.62**	**8**	P	Pg	06 58 25.5	+0.2
BSWZ				S	Sb	06 58 35.1	+0.5
GVZ	**Greta Valley S**	**0.83**	**220**	P	Pb	06 58 30.0	+0.3
GVZ				S	Sn	06 58 42.5	-0.6
THZ	**Tophouse**	**0.85**	**311**	P	Pb	06 58 29.9	-0.1
THZ				S	Sb	06 58 41.6	+0.3
TUWZ	**Tuamarina**	**0.91**	**9**	P	Pg	06 58 30.3	-0.5
TUWZ				S	Sn	06 58 43.0	-0.9
NNZ	**Nelson**	**1.14**	**346**	P	Pb	06 58 34.7	-0.3
AMCZ	**Amberley**	**1.18**	**223**	P	Pb	06 58 34.6	-0.9
TCW	**Tory Channel**	**1.18**	**19**	P	Pb	06 58 34.4	-1.2
LTZ	**Lake Taylor**	**1.19**	**247**	P	Pn	06 58 35.1	-0.7
MRNZ	**Matariki Terra**	**1.19**	**321**	P	Pg	06 58 36.3	+0.1
WEL	**Wellington**	**1.29**	**36**	P	Pn	06 58 35.7	-1.3
TKNZ	**Takaka Hill**	**1.42**	**335**	P	Pn	06 58 39.3	+0.3
OKCZ	**Okains Bay**	**1.49**	**200**	P	Pn	06 58 38.1	-1.7
DUWZ	**D'Urville Isla**	**1.53**	**5**	P	Pn	06 58 40.6	+0.2
PAWZ	**Paruwai Farm**	**1.56**	**53**	P	Pn	06 58 38.6	-2.3
DSZ	**Denniston Nort**	**1.57**	**291**	P	Pn	06 58 41.3	+0.3
MQZ	**McQueen's Vall**	**1.60**	**210**	P	Pn	06 58 39.0	-2.3
OXZ	**Oxford**	**1.61**	**231**	P	Pn	06 58 39.9	-1.7
AKCZ	**Akaroa Harbour**	**1.67**	**202**	P	Pn	06 58 40.3	-2.0
KIW	**Kapiti Island**	**1.70**	**31**	P	Pn	06 58 41.7	-1.1
QRZ	**Quartz Range**	**1.76**	**328**	P	Pn	06 58 44.4	+0.8
RACZ	**Rakaia**	**1.84**	**220**	P	Pn	06 58 42.7	-1.9
WACZ	**Wakanui South**	**2.14**	**220**	P	Pn	06 58 47.1	-1.7
WVZ	**Waitaha Valley**	**2.35**	**250**	P	Pn	06 58 51.2	-0.5
RPZ	**Rata Peaks**	**2.42**	**234**	P	Pn	06 58 51.0	-1.6
ARCZ	**Arundel**	**2.49**	**229**	P	Pn	06 58 52.0	-1.6
GCSZ	**Gaunt Creek Bo**	**2.71**	**247**	P	Pn	06 58 56.2	-0.4
TMZ	**Timaru**	**2.87**	**223**	P	Pn	06 58 57.3	-1.6
FOZ	**Fox Glacier**	**3.14**	**246**	P	Pn	06 59 02.1	-0.3
TMVZ	**Te Maari**	**3.53**	**25**	P	Pb	06 59 12.6	-3.1
ODZ	**Otahua Downs**	**3.53**	**219**	P	Pn	06 59 05.9	-2.0
MTHZ	**Maungataniwha**	**4.19**	**35**	P	Pn	06 59 15.0	-2.0
TLZ	**Tolley Road**	**4.22**	**19**	P	Pn	06 59 17.3	-0.1
HHSZ	**Highcliff Hill**	**4.22**	**212**	P	Pn	06 59 15.4	-2.0
MUGZ	**Murupara**	**4.48**	**32**	P	Pn	06 59 20.5	-0.5
AWAZ	**Awhitu Peninsu**	**5.30**	**8**	P	Pn	06 59 32.6	+0.4
MKAZ	**Moumakai**	**5.33**	**12**	P	Pn	06 59 32.1	-0.5
ETAZ	**East Tamaki Re**	**5.44**	**10**	P	Pn	06 59 33.9	-0.2

WEL 14 07:01:05.7±0.9, 42°S±3°×17°4E±°, h9km±4km, M3.2/7, ML3.5/7, MLv3.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=104.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**251**	P	Pg	07 01 10.8	+0.6
KHZ				S	Sg	07 01 14.7	+1.4
BSWZ	**Blackbirch Sta**	**0.63**	**3**	P	Pg	07 01 18.3	+0.5
BSWZ				S	Sb	07 01 27.7	-0.1
GVZ	**Greta Valley S**	**0.85**	**223**	P	Pb	07 01 22.7	0.0
GVZ				S	Sb	07 01 35.3	+1.0
THZ	**Tophouse**	**0.90**	**310**	P	Pg	07 01 22.5	-0.4
THZ				S	Sb	07 01 35.6	-0.1
LTZ	**Lake Taylor**	**1.23**	**249**	P	Pb	07 01 27.8	-1.3
LTZ				S	Sb	07 01 44.3	-0.8
TKNZ	**Takaka Hill**	**1.46**	**333**	P	Pn	07 01 32.0	-0.4
TKNZ				S	Sb	07 01 51.9	+0.1
OKCZ	**Okains Bay**	**1.49**	**202**	P	Pn	07 01 31.3	-1.4
MQZ	**McQueen's Vall**	**1.61**	**212**	P	Pn	07 01 31.8	-2.5
DSZ	**Denniston Nort**	**1.62**	**291**	P	Pn	07 01 34.1	-0.4

*SOME **14** 07:06:01.9, 42°.10N×80°.48E, h0km*
*KRNET **14** 07:06:02.6±0.1, 42°.00N×80°.72E, mb4.2*

*NNC **14** 07:06:03.1±1.0, 42°.12N×80°.56E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=6.7km s-min=5.0km az=143.0*
ISC 14 07:06:04.1±2.2, 42°.19N±0'.06×80°.49E±0'.07, h2km±12km, n64, σ1s73/101, 22C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.23**	**322**	*e*P	**Pb**	**07 06 25.4**	**-2.8**
	197nm,0.2s						
SHLS				*e*S	**Sb**	**07 06 42.4**	**-2.2**
	2µm,0.3s						
SHLS	**Shalkode**	**1.23**	**322**	P	**Pb**	**07 06 25.4**	**-2.8**
	197nm,0.2s						
SHLS				S	**Sb**	**07 06 42.4**	**-2.2**
	2µm,0.3s						
KTMS	**Ketmen**	**1.26**	**356**	*e*P	**Pn**	**07 06 27.6**	**-1.3**
	77nm,0.3s						
KTMS				*e*S	**Sn**	**07 06 46.1**	**-0.5**
	322nm,0.3s						
KTMS	**Ketmen**	**1.26**	**356**	P	**Pn**	**07 06 27.6**	**-1.3**
	77nm,0.3s						
KTMS				S	**Sn**	**07 06 46.1**	**-0.5**
	322nm,0.3s						
PDGK	**Podgornoye**	**1.36**	**328**	P	**Pg**	**07 06 30.1**	**0.0**
	22nm,0.4s						
PDGK				S	**Sg**	**07 06 50.4**	**+2.6**
	151nm,0.5s						
PDGK	**Podgornoye**	**1.36**	**328**	⇓P	**Pb**	**07 06 30.0**	**-0.4**
	12nm,0.2s						
PDGK				⇑S	**Sg**	**07 06 50.2**	**+2.4**
	364nm,0.7s						
UZB	**Uzynbulak**	**1.45**	**312**	*e*P	**Pg**	**07 06 31.8**	**0.0**
	172nm,0.4s						
UZB				*e*S	**Sg**	**07 06 53.4**	**+2.8**
	132nm,0.2s						
UZB	**Uzynbulak**	**1.45**	**312**	P	**Pg**	**07 06 31.8**	**0.0**
	172nm,0.4s						
UZB				S	**Sg**	**07 06 53.4**	**+2.8**
	132nm,0.2s						
SATY	**Saty**	**1.77**	**300**	*e*P	**Pb**	**07 06 37.3**	**0.0**
	156nm,0.4s						
SATY				*e*S	**Sg**	**07 07 03.1**	**+2.2**
	350nm,0.2s						
SATY	**Saty**	**1.77**	**300**	Pg	**Pb**	**07 06 37.3**	**0.0**
	156nm,0.4s						
SATY				Lg	Lg	07 07 03.1	
	350nm,0.2s						
ZHN	**Zhinishke**	**1.80**	**304**	*e*P	**Pg**	**07 06 38.4**	**-0.3**
	341nm,0.2s						
ZHN				*e*S	**Sg**	**07 07 04.7**	**+2.6**
	923nm,0.2s						
ZHN	**Zhinishke**	**1.80**	**304**	Pg	**Pg**	**07 06 38.4**	**-0.3**
	341nm,0.2s						
ZHN				Lg	Lg	07 07 04.7	
	923nm,0.2s						
KPKS	**Kokpek**	**1.84**	**315**	*e*P	**Pg**	**07 06 39.0**	**-0.5**
	297nm,0.2s						
KPKS				*e*S	**Sg**	**07 07 05.6**	**+2.3**
	1µm,0.5s						
KPKS	**Kokpek**	**1.84**	**315**	Pg	**Pg**	**07 06 39.0**	**-0.5**
	297nm,0.2s						
KPKS				Lg	Lg	07 07 05.6	
	1µm,0.5s						
TARG	**Taragay, Kyrgy**	**2.05**	**258**	⇑*i*P	**Pb**	**07 06 42.4**	**0.0**
	baz=64						
TARG				⇑*i*S	**Sg**	**07 07 11.4**	**+1.3**
	baz=64						
KURS	**Kuram**	**2.14**	**308**	*e*P	**Pb**	**07 06 42.6**	**-1.1**
	139nm,0.4s						
KURS				*e*S	**Sg**	**07 07 11.6**	**-1.4**
	367nm,0.4s						
KURS	**Kuram**	**2.14**	**308**	Pg	**Pb**	**07 06 42.6**	**-1.1**
	139nm,0.4s						
KURS				Lg	Lg	07 07 11.6	
	367nm,0.4s						
ANVS	**Anan'yevo**	**2.17**	**287**	⇑*e*P	**Pg**	**07 06 45.1**	**-0.6**
	baz=90						
ANVS				⇑*i*S	**Sg**	**07 07 16.2**	**+2.4**
	baz=90						
DJR	**Jarkent**	**2.21**	**347**	*e*P	**Pb**	**07 06 44.5**	**-0.3**
	65nm,0.4s						
DJR				*e*S	**Sg**	**07 07 15.6**	**+0.6**
	584nm,0.5s						
DJR	**Jarkent**	**2.21**	**347**	Pg	**Pb**	**07 06 44.5**	**-0.3**
	65nm,0.4s						
DJR				Lg	Lg	07 07 15.6	
	584nm,0.5s						
KOTS	**Kotyrbulak**	**2.70**	**294**	*e*P	**Pg**	**07 06 55.4**	**-0.5**
	74nm,0.3s						
KOTS				*e*S	**Sg**	**07 07 33.7**	**+2.9**
	1µm,0.7s						
KOTS	**Kotyrbulak**	**2.70**	**294**	Pg	**Pg**	**07 06 55.4**	**-0.5**
	74nm,0.3s						
KOTS				Lg	Lg	07 07 33.7	
	1µm,0.7s						
MDOK	**Medeo**	**2.72**	**292**	*e*P	**Pb**	**07 06 53.6**	**0.0**
	68nm,0.3s						
MDOK				*e*S	**Sg**	**07 07 30.9**	**-0.5**
	223nm,0.5s						
MDOK	**Medeo**	**2.72**	**292**	⇑Pg	**Pb**	**07 06 53.3**	**-0.2**
	43nm,0.5s						
MDOK				Pg	**Pb**	**07 06 53.6**	**0.0**
	68nm,0.3s						
MDOK				⇑Lg	Lg	07 07 30.9	
	143nm,0.5s						
MDOK				Lg	Lg	07 07 30.9	
	223nm,0.5s						
TNSS	**Tian-Shan**	**2.75**	**289**	*e*P	**Pb**	**07 06 53.6**	**-0.6**
	92nm,0.3s						
TNSS				*e*S	**Sg**	**07 07 30.7**	**-1.7**
	65nm,0.3s						
TNSS	**Tian-Shan**	**2.75**	**289**	Pg	**Pb**	**07 06 53.6**	**-0.6**
	92nm,0.3s						
TNSS				Lg	Lg	07 07 30.7	
	65nm,0.3s						
KNDC	**Almaty**	**2.79**	**293**	⇑Pg	**Pb**	**07 06 55.3**	**+0.5**
	173nm,0.5s						
KNDC				⇓Lg	Lg	07 07 37.1	
	146nm,0.5s						
ARXS	**Arharly**	**2.81**	**317**	*e*P	**Pb**	**07 06 55.0**	**-0.1**
	53nm,0.5s						
ARXS				*e*S	**Sg**	**07 07 33.4**	**-1.0**
	428nm,0.6s						
ARXS	**Arharly**	**2.81**	**317**	Pg	**Pb**	**07 06 55.0**	**-0.1**
	53nm,0.5s						
ARXS				Lg	Lg	07 07 33.4	
	428nm,0.6s						
AAA	**Alma-Ata**	**2.82**	**292**	*e*P	**Pb**	**07 06 55.9**	**+0.6**
	138nm,0.5s						
AAA				*e*S	**Sg**	**07 07 35.0**	**+0.1**
	310nm,0.9s						
AAA	**Alma-Ata**	**2.82**	**292**	Pg	**Pb**	**07 06 55.9**	**+0.6**
	138nm,0.5s						
AAA				Lg	Lg	07 07 35.0	
	310nm,0.9s						
IZV	**Izvestkoviy**	**2.98**	**288**	*e*P	**Pb**	**07 06 58.5**	**+0.4**
	26nm,0.4s						
IZV				*e*S	**Sg**	**07 07 39.1**	**-0.8**
	332nm,0.7s						
IZV	**Izvestkoviy**	**2.98**	**288**	Pg	**Pb**	**07 06 58.5**	**+0.4**
	26nm,0.4s						
IZV				Lg	Lg	07 07 39.1	
	332nm,0.7s						
CHKK	**Chushkaly**	**3.06**	**304**	*e*P	**Pb**	**07 07 00.0**	**+0.7**
	43nm,0.4s						
CHKK				*e*S	**Sg**	**07 07 41.8**	**-0.6**
	190nm,0.3s						
CHKK	**Chushkaly**	**3.06**	**304**	Pg	**Pb**	**07 07 00.0**	**+0.7**
	43nm,0.4s						
CHKK				Lg	Lg	07 07 41.8	
	190nm,0.3s						
MTBS	**Maitube**	**3.14**	**289**	*e*P	**Pb**	**07 06 59.5**	**-1.2**
	57nm,0.5s						
MTBS				*e*S	**Sb**	**07 07 41.3**	**+1.9**
	154nm,0.7s						
MTBS	**Maitube**	**3.14**	**289**	Pg	**Pb**	**07 06 59.4**	**-1.2**
	57nm,0.5s						
MTBS				Lg	Lg	07 07 41.3	
	154nm,0.7s						
ULHL	**Ulahol**	**3.15**	**273**	⇑*e*P	**Pb**	**07 06 58.3**	**-2.7**
	baz=76						
ULHL				⇑*i*S	**Sb**	**07 07 38.9**	**-1.1**
	baz=76						
KTBS	**Karatobe**	**3.18**	**300**	*e*P	**Pb**	**07 07 01.6**	**+0.2**
	32nm,0.6s						
KTBS				*e*S	**Sg**	**07 07 44.2**	**-2.1**
	576nm,0.6s						
KTBS	**Karatobe**	**3.18**	**300**	Pg	**Pb**	**07 07 01.6**	**+0.2**
	32nm,0.6s						
KTBS				Lg	Lg	07 07 44.2	
	576nm,0.6s						
TDK	**Taldyqorghan**	**3.19**	**332**	*e*P	**Pb**	**07 07 02.5**	**+0.9**
	59nm,0.6s						
TDK				*e*S	**Sg**	**07 07 45.2**	**-1.5**
	673nm,0.6s						
TDK	**Taldyqorghan**	**3.19**	**332**	Pg	**Pb**	**07 07 02.5**	**+0.9**
	59nm,0.6s						
TDK				Lg	Lg	07 07 45.2	
	673nm,0.6s						
BOOM	**Boomskoye usch**	**3.38**	**277**	⇑*i*P	**Pb**	**07 07 01.6**	**-3.3**
	baz=80						
BOOM				⇑*i*S	**Sb**	**07 07 44.7**	**-1.9**
	baz=80						
NRN	**Naryn**	**3.44**	**259**	⇑*e*P	**Pn**	**07 07 01.7**	**+2.7**
	baz=62						
NRN				⇑*i*S	**Sb**	**07 07 44.9**	**-3.4**
	baz=62						
KST	**Kastek**	**3.45**	**286**	*e*P	**Pb**	**07 07 07.0**	**+1.0**
	65nm,0.6s						
KST				*e*S	**Sg**	**07 07 53.9**	**-1.0**
	114nm,0.6s						
KST	**Kastek**	**3.45**	**286**	Pg	**Pb**	**07 07 07.0**	**+1.0**
	65nm,0.6s						
KST				Lg	Lg	07 07 53.9	
	114nm,0.6s						
KUU	**Kurty**	**3.49**	**301**	*e*P	**Pb**	**07 07 07.6**	**+1.0**
	31nm,0.7s						
KUU				*e*S	**Sg**	**07 07 54.8**	**-1.3**
	198nm,0.6s						
KUU	**Kurty**	**3.49**	**301**	Pg	**Pb**	**07 07 07.6**	**+1.0**
	31nm,0.7s						
KUU				Lg	Lg	07 07 54.8	
	198nm,0.6s						
DGS	**Degeres**	**3.63**	**288**	*e*P	**Pb**	**07 07 10.4**	**+1.3**
	49nm,0.4s						
DGS				*e*S	**Sg**	**07 07 59.4**	**-1.4**
	176nm,0.4s						
DGS	**Degeres**	**3.63**	**288**	Pg	**Pb**	**07 07 10.4**	**+1.3**
	49nm,0.4s						
DGS				Lg	Lg	07 07 59.4	
	176nm,0.4s						
TKM2	**Tokmak 2**	**3.69**	**283**	⇓*i*P	**Pb**	**07 07 06.2**	**-3.9**
	baz=85						
TKM2				⇓*i*S	**Sb**	**07 07 52.5**	**-2.8**
	baz=85						
TKM2	**Tokmak 2**	**3.69**	**283**	⇑Pn	**Pn**	**07 07 05.3**	**+2.9**
TKM2				⇓Lg	Lg	07 08 03.3	
KRBS	**Karabastau**	**3.84**	**295**	*e*P	**Pb**	**07 07 13.7**	**+1.0**
	16nm,0.5s						
KRBS				*e*S	**Sg**	**07 08 05.2**	**-2.3**
	49nm,0.6s						
KRBS	**Karabastau**	**3.84**	**295**	Pg	**Pb**	**07 07 13.7**	**+1.0**
	16nm,0.5s						
KRBS				Lg	Lg	07 08 05.2	
	49nm,0.6s						
CHMS	**Chumysh**	**4.31**	**283**	⇑Pg	**Pg**	**07 07 25.3**	**-1.5**
CHMS				⇓Lg	Lg	07 08 24.1	
SGDS	**Sogindy**	**4.49**	**288**	*e*P	**Pb**	**07 07 23.5**	**-0.2**
	24nm,0.7s						
SGDS				*e*S	**Sb**	**07 08 22.3**	**+4.0**
	34nm,0.8s						
SGDS	**Sogindy**	**4.49**	**288**	Pg	**Pb**	**07 07 23.5**	**-0.2**
	24nm,0.7s						
SGDS				Lg	Lg	07 08 22.3	
	34nm,0.8s						
MAKZ	**Makanchi**	**4.74**	**12**	⇑Pn	**Pn**	**07 07 17.4**	**+0.8**
MAKZ				⇑Lg	Lg	07 08 29.9	
MK02	**Makanchi Array**	**4.76**	**15**	⇑Pn	**Pn**	**07 07 18.9**	**+2.0**
	1.8nm,0.2s						
MK02				⇓Sn	**Sn**	**07 08 13.8**	**+1.0**
	15nm,0.5s						
MK02				⇓Lg	Lg	07 08 34.4	
	28nm,0.6s						
MRKS	**Merke**	**5.40**	**278**	*e*P	**Pb**	**07 07 42.9**	**+3.7**
	9.0nm,0.6s						
MRKS				*e*S	**Sg**	**07 08 55.6**	**-1.9**
	30nm,0.5s						
MRKS	**Merke**	**5.40**	**278**	Pg	**Pb**	**07 07 42.9**	**+3.7**
	9.0nm,0.6s						
MRKS				Lg	Lg	07 08 55.6	
	30nm,0.5s						
BTLS	**Baital**	**5.48**	**304**	*e*P	**Pb**	**07 07 43.6**	**+3.2**
	17nm,0.4s						
BTLS				*e*S	**Sg**	**07 08 57.1**	**-2.9**
	15nm,0.3s						
KK31	**Karatay Array**	**7.41**	**280**	⇑Pg	**Pg**	**07 08 24.2**	**-1.9**
	1.6nm,0.5s,baz=91,slow=15,SNR=8.4						
KK31				⇑Lg	Lg	07 10 03.9	
	3.7nm,0.4s,baz=94,slow=28,SNR=4.4						
KURBB	**Kurchatov Arra**	**8.55**	**352**	⇑Lg	Lg	07 10 32.1	
	38nm,0.8s						

*IDC **14** 07:07:06.6±1.6, 19°.22N×38°.93E, h0km, mb3.9/9, mbtmp4.0/9, Error ellipse: s-maj=49.9km s-min=21.5km az=153.0*
*SGS **14** 07:07:09.4, 19°.43N×39°.17E, h39km, Ml3.1*
ISC 14 07:07:08.1±0.9, 19°.44N±0'.08×39°.13E±0'.07, h10km, n23, σ1s88/21, mb4.0/8, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLITH	**NLITH**	**1.29**	**40**	P	**Pn**	**07 07 31.3**	**-1.0**
SADE2	**SADE2**	**1.41**	**33**	P	**Pn**	**07 07 32.3**	**-1.5**
SADE1	**SADE1**	**1.41**	**37**	P	**Pn**	**07 07 33.1**	**-0.7**
LTHS	**Al Lith**	**1.47**	**55**	S	Sn	07 07 50.0	-3.8
LTHS	**Al Lith**	**1.47**	**55**	P	**Pn**	**07 07 33.8**	**-0.8**
QNFDS	**Al Qunfudhah**	**1.75**	**78**	S	**Sn**	**07 07 58.3**	**-2.4**
QNFDS	**Al Qunfudhah**	**1.75**	**78**	P	**Pn**	**07 07 36.8**	**-1.6**
WASQA	**WASQA**	**1.75**	**67**	P	**Pn**	**07 07 37.4**	**-1.1**
WASQA	**WASQA**	**1.75**	**67**	S	**Sn**	**07 07 58.5**	**-2.4**
QNF01	**Al Qunfudhah**	**2.03**	**91**	P	**Pn**	**07 07 41.2**	**-1.2**
QNF02	**Al Qunfudhah**	**2.26**	**99**	P	**Pn**	**07 07 44.5**	**-1.0**
NAMS	**An Nimas**	**2.91**	**95**	P	**Pn**	**07 07 54.0**	**-0.8**
HAJR	**Hajar**	**3.48**	**8**	S	**Sn**	**07 08 41.0**	**-2.8**
HAJR	**Hajar**	**3.48**	**8**	P	**Pn**	**07 08 01.6**	**-0.8**
BRTR	**Keskin Array B**	**20.76**	**348**	P	Pn	07 11 52.3	+0.6
	2.9nm,1.0s,baz=167,slow=7.2,SNR=2.5 2.9nm,1.0s						
AKASG	**Malin Array Be**	**32.17**	**348**	P	**P**	**07 13 36.3**	**+0.3**
	0.2nm,0.3s,baz=163,slow=6.8,SNR=2.2 0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**36.42**	**266**	P	**P**	**07 14 11.6**	**-1.6**
	3.0nm,0.8s,baz=75,slow=8.5,SNR=5.9 3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**43.98**	**36**	P	**P**	**07 15 18.8**	**+3.3**
	1.5nm,0.7s,baz=241,slow=8.2,SNR=5.3 1.5nm,0.7s						
MKAR	**Makanchi Array**	**44.49**	**42**	P	**P**	**07 15 22.4**	**+2.7**
	2.0nm,1.0s,baz=248,slow=7.6,SNR=3.2 2.0nm,1.0s						
DBIC	**Dimbokro**	**44.55**	**260**	P	**P**	**07 15 18.8**	**-1.7**
	4.3nm,0.9

TMWZ	**Te Maipa**	**2.03**	**60**	P	Pn	07 08 15.7		-1.8

IDC ***14*** *07:11:10.2±2.6,41°.80S×174°.01E,h0km,mb3.3/2, mbtmp3.4/3,ML3.7/1,Error ellipse: s-maj=50.4km s-min=39.5km az=111.0*

WEL ***14*** *07:11:14.4±0.4,42°.3S×17°.4E±°,h9km±2km,M3.9/37, ML4.1/40,MLv3.9/37,Error ellipse: s-maj=0.0km s-min=0.0km az=163.3*

ISC 14 07:11:13.5±1.2,41°.92S±0°.04×174°.11E±0°.03,h13km±8km, n55,σ1ˢ68/65,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.19**	**23**	P	**Pg**	07 11 18.9	**+1.1**
BSWZ	**Blackbirch Sta**	**0.27**	**319**	P	**Pg**	07 11 19.1	**-0.1**
TUWZ	**Tuamarina**	**0.51**	**345**	P	**Pg**	07 11 23.3	**-0.2**
TUWZ				S	**Sg**	07 11 29.9	**-0.3**
TCW	**Tory Channel**	**0.72**	**10**	P	**Pg**	07 11 27.3	**-0.2**
WEL	**Wellington**	**0.81**	**38**	P	**Pb**	07 11 30.1	**+0.8**
WEL				S	**Sn**	07 11 42.8	**+0.5**
NNZ	**Nelson**	**0.90**	**322**	P	**Pg**	07 11 30.1	**-0.6**
PLWZ	**Palliser**	**0.92**	**68**	P	**Pg**	07 11 32.1	**+0.8**
PLWZ				S	**Sn**	07 11 46.4	**+1.1**
CAW	**Cannon Point**	**1.08**	**42**	P	**Pg**	07 11 34.5	**+0.2**
CAW				S	**Sn**	07 11 50.0	**+0.8**
PAWZ	**Paruwai Farm**	**1.12**	**62**	P	**Pg**	07 11 34.4	**-0.7**
DUWZ	**D'Urville Isla**	**1.13**	**353**	P	**Pg**	07 11 34.2	**-1.0**
DUWZ				S	**Sg**	07 11 48.5	**-1.4**
MRNZ	**Matariki Terra**	**1.14**	**297**	P	**Pg**	07 11 35.3	**-0.2**
MRNZ				S	**Sb**	07 11 50.3	**+0.5**
KIW	**Kapiti Island**	**1.22**	**30**	P	**Pb**	07 11 36.5	**+0.2**
KIW				S	**Sg**	07 11 52.8	**0.0**
TKNZ	**Takaka Hill**	**1.24**	**315**	P	**Pg**	07 11 36.3	**-0.4**
TKNZ				S	**Sg**	07 11 52.8	**-0.7**
TRWZ	**Traveller**	**1.29**	**67**	P	**Pg**	07 11 41.5	**+3.2**
QRZ	**Quartz Range**	**1.62**	**312**	P	**Pn**	07 11 43.0	**+1.3**
QRZ				S	**Sb**	07 12 03.3	**-0.2**
AMCZ	**Amberley**	**1.66**	**220**	P	**Pb**	07 11 45.4	**+1.6**
MRZ	**Mangatainoka R**	**1.68**	**42**	P	**Pn**	07 11 42.2	**-0.2**
DSZ	**Denniston Nort**	**1.73**	**275**	P	**Pn**	07 11 44.9	**+1.6**
OHWZ	**Ohakea**	**1.94**	**28**	P	**Pn**	07 11 47.5	**+1.4**
PRWZ	**Pori Road**	**1.96**	**46**	P	**Pn**	07 11 45.8	**-0.6**
INZ	**Inchbonnie**	**2.14**	**247**	P	**Pb**	07 11 51.7	**-0.2**
DVHZ	**Dannevirke**	**2.24**	**44**	P	**Pn**	07 11 49.1	**-1.2**
WAZ	**Wanganui**	**2.26**	**17**	P	**Pn**	07 11 53.0	**+2.4**
ANWZ	**Angora Road**	**2.31**	**51**	P	**Pn**	07 11 49.7	**-1.4**
TSZ	**Takapari Road**	**2.33**	**38**	P	**Pn**	07 11 50.9	**-0.6**
PRHZ	**Porangahau**	**2.52**	**50**	P	**Pn**	07 11 52.5	**-1.6**
PNHZ	**Pukenui**	**2.56**	**39**	P	**Pn**	07 11 53.8	**-0.8**
WPHZ	**Waipukurau**	**2.56**	**44**	P	**Pn**	07 11 54.0	**-0.6**
MOVZ	**Moawhango**	**2.81**	**27**	P	**Pn**	07 11 58.2	**+0.2**
PXZ	**Pawanui**	**2.81**	**49**	P	**Pn**	07 11 55.1	**-3.0**
WNVZ	**Wahianoa**	**2.83**	**24**	P	**Pn**	07 12 00.7	**+2.2**
VRZ	**Vera Road**	**2.84**	**10**	P	**Pn**	07 12 00.8	**+2.4**
BHHZ	**Black Hill Sta**	**2.85**	**32**	P	**Pn**	07 11 58.8	**+0.2**
WHVZ	**Whangaehu Hut**	**2.87**	**24**	P	**Pn**	07 12 02.5	**+3.4**
RPZ	**Rata Peaks**	**2.88**	**230**	Pn	**Pn**	07 11 58.0	**-1.0**
	9.8nm,0.3s,baz=49,slow=11,SNR=4.0						
RPZ				Sn	**Sn**	07 12 32.4	**-1.1**
	14nm,0.3s,baz=304,slow=19,SNR=10 24nm,0.3s						
FWVZ	**Far West T-bar**	**2.88**	**23**	P	**Pb**	07 12 04.0	**-0.8**
KAHZ	**Kahuranaki**	**2.98**	**45**	P	**Pn**	07 11 58.8	**-1.8**
ETVZ	**East Tongariro**	**3.04**	**24**	P	**Pn**	07 12 04.3	**+2.9**
KWHZ	**Kaweka Forest**	**3.05**	**36**	P	**Pn**	07 12 00.4	**-1.0**
TMVZ	**Te Maari**	**3.06**	**24**	P	**Pb**	07 12 06.0	**-1.7**
KRVZ	**Karewarewa**	**3.06**	**23**	P	**Pb**	07 12 06.3	**-1.4**
NTVZ	**North Tongarir**	**3.06**	**23**	P	**Pn**	07 12 02.9	**+1.3**
CKHZ	**Cape Kidnapper**	**3.19**	**46**	P	**Pn**	07 12 05.6	**+2.3**
BKZ	**Black Stump Fm**	**3.30**	**34**	P	**Pn**	07 12 03.8	**-1.0**
ARHZ	**Aropaoanui**	**3.45**	**41**	P	**Pn**	07 12 05.9	**-0.9**
TOZ	**Tahuroa Road**	**4.32**	**15**	P	**Pn**	07 12 21.7	**+2.9**
MWZ	**Matawai**	**4.44**	**37**	P	**Pn**	07 12 17.3	**-3.2**
RUGZ	**Raukumara Rang**	**4.81**	**36**	P	**Pn**	07 12 24.0	**-1.7**
AWAZ	**Awhitu Peninsu**	**4.87**	**5**	P	**Pn**	07 12 29.1	**+2.7**
MKAZ	**Moumakai**	**4.88**	**10**	P	**Pn**	07 12 27.8	**+1.3**
ETAZ	**East Tamaki Re**	**5.00**	**8**	P	**Pn**	07 12 31.0	**+2.9**
HAZ	**Te Kaha**	**5.03**	**35**	P	**Pn**	07 12 27.2	**-1.4**
ASAR	**Alice Springs**	**37.98**	**286**	P	**P**	07 18 29.1	**-2.0**
	0.2nm,0.4s,baz=117,slow=6.3,SNR=6.4 0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.07**	**291**	P	**P**	07 18 46.0	**-2.6**
	0.3nm,0.6s,baz=135,slow=6.9,SNR=7.3 0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.58**	**195**	PKPbc	**PKPdf**	07 31 04.3	**+4.3**
	0.3nm,0.4s,baz=160,slow=2.5,SNR=3.6						

IDC ***14*** *07:13:51.1±1.7,41°.83S×173°.55E,h0km,mb3.7/3, mbtmp3.8/4,ML3.9/1,Error ellipse: s-maj=46.1km s-min=30.8km az=61.0*

WEL ***14*** *07:13:53.2±0.3,42°.S±2°×17°.4E±°,h12km±2km,M4.1/19, ML4.3/19,MLv4.1/19,Error ellipse: s-maj=0.0km s-min=0.0km az=129.3*

NEIC ***14*** *07:13:53.5±1.4,42°.05S±0°.03×173°.76E±0°.04,h23km±8km, mb4.2/4,Error ellipse: s-maj=4.7km s-min=3.3km az=143.0*

NOU ***14*** *07:13:54.5,42°.35S×174°.37E,h62km,MLv4.5/7,Off E. Coast of S. Island, N.Z.*

ISC 14 07:13:52.4±1.1,42°.08S±0°.02×173°.81E±0°.03,h14km±7km, n167,σ1ˢ48/194,mb4.0/5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**8**		**Pb**	07 14 00.9	**+0.2**
BSWZ				Sg	**Sb**	07 14 06.3	**0.0**
BSWZ	**Blackbirch Sta**	**0.36**	**8**	P	**Pb**	07 14 00.9	**+0.2**
BSWZ				S	**Sb**	07 14 05.8	**-0.4**
KHZ	**Kahutara**	**0.39**	**211**	Pg	**Pb**	07 14 02.0	**+0.9**
KHZ				Sg	**Sg**	07 14 07.2	**+1.5**
KHZ	**Kahutara**	**0.39**	**211**	P	**Pb**	07 14 02.1	**+0.9**
KHZ				S	**Sg**	07 14 07.7	**+2.0**
CMWZ	**Cape Campbell**	**0.45**	**43**	Pg	**Pb**	07 14 03.1	**+1.1**
CMWZ				Sg	**Sb**	07 14 09.7	**+1.1**
CMWZ	**Cape Campbell**	**0.45**	**43**	P	**Pb**	07 14 03.9	**+1.8**
TUWZ	**Tuamarina**	**0.66**	**9**		**Pb**	07 14 06.0	**+0.4**
TUWZ				Sg	**Sb**	07 14 15.2	**+0.6**
TUWZ	**Tuamarina**	**0.66**	**9**	P	**Pb**	07 14 06.0	**+0.4**
TUWZ				S	**Sb**	07 14 14.8	**+0.2**
THZ	**Tophouse**	**0.74**	**295**		**Pg**	07 14 06.7	**-0.3**
THZ				Sg	**Sg**	07 14 15.8	**-0.9**
THZ	**Tophouse**	**0.74**	**295**	P	**Pg**	07 14 06.7	**-0.3**
THZ				S	**Sg**	07 14 15.4	**-1.3**
NNZ	**Nelson**	**0.92**	**339**		**Pg**	07 14 09.9	**-0.3**
NNZ	**Nelson**	**0.92**	**339**	P	**Pg**	07 14 09.8	**-0.3**
NNZ				S	**Sg**	07 14 21.2	**-1.0**
TCW	**Tory Channel**	**0.93**	**22**	P	**Pb**	07 14 10.9	**+0.5**
TCW				S	**Sg**	07 14 22.8	**0.0**
SNZO	**South Karori**	**1.02**	**41**	P	**Pn**	07 14 13.3	**+1.1**
MRNZ	**Matariki Terra**	**1.04**	**310**	P	**Pb**	07 14 12.2	**0.0**
MRNZ				S	**Sb**	07 14 25.7	**0.0**
GVZ	**Greta Valley S**	**1.06**	**213**		**Pb**	07 14 13.5	**+1.0**
GVZ	**Greta Valley S**	**1.06**	**213**	P	**Pb**	07 14 13.5	**+1.0**
GVZ				S	**Sn**	07 14 29.6	**+2.2**
WEL	**Wellington**	**1.07**	**42**	P	**Pb**	07 14 14.0	**+1.0**
WEL				S	**Sn**	07 14 29.6	**+2.0**
PLWZ	**Palliser**	**1.19**	**65**		**Pn**	07 14 15.1	**+0.4**
PLWZ	**Palliser**	**1.19**	**65**	P	**Pn**	07 14 15.2	**+0.4**
TKNZ	**Takaka Hill**	**1.22**	**328**	P	**Pb**	07 14 15.1	**-0.3**
TKNZ				S	**Sg**	07 14 30.7	**-1.2**
MSWZ	**Moikau Station**	**1.26**	**59**		**Pn**	07 14 16.0	**+0.3**
MSWZ	**Moikau Station**	**1.26**	**59**	P	**Pn**	07 14 16.2	**+0.5**
MSWZ				S	**Sn**	07 14 34.1	**+1.7**
DUWZ	**D'Urville Isla**	**1.28**	**4**	P	**Pn**	07 14 16.2	**+0.3**
DUWZ				S	**Sg**	07 14 33.7	**+0.1**
LTZ	**Lake Taylor**	**1.34**	**238**	Pn	**Pn**	07 14 17.5	**+0.7**
LTZ	**Lake Taylor**	**1.34**	**238**	P	**Pn**	07 14 17.5	**+0.7**
LTZ				S	**Sb**	07 14 35.2	**+0.8**
CAW	**Cannon Point**	**1.35**	**45**	P	**Pn**	07 14 17.8	**+0.9**
CAW				S	**Sb**	07 14 34.5	**-0.1**
AMCZ	**Amberley**	**1.39**	**218**	P	**Pn**	07 14 17.7	**+0.3**
PAWZ	**Paruwai Farm**	**1.40**	**61**	P	**Pn**	07 14 17.8	**+0.3**
KIW	**Kapiti Island**	**1.47**	**35**	P	**Pn**	07 14 19.5	**+1.0**
DSZ	**Denniston Nort**	**1.53**	**282**	Pn	**Pn**	07 14 19.9	**+0.4**
DSZ	**Denniston Nort**	**1.53**	**282**	P	**Pb**	07 14 21.1	**+0.4**
DSZ				S	**Sb**	07 14 39.4	**-0.5**
TRWZ	**Traveller**	**1.56**	**65**	P	**Pn**	07 14 19.8	**0.0**
MTW	**Mount Morrison**	**1.57**	**55**	P	**Pn**	07 14 20.0	**+0.1**
QRZ	**Quartz Range**	**1.58**	**322**		**Pn**	07 14 19.9	**-0.1**
QRZ	**Quartz Range**	**1.58**	**322**	P	**Pb**	07 14 21.2	**-0.2**
QRZ				S	**Sn**	07 14 39.8	**-0.4**
OGWZ	**Otaki Gorge**	**1.62**	**40**	P	**Pn**	07 14 21.4	**+0.8**
OGWZ				S	**Sn**	07 14 40.9	**-0.4**
OKCZ	**Okains Bay**	**1.73**	**198**	P	**Pn**	07 14 22.1	**-0.1**
HOWZ	**Holdsworth Sta**	**1.74**	**48**	P	**Pn**	07 14 22.4	**+0.2**
OXZ	**Oxford**	**1.81**	**226**		**Pn**	07 14 22.6	**-0.5**
OXZ	**Oxford**	**1.81**	**226**	P	**Pn**	07 14 22.6	**-0.5**
MQZ	**McQueen's Vall**	**1.84**	**207**	Pn	**Pn**	07 14 22.6	**-0.9**
MQZ	**McQueen's Vall**	**1.84**	**207**	P	**Pn**	07 14 22.6	**-0.9**
MQZ				S	**Sn**	07 14 42.8	**-3.8**
TMWZ	**Te Maipa**	**1.84**	**59**	P	**Pn**	07 14 23.5	**-0.1**
INZ	**Inchbonnie**	**1.87**	**249**	P	**Pn**	07 14 25.0	**+1.0**
INZ				S	**Sn**	07 14 48.2	**+0.9**
AKCZ	**Akaroa Harbour**	**1.91**	**200**	P	**Pn**	07 14 24.3	**-0.3**
AKCZ				S	**Sn**	07 14 45.9	**-2.6**
MRZ	**Mangatainoka R**	**1.94**	**44**		**Pn**	07 14 25.2	**+0.3**
MRZ	**Mangatainoka R**	**1.94**	**44**	P	**Pn**	07 14 25.3	**+0.3**
TIWZ	**Tintock**	**2.03**	**51**	P	**Pn**	07 14 26.1	**-0.1**
RACZ	**Rakaia**	**2.06**	**216**	P	**Pn**	07 14 25.8	**-0.7**
RACZ				S	**Sn**	07 14 49.4	**-2.6**
OHWZ	**Ohakea**	**2.19**	**32**	P	**Pn**	07 14 30.2	**+1.8**
PRWZ	**Pori Road**	**2.23**	**48**	P	**Pn**	07 14 28.8	**-0.1**
POWZ	**Post Office Ro**	**2.24**	**42**	P	**Pn**	07 14 29.2	**+0.1**
BFZ	**Birch Farm**	**2.30**	**54**	Pn	**Pn**	07 14 28.9	**-1.0**
BFZ	**Birch Farm**	**2.30**	**54**	P	**Pn**	07 14 29.2	**-0.8**
WACZ	**Wakanui South**	**2.36**	**217**	P	**Pn**	07 14 30.1	**-0.6**
WVZ	**Waitaha Valley**	**2.48**	**245**	P	**Pn**	07 14 33.4	**+1.1**
WAZ	**Wanganui**	**2.48**	**21**	P	**Pb**	07 14 35.4	**-1.5**
DVHZ	**Dannevirke**	**2.51**	**46**	P	**Pn**	07 14 32.2	**-0.7**
ANWZ	**Angora Road**	**2.58**	**52**	P	**Pn**	07 14 33.1	**-0.6**
TSZ	**Takapari Road**	**2.59**	**40**	P	**Pn**	07 14 33.8	**-0.1**
RPZ	**Rata Peaks**	**2.60**	**230**	Pn	**Pn**	07 14 34.1	**0.0**
	21nm,0.3s,baz=193,slow=2.6,SNR=9.4						
RPZ				Sn	**Sn**	07 15 04.8	**-0.7**
	52nm,0.3s,baz=339,slow=21,SNR=12 74nm,0.5s						
RPZ	**Rata Peaks**	**2.60**	**230**	Pn	**Pn**	07 14 33.8	**-0.3**
RPZ	**Rata Peaks**	**2.60**	**230**	P	**Pn**	07 14 33.5	**-0.6**
LREZ	**Lake Rotokare**	**2.65**	**10**	P	**Pb**	07 14 39.4	**-0.3**
ARCZ	**Arundel**	**2.69**	**225**	P	**Pn**	07 14 35.0	**-0.2**
KHEZ	**Kahui Hut**	**2.78**	**3**	P	**Pb**	07 14 40.7	**-1.3**
PRHZ	**Porangahau**	**2.80**	**51**	P	**Pn**	07 14 35.6	**-1.1**
NBEZ	**Newall Road No**	**2.81**	**1**	P	**Pn**	07 14 40.6	**-1.8**
NEZ	**North Egmont**	**2.81**	**5**	P	**Pb**	07 14 41.0	**-1.5**
PNHZ	**Pukenui**	**2.82**	**41**	P	**Pn**	07 14 36.7	**-0.4**
WPHZ	**Waipukurau**	**2.83**	**46**	P	**Pn**	07 14 36.4	**-0.7**
GCSZ	**Gaunt Creek Bo**	**2.85**	**243**	P	**Pn**	07 14 39.0	**+1.5**
PKE	**Pukeiti**	**2.88**	**3**	P	**Pb**	07 14 41.6	**-2.1**
DREZ	**Durham Road**	**2.90**	**6**	P	**Pb**	07 14 42.2	**-1.7**
MTVZ	**Mangateitei**	**2.97**	**26**	P	**Pb**	07 14 44.2	**-0.9**
PKVZ	**Pokaka**	**3.02**	**23**	P	**Pb**	07 14 44.7	**-1.3**
MHEZ	**Mangahewa**	**3.02**	**8**	P	**Pb**	07 14 44.6	**-1.4**
VRZ	**Vera Road**	**3.04**	**14**	P	**Pn**	07 14 42.9	**+2.9**
MOVZ	**Moawhango**	**3.05**	**30**	P	**Pn**	07 14 40.9	**+0.6**
WNVZ	**Wahianoa**	**3.06**	**27**	P	**Pn**	07 14 42.2	**+1.6**
TRVZ	**Turoa**	**3.07**	**26**	P	**Pn**	07 14 42.9	**+2.2**
PXZ	**Pawanui**	**3.08**	**49**	P	**Pn**	07 14 39.2	**-1.4**
TMZ	**Timaru**	**3.08**	**221**	P	**Pn**	07 14 40.4	**-0.4**
BHHZ	**Black Hill Sta**	**3.10**	**34**	P	**Pn**	07 14 41.3	**+0.3**
DRZ	**Dome Shelter**	**3.10**	**26**	P	**Pn**	07 14 45.5	**-2.0**
WHVZ	**Whangaehu Hut**	**3.10**	**26**	P	**Pn**	07 14 43.0	**+1.8**
FWVZ	**Far West T-bar**	**3.12**	**26**	P	**Pn**	07 14 42.9	**+1.6**
TUVZ	**Tukino**	**3.14**	**27**	P	**Pn**	07 14 43.3	**+1.8**
NGZ	**Ngauruhoe**	**3.20**	**26**	P	**Pn**	07 14 45.1	**+2.6**
SNVZ	**South Ngauruho**	**3.21**	**26**	P	**Pn**	07 14 49.5	**+0.2**
OTVZ	**Oturere**	**3.23**	**26**	P	**Pn**	07 14 44.6	**+1.7**
NNVZ	**North Ngauruho**	**3.25**	**26**	P	**Pn**	07 14 44.6	**+1.5**
TWVZ	**Taurewa**	**3.25**	**23**	P	**Pn**	07 14 46.7	**+3.7**
WTVZ	**West Tongariro**	**3.25**	**25**	P	**Pn**	07 14 44.5	**+1.4**
KAHZ	**Kahuranaki**	**3.25**	**47**	P	**Pn**	07 14 41.8	**-1.3**
ETVZ	**East Tongariro**	**3.27**	**27**	P	**Pn**	07 14 44.8	**+1.4**
FOZ	**Fox Glacier**	**3.28**	**242**	Pn	**Pn**	07 14 43.6	**+0.3**
FOZ	**Fox Glacier**	**3.28**	**242**	P	**Pn**	07 14 44.3	**+0.9**
KRVZ	**Karewarewa**	**3.29**	**26**	P	**Pn**	07 14 45.0	**+1.4**
TMVZ	**Te Maari**	**3.29**	**27**	P	**Pn**	07 14 44.9	**+1.3**
NTVZ	**North Tongarir**	**3.30**	**26**	P	**Pn**	07 14 45.3	**+1.5**
KWHZ	**Kaweka Forest**	**3.31**	**38**	P	**Pn**	07 14 43.2	**-0.7**
KATZ	**Kakaramea**	**3.42**	**25**	P	**Pb**	07 14 51.7	**+1.1**
MCHZ	**McNeill Hill**	**3.42**	**41**	P	**Pn**	07 14 44.6	**-0.7**
MCHZ				P	Pb	07 14 44.7	-8.2
LBZ	**Lake Benmore**	**3.51**	**228**	Pn	**Pn**	07 14 46.5	**-0.2**
LBZ	**Lake Benmore**	**3.51**	**228**	P	**Pn**	07 14 46.4	**-0.2**
RATZ	**Rangitukua**	**3.54**	**26**	P	**Pb**	07 14 52.6	**-2.2**
BKZ	**Black Stump Fm**	**3.55**	**36**	Pn	**Pn**	07 14 46.2	**-1.0**
BKZ	**Black Stump Fm**	**3.55**	**36**	P	**Pn**	07 14 46.3	**-0.8**
HIZ	**Hauiti**	**3.65**	**13**	Pn	**Pn**	07 14 47.9	**-0.5**
HIZ	**Hauiti**	**3.65**	**13**	P	**Pn**	07 14 52.9	**+4.4**
HIZ	**Hauiti**	**3.65**	**13**	P	**Pn**	07 14 51.5	**+3.1**
WATZ	**Wairara**	**3.67**	**24**	P	**Pn**	07 14 53.2	**+4.4**
ARHZ	**Aropaoanui**	**3.71**	**42**	P	**Pn**	07 14 48.2	**-1.1**
NMHZ	**Naumai**	**3.75**	**38**	P	**Pn**	07 14 48.9	**-1.0**
ODZ	**Otahua Downs**	**3.75**	**217**	Pn	**Pn**	07 14 48.9	**-1.0**
ODZ	**Otahua Downs**	**3.75**	**217**	P	**Pn**	07 14 48.9	**-1.0**
MRHZ	**Matea Rd**	**3.80**	**32**	P	**Pn**	07 14 49.8	**-0.8**
MTHZ	**Maungataniwha**	**3.96**	**37**	P	**Pn**	07 14 51.8	**-1.0**
TLZ	**Tolley Road**	**3.97**	**20**	P	**Pn**	07 14 53.4	**+4.4**
JCZ	**Jackson Bay**	**4.19**	**240**	P	**Pn**	07 14 59.0	**+3.1**
JCZ	**Jackson Bay**	**4.19**	**240**	P	**Pn**	07 15 00.2	**+4.2**
KNZ	**Kokohu**	**4.24**	**45**	P	**Pn**	07 14 54.6	**-1.9**
TARZ	**Mount Tarawera**	**4.36**	**29**	P	**Pn**	07 15 00.6	**+2.3**
WKZ	**Wanaka**	**4.44**	**230**	Pn	**Pn**	07 14 59.1	**-0.2**
HHSZ	**Highcliff Hill**	**4.46**	**210**	P	**Pn**	07 14 58.5	**-1.0**
TOZ	**Tahuroa Road**	**4.53**	**17**	P	**Pn**	07 15 01.9	**+1.3**
EAZ	**Earnscleugh**	**4.54**	**224**	P	**Pn**	07 14 60.0	**-0.7**
URZ	**Urewera**	**4.58**	**35**	P	**Pn**	07 15 01.3	**+0.1**
TGRZ	**Tauranga**	**4.73**	**24**	P	**Pn**	07 15 04.8	**+1.4**
TUZ	**Tuapeka**	**4.91**	**216**	P	**Pn**	07 15 05.4	**-0.3**
TWGZ	**Tauwhareparae**	**5.04**	**41**	P	**Pn**	07 15 07.3	**-0.3**
AWAZ	**Awhitu Peninsu**	**5.05**	**8**	P	**Pn**	07 15 09.9	**+2.2**
MKAZ	**Moumakai**	**5.08**	**12**	P	**Pn**	07 15 09.5	**+1.5**
WTAZ	**Waitarura**	**5.17**	**7**	P	**Pn**	07 15 12.4	**+3.0**
ETAZ	**East Tamaki Re**	**5.19**	**10**	P	**Pn**	07 15 12.1	**+2.5**
MLZ	**Mavora Lakes**	**5.27**	**230**	Pn	**Pn**	07 15 10.6	**-0.2**
MLZ	**Mavora Lakes**	**5.27**	**230**	P	**Pn**	07 15 10.4	**-0.4**
RVAZ	**Riverhead Bore**	**5.33**	**7**	P	**Pn**	07 15 14.9	**+3.3**
MBAZ	**Motutapu North**	**5.37**	**9**	P	**Pn**	07 15 15.4	**+3.3**
WIAZ	**Waiheke Island**	**5.38**	**11**	P	**Pn**	07 15 15.2	**+3.0**
KUZ	**Kuaotunu**	**5.53**	**16**	P	**Pn**	07 15 15.6	**+1.3**
KUZ	**Kuaotunu**	**5.53**	**16**	P	**Pn**	07 15 15.5	**+1.3**
ABAZ	**Army Bay**	**5.53**	**9**	P	**Pn**	07 15 17.4	**+3.2**
WMGZ	**Waiomatatini S**	**5.53**	**41**	P	**Pn**	07 15 12.7	**-1.6**
SYZ	**Scrubby Hill**	**5.58**	**215**	P	**Pn**	07 15 15.3	**+0.4**
SYZ	**Scrubby Hill**	**5.58**	**215**	P	**Pn**	07 15 14.6	**-0.3**
MXZ	**Matakaoa Point**	**5.68**	**39**	Pn	**Pn**	07 15 14.2	**-2.2**
WHZ	**Wether Hill Ro**	**5.70**	**226**	Pn	**Pn**	07 15 17.3	**+0.7**
DCZ	**Deep Cove**	**5.89**	**233**	Pn	**Pn**	07 15 19.5	**+0.3**
GRZ	**Great Barrier**	**5.96**	**13**	P	**Pn**	07 15 23.4	**+3.2**
APZ	**The Paps**	**6.32**	**219**	P	**Pn**	07 15 24.1	**-1.1**
PYZ	**Puysegur Point**	**6.56**	**229**	Pn	**Pn**	07 15 27.4	**-1.0**
OUZ	**Omahuta**	**6.85**	**359**	Pn	**Pn**	07 15 37.9	**-0.6**
OUZ	**Omahuta**	**6.85**	**359**	P	**Pn**	07 15 35.8	**+3.4**
OUZ	**Omahuta**	**6.85**	**359**	P	**Pn**	07 15 34.8	**+2.4**
CTZ	**Chatham Island**	**7.22**	**106**	P	**Pn**	07 15 36.7	**-0.8**
ASAR	**Alice Springs**	**37.80**	**286**	P	**P**	07 21 07.1	**-1.4**
	0.2nm,0.4s,baz=125,slow=7.2,SNR=6.1 0.2nm,0.4s						
WB2	**Warramunga Arr**	**39.90**	**291**	P	**P**	07 21 24.5	**-1.6**
WB2				IAmb	IAmb	07 21 34.5	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**39.91**	**291**	P	**P**	07 21 24.9	**-1.2**
	comp=Z,0.9nm,0.6s,baz=135,slow=6.8,SNR=7.5 comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**39.91**	**291**	P	**P**	07 21 24.4	**-1.7**
WB0	**Warramunga Arr**	**39.99**	**291**	P	**P**	07 21 25.4	**-1.4**
WB0				IAmb	IAmb	07 21 51.1	
	comp=Z,4.5nm,1.1s						
QSPA	**South Pole Qui**	**48.05**	**180**	P	**P**	07 22 34.8	**+3.8**
	comp=Z,2.5nm,1.1s,baz=31,slow=5.9,SNR=4.3 comp=Z,2.5nm,1.1s						
QSPA	**South Pole Qui**	**48.05**	**180**	P	**P**	07 22 32.0	**+0.9**
ARCES	**ARCESS Array B**	**147.97**	**340**	PKPbc	**PKPbc**	07 33 35.9	**-0.2**
	comp=Z,3.2nm,0.9s,baz=66,slow=2.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**150.37**	**196**	PKPbc	**PKPbc**	07 33 43.6	**-0.1**
	comp=Z,0.4nm,0.5s,baz=146,slow=1.8,SNR=4.8						

WEL 14 07:16:36.2±0.3,42°S±2°×17°3E±°,h5km,M3.9/11, ML4.4/11,MLv3.9/11,Error ellipse: s-maj=0.0km

s-min=0.0km az=124.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**57**	P	**Pg**	07 16 38.6	**0.0**
KHZ				S	**Sg**	07 16 40.9	**+0.7**
GVZ	**Greta Valley S**	**0.56**	**209**	P	**Pg**	07 16 47.2	**+0.3**
GVZ				S	**Sg**	07 16 55.3	**+1.1**
THZ	**Tophouse**	**0.81**	**332**	P	**Pg**	07 16 51.6	**0.0**
THZ				S	**Sg**	07 17 02.8	**+0.7**
BSWZ	**Blackbirch Sta**	**0.84**	**25**	P	**Pg**	07 16 52.5	**+0.3**
AMCZ	**Amberley**	**0.89**	**218**	P	**Pg**	07 16 52.6	**-0.7**
LTZ	**Lake Taylor**	**0.89**	**250**	P	**Pg**	07 16 52.8	**-0.4**
LTZ				S	**Sg**	07 17 05.6	**+0.8**
CMWZ	**Cape Campbell**	**0.94**	**40**	P	**Pb**	07 16 54.8	**-0.2**
TUWZ	**Tuamarina**	**1.12**	**21**	P	**Pg**	07 16 57.5	**-0.2**
MRNZ	**Matariki Terra**	**1.18**	**336**	P	**Pg**	07 16 58.4	**-0.4**
NNZ	**Nelson**	**1.26**	**359**	P	**Pg**	07 16 59.7	**-0.6**
NNZ				S	**Sn**	07 17 17.9	**+0.2**
OKCZ	**Okains Bay**	**1.27**	**191**	P	**Pg**	07 16 57.4	**-3.1**
OXZ	**Oxford**	**1.31**	**229**	P	**Pn**	07 16 58.3	**-2.9**
MQZ	**McQueen's Vall**	**1.34**	**204**	P	**Pn**	07 16 58.1	**-3.5**
DSZ	**

WEL 14 07:20:25.2±0.6, **42°S**±4°×**17°4E**±°, **h18**km±3km, **M4.0**/15, **ML5.8**/12, **MLv4.0**/15, **Error ellipse: s-maj=0.0km s-min=0.0km az=25.8, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.02**	**101**	P Pg	07 20 28.6	+0.3
CMWZ				S Sg	07 20 31.7	+1.2
BSWZ	**Blackbirch Sta**	**0.23**	**277**	P Pb	07 20 32.2	+1.4
BSWZ				S Sb	07 20 37.0	+2.5
TUWZ	**Tuamarina**	**0.36**	**330**	P Pn	07 20 34.5	-1.1
TUWZ				S Sn	07 20 40.7	-1.6
TCW	**Tory Channel**	**0.54**	**7**	P Pb	07 20 36.9	+0.8
TCW				S Sn	07 20 45.6	-1.0
BHW	**Baring Head**	**0.62**	**57**	P Pb	07 20 38.0	+0.6
WEL	**Wellington**	**0.64**	**44**	P Pg	07 20 38.5	+0.7
NNZ	**Nelson**	**0.80**	**311**	P Pn	07 20 42.3	+0.7
PLWZ	**Palliser**	**0.82**	**78**	P Pg	07 20 41.4	+0.1
MSWZ	**Moikau Station**	**0.86**	**68**	P Pg	07 20 42.3	+0.2
CAW	**Cannon Point**	**0.92**	**46**	P Pn	07 20 43.3	0.0
THZ	**Tophouse**	**0.96**	**268**	P Pn	07 20 45.1	+1.3
DUWZ	**D'Urville Isla**	**0.96**	**348**	P Pg	07 20 44.7	+0.8
PAWZ	**Paruwai Farm**	**1.00**	**69**	P Pb	07 20 44.0	-0.1
KIW	**Kapiti Island**	**1.04**	**32**	P Pg	07 20 45.4	0.0
MRNZ	**Matariki Terra**	**1.12**	**287**	P Pg	07 20 48.1	+1.1
MTW	**Mount Morrison**	**1.15**	**60**	P Pn	07 20 46.1	-0.4
TKNZ	**Takaka Hill**	**1.16**	**307**	P Pg	07 20 48.4	+0.6
TRWZ	**Traveller**	**1.18**	**73**	P Pn	07 20 46.0	-0.9
OGWZ	**Otaki Gorge**	**1.19**	**39**	P Pb	07 20 47.6	+0.4

*WEL **14** 07:21:00.4, 41°.76S×174°.31E, h17km, ML5.8, Mw5.5, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17} Nm; M_{rr}0.95; $M_{\theta\theta}$1.24; $M_{\phi\phi}$-2.19; $M_{r\theta}$-0.35; $M_{\theta\phi}$-1.12; $M_{\phi r}$0.42; Fault plane solution: M_o2.19000×10^{17} NP1: ϕ_s239.00000°, δ66.00000°, λ163.00000°. NP2: ϕ_s336.00000°, δ74.00000°, λ25.00000°. Principal axes: T -25517.9200, Plg29.0000°, Azm200.0000°; N 18199.3700, Plg61.0000°, Azm6.0000°; P 7318.5500, Plg5.0000°, Azm106.0000°;*

*IDC **14** 07:21:02.2±0.4, 41°.61S×173°.99E, h0km, mb5.1/22, mbtmp5.0/23, ML4.7/1, MS4.9/33 Error ellipse: s-maj=14.0km s-min=11.3km az=41.0*

*MOS **14** 07:21:03.8±1.0, 41°.68S×174°.00E, h18km, mb5.1/13, Error ellipse: s-maj=11.2km s-min=9.7km az=90.1*

*WEL **14** 07:21:04.9±0.5, 42°S±4°×17°4E±°, h11km±5km, M5.8/14, ML6.0/14, MLv5.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=142.6*

*NEIC **14** 07:21:04.5, 41°.76S×174°.29E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.06; $M_{\theta\theta}$1.45; $M_{\phi\phi}$-1.51; $M_{r\theta}$-0.27; $M_{\theta\phi}$-0.97; $M_{\phi r}$0.70; Fault plane solution: M_o1.92000×10^{17} NP1:ϕ_s242.13000°, δ67.32000°, λ-178.61000°. NP2:ϕ_s151.60000°, δ88.72000°, λ-22.69000°. Principal axes: T 1.8633, Plg15.0000°, Azm199.0000°; N 0.1137, Plg67.0000°, Azm329.0000°; P -1.9770, Plg17.0000°, Azm105.0000°;*

*NEIC **14** 07:21:04.7±2.2, 41°.76S±0.03×174°.30E±0.03, h17km±2km, mb5.5/77, Ms_20 5.3/38, Mwr5.5/50, Mww5.5 Error ellipse: s-maj=4.9km s-min=2.8km az=149.0*

*NOU **14** 07:21:07.9, 41°.89S×174°.73E, h66km, mb5.3/97, Cook Strait, New Zealand*

*NEIC **14** 07:21:07, 41°.76S×174°.41E, h22km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.03; $M_{\theta\theta}$1.90; $M_{\phi\phi}$-1.87; $M_{r\theta}$-0.26; $M_{\theta\phi}$-1.17; $M_{\phi r}$1.19; Fault plane solution: M_o2.53000×10^{17} NP1: ϕ_s243.00000°, δ63.00000°, λ-174.00000°. NP2: ϕ_s150.00000°, δ85.00000°, λ-27.00000°. Principal axes: T 2.3885, Plg15.0000°, Azm200.0000°; N 0.2700, Plg62.0000°, Azm320.0000°; P -2.6584, Plg23.0000°, Azm103.0000°;*

*GCMT **14** 07:21:08.7±0.2, 41°.75S±0.01×174°.25E±0.01, h19km, MW5.5/145, Moment Tensor Solution. s82,c121; s145,c256; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.25±.04; $M_{\theta\theta}$1.22±.03; $M_{\phi\phi}$-1.48±.03; $M_{r\theta}$-0.88±.08; $M_{\theta\phi}$-0.96±.02; $M_{\phi r}$1.39±.10; Best double couple: M_o2.34400×10^{17} NP1:ϕ_s335.00000°, δ85.00000°, λ45.00000°. NP2:ϕ_s240.00000°, δ45.00000°, λ173.00000°. Principal axes: T 2.3830, Plg34.0000°, Azm207.0000°; N -0.0840, Plg45.0000°, Azm339.0000°; P -2.3060, Plg26.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 07:21:03.9±0.5, **41°.80S**±0.02×**174°.34E**±0.02, **h16**km±3km, **h16**km:**pP-P, n694,** σ1**$33/697, mb5.5/91, MS5.2/57, 15C-1D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**300**	**Pg Pg**	**07 21 08.3**	**+0.9**
CMWZ				Sg Sg	07 21 10.8	+1.1
CMWZ	**Cape Campbell**	**0.11**	**300**	P **Pg**	**07 21 08.5**	**+1.0**
CMWZ				S Sg	07 21 11.6	+1.9
BSWZ	**Blackbirch Sta**	**0.36**	**284**	**Pb**	**07 21 11.7**	**-0.2**
BSWZ				Sg **Sb**	07 21 17.1	-0.1
BSWZ	**Blackbirch Sta**	**0.36**	**284**	P **Pb**	**07 21 12.1**	**+0.3**
BSWZ				S **Sb**	07 21 17.0	-0.3
TUWZ	**Tuamarina**	**0.48**	**321**	**Pb**	**07 21 13.6**	**-0.2**
TUWZ				Sg **Sb**	07 21 20.0	-0.7
TUWZ	**Tuamarina**	**0.48**	**321**	P **Pb**	**07 21 13.8**	**-0.1**
TUWZ				S **Sg**	07 21 19.8	-0.1
BHW	**Baring Head**	**0.56**	**46**	P **Pn**	**07 21 16.4**	**-0.8**
BHW				S **Sn**	07 21 25.7	-0.4
SNZO	**South Karori**	**0.56**	**29**	**Pb**	**07 21 15.8**	**+0.5**
SNZO				Sg **Sb**	07 21 23.9	+0.8
TCW	**Tory Channel**	**0.59**	**356**	P **Pb**	**07 21 15.7**	**-0.2**
TCW				S **Sb**	07 21 24.2	+0.2
WEL	**Wellington**	**0.61**	**32**	P **Pb**	**07 21 16.6**	**+0.4**
WEL	**Wellington**	**0.61**	**32**	P **Pb**	**07 21 16.6**	**+0.4**
WEL				S **Sn**	07 21 26.2	-1.2
PLWZ	**Palliser**	**0.72**	**72**	Pg **Sn**	**07 21 19.6**	**0.0**
PLWZ				**Sn**	07 21 31.4	+1.1
PLWZ	**Palliser**	**0.72**	**72**	P **Pn**	**07 21 19.9**	**+0.4**
PLWZ				S **Sn**	07 21 32.5	+2.2
MSWZ	**Moikau Station**	**0.79**	**61**	**Pn**	**07 21 20.5**	**+0.2**
MSWZ				**Sn**	07 21 32.8	+1.0
MSWZ	**Moikau Station**	**0.79**	**61**	P **Pn**	**07 21 20.6**	**+0.2**
MSWZ				S **Sn**	07 21 33.2	+1.5
KHZ	**Kahutara**	**0.85**	**224**	Pg **Pn**	**07 21 21.4**	**+0.1**
KHZ				**Sn**	07 21 34.7	+1.3
KHZ	**Kahutara**	**0.85**	**224**	P **Pn**	**07 21 21.9**	**+0.7**
KHZ				S **Sn**	07 21 35.9	+2.6
CAW	**Cannon Point**	**0.89**	**39**	P **Pn**	**07 21 21.7**	**0.0**
PAWZ	**Paruwai Farm**	**0.92**	**63**	P **Pn**	**07 21 22.3**	**+0.2**
NNZ	**Nelson**	**0.93**	**309**	**Pg**	**07 21 21.6**	**-0.3**
NNZ				Sg **Sb**	07 21 33.4	-0.2
NNZ	**Nelson**	**0.93**	**309**	P **Pg**	**07 21 21.9**	**0.0**
KIW	**Kapiti Island**	**1.03**	**25**	P **Pg**	**07 21 23.9**	**0.0**
DUWZ	**D'Urville Isla**	**1.05**	**342**	P **Pg**	**07 21 24.4**	**+0.2**
DUWZ				S **Sn**	07 21 40.1	+1.9
THZ	**Tophouse**	**1.07**	**272**	Pn **Pg**	**07 21 24.8**	**+0.1**
THZ	**Tophouse**	**1.07**	**272**	P **Pg**	**07 21 25.2**	**+0.5**
MTW	**Mount Morrison**	**1.09**	**54**	P **Pn**	**07 21 24.4**	**0.0**
TRWZ	**Traveller**	**1.09**	**69**	P **Pn**	**07 21 24.5**	**0.0**
OGWZ	**Otaki Gorge**	**1.17**	**33**	P **Pb**	**07 21 25.9**	**+0.2**
OGWZ				S **Sg**	07 21 44.3	+2.6
MRNZ	**Matariki Terra**	**1.25**	**288**	P **Pg**	**07 21 28.0**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.27**	**45**	P **Pb**	**07 21 27.1**	**-0.3**
HOWZ				S **Sg**	**07 21 44.4**	**-0.4**
TKNZ	**Takaka Hill**	**1.29**	**306**	P **Pg**	**07 21 28.2**	**-0.6**
TMWZ	**Te Maipa**	**1.36**	**60**	P **Pn**	**07 21 28.1**	**-0.1**
MRZ	**Mangatainoka R**	**1.48**	**40**	**Pn**	**07 21 29.7**	**0.0**
MRZ	**Mangatainoka R**	**1.48**	**40**	P **Pn**	**07 21 29.8**	**0.0**
GVZ	**Greta Valley S**	**1.51**	**219**	Pn **Pn**	**07 21 30.4**	**+0.1**
GVZ	**Greta Valley S**	**1.51**	**219**	P **Pn**	**07 21 31.3**	**-0.3**
TIWZ	**Tintock**	**1.55**	**49**	P **Pn**	**07 21 30.8**	**-0.1**
CPWZ	**Castlepoint**	**1.66**	**58**	P **Pn**	**07 21 32.5**	**+0.2**
QRZ	**Quartz Range**	**1.68**	**305**	P **Pb**	**07 21 34.6**	**+0.2**
PRWZ	**Pori Road**	**1.75**	**45**	P **Pn**	**07 21 33.6**	**0.0**
OHWZ	**Ohakea**	**1.76**	**25**	P **Pb**	**07 21 35.6**	**-0.1**
POWZ	**Post Office Ro**	**1.78**	**38**	P **Pn**	**07 21 34.0**	**+0.1**
LTZ	**Lake Taylor**	**1.82**	**237**	Pn **Pn**	**07 21 35.1**	**+0.5**
LTZ	**Lake Taylor**	**1.82**	**237**	P **Pn**	**07 21 35.4**	**+0.9**
BFZ	**Birch Farm**	**1.82**	**53**	**Pn**	**07 21 33.7**	**-0.9**
BFZ	**Birch Farm**	**1.82**	**53**	P **Pn**	**07 21 34.5**	**-0.1**
BFZ	**Birch Farm**	**1.82**	**53**	P **Pn**	**07 21 33.9**	**-0.7**
AMCZ	**Amberley**	**1.85**	**222**	P **Pn**	**07 21 35.3**	**+0.3**
DSZ	**Denniston Nort**	**1.90**	**271**	Pn **Pn**	**07 21 35.6**	**0.0**
DSZ	**Denniston Nort**	**1.90**	**271**	P **Pb**	**07 21 38.1**	**0.0**
DVHZ	**Dannevirke**	**2.04**	**43**	P **Pn**	**07 21 36.9**	**-0.7**
ANWZ	**Angora Road**	**2.10**	**51**	P **Pn**	**07 21 37.7**	**-0.7**
WAZ	**Wanganui**	**2.10**	**14**	P **Pb**	**07 21 41.3**	**-0.4**
TSZ	**Takapari Road**	**2.13**	**36**	P **Pn**	**07 21 38.9**	**0.0**
OKCZ	**Okains Bay**	**2.14**	**206**	P **Pn**	**07 21 38.8**	**-0.1**
MQZ	**McQueen's Vall**	**2.27**	**213**	Pn **Pn**	**07 21 39.6**	**-1.1**
MQZ	**McQueen's Vall**	**2.27**	**213**	P **Pn**	**07 21 40.1**	**-0.6**
OXZ	**Oxford**	**2.28**	**227**	Pn **Pn**	**07 21 40.0**	**-0.9**
OXZ	**Oxford**	**2.28**	**227**	P **Pn**	**07 21 41.4**	**+0.5**
PRHZ	**Porangahau**	**2.32**	**49**	P **Pn**	**07 21 40.4**	**-1.0**
AKCZ	**Akaroa Harbour**	**2.32**	**206**	P **Pn**	**07 21 41.3**	**-0.2**
INZ	**Inchbonnie**	**2.34**	**246**	P **Pb**	**07 21 43.9**	**-1.8**
LREZ	**Lake Rotokare**	**2.34**	**1**	P **Pb**	**07 21 46.7**	**+1.0**
WPHZ	**Waipukurau**	**2.36**	**43**	P **Pn**	**07 21 41.4**	**-0.5**
PNHZ	**Pukenui**	**2.36**	**37**	P **Pn**	**07 21 41.5**	**-0.4**
NMEZ	**Namu Road**	**2.41**	**351**	P **Pb**	**07 21 47.3**	**+0.4**
RACZ	**Rakaia**	**2.51**	**219**	P **Pn**	**07 21 43.6**	**-0.4**
KHEZ	**Kahui Hut**	**2.52**	**354**	P **Pb**	**07 21 48.7**	**-0.1**
KHEZ	**Kahui Hut**	**2.52**	**354**	P **Pb**	**07 21 48.2**	**-0.5**
NEZ	**North Egmont**	**2.54**	**356**	P **Pb**	**07 21 47.5**	**-1.5**
NBEZ	**Newall Road No**	**2.56**	**352**	P **Pb**	**07 21 48.6**	**-0.8**
MTVZ	**Mangateitei**	**2.56**	**20**	P **Pb**	**07 21 47.6**	**-2.0**
PXZ	**Pawanui**	**2.61**	**48**	P **Pn**	**07 21 43.9**	**-1.5**
DREZ	**Durham Road**	**2.61**	**358**	P **Pb**	**07 21 49.0**	**-1.3**
PKE	**Pukeiti**	**2.62**	**354**	P **Pb**	**07 21 49.6**	**-0.8**
MOVZ	**Moawhango**	**2.62**	**25**	P **Pn**	**07 21 46.5**	**+0.8**
PKVZ	**Pokaka**	**2.62**	**17**	P **Pn**	**07 21 47.8**	**+2.2**
WNVZ	**Wahianoa**	**2.65**	**22**	P **Pn**	**07 21 47.5**	**+1.4**
BHHZ	**Black Hill Sta**	**2.66**	**30**	P **Pn**	**07 21 46.7**	**+0.6**
TRVZ	**Turoa**	**2.67**	**21**	P **Pn**	**07 21 48.5**	**+2.2**
MHCZ	**Mount Hutt**	**2.68**	**229**	P **Pn**	**07 21 47.0**	**+0.6**
WHVZ	**Whangaehu Hut**	**2.69**	**21**	P **Pn**	**07 21 48.2**	**+1.5**
DRZ	**Dome Shelter**	**2.69**	**21**	P **Pn**	**07 21 48.6**	**+1.8**
VRZ	**Vera Road**	**2.69**	**7**	P **Pb**	**07 21 49.2**	**-2.5**
FWVZ	**Far West T-bar**	**2.71**	**20**	P **Pn**	**07 21 48.7**	**+1.8**
MHEZ	**Mangahewa**	**2.72**	**360**	P **Pb**	**07 21 52.4**	**+0.2**
TUVZ	**Tukino**	**2.72**	**22**	P **Pn**	**07 21 48.4**	**+1.3**
KAHZ	**Kahuranaki**	**2.78**	**45**	P **Pn**	**07 21 46.6**	**-1.2**
NGZ	**Ngauruhoe**	**2.79**	**21**	P **Pn**	**07 21 49.9**	**+1.8**
SNVZ	**South Ngauruho**	**2.80**	**21**	P **Pn**	**07 21 49.6**	**+1.5**
OTVZ	**Oturere**	**2.82**	**21**	P **Pn**	**07 21 50.0**	**+1.5**
NNVZ	**North Ngauruho**	**2.84**	**20**	P **Pn**	**07 21 50.6**	**+1.9**
WTVZ	**West Tongariro**	**2.85**	**20**	P **Pn**	**07 21 52.0**	**-2.4**
TWVZ	**Taurewa**	**2.85**	**17**	P **Pn**	**07 21 50.5**	**+1.6**
KWHZ	**Kaweka Forest**	**2.86**	**34**	P **Pn**	**07 21 48.5**	**-0.3**
ETVZ	**East Tongariro**	**2.86**	**22**	P **Pn**	**07 21 50.7**	**+1.7**
TMVZ	**Te Maari**	**2.88**	**22**	P **Pn**	**07 21 50.3**	**+1.1**
KRVZ	**Karewarewa**	**2.88**	**21**	P **Pn**	**07 21 51.1**	**+1.8**
NTVZ	**North Tongariro**	**2.89**	**21**	P **Pn**	**07 21 50.5**	**+1.1**
WVZ	**Waitaha Valley**	**2.95**	**243**	P **Pn**	**07 21 51.8**	**+1.7**
MCHZ	**McNeill Hill**	**2.96**	**38**	P **Pn**	**07 21 49.7**	**-0.6**
CKHZ	**Cape Kidnapper**	**2.99**	**45**	P **Pn**	**07 21 49.2**	**-1.4**
KATZ	**Kakaramea**	**3.01**	**21**	P **Pb**	**07 21 55.3**	**-1.9**
RPZ	**Rata Peaks**	**3.08**	**231**	Pn **Pn**	**07 21 51.0**	**-0.9**
	108nm,0.3s,baz=40,slow=7.9,SNR=8.2					
RPZ				Sn **Sn**	**07 22 26.7**	**-1.7**
	320nm,0.3s,baz=8.6,slow=23,SNR=6.2					
	474nm,0.3s					
RPZ	**Rata Peaks**	**3.08**	**231**	Pn **Pn**	**07 21 51.5**	**-0.4**
RPZ	**Rata Peaks**	**3.08**	**231**	P **Pn**	**07 21 51.8**	**-0.1**
BKZ	**Black Stump Fm**	**3.10**	**33**	**Pn**	**07 21 51.4**	**-0.9**
BKZ	**Black Stump Fm**	**3.10**	**33**	P **Pb**	**07 21 57.4**	**-1.3**
RATZ	**Rangitukua**	**3.13**	**21**	P **Pb**	**07 21 58.5**	**-0.7**
ARCZ	**Arundel**	**3.16**	**226**	P **Pn**	**07 21 52.2**	**-0.8**
HATZ	**Hinemaiaia**	**3.20**	**25**	P **Pb**	**07 21 57.7**	**-2.7**
ARHZ	**Aropaoanui**	**3.25**	**39**	P **Pn**	**07 21 53.2**	**-0.9**
WATZ	**Wairara**	**3.27**	**20**	P **Pb**	**07 22 01.5**	**-0.1**
HIZ	**Hauiti**	**3.31**	**7**	Pn **Pn**	**07 21 55.4**	**+0.4**
HIZ	**Hauiti**	**3.31**	**7**	P **Pn**	**07 21 57.6**	**+2.6**
GCSZ	**Gaunt Creek Bo**	**3.33**	**242**	P **Pn**	**07 21 57.8**	**+2.5**
MRHZ	**Matea Rd**	**3.36**	**29**	P **Pn**	**07 21 55.0**	**-0.8**
WHHZ	**Waihua**	**3.51**	**40**	P **Pn**	**07 21 56.5**	**-1.2**
MTHZ	**Maungataniwha**	**3.51**	**34**	P **Pn**	**07 21 57.5**	**-0.3**
TMZ	**Timaru**	**3.55**	**222**	P **Pn**	**07 21 58.5**	**+0.1**
RAHZ	**Rahi**	**3.57**	**37**	P **Pn**	**07 21 57.2**	**-1.4**
ALRZ	**Allen Road**	**3.58**	**26**	P **Pn**	**07 21 58.0**	**-0.8**
TLZ	**Tolley Road**	**3.59**	**15**	P **Pn**	**07 22 01.0**	**+2.1**
GRRZ	**Galatos Road**	**3.71**	**22**	P **Pb**	**07 22 08.1**	**-0.9**
HRRZ	**Handcock Road**	**3.72**	**24**	P **Pn**	**07 22 00.6**	**-0.1**
FOZ	**Fox Glacier**	**3.76**	**241**	Pn **Pn**	**07 22 01.4**	**+0.3**
FOZ	**Fox Glacier**	**3.76**	**241**	P **Pn**	**07 22 02.7**	**+1.5**
RTZ	**Ruatahuna**	**3.77**	**33**	P **Pn**	**07 22 01.9**	**+0.5**
HSRZ	**Hossack Road**	**3.78**	**23**	P **Pn**	**07 22 03.7**	**+2.2**
MHGZ	**Mahia Peninsul**	**3.80**	**47**	P **Pn**	**07 21 59.6**	**-2.1**
MUGZ	**Murupara**	**3.81**	**30**	P **Pn**	**07 22 01.7**	**-0.2**
RRRZ	**Republican Roa**	**3.84**	**26**	P **Pn**	**07 22 01.3**	**-1.0**
HLRZ	**Highlands Stat**	**3.87**	**24**	P **Pn**	**07 22 04.9**	**+2.1**
TARZ	**Mount Tarawera**	**3.93**	**26**	P **Pn**	**07 22 03.0**	**-0.6**
LBZ	**Lake Benmore**	**3.99**	**228**	Pn **Pn**	**07 22 04.9**	**+0.5**
LBZ	**Lake Benmore**	**3.99**	**228**	P **Pn**	**07 22 05.3**	**+0.9**
OMRZ	**Omania**	**4.01**	**24**	P **Pn**	**07 22 05.9**	**+1.2**
RIGZ	**Rimuhau**	**4.05**	**41**	P **Pn**	**07 22 03.2**	**-2.0**
RAGZ	**Ragiri**	**4.06**	**37**	P **Pn**	**07 22 03.6**	**-1.8**
EDRZ	**Edgecumbe**	**4.13**	**27**	P **Pn**	**07 22 05.4**	**-0.9**
URZ	**Urewera**	**4.13**	**32**	P **Pn**	**07 22 06.4**	**+0.1**
KMRZ	**Kaimai**	**4.14**	**18**	P **Pn**	**07 22 07.7**	**+1.2**
TOZ	**Tahuroa Road**	**4.16**	**13**	P **Pn**	**07 22 08.7**	**+2.0**
ODZ	**Otahua Downs**	**4.21**	**218**	**Pn**	**07 22 07.1**	**-0.3**
ODZ	**Otahua Downs**	**4.21**	**218**	P **Pn**	**07 22 06.9**	**-0.5**
MARZ	**Manawahe**	**4.21**	**26**	P **Pn**	**07 22 06.2**	**-1.3**
OPRZ	**Ohinepanea**	**4.31**	**24**	P **Pn**	**07 22 07.6**	**-1.1**
WHRZ	**Whale Island**	**4.43**	**28**	P **Pn**	**07 22 10.3**	**-0.2**
JCZ	**Jackson Bay**	**4.67**	**239**	P **Pn**	**07 22 15.2**	**+1.5**
WKZ	**Wanaka**	**4.92**	**230**	Pn **Pn**	**07 22 16.9**	**-0.3**
KUZ	**Kuaotunu**	**5.16**	**12**	P **Pn**	**07 22 22.3**	**+1.8**
MXZ	**Matakaoa Point**	**5.22**	**37**	Pn **Pn**	**07 22 19.7**	**-1.6**
MXZ	**Matakaoa Point**	**5.22**	**37**	P **Pn**	**07 22 20.1**	**-1.2**
MLZ	**Mavora Lakes**	**5.75**	**230**	Pn **Pn**	**07 22 27.8**	**-0.8**
SYZ	**Scrubby Hill**	**6.03**	**217**	P **Pn**	**07 22 33.6**	**+1.2**
WHZ	**Wether Hill Ro**	**6.17**	**226**	**Pn**	**07 22 33.8**	**-3.4**
DCZ	**Deep Cove**	**6.37**	**233**	Pn **Pn**	**07 22 36.8**	**-0.2**
OUZ	**Omahuta**	**6.60**	**355**	Pn **Pn**	**07 22 41.2**	**+1.0**
OUZ	**Omahuta**	**6.60**	**355**	P **Pn**	**07 22 42.9**	**+2.7**
CTZ	**Chatham Island**	**6.93**	**109**	P **Pn**	**07 22 45.6**	**+0.9**
PYZ	**Puysegur Point**	**7.04**	**229**	Pn **Pn**	**07 22 46.5**	**+0.3**
PYZ	**Puysegur Point**	**7.04**	**229**	P **Pn**	**07 22 49.6**	**+3.4**
MCQ	**Macquarie Isla**	**16.28**	**213**	P **Pn**	**07 24 46.0**	**-5.6**
	baz=16,SNR=18					
MCQ	**Macquarie Isla**	**16.28**	**213**	Pn **P**	**07 24 53.4**	**-1.2**
MCQ				lAmb lAmb	07 24 55.8	
	comp=Z,542nm,1.4s					
MCQ	**Macquarie Isla**	**16.28**	**213**	P **P**	**07 24 54.4**	**-0.2**
MCQ	**Macquarie Isla**	**16.28**	**213**	P **P**	**07 24 53.4**	**-1.2**
MCQ				pmax pmax		
	comp=Z,542nm,1.5s					
GLAD	**Gladstone**	**19.75**	**264**	P **Pn**	**07 25 36.9**	**+2.4**
RIV	**Riverview**	**19.93**	**286**	P **Pn**	**07 25 40.9**	**+4.3**
TAU	**Tasmania Unive**	**19.97**	**258**	P **P**	**07 25 35.8**	**+0.5**
TAU	**Tasmania Unive**	**19.97**	**258**	P **Pn**	**07 25 41.5**	**+4.4**
TAU	**Tasmania Unive**	**19.97**	**258**	P **P**	**07 25 35.8**	**+0.5**
TAU				pmax pmax		
	comp=Z,50nm,1.0s					
MILA	**Mila**	**19.99**	**275**	P **Pn**	**07 25 38.5**	**+1.0**
MOO	**Moorlands**	**20.12**	**259**	P Pn	07 25 42.4	+3.5
	baz=20,SNR=3.8					
MOO	**Moorlands**	**20.12**	**259**	P Pn	07 25 42.6	+3.7
AULHS	**Lilydale High**	**20.29**	**262**	P Pn	07 25 44.6	+3.8
CORO	**Coronation Par**	**20.30**	**262**	P Pn	07 25 44.5	+3.5
OUENC	**Ouen Island, N**	**20.33**	**340**	P Pn	07 25 41.0	-0.4
ONTNC	**Ouen Toro**	**20.54**	**339**	P Pn	07 25 43.5	-0.3
CNB	**Canberra Magne**	**20.54**	**280**	P Pn	07 25 44.4	+0.5
	baz=20,SNR=4.6					
CNB	**Canberra Magne**	**20.54**	**280**	P Pn	07 25 45.2	+1.3
AUSMG	**Snowy Mountain**	**20.64**	**277**	P Pn	07 25 45.9	+0.8
DZM	**Mont Dzumac**	**20.76**	**339**	*e*Pn **P**	**07 25 45.2**	**+1.0**
	comp=Z,228nm,1.1s					
DZM				*e*LR LR	07 30 40.5	
	comp=Z,6μm,24.1s					
DZM	**Mont Dzumac**	**20.76**	**339**	P **P**	**07 25 43.4**	**-0.8**
	comp=Z,24nm,0.8s,baz=153,slow=16,SNR=3.1					
DZM				LR LR	07 32 54.7	
	comp=Z,3μm,20.3s,baz=178,slow=35					
	comp=Z,24nm,0.8s					
DZM	**Mont Dzumac**	**20.76**	**339**	P Pn	07 25 46.6	0.0
CAN	**Canberra**	**20.80**	**280**	**P**	**07 25 40.7**	**-3.8**
CAN	**Canberra**	**20.80**	**280**	P Pn	07 25 48.5	+1.5
CAN	**Canberra**	**20.80**	**280**	P **P**	**07 25 41.9**	**-2.6**
CAN				pmax pmax		
	comp=Z,101nm,1.2s					
ARMA	**Armidale**	**21.51**	**295**	P **P**	**07 25 51.5**	**-0.8**
	baz=22,SNR=5.8					
ARMA	**Armidale**	**21.51**	**295**	P **P**	**07 25 50.0**	**-2.2**
ARMA	**Armidale**	**21.51**	**295**	P **P**	**07 25 55.0**	**+2.8**
AUPHS	**Peel High Scho**	**21.61**	**292**	P **P**	**07 25 56.1**	**+2.9**
LIFNC	**LIFOU**	**21.80**	**342**	P **P**	**07 25 52.2**	**-3.1**
LIFNC				lAmb lAmb	07 26 08.7	
	comp=Z,251nm,1.2s					
LIFNC	**LIFOU**	**21.80**	**342**	P **P**	**07 25 55.3**	**+0.1**
TOO	**Toolangi**	**22.55**	**271**	P **P**	**07 26 04.8**	**+1.6**
	baz=22,SNR=6.2					
TOO	**Toolangi**	**22.55**	**271**	P **P**	**07 26 02.4**	**-0.8**
TOO	**Toolangi**	**22.55**	**271**	P **P**	**07 26 05.9**	**+2.7**
TOO	**Toolangi**	**22.55**	**271**	P **P**	**07 26 02.4**	**-0.8**
TOO				pmax pmax		
	comp=Z,46nm,1.0s					
AUDCS	**Dubbo College**	**22.57**	**287**	P **P**	**07 26 06.0**	**+2.5**
AUWSH	**Wavell State H**	**22.58**	**303**	P **P**	**07 26 06.6**	**+3.0**
KOUNC	**Koumac, New Ca**	**22.83**	**335**	P **P**	**07 26 04.6**	**-1.6**
KOUNC				lAmb lAmb	07 26 26.2	
	comp=Z,352nm,1.5s					
AUBSH	**Beerwah State**	**23.02**	**304**	P **P**	**07 26 10.3**	**+2.1**
BRAT	**Ballarat**	**23.72**	**270**	P **P**	**07 26 17.1**	**+2.0**
MSVF	**Nonsavu**	**24.20**	**9**	P **P**	**07 26 19.4**	**-0.4**
	comp=Z,67nm,0.9s,baz=202,slow=11,SNR=23					
MSVF				LR LR	07 35 21.8	
	comp=Z,6μm,18.6s,baz=197,slow=36					
	comp=Z,67nm,0.9s					
MSVF	**Nonsavu**	**24.20**	**9**	P **P**	**07 26 18.3**	**-1.5**
MSVF	**Nonsavu**	**24.20**	**9**	P **P**	**07 26 18.3**	**-1.5**
AULRC	**Lightning Ridg**	**24.62**	**292**	P **P**	**07 26 24.5**	**+1.0**
	comp=Z,90nm,1.1s					
CMSA	**Cobar Meteorol**	**25.05**	**285**	P **P**	**07 26 27.4**	**0.0**
	baz=25,SNR=12					
CMSA	**Cobar Meteorol**	**25.05**	**285**	P **P**	**07 26 27.6**	**+0.2**
EIDS	**Eidsvold**	**25.26**	**303**	P **P**	**07 26 29.6**	**+0.3**
	baz=25,SNR=4.7					
EIDS	**Eidsvold**	**25.26**	**303**

comp=Z,85nm,1.0s
PMG Port Moresby 40.17 316 P **P** **07 28 40.3 +0.9**
WB2 Warramunga Arr 40.17 290 P **P** **07 28 38.2 -1.3**
WB2 IAmb IAmb 07 28 48.6
comp=Z,43nm,0.7s
WRAB Tennant Creek 40.18 290 P **P** **07 28 38.4 -1.1**
WRAB Tennant Creek 40.18 290 IAMs_20 IAMs_20 07 45 34.5
comp=Z,3µm,20.0s
WRAB Tennant Creek 40.18 290 P **P** **07 28 38.1 -1.4**
WRA Warramunga Arr 40.18 290 P **P** **07 28 38.2 -1.3**
comp=Z,33nm,0.8s,baz=131,slow=7.5,SNR=117
WRA PcP **PcP** **07 30 42.0 -1.6**
comp=Z,5.6nm,0.8s,baz=130,slow=3.0,SNR=5.4
WRA S **S** **07 34 43.0 -2.7**
comp=Z,6.4nm,1.3s,baz=131,slow=14,SNR=3.5
WRA LR LR 07 45 56.3
comp=Z,3µm,18.5s,baz=130,slow=38
comp=Z,33nm,0.8s
WRA Warramunga Arr 40.18 290 P **P** **07 28 38.0 -1.5**
WRA Warramunga Arr 40.18 290 P **P** **07 28 38.0 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WB0 Warramunga Arr 40.26 291 P **P** **07 28 38.8 -1.3**
WRKA Warakurna 41.39 279 P **P** **07 28 47.6 -1.8**
baz=41,SNR=90
WRKA Warakurna 41.39 279 P **P** **07 28 47.6 -1.8**
CASY Casey 42.20 213 P **P** **07 28 55.8 +0.3**
CASY IAmb IAmb 07 28 58.2
comp=Z,79nm,0.9s
CASY Casey 42.20 213 IAMs_20 IAMs_20 07 45 13.5
comp=Z,4µm,19.0s
KRVT Keravat (AS076 42.33 326 LR LR 07 45 06.9
comp=Z,1µm,19.9s,baz=292,slow=34
RABL Rabaul 42.38 326 P **P** **07 28 57.6 +0.1**
RABL Rabaul 42.38 326 P **P** **07 28 59.0 +1.5**
comp=Z,259nm,0.8s
KMBL Kambalda 42.80 267 P **P** **07 28 59.9 -1.0**
baz=43,SNR=4.6
KMBL Kambalda 42.80 267 P **P** **07 29 00.1 -0.8**
TARA Tarawa 42.98 358 P **P** **07 29 00.9 -1.5**
TARA IAmb IAmb 07 29 06.7
comp=Z,88nm,1.0s
NWAO Narrogin (SRO) 45.51 262 P **P** **07 29 21.9 -0.7**
comp=Z,25nm,0.9s,baz=321,slow=7.0,SNR=8.1
NWAO LR LR 07 45 48.2
comp=Z,2µm,19.1s,baz=306,slow=33
comp=Z,25nm,0.9s
NWAO Narrogin (SRO) 45.51 262 P **P** **07 29 21.7 -0.9**
baz=45,SNR=5.1
NWAO P **P** **07 29 21.7 -0.9**
baz=45,SNR=5.1
NWAO Narrogin (SRO) 45.51 262 P **P** **07 29 20.9 -1.7**
NWAO Narrogin (SRO) 45.51 262 IAMs_20 IAMs_20 07 45 25.7
comp=Z,3µm,19.0s
NWAO Narrogin (SRO) 45.51 262 P **P** **07 29 22.0 -0.6**
NWAO Narrogin (SRO) 45.51 262 P **P** **07 29 20.9 -1.7**
NWAO pmax pmax
comp=Z,33nm,1.0s
KLBR Kellerberrin 45.77 264 P **P** **07 29 23.7 -0.9**
baz=46,SNR=15
KLBR Kellerberrin 45.77 264 P **P** **07 29 23.7 -0.9**
AUHAR St Anne's Scho 46.43 261 P **P** **07 29 30.7 +0.9**
comp=Z,130nm,1.4s
KDU Kakadu 46.50 296 P **P** **07 29 29.8 -0.7**
baz=46,SNR=11
KDU Kakadu 46.50 296 P **P** **07 29 29.8 -0.7**
MUN Mundaring 46.73 262 P **P** **07 29 31.3 -0.8**
baz=47,SNR=12
MUN Mundaring 46.73 262 P **P** **07 29 31.4 -0.8**
KNRA Kununurra 46.96 290 P **P** **07 29 34.3 +0.2**
baz=47,SNR=6.0
KNRA Kununurra 46.96 290 P **P** **07 29 33.5 -0.6**
KNRA IAmb IAmb 07 29 52.3
comp=Z,55nm,0.8s
KNRA Kununurra 46.96 290 P **P** **07 29 33.9 -0.2**
BLDU Ballidu 47.03 264 P **P** **07 29 33.0 -1.6**
baz=47,SNR=19
BLDU Ballidu 47.03 264 P **P** **07 29 33.5 -1.1**
MTN Manton Dam 47.30 295 P **P** **07 29 36.4 -0.4**
baz=47,SNR=24
MTN Manton Dam 47.30 295 P **P** **07 29 35.9 -0.8**
MTN Manton Dam 47.30 295 P **P** **07 29 36.3 -0.4**
MORW Morawa 48.32 266 P **P** **07 29 43.8 -0.8**
baz=48,SNR=17
MORW Morawa 48.32 266 P **P** **07 29 43.8 -0.8**
MORW Morawa 48.32 266 P **P** **07 29 43.7 -0.9**
QSPA South Pole Qui 48.33 180 P **P** **07 29 47.2 +2.9**
comp=Z,138nm,1.1s,baz=28,slow=2.3,SNR=124
comp=Z,138nm,1.1s
QSPA South Pole Qui 48.33 180 P **P** **07 29 47.2 +2.9**
PTCN Pitcairn Islan 48.45 88 P **P** **07 29 45.3 -0.3**
PSA00 Pilbara Seismi 49.69 276 P **P** **07 29 53.6 -1.5**
PSA00 IAmb IAmb 07 29 54.5
comp=Z,54nm,0.9s
PSA00 Pilbara Seismi 49.69 276 P **P** **07 29 53.6 -1.5**
MBWA Marble Bar 50.02 277 P **P** **07 29 55.7 -1.9**
MBWA Marble Bar 50.02 277 P **P** **07 29 56.2 -1.5**
SAUI Saumlaki 50.74 299 P **P** **07 30 03.3 +0.1**
TAOE Nuku Hiva Isla 51.73 64 *e*S **S** **07 37 32.7 +0.7**
comp=Z,664nm,26.1s
TAOE *e*LR LR 07 45 03.7
comp=Z,3µm,25.7s
GIRL Giralia 53.24 271 P **P** **07 30 21.8 +0.1**
baz=53,SNR=8.0
GIRL Giralia 53.24 271 P **P** **07 30 22.0 +0.3**
FAKI Fak Fak 54.00 304 P **P** **07 30 25.6 -1.8**
FAKI IAmb IAmb 07 30 32.3
comp=Z,37nm,0.6s
FAKI IAMs_20 IAMs_20 07 54 11.0
comp=Z,3µm,20.0s
FAKI Fak Fak 54.00 304 P **P** **07 30 25.1 -2.3**
comp=Z,54nm,0.8s
FAKI Fak Fak 54.00 304 P **P** **07 30 27.3 -0.1**
comp=Z,55nm,0.8s
SOEI Soe 54.21 291 P **P** **07 30 28.5 -0.5**
SOEI Soe 54.21 291 P **P** **07 30 29.1 +0.1**
comp=Z,105nm,1.3s
SOEI Soe 54.21 291 P **P** **07 30 30.5 +1.5**
BATI Baumata 54.31 290 LR LR 07 53 36.9
comp=Z,3µm,20.5s,baz=148,slow=36
BATI Baumata 54.31 290 P **P** **07 30 29.9 +0.2**
comp=Z,68nm,1.1s
SIJI Sorong 56.21 305 LR LR 07 55 35.5
comp=Z,915nm,18.1s,baz=144,slow=37
SIJI Sorong 56.21 305 P **P** **07 30 42.1 -1.2**
comp=Z,50nm,0.9s
SWI Sorong 56.22 305 P **P** **07 30 42.2 -1.2**
comp=Z,62nm,0.9s
MMRI Maumere 56.41 291 P **P** **07 30 44.1 -0.6**
NLAI Namlea 57.04 299 P **P** **07 30 48.3 -0.9**
comp=Z,20nm,1.4s
SANI Sanana 58.66 299 P **P** **07 30 59.8 -0.8**
comp=Z,39nm,0.8s
SANI Sanana 58.66 299 P **P** **07 31 00.0 -0.6**
LBMI Labuha 58.75 301 P **P** **07 31 01.4 +0.2**
comp=Z,3µmcomp=Z,138nm,1.2s
BELA Belgrano 2 59.28 173 P **P** **07 31 05.7 +1.6**
BSSI Bau Bau, Buton 59.39 291 P **P** **07 31 04.4 -1.3**
comp=Z,67nm,0.9s
MAW Mawson 59.43 204 P **P** **07 31 07.5 +2.2**
comp=Z,25nm,0.9s,baz=117,slow=9.6,SNR=29
MAW LR LR 07 55 26.1
comp=Z,5µm,19.9s,baz=104,slow=35
comp=Z,25nm,0.9s
MAW Mawson 59.43 204 P **P** **07 31 07.4 +2.2**
baz=59,SNR=24
MAW Mawson 59.43 204 P **P** **07 31 06.3 +1.1**
MAW Mawson 59.43 204 P **P** **07 31 06.3 +1.1**
MAW pmax pmax
comp=Z,10.0nm,1.1s
PLAI Plampang 59.44 287 P **P** **07 31 05.8 -0.2**
comp=Z,40nm,1.1s
PLAI Plampang 59.44 287 P **P** **07 31 05.8 -0.2**
TNTI Ternate 59.92 302 P **P** **07 31 07.2 -2.0**
TNTI IAmb IAmb 07 31 08.8
comp=Z,60nm,1.2s
TWSI Taliwang, Sumb 60.14 286 P **P** **07 31 11.5 +0.6**
comp=Z,37nm,0.9s
BKSI Bulukumba 60.23 291 P **P** **07 31 10.6 -0.8**
comp=Z,41nm,1.0s
KAPI Kappang 60.71 291 LR LR 07 59 12.3
comp=Z,2µm,18.5s,baz=134,slow=38
KAPI Kappang 60.71 291 P **P** **07 31 13.9 -0.8**
KAPI IAmb IAmb 07 31 15.7
comp=Z,28nm,1.1s
KAPI Kappang 60.71 291 P **P** **07 31 15.2 +0.5**
comp=Z,20nm,0.9s
KAPI Kappang 60.71 291 P **P** **07 31 15.4 +0.7**
KAPI Kappang 60.71 291 P **P** **07 31 13.9 -0.8**
KAPI pmax pmax
comp=Z,28nm,1.1s
KLNI Mataram 60.92 286 P **P** **07 31 16.2 0.0**
comp=Z,2µmcomp=Z,31nm,0.9s
SMAI San Martin Ant 61.20 158 P **P** **07 31 20.2 +3.0**
SMAI IAmb IAmb 07 31 21.8
comp=Z,50nm,1.1s
SPSI Sidrap Palu 61.44 292 P **P** **07 31 18.9 -0.8**
comp=Z,43nm,1.0s
GUMO Guam 61.45 327 LR LR 07 57 46.5
comp=Z,386nm,18.4s,baz=154,slow=36
LUWI Luwuk 61.53 297 P **P** **07 31 19.8 -0.5**
LUWI Luwuk 61.53 297 P **P** **07 31 20.0 -0.3**
comp=Z,4µmcomp=Z,131nm,1.4s
LUWI Luwuk 61.53 297 P **P** **07 31 20.4 +0.1**
JAGI Jajag, Banyuwa 62.30 284 P **P** **07 31 24.8 -0.7**
JAGI IAmb IAmb 07 32 08.0
comp=Z,23nm,0.9s
ABJI Asem Bagus 62.69 285 P **P** **07 31 28.6 +0.5**
comp=Z,75nm,1.1s
RPN Rapa Nui 62.70 103 LR LR 07 54 31.0
comp=Z,1µm,18.1s,baz=239,slow=32
PMSA Palmer Station 64.40 156 P **P** **07 31 38.7 +0.1**
PMSA IAmb IAmb 07 31 53.6
comp=Z,32nm,1.1s
TOLI2 Tolitoli 64.45 297 P **P** **07 31 39.3 -0.4**
TOLI2 IAmb IAmb 07 31 41.0
comp=Z,22nm,0.9s
TOLI2 Tolitoli 64.45 297 P **P** **07 31 40.3 +0.6**
BBKI Banjar Baru 65.25 289 P **P** **07 31 44.9 0.0**
comp=Z,7µmcomp=Z,77nm,0.9s
DAV Davao City (W) 65.92 305 LR LR 08 01 45.2
comp=Z,556nm,18.4s,baz=160,slow=37
TROLL Troll, Antarti 66.35 183 P **P** **07 31 53.3 +1.9**
SNAA Sanae 66.81 181 P **P** **07 31 56.0 +1.7**
SNAA Sanae 66.81 181 LR LR 07 59 55.9
comp=Z,2µm,20.4s,baz=186,slow=35
SNAA Sanae 66.81 181 P **P** **07 31 55.6 +1.3**
SNAA IAMs_20 IAMs_20 08 02 28.3
comp=Z,2µm,18.0s
SNAA Sanae 66.81 181 *ce*P **P** **07 31 55.9 +1.7**
SNAA pmax pmax
comp=Z,70nm,1.1s
MTKI Muara Teweh, K 66.99 291 P **P** **07 31 56.1 0.0**
comp=Z,79nm,0.6s
NVL N'lazarevskaya 67.03 186 *e*P **P** **07 31 56.5 +1.0**
NVL pmax pmax
comp=Z,111nm,1.1s
NVL MLR MLR
comp=Z,3µm,17.0s
VNA3 Neumayer Olymp 67.23 179 P **P** **07 31 58.7 +1.9**
VNA2 Neumayer--Watz 67.58 179 P **P** **07 32 01.0 +2.0**
baz=173,slow=7.0
BBJI Bungbulang 67.72 280 P **P** **07 32 00.6 -0.2**
VNA1 Neumayer--Stat 67.84 179 P **P** **07 32 03.0 +2.3**
LEM Lembang 68.17 281 LR LR 08 00 59.0
comp=Z,1µm,21.7s,baz=141,slow=35
MYLDM Lahad Datu 68.99 298 P **P** **07 32 08.6 0.0**
MYLDM IAmb IAmb 07 32 22.4
comp=Z,44nm,0.9s
MYLDM Lahad Datu 68.99 298 P **P** **07 32 08.5 -0.1**
comp=Z,51nm,0.9s
BLSI Bandar Lampung 70.89 280 P P 07 32 28.6 +8.2
KKM Kota Kinabalu 71.14 297 P **P** **07 32 20.6 -1.4**
KKM IAmb IAmb 07 32 21.9
comp=Z,30nm,0.8s
KKM Kota Kinabalu 71.14 297 P **P** **07 32 21.7 -0.3**
comp=Z,44nm,1.2s
KKM Kota Kinabalu 71.14 297 P **P** **07 32 21.6 -0.4**
SBUM Sibu 71.27 291 P **P** **07 32 21.6 -1.0**
SBUM Sibu 71.27 291 P **P** **07 32 22.2 -0.4**
comp=Z,19nm,1.1s
KSM Kuching 71.92 289 P **P** **07 32 25.5 -1.1**
KSM IAmb IAmb 07 32 26.6
comp=Z,44nm,1.0s
KSM IAMs_20 IAMs_20 08 06 22.8
comp=Z,1µm,18.0s
KSM Kuching 71.92 289 P **P** **07 32 25.8 -0.8**
comp=Z,44nm,1.1s
KSM Kuching 71.92 289 P **P** **07 32 26.0 -0.6**
PPBI Pangkal Pinang 72.40 283 P **P** **07 32 28.9 -0.6**
comp=Z,51nm,1.2s
LL02 Futaleuf 76.58 137 P **P** **07 32 54.0 +0.6**
SDSI Sungai Dareh 76.68 281 P **P** **07 32 52.6 -1.7**
comp=Z,17µmcomp=Z,10nm,0.9s
LL03 Petrohue 77.75 135 P **P** **07 32 59.3 -0.7**
LL03 IAmb IAmb 07 33 55.9
comp=Z,53nm,0.8s
BKNI Bangkinang 77.81 282 P **P** **07 32 58.7 -2.0**
BKNI IAMs_20 IAMs_20 08 08 07.9
comp=Z,1µm,19.0s
LL04 Puerto Octay 77.91 135 P **P** **07 33 02.1 +1.2**
LL04 IAmb IAmb 07 35 47.4
comp=Z,112nm,1.9s
SISI Saibi 78.14 279 P **P** **07 33 02.6 +0.1**
comp=Z,59nm,1.0s
PLCA Paso Flores 79.02 135 P **P** **07 33 09.6 +2.5**
comp=Z,8.3nm,0.9s,baz=231,slow=4.6,SNR=11
PLCA LR LR 08 01 00.5
comp=Z,327nm,19.2s,baz=215,slow=30
comp=Z,8.3nm,0.9s
PLCA Paso Flores 79.02 135 P **P** **07 33 07.9 +0.8**
PLCA IAmb IAmb 07 34 07.5
comp=Z,73nm,1.9s
MNSI Mandailing Nat 79.20 281 P **P** **07 33 06.6 -1.7**
comp=Z,37nm,0.7s
JOW Kunigami 80.48 319 LR LR 08 04 21.7
comp=Z,379nm,21.8s,baz=139,slow=32
DLV T Lat 80.63 295 P **P** **07 33 16.4 +0.2**
IPM Ipoh 80.65 285 P **P** **07 33 14.9 -1.3**
IPM IAmb IAmb 07 33 16.1
comp=Z,30nm,0.8s
IPM Ipoh 80.65 285 P **P** **07 33 15.3 -0.9**
comp=Z,39nm,1.0s
IPM Ipoh 80.65 285 P **P** **07 33 15.3 -0.9**
GSI Gunungsitoli 81.02 280 P **P** **07 33 18.1 -0.1**
GSI Gunungsitoli 81.02 280 P **P** **07 33 18.6 +0.4**
comp=Z,4µmcomp=Z,110nm,1.0s
GSI Gunungsitoli 81.02 280 P **P** **07 33 18.9 +0.7**
KULM Kulim 81.47 285 P **P** **07 33 20.1 -0.5**
KULM IAmb IAmb 07 33 20.6
comp=Z,46nm,1.1s
KULM IAMs_20 IAMs_20 08 13 04.9
comp=Z,1µm,19.0s
KULM Kulim 81.47 285 P **P** **07 33 19.9 -0.7**
comp=Z,40nm,1.2s
SSLB Suanglung 81.83 312 P **P** **07 33 20.3 -1.9**
SSLB IAmb IAmb 07 33 30.5
comp=Z,72nm,1.9s
KCSI Kotacane, Aceh 82.37 282 P **P** **07 33 24.6 -0.7**
comp=Z,30nm,1.1s
BO02 Sierra Bellavi 83.20 131 P **P** **07 33 29.9 +0.4**
MT01 Popeta 83.61 130 P **P** **07 33 33.7 +2.1**
MT01 IAmb IAmb 07 33 36.3
comp=Z,25nm,0.9s
JMN Monobe 83.85 327 P **P** **07 33 31.4 -1.1**
MLSI Meulaboh, Aceh 83.87 281 P **P** **07 33 32.9 -0.1**
comp=Z,72nm,1.0s
LHMI Lhok Sumawe 84.12 282 IAMs_20 IAMs_20 08 12 26.1
comp=Z,1µm,19.0s
LMEL Las Melosas 84.22 131 P **P** **07 33 34.2 -0.7**
LMEL IAmb IAmb 07 33 39.5
comp=Z,49nm,1.6s
MT05 Renca 84.25 130 P **P** **07 33 34.6 -0.3**
JNU Nakatsue 84.59 325 P **P** **07 33 35.9 -0.3**
JNU IAmb IAmb 07 33 36.5
comp=Z,42nm,1.1s
MJAR Matsushiro Arr 84.68 332 P **P** **07 33 35.8 -0.8**
comp=Z,4.7nm,0.9s,baz=158,slow=6.6,SNR=6.4
comp=Z,4.7nm,0.9s
SURA Surathani 84.86 287 P **P** **07 33 38.7 +0.7**
UBPT Khong Chiam 85.05 295 P **P** **07 33 39.5 +0.6**
TRQA Tornquist 85.39 139 P **P** **07 33 41.3 +0.8**
TRQA IAmb IAmb 07 33 43.8
comp=Z,31nm,1.1s
TRQA Tornquist 85.39 139 P **P** **07 33 41.3 +0.8**
TRQA pmax pmax
comp=Z,31nm,1.2s
CO03 El Pedregal 86.14 129 P **P** **07 33 46.3 +1.8**
CO03 IAmb IAmb 07 33 48.1
comp=Z,36nm,1.1s
RTLS Leoncito 86.24 130 *i* P **P** **07 33 48.1 +3.0**
GO04 Tololo Observa 86.57 128 P **P** **07 33 46.2 -0.6**
GO04 IAmb IAmb 07 35 49.0
comp=Z,57nm,1.5s
CO01 Juntas del Tor 87.12 128 P **P** **07 33 50.9 +1.5**
CO01 IAmb IAmb 07 33 54.1
comp=Z,22nm,1.1s
ACCO Cerro Coronel 87.27 129 *i* P **P** **07 33 53.1 +2.8**
AROD Rodeo 87.35 129 *i* P **P** **07 33 53.6 +3.0**
ACDV Cuesta del Vie 87.55 129 *i* P **P** **07 33 54.3 +2.9**
AC05 El Transito 87.86 128 P **P** **07 33 54.0 +1.2**
AC05 IAmb IAmb 07 33 57.5
comp=Z,28nm,1.1s
NONG Nongkai 88.59 296 P **P** **07 33 56.4 +0.3**
APLL PUNTA DE LOS L 88.87 131 *i* P **P** **07 33 59.6 +2.0**
ACLC CERRO LA CRUZ 89.36 130 *i* P **P** **07 34 02.2 +2.2**
NJ2 Nanjing 89.48 316 *e*P **P** **07 34 04.3 +4.3**
NJ2 pmax pmax
comp=Z,13nm,0.6s
KSRS Korea Array 89.54 325 P **P** **07 34 00.7 +0.6**
comp=Z,15nm,0.9s,baz=142,slow=5.6,SNR=33
KSRS LR LR 08 11 22.5
comp=Z,160nm,20.4s,baz=170,slow=34
comp=Z,15nm,0.9s
KSAR Wonju Array Be 89.54 325 P **P** **07 33 59.4 -0.7**
KSAR Wonju Array Be 89.54 325 P **P** **07 33 59.4 -0.7**
KS19 Wonju Array Si 89.60 325 P **P** **07 33 59.8 -0.6**
ASAJ Asahikawa 90.16 338 LR LR 08 09 31.1
comp=Z,376nm,21.6s,baz=171,slow=32
CYA Choya 90.76 130 *i* P **P** **07 34 08.8 +2.4**
PHRA Phrae 90.87 294 P **P** **07 34 06.2 -0.6**
GO02 Mina Guanaco 90.97 126 **P** **07 34 07.3 -0.4**
GO02 IAmb IAmb 07 34 11.9
comp=Z,23nm,0.8s
CM31 Chiang Mai Arr 91.72 293 P **P** **07 34 11.4 +0.7**
CMAR Chiang Mai Arr 91.72 293 P **P** **07 34 10.9 +0.2**
comp=Z,21nm,0.8s,baz=152,slow=3.3,SNR=85
CMAR PP **PP** **07 37 49.1 -0.7**
comp=Z,1.2nm,0.3s,baz=153,slow=8.1,SNR=5.0
CMAR LR LR 08 19 31.1
comp=Z,527nm,19.2s,baz=135,slow=38
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 91.72 293 P **P** **07 34 10.1 -0.6**
CMAR Chiang Mai Arr 91.72 293 *i* P **P** **07 34 10.8 +0.1**
CMAR pmax pmax
comp=Z,25nm,0.9s
CHTO Chiang Mai 91.97 293 P **P** **07 34 11.1 -0.8**
CHTO Chiang Mai 91.97 293 P **P** **07 34 11.1 -0.8**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
LVC Limon Verde 93.28 124 LR LR 08 09 20.0
comp=Z,276nm,18.3s,baz=234,slow=31
TIA Tai'an 93.62 317 P **P** **07 34 18.8 -0.3**
TIA pmax pmax
comp=Z,15nm,1.1s
USRK Ussuriysk Ar. 93.67 331 P **P** **07 34 18.4 -0.6**
comp=Z,2.5nm,0.9s,baz=177,slow=5.3,SNR=4.1
USRK LR LR 08 15 10.9
comp=Z,263nm,18.9s,baz=156,slow=35
comp=Z,2.5nm,0.9s
DGAR Diego Garcia 93.88 257 *ce*P **P** **07 34 18.8 -2.1**
PZH PanZhiHua 95.41 301 P **P** **07 34 31.3 +3.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
LPIG La Paz 95.56 63 LR LR 08 09 00.8
comp=Z,879nm,21.7s,baz=226,slow=30
PETK Petropavlovsk- 95.62 350 P **P** **07 34 26.2 -1.6**
comp=Z,2.9nm,1.0s,baz=121,slow=6.9,SNR=2.8
comp=Z,2.9nm,1.0s
NNA Nana 95.68 111 LR LR 08 07 31.0
comp=Z,284nm,20.0s,baz=226,slow=29
NNA Nana 95.68 111 IAMs_20 IAMs_20 08 07 00.5
comp=Z,711nm,18.0s
XAN Xi'an 96.41 311 ⇑P **P** **07 34 31.3 -0.7**
XAN pP pP 07 34 37.6 +0.2
XAN pmax pmax
comp=Z,8.0nm,1.2s
XAN LR LR
comp=N,440nm,19.2s
XAN LR LR
comp=E,300nm,17.9s
XAN LR LR
comp=Z,480nm,21.3s
TNCH TengChong 96.50 298 P **P** **07 34 31.3 -1.5**
TNCH pmax pmax
comp=Z,240nm,7.8s
BJI Beijing 97.05 319 P Pdif 07 34 37.5 +2.8
BJI pmax pmax
comp=Z,7.0nm,0.7s
CPUP Villa Florida 97.08 135 P Pdif 07 34 37.4 +2.0
comp=Z,3.3nm,0.9s,baz=227,slow=8.7,SNR=5.2
CPUP LR LR 08 13 22.7
comp=Z,281nm,18.9s,baz=203,slow=32
comp=Z,3.3nm,0.9s
PALK Pallekele 97.50 273 LR LR 08 17 43.6
comp=Z,1µm,18.3s,baz=227,slow=35
PALK Pallekele 97.50 273 IAMs_20 IAMs_20 08 15 50.6
comp=Z,1µm,19.0s
ATAH Atahualpa 97.95 107 LR LR 08 11 17.8
comp=Z,449nm,19.3s,baz=245,slow=31
KLR Kul'dur 98.08 333 P Pdif 07 34 40.0 +0.9
comp=Z,0.3nm,0.3s,baz=162,slow=15,SNR=1.9
comp=Z,0.3nm,0.3s
PFO Pinyon Flats O 98.30 52 *i* P **P** **07 34 38.8 -1.8**
LPAZ La Paz 98.44 121 P Pdif 07 34 44.5 +2.1
comp=Z,1.3nm,0.9s,baz=197,slow=4.9,SNR=5.6
LPAZ LR LR 08 11 16.3
comp=Z,185nm,20.5s,baz=186,slow=30
comp=Z,1.3nm,0.9s
BRDH Bariadhala 99.60 292 LR LR 08 27 39.1
comp=Z,480nm,18.2s,baz=118,slow=40
HHC Hu-ho-hao-te 99.97 317 *e*P **Pdif** **07 34 50.8 +2.9**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,220nm,4.5s
HEH HeiHe 100.45 332 *e*P **Pdif** **07 34 55.0 +5.4**
NVAR Mina Array Bea 100.66 48 PKKP 07 51 05.5
comp=Z,0.5nm,0.8s,baz=27,slow=6.2,SNR=4.7
TXAR Lajitas Array 103.46 63 PKKPbc PKKPbc 07 50 58.5 +2.2
comp=Z,1.1nm,0.7s,baz=79,slow=4.7,SNR=13
TXAR PKKP **PKKPdf** **07 51 04.8 -0.4**
comp=Z,0.5nm,0.6s,baz=82,slow=4.4,SNR=9.5
SNET Serv Nac Est T 103.74 84 IAMs_20 IAMs_20 08 12 01.1
comp=Z,740nm,18.0s
BCIP Isla Barro Col 107.84 94 IAMs_20 IAMs_20 08 14 56.7
comp=Z,751nm,19.0s
435B Jarrell 108.46 65 IAMs_20 IAMs_20 08 14 44.8
comp=Z,1µm,19.0s
PDAR Pinedale Array 108.48 49 PKKPbc PKKPbc 07 50 41.5 0.0
comp=Z,0.9nm,0.8s,baz=90,slow=4.5,SNR=6.6
PDAR PKKPab **PKKPdf** **07 50 54.4 -2.2**
comp=Z,2.1nm,0.9s,baz=67,slow=6.9,SNR=9.9
H21K Melozitna Rive 110.12 14 P **PKiKP** **07 39 34.4 +0.8**
baz=206
L27K Beaver Creek, 110.22 20 P **PKiKP** **07 39 34.9 +1.0**
baz=214
ILAR Eielson Array 110.50 17 PKKPab PKKPab 07 50 43.2 +1.7
comp=Z,1.3nm,0.9s,baz=9.7,slow=6.4,SNR=6.7
J26L Joseph Creek 111.01 18 P **PKiKP** **07 39 36.0 +0.6**
baz=212
OK038 West end E0370 111.14 60 IAMs_20 IAMs_20 08 18 09.7
comp=Z,948nm,22.0s
L29M L29M 111.22 21 P **PKiKP** **07 39 36.8 +1.1**
baz=216
OK035 E0210 Rd and N 111.30 59 IAMs_20 IAMs_20 08 26 03.9
comp=Z,918nm,18.0s
FARO Faro, Yukon 111.88 24 P **PKiKP** **07 39 37.6 +0.6**
baz=220
K29M Barlow Dome 111.97 21 P **PKiKP** **07 39 37.9 +0.6**
baz=217
COLD Coldfoot 112.00 14 P **PKiKP** **07 39 38.3 +1.2**
baz=208
OK034 N. Norfolk Rd. 112.19 61 IAMs_20 IAMs_20 08 19 13.3
comp=Z,966nm,20.0s
FYU Fort Yukon 112.40 16 IAMs_20 IAMs_20 08 22 52.5
comp=Z,776nm,19.0s
E23K Chandalar 112.84 14 P **PKiKP** **07 39 39.7 +0.9**
baz=209
KOTAN Kotaneelee Air 113.39 29 P **PKiKP** **07 39 41.2 +1.2**
baz=226
EPYK Eagle Plains 114.19 19 P **PKiKP** **07 39 41.9 +0.5**
baz=218
C24K Franklin Bluff 114.46 13 P **PKiKP** **07 39 42.4 +0.7**
baz=210
SDV Santo Domingo 114.49 100 IAMs_20 IAMs_20 08 24 17.5
comp=Z,650nm,18.0s
E27K Colleen River 114.53 17 P **PKiKP** **07 39 42.9 +0.9**
baz=215

WMQ	**Urumqi**	**115.25**	**307**	*eP*		**PKiKP**	**07 39 45.1**	**+1.0**
C27K	**Jago River**	**115.30**	**15**	P		**PKiKP**	**07 39 43.7**	**+0.4**
	baz=214							
C26K	**Camden Bay**	**115.31**	**14**	P		**PKiKP**	**07 39 44.5**	**+1.2**
	baz=213							
WRGLY	**Wrigley**	**115.73**	**26**	P		**PKiKP**	**07 39 45.4**	**+1.1**
	baz=227							
F31M	**Tsiigehtchic**	**115.77**	**20**	P		**PKPdf**	**07 39 44.2**	**-0.1**
	baz=221							
INK	**Inuvik**	**116.48**	**19**	P		**PKiKP**	**07 39 45.6**	**0.0**
	baz=221							
ECSD	**EROS Data Cent**	**116.64**	**54**	P		**PKiKP**	**07 39 47.7**	**+1.0**
	baz=237							
PLAL	**Pickwick Lake**	**117.39**	**66**	PKPdf		**PKPdf**	**07 39 47.4**	**-1.1**
TIXI	**Tiksi**	**117.63**	**345***c*	*i* PKIKP		**PKPdf**	**07 39 47.0**	**-0.7**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.7s							
X48A	**Hartselle**	**117.81**	**67**	PKPdf		**PKiKP**	**07 39 50.8**	**+1.5**
F33A	**5 Mile Ranch,**	**117.97**	**52**	PKPdf		**PKiKP**	**07 39 49.4**	**+0.2**
WVT	**Waverly**	**118.19**	**65**	PKPdf		**PKiKP**	**07 39 50.2**	**+0.3**
WVT	**Waverly**	**118.19**	**65**	PKIKP		**PKiKP**	**07 39 50.2**	**+0.3**
YKA	**Yellowknife Ar**	**118.39**	**30**	PKP		**PKPdf**	**07 39 49.2**	**-0.2**
	comp=Z,15nm,0.9s,baz=258,slow=1.9,SNR=20							
YKA				PKKPbc		**PKKPbc**	**07 50 10.7**	**+2.8**
	comp=Z,3.7nm,0.8s,baz=53,slow=4.0,SNR=6.0							
YKA	**Yellowknife Ar**	**118.39**	**30**	PKPdf		**PKiKP**	**07 39 49.6**	**+0.1**
YKA	**Yellowknife Ar**	**118.39**	**30**	PKIKP		**PKiKP**	**07 39 49.6**	**+0.1**
I37A	**Lemond, Waseca**	**118.76**	**55**	PKPdf		**PKiKP**	**07 39 52.3**	**+1.5**
FFC	**Flin Flon**	**119.55**	**42**	PKPdf		**PKiKP**	**07 39 52.1**	**+0.1**
FFC	**Flin Flon**	**119.55**	**42**	PKIKP		**PKiKP**	**07 39 52.1**	**+0.1**
F36A	**Milaca**	**119.64**	**53**	PKPdf		**PKiKP**	**07 39 52.9**	**+0.4**
C36M	**Paulatuk**	**119.65**	**21**	PKPdf		**PKPdf**	**07 39 51.3**	**-0.3**
C36M	**Paulatuk**	**119.65**	**21**	P		**PKPdf**	**07 39 51.6**	**-0.1**
	baz=229							
SPMN	**Marine on St.**	**119.75**	**54**	PKPdf		**PKiKP**	**07 39 53.4**	**+0.7**
SPMN	**Marine on St.**	**119.75**	**54**	P		**PKiKP**	**07 39 53.8**	**+1.1**
	baz=239							
MK31	**Makanchi Array**	**120.06**	**308**	PKPdf		**PKPdf**	**07 39 52.0**	**-1.1**
MK31	**Makanchi Array**	**120.06**	**308**	PKIKP		**PKPdf**	**07 39 52.1**	**-1.1**
MKAR	**Makanchi Array**	**120.06**	**308**	PKP		**PKPdf**	**07 39 52.0**	**-1.2**
	comp=Z,6.6nm,1.0s,baz=113,slow=2.8,SNR=7.4							
MKAR	**Makanchi Array**	**120.06**	**308**	PKPdf		**PKiKP**	**07 39 53.6**	**+0.3**
MKAR	**Makanchi Array**	**120.06**	**308**	PKIKP		**PKiKP**	**07 39 53.6**	**+0.3**
L42A	**Oliver, Polo**	**120.06**	**59**	PKPdf		**PKiKP**	**07 39 54.5**	**+1.1**
JFWS	**Jewell Farm**	**120.16**	**58**	PKPdf		**PKiKP**	**07 39 53.9**	**+0.3**
JFWS	**Jewell Farm**	**120.16**	**58**			**PKiKP**	**07 39 54.5**	**+0.9**
JFWS	**Jewell Farm**	**120.16**	**58**	P		**PKiKP**	**07 39 54.8**	**+1.2**
	baz=239							
WCI	**Wyandotte Cave**	**120.34**	**64**	PKPdf		**PKPdf**	**07 39 53.8**	**-0.2**
WCI	**Wyandotte Cave**	**120.34**	**64**	P		**PKiKP**	**07 39 56.1**	**+2.1**
	baz=239							
WCI	**Wyandotte Cave**	**120.34**	**64**	PKIKP		**PKPdf**	**07 39 53.8**	**-0.2**
ULM	**Lac du Bonnet**	**120.49**	**48**	PKP		**PKiKP**	**07 39 54.2**	**+0.3**
	comp=Z,4.5nm,0.5s,baz=248,slow=3.9,SNR=6.4							
BLO	**Bloomington**	**120.67**	**63**	PKPdf		**PKiKP**	**07 39 55.3**	**+0.6**
BLO	**Bloomington**	**120.67**	**63**	PKIKP		**PKiKP**	**07 39 55.3**	**+0.6**
KIBK	**Kibwezi**	**120.87**	**234**			**PKPdf**	**07 39 54.5**	**-1.4**
A36M	**Sachs Harbour**	**121.08**	**18**	PKPdf		**PKPdf**	**07 39 53.5**	**-0.8**
HQIL	**Hanson Quary C**	**121.13**	**60**	IAMs_20	IAMs_20		08 29 28.0	
	comp=Z,1μm,21.0s							
I42A	**Draeger Farm,**	**121.49**	**57**	PKPdf		**PKPdf**	**07 39 54.5**	**-1.5**
EYMN	**Ely**	**121.88**	**52**			**PKPdf**	**07 39 56.4**	**-0.3**
EYMN	**Ely**	**121.88**	**52**	P		**PKiKP**	**07 39 57.8**	**+1.0**
	baz=241							
ZALV	**Zalesovo Beam**	**122.14**	**316**	PKP		**PKiKP**	**07 39 57.7**	**+0.7**
	comp=Z,1.8nm,0.4s,baz=98,slow=4.4,SNR=3.7							
KMBO	**Kilima Mbogo**	**122.31**	**234**	PKP		**PKiKP**	**07 40 00.0**	**+0.9**
	comp=Z,13nm,1.1s,baz=168,slow=14,SNR=15							
KMBO	**Kilima Mbogo**	**122.31**	**234**			**PKiKP**	**07 39 59.1**	**0.0**
KMBO	**Kilima Mbogo**	**122.31**	**234**	PKIKP		**PKiKP**	**07 39 59.1**	**0.0**
COWI	**Conover**	**122.42**	**55**	PKPdf		**PKiKP**	**07 39 58.4**	**+0.4**
BLA	**Blacksburg**	**123.84**	**68**	P		**PKiKP**	**07 40 03.2**	**+2.1**
	baz=240							
P52A	**Corning**	**123.85**	**65**	P		**PKiKP**	**07 40 02.4**	**+1.4**
	baz=241							
GAR	**Garm**	**123.87**	**294**			**PKPdf**	**07 40 00.4**	**-0.5**
KURK	**Kurchatov**	**124.05**	**310**			**PKPdf**	**07 39 59.7**	**-1.0**
KURK	**Kurchatov**	**124.05**	**310**	PKIKP		**PKPdf**	**07 39 59.7**	**-1.0**
KKAR	**Karatay Array**	**125.66**	**299**	PKPdf		**PKPdf**	**07 40 03.9**	**-0.2**
KKAR	**Karatay Array**	**125.66**	**299**	PKIKP		**PKPdf**	**07 40 03.9**	**-0.2**
SMRT	**St. Maarten**	**125.99**	**98**	IAMs_20	IAMs_20		08 29 39.4	
	comp=Z,482nm,18.0s							
LODK	**Lodwar**	**127.05**	**235**			**PKiKP**	**07 40 08.1**	**-0.2**
NRIK	**Noril'sk**	**127.30**	**334**	PKP		**PKPdf**	**07 40 06.2**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=82,slow=3.4,SNR=5.2							
NRIK	**Noril'sk**	**127.30**	**334**			**PKPdf**	**07 40 05.2**	**-1.1**
NRIK	**Noril'sk**	**127.30**	**334***c*	*i* PKIKP		**PKPdf**	**07 40 06.5**	**+0.1**
BRVK	**Borovoye**	**129.72**	**310**	PKPdf		**PKPdf**	**07 40 10.1**	**-1.4**
BRVK	**Borovoye**	**129.72**	**310***c*	*i* PKIKP		**PKPdf**	**07 40 11.8**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
GEYT	**Allbeck**	**131.89**	**288**	PKP		**PKiKP**	**07 40 17.1**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=207,slow=0.3,SNR=4.4							
ABKAR	**Akbulak array**	**134.75**	**303**	PKPdf		**PKPdf**	**07 40 19.6**	**-1.5**
ARU	**Arti**	**137.12**	**313**	PKPdf		**PKPdf**	**07 40 23.7**	**-1.5**
ARU	**Arti**	**137.12**	**313**	*i* PKIKP		**PKPdf**	**07 40 25.2**	**-0.1**
ARU							07 43 06.2	
SCHQ	**Schefferville**	**138.61**	**50**	PKP		**PKiKP**	**07 40 30.9**	**+0.6**
	comp=Z,7.6nm,1.0s,baz=258,slow=7.0,SNR=2.6							
MAK	**Makhachkala**	**141.26**	**290**	*eP*		**Pdif**	**07 37 46.9**	**-4.3**
MAK				*i*			07 40 31.1	
KIRV	**Kirov**	**142.17**	**316***c*	*i* PKIKP		**PKPdf**	**07 40 34.2**	**-0.1**
ZEI	**Tsey**	**143.75**	**289**	*i* PKIKP		PKPbc	07 40 36.0	+0.4
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
PRGR	**Permogore**	**143.78**	**321**	*e*PKHKP		PKPpre	07 40 27.6	
PRGR				pmax	pmax			
	comp=Z,7.0nm,0.4s							
MARD	**Mardin**	**144.25**	**279**	PKPdf		PKPbc	07 40 37.3	0.0
DAG	**Danmarks Havn**	**144.49**	**5**	*i* P		**PKPab**	**07 40 33.0**	**-3.4**
LIC	**Lamto**	**144.57**	**181**⇓	*e*PKP1		**PKPdf**	**07 40 39.7**	**-0.3**
	comp=Z,126nm,0.9s							
KIC	**Kosan Boka**	**144.70**	**182**⇑	*e*PKP1		**PKPdf**	**07 40 40.4**	**+0.1**
	comp=Z,35nm,0.6s							
KBZ	**Khabaz**	**144.70**	**290**	PKP		**PKPab**	**07 40 37.7**	**-0.4**
	comp=Z,20nm,0.9s,baz=96,slow=1.9,SNR=21							
GOF	**Gofitskoye**	**144.90**	**292**⇓	*e*PKIKP		**PKPab**	**07 40 38.2**	**-0.6**
KIV	**Kislovodsk**	**144.90**	**290**	PKPdf		**PKPab**	**07 40 37.9**	**-1.1**
KIV	**Kislovodsk**	**144.90**	**290**	*e*PKIKP		**PKPdf**	**07 40 40.0**	**+0.2**
KIV				pmax	pmax			
	comp=Z,18nm,1.0s							
SFJD	**Kangerlussuaq**	**144.94**	**29**	PKPdf		**PKPab**	**07 40 37.8**	**-0.5**
SFJD	**Kangerlussuaq**	**144.94**	**29**	*i* P		**PKPab**	**07 40 37.5**	**-0.8**
SFJD	**Kangerlussuaq**	**144.94**	**29**	PKIKP		**PKPab**	**07 40 37.8**	**-0.5**
TIC	**Toumodi**	**144.99**	**181**⇑	*e*PKP1		**PKPdf**	**07 40 40.5**	**-0.3**
	comp=Z,59nm,0.7s							
DBIC	**Dimbokro**	**145.01**	**181**	PKPbc		**PKPdf**	**07 40 40.8**	**0.0**
	comp=Z,38nm,0.9s,baz=182,slow=4.0,SNR=28							
DBIC	**Dimbokro**	**145.01**	**181**	PKPbc		**PKPab**	**07 40 39.8**	**-0.2**
SUMG	**Summit**	**145.34**	**17**	*i* P		**PKPbc**	**07 40 39.0**	**-1.0**
KOPT	**Kop Dagi**	**145.39**	**283**	PKPbc		**PKPab**	**07 40 41.4**	**+0.2**
NUUK	**Nuuk**	**145.50**	**34**	*i* P		**PKPab**	**07 40 41.0**	**+0.6**
VRH	**Novokhopyorsk**	**146.58**	**303**	*e*PKP2		**PKPdf**	**07 40 42.6**	**+0.3**
VRH				pmax	pmax			
	comp=Z,30nm,1.0s							
KLMR	**Klimovskoe**	**146.83**	**321**	*e*PKPdf		**PKPdf**	**07 40 42.2**	**-0.2**
KLMR				AMP			07 40 52.2	
	comp=Z,77nm,1.0s							
KLMR	**Klimovskoe**	**146.83**	**321**	*e*PKIKP		**PKPdf**	**07 40 42.2**	**-0.2**
KLMR				pmax	pmax			
	comp=Z,77nm,1.0s							
SOC	**Sochi**	**146.91**	**289**	*i* PKP2		**PKiKP**	**07 40 47.5**	**-0.1**
SOC				*e*			07 44 09.0	
SOC				*e*PPP	PPP		07 47 25.0	
SOC				*e*SS	SS		08 03 02.5	-7.4
SOC				pmax	pmax			
	comp=Z,14nm,0.8s							
SOC				MLR	MLR			
	comp=Z,270nm,20.0s							
ARA0	**ARCESS Array S**	**147.85**	**340**	*eP*		**PKPbc**	**07 40 46.0**	**-0.9**
ARCES	**ARCESS Array B**	**147.85**	**340**	PKPbc		**PKPdf**	**07 40 45.0**	**+1.1**
	comp=Z,24nm,0.8s,baz=63,slow=3.1,SNR=49							
ARCES	**ARCESS Array B**	**147.85**	**340**	PKPdf		**PKPdf**	**07 40 44.5**	**+0.6**
ARCES	**ARCESS Array B**	**147.85**	**340**	PKIKP		**PKPdf**	**07 40 45.0**	**+1.1**
IVI	**Ivigtut**	**147.98**	**38**			**PKiKP**	**07 40 48.4**	**-0.8**
VORR	**Voronezh**	**148.16**	**304**	*e*PKP2		**PKPbc**	**07 40 47.0**	**-1.2**
VORR				pmax	pmax			
	comp=Z,50nm,0.4s							
VSR	**Storozhevoye**	**148.19**	**303**	*e*PKIKP		**PKPdf**	**07 40 46.1**	**+1.1**
VSR				pmax	pmax			
	comp=Z,30nm,1.5s							
LPSR	**Galich'ya Gora**	**148.32**	**305**	*e*PKP2		**PKPbc**	**07 40 47.9**	**-0.7**
LPSR				pmax	pmax			
	comp=Z,50nm,1.2s							
TOKA	**Tokat**	**148.42**	**282**	PKPdf		**PKPdf**	**07 40 45.3**	**-0.5**
TOKA				PKPbc		**PKiKP**	**07 40 50.2**	**-0.7**
BNN	**Bunyan**	**148.44**	**279**	PKPdf		**PKPdf**	**07 40 44.7**	**-1.3**
KTK1	**Kautokeino**	**148.79**	**340**	*eP*		**PKPbc**	**07 40 48.2**	**-1.2**
MOS	**Moscow**	**148.81**	**312**	*e*PKHKP		PKPpre	07 40 44.5	
CSS	**Mathiatis**	**148.88**	**270**	PKPdf		**PKPdf**	**07 40 45.5**	**-1.1**
CSS						**PKiKP**	**07 40 51.3**	**-0.7**
CSS				PKPab		**pPKPbc**	**07 40 55.4**	**-0.7**
NRS	**Narsarsuaq**	**149.26**	**37**			**PKPbc**	**07 40 50.3**	**-0.4**
NRS						**pPKPbc**	**07 40 56.2**	**0.0**
NRS	**Narsarsuaq**	**149.26**	**37**	PKP2		**PKPbc**	**07 40 50.3**	**-0.4**
TRO	**Tromso**	**149.32**	**343**	*eP*		**PKPbc**	**07 40 49.8**	**-0.8**
OBN	**Obninsk**	**149.50**	**310***c*	*i* PKIKP		**PKPbc**	**07 40 49.8**	**-1.6**
OBN				*e*			07 44 25.1	
OBN				*e*SS	SS		08 04 12.2	+34
OBN				pmax	pmax			
	comp=Z,54nm,1.7s							
BR131	**Keskin Array S**	**150.33**	**279**			**PKPbc**	**07 40 53.6**	**-0.6**
BR131	**Keskin Array S**	**150.33**	**279**	PKIKP		**PKPbc**	**07 40 53.6**	**-0.6**
BRTR	**Keskin Array B**	**150.33**	**279**	PKPbc		**PKPbc**	**07 40 53.6**	**-0.6**
	comp=Z,18nm,0.8s,baz=142,slow=5.1,SNR=28							
BRTR	**Keskin Array B**	**150.33**	**279**	PKPdf		**PKPdf**	**07 40 48.5**	**-0.5**
BRTR						**PKPbc**	**07 40 53.7**	**-0.6**
BRTR	**Keskin Array B**	**150.33**	**279**	PKIKP		**PKPdf**	**07 40 48.5**	**-0.5**
BRTR							07 40 53.7	
ILGA	**Ilgaz**	**150.64**	**282**			**PKPbc**	**07 40 55.0**	**0.0**
TOA0	**Torodi Ar. Sit**	**150.74**	**195**	PKPbc		**PKPbc**	**07 40 54.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**150.74**	**195**	PKP		**PKPdf**	**07 40 50.8**	**+0.6**
	comp=Z,11nm,0.9s,baz=159,slow=1.3,SNR=36							
TORD				PKPbc		**PKiKP**	**07 40 56.2**	**-0.1**
	comp=Z,58nm,0.9s,baz=160,slow=3.0,SNR=69							
TORD				PKPab		**PKPab**	**07 41 02.9**	**+0.3**
	comp=Z,18nm,0.5s,baz=162,slow=2.0,SNR=7.8							
SIM	**Simferopol'**	**151.12**	**290**	*e*PKIKP		**PKPab**	**07 41 02.4**	**-1.1**
STEI	**Steigen**	**151.50**	**344**	*eP*		**PKPbc**	**07 40 54.8**	**-1.0**
FAUS	**Fauske**	**151.94**	**343**	*eP*		**PKPbc**	**07 40 55.0**	**-1.9**
ELL	**Elmali**	**152.14**	**271**			**PKPbc**	**07 40 57.7**	**-0.8**
ELL	**Elmali**	**152.14**	**271**	PKIKP		**PKPbc**	**07 40 57.7**	**-0.8**
AKAS	**Kas**	**152.17**	**270**			**PKPbc**	**07 40 56.9**	**-1.7**
FIA1	**FINESS Array S**	**152.61**	**327**	PKPdf		**PKPdf**	**07 40 51.0**	**-0.5**
FIA1						**PKPbc**	**07 40 57.9**	**-0.6**
FIA1				PKPab		**PKPab**	**07 41 09.9**	**+0.7**
FINES	**FINESS Array B**	**152.61**	**327**	PKPbc		**PKPbc**	**07 40 57.6**	**-1.0**
	comp=Z,8.4nm,0.6s,baz=45,slow=4.0,SNR=34							
FINES	**FINESS Array B**	**152.61**	**327**			**PKPbc**	**07 40 57.9**	**-0.6**
BORA	**Eskisehir**	**152.73**	**278**	PKPdf		**PKPdf**	**07 40 50.1**	**-2.4**
BORA						**pPKPdf**	**07 40 58.7**	**+0.6**
BORA				PKPab		**PKPab**	**07 41 11.6**	**+1.0**
AKASG	**Malin Array Be**	**154.49**	**302**	PKPbc		**PKPbc**	**07 41 02.1**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=51,slow=1.8,SNR=6.7							
AKASG				PKPab		**PKPab**	**07 41 16.2**	**-1.3**
	comp=Z,2.7nm,0.5s,baz=71,slow=3.6,SNR=10							
AKASG	**Malin Array Be**	**154.49**	**302**	PKPdf		**PKPdf**	**07 40 53.7**	**-0.9**
AKASG						**pPKPdf**	**07 41 00.6**	**+0.5**
AKASG				PKPab		**PKPab**	**07 41 14.5**	**-3.1**
AKASG	**Malin Array Be**	**154.49**	**302**	PKIKP		**PKPdf**	**07 40 53.7**	**-0.9**
AKASG							07 41 00.6	
AKASG							07 41 14.5	
MNK	**Minsk**	**154.54**	**311**	*i* PKP		**PKPdf**	**07 40 57.1**	**+2.6**
	comp=E,3.0nm,0.9s							
MNK				*i* PKP		**PKPdf**	**07 40 57.1**	**+2.6**
	comp=N,19nm,0.8s							
MNK				*i* PKP		**PKPdf**	**07 40 57.1**	**+2.6**
	comp=Z,12nm,0.7s,baz=254							
MNK				*i* PKiKP		**pPKPbc**	**07 41 06.2**	**-2.2**
MNK				*i* PP		**PP**	**07 44 55.7**	**+2.2**
MNK				*i* SKS		**SKSdf**	**07 48 04.0**	**+3.9**
MNK				*i* PPP		PPP	07 48 25.2	
MNK				*i* SKKS		**SKKSdf**	**07 56 42.9**	**+3.6**
MNK				*i* SS		**SS**	**08 04 37.4**	**+3.8**
MNK				*i* SSS		SSS	08 10 30.2	
MNK				*i* LR		LR	08 51 43.7	
MNK				*i* LRM		MLR	08 55 03.5	
	comp=E,37nm,20.0s							
MNK				*i* LRM		MLR	08 55 14.4	
	comp=N,943nm,16.1s							
MNK				*i* LRM		MLR	08 55 15.1	
	comp=Z,251nm,17.4s							
MNK	**Minsk**	**154.54**	**311**	*i* PKIKP		**PKPdf**	**07 40 57.0**	**+2.6**
MNK				*i*			07 41 06.2	
MNK				*i*			07 44 55.7	
MNK				*i*			07 48 04.0	
MNK				*i* PPP	PPP		07 48 25.1	
MNK				*i* SS	SS		08 04 37.4	+3.8
MNK				*i* SSS	SSS		08 10 30.2	
MNK				pmax	pmax			
	comp=N,19nm,0.9s							
MNK				pmax	pmax			
	comp=Z,12nm,0.7s							
MNK				pmax	pmax			
	comp=E,3.0nm,0.9s							
NACGM	**Naroch**	**155.03**	**313**	*e*PKP		**PKPdf**	**07 40 54.4**	**-0.7**
	comp=Z,19nm,0.7s,baz=71							
VRI	**Vrincioaia**	**156.38**	**291**⇑	P		**PKPab**	**07 41 25.4**	**-0.4**
PLOR	**Plostina**	**156.43**	**291**⇑	P		**PKPab**	**07 41 24.4**	**-1.7**
TESR	**Tescani**	**156.44**	**293**⇑	P		**PKPab**	**07 41 23.4**	**-2.7**
MLR	**Muntele Rosu**	**156.91**	**290**⇑	P		**PKPab**	**07 41 26.6**	**-1.7**
BURAR	**Bucovina Array**	**157.39**	**295**	PKPdf		**PKPdf**	**07 40 57.6**	**-1.0**
BURAR						**PKPab**	**07 41 29.4**	**-0.9**
BUR08	**Bucovina Ar. S**	**157.40**	**295**	PKPdf		**PKPdf**	**07 40 57.9**	**-0.8**
BUR08						**PKPab**	**07 41 28.9**	**-1.4**
NB2	**NORSAR Subarra**	**158.18**	**338**	PKPab		**PKPab**	**07 41 32.1**	**-1.0**
	baz=40,slow=4.6							
NB2	**NORSAR Subarra**	**158.18**	**338**	PKP		**PKPab**	**07 41 32.1**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=40,slow=4.6							
NOA	**NORSAR Array B**	**158.18**	**338**	PKP		**PKPdf**	**07 41 01.0**	**+1.9**
	comp=Z,5.5nm,1.2s,baz=43,slow=0.9,SNR=3.6							
NOA				PKPab		**PKPab**	**07 41 32.3**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=39,slow=4.7,SNR=3.9							
VTS	**Vitosha**	**158.62**	**282**	PKPdf		**PKPdf**	**07 40 58.7**	**-1.7**
VTS				PKPab		**PKPab**	**07 41 33.6**	**-2.2**
VTS	**Vitosha**	**158.62**	**282**	PKIKP		**PKPdf**	**07 40 58.7**	**-1.7**
VTS							07 41 33.6	
KOLS	**Kolonicke sedl**	**159.20**	**300**	*e*PKP2		**PKPab**	**07 41 38.9**	**+1.0**
UZH	**Uzhgorod**	**159.23**	**299**	*e*PKP2		**PKPab**	**07 41 37.0**	**-1.0**
CRVS	**Cervenica-Dubn**	**159.73**	**300**	*e*PKP2		**PKPab**	**07 41 40.6**	**+0.3**
DIVS	**Divibare**	**161.10**	**286**	PKPdf		**PKPdf**	**07 41 03.1**	**0.0**
DIVS						**PKPab**	**07 41 45.5**	**-1.0**
MORC	**Moravsky Berou**	**162.01**	**304**	PKPdf		**PKPdf**	**07 41 02.9**	**-0.9**
MORC				PKPab		**PKPab**	**07 41 49.6**	**-0.7**
MORC	**Moravsky Berou**	**162.01**	**304**	PKIKP		**PKPdf**	**07 41 02.9**	**-0.9**
MORC							07 41 49.6	
BRG	**Berggiesshubel**	**163.75**	**311**	*e*PKP2		**PKPab**	**07 41 57.5**	**-0.2**
BRG				pmax	pmax			
	comp=Z,12nm,1.3s							
CLL	**Collm**	**164.07**	**313**	*e*PKPab		**PKPab**	**07 41 58.0**	**-1.1**
CLL				LmV			09 05 00.0	
	comp=Z,400nm,18.5s							
KHC	**Kasperske Hory**	**164.67**	**305**	*e*PKPAB		**PKPab**	**07 42 00.0**	**-1.9**
KHC	**Kasperske Hory**	**164.67**	**305**	*e*PKP2		**PKPab**	**07 42 00.0**	**-1.9**
GEC2	**GERESS Array S**	**164.69**	**304**	PKPdf		**PKPdf**	**07 41 06.0**	**-0.4**
GEC2						**PKPab**	**07 42 01.0**	**-1.1**
GERES	**GERESS Array B**	**164.69**	**304**	PKP		**PKPdf**	**07 41 08.5**	**+2.1**
	comp=Z,1.8nm,1.0s,baz=42,slow=1.6,SNR=6.2							
GERES				PKPab		**PKPab**	**07 42 01.8**	**-0.3**
	comp=Z,3.1nm,1.1s,baz=82,slow=1.5,SNR=8.3							
GERES	**GERESS Array B**	**164.69**	**304**	PKPdf		**PKPdf**	**07 41 07.0**	**+0.6**
GERES				PKPab		**PKPab**	**07 42 01.6**	**-0.5**
KEST	**Kesra**	**166.82**	**248**	PKPab		**PKPab**	**07 42 12.5**	**+0.6**
	comp=Z,23nm,1.1s,baz=145,slow=3.1,SNR=7.6							
KEST	**Kesra**	**166.82**	**248**	PKPdf		**PKPdf**	**07 41 07.7**	**-0.9**
KEST				PKPab		**PKPab**	**07 42 11.8**	**-0.1**
GIVF	**Givet**	**168.96**	**322**	*e*PKIKP		**PKPdf**	**07 41 08.1**	**-1.4**
GIVF				pmax	pmax			
	comp=Z,22nm,1.3s							
BAIF	**Baives**	**169.26**	**324**	*e*PKIKP		**PKPdf**	**07 41 09.0**	**-0.6**
BAIF				pmax	pmax			
	comp=Z,13nm,1.2s							
CABF	**La Chapelle**	**170.29**	**304**	*e*PKIKP		**PKPdf**	**07 41 11.4**	**+0.9**
CABF				pmax	pmax			
	comp=Z,45nm,1.7s							
BNI	**Bardonecchia**	**170.45**	**294**			**PKPdf**	**07 41 10.1**	**-0.6**
BNI				PKPab		**PKPab**	**07 42 26.8**	**-1.0**
BNI	**Bardonecchia**	**170.45**	**294**	PKIKP		**PKPdf**	**07 41 10.1**	**-0.6**
BNI							07 42 26.8	
LMR	**La Mourre**	**170.89**	**284**	*e*PKIKP		**PKPdf**	**07 41 10.3**	**-0.5**
LMR				pmax	pmax			
	comp=Z,91nm,1.7s							
ORIF	**Oris-en-Rattie**	**171.03**	**294**	*e*PKIKP		**PKPdf**	**07 41 09.5**	**-1.5**
ORIF				pmax	pmax			
	comp=Z,13nm,1.2s							
LOR	**Lormes**	**171.28**	**312**	*e*PKIKP		**PKPdf**	**07 41 10.2**	**-0.7**
LOR				pmax	pmax			
	comp=Z,16nm,1.4s							
SSF	**Saint Saulge**	**171.60**	**312**	*e*PKIKP		**PKPdf**	**07 41 10.6**	**-0.5**
SSF				pmax	pmax			
	comp=Z,22nm,1.4s							
SMF	**Signal de Mont**	**171.63**	**309**	*e*PKIKP		**PKPdf**	**07 41 11.7**	**+0.6**
SMF				pmax	pmax			
	comp=Z,28nm,1.6s							
AVF	**Avril sur Loir**	**171.84**	**311**	*e*PKIKP		**PKPdf**	**07 41 10.5**	**-0.7**
AVF				pmax	pmax			
	comp=Z,17nm,1.6s							
VIVF	**Saint-Julien-l**	**171.87**	**296**	*e*PKIKP		**PKPdf**	**07 41 11.1**	**-0.2**
VIVF				pmax	pmax			
	comp=Z,20nm,1.4s							
FLN	**La Foliniere**	**172.14**	**334**	*e*PKIKP		**PKPdf**	**07 41 10.8**	**-0.4**
FLN				pmax	pmax			
	comp=Z,51nm,1.6s							
LDF	**La Druitiere**	**172.16**	**332**	*e*PKIKP		**PKPdf**	**07 41 10.2**	**-1.1**
LDF				pmax	pmax			
	comp=Z,102nm,2.4s							
GRR	**Gorron**	**172.59**	**334**	*e*PKIKP		**PKPdf**	**07 41 12.8**	**+1.4**
GRR				pmax	pmax			
	comp=Z,35nm,1.6s							
TCF	**Toulx Ste Croi**	**172.77**	**311**	*e*PKIKP		**PKPdf**	**07 41 10.3**	**-1.4**
TCF				pmax	pmax			
	comp=Z,14nm,1.4s							
SGMF	**Saint Gilles**	**173.18**	**342**	*e*PKIKP		**PKPdf**	**07 41 13.6**	**+1.9**
SGMF				pmax	pmax			
	comp=Z,101nm,2.0s							
CAF	**Calviac**	**173.56**	**302**	*e*PKIKP		**PKPdf**	**07 41 11.4**	**-0.6**
CAF				pmax	pmax			
	comp

KIW	**Kapiti Island**	**1.03**	**26**	P		Pb	07 29 45.3	-0.1
KIW				S		Sn	07 30 00.2	-0.1
THZ	**Tophouse**	**1.05**	**271**	P		Pb	07 29 45.5	-0.3
MTW	**Mount Morrison**	**1.09**	**55**	P		Pb	07 29 45.6	-0.9
TRWZ	**Traveller**	**1.10**	**70**	P		Pb	07 29 45.5	-1.1
OGWZ	**Otaki Gorge**	**1.17**	**34**	P		Pb	07 29 47.2	-0.5
MRNZ	**Matariki Terra**	**1.23**	**288**	P		Pb	07 29 48.8	0.0
TKNZ	**Takaka Hill**	**1.27**	**306**	P		Pn	07 29 48.8	-0.4
HOWZ	**Holdsworth Sta**	**1.27**	**46**	P		Pn	07 29 48.3	-0.9
TMWZ	**Te Maipa**	**1.37**	**61**	P		Pn	07 29 49.4	-1.1
MRZ	**Mangatainoka R**	**1.48**	**41**	P		Pn	07 29 51.0	-1.0
GVZ	**Greta Valley S**	**1.51**	**218**	P		Pn	07 29 51.9	-0.6
QRZ	**Quartz Range**	**1.65**	**305**	P		Pn	07 29 53.8	-0.7
LTZ	**Lake Taylor**	**1.81**	**236**	P		Pn	07 29 56.1	-0.6
BFZ	**Birch Farm**	**1.83**	**53**	P		Pg	07 30 03.4	+2.8
AMCZ	**Amberley**	**1.85**	**221**	P		Pg	07 30 02.3	+1.1
DSZ	**Denniston Nort**	**1.88**	**271**	P		Pb	07 29 59.3	-0.5
TSZ	**Takapari Road**	**2.13**	**36**	P		Pb	07 30 04.3	+0.1
OXZ	**Oxford**	**2.28**	**227**	P		Pg	07 30 08.1	-1.1
MOVZ	**Moawhango**	**2.62**	**25**	P		Pb	07 30 12.9	+0.3
BHHZ	**Black Hill Sta**	**2.66**	**31**	P		Pn	07 30 08.9	+0.6
WHVZ	**Whangaehu Hut**	**2.69**	**22**	P		Pb	07 30 13.9	+0.1
ETVZ	**East Tongariro**	**2.86**	**22**	P		Pb	07 30 17.2	+0.6
TMVZ	**Te Maari**	**2.88**	**22**	P		Pb	07 30 17.2	+0.3
KRVZ	**Karewarewa**	**2.88**	**21**	P		Pb	07 30 17.9	+0.9
RPZ	**Rata Peaks**	**3.08**	**230**	P		Pn	07 30 12.3	-1.7
NMHZ	**Naumai**	**3.29**	**36**	P		Pn	07 30 14.7	-2.4
TMZ	**Timaru**	**3.55**	**222**	P		Pn	07 30 19.2	-1.3

NEIC ***14*** *07:33:05.2±1.8, 20°.5S±0°.1×173°.75W±0°.03, h10km±1km, mb4.7/42, Error ellipse: s-maj=19.5km s-min=3.9km az=169.0*

IDC ***14*** *07:33:06.3±1.0, 20°.83S×174°.00W, h0km, mb4.4/15, mbtmp4.4/15, Error ellipse: s-maj=44.6km s-min=16.9km az=152.0*

ISC 14 07:33:05.8±0.5, 20°.59S±0°.08×173°.81W±0°.07, h10km, n90, σ2§14/88, mb4.7/36, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.95**	**68**	Pn	**Pn**	**07 34 05.3**	**-1.1**
AFI	**Afiamalu**	**6.92**	**17**	Pn	**Pn**	**07 34 49.4**	**+2.0**
	11nm,0.3s,baz=188,slow=2.5,SNR=12						
AFI				Sn	**Sn**	**07 36 03.0**	**-3.2**
	3.8nm,0.3s,baz=244,slow=23,SNR=1.4						
AFI	**Afiamalu**	**6.92**	**17**	Pn	**Pn**	**07 34 45.8**	**-1.6**
MSVF	**Nonsavu**	**8.20**	**289**	Pn	Pn	07 35 13.8	+8.8
	1.3nm,0.3s,baz=131,slow=12,SNR=19						
MSVF	**Nonsavu**	**8.20**	**289**	Pn	**Pn**	**07 35 04.1**	**-0.9**
RAR	**Rarotonga**	**13.13**	**95**	Pn	**Pn**	**07 36 09.1**	**-3.3**
LIFNC	**LIFOU**	**17.74**	**266**	Pn	**Pn**	**07 37 10.8**	**-2.2**
LIFNC				IAmb	IAmb	07 37 16.9	
	comp=Z,70nm,1.0s						
OUENC	**Ouen Island, N**	**18.10**	**261**		**P**	**07 37 17.3**	**-0.6**
DZM	**Mont Dzumac**	**18.46**	**262**	P	**Pn**	**07 37 24.9**	**+3.0**
	comp=Z,17nm,0.8s,baz=66,slow=20,SNR=12						
DZM	**Mont Dzumac**	**18.46**	**262**	P	**Pn**	**07 37 22.9**	**+0.9**
KOUNC	**Koumac, New Ca**	**20.51**	**266**	P	**P**	**07 37 41.8**	**-2.5**
KOUNC				IAmb	IAmb	07 37 57.8	
	comp=Z,25nm,1.0s						
CTA	**Charters Tower**	**37.39**	**264**	P	**P**	**07 40 18.8**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=103,slow=11,SNR=7.5						
	comp=Z,3.1nm,0.6s						
CTAO	**Charters Tower**	**37.39**	**264**	P	**P**	**07 40 18.1**	**-1.0**
CTAO				IAmb	IAmb	07 40 25.9	
	comp=Z,10nm,1.1s						
PMG	**Port Moresby**	**39.21**	**281**	P	**P**	**07 40 35.0**	**+0.5**
	comp=Z,6.1nm,0.5s,baz=129,slow=3.0,SNR=4.7						
	comp=Z,6.1nm,0.5s						
STKA	**Stephens Creek**	**41.30**	**245**	P	**P**	**07 40 51.2**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=90,slow=12,SNR=6.0						
	comp=Z,3.5nm,0.8s						
STKA	**Stephens Creek**	**41.30**	**245**	P	**P**	**07 40 51.3**	**-0.4**
COEN	**Coen**	**41.51**	**272**	P	**P**	**07 40 54.9**	**+1.3**
COEN				IAmb	IAmb	07 40 56.4	
	comp=Z,16nm,0.9s						
WR0	**Warramunga Arr**	**48.28**	**261**	P	**P**	**07 41 44.6**	**-2.9**
WR0				IAmb	IAmb	07 41 56.4	
	comp=Z,6.5nm,0.9s						
AS31	**Alice Springs**	**48.32**	**256**	P	**P**	**07 41 46.1**	**-1.7**
ASAR	**Alice Springs**	**48.32**	**256**	P	**P**	**07 41 47.8**	**0.0**
ASAR				PcP	**PcP**	**07 43 17.0**	**+2.4**
	comp=Z,1.9nm,0.9s,baz=102,slow=4.3,SNR=2.4						
ASAR				S	**S**	**07 48 42.2**	**-6.0**
	comp=Z,0.7nm,0.9s,baz=96,slow=16,SNR=5.2						
	comp=Z,9.7nm,1.0s						
ASAR	**Alice Springs**	**48.32**	**256**	P	**P**	**07 41 46.7**	**-1.2**
WB0	**Warramunga Arr**	**48.46**	**261**	P	**P**	**07 41 47.9**	**-1.0**
WB2	**Warramunga Arr**	**48.46**	**261**	P	**P**	**07 41 46.7**	**-2.2**
WB2				IAmb	IAmb	07 41 49.4	
	comp=Z,9.5nm,1.1s						
WRAB	**Tennant Creek**	**48.47**	**261**	P	**P**	**07 41 47.9**	**-1.1**
WRAB				IAmb	IAmb	07 41 54.0	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**48.48**	**261**	P	**P**	**07 41 48.4**	**-0.7**
	comp=Z,5.8nm,1.0s,baz=98,slow=7.2,SNR=14						
WRA				PcP	**PcP**	**07 43 17.8**	**+2.6**
	comp=Z,2.2nm,0.9s,baz=96,slow=3.3,SNR=4.1						
	comp=Z,5.8nm,1.0s						
WRA	**Warramunga Arr**	**48.48**	**261**	P	**P**	**07 41 47.1**	**-2.0**
FORT	**Forrest**	**52.87**	**246**	P	**P**	**07 42 21.4**	**-0.7**
KNRA	**Kununurra**	**54.57**	**265**	P	**P**	**07 42 34.3**	**-0.4**
VNDA	**Vanda**	**58.21**	**186**	P	**P**	**07 43 02.6**	**+2.9**
	comp=Z,1.3nm,0.9s,baz=9.9,slow=9.3,SNR=5.2						
VNDA	**Vanda**	**58.21**	**186**	P	**P**	**07 43 00.5**	**+0.8**
SOEI	**Soe**	**60.43**	**270**	P	**P**	**07 43 15.0**	**-1.2**
PSA00	**Pilbara Seismi**	**61.47**	**256**	P	**P**	**07 43 22.8**	**-0.2**
MBWA	**Marble Bar**	**61.66**	**256**	P	**P**	**07 43 23.3**	**-1.1**
QSPA	**South Pole Qui**	**69.49**	**180**	P	**P**	**07 44 14.2**	**-0.1**
QSPA				IAmb	IAmb	07 44 28.7	
	comp=Z,9.6nm,1.1s						
MJAR	**Matsushiro Arr**	**72.67**	**321**	P	**P**	**07 44 36.8**	**+2.9**
	comp=Z,3.8nm,0.8s,baz=151,slow=6.3,SNR=6.7						
	comp=Z,3.8nm,0.8s						
KSM	**Kuching**	**77.32**	**276**	P	**P**	**07 44 59.6**	**-1.6**
TPUB	**Ta-pu**	**77.36**	**301**	P	**P**	**07 44 60.0**	**-1.3**
PEA0B	**Petropavlovsk-**	**77.43**	**343**	P	**P**	**07 45 00.7**	**-0.3**
PETK	**Petropavlovsk-**	**77.43**	**343**	P	**P**	**07 45 04.3**	**+3.3**
	comp=Z,9.8nm,0.8s,baz=147,slow=8.5,SNR=13						
	comp=Z,9.8nm,0.8s						
PETK	**Petropavlovsk-**	**77.43**	**343**	P	**P**	**07 44 59.1**	**-1.9**
MDPB	**Devils Postpil**	**77.47**	**42**	P	**P**	**07 44 59.2**	**-2.6**
MDPB				IAmb	IAmb	07 45 13.5	
	comp=Z,4.1nm,1.0s						
GSC	**Goldstone, Bar**	**77.51**	**45**	P	**P**	**07 45 01.2**	**-0.7**
GSC				IAmb	IAmb	07 45 10.6	
	comp=Z,14nm,1.4s						
MPK	**Martis Peak**	**77.93**	**40**	P	**P**	**07 45 02.1**	**-2.3**
MPK				IAmb	IAmb	07 45 10.0	
	comp=Z,12nm,1.3s						
DSP	**Deep Springs**	**78.00**	**42**	P	**P**	**07 45 03.4**	**-1.1**
DSP				IAmb	IAmb	07 45 14.5	
	comp=Z,6.5nm,1.2s						
PNTR	**Pine Nut**	**78.06**	**40**	P	**P**	**07 45 02.8**	**-2.3**
PNTR				IAmb	IAmb	07 45 10.6	
	comp=Z,9.1nm,1.0s						
LCH	**Last Change Ra**	**78.12**	**43**	P	**P**	**07 45 05.0**	**-0.3**
LCH				IAmb	IAmb	07 45 13.6	
	comp=Z,7.8nm,1.3s						
VCNR	**Virginia City**	**78.16**	**40**	P	**P**	**07 45 04.4**	**-1.2**
VCNR				IAmb	IAmb	07 45 14.5	
	comp=Z,12nm,1.4s						
LHV	**Little Huntoon**	**78.21**	**41**	P	**P**	**07 45 03.9**	**-1.7**
LHV				IAmb	IAmb	07 45 15.7	
	comp=Z,12nm,1.2s						
YERR	**Yerington**	**78.21**	**40**	P	**P**	**07 45 03.9**	**-2.0**
YERR				IAmb	IAmb	07 45 30.0	
	comp=Z,8.5nm,1.2s						
GMN	**Gold Mountain**	**78.41**	**43**	P	**P**	**07 45 06.2**	**-0.9**
GMN				IAmb	IAmb	07 45 15.9	
	comp=Z,6.1nm,1.2s						
RYN	**Ryan**	**78.43**	**41**	P	**P**	**07 45 04.4**	**-2.6**
RYN				IAmb	IAmb	07 45 16.0	
	comp=Z,10nm,1.3s						
NVAR	**Mina Array Bea**	**78.44**	**41**	P	P	07 45 11.5	+4.3
	comp=Z,2.9nm,0.8s,baz=222,slow=8.8,SNR=23						
	comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**78.44**	**41**	P	**P**	**07 45 05.2**	**-2.0**
NV11	**Mina Array Sit**	**78.53**	**41**	P	**P**	**07 45 06.1**	**-1.5**
NV11				IAmb	IAmb	07 45 12.6	
	comp=Z,8.2nm,1.1s						
TPNV	**Topopah Spring**	**78.85**	**44**	P	**P**	**07 45 07.1**	**-2.3**
TPNV				IAmb	IAmb	07 45 14.4	
	comp=Z,5.8nm,1.2s						
TPH	**Tonopah**	**78.90**	**42**	P	**P**	**07 45 07.4**	**-2.3**
KVN	**Kaiserville**	**78.95**	**41**	P	**P**	**07 45 07.2**	**-2.8**
SHPR	**Sheep Range**	**79.30**	**44**	P	**P**	**07 45 10.5**	**-1.4**
KSRS	**Korea Array**	**79.60**	**317**	P	**P**	**07 45 16.7**	**+3.4**
	comp=Z,0.6nm,0.4s,baz=129,slow=5.5,SNR=1.9						
	comp=Z,0.6nm,0.4s						
CCUT	**Cedar City**	**81.07**	**44**	P	**P**	**07 45 19.9**	**-1.7**
H03S2	**Juan Fernandez**	**82.68**	**123**	T	T	09 18 03.3	
	baz=248,slow=75						
H03S1	**Juan Fernandez**	**82.70**	**123**	T	T	09 18 04.7	
	baz=248,slow=75						
H03S3	**Juan Fernandez**	**82.70**	**123**	T	T	09 17 53.8	
	baz=248,slow=75						
TXAR	**Lajitas Array**	**83.83**	**56**	P	**P**	**07 45 39.1**	**+3.1**
	comp=Z,0.7nm,1.0s,baz=212,slow=6.4,SNR=4.9						
	comp=Z,0.7nm,1.0s						
SNY	**Shenyang**	**84.84**	**318**	⇑P	P	07 45 51.9	+11
SNY				pmax	pmax		
	comp=Z,17nm,1.6s						
PDAR	**Pinedale Array**	**86.37**	**42**	P	**P**	**07 45 51.5**	**+3.0**
	comp=Z,1.0nm,0.9s,baz=214,slow=3.1,SNR=6.1						
	comp=Z,1.0nm,0.9s						
SEY	**Seymchan**	**87.40**	**345**	P	**P**	**07 45 55.0**	**+2.2**
	comp=Z,6.6nm,0.9s,baz=184,slow=16,SNR=4.8						
	comp=Z,6.6nm,0.9s						
ILAR	**Eilson Array**	**87.58**	**11**	P	**P**	**07 45 56.5**	**+2.8**
	comp=Z,2.6nm,1.1s,baz=217,slow=5.8,SNR=6.8						
	comp=Z,2.6nm,1.1s						
HHC	**Hu-ho-hao-te**	**92.25**	**313**	*e*P	**P**	**07 46 16.0**	**-0.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
INK	**Inuvik**	**93.37**	**14**	P	**P**	**07 46 23.5**	**+3.0**
	comp=Z,1.3nm,0.7s,baz=246,slow=4.7,SNR=6.1						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.86**	**288**	P	**P**	**07 46 27.0**	**+3.0**
	comp=Z,1.2nm,0.3s,baz=103,slow=2.8,SNR=11						
	comp=Z,1.2nm,0.3s						
TNCH	**TengChong**	**96.46**	**294**	P	**P**	**07 46 39.1**	**+3.1**
TNCH				pmax	pmax		
	comp=Z,160nm,4.8s						
WMQ	**Urumqi**	**109.96**	**310**	*e*P	**PKiKP**	**07 51 36.6**	**-1.0**
KURBB	**Kurchatov Arra**	**116.78**	**317**	PKP	**PKiKP**	**07 51 51.5**	**+1.1**
	comp=Z,0.5nm,0.2s,baz=89,slow=1.8,SNR=5.9						
AAK	**Ala-Archa**	**119.44**	**308**	PKP	**PKiKP**	**07 51 58.3**	**+2.3**
	comp=Z,1.3nm,0.5s,baz=117,slow=6.8,SNR=1.9						
BVAR	**Borovoye Array**	**121.66**	**320**	PKP	**PKiKP**	**07 52 01.8**	**+2.0**
	comp=Z,1.3nm,0.6s,baz=97,slow=2.8,SNR=6.6						
AKASG	**Malin Array Be**	**144.89**	**334**	PKPbc	**PKiKP**	**07 52 44.7**	**-2.1**
	comp=Z,5.4nm,0.7s,baz=40,slow=4.4,SNR=23						
OSTC	**Ostas**	**149.06**	**348**	*e*PKPAB	**PKPab**	**07 52 57.6**	**-0.7**
DPC	**Dobruska-Polom**	**149.23**	**347**	*e*PKPAB	**PKPab**	**07 52 58.2**	**-0.8**
KRLC	**Kraliky**	**149.40**	**347**	*e*PKPAB	**PKPab**	**07 52 59.1**	**-0.6**
MORC	**Moravsky Berou**	**149.50**	**345**	*e*PKP	**PKPab**	**07 52 59.0**	**-1.2**
BRTR	**Keskin Array B**	**149.74**	**315**	PKPbc	**PKPab**	**07 52 59.2**	**-2.4**
	comp=Z,3.2nm,0.8s,baz=154,slow=4.0,SNR=7.1						
MAUC	**Maruska**	**149.82**	**345**	*e*PKPAB	**PKPab**	**07 53 00.3**	**-1.1**
VRAC	**Vranov**	**150.16**	**346**	*e*PKP	**PKPab**	**07 53 00.2**	**-2.6**
VYHS	**Vyhne**	**150.35**	**343**	*e*PKP	**PKPab**	**07 53 01.1**	**-2.5**
KRUC	**Moravsky**	**150.44**	**346**	*e*PKP	**PKPab**	**07 53 00.8**	**-3.1**
MODS	**Modra-Piesok**	**150.87**	**345**	*e*PKP	**PKPab**	**07 53 03.3**	**-2.5**
KHC	**Kasperske Hory**	**150.91**	**350**	*e*PKPAB	**PKPab**	**07 53 02.1**	**-3.8**
CKRC	**Cesky Krumlov**	**151.09**	**349**	*e*PKPAB	**PKPab**	**07 53 03.0**	**-3.7**
GERES	**GERESS Array B**	**151.17**	**350**	PKPbc	**PKiKP**	**07 53 01.9**	**+2.0**
	comp=Z,1.7nm,0.8s,baz=202,slow=1.4,SNR=9.8						

WEL 14 07:33:58.8±1.0, 43°S±2°×17°3E±°, h7km±6km, M3.4/3, ML3.9/3, MLv3.4/3, Error ellipse: s-maj=0.0km s-min=0.0km az=84.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.38**	**150**	P	Pg	07 34 06.6	+0.4
GVZ				S	Sg	07 34 12.6	+1.3
LTZ	**Lake Taylor**	**0.40**	**248**	P	Pg	07 34 07.3	+0.7
LTZ				S	Sb	07 34 13.2	-1.3
AMCZ	**Amberley**	**0.55**	**190**	P	Pb	07 34 10.2	-0.6
AMCZ				S	Sb	07 34 18.7	-0.1

NEIC ***14*** *07:34:31.8±1.3, 41°.70S±0°.05×174°.21E±0°.03, h16km±6km, mb4.1/3, Error ellipse: s-maj=8.2km s-min=2.6km az=158.0*

WEL ***14*** *07:34:32.2±0.3, 42°S±2°×17°4E±°, h5km, M4.4/13, ML4.7/13, MLv4.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=128.0*

IDC ***14*** *07:34:35.3±1.5, 42°.20S×173°.53E, h0km, mb4.1/3, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=43.0km s-min=28.4km az=67.0*

ISC 14 07:34:31.8±0.7, 41°.73S±0°.03×174°.22E±0°.02, h16km±4km, n81, σ1§26/94, mb4.3/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.03**	**193**	Pg	**Pg**	**07 34 34.6**	**-0.1**
CMWZ				Sg	**Sg**	**07 34 37.2**	**+0.7**
CMWZ	**Cape Campbell**	**0.03**	**193**	P	**Pg**	**07 34 34.3**	**-0.4**
CMWZ				S	**Sg**	**07 34 36.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.26**	**272**	Pg	**Pg**	**07 34 37.7**	**+0.1**
BSWZ				Sg	**Sb**	**07 34 42.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.26**	**272**	P	**Pg**	**07 34 37.6**	**+0.1**
BSWZ				S	**Sb**	**07 34 42.5**	**0.0**
TUWZ	**Tuamarina**	**0.36**	**325**	Pg	**Pg**	**07 34 39.1**	**-0.1**
TUWZ				Sg	**Sg**	**07 34 43.5**	**-0.8**
TUWZ	**Tuamarina**	**0.36**	**325**	P	**Pg**	**07 34 38.9**	**-0.3**
TUWZ				S	**Sb**	**07 34 44.8**	**-0.5**
TCW	**Tory Channel**	**0.52**	**5**	P	**Pg**	**07 34 41.2**	**-0.8**
TCW				S	**Sg**	**07 34 48.8**	**-0.2**
SNZO	**South Karori**	**0.55**	**41**		**Pg**	**07 34 42.5**	**-0.3**
SNZO				Sg	**Sg**	**07 34 50.4**	**+0.3**
BHW	**Baring Head**	**0.58**	**57**	P	**Pg**	**07 34 43.0**	**-0.3**
WEL	**Wellington**	**0.60**	**43**	P	**Pg**	**07 34 43.4**	**-0.3**
WEL				S	**Sg**	**07 34 52.0**	**+0.3**
PLWZ	**Palliser**	**0.79**	**79**	Pg	**Pb**	**07 34 47.0**	**-0.2**
PLWZ	**Palliser**	**0.79**	**79**	P	**Pg**	**07 34 47.4**	**+0.2**
NNZ	**Nelson**	**0.81**	**308**	Pg	**Pb**	**07 34 47.2**	**-0.4**
NNZ	**Nelson**	**0.81**	**308**	P	**Pb**	**07 34 47.0**	**-0.5**
MSWZ	**Moikau Station**	**0.83**	**69**		**Pb**	**07 34 47.6**	**-0.4**
MSWZ	**Moikau Station**	**0.83**	**69**	P	**Pg**	**07 34 47.9**	**-0.1**
KHZ	**Kahutara**	**0.86**	**216**	P	**Pn**	**07 34 49.5**	**+0.3**
KHZ				S	**Sn**	**07 35 02.7**	**+1.2**
CAW	**Cannon Point**	**0.89**	**46**	P	**Pb**	**07 34 48.2**	**-0.7**
CAW				S	**Sb**	**07 35 00.0**	**-0.5**
DUWZ	**D'Urville Isla**	**0.95**	**346**	P	**Pb**	**07 34 49.6**	**-0.4**
PAWZ	**Paruwai Farm**	**0.97**	**70**	P	**Pb**	**07 34 50.0**	**-0.3**
THZ	**Tophouse**	**0.99**	**267**	Pn	**Pn**	**07 34 51.1**	**0.0**
THZ	**Tophouse**	**0.99**	**267**	P	**Pg**	**07 34 50.9**	**0.0**
KIW	**Kapiti Island**	**1.01**	**31**	P	**Pb**	**07 34 50.2**	**-0.7**
MTW	**Mount Morrison**	**1.12**	**60**	P	**Pb**	**07 34 52.1**	**-0.7**
MRNZ	**Matariki Terra**	**1.15**	**286**	P	**Pg**	**07 34 53.6**	**-0.4**
TRWZ	**Traveller**	**1.15**	**74**	P	**Pn**	**07 34 52.2**	**-1.1**
OGWZ	**Otaki Gorge**	**1.16**	**39**	P	**Pn**	**07 34 52.9**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.28**	**50**	P	**Pn**	**07 34 54.5**	**-0.6**
TMWZ	**Te Maipa**	**1.40**	**64**	P	**Pn**	**07 34 55.6**	**-1.1**
MRZ	**Mangatainoka R**	**1.48**	**44**		**Pn**	**07 34 57.1**	**-0.7**
MRZ	**Mangatainoka R**	**1.48**	**44**	P	**Pn**	**07 34 57.4**	**-0.4**
TIWZ	**Tintock**	**1.57**	**53**	P	**Pn**	**07 34 58.8**	**-0.4**
OHWZ	**Ohakea**	**1.73**	**29**	P	**Pb**	**07 35 03.4**	**+0.2**
PRWZ	**Pori Road**	**1.76**	**49**	P	**Pn**	**07 35 01.3**	**-0.5**
POWZ	**Post Office Ro**	**1.77**	**42**	P	**Pn**	**07 35 01.8**	**-0.1**
DSZ	**Denniston Nort**	**1.81**	**269**	Pn	**Pn**	**07 35 01.8**	**-0.7**
DSZ	**Denniston Nort**	**1.81**	**269**	P	**Pb**	**07 35 04.3**	**-0.4**
BFZ	**Birch Farm**	**1.85**	**56**		**Pn**	**07 35 01.4**	**-1.6**
BFZ	**Birch Farm**	**1.85**	**56**	P	**Pn**	**07 35 01.3**	**-1.6**
DVHZ	**Dannevirke**	**2.05**	**47**	P	**Pn**	**07 35 04.5**	**-1.2**
WAZ	**Wanganui**	**2.05**	**17**	P	**Pb**	**07 35 09.5**	**+0.7**
ANWZ	**Angora Road**	**2.12**	**54**	P	**Pn**	**07 35 05.4**	**-1.3**
TSZ	**Takapari Road**	**2.12**	**39**	P	**Pn**	**07 35 06.9**	**+0.1**
PRHZ	**Porangahau**	**2.34**	**52**	P	**Pn**	**07 35 07.8**	**-1.9**
PNHZ	**Pukenui**	**2.35**	**40**	P	**Pn**	**07 35 08.7**	**-1.2**
WPHZ	**Waipukurau**	**2.36**	**46**	P	**Pn**	**07 35 09.9**	**-0.1**
MOVZ	**Moawhango**	**2.59**	**27**	P	**Pb**	**07 35 17.2**	**-0.9**
WHVZ	**Whangaehu Hut**	**2.65**	**24**	P	**Pn**	**07 35 16.2**	**+2.0**
FWVZ	**Far West T-bar**	**2.67**	**23**	P	**Pn**	**07 35 16.4**	**+2.0**
KRVZ	**Karewarewa**	**2.84**	**23**	P	**Pb**	**07 35 20.5**	**-1.8**
NTVZ	**North Tongariro**	**2.85**	**23**	P	**Pn**	**07 35 18.5**	**+1.6**
RPZ	**Rata Peaks**	**3.07**	**229**	Pn	**Pn**	**07 35 15.8**	**-3.9**
	46nm,0.3s,baz=339,slow=0.7,SNR=13						
RPZ				Sn	**Sn**	**07 35 50.6**	**-5.5**
	29nm,0.3s,baz=222,slow=22,SNR=4.2						
	141nm,0.4s						
BKZ	**Black Stump Fm**	**3.09**	**35**		**Pn**	**07 35 19.0**	**-1.0**
ARHZ	**Aropaoanui**	**3.24**	**42**	P	**Pn**	**07 35 21.7**	**-0.5**
HIZ	**Hauiti**	**3.25**	**9**	Pn	**Pn**	**07 35 21.7**	**-0.4**
NMHZ	**Naumai**	**3.28**	**38**	P	**Pn**	**07 35 21.7**	**-1.0**
MTHZ	**Maungataniwha**	**3.50**	**36**	P	**Pn**	**07 35 26.7**	**+1.0**
KNZ	**Kokohu**	**3.77**	**45**	P	**Pn**	**07 35 27.5**	**-1.9**
MHGZ	**Mahia Peninsul**	**3.81**	**49**	P	**Pn**	**07 35 29.2**	**-0.7**
MWZ	**Matawai**	**4.23**	**38**	P	**Pn**	**07 35 33.6**	**-2.1**
CNGZ	**Carnagh Statio**	**4.45**	**45**	P	**Pn**	**07 35 38.0**	**-0.7**
TWGZ	**Tauwhareparae**	**4.57**	**40**	P	**Pn**	**07 35 42.6**	**+2.2**
RUGZ	**Raukumara Rang**	**4.60**	**36**	P	**Pn**	**07 35 39.5**	**-1.4**
HAZ	**Te Kaha**	**4.82**	**36**	P	**Pn**	**07 35 43.5**	**-0.3**
PKGZ	**Pakihiroa**	**4.85**	**39**	P	**Pn**	**07 35 42.7**	**-1.5**
WKZ	**Wanaka**	**4.90**	**229**	Pn	**Pn**	**07 35 45.1**	**+0.1**
MXZ	**Matakaoa Point**	**5.22**	**39**	Pn	**Pn**	**07 35 48.0**	**-1.2**
MXZ	**Matakaoa Point**	**5.22**	**39**	P	**Pn**	**07 35 49.0**	**-0.2**
MLZ	**Mavora Lakes**	**5.74**	**229**	Pn	**Pn**	**07 35 57.0**	**+0.6**
WHZ	**Wether Hill Ro**	**6.16**	**225**	Pn	**Pn**	**07 36 03.1**	**+0.9**
DCZ	**Deep Cove**	**6.35**	**232**	Pn	**Pn**	**07 36 06.3**	**+1.6**
OUZ	**Omahuta**	**6.51**	**355**	Pn	**Pn**	**07 36 05.3**	**-1.7**
PYZ	**Puysegur Point**	**7.02**	**228**	Pn	**Pn**	**07 36 14.3**	**+0.3**
VNDA	**Vanda**	**36.27**	**185**	P	**P**	**07 41 34.0**	**+0.1**
	0.7nm,0.8s,baz=352,slow=9.6,SNR=4.2						
	0.7nm,0.8s						
WB2	**Warramunga Arr**	**40.07**	**290**	P	**P**	**07 42 05.5**	**-1.1**
WB2				IAmb	IAmb	07 42 10.7	
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**40.07**	**290**	P	**P**	**07 42 09.4**	**+2.8**
	comp=Z,3.1nm,0.8s,baz=127,slow=8.0,SNR=11						
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**40.07**	**290**	P	**P**	**07 42 06.2**	**-0.5**
WRA				IAmb	IAmb	07 42 10.2	
	comp=Z,0.3nm,0.8s						
WB0	**Warramunga Arr**	**40.15**	**291**	P	**P**	**07 42 07.2**	**-0.1**
WB0				IAmb	IAmb	07 42 11.8	
	comp=Z,5.5nm,0.7s						
QSPA	**South Pole Qui**	**48.40**	**180**	P	**P**	**07 43 14.8**	**+1.8**
	comp=Z,9.6nm,1.0s,baz=24,slow=2.9,SNR=25						
	comp=Z,9.6nm,1.0s						
ARCES	**ARCESS Array B**	**147.75**	**340**	PKPbc	**PKPab**	**07 54 20.6**	**+3.6**
	comp=Z,2.5nm,0.8s,baz=38,slow=1.6,SNR=1.7						
TORD	**Torodi Ar. Bea**	**150.79**	**195**	PKP	**PKPbc**	**07 54 23.4**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=174,slow=1.5,SNR=14						
TORD				PKPbc	**pPKPbc**	**07

WEL ***14*** *07:43:28.8±0.5,42°S±2°×17°4E±°, h7km±3km, M4.2/9, ML4.5/9, MLv4.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=133.8*

NOU ***14*** *07:43:31.9, 42.07S×174.17E, h170km, MLv4.6/9, Off E. Coast of S. Island, N.Z.*

ISC 14 07:43:28.1±1.1, 41.99S±0.03×174.09E±0.03, h16km±8km, n91, σ1§91/98, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.26**	**21**	P	**Pg**	**07 43 34.4**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.32**	**329**	P	**Pg**	**07 43 34.2**	**-0.6**
BSWZ				S	**Sg**	**07 43 38.6**	**-0.7**
TUWZ	**Tuamarina**	**0.57**	**349**	P	**Pg**	**07 43 39.0**	**-0.3**
TUWZ				S	**Sb**	**07 43 47.1**	**-0.5**
KHZ	**Kahutara**	**0.59**	**224**	P	**Pg**	**07 43 40.6**	**+0.8**
KHZ				S	**Sb**	**07 43 49.5**	**+1.4**
TCW	**Tory Channel**	**0.79**	**10**	P	**Pg**	**07 43 43.1**	**-0.4**
WEL	**Wellington**	**0.87**	**36**	P	**Pb**	**07 43 45.7**	**+1.0**
WEL				S	**Sb**	**07 43 57.1**	**+1.0**
THZ	**Tophouse**	**0.92**	**284**	P	**Pg**	**07 43 45.4**	**-0.4**
THZ				S	**Sb**	**07 43 57.3**	**-0.3**
NNZ	**Nelson**	**0.94**	**325**	P	**Pg**	**07 43 45.2**	**-1.0**
NNZ				S	**Sb**	**07 43 57.9**	**-0.3**
MSWZ	**Moikau Station**	**1.04**	**57**	P	**Pg**	**07 43 47.9**	**-0.3**
MSWZ				S	**Sb**	**07 44 03.5**	**+2.4**
MRNZ	**Matariki Terra**	**1.16**	**300**	P	**Pb**	**07 43 50.1**	**+0.4**
MRNZ				S	**Sn**	**07 44 05.7**	**+0.5**
PAWZ	**Paruwai Farm**	**1.17**	**59**	P	**Pg**	**07 43 49.6**	**-1.0**
DUWZ	**D'Urville Isla**	**1.19**	**354**	P	**Pg**	**07 43 49.9**	**-1.2**
TKNZ	**Takaka Hill**	**1.28**	**318**	P	**Pg**	**07 43 51.4**	**-1.3**
KIW	**Kapiti Island**	**1.28**	**29**	P	**Pn**	**07 43 51.9**	**+0.6**
TRWZ	**Traveller**	**1.33**	**64**	P	**Pn**	**07 43 51.4**	**-0.6**
OGWZ	**Otaki Gorge**	**1.43**	**35**	P	**Pn**	**07 43 53.5**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.53**	**45**	P	**Pn**	**07 43 55.0**	**+0.2**
TMWZ	**Te Maipa**	**1.61**	**57**	P	**Pn**	**07 43 55.1**	**-0.7**
QRZ	**Quartz Range**	**1.65**	**314**	P	**Pb**	**07 43 57.8**	**-0.3**
DSZ	**Denniston Nort**	**1.73**	**277**	P	**Pn**	**07 43 59.1**	**+1.7**
MRZ	**Mangatainoka R**	**1.74**	**41**	P	**Pn**	**07 43 57.5**	**-0.1**
TIWZ	**Tintock**	**1.81**	**49**	P	**Pn**	**07 43 59.6**	**+0.9**
OKCZ	**Okains Bay**	**1.89**	**203**	P	**Pn**	**07 43 59.2**	**-0.5**
OHWZ	**Ohakea**	**2.01**	**28**	P	**Pn**	**07 44 02.7**	**+1.5**
PRWZ	**Pori Road**	**2.02**	**45**	P	**Pn**	**07 44 00.7**	**-0.7**
POWZ	**Post Office Ro**	**2.04**	**39**	P	**Pn**	**07 44 01.9**	**+0.2**
BFZ	**Birch Farm**	**2.08**	**52**	P	**Pg**	**07 44 10.6**	**+2.6**
INZ	**Inchbonnie**	**2.10**	**249**	P	**Pn**	**07 44 03.3**	**+0.8**
DVHZ	**Dannevirke**	**2.30**	**44**	P	**Pn**	**07 44 04.4**	**-1.0**
WAZ	**Wanganui**	**2.33**	**17**	P	**Pn**	**07 44 08.6**	**+2.8**
TSZ	**Takapari Road**	**2.39**	**37**	P	**Pn**	**07 44 06.2**	**-0.5**
LREZ	**Lake Rotokare**	**2.54**	**5**	P	**Pb**	**07 44 13.9**	**+0.7**
PNHZ	**Pukenui**	**2.62**	**38**	P	**Pn**	**07 44 08.8**	**-0.9**
WPHZ	**Waipukurau**	**2.62**	**44**	P	**Pb**	**07 44 15.2**	**+0.6**
KHEZ	**Kahui Hut**	**2.69**	**359**	P	**Pb**	**07 44 16.6**	**+0.7**
KHEZ	**Kahui Hut**	**2.69**	**359**	P	**Pb**	**07 44 15.2**	**-0.7**
NEZ	**North Egmont**	**2.72**	**0**	P	**Pb**	**07 44 15.4**	**-0.9**
NBEZ	**Newall Road No**	**2.72**	**356**	P	**Pb**	**07 44 15.5**	**-0.9**
PKE	**Pukeiti**	**2.79**	**358**	P	**Pb**	**07 44 17.6**	**0.0**
DREZ	**Durham Road**	**2.80**	**2**	P	**Pn**	**07 44 14.0**	**+1.8**
RPZ	**Rata Peaks**	**2.82**	**231**	Pn	Pn	07 44 06.9	-5.6
	22nm,0.3s,baz=148,slow=22,SNR=14						
RPZ				Sn	Sn	07 44 38.5	-7.6
	18nm,0.3s,baz=8.1,slow=9.4,SNR=3.3						
	95nm,0.5s						
PKVZ	**Pokaka**	**2.86**	**20**	P	**Pb**	**07 44 19.8**	**+1.0**
MOVZ	**Moawhango**	**2.87**	**27**	P	**Pn**	**07 44 13.7**	**+0.4**
WNVZ	**Wahianoa**	**2.90**	**24**	P	**Pn**	**07 44 14.8**	**+1.1**
TRVZ	**Turoa**	**2.91**	**23**	P	**Pb**	**07 44 19.1**	**-0.6**
VRZ	**Vera Road**	**2.91**	**10**	P	**Pn**	**07 44 17.5**	**+3.8**
BHHZ	**Black Hill Sta**	**2.91**	**32**	P	**Pn**	**07 44 14.7**	**+0.9**
DRZ	**Dome Shelter**	**2.93**	**23**	P	**Pb**	**07 44 19.5**	**-0.6**
WHVZ	**Whangaehu Hut**	**2.93**	**23**	P	**Pb**	**07 44 18.9**	**-1.2**
FWVZ	**Far West T-bar**	**2.95**	**23**	P	**Pn**	**07 44 16.5**	**+2.1**
TUVZ	**Tukino**	**2.97**	**24**	P	**Pb**	**07 44 20.9**	**+0.2**
NGZ	**Ngauruhoe**	**3.04**	**23**	P	**Pb**	**07 44 20.6**	**-1.2**
SNVZ	**South Ngauruho**	**3.04**	**23**	P	**Pn**	**07 44 18.3**	**+2.6**
OTVZ	**Oturere**	**3.07**	**24**	P	**Pb**	**07 44 20.8**	**-1.5**
NNVZ	**North Ngauruho**	**3.08**	**23**	P	**Pn**	**07 44 17.7**	**+1.5**
WTVZ	**West Tongariro**	**3.09**	**22**	P	**Pb**	**07 44 21.8**	**-0.9**
TWVZ	**Taurewa**	**3.09**	**20**	P	**Pb**	**07 44 20.9**	**-1.8**
ETVZ	**East Tongariro**	**3.11**	**24**	P	**Pb**	**07 44 22.4**	**-0.6**
TMVZ	**Te Maari**	**3.12**	**24**	P	**Pn**	**07 44 20.9**	**+4.2**
KRVZ	**Karewarewa**	**3.12**	**23**	P	**Pn**	**07 44 20.2**	**+3.4**
NTVZ	**North Tongarir**	**3.13**	**23**	P	**Pn**	**07 44 18.0**	**+1.2**
KATZ	**Kakaramea**	**3.25**	**23**	P	**Pb**	**07 44 25.3**	**-0.1**
RATZ	**Rangitukua**	**3.37**	**23**	P	**Pb**	**07 44 25.7**	**-1.8**
WATZ	**Wairara**	**3.51**	**21**	P	**Pb**	**07 44 28.0**	**-1.8**
HIZ	**Hauiti**	**3.52**	**10**	P	**Pb**	**07 44 27.3**	**-2.7**
HIZ	**Hauiti**	**3.52**	**10**	P	**Pb**	**07 44 27.3**	**-2.7**
TLZ	**Tolley Road**	**3.82**	**17**	P	**Pn**	**07 44 28.3**	**+2.0**
LIRZ	**Lichensteins R**	**4.35**	**25**	P	**Pn**	**07 44 36.5**	**+3.0**
URZ	**Urewera**	**4.39**	**33**	P	**Pn**	**07 44 37.0**	**+3.0**
TOZ	**Tahuroa Road**	**4.39**	**15**	P	**Pn**	**07 44 36.9**	**+2.9**
JCZ	**Jackson Bay**	**4.41**	**240**	P	**Pn**	**07 44 38.1**	**+3.7**
JCZ	**Jackson Bay**	**4.41**	**240**	P	**Pn**	**07 44 38.1**	**+3.7**
TGRZ	**Tauranga**	**4.57**	**22**	P	**Pn**	**07 44 39.0**	**+2.5**
HHSZ	**Highcliff Hill**	**4.64**	**212**	P	**Pn**	**07 44 36.8**	**-0.7**
EAZ	**Earnscleugh**	**4.75**	**225**	P	**Pn**	**07 44 37.8**	**-1.2**
RUGZ	**Raukumara Rang**	**4.87**	**36**	P	**Pn**	**07 44 41.2**	**+0.4**
WTAZ	**Waiatarua**	**5.06**	**4**	P	**Pn**	**07 44 46.3**	**+3.0**
RVAZ	**Riverhead Bore**	**5.23**	**4**	P	**Pn**	**07 44 49.8**	**+4.3**
MBAZ	**Motutapu North**	**5.25**	**7**	P	**Pn**	**07 44 50.1**	**+4.3**
KUZ	**Kuaotunu**	**5.39**	**14**	P	**Pn**	**07 44 52.2**	**+4.5**
KUZ	**Kuaotunu**	**5.39**	**14**	P	**Pn**	**07 44 51.0**	**+3.3**
SYZ	**Scrubby Hill**	**5.77**	**216**	P	**Pn**	**07 44 53.2**	**+0.2**
SYZ	**Scrubby Hill**	**5.77**	**216**	P	**Pn**	**07 44 52.7**	**-0.3**
APZ	**The Paps**	**6.52**	**220**	P	**Pn**	**07 45 02.1**	**-1.2**
OUZ	**Omahuta**	**6.77**	**357**	P	**Pn**	**07 45 10.4**	**+3.7**
OUZ	**Omahuta**	**6.77**	**357**	P	**Pn**	**07 45 10.0**	**+3.3**
PYZ	**Puysegur Point**	**6.78**	**229**	P	**Pn**	**07 45 10.9**	**+4.1**
	92nm,2.3s						
CTZ	**Chatham Island**	**7.05**	**107**	P	**Pn**	**07 45 09.2**	**-1.3**
ASAR	**Alice Springs**	**37.98**	**286**	P	**P**	**07 50 42.5**	**-2.7**
	0.3nm,0.4s,baz=127,slow=6.5,SNR=3.5						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**40.08**	**291**	P	**P**	**07 51 01.0**	**-1.8**
	0.4nm,0.7s,baz=135,slow=7.3,SNR=7.6						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.51**	**195**	PKPbc	**PKPbc**	**08 03 19.3**	**0.0**
	0.3nm,0.4s,baz=147,slow=2.0,SNR=2.6						

IDC ***14*** *07:45:27.5±3.2,56°63N×156°86W, h42km±28km, mb3.8/17, mbtmp4.0/21, ML4.1/4, MS4.7/2, Error ellipse: s-maj=27.8km s-min=13.9km az=21.0*

NEIC ***14*** *07:45:28.0±2.0,56°39N±0°06×156°58W±0°08, h54km±11km, Error ellipse: s-maj=9.2km s-min=5.9km az=165.0*

AEIC ***14*** *07:45:29.2±1.9,56°38N±0°06×156°54W±0°07, h52km±7km, ML3.6, mb4.0/9(NEIC), ML3.7/36(NEIC), Error ellipse: s-maj=8.7km s-min=4.8km az=154.0*

ISC 14 07:45:28.5±0.9, 56°47N±0°05×156°52W±0°04, h58km±9km, n226, σ1§18/234, mb4.0/20, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.82**	**142**		**Pn**	**07 45 42.9**	**-1.2**
CHIR					**Sn**	**07 45 54.2**	**-1.2**
CHIR				IAML		07 45 54.6	
	comp=E,3µm,0.4s						
CHIR	**Chirikof Islan**	**0.82**	**142**	P	**Pn**	**07 45 42.8**	**-1.2**
	baz=318						
CHIR				S	**Sn**	**07 45 54.3**	**-1.2**
	baz=318						
CHGN	**Chignik**	**1.07**	**262**	Pn	**Pn**	**07 45 46.2**	**-1.0**
CHGN	**Chignik**	**1.07**	**262**	P	**Pn**	**07 45 46.2**	**-1.0**
	baz=85						
CHGN				S	**Sn**	**07 45 59.8**	**-1.4**
	baz=85						
R16K	**Pilot Point**	**1.25**	**333**	P	**Pn**	**07 45 50.5**	**+0.9**
	baz=154						
R16K				S	**Sn**	**07 46 07.1**	**+1.6**
	baz=154						
SII	**Sitkinak Islan**	**1.30**	**85**	Pn	**Pn**	**07 45 50.3**	**-0.1**
SII	**Sitkinak Islan**	**1.30**	**85**		**Sn**	**07 46 07.1**	**+0.3**
SII	**Sitkinak Islan**	**1.30**	**85**	P	**Pn**	**07 45 50.3**	**-0.1**
	baz=263						
SII				S	**Sn**	**07 46 07.1**	**+0.3**
	baz=263						
Q17K	**Contact Creek**	**1.83**	**10**	P	**Pn**	**07 45 58.8**	**+1.1**
	baz=191						
Q17K				S	**Sn**	**07 46 21.8**	**+1.9**
	baz=191						
OHAK	**Old Harbor**	**1.93**	**66**	Pn	**Pn**	**07 45 58.9**	**0.0**
OHAK				IAML		07 46 40.4	
	comp=N,379nm,1.0s						
OHAK	**Old Harbor**	**1.93**	**66**	P	**Pn**	**07 45 58.9**	**0.0**
	baz=246						
Q16K	**King Salmon**	**2.22**	**358**	P	**Pn**	**07 46 03.8**	**+1.0**
	baz=178						
Q16K				S	**Sn**	**07 46 30.7**	**+1.6**
	baz=178						
Q18K	**Katmai Hardscr**	**2.33**	**20**	P	**Pn**	**07 46 05.7**	**+1.1**
	baz=200						
CHNA	**Chernabura Isl**	**2.39**	**228**	P	**Pn**	**07 46 03.5**	**-1.7**
	baz=47						
CNBA	**Chernabura Isl**	**2.40**	**228**		**Pn**	**07 46 03.4**	**-1.8**
CNBA				IAML		07 46 47.1	
	comp=E,300nm,0.7s						
SDPT	**Sand Point**	**2.49**	**245**	Pn	**Pn**	**07 46 05.5**	**-1.0**
SDPT				IAML		07 46 41.1	
	comp=E,402nm,0.8s						
SDPT				IAML		07 46 49.3	
	comp=N,338nm,1.1s						
SDPT	**Sand Point**	**2.49**	**245**	P	**Pn**	**07 46 05.5**	**-1.0**
	baz=63						
KDAK	**Kodiak Island**	**2.52**	**57**	P	**Pn**	**07 46 07.0**	**+0.1**
	comp=N,43nm,0.3s,baz=233,slow=6.1,SNR=387						
KDAK				S	**Sn**	**07 46 33.0**	**-3.4**
	comp=N,78nm,0.4s,baz=286,slow=18,SNR=2.4						
	comp=N,130nm,0.3s						
KDAK	**Kodiak Island**	**2.52**	**57**	Pn	**Pn**	**07 46 07.1**	**+0.2**
P16K	**Nushagak River**	**2.69**	**344**	P	**Pn**	**07 46 10.6**	**+1.3**
	baz=163						
P17K	**Kvichak River**	**2.74**	**1**	P	**Pn**	**07 46 10.9**	**+1.0**
	baz=181						
P18K	**Big Mountain,**	**3.01**	**13**	Pn	**Pn**	**07 46 14.8**	**+1.0**
P18K	**Big Mountain,**	**3.01**	**13**	P	**Pn**	**07 46 14.4**	**+0.7**
	baz=194						
Q20K	**Shuyak Island**	**3.09**	**44**	P	**Pn**	**07 46 15.8**	**+1.1**
	baz=227						
O16K	**Kokwok River B**	**3.25**	**346**	P	**Pn**	**07 46 17.6**	**+0.7**
	baz=165						
O17K	**Koliganek Bris**	**3.33**	**355**	P	**Pn**	**07 46 18.7**	**+0.7**
	baz=175						
O18K	**Koktuh Hills**	**3.47**	**11**	Pn	**Pn**	**07 46 21.5**	**+1.6**
O18K	**Koktuh Hills**	**3.47**	**11**	P	**Pn**	**07 46 20.5**	**+0.6**
	baz=192						
P19K	**Oil Pt**	**3.64**	**27**	Pn	**Pn**	**07 46 24.3**	**+2.0**
P19K				IAML		07 47 14.8	
	comp=E,110nm,0.9s						
P19K				IAML		07 48 09.0	
	comp=N,121nm,3.2s						
O19K	**Port Alsworth**	**3.92**	**16**	Pn	**Pn**	**07 46 27.7**	**+1.7**
O19K				IAML		07 47 33.9	
	comp=E,177nm,0.5s						
O19K				IAML		07 47 43.7	
	comp=N,176nm,0.4s						
O19K	**Port Alsworth**	**3.92**	**16**	P	**Pn**	**07 46 27.3**	**+1.3**
	baz=198						
ILSW	**Iliamna Southw**	**3.95**	**25**		**Pn**	**07 46 28.1**	**+1.5**
ILSW				IAML		07 47 24.2	
	comp=N,80nm,1.1s						
ILSW				IAML		07 47 24.7	
	comp=E,76nm,1.1s						
HOM	**Homer**	**4.12**	**37**		**Pn**	**07 46 30.0**	**+1.3**
HOM	**Homer**	**4.12**	**37**	P	**Pn**	**07 46 30.0**	**+1.3**
	baz=220						
CNPM	**China Poot**	**4.16**	**40**	Pn	**Pn**	**07 46 30.1**	**+0.7**
CNPM				IAML		07 47 32.8	
	comp=E,100nm,1.0s						
CNPM				IAML		07 47 53.9	
	comp=N,123nm,4.1s						
O20K	**Slope Mountain**	**4.17**	**28**	P	**Pn**	**07 46 30.9**	**+1.4**
	baz=211						
N16K	**Nishlik Lake**	**4.19**	**345**	P	**Pn**	**07 46 30.9**	**+1.1**
	baz=163						
N18K	**Kilae Creek**	**4.24**	**4**	Pn	**Pn**	**07 46 31.6**	**+1.1**
N18K				IAML		07 47 21.2	
	comp=N,52nm,0.6s						
N18K				IAML		07 47 33.3	
	comp=E,61nm,0.5s						
N18K	**Kilae Creek**	**4.24**	**4**	P	**Pn**	**07 46 31.5**	**+1.1**
	baz=185						
BRLK	**Bradley Lake**	**4.46**	**40**		**Pn**	**07 46 33.5**	**+0.1**
BRLK				IAML		07 47 37.4	
	comp=E,65nm,3.1s						
BRLK				IAML		07 47 46.0	
	comp=N,63nm,4.8s						
RSO	**Redoubt South**	**4.47**	**25**		**Pn**	**07 46 35.5**	**+1.8**
N19K	**Bonanza Creek**	**4.49**	**13**		**Pn**	**07 46 35.7**	**+1.7**
N19K				IAML		07 47 55.8	
	comp=N,52nm,2.0s						
N19K				IAML		07 48 00.2	
	comp=E,45nm,1.1s						
N19K	**Bonanza Creek**	**4.49**	**13**	P	**Pn**	**07 46 35.3**	**+1.4**
	baz=194						
BRSE	**Bradley Lake S**	**4.49**	**41**		**Pn**	**07 46 34.1**	**+0.2**
BRSE	**Bradley Lake S**	**4.49**	**41**	P	**Pn**	**07 46 34.1**	**+0.2**
	baz=225						
CAPN	**Captain Cook N**	**5.14**	**31**	Pn	**Pn**	**07 46 45.9**	**+3.1**
SEW	**Seward**	**5.21**	**43**		**Pn**	**07 46 43.3**	**-0.5**
SEW	**Seward**	**5.21**	**43**	P	**Pn**	**07 46 43.2**	**-0.5**
	baz=228						
SLKM	**Skilak Lake**	**5.23**	**37**		**Pn**	**07 46 44.5**	**+0.6**
N20K	**Mount Spurr**	**5.25**	**23**	P	**Pn**	**07 46 45.4**	**+1.1**
	baz=207						
SPU	**Mount Spurr**	**5.27**	**24**		**Pn**	**07 46 46.4**	**+1.8**
O22K	**Cooper Landing**	**5.38**	**39**	Pn	**Pn**	**07 46 47.2**	**+1.2**
O22K	**Cooper Landing**	**5.38**	**39**	P	**Pn**	**07 46 46.1**	**+0.2**
	baz=224						
M19K	**Big River Lodg**	**5.56**	**10**		**Pn**	**07 46 49.8**	**+1.3**
M19K	**Big River Lodg**	**5.56**	**10**	P	**Pn**	**07 46 49.6**	**+1.0**
	baz=192						
M20K	**Styx River**	**5.71**	**16**		**Pn**	**07 46 52.8**	**+2.2**
M20K	**Styx River**	**5.71**	**16**	P	**Pn**	**07 46 51.9**	**+1.4**
	baz=199						
AKUT	**Akutan**	**5.78**	**250**	Pn	**Pn**	**07 46 51.0**	**-0.5**
L19K	**White Mountain**	**5.80**	**8**		**Pn**	**07 46 53.3**	**+1.5**
L19K	**White Mountain**	**5.80**	**8**	P	**Pn**	**07 46 52.9**	**+1.1**
	baz=189						
RC01	**Rabbit Creek A**	**5.82**	**34**		**Pn**	**07 46 52.6**	**+0.5**
RC01	**Rabbit Creek A**	**5.82**	**34**	P	**Pn**	**07 46 52.6**	**+0.5**
	baz=220						
SUA	**Susitna One**	**5.83**	**28**		**Pn**	**07 46 53.4**	**+1.0**
SUA	**Susitna One**	**5.83**	**28**	P	**Pn**	**07 46 53.3**	**+1.0**
	baz=213						
P23K	**Montague Islan**	**5.97**	**50**	P	**Pn**	**07 46 54.4**	**+0.2**
	baz=237						
SKT	**Skwentna**	**6.09**	**23**		**Pn**	**07 46 57.4**	**+1.6**
SKT	**Skwentna**	**6.09**	**23**	P	**Pn**	**07 46 56.7**	**+0.9**
	baz=207						
PWL	**Port Wells**	**6.13**	**41**	Pn	**Pn**	**07 46 56.2**	**-0.1**
PWL	**Port Wells**	**6.13**	**41**	P	**Pn**	**07 46 56.1**	**-0.3**
	baz=227						
Q23K	**Middleton Isla**	**6.17**	**57**	Pn	**Pn**	**07 46 57.5**	**+0.6**
Q23K	**Middleton Isla**	**6.17**	**57**	P	**Pn**	**07 46 56.8**	**-0.1**
	baz=245						
L20K	**Farewell, AK**	**6.18**	**11**	P	**Pn**	**07 46 58.9**	**+1.9**
	baz=194						
MID	**Middleton Isla**	**6.18**	**57**	Pn	**Pn**	**07 46 57.4**	**+0.5**
M22K	**Willow**	**6.24**	**29**	Pn	**Pn**	**07 46 58.5**	**+0.7**
UNV	**Unalaska Valle**	**6.30**	**250**	Pn	**Pn**	**07 46 58.3**	**-0.3**
PMR	**Palmer**	**6.40**	**33**	Pn	**Pn**	**07 47 00.2**	**+0.3**
PMR	**Palmer**	**6.40**	**33**	P	**Pn**	**07 46 59.8**	**-0.1**
	baz=219						
KNK	**Knik Glacier**	**6.48**	**37**		**Pn**	**07 47 01.2**	**+0.1**
KNK	**Knik Glacier**	**6.48**	**37**	P	**Pn**	**07 47 01.5**	**+0.4**
	baz=223						
HIN	**Hinchinbrook I**	**6.57**	**49**		**Pn**	**07 47 02.4**	**+0.1**
GHO	**Glory Hole Cre**	**6.60**	**33**		**Pn**	**07 47 04.0**	**+1.2**
SML	**Sawmill**	**6.81**	**35**		**Pn**	**07 47 05.8**	**+0.1**
SML	**Sawmill**	**6.81**	**35**	P	**Pn**	**07 47 05.7**	**+0.1**
	baz=221						
PPLA	**Purkeypile**	**6.81**	**17**	Pn	**Pn**	**07 47 06.4**	**+0.7**
EYAK	**Cordova Ski Ar**	**6.97**	**50**		**Pn**	**07 47 06.9**	**-0.8**
EYAK	**Cordova Ski Ar**	**6.97**	**50**	P	**Pn**	**07 47 07.2**	**-0.5**
	baz=238						
M23K	**Glacier View**	**7.00**	**37**	P	**Pn**	**07 47 08.2**	**0.0**
	baz=224						
K20K	**Telida**	**7.02**	**9**		**Pn**	**07 47 09.7**	**+1.2**
K20K	**Telida**	**7.02**	**9**	P	**Pn**	**07 47 09.2**	**+0.7**
	baz=191						
SCM	**Sheep Creek Mo**	**7.16**	**37**		**Pn**	**07 47 10.0**	**-0.4**
SCM	**Sheep Creek Mo**	**7.16**	**37**	P	**Pn**	**07 47 10.5**	**+0.1**
	baz=225						
KAIM	**Kayak Island**	**7.27**	**57**		**Pn**	**07 47 12.0**	**+0.1**
KAIM	**Kayak Island**	**7.27**	**57**	P	**Pn**	**07 47 12.3**	**+0.4**
	baz=246						
DIV	**Divide**	**7.28**	**46**		**Pn**	**07 47 11.9**	**-0.2**
CAST	**Castle Rocks**	**7.32**	**16**		**Pn**	**07 47 14.6**	**+2.0**
CAST	**Castle Rocks**	**7.32**	**16**	P	**Pn**	**07 47 13.4**	**+0.9**
	baz=200						
RAGM	**Ragged Mountai**	**7.35**	**53**	Pn	**Pn**	**07 47 14.7**	**+1.7**
KLU	**Klutina**	**7.44**	**43**		**Pn**	**07 47 14.1**	**-0.2**
KLU	**Klutina**	**7.44**	**43**	P	**Pn**	**07 47 14.0**	**-0.2**
	baz=232						
WAT7	**Susitna Watana**	**7.47**	**28**		**Pn**	**07 47 14.1**	**-0.6**
HMT	**Hamilton**	**7.51**	**54**	Pn	**Pn**	**07 47 14.8**	**-0.4**
WAT6	**Susitna Watana**	**7.58**	**32**		**Pn**	**07 47 15.8**	**-0.5**
WAT6	**Susitna Watana**	**7.58**	**32**	P	**Pn**	**07 47 15.7**	**-0.5**
	baz=220						
KTH	**Kantishna Hill**	**7.64**	**19**		**Pn**	**07 47 17.7**	**+0.7**
BMRM	**Bremner River**	**7.67**	**49**		**Pn**	**07 47 17.1**	**-0.2**
BMRM	**Bremner River**	**7.67**	**49**	P	**Pn**	**07 47 16.3**	**-1.0**
	baz=239						
TRF	**Thorofare Moun**	**7.67**	**21**		**Pn**	**07 47 17.7**	**+0.2**
TRF	**Thorofare Moun**	**7.67**	**21**	P	**Pn**	**07 47 17.2**	**-0.3**
	baz=207						
M24K	**Tolsona, Glenn**	**7.74**	**39**	Pn	**Pn**	**07 47 18.6**	**+0.2**
BERG	**Berg Lake**	**7.79**	**54**	Pn	**Pn**	**07 47 19.9**	**+0.9**
J20K	**Nowinta River**	**7.83**	**8**	Pn	**Pn**	**07 47 21.3**	**+1.8**
GRIN	**Grindle Hills**	**7.92**	**56**		**Pn**	**07 47 20.5**	**-0.2**
KHIT	**Khitrov Hills**	**8.02**	**55**		**Pn**	**07 47 22.1**	**-0.1**
N25K	**Chitina, Valde**	**8.02**	**45**	Pn	**Pn**	**07 47 22.5**	**+0.3**
N25K	**Chitina, Valde**	**8.02**	**45**	P	**Pn**	**07 47 22.0**	**-0.2**
	baz=235						
DHY	**Denali Highway**	**8.07**	**31**		**Pn**	**07 47 23.6**	**+0.6**
DHY	**Denali Highway**	**8.07**	**31**	P	**Pn**	**07 47 22.8**	**-0.2**
	baz=219						
SNH	**Sunshine Point**	**8.10**	**57**	Pn	**Pn**	**07 47 24.6**	**+1.3**
WAX	**Waxell Ridge**	**8.20**	**55**	Pn	**Pn**	**07 47 25.6**	**+0.9**
MCK	**McKinley**	**8.21**	**24**		**Pn**	**07 47 26.0**	**+1.3**
MCK	**McKinley**	**8.21**	**24**	P	**Pn**	**07 47 24.6**	**-0.1**
	baz=211						
GLB	**Gilahina Butte**	**8.24**	**48**		**Pn**	**07 47 25.3**	**+0.1**
VRDI	**Verde Repeater**	**8.28**	**49**		**Pn**	**07 47 26.5**	**+0.6**
HARP	**HAARP**	**8.29**	**40**	P	**Pn**	**07 47 26.2**	**+0.3**
	baz=229						
GCSA	**Galena City Sc**	**8.31**	**359**		**Pn**	**07 47 26.5**	**+0.5**
GCSA	**Galena City Sc**	**8.31**	**359**	P	**Pn**	**07 47 26.5**	**+0.5**
	baz=179						
BARK	**Barkley Ridge**	**8.35**	**56**		**Pn**	**07 47 26.4**	**-0.3**
ISLE	**Juniper Island**	**8.49**	**55**	Pn	**Pn**	**07 47 29.8**	**+1.1**
MESA	**MESA**	**8.52**	**58**	Pn	**Pn**	**07 47 30.5**	**+1.4**
MCARA	**McCarthy VSAT**	**8.54**	**49**		**Pn**	**07 47 31.1**	**+1.9**
MCARA	**McCarthy VSAT**	**8.54**	**49**	P	**Pn**	**07 47 29.2**	**-0.1**
	baz=240						
BAGL	**Bagley Icefiel**	**8.56**	**56**		**Pn**	**07 47 29.8**	**+0.3**
PAX	**Paxson**	**8.57**	**36**		**Pn**	**07 47 29.7**	**-0.1**
PAX	**Paxson**	**8.57**	**36**	P	**Pn**	**07 47 29.6**	**-0.1**
	baz=225						
KIAG	**Kiagna River**	**8.61**	**53**		**Pn**	**07 47 30.7**	**+0.3**
BALM	**Baldy**	**8.67**	**52**		**Pn**	**07 47 30.9**	**-0.3**
YAH	**Yahtse**	**8.68**	**57**		**Pn**	**07 47 31.3**	**0.0**
BARN	**Barnard Glacie**	**8.98**	**53**		**Pn**	**07 47 35.3**	**-0.2**
TABL	**Table Mountain**	**8.98**	**57**		**Pn**	**07 47 36.2**	**+0.7**
I21K	**Tanana**	**9.02**	**12**	Pn	**Pn**	**07 47 37.0**	**+1.3**
WRH	**Wood River Hil**	**9.04**	**24**	Pn	**Pn**	**07 47 34.6**	**-1.3**
MLY	**Manley**	**9.04**	**16**	Pn	**Pn**	**07 47 34.9**	**-1.

comp=Z,2.6nm,1.2s
PDAR Pinedale Array 32.68 95 P **P** **07 51 57.0 +1.9**
comp=Z,0.8nm,0.6s,baz=318,slow=5.7,SNR=7.3
comp=Z,0.8nm,0.6s
PDAR Pinedale Array 32.68 95 P **P** **07 51 57.0 +1.9**
TPNV Topopah Spring 33.16 109 P **P** **07 51 59.1 -0.1**
TPNV IAmb IAmb 07 52 02.6
comp=Z,2.2nm,0.9s
KLR Kul'dur 42.08 292 P **P** **07 53 12.3 -1.8**
comp=Z,2.7nm,0.7s,baz=49,slow=12,SNR=6.6
comp=Z,2.7nm,0.7s
TXAR Lajitas Array 45.73 104 P **P** **07 53 45.7 +1.9**
comp=Z,0.7nm,0.7s,baz=312,slow=5.9,SNR=9.5
TXAR LR LR 08 13 48.8
comp=Z,922nm,19.1s,baz=227,slow=37
comp=Z,0.7nm,0.7s
NRIK Noril'sk 46.25 334 P **P** **07 53 46.6 -0.6**
comp=Z,4.5nm,0.5s,baz=52,slow=7.9,SNR=7.4
comp=Z,4.5nm,0.5s
SONM Songino Array 55.35 306 P **P** **07 54 55.4 -0.7**
comp=Z,1.9nm,0.8s,baz=46,slow=6.3,SNR=10
comp=Z,1.9nm,0.8s
FINES FINESS Array B 62.41 359 P **P** **07 55 43.9 -0.7**
comp=Z,1.4nm,0.7s,baz=12,slow=7.1,SNR=3.4
comp=Z,1.4nm,0.7s
NOA NORSAR Array B 62.44 7 P **P** **07 55 44.7 -0.1**
comp=Z,1.7nm,0.9s,baz=354,slow=6.8,SNR=3.7
comp=Z,1.7nm,0.9s
BVAR Borovoye Array 64.28 331 P **P** **07 55 56.3 -0.8**
comp=Z,1.3nm,0.5s,baz=19,slow=5.0,SNR=6.8
comp=Z,1.3nm,0.5s
MKAR Makanchi Array 65.99 320 P **P** **07 56 07.0 -1.4**
comp=Z,0.7nm,0.7s,baz=29,slow=4.5,SNR=6.3
comp=Z,0.7nm,0.7s
AAK Ala-Archa 72.32 323 LR LR 08 33 28.7
comp=Z,368nm,18.5s,baz=115,slow=40
AKASG Malin Array Be 73.09 356 P **P** **07 56 51.0 -0.9**
comp=Z,0.7nm,0.3s,baz=8.8,slow=6.9,SNR=8.1
comp=Z,0.7nm,0.3s
GERES GERESS Array B 74.74 7 P **P** **07 57 02.1 +0.4**
comp=Z,0.8nm,0.6s,baz=7.1,slow=4.0,SNR=5.2
comp=Z,0.8nm,0.6s
ESDC Sonseca Array 81.44 21 P **P** **07 57 39.9 +1.0**
comp=Z,0.4nm,0.6s,baz=355,slow=4.6,SNR=1.5
comp=Z,0.4nm,0.6s
CMAR Chiang Mai Arr 82.56 292 P **P** **07 57 46.0 +0.9**
comp=Z,1.3nm,0.3s,baz=20,slow=5.2,SNR=4.2
comp=Z,1.3nm,0.3s

WEL 14 07:49:19.0±1.5, 42°S±4°×17°4E±°, h10km±9km, M2.5/4, ML3.4/4, MLv2.5/4, Error ellipse: s-maj=0.0km s-min=0.0km az=55.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**157**	P	Pg	07 49 21.5	+0.4
CMWZ				S	Sg	07 49 23.8	+1.2
BSWZ	**Blackbirch Sta**	**0.23**	**265**	P	Pg	07 49 24.8	+1.1
BSWZ				S	Sg	07 49 29.1	+2.1
TUWZ	**Tuamarina**	**0.32**	**326**	P	Pb	07 49 26.3	-0.5
TUWZ				S	Sb	07 49 32.0	-0.1
MSWZ	**Moikau Station**	**0.85**	**71**	P	Pb	07 49 35.6	-0.2

WEL 14 07:49:35.7±0.5, 42°S±5°×17°4E±°, h15km±3km, M3.2/17, ML3.6/17, MLv3.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=164.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**267**	P	Pg	07 49 39.3	+0.7
CMWZ				S	Sg	07 49 42.1	+1.6
BSWZ	**Blackbirch Sta**	**0.30**	**276**	P	Pb	07 49 43.0	+0.2
BSWZ				S	Sb	07 49 48.2	+0.6
TUWZ	**Tuamarina**	**0.40**	**322**	P	Pb	07 49 44.7	+0.2
TUWZ				S	Sb	07 49 50.9	+0.4
TCW	**Tory Channel**	**0.54**	**0**	P	Pb	07 49 47.1	+0.4
BHW	**Baring Head**	**0.56**	**53**	P	Pb	07 49 47.2	0.0
BHW				S	Sn	07 49 56.6	-1.5
WEL	**Wellington**	**0.59**	**39**	P	Pb	07 49 47.9	+0.1
WEL				S	Sb	07 49 57.1	+1.2
NNZ	**Nelson**	**0.86**	**308**	P	Pg	07 49 52.7	+0.4
CAW	**Cannon Point**	**0.87**	**43**	P	Pn	07 49 53.2	-0.2
PAWZ	**Paruwai Farm**	**0.94**	**67**	P	Pb	07 49 53.2	-0.4
PAWZ				S	Sn	07 50 07.2	-0.3
DUWZ	**D'Urville Isla**	**0.98**	**344**	P	Pn	07 49 55.4	+0.5
KIW	**Kapiti Island**	**1.01**	**29**	P	Pn	07 49 55.5	+0.2
TRWZ	**Traveller**	**1.11**	**72**	P	Pg	07 49 57.9	+0.6
OGWZ	**Otaki Gorge**	**1.15**	**36**	P	Pn	07 49 57.1	-0.1
TKNZ	**Takaka Hill**	**1.22**	**305**	P	Pg	07 49 59.3	+0.1
HOWZ	**Holdsworth Sta**	**1.26**	**48**	P	Pn	07 49 58.1	-0.7
TMWZ	**Te Maipa**	**1.37**	**63**	P	Pn	07 49 59.1	-1.2
MRZ	**Mangatainoka R**	**1.46**	**43**	P	Pn	07 50 01.0	-0.5
TIWZ	**Tintock**	**1.55**	**52**	P	Pn	07 50 02.0	-0.8
QRZ	**Quartz Range**	**1.61**	**304**	P	Pn	07 50 03.4	-0.1
POWZ	**Post Office Ro**	**1.76**	**40**	P	Pn	07 50 05.1	-0.6
BFZ	**Birch Farm**	**1.83**	**55**	P	Pg	07 50 11.7	+0.9
DVHZ	**Dannevirke**	**2.03**	**45**	P	Pn	07 50 07.9	-1.5
PNHZ	**Pukenui**	**2.34**	**39**	P	Pn	07 50 12.5	-1.1
MOVZ	**Moawhango**	**2.59**	**26**	P	Pn	07 50 17.8	+0.6
VRZ	**Vera Road**	**2.65**	**8**	P	Pn	07 50 19.8	+2.1
OTVZ	**Oturere**	**2.79**	**23**	P	Pn	07 50 26.1	+0.8
NTVZ	**North Tongarir**	**2.85**	**22**	P	Pn	07 50 21.5	+0.7
HIZ	**Hauiti**	**3.26**	**8**	P	Pn	07 50 28.6	+2.4
TOZ	**Tahuroa Road**	**4.12**	**14**	P	Pn	07 50 42.4	+4.3
MKAZ	**Moumakai**	**4.69**	**9**	P	Pn	07 50 46.6	+0.7

NEIC 14 07:49:48.3±1.5, 42°45S±0°01×172°99E±0°02, h10km±2km, mb4.1/5, Error ellipse: s-maj=3.7km s-min=3.0km az=308.0
IDC 14 07:49:56.7±2.6, 42°47S×173°29E, h0km, mb3.4/2, mbtmp3.6/3, ML4.2/1, Error ellipse: s-maj=51.2km s-min=36.3km az=120.0
ISC 14 07:49:48.9±0.7, 42°46S±0°03×173°06E±0°04, h15km, n33, σ1s89/34, mb4.0/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**83**	Pg	**Pg**	**07 49 55.9**	**-0.4**
KHZ				Sg	**Sb**	**07 50 03.0**	**+0.5**
GVZ	**Greta Valley S**	**0.51**	**182**	Pg	**Pg**	**07 49 58.4**	**-0.6**
GVZ				Sg	**Sg**	**07 50 05.8**	**0.0**
LTZ	**Lake Taylor**	**0.66**	**241**	Pg	**Pg**	**07 50 00.5**	**-1.4**
THZ	**Tophouse**	**0.71**	**351**	Pg	**Pb**	**07 50 03.0**	**+0.1**
THZ					**Sg**	**07 50 10.8**	**-1.2**
BSWZ	**Blackbirch Sta**	**0.96**	**40**	Pg	**Pg**	**07 50 07.5**	**0.0**
CMWZ	**Cape Campbell**	**1.12**	**51**		**Pb**	**07 50 09.9**	**0.0**
OXZ	**Oxford**	**1.14**	**220**		**Pb**	**07 50 09.3**	**-1.1**
DSZ	**Denniston Nort**	**1.17**	**307**		**Pn**	**07 50 10.1**	**-0.7**
TUWZ	**Tuamarina**	**1.23**	**33**		**Pn**	**07 50 11.4**	**-0.1**
MQZ	**McQueen's Vall**	**1.28**	**193**	Pn	**Pn**	**07 50 10.6**	**-1.6**
QRZ	**Quartz Range**	**1.68**	**346**	Pn	**Pb**	**07 50 19.0**	**-0.5**
SNZO	**South Karori**	**1.69**	**48**	Pn	**Pn**	**07 50 17.9**	**+0.1**
RPZ	**Rata Peaks**	**1.93**	**229**	Pn	Pg	07 50 33.1	+7.2
	82nm,0.3s,baz=67,slow=2.8,SNR=8.8						
RPZ				Sn	**Sg**	**07 50 58.6**	**+7.7**
	37nm,0.3s,baz=5.5,slow=20,SNR=14						
	188nm,0.3s						
RPZ	**Rata Peaks**	**1.93**	**229**	Pn	**Pn**	**07 50 20.6**	**-0.6**
FOZ	**Fox Glacier**	**2.61**	**245**	Pn	**Pn**	**07 50 31.4**	**+0.9**
LBZ	**Lake Benmore**	**2.84**	**226**		**Pn**	**07 50 33.9**	**+0.2**
BFZ	**Birch Farm**	**2.98**	**54**	Pn	**Pn**	**07 50 35.9**	**+0.3**
ODZ	**Otahua Downs**	**3.12**	**213**	Pn	**Pn**	**07 50 36.9**	**-0.6**
WKZ	**Wanaka**	**3.77**	**230**	Pn	**Pn**	**07 50 46.6**	**+0.1**
BKZ	**Black Stump Fm**	**4.20**	**40**	Pn	**Pn**	**07 50 53.1**	**+0.7**
MLZ	**Mavora Lakes**	**4.60**	**229**	Pn	**Pn**	**07 50 57.5**	**-0.3**
DCZ	**Deep Cove**	**5.21**	**233**	Pn	**Pn**	**07 51 05.6**	**-0.7**
PYZ	**Puysegur Point**	**5.88**	**229**	Pn	**Pn**	**07 51 14.9**	**-0.6**
MXZ	**Matakaoa Point**	**6.34**	**41**	Pn	**Pn**	**07 51 21.7**	**-0.1**
OUZ	**Omahuta**	**7.24**	**4**	Pn	**Pn**	**07 51 35.4**	**+1.2**
ASAR	**Alice Springs**	**37.38**	**288**	P	P	07 57 12.7	+12
	0.3nm,0.5s,baz=129,slow=6.9,SNR=9.8						
	0.3nm,0.5s						
WR0	**Warramunga Arr**	**39.38**	**293**	P	**P**	**07 57 15.0**	**-3.0**
WR0				IAmb	IAmb	07 57 22.7	
	comp=Z,4.8nm,1.2s						
WB2	**Warramunga Arr**	**39.53**	**292**	P	**P**	**07 57 19.6**	**+0.4**
WB2				IAmb	IAmb	07 57 48.8	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**39.53**	**292**	P	P	07 57 30.4	+11
	comp=Z,0.3nm,0.5s,baz=133,slow=7.3,SNR=5.8						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**39.53**	**292**	P	**P**	**07 57 17.0**	**-2.2**
WB0	**Warramunga Arr**	**39.62**	**293**	P	**P**	**07 57 20.1**	**+0.1**
WB0				IAmb	IAmb	07 57 29.7	
	comp=Z,6.2nm,1.3s						
QSPA	**South Pole Qui**	**47.67**	**180**	P	**P**	**07 58 22.3**	**-2.1**
TORD	**Torodi Ar. Bea**	**149.85**	**197**	PKPbc	**PKPab**	**08 09 48.6**	**+4.6**
	comp=Z,0.2nm,0.4s,baz=176,slow=2.5,SNR=2.2						

WEL 14 07:51:58.4±0.7, 42°S±2°×17°4E±°, h7km±4km, M3.2/11, ML3.5/11, MLv3.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=64.8
IDC 14 07:52:10.6±2.6, 42°36S×173°76E, h0km, mb3.6/2, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=50.5km s-min=38.1km az=125.0
ISC 14 07:51:58.9±0.9, 41°68S±0°03×174°22E±0°03, h11km±6km, n35, σ2s44/51, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**180**	P	**Pg**	**07 52 01.0**	**-0.4**
CMWZ				S	**Sg**	**07 52 03.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.26**	**261**	P	**Pg**	**07 52 04.1**	**-0.1**
BSWZ				S	**Sb**	**07 52 08.8**	**-1.3**
TUWZ	**Tuamarina**	**0.32**	**320**	P	**Pb**	**07 52 05.6**	**-1.0**
TUWZ				S	**Sb**	**07 52 11.0**	**-0.8**
TCW	**Tory Channel**	**0.47**	**6**	P	**Pg**	**07 52 07.9**	**-0.1**
TCW				S	**Sb**	**07 52 15.0**	**-1.1**
BHW	**Baring Head**	**0.56**	**62**	P	**Pg**	**07 52 09.5**	**-0.3**
BHW				S	**Sb**	**07 52 17.9**	**-0.9**
WEL	**Wellington**	**0.57**	**47**	P	**Pg**	**07 52 10.0**	**-0.1**
WEL				S	**Sb**	**07 52 18.4**	**-0.7**
NNZ	**Nelson**	**0.78**	**306**	P	**Pg**	**07 52 13.6**	**-0.3**
PLWZ	**Palliser**	**0.79**	**83**	P	**Pb**	**07 52 14.3**	**-0.4**
PLWZ				S	**Sb**	**07 52 25.8**	**+0.4**
MSWZ	**Moikau Station**	**0.82**	**72**	P	**Pb**	**07 52 14.6**	**-0.6**
CAW	**Cannon Point**	**0.86**	**49**	P	**Pg**	**07 52 14.9**	**-0.6**
KIW	**Kapiti Island**	**0.97**	**33**	P	**Pg**	**07 52 16.8**	**-0.8**
KIW				S	**Sb**	**07 52 30.3**	**-0.2**
MTW	**Mount Morrison**	**1.10**	**62**	P	**Pg**	**07 52 18.7**	**-1.3**
MTW				S	**Sn**	**07 52 35.5**	**+0.1**
OGWZ	**Otaki Gorge**	**1.12**	**40**	P	**Pg**	**07 52 19.3**	**-1.1**
OGWZ				S	**Sg**	**07 52 34.3**	**-0.7**
LTZ	**Lake Taylor**	**1.82**	**232**	P	**Pg**	**07 52 35.9**	**+2.1**
LTZ				S	**Sn**	**07 52 52.4**	**-0.9**
AMCZ	**Amberley**	**1.90**	**217**	P	**Pg**	**07 52 35.8**	**+0.5**
OKCZ	**Okains Bay**	**2.22**	**202**	P	**Pb**	**07 52 39.6**	**+0.5**
OXZ	**Oxford**	**2.30**	**224**	P	**Pb**	**07 52 40.8**	**+0.3**
INZ	**Inchbonnie**	**2.31**	**242**	P	**Pg**	**07 52 43.7**	**+0.5**
MQZ	**McQueen's Vall**	**2.33**	**209**	P	**Pb**	**07 52 40.2**	**-0.8**
MQZ				S	**Sn**	**07 52 59.8**	**-6.1**
AKCZ	**Akaroa Harbour**	**2.40**	**203**	P	**Pb**	**07 52 41.6**	**-0.5**
AKCZ				S	**Sn**	**07 53 01.6**	**-5.9**
RACZ	**Rakaia**	**2.56**	**216**	P	**Pb**	**07 52 43.6**	**-1.2**
WACZ	**Wakanui South**	**2.86**	**217**	P	**Pb**	**07 52 48.1**	**-1.9**
WACZ				S	**Sn**	**07 53 13.5**	**-5.4**
WVZ	**Waitaha Valley**	**2.93**	**240**	P	**Pb**	**07 52 52.3**	**+1.1**
WVZ				S	**Sn**	**07 53 20.2**	**-0.5**
RPZ	**Rata Peaks**	**3.10**	**228**	Pn	**Pb**	**07 52 51.9**	**-2.0**
	72nm,0.3s,baz=82,slow=2.4,SNR=17						
RPZ				Sn	**Sn**	**07 53 20.7**	**-4.1**
	64nm,0.3s,baz=333,slow=23,SNR=12						
	260nm,0.5s						
RPZ	**Rata Peaks**	**3.10**	**228**	P	**Pb**	**07 52 52.0**	**-2.0**
RPZ				S	**Sn**	**07 53 20.1**	**-4.7**
ARCZ	**Arundel**	**3.19**	**224**	P	**Pb**	**07 52 52.8**	**-2.7**
ARCZ				S	**Sn**	**07 53 22.2**	**-4.8**
GCSZ	**Gaunt Creek Bo**	**3.31**	**239**	P	**Pb**	**07 52 57.2**	**-0.5**
TMZ	**Timaru**	**3.59**	**220**	P	**Pb**	**07 52 58.8**	**-3.5**
FOZ	**Fox Glacier**	**3.74**	**239**	P	**Pb**	**07 53 03.0**	**-2.0**
LBZ	**Lake Benmore**	**4.01**	**226**	P	**Pn**	**07 53 04.7**	**+4.5**
HHSZ	**Highcliff Hill**	**4.96**	**211**	P	**Pn**	**07 53 16.4**	**+3.1**
EAZ	**Earnscleugh**	**5.04**	**223**	P	**Pn**	**07 53 18.1**	**+3.6**
ASAR	**Alice Springs**	**37.98**	**285**	P	P	07 59 29.0	+12
	0.2nm,0.4s,baz=125,slow=6.7,SNR=7.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.05**	**290**	P	P	07 59 46.9	+13
	0.8nm,0.5s,baz=127,slow=8.6,SNR=18						
	0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.84**	**195**	PKPbc	**PKPab**	**08 12 03.0**	**+4.1**
	0.2nm,0.4s,baz=152,slow=2.4,SNR=2.1						

WEL 14 07:55:16.6±0.5, 42°S±4°×17°4E±°, h12km±5km, M3.4/7, ML3.6/7, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=140.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.51**	**8**	P	Pb	07 55 28.2	+0.6
BSWZ				S	Sg	07 55 32.6	-0.9
CMWZ	**Cape Campbell**	**0.57**	**34**	P	Pb	07 55 28.5	-0.1
THZ	**Tophouse**	**0.80**	**305**	P	Pn	07 55 33.8	0.0
THZ				S	Sb	07 55 44.2	+0.9
TUWZ	**Tuamarina**	**0.80**	**9**	P	Pn	07 55 33.9	+0.2
TUWZ				S	Sg	07 55 40.4	-2.1
TCW	**Tory Channel**	**1.08**	**20**	P	Pb	07 55 36.5	-0.6
WEL	**Wellington**	**1.19**	**38**	P	Pn	07 55 38.6	-0.5
LTZ	**Lake Taylor**	**1.25**	**243**	P	Pn	07 55 38.8	-1.1
AMCZ	**Amberley**	**1.27**	**221**	P	Pn	07 55 39.3	-0.8
PLWZ	**Palliser**	**1.28**	**60**	P	Pn	07 55 39.8	-0.5
PLWZ				S	Sb	07 55 55.4	-1.6
MSWZ	**Moikau Station**	**1.36**	**54**	P	Pn	07 55 40.6	-0.8
CAW	**Cannon Point**	**1.47**	**41**	P	Pn	07 55 42.5	-0.5
CAW				S	Sn	07 55 57.7	-4.5
DSZ	**Denniston Nort**	**1.55**	**287**	P	Pg	07 55 46.0	-0.3
OKCZ	**Okains Bay**	**1.59**	**199**	P	Pn	07 55 43.8	-0.8
OXZ	**Oxford**	**1.69**	**229**	P	Pn	07 55 44.4	-1.6
MQZ	**McQueen's Vall**	**1.70**	**209**	P	Pn	07 55 44.2	-1.8
AKCZ	**Akaroa Harbour**	**1.77**	**201**	P	Pn	07 55 45.8	-1.3
RACZ	**Rakaia**	**1.93**	**218**	P	Pn	07 55 47.4	-1.8
WACZ	**Wakanui South**	**2.23**	**219**	P	Pn	07 55 52.0	-1.4
WVZ	**Waitaha Valley**	**2.40**	**248**	P	Pn	07 55 55.7	0.0
RPZ	**Rata Peaks**	**2.50**	**232**	P	Pn	07 55 55.6	-1.5
ARCZ	**Arundel**	**2.57**	**227**	P	Pn	07 55 54.4	-1.7
TMZ	**Timaru**	**2.96**	**222**	P	Pn	07 56 02.4	-1.1

WEL 14 08:01:29.6±0.9, 42°S±8°×17°4E±°, h2km, M3.4/12, ML3.9/6, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=138.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**258**	P	Pg	08 01 34.5	+0.6
KHZ				S	Sg	08 01 36.1	-1.2
BSWZ	**Blackbirch Sta**	**0.65**	**2**	P	Pn	08 01 46.4	+0.5
CMWZ	**Cape Campbell**	**0.68**	**24**	P	Pg	08 01 42.8	+0.3
GVZ	**Greta Valley S**	**0.85**	**225**	P	Pb	08 01 46.5	-0.5
THZ	**Tophouse**	**0.93**	**310**	P	Pb	08 01 49.1	+0.6
LTZ	**Lake Taylor**	**1.24**	**250**	P	Pg	08 01 52.4	-1.0
LTZ				S	Sg	08 02 07.3	-2.1
MRNZ	**Matariki Terra**	**1.27**	**319**	P	Pn	08 01 55.6	+1.2
MRNZ				S	Sn	08 02 13.4	+1.5
WEL	**Wellington**	**1.28**	**33**	P	Pg	08 01 52.1	-2.1
MSWZ	**Moikau Station**	**1.41**	**48**	P	Pn	08 01 56.2	-0.1
OKCZ	**Okains Bay**	**1.47**	**203**	P	Pn	08 01 55.8	-1.4
CAW	**Cannon Point**	**1.55**	**36**	P	Pn	08 01 57.0	-1.3
AKCZ	**Akaroa Harbour**	**1.65**	**204**	P	Pn	08 01 57.9	-1.7
AKCZ				S	Sn	08 02 17.3	-4.2
QRZ	**Quartz Range**	**1.83**	**327**	P	Pg	08 02 05.0	+0.3
OGWZ	**Otaki Gorge**	**1.84**	**33**	P	Pn	08 02 01.4	-0.7

CUPWA 14 08:10:43.2±2.2, 30°68S×118°41E, h1km±21km, Region: WESTERN AUSTRALIA
AUST 14 08:10:42.0±1.1, 30°67S×118°40E, h10km, Error ellipse: s-maj=15.1km s-min=10.0km az=133.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BENC	**Bencubbin**	**0.48**	**253**	P	Pg	08 10 51.4	-0.2
KLBR	**Kellerberrin**	**1.07**	**211**	P	Pg	08 11 02.4	-0.2
	baz=1.1						
KLBR				S	Sg	08 11 16.5	-0.1
	baz=1.1						
KLBR	**Kellerberrin**	**1.07**	**211**	P	Pg	08 11 02.4	-0.2
KLBR	**Kellerberrin**	**1.07**	**211**	S	Sg	08 11 16.5	-0.1
CADX	**Cadoux**	**1.09**	**264**	P	Pn	08 11 03.4	-0.1
BLDU	**Ballidu**	**1.46**	**272**	P	Pn	08 11 08.8	+0.4
	baz=1.5,SNR=8.9						
BLDU				S	Sb	08 11 27.8	0.0
	baz=1.5						
BLDU	**Ballidu**	**1.46**	**272**	P	Pn	08 11 08.8	+0.4
BLDU	**Ballidu**	**1.46**	**272**	S	Sb	08 11 27.8	0.0
MECK	**Meckering**	**1.53**	**231**	P	Pb	08 11 10.3	-0.2
MUN	**Mundaring**	**2.28**	**235**	P	Pn	08 11 21.3	+1.4
	baz=2.3,SNR=4.1						
MUN				S	Sn	08 11 49.3	+1.3
	baz=2.3						
MUN	**Mundaring**	**2.28**	**235**	P	Pn	08 11 21.2	+1.4
MUN				S	Sn	08 11 49.3	+1.3
NWAO	**Narrogin (SRO)**	**2.46**	**203**	P	Pn	08 11 22.8	+0.6
	baz=2.5,SNR=6.5						
NWAO				P	Pn	08 11 22.8	+0.6
	baz=2.5,SNR=6.5						
NWAO	**Narrogin (SRO)**	**2.46**	**203**	P	Pn	08 11 22.8	+0.6
MORW	**Morawa**	**2.60**	**307**	P	Pn	08 11 23.8	-0.3
	baz=2.6,SNR=3.0						
MORW	**Morawa**	**2.60**	**307**	P	Pn	08 11 23.9	-0.3
KMBL	**Kambalda**	**3.07**	**104**	P	Pn	08 11 31.1	+0.4
	baz=3.1						
KMBL	**Kambalda**	**3.07**	**104**	P	Pn	08 11 31.1	+0.4
MEEK	**Meekatharra**	**4.02**	**3**	P	Pn	08 11 43.9	+0.1
	baz=4.0						
MEEK	**Meekatharra**	**4.02**	**3**	P	Pn	08 11 43.9	+0.1
WRKA	**Warakurna**	**10.40**	**60**	P	Pn	08 13 10.4	-0.9
	baz=10						

MAN 14 08:14:15.9, 16°29N×120°38E, h28km, mb3.7, ML2.4, MS1.9, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**0.32**	**115**	P *eP*	Pb	08 14 21.5	-2.1
SMPP				*eS*	Sb	08 14 25.2	-3.5
PCPH	**Palayan**	**1.00**	**136**	P *eP*	Pn	08 14 34.0	-0.1
PCPH				*eS*	Sb	08 14 47.4	0.0
BALP	**Baler**	**1.27**	**115**	P *eP*	Pb	08 14 39.1	-0.2
BALP				*eS*	Sn	08 14 54.5	+0.4

WEL 14 08:15:47.5±0.7, 42°S±4°×17°4E±°, h7km±6km, M3.0/12, ML4.3/11, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=131.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**288**	P	Pg	08 15 50.0	+0.6
CMWZ				S	Sg	08 15 52.4	+1.7
BSWZ	**Blackbirch Sta**	**0.33**	**280**	P	Pg	08 15 54.3	+0.3
BSWZ				S	Sb	08 16 00.0	-1.3
TUWZ	**Tuamarina**	**0.44**	**321**	P	Pb	08 15 56.1	+0.1
TUWZ				S	Sb	08 16 03.1	-1.3
TCW	**Tory Channel**	**0.56**	**357**	P	Pg	08 15 58.8	+0.4
TCW				S	Sg	08 16 06.4	+0.7
WEL	**Wellington**	**0.60**	**35**	P	Pb	08 15 59.8	-0.4
WEL				S	Sb	08 16 10.0	+1.1
KHZ	**Kahutara**	**0.86**	**222**	P	Pb	08 16 04.9	0.0
CAW	**Cannon Point**	**0.87**	**41**	P	Pb	08 16 05.0	0.0
NNZ	**Nelson**	**0.89**	**308**	P	Pg	08 16 04.2	-0.5
NNZ				S	Sn	08 16 18.7	-1.0
PAWZ	**Paruwai Farm**	**0.92**	**65**	P	Pg	08 16 05.5	+0.3
PAWZ				S	Sn	08 16 20.4	-0.1
DUWZ	**D'Urville Isla**	**1.01**	**343**	P	Pb	08 16 07.4	0.0
DUWZ				S	Sb	08 16 21.5	+0.5
KIW	**Kapiti Island**	**1.02**	**26**	P	Pg	08 16 06.9	0.0
THZ	**Tophouse**	**1.05**	**270**	P	Pg	08 16 07.7	0.0
MTW	**Mount Morrison**	**1.08**	**56**	P	Pg	08 16 07.8	-0.5
TRWZ	**Traveller**	**1.10**	**71**	P	Pg	08 16 07.6	-0.9
OGWZ	**Otaki Gorge**	**1.15**	**34**	P	Pg	08 16 09.6	0.0
MRNZ	**Matariki Terra**	**1.22**	**287**	P	Pg	08 16 10.9	0.0
TKNZ	**Takaka Hill**	**1.26**	**306**	P	Pn	08 16 11.2	-0.3
HOWZ	**Holdsworth Sta**	**1.26**	**46**	P	Pn	08 16 10.5	-1.1
TMWZ	**Te Maipa**	**1.36**	**61**	P	Pn	08 16 11.5	-1.4
TMWZ	**Te Maipa**	**1.36**	**61**	P	Pn	08 16 11.3	-1.6
MRZ	**Mangatainoka R**	**1.47**	**41**	P	Pn	08 16 13.4	-1.0
TIWZ	**Tintock**	**1.55**	**51**	P	Pn	08 16 14.3	-1.2
QRZ	**Quartz Range**	**1.64**	**305**	P	Pb	08 16 17.5	-0.6
PRWZ	**Pori Road**	**1.75**	**46**	P	Pn	08 16 16.9	-1.3
POWZ	**Post Office Ro**	**1.76**	**39**	P	Pn	08 16 17.5	-0.9
BFZ	**Birch Farm**	**1.82**	**54**	P	Pg	08 16 23.8	+1.4
DVHZ	**Dannevirke**	**2.03**	**44**	P	Pn	08 16 20.3	-1.9
PNHZ	**Pukenui**	**2.34**	**38**	P	Pn	08 16 25.0	-1.5
BHHZ	**Black Hill Sta**	**2.64**	**31**	P	Pb	08 16 36.6	+1.4
TMVZ	**Te Maari**	**2.86**	**22**	P	Pb	08 16 39.4	+0.5

*IDC 14 08:16:03.8±4.7, 41°33S×174°45E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=165.0km s-min=34.2km az=47.0

MRZ **Mangatainoka R** **2.26 41** P Pn 08 19 44.5 -1.9

WEL 14 08:20:24.8±0.4, 43°S±3°×17°3E±°, h4km±2km, M3.3/9, ML3.6/9, MLv3.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=130.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.29**	**68**	P	Pg	08 20 30.4	0.0
KHZ				S	Sg	08 20 35.1	+0.8
GVZ	**Greta Valley S**	**0.45**	**193**	P	Pg	08 20 34.3	+0.8
GVZ				S	Sb	08 20 42.0	-0.5
AMCZ	**Amberley**	**0.75**	**210**	P	Pb	08 20 40.0	-0.5
THZ	**Tophouse**	**0.79**	**345**	P	Pg	08 20 39.6	-0.2
THZ				S	Sg	08 20 49.5	-0.5
BSWZ	**Blackbirch Sta**	**0.97**	**33**	P	Pg	08 20 43.4	+0.1
OXZ	**Oxford**	**1.15**	**226**	P	Pg	08 20 46.3	-0.6
OXZ				S	Sg	08 21 01.8	0.0
TUWZ	**Tuamarina**	**1.24**	**28**	P	Pg	08 20 47.9	-0.6
MQZ	**McQueen's Vall**	**1.24**	**198**	P	Pg	08 20 45.7	-2.8
MQZ				S	Sg	08 21 02.6	-2.0
DSZ	**Denniston Nort**	**1.28**	**307**	P	Pg	08 20 49.3	0.0
DSZ				S	Sg	08 21 05.8	-0.1
NNZ	**Nelson**	**1.32**	**7**	P	Pn	08 20 49.8	-0.4
RACZ	**Rakaia**	**1.42**	**212**	P	Pn	08 20 49.4	-2.0
TKNZ	**Takaka Hill**	**1.50**	**354**	P	Pn	08 20 52.0	-0.4
RPZ	**Rata Peaks**	**1.95**	**232**	P	Pn	08 20 57.3	-1.4
CAW	**Cannon Point**	**2.00**	**46**	P	Pn	08 20 57.6	-1.8

*IDC **14** 08:23:56.9±1.1, 3°.62N×122°.36E, h617km±15km, mb3.4/14, mbtmp4.6/15, Error ellipse: s-maj=24.5km s-min=8.1km az=64.0*

*NEIC **14** 08:23:56.8±1.4, 3°.6N±0°.1×122°.3E±0°.1, h604km±12km, mb4.3/23, Error ellipse: s-maj=21.6km s-min=13.4km az=224.0*

*DJA **14** 08:23:56.0±0.4, 4°N±6°×12°2E±°, h592km±5km, M4.3/14, mb4.5/8, mB4.7/4, MLv4.3/14, Mw(mB)3.9/4*

ISC 14 08:23:55.8±0.4, 3°.57N±0°.06×122°.31E±0°.08, h602km, n74, σ1§27/84, mb4.2/25, 1C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**2.88**	**212**	P	**P**	**08 25 14.9**	**+0.4**
GTOI	**Gorontalo**	**3.00**	**166**	P	**P**	**08 25 14.1**	**-1.1**
GTOI				S	**S**	**08 26 17.5**	**-2.2**
MRSI	**Marisa**	**3.09**	**187**	P	**P**	**08 25 15.7**	**0.0**
MPSI	**Mapaga**	**4.01**	**217**	P	**P**	**08 25 22.1**	**+0.6**
MYLDM	**Lahad Datu**	**4.12**	**293**	P	**P**	**08 25 24.2**	**+1.9**
MYLDM	**Lahad Datu**	**4.12**	**293**	P	**P**	**08 25 22.4**	**+0.1**
KCP	**Kidapawan**	**4.40**	**39**	*eP*	**P**	**08 25 19.8**	**-4.6**
KCP				*i* S	**S**	**08 26 40.5**	**+4.0**
APSI	**Ampana**	**4.50**	**188**	P	**P**	**08 25 25.4**	**+0.4**
LUWI	**Luwuk**	**4.60**	**174**	P	**P**	**08 25 26.1**	**+0.3**
LUWI	**Luwuk**	**4.60**	**174**	P	**P**	**08 25 25.7**	**-0.1**
DAV	**Davao City (W)**	**4.76**	**43**	S	**S**	**08 26 43.9**	**+2.5**
	300nm,0.5s,baz=270,slow=19,SNR=2.1						
GAMI	**Galela, Maluku**	**5.74**	**107**	P	**P**	**08 25 34.2**	**-0.7**
	0.7nm162nm,1.0s						
TNTI	**Ternate**	**5.77**	**119**	P	**P**	**08 25 35.3**	**+0.2**
TNTI	**Ternate**	**5.77**	**119**	P	**P**	**08 25 34.6**	**-0.5**
	0.7nm2μ156nm,0.7s						
KKM	**Kota Kinabalu**	**6.55**	**292**	P	**P**	**08 25 42.0**	**0.0**
KKM	**Kota Kinabalu**	**6.55**	**292**	P	**P**	**08 25 41.3**	**-0.7**
	0.3nm1μm108nm,0.8s						
LBMI	**Labuha**	**6.66**	**129**	P	**P**	**08 25 42.6**	**-0.3**
	0.7nm2μm137nm,0.5s						
PMSI	**Majene**	**7.80**	**206**	P	**P**	**08 25 53.3**	**-0.1**
	0.3nm61nm,0.9s						
SPSI	**Sidrap Palu**	**7.90**	**199**	P	**P**	**08 25 55.2**	**+0.9**
	0.1nm27nm,0.6s						
CNP	**Catarman**	**9.19**	**15**	*eP*	**P**	**08 26 05.7**	**-0.9**
SBUM	**Sibu**	**10.13**	**264**	P	**P**	**08 26 17.6**	**+1.6**
SBUM	**Sibu**	**10.13**	**264**	P	**P**	**08 26 17.0**	**+1.0**
	12nm,0.9s						
FAKI	**Fak Fak**	**11.84**	**123**	P	**P**	**08 26 35.2**	**+2.1**
BATI	**Baumata**	**13.75**	**174**	P	**P**	**08 26 52.7**	**+0.4**
	27nm,0.3s,baz=47,slow=0.4,SNR=4.4						
KNRA	**Kununurra**	**20.16**	**162**	P	**P**	**08 27 52.1**	**+1.1**
WB0	**Warramunga Arr**	**26.05**	**153**	P	**P**	**08 28 43.4**	**+0.1**
WRAB	**Tennant Creek**	**26.18**	**154**	P	**P**	**08 28 45.0**	**+0.6**
WRA	**Warramunga Arr**	**26.18**	**154**	P	**P**	**08 28 44.1**	**-0.3**
	6.4nm,0.4s,baz=336,slow=9.5,SNR=291						
WRA				S	**S**	**08 32 30.9**	**-4.7**
	0.6nm,0.4s,baz=337,slow=15,SNR=2.6						
WRA				ScP	**ScP**	**08 34 32.8**	**-1.5**
	1.1nm,0.6s,baz=337,slow=3.1,SNR=14						
	6.4nm,0.4s						
WRA	**Warramunga Arr**	**26.18**	**154**	P	**P**	**08 28 43.6**	**-0.9**
WB2	**Warramunga Arr**	**26.19**	**154**	P	**P**	**08 28 44.8**	**+0.3**
WR0	**Warramunga Arr**	**26.29**	**153**	P	**P**	**08 28 45.4**	**+0.1**
WR0				IAmb	IAmb	08 28 46.2	
	comp=Z,7.7nm,0.9s						
COEN	**Coen**	**27.05**	**130**	P	**P**	**08 28 50.8**	**-1.3**
COEN				IAmb	IAmb	08 29 11.8	
	comp=Z,8.9nm,1.4s						
CMAR	**Chiang Mai Arr**	**27.23**	**305**	P	**P**	**08 28 54.9**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=130,slow=7.9,SNR=5.7						
	comp=Z,0.8nm,0.3s						
PMG	**Port Moresby**	**27.92**	**118**	P	**P**	**08 28 59.9**	**+0.2**
	comp=Z,7.0nm,0.6s,baz=295,slow=6.5,SNR=4.2						
	comp=Z,7.0nm,0.6s						
PMG	**Port Moresby**	**27.92**	**118**	P	**P**	**08 29 00.0**	**+0.3**
PMG				IAmb	IAmb	08 29 00.7	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**29.33**	**158**	P	**P**	**08 29 11.8**	**0.0**
ASAR	**Alice Springs**	**29.33**	**158**	P	**P**	**08 29 12.8**	**+1.0**
	comp=Z,4.5nm,0.6s,baz=334,slow=7.1,SNR=120						
ASAR				PcP	**PcP**	**08 31 58.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=352,slow=2.0,SNR=2.2						
ASAR				S	**S**	**08 33 23.5**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=331,slow=13,SNR=15						
ASAR				ScP	**ScP**	**08 34 43.1**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=339,slow=3.0,SNR=19						
	comp=Z,4.5nm,0.6s						
ASAR	**Alice Springs**	**29.33**	**158**	P	**P**	**08 29 12.6**	**+0.8**
JCJ	**Chichijima**	**30.14**	**37**	P	**P**	**08 29 17.2**	**-1.5**
	comp=Z,55nm,0.7s,baz=293,slow=13,SNR=1.4						
	comp=Z,55nm,0.7s						
CTA	**Charters Tower**	**33.25**	**136**	P	**P**	**08 29 46.6**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=341,slow=10,SNR=2.4						
	comp=Z,1.3nm,0.5s						
FORT	**Forrest**	**34.59**	**171**	P	**P**	**08 29 56.9**	**+0.7**
FORT				IAmb	IAmb	08 29 58.2	
	comp=Z,12nm,0.7s						
BBOO	**Buckleboo**	**38.46**	**161**	P	**P**	**08 30 29.3**	**+1.5**
BBOO				IAmb	IAmb	08 30 52.7	
	comp=Z,26nm,1.5s						
STKA	**Stephens Creek**	**39.74**	**154**	P	**P**	**08 30 39.4**	**+1.4**
	comp=Z,3.3nm,0.4s,baz=324,slow=5.6,SNR=33						
	comp=Z,3.3nm,0.4s						
STKA	**Stephens Creek**	**39.74**	**154**	P	**P**	**08 30 39.6**	**+1.6**
EIDS	**Eidsvold**	**40.08**	**137**	P	**P**	**08 30 42.1**	**+1.2**
EIDS				IAmb	IAmb	08 31 24.0	
	comp=Z,13nm,1.4s						
TAPN	**Taplejung**	**40.62**	**309**	*eP*	**P**	**08 30 45.9**	**+0.3**
RAMN	**Ramite**	**41.30**	**308**	*eP*	**P**	**08 30 51.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**41.36**	**11**	P	**P**	**08 30 50.9**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=194,slow=9.8,SNR=1.7						
	comp=Z,1.0nm,0.6s						
JIRN	**Jiri**	**41.95**	**309**	*eP*	**P**	**08 30 56.6**	**+0.5**
GUN	**Gumba**	**42.31**	**309**	*eP*	**P**	**08 30 59.3**	**+0.4**
PKI	**Pulchoki**	**42.52**	**308**	*eP*	**P**	**08 31 00.4**	**-0.1**
PKIN	**Phulchoki**	**42.54**	**308**	*eP*	**P**	**08 31 00.5**	**-0.1**
DMN	**Daman**	**42.78**	**308**	*eP*	**P**	**08 31 02.7**	**+0.3**
ARMA	**Armidale**	**43.90**	**142**	P	**P**	**08 31 12.0**	**+1.2**
ARMA				IAmb	IAmb	08 31 14.9	
	comp=Z,9.2nm,0.9s						
JKA	**Kamikawa-asahi**	**44.18**	**21**	P	**P**	**08 31 13.3**	**+0.6**
SONM	**Songino Array**	**46.18**	**345**	P	**P**	**08 31 28.3**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=165,slow=9.0,SNR=15						
SONM				ScP	**ScP**	**08 35 46.0**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=145,slow=5.3,SNR=2.2						
	comp=Z,1.8nm,0.5s						
SONM	**Songino Array**	**46.18**	**345**	P	**P**	**08 31 28.9**	**+0.9**
MK31	**Makanchi Array**	**55.24**	**327**	P	**P**	**08 32 34.0**	**+0.6**
MK31				IAmb	IAmb	08 32 36.2	
	comp=Z,11nm,1.4s						
MKAR	**Makanchi Array**	**55.24**	**327**	P	**P**	**08 32 33.5**	**+0.1**
	comp=Z,4.0nm,0.4s,baz=127,slow=7.9,SNR=52						
MKAR				PcP	**PcP**	**08 33 24.3**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=139,slow=3.6,SNR=4.8						
MKAR				ScP	**ScP**	**08 36 25.6**	**-1.2**
	comp=Z,1.4nm,1.0s,baz=114,slow=3.6,SNR=2.5						
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**55.24**	**327**	P	**P**	**08 32 33.9**	**+0.4**
MAKZ	**Makanchi**	**55.42**	**327**	P	**P**	**08 32 35.1**	**+0.5**
MAKZ				IAmb	IAmb	08 33 07.5	
	comp=Z,32nm,1.4s						
KBL	**Kabul**	**58.15**	**309**	P	**P**	**08 32 54.1**	**+0.3**
ZALV	**Zalesovo Beam**	**58.80**	**335**	P	**P**	**08 32 56.5**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=133,slow=6.0,SNR=4.8						
	comp=Z,1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**58.80**	**335**	P	**P**	**08 32 56.7**	**-0.8**
GAR	**Garm**	**58.83**	**314**	P	**P**	**08 32 58.5**	**+0.4**
GAR				IAmb	IAmb	08 32 58.6	
	comp=Z,5.4nm,0.6s						
KURK	**Kurchatov**	**59.57**	**329**	P	**P**	**08 33 02.6**	**0.0**
KURK				IAmb	IAmb	08 33 02.9	
	comp=Z,14nm,0.3s						
KKAR	**Karatay Array**	**60.38**	**319**	P	**P**	**08 33 08.3**	**0.0**
GEYT	**Alibeck**	**67.58**	**310**	P	**P**	**08 33 53.4**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=108,slow=4.7,SNR=3.9						
	comp=Z,2.2nm,0.3s						
GEYT	**Alibeck**	**67.58**	**310**	P	**P**	**08 33 53.5**	**-0.5**
GEYT				IAmb	IAmb	08 33 55.1	
	comp=Z,3.9nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**67.58**	**310**	P	**P**	**08 33 52.7**	**-1.2**
GYA0B				IAmb	IAmb	08 34 00.5	
	comp=Z,6.9nm,0.8s						
ABKAR	**Akbulak array**	**69.51**	**322**	P	**P**	**08 34 05.0**	**-0.2**
ARCES	**ARCESS Array B**	**89.07**	**340**	P	**P**	**08 35 45.9**	**-1.7**
	comp=Z,5.2nm,1.1s,baz=87,slow=6.8,SNR=3.8						
	comp=Z,5.2nm,1.1s						
FINES	**FINESS Array B**	**89.88**	**331**	P	**P**	**08 35 50.0**	**-1.4**
	comp=Z,2.6nm,0.9s,baz=86,slow=7.8,SNR=4.6						
	comp=Z,2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**118.76**	**287**	PKP	**PKPdf**	**08 41 36.7**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=70,slow=3.0,SNR=6.0						

WEL 14 08:28:31.7±0.8, 42°S±3°×17°3E±°, h9km±5km, M3.4/5, ML3.6/5, MLv3.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=129.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**87**	P	Pb	08 28 38.0	-0.7
KHZ				S	Sb	08 28 42.3	-1.2
GVZ	**Greta Valley S**	**0.55**	**190**	P	Pb	08 28 43.2	-0.3
GVZ				S	Sb	08 28 51.5	+0.1
THZ	**Tophouse**	**0.69**	**343**	P	Pb	08 28 46.5	+0.5
THZ				S	Sb	08 28 55.7	0.0
LTZ	**Lake Taylor**	**0.75**	**242**	P	Pg	08 28 46.3	+0.2
AMCZ	**Amberley**	**0.84**	**207**	P	Pb	08 28 48.8	+0.4
AMCZ				S	Sb	08 29 01.0	+1.1
BSWZ	**Blackbirch Sta**	**0.89**	**37**	P	Pg	08 28 45.7	-3.0
DSZ	**Denniston Nort**	**1.23**	**303**	P	Pg	08 28 56.3	+1.1
MQZ	**McQueen's Vall**	**1.33**	**196**	P	Pn	08 28 54.6	-1.9
RACZ	**Rakaia**	**1.50**	**210**	P	Pn	08 28 57.4	-1.4
DUWZ	**D'Urville Isla**	**1.72**	**19**	P	Pn	08 28 57.5	-4.3
WACZ	**Wakanui South**	**1.80**	**212**	P	Pn	08 29 01.6	-1.3
WVZ	**Waitaha Valley**	**1.91**	**249**	P	Pn	08 29 02.8	-1.5
RPZ	**Rata Peaks**	**2.01**	**230**	P	Pn	08 29 02.9	-3.0
GCSZ	**Gaunt Creek Bo**	**2.27**	**246**	P	Pn	08 29 10.5	+1.1
TMZ	**Timaru**	**2.51**	**218**	P	Pn	08 29 11.4	-1.3
FOZ	**Fox Glacier**	**2.70**	**245**	P	Pn	08 29 16.3	+1.1
LBZ	**Lake Benmore**	**2.93**	**227**	P	Pn	08 29 17.6	-0.8
ODZ	**Otahua Downs**	**3.19**	**214**	P	Pn	08 29 20.4	-1.6
VRZ	**Vera Road**	**3.51**	**21**	P	Pn	08 29 24.0	-2.4
EAZ	**Earnscleugh**	**3.96**	**224**	P	Pn	08 29 31.1	-1.4
SYZ	**Scrubby Hill**	**5.02**	**214**	P	Pn	08 29 45.8	-1.3
APZ	**The Paps**	**5.75**	**218**	P	Pn	08 29 55.8	-1.4

RSNC 14 08:33:01.5±0.8, 6°.79N×73°.13W, h151km±3km, ML3.4, Mw3.8, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.20**	**194**	*i*P	Pn	08 33 21.6	-0.7
BARC				*e*S	Sn	08 33 37.2	-0.8
BARC				IAML		08 33 38.2	
	comp=Z,1μm,0.3s						
BRRC	**Barranca, Sant**	**0.66**	**299**	*i*P	Pn	08 33 23.4	-0.4
BRRC				*e*S	Sn	08 33 40.6	-0.2
BRRC				IAML		08 33 44.5	
	comp=Z,725nm,0.3s						
PAMC	**Pamplona, Colo**	**0.70**	**38**	*i*P	Pn	08 33 24.4	-0.3
PAMC				*e*S	Sn	08 33 41.6	-0.7
PAMC				IAML		08 33 43.8	
	comp=Z,450nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	*e*P	Pn	08 33 27.9	-1.5
PTBC				*e*S	Sn	08 33 49.4	-1.4
PTBC				IAML		08 33 55.8	
	comp=Z,330nm,0.5s						
TAMC	**Tame, Arauca**	**1.38**	**105**	*e*P	Pn	08 33 30.0	+0.1
TAMC				IAML		08 33 51.1	
	comp=Z,152nm,0.3s						
TAMC				*e*S	Sn	08 33 51.6	-0.1
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*P	Pn	08 33 34.1	-0.8
ZARC				*e*S	Sn	08 33 59.7	-1.0
ZARC				IAML		08 34 05.0	
	comp=Z,338nm,0.4s						
NORC	**Norcasia**	**2.11**	**235**	*e*P	Pn	08 33 37.7	-0.4
NORC				*e*S	Sn	08 34 06.0	-0.1
NORC				IAML		08 34 13.4	
	comp=Z,198nm,0.1s						
CHIC	**Chingaza**	**2.23**	**196**	*e*P	Pn	08 33 39.5	-0.3
CHIC				*e*S	Sn	08 34 08.9	-0.3
CHIC				IAML		08 34 12.6	
	comp=Z,201nm,0.6s						
ROSC	**El Rosal**	**2.27**	**211**	*i*P	Pn	08 33 41.2	+0.9
ROSC				*e*S	Sn	08 34 12.0	+2.0
ROSC				IAML		08 34 16.3	
	comp=Z,469nm,0.5s						
UREC	**San Jos de Ur**	**2.57**	**292**	*e*P	Pn	08 33 41.4	-2.1
UREC				*e*S	Sn	08 34 12.8	-3.1
UREC				IAML		08 34 25.4	
	comp=Z,170nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.76**	**159**	*i*P	Pn	08 33 44.6	-1.3
PTGC				*e*S	Sn	08 34 18.2	-2.0
PTGC				IAML		08 34 21.0	
	comp=Z,106nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.77**	**351**	*e*P	Pn	08 33 46.3	+0.3
LL1C				*e*S	Sn	08 34 22.0	+1.5
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*e*P	Pn	08 33 49.2	+0.1
CBOC				*e*S	Sn	08 34 26.1	+0.2
CBOC				IAML		08 34 33.9	
	comp=Z,46nm,0.4s						
DBBC	**Dabeiba**	**3.06**	**274**	*e*P	Pn	08 33 49.9	+0.1
DBBC				*e*S	Sn	08 34 25.1	-2.0
ANIL	**Santa Ana**	**3.21**	**225**	*e*P	Pn	08 33 52.6	+0.7
ANIL				*e*S	Sn	08 34 32.6	+1.7
ARGC	**Ariguani, Magd**	**3.24**	**340**	*e*P	Pn	08 33 51.7	-0.3
ARGC				*e*S	Sn	08 34 30.7	-0.5
ARGC				IAML		08 34 37.8	
	comp=Z,42nm,0.4s						
PRAC	**Prado**	**3.52**	**210**	*e*P	Pn	08 33 52.7	-2.9
PRAC				*e*S	Sn	08 34 35.0	-2.5
PRAC				IAML		08 34 41.8	
	comp=Z,222nm,0.3s						
ORTC	**Ortega, Tolima**	**3.55**	**216**	*e*P	Pn	08 33 55.8	-0.2
ORTC				*e*S	Sn	08 34 38.8	+0.5
ORTC				IAML		08 34 45.0	
	comp=Z,96nm,0.4s						
PLMC	**San Jos del P**	**3.65**	**239**	*e*P	Pn	08 33 57.1	-0.2
PLMC				*e*S	Sn	08 34 39.5	-1.1
PLMC				IAML		08 34 52.3	
	comp=Z,41nm,0.2s						
SJCC	**San Jacinto, C**	**3.69**	**327**	*e*P	Pn	08 33 55.2	-2.7
SJCC				*e*S	Sn	08 34 37.2	-4.5
SJCC				IAML		08 34 48.9	
	comp=Z,49nm,0.4s						
LCBC	**Los crdobas,**	**3.81**	**303**	*e*P	Pn	08 33 58.5	-0.8
LCBC				*e*S	Sn	08 34 41.9	-2.3
LCBC				IAML		08 34 46.3	
	comp=Z,45nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.21**	**3**	*e*P	Pn	08 34 01.8	-2.9
CRJC				*e*S	Sn	08 34 49.5	-4.3
CRJC				IAML		08 34 51.5	
	comp=Z,90nm,0.2s						
YOTC	**Yotoco, Valle**	**4.24**	**229**	*e*P	Pn	08 34 04.2	-0.9
YOTC				*e*S	Sn	08 34 54.1	-0.4
GUVC	**San Jose del G**	**4.25**	**173**	*e*P	Pn	08 34 03.8	-1.3
GUVC				*e*S	Sn	08 34 52.9	-1.6
GUVC				IAML		08 34 55.7	
	comp=Z,39nm,0.2s						
URIC	**Uribia, Colomb**	**5.01**	**13**	*e*P	Pn	08 34 12.1	-3.1
URIC				*e*S	Sn	08 35 08.2	-4.3
URIC				IAML		08 35 14.6	
	comp=Z,17nm,0.4s						
GARC	**Garzon, Huila**	**5.14**	**207**	*e*P	Pn	08 34 15.6	-1.5
GARC				*e*S	Sn	08 35 13.6	-2.4
GARC				IAML		08 35 18.0	
	comp=Z,48nm,0.3s						
FLOC	**Florencia**	**5.75**	**206**	*e*P	Pn	08 34 24.1	-0.8
FLOC				*e*S	Sn	08 35 29.5	-0.7
FLOC				IAML		08 35 35.6	
	comp=Z,9.1nm,0.5s						
BBAC	**Balboa, Cauca**	**6.26**	**221**	*e*P	Pn	08 34 32.4	+0.4
BBAC				*e*S	Sn	08 35 40.8	-2.0
BBAC				IAML		08 35 47.6	
	comp=Z,4.7nm,0.3s						
GCUF	**Volcan Galeras**	**6.94**	**217**	*e*P	Pn	08 34 41.8	+0.5
GCUF				*e*S	Sn	08 35 57.5	-1.9
GCUF				IAML		08 36 05.9	
	comp=Z,2.8nm,0.5s						

WEL 14 08:33:07.3±0.6, 42°S±4°×17°3E±°, h5km±2km, M3.4/6, ML3.6/6, MLv3.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=140.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.06**	**54**	P	Pg	08 33 08.6	-0.2
KHZ				S	Sg	08 33 10.1	+0.2
GVZ	**Greta Valley S**	**0.61**	**212**	P	Pg	08 33 19.5	+0.5
GVZ				S	Sb	08 33 29.0	-0.3
BSWZ	**Blackbirch Sta**	**0.80**	**22**	P	Pg	08 33 23.1	+0.5
AMCZ	**Amberley**	**0.94**	**220**	P	Pg	08 33 25.6	+0.2
LTZ	**Lake Taylor**	**0.94**	**249**	P	Pg	08 33 25.5	0.0
LTZ				S	Sg	08 33 38.1	+0.4
TUWZ	**Tuamarina**	**1.08**	**19**	P	Pb	08 33 28.8	+0.3
NNZ	**Nelson**	**1.24**	**357**	P	Pg	08 33 31.1	0.0
OKCZ	**Okains Bay**	**1.30**	**193**	P	Pn	08 33 30.1	-2.2
OXZ	**Oxford**	**1.37**	**230**	P	Pn	08 33 31.0	-2.1
MQZ	**McQueen's Vall**	**1.39**	**205**	P	Pn	08 33 30.4	-2.9
DSZ	**Denniston Nort**	**1.43**	**299**	P	Pb	08 33 34.4	0.0
TKNZ	**Takaka Hill**	**1.47**	**345**	P	Pb	08 33 35.2	+0.1
AKCZ	**Akaroa Harbour**	**1.48**	**196**	P	Pn	08 33 31.9	-2.7
RACZ	**Rakaia**	**1.60**	**217**	P	Pn	08 33 33.9	-2.4
DUWZ	**D'Urville Isla**	**1.69**	**12**	P	Pb	08 33 38.6	-0.3
MSWZ	**Moikau Station**	**1.69**	**53**	P	Pn	08 33 35.5	-1.9
QRZ	**Quartz Range**	**1.77**	**336**	P	Pb	08 33 39.8	-0.5
WVZ	**Waitaha Valley**	**2.11**	**252**	P	Pn	08 33 42.6	-0.7
RPZ	**Rata Peaks**	**2.17**	**234**	P	Pn	08 33 42.4	-1.8
ARCZ	**Arundel**	**2.25**	**228**	P	Pn	08 33 43.1	-2.1
TMZ	**Timaru**	**2.63**	**222**	P	Pn	08 33 48.8	-1.8
LBZ	**Lake Benmore**	**3.08**	**230**	P	Pb	08 33 59.6	-2.9
ODZ	**Otahua Downs**	**3.30**	**217**	P	Pn	08 33 57.0	-2.6
VRZ	**Vera Road**	**3.47**	**17**	P	Pn	08 34 02.9	+1.0
PXZ	**Pawanui**	**3.52**	**48**	P	Pn	08 34 01.5	-1.2
HHSZ	**Highcliff Hill**	**4.00**	**210**	P	Pn	08 34 06.5	-2.9
HIZ	**Hauiti**	**4.08**	**15**	P	Pn	08 34 11.2	+0.8
TLZ	**Tolley Road**	**4.41**	**22**	P	Pn	08 34 14.7	-0.3
TOZ	**Tahuroa Road**	**4.97**	**19**	P	Pn	08 34 22.1	-0.5
AWAZ	**Awhitu Peninsu**	**5.46**	**10**	P	Pn	08 34 29.9	+0.6
MKAZ	**Moumakai**	**5.50**	**14**	P	Pn	08 34 29.5	-0.3
ETAZ	**East Tamaki Re**	**5.61**	**12**	P	Pn	08 34 31.8	+0.5
RVAZ	**Riverhead Bore**	**5.74**	**9**	P	Pn	08 34 33.7	+0.5

*AEIC **14** 08:34:03.7±2.5, 51°.01N±0°.07×178°.75E±0°.06, h16km±5km, Error ellipse: s-maj=10.8km s-min=4.6km az=167.0*

*NEIC **14** 08:34:05.9±2.1, 51°.1N±0°.1×178°.9E±0°.1, h41km±7km, mb4.1/30, ML3.3(AEIC), Error ellipse: s-maj=17.0km s-min=7.9km az=157.0*

*IDC **14** 08:34:08.3±5.2, 51°.31N×178°.92E, h60km±45km, mb3.1/6, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=64.7km s-min=18.7km az=178.0*

ISC 14 08:34:05.7±1.0, 51°.1N±0°.2×178°.94E±0°.05, h41km, n50, σ1§03/52, mb4.0/18, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.37**	**38**		**Pn**	**08 34 13.9**	**-0.9**
AMKA					**Sn**	**08 34 21.4**	**+0.3**
KIWB	**Kanaga Island**	**2.56**	**71**	Pn	**Pn**	**08 34 45.4**	**+0.7**
ADK	**Adak**	**2.85**	**72**	Pn	**Pn**	**08 34 50.1**	**+1.5**
SHEM	**Shemya Is, Ala**	**3.42**	**301**	P	**Pn**	**08 34 57.2**	**+0.9**
	19nm,0.3s,baz=103,slow=4.2,SNR=10						
SHEM				S	**Sn**	**08 35 36.5**	**+0.9**
	55nm,0.5s,baz=90,slow=18,SNR=1.8						
	64nm,0.5s						
SMY	**Shemya**	**3.42**	**301**	Pn	**Pn**	**08 34 55.4**	**-0.9**
FALS	**False Pass**	**11.28**	**64**	Pn	**Pn**	**08 36 43.2**	**-0.9**
PET	**Petropavlovsk**

comp=Z,0.1nm,0.5s,baz=308,slow=6.5,SNR=1.4
comp=Z,0.1nm,0.5s
SONM Songino Array 45.50 296 P **P** **08 42 20.6 -0.2**
comp=Z,0.3nm,0.4s,baz=49,slow=6.5,SNR=2.9
comp=Z,0.3nm,0.4s
YHB Horse Butte 45.64 69 P **P** **08 42 22.5 +0.4**
YHB IAmb IAmb 08 42 39.1
comp=Z,3.5nm,0.8s
TULEG Thule 45.69 18 P **P** **08 42 21.8 0.0**
TULEG IAmb IAmb 08 42 34.3
comp=Z,4.6nm,1.0s
PDAR Pinedale Array 47.75 71 P **P** **08 42 39.2 +0.5**
comp=Z,0.5nm,0.8s,baz=314,slow=7.1,SNR=3.0
comp=Z,0.5nm,0.8s
GLA Glamis 50.60 84 P **P** **08 43 00.3 -0.1**
TXAR Lajitas Array 60.10 79 P **P** **08 44 09.7 +0.9**
comp=Z,0.1nm,0.4s,baz=300,slow=4.6,SNR=1.7
comp=Z,0.1nm,0.4s
ABKAR Akbulak array 67.29 322 P **P** **08 44 56.1 +0.4**
KKAR Karatay Array 67.52 311 P **P** **08 44 57.5 +0.2**

IDC 14 08:38:24.3±3.5, 19°.53N×38°.75E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=111.5km s-min=27.7km az=157.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**36.06**	**266**	P	P	08 45 27.8	-0.1
	1.7nm,0.7s,baz=76,slow=8.5,SNR=13						
	1.7nm,0.7s						
ESDC	**Sonseca Array**	**41.74**	**308**	P	P	08 46 15.3	0.0
	0.9nm,1.0s,baz=106,slow=8.5,SNR=2.9						
	0.9nm,1.0s						
MKAR	**Makanchi Array**	**44.67**	**42**	P	P	08 46 39.5	+0.5
	0.7nm,0.8s,baz=234,slow=7.5,SNR=2.0						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**49.10**	**34**	P	P	08 47 12.5	-0.9
	0.4nm,0.3s,baz=254,slow=8.9,SNR=1.9						
	0.4nm,0.3s						

*BJI **14** 08:38:58.4±0.0, 20°.31S×178°.35W, h576km, mb5.0/39, mB4.9/15*
*IDC **14** 08:38:59.7±0.8, 20°.69S×178°.54W, h587km±8km, mb4.3/31, mbtmp5.1/34, Error ellipse: s-maj=9.5km s-min=8.7km az=128.0*
*NEIC **14** 08:38:59.1±1.8, 20°.77S±0°.09×178°.53W±0°.08, h574km±5km, mb4.8/286, Error ellipse: s-maj=13.5km s-min=11.2km az=183.0*
*NOU **14** 08:39:10.7, 20°.99S×179°.75W, h598km, mb4.8/20, Fiji Islands Region*

ISC 14 08:38:59.3±0.4, 20°.69S±0°.05×178°.54W±0°.05, h589km±4km, h590km; pP-P, n789, σ1§13/827, mb4.8/183, 58C-22D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.36**	**312**	P	**P**	**08 40 28.4**	**+1.6**
	290nm,0.5s,baz=131,slow=4.5,SNR=212						
MSVF				S	**S**	**08 41 38.8**	**+0.8**
	44nm,0.7s,baz=139,slow=19,SNR=0.7						
MSVF	**Nonsavu**	**4.36**	**312**	P	**P**	**08 40 28.2**	**+1.4**
NIUE	**Niue**	**8.26**	**80**	P	**P**	**08 41 00.3**	**-0.5**
RAO	**Raoul Island**	**8.55**	**176**	P	**P**	**08 41 04.9**	**+1.5**
	460nm,0.2s,baz=34,slow=16,SNR=6.2						
RAO				S	**S**	**08 42 39.2**	**-6.0**
	126nm,0.3s,baz=93,slow=23,SNR=1.3						
RAO	**Raoul Island**	**8.55**	**176**	P	**P**	**08 41 01.1**	**-2.3**
AFI	**Afiamalu**	**9.33**	**45**	P	**P**	**08 41 09.4**	**-2.0**
	125nm,0.6s,baz=180,slow=5.1,SNR=40						
AFI				S	**S**	**08 42 53.0**	**-6.7**
	85nm,0.5s,baz=260,slow=17,SNR=5.0						
AFI	**Afiamalu**	**9.33**	**45**	P	**P**	**08 41 09.7**	**-1.7**
FUNA	**Funafuti**	**12.29**	**349**	P	**P**	**08 41 38.3**	**-2.8**
MARNC	**Mare, Loyalty**	**12.57**	**264**	P	**P**	**08 41 43.6**	**-0.2**
MARNC	**Mare, Loyalty**	**12.57**	**264**	P	**P**	**08 41 43.6**	**-0.2**
RTV	**Rentapao**	**12.65**	**281**	P	**P**	**08 41 45.8**	**+1.1**
DVP	**Devils Point**	**12.88**	**281**	P	**P**	**08 41 47.8**	**+0.7**
LIFNC	**LIFOU**	**13.31**	**267**	P	**P**	**08 41 50.3**	**-1.1**
LIFNC	**LIFOU**	**13.31**	**267**	P	**P**	**08 41 50.4**	**-1.0**
OUENC	**Ouen Island, N**	**13.71**	**260**	P	**P**	**08 41 53.5**	**-2.1**
DZM	**Mont Dzumac**	**14.06**	**262**	*e*Pn	**P**	**08 41 57.9**	**-1.2**
	125nm,0.8s						
DZM				*e*S	**S**	**08 44 22.3**	**-4.0**
	492nm,24.6s						
DZM	**Mont Dzumac**	**14.06**	**262**	P	**P**	**08 41 58.6**	**-0.5**
	76nm,0.6s,baz=83,slow=18,SNR=21						
DZM				S	**S**	**08 44 22.7**	**-3.6**
	3.4nm,0.6s,baz=91,slow=23,SNR=1.2						
DZM	**Mont Dzumac**	**14.06**	**262**	P	**P**	**08 41 58.8**	**-0.3**
DZM	**Mont Dzumac**	**14.06**	**262**	P	**P**	**08 41 58.8**	**-0.3**
ONTNC	**Ouen Toro**	**14.06**	**261**	P	**P**	**08 41 58.6**	**-0.4**
ONTNC	**Ouen Toro**	**14.06**	**261**	P	**P**	**08 41 58.4**	**-0.6**
OUZ	**Omahuta**	**16.05**	**204**	P	**P**	**08 42 13.8**	**-3.6**
KOUNC	**Koumac, New Ca**	**16.08**	**267**	P	**P**	**08 42 19.0**	**+0.9**
KOUNC	**Koumac, New Ca**	**16.08**	**267**	P	**P**	**08 42 18.3**	**+0.3**
RAR	**Rarotonga**	**17.54**	**95**	P	**P**	**08 42 30.5**	**-0.8**
	51nm,0.8s,baz=268,slow=9.9,SNR=6.2						
RAR	**Rarotonga**	**17.54**	**95**	P	**P**	**08 42 28.8**	**-2.5**
TARA	**Tarawa**	**23.45**	**338**	P	**P**	**08 43 25.6**	**+1.0**
TBI	**Tubuai**	**27.07**	**101**	*e*LR	LR	08 51 29.3	
	comp=Z,876nm,38.0s						
PPT2	**Papeete2**	**27.52**	**89**	*e*P	**P**	**08 44 00.5**	**+0.1**
	94nm,1.2s						
PPT	**Papeete**	**27.52**	**88**	P	**P**	**08 44 00.6**	**+0.3**
	57nm,0.7s,baz=267,slow=17,SNR=8.1						
	57nm,0.7s						
PPTF	**Pamatai, Papee**	**27.53**	**89**	P	**P**	**08 44 01.2**	**+0.7**
EIDS	**Eidsvold**	**28.31**	**255**	P	**P**	**08 44 08.0**	**+0.8**
EIDS	**Eidsvold**	**28.31**	**255**	P	**P**	**08 44 07.7**	**+0.5**
ARMA	**Armidale**	**28.53**	**244**	P	**P**	**08 44 10.3**	**+1.1**
ARMA	**Armidale**	**28.53**	**244**	P	**P**	**08 44 09.7**	**+0.5**
RMQ	**Roma**	**30.47**	**253**	P	**P**	**08 44 27.1**	**+1.3**
CTA	**Charters Tower**	**32.97**	**265**	P	**P**	**08 44 47.8**	**+0.6**
	24nm,0.6s,baz=92,slow=10.0,SNR=57						
	24nm,0.6s						
CTA	**Charters Tower**	**32.97**	**265**	P	**P**	**08 44 48.1**	**+1.0**
CTAO	**Charters Tower**	**32.97**	**265**	P	**P**	**08 44 48.5**	**+1.4**
CTAO				IAmb	IAmb	08 44 48.9	
	comp=Z,22nm,0.6s						
CTAO	**Charters Tower**	**32.97**	**265**	P	**P**	**08 44 48.1**	**+1.0**
CTAO	**Charters Tower**	**32.97**	**265**	P	**P**	**08 44 48.0**	**+1.0**
CMSA	**Cobar Meteorol**	**33.75**	**244**	P	**P**	**08 44 54.1**	**+0.6**
PMG	**Port Moresby**	**34.90**	**284**	P	**P**	**08 45 03.0**	**-0.2**
PMG	**Port Moresby**	**34.90**	**284**	P	**P**	**08 45 03.8**	**+0.6**
PMG				pP	**pwP**	**08 46 42.4**	**-1.5**
TOO	**Toolangi**	**35.38**	**234**	P	**P**	**08 45 06.7**	**-0.4**
TOO				IAmb	IAmb	08 45 55.9	
	comp=Z,64nm,1.8s						
TAU	**Tasmania Unive**	**36.14**	**224**	P	**P**	**08 45 12.1**	**-1.0**
COEN	**Coen**	**37.09**	**274**	P	**P**	**08 45 21.8**	**+0.5**
COEN				IAmb	IAmb	08 45 23.5	
	comp=Z,16nm,0.9s						
COEN	**Coen**	**37.09**	**274**	P	**P**	**08 45 22.3**	**+1.0**
STKA	**Stephens Creek**	**37.26**	**244**	P	**P**	**08 45 22.7**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=99,slow=11,SNR=17						
STKA				PcP	**PcP**	**08 47 26.5**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=131,slow=4.2,SNR=3.5						
STKA				ScP	**ScP**	**08 50 19.6**	**+1.8**
	comp=Z,3.1nm,0.9s,baz=54,slow=2.9,SNR=4.2						
STKA	**Stephens Creek**	**37.26**	**244**	P	**P**	**08 45 24.0**	**+1.6**
STKA	**Stephens Creek**	**37.26**	**244**	P	**P**	**08 45 23.5**	**+1.1**
INKA	**Innaminka**	**37.66**	**251**	P	**P**	**08 45 27.1**	**+1.3**
MANU	**Manus Island**	**38.07**	**295**	P	**P**	**08 45 30.3**	**+1.1**
JOHN	**Johnston Islan**	**38.22**	**14**	P	**P**	**08 45 31.4**	**+1.0**
TAOE	**Nuku Hiva Isla**	**38.83**	**78**	P	**P**	**08 45 36.1**	**+0.6**
QIS	**Mount Isa**	**39.10**	**263**	P	**P**	**08 45 38.7**	**+1.2**
	comp=Z,4.4nm,1.1s						
BBOO	**Buckleboo**	**42.02**	**244**	P	**P**	**08 46 00.4**	**0.0**
BBOO				IAmb	IAmb	08 47 07.1	
	comp=Z,48nm,1.6s						
WAKE	**Wake Island**	**42.29**	**339**	P	**P**	**08 46 03.4**	**+0.8**
WR0	**Warramunga Arr**	**43.89**	**262**	P	**P**	**08 46 15.0**	**-0.2**
WR0				IAmb	IAmb	08 46 16.4	
	comp=Z,27nm,1.2s						
AS31	**Alice Springs**	**43.99**	**257**	P	**P**	**08 46 16.3**	**+0.4**
ASAR	**Alice Springs**	**43.99**	**257**	P	**P**	**08 46 15.8**	**-0.1**
	comp=Z,21nm,0.7s,baz=94,slow=7.5,SNR=231						
ASAR				PcP	**PcP**	**08 47 48.6**	**+0.2**
	comp=Z,7.7nm,0.6s,baz=109,slow=3.7,SNR=11						
ASAR				ScP	**ScP**	**08 50 46.5**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=90,slow=4.9,SNR=2.4						
ASAR				S	**S**	**08 52 03.4**	**-2.8**
	comp=Z,10nm,0.9s,baz=94,slow=15,SNR=38						
	comp=Z,21nm,0.7s						
WB0	**Warramunga Arr**	**44.06**	**263**	P	**P**	**08 46 16.4**	**-0.1**
WB0				IAmb	IAmb	08 46 16.9	
	comp=Z,38nm,1.1s						
WB2	**Warramunga Arr**	**44.07**	**262**	P	**P**	**08 46 16.2**	**-0.4**
WB2				IAmb	IAmb	08 46 17.1	
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**44.07**	**262**	P	**P**	**08 46 16.4**	**-0.2**
WRAB				IAmb	IAmb	08 46 17.1	
	comp=Z,27nm,1.1s						
WRAB	**Tennant Creek**	**44.07**	**262**	P	**P**	**08 46 16.2**	**-0.4**
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**	**08 46 16.3**	**-0.4**
	comp=Z,7.6nm,0.4s,baz=98,slow=7.9,SNR=259						
WRA				PcP	**PcP**	**08 47 48.7**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=92,slow=4.4,SNR=5.8						
WRA				ScP	**ScP**	**08 50 45.6**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=90,slow=4.7,SNR=1.5						
WRA				S	**S**	**08 52 04.6**	**-3.0**
	comp=Z,6.2nm,0.9s,baz=98,slow=13,SNR=16						
	comp=Z,7.6nm,0.4s						
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**	**08 46 15.7**	**-1.0**
KHLU	**Kahalu`u**	**45.76**	**30**	P	**P**	**08 46 29.0**	**-0.5**
MLOA	**Mauna Loa Obse**	**45.86**	**31**	P	**P**	**08 46 30.8**	**+0.1**
HUH	**Hualalai**	**45.87**	**30**	P	**P**	**08 46 30.8**	**+0.3**
MLH	**Mauna Loa**	**45.92**	**31**	P	**P**	**08 46 31.8**	**+1.0**
HMH	**Humu'ula Sheep**	**45.96**	**31**	P	**P**	**08 46 32.6**	**+1.3**
KEKH	**Kekaha**	**46.22**	**25**	P	**P**	**08 46 33.1**	**+0.3**
HPAH	**Hawaii Prepara**	**46.23**	**30**	P	**P**	**08 46 34.0**	**+1.0**
KIP	**Kipapa**	**46.41**	**27**	P	**P**	**08 46 35.0**	**+0.8**
OPA	**Opana**	**46.64**	**27**	P	**P**	**08 46 36.0**	**0.0**
MTN	**Manton Dam**	**48.66**	**271**	P	**P**	**08 46 51.2**	**-0.1**
MTN				IAmb	IAmb	08 46 52.0	
	comp=Z,24nm,0.8s						
FORT	**Forrest**	**48.76**	**247**	P	**P**	**08 46 51.7**	**0.0**
FORT				IAmb	IAmb	08 46 51.8	
	comp=Z,23nm,0.7s						
GUMO	**Guam**	**49.54**	**310**	P	**P**	**08 46 57.5**	**-0.1**
	comp=Z,44nm,0.5s,baz=159,slow=18,SNR=2.1						
	comp=Z,44nm,0.5s						
GUMO	**Guam**	**49.54**	**310**	P	**P**	**08 46 58.7**	**+1.1**
KNRA	**Kununurra**	**50.15**	**267**	P	**P**	**08 47 02.3**	**+0.2**
KNRA				IAmb	IAmb	08 48 24.5	
	comp=Z,86nm,1.7s						
FAKI	**Fak Fak**	**51.05**	**284**	P	**P**	**08 47 08.4**	**-0.4**
FAKI				IAmb	IAmb	08 47 09.8	
	comp=Z,37nm,1.2s						
DRV	**Dumont d'Urvil**	**53.01**	**199**	P	**P**	**08 47 21.9**	**+0.1**
DRV				pP	**pwP**	**08 49 13.5**	**-0.8**
DRV				ScP	**ScP**	**08 51 22.1**	**-0.1**
SOEI	**Soe**	**56.00**	**272**	P	**P**	**08 47 43.4**	**-0.4**
TNTI	**Ternate**	**57.02**	**285**	P	**P**	**08 47 49.9**	**-0.7**
TNTI				IAmb	IAmb	08 47 52.0	
	comp=Z,41nm,0.8s						
PSA00	**Pilbara Seismi**	**57.14**	**257**	P	**P**	**08 47 50.6**	**-0.8**
MBWA	**Marble Bar**	**57.32**	**258**	P	**P**	**08 47 52.6**	**0.0**
MBWA				IAmb	IAmb	08 47 53.0	
	comp=Z,24nm,0.8s						
MBWA	**Marble Bar**	**57.32**	**258**	P	**P**	**08 47 52.1**	**-0.5**
MBWA				pP	**pwP**	**08 49 47.7**	**-1.2**
SBA	**Scott Base**	**57.65**	**184**	P	**P**	**08 47 55.4**	**+1.5**
SBA	**Scott Base**	**57.65**	**184**	P	**P**	**08 47 56.2**	**+2.4**
SBA				pP	**pP**	**08 49 52.8**	**+6.4**
SBA				ScP	**ScP**	**08 51 44.4**	**+1.8**
VNDA	**Vanda**	**57.68**	**185**	P	**P**	**08 47 55.0**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=351,slow=7.3,SNR=20						
VNDA				ScP	**ScP**	**08 51 43.8**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=341,slow=4.5,SNR=16						
VNDA	**Vanda**	**57.68**	**185**	P	**P**	**08 47 55.6**	**+1.5**
VNDA	**Vanda**	**57.68**	**185**	P	**P**	**08 47 55.1**	**+1.0**
VNDA				pP	**pP**	**08 49 53.1**	**+6.5**
VNDA				ScP	**ScP**	**08 51 43.6**	**+0.9**
MORW	**Morawa**	**59.29**	**248**	P	**P**	**08 48 05.7**	**0.0**
MORW				IAmb	IAmb	08 48 47.3	
	comp=Z,154nm,2.0s						
LUWI	**Luwuk**	**60.48**	**281**	P	**P**	**08 48 14.3**	**+0.6**
LUWI				IAmb	IAmb	08 48 15.5	
	comp=Z,72nm,1.2s						
JCJ	**Chichijima**	**60.85**	**320**	P	**P**	**08 48 17.3**	**+1.3**
	comp=Z,138nm,1.1s,baz=129,slow=19,SNR=1.0						
	comp=Z,138nm,1.1s						
JHJ	**Hachijo jima 2**	**66.68**	**323**	P	**P**	**08 48 53.1**	**+0.3**
	comp=Z,108nm,0.4s,baz=221,slow=20,SNR=13						
MYLDM	**Lahad Datu**	**66.90**	**285**	P	**P**	**08 48 53.2**	**-1.3**
MYLDM				IAmb	IAmb	08 49 18.0	
	comp=Z,20nm,0.8s						
QSPA	**South Pole Qui**	**69.38**	**180**	P	**P**	**08 49 09.2**	**+0.3**
	comp=Z,7.4nm,0.8s,baz=40,slow=1.2,SNR=26						
QSPA				pP	**pP**	**08 51 10.5**	**+3.1**
	comp=Z,8.8nm,1.1s,baz=36,slow=3.5,SNR=7.7						
	comp=Z,7.4nm,0.8s						
QSPA	**South Pole Qui**	**69.38**	**180**	P	**P**	**08 49 09.4**	**+0.5**
QSPA				pP	**pP**	**08 51 11.5**	**+4.1**
JMM	**Marumori**	**69.67**	**327**	P	**P**	**08 49 11.6**	**+0.8**
JMM				IAmb	IAmb	08 49 12.4	
	comp=Z,44nm,1.1s						
JGF	**Kuroka**	**69.86**	**323**	P	**P**	**08 49 12.6**	**+0.6**
JGF				IAmb	IAmb	08 49 13.3	
	comp=Z,21nm,0.8s						
INU	**Inuyama**	**69.87**	**322**	P	**P**	**08 49 12.1**	**+0.1**
INU				IAmb	IAmb	08 49 13.6	
	comp=Z,16nm,0.9s						
JOW	**Kunigami**	**69.90**	**310**	P	**P**	**08 49 13.6**	**+1.2**
	comp=Z,19nm,0.5s,baz=128,slow=14,SNR=11						
	comp=Z,19nm,0.5s						
JOW	**Kunigami**	**69.90**	**310**	P	**P**	**08 49 12.9**	**+0.5**
JOW				IAmb	IAmb	08 49 14.6	
	comp=Z,34nm,0.7s						
MJAR	**Matsushiro Arr**	**70.06**	**324**	P	**P**	**08 49 13.3**	**+0.1**
	comp=Z,14nm,0.6s,baz=156,slow=6.0,SNR=36						
	comp=Z,14nm,0.6s						
MAJO	**Matsushiro**	**70.06**	**324**	P	**P**	**08 49 14.2**	**+0.9**
MAJO				IAmb	IAmb	08 49 14.4	
	comp=Z,20nm,0.6s						
MAJO	**Matsushiro**	**70.06**	**324**	P	**P**	**08 49 13.5**	**+0.3**
MJB9	**Matsu-Tunnel**	**70.07**	**324**	P	**P**	**08 49 14.1**	**+0.9**
MJB9				IAmb	IAmb	08 49 14.4	
	comp=Z,20nm,0.6s						
JMN	**Monobe**	**70.59**	**319**	P	**P**	**08 49 17.9**	**+1.5**
JSD	**Sado**	**71.13**	**325**	P	**P**	**08 49 21.0**	**+1.7**
JSD				IAmb	IAmb	08 49 21.3	
	comp=Z,49nm,1.2s						
JSU	**Suzuyama**	**71.30**	**316**	P	**P**	**08 49 21.6**	**+1.0**
SBUM	**Sibu**	**71.54**	**280**	P	**P**	**08 49 22.3**	**-0.1**
AMKA	**Amchitka**	**71.77**	**359**	P	**P**	**08 49 22.8**	**0.0**
JHS	**Saijyo**	**71.92**	**320**	P	**P**	**08 49 25.0**	**+0.9**
JNU	**Nakatsue**	**72.07**	**317**	P	**P**	**08 49 25.6**	**+0.6**
ADK	**Adak**	**72.27**	**1**	P	**P**	**08 49 25.6**	**0.0**
YOJ	**Yonaguni jima**	**72.43**	**305**	P	**P**	**08 49 27.2**	**0.0**
KSM	**Kuching**	**72.94**	**278**	P	**P**	**08 49 30.9**	**+0.5**
KSM				IAmb	IAmb	08 49 32.2	
	comp=Z,39nm,0.8s						
TWG	**Pinlang**	**73.06**	**303**	P	**P**	**08 49 30.0**	**-0.9**
YULB	**Yu-li**	**73.18**	**304**	P	**P**	**08 49 30.5**	**-1.1**
YULB				IAmb	IAmb	08 49 31.8	
	comp=Z,16nm,0.6s						
NACB	**Ninganchiao**	**73.36**	**304**	P	**P**	**08 49 32.6**	**0.0**
SHEM	**Shemya Is, Ala**	**73.38**	**355**	P	**P**	**08 49 31.4**	**-0.6**
	comp=Z,67nm,0.8s,baz=99,slow=13,SNR=2.9						
	comp=Z,67nm,0.8s						
JKA	**Kamikawa-asahi**	**73.65**	**332**	P	**P**	**08 49 35.2**	**+1.5**
JKA				IAmb	IAmb	08 49 36.5	
	comp=Z,37nm,0.7s						
TPUB	**Ta-pu**	**73.66**	**303**	P	**P**	**08 49 33.6**	**-0.7**
SSLB	**Suanglung**	**73.66**	**304**	P	**P**	**08 49 34.1**	**-0.2**
YHNB	**Yeheng**	**73.80**	**305**	P	**P**	**08 49 35.3**	**+0.1**
YHNB				IAmb	IAmb	08 49 36.2	
	comp=Z,22nm,0.8s						
NIKH	**Nikolski High**	**73.83**	**6**	P	**P**	**08 49 35.2**	**+0.7**
NIKH	**Nikolski High**	**73.83**	**6**	P	**P**	**08 49 34.5**	**0.0**
	baz=189						
TATO	**Taipei**	**73.88**	**305**	P	**P**	**08 49 35.7**	**+0.2**
TATO				IAmb	IAmb	08 49 36.3	
	comp=Z,38nm,0.8s						
UNV	**Unalaska Valle**	**74.94**	**7**	P	**P**	**08 49 40.4**	**-0.4**
	baz=192						
YSS	**Yuzh-Sakhalins**	**75.84**	**334**	P	**P**	**08 49 47.7**	**+1.8**
YSS				IAmb	IAmb	08 49 48.4	
	comp=Z,47nm,0.9s						
PET	**Petropavlovsk**	**76.03**	**346**	P	**P**	**08 49 46.7**	**-0.1**
PET				IAmb	IAmb	08 51 31.9	
	comp=Z,42nm,1.3s						
PEA0B	**Petropavlovsk-**	**76.32**	**346**	P	**P**	**08 49 49.4**	**+1.0**
PEA0B				IAmb	IAmb	08 49 50.0	
	comp=Z,45nm,0.8s						
PETK	**Petropavlovsk-**	**76.32**	**346**	P	**P**	**08 49 48.2**	**-0.2**
	comp=Z,24nm,0.6s,baz=128,slow=7.2,SNR=86						
	comp=Z,24nm,0.6s						
PETK	**Petropavlovsk-**	**76.32**	**346**	P	**P**	**08 49 48.7**	**+0.3**
KSRS	**Korea Array**	**76.69**	**319**	P	**P**	**08 49 52.0**	**+1.2**
	comp=Z,8.2nm,0.7s,baz=130,slow=6.1,SNR=31						
	comp=Z,8.2nm,0.7s						
KSAR	**Wonju Array Be**	**76.71**	**319**	P	**P**	**08 49 52.3**	**+1.4**
KS19	**Wonju Array Si**	**76.76**	**319**	P	**P**	**08 49 52.6**	**+1.4**
KS19				IAmb	IAmb	08 52 02.7	
	comp=Z,119nm,1.8s						
CHNA	**Chernabura Isl**	**76.94**	**11**	P	**P**	**08 49 51.6**	**-0.1**
	baz=198						
SDPT	**Sand Point**	**77.28**	**10**	P	**P**	**08 49 53.3**	**-0.2**
	baz=197						
SNCC	**San Nicolas Is**	**77.74**	**47**	P	**P**	**08 49 54.9**	**-1.7**
	baz=235						
SAO	**San Andreas Ge**	**78.51**	**43**	P	**P**	**08 50 02.2**	**+1.6**
CHGN	**Chignik**	**78.55**	**11**	P	**P**	**08 50 00.9**	**+0.6**
	baz=199						
CIS	**Catalina Islan**	**78.59**	**48**	P	**P**	**08 50 02.4**	**+1.2**
	baz=236						
SMAI	**San Martin Ant**	**78.61**	**159**	P	**P**	**08 50 01.7**	**+1.0**
CHIR	**Chirikof Islan**	**78.65**	**13**	P	**P**	**08 50 01.4**	**+0.5**
	baz=202						
BCW	**Bitter Crk WRg**	**78.78**	**46**	P	**P**	**08 50 02.2**	**0.0**
USA0B	**Ussuriysk Arra**	**78.84**	**326**	P	**P**	**08 50 04.2**	**+2.1**
USA0B				IAmb	IAmb	08 50 04.8	
	comp=Z,43nm,0.9s						
USRK	**Ussuriysk Ar.**	**78.84**	**326**	P	**P**	**08 50 03.7**	**+1.6**
	comp=Z,23nm,0.7s,baz=128,slow=3.3,SNR=45						
	comp=Z,23nm,0.7s						
HOPS	**Hopland Field**	**78.84**	**41**	P	**P**	**08 50 03.6**	**+1.3**
HOPS				IAmb	IAmb	08 50 05.5	
	comp=Z,44nm,1.2s						
GDXM	**Geysers**	**78.89**	**41**	P	**P**	**08 50 04.9**	**+2.1**
KCPM	**Cahto Peak**	**78.96**	**40**	IAmb	IAmb	08 50 06.0	
	comp=Z,23nm,0.9s						
KMPM	**Mount Pierce**	**79.09**	**39**	IAmb	IAmb	08 50 06.9	
	comp=Z,47nm,1.0s						
109C	**Camp Elliot, M**	**79.22**	**49**	P	**P**	**08 50 05.0**	**+0.5**
	baz=237						
ARVC	**Arvin**	**79.28**	**46**	P	**P**	**08 50 05.9**	**+1.1**
	baz=235						
ELS	**Elsinore Mount**	**79.42**	**48**	P	**P**	**08 50 07.2**	**+1.6**
VES	**Vestal, Richgr**	**79.52**	**45**	P	**P**	**08 50 07.2**	**+1.2**
	baz=235,SNR=7.0						
MURC	**Murrieta**	**79.55**	**48**	P	**P**	**08 50 08.0**	**+1.8**
	baz=236,SNR=5.2						
ESJX	**Sierra Juarez**	**79.57**	**50**	P	**P**	**08 50 08.2**	**+1.6**
BFSC	**Mount Baldy Ra**	**79.58**	**47**	P	**P**	**08 50 07.6**	**+1.1**
	baz=236						
KHMM	**Horse Mountain**	**79.61**	**39**	IAmb	IAmb	08 50 09.7	
	comp=Z,19nm,0.8s						
NJ2	**Nanjing**	**79.61**	**310**	*e*P	**P**	**08 50 07.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,28nm,0.7s						
SII	**Sitkinak Islan**	**79.64**	**13**	P	**P**	**08 50 07.4**	**+1.2**
	baz=203						
EDW2	**Edwards Air Fo**	**79.71**	**47**	P	**P**	**08 50 08.9**	**+1.8**
	baz=236,SNR=9.6						
MONP2	**Monument Peak**	**79.71**	**49**	P	**P**	**08 50 08.8**	**+1.5**
	baz=237,SNR=8.2						
IKP	**In-Ko-Pah, Jac**	**79.80**	**49**	P	**P**	**08 50 09.0**	**+1.4**
	baz=237,SNR=6.2						
ISA	**Isabella, Lake**	**79.82**	**46**	P	**P**	**08 50 09.6**	**+1.9**
	baz=235,SNR=7.8						
CCAC	**Calif City Air**	**79.84**	**46**	P	**P**	**08 50 08.4**	**+0.6**
CMB	**Columbia Colle**	**79.94**	**43**	P	**P**	**08 50 08.4**	**+0.2**
PFO	**Pinyon Flats O**	**80.07**	**48**	P	**P**	**08 50 09.6**	**+0.4**
PFO	**Pinyon Flats O**	**80.07**	**48**	P	**P**	**08 50 10.4**	**+1.3**
	baz=237						
TPFO	**Pinon Flats**	**80.07**	**48**	P	**P**	**08 50 09.8**	**+0.7**
	baz=237						
BBRC	**Big Bear Solar**	**80.10**	**48**	P	**P**	**08 50 10.9**	**+1.5**
	baz=237						
ORV	**Oroville**	**80.15**	**41**	P	**P**	**08 50 09.7**	**+0.5**
SWSC	**Sam W. Stewart**	**80.18**	**49**	P	**P**	**08 50 10.7**	**+1.2**
	baz=237						
LRMC	**Laurel Mtn Rad**	**80.25**	**46**	P	**P**	**08 50 11.0**	**+1.0**
	baz=236,SNR=7.5						
RRX	**Edison Barstow**	**80.39**	**47**	P	**P**	**08 50 11.9**	**+1.3**
	baz=236						
OHAK	**Old Harbor**	**80.45**	**14**	P	**P**	**08 50 11.5**	**+

PAHR **Pah Rah Range** 81.55 42 IAmb IAmb 08 50 19.0
comp=Z,20nm,1.0s
NV11 **Mina Array Sit** 81.60 44 P P 08 50 17.2 +0.3
NV11 IAmb IAmb 08 50 19.2
comp=Z,25nm,1.2s
P17K **Kvichak River** 81.64 11 P P 08 50 16.6 +0.3
baz=201
O16K **Kokwok River B** 81.72 10 P P 08 50 16.9 +0.1
baz=199
HSIG 81.77 55 P P 08 50 18.7 +0.9
214A **Organ Pipe Nat** 81.82 52 P P 08 50 18.7 +0.6
baz=239
Q20K **Shuyak Island** 81.91 13 P P 08 50 20.0 +2.2
baz=205
KVN **Kaiserville** 81.99 43 P P 08 50 20.1 +1.2
KVN IAmb IAmb 08 50 21.0
comp=Z,35nm,1.3s
TPNV **Topopah Spring** 82.03 46 IAmb IAmb 08 50 21.5
comp=Z,17nm,0.8s
TPNV **Topopah Spring** 82.03 46 P P 08 50 20.0 +0.8
baz=237,SNR=24
P18K **Big Mountain,** 82.05 12 P P 08 50 18.5 0.0
baz=202
O17K **Koliganek Bris** 82.06 11 P P 08 50 18.9 +0.4
baz=200
PDMCI **Parker Dam,Lak** 82.07 49 P P 08 50 21.3 +2.2
baz=238,SNR=7.8
PLTX **Planet X, Gerl** 82.08 41 IAmb IAmb 08 50 21.7
comp=Z,23nm,0.8s
MOD **Modoc Plateau** 82.28 40 P P 08 50 21.7 +1.4
MOD IAmb IAmb 08 50 22.7
comp=Z,20nm,0.7s
K05A **Summer Lake** 82.42 39 P P 08 50 22.4 +1.4
K05A IAmb IAmb 08 50 23.9
comp=Z,48nm,1.0s
KLR **Kul'dur** 82.43 330 P P 08 50 21.4 +0.7
comp=Z,8.9nm,0.9s,baz=99,slow=4.8,SNR=19
comp=Z,8.9nm,0.9s
N16K **Nishlik Lake** 82.45 10 P P 08 50 21.5 +1.0
baz=199,SNR=11
Q09A **Carvers** 82.46 44 IAmb IAmb 08 50 23.5
comp=Z,32nm,0.8s
WTNK **Soaring Height** 82.46 47 P P 08 50 22.5 +1.3
WTNK IAmb IAmb 08 50 23.5
comp=Z,4.2nm,1.0s
O18K **Koktuh Hills** 82.48 12 P P 08 50 21.3 +0.7
O18K **Koktuh Hills** 82.48 12 P P 08 50 20.8 +0.1
baz=202,SNR=12
IPM **Ipoh** 82.66 278 P P 08 50 23.3 +0.6
IPM IAmb IAmb 08 50 24.4
comp=Z,33nm,0.7s
P19K **Oil Pt** 82.69 13 P P 08 50 22.1 +0.3
baz=204
Y14A **Wickenburg** 82.69 50 P P 08 50 23.8 +1.4
S11A **Rachel** 82.75 45 IAmb IAmb 08 50 24.8
comp=Z,16nm,0.7s
H04A **Detroit Lake** 82.88 37 IAmb IAmb 08 50 25.0
comp=Z,14nm,1.5s
O19K **Port Alsworth** 82.97 12 P P 08 50 23.4 +0.4
O19K **Port Alsworth** 82.97 12 P P 08 50 23.5 +0.4
baz=203,SNR=22
ILSW **Iliamna Southw** 83.01 13 P P 08 50 22.7 -0.7
ILSW IAmb IAmb 08 50 24.3
comp=Z,77nm,0.8s
PINE **Pine Mountain** 83.04 38 IAmb IAmb 08 50 27.0
comp=Z,43nm,0.8s
PRN **Pahroc Range** 83.08 46 P P 08 50 26.1 +1.7
PRN IAmb IAmb 08 50 27.1
comp=Z,15nm,0.8s
N18K **Kilae Creek** 83.13 11 P P 08 50 24.0 +0.1
baz=201
O20K **Slope Mountain** 83.20 13 P P 08 50 25.0 +0.6
baz=204
R11A **Troy Canyon, C** 83.23 45 P P 08 50 26.3 +1.2
R11A **Troy Canyon, C** 83.23 45 P P 08 50 25.7 +0.5
baz=237,SNR=8.4
KULM **Kulim** 83.30 278 P P 08 50 27.1 +1.2
KULM IAmb IAmb 08 50 27.4
comp=Z,14nm,0.6s
BRSE **Bradley Lake S** 83.30 14 P P 08 50 25.6 +0.9
baz=206
BMN **Battle Mountai** 83.33 42 P P 08 50 26.9 +1.4
BMN IAmb IAmb 08 50 27.8
comp=Z,16nm,0.9s
TUC **Tucson** 83.49 52 P P 08 50 27.8 +1.3
TUC **Tucson** 83.49 52 P P 08 50 27.3 +0.9
baz=240
N19K **Bonanza Creek** 83.51 12 P P 08 50 26.0 +0.1
baz=202
WVOR **Wild Horse Val** 83.59 40 P P 08 50 28.2 +1.5
WVOR IAmb IAmb 08 50 29.4
comp=Z,21nm,1.1s
MA2 **Magadan** 83.83 345 P P 08 50 27.4 +0.1
comp=Z,9.5nm,0.7s,baz=195,slow=12,SNR=4.9
comp=Z,9.5nm,0.7s
SEW **Seward** 83.92 14 P P 08 50 28.4 +0.7
baz=207
I07A **Izee** 84.04 38 IAmb IAmb 08 50 31.6
comp=Z,19nm,0.9s
LCMT **Little Creek M** 84.10 47 P P 08 50 29.7 +0.3
319A **Douglas** 84.16 54 IAmb IAmb 08 50 32.9
comp=Z,29nm,1.1s
O22K **Cooper Landing** 84.19 14 P P 08 50 28.4 -0.7
baz=207
J08A **Circle Bar Ran** 84.23 39 P P 08 50 31.6 +1.8
J08A IAmb IAmb 08 50 32.4
comp=Z,25nm,1.3s
N20K **Mount Spurr** 84.31 12 P P 08 50 29.7 -0.1
baz=205,SNR=5.3
SPCR **Spurr Chakacha** 84.31 12 P P 08 50 29.3 -0.4
baz=205
SPR3 **Spring Creek 3** 84.41 45 P P 08 50 31.2 0.0
SPR3 IAmb IAmb 08 50 36.8
comp=Z,3.4nm,0.9s
U15A **North Rim** 84.46 48 IAmb IAmb 08 50 34.0
comp=Z,20nm,0.6s
PSUT **Pine Spring** 84.48 45 P P 08 50 32.1 +0.7
M19K **Big River Lodg** 84.54 11 IAmb IAmb 08 50 31.8
comp=Z,20nm,0.7s
M19K **Big River Lodg** 84.54 11 P P 08 50 31.4 +0.6
baz=203,SNR=5.3
WUAZ **Wupatki** 84.64 49 P P 08 50 33.0 +0.9
WUAZ **Wupatki** 84.64 49 P P 08 50 32.6 +0.4
baz=240,SNR=6.5
L19K **White Mountain** 84.71 11 P P 08 50 32.7 +1.0
baz=202
RC01 **Rabbit Creek A** 84.73 14 P P 08 50 32.6 +0.9
baz=207
M20K **Styx River** 84.75 12 P P 08 50 32.8 +0.9
baz=204
PWL **Port Wells** 84.84 14 P P 08 50 32.8 +0.5
baz=208
SUA **Susitna One** 84.85 13 P P 08 50 32.8 +0.3
baz=206,SNR=6.0
PKCU **Pink Cliffs** 84.96 47 IAmb IAmb 08 50 37.0
comp=Z,15nm,0.8s
G08A **Pilot Rock** 85.07 38 P P 08 50 35.7 +1.8
G08A IAmb IAmb 08 50 36.3
comp=Z,22nm,0.9s
SKT **Skwentna** 85.16 12 P P 08 50 34.0 +0.2
baz=205
L20K **Farewell, AK** 85.16 11 P P 08 50 33.5 -0.3
baz=203
HEH **HeiHe** 85.20 329 *e*P P 08 50 35.0 +0.7
HEH pmax pmax
comp=Z,30nm,0.6s
HEH pmax pmax
comp=Z,190nm,8.0s
TTA **Tatalina** 85.21 10 P P 08 50 34.6 +0.5
baz=201
M22K **Willow** 85.25 13 P P 08 50 34.3 +0.1
baz=206
LTY **Liberty** 85.29 35 IAmb IAmb 08 50 36.9
comp=Z,19nm,1.2s
HNS **HongShan** 85.30 313 ⇓P P 08 50 36.4 +1.4
HNS pmax pmax
comp=Z,23nm,1.0s
KNK **Knik Glacier** 85.31 14 IAmb IAmb 08 50 35.8
comp=Z,28nm,0.8s
KNK **Knik Glacier** 85.31 14 P P 08 50 34.9 +0.3
baz=208
PMR **Palmer** 85.31 14 P P 08 50 34.8 +0.3
PMR **Palmer** 85.31 14 P P 08 50 35.0 +0.6
baz=207,SNR=5.5
MTPU **Mount Pierson** 85.35 47 P P 08 50 36.8 +1.1
HAWA **Hanford** 85.39 37 P P 08 50 35.7 +0.4
HAWA IAmb IAmb 08 50 37.9
comp=Z,25nm,0.9s
TCRU **Three Creeks R** 85.46 46 P P 08 50 35.7 -0.4
LYN **LuoYang** 85.48 309 ⇓*i*P P 08 50 37.5 +1.5
LYN pmax pmax
comp=Z,20nm,0.9s
MVU **Marysvale** 85.57 46 IAmb IAmb 08 50 40.9
comp=Z,20nm,0.8s
V35K **Ketchikan** 85.57 25 P P 08 50 36.7 +0.8
baz=223
U33K **Whale Pass** 85.57 24 P P 08 50 37.2 +1.3
baz=222
W18A **Petrified Fore** 85.61 50 P P 08 50 36.6 -0.2
baz=241
BJI **Beijing** 85.67 316 P P 08 50 37.5 +0.8
BJI pmax pmax
comp=Z,15nm,0.7s
SML **Sawmill** 85.68 14 P P 08 50 37.2 +0.9
baz=208
DIV **Divide** 85.69 15 IAmb IAmb 08 50 38.3
comp=Z,31nm,0.9s
BMO **Blue Mountains** 85.77 39 IAmb IAmb 08 50 39.3
comp=Z,12nm,0.8s
CUT **Chulitna** 85.80 13 P P 08 50 37.1 +0.3
baz=206
M23K **Glacier View** 85.81 14 P P 08 50 37.2 +0.3
baz=209
121A **Cookes Peak, D** 85.83 53 P P 08 50 37.3 -0.6
121A **Cookes Peak, D** 85.83 53 P P 08 50 38.2 +0.3
baz=242
BMRM **Bremner River** 85.85 16 P P 08 50 38.0 +0.8
baz=212
MFID **Camas Ranch** 85.85 40 P P 08 50 38.0 +0.3
MFID IAmb IAmb 08 50 40.0
comp=Z,14nm,1.1s
PPLA **Purkeypile** 85.86 12 P P 08 50 37.9 +0.6
baz=205
S31K **Pelican** 85.87 21 P P 08 50 37.8 +0.6
baz=219
MESA **MESA** 85.89 17 P P 08 50 38.4 +0.8
baz=214
SCM **Sheep Creek Mo** 85.94 14 P P 08 50 38.3 +0.7
baz=209,SNR=8.2
K20K **Telida** 85.94 11 P P 08 50 38.0 +0.5
baz=203
KLU **Klutina** 85.97 15 IAmb IAmb 08 50 39.2
comp=Z,19nm,0.8s
KLU **Klutina** 85.97 15 P P 08 50 38.1 +0.3
baz=210
DUG **Dugway, Tooele** 86.04 44 P P 08 50 38.5 -0.2
baz=239
WRAK **Wrangell Islan** 86.09 24 P P 08 50 39.6 +1.3
baz=222
D08A **Wollman Farm,** 86.13 36 IAmb IAmb 08 50 41.2
comp=Z,27nm,0.9s
E09A **Wood Farm, Sta** 86.24 37 IAmb IAmb 08 50 41.5
comp=Z,21nm,1.1s
GYA **Guiyang** 86.31 300 ⇑P P 08 50 41.6 +1.4
GYA pmax pmax
comp=Z,16nm,0.8s
CAST **Castle Rocks** 86.36 12 IAmb IAmb 08 50 39.5
comp=Z,27nm,0.8s
CAST **Castle Rocks** 86.36 12 P P 08 50 38.3 -1.2
baz=205,SNR=15
N25K **Chitina, Valde** 86.39 16 P P 08 50 39.9 +0.1
baz=212,SNR=5.5
NLU **North Lily Min** 86.40 45 P P 08 50 40.3 -0.2
SEY **Seymchan** 86.44 347 P P 08 50 40.3 +0.5
comp=Z,22nm,0.5s,baz=149,slow=5.6,SNR=64
comp=Z,22nm,0.5s
M24K **Tolsona, Glenn** 86.44 15 P P 08 50 40.4 +0.5
baz=210
GLB **Gilahina Butte** 86.45 16 P P 08 50 40.5 +0.5
WAT6 **Susitna Watana** 86.50 14 P P 08 50 40.4 0.0
baz=209,SNR=13
WAT1 **Susitna Watana** 86.54 13 P P 08 50 40.6 +0.2
baz=208
MCARA **McCarthy VSAT** 86.61 16 P P 08 50 41.4 +0.7
MCARA IAmb IAmb 08 50 43.1
comp=Z,32nm,1.1s
MCARA **McCarthy VSAT** 86.61 16 P P 08 50 42.0 +1.3
baz=213
TMUT **Trail Mountain** 86.64 46 IAmb IAmb 08 50 44.5
comp=Z,14nm,1.1s
B08A **Colville Reser** 86.67 35 P P 08 50 41.9 +0.5
B08A IAmb IAmb 08 50 42.9
comp=Z,22nm,0.8s
PLID **Pearl Lake** 86.67 39 IAmb IAmb 08 50 43.7
comp=Z,41nm,1.5s
J20K **Nowinta River** 86.69 10 P P 08 50 41.4 +0.4
J20K IAmb IAmb 08 50 42.0
comp=Z,11nm,0.8s
J20K **Nowinta River** 86.69 10 P P 08 50 41.7 +0.8
baz=203
P29M **Windy Craggy** 86.69 19 P P 08 50 42.7 +1.5
baz=218
R32K **Eaglecrest** 86.69 22 P P 08 50 42.6 +1.4
baz=221
KTH **Kantishna Hill** 86.70 12 IAmb IAmb 08 50 41.4
comp=Z,24nm,0.9s
LLLB **Lillooet** 86.72 32 IAmb IAmb 08 50 43.1
comp=Z,12nm,0.7s
TRF **Thorofare Moun** 86.73 12 P P 08 50 41.3 -0.1
TRF **Thorofare Moun** 86.73 12 P P 08 50 40.7 -0.8
baz=206,SNR=18
CHUM **Lake Minchumin** 86.74 11 P P 08 50 40.9 -0.3
baz=204,SNR=6.2
GCSA **Galena City Sc** 86.78 9 P P 08 50 42.5 +1.1
baz=200,SNR=5.3
HLID **Hailey** 86.80 41 IAmb IAmb 08 50 44.8
comp=Z,13nm,0.9s
HLID **Hailey** 86.80 41 P P 08 50 42.6 +0.4
baz=237,SNR=22
O28M **Mount Upton** 86.88 18 P P 08 50 42.5 +0.1
baz=216,SNR=5.8
HVU **Hansel Valley** 86.88 43 P P 08 50 42.4 -0.2
HVU IAmb IAmb 08 50 45.7
comp=Z,21nm,1.6s
C09A **Chrisman Ranch** 86.92 36 IAmb IAmb 08 50 44.5
comp=Z,22nm,0.9s
HARP **HAARP** 86.94 15 P P 08 50 43.0 +0.8
baz=211
O29M **Mount Kennedy** 86.97 19 P P 08 50 43.6 +1.0
baz=217
PLBC **Pleasant Camp** 86.99 20 P P 08 50 43.6 +1.1
baz=219
SRU **San Rafael Swe** 87.01 46 P P 08 50 44.6 +1.2
SRU IAmb IAmb 08 50 45.5
comp=Z,12nm,0.8s
DHY **Denali Highway** 87.01 14 P P 08 50 43.1 +0.4
DHY **Denali Highway** 87.01 14 P P 08 50 43.3 +0.6
baz=209
JLU **Jordanelle** 87.14 45 P P 08 50 44.9 +0.9
Y22D **IRIS PASSCAL I** 87.17 52 P P 08 50 44.3 +0.1
baz=243
Y22F **Passcal Instru** 87.17 52 P P 08 50 44.0 -0.2
baz=243
MCK **McKinley** 87.26 13 P P 08 50 44.0 +0.3
baz=208,SNR=16
P30M **Million Dollar** 87.32 19 P P 08 50 45.6 +1.5
baz=218
SKAG **Skagway** 87.33 20 P P 08 50 46.3 +2.2
baz=220
PAX **Paxson** 87.36 14 IAmb IAmb 08 50 44.7
comp=Z,10nm,0.9s
PAX **Paxson** 87.36 14 P P 08 50 44.3 0.0
baz=211,SNR=5.0
YUK8 **Steele Glacier** 87.42 18 P P 08 50 44.6 -0.3
baz=216,SNR=11
TCUT **Toone Canyon** 87.43 44 IAmb IAmb 08 50 49.4
comp=Z,17nm,1.1s
P18A **Preston Nutter** 87.45 46 IAmb IAmb 08 50 47.7
comp=Z,17nm,1.5s
M26K **Nabesna, AK** 87.47 16 P P 08 50 44.1 -0.7
baz=213
BWN **Browne** 87.55 12 P P 08 50 45.4 +0.4
YUK6 **Outpost Mounta** 87.55 18 P P 08 50 45.5 +0.1
baz=217
HWUT **Hardware Ranch** 87.57 44 P P 08 50 46.2 +0.3
TX31 **Lajitas Ar. Si** 87.58 58 P P 08 50 46.3 +0.2
TX32 **Lajitas Array** 87.58 58 P P 08 50 46.3 +0.1
TX32 IAmb IAmb 08 50 48.9
comp=Z,10nm,0.9s
TXAR **Lajitas Array** 87.58 58 P P 08 50 47.7 +1.5
comp=Z,7.3nm,0.8s,baz=218,slow=6.0,SNR=79
TXAR PKKPbc **PKKPbc** 09 08 31.8 +0.5
comp=Z,0.3nm,0.5s,baz=116,slow=4.1,SNR=6.0
comp=Z,7.3nm,0.8s
TXAR **Lajitas Array** 87.58 58 P P 08 50 47.4 +1.2
YUK3 **Moose Creek** 87.62 17 P P 08 50 45.9 +0.2
baz=215,SNR=18
S34M **Telegraph Cree** 87.63 23 P P 08 50 46.2 +0.7
baz=224,SNR=6.7
HYT **Haines Junctio** 87.71 19 IAmb IAmb 08 50 48.0
comp=Z,15nm,0.9s
HYT **Haines Junctio** 87.71 19 P P 08 50 47.0 +1.0
baz=218
M27K **Edge Creek, AK** 87.72 16 P P 08 50 46.5 +0.4
M27K **Edge Creek, AK** 87.72 16 P P 08 50 46.0 -0.1
baz=214,SNR=9.9
MENT **Mentasta** 87.75 15 IAmb IAmb 08 50 47.7
comp=Z,24nm,1.0s
XLT **XiLinHaoTe** 87.75 319 *e*P P 08 50 47.5 +0.9
XLT pmax pmax
comp=Z,15nm,0.7s
XLT pmax pmax
comp=Z,110nm,3.7s
YUK4 **Talbot Arm** 87.79 18 P P 08 50 46.7 +0.3
baz=217
NEW **Newport** 87.82 36 P P 08 50 47.3 +0.6
comp=Z,5.8nm,0.8s,baz=236,slow=3.7,SNR=15
comp=Z,5.8nm,0.8s
NEW **Newport** 87.82 36 IAmb IAmb 08 50 48.4
comp=Z,10nm,1.0s
NEW **Newport** 87.82 36 P P 08 50 46.5 -0.2
baz=235,SNR=6.5
XAN **Xi'an** 87.85 308 ⇓P P 08 50 48.5 +1.3
XAN pmax pmax
comp=Z,44nm,0.9s
ANMO **Albuquerque** 87.91 51 P P 08 50 48.2 +0.6
comp=Z,6.6nm,1.0s,baz=216,slow=5.3,SNR=18
comp=Z,6.6nm,1.0s
ANMO **Albuquerque** 87.91 51 P P 08 50 48.7 +1.1
ANMO **Albuquerque** 87.91 51 P P 08 50 47.4 -0.3
baz=243
L26K **Log Cabin Wild** 87.91 15 IAmb IAmb 08 50 48.5
comp=Z,17nm,1.1s
L26K **Log Cabin Wild** 87.91 15 P P 08 50 47.6 +0.8
baz=213,SNR=5.4
P32M **Atlin** 87.96 21 P P 08 50 48.2 +1.1
baz=221
I21K **Tanana** 87.98 11 P P 08 50 47.6 +0.6
baz=205
Q32M **Nakina River** 87.99 22 P P 08 50 48.2 +0.8
baz=222
NEA2 **Nenana** 88.00 12 P P 08 50 46.7 -0.4
NEA2 IAmb IAmb 08 50 47.7
comp=Z,15nm,0.6s
NEA2 **Nenana** 88.00 12 P P 08 50 46.6 -0.5
baz=207,SNR=9.2
K24K **Donnelly Dome** 88.00 14 P P 08 50 48.2 +1.0
baz=210,SNR=7.6
BVCY **Beaver Creek** 88.04 17 P P 08 50 48.7 +1.3
baz=215,SNR=12
MLY **Manley** 88.07 11 P P 08 50 47.3 -0.3
baz=206,SNR=16
O30N **Mendenhall** 88.10 19 P P 08 50 49.3 +1.6
baz=219,SNR=6.4
RIDG **Independent Ri** 88.16 14 IAmb IAmb 08 50 49.3
comp=Z,28nm,1.1s
RIDG **Independent Ri** 88.16 14 P P 08 50 48.4 +0.4
baz=211,SNR=5.7
GDL2 **Guadalupe Moun** 88.27 55 P P 08 50 50.6 +1.3
DOT **Dot Lake** 88.27 15 P P 08 50 49.2 +0.8
DOT IAmb IAmb 08 50 49.8
comp=Z,18nm,0.8s
HDA **Harding Lake** 88.28 13 P P 08 50 48.6 +0.2
baz=209,SNR=22
H21K **Melozitna Rive** 88.28 10 P P 08 50 48.9 +0.5
H21K IAmb IAmb 08 50 50.9
comp=Z,14nm,0.7s
H21K **Melozitna Rive** 88.28 10 P P 08 50 49.3 +0.9
baz=204
L27K **Beaver Creek,** 88.32 16 P P 08 50 49.7 +1.0
baz=214
N30M **Aishikik Lake** 88.34 19 P P 08 50 50.1 +1.3
baz=218
BCAR **Beaver Creek A** 88.34 16 P P 08 50 49.6 +0.8
RDMU **Red Mountain** 88.37 45 IAmb IAmb 08 50 51.6
comp=Z,10nm,0.9s
WHY **Whitehorse** 88.39 20 P P 08 50 50.5 +1.3
WHY IAmb IAmb 08 50 51.3
comp=Z,13nm,0.8s
WHY **Whitehorse** 88.39 20 P P 08 50 50.6 +1.4
baz=220,SNR=5.4
DLBC **Dease Lake** 88.42 23 P P 08 50 50.0 +0.7
comp=Z,8.5nm,0.8s,baz=243,slow=4.7,SNR=12
comp=Z,8.5nm,0.8s
DLBC **Dease Lake** 88.42 23 P P 08 50 50.9 +1.6
baz=224
MCMT **McKenzie Canyo** 88.42 40 P P 08 50 51.7 +1.8
IMAR **Indian Mountai** 88.42 10 P P 08 50 49.6 +0.6
I23K **Minto, Yukon-K** 88.44 12 IAmb IAmb 08 50 49.9
comp=Z,11nm,0.6s
I23K **Minto, Yukon-K** 88.44 12 P P 08 50 49.0 -0.1
baz=207,SNR=10.0
AHID **Auburn Hatcher** 88.45 43 IAmb IAmb 08 50 52.3
comp=Z,31nm,1.6s
MDM **Murphy Dome** 88.49 12 P P 08 50 49.1 -0.3
TCOL **CIGO, UAF Yank** 88.49 13 P P 08 50 49.3 -0.1
baz=208,SNR=15
COLA **College** 88.50 13 P P 08 50 49.3 0.0
COLA **College** 88.50 13 P P 08 50 49.5 +0.2
baz=208
SCRK **Sand Creek** 88.57 14 P P 08 50 50.8 +0.8
SCRK IAmb IAmb 08 50 51.3
comp=Z,18nm,1.0s
SCRK **Sand Creek** 88.57 14 P P 08 50 49.9 0.0
baz=212,SNR=8.1
IL31 88.61 13 P P 08 50 49.8 -0.1
ILAR **Eielson Array** 88.61 13 P P 08 50 49.7 -0.2
comp=Z,8.4nm,0.4s,baz=217,slow=5.2,SNR=184
ILAR PP **PP** 08 54 26.4 -3.6
comp=Z,1.4nm,1.1s,baz=205,slow=8.2,SNR=4.0
ILAR PKiKP **PKiKP** 08 55 44.7 -1.0
comp=Z,0.4nm,0.4s,baz=267,slow=3.0,SNR=6.2
comp=Z,8.4nm,0.4s
M29M **Somme Creek** 88.72 17 P P 08 50 51.9 +1.2
baz=217
P33M **Teslin, Yukon** 88.73 21 P P 08 50 51.9 +1.2
P33M IAmb IAmb 08 50 52.7
comp=Z,8.8nm,0.9s
P33M **Teslin, Yukon** 88.73 21 P P 08 50 52.0 +1.3
baz=222
H22K **Ishtalitna Cre** 88.74 11 P P 08 50 51.1 +0.5
baz=205,SNR=16
N31M **Braeburn, Yuko** 88.75 19 P P 08 50 50.7 0.0
baz=219
R33M **Jennings River** 88.77 22 P P 08 50 52.2 +1.2
baz=224
J25K **Salcha River,** 88.80 14 P P 08 50 51.3 +0.4
baz=211,SNR=14
POKR **Poker Plat Res** 88.80 13 IAmb IAmb 08 50 50.9
comp=Z,15nm,0.7s
POKR **Poker Plat Res** 88.80 13 P P 08 50 50.8 0.0
baz=209
MSO **Missoula** 88.83 38 P P 08 50 51.3 -0.2
baz=238
REDW **Red Top Meadow** 88.91 42 P P 08 50 53.3 +1.2
TPAW **Teton Pass** 88.91 42 IAmb IAmb 08 50 54.6
comp=Z,12nm,0.9s
S22A **4UR Ranch, Cre** 88.92 49 IAmb IAmb 08 50 55.4
comp=Z,12nm,1.3s
S22A **4UR Ranch, Cre** 88.92 49 P P 08 50 52.2 -0.2
baz=243,SNR=9.5
FXWY **Fox Creek** 88.94 42 P P 08 50 53.8 +1.5
FXWY IAmb IAmb 08 50 55.5
comp=Z,9.7nm,1.1s
G21K **Allakaket** 88.95 10 P P 08 50 52.2 +0.7
baz=203
KMI **Kunming** 88.99 297 ⇑P P 08 50 55.3 +2.4
KMI pmax pmax
comp=Z,31nm,0.9s
H23K **Yukon River** 89.01 12 P P 08 50 52.1 +0.3
H23K IAmb IAmb 08 50 52.4
comp=Z,9.9nm,0.9s
H23K **Yukon River** 89.01 12 P P 08 50 52.2 +0.4
baz=207,SNR=5.4
SNOW **Snow King Moun** 89.02 42 P P 08 50 54.1 +1.4
O20A **White River Ci** 89.05 46 IAmb IAmb 08 50 54.8
comp=Z,10nm,0.9s
O20A **White River Ci** 89.05 46 P P 08 50 54.2 +1.4
baz=242,SNR=6.7
K27K **Chicken** 89.07 15 P P 08 50 53.4 +1.3
K27K IAmb IAmb 08 50 54.2

comp=Z,18nm,0.8s
K27K Chicken 89.07 15 P P 08 50 53.7 +1.6
baz=214
J26L Joseph Creek 89.11 14 P P 08 50 53.4 +0.9
J26L Joseph Creek 89.11 14 P P 08 50 53.5 +1.1
baz=212,SNR=26
IMW Indian Meadow 89.12 42 IAmb IAmb 08 50 55.6
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 89.12 315 eP P 08 50 57.4 +4.3
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,110nm,5.8s
BILL Bilibino 89.17 354 P P 08 50 53.3 +0.8
BILL IAmb IAmb 08 50 54.0
comp=Z,17nm,1.2s
MOOW Moose Ponds 89.17 42 P P 08 50 54.6 +1.2
MOOW IAmb IAmb 08 50 55.5
comp=Z,36nm,1.9s
LOHW Long Hollow 89.19 42 P P 08 50 54.5 +1.1
LOHW IAmb IAmb 08 50 55.5
comp=Z,9.0nm,0.7s
QLMT Earthquake Lak 89.29 41 P P 08 50 55.7 +1.8
M30M Minto, Yukon 89.30 18 P P 08 50 54.4 +1.1
baz=218
H24K Noodor Dome 89.34 12 P P 08 50 52.4 -1.0
baz=208
N32M Quiet Lake 89.34 20 P P 08 50 55.1 +1.6
baz=222
L29M L29M 89.34 17 P P 08 50 54.8 +1.3
baz=217,SNR=16
FLWY Flagg Ranch 89.36 42 IAmb IAmb 08 50 56.9
comp=Z,17nm,0.9s
YHB Horse Butte 89.39 41 IAmb IAmb 08 50 57.2
comp=Z,14nm,1.1s
BW06 Boulder Array 89.44 43 IAmb IAmb 08 50 56.2
comp=Z,12nm,0.7s
BW06 Boulder Array 89.44 43 P P 08 50 55.4 +0.7
baz=241
PD31 Pinedale Array 89.44 43 P P 08 50 55.5 +0.8
PD31 IAmb IAmb 08 50 56.2
comp=Z,10nm,0.7s
PDAR Pinedale Array 89.44 43 P P 08 50 55.5 +0.8
comp=Z,9.5nm,0.6s,baz=213,slow=3.5,SNR=108
comp=Z,9.5nm,0.6s
YHL Hebgen Lake 89.45 41 IAmb IAmb 08 50 57.7
comp=Z,6nm,1.1s
PRP Porcupine Dome 89.54 13 IAmb IAmb 08 50 56.1
comp=Z,32nm,1.4s
PRP Porcupine Dome 89.54 13 P P 08 50 55.3 +0.9
baz=211,SNR=9.4
BOZ Bozeman (W) 89.55 40 IAmb IAmb 08 50 57.3
comp=Z,8.6nm,0.9s
BOZ Bozeman (W) 89.55 40 P P 08 50 56.5 +1.5
baz=239,SNR=10
H17A Grant Village 89.60 42 P P 08 50 57.9 +2.5
baz=240
F21K Alatna River 89.61 9 P P 08 50 55.1 +0.6
baz=203
G22K Bettles 89.65 10 P P 08 50 55.6 +0.8
baz=205,SNR=10
CMAR Chiang Mai Arr 89.70 290 P P 08 50 58.1 +2.0
comp=Z,10nm,0.6s,baz=122,slow=3.2,SNR=7.4
comp=Z,10nm,0.6s
G23K Bananza Creek 89.72 11 P P 08 50 56.2 +1.1
baz=206
M31M Drury Creek, Y 89.72 19 P P 08 50 55.9 +0.7
baz=221
DAWY Dawson 89.78 16 P P 08 50 56.3 +0.8
DAWY Dawson 89.78 16 P P 08 50 56.4 +1.0
baz=216,SNR=16
CHTO Chiang Mai 89.83 290 P P 08 50 58.1 +1.4
SDCO Great Sand Dun 89.86 49 P P 08 50 57.4 +0.6
SDCO IAmb IAmb 08 50 58.6
comp=Z,11nm,1.4s
SDCO Great Sand Dun 89.86 49 P P 08 50 57.6 +0.8
baz=243
I26K Coal Creek Min 89.89 14 P P 08 50 56.2 +0.4
I26K Coal Creek Min 89.89 14 P P 08 50 56.8 +1.0
baz=213
EGAK Eagle 89.91 15 P P 08 50 56.6 +0.6
EGAK Eagle 89.91 15 P P 08 50 56.6 +0.6
baz=215,SNR=18
HRY Holter Researc 90.00 39 P P 08 50 58.1 +1.1
FARO Faro, Yukon 90.07 19 P P 08 50 57.4 +0.6
baz=222
F22K John River 90.08 10 P P 08 50 57.5 +0.7
baz=204
K29M Barlow Dome 90.09 17 P P 08 50 58.1 +1.1
baz=218
COLD Coldfoot 90.15 11 IAmb IAmb 08 50 58.9
comp=Z,17nm,0.9s
COLD Coldfoot 90.15 11 P P 08 50 58.2 +1.2
baz=206,SNR=10
G24K Hadweenzic Riv 90.18 12 P P 08 50 57.3 +0.1
baz=209
MSTX Muleshoe 90.23 54 IAmb IAmb 08 50 59.9
comp=Z,8.3nm,0.8s
MSTX Muleshoe 90.23 54 P P 08 50 59.1 +0.8
baz=245
PZH PanZhiHua 90.35 298 P P 08 50 00.3 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,6.7s
MAYO Mayo, Yukon 90.35 18 P P 08 50 59.7 +1.6
baz=219,SNR=10
T25A Trinidad 90.37 50 P P 08 50 59.8 +0.7
baz=244
J29M Klondike Camp 90.39 16 P P 08 50 60.0 +1.6
J29M Klondike Camp 90.39 16 P P 08 50 59.7 +1.4
baz=217
RWWY Rawlins 90.47 45 P P 08 51 00.2 +0.7
I27K Kandik River 90.49 14 P P 08 50 59.1 +0.4
baz=214
LIRD Liard River Hi 90.56 24 P P 08 51 00.5 +1.4
baz=228,SNR=6.1
833A Chaparral WMA, 90.59 60 P P 08 51 00.2 +0.2
baz=247
Q24A Divide 90.64 48 P P 08 51 01.7 +1.3
baz=244
E22K Anaktuvuk Pass 90.71 10 P P 08 51 00.4 +0.7
baz=205
RLMT Red Lodge 90.77 41 P P 08 51 01.0 +0.3
baz=241
F24K Squaw Lake 90.82 11 P P 08 51 01.4 +1.2
baz=208
N23A Red Feather La 90.95 46 P P 08 51 03.1 +1.4
N23A IAmb IAmb 08 51 04.4
comp=Z,9.0nm,1.0s
N23A Red Feather La 90.95 46 P P 08 51 02.8 +1.0
baz=243,SNR=6.9
E23K Chandalar 91.00 10 P P 08 51 02.1 +1.0
baz=207
BRLDA Berland Lookou 91.00 31 P P 08 51 03.0 +1.5
MMPY Sheldon Lake, 91.01 20 P P 08 51 02.5 +1.3
baz=223
H27K Steamboat Moun 91.03 14 P P 08 51 02.3 +1.1
baz=214,SNR=6.9
I29M Ogilvie Camp, 91.10 16 IAmb IAmb 08 51 02.5
comp=Z,9.4nm,0.9s
I29M Ogilvie Camp, 91.10 16 P P 08 51 01.8 +0.3
baz=217,SNR=8.7
JCT Junction City 91.11 58 IAmb IAmb 08 51 03.6
comp=Z,5.0nm,0.8s
JCT Junction City 91.11 58 P P 08 51 02.9 +0.5
baz=246
G26K Porcupine Rive 91.14 13 P P 08 51 02.9 +1.3
baz=212
E24K Your Creek 91.21 11 P P 08 51 02.9 +0.9
baz=208
TGTN Hyland Airport 91.22 22 P P 08 51 03.7 +1.5
baz=226,SNR=5.3
F25K Christian Rive 91.31 12 P P 08 51 03.6 +1.1
baz=210
K22A Casper 91.36 45 IAmb IAmb 08 51 05.1
comp=Z,11nm,1.1s
K22A Casper 91.36 45 P P 08 51 04.2 +0.8
baz=243
BMAR Burnt Mountain 91.38 12 P P 08 51 04.2 +1.4
PHWY Pilot Hill 91.47 46 IAmb IAmb 08 51 40.2
comp=Z,16nm,0.9s
G27K Doyon Strip 91.48 14 P P 08 51 04.1 +0.9
baz=214
TOLK Toolik Lake Re 91.53 10 P P 08 51 04.4 +0.9
baz=207
D23K Nanushuk River 91.64 10 P P 08 51 05.1 +1.2
baz=206

F26K Sheenjek River 91.70 12 P P 08 51 05.3 +1.1
baz=212
E25K Arctic Village 91.78 12 P P 08 51 05.7 +1.1
baz=211
KOTAN Kotaneelee Air 91.82 24 P P 08 51 06.6 +1.7
baz=230
EGMT Eagleton 91.88 39 P P 08 51 06.3 +0.7
baz=241
ABTX Abilene, Hawle 92.08 56 P P 08 51 07.1 +0.3
baz=247
YAK Yakutsk 92.10 338 P P 08 51 06.1 0.0
comp=Z,9.5nm,0.5s,baz=174,slow=1.1,SNR=6.3
comp=Z,9.5nm,0.5s
EPYK Eagle Plains 92.30 16 IAmb IAmb 08 51 08.2
comp=Z,9.1nm,0.7s
EPYK Eagle Plains 92.30 16 P P 08 51 07.3 +0.3
baz=219,SNR=5.8
C23K Itkillik River 92.44 9 P P 08 51 08.3 +0.8
baz=206
KSCO Kaye Shedlock' 92.44 49 P P 08 51 09.0 +0.6
baz=245
LZH Lanzhou 92.48 308 ⇑P P 08 51 10.5 +1.7
LZH pP pwP 08 53 20.0 +0.7
LZH pmax pmax
comp=Z,26nm,1.4s
C24K Franklin Bluff 92.63 10 P P 08 51 09.2 +0.8
baz=208
E27K Coleen River 92.64 13 P P 08 51 09.3 +0.7
baz=214
D25K Kavik River 92.68 11 P P 08 51 09.2 +0.5
baz=210
G30M tAoh Zraii Nji 92.90 15 P P 08 51 10.3 +0.6
baz=219
LAO LASA Array 93.38 41 IAmb IAmb 08 51 14.8
comp=Z,7.2nm,0.8s
LAO LASA Array 93.38 41 P P 08 51 13.6 +1.2
baz=243
C27K Jago River 93.42 12 P P 08 51 13.2 +1.1
baz=212
C26K Camden Bay 93.45 11 P P 08 51 13.8 +1.6
baz=211
WHTX Lake Whitney, 93.54 57 P P 08 51 13.5 +0.1
baz=248
RSSD Black Hills 93.64 44 P P 08 51 14.0 +0.1
baz=245
F31M Tsiigehtchic 93.88 16 P P 08 51 14.6 +0.5
baz=221,SNR=5.7
INK Inuvik 94.58 15 P P 08 51 17.2 -0.1
comp=Z,4.8nm,0.9s,baz=202,slow=5.6,SNR=10
comp=Z,4.8nm,0.9s
INK Inuvik 94.58 15 IAmb IAmb 08 51 18.7
comp=Z,17nm,1.6s
INK Inuvik 94.58 15 P P 08 51 17.1 -0.2
baz=222
ULN Ulaanbaatar 95.17 319 P P 08 51 21.6 +0.9
ULN IAmb IAmb 08 51 21.7
comp=Z,3.5nm,0.9s
DGMT Dagmar 95.39 40 P P 08 51 22.7 +1.2
DGMT Dagmar 95.39 40 P P 08 51 22.2 +0.7
baz=245
SONM Songino Array 95.56 319 P P 08 51 22.1 -0.3
comp=Z,1.3nm,0.9s,baz=123,slow=5.1,SNR=4.3
comp=Z,1.3nm,0.9s
YKA Yellowknife Ar 96.89 25 P P 08 51 27.6 -0.3
comp=Z,1.9nm,0.7s,baz=247,slow=4.9,SNR=4.5
comp=Z,1.9nm,0.7s
C36M Paulatuk 97.77 17 P P 08 51 31.6 +0.1
baz=230
A36M Sachs Harbour 99.18 15 P Pdif 08 51 38.5 +0.7
baz=229
DWPF Disney Wildern 105.48 65 P PKiKP 08 56 16.6 -0.1
baz=254
ZALV Zalesovo Beam 110.32 321 PKiKP PKiKP 08 56 23.8 -1.2
comp=Z,3.8nm,0.5s,baz=120,slow=0.2,SNR=21
MKAR Makanchi Array 110.96 313 Pdiff Pdif 08 52 33.5 +2.6
comp=Z,0.5nm,0.6s,baz=44,slow=3.7,SNR=2.2
MKAR PKiKP PKiKP 08 56 25.6 -0.9
comp=Z,2.4nm,0.4s,baz=147,slow=0.7,SNR=41
GAR Garm 118.90 304 PKPdf 08 56 41.0 -1.1
BRVK Borovoye 118.96 320 PKPdf PKPdf 08 56 41.2 -0.4
KK31 Karatay Array 118.97 309 PKPdf 08 56 41.4 -0.5
KKAR Karatay Array 118.97 309 PKPdf 08 56 41.1 -0.9
KBL Kabul 119.54 299 PKPdf 08 56 43.6 +0.1
CHGR Chuyongaron 119.78 303 PKPdf 08 56 43.3 -0.5
DAG Danmarks Havn 122.97 5 eP PKPdf 08 56 47.0 -1.6
SFJD Kangerlussuaq 123.30 22 eP PKPdf 08 56 48.2 -1.3
SUMG Summit 123.45 13 i P PKPdf 08 56 49.0 -1.2
ARU Arti 125.07 325 PKPdf 08 56 53.3 +0.1
HRA Herat 125.13 298 PKPdf PKPdf 08 56 54.2 -0.1
BOSA Boshof 125.87 206 PKP PKPdf 08 56 55.9 0.0
comp=Z,1.1nm,0.5s,baz=250,slow=3.6,SNR=1.3
ABKAR Akbulak array 125.88 316 PKPdf 08 56 55.2 +0.2
GEYT Alibeck 128.46 302 PKP PKPdf 08 56 59.6 -0.7
comp=Z,5.4nm,0.7s,baz=30,slow=7.2,SNR=7.3
ARCES ARCESS Array B 129.01 349 PKP PKPdf 08 56 59.7 -0.7
comp=Z,7.7nm,0.5s,baz=48,slow=1.1,SNR=36
KLMR Klimovskoe 131.85 336 ePKPdf PKPdf 08 57 04.7 -1.2
KLMR AMP 08 57 07.3
comp=Z,17nm,1.4s
KLMR ePP PP 08 59 36.4 +0.8
FINES FINESS Array B 135.81 343 PKhKP PKPpre 08 57 01.1
comp=Z,1.5nm,0.6s,baz=37,slow=3.5,SNR=11
FINES PKP PKPdf 08 57 11.9 -1.4
comp=Z,5.1nm,0.5s,baz=73,slow=2.9,SNR=6.9
FINES SKPbc SKPbc 08 59 51.4 +1.1
comp=Z,9.2nm,0.8s,baz=64,slow=4.4,SNR=12
KBZ Khabaz 138.66 313 PKP PKPdf 08 57 17.7 -1.4
comp=Z,1.6nm,0.7s,baz=80,slow=6.1,SNR=2.0
KMBO Kilima Mbogo 138.81 243 PKP PKPdf 08 57 20.9 +0.2
comp=Z,2.3nm,0.7s,baz=63,slow=4.5,SNR=2.4
NB2 NORSAR Subarra 139.10 353 SKPa SKPbc 09 00 01.5 +1.7
comp=Z,1.1nm,0.7s,baz=12,slow=2.7
NB2 NORSAR Subarra 139.10 353 PKP PKPdf 08 57 10.8 -8.7
comp=Z,1.7nm,0.6s,baz=10,slow=3.2
NOA NORSAR Array B 139.10 353 PKhKP PKPpre 08 57 10.3
comp=Z,3.0nm,0.6s,baz=13,slow=2.3,SNR=14
NOA PKP PKPdf 08 57 19.7 +0.2
comp=Z,1.7nm,0.4s,baz=14,slow=3.9,SNR=6.3
NOA SKPbc SKPbc 08 59 59.2 -0.6
comp=Z,3.4nm,1.1s,baz=15,slow=5.1,SNR=3.9
MNK Minsk 140.74 336 i PKP PKPdf 08 57 19.1 -3.5
comp=E,1.0nm,0.7s
MNK i PKP PKPdf 08 57 19.1 -3.5
comp=N,17nm,0.7s
MNK i PKP PKPdf 08 57 19.1 -3.5
comp=Z,19nm,0.8s,baz=221
MNK i PP PP 09 00 27.4 -3.0
MNK i PPP PPP 09 03 39.5
MNK i SKKS 09 12 59.3
MNK i SS SS 09 18 10.1 -0.1
MNK i SSS SSS 09 23 36.7
MNK i LRM MLR 10 00 36.2
comp=E,20nm,16.1s
MNK i LRM MLR 10 00 48.4
comp=N,373nm,17.4s
MNK i LRM MLR 10 01 01.3
comp=Z,69nm,13.5s
HOMB Homborsund 142.11 354 i P PKPdf 08 57 21.0 -3.8
LODK Lodwar 142.81 247 PKPdf 08 57 25.6 -2.0
KAC Achnashellach 142.90 6 eP PKPdf 08 57 24.1 -2.2
AKASG Malin Array Be 142.93 331 PKP PKPdf 08 57 24.0 -2.6
comp=Z,50nm,0.4s,baz=42,slow=4.2,SNR=52
AKASG SKPbc SKPbc 09 00 08.8 -1.1
comp=Z,528nm,0.4s,baz=44,slow=3.5,SNR=4.5
MCD Coleburn Disti 142.99 4 eP 08 57 23.8
KPL Plockton 143.02 6 eP PKPab 08 57 23.9 -0.3
DEL Delary 143.09 349 i P PKPab 08 57 24.0 -0.5
DRUM Mains of Drumt 143.70 4 eP PKPbc 08 57 26.4 -0.4
MUD Monsted U'grnd 143.82 353 eP PKPab 08 57 27.6 +0.3
INVG Invergeldie, C 144.07 5 eP PKPab 08 57 27.1 -0.9
LAWE Loch Awe, Argy 144.11 7 eP PKPbc 08 57 27.8 -0.2
BSD Bornholm Skovb 144.16 347 eP PKPbc 08 57 28.2 -0.1
DIKM Dikmen 144.65 314 ⇑P PKPab 08 57 30.8 -0.3
ESY Stoneypath 144.69 4 eP PKPdf 08 57 29.6 +0.1
EBL Broad Law 144.80 4 eP PKPdf 08 57 29.9 +0.3
GAZ Gaziantep 144.91 306 PKPbc PKPab 08 57 31.9 -0.4
SORM Soroca 145.10 328 ⇑P PKPbc 08 57 31.5 +0.2
GKP Gorka Klasztor 145.28 343 ePKP PKPbc 08 57 32.2 +0.5
PURM Purcari 145.35 325 ⇑P PKPab 08 57 32.9 -0.6
BNN Bunyan 145.36 309 PKPbc PKPbc 08 57 32.1 -0.5
BEL Belsk 145.45 339 ePKP PKPbc 08 57 33.0 +0.7
MILM Milestii Mici 145.67 326 ⇑P PKPbc 08 57 33.1 +0.1
EDMD Edmundbyers 145.81 4 eP PKPbc 08 57 32.8 -0.4
ILGA Ilgaz 145.96 314 PKPbc 08 57 35.2 +0.8
IOMK Kirk Michael 146.17 6 eP PKPbc 08 57 34.1 -0.1
WIM Isle of Man 146.27 7 eP PKPbc 08 57 34.6 0.0

GDLE Glaisdale, N Y 146.27 2 eP PKPbc 08 57 34.4 -0.1
BR131 Keskin Array S 146.59 312 PKPbc 08 57 36.1 0.0
BRTR Keskin Array B 146.59 312 PKPbc PKPbc 08 57 35.8 -0.3
comp=Z,16nm,0.7s,baz=138,slow=4.7,SNR=29
BRTR Keskin Array B 146.59 312 PKPbc 08 57 36.2 +0.1
DSB Dublin 146.94 9 PKPbc 08 57 36.4 0.0
BUR08 Bucovina Ar. S 146.96 330 PKPbc 08 57 37.2 +0.4
GHRR 146.96 326 ⇑P PKiKP 08 57 38.1 -0.4
BURAR Bucovina Array 146.97 330 ⇑P PKiKP 08 57 37.8 -0.7
BURAR Bucovina Array 146.97 330 PKPbc 08 57 37.3 +0.5
WME Myndd Eilian 147.05 6 eP PKPbc 08 57 36.6 0.0
TESR Tescani 147.05 327 ⇑P PKPbc 08 57 37.3 +0.5
ANTO Ankara 147.11 313 ⇑P PKPbc 08 57 38.1 +0.7
ANTO Ankara 147.11 313 PKPbc 08 57 37.7 +0.4
BR231 Keskin MP Arra 147.14 312 PKPbc PKPbc 08 57 38.0 +0.6
CFR Carcaliu 147.14 324 ⇑P PKPbc 08 57 37.6 +0.5
WLF1 Llynfaes 147.14 6 eP PKPbc 08 57 36.0 -0.8
OJC Ojcow 147.15 338 ePKP PKPdf 08 57 34.9 +1.1
OJC Ojcow 147.15 338 PKPdf PKPdf 08 57 34.7 +0.9
YRC Rhoscolyn 147.16 7 eP PKPbc 08 57 36.5 -0.3
TPGR Topolog 147.19 323 ⇑P PKPbc 08 57 38.1 +0.8
KOLS Kolonicke sedl 147.26 334 ePKP PKiKP 08 57 38.4 -0.6
KOLS e 08 57 42.4
STHS Stebnicka Huta 147.28 336 ePKP PKPbc 08 57 37.4 0.0
STHS e 08 57 42.4
YLL Llanberis 147.31 6 eP PKPbc 08 57 37.4 +0.1
TIRR Tirgusor 147.44 323 ⇑P PKPbc 08 57 38.5 +0.6
VRI Vrincioaia 147.45 326 ⇑P PKPbc 08 57 38.3 +0.4
PLOR Plostina 147.50 326 ⇑P PKPbc 08 57 38.4 +0.3
MFTR Murfatlar 147.60 322 ⇑P PKPbc 08 57 39.2 -0.6
CRVS Cervenica-Dubn 147.61 335 ePKP PKPbc 08 57 38.8 +0.5
CRVS e 08 57 43.5
FOEL Foel Wylfa 147.65 5 eP PKPbc 08 57 37.2 -1.0
BISRR Bisoca 147.67 326 ⇑P PKPbc 08 57 39.3 +0.7
KSP Ksiaz 147.72 342 ePKP PKPbc 08 57 39.2 +0.7
MANR Mangalia 147.73 322 ⇑P PKPbc 08 57 38.7 0.0
COVR Voineasa-Covas 147.73 327 ⇑P PKPbc 08 57 39.0 +0.3
ARCR ARCALIA 147.76 330 ⇑P PKiKP 08 57 39.6 -0.5
TRPA Tarpa 147.78 333 ⇑P PKPbc 08 57 39.4 +0.7
TRPA Tarpa 147.78 333 PKP PKPbc 08 57 38.9 +0.2
MDUB Mudurnu 147.92 315 PKPbc 08 57 38.9 -0.5
OSTC Ostas 148.00 342 ⇑ePKP PKPbc 08 57 39.5 +0.3
OSTC ePKPAB PKPab 08 57 44.6 +0.5
OKC Ostrava-Krasne 148.03 339 ⇑ePKP PKPbc 08 57 39.6 +0.3
OKC ePKPAB PKPab 08 57 43.1 -1.1
HLM1 Long Mynd 148.05 5 eP PKPbc 08 57 38.9 -0.4
DOPR Dopca 148.06 328 ⇑P PKiKP 08 57 40.7 0.0
UPC Upice 148.10 342 ⇑ePKP PKPbc 08 57 39.8 +0.4
UPC ePKPAB PKPab 08 57 45.6 +1.1
MLR Muntele Rosu 148.10 327 ⇑P PKPbc 08 57 39.5 -0.3
MLR Muntele Rosu 148.10 327 PKPbc 08 57 39.8 0.0
CLL Collm 148.13 346 PKPbc 08 57 39.8 +0.3
CLL Collm 148.13 346 i PKPdf PKPdf 08 57 35.5 +0.2
comp=Z,6.0nm,1.1s
CLL i PKPbc PKPbc 08 57 39.7 +0.3
comp=Z,58nm,0.8s
CLL i PKPab PKPab 08 57 44.9 +0.3
comp=Z,38nm,0.7s
DPC Dobruska-Polom 148.15 342 ePKPDF PKPdf 08 57 35.8 +0.3
DPC ⇑ePKP PKiKP 08 57 40.4 +0.4
DPC ePKPAB PKPab 08 57 46.1 +1.3
KRLC Kraliky 148.26 341 ⇑ePKP PKPbc 08 57 40.2 +0.3
KRLC ePKPAB PKPab 08 57 46.1 +0.9
MORC Moravsky Berou 148.28 340 ⇑P PKiKP 08 57 40.8 -0.3
MORC Moravsky Berou 148.28 340 PKPbc 08 57 40.4 +0.5
MORC Moravsky Berou 148.28 340 ePKP PKPbc 08 57 40.5 +0.5
MORC e 08 57 46.1
BRG Berggiesshubel 148.31 345 i PKP PKPbc 08 57 40.5 +0.5
BRG Amp 08 57 41.5
comp=Z,23nm,0.7s
BRG i x x 08 57 45.9
BRG Amp 08 57 46.6
comp=Z,22nm,0.8s
PVCC Panska Ves 148.47 344 ⇑ePKP PKPbc 08 57 40.7 +0.4
PVCC ePKPAB PKPab 08 57 46.9 +0.9
CSS Mathiatis 148.59 304 PKPbc 08 57 41.1 0.0
CSS PKPab PKPab 08 57 47.8 +0.7
VOIR 148.60 327 ⇑P PKPbc 08 57 41.3 +0.4
BORA Eskisehir 148.70 314 PKPbc 08 57 41.3 -0.1
MONM Monmouth 148.73 5 eP PKPbc 08 57 40.7 -0.2
ROSA Rosais 148.75 48 PKPdf PKPdf 08 57 34.3 -2.5
ROSA PKPbc 08 57 41.9 +0.4
ROSA PKPab PKPab 08 57 47.5 -0.1
PRD Provadia 148.79 322 P PKPbc 08 57 41.0 -0.3
ARR Arges 148.86 328 ⇑P PKPbc 08 57 41.3 -0.2
VYHS Vyhne 148.94 337 ePKP PKPbc 08 57 42.0 +0.4
VYHS e 08 57 49.2
PRU Pruhonice 148.97 344 ⇑ePKP PKPbc 08 57 41.7 +0.1
PRU ePKPAB PKPab 08 57 48.2 +0.1
GOPC GO Pecny, Ondr 148.97 343 ⇑ePKP PKiKP 08 57 42.2 -0.3
GOPC ePKPAB PKPab 08 57 48.0 +0.6
VRAC Vranov 148.99 341 ⇑P PKiKP 08 57 42.5 -0.1
VRAC Vranov 148.99 341 ePKP PKiKP 08 57 42.3 -0.3
VRAC e 08 57 49.2
PSZ Piszkesteto 149.02 336 ⇑P PKiKP 08 57 43.5 +0.7
PSZ Piszkesteto 149.02 336 PKPdf PKPdf 08 57 36.0 -1.0
PSZ PKiKP 08 57 42.4 -0.3
PSZ PKPab PKPab 08 57 49.5 +1.0
RAZG Razgrad 149.07 323 ⇑P PKPbc 08 57 41.6 -0.4
LOT Lotru 149.23 329 ⇑P PKPbc 08 57 42.4 -0.1
NKC Novy Kostel 149.26 346 ⇑ePKP PKiKP 08 57 42.8 -0.3
NKC ePKPAB PKPab 08 57 50.0 +0.7
KRUC Moravsky 149.27 341 ePKP PKPbc 08 57 42.6 +0.3
KRUC e 08 57 50.1
TREC Trest 149.34 342 ⇑ePKP PKPbc 08 57 42.9 +0.4
SZH Strazhica 149.58 323 P PKPbc 08 57 42.0 -1.2
MODS Modra-Piesok 149.59 339 ePKP PKiKP 08 57 44.2 +0.4
MODS e 08 57 52.2
SIRR Siria 149.60 332 ⇑P PKPbc 08 57 43.4 +0.2
GZR Gura Zlata 149.75 329 ⇑P PKPbc 08 57 44.0 +0.3
SURR Surduc 149.78 331 ⇑P PKiKP 08 57 44.1 -0.2
MEM Membach 149.92 354 dPKPbc PKPbc 08 57 44.0 +0.2
BTNL Ternell 149.93 354 dPKPbc PKPbc 08 57 44.0 +0.1
BSTI Sart Tilman 149.99 355 dPKPbc PKiKP 08 57 44.4 -0.2
KHC Kasperske Hory 150.01 344 PKPdf PKPdf 08 57 37.2 -1.2
KHC PKPbc 08 57 44.4 +0.2
KHC PKPab PKPab 08 57 53.1 +0.6
KHC Kasperske Hory 150.01 344 ePKPDF PKPdf 08 57 38.3 -0.2
KHC ⇑ePKP PKPbc 08 57 44.3 +0.2
KHC ePKPAB PKPab 08 57 53.3 +0.8
GRA1 Grafenberg Arr 150.03 347 PKPdf PKPdf 08 57 38.2 -0.2
GRA1 PKPbc PKiKP 08 57 44.9 +0.2
GRA1 PKPab PKPab 08 57 53.6 +1.0
SRE Strehaia 150.07 328 ⇓P PKPbc 08 57 44.4 0.0
CKRC Cesky Krumlov 150.10 343 ⇑ePKP PKPbc 08 57 44.5 +0.2
CKRC ePKPAB PKPab 08 57 53.5 +0.6
BZS Buzias 150.12 331 ⇑P PKiKP 08 57 45.0 0.0
SNF Seneffe 150.16 356 dPKPab PKPab 08 57 53.3 +0.3
BCLA Clavier 150.17 355 dPKPbc PKPbc 08 57 44.5 +0.1
BCLA dPKPab PKPab 08 57 53.1 +0.1
BHOU Houvegnez 150.18 354 dPKPbc PKiKP 08 57 44.9 0.0
BHOU dPKPab PKPab 08 57 53.3 +0.2
PLVB Pleven 150.22 325 ⇑P PKPbc 08 57 43.2 -1.5
BGES Gesves 150.22 355 dPKPbc PKPbc 08 57 44.2 -0.3
BGES dPKPab PKPab 08 57 53.3 0.0
GEC2 GERESS Array S 150.24 344 PKPbc PKPbc 08 57 44.9 +0.1
GERES GERESS Array B 150.24 344 PKPbc PKPbc 08 57 44.5 -0.2
comp=Z,14nm,0.8s,baz=41,slow=3.0,SNR=24
GERES PKPab PKPab 08 57 53.9 +0.3
comp=Z,3.0nm,0.6s,baz=354,slow=4.0,SNR=7.7
GERES GERESS Array B 150.24 344 PKPbc PKPbc 08 57 45.0 +0.3
HERR Herculane 150.30 329 ⇑P PKPbc 08 57 44.8 -0.1
BMRD Maredsous 150.33 356 dPKPbc PKPbc 08 57 44.8 0.0
BMRD dPKPab PKPab 08 57 53.8 +0.1
SOP Sopron 150.43 339 PKP PKiKP 08 57 45.6 +0.1
CONA Conrad Observa 150.44 340 i P PKiKP 08 57 45.6 -0.1
comp=Z,24nm,0.7s,SNR=13
CONA eP PKPab 08 57 55.7 +1.3
comp=Z,16nm,0.9s
RCHB Rochefort 150.44 355 dPKP PKiKP 08 57 45.4 -0.1
RCHB dPKPab PKPab 08 57 53.7 -0.5
RONA Rosalia, Austr 150.50 339 i P PKiKP 08 57 45.8 +0.1
comp=Z,31nm,0.5s,SNR=11
RONA eP PKPab 08 57 56.0 +1.3
comp=Z,13nm,0.8s
ELL Elmali 150.51 309 PKPdf PKPdf 08 57 37.8 -2.0
ELL PKPbc 08 57 45.9 +0.1
ELL PKPab PKPab 08 57 55.1 -0.1
BANR Banloc 150.52 331 ⇑P PKPbc 08 57 45.3 0.0
DOU Dourbes 150.55 356 dPKPbc PKPbc 08 57 45.4 +0.1

DOU				*d*PKPab	**PKPab**	08 57 54.7	+0.1	
MANT	**Manisa**	**150.67 313**			**PKPbc**	08 57 46.4	+0.2	
MANT				PKPab	**PKPab**	08 57 55.2	-0.7	
MDVR	**Moldovita**	**150.71 330**	⇑P		**PKiKP**	08 57 46.2	-0.1	
WLF	**Walferdange**	**150.84 354**		PKPdf	**PKPdf**	08 57 39.6	-0.1	
WLF					**PKiKP**	08 57 47.0	+0.6	
WLF				PKPab	**PKPab**	08 57 56.8	+0.9	
WLF	**Walferdange**	**150.84 354**		*d*PKPbc	**PKiKP**	08 57 46.9	+0.6	
WLF				*d*PKPab	**PKPab**	08 57 56.4	+0.5	
KDZ	**Kurdzhali**	**150.90 321**	P		**PKPbc**	08 57 45.0	-1.4	
MORH	**Mrgy, Hungar**	**150.91 335**	⇑P		**PKiKP**	08 57 46.5	-0.1	
AKAS	**Kas**	**150.95 308**		PKPdf	**PKPdf**	08 57 38.3	-2.2	
AKAS					**PKPbc**	08 57 45.5	-1.3	
AKAS				PKPab	**PKPab**	08 57 55.6	-1.5	
MOA	**Molln**	**150.99 342**	*e*P		**PKPbc**	08 57 46.3	-0.1	
	comp=Z,5.7nm,0.5s							
MOA			*e*P		**PKPab**	08 57 57.6	+0.9	
	comp=Z,12nm,0.9s							
RDO	**Rodhopi**	**151.14 320**			**PKPbc**	08 57 46.5	-0.4	
ARSA	**Arzberg**	**151.14 340**	*e*P		**PKPbc**	08 57 46.8	0.0	
	comp=Z,1.8nm,0.4s							
ARSA			*e*P		**PKPab**	08 57 58.1	+0.8	
	comp=Z,3.7nm,0.8s							
KOVH	**Kovagotottos**	**151.23 336**		PKP	**PKPbc**	08 57 46.8	-0.1	
STU	**Stuttgart**	**151.30 349**		PKPdf	**PKPdf**	08 57 40.6	+0.3	
STU				PKPbc	**PKiKP**	08 57 47.8	+0.4	
STU				PKPab	**PKPab**	08 57 58.7	+0.8	
BIOA	**Bad Ischl, Aus**	**151.31 343**	*e*P		**PKPbc**	08 57 46.9	-0.2	
	comp=Z,5.2nm,0.4s							
BIOA			*e*P		**PKPab**	08 57 59.6	+1.5	
	comp=Z,29nm,1.1s							
VTS	**Vitosha**	**151.49 325**	⇑P		**PKPbc**	08 57 47.3	-0.6	
VTS	**Vitosha**	**151.49 325**		PKPdf	**PKPdf**	08 57 41.1	+0.1	
VTS					**PKPbc**	08 57 47.9	+0.1	
VTS				PKPab	**PKPab**	08 57 59.3	+0.1	
VTS	**Vitosha**	**151.49 325**	P		**PKPbc**	08 57 47.0	-0.9	
SOKA	**Soboth**	**151.81 340**	*e*P		**PKPbc**	08 57 47.5	-0.9	
	comp=Z,14nm,1.0s							
SOKA			*e*P		**PKPab**	08 58 00.7	+0.5	
	comp=Z,22nm,1.6s							
BFO	**Black Forest**	**151.87 350**		PKPdf	**PKPdf**	08 57 40.5	-0.8	
BFO					**PKPbc**	08 57 48.3	-0.1	
BFO				PKPab	**PKPab**	08 57 59.8	-0.6	
KBA	**Koelnbreinsper**	**151.95 343**	*e*P		**PKPbc**	08 57 48.1	-0.7	
	comp=Z,8.3nm,0.6s							
KBA			*e*P		**PKPab**	08 58 02.4	+1.4	
	comp=Z,10nm,0.8s							
DIVS	**Divibare**	**152.03 331**			**PKPbc**	08 57 48.8	-0.1	
ARG	**Arkhangelos**	**152.03 309**			**PKPbc**	08 57 49.0	-0.1	
OBKA	**Obir**	**152.11 340**	*e*P		**PKiKP**	08 57 50.0	+0.8	
	comp=Z,0.7nm,0.2s							
OBKA			*e*P		**PKPab**	08 58 02.2	+0.6	
	comp=Z,14nm,1.6s							
ECH	**Echery**	**152.15 352**		PKPbc	**PKPbc**	08 57 48.0	-1.0	
ECH					**PKPab**	08 58 01.7	+0.1	
WATA	**Walderalm**	**152.18 345**	*e*P		**PKPbc**	08 57 48.8	-0.5	
	comp=Z,12nm,0.5s							
WATA			*e*P		**PKPab**	08 58 02.5	+0.6	
	comp=Z,32nm,1.2s							
RETA	**Reutte**	**152.22 346**	*e*P		**PKiKP**	08 57 49.4	0.0	
	comp=Z,5.9nm,0.5s							
RETA			*e*P		**PKPab**	08 58 02.7	+0.7	
	comp=Z,13nm,0.6s							
WTTA	**Wattenberg**	**152.23 345**	*i* P		**PKPbc**	08 57 49.3	-0.1	
	comp=Z,14nm,0.5s,SNR=7.0							
WTTA			*e*P		**PKPab**	08 58 02.9	+0.8	
	comp=Z,19nm,0.6s							
MYKA	**Terra Mystica**	**152.28 342**	*e*P		**PKPbc**	08 57 46.6	-2.7	
	comp=Z,8.6nm,0.5s							
MYKA			*e*P		**PKPab**	08 58 02.2	+0.1	
	comp=Z,11nm,0.7s							
MOTA	**Moosalm**	**152.28 346**	*e*P		**PKPbc**	08 57 49.5	+0.1	
	comp=Z,26nm,1.1s							
MOTA			*e*P		**PKPab**	08 58 02.7	+0.4	
	comp=Z,14nm,0.6s							
SQTA	**Sankt Quirin**	**152.37 346**	*e*P		**PKPbc**	08 57 49.7	+0.1	
	comp=Z,14nm,0.7s							
SQTA			*e*P		**PKPab**	08 58 03.4	+0.8	
	comp=Z,17nm,1.0s							
PRED	**Cave del Predi**	**152.47 342**		PKPdf	**PKPdf**	08 57 41.5	-0.8	
PRED					**PKPab**	08 58 02.7	-0.3	
ABTA	**Abfaltersbach**	**152.48 343**	*i* P		**PKPbc**	08 57 49.2	-0.6	
	comp=Z,21nm,0.6s,SNR=6.6							
ABTA			*e*P		**PKPab**	08 58 02.8	-0.3	
	comp=Z,12nm,0.6s							
DAVA	**Damuels**	**152.60 347**	*e*P		**PKiKP**	08 57 51.4	+1.1	
	comp=Z,4.4nm,0.6s							
DAVA			*e*P		**PKPab**	08 58 04.0	+0.3	
	comp=Z,9.3nm,0.6s							
CLUD	**Cludinico**	**152.65 343**			**PKPbc**	08 57 49.1	-1.0	
CLUD				PKPab	**PKPab**	08 58 02.7	-1.1	
FETA	**Feichten**	**152.67 346**	*e*P		**PKiKP**	08 57 50.5	0.0	
	comp=Z,14nm,0.8s							
FETA			*e*P		**PKPab**	08 58 04.3	+0.4	
	comp=Z,16nm,1.2s							
CLF	**Chambon-Foret**	**152.72 359**		PKPab	**PKPab**	08 58 04.2	+0.3	
STAL	**STALIGIAL**	**152.88 343**			**PKPbc**	08 57 49.9	-0.8	
STAL					**PKPab**	08 58 04.2	-0.5	
CIMO	**Cimolais**	**152.91 343**			**PKPbc**	08 57 50.0	-0.6	
CIMO				PKPab	**PKPab**	08 58 04.3	-0.5	
FUORN	**Ofenpass-Fuorn**	**153.15 346**			**PKPdf**	08 57 41.9	-1.6	
FUORN				PKPbc	**PKiKP**	08 57 52.0	+0.5	
FUORN				PKPab	**PKPab**	08 58 06.6	+0.4	
CTI	**Castel Tesino**	**153.36 344**		PKPdf	**PKPdf**	08 57 44.1	+0.5	
CTI					**PKPab**	08 58 07.0	+0.1	
PDG	**Podgorica**	**153.65 329**	⇑P		**PKPdf**	08 57 45.4	+1.4	
FNA	**Florina**	**153.76 324**		PKPdf	**PKPdf**	08 57 41.7	-2.6	
FNA					**PKPbc**	08 57 52.2	-0.5	
FNA				PKPab	**PKPab**	08 58 08.5	-0.2	
SENIN	**Lac Senin/Sane**	**153.95 351**		PKPdf	**PKPdf**	08 57 43.2	-1.4	
SENIN					**PKPab**	08 58 10.0	+0.5	
TEOL	**Teolo**	**153.99 343**		PKPdf	**PKPdf**	08 57 43.2	-1.2	
TEOL				PKPab	**PKPab**	08 58 09.9	+0.5	
SALO	**Salr**	**154.04 345**		PKPdf	**PKPdf**	08 57 42.6	-1.9	
SALO				PKPab	**PKPab**	08 58 09.6	-0.1	
IDI	**Anoyia**	**154.80 310**	⇑P		**PKPdf**	08 57 45.9	0.0	
TIP	**Timpagrande**	**157.36 328**		PKPdf	**PKPdf**	08 57 49.0	-0.1	
TIP					**PKPab**	08 58 23.6	-0.7	
PBRG	**Braganca**	**157.83 16**	*e*PKPab		**PKPab**	08 58 26.9	+0.7	
POLO	**Lamas de Olo**	**157.93 19**	*e*PKPab		**PKPab**	08 58 24.7	-2.0	
MVO	**Moncorvo**	**158.35 18**	*e*PKPab		**PKPab**	08 58 29.4	+0.9	
PCAS	**Casmilo, Conde**	**158.90 22**	*e*PKPab		**PKPab**	08 58 31.4	+0.5	
PMRV	**Marv??o**	**159.83 20**	*e*PKPab		**PKPab**	08 58 35.0	0.0	
PESTR	**Estremoz**	**160.27 21**	*e*PKPab		**PKPab**	08 58 36.3	-0.6	
ESDC	**Sonseca Array**	**160.51 13**	PKP		**PKPdf**	08 57 52.8	+0.1	
	comp=Z,0.3nm,0.3s,baz=263,slow=3.3,SNR=2.9							
ESDC				PKPab	**PKPab**	08 58 37.6	-0.4	
	comp=Z,7.6nm,1.0s,baz=336,slow=4.4,SNR=18							
PNCL	**Nicolau / Gran**	**160.60 24**	*e*PKPab		**PKPab**	08 58 38.4	+0.1	
PCVE	**Castro Verde**	**161.21 24**	*e*PKPab		**PKPab**	08 58 41.7	+0.7	
KEST	**Kesra**	**163.49 337**	PKPab		**PKPab**	08 58 50.6	-0.6	
	comp=Z,5.1nm,0.5s,baz=20,slow=1.3,SNR=3.9							
LIC	**Lamto**	**164.31 155**	⇑*i*PKIKP		**PKPdf**	08 57 56.5	-0.6	
	comp=Z,14nm,0.5s							
KIC	**Kosan Boka**	**164.54 156**	⇑*i*PKIKP		**PKPdf**	08 57 56.6	-0.7	
	comp=Z,3.5nm,0.5s							
TIC	**Toumodi**	**164.69 155**	⇑*i*PKIKP		**PKPdf**	08 57 56.8	-0.6	
	comp=Z,2.2nm,0.2s							
DBIC	**Dimbokro**	**164.78 155**	PKP		**PKPdf**	08 57 56.4	-1.1	
	comp=Z,4.5nm,0.8s,baz=121,slow=7.4,SNR=4.9							
TORD	**Torodi Ar. Bea**	**172.50 182**	PKP		**PKPdf**	08 58 01.1	-1.2	
	comp=Z,2.5nm,0.8s,baz=262,slow=1.0,SNR=16							
TORD				PKPab	**PKPab**	08 59 30.4	-0.9	
	comp=Z,0.6nm,0.8s,baz=196,slow=4.2,SNR=2.7							

*IDC **14** 08:39:34.9±2.6,20°.39S×177°.59W,h457km±30km, mb3.8/11,mbtmp4.7/12,Error ellipse: s-maj=23.3km s-min=18.2km az=126.0*

*NEIC **14** 08:39:37.5±1.6,20°.4S±0°.1×177°.6W±0°.1,h487km±12km, mb4.4/33,Error ellipse: s-maj=20.7km s-min=17.4km az=69.0*

ISC 14 08:39:37.3±0.6,20°.26S±0°.09×177°.60W±0°.08,h500km±n55,σ1°50/56,mb4.4/26,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.82**	**301**	P	**P**	**08 41 00.7**	**-2.1**
NIUE	**Niue**	**7.33**	**82**	P	**P**	**08 41 27.6**	**+0.7**
AFI	**Afiamalu**	**8.42**	**42**	P	**P**	**08 41 36.0**	**-2.3**
	76nm,0.5s,baz=286,slow=9.4,SNR=8.1						
AFI				S	**S**	**08 43 12.6**	**-4.8**
	131nm,0.5s,baz=186,slow=18,SNR=3.4						
AFI	**Afiamalu**	**8.42**	**42**	P	**P**	**08 41 37.8**	**-0.5**
FUNA	**Funafuti**	**12.06**	**345**	P	**P**	**08 42 18.5**	**+1.8**
LIFNC	**LIFOU**	**14.21**	**265**	P	**P**	**08 42 37.0**	**-2.2**
MXZ	**Matakaoa Point**	**17.61**	**191**	P	**P**	**08 43 12.8**	**-1.2**
EIDS	**Eidsvold**	**29.27**	**254**	P	**P**	**08 44 58.8**	**+0.3**
EIDS				IAmb	IAmb	08 44 59.3	
	comp=Z,7.4nm,0.5s						
ARMA	**Armidale**	**29.51**	**244**	P	**P**	**08 45 00.2**	**-0.3**
CTA	**Charters Tower**	**33.88**	**264**	P	**P**	**08 45 38.6**	**+0.6**
	comp=Z,12nm,0.3s,baz=90,slow=10,SNR=10.0						
	comp=Z,12nm,0.3s						
CTAO	**Charters Tower**	**33.88**	**264**	P	**P**	**08 45 38.9**	**+0.8**
CTAO				IAmb	IAmb	08 45 39.5	
	comp=Z,19nm,0.9s						
PMG	**Port Moresby**	**35.65**	**282**	P	**P**	**08 45 53.8**	**+0.9**
PMG				IAmb	IAmb	08 45 54.7	
	comp=Z,10nm,0.7s						
COEN	**Coen**	**37.94**	**273**	P	**P**	**08 46 12.7**	**+0.9**
COEN				IAmb	IAmb	08 46 13.1	
	comp=Z,5.4nm,0.6s						
STKA	**Stephens Creek**	**38.23**	**244**	P	**P**	**08 46 14.1**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=100,slow=10,SNR=1.9						
	comp=Z,2.7nm,0.6s						
STKA	**Stephens Creek**	**38.23**	**244**	P	**P**	**08 46 14.2**	**+0.2**
BBOO	**Buckleboo**	**42.99**	**243**	P	**P**	**08 46 51.1**	**-0.9**
WR0	**Warramunga Arr**	**44.81**	**262**	P	**P**	**08 47 06.1**	**-0.2**
WR0				IAmb	IAmb	08 47 07.5	
	comp=Z,7.1nm,0.6s						
AS31	**Alice Springs**	**44.94**	**256**	P	**P**	**08 47 07.5**	**+0.1**
AS31				IAmb	IAmb	08 47 08.1	
	comp=Z,5.1nm,0.7s						
ASAR	**Alice Springs**	**44.94**	**256**	P	**P**	**08 47 07.5**	**+0.1**
	comp=Z,18nm,0.5s,baz=96,slow=7.6,SNR=16						
ASAR				S	**S**	**08 53 06.3**	**-2.4**
	comp=Z,2.7nm,1.0s,baz=98,slow=16,SNR=4.3						
	comp=Z,18nm,0.5s						
WB0	**Warramunga Arr**	**44.98**	**262**	P	**P**	**08 47 07.6**	**0.0**
WB2	**Warramunga Arr**	**44.99**	**262**	P	**P**	**08 47 07.5**	**-0.2**
WRAB	**Tennant Creek**	**44.99**	**262**	P	**P**	**08 47 07.5**	**-0.3**
WRA	**Warramunga Arr**	**45.00**	**262**	P	**P**	**08 47 07.5**	**-0.3**
	comp=Z,7.7nm,0.3s,baz=97,slow=7.6,SNR=18						
	comp=Z,7.7nm,0.3s						
WRA	**Warramunga Arr**	**45.00**	**262**	P	**P**	**08 47 07.3**	**-0.5**
MTN	**Manton Dam**	**49.53**	**270**	P	**P**	**08 47 42.3**	**+0.3**
KNRA	**Kununurra**	**51.05**	**266**	P	**P**	**08 47 52.5**	**-0.7**
PSA00	**Pilbara Seismi**	**58.08**	**257**	IAmb	IAmb	08 48 38.6	
	comp=Z,10nm,0.7s						
PSA00				P	**P**	**08 48 40.3**	**-2.3**
SBA	**Scott Base**	**58.14**	**184**	P	**P**	**08 48 41.0**	**-1.1**
VNDA	**Vanda**	**58.19**	**185**	P	**P**	**08 48 43.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=35,slow=6.7,SNR=1.9						
	comp=Z,0.8nm,0.5s						
VNDA	**Vanda**	**58.19**	**185**	P	**P**	**08 48 42.5**	**+0.1**
MBWA	**Marble Bar**	**58.27**	**257**	P	**P**	**08 48 43.5**	**-0.4**
MBWA				IAmb	IAmb	08 48 53.0	
	comp=Z,19nm,1.1s						
NWAO	**Narrogin (SRO)**	**58.81**	**243**	P	**P**	**08 48 46.9**	**-0.5**
LUWI	**Luwuk**	**61.25**	**280**	P	**P**	**08 49 03.0**	**-0.9**
QSPA	**South Pole Qui**	**69.81**	**180**	P	**P**	**08 49 57.7**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=34,slow=4.1,SNR=1.9						
	comp=Z,2.9nm,0.6s						
QSPA	**South Pole Qui**	**69.81**	**180**	P	**P**	**08 49 57.9**	**+1.1**
JGF	**Kuroka**	**70.05**	**322**	P	**P**	**08 50 00.4**	**+1.8**
JGF				IAmb	IAmb	08 50 05.3	
	comp=Z,4.8nm,0.8s						
KKM	**Kota Kinabalu**	**70.06**	**285**	P	**P**	**08 50 00.1**	**+0.9**
KKM				IAmb	IAmb	08 50 02.2	
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**70.23**	**323**	P	**P**	**08 50 01.0**	**+1.4**
	comp=Z,3.4nm,0.5s,baz=151,slow=6.4,SNR=6.2						
	comp=Z,3.4nm,0.5s						
MAJO	**Matsushiro**	**70.24**	**323**	P	**P**	**08 49 59.9**	**+0.3**
MAJO				IAmb	IAmb	08 50 02.0	
	comp=Z,6.6nm,0.5s						
MJB9	**Matsu-Tunnel**	**70.24**	**323**	P	**P**	**08 50 01.4**	**+1.7**
MJB9				IAmb	IAmb	08 50 02.0	
	comp=Z,6.9nm,0.5s						
JOW	**Kunigami**	**70.30**	**310**	P	**P**	**08 50 03.0**	**+2.9**
	comp=Z,9.9nm,0.8s,baz=130,slow=11,SNR=1.4						
	comp=Z,9.9nm,0.8s						
JOW	**Kunigami**	**70.30**	**310**	P	**P**	**08 50 02.0**	**+1.8**
JOW				IAmb	IAmb	08 50 03.7	
	comp=Z,9.9nm,0.8s						
UGM	**Wanagama**	**70.34**	**269**	P	**P**	**08 49 59.4**	**-1.4**
JMN	**Monobe**	**70.85**	**319**	P	**P**	**08 50 02.5**	**-0.8**
JMN				IAmb	IAmb	08 50 12.6	
	comp=Z,15nm,1.1s						
JSD	**Sado**	**71.28**	**325**	P	**P**	**08 50 08.1**	**+2.3**
JSD				IAmb	IAmb	08 50 08.7	
	comp=Z,10nm,0.9s						
SBUM	**Sibu**	**72.33**	**279**	P	**P**	**08 50 12.9**	**+0.4**
SBUM				IAmb	IAmb	08 50 30.9	
	comp=Z,5.2nm,0.4s						
SSLB	**Suanglung**	**74.15**	**303**	P	**P**	**08 50 23.0**	**+0.4**
SSLB				IAmb	IAmb	08 50 23.9	
	comp=Z,21nm,1.1s						
KSRS	**Korea Array**	**76.95**	**318**	P	**P**	**08 50 40.4**	**+2.5**
	comp=Z,1.1nm,0.5s,baz=127,slow=6.6,SNR=2.1						
	comp=Z,1.1nm,0.5s						
USRK	**Ussuriysk Ar.**	**78.97**	**326**	P	**P**	**08 50 51.8**	**+3.2**
	comp=Z,3.8nm,0.7s,baz=137,slow=3.4,SNR=4.1						
	comp=Z,3.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**90.38**	**289**	P	**P**	**08 51 48.4**	**+3.0**
	comp=Z,1.7nm,0.5s,baz=125,slow=2.5,SNR=4.9						
	comp=Z,1.7nm,0.5s						
MKAR	**Makanchi Array**	**111.30**	**313**	PKiKP	**PKiKP**	**08 57 13.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=135,slow=0.4,SNR=1.5						
ARCES	**ARCESS Array B**	**128.75**	**350**	PKP	**PKPdf**	**08 57 47.4**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=79,slow=1.9,SNR=1.4						
FINES	**FINESS Array B**	**135.64**	**344**	PKP	**PKPdf**	**08 58 01.2**	**+1.3**
	comp=Z,3.5nm,1.0s,baz=60,slow=3.4,SNR=1.2						
AKASG	**Malin Array Be**	**142.98**	**332**	PKiKP	PKPpre	08 58 11.2	
	comp=Z,391nm,0.3s,baz=38,slow=4.3,SNR=7.0						
CLL	**Collm**	**147.91**	**347**	*i* PKPbc	**PKiKP**	**08 58 27.2**	**+0.1**
	comp=Z,9.0nm,0.6s						

*NOU **14** 08:39:59.9,41°.96S×174°.56E,h8km,MLv4.5/12,Cook Strait, New Zealand*

*WEL **14** 08:40:00,41°.72S×174°.31E,h18km,ML4.3,Mw4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr0.39; Mθθ1.32; Mϕϕ-1.71; Mrθ-0.02; Mrϕ-0.75; Mθϕ0.80; Fault plane solution: Mo1.8300×10¹⁵ NP1: ϕs240.00000°,δ70.00000°,λ-176.00000°. NP2: ϕs148.00000°,δ86.00000°,λ-21.00000°. Principal axes: T -212.3500, Plg11.0000°, Azm196.0000°; N 153.2200, Plg70.0000°, Azm317.0000°; P 59.1400, Plg17.0000°, Azm102.0000°;*

*WEL **14** 08:40:02.5±0.4,42°.3S±3°.7×17°.4E±°,h12km±4km,M4.2/17, ML4.5/17,MLv4.2/17 Error ellipse: s-maj=0.0km s-min=0.0km az=160.1*

ISC 14 08:40:01.2±1.2,41°.80S±0°.04×174°.38E±0°.02,h15km±11km, n101,σ1°49/113,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**291**	P	**Pb**	**08 40 06.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.39**	**282**	P	**Pb**	**08 40 10.1**	**+0.3**
TUWZ	**Tuamarina**	**0.50**	**318**	P	**Pb**	**08 40 11.5**	**-0.1**
TUWZ				S	**Sb**	**08 40 18.0**	**-0.6**
BHW	**Baring Head**	**0.53**	**43**	P	**Pb**	**08 40 13.7**	**+1.5**
BHW				S	**Sb**	**08 40 22.4**	**+2.7**
SNZO	**South Karori**	**0.54**	**26**	P	**Pb**	**08 40 13.0**	**+0.6**
WEL	**Wellington**	**0.59**	**29**	P	**Pb**	**08 40 13.9**	**+0.7**
WEL				S	**Sb**	**08 40 21.5**	**+0.2**
TCW	**Tory Channel**	**0.59**	**352**	P	**Pb**	**08 40 13.1**	**-0.2**
TCW				S	**Sb**	**08 40 20.3**	**-1.1**
PLWZ	**Palliser**	**0.69**	**71**	P	**Pg**	**08 40 15.9**	**+1.1**
PLWZ				S	**Sb**	**08 40 26.4**	**+2.0**
MSWZ	**Moikau Station**	**0.75**	**60**	P	**Pg**	**08 40 16.6**	**+0.7**
MSWZ				S	**Sb**	**08 40 27.3**	**+1.3**
CAW	**Cannon Point**	**0.86**	**37**	P	**Pg**	**08 40 18.3**	**+0.3**
CAW				S	**Sb**	**08 40 29.9**	**+0.7**
KHZ	**Kahutara**	**0.88**	**225**	P	**Pg**	**08 40 20.0**	**+1.7**
PAWZ	**Paruwai Farm**	**0.89**	**62**	P	**Pb**	**08 40 19.6**	**+1.3**
PAWZ				S	**Sb**	**08 40 32.1**	**+2.1**
NNZ	**Nelson**	**0.95**	**307**	P	**Pg**	**08 40 19.2**	**-0.4**
NNZ				S	**Sg**	**08 40 30.7**	**-1.4**
KIW	**Kapiti Island**	**1.02**	**23**	P	**Pn**	**08 40 21.3**	**+0.3**
KIW				S	**Sn**	**08 40 35.4**	**+0.4**
DUWZ	**D'Urville Isla**	**1.06**	**341**	P	**Pn**	**08 40 21.6**	**+0.2**
DUWZ				S	**Sn**	**08 40 34.9**	**-1.1**
MTW	**Mount Morrison**	**1.06**	**53**	P	**Pb**	**08 40 22.1**	**+0.9**
TRWZ	**Traveller**	**1.06**	**68**	P	**Pb**	**08 40 21.5**	**+0.3**
OGWZ	**Otaki Gorge**	**1.15**	**31**	P	**Pn**	**08 40 23.6**	**+0.9**
OGWZ				S	**Sb**	**08 40 37.5**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.24**	**44**	P	**Pn**	**08 40 24.3**	**+0.3**
MRNZ	**Matariki Terra**	**1.28**	**288**	P	**Pn**	**08 40 25.5**	**+0.9**
TKNZ	**Takaka Hill**	**1.32**	**305**	P	**Pn**	**08 40 25.6**	**+0.5**
MRZ	**Mangatainoka R**	**1.45**	**39**	P	**Pn**	**08 40 27.2**	**+0.3**
QRZ	**Quartz Range**	**1.70**	**304**	P	**Pn**	**08 40 31.0**	**+0.6**
QRZ	**Quartz Range**	**1.70**	**304**	P	**Pn**	**08 40 30.7**	**+0.3**
PRWZ	**Pori Road**	**1.73**	**44**	P	**Pn**	**08 40 30.5**	**-0.1**
OHWZ	**Ohakea**	**1.74**	**24**	P	**Pg**	**08 40 34.2**	**-0.5**
BFZ	**Birch Farm**	**1.79**	**52**	P	**Pn**	**08 40 30.8**	**-0.8**
BFZ	**Birch Farm**	**1.79**	**52**	P	**Pn**	**08 40 31.3**	**-0.3**
DVHZ	**Dannevirke**	**2.02**	**43**	P	**Pn**	**08 40 34.0**	**-0.7**
ANWZ	**Angora Road**	**2.07**	**50**	P	**Pn**	**08 40 33.5**	**-1.9**
WAZ	**Wanganui**	**2.09**	**13**	P	**Pb**	**08 40 37.9**	**-0.9**
TSZ	**Takapari Road**	**2.11**	**35**	P	**Pn**	**08 40 35.3**	**-0.7**
PRHZ	**Porangahau**	**2.29**	**49**	P	**Pn**	**08 40 36.3**	**-2.1**
WPHZ	**Waipukurau**	**2.33**	**43**	P	**Pn**	**08 40 37.3**	**-1.7**
PNHZ	**Pukenui**	**2.33**	**37**	P	**Pn**	**08 40 37.5**	**-1.6**
LREZ	**Lake Rotokare**	**2.34**	**0**	P	**Pb**	**08 40 44.0**	**+1.0**
NMEZ	**Namu Road**	**2.41**	**351**	P	**Pb**	**08 40 42.5**	**-1.8**
KHEZ	**Kahui Hut**	**2.52**	**353**	P	**Pb**	**08 40 45.2**	**-1.0**
KHEZ	**Kahui Hut**	**2.52**	**353**	P	**Pb**	**08 40 46.0**	**-0.2**
NEZ	**North Egmont**	**2.54**	**355**	P	**Pb**	**08 40 45.0**	**-1.4**
NBEZ	**Newall Road No**	**2.56**	**351**	P	**Pb**	**08 40 45.1**	**-1.7**
PXZ	**Pawanui**	**2.58**	**48**	P	**Pn**	**08 40 40.0**	**-2.4**
MOVZ	**Moawhango**	**2.61**	**24**	P	**Pn**	**08 40 43.1**	**+0.2**
DREZ	**Durham Road**	**2.61**	**357**	P	**Pb**	**08 40 46.3**	**-1.4**
PKVZ	**Pokaka**	**2.61**	**17**	P	**Pn**	**08 40 44.9**	**+2.0**
PKE	**Pukeiti**	**2.62**	**353**	P	**Pb**	**08 40 46.0**	**-1.9**
BHHZ	**Black Hill Sta**	**2.64**	**30**	P	**Pn**	**08 40 43.4**	**+0.1**
WNVZ	**Wahianoa**	**2.64**	**21**	P	**Pn**	**08 40 44.4**	**+0.7**
TRVZ	**Turoa**	**2.65**	**20**	P	**Pb**	**08 40 48.6**	**+0.1**
DRZ	**Dome Shelter**	**2.68**	**20**	P	**Pb**	**08 40 48.8**	**-0.2**
WHVZ	**Whangaehu Hut**	**2.68**	**20**	P	**Pn**	**08 40 45.3**	**+1.3**
VRZ	**Vera Road**	**2.69**	**6**	P	**Pn**	**08 40 45.8**	**+1.9**
FWVZ	**Far West T-bar**	**2.69**	**20**	P	**Pn**	**08 40 45.5**	**+1.3**
TUVZ	**Tukino**	**2.71**	**21**	P	**Pb**	**08 40 49.7**	**+0.3**
MHEZ	**Mangahewa**	**2.72**	**359**	P	**Pb**	**08 40 49.3**	**-0.2**
KAHZ	**Kahuranaki**	**2.75**	**44**	P	**Pn**	**08 40 42.6**	**-2.2**
NGZ	**Ngauruhoe**	**2.78**	**20**	P	**Pb**	**08 40 50.7**	**0.0**
SNVZ	**South Ngauruho**	**2.78**	**21**	P	**Pn**	**08 40 46.6**	**+1.2**
OTVZ	**Oturere**	**2.81**	**21**	P	**Pn**	**08 40 46.9**	**+1.2**
NNVZ	**North Ngauruho**	**2.83**	**20**	P	**Pn**	**08 40 47.3**	**+1.3**
WTVZ	**West Tongariro**	**2.83**	**19**	P	**Pb**	**08 40 50.4**	**-1.1**
KWHZ	**Kaweka Forest**	**2.83**	**34**	P	**Pn**	**08 40 44.4**	**-1.6**
TWVZ	**Taurewa**	**2.84**	**

DUWZ	**D'Urville Isla**	**1.60**	**10**	P	Pb	08 47 31.2 -0.4
DUWZ				S	Sg	08 47 53.3 -0.6
RACZ	**Rakaia**	**1.69**	**217**	P	Pn	08 47 30.7 -0.8
CAW	**Cannon Point**	**1.71**	**42**	P	Pn	08 47 31.1 -0.6
PAWZ	**Paruwai Farm**	**1.72**	**55**	P	Pn	08 47 30.8 -1.1
QRZ	**Quartz Range**	**1.73**	**334**	P	Pb	08 47 33.0 -0.8
QRZ				S	Sb	08 47 55.8 +0.4
OGWZ	**Otaki Gorge**	**1.98**	**39**	P	Pn	08 47 34.8 -0.6
HOWZ	**Holdsworth Sta**	**2.09**	**46**	S	Sn	08 48 01.5 -1.3
RPZ	**Rata Peaks**	**2.26**	**233**	P	Pn	08 47 38.6 -0.7
RPZ				S	Sn	08 48 05.3 -1.6
MRZ	**Mangatainoka R**	**2.30**	**42**	P	Pn	08 47 38.7 -1.1
MRZ				S	Sn	08 48 06.5 -1.4
ARCZ	**Arundel**	**2.33**	**227**	P	Pn	08 47 40.0 -0.3
TMZ	**Timaru**	**2.73**	**222**	P	Pn	08 47 45.9 +0.2
PKE	**Pukeiti**	**3.20**	**6**	P	Pb	08 47 56.2 -2.7
ODZ	**Otahua Downs**	**3.39**	**217**	P	Pn	08 47 53.9 -1.0
MOVZ	**Moawhango**	**3.41**	**30**	P	Pn	08 47 53.2 -1.9
HIZ	**Hauiti**	**3.99**	**15**	P	Pn	08 48 04.4 +1.4
HHSZ	**Highcliff Hill**	**4.10**	**210**	P	Pn	08 48 04.5 0.0
AWAZ	**Awhitu Peninsu**	**5.38**	**9**	P	Pn	08 48 23.1 +1.0
MKAZ	**Moumakai**	**5.41**	**14**	P	Pn	08 48 22.7 +0.1
ETAZ	**East Tamaki Re**	**5.52**	**12**	P	Pn	08 48 25.0 +0.9

WEL 14 08:54:47.8±0.5,**42°S**±3°×**17°4E**±°,**h5**km±3km,**M3.4**/18,
ML3.6/18,**MLv3.4**/18,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=125.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.19**	**268**	P	Pg	08 54 51.5	0.0
KHZ				S	Sg	08 54 54.2	+0.2
BSWZ	**Blackbirch Sta**	**0.70**	**5**	P	Pg	08 55 01.1	-0.2
BSWZ				S	Sg	08 55 10.7	+0.5
CMWZ	**Cape Campbell**	**0.73**	**26**	S	Sb	08 55 13.6	+0.3
GVZ	**Greta Valley S**	**0.79**	**225**	P	Pn	08 55 05.1	-0.5
GVZ				S	Sn	08 55 17.7	0.0
THZ	**Tophouse**	**0.93**	**314**	P	Pg	08 55 04.5	-1.1
THZ				S	Sg	08 55 17.4	-0.1
TUWZ	**Tuamarina**	**0.99**	**7**	P	Pn	08 55 06.5	-0.2
TUWZ				S	Sb	08 55 21.4	+0.8
AMCZ	**Amberley**	**1.14**	**227**	P	Pb	08 55 10.1	+0.2
AMCZ				S	Sn	08 55 27.7	+1.4
LTZ	**Lake Taylor**	**1.18**	**251**	P	Pb	08 55 10.7	-0.1
LTZ				S	Sn	08 55 27.2	-0.3
NNZ	**Nelson**	**1.23**	**345**	P	Pg	08 55 10.1	-1.3
TCW	**Tory Channel**	**1.25**	**17**	P	Pg	08 55 11.2	-0.7
MRNZ	**Matariki Terra**	**1.27**	**322**	P	Pg	08 55 11.5	-0.7
MRNZ				S	Sg	08 55 28.7	0.0
WEL	**Wellington**	**1.34**	**33**	P	Pn	08 55 12.7	-0.5
WEL				S	Sb	08 55 30.7	-0.2
OKCZ	**Okains Bay**	**1.42**	**202**	P	Pn	08 55 13.7	-0.5
MSWZ	**Moikau Station**	**1.47**	**48**	P	Pn	08 55 14.0	-1.1
TKNZ	**Takaka Hill**	**1.51**	**335**	P	Pn	08 55 15.1	-0.5
MQZ	**McQueen's Vall**	**1.54**	**212**	P	Pn	08 55 14.6	-1.3
OXZ	**Oxford**	**1.58**	**234**	P	Pn	08 55 15.3	-1.1
AKCZ	**Akaroa Harbour**	**1.60**	**204**	P	Pn	08 55 15.9	-0.8
PAWZ	**Paruwai Farm**	**1.60**	**50**	P	Pn	08 55 15.4	-1.3
DUWZ	**D'Urville Isla**	**1.61**	**4**	P	Pb	08 55 17.3	+0.4
CAW	**Cannon Point**	**1.61**	**37**	P	Pn	08 55 16.1	-0.8
DSZ	**Denniston Nort**	**1.62**	**294**	P	Pb	08 55 17.7	-0.5
RACZ	**Rakaia**	**1.79**	**222**	P	Pn	08 55 18.2	-1.1
QRZ	**Quartz Range**	**1.84**	**329**	P	Pn	08 55 20.7	+0.6
OGWZ	**Otaki Gorge**	**1.90**	**33**	P	Pn	08 55 20.5	-0.3
WACZ	**Wakanui South**	**2.09**	**222**	P	Pn	08 55 22.6	-0.9
WVZ	**Waitaha Valley**	**2.35**	**253**	P	Pn	08 55 26.9	-0.1
RPZ	**Rata Peaks**	**2.39**	**236**	P	Pn	08 55 26.5	-1.1
ARCZ	**Arundel**	**2.45**	**230**	P	Pn	08 55 27.2	-1.3
TMZ	**Timaru**	**2.83**	**225**	P	Pn	08 55 33.2	-0.5
VRZ	**Vera Road**	**3.36**	**13**	P	Pn	08 55 43.1	+2.1
ODZ	**Otahua Downs**	**3.48**	**220**	P	Pn	08 55 41.6	-1.0
HHSZ	**Highcliff Hill**	**4.16**	**212**	P	Pn	08 55 48.9	-3.0
EAZ	**Earnscleugh**	**4.30**	**227**	P	Pn	08 55 52.6	-1.2
SYZ	**Scrubby Hill**	**5.30**	**217**	P	Pn	08 56 06.7	-0.9
AWAZ	**Awhitu Peninsu**	**5.38**	**7**	P	Pn	08 56 09.4	+0.7

WEL 14 08:59:02.8±0.3,**43°S**±2°×**17°3E**±°,**h35**km±3km,**M4.0**/10,
ML4.0/10,**MLv4.0**/10,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=110.9,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.31**	**159**	P	Pn	08 59 12.6	+1.6
GVZ				S	Sn	08 59 19.2	+2.1
LTZ	**Lake Taylor**	**0.46**	**257**	P	Pn	08 59 14.0	+1.0
LTZ				S	Sn	08 59 21.1	+1.0
AMCZ	**Amberley**	**0.53**	**199**	P	Pn	08 59 15.3	+1.4
AMCZ				S	Sn	08 59 24.0	+2.4
MQZ	**McQueen's Vall**	**1.04**	**189**	P	Pn	08 59 21.2	+0.2
MQZ				S	Sn	08 59 34.1	-0.2
OKCZ	**Okains Bay**	**1.06**	**173**	P	Pn	08 59 21.9	+0.8
OKCZ				S	Sn	08 59 35.5	+0.9
RACZ	**Rakaia**	**1.18**	**207**	P	Pn	08 59 23.4	+0.6
RACZ				S	Sn	08 59 38.3	+0.6
AKCZ	**Akaroa Harbour**	**1.20**	**179**	P	Pn	08 59 23.6	+0.5
AKCZ				S	Sn	08 59 38.1	0.0
DSZ	**Denniston Nort**	**1.23**	**319**	P	Pn	08 59 24.3	+0.8
DSZ				S	Sn	08 59 38.5	-0.4
MRNZ	**Matariki Terra**	**1.28**	**356**	P	Pn	08 59 23.4	-0.7
MRNZ				S	Sn	08 59 41.8	+1.7
MHCZ	**Mount Hutt**	**1.29**	**228**	P	Pn	08 59 25.3	+0.9
MHCZ				S	Sn	08 59 40.7	+0.3
WACZ	**Wakanui South**	**1.48**	**211**	P	Pn	08 59 27.4	+0.4
WACZ				S	Sn	08 59 45.5	+0.5
NNZ	**Nelson**	**1.50**	**14**	P	Pn	08 59 28.4	+1.1
NNZ				S	Sn	08 59 47.5	+1.9
WVZ	**Waitaha Valley**	**1.63**	**255**	P	Pn	08 59 30.2	+1.3
WVZ				S	Sn	08 59 49.0	+0.3
RPZ	**Rata Peaks**	**1.69**	**232**	P	Pn	08 59 30.5	+0.6
RPZ				S	Sn	08 59 49.9	-0.4
ARCZ	**Arundel**	**1.78**	**224**	P	Pn	08 59 31.7	+0.6
ARCZ				S	Sn	08 59 51.7	-0.8
GCSZ	**Gaunt Creek Bo**	**1.98**	**250**	P	Pn	08 59 35.5	+1.6
GCSZ				S	Sn	08 59 58.5	+1.0
TMZ	**Timaru**	**2.19**	**218**	P	Pn	08 59 37.2	+0.5
FOZ	**Fox Glacier**	**2.41**	**248**	P	Pn	08 59 41.1	+1.5
LBZ	**Lake Benmore**	**2.60**	**228**	P	Pn	08 59 43.0	+0.6
LBZ				S	Sn	09 00 12.0	-0.8
ODZ	**Otahua Downs**	**2.87**	**214**	P	Pn	08 59 46.2	+0.1
ODZ				S	Sn	09 00 16.6	-2.7
HHSZ	**Highcliff Hill**	**3.60**	**206**	P	Pn	08 59 56.4	+0.2
HHSZ				S	Sn	09 00 34.6	-2.8
EAZ	**Earnscleugh**	**3.63**	**224**	P	Pn	08 59 56.8	+0.2
EAZ				S	Sn	09 00 35.6	-2.5
TUZ	**Tuapeka**	**4.02**	**214**	P	Pn	09 00 02.4	+0.5
MLZ	**Mavora Lakes**	**4.36**	**230**	P	Pn	09 00 06.1	-0.5
SYZ	**Scrubby Hill**	**4.70**	**213**	P	Pn	09 00 11.7	+0.6
WHZ	**Wether Hill Ro**	**4.79**	**226**	P	Pn	09 00 11.6	-0.8
APZ	**The Paps**	**5.42**	**218**	P	Pn	09 00 21.4	+0.2

*MAN **14** 09:05:17.8,6°11N×126°52E,h17km,mb4.5,ML3.3,MS3.1*
*IDC **14** 09:05:18.7±2.2,5°91N×127°22E,h0km,mb3.4/3,*
mbtmp3.6/4,ML4.2/1,Error ellipse: s-maj=98.8km
s-min=23.4km az=58.0
ISC 14 09:05:14.5±2.2,**6°12N**±0°06×**126°42E**±0°07,**h0**km±13km,
n13,σ2**911**/19,**mb3.4**/3,**6C-3D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.71**	**269**	↑*eP*	**Pn**	**09 05 32.0**	**+0.3**
DDMP				*eS*	**Sn**	**09 05 43.8**	**+0.5**
MATI	**Mati**	**0.84**	**349**	↑*eP*	**Pn**	**09 05 34.5**	**+1.0**
MATI				*eS*	**Sn**	**09 05 50.6**	**+4.1**
DAV	**Davao City (W)**	**1.26**	**318**	Pn	Pg	09 05 54.3	+16
	85nm,0.3s,baz=123,slow=8.3,SNR=5.1						
DAV				Sn	Sg	09 06 15.5	+20
	105nm,0.3s,baz=224,slow=21,SNR=3.5						
	294nm,0.4s						
GSPH	**General Santos**	**1.47**	**269**	↑*eP*	**Pb**	**09 05 41.5**	**-1.2**
GSPH				*i* S	**Sn**	**09 06 00.4**	**-1.8**
KCP	**Kidapawan**	**1.59**	**304**	↑*iP*	**Pg**	**09 05 45.1**	**+0.1**
KCP				*i* S	**Sb**	**09 06 05.7**	**+0.2**
SKMP	**Bagumbayan, Su**	**1.91**	**282**	↑*eP*	**Pg**	**09 05 52.0**	**+0.8**
SKMP				*eS*	**Sg**	**09 06 17.9**	**+1.9**
BIPH	**Bislig**	**2.05**	**358**	↓*iP*	**Pn**	**09 05 48.3**	**-1.9**
BIPH				*i* S	**Sb**	**09 06 18.6**	**0.0**
CTBH	**Cotabato--PC H**	**2.42**	**297**	↑*iP*	**Pb**	**09 05 57.0**	**-1.9**
CGP	**Cagayan de Oro**	**2.88**	**324**	↓*eP*	**Pg**	**09 06 11.3**	**+1.5**
CGP				*eS*	**Sb**	**09 06 39.4**	**-3.3**
GLSP	**General Luna,**	**3.65**	**355**	↓*eP*	**Pb**	**09 06 16.5**	**-3.4**
GLSP				*eS*	**Sn**	**09 06 58.5**	**+2.5**
WRA	**Warramunga Arr**	**27.05**	**163**	P	**P**	**09 10 59.5**	**+0.8**
	0.5nm,0.9s,baz=346,slow=9.9,SNR=2.4						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**30.49**	**166**	P	**P**	**09 11 30.1**	**+0.7**
	0.3nm,0.6s,baz=341,slow=6.6,SNR=6.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.44**	**324**	P	P	09 14 59.3	+8.5
	0.5nm,0.6s,baz=114,slow=8.3,SNR=1.9						
	0.5nm,0.6s						

WEL 14 09:13:44.5±0.4,**42°S**±3°×**17°4E**±°,**h12**km±3km,**M3.5**/19,
ML3.7/19,**MLv3.5**/19,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=117.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.68**	**225**	P	Pb	09 13 58.8	+0.4
GVZ				S	Sn	09 14 09.4	-1.3
BSWZ	**Blackbirch Sta**	**0.78**	**10**	P	Pb	09 13 59.8	-0.2
BSWZ				S	Sg	09 14 10.0	+0.3
THZ	**Tophouse**	**0.93**	**321**	P	Pg	09 14 01.0	-1.4
THZ				S	Sg	09 14 14.1	-0.3
AMCZ	**Amberley**	**1.03**	**227**	P	Pn	09 14 04.7	-0.1
AMCZ				S	Sn	09 14 18.8	-0.4
TUWZ	**Tuamarina**	**1.07**	**10**	P	Pb	09 14 04.8	-0.1
LTZ	**Lake Taylor**	**1.09**	**254**	P	Pb	09 14 04.5	-0.8
LTZ				S	Sb	09 14 19.3	-0.2
NNZ	**Nelson**	**1.28**	**350**	P	Pn	09 14 08.0	-0.3
NNZ				S	Sg	09 14 25.7	-0.2
MRNZ	**Matariki Terra**	**1.29**	**327**	P	Pn	09 14 07.9	-0.4
OKCZ	**Okains Bay**	**1.32**	**200**	P	Pn	09 14 08.6	-0.2
TCW	**Tory Channel**	**1.34**	**19**	P	Pn	09 14 09.0	-0.1
TCW				S	Sg	09 14 27.9	+0.1
MQZ	**McQueen's Vall**	**1.44**	**211**	P	Pn	09 14 09.4	-1.0
MQZ				S	Sn	09 14 27.6	-1.6
OXZ	**Oxford**	**1.48**	**235**	P	Pn	09 14 10.1	-0.8
PLWZ	**Palliser**	**1.48**	**52**	P	Pn	09 14 10.6	-0.4
AKCZ	**Akaroa Harbour**	**1.50**	**202**	P	Pn	09 14 10.8	-0.5
TKNZ	**Takaka Hill**	**1.55**	**339**	P	Pb	09 14 12.5	-0.6
MSWZ	**Moikau Station**	**1.58**	**48**	P	Pn	09 14 11.9	-0.5
DSZ	**Denniston Nort**	**1.58**	**297**	P	Pn	09 14 12.9	+0.4
RACZ	**Rakaia**	**1.68**	**222**	P	Pn	09 14 13.0	-0.8
DUWZ	**D'Urville Isla**	**1.69**	**6**	P	Pb	09 14 14.9	-0.6
PAWZ	**Paruwai Farm**	**1.70**	**50**	P	Pn	09 14 13.4	-0.6
CAW	**Cannon Point**	**1.72**	**37**	P	Pn	09 14 13.9	-0.3
TRWZ	**Traveller**	**1.84**	**55**	P	Pn	09 14 15.4	-0.5
KIW	**Kapiti Island**	**1.86**	**30**	P	Pn	09 14 16.5	+0.3
QRZ	**Quartz Range**	**1.87**	**332**	P	Pn	09 14 17.4	+1.1
MTW	**Mount Morrison**	**1.89**	**46**	P	Pn	09 14 15.7	-0.9
WACZ	**Wakanui South**	**1.99**	**222**	P	Pn	09 14 17.1	-0.9
OGWZ	**Otaki Gorge**	**2.00**	**34**	P	Pn	09 14 17.6	-0.5
HOWZ	**Holdsworth Sta**	**2.09**	**41**	P	Pn	09 14 18.7	-0.7
WVZ	**Waitaha Valley**	**2.25**	**254**	P	Pn	09 14 21.5	-0.1
RPZ	**Rata Peaks**	**2.29**	**237**	P	Pn	09 14 21.1	-1.0
MRZ	**Mangatainoka R**	**2.31**	**39**	P	Pn	09 14 21.4	-0.9
ARCZ	**Arundel**	**2.35**	**231**	P	Pn	09 14 21.8	-1.2
TMZ	**Timaru**	**2.73**	**225**	P	Pn	09 14 27.6	-0.5
VRZ	**Vera Road**	**3.45**	**14**	P	Pn	09 14 39.7	+1.7
OTVZ	**Oturere**	**3.64**	**25**	P	Pn	09 14 43.1	+2.3
ETVZ	**East Tongariro**	**3.68**	**25**	P	Pb	09 14 46.8	-2.7
TMVZ	**Te Maari**	**3.69**	**25**	P	Pn	09 14 43.3	+1.8
HIZ	**Hauiti**	**4.06**	**13**	P	Pn	09 14 48.0	+1.5
AWAZ	**Awhitu Peninsu**	**5.46**	**8**	P	Pn	09 15 06.8	+1.1

*IDC **14** 09:16:58.0±2.6,42°03S×173°60E,h0km,mb3.3/2,*
mbtmp3.5/3,ML4.0/1,Error ellipse: s-maj=50.8km
s-min=36.6km az=110.0
*WEL **14** 09:16:60.0±0.3,42°3S±3°×17°4E±°,h12km,M3.5/21,*
ML3.7/21,MLv3.5/21,Error ellipse: s-maj=0.0km
s-min=0.0km az=128.8
ISC 14 09:16:59.4±1.3,**42°11S**±0°03×**173°80E**±0°04,**h16**km±10km,
n64,σ1**908**/68,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.37**	**212**	P	**Pb**	**09 17 08.5**	**+0.9**
KHZ				S	**Sb**	**09 17 14.2**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.40**	**8**	P	**Pg**	**09 17 07.9**	**+0.5**
BSWZ				S	**Sb**	**09 17 13.4**	**-0.6**
CMWZ	**Cape Campbell**	**0.47**	**41**	P	**Pb**	**09 17 10.8**	**+1.4**
TUWZ	**Tuamarina**	**0.69**	**9**	P	**Pb**	**09 17 13.3**	**+0.3**
TUWZ				S	**Sb**	**09 17 22.2**	**0.0**
THZ	**Tophouse**	**0.75**	**297**	P	**Pg**	**09 17 13.8**	**-0.3**
THZ				S	**Sg**	**09 17 23.3**	**-0.7**
NNZ	**Nelson**	**0.94**	**340**	P	**Pg**	**09 17 17.1**	**-0.6**
TCW	**Tory Channel**	**0.96**	**22**	P	**Pg**	**09 17 18.1**	**+0.1**
GVZ	**Greta Valley S**	**1.03**	**213**	P	**Pn**	**09 17 20.4**	**+1.1**
MRNZ	**Matariki Terra**	**1.05**	**312**	P	**Pb**	**09 17 19.4**	**+0.1**
WEL	**Wellington**	**1.09**	**42**	P	**Pn**	**09 17 21.2**	**+1.0**
PLWZ	**Palliser**	**1.21**	**64**	P	**Pn**	**09 17 22.3**	**+0.5**
TKNZ	**Takaka Hill**	**1.24**	**329**	P	**Pn**	**09 17 22.6**	**+0.3**
MSWZ	**Moikau Station**	**1.28**	**58**	P	**Pn**	**09 17 23.3**	**+0.5**
DUWZ	**D'Urville Isla**	**1.31**	**4**	P	**Pb**	**09 17 23.9**	**+0.3**
LTZ	**Lake Taylor**	**1.32**	**239**	P	**Pb**	**09 17 24.5**	**+0.6**
AMCZ	**Amberley**	**1.36**	**218**	P	**Pn**	**09 17 24.6**	**+0.7**
CAW	**Cannon Point**	**1.38**	**44**	P	**Pn**	**09 17 24.8**	**+0.8**
PAWZ	**Paruwai Farm**	**1.42**	**60**	P	**Pn**	**09 17 24.9**	**+0.2**
KIW	**Kapiti Island**	**1.50**	**34**	P	**Pn**	**09 17 27.0**	**+1.3**
DSZ	**Denniston Nort**	**1.53**	**283**	P	**Pb**	**09 17 28.3**	**+0.8**
TRWZ	**Traveller**	**1.58**	**64**	P	**Pn**	**09 17 26.9**	**0.0**
MTW	**Mount Morrison**	**1.59**	**54**	P	**Pn**	**09 17 27.1**	**+0.2**
QRZ	**Quartz Range**	**1.60**	**323**	P	**Pb**	**09 17 28.5**	**-0.1**
OGWZ	**Otaki Gorge**	**1.65**	**39**	P	**Pn**	**09 17 28.6**	**+0.8**
OKCZ	**Okains Bay**	**1.71**	**198**	P	**Pn**	**09 17 29.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.77**	**47**	P	**Pn**	**09 17 29.6**	**+0.2**
OXZ	**Oxford**	**1.78**	**226**	P	**Pn**	**09 17 29.6**	**0.0**
MQZ	**McQueen's Vall**	**1.81**	**207**	P	**Pn**	**09 17 29.6**	**-0.4**
INZ	**Inchbonnie**	**1.85**	**250**	P	**Pn**	**09 17 32.4**	**+1.8**
TMWZ	**Te Maipa**	**1.86**	**58**	P	**Pn**	**09 17 30.5**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.88**	**200**	P	**Pn**	**09 17 31.3**	**+0.3**
MRZ	**Mangatainoka R**	**1.97**	**43**	P	**Pn**	**09 17 32.5**	**+0.3**
RACZ	**Rakaia**	**2.03**	**216**	P	**Pn**	**09 17 32.7**	**-0.3**
TIWZ	**Tintock**	**2.05**	**50**	P	**Pn**	**09 17 33.4**	**0.0**
OHWZ	**Ohakea**	**2.22**	**32**	P	**Pn**	**09 17 37.6**	**+2.0**
POWZ	**Post Office Ro**	**2.27**	**42**	P	**Pn**	**09 17 34.7**	**+0.5**
WACZ	**Wakanui South**	**2.33**	**217**	P	**Pn**	**09 17 36.9**	**-0.2**
WVZ	**Waitaha Valley**	**2.46**	**246**	P	**Pn**	**09 17 40.2**	**+1.3**
WAZ	**Wanganui**	**2.52**	**21**	P	**Pb**	**09 17 45.5**	**+1.2**
RPZ	**Rata Peaks**	**2.58**	**231**	Pn	**Pn**	**09 17 40.8**	**+0.2**
	30nm,0.3s,baz=163,slow=1.9,SNR=32						
RPZ				Sn	**Sn**	**09 18 10.7**	**-1.0**
	7.4nm,0.3s,baz=342,slow=22,SNR=11						
	76nm,0.4s						
RPZ	**Rata Peaks**	**2.58**	**231**	P	**Pn**	**09 17 40.7**	**0.0**
TSZ	**Takapari Road**	**2.62**	**39**	P	**Pb**	**09 17 47.9**	**+1.9**
ARCZ	**Arundel**	**2.66**	**225**	P	**Pn**	**09 17 41.7**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.83**	**244**	P	**Pn**	**09 17 45.8**	**+1.7**
NBEZ	**Newall Road No**	**2.84**	**1**	P	**Pb**	**09 17 51.6**	**+1.9**
TMZ	**Timaru**	**3.06**	**221**	P	**Pn**	**09 17 47.2**	**0.0**
FWVZ	**Far West T-bar**	**3.14**	**26**	P	**Pb**	**09 17 53.5**	**-1.6**
FOZ	**Fox Glacier**	**3.26**	**243**	P	**Pn**	**09 17 51.6**	**+1.7**
OTVZ	**Oturere**	**3.26**	**26**	P	**Pb**	**09 17 55.3**	**-1.8**
ETVZ	**East Tongariro**	**3.30**	**27**	P	**Pb**	**09 17 57.8**	**0.0**
LBZ	**Lake Benmore**	**3.49**	**228**	P	**Pn**	**09 17 53.5**	**+0.4**
HIZ	**Hauiti**	**3.68**	**13**	P	**Pb**	**09 18 00.7**	**-3.4**
ODZ	**Otahua Downs**	**3.73**	**217**	P	**Pn**	**09 17 55.8**	**-0.5**
HHSZ	**Highcliff Hill**	**4.43**	**210**	P	**Pn**	**09 18 05.8**	**-0.2**
EAZ	**Earnscleugh**	**4.51**	**225**	P	**Pn**	**09 18 06.8**	**-0.4**
TUZ	**Tuapeka**	**4.88**	**217**	P	**Pn**	**09 18 12.1**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.08**	**8**	P	Pn	09 18 20.9	+6.0
MKAZ	**Moumakai**	**5.11**	**12**	P	**Pn**	**09 18 19.3**	**+4.0**
MLZ	**Mavora Lakes**	**5.25**	**230**	P	**Pn**	**09 18 17.0**	**-0.3**
SYZ	**Scrubby Hill**	**5.55**	**215**	P	**Pn**	**09 18 21.5**	**+0.2**
CTZ	**Chatham Island**	**7.22**	**106**	P	**Pn**	**09 18 43.4**	**-0.9**
ASAR	**Alice Springs**	**37.81**	**286**	P	**P**	**09 24 15.1**	**-0.2**
	0.2nm,0.3s,baz=117,slow=6.7,SNR=5.0						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**39.92**	**291**	P	**P**	**09 24 32.0**	**-0.9**
	0.2nm,0.4s,baz=127,slow=8.5,SNR=8.8						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.34**	**196**	PKPbc	**PKPbc**	**09 36 51.1**	**+0.8**
	0.2nm,0.3s,baz=153,slow=1.5,SNR=3.7						

WEL 14 09:18:44.7±0.9,**42°S**±3°×**17°4E**±°,**h10**km±8km,**M3.0**/6,
ML4.1/6,**MLv3.0**/6,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=92.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.04**	**202**	P	Pg	09 18 47.4	+0.8
BSWZ	**Blackbirch Sta**	**0.27**	**270**	P	Pb	09 18 51.0	-0.7
BSWZ				S	Sb	09 18 55.9	-0.3
TUWZ	**Tuamarina**	**0.36**	**323**	P	Pb	09 18 52.9	-0.3
TUWZ				S	Sb	09 18 59.2	+0.3
WEL	**Wellington**	**0.59**	**43**	P	Pb	09 18 56.7	-0.4
WEL				S	Sb	09 19 05.6	+0.1
MSWZ	**Moikau Station**	**0.82**	**69**	P	Pb	09 19 01.0	0.0
CAW	**Cannon Point**	**0.87**	**46**	P	Pb	09 19 01.8	-0.2
CAW				S	Sb	09 19 13.9	+0.2
MTW	**Mount Morrison**	**1.10**	**60**	P	Pb	09 19 04.9	-1.0
OGWZ	**Otaki Gorge**	**1.14**	**39**	P	Pb	09 19 06.3	-0.2

*IDC **14** 09:19:08.8±2.9,41°36S×174°22E,h0km,mb3.4/2,*
mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=62.6km
s-min=47.1km az=65.0
*WEL **14** 09:19:11.1±0.3,42°3S±3°×17°4E±°,h11km±3km,M3.8/23,*
ML4.1/23,MLv3.8/23,Error ellipse: s-maj=0.0km
s-min=0.0km az=148.8
ISC 14 09:19:10.6±0.9,**41°64S**±0°03×**174°32E**±0°02,**h13**km±6km,
n70,σ1**953**/80,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**217**	P	**Pg**	**09 19 14.2**	**0.0**
CMWZ				S	**Sg**	**09 19 17.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.34**	**257**	P	**Pb**	**09 19 18.4**	**-0.1**
BSWZ				S	**Sb**	**09 19 24.5**	**+0.5**
TUWZ	**Tuamarina**	**0.35**	**306**	P	**Pn**	**09 19 20.4**	**-1.1**
TUWZ				S	**Sb**	**09 19 27.6**	**+3.4**
TCW	**Tory Channel**	**0.43**	**355**	P	**Pn**	**09 19 22.3**	**-0.2**
TCW				S	**Sb**	**09 19 30.2**	**+3.8**
BHW	**Baring Head**	**0.47**	**61**	P	**Pb**	**09 19 21.8**	**+1.0**
BHW				S	**Sb**	**09 19 31.6**	**+4.0**
WEL	**Wellington**	**0.49**	**43**	P	**Pn**	**09 19 22.7**	**-0.6**
PLWZ	**Palliser**	**0.70**	**85**	P	**Pb**	**09 19 25.7**	**+1.0**
PLWZ				S	**Sn**	**09 19 37.5**	**+0.5**
MSWZ	**Moikau Station**	**0.73**	**72**	P	**Pn**	**09 19 26.7**	**0.0**
MSWZ				S	**Sn**	**09 19 39.0**	**+1.4**
CAW	**Cannon Point**	**0.77**	**47**	P	**Pn**	**09 19 27.5**	**+0.3**
CAW				S	**Sn**	**09 19 40.9**	**+2.2**
NNZ	**Nelson**	**0.82**	**300**	P	**Pn**	**09 19 28.4**	**+0.5**
PAWZ	**Paruwai Farm**	**0.87**	**73**	P	**Pb**	**09 19 28.2**	**+0.7**
PAWZ				S	**Sn**	**09 19 42.2**	**+1.1**
DUWZ	**D'Urville Isla**	**0.89**	**340**	P	**Pn**	**09 19 30.7**	**+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**272**	P	Pg	09 27 53.9	+0.1
KHZ				S	Sg	09 27 57.5	+0.1
BSWZ	**Blackbirch Sta**	**0.71**	**358**	P	Pg	09 28 02.7	+0.5
GVZ	**Greta Valley S**	**0.84**	**230**	P	Pn	09 28 06.5	-0.6
GVZ				S	Sn	09 28 19.5	-0.3
TUWZ	**Tuamarina**	**0.99**	**2**	P	Pb	09 28 08.2	-0.1
TUWZ				S	Sn	09 28 23.1	-0.5
THZ	**Tophouse**	**1.00**	**311**	P	Pg	09 28 07.4	-0.3
THZ				S	Sg	09 28 20.0	-0.6
LTZ	**Lake Taylor**	**1.26**	**253**	P	Pg	09 28 12.4	-0.2
LTZ				S	Sg	09 28 28.5	-0.5
NNZ	**Nelson**	**1.27**	**342**	P	Pg	09 28 12.1	-0.8
MRNZ	**Matariki Terra**	**1.34**	**320**	P	Pn	09 28 13.8	0.0
MSWZ	**Moikau Station**	**1.42**	**45**	P	Pn	09 28 14.3	-0.8
MSWZ				S	Sb	09 28 33.5	-0.5
OKCZ	**Okains Bay**	**1.44**	**205**	P	Pn	09 28 15.0	-0.3
PAWZ	**Paruwai Farm**	**1.54**	**48**	P	Pn	09 28 15.7	-1.0
PAWZ				S	Sn	09 28 35.8	-1.3
TKNZ	**Takaka Hill**	**1.56**	**333**	P	Pn	09 28 16.9	-0.1
MQZ	**McQueen's Vall**	**1.58**	**215**	P	Pn	09 28 15.7	-1.5
MQZ				S	Sn	09 28 35.5	-2.4
CAW	**Cannon Point**	**1.58**	**34**	P	Pn	09 28 16.5	-0.6
AKCZ	**Akaroa Harbour**	**1.62**	**206**	P	Pn	09 28 17.1	-0.7
DUWZ	**D'Urville Isla**	**1.62**	**0**	P	Pn	09 28 18.3	+0.5
DSZ	**Dennistn Nort**	**1.71**	**293**	P	Pb	09 28 19.7	-0.7
RACZ	**Rakaia**	**1.84**	**224**	P	Pn	09 28 19.4	-1.3
WACZ	**Wakanui South**	**2.14**	**224**	P	Pn	09 28 23.7	-1.2

WEL 14 09:29:05.1±0.3, 42°S±2°×17°4E±°, h12km, M3.7/16, ML3.9/16, MLv3.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=129.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**208**	P	Pg	09 29 10.5	-1.1
KHZ				S	Sb	09 29 16.9	-1.0
BSWZ	**Blackbirch Sta**	**0.43**	**13**	P	Pb	09 29 14.3	-0.4
BSWZ				S	Sb	09 29 21.0	-0.2
CMWZ	**Cape Campbell**	**0.52**	**43**	P	Pb	09 29 17.1	+0.8
TUWZ	**Tuamarina**	**0.72**	**12**	P	Pb	09 29 19.5	-0.1
TUWZ				S	Sb	09 29 29.6	+0.1
THZ	**Tophouse**	**0.73**	**301**	P	Pg	09 29 18.9	-0.4
THZ				S	Sg	09 29 28.4	-0.3
NNZ	**Nelson**	**0.96**	**343**	P	Pg	09 29 23.1	-0.4
GVZ	**Greta Valley S**	**0.98**	**212**	P	Pg	09 29 24.0	-0.1
GVZ				S	Sn	09 29 38.2	-0.4
TCW	**Tory Channel**	**1.01**	**24**	P	Pb	09 29 24.4	-0.1
TCW				S	Sn	09 29 38.9	-0.2
MRNZ	**Matariki Terra**	**1.04**	**315**	P	Pb	09 29 24.9	-0.2
WEL	**Wellington**	**1.15**	**42**	P	Pb	09 29 26.8	0.0
WEL				S	Sn	09 29 42.8	+0.2
TKNZ	**Takaka Hill**	**1.25**	**332**	P	Pn	09 29 28.4	0.0
PLWZ	**Palliser**	**1.26**	**64**	P	Pn	09 29 27.9	-0.8
LTZ	**Lake Taylor**	**1.27**	**239**	P	Pn	09 29 28.1	-0.6
LTZ				S	Sb	09 29 44.9	-0.3
AMCZ	**Amberley**	**1.31**	**217**	P	Pn	09 29 28.3	-1.1
MSWZ	**Moikau Station**	**1.34**	**58**	P	Pn	09 29 28.8	-0.8
MSWZ				S	Sn	09 29 47.5	+0.1
DUWZ	**D'Urville Isla**	**1.34**	**6**	P	Pb	09 29 30.0	-0.2
DUWZ				S	Sg	09 29 48.2	0.0
CAW	**Cannon Point**	**1.43**	**44**	P	Pn	09 29 30.4	-0.4
CAW				S	Sn	09 29 49.3	-0.3
PAWZ	**Paruwai Farm**	**1.47**	**60**	P	Pn	09 29 30.3	-1.2
DSZ	**Dennistn Nort**	**1.50**	**284**	P	Pb	09 29 32.5	-0.4
DSZ				S	Sb	09 29 52.5	+0.7
KIW	**Kapiti Island**	**1.55**	**35**	P	Pn	09 29 32.4	-0.1
KIW				S	Sn	09 29 52.4	-0.1
QRZ	**Quartz Range**	**1.59**	**325**	P	Pb	09 29 34.0	-0.5
QRZ				S	Sb	09 29 55.3	+0.7
TRWZ	**Traveller**	**1.63**	**64**	P	Pn	09 29 32.3	-1.4
MTW	**Mount Morrison**	**1.64**	**54**	P	Pn	09 29 32.7	-1.1
MTW				S	Sn	09 29 54.3	-0.6
OKCZ	**Okains Bay**	**1.66**	**197**	P	Pn	09 29 32.7	-1.5
OGWZ	**Otaki Gorge**	**1.70**	**40**	P	Pn	09 29 34.1	-0.5
OGWZ				S	Sn	09 29 55.7	-0.5
OXZ	**Oxford**	**1.73**	**226**	P	Pn	09 29 33.2	-1.8
MQZ	**McQueen's Vall**	**1.76**	**207**	P	Pn	09 29 33.2	-2.2
INZ	**Inchbonnie**	**1.80**	**250**	P	Pn	09 29 35.8	-0.2
HOWZ	**Holdsworth Sta**	**1.82**	**48**	P	Pn	09 29 35.2	-1.0
AKCZ	**Akaroa Harbour**	**1.84**	**199**	P	Pn	09 29 35.0	-1.5
TMWZ	**Te Maipa**	**1.91**	**58**	P	Pn	09 29 36.0	-1.5
RACZ	**Rakaia**	**1.98**	**216**	P	Pn	09 29 36.3	-2.1
MRZ	**Mangatainoka R**	**2.02**	**44**	P	Pn	09 29 38.0	-1.0
TIWZ	**Tintock**	**2.11**	**51**	P	Pn	09 29 39.2	-1.1
CPWZ	**Castlepoint**	**2.22**	**57**	P	Pn	09 29 40.5	-1.2
OHWZ	**Ohakea**	**2.26**	**32**	P	Pn	09 29 43.0	+0.7
WACZ	**Wakanui South**	**2.28**	**217**	P	Pn	09 29 40.5	-2.1
PRWZ	**Pori Road**	**2.31**	**47**	P	Pn	09 29 41.6	-1.3
POWZ	**Post Office Ro**	**2.32**	**42**	P	Pn	09 29 42.3	-0.8
BFZ	**Birch Farm**	**2.38**	**53**	P	Pn	09 29 42.8	-1.1
WVZ	**Waitaha Valley**	**2.41**	**246**	P	Pn	09 29 43.8	-0.5
RPZ	**Rata Peaks**	**2.53**	**230**	P	Pn	09 29 44.2	-1.9
WAZ	**Wanganui**	**2.56**	**22**	P	Pn	09 29 46.3	+1.8
DVHZ	**Dannevirke**	**2.59**	**46**	P	Pn	09 29 45.1	-1.8
ARCZ	**Arundel**	**2.61**	**225**	P	Pn	09 29 45.0	-2.2
TSZ	**Takapari Road**	**2.67**	**40**	P	Pn	09 29 46.7	-1.3
GCSZ	**Gaunt Creek Bo**	**2.78**	**244**	P	Pn	09 29 49.1	-0.4
NBEZ	**Newall Road No**	**2.87**	**2**	P	Pb	09 29 57.3	+1.1
PRHZ	**Porangahau**	**2.87**	**50**	P	Pn	09 29 49.0	-1.8
PNHZ	**Pukenui**	**2.90**	**41**	P	Pn	09 29 49.5	-1.6
PKE	**Pukeiti**	**2.94**	**4**	P	Pb	09 29 54.9	-2.7
TMZ	**Timaru**	**3.01**	**221**	P	Pn	09 29 50.7	-1.9
VRZ	**Vera Road**	**3.11**	**15**	P	Pn	09 29 55.6	+1.6
WHVZ	**Whangaehu Hut**	**3.18**	**27**	P	Pn	09 29 55.9	+0.7
FWVZ	**Far West T-bar**	**3.19**	**26**	P	Pn	09 29 55.8	+0.5
FOZ	**Fox Glacier**	**3.21**	**243**	P	Pn	09 29 54.9	-0.4
SNVZ	**South Ngauruho**	**3.28**	**27**	P	Pn	09 29 57.2	+0.6
OTVZ	**Oturere**	**3.31**	**27**	P	Pn	09 29 57.5	+0.5
NNVZ	**North Ngauruho**	**3.32**	**26**	P	Pn	09 29 57.5	+0.4
ETVZ	**East Tongariro**	**3.35**	**27**	P	Pn	09 29 57.8	+0.4
KRVZ	**Karewarewa**	**3.36**	**26**	P	Pn	09 29 58.0	+0.4
TMVZ	**Te Maari**	**3.37**	**27**	P	Pn	09 29 58.1	+0.4
NTVZ	**North Tongarir**	**3.37**	**27**	P	Pn	09 29 58.1	+0.4
LBZ	**Lake Benmore**	**3.44**	**228**	P	Pn	09 29 56.9	-1.6
ODZ	**Otahua Downs**	**3.68**	**217**	P	Pn	09 29 59.5	-2.3
HIZ	**Hauiti**	**3.72**	**14**	P	Pn	09 30 04.2	+1.8
TLZ	**Tolley Road**	**4.04**	**20**	P	Pn	09 30 07.4	+0.5
HHSZ	**Highcliff Hill**	**4.38**	**210**	P	Pn	09 30 09.1	-2.4
EAZ	**Earnscleugh**	**4.46**	**225**	P	Pn	09 30 10.6	-2.0
TOZ	**Tahuroa Road**	**4.60**	**18**	P	Pn	09 30 14.7	+0.2
TUZ	**Tuapeka**	**4.83**	**216**	P	Pn	09 30 15.6	-2.1
AWAZ	**Awhitu Peninsu**	**5.11**	**8**	P	Pn	09 30 22.8	+1.3
TWGZ	**Tauwhareparae**	**5.12**	**41**	P	Pn	09 30 25.1	+3.5
MKAZ	**Moumakai**	**5.14**	**13**	P	Pn	09 30 22.3	+0.4
MLZ	**Mavora Lakes**	**5.20**	**230**	P	Pn	09 30 20.6	-2.2
ETAZ	**East Tamaki Re**	**5.26**	**10**	P	Pn	09 30 24.7	+1.2
SYZ	**Scrubby Hill**	**5.50**	**215**	P	Pn	09 30 25.1	-1.7
WHZ	**Wether Hill Ro**	**5.62**	**226**	P	Pn	09 30 25.8	-2.6
APZ	**The Paps**	**6.24**	**219**	P	Pn	09 30 34.5	-2.6
PYZ	**Puysegur Point**	**6.48**	**229**	P	Pn	09 30 39.0	-1.4
CTZ	**Chatham Island**	**7.25**	**106**	P	Pn	09 30 48.2	-2.7

IDC 14 09:35:53.7±4.6, 19°31S×179°59W, h552km, 27km, mb2.7/3, mbtmp3.6/4, Error ellipse: s-maj=141.2km s-min=28.8km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.74**	**305**	P	P	09 37 07.4	-0.1
	6.2nm,0.4s,baz=262,slow=23,SNR=18						
WRA	**Warramunga Arr**	**43.30**	**261**	P	P	09 43 07.5	+0.1
	0.3nm,0.3s,baz=96,slow=7.4,SNR=22						
WRA				PcP	PcP	09 44 43.0	-1.0
	0.4nm,0.8s,baz=93,slow=3.6,SNR=2.1						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**43.35**	**256**	P	P	09 43 07.8	0.0
	1.1nm,0.9s,baz=88,slow=8.5,SNR=7.9						
ASAR				PcP	PcP	09 44 42.4	-1.7
	0.2nm,0.7s,baz=99,slow=4.2,SNR=4.8						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**87.50**	**13**	P	P	09 47 42.2	-0.3
	0.2nm,0.4s,baz=218,slow=5.2,SNR=4.6						
	0.2nm,0.4s						
KEST	**Kesra**	**161.84**	**336**	PKP	PKPdf	09 54 53.9	+1.6
	4.6nm,0.5s,baz=54,slow=2.0,SNR=3.5						

WEL 14 09:36:30.8±0.3, 42°S±2°×17°4E±°, h5km, M3.5/13, ML3.7/13, MLv3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=132.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**26**	P	Pg	09 36 38.0	+0.2
BSWZ				S	Sg	09 36 43.8	+1.3
KHZ	**Kahutara**	**0.39**	**194**	P	Pg	09 36 38.3	+0.1
KHZ				S	Sg	09 36 43.6	+0.3
CMWZ	**Cape Campbell**	**0.50**	**55**	P	Pg	09 36 41.3	+0.8
CMWZ				S	Sb	09 36 49.7	0.0
THZ	**Tophouse**	**0.63**	**296**	P	Pg	09 36 43.1	+0.1
THZ				S	Sg	09 36 52.3	+1.2
TUWZ	**Tuamarina**	**0.65**	**19**	P	Pg	09 36 43.4	+0.2
TUWZ				S	Sb	09 36 53.0	-0.8
NNZ	**Nelson**	**0.85**	**345**	P	Pg	09 36 46.7	-0.4
TCW	**Tory Channel**	**0.95**	**29**	P	Pg	09 36 48.5	-0.5
GVZ	**Greta Valley S**	**1.03**	**207**	P	Pb	09 36 51.0	-0.2
GVZ				S	Sn	09 37 06.1	-0.7
WEL	**Wellington**	**1.12**	**48**	P	Pg	09 36 52.1	-0.1
DUWZ	**D'Urville Isla**	**1.25**	**9**	P	Pg	09 36 54.0	-0.9
DUWZ				S	Sb	09 37 11.5	+0.1
LTZ	**Lake Taylor**	**1.27**	**234**	P	Pg	09 36 54.2	-0.9
LTZ				S	Sg	09 37 10.4	-1.2
MSWZ	**Moikau Station**	**1.34**	**63**	P	Pn	09 36 54.4	-1.8
MSWZ				S	Sg	09 37 13.3	-0.6
AMCZ	**Amberley**	**1.36**	**213**	P	Pg	09 36 57.1	+0.3
CAW	**Cannon Point**	**1.41**	**49**	P	Pn	09 36 55.8	-1.3
DSZ	**Dennistn Nort**	**1.42**	**281**	P	Pg	09 36 58.0	0.0
PAWZ	**Paruwai Farm**	**1.48**	**64**	P	Pn	09 36 56.1	-2.0
KIW	**Kapiti Island**	**1.51**	**39**	P	Pn	09 36 57.8	-0.6
MTW	**Mount Morrison**	**1.64**	**58**	P	Pn	09 36 60.0	-0.2
TRWZ	**Traveller**	**1.65**	**68**	P	Pn	09 36 58.0	-2.3
OGWZ	**Otaki Gorge**	**1.67**	**43**	P	Pn	09 36 59.5	-1.1
OKCZ	**Okains Bay**	**1.74**	**195**	P	Pn	09 36 59.4	-2.2
OXZ	**Oxford**	**1.76**	**223**	P	Pn	09 36 59.9	-2.0
INZ	**Inchbonnie**	**1.78**	**247**	P	Pn	09 37 02.3	+0.1
HOWZ	**Holdsworth Sta**	**1.80**	**51**	P	Pb	09 37 04.4	+0.2
MQZ	**McQueen's Vall**	**1.82**	**204**	P	Pn	09 36 60.0	-2.8
AKCZ	**Akaroa Harbour**	**1.91**	**197**	P	Pn	09 37 01.8	-2.2
TMWZ	**Te Maipa**	**1.91**	**62**	P	Pn	09 37 01.8	-2.3
MRZ	**Mangatainoka R**	**2.00**	**47**	P	Pn	09 37 03.4	-1.7
OHWZ	**Ohakea**	**2.22**	**35**	P	Pb	09 37 10.7	-0.6
PRWZ	**Pori Road**	**2.29**	**50**	P	Pb	09 37 11.5	-1.1
WAZ	**Wanganui**	**2.50**	**24**	P	Pb	09 37 15.1	-1.0
DVHZ	**Dannevirke**	**2.57**	**48**	P	Pb	09 37 18.4	+1.1
TSZ	**Takapari Road**	**2.63**	**42**	P	Pn	09 37 13.3	-0.7
MOVZ	**Moawhango**	**3.07**	**32**	P	Pn	09 37 17.6	-2.4

WEL 14 09:38:50.8±0.3, 42°S±3°×17°4E±°, h7km±2km, M3.4/31, mB4.2/2, ML3.6/31, MLv3.4/31, Mw(mB)3.4/2, Error ellipse: s-maj=0.0km s-min=0.0km az=119.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**228**	P	Pg	09 38 54.8	+0.7
KHZ				S	Sg	09 38 58.0	+1.6
BSWZ	**Blackbirch Sta**	**0.60**	**12**	P	Pg	09 39 02.0	-0.4
BSWZ				S	Sg	09 39 10.1	-0.1
THZ	**Tophouse**	**0.81**	**312**	P	Pg	09 39 05.3	-0.9
THZ				S	Sg	09 39 14.9	-1.8
GVZ	**Greta Valley S**	**0.83**	**217**	P	Pg	09 39 06.9	+0.2
TUWZ	**Tuamarina**	**0.89**	**12**	P	Pg	09 39 07.5	-0.4
NNZ	**Nelson**	**1.11**	**347**	P	Pg	09 39 10.8	-1.3
MRNZ	**Matariki Terra**	**1.15**	**322**	P	Pg	09 39 11.2	-1.6
LTZ	**Lake Taylor**	**1.16**	**245**	P	Pg	09 39 12.4	-0.6
AMCZ	**Amberley**	**1.17**	**221**	P	Pg	09 39 12.8	-0.3
TCW	**Tory Channel**	**1.17**	**22**	P	Pg	09 39 12.5	-0.7
TCW				S	Sb	09 39 29.2	+0.3
WEL	**Wellington**	**1.29**	**38**	P	Pn	09 39 14.0	-1.3
WEL				S	Sb	09 39 32.0	-0.2
PLWZ	**Palliser**	**1.37**	**58**	P	Pn	09 39 14.9	-1.5
TKNZ	**Takaka Hill**	**1.39**	**336**	P	Pn	09 39 15.7	-1.0
MSWZ	**Moikau Station**	**1.46**	**53**	P	Pn	09 39 16.0	-1.5
MSWZ				S	Sn	09 39 35.9	-1.0
OKCZ	**Okains Bay**	**1.49**	**198**	P	Pn	09 39 17.2	-0.9
DUWZ	**D'Urville Isla**	**1.51**	**6**	P	Pn	09 39 18.0	-0.3
DSZ	**Dennistn Nort**	**1.52**	**291**	P	Pn	09 39 18.7	+0.2
CAW	**Cannon Point**	**1.57**	**41**	P	Pn	09 39 18.0	-1.2
PAWZ	**Paruwai Farm**	**1.58**	**55**	P	Pn	09 39 17.5	-1.8
OXZ	**Oxford**	**1.60**	**230**	P	Pn	09 39 18.3	-1.2
MQZ	**McQueen's Vall**	**1.60**	**209**	P	Pn	09 39 17.8	-1.6
AKCZ	**Akaroa Harbour**	**1.67**	**200**	P	Pn	09 39 19.3	-1.2
KIW	**Kapiti Island**	**1.70**	**32**	P	Pn	09 39 20.4	-0.6
QRZ	**Quartz Range**	**1.72**	**329**	P	Pn	09 39 21.4	+0.2
RACZ	**Rakaia**	**1.83**	**218**	P	Pn	09 39 21.3	-1.3
WACZ	**Wakanui South**	**2.13**	**219**	P	Pn	09 39 25.6	-1.2
RPZ	**Rata Peaks**	**2.40**	**233**	P	Pn	09 39 29.9	-0.6
NBEZ	**Newall Road No**	**3.04**	**2**	P	Pn	09 39 42.1	+2.8
PKE	**Pukeiti**	**3.12**	**4**	P	Pn	09 39 43.0	+2.7
VRZ	**Vera Road**	**3.28**	**14**	P	Pn	09 39 43.5	+0.9
FWVZ	**Far West T-bar**	**3.35**	**25**	P	Pn	09 39 44.0	+0.1
OTVZ	**Oturere**	**3.47**	**26**	P	Pn	09 39 45.6	+0.1
TMVZ	**Te Maari**	**3.53**	**26**	P	Pn	09 39 46.2	0.0
NTVZ	**North Tongarir**	**3.54**	**26**	P	Pn	09 39 47.6	+1.4
HIZ	**Hauiti**	**3.89**	**13**	P	Pn	09 39 52.8	+1.8
AWAZ	**Awhitu Peninsu**	**5.29**	**8**	P	Pn	09 40 10.5	+0.3
MKAZ	**Moumakai**	**5.31**	**13**	P	Pn	09 40 10.7	+0.2
ETAZ	**East Tamaki Re**	**5.43**	**10**	P	Pn	09 40 12.5	+0.4
RVAZ	**Riverhead Bore**	**5.57**	**7**	P	Pn	09 40 14.9	+0.8

WEL 14 09:48:35.4±0.7, 42°S±3°×17°4E±°, h12km, M3.0/7, ML4.3/8, MLv3.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=121.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**254**	P	Pb	09 48 42.2	-0.5
KHZ				S	Sb	09 48 46.9	-0.8
BSWZ	**Blackbirch Sta**	**0.62**	**356**	P	Pg	09 48 47.7	+0.3
BSWZ				S	Sb	09 48 57.6	+0.9
TUWZ	**Tuamarina**	**0.90**	**0**	P	Pb	09 48 52.9	0.0
TUWZ				S	Sn	09 49 06.6	-0.1
GVZ	**Greta Valley S**	**0.92**	**226**	P	Pb	09 48 53.6	+0.3
GVZ				S	Sn	09 49 07.3	+0.1
THZ	**Tophouse**	**0.95**	**306**	P	Pg	09 48 53.2	-0.5
TCW	**Tory Channel**	**1.15**	**13**	P	Pb	09 48 55.9	-1.2
TCW				S	Sg	09 49 12.5	+0.2
BHW	**Baring Head**	**1.16**	**37**	P	Pb	09 48 55.7	-1.5
NNZ	**Nelson**	**1.19**	**339**	P	Pn	09 48 57.1	-0.7
MRNZ	**Matariki Terra**	**1.28**	**316**	P	Pb	09 48 59.4	0.0
MRNZ				S	Sg	09 49 17.9	+1.4
LTZ	**Lake Taylor**	**1.31**	**249**	P	Pn	09 48 59.0	-0.6
LTZ				S	Sn	09 49 16.8	-0.1
CAW	**Cannon Point**	**1.49**	**35**	P	Pn	09 49 00.5	-1.4
TKNZ	**Takaka Hill**	**1.49**	**330**	P	Pn	09 49 02.1	+0.1
DUWZ	**D'Urville Isla**	**1.53**	**360**	P	Pn	09 49 02.7	+0.2

*WEL **14** 09:49:00, 42°.43S×173°.79E, h5km, ML5.0, Mw5.1, Moment Tensor Solution. s4 Moment tensor: Scale 10^{16} Nm; M_{rr}=0.56; $M_{\theta\theta}$=0.82; $M_{\phi\phi}$1.38; $M_{r\theta}$1.17; $M_{\theta\phi}$-4.66; $M_{\phi r}$-1.17; Fault plane solution: $M_0$5.02000×10^{16} NP1: ϕ_s188.00000°, δ77.00000°, λ9.00000°. NP2:ϕ_s96.00000°, δ81.00000°, λ167.00000°. Principal axes: T 5518.7400, Plg16.0000°, Azm52.0000°; N -4517.7000, Plg74.0000°, Azm242.0000°; P -1001.0400, Plg3.0000°, Azm142.0000°;*

*IDC **14** 09:49:03.0±2.5, 42°.21S×173°.81E, h0km, mb3.3/2, mbtmp3.4/3, ML3.7/1 Error ellipse: s-maj=49.2km s-min=38.3km az=123.0*

*WEL **14** 09:49:04.7±0.4, 42°S±2°×17°4E±°, h7km±3km, M3.9/12, ML4.4/12, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6*

ISC 14 09:49:04.9±1.1, 42°.06S±0°.03×173°.82E±0°.03, h16km±8km, n89, σ1°53/97, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.35**	**6**	P	**Pg**	**09 49 11.5**	**-0.5**
BSWZ				S	**Sb**	**09 49 16.8**	**-1.2**
KHZ	**Kahutara**	**0.41**	**211**	P	**Pg**	**09 49 13.6**	**+0.4**
KHZ				S	**Sg**	**09 49 20.0**	**+1.1**
CMWZ	**Cape Campbell**	**0.43**	**43**	P	**Pb**	**09 49 14.3**	**+0.2**
TUWZ	**Tuamarina**	**0.64**	**8**	P	**Pb**	**09 49 17.0**	**-0.6**
TUWZ				S	**Sb**	**09 49 26.1**	**-0.2**
THZ	**Tophouse**	**0.75**	**293**	P	**Pg**	**09 49 18.5**	**-0.9**
THZ				S	**Sg**	**09 49 28.5**	**-1.1**
NNZ	**Nelson**	**0.91**	**338**	P	**Pg**	**09 49 21.2**	**-1.2**
NNZ				S	**Sb**	**09 49 33.3**	**-0.7**
TCW	**Tory Channel**	**0.92**	**22**	P	**Pg**	**09 49 21.9**	**-0.6**
TCW				S	**Sn**	**09 49 35.9**	**0.0**
MRNZ	**Matariki Terra**	**1.04**	**309**	P	**Pb**	**09 49 24.0**	**-0.4**
MRNZ				S	**Sn**	**09 49 39.7**	**+0.7**
WEL	**Wellington**	**1.05**	**43**	P	**Pn**	**09 49 25.4**	**+0.4**
GVZ	**Greta Valley S**	**1.08**	**213**	P	**Pg**	**09 49 25.9**	**+0.2**
PLWZ	**Palliser**	**1.18**	**66**	P	**Pg**	**09 49 26.6**	**-1.0**
MSWZ	**Moikau Station**	**1.25**	**59**	P	**Pn**	**09 49 27.4**	**-0.3**
DUWZ	**D'Urville Isla**	**1.26**	**3**	P	**Pg**	**09 49 27.6**	**-1.5**
CAW	**Cannon Point**	**1.33**	**45**	P	**Pn**	**09 49 29.1**	**+0.2**
LTZ	**Lake Taylor**	**1.36**	**237**	P	**Pn**	**09 49 29.8**	**+0.6**
PAWZ	**Paruwai Farm**	**1.38**	**61**	P	**Pn**	**09 49 29.0**	**-0.5**
AMCZ	**Amberley**	**1.41**	**217**	P	**Pn**	**09 49 29.9**	**0.0**
KIW	**Kapiti Island**	**1.45**	**35**	P	**Pn**	**09 49 31.1**	**+0.6**
DSZ	**Dennistn Nort**	**1.54**	**281**	P	**Pg**	**09 49 33.4**	**-1.1**
TRWZ	**Traveller**	**1.54**	**65**	P	**Pn**	**09 49 31.0**	**-0.8**
MTW	**Mount Morrison**	**1.55**	**55**	P	**Pn**	**09 49 31.2**	**-0.6**
QRZ	**Quartz Range**	**1.57**	**321**	P	**Pn**	**09 49 32.5**	**+0.4**
OGWZ	**Otaki Gorge**	**1.60**	**40**	P	**Pn**	**09 49 32.8**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.72**	**48**	P	**Pb**	**09 49 36.1**	**-0.1**
OKCZ	**Okains Bay**	**1.75**	**198**	P	**Pn**	**09 49 34.5**	**-0.2**
TMWZ	**Te Maipa**	**1.82**	**59**	P	**Pn**	**09 49 34.7**	**-0.9**
OXZ	**Oxford**	**1.82**	**226**	P	**Pn**	**09 49 35.1**	**-0.6**
MQZ	**McQueen's Vall**	**1.86**	**207**	P	**Pn**	**09 49 35.3**	**-0.8**
INZ	**Inchbonnie**	**1.88**	**249**	P	**Pb**	**09 49 38.5**	**-0.4**
MRZ	**Mangatainoka R**	**1.92**	**44**	P	**Pn**	**09 49 36.7**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.93**	**200**	P	**Pn**	**09 49 36.6**	**-0.5**
TIWZ	**Tintock**	**2.01**	**51**	P	**Pn**	**09 49 41.7**	**+0.6**
RACZ	**Rakaia**	**2.08**	**216**	P	**Pn**	**09 49 38.1**	**-1.0**
OHWZ	**Ohakea**	**2.17**	**32**	P	**Pb**	**09 49 44.3**	**+0.6**
PRWZ	**Pori Road**	**2.21**	**48**	P	**Pn**	**09 49 41.6**	**+0.7**
POWZ	**Post Office Ro**	**2.22**	**42**	P	**Pn**	**09 49 41.4**	**+0.3**
BFZ	**Birch Farm**	**2.29**	**54**	P	**Pn**	**09 49 44.4**	**+2.5**
WACZ	**Wakanui South**	**2.38**	**217**	P	**Pn**	**09 49 42.6**	**-0.7**
WAZ	**Wanganui**	**2.47**	**21**	P	**Pb**	**09 49 49.7**	**+0.8**
DVHZ	**Dannevirke**	**2.50**	**46**	P	**Pn**	**09 49 43.0**	**-1.9**
DVHZ				P	**Pb**	**09 49 51.0**	**+1.6**
WVZ	**Waitaha Valley**	**2.50**	**245**	P	**Pn**	**09 49 46.0**	**+1.2**
TSZ	**Takapari Road**	**2.57**	**40**	P	**Pb**	**09 49 52.1**	**+1.5**
RPZ	**Rata Peaks**	**2.62**	**230**	Pn	**Pn**	**09 49 45.2**	**-1.4**
	15nm,0.3s,baz=151,slow=3.1,SNR=13						
RPZ				Sn	**Sn**	**09 50 17.2**	**-0.9**
	29nm,0.3s,baz=198,slow=1.5,SNR=17						
	42nm,0.3s						
RPZ	**Rata Peaks**	**2.62**	**230**	P	**Pn**	**09 49 46.2**	**-0.5**
LREZ	**Lake Rotokare**	**2.63**	**10**	P	**Pb**	**09 49 51.2**	**-0.5**

OKCZ	Okains Bay	1.40	203	P		Pn	09 50 22.2	+0.2
MSWZ	Moikau Station	1.49	47	Pn		Pn	09 50 22.8	-0.3
MSWZ	Moikau Station	1.49	47	P		Pn	09 50 22.9	-0.3
MQZ	McQueen's Vall	1.52	213	Pn		Pn	09 50 22.2	-1.4
MQZ	McQueen's Vall	1.52	213	P		Pn	09 50 22.9	-0.7
TKNZ	Takaka Hill	1.54	336	P		Pb	09 50 24.1	-0.8
OXZ	Oxford	1.57	235	Pn		Pn	09 50 23.7	-0.6
OXZ	Oxford	1.57	235	P		Pn	09 50 23.9	-0.5
AKCZ	Akaroa Harbour	1.57	204	P		Pn	09 50 24.3	-0.1
PAWZ	Paruwai Farm	1.61	50	P		Pn	09 50 24.4	-0.4
CAW	Cannon Point	1.63	36	P		Pn	09 50 25.1	-0.1
DUWZ	D'Urville Isla	1.64	3	P		Pb	09 50 26.2	-0.4
DSZ	Denniston Nort	1.64	294	Pn		Pb	09 50 25.7	-0.9
DSZ	Denniston Nort	1.64	294	P		Pb	09 50 26.0	-0.6
TRWZ	Traveller	1.75	54	P		Pn	09 50 27.0	+0.2
INZ	Inchbonnie	1.76	260	P		Pb	09 50 27.7	-1.1
RACZ	Rakaia	1.77	223	P		Pn	09 50 26.5	-0.5
KIW	Kapiti Island	1.78	28	P		Pb	09 50 28.2	-0.8
MTW	Mount Morrison	1.80	45	P		Pn	09 50 27.3	-0.2
QRZ	Quartz Range	1.87	329	Pn		Pb	09 50 29.4	-1.2
QRZ	Quartz Range	1.87	329	P		Pb	09 50 29.9	-0.7
QRZ	Quartz Range	1.87	329	P		Pb	09 50 29.8	-0.8
OGWZ	Otaki Gorge	1.92	33	P		Pn	09 50 29.2	+0.1
MHCZ	Mount Hutt	1.97	236	P		Pn	09 50 29.3	-0.6
HOWZ	Holdsworth Sta	2.00	40	P		Pn	09 50 30.5	+0.2
WACZ	Wakanui South	2.08	223	P		Pn	09 50 30.9	-0.4
MRZ	Mangatainoka R	2.22	37	Pn		Pn	09 50 33.3	+0.1
MRZ	Mangatainoka R	2.22	37	P		Pn	09 50 33.4	+0.1
WVZ	Waitaha Valley	2.34	253	P		Pn	09 50 35.3	+0.4
RPZ	Rata Peaks	2.38	237	Pn		Pn	09 50 34.8	-0.8
	532nm,0.3s,baz=26,slow=0.4,SNR=106							
RPZ						Sn		
	1μm,0.3s,baz=177,slow=10,SNR=6.5							
	3μm,0.5s							
RPZ	Rata Peaks	2.38	237	P		Pn	09 50 35.1	-0.4
RPZ	Rata Peaks	2.38	237	P		Pn	09 50 34.9	-0.6
ARCZ	Arundel	2.44	231	P		Pn	09 50 35.7	-0.6
OHWZ	Ohakea	2.50	28	P		Pg	09 50 43.7	-0.3
BFZ	Birch Farm	2.54	47	P		Pn	09 50 36.8	-0.9
GCSZ	Gaunt Creek Bo	2.70	250	P		Pn	09 50 41.4	+1.6
TMZ	Timaru	2.81	225	P		Pn	09 50 41.3	-0.2
WAZ	Wanganui	2.83	19	P		Pb	09 50 44.5	-2.3
NMEZ	Namu Road	3.02	1	P		Pb	09 50 51.4	+1.2
FOZ	Fox Glacier	3.12	248			Pb	09 50 45.4	-0.2
FOZ	Fox Glacier	3.12	248	P		Pn	09 50 46.8	+1.2
KHEZ	Kahui Hut	3.15	3	P		Pn	09 50 47.2	+1.1
NBEZ	Newall Road No	3.17	1	P		Pb	09 50 50.8	-1.8
PKE	Pukeiti	3.24	3	P		Pb	09 50 54.0	0.0
DREZ	Durham Road	3.26	5	P		Pb	09 50 53.0	-1.2
LBZ	Lake Benmore	3.28	232	P		Pn	09 50 47.6	-0.2
VRZ	Vera Road	3.39	13	P		Pn	09 50 51.4	+2.1
TUVZ	Tukino	3.46	25	P		Pn	09 50 51.8	+1.3
ODZ	Otahua Downs	3.47	220	P		Pn	09 50 49.8	-0.6
ODZ	Otahua Downs	3.47	220	P		Pn	09 50 49.8	-0.6
SNVZ	South Ngauruho	3.54	24	P		Pn	09 50 52.6	+1.1
OTVZ	Oturere	3.56	24	P		Pn	09 50 53.8	+1.9
ETVZ	East Tongariro	3.60	24	P		Pn	09 50 51.9	-0.5
TMVZ	Te Maari	3.62	24	P		Pn	09 50 54.2	+1.6
KATZ	Kakaramea	3.75	23	P		Pb	09 51 00.4	-2.2
HIZ	Hauiti	4.00	12	Pn		Pn	09 50 59.2	+1.4
HIZ	Hauiti	4.00	12	P		Pn	09 50 58.9	+1.1
HIZ	Hauiti	4.00	12	P		Pn	09 50 59.8	+2.0
JCZ	Jackson Bay	4.01	244	P		Pn	09 50 58.4	+0.4
JCZ	Jackson Bay	4.01	244	P		Pn	09 50 58.4	+0.4
HHSZ	Highcliff Hill	4.14	213	P		Pn	09 50 59.1	-0.6
WKZ	Wanaka	4.21	234			Pn	09 51 00.0	-0.7
WKZ	Wanaka	4.21	234	P		Pn	09 50 59.9	-0.8
EAZ	Earnscleugh	4.28	228	P		Pn	09 51 00.9	-0.8
TLZ	Tolley Road	4.31	18	P		Pn	09 51 03.3	+1.2
ALRZ	Allen Road	4.33	27	P		Pn	09 51 01.6	-0.7
GRRZ	Galatos Road	4.45	24	P		Pn	09 51 05.9	+1.9
MHGZ	Mahia Peninsul	4.53	45	P		Pn	09 51 03.1	-1.9
TUZ	Tuapeka	4.62	219	P		Pn	09 51 05.9	-0.3
MSZ	Milford Sound	4.82	240	P		Pn	09 51 08.2	-0.7
KMRZ	Kaimai	4.87	20	P		Pn	09 51 13.6	+3.9
TOZ	Tahuroa Road	4.88	16	P		Pn	09 51 10.4	+0.6
MLZ	Mavora Lakes	5.04	233			Pn	09 51 10.3	-1.8
MLZ	Mavora Lakes	5.04	233	P		Pn	09 51 10.8	-1.3
OPRZ	Ohinepanea	5.05	26	P		Pn	09 51 11.3	-0.9
TGRZ	Tauranga	5.07	23	P		Pn	09 51 12.9	+0.5
SYZ	Scrubby Hill	5.28	218	P		Pn	09 51 14.9	-0.4
SYZ	Scrubby Hill	5.28	218	P		Pn	09 51 15.1	-0.2
TWGZ	Tauwhareparae	5.32	38	P		Pn	09 51 15.7	-0.2
RUGZ	Raukumara Rang	5.36	35	P		Pn	09 51 16.4	-0.2
AWAZ	Awhitu Peninsu	5.41	7	P		Pn	09 51 18.3	+1.2
MKAZ	Moumakai	5.43	12	P		Pn	09 51 17.9	+0.5
WHZ	Wether Hill Ro	5.45	229			Pn	09 51 16.5	-1.1
WHZ	Wether Hill Ro	5.45	229	P		Pn	09 51 15.8	-1.8
WTAZ	Waiatarua	5.53	6	P		Pn	09 51 20.5	+1.7
PUZ	Puketiti	5.54	39	P		Pn	09 51 17.3	-1.6
ETAZ	East Tamaki Re	5.55	9	P		Pn	09 51 20.0	+1.1
HAZ	Te Kaha	5.58	34	P		Pn	09 51 18.2	-1.3
PKGZ	Pakihiroa	5.60	37	P		Pn	09 51 18.5	-1.3
EPAZ	Eden Park BICE	5.60	8	P		Pn	09 51 21.3	+1.6
HBAZ	Herne Bay Bore	5.63	8	P		Pn	09 51 22.1	+2.1
DCZ	Deep Cove	5.67	236			Pn	09 51 19.0	-1.6
DCZ	Deep Cove	5.67	236	P		Pn	09 51 19.3	-1.4
RVAZ	Riverhead Bore	5.69	6	P		Pn	09 51 22.6	+1.7
MBAZ	Motutapu North	5.72	9	P		Pn	09 51 23.4	+2.0
WIAZ	Waiheke Island	5.73	11	P		Pn	09 51 22.9	+1.3
KUZ	Kuaotunu	5.88	15	P		Pn	09 51 24.0	+0.5
KUZ	Kuaotunu	5.88	15	P		Pn	09 51 23.7	+0.2
ABAZ	Army Bay	5.88	8	P		Pn	09 51 25.0	+1.4
MXZ	Matakaoa Point	5.97	37	Pn		Pn	09 51 24.0	-0.8
MXZ	Matakaoa Point	5.97	37	P		Pn	09 51 24.5	-0.3
MXZ	Matakaoa Point	5.97	37	P		Pn	09 51 24.3	-0.6
APZ	The Paps	6.04	221	P		Pn	09 51 24.9	-0.9
GRZ	Great Barrier	6.31	12	P		Pn	09 51 29.7	+0.2
PYZ	Puysegur Point	6.32	231			Pn	09 51 28.8	-0.8
PYZ	Puysegur Point	6.32	231	P		Pn	09 51 29.1	-0.5
PYZ	Puysegur Point	6.32	231	P		Pn	09 51 28.6	-1.1
CTZ	Chatham Island	7.13	104	P		Pn	09 51 41.4	+0.7
CTZ	Chatham Island	7.13	104	P		Pn	09 51 40.3	-0.4
OUZ	Omahuta	7.21	359	Pn		Pn	09 51 42.8	+1.0
OUZ	Omahuta	7.21	359	P		Pn	09 51 44.2	+2.4
RAO	Raoul Island	14.76	30	LR		LR	09 59 01.7	
	comp=Z,3μm,21.0s,baz=197,slow=37							
TAU	Tasmania Unive	19.45	260	P		Pn	09 54 25.0	+0.7
CNB	Canberra Magne	20.27	282	P		Pn	09 54 33.9	-0.2
DZM	Mont Dzumac	21.22	341	*e*Pn		P	09 54 36.3	-6.2
	74nm,1.4s							
DZM				*e*LR		LR	09 59 35.0	
	comp=Z,2μm,26.5s							
DZM	Mont Dzumac	21.22	341	P		P	09 54 45.6	+3.0
	8.1nm,0.9s,baz=147,slow=9.9,SNR=4.9							
DZM				LR		LR	10 02 29.3	
	comp=Z,2μm,18.2s,baz=184,slow=36							
DZM	Mont Dzumac	21.22	341	P		P	09 54 40.8	-1.7
DZM				IAmb		IAmb	09 55 02.6	
	comp=Z,40nm,1.3s							
KOUNC	Koumac, New Ca	23.25	337	P		P	09 55 05.7	+1.7
KOUNC	Koumac, New Ca	23.25	337	P		P	09 55 06.2	+2.2
CMSA	Cobar Meteorol	24.84	287	P		P	09 55 19.4	+0.4
MSVF	Nonsavu	24.89	10	P		P	09 55 20.9	+1.3
	comp=Z,6.2nm,0.9s,baz=269,slow=16,SNR=4.5							
MSVF				LR		LR	10 04 16.1	
	comp=Z,2μm,19.4s,baz=193,slow=35							
	comp=Z,6.2nm,0.9s							
MSVF	Nonsavu	24.89	10	P		P	09 55 20.1	+0.5
MSVF				IAmb		IAmb	09 55 56.0	
	comp=Z,19nm,1.1s							
MSVF	Nonsavu	24.89	10	P		P	09 55 20.3	+0.7
EIDS	Eidsvold	25.28	305	P		P	09 55 23.4	+0.4
EIDS				IAmb		IAmb	09 55 27.1	
	comp=Z,12nm,0.9s							
STKA	Stephens Creek	27.60	282	P		P	09 55 44.7	+0.8
	comp=Z,4.6nm,0.7s,baz=113,slow=11,SNR=11							
	comp=Z,4.6nm,0.7s							
STKA	Stephens Creek	27.60	282	P		P	09 55 44.2	+0.3
LCRK	Leigh Creek	30.81	281	P		P	09 56 12.6	+0.2
BBOO	Buckleboo	31.18	275	P		P	09 56 15.0	-0.7
BBOO	Buckleboo	31.18	275	P		P	09 56 15.6	-0.1
CTA	Charters Tower	32.17	305	P		P	09 56 24.6	+0.1
	comp=Z,3.1nm,0.6s,baz=157,slow=2.5,SNR=5.7							
CTA				LR		LR	10 07 57.2	
	comp=Z,1μm,18.2s,baz=130,slow=34							
	comp=Z,3.1nm,0.6s							
CTAO	Charters Tower	32.17	305	P		P	09 56 24.6	+0.1
CTAO				IAmb		IAmb	09 56 28.2	
	comp=Z,11nm,1.1s							
MULG	Mulgathing	33.93	278	P		P	09 56 39.1	-0.7

OOD	Oodnadatta	34.12	283	P		P	09 56 41.7	+0.2
	comp=Z,20nm,1.0s							
HNR	Honiara	35.06	336	LR		LR	10 10 20.5	
	comp=Z,11μm,19.1s,baz=176,slow=35							
VNDA	Vanda	35.53	184	LR		LR	10 09 46.6	
	comp=Z,901nm,19.8s,baz=22,slow=34							
TBI	Tubuai	35.89	70	*e*LR		LR	10 06 29.8	
	comp=Z,11μm,26.0s							
TBI				*e*LR		LR	10 06 30.2	
	comp=Z,3μm,24.5s							
TBI	Tubuai	35.89	70	*e*T		T	10 34 44.3	
	comp=Z,56nm,0.3s							
AS01	Alice Springs	37.87	287	P		P	09 57 13.4	-0.3
ASAR	Alice Springs	37.90	287	P		P	09 57 12.8	-1.1
	comp=Z,3.6nm,0.9s,baz=140,slow=4.1,SNR=32							
ASAR				PcP		PcP	09 59 28.6	-1.5
	comp=Z,1.6nm,0.7s,baz=123,slow=3.8,SNR=7.2							
ASAR				LR		LR	10 13 48.1	
	comp=Z,638nm,18.1s,baz=140,slow=38							
	comp=Z,3.6nm,0.9s							
ASAR	Alice Springs	37.90	287	P		P	09 57 13.0	-0.9
FORT	Forrest	38.10	272	P		P	09 57 14.3	-1.1
FORT	Forrest	38.10	272	P		P	09 57 17.6	+2.1
COEN	Coen	38.78	308	P		P	09 57 19.4	-2.0
PAE	Paea	39.72	63	*e*T		T	10 39 33.9	
	comp=Z,5.6nm,0.3s							
PPT2	Papeete2	39.77	63	*e*T		T	10 39 48.4	
	comp=Z,12nm,0.3s							
PPT	Papeete	39.78	63	LR		LR	10 10 15.9	
	comp=Z,633nm,20.5s,baz=251,slow=31							
WR0	Warramunga Arr	39.89	292	IAmb		IAmb	09 57 31.6	
	comp=Z,20nm,1.3s							
WB2	Warramunga Arr	40.03	292	P		P	09 57 30.9	-0.9
WB2				IAmb		IAmb	09 57 45.7	
	comp=Z,14nm,0.8s							
WRAB	Tennant Creek	40.04	292	P		P	09 57 30.7	-1.2
WRAB				IAmb		IAmb	09 57 38.0	
	comp=Z,11nm,0.7s							
WRAB	Tennant Creek	40.04	292	P		P	09 57 31.2	-0.6
WRA	Warramunga Arr	40.04	292	P		P	09 57 30.9	-0.9
	comp=Z,6.5nm,0.8s,baz=130,slow=7.7,SNR=35							
WRA				PcP		PcP	09 59 35.3	-1.4
	comp=Z,1.4nm,0.7s,baz=121,slow=3.1,SNR=6.0							
WRA				LR		LR	10 14 50.0	
	comp=Z,780nm,18.4s,baz=127,slow=38							
	comp=Z,6.5nm,0.8s							
WB0	Warramunga Arr	40.12	292	P		P	09 57 31.2	-1.3
WB0				IAmb		IAmb	09 57 46.4	
	comp=Z,13nm,1.0s							
PMG	Port Moresby	40.36	317	P		P	09 57 36.5	+2.1
	comp=Z,15nm,0.9s,baz=110,slow=8.0,SNR=11							
PMG				LR		LR	10 13 12.2	
	comp=Z,929nm,19.6s,baz=152,slow=35							
PMG	Port Moresby	40.36	317	P		P	09 57 34.9	+0.4
PMG				IAmb		IAmb	09 57 38.5	
	comp=Z,29nm,1.1s							
WRKA	Warakurna	41.10	280	P		P	09 57 39.2	-1.4
KRVT	Keravat (AS076	42.64	327	LR		LR	10 13 18.5	
	comp=Z,561nm,19.9s,baz=286,slow=33							
VAH	Vaihoa	42.76	62	*e*T		T	10 43 58.4	
	comp=Z,11nm,0.2s							
NWAO	Narrogin (SRO)	45.03	263	LR		LR	10 14 27.9	
	comp=Z,635nm,18.4s,baz=307,slow=33							
KNRA	Kununurra	46.81	291	P		P	09 58 27.4	+0.9
MTN	Manton Dam	47.21	296	P		P	09 58 29.5	-0.1
QSPA	South Pole Qui	47.69	180	P		P	09 58 35.7	+2.8
	comp=Z,2.9nm,0.8s,baz=16,slow=1.9,SNR=13							
QSPA				LR		LR	10 16 40.2	
	comp=Z,613nm,19.7s,baz=40,slow=34							
	comp=Z,2.9nm,0.8s							
QSPA	South Pole Qui	47.69	180	P		P	09 58 34.9	+1.9
TAOE	Nuku Hiva Isla	52.37	64	*e*LR		LR	10 14 08.2	
	comp=Z,812nm,26.2s							
BATI	Baumata	54.17	291	LR		LR	10 22 44.6	
	comp=Z,476nm,18.2s,baz=150,slow=36							
SIJI	Sorong	56.25	306	LR		LR	10 23 31.6	
	comp=Z,286nm,21.5s,baz=119,slow=36							
MAW	Mawson	58.69	205	LR		LR	10 24 39.3	
	comp=Z,2μm,18.2s,baz=110,slow=36							
RPN	Rapa Nui	62.95	103	LR		LR	10 23 15.1	
	comp=Z,263nm,18.7s,baz=262,slow=32							
PMSA	Palmer Station	63.98	156	LR		LR	10 23 20.0	
	comp=Z,528nm,20.0s,baz=239,slow=31							
TROLL	Troll, Antarti	65.69	183	P		P	10 00 42.0	+1.3
DAV	Davao City (W)	65.97	306	LR		LR	10 30 03.6	
	comp=Z,209nm,19.9s,baz=144,slow=37							
SNAA	Sanae	66.17	181	P		P	10 00 45.0	+1.2
SNAA	Sanae	66.17	181	LR		LR	10 27 16.8	
	comp=Z,339nm,21.6s,baz=190,slow=34							
LEM	Lembang	67.90	281	LR		LR	10 30 16.3	
	comp=Z,408nm,19.6s,baz=218,slow=36							
JCJ	Chichijima	75.09	331	LR		LR	10 32 43.4	
	comp=Z,216nm,20.1s,baz=114,slow=34							
PLCA	Paso Flores	78.84	136	LR		LR	10 28 47.8	
	comp=Z,471nm,21.2s,baz=192,slow=30							
JOW	Kunigami	80.70	320	LR		LR	10 35 25.1	
	comp=Z,163nm,19.4s,baz=34,slow=34							
MJAR	Matsushiro Arr	85.06	332	LR		LR	10 37 43.7	
	comp=Z,47nm,21.1s,baz=133,slow=34							
ASAJ	Asahikawa	90.59	338	LR		LR	10 39 18.5	
	comp=Z,240nm,20.9s,baz=166,slow=33							
CMAR	Chiang Mai Arr	91.61	294	P		P	10 03 04.0	+0.2
	comp=Z,1.6nm,0.4s,baz=149,slow=3.7,SNR=12							
	comp=Z,1.6nm,0.4s							
CMAR	Chiang Mai Arr	91.61	294	P		P	10 03 03.6	-0.3
LVC	Limon Verde	93.25	125	LR		LR	10 35 56.9	
	comp=Z,174nm,20.8s,baz=224,slow=30							
USRK	Ussuriysk Ar.	94.03	331	LR		LR	10 46 02.0	
	comp=Z,62nm,18.5s,baz=152,slow=36							
SHEM	Shemya Is, Ala	94.79	0	LR		LR	10 41 31.3	
	comp=Z,245nm,20.8s,baz=136,slow=33							
NNA	Nana	95.82	112	LR		LR	10 37 08.7	
	comp=Z,186nm,21.6s,baz=220,slow=30							
PETK	Petropavlovsk-	96.18	350	LR		LR	10 40 45.7	
	comp=Z,214nm,20.3s,baz=171,slow=32							
CPUP	Villa Florida	96.91	135	LR		LR	10 40 26.4	
	comp=Z,303nm,20.7s,baz=216,slow=31							
PALK	Pallekele	97.14	273	LR		LR	10 44 23.0	
	comp=Z,249nm,19.5s,baz=230,slow=34							
ATAH	Atahualpa	98.14	107	LR		LR	10 42 24.1	
	comp=Z,98nm,18.2s,baz=234,slow=32							
LPAZ	La Paz	98.46	121	LR		LR	10 38 44.2	
	comp=Z,120nm,20.6s,baz=227,slow=30							
KLR	Kul'dur	98.47	334	LR		LR	10 44 02.5	
	comp=Z,144nm,21.5s,baz=152,slow=33							
BRDH	Bariadhala	99.47	292	LR		LR	10 55 36.4	
	comp=Z,130nm,18.4s,baz=107,slow=40							
YKA	Yellowknife Ar	119.14	30	PKP		PKPdf	10 08 44.2	-0.3
	comp=Z,2.8nm,0.7s,baz=261,slow=1.8,SNR=7.4							
MKAR	Makanchi Array	120.13	307	PKP		PKPdf	10 08 45.4	-1.7
	comp=Z,1.3nm,0.9s,baz=193,slow=5.7,SNR=4.3							
LIC	Lamto	143.92	182	*i*PKP1		PKPbc	10 09 30.7	+0.4
	comp=Z,6.3nm,0.3s							
KIC	Koaan Boka	144.05	182	*i*PKP1		PKPbc	10 09 31.1	+0.4
	comp=Z,2.9nm,0.5s							
TIC	Toumodi	144.34	182	*i*PKP1		PKPbc	10 09 31.8	+0.2
	comp=Z,3.8nm,0.3s							
DBIC	Dimbokro	144.36	182	PKP		PKPbc	10 09 32.1	+0.5
	comp=Z,2.8nm,0.6s,baz=162,slow=1.5,SNR=5.2							
KBZ	Khabaz	144.54	289	PKP		PKPab	10 09 30.5	-0.6
	comp=Z,6.1nm,0.7s,baz=101,slow=3.3,SNR=13							
DAG	Danmarks Havn	145.16	5	*e*P		PKPbc	10 09 24.4	-8.1
SFJD	Kangerlussuaq	145.69	29	PKPbc		PKPab	10 09 34.6	-0.1
	comp=Z,11nm,0.7s,baz=155,slow=2.1,SNR=6.1							
SFJD	Kangerlussuaq	145.69	29	*e*P		PKPab	10 09 34.7	-0.1
SUMG	Summit	146.07	17	*i* P		PKPdf	10 09 34.0	-1.0
ARCES	ARCESS Array B	148.31	339	PKPbc		PKPbc	10 09 41.0	-0.8
	comp=Z,2.3nm,0.5s,baz=62,slow=2.9,SNR=7.8							
TORD	Torodi Ar. Bea	150.02	196	PKPbc		PKiKP	10 09 48.0	-0.6
	comp=Z,7.0nm,0.9s,baz=174,slow=1.3,SNR=29							
BRTR	Keskin Array B	150.04	278	PKPbc		PKPbc	10 09 46.8	-0.4
	comp=Z,5.0nm,0.8s,baz=141,slow=6.8,SNR=12							
FINES	FINESS Array B	152.92	326	PKPbc		PKPbc	10 09 51.5	-1.4
	comp=Z,4.0nm,0.7s,baz=76,slow=8.0,SNR=8.4							

MAN 14 09:52:19.6,6°75N×126°51E,h4km,mb4.2,ML3.0,MS2.7, 1C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	0.32	308	*e*P	Pg	09 52 26.1	+0.3
MATI				*e*S	Sb	09 52 38.6	+5.1
DDMP	Don Marcelino,	1.02	231	*e*P	Pb	09 52 39.8	-0.1
DDMP				*e*S	Sn	09 52 55.1	-0.4
BIPH	Bislig	1.43	354	*i* P	Pb	09 52 47.0	0.0
BIPH				*i* S	Sg	09 53 06.9	+1.1
KCP	Kidapawan	1.44	280	*e*P	Pb	09 52 47.0	0.0
KCP				*i* S	Sn	09 53 06.8	+0.9
SKMP	Bagumbayan, Su	1.97	263	*e*P	Pn	09 52 54.3	+0.5
CGP	Cagayan de Oro	2.47	313	*e*P	Pg	09 53 14.0	+6.9
CGP				*e*S	Sg	09 53 39.0	-0.3

WEL 14 10:00:47.1,42°S±17°×17°4E±1°,h10km±22km,M2.2/7, ML2.5/7,MLv2.2/7,Error ellipse: s-maj=0.0km s-min=0.0km az=138.8,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.07	318	P	Pg	10 00 51.0	+0.2
BSWZ	Blackbirch Sta	0.31	286	P	Pb	10 00 54.7	+0.6
TUWZ	Tuamarina	0.45	326	P	Pb	10 00 56.7	+0.3
PLWZ	Palliser	0.77	73	P	Pn	10 01 03.0	+0.2
MSWZ	Moikau Station	0.82	62	P	Pb	10 01 00.6	-2.2
CAW	Cannon Point	0.91	41	P	Pg	10 01 05.0	+0.1
THZ	Tophouse	1.03	272	P	Pb	10 01 04.6	-1.6
MTW	Mount Morrison	1.12	55	P	Pb	10 01 07.8	0.0
OGWZ	Otaki Gorge	1.19	35	P	Pb	10 01 09.2	+0.2

WEL 14 10:01:09.8±0.5,43°S±3°×17°3E±°,h10km±4km,M3.0/6, ML3.1/6,MLv3.0/6,Error ellipse: s-maj=0.0km s-min=0.0km az=88.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTZ	Lake Taylor	0.34	237	P	Pg	10 01 16.5	0.0
LTZ	Lake Taylor	0.34	237	P	Pg	10 01 16.5	0.0
LTZ				S	Sg	10 01 21.6	+0.6
GVZ	Greta Valley S	0.46	143	P	Pb	10 01 19.7	-0.3
GVZ				S	Sb	10 01 27.7	+0.8
AMCZ	Amberley	0.57	180	P	Pb	10 01 22.2	+0.2
AMCZ				S	Sn	10 01 32.0	-1.6
OXZ	Oxford	0.85	212	P	Pb	10 01 26.8	0.0
OXZ				S	Sb	10 01 39.2	+1.0
DSZ	Denniston Nort	1.06	323	P	Pg	10 01 29.8	-0.5
DSZ				S	Sn	10 01 46.4	+0.7
MQZ	McQueen's Vall	1.10	180	P	Pb	10 01 29.6	-1.4
MQZ				S	Sb	10 01 45.5	+0.1
OKCZ	Okains Bay	1.16	165	P	Pb	10 01 29.2	-2.8
OKCZ				S	Sg	10 01 47.3	+0.2
RACZ	Rakaia	1.19	198	P	Pb	10 01 31.4	-0.9
MRNZ	Matariki Terra	1.21	4	P	Pb	10 01 28.6	-4.1
MRNZ				S	Sb	10 01 48.1	-0.2
WACZ	Wakanui South	1.47	204	P	Pn	10 01 35.2	-1.0
WVZ	Waitaha Valley	1.49	251	P	Pn	10 01 37.5	0.0
WVZ				S	Sb	10 01 56.8	+0.4
TKNZ	Takaka Hill	1.58	8	P	Pb	10 01 39.3	+0.1
TKNZ				S	Sg	10 02 01.5	+0.7
RPZ	Rata Peaks	1.61	226	P	Pn	10 01 37.7	-0.6
ARCZ	Arundel	1.72	218	P	Pn	10 01 40.3	+0.4
ARCZ				S	Sn	10 02 01.6	-0.3
TCW	Tory Channel	1.84	42	P	Pn	10 01 40.0	-1.5
TCW				S	Sn	10 01 59.7	-5.1
TMZ	Timaru	2.15	213	P	Pn	10 01 44.8	-0.9
ODZ	Otahua Downs

WVZ	Waitaha Valley	1.94	255	P	Pn	10 04 22.8	+0.6
WVZ				S	Sn	10 04 46.4	+0.2
CAW	Cannon Point	1.98	43	P	Pn	10 04 22.9	+0.1
RPZ	Rata Peaks	1.99	235	Pn	Pn	10 04 22.6	-0.3
	590nm,0.3s,baz=80,slow=2.5,SNR=665						
RPZ				Sn	Sn	10 04 46.9	-0.6
	703nm,0.3s,baz=358,slow=18,SNR=5.5						
RPZ				LR	LR	10 05 22.6	
	comp=Z,2μm,20.5s,baz=54,slow=46						
	2μm,0.4s						
RPZ	Rata Peaks	1.99	235	Pn	Pn	10 04 22.4	-0.5
RPZ	Rata Peaks	1.99	235	P	Pn	10 04 22.9	0.0
RPZ	Rata Peaks	1.99	235	P	Pn	10 04 22.8	-0.1
RPZ				S	Sn	10 04 46.9	-0.6
PAWZ	Paruwai Farm	1.99	54	P	Pn	10 04 22.5	-0.4
ARCZ	Arundel	2.06	228	P	Pn	10 04 23.4	-0.5
ARCZ				S	Sn	10 04 48.8	-0.3
KIW	Kapiti Island	2.10	36	P	Pn	10 04 24.9	+0.5
TRWZ	Traveller	2.14	57	P	Pn	10 04 24.4	-0.5
MTW	Mount Morrison	2.18	50	P	Pn	10 04 25.0	-0.5
OGWZ	Otaki Gorge	2.26	39	P	Pn	10 04 26.7	+0.1
GCSZ	Gaunt Creek Bo	2.30	250	P	Pn	10 04 28.2	+1.1
GCSZ				S	Sn	10 04 55.1	+0.1
HOWZ	Holdsworth Sta	2.37	45	P	Pn	10 04 27.5	-0.5
TMWZ	Te Maipa	2.44	54	P	Pn	10 04 28.4	-0.7
TMZ	Timaru	2.45	222	P	Pn	10 04 29.0	-0.3
MRZ	Mangatainoka R	2.57	42		Pn	10 04 30.5	-0.4
MRZ	Mangatainoka R	2.57	42	P	Pn	10 04 30.5	-0.4
TIWZ	Tintock	2.65	48	P	Pn	10 04 31.2	-0.8
FOZ	Fox Glacier	2.72	248		Pn	10 04 33.8	+0.9
FOZ	Fox Glacier	2.72	248	P	Pn	10 04 33.7	+0.9
CPWZ	Castlepoint	2.74	53	P	Pn	10 04 32.8	-0.4
OHWZ	Ohakea	2.82	33	P	Pn	10 04 35.5	+1.2
PRWZ	Pori Road	2.85	46	P	Pn	10 04 33.9	-0.8
POWZ	Post Office Ro	2.87	41	P	Pn	10 04 34.5	-0.5
LBZ	Lake Benmore	2.89	230	Pn	Pn	10 04 35.3	0.0
LBZ	Lake Benmore	2.89	230	P	Pn	10 04 35.3	0.0
BFZ	Birch Farm	2.92	50	Pn	Pn	10 04 34.5	-1.1
BFZ	Birch Farm	2.92	50	P	Pn	10 04 34.7	-0.9
BFZ	Birch Farm	2.92	50	P	Pn	10 04 34.3	-1.3
WAZ	Wanganui	3.10	25	P	Pn	10 04 40.7	+2.6
ODZ	Otahua Downs	3.12	217		Pn	10 04 38.2	-0.2
ODZ	Otahua Downs	3.12	217	P	Pn	10 04 38.0	-0.4
ODZ	Otahua Downs	3.12	217	P	Pn	10 04 37.9	-0.5
DVHZ	Dannevirke	3.14	44	P	Pn	10 04 37.3	-1.4
ANWZ	Angora Road	3.19	49	P	Pn	10 04 38.2	-1.2
NMEZ	Namu Road	3.20	8	P	Pn	10 04 43.3	+3.9
TSZ	Takapari Road	3.22	39	P	Pn	10 04 39.2	-0.7
LREZ	Lake Rotokare	3.23	15	P	Pn	10 04 42.5	+2.6
KHEZ	Kahui Hut	3.33	10	P	Pn	10 04 44.7	+3.3
NBEZ	Newall Road No	3.34	8	P	Pn	10 04 43.6	+2.1
NEZ	North Egmont	3.37	11	P	Pn	10 04 45.0	+3.1
PRHZ	Porangahau	3.42	48	P	Pn	10 04 41.5	-1.0
PKE	Pukeiti	3.43	9	P	Pn	10 04 45.2	+2.5
PNHZ	Pukenui	3.45	40	P	Pn	10 04 42.0	-1.0
WPHZ	Waipukurau	3.46	44	P	Pn	10 04 41.8	-1.2
DREZ	Durham Road	3.46	12	P	Pn	10 04 46.8	+3.7
MHEZ	Mangahewa	3.59	13	P	Pb	10 04 49.9	-3.1
JCZ	Jackson Bay	3.61	244	P	Pn	10 04 47.1	+1.9
JCZ	Jackson Bay	3.61	244	P	Pn	10 04 46.8	+0.8
VRZ	Vera Road	3.63	18	P	Pn	10 04 47.2	+1.9
MOVZ	Moawhango	3.68	31	P	Pn	10 04 49.5	+3.4
WNVZ	Wahianoa	3.69	29	P	Pn	10 04 47.7	+1.2
TRVZ	Turoa	3.70	28	P	Pn	10 04 47.7	+1.1
PXZ	Pawanui	3.71	48	P	Pn	10 04 45.0	-1.4
DRZ	Dome Shelter	3.73	28	P	Pn	10 04 48.3	+1.3
WHVZ	Whangaehu Hut	3.73	29	P	Pn	10 04 47.8	+0.9
BHHZ	Black Hill Sta	3.73	35	P	Pn	10 04 46.9	0.0
FWVZ	Far West T-bar	3.74	28	P	Pn	10 04 47.9	+0.8
TUVZ	Tukino	3.76	29	P	Pn	10 04 49.0	+1.6
WKZ	Wanaka	3.83	233		Pn	10 04 48.0	-0.2
WKZ	Wanaka	3.83	233	P	Pn	10 04 47.5	-0.6
HHSZ	Highcliff Hill	3.83	209	P	Pn	10 04 47.5	-0.6
NGZ	Ngauruhoe	3.83	28	P	Pn	10 04 47.6	-0.6
SNVZ	South Ngauruho	3.83	28	P	Pn	10 04 49.5	+1.2
OTVZ	Oturere	3.86	29	P	Pn	10 04 49.8	+1.1
TWVZ	Taurewa	3.87	26	P	Pn	10 04 49.6	+0.8
NNVZ	North Ngauruho	3.87	28	P	Pn	10 04 49.8	+1.0
WTVZ	West Tongariro	3.88	27	P	Pn	10 04 49.7	+0.7
KAHZ	Kahuranaki	3.88	45	P	Pn	10 04 47.8	-1.1
ETVZ	East Tongariro	3.90	29	P	Pn	10 04 49.9	+0.7
EAZ	Earnscleugh	3.91	226	P	Pn	10 04 48.5	-0.7
KRVZ	Karewarewa	3.91	28	P	Pn	10 04 50.2	+0.8
TMVZ	Te Maari	3.92	29	P	Pn	10 04 50.1	+0.7
NTVZ	North Tongarir	3.92	28	P	Pn	10 04 50.3	+0.8
KWHZ	Kaweka Forest	3.94	38	P	Pn	10 04 48.6	-1.2
KATZ	Kakaramea	4.04	28	P	Pn	10 04 53.8	+2.7
MCHZ	McNeill Hill	4.06	41	P	Pn	10 04 49.9	-1.4
CKHZ	Cape Kidnapper	4.09	46	P	Pn	10 04 54.3	+2.6
RATZ	Rangitukua	4.16	28	P	Pn	10 04 54.2	+1.4
BKZ	Black Stump Fm	4.19	36		Pn	10 04 52.3	-0.9
BKZ	Black Stump Fm	4.19	36	P	Pn	10 04 52.6	-0.5
BKZ	Black Stump Fm	4.19	36	P	Pn	10 04 52.2	-0.9
HIZ	Hauiti	4.24	17	Pn	Pn	10 04 55.1	+1.4
HIZ	Hauiti	4.24	17	P	Pn	10 04 55.7	+2.0
HIZ	Hauiti	4.24	17	P	Pn	10 04 55.3	+1.6
TUZ	Tuapeka	4.28	217	P	Pn	10 04 53.9	-0.3
WATZ	Wairara	4.29	26	P	Pn	10 04 55.8	+1.2
ARHZ	Aropaoanui	4.34	41	P	Pn	10 04 56.2	+0.9
NMHZ	Naumai	4.38	39	P	Pn	10 04 54.9	-1.0
MSZ	Milford Sound	4.42	240	P	Pn	10 04 56.4	+0.2
MRHZ	Matea Rd	4.43	33	P	Pn	10 04 55.2	-1.3
TLZ	Tolley Road	4.58	23	P	Pn	10 04 58.9	+0.4
MTHZ	Maungataniwha	4.60	37	P	Pn	10 04 57.2	-1.5
ALRZ	Allen Road	4.64	31	P	Pn	10 04 57.5	-1.8
MLZ	Mavora Lakes	4.66	232	Pn	Pn	10 04 58.9	-0.7
MLZ	Mavora Lakes	4.66	232	P	Pn	10 04 58.5	-1.1
RAHZ	Arahi	4.66	39	P	Pn	10 04 57.8	-1.8
HRRZ	Handcock Road	4.77	30	P	Pn	10 05 01.6	+0.5
HSRZ	Hossack Road	4.82	29	P	Pn	10 05 02.0	+0.1
KNZ	Kokohu	4.87	45	P	Pn	10 05 00.6	-1.8
MHGZ	Mahia Peninsul	4.90	47	P	Pn	10 05 01.4	-1.4
RRRZ	Republican Roa	4.90	37	P	Pn	10 05 02.7	-0.2
SYZ	Scrubby Hill	4.94	215	P	Pn	10 05 03.2	-0.2
SYZ	Scrubby Hill	4.94	215	P	Pn	10 05 03.1	-0.3
OMRZ	Omania	5.05	29	P	Pn	10 05 05.1	+0.1
WHZ	Wether Hill Ro	5.07	227	Pn	Pn	10 05 04.6	-0.6
WHZ	Wether Hill Ro	5.07	227	P	Pn	10 05 03.5	-1.7
KARZ	Kaharoa	5.08	27	P	Pn	10 05 08.6	+3.2
TOZ	Tahuroa Road	5.13	20	P	Pn	10 05 06.6	+0.5
KMRZ	Kaimai	5.15	24	P	Pn	10 05 06.8	+0.5
RIGZ	Rimuhau	5.15	43	P	Pn	10 05 04.4	-2.0
URZ	Urewera	5.21	35	P	Pn	10 05 06.5	-0.6
DCZ	Deep Cove	5.28	235	Pn	Pn	10 05 07.8	-0.3
DCZ	Deep Cove	5.28	235	P	Pn	10 05 08.1	0.0
OPRZ	Ohinepanea	5.35	29	P	Pn	10 05 08.1	-0.9
TGRZ	Tauranga	5.36	26	P	Pn	10 05 08.8	-0.3
TKGZ	Te Karaka	5.40	41	P	Pn	10 05 08.1	-1.6
CNGZ	Carnagh Statio	5.55	44	P	Pn	10 05 13.3	+1.6
AWAZ	Awhitu Peninsu	5.61	11	P	Pn	10 05 14.0	+1.4
MKAZ	Moumakai	5.66	15	P	Pn	10 05 13.8	+0.6
TWGZ	Tauwhareparae	5.67	41	P	Pn	10 05 11.7	-1.8
APZ	The Paps	5.69	220	P	Pn	10 05 13.1	-0.6
RUGZ	Raukumara Rang	5.70	37	P	Pn	10 05 12.2	-1.8
WTAZ	Waiatarua	5.73	10	P	Pn	10 05 15.7	+1.5
ETAZ	East Tamaki Re	5.76	13	P	Pn	10 05 16.0	+1.3
EPAZ	Eden Park BICE	5.81	12	P	Pn	10 05 16.8	+1.5
HBAZ	Herne Bay Bore	5.83	11	P	Pn	10 05 17.3	+1.6
PUZ	Puketiti	5.89	42	P	Pn	10 05 13.7	-2.8
RVAZ	Riverhead Bore	5.89	10	P	Pn	10 05 17.9	+1.4
HAZ	Te Kaha	5.92	37	P	Pn	10 05 15.1	-1.8
MBAZ	Motutapu North	5.94	13	P	Pn	10 05 18.6	+1.5
PYZ	Puysegur Point	5.94	231	Pn	Pn	10 05 16.9	-0.2
PYZ	Puysegur Point	5.94	231	P	Pn	10 05 18.1	+1.0
PYZ	Puysegur Point	5.94	231	P	Pn	10 05 16.7	-0.4
PKGZ	Pakihiroa	5.95	40	P	Pn	10 05 15.0	-2.3
WIAZ	Waiheke Island	5.95	14	P	Pn	10 05 18.9	+1.5
ABAZ	Army Bay	6.02	12	P	Pn	10 05 20.7	+1.5
KUZ	Kuaotunu	6.12	19	P	Pn	10 05 19.6	-0.1
KUZ	Kuaotunu	6.12	19	P	Pn	10 05 19.4	-0.2
WMGZ	Waiomatatini S	6.16	41	P	Pn	10 05 19.4	-0.8
MXZ	Matakaoa Point	6.32	39		Pn	10 05 21.1	-1.2
MXZ	Matakaoa Point	6.32	39	P	Pn	10 05 21.3	-1.0
MXZ	Matakaoa Point	6.32	39	P	Pn	10 05 19.7	-2.7
GRZ	Great Barrier	6.54	16	P	Pn	10 05 25.7	+0.3
WCZ	Waipu Caves	6.69	7	P	Pn	10 05 29.5	+2.1
OUZ	Omahuta	7.36	2	P	Pn	10 05 38.8	+2.2
OUZ	Omahuta	7.36	2	P	Pn	10 05 38.3	+1.7
CTZ	Chatham Island	7.47	102	P	Pn	10 05 37.1	-1.0
CTZ	Chatham Island	7.47	102	P	Pn	10 05 37.4	-0.7
RAO	Raoul Island	15.07	31	LR	LR	10 12 59.6	
	comp=Z,726nm,19.9s,baz=170,slow=37						
GLAD	Gladstone	18.91	266	P	Pn	10 08 11.0	+0.7
TAU	Tasmania Unive	19.06	260	P	P	10 08 12.3	+1.0
CORO	Coronation Par	19.44	264	P	P	10 08 15.3	-0.2
	20nm,1.1s						
OUENC	Ouen Island, N	20.82	343	P	P	10 08 29.2	-1.4
OUENC				IAmb	IAmb	10 08 35.1	
	comp=Z,36nm,1.0s						
ONTNC	Ouen Toro	21.01	342	P	P	10 08 32.7	0.0
ONTNC				IAmb	IAmb	10 08 35.4	
	comp=Z,52nm,1.1s						
DZM	Mont Dzumac	21.24	342	P	P	10 08 35.0	-0.3
	comp=Z,51nm,0.9s,baz=162,slow=15,SNR=25						
DZM				LR	LR	10 15 28.5	
	comp=Z,647nm,19.1s,baz=205,slow=33						
	comp=Z,51nm,0.9s						
DZM	Mont Dzumac	21.24	342	P	P	10 08 32.5	-2.7
DZM				IAmb	IAmb	10 08 40.2	
	comp=Z,50nm,0.9s						
DZM	Mont Dzumac	21.24	342	P	P	10 08 36.8	+1.5
LIFNC	LIFOU	22.33	345	P	P	10 08 44.7	-2.1
LIFNC	LIFOU	22.33	345	P	P	10 08 47.7	+0.8
KOUNC	Koumac, New Ca	23.24	338	P	P	10 08 56.8	+0.4
KOUNC	Koumac, New Ca	23.24	338	P	P	10 08 57.8	+1.4
EIDS	Eidsvold	25.06	306	P	P	10 09 14.4	+0.9
EIDS				IAmb	IAmb	10 09 18.0	
	comp=Z,32nm,1.4s						
MSVF	Nonsavu	25.10	11	P	P	10 09 14.4	+0.5
	comp=Z,5.4nm,0.6s,baz=129,slow=14,SNR=2.8						
MSVF				LR	LR	10 18 09.1	
	comp=Z,546nm,18.7s,baz=173,slow=35						
	comp=Z,5.4nm,0.6s						
STKA	Stephens Creek	27.26	283	P	P	10 09 33.9	+0.6
	comp=Z,2.6nm,0.9s,baz=143,slow=12,SNR=2.3						
STKA				LR	LR	10 18 21.6	
	comp=Z,315nm,19.1s,baz=96,slow=32						
	comp=Z,2.6nm,0.9s						
LCRK	Leigh Creek	30.47	282	P	P	10 10 02.7	+0.8
BBOO	Buckleboo	30.82	276	P	P	10 10 04.2	-0.7
BBOO				IAmb	IAmb	10 10 10.9	
	comp=Z,20nm,1.2s						
CTA	Charters Tower	31.95	306	LR	LR	10 22 45.5	
	comp=Z,457nm,18.3s,baz=98,slow=36						
CTAO	Charters Tower	31.95	306	P	P	10 10 13.7	-1.3
CTAO				IAmb	IAmb	10 10 20.4	
	comp=Z,9.7nm,1.2s						
OOD	Oodnadatta	33.79	284	P	P	10 10 32.8	+1.8
HNR	Honiara	35.04	337	LR	LR	10 25 03.9	
	comp=Z,3μm,18.3s,baz=137,slow=37						
VNDA	Vanda	35.36	184	P	P	10 10 46.4	+2.3
	comp=Z,1.0nm,0.8s,baz=353,slow=8.3,SNR=6.1						
VNDA				LR	LR	10 22 54.3	
	comp=Z,361nm,18.9s,baz=22,slow=32						
	comp=Z,1.0nm,0.8s						
VNDA	Vanda	35.36	184	P	P	10 10 42.1	-2.0
SBA	Scott Base	35.48	182	P	P	10 10 45.1	+0.1
SBA				IAmb	IAmb	10 10 50.5	
	comp=Z,15nm,1.2s						
AS01	Alice Springs	37.55	288	P	P	10 11 03.0	-0.4
AS31	Alice Springs	37.58	287	P	P	10 11 02.5	-1.2
ASAR	Alice Springs	37.58	287	P	P	10 11 02.9	-0.8
	comp=Z,3.8nm,0.8s,baz=130,slow=7.2,SNR=54						
ASAR				LR	LR	10 25 01.5	
	comp=Z,237nm,18.6s,baz=126,slow=34						
	comp=Z,3.8nm,0.8s						
COEN	Coen	38.57	309	P	P	10 11 10.9	-1.1
COEN				IAmb	IAmb	10 11 17.2	
	comp=Z,18nm,1.1s						
COEN	Coen	38.57	309	P	P	10 11 11.8	-0.2
WR0	Warramunga Arr	39.59	293	P	P	10 11 19.1	-1.5
WB2	Warramunga Arr	39.74	292	IAmb	IAmb	10 11 23.8	
	comp=Z,11nm,0.9s						
WRAB	Tennant Creek	39.74	292	P	P	10 11 20.8	-1.0
WRAB				IAmb	IAmb	10 11 25.6	
	comp=Z,11nm,0.8s						
WRAB	Tennant Creek	39.74	292	P	P	10 11 21.3	-0.5
WRA	Warramunga Arr	39.74	292	P	P	10 11 21.0	-0.8
	comp=Z,6.3nm,0.7s,baz=128,slow=8.2,SNR=41						
WRA				LR	LR	10 27 04.6	
	comp=Z,405nm,18.1s,baz=112,slow=35						
	comp=Z,6.3nm,0.7s						
PMG	Port Moresby	40.21	318	LR	LR	10 26 14.6	
	comp=Z,376nm,20.4s,baz=140,slow=34						
PMG	Port Moresby	40.21	318	P	P	10 11 25.6	0.0
WRKA	Warakurna	40.76	281	P	P	10 11 29.6	-0.6
KRVT	Keravat (AS076	42.55	328	LR	LR	10 29 26.9	
	comp=Z,195nm,18.1s,baz=269,slow=36						
KNRA	Kununurra	46.51	291	P	P	10 12 17.1	+0.6
QSPA	South Pole Qui	47.55	180	P	P	10 12 27.1	+2.9
	comp=Z,15nm,0.8s,baz=30,slow=2.6,SNR=51						
QSPA				LR	LR	10 29 59.4	
	comp=Z,213nm,19.5s,baz=38,slow=33						
	comp=Z,15nm,0.8s						
QSPA	South Pole Qui	47.55	180	P	P	10 12 26.5	+2.2
FAKI	Fak Fak	53.81	306	P	P	10 13 09.8	-2.1
FAKI				IAmb	IAmb	10 13 11.3	
	comp=Z,11nm,0.7s						
FAKI	Fak Fak	53.81	306	P	P	10 13 10.6	-1.3
BELA	Belgrano 2	58.60	173	P	P	10 13 45.0	-0.3
BELA				IAmb	IAmb	10 13 48.1	
	comp=Z,10nm,0.8s						
LUWI	Luwuk	61.21	298	P	P	10 14 03.5	-0.5
RPN	Rapa Nui	63.28	103	LR	LR	10 36 58.1	
	comp=Z,87nm,18.4s,baz=16,slow=31						
H03S2	Juan Fernandez	79.28	126	T	T	11 43 55.2	
	baz=221,slow=74,SNR=144						
H03S1	Juan Fernandez	79.29	126	T	T	11 43 56.5	
	baz=221,slow=74,SNR=115						
H03S3	Juan Fernandez	79.30	126	T	T	11 43 55.7	
	baz=221,slow=74,SNR=135						
H03N3	Juan Fernandez	79.55	126	T	T	11 44 07.4	
	baz=224,slow=72,SNR=308						
H03N2	Juan Fernandez	79.56	126	T	T	11 44 06.3	
	baz=224,slow=72,SNR=327						
H03N1	Juan Fernandez	79.57	126	T	T	11 44 06.7	
	baz=224,slow=72,SNR=297						
MJAR	Matsushiro Arr	85.01	332	P	P	10 16 23.0	-1.1
	comp=Z,1.2nm,0.7s,baz=126,slow=6.2,SNR=3.0						
	comp=Z,1.2nm,0.7s						
KSRS	Kea Array	89.73	326	P	P	10 16 47.5	+0.6
	comp=Z,5.0nm,0.7s,baz=144,slow=5.3,SNR=17						
	comp=Z,5.0nm,0.7s						
KSAR	Wonju Array Be	89.74	325	P	P	10 16 47.2	+0.2
CMAR	Chiang Mai Arr	91.32	294	P	P	10 16 55.5	+0.6
	comp=Z,2.6nm,0.6s,baz=146,slow=3.6,SNR=18						
	comp=Z,2.6nm,0.6s						
KBZ	Khabaz	144.23	289	PKP	PKPab	10 23 22.1	-0.1
	comp=Z,2.2nm,0.8s,baz=130,slow=2.6,SNR=4.4						
SFJD	Kangerlussuaq	146.00	29	PKPbc	PKPdf	10 23 26.5	-0.2
	comp=Z,8.4nm,0.7s,baz=223,slow=5.3,SNR=4.4						
ARCES	ARCESS Array B	148.31	339	PKPbc	PKPdf	10 23 32.6	+2.1
	comp=Z,2.8nm,0.6s,baz=64,slow=2.8,SNR=5.1						
BRTR	Keskin Array B	149.69	278	PKPbc	PKPbc	10 23 38.3	-0.3
	comp=Z,2.7nm,0.8s,baz=162,slow=5.2,SNR=6.1						
TORD	Torodi Ar. Bea	149.78	196	PKPbc	PKPbc	10 23 39.7	+0.4
	comp=Z,4.6nm,0.7s,baz=142,slow=1.3,SNR=22						
FINES	FINESS Array B	152.82	325	PKPbc	PKPbc	10 23 44.4	-0.6
	comp=Z,3.0nm,0.6s,baz=96,slow=3.8,SNR=5.8						
HFS	Hagfors	158.46	332	PKPab	PKPab	10 24 18.2	-2.0
	comp=Z,2.0nm,0.5s,baz=67,slow=8.2,SNR=4.6						
NOA	NORSAR Array B	158.59	336	PKPab	PKPab	10 24 18.9	-1.9
	comp=Z,1.4nm,0.7s,baz=40,slow=4.6,SNR=4.9						

WEL 14 10:10:35.3±0.5, 42°S±5°×17°3E±°, h16km±3km, M3.7/10, ML3.9/9, MLv3.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=138.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.12	78	P	Pb	10 10 40.1	+0.9
KHZ				S	Sb	10 10 42.6	+0.8
GVZ	Greta Valley S	0.58	206	P	Pn	10 10 48.2	-0.8
GVZ				S	Sn	10 10 57.3	-0.8
AMCZ	Amberley	0.91	216	P	Pn	10 10 54.1	+0.8
OXZ	Oxford	1.32	228	P	Pn	10 10 59.0	-0.1
MQZ	McQueen's Vall	1.37	203	P	Pn	10 10 59.0	-0.8
MQZ				S	Sn	10 11 15.4	-2.1
AKCZ	Akaroa Harbour	1.47	193	P	Pn	10 11 00.6	-0.5
AKCZ				S	Sn	10 11 19.0	-1.0
RACZ	Rakaia	1.57	215	P	Pn	10 11 02.1	-0.5
QRZ	Quartz Range	1.73	338	P	Pn	10 11 03.6	-1.2
WVZ	Waitaha Valley	2.05	251	P	Pn	10 11 10.5	+1.5
RPZ	Rata Peaks	2.13	232	P	Pn	10 11 10.2	+0.1
ARCZ	Arundel	2.21	226	P	Pn	10 11 11.1	-0.1
LBZ	Lake Benmore	3.03	229	P	Pn	10 11 23.4	+0.8
ODZ	Otahua Downs	3.27	216	P	Pn	10 11 25.4	-0.4
HHSZ	Highcliff Hill	3.98	209	P	Pn	10 11 35.6	-0.1

*IDC **14** 10:11:26.0±0.7, 30.10°S×71.58°W, h0km, mb4.3/8, mbtmp4.2/12, ML3.9/4, MS3.8/13, Error ellipse: s-maj=29.6km s-min=18.9km az=105.0*
*SJA **14** 10:11:25.5±0.8, 29.97°S×71.89°W, h10km±3km, ML4.4, MW4.0, MW4.2(GUC)*
*NEIC **14** 10:11:29.5, 30.01°S×71.74°W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.92; $M_{\theta\theta}$0.63; $M_{\phi\phi}$-2.55; $M_{r\theta}$0.54; $M_{r\phi}$0.07; $M_{\theta\phi}$-1.42; Fault plane solution: $M_0$2.76000×10^{15} NP1:ϕ_s16.04000°, δ30.81000°, λ117.20000°. NP2:ϕ_s165.15000°, δ62.90000°, λ74.75000°. Principal axes: T 2.4659, Plg68.0000°, Azm45.0000°; N 0.5086, Plg14.0000°, Azm172.0000°; P -2.9745, Plg17.0000°, Azm266.0000°;*
*NEIC **14** 10:11:29.9±2.7, 30.03°S±0.04°×71.71°W±0.07°, h29km±6km, mb4.4/4, Mwr4.2/55, Mwr4.4(GUC) Error ellipse: s-maj=11.1km s-min=4.6km az=104.0*
*GUC **14** 10:11:30.1±0.6, 30.03°S×71.67°W, h34km±4km, ML4.3*
*VAO **14** 10:11:51.1±0.7, 29.51°S×71.01°W, h186km±6km, mb4.1*

ISC 14 10:11:27.0±1.4, 30.01°S±0.02°×71.82°W±0.04°, h11km±8km, n162, σ1°55°/185, mb4.4/9, MS4.1/8, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.51	80		Pb	10 11 38.7	+0.7
CO05				Sg	Sb	10 11 44.7	-0.8
CO05	La Serena	0.51	80	⇓ *i* P	Pb	10 11 38.7	+0.7
CO05				*e* S	Sb	10 11 44.8	-0.8
CO05				IAML		10 11 45.2	
	comp=N,29μm,0.1s						
CO06	Fray Jorge	0.69	166		Pn	10 11 42.4	-0.3
CO06				Sg	Sb	10 11 51.1	+0.6
CO06	Fray Jorge	0.69	166	⇑ *i* P	Pn	10 11 42.3	-0.3
CO06				*i* S	Sb	10 11 51.1	+0.6
CO06				IAML		10 11 54.2	
	comp=E,21μm,0.2s						
GO04	Tololo Observa	0.90	101		Pg	10 11 44.6	+0.2
GO04				Sg	Sg	10 11 55.2	-0.9
GO04	Tololo Observa	0.90	101	⇓ *i* P	Pg	10 11 44.6	+0.2
GO04				*i* S	Sg	10 11 55.2	-0.9
GO04				IAML		10 11 57.7	
	comp=N,36μm,0.6s						
GO04	Tololo Observa	0.90	101	*e* P	Pg	10 11 44.3	0.0
GO04				*e* S	Sn	10 11 58.1	-0.9
CO03	El Pedregal	1.28	131		Pn	10 11 50.7	-0.3
CO03	El Pedregal	1.28	131	⇓ *i* P	Pn	10 11 50.6	-0.4
CO03				*i* S	Sb	10 12 06.0	-1.8
CO03				IAML		10 12 10.7	
	comp=E,5μm,0.2s						
CO03	El Pedregal	1.28	131	*e* P	Pn	10 11 50.7	-0.3
CO03				*e* S	Sg	10 12 08.5	+0.2
CO03				IAML		10 12 09.8	
	comp=Z,4μm,0.7s						
CO02	Combarbal	1.39	150		Pb	10 11 53.0	-0.1
CO02	Combarbal	1.39	150	*i* P	Pb	10 11 53.0	-0.1
CO02				*e* S	Sb	10 12 10.4	-0.4
CO02				IAML		10 12 14.0	
	comp=N,21μm,0.4s						
CO02	Combarbal	1.39	150	*e* P	Pn	10 11 44.3	-8.1
CO02				*e* P	Pb	10 11 53.0	-

MT01	**Popeta**	**3.88**	**173**	*eP*		**Pn**	**10 12 27.8**	**+1.2**
MT01				*eP*		**Pn**	**10 12 28.0**	**+1.4**
MT01				*eS*		**Sn**	**10 13 13.3**	**+1.2**
MT01				IAML			10 13 26.1	
	comp=Z,397nm,0.9s							
AC02	**Maricunga**	**3.95**	**38**			**Pn**	**10 12 29.8**	**+1.7**
AC02	**Maricunga**	**3.95**	**38**	*eP*		**Pn**	**10 12 29.7**	**+1.7**
AC02				*eP*		**Pn**	**10 12 29.8**	**+1.7**
AC02				IAML			10 13 32.7	
	comp=Z,707nm,0.8s							
AC01	**Pan de Azucar**	**3.99**	**16**	Pn		**Pn**	**10 12 27.7**	**-0.5**
AC01	**Pan de Azucar**	**3.99**	**16**	*eP*		**Pn**	**10 12 27.8**	**-0.3**
AC01				*eS*		**Sb**	**10 13 26.8**	**+1.1**
AC01				IAML			10 13 40.1	
	comp=Z,390nm,0.7s							
BO04	**La Punta**	**4.10**	**166**			**Pn**	**10 12 31.4**	**+1.7**
BO04	**La Punta**	**4.10**	**166**	*eP*		**Pn**	**10 12 31.6**	**+1.8**
BO04				*eS*		**Sn**	**10 13 17.7**	**-0.1**
ACLC	**CERRO LA CRUZ**	**4.28**	**83**	*eP*		**Pn**	**10 12 34.1**	**+1.9**
ACLC				*eS*		**Sb**	**10 13 28.3**	**-5.7**
ACLC				IAML			10 13 36.2	
	comp=Z,535nm,0.3s							
BO01	**Tunca**	**4.42**	**172**	Pn		**Pn**	**10 12 35.6**	**+1.6**
BO01	**Tunca**	**4.42**	**172**	*eP*		**Pn**	**10 12 36.1**	**+2.1**
BO02	**Sierra Bellavi**	**4.85**	**170**			**Pn**	**10 12 41.8**	**+1.7**
BO02	**Sierra Bellavi**	**4.85**	**170**	*eS*		**Sn**	**10 13 39.3**	**+3.0**
GO05	**Huala**	**4.99**	**181**	Pn		**Pn**	**10 12 41.8**	**-0.1**
GO02	**Mina Guanaco**	**5.21**	**23**	Pn		**Pn**	**10 12 44.8**	**-0.4**
PB10	**IPOC Station P**	**6.56**	**10**	Pn		**Pn**	**10 13 03.6**	**+0.1**
H03N1	**Juan Fernandez**	**6.94**	**239**	Pn		**Pn**	**10 13 09.5**	**+1.0**
	baz=116,slow=18							
H03N1				T		T	10 20 35.3	
	baz=66,slow=72,SNR=8017							
H03N2	**Juan Fernandez**	**6.96**	**239**	Pn		**Pn**	**10 13 09.5**	**+0.9**
	baz=116,slow=18							
H03N2				T		T	10 20 35.7	
	baz=66,slow=72,SNR=9033							
H03N3	**Juan Fernandez**	**6.96**	**239**	Pn		**Pn**	**10 13 09.4**	**+0.7**
	baz=116,slow=18							
H03N3				T		T	10 20 34.5	
	baz=66,slow=72,SNR=6020							
H03S3	**Juan Fernandez**	**7.13**	**236**	Pn		**Pn**	**10 13 10.6**	**-0.4**
	baz=37,slow=19							
H03S1	**Juan Fernandez**	**7.13**	**236**	Pn		**Pn**	**10 13 10.3**	**-0.7**
	baz=37,slow=19							
H03S2	**Juan Fernandez**	**7.14**	**236**	Pn		**Pn**	**10 13 11.0**	**-0.2**
	baz=37,slow=19							
PB06	**IPOC Station P**	**7.54**	**16**	Pn		**Pn**	**10 13 16.3**	**-0.8**
PB04	**IPOC Station P**	**7.79**	**12**	Pn		**Pn**	**10 13 18.2**	**-2.2**
LVC	**Limon Verde**	**7.81**	**20**	Pn		**Pn**	**10 13 20.4**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=214,slow=11,SNR=9.1							
LVC				Sn		**Sn**	**10 14 45.7**	**-4.1**
	baz=286,slow=15							
LVC				LR		LR	10 16 26.6	
	comp=Z,332nm,21.1s,baz=218,slow=38							
	comp=Z,3.8nm,0.5s							
LVC	**Limon Verde**	**7.81**	**20**	Pn		**Pn**	**10 13 21.1**	**+0.1**
LVC	**Limon Verde**	**7.81**	**20**	*eP*		Pb	10 13 32.8	-10
PB03	**IPOC Station P**	**8.14**	**14**	Pn		**Pn**	**10 13 22.8**	**-2.5**
PB07	**IPOC Station P**	**8.43**	**12**	Pn		**Pn**	**10 13 26.9**	**-2.4**
PB09	**IPOC Station P**	**8.50**	**16**	Pn		**Pn**	**10 13 29.7**	**-0.6**
PB02	**IPOC Station P**	**8.82**	**12**	Pn		**Pn**	**10 13 32.9**	**-1.8**
PB01	**IPOC Station P**	**9.17**	**14**	Pn		**Pn**	**10 13 36.4**	**-3.0**
PB08	**IPOC Station P**	**10.11**	**14**	Pn		**Pn**	**10 13 50.9**	**-1.7**
PB11	**IPOC Station P**	**10.39**	**11**	Pn		**Pn**	**10 13 54.1**	**-2.0**
PLCA	**Paso Flores**	**10.75**	**175**	Pn		**Pn**	**10 14 00.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=168,slow=18,SNR=1.4							
PLCA				LR		LR	10 18 33.5	
	comp=Z,245nm,21.3s,baz=347,slow=40							
	comp=Z,3.5nm,1.2s							
ITQB	**Itaqui**	**13.20**	**92**	*eP*		**P**	**10 14 44.2**	**-0.3**
CPUP	**Villa Florida**	**13.30**	**78**	Pn		**Pn**	**10 14 37.5**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=258,slow=12,SNR=6.9							
CPUP				Sn		**Sn**	**10 17 03.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=204,slow=16,SNR=1.9							
CPUP				LR		LR	10 20 10.4	
	comp=Z,367nm,18.1s,baz=266,slow=40							
CPUP	**Villa Florida**	**13.30**	**78**	*eP*		**P**	**10 14 44.4**	**-1.2**
AZCA	**Azaras, Argent**	**13.99**	**86**	*eP*		**P**	**10 14 52.5**	**-0.8**
LPAZ	**La Paz**	**14.07**	**15**	Pn		**Pn**	**10 14 49.4**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=194,slow=5.9,SNR=32							
	comp=Z,6.0nm,0.6s							
RODS	**Rosario do Sul**	**14.39**	**96**	*eP*		**P**	**10 14 58.9**	**+1.3**
UNIS	**Unistalda (Bra**	**14.61**	**90**	*eP*		**P**	**10 15 00.3**	**+0.1**
MURT	**Porto Murtinho**	**15.25**	**60**	*eP*		**P**	**10 15 07.0**	**-0.3**
PLTB	**Pedras Altas**	**15.74**	**101**	*eP*		**P**	**10 15 14.8**	**+2.1**
CRSM	**Crissiumal (Br**	**15.79**	**85**	*eP*		**P**	**10 15 15.3**	**+2.0**
CPSB	**Cacapava Do Su**	**15.90**	**96**	*eP*		**P**	**10 15 17.7**	**+3.2**
BBSD	**Serra de San D**	**16.37**	**41**	*eP*		**P**	**10 15 20.0**	**+0.3**
ALGR	**Alto Alegre (B**	**16.43**	**90**	*eP*		**P**	**10 15 21.1**	**+0.7**
FRBT	**Francisco Belt**	**17.05**	**81**	*eP*		**P**	**10 15 28.4**	**+1.1**
SIV	**San Ignacio**	**17.09**	**38**	P		**Pn**	**10 15 26.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=224,slow=11,SNR=49							
SIV				LR		LR	10 22 56.6	
	comp=Z,238nm,20.4s,baz=256,slow=40							
	comp=Z,11nm,0.7s							
ITAB	**Concordia**	**17.51**	**86**	*eP*		**P**	**10 15 33.1**	**+0.8**
CNLB	**Canela**	**18.24**	**93**	*eP*		**P**	**10 15 43.4**	**+2.9**
PTGB	**Pitanga**	**18.32**	**78**	*eP*		**P**	**10 15 41.9**	**+0.5**
NNA	**Nana**	**18.53**	**344**	LR		LR	10 21 25.2	
	comp=Z,77nm,19.8s,baz=141,slow=32							
PTLB	**Pontes e Lacer**	**18.60**	**42**	P		**P**	**10 15 43.5**	**-0.9**
PTLB				IAmb		IAmb	10 15 55.7	
	comp=Z,20nm,1.5s							
PTLB	**Pontes e Lacer**	**18.60**	**42**	*eP*		**Pn**	**10 15 44.9**	**+0.3**
VILB	**Vilhena**	**20.09**	**35**	*eP*		**P**	**10 16 00.9**	**+0.1**
PCMB	**Pacaembu**	**20.29**	**70**	*eP*		**P**	**10 16 02.6**	**-0.3**
SALV	**Santo Antonio**	**20.40**	**50**	*eP*		**P**	**10 16 03.8**	**-0.3**
ETMB	**Extrema**	**20.76**	**16**	P		Pn	10 16 09.8	-0.6
ETMB				IAmb		IAmb	10 16 26.3	
	comp=Z,8.4nm,0.7s							
ETMB	**Extrema**	**20.76**	**16**	*eP*		Pn	10 16 11.2	+0.8
ITRB	**Iturama**	**21.98**	**67**	*eP*		**P**	**10 16 21.8**	**+0.7**
PET01	**Itanhaem-SP**	**22.55**	**81**	*eP*		**P**	**10 16 29.6**	**+2.4**
PDRB	**Porto dos Gac**	**23.06**	**41**	*eP*		**P**	**10 16 32.6**	**0.0**
ARAG	**Araguaiana, MT**	**23.24**	**57**	*eP*		**P**	**10 16 35.5**	**+1.0**
ATAH	**Atahualpa**	**23.57**	**344**	LR		LR	10 24 51.5	
	comp=Z,62nm,18.8s,baz=81,slow=34							
CLDB	**Colider**	**24.19**	**41**	*eP*		**P**	**10 16 43.9**	**+0.2**
IPMB	**Ipameri, GO**	**24.61**	**66**	*eP*		**P**	**10 16 46.9**	**-0.7**
PMNB	**Patos De Minas**	**25.74**	**69**	*eP*		**P**	**10 16 57.6**	**-0.2**
BDFB	**Brasilia**	**26.11**	**62**	P		**P**	**10 17 00.3**	**-1.0**
	comp=Z,4.6nm,0.6s,baz=235,slow=7.1,SNR=8.4							
BDFB				LR		LR	10 29 04.3	
	comp=Z,57nm,20.7s,baz=163,slow=41							
	comp=Z,4.6nm,0.6s							
BDFB	**Brasilia**	**26.11**	**62**	*eP*		**P**	**10 17 00.4**	**-0.9**
SNDB	**Serra Nova Dou**	**26.17**	**51**	*eP*		**P**	**10 17 02.2**	**+0.6**
VAS01	**Vassouras-RJ**	**26.56**	**80**	*eP*		**P**	**10 17 06.2**	**+1.0**
NPGB	**Novo Progresso**	**27.59**	**37**	*eP*		**P**	**10 17 13.4**	**-1.0**
DIAM	**Diamantina, MG**	**28.13**	**72**	*eP*		**P**	**10 17 18.9**	**-0.5**
MC01	**Montes Claros**	**28.72**	**69**	*eP*		**P**	**10 17 23.6**	**-1.0**
JANB	**Januaria**	**29.34**	**66**	*eP*		**P**	**10 17 29.1**	**-1.0**
ITTB	**Itaituba**	**29.69**	**34**	*eP*		**P**	**10 17 32.2**	**-0.9**
BOAV	**Boa Vista**	**33.98**	**21**	P		**P**	**10 18 10.1**	**-0.7**
BOAV				IAmb		IAmb	10 18 11.7	
	comp=Z,5.7nm,0.8s							
BOAV	**Boa Vista**	**33.98**	**21**	*eP*		**P**	**10 18 10.8**	**0.0**
MCPB	**Macapa, AP**	**34.97**	**36**	*eP*		**P**	**10 18 19.0**	**-0.4**
BAUV	**El Baul**	**38.89**	**6**	P		**P**	**10 18 52.2**	**-0.5**
MDP	**Montagnes des**	**39.45**	**31**	LR		LR	10 37 06.9	
	comp=Z,90nm,18.5s,baz=196,slow=39							
SNAA	**Sanae**	**55.22**	**159**	P		**P**	**10 20 59.8**	**+0.2**
SNAA	**Sanae**	**55.22**	**159**	LR		LR	10 41 59.5	
	comp=Z,128nm,20.6s,baz=190,slow=33							
TROLL	**Troll, Antarti**	**56.93**	**159**	P		**P**	**10 21 12.3**	**+0.3**
QSPA	**South Pole Qui**	**60.22**	**180**	P		**P**	**10 21 35.3**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=142,slow=0.5,SNR=8.8							
	comp=Z,2.2nm,0.7s							
DBIC	**Dimbokro**	**73.76**	**72**	P		**P**	**10 23 01.3**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=252,slow=6.9,SNR=6.2							
	comp=Z,4.1nm,0.7s							
SADO	**Sadowa**	**74.72**	**355**	LR		LR	10 57 49.2	
	comp=Z,226nm,20.8s,baz=228,slow=37							
MAW	**Mawson**	**76.95**	**164**	P		**P**	**10 23 19.8**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=279,slow=19,SNR=1.4							
	comp=Z,0.8nm,0.5s							
PDAR	**Pinedale Array**	**80.30**	**333**	P		**P**	**10 23 40.0**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=146,slow=8.3,SNR=3.3							
	comp=Z,0.5nm,0.7s							
NVAR	**Mina Array Bea**	**80.73**	**325**	P		**P**	**10 23 42.9**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=149,slow=6.1,SNR=4.9							
	comp=Z,0.8nm,0.8s							
BOSA	**Boshof**	**81.77**	**118**	P		**P**	**10 23 46.1**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=320,slow=3.6,SNR=3.5							
	comp=Z,2.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P		**P**	**10 23 51.1**	**0.0**
	comp=Z,8.1nm,0.8s,baz=226,slow=3.2,SNR=12							
	comp=Z,8.1nm,0.8s							
SCHQ	**Schefferville**	**84.60**	**3**	LR		LR	11 02 28.7	
	comp=Z,102nm,21.8s,baz=203,slow=36							
FRB	**Frobisher Bay**	**93.47**	**1**	LR		LR	11 08 51.4	
	comp=Z,216nm,19.3s,baz=242,slow=37							
SFJD	**Kangerlussuaq**	**98.03**	**8**	LR		LR	11 11 29.8	
	comp=Z,198nm,19.0s,baz=314,slow=37							
ASAR	**Alice Springs**	**121.19**	**208**	PKP		**PKPdf**	**10 30 20.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=114,slow=1.4,SNR=7.0							
WRA	**Warramunga Arr**	**124.31**	**210**	PKP		**PKPdf**	**10 30 26.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=155,slow=1.7,SNR=20							
H11S2	**WAKE ISLAND Hyd**	**25.92**	**272**	T		T	12 49 14.8	
	baz=115,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hyd**	**25.93**	**272**	T		T	12 49 15.8	
	baz=115,slow=75,SNR=15							
H11S3	**WAKE ISLAND Hyd**	**25.94**	**272**	T		T	12 49 19.8	
	baz=115,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hyd**	**26.23**	**273**	T		T	12 49 43.5	
	baz=116,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hyd**	**26.25**	**273**	T		T	12 49 43.8	
	baz=116,slow=76,SNR=5.5							
H11N2	**WAKE ISLAND Hyd**	**26.25**	**273**	T		T	12 49 45.6	
	baz=116,slow=76,SNR=20							
BVAR	**Borovoye Array**	**144.16**	**39**	PKP		**PKPdf**	**10 31 01.8**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=306,slow=3.5,SNR=4.5							
KURBB	**Kurchatov Arra**	**149.74**	**39**	PKPbc		**PKPbc**	**10 31 16.9**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=308,slow=3.2,SNR=5.7							
AAK	**Ala-Archa**	**150.28**	**56**	PKPbc		**PKiKP**	**10 31 19.1**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=182,slow=1.4,SNR=11							
ZALV	**Zalesovo Beam**	**150.70**	**29**	PKPbc		**PKiKP**	**10 31 19.3**	**-0.2**
	comp=Z,9.2nm,0.7s,baz=298,slow=3.3,SNR=32							

IDC 14 10:11:30.4±2.0, 36°03S×179°41W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=60.4km s-min=32.5km az=44.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.99**	**289**	P	P	10 18 15.6	-0.4
	2.9nm,0.9s,baz=128,slow=11,SNR=3.6						
	2.9nm,0.9s						
ASAR	**Alice Springs**	**41.96**	**274**	P	P	10 19 23.6	+0.3
	2.0nm,0.7s,baz=116,slow=7.7,SNR=36						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**43.46**	**279**	P	P	10 19 35.0	-0.4
	1.8nm,0.5s,baz=119,slow=7.7,SNR=46						
	1.8nm,0.5s						
QSPA	**South Pole Qui**	**54.10**	**180**	P	P	10 20 56.4	-0.4
	0.7nm,1.0s,baz=275,slow=2.6,SNR=5.8						
	0.7nm,1.0s						
FINES	**FINESS Array B**	**149.90**	**336**	PKPbc	PKPbc	10 31 21.8	0.0
	1.2nm,0.5s,baz=46,slow=6.0,SNR=8.1						

*BJI **14** 10:12:12.0±0.0, 51°.73N×175°.63W, h59km, mb5.1/37, mB5.0/16, Ms4.8/7, Ms7 4.4/7*
*MOS **14** 10:12:15.6±1.0, 51°.76N×175°.93W, h69km, mb4.9/30, Error ellipse: s-maj=8.2km s-min=7.8km az=71.5*
*NEIC **14** 10:12:17.7±1.8, 51°.78N±0°.08×176°.01W±0°.07, h73km±6km, mb5.0/374, ML4.5(AEIC), Error ellipse: s-maj=12.1km s-min=6.6km az=182.0*
*AEIC **14** 10:12:17.1±3.9, 51°.4N±0°.1×175°.84W±0°.08, h20km±4km, Error ellipse: s-maj=16.1km s-min=6.6km az=172.0*
*IDC **14** 10:12:17.5±1.5, 51°.82N×175°.97W, h71km±12km, mb4.3/26, mbtmp4.6/29, MS3.4/7, Error ellipse: s-maj=14.3km s-min=8.1km az=165.0*

ISC 14 10:12:17.2±0.6, 51°.61N±0°.07×175°.93W±0°.04, h70km±4km, n636, σ1§10/539, mb5.0/179, **14C-1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.55**	**301**		**Pn**	**10 12 30.3**	**-0.1**
ADK	**Adak**	**0.55**	**301**	P	**Pn**	**10 12 30.4**	**-0.1**
ADK	**Adak**	**0.55**	**301**	P	**Pn**	**10 12 30.3**	**-0.1**
KIWB	**Kanaga Island**	**0.80**	**288**		**Pn**	**10 12 33.5**	**+0.3**
AMKA	**Amchitka**	**2.99**	**267**	Pn	**Pn**	**10 13 02.2**	**0.0**
NIKH	**Nikolski High**	**4.55**	**70**	Pn	**Pn**	**10 13 23.4**	**-0.1**
NIKH	**Nikolski High**	**4.55**	**70**		**Sn**	**10 14 15.1**	**+0.1**
NIKH	**Nikolski High**	**4.55**	**70**	P	**Pn**	**10 13 25.3**	**+1.8**
	baz=257						
NIKH	**Nikolski High**	**4.55**	**70**	P	**Pn**	**10 13 24.8**	**+1.3**
UNV	**Unalaska Valle**	**6.15**	**65**	Pn	**Pn**	**10 13 46.2**	**+1.0**
UNV	**Unalaska Valle**	**6.15**	**65**		**Sn**	**10 14 57.0**	**+3.0**
UNV	**Unalaska Valle**	**6.15**	**65**	P	**Pn**	**10 13 47.0**	**+1.7**
	baz=254						
SHEM	**Shemya Is, Ala**	**6.24**	**284**	P	**Pn**	**10 13 45.7**	**-0.8**
	57nm,0.4s,baz=56,slow=2.8,SNR=11						
SHEM				S	**Sn**	**10 14 54.8**	**-1.5**
	43nm,0.6s,baz=258,slow=22,SNR=1.2						
SPIA	**Saint Paul Isl**	**6.49**	**28**	Pn	**Pn**	**10 13 51.2**	**+1.3**
SPIA	**Saint Paul Isl**	**6.49**	**28**	P	**Pn**	**10 13 50.8**	**+0.9**
	baz=214						
FALS	**False Pass**	**8.18**	**62**	P	**Pn**	**10 14 13.4**	**+0.4**
	baz=253						
SDPT	**Sand Point**	**9.94**	**62**	P	**Pn**	**10 14 36.1**	**-0.9**
	baz=255						
CHNA	**Chernabura Isl**	**10.31**	**65**	P	**Pn**	**10 14 41.4**	**-0.7**
	baz=259						
P16K	**Nushagak River**	**12.60**	**47**	P	**Pn**	**10 15 11.3**	**-1.9**
	baz=242						
CHIR	**Chirikof Islan**	**12.73**	**63**	P	**Pn**	**10 15 14.8**	**-0.3**
	baz=260						
O16K	**Kokwok River B**	**12.84**	**45**	P	**Pn**	**10 15 16.4**	**-0.1**
	baz=240						
N16K	**Nishlik Lake**	**13.03**	**40**	P	**Pn**	**10 15 19.2**	**0.0**
	baz=235						
Q16K	**King Salmon**	**13.07**	**50**	P	**Pn**	**10 15 19.1**	**-0.5**
	baz=246						
Q17K	**Contact Creek**	**13.28**	**52**	P	**Pn**	**10 15 21.8**	**-0.7**
	baz=249						
O17K	**Koliganek Bris**	**13.36**	**45**	P	**Pn**	**10 15 22.4**	**-1.1**
	baz=241						
P17K	**Kvichak River**	**13.39**	**48**	P	**Pn**	**10 15 23.2**	**-0.7**
	baz=244,SNR=8.6						
SII	**Sitkinak Islan**	**13.67**	**60**	P	**Pn**	**10 15 25.9**	**-1.7**
	baz=258						
SII	**Sitkinak Islan**	**13.67**	**60**	P	**Pn**	**10 15 26.2**	**-1.4**
Q18K	**Katmai Hardscr**	**13.85**	**51**	P	**Pn**	**10 15 29.0**	**-1.1**
	baz=249,SNR=12						
P18K	**Big Mountain,**	**14.04**	**48**	P	**Pn**	**10 15 30.8**	**-1.6**
	baz=246						
O18K	**Koktuh Hills**	**14.24**	**47**	Pn	**Pn**	**10 15 35.4**	**+0.2**
O18K	**Koktuh Hills**	**14.24**	**47**	P	**Pn**	**10 15 34.2**	**-0.9**
	baz=244,SNR=7.6						
OHAK	**Old Harbor**	**14.29**	**58**	Pn	Pn	10 15 30.9	-4.8
OHAK	**Old Harbor**	**14.29**	**58**	P	**Pn**	**10 15 34.1**	**-1.6**
	baz=257,SNR=7.5						
N18K	**Kilae Creek**	**14.34**	**43**		**Pn**	**10 15 37.9**	**+1.5**
O19K	**Port Alsworth**	**14.80**	**46**		**Pn**	**10 15 43.6**	**+1.3**
O19K	**Port Alsworth**	**14.80**	**46**	P	**Pn**	**10 15 43.1**	**+0.8**
	baz=244,SNR=23						
KDAK	**Kodiak Island**	**14.80**	**56**	P	**Pn**	**10 15 38.8**	**-3.5**
	16nm,0.3s,baz=267,slow=2.3,SNR=92						
KDAK				S	**Sn**	**10 18 27.6**	**+2.7**
	3.4nm,0.3s,baz=124,slow=20,SNR=1.3						
KDAK				LR	LR	10 22 01.3	
	comp=Z,386nm,20.4s,baz=260,slow=40						
KDAK	**Kodiak Island**	**14.80**	**56**	Pn	**Pn**	**10 15 39.1**	**-3.2**
KDAK	**Kodiak Island**	**14.80**	**56**	P	**Pn**	**10 15 42.0**	**-0.3**
	baz=256						
KDAK	**Kodiak Island**	**14.80**	**56**	*i* P	**Pn**	**10 15 42.3**	**0.0**
N19K	**Bonanza Creek**	**15.01**	**44**	P	**Pn**	**10 15 46.9**	**+1.8**
N19K	**Bonanza Creek**	**15.01**	**44**	P	**Pn**	**10 15 44.5**	**-0.6**
	baz=242,SNR=23						
P19K	**Oil Pt**	**15.07**	**49**	P	**P**	**10 15 47.8**	**-1.9**
P19K	**Oil Pt**	**15.07**	**49**	P	**Pn**	**10 15 45.2**	**-0.7**
	baz=248						
Q20K	**Shuyak Island**	**15.12**	**53**	P	**Pn**	**10 15 44.9**	**-1.6**
	baz=253						
O20K	**Slope Mountain**	**15.52**	**48**	P	**Pn**	**10 15 49.6**	**-2.0**
	baz=248						
TTA	**Tatalina**	**15.56**	**36**		**Pn**	**10 15 53.0**	**+0.9**
TTA	**Tatalina**	**15.56**	**36**	P	**Pn**	**10 15 52.1**	**0.0**
	baz=233,SNR=8.5						
TTA	**Tatalina**	**15.56**	**36**	P	**Pn**	**10 15 52.0**	**0.0**
L19K	**White Mountain**	**15.56**	**39**	P	**Pn**	**10 15 51.1**	**-0.9**
	baz=237						
M19K	**Big River Lodg**	**15.59**	**40**	P	**Pn**	**10 15 51.7**	**-0.7**
	baz=239						
RSO	**Redoubt South**	**15.62**	**46**	P	**Pn**	**10 15 53.5**	**+0.5**
HOM	**Homer**	**15.83**	**50**	P	**Pn**	**10 15 54.0**	**-1.5**
	baz=250						
CNPM	**China Poot**	**15.98**	**51**	Pn	**Pn**	**10 15 55.8**	**-1.6**
M20K	**Styx River**	**16.09**	**41**	P	**P**	**10 16 00.8**	**-0.1**
M20K	**Styx River**	**16.09**	**41**	P	**Pn**	**10 15 57.2**	**-1.7**
	baz=241						
L20K	**Farewell, AK**	**16.10**	**39**	P	**Pn**	**10 15 57.7**	**-1.2**
	baz=238						
PEA0B	**Petropavlovsk-**	**16.15**	**286**	*i* P	**Pn**	**10 16 00.4**	**+0.8**
PETK	**Petropavlovsk-**	**16.15**	**286**	P	**Pn**	**10 15 59.3**	**-0.3**
	8.6nm,0.7s,baz=93,slow=13,SNR=24						
PETK				LR	LR	10 21 57.0	
	comp=Z,48nm,19.6s,baz=73,slow=36						
N20K	**Mount Spurr**	**16.17**	**44**	P	**Pn**	**10 16 00.4**	**+0.6**
	baz=245,SNR=13						
SPCR	**Spurr Chakacha**	**16.17**	**44**	P	**Pn**	**10 16 00.7**	**+0.9**
	baz=245,SNR=11						
BRLK	**Bradley Lake**	**16.23**	**50**	P	**Pn**	**10 15 57.8**	**-2.6**
SPU	**Mount Spurr**	**16.23**	**45**	P	**Pn**	**10 16 00.7**	**+0.1**
BRSE	**Bradley Lake S**	**16.29**	**50**	P	**Pn**	**10 16 00.0**	**-1.2**
	baz=252						
GCSA	**Galena City Sc**	**16.46**	**30**	P	**Pn**	**10 16 01.9**	**-1.4**
	baz=226,SNR=11						
CAPN	**Captain Cook N**	**16.46**	**47**	P	**Pn**	**10 16 01.5**	**-1.9**
	baz=248						
K20K	**Telida**	**16.52**	**36**	P	**Pn**	**10 16 03.2**	**-0.9**
	baz=235						
SKT	**Skwentna**	**16.81**	**42**	P	**P**	**10 16 08.3**	**-0.5**
SKT	**Skwentna**	**16.81**	**42**	P	**Pn**	**10 16 07.3**	**-0.4**
	baz=243,SNR=29						
SUA	**Susitna One**	**16.92**	**45**	P	**Pn**	**10 16 09.3**	**+0.1**
SUA	**Susitna One**	**16.92**	**45**	P	**Pn**	**10 16 09.5**	**+0.3**
	baz=246						
J20K	**Nowinta River**	**16.98**	**34**	P	**Pn**	**10 16 09.5**	**-0.3**
	baz=233						
PPLA	**Purkeypile**	**16.98**	**39**		**P**	**10 16 12.5**	**+1.6**
PPLA	**Purkeypile**	**16.98**	**39**	P	**Pn**	**10 16 09.2**	**-0.8**
	baz=240,SNR=13						
O22K	**Cooper Landing**	**17.01**	**48**	P	**Pn**	**10 16 09.2**	**-1.0**
	baz=251						
SEW	**Seward**	**17.02**	**50**	P	**Pn**	**10 16 08.6**	**-1.7**
	baz=252						
RC01	**Rabbit Creek A**	**17.22**	**46**	P	**Pn**	**10 16 12.3**	**-0.5**
RC01	**Rabbit Creek A**	**17.22**	**46**	P	**Pn**	**10 16 11.7**	**-1.1**
	baz=249						
CAST	**Castle Rocks**	**17.30**	**38**		**P**	**10 16 14.9**	**+0.7**
CAST	**Castle Rocks**	**17.30**	**38**	P	**Pn**	**10 16 13.6**	**-0.1**
	baz=238,SNR=24						
M22K	**Willow**	**17.31**	**44**	P	**P**	**10 16 14.1**	**-0.2**
	baz=246,SNR=6.6						
CHUM	**Lake Minchumin**	**17.46**	**36**	P	**P**	**10 16 15.8**	**-0.1**
	baz=237,SNR=10						
CUT	**Chulitna**	**17.53**	**42**	P	**Pn**	**10 16 16.5**	**0.0**
	baz=244,SNR=7.1						
PMR	**Palmer**	**17.68**	**45**	P	**Pn**	**10 16 17.2**	**-1.2**
PMR	**Palmer**	**17.68**	**45**	P	**Pn**	**10 16 17.8**	**-0.6**

comp=Z,61nm,20.4s,baz=202,slow=35
ILAR ScP **ScP** **10 24 25.6 -0.9**
comp=Z,1.7nm,0.6s,baz=311,slow=3.7,SNR=18
ILAR Eielson Array 19.95 38 P **P** **10 16 41.0 -2.2**
K24K Donnelly Dome 19.97 41 P **P** **10 16 43.2 -0.2**
baz=247
GLB Gilahina Butte 20.05 48 P **P** **10 16 42.6 -1.7**
GLB IAmb IAmb 10 16 47.5
comp=Z,41nm,0.6s
H24K Noodor Dome 20.12 34 IAmb IAmb 10 16 47.4
comp=Z,78nm,1.0s
H24K Noodor Dome 20.12 34 P **P** **10 16 45.1 0.0**
baz=239
COLD Coldfoot 20.15 29 P **P** **10 16 44.5 -0.8**
COLD Coldfoot 20.15 29 P **P** **10 16 46.0 +0.6**
baz=232,SNR=27
MA2 Magadan 20.25 306 P **P** **10 16 46.4 -0.1**
comp=Z,13nm,0.7s,baz=69,slow=16,SNR=6.1
MA2 LR LR 10 23 38.5
comp=Z,61nm,21.8s,baz=88,slow=34
comp=Z,13nm,0.7s
MA2 Magadan 20.25 306 *i* P **P** **10 16 46.0 -0.5**
MA2 pmax pmax
comp=Z,17nm,0.8s
E22K Anaktuvuk Pass 20.28 26 P **P** **10 16 46.3 -0.4**
baz=228
SEY Seymchan 20.30 316 P **P** **10 16 46.8 -0.1**
comp=Z,8.8nm,0.6s,baz=106,slow=11,SNR=22
SEY ScP **ScP** **10 24 25.9 -1.3**
comp=Z,3.9nm,0.7s,baz=124,slow=3.0,SNR=6.5
comp=Z,8.8nm,0.6s
SEY Seymchan 20.30 316 *ce*P **P** **10 16 46.7 -0.2**
SEY pmax pmax
comp=Z,25nm,1.7s
RIDG Independent Ri 20.33 41 P **P** **10 16 46.9 -0.4**
baz=248,SNR=24
MCARA McCarthy VSAT 20.41 49 P **P** **10 16 48.6 +0.5**
baz=257,SNR=14
J25K Salcha River, 20.47 39 P **P** **10 16 47.9 -1.0**
baz=245
MENT Mentasta 20.53 44 P **P** **10 16 48.6 -0.8**
MENT IAmb IAmb 10 16 55.3
comp=Z,29nm,0.7s
DOT Dot Lake 20.62 42 P **P** **10 16 46.9 -3.5**
MESA MESA 20.68 52 P **P** **10 16 51.1 -0.2**
baz=261
M26K Nabesna, AK 20.68 46 IAmb IAmb 10 16 54.7
comp=Z,33nm,0.8s
M26K Nabesna, AK 20.68 46 P **P** **10 16 50.5 -0.6**
baz=254
L26K Log Cabin Wild 20.71 44 IAmb IAmb 10 16 53.5
comp=Z,31nm,0.7s
L26K Log Cabin Wild 20.71 44 P **P** **10 16 51.1 -0.3**
baz=252,SNR=24
G24K Hadweenzic Riv 20.72 32 P **P** **10 16 50.8 -0.6**
baz=237
SCRK Sand Creek 20.77 41 P **P** **10 16 50.8 -1.3**
baz=249,SNR=171
PRP Porcupine Dome 20.81 36 P **P** **10 16 52.4 -0.2**
baz=243,SNR=12
E23K Chandalar 20.85 28 P **P** **10 16 52.4 -0.5**
baz=231
BARN Barnard Glacie 20.98 50 P **P** **10 16 53.5 -1.0**
BARN IAmb IAmb 10 17 10.4
comp=Z,94nm,1.8s
F24K Squaw Lake 21.05 30 P **P** **10 16 55.1 +0.1**
baz=235,SNR=23
H25L Birch Creek 21.06 34 P **P** **10 16 54.6 -0.4**
baz=241
J26L Joseph Creek 21.14 40 P **P** **10 16 55.8 -0.3**
baz=248
D23K Nanushuk River 21.15 25 P **P** **10 16 55.8 -0.2**
baz=228
M27K Edge Creek, AK 21.17 46 IAmb IAmb 10 17 01.6
comp=Z,44nm,0.8s
M27K Edge Creek, AK 21.17 46 P **P** **10 16 55.8 -0.7**
baz=256
E24K Your Creek 21.19 29 P **P** **10 16 56.5 0.0**
baz=233
G25K Bearman Lake 21.22 33 P **P** **10 16 56.3 -0.5**
baz=239
TOLK Toolik Lake Re 21.23 27 IAmb IAmb 10 16 59.0
comp=Z,71nm,1.6s
TOLK Toolik Lake Re 21.23 27 P **P** **10 16 56.4 -0.6**
baz=230,SNR=8.7
L27K Beaver Creek, 21.39 44 P **P** **10 16 57.8 -0.8**
L27K Beaver Creek, 21.39 44 P **P** **10 16 58.3 -0.4**
baz=254
BCAR Beaver Creek A 21.41 44 P **P** **10 16 57.9 -1.0**
PINM Pinnacle 21.51 53 P **P** **10 16 59.8 -0.3**
baz=263
K27K Chicken 21.58 42 IAmb IAmb 10 17 06.2
comp=Z,66nm,0.9s
K27K Chicken 21.58 42 P **P** **10 17 00.3 -0.4**
baz=251
I26K Coal Creek Min 21.61 38 P **P** **10 16 58.5 -2.5**
I26K Coal Creek Min 21.61 38 P **P** **10 17 00.1 -0.9**
baz=247
A21K Barrow 21.62 17 P **P** **10 17 00.5 -0.4**
baz=214
O28M Mount Upton 21.64 51 P **P** **10 17 00.4 -1.2**
baz=261
BVCY Beaver Creek 21.65 46 P **P** **10 17 01.2 -0.2**
baz=256
YUK3 Moose Creek 21.69 48 P **P** **10 17 01.2 -0.9**
baz=259
C23K Itkillik River 21.77 24 P **P** **10 17 01.8 -0.8**
baz=226
F25K Christian Rive 21.80 31 P **P** **10 17 02.4 -0.7**
baz=238,SNR=18
PNL Peninsula 21.89 54 P **P** **10 17 04.3 +0.2**
BMAR Burnt Mountain 22.07 32 P **P** **10 17 05.4 -0.5**
G26K Porcupine Rive 22.10 34 P **P** **10 17 05.5 -0.7**
baz=242,SNR=23
E25K Arctic Village 22.11 30 P **P** **10 17 05.6 -0.8**
baz=237,SNR=7.2
C24K Franklin Bluff 22.18 25 P **P** **10 17 05.9 -1.0**
baz=229
EGAK Eagle 22.20 40 IAmb IAmb 10 17 09.1
comp=Z,33nm,0.6s
EGAK Eagle 22.20 40 P **P** **10 17 06.3 -1.0**
baz=250,SNR=28
I27K Kandik River 22.32 38 P **P** **10 17 07.4 -1.3**
baz=248
F26K Sheenjek River 22.35 32 P **P** **10 17 07.6 -1.3**
baz=240,SNR=5.6
YUK6 Outpost Mounta 22.55 51 P **P** **10 17 10.8 -0.5**
baz=263
D25K Kavik River 22.56 27 P **P** **10 17 10.1 -1.2**
baz=234
H27K Steamboat Moun 22.60 37 P **P** **10 17 10.0 -1.7**
baz=247
DAWY Dawson 22.72 43 P **P** **10 17 12.3 -0.5**
DAWY IAmb IAmb 10 17 13.4
comp=Z,26nm,0.7s
DAWY Dawson 22.72 43 P **P** **10 17 11.9 -1.0**
baz=254,SNR=25
P29M Windy Craggy 22.73 54 P **P** **10 17 12.1 -0.9**
baz=267
M29M Somme Creek 22.74 47 P **P** **10 17 11.7 -1.6**
baz=259
G27K Doyon Strip 22.79 35 P **P** **10 17 12.0 -1.6**
baz=245
HYT Haines Junctio 22.95 51 P **P** **10 17 14.0 -1.3**
baz=264
L29M L29M 23.03 45 P **P** **10 17 15.2 -0.9**
baz=258
P30M Million Dollar 23.15 53 P **P** **10 17 16.6 -0.8**
baz=266
N30M Aishikik Lake 23.23 50 P **P** **10 17 17.2 -0.8**
baz=263
J29M Klondike Camp 23.32 42 IAmb IAmb 10 17 22.1
comp=Z,24nm,0.6s
C26K Camden Bay 23.33 27 P **P** **10 17 17.9 -0.9**
baz=234
PLBC Pleasant Camp 23.42 55 P **P** **10 17 18.4 -1.3**
baz=268
E27K Coleen River 23.43 32 P **P** **10 17 19.2 -0.6**
baz=242,SNR=15
K29M Barlow Dome 23.46 44 P **P** **10 17 19.4 -0.8**
baz=257
C27K Jago River 23.51 28 P **P** **10 17 19.4 -1.0**
baz=237
M30M Minto, Yukon 23.53 47 P **P** **10 17 19.2 -1.6**
baz=261
I29M Ogilvie Camp, 23.54 40 P **P** **10 17 18.9 -1.9**
baz=253,SNR=15
MAYO Mayo, Yukon 24.11 45 P **P** **10 17 24.8 -1.2**
MAYO Mayo, Yukon 24.11 45 P **P** **10 17 25.2 -0.8**
baz=259
EPYK Eagle Plains 24.47 38 P **P** **10 17 28.4 -0.8**
baz=252,SNR=12
M31M Drury Creek, Y 24.59 48 P **P** **10 17 30.1 -0.2**
baz=264
P32M Atlin 24.77 55 P **P** **10 17 31.5 -0.5**
baz=270
G30M tAoh Zraii Nji 24.85 37 P **P** **10 17 31.8 -0.8**
baz=252
P33M Teslin, Yukon 25.23 53 P **P** **10 17 35.6 -0.6**
baz=270
U33K Whale Pass 25.33 63 P **P** **10 17 36.9 -0.1**
baz=278
CRAG Craig 25.43 64 P **P** **10 17 38.1 +0.2**
baz=280
Q32M Nakina River 25.53 56 P **P** **10 17 38.4 -0.7**
baz=273
WRAK Wrangell Islan 25.72 62 P **P** **10 17 40.6 +0.1**
baz=278
F31M Tsiigehtchic 25.91 36 P **P** **10 17 40.7 -1.4**
baz=254
MMPY Sheldon Lake, 26.07 48 P **P** **10 17 43.3 -0.5**
baz=266
R33M Jennings River 26.18 55 P **P** **10 17 44.3 -0.5**
baz=273
INK Inuvik 26.25 35 P **P** **10 17 42.1 -3.1**
comp=Z,3.6nm,0.4s,baz=214,slow=6.9,SNR=26
INK PcP **PcP** **10 21 09.9 +0.3**
comp=Z,4.8nm,0.7s,baz=318,slow=3.6,SNR=7.9
INK ScP **ScP** **10 24 42.1 -0.8**
comp=Z,1.1nm,0.5s,baz=312,slow=5.0,SNR=5.2
comp=Z,3.6nm,0.4s
INK Inuvik 26.25 35 P **P** **10 17 43.7 -1.5**
baz=252
V35K Ketchikan 26.30 64 P **P** **10 17 45.1 -0.7**
baz=281
DLBC Dease Lake 26.73 57 P **P** **10 17 49.9 +0.1**
comp=Z,2.8nm,0.8s,baz=297,slow=7.6,SNR=7.3
DLBC LR LR 10 27 27.3
comp=Z,45nm,19.7s,baz=240,slow=34
comp=Z,2.8nm,0.8s
DLBC Dease Lake 26.73 57 P **P** **10 17 49.2 -0.5**
baz=276
YSS Yuzh-Sakhalins 27.08 277 P **P** **10 17 53.6 +0.7**
YSS Yuzh-Sakhalins 27.08 277 *eP* **P** **10 17 54.3 +1.4**
YSS *e* 10 18 08.3
YSS pmax pmax
comp=Z,40nm,0.8s
WTLY Watson Lake, Y 27.24 53 P **P** **10 17 54.0 -0.2**
baz=273
TGTN Hyland Airport 27.45 50 P **P** **10 17 55.7 -0.4**
baz=271
JKA Kamikawa-asahi 28.50 271 IAmb IAmb 10 18 08.2
comp=Z,39nm,0.9s
JEM Erimo 29.25 267 P **P** **10 18 14.3 +2.0**
C36M Paulatuk 29.83 34 P **P** **10 18 16.1 -1.0**
C36M Paulatuk 29.83 34 P **P** **10 18 15.5 -1.6**
baz=261
A36M Sachs Harbour 30.02 29 P **P** **10 18 18.2 -0.6**
A36M PcP **PcP** **10 21 19.3 +0.4**
A36M Sachs Harbour 30.02 29 P **P** **10 18 18.4 -0.4**
baz=255,SNR=8.9
YAK Yakutsk 30.62 311 ScP **ScP** **10 24 55.1 -1.6**
comp=Z,6.4nm,0.3s,baz=162,slow=0.2,SNR=4.5
YAK LR LR 10 31 06.4
comp=Z,44nm,18.8s,baz=89,slow=37
YAK Yakutsk 30.62 311 *i* P **P** **10 18 21.8 -2.3**
YAK pmax pmax
comp=Z,5.0nm,0.7s
TIXI Tiksi 31.33 330 ScP **ScP** **10 24 57.4 -1.6**
comp=Z,14nm,0.8s,baz=313,slow=0.0,SNR=23
KLR Kul'dur 32.84 287 P **P** **10 18 43.3 -0.5**
comp=Z,10nm,0.5s,baz=70,slow=8.0,SNR=30
comp=Z,10nm,0.5s
KLR Kul'dur 32.84 287↑ *e*P **P** **10 18 43.4 -0.4**
KLR pmax pmax
comp=Z,10.0nm,0.6s
KIP Kipapa 33.20 148 *ce*P **P** **10 18 49.0 +1.8**
KIP pmax pmax
comp=Z,111nm,1.7s
LLLB Lillooet 33.30 70 P **P** **10 18 47.1 -0.8**
LLLB IAmb IAmb 10 18 49.9
comp=Z,12nm,0.7s
HILA High Level 33.43 55 P **P** **10 18 48.7 -0.2**
ZEA Zeya 33.74 296 *eP* **P** **10 18 50.1 -1.4**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
YKA Yellowknife Ar 33.77 47 P **P** **10 18 50.1 -1.6**
comp=Z,4.3nm,0.8s,baz=283,slow=9.3,SNR=14
YKA PcP **PcP** **10 21 29.8 +0.6**
comp=Z,5.8nm,0.8s,baz=287,slow=3.0,SNR=10
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 33.77 47 *ce*P **P** **10 18 50.5 -1.2**
YKA pmax pmax
comp=Z,5.0nm,0.9s
H11N2 WAKE ISLAND Hy 34.55 209 T T 10 55 35.6
baz=18,slow=76,SNR=581
H11N3 WAKE ISLAND Hy 34.56 209 T T 10 55 37.9
baz=18,slow=76,SNR=618
H11N1 WAKE ISLAND Hy 34.57 209 T T 10 55 38.5
baz=18,slow=76,SNR=795
JSD Sado 34.62 265 P **P** **10 18 59.7 +0.3**
JSD IAmb IAmb 10 19 02.6
comp=Z,14nm,0.8s
JSD Sado 34.62 265 P **P** **10 19 00.5 +1.1**
HEH HeiHe 34.97 291 *eP* **P** **10 18 59.9 -2.3**
HEH pmax pmax
comp=Z,8.0nm,1.0s
HEH pmax pmax
comp=Z,110nm,4.3s
LON Longmire 35.02 76 IAmb IAmb 10 19 05.6
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 35.04 279 P **P** **10 19 02.2 -0.6**
comp=Z,11nm,0.6s,baz=55,slow=9.6,SNR=55
comp=Z,11nm,0.6s
COR Corvallis 35.18 80 P **P** **10 19 05.9 +1.9**
COR pmax pmax
comp=Z,86nm,1.9s
LTY Liberty 35.47 75 IAmb IAmb 10 19 08.6
comp=Z,16nm,1.2s
MJAR Matsushiro Arr 35.59 263 P **P** **10 19 08.3 +0.5**
comp=Z,5.4nm,0.8s,baz=45,slow=7.2,SNR=15
MJAR PcP **PcP** **10 21 35.9 +0.8**
comp=Z,0.8nm,0.3s,baz=25,slow=30,SNR=9.5
comp=Z,5.4nm,0.8s
MAJO Matsushiro 35.59 263 P **P** **10 19 08.5 +0.7**
MAJO IAmb IAmb 10 19 12.7
comp=Z,14nm,0.8s
MAJO Matsushiro 35.59 263 P **P** **10 19 09.4 +1.6**
MAJO Matsushiro 35.59 263 *i* P **P** **10 19 07.8 0.0**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 35.59 263 P **P** **10 19 08.5 +0.7**
MJB9 Matsu-Tunnel 35.59 263 IAmb IAmb 10 19 12.7
comp=Z,14nm,0.7s
H11S1 WAKE ISLAND Hy 35.77 209 T T 10 57 08.8
baz=18,slow=76,SNR=602
H11S2 WAKE ISLAND Hy 35.78 209 T T 10 57 17.2
baz=18,slow=76,SNR=579
H11S3 WAKE ISLAND Hy 35.78 209 T T 10 57 08.0
baz=18,slow=76,SNR=240
MSHR Mys Shultsa 36.41 277 *ce*P **P** **10 19 14.7 +0.1**
MSHR pmax pmax
comp=Z,106nm,2.5s
HAWA Hanford 36.57 75 P **P** **10 19 17.1 +1.1**
JGF Kuroka 36.73 263 P **P** **10 19 21.0 +3.5**
PINE Pine Mountain 37.04 80 IAmb IAmb 10 19 23.2
comp=Z,29nm,1.2s
YBH Yreka Blue Hor 37.07 84 P **P** **10 19 20.6 +0.2**
YBH Yreka Blue Hor 37.07 84 P **P** **10 19 20.6 +0.2**
YBH pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 37.12 71 P **P** **10 19 20.9 +0.3**
baz=298,SNR=18
NEW Newport 37.12 71 P **P** **10 19 21.4 +0.8**
NEW pmax pmax
comp=Z,44nm,0.8s
E09A Wood Farm, Sta 37.35 74 IAmb IAmb 10 19 24.3
comp=Z,16nm,1.1s
MOD Modoc Plateau 38.47 82 P **P** **10 19 33.2 +1.0**
MOD IAmb IAmb 10 19 34.6
comp=Z,14nm,0.7s
BMO Blue Mountains 38.70 76 IAmb IAmb 10 19 35.4
comp=Z,7.8nm,0.7s
WVOR Wild Horse Val 39.19 80 P **P** **10 19 39.6 +1.3**
WVOR pmax pmax
comp=Z,38nm,0.9s
BEKR Beckworth 39.60 85 P **P** **10 19 42.5 +0.8**
PLTX Planet X, Gerl 39.66 83 IAmb IAmb 10 19 44.6
comp=Z,31nm,0.8s
MSO Missoula 39.70 72 IAmb IAmb 10 19 43.6
comp=Z,18nm,0.8s
MSO Missoula 39.70 72 P **P** **10 19 42.8 +0.4**
baz=301,SNR=20
HIA Hailar 39.86 293 P **P** **10 19 42.1 -1.5**
HIA IAmb IAmb 10 19 43.2
comp=Z,15nm,0.6s
HIA Hailar 39.86 293 P **P** **10 19 42.1 -1.5**
HIA pmax pmax
comp=Z,15nm,0.6s
HIA Hailar 39.86 293 P **P** **10 19 42.4 -1.2**
MPK Martis Peak 40.15 85 IAmb IAmb 10 19 49.1
comp=Z,23nm,1.1s
PAHR Pah Rah Range 40.30 84 IAmb IAmb 10 19 49.6
comp=Z,15nm,0.9s
MFID Camas Ranch 40.37 77 P **P** **10 19 48.5 +0.5**
MFID IAmb IAmb 10 19 49.6
comp=Z,9.8nm,0.8s
VCNR Virginia City 40.38 85 IAmb IAmb 10 19 50.7
comp=Z,15nm,1.0s
PNTR Pine Nut 40.54 85 P **P** **10 19 50.9 +1.3**
CMB Columbia Colle 40.69 87 P **P** **10 19 51.2 +0.6**
CMB Columbia Colle 40.69 87 P **P** **10 19 51.2 +0.6**
CMB pmax pmax
comp=Z,4.0nm,0.8s
YERR Yerington 40.82 85 IAmb IAmb 10 19 54.1
comp=Z,12nm,0.9s
LRM Limekiln Ridge 41.10 72 P **P** **10 19 54.3 +0.2**
HLID Hailey 41.15 76 P **P** **10 19 55.1 +0.7**
HLID IAmb IAmb 10 19 56.3
comp=Z,14nm,0.9s
HLID Hailey 41.15 76 P **P** **10 19 54.9 +0.5**
baz=304,SNR=19
BMN Battle Mountai 41.21 82 IAmb IAmb 10 19 56.9
comp=Z,12nm,0.7s
KSRS Korea Array 41.42 273 P **P** **10 19 57.5 +1.0**
comp=Z,24nm,0.8s,baz=56,slow=7.8,SNR=64
comp=Z,24nm,0.8s
KSAR Wonju Array Be 41.46 273 P **P** **10 19 56.5 -0.3**
KSAR Wonju Array Be 41.46 273 P **P** **10 19 56.5 -0.3**
EGMT Eagleton 41.54 68 IAmb IAmb 10 19 58.5
comp=Z,36nm,1.1s
EGMT Eagleton 41.54 68 P **P** **10 19 57.6 +0.1**
baz=301,SNR=5.3
BOZ Bozeman (W) 41.71 72 IAmb IAmb 10 20 00.2
comp=Z,25nm,0.8s
BOZ Bozeman (W) 41.71 72 P **P** **10 19 59.3 +0.3**
baz=303,SNR=35
NVAR Mina Array Bea 41.74 85 P **P** **10 20 00.5 +1.1**
comp=Z,6.6nm,0.8s,baz=291,slow=8.0,SNR=56
NVAR PcP **PcP** **10 21 55.7 +1.2**
comp=Z,3.3nm,0.7s,baz=280,slow=2.4,SNR=10
NVAR ScP **ScP** **10 25 37.7 -0.7**
comp=Z,0.8nm,1.0s,baz=230,slow=3.7,SNR=4.7
comp=Z,6.6nm,0.8s
INCN Inchon 42.21 274 P **P** **10 20 03.0 0.0**
INCN Inchon 42.21 274 P **P** **10 20 03.0 0.0**
INCN pmax pmax
comp=Z,72nm,1.1s
INCN Inchon 42.21 274 P **P** **10 20 04.2 +1.2**
INCN pP **pP** **10 20 21.3 +1.1**
ELK Elko 42.25 80 P **P** **10 20 04.2 +0.6**
ELK IAmb IAmb 10 20 05.5
comp=Z,16nm,0.8s
ELK Elko 42.25 80 P **P** **10 20 04.2 +0.6**
ELK pmax pmax
comp=Z,16nm,0.8s
JTU Tsushima 42.37 268 P **P** **10 20 08.3 +4.0**
YHL Hebgen Lake 42.38 73 IAmb IAmb 10 20 06.1
comp=Z,22nm,0.8s
JNU Nakatsue 42.38 265 P **P** **10 20 06.3 +1.8**
YHB Horse Butte 42.42 73 IAmb IAmb 10 20 06.4
comp=Z,28nm,0.8s
TJN Taejon 42.45 272 P **P** **10 20 06.6 +1.7**
TJN Taejon 42.45 272 *ce*P **P** **10 20 05.5 +0.6**
FFC Flin Flon 42.54 56 P **P** **10 20 04.4 -1.0**
FFC Flin Flon 42.54 56 P **P** **10 20 04.4 -1.0**
FFC pmax pmax
comp=Z,11nm,1.2s
FFC Flin Flon 42.54 56 P **P** **10 20 04.2 -1.2**
YMR Madison River 42.61 73 IAmb IAmb 10 20 08.0
comp=Z,23nm,0.8s
TIN Tinemaha, Big 42.64 87 P **P** **10 20 07.8 +1.1**
baz=309
SMMC Simmler 42.65 90 P **P** **10 20 07.0 +0.5**
baz=311
YNR Norris Junctio 42.75 73 IAmb IAmb 10 20 09.7
comp=Z,25nm,0.9s
VES Vestal, Richgr 42.88 89 P **P** **10 20 09.0 +0.6**
baz=310,SNR=5.9
H17A Grant Village 42.99 73 IAmb IAmb 10 20 12.4
comp=Z,19nm,0.8s
H17A Grant Village 42.99 73 P **P** **10 20 10.7 +1.2**
baz=304,SNR=10
PKM Mcpherson Peak 43.03 90 P **P** **10 20 11.4 +1.4**
baz=311
IMW Indian Meadow 43.05 74 IAmb IAmb 10 20 11.9
comp=Z,12nm,0.8s
FLWY Flagg Ranch 43.09 73 IAmb IAmb 10 20 12.4
comp=Z,16nm,0.8s
CWC Cottonwood Cre 43.12 87 P **P** **10 20 11.0 +0.4**
baz=310
HVU Hansel Valley 43.15 77 IAmb IAmb 10 20 12.5
comp=Z,17nm,0.7s
GRAC Grapevine Rang 43.21 86 P **P** **10 20 11.7 +0.5**
baz=309
RLMT Red Lodge 43.36 71 P **P** **10 20 12.7 +0.2**
baz=304,SNR=10
ISA Isabella, Lake 43.37 88 P **P** **10 20 12.9 +0.5**
baz=310,SNR=5.8
R11A Troy Canyon, C 43.48 83 P **P** **10 20 13.6 +0.1**
baz=308,SNR=25
ARVC Arvin 43.49 89 P **P** **10 20 13.6 +0.3**
baz=311
MPMC Manual Prospec 43.73 87 P **P** **10 20 15.8 +0.3**
baz=310,SNR=5.6
S11A Rachel 43.81 84 IAmb IAmb 10 20 20.2
comp=Z,58nm,1.7s
SPR3 Spring Creek 3 43.85 82 IAmb IAmb 10 20 18.5
comp=Z,5.3nm,0.7s
FURC Furnace Creek, 43.86 86 P **P** **10 20 17.6 +1.3**
baz=310,SNR=11
OSI Osito Audit: C 43.89 90 P **P** **10 20 17.1 +0.4**
baz=311
TPNV Topopah Spring 43.94 85 IAmb IAmb 10 20 19.1
comp=Z,18nm,0.8s
TPNV Topopah Spring 43.94 85 P **P** **10 20 18.1 +1.0**
baz=310,SNR=21
LRMC Laurel Mtn Rad 43.98 88 P **P** **10 20 17.5 0.0**
baz=311
DUG Dugway, Tooele 44.06 79 IAmb IAmb 10 20 20.1
comp=Z,29nm,1.1s
DUG Dugway, Tooele 44.06 79 P **P** **10 20 18.5 +0.4**
baz=307,SNR=22
DUG Dugway, Tooele 44.06 79 P **P** **10 20 19.2 +1.1**
DUG pmax pmax
comp=Z,26nm,0.9s
EDW2 Edwards Air Fo 44.17 89 P **P** **10 20 19.5 +0.6**
baz=311
LAO LASA Array 44.28 68 IAmb IAmb 10 20 20.7
comp=Z,22nm,0.7s
LAO LASA Array 44.28 68 P **P** **10 20 20.4 +0.7**
baz=303,SNR=14
SNCC San Nicolas Is 44.30 92 P **P** **10 20 20.8 +0.9**
baz=312
TCUT Toone Canyon 44.37 77 IAmb IAmb 10 20 22.4
comp=Z,20nm,0.7s
PRN Pahroc Range 44.39 84 IAmb IAmb 10 20 22.8
comp=Z,23nm,0.9s
DGMT Dagmar 44.47 64 IAmb IAmb 10 20 22.0
comp=Z,30nm,1.0s
DGMT Dagmar 44.47 64 P **P** **10 20 21.1 0.0**
baz=303,SNR=11
BW06 Boulder Array 44.52 74 P **P** **10 20 22.4 +0.5**
baz=306,SNR=44
PDAR Pinedale Array 44.52 74 P **P** **10 20 22.2 +0.4**
comp=Z,27nm,0.7s,baz=305,slow=4.1,SNR=270
PDAR PcP **PcP** **10 22 04.1 +0.2**
comp=Z,0.6nm,0.5s,baz=180,slow=0.1,SNR=1.6
comp=Z,27nm,0.7s
SHOC Shoshone, Teco 44.59 86 P **P** **10 20 23.1 +1.0**
baz=310,SNR=11
GSC Goldstone, Bar 44.64 88 IAmb IAmb 10 20 24.5

comp=Z,23nm,1.1s
GSC Goldstone, Bar 44.64 88 P P 10 20 23.7 +1.0
baz=311,SNR=19
JLU Jordanelle 44.65 78 IAmb IAmb 10 20 24.6
comp=Z,13nm,0.9s
NLU North Lily Min 44.66 79 IAmb IAmb 10 20 24.6
comp=Z,10nm,0.7s
BFSC Mount Baldy Ra 44.80 89 P P 10 20 25.2 +1.2
baz=312,SNR=8.9
CIS Catalina Islan 44.88 91 P P 10 20 26.0 +1.4
baz=312
MPU Maple Canyon 44.90 79 IAmb IAmb 10 20 26.4
comp=Z,11nm,0.7s
TUQ Turquoise Moun 45.10 87 P P 10 20 27.2 +0.8
baz=311,SNR=8.4
NRIK Noril'sk 45.11 330 *i*P P 10 20 26.0 +0.2
NRIK pmax pmax
comp=Z,3.0nm,1.1s
WTNK Soaring Height 45.19 85 IAmb IAmb 10 20 29.1
comp=Z,2.5nm,0.9s
HEC Hector,Ludlow 45.24 88 P P 10 20 28.2 +0.8
baz=311,SNR=8.6
BBRC Big Bear Solar 45.25 89 P P 10 20 28.0 +0.3
baz=312,SNR=5.0
TCRU Three Creeks R 45.26 81 IAmb IAmb 10 20 29.9
comp=Z,10nm,0.8s
ELS Elsinore Mount 45.34 90 IAmb IAmb 10 20 29.7
comp=Z,23nm,1.6s
MURC Murrieta 45.51 90 P P 10 20 30.1 +0.6
baz=312
TMUT Trail Mountain 45.59 79 IAmb IAmb 10 20 32.4
comp=Z,15nm,0.7s
GMRC Granite Mounta 45.69 87 P P 10 20 31.2 +0.1
baz=311,SNR=12
LCMT Little Creek M 45.76 83 IAmb IAmb 10 20 33.7
comp=Z,3nm,1.0s
P17A Butcher Ranch, 45.77 79 IAmb IAmb 10 20 33.4
comp=Z,14nm,0.6s
Q16A Castle Valley 45.85 80 IAmb IAmb 10 20 34.4
comp=Z,26nm,1.4s
PFO Pinyon Flats O 45.97 89 P P 10 20 33.4 +0.3
baz=312
PFO Pinyon Flats O 45.97 89 P P 10 20 33.3 +0.1
PFO PcP PcP 10 22 09.2 +0.3
TPFO Pinon Flats 45.97 89 P P 10 20 33.4 +0.1
baz=312
P18A Preston Nutter 45.98 78 IAmb IAmb 10 20 35.4
comp=Z,16nm,0.9s
BELC Belle Mtn. Jos 45.99 88 P P 10 20 33.7 +0.2
baz=312,SNR=5.1
KNB Kanab 46.02 83 IAmb IAmb 10 20 35.9
comp=Z,19nm,1.2s
109C Camp Elliot, M 46.04 90 P P 10 20 34.2 +0.6
baz=312
NEE2 Needles Airpor 46.35 86 P P 10 20 36.8 +0.7
baz=311
K22A Casper 46.40 72 IAmb IAmb 10 20 37.4
comp=Z,14nm,0.8s
K22A Casper 46.40 72 P P 10 20 36.5 -0.2
baz=307,SNR=8.4
IRM Iron Mountain 46.42 87 P P 10 20 37.2 +0.5
baz=312,SNR=8.9
MONP2 Monument Peak 46.47 90 P P 10 20 37.9 +0.6
baz=312
BC3 Big Chuckawall 46.56 88 P P 10 20 38.2 +0.3
baz=312
RWWY Rawlins 46.57 74 IAmb IAmb 10 20 38.8
comp=Z,14nm,0.8s
W13A Hualapai Mount 46.59 86 IAmb IAmb 10 20 39.7
comp=Z,11nm,1.0s
U15A North Rim 46.72 83 IAmb IAmb 10 20 41.4
comp=Z,19nm,0.8s
SWSC Sam W. Stewart 46.82 89 P P 10 20 40.1 +0.4
baz=312
IKP In-Ko-Pah, Jac 46.83 90 P P 10 20 40.3 +0.4
baz=313
O20A White River Ci 46.89 76 P P 10 20 40.5 +0.1
baz=308,SNR=38
PDMCI Parker Dam,Lak 46.95 87 P P 10 20 41.1 +0.3
baz=312,SNR=6.0
RSSD Black Hills 47.01 69 P P 10 20 41.0 -0.3
RSSD IAmb IAmb 10 20 41.5
comp=Z,9.3nm,0.8s
RSSD Black Hills 47.01 69 P P 10 20 41.1 -0.3
baz=306
RSSD Black Hills 47.01 69 P P 10 20 41.0 -0.3
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 47.01 69 P P 10 20 40.7 -0.6
RSSD pP pP 10 20 59.6 +0.9
RSSD PcP PcP 10 22 12.7 +0.2
BLYC Blythe 47.08 87 IAmb IAmb 10 20 43.2
comp=Z,11nm,0.8s
BJT Baijiatuau 47.09 284 P P 10 20 42.2 +0.4
BJT pmax pmax
comp=Z,10.0nm,0.7s
GLA Glamis 47.36 88 P P 10 20 44.5 +0.5
baz=312
MDND Maddock 47.38 63 P P 10 20 44.0 0.0
baz=305,SNR=14
PV23 Carpenter Ridg 47.46 79 IAmb IAmb 10 20 51.6
comp=Z,15nm,0.6s
PV07 Paradox Valley 47.69 78 IAmb IAmb 10 20 47.8
comp=Z,32nm,1.4s
N23A Red Feather La 47.81 74 IAmb IAmb 10 20 49.8
comp=Z,18nm,1.1s
N23A Red Feather La 47.81 74 P P 10 20 48.2 +0.5
baz=308,SNR=7.7
PV15 Paradox Valley 47.85 78 IAmb IAmb 10 20 49.0
comp=Z,12nm,0.7s
WUAZ Wupatki 47.88 83 IAmb IAmb 10 20 50.1
comp=Z,20nm,0.8s
WUAZ Wupatki 47.88 83 P P 10 20 49.2 +1.1
baz=311,SNR=13
ULM Lac du Bonnet 48.05 58 P P 10 20 47.9 -1.1
comp=Z,2.7nm,0.3s,baz=300,slow=6.7,SNR=4.9
comp=Z,2.7nm,0.3s
SONM Songino Array 48.14 298 P P 10 20 49.5 -0.5
comp=Z,1.3nm,0.6s,baz=49,slow=9.1,SNR=8.8
SONM ScP ScP 10 26 04.1 -0.3
comp=Z,5.3nm,0.8s,baz=47,slow=3.3,SNR=25
comp=Z,1.3nm,0.6s
SMCO Snowmass 48.25 76 IAmb IAmb 10 20 52.2
comp=Z,7.5nm,0.6s
MVCO Mesa Verde 48.56 80 IAmb IAmb 10 20 54.2
comp=Z,7.6nm,0.7s
MVCO Mesa Verde 48.56 80 P P 10 20 53.5 0.0
baz=310,SNR=8.8
W18A Petrified Fore 49.15 83 P P 10 20 58.6 +0.6
baz=311,SNR=6.1
AGMN Agassiz Nation 49.17 60 IAmb IAmb 10 20 57.4
comp=Z,11nm,0.9s
AGMN Agassiz Nation 49.17 60 P P 10 20 56.6 -1.2
baz=306
S22A 4UR Ranch, Cre 49.24 78 IAmb IAmb 10 21 00.9
comp=Z,13nm,1.1s
S22A 4UR Ranch, Cre 49.24 78 P P 10 20 59.9 +1.2
baz=310,SNR=13
HHC Hu-ho-hao-te 49.34 287 *e*P P 10 21 01.0 +1.8
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.1s
214A Organ Pipe Nat 49.35 88 IAmb IAmb 10 21 00.8
comp=Z,18nm,1.2s
214A Organ Pipe Nat 49.35 88 P P 10 20 60.0 +0.7
baz=313
Q24A Divide 49.49 76 P P 10 21 01.4 +0.7
baz=310,SNR=5.5
HNS HongShan 49.62 282 ⇑P P 10 21 02.4 +1.2
HNS pmax pmax
comp=Z,34nm,0.9s
SUSD Miller 49.74 66 P P 10 21 01.7 -0.4
baz=308,SNR=22
SDCO Great Sand Dun 50.05 77 IAmb IAmb 10 21 06.6
comp=Z,11nm,0.7s
SDCO Great Sand Dun 50.05 77 P P 10 21 05.7 +0.9
baz=310,SNR=19
OGNE Ogallala 50.10 72 P P 10 21 05.5 +0.4
baz=309,SNR=6.3
TUC Tucson 50.37 86 P P 10 21 07.6 +0.5
TUC IAmb IAmb 10 21 08.8
comp=Z,16nm,0.8s
TUC Tucson 50.37 86 P P 10 21 07.9 +0.8
baz=313
TUC Tucson 50.37 86 P P 10 21 07.6 +0.5
TUC pmax pmax
comp=Z,16nm,0.9s
TUC Tucson 50.37 86 P P 10 21 07.6 +0.5
TUC PcP PcP 10 22 25.5 +0.8
NJ2 Nanjing 50.59 274 ⇑*i*P P 10 21 09.4 +0.8
NJ2 pmax pmax
comp=Z,35nm,0.8s
KSCO Kaye Shedlock' 50.97 74 P P 10 21 12.5 +0.9
baz=310,SNR=12
T25A Trinidad 51.10 77 P P 10 21 13.7 +1.0
baz=311,SNR=29
ANMO Albuquerque 51.29 80 P P 10 21 14.0 -0.1
ANMO Albuquerque 51.29 80 P P 10 21 14.4 +0.3
baz=312
ANMO Albuquerque 51.29 80 *ce*P P 10 21 14.9 +0.8
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO Albuquerque 51.29 80 P P 10 21 14.5 +0.4
ANMO PcP PcP 10 22 29.3 +1.1
ECSD EROS Data Cent 51.51 66 P P 10 21 14.3 -1.1
baz=309,SNR=13
Y22D IRIS PASSCAL I 51.58 82 IAmb IAmb 10 21 18.2
comp=Z,18nm,0.9s
Y22D IRIS PASSCAL I 51.58 82 P P 10 21 17.3 +1.1
baz=312
Y22F Passcal Instru 51.58 82 P P 10 21 17.0 +0.7
baz=312
EYMN Ely 51.73 58 P P 10 21 16.5 -0.5
baz=308
F36A Milaca 51.92 62 IAmb IAmb 10 21 18.0
comp=Z,6.4nm,0.7s
319A Douglas 51.94 86 IAmb IAmb 10 21 20.6
comp=Z,12nm,0.9s
121A Cookes Peak, D 52.08 84 IAmb IAmb 10 21 21.8
comp=Z,13nm,0.8s
121A Cookes Peak, D 52.08 84 P P 10 21 20.9 +0.9
baz=313,SNR=9.7
BGNE Belgrade 52.09 69 P P 10 21 19.7 -0.1
baz=310,SNR=8.8
SUMG Summit 52.63 15 *i*P P 10 21 22.0 -1.8
SUMG Summit 52.63 15 P P 10 21 22.8 -1.0
SUMG pmax pmax
comp=Z,21nm,2.7s
SPMN Marine on St. 52.71 62 P P 10 21 23.6 -0.7
baz=309,SNR=5.4
CBKS Cedar Bluff 52.82 72 P P 10 21 25.7 +0.4
baz=311,SNR=6.0
LYN LuoYang 52.86 281 ⇓P P 10 21 25.8 +0.3
LYN pmax pmax
comp=Z,30nm,0.7s
R32A Long Quarter, 53.69 72 IAmb IAmb 10 21 32.3
comp=Z,16nm,0.8s
MSTX Muleshoe 54.20 79 P P 10 21 35.7 +0.2
baz=313,SNR=20
AMTX Amarillo 54.25 77 IAmb IAmb 10 21 36.9
comp=Z,14nm,0.8s
AMTX Amarillo 54.25 77 P P 10 21 36.1 +0.3
baz=313
WHN Wuhan 54.43 276 ⇑P P 10 21 37.5 +0.5
WHN pmax pmax
comp=Z,54nm,0.7s
KSU1 Kansas State U 54.48 70 P P 10 21 36.8 -0.6
baz=311,SNR=8.3
SCIA State Center 54.60 65 P P 10 21 38.0 -0.2
baz=311
OK032 Salt Plains WL 55.06 73 IAmb IAmb 10 21 42.0
comp=Z,23nm,1.1s
SSLB Suanglung 55.12 265 P P 10 21 42.0 -0.2
SSLB IAmb IAmb 10 21 45.1
comp=Z,15nm,0.8s
KAN17 Caldwell West 55.16 73 IAmb IAmb 10 21 42.1
comp=Z,13nm,0.9s
KS20 Mayfield South 55.16 72 IAmb IAmb 10 21 42.6
comp=Z,22nm,1.1s
XAN Xi'an 55.37 283 ⇑P P 10 21 43.9 0.0
XAN pP pP 10 21 55.0 -6.9
XAN pmax pmax
comp=Z,9.0nm,1.3s
JFWS Jewell Farm 55.61 63 P P 10 21 44.1 -1.3
baz=311,SNR=7.0
BLOK Blackwell 55.68 72 IAmb IAmb 10 21 46.9
comp=Z,13nm,1.0s
T35A Sooner Cattle 55.99 72 IAmb IAmb 10 21 48.5
comp=Z,13nm,0.9s
OK045 Pawnee Station 56.06 73 IAmb IAmb 10 21 49.2
comp=Z,16nm,1.0s
OK050 Pawnee Station 56.06 73 IAmb IAmb 10 21 49.2
comp=Z,16nm,0.9s
OK048 Pawnee Station 56.07 73 IAmb IAmb 10 21 49.2
comp=Z,19nm,1.0s
OK046 Pawnee Station 56.10 73 pP 10 22 05.8 -1.1
WMOK Wichita Mounta 56.10 75 IAmb IAmb 10 21 50.2
comp=Z,9.7nm,0.8s
WMOK Wichita Mounta 56.10 75 P P 10 21 49.3 +0.2
baz=313,SNR=12
WMOK Wichita Mounta 56.10 75 P P 10 21 49.3 +0.2
WMOK pmax pmax
comp=Z,18nm,1.1s
OK044 Pawnee Station 56.19 73 IAmb IAmb 10 21 50.6
comp=Z,16nm,1.0s
OK033 Mehan 56.33 73 IAmb IAmb 10 21 51.1
comp=Z,16nm,0.9s
OK031 S. Brethren Rd 56.45 73 IAmb IAmb 10 21 52.7
comp=Z,14nm,0.8s
OK034 N. Norfolk Rd. 56.48 73 IAmb IAmb 10 21 52.2
comp=Z,22nm,1.3s
OK030 Cody Creek RV 56.50 73 IAmb IAmb 10 21 52.5
comp=Z,23nm,1.2s
DEOK Depew 56.72 73 IAmb IAmb 10 21 54.1
comp=Z,19nm,1.0s
TXAR Lajitas Array 56.84 83 P P 10 21 54.7 +0.2
comp=Z,18nm,0.8s,baz=297,slow=4.8,SNR=218
TXAR PcP PcP 10 22 50.2 +0.8
comp=Z,1.6nm,0.6s,baz=214,slow=1.1,SNR=7.0
comp=Z,18nm,0.8s
ABTX Abilene, Hawle 57.03 78 P P 10 21 56.3 +0.6
baz=314,SNR=8.4
TUL1 Leonard 57.10 72 IAmb IAmb 10 21 56.6
comp=Z,17nm,1.0s
TUL1 Leonard 57.10 72 P P 10 21 55.7 -0.4
baz=313
HPIG 57.30 87 IAmb IAmb 10 21 58.9
comp=Z,10nm,0.8s
S39A Bolivar 57.34 69 IAmb IAmb 10 21 56.5
comp=Z,5.7nm,0.7s
GLMI Grayling 57.38 58 P P 10 21 57.1 -0.8
baz=312
L44A Lake County Fo 57.38 62 P P 10 21 57.1 -0.9
baz=313
U38A Gravette 57.57 71 IAmb IAmb 10 21 59.2
comp=Z,9.9nm,0.8s
LOOK Love County 57.58 75 IAmb IAmb 10 22 00.9
comp=Z,29nm,1.0s
HDIL Hopedale 57.71 64 P P 10 21 59.6 -0.7
baz=313,SNR=11
HHAR Hobbs 57.94 71 IAmb IAmb 10 22 01.1
comp=Z,8.7nm,0.8s
CCM Cathedral Cave 58.30 67 P P 10 22 02.7 -1.8
CCM Cathedral Cave 58.30 67 P P 10 22 03.3 -1.2
baz=313
CCM Cathedral Cave 58.30 67 P P 10 22 02.7 -1.8
CCM pmax pmax
comp=Z,15nm,0.9s
CCM Cathedral Cave 58.30 67 P P 10 22 02.7 -1.8
CCM pP pP 10 22 19.9 -2.5
JCT Junction City 58.42 80 IAmb IAmb 10 22 05.8
comp=Z,13nm,0.9s
JCT Junction City 58.42 80 P P 10 22 05.1 -0.4
baz=315,SNR=9.7
WHTX Lake Whitney, 58.80 77 P P 10 22 08.4 +0.4
baz=315,SNR=7.2
SFIN Lafayette 59.06 63 P P 10 22 08.8 -0.9
baz=314,SNR=10
MIAR Mount Ida 59.35 72 P P 10 22 11.4 -0.4
baz=314,SNR=11
Z38A Mt. Pleasant 59.40 74 IAmb IAmb 10 22 12.9
comp=Z,10nm,0.7s
435B Jarrell 59.57 78 IAmb IAmb 10 22 14.6
comp=Z,18nm,1.1s
435B Jarrell 59.57 78 P P 10 22 13.5 +0.1
baz=315
LCAR Lake Charles 59.72 69 IAmb IAmb 10 22 13.7
comp=Z,12nm,1.0s
CGM3 Cape Girardeau 59.73 67 IAmb IAmb 10 22 13.8
comp=Z,11nm,0.7s
KURK Kurchatov 60.14 315 P P 10 22 15.8 -1.2
KURK IAmb IAmb 10 23 22.6
comp=Z,11nm,0.8s
KURK Kurchatov 60.14 315 *ce*P P 10 22 14.1 -2.9
KURK pmax pmax
comp=Z,3.0nm,0.7s
833A Chaparral WMA, 60.20 81 P P 10 22 16.6 -1.1
833A Chaparral WMA, 60.20 81 P P 10 22 18.1 +0.4
baz=316,SNR=5.8
O48B Farmland 60.21 62 P P 10 22 16.3 -1.3
baz=314,SNR=12
KURBB Kurchatov Arra 60.25 315 P P 10 22 17.0 -0.7
comp=Z,6.8nm,0.5s,baz=43,slow=6.7,SNR=88
comp=Z,6.8nm,0.5s
GULI GuiLin 60.62 274 *e*P P 10 22 18.4 -2.2
NATX Nacogdoches 60.65 75 P P 10 22 21.0 +0.3
baz=315
WMQ Urumqi 60.71 304 *e*P P 10 22 23.8 +2.7
WMQ LR LR
comp=Z,370nm,13.3s
WMQ LR LR
comp=Z,370nm,12.5s
WMQ LR LR
comp=Z,81nm,14.7s
P49A Miami Univ. Ec 60.96 62 P P 10 22 22.1 -0.6
baz=315
WCI Wyandotte Cave 61.00 64 P P 10 22 21.7 -1.3
WCI Wyandotte Cave 61.00 64 P P 10 22 22.4 -0.6
baz=315
WCI Wyandotte Cave 61.00 64 P P 10 22 21.7 -1.3
WCI pmax pmax
comp=Z,31nm,0.8s
WCI Wyandotte Cave 61.00 64 P P 10 22 22.1 -0.8
WCI pP pP 10 22 41.6 +0.6
HKT Hockley 61.22 77 P P 10 22 23.9 -0.6
HKT IAmb IAmb 10 22 25.5
comp=Z,7.2nm,0.9s
HKT Hockley 61.22 77 P P 10 22 23.9 -0.6
HKT pmax pmax
comp=Z,7.0nm,1.0s
HKT Hockley 61.22 77 P P 10 22 24.6 +0.1
MKAR Makanchi Array 61.28 310 P P 10 22 23.3 -1.5
comp=Z,2.1nm,0.4s,baz=48,slow=6.0,SNR=26
comp=Z,2.1nm,0.4s
ACSO Alum Creek Sta 61.42 61 P P 10 22 24.7 -1.1
baz=315,SNR=5.6
WVT Waverly 61.60 67 P P 10 22 25.3 -1.8
baz=315
WVT Waverly 61.60 67 P P 10 22 23.3 -3.8
ERPA Erie 61.68 57 P P 10 22 26.9 -0.7
baz=316
M53A WI Miller and 61.80 58 P P 10 22 28.1 -0.3
baz=316
OXF Oxford 61.83 69 P P 10 22 28.4 -0.2
baz=315,SNR=13
BVAR Borovoye Array 61.85 321 P P 10 22 27.3 -1.3
comp=Z,2.0nm,0.4s,baz=45,slow=7.0,SNR=12
comp=Z,2.0nm,0.4s
GOMU GeErMu 62.21 294 P P 10 22 31.3 -0.4
GOMU pmax pmax
comp=Z,4.0nm,0.6s
GOMU pmax pmax
comp=Z,73nm,4.4s
ZAIG Zacatecas 62.25 88 P P 10 22 31.3 -0.6
ZAIG IAmb IAmb 10 22 33.1
comp=Z,7.9nm,0.9s
P52A Corning 62.30 60 P P 10 22 31.2 -0.6
baz=316,SNR=5.1
O53A New Philadelph 62.36 59 P P 10 22 31.3 -0.8
baz=316
V48A Smith Brothers 62.45 67 IAmb IAmb 10 22 33.0
comp=Z,12nm,0.8s
LONY Lake Ozonia 62.64 52 P P 10 22 32.3 -1.6
baz=317
VBMS Vicksburg 62.80 72 P P 10 22 35.5 +0.3
baz=316
X48A Hartselle 63.24 68 IAmb IAmb 10 22 37.4
comp=Z,9.6nm,0.7s
SWET Sewanee 63.33 66 IAmb IAmb 10 22 38.2
comp=Z,14nm,0.8s
MCWV Mont Chateau 63.52 59 P P 10 22 39.7 -0.1
baz=316
BINY Binghamton 63.69 55 P P 10 22 40.7 -0.3
baz=317
TZTN Tazewell 63.73 64 P P 10 22 41.1 -0.2
baz=316,SNR=5.6
SSPA Standing Stone 63.85 57 P P 10 22 40.9 -1.1
SSPA IAmb IAmb 10 22 42.4
comp=Z,21nm,0.9s
SSPA Standing Stone 63.85 57 P P 10 22 41.4 -0.6
baz=317
SSPA Standing Stone 63.85 57 P P 10 22 41.2 -0.7
CPCT Cooper Cave 63.97 65 IAmb IAmb 10 22 42.6
comp=Z,9.9nm,0.7s
V52A Sevierville 64.21 64 IAmb IAmb 10 22 45.1
comp=Z,25nm,0.9s
LBNH Lisbon 64.21 51 P P 10 22 44.1 -0.2
baz=318
LRAL Lakeview Retre 64.28 69 IAmb IAmb 10 22 44.7
comp=Z,11nm,0.9s
LRAL Lakeview Retre 64.28 69 P P 10 22 44.1 -0.8
baz=316
W52A Murphy 64.56 65 IAmb IAmb 10 22 46.8
comp=Z,14nm,0.7s
V53A Saluda 64.77 64 IAmb IAmb 10 22 48.6
comp=Z,14nm,0.7s
BLA Blacksburg 64.98 61 P P 10 22 49.6 +0.2
baz=317,SNR=7.4
PZH PanZhiHua 65.07 282 P P 10 22 50.6 +0.3
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,90nm,6.1s
Y52A Lilburn 65.37 66 IAmb IAmb 10 22 52.4
comp=Z,19nm,0.8s
S57A Dark Hollow, R 65.38 60 IAmb IAmb 10 22 52.9
comp=Z,14nm,0.7s
KMI Kunming 65.46 280 ⇑P P 10 22 53.6 +0.6
KMI pP pP 10 23 08.9 -2.4
KMI sP sP 10 23 16.8 -2.3
KMI pmax pmax
comp=Z,23nm,0.8s
KMI LR LR
comp=Z,510nm,10.5s
KMI LR LR
comp=Z,290nm,10.9s
KMI LR LR
comp=Z,480nm,12.4s
BRAL Brewton 65.60 70 P P 10 22 53.8 +0.3
baz=317
152A Waverly Hall 65.87 68 IAmb IAmb 10 22 54.8
comp=Z,15nm,0.8s
CBN Corbin Frederi 65.90 59 P P 10 22 54.8 -0.5
baz=318
KMSC Kings Mountain 65.98 63 P P 10 22 56.0 +0.1
baz=317,SNR=14
GOGA Godfrey 66.04 66 IAmb IAmb 10 22 56.4
comp=Z,20nm,0.8s
GOGA Godfrey 66.04 66 P P 10 22 55.6 -0.7
baz=317,SNR=8.0
GOGA Godfrey 66.04 66 P P 10 22 55.6 -0.7
GOGA pmax pmax
comp=Z,37nm,0.8s
TARG Taragay, Kyrgy 67.19 309 P P 10 23 03.1 -0.9
TARG IAmb IAmb 10 23 05.8
comp=Z,20nm,1.6s
TARG Taragay, Kyrgy 67.19 309 P P 10 23 03.1 -0.9
TARG pmax pmax
comp=Z,20nm,1.6s
TIGA Tifton 67.42 68 P P 10 23 04.2 -0.9
baz=318
BOOM Boomskoye usch 67.51 310 P P 10 23 05.3 -0.4
BOOM pmax pmax
comp=Z,6.0nm,0.8s
CNNC Cliffs of the 67.81 61 P P 10 23 07.7 +0.2
baz=318
AAK Ala-Archa 68.08 311 P P 10 23 08.9 -0.4
comp=Z,2.3nm,0.5s,baz=126,slow=4.5,SNR=6.3
comp=Z,2.3nm,0.5s
AAK Ala-Archa 68.08 311 P P 10 23 08.0 -1.3
AAK Ala-Archa 68.08 311 P P 10 23 08.9 -0.4
TNCH TengChong 68.11 283 P P 10 23 08.4 -1.4
TNCH pP pP 10 23 29.8 +1.4
TNCH pmax pmax
comp=Z,92nm,0.7s
NHSC New Hope 68.13 64 P P 10 23 10.0 +0.5
baz=318
HFS Hagfors 68.34 355 P P 10 23 09.7 -0.8
comp=Z,3.8nm,0.9s,baz=302,slow=3.3,SNR=4.5
comp=Z,3.8nm,0.9s

SIJI	**Sorong**	**68.58**	**239**	P	**P**	**10 23 13.4**	**+0.9**
	comp=Z,2.4nm,0.3s						
	comp=Z,2.4nm,0.3s						
ARLS	**Aral**	**68.76**	**311**	P	**P**	**10 23 13.3**	**-0.2**
ARLS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH	**Kashi**	**69.78**	**308**	P	**P**	**10 23 24.0**	**+4.1**
KSH				pmax	pmax		
	comp=Z,12nm,0.5s						
DWPF	**Disney Wildern**	**71.14**	**69**	P	**P**	**10 23 27.6**	**-0.5**
	baz=319						
SHL	**Shillong**	**71.70**	**288**	IAmb	IAmb	10 23 31.6	
	comp=Z,11nm,0.4s						
SHL	**Shillong**	**71.70**	**288**	P	**P**	**10 23 30.9**	**-0.9**
SHL				pmax	pmax		
	comp=Z,14nm,0.5s						
NACGM	**Naroch**	**72.18**	**346**	*e*P	**P**	**10 23 35.2**	**+1.2**
	comp=Z,14nm,0.8s,baz=15						
MNK	**Minsk**	**72.41**	**346**	*i* P	**P**	**10 23 37.5**	**+2.2**
	comp=E,3.0nm,0.8s						
MNK				*i* P	**P**	**10 23 37.5**	**+2.2**
	comp=N,32nm,0.8s						
MNK				*i* P	**P**	**10 23 37.5**	**+2.2**
	comp=Z,7.0nm,0.7s,baz=195						
MNK				*i* PP	**PP**	**10 26 18.7**	**+2.5**
MNK				*i* PPP	PPP	10 28 03.0	
MNK				*i* S	**S**	**10 32 55.7**	**+2.6**
MNK				*i* SS	**SS**	**10 37 35.8**	**+4.5**
MNK				*i* SSS	SSS	10 40 56.2	
MNK				*i* LR	LR	10 55 54.8	
MNK				*i* LRM	MLR	10 58 38.4	
	comp=Z,67nm,15.8s						
MNK				*i* LRM	MLR	10 58 46.9	
	comp=N,595nm,18.4s						
MNK				*i* LRM	MLR	10 58 48.2	
	comp=E,61nm,19.0s						
MNK	**Minsk**	**72.41**	**346**	*i* P	**P**	**10 23 37.5**	**+2.2**
MNK				*i*		10 26 18.7	
MNK				*i* PPP	PPP	10 28 03.0	
MNK				*i* S	**S**	**10 32 55.7**	**+2.6**
MNK				*i* SS	**SS**	**10 37 35.8**	**+4.5**
MNK				pmax	pmax		
	comp=N,32nm,0.8s						
MNK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,67nm,16.0s						
MNK				MLR	MLR		
	comp=N,595nm,18.0s						
MNK				MLR	MLR		
	comp=E,61nm,19.0s						
CHTO	**Chiang Mai**	**72.50**	**278**	P	**P**	**10 23 35.0**	**-1.3**
CHTO	**Chiang Mai**	**72.50**	**278**	P	**P**	**10 23 35.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**72.77**	**278**	P	**P**	**10 23 38.0**	**0.0**
	comp=E,3.8nm,0.7s,baz=26,slow=7.2,SNR=25						
	comp=E,3.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**72.77**	**278**	P	**P**	**10 23 37.7**	**-0.3**
CMAR					**PcP**	**10 23 55.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**72.77**	**278**	*i* P	**P**	**10 23 38.9**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**73.26**	**4**	P	**P**	**10 23 40.1**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=1.4,slow=5.7,SNR=2.3						
	comp=Z,3.0nm,0.9s						
CHGR	**Chuyangaron**	**73.70**	**312**	P	**P**	**10 23 42.5**	**-0.8**
CHGR				pmax	pmax		
	comp=Z,8.0nm,1.7s						
SOR	**Soroa**	**74.23**	**73**	P	**P**	**10 23 46.5**	**0.0**
SOR				pmax	pmax		
	comp=Z,19nm,1.7s						
TGUH	**Tegucigalpa,Un**	**78.29**	**82**	P	**P**	**10 24 09.0**	**-0.8**
CTA	**Charters Tower**	**78.69**	**216**	P	**P**	**10 24 12.0**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=31,slow=12,SNR=2.5						
	comp=Z,1.4nm,0.6s						
CRVS	**Cervenica-Dubn**	**78.77**	**348**	*e*P	**P**	**10 24 13.3**	**+1.5**
CRVS	**Cervenica-Dubn**	**78.77**	**348**	*e*P	**P**	**10 24 13.3**	**+1.5**
KIV	**Kislovodsk**	**79.12**	**333**	*e*P	**P**	**10 24 13.8**	**-0.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRA	**Warramunga Arr**	**83.45**	**226**	P	**P**	**10 24 36.8**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=32,slow=5.5,SNR=13						
	comp=Z,1.2nm,0.6s						
HYBB	**Hyderabad (bro**	**85.80**	**293**	*e*P	**P**	**10 24 48.3**	**-0.7**
AS31	**Alice Springs**	**86.89**	**225**	P	**P**	**10 24 54.6**	**+0.6**
ASAR	**Alice Springs**	**86.89**	**225**	P	**P**	**10 24 54.7**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=30,slow=4.9,SNR=28						
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**86.89**	**225**	P	**P**	**10 24 54.2**	**+0.2**
STKA	**Stephens Creek**	**91.12**	**215**	P	**P**	**10 25 14.9**	**+1.2**
	comp=Z,3.6nm,0.7s,baz=337,slow=6.1,SNR=6.5						
	comp=Z,3.6nm,0.7s						
MMAI	**Mount Meron Ar**	**91.35**	**334**	LR	LR	11 09 13.4	
	comp=Z,98nm,21.8s,baz=312,slow=38						
TORD	**Torodi Ar. Bea**	**115.48**	**3**	PKP	**PKiKP**	**10 30 50.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=350,slow=2.2,SNR=5.2						
H03N2	**Juan Fernandez**	**119.49**	**108**	T	T	12 42 25.8	
	baz=317,slow=78,SNR=39						
H03N1	**Juan Fernandez**	**119.50**	**108**	T	T	12 42 27.1	
	baz=317,slow=78,SNR=32						
H03N3	**Juan Fernandez**	**119.51**	**108**	T	T	12 42 26.3	
	baz=317,slow=78,SNR=29						
CPUP	**Villa Florida**	**127.79**	**86**	PKP	**PKPdf**	**10 31 13.6**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=133,slow=0.7,SNR=4.1						
PLCA	**Paso Flores**	**129.33**	**109**	PKP	**PKPdf**	**10 31 15.5**	**-1.4**
	comp=Z,2.4nm,0.8s,baz=269,slow=4.1,SNR=4.3						
MAW	**Mawson**	**147.76**	**218**	PKPbc	**PKPbc**	**10 31 52.5**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=117,slow=3.6,SNR=9.3						
BOSA	**Boshof**	**152.09**	**317**	PKPbc	**PKPbc**	**10 32 04.0**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=9.7,slow=3.2,SNR=6.4						
BOSA	**Boshof**	**152.09**	**317**	PKIKP	**PKPbc**	**10 32 04.0**	**-0.3**

WEL 14 10:13:35.0±0.5, **42°S**±4°×**17°4E**±°, **h4**km±2km, **M2.9**/19, **ML3.6**/19, **MLv2.9**/19, **Error ellipse: s-maj=0.0km s-min=0.0km az=171.9, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.16**	**230**	P	Pg	10 13 38.8	+0.6
BSWZ	**Blackbirch Sta**	**0.38**	**260**	P	Pg	10 13 42.7	+0.4
BSWZ				S	Sb	10 13 49.0	-1.5
TUWZ	**Tuamarina**	**0.39**	**304**	P	Pg	10 13 42.7	+0.2
TUWZ				S	Sg	10 13 48.6	+1.0
BHW	**Baring Head**	**0.44**	**57**	P	Pg	10 13 43.8	+0.4
TCW	**Tory Channel**	**0.44**	**350**	P	Pg	10 13 43.7	+0.3
TCW				S	Sg	10 13 50.1	+0.8
WEL	**Wellington**	**0.47**	**39**	P	Pg	10 13 44.6	+0.6
WEL				S	Sb	10 13 52.2	-0.7
PLWZ	**Palliser**	**0.66**	**84**	P	Pb	10 13 48.6	-0.5
MSWZ	**Moikau Station**	**0.69**	**71**	P	Pg	10 13 48.1	-0.1
CAW	**Cannon Point**	**0.75**	**44**	P	Pb	10 13 48.6	-0.7
PAWZ	**Paruwai Farm**	**0.83**	**72**	P	Pb	10 13 51.6	-0.4
NNZ	**Nelson**	**0.86**	**299**	P	Pg	10 13 51.2	-0.4
NNZ				S	Sg	10 14 03.3	+0.5
KIW	**Kapiti Island**	**0.88**	**27**	P	Pg	10 13 51.8	-0.1
KIW				S	Sg	10 14 03.9	+0.6
DUWZ	**D'Urville Isla**	**0.91**	**338**	P	Pg	10 13 52.5	0.0
MTW	**Mount Morrison**	**0.98**	**60**	P	Pg	10 13 53.9	+0.2
MTW				S	Sb	10 14 08.1	+0.5
TRWZ	**Traveller**	**1.01**	**76**	P	Pg	10 13 54.2	-0.2
HOWZ	**Holdsworth Sta**	**1.14**	**49**	P	Pg	10 13 56.4	-0.4
HOWZ				S	Sn	10 14 13.5	-0.2
TKNZ	**Takaka Hill**	**1.23**	**299**	P	Pg	10 13 58.2	-0.3
TKNZ				S	Sb	10 14 14.8	-0.2
MRNZ	**Matariki Terra**	**1.24**	**281**	P	Pg	10 13 58.6	-0.2
TMWZ	**Te Maipa**	**1.26**	**65**	P	Pg	10 13 57.6	-1.6
MRZ	**Mangatainoka R**	**1.34**	**43**	P	Pn	10 13 59.3	-1.0
MRZ				S	Sb	10 14 18.1	+0.1
TIWZ	**Tintock**	**1.43**	**53**	P	Pn	10 14 01.0	-0.7
OHWZ	**Ohakea**	**1.61**	**27**	P	Pb	10 14 04.7	-0.4
QRZ	**Quartz Range**	**1.62**	**300**	P	Pb	10 14 04.8	-0.5
QRZ				S	Sg	10 14 26.7	-0.2
PRWZ	**Pori Road**	**1.62**	**48**	P	Pn	10 14 03.4	-1.0
POWZ	**Post Office Ro**	**1.64**	**40**	P	Pn	10 14 03.4	-1.0

*IDC **14** 10:14:27.1±1.8, 41°S×174°E, h0km, mb3.9/2, mbtmp3.8/3, ML3.3/1, MS4.1/2, Error ellipse: s-maj=42.0km s-min=36.6km az=146.0*

*WEL **14** 10:14:31.4±0.5, 42°S±3°×17°4E±°, h12km±5km, M4.0/11, ML4.3/11, MLv4.0/11, Error ellipse: s-maj=0.0km s-min=0.0km az=136.9*

ISC 14 10:14:29.9±1.0, **41°83S**±0°03×**174°36E**±0°02, **h18**km±4km, **n85**, σ1**s34**/89, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**307**	P	**Pg**	**10 14 34.7**	**+0.7**
CMWZ				S	**Sg**	**10 14 37.8**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.38**	**288**	P	**Pb**	**10 14 38.7**	**+0.6**
BSWZ				S	**Sb**	**10 14 44.7**	**+0.9**
TUWZ	**Tuamarina**	**0.51**	**322**	P	**Pb**	**10 14 40.1**	**-0.2**
TUWZ				S	**Sb**	**10 14 46.8**	**-0.6**
BHW	**Baring Head**	**0.57**	**42**	P	**Pb**	**10 14 41.3**	**0.0**
TCW	**Tory Channel**	**0.63**	**354**	P	**Pb**	**10 14 41.7**	**-0.5**
WEL	**Wellington**	**0.63**	**29**	P	**Pb**	**10 14 42.2**	**-0.1**
PLWZ	**Palliser**	**0.72**	**69**	P	**Pn**	**10 14 45.6**	**+0.5**
MSWZ	**Moikau Station**	**0.79**	**58**	P	**Pb**	**10 14 46.2**	**+1.2**
MSWZ				S	**Sn**	**10 14 58.4**	**+1.0**
KHZ	**Kahutara**	**0.84**	**226**	P	**Pn**	**10 14 49.1**	**+2.2**
KHZ				S	**Sn**	**10 15 02.6**	**+3.8**
CAW	**Cannon Point**	**0.90**	**36**	P	**Pb**	**10 14 47.0**	**0.0**
CAW				S	**Sn**	**10 15 00.9**	**+0.7**
PAWZ	**Paruwai Farm**	**0.92**	**61**	P	**Pb**	**10 14 48.2**	**+1.0**
PAWZ				S	**Sn**	**10 15 02.0**	**+1.3**
NNZ	**Nelson**	**0.96**	**310**	P	**Pn**	**10 14 48.2**	**-0.3**
KIW	**Kapiti Island**	**1.05**	**23**	P	**Pb**	**10 14 49.5**	**-0.2**
DUWZ	**D'Urville Isla**	**1.08**	**342**	P	**Pn**	**10 14 50.0**	**-0.2**
TRWZ	**Traveller**	**1.08**	**67**	P	**Pg**	**10 14 50.3**	**-0.6**
MTW	**Mount Morrison**	**1.09**	**52**	P	**Pb**	**10 14 50.5**	**+0.3**
THZ	**Tophouse**	**1.09**	**273**	P	**Pn**	**10 14 52.1**	**+1.8**
OGWZ	**Otaki Gorge**	**1.18**	**31**	P	**Pb**	**10 14 51.7**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.28**	**43**	P	**Pg**	**10 14 53.0**	**-1.5**
MRNZ	**Matariki Terra**	**1.28**	**289**	P	**Pn**	**10 14 54.6**	**+1.7**
TKNZ	**Takaka Hill**	**1.32**	**307**	P	**Pn**	**10 14 54.6**	**+1.2**
TMWZ	**Te Maipa**	**1.36**	**58**	P	**Pn**	**10 14 54.0**	**0.0**
MRZ	**Mangatainoka R**	**1.49**	**38**	P	**Pn**	**10 14 56.0**	**+0.3**
GVZ	**Greta Valley S**	**1.50**	**220**	P	Pg	10 15 02.7	+3.9
TIWZ	**Tintock**	**1.56**	**48**	P	**Pn**	**10 14 56.7**	**-0.1**
CPWZ	**Castlepoint**	**1.66**	**57**	P	**Pn**	**10 14 59.3**	**+1.2**
QRZ	**Quartz Range**	**1.71**	**306**	P	**Pg**	**10 15 01.0**	**-1.7**
PRWZ	**Pori Road**	**1.76**	**44**	P	**Pn**	**10 14 59.5**	**0.0**
OHWZ	**Ohakea**	**1.78**	**24**	P	**Pb**	**10 15 02.0**	**0.0**
POWZ	**Post Office Ro**	**1.79**	**37**	P	**Pn**	**10 15 00.4**	**+0.5**
LTZ	**Lake Taylor**	**1.82**	**238**	P	**Pg**	**10 15 03.5**	**-1.4**
BFZ	**Birch Farm**	**1.83**	**52**	P	**Pn**	**10 15 00.7**	**+0.3**
AMCZ	**Amberley**	**1.84**	**223**	P	Pg	10 15 10.5	+5.1
DSZ	**Denniston Nort**	**1.91**	**272**	P	**Pg**	**10 15 06.0**	**-0.7**
DVHZ	**Dannevirke**	**2.05**	**42**	P	**Pn**	**10 15 02.9**	**-0.6**
ANWZ	**Angora Road**	**2.10**	**50**	P	**Pg**	**10 15 09.5**	**-0.8**
OKCZ	**Okains Bay**	**2.12**	**206**	P	**Pn**	**10 15 05.5**	**+1.1**
WAZ	**Wanganui**	**2.13**	**13**	P	**Pg**	**10 15 09.0**	**-1.8**
TSZ	**Takapari Road**	**2.15**	**35**	P	**Pn**	**10 15 04.9**	**+0.1**
PRHZ	**Porangahau**	**2.33**	**48**	P	**Pn**	**10 15 06.7**	**-0.5**
INZ	**Inchbonnie**	**2.34**	**247**	P	**Pg**	**10 15 14.6**	**-0.2**
WPHZ	**Waipukurau**	**2.37**	**42**	P	**Pg**	**10 15 14.9**	**-0.4**
LREZ	**Lake Rotokare**	**2.37**	**1**	P	**Pb**	**10 15 12.0**	**0.0**
PNHZ	**Pukenui**	**2.37**	**37**	P	**Pn**	**10 15 07.5**	**-0.4**
KHEZ	**Kahui Hut**	**2.55**	**354**	P	**Pg**	**10 15 16.2**	**-2.6**
NEZ	**North Egmont**	**2.57**	**355**	P	**Pg**	**10 15 18.0**	**-1.2**
NBEZ	**Newall Road No**	**2.59**	**351**	P	**Pg**	**10 15 17.4**	**-2.2**
MOVZ	**Moawhango**	**2.65**	**24**	P	**Pb**	**10 15 16.1**	**-0.7**
PKE	**Pukeiti**	**2.65**	**354**	P	**Pb**	**10 15 16.9**	**0.0**
BHHZ	**Black Hill Sta**	**2.67**	**29**	P	**Pb**	**10 15 17.9**	**+0.7**
WNVZ	**Wahianoa**	**2.67**	**21**	P	**Pb**	**10 15 17.2**	**-0.1**
TRVZ	**Turoa**	**2.69**	**20**	P	**Pb**	**10 15 18.1**	**+0.5**
DRZ	**Dome Shelter**	**2.71**	**20**	P	**Pg**	**10 15 19.1**	**-2.9**
WHVZ	**Whangaehu Hut**	**2.71**	**21**	P	**Pb**	**10 15 18.1**	**+0.1**
VRZ	**Vera Road**	**2.72**	**7**	P	**Pb**	**10 15 18.2**	**+0.2**
FWVZ	**Far West T-bar**	**2.73**	**20**	P	**Pb**	**10 15 18.1**	**-0.2**
SNVZ	**South Ngauruho**	**2.82**	**21**	P	**Pb**	**10 15 20.5**	**+0.7**
OTVZ	**Oturere**	**2.85**	**21**	P	**Pb**	**10 15 20.3**	**+0.1**
NNVZ	**North Ngauruho**	**2.86**	**20**	P	**Pb**	**10 15 21.0**	**+0.4**
WTVZ	**West Tongariro**	**2.87**	**19**	P	**Pb**	**10 15 20.8**	**+0.7**
TWVZ	**Taurewa**	**2.88**	**17**	P	**Pb**	**10 15 21.3**	**+0.5**
ETVZ	**East Tongariro**	**2.88**	**21**	P	**Pb**	**10 15 20.9**	**+0.1**
TMVZ	**Te Maari**	**2.90**	**21**	P	**Pb**	**10 15 21.7**	**+0.6**
KRVZ	**Karewarewa**	**2.91**	**20**	P	**Pb**	**10 15 21.2**	**0.0**
NTVZ	**North Tongarir**	**2.91**	**21**	P	**Pb**	**10 15 22.0**	**+0.7**
WVZ	**Waitaha Valley**	**2.96**	**244**	P	**Pg**	**10 15 24.3**	**-2.2**
RPZ	**Rata Peaks**	**3.08**	**231**	Pn	**Pn**	**10 15 15.2**	**-2.4**
	3.7nm,0.3s,baz=30,slow=21,SNR=6.0						
RPZ				Sn	**Sn**	**10 15 54.5**	**+0.6**
	8.3nm,0.3s,baz=0.2,slow=17,SNR=1.6						
	12nm,0.3s						
RPZ	**Rata Peaks**	**3.08**	**231**	P	**Pg**	**10 15 27.1**	**-1.7**
WATZ	**Wairara**	**3.29**	**19**	P	**Pb**	**10 15 27.7**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**3.33**	**242**	P	**Pb**	**10 15 29.1**	**+0.8**
HIZ	**Hauiti**	**3.34**	**7**	P	**Pn**	**10 15 23.9**	**+2.7**
ALRZ	**Allen Road**	**3.60**	**26**	P	**Pb**	**10 15 31.7**	**-1.3**
TLZ	**Tolley Road**	**3.61**	**15**	P	**Pb**	**10 15 31.5**	**-1.8**
JCZ	**Jackson Bay**	**4.67**	**239**	P	**Pb**	**10 15 47.2**	**-4.0**
MKAZ	**Moumakai**	**4.76**	**8**	P	**Pn**	**10 15 41.8**	**+1.1**
AWAZ	**Awhitu Peninsu**	**4.77**	**3**	P	**Pn**	**10 15 43.0**	**+2.2**
ETAZ	**East Tamaki Re**	**4.89**	**5**	P	**Pn**	**10 15 44.3**	**+1.8**
WTAZ	**Waiatarua**	**4.90**	**2**	P	**Pn**	**10 15 45.5**	**+2.9**
RVAZ	**Riverhead Bore**	**5.06**	**2**	P	**Pn**	**10 15 48.4**	**+3.6**
CTA	**Charters Tower**	**32.17**	**304**	LR	LR	10 31 34.3	
	comp=Z,78nm,20.9s,baz=66,slow=32						
HNR	**Honiara**	**34.68**	**334**	LR	LR	10 33 41.5	
	comp=Z,1µm,19.3s,baz=195,slow=33						
ASAR	**Alice Springs**	**38.13**	**286**	P	**P**	**10 21 47.4**	**-0.7**
	0.6nm,0.5s,baz=122,slow=6.4,SNR=10						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**40.21**	**290**	P	**P**	**10 22 04.8**	**-0.6**
	1.4nm,0.5s,baz=127,slow=8.0,SNR=12						
	1.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.72**	**195**	PKPbc	**PKPbc**	**10 34 21.8**	**+0.5**
	1.1nm,0.4s,baz=143,slow=3.5,SNR=13						
FINES	**FINESS Array B**	**152.65**	**327**	PKPbc	**PKPbc**	**10 34 23.5**	**-0.8**
	2.0nm,0.9s,baz=42,slow=6.4,SNR=1.7						

*HEL **14** 10:18:47.1±0.5, 67°92N×34°53E, h0km, ML2.6, Suspected explosion*

*KOLA **14** 10:18:49.0, 67°59N×34°31E, h0km, ML2.8*

*UPP **14** 10:18:49.0±2.8, 67°58N×34°25E, h0km, ML2.3, Suspected explosion*

*BER **14** 10:18:50.4±0.8, 67°56N×34°27E, h0km, ML2.3, Suspected explosion*

ISC 14 10:18:49.3±1.4, **67°70N**±0°04×**34°09E**±0°06, **h0**km, **n33**, σ1**s33**/58, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.29**	**243**	P	**Pg**	**10 18 55.5**	**+0.5**
APA				S	**Sg**	**10 19 00.3**	**+1.5**
APA0	**Apatity Array**	**0.43**	**258**	P	**Pg**	**10 18 57.2**	**-0.3**
APA0				S	**Sg**	**10 19 04.7**	**+1.6**
TERR	**Teriberka**	**1.55**	**14**	P	**Pn**	**10 19 18.6**	**+0.5**
TERR				S	**Sn**	**10 19 39.3**	**+0.3**
VRF	**Varrio**	**1.71**	**274**	PG	**Pn**	**10 19 20.7**	**+0.4**
	baz=79						
VRF				MSG		10 19 42.8	
	comp=Z,94nm,0.2s						
VRF				SG	**Sn**	**10 19 43.1**	**+0.2**
OLKF	**Oulanka, Finla**	**2.31**	**235**	PN	**Pn**	**10 19 29.4**	**+0.9**
OLKF				SN	**Sb**	**10 20 01.2**	**+0.5**
KU6	**Riekki**	**2.36**	**227**	PN	**Pn**	**10 19 30.4**	**+1.0**
	baz=44						
KU6				SN	**Sb**	**10 20 02.6**	**+0.2**
KU6				MSG		10 20 04.8	
	comp=Z,18nm,0.2s						
KEV	**Kevo**	**3.30**	**312**	PB	**Pn**	**10 19 43.1**	**+0.9**
	baz=125						
KEV				SB	**Sn**	**10 20 23.3**	**+1.2**
KEV	**Kevo**	**3.30**	**312**	*e*P	**Pn**	**10 19 43.8**	**+1.6**
KEV				*e*S	**Sn**	**10 20 23.1**	**+0.9**
RNF	**Rovaniemi**	**3.34**	**255**	PN	**Pn**	**10 19 43.1**	**+0.4**
RNF				SN	**Sn**	**10 20 24.2**	**+1.3**
ARA0	**ARCESS Array S**	**3.64**	**304**	PB	**Pn**	**10 19 47.6**	**+0.7**
ARA0				SB	**Sn**	**10 20 34.8**	**+4.3**
ARA0	**ARCESS Array S**	**3.64**	**304**	*e*P	**Pn**	**10 19 47.9**	**+1.0**
ARA0				*e*S	**Sn**	**10 20 30.2**	**-0.3**
ARA0				IAML		10 20 45.8	
	comp=Z,12nm,0.2s						
ARCES	**ARCESS Array B**	**3.64**	**304**	P	**Pn**	**10 19 47.8**	**+0.9**
ARCES				S	**Sn**	**10 20 30.8**	**+0.3**
RMF	**Romuvaara**	**3.89**	**208**	PN	**Pn**	**10 19 50.2**	**0.0**
KLF	**Kolari**	**3.93**	**268**	PN	**Pn**	**10 19 51.3**	**+0.5**
HEF	**Hetta**	**3.98**	**285**	PN	**Pn**	**10 19 51.7**	**+0.2**
HEF				SN	**Sn**	**10 20 40.3**	**+1.5**
HEF	**Hetta**	**3.98**	**285**	*e*P	**Pn**	**10 19 51.9**	**+0.4**
HEF				*e*S	**Sn**	**10 20 38.4**	**-0.4**
TOF	**Tornio**	**4.18**	**252**	PB	**Pb**	**10 20 03.1**	**-0.6**
TOF				SN	**Sn**	**10 20 44.0**	**+0.3**
OUL	**Oulu**	**4.21**	**235**	PN	**Pn**	**10 19 55.8**	**+1.1**
KTK1	**Kautokeino**	**4.23**	**293**	PB	**Pb**	**10 20 00.4**	**-4.1**
KTK1				SG	**Sb**	**10 20 59.6**	**+3.6**
KTK1	**Kautokeino**	**4.23**	**293**	*e*P	**Pn**	**10 19 56.0**	**+1.1**
KTK1				*e*S	**Sn**	**10 20 44.2**	**-0.8**
KTK1				IAML		10 21 04.3	
	comp=Z,14nm,0.3s						
PAJU	**Pajala**	**4.30**	**266**	P	**Pn**	**10 19 55.8**	**-0.1**
PAJU				S	**Sn**	**10 20 46.1**	**-0.6**
LANU	**Lannavaara**	**4.59**	**280**	P	**Pn**	**10 19 59.6**	**-0.3**
LANU	**Lannavaara**	**4.59**	**280**	PN	**Pn**	**10 19 59.4**	**-0.5**
LANU				SN	**Sn**	**10 20 54.6**	**+0.7**
HAMF	**Hammerfest**	**4.74**	**313**	*e*P	**Pn**	**10 20 02.8**	**+0.8**
HAMF				*e*S	**Sn**	**10 20 56.6**	**-0.9**
HAMF				IAML		10 21 21.3	
	comp=Z,9.8nm,0.4s						
ERTU	**Ertsjaerv**	**4.79**	**262**	P	**Pn**	**10 20 02.4**	**-0.2**
ERTU				S	**Sn**	**10 20 58.1**	**-0.6**
KIF	**Kilpisjarvi**	**5.09**	**291**	*e*P	**Pn**	**10 20 06.8**	**+0.1**
KIF				*e*S	**Sn**	**10 21 03.9**	**-2.2**
KUA	**Kurravaara**	**5.22**	**279**	P	**Pn**	**10 20 08.1**	**-0.3**
KUA				S	**Sn**	**10 21 08.5**	**-0.7**
KOVU	**Salmi**	**5.27**	**282**	P	**Pn**	**10 20 09.2**	**0.0**
KOVU				S	**Sn**	**10 21 09.8**	**-0.8**
JETT	**Jettan, Norway**	**5.34**	**297**	*e*P	**Pn**	**10 20 11.2**	**+1.0**
JETT				*e*S	**Sn**	**10 21 10.4**	**-1.8**
JETT				IAML		10 21 36.9	
	comp=Z,14nm,0.5s						
HARU	**Harads**	**5.38**	**259**	P	**Pn**	**10 20 09.3**	**-1.4**
TRO	**Tromso**	**5.86**	**296**	*e*S	**Sn**	**10 21 22.2**	**-2.8**
FAUS	**Fauske**	**7.20**	**276**	*e*P	**Pn**	**10 20 35.0**	**-0.7**
MOR8	**Moi Rana**	**7.86**	**268**	*e*	**Pn**	**10 20 43.4**	**-1.3**

WEL 14 10:24:47.9±0.4, **42°S**±2°×**17°4E**±°, **h5**km, **M3.6**/53, **ML3.6**/12, **MLv3.6**/53, **Error ellipse: s-maj=0.0km s-min=0.0km az=113.9, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.27**	**25**	P	Pg	10 24 53.5	+0.3
BSWZ				S	Sg	10 24 58.1	+1.3
CMWZ	**Cape Campbell**	**0.42**	**60**	P	Pg	10 24 56.9	+0.8
KHZ	**Kahutara**	**0.48**	**197**	P	Pg	10 24 57.4	+0.2
KHZ				S	Sg	10 25 04.5	+1.2
TUWZ	**Tuamarina**	**0.55**	**17**	P	Pg	10 24 58.9	+0.3
TUWZ				S	Sb	10 25 07.4	-0.9
THZ	**Tophouse**	**0.64**	**288**	P	Pg	10 25 00.2	-0.1
THZ				S	Sg	10 25 09.0	+0.3
NNZ	**Nelson**	**0.79**	**341**	P	Pg	10 25 02.8	-0.2
NNZ				S	Sg	10 25 13.7	+0.5
TCW	**Tory Channel**	**0.85**	**29**	P	Pg	10 25 04.1	-0.2
MRNZ	**Matariki Terra**	**0.92**	**307**	P	Pg	10 25 05.6	+0.1
WEL	**Wellington**	**1.03**	**50**	P	Pg	10 25 08.0	+0.2
TKNZ	**Takaka Hill**	**1.09**	**328**	P	Pg	10 25 08.5	-0.3
GVZ	**Greta Valley S**	**1.13**	**207**	P	Pg	10 25 09.7	+0.1
DUWZ	**D'Urville Isla**	**1.17**	**7**	P	Pg	10 25 09.7	-0.6
MSWZ	**Moikau Station**	**1.27**	**65**	P	Pg	10 25 10.6	-1.6
LTZ	**Lake Taylor**	**1.35**	**232**	P	Pn	10 25 13.0	-0.5
LTZ				S	Sn	10 25 31.7	-0.2
PAWZ	**Paruwai

RACZ	**Rakaia**	**1.75**	**216**	P		Pg	10 28 47.0	-0.1
KIW	**Kapiti Island**	**1.78**	**35**	P		Pn	10 28 44.4	-0.3
TRWZ	**Traveller**	**1.84**	**60**	P		Pb	10 28 46.7	-0.8
MTW	**Mount Morrison**	**1.86**	**52**	P		Pn	10 28 46.9	+1.0
OGWZ	**Otaki Gorge**	**1.93**	**39**	P		Pn	10 28 45.9	-0.9
HOWZ	**Holdsworth Sta**	**2.04**	**46**	P		Pn	10 28 49.5	+1.1
WACZ	**Wakanui South**	**2.05**	**218**	P		Pn	10 28 47.1	-1.2
MRZ	**Mangatainoka R**	**2.25**	**43**	P		Pn	10 28 50.2	-1.0
RPZ	**Rata Peaks**	**2.31**	**232**	P		Pb	10 28 53.5	+1.5
ARCZ	**Arundel**	**2.38**	**226**	P		Pb	10 28 55.9	-0.9
OHWZ	**Ohakea**	**2.50**	**32**	P		Pb	10 28 58.2	-0.5
PRWZ	**Pori Road**	**2.53**	**46**	P		Pb	10 28 58.1	-1.3
POWZ	**Post Office Ro**	**2.55**	**41**	P		Pn	10 28 56.2	+0.9
WAZ	**Wanganui**	**2.79**	**23**	P		Pb	10 29 03.0	-0.7
DVHZ	**Dannevirke**	**2.82**	**45**	P		Pn	10 28 59.1	+0.1
TSZ	**Takapari Road**	**2.90**	**39**	P		Pn	10 29 02.5	+2.4
LREZ	**Lake Rotokare**	**2.94**	**13**	P		Pb	10 29 05.6	-0.6
NBEZ	**Newall Road No**	**3.07**	**4**	P		Pb	10 29 07.7	-0.8
VRZ	**Vera Road**	**3.33**	**16**	P		Pb	10 29 10.2	-2.8
WHVZ	**Whangaehu Hut**	**3.41**	**27**	P		Pb	10 29 10.9	-3.5
FWVZ	**Far West T-bar**	**3.42**	**27**	P		Pb	10 29 12.9	-1.7
OTVZ	**Oturere**	**3.54**	**27**	P		Pb	10 29 16.2	-0.5
NNVZ	**North Ngauruho**	**3.55**	**27**	P		Pb	10 29 16.2	-0.7
WTVZ	**West Tongariro**	**3.56**	**26**	P		Pb	10 29 16.3	-0.6
TMVZ	**Te Maari**	**3.60**	**28**	P		Pb	10 29 16.5	-1.1
NTVZ	**North Tongarir**	**3.60**	**27**	P		Pb	10 29 16.5	-1.2
HIZ	**Hauiti**	**3.94**	**15**	P		Pb	10 29 19.0	-4.3
TLZ	**Tolley Road**	**4.27**	**21**	P		Pn	10 29 21.2	+2.2
TOZ	**Tahuroa Road**	**4.83**	**19**	P		Pn	10 29 30.8	+4.2
TWGZ	**Tauwhareparae**	**5.35**	**41**	P		Pn	10 29 38.3	+4.5
MKAZ	**Moumakai**	**5.36**	**14**	P		Pn	10 29 34.6	+0.7
ETAZ	**East Tamaki Re**	**5.47**	**11**	P		P	10 29 36.3	+0.8

IDC 14 10:28:55.8±7.8, 30°35S×178°32W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=333.4km s-min=55.3km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.83**	**267**	P	P	10 36 54.7	-1.1
	0.3nm,0.9s,baz=106,slow=8.0,SNR=2.4 0.3nm,0.9s						
WRA	**Warramunga Arr**	**43.82**	**272**	P	P	10 37 04.2	+0.4
	0.2nm,0.3s,baz=110,slow=8.1,SNR=14 0.2nm,0.3s						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	10 48 32.9	-0.8
	1.3nm,0.4s,baz=50,slow=2.2,SNR=14						

WEL 14 10:31:38.5±0.6, 42°S±5°×17°4E±°, h10km±4km, M2.9/12, ML4.0/13, MLv2.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=158.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.29**	**353**	P	Pb	10 31 45.2	-0.6
BSWZ				S	Sg	10 31 49.3	+1.1
TUWZ	**Tuamarina**	**0.57**	**2**	P	Pb	10 31 50.3	-0.3
TUWZ				S	Sb	10 31 58.7	-0.1
THZ	**Tophouse**	**0.80**	**287**	P	Pb	10 31 54.6	0.0
THZ				S	Sb	10 32 04.9	-0.4
TCW	**Tory Channel**	**0.83**	**19**	P	Pg	10 31 54.7	+0.1
NNZ	**Nelson**	**0.88**	**332**	P	Pb	10 31 55.8	-0.1
WEL	**Wellington**	**0.96**	**42**	P	Pn	10 31 57.8	-0.2
WEL				S	Sn	10 32 12.6	+0.9
MRNZ	**Matariki Terra**	**1.06**	**304**	P	Pb	10 31 59.1	+0.1
MRNZ				S	Sn	10 32 15.3	+1.0
GVZ	**Greta Valley S**	**1.17**	**214**	P	Pb	10 31 59.7	-1.1
DUWZ	**D'Urville Isla**	**1.20**	**0**	P	Pb	10 32 01.0	-0.3
DUWZ				S	Sn	10 32 18.2	+0.5
TKNZ	**Takaka Hill**	**1.21**	**323**	P	Pg	10 32 01.6	-0.1
TKNZ				S	Sn	10 32 18.0	+0.1
CAW	**Cannon Point**	**1.24**	**44**	P	Pn	10 31 59.6	-2.3
CAW				S	Sn	10 32 19.6	+0.9
KIW	**Kapiti Island**	**1.36**	**33**	P	Pb	10 32 04.2	+0.1
LTZ	**Lake Taylor**	**1.45**	**237**	P	Pn	10 32 04.1	-0.7
AMCZ	**Amberley**	**1.50**	**218**	P	Pn	10 32 05.4	-0.1
OGWZ	**Otaki Gorge**	**1.51**	**39**	P	Pn	10 32 03.9	-1.8
QRZ	**Quartz Range**	**1.57**	**318**	P	Pb	10 32 08.1	+0.4
DSZ	**Denniston Nort**	**1.60**	**279**	P	Pg	10 32 09.0	-0.2
MQZ	**McQueen's Vall**	**1.94**	**208**	P	Pb	10 32 13.5	-0.4
PUZ	**Puketiti**	**5.15**	**42**	P	Pn	10 32 57.6	+2.0
HAZ	**Te Kaha**	**5.18**	**36**	P	Pn	10 32 55.5	-0.5

WEL 14 10:32:27.3±0.4, 42°S±2°×17°4E±°, h5km±3km, M3.7/12, ML4.0/12, MLv3.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=120.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.28**	**23**	P	Pg	10 32 33.3	+0.6
BSWZ				S	Sg	10 32 38.1	+1.7
KHZ	**Kahutara**	**0.47**	**198**	P	Pg	10 32 36.5	+0.2
KHZ				S	Sg	10 32 43.1	+0.8
TUWZ	**Tuamarina**	**0.57**	**16**	P	Pg	10 32 38.6	+0.5
TUWZ				S	Sb	10 32 47.5	-0.5
THZ	**Tophouse**	**0.65**	**289**	P	Pg	10 32 40.0	+0.2
THZ				S	Sg	10 32 49.1	+0.8
NNZ	**Nelson**	**0.80**	**341**	P	Pg	10 32 42.6	-0.1
NNZ				S	Sg	10 32 53.7	+0.7
TCW	**Tory Channel**	**0.86**	**28**	P	Pg	10 32 43.6	-0.3
TCW				S	Sb	10 32 56.4	-0.3
MRNZ	**Matariki Terra**	**0.93**	**308**	P	Pg	10 32 45.3	+0.2
MRNZ				S	Sb	10 32 58.6	+0.2
WEL	**Wellington**	**1.04**	**49**	P	Pg	10 32 47.4	+0.2
TKNZ	**Takaka Hill**	**1.10**	**328**	P	Pg	10 32 48.1	-0.3
GVZ	**Greta Valley S**	**1.12**	**207**	P	Pg	10 32 48.7	-0.1
GVZ				S	Sb	10 33 04.4	+0.4
DUWZ	**D'Urville Isla**	**1.18**	**7**	P	Pg	10 32 49.3	-0.6
PLWZ	**Palliser**	**1.21**	**71**	P	Pg	10 32 49.0	-1.5
MSWZ	**Moikau Station**	**1.27**	**64**	P	Pg	10 32 49.9	-1.7
CAW	**Cannon Point**	**1.32**	**50**	P	Pn	10 32 51.3	-1.2
LTZ	**Lake Taylor**	**1.35**	**233**	P	Pn	10 32 52.2	-0.7
PAWZ	**Paruwai Farm**	**1.40**	**66**	P	Pn	10 32 51.5	-2.1
KIW	**Kapiti Island**	**1.42**	**39**	P	Pn	10 32 53.1	-0.7
AMCZ	**Amberley**	**1.44**	**213**	P	Pn	10 32 54.2	+0.1
DSZ	**Denniston Nort**	**1.46**	**278**	P	Pb	10 32 54.9	0.0
QRZ	**Quartz Range**	**1.46**	**321**	P	Pn	10 32 54.4	+0.1
MTW	**Mount Morrison**	**1.56**	**59**	P	Pn	10 32 53.7	-2.0
TRWZ	**Traveller**	**1.57**	**69**	P	Pn	10 32 53.5	-2.4
OGWZ	**Otaki Gorge**	**1.58**	**44**	P	Pn	10 32 54.8	-1.2
HOWZ	**Holdsworth Sta**	**1.72**	**52**	P	Pn	10 32 56.2	-1.7
OKCZ	**Okains Bay**	**1.82**	**196**	P	Pn	10 32 57.3	-2.0
TMWZ	**Te Maipa**	**1.84**	**63**	P	Pg	10 33 03.5	+0.9
OXZ	**Oxford**	**1.84**	**222**	P	Pn	10 32 57.6	-2.0
INZ	**Inchbonnie**	**1.85**	**245**	P	Pn	10 33 00.1	+0.4
MQZ	**McQueen's Vall**	**1.90**	**204**	P	Pn	10 32 57.2	-3.2
MRZ	**Mangatainoka R**	**1.91**	**47**	P	Pn	10 32 58.8	-1.8
AKCZ	**Akaroa Harbour**	**1.99**	**197**	P	Pn	10 32 59.4	-2.2
TIWZ	**Tintock**	**2.02**	**54**	P	Pn	10 33 01.1	-0.9
RACZ	**Rakaia**	**2.11**	**213**	P	Pn	10 33 00.9	-2.3
OHWZ	**Ohakea**	**2.13**	**35**	P	Pb	10 33 05.8	-0.6
POWZ	**Post Office Ro**	**2.21**	**45**	P	Pn	10 33 04.6	0.0
PRWZ	**Pori Road**	**2.21**	**51**	P	Pn	10 33 03.4	-1.2
BFZ	**Birch Farm**	**2.29**	**57**	P	Pg	10 33 10.3	-0.9
WACZ	**Wakanui South**	**2.41**	**215**	P	Pn	10 33 04.9	-2.4
WAZ	**Wanganui**	**2.41**	**24**	P	Pb	10 33 10.6	-0.6
WVZ	**Waitaha Valley**	**2.47**	**243**	P	Pn	10 33 09.6	+1.4
DVHZ	**Dannevirke**	**2.49**	**49**	P	Pn	10 33 07.1	-1.4
DVHZ				P	Pb	10 33 08.4	-4.1
TSZ	**Takapari Road**	**2.55**	**42**	P	Pb	10 33 13.5	0.0
LREZ	**Lake Rotokare**	**2.56**	**12**	P	Pb	10 33 12.6	-1.1
RPZ	**Rata Peaks**	**2.63**	**228**	P	Pn	10 33 08.8	-1.6
NBEZ	**Newall Road No**	**2.70**	**2**	P	Pg	10 33 17.9	-1.2
ARCZ	**Arundel**	**2.72**	**223**	P	Pn	10 33 09.7	-2.0
PNHZ	**Pukenui**	**2.78**	**43**	P	Pb	10 33 17.4	-0.1
PKE	**Pukeiti**	**2.78**	**4**	P	Pb	10 33 16.6	-0.9
GCSZ	**Gaunt Creek Bo**	**2.85**	**241**	P	Pn	10 33 15.4	+2.1
VRZ	**Vera Road**	**2.95**	**16**	P	Pn	10 33 17.5	+2.7
MOVZ	**Moawhango**	**2.99**	**32**	P	Pb	10 33 18.4	-2.7
WNVZ	**Wahianoa**	**3.00**	**29**	P	Pb	10 33 19.8	-1.5
TRVZ	**Turoa**	**3.01**	**28**	P	Pb	10 33 22.0	+0.6
DRZ	**Dome Shelter**	**3.04**	**28**	P	Pb	10 33 20.5	-1.5
WHVZ	**Whangaehu Hut**	**3.04**	**28**	P	Pn	10 33 18.8	+2.6
BHHZ	**Black Hill Sta**	**3.05**	**36**	P	Pb	10 33 20.9	-1.2
FWVZ	**Far West T-bar**	**3.05**	**28**	P	Pn	10 33 18.9	+2.5
TUVZ	**Tukino**	**3.07**	**29**	P	Pb	10 33 23.1	+0.6
TMZ	**Timaru**	**3.13**	**219**	P	Pn	10 33 15.5	-1.7
SNVZ	**South Ngauruho**	**3.14**	**28**	P	Pb	10 33 23.5	-0.2
OTVZ	**Oturere**	**3.17**	**28**	P	Pb	10 33 23.5	-0.7
TWVZ	**Taurewa**	**3.18**	**25**	P	Pb	10 33 24.1	-0.2
NNVZ	**North Ngauruho**	**3.18**	**27**	P	Pb	10 33 23.9	-0.5
WTVZ	**West Tongariro**	**3.19**	**27**	P	Pb	10 33 22.4	-2.0
ETVZ	**East Tongariro**	**3.21**	**29**	P	Pn	10 33 20.9	+2.4
KRVZ	**Karewarewa**	**3.22**	**27**	P	Pb	10 33 23.7	-1.4
TMVZ	**Te Maari**	**3.23**	**28**	P	Pb	10 33 24.1	-1.0
NTVZ	**North Tongarir**	**3.23**	**28**	P	Pb	10 33 24.4	-0.8
FOZ	**Fox Glacier**	**3.28**	**240**	P	Pn	10 33 19.8	+0.5
BKZ	**Black Stump Fm**	**3.51**	**38**	P	Pb	10 33 29.2	-0.7
LBZ	**Lake Benmore**	**3.54**	**226**	P	Pn	10 33 21.5	-1.5
HIZ	**Hauiti**	**3.56**	**14**	P	Pn	10 33 25.7	+2.5
ODZ	**Otahua Downs**	**3.80**	**215**	P	Pn	10 33 23.6	-2.9
TLZ	**Tolley Road**	**3.89**	**21**	P	Pn	10 33 30.9	+3.1
TOZ	**Tahuroa Road**	**4.45**	**18**	P	Pn	10 33 39.2	+3.8
EAZ	**Earnscleugh**	**4.57**	**223**	P	Pn	10 33 34.6	-2.5
CNGZ	**Carnagh Statio**	**4.89**	**46**	P	Pn	10 33 43.3	+1.9
AWAZ	**Awhitu Peninsu**	**4.95**	**8**	P	Pn	10 33 44.3	+2.0
MKAZ	**Moumakai**	**4.99**	**13**	P	Pn	10 33 45.1	+2.3
ETAZ	**East Tamaki Re**	**5.10**	**11**	P	Pn	10 33 46.7	+2.4
HAZ	**Te Kaha**	**5.24**	**38**	P	Pn	10 33 47.8	+1.5
OUZ	**Omahuta**	**6.74**	**359**	P	Pn	10 34 10.2	+3.3
CTZ	**Chatham Island**	**7.31**	**107**	P	Pn	10 34 10.4	-4.3

IDC 14 10:36:16.4±3.3, 1°.22S×95°.59E, h0km, mb3.8/3, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=123.4km s-min=29.0km az=63.0
DJA 14 10:36:24.3±2.1, 0°.N±9°×9°.7E±1°.1, h21km±14km, M3.5/4, MLv3.5/4

ISC 14 10:36:25.9±1.2, 0°.02N±0°.09×97°.44E±0°.10, h25km, n17, σ1s95/11, mb3.9/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.84**	**95**	P	Pb	10 36 47.4	+5.5
PBSI				S	**Sb**	**10 36 49.0**	**-3.9**
GSI	**Gunungsitoli**	**1.28**	**6**	P	**Pb**	**10 36 52.4**	**+3.0**
GSI				S	Sn	10 36 54.2	-10
SISI	**Saibi**	**2.13**	**129**	P	**Pn**	**10 36 59.5**	**-0.4**
SISI				S	**Sn**	**10 37 26.9**	**+1.4**
MNSI	**Mandailing Nat**	**2.27**	**70**	P	**Pn**	**10 37 01.8**	**-0.1**
SNSI	**Sinabang, Aceh**	**2.62**	**335**	P	**Pn**	**10 37 05.0**	**-1.7**
SNSI				S	**Sn**	**10 37 36.8**	**-0.9**
KCSI	**Kotacane, Aceh**	**3.49**	**5**	P	**Pn**	**10 37 18.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**18.38**	**5**	P	Pn	10 40 49.4	+10
	0.3nm,0.3s,baz=190,slow=9.8,SNR=1.4 0.7nm,0.3s						
H08S2	**Diego Garcia H**	**26.01**	**252**	T	T	11 08 05.4	
	baz=73,slow=74,SNR=7.1						
H08S3	**Diego Garcia H**	**26.02**	**252**	T	T	11 08 00.6	
	baz=73,slow=74,SNR=7.2						
H08S1	**Diego Garcia H**	**26.03**	**252**	T	T	11 08 08.2	
	baz=73,slow=74,SNR=4.1						
H01W3	**Cape Leeuwin H**	**38.07**	**157**	T	T	11 24 21.2	
	baz=330,slow=74						
H01W2	**Cape Leeuwin H**	**38.09**	**157**	T	T	11 24 22.0	
	baz=330,slow=74						
H01W1	**Cape Leeuwin H**	**38.09**	**157**	T	T	11 24 26.5	
	baz=330						
ASAR	**Alice Springs**	**42.51**	**126**	P	**P**	**10 44 20.1**	**+0.4**
	0.2nm,0.5s,baz=296,slow=8.2,SNR=6.7 0.2nm,0.5s						
SONM	**Songino Array**	**48.25**	**8**	P	P	10 45 10.7	+5.8
	5.0nm,0.8s,baz=200,slow=7.8,SNR=3.6 5.0nm,0.8s						
MKAR	**Makanchi Array**	**48.43**	**346**	P	**P**	**10 45 05.8**	**-0.4**
	0.6nm,0.5s,baz=148,slow=8.5,SNR=6.1 0.6nm,0.5s						
TXAR	**Lajitas Array**	**144.53**	**33**	PKPbc	**PKPdf**	**10 56 00.9**	**-0.2**
	0.3nm,0.6s,baz=253,slow=2.0,SNR=4.3						

WEL 14 10:37:13.1±0.6, 42°S±3°×17°4E±°, h8km±2km, M3.1/9, ML3.4/10, MLv3.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=118.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**240**	P	Pg	10 37 17.5	+0.6
KHZ				S	Sg	10 37 21.0	+1.5
BSWZ	**Blackbirch Sta**	**0.61**	**8**	P	Pg	10 37 25.3	+0.4
BSWZ				S	Sb	10 37 34.1	-0.7
GVZ	**Greta Valley S**	**0.84**	**219**	P	Pb	10 37 29.7	-0.3
GVZ				S	Sb	10 37 42.0	+0.6
THZ	**Tophouse**	**0.85**	**311**	P	Pg	10 37 29.2	-0.2
THZ				S	Sb	10 37 42.8	+1.1
TUWZ	**Tuamarina**	**0.90**	**9**	P	Pg	10 37 30.2	-0.2
NNZ	**Nelson**	**1.14**	**345**	P	Pg	10 37 34.0	-0.9
NNZ				S	Sb	10 37 50.3	+0.3
TCW	**Tory Channel**	**1.18**	**19**	P	Pg	10 37 33.8	-1.9
MRNZ	**Matariki Terra**	**1.19**	**321**	P	Pg	10 37 35.7	-0.2
MRNZ				S	Sn	10 37 52.3	-0.1
LTZ	**Lake Taylor**	**1.19**	**247**	P	Pg	10 37 34.6	-1.3
LTZ				S	Sg	10 37 50.6	-0.9
TKNZ	**Takaka Hill**	**1.42**	**335**	P	Pn	10 37 38.6	-0.6
DUWZ	**D'Urville Isla**	**1.52**	**5**	P	Pn	10 37 39.9	-0.8
DSZ	**Denniston Nort**	**1.57**	**291**	P	Pn	10 37 41.8	+0.5
DSZ				S	Sb	10 38 02.2	-0.2
QRZ	**Quartz Range**	**1.76**	**328**	P	Pn	10 37 44.2	+0.4
QRZ				S	Sn	10 38 07.0	+0.5

IDC 14 10:39:43.8±0.6, 37°.79N×102°.25E, h0km, mb4.0/24, mbtmp4.0/27, ML4.6/2, MS3.8/7, Error ellipse: s-maj=14.8km s-min=12.6km az=41.0
BJI 14 10:39:44.2±0.0, 37°.82N×102°.24E, h7km, mb4.5/9, mB4.7/4, ML4.2/20, Ms4.3/15, Ms7 4.1/13
NEIC 14 10:39:47.6±2.4, 37°.81N±0°.07×102°.35E±0°.07, h29km±6km, mb4.8/25, ML4.4/(BJI), Error ellipse: s-maj=12.3km s-min=3.8km az=145.0

ISC 14 10:39:45.2±0.4, 37°.81N±0°.04×102°.28E±0°.04, h10km, n81, σ1s84/80, mb4.1/30, MS3.8/8, 2C, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.13**	**143**	Pg	**Pb**	**10 40 22.8**	**-1.1**
LZH				Sg	**Sg**	**10 40 54.4**	**+0.8**
	comp=N,5μm,1.6s			smax	smax		
LZH				smax	smax		
	comp=E,5μm,1.4s						
GTA	**Gaotai**	**2.51**	**310**	⇑Pg	**Pn**	**10 40 26.6**	**+0.4**
GTA				Sg	**Sg**	**10 41 01.9**	**-3.9**
GTA				smax	smax		
	comp=N,2μm,0.8s						
GTA				smax	smax		
	comp=E,3μm,0.7s						
GOMU	**GeErMu**	**6.18**	**257**	Pn	**Pn**	**10 41 16.6**	**-0.3**
GOMU				Sn	**Sn**	**10 42 31.8**	**+3.9**
GOMU				Sg	**Sg**	**10 42 57.9**	**-5.8**
GOMU				smax	smax		
	comp=N,160nm,0.8s						
GOMU				smax	smax		
	comp=E,79nm,0.8s						
XAN	**Xi'an**	**6.57**	**123**	Pg	**Pg**	**10 41 46.6**	**-4.5**
XAN				Sn	Sn	10 42 26.9	-10
XAN				Sg	**Sg**	**10 43 10.5**	**-5.7**
XAN				smax	smax		
	comp=N,190nm,1.3s						
XAN				smax	smax		
	comp=E,190nm,1.2s						
XAN				LR	LR		
	comp=N,1μm,10.9s						
XAN				LR	LR		
	comp=E,1μm,7.6s						
XAN				LR	LR		
	comp=Z,1μm,9.4s						
BTO	**Baotou**	**6.63**	**63**	*e*Pn	**Pn**	**10 41 18.5**	**-4.3**
BTO				smax	smax		
	comp=Z,120nm,0.5s						
BTO				smax	smax		
	comp=Z,280nm,1.1s						
CD2	**Chengdu**	**6.99**	**169**	Pn	**Pn**	**10 41 30.4**	**+2.7**
CD2				Sg	**Sg**	**10 43 32.0**	**+2.5**
CD2				smax	smax		
	comp=Z,60nm,1.1s						
CD2				smax	smax		
	comp=Z,60nm,1.2s						
CD2				LR	LR		
	comp=Z,2μm,7.4s						
CD2				LR	LR		
	comp=Z,2μm,5.8s						
CD2				LR	LR		
	comp=Z,2μm,8.1s						
ENH	**Enshi**	**9.60**	**139**	Pn	**Pn**	**10 42 01.7**	**-1.9**
HNS	**HongShan**	**9.87**	**89**	⇑P	**Pn**	**10 42 07.4**	**+0.2**
HNS				S	**Sn**	**10 44 02.5**	**+4.5**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HNS				LR	LR		
	comp=Z,1μm,9.9s						
HNS				LR	LR		
	comp=Z,1μm,10.8s						
SONM	**Songino Array**	**10.47**	**15**	Pn	**Pn**	**10 42 15.2**	**-0.2**
	comp=Z,3.5nm,0.3s,baz=197,slow=14,SNR=75						
SONM				Lg	Lg	10 45 13.9	
	comp=Z,1.9nm,0.3s,baz=213,slow=31,SNR=6.4 comp=Z,7.4nm,0.3s						
BJT	**Baijiatuau**	**11.05**	**74**	Pn	**Pn**	**10 42 21.7**	**-1.6**
XLT	**XiLinHaoTe**	**12.09**	**55**	*e*P	**Pn**	**10 42 39.3**	**+1.7**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,99nm,4.3s						
XLT				LR	LR		
	comp=Z,910nm,7.1s						
XLT				LR	LR		
	comp=Z,1μm,7.5s						
LSA	**Lhasa**	**12.28**	**232**	Pn	**Pn**	**10 42 40.8**	**+0.1**
WMQ	**Urumqi**	**12.57**	**303**	*e*P	**Pn**	**10 42 45.6**	**+1.5**
WMQ				pP		10 42 47.4	
WMQ				S	**Sn**	**10 45 05.5**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
ODAN	**Odare**	**16.63**	**233**	*e*P	**P**	**10 43 41.4**	**+0.2**
JIRN	**Jiri**	**16.88**	**238**	*e*P	**P**	**10 43 44.3**	**+0.3**
GUN	**Gumba**	**16.92**	**239**	*e*P	**P**	**10 43 44.3**	**-0.2**
	comp=Z,97nm,0.6s						
RAMN	**Ramite**	**17.08**	**235**	*e*P	**P**	**10 43 45.7**	**-0.4**
MKAR	**Makanchi Array**	**17.26**	**308**	P	**P**	**10 43 46.2**	**-1.5**
	comp=Z,1.4nm,1.0s,baz=108,slow=14,SNR=3.8						
MKAR				Lg	Lg	10 48 57.8	
	baz=86,slow=25,SNR=2.5						
KKN	**Kakani**	**17.41**	**240**	*e*P	**P**	**10 43 49.3**	**-0.4**
	comp=Z,14nm,1.2s						
PKI	**Pulchoki**	**17.46**	**239**	*e*P	**P**	**10 43 50.5**	**+0.1**
PKIN	**Phulchoki**	**17.46**	**239**	*e*P	**P**	**10 43 50.4**	**0.0**
DMN	**Daman**	**17.64**	**240**	*e*P	**P**	**10 43 52.2**	**-0.2**
DANN	**Dangsing**	**18.13**	**244**	*e*P	**P**	**10 43 57.4**	**-0.4**
CHTO	**Chiang Mai**	**19.15**	**190**		**Pn**	**10 44 09.0**	**-0.5**
TARG	**Taragay, Kyrgy**	**19.20**	**289**	P	**Pn**	**10 44 09.6**	**-0.9**
PHRA	**Phrae**	**19.32**	**186**	P	**Pn**	**10 44 11.7**	**+0.1**
PHRA				lAmb	lAmb	10 44 15.2	
	comp=Z,97nm,1.3s						
CMAR	**Chiang Mai Arr**	**19.50**	**190**	P	**Pn**	**10 44 13.3**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=358,slow=9.7,SNR=54 comp=Z,9.4nm,0.9s						
QIZ	**Qiongzhong**	**19.84**	**158**	P	**Pn**	**10 44 17.3**	**-0.5**
QIZ				S	**Sn**	**10 48 01.8**	**+0.9**
QIZ				LR	LR		
	comp=Z,280nm,11.2s						
QIZ				LR	LR		
	comp=Z,220nm,9.6s						
QIZ				LR	LR		
	comp=Z,300nm,10.4s						
ZALV	**Zalesovo Beam**	**20.12**	**329**	P	**P**	**10 44 17.7**	**-1.3**
	comp=Z,1.9nm,0.5s,baz=131,slow=11,SNR=11 comp=Z,1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**20.12**	**329**	P	**P**	**10 44 18.4**	**-0.6**
KSRS	**Korea Array**	**20.30**	**83**	P	Pn	10 44 22.1	-1.1
	comp=Z,6.3nm,0.8s,baz=276,slow=9.3,SNR=13						
KSRS				LR	LR	10 53 39.9	
	comp=Z,115nm,19.4s,baz=265,slow=41 comp=Z,6.3nm,0.8s						
NRN	**Naryn**	**20.53**	**288**	P	Pn	10 44 25.2	-1.0
NRN				lAmb	lAmb	10 44 41.1	
	comp=Z,6.8nm,0.5s						
KSH	**Kashi**	**20.59**	**283**	smax	smax		
	comp=E,140nm,0.6s						
KSH	**Kashi**	**20.59**	**283**	smax	smax		
	comp=N,170nm,0.8s						
KSH	**Kashi**	**20.59**	**283**	pmax	pmax		
	comp=Z,29nm,0.4s						
KSH	**Kashi**	**20.59**	**283**	Pn	**P**	**10 44 20.8**	**-3.7**
BOOM	**Boomskoye usch**	**20.63**	**291**	P	Pn	10 44 25.6	-1.6
KURK	**Kurchatov**	**21.18**	**315**	P	**P**	**10 44 31.3**	**+0.7**
KURBB	**Kurchatov Arra**	**21.19**	**315**	P	**P**	**10 44 30.0**	**-0.7**
	comp=Z,5.6nm,0.8s,baz=124,slow=9.0,SNR=27						
KURBB				Lg	Lg	10 50 50.9	
	baz=108,slow=24,SNR=4.9 comp=Z,5.6nm,0.8s						
SSLB	**Suanglung**	**21.22**	**126**	P	**P**	**10 44 31.9**	**+0.6**
AAK	**Ala-Archa**	**21.71**	**292**	P	**P**	**

comp=Z,7.7nm,0.7s
COLD **Coldfoot** **62.00** **25** P **P** **10 50 04.2 -0.9**
COLD IAmb IAmb 10 50 08.1
comp=Z,6.7nm,0.7s
MDM **Murphy Dome** **63.90** **27** IAmb IAmb 10 50 21.1
comp=Z,6.5nm,0.6s
COLA **College** **64.08** **27** P **P** **10 50 20.3 +1.4**
COLA **College** **64.08** **27** P **P** **10 50 18.6 -0.3**
COLA pP **sP** **10 50 26.7 +2.3**
ILAR **Eielson Array** **64.48** **26** P **P** **10 50 20.5 -1.1**
comp=Z,3.0nm,0.7s,baz=284,slow=5.3,SNR=25
comp=Z,3.0nm,0.7s
WRA **Warramunga Arr** **64.88** **147** P **P** **10 50 23.8 -0.9**
comp=Z,1.1nm,0.8s,baz=346,slow=6.9,SNR=10
comp=Z,1.1nm,0.8s
A36M **Sachs Harbour** **65.56** **15** P **P** **10 50 27.7 -0.8**
A36M IAmb IAmb 10 50 31.4
comp=Z,6.4nm,0.7s
SCRK **Sand Creek** **65.97** **26** IAmb IAmb 10 50 33.3
comp=Z,6.4nm,0.8s
INK **Inuvik** **66.35** **20** P **P** **10 50 34.6 +1.0**
comp=Z,3.8nm,0.8s,baz=334,slow=9.2,SNR=11
comp=Z,3.8nm,0.8s
C36M **Paulatuk** **67.87** **16** P **P** **10 50 41.4 -1.9**
C36M IAmb IAmb 10 50 45.1
comp=Z,5.4nm,0.7s
ASAR **Alice Springs** **67.99** **149** P **P** **10 50 44.1 -0.5**
comp=Z,6.6nm,0.5s,baz=332,slow=6.6,SNR=16
comp=Z,0.6nm,0.5s
YKA **Yellowknife Ar** **75.73** **17** P **P** **10 51 32.0 +1.5**
comp=Z,1.8nm,0.6s,baz=334,slow=5.6,SNR=5.6
comp=Z,1.8nm,0.6s
TORD **Torodi Ar. Bea** **90.21** **287** P **P** **10 52 45.4 -1.0**
comp=Z,0.5nm,0.7s,baz=52,slow=6.2,SNR=2.8
comp=Z,0.5nm,0.7s
PLID **Pearl Lake** **90.55** **26** P **P** **10 52 46.5 -1.3**
PDAR **Pinedale Array** **94.73** **23** P **P** **10 53 08.3 +1.1**
comp=Z,0.2nm,0.6s,baz=6.3,slow=3.3,SNR=2.4
comp=Z,0.2nm,0.6s
NVAR **Mina Array Bea** **95.43** **31** P **P** **10 53 12.5 +2.1**
comp=Z,0.4nm,0.7s,baz=350,slow=4.9,SNR=4.5
comp=Z,0.4nm,0.7s

---

*CUPWA **14** 10:42:33.6±4.1,30.˚65S×118.˚41E,h2km±30km, Region: WESTERN AUSTRALIA*
AUST 14 10:42:32.8±1.2,30.˚67S×118.˚40E,h10km, Error ellipse: s-maj=15.7km s-min=11.1km az=131.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BENC	**Bencubbin**	**0.49**	**253**	P	Pg	10 42 33.5	-8.8
KLBR	**Kellerberrin**	**1.07**	**211**	P	Pg	10 42 53.3	-0.2
KLBR	baz=1.1			S	Sb	10 43 07.6	0.0
	baz=1.1						
KLBR	**Kellerberrin**	**1.07**	**211**	P	Pg	10 42 53.3	-0.2
KLBR	**Kellerberrin**	**1.07**	**211**	S	Sb	10 43 07.6	0.0
CADX	**Cadoux**	**1.09**	**264**	P	Pg	10 42 54.0	+0.1
BLDU	**Ballidu**	**1.46**	**272**	P	Pn	10 42 59.6	+0.3
BLDU	baz=1.5			S	Sb	10 43 18.7	0.0
	baz=1.5						
BLDU	**Ballidu**	**1.46**	**272**	P	Pn	10 42 59.6	+0.3
BLDU				S	Sb	10 43 18.7	0.0
AUKUL	**Kulin High Sch**	**2.00**	**186**	P	Pn	10 43 07.2	+0.4
PING	**Pingelly**	**2.19**	**213**	P	Pn	10 43 09.9	+0.6
MUN	**Mundaring**	**2.28**	**235**	P	Pn	10 43 11.5	+0.8
	baz=2.3						
MUN	**Mundaring**	**2.28**	**235**	P	Pn	10 43 11.5	+0.8
NWAO	**Narrogin (SRO)**	**2.46**	**203**	P	Pn	10 43 14.2	+1.1
NWAO	baz=2.5			P	Pn	10 43 14.2	+1.1
	baz=2.5						
NWAO	**Narrogin (SRO)**	**2.46**	**203**	P	Pn	10 43 14.2	+1.1
MORW	**Morawa**	**2.60**	**307**	P	Pn	10 43 14.7	-0.2
	baz=2.6,SNR=3.8						
MORW	**Morawa**	**2.60**	**307**	P	Pn	10 43 14.7	-0.2
KMBL	**Kambalda**	**3.07**	**104**	P	Pn	10 43 21.7	+0.2
	baz=3.1						
KMBL	**Kambalda**	**3.07**	**104**	P	Pn	10 43 21.7	+0.2
GNOW	**Gnowangerup**	**3.22**	**187**	P	Pn	10 43 24.5	+1.0
MEEK	**Meekatharra**	**4.02**	**3**	P	Pn	10 43 35.3	+0.7
	baz=4.0						
MEEK	**Meekatharra**	**4.02**	**3**	P	Pn	10 43 35.3	+0.7
WRKA	**Warakurna**	**10.40**	**60**	P	Pn	10 45 00.8	-1.3
	baz=10						

---

*SOME **14** 10:43:16.2,38.˚40N×72.˚27E,h5km*
*IDC **14** 10:43:18.4±6.9,37.˚31N×71.˚13E,h73km±36km, mb3.2/1, mbtmp4.0/6, ML4.0/4, Error ellipse: s-maj=106.3km s-min=22.2km az=160.0*
*NNC **14** 10:43:21.6±9.2,37.˚54N×71.˚09E,h122km±263km, mb3.4, mpv4.1, Error ellipse: s-maj=81.5km s-min=56.0km az=2.0*
ISC 14 10:43:19.9±1.5,37.˚4N±0.˚1×71.˚18E±0.˚08,h100km, n24, σ1º53/32, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.83**	**350**	*e*P	**Pn**	**10 44 32.6**	**+2.3**
IUG	213nm,0.1s			*e*S	**Sn**	**10 45 27.0**	**+1.9**
	43nm,0.5s						
AML	**Almayashu**	**5.12**	**21**	P	**Pn**	**10 44 35.5**	**+1.0**
	SNR=60						
UCH	**Uchtor**	**5.47**	**27**	P	**Pn**	**10 44 40.4**	**+1.0**
	SNR=18						
MRKS	**Merke**	**5.57**	**16**	*e*P	**Pn**	**10 44 41.3**	**+0.9**
MRKS	10nm,0.3s			*e*S	**Sn**	**10 45 42.0**	**-1.2**
	40nm,0.2s						
EKS2	**Erkin-Say**	**5.63**	**20**	P	**Pn**	**10 44 42.6**	**+1.4**
	SNR=7.1						
KK31	**Karatay Array**	**5.73**	**355**	P	**Pn**	**10 44 43.8**	**+1.4**
	2.3nm,0.3s,baz=182,slow=12,SNR=25						
KK31				⇑S	**Sn**	**10 45 46.6**	**-0.2**
	4.2nm,0.3s,baz=185,slow=23,SNR=4.2						
AAK	**Ala-Archa**	**5.82**	**25**	P	**Pn**	**10 44 45.5**	**+1.6**
	SNR=14						
AAK	**Ala-Archa**	**5.82**	**25**	P	**Pn**	**10 44 45.3**	**+1.4**
	8.4nm,0.3s,baz=183,slow=6.3,SNR=14						
AAK				S	**Sn**	**10 45 48.3**	**-1.0**
	8.8nm,0.3s,baz=336,slow=22,SNR=14						
	17nm,0.3s						
CHMS	**Chumysh**	**6.23**	**25**	P	**Pn**	**10 44 50.7**	**+1.4**
	SNR=13						
CHMS	**Chumysh**	**6.23**	**25**	⇑P	**Pn**	**10 44 50.1**	**+0.8**
	19nm,0.3s						
CHMS				⇓S	**Sn**	**10 45 58.2**	**-0.9**
	15nm,0.7s						
USP	**Ospenovka**	**6.39**	**22**	P	**Pn**	**10 44 52.4**	**+0.9**
	SNR=22						
TKM2	**Tokmak 2**	**6.48**	**30**	P	**Pn**	**10 44 54.2**	**+1.5**
	SNR=7.8						
TKM2	**Tokmak 2**	**6.48**	**30**	⇑P	**Pn**	**10 44 52.1**	**-0.7**
	9.9nm,0.5s						
TKM2				⇓S	**Sn**	**10 46 04.5**	**-0.8**
	2.8nm,0.4s						
SGDS	**Sogindy**	**6.60**	**22**	*e*P	**Pn**	**10 44 55.0**	**+0.6**
	12nm,0.6s						
SGDS				*e*S	**Sn**	**10 46 05.5**	**-2.6**
	6.4nm,0.4s						
DGS	**Degeres**	**6.81**	**30**	*e*P	**Pn**	**10 44 57.9**	**+0.6**
	9.9nm,1.1s						
DGS				*e*S	**Sn**	**10 46 10.0**	**-3.4**
	6.1nm,0.6s						
GEYT	**Alibeck**	**10.37**	**277**	P	**Pn**	**10 45 43.9**	**-1.7**
	2.0nm,0.3s,baz=91,slow=13,SNR=7.3						
GEYT				S	**Sn**	**10 47 37.8**	**-2.1**
	7.6nm,0.4s,baz=144,slow=11,SNR=8.4						
	3.5nm,0.4s						
MKAR	**Makanchi Array**	**12.49**	**38**	P	**Pn**	**10 46 13.6**	**-0.4**
	0.7nm,0.3s,baz=227,slow=15,SNR=18						
	3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**14.23**	**19**	P	**P**	**10 46 40.8**	**-0.1**
	1.0nm,0.7s,baz=207,slow=10,SNR=4.7						
AB31	**Akbulak array**	**14.38**	**329**	P	**Pn**	**10 46 37.9**	**-0.7**
	0.5nm,0.3s,baz=133,slow=13,SNR=10						
BVAR	**Borovoye Array**	**15.64**	**358**	P	**Pn**	**10 46 53.8**	**-0.7**
	0.6nm,0.4s,baz=156,slow=7.9,SNR=1.6						
ZALV	**Zalesovo Beam**	**19.05**	**25**	P	**Pn**	**10 47 34.3**	**-1.5**
	0.9nm,0.3s,baz=225,slow=10,SNR=16						
	3.7nm,0.5s						
TNCH	**TengChong**	**26.33**	**110**	P	P	10 48 53.0	+6.3
TNCH				pmax	pmax		
	comp=Z,190nm,6.3s						
HEH	**HeiHe**	**41.60**	**53**	*e*P	**P**	**10 50 59.5**	**+1.8**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.8s						
HEH				pmax	pmax		
	comp=Z,130nm,5.0s						
NOA	**NORSAR Array B**	**43.76**	**322**	P	**P**	**10 51 17.3**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=98,slow=8.4,SNR=2.1						
	comp=Z,0.4nm,0.4s						

---

*NNC **14** 10:57:40.5±0.5,44.˚86N×80.˚76E,h0km, mb4.0, mpv3.8, Error ellipse: s-maj=5.5km s-min=2.7km az=121.0*
*SOME **14** 10:57:41.6,44.85N×80.˚75E,h20km*
ISC 14 10:57:39.1±1.4,44.˚87N±0.˚04×80.˚92E±0.˚05,h3km±11km, n54,σ1º03/85,12C-8D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.97**	**237**	*e*P	**Pg**	**10 57 58.0**	**+0.3**
DJR	85nm,0.2s			*e*S	**Sg**	**10 58 10.1**	**-0.2**
	210nm,0.1s						
DJR	**Jarkent**	**0.97**	**237**	P	**Pg**	**10 57 58.1**	**+0.3**
DJR	85nm,0.2s			S	**Sg**	**10 58 10.1**	**-0.2**
	146nm,0.2s						
KTMS	**Ketmen**	**1.48**	**196**	*e*P	**Pn**	**10 58 07.2**	**+0.4**
KTMS	50nm,0.3s			*e*S	**Sn**	**10 58 25.8**	**-1.0**
	204nm,0.2s						
KTMS	**Ketmen**	**1.48**	**196**	P	**Pn**	**10 58 07.2**	**+0.4**
KTMS	50nm,0.3s			S	**Sn**	**10 58 25.8**	**-1.0**
	204nm,0.2s						
TDK	**Taldyqorghan**	**1.79**	**275**	*e*P	**Pb**	**10 58 12.4**	**-0.2**
TDK	369nm,0.4s			*e*S	**Sg**	**10 58 35.5**	**-1.2**
	468nm,0.3s						
TDK	**Taldyqorghan**	**1.79**	**275**	P	**Pb**	**10 58 12.1**	**-0.5**
TDK	369nm,0.4s			S	**Sg**	**10 58 35.3**	**-1.4**
	468nm,0.3s						
PDGK	**Podgornoye**	**1.85**	**214**	P	**Pn**	**10 58 12.7**	**+0.7**
PDGK	40nm,0.3s			S	**Sn**	**10 58 36.2**	**+0.2**
	124nm,0.4s						
PDGK	**Podgornoye**	**1.85**	**214**	⇓Pn	**Pn**	**10 58 12.6**	**+0.7**
PDGK	36nm,0.4s			⇓Sn	**Sn**	**10 58 36.4**	**+0.5**
	177nm,0.6s						
BLB	**Baldybastay**	**1.91**	**247**	*e*P	**Pb**	**10 58 14.7**	**-0.1**
BLB	193nm,0.2s			*e*S	**Sb**	**10 58 38.9**	**-0.2**
	714nm,0.3s						
BLB	**Baldybastay**	**1.91**	**247**	P	**Pb**	**10 58 14.7**	**-0.1**
BLB	193nm,0.2s			S	**Sb**	**10 58 38.9**	**-0.2**
	714nm,0.3s						
SHLS	**Shalkode**	**2.01**	**212**	*e*P	**Pn**	**10 58 13.1**	**-1.0**
SHLS	121nm,0.2s			*e*S	**Sn**	**10 58 36.4**	**-3.4**
	312nm,0.3s						
SHLS	**Shalkode**	**2.01**	**212**	P	**Pn**	**10 58 13.1**	**-1.0**
SHLS	121nm,0.2s			S	**Sn**	**10 58 36.4**	**-3.4**
	124nm,0.3s						
MAKZ	**Makanchi**	**2.08**	**20**	⇓Pn	**Pb**	**10 58 18.2**	**+0.7**
MAKZ	3.0nm,0.4s			⇓Sn	**Sg**	**10 58 45.4**	**-0.5**
	34nm,0.4s						
KPKS	**Kokpek**	**2.13**	**230**	*e*P	**Pb**	**10 58 18.6**	**0.0**
KPKS	60nm,0.2s			*e*S	**Sb**	**10 58 45.2**	**-0.2**
	1µm,0.6s						
KPKS	**Kokpek**	**2.13**	**230**	Pg	**Pb**	**10 58 18.6**	**0.0**
	60nm,0.2s						
KPKS				Lg	Lg	10 58 45.2	
	1µm,0.6s						
MK31	**Makanchi Array**	**2.15**	**26**	⇓Pn	**Pb**	**10 58 18.9**	**+0.1**
	2.2nm,0.1s,baz=208,slow=13,SNR=278						
MK31				⇑Sn	**Sb**	**10 58 47.0**	**+1.1**
	28nm,0.7s,baz=205,slow=33,SNR=6.6						
UZB	**Uzynbulak**	**2.20**	**219**	*e*P	**Pn**	**10 58 18.5**	**+1.7**
UZB	9.0nm,0.2s			*e*S	**Sn**	**10 58 45.0**	**+0.5**
	102nm,0.3s						
UZB	**Uzynbulak**	**2.20**	**219**	Pg	**Pn**	**10 58 18.5**	**+1.7**
	9.0nm,0.2s						
UZB				Lg	Lg	10 58 45.0	
	102nm,0.3s						
ARXS	**Arharly**	**2.31**	**255**	*e*P	**Pb**	**10 58 21.0**	**-0.5**
ARXS	46nm,0.4s			*e*S	**Sb**	**10 58 49.9**	**-0.5**
	286nm,0.5s						
ARXS	**Arharly**	**2.31**	**255**	Pg	**Pb**	**10 58 21.0**	**-0.5**
	46nm,0.4s						
ARXS				Lg	Lg	10 58 49.9	
	286nm,0.5s						
KURS	**Kuram**	**2.41**	**236**	*e*P	**Pb**	**10 58 23.5**	**+0.2**
KURS	18nm,0.3s			*e*S	**Sb**	**10 58 53.6**	**+0.2**
	68nm,0.3s						
KURS	**Kuram**	**2.41**	**236**	Pg	**Pb**	**10 58 23.5**	**+0.2**
	18nm,0.3s						
KURS				Lg	Lg	10 58 53.7	
	52nm,0.6s						
ZHN	**Zhinishke**	**2.47**	**227**	*e*P	**Pb**	**10 58 24.5**	**+0.2**
ZHN	26nm,0.2s			*e*S	**Sb**	**10 58 55.3**	**+0.1**
	105nm,0.2s						
ZHN	**Zhinishke**	**2.47**	**227**	Pg	**Pb**	**10 58 24.5**	**+0.2**
	26nm,0.2s						
ZHN				Lg	Lg	10 58 55.3	
	105nm,0.2s						
SATY	**Saty**	**2.56**	**226**	*e*P	**Pb**	**10 58 26.3**	**+0.5**
SATY	7.5nm,0.1s			*e*S	**Sb**	**10 58 58.5**	**+0.6**
	186nm,0.4s						
SATY	**Saty**	**2.56**	**226**	Pg	**Pb**	**10 58 26.3**	**+0.5**
	7.5nm,0.1s						
SATY				Lg	Lg	10 58 58.5	
	186nm,0.4s						
CHKK	**Chushkaly**	**3.00**	**252**	*e*P	**Pb**	**10 58 33.3**	**+0.1**
CHKK	7.8nm,0.3s			*e*S	**Sb**	**10 59 10.8**	**+0.6**
	133nm,0.3s						
CHKK	**Chushkaly**	**3.00**	**252**	Pg	**Pb**	**10 58 33.3**	**+0.1**
	7.8nm,0.3s						
CHKK				Lg	Lg	10 59 10.8	
	133nm,0.3s						
KOTS	**Kotyrbulak**	**3.20**	**241**	*e*P	**Pb**	**10 58 36.5**	**-0.2**
KOTS	16nm,0.5s			*e*S	**Sb**	**10 59 16.6**	**+0.6**
	66nm,0.6s						
KOTS	**Kotyrbulak**	**3.20**	**241**	Pg	**Pb**	**10 58 36.5**	**-0.2**
	16nm,0.5s						
KOTS				Lg	Lg	10 59 16.6	
	66nm,0.6s						
KTBS	**Karatobe**	**3.26**	**251**	*e*P	**Pb**	**10 58 38.1**	**+0.4**
KTBS	9.4nm,0.5s			*e*S	**Sb**	**10 59 18.6**	**+0.9**
	144nm,0.4s						
KTBS	**Karatobe**	**3.26**	**251**	Pg	**Pb**	**10 58 38.1**	**+0.4**
	9.4nm,0.5s						
KTBS				Lg	Lg	10 59 18.7	
	144nm,0.4s						
MDOK	**Medeo**	**3.27**	**240**	*e*P	**Pb**	**10 58 38.0**	**0.0**
MDOK	23nm,0.4s			*e*S	**Sb**	**10 59 18.5**	**+0.2**
	57nm,0.6s						
MDOK	**Medeo**	**3.27**	**240**	Pg	**Pb**	**10 58 38.0**	**0.0**
	23nm,0.4s						
MDOK				⇑Pg	**Pg**	**10 58 40.7**	**-1.2**
	12nm,0.4s						
MDOK				⇑Lg	Lg	10 59 17.9	
	42nm,0.5s						
MDOK				Lg	Lg	10 59 18.5	
	57nm,0.6s						
TNSS	**Tian-Shan**	**3.41**	**239**	*e*P	**Pb**	**10 58 40.7**	**+0.3**
TNSS	6.1nm,0.3s			*e*S	**Sb**	**10 59 23.1**	**+0.8**
	19nm,0.4s						
TNSS	**Tian-Shan**	**3.41**	**239**	Pg	**Pb**	**10 58 40.7**	**+0.3**
	6.1nm,0.3s						
TNSS				Lg	Lg	10 59 23.1	
	19nm,0.4s						
KUU	**Kurty**	**3.43**	**255**	*e*P	**Pb**	**10 58 40.8**	**+0.3**
	20nm,0.5s						
KUU				*e*S	**Sb**	**10 59 23.3**	**+0.7**
	63nm,0.4s						
KUU	**Kurty**	**3.43**	**255**	Pg	**Pb**	**10 58 40.8**	**+0.3**
	20nm,0.5s						
KUU				Lg	Lg	10 59 23.3	
	63nm,0.4s						
IZV	**Izvestkoviy**	**3.61**	**241**	*e*P	**Pb**	**10 58 44.3**	**+0.5**
	5.2nm,0.5s						
IZV				*e*S	**Sb**	**10 59 29.4**	**+1.4**
	37nm,0.5s						
IZV	**Izvestkoviy**	**3.61**	**241**	Pg	**Pb**	**10 58 44.3**	**+0.5**
	5.2nm,0.5s						
IZV				Lg	Lg	10 59 29.4	
	37nm,0.5s						
MTBS	**Maitube**	**3.68**	**243**	*e*P	**Pb**	**10 58 44.9**	**0.0**
	14nm,0.4s						
MTBS				*e*S	**Sb**	**10 59 30.1**	**+0.3**
	58nm,0.4s						
MTBS	**Maitube**	**3.68**	**243**	Pg	**Pb**	**10 58 44.9**	**0.0**
	14nm,0.4s						
MTBS				Lg	Lg	10 59 30.2	
	58nm,0.4s						
KRBS	**Karabastau**	**3.95**	**255**	*e*P	**Pb**	**10 58 49.8**	**+0.4**
	7.6nm,0.4s						
KRBS				*e*S	**Sb**	**10 59 38.7**	**+1.1**
	34nm,0.4s						
KRBS	**Karabastau**	**3.95**	**255**	Pg	**Pb**	**10 58 49.8**	**+0.4**
	7.6nm,0.4s						
KRBS				Lg	Lg	10 59 38.7	
	34nm,0.4s						
DGS	**Degeres**	**4.05**	**248**	*e*P	**Pb**	**10 58 51.4**	**+0.2**
	22nm,0.4s						
DGS				*e*S	**Sb**	**10 59 41.6**	**+0.9**
	57nm,0.6s						
DGS	**Degeres**	**4.05**	**248**	Pg	**Pb**	**10 58 51.4**	**+0.2**
	22nm,0.4s						
DGS				Lg	Lg	10 59 41.6	
	57nm,0.6s						
TKM2	**Tokmak 2**	**4.31**	**245**	⇑Pg	**Pb**	**10 58 57.7**	**+1.9**
	3.3nm,0.3s						
TKM2				⇑Lg	Lg	10 59 51.6	
	10nm,0.3s						
SGDS	**Sogindy**	**4.74**	**255**	*e*P	**Pb**	**10 59 04.8**	**+1.8**
	3.0nm,0.5s						
SGDS				*e*S	**Sb**	**11 00 04.3**	**+3.8**
	17nm,0.7s						
SGDS	**Sogindy**	**4.74**	**255**	Pg	**Pb**	**10 59 04.8**	**+1.8**
	3.0nm,0.5s						
SGDS				Lg	Lg	11 00 04.3	
	17nm,0.7s						
CHMS	**Chumysh**	**4.83**	**249**	⇑Pg	**Pb**	**10 59 05.7**	**+1.2**
	2.7nm,0.5s						
CHMS				⇑Lg	Lg	11 00 07.5	
	9.8nm,0.5s						
KURBB	**Kurchatov Arra**	**5.98**	**345**	⇑Sn	**Sn**	**11 00 16.0**	**-1.6**
	7.6nm,0.5s						
KURBB				⇑Lg	Lg	11 00 50.1	
	32nm,0.6s						
KURK	**Kurchatov**	**6.05**	**346**	⇑Sn	**Sn**	**11 00 17.5**	**-1.8**
	4.7nm,0.5s						
KURK				⇓Lg	Lg	11 00 53.6	
	25nm,0.7s						
OTUK	**Ortayu**	**6.82**	**303**	⇑Lg	Lg	11 01 11.6	
	6.1nm,0.5s						
KK31	**Karatay Array**	**7.71**	**260**	⇓Pn	**Pn**	**10 59 33.8**	**+1.4**
	0.4nm,0.3s						
KK31				⇓Pg	Pg	11 00 00.3	-6.6
	1.1nm,0.6s						
KK31				⇑Lg	Lg	11 01 40.0	
	2.1nm,0.5s,baz=72,slow=28,SNR=6.3						

---

*NEIC **14** 11:00:53.8±2.1,35.˚3S±0.˚1×179.˚4W±0.˚2,h11km±11km, mb4.2/10, Error ellipse: s-maj=29.3km s-min=17.2km az=70.0*
*IDC **14** 11:00:54.4±2.1,34.˚84S×179.˚79W,h0km, mb4.0/3, mbtmp4.0/3, MS3.1/2, Error ellipse: s-maj=60.9km s-min=38.6km az=40.0*
ISC 14 11:00:53.2±1.4,35.˚4S±0.˚1×179.˚4W±0.˚2,h10km,n20, σ1º32/17,mb4.2/8, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.87**	**220**	Pn	**Pn**	**11 01 39.7**	**+0.6**
BKZ	**Black Stump Fm**	**5.01**	**220**	Pn	**Pn**	**11 02 08.0**	**-0.6**
OUZ	**Omahuta**	**5.76**	**270**	Pn	**Pn**	**11 02 20.6**	**+1.8**
MSVF	**Nonsavu**	**17.73**	**352**	P	**Pn**	**11 05 00.1**	**-0.3**
MSVF	comp=Z,9.4nm,0.9s			IAmb	IAmb	11 05 08.6	
DZM	**Mont Dzumac**	**18.16**	**313**	LR	LR	11 10 32.3	
	comp=Z,95nm,18.2s,baz=37,slow=33						
RAR	**Rarotonga**	**22.23**	**56**	LR	LR	11 12 58.9	
	comp=Z,33nm,21.5s,baz=188,slow=33						
CTAO	**Charters Tower**	**33.83**	**288**	P	**P**	**11 07 35.9**	**0.0**
CTAO	comp=Z,4.5nm,1.2s			IAmb	IAmb	11 08 08.1	
COEN	**Coen**	**39.84**	**293**	P	**P**	**11 08 26.7**	**-0.3**
COEN	comp=Z,11nm,1.4s			IAmb	IAmb	11 08 36.6	
AS31	**Alice Springs**	**41.96**	**273**	P	**P**	**11 08 44.0**	**-0.5**
ASAR	**Alice Springs**	**41.96**	**273**	P	**P**	**11 08 44.0**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=116,slow=7.8,SNR=39						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**41.96**	**273**	P	**P**	**11 08 42.8**	**-1.8**
WR0	**Warramunga Ar**	**43.23**	**278**	P	**P**	**11 08 52.1**	**-2.7**
WR0	comp=Z,4.0nm,1.2s			IAmb	IAmb	11 09 04.1	
WB2	**Warramunga Arr**	**43.39**	**278**	P	**P**	**11 08 55.1**	**-1.0**
WB2	comp=Z,3.7nm,0.8s			IAmb	IAmb	11 09 00.9	
WRA	**Warramunga Arr**	**43.40**	**278**	P	**P**	**11 08 55.5**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=120,slow=7.7,SNR=37						
	comp=Z,1.8nm,0.5s						
WRA	**Warramunga Arr**	**43.40**	**278**	P	**P**	**11 08 55.2**	**-1.0**
WB0	**Warramunga Arr**	**43.45**	**278**	P	**P**	**11 08 54.9**	**-1.7**
WB0	comp=Z,5.7nm,1.2s			IAmb	IAmb	11 09 04.5	
KNRA	**Kununurra**	**50.15**	**279**	P	**P**	**11 09 48.1**	**-1.0**
QSPA	**South Pole Qui**	**54.74**	**180**	P	P	11 10 29.4	+6.7
	comp=Z,0.9nm,0.9s,baz=11,slow=5.8,SNR=2.0						
	comp=Z,0.9nm,0.9s						
QSPA	**South Pole Qui**	**54.74**	**180**	P	**P**	**11 10 24.3**	**+1.6**
FINES	**FINESS Array B**	**149.33**	**336**	PKPbc	**PKPbc**	**11 20 42.0**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=44,slow=4.2,SNR=7.8						

---

*IDC **14** 11:01:32.6±10.0,12.˚10N×86.˚42W,h0km, mb3.0/1, mbtmp3.0/1, Error ellipse: s-maj=804.5km s-min=76.4km az=59.0*
*INET **14** 11:01:46.8±0.5,12.˚18N×86.˚90W,h99km±3km, MW3.4*
*SNET **14** 11:01:49.1±1.1,12.˚30N×87.˚07W,h103km±20km, ML3.4*
ISC 14 11:01:46.7±1.2,12.˚2N±0.˚1×86.˚89W±0.˚08,h100km,n21, σ0º78/27, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.34**	**34**	*e*P	**Pn**	**11 02 01.5**	**-0.1**
CNGN				*e*S	**Sn**	**11 02 14.4**	**+1.7**
MOMN	**Momotombo**	**0.39**	**61**	*e*P	**Pn**	**11 02 01.7**	**-0.2**
CRIN	**San Cristobal**	**0.51**	**342**	*e*P	**Pn**	**11 02 03.1**	**+0.4**
CRIN				*e*S	**Sn**	**11 02 15.2**	**+0.6**
MGAN	**Managua**	**0.63**	**96**	*e*P	**Pn**	**11 02 03.4**	**-0.2**
MGAN				*e*P	**Pn**	**11 02 03.6**	**0.0**
WILN	**Americas 2**	**0.69**	**95**	*e*P	**Pn**	**11 02 03.9**	**-0.1**
CNCH	**Conchagua**	**1.40**	**319**	*e*P	**Pn**	**11 02 12.3**	**+0.4**
CNCH				*e*S	**Sn**	**11 02 31.3**	**+0.3**
CNCH	comp=Z,1µm,0.4s			IAML		11 02 35.8	
LCND	**La Caada**	**1.46**	**318**	*e*P	**Pn**	**11 02 12.9**	**+0.4**
LCND	comp=Z,295nm,0.2s			IAML		11 02 39.3	
ACON	**Acoyapa**	**1.70**	**98**	*e*P	**Pn**	**11 02 15.4**	**-0.1**
RANC	**El Ranchito**	**1.82**	**

JAYA	**Jayaque - finc**	**2.88**	**300**	*e*P	**Pn**	**11 02 30.8**	**-0.2**
JAYA				*e*S	**Sn**	**11 03 03.6**	**-1.5**
JAYA				IAML		11 03 07.7	
	comp=Z,344nm,0.2s						
SBLS	**San Blas**	**3.11**	**301**	*e*P	**Pn**	**11 02 35.6**	**+1.3**
NUBE	**Las Nubes**	**3.28**	**301**	*e*P	**Pn**	**11 02 36.9**	**+0.6**
NUBE				*e*S	**Sn**	**11 03 12.6**	**-2.0**
NUBE				IAML		11 03 15.5	
	comp=Z,47nm,0.2s						
TXAR	**Lajitas Array**	**23.10**	**320**	P	**P**	**11 06 44.4**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=135,slow=10,SNR=4.2						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**139.69**	**248**	PKP	**PKPdf**	**11 21 03.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=103,slow=2.9,SNR=1.9						
WRA	**Warramunga Arr**	**139.73**	**254**	PKP	**PKPdf**	**11 21 03.7**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=88,slow=2.6,SNR=5.0						

WEL 14 11:04:17.3±0.8, 42°S±3°×17°4E±°, h12km, M3.0/4, ML3.5/5, MLv3.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=105.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.37**	**228**	P	Pb	11 04 25.3	-0.5
KHZ				S	Sg	11 04 30.0	+0.4
TUWZ	**Tuamarina**	**0.74**	**2**	S	Sb	11 04 42.4	+0.1
THZ	**Tophouse**	**0.85**	**298**	P	Pg	11 04 33.6	-0.2
THZ				S	Sn	11 04 47.1	-0.6
GVZ	**Greta Valley S**	**1.02**	**219**	P	Pn	11 04 37.3	-0.2
GVZ				S	Sn	11 04 51.6	-0.2
LTZ	**Lake Taylor**	**1.35**	**243**	P	Pn	11 04 42.4	+0.2
LTZ				S	Sb	11 04 59.7	-0.3
AMCZ	**Amberley**	**1.36**	**222**	P	Pn	11 04 41.9	-0.3
DSZ	**Denniston Nort**	**1.62**	**285**	P	Pg	11 04 48.5	0.0
DSZ				S	Sg	11 05 10.5	+0.9
OKCZ	**Okains Bay**	**1.67**	**202**	P	Pn	11 04 45.8	-0.6
QRZ	**Quartz Range**	**1.70**	**322**	P	Pb	11 04 49.2	+0.7
MQZ	**McQueen's Vall**	**1.79**	**211**	P	Pn	11 04 46.5	-1.5
OXZ	**Oxford**	**1.79**	**229**	P	Pn	11 04 47.1	-1.0
RACZ	**Rakaia**	**2.02**	**219**	P	Pn	11 04 50.1	-1.1
WACZ	**Wakanui South**	**2.33**	**220**	P	Pn	11 04 54.5	-1.0
RPZ	**Rata Peaks**	**2.60**	**233**	P	Pn	11 04 58.4	-0.8
ARCZ	**Arundel**	**2.67**	**228**	P	Pn	11 04 59.3	-0.9
TMZ	**Timaru**	**3.06**	**223**	P	Pn	11 05 04.8	-0.8
ODZ	**Otahua Downs**	**3.72**	**218**	P	Pn	11 05 13.2	-1.3
EAZ	**Earnscleugh**	**4.52**	**226**	P	Pn	11 05 24.4	-1.2

WEL 14 11:06:12.1±0.3, 42°S±2°×17°4E±°, h11km±2km, M3.3/18, ML3.6/18, MLv3.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=159.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**65**	P	Pb	11 06 16.6	-0.3
CMWZ				S	Sg	11 06 20.2	+2.3
BSWZ	**Blackbirch Sta**	**0.15**	**308**	P	Pb	11 06 17.0	-0.1
BSWZ				S	Sg	11 06 20.0	+2.4
TUWZ	**Tuamarina**	**0.39**	**349**	P	Pb	11 06 21.0	0.0
TUWZ				S	Sb	11 06 26.9	-0.1
TCW	**Tory Channel**	**0.63**	**17**	P	Pb	11 06 24.7	-0.4
BHW	**Baring Head**	**0.74**	**57**	P	Pb	11 06 27.0	-0.1
BHW				S	Sb	11 06 38.2	+1.0
NNZ	**Nelson**	**0.77**	**320**	P	Pb	11 06 27.7	+0.2
THZ	**Tophouse**	**0.85**	**273**	P	Pb	11 06 29.3	+0.4
PLWZ	**Palliser**	**0.94**	**76**	P	Pg	11 06 30.4	+0.1
MSWZ	**Moikau Station**	**0.99**	**67**	P	Pg	11 06 31.2	0.0
DUWZ	**D'Urville Isla**	**1.01**	**355**	P	Pb	11 06 31.9	+0.2
MRNZ	**Matariki Terra**	**1.04**	**293**	P	Pn	11 06 33.0	+0.3
CAW	**Cannon Point**	**1.04**	**48**	P	Pg	11 06 32.3	+0.1
TKNZ	**Takaka Hill**	**1.12**	**313**	P	Pn	11 06 33.9	+0.1
PAWZ	**Paruwai Farm**	**1.13**	**68**	P	Pb	11 06 32.6	-1.0
KIW	**Kapiti Island**	**1.15**	**35**	P	Pb	11 06 34.0	-0.1
MTW	**Mount Morrison**	**1.28**	**60**	P	Pn	11 06 35.0	-0.9
TRWZ	**Traveller**	**1.30**	**72**	P	Pn	11 06 36.4	+0.2
OGWZ	**Otaki Gorge**	**1.31**	**41**	P	Pn	11 06 36.2	-0.2
GVZ	**Greta Valley S**	**1.37**	**212**	P	Pn	11 06 35.5	-1.8
HOWZ	**Holdsworth Sta**	**1.44**	**51**	P	Pn	11 06 37.0	-1.1
QRZ	**Quartz Range**	**1.50**	**310**	P	Pb	11 06 40.4	+0.4
TMWZ	**Te Maipa**	**1.56**	**64**	P	Pn	11 06 38.3	-1.5
LTZ	**Lake Taylor**	**1.63**	**233**	P	Pn	11 06 40.2	-0.6
MRZ	**Mangatainoka R**	**1.64**	**46**	P	Pn	11 06 40.0	-0.8
DSZ	**Denniston Nort**	**1.67**	**272**	P	Pb	11 06 43.4	+0.5
AMCZ	**Amberley**	**1.71**	**216**	P	Pn	11 06 40.6	-1.2
OHWZ	**Ohakea**	**1.87**	**31**	P	Pb	11 06 46.9	+0.6
PRWZ	**Pori Road**	**1.93**	**50**	P	Pn	11 06 44.3	-0.6
POWZ	**Post Office Ro**	**1.93**	**43**	P	Pn	11 06 44.4	-0.4
OKCZ	**Okains Bay**	**2.04**	**200**	P	Pn	11 06 43.6	-2.8
OXZ	**Oxford**	**2.12**	**224**	P	Pn	11 06 45.1	-2.4
MQZ	**McQueen's Vall**	**2.15**	**208**	P	Pn	11 06 44.4	-3.5
WAZ	**Wanganui**	**2.18**	**20**	P	Pg	11 06 52.7	-1.1
DVHZ	**Dannevirke**	**2.21**	**48**	P	Pb	11 06 51.6	-0.4
AKCZ	**Akaroa Harbour**	**2.22**	**202**	P	Pn	11 06 46.4	-2.4
TSZ	**Takapari Road**	**2.28**	**40**	P	Pb	11 06 52.5	-0.7
VRZ	**Vera Road**	**2.74**	**12**	P	Pb	11 07 00.3	-0.8
WNVZ	**Wahianoa**	**2.75**	**26**	P	Pg	11 07 03.9	-1.0
BHHZ	**Black Hill Sta**	**2.78**	**34**	P	Pb	11 07 02.6	+0.7
WHVZ	**Whangaehu Hut**	**2.79**	**26**	P	Pb	11 07 02.4	+0.3
FWVZ	**Far West T-bar**	**2.80**	**25**	P	Pb	11 07 03.3	+1.0
RPZ	**Rata Peaks**	**2.91**	**228**	P	Pn	11 06 56.4	-2.0
OTVZ	**Oturere**	**2.92**	**26**	P	Pb	11 07 04.8	+0.5
NNVZ	**North Ngauruho**	**2.94**	**25**	P	Pb	11 07 05.2	+0.7
WTVZ	**West Tongariro**	**2.94**	**24**	P	Pb	11 07 05.8	+1.1
ETVZ	**East Tongariro**	**2.96**	**26**	P	Pb	11 07 05.4	+0.4
KRVZ	**Karewarewa**	**2.98**	**25**	P	Pb	11 07 06.1	+0.9
TMVZ	**Te Maari**	**2.98**	**26**	P	Pb	11 07 05.4	+0.2
NTVZ	**North Tongariro**	**2.98**	**25**	P	Pb	11 07 06.0	+0.6
ARCZ	**Arundel**	**3.00**	**224**	P	Pn	11 06 57.3	-2.3
KWHZ	**Kaweka Forest**	**3.00**	**38**	P	Pb	11 07 07.2	+1.6
MCHZ	**McNeill Hill**	**3.11**	**41**	P	Pn	11 07 03.9	+2.8
TMZ	**Timaru**	**3.40**	**220**	P	Pn	11 07 03.2	-1.9
RUGZ	**Raukumara Rang**	**4.75**	**37**	P	Pn	11 07 25.9	+2.1

*IDC **14** 11:09:26.6±1.0, 50°S7°W×178°7.9E, h0km, mb3.8/10, mbtmp3.9/13, ML4.3/2, MS2.7/3, Error ellipse: s-maj=30.5km s-min=15.6km az=178.0*
*AEIC **14** 11:09:31.3±0.9, 51°0N±0°1×178°9E±0°1, h21km±6km, Error ellipse: s-maj=16.7km s-min=8.8km az=157.0*
*NEIC **14** 11:09:33.5±2.1, 51°2N±0°2×178°84E±0°05, h34km±12km, ML3.4(AEIC), Error ellipse: s-maj=21.9km s-min=4.5km az=185.0*

ISC 14 11:09:32.4±0.9, 51°0N±0°2×178°90E±0°05, h41km, n20, σ1°85/20, mb3.8/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.44**	**35**		**Pn**	**11 09 40.4**	**-2.0**
KIWB	**Kanaga Island**	**2.61**	**70**		**Pn**	**11 10 13.1**	**+1.1**
ADK	**Adak**	**2.90**	**71**	Pn	**Pn**	**11 10 16.0**	**+0.1**
SHEM	**Shemya Is, Ala**	**3.43**	**302**	Pn	**Pn**	**11 10 22.3**	**-1.0**
	40nm,0.3s,baz=43,slow=2.3,SNR=20						
SHEM				LR	LR	11 11 03.5	
	comp=Z,80nm,21.2s,baz=144,slow=28						
SHEM				Sn	**Sn**	**11 11 08.2**	**+5.5**
	19nm,0.3s,baz=122,slow=24,SNR=9.8						
	107nm,0.4s						
SMY	**Shemya**	**3.43**	**302**	Pn	**Pn**	**11 10 23.5**	**+0.2**
PETK	**Petropavlovsk-**	**13.21**	**287**	Pn	**Pn**	**11 12 35.6**	**-1.5**
	3.3nm,0.9s,baz=96,slow=15,SNR=5.1						
PETK				LR	LR	11 18 29.7	
	comp=Z,36nm,19.6s,baz=113,slow=41						
KDAK	**Kodiak Island**	**17.83**	**57**	P	**Pn**	**11 13 34.9**	**-2.2**
	0.7nm,0.3s,baz=312,slow=7.3,SNR=5.2						
	2.0nm,0.3s						
MA2	**Magadan**	**18.04**	**309**	LR	LR	11 19 26.0	
	comp=Z,31nm,19.2s,baz=138,slow=33						
H21K	**Melozitna Rive**	**20.60**	**34**	P	**P**	**11 14 08.3**	**+0.7**
ILAR	**Eielson Array**	**22.43**	**39**	P	**P**	**11 14 26.4**	**-0.9**
	0.8nm,0.7s,baz=258,slow=12,SNR=5.8						
	0.8nm,0.7s						
DAWY	**Dawson**	**25.36**	**43**	P	**P**	**11 14 57.5**	**+2.3**
INK	**Inuvik**	**28.58**	**35**	P	**P**	**11 15 25.6**	**+1.6**
	1.4nm,0.7s,baz=285,slow=12,SNR=4.7						
	1.4nm,0.7s						
KLR	**Kul'dur**	**29.88**	**285**	P	**P**	**11 15 35.2**	**-0.5**
	2.6nm,0.6s,baz=95,slow=6.1,SNR=9.9						
	2.6nm,0.6s						
TIXI	**Tiksi**	**30.25**	**331**	P	**P**	**11 15 38.2**	**-0.5**
	1.7nm,0.3s,baz=339,slow=0.5,SNR=5.1						
	1.7nm,0.3s						

NVAR	**Mina Array Bea**	**45.04**	**81**	P	**P**	**11 17 45.5**	**+1.4**
	0.3nm,0.6s,baz=89,slow=30,SNR=2.9							
	0.3nm,0.6s							
SONM	**Songino Array**	**45.51**	**296**	P	**P**	**11 17 47.2**	**-0.4**
	0.6nm,0.5s,baz=60,slow=8.0,SNR=4.6							
	0.6nm,0.5s							
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**11 18 06.5**	**+0.7**
	1.7nm,0.9s,baz=300,slow=2.9,SNR=9.7							
	1.7nm,0.9s							
MKAR	**Makanchi Array**	**59.11**	**307**	P	**P**	**11 19 27.2**	**-1.2**
	0.5nm,0.6s,baz=52,slow=5.6,SNR=2.5							
	0.5nm,0.6s							
TXAR	**Lajitas Array**	**60.14**	**79**	P	**P**	**11 19 36.5**	**+0.7**
	0.2nm,0.5s,baz=311,slow=5.5,SNR=6.3							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**80.76**	**222**	P	**P**	**11 21 40.9**	**-0.4**
	0.3nm,0.5s,baz=31,slow=5.8,SNR=6.8							
	0.3nm,0.5s							

*NEIC **14** 11:11:18.8±1.0, 41°65S±0°02×174°15E±0°03, h11km±6km, mb4.1/9, Error ellipse: s-maj=3.2km s-min=2.1km az=104.0*
*WEL **14** 11:11:18.4±0.8, 42°S±3°×17°4E±°, h7km±6km, M3.8/8, ML4.2/8, MLv3.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=88.7*
*IDC **14** 11:11:19.3±2.7, 41°61S×173°80E, h0km, mb3.5/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=52.6km s-min=36.6km az=100.0*

ISC 14 11:11:18.3±1.0, 41°68S±0°03×174°18E±0°02, h8km±6km, n41, σ0°76/49, mb4.1/7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**160**		**Pg**	**11 11 19.9**	**-0.5**
CMWZ	**Cape Campbell**	**0.07**	**160**	P	**Pg**	**11 11 19.9**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.23**	**261**		**Pg**	**11 11 23.1**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.23**	**261**	P	**Pg**	**11 11 23.4**	**+0.4**
BSWZ				S	**Sg**	**11 11 27.3**	**+1.2**
TUWZ	**Tuamarina**	**0.31**	**325**		**Pb**	**11 11 25.5**	**-0.6**
TUWZ	**Tuamarina**	**0.31**	**325**	P	**Pb**	**11 11 25.6**	**-0.4**
TCW	**Tory Channel**	**0.48**	**9**	P	**Pb**	**11 11 28.6**	**-0.4**
TCW				S	**Sb**	**11 11 36.5**	**+0.4**
WEL	**Wellington**	**0.59**	**48**	P	**Pb**	**11 11 30.7**	**-0.2**
WEL				S	**Sb**	**11 11 40.7**	**+1.2**
NNZ	**Nelson**	**0.76**	**307**		**Pg**	**11 11 32.8**	**-0.1**
PLWZ	**Palliser**	**0.81**	**82**		**Pb**	**11 11 34.7**	**0.0**
PLWZ	**Palliser**	**0.81**	**82**	P	**Pb**	**11 11 35.2**	**+0.4**
PLWZ				S	**Sn**	**11 11 49.0**	**+0.6**
MSWZ	**Moikau Station**	**0.84**	**72**		**Pb**	**11 11 35.6**	**+0.4**
MSWZ	**Moikau Station**	**0.84**	**72**	P	**Pb**	**11 11 35.6**	**+0.4**
MSWZ				S	**Sn**	**11 11 50.1**	**+0.9**
KHZ	**Kahutara**	**0.88**	**213**		**Pb**	**11 11 35.9**	**+0.1**
DUWZ	**D'Urville Isla**	**0.90**	**347**	P	**Pb**	**11 11 36.1**	**-0.1**
THZ	**Tophouse**	**0.96**	**265**		**Pb**	**11 11 36.9**	**-0.3**
KIW	**Kapiti Island**	**0.99**	**34**	P	**Pb**	**11 11 37.8**	**+0.1**
KIW				S	**Sn**	**11 11 52.9**	**+0.2**
OGWZ	**Otaki Gorge**	**1.14**	**41**	P	**Pb**	**11 11 40.2**	**-0.1**
OGWZ				S	**Sn**	**11 11 58.1**	**+1.7**
TRWZ	**Traveller**	**1.17**	**76**	P	**Pg**	**11 11 40.0**	**-0.7**
MRZ	**Mangatainoka R**	**1.47**	**46**	Pn	**Pn**	**11 11 44.2**	**-0.9**
QRZ	**Quartz Range**	**1.51**	**304**		**Pg**	**11 11 47.1**	**-0.1**
BFZ	**Birch Farm**	**1.85**	**58**	Pn	**Pn**	**11 11 49.0**	**-1.4**
RPZ	**Rata Peaks**	**3.07**	**228**	Pn	**Pn**	**11 12 07.6**	**+0.4**
	14nm,0.3s,baz=65,slow=2.0,SNR=12						
RPZ				Sn	**Sn**	**11 12 41.9**	**-2.2**
	17nm,0.3s,baz=24,slow=18,SNR=8.8						
	24nm,0.3s						
FOZ	**Fox Glacier**	**3.71**	**239**	Pn	**Pn**	**11 12 16.3**	**+0.3**
ODZ	**Otahua Downs**	**4.24**	**216**	Pn	**Pn**	**11 12 22.6**	**-0.5**
WKZ	**Wanaka**	**4.91**	**228**	Pn	**Pn**	**11 12 31.6**	**-0.9**
MLZ	**Mavora Lakes**	**5.74**	**228**	Pn	**Pn**	**11 12 44.3**	**+0.4**
DCZ	**Deep Cove**	**6.35**	**231**	Pn	**Pn**	**11 12 52.4**	**+0.2**
VNDA	**Vanda**	**36.31**	**184**	P	**P**	**11 18 21.7**	**-0.2**
VNDA				IAmb	IAmb	11 18 36.1	
	comp=Z,2.0nm,1.5s						
AS31	**Alice Springs**	**37.96**	**286**	P	**P**	**11 18 35.7**	**-0.9**
ASAR	**Alice Springs**	**37.96**	**286**	P	**P**	**11 18 36.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=120,slow=6.9,SNR=12						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**37.96**	**286**	P	**P**	**11 18 36.6**	**0.0**
WR0	**Warramunga Arr**	**39.88**	**291**	P	**P**	**11 18 51.8**	**-0.9**
WR0				IAmb	IAmb	11 19 27.5	
	comp=Z,7.9nm,1.4s						
WB2	**Warramunga Arr**	**40.02**	**290**	P	**P**	**11 18 52.6**	**-1.3**
WB2				IAmb	IAmb	11 18 56.5	
	comp=Z,6.2nm,1.4s						
WRA	**Warramunga Arr**	**40.03**	**290**	P	**P**	**11 18 53.4**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=126,slow=8.5,SNR=15						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**40.03**	**290**	P	**P**	**11 18 52.8**	**-1.1**
WB0	**Warramunga Arr**	**40.11**	**291**	P	**P**	**11 18 54.4**	**-0.2**
WB0				IAmb	IAmb	11 19 17.9	
	comp=Z,6.4nm,1.3s						
KNRA	**Kununurra**	**46.81**	**290**	P	**P**	**11 19 47.9**	**-0.7**
QSPA	**South Pole Qui**	**48.45**	**180**	P	**P**	**11 20 01.4**	**+0.4**
QSPA				IAmb	IAmb	11 20 23.3	
	comp=Z,5.6nm,1.5s						
SNAA	**Sanae**	**66.94**	**181**	P	**P**	**11 22 10.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**150.83**	**195**	PKPbc	**PKiKP**	**11 31 13.6**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=155,slow=2.3,SNR=2.1						

WEL 14 11:13:31.6±0.5, 42°S±3°×17°4E±°, h7km±4km, M3.1/8, ML4.8/8, MLv3.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=140.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.24**	**359**	P	Pg	11 13 37.2	+0.9
BSWZ				S	Sg	11 13 41.6	+2.1
CMWZ	**Cape Campbell**	**0.32**	**51**	P	Pb	11 13 39.0	-0.7
TUWZ	**Tuamarina**	**0.53**	**5**	P	Pb	11 13 42.5	-0.7
THZ	**Tophouse**	**0.75**	**284**	P	Pg	11 13 46.6	+0.4
THZ				S	Sb	11 13 57.2	-0.4
TCW	**Tory Channel**	**0.80**	**22**	P	Pg	11 13 47.0	0.0
WEL	**Wellington**	**0.94**	**45**	P	Pg	11 13 50.0	+0.2
MRNZ	**Matariki Terra**	**1.01**	**303**	P	Pn	11 13 52.0	-0.1
TKNZ	**Takaka Hill**	**1.15**	**323**	P	Pg	11 13 53.7	0.0
DUWZ	**D'Urville Isla**	**1.15**	**2**	P	Pg	11 13 53.3	-0.4
GVZ	**Greta Valley S**	**1.19**	**211**	P	Pg	11 13 53.9	-0.6
CAW	**Cannon Point**	**1.23**	**47**	P	Pb	11 13 54.2	-1.0
KIW	**Kapiti Island**	**1.34**	**36**	P	Pn	11 13 56.5	-0.3
OGWZ	**Otaki Gorge**	**1.49**	**41**	P	Pn	11 13 57.6	-1.2
QRZ	**Quartz Range**	**1.52**	**317**	P	Pb	11 14 00.2	+0.1
DSZ	**Denniston Nort**	**1.56**	**277**	P	Pb	11 14 01.2	+0.2

*WEL **14** 11:14:00, 41°69S×174°27E, h19km, ML4.8, Mw4.5, Moment Tensor Solution. s6 Moment tensor: Scale 10^15 Nm; Mrr5.28; Mθθ4.47; Mϕϕ-9.74; Mrθ-0.37; Mθϕ-1.63; Mϕr-0.15; Fault plane solution: M0 7.69000×10^15 NP1: ϕs344.00000°, δ49.00000°, λ57.00000°. NP2: ϕs209.00000°, δ50.00000°, λ122.00000°. Principal axes: T -993.1700, Plg66.0000°, Azm186.0000°; N 449.0900, Plg24.0000°, Azm6.0000°; P 544.0700, Plg1.0000°, Azm277.0000°;*
*IDC **14** 11:14:17.1±0.9, 41°51S×174°23E, h0km, mb4.2/8, mbtmp4.2/9, ML4.1/1 Error ellipse: s-maj=31.3km s-min=19.3km az=80.0*
*WEL **14** 11:14:20.9±0.3, 42°S±3°×17°4E±°, h6km±3km, M4.8/18, ML5.0/18, MLv4.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=149.0*
*NEIC **14** 11:14:20.5±2.1, 41°73S±0°03×174°24E±0°02, h15km±3km, mb4.7/16, Error ellipse: s-maj=3.8km s-min=1.3km az=164.0*
*NOU **14** 11:14:21.2, 41°86S×174°46E, h29km, MLv5.2/23, Cook Strait, New Zealand*

ISC 14 11:14:20.3±0.8, 41°78S±0°03×174°29E±0°02, h19km±2km, n191, σ1°19/214, mb4.3/14, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**297**		**Pg**	**11 14 23.7**	**-0.1**
CMWZ				Sg	**Sg**	**11 14 26.7**	**+0.5**
CMWZ	**Cape Campbell**	**0.07**	**297**	P	**Pg**	**11 14 23.8**	**-0.1**
CMWZ				S	**Sg**	**11 14 26.5**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.32**	**282**		**Pg**	**11 14 27.0**	**-0.2**
BSWZ				Sg	**Sg**	**11 14 31.8**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.32**	**282**	P	**Pg**	**11 14 27.0**	**-0.2**
BSWZ				S	**Sg**	**11 14 31.4**	**-0.1**
TUWZ	**Tuamarina**	**0.44**	**323**		**Pg**	**11 14 28.7**	**-0.6**
TUWZ				Sg	**Sg**	**11 14 34.8**	**-0.5**
TUWZ	**Tuamarina**	**0.44**	**323**	P	**Pg**	**11 14 28.7**	**-0.6**
TUWZ				S	**Sg**	**11 14 34.5**	**-0.8**
SNZO	**South Karori**	**0.56**	**34**		**Pg**	**11 14 31.8**	**+0.2**
SNZO				Sg	**Sg**	**11 14 40.4**	**+1.3**
SNZO	**South Karori**	**0.56**	**34**	P	**Pg**	**11 14 31.7**	**+0.2**
TCW	**Tory Channel**	**0.57**	**359**	P	**Pb**	**11 14 31.0**	**-0.6**
TCW				S	**Sb**	**11 14 38.6**	**-0.7**
BHW	**Baring Head**	**0.57**	**50**	P	**Pg**	**11 14 32.3**	**+0.6**
WEL	**Wellington**	**0.61**	**36**	P	**Pg**	**11 14 32.6**	**+0.2**
WEL				S	**Sg**	**11 14 41.4**	**+0.8**
PLWZ	**Palliser**	**0.75**	**74**	Pg	**Pn**	**11 14 36.8**	**+0.7**
PLWZ	**Palliser**	**0.75**	**74**	P	**Pn**	**11 14 36.1**	**+0.1**
MSWZ	**Moikau Station**	**0.81**	**63**		**Pn**	**11 14 37.0**	**+0.3**
MSWZ					**Sn**	**11 14 49.4**	**+1.2**
MSWZ	**Moikau Station**	**0.81**	**63**	P	**Pn**	**11 14 37.1**	**+0.3**
MSWZ				S	**Sn**	**11 14 49.1**	**+0.9**
KHZ	**Kahutara**	**0.85**	**221**		**Pn**	**11 14 38.0**	**+0.8**
KHZ					**Sn**	**11 14 51.5**	**+2.3**
KHZ	**Kahutara**	**0.85**	**221**	P	**Pn**	**11 14 38.0**	**+0.8**
KHZ	**Kahutara**	**0.85**	**221**	P	**Pn**	**11 14 38.1**	**+0.8**
KHZ				S	**Sn**	**11 14 51.4**	**+2.3**
NNZ	**Nelson**	**0.89**	**309**		**Pb**	**11 14 36.7**	**-0.4**
NNZ					**Sn**	**11 14 50.1**	**-0.1**
NNZ	**Nelson**	**0.89**	**309**	P	**Pb**	**11 14 36.6**	**-0.4**
CAW	**Cannon Point**	**0.89**	**41**	P	**Pg**	**11 14 37.5**	**-0.2**
CAW				S	**Sn**	**11 14 49.8**	**-0.5**
PAWZ	**Paruwai Farm**	**0.94**	**65**	P	**Pg**	**11 14 38.7**	**0.0**
PAWZ				S	**Sn**	**11 14 53.8**	**+2.2**
DUWZ	**D'Urville Isla**	**1.02**	**344**	P	**Pb**	**11 14 38.7**	**-0.6**
DUWZ				S	**Sb**	**11 14 52.2**	**-0.2**
KIW	**Kapiti Island**	**1.03**	**27**	P	**Pb**	**11 14 39.5**	**-0.1**
KIW				S	**Sg**	**11 14 53.6**	**-0.2**
THZ	**Tophouse**	**1.04**	**270**	Pn	**Pn**	**11 14 40.0**	**+0.1**
THZ	**Tophouse**	**1.04**	**270**	P	**Pn**	**11 14 39.9**	**-0.1**
THZ				S	**Sg**	**11 14 56.2**	**+2.1**
MTW	**Mount Morrison**	**1.10**	**56**	P	**Pb**	**11 14 40.8**	**0.0**
TRWZ	**Traveller**	**1.11**	**70**	P	**Pn**	**11 14 40.8**	**-0.2**
OGWZ	**Otaki Gorge**	**1.17**	**35**	P	**Pb**	**11 14 42.0**	**+0.1**
OGWZ				S	**Sg**	**11 14 58.5**	**+0.2**
MRNZ	**Matariki Terra**	**1.21**	**288**	P	**Pb**	**11 14 43.1**	**+0.4**
MRNZ				S	**Sg**	**11 15 00.4**	**+0.7**
TKNZ	**Takaka Hill**	**1.25**	**306**	P	**Pb**	**11 14 43.3**	**0.0**
HOWZ	**Holdsworth Sta**	**1.27**	**47**	P	**Pn**	**11 14 43.3**	**+0.1**
TMWZ	**Te Maipa**	**1.38**	**61**	P	**Pn**	**11 14 44.3**	**-0.3**
MRZ	**Mangatainoka R**	**1.48**	**41**		**Pn**	**11 14 46.1**	**+0.2**
MRZ	**Mangatainoka R**	**1.48**	**41**	P	**Pn**	**11 14 46.2**	**+0.2**
GVZ	**Greta Valley S**	**1.51**	**218**		**Pn**	**11 14 47.2**	**-0.6**
GVZ	**Greta Valley S**	**1.51**	**218**	P	**Pn**	**11 14 47.1**	**+0.7**
TIWZ	**Tintock**	**1.56**	**51**	P	**Pn**	**11 14 46.9**	**-0.3**
QRZ	**Quartz Range**	**1.64**	**305**		**Pb**	**11 14 49.5**	**-0.3**
QRZ	**Quartz Range**	**1.64**	**305**	P	**Pb**	**11 14 49.6**	**-0.3**
QRZ	**Quartz Range**	**1.64**	**305**	P	**Pb**	**11 14 49.6**	**-0.3**
QRZ				S	**Sb**	**11 15 11.2**	**+1.1**
CPWZ	**Castlepoint**	**1.68**	**59**	P	**Pn**	**11 14 48.4**	**-0.3**
OHWZ	**Ohakea**	**1.75**	**27**	P	**Pb**	**11 14 51.4**	**-0.5**
PRWZ	**Pori Road**	**1.76**	**47**	P	**Pn**	**11 14 49.7**	**-0.2**
POWZ	**Post Office Ro**	**1.78**	**39**	P	**Pn**	**11 14 50.2**	**+0.1**
LTZ	**Lake Taylor**	**1.80**	**236**		**Pn**	**11 14 51.2**	**+0.7**
LTZ	**Lake Taylor**	**1.80**	**236**	P	**Pn**	**11 14 51.1**	**+0.7**
BFZ	**Birch Farm**	**1

JCZ	**Jackson Bay**	4.65	239	P		Pn		11 15 33.0	+3.4
WKZ	**Wanaka**	4.91	230			Pn		11 15 33.5	+0.3
KUZ	**Kuaotunu**	5.15	13	P		Pn		11 15 37.8	+1.4
MXZ	**Matakaoa Point**	5.23	38	Pn		Pn		11 15 35.7	-1.8
MXZ	**Matakaoa Point**	5.23	38	P		Pn		11 15 35.4	-2.1
MLZ	**Mavora Lakes**	5.74	229			Pn		11 15 43.2	-1.4
SYZ	**Scrubby Hill**	6.03	216	P		Pn		11 15 48.1	-0.4
WHZ	**Wether Hill Ro**	6.16	226			Pn		11 15 50.5	+0.2
DCZ	**Deep Cove**	6.36	232	Pn		Pn		11 15 51.7	-1.3
OUZ	**Omahuta**	6.57	355	Pn		Pn		11 15 58.3	+2.3
OUZ	**Omahuta**	6.57	355	P		Pn		11 15 57.6	+1.6
CTZ	**Chatham Island**	6.97	109	P		Pn		11 16 01.0	-0.4
PYZ	**Puysegur Point**	7.03	229	P		Pn		11 16 04.4	+2.2
MCQ	**Macquarie Isla** 28nm,1.4s	16.28	213	P		Pn		11 18 06.5	-1.3
DZM	**Mont Dzumac** 8.9nm,0.9s,baz=92,slow=24,SNR=5.8	20.73	339	P		P		11 18 60.0	+0.1
MSVF	**Nonsavu** 5.4nm,0.7s,baz=140,slow=8.9,SNR=2.6 5.4nm,0.7s	24.18	9	P		P		11 19 33.2	-2.4
BBOO	**Buckleboo**	31.49	274	P		P		11 20 40.8	-0.2
BBOO	comp=Z,17nm,1.2s			IAmb	IAmb			11 20 56.6	
OOD	**Oodnadatta**	34.34	282	P		P		11 21 07.2	+1.3
VNDA	**Vanda** comp=Z,1.2nm,1.0s,baz=357,slow=6.5,SNR=7.3 comp=Z,1.2nm,1.0s	36.22	185	P		P		11 21 23.1	+1.6
VNDA	**Vanda**	36.22	185	P		P		11 21 24.3	+2.8
AS01	**Alice Springs**	38.03	286	P		P		11 21 36.8	-0.8
AS31	**Alice Springs**	38.07	286	P		P		11 21 37.0	-0.8
ASAR	**Alice Springs** comp=Z,1.6nm,0.6s,baz=121,slow=6.6,SNR=36 comp=Z,1.6nm,0.6s	38.07	286	P		P		11 21 36.7	-1.2
WR0	**Warramunga Arr**	39.99	291	P		P		11 21 52.9	-1.1
WB2	**Warramunga Arr**	40.13	290	P		P		11 21 54.2	-0.9
WB2	comp=Z,5.6nm,0.8s			IAmb	IAmb			11 22 03.1	
WRAB	**Tennant Creek**	40.14	290	P		P		11 21 54.3	-0.9
WRA	**Warramunga Arr** comp=Z,2.0nm,0.6s,baz=127,slow=8.4,SNR=29 comp=Z,2.0nm,0.6s	40.14	290	P		P		11 21 54.0	-1.1
WRA	**Warramunga Arr**	40.14	290			P		11 21 54.1	-1.1
WB0	**Warramunga Arr**	40.22	291			P		11 21 54.9	-1.0
WB0	comp=Z,4.6nm,0.7s			IAmb	IAmb			11 22 08.5	
WRKA	**Warakurna**	41.35	279	P		P		11 22 04.0	-1.2
KNRA	**Kununurra**	46.92	290	P		P		11 22 50.1	+0.2
KNRA	**Kununurra**	46.92	290	P		P		11 22 51.4	+1.5
MTN	**Manton Dam**	47.26	295	P		P		11 22 52.2	-0.2
MEEK	**Meekatharra**	47.66	270	P		P		11 22 54.5	-1.1
MORW	**Morawa**	48.29	266	P		P		11 22 59.8	-0.7
MORW	comp=Z,24nm,1.4s			IAmb	IAmb			11 23 10.3	
MORW	**Morawa**	48.29	266	P		P		11 22 59.7	-0.7
QSPA	**South Pole Qui** comp=Z,5.7nm,0.7s,baz=27,slow=1.5,SNR=36 comp=Z,5.7nm,0.7s	48.35	180	P		P		11 23 03.3	+2.8
QSPA	**South Pole Qui**	48.35	180	P		P		11 23 02.8	+2.2
QSPA	comp=Z,7.8nm,0.8s			IAmb	IAmb			11 23 04.1	
PSA00	**Pilbara Seismi**	49.65	276	P		P		11 23 09.7	-1.2
PSA00	comp=Z,8.7nm,1.4s			IAmb	IAmb			11 23 50.2	
PSA00	**Pilbara Seismi**	49.65	276	P		P		11 23 09.7	-1.2
PSA00	comp=Z,30nm,1.3s			IAmb	IAmb			11 23 42.3	
MBWA	**Marble Bar**	49.98	277	P		P		11 23 12.5	-1.0
GIRL	**Giralia**	53.20	271	P		P		11 23 37.2	-0.3
MAW	**Mawson** comp=Z,2.9nm,1.0s,baz=140,slow=9.6,SNR=2.7 comp=Z,2.9nm,1.0s	59.44	204	P		P		11 24 23.1	+1.8
SNAA	**Sanae**	66.84	181	P		P		11 25 11.4	+1.0
SNAA	comp=Z,4.0nm,1.0s			IAmb	IAmb			11 25 12.8	
KSRS	**Korea Array** comp=Z,1.2nm,0.6s,baz=145,slow=5.8,SNR=3.5 comp=Z,1.2nm,0.6s	89.50	325	P		P		11 27 14.8	-1.1
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.5s,baz=150,slow=3.4,SNR=6.1 comp=Z,1.0nm,0.5s	91.68	293	P		P		11 27 25.6	-1.0
DBIC	**Dimbokro** comp=Z,4.1nm,0.8s,baz=158,slow=3.7,SNR=3.8	145.03	181	PKPbc		PKPbc		11 33 56.1	-0.1
ARCES	**ARCESS Array B** comp=Z,11nm,1.2s,baz=14,slow=4.1,SNR=7.2	147.81	340	PKPbc		PKPdf		11 34 00.8	+1.0
BRTR	**Keskin Array B** comp=Z,17nm,0.8s,baz=117,slow=5.0,SNR=2.7	150.30	279	PKPbc		PKPbc		11 34 09.5	-0.6
TORD	**Torodi Ar. Bea** comp=Z,3.3nm,0.8s,baz=164,slow=2.9,SNR=16	150.75	195	PKPbc		PKPbc		11 34 11.5	-0.2
FINES	**FINESS Array B** comp=Z,1.5nm,0.6s,baz=51,slow=1.2,SNR=6.5	152.57	327	PKPbc		PKPbc		11 34 13.0	-1.5

IDC ***14*** *11:16:22.6±0.6,21°.61N×117°.67W,h0km,mb4.7/18, mbtmp4.7/23,ML3.7/5,MS3.8/32,Error ellipse: s-maj=19.8km s-min=14.3km az=69.0*

NEIC ***14*** *11:16:25.0±2.3,21°.48N±0°.08×117°.67W±0°.09,h10km±1km, mb4.9/104,Error ellipse: s-maj=16.9km s-min=11.7km az=228.0*

GCMT ***14*** *11:16:25.1±0.3,21°.69N±0°.03×117°.59W±0°.02,h21km, MW5.0/90,Moment Tensor Solution. s33,c40; s90,c130; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.70±.22; Mθθ0.41±.14; Mφφ3.29±.14; Mrθ-0.76±.24; Mrφ2.09±.10; Mθφ-0.64±.21; Best double couple: M0=4.17000×10^16 NP1:φs34.0000°,δ52.0000°,λ-81.0000°. NP2: φs201.00000°,δ39.00000°,λ-101.00000°. Principal axes: T 4.4920, Plg6.0000°, Azm118.0000°; N -0.6400, Plg7.0000°, Azm209.0000°; P -3.8480, Plg81.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 11:16:24.9±0.5,21°.65N±0°.07×117°.60W±0°.06,h10km, n523,σ1§84/501,mb4.9/55,MS3.9/30,Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz** 8.5nm,0.3s,baz=243,slow=3.5,SNR=7.7	7.15	69	Pn	**Pn**	11 18 07.4	-2.2
LPIG	8.9nm,0.3s,baz=11,slow=23,SNR=6.1			Sn	**Sn**	11 19 25.9	-5.0
LPIG	comp=Z,112nm,19.6s,baz=257,slow=28 19nm,0.3s			LR	LR	11 19 42.4	
SLBS	**Sierra La Lagu**	7.35	73	Pn	**Pn**	11 18 11.8	-0.7
SLBS				Sn	**Sn**	11 19 30.1	-5.9
SRIG	**Santa Rosalia**	7.46	40		**Pn**	11 18 14.4	+0.6
HSIG		9.49	38	Pn	**Pn**	11 18 43.3	+1.7
CCX	**Cicese**	10.21	4		**Pn**	11 18 53.9	+2.3
ESJX	**Sierra Juarez**	10.42	8		**Pn**	11 18 56.7	+2.1
PIX	**Pinacate**	10.54	20	Pn	**Pn**	11 18 58.1	+2.0
CBX	**Cerro Bola**	10.66	4		**Pn**	11 18 59.5	+1.7
TJX	**Tijuana**	10.83	2	Pn	**Pn**	11 19 03.1	+3.1
GUVIX	**Guadalupe Vict**	10.85	11	Pn	**Pn**	11 19 04.6	+4.3
RMX	**La Rumorosa**	11.00	7		**Pn**	11 19 04.4	+2.0
BAR	**Barrett**	11.02	4		**Pn**	11 19 04.5	+1.8
IKP	**In-Ko-Pah, Jac** baz=188,SNR=36	11.04	7	P	**Pn**	11 19 06.7	+3.7
YUH	**Yuha Desert**	11.06	7		**Pn**	11 19 05.0	+1.9
214A	**Organ Pipe Nat**	11.12	22	Pn	**Pn**	11 19 06.2	+2.1
214A	**Organ Pipe Nat** baz=204,SNR=8.2	11.12	22	P	**Pn**	11 19 07.9	+3.9
109C	**Camp Elliot, M**	11.21	2	Pn	Pn	11 19 10.0	+4.8
109C	**Camp Elliot, M** baz=183,SNR=9.1	11.21	2	P	**Pn**	11 19 09.2	+4.0
MONP2	**Monument Peak** baz=186,SNR=27	11.25	5	P	**Pn**	11 19 10.0	+4.0
SCI2	**San Clemente I** baz=176	11.32	356	P	**Pn**	11 19 10.7	+4.0
SWSC	**Sam W. Stewart** baz=189,SNR=7.0	11.37	8	P	**Pn**	11 19 11.5	+4.1
113A	**Mohawk Valley,**	11.59	16		**Pn**	11 19 14.4	+4.0
GLA	**Glamis**	11.62	12		**Pn**	11 19 13.1	+2.2
GLA	**Glamis** baz=193,SNR=9.8	11.62	12	P	**Pn**	11 19 15.2	+4.3
SNCC	**San Nicolas Is**	11.68	352		**Pn**	11 19 12.4	+0.7
SNCC	**San Nicolas Is** baz=172	11.68	352	P	**Pn**	11 19 14.2	+2.5
CIS	**Catalina Islan** baz=177	11.73	357	P	**Pn**	11 19 15.0	+2.6
MURC	**Murrieta** baz=182,SNR=16	11.91	2	P	**Pn**	11 19 18.6	+3.7
ELS	**Elsinore Mount**	11.96	1		Pn	11 19 21.1	+5.6
TPFO	**Pinon Flats**	11.96	5	P	**Pn**	11 19 19.0	+3.4
	baz=185,SNR=21						
PFO	**Pinyon Flats O**	11.96	5		**Pn**	11 19 19.5	+3.8
PFO	**Pinyon Flats O** baz=185,SNR=26	11.96	5	P	**Pn**	11 19 19.6	+3.9
FMP	**Fort Macarthur** baz=177	12.04	357	P	**Pn**	11 19 20.5	+4.0
HPIG		12.08	62		**Pn**	11 19 18.9	+1.5
BC3	**Big Chuckawall** baz=190,SNR=30	12.11	9	P	**Pn**	11 19 21.5	+3.8
319A	**Douglas**	12.21	36	Pn	**Pn**	11 19 21.7	+2.6
TUC	**Tucson**	12.23	28		**Pn**	11 19 23.1	+3.8
TUC	**Tucson** baz=211	12.23	28	P	**Pn**	11 19 23.4	+4.1
BLYC	**Blythe**	12.36	12		**Pn**	11 19 24.8	+3.8
BELC	**Belle Mtn. Jos** baz=187,SNR=26	12.39	6	P	**Pn**	11 19 25.6	+4.1
SCZ2	**Santa Cruz Isl** baz=172,SNR=5.8	12.43	352	P	**Pn**	11 19 26.4	+4.4
PASC	**Pasadena Art C**	12.49	358		**Pn**	11 19 25.9	+3.2
BFSC	**Mount Baldy Ra** baz=180,SNR=19	12.54	360	P	**Pn**	11 19 27.6	+4.0
DECC	**Green Verdugo** baz=177,SNR=5.5	12.58	357	P	**Pn**	11 19 28.3	+4.3
BBRC	**Big Bear Solar** baz=183,SNR=6.6	12.58	3	P	**Pn**	11 19 28.1	+3.8
IRM	**Iron Mountain** baz=191,SNR=15	12.65	9	P	**Pn**	11 19 28.4	+3.4
SBC	**Santa Barbara** baz=172	12.88	352	P	**Pn**	11 19 32.0	+3.9
Y14A	**Wickenburg**	12.90	17		**Pn**	11 19 31.8	+3.4
OSI	**Osito Audit: C** baz=176	12.96	356	P	**Pn**	11 19 32.7	+3.5
PDMCI	**Parker Dam,Lak** baz=195,SNR=9.0	12.97	13	P	**Pn**	11 19 32.7	+3.4
HEC	**Hector,Ludlow** baz=185,SNR=50	13.18	5	P	**Pn**	11 19 35.7	+3.5
EDW2	**Edwards Air Fo** baz=179,SNR=31	13.19	359	P	**Pn**	11 19 36.0	+3.6
RRX	**Edwards Barstow** baz=183	13.19	2	P	**Pn**	11 19 36.2	+3.9
GMRC	**Granite Mounta** baz=188,SNR=29	13.20	7	P	**Pn**	11 19 36.7	+4.1
NEE2	**Needles Airpor** baz=192	13.33	11	P	**Pn**	11 19 37.7	+3.5
PKM	**Mcpherson Peak** baz=172	13.34	352	P	**Pn**	11 19 37.6	+3.2
BCW	**Bitter Crk WRg**	13.34	354		**Pn**	11 19 36.2	+1.7
CCAC	**Calif City Air**	13.46	359		**Pn**	11 19 38.5	+2.5
ARVC	**Arvin** baz=176,SNR=10	13.47	356	P	**Pn**	11 19 39.7	+3.5
GSC	**Goldstone, Bar**	13.62	3		**Pn**	11 19 42.7	+4.4
GSC	**Goldstone, Bar** baz=183,SNR=38	13.62	3	P	**Pn**	11 19 41.0	+2.7
SMMC	**Simmler** baz=171	13.78	352	P	**Pn**	11 19 43.8	+3.5
LRMC	**Laurel Mtn Rad** baz=180,SNR=18	13.78	360	P	**Pn**	11 19 43.6	+3.0
W13A	**Hualapai Mount**	13.79	13		**Pn**	11 19 44.4	+3.6
TUQ	**Turquoise Moun** baz=187,SNR=63	13.82	6	P	**Pn**	11 19 44.4	+3.4
121A	**Cookes Peak, D**	13.91	37	Pn	**Pn**	11 19 45.8	+3.5
121A	**Cookes Peak, D** baz=221,SNR=12	13.91	37	P	**Pn**	11 19 45.2	+2.9
ZAIG	**Zacatecas**	13.96	83		**Pn**	11 19 45.0	+1.7
ISA	**Isabella, Lake**	13.99	357	Pn	**P**	11 19 49.7	-1.7
ISA	**Isabella, Lake** baz=177,SNR=26	13.99	357	P	**Pn**	11 19 47.0	+3.7
VES	**Vestal, Richgr** baz=175,SNR=9.9	14.20	355	P	**Pn**	11 19 49.7	+3.6
V12A	**Nelson**	14.23	9	Pn	**Pn**	11 19 50.2	+3.5
SHOC	**Shoshone, Teco** baz=185	14.25	4	P	**Pn**	11 19 50.6	+3.8
QSM	**Queen of Sheba**	14.28	2		**Pn**	11 19 51.2	+4.0
MPMC	**Manual Prospec** baz=181,SNR=13	14.36	0	P	**Pn**	11 19 51.2	+2.7
X18A	**Snowflake**	14.49	26		**Pn**	11 19 53.7	+3.4
GWY	**Greenwater Val**	14.51	3	Pn	**Pn**	11 19 53.8	+3.3
WTNK	**Soaring Height**	14.67	8		**Pn**	11 19 55.0	+2.4
VOG	**Valley Oaks Go** baz=174	14.71	354	P	**Pn**	11 19 55.3	+2.3
TX31	**Lajitas Ar. Si**	14.71	56		**Pn**	11 19 54.9	+1.7
TX32	**Lajitas Array**	14.71	56		**Pn**	11 19 54.9	+1.6
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=225,slow=13,SNR=16	14.71	56	Pn	**Pn**	11 19 53.7	+0.4
TXAR	comp=Z,61nm,19.3s,baz=238,slow=31 2.9nm,0.9s			LR	LR	11 24 01.6	
CWC	**Cottonwood Cre** baz=179	14.75	358	P	**Pn**	11 19 57.1	+3.4
FURC	**Furnace Creek,** baz=183,SNR=30	14.78	2	P	**Pn**	11 19 57.3	+3.3
PMPB	**Monarch Peak**	14.79	350		**Pn**	11 19 55.4	+1.3
WUAZ	**Wupatki**	14.85	20	Pn	**Pn**	11 19 58.1	+2.9
WUAZ	comp=Z,51nm,0.9s			IAmb	IAmb	11 20 04.6	
WUAZ	**Wupatki** baz=203,SNR=17	14.85	20	P	**Pn**	11 19 58.1	+2.9
SHPR	**Sheep Range**	14.96	8	Pn	**Pn**	11 19 59.9	+3.3
W18A	**Petrified Fore**	15.09	26		**Pn**	11 20 01.2	+2.8
W18A	comp=Z,118nm,1.2s			IAmb	IAmb	11 20 05.5	
W18A	**Petrified Fore** baz=209	15.09	26	P	**Pn**	11 20 01.0	+2.7
WCT	**Wildcat Mounta**	15.12	3		**Pn**	11 20 01.6	+3.0
BBGB	**Big Mountain B**	15.18	349		**Pn**	11 20 02.2	+2.7
BBGB	comp=Z,74nm,1.0s			IAmb	IAmb	11 20 07.5	
TPNV	**Topopah Spring**	15.29	4	Pn	**Pn**	11 20 03.3	+2.3
TPNV	comp=Z,71nm,1.2s			IAmb	IAmb	11 20 09.6	
TPNV	**Topopah Spring** baz=185,SNR=31	15.29	4	P	**P**	11 20 04.3	-1.6
GRAC	**Grapevine Rang**	15.30	1	P	**P**	11 20 07.8	+2.0
GRAC	**Grapevine Rang** baz=181,SNR=20	15.30	1	P	**Pn**	11 20 03.8	+2.7
SBM	**South Baldy**	15.34	35		**Pn**	11 20 03.8	+1.9
TIN	**Tinemaha, Big** baz=178	15.36	358	P	**P**	11 20 05.1	-1.5
U15A	**North Rim**	15.44	16		**Pn**	11 20 05.1	+2.0
U15A	comp=Z,63nm,1.2s			IAmb	IAmb	11 20 10.4	
BMNM	**Bear Mountains**	15.53	34		**P**	11 20 09.5	+0.9
LCH	**Last Change Ra**	15.53	360	P	**P**	11 20 09.3	+0.7
Y22D	**IRIS PASSCAL I**	15.55	35		**Pn**	11 20 06.0	+1.6
Y22D	comp=Z,154nm,1.2s			IAmb	IAmb	11 20 15.3	
Y22D	**IRIS PASSCAL I** baz=220	15.55	35	P	**P**	11 20 07.6	-1.2
Y22F	**Passcal Instru** baz=220	15.55	35	P	**P**	11 20 08.2	-0.6
CRNM	**Carthage**	15.56	36		**P**	11 20 07.4	-1.6
LENM	**Lemitar**	15.60	35		**Pn**	11 20 06.0	+1.0
GMN	**Gold Mountain**	15.60	1	P	**P**	11 20 11.3	+1.9
BNM	**Barren Site**	15.77	35	Pn	**P**	11 20 10.0	-1.3
LCMT	**Little Creek M**	15.77	13		**Pn**	11 20 09.2	+1.9
GDL2	**Guadalupe Moun**	15.79	45		**P**	11 20 10.6	-0.8
PRN	**Pahroc Range**	15.86	7		**Pn**	11 20 09.9	+1.5
PRN	comp=Z,80nm,1.0s			IAmb	IAmb	11 20 16.0	
KNB	**Kanab**	15.87	14	Pn	**P**	11 20 11.8	-0.5
OMMB	**Old Mammoth Mi**	15.96	356		**P**	11 20 12.7	-0.8
MLAC	**Mammoth, Mammo** baz=176,SNR=6.0	15.97	356	P	**P**	11 20 13.0	-0.5
MDPB	**Devils Postpil**	15.98	356		**P**	11 20 12.9	-0.7
MZP	**Montezuma Peak**	16.00	1	P	**P**	11 20 15.1	+1.2
S11A	**Rachel**	16.02	5	P	**P**	11 20 13.9	-0.2
CCUT	**Cedar City**	16.27	12		**P**	11 20 17.2	+0.4
CLN7	**Carlsbad 7**	16.29	46	P	**P**	11 20 19.1	+2.2
SZCU	**Shurtz Canyon**	16.37	13	P	**P**	11 20 19.4	+0.5
SZCU	comp=Z,157nm,1.6s			IAmb	IAmb	11 20 22.5	
TPH	**Tonopah**	16.38	1	P	**P**	11 20 19.0	+1.0
PKCU	**Pink Cliffs**	16.39	15	P	**P**	11 20 18.7	+0.3
PKCU	comp=Z,92nm,1.2s			IAmb	IAmb	11 20 23.3	
ANMO	**Albuquerque** comp=Z,0.1nm,0.3s,baz=218,slow=10,SNR=11	16.47	34	Pn	**Pn**	11 20 17.7	+1.4
ANMO	comp=Z,332nm,18.9s,baz=216,slow=36 comp=Z,4.0nm,1.0s			LR	LR	11 26 08.9	
ANMO	**Albuquerque** baz=219	16.47	34	P	**P**	11 20 18.9	-0.1
NV11	**Mina Array Sit**	16.74	358	P	**P**	11 20 22.6	+0.7
R11A	**Troy Canyon, C** baz=187	16.74	5	P	**P**	11 20 22.0	0.0
NVAR	**Mina Array Bea**	16.74	358	Pn	**Pn**	11 20 20.8	+1.0
	comp=Z,0.2nm,0.3s,baz=179,slow=13,SNR=41						
NVAR	comp=Z,14nm,1.0s **Mina Array Bea**	16.74	358	P	**P**	11 20 23.2	+1.2
MVCO	**Mesa Verde** baz=209,SNR=14	17.40	25	P	**P**	11 20 30.7	+1.3
MVU	**Marysvale**	17.43	14	P	**P**	11 20 30.7	+1.1
MVU	comp=Z,108nm,1.1s			IAmb	IAmb	11 20 35.9	
SPR3	**Spring Creek 3**	17.52	8	Pn	**Pn**	11 20 30.7	+1.0
SPR3	comp=Z,98nm,1.4s			IAmb	IAmb	11 20 37.8	
MPK	**Martis Peak**	17.72	354	P	**P**	11 20 34.9	+2.0
MPK	comp=Z,72nm,1.0s			IAmb	IAmb	11 20 40.6	
833A	**Chaparral WMA,**	17.78	64	P	**P**	11 20 35.1	+1.8
833A	**Chaparral WMA,** baz=252,SNR=8.8	17.78	64	P	**P**	11 20 34.2	+0.9
MSTX	**Muleshoe** baz=230	17.93	44	P	**P**	11 20 36.5	+1.3
Q16A	**Castle Valley**	18.08	16	P	**P**	11 20 38.7	+1.9
PV13	**Radium Mtn., P**	18.11	23	P	**P**	11 20 39.2	+2.0
PV20	**West Nyswonger**	18.22	22	P	**Pn**	11 20 38.7	+0.5
JCT	**Junction City** baz=245,SNR=20	18.23	57	P	**P**	11 20 39.8	+1.5
S22A	**4UR Ranch, Cre** baz=213,SNR=11	18.55	28	P	**Pn**	11 20 44.0	+1.7
P17A	**Butcher Ranch,**	18.71	17	P	**Pn**	11 20 46.1	+2.0
DUG	**Dugway, Tooele** baz=194,SNR=30	18.93	11	P	**Pn**	11 20 48.9	+2.1
ELK	**Elko** comp=Z,0.2nm,0.3s,baz=205,slow=9.6,SNR=56	19.14	5	P	**P**	11 20 49.6	+1.1
ELK	comp=Z,187nm,19.2s,baz=196,slow=34 comp=Z,11nm,0.8s			LR	LR	11 27 09.0	
SDCO	**Great Sand Dun** baz=216,SNR=23	19.15	30	P	**Pn**	11 20 50.7	+1.2
T25A	**Trinidad** baz=220	19.21	34	P	**Pn**	11 20 50.9	+0.6
AMTX	**Amarillo** baz=230	19.21	43	P	**Pn**	11 20 50.9	+0.8
ABTX	**Abilene, Hawle**	19.33	52	P	**P**	11 20 50.3	-0.1
ABTX	**Abilene, Hawle** baz=240,SNR=6.5	19.33	52	P	**Pn**	11 20 51.7	+0.2
O20A	**White River Ci**	20.08	21	P	Pn	11 21 00.8	+0.2
O20A	comp=Z,67nm,1.1s			IAmb	IAmb	11 21 08.9	
O20A	**White River Ci** baz=206,SNR=32	20.08	21	P	Pn	11 21 00.9	+0.4
435B	**Jarrell** baz=247	20.10	59	P	Pn	11 21 00.4	-0.3
Q24A	**Divide**	20.30	29	P	Pn	11 21 03.2	0.0
Q24A	**Divide** baz=215,SNR=8.5	20.30	29	P	Pn	11 21 02.9	-0.3
YBH	**Yreka Blue Hor** comp=Z,26nm,0.9s,baz=140,slow=6.5,SNR=34	20.48	349	P	**P**	11 21 03.6	+0.6
YBH	comp=Z,427nm,20.9s,baz=178,slow=30 comp=Z,26nm,0.9s			LR	LR	11 26 42.3	
YBH	**Yreka Blue Hor**	20.48	349	P	**P**	11 21 03.9	+0.9
WHTX	**Lake Whitney,** baz=245,SNR=16	20.68	56	P	**P**	11 21 06.1	+0.9
WMOK	**Wichita Mounta**	21.05	48	P	**P**	11 21 08.6	-0.5
WMOK	comp=Z,49nm,1.2s			IAmb	IAmb	11 21 18.2	
WMOK	**Wichita Mounta** baz=236,SNR=38	21.05	48	P	**P**	11 21 09.2	0.0
Z35A	**Perchaven, San**	21.43	53	P	**P**	11 21 17.1	+3.9
KSCO	**Kaye Shedlock'**	21.55	33	P	**P**	11 21 15.8	+1.2
KSCO	comp=Z,62nm,1.2s			IAmb	IAmb	11 21 20.7	
KSCO	**Kaye Shedlock'** baz=221,SNR=12	21.55	33	P	**P**	11 21 14.9	+0.3
N23A	**Red Feather La** baz=211,SNR=14	21.58	25	P	**P**	11 21 16.5	+1.5
X34A	**Smith Ranch, M**	21.64	49	P	**P**	11 21 15.8	+0.4
X34A	comp=Z,123nm,1.4s			IAmb	IAmb	11 21 20.8	
MFID	**Camas Ranch**	21.76	3	P	**P**	11 21 18.6	+1.8
MFID	comp=Z,87nm,1.3s			IAmb	IAmb	11 21 23.3	
CMIG	**Matias Romero** comp=Z,21nm,1.0s,baz=285,slow=7.6,SNR=10	21.89	98	P	**P**	11 21 18.8	+0.5
CMIG	comp=Z,385nm,20.3s,baz=278,slow=33 comp=Z,21nm,1.0s			LR	LR	11 28 34.4	
HLID	**Hailey** baz=188,SNR=46	22.02	6	P	**P**	11 21 21.5	+1.9
BW06	**Boulder Array** baz=200,SNR=39	22.11	16	P	**P**	11 21 21.6	+0.9
PD31	**Pinedale Array**	22.11	16	P	**P**	11 21 22.1	+1.5
PD31	comp=Z,39nm,1.1s			IAmb	IAmb	11 21 24.3	
PDAR	**Pinedale Array** comp=Z,26nm,1.1s,baz=188,slow=9.7,SNR=60	22.11	16	P	**P**	11 21 20.6	0.0
PDAR	comp=Z,2.0nm,1.0s,baz=159,slow=1.4,SNR=4.2			PcP	**PcP**	11 25 17.5	-0.6
PDAR	comp=Z,234nm,18.5s,baz=214,slow=35 comp=Z,26nm,1.1s			LR	LR	11 29 22.2	
PDAR	**Pinedale Array**	22.11	16	P	**P**	11 21 21.4	+0.7
SNOW	**Snow King Moun**	22.49	13	P	**P**	11 21 26.2	+1.5
SNOW	comp=Z,65nm,1.0s			IAmb	IAmb	11 21 29.4	
LOHW	**Long Hollow**	22.66	13	P	**P**	11 21 27.8	+1.2
LOHW	comp=Z,28nm,0.9s			IAmb	IAmb	11 21 31.0	
NATX	**Nacogdoches** baz=249	22.79	59	P	**P**	11 21 28.9	+1.1
K22A	**Casper** baz=207,SNR=13	22.90	21	P	**P**	11 21 30.6	+1.6
CBKS	**Cedar Bluff** baz=227	22.97	38	P	**P**	11 21 31.3	+1.7
OK030	**Cody Creek RV**	23.07	47	P	**P**	11 21 30.4	-0.2
OK030	comp=Z,46nm,1.1s			IAmb	IAmb	11 21 36.1	
OK034	**N. Norfolk Rd.**	23.16	47	P	**P**	11 21 31.1	-0.5
OK034	comp=Z,39nm,1.1s			IAmb	IAmb	11 21 37.0	
OGNE	**Ogallala** baz=219	23.32	31	P	**P**	11 21 34.9	+1.7
H17A	**Grant Village** baz=197	23.42	13	P	**P**	11 21 35.7	+1.3
MCMT	**McKenzie Canyo**	23.45	9	P	**P**	11 21 36.1	+1.4
TUL1	**Leonard** baz=239	23.74	48	P

N38A IAmb IAmb 11 22 21.7
comp=Z,28nm,1.1s
SCIA State Center 28.77 40 P **P** **11 22 22.7 -0.1**
baz=233
DGMT Dagmar 28.84 19 P **P** **11 22 23.5 +0.2**
DGMT IAmb IAmb 11 22 24.8
comp=Z,20nm,1.0s
DGMT Dagmar 28.84 19 P **P** **11 22 24.2 +0.8**
baz=206
BRAL Brewton 28.88 64 P **P** **11 22 23.0 -0.9**
baz=258
LRAL Lakeview Retre 29.35 61 P **P** **11 22 27.9 -0.2**
baz=255
WVT Waverly 29.65 54 P **P** **11 22 30.6 -0.1**
WVT IAmb IAmb 11 22 31.7
comp=Z,24nm,0.8s
WVT Waverly 29.65 54 P **P** **11 22 30.7 0.0**
baz=249
MDND Maddock 29.88 25 P **P** **11 22 32.7 +0.1**
baz=215
HDIL Hopedale 30.50 45 P **P** **11 22 37.7 -0.4**
baz=240
SWET Sewanee 30.81 57 P **P** **11 22 40.0 -1.0**
SWET IAmb IAmb 11 22 41.5
comp=Z,13nm,0.8s
SPMN Marine on St. 31.09 35 P **P** **11 22 43.0 -0.3**
SPMN IAmb IAmb 11 22 44.2
comp=Z,19nm,0.9s
SPMN Marine on St. 31.09 35 P **P** **11 22 42.9 -0.4**
baz=229,SNR=5.1
JFWS Jewell Farm 31.14 41 P **P** **11 22 43.4 -0.5**
baz=236
BBB Bella Bella 31.55 348 LR LR 11 32 58.5
comp=Z,96nm,21.9s,baz=223,slow=32
WCI Wyandotte Cave 31.57 51 P **P** **11 22 46.8 -0.8**
baz=247
EDM Edmonton 31.69 5 P **P** **11 22 47.7 -0.9**
AGMN Agassiz Nation 31.78 28 P **P** **11 22 48.9 -0.5**
baz=221
TIGA Tifton 31.84 65 P **P** **11 22 48.8 -1.3**
baz=260
SFIN Lafayette 31.89 47 P **P** **11 22 49.4 -1.1**
baz=243
L44A Lake County Fo 32.21 44 P **P** **11 22 52.1 -1.1**
baz=240
GOGA Godfrey 32.31 61 P **P** **11 22 52.9 -1.3**
baz=257
W52A Murphy 32.35 58 P **P** **11 22 54.0 -0.6**
W52A IAmb IAmb 11 22 54.8
comp=Z,8.6nm,0.8s
TKL Tuckaleechee C 32.62 57 LR LR 11 35 24.0
comp=Z,108nm,20.2s,baz=238,slow=35
TZTN Tazewell 33.05 56 P **P** **11 22 58.6 -2.1**
baz=252
O48B Farmland 33.18 49 P **P** **11 23 00.5 -1.2**
baz=246
P49A Miami Univ. Ec 33.20 50 P **P** **11 23 00.4 -1.6**
baz=247
ULM Lac du Bonnet 33.28 26 P **P** **11 23 02.0 -0.4**
comp=Z,16nm,0.9s,baz=211,slow=10,SNR=12
ULM LR LR 11 35 51.9
comp=Z,150nm,19.2s,baz=200,slow=35
comp=Z,16nm,0.9s
DWPF Disney Wildern 33.34 71 P **P** **11 23 01.0 -2.3**
baz=267
EYMN Ely 33.57 32 P **P** **11 23 04.3 -0.8**
baz=228
P51A Williamsport 34.37 51 P **P** **11 23 12.1 -0.1**
P51A IAmb IAmb 11 23 12.9
comp=Z,20nm,0.8s
KMSC Kings Mountain 34.42 59 P **P** **11 23 11.1 -1.5**
baz=256,SNR=5.5
ACSO Alum Creek Sta 34.70 50 P **P** **11 23 14.5 -0.5**
baz=248
NHSC New Hope 34.96 63 P **P** **11 23 17.8 +0.5**
baz=260
AAM Ann Arbor 35.06 46 P **P** **11 23 19.4 +1.4**
baz=244
FFC Flin Flon 35.07 16 P **P** **11 23 17.9 0.0**
FFC IAmb IAmb 11 23 18.5
comp=Z,22nm,1.1s
P52A Corning 35.10 51 P **P** **11 23 19.9 +1.4**
baz=250
V35K Ketchikan 35.24 346 P **P** **11 23 21.9 +2.6**
baz=157
BLA Blacksburg 35.64 56 P **P** **11 23 24.5 +1.4**
baz=254
O53A New Philadelph 35.97 51 P **P** **11 23 25.9 0.0**
baz=250
U33K Whale Pass 36.30 345 P **P** **11 23 29.7 +1.2**
baz=155
WRAK Wrangell Islan 36.41 346 P **P** **11 23 31.0 +1.7**
baz=157
T35M Bob Quinn 36.50 348 P **P** **11 23 32.0 +1.8**
baz=160
MCWV Mont Chateau 36.78 52 P **P** **11 23 32.9 +0.1**
baz=252
S34M Telegraph Cree 37.54 348 P **P** **11 23 41.0 +1.9**
baz=159
DLBC Dease Lake 37.84 349 P **P** **11 23 43.4 +1.8**
DLBC IAmb IAmb 11 23 47.3
comp=Z,22nm,1.2s
DLBC Dease Lake 37.84 349 P **P** **11 23 43.5 +1.8**
baz=161
S32K Killisnoo 37.88 345 P **P** **11 23 43.2 +1.4**
baz=154
LIRD Liard River Hi 38.21 353 P **P** **11 23 45.6 +0.9**
baz=167
SSPA Standing Stone 38.50 51 P **P** **11 23 46.0 -1.4**
SSPA IAmb IAmb 11 23 50.3
comp=Z,26nm,1.2s
SSPA Standing Stone 38.50 51 P **P** **11 23 46.8 -0.5**
baz=252
R32K Eaglecrest 38.59 346 P **P** **11 23 48.5 +0.7**
baz=154
KOTAN Kotaneelee Air 38.72 355 P **P** **11 23 50.0 +1.1**
baz=171,SNR=6.1
S31K Pelican 38.72 344 P **P** **11 23 49.6 +0.7**
baz=152
Q32M Nakina River 38.74 348 P **P** **11 23 50.7 +1.3**
baz=158
FLDN Fort Liard 38.78 355 P **P** **11 23 50.1 +0.7**
baz=171
R33M Jennings River 38.90 349 P **P** **11 23 52.0 +1.3**
baz=160
P32M Atlin 39.61 347 P **P** **11 23 57.8 +1.3**
baz=156
P33M Teslin, Yukon 40.01 348 P **P** **11 24 00.7 +0.9**
baz=158
PLBC Pleasant Camp 40.08 345 P **P** **11 24 00.6 +0.3**
baz=152
BINY Binghamton 40.33 50 P **P** **11 24 02.4 -0.3**
BINY IAmb IAmb 11 24 06.4
comp=Z,25nm,1.1s
BINY Binghamton 40.33 50 P **P** **11 24 02.2 -0.5**
baz=252
TGTN Hyland Airport 40.54 352 P **P** **11 24 05.2 +1.1**
baz=165,SNR=5.6
P29M Windy Craggy 40.57 344 P **P** **11 24 05.4 +1.1**
baz=151
P30M Million Dollar 40.81 345 P **P** **11 24 07.9 +1.5**
baz=152
WHY Whitehorse 40.83 347 P **P** **11 24 06.3 -0.3**
WHY IAmb IAmb 11 24 08.4
comp=Z,16nm,0.9s
WHY Whitehorse 40.83 347 P **P** **11 24 07.3 +0.7**
baz=155,SNR=5.5
YKA Yellowknife Ar 40.87 2 P **P** **11 24 06.5 -0.2**
comp=Z,4.9nm,0.9s,baz=181,slow=8.7,SNR=10
YKA PcP **PcP** **11 26 06.9 -0.4**
comp=Z,3.5nm,0.8s,baz=186,slow=3.2,SNR=7.9
YKA LR LR 11 40 22.5
comp=Z,163nm,18.3s,baz=244,slow=35
comp=Z,4.9nm,0.9s
YKA Yellowknife Ar 40.87 2 P **P** **11 24 06.0 -0.8**
N32M Quiet Lake 40.93 349 P **P** **11 24 08.5 +1.2**
baz=158
PNL Peninsula 41.03 343 P **P** **11 24 09.3 +1.2**
baz=148
O30N Mendenhall 41.19 346 P **P** **11 24 10.4 +1.0**
baz=154
HYT Haines Junctio 41.56 345 P **P** **11 24 13.3 +0.7**
baz=152
WRGLY Wrigley 41.75 356 P **P** **11 24 15.6 +1.6**
baz=172
N31M Braeburn, Yuko 41.77 347 P **P** **11 24 15.5 +1.3**
N31M IAmb IAmb 11 24 16.3
comp=Z,30nm,0.8s

N31M Braeburn, Yuko 41.77 347 P **P** **11 24 15.6 +1.4**
baz=154,SNR=6.5
FARO Faro, Yukon 41.98 349 P **P** **11 24 17.6 +1.6**
FARO IAmb IAmb 11 24 21.6
comp=Z,21nm,1.1s
FARO Faro, Yukon 41.98 349 P **P** **11 24 17.1 +1.1**
baz=158,SNR=7.6
MMPY Sheldon Lake, 42.00 351 P **P** **11 24 17.2 +1.0**
baz=161
N30M Aishikik Lake 42.02 346 P **P** **11 24 17.4 +1.0**
baz=153
M31M Drury Creek, Y 42.14 348 P **P** **11 24 18.3 +1.0**
baz=157
O28M Mount Upton 42.18 344 P **P** **11 24 19.6 +1.7**
baz=148
YUK4 Talbot Arm 42.28 345 P **P** **11 24 20.5 +1.8**
baz=151
YUK8 Steele Glacier 42.51 344 P **P** **11 24 21.8 +1.3**
baz=149
L61B Northampton 42.76 50 P **P** **11 24 22.7 +0.2**
baz=255
Q23K Middleton Isla 42.94 339 P **P** **11 24 24.0 +0.3**
baz=139
M30M Minto, Yukon 42.96 347 P **P** **11 24 25.3 +1.3**
baz=154
YUK3 Moose Creek 43.10 344 P **P** **11 24 26.5 +1.2**
baz=148
M29M Somme Creek 43.20 346 P **P** **11 24 27.9 +1.9**
baz=151
EYAK Cordova Ski Ar 43.60 340 P **P** **11 24 30.8 +1.7**
baz=141
MAYO Mayo, Yukon 43.70 348 P **P** **11 24 31.9 +2.1**
MAYO Mayo, Yukon 43.70 348 P **P** **11 24 31.8 +1.9**
baz=155,SNR=8.0
L29M L29M 43.72 347 P **P** **11 24 31.3 +1.3**
baz=152
BVCY Beaver Creek 43.74 345 P **P** **11 24 32.5 +2.2**
baz=148,SNR=7.2
M27K Edge Creek, AK 43.95 344 P **P** **11 24 34.0 +1.9**
baz=147
N25K Chitina, Valde 44.08 342 P **P** **11 24 34.7 +1.6**
baz=143
KDAK Kodiak Island 44.11 334 LR LR 11 38 12.1
comp=Z,159nm,18.6s,baz=151,slow=30
K29M Barlow Dome 44.24 347 P **P** **11 24 36.1 +1.8**
baz=153
M26K Nabesna, AK 44.28 343 P **P** **11 24 35.4 +0.8**
M26K IAmb IAmb 11 24 44.5
comp=Z,28nm,1.3s
M26K Nabesna, AK 44.28 343 P **P** **11 24 35.7 +1.2**
baz=145
PORT Chimborazo Vol 44.33 116 P **P** **11 24 35.0 -1.3**
KLU Klutina 44.38 341 P **P** **11 24 37.3 +1.9**
KLU Klutina 44.38 341 P **P** **11 24 36.5 +1.0**
baz=141
COHC Cochancay 44.49 118 P **P** **11 24 36.9 +0.1**
SEW Seward 44.50 338 P **P** **11 24 37.6 +1.3**
baz=136
BCAR Beaver Creek A 44.52 345 P **P** **11 24 37.9 +1.3**
L27K Beaver Creek, 44.53 345 P **P** **11 24 37.9 +1.3**
baz=147
PWL Port Wells 44.67 339 P **P** **11 24 38.7 +1.0**
baz=138
DAWY Dawson 44.83 347 P **P** **11 24 40.3 +1.4**
DAWY IAmb IAmb 11 24 40.3
comp=Z,14nm,0.8s
DAWY Dawson 44.83 347 P **P** **11 24 39.9 +1.0**
baz=151,SNR=7.7
O22K Cooper Landing 44.87 338 P **P** **11 24 40.1 +0.9**
baz=136
HARP HAARP 44.87 342 P **P** **11 24 40.4 +1.1**
baz=143
L26K Log Cabin Wild 44.89 344 P **P** **11 24 41.0 +1.6**
L26K Log Cabin Wild 44.89 344 P **P** **11 24 40.4 +1.0**
baz=145
MENT Mentasta 44.91 343 P **P** **11 24 41.0 +1.4**
MENT IAmb IAmb 11 25 00.9
comp=Z,12nm,1.1s
J29M Klondike Camp 44.93 348 P **P** **11 24 41.0 +1.3**
J29M IAmb IAmb 11 24 47.9
comp=Z,25nm,1.2s
J29M Klondike Camp 44.93 348 P **P** **11 24 42.1 +2.4**
baz=153
M24K Tolsona, Glenn 44.94 341 P **P** **11 24 41.2 +1.3**
baz=141
MCRA Macar, Loja 45.02 121 P **P** **11 24 40.4 -0.7**
MCRA IAmb IAmb 11 24 46.0
comp=Z,13nm,1.1s
SCM Sheep Creek Mo 45.08 341 P **P** **11 24 41.4 +0.4**
baz=140
ROSC El Rosal 45.11 105 P **P** **11 24 45.0 +2.8**
comp=Z,8.2nm,0.6s,baz=103,slow=5.2,SNR=6.8
KNK Knik Glacier 45.12 340 P **P** **11 24 42.3 +1.0**
baz=138
M23K Glacier View 45.17 340 P **P** **11 24 42.6 +0.9**
baz=139
SML Sawmill 45.37 340 P **P** **11 24 44.1 +0.8**
baz=138
K27K Chicken 45.41 345 P **P** **11 24 44.6 +1.1**
K27K IAmb IAmb 11 24 45.8
comp=Z,21nm,1.0s
K27K Chicken 45.41 345 P **P** **11 24 44.9 +1.4**
baz=147
PAX Paxson 45.42 343 P **P** **11 24 44.6 +0.9**
baz=143
PMR Palmer 45.47 339 P **P** **11 24 45.0 +1.1**
baz=137
CHNA Chernabura Isl 45.64 327 P **P** **11 24 45.9 +0.5**
baz=120
Q18K Katmai Hardscr 45.66 334 P **P** **11 24 46.0 +0.4**
baz=128
I29M Ogilvie Camp, 45.75 348 P **P** **11 24 47.1 +0.9**
I29M Ogilvie Camp, 45.75 348 P **P** **11 24 46.7 +0.5**
baz=153,SNR=19
WAT6 Susitna Watana 45.77 341 P **P** **11 24 47.6 +1.0**
baz=140
Q17K Contact Creek 45.79 333 P **P** **11 24 47.2 +0.5**
baz=127
EGAK Eagle 45.83 346 P **P** **11 24 48.5 +1.7**
EGAK Eagle 45.83 346 P **P** **11 24 47.9 +1.1**
baz=149,SNR=16
SCRK Sand Creek 45.83 344 P **P** **11 24 48.0 +1.0**
SCRK Sand Creek 45.83 344 P **P** **11 24 48.0 +1.0**
baz=145,SNR=13
RIDG Independent Ri 45.86 344 P **P** **11 24 47.8 +0.7**
baz=144
M22K Willow 45.91 339 P **P** **11 24 48.4 +0.9**
baz=136
SUA Susitna One 45.92 339 P **P** **11 24 48.4 +0.7**
baz=135
DHY Denali Highway 46.04 342 P **P** **11 24 49.3 +0.6**
baz=140
J26L Joseph Creek 46.16 345 P **P** **11 24 50.3 +0.7**
J26L IAmb IAmb 11 24 55.1
comp=Z,18nm,0.9s
J26L Joseph Creek 46.16 345 P **P** **11 24 50.5 +1.0**
baz=146
K24K Donnelly Dome 46.16 343 P **P** **11 24 50.7 +1.2**
baz=143
WAT1 Susitna Watana 46.21 341 P **P** **11 24 50.2 +0.3**
baz=139
N20K Mount Spurr 46.24 338 P **P** **11 24 50.6 +0.4**
baz=133
SPCR Spurr Chakacha 46.24 338 P **P** **11 24 50.9 +0.7**
baz=133
O19K Port Alsworth 46.35 336 P **P** **11 24 50.8 -0.1**
baz=130
Q16K King Salmon 46.36 333 P **P** **11 24 51.8 +0.8**
baz=126
EPYK Eagle Plains 46.38 349 P **P** **11 24 51.3 +0.2**
baz=155,SNR=6.0
CUT Chulitna 46.43 340 P **P** **11 24 52.0 +0.5**
baz=136
O18K Koktuh Hills 46.48 335 P **P** **11 24 52.5 +0.5**
baz=129
SKT Skwentna 46.55 339 P **P** **11 24 53.2 +0.7**
baz=135
P17K Kvichak River 46.58 334 P **P** **11 24 53.0 +0.2**
baz=127
I27K Kandik River 46.64 347 P **P** **11 24 53.9 +0.6**
baz=149
J25K Salcha River, 46.70 344 P **P** **11 24 54.5 +0.7**
J25K Salcha River, 46.70 344 P **P** **11 24 54.3 +0.5**
baz=144
I26K Coal Creek Min 46.73 346 P **P** **11 24 54.8 +0.9**
I26K Coal Creek Min 46.73 346 P **P** **11 24 54.6 +0.7**
baz=147

N19K Bonanza Creek 46.81 336 P **P** **11 24 54.0 -0.7**
baz=130
G30M tAoh Zraii Nji 46.85 350 P **P** **11 24 54.7 -0.1**
baz=156
SDV Santo Domingo 46.87 98 LR LR 11 44 02.0
comp=Z,77nm,20.6s,baz=269,slow=35
SDV Santo Domingo 46.87 98 P **P** **11 24 55.8 -0.1**
SDV Santo Domingo 46.87 98 *eP* **P** **11 24 56.8 +0.9**
F31M Tsiigehtchic 46.91 352 P **P** **11 24 55.8 +0.6**
baz=159,SNR=15
HDA Harding Lake 46.96 343 P **P** **11 24 55.5 -0.2**
baz=142
MCK McKinley 47.00 342 P **P** **11 24 55.8 -0.2**
MCK McKinley 47.00 342 P **P** **11 24 56.2 +0.2**
baz=139,SNR=9.8
M20K Styx River 47.03 338 P **P** **11 24 56.3 -0.1**
baz=133
P16K Nushagak River 47.13 333 P **P** **11 24 57.2 +0.2**
baz=125
H27K Steamboat Moun 47.16 347 P **P** **11 24 58.2 +0.9**
baz=149
O17K Koliganek Bris 47.19 334 P **P** **11 24 57.9 +0.4**
baz=126
TRF Thorofare Moun 47.20 341 P **P** **11 24 58.1 +0.3**
baz=137,SNR=12
IL31 47.23 343 P **P** **11 24 57.8 +0.1**
IL31 IAmb IAmb 11 24 58.6
comp=Z,14nm,0.9s
ILAR Eielson Array 47.23 343 P **P** **11 24 57.5 -0.3**
comp=Z,8.3nm,0.8s,baz=157,slow=7.8,SNR=70
ILAR LR LR 11 40 30.1
comp=Z,111nm,19.8s,baz=112,slow=31
comp=Z,8.3nm,0.8s
ILAR Eielson Array 47.23 343 P **P** **11 24 57.6 -0.2**
N18K Kilae Creek 47.27 335 P **P** **11 24 58.1 -0.1**
baz=129
PPLA Purkeypile 47.41 339 P **P** **11 25 00.0 +0.7**
baz=134,SNR=5.6
PRP Porcupine Dome 47.48 345 P **P** **11 25 00.8 +1.0**
baz=144
M19K Big River Lodg 47.49 337 P **P** **11 25 00.3 +0.4**
baz=131
O16K Kokwok River B 47.50 333 P **P** **11 24 60.0 0.0**
baz=125
COLA College 47.57 343 P **P** **11 24 60.0 -0.4**
baz=141
TCOL CIGO, UAF Yank 47.57 343 P **P** **11 25 00.1 -0.3**
baz=141
POKR Poker Plat Res 47.64 343 P **P** **11 25 01.4 +0.4**
baz=141
G27K Doyon Strip 47.69 347 P **P** **11 25 02.1 +0.7**
baz=149,SNR=30
NEA2 Nenana 47.69 342 P **P** **11 25 01.6 +0.2**
baz=139,SNR=15
L20K Farewell, AK 47.69 338 P **P** **11 25 00.9 -0.6**
baz=132
INK Inuvik 47.70 352 P **P** **11 25 01.6 +0.3**
comp=Z,13nm,0.9s,baz=144,slow=8.3,SNR=28
INK LR LR 11 43 06.8
comp=Z,160nm,19.9s,baz=158,slow=34
comp=Z,13nm,0.9s
INK Inuvik 47.70 352 P **P** **11 25 02.4 +1.1**
INK IAmb IAmb 11 25 02.7
comp=Z,20nm,1.1s
INK Inuvik 47.70 352 P **P** **11 25 01.7 +0.4**
baz=160,SNR=14
CAST Castle Rocks 47.74 340 P **P** **11 25 01.6 -0.2**
baz=135,SNR=8.2
L19K White Mountain 47.84 337 P **P** **11 25 02.8 +0.3**
baz=131
C36M Paulatuk 47.87 357 P **P** **11 25 02.5 -0.2**
baz=172
BPAW Bear Paw Mtn. 47.89 341 P **P** **11 25 02.3 -0.6**
baz=137
ATAH Atahualpa 47.92 122 LR LR 11 40 45.2
comp=Z,240nm,21.0s,baz=308,slow=30
CHUM Lake Minchumin 48.14 340 P **P** **11 25 04.9 +0.1**
baz=135,SNR=9.6
H25L Birch Creek 48.15 345 P **P** **11 25 06.0 +1.1**
baz=144
I23K Minto, Yukon-K 48.19 343 P **P** **11 25 05.7 +0.4**
baz=139,SNR=22
G26K Porcupine Rive 48.25 347 P **P** **11 25 06.4 +0.7**
baz=137,SNR=29
N16K Nishlik Lake 48.28 334 P **P** **11 25 06.2 +0.1**
baz=125
H24K Noodor Dome 48.32 344 P **P** **11 25 06.3 0.0**
H24K Noodor Dome 48.32 344 P **P** **11 25 06.8 +0.5**
baz=141
SJG San Juan 48.33 85 LR LR 11 47 01.2
comp=Z,35nm,18.4s,baz=280,slow=38
K20K Telida 48.35 339 P **P** **11 25 06.4 -0.1**
baz=132
MLY Manley 48.49 342 P **P** **11 25 07.7 0.0**
MLY Manley 48.49 342 P **P** **11 25 07.5 -0.1**
baz=137,SNR=16
G25K Bearman Lake 48.62 345 P **P** **11 25 09.5 +0.9**
baz=144,SNR=5.2
TTA Tatalina 48.73 338 P **P** **11 25 09.2 -0.3**
baz=130,SNR=8.1
H23K Yukon River 48.75 343 P **P** **11 25 10.1 +0.5**
baz=139
BMAR Burnt Mountain 48.83 347 P **P** **11 25 10.9 +0.7**
E27K Coleen River 48.87 348 P **P** **11 25 11.0 +0.6**
baz=150,SNR=19
UNV Unalaska Valle 48.87 324 P **P** **11 25 10.1 -0.5**
baz=112
G24K Hadweenzic Riv 48.90 345 P **P** **11 25 11.5 +0.8**
baz=142,SNR=7.7
J20K Nowinta River 48.93 340 P **P** **11 25 10.7 -0.2**
baz=133
F26K Sheenjek River 48.95 347 P **P** **11 25 12.1 +1.0**
baz=147,SNR=8.5
I21K Tanana 48.96 342 P **P** **11 25 11.1 -0.1**
baz=136,SNR=9.2
F25K Christian Rive 49.20 346 P **P** **11 25 13.9 +0.9**
baz=145,SNR=16
BAUV El Baul 49.24 97 P **P** **11 25 13.5 -0.5**
H22K Ishtalitna Cre 49.31 342 P **P** **11 25 13.9 +0.1**
baz=137,SNR=15
H21K Melozitna Rive 49.55 342 P **P** **11 25 15.2 -0.5**
H21K Melozitna Rive 49.55 342 P **P** **11 25 15.6 0.0**
baz=135
G23K Bananza Creek 49.55 344 P **P** **11 25 15.9 +0.1**
baz=139
E25K Arctic Village 49.61 347 P **P** **11 25 16.9 +0.8**
baz=145,SNR=20
F24K Squaw Lake 49.65 345 P **P** **11 25 17.2 +0.8**
baz=142,SNR=6.2
COLD Coldfoot 49.99 344 P **P** **11 25 19.6 +0.6**
baz=139,SNR=5.9
IMAR Indian Mountai 50.05 342 P **P** **11 25 18.7 -0.8**
G22K Bettles 50.10 343 P **P** **11 25 19.9 +0.1**
baz=138
GCSA Galena City Sc 50.20 339 P **P** **11 25 20.0 -0.5**
baz=130
E24K Your Creek 50.23 345 P **P** **11 25 21.2 +0.3**
baz=142
SCHQ Schefferville 50.24 36 P **P** **11 25 20.0 -1.1**
comp=Z,15nm,0.8s,baz=261,slow=6.3,SNR=10.0
comp=Z,15nm,0.8s
G21K Allakaket 50.36 342 P **P** **11 25 21.2 -0.6**
baz=135,SNR=6.2
E23K Chandalar 50.48 345 P **P** **11 25 23.2 +0.4**
baz=140
C27K Jago River 50.50 348 P **P** **11 25 23.9 +1.0**
baz=148
A36M Sachs Harbour 50.55 357 P **P** **11 25 23.4 +0.3**
A36M Sachs Harbour 50.55 357 P **P** **11 25 23.6 +0.4**
baz=171,SNR=24
F22K John River 50.71 344 P **P** **11 25 25.1 +0.6**
baz=137,SNR=7.7
D25K Kavik River 50.77 347 P **P** **11 25 25.4 +0.4**
baz=145,SNR=17
F21K Alatna River 50.86 343 P **P** **11 25 25.5 -0.1**
baz=136
TOLK Toolik Lake Re 50.92 346 P **P** **11 25 26.4 +0.3**
TOLK IAmb IAmb 11 25 27.5
comp=Z,15nm,0.8s
TOLK Toolik Lake Re 50.92 346 P **P** **11 25 26.6 +0.5**
baz=141,SNR=8.8
C26K Camden Bay 50.97 348 P **P** **11 25 26.4 +0.1**
baz=147
E22K Anaktuvuk Pass 51.08 344 P **P** **11 25 26.7 -0.6**
baz=138
D23K Nanushuk River 51.43 345 P **P** **11 25 30.2 +0.3**
baz=140
C24K Franklin Bluff 51.58 347 P **P** **11 25 31.0 +0.1**

baz=142,SNR=6.0
PCRV Puerto La Cruz 51.97 94 LR LR 11 48 55.9
comp=Z,103nm,18.1s,slow=38
C23K Itkillik River 52.09 346 P P 11 25 34.6 -0.1
baz=140
NNA Nana 52.13 126 LR LR 11 43 19.2
comp=Z,34nm,21.5s,baz=286,slow=31
CZSB Cruzeiro do Su 52.83 119 eP P 11 25 42.1 +1.1
RES Resolute Bay 54.43 7 LR LR 11 48 37.1
comp=Z,180nm,18.5s,baz=114,slow=36
RES Resolute Bay 54.43 7 P P 11 25 52.0 +0.1
RES IAmb IAmb 11 25 52.2
comp=Z,16nm,1.0s
BOAV Boa Vista 58.63 101 eP P 11 26 24.3 +1.5
ETMB Extrema 59.33 116 P P 11 26 26.2 -1.3
ETMB IAmb IAmb 11 26 30.1
comp=Z,14nm,1.0s
ETMB Extrema 59.33 116 eP P 11 26 29.0 +1.5
SHEM Shemya Is, Ala 59.98 319 LR LR 11 46 16.4
comp=Z,107nm,19.6s,baz=148,slow=30
EUNU Eureka 60.03 6 P P 11 26 31.9 +0.4
EUNU IAmb IAmb 11 26 32.1
comp=Z,12nm,0.9s
MACA Manacapuru-AM 60.85 107 eP P 11 26 40.4 +2.4
LPAZ La Paz 61.41 124 P P 11 26 42.1 -0.4
comp=Z,5.0nm,1.0s,baz=321,slow=8.7,SNR=6.6
LPAZ LR LR 11 51 02.3
comp=Z,78nm,18.6s,baz=309,slow=34
comp=Z,5.0nm,1.0s
LPAZ La Paz 61.41 124 P P 11 26 41.4 -1.1
LPAZ IAmb IAmb 11 26 52.0
comp=Z,10nm,1.2s
LPAZ La Paz 61.41 124 eP P 11 26 43.6 +1.2
LVC Limon Verde 64.70 130 LR LR 11 48 33.2
comp=Z,73nm,18.9s,baz=271,slow=30
LVC Limon Verde 64.70 130 eP P 11 27 05.6 +1.7
MDP Montagnes des 64.87 95 LR LR 11 55 28.3
comp=Z,47nm,18.8s,baz=297,slow=36
H03N2 Juan Fernandez 66.03 145 T T 12 38 59.0
baz=323,slow=78,SNR=24
H03N1 Juan Fernandez 66.04 145 T T 12 39 04.2
baz=323,slow=78,SNR=24
H03N3 Juan Fernandez 66.05 145 T T 12 38 59.0
baz=323,slow=78,SNR=24
MALB Monte Alegre 66.07 102 eP P 11 27 13.6 +1.0
SUMG Summit 66.27 19 iP P 11 27 12.0 -1.4
SIV San Ignacio 66.85 119 LR LR 11 52 14.9
comp=Z,122nm,21.1s,baz=278,slow=32
NPGB Novo Progresso 67.33 108 eP P 11 27 23.0 +2.4
MCPB Macapa, AP 67.48 100 eP P 11 27 23.0 +1.4
BBSD Serra de San D 67.86 120 eP P 11 27 25.8 +2.0
PTLB Pontes e Lacer 68.15 118 eP P 11 27 28.0 +2.4
PDRB Porto dos Gac 68.26 113 eP P 11 27 28.4 +1.9
CLDB Colider 68.71 112 eP P 11 27 31.4 +2.1
BBRB Robore, Bolivi 69.09 121 eP P 11 27 33.8 +2.3
PEA0B Petropavlovsk- 69.86 320 P P 11 27 34.8 -1.0
PETK Petropavlovsk- 69.86 320 P P 11 27 33.4 -2.4
comp=Z,11nm,0.9s,baz=93,slow=10,SNR=11
comp=Z,11nm,0.9s
SALV Santo Antonio 71.23 116 eP P 11 27 47.0 +2.3
PRPB Parauapebas 71.90 104 eP P 11 27 50.4 +1.5
MURT Porto Murtinho 72.64 122 eP P 11 27 55.5 +2.4
SNDB Serra Nova Dou 73.12 111 eP P 11 27 58.4 +2.3
ARAG Araguaiana, MT 74.40 114 eP P 11 28 05.7 +2.1
SMTB Santa Maria do 75.03 106 eP P 11 28 09.7 +2.3
CPUP Villa Florida 75.39 126 P P 11 28 08.0 -1.1
comp=Z,4.7nm,1.0s,baz=262,slow=6.3,SNR=5.2
comp=Z,4.7nm,1.0s
CPUP Villa Florida 75.39 126 eP P 11 28 11.5 +2.5
JMIC Jan Mayen 75.71 19 LR LR 12 01 35.8
comp=Z,102nm,18.7s,baz=114,slow=36
PLCA Paso Flores 75.91 145 P P 11 28 12.8 +1.0
comp=Z,9.2nm,1.0s,baz=306,slow=7.3,SNR=6.2
comp=Z,9.2nm,1.0s
PLCA Paso Flores 75.91 145 P P 11 28 10.8 -1.1
PLCA IAmb IAmb 11 28 16.6
comp=Z,20nm,1.1s
PLCA Paso Flores 75.91 145 eP P 11 28 16.3 +4.5
TIXI Tiksi 76.69 343 P P 11 28 15.2 -0.5
MCR1 Marechal Candi 76.91 123 eP P 11 28 20.7 +3.0
ITRB Iturama 77.51 117 eP P 11 28 24.4 +3.1
CRSM Crissiumal (Br 78.48 126 eP P 11 28 30.0 +3.5
IPMB Ipameri, GO 78.51 115 eP P 11 28 29.6 +2.7
ITAB Concordia 79.80 125 eP P 11 28 37.0 +3.2
YAK Yakutsk 81.14 334 LR LR 12 00 54.6
comp=Z,74nm,21.4s,baz=88,slow=33
YAK Yakutsk 81.14 334 P P 11 28 39.4 -1.0
ASAJ Asahikawa 81.94 314 LR LR 11 56 49.4
comp=Z,52nm,20.6s,baz=176,slow=30
BSCB Bom Sucesso 82.75 116 eP P 11 28 52.5 +2.8
ARCES ARCESS Array B 85.32 12 P P 11 29 01.5 -0.3
comp=Z,12nm,0.8s,baz=322,slow=7.7,SNR=8.5
comp=Z,12nm,0.8s
DZM Mont Dzumac 85.85 244 P P 11 29 06.2 +0.8
comp=Z,6.9nm,1.0s,baz=81,slow=16,SNR=2.6
comp=Z,6.9nm,1.0s
HNR Honiara 86.52 259 LR LR 11 58 53.2
comp=Z,738nm,21.1s,baz=86,slow=30
NRIK Noril'sk 87.48 351 P P 11 29 12.0 -0.4
comp=Z,12nm,1.0s,baz=31,slow=3.4,SNR=11
comp=Z,12nm,1.0s
NRIK Noril'sk 87.48 351 P P 11 29 12.4 -0.1
NOA NORSAR Array B 87.90 22 P P 11 29 12.9 -1.7
comp=Z,3.0nm,1.0s,baz=318,slow=4.7,SNR=3.6
NOA LR LR 12 09 20.3
comp=Z,15nm,18.3s,baz=250,slow=36
comp=Z,3.0nm,1.0s
MJAR Matsushiro Arr 88.07 309 P P 11 29 14.0 -2.0
comp=Z,12nm,1.3s,baz=81,slow=1.5,SNR=7.1
comp=Z,12nm,1.3s
JCJ Chichijima 88.91 299 LR LR 11 59 49.6
comp=Z,63nm,21.1s,baz=108,slow=29
KRVT Keravat (AS076 91.92 266 LR LR 12 02 58.4
comp=Z,51nm,21.7s,baz=244,slow=30
KLMR Klimovskoe 95.73 11 eP P 11 29 48.5 -2.4
KLMR AMP 11 29 49.8
comp=Z,18nm,1.2s
PMG Port Moresby 98.25 263 LR LR 12 07 04.3
comp=Z,43nm,19.0s,baz=26,slow=31
MNK Minsk 98.58 20 iP P 11 30 01.2 -2.7
comp=E,2.0nm,0.8s
MNK iP P 11 30 01.2 -2.7
comp=N,36nm,0.8s
MNK iP P 11 30 01.2 -2.7
comp=Z,12nm,0.8s,baz=148
MNK iPP PP 11 34 02.5 -1.1
MNK iPPP PPP 11 36 08.2
MNK iS SKSac 11 40 39.3 -2.7
MNK iPS PS 11 43 00.5 +2.2
MNK iSS SS 11 48 23.1 +6.8
MNK iSSS SSS 11 52 07.1
MNK iLR LR 12 10 31.6
MNK iLRM MLR 12 14 31.8
comp=E,25nm,15.3s
MNK iLRM MLR 12 14 42.9
comp=Z,116nm,11.8s
MNK iLRM MLR 12 14 55.5
comp=N,330nm,16.0s
SONM Songino Array 100.37 332 P Pdif 11 30 11.5 -0.7
comp=N,0.6nm,0.5s,baz=46,slow=4.9,SNR=4.9
ZALV Zalesovo Beam 102.27 347 P Pdif 11 30 20.2 -0.1
comp=N,0.7nm,0.4s,baz=347,slow=5.9,SNR=4.1
ASAR Alice Springs 114.65 253 PKP PKPdf 11 35 04.2 -2.0
comp=N,1.2nm,0.8s,baz=78,slow=2.1,SNR=10.0
PZH PanZhiHua 118.82 320 PKP PKPdf 11 35 06.8 -7.6
GEYT Alibeck 120.61 4 PKP PKPdf 11 35 16.6 -0.8
comp=N,1.8nm,0.6s,baz=180,slow=1.4,SNR=2.0
CMAR Chiang Mai Arr 126.45 315 PKP PKPdf 11 35 28.5 -0.5
comp=N,3.9nm,0.9s,baz=347,slow=1.7,SNR=22
CMAR Chiang Mai Arr 126.45 315 PKiKP 11 35 29.2 -0.3
BOSA Boshof 145.76 109 PKPbc PKPdf 11 36 03.8 -0.7
comp=N,10nm,1.0s,baz=208,slow=0.8,SNR=6.3
KMBO Kilima Mbogo 148.12 54 PKPbc PKPbc 11 36 10.4 -1.8
comp=N,3.5nm,0.9s,baz=343,slow=2.1,SNR=6.5

*WEL **14** 11:16:00,41.°71S×174.°27E,h19km,ML5.1,Mw4.8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16} Nm; M_{rr}0.74; $M_{\theta\theta}$1.55; $M_{\phi\phi}$-2.29; $M_{r\theta}$-0.33; $M_{\theta\phi}$-0.66; $M_{\phi r}$0.07; Fault plane solution: M_o2.09000×10^{16} NP1: ϕ_s233.00000°,δ77.00000°,λ167.00000°. NP2: ϕ_s326.00000°,δ78.00000°,λ13.00000°. Principal axes: T -2403.8600, Plg18.0000°, Azm190.0000°; N 1772.7300, Plg72.0000°, Azm7.0000°; P 631.1300, Plg1.0000°,*

Azm99.0000°;
*IDC **14** 11:16:40.1±0.9,41.°64S×174.°05E,h0km,mb4.3/8, mbtmp4.3/9,ML4.4/1,MS4.0/4 Error ellipse: s-maj=31.0km s-min=18.8km az=81.0*
*WEL **14** 11:16:42.8±0.3,42.°3S×174.°4E±°,h8km±3km,M5.0/16, ML5.3/16,MLv5.0/16,Error ellipse: s-maj=0.0km s-min=0.0km az=157.8*
*NEIC **14** 11:16:43.0±1.2,41.°75S±0.°04×174.°28E±0.°04,h22km±5km, mb4.8/18,Error ellipse: s-maj=6.1km s-min=3.4km az=159.0*
*NOU **14** 11:16:44.7,42.°22S×174.°60E,h0km,MLv5.3/7,Off E. Coast of S. Island, N.Z.*

ISC 14 11:16:42.3±0.8,41.°78S±0.°03×174.°31E±0.°02,h20km±3km, n198,σ1§36/217,mb4.6/16,MS3.9/4,3C,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.07	294				Pg	11 16 46.0	0.0
CMWZ	Cape Campbell	0.07	294	P			Pg	11 16 45.8	-0.2
CMWZ				S			Sg	11 16 48.6	+0.1
BSWZ	Blackbirch Sta	0.33	281				Pg	11 16 49.1	-0.3
BSWZ	Blackbirch Sta	0.33	281	P			Pg	11 16 49.1	-0.3
BSWZ				S			Sb	11 16 53.8	-0.5
TUWZ	Tuamarina	0.44	322				Pb	11 16 50.7	-0.7
TUWZ	Tuamarina	0.44	322	P			Pb	11 16 50.8	-0.7
TUWZ				S			Sg	11 16 55.9	-1.7
SNZO	South Karori	0.56	33				Pg	11 16 53.6	+0.1
BHW	Baring Head	0.56	49	P			Pg	11 16 54.2	+0.6
TCW	Tory Channel	0.57	358	P			Pb	11 16 53.0	-0.6
TCW				S			Sb	11 17 00.1	-1.1
WEL	Wellington	0.60	35	P			Pg	11 16 54.6	+0.2
WEL				S			Sg	11 17 02.8	+0.3
PLWZ	Palliser	0.74	74				Pn	11 16 58.0	+0.4
PLWZ	Palliser	0.74	74	P			Pn	11 16 58.1	+0.4
PLWZ				S			Sn	11 17 08.0	-0.4
MSWZ	Moikau Station	0.80	63				Pn	11 16 59.0	+0.5
MSWZ	Moikau Station	0.80	63	P			Pn	11 16 59.1	+0.7
MSWZ				S			Sn	11 17 09.4	-0.3
KHZ	Kahutara	0.85	222				Pn	11 17 00.1	+0.9
KHZ	Kahutara	0.85	222	P			Pn	11 17 00.0	+0.9
KHZ	Kahutara	0.85	222	P			Pn	11 17 00.1	+0.9
KHZ				S			Sn	11 17 12.5	+1.4
CAW	Cannon Point	0.88	41	P			Pg	11 16 59.4	-0.1
CAW				S			Sg	11 17 11.0	-0.2
NNZ	Nelson	0.89	309				Pb	11 16 58.6	-0.5
NNZ	Nelson	0.89	309	P			Pb	11 16 58.7	-0.5
NNZ				S			Sb	11 17 09.7	-0.9
PAWZ	Paruwai Farm	0.93	65	P			Pg	11 17 00.7	+0.2
PAWZ				S			Sn	11 17 14.2	+1.1
DUWZ	D'Urville Isla	1.02	343	P			Pb	11 17 00.7	-0.5
DUWZ				S			Sb	11 17 14.3	0.0
KIW	Kapiti Island	1.02	27	P			Pb	11 17 01.5	+0.1
KIW				S			Sn	11 17 15.0	-0.4
THZ	Tophouse	1.05	270	Pn			Pn	11 17 02.1	+0.2
THZ	Tophouse	1.05	270	P			Pn	11 17 02.1	+0.2
THZ				S			Sn	11 17 16.4	+0.4
MTW	Mount Morrison	1.09	56	P			Pb	11 17 02.8	+0.3
MTW				S			Sn	11 17 17.3	+0.3
TRWZ	Traveller	1.10	70	P			Pb	11 17 02.8	0.0
OGWZ	Otaki Gorge	1.16	34	P			Pb	11 17 03.9	+0.3
OGWZ				S			Sn	11 17 18.5	-0.2
MRNZ	Matariki Terra	1.22	288	P			Pb	11 17 05.1	+0.4
MRNZ				S			Sn	11 17 20.4	+0.2
TKNZ	Takaka Hill	1.26	306	P			Pb	11 17 05.2	-0.1
TKNZ				S			Sb	11 17 21.2	+0.1
HOWZ	Holdsworth Sta	1.27	46	P			Pb	11 17 05.2	-0.3
HOWZ				S			Sn	11 17 21.1	-0.2
TMWZ	Te Maipa	1.37	61	P			Pn	11 17 06.3	0.0
MRZ	Mangatainoka R	1.47	41	Pn			Pn	11 17 08.1	+0.4
MRZ	Mangatainoka R	1.47	41	P			Pn	11 17 08.2	+0.4
MRZ				S			Sn	11 17 26.4	0.0
GVZ	Greta Valley S	1.52	218				Pn	11 17 08.8	+0.6
GVZ	Greta Valley S	1.52	218	P			Pn	11 17 08.9	+0.6
TIWZ	Tintock	1.56	50	P			Pn	11 17 08.8	0.0
TIWZ				S			Sn	11 17 27.3	-1.3
QRZ	Quartz Range	1.64	305				Pb	11 17 11.1	-0.8
QRZ	Quartz Range	1.64	305	P			Pb	11 17 11.6	-0.3
QRZ				S			Sb	11 17 32.4	+0.2
CPWZ	Castlepoint	1.67	59	P			Pn	11 17 10.7	+0.3
OHWZ	Ohakea	1.75	26	P			Pn	11 17 13.5	-0.2
PRWZ	Pori Road	1.75	46	P			Pn	11 17 11.7	+0.1
POWZ	Post Office Ro	1.77	39	P			Pn	11 17 12.3	+0.5
LTZ	Lake Taylor	1.81	236				Pn	11 17 13.4	+1.0
LTZ	Lake Taylor	1.81	236	P			Pn	11 17 13.1	+0.7
BFZ	Birch Farm	1.83	54	Pn			Pn	11 17 12.0	-0.6
BFZ	Birch Farm	1.83	54	P			Pn	11 17 12.0	-0.6
AMCZ	Amberley	1.86	221	P			Pn	11 17 13.1	+0.2
DSZ	Denniston Nort	1.87	270	Pn			Pb	11 17 15.0	-0.8
DSZ	Denniston Nort	1.87	270	P			Pb	11 17 15.1	-0.7
DVHZ	Dannevirke	2.04	44	P			Pn	11 17 15.1	-0.4
WAZ	Wanganui	2.09	15	P			Pn	11 17 18.9	-0.5
ANWZ	Angora Road	2.10	52	P			Pn	11 17 15.6	-0.7
TSZ	Takapari Road	2.13	37	P			Pn	11 17 17.0	+0.3
OKCZ	Okains Bay	2.15	205	P			Pn	11 17 20.8	-0.3
MQZ	McQueen's Vall	2.28	212	Pn			Pn	11 17 17.2	-1.5
MQZ	McQueen's Vall	2.28	212	P			Pn	11 17 17.8	-0.9
OXZ	Oxford	2.28	227				Pn	11 17 18.1	-0.7
OXZ	Oxford	2.28	227	P			Pn	11 17 18.4	-0.4
LREZ	Lake Rotokare	2.32	2	P			Pb	11 17 22.7	-0.6
PRHZ	Porangahau	2.32	50	P			Pn	11 17 18.5	-0.8
INZ	Inchbonnie	2.32	245	P			Pn	11 17 20.9	+1.5
AKCZ	Akaroa Harbour	2.33	206	P			Pn	11 17 19.1	-0.4
PNHZ	Pukenui	2.35	38	P			Pn	11 17 19.8	0.0
WPHZ	Waipukurau	2.36	44	P			Pn	11 17 19.7	-0.1
NMEZ	Namu Road	2.39	352	P			Pb	11 17 24.4	-0.2
KHEZ	Kahui Hut	2.49	355	P			Pb	11 17 25.2	-1.2
NEZ	North Egmont	2.51	356	P			Pb	11 17 26.1	-0.6
RACZ	Rakaia	2.52	219	P			Pn	11 17 21.2	-0.8
NBEZ	Newall Road No	2.53	352	P			Pb	11 17 25.0	-2.0
MTVZ	Mangateitei	2.55	21	P			Pb	11 17 27.7	+0.3
DREZ	Durham Road	2.59	358	P			Pb	11 17 26.8	-1.2
PKEZ	Pukeiti	2.59	355	P			Pb	11 17 25.9	-2.2
PXZ	Pawanui	2.61	49	P			Pn	11 17 22.1	-1.2
PKVZ	Pokaka	2.61	18	P			Pn	11 17 28.7	+0.2
WNVZ	Wahianoa	2.64	22	P			Pn	11 17 25.4	+1.5
BHHZ	Black Hill Sta	2.65	31	P			Pn	11 17 24.6	+0.6
TRVZ	Turoa	2.65	21	P			Pn	11 17 25.9	+1.8
VRZ	Vera Road	2.67	8	P			Pn	11 17 26.6	+2.4
DRZ	Dome Shelter	2.68	21	P			Pn	11 17 27.1	+2.5
WHVZ	Whangaehu Hut	2.68	22	P			Pn	11 17 26.0	+1.5
FWVZ	Far West T-bar	2.69	21	P			Pn	11 17 26.6	+1.8
MHEZ	Mangahewa	2.70	0	P			Pb	11 17 28.5	-1.4
TUVZ	Tukino	2.71	23	P			Pn	11 17 26.4	+1.5
KAHZ	Kahuranaki	2.78	45	P			Pn	11 17 24.8	-1.0
NGZ	Ngauruhoe	2.78	21	P			Pn	11 17 27.7	+1.8
SNVZ	South Ngauruho	2.78	22	P			Pn	11 17 27.4	+1.5
OTVZ	Oturere	2.81	22	P			Pn	11 17 27.7	+1.5
WACZ	Wakanui South	2.82	219	P			Pn	11 17 25.8	-0.4
NNVZ	North Ngauruho	2.83	21	P			Pn	11 17 28.2	+1.7
WTVZ	West Tongariro	2.84	21	P			Pn	11 17 28.4	+1.8
TWVZ	Taurewa	2.84	18	P			Pn	11 17 28.2	+1.6
ETVZ	East Tongariro	2.85	23	P			Pn	11 17 28.2	+1.5
KWHZ	Kaweka Forest	2.85	35	P			Pn	11 17 26.9	+0.1
TMVZ	Te Maari	2.87	22	P			Pn	11 17 28.3	+1.3
KRVZ	Karewarewa	2.87	21	P			Pn	11 17 28.7	+1.7
NTVZ	North Tongariro	2.88	22	P			Pn	11 17 28.6	+1.5
WVZ	Waitaha Valley	2.94	243	P			Pn	11 17 29.5	+1.6
KATZ	Kakaramea	3.00	21	P			Pn	11 17 31.7	+2.9
RPZ	Rata Peaks	3.08	230	Pn			Pn	11 17 29.2	-0.6
RPZ	47nm,0.3s,baz=204,slow=0.5,SNR=7.5			Sn			Sn	11 18 05.1	-0.9
	111nm,0.3s,baz=329,slow=24,SNR=9.4								
	105nm,0.4s								
RPZ	Rata Peaks	3.08	230	Pn			Pn	11 17 29.8	0.0
RPZ	Rata Peaks	3.08	230	P			Pn	11 17 29.6	-0.2
BKZ	Black Stump Fm	3.10	33	P			Pb	11 17 38.4	+1.7
BKZ	Black Stump Fm	3.10	33	P			Pn	11 17 29.8	-0.3
RATZ	Rangitukua	3.12	22	P			Pb	11 17 34.7	-2.3
ARCZ	Arundel	3.16	226	P			Pn	11 17 30.7	-0.2
HATZ	Hinemaiaia	3.19	26	P			Pb	11 17 36.8	-1.6
WATZ	Wairara	3.26	20	P			Pn	11 17 34.9	+2.7
HIZ	Hauiti	3.29	8	P			Pn	11 17 35.1	+2.4
GCSZ	Gaunt Creek Bo	3.32	241	P			Pn	11 17 35.4	+2.4
MRHZ	Matea Rd	3.36	29	P			Pn	11 17 33.0	-0.7
TMZ	Timaru	3.55	222	P			Pn	11 17 36.2	-0.1
ALRZ	Allen Road	3.57	27	P			Pn	11 17 36.0	-0.6
TLZ	Tolley Road	3.57	16	P			Pn	11 17 38.3	+1.6
HRRZ	Handcock Road	3.71	25	P			Pn	11 17 40.2	+1.7
FOZ	Fox Glacier	3.75	241				Pn	11 17 39.6	+0.7
FOZ	Fox Glacier	3.75	241	P			Pn	11 17 42.2	+3.2
HSRZ	Hossack Road	3.77	24	P			Pb	11 17 45.1	-3.1
TARZ	Mount Tarawera	3.92	26	P			Pn	11 17 41.9	+0.4
LBZ	Lake Benmore	3.99	228	Pn			Pn	11 17 43.6	+1.3
LBZ	Lake Benmore	3.99	228	P			Pn	11 17 43.6	+1.3
OMRZ	Omania	4.00	24	P			Pn	11 17 47.0	+4.5
URZ	Urewera	4.12	32	P			Pb	11 17 52.4	-1.8
TOZ	Tahuroa Road	4.15	13	P			Pn	11 17 46.4	+1.9
ODZ	Otahua Downs	4.21	218	Pn			Pn	11 17 45.0	-0.3
ODZ	Otahua Downs	4.21	218	P			Pn	11 17 44.6	-0.7
OPRZ	Ohinepanea	4.29	25	P			Pn	11 17 45.9	-0.6
TGRZ	Tauranga	4.32	21	P			Pn	11 17 48.2	+1.4
TWGZ	Tauwhareparae	4.57	39	P			Pn	11 17 48.5	-1.9
RUGZ	Raukumara Rang	4.61	35	P			Pn	11 17 49.2	-1.8
JCZ	Jackson Bay	4.66	239	P			Pn	11 17 57.2	+5.7
JCZ	Jackson Bay	4.66	239	P			Pn	11 17 54.8	+3.3
MKAZ	Moumakai	4.72	8	P			Pn	11 17 53.6	+1.4
AWAZ	Awhitu Peninsu	4.72	3	P			Pn	11 17 55.3	+3.0
MYRZ	Mayor Island	4.74	19	P			Pn	11 17 57.4	+4.8
HAZ	Te Kaha	4.83	35	P			Pn	11 17 53.7	-0.2
ETAZ	East Tamaki Re	4.84	6	P			Pn	11 17 56.2	+2.2
WTAZ	Waiatarua	4.84	3	P			Pn	11 17 57.5	+3.4
HHSZ	Highcliff Hill	4.90	212	P			Pn	11 17 54.2	-0.6
EPAZ	Eden Park BICE	4.91	4	P			Pn	11 17 57.6	+2.7
HBAZ	Herne Bay Bore	4.93	4	P			Pn	11 17 58.1	+2.8
WIAZ	Waiheke Island	5.02	8	P			Pn	11 17 58.5	+2.0
MBAZ	Motutapu North	5.03	5	P			Pn	11 17 58.5	+2.0
KUZ	Kuaotunu	5.15	13	P			Pn	11 17 59.4	+1.2
ABAZ	Army Bay	5.19	5	P			Pn	11 18 01.2	+2.4
GRZ	Great Barrier	5.59	10	P			Pn	11 18 05.4	+1.0
SYZ	Scrubby Hill	6.03	216	P			Pn	11 18 10.7	+0.4
SYZ	Scrubby Hill	6.03	216	P			Pn	11 18 10.5	+0.2
WHZ	Wether Hill Ro	6.17	226	Pn			Pn	11 18 13.0	+0.8
OUZ	Omahuta	6.57	355	Pn			Pn	11 18 19.6	+1.9
OUZ	Omahuta	6.57	355	P			Pn	11 18 20.0	+2.2
CTZ	Chatham Island	6.96	109	P			Pn	11 18 23.4	+0.3
CTZ	Chatham Island	6.96	109	P			Pn	11 18 23.2	+0.1
PYZ	Puysegur Point	7.03	229	Pn			Pn	11 18 25.7	+1.6
PYZ	Puysegur Point	7.03	229	P			Pn	11 18 27.5	+3.4
PYZ	Puysegur Point	7.03	229	P			Pn	11 18 26.8	+2.7
DZM	Mont Dzumac	20.73	339	P			P	11 21 21.2	-0.5
	4.5nm,0.9s,baz=342,slow=13,SNR=2.3								
	4.5nm,0.9s								
MSVF	Nonsavu	24.18	9	P			P	11 21 58.4	+1.0
	6.0nm,0.6s,baz=136,slow=14,SNR=5.9								
	6.0nm,0.6s								
MSVF	Nonsavu	24.18	9	P			P	11 21 56.5	-0.9
MSVF							IAmb	IAmb	11 22 09.4
	comp=Z,37nm,1.1s								
RAR	Rarotonga	29.95	55	LR			LR	11 33 26.8	
	comp=Z,227nm,21.3s,baz=229,slow=34								
BBOO	Buckleboo	31.50	274	P			P	11 23 02.7	-0.2
BBOO							IAmb	IAmb	11 23 59.7
	comp=Z,45nm,1.7s								
VNDA	Vanda	36.22	185	P			P	11 23 46.0	+2.7
	comp=Z,1.1nm,0.9s,baz=360,slow=7.7,SNR=4.1								
	comp=Z,1.1nm,0.9s								
VNDA	Vanda	36.22	185	P			P	11 23 45.7	+2.4
AS31	Alice Springs	38.08	286	P			P	11 23 59.0	-0.7
ASAR	Alice Springs	38.08	286	P			P	11 23 59.0	-0.8
	comp=Z,2.0nm,0.4s,baz=121,slow=6.5,SNR=17								
ASAR				PcP			PcP	11 26 13.1	-1.6
	comp=Z,0.5nm,0.6s,baz=126,slow=4.5,SNR=1.5								
	comp=Z,0.5nm,0.4s								
ASAR	Alice Springs	38.08	286	P			P	11 23 58.8	-0.9
FORT	Forrest	38.45	271	P			P	11 24 02.4	-0.3
COEN	Coen	38.68	307	P			P	11 24 04.2	-0.6
COEN							IAmb	IAmb	11 24 46.9
	comp=Z,6.7nm,1.0s								
WR0	Warramunga Arr	40.00	291	P			P	11 24 15.3	-0.5
WB2	Warramunga Arr	40.14	290	P			P	11 24 16.1	-0.8
WB2							IAmb	IAmb	11 24 16.9
	comp=Z,7.1nm,0.8s								
WRA	Warramunga Arr	40.15	290	P			P	11 24 16.2	-0.8
	comp=Z,3.8nm,0.6s,baz=126,slow=8.3,SNR=19								
	comp=Z,3.8nm,0.6s								
WRA	Warramunga Arr	40.15	290	P			P	11 24 16.5	-0.6
WB0	Warramunga Arr	40.23	291	P			P	11 24 17.0	-0.7
WB0							IAmb	IAmb	11 24 31.3
	comp=Z,22nm,1.6s								
KNRA	Kununurra	46.93	290	P			P	11 25 12.0	+0.3
KNRA							IAmb	IAmb	11 25 29.8
	comp=Z,26nm,1.2s								
MTN	Manton Dam	47.27	295	P			P	11 25 14.2	-0.1
MORW	Morawa	48.30	266	P			P	11 25 21.4	-0.8
QSPA	South Pole Qui	48.35	180	P			P	11 25 25.1	+2.8
	comp=Z,11nm,0.9s,baz=188,slow=1.9,SNR=15								
QSPA				LR			LR	11 43 46.0	
	comp=Z,133nm,21.1s,baz=44,slow=34								
	comp=Z,11nm,0.9s								
QSPA	South Pole Qui	48.35	180	P			P	11 25 24.6	+2.3
QSPA							IAmb	IAmb	11 25 26.8
	comp=Z,24nm,1.2s								
PSA00	Pilbara Seismi	49.66	276	P			P	11 25 30.8	-2.0
PSA00							IAmb	IAmb	11 25 34.5
	comp=Z,5.4nm,1.0s								
PSA00	Pilbara Seismi	49.66	276	P			P	11 25 31.6	-1.1
PSA00							IAmb	IAmb	11 27 15.5
	comp=Z,38nm,1.4s								
FAKI	Fak Fak	53.97

comp=E,7748µm,0.5s
PYL **PYLOS** 0.62 207 P Pb 11 19 06.2 +0.2
PYL S Sg 11 19 15.5 +0.9
comp=E,632nm,0.3s
PYL **PYLOS** 0.62 207 P Pb 11 19 06.0 0.0
PYL S Sg 11 19 15.4 +0.8
RLS **Riolos of Patr** 0.79 321 P Pg 11 19 09.3 0.0
RLS S Sg 11 19 19.9 +0.1
comp=E,495nm,0.2s
RLS **Riolos of Patr** 0.79 321 P Pb 11 19 08.6 -0.2
RLS S Sg 11 19 19.8 +0.1
LAKA **Lakka** 0.79 353 P Pb 11 19 09.0 0.0
LAKA S Sn 11 19 20.8 -0.5
comp=E,3µm,0.4s
EFP **Efpalio** 0.99 351 P Pn 11 19 12.6 0.0
EFP S Sn 11 19 26.1 +0.1
comp=E,575nm,0.3s
KTHR **Kythira** 1.39 148 P Pg 11 19 20.0 -0.7
KTHA **Kythira Island** 1.42 147 P Pg 11 19 22.6 +1.3
KTHA **Kythira Island** 1.42 147 P Pg 11 19 20.8 -0.5

WEL 14 11:22:07.9±1.3,**42°S**±4°×**17°4E**±°,**h16**km±9km,**M3.0**/5, **ML4.2**/4,**MLv3.0**/5,**Error ellipse: s-maj=0.0km s-min=0.0km az=64.0,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**175**	P	Pg	11 22 11.8	+0.9
CMWZ				S	Sg	11 22 14.3	+1.4
BSWZ	**Blackbirch Sta**	**0.25**	**265**	P	Pb	11 22 15.0	+0.9
BSWZ				S	Sb	11 22 19.8	+1.7
TUWZ	**Tuamarina**	**0.33**	**323**	S	Sb	11 22 22.4	+2.0
TCW	**Tory Channel**	**0.49**	**6**	P	Pb	11 22 18.8	+0.8
TCW				S	Sb	11 22 26.1	+1.2
WEL	**Wellington**	**0.59**	**46**	P	Pb	11 22 20.4	+0.7
WEL				S	Sn	11 22 29.4	-1.4

*IDC **14** 11:22:33.4±2.5,41°.71S×173°.98E,h0km,mb3.6/2, mbtmp3.7/3,ML3.9/1,Error ellipse: s-maj=49.1km s-min=37.9km az=104.0*
*NEIC **14** 11:22:36.2±1.6,41°.87S±0°.03×174°.30E±0°.06,h24km±8km, mb4.4/7,Error ellipse: s-maj=7.2km s-min=1.6km az=122.0*
*WEL **14** 11:22:36.5±0.3,42°S±3°×17°4E±°,h13km±3km,M4.0/16, ML4.3/16,MLv4.0/16,Error ellipse: s-maj=0.0km s-min=0.0km az=154.1*

ISC 14 11:22:35.2±1.0,**41°.87S**±0°.03×**174°.25E**±0°.02,**h17**km±7km, **n112,**σ1§**04**/131,**mb4.3**/7,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**348**	Pg	Pb	11 22 40.1	+1.0
CMWZ	**Cape Campbell**	**0.12**	**348**	P	Pb	11 22 40.1	+1.0
CMWZ				S	Sb	11 22 42.6	+1.0
BSWZ	**Blackbirch Sta**	**0.32**	**298**		Pb	11 22 42.7	+0.3
BSWZ	**Blackbirch Sta**	**0.32**	**298**	P	Pb	11 22 42.8	+0.3
TUWZ	**Tuamarina**	**0.49**	**332**	Pg	Pg	11 22 45.2	+0.1
TUWZ	**Tuamarina**	**0.49**	**332**	P	Pg	11 22 45.3	+0.1
TUWZ				S	Sg	11 22 51.2	-0.6
SNZO	**South Karori**	**0.65**	**32**		Pb	11 22 48.8	+0.7
TCW	**Tory Channel**	**0.66**	**2**	P	Pg	11 22 48.0	-0.1
TCW				S	Sg	11 22 55.5	-1.4
WEL	**Wellington**	**0.70**	**34**	P	Pn	11 22 49.8	-0.5
WEL				S	Sg	11 22 58.5	+0.3
KHZ	**Kahutara**	**0.76**	**224**	P	Pn	11 22 53.0	+1.8
KHZ				S	Sn	11 23 05.2	+2.9
PLWZ	**Palliser**	**0.81**	**69**		Pn	11 22 52.6	+0.7
PLWZ	**Palliser**	**0.81**	**69**	P	Pn	11 22 52.5	+0.7
PLWZ				S	Sn	11 23 04.7	+1.1
MSWZ	**Moikau Station**	**0.88**	**59**		Pn	11 22 53.7	+0.9
MSWZ	**Moikau Station**	**0.88**	**59**	P	Pn	11 22 53.5	+0.7
MSWZ				S	Sn	11 23 05.0	-0.1
NNZ	**Nelson**	**0.92**	**315**		Pb	11 22 52.6	-0.1
NNZ	**Nelson**	**0.92**	**315**	P	Pb	11 22 52.9	+0.3
NNZ				S	Sb	11 23 04.7	-0.5
CAW	**Cannon Point**	**0.98**	**39**	P	Pg	11 22 54.7	+0.5
CAW				S	Sg	11 23 07.0	0.0
THZ	**Tophouse**	**1.01**	**275**	Pn	Pg	11 22 55.6	+0.7
THZ	**Tophouse**	**1.01**	**275**	P	Pg	11 22 55.5	+0.7
THZ				S	Sn	11 23 08.2	-0.2
KIW	**Kapiti Island**	**1.12**	**27**	P	Pg	11 22 56.8	-0.2
KIW				S	Sn	11 23 11.6	+0.5
TRWZ	**Traveller**	**1.18**	**67**	P	Pb	11 22 57.2	+0.1
MTW	**Mount Morrison**	**1.18**	**54**	P	Pb	11 22 57.4	+0.3
MTW				S	Sg	11 23 14.0	+0.6
MRNZ	**Matariki Terra**	**1.21**	**292**	P	Pg	11 22 58.8	+0.2
MRNZ				S	Sg	11 23 14.9	+0.5
OGWZ	**Otaki Gorge**	**1.26**	**34**	P	Pb	11 22 58.9	+0.4
OGWZ				S	Sb	11 23 14.1	-0.3
TKNZ	**Takaka Hill**	**1.27**	**310**	P	Pb	11 22 59.2	+0.5
TKNZ				S	Sn	11 23 15.3	+0.3
GVZ	**Greta Valley S**	**1.42**	**219**	Pn	Pb	11 23 01.3	+0.1
GVZ	**Greta Valley S**	**1.42**	**219**	P	Pg	11 23 01.9	-0.7
TMWZ	**Te Maipa**	**1.45**	**59**	P	Pn	11 23 00.9	+0.2
MRZ	**Mangatainoka R**	**1.57**	**40**	Pn	Pn	11 23 01.6	-0.7
MRZ	**Mangatainoka R**	**1.57**	**40**	P	Pn	11 23 02.9	+0.7
MRZ				S	Sn	11 23 21.9	-0.3
TIWZ	**Tintock**	**1.65**	**49**	P	Pb	11 23 04.6	-0.5
TIWZ				S	Sn	11 23 23.3	-0.9
QRZ	**Quartz Range**	**1.66**	**308**		Pb	11 23 05.6	+0.3
QRZ	**Quartz Range**	**1.66**	**308**	P	Pb	11 23 05.7	+0.3
QRZ				S	Sn	11 23 24.1	-0.3
LTZ	**Lake Taylor**	**1.73**	**237**	Pn	Pb	11 23 06.1	-0.5
LTZ	**Lake Taylor**	**1.73**	**237**	P	Pb	11 23 06.2	-0.3
CPWZ	**Castlepoint**	**1.75**	**58**	P	Pg	11 23 10.7	+1.8
AMCZ	**Amberley**	**1.76**	**221**	P	Pb	11 23 06.0	-1.1
DSZ	**Denniston Nort**	**1.83**	**273**	P	Pn	11 23 06.5	+0.6
OHWZ	**Ohakea**	**1.84**	**26**	P	Pb	11 23 08.5	0.0
PRWZ	**Pori Road**	**1.85**	**45**	P	Pn	11 23 07.9	+0.6
POWZ	**Post Office Ro**	**1.87**	**38**	P	Pn	11 23 07.2	+0.8
BFZ	**Birch Farm**	**1.92**	**53**	P	Pn	11 23 10.2	+0.5
DVHZ	**Dannevirke**	**2.13**	**43**	P	Pg	11 23 15.9	-0.3
MQZ	**McQueen's Vall**	**2.18**	**212**		Pn	11 23 10.8	+0.1
MQZ	**McQueen's Vall**	**2.18**	**212**	P	Pn	11 23 10.8	+0.1
WAZ	**Wanganui**	**2.18**	**15**	P	Pb	11 23 15.5	+1.3
OXZ	**Oxford**	**2.19**	**227**	P	Pn	11 23 11.3	+0.5
TSZ	**Takapari Road**	**2.22**	**36**	P	Pb	11 23 13.5	-1.4
INZ	**Inchbonnie**	**2.25**	**247**	P	Pb	11 23 14.2	-1.2
LREZ	**Lake Rotokare**	**2.41**	**3**	P	Pg	11 23 20.3	-1.1
PRHZ	**Porangahau**	**2.41**	**49**	P	Pn	11 23 14.5	+0.6
RACZ	**Rakaia**	**2.42**	**219**	P	Pn	11 23 14.3	+0.4
PNHZ	**Pukenui**	**2.45**	**38**	P	Pn	11 23 14.7	+0.3
KHEZ	**Kahui Hut**	**2.58**	**356**	P	Pb	11 23 21.9	+0.9
NEZ	**North Egmont**	**2.59**	**357**	P	Pb	11 23 22.1	+0.8
NBEZ	**Newall Road No**	**2.61**	**354**	P	Pg	11 23 24.1	-1.2
PKE	**Pukeiti**	**2.68**	**356**	P	Pb	11 23 23.3	+0.6
WACZ	**Wakanui South**	**2.73**	**220**	P	Pn	11 23 18.9	+0.7
WNVZ	**Wahiamoa**	**2.74**	**23**	P	Pb	11 23 24.3	+0.5
BHHZ	**Black Hill Sta**	**2.75**	**31**	P	Pb	11 23 24.7	+0.9
VRZ	**Vera Road**	**2.77**	**8**	P	Pb	11 23 23.7	-0.5
WHVZ	**Whangaehu Hut**	**2.78**	**22**	P	Pb	11 23 24.9	+0.4
FWVZ	**Far West T-bar**	**2.79**	**21**	P	Pb	11 23 25.0	+0.2
WVZ	**Waitaha Valley**	**2.86**	**244**	P	Pn	11 23 22.2	+2.2
NGZ	**Ngauruhoe**	**2.88**	**21**	P	Pb	11 23 26.7	+0.5
SNVZ	**South Ngauruho**	**2.88**	**22**	P	Pb	11 23 26.7	+0.5
OTVZ	**Oturere**	**2.91**	**22**	P	Pb	11 23 28.2	+1.4
NNVZ	**North Ngauruho**	**2.92**	**21**	P	Pb	11 23 28.1	+1.1
WTVZ	**West Tongariro**	**2.93**	**21**	P	Pb	11 23 28.3	+1.2
ETVZ	**East Tongariro**	**2.95**	**23**	P	Pb	11 23 28.7	+1.3
TMVZ	**Te Maari**	**2.96**	**23**	P	Pb	11 23 28.2	+0.6
KRVZ	**Karewarewa**	**2.97**	**21**	P	Pb	11 23 28.7	+1.0
NTVZ	**North Tongarir**	**2.97**	**22**	P	Pb	11 23 28.2	+0.5
RPZ	**Rata Peaks**	**2.99**	**231**	Pn	Pn	11 23 21.8	-0.1
RPZ	17nm,0.3s,baz=160,slow=1.2,SNR=14			Sn	Sn	11 23 57.0	-0.2
	15nm,0.3s,baz=329,slow=23,SNR=6.7 37nm,0.3s						
RPZ	**Rata Peaks**	**2.99**	**231**		Pn	11 23 22.2	+0.4
RPZ	**Rata Peaks**	**2.99**	**231**	P	Pn	11 23 22.5	+0.7
ARCZ	**Arundel**	**3.07**	**226**	P	Pn	11 23 23.5	+0.6
KATZ	**Kakaramea**	**3.09**	**21**	P	Pb	11 23 31.7	+1.8
BKZ	**Black Stump Fm**	**3.19**	**33**	P	Pb	11 23 32.9	+1.4
HIZ	**Hauiti**	**3.38**	**8**	Pn	Pn	11 23 27.7	+0.5
HIZ	**Hauiti**	**3.38**	**8**	P	Pb	11 23 34.1	-0.6
MRHZ	**Matea Rd**	**3.45**	**29**	P	Pb	11 23 36.1	+0.2
TMZ	**Timaru**	**3.46**	**222**	P	Pn	11 23 29.2	+0.9
FOZ	**Fox Glacier**	**3.67**	**242**	Pn	Pn	11 23 31.9	+0.8
FOZ	**Fox Glacier**	**3.67**	**242**	P	Pn	11 23 32.8	+1.7
TLZ	**Tolley Road**	**3.67**	**16**	P	Pb	11 23 36.5	-3.1
LBZ	**Lake Benmore**	**3.90**	**228**	Pn	Pn	11 23 36.3	+2.0
LBZ	**Lake Benmore**	**3.90**	**228**	P	Pn	11 23 35.4	+1.1
ODZ	**Otahua Downs**	**4.12**	**218**	Pn	Pn	11 23 38.0	+0.6
ODZ	**Otahua Downs**	**4.12**	**218**	P	Pn	11 23 37.5	+0.1
TOZ	**Tahuroa Road**	**4.24**	**14**	P	Pb	11 23 46.9	-2.4
HHSZ	**Highcliff Hill**	**4.80**	**212**	P	Pn	11 23 47.2	+0.5
AWAZ	**Awhitu Peninsu**	**4.81**	**4**	P	Pn	11 23 50.5	+3.7
PUZ	**Puketiti**	**4.88**	**40**	P	Pn	11 23 50.0	+2.1
EAZ	**Earnscleugh**	**4.92**	**225**	P	Pn	11 23 48.6	+0.3
HAZ	**Te Kaha**	**4.92**	**35**	P	Pn	11 23 49.4	+1.1
ETAZ	**East Tamaki Re**	**4.93**	**6**	P	Pn	11 23 52.2	+3.7
PKGZ	**Pakihiroa**	**4.95**	**38**	P	Pn	11 23 49.6	+0.8
TUZ	**Tuapeka**	**5.27**	**218**	P	Pn	11 23 54.0	+0.8
SYZ	**Scrubby Hill**	**5.94**	**216**	P	Pn	11 24 03.0	+0.7
WHZ	**Wether Hill Ro**	**6.08**	**226**	Pn	Pn	11 24 04.7	+0.5
OUZ	**Omahuta**	**6.66**	**355**	Pn	Pn	11 24 12.3	+0.2
AS31	**Alice Springs**	**38.06**	**286**	P	P	11 29 52.1	-0.8
AS31				IAmb	IAmb	11 30 05.8	
	comp=Z,1.9nm,1.4s						
ASAR	**Alice Springs**	**38.06**	**286**	P	P	11 29 51.9	-1.0
	comp=Z,0.3nm,0.4s,baz=121,slow=6.9,SNR=21 comp=Z,0.3nm,0.4s						
WB2	**Warramunga Arr**	**40.13**	**291**	P	P	11 30 09.7	-0.5
WB2				IAmb	IAmb	11 30 26.0	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**40.14**	**291**	P	P	11 30 08.9	-1.4
	comp=Z,0.4nm,0.4s,baz=126,slow=8.4,SNR=11 comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**40.14**	**291**	P	P	11 30 09.6	-0.8
WB0	**Warramunga Arr**	**40.22**	**291**	P	P	11 30 10.0	-1.0
WB0				IAmb	IAmb	11 30 48.4	
	comp=Z,11nm,1.4s						
KNRA	**Kununurra**	**46.92**	**290**	P	P	11 31 06.8	+1.8
KNRA				IAmb	IAmb	11 31 17.7	
	comp=Z,27nm,1.4s						
MTN	**Manton Dam**	**47.26**	**295**	P	P	11 31 07.5	-0.1
QSPA	**South Pole Qui**	**48.26**	**180**	P	P	11 31 14.0	-1.0
QSPA				IAmb	IAmb	11 31 52.7	
	comp=Z,6.0nm,1.5s						
TORD	**Torodi Ar. Bea**	**150.66**	**195**	PKPbc	**PKiKP**	11 42 27.7	+0.3
	comp=Z,0.4nm,0.3s,baz=180,slow=1.6,SNR=4.1						

*INET **14** 11:23:13.2±0.4,12°.15N×88°.12W,h15km±3km,MW2.9*
*SNET **14** 11:23:15.5±0.7,12°.32N×88°.06W,h24km±8km,ML2.8*

ISC 14 11:23:13.4±2.8,**12°.3N**±0°.1×**88°.09W**±0°.07,**h10**km±13km, **n10,**σ0§**37**/16,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.04**	**14**	*eP*	**Pg**	11 23 33.4	-0.1
CNCH				*eS*	**Sb**	11 23 47.2	-0.1
CNCH				IAML		11 23 51.0	
	comp=Z,675nm,0.3s						
LCND	**La Caada**	**1.06**	**10**	*eP*	**Pg**	11 23 34.0	+0.2
LCND				*eS*	**Sg**	11 23 47.7	0.0
LCND				IAML		11 23 53.8	
	comp=Z,202nm,0.3s						
CRIN	**San Cristobal**	**1.10**	**67**	*eP*	**Pb**	11 23 34.2	-0.4
CRIN				*eS*	**Sn**	11 23 51.0	+0.7
RANC	**El Ranchito**	**1.18**	**351**	*eP*	**Pb**	11 23 36.2	+0.2
COEB	**Comit de Eme**	**1.30**	**341**	*eP*	**Pn**	11 23 38.1	+0.3
COEB				IAML		11 24 02.4	
	comp=Z,168nm,0.3s						
PQSS	**Presa 15 de Se**	**1.43**	**341**	*eP*	**Pn**	11 23 39.3	-0.1
PQSS				*eS*	**Sn**	11 23 57.5	-0.8
SCLA	**Alcaldia de Sa**	**1.56**	**337**	*eP*	**Pn**	11 23 41.2	0.0
LFRS	**El Faro**	**1.66**	**325**	*eP*	**Pn**	11 23 42.7	+0.1
LFRS				*eS*	**Sn**	11 24 04.2	+0.3
P5NO	**Presa 5 de nov**	**1.84**	**339**	*eP*	**Pn**	11 23 45.1	+0.1
P5NO				*eS*	**Sn**	11 24 08.1	-0.2
NUBE	**Las Nubes**	**2.32**	**315**	*eP*	**Pn**	11 23 51.8	0.0
NUBE				IAML		11 24 23.6	
	comp=Z,32nm,0.4s						

*WEL **14** 11:24:00,42°.26S×173°.76E,h9km,ML4.5,Mw4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶ Nm; Mrr0.44; Mθθ0.52; Mϕϕ-0.96; Mrθ0.22; Mrϕ-0.61; Mθϕ-0.47; Fault plane solution: M0.13000×10¹⁶ NP1: ϕs61.00000°,δ55.00000°,λ162.00000°. NP2: ϕs162.00000°,δ75.00000°,λ36.00000°. Principal axes: T -1261.8600, Plg36.0000°, Azm27.0000°; N 1004.8200, Plg51.0000°, Azm181.0000°; P 257.0500, Plg13.0000°, Azm288.0000°;*
*NEIC **14** 11:24:52.9±1.9,42°.41S±0°.02×174°.08E±0°.04,h10km±1km, mb4.5/16 Error ellipse: s-maj=5.5km s-min=2.7km az=126.0*
*WEL **14** 11:24:53.3±0.7,42°S±4°×17°4E±°,h5km,M4.5/12, ML4.7/12,MLv4.5/12,Error ellipse: s-maj=0.0km s-min=0.0km az=117.7*
*IDC **14** 11:24:53.3±1.4,42°.22S×173°.64E,h0km,mb4.2/3, mbtmp4.2/4,ML4.4/1,MS4.0/16,Error ellipse: s-maj=42.2km s-min=29.7km az=144.0*

ISC 14 11:24:52.5±1.3,**42°.39S**±0°.03×**174°.07E**±0°.03,**h7**km±8km, **n148,**σ1§**12**/143,**mb4.4**/11,**MS4.1**/16,**Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.39**	**266**		**Pg**	11 25 00.2	+0.2
KHZ				Sg	**Sg**	11 25 05.7	+0.5
KHZ	**Kahutara**	**0.39**	**266**	P	**Pg**	11 25 00.3	+0.3
KHZ				S	**Sg**	11 25 05.7	+0.5
CMWZ	**Cape Campbell**	**0.65**	**10**		**Pb**	11 25 06.8	+0.6
CMWZ				Sg	**Sb**	11 25 17.3	+1.8
CMWZ	**Cape Campbell**	**0.65**	**10**	P	**Pg**	11 25 05.8	+0.8
BSWZ	**Blackbirch Sta**	**0.69**	**348**		**Pg**	11 25 05.9	+0.1
BSWZ				Sg	**Sb**	11 25 16.6	-0.1
BSWZ	**Blackbirch Sta**	**0.69**	**348**	P	**Pg**	11 25 05.9	+0.1
BSWZ				S	**Sb**	11 25 16.0	-0.6
GVZ	**Greta Valley S**	**0.95**	**233**		**Pb**	11 25 12.1	+0.7
GVZ					**Sn**	11 25 26.9	+0.7
GVZ	**Greta Valley S**	**0.95**	**233**	P	**Pb**	11 25 12.6	+1.2
TUWZ	**Tuamarina**	**0.97**	**354**		**Pg**	11 25 11.2	+0.2
TUWZ				Sg	**Sb**	11 25 24.8	+0.2
TUWZ	**Tuamarina**	**0.97**	**354**	P	**Pg**	11 25 10.9	-0.1
TUWZ				S	**Sb**	11 25 24.8	+0.2
THZ	**Tophouse**	**1.07**	**306**	Pn	**Pg**	11 25 11.8	-1.2
THZ	**Tophouse**	**1.07**	**306**	P	**Pg**	11 25 11.0	-2.0
SNZO	**South Karori**	**1.18**	**24**	Pn	**Pg**	11 25 14.7	-0.4
TCW	**Tory Channel**	**1.19**	**8**	P	**Pg**	11 25 14.6	-0.7
PLWZ	**Palliser**	**1.21**	**47**		**Pg**	11 25 15.9	+0.3
PLWZ	**Palliser**	**1.21**	**47**	P	**Pg**	11 25 15.4	-0.2
WEL	**Wellington**	**1.23**	**26**	P	**Pg**	11 25 15.9	-0.1
NNZ	**Nelson**	**1.28**	**336**	Pn	**Pg**	11 25 16.6	-0.4
NNZ	**Nelson**	**1.28**	**336**	P	**Pg**	11 25 16.1	-0.9
NNZ				S	**Sg**	11 25 32.4	-1.3
AMCZ	**Amberley**	**1.30**	**233**	P	**Pb**	11 25 18.0	+0.7
MSWZ	**Moikau Station**	**1.32**	**43**		**Pn**	11 25 17.2	-0.1
MSWZ	**Moikau Station**	**1.32**	**43**	P	**Pn**	11 25 17.1	-0.2
LTZ	**Lake Taylor**	**1.38**	**253**	Pn	**Pn**	11 25 17.9	-0.3
LTZ	**Lake Taylor**	**1.38**	**253**	P	**Pn**	11 25 17.9	-0.3
MRNZ	**Matariki Terra**	**1.39**	**315**	P	**Pn**	11 25 18.3	0.0
PAWZ	**Paruwai Farm**	**1.43**	**46**	P	**Pn**	11 25 18.5	-0.4
CAW	**Cannon Point**	**1.49**	**31**	P	**Pn**	11 25 19.7	0.0
OKCZ	**Okains Bay**	**1.52**	**209**	P	**Pn**	11 25 20.3	+0.2
TRWZ	**Traveller**	**1.57**	**51**	P	**Pn**	11 25 20.7	0.0
TKNZ	**Takaka Hill**	**1.59**	**328**	P	**Pn**	11 25 21.0	-0.1
DUWZ	**D'Urville Isla**	**1.59**	**356**	P	**Pn**	11 25 21.4	+0.3
MTW	**Mount Morrison**	**1.64**	**41**	P	**Pn**	11 25 21.4	-0.3
KIW	**Kapiti Island**	**1.66**	**23**	P	**Pn**	11 25 21.9	-0.1
MQZ	**McQueen's Vall**	**1.67**	**218**	Pn	**Pn**	11 25 21.5	-0.7
MQZ	**McQueen's Vall**	**1.67**	**218**	P	**Pn**	11 25 21.7	-0.5
AKCZ	**Akaroa Harbour**	**1.70**	**209**	P	**Pn**	11 25 22.7	0.0
OXZ	**Oxford**	**1.76**	**237**	Pn	**Pn**	11 25 21.7	-1.7
OXZ	**Oxford**	**1.76**	**237**	P	**Pn**	11 25 23.1	-0.3
OGWZ	**Otaki Gorge**	**1.78**	**28**	P	**Pn**	11 25 23.4	-0.2
DSZ	**Denniston Nort**	**1.81**	**290**	P	**Pn**	11 25 21.5	-2.6
HOWZ	**Holdsworth Sta**	**1.85**	**36**	P	**Pn**	11 25 24.6	0.0
TMWZ	**Te Maipa**	**1.87**	**47**	P	**Pn**	11 25 24.8	-0.2
RACZ	**Rakaia**	**1.94**	**226**	P	**Pn**	11 25 25.4	-0.5
QRZ	**Quartz Range**	**1.94**	**323**	Pn	**Pn**	11 25 27.0	+1.0
QRZ	**Quartz Range**	**1.94**	**323**	P	**Pn**	11 25 27.0	+1.0
INZ	**Inchbonnie**	**1.97**	**259**	P	**Pn**	11 25 26.7	+0.5
MRZ	**Mangatainoka R**	**2.07**	**34**		**Pn**	11 25 27.4	-0.3
MRZ	**Mangatainoka R**	**2.07**	**34**	P	**Pn**	11 25 27.1	-0.5
TIWZ	**Tintock**	**2.11**	**41**	P	**Pn**	11 25 28.9	+0.6
WACZ	**Wakanui South**	**2.25**	**226**	P	**Pn**	11 25 29.8	-0.4
PRWZ	**Pori Road**	**2.33**	**39**	P	**Pn**	11 25 31.9	+0.7
BFZ	**Birch Farm**	**2.37**	**44**	Pn	**Pn**	11 25 30.1	-1.6
BFZ	**Birch Farm**	**2.37**	**44**	P	**Pn**	11 25 31.0	-0.7
POWZ	**Post Office Ro**	**2.37**	**33**	P	**Pn**	11 25 32.5	+0.7
OHWZ	**Ohakea**	**2.38**	**24**	P	**Pn**	11 25 33.6	+1.7
WVZ	**Waitaha Valley**	**2.55**	**253**	P	**Pn**	11 25 34.3	+0.1
RPZ	**Rata Peaks**	**2.57**	**238**	Pn	**Pn**	11 25 34.3	-0.3
RPZ	82nm,0.3s,baz=70,slow=2.9,SNR=15			Sn	**Sn**	11 26 04.9	-1.3
	67nm,0.3s,baz=29,slow=23,SNR=12						
RPZ				LR	LR	11 26 06.5	
	comp=Z,495nm,18.4s,baz=53,slow=30 196nm,0.3s						
RPZ	**Rata Peaks**	**2.57**	**238**	P	**Pn**	11 25 34.4	-0.3
DVHZ	**Dannevirke**	**2.62**	**38**	P	**Pn**	11 25 34.5	-0.7
ARCZ	**Arundel**	**2.62**	**233**	P	**Pn**	11 25 34.8	-0.5
WAZ	**Wanganui**	**2.73**	**15**	P	**Pn**	11 25 38.9	+2.2
TSZ	**Takapari Road**	**2.73**	**32**	P	**Pn**	11 25 36.5	-0.3
GCSZ	**Gaunt Creek Bo**	**2.90**	**250**	P	**Pn**	11 25 39.7	+0.6
PNHZ	**Pukenui**	**2.95**	**34**	P	**Pn**	11 25 39.4	-0.5
TMZ	**Timaru**	**2.99**	**227**	P	**Pn**	11 25 40.5	+0.2
KHEZ	**Kahui Hut**	**3.10**	**359**	P	**Pb**	11 25 48.3	+0.4
NBEZ	**Newall Road No**	**3.12**	**357**	P	**Pb**	11 25 48.5	+0.2
PKE	**Pukeiti**	**3.20**	**359**	P	**Pb**	11 25 49.1	-0.5
BHHZ	**Black Hill Sta**	**3.27**	**28**	P	**Pn**	11 25 47.9	+3.7
WNVZ	**Wahianoa**	**3.27**	**21**	P	**Pn**	11 25 46.5	+2.1
TRVZ	**Turoa**	**3.29**	**20**	P	**Pn**	11 25 46.2	+1.6
VRZ	**Vera Road**	**3.31**	**9**	P	**Pn**	11 25 46.0	+1.3
DRZ	**Dome Shelter**	**3.31**	**21**	P	**Pn**	11 25 47.5	+2.4
FOZ	**Fox Glacier**	**3.32**	**249**		**Pn**	11 25 46.4	+1.6
FOZ	**Fox Glacier**	**3.32**	**249**	P	**Pn**	11 25 46.2	+1.4
KAHZ	**Kahuranaki**	**3.35**	**40**	P	**Pn**	11 25 45.2	-0.1
NGZ	**Ngauruhoe**	**3.42**	**20**	P	**Pn**	11 25 49.4	+3.0
SNVZ	**South Ngauruho**	**3.42**	**21**	P	**Pb**	11 25 51.2	-2.3
OTVZ	**Oturere**	**3.45**	**21**	P	**Pn**	11 25 48.7	+2.0
LBZ	**Lake Benmore**	**3.46**	**234**		**Pn**	11 25 47.6	+0.8
LBZ	**Lake Benmore**	**3.46**	**234**	P	**Pn**	11 25 47.8	+1.0
NNVZ	**North Ngauruho**	**3.46**	**20**	P	**Pn**	11 25 48.7	+1.7
WTVZ	**West Tongariro**	**3.47**	**20**	P	**Pn**	11 25 50.1	+3.0
ETVZ	**East Tongariro**	**3.48**	**22**	P	**Pn**	11 25 49.2	+2.0
TMVZ	**Te Maari**	**3.50**	**21**	P	**Pn**	11 25 49.3	+1.8
KRVZ	**Karewarewa**	**3.50**	**20**	P	**Pn**	11 25 49.8	+2.3
ODZ	**Otahua Downs**	**3.63**	**222**		**Pn**	11 25 49.4	+0.2
ODZ	**Otahua Downs**	**3.63**	**222**	P	**Pn**	11 25 49.0	-0.1
ARHZ	**Aropaoanui**	**3.83**	**36**	P	**Pn**	11 25 52.2	+0.3
JCZ	**Jackson Bay**	**4.21**	**245**	P	**Pn**	11 26 00.1	+2.9
HHSZ	**Highcliff Hill**	**4.29**	**214**	P	**Pn**	11 25 58.2	0.0
WKZ	**Wanaka**	**4.40**	**235**		**Pn**	11 26 02.0	+2.2
EAZ	**Earnscleugh**	**4.46**	**229**	P	**Pn**	11 26 00.8	+0.3
TUZ	**Tuapeka**	**4.78**	**220**	P	**Pn**	11 26 06.3	+1.4
TOZ	**Tahuroa Road**	**4.78**	**14**	P	**Pn**	11 26 04.0	-1.0
OPRZ	**Ohinepanea**	**4.93**	**24**	P	**Pn**	11 26 07.2	+0.3
TGRZ	**Tauranga**	**4.95**	**21**	P	**Pn**	11 26 07.8	+0.5
TWGZ	**Tauwhareparae**	**5.17**	**37**	P	**Pn**	11 26 11.5	+1.3
RUGZ	**Ra

KHZ				S	Sg	11 27 38.7	+0.9	
GVZ	**Greta Valley S**	**0.60**	**211**	P	Pb	11 27 46.9	-0.5	
GVZ				S	Sb	11 27 55.9	-0.3	
THZ	**Tophouse**	**0.80**	**329**	P	Pg	11 27 50.4	+0.4	
THZ				S	Sb	11 28 01.2	-0.7	
BSWZ	**Blackbirch Sta**	**0.80**	**23**	P	Pb	11 27 50.9	+0.1	
CMWZ	**Cape Campbell**	**0.90**	**39**	P	Pg	11 27 51.2	-0.7	
CMWZ				S	Sb	11 28 04.8	0.0	
LTZ	**Lake Taylor**	**0.93**	**249**	P	Pg	11 27 52.5	0.0	
LTZ				S	Sb	11 28 05.2	-0.5	
AMCZ	**Amberley**	**0.93**	**219**	P	Pg	11 27 52.2	-0.4	
AMCZ				S	Sb	11 28 06.5	+0.7	
TUWZ	**Tuamarina**	**1.08**	**20**	P	Pg	11 27 55.5	+0.1	
MRNZ	**Matariki Terra**	**1.17**	**334**	P	Pn	11 27 57.3	-0.1	
NNZ	**Nelson**	**1.23**	**357**	P	Pb	11 27 57.8	+0.4	
OKCZ	**Okains Bay**	**1.30**	**193**	P	Pn	11 27 56.7	-2.6	
OXZ	**Oxford**	**1.36**	**229**	P	Pn	11 27 57.8	-2.2	
MQZ	**McQueen's Vall**	**1.38**	**205**	P	Pn	11 27 57.5	-2.8	
TCW	**Tory Channel**	**1.38**	**27**	P	Pn	11 27 59.2	-1.1	
DSZ	**Denniston Nort**	**1.41**	**299**	P	Pn	11 28 00.9	+0.1	
DSZ				S	Sg	11 28 20.6	+0.6	
TKNZ	**Takaka Hill**	**1.46**	**345**	P	Pn	11 28 01.8	+0.3	
AKCZ	**Akaroa Harbour**	**1.48**	**195**	P	Pn	11 27 59.0	-2.6	
AKCZ				S	Sn	11 28 17.8	-3.4	
WEL	**Wellington**	**1.52**	**41**	P	Pn	11 28 00.9	-1.4	
RACZ	**Rakaia**	**1.60**	**217**	P	Pn	11 28 00.8	-2.5	
PLWZ	**Palliser**	**1.61**	**57**	P	Pn	11 28 01.0	-2.4	
DUWZ	**D'Urville Isla**	**1.69**	**12**	P	Pn	11 28 04.3	-0.2	
MSWZ	**Moikau Station**	**1.69**	**53**	P	Pn	11 28 02.3	-2.3	
QRZ	**Quartz Range**	**1.77**	**337**	P	Pb	11 28 06.6	-0.7	
CAW	**Cannon Point**	**1.81**	**43**	P	Pn	11 28 03.8	-2.3	
PAWZ	**Paruwai Farm**	**1.82**	**55**	P	Pn	11 28 03.7	-2.6	
WACZ	**Wakanui South**	**1.90**	**218**	P	Pn	11 28 04.9	-2.5	
KIW	**Kapiti Island**	**1.93**	**35**	P	Pn	11 28 06.5	-1.3	
MTW	**Mount Morrison**	**2.00**	**51**	P	Pn	11 28 06.4	-2.5	
OGWZ	**Otaki Gorge**	**2.08**	**39**	P	Pn	11 28 07.6	-2.3	
WVZ	**Waitaha Valley**	**2.09**	**252**	P	Pn	11 28 09.5	-0.6	
RPZ	**Rata Peaks**	**2.16**	**233**	P	Pn	11 28 09.1	-2.0	
ARCZ	**Arundel**	**2.24**	**227**	P	Pn	11 28 09.8	-2.3	
MRZ	**Mangatainoka R**	**2.40**	**42**	P	Pn	11 28 12.2	-2.1	
PRWZ	**Pori Road**	**2.68**	**46**	P	Pb	11 28 21.5	-1.4	
LBZ	**Lake Benmore**	**3.07**	**230**	P	Pb	11 28 26.8	-2.6	
KHEZ	**Kahui Hut**	**3.18**	**8**	P	Pn	11 28 27.0	+1.9	
NBEZ	**Newall Road No**	**3.19**	**6**	P	Pn	11 28 28.1	+2.8	
PKE	**Pukeiti**	**3.28**	**7**	P	Pn	11 28 28.3	+1.9	
WTVZ	**West Tongariro**	**3.71**	**27**	P	Pn	11 28 31.8	-0.6	
HIZ	**Hauiti**	**4.08**	**16**	P	Pn	11 28 37.8	+0.4	
TLZ	**Tolley Road**	**4.41**	**22**	P	Pn	11 28 41.4	-0.6	
TOZ	**Tahuroa Road**	**4.97**	**19**	P	Pn	11 28 48.7	-0.9	
AWAZ	**Awhitu Peninsu**	**5.46**	**10**	P	Pn	11 28 56.6	+0.3	
MKAZ	**Moumakai**	**5.50**	**14**	P	Pn	11 28 56.2	-0.6	
WTAZ	**Waiatarua**	**5.58**	**9**	P	Pn	11 28 58.6	+0.6	
ETAZ	**East Tamaki Re**	**5.61**	**12**	P	Pn	11 28 58.4	+0.1	
RVAZ	**Riverhead Bore**	**5.74**	**9**	P	Pn	11 29 00.3	+0.1	
MBAZ	**Motutapu North**	**5.78**	**12**	P	Pn	11 29 01.2	+0.4	
WIAZ	**Waiheke Island**	**5.80**	**13**	P	Pn	11 29 01.2	+0.2	
ABAZ	**Army Bay**	**5.94**	**11**	P	Pn	11 29 03.3	+0.3	

IDC 14 11:27:53.8±1.7, 42°05'S×173°64'E, h0km, mb4.2/3, mbtmp4.2/4, ML4.3/1, MS3.7/1, Error ellipse: s-maj=38.6km s-min=27.7km az=58.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**2.53**	**228**	Pn	Pn	11 28 34.7	-1.4
	62nm,0.3s,baz=350,slow=19,SNR=8.3						
RPZ				Sn	Sn	11 29 08.0	+0.4
	56nm,0.3s,baz=19,slow=23,SNR=8.5 233nm,0.5s						
ASAR	**Alice Springs**	**37.67**	**286**	P	P	11 35 12.0	+1.1
	1.0nm,0.5s,baz=123,slow=6.7,SNR=13 1.0nm,0.5s						
WRA	**Warramunga Arr**	**39.78**	**291**	P	P	11 35 27.9	-0.7
	1.9nm,0.7s,baz=127,slow=8.5,SNR=14 1.9nm,0.7s						
QSPA	**South Pole Qui**	**48.08**	**180**	P	P	11 36 35.9	+1.0
	7.9nm,0.9s,baz=12,slow=5.1,SNR=12						
QSPA				LR	LR	11 55 01.9	
	comp=Z,70nm,18.1s,baz=50,slow=34 7.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**150.37**	**196**	PKPbc	PKPbc	11 47 45.9	-1.6
	2.6nm,0.8s,baz=171,slow=2.2,SNR=11						

*IDC **14** 11:30:33.4±2.5, 41°68'S×174°10'E, h0km, mb3.6/2, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=48.5km s-min=40.3km az=105.0*
*WEL **14** 11:30:36.3±0.3, 42°S±2°×17°4E±°, h9km±2km, M4.4/18, ML4.7/18, MLv4.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=151.0*
ISC 14 11:30:35.9±0.7, 41°75'S±0°03'×174°31'E±0°02, h17km±4km, n93, σ1°16/105, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**273**	P	Pg	11 30 39.5	+0.3
CMWZ				S	Sg	11 30 42.2	+0.7
BSWZ	**Blackbirch Sta**	**0.33**	**277**	P	Pg	11 30 43.0	+0.1
BSWZ				S	Sb	11 30 48.1	-0.1
TUWZ	**Tuamarina**	**0.42**	**319**	P	Pb	11 30 44.3	-0.6
TUWZ				S	Sb	11 30 50.0	-1.0
TCW	**Tory Channel**	**0.54**	**357**	P	Pb	11 30 46.2	-0.7
TCW				S	Sb	11 30 52.7	-1.7
WEL	**Wellington**	**0.58**	**36**	P	Pb	11 30 47.6	+0.1
WEL				S	Sb	11 30 55.9	+0.5
PLWZ	**Palliser**	**0.73**	**76**	P	Pb	11 30 51.4	+1.2
MSWZ	**Moikau Station**	**0.78**	**65**	P	Pb	11 30 52.0	+1.1
MSWZ				S	Sn	11 31 04.1	+0.8
CAW	**Cannon Point**	**0.86**	**42**	P	Pg	11 30 52.4	-0.1
CAW				S	Sb	11 31 04.8	+1.3
KHZ	**Kahutara**	**0.88**	**221**	P	Pg	11 30 53.9	+1.0
KHZ				S	Sg	11 31 06.2	+1.7
NNZ	**Nelson**	**0.88**	**307**	P	Pb	11 30 52.4	-0.3
NNZ				S	Sb	11 31 03.7	-0.4
PAWZ	**Paruwai Farm**	**0.92**	**66**	P	Pg	11 30 53.9	+0.2
PAWZ				S	Sg	11 31 05.5	-0.2
DUWZ	**D'Urville Isla**	**0.99**	**343**	P	Pb	11 30 54.5	-0.1
DUWZ				S	Sb	11 31 06.5	-1.0
KIW	**Kapiti Island**	**1.00**	**27**	P	Pg	11 30 54.6	-0.7
KIW				S	Sb	11 31 07.5	0.0
THZ	**Tophouse**	**1.05**	**269**	P	Pg	11 30 56.0	-0.2
THZ				S	Sb	11 31 10.0	+0.9
MTW	**Mount Morrison**	**1.07**	**57**	P	Pg	11 30 56.0	-0.7
MTW				S	Sb	11 31 11.0	+1.3
TRWZ	**Traveller**	**1.09**	**71**	P	Pg	11 30 56.0	-0.9
TRWZ				S	Sb	11 31 11.8	+1.6
OGWZ	**Otaki Gorge**	**1.14**	**35**	P	Pg	11 30 57.1	-0.8
OGWZ				S	Sg	11 31 11.4	-1.3
MRNZ	**Matariki Terra**	**1.22**	**286**	P	Pn	11 30 59.0	+0.9
MRNZ				S	Sn	11 31 15.5	+1.4
TKNZ	**Takaka Hill**	**1.25**	**305**	P	Pb	11 30 58.8	0.0
HOWZ	**Holdsworth Sta**	**1.25**	**47**	P	Pb	11 30 59.1	+0.2
HOWZ				S	Sb	11 31 15.1	+0.5
TMWZ	**Te Maipa**	**1.35**	**62**	P	Pn	11 30 59.6	-0.4
MRZ	**Mangatainoka R**	**1.45**	**42**	P	Pn	11 31 01.4	+0.2
TIWZ	**Tintock**	**1.54**	**51**	P	Pn	11 31 02.7	+0.2
GVZ	**Greta Valley S**	**1.54**	**218**	P	Pn	11 31 02.9	+0.4
QRZ	**Quartz Range**	**1.63**	**304**	P	Pb	11 31 05.4	-0.1
CPWZ	**Castlepoint**	**1.65**	**60**	P	Pn	11 31 03.8	-0.2
OHWZ	**Ohakea**	**1.72**	**27**	P	Pg	11 31 07.7	-1.2
PRWZ	**Pori Road**	**1.73**	**47**	P	Pn	11 31 05.0	-0.1
POWZ	**Post Office Ro**	**1.75**	**39**	P	Pn	11 31 05.8	+0.4
BFZ	**Birch Farm**	**1.81**	**54**	P	Pn	11 31 05.7	-0.5
LTZ	**Lake Taylor**	**1.83**	**235**	P	Pn	11 31 07.1	+0.6
DSZ	**Denniston Nort**	**1.88**	**269**	P	Pn	11 31 09.6	0.0
AMCZ	**Amberley**	**1.88**	**220**	P	Pg	11 31 13.9	+1.9
DVHZ	**Dannevirke**	**2.02**	**45**	P	Pn	11 31 08.6	-0.9
WAZ	**Wanganui**	**2.06**	**15**	P	Pb	11 31 13.2	+0.4
ANWZ	**Angora Road**	**2.08**	**52**	P	Pn	11 31 09.5	-0.5
TSZ	**Takapari Road**	**2.10**	**37**	P	Pn	11 31 10.3	0.0
OKCZ	**Okains Bay**	**2.17**	**205**	P	Pn	11 31 10.6	-0.6
LREZ	**Lake Rotokare**	**2.29**	**2**	P	Pg	11 31 17.7	-2.1
OXZ	**Oxford**	**2.30**	**226**	P	Pn	11 31 12.1	-0.8
PRHZ	**Porangahau**	**2.30**	**51**	P	Pn	11 31 12.1	-0.8
PNHZ	**Pukenui**	**2.33**	**39**	P	Pn	11 31 13.0	-0.4
WPHZ	**Waipukurau**	**2.33**	**44**	P	Pg	11 31 19.2	-1.5
INZ	**Inchbonnie**	**2.34**	**245**	P	Pb	11 31 17.9	+0.3
NMEZ	**Namu Road**	**2.36**	**352**	P	Pg	11 31 20.0	-1.2
KHEZ	**Kahui Hut**	**2.47**	**355**	P	Pb	11 31 19.5	-0.2
NEZ	**North Egmont**	**2.49**	**356**	P	Pb	11 31 19.7	-0.4
NBEZ	**Newall Road No**	**2.51**	**352**	P	Pb	11 31 19.1	-1.2
RACZ	**Rakaia**	**2.54**	**218**	P	Pn	11 31 15.5	-0.8
DREZ	**Durham Road**	**2.56**	**358**	P	Pg	11 31 23.8	-1.2
PKE	**Pukeiti**	**2.57**	**354**	P	Pb	11 31 22.3	+0.8
PKVZ	**Pokaka**	**2.58**	**18**	P	Pb	11 31 22.5	+0.8
PXZ	**Pawanui**	**2.59**	**49**	P	Pb	11 31 20.9	-0.9
WNVZ	**Wahianoa**	**2.61**	**22**	P	Pb	11 31 20.3	-2.0
BHHZ	**Black Hill Sta**	**2.62**	**31**	P	Pb	11 31 22.7	+0.2
TRVZ	**Turoa**	**2.63**	**21**	P	Pb	11 31 22.9	+0.3
VRZ	**Vera Road**	**2.65**	**8**	P	Pn	11 31 20.2	+2.5
DRZ	**Dome Shelter**	**2.65**	**22**	P	Pb	11 31 23.4	+0.3
WHVZ	**Whangaehu Hut**	**2.65**	**22**	P	Pb	11 31 21.6	-1.4
FWVZ	**Far West T-bar**	**2.67**	**21**	P	Pn	11 31 19.9	+1.7
TUVZ	**Tukino**	**2.69**	**23**	P	Pb	11 31 24.8	+1.3
NGZ	**Ngauruhoe**	**2.76**	**21**	P	Pb	11 31 24.9	+0.2
SNVZ	**South Ngauruho**	**2.76**	**22**	P	Pb	11 31 25.4	+0.6
KAHZ	**Kahuranaki**	**2.76**	**46**	P	Pn	11 31 18.5	-0.8
OTVZ	**Oturere**	**2.79**	**22**	P	Pb	11 31 24.9	-0.3
NNVZ	**North Ngauruho**	**2.80**	**21**	P	Pb	11 31 25.7	+0.2
WTVZ	**West Tongariro**	**2.81**	**21**	P	Pb	11 31 26.4	+0.7
TWVZ	**Taurewa**	**2.81**	**18**	P	Pb	11 31 26.0	+0.3
ETVZ	**East Tongariro**	**2.82**	**23**	P	Pn	11 31 22.1	+1.8
KWHZ	**Kaweka Forest**	**2.83**	**35**	P	Pb	11 31 27.5	+1.6
TMVZ	**Te Maari**	**2.84**	**22**	P	Pn	11 31 21.6	+1.1
KRVZ	**Karewarewa**	**2.84**	**21**	P	Pb	11 31 26.7	+0.5
NTVZ	**North Tongarir**	**2.85**	**22**	P	Pn	11 31 22.2	+1.6
WVZ	**Waitaha Valley**	**2.96**	**242**	P	Pb	11 31 28.7	+0.6
KATZ	**Kakaramea**	**2.97**	**21**	P	Pb	11 31 28.7	+0.4
BKZ	**Black Stump Fm**	**3.07**	**33**	P	Pb	11 31 31.1	+1.0
RATZ	**Rangitukua**	**3.09**	**22**	P	Pb	11 31 31.5	+1.1
RPZ	**Rata Peaks**	**3.10**	**230**	Pn	Pn	11 31 23.4	-0.6
	9.7nm,0.3s,baz=39,slow=13,SNR=1.4						
RPZ				Sn	Sn	11 31 58.7	-1.8
	17nm,0.3s,baz=317,slow=4.7,SNR=2.4 43nm,0.4s						
RPZ	**Rata Peaks**	**3.10**	**230**	P	Pn	11 31 23.8	-0.1
WATZ	**Wairara**	**3.23**	**20**	P	Pb	11 31 32.3	-0.4
HIZ	**Hauiti**	**3.26**	**8**	P	Pn	11 31 29.0	+2.8
MRHZ	**Matea Rd**	**3.33**	**30**	P	Pb	11 31 35.3	+0.8
ALRZ	**Allen Road**	**3.55**	**27**	P	Pb	11 31 37.2	-0.9
TLZ	**Tolley Road**	**3.55**	**16**	P	Pb	11 31 34.5	-3.6
TOZ	**Tahuroa Road**	**4.12**	**13**	P	Pn	11 31 42.3	+4.3
JCZ	**Jackson Bay**	**4.67**	**238**	P	Pn	11 31 52.2	+6.6
MKAZ	**Moumakai**	**4.69**	**8**	P	Pn	11 31 47.4	+1.7
AWAZ	**Awhitu Peninsu**	**4.69**	**3**	P	Pn	11 31 49.2	+3.4
ETAZ	**East Tamaki Re**	**4.82**	**6**	P	Pn	11 31 49.6	+2.1
MBAZ	**Motutapu North**	**5.00**	**5**	P	Pn	11 31 55.6	+5.5
ASAR	**Alice Springs**	**38.08**	**285**	P	P	11 37 52.0	-1.6
	0.2nm,0.3s,baz=121,slow=6.5,SNR=9.7 0.2nm,0.3s						
WRA	**Warramunga Arr**	**40.15**	**290**	P	P	11 38 10.0	-1.0
	0.4nm,0.3s,baz=127,slow=8.3,SNR=8.7 0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**150.78**	**195**	PKPbc	PKPbc	11 50 27.8	+0.2
	0.9nm,0.6s,baz=139,slow=2.1,SNR=4.6						

*IDC **14** 11:32:08.3±2.6, 42°33S×173°56E, h0km, mb3.5/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=52.3km s-min=38.9km az=123.0*
*WEL **14** 11:32:10.5±0.3, 42°S±2°×17°4E±°, h14km±2km, M4.0/20, ML4.3/20, MLv4.0/20, Error ellipse: s-maj=0.0km s-min=0.0km az=118.1*
ISC 14 11:32:10.3±1.3, 42°31S±0°03'×173°67E±0°04, h17km±9km, n40, σ0°82/52, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.15**	**221**	P	Pb	11 32 15.1	+0.5
KHZ				S	Sb	11 32 18.1	+0.7
CMWZ	**Cape Campbell**	**0.69**	**36**	P	Pn	11 32 25.8	+0.5
THZ	**Tophouse**	**0.79**	**313**	P	Pb	11 32 26.6	0.0
THZ				S	Sb	11 32 35.7	-0.2
GVZ	**Greta Valley S**	**0.81**	**215**	P	Pn	11 32 27.4	+0.4
GVZ				S	Sn	11 32 39.7	+1.1
TUWZ	**Tuamarina**	**0.90**	**13**	P	Pg	11 32 28.2	+0.4
TUWZ				S	Sn	11 32 41.7	+0.9
NNZ	**Nelson**	**1.11**	**349**	P	Pb	11 32 31.2	+0.2
NNZ				S	Sb	11 32 45.2	+0.1
LTZ	**Lake Taylor**	**1.14**	**245**	P	Pb	11 32 31.9	+0.3
LTZ				S	Sg	11 32 46.7	-0.4
AMCZ	**Amberley**	**1.15**	**220**	P	Pb	11 32 31.8	+0.2
TCW	**Tory Channel**	**1.19**	**23**	P	Pn	11 32 32.4	+0.3
TCW				S	Sg	11 32 48.7	+0.1
WEL	**Wellington**	**1.31**	**39**	P	Pn	11 32 34.2	+0.4
WEL				S	Sb	11 32 50.7	-0.3
TKNZ	**Takaka Hill**	**1.38**	**337**	P	Pb	11 32 35.9	+0.3
TKNZ				S	Sg	11 32 54.2	-0.6
PLWZ	**Palliser**	**1.39**	**59**	P	Pn	11 32 34.6	-0.4
MSWZ	**Moikau Station**	**1.48**	**54**	P	Pn	11 32 35.9	-0.3
OKCZ	**Okains Bay**	**1.48**	**197**	P	Pn	11 32 36.0	-0.3
DSZ	**Denniston Nort**	**1.50**	**291**	P	Pb	11 32 37.7	0.0
DSZ				S	Sb	11 32 57.0	+0.6
DUWZ	**D'Urville Isla**	**1.52**	**7**	P	Pb	11 32 38.0	+0.1
DUWZ				S	Sn	11 32 55.1	-1.0
MQZ	**McQueen's Vall**	**1.58**	**208**	P	Pn	11 32 36.6	-1.0
CAW	**Cannon Point**	**1.59**	**42**	P	Pn	11 32 37.8	+0.1
PAWZ	**Paruwai Farm**	**1.61**	**55**	P	Pn	11 32 37.3	-0.6
AKCZ	**Akaroa Harbour**	**1.66**	**199**	P	Pn	11 32 38.1	-0.5
QRZ	**Quartz Range**	**1.71**	**330**	P	Pb	11 32 41.2	-0.1
KIW	**Kapiti Island**	**1.72**	**33**	P	Pn	11 32 39.9	+0.5
RACZ	**Rakaia**	**1.81**	**218**	P	Pn	11 32 40.1	-0.6
OGWZ	**Otaki Gorge**	**1.87**	**38**	P	Pn	11 32 41.5	0.0
WACZ	**Wakanui South**	**2.11**	**219**	P	Pn	11 32 44.4	-0.5
RPZ	**Rata Peaks**	**2.38**	**233**	Pn	Pn	11 32 48.0	-0.5
	17nm,0.3s,baz=12,slow=7.1,SNR=2.1						
RPZ				Sn	Sn	11 33 15.8	-1.6
	48nm,0.3s,baz=318,slow=23,SNR=11 179nm,0.7s						
ARCZ	**Arundel**	**2.45**	**227**	P	Pn	11 32 49.1	-0.4
PKE	**Pukeiti**	**3.12**	**5**	P	Pb	11 33 02.6	-2.6
MOVZ	**Moawhango**	**3.30**	**29**	P	Pn	11 33 00.8	-0.4
KAHZ	**Kahuranaki**	**3.49**	**45**	P	Pn	11 33 04.8	+0.9
HHSZ	**Highcliff Hill**	**4.21**	**211**	P	Pn	11 33 12.8	-0.8
EAZ	**Earnscleugh**	**4.30**	**226**	P	Pn	11 33 14.6	-0.4
TUZ	**Tuapeka**	**4.66**	**217**	P	Pn	11 33 19.5	-0.4
AWAZ	**Awhitu Peninsu**	**5.29**	**8**	P	Pn	11 33 30.2	+1.7
SYZ	**Scrubby Hill**	**5.33**	**216**	P	Pn	11 33 28.6	-0.4
ETAZ	**East Tamaki Re**	**5.43**	**11**	P	Pn	11 33 32.2	+1.7
MBAZ	**Motutapu North**	**5.61**	**10**	P	Pn	11 33 40.3	+2.0
ASAR	**Alice Springs**	**37.77**	**287**	P	P	11 39 26.3	+0.7
	0.3nm,0.6s,baz=122,slow=6.6,SNR=4.2 0.3nm,0.6s						
WRA	**Warramunga Arr**	**39.90**	**292**	P	P	11 39 42.6	-0.8
	0.5nm,0.5s,baz=126,slow=8.7,SNR=5.6 0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.12**	**196**	PKPbc	PKPbc	11 52 00.7	+0.2
	0.3nm,0.4s,baz=141,slow=1.7,SNR=2.4						

*IDC **14** 11:34:40.4±2.6, 41°95S×174°02E, h0km, mb3.1/2, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=52.2km s-min=40.0km az=120.0*
*WEL **14** 11:34:43.2±0.3, 42°S±2°×17°4E±°, h9km±2km, M3.7/18, ML3.9/18, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=151.7*
ISC 14 11:34:42.9±0.8, 41°77S±0°03'×174°28E±0°02, h17km±5km, n70, σ1°19/81, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**292**	P	Pg	11 34 45.8	-0.2
CMWZ				S	Sg	11 34 48.0	0.0
BSWZ	**Blackbirch Sta**	**0.30**	**280**	P	Pg	11 34 49.1	-0.3
BSWZ				S	Sg	11 34 53.6	-0.2
TUWZ	**Tuamarina**	**0.42**	**324**	P	Pb	11 34 51.1	-0.7
TUWZ				S	Sb	11 34 57.0	-0.9
TCW	**Tory Channel**	**0.56**	**0**	P	Pg	11 34 53.6	+0.3
TCW				S	Sb	11 35 01.5	-0.3
BHW	**Baring Head**	**0.57**	**51**	P	Pb	11 34 54.8	+0.4
WEL	**Wellington**	**0.61**	**38**	P	Pb	11 34 55.4	+0.3
WEL				S	Sb	11 35 04.6	+1.3
PLWZ	**Palliser**	**0.76**	**75**	P	Pb	11 34 58.8	+1.1
MSWZ	**Moikau Station**	**0.81**	**65**	P	Pb	11 34 59.6	+1.0
MSWZ				S	Sn	11 35 12.2	+1.0
KHZ	**Kahutara**	**0.85**	**220**	P	Pg	11 34 60.0	+0.6
KHZ				S	Sb	11 35 12.6	+2.4
NNZ	**Nelson**	**0.87**	**309**	P	Pg	11 34 58.9	-0.8
CAW	**Cannon Point**	**0.89**	**42**	P	Pb	11 35 00.2	+0.4
CAW				S	Sb	11 35 12.6	+1.2
PAWZ	**Paruwai Farm**	**0.95**	**66**	P	Pg	11 35 01.4	+0.2
DUWZ	**D'Urville Isla**	**1.00**	**344**	P	Pg	11 35 01.3	-1.0
KIW	**Kapiti Island**	**1.02**	**28**	P	Pb	11 35 02.4	+0.3
THZ	**Tophouse**	**1.02**	**270**	P	Pg	11 35 02.2	-0.5
THZ				S	Sn	11 35 17.8	+1.2
MTW	**Mount Morrison**	**1.10**	**57**	P	Pg	11 35 03.5	-0.8
MTW				S	Sb	11 35 19.1	+1.5
TRWZ	**Traveller**	**1.12**	**71**	P	Pg	11 35 03.4	-1.2
OGWZ	**Otaki Gorge**	**1.17**	**36**	P	Pb	11 35 04.9	+0.3
MRNZ	**Matariki Terra**	**1.20**	**287**	P	Pg	11 35 05.5	-0.5
MRNZ				S	Sn	11 35 22.2	+1.4
TKNZ	**Takaka Hill**	**1.23**	**306**	P	Pb	11 35 05.8	+0.1
HOWZ	**Holdsworth Sta**	**1.28**	**47**	P	Pn	11 35 06.2	+0.2
TMWZ	**Te Maipa**	**1.38**	**62**	P	Pn	11 35 07.0	-0.5
MRZ	**Mangatainoka R**	**1.48**	**42**	P	Pn	11 35 08.8	0.0
TIWZ	**Tintock**	**1.57**	**51**	P	Pn	11 35 09.8	-0.2
QRZ	**Quartz Range**	**1.62**	**305**	P	Pn	11 35 11.7	+1.1
CPWZ	**Castlepoint**	**1.69**	**60**	P	Pn	11 35 11.3	-0.3
OHWZ	**Ohakea**	**1.75**	**27**	P	Pb	11 35 14.1	-0.4
PRWZ	**Pori Road**	**1.76**	**47**	P	Pn	11 35 12.4	-0.2
PRWZ				S	Sn	11 35 35.5	+0.8
POWZ	**Post Office Ro**	**1.78**	**40**	P	Pn	11 35 12.9	+0.1
LTZ	**Lake Taylor**	**1.80**	**235**	P	Pn	11 35 13.2	0.0
BFZ	**Birch Farm**	**1.84**	**55**	P	Pn	11 35 12.8	-1.0
AMCZ	**Amberley**	**1.85**	**220**	P	Pg	11 35 18.5	0.0
DVHZ	**Dannevirke**	**2.05**	**45**	P	Pn	11 35 15.7	-0.9
WAZ	**Wanganui**	**2.08**	**15**	P	Pb	11 35 20.6	+0.4
TSZ	**Takapari Road**	**2.13**	**37**	P	Pn	11 35 17.5	-0.3
OXZ	**Oxford**	**2.27**	**226**	P	Pb	11 35 24.3	+0.8
LREZ	**Lake Rotokare**	**2.31**	**2**	P	Pb	11 35 24.8	+0.7
INZ	**Inchbonnie**	**2.31**	**245**	P	Pn	11 35 23.2	+3.0
PRHZ	**Porangahau**	**2.33**	**51**	P	Pn	11 35 19.2	-1.3
PNHZ	**Pukenui**	**2.36**	**39**	P	Pn	11 35 20.4	+0.5
WPHZ	**Waipukurau**	**2.36**	**45**	P	Pn	11 35 20.3	-0.7
KHEZ	**Kahui Hut**	**2.48**	**355**	P	Pb	11 35 27.5	+0.5
RACZ	**Rakaia**	**2.51**	**218**	P	Pn	11 35 21.6	-1.3
NBEZ	**Newall Road No**	**2.52**	**353**	P	Pb	11 35 27.1	-0.5
PKE	**Pukeiti**	**2.58**	**355**	P	Pb	11 35 28.8	+0.1
WNVZ	**Wahianoa**	**2.64**	**23**	P	Pn	11 35 26.8	+1.9
BHHZ	**Black Hill Sta**	**2.65**	**31**	P	Pb	11 35 30.5	+0.5
VRZ	**Vera Road**	**2.67**	**8**	P	Pn	11 35 27.6	+2.5
WHVZ	**Whangaehu Hut**	**2.68**	**22**	P	Pn	11 35 26.8	+1.3
FWVZ	**Far West T-bar**	**2.69**	**22**	P	Pn	11 35 27.1	+1.5
NGZ	**Ngauruhoe**	**2.78**	**22**	P	Pb	11 35 32.9	+0.7
SNVZ	**South Ngauruho**	**2.78**	**22**	P	Pb	11 35 33.0	+0.7
KAHZ	**Kahuranaki**	**2.79**	**46**	P	Pn	11 35 25.4	-1.4
OTVZ	**Oturere**	**2.81**	**23**	P	Pb	11 35 32.9	+0.1
NNVZ	**North Ngauruho**	**2.83**	**22**	P

KIW	Kapiti Island	2.01	36	P		Pn	11 39 46.9	+0.6
OGWZ	Otaki Gorge	2.16	40	P		Pn	11 39 48.1	-0.3
MRZ	Mangatainoka R	2.48	43	P		Pn	11 39 52.3	-0.5

*SOME **14** 11:42:03.7, 44.07N×82.07E, h15km*
*NNC **14** 11:42:06.0±2.6, 44.16N×81.97E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=24.7km s-min=11.2km az=126.0*
ISC 14 11:42:03.3±1.9, **44°05N**±0.07×**82°06E**±0.09, **h10**km, **n18,** σ1§**74**/27, **3C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.66**	**281**	*eP*	**Pg**	**11 42 35.1**	**-0.1**
	4.3nm,0.3s						
DJR				*eS*	**Sg**	**11 42 57.7**	**+1.0**
	4.0nm,0.4s						
DJR	**Jarkent**	**1.66**	**281**	P	**Pg**	**11 42 35.1**	**-0.1**
	4.3nm,0.3s						
DJR				S	**Sg**	**11 42 57.7**	**+1.0**
	4.0nm,0.4s						
PDGK	**Podgornoye**	**2.00**	**250**	Pg	**Pb**	**11 42 40.9**	**+1.0**
	1.8nm,0.3s						
PDGK				Lg	Lg	11 43 07.6	
	8.6nm,0.7s						
PDGK	**Podgornoye**	**2.00**	**250**	⇓P	**Pg**	**11 42 44.2**	**+2.5**
	1.5nm,0.4s						
PDGK				⇑S	**Sg**	**11 43 09.0**	**+1.4**
	15nm,0.6s						
SHLS	**Shalkode**	**2.09**	**246**	*eP*	**Pn**	**11 42 37.1**	**-1.4**
	4.8nm,0.1s						
SHLS				*eS*	**Sn**	**11 43 01.0**	**-3.6**
	7.5nm,0.4s						
SHLS	**Shalkode**	**2.09**	**246**	P	**Pn**	**11 42 37.3**	**-1.2**
	6.2nm,0.5s						
SHLS				S	**Sn**	**11 43 01.0**	**-3.6**
	7.5nm,0.4s						
UZB	**Uzynbulak**	**2.38**	**249**	*eP*	**Pb**	**11 42 47.6**	**+1.1**
	2.1nm,0.2s						
UZB				*eS*	**Sg**	**11 43 18.9**	**-1.0**
	6.7nm,0.5s						
UZB	**Uzynbulak**	**2.38**	**249**	Pg	**Pb**	**11 42 47.6**	**+1.1**
	2.1nm,0.2s						
UZB				Lg	Lg	11 43 18.9	
	6.7nm,0.5s						
KPKS	**Kokpek**	**2.51**	**258**	*eP*	**Pb**	**11 42 49.6**	**+0.9**
	4.0nm,0.3s						
KPKS				*eS*	**Sb**	**11 43 22.3**	**+2.6**
	21nm,0.3s						
KPKS	**Kokpek**	**2.51**	**258**	Pg	**Pb**	**11 42 50.0**	**+1.4**
	3.2nm,0.2s						
KPKS				Lg	Lg	11 43 22.3	
	21nm,0.3s						
BLB	**Baldybastay**	**2.58**	**272**	*eP*	**Pg**	**11 42 52.0**	**-0.9**
	5.0nm,0.2s						
BLB				*eS*	**Sg**	**11 43 26.4**	**+0.1**
	8.4nm,0.4s						
BLB	**Baldybastay**	**2.58**	**272**	Pg	**Pg**	**11 42 51.9**	**-0.9**
	4.6nm,0.4s						
BLB				Lg	Lg	11 43 26.4	
	8.4nm,0.4s						
MK31	**Makanchi Array**	**2.75**	**3**	⇑Pg	**Pb**	**11 42 54.0**	**+1.3**
	7.5nm,1.3s,baz=201,slow=14,SNR=15						
MK31				⇓Lg	Lg	11 43 31.1	
	0.3nm,0.2s						
MAKZ	**Makanchi**	**2.76**	**359**	⇑Lg	Lg	11 43 26.6	
	4.0nm,1.0s						
SATY	**Saty**	**2.83**	**251**	*eP*	**Pb**	**11 42 54.8**	**+0.7**
	3.1nm,0.5s						
SATY				*eS*	**Sb**	**11 43 31.5**	**+2.6**
	7.8nm,0.3s						
SATY	**Saty**	**2.83**	**251**	Pg	**Pb**	**11 42 54.8**	**+0.7**
	3.1nm,0.5s						
SATY				Lg	Lg	11 43 31.5	
	7.8nm,0.3s						
ARXS	**Arharly**	**3.05**	**275**	*eP*	**Pb**	**11 42 59.8**	**+2.0**
	1.8nm,0.1s						
ARXS				*eS*	**Sg**	**11 43 40.1**	**-1.3**
	3.6nm,0.2s						
ARXS	**Arharly**	**3.05**	**275**	Pg	**Pg**	**11 43 00.5**	**-1.4**
	2.1nm,0.7s						
ARXS				Lg	Lg	11 43 40.1	
	3.3nm,0.5s						

WEL 14 11:45:30.7±1.2, **42°S**±3°×**17°4E**±°, **h7**km±4km, **M3.6/5, ML3.9/5, MLv3.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=83.3, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.18**	**223**	P	Pg	11 45 34.7	+0.4
KHZ				S	Sg	11 45 38.2	+1.4
THZ	**Tophouse**	**0.79**	**311**	P	Pg	11 45 46.3	+0.4
GVZ	**Greta Valley S**	**0.84**	**216**	P	Pg	11 45 46.6	-0.3
GVZ				S	Sb	11 45 59.4	+0.2
MRNZ	**Matariki Terra**	**1.13**	**321**	P	Pb	11 45 52.7	+0.1
LTZ	**Lake Taylor**	**1.17**	**244**	P	Pg	11 45 51.9	-1.3
LTZ				S	Sg	11 46 08.0	-0.3
AMCZ	**Amberley**	**1.18**	**221**	P	Pg	11 45 51.1	-2.2
AMCZ				S	Sb	11 46 08.9	0.0
WEL	**Wellington**	**1.28**	**39**	P	Pg	11 45 56.7	+1.5
TKNZ	**Takaka Hill**	**1.37**	**336**	P	Pn	11 45 55.8	-0.4
MSWZ	**Moikau Station**	**1.44**	**54**	P	Pg	11 46 00.7	+2.3
DUWZ	**D'Urville Isla**	**1.49**	**6**	P	Pn	11 45 57.1	-0.8
OKCZ	**Okains Bay**	**1.51**	**198**	P	Pn	11 45 58.6	+0.4
DSZ	**Denniston Nort**	**1.52**	**290**	P	Pn	11 45 57.9	-0.4
DSZ				S	Sg	11 46 19.5	+0.1
CAW	**Cannon Point**	**1.56**	**41**	P	Pg	11 46 01.7	+1.1
PAWZ	**Paruwai Farm**	**1.57**	**56**	P	Pg	11 46 02.9	+2.1
OXZ	**Oxford**	**1.61**	**229**	P	Pn	11 45 56.6	-3.0
KIW	**Kapiti Island**	**1.69**	**33**	P	Pg	11 46 03.3	+0.3
QRZ	**Quartz Range**	**1.71**	**328**	P	Pn	11 46 01.3	+0.4
INZ	**Inchbonnie**	**1.73**	**255**	P	Pn	11 45 59.9	-1.3
MTW	**Mount Morrison**	**1.75**	**51**	P	Pg	11 46 04.9	+0.5
OGWZ	**Otaki Gorge**	**1.83**	**37**	P	Pg	11 46 06.1	+0.3
TMWZ	**Te Maipa**	**2.02**	**55**	P	Pg	11 46 08.6	-0.7
WACZ	**Wakanui South**	**2.15**	**219**	P	Pn	11 46 03.8	-3.1
MRZ	**Mangatainoka R**	**2.15**	**42**	P	Pb	11 46 10.1	+0.2
WVZ	**Waitaha Valley**	**2.33**	**249**	P	Pn	11 46 08.0	-1.4
OHWZ	**Ohakea**	**2.41**	**31**	P	Pb	11 46 15.2	+0.9
RPZ	**Rata Peaks**	**2.41**	**233**	P	Pn	11 46 07.8	-2.8
PRWZ	**Pori Road**	**2.43**	**45**	P	Pb	11 46 14.1	-0.6
POWZ	**Post Office Ro**	**2.45**	**40**	P	Pb	11 46 13.9	-1.1
ARCZ	**Arundel**	**2.49**	**227**	P	Pn	11 46 08.7	-3.0
DVHZ	**Dannevirke**	**2.72**	**44**	P	Pn	11 46 17.0	+2.2
TSZ	**Takapari Road**	**2.80**	**38**	P	Pb	11 46 18.7	-2.4
PRHZ	**Porangahau**	**2.99**	**49**	P	Pb	11 46 21.5	-2.8
PNHZ	**Pukenui**	**3.03**	**39**	P	Pn	11 46 21.6	+2.5
WPHZ	**Waipukurau**	**3.03**	**44**	P	Pn	11 46 21.6	+2.5
VRZ	**Vera Road**	**3.26**	**15**	P	Pn	11 46 22.0	-0.1
HIZ	**Hauiti**	**3.87**	**14**	P	Pn	11 46 30.4	-0.3
TOZ	**Tahuroa Road**	**4.75**	**17**	P	Pn	11 46 41.1	-1.6
CNGZ	**Carnagh Statio**	**5.12**	**44**	P	Pn	11 46 50.6	+2.8
AWAZ	**Awhitu Peninsu**	**5.26**	**8**	P	Pn	11 46 49.3	-0.5
MKAZ	**Moumakai**	**5.29**	**13**	P	Pn	11 46 48.6	-1.5
ETAZ	**East Tamaki Re**	**5.41**	**10**	P	Pn	11 46 51.3	-0.4

*WEL **14** 11:52:27.6±0.3, 43°S×17°3E±°, h10km±2km, M3.9/14, ML4.2/14, MLv3.9/14, Error ellipse: s-maj=0.0km s-min=0.0km az=116.3*
*IDC **14** 11:52:28.9±2.8, 42.61S×172.40E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=55.0km s-min=29.4km az=107.0*
ISC 14 11:52:26.9±1.4, **42°67S**±0.02×**172°93E**±0.03, **h7**km±11km, **n68,** σ1§**92**/76, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.30**	**165**	P	**Pb**	**11 52 35.0**	**+0.3**
GVZ				S	**Sb**	**11 52 41.0**	**+1.0**
LTZ	**Lake Taylor**	**0.49**	**257**	P	**Pg**	**11 52 37.2**	**+0.7**
LTZ				S	**Sb**	**11 52 44.5**	**-0.9**
AMCZ	**Amberley**	**0.54**	**202**	P	**Pb**	**11 52 39.4**	**+0.7**
THZ	**Tophouse**	**0.91**	**359**	P	**Pg**	**11 52 44.3**	**0.0**
OXZ	**Oxford**	**0.92**	**225**	P	**Pb**	**11 52 45.4**	**+0.2**
OXZ				S	**Sn**	**11 52 59.1**	**-0.7**
MQZ	**McQueen's Vall**	**1.05**	**191**	P	**Pg**	**11 52 46.6**	**-0.4**
OKCZ	**Okains Bay**	**1.05**	**175**	P	**Pg**	**11 52 47.8**	**+0.7**
INZ	**Inchbonnie**	**1.09**	**267**	P	**Pb**	**11 52 47.9**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.20**	**181**	P	**Pn**	**11 52 49.5**	**-0.6**
AKCZ				S	**Sb**	**11 53 05.6**	**0.0**
RACZ	**Rakaia**	**1.20**	**208**	P	**Pb**	**11 52 49.3**	**-0.7**
DSZ	**Denniston Nort**	**1.25**	**318**	P	**Pn**	**11 52 50.7**	**-0.1**
DSZ				S	**Sn**	**11 53 08.5**	**+0.6**
MRNZ	**Matariki Terra**	**1.28**	**354**	P	**Pb**	**11 52 51.6**	**+0.3**
MRNZ				S	**Sb**	**11 53 07.9**	**0.0**
NNZ	**Nelson**	**1.49**	**13**	P	**Pn**	**11 52 52.7**	**-1.4**
WACZ	**Wakanui South**	**1.50**	**212**	P	**Pn**	**11 52 53.5**	**-0.7**
TKNZ	**Takaka Hill**	**1.64**	**1**	P	**Pb**	**11 52 57.1**	**-0.3**
WVZ	**Waitaha Valley**	**1.66**	**255**	P	**Pn**	**11 52 56.9**	**+0.5**
RPZ	**Rata Peaks**	**1.72**	**232**	Pn	**Pn**	**11 52 56.7**	**-0.6**
	14nm,0.3s,baz=235,slow=1.7,SNR=24						
RPZ				Sn	**Sn**	**11 53 18.3**	**-1.3**
	28nm,0.3s,baz=161,slow=19,SNR=11						
RPZ	**Rata Peaks**	**1.72**	**232**	P	**Pn**	**11 52 56.7**	**-0.6**
RPZ				S	**Sn**	**11 53 18.2**	**-1.3**
ARCZ	**Arundel**	**1.80**	**224**	P	**Pn**	**11 52 57.7**	**-0.7**
QRZ	**Quartz Range**	**1.87**	**351**	P	**Pb**	**11 53 00.9**	**-0.4**
WEL	**Wellington**	**1.95**	**45**	P	**Pn**	**11 52 57.3**	**-3.1**
DUWZ	**D'Urville Isla**	**2.01**	**22**	P	**Pb**	**11 53 03.6**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.01**	**250**	P	**Pn**	**11 53 02.1**	**+0.8**
MSWZ	**Moikau Station**	**2.14**	**55**	P	**Pn**	**11 53 04.5**	**+1.5**
TMZ	**Timaru**	**2.21**	**219**	P	**Pn**	**11 53 03.2**	**-0.7**
PAWZ	**Paruwai Farm**	**2.27**	**56**	P	**Pn**	**11 53 03.9**	**-0.8**
KIW	**Kapiti Island**	**2.34**	**40**	P	**Pb**	**11 53 09.5**	**+0.1**
TRWZ	**Traveller**	**2.42**	**59**	P	**Pn**	**11 53 08.0**	**+1.1**
LBZ	**Lake Benmore**	**2.63**	**228**	P	**Pn**	**11 53 09.2**	**-0.6**
ODZ	**Otahua Downs**	**2.89**	**214**	P	**Pn**	**11 53 12.2**	**-1.1**
OHWZ	**Ohakea**	**3.05**	**37**	P	**Pn**	**11 53 16.7**	**+1.2**
BFZ	**Birch Farm**	**3.18**	**52**	P	**Pn**	**11 53 16.6**	**-0.8**
JCZ	**Jackson Bay**	**3.33**	**244**	P	**Pn**	**11 53 19.5**	**+0.1**
DVHZ	**Dannevirke**	**3.40**	**47**	P	**Pn**	**11 53 18.8**	**-1.5**
NBEZ	**Newall Road No**	**3.48**	**12**	P	**Pb**	**11 53 25.8**	**-2.9**
NEZ	**North Egmont**	**3.51**	**15**	P	**Pb**	**11 53 27.1**	**-2.3**
PKE	**Pukeiti**	**3.57**	**13**	P	**Pb**	**11 53 27.7**	**-2.6**
HHSZ	**Highcliff Hill**	**3.62**	**207**	P	**Pn**	**11 53 22.1**	**-1.2**
EAZ	**Earnscleugh**	**3.66**	**224**	P	**Pn**	**11 53 22.9**	**-1.0**
VRZ	**Vera Road**	**3.81**	**22**	P	**Pb**	**11 53 31.4**	**-3.0**
MOVZ	**Moawhango**	**3.90**	**34**	P	**Pn**	**11 53 28.5**	**+1.2**
WNVZ	**Wahianoa**	**3.91**	**32**	P	**Pn**	**11 53 30.8**	**+3.3**
WHVZ	**Whangaehu Hut**	**3.94**	**32**	P	**Pn**	**11 53 29.7**	**+1.8**
FWVZ	**Far West T-bar**	**3.95**	**31**	P	**Pn**	**11 53 29.6**	**+1.5**
TUZ	**Tuapeka**	**4.04**	**215**	P	**Pn**	**11 53 28.2**	**-0.9**
OTVZ	**Oturere**	**4.07**	**32**	P	**Pn**	**11 53 33.6**	**+3.9**
NNVZ	**North Ngauruho**	**4.08**	**31**	P	**Pn**	**11 53 33.5**	**+3.6**
WTVZ	**West Tongariro**	**4.09**	**30**	P	**Pn**	**11 53 33.9**	**+4.0**
TMVZ	**Te Maari**	**4.13**	**32**	P	**Pn**	**11 53 33.0**	**+2.5**
NTVZ	**North Tongarir**	**4.13**	**31**	P	**Pn**	**11 53 33.3**	**+2.8**
MLZ	**Mavora Lakes**	**4.39**	**231**	P	**Pn**	**11 53 33.2**	**-0.8**
HIZ	**Hauiti**	**4.41**	**20**	P	**Pn**	**11 53 37.6**	**+3.4**
BKZ	**Black Stump Fm**	**4.42**	**39**	P	**Pn**	**11 53 37.0**	**+2.6**
SYZ	**Scrubby Hill**	**4.71**	**214**	P	**Pn**	**11 53 37.5**	**-0.9**
TLZ	**Tolley Road**	**4.77**	**26**	P	**Pn**	**11 53 43.0**	**+3.7**
WHZ	**Wether Hill Ro**	**4.81**	**226**	P	**Pn**	**11 53 38.1**	**-1.6**
TOZ	**Tahuroa Road**	**5.32**	**23**	P	**Pn**	**11 53 49.3**	**+2.7**
APZ	**The Paps**	**5.45**	**219**	P	**Pn**	**11 53 47.1**	**-1.4**
AWAZ	**Awhitu Peninsu**	**5.75**	**14**	P	**Pn**	**11 53 56.6**	**+3.9**
MKAZ	**Moumakai**	**5.82**	**18**	P	**Pn**	**11 53 55.7**	**+2.2**
WTAZ	**Waiatarua**	**5.87**	**13**	P	**Pn**	**11 53 58.8**	**+4.5**
ETAZ	**East Tamaki Re**	**5.92**	**16**	P	**Pn**	**11 53 58.7**	**+3.8**
TWGZ	**Tauwhareparae**	**5.92**	**42**	P	**Pn**	**11 53 55.7**	**+0.7**
RVAZ	**Riverhead Bore**	**6.03**	**13**	P	**Pn**	**11 53 60.0**	**+3.5**
MBAZ	**Motutapu North**	**6.09**	**15**	P	**Pn**	**11 53 60.0**	**+2.7**
ASAR	**Alice Springs**	**37.35**	**288**	P	**P**	**11 59 39.9**	**-0.3**
	0.4nm,0.9s,baz=128,slow=7.4,SNR=4.8						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**39.53**	**293**	P	**P**	**11 59 58.4**	**0.0**
	0.4nm,0.8s,baz=136,slow=7.3,SNR=3.1						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.62**	**197**	PKPbc	**PKiKP**	**12 12 20.2**	**+1.7**
	0.2nm,0.4s,baz=175,slow=3.1,SNR=2.2						

*WEL **14** 11:59:00, 41.69S×174.29E, h12km, ML4.4, Mw4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr0.57; Mθθ1.42; Mϕϕ-1.98; Mrθ0.10; Mθϕ-1.11; Mϕr1.06; Fault plane solution: M₀2.23000×10¹⁵ NP1: ϕs244.00000°, δ68.00000°, λ-176.00000°. NP2: ϕs152.00000°, δ86.00000°, λ-22.00000°. Principal axes: T -265.7100, Plg12.0000°, Azm200.0000°; N 179.6200, Plg68.0000°, Azm322.0000°; P 86.0900, Plg18.0000°, Azm106.0000°;*
*IDC **14** 11:59:41.5±2.0, 41.59S×174.00E, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1 Error ellipse: s-maj=42.7km s-min=31.7km az=65.0*
*WEL **14** 11:59:44.0±0.3, 42.2°S×17.4E±°, h10km±3km, M4.3/17, ML4.7/17, MLv4.3/17, Error ellipse: s-maj=0.0km s-min=0.0km az=149.0*
*NOU **14** 11:59:43.3, 41.87S×174.51E, h6km, MLv4.8/11, Cook Strait, New Zealand*
ISC 14 11:59:42.6±0.9, **41°74S**±0.03×**174°37E**±0.02, **h18**km±5km, **n125,** σ1§**79**/138, **mb3.5**/3, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**265**	P	**Pg**	**11 59 46.9**	**+0.5**
CMWZ				S	**Sg**	**11 59 49.7**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.37**	**274**	P	**Pb**	**11 59 50.6**	**-0.1**
BSWZ				S	**Sb**	**11 59 56.0**	**0.0**
TUWZ	**Tuamarina**	**0.44**	**314**	P	**Pb**	**11 59 51.9**	**0.0**
TUWZ				S	**Sb**	**11 59 57.4**	**-0.8**
SNZO	**South Karori**	**0.50**	**31**	P	**Pn**	**11 59 54.4**	**-0.4**
TCW	**Tory Channel**	**0.53**	**353**	P	**Pb**	**11 59 53.9**	**+0.5**
TCW				S	**Sb**	**12 00 00.5**	**-0.2**
WEL	**Wellington**	**0.55**	**34**	P	**Pn**	**11 59 55.3**	**-0.2**
WEL				S	**Sn**	**12 00 03.4**	**-0.8**
PLWZ	**Palliser**	**0.69**	**76**	P	**Pn**	**11 59 58.9**	**+1.4**
PLWZ				S	**Sn**	**12 00 10.6**	**+2.8**
MSWZ	**Moikau Station**	**0.74**	**64**	P	**Pn**	**11 59 59.8**	**+1.6**
MSWZ				S	**Sn**	**12 00 09.8**	**+0.8**
CAW	**Cannon Point**	**0.82**	**40**	P	**Pn**	**12 00 00.1**	**+0.8**
CAW				S	**Sn**	**12 00 12.0**	**+1.0**
PAWZ	**Paruwai Farm**	**0.87**	**66**	P	**Pn**	**12 00 01.5**	**+1.4**
PAWZ				S	**Sn**	**12 00 14.4**	**+2.2**
NNZ	**Nelson**	**0.91**	**305**	P	**Pn**	**11 59 60.0**	**-0.5**
KHZ	**Kahutara**	**0.91**	**222**	P	**Pn**	**12 00 01.8**	**+1.3**
KHZ	**Kahutara**	**0.91**	**222**	P	**Pn**	**12 00 01.6**	**+1.1**
KHZ				S	**Sn**	**12 00 13.8**	**+0.6**
KIW	**Kapiti Island**	**0.97**	**25**	P	**Pn**	**12 00 02.2**	**+0.9**
KIW				S	**Sn**	**12 00 15.4**	**+0.8**
DUWZ	**D'Urville Isla**	**0.99**	**340**	P	**Pn**	**12 00 01.9**	**+0.2**
DUWZ				S	**Sb**	**12 00 14.3**	**+0.2**
MTW	**Mount Morrison**	**1.03**	**56**	P	**Pn**	**12 00 03.7**	**+1.5**
MTW				S	**Sn**	**12 00 18.5**	**+2.3**
TRWZ	**Traveller**	**1.05**	**71**	P	**Pn**	**12 00 03.6**	**+1.2**
THZ	**Tophouse**	**1.09**	**268**	P	**Pn**	**12 00 03.8**	**+0.8**
THZ				S	**Sb**	**12 00 17.9**	**+1.0**
OGWZ	**Otaki Gorge**	**1.10**	**34**	P	**Pn**	**12 00 04.6**	**+1.5**
OGWZ				S	**Sn**	**12 00 19.4**	**+1.5**
HOWZ	**Holdsworth Sta**	**1.21**	**46**	P	**Pn**	**12 00 07.1**	**+2.5**
MRNZ	**Matariki Terra**	**1.25**	**285**	P	**Pn**	**12 00 06.7**	**+1.1**
TKNZ	**Takaka Hill**	**1.27**	**303**	P	**Pn**	**12 00 06.5**	**+1.1**
TMWZ	**Te Maipa**	**1.31**	**62**	P	**Pn**	**12 00 07.2**	**+1.2**
MRZ	**Mangatainoka R**	**1.41**	**41**	P	**Pb**	**12 00 09.0**	**+0.6**
TIWZ	**Tintock**	**1.50**	**50**	P	**Pg**	**12 00 10.6**	**-0.8**
GVZ	**Greta Valley S**	**1.57**	**218**	P	**Pg**	**12 00 10.7**	**-2.1**
CPWZ	**Castlepoint**	**1.61**	**60**	P	**Pg**	**12 00 11.5**	**-2.1**
QRZ	**Quartz Range**	**1.66**	**303**	P	**Pg**	**12 00 13.1**	**-1.4**
QRZ	**Quartz Range**	**1.66**	**303**	P	**Pg**	**12 00 13.0**	**-1.4**
OHWZ	**Ohakea**	**1.69**	**25**	P	**Pg**	**12 00 14.5**	**-0.6**
PRWZ	**Pori Road**	**1.69**	**46**	P	**Pg**	**12 00 12.6**	**-2.6**
POWZ	**Post Office Ro**	**1.71**	**39**	P	**Pg**	**12 00 13.4**	**-2.1**
BFZ	**Birch Farm**	**1.77**	**54**	P	**Pb**	**12 00 13.2**	**-1.3**
BFZ	**Birch Farm**	**1.77**	**54**	P	**Pb**	**12 00 13.0**	**-1.5**
LTZ	**Lake Taylor**	**1.87**	**235**	P	**Pb**	**12 00 14.8**	**-1.5**
AMCZ	**Amberley**	**1.92**	**221**	P	**Pn**	**12 00 14.7**	**+0.4**
DSZ	**Denniston Nort**	**1.92**	**269**	P	**Pb**	**12 00 16.6**	**-0.5**
DVHZ	**Dannevirke**	**1.98**	**44**	P	**Pn**	**12 00 16.0**	**+0.7**
WAZ	**Wanganui**	**2.04**	**14**	P	**Pg**	**12 00 20.9**	**-0.8**
ANWZ	**Angora Road**	**2.04**	**52**	P	**Pb**	**12 00 17.6**	**-2.1**
TSZ	**Takapari Road**	**2.07**	**36**	P	**Pb**	**12 00 17.8**	**-1.8**
OKCZ	**Okains Bay**	**2.20**	**205**	P	**Pn**	**12 00 18.3**	**0.0**
PRHZ	**Porangahau**	**2.26**	**50**	P	**Pn**	**12 00 19.4**	**+0.3**
LREZ	**Lake Rotokare**	**2.28**	**1**	P	**Pg**	**12 00 24.6**	**-1.7**
PNHZ	**Pukenui**	**2.29**	**38**	P	**Pn**	**12 00 20.5**	**+1.0**
WPHZ	**Waipukurau**	**2.30**	**44**	P	**Pn**	**12 00 20.6**	**+1.0**
MQZ	**McQueen's Vall**	**2.33**	**212**	P	**Pn**	**12 00 19.4**	**-0.6**
OXZ	**Oxford**	**2.34**	**227**	P	**Pn**	**12 00 20.0**	**-0.1**
NMEZ	**Namu Road**	**2.35**	**351**	P	**Pg**	**12 00 26.9**	**-0.8**
INZ	**Inchbonnie**	**2.38**	**245**	P	**Pb**	**12 00 23.5**	**-1.4**
AKCZ	**Akaroa Harbour**	**2.39**	**206**	P	**Pn**	**12 00 20.8**	**0.0**
KHEZ	**Kahui Hut**	**2.46**	**354**	P	**Pg**	**12 00 28.2**	**-1.5**
KHEZ	**Kahui Hut**	**2.46**	**354**	P	**Pg**	**12 00 27.9**	**-1.8**
NEZ	**North Egmont**	**2.48**	**355**	P	**Pg**	**12 00 27.3**	**-2.8**
NBEZ	**Newall Road No**	**2.50**	**351**	P	**Pg**	**12 00 27.7**	**-2.8**
PXZ	**Pawanui**	**2.55**	**49**	P	**Pn**	**12 00 23.1**	**+0.1**
MOVZ	**Moawhango**	**2.56**	**25**	P	**Pg**	**12 00 29.2**	**-2.4**
PKE	**Pukeiti**	**2.56**	**353**	P	**Pg**	**12 00 28.7**	**-2.9**
PKVZ	**Pokaka**	**2.56**	**17**	P	**Pg**	**12 00 30.3**	**-1.4**
RACZ	**Rakaia**	**2.58**	**219**	P	**Pn**	**12 00 22.9**	**-0.5**
WNVZ	**Wahianoa**	**2.59**	**22**	P	**Pb**	**12 00 27.9**	**-0.7**
BHHZ	**Black Hill Sta**	**2.59**	**30**	P	**Pg**	**12 00 30.9**	**-1.4**
TRVZ	**Turoa**	**2.60**	**21**	P	**Pg**	**12 00 31.0**	**-1.4**
DRZ	**Dome Shelter**	**2.62**	**21**	P	**Pg**	**12 00 31.4**	**-1.6**
WHVZ	**Whangaehu Hut**	**2.62**	**21**	P	**Pb**	**12 00 28.1**	**-1.1**
VRZ	**Vera Road**	**2.63**	**7**	P	**Pb**	**12 00 27.9**	**-1.3**
FWVZ	**Far West T-bar**	**2.64**	**20**	P	**Pb**	**12 00 27.5**	**-2.0**
TUVZ	**Tukino**	**2.66**	**22**	P	**Pg**	**12 00 30.8**	**-2.7**
KAHZ	**Kahuranaki**	**2.72**	**45**	P	**Pn**	**12 00 25.9**	**+0.4**
NGZ	**Ngauruhoe**	**2.73**	**21**	P	**Pg**	**12 00 32.6**	**-2.3**
SNVZ	**South Ngauruho**	**2.73**	**21**	P	**Pg**	**12 00 32.0**	**-2.9**
OTVZ	**Oturere**	**2.76**	**22**	P	**Pb**	**12 00 29.8**	**-1.6**
NNVZ	**North Ngauruho**	**2.77**	**21**	P	**Pg**	**12 00 33.5**	**-2.3**
WTVZ	**West Tongariro**	**2.78**	**20**	P	**Pg**	**12 00 32.8**	**-3.2**
TWVZ	**Taurewa**	**2.79**	**17**	P	**Pb**	**12 00 31.8**	**-0.1**
KWHZ	**Kaweka Forest**	**2.79**	**35**	P	**Pg**	**12 00 35.0**	**-1.2**
ETVZ	**East Tongariro**	**2.80**	**22**	P	**Pb**	**12 00 30.1**	**-2.0**
TMVZ	**Te Maari**	**2.81**	**22**	P	**Pb**	**12 00 29.2**	**-3.2**
KRVZ	**Karewarewa**	**2.82**	**21**	P	**Pb**	**12 00 31.1**	**-1.3**
NTVZ	**North Tongarir**	**2.82**	**21**	P	**Pb**	**12 00 29.8**	**-2.7**
WACZ	**Wakanui South**	**2.88**	**219**	P	**Pn**	**12 00 27.6**	**0.0**
KATZ	**Kakaramea**	**2.94**	**21**	P	**Pg**	**12 00 36.6**	**-2.4**
WVZ	**Waitaha Valley**	**3.00**	**242**	P	**Pn**	**12 00 31.8**	**+2.6**
BKZ	**Black Stump Fm**	**3.04**	**33**	P	**Pg**	**12 00 38.3**	**-2.5**
RATZ	**Rangitukua**	**3.06**	**21**	P	**Pg**	**12 00 38.2**	**-3.1**
HATZ	**Hinemaiaia**	**3.14**	**25**	P	**Pg**	**12 00 39.6**	**-3.1**
RPZ	**Rata Peaks**	**3.14**	**230**	Pn	**Pn**	**12 00 30.8**	**-0.3**
	7.3nm,0.3s,baz=148,slow=2.1,SNR=14						
RPZ				Sn	**Sn**	**12 01 07.0**	**-1.1**
	7.0nm,0.3s,baz=322,slow=21,SNR=7.5						
	16nm,0.3s						
RPZ	**Rata Peaks**	**3.14**	**230**	P	**Pn**	**12 00 31.1**	**0.0**
ARHZ	**Aropaoanui**	**3.18**	**40**	P	**Pn**	**12 00 32.3**	**+0.5**
WATZ	**Wairara**	**3.20**	**20**	P	**Pb**	**12 00 39.9**	**+1.0**
ARCZ	**Arundel**	**3.22**	**226**	P	**Pn**	**12 00 32.4**	**+0.1**
HIZ	**Hauiti**	**3.24**	**7**	P	**Pb**	**12 00 36.6**	**-

DSZ S Sn 12 03 47.3 0.0
MSWZ Moikau Station 1.55 50 Pn 12 03 27.3 -0.1
MSWZ Moikau Station 1.55 50 P Pn 12 03 27.5 0.0
DUWZ D'Urville Isla 1.64 7 P Pn 12 03 28.8 +0.1
INZ Inchbonnie 1.67 259 P Pn 12 03 28.9 -0.1
PAWZ Paruwai Farm 1.68 52 P Pn 12 03 28.9 -0.3
CAW Cannon Point 1.68 39 P Pn 12 03 29.4 +0.2
RACZ Rakaia 1.71 220 P Pn 12 03 28.9 -0.7
QRZ Quartz Range 1.82 331 Pn 12 03 31.9 +0.7
QRZ Quartz Range 1.82 331 P Pn 12 03 31.8 +0.7
QRZ Quartz Range 1.82 331 P Pn 12 03 31.7 +0.6
QRZ S Sn 12 03 54.3 +0.4
KIW Kapiti Island 1.82 31 P Pn 12 03 31.4 +0.3
TRWZ Traveller 1.82 56 P Pn 12 03 30.8 -0.4
MTW Mount Morrison 1.87 48 P Pn 12 03 31.4 -0.3
MHCZ Mount Hutt 1.90 234 P Pn 12 03 31.4 -0.8
OGWZ Otaki Gorge 1.96 35 P Pn 12 03 33.1 0.0
WACZ Wakanui South 2.02 221 P Pn 12 03 33.3 -0.6
HOWZ Holdsworth Sta 2.06 43 P Pb 12 03 38.2 +0.7
TMWZ Te Maipa 2.12 52 P Pn 12 03 34.7 -0.5
WVZ Waitaha Valley 2.26 252 P Pn 12 03 37.2 +0.1
MRZ Mangatainoka R 2.27 40 Pn Pn 12 03 36.9 -0.4
MRZ Mangatainoka R 2.27 40 P Pn 12 03 36.9 -0.4
RPZ Rata Peaks 2.31 235 Pn Pn 12 03 37.0 -0.8
266nm,0.3s,baz=254,slow=1.9,SNR=47
RPZ Sn Sn 12 04 04.1 -1.8
264nm,0.3s,baz=336,slow=23,SNR=26
1µm,0.6s
RPZ Rata Peaks 2.31 235 P Pn 12 03 37.1 -0.8
RPZ Rata Peaks 2.31 235 P Pn 12 03 37.1 -0.8
TIWZ Tintock 2.34 46 P Pn 12 03 38.1 -0.2
ARCZ Arundel 2.37 229 P Pn 12 03 38.0 -0.8
CPWZ Castlepoint 2.43 52 P Pn 12 03 39.2 -0.2
OHWZ Ohakea 2.54 30 P Pn 12 03 42.1 +1.1
PRWZ Pori Road 2.55 43 P Pn 12 03 40.5 -0.7
POWZ Post Office Ro 2.58 38 P Pn 12 03 41.0 -0.5
BFZ Birch Farm 2.60 49 Pn Pn 12 03 41.2 -0.7
BFZ Birch Farm 2.60 49 P Pn 12 03 40.7 -1.1
GCSZ Gaunt Creek Bo 2.61 249 P Pn 12 03 42.1 +0.1
TMZ Timaru 2.75 224 P Pn 12 03 43.4 -0.6
DVHZ Dannevirke 2.84 42 P Pn 12 03 43.9 -1.2
WAZ Wanganui 2.85 21 P Pn 12 03 47.2 +1.9
ANWZ Angora Road 2.88 48 P Pn 12 03 44.8 -0.9
TSZ Takapari Road 2.93 37 P Pn 12 03 45.7 -0.8
LREZ Lake Rotokare 3.02 15 P Pn 12 03 49.6 +2.1
FOZ Fox Glacier 3.04 247 Pn 12 03 47.6 -0.1
FOZ Fox Glacier 3.04 247 P Pn 12 03 48.0 +0.2
PRHZ Porangahau 3.11 47 P Pn 12 03 47.2 -1.6
KHEZ Kahui Hut 3.15 5 P Pn 12 03 52.1 +2.7
WPHZ Waipukurau 3.15 42 P Pn 12 03 48.3 -1.2
PNHZ Pukenui 3.16 38 P Pn 12 03 48.5 -1.1
NBEZ Newall Road No 3.16 3 P Pn 12 03 51.7 +2.1
NEZ North Egmont 3.17 6 P Pn 12 03 52.3 +2.5
LBZ Lake Benmore 3.21 231 Pn 12 03 49.5 -0.7
LBZ Lake Benmore 3.21 231 P Pn 12 03 49.6 -0.6
PKE Pukeiti 3.24 4 P Pn 12 03 53.1 +2.4
DREZ Durham Road 3.26 7 P Pn 12 03 52.8 +1.8
MHEZ Mangahewa 3.39 9 P Pb 12 03 56.3 -3.8
PXZ Pawanui 3.40 46 P Pn 12 03 51.1 -1.7
VRZ Vera Road 3.41 14 P Pn 12 03 54.6 +1.7
ODZ Otahua Downs 3.41 219 Pn 12 03 52.0 -0.9
ODZ Otahua Downs 3.41 219 P Pn 12 03 52.5 -0.5
ODZ Otahua Downs 3.41 219 P Pn 12 03 52.3 -0.6
WNVZ Wahianoa 3.43 26 P Pn 12 03 54.1 +0.7
TRVZ Turoa 3.44 25 P Pn 12 03 54.3 +0.8
BHHZ Black Hill Sta 3.45 32 P Pn 12 03 53.4 -0.2
DRZ Dome Shelter 3.46 25 P Pn 12 03 55.1 +1.1
WHVZ Whangaehu Hut 3.46 25 P Pn 12 03 55.0 +1.0
FWVZ Far West T-bar 3.48 25 P Pn 12 03 54.9 +0.8
TUVZ Tukino 3.50 26 P Pn 12 03 55.0 +0.7
NGZ Ngauruhoe 3.57 25 P Pn 12 03 56.0 +0.8
SNVZ South Ngauruho 3.57 25 P Pn 12 03 55.9 +0.6
KAHZ Kahuranaki 3.58 44 P Pn 12 03 53.6 -1.7
OTVZ Oturere 3.60 25 P Pn 12 03 56.3 +0.6
NNVZ North Ngauruho 3.61 25 P Pn 12 03 56.6 +0.8
TWVZ Taurewa 3.62 22 P Pn 12 03 56.5 +0.6
WTVZ West Tongariro 3.62 24 P Pn 12 03 56.6 +0.6
ETVZ East Tongariro 3.64 26 P Pn 12 03 56.8 +0.6
KRVZ Karewarewa 3.65 26 P Pn 12 03 56.9 +0.5
TMVZ Te Maari 3.65 26 P Pn 12 03 56.9 +0.5
KWHZ Kaweka Forest 3.66 36 P Pn 12 03 56.5 +0.1
NTVZ North Tongariro 3.66 25 P Pn 12 03 57.1 +0.5
MCHZ McNeill Hill 3.76 38 P Pn 12 03 57.1 -0.7
KATZ Kakaramea 3.78 25 P Pn 12 03 59.6 +1.4
BKZ Black Stump Fm 3.90 34 Pn Pn 12 03 58.0 -1.7
BKZ Black Stump Fm 3.90 34 P Pn 12 03 58.2 -1.6
RATZ Rangitukua 3.90 25 P Pn 12 04 00.9 +1.1
JCZ Jackson Bay 3.93 244 P Pn 12 04 02.2 +2.0
JCZ Jackson Bay 3.93 244 P Pn 12 04 00.0 -0.2
HIZ Hauiti 4.02 13 Pn 12 04 02.7 +1.4
HIZ Hauiti 4.02 13 P Pn 12 04 03.1 +1.8
HIZ Hauiti 4.02 13 P Pn 12 04 02.8 +1.6
WATZ Wairara 4.04 24 P Pn 12 04 01.9 +0.3
ARHZ Aropaoanui 4.04 40 P Pn 12 04 01.2 -0.5
NMHZ Naumai 4.09 37 P Pn 12 04 01.0 -1.5
HHSZ Highcliff Hill 4.10 212 P Pn 12 04 01.8 -0.6
WKZ Wanaka 4.14 233 Pn 12 04 01.9 -1.1
WKZ Wanaka 4.14 233 P Pn 12 04 02.3 -0.8
MRHZ Matea Rd 4.16 31 P Pn 12 04 01.7 -1.6
EAZ Earnscleugh 4.22 227 P Pn 12 04 03.1 -1.0
WHHZ Waihua 4.31 40 P Pn 12 04 04.0 -1.2
MTHZ Maungataniwha 4.31 35 P Pn 12 04 04.3 -1.1
TLZ Tolley Road 4.34 20 P Pn 12 04 05.8 0.0
RAHZ Arahi 4.37 38 P Pn 12 04 04.1 -2.1
ALRZ Allen Road 4.37 29 P Pn 12 04 04.6 -1.5
GRRZ Galatos Road 4.48 25 P Pn 12 04 07.2 -0.5
HRRZ Handcock Road 4.50 27 P Pn 12 04 07.5 -0.5
HSRZ Hossack Road 4.56 26 P Pn 12 04 08.8 0.0
KNZ Kokohu 4.56 43 P Pn 12 04 06.4 -2.4
TUZ Tuapeka 4.57 218 P Pn 12 04 08.1 -0.7
MHGZ Mahia Peninsul 4.59 46 P Pn 12 04 08.1 -1.0
RRRZ Republican Roa 4.63 29 P Pn 12 04 08.5 -1.2
HLRZ Highlands Stat 4.65 27 P Pn 12 04 11.0 +1.0
TARZ Mount Tarawera 4.72 28 P Pn 12 04 11.2 +0.1
MSZ Milford Sound 4.74 240 P Pn 12 04 14.0 +2.8
OMRZ Omania 4.79 26 P Pn 12 04 11.9 0.0
RAGZ Rawiri 4.86 37 P Pn 12 04 15.7 +2.8
KMRZ Kaimai 4.90 22 P Pn 12 04 13.5 +0.1
TOZ Tahuroa Road 4.90 17 P Pn 12 04 13.6 +0.1
URZ Urewera 4.92 33 P Pn 12 04 12.6 -1.2
MLZ Mavora Lakes 4.97 232 Pn 12 04 13.7 -0.7
MLZ Mavora Lakes 4.97 232 P Pn 12 04 13.2 -1.2
OPRZ Ohinepanea 5.09 27 P Pn 12 04 14.5 -1.5
TGRZ Tauranga 5.10 24 P Pn 12 04 15.9 -0.3
TKGZ Te Karaka 5.10 40 P Pn 12 04 14.3 -1.9
SYZ Scrubby Hill 5.23 217 P Pn 12 04 17.8 -0.1
SYZ Scrubby Hill 5.23 217 P Pn 12 04 17.7 -0.3
CNGZ Carnagh Statio 5.24 43 P Pn 12 04 16.1 -2.1
TWGZ Tauwhareparae 5.38 39 P Pn 12 04 18.2 -1.9
WHZ Wether Hill Ro 5.38 228 Pn 12 04 18.2 -1.8
WHZ Wether Hill Ro 5.38 228 P Pn 12 04 18.5 -1.5
RUGZ Raukumara Rang 5.41 36 P Pn 12 04 18.2 -2.4
AWAZ Awhitu Peninsu 5.41 8 P Pn 12 04 21.4 +1.0
MKAZ Moumakai 5.44 13 P Pn 12 04 21.1 +0.2
WTAZ Waiatarua 5.54 7 P Pn 12 04 23.4 +1.3
ETAZ East Tamaki Re 5.56 10 P Pn 12 04 23.2 +0.8
PUZ Puketiti 5.59 40 P Pn 12 04 20.2 -2.7
DCZ Deep Cove 5.60 235 P Pn 12 04 21.5 -1.4
EPAZ Eden Park BICE 5.61 9 P Pn 12 04 24.3 +1.2
HAZ Te Kaha 5.63 35 P Pn 12 04 21.6 -1.9
HBAZ Herne Bay Bore 5.63 9 P Pn 12 04 24.6 +1.2
RVAZ Riverhead Bore 5.70 7 P Pn 12 04 25.2 +0.9
MBAZ Motutapu North 5.73 10 P Pn 12 04 26.1 +1.2
WIAZ Waiheke Island 5.74 12 P Pn 12 04 26.0 +1.0
WMGZ Waiomatatini S 5.87 40 P Pn 12 04 25.7 -1.0
ABAZ Army Bay 5.89 9 P Pn 12 04 28.1 +1.0
KUZ Kuaotunu 5.89 16 P Pn 12 04 26.9 -0.2
KUZ Kuaotunu 5.89 16 P Pn 12 04 26.6 -0.5
APZ The Paps 5.98 221 P Pn 12 04 27.1 -1.2
MXZ Matakaoa Point 6.02 38 Pn 12 04 26.4 -2.5
MXZ Matakaoa Point 6.02 38 P Pn 12 04 25.9 -3.0
PYZ Puysegur Point 6.25 231 Pn Pn 12 04 33.7 +1.7
PYZ Puysegur Point 6.25 231 P Pn 12 04 33.2 +1.2
PYZ Puysegur Point 6.25 231 P Pn 12 04 31.6 -0.4
GRZ Great Barrier 6.33 13 P Pn 12 04 32.7 -0.3
OUZ Omahuta 7.20 359 Pn Pn 12 04 46.0 +1.0
OUZ Omahuta 7.20 359 P Pn 12 04 46.4 +1.3
OUZ Omahuta 7.20 359 P Pn 12 04 46.3 +1.3
CTZ Chatham Island 7.23 104 P Pn 12 04 45.3 0.0

CTZ Chatham Island 7.23 104 P Pn 12 04 45.3 0.0
RAO Raoul Island 14.80 30 LR LR 12 12 09.2
comp=Z,350nm,20.5s,baz=223,slow=38
GLAD Gladstone 19.20 266 P Pn 12 07 28.3 +3.9
TAU Tasmania Unive 19.36 260 P Pn 12 07 30.0 +3.6
DZM Mont Dzumac 21.19 341 LR LR 12 15 27.3
comp=Z,194nm,18.3s,baz=202,slow=36
TOO Toolangi 22.08 273 P P 12 07 56.9 +2.2
TOO IAmb IAmb 12 08 35.0
comp=Z,27nm,1.4s
KOUNC Koumac, New Ca 23.21 337 P P 12 08 07.5 +0.8
KOUNC Koumac, New Ca 23.21 337 P P 12 08 07.7 +1.1
MSVF Nonsavu 24.90 10 P P 12 08 20.6 -2.1
comp=Z,2.4nm,0.4s,baz=261,slow=21,SNR=5.8
MSVF LR LR 12 17 20.2
comp=Z,250nm,18.7s,baz=191,slow=35
comp=Z,2.4nm,0.4s
MSVF Nonsavu 24.90 10 P P 12 08 23.0 +0.3
MSVF IAmb IAmb 12 08 26.0
comp=Z,16nm,1.1s
MSVF Nonsavu 24.90 10 P P 12 08 24.1 +1.4
comp=Z,18nm,1.5s
EIDS Eidsvold 25.20 305 P P 12 08 26.2 +0.8
EIDS IAmb IAmb 12 08 49.2
comp=Z,11nm,1.1s
RAR Rarotonga 30.71 55 LR LR 12 20 11.6
comp=Z,59nm,19.1s,baz=252,slow=34
LCRK Leigh Creek 30.71 281 P P 12 09 14.4 -0.2
BBOO Buckleboo 31.09 275 P P 12 09 16.9 -1.0
CTA Charters Tower 32.09 305 P P 12 09 25.4 -1.5
comp=Z,0.9nm,0.4s,baz=105,slow=12,SNR=2.3
CTA LR LR 12 20 41.0
comp=Z,68nm,19.0s,baz=84,slow=33
comp=Z,0.9nm,0.4s
OOD Oodnadatta 34.03 283 P P 12 09 45.6 +1.9
HNR Honiara 35.01 336 LR LR 12 23 43.6
comp=Z,1µm,18.2s,baz=132,slow=36
VNDA Vanda 35.53 184 LR LR 12 21 40.5
comp=Z,58nm,21.3s,baz=13,slow=31
VNDA Vanda 35.53 184 P P 12 09 57.3 +1.1
AS01 Alice Springs 37.78 287 P P 12 10 15.1 -0.8
AS31 Alice Springs 37.81 287 P P 12 10 15.1 -1.1
ASAR Alice Springs 37.81 287 P P 12 10 14.9 -1.3
comp=Z,1.6nm,0.5s,baz=126,slow=6.8,SNR=25
ASAR PcP PcP 12 12 31.2 -1.5
comp=Z,0.5nm,0.6s,baz=132,slow=3.9,SNR=5.8
comp=Z,1.6nm,0.5s
ASAR Alice Springs 37.81 287 P P 12 10 15.3 -0.9
FORT Forrest 38.00 273 P P 12 10 16.8 -0.9
FORT IAmb IAmb 12 10 46.6
comp=Z,13nm,0.8s
WR0 Warramunga Arr 39.80 292 P P 12 10 31.5 -1.4
PPT Papeete 39.87 63 LR LR 12 26 44.7
comp=Z,33nm,18.2s,baz=262,slow=36
WB2 Warramunga Arr 39.94 292 P P 12 10 33.6 -0.5
WB2 IAmb IAmb 12 10 41.6
comp=Z,4.5nm,0.7s
WRAB Tennant Creek 39.95 292 P P 12 10 33.1 -1.0
WRA Warramunga Arr 39.95 292 P P 12 10 32.7 -1.5
comp=Z,1.7nm,0.5s,baz=126,slow=8.4,SNR=22
WRA LR LR 12 25 39.7
comp=Z,91nm,19.1s,baz=110,slow=34
comp=Z,1.7nm,0.5s
WRA Warramunga Arr 39.95 292 P P 12 10 32.6 -1.5
WB0 Warramunga Arr 40.03 292 P P 12 10 34.0 -0.8
WB0 IAmb IAmb 12 10 39.4
comp=Z,4.1nm,0.6s
PMG Port Moresby 40.29 317 P P 12 10 35.9 -0.9
comp=Z,1.6nm,0.3s,baz=214,slow=7.3,SNR=1.6
comp=Z,1.6nm,0.3s
WRKA Wakkuma 41.00 280 P P 12 10 41.3 -1.6
NWAO Narrogin (SRO) 44.94 263 LR LR 12 27 36.1
comp=Z,70nm,21.9s,baz=322,slow=33
KNRA Kununurra 46.72 291 P P 12 11 27.5 -1.3
KNRA Kununurra 46.72 291 P P 12 11 28.2 -0.6
MTN Manton Dam 47.12 296 P P 12 11 31.1 -0.9
MEEK Meekatharra 47.21 271 P P 12 11 31.9 -0.7
QSPA South Pole Qui 47.70 180 P P 12 11 38.5 +2.5
comp=Z,1.6nm,0.8s,baz=207,slow=3.1,SNR=9.7
QSPA LR LR 12 29 33.8
comp=Z,51nm,19.4s,baz=30,slow=33
comp=Z,1.6nm,0.8s
QSPA South Pole Qui 47.70 180 P P 12 11 38.8 +2.8
QSPA IAmb IAmb 12 12 00.1
comp=Z,5.4nm,1.1s
MAW Mawson 58.66 205 LR LR 12 37 19.2
comp=Z,89nm,18.7s,baz=98,slow=35
SNAA Sanae 66.18 181 P P 12 13 47.1 +0.3
comp=Z,2.6nm,0.9s,baz=202,slow=16,SNR=1.7
comp=Z,2.6nm,0.9s
SNAA Sanae 66.18 181 P P 12 13 47.6 +0.8
SNAA IAmb IAmb 12 13 53.2
comp=Z,9.5nm,1.3s
ASAJ Asahikawa 90.55 338 LR LR 12 51 39.9
comp=Z,17nm,21.1s,baz=170,slow=32
CMAR Chiang Mai Arr 91.52 294 P P 12 16 06.2 -0.2
comp=Z,0.4nm,0.4s,baz=162,slow=5.5,SNR=2.4
comp=Z,0.4nm,0.4s
PZH PanZhiHua 95.31 301 P P 12 16 23.8 0.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.5s
PETK Petropavlovsk- 96.16 350 LR LR 12 52 56.0
comp=Z,20nm,21.1s,baz=136,slow=31
HHC Hu-ho-hao-te 100.09 317 eP Pdif 12 16 47.4 +2.4
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.6s
MKAR Makanchi Array 120.05 307 PKP PKPdf 12 21 47.7 -2.1
comp=Z,0.3nm,0.5s,baz=175,slow=1.7,SNR=6.2
ARCES ARCESS Array B 148.27 339 PKPbc PKPbc 12 22 43.2 -1.3
comp=Z,1.5nm,0.5s,baz=34,slow=1.5,SNR=13
ARCES ARCESS Array B 148.27 339 P PKPbc 12 22 43.3 -1.3
BRTR Keskin Array B 149.94 278 PKPbc PKPbc 12 22 49.7 -0.2
comp=Z,3.0nm,0.8s,baz=150,slow=5.1,SNR=5.2
TORD Torodi Ar. Bea 150.00 196 PKPbc PKPbc 12 22 50.6 +0.1
comp=Z,1.4nm,0.7s,baz=162,slow=2.7,SNR=4.3
FINES FINESS Array B 152.86 326 PKPbc PKPbc 12 22 53.8 -1.9
comp=Z,0.8nm,0.4s,baz=63,slow=2.4,SNR=9.1

IDC ***14*** *12:12:53.8±0.7,51.06N×178.93E,h0km,mb4.2/21, mbtmp4.2/24,ML4.4/2,MS3.5/17,Error ellipse: s-maj=20.8km s-min=12.4km az=168.0*
AEIC ***14*** *12:12:57.8±1.9,50.99N±0.07×178.77E±0.09,h13km±4km, Error ellipse: s-maj=12.0km s-min=6.5km az=148.0*
MOS ***14*** *12:12:58.7±1.1,51.18N×178.78E,h40km,mb4.8/26,Error ellipse: s-maj=11.1km s-min=8.1km az=115.4*
NEIC ***14*** *12:13:01.4±1.8,51.2N±0.1×178.82E±0.08,h42km±3km, mb4.4/59,ML4.1(AEIC),Error ellipse: s-maj=16.4km s-min=7.3km az=170.0*

ISC 14 12:13:00.4±0.5,51.12N±0.08×178.92E±0.04,h41km,n321, σ1§13/303,**mb4.5/69,MS3.7/17,14C-1D,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time ISC	h m s	Res ISC
AMKA	Amchitka	0.35	43		Pn	12 13 08.3	-1.1	
AMKA					Sn	12 13 16.7	+1.0	
KIWB	Kanaga Island	2.57	72		Pn	12 13 41.0	+1.6	
ADK	Adak	2.85	73	Pn	Pn	12 13 44.7	+1.3	
ADK	Adak	2.85	73	P	Pn	12 13 44.7	+1.3	
SHEM	Shemya Is, Ala	3.39	300	Pn	Pn	12 13 50.0	-0.7	
	33nm,0.3s,baz=118,slow=2.4,SNR=22							
SHEM				Sn	Sn	12 14 35.9	+6.3	
	19nm,0.3s,baz=289,slow=22,SNR=8.9							
	242nm,0.6s							
SMY	Shemya	3.39	300	Pn	Pn	12 13 51.8	+1.1	
SMY	Shemya	3.39	300	P	Pn	12 13 51.8	+1.1	
SPIA	Saint Paul Isl	8.78	42	Pn	Pn	12 15 08.4	+3.8	
PEA0B	Petropavlovsk-	13.18	287	*i* P	Pn	12 16 02.8	-2.1	
PETK	Petropavlovsk-	13.18	287	Pn	Pn	12 16 03.9	-1.0	
	2.9nm,0.9s,baz=83,slow=15,SNR=2.3							
PETK				LR		12 21 03.9		
	comp=Z,82nm,20.8s,baz=106,slow=37							
CNBA	Chernabura Isl	13.46	66	Pn	Pn	12 16 11.5	+2.9	
CHGN	Chignik	14.36	60	Pn	Pn	12 16 19.8	-1.0	
CHGN	Chignik	14.36	60	P	Pn	12 16 20.3	-0.5	
	baz=258							
Q18K	Katmai Hardscr	16.70	53	P	Pn	12 16 52.1	+0.9	
	baz=254							
P18K	Big Mountain,	16.81	50	P	Pn	12 16 52.3	-0.2	
	baz=252							
O18K	Koktuh Hills	16.97	49	P	P	12 16 57.8	+1.8	

O18K IAmb IAmb 12 16 59.3
comp=Z,20nm,0.7s
O18K Koktuh Hills 16.97 49 P P 12 16 55.5 -0.5
baz=250
OHAK Old Harbor 17.30 59 P Pn 12 16 57.8 -0.8
OHAK Old Harbor 17.30 59 P Pn 12 16 58.8 +0.2
baz=261
O19K Port Alsworth 17.50 48 P P 12 17 01.5 -0.3
baz=250
N19K Bonanza Creek 17.64 46 P Pn 12 17 02.9 -0.1
baz=248
KDAK Kodiak Island 17.77 57 P Pn 12 17 02.4 -2.0
comp=Z,1.1nm,0.3s,baz=288,slow=3.2,SNR=15
comp=Z,4.0nm,0.3s
KDAK Kodiak Island 17.77 57 P Pn 12 17 03.4 -0.9
KDAK Kodiak Island 17.77 57 *i* P Pn 12 17 01.2 -3.1
KDAK pmax pmax
comp=Z,234nm,2.2s
P19K Oil Pt 17.86 51 P P 12 17 06.2 +0.4
baz=254
TTA Tatalina 17.91 39 P P 12 17 06.4 0.0
baz=240
MA2 Magadan 17.98 309 LR LR 12 23 54.3
comp=Z,186nm,18.6s,baz=123,slow=37
MA2 Magadan 17.98 309 *i* P Pn 12 17 04.8 -2.2
L19K White Mountain 18.03 42 P P 12 17 09.0 +1.3
L19K White Mountain 18.03 42 P P 12 17 08.0 +0.3
baz=244
BILL Bilibino 18.07 345↑ *e*P P 12 17 08.6 +0.6
BILL *i* S Sn 12 20 22.5 -5.7
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,214nm,16.0s
M19K Big River Lodg 18.11 43 P Pn 12 17 10.4 +1.9
M19K IAmb IAmb 12 17 13.5
comp=Z,34nm,1.4s
M19K Big River Lodg 18.11 43 P Pn 12 17 09.2 +0.7
baz=246
O20K Slope Mountain 18.28 50 P Pn 12 17 10.7 0.0
baz=253
RSO Redoubt South 18.33 48 P Pn 12 17 11.9 +0.5
GCSA Galena City Sc 18.57 34 P Pn 12 17 14.5 +0.4
baz=234,SNR=6.3
L20K Farewell, AK 18.57 42 P Pn 12 17 14.9 +0.7
baz=245
M20K Styx River 18.65 44 P P 12 17 14.8 +0.3
baz=247
N20K Mount Spurr 18.82 46 P Pn 12 17 16.9 -0.3
baz=250
SPCR Spurr Chakacha 18.82 46 P Pn 12 17 17.2 0.0
baz=250
SPU Mount Spurr 18.88 47 P Pn 12 17 18.4 +0.5
K20K Telida 18.89 39 P Pn 12 17 18.5 +0.6
K20K Telida 18.89 39 P Pn 12 17 18.0 0.0
baz=242
J20K Nowinta River 19.26 37 P Pn 12 17 22.3 -0.1
J20K Nowinta River 19.26 37 P P 12 17 21.5 +0.4
baz=240
SKT Skwentna 19.39 45 P Pn 12 17 25.1 +1.1
SKT IAmb IAmb 12 17 26.9
comp=Z,17nm,0.6s
SKT Skwentna 19.39 45 P Pn 12 17 23.9 -0.1
baz=249,SNR=5.6
PPLA Purkeypile 19.45 42 P Pn 12 17 25.6 +0.7
PPLA IAmb IAmb 12 17 31.8
comp=Z,50nm,1.4s
SUA Susitna One 19.57 46 P Pn 12 17 25.6 -0.7
baz=252
CAST Castle Rocks 19.72 40 P Pn 12 17 27.8 0.0
CAST IAmb IAmb 12 17 28.8
comp=Z,18nm,0.8s
CAST Castle Rocks 19.72 40 P Pn 12 17 27.9 0.0
baz=245,SNR=11
SEW Seward 19.82 51 P Pn 12 17 29.1 +0.1
CHUM Lake Minchumin 19.83 39 P Pn 12 17 28.8 -0.2
baz=243,SNR=6.7
M22K Willow 19.95 46 P Pn 12 17 30.0 -0.5
baz=252
CUT Chulitna 20.09 44 P Pn 12 17 31.5 -0.8
baz=250
PMR Palmer 20.35 47 P P 12 17 33.4 +0.5
PMR IAmb IAmb 12 18 07.4
comp=Z,17nm,1.2s
PMR Palmer 20.35 47 P P 12 17 33.4 +0.5
PMR pmax pmax
comp=Z,17nm,1.2s
IMAR Indian Mountai 20.36 33 P Pn 12 17 34.4 -0.9
BPAW Bear Paw Mtn. 20.45 39 P Pn 12 17 35.7 -0.7
BPAW Bear Paw Mtn. 20.45 39 P Pn 12 17 35.4 -1.0
baz=245
TRF Thorofare Moun 20.47 41 Pn 12 17 36.0 -0.8
TRF IAmb IAmb 12 17 50.8
comp=Z,19nm,0.8s
TRF Thorofare Moun 20.47 41 P P 12 17 35.6 +1.1
baz=247
H21K Melozitna Rive 20.51 34 P P 12 17 35.6 +0.9
H21K IAmb IAmb 12 17 37.2
comp=Z,13nm,0.8s
H21K Melozitna Rive 20.51 34 P Pn 12 17 36.3 -0.8
baz=238
I21K Tanana 20.56 36 P Pn 12 17 36.9 -0.8
I21K IAmb IAmb 12 17 37.8
comp=Z,19nm,1.1s
I21K Tanana 20.56 36 P P 12 17 36.3 +1.1
baz=241
KNK Knik Glacier 20.61 47 P P 12 17 35.4 -0.5
KNK Knik Glacier 20.61 47 P P 12 17 35.8 0.0
baz=255
G21K Allakaket 20.74 32 P P 12 17 38.2 +1.0
baz=236
SML Sawmill 20.77 46 P P 12 17 37.6 -0.1
SML IAmb IAmb 12 18 01.2
comp=Z,20nm,0.9s
SML Sawmill 20.77 46 P P 12 17 37.6 -0.1
SML pmax pmax
comp=Z,20nm,0.9s
MLY Manley 20.96 37 P P 12 17 40.6 +1.0
MLY Manley 20.96 37 P P 12 17 40.5 +1.0
baz=243,SNR=5.6
WAT1 Susitna Watana 20.98 44 P P 12 17 40.2 +0.3
baz=251
M23K Glacier View 21.05 47 P P 12 17 40.5 0.0
baz=255
MCK McKinley 21.14 41 P P 12 17 41.8 +0.3
baz=248
H22K Ishtalitna Cre 21.14 34 P P 12 17 42.6 +1.2
baz=240
F21K Alatna River 21.16 30 P P 12 17 41.5 -0.2
baz=234
WAT6 Susitna Watana 21.26 45 P P 12 17 42.8 -0.2
baz=253
NEA2 Nenana 21.41 39 P P 12 17 45.2 +0.8
NEA2 Nenana 21.41 39 P P 12 17 44.7 +0.3
baz=246,SNR=12
I23K Minto, Yukon-K 21.53 37 P P 12 17 47.3 +1.6
I23K Minto, Yukon-K 21.53 37 P P 12 17 46.0 +0.4
baz=244
DHY Denali Highway 21.57 43 P P 12 17 46.4 +0.1
DHY IAmb IAmb 12 17 49.2
comp=Z,16nm,0.8s
DHY Denali Highway 21.57 43 P P 12 17 47.1 +0.8
baz=252,SNR=7.1
G22K Bettles 21.63 32 P P 12 17 47.0 +0.4
baz=238
F22K John River 21.73 30 P P 12 17 49.3 +1.4
baz=235
WRH Wood River Hil 21.76 40 P P 12 17 48.1 +0.1
H23K Yukon River 21.77 36 P P 12 17 50.0 +1.8
H23K IAmb IAmb 12 17 52.1
comp=Z,31nm,1.4s
H23K Yukon River 21.77 36 P P 12 17 48.9 +0.7
baz=243,SNR=5.6
M24K Tolsona, Glenn 21.84 46 P P 12 17 49.1 +0.1
baz=256
MDM Murphy Dome 21.89 38 P P 12 17 49.8 +0.2
MDM IAmb IAmb 12 17 57.2
comp=Z,10.0nm,0.7s
CCB Clear Creek Bu 21.94 39 P P 12 17 50.9 +0.9
TCOL CIGO, UAF Yank 22.00 39 P P 12 17 49.8 -0.9
baz=247
COLA College 22.00 39 P P 12 17 50.0 -0.7
baz=247
COLA College 22.00 39 *i* P P 12 17 50.5 -0.2
COLA pmax pmax
comp=Z,15nm,1.0s

G23K Bananza Creek 22.02 33 P P 12 17 50.6 -0.3
baz=240,SNR=8.5
HDA Harding Lake 22.19 40 P P 12 17 52.9 +0.1
baz=249
E22K Anaktuvuk Pass 22.21 29 P P 12 17 53.3 +0.3
baz=235
COLD Coldfoot 22.22 32 P P 12 17 54.2 +1.2
baz=239
POKR Poker Plat Res 22.26 38 P P 12 17 53.6 +0.1
baz=247,SNR=5.3
BMRM Bremner River 22.34 50 P P 12 17 55.2 +0.8
BMRM Bremner River 22.34 50 P P 12 17 54.8 +0.4
baz=260
IL31 22.35 39 P P 12 17 54.5 +0.1
ILAR Eielson Array 22.35 39 P P 12 17 52.1 -2.3
comp=Z,2.3nm,0.7s,baz=234,slow=7.6,SNR=40
comp=Z,2.3nm,0.7s
ILAR Eielson Array 22.35 39 P P 12 17 55.3 +0.9
HARP HAARP 22.37 46 P P 12 17 55.0 +0.3
baz=256
PAX Paxson 22.38 44 P P 12 17 55.1 +0.3
baz=254
H24K Noodor Dome 22.39 36 P P 12 17 55.3 +0.4
H24K IAmb IAmb 12 18 01.9
comp=Z,14nm,0.9s
H24K Noodor Dome 22.39 36 P P 12 17 55.2 +0.4
baz=245
N25K Chitina, Valde 22.46 48 P P 12 17 56.2 +0.5
N25K IAmb IAmb 12 18 06.8
comp=Z,17nm,1.1s
GLB Gilahina Butte 22.80 49 P P 12 17 59.0 -0.3
GLB IAmb IAmb 12 18 11.8
comp=Z,27nm,1.3s
E23K Chandalar 22.85 30 P P 12 17 59.6 -0.2
baz=238
RIDG Independent Ri 22.86 43 P P 12 17 59.7 -0.2
baz=254
J25K Salcha River, 22.91 40 P P 12 17 59.3 -1.1
J25K Salcha River, 22.91 40 P P 12 17 59.3 -1.1
baz=251
G24K Hadweenzic Riv 22.91 34 P P 12 18 00.8 +0.5
baz=244
D23K Nanushuk River 23.03 28 P P 12 18 01.5 -0.1
baz=235
F24K Squaw Lake 23.15 32 P P 12 18 03.2 +0.4
baz=241
PRP Porcupine Dome 23.16 38 P P 12 18 03.3 +0.3
baz=249,SNR=8.0
MCARA McCarthy VSAT 23.16 49 P P 12 18 02.5 -0.4
baz=261
TOLK Toolik Lake Re 23.18 29 P P 12 18 03.7 +0.6
TOLK IAmb IAmb 12 18 27.7
comp=Z,30nm,1.4s
TOLK Toolik Lake Re 23.18 29 P P 12 18 03.0 -0.1
baz=237
E24K Your Creek 23.22 31 P P 12 18 02.7 -0.8
baz=239
SCRK Sand Creek 23.29 42 P P 12 18 03.5 -0.8
SCRK IAmb IAmb 12 18 12.9
comp=Z,9.4nm,0.8s
SCRK Sand Creek 23.29 42 P P 12 18 03.9 -0.4
baz=254,SNR=7.2
L26K Log Cabin Wild 23.33 45 P P 12 18 03.7 -0.9
baz=257
H25L Birch Creek 23.33 36 P P 12 18 04.2 -0.3
baz=247
M26K Nabesna, AK 23.35 46 P P 12 18 04.1 -0.8
baz=259
G25K Bearman Lake 23.43 35 P P 12 18 05.6 +0.1
baz=245,SNR=6.2
C23K Itkillik River 23.57 26 P P 12 18 06.0 -0.8
baz=233
J26L Joseph Creek 23.61 41 P P 12 18 06.7 -0.7
J26L IAmb IAmb 12 18 23.9
comp=Z,9.8nm,0.8s
J26L Joseph Creek 23.61 41 P P 12 18 06.4 -1.0
baz=253
FYU Fort Yukon 23.67 36 P P 12 18 09.0 +1.3
M27K Edge Creek, AK 23.86 47 P P 12 18 10.5 +0.8
M27K IAmb IAmb 12 18 11.8
comp=Z,11nm,0.9s
M27K Edge Creek, AK 23.86 47 P P 12 18 09.2 -0.6
baz=260
F25K Christian Rive 23.95 33 P P 12 18 10.4 -0.1
baz=244,SNR=17
L27K Beaver Creek, 24.01 45 P P 12 18 10.8 -0.2
L27K Beaver Creek, 24.01 45 P P 12 18 10.5 -0.5
baz=258
I26K Coal Creek Min 24.02 39 P P 12 18 10.0 -1.0
I26K Coal Creek Min 24.02 39 P P 12 18 09.7 -1.3
baz=252
BCAR Beaver Creek A 24.03 45 P P 12 18 11.8 +0.6
C24K Franklin Bluff 24.04 27 P P 12 18 10.7 -0.5
baz=236
K27K Chicken 24.12 43 P P 12 18 13.0 +1.0
K27K IAmb IAmb 12 18 15.6
comp=Z,14nm,1.2s
K27K Chicken 24.12 43 P P 12 18 11.3 -0.7
baz=256
E25K Arctic Village 24.21 32 P P 12 18 13.1 +0.3
baz=243,SNR=13
BMAR Burnt Mountain 24.25 34 P P 12 18 13.8 +0.6
G26K Porcupine Rive 24.34 35 P P 12 18 14.3 +0.4
baz=248,SNR=38
YUK3 Moose Creek 24.43 48 P P 12 18 14.8 -0.3
baz=263,SNR=8.8
F26K Sheenjek River 24.51 34 P P 12 18 15.8 +0.3
baz=246
D25K Kavik River 24.52 29 P P 12 18 14.9 -0.8
baz=240
EGAK Eagle 24.69 41 P P 12 18 17.8 +0.7
EGAK Eagle 24.69 41 P P 12 18 16.7 -0.4
baz=256,SNR=14
H27K Steamboat Moun 24.95 38 P P 12 18 18.9 -0.6
baz=252
G27K Doyon Strip 25.08 36 P P 12 18 20.1 -0.6
baz=251
C26K Camden Bay 25.27 29 P P 12 18 22.4 +0.1
baz=241
DAWY Dawson 25.28 43 P P 12 18 24.2 +1.7
DAWY IAmb IAmb 12 18 26.2
comp=Z,10nm,0.8s
DAWY Dawson 25.28 43 P P 12 18 22.7 +0.2
baz=259,SNR=7.3
M29M Somme Creek 25.44 47 P P 12 18 24.2 +0.1
baz=263
C27K Jago River 25.49 30 P P 12 18 24.8 +0.4
baz=243
E27K Coleen River 25.59 33 P P 12 18 25.9 +0.6
baz=248,SNR=5.9
I29M Ogilvie Camp, 26.00 41 P P 12 18 30.1 +1.1
baz=258
K29M Barlow Dome 26.05 44 P P 12 18 29.2 -0.5
baz=261
EPYK Eagle Plains 26.86 39 P P 12 18 35.4 -1.4
baz=257
INK Inuvik 28.49 35 P P 12 18 48.8 -2.5
comp=Z,1.6nm,0.8s,baz=256,slow=7.3,SNR=5.8
comp=Z,1.6nm,0.8s
INK Inuvik 28.49 35 P P 12 18 50.3 -1.0
baz=257
YAK Yakutsk 28.51 312*ce*P P 12 18 50.2 -1.3
YAK pmax pmax
comp=Z,8.0nm,0.6s
WRAK Wrangell Islan 28.78 60 P P 12 18 54.1 +0.1
baz=280
MMPY Sheldon Lake, 28.79 47 P P 12 18 53.8 -0.3
baz=270
KLR Kul'dur 29.86 285 P P 12 19 02.6 -1.1
comp=Z,3.8nm,0.6s,baz=69,slow=9.3,SNR=12
KLR LR LR 12 31 39.8
comp=Z,68nm,19.6s,baz=54,slow=38
comp=Z,3.8nm,0.6s
KLR Kul'dur 29.86 285*ce*P P 12 19 03.2 -0.5
KLR pmax pmax
comp=Z,4.0nm,1.0s
ZEA Zeya 31.04 295 *eP* P 12 19 13.0 -1.0
ZEA pmax pmax
comp=Z,10.0nm,0.9s
A36M Sachs Harbour 32.01 29 P P 12 19 23.5 +1.2
A36M Sachs Harbour 32.01 29 P P 12 19 22.2 0.0
baz=260,SNR=8.0
C36M Paulatuk 32.05 34 P P 12 19 23.5 +0.8
C36M IAmb IAmb 12 19 44.6
comp=Z,12nm,1.4s
C36M Paulatuk 32.05 34 P P 12 19 22.0 -0.6
baz=265

WRGLY Wrigley 32.32 46 P P 12 19 23.8 -1.4
baz=275
MJAR Matsushiro Arr 32.33 259 LR LR 12 30 06.1
comp=Z,53nm,20.6s,baz=46,slow=32
H11N2 WAKE ISLAND Hy 32.73 201 T T 12 54 38.7
baz=20,slow=76,SNR=9.3
H11N3 WAKE ISLAND Hy 32.74 201 T T 12 54 46.0
baz=20,slow=76,SNR=8.1
H11N1 WAKE ISLAND Hy 32.75 201 T T 12 54 31.9
baz=20,slow=76,SNR=9.7
JHJ Hachijo jima 2 33.65 253 LR LR 12 34 08.5
comp=Z,31nm,18.7s,baz=82,slow=38
H11S1 WAKE ISLAND Hy 33.95 201 T T 12 56 11.4
baz=16,slow=74,SNR=5.6
H11S2 WAKE ISLAND Hy 33.97 201 T T 12 56 15.2
baz=16,slow=74,SNR=3.2
H11S3 WAKE ISLAND Hy 33.97 201 T T 12 56 17.7
baz=16
YKA Yellowknife Ar 36.45 46 P P 12 20 00.6 -0.2
comp=Z,2.7nm,0.8s,baz=283,slow=9.0,SNR=4.9
comp=Z,2.7nm,0.8s
BOD Bodaibo 36.98 306 *eP* P 12 20 03.4 -2.0
BOD pmax pmax
comp=Z,10.0nm,1.0s
KSRS Korea Array 38.20 269 P P 12 20 16.2 +0.3
comp=Z,2.8nm,0.8s,baz=68,slow=7.9,SNR=7.6
KSRS LR LR 12 36 35.6
comp=Z,15nm,19.3s,baz=55,slow=37
comp=Z,2.8nm,0.8s
NEW Newport 40.32 68 P P 12 20 32.4 -1.2
baz=299
WVOR Wild Horse Val 42.46 76 P P 12 20 53.1 +1.8
WVOR pmax pmax
comp=Z,9.0nm,1.0s
MSO Missoula 42.90 68 P P 12 20 54.6 -0.2
baz=301
PNTR Pine Nut 43.80 81 P P 12 21 04.5 +2.1
PNTR IAmb IAmb 12 21 17.1
comp=Z,6.4nm,0.7s
NRIK Noril'sk 43.90 329*ce*P P 12 20 58.4 -4.0
NRIK pmax pmax
comp=Z,4.0nm,1.1s
HLID Hailey 44.39 73 P P 12 21 07.6 +0.7
baz=304,SNR=8.9
EGMT Eagleton 44.69 65 P P 12 21 09.0 -0.1
baz=302
BOZ Bozeman (W) 44.92 69 P P 12 21 11.1 +0.1
baz=303
NVAR Mina Array Bea 45.01 81 P P 12 21 12.1 +0.2
comp=Z,0.8nm,0.6s,baz=296,slow=7.1,SNR=11
comp=Z,0.8nm,0.6s
NVAR Mina Array Bea 45.01 81 P P 12 21 13.0 +1.1
ULN Ulaanbaatar 45.08 295*ce*P P 12 21 11.9 -0.4
ULN pmax pmax
comp=Z,2.0nm,0.8s
NV11 Mina Array Sit 45.10 81 P P 12 21 13.8 +1.2
NV11 IAmb IAmb 12 21 25.3
comp=Z,4.6nm,1.1s
SONM Songino Array 45.47 296 P P 12 21 15.5 +0.1
comp=Z,1.9nm,0.7s,baz=61,slow=7.9,SNR=9.9
SONM PcP PcP 12 22 52.8 -0.9
comp=Z,1.4nm,0.9s,baz=65,slow=2.2,SNR=3.6
SONM LR LR 12 41 55.7
comp=Z,50nm,18.2s,baz=30,slow=38
comp=Z,1.9nm,0.7s
SONM Songino Array 45.47 296 P P 12 21 15.2 -0.2
SONM Songino Array 45.47 296 P P 12 21 15.2 -0.2
SONM pmax pmax
comp=Z,4.0nm,1.4s
H17A Grant Village 46.21 69 P P 12 21 21.7 +0.4
baz=305
HHC Hu-ho-hao-te 46.37 285 *eP* P 12 21 23.1 +0.6
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,190nm,4.5s
CWC Cottonwood Cre 46.38 83 P P 12 21 22.0 -0.7
baz=309
R11A Troy Canyon, C 46.75 79 P P 12 21 25.0 -0.6
baz=308,SNR=5.4
SCZ2 Santa Cruz Isl 46.97 87 P P 12 21 26.1 -1.1
baz=311
MPMC Manual Prospec 46.99 83 P P 12 21 25.9 -1.6
baz=309
FURC Furnace Creek, 47.13 82 P P 12 21 27.1 -1.1
baz=309
TPNV Topopah Spring 47.20 81 P P 12 21 30.6 +1.4
TPNV IAmb IAmb 12 21 47.6
comp=Z,4.5nm,0.8s
TPNV Topopah Spring 47.20 81 P P 12 21 28.9 -0.3
baz=309,SNR=7.0
TPNV Topopah Spring 47.20 81 P P 12 21 30.6 +1.4
TPNV pmax pmax
comp=Z,4.0nm,0.8s
LRMC Laurel Mtn Rad 47.24 84 P P 12 21 28.7 -0.8
baz=310
DUG Dugway, Tooele 47.33 75 P P 12 21 30.1 +0.1
baz=307,SNR=5.4
DUG Dugway, Tooele 47.33 75 P P 12 21 31.3 +1.3
DUG pmax pmax
comp=Z,8.0nm,1.1s
NJ2 Nanjing 47.38 270 *eP* P 12 21 33.4 +3.1
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
BW06 Boulder Array 47.75 71 P P 12 21 34.2 +0.8
BW06 Boulder Array 47.75 71 P P 12 21 34.4 +0.9
baz=306,SNR=7.1
PD31 Pinedale Array 47.75 71 P P 12 21 34.4 +0.9
PD31 IAmb IAmb 12 21 35.5
comp=Z,5.8nm,0.9s
PDAR Pinedale Array 47.75 71 P P 12 21 33.2 -0.2
comp=Z,4.5nm,0.8s,baz=311,slow=3.9,SNR=38
comp=Z,4.5nm,0.8s
PDAR Pinedale Array 47.75 71 P P 12 21 34.1 +0.7
SHOC Shoshone, Teco 47.85 82 P P 12 21 33.6 -0.4
baz=310
GSC Goldstone, Bar 47.90 83 P P 12 21 34.5 0.0
baz=310
TUQ Turquoise Moun 48.37 83 P P 12 21 38.5 +0.3
baz=310
HEC Hector,Ludlow 48.50 83 P P 12 21 39.1 0.0
baz=310
MURC Murrieta 48.77 85 P P 12 21 41.6 +0.5
baz=311
GMRC Granite Mounta 48.95 83 P P 12 21 43.0 +0.3
baz=310
BELC Belle Mtn. Jos 49.25 84 P P 12 21 44.5 -0.5
baz=311
U15A North Rim 49.99 79 P P 12 21 52.2 +1.5
U15A IAmb IAmb 12 22 11.2
comp=Z,4.6nm,0.7s
IKP In-Ko-Pah, Jac 50.08 85 P P 12 21 51.8 +0.6
baz=312
O20A White River Ci 50.13 73 P P 12 21 51.9 +0.3
baz=308
PV11 David Mesa, Pa 50.90 75 P P 12 21 58.0 +0.6
WUAZ Wupatki 51.15 79 P P 12 22 00.1 +0.8
baz=311
MVCO Mesa Verde 51.82 76 P P 12 22 04.8 +0.4
baz=310
S22A 4UR Ranch, Cre 52.49 74 P P 12 22 09.2 -0.2
baz=310
214A Organ Pipe Nat 52.61 84 P P 12 22 10.4 +0.3
baz=312
ZALV Zalesovo Beam 53.16 313 P P 12 22 13.1 -0.7
comp=Z,0.8nm,0.5s,baz=45,slow=8.4,SNR=3.1
comp=Z,0.8nm,0.5s
SDCO Great Sand Dun 53.30 73 P P 12 22 16.4 +1.0
baz=310,SNR=5.5
TUC Tucson 53.64 82 P P 12 22 18.6 +0.9
baz=312
LZH Lanzhou 54.07 285 *eP* P 12 22 21.5 +0.6
LZH pP pP 12 22 33.0 +1.4
LZH pmax pmax
comp=Z,10.0nm,1.5s
KSCO Kaye Shedlock' 54.20 70 P P 12 22 21.9 +0.1
baz=310
GTA Gaotai 54.32 291 *eP* P 12 22 22.8 +0.2
GTA pP pP 12 22 34.4 +0.6
GTA sP sP 12 22 39.3 +1.0
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,84nm,5.8s
GTA LR LR
comp=N,78nm,16.4s
GTA LR LR
comp=E,87nm,17.1s
GTA LR LR
comp=Z,100nm,17.1s
T25A Trinidad 54.35 73 P P 12 22 23.2 +0.2
baz=311
ANMO Albuquerque 54.55 76 LR LR 12 45 20.6
comp=Z,37nm,18.3s,baz=290,slow=36
121A Cooks Peak, D 55.35 80 P P 12 22 30.9 +0.6
baz=313
SPMN Marine on St. 55.76 59 P P 12 22 32.7 0.0
baz=310
CBKS Cedar Bluff 56.03 69 P P 12 22 35.4 +0.5
baz=311
AMTX Amarillo 57.50 73 P P 12 22 45.3 -0.1
baz=313
ARCES ARCESS Array B 58.09 349 LR LR 12 51 33.6
comp=Z,63nm,18.1s,baz=359,slow=40
KURK Kurchatov 58.15 313*ce*P P 12 22 47.5 -2.1
KURK pmax pmax
comp=Z,6.0nm,1.0s
WMQ Urumqi 58.27 302 *eP* P 12 22 53.4 +2.8
MK31 Makanchi Array 59.06 307 P P 12 22 55.2 -0.8
MK31 IAmb IAmb 12 23 32.1
comp=Z,6.2nm,1.4s
MK31 Makanchi Array 59.06 307 P P 12 22 55.2 -0.8
MK31 pmax pmax
comp=Z,6.0nm,1.4s
MKAR Makanchi Array 59.06 307 P P 12 22 53.6 -2.4
comp=Z,2.0nm,0.9s,baz=64,slow=8.2,SNR=7.2
MKAR LR LR 12 49 27.1
comp=Z,69nm,19.8s,baz=86,slow=37
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 59.06 307 P P 12 22 55.8 -0.2
MKAR Makanchi Array 59.06 307 P P 12 22 55.8 -0.2
WMOK Wichita Mounta 59.34 72 P P 12 22 58.7 +0.5
baz=314
WMOK Wichita Mounta 59.34 72 P P 12 22 59.0 +0.8
TX31 Lajitas Ar. Si 60.11 79 P P 12 23 04.4 +0.7
TX32 Lajitas Array 60.11 79 P P 12 23 04.4 +0.8
TXAR Lajitas Array 60.11 79 P P 12 23 03.3 -0.3
comp=Z,0.6nm,0.5s,baz=299,slow=4.8,SNR=9.5
comp=Z,0.6nm,0.5s
TXAR Lajitas Array 60.11 79 P P 12 23 03.8 +0.2
TXAR Lajitas Array 60.11 79 P P 12 23 03.8 +0.2
BVAR Borovoye Array 60.15 319 LR LR 12 50 45.6
comp=Z,64nm,19.6s,baz=40,slow=38
BRVK Borovoye 60.17 319 P P 12 23 04.0 +0.5
BRVK Borovoye 60.17 319*ce*P P 12 23 02.0 -1.5
BRVK pmax pmax
comp=Z,4.0nm,0.6s
TUL1 Leonard 60.31 69 P P 12 23 05.6 +0.8
baz=314
L44A Lake County Fo 60.43 59 P P 12 23 06.0 +0.5
baz=314
CCM Cathedral Cave 61.45 64 P P 12 23 12.8 +0.3
baz=314
JCT Junction City 61.69 76 P P 12 23 14.6 +0.4
baz=315
PZH PanZhiHua 61.97 278 P P 12 23 19.3 +3.0
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,5.7s
WHTX Lake Whitney, 62.05 73 P P 12 23 16.9 +0.3
baz=315
ARU Arti 62.05 327 P P 12 23 17.1 +0.8
comp=Z,6.5nm,0.5s,baz=5.0,slow=4.9,SNR=13
comp=Z,6.5nm,0.5s
ARU Arti 62.05 327*c i*P P 12 23 17.0 +0.8
ARU 12 23 55.9
ARU 12 25 31.7
ARU S S 12 31 42.3 +4.7
ARU pmax pmax
comp=Z,17nm,1.0s
FCAR Ozark Folk Cen 62.46 66 P P 12 23 18.8 -0.4
MIAR Mount Ida 62.56 68 P P 12 23 20.5 +0.5
baz=315
MIAR Mount Ida 62.56 68 P P 12 23 20.8 +0.9
MIAR pmax pmax
comp=Z,11nm,1.5s
AAM Ann Arbor 62.60 56 P P 12 23 20.2 +0.1
baz=315
KIRV Kirov 63.17 333*ce*P P 12 23 25.5 +1.9
833A Chaparral WMA, 63.47 77 P P 12 23 26.6 +0.5
baz=316
HKT Hockley 64.47 73 P P 12 23 33.4 +0.8
HKT pmax pmax
comp=Z,7.0nm,1.5s
SIJI Sorong 65.62 234 P P 12 23 39.2 -1.0
comp=Z,7.4nm,0.7s,baz=38,slow=7.7,SNR=4.1
comp=Z,7.4nm,0.7s
AAK Ala-Archa 65.91 308 LR LR 12 53 03.8
comp=Z,54nm,19.9s,baz=48,slow=36
AAK Ala-Archa 65.91 308*ce*P P 12 23 40.0 -2.0
AAK pmax pmax
comp=Z,9.0nm,2.5s
ABKAR Akbulak array 67.26 322 P P 12 23 50.6 +0.3
KSH Kashi 67.49 305 P P 12 23 56.4 +4.3
KSH pmax pmax
comp=Z,8.0nm,1.0s
NOA NORSAR Array B 67.76 354 P P 12 23 52.6 -0.7
comp=Z,1.5nm,0.8s,baz=10,slow=6.5,SNR=3.9
comp=Z,1.5nm,0.8s
VSU Vasula 68.44 345 *i* P P 12 23 56.9 -0.6
VSU pmax pmax
comp=Z,21nm,1.0s
HFS Hagfors 68.46 352 LR LR 12 54 50.0
comp=Z,43nm,20.7s,baz=35,slow=37
BELG Belogornoye 68.98 330 P P 12 24 01.7 +0.7
comp=Z,17nm,0.8s,baz=104,slow=6.3,SNR=4.7
comp=Z,17nm,0.8s
OBN Obninsk 69.59 338*de*P P 12 24 04.4 -0.3
OBN *e* 12 24 26.8
OBN *e* 12 26 39.2
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,93nm,16.0s
CMAR Chiang Mai Arr 69.60 274 P P 12 24 05.0 -0.4
comp=Z,6.0nm,0.4s,baz=27,slow=6.5,SNR=5.4
CMAR LR LR 12 59 57.2
comp=Z,11nm,18.0s,baz=175,slow=41
comp=Z,6.0nm,0.4s
CMAR Chiang Mai Arr 69.60 274 P P 12 24 05.0 -0.4
BTK Batken 69.67 309 P P 12 24 06.5 +0.9
BTK pmax pmax
comp=Z,6.0nm,1.0s
GUN Gumba 70.61 290 *eP* P 12 24 12.1 +0.2
comp=Z,34nm,0.9s
JIRN Jiri 70.61 290 *eP* P 12 24 12.1 +0.2
RAMN Ramite 70.90 289 *eP* P 12 24 13.4 -0.1
PKI Pulchoki 71.14 291 *eP* P 12 24 14.9 -0.2
PKIN Phulchoki 71.14 291 *eP* P 12 24 15.0 0.0
DANN Dangsing 71.53 292 *eP* P 12 24 17.5 +0.1
comp=Z,34nm,0.9s
CHGR Chuyangaron 71.57 309 P P 12 24 17.3 +0.1
CHGR pmax pmax
comp=Z,16nm,1.0s
DZM Mont Dzumac 73.69 192 LR LR 12 54 47.5
comp=Z,44nm,18.5s,baz=24,slow=34
RAR Rarotonga 74.42 159 LR LR 12 51 05.1
comp=Z,64nm,19.6s,baz=184,slow=31
KBL Kabul 74.85 306 P P 12 24 36.0 -0.8
KBL pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 75.33 341 P P 12 24 38.3 -0.7
comp=Z,1.9nm,0.7s,baz=26,slow=6.2,SNR=5.6
comp=Z,1.9nm,0.7s
AKASG Malin Array Be 75.33 341*ce*P P 12 24 39.2 +0.2
AKASG pmax pmax
comp=Z,2.0nm,0.7s
SOR Soroa 77.45 69 P P 12 24 50.8 -0.6
SOR pmax pmax
comp=Z,22nm,1.4s
KIV Kislovodsk 77.97 329 *eP* P 12 24 54.8 +0.6
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 78.11 329 P P 12 24 54.3 -0.4
comp=Z,2.7nm,0.7s,baz=13,slow=2.0,SNR=5.2
comp=Z,2.7nm,0.7s
ZEI Tsey 78.62 328 *eP* P 12 24 57.8 -0.1
ZEI pmax pmax
comp=Z,7.0nm,1.0s
BUR08 Bucovina Ar. S 79.05 342 P P 12 25 00.3 +0.2
BUR08 IAmb IAmb 12 25 02.3
comp=Z,5.2nm,0.9s
BURAR Bucovina Array 79.08 342 P P 12 25 00.1 -0.1

BURAR				IAmb	IAmb	12 25 02.6	
	comp=Z,4.9nm,0.8s						
BURAR	**Bucovina Array**	**79.08**	**342**	P	**P**	**12 25 00.1**	**-0.1**
BURAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**80.85**	**222**	P	**P**	**12 25 08.1**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=36,slow=6.1,SNR=7.7						
WRA				LR	LR	12 58 32.4	
	comp=Z,23nm,18.9s,baz=104,slow=34						
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**80.85**	**222**	*ce*P	**P**	**12 25 09.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**84.34**	**221**	P	**P**	**12 25 27.0**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=25,slow=5.3,SNR=11						
	comp=Z,1.4nm,0.8s						
BRTR	**Keskin Array B**	**84.56**	**334**	P	**P**	**12 25 29.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=56,slow=7.6,SNR=4.6						
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**84.56**	**334**	*ie*P	**P**	**12 25 29.2**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CAN	**Canberra**	**90.01**	**204**	P	**P**	**12 25 55.0**	**-0.2**
CAN				pmax	pmax		
	comp=Z,33nm,1.5s						
MBAR	**Mbarara**	**122.93**	**321**	*c i*PKIKP	**PKiKP**	**12 31 52.8**	**+0.1**
MBAR				pmax	pmax		
	comp=Z,10.0nm,1.7s						

*PGC **14** 12:15:29.7±7.9,57.°86N×133.°07W,h1km,ML2.5/2,93km Ese of Juneau, Ak Southeastern Alaska*
*NEIC **14** 12:15:29.2±1.5,57.°84N±0.°02×133.°04W±0.°04,h1km±4km, Error ellipse: s-maj=3.2km s-min=2.7km az=70.0*
ISC 14 12:15:28.1±1.3,57.°84N±0.°05×133.°06W±0.°05,h7km±15km, n18,σ0s84/26,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JIS	**Juneau Island**	**0.83**	**303**	Pg	**Pg**		**12 15 43.0**	**-1.1**
S34M	**Telegraph Cree**	**1.03**	**85**		**Pb**		**12 15 47.4**	**-0.9**
S34M					**Sb**		**12 16 01.7**	**-0.4**
S34M	**Telegraph Cree**	**1.03**	**85**	P	**Pb**		**12 15 47.4**	**-0.9**
S34M				S	**Sb**		**12 16 01.7**	**-0.4**
BESE	**Bessie Mountai**	**1.21**	**309**	Pg	**Pg**		**12 15 53.2**	**+1.9**
WRAK	**Wrangell Islan**	**1.48**	**164**		**Pg**		**12 15 56.7**	**+0.3**
WRAK				IAML			12 16 06.5	
	47nm,4.8s							
WRAK				IAML			12 16 48.8	
	46nm,4.3s							
DLBC	**Dease Lake**	**1.72**	**68**	Pn	**Pb**		**12 15 59.7**	**-0.4**
DLBC					**Sb**		**12 16 22.6**	**+0.8**
DLBC	**Dease Lake**	**1.72**	**68**	IAML			12 16 35.6	
	comp=N,25nm,4.2s							
DLBC				IAML			12 16 50.8	
	comp=E,30nm,5.0s							
DLBC	**Dease Lake**	**1.72**	**68**	Pn	**Pb**		**12 15 59.7**	**-0.4**
DLBC				Sg	**Sb**		**12 16 22.6**	**+0.8**
T35M	**Bob Quinn**	**1.75**	**118**	Pn	**Pb**		**12 16 00.4**	**-0.1**
T35M					**Sg**		**12 16 24.6**	**+0.5**
T35M	**Bob Quinn**	**1.75**	**118**	Pn	**Pb**		**12 16 00.4**	**-0.1**
T35M				Sg	**Sg**		**12 16 24.6**	**+0.5**
P32M	**Atlin**	**1.79**	**349**		**Sg**		**12 16 25.6**	**0.0**
P32M	**Atlin**	**1.79**	**349**	Sg	**Sg**		**12 16 25.6**	**0.0**
R33M	**Jennings River**	**1.91**	**34**	Pn	**Pb**		**12 16 03.4**	**0.0**
R33M				Sg	**Sg**		**12 16 29.2**	**-0.2**
R33M	**Jennings River**	**1.91**	**34**	Pn	**Pb**		**12 16 03.4**	**0.0**
R33M				Sg	**Sg**		**12 16 29.2**	**-0.2**
P33M	**Teslin, Yukon**	**2.38**	**3**		**Pb**		**12 16 10.9**	**-0.5**
P33M				IAML			12 16 45.7	
	comp=E,20nm,4.9s							
P33M				IAML			12 17 29.5	
	comp=N,28nm,5.0s							
P33M	**Teslin, Yukon**	**2.38**	**3**	Pg	**Pb**		**12 16 11.9**	**+0.5**
P33M				Sg	**Sb**		**12 16 42.4**	**+1.3**
WHY	**Whitehorse**	**2.98**	**342**	Sg	**Sg**		**12 17 01.7**	**-2.1**
N31M	**Braeburn, Yuko**	**3.91**	**340**	Pn	**Pn**		**12 16 28.3**	**-0.4**

*IDC **14** 12:18:17.4±1.7,1.°27N×125.°55E,h0km,mb3.5/3, mbtmp3.5/3,MS2.8/1,Error ellipse: s-maj=175.8km s-min=25.2km az=65.0*
*DJA **14** 12:18:22.0±0.9,2.°N±3.°×12.°6E±.°,h12km±8km,M4.0/14, mb4.3/3,mB4.9/2,MLv3.9/14,Mw(mB)4.2/2,MwMwp5.4/1, Mwp5.6/1*
ISC 14 12:18:24.3±1.0,1.°56N±0.°07×126.°05E±0.°05,h54km,n15, σ1s23/16,mb3.3/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.54**	**121**	P		**Pn**	**12 18 48.6**	**-0.8**
GAMI	**Galela, Maluku**	**1.76**	**81**	P		**Pn**	**12 18 52.9**	**+0.4**
GAMI				S		**Sn**	**12 19 16.4**	**+2.6**
SGSI	**Sangihe**	**2.17**	**346**	P		**Pn**	**12 18 56.9**	**-1.2**
LBMI	**Labuha**	**2.62**	**146**	P		**Pn**	**12 19 04.2**	**-0.1**
GTOI	**Gorontalo**	**3.17**	**253**	P		**Pn**	**12 19 12.5**	**+0.8**
LUWI	**Luwuk**	**4.17**	**232**	P		**Pn**	**12 19 25.5**	**0.0**
MRSI	**Marisa**	**4.24**	**255**	P		**Pn**	**12 19 26.5**	**+0.1**
NLAI	**Namlea**	**4.88**	**168**	P		**Pn**	**12 19 34.8**	**-0.4**
APSI	**Ampana**	**5.04**	**241**	P		**Pn**	**12 19 37.7**	**+0.4**
	0.4nm896nm77nm,0.6s							
KRAI	**Karang Ratu**	**5.39**	**154**	P		**Pn**	**12 19 42.3**	**+0.2**
SIJI	**Sorong**	**5.75**	**115**	LR		LR	12 22 12.2	
	comp=Z,82nm,18.3s,baz=320,slow=38							
MPSI	**Mapaga**	**6.26**	**259**	P		**Pn**	**12 19 54.8**	**+0.6**
WRA	**Warramunga Arr**	**22.87**	**160**	P		**P**	**12 23 20.4**	**-3.0**
	0.8nm,0.6s,baz=336,slow=11,SNR=7.7							
	0.8nm,0.6s							
ASAR	**Alice Springs**	**26.22**	**164**	P		**P**	**12 23 54.1**	**-0.2**
	0.3nm,0.4s,baz=345,slow=11,SNR=7.1							
ASAR				PcP		**PcP**	**12 27 20.8**	**+0.6**
	0.4nm,0.5s,baz=350,slow=2.6,SNR=4.9							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**58.95**	**326**	P		**P**	**12 28 18.2**	**0.0**
	0.4nm,0.4s,baz=118,slow=7.8,SNR=6.9							
	0.4nm,0.4s							

*IDC **14** 12:18:21.9±1.5,34.°05S×178.°77W,h0km,mb4.3/4, mbtmp4.3/4,MS3.7/2,Error ellipse: s-maj=46.7km s-min=32.2km az=37.0*
*NEIC **14** 12:18:27.3±1.5,34.°1S±0.°1×178.°7W±0.°2,h35km±2km, mb4.4/12,Error ellipse: s-maj=23.2km s-min=20.0km az=64.0*
ISC 14 12:18:27.3±1.3,34.°1S±0.°1×178.°6W±0.°2,h37km,n35, σ1s12/32,mb4.3/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.23**	**215**	Pn		**Pn**	**12 19 30.3**	**+1.1**
MXZ	**Matakaoa Point**	**4.23**	**215**	P		**Pn**	**12 19 28.8**	**-0.3**
WMGZ	**Waiomatatini S**	**4.39**	**212**	P		**Pn**	**12 19 32.8**	**+1.5**
PKGZ	**Pakihiroa**	**4.60**	**214**	P		**Pn**	**12 19 33.3**	**-1.0**
HAZ	**Te Kaha**	**4.64**	**218**	P		**Pn**	**12 19 35.1**	**+0.4**
PUZ	**Puketiti**	**4.67**	**212**	P		**Pn**	**12 19 33.6**	**-1.6**
RUGZ	**Raukumara Rang**	**4.86**	**217**	P		Pn	12 19 32.5	-5.3
TWGZ	**Tauwhareparae**	**4.88**	**213**	P		**Pn**	**12 19 39.3**	**+1.2**
TKGZ	**Te Karaka**	**5.15**	**212**	P		**Pn**	**12 19 41.7**	**-0.1**
MWZ	**Matawai**	**5.22**	**215**	P		**Pn**	**12 19 42.8**	**+0.1**
URZ	**Urewera**	**5.37**	**219**	P		**Pn**	**12 19 44.3**	**-0.5**
OPRZ	**Ohinepanea**	**5.38**	**225**	P		**Pn**	**12 19 45.8**	**+0.9**
BKZ	**Black Stump Fm**	**6.37**	**216**	Pn		**Pn**	**12 19 57.2**	**-1.4**
OUZ	**Omahuta**	**6.49**	**258**	Pn		**Pn**	**12 20 01.7**	**+1.6**
DZM	**Mont Dzumac**	**17.79**	**309**	P		**P**	**12 22 32.7**	**+0.2**
DZM				IAmb		IAmb	12 22 39.1	
	comp=Z,28nm,1.5s							
STKA	**Stephens Creek**	**33.28**	**263**	LR		LR	12 38 56.8	
	comp=Z,62nm,18.1s,baz=15,slow=37							
CTA	**Charters Tower**	**34.05**	**285**	P		**P**	**12 25 08.0**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=115,slow=16,SNR=4.9							
	comp=Z,2.7nm,0.6s							
COEN	**Coen**	**39.93**	**291**	P		**P**	**12 25 57.5**	**-0.5**
COEN				IAmb		IAmb	12 26 12.8	
	comp=Z,10nm,1.2s							
AS31	**Alice Springs**	**42.51**	**271**	P		**P**	**12 26 17.7**	**-1.5**
ASAR	**Alice Springs**	**42.51**	**271**	P		**P**	**12 26 18.1**	**-1.1**
	comp=Z,4.1nm,0.7s,baz=114,slow=7.4,SNR=53							
	comp=Z,4.1nm,0.7s							
ASAR	**Alice Springs**	**42.51**	**271**	P		**P**	**12 26 17.9**	**-1.3**
WR0	**Warramunga Arr**	**43.66**	**276**	P		**P**	**12 26 27.2**	**-1.3**
WR0				IAmb		IAmb	12 26 27.9	
	comp=Z,4.1nm,0.8s							
WB2	**Warramunga Arr**	**43.82**	**276**	P		**P**	**12 26 28.6**	**-1.2**
WB2				IAmb		IAmb	12 26 28.8	
	comp=Z,5.5nm,0.7s							
WRAB	**Tennant Creek**	**43.83**	**276**	P		**P**	**12 26 28.9**	**-1.0**
WRA	**Warramunga Arr**	**43.83**	**276**	P		**P**	**12 26 28.4**	**-1.6**
	comp=Z,4.2nm,0.7s,baz=119,slow=7.3,SNR=27							
	comp=Z,4.2nm,0.7s							
WRA	**Warramunga Arr**	**43.83**	**276**	P		**P**	**12 26 28.5**	**-1.5**
WB0	**Warramunga Arr**	**43.87**	**277**	P		**P**	**12 26 29.0**	**-1.2**
WB0				IAmb		IAmb	12 26 29.2	
	comp=Z,4.9nm,0.6s							
VNDA	**Vanda**	**44.34**	**186**	P		**P**	**12 26 33.7**	**+0.5**
MTN	**Manton Dam**	**50.14**	**282**	P		**P**	**12 27 18.8**	**-0.4**
KNRA	**Kununurra**	**50.56**	**278**	P		**P**	**12 27 21.3**	**-1.0**
QSPA	**South Pole Qui**	**55.99**	**180**	P		**P**	**12 28 02.7**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=94,slow=0.4,SNR=6.4							
	comp=Z,1.6nm,0.8s							
QSPA	**South Pole Qui**	**55.99**	**180**	P		**P**	**12 28 03.7**	**+1.9**
QSPA				IAmb		IAmb	12 28 21.2	
	comp=Z,6.3nm,1.4s							
JHJ	**Hachijo jima 2**	**77.46**	**325**	LR		LR	13 00 05.8	
	comp=Z,68nm,19.1s,baz=84,slow=32							
FINES	**FINESS Array B**	**148.41**	**337**	PKPbc		**PKPbc**	**12 38 08.2**	**-0.8**
	comp=Z,6.6nm,0.8s,baz=42,slow=2.7,SNR=12							
NOA	**NORSAR Array B**	**152.33**	**350**	PKPbc		**PKiKP**	**12 38 19.2**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=14,slow=4.0,SNR=3.2							

WEL 14 12:18:45.3±0.4,42.°S±3.°×17.°4E±.°,h14km±3km,M3.7/12, ML3.9/12,MLv3.7/12,Error ellipse: s-maj=0.0km s-min=0.0km az=136.7,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.06**	**153**	P		Pg	12 18 48.4	+0.4
KHZ				S		Sg	12 18 50.4	+0.6
GVZ	**Greta Valley S**	**0.69**	**210**	P		Pn	12 19 00.1	-0.6
BSWZ	**Blackbirch Sta**	**0.71**	**23**	P		Pb	12 18 59.2	-0.1
THZ	**Tophouse**	**0.75**	**323**	P		Pg	12 18 59.9	+0.1
TUWZ	**Tuamarina**	**0.99**	**19**	P		Pg	12 19 04.5	+0.1
LTZ	**Lake Taylor**	**1.00**	**245**	P		Pb	12 19 04.2	-0.2
AMCZ	**Amberley**	**1.02**	**218**	P		Pn	12 19 05.5	+0.3
MRNZ	**Matariki Terra**	**1.12**	**330**	P		Pg	12 19 06.7	-0.1
MRNZ				P		Pg	12 19 06.7	-0.1
NNZ	**Nelson**	**1.15**	**355**	P		Pn	12 19 07.0	+0.1
TKNZ	**Takaka Hill**	**1.39**	**343**	P		Pg	12 19 11.6	-0.5
OKCZ	**Okains Bay**	**1.40**	**193**	P		Pn	12 19 09.6	-0.8
DSZ	**Denniston Nort**	**1.41**	**296**	P		Pg	12 19 11.9	-0.4
WEL	**Wellington**	**1.44**	**42**	P		Pn	12 19 10.8	0.0
OXZ	**Oxford**	**1.44**	**228**	P		Pn	12 19 09.9	-1.1
MQZ	**McQueen's Vall**	**1.48**	**205**	P		Pn	12 19 09.9	-1.5
INZ	**Inchbonnie**	**1.56**	**256**	P		Pn	12 19 12.9	+0.3
AKCZ	**Akaroa Harbour**	**1.57**	**196**	P		Pn	12 19 11.8	-0.8
DUWZ	**D'Urville Isla**	**1.59**	**11**	P		Pb	12 19 14.8	+0.3
RACZ	**Rakaia**	**1.69**	**216**	P		Pn	12 19 13.0	-1.3
QRZ	**Quartz Range**	**1.71**	**334**	P		Pb	12 19 16.3	-0.1
WACZ	**Wakanui South**	**1.99**	**217**	P		Pn	12 19 17.5	-1.0
WVZ	**Waitaha Valley**	**2.16**	**250**	P		Pn	12 19 21.2	+0.4
RPZ	**Rata Peaks**	**2.25**	**232**	P		Pn	12 19 21.1	-0.9
ARCZ	**Arundel**	**2.32**	**226**	P		Pn	12 19 21.9	-1.1
TMZ	**Timaru**	**2.72**	**221**	P		Pn	12 19 27.7	-0.8
ODZ	**Otahua Downs**	**3.39**	**217**	P		Pn	12 19 35.9	-1.7
HHSZ	**Highcliff Hill**	**4.09**	**210**	P		Pn	12 19 46.0	-1.4
EAZ	**Earnscleugh**	**4.17**	**225**	P		Pn	12 19 47.1	-1.4
MTHZ	**Maungataniwha**	**4.33**	**37**	P		Pn	12 19 53.5	+2.8
RAHZ	**Arahi**	**4.39**	**40**	P		Pn	12 19 51.8	+0.2
HSRZ	**Hossack Road**	**4.56**	**28**	P		Pn	12 19 53.6	-0.2
SYZ	**Scrubby Hill**	**5.21**	**215**	P		Pn	12 20 01.8	-0.9

IDC 14 12:18:50.5±2.5,6.°06S×125.°63E,h563km±140km,mb3.0/1, mbtmp4.1/5,Error ellipse: s-maj=129.0km s-min=34.6km az=155.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**5.95**	**280**	P		P	12 20 29.3	0.0
	26nm,0.4s,baz=113,slow=4.6,SNR=8.4							
SIJI	**Sorong**	**7.63**	**48**	P		P	12 20 44.8	-0.3
	23nm,0.5s,baz=291,slow=3.3,SNR=12							
WRA	**Warramunga Arr**	**16.18**	**149**	P		P	12 22 10.1	-1.3
	1.1nm,0.3s,baz=325,slow=10,SNR=110							
WRA				S		S	12 24 54.4	-0.7
	0.5nm,0.6s,baz=328,slow=17,SNR=3.2							
ASAR	**Alice Springs**	**19.23**	**156**	P		P	12 22 39.3	+0.2
	0.8nm,0.4s,baz=343,slow=15,SNR=62							
STKA	**Stephens Creek**	**29.70**	**152**	P		P	12 24 11.7	-0.1
	1.6nm,0.5s,baz=336,slow=9.4,SNR=4.7							
	1.6nm,0.5s							

*IDC **14** 12:26:31.9±2.1,18.°97S×177.°85W,h589km±23km,mb3.0/7, mbtmp4.0/9,Error ellipse: s-maj=29.2km s-min=23.0km az=160.0*
ISC 14 12:26:32.8±1.1,18.°9S±0.°2×177.°9W±0.°2,h600km,n10, σ1s03/10,mb3.7/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.01**	**286**	P		**P**	**12 27 56.9**	**-1.5**
	3.7nm,0.4s,baz=272,slow=24,SNR=11							
MSVF	**Nonsavu**	**4.01**	**286**			**P**	**12 27 57.3**	**-1.1**
DZM	**Mont Dzumac**	**14.99**	**255**	P		**P**	**12 29 42.1**	**+1.1**
	5.3nm,1.0s,baz=218,slow=21,SNR=2.4							
CTA	**Charters Tower**	**33.76**	**262**	P		**P**	**12 32 27.0**	**+0.5**
	3.8nm,0.6s,baz=88,slow=9.5,SNR=9.4							
	3.8nm,0.6s							
WRA	**Warramunga Arr**	**44.92**	**260**	P		**P**	**12 33 55.3**	**-0.6**
	0.7nm,0.3s,baz=96,slow=7.6,SNR=28							
	0.7nm,0.3s							
ASAR	**Alice Springs**	**44.98**	**255**	P		**P**	**12 33 56.4**	**0.0**
	1.3nm,0.4s,baz=87,slow=7.9,SNR=70							
	1.3nm,0.4s							
SIJI	**Sorong**	**52.92**	**284**	P		**P**	**12 34 55.8**	**+0.9**
	6.9nm,0.5s,baz=86,slow=6.7,SNR=5.7							
	6.9nm,0.5s							
VNDA	**Vanda**	**59.50**	**185**	P		**P**	**12 35 38.3**	**-0.6**
	0.3nm,0.6s,baz=19,slow=5.8,SNR=5.5							
	0.3nm,0.6s							
TXAR	**Lajitas Array**	**86.13**	**57**	P		**P**	**12 38 12.7**	**+0.9**
	0.2nm,0.6s,baz=236,slow=6.4,SNR=2.4							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**86.75**	**13**	P		**P**	**12 38 13.2**	**-0.5**
	0.3nm,0.7s,baz=226,slow=5.2,SNR=4.8							
	0.3nm,0.7s							

*NEIC **14** 12:26:21.6±1.8,16.°5S±0.°1×175.°1W±0.°1,h136km±9km, mb4.9/12,Error ellipse: s-maj=15.8km s-min=12.8km az=138.0*
*IDC **14** 12:26:39.9±2.9,15.°85S×173.°59W,h0km,mb3.6/5, mbtmp3.6/6,ML3.3/1,MS3.1/1,Error ellipse: s-maj=169.0km s-min=22.3km az=146.0*
ISC 14 12:26:41.9±2.6,15.°6S±0.°8×173.°6W±0.°6,h10km,n9, σ1s24/9,mb3.7/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.43**	**48**	Pn		**Pn**	**12 27 21.9**	**+0.1**
	5.9nm,0.3s,baz=199,slow=3.4,SNR=11							
AFI				Sn		**Sn**	**12 27 49.9**	**-1.7**
	26nm,0.3s,baz=242,slow=22,SNR=12							
	20nm,0.3s							
AFI	**Afiamalu**	**2.43**	**48**			**Pn**	**12 27 21.6**	**-0.1**
MSVF	**Nonsavu**	**8.26**	**254**	LR		LR	12 31 48.4	
	comp=Z,124nm,18.9s,baz=9.4,slow=38							
WRA	**Warramunga Arr**	**49.59**	**257**	P		**P**	**12 35 33.2**	**-0.6**
	0.3nm,0.6s,baz=94,slow=6.9,SNR=3.1							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**49.85**	**252**	P		**P**	**12 35 34.1**	**-1.6**
	1.9nm,0.7s,baz=86,slow=8.2,SNR=16							
	1.9nm,0.7s							
NVAR	**Mina Array Bea**	**74.59**	**42**	P		**P**	**12 38 22.4**	**+0.8**
	0.3nm,0.7s,baz=222,slow=8.8,SNR=4.0							
	0.3nm,0.7s							
PDAR	**Pinedale Array**	**82.53**	**42**	P		**P**	**12 39 06.2**	**+0.9**
	0.5nm,0.7s,baz=179,slow=3.6,SNR=3.9							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**82.64**	**11**	P		**P**	**12 39 06.5**	**+1.4**
	0.5nm,0.9s,baz=217,slow=6.4,SNR=4.3							
	0.5nm,0.9s							
GERES	**GERESS Array B**	**146.26**	**351**	PKPbc		**PKPab**	**12 46 23.4**	**-0.1**
	0.3nm,0.2s,baz=31,slow=3.1,SNR=3.9							

WEL 14 12:27:51.0±0.4,42.°S±3.°×17.°4E±.°,h4km±3km,M3.5/12,

ML3.8/12,MLv3.5/12,Error ellipse: s-maj=0.0km s-min=0.0km az=58.7,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.06**	**289**	P		Pg	12 27 51.3	-1.0
GVZ	**Greta Valley S**	**0.68**	**218**	P		Pb	12 28 05.4	-0.2
THZ	**Tophouse**	**0.85**	**322**	P		Pg	12 28 07.1	-0.3
THZ				S		Sg	12 28 18.8	+0.4
AMCZ	**Amberley**	**1.02**	**223**	P		Pb	12 28 11.5	+0.2
TUWZ	**Tuamarina**	**1.03**	**14**	P		Pg	12 28 10.3	-0.6
LTZ	**Lake Taylor**	**1.05**	**250**	P		Pg	12 28 11.2	0.0
MRNZ	**Matariki Terra**	**1.22**	**328**	P		Pg	12 28 14.4	+0.1
NNZ	**Nelson**	**1.23**	**352**	P		Pg	12 28 14.7	+0.1
TCW	**Tory Channel**	**1.32**	**22**	P		Pn	12 28 15.2	-1.1
OKCZ	**Okains Bay**	**1.35**	**197**	P		Pn	12 28 15.3	-1.4
MQZ	**McQueen's Vall**	**1.45**	**209**	P		Pn	12 28 16.0	-2.1
OXZ	**Oxford**	**1.46**	**232**	P		Pn	12 28 16.4	-1.8
TKNZ	**Takaka Hill**	**1.48**	**341**	P		Pg	12 28 18.9	-0.3
TKNZ				S		Sg	12 28 38.7	+0.1
PLWZ	**Palliser**	**1.50**	**55**	P		Pn	12 28 16.9	-1.9
DSZ	**Denniston Nort**	**1.51**	**297**	P		Pb	12 28 19.4	-0.3
DSZ				S		Sg	12 28 39.9	+0.4
AKCZ	**Akaroa Harbour**	**1.53**	**199**	P		Pn	12 28 17.3	-1.8
MSWZ	**Moikau Station**	**1.59**	**51**	P		Pn	12 28 18.0	-2.0
DUWZ	**D'Urville Isla**	**1.65**	**8**	P		Pb	12 28 21.6	-0.4
RACZ	**Rakaia**	**1.68**	**219**	P		Pn	12 28 19.3	-1.9
CAW	**Cannon Point**	**1.72**	**40**	P		Pn	12 28 20.4	-1.3
PAWZ	**Paruwai Farm**	**1.72**	**53**	P		Pn	12 28 19.5	-2.2
QRZ	**Quartz Range**	**1.80**	**333**	P		Pb	12 28 23.7	-0.8
TRWZ	**Traveller**	**1.86**	**57**	P		Pn	12 28 21.3	-2.4
WACZ	**Wakanui South**	**1.99**	**220**	P		Pn	12 28 24.0	-1.4
WVZ	**Waitaha Valley**	**2.21**	**252**	P		Pn	12 28 28.6	+0.1
RPZ	**Rata Peaks**	**2.27**	**235**	P		Pn	12 28 27.7	-1.6
ARCZ	**Arundel**	**2.34**	**229**	P		Pn	12 28 28.4	-1.8
TMZ	**Timaru**	**2.72**	**223**	P		Pn	12 28 34.4	-1.1
MOVZ	**Moawhango**	**3.43**	**29**	P		Pn	12 28 47.7	+2.3
TOZ	**Tahuroa Road**	**4.92**	**18**	P		Pn	12 29 05.1	-0.6
AWAZ	**Awhitu Peninsu**	**5.42**	**9**	P		Pn	12 29 13.2	+0.5
MKAZ	**Moumakai**	**5.46**	**13**	P		Pn	12 29 12.6	-0.5
ETAZ	**East Tamaki Re**	**5.57**	**11**	P		Pn	12 29 14.9	+0.3

IDC 14 12:29:08.4±2.2,6.°26S×147.°95E,h0km,mb3.7/2, mbtmp3.6/4,ML3.5/1,Error ellipse: s-maj=61.7km s-min=25.7km az=117.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.23**	**194**	Pn		Pn	12 30 02.0	+1.7
	20nm,0.5s,baz=351,slow=9.0,SNR=16							
PMG				Sn		Sb	12 30 44.0	-2.5
	4.7nm,0.3s,baz=11,slow=17,SNR=6.8							
WRA	**Warramunga Arr**	**18.97**	**223**	P		P	12 33 30.6	-1.0
	0.1nm,0.3s,baz=49,slow=11,SNR=8.3							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**21.96**	**217**	P		P	12 34 03.7	-0.3
	1.4nm,0.6s,baz=49,slow=8.7,SNR=13							
ASAR				S		S	12 38 08.9	+1.5
	0.4nm,0.9s,baz=34,slow=18,SNR=4.5							
	1.4nm,0.6s							
STKA	**Stephens Creek**	**26.17**	**192**	P		P	12 34 44.0	-0.8
	2.0nm,0.9s,baz=23,slow=6.1,SNR=3.4							
	2.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**146.07**	**284**	PKPbc		PKPdf	12 48 51.0	+0.3
	1μm,0.3s,baz=63,slow=3.9,SNR=11							

*LDG **14** 12:29:54.1±0.1,42.°80N×2.°54E,h4km,Md2.6/2,Ml2.6/26, Error ellipse: s-maj=1.0km s-min=0.8km az=108.0*
*MDD **14** 12:29:54.4±0.4,42.°80N×2.°56E,h12km,mb_Lg2.5/8,Error ellipse: s-maj=3.1km s-min=2.1km az=48.0*
*MRB **14** 12:29:54.0±0.2,42.°81N×2.°54E,h4km±2km,ML2.1/26, Error ellipse: s-maj=1.1km s-min=0.6km az=234.0*
*STR **14** 12:29:54.2±0.4,43.°N±3.°×±.°,h0km,MLv2.3/7,Error ellipse: s-maj=0.0km s-min=0.0km az=143.9,preliminary*
ISC 14 12:29:52.5±1.0,42.°82N±0.°01×2.°55E±0.°02,h13km±9km, n70,σ0s77/131,Pyrenees

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

LASF				*e*Sn		**Sb**	**12 30 41.3**	**0.0**
	23nm,0.3s							
LASF	**Ste Croix**	**1.57**	**37**	Pg		**Pg**	**12 30 23.6**	**+0.8**
CGAR	**Garraf**	**1.60**	**198**	P		**Pg**	**12 30 22.7**	**-0.5**
CGAR				S		**Sg**	**12 30 44.2**	**+0.2**
	12nm,0.4s							
CAVN	**Les Avellanes**	**1.63**	**236**	P		**Pg**	**12 30 23.2**	**-0.6**
CAVN				S		**Sg**	**12 30 45.0**	**0.0**
	63nm,0.3s							
EPF	**Esparros**	**1.64**	**278**	*e*Pn		**Pb**	**12 30 22.3**	**-0.3**
EPF	**Esparros**	**1.64**	**278**	*e*Pg		**Pg**	**12 30 24.3**	**+0.3**
EPF				*e*Sn		**Sb**	**12 30 43.4**	**+0.2**
	26nm,0.3s							
EPF				*e*Sg		**Sg**	**12 30 45.7**	**+0.4**
	26nm,0.3s							
EPF	**Esparros**	**1.64**	**278**	Pg		**Pg**	**12 30 24.3**	**+0.3**
ECHI	**Chisagues Biel**	**1.74**	**266**	P		**Pg**	**12 30 24.8**	**-1.2**
ECHI				S		**Sg**	**12 30 47.7**	**-0.9**
	12nm,0.2s							
ECHI	**Chisagues Biel**	**1.74**	**266**	Pg		**Pg**	**12 30 26.2**	**+0.2**
ECHI				Sn		**Sb**	**12 30 45.9**	**-0.4**
ECHI				Sg		**Sg**	**12 30 48.4**	**-0.2**
ECHI				*i* Vmb_Lg			12 30 54.9	
ECHI	**Chisagues Biel**	**1.74**	**266**	Pn		**Pg**	**12 30 26.0**	**0.0**
ECHI				Sn		**Sg**	**12 30 49.4**	**+0.7**
EPOB	**Poblet**	**1.83**	**217**	P		**Pb**	**12 30 25.8**	**-0.1**
EPOB				S		**Sb**	**12 30 49.4**	**+0.6**
	19nm,0.2s							
EPOB	**Poblet**	**1.83**	**217**	Pn		**Pn**	**12 30 24.1**	**+0.4**
EPOB				Pg		**Pg**	**12 30 27.4**	**-0.3**
EPOB				Sn		**Sn**	**12 30 47.2**	**+0.4**
EPOB				Sg		**Sg**	**12 30 51.3**	**-0.2**
EPOB				*i* Vmb_Lg			12 30 53.2	
MONQ	**Montcuq**	**1.83**	**328**	Pn		**Pg**	**12 30 26.8**	**-0.9**
MONQ				Sn		**Sg**	**12 30 51.7**	**+0.2**
PYLO	**Lourdes**	**1.93**	**279**	S		**Sb**	**12 30 52.0**	**+0.5**
CAF	**Calviac**	**2.13**	**351**	*e*Pn		**Pb**	**12 30 29.3**	**-1.7**
CAF	**Calviac**	**2.13**	**351**	*e*Pg		**Pg**	**12 30 34.4**	**+1.0**
CAF				*e*Sn		**Sn**	**12 30 54.3**	**+0.1**
	13nm,0.3s							
ETSF	**Etsaut**	**2.29**	**273**	*e*Pn		**Pn**	**12 30 31.2**	**+1.2**
ETSF	**Etsaut**	**2.29**	**273**	*e*Pg		**Pg**	**12 30 36.0**	**-0.4**
ETSF				*e*Sn		**Sn**	**12 30 58.2**	**+0.1**
	15nm,0.4s							
ETSF				*e*Sg		**Sg**	**12 31 04.6**	**-1.5**
	15nm,0.4s							
ATE	**Arette**	**2.40**	**277**	S		**Sb**	**12 31 03.5**	**-1.6**
	3.5nm,0.4s							
SMRF	**Simiane la Rot**	**2.49**	**61**	*e*Pg		**Pg**	**12 30 41.1**	**+0.9**
SMRF				*e*Sg		**Sg**	**12 31 12.9**	**+0.5**
	7.7nm,0.3s							
LFF	**La Frestale**	**2.49**	**329**	*e*Pn		**Pn**	**12 30 33.9**	**+1.2**
LFF	**La Frestale**	**2.49**	**329**	*e*Pg		**Pg**	**12 30 40.6**	**+0.3**
LFF				*e*Sn		**Sn**	**12 31 03.3**	**+0.4**
	0.9nm,0.1s							
LFF				*e*Sg		**Sg**	**12 31 12.4**	**-0.1**
	4.6nm,0.2s							
ERTA	**Horta de San J**	**2.49**	**222**	S		**Sb**	**12 31 06.0**	**-1.7**
	9.8nm,0.4s							
ERTA	**Horta de San J**	**2.49**	**222**	Pg		**Pb**	**12 30 38.0**	**+0.8**
ERTA				Sn		**Sn**	**12 31 03.4**	**+0.3**
ERTA				Sg		**Sg**	**12 31 10.2**	**-2.4**
ERTA				*i* Vmb_Lg			12 31 17.0	
VIVF	**Saint-Julien-l**	**2.55**	**36**	*e*Pg		**Pg**	**12 30 41.2**	**-0.2**
VIVF				*e*Sn		**Sn**	**12 31 04.2**	**-0.2**
	1.1nm,0.2s							
VIVF				*e*Sg		**Sg**	**12 31 14.5**	**+0.1**
	2.7nm,0.2s							
RJF	**Les Rejaudoux**	**2.59**	**344**	*e*Pn		**Pn**	**12 30 35.3**	**+1.1**
RJF	**Les Rejaudoux**	**2.59**	**344**	*e*Pg		**Pg**	**12 30 42.3**	**+0.1**
RJF				*e*Sn		**Sn**	**12 31 04.8**	**-0.7**
	1.2nm,0.2s							
RJF				*e*Sg		**Sg**	**12 31 15.9**	**+0.1**
	6.9nm,0.2s							
CMAS	**Mas de Barbera**	**2.68**	**219**	S		**Sb**	**12 31 10.5**	**-2.7**
	11nm,0.4s							
SJPF	**Ste Jean**	**2.79**	**277**	*e*Pn		**Pn**	**12 30 37.7**	**+0.9**
SJPF	**Ste Jean**	**2.79**	**277**	*e*Pg		**Pg**	**12 30 46.0**	**+0.1**
SJPF				*e*Sg		**Sg**	**12 31 21.7**	**-0.4**
	7.2nm,0.6s							
LMR	**La Mourre**	**2.94**	**79**	*e*Pg		**Pg**	**12 30 48.7**	**-0.2**
LMR				*e*Sn		**Sn**	**12 31 14.0**	**-0.1**
	7.5nm,0.6s							
LMR				*e*Sg		**Sg**	**12 31 26.7**	**-0.4**
	4.5nm,0.2s							
TCF	**Toulx Ste Croi**	**3.48**	**356**	*e*Pg		**Pg**	**12 30 59.5**	**+0.4**
TCF				*e*Sn		**Sn**	**12 31 26.6**	**-0.7**
TCF				*e*Sg		**Sg**	**12 31 43.5**	**-0.6**
	3.5nm,0.2s							
BGF	**Bois d'Agland**	**3.74**	**3**	*e*Pn		**Pn**	**12 30 50.9**	**+1.0**
BGF	**Bois d'Agland**	**3.74**	**3**	*e*Pg		**Pg**	**12 31 03.7**	**-0.5**
BGF				*e*Sg		**Sg**	**12 31 52.4**	**-0.3**
	9.5nm,0.4s							
AVF	**Avril sur Loir**	**4.01**	**8**	*e*Sg		**Sg**	**12 32 00.1**	**-1.1**
	1.4nm,0.2s							
MFF	**Saint Martin d**	**4.24**	**334**	*e*Pn		**Pn**	**12 30 57.9**	**+1.1**
MFF				*e*Sn		**Sn**	**12 31 45.3**	**-0.8**
	2.3nm,0.4s							
MFF				*e*Sg		**Sg**	**12 32 07.4**	**-1.3**
	2.5nm,0.3s							
SSF	**Saint Saulge**	**4.29**	**9**	*e*Sg		**Sg**	**12 32 09.1**	**-1.2**
	1.6nm,0.3s							
LOR	**Lormes**	**4.54**	**11**	*e*Sg		**Sg**	**12 32 16.9**	**-1.4**
	1.5nm,0.2s							

*IDC **14** 12:43:41.6±2.2,42°.08S×173°.82E,h0km,mb3.3/2, mbtmp3.5/3,ML4.1/1,Error ellipse: s-maj=45.0km s-min=37.7km az=119.0*
*WEL **14** 12:43:44.2±0.4,42°S±.3°×17°4E±°,h8km±3km,M4.1/64, ML4.3/18,MLv4.1/64,Error ellipse: s-maj=0.0km s-min=0.0km az=142.5*
*NOU **14** 12:43:50.0,42°.18S×173°.37E,h85km,MLv4.5/10,South Island, New Zealand*
ISC 14 12:43:43.0±1.4,42°.14S±0°.03×173°.85E±0°.03,h8km±11km, n102,σ1s55/108,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.36**	**219**	P	**Pb**	**12 43 52.7**	**+0.9**
KHZ				S	**Sb**	**12 43 58.6**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.42**	**3**	P	**Pb**	**12 43 52.3**	**-0.4**
BSWZ				S	**Sb**	**12 43 57.9**	**-1.3**
CMWZ	**Cape Campbell**	**0.47**	**35**	P	**Pb**	**12 43 54.4**	**+0.8**
CMWZ				S	**Sb**	**12 44 02.9**	**+2.2**
TUWZ	**Tuamarina**	**0.71**	**6**	P	**Pb**	**12 43 57.7**	**+0.1**
TUWZ				S	**Sb**	**12 44 07.4**	**-0.1**
THZ	**Tophouse**	**0.80**	**298**	P	**Pb**	**12 43 59.0**	**-0.1**
THZ				S	**Sg**	**12 44 08.8**	**+0.1**
TCW	**Tory Channel**	**0.98**	**19**	P	**Pb**	**12 44 02.4**	**+0.2**
NNZ	**Nelson**	**0.98**	**339**	P	**Pb**	**12 44 02.0**	**-0.2**
WEL	**Wellington**	**1.09**	**39**	P	**Pn**	**12 44 05.1**	**+0.5**
MRNZ	**Matariki Terra**	**1.10**	**312**	P	**Pn**	**12 44 04.7**	**0.0**
MRNZ				S	**Sb**	**12 44 18.5**	**-0.2**
PLWZ	**Palliser**	**1.19**	**62**	P	**Pg**	**12 44 06.0**	**+0.2**
MSWZ	**Moikau Station**	**1.27**	**56**	P	**Pg**	**12 44 07.0**	**-0.3**
TKNZ	**Takaka Hill**	**1.29**	**328**	P	**Pn**	**12 44 07.6**	**+0.3**
DUWZ	**D'Urville Isla**	**1.33**	**2**	P	**Pb**	**12 44 08.4**	**+0.1**
LTZ	**Lake Taylor**	**1.33**	**241**	P	**Pb**	**12 44 08.9**	**+0.6**
AMCZ	**Amberley**	**1.36**	**220**	P	**Pn**	**12 44 08.9**	**+0.5**
CAW	**Cannon Point**	**1.37**	**42**	P	**Pn**	**12 44 08.7**	**+0.2**
PAWZ	**Paruwai Farm**	**1.40**	**58**	P	**Pn**	**12 44 08.6**	**-0.2**
KIW	**Kapiti Island**	**1.50**	**32**	P	**Pb**	**12 44 10.9**	**-0.3**
TRWZ	**Traveller**	**1.56**	**62**	P	**Pn**	**12 44 10.4**	**-0.6**
DSZ	**Denniston Nort**	**1.58**	**284**	P	**Pg**	**12 44 13.0**	**-0.2**
MTW	**Mount Morrison**	**1.58**	**52**	P	**Pn**	**12 44 11.0**	**-0.2**
QRZ	**Quartz Range**	**1.64**	**322**	P	**Pg**	**12 44 13.7**	**-0.9**
OGWZ	**Otaki Gorge**	**1.65**	**37**	P	**Pn**	**12 44 12.5**	**+0.2**
OKCZ	**Okains Bay**	**1.69**	**200**	P	**Pn**	**12 44 13.0**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.76**	**46**	P	**Pg**	**12 44 18.8**	**+2.1**
OXZ	**Oxford**	**1.79**	**228**	P	**Pn**	**12 44 14.1**	**-0.1**
MQZ	**McQueen's Vall**	**1.80**	**209**	P	**Pn**	**12 44 13.6**	**-0.7**
TMWZ	**Te Maipa**	**1.84**	**57**	P	**Pn**	**12 44 14.0**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.87**	**201**	P	**Pn**	**12 44 15.2**	**-0.1**
INZ	**Inchbonnie**	**1.88**	**251**	P	**Pb**	**12 44 17.0**	**-0.5**
MRZ	**Mangatainoka R**	**1.96**	**42**	P	**Pn**	**12 44 16.3**	**-0.3**
RACZ	**Rakaia**	**2.03**	**218**	P	**Pn**	**12 44 17.3**	**-0.2**
TIWZ	**Tintock**	**2.05**	**49**	P	**Pg**	**12 44 22.9**	**+0.7**
OHWZ	**Ohakea**	**2.22**	**30**	P	**Pb**	**12 44 21.9**	**-1.5**
PRWZ	**Pori Road**	**2.25**	**46**	P	**Pn**	**12 44 21.7**	**+1.2**
POWZ	**Post Office Ro**	**2.26**	**40**	P	**Pn**	**12 44 20.4**	**-0.3**
BFZ	**Birch Farm**	**2.31**	**52**	P	**Pn**	**12 44 21.9**	**+0.5**
WACZ	**Wakanui South**	**2.33**	**219**	P	**Pn**	**12 44 20.4**	**-1.2**
WVZ	**Waitaha Valley**	**2.48**	**247**	P	**Pn**	**12 44 24.8**	**+1.1**
WAZ	**Wanganui**	**2.53**	**20**	P	**Pb**	**12 44 27.7**	**-1.0**
DVHZ	**Dannevirke**	**2.53**	**44**	P	**Pn**	**12 44 23.8**	**-0.6**
RPZ	**Rata Peaks**	**2.59**	**232**	Pn	**Pn**	**12 44 25.0**	**-0.2**
	33nm,0.3s,baz=293,slow=0.7,SNR=26						
RPZ				Sn	**Sn**	**12 44 56.6**	**-0.2**
	40nm,0.3s,baz=164,slow=21,SNR=22						
	81nm,0.4s						
RPZ	**Rata Peaks**	**2.59**	**232**	P	**Pn**	**12 44 25.3**	**+0.1**
RPZ	**Rata Peaks**	**2.59**	**232**	P	**Pn**	**12 44 25.2**	**0.0**
TSZ	**Takapari Road**	**2.62**	**38**	P	**Pn**	**12 44 25.1**	**-0.5**
ARCZ	**Arundel**	**2.67**	**226**	P	**Pn**	**12 44 26.1**	**-0.2**
LREZ	**Lake Rotokare**	**2.71**	**9**	P	**Pb**	**12 44 31.6**	**-0.1**
KHEZ	**Kahui Hut**	**2.84**	**3**	P	**Pb**	**12 44 35.0**	**+1.0**
KHEZ	**Kahui Hut**	**2.84**	**3**	P	**Pb**	**12 44 34.4**	**+0.4**
PNHZ	**Pukenui**	**2.84**	**39**	P	**Pn**	**12 44 27.8**	**-0.9**
NBEZ	**Newall Road No**	**2.87**	**0**	P	**Pb**	**12 44 33.0**	**-1.4**
NEZ	**North Egmont**	**2.87**	**4**	P	**Pb**	**12 44 35.5**	**+1.0**
PKE	**Pukeiti**	**2.94**	**2**	P	**Pg**	**12 44 37.5**	**-1.8**
TMZ	**Timaru**	**3.06**	**222**	P	**Pn**	**12 44 31.6**	**0.0**
MOVZ	**Moawhango**	**3.08**	**29**	P	**Pb**	**12 44 37.4**	**-0.8**
VRZ	**Vera Road**	**3.09**	**13**	P	**Pn**	**12 44 34.9**	**+2.9**
WNVZ	**Wahianoa**	**3.10**	**26**	P	**Pn**	**12 44 35.4**	**+2.9**
TRVZ	**Turoa**	**3.11**	**25**	P	**Pn**	**12 44 37.9**	**-0.8**
BHHZ	**Black Hill Sta**	**3.13**	**33**	P	**Pn**	**12 44 31.0**	**-1.7**
DRZ	**Dome Shelter**	**3.14**	**25**	P	**Pn**	**12 44 39.4**	**+0.2**
WHVZ	**Whangaehu Hut**	**3.14**	**25**	P	**Pn**	**12 44 35.8**	**+2.8**
FWVZ	**Far West T-bar**	**3.15**	**25**	P	**Pb**	**12 44 37.3**	**-2.1**
NGZ	**Ngauruhoe**	**3.24**	**25**	P	**Pb**	**12 44 41.3**	**+0.4**
SNVZ	**South Ngauruho**	**3.25**	**25**	P	**Pb**	**12 44 41.2**	**+0.2**
OTVZ	**Oturere**	**3.27**	**26**	P	**Pb**	**12 44 39.0**	**-2.4**
NNVZ	**North Ngauruho**	**3.29**	**25**	P	**Pb**	**12 44 39.1**	**-2.5**
WTVZ	**West Tongariro**	**3.29**	**24**	P	**Pb**	**12 44 41.1**	**-0.7**
ETVZ	**East Tongariro**	**3.31**	**26**	P	**Pb**	**12 44 39.8**	**-2.3**
KRVZ	**Karewarewa**	**3.33**	**25**	P	**Pb**	**12 44 40.1**	**-2.3**
TMVZ	**Te Maari**	**3.33**	**26**	P	**Pb**	**12 44 39.1**	**-3.3**
NTVZ	**North Tongarir**	**3.34**	**25**	P	**Pb**	**12 44 37.8**	**+2.2**
LBZ	**Lake Benmore**	**3.50**	**229**	P	**Pn**	**12 44 38.0**	**+0.3**
BKZ	**Black Stump Fm**	**3.58**	**35**	P	**Pb**	**12 44 48.1**	**+1.5**
HIZ	**Hauiti**	**3.70**	**12**	P	**Pn**	**12 44 45.6**	**-3.0**
HIZ	**Hauiti**	**3.70**	**12**	P	**Pn**	**12 44 44.1**	**+3.7**
ODZ	**Otahua Downs**	**3.73**	**218**	P	**Pn**	**12 44 40.5**	**-0.3**
ODZ	**Otahua Downs**	**3.73**	**218**	P	**Pn**	**12 44 40.3**	**-0.4**
TLZ	**Tolley Road**	**4.01**	**19**	P	**Pn**	**12 44 47.6**	**+2.7**
JCZ	**Jackson Bay**	**4.18**	**241**	P	**Pn**	**12 44 48.3**	**+1.1**
JCZ	**Jackson Bay**	**4.18**	**241**	P	**Pn**	**12 44 48.4**	**+1.2**
HHSZ	**Highcliff Hill**	**4.42**	**211**	P	**Pn**	**12 44 49.9**	**-0.4**
EAZ	**Earnscleugh**	**4.52**	**225**	P	**Pn**	**12 44 51.4**	**-0.4**
TOZ	**Tahuroa Road**	**4.58**	**17**	P	**Pn**	**12 44 55.2**	**+2.7**
TUZ	**Tuapeka**	**4.88**	**217**	P	**Pn**	**12 44 56.3**	**-0.4**
AWAZ	**Awhitu Peninsu**	**5.10**	**7**	P	**Pn**	**12 45 03.3**	**+3.6**
MKAZ	**Moumakai**	**5.13**	**12**	P	**Pn**	**12 45 02.1**	**+2.0**
WTAZ	**Waiatarua**	**5.23**	**6**	P	**Pn**	**12 45 05.0**	**+3.6**
ETAZ	**East Tamaki Re**	**5.24**	**9**	P	**Pn**	**12 45 05.2**	**+3.6**
RVAZ	**Riverhead Bore**	**5.39**	**6**	P	**Pn**	**12 45 07.1**	**+3.4**
MBAZ	**Motutapu North**	**5.42**	**9**	P	**Pn**	**12 45 07.8**	**+3.7**
SYZ	**Scrubby Hill**	**5.55**	**216**	P	**Pn**	**12 45 06.3**	**+0.5**
SYZ	**Scrubby Hill**	**5.55**	**216**	P	**Pn**	**12 45 06.2**	**+0.4**
KUZ	**Kuaotunu**	**5.58**	**16**	P	Pn	12 45 12.2	+6.0
WHZ	**Wether Hill Ro**	**5.68**	**227**	P	**Pn**	**12 45 06.6**	**-1.0**
APZ	**The Paps**	**6.29**	**220**	P	**Pn**	**12 45 12.5**	**-0.8**
PYZ	**Puysegur Point**	**6.54**	**230**	P	**Pn**	**12 45 20.2**	**+0.7**
OUZ	**Omahuta**	**6.91**	**358**	P	**Pn**	**12 45 28.2**	**+3.7**
OUZ	**Omahuta**	**6.91**	**358**	P	**Pn**	**12 45 28.0**	**+3.4**
CTZ	**Chatham Island**	**7.18**	**106**	P	**Pn**	**12 45 26.6**	**-1.5**
ASAR	**Alice Springs**	**37.85**	**286**	P	**P**	**12 51 00.6**	**+0.3**
	0.2nm,0.7s,baz=119,slow=6.5,SNR=8.5						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**39.96**	**291**	P	**P**	**12 51 16.7**	**-1.3**
	0.4nm,0.5s,baz=127,slow=8.4,SNR=8.6						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.32**	**196**	PKPbc	**PKPbc**	**13 03 34.9**	**-0.3**
	0.4nm,0.6s,baz=167,slow=3.1,SNR=7.7						

*IDC **14** 12:45:00.5±4.7,41°.31S×174°.38E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=165.8km s-min=35.9km az=48.0*
*WEL **14** 12:45:04.6±0.3,42°S±2°×17°4E±°,h5km,M3.6/12, ML3.9/12,MLv3.6/12,Error ellipse: s-maj=0.0km s-min=0.0km az=137.3*
ISC 14 12:45:04.5±0.9,41°.70S±0°.04×174°.23E±0°.03,h13km±6km, n20,σ0s99/26,mb3.2/3,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**191**	P	**Pg**	**12 45 06.3**	**-0.7**
CMWZ				S	**Sg**	**12 45 08.6**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.26**	**266**	P	**Pg**	**12 45 10.1**	**+0.1**
BSWZ				S	**Sg**	**12 45 14.8**	**+1.1**
TUWZ	**Tuamarina**	**0.34**	**322**	P	**Pg**	**12 45 11.4**	**0.0**
TUWZ				S	**Sg**	**12 45 16.8**	**+0.7**
TCW	**Tory Channel**	**0.49**	**4**	P	**Pg**	**12 45 13.7**	**-0.4**
TCW				S	**Sg**	**12 45 20.6**	**0.0**
BHW	**Baring Head**	**0.56**	**59**	P	**Pg**	**12 45 15.4**	**-0.1**
WEL	**Wellington**	**0.58**	**45**	P	**Pg**	**12 45 15.6**	**-0.2**
PLWZ	**Palliser**	**0.78**	**81**	P	**Pg**	**12 45 19.6**	**-0.1**
NNZ	**Nelson**	**0.80**	**307**	P	**Pg**	**12 45 19.5**	**-0.4**
MSWZ	**Moikau Station**	**0.82**	**70**	P	**Pg**	**12 45 20.5**	**+0.2**
CAW	**Cannon Point**	**0.86**	**47**	P	**Pg**	**12 45 20.4**	**-0.8**
KHZ	**Kahutara**	**0.88**	**215**	P	**Pb**	**12 45 22.4**	**+0.8**
DUWZ	**D'Urville Isla**	**0.93**	**346**	P	**Pb**	**12 45 23.0**	**+0.7**
PAWZ	**Paruwai Farm**	**0.95**	**71**	P	**Pg**	**12 45 22.6**	**-0.3**
PAWZ				S	**Sb**	**12 45 37.3**	**+1.9**
MTW	**Mount Morrison**	**1.10**	**61**	P	**Pg**	**12 45 24.8**	**-0.8**
MTW				S	**Sb**	**12 45 41.0**	**+1.4**
OGWZ	**Otaki Gorge**	**1.13**	**39**	P	**Pg**	**12 45 26.0**	**-0.2**
MRNZ	**Matariki Terra**	**1.14**	**285**	P	**Pg**	**12 45 26.5**	**0.0**
ASAR	**Alice Springs**	**38.00**	**285**	P	**P**	**12 52 19.8**	**-2.4**
	0.4nm,0.9s,baz=121,slow=6.6,SNR=2.7						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**40.07**	**290**	P	**P**	**12 52 37.9**	**-1.6**
	0.3nm,0.6s,baz=130,slow=8.2,SNR=1.9						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**48.43**	**180**	P	**P**	**12 53 47.2**	**+1.1**
	0.8nm,0.7s,baz=198,slow=2.3,SNR=2.3						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.82**	**195**	PKPbc	**PKPbc**	**13 04 55.9**	**-1.0**
	0.2nm,0.4s,baz=156,slow=0.9,SNR=1.8						

*IDC **14** 12:46:41.5±4.1,34°.53S×178°.70W,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=165.4km s-min=55.2km az=167.0*
*NEIC **14** 12:46:43.2±1.4,34°.6S±0°.1×178°.7W±0°.2,h10km±2km, mb4.4/12,Error ellipse: s-maj=27.8km s-min=17.8km az=131.0*
ISC 14 12:46:42.8±1.9,34°.5S±0°.1×178°.7W±0°.3,h10km,n18, σ0s77/18,mb4.2/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.87**	**218**	Pn	**Pn**	**12 47 42.2**	**0.0**
LIFNC	**LIFOU**	**18.48**	**314**	P	**P**	**12 50 59.5**	**+0.6**
LIFNC				IAmb	IAmb	12 51 06.9	
	comp=Z,38nm,1.0s						
KOUNC	**Koumac, New Ca**	**20.48**	**308**	P	**P**	**12 51 20.3**	**-0.5**
KOUNC				IAmb	IAmb	12 51 50.7	
	comp=Z,28nm,1.4s						
CTA	**Charters Tower**	**34.10**	**286**	P	**P**	**12 53 28.8**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=121,slow=14,SNR=2.3						
	comp=Z,1.0nm,0.5s						
CTAO	**Charters Tower**	**34.10**	**286**	P	**P**	**12 53 28.8**	**+1.1**
CTAO				IAmb	IAmb	12 53 54.8	
	comp=Z,5.2nm,1.1s						
COEN	**Coen**	**40.01**	**291**	P	**P**	**12 54 18.2**	**+0.2**
COEN				IAmb	IAmb	12 54 45.0	
	comp=Z,9.7nm,1.2s						
AS31	**Alice Springs**	**42.45**	**272**	P	**P**	**12 54 38.5**	**+0.4**
ASAR	**Alice Springs**	**42.45**	**272**	P	**P**	**12 54 38.5**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=113,slow=7.4,SNR=37						
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**42.45**	**272**	P	**P**	**12 54 36.8**	**-1.3**
WB2	**Warramunga Arr**	**43.81**	**277**	P	**P**	**12 54 48.9**	**-0.1**
WB2				IAmb	IAmb	12 54 53.8	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**43.82**	**277**	P	**P**	**12 54 48.7**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=119,slow=7.5,SNR=26						
	comp=Z,2.6nm,0.7s						
WRA	**Warramunga Arr**	**43.82**	**277**	P	**P**	**12 54 48.4**	**-0.7**
WB0	**Warramunga Arr**	**43.86**	**277**	P	**P**	**12 54 48.3**	**-1.1**
WB0				IAmb	IAmb	12 54 49.9	
	comp=Z,5.9nm,1.1s						
MTN	**Manton Dam**	**50.16**	**283**	P	**P**	**12 55 37.3**	**-1.4**
KNRA	**Kununurra**	**50.55**	**278**	P	**P**	**12 55 41.3**	**-0.3**
MORW	**Morawa**	**54.87**	**256**	P	**P**	**12 56 13.6**	**0.0**
QSPA	**South Pole Qui**	**55.59**	**180**	P	**P**	**12 56 18.5**	**+0.2**
FINES	**FINESS Array B**	**148.76**	**337**	PKPbc	**PKPbc**	**13 06 29.5**	**-0.1**
	comp=Z,5.7nm,0.9s,baz=29,slow=4.4,SNR=5.9						

*SNET **14** 12:49:03.4±0.7,12°.47N×87°.80W,h31km±4km,ML3.0*
*INET **14** 12:49:03.5±0.9,12°.46N×87°.80W,h15km±9km,MW3.0*
ISC 14 12:49:01.9±3.0,12°.4N±0°.1×87°.88W±0°.09,h23km±18km,n7, σ0s67/12,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.87**	**69**	*e*P	**Pn**	**12 49 19.3**	**+0.5**
CRIN				*e*S	**Sn**	**12 49 31.6**	**+0.9**
CNCH	**Conchagua**	**0.89**	**3**	*e*P	**Pb**	**12 49 18.8**	**0.0**
CNCH				*e*S	**Sn**	**12 49 30.9**	**-0.4**
LCND	**La Caada**	**0.92**	**359**	*e*P	**Pb**	**12 49 19.2**	**-0.1**
LCND				*e*S	**Sb**	**12 49 30.9**	**-0.1**
LCND				*e*S	**Sn**	**12 49 31.2**	**-0.7**
LCND				IAML		12 49 32.9	
	comp=Z,455nm,0.2s						
MOMN	**Momotombo**	**1.31**	**89**	*e*P	**Pn**	**12 49 24.7**	**-0.1**
MOMN				*e*S	**Sn**	**12 49 40.5**	**-1.0**
PQSS	**Presa 15 de Se**	**1.40**	**332**	*e*P	**Pn**	**12 49 26.6**	**+0.6**
PQSS				*e*S	**Sn**	**12 49 44.1**	**+0.3**
PQSS				IAML		12 49 45.6	
	comp=Z,89nm,0.2s						
LFRS	**El Faro**	**1.69**	**317**	IAML		12 49 52.5	
	comp=Z,521nm,0.2s						
P5NO	**Presa 5 de nov**	**1.81**	**332**	*e*P	**Pn**	**12 49 31.4**	**-0.3**

WEL 14 12:51:52.3±0.4,42°S±3°×17°3E±°,h14km±3km,M3.2/26, ML3.6/13,MLv3.2/26,Error ellipse: s-maj=0.0km s-min=0.0km az=135.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.04**	**94**	P	Pg	12 51 55.0	+0.3
KHZ				S	Sg	12 51 57.0	+0.5
GVZ	**Greta Valley S**	**0.65**	**211**	P	Pg	12 52 06.2	+0.8
THZ	**Tophouse**	**0.78**	**326**	P	Pg	12 52 07.2	-0.2
THZ				S	Sg	12 52 17.7	0.0
LTZ	**Lake Taylor**	**0.97**	**247**	P	Pb	12 52 10.6	-0.4
AMCZ	**Amberley**	**0.98**	**219**	P	Pn	12 52 11.8	+0.2
TUWZ	**Tuamarina**	**1.04**	**19**	P	Pb	12 52 12.2	+0.1
MRNZ	**Matariki Terra**	**1.15**	**331**	P	Pb	12 52 13.9	0.0
NNZ	**Nelson**	**1.20**	**356**	P	Pb	12 52 14.8	0.0
TCW	**Tory Channel**	**1.34**	**26**	P	Pn	12 52 16.1	-0.4
OKCZ	**Okains Bay**	**1.35**	**193**	P	P

MTW	Mount Morrison	1.12	53	P		Pb	12 55 33.4	+0.4
OGWZ	Otaki Gorge	1.20	32	P		Pn	12 55 34.5	+0.2
MRNZ	Matariki Terra	1.25	290	P		Pg	12 55 35.8	-0.2
HOWZ	Holdsworth Sta	1.30	44	P		Pn	12 55 35.8	+0.2
TKNZ	Takaka Hill	1.30	308	P		Pn	12 55 36.1	+0.4
TMWZ	Te Maipa	1.39	59	P		Pn	12 55 37.0	+0.1
GVZ	Greta Valley S	1.48	220	P		Pn	12 55 38.6	+0.5
MRZ	Mangatainoka R	1.51	39	P		Pn	12 55 38.8	+0.3
TIWZ	Tintock	1.58	49	P		Pn	12 55 39.6	0.0
QRZ	Quartz Range	1.68	306	P		Pb	12 55 42.8	+0.1
CPWZ	Castlepoint	1.69	58	P		Pn	12 55 41.3	+0.3
PRWZ	Pori Road	1.79	45	P		Pn	12 55 42.4	0.0
LTZ	Lake Taylor	1.79	237	P		Pn	12 55 43.8	+1.4
OHWZ	Ohakea	1.79	25	P		Pb	12 55 44.2	-0.3
POWZ	Post Office Ro	1.81	38	P		Pn	12 55 42.9	+0.3
AMCZ	Amberley	1.82	222	P		Pn	12 55 44.6	+1.8
BFZ	Birch Farm	1.85	52	P		Pn	12 55 42.7	-0.6
DSZ	Denniston Nort	1.88	272	P		Pb	12 55 47.1	+1.0
DVHZ	Dannevirke	2.07	43	P		Pn	12 55 45.7	-0.6
OKCZ	Okains Bay	2.10	206	P		Pn	12 55 47.4	+0.6
WAZ	Wanganui	2.14	14	P		Pb	12 55 51.2	+0.8
TSZ	Takapari Road	2.17	36	P		Pn	12 55 47.5	-0.1
MQZ	McQueen's Vall	2.24	213	P		Pn	12 55 48.5	0.0
OXZ	Oxford	2.25	228	P		Pn	12 55 49.4	+0.6
AKCZ	Akaroa Harbour	2.29	207	P		Pn	12 55 49.8	+0.6
PRHZ	Porangahau	2.35	49	P		Pn	12 55 49.0	-1.1
LREZ	Lake Rotokare	2.37	2	P		Pb	12 55 55.1	+0.7
WPHZ	Waipukurau	2.39	43	P		Pn	12 55 50.3	-0.4
PNHZ	Pukenui	2.39	37	P		Pn	12 55 50.3	-0.4
RACZ	Rakaia	2.48	220	P		Pn	12 55 52.5	+0.6
KHEZ	Kahui Hut	2.55	355	P		Pb	12 55 58.1	+0.6
NEZ	North Egmont	2.57	356	P		Pb	12 55 58.8	+1.0
NBEZ	Newall Road No	2.59	352	P		Pb	12 55 58.3	+0.3
PXZ	Pawanui	2.64	48	P		Pb	12 56 01.2	+2.2
DREZ	Durham Road	2.64	358	P		Pb	12 56 00.0	+1.0
PKE	Pukeiti	2.65	354	P		Pb	12 56 00.2	+1.0
MOVZ	Moawhango	2.66	25	P		Pn	12 55 57.5	+3.0
WNVZ	Wahianoa	2.69	22	P		Pb	12 56 00.6	+0.7
BHHZ	Black Hill Sta	2.69	30	P		Pb	12 56 01.1	+1.2
TRVZ	Turoa	2.70	21	P		Pb	12 56 00.9	+0.8
DRZ	Dome Shelter	2.73	21	P		Pb	12 56 02.0	+1.3
WHVZ	Whangaehu Hut	2.73	21	P		Pn	12 55 58.0	+2.5
VRZ	Vera Road	2.73	7	P		Pn	12 55 57.7	+2.4
FWVZ	Far West T-bar	2.74	20	P		Pn	12 55 57.3	+1.5
WACZ	Wakanui South	2.79	220	P		Pn	12 55 56.6	+0.5
KAHZ	Kahuranaki	2.81	44	P		Pn	12 55 55.3	-1.2
KAHZ				P		Pn	12 55 55.3	-1.2
NGZ	Ngauruhoe	2.83	21	P		Pb	12 56 03.0	+0.7
SNVZ	South Ngauruho	2.83	21	P		Pn	12 55 55.6	-1.3
OTVZ	Oturere	2.86	21	P		Pn	12 55 58.4	+1.1
OTVZ				P		Pb	12 55 58.6	-4.2
NNVZ	North Ngauruho	2.88	21	P		Pn	12 55 59.7	+2.2
WTVZ	West Tongariro	2.88	20	P		Pb	12 56 03.5	+0.3
TWVZ	Taurewa	2.89	18	P		Pb	12 56 02.1	-1.2
ETVZ	East Tongariro	2.90	22	P		Pn	12 55 59.3	+1.5
TMVZ	Te Maari	2.91	22	P		Pn	12 55 58.9	+1.0
KRVZ	Karewarewa	2.92	21	P		Pn	12 56 01.2	+3.1
NTVZ	North Tongarir	2.92	21	P		Pn	12 55 59.1	+1.1
WVZ	Waitaha Valley	2.93	244	P		Pb	12 56 04.9	+1.0
CKHZ	Cape Kidnapper	3.02	45	P		Pb	12 56 03.9	-1.5
KATZ	Kakaramea	3.04	21	P		Pb	12 56 06.5	+0.5
RPZ	Rata Peaks	3.05	231	Pn		Pn	12 56 00.3	+0.5
	4.9nm,0.3s,baz=46,slow=22,SNR=3.0							
RPZ				Sn		Sn	12 56 35.6	-0.4
	2.9nm,0.3s,baz=319,slow=24,SNR=7.2 17nm,0.4s							
RPZ	Rata Peaks	3.05	231	P		Pn	12 56 00.4	+0.6
HIZ	Hauiti	3.34	7	P		Pn	12 56 06.8	+3.1
ALRZ	Allen Road	3.62	26	P		Pb	12 56 15.1	-0.6
TLZ	Tolley Road	3.62	15	P		Pb	12 56 15.3	-0.5
LBZ	Lake Benmore	3.96	229	P		Pn	12 56 14.7	+2.4
ODZ	Otahua Downs	4.18	219	P		Pn	12 56 16.1	+0.9
TOZ	Tahuroa Road	4.20	13	P		Pn	12 56 17.1	+1.6
MKAZ	Moumakai	4.77	8	P		Pn	12 56 24.4	+1.1
AWAZ	Awhitu Peninsu	4.77	3	P		Pn	12 56 26.4	+3.1
ETAZ	East Tamaki Re	4.90	6	P		Pn	12 56 27.0	+1.8
WTAZ	Waiatarua	4.90	2	P		Pn	12 56 28.2	+3.0
RVAZ	Riverhead Bore	5.06	2	P		Pn	12 56 29.6	+2.3
ASAR	Alice Springs	38.10	286	P		P	13 02 30.4	-0.1
	0.2nm,0.6s,baz=123,slow=7.3,SNR=1.4 0.2nm,0.6s							
WRA	Warramunga Arr	40.18	290	P		P	13 02 47.2	-0.6
	0.3nm,0.6s,baz=126,slow=8.3,SNR=6.3 0.3nm,0.6s							
TORD	Torodi Ar. Bea	150.71	195	PKPbc		PKPab	13 15 08.9	-1.9
	0.2nm,0.4s,baz=175,slow=3.5,SNR=1.8							

*NEIC **14** 13:01:58.5±0.6,21°.20S±0°.04×68°.95W±0°.10,h110km±8km, Error ellipse: s-maj=13.3km s-min=6.1km az=88.0*
*GUC **14** 13:01:59.3±0.6,21°.20S×68°.89W,h104km±3km,ML3.8*

ISC 14 13:01:58.3±0.9,21°.20S±0°.03×68°.95W±0°.07,h113km±8km, n44,σ0°48/63,12C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PB01	IPOC Station P	0.53	287		Pn	13 02 15.2		-0.6
PB01	IPOC Station P	0.53	287	⇑*i*P	Pn	13 02 15.4		-0.4
PB01				*i* S	Sn	13 02 28.0		-0.9
PB01				IAML		13 02 29.8		
	comp=N,3μm,0.3s							
PB09	IPOC Station P	0.65	205		Pn	13 02 16.5		-0.3
PB09	IPOC Station P	0.65	205	⇑*i*P	Pn	13 02 16.7		-0.1
PB09				*i* S	Sn	13 02 30.7		-0.1
PB09				IAML		13 02 32.4		
	comp=N,2μm,0.2s							
PB02	IPOC Station P	0.89	262		Pn	13 02 18.7		-0.1
PB02				Sn	Sn	13 02 33.9		-0.4
PB02	IPOC Station P	0.89	262	⇑*i*P	Pn	13 02 19.0		+0.1
PB02				*i* S	Sn	13 02 34.3		0.0
PB02				IAML		13 02 36.6		
	comp=E,3μm,0.3s							
PB07	IPOC Station P	1.02	239		Pn	13 02 20.0		-0.2
PB07				Sn	Sn	13 02 36.4		-0.2
PB07	IPOC Station P	1.02	239	⇑*i*P	Pn	13 02 20.2		+0.1
PB07				*i* S	Sn	13 02 36.4		-0.2
PB07				IAML		13 02 39.4		
	comp=N,2μm,0.2s							
PB08	IPOC Station P	1.07	350		Pn	13 02 21.0		+0.1
PB08	IPOC Station P	1.07	350	⇓*i*P	Pn	13 02 21.4		+0.4
PB08				*i* S	Sn	13 02 37.9		-0.1
PB08				IAML		13 02 39.1		
	comp=N,4μm,0.3s							
PB03	IPOC Station P	1.13	222		Pn	13 02 21.2		-0.1
PB03	IPOC Station P	1.13	222	⇑*i*P	Pn	13 02 21.3		+0.1
PB03				*i* S	Sn	13 02 38.2		-0.5
PB03				IAML		13 02 39.6		
	comp=E,2μm,0.3s							
PATCX	Punta Patache	1.19	288		Pn	13 02 22.1		+0.3
PATCX	Punta Patache	1.19	288	⇑*i*P	Pn	13 02 22.3		+0.5
PATCX				*i* S	Sn	13 02 40.3		+0.7
PATCX				IAML		13 02 42.0		
	comp=E,2μm,0.2s							
HMBC	Humberstone	1.27	316	⇑*i*P	Pn	13 02 22.8		-0.1
HMBC				*e*S	Sn	13 02 41.1		-0.3
HMBC				IAML		13 02 42.8		
	comp=N,4μm,0.2s							
TA01	Diego Aracena	1.32	299	Pn	Pn	13 02 23.1		-0.1
TA01	Diego Aracena	1.32	299	⇑*i*P	Pn	13 02 23.3		+0.2
TA01				*i* S	Sn	13 02 42.0		0.0
TA01				IAML		13 02 43.8		
	comp=N,2μm,0.3s							
LVC	Limon Verde	1.40	179		Pn	13 02 24.7		+0.1
LVC	Limon Verde	1.40	179	⇓*i*P	Pn	13 02 25.0		+0.4
LVC				*i* S	Sn	13 02 45.2		+0.7
TA02	Huaiquique	1.45	310		Pn	13 02 24.4		-0.2
TA02	Huaiquique	1.45	310	*e*P	Pn	13 02 24.6		0.0
TA02				*i* S	Sn	13 02 44.3		-0.3
TA02				IAML		13 02 48.5		
	comp=N,2μm,0.1s							
GO01	Chusmiza	1.54	351		Pn	13 02 26.4		0.0
GO01	Chusmiza	1.54	351	⇓*i*P	Pn	13 02 26.5		+0.2
GO01				*i* S	Sn	13 02 47.9		+0.4
GO01				IAML		13 02 49.5		
	comp=N,3μm,0.1s							
PB11	IPOC Station P	1.58	335		Pn	13 02 26.5		+0.1
PB11	IPOC Station P	1.58	335	⇑*i*P	Pn	13 02 26.6		+0.1
PB11				*i* S	Sn	13 02 47.7		-0.1
PB11				IAML		13 02 49.2		
	comp=E,3μm,0.4s							
PB04	IPOC Station P	1.59	225		Pn	13 02 26.5		0.0
PB04	IPOC Station P	1.59	225	⇑*i*P	Pn	13 02 27.0		+0.5
PB04				*i* S	Sn	13 02 48.0		+0.1
PB04				IAML		13 02 51.1		
	comp=N,1μm,0.3s							
PB06	IPOC Station P	1.60	201		Pn	13 02 26.9		+0.1
PB06	IPOC Station P	1.60	201	⇓*i*P	Pn	13 02 27.1		+0.3
PB06				*i* S	Sn	13 02 48.7		+0.3
PB06				IAML		13 02 50.0		
	comp=E,1μm,0.6s							
PSGCX	Pisagua	1.94	325		Pn	13 02 30.3		-0.5
PSGC	Pisagua	1.94	325	⇑*i*P	Pn	13 02 30.3		-0.5
PSGC				*i* S	Sn	13 02 54.8		-0.8
PSGC				IAML		13 02 58.2		
	comp=N,695nm,0.3s							
PB15	IPOC Station P	2.06	194		Pn	13 02 31.7		-0.6
MNMC	Minye Minye	2.15	343		Pn	13 02 32.9		-0.8
MNMC	Minye Minye	2.15	343	⇑*i*P	Pn	13 02 34.1		+0.5
MNMC				*i* S	Sn	13 03 01.4		+0.8
MNMC				IAML		13 03 05.4		
	comp=N,1μm,0.3s							
PB10	IPOC Station P	2.74	213		Pn	13 02 41.0		0.0
PB12	IPOC Station P	2.88	333	Pn	Pn	13 02 42.1		-0.9
PB14	IPOC Station P	3.66	201	Pn	Pn	13 02 53.5		0.0
GO02	Mina Guanaco	3.99	188	Pn	Pn	13 02 56.9		-1.0
AC02	Maricunga	5.61	182	Pn	Pn	13 03 18.5		-1.4
AC06	Mina Casimiro	6.26	192	Pn	Pn	13 03 27.8		-0.5
ITAB	Concordia	16.47	115	P	Pn	13 05 43.2		+0.5
ITAB				IAmb	IAmb	13 06 10.1		
	comp=Z,19nm,1.4s							
BDFB	Brasilia	20.61	78	P	P	13 06 27.8		-1.0
BOAV	Boa Vista	24.86	20	P	P	13 07 10.7		+0.2
BOAV				IAmb	IAmb	13 07 39.1		
	comp=Z,8.4nm,1.4s							
GO09	Cerro Castillo	30.13	184	P	P	13 07 58.1		+0.8

WEL 14 13:11:41.3±0.6,43°.S±3°×17°.3E±°,h13km±3km,M3.0/7, ML3.2/6,MLv3.0/7,Error ellipse: s-maj=0.0km s-min=0.0km az=123.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GVZ	Greta Valley S	0.36	154	P	Pg	13 11 49.0		+0.4
GVZ				S	Sb	13 11 55.4		+0.2
LTZ	Lake Taylor	0.42	251	P	Pb	13 11 50.8		+0.1
LTZ				S	Sb	13 11 57.1		0.0
AMCZ	Amberley	0.55	193	P	Pb	13 11 53.5		+0.7
AMCZ				S	Sb	13 12 01.3		+0.7
OXZ	Oxford	0.89	220	P	Pb	13 11 58.9		+0.3
OXZ				S	Sn	13 12 11.6		-0.8
MQZ	McQueen's Vall	1.07	186	P	Pb	13 12 01.0		-0.6
MQZ				S	Sb	13 12 15.0		-0.6
OKCZ	Okains Bay	1.09	171	P	Pb	13 12 02.1		-0.1
OKCZ				S	Sn	13 12 17.1		-0.4
RACZ	Rakaia	1.19	204	P	Pn	13 12 02.9		-0.8
RACZ				S	Sg	13 12 19.7		0.0
AKCZ	Akaroa Harbour	1.23	177	P	Pn	13 12 03.5		-0.8
AKCZ				S	Sb	13 12 19.2		-1.1
WACZ	Wakanui South	1.48	208	P	Pn	13 12 07.0		-0.7
ARCZ	Arundel	1.77	222	P	Pn	13 12 11.1		-0.5
ODZ	Otahua Downs	2.87	212	P	Pn	13 12 25.8		-1.0
WAZ	Wanganui	3.32	30	P	Pn	13 12 31.8		-1.2
MOVZ	Moawhango	3.92	35	P	Pn	13 12 40.7		-0.6
WNVZ	Wahianoa	3.92	33	P	Pn	13 12 40.4		-1.0

*IDC **14** 13:11:50.5±2.8,41°.24S×173°.53E,h0km,mb3.1/2, mbtmp3.2/3,ML3.6/1,Error ellipse: s-maj=58.1km s-min=36.8km az=95.0*
*WEL **14** 13:11:54.4±0.4,42°.S±2°×17°.4E±°,h11km±3km,M3.6/16, ML3.9/16,MLv3.6/16,Error ellipse: s-maj=0.0km s-min=0.0km az=131.1*

ISC 14 13:11:54.1±0.9,41°.75S±0°.04×174°.29E±0°.03,h16km±5km, n45,σ0°95/57,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CMWZ	Cape Campbell	0.06	273	P	Pg	13 11 56.9		-0.3
CMWZ				S	Sg	13 11 59.7		+0.5
BSWZ	Blackbirch Sta	0.32	277	P	Pb	13 12 01.2		-0.2
BSWZ				S	Sb	13 12 06.7		+0.4
TUWZ	Tuamarina	0.42	321	P	Pb	13 12 02.8		-0.3
TUWZ				S	Sb	13 12 09.4		+0.2
TCW	Tory Channel	0.54	359	P	Pb	13 12 04.8		-0.5
TCW				S	Sb	13 12 12.9		+0.1
BHW	Baring Head	0.55	52	P	Pg	13 12 05.1		0.0
WEL	Wellington	0.59	37	P	Pg	13 12 05.8		0.0
WEL				S	Sb	13 12 14.5		+0.4
PLWZ	Palliser	0.74	76	P	Pb	13 12 09.4		+0.6
PLWZ				S	Sn	13 12 21.4		+0.4
MSWZ	Moikau Station	0.79	65	P	Pg	13 12 09.9		+0.3
MSWZ				S	Sb	13 12 22.1		+2.0
CAW	Cannon Point	0.87	42	P	Pb	13 12 11.1		+0.2
CAW				S	Sn	13 12 24.7		+0.6
KHZ	Kahutara	0.87	220	P	Pg	13 12 11.8		+0.8
KHZ				S	Sn	13 12 25.7		+1.7
PAWZ	Paruwai Farm	0.93	67	P	Pg	13 12 11.9		-0.2
PAWZ				S	Sn	13 12 26.0		+0.4
DUWZ	D'Urville Isla	0.99	343	P	Pb	13 12 12.8		-0.1
DUWZ				S	Sn	13 12 26.3		-0.8
KIW	Kapiti Island	1.00	28	P	Pg	13 12 13.0		-0.6
KIW				S	Sb	13 12 26.8		+0.7
MTW	Mount Morrison	1.08	57	P	Pb	13 12 14.2		-0.4
TRWZ	Traveller	1.10	72	P	Pb	13 12 13.9		-1.0
OGWZ	Otaki Gorge	1.15	36	P	Pb	13 12 15.5		-0.2
HOWZ	Holdsworth Sta	1.26	48	P	Pn	13 12 16.5		-0.5
HOWZ				S	Sg	13 12 34.3		-0.5
TMWZ	Te Maipa	1.36	62	P	Pn	13 12 17.8		-0.7
MRZ	Mangatainoka R	1.46	42	P	Pn	13 12 19.7		-0.1
TIWZ	Tintock	1.55	51	P	Pn	13 12 20.6		-0.5
CPWZ	Castlepoint	1.67	60	P	Pn	13 12 22.2		-0.4
OHWZ	Ohakea	1.73	27	P	Pb	13 12 25.5		+0.1
PRWZ	Pori Road	1.74	47	P	Pn	13 12 23.3		-0.5
POWZ	Post Office Ro	1.76	40	P	Pn	13 12 24.1		+0.2
LTZ	Lake Taylor	1.82	235	P	Pn	13 12 25.2		+0.3
BFZ	Birch Farm	1.82	55	P	Pn	13 12 23.9		-0.9
DVHZ	Dannevirke	2.03	45	P	Pn	13 12 26.6		-1.1
ANWZ	Angora Road	2.09	53	P	Pn	13 12 27.5		-1.0
TSZ	Takapari Road	2.11	37	P	Pn	13 12 28.7		-0.1
PRHZ	Porangahau	2.31	51	P	Pn	13 12 30.4		-1.2
PNHZ	Pukenui	2.34	39	P	Pn	13 12 31.2		-0.8
WPHZ	Waipukurau	2.34	45	P	Pn	13 12 31.5		-0.8
NMEZ	Namu Road	2.36	352	P	Pn	13 12 31.5		-0.7
OTVZ	Oturere	2.79	22	P	Pn	13 12 39.8		+1.5
NNVZ	North Ngauruho	2.81	22	P	Pn	13 12 41.0		+2.5
ETVZ	East Tongariro	2.83	23	P	Pn	13 12 40.2		+1.5
TMVZ	Te Maari	2.85	23	P	Pn	13 12 40.3		+1.3
NTVZ	North Tongarir	2.85	22	P	Pn	13 12 40.6		+1.5
RPZ	Rata Peaks	3.09	230	Pn	Pn	13 12 41.0		-1.3
	7.4nm,0.3s,baz=258,slow=2.7,SNR=7.0							
RPZ				Sn	Sn	13 13 17.2		-1.7
	7.0nm,0.3s,baz=337,slow=21,SNR=6.3 17nm,0.3s							
HIZ	Hauiti	3.26	8	P	Pn	13 12 47.1		+2.5
OMRZ	Omania	3.98	24	P	Pn	13 12 53.8		-0.7
HAZ	Te Kaha	4.81	35	P	Pn	13 13 04.6		-1.3
ASAR	Alice Springs	38.06	285	P	P	13 19 06.1		-5.9
	0.2nm,0.8s,baz=125,slow=6.9,SNR=2.0 0.2nm,0.8s							
WRA	Warramunga Arr	40.13	290	P	P	13 19 21.0		-8.4
	0.2nm,0.8s,baz=125,slow=8.8,SNR=1.1 0.2nm,0.8s							
TORD	Torodi Ar. Bea	150.78	195	PKPbc	PKPbc	13 31 45.6		-0.4
	0.3nm,0.4s,baz=159,slow=2.0,SNR=2.4							

IDC 14 13:14:44.7±1.7,12°.30N×144°.33E,h0km,mb3.4/3, mbtmp3.4/3,MS3.4/2,Error ellipse: s-maj=170.2km s-min=17.4km az=111.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GUMO	Guam	1.39	22	Pn	Pb	13 15 11.6		+0.1
	69nm,0.3s,baz=235,slow=3.9,SNR=98							
GUMO				Sn	Sb	13 15 29.8		+0.1
	58nm,0.3s,baz=138,slow=21,SNR=7.2							
BATI	Baumata	30.36	223	LR	LR	13 34 31.7		
	comp=Z,38nm,19.1s,baz=284,slow=39							
WRA	Warramunga Arr	33.52	197	P	P	13 21 25.9		-0.3
	0.4nm,0.5s,baz=21,slow=9.8,SNR=12 0.4nm,0.5s							
ASAR	Alice Springs	37.17	196	P	P	13 21 57.6		0.0
	0.2nm,0.9s,baz=12,slow=9.5,SNR=5.1							
BRDH	Bariadhala	51.08	289	LR	LR	13 46 49.6		
	comp=Z,67nm,18.5s,baz=270,slow=38							
NVAR	Mina Array Bea	88.13	51	P	P	13 27 38.3		+0.3
	0.3nm,0.5s,baz=267,slow=4.9,SNR=3.7 0.3nm,0.5s							

*BJI **14** 13:14:54.9±0.0,37°.33N×71°.58E,h98km,mb5.0/49, mB4.6/21*
*MOS **14** 13:14:55.1±1.0,37°.21N×71°.60E,h107km,mb4.5/27,Error ellipse: s-maj=5.6km s-min=3.3km az=85.0*
*NNC **14** 13:14:55.9±4.5,37°.33N×71°.28E,h93km±99km,mb4.7, mpv5.0,Error ellipse: s-maj=47.6km s-min=23.8km az=157.0*
*NEIC **14** 13:14:56.1±1.4,37°.18N±0°.06×71°.54E±0°.07,h98km±5km, mb4.7/103,Error ellipse: s-maj=8.9km s-min=8.0km az=62.0*
*IDC **14** 13:14:56.7±0.7,37°.09N×71°.62E,h110km±5km,mb4.1/31, mbtmp4.5/35,MS3.3/16,Error ellipse: s-maj=12.0km s-min=8.2km az=13.0*
*SOME **14** 13:15:01.7,38°.93N×72°.45E,h0km,MS3.7*

ISC 14 13:14:54.6±0.4,37°.09N±0°.03×71°.59E±0°.03,h92km±4km, h93km:pP-P,n371,σ1°91/422,mb4.7/109,18C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GAR	Garm	2.16	333		Pn	13 15 29.6		+0.5
CHGR	Chuyangaron	2.48	310		Pn	13 15 32.8		-0.5
CHGR	Chuyangaron	2.48	310	PN	Pn	13 15 32.8		-0.5
BTK	Batken	3.03	349		Pn	13 15 42.3		+1.7
BTK	Batken	3.03	349	PN	Pn	13 15 42.3		+1.7
CEP	Cherat	3.27	175	P	Pn	13 15 47.8		+3.9
CEP				S	Sn	13 16 28.0		+6.1
KBL	Kabul	3.28	220	Pn	Pn	13 15 47.2		+3.1
KBL	Kabul	3.28	220	PN	Pn	13 15 47.2		+3.1
OHH	Osh	3.56	15	PN	Pn	13 15 49.8		+2.0
CHCP	Chirah Chowk	3.68	158	P	Pn	13 15 53.5		+4.0
NIL	Nilore	3.69	158	Pn	Pn	13 15 53.9		+4.4
NIL	Nilore	3.69	158	PN	Pn	13 15 53.9		+4.4
KSH	Kashi	4.22	54	P	Pn	13 15 54.5		-2.2
KSH				S	Sn	13 16 38.3		-6.6
KSH				smax	smax			
	comp=N,4μm,0.5s							
KSH				smax	smax			
	comp=E,2μm,0.5s							
THW	Thamme Wali	4.28	178	P	Pn	13 15 59.4		+1.8
TRKS	Terek-Say	4.45	356	PN	Pn	13 15 59.8		-0.1
TAS	Tashkent	4.59	338	Pn	Pn	13 16 02.2		+0.5
TAS	Tashkent	4.59	338	PN	Pn	13 16 02.2		+0.5
JMU	Jammu	5.14	147	*e*P	Pn	13 16 10.0		+0.9
IUG	Iuzhnay	5.20	347	*e*P	Pn	13 16 10.6		+0.6
	4μm,0.3s							
IUG				*e*S	Sn	13 17 06.5		-2.2
	1μm,0.3s							
IUG	Iuzhnay	5.20	347	*e*P	Pn	13 16 10.5		+0.6
	baz=346							
IUG				*e*S	Sn	13 17 07.3		-1.4
	baz=346							
IUG	Iuzhnay	5.20	347	*e*PN	Pn	13 16 10.4		+0.4
IUG				*e*S	Sn	13 17 07.2		-1.4
SARP	Sargodha	5.23	170	P	Pn	13 16 10.8		+0.4
AML	Almayashu	5.29	17	P	Pn	13 16 12.6		+1.0
	SNR=542							
CHM	Chimkent	5.45	344	*e*P	Pn	13 16 14.4		+1.1
	245nm,0.1s							
CHM				*e*S	Sn	13 17 12.7		-1.9
	1μm,0.2s							
CHM	Chimkent	5.45	344	*e*P	Pn	13 16 13.2		-0.1
	baz=343							
CHM				*e*S	Sn	13 17 13.5		-1.2
	baz=343							
CHM	Chimkent	5.45	344	*e*PN	Pn	13 16 13.2		-0.1
CHM				*e*S	Sn	13 17 13.4		-1.2
NRN	Naryn	5.53	37	Pn	Pn	13 16 15.6		+0.9
NRN	Naryn	5.53	37	PN	Pn	13 16 15.6		+0.9
UCH	Uchtor	5.61	23	P	Pn	13 16 17.1		+1.2
	SNR=90							
THN	Thein Dam	5.75	143	*e*P	Pn	13 16 19.2		+1.8
THN				*e*S	Sn	13 17 22.0		0.0
DZA	Taraz	5.80	358	*e*P	Pn	13 16 19.4		+1.2
	1μm,0.3s							
DZA				*e*S	Sn	13 17 21.8		-1.5
	3μm,0.3s							
DZA	Taraz	5.80	358	*e*P	Pn	13 16 19.2		+1.0
	baz=358							
DZA				*e*S	Sn	13 17 21.4		-1.9
	baz=358							
DZA	Taraz	5.

SMLA eS Sn 13 18 00.6 -4.8
KUU Kurty 7.70 27 eP Pn 13 16 50.7 +6.7
comp=Z,8,4nm,0.2s
KUU eS Sn **13 18 17.8 +8.3**
comp=Z,29nm,0.4s
KUU Kurty 7.70 27 eP **Pn 13 16 43.8 -0.2**
comp=Z,16nm,0.7s,baz=28
KUU Kurty 7.70 27 ePN **Pn 13 16 43.8 -0.2**
KUU pmax pmax
comp=Z,16nm,0.7s
SATY Saty 7.93 39 eP **Pn 13 16 47.3 +0.1**
comp=Z,7.2nm,0.7s,baz=40
SATY Saty 7.93 39 ePN **Pn 13 16 47.3 +0.1**
SATY pmax pmax
comp=Z,7.0nm,0.7s
ZHN Zhinishke 8.02 39 eP **Pn 13 16 47.8 -0.7**
baz=40
ZHN Zhinishke 8.02 39 ePN **Pn 13 16 47.8 -0.7**
HRA Herat 8.06 253 Pn **Pn 13 16 49.8 +0.6**
BTLS Baital 8.16 12 eP **Pn 13 16 50.0 -0.3**
comp=Z,6.2nm,0.3s,baz=13
BTLS eS Sn **13 18 16.8 -3.9**
baz=13
BTLS Baital 8.16 12 ePN **Pn 13 16 49.9 -0.3**
BTLS pmax pmax
comp=Z,6.0nm,0.3s
UZB Uzynbulak 8.31 41 eP **Pn 13 16 52.6 +0.2**
comp=Z,8.7nm,0.8s,baz=42
UZB Uzynbulak 8.31 41 ePN **Pn 13 16 52.5 +0.2**
UZB pmax pmax
comp=Z,9.0nm,0.8s
KPKS Kokpek 8.37 38 eP **Pn 13 16 53.2 0.0**
comp=Z,19nm,0.8s,baz=40
KPKS Kokpek 8.37 38 ePN **Pn 13 16 53.1 0.0**
KPKS pmax pmax
comp=Z,19nm,0.8s
SHLS Shalkode 8.55 42 eP **Pn 13 16 58.2 +2.6**
comp=Z,15nm,0.8s,baz=45
SHLS Shalkode 8.55 42 ePN **Pn 13 16 58.2 +2.6**
SHLS pmax pmax
comp=Z,15nm,0.8s
ARXS Arharly 8.55 32 ePN **Pn 13 16 55.4 -0.2**
DDI Dehra Dun 8.63 140 eP **Pn 13 16 57.7 +0.9**
DDI eS **Sn 13 18 24.8 -7.6**
PDGK Podgornoye 8.68 42 ⇑P **Pn 13 16 57.7 +0.3**
comp=Z,49nm,0.8s
PDGK Podgornoye 8.68 42 PN **Pn 13 16 57.7 +0.3**
TDK Taldyqorghan 9.43 31 eP **Pn 13 17 06.3 -1.3**
baz=32
TDK Taldyqorghan 9.43 31 eP **Pn 13 17 06.2 -1.3**
BHGR Bahadurgarh 9.50 150 eS **Sn 13 18 48.1 -5.5**
NDI New Delhi 9.62 149 eP **Pn 13 17 12.0 +1.8**
NDI eS **Sn 13 18 52.0 -4.5**
KHET Khetri 9.66 157 eP **Pn 13 17 09.4 -1.4**
KHET eS **Sn 13 18 50.4 -7.1**
SONA Sohna 9.95 151 eP **Pn 13 17 14.3 -0.4**
SONA eS **Sn 13 18 58.4 -6.0**
PTH Pithoragarh 10.41 134 eP **Pn 13 17 20.2 -1.0**
PTH eS **Sn 13 19 08.1 -8.0**
LGTI Lohaghat 10.51 134 eP **Pn 13 17 20.2 -2.1**
LGTI eP Pn 13 17 27.1 +4.9
LGTI eS Sn 13 19 07.7 -10
GEYT Alibeck 10.74 279 P **Pn 13 17 21.6 -3.7**
comp=Z,21nm,0.3s,baz=102,slow=9.9,SNR=91
GEYT S **Sn 13 19 16.1 -7.5**
comp=Z,62nm,0.4s,baz=93,slow=22,SNR=6.6
GEYT LR LR 13 22 53.0
comp=Z,149nm,20.1s,baz=94,slow=44
GEYT Alibeck 10.74 279 Pn **Pn 13 17 21.4 -4.0**
GYA0 ALIBECK ARRAY 10.74 279 P **Pn 13 17 21.7 -3.7**
GYA0B ALIBECK ARRAY 10.74 279 Pn **Pn 13 17 21.5 -3.8**
GYA0B ALIBECK ARRAY 10.74 279 ⇑P **Pn 13 17 21.7 -3.7**
GYA0B ⇑S **Sn 13 19 14.8 -8.8**
AJM Ajmer 10.89 165 eP **Pn 13 17 27.6 +0.1**
AJM eS **Sn 13 19 21.9 -5.6**
OTUK Ortayu 11.17 3 ⇓P **Pn 13 17 28.3 -2.9**
OTUK Ortayu 11.17 3 P **Pn 13 17 28.5 -2.6**
MAKZ Makanchi 12.40 35 Pn **Pn 13 17 46.8 -0.9**
MAKZ Makanchi 12.40 35 P **Pn 13 17 46.8 -0.9**
MK31 Makanchi Array 12.54 36 Pn **Pn 13 17 48.8 -0.8**
MK31 Makanchi Array 12.54 36 P **Pn 13 17 49.3 -0.3**
comp=Z,10nm,0.6s,baz=237,slow=7.5,SNR=106
MK31 Makanchi Array 12.54 36*d* iP **Pn 13 17 49.4 -0.2**
MKAR Makanchi Array 12.54 36 P **Pn 13 17 49.2 -0.4**
comp=Z,14nm,0.6s,baz=227,slow=15,SNR=80
BRZS Berezniki 12.91 3 eP **Pn 13 17 52.1 -2.4**
comp=Z,5.1nm,0.4s,baz=3.2
BRZS Berezniki 12.91 3 eP **Pn 13 17 52.1 -2.4**
BRZS pmax pmax
comp=Z,5.0nm,0.4s
JHNI Jhansi 13.01 151 eP **Pn 13 17 54.2 -1.8**
JHNI eS Sn 13 20 07.7 -11
BHUJ Bhuj 13.89 187 eP **Pn 13 18 06.5 -0.9**
BHUJ IAmb IAmb 13 18 10.4
comp=Z,81nm,0.8s
BHUJ eS Sn 13 20 30.4 -10
WMQ Urumqi 13.98 56 eP **Pn 13 18 08.5 0.0**
WMQ pmax pmax
comp=Z,37nm,0.7s
VLK Valmikinagar 14.23 130 eP **Pn 13 18 08.8 -3.0**
ZSN Zaisan 14.26 39 eP **Pn 13 18 11.2 -0.9**
baz=40
ZSN Zaisan 14.26 39 eP **Pn 13 18 11.1 -0.9**
KURBB Kurchatov Arra 14.42 18 P **Pn 13 18 10.9 -3.1**
comp=Z,4.2nm,0.8s,baz=209,slow=12,SNR=21
KURK Kurchatov 14.53 18 Pn **Pn 13 18 12.9 -2.5**
KURK Kurchatov 14.53 18*ce* P **Pn 13 18 13.9 -1.5**
KURK pmax pmax
comp=Z,8.0nm,1.3s
ALBI Allahabad 14.63 141 eP **Pn 13 18 13.8 -3.1**
BHPL Bhopal 14.69 158 eP **Pn 13 18 14.3 -3.5**
BHPL IAmb IAmb 13 18 23.2
comp=Z,82nm,0.5s
BHPL eS Sn 13 20 49.0 -11
AB31 Akbulak array 14.81 329 P **Pn 13 18 16.1 -3.1**
comp=Z,17nm,0.3s,baz=137,slow=12,SNR=192
AB31 Akbulak array 14.81 329 P **Pn 13 18 16.0 -3.1**
ABKAR Akbulak array 14.81 329 Pn **Pn 13 18 15.7 -3.5**
BVAR Borovoye Array 15.96 357 P **Pn 13 18 31.4 -2.2**
comp=Z,15nm,0.4s,baz=160,slow=12,SNR=55
BRVK Borovoye 16.00 357 Pn **Pn 13 18 31.5 -2.5**
BRVK IAmb IAmb 13 18 37.6
comp=Z,109nm,1.4s
BRVK Borovoye 16.00 357 ⇓P **Pn 13 18 31.5 -2.5**
comp=Z,30nm,0.8s
BRVK Borovoye 16.00 357*ce* P **Pn 13 18 32.2 -1.8**
BRVK pmax pmax
comp=Z,51nm,1.3s
AKTO Aktyubinsk 16.52 328 ⇑P **P 13 18 42.2 +0.7**
comp=Z,69nm,0.5s
AKTO Aktyubinsk 16.52 328 P **Pn 13 18 38.4 -2.1**
AKL Akola 17.00 162 eP **Pn 13 18 46.6 0.0**
AKL eS Sn 13 21 43.0 -12
DGZ Jazzator, Alta 17.03 37 *i* P **Pn 13 18 45.9 -1.1**
DGZ pmax pmax
comp=Z,9.0nm,0.9s
BANOM Banah 17.12 234 P **P 13 18 49.4 +1.0**
SHME Shamm 17.13 234 P **P 13 18 51.7 +3.2**
WSAR Wadi Sarin 17.75 223 P **Pn 13 18 56.7 +1.0**
comp=Z,5.3nm,0.6s,baz=139,slow=3.0,SNR=6.9
WSAR LR LR 13 26 53.7
comp=Z,52nm,18.7s,baz=31,slow=40
UOSS Minazif 17.87 232 P **P 13 18 56.9 +0.3**
UOSS Minazif 17.87 232 P **Pn 13 18 57.9 +0.7**
LSA Lhasa 17.90 109 P **Pn 13 18 58.1 +0.1**
LSA IAmb IAmb 13 19 06.6
comp=Z,20nm,0.7s
LSA Lhasa 17.90 109 P **Pn 13 18 58.1 +0.1**
LSA pmax pmax
comp=Z,20nm,0.7s
HATD Hatta, Dubai 18.00 232 P **Pn 13 19 01.3 +2.5**
BOK Bokaro 18.07 133 IAmb IAmb 13 19 01.5
comp=Z,32nm,0.9s
BOK eS S 13 22 06.1 -15
ASHO Ashiyiah 18.15 231 P **Pn 13 19 01.8 +1.2**
ASUD Al Ashush, Dub 18.65 233 P **Pn 13 19 07.7 +1.2**
GOMU GeErMu 18.66 86 P **Pn 13 19 08.4 +1.5**
GOMU pmax pmax
comp=Z,20nm,0.6s
GOMU pmax pmax
comp=Z,69nm,4.1s
AKT Akhty 18.96 291 eP **P 13 19 09.2 +0.6**
AKT eS **Sn 13 22 40.9 -1.7**
AKT pmax pmax

comp=Z,19nm,0.3s
ZAA0 Zalesovo Array 19.19 24 P **P 13 19 10.6 -0.2**
ZAA0 IAmb IAmb 13 19 12.2
comp=Z,22nm,0.7s
ZALV Zalesovo Beam 19.19 24 P **P 13 19 10.8 0.0**
comp=Z,16nm,0.3s,baz=221,slow=11,SNR=117
ZALV Zalesovo Beam 19.19 24 P **P 13 19 10.1 -0.7**
ZALV Zalesovo Beam 19.19 24 *i* P **P 13 19 10.8 0.0**
ZALV pmax pmax
comp=Z,24nm,0.5s
MAK Makhachkala 19.32 295 eP **P 13 19 11.8 -0.6**
MAK eS **S 13 22 45.3 -0.8**
MAK pmax pmax
comp=Z,59nm,0.5s
MAK MLR MLR
comp=Z,93nm,15.0s
GROC Groznyy 20.60 295 eP Pn 13 19 27.7 -1.5
GROC eS **S 13 23 12.4 +1.2**
GROC *e* 13 23 33.7
GROC pmax pmax
comp=Z,308nm,1.1s
SHL Shillong 20.75 118 P **P 13 19 29.7 +1.6**
SHL IAmb IAmb 13 19 31.2
comp=Z,68nm,1.0s
SHL Shillong 20.75 118 eS **S 13 23 04.9 -10**
SHL Shillong 20.75 118 P **P 13 19 29.7 +1.6**
SHL pmax pmax
comp=Z,68nm,1.0s
SVE Sverdlovsk 21.07 343 eP **P 13 19 31.0 0.0**
SVE pmax pmax
comp=Z,40nm,1.0s
GNI Garni 21.17 287 P **P 13 19 33.3 +0.8**
comp=Z,29nm,0.8s,baz=197,slow=8.5,SNR=8.2
comp=Z,29nm,0.8s
GNI Garni 21.17 287 P **P 13 19 35.1 +2.6**
GNI Garni 21.17 287*ce* P **P 13 19 33.7 +1.2**
GNI pmax pmax
comp=Z,78nm,1.7s
ARU Arti 21.24 340 P **P 13 19 33.1 +0.2**
comp=Z,18nm,0.3s,baz=146,slow=5.6,SNR=13
ARU LR LR 13 29 24.8
comp=Z,43nm,21.0s,baz=122,slow=41
comp=Z,18nm,0.3s
ARU Arti 21.24 340 P **P 13 19 32.3 -0.6**
ARU IAmb IAmb 13 19 40.4
comp=Z,30nm,0.5s
ARU Arti 21.24 340*d* *i* P **P 13 19 31.3 -1.6**
ARU 13 19 53.8
ARU S **S 13 23 21.7 -1.9**
ARU SS **SnSn 13 23 56.7 +2.9**
ARU pmax pmax
comp=Z,35nm,1.2s
ZEI Tsey 21.93 294 eP **P 13 19 39.2 -1.4**
ZEI pmax pmax
comp=Z,21nm,1.6s
AKH Akhalkalaki 22.14 290 P **P 13 19 45.2 +2.4**
ONI Oni 22.24 293 P **P 13 19 45.5 +1.7**
ONI IAmb IAmb 13 20 13.4
comp=Z,20nm,0.8s
ONI Oni 22.24 293 P **P 13 19 45.5 +1.7**
ONI pmax pmax
comp=Z,20nm,0.8s
GTA Gaotai 22.25 75 ⇓P **P 13 19 44.8 +0.8**
GTA pmax pmax
comp=Z,64nm,0.9s
GTA pmax pmax
comp=Z,120nm,4.0s
GTA LR LR
comp=Z,78nm,13.1s
GTA LR LR
comp=Z,77nm,15.3s
GTA LR LR
comp=Z,71nm,13.1s
BRDH Bariadhala 22.49 124 LR LR 13 31 12.0
comp=Z,42nm,20.7s,baz=222,slow=43
BELG Belogornoye 22.74 320 P **P 13 19 48.4 -0.3**
comp=Z,130nm,1.1s,baz=254,slow=1.1,SNR=14
comp=Z,130nm,1.1s
BELG Belogornoye 22.74 320 *i* P **P 13 19 48.5 -0.3**
BELG pmax pmax
comp=Z,15nm,1.0s
KBZ Khabaz 22.76 296 P **P 13 19 49.4 +0.4**
comp=Z,6.2nm,0.8s,baz=167,slow=6.2,SNR=13
comp=Z,6.2nm,0.8s
SHA1 Shidzhatmaz 22.94 296 *i* P **P 13 19 50.6 -0.5**
KIV Kislovodsk 22.94 296 eP **P 13 19 51.5 +0.5**
KIV eS **S 13 23 55.1 +1.2**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,29nm,14.0s
VRH Novokhopyorsk 25.45 313 eP **P 13 20 13.0 -0.6**
VRH pmax pmax
comp=Z,40nm,1.5s
LZH Lanzhou 25.86 82 ⇑P **P 13 20 19.9 +2.2**
LZH pP pP 13 20 41.8 +2.1
LZH sP sP 13 20 49.6 -1.5
LZH pmax pmax
comp=Z,38nm,1.4s
TNCH TengChong 25.92 110 P P 13 20 25.6 +7.2
TNCH pP pP 13 20 43.3 +2.8
TNCH sP sP 13 20 56.9 +5.0
TNCH sS sS 13 25 18.9 -1.4
TNCH pmax pmax
comp=Z,71nm,3.9s
KIRV Kirov 25.93 333 P **P 13 20 18.4 +0.6**
comp=Z,13nm,0.5s,baz=145,slow=2.7,SNR=4.4
comp=Z,13nm,0.5s
KIRV Kirov 25.93 333*ce* P **P 13 20 16.7 -1.1**
RAYN Ar Rayn 26.16 246 P **P 13 20 21.7 +1.2**
RAYN Ar Rayn 26.16 246 P **P 13 20 21.0 +0.5**
RAYN pmax pmax
comp=Z,12nm,0.9s
ZAK Zakamensk 26.25 50 eP **P 13 20 21.8 +0.7**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
VSR Storozhevoye 26.96 312 eP **P 13 20 26.1 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 27.08 313 eP **P 13 20 29.1 +0.7**
LPSR Galich'ya Gora 27.57 315 eP **P 13 20 31.6 -1.1**
LPSR *e**PP **pP 13 20 52.5 -2.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 27.61 56 P **P 13 20 33.7 +0.3**
comp=Z,4.7nm,0.6s,baz=261,slow=9.7,SNR=26
comp=Z,4.7nm,0.6s
SONM Songino Array 27.61 56 P **P 13 20 33.5 +0.2**
ULN Ulaanbaatar 28.06 56 P **P 13 20 38.3 +1.0**
ULN Ulaanbaatar 28.06 56 P **P 13 20 38.7 +1.4**
comp=Z,38nm,0.8s
ULN Ulaanbaatar 28.06 56*ce* P **P 13 20 37.6 +0.3**
ULN pmax pmax
comp=Z,17nm,1.7s
BRTR Keskin Array B 29.71 287 P **P 13 20 51.8 -0.3**
BRTR Keskin Array B 29.71 287 P **P 13 20 51.8 -0.3**
MMAI Mount Meron Ar 29.79 273 LR LR 13 36 07.4
comp=Z,19nm,18.3s,baz=118,slow=43
OBN Obninsk 29.81 318 P **P 13 20 53.1 +0.6**
comp=Z,12nm,0.3s,baz=140,slow=0.2,SNR=4.8
comp=Z,12nm,0.3s
OBN Obninsk 29.81 318 P **P 13 20 52.5 +0.1**
OBN Obninsk 29.81 318*de* P **P 13 20 52.3 -0.2**
OBN *e**PP **pP 13 21 15.1 +0.7**
OBN *e* 13 21 50.3
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,58nm,17.0s
CM31 Chiang Mai Arr 30.33 120 P **P 13 20 58.8 +1.3**
CM31 IAmb IAmb 13 21 37.5
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 30.33 120 P **P 13 20 57.5 -0.1**
comp=Z,1.6nm,0.6s,baz=310,slow=8.5,SNR=17
comp=Z,1.6nm,0.6s
CMAR Chiang Mai Arr 30.33 120 P **P 13 20 58.3 +0.7**
CMAR Chiang Mai Arr 30.33 120 *i* P **P 13 20 59.4 +1.9**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
XAN Xi'an 30.40 84 ⇑P **P 13 20 59.0 +1.0**
XAN sP sP 13 21 32.8 +1.0
XAN pmax pmax
comp=Z,30nm,1.0s
XAN LR LR
comp=Z,130nm,14.4s
PALK Pallekele 30.82 162 LR LR 13 34 06.4

comp=Z,405nm,20.4s,baz=342,slow=37
HHC Hu-ho-hao-te 31.12 71 eP **P 13 21 05.8 +1.4**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.4s
ENH Enshi 32.10 91 P **P 13 21 14.2 +1.1**
ENH IAmb IAmb 13 21 21.4
comp=Z,9.3nm,0.8s
AKASG Malin Array Be 32.95 308 P **P 13 21 20.4 +0.2**
comp=Z,2.2nm,0.5s,baz=107,slow=8.3,SNR=17
AKASG pP **pP 13 21 44.8 +2.6**
comp=Z,3.0nm,0.7s,baz=80,slow=7.5,SNR=2.9
comp=Z,2.2nm,0.5s
AKASG Malin Array Be 32.95 308 P **P 13 21 20.1 -0.1**
AKASG Malin Array Be 32.95 308 *i* P **P 13 21 21.2 +1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 32.95 308 P **P 13 21 19.9 -0.3**
AKBB IAmb IAmb 13 21 21.2
comp=Z,24nm,1.5s
AKBB Malin Array Si 32.95 308*ce* P **P 13 21 19.1 -1.1**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
LYN LuoYang 33.07 82 eP **P 13 21 23.8 +2.4**
LYN PP **PP 13 22 38.4 +0.7**
LYN pmax pmax
comp=Z,20nm,0.8s
NRIK Noril'sk 33.47 10 P **P 13 21 26.4 +1.9**
comp=Z,2.7nm,0.4s,baz=185,slow=5.7,SNR=6.4
comp=Z,2.7nm,0.4s
NRIK Noril'sk 33.47 10 P **P 13 21 25.3 +0.8**
NRIK IAmb IAmb 13 21 57.7
comp=Z,11nm,1.1s
NRIK Noril'sk 33.47 10 *i* P **P 13 21 24.7 +0.3**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
HNS HongShan 34.11 76 ⇓P **P 13 21 32.6 +2.2**
HNS pmax pmax
comp=Z,16nm,0.7s
MNK Minsk 34.42 315 *i* P **P 13 21 31.8 -1.1**
comp=E,3.0nm,0.8s
MNK *i* P **P 13 21 31.8 -1.1**
comp=N,35nm,0.8s
MNK *i* P **P 13 21 31.8 -1.1**
comp=Z,24nm,0.7s,baz=282
MNK *i* pP **pP 13 21 52.6 -2.5**
MNK *i* PP **PnPn 13 22 49.5 -1.1**
MNK *i* S **S 13 26 53.6 -0.4**
MNK *i* sS **sS 13 27 30.1 -2.6**
MNK *i* SS **SnSn 13 29 13.9 +0.2**
MNK *i* LR LR 13 35 21.9
MNK *i* LRM MLR 13 36 50.8
comp=Z,58nm,12.9s
MNK *i* LRM MLR 13 36 51.5
comp=E,32nm,15.5s
MNK *i* LRM MLR 13 36 60.0
comp=N,250nm,14.2s
MNK Minsk 34.42 315 *i* P **P 13 21 31.8 -1.1**
MNK *i* *PP **pP 13 21 52.5 -2.5**
MNK *i* 13 22 49.5
MNK *i* 13 24 05.4
MNK *i* S **S 13 26 53.6 -0.4**
MNK *i* SS **SnSn 13 29 13.8 +0.2**
MNK *i* 13 31 45.0
MNK pmax pmax
comp=Z,24nm,0.7s
MNK pmax pmax
comp=N,35nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=Z,58nm,13.0s
MNK MLR MLR
comp=E,32nm,15.0s
MNK MLR MLR
comp=N,250nm,14.0s
BJI Beijing 34.72 71 P **P 13 21 37.1 +1.5**
BJI pmax pmax
comp=N,11nm,1.0s
MLR Muntele Rosu 34.91 299 P **P 13 21 39.6 +2.2**
comp=N,6.1nm,0.8s,baz=84,slow=4.3,SNR=7.0
comp=N,6.1nm,0.8s
NACGM Naroch 35.13 315 eP **P 13 21 39.8 +0.8**
comp=Z,31nm,1.0s,baz=102
BURAR Bucovina Array 35.37 302 P **P 13 21 42.0 +0.8**
BUR08 Bucovina Ar. S 35.38 302 P **P 13 21 42.0 +0.6**
WHN Wuhan 35.89 88 ⇓P **P 13 21 47.9 +2.1**
WHN pmax pmax
comp=Z,38nm,0.6s
ATD Arta Tunnel 36.25 233 LR LR 13 40 49.0
comp=Z,37nm,18.2s,baz=40,slow=43
TIA Tai'an 36.28 77 P **P 13 21 50.8 +1.8**
TIA pmax pmax
comp=Z,16nm,1.0s
LVZ Lovozero 37.09 338 P **P 13 21 55.8 +0.2**
LVZ Lovozero 37.09 338 P **P 13 21 55.8 +0.2**
LVZ pmax pmax
comp=Z,97nm,1.5s
FIA1 FINESS Array S 37.26 326 P **P 13 21 57.5 +0.4**
FIA1 IAmb IAmb 13 21 58.9
comp=Z,17nm,1.1s
FINES FINESS Array B 37.27 326 P **P 13 21 57.5 +0.5**
comp=Z,3.2nm,0.3s,baz=119,slow=8.5,SNR=36
FINES LR LR 13 39 32.9
comp=Z,52nm,18.1s,baz=128,slow=40
comp=Z,3.2nm,0.3s
NJ2 Nanjing 38.93 83 ⇓P **P 13 22 13.3 +1.9**
NJ2 pmax pmax
comp=Z,24nm,0.7s
VYHS Vyhne 39.62 304 eP **P 13 22 18.6 +1.6**
VYHS Vyhne 39.62 304 eP **P 13 22 18.6 +1.6**
MORC Moravsky Berou 40.40 306 eP **P 13 22 24.0 +0.5**
KEV Kevo 40.44 338 P **P 13 22 23.8 +0.4**
KEV Kevo 40.44 338 P **P 13 22 23.8 +0.4**
KEV pmax pmax
comp=Z,82nm,1.5s
ARA0 ARCESS Array S 40.79 337 eP **P 13 22 27.0 +0.6**
ARCES ARCESS Array B 40.79 337 P **P 13 22 27.0 +0.7**
comp=Z,4.5nm,0.3s,baz=113,slow=8.9,SNR=76
ARCES pP **pP 13 22 53.5 +4.2**
comp=Z,8.6nm,0.9s,baz=107,slow=7.8,SNR=2.8
ARCES LR LR 13 40 21.5
comp=Z,163nm,18.4s,baz=190,slow=37
comp=Z,4.5nm,0.3s
ARCES ARCESS Array B 40.79 337 P **P 13 22 26.9 +0.5**
VRAC Vranov 41.04 305 P **P 13 22 29.7 +1.0**
comp=Z,2.4nm,0.4s,baz=98,slow=15,SNR=3.6
comp=Z,2.4nm,0.4s
VRAC Vranov 41.04 305 eP **P 13 22 29.9 +1.1**
KRUC Moravsky 41.19 305 eP **P 13 22 30.8 +0.9**
KTK1 Kautokeino 41.27 336 eP **P 13 22 30.6 +0.2**
KTK1 IAmb IAmb 13 22 31.0
comp=Z,20nm,0.3s
ZEA Zeya 41.33 48 eP **P 13 22 33.1 +2.1**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
HEH HeiHe 41.52 53 eP **P 13 22 33.8 +1.2**
HEH pmax pmax
comp=Z,41nm,0.7s
HAMF Hammerfest 41.86 338 eP **P 13 22 35.5 +0.5**
JETT Jettan, Norway 42.41 336 eP **P 13 22 40.6 +0.9**
BRG Berggiesshubel 42.63 308 *i* P **P 13 22 43.0 +1.3**
BRG Amp 13 22 43.7
comp=Z,6.7nm,0.8s
BRG Berggiesshubel 42.63 308 *i* P **P 13 22 43.0 +1.3**
BRG pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 42.90 321 P **P 13 22 44.0 +0.4**
comp=Z,12nm,0.4s,baz=95,slow=11,SNR=39
HFS LR LR 13 44 10.8
comp=Z,50nm,20.3s,baz=80,slow=41
comp=Z,12nm,0.4s
GSI Gunungsitoli 42.93 140 P **P 13 22 45.5 +1.1**
GERES GERESS Array B 42.98 305 P **P 13 22 45.3 +0.7**
comp=Z,0.4nm,0.4s,baz=60,slow=7.9,SNR=4.0
GERES pP **pP 13 23 10.8 +3.5**
comp=Z,0.4nm,0.2s,baz=75,slow=15,SNR=1.8
GERES PP **PP 13 24 28.6 +2.7**
comp=Z,0.4nm,0.4s,baz=102,slow=11,SNR=4.0
comp=Z,0.4nm,0.4s
YAK Yakutsk 43.22 36 P **P 13 22 46.3 +0.2**
comp=Z,5.1nm,0.3s,baz=79,slow=0.6,SNR=4.3
comp=Z,5.1nm,0.3s

YAK	Yakutsk	43.22	36	P		P		13 22 45.1	-1.0
YAK	Yakutsk	43.22	36	*e*P		P		13 22 45.4	-0.7
YAK				pmax		pmax			
	comp=Z,9.0nm,0.9s								
FAUS	Fauske	43.51	332	*e*P		P		13 22 49.0	+0.6
FAUS				IAmb		IAmb		13 22 52.2	
	comp=Z,297nm,2.1s								
MOR8	Moi Rana	43.54	330	*e*P		P		13 22 48.4	-0.4
MOR8				IAmb		IAmb		13 22 49.0	
	comp=Z,12nm,0.5s								
STEI	Steigen	43.67	333	*e*P		P		13 22 50.5	+0.8
NC405	NORSAR Array S	43.96	323	P		P		13 22 52.1	-0.1
NC602	NORSAR Array S	44.02	322	P		P		13 22 52.5	-0.1
NC602	NORSAR Array S	44.02	322	*e*P		P		13 22 52.7	+0.1
NORES	NORESS Array B	44.02	322	P		P		13 22 52.4	-0.2
SSLB	Suanglung	44.12	93	P		P		13 22 56.2	+2.2
SSLB				IAmb		IAmb		13 22 57.8	
	comp=Z,18nm,0.8s								
KONS	Konsvik	44.13	331	*e*P		P		13 22 53.5	+0.1
NC303	NORSAR Array S	44.14	323	P		P		13 22 54.1	+0.5
NC303				IAmb		IAmb		13 22 55.0	
	comp=Z,18nm,0.9s								
NB201	NORSAR Array S	44.16	323	P		P		13 22 53.9	+0.1
CIMO	Cimolais	44.19	301	P		P		13 22 54.8	+0.5
CIMO				IAmb		IAmb		13 22 56.7	
	comp=Z,12nm,1.3s								
NB2	NORSAR Subarra	44.20	323	P		P		13 22 54.3	+0.2
	baz=93,slow=7.9								
NB2	NORSAR Subarra	44.20	323	P		P		13 22 54.3	+0.2
	comp=Z,2.7nm,0.4s,baz=93,slow=7.9								
NOA	NORSAR Array B	44.20	323	P		P		13 22 54.3	+0.2
	comp=Z,2.9nm,0.3s,baz=95,slow=7.8,SNR=16								
NOA				pP		pP		13 23 20.6	+3.4
	comp=Z,3.1nm,0.7s,baz=96,slow=8.0,SNR=2.8								
NOA				LR		LR		13 42 21.4	
	comp=Z,32nm,18.5s,baz=5.0,slow=37								
	comp=Z,2.9nm,0.3s								
KSRS	Korea Array	44.24	72	P		P		13 22 55.5	+0.8
	comp=Z,2.7nm,0.6s,baz=281,slow=6.4,SNR=9.5								
	comp=Z,2.7nm,0.6s								
NAO01	NORSAR Array S	44.34	322	P		P		13 22 55.0	-0.2
NBO00	NORSAR Array S	44.41	323	P		P		13 22 55.8	0.0
KLR	Kul'dur	44.42	54	P		P		13 22 56.3	+0.3
	comp=Z,2.8nm,0.4s,baz=286,slow=7.3,SNR=13								
	comp=Z,2.8nm,0.4s								
KLR	Kul'dur	44.42	54	*ce*P		P		13 22 56.0	0.0
KLR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
NC204	NORSAR Array S	44.44	323	P		P		13 22 56.1	+0.1
KONO	Kongsberg	44.93	321	P		P		13 23 00.1	+0.2
KONO	Kongsberg	44.93	321	P		P		13 23 00.1	+0.2
KONO				pmax		pmax			
	comp=Z,56nm,1.5s								
KONO	Kongsberg	44.93	321	*e*P		P		13 23 00.1	+0.2
TIXI	Tiksi	45.05	22	P		P		13 23 00.9	+0.2
TIXI				IAmb		IAmb		13 23 07.8	
	comp=Z,8.5nm,0.5s								
TIXI	Tiksi	45.05	22	*ce*P		P		13 22 59.5	-1.2
TIXI				pmax		pmax			
	comp=Z,6.0nm,0.8s								
USRK	Ussuriysk Ar.	45.47	61	P		P		13 23 05.8	+1.3
	comp=Z,2.3nm,0.7s,baz=291,slow=9.7,SNR=5.6								
USRK				LR		LR		13 44 57.2	
	comp=Z,32nm,19.4s,baz=175,slow=40								
	comp=Z,2.3nm,0.7s								
SKAR	Skarslia	45.60	322	*e*P		P		13 23 06.3	+1.0
SKAR				IAmb		IAmb		13 23 15.4	
	comp=Z,439nm,2.8s								
FUORN	Ofenpass-Fuorn	45.61	302	P		P		13 23 06.1	+0.3
DAVOX	Davos/Dischmat	45.84	302	P		P		13 23 07.7	+0.2
	comp=Z,2.3nm,0.3s,baz=106,slow=7.3,SNR=5.1								
DAVOX				LR		LR		13 44 51.2	
	comp=Z,44nm,19.4s,baz=82,slow=39								
	comp=Z,2.3nm,0.3s								
JTU	Tsushima	46.33	75	P		P		13 23 12.3	+1.0
MSSA	Maissana	46.62	299	P		P		13 23 13.9	+0.4
ASK	Askoy	47.14	322	*e*P		P		13 23 17.5	+0.4
SENIN	Lac Senin/Sane	47.67	302	P		P		13 23 22.3	+0.5
JNU	Nakatsue	47.99	76	P		P		13 23 25.2	+0.9
JNU				IAmb		IAmb		13 23 30.1	
	comp=Z,20nm,1.1s								
JSU	Suzuyama	48.29	78	P		P		13 23 28.1	+1.5
JOW	Kunigami	48.55	85	P		P		13 23 29.2	+0.6
	comp=Z,8.8nm,0.5s,baz=259,slow=19,SNR=5.0								
	comp=Z,8.8nm,0.5s								
JOW	Kunigami	48.55	85	P		P		13 23 29.6	+1.0
JOW				IAmb		IAmb		13 23 30.3	
	comp=Z,14nm,0.9s								
JHS	Saijyo	49.02	73	P		P		13 23 32.6	+0.4
JMN	Monobe	50.08	74	P		P		13 23 41.5	+1.3
EKA	Eskdalemuir Ar	52.20	316	P		P		13 23 55.3	-0.3
MJAR	Matsushiro Arr	52.30	69	P		P		13 23 57.5	+0.7
	comp=Z,3.6nm,0.9s,baz=288,slow=9.2,SNR=7.6								
	comp=Z,3.6nm,0.9s								
MA2	Magadan	53.61	38	P		P		13 24 05.4	-0.6
MA2	Magadan	53.61	38	P		P		13 24 05.4	-0.6
MA2				pmax		pmax			
	comp=Z,77nm,1.5s								
JMM	Marumori	53.72	67	P		P		13 24 07.0	-0.1
ESDC	Sonseca Array	57.60	298	P		P		13 24 35.7	+0.7
	comp=Z,1.1nm,0.4s,baz=56,slow=7.1,SNR=12								
ESDC				pP		pP		13 25 00.9	+2.0
	comp=Z,2.6nm,0.8s,baz=60,slow=7.6,SNR=5.3								
	comp=Z,1.1nm,0.4s								
ESDC	Sonseca Array	57.60	298	P		P		13 24 35.2	+0.2
BILL	Bilibino	57.87	26	*i* P		P		13 24 35.7	-0.6
BILL				*e**PP		pP		13 24 59.6	-1.0
BILL				*e*				13 26 45.8	
BILL				*eS*		S		13 32 28.0	-0.5
BILL				*e*SS		SS		13 36 20.5	+0.6
BILL				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BILL				MLR		MLR			
	comp=Z,40nm,19.0s								
KAPI	Kappang	61.36	122	LR		LR		13 53 54.5	
	comp=Z,47nm,21.5s,baz=253,slow=38								
EUNU	Eureka	62.46	356	P		P		13 25 09.5	+2.0
EUNU				IAmb		IAmb		13 25 27.4	
	comp=Z,11nm,1.5s								
VOI	Vohitsoka	63.16	206	P		P		13 25 15.7	+2.7
VOI				IAmb		IAmb		13 25 48.5	
	comp=Z,16nm,1.2s								
TORD	Torodi Ar. Bea	66.20	269	P		P		13 25 32.5	-0.4
	comp=Z,0.4nm,0.3s,baz=53,slow=6.4,SNR=8.9								
	comp=Z,0.4nm,0.3s								
RES	Resolute Bay	68.15	356	P		P		13 25 44.1	-0.1
RES				IAmb		IAmb		13 25 45.6	
	comp=Z,10nm,1.4s								
RES	Resolute Bay	68.15	356	P		P		13 25 44.1	-0.1
RES				pmax		pmax			
	comp=Z,11nm,1.4s								
FAKI	Fak Fak	68.84	111	P		P		13 25 49.6	+0.2
FAKI				IAmb		IAmb		13 25 57.0	
	comp=Z,7.2nm,0.9s								
TOLK	Toolik Lake Re	70.24	15	P		P		13 25 57.5	+0.3
TOLK				IAmb		IAmb		13 26 00.7	
	comp=Z,5.5nm,0.7s								
A36M	Sachs Harbour	70.58	5	P		P		13 25 59.5	+0.3
A36M				IAmb		IAmb		13 26 03.7	
	comp=Z,8.5nm,0.8s								
COLD	Coldfoot	71.28	16	P		P		13 26 03.8	+0.2
IMAR	Indian Mountai	71.47	18	P		P		13 26 04.6	-0.1
H21K	Melozitna Rive	71.97	18	P		P		13 26 07.8	+0.1
BMAR	Burnt Mountain	72.26	14	P		P		13 26 10.4	+1.0
I21K	Tanana	72.56	18	P		P		13 26 11.9	+0.7
H23K	Yukon River	72.59	16	P		P		13 26 12.1	+0.6
J20K	Nowinta River	72.82	19	P		P		13 26 13.2	+0.4
J20K				IAmb		IAmb		13 26 48.4	
	comp=Z,7.2nm,1.1s								
FYU	Fort Yukon	72.88	15	P		P		13 26 14.1	+1.0
FYU				IAmb		IAmb		13 26 19.8	
	comp=Z,23nm,1.5s								
H24K	Noodor Dome	72.96	16	P		P		13 26 14.3	+0.7
MLY	Manley	72.98	17	P		P		13 26 14.2	+0.4
I23K	Minto, Yukon-K	73.21	17	P		P		13 26 15.6	+0.6
I23K				IAmb		IAmb		13 26 44.5	
	comp=Z,7.8nm,1.1s								
C36M	Paulatuk	73.25	6	P		P		13 26 15.0	-0.2
C36M				IAmb		IAmb		13 26 15.9	
	comp=Z,10nm,0.5s								
INK	Inuvik	73.25	9	P		P		13 26 15.9	+0.7
	comp=Z,4.3nm,0.6s,baz=348,slow=5.9,SNR=24								
	comp=Z,4.3nm,0.6s								
INK	Inuvik	73.25	9	P		P		13 26 15.5	+0.3
K20K	Telida	73.50	20	P		P		13 26 17.3	+0.4
MDM	Murphy Dome	73.62	17	P		P		13 26 17.8	+0.2
BPAW	Bear Paw Mtn.	73.69	18	P		P		13 26 17.5	-0.5
BPAW				IAmb		IAmb		13 26 31.9	
	comp=Z,15nm,1.5s								
NEA2	Nenana	73.74	17	P		P		13 26 18.3	+0.1
NEA2				IAmb		IAmb		13 26 23.4	
	comp=Z,19nm,1.5s								
PSA00	Pilbara Seismi	73.97	134	P		P		13 26 19.8	-0.3
PSA00				IAmb		IAmb		13 26 20.3	
	comp=Z,8.7nm,0.8s								
CAST	Castle Rocks	73.98	19	P		P		13 26 20.1	+0.5
CAST				IAmb		IAmb		13 26 49.5	
	comp=Z,10nm,1.1s								
ILAR	Eielson Array	74.09	16	P		P		13 26 19.6	-0.6
	comp=Z,2.0nm,1.0s,baz=308,slow=3.6,SNR=7.8								
	comp=Z,2.0nm,1.0s								
ILAR	Eielson Array	74.09	16	P		P		13 26 19.2	-1.0
KTH	Kantishna Hill	74.16	18	P		P		13 26 20.8	0.0
KTH				IAmb		IAmb		13 26 42.6	
	comp=Z,30nm,1.4s								
L19K	White Mountain	74.23	21	P		P		13 26 21.5	+0.4
L19K				IAmb		IAmb		13 26 24.6	
	comp=Z,16nm,1.4s								
PPLA	Purkeypile	74.38	19	P		P		13 26 22.1	0.0
PPLA				IAmb		IAmb		13 26 33.9	
	comp=Z,29nm,1.3s								
I26K	Coal Creek Min	74.40	14	P		P		13 26 22.6	+0.5
I26K				IAmb		IAmb		13 26 25.1	
	comp=Z,11nm,1.4s								
MCK	McKinley	74.50	17	P		P		13 26 22.7	0.0
MCK				IAmb		IAmb		13 26 33.9	
	comp=Z,14nm,1.4s								
MCK	McKinley	74.50	17	P		P		13 26 22.7	0.0
MCK				pmax		pmax			
	comp=Z,14nm,1.4s								
J25K	Salcha River,	74.56	16	P		P		13 26 22.7	-0.3
M19K	Big River Lodg	74.58	21	P		P		13 26 23.6	+0.5
M19K				IAmb		IAmb		13 26 44.3	
	comp=Z,15nm,1.4s								
M20K	Styx River	74.95	20	P		P		13 26 25.2	-0.2
M20K				IAmb		IAmb		13 26 41.1	
	comp=Z,12nm,1.4s								
J26L	Joseph Creek	75.03	15	P		P		13 26 25.5	-0.3
J26L				IAmb		IAmb		13 27 00.3	
	comp=Z,10nm,1.4s								
EGAK	Eagle	75.27	14	P		P		13 26 27.6	+0.6
EGAK				IAmb		IAmb		13 26 41.6	
	comp=Z,12nm,1.4s								
CUT	Chulitna	75.28	19	P		P		13 26 26.6	-0.6
SKT	Skwentna	75.31	19	P		P		13 26 27.0	-0.4
SKT				IAmb		IAmb		13 26 56.7	
	comp=Z,12nm,1.1s								
SCRK	Sand Creek	75.41	15	P		P		13 26 28.2	+0.2
LBTB	Lobatse	75.43	222	P		P		13 26 29.0	+0.4
LBTB	Lobatse	75.43	222	P		P		13 26 29.0	+0.4
LBTB				pmax		pmax			
	comp=Z,6.0nm,1.0s								
DHY	Denali Highway	75.43	17	P		P		13 26 28.4	+0.2
DHY				IAmb		IAmb		13 26 31.1	
	comp=Z,6.1nm,0.8s								
O18K	Koktuh Hills	75.99	22	P		P		13 26 32.3	+1.0
DAWY	Dawson	76.24	13	P		P		13 26 32.8	+0.1
PMR	Palmer	76.26	19	P		P		13 26 32.2	-0.5
PMR				IAmb		IAmb		13 26 44.4	
	comp=Z,16nm,1.2s								
PMR	Palmer	76.26	19	P		P		13 26 32.2	-0.5
PMR				pmax		pmax			
	comp=Z,16nm,1.2s								
SML	Sawmill	76.28	18	P		P		13 26 32.8	-0.1
SML				IAmb		IAmb		13 26 36.1	
	comp=Z,30nm,1.3s								
SCM	Sheep Creek Mo	76.51	18	P		P		13 26 34.2	-0.1
SCM				IAmb		IAmb		13 27 11.6	
	comp=Z,22nm,1.2s								
SCM	Sheep Creek Mo	76.51	18	P		P		13 26 34.2	-0.1
SCM				pmax		pmax			
	comp=Z,22nm,1.2s								
BCAR	Beaver Creek A	76.68	15	P		P		13 26 35.5	+0.4
M27K	Edge Creek, AK	77.29	15	P		P		13 26 39.5	+0.8
M27K				IAmb		IAmb		13 27 15.8	
	comp=Z,15nm,1.2s								
MORW	Morawa	77.91	141	P		P		13 26 41.7	-0.6
MORW				IAmb		IAmb		13 27 19.0	
	comp=Z,23nm,1.4s								
M30M	Minto, Yukon	78.08	13	P		P		13 26 41.4	-1.6
M31M	Drury Creek, Y	78.85	12	P		P		13 26 47.0	-0.2
M31M				IAmb		IAmb		13 27 23.2	
	comp=Z,16nm,1.4s								
FARO	Faro, Yukon	79.00	12	P		P		13 26 48.3	+0.3
YKA	Yellowknife Ar	80.64	3	P		P		13 26 56.5	-0.3
	comp=Z,3.1nm,0.7s,baz=348,slow=5.6,SNR=9.9								
	comp=Z,3.1nm,0.7s								
P33M	Teslin, Yukon	80.99	12	P		P		13 26 59.3	+0.4
P33M				IAmb		IAmb		13 27 16.6	
	comp=Z,13nm,1.4s								
NWAO	Narrogin (SRO)	81.64	143	P		P		13 27 01.2	-1.2
NWAO				IAmb		IAmb		13 27 41.7	
	comp=Z,24nm,1.4s								
NWAO	Narrogin (SRO)	81.64	143	P		P		13 27 01.2	-1.2
NWAO				pmax		pmax			
	comp=Z,24nm,1.5s								
WRA	Warramunga Arr	81.90	122	P		P		13 27 02.7	-1.3
	comp=Z,1.0nm,0.9s,baz=325,slow=4.9,SNR=15								
	comp=Z,1.0nm,0.9s								
WRA	Warramunga Arr	81.90	122	P		P		13 27 02.8	-1.3
WB2	Warramunga Arr	81.91	122	P		P		13 27 03.1	-1.0
WB2				IAmb		IAmb		13 27 12.6	
	comp=Z,12nm,1.5s								
ASAR	Alice Springs	84.20	125	P		P		13 27 14.8	-1.1
	comp=Z,0.4nm,0.5s,baz=311,slow=4.8,SNR=18								
ASAR				pP		pP		13 27 44.5	+2.7
	comp=Z,0.9nm,0.8s,baz=317,slow=5.2,SNR=4.1								
	comp=Z,0.4nm,0.5s								
ASAR	Alice Springs	84.20	125	P		P		13 27 15.4	-0.5
ASAR	Alice Springs	84.20	125	P		P		13 27 15.4	-0.5
BBB	Bella Bella	89.45	12	LR		LR		14 13 09.4	
	comp=Z,34nm,18.4s,baz=263,slow=39								

WEL 14 13:19:42.2±0.3, 42°S±2°×17°3E±°, h5km, M3.2/13, ML3.5/13, MLv3.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=130.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
THZ	Tophouse	0.16	236	P		Pg	13	19	45.6	+0.2
THZ				S		Sg	13	19	48.0	+0.6
MRNZ	Matariki Terra	0.37	319	P		Pg	13	19	49.8	+0.6
MRNZ				S		Sg	13	19	55.3	+1.3
NNZ	Nelson	0.51	26	P		Pg	13	19	52.2	+0.2
NNZ				S		Sb	13	20	00.0	-1.3
BSWZ	Blackbirch Sta	0.60	94	P		Pb	13	19	54.6	-0.5
BSWZ				S		Sb	13	20	03.2	-0.7
TKNZ	Takaka Hill	0.65	352	P		Pg	13	19	54.6	0.0
TUWZ	Tuamarina	0.69	70	P		Pg	13	19	55.2	-0.3
TUWZ				S		Sg	13	20	05.4	+0.9
QRZ	Quartz Range	0.94	334	P		Pg	13	19	59.8	-0.4
DSZ	Denniston Nort	0.96	265	P		Pg	13	20	00.0	-0.5
TCW	Tory Channel	1.01	63	P		Pg	13	20	00.8	-0.8
TCW				S		Sg	13	20	14.3	-0.4
LTZ	Lake Taylor	1.26	208	P		Pg	13	20	05.5	-0.8
GVZ	Greta Valley S	1.29	181	P		Pn	13	20	06.7	-0.2
WEL	Wellington	1.33	73	P		Pn	13	20	07.3	-0.1
AMCZ	Amberley	1.53	192	P		Pn	13	20	10.2	0.0
KIW	Kapiti Island	1.60	60	P		Pn	13	20	11.1	-0.1
INZ	Inchbonnie	1.60	229	P		Pb	13	20	11.8	-0.4
OXZ	Oxford	1.82	205	P		Pn	13	20	13.1	-1.1
MQZ	McQueen's Vall	2.05	189	P		Pn	13	20	15.3	-2.0
MQZ				S		Sn	13	20	39.9	-3.4
MRZ	Mangatainoka R	2.14	63	P		Pn	13	20	18.7	+0.2
RACZ	Rakaia	2.16	198	P		Pn	13	20	17.0	-1.8
RACZ				S		Sn	13	20	44.0	-2.0
WVZ	Waitaha Valley	2.23	230	P		Pb	13	20	21.4	-1.5
NBEZ	Newall Road No	2.48	14	P		Pn	13	20	24.9	+1.7
RPZ	Rata Peaks	2.53	216	P		Pn	13	20	25.3	+1.4
BFZ	Birch Farm	2.59	68	P		Pn	13	20	23.3	-1.4
TSZ	Takapari Road	2.72	54	P		Pb	13	20	32.0	+0.7
TMZ	Timaru	3.10	209	P		Pn	13	20	31.1	-0.7
KRVZ	Karewarewa	3.24	38	P		Pb	13	20	40.4	+0.2
TMVZ	Te Maari	3.25	39	P		Pb	13	20	38.3	-2.1
NTVZ	North Tongarir	3.25	38	P		Pb	13	20	40.0	-0.4
TOZ	Tahuroa Road	4.36	26	P		Pn	13	20	49.9	+0.8
MKAZ	Moumakai	4.84	20	P		Pn	13	20	56.6	+0.9
ETAZ	East Tamaki Re	4.93	18	P		Pn	13	20	57.8	+1.0
RVAZ	Riverhead Bore	5.04	14	P		Pn	13	20	59.4	+1.1
RUGZ	Raukumara Rang	5.12	45	P		Pn	13	21	03.2	+3.5
HAZ	Te Kaha	5.34	44	P		Pn	13	21	00.6	-1.8

WEL ***14*** *13:21:00.41°.73S×174°.31E, h17km, ML4.5, Mw4.4, Moment Tensor Solution. s8 Moment tensor: Scale 10^{15} Nm; M_{rr}2.15; $M_{\theta\theta}$2.26; $M_{\phi\phi}$-4.41; $M_{r\theta}$-1.18; $M_{\theta\phi}$-1.36; $M_{\phi r}$1.08; Fault plane solution: $M_0$4.27000×10^{15} NP1: ϕ_s229.00000°, δ56.00000°, λ152.00000°. NP2: ϕ_s335.00000°, δ67.00000°, λ37.00000°. Principal axes: T 375.5900, Plg42.0000°, Azm196.0000°; N 102.3200, Plg47.0000°, Azm2.0000°; P -477.9200, Plg7.0000°, Azm100.0000°;*

IDC ***14*** *13:21:03.6±1.1, 41°.62S×174°.22E, h0km, mb4.2/4, mbtmp4.2/5, ML3.9/1, MS3.4/9 Error ellipse: s-maj=38.3km s-min=25.8km az=55.0*

WEL ***14*** *13:21:06.5±0.3, 42°S±2°×17°4E±°, h9km±2km, M4.5/17, ML4.8/17, MLv4.5/17, Error ellipse: s-maj=0.0km s-min=0.0km az=150.8*

NEIC ***14*** *13:21:06.5±1.2, 41°.71S±0°.03×174°.26E±0°.03, h16km±1km, mb4.8/9, Error ellipse: s-maj=4.4km s-min=2.8km az=141.0*

ISC 14 13:21:06.0±0.7, 41°.76S±0°.02×174°.32E±0°.02, h15km±4km, n160, σ1$32/180, mb4.5/8, MS3.4/7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CMWZ	Cape Campbell	0.08	281			Pg	13	21	08.9	-0.2
CMWZ				Sg		Sg	13	21	11.5	+0.4
CMWZ	Cape Campbell	0.08	281	P		Pg	13	21	09.2	+0.1
CMWZ				S		Sg	13	21	12.2	+1.1
BSWZ	Blackbirch Sta	0.34	278			Pg	13	21	13.0	+0.1
BSWZ	Blackbirch Sta	0.34	278	P		Pg	13	21	13.2	+0.2
BSWZ				S		Sb	13	21	18.8	-0.2
TUWZ	Tuamarina	0.44	320			Pg	13	21	14.6	-0.2
TUWZ	Tuamarina	0.44	320	P		Pg	13	21	14.8	-0.7
TUWZ				S		Sb	13	21	21.1	-0.8
SNZO	South Karori	0.54	33			Pb	13	21	16.9	-0.3
SNZO				Sg		Sb	13	21	24.0	-0.8
BHW	Baring Head	0.55	49	P		Pb	13	21	17.7	+0.4
TCW	Tory Channel	0.55	357	P		Pb	13	21	16.8	-0.7
TCW				S		Sb	13	21	24.2	-1.0
WEL	Wellington	0.59	35	P		Pb	13	21	17.9	-0.1
WEL				S		Sb	13	21	25.8	-0.3
PLWZ	Palliser	0.73	75			Pb	13	21	21.1	+0.6
PLWZ	Palliser	0.73	75	P		Pb	13	21	21.4	+0.9
PLWZ				S		Sb	13	21	31.4	+1.1
MSWZ	Moikau Station	0.78	64			Pb	13	21	22.0	+0.7
MSWZ	Moikau Station	0.78	64	P		Pb	13	21	22.0	+0.7
MSWZ				S		Sn	13	21	34.0	0.0
CAW	Cannon Point	0.86	41	P		Pg	13	21	22.7	0.0
CAW				S		Sb	13	21	34.7	+0.6
KHZ	Kahutara	0.87	222	Pg		Pg	13	21	23.7	+0.7
KHZ	Kahutara	0.87	222	P		Pg	13	21	24.0	+1.0
KHZ				S		Sb	13	21	37.7	+2.9
NNZ	Nelson	0.89	307			Pg	13	21	22.7	+0.7
NNZ				Sg		Sg	13	21	32.9	-2.2
NNZ	Nelson	0.89	307	P		Pg	13	21	22.9	-0.5
NNZ				S		Sb	13	21	34.6	-0.4
PAWZ	Paruwai Farm	0.91	66	P		Pg	13	21	24.1	+0.4
PAWZ				S		Sg	13	21	36.1	+0.4
KIW	Kapiti Island	1.01	26	P		Pg	13	21	25.1	-0.4
KIW				S		Sb	13	21	38.0	-0.2
DUWZ	D'Urville Isla	1.01	343	P		Pg	13	21	24.8	-0.7
DUWZ				S		Sb	13	21	37.7	-0.6
THZ	Tophouse	1.06	270	Pn		Pg	13	21	26.2	-0.3
THZ	Tophouse	1.06	270	P		Pb	13	21	26.7	+0.5
THZ				S		Sg	13	21	40.1	-0.2
MTW	Mount Morrison	1.07	56	P		Pg	13	21	26.4	-0.4
MTW				S		Sn	13	21	42.7	+1.4
TRWZ	Traveller	1.09	71	P		Pg	13	21	26.2	-0.9
OGWZ	Otaki Gorge	1.14	34	P		Pg	13	21	27.6	-0.5
OGWZ				S		Sb	13	21	42.3	+0.1
MRNZ	Matariki Terra	1.23	287	P		Pg	13	21	29.5	-0.2
MRNZ				S		Sg	13	21	45.0	-0.7
HOWZ	Holdsworth Sta	1.25	46	P		Pn	13	21	29.2	+0.1
HOWZ				S		Sb	13	21	45.1	-0.1
TKN

RATZ	Rangitukua	3.10	21	P		Pb	13 22 01.8 +0.9
HATZ	Hinemaiaia	3.17	26	P		Pb	13 22 02.3 +0.2
ARCZ	Arundel	3.18	226	P		Pn	13 21 54.9 -0.6
ARHZ	Aropaoanui	3.23	40	P		Pn	13 21 55.3 -0.9
WATZ	Wairara	3.24	20	P		Pb	13 22 02.7 -0.6
HIZ	Hauiti	3.27	7	P		Pn	13 21 60.0 +3.1
GCSZ	Gaunt Creek Bo	3.33	241	P		Pb	13 22 03.5 -1.4
MRHZ	Matea Rd	3.34	29	P		Pn	13 21 57.0 -0.8
RAHZ	Arahi	3.54	38	P		Pn	13 21 59.6 -1.0
ALRZ	Allen Road	3.55	27	P		Pn	13 22 00.9 +0.2
TLZ	Tolley Road	3.56	16	P		Pb	13 22 06.8 -1.9
TMZ	Timaru	3.57	222	P		Pn	13 21 60.0 -1.0
KNZ	Kokohu	3.75	44	P		Pn	13 22 01.2 -2.2
HSRZ	Hossack Road	3.75	24	P		Pn	13 22 05.7 +2.3
FOZ	Fox Glacier	3.76	240	P		Pn	13 22 05.0 +1.4
LBZ	Lake Benmore	4.00	228	Pn		Pn	13 22 07.0 +0.1
LBZ	Lake Benmore	4.00	228	P		Pn	13 22 07.2 +0.3
KMRZ	Kaimai	4.11	18	P		Pn	13 22 11.3 +2.9
TOZ	Tahuroa Road	4.13	13	P		Pn	13 22 10.6 +2.0
ODZ	Otahua Downs	4.23	218	P		Pn	13 22 08.7 -1.4
TGRZ	Tauranga	4.30	21	P		Pn	13 22 12.8 +1.9
TWGZ	Tauwhareparae	4.55	39	P		Pn	13 22 13.5 -1.0
RUGZ	Raukumara Rang	4.59	35	P		Pn	13 22 13.3 -1.8
JCZ	Jackson Bay	4.67	239	P		Pn	13 22 21.5 +5.4
MKAZ	Moumakai	4.70	8	P		Pn	13 22 18.7 +2.2
AWAZ	Awhitu Peninsu	4.70	3	P		Pn	13 22 19.4 +3.0
HAZ	Te Kaha	4.81	35	P		Pn	13 22 16.5 -1.5
ETAZ	East Tamaki Re	4.83	6	P		Pn	13 22 20.6 +2.4
WTAZ	Waiatarua	4.83	2	P		Pn	13 22 21.4 +3.1
HHSZ	Highcliff Hill	4.92	212	P		Pn	13 22 18.0 -1.5
RVAZ	Riverhead Bore	4.99	2	P		Pn	13 22 23.4 +3.0
MBAZ	Motutapu North	5.01	5	P		Pn	13 22 26.7 +6.0
KUZ	Kuaotunu	5.13	13	P		Pn	13 22 24.9 +2.5
MLZ	Mavora Lakes	5.77	229	Pn		Pn	13 22 32.3 +1.2
SYZ	Scrubby Hill	6.05	216	P		Pn	13 22 34.7 -0.3
OUZ	Omahuta	6.56	355	P		Pn	13 22 45.7 +3.7
CTZ	Chatham Island	6.96	109	P		Pn	13 22 46.3 -1.1
DZM	Mont Dzumac	20.72	339	P		Pn	13 25 48.3 -0.2
	6.1nm,0.9s,baz=44,slow=21,SNR=3.6						
DZM				LR	LR		13 33 39.8
	comp=Z,94nm,19.4s,baz=202,slow=37						
MSVF	Nonsavu	24.16	9	LR	LR		13 35 35.0
	comp=Z,110nm,19.8s,baz=199,slow=36						
CTA	Charters Tower	32.11	304	LR	LR		13 38 40.5
	comp=Z,89nm,20.9s,baz=106,slow=33						
AS31	Alice Springs	38.09	285	P	P		13 28 24.0 -0.4
ASAR	Alice Springs	38.09	285	P	P		13 28 23.0 -1.3
	0.9nm,0.4s,baz=122,slow=6.3,SNR=21						
ASAR				LR	LR		13 42 43.6
	comp=Z,57nm,20.6s,baz=112,slow=34						
	0.9nm,0.4s						
PMG	Port Moresby	40.14	316	LR	LR		13 44 33.7
	comp=Z,39nm,19.7s,baz=337,slow=35						
WRAB	Tennant Creek	40.16	290	P	P		13 28 40.3 -1.3
WRAB				IAmb	IAmb		13 29 37.4
	comp=Z,27nm,1.9s						
WRA	Warramunga Arr	40.16	290	P	P		13 28 40.5 -1.2
	comp=Z,1.9nm,0.6s,baz=128,slow=8.5,SNR=14						
WRA				LR	LR		13 45 44.5
	comp=Z,65nm,18.7s,baz=110,slow=37						
	comp=Z,1.9nm,0.6s						
WB0	Warramunga Arr	40.24	291	P	P		13 28 41.2 -1.1
WB0				IAmb	IAmb		13 28 50.2
	comp=Z,7.6nm,1.2s						
KNRA	Kununurra	46.94	290	P	P		13 29 36.4 +0.1
MTN	Manton Dam	47.27	295	P	P		13 29 38.1 -0.8
MORW	Morawa	48.31	266	P	P		13 29 46.0 -0.9
QSPA	South Pole Qui	48.36	180	P	P		13 29 47.8 +0.8
	comp=Z,6.7nm,1.1s,baz=20,slow=0.7,SNR=20						
	comp=Z,6.7nm,1.1s						
QSPA	South Pole Qui	48.36	180	P	P		13 29 48.0 +1.0
QSPA				IAmb	IAmb		13 29 50.7
	comp=Z,16nm,1.4s						
PSA00	Pilbara Seismi	49.67	276	P	P		13 29 56.1 -1.3
PSA00				IAmb	IAmb		13 30 46.6
	comp=Z,65nm,1.8s						
SNAA	Sanae	66.85	181	P	P		13 31 58.1 +1.2
SNAA				IAmb	IAmb		13 33 15.3
	comp=Z,18nm,1.7s						
MJAR	Matsushiro Arr	84.64	332	LR	LR		14 12 59.8
	comp=Z,29nm,18.1s,baz=226,slow=37						
CMAR	Chiang Mai Arr	91.69	293	P	P		13 34 13.1 +0.1
	comp=Z,1.0nm,0.5s,baz=141,slow=3.9,SNR=6.2						
	comp=Z,1.0nm,0.5s						
DBIC	Dimbokro	145.04	181	PKPbc	PKPbc		13 40 43.2 +0.6
	comp=Z,1.7nm,0.6s,baz=168,slow=4.4,SNR=3.8						
ARCES	ARCESS Array B	147.81	340	PKPbc	PKPdf		13 40 47.8 +1.6
	comp=Z,2.1nm,0.6s,baz=354,slow=2.4,SNR=7.6						
TOA0	Torodi Ar. Sit	150.77	195		PKPdf		13 40 56.4 +3.7
TORD	Torodi Ar. Bea	150.77	195	PKP	PKPdf		13 40 52.0 -0.7
	comp=Z,1.5nm,0.7s,baz=161,slow=2.1,SNR=4.0						
TORD				PKPbc	sPKPdf		13 40 58.2 -1.1
	comp=Z,2.3nm,0.7s,baz=154,slow=1.5,SNR=11						
TORD	Torodi Ar. Bea	150.77	195		PKPbc		13 40 57.6 -0.5
FINES	FINESS Array B	152.57	327	PKPbc	PKPbc		13 40 59.5 -1.3
	comp=Z,2.4nm,0.9s,baz=75,slow=2.2,SNR=6.4						

*IDC **14** 13:26:08.4±1.4,41.38S×174.48E,h0km,mb4.0/3, mbtmp4.1/4,ML4.6/1,Error ellipse: s-maj=40.4km s-min=28.4km az=56.0*

*WEL **14** 13:26:08.2±0.5,42.3S×173.4E±,h17km±3km,M4.2/29, ML4.1/16,MLv4.2/29,Error ellipse: s-maj=0.0km s-min=0.0km az=110.9*

ISC 14 13:26:08.4±1.2,42.35S±0.04×173.71E±0.06,h12km±7km, n45,σ1↑76/46,mb3.8/3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.14	241	P	Pg	13 26 12.2	+0.3
KHZ				S	Sg	13 26 15.3	+0.9
GVZ	Greta Valley S	0.80	219	P	Pb	13 26 24.8	+0.6
GVZ				S	Sn	13 26 37.7	+0.3
THZ	Tophouse	0.84	314	P	Pg	13 26 22.8	-1.9
AMCZ	Amberley	1.14	223	P	Pb	13 26 29.2	-0.9
LTZ	Lake Taylor	1.15	247	P	Pb	13 26 29.4	-0.9
LTZ				S	Sb	13 26 44.4	-0.8
MRNZ	Matariki Terra	1.19	323	P	Pn	13 26 29.3	-1.6
OKCZ	Okains Bay	1.46	199	P	Pn	13 26 33.3	-1.3
DSZ	Denniston Nort	1.54	292	P	Pn	13 26 35.5	-0.3
MQZ	McQueen's Vall	1.56	209	P	Pn	13 26 33.9	-2.1
OXZ	Oxford	1.57	231	P	Pn	13 26 34.3	-1.8
AKCZ	Akaroa Harbour	1.63	201	P	Pn	13 26 35.4	-1.6
INZ	Inchbonnie	1.72	257	P	Pn	13 26 37.4	-0.8
RACZ	Rakaia	1.80	219	P	Pn	13 26 37.3	-2.0
WACZ	Wakanui South	2.10	220	P	Pn	13 26 41.6	-1.8
WVZ	Waitaha Valley	2.31	251	P	Pn	13 26 45.5	-0.8
RPZ	Rata Peaks	2.38	234	Pn	Pg	13 27 04.2	+10
	58nm,0.3s,baz=271,slow=3.0,SNR=16						
	49nm,0.4s						
RPZ	Rata Peaks	2.38	234	P	Pn	13 26 45.5	-1.8
ARCZ	Arundel	2.45	228	P	Pn	13 26 46.4	-1.8
LREZ	Lake Rotokare	2.93	11	P	Pn	13 26 53.3	-1.5
KHEZ	Kahui Hut	3.06	4	P	Pn	13 26 55.4	-1.3
NBEZ	Newall Road No	3.08	2	P	Pn	13 26 55.9	-0.9
NEZ	North Egmont	3.09	6	P	Pn	13 26 55.5	-1.6
PKE	Pukeiti	3.16	4	P	Pn	13 26 56.8	-1.2
LBZ	Lake Benmore	3.28	230	P	Pn	13 26 58.0	-1.7
PKVZ	Pokaka	3.30	23	P	Pn	13 26 59.2	-0.7
TRVZ	Turoa	3.35	25	P	Pn	13 26 59.0	-1.8
TUVZ	Tukino	3.41	26	P	Pn	13 27 00.5	-1.1
KATZ	Kakaramea	3.69	25	P	Pn	13 27 05.4	0.0
RATZ	Rangitukua	3.81	25	P	Pn	13 27 05.2	-1.8
HATZ	Hinemaiaia	3.90	28	P	Pn	13 27 07.6	-0.6
HIZ	Hauiti	3.93	13	P	Pn	13 27 05.4	-3.1
WATZ	Wairara	3.95	24	P	Pn	13 27 09.1	+0.3
EAZ	Earnscleugh	4.30	226	P	Pn	13 27 11.5	-2.2
SYZ	Scrubby Hill	5.32	216	P	Pn	13 27 26.1	-1.5
AWAZ	Awhitu Peninsu	5.33	8	P	Pn	13 27 24.9	-2.8
WTAZ	Waiatarua	5.45	7	P	Pn	13 27 27.2	-2.3
MBAZ	Motutapu North	5.65	10	P	Pn	13 27 29.8	-2.4
OUZ	Omahuta	7.12	359	P	Pn	13 27 50.5	-1.9
CTZ	Chatham Island	7.22	104	P	Pn	13 27 50.8	-2.9
ASAR	Alice Springs	37.81	287	P	P	13 33 28.6	+3.7
	0.7nm,0.4s,baz=120,slow=6.4,SNR=34						
	0.7nm,0.4s						
WRA	Warramunga Arr	39.94	292	P	P	13 33 45.7	+3.0
	1.2nm,0.5s,baz=127,slow=8.5,SNR=25						
	1.2nm,0.5s						
QSPA	South Pole Qui	47.78	180	P	P	13 34 54.0	+8.7
	3.6nm,1.1s,baz=343,slow=1.3,SNR=8.2						
	3.6nm,1.1s						
ARCES	ARCESS Array B	148.20	339	PKPbc	PKPbc	13 45 53.4	+0.3
	4.0nm,0.9s,baz=35,slow=3.3,SNR=4.8						
TORD	Torodi Ar. Bea	150.09	196	PKPbc	PKPab	13 46 03.6	-1.5
	0.9nm,0.4s,baz=149,slow=2.5,SNR=10						
FINES	FINESS Array B	152.81	326	PKPbc	PKiKP	13 46 05.1	+0.7
	2.1nm,0.9s,baz=67,slow=6.4,SNR=4.3						

WEL 14 13:26:11.5±0.4,42°S±3°×17°4E±°,h16km±3km,M4.3/18, ML4.5/18,MLv4.3/18,Error ellipse: s-maj=0.0km s-min=0.0km az=18.7,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.04	212	P	Pg	13 26 14.8	+0.4
CMWZ				S	Sg	13 26 17.7	+1.3
BSWZ	Blackbirch Sta	0.28	270	P	Pb	13 26 18.9	+0.8
BSWZ				S	Sb	13 26 24.6	+2.1
TUWZ	Tuamarina	0.36	322	P	Pb	13 26 20.5	+1.0
TUWZ				S	Sn	13 26 27.1	-1.8
TCW	Tory Channel	0.51	3	P	Pb	13 26 22.4	+0.4
TCW				S	Sb	13 26 30.2	+1.1
BHW	Baring Head	0.56	57	P	Pb	13 26 22.8	-0.2
WEL	Wellington	0.58	43	P	Pb	13 26 23.4	+0.1
WEL				S	Sb	13 26 32.1	+0.8
PLWZ	Palliser	0.77	79	P	Pb	13 26 26.7	+0.2
PLWZ				S	Sn	13 26 39.2	+0.1
MSWZ	Moikau Station	0.81	69	P	Pg	13 26 27.5	+0.2
MSWZ				S	Sn	13 26 40.2	+0.1
NNZ	Nelson	0.82	307	P	Pn	13 26 28.1	-0.2
CAW	Cannon Point	0.87	46	P	Pb	13 26 28.3	+0.1
DUWZ	D'Urville Isla	0.94	345	P	Pn	13 26 30.9	+0.8
PAWZ	Paruwai Farm	0.95	70	P	Pb	13 26 29.5	-0.1
KIW	Kapiti Island	0.99	31	P	Pg	13 26 30.6	-0.1
MTW	Mount Morrison	1.10	60	P	Pb	13 26 31.8	-0.3
TRWZ	Traveller	1.13	74	P	Pb	13 26 31.5	-1.2
OGWZ	Otaki Gorge	1.14	38	P	Pb	13 26 32.9	+0.1
TKNZ	Takaka Hill	1.18	305	P	Pn	13 26 33.0	-0.4
HOWZ	Haldesworth Sta	1.26	50	P	Pb	13 26 34.7	-0.2
TMWZ	Te Maipa	1.38	64	P	Pn	13 26 35.2	-1.0
MRZ	Mangatainoka R	1.46	44	P	Pn	13 26 37.2	0.0
TIWZ	Tintock	1.55	53	P	Pn	13 26 38.5	0.0
QRZ	Quartz Range	1.57	304	P	Pn	13 26 38.4	-0.2
CPWZ	Castlepoint	1.68	62	P	Pn	13 26 39.7	-0.5
OHWZ	Ohakea	1.71	29	P	Pb	13 26 42.8	+0.3
PRWZ	Pori Road	1.75	49	P	Pn	13 26 40.7	-0.5
POWZ	Post Office Ro	1.75	42	P	Pn	13 26 41.3	0.0
BFZ	Birch Farm	1.83	56	P	Pn	13 26 41.0	-1.3
DVHZ	Dannevirke	2.03	46	P	Pn	13 26 44.1	-0.9
ANWZ	Angora Road	2.10	54	P	Pn	13 26 45.1	-0.9
TSZ	Takapari Road	2.11	39	P	Pn	13 26 46.0	-0.1
PRHZ	Porangahau	2.32	52	P	Pn	13 26 48.1	-0.9
PNHZ	Pukenui	2.33	40	P	Pn	13 26 48.9	-0.3
WPHZ	Waipukurau	2.34	46	P	Pn	13 26 48.7	-0.7
WNVZ	Wahianoa	2.60	24	P	Pn	13 26 52.1	+0.4
BKZ	Black Stump Fm	3.07	35	P	Pn	13 26 59.0	-0.4
ARHZ	Aropaoanui	3.23	42	P	Pn	13 27 00.4	-1.0
NMHZ	Naumai	3.27	38	P	Pn	13 27 01.7	-0.5
MRHZ	Matea Rd	3.32	31	P	Pn	13 27 02.6	-0.3
TWGZ	Tauwhareparae	4.55	40	P	Pn	13 27 18.9	-0.9
RUGZ	Raukumara Rang	4.58	36	P	Pn	13 27 18.5	-1.7

WEL 14 13:34:32.4±0.4,42°S±2°×17°4E±°,h5km,M3.5/11, ML3.7/11,MLv3.5/11,Error ellipse: s-maj=0.0km s-min=0.0km az=101.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.20	196	P	Pg	13 34 36.6	+0.3
KHZ				S	Sg	13 34 39.8	+0.8
BSWZ	Blackbirch Sta	0.54	21	P	Pg	13 34 43.4	+0.6
BSWZ				S	Sg	13 34 51.0	+1.2
CMWZ	Cape Campbell	0.65	44	P	Pb	13 34 45.9	-0.3
THZ	Tophouse	0.70	311	P	Pb	13 34 46.5	-0.5
TUWZ	Tuamarina	0.83	17	P	Pb	13 34 48.8	-0.5
GVZ	Greta Valley S	0.86	210	P	Pb	13 34 49.7	-0.1
NNZ	Nelson	1.02	350	P	Pb	13 34 52.3	-0.2
MRNZ	Matariki Terra	1.04	322	P	Pg	13 34 51.0	-1.3
TCW	Tory Channel	1.13	26	P	Pg	13 34 53.7	-0.2
LTZ	Lake Taylor	1.14	240	P	Pg	13 34 54.0	-0.3
AMCZ	Amberley	1.19	216	P	Pg	13 34 54.4	-0.7
TKNZ	Takaka Hill	1.28	337	P	Pb	13 34 57.1	0.0
PLWZ	Palliser	1.39	63	P	Pn	13 34 56.2	-2.2
DSZ	Denniston Nort	1.43	289	P	Pg	13 34 59.9	+0.1
DUWZ	D'Urville Isla	1.44	9	P	Pn	13 34 59.2	+0.1
MSWZ	Moikau Station	1.46	57	P	Pn	13 34 57.4	-2.1
OKCZ	Okains Bay	1.56	195	P	Pn	13 34 58.5	-2.2
CAW	Cannon Point	1.56	45	P	Pn	13 34 59.2	-1.5
PAWZ	Paruwai Farm	1.59	59	P	Pn	13 34 58.9	-2.4
OXZ	Oxford	1.60	226	P	Pn	13 34 59.3	-2.1
QRZ	Quartz Range	1.62	329	P	Pn	13 35 01.4	-0.1
MQZ	McQueen's Vall	1.64	205	P	Pn	13 34 59.2	-2.6
KIW	Kapiti Island	1.67	36	P	Pn	13 35 01.6	-0.7
INZ	Inchbonnie	1.68	252	P	Pn	13 35 02.6	+0.1
AKCZ	Akaroa Harbour	1.73	197	P	Pn	13 35 00.7	-2.4
RACZ	Rakaia	1.85	215	P	Pn	13 35 02.5	-2.3
TMWZ	Te Maipa	2.04	58	P	Pn	13 35 04.2	-3.1
WACZ	Wakanui South	2.16	216	P	Pn	13 35 06.9	-2.0
RPZ	Rata Peaks	2.40	231	P	Pn	13 35 11.0	-1.3
ARCZ	Arundel	2.48	225	P	Pn	13 35 11.5	-1.9
WAZ	Waitanguiu	2.67	23	P	Pn	13 35 17.1	+1.0
TSZ	Takapari Road	2.79	40	P	Pn	13 35 15.0	-2.8
TMZ	Timaru	2.88	221	P	Pn	13 35 17.2	-1.7
NBEZ	Newall Road No	2.96	4	P	Pb	13 35 23.3	-2.2
PKE	Pukeiti	3.04	5	P	Pb	13 35 24.3	-2.6
VRZ	Vera Road	3.21	16	P	Pn	13 35 24.6	+1.1
LBZ	Lake Benmore	3.31	228	P	Pn	13 35 23.8	-1.0
FWVZ	Far West T-bar	3.31	27	P	Pn	13 35 25.0	0.0
SNVZ	South Ngauruho	3.40	28	P	Pn	13 35 26.6	+0.4
OTVZ	Oturere	3.43	28	P	Pn	13 35 26.3	-0.3
WTVZ	West Tongariro	3.45	26	P	Pn	13 35 29.1	+2.3
KRVZ	Karewarewa	3.48	27	P	Pb	13 35 33.3	-1.3
TMVZ	Te Maari	3.49	28	P	Pn	13 35 27.4	+0.1
ODZ	Otahua Downs	3.55	216	P	Pn	13 35 25.7	-2.4
HIZ	Hauiti	3.82	15	P	Pn	13 35 33.6	+1.7
EAZ	Earnscleugh	4.33	225	P	Pn	13 35 37.7	-1.2
TOZ	Tahuroa Road	4.71	19	P	Pn	13 35 43.7	-0.4
AWAZ	Awhitu Peninsu	5.21	9	P	Pn	13 35 51.8	+0.8
MKAZ	Moumakai	5.25	14	P	Pn	13 35 51.4	-0.1
ETAZ	East Tamaki Re	5.36	11	P	Pn	13 35 53.2	+0.2
RVAZ	Riverhead Bore	5.50	8	P	Pn	13 35 55.5	+0.7

WEL 14 13:42:43.8±0.4,43°S±2°×17°3E±°,h10km±3km,M3.4/9, ML3.7/9,MLv3.4/9,Error ellipse: s-maj=0.0km s-min=0.0km az=120.5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.37	167	P	Pb	13 42 52.1	-0.4
GVZ				S	Sb	13 42 57.9	-0.4
KHZ	Kahutara	0.49	68	P	Pb	13 42 54.5	0.0
KHZ				S	Sb	13 43 01.7	0.0
LTZ	Lake Taylor	0.51	250	P	Pb	13 42 54.8	-0.2
LTZ				S	Sb	13 43 02.2	-0.2
AMCZ	Amberley	0.61	199	P	Pb	13 42 56.7	+0.2
THZ	Tophouse	0.84	359	P	Pb	13 43 00.9	+0.3
THZ				S	Sb	13 43 11.5	-0.4
OXZ	Oxford	0.97	222	P	Pg	13 43 02.6	0.0
OXZ				S	Sb	13 43 16.2	+0.6
MQZ	McQueen's Vall	1.12	190	P	Pb	13 43 04.1	-1.1
OKCZ	Okains Bay	1.12	175	P	Pb	13 43 04.8	-0.6
DSZ	Denniston Nort	1.20	316	P	Pg	13 43 08.1	+1.3
RACZ	Rakaia	1.26	207	P	Pn	13 43 06.3	-1.2
AKCZ	Akaroa Harbour	1.27	180	P	Pn	13 43 06.0	-1.3
TUWZ	Tuamarina	1.40	33	P	Pn	13 43 08.4	-1.0
WACZ	Wakanui South	1.56	210	P	Pn	13 43 10.4	-1.1
WVZ	Waitaha Valley	1.68	253	P	Pb	13 43 14.0	-0.7
RPZ	Rata Peaks	1.76	230	P	Pn	13 43 13.7	-0.7
ARCZ	Arundel	1.85	223	P	Pn	13 43 14.6	-1.0
PLWZ	Palliser	2.02	60	P	Pn	13 43 15.5	-2.5
PAWZ	Paruwai Farm	2.23	58	P	Pn	13 43 18.0	-2.8
TMZ	Timaru	2.26	217	P	Pn	13 43 20.3	-0.9
KIW	Kapiti Island	2.29	41	P	Pn	13 43 18.7	-2.9
TRWZ	Traveller	2.39	61	P	Pn	13 43 20.1	-2.8
MTW	Mount Morrison	2.41	54	P	Pn	13 43 20.2	-3.1
OGWZ	Otaki Gorge	2.45	44	P	Pn	13 43 21.6	-2.3
FOZ	Fox Glacier	2.46	247	P	Pn	13 43 25.2	+1.3
LBZ	Lake Benmore	2.67	227	P	Pn	13 43 26.3	-0.6
TMWZ	Te Maipa	2.67	57	P	Pn	13 43 23.7	-3.2
MRZ	Mangatainoka R	2.78	47	P	Pn	13 43 25.6	-2.8
ODZ	Otahua Downs	2.94	213	P	Pn	13 43 29.3	-1.3
PRWZ	Pori Road	3.07	49	P	Pn	13 43 34.0	+1.7
BFZ	Birch Farm	3.15	53	P	Pn	13 43 29.9	-3.5
DVHZ	Dannevirke	3.35	48	P	Pn	13 43 39.2	+2.9
PKE	Pukeiti	3.50	14	P	Pn	13 43 42.0	+3.7
EAZ	Earnscleugh	3.70	224	P	Pn	13 43 39.7	-1.3
BHHZ	Black Hill Sta	3.91	38	P	Pn	13 43 47.7	+3.7
CKHZ	Cape Kidnapper	4.30	48	P	Pn	13 43 51.1	+1.8
TOZ	Tahuroa Road	5.25	23	P	Pn	13 44 03.2	+0.8
OPRZ	Ohinepanea	5.51	31	P	Pn	13 44 07.2	+1.3
MKAZ	Moumakai	5.76	18	P	Pn	13 44 10.8	+1.5

*WEL **14** 13:47:00,42.41S×173.93E,h7km,ML4.1,Mw3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr2.19; Mθθ1.39; Mϕϕ-3.58; Mrθ0.60; Mθϕ-2.61; Mϕr1.63; Fault plane solution: Mo3.88000×10^14 NP1: ϕs236.00000°,δ41.00000°,λ139.00000°. NP2: ϕs360.00000°,δ65.00000°,λ57.00000°. Principal axes: T -51.0700, Plg57.0000°, Azm225.0000°; N 24.5000, Plg29.0000°, Azm15.0000°; P 26.5700, Plg13.0000°, Azm113.0000°;*

*IDC **14** 13:47:56.6±2.3,42.49S×173.16E,h0km,mb3.4/2, mbtmp3.4/2 Error ellipse: s-maj=47.2km s-min=35.4km az=124.0*

*WEL **14** 13:47:57.9±0.5,42.3S±3°×17°3E±°,h12km,M3.6/10, ML3.8/4,MLv3.6/10,Error ellipse: s-maj=0.0km s-min=0.0km az=133.5*

ISC 14 13:47:58.3±1.4,42.45S±0.04×173.20E±0.05,h15km±11km, n16,σ0↑81/21,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.25	83	P	Pg	13 48 04.1	+0.4
KHZ				S	Sb	13 48 08.7	0.0
GVZ	Greta Valley S	0.53	193	P	Pb	13 48 09.1	-0.2
GVZ				S	Sb	13 48 17.2	+0.3
THZ	Tophouse	0.72	342	P	Pn	13 48 13.4	-0.5
THZ				S	Sb	13 48 22.8	+0.6
LTZ	Lake Taylor	0.76	244	P	Pb	13 48 12.9	-0.4
LTZ				S	Sb	13 48 23.3	-0.2
MRNZ	Matariki Terra	1.10	342	P	Pb	13 48 18.2	-0.8
MQZ	McQueen's Vall	1.32	197	P	Pn	13 48 21.1	-1.1
RPZ	Rata Peaks	2.02	230	Pn	Pn	13 48 31.8	-0.1
	69nm,0.3s,baz=98,slow=2.5,SNR=40						
RPZ				Sn	Sn	13 48 56.5	-0.3
	30nm,0.3s,baz=147,slow=24,SNR=12						
RPZ	Rata Peaks	2.02	230	P	Pn	13 48 32.0	+0.2
ARCZ	Arundel	2.11	224	P	Pn	13 48 33.0	-0.1
GCSZ	Gaunt Creek Bo	2.28	247	P	Pn	13 48 37.3	-1.9
TMZ	Timaru	2.51	219	P	Pn	13 48 39.2	+0.6
FOZ	Fox Glacier	2.71	245	P	Pn	13 48 43.2	+1.9
LBZ	Lake Benmore	2.93	228	P	Pn	13 48 44.7	+0.4
ASAR	Alice Springs	37.48	287	P	P	13 55 11.8	+0.4
	0.3nm,0.6s,baz=128,slow=6.8,SNR=5.5						
	0.3nm,0.6s						
WRA	Warramunga Arr	39.63	292	P	P	13 55 29.9	+0.5
	0.5nm,0.7s,baz=128,slow=8.5,SNR=3.6						
	0.5nm,0.7s						
TORD	Torodi Ar. Bea	149.89	197	PKPbc	PKPbc	14 07 48.5	+0.2
	0.5nm,0.3s,baz=145,slow=2.5,SNR=7.2						

*KRNET **14** 13:48:48.0±0.1,39.75N×72.68E,mb2.9 ISU **14** 13:48:52,40.68N×71.78E,h30km*

ISC 14 13:48:48.2±2.1,39.87N±0.08×72.59E±0.08,h10km±14km, n9,σ1⇑03/16,10C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	Osh	0.67	13	⇑iP	Pb	13 49 03.0	+0.9
	baz=6.0						
OHH				⇑iS	Sn	13

*NEIC **14** 13:50:50.3±1.2,41°.62S±0°.03×174°.43E±0°.02,h21km±7km, mb4.3/7,Error ellipse: s-maj=4.8km s-min=2.1km az=189.0*

*IDC **14** 13:50:55.9±1.4,41°.32S×172°.91E,h0km,mb4.0/4, mbtmp4.0/5,ML3.5/1,MS3.4/4,Error ellipse: s-maj=38.7km s-min=24.3km az=114.0*

ISC 14 13:50:51.1±0.7,41°.68S±0°.03×174°.46E±0°.02,h21km±1km, n159,σ1§96/177,mb4.2/10,MS3.1/3,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.20**	**249**	Pg	**Pb**	**13 50 58.6**	**-0.5**
CMWZ	**Cape Campbell**	**0.20**	**249**	P	**Pb**	**13 50 56.8**	**-0.2**
CMWZ				S	**Sb**	**13 51 02.2**	**+1.0**
SNZO	**South Karori**	**0.41**	**27**	Pg	**Pb**	**13 50 58.6**	**-1.0**
SNZO				Sg	**Sb**	**13 51 04.0**	**-1.4**
BSWZ	**Blackbirch Sta**	**0.44**	**265**		**Pb**	**13 50 59.5**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.44**	**265**	P	**Pb**	**13 50 59.8**	**-0.3**
BSWZ				S	**Sb**	**13 51 06.7**	**+0.5**
WEL	**Wellington**	**0.46**	**31**	P	**Pb**	**13 50 59.7**	**-0.8**
WEL				S	**Sb**	**13 51 06.0**	**-0.8**
TUWZ	**Tuamarina**	**0.46**	**303**		**Pb**	**13 50 58.9**	**-1.6**
TUWZ				Sg	**Sb**	**13 51 04.4**	**-2.5**
TUWZ	**Tuamarina**	**0.46**	**303**	P	**Pb**	**13 50 59.0**	**-1.4**
TUWZ				S	**Sb**	**13 51 04.8**	**-2.0**
TCW	**Tory Channel**	**0.49**	**344**	P	**Pb**	**13 50 59.2**	**-1.8**
TCW				S	**Sb**	**13 51 05.0**	**-2.7**
PLWZ	**Palliser**	**0.61**	**80**	P	**Pn**	**13 51 03.9**	**-0.6**
MSWZ	**Moikau Station**	**0.65**	**66**		**Pn**	**13 51 03.9**	**-1.2**
MSWZ	**Moikau Station**	**0.65**	**66**	P	**Pn**	**13 51 04.2**	**-1.0**
MSWZ				S	**Sn**	**13 51 13.9**	**-0.8**
CAW	**Cannon Point**	**0.73**	**39**	P	**Pb**	**13 51 04.5**	**-0.7**
CAW				S	**Sb**	**13 51 14.1**	**-0.7**
PAWZ	**Paruwai Farm**	**0.79**	**68**	P	**Pn**	**13 51 06.5**	**-0.5**
PAWZ				S	**Sn**	**13 51 18.9**	**+0.8**
KIW	**Kapiti Island**	**0.89**	**23**	P	**Pb**	**13 51 06.6**	**-1.2**
KIW				S	**Sb**	**13 51 18.1**	**-1.1**
NNZ	**Nelson**	**0.93**	**299**		**Pb**	**13 51 07.0**	**-1.6**
NNZ				Sg	**Sb**	**13 51 18.0**	**-2.5**
NNZ	**Nelson**	**0.93**	**299**	P	**Pb**	**13 51 07.3**	**-1.3**
NNZ				S	**Sb**	**13 51 19.3**	**-1.2**
MTW	**Mount Morrison**	**0.94**	**57**	P	**Pn**	**13 51 08.4**	**-0.7**
MTW				S	**Sn**	**13 51 22.6**	**+0.7**
DUWZ	**D'Urville Isla**	**0.97**	**335**	P	**Pb**	**13 51 07.6**	**-1.6**
DUWZ				S	**Sb**	**13 51 19.0**	**-2.5**
TRWZ	**Traveller**	**0.97**	**73**	P	**Pn**	**13 51 08.8**	**-0.6**
TRWZ				S	**Sn**	**13 51 27.0**	**+4.5**
KHZ	**Kahutara**	**1.00**	**223**	Pn	**Pn**	**13 51 09.8**	**-0.2**
KHZ				Sn	**Sn**	**13 51 23.8**	**+0.3**
KHZ	**Kahutara**	**1.00**	**223**	P	**Pn**	**13 51 09.7**	**-0.2**
KHZ				S	**Sn**	**13 51 24.1**	**+0.7**
OGWZ	**Otaki Gorge**	**1.02**	**32**	P	**Pb**	**13 51 09.0**	**-1.0**
OGWZ				S	**Sb**	**13 51 21.5**	**-1.4**
HOWZ	**Holdsworth Sta**	**1.12**	**46**	P	**Pn**	**13 51 10.7**	**-0.8**
HOWZ				S	**Sn**	**13 51 25.9**	**-0.4**
THZ	**Tophouse**	**1.17**	**265**	Pn	**Pn**	**13 51 11.7**	**-0.6**
THZ	**Tophouse**	**1.17**	**265**	P	**Pn**	**13 51 12.0**	**-0.2**
TMWZ	**Te Maipa**	**1.22**	**63**	P	**Pn**	**13 51 12.1**	**-0.9**
TKNZ	**Takaka Hill**	**1.30**	**299**	P	**Pn**	**13 51 13.4**	**-0.7**
MRNZ	**Matariki Terra**	**1.31**	**282**	P	**Pn**	**13 51 14.0**	**-0.1**
MRZ	**Mangatainoka R**	**1.32**	**40**		**Pn**	**13 51 13.4**	**-1.0**
MRZ	**Mangatainoka R**	**1.32**	**40**	P	**Pn**	**13 51 13.7**	**-0.7**
TIWZ	**Tintock**	**1.41**	**51**	P	**Pn**	**13 51 14.4**	**-1.1**
CPWZ	**Castlepoint**	**1.52**	**60**	P	**Pb**	**13 51 20.7**	**+2.1**
PRWZ	**Pori Road**	**1.60**	**46**	P	**Pn**	**13 51 17.3**	**-0.9**
OHWZ	**Ohakea**	**1.61**	**24**	P	**Pn**	**13 51 19.1**	**-1.1**
POWZ	**Post Office Ro**	**1.62**	**38**	P	**Pn**	**13 51 17.7**	**-0.8**
BFZ	**Birch Farm**	**1.68**	**54**		**Pn**	**13 51 17.0**	**-2.2**
BFZ	**Birch Farm**	**1.68**	**54**	P	**Pn**	**13 51 17.7**	**-1.5**
QRZ	**Quartz Range**	**1.69**	**300**		**Pn**	**13 51 18.9**	**-0.5**
QRZ	**Quartz Range**	**1.69**	**300**	P	**Pn**	**13 51 19.9**	**+0.6**
DVHZ	**Dannevirke**	**1.89**	**44**	P	**Pn**	**13 51 20.7**	**-1.5**
ANWZ	**Angora Road**	**1.95**	**52**	P	**Pn**	**13 51 21.7**	**-1.3**
WAZ	**Wanganui**	**1.96**	**12**	P	**Pb**	**13 51 25.8**	**-0.4**
TSZ	**Takapari Road**	**1.98**	**36**	P	**Pn**	**13 51 22.3**	**-1.1**
DSZ	**Denniston Nort**	**1.99**	**267**	P	**Pn**	**13 51 23.7**	**+0.2**
AMCZ	**Amberley**	**2.01**	**221**	P	**Pn**	**13 51 20.4**	**-3.4**
PRHZ	**Porangahau**	**2.17**	**50**	P	**Pn**	**13 51 24.1**	**-1.9**
PNHZ	**Pukenui**	**2.21**	**37**	P	**Pn**	**13 51 25.1**	**-1.4**
WPHZ	**Waipukurau**	**2.21**	**44**	P	**Pn**	**13 51 25.1**	**-1.4**
LREZ	**Lake Rotokare**	**2.22**	**359**	P	**Pb**	**13 51 29.0**	**-1.5**
OKCZ	**Okains Bay**	**2.29**	**206**	P	**Pn**	**13 51 26.6**	**-1.1**
NMEZ	**Namu Road**	**2.31**	**349**	P	**Pn**	**13 51 30.8**	**-1.2**
KHEZ	**Kahui Hut**	**2.41**	**352**	P	**Pb**	**13 51 32.0**	**-1.7**
MTVZ	**Mangateitei**	**2.42**	**19**	P	**Pb**	**13 51 33.1**	**-0.8**
NEZ	**North Egmont**	**2.42**	**353**	P	**Pb**	**13 51 32.2**	**-1.9**
MQZ	**McQueen's Vall**	**2.42**	**213**		**Pn**	**13 51 27.3**	**-2.1**
MQZ	**McQueen's Vall**	**2.42**	**213**	P	**Pn**	**13 51 27.8**	**-1.7**
OXZ	**Oxford**	**2.43**	**227**	Pn	**Pn**	**13 51 26.1**	**-3.4**
OXZ	**Oxford**	**2.43**	**227**	P	**Pn**	**13 51 26.3**	**-3.3**
NBEZ	**Newall Road No**	**2.45**	**349**	P	**Pn**	**13 51 31.7**	**+1.9**
PXZ	**Pawanui**	**2.46**	**49**	P	**Pn**	**13 51 27.5**	**-2.4**
AKCZ	**Akaroa Harbour**	**2.47**	**207**	P	**Pn**	**13 51 28.9**	**-1.2**
INZ	**Inchbonnie**	**2.47**	**244**	P	**Pb**	**13 51 34.7**	**-0.1**
MOVZ	**Moawhango**	**2.48**	**24**	P	**Pb**	**13 51 32.8**	**-2.1**
PKVZ	**Pokaka**	**2.48**	**16**	P	**Pb**	**13 51 34.2**	**-0.8**
DREZ	**Durham Road**	**2.50**	**355**	P	**Pb**	**13 51 32.9**	**-2.3**
BHHZ	**Black Hill Sta**	**2.51**	**30**	P	**Pn**	**13 51 30.0**	**-0.7**
WNVZ	**Wahianoa**	**2.51**	**21**	P	**Pb**	**13 51 34.4**	**-1.1**
PKE	**Pukeiti**	**2.51**	**352**	P	**Pb**	**13 51 32.9**	**+2.2**
DRZ	**Dome Shelter**	**2.54**	**20**	P	**Pb**	**13 51 35.6**	**-0.7**
WHVZ	**Whangaehu Hut**	**2.54**	**20**	P	**Pb**	**13 51 34.8**	**-1.5**
FWVZ	**Far West T-bar**	**2.56**	**19**	P	**Pb**	**13 51 34.7**	**-1.8**
VRZ	**Vera Road**	**2.56**	**5**	P	**Pn**	**13 51 33.1**	**+1.8**
TUVZ	**Tukino**	**2.58**	**21**	P	**Pb**	**13 51 35.1**	**-1.6**
MHEZ	**Mangahewa**	**2.60**	**358**	P	**Pb**	**13 51 35.7**	**-1.4**
KAHZ	**Kahuranaki**	**2.63**	**45**	P	**Pn**	**13 51 30.3**	**-2.1**
NGZ	**Ngauruhoe**	**2.65**	**20**	P	**Pb**	**13 51 36.2**	**-1.7**
SNVZ	**South Ngauruho**	**2.65**	**20**	P	**Pb**	**13 51 36.3**	**-1.7**
RACZ	**Rakaia**	**2.67**	**219**	P	**Pn**	**13 51 30.4**	**-2.4**
OTVZ	**Oturere**	**2.68**	**21**	P	**Pb**	**13 51 36.9**	**-1.5**
NNVZ	**North Ngauruho**	**2.69**	**20**	P	**Pb**	**13 51 36.8**	**-2.0**
WTVZ	**West Tongariro**	**2.70**	**19**	P	**Pb**	**13 51 37.0**	**-1.9**
KWHZ	**Kaweka Forest**	**2.71**	**34**	P	**Pn**	**13 51 31.2**	**-2.2**
TWVZ	**Taurewa**	**2.71**	**16**	P	**Pb**	**13 51 36.8**	**-2.2**
ETVZ	**East Tongariro**	**2.71**	**21**	P	**Pb**	**13 51 37.7**	**-1.3**
TMVZ	**Te Maari**	**2.73**	**21**	P	**Pb**	**13 51 37.3**	**-2.0**
KRVZ	**Karewarewa**	**2.74**	**20**	P	**Pb**	**13 51 38.0**	**-1.4**
NTVZ	**North Tongarir**	**2.74**	**20**	P	**Pb**	**13 51 37.6**	**-1.9**
MCHZ	**McNeill Hill**	**2.81**	**38**	P	**Pn**	**13 51 33.1**	**-1.7**
KATZ	**Kakaramea**	**2.86**	**20**	P	**Pn**	**13 51 41.4**	**-0.2**
BKZ	**Black Stump Fm**	**2.95**	**32**	Pn	**Pn**	**13 51 34.6**	**-2.2**
BKZ	**Black Stump Fm**	**2.95**	**32**	P	**Pn**	**13 51 34.9**	**-1.9**
BKZ				P	**Pn**	**13 51 34.9**	**-1.9**
RATZ	**Rangitukua**	**2.98**	**20**	P	**Pb**	**13 51 42.7**	**-0.9**
HATZ	**Hinemaiaia**	**3.05**	**25**	P	**Pb**	**13 51 42.6**	**-2.1**
WVZ	**Waitaha Valley**	**3.09**	**242**	P	**Pn**	**13 51 39.3**	**+0.7**
ARHZ	**Aropaoanui**	**3.09**	**40**	P	**Pn**	**13 51 36.5**	**-2.2**
WATZ	**Wairara**	**3.12**	**19**	P	**Pb**	**13 51 43.5**	**-2.5**
NMHZ	**Naumai**	**3.14**	**36**	P	**Pn**	**13 51 37.5**	**-2.0**
HIZ	**Hauiti**	**3.18**	**6**	P	**Pn**	**13 51 42.8**	**+3.0**
MRHZ	**Matea Rd**	**3.21**	**28**	P	**Pn**	**13 51 38.4**	**-2.0**
RPZ	**Rata Peaks**	**3.23**	**230**	Pn	**Pn**	**13 51 39.2**	**-1.4**
	8.3nm,0.3s,baz=49,slow=6.0,SNR=1.9						
RPZ				Sn	**Sn**	**13 52 15.5**	**-2.9**
	22nm,0.3s,baz=166,slow=23,SNR=9.2						
	20nm,0.3s						
RPZ	**Rata Peaks**	**3.23**	**230**	P	**Pn**	**13 51 39.2**	**-1.4**
ARCZ	**Arundel**	**3.31**	**226**	P	**Pn**	**13 51 40.8**	**-0.9**
ALRZ	**Allen Road**	**3.43**	**26**	P	**Pn**	**13 51 41.4**	**-2.0**
TLZ	**Tolley Road**	**3.45**	**14**	P	**Pb**	**13 51 47.2**	**-4.3**
HRRZ	**Handcock Road**	**3.57**	**24**	P	**Pn**	**13 51 44.0**	**-1.3**
RRRZ	**Republican Roa**	**3.69**	**26**	P	**Pn**	**13 51 44.5**	**-2.5**
TMZ	**Timaru**	**3.70**	**222**	P	**Pn**	**13 51 46.5**	**-0.6**
TARZ	**Mount Tarawera**	**3.78**	**25**	P	**Pn**	**13 51 46.4**	**-1.9**
MKRZ	**Makatiti**	**3.86**	**24**	P	**Pb**	**13 51 54.2**	**-4.4**
FOZ	**Fox Glacier**	**3.89**	**240**	Pn	**Pn**	**13 51 48.8**	**-0.8**
FOZ	**Fox Glacier**	**3.89**	**240**	P	**Pn**	**13 51 49.2**	**-0.5**
TOZ	**Tahuroa Road**	**4.03**	**12**	P	**Pn**	**13 51 53.8**	**+2.3**
MWZ	**Matawai**	**4.09**	**36**	P	**Pn**	**13 51 48.3**	**-4.1**
LBZ	**Lake Benmore**	**4.14**	**228**	P	**Pn**	**13 51 52.6**	**-0.4**
TKGZ	**Te Karaka**	**4.15**	**40**	P	**Pn**	**13 51 49.4**	**-3.9**
OPRZ	**Ohinepanea**	**4.16**	**24**	P	**Pn**	**13 51 51.0**	**-2.3**
TGRZ	**Tauranga**	**4.18**	**20**	P	**Pn**	**13 51 53.1**	**-0.6**
ODZ	**Otahua Downs**	**4.36**	**218**	P	**Pn**	**13 51 53.0**	**-3.1**
TWGZ	**Tauwhareparae**	**4.42**	**39**	P	**Pn**	**13 51 54.0**	**-3.1**
RUGZ	**Raukumara Rang**	**4.46**	**35**	P	**Pn**	**13 51 54.1**	**-3.5**
MKAZ	**Moumakai**	**4.60**	**7**	P	**Pn**	**13 52 00.7**	**+1.3**
AWAZ	**Awhitu Peninsu**	**4.61**	**2**	P	**Pn**	**13 52 00.2**	**+0.6**
HAZ	**Te Kaha**	**4.68**	**34**	P	**Pn**	**13 51 57.6**	**-2.9**
PKGZ	**Pakihiroa**	**4.70**	**38**	P	**Pn**	**13 51 57.1**	**-3.7**
ETAZ	**East Tamaki Re**	**4.73**	**5**	P	**Pn**	**13 52 03.0**	**+1.7**
WTAZ	**Waiatarua**	**4.74**	**1**	P	**Pn**	**13 52 03.0**	**+1.6**
JCZ	**Jackson Bay**	**4.80**	**238**	P	**Pn**	**13 52 05.3**	**+3.0**
RVAZ	**Riverhead Bore**	**4.90**	**1**	P	**Pn**	**13 52 04.6**	**+1.0**
WIAZ	**Waiheke Island**	**4.91**	**6**	P	**Pn**	**13 52 06.7**	**+3.1**
WMGZ	**Waiomatatini S**	**4.92**	**40**	P	**Pn**	**13 52 00.1**	**-3.6**
MBAZ	**Motutapu North**	**4.92**	**4**	P	**Pn**	**13 52 05.1**	**+1.3**
KUZ	**Kuaotunu**	**5.02**	**12**	P	**Pn**	**13 52 06.8**	**+1.6**
HHSZ	**Highcliff Hill**	**5.05**	**212**	P	**Pn**	**13 52 04.0**	**-1.5**
MXZ	**Matakaoa Point**	**5.07**	**37**	Pn	**Pn**	**13 52 02.3**	**-3.6**
EAZ	**Earnscleugh**	**5.16**	**225**	P	**Pn**	**13 52 05.8**	**-1.3**
TUZ	**Tuapeka**	**5.52**	**218**	P	**Pn**	**13 52 11.2**	**-0.8**
WHZ	**Wether Hill Ro**	**6.32**	**226**	Pn	**Pn**	**13 52 22.1**	**-0.9**
DCZ	**Deep Cove**	**6.51**	**232**	Pn	**Pn**	**13 52 23.7**	**-1.9**
RAO	**Raoul Island**	**13.86**	**29**	LR	LR	13 59 18.3	
	comp=Z,213nm,19.2s,baz=216,slow=36						
DZM	**Mont Dzumac**	**20.68**	**339**	LR	LR	14 02 04.1	
	comp=Z,71nm,18.6s,baz=206,slow=34						
MSVF	**Nonsavu**	**24.06**	**8**	P	**P**	**13 56 10.5**	**+5.5**
	11nm,0.8s,baz=181,slow=9.4,SNR=7.6						
	11nm,0.8s						
RAR	**Rarotonga**	**29.80**	**55**	LR	LR	14 10 16.5	
	comp=Z,46nm,18.1s,baz=177,slow=38						
AS31	**Alice Springs**	**38.16**	**285**	P	**P**	**13 58 07.7**	**-1.4**
AS31				IAmb	IAmb	13 58 46.3	
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**38.16**	**285**	P	**P**	**13 58 07.2**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=120,slow=6.6,SNR=9.3						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**38.16**	**285**	P	**P**	**13 58 07.9**	**-1.2**
WR0	**Warramunga Arr**	**40.07**	**290**	P	**P**	**13 58 22.2**	**-2.8**
WR0				IAmb	IAmb	13 58 41.4	
	comp=Z,5.2nm,1.2s						
WB2	**Warramunga Arr**	**40.22**	**290**	P	**P**	**13 58 24.0**	**-2.3**
WB2				IAmb	IAmb	13 58 32.8	
	comp=Z,4.9nm,0.5s						
WRAB	**Tennant Creek**	**40.22**	**290**	P	**P**	**13 58 24.3**	**-2.0**
WRA	**Warramunga Arr**	**40.22**	**290**	P	**P**	**13 58 23.4**	**-3.0**
	comp=Z,1.6nm,0.6s,baz=127,slow=8.1,SNR=21						
	comp=Z,1.6nm,0.6s						
WRA	**Warramunga Arr**	**40.22**	**290**	P	**P**	**13 58 24.1**	**-2.3**
WB0	**Warramunga Arr**	**40.30**	**290**	P	**P**	**13 58 24.8**	**-2.1**
WB0				IAmb	IAmb	13 58 33.6	
	comp=Z,3.7nm,0.6s						
QSPA	**South Pole Qui**	**48.45**	**180**	P	**P**	**13 59 32.9**	**+1.2**
QSPA				IAmb	IAmb	13 59 50.0	
	comp=Z,9.4nm,1.4s						
SIJI	**Sorong**	**56.22**	**305**	LR	LR	14 23 46.8	
	comp=Z,32nm,21.0s,baz=307,slow=36						
CMAR	**Chiang Mai Arr**	**91.75**	**293**	P	**P**	**14 04 01.2**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=163,slow=2.2,SNR=4.3						
	comp=Z,0.2nm,0.3s						
HHC	**Hu-ho-hao-te**	**99.94**	**317**	*eP*	**Pdif**	**14 04 34.4**	**+0.2**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
ARCES	**ARCESS Array B**	**147.76**	**340**	PKPbc	**PKPab**	**14 10 38.1**	**+2.6**
	comp=Z,5.9nm,0.9s,baz=333,slow=4.5,SNR=7.2						
TORD	**Torodi Ar. Bea**	**150.88**	**195**	PKPbc	**PKPab**	**14 10 51.5**	**+2.0**
	comp=Z,0.8nm,0.4s,baz=148,slow=2.7,SNR=7.8						
FINES	**FINESS Array B**	**152.56**	**327**	PKPbc	**PKPab**	**14 10 50.5**	**-4.9**
	comp=Z,1.6nm,0.6s,baz=157,slow=1.5,SNR=4.9						

*THE **14** 13:50:51.9,37°.47N×22°.08E,h0km±2km,ML2.5/8,Error ellipse: s-maj=2.9km s-min=0.6km az=101.0*

ATH 14 13:50:51.8,37°.46N×22°.06E,h9km±2km,ML2.5/12,Error ellipse: s-maj=2.2km s-min=0.7km az=250.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.30**	**200**	P	Pb	13 50 58.8	-0.6
ITM				S	Sg	13 51 02.3	+0.5
	1µm,0.2s						
ITM	**Ithomi**	**0.30**	**200**	P	Pg	13 50 57.8	0.0
ITM				S	Sg	13 51 01.4	-0.4
ITM				AML	AML	13 51 03.0	
	comp=E,2236µm,0.2s						
ITM				AML	AML	13 51 03.3	
	comp=N,2389µm,0.3s						
DRO	**Drossia**	**0.56**	**331**	P	Pg	13 51 03.1	+0.4
DRO				S	Sb	13 51 11.1	-0.9
	comp=N,1µm,0.5s						
DRO	**Drossia**	**0.56**	**331**	P	Pg	13 51 02.7	0.0
DRO				S	Sg	13 51 10.5	+0.4
DRO				AML	AML	13 51 13.2	
	comp=N,2410µm,0.5s						
DRO				AML	AML	13 51 17.9	
	comp=E,2841µm,0.5s						
PYL	**PYLOS**	**0.62**	**204**	P	Pg	13 51 04.1	+0.3
PYL				S	Sb	13 51 12.9	-0.7
	comp=E,360nm,0.4s						
PYL	**PYLOS**	**0.62**	**204**	P	Pg	13 51 03.9	+0.1
PYL				S	Sg	13 51 12.3	+0.5
PYL				AML	AML	13 51 15.8	
	comp=N,533µm,0.4s						
PYL				AML	AML	13 51 16.0	
	comp=E,894µm,0.4s						
THAL	**Thalero**	**0.75**	**40**	P	Pg	13 51 05.9	-0.4
THAL				S	Sg	13 51 16.3	+0.3
THAL				AML	AML	13 51 21.1	
	comp=E,1717µm,0.2s						
THAL				AML	AML	13 51 24.1	
	comp=N,1427µm,0.4s						
RLS	**Riolos of Patr**	**0.76**	**322**	P	Pg	13 51 06.0	-0.4
RLS				S	Sb	13 51 17.1	-0.5
	comp=N,248nm,0.3s						
RLS	**Riolos of Patr**	**0.76**	**322**	P	Pg	13 51 05.9	-0.6
RLS				S	Sg	13 51 16.5	+0.2
RLS				AML	AML	13 51 21.1	
	comp=E,457µm,0.3s						
RLS				AML	AML	13 51 21.4	
	comp=N,525µm,0.4s						
LAKA	**Lakka**	**0.78**	**355**	P	Pg	13 51 06.4	-0.5
LAKA				S	Sb	13 51 18.0	-0.3
	comp=N,1µm,0.4s						
LAKA	**Lakka**	**0.78**	**355**	P	Pg	13 51 06.4	-0.5
LAKA				S	Sg	13 51 17.2	+0.2
LAKA				AML	AML	13 51 19.8	
	comp=E,2337µm,0.4s						
LAKA				AML	AML	13 51 20.3	
	comp=N,3639µm,0.3s						
SERG	**Sergoula**	**0.95**	**360**	P	Pg	13 51 09.2	-0.9
SERG				S	Sb	13 51 24.0	+0.8
	comp=N,260nm,0.2s						
SERG	**Sergoula**	**0.95**	**360**	P	Pg	13 51 09.4	-0.7
SERG				S	Sg	13 51 22.4	-0.1
SERG				AML	AML	13 51 25.1	
	comp=E,615µm,0.3s						
SERG				AML	AML	13 51 25.5	
	comp=N,720µm,0.2s						
EFP	**Efpalio**	**0.97**	**353**	P	Pg	13 51 10.1	-0.4
EFP				S	Sn	13 51 24.8	-0.8
	comp=N,278nm,0.2s						
EFP	**Efpalio**	**0.97**	**353**	P	Pg	13 51 10.0	-0.5
EFP				S	Sb	13 51 23.5	-0.2
EFP				AML	AML	13 51 27.3	
	comp=N,612µm,0.3s						
EFP				AML	AML	13 51 27.6	
	comp=E,453µm,0.2s						
LTHK	**Lithakia**	**1.00**	**285**	P	Pb	13 51 11.5	+0.2
LTHK				S	Sn	13 51 26.6	+0.3
LTHK	**Lithakia**	**1.00**	**285**	P	Pg	13 51 10.5	-0.5
LTHK				S	Sg	13 51 24.0	0.0
LTHK				AML	AML	13 51 32.5	
	comp=N,522µm,0.4s						
LTHK				AML	AML	13 51 33.5	
	comp=E,558µm,0.5s						
VLI	**Velíai**	**1.02**	**136**	P	Pg	13 51 11.2	-0.3
VLI				S	Sb	13 51 25.0	-0.2
VLI				AML	AML	13 51 30.2	
	comp=E,249µm,0.7s						
VLI				AML	AML	13 51 31.0	
	comp=N,341µm,0.6s						
ANX	**Ano Chora**	**1.14**	**355**	P	Pg	13 51 12.7	-0.9
ANX				S	Sn	13 51 30.0	+0.2
	comp=N,688nm,0.5s						
ANX	**Ano Chora**	**1.14**	**355**	P	Pg	13 51 12.8	-0.9
ANX				S	Sg	13 51 28.4	0.0
ANX				AML	AML	13 51 32.1	
	comp=N,1766µm,0.5s						
ANX				AML	AML	13 51 34.1	
	comp=E,982µm,0.5s						
VIL2	**Platees**	**1.22**	**52**	P	Pb	13 51 14.3	-0.8
VIL2				S	Sb	13 51 30.5	-0.4
VIL2				AML	AML	13 51 39.4	
	comp=N,184µm,0.5s						
VIL2				AML	AML	13 51 42.8	
	comp=E,193µm,0.5s						
KTHA	**Kythira Island**	**1.45**	**146**	P	Pb	13 51 19.1	+0.1

*KRSC **14** 13:59:45.8±1.0,51°.12N×157°.27E,h108km±8km,ML4.4*
*MOS **14** 13:59:46.3±0.9,51°.25N×156°.90E,h116km,mb4.2/18, Error ellipse: s-maj=11.4km s-min=4.1km az=69.9*
*IDC **14** 13:59:49.5±1.4,51°.43N×156°.77E,h131km±11km, mb3.7/14,mbtmp4.1/19,Error ellipse: s-maj=19.4km s-min=9.5km az=152.0*
*NEIC **14** 13:59:49.3±1.1,51°.5N±0°.1×156°.7E±0°.2,h124km±6km, mb4.4/125,Error ellipse: s-maj=18.7km s-min=10.7km az=132.0*

ISC 14 13:59:47.1±0.6,51°.24N±0°.05×157°.00E±0°.06,h110km±5km, n268,σ1§03/279,mb4.3/78,2C-2D,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.26**	**333**	*eP*	**Pn**	**14 00 02.9**	**+0.2**
PAU	**Pauzhetka**	**0.26**	**333**	PN	**Pn**	**14 00 02.9**	**+0.2**
SKR	**Severo-Kuril's**	**0.79**	**225**	*eP*	**Pn**	**14 00 06.6**	**+0.4**
SKR				*eS*	**Sn**	**14 00 21.1**	**+0.5**
SKR	**Severo-Kuril's**	**0.79**	**225**	*i* PN	**Pn**	**14 00 06.7**	**+0.5**
SKR				*eS*	**Sn**	**14 00 21.2**	**+0.6**
SKR				pmax	pmax		
	comp=Z,996nm,0.3s						
SKR				smax	smax		
	comp=N,5µm,0.2s						
SKR				smax	smax		
	comp=E,6µm,0.7s						
KDTR	**Khodutka, Kamc**	**0.88**	**49**	*eP*	**Pn**	**14 00 06.9**	**-0.2**
KDTR				*eS*	**Sn**	**14 00 21.4**	**-0.8**
KDTR	**Khodutka, Kamc**	**0.88**	**49**	PN	**Pn**	**14 00 06.9**	**-0.2**
KDTR				S	**Sn**	**14 00 21.4**	**-0.8**
ASAK	**Asacha**	**1.27**	**26**	*eP*	**Pn**	**14 00 12.2**	**+0.8**
ASAK	**Asacha**	**1.27**	**26**	PN	**Pn**	**14 00 12.2**	**+0.8**
MTVR	**Mutnovka**	**1.45**	**30**	*eP*	**Pn**	**14 00 14.1**	**+0.7**
MTVR				*eS*	**Sn**	**14 00 34.0**	**+0.6**
MTVR	**Mutnovka**	**1.45**	**30**	PN	**Pn**	**14 00 14.1**	**+0.7**
MTVR				S	**Sn**	**14 00 34.0**	**+0.6**
GRL	**Gorelyy**	**1.47**	**26**	*eP*	**Pn**	**14 00 14.8**	**+1.1**
GRL				*eS*	**Sn**	**14 00 35.5**	**+1.6**
GRL	**Gorelyy**	**1.47**	**26**	PN	**Pn**	**14 00 14.8**	**+1.1**
GRL				S	**Sn**	**14 00 35.5**	**+1.6**
RUS	**Russkaya**	**1.52**	**38**	*eP*	**Pn**	**14 00 14.0**	**-0.1**
RUS				*eS*	**Sn**	**14 00 34.0**	**-0.6**
RUS	**Russkaya**	**1.52**	**38**	PN	**Pn**	**14 00 14.0**	**-0.1**
RUS				S	**Sn**	**14 00 34.0**	**-0.6**
APC	**Apacha**	**1.69**	**3**	*eP*	**Pn**	**14 00 16.9**	**+0.7**
APC	**Apacha**	**1.69**	**3**	PN	**Pn**	**14 00 16.9**	**+0.7**
KRMR	**Karymshinskiy**	**1.74**	**23**	*eP*	**Pn**	**14 00 17.6**	**+0.8**
KRMR				*eS*	**Sn**	**14 00 40.5**	**+1.1**
KRMR	**Karymshinskiy**	**1.74**	**23**	PN	**Pn**	**14 00 17.6**	**+0.8**
KRM

MAJO Matsushiro 19.89 230 P P 14 04 10.1 +0.3
MAJO IAmb IAmb 14 04 12.1
comp=Z,12nm,0.5s
MAJO Matsushiro 19.89 230 P P 14 04 10.1 +0.3
MAJO pmax pmax
comp=Z,12nm,0.5s
MJAR Matsushiro Arr 19.89 230 P P 14 04 10.7 +0.9
comp=Z,3.3nm,0.5s,baz=26,slow=9.1,SNR=13
JGF Kuroka 21.06 230 P P 14 04 22.8 +0.5
JGF IAmb IAmb 14 04 23.9
comp=Z,8.5nm,0.7s
INU Inuyama 21.43 230 P P 14 04 26.4 +0.2
INU IAmb IAmb 14 04 27.5
comp=Z,13nm,0.9s
HIA Hailar 23.74 280 P P 14 04 48.4 -0.7
HIA Hailar 23.74 280 *i* P **P 14 04 47.8 -1.2**
HIA pmax pmax
comp=Z,4.0nm,0.8s
KSRS Korea Array 24.75 247 P P 14 04 58.1 0.0
comp=Z,1.5nm,0.7s,baz=47,slow=9.1,SNR=5.2
comp=Z,1.5nm,0.7s
KSRS Korea Array 24.75 247 *e*P **P 14 04 59.5 +1.3**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
JNU Nakatsue 26.28 237 P P 14 05 14.0 +1.8
K20K Telida 28.31 46 P P 14 05 30.4 +0.4
K20K IAmb IAmb 14 06 10.3
comp=Z,11nm,1.5s
J20K Nowinta River 28.32 44 P P 14 05 29.9 -0.1
J20K IAmb IAmb 14 05 48.7
comp=Z,14nm,1.5s
IMAR Indian Mountai 28.66 40 P P 14 05 32.5 -0.5
H21K Melozitna Rive 29.01 41 P P 14 05 35.8 -0.3
CAST Castle Rocks 29.21 46 P P 14 05 38.0 +0.1
CAST IAmb IAmb 14 05 59.2
comp=Z,10nm,1.5s
BPAW Bear Paw Mtn. 29.70 44 P P 14 05 42.4 +0.1
KTH Kantishna Hill 29.73 45 P P 14 05 43.5 +0.9
KTH IAmb IAmb 14 06 15.9
comp=Z,18nm,1.4s
MLY Manley 29.83 42 P P 14 05 43.8 +0.4
TRF Thorofare Moun 30.02 46 P P 14 05 44.9 -0.3
TRF IAmb IAmb 14 05 54.4
comp=Z,9.3nm,1.3s
CUT Chulitna 30.06 48 P P 14 05 45.6 +0.2
COLD Coldfoot 30.20 38 P P 14 05 46.0 -0.6
H23K Yukon River 30.36 41 P P 14 05 48.3 +0.2
I23K Minto, Yukon-K 30.42 42 P P 14 05 48.3 -0.2
NEA2 Nenana 30.54 43 P P 14 05 49.3 -0.4
TOLK Toolik Lake Re 30.59 35 P P 14 05 49.4 -0.7
TOLK IAmb IAmb 14 05 50.4
comp=Z,6.6nm,1.2s
MDM Murphy Dome 30.90 43 P P 14 05 53.1 +0.3
MDM IAmb IAmb 14 06 22.6
comp=Z,7.6nm,1.3s
WRH Wood River Hil 30.96 44 P P 14 05 53.1 -0.2
SML Sawmill 31.01 49 P P 14 05 53.5 -0.4
SML Sawmill 31.01 49 P P 14 05 53.5 -0.4
SML pmax pmax
comp=Z,21nm,1.4s
H24K Noodor Dome 31.05 41 P P 14 05 53.9 -0.2
H24K IAmb IAmb 14 06 01.3
comp=Z,8.9nm,1.5s
CCB Clear Creek Bu 31.08 43 P P 14 05 53.7 -0.7
DHY Denali Highway 31.35 46 P P 14 05 56.0 -1.0
DHY IAmb IAmb 14 06 38.5
comp=Z,12nm,1.4s
HDA Harding Lake 31.46 44 P P 14 05 56.9 -0.9
HDA IAmb IAmb 14 06 00.3
comp=Z,10nm,1.5s
ILAR Eielson Array 31.48 43 P P 14 05 56.6 -1.2
comp=Z,1.4nm,0.8s,baz=258,slow=7.7,SNR=12
comp=Z,1.4nm,0.8s
SCM Sheep Creek Mo 31.48 49 P P 14 05 58.2 +0.1
SCM Sheep Creek Mo 31.48 49 P P 14 05 58.2 +0.1
SCM pmax pmax
comp=Z,39nm,1.3s
PRP Porcupine Dome 32.03 41 P P 14 06 02.8 -0.1
PRP IAmb IAmb 14 06 03.6
comp=Z,7.1nm,1.0s
FYU Fort Yukon 32.13 40 P P 14 06 03.8 +0.3
FYU IAmb IAmb 14 06 16.1
comp=Z,6.7nm,1.4s
BMAR Burnt Mountain 32.38 38 P P 14 06 05.9 +0.1
H11N2 WAKE ISLAND Hy 32.40 162 T T 14 40 03.8
baz=348,slow=76,SNR=72
H11N3 WAKE ISLAND Hy 32.41 162 T T 14 40 05.2
baz=348,slow=76,SNR=124
H11N1 WAKE ISLAND Hy 32.41 162 T T 14 40 05.3
baz=348,slow=76,SNR=71
SONM Songino Array 32.49 284 P P 14 06 05.9 -1.1
comp=Z,0.8nm,0.4s,baz=72,slow=8.1,SNR=6.8
comp=Z,0.8nm,0.4s
SONM Songino Array 32.49 284 P P 14 06 06.8 -0.2
SONM Songino Array 32.49 284 *e*P **P 14 06 08.0 +0.9**
SONM pmax pmax
comp=Z,1.0nm,0.4s
HHC Hu-ho-hao-te 32.72 270 *e*P **P 14 06 07.6 -1.5**
HHC pmax pmax
comp=Z,40nm,0.9s
HHC pmax pmax
comp=Z,200nm,4.6s
N25K Chitina, Valde 32.80 49 P P 14 06 09.5 -0.1
J26L Joseph Creek 32.92 43 P P 14 06 09.5 -1.1
H11S1 WAKE ISLAND Hy 33.55 163 T T 14 41 33.8
baz=349,slow=76,SNR=78
H11S3 WAKE ISLAND Hy 33.56 163 T T 14 41 30.7
baz=349,slow=76,SNR=99
H11S2 WAKE ISLAND Hy 33.57 163 T T 14 41 34.7
baz=349,slow=76,SNR=80
L27K Beaver Creek, 33.86 46 P P 14 06 19.0 +0.3
L27K IAmb IAmb 14 06 22.6
comp=Z,8.0nm,1.1s
BCAR Beaver Creek A 33.88 46 P P 14 06 19.3 +0.4
EGAK Eagle 33.92 43 P P 14 06 18.4 -0.8
EGAK IAmb IAmb 14 06 18.8
comp=Z,3.7nm,0.7s
M27K Edge Creek, AK 33.95 47 P P 14 06 20.1 +0.5
M27K IAmb IAmb 14 06 31.1
comp=Z,7.0nm,1.3s
BARN Barnard Glacie 34.30 49 P P 14 06 23.2 +0.6
DAWY Dawson 34.78 44 P P 14 06 26.0 -0.6
DAWY IAmb IAmb 14 06 26.5
comp=Z,5.8nm,1.2s
INK Inuvik 36.50 36 P P 14 06 40.5 -0.6
comp=Z,2.9nm,0.5s,baz=279,slow=6.2,SNR=19
comp=Z,2.9nm,0.5s
INK Inuvik 36.50 36 P P 14 06 41.3 +0.2
INK IAmb IAmb 14 06 41.8
comp=Z,3.2nm,0.6s
INK Inuvik 36.50 36 P P 14 06 41.3 +0.2
INK pmax pmax
comp=Z,3.0nm,0.6s
N31M Braeburn, Yuko 36.95 47 P P 14 06 46.2 +1.0
M31M Drury Creek, Y 37.40 46 P P 14 06 49.1 +0.2
WHY Whitehorse 37.61 48 P P 14 06 51.4 +0.6
A36M Sachs Harbour 38.69 29 P P 14 06 59.8 +0.3
A36M IAmb IAmb 14 07 00.9
comp=Z,6.9nm,1.1s
C36M Paulatuk 39.65 33 P P 14 07 07.5 -0.1
C36M IAmb IAmb 14 07 08.7
comp=Z,7.5nm,1.1s
ZALV Zalesovo Beam 42.18 303 P P 14 07 26.0 -2.5
comp=Z,1.0nm,0.5s,baz=58,slow=7.5,SNR=3.8
comp=Z,1.0nm,0.5s
EUNU Eureka 44.20 13 P P 14 07 44.4 -0.1
WMQ Urumqi 45.78 289 *e*P **P 14 07 58.8 +1.3**
YKA Yellowknife Ar 45.82 40 P P 14 07 57.4 0.0
comp=Z,2.4nm,0.7s,baz=295,slow=7.9,SNR=5.0
comp=Z,2.4nm,0.7s
KURK Kurchatov 47.09 302 P P 14 08 06.0 -1.5
KURK IAmb IAmb 14 08 07.2
comp=Z,4.3nm,0.6s
KURK Kurchatov 47.09 302 *i* P **P 14 08 06.4 -1.1**
KURK pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 47.23 295 P P 14 08 06.8 -1.9
MK31 Makanchi Array 47.23 295 P P 14 08 06.8 -1.9
MK31 pmax pmax
comp=Z,6.0nm,1.5s
MKAR Makanchi Array 47.23 295 P P 14 08 07.1 -1.6
comp=Z,0.6nm,0.4s,baz=68,slow=6.8,SNR=11
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 47.23 295 P P 14 08 06.7 -2.1
MKAR Makanchi Array 47.23 295 P P 14 08 06.7 -2.1

PZH PanZhiHua 48.22 261 P P 14 08 16.8 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.8s
BRVK Borovoye 50.07 308 P P 14 08 28.2 -2.1
BRVK Borovoye 50.07 308 *i* P **P 14 08 28.3 -2.0**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
LTY Liberty 51.21 60 P P 14 08 39.3 +0.2
LTY IAmb IAmb 14 09 03.4
comp=Z,9.1nm,1.4s
B08A Colville Reser 51.27 58 P P 14 08 39.7 +0.3
YBH Yreka Blue Hor 53.48 67 P P 14 08 57.7 +1.8
YBH IAmb IAmb 14 09 36.5
comp=Z,8.9nm,1.4s
YBH Yreka Blue Hor 53.48 67 P P 14 08 57.7 +1.8
YBH pmax pmax
comp=Z,9.0nm,1.5s
WALA Waterton Lakes 53.68 55 P P 14 08 57.6 +0.3
WALA IAmb IAmb 14 08 57.9
comp=Z,2.6nm,0.6s
AAK Ala-Archa 54.17 296 *i* P **P 14 08 59.7 -1.3**
AAK pmax pmax
comp=Z,1.0nm,0.9s
BMO Blue Mountains 54.53 61 P P 14 09 04.2 +0.7
BMO Blue Mountains 54.53 61 P P 14 09 04.2 +0.7
BMO pmax pmax
comp=Z,2.0nm,0.8s
MOD Modoc Plateau 54.75 65 P P 14 09 06.3 +1.1
MOD IAmb IAmb 14 09 06.9
comp=Z,4.1nm,0.7s
PLID Pearl Lake 55.10 60 P P 14 09 08.4 +0.7
PHRA Phrae 55.10 255 P P 14 09 08.8 +1.1
WVOR Wild Horse Val 55.35 64 P P 14 09 10.7 +1.2
WVOR IAmb IAmb 14 09 11.4
comp=Z,3.6nm,0.9s
WVOR Wild Horse Val 55.35 64 P P 14 09 10.7 +1.2
WVOR pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 55.64 257 P P 14 09 12.0 +0.3
CHTO Chiang Mai 55.64 257 P P 14 09 12.0 +0.3
CMAR Chiang Mai Arr 55.91 257 P P 14 09 14.6 +0.9
comp=Z,1.5nm,0.5s,baz=33,slow=7.4,SNR=14
comp=Z,1.5nm,0.5s
KKAR Karatay Array 56.10 298 P P 14 09 13.7 -1.0
KKAR Karatay Array 56.10 298 P P 14 09 13.7 -1.0
FCC Fort Churchill 56.11 36 P P 14 09 14.3 -0.1
FCC Fort Churchill 56.11 36 P P 14 09 14.4 -0.1
PAHR Pah Rah Range 56.72 67 P P 14 09 20.0 +0.7
PNTR Pine Nut 57.00 67 P P 14 09 22.6 +1.2
PNTR IAmb IAmb 14 09 23.1
comp=Z,5.4nm,1.1s
BCYI Bear Canyon 57.01 59 P P 14 09 21.6 +0.2
BMN Battle Mountai 57.47 65 P P 14 09 25.7 +1.1
BMN Battle Mountai 57.47 65 P P 14 09 25.7 +1.1
BMN pmax pmax
comp=Z,2.0nm,0.7s
WAKR Walker 57.49 68 P P 14 09 26.2 +1.5
WAKR IAmb IAmb 14 09 26.9
comp=Z,3.1nm,0.7s
ABKAR Akbulak array 57.52 310 P P 14 09 22.0 -2.6
KVN Kaiserville 57.90 66 P P 14 09 28.5 +0.9
KVN IAmb IAmb 14 09 29.6
comp=Z,6.2nm,1.1s
KVN Kaiserville 57.90 66 P P 14 09 28.5 +0.9
KVN pmax pmax
comp=Z,6.0nm,1.1s
RYN Ryan 57.94 67 P P 14 09 28.7 +0.9
FAKI Fak Fak 57.94 210 P P 14 09 29.5 +1.6
GCMT Greyclif 57.99 55 P P 14 09 29.0 +0.9
NVAR Mina Array Bea 58.20 67 P P 14 09 30.8 +1.1
comp=Z,1.2nm,0.4s,baz=298,slow=7.4,SNR=22
comp=Z,1.2nm,0.4s
NVAR Mina Array Bea 58.20 67 P P 14 09 31.1 +1.3
LHV Little Huntoon 58.20 67 P P 14 09 31.1 +1.6
LHV IAmb IAmb 14 09 32.2
comp=Z,5.1nm,1.0s
NV11 Mina Array Sit 58.28 67 P P 14 09 31.4 +1.2
ELK Elko 58.38 63 P P 14 09 32.0 +1.0
ELK Elko 58.38 63 P P 14 09 32.0 +1.0
ELK pmax pmax
comp=Z,1.0nm,0.7s
DSP Deep Springs 59.11 68 P P 14 09 37.4 +1.6
DSP IAmb IAmb 14 09 38.8
comp=Z,5.6nm,1.3s
MZP Montezuma Peak 59.22 67 P P 14 09 37.6 +0.7
LCH Last Change Ra 59.39 68 P P 14 09 38.8 +0.9
LCH IAmb IAmb 14 09 39.8
comp=Z,2.8nm,0.9s
SPUT South Promonto 59.55 61 P P 14 09 40.0 +1.1
SPUT IAmb IAmb 14 09 41.0
comp=Z,3.1nm,0.8s
GMN Gold Mountain 59.57 67 P P 14 09 40.5 +1.2
R11A Troy Canyon, C 59.81 65 P P 14 09 41.2 +0.4
HWUT Hardware Ranch 59.83 60 P P 14 09 41.8 +0.9
HWUT IAmb IAmb 14 09 42.9
comp=Z,2.7nm,0.8s
SPR3 Spring Creek 3 60.08 64 P P 14 09 44.2 +1.4
SPR3 IAmb IAmb 14 09 45.0
comp=Z,2.9nm,0.7s
DUG Dugway, Tooele 60.11 62 P P 14 09 43.6 +0.9
DUG IAmb IAmb 14 09 45.2
comp=Z,2.8nm,1.1s
DUG Dugway, Tooele 60.11 62 P P 14 09 43.7 +0.9
DUG pmax pmax
comp=Z,3.0nm,1.1s
BW06 Boulder Array 60.11 58 P P 14 09 43.5 +0.6
BW06 IAmb IAmb 14 09 44.5
comp=Z,3.0nm,0.8s
PD31 Pinedale Array 60.11 58 P P 14 09 43.4 +0.5
PD31 IAmb IAmb 14 09 44.5
comp=Z,2.7nm,0.8s
PDAR Pinedale Array 60.11 58 P P 14 09 43.5 +0.7
comp=Z,2.2nm,0.7s,baz=317,slow=2.2,SNR=22
comp=Z,2.2nm,0.7s
PDAR Pinedale Array 60.11 58 P P 14 09 43.2 +0.4
TPNV Topopah Spring 60.40 67 P P 14 09 45.6 +0.7
TPNV IAmb IAmb 14 09 46.7
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 60.40 67 P P 14 09 45.6 +0.7
TPNV pmax pmax
comp=Z,3.0nm,0.9s
PSUT Pine Spring 60.67 64 P P 14 09 47.4 +0.7
GWY Greenwater Val 60.68 68 P P 14 09 47.2 +0.4
QSM Queen of Sheba 60.72 68 P P 14 09 47.5 +0.6
QSM IAmb IAmb 14 09 48.6
comp=Z,3.3nm,1.0s
TMUT Trail Mountain 61.62 62 P P 14 09 54.3 +1.1
TMUT IAmb IAmb 14 09 55.0
comp=Z,3.7nm,0.7s
RDMU Red Mountain 61.63 60 P P 14 09 54.1 +0.9
MSU Marysvale 61.63 63 P P 14 09 54.5 +1.2
MSU Marysvale 61.63 63 P P 14 09 54.5 +1.2
CCUT Cedar City 61.63 65 P P 14 09 54.1 +0.8
P18A Preston Nutter 61.92 61 P P 14 09 56.2 +0.9
P18A IAmb IAmb 14 10 17.5
comp=Z,3.6nm,1.1s
MTPU Mount Pierson 61.95 63 P P 14 09 55.9 +0.3
LCMT Little Creek M 62.08 65 P P 14 09 57.1 +1.0
LCMT IAmb IAmb 14 09 58.7
comp=Z,3.8nm,1.2s
RWWY Rawlins 62.11 57 P P 14 09 55.9 -0.6
SRU San Rafael Swe 62.13 62 P P 14 09 57.0 +0.5
SRU San Rafael Swe 62.13 62 P P 14 09 57.0 +0.5
SRU pmax pmax
comp=Z,6.0nm,0.9s
OBN Obninsk 63.02 326 *e*P **P 14 10 01.1 -0.8**
OBN *e* 14 12 21.2
OBN *e*S S 14 18 48.3 +25
OBN pmax pmax
comp=Z,3.0nm,0.8s
PV23 Carpenter Ridg 63.43 61 P P 14 10 06.0 +0.7
PV23 IAmb IAmb 14 10 06.3
comp=Z,4.9nm,0.8s
PV11 David Mesa, Pa 63.62 61 P P 14 10 07.0 +0.6
PV13 Radium Mtn., P 63.74 61 P P 14 10 07.8 +0.5
PV15 Paradox Valley 63.80 61 P P 14 10 08.2 +0.6
PV15 IAmb IAmb 14 10 09.1
comp=Z,4.3nm,0.7s
SMCO Snowmass 64.02 59 P P 14 10 09.9 +0.6
SMCO IAmb IAmb 14 10 10.7
comp=Z,3.3nm,0.8s
NOA NORSAR Array B 64.76 342 P P 14 10 11.0 -2.3
comp=Z,0.2nm,0.3s,baz=28,slow=6.0,SNR=1.7
comp=Z,0.2nm,0.3s
EYMN Ely 65.12 44 P P 14 10 15.1 -0.7
ECSD EROS Data Cent 65.97 50 P P 14 10 21.1 -0.3
ECSD IAmb IAmb 14 10 22.4
comp=Z,4.4nm,1.1s
CLN7 Carlsbad 7 70.74 62 P P 14 10 51.6 +0.3
P40A Paris 71.39 50 P P 14 10 54.6 -0.4
P40A IAmb IAmb 14 10 55.3
comp=Z,5.5nm,0.7s
WMOK Wichita Mounta 71.70 57 P P 14 10 57.0 0.0
WMOK Wichita Mounta 71.70 57 P P 14 10 57.0 0.0
WMOK pmax pmax
comp=Z,2.0nm,0.8s
HHAR Hobbs 73.00 53 P P 14 11 04.0 -0.7
HHAR IAmb IAmb 14 11 04.4
comp=Z,4.0nm,0.6s
TX31 Lajitas Ar. Si 73.14 64 P P 14 11 06.1 +0.4
TX32 Lajitas Array 73.14 64 P P 14 11 06.2 +0.5
TX32 IAmb IAmb 14 11 07.2
comp=Z,5.6nm,0.7s
TXAR Lajitas Array 73.14 64 P P 14 11 06.4 +0.7
comp=Z,4.5nm,0.6s,baz=298,slow=4.7,SNR=82
comp=Z,4.5nm,0.6s
TXAR Lajitas Array 73.14 64 P P 14 11 06.1 +0.4
WB0 Warramunga Arr 73.44 202 P P 14 11 07.1 -0.1
WB0 IAmb IAmb 14 11 36.0
comp=Z,6.2nm,1.2s
WR0 Warramunga Arr 73.59 202 P P 14 11 08.6 +0.5
WR0 IAmb IAmb 14 11 19.0
comp=Z,6.9nm,1.2s
WB2 Warramunga Arr 73.61 202 P P 14 11 08.8 +0.6
WB2 IAmb IAmb 14 11 43.1
comp=Z,7.9nm,1.5s
WRA Warramunga Arr 73.62 202 P P 14 11 07.8 -0.4
comp=Z,0.7nm,0.6s,baz=18,slow=6.3,SNR=5.8
comp=Z,0.7nm,0.6s
N51A Ashland 74.65 43 P P 14 11 13.3 -0.9
MMNY Mt. Morris Dam 74.96 39 P P 14 11 14.8 -1.1
L56A Greenwood 75.60 39 P P 14 11 18.7 -1.0
F64A Sherman 75.66 31 P P 14 11 19.0 -0.9
M55A Ridgway 75.68 40 P P 14 11 19.5 -0.6
H62A Milan 75.86 33 P P 14 11 21.0 -0.1
M57A Sunshine Farm, 76.45 39 P P 14 11 23.3 -1.1
I63A Otisfield 76.52 33 P P 14 11 24.4 -0.4
L59A Walton 76.53 37 P P 14 11 24.1 -0.9
ASAR Alice Springs 77.31 202 P P 14 11 30.3 +1.0
comp=Z,0.7nm,0.6s,baz=15,slow=5.7,SNR=18
comp=Z,0.7nm,0.6s
ASAR Alice Springs 77.31 202 P P 14 11 30.1 +0.8
ASAR Alice Springs 77.31 202 P P 14 11 30.1 +0.8
FORT Forrest 85.56 205 P P 14 12 14.3 +1.7
KEST Kesra 88.85 334 P P 14 12 28.7 -0.1
LL04 Puerto Octay 144.82 93 PKPbc PKPbc 14 19 09.6 -0.1
PLCA Paso Flores 145.89 91 PKPbc PKPdf 14 19 13.2 +0.9
comp=Z,1.8nm,0.6s,baz=311,slow=4.3,SNR=4.9
PLCA Paso Flores 145.89 91 PKPdf PKPdf 14 19 13.1 +0.8
PLCA Paso Flores 145.89 91 PKP2 PKPdf 14 19 13.1 +0.8

NEIC ***14*** *14:00:32.2±2.1, 42.19°S±0.01°×174.31°E±0.03, h10km±1km, mb4.4/11, Error ellipse: s-maj=3.9km s-min=2.9km az=107.0*
WEL ***14*** *14:00:34.9±0.6, 42.2°S±9°×17.4°E±, h40km±9km, M4.0/18, ML4.3/12, MLv4.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=137.0*
IDC ***14*** *14:00:35.2±1.6, 42.12S×173.94E, h0km, mb4.0/3, mbtmp4.1/4, ML4.5/1, Error ellipse: s-maj=46.5km s-min=41.0km az=9.0*
ISC 14 14:00:31.9±1.3, 42.13S±0.03×174.30E±0.03, h5km±8km, n88, σ1.966/101, mb4.1/10, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.39**	**350**	Pg	**Pg**	**14 00 40.2**	**+0.8**
CMWZ				Sg	**Sg**	**14 00 44.6**	**+0.1**
CMWZ	**Cape Campbell**	**0.39**	**350**	P	**Pg**	**14 00 41.4**	**+2.0**
BSWZ	**Blackbirch Sta**	**0.53**	**322**	Pg	**Pb**	**14 00 45.5**	**+2.0**
BSWZ	**Blackbirch Sta**	**0.53**	**322**	P	**Pb**	**14 00 45.7**	**+2.1**
KHZ	**Kahutara**	**0.63**	**243**	Pg	**Pg**	**14 00 44.5**	**+0.4**
KHZ				Sg	**Sg**	**14 00 48.7**	**-3.6**
KHZ	**Kahutara**	**0.63**	**243**	S	**Sg**	**14 00 49.2**	**-3.1**
KHZ	**Kahutara**	**0.63**	**243**	P	**Pg**	**14 00 44.7**	**+0.6**
TUWZ	**Tuamarina**	**0.75**	**339**	Pg	**Pg**	**14 00 47.0**	**+0.7**
TUWZ				Sg	**Sg**	**14 00 53.9**	**-2.2**
TUWZ	**Tuamarina**	**0.75**	**339**	P	**Pg**	**14 00 47.1**	**+0.8**
TUWZ				S	**Sg**	**14 00 54.1**	**-2.0**
SNZO	**South Karori**	**0.88**	**20**	Pg	Pb	14 00 47.7	-1.8
PLWZ	**Palliser**	**0.91**	**52**	Pg	**Pb**	**14 00 51.4**	**+1.3**
PLWZ	**Palliser**	**0.91**	**52**	P	**Pb**	**14 00 52.1**	**+2.0**
PLWZ				S	**Sb**	**14 01 03.3**	**+0.8**
WEL	**Wellington**	**0.92**	**23**	P	**Pb**	**14 00 48.8**	**-1.5**
TCW	**Tory Channel**	**0.92**	**359**	P	**Pb**	**14 00 48.5**	**-1.8**
MSWZ	**Moikau Station**	**1.01**	**45**	Pn	**Pb**	**14 00 52.4**	**+0.5**
MSWZ	**Moikau Station**	**1.01**	**45**	P	**Pb**	**14 00 52.8**	**+1.0**
MSWZ				S	**Sb**	**14 01 04.9**	**-0.5**
THZ	**Tophouse**	**1.11**	**289**		**Pg**	**14 00 56.0**	**+2.8**
THZ	**Tophouse**	**1.11**	**289**	S	**Sb**	**14 01 08.3**	**0.0**
THZ	**Tophouse**	**1.11**	**289**	P	**Pg**	**14 00 56.2**	**+3.1**
PAWZ	**Paruwai Farm**	**1.13**	**49**	P	**Pn**	**14 00 54.7**	**+0.3**
PAWZ				S	**Sb**	**14 01 08.6**	**-0.3**
NNZ	**Nelson**	**1.15**	**323**		**Pb**	**14 00 55.0**	**+0.8**
CAW	**Cannon Point**	**1.17**	**29**	P	**Pn**	**14 00 53.6**	**-1.4**
CAW				S	**Sb**	**14 01 07.6**	**-2.5**
GVZ	**Greta Valley S**	**1.25**	**228**		**Pn**	**14 00 55.8**	**-0.3**
GVZ	**Greta Valley S**	**1.25**	**228**	P	**Pn**	**14 00 56.4**	**+0.3**
TRWZ	**Traveller**	**1.27**	**55**	P	**Pn**	**14 00 56.7**	**+0.4**
MTW	**Mount Morrison**	**1.32**	**43**	P	**Pn**	**14 00 56.9**	**-0.1**
MTW				S	**Sn**	**14 01 13.4**	**-1.6**
KIW	**Kapiti Island**	**1.35**	**20**	P	**Pn**	**14 00 56.0**	**-1.4**
KIW				S	**Sn**	**14 01 10.3**	**-5.4**
OGWZ	**Otaki Gorge**	**1.47**	**27**	P	**Pn**	**14 00 58.3**	**-0.7**
OGWZ				S	**Sn**	**14 01 14.4**	**-4.1**
TMWZ	**Te Maipa**	**1.57**	**50**	P	**Pn**	**14 01 00.4**	**0.0**
LTZ	**Lake Taylor**	**1.64**	**246**		**Pn**	**14 01 00.8**	**0.6**
MRZ	**Mangatainoka R**	**1.76**	**34**	P	**Pn**	**14 01 02.6**	**-0.4**
TIWZ	**Tintock**	**1.80**	**42**	P	**Pn**	**14 01 03.3**	**-0.4**
CPWZ	**Castlepoint**	**1.88**	**50**	P	**Pn**	**14 01 04.7**	**+0.1**
MQZ	**McQueen's Vall**	**1.98**	**217**		**Pn**	**14 01 05.3**	**-0.8**
PRWZ	**Pori Road**	**2.02**	**39**	P	**Pn**	**14 01 06.0**	**-0.6**
AKCZ	**Akaroa Harbour**	**2.02**	**210**	P	**Pn**	**14 01 07.1**	**+0.5**
OXZ	**Oxford**	**2.05**	**234**	Pn	**Pn**	**14 01 05.9**	**-1.1**
OXZ	**Oxford**	**2.05**	**234**	P	**Pn**	**14 01 06.6**	**-0.5**
BFZ	**Birch Farm**	**2.06**	**46**		**Pn**	**14 01 06.0**	**-1.2**
BFZ	**Birch Farm**	**2.06**	**46**	P	**Pn**	**14 01 06.4**	**-0.8**
POWZ	**Post Office Ro**	**2.06**	**33**	P	**Pn**	**14 01 07.0**	**-0.1**
RACZ	**Rakaia**	**2.25**	**224**	P	**Pn**	**14 01 09.2**	**-0.5**
DVHZ	**Dannevirke**	**2.31**	**38**	P	**Pn**	**14 01 09.4**	**-1.2**
ANWZ	**Angora Road**	**2.34**	**45**	P	**Pn**	**14 01 10.3**	**-0.7**
TSZ	**Takapari Road**	**2.42**	**32**	P	**Pn**	**14 01 11.3**	**-0.8**
WACZ	**Wakanui South**	**2.56**	**224**	P	**Pn**	**14 01 13.6**	**-0.4**
WPHZ	**Waipukurau**	**2.62**	**39**	P	**Pn**	**14 01 13.9**	**-1.0**
PNHZ	**Pukenui**	**2.64**	**34**	P	**Pn**	**14 01 14.1**	**-1.0**
PXZ	**Pawanui**	**2.85**	**44**	P	**Pn**	**14 01 16.5**	**-1.6**
RPZ	**Rata Peaks**	**2.86**	**235**	Pn	**Pn**	**14 01 17.9**	**-0.3**
RPZ	81nm,0.3s,baz=84,slow=1.7,SNR=32			Sn	**Sn**	**14 01 46.8**	**-6.2**
	50nm,0.3s,baz=7.1,slow=22,SNR=26 265nm,0.4s						
RPZ	**Rata Peaks**	**2.86**	**235**		**Pn**	**14 01 17.4**	**-0.8**
RPZ	**Rata Peaks**	**2.86**	**235**	P	**Pn**	**14 01 17.9**	**-0.3**
ARCZ	**Arundel**	**2.92**	**231**	P	**Pn**	**14 01 18.5**	**-0.5**
FOZ	**Fox Glacier**	**3.58**	**246**	Pn	**Pn**	**14 01 28.4**	**+0.3**
FOZ	**Fox Glacier**	**3.58**	**246**	P	**Pn**	**14 01 28.7**	**+0.6**
LBZ	**Lake Benmore**	**3.76**	**232**	P	**Pn**	**14 01 30.3**	**-0.2**
TLZ	**Tolley Road**	**3.91**	**14**	P	**Pn**	**14 01 32.9**	**+0.2**
ODZ	**Otahua Downs**	**3.94**	**221**		**Pn**	**14 01 32.0**	**-1.0**
ODZ	**Otahua Downs**	**3.94**	**221**	P	**Pn**	**14 01 32.5**	**-0.6**
HHSZ	**Highcliff Hill**	**4.61**	**214**	P	**Pn**	**14 01 41.9**	**-0.3**
WKZ	**Wanaka**	**4.70**	**233**	Pn	**Pn**	**14 01 42.2**	**-1.2**
EAZ	**Earnscleugh**	**4.77**	**228**	P	**Pn**	**14 01 43.7**	**-0.7**
AWAZ	**Awhitu Peninsu**	**5.07**	**3**	P	**Pn**	**14 01 50.1**	**+1.6**
TUZ	**Tuapeka**	**5.09**	**220**	P	**Pn**	**14 01 49.1**	**+0.3**
HAZ	**Te Kaha**	**5.12**	**33**	P	**Pn**	**14 01 48.2**	**-1.1**
ETAZ	**East Tamaki Re**	**5.19**	**6**	P	**Pn**	**14 01 51.6**	**+1.4**
MLZ	**Mavora Lakes**	**5.52**	**232**	Pn	**Pn**	**14 01 53.4**	**-1.4**
MLZ	**Mavora Lakes**	**5.52**	**232**	P	**Pn**	**14 01 54.2**	**-0.6**
SYZ	**Scrubby Hill**	**5.75**	**218**	P	**Pn**	**14 01 58.2**	**+0.3**
WHZ	**Wether Hill Ro**	**5.93**	**228**	P	**Pn**	**14 01 58.5**	**-1.8**
APZ	**The Paps**	**6.52**	**222**	P	**Pn**	**14 02 08.3**	**-0.1**
RAR	**Rarotonga**	**30.16**	**54**	P	**P**	**14 06 42.8**	**-0.1**

HNR	**Honiara**	**34.93 335**	P	**P**	**14 07 23.6**	**-1.1**
VNDA	**Vanda**	**35.87 185**	P	**P**	**14 07 31.1**	**-1.0**
AS31	**Alice Springs**	**38.17 286**	P	**P**	**14 07 52.2**	**-0.2**
ASAR	**Alice Springs**	**38.17 286**	P	**P**	**14 07 54.0**	**+1.7**
	0.7nm,0.4s,baz=124,slow=6.8,SNR=40					
ASAR			PcP	**PcP**	**14 10 09.7**	**+2.6**
	0.4nm,0.6s,baz=122,slow=3.9,SNR=9.5					
	0.7nm,0.4s					
ASAR	**Alice Springs**	**38.17 286**	P	**P**	**14 07 51.9**	**-0.5**
WR0	**Warramunga Arr**	**40.12 291**	P	**P**	**14 08 10.0**	**+1.3**
WR0			IAmb	IAmb	14 08 11.3	
	comp=Z,2.9nm,0.8s					
WB2	**Warramunga Arr**	**40.27 291**	P	**P**	**14 08 11.5**	**+1.6**
WB2			IAmb	IAmb	14 08 13.3	
	comp=Z,4.5nm,0.9s					
WRA	**Warramunga Arr**	**40.27 291**	P	**P**	**14 08 12.1**	**+2.1**
	comp=Z,2.4nm,0.7s,baz=130,slow=7.5,SNR=33					
WRA			PcP	**PcP**	**14 10 16.1**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=119,slow=3.5,SNR=4.5					
	comp=Z,2.4nm,0.7s					
WB0	**Warramunga Arr**	**40.35 291**	P	**P**	**14 08 10.8**	**+0.2**
WB0			IAmb	IAmb	14 08 13.9	
	comp=Z,3.0nm,0.8s					
NWAO	**Narrogin (SRO)**	**45.44 262**	P	**P**	**14 08 51.3**	**-0.5**
NWAO			IAmb	IAmb	14 09 30.1	
	comp=Z,15nm,1.1s					
MTN	**Manton Dam**	**47.41 295**	P	**P**	**14 09 05.6**	**-1.8**
MTN			IAmb	IAmb	14 09 36.2	
	comp=Z,42nm,1.5s					
QSPA	**South Pole Qui**	**48.00 180**	P	**P**	**14 09 12.3**	**+0.8**
QSPA			IAmb	IAmb	14 09 34.5	
	comp=Z,3.5nm,1.2s					
BELA	**Belgrano 2**	**58.96 173**	P	**P**	**14 10 30.8**	**-0.8**
BELA			IAmb	IAmb	14 11 09.5	
	comp=Z,4.2nm,0.9s					
CMAR	**Chiang Mai Arr**	**91.83 293**	P	**P**	**14 13 45.4**	**+4.3**
	comp=Z,0.5nm,0.5s,baz=139,slow=3.1,SNR=5.0					
	comp=Z,0.5nm,0.5s					
MKAR	**Makanchi Array**	**120.24 307**	PKP	**PKiKP**	**14 19 26.6**	**+3.1**
	comp=Z,0.6nm,0.8s,baz=154,slow=1.7,SNR=4.4					
TORD	**Torodi Ar. Bea**	**150.42 195**	PKPbc	**PKPab**	**14 20 29.2**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=152,slow=3.0,SNR=5.0					

WEL 14 14:00:39.0±0.7, **42°S**±3°×**17°4E**±°, **h11**km±4km, **M4.1**/6, **ML4.3**/6, **MLv4.1**/6, **Error ellipse: s-maj=0.0km s-min=0.0km az=111.9, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.61**	**1**	P	Pg	14 00 51.1	+0.3
BSWZ				S	Sb	14 01 00.5	+0.2
AMCZ	**Amberley**	**1.23**	**226**	P	Pn	14 01 01.4	-0.8
MRNZ	**Matariki Terra**	**1.24**	**318**	P	Pn	14 01 01.8	-0.5
MRNZ				S	Sn	14 01 20.1	+1.1
LTZ	**Lake Taylor**	**1.26**	**248**	P	Pn	14 01 01.7	-1.0
LTZ				S	Sb	14 01 18.1	-1.0
OKCZ	**Okains Bay**	**1.52**	**202**	P	Pn	14 01 04.8	-1.4
DSZ	**Denniston Nort**	**1.64**	**290**	P	Pn	14 01 08.2	+0.4
DSZ				S	Sb	14 01 30.2	+0.3
INZ	**Inchbonnie**	**1.83**	**257**	P	Pn	14 01 09.8	-0.6
WVZ	**Waitaha Valley**	**2.42**	**251**	P	Pn	14 01 18.0	-0.6
WVZ				S	Sn	14 01 45.5	-2.6
GCSZ	**Gaunt Creek Bo**	**2.78**	**248**	P	Pn	14 01 23.0	-0.5
TMZ	**Timaru**	**2.93**	**224**	P	Pn	14 01 24.1	-1.4

*NOU **14** 14:06:29.7, 42°.36S×173°.99E, h8km, MLv4.3/8, South Island, New Zealand*
*WEL **14** 14:06:30.5±0.4, 42°S±3°×17°4E±°, h8km±3km, M3.9/49, ML4.0/18, MLv3.9/49, Error ellipse: s-maj=0.0km s-min=0.0km az=123.7*
ISC 14 14:06:29.8±1.2, **42°29S**±0°.03×**173°98E**±0°.03, **h10**km±10km, **n71**, σ0°**83**/**78**, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.35**	**248**	P	**Pg**	**14 06 37.6**	**+0.8**
KHZ				S	**Sg**	**14 06 42.6**	**+1.1**
CMWZ	**Cape Campbell**	**0.56**	**18**	P	**Pg**	**14 06 41.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.58**	**352**	P	**Pg**	**14 06 41.2**	**+0.1**
BSWZ				S	**Sb**	**14 06 49.0**	**-1.2**
TUWZ	**Tuamarina**	**0.86**	**358**	P	**Pb**	**14 06 46.6**	**-0.1**
TUWZ				S	**Sb**	**14 06 58.8**	**+0.5**
THZ	**Tophouse**	**0.96**	**303**	P	**Pg**	**14 06 47.3**	**-0.9**
THZ				S	**Sg**	**14 06 58.8**	**-1.9**
GVZ	**Greta Valley S**	**0.97**	**225**	P	**Pb**	**14 06 49.8**	**+1.0**
GVZ				S	**Sn**	**14 07 04.4**	**+1.0**
TCW	**Tory Channel**	**1.10**	**12**	P	**Pg**	**14 06 50.9**	**0.0**
SNZO	**South Karori**	**1.12**	**29**	P	**Pg**	**14 06 51.6**	**+0.3**
NNZ	**Nelson**	**1.16**	**337**	P	**Pg**	**14 06 50.9**	**-1.3**
WEL	**Wellington**	**1.16**	**31**	P	**Pg**	**14 06 52.3**	**+0.2**
PLWZ	**Palliser**	**1.19**	**53**	P	**Pb**	**14 06 52.5**	**0.0**
MRNZ	**Matariki Terra**	**1.27**	**314**	P	**Pb**	**14 06 53.6**	**-0.3**
MSWZ	**Moikau Station**	**1.29**	**48**	P	**Pn**	**14 06 53.9**	**+0.1**
AMCZ	**Amberley**	**1.32**	**227**	P	**Pn**	**14 06 54.3**	**0.0**
LTZ	**Lake Taylor**	**1.36**	**248**	P	**Pn**	**14 06 54.6**	**-0.2**
LTZ				S	**Sb**	**14 07 12.3**	**-0.4**
PAWZ	**Paruwai Farm**	**1.41**	**51**	P	**Pn**	**14 06 55.1**	**-0.1**
CAW	**Cannon Point**	**1.43**	**35**	P	**Pn**	**14 06 56.0**	**+0.2**
TKNZ	**Takaka Hill**	**1.47**	**328**	P	**Pn**	**14 06 56.5**	**+0.2**
TKNZ				S	**Sg**	**14 07 16.7**	**-0.3**
DUWZ	**D'Urville Isla**	**1.48**	**358**	P	**Pn**	**14 06 56.6**	**+0.1**
TRWZ	**Traveller**	**1.55**	**56**	P	**Pn**	**14 06 57.2**	**-0.3**
OKCZ	**Okains Bay**	**1.59**	**205**	P	**Pn**	**14 06 58.0**	**+0.1**
KIW	**Kapiti Island**	**1.59**	**26**	P	**Pn**	**14 06 58.3**	**+0.3**
DSZ	**Denniston Nort**	**1.71**	**288**	P	**Pn**	**14 07 00.5**	**+0.8**
OGWZ	**Otaki Gorge**	**1.72**	**32**	P	**Pn**	**14 06 59.8**	**0.0**
MQZ	**McQueen's Vall**	**1.72**	**214**	P	**Pn**	**14 06 59.0**	**-0.8**
OXZ	**Oxford**	**1.77**	**233**	P	**Pn**	**14 06 59.6**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.77**	**206**	P	**Pn**	**14 07 00.3**	**-0.1**
QRZ	**Quartz Range**	**1.82**	**323**	P	**Pn**	**14 07 02.0**	**+0.8**
QRZ	**Quartz Range**	**1.82**	**323**	P	**Pn**	**14 07 01.8**	**+0.7**
TMWZ	**Te Maipa**	**1.85**	**51**	P	**Pn**	**14 07 01.4**	**-0.2**
INZ	**Inchbonnie**	**1.93**	**256**	P	**Pn**	**14 07 03.0**	**+0.4**
RACZ	**Rakaia**	**1.97**	**223**	P	**Pn**	**14 07 02.4**	**-0.9**
MRZ	**Mangatainoka R**	**2.02**	**37**	P	**Pn**	**14 07 03.6**	**-0.3**
WACZ	**Wakanui South**	**2.28**	**223**	P	**Pn**	**14 07 06.7**	**-0.7**
OHWZ	**Ohakea**	**2.31**	**26**	P	**Pn**	**14 07 09.1**	**+1.2**
POWZ	**Post Office Ro**	**2.32**	**36**	P	**Pn**	**14 07 09.2**	**+1.2**
WVZ	**Waitaha Valley**	**2.52**	**251**	P	**Pn**	**14 07 10.8**	**+0.1**
RPZ	**Rata Peaks**	**2.58**	**235**	P	**Pn**	**14 07 10.9**	**-0.7**
RPZ	**Rata Peaks**	**2.58**	**235**	P	**Pn**	**14 07 10.9**	**-0.7**
ARCZ	**Arundel**	**2.64**	**230**	P	**Pn**	**14 07 11.8**	**-0.6**
TSZ	**Takapari Road**	**2.68**	**35**	P	**Pn**	**14 07 12.5**	**-0.5**
PRHZ	**Porangahau**	**2.84**	**46**	P	**Pb**	**14 07 20.1**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.88**	**248**	P	**Pn**	**14 07 17.5**	**+1.8**
PNHZ	**Pukenui**	**2.91**	**36**	P	**Pn**	**14 07 15.1**	**-1.0**
TMZ	**Timaru**	**3.02**	**225**	P	**Pn**	**14 07 17.2**	**-0.4**
NBEZ	**Newall Road No**	**3.02**	**358**	P	**Pb**	**14 07 23.6**	**0.0**
MOVZ	**Moawhango**	**3.18**	**26**	P	**Pn**	**14 07 20.5**	**+0.6**
WNVZ	**Wahianoa**	**3.20**	**23**	P	**Pn**	**14 07 22.6**	**+2.3**
VRZ	**Vera Road**	**3.21**	**11**	P	**Pn**	**14 07 22.0**	**+1.7**
FOZ	**Fox Glacier**	**3.30**	**246**	P	**Pn**	**14 07 22.5**	**+1.0**
TMVZ	**Te Maari**	**3.43**	**23**	P	**Pn**	**14 07 24.4**	**+1.0**
NTVZ	**North Tongarir**	**3.44**	**23**	P	**Pn**	**14 07 24.6**	**+1.1**
LBZ	**Lake Benmore**	**3.47**	**232**	P	**Pn**	**14 07 23.4**	**-0.5**
BKZ	**Black Stump Fm**	**3.66**	**32**	P	**Pn**	**14 07 27.3**	**+0.9**
ODZ	**Otahua Downs**	**3.67**	**220**	P	**Pn**	**14 07 25.9**	**-0.6**
ODZ	**Otahua Downs**	**3.67**	**220**	P	**Pn**	**14 07 25.7**	**-0.8**
HIZ	**Hauiti**	**3.83**	**10**	P	**Pn**	**14 07 29.8**	**+1.0**
HHSZ	**Highcliff Hill**	**4.34**	**213**	P	**Pn**	**14 07 35.1**	**-0.7**
EAZ	**Earnscleugh**	**4.48**	**227**	P	**Pn**	**14 07 36.9**	**-0.9**
TOZ	**Tahuroa Road**	**4.70**	**15**	P	**Pn**	**14 07 41.1**	**+0.4**
TUZ	**Tuapeka**	**4.82**	**219**	P	**Pn**	**14 07 42.0**	**-0.4**
AWAZ	**Awhitu Peninsu**	**5.24**	**6**	P	**Pn**	**14 07 49.6**	**+1.4**
MKAZ	**Moumakai**	**5.26**	**10**	P	**Pn**	**14 07 48.8**	**+0.5**
ETAZ	**East Tamaki Re**	**5.38**	**8**	P	**Pn**	**14 07 51.1**	**+1.1**
SYZ	**Scrubby Hill**	**5.48**	**218**	P	**Pn**	**14 07 51.5**	**+0.1**
SYZ	**Scrubby Hill**	**5.48**	**218**	P	**Pn**	**14 07 51.4**	**-0.1**
WHZ	**Wether Hill Ro**	**5.64**	**228**	P	**Pn**	**14 07 52.4**	**-1.3**
APZ	**The Paps**	**6.24**	**221**	P	**Pn**	**14 08 01.1**	**-0.8**
CTZ	**Chatham Island**	**7.04**	**105**	P	**Pn**	**14 08 12.6**	**-0.2**
CTZ	**Chatham Island**	**7.04**	**105**	P	**Pn**	**14 08 12.6**	**-0.2**
OUZ	**Omahuta**	**7.06**	**357**	P	**Pn**	**14 08 14.6**	**+1.4**

WEL 14 14:08:04.0±0.3, **42°S**±2°×**17°4E**±°, **h5**km±2km, **M3.5**/19, **ML3.8**/19, **MLv3.5**/19, **Error ellipse: s-maj=0.0km s-min=0.0km az=148.7, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**197**	P	Pg	14 08 05.3	-0.1
BSWZ	**Blackbirch Sta**	**0.27**	**265**	P	Pg	14 08 09.5	+0.2
BSWZ				S	Sg	14 08 14.4	+1.5
TUWZ	**Tuamarina**	**0.34**	**319**	P	Pg	14 08 11.2	+0.7
TUWZ				S	Sb	14 08 17.0	-1.3
TCW	**Tory Channel**	**0.48**	**3**	P	Pg	14 08 13.5	+0.4
BHW	**Baring Head**	**0.55**	**60**	P	Pg	14 08 15.0	+0.5
WEL	**Wellington**	**0.57**	**45**	P	Pg	14 08 15.5	+0.7
PLWZ	**Palliser**	**0.77**	**81**	P	Pb	14 08 19.7	-0.2
NNZ	**Nelson**	**0.80**	**306**	P	Pg	14 08 19.2	-0.1
MSWZ	**Moikau Station**	**0.81**	**71**	P	Pb	14 08 20.0	-0.5
CAW	**Cannon Point**	**0.85**	**47**	P	Pg	14 08 20.5	+0.2
KHZ	**Kahutara**	**0.89**	**215**	P	Pb	14 08 21.6	-0.4
DUWZ	**D'Urville Isla**	**0.92**	**345**	P	Pb	14 08 22.8	+0.4
PAWZ	**Paruwai Farm**	**0.94**	**71**	P	Pg	14 08 22.3	+0.2
KIW	**Kapiti Island**	**0.97**	**32**	P	Pg	14 08 22.5	0.0
THZ	**Tophouse**	**1.00**	**265**	P	Pg	14 08 22.9	-0.2
MTW	**Mount Morrison**	**1.09**	**61**	P	Pg	14 08 24.4	-0.4
OGWZ	**Otaki Gorge**	**1.12**	**39**	P	Pg	14 08 25.3	-0.1
OGWZ				S	Sb	14 08 40.6	-0.1
TRWZ	**Traveller**	**1.13**	**75**	P	Pg	14 08 24.4	-1.1
MRNZ	**Matariki Terra**	**1.15**	**284**	P	Pg	14 08 25.9	0.0
TKNZ	**Takaka Hill**	**1.16**	**304**	P	Pn	14 08 27.1	+0.2
HOWZ	**Holdsworth Sta**	**1.25**	**51**	P	Pn	14 08 28.2	+0.1
TMWZ	**Te Maipa**	**1.37**	**65**	P	Pn	14 08 27.9	-1.9
MRZ	**Mangatainoka R**	**1.44**	**45**	P	Pn	14 08 29.8	-1.0
QRZ	**Quartz Range**	**1.55**	**303**	P	Pb	14 08 33.2	0.0
GVZ	**Greta Valley S**	**1.56**	**215**	P	Pn	14 08 32.0	-0.4
CPWZ	**Castlepoint**	**1.67**	**63**	P	Pg	14 08 38.8	+2.8
PRWZ	**Pori Road**	**1.73**	**50**	P	Pg	14 08 36.9	-0.2
BFZ	**Birch Farm**	**1.82**	**57**	P	Pb	14 08 37.8	0.0
LTZ	**Lake Taylor**	**1.82**	**233**	P	Pn	14 08 34.7	-1.4
AMCZ	**Amberley**	**1.89**	**218**	P	Pg	14 08 42.0	+1.8
DVHZ	**Dannevirke**	**2.02**	**47**	P	Pb	14 08 40.2	-0.9
TSZ	**Takapari Road**	**2.09**	**39**	P	Pb	14 08 43.2	+0.8
ANWZ	**Angora Road**	**2.09**	**55**	P	Pg	14 08 46.7	+2.7
PRHZ	**Porangahau**	**2.31**	**53**	P	Pg	14 08 49.5	+1.4
WPHZ	**Waipukurau**	**2.33**	**47**	P	Pg	14 08 48.2	-0.4
BHHZ	**Black Hill Sta**	**2.60**	**33**	P	Pb	14 08 51.8	+0.7
WTVZ	**West Tongariro**	**2.77**	**22**	P	Pb	14 08 54.5	+0.4
BKZ	**Black Stump Fm**	**3.05**	**35**	P	Pn	14 08 55.7	+2.7

WEL 14 14:14:13.5±0.6, **42°S**±3°×**17°4E**±°, **h5**km, **M3.0**/8, **ML3.8**/8, **MLv3.0**/8, **Error ellipse: s-maj=0.0km s-min=0.0km az=118.9, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**229**	P	Pg	14 14 19.9	0.0
KHZ				S	Sg	14 14 24.8	+0.7
BSWZ	**Blackbirch Sta**	**0.49**	**0**	P	Pg	14 14 22.9	+0.1
BSWZ				S	Sg	14 14 30.2	+1.0
TUWZ	**Tuamarina**	**0.77**	**4**	P	Pg	14 14 28.3	-0.1
TUWZ				S	Sb	14 14 39.8	-0.4
THZ	**Tophouse**	**0.84**	**301**	P	Pg	14 14 29.0	-0.7
THZ				S	Sg	14 14 40.3	-0.3
WEL	**Wellington**	**1.14**	**36**	P	Pg	14 14 34.5	-0.8
MRNZ	**Matariki Terra**	**1.16**	**314**	P	Pg	14 14 35.1	-0.6
TKNZ	**Takaka Hill**	**1.35**	**329**	P	Pn	14 14 38.1	-0.9
DUWZ	**D'Urville Isla**	**1.40**	**2**	P	Pn	14 14 39.3	-0.4
DSZ	**Denniston Nort**	**1.61**	**286**	P	Pn	14 14 42.5	-0.1
DSZ				S	Sg	14 15 05.0	-0.2
QRZ	**Quartz Range**	**1.71**	**323**	P	Pn	14 14 43.9	0.0

*NEIC **14** 14:15:25.0±0.8, 42°.05S±0°.03×174°.10E±0°.07, h6km±8km, mb4.3/3, Error ellipse: s-maj=8.0km s-min=2.7km az=117.0*
*NOU **14** 14:15:26.8, 42°.21S×174°.27E, h8km, MLv4.4/10, Off E. Coast of S. Island, N.Z.*
*WEL **14** 14:15:27.6±0.4, 42°S±2°×17°4E±°, h10km±3km, M3.9/13, ML4.2/13, MLv3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=118.3*
*IDC **14** 14:15:29.5±2.8, 41°.77S×173°.11E, h0km, mb3.3/2, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=56.1km s-min=33.6km az=97.0*
ISC 14 14:15:25.2±1.2, **42°.05S**±0°.03×**174°08E**±0°.03, **h8**km±9km, **n117**, σ1°**38**/**126**, **mb4.2**/5, **Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.31**	**19**	Pg	**Pg**	**14 15 30.1**	**-1.3**
CMWZ	**Cape Campbell**	**0.31**	**19**	P	**Pg**	**14 15 32.2**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.36**	**335**		**Pg**	**14 15 32.2**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.36**	**335**	P	**Pg**	**14 15 32.5**	**+0.2**
BSWZ				S	**Sg**	**14 15 36.9**	**-0.2**
KHZ	**Kahutara**	**0.55**	**227**	Pg	**Pn**	**14 15 39.0**	**-0.3**
KHZ	**Kahutara**	**0.55**	**227**	P	**Pn**	**14 15 39.4**	**+0.1**
KHZ	**Kahutara**	**0.55**	**227**	P	**Pn**	**14 15 39.1**	**-0.2**
KHZ				S	**Sn**	**14 15 48.6**	**-0.1**
TUWZ	**Tuamarina**	**0.62**	**351**	Pg	**Pg**	**14 15 37.6**	**+0.3**
TUWZ	**Tuamarina**	**0.62**	**351**	P	**Pg**	**14 15 37.9**	**+0.6**
TCW	**Tory Channel**	**0.85**	**10**	P	**Pb**	**14 15 42.1**	**-0.1**
TCW				S	**Sb**	**14 15 53.9**	**+0.1**
SNZO	**South Karori**	**0.87**	**33**	Pn	**Pn**	**14 15 43.7**	**-0.1**
SNZO	**South Karori**	**0.87**	**33**	P	**Pn**	**14 15 43.7**	**-0.1**
WEL	**Wellington**	**0.92**	**34**	P	**Pn**	**14 15 44.6**	**+0.1**
WEL				S	**Sn**	**14 15 58.5**	**+0.7**
THZ	**Tophouse**	**0.92**	**288**	Pg	**Pb**	**14 15 43.3**	**-0.1**
THZ	**Tophouse**	**0.92**	**288**	P	**Pb**	**14 15 43.6**	**+0.1**
THZ				S	**Sb**	**14 15 55.0**	**-0.9**
NNZ	**Nelson**	**0.98**	**327**		**Pb**	**14 15 43.4**	**-1.0**
NNZ	**Nelson**	**0.98**	**327**	P	**Pb**	**14 15 43.7**	**-0.7**
MSWZ	**Moikau Station**	**1.08**	**55**	P	**Pg**	**14 15 47.0**	**+1.1**
MRNZ	**Matariki Terra**	**1.18**	**303**	P	**Pn**	**14 15 48.0**	**0.0**
MRNZ				S	**Sb**	**14 16 03.0**	**-0.4**
CAW	**Cannon Point**	**1.20**	**39**	P	**Pg**	**14 15 48.7**	**+0.6**
GVZ	**Greta Valley S**	**1.20**	**220**		**Pb**	**14 15 48.3**	**+0.1**
GVZ	**Greta Valley S**	**1.20**	**220**	P	**Pg**	**14 15 50.0**	**+1.7**
PAWZ	**Paruwai Farm**	**1.21**	**57**	P	**Pg**	**14 15 48.8**	**+0.4**
DUWZ	**D'Urville Isla**	**1.25**	**355**	P	**Pn**	**14 15 48.7**	**-0.3**
TKNZ	**Takaka Hill**	**1.31**	**320**	P	**Pn**	**14 15 49.9**	**0.0**
TKNZ				S	**Sn**	**14 16 06.1**	**-1.6**
KIW	**Kapiti Island**	**1.34**	**28**	P	**Pb**	**14 15 51.1**	**+0.6**
OGWZ	**Otaki Gorge**	**1.48**	**34**	P	**Pb**	**14 15 52.8**	**-0.1**
LTZ	**Lake Taylor**	**1.53**	**241**		**Pn**	**14 15 52.5**	**-0.4**
LTZ	**Lake Taylor**	**1.53**	**241**	P	**Pb**	**14 15 53.9**	**+0.1**
AMCZ	**Amberley**	**1.54**	**223**	P	**Pb**	**14 15 54.2**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.58**	**44**	P	**Pg**	**14 15 56.8**	**+1.4**
TMWZ	**Te Maipa**	**1.65**	**56**	P	**Pn**	**14 15 54.3**	**-0.3**
QRZ	**Quartz Range**	**1.69**	**316**		**Pn**	**14 15 55.2**	**+0.2**
QRZ	**Quartz Range**	**1.69**	**316**	P	**Pn**	**14 15 55.8**	**+0.8**
DSZ	**Denniston Nort**	**1.72**	**279**	P	**Pb**	**14 15 57.5**	**+0.4**
DSZ				S	**Sb**	**14 16 19.4**	**+0.4**
MRZ	**Mangatainoka R**	**1.79**	**40**	P	**Pn**	**14 15 56.4**	**0.0**
OKCZ	**Okains Bay**	**1.84**	**204**	P	**Pb**	**14 15 58.0**	**-1.0**
MQZ	**McQueen's Vall**	**1.96**	**212**	Pn	**Pn**	**14 15 58.7**	**-0.1**
MQZ	**McQueen's Vall**	**1.96**	**212**	P	**Pn**	**14 15 58.9**	**+0.1**
OXZ	**Oxford**	**1.98**	**229**		**Pn**	**14 15 59.1**	**+0.1**
OXZ	**Oxford**	**1.98**	**229**	P	**Pn**	**14 15 59.3**	**+0.3**
AKCZ	**Akaroa Harbour**	**2.02**	**205**	P	**Pn**	**14 16 00.2**	**+0.6**
OHWZ	**Ohakea**	**2.06**	**27**	P	**Pb**	**14 16 02.1**	**-0.8**
INZ	**Inchbonnie**	**2.07**	**250**	P	**Pb**	**14 16 02.4**	**-0.6**
POWZ	**Post Office Ro**	**2.09**	**38**	P	**Pn**	**14 16 00.8**	**+0.3**
RACZ	**Rakaia**	**2.20**	**220**	P	**Pn**	**14 16 02.3**	**+0.2**
DVHZ	**Dannevirke**	**2.35**	**43**	P	**Pn**	**14 16 03.4**	**-0.8**
WAZ	**Wanganui**	**2.39**	**17**	P	**Pb**	**14 16 07.3**	**-1.2**
ANWZ	**Angora Road**	**2.40**	**50**	P	**Pn**	**14 16 05.4**	**+0.6**
TSZ	**Takapari Road**	**2.44**	**36**	P	**Pn**	**14 16 05.8**	**-0.1**
WACZ	**Wakanui South**	**2.51**	**220**	P	**Pn**	**14 16 06.6**	**+0.3**
LREZ	**Lake Rotokare**	**2.59**	**6**	P	**Pb**	**14 16 11.1**	**-0.8**
NMEZ	**Namu Road**	**2.63**	**357**	P	**Pb**	**14 16 12.7**	**0.0**
WPHZ	**Waipukurau**	**2.67**	**43**	P	**Pn**	**14 16 09.6**	**+1.1**
PNHZ	**Pukenui**	**2.67**	**38**	P	**Pn**	**14 16 07.8**	**-0.8**
WVZ	**Waitaha Valley**	**2.67**	**246**	P	**Pn**	**14 16 10.3**	**+1.7**
KHEZ	**Kahui Hut**	**2.75**	**359**	P	**Pb**	**14 16 14.9**	**+0.2**
KHEZ	**Kahui Hut**	**2.75**	**359**	P	**Pb**	**14 16 13.5**	**-1.1**
NEZ	**North Egmont**	**2.77**	**0**	P	**Pb**	**14 16 13.9**	**-1.2**
RPZ	**Rata Peaks**	**2.78**	**232**	Pn	**Pn**	**14 16 10.5**	**+0.5**
	14nm,0.3s,baz=53,slow=16,SNR=25						
RPZ				Sn	**Sn**	**14 16 42.9**	**-0.9**
	31nm,0.3s,baz=24,slow=22,SNR=20						
	41nm,0.3s						
RPZ	**Rata Peaks**	**2.78**	**232**	Pn	**Pn**	**14 16 10.1**	**0.0**
RPZ	**Rata Peaks**	**2.78**	**232**	P	**Pn**	**14 16 10.8**	**+0.7**
RPZ	**Rata Peaks**	**2.78**	**232**	P	**Pn**	**14 16 10.3**	**+0.2**
NBEZ	**Newall Road No**	**2.78**	**357**	P	**Pb**	**14 16 13.2**	**-1.9**
PKE	**Pukeiti**	**2.85**	**359**	P	**Pb**	**14 16 13.9**	**-2.4**
ARCZ	**Arundel**	**2.85**	**227**	P	**Pn**	**14 16 11.3**	**+0.2**
MTVZ	**Mangateitei**	**2.86**	**22**	P	**Pb**	**14 16 15.5**	**-1.1**
MOVZ	**Moawhango**	**2.93**	**26**	P	**Pn**	**14 16 13.0**	**+0.9**
WNVZ	**Wahianoa**	**2.95**	**24**	P	**Pb**	**14 16 17.0**	**-1.1**
VRZ	**Vera Road**	**2.96**	**10**	P	**Pn**	**14 16 15.2**	**+2.6**
BHHZ	**Black Hill Sta**	**2.97**	**31**	P	**Pn**	**14 16 13.7**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.99**	**23**	P	**Pb**	**14 16 16.1**	**-2.8**
FWVZ	**Far West T-bar**	**3.00**	**22**	P	**Pn**	**14 16 15.4**	**+2.0**
GCSZ	**Gaunt Creek Bo**	**3.04**	**244**	P	**Pb**	**14 16 17.7**	**-1.9**
OTVZ	**Oturere**	**3.12**	**23**	P	**Pn**	**14 16 17.4**	**+2.5**
WTVZ	**West Tongariro**	**3.15**	**22**	P	**Pb**	**14 16 19.6**	**-1.9**
ETVZ	**East Tongariro**	**3.16**	**24**	P	**Pn**	**14 16 17.1**	**+1.7**
TMVZ	**Te Maari**	**3.18**	**23**	P	**Pn**	**14 16 17.3**	**+1.7**
KRVZ	**Karewarewa**	**3.18**	**22**	P	**Pn**	**14 16 18.5**	**+2.9**
NTVZ	**North Tongarir**	**3.19**	**23**	P	**Pn**	**14 16 18.0**	**+2.2**
TMZ	**Timaru**	**3.24**	**223**	P	**Pn**	**14 16 16.8**	**+0.4**
FOZ	**Fox Glacier**	**3.47**	**243**	P	**Pn**	**14 16 21.9**	**+2.4**
HIZ	**Hauiti**	**3.58**	**10**	P	**Pn**	**14 16 24.2**	**+3.2**
HIZ	**Hauiti**	**3.58**	**10**	P	**Pn**	**14 16 23.7**	**+2.6**
LBZ	**Lake Benmore**	**3.68**	**229**	Pn	**Pn**	**14 16 22.8**	**+0.3**
LBZ	**Lake Benmore**	**3.68**	**229**	P	**Pn**	**14 16 23.3**	**+0.8**
TLZ	**Tolley Road**	**3.88**	**17**	P	**Pn**	**14 16 29.0**	**+3.8**
ODZ	**Otahua Downs**	**3.90**	**219**	Pn	**Pn**	**14 16 25.3**	**-0.1**
ODZ	**Otahua Downs**	**3.90**	**219**	P	**Pn**	**14 16 25.6**	**+0.1**
ODZ	**Otahua Downs**	**3.90**	**219**	P	**Pn**	**14 16 25.5**	**+0.1**
URZ	**Urewera**	**4.44**	**33**	P	**Pn**	**14 16 35.0**	**+2.2**
TOZ	**Tahuroa Road**	**4.45**	**15**	P	**Pn**	**14 16 34.0**	**+1.1**
HHSZ	**Highcliff Hill**	**4.59**	**212**	P	**Pn**	**14 16 35.5**	**+0.6**
EAZ	**Earnscleugh**	**4.70**	**226**	P	**Pn**	**14 16 36.8**	**+0.3**
AWAZ	**Awhitu Peninsu**	**5.00**	**5**	P	**Pn**	**14 16 43.1**	**+2.6**
MKAZ	**Moumakai**	**5.01**	**10**	P	**Pn**	**14 16

PLWZ	Palliser	0.83	82	P		Pb	14 22 29.4	-0.4
PLWZ				S		Sg	14 22 41.8	+0.8
MSWZ	Moikau Station	0.86	72	P		Pb	14 22 30.2	-0.1
MSWZ				S		Sn	14 22 42.8	-0.7
KHZ	Kahutara	0.86	212	P		Pn	14 22 31.2	0.0
CAW	Cannon Point	0.90	50	P		Pb	14 22 31.0	+0.1
MTW	Mount Morrison	1.14	63	P		Pn	14 22 34.0	-1.0
MTW				S		Sb	14 22 49.3	-0.3
OGWZ	Otaki Gorge	1.16	42	P		Pb	14 22 35.3	0.0

IDC ***14*** *14:24:09.8±1.9, 41°.64S×174°.09E, h0km, mb3.7/3, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=41.4km s-min=28.8km az=58.0*

WEL ***14*** *14:24:10.3±0.6, 42°.5±4°×17°.4E±°, h1km±4km, M4.1/28, ML4.3/30, MLv4.1/28, Error ellipse: s-maj=0.0km s-min=0.0km az=136.1*

NOU ***14*** *14:24:10.7, 41°.925×174°.48E, h0km, MLv4.5/11, Cook Strait, New Zealand*

NEIC ***14*** *14:24:11.6±0.8, 41°.805±0°.03×174°.31E±0°.02, h16km±6km, mb4.2/7, Error ellipse: s-maj=4.5km s-min=1.7km az=161.0*

ISC 14 14:24:11.3±0.9, 41°.82S±0°.03×174°.35E±0°.02, h12km±6km, n140, σ1§11/152, mb4.0/8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.12	303	P	Pg	14 24 14.2	-0.2
CMWZ				S	Sg	14 24 17.0	+0.4
BSWZ	Blackbirch Sta	0.37	286		Pg	14 24 18.8	+0.2
BSWZ				Sg	Sg	14 24 23.4	-0.1
BSWZ	Blackbirch Sta	0.37	286	P	Pg	14 24 19.1	+0.4
BSWZ				S	Sb	14 24 24.9	-0.5
TUWZ	Tuamarina	0.49	322		Pg	14 24 20.8	-0.1
TUWZ				Sg	Sg	14 24 27.1	-0.3
TUWZ	Tuamarina	0.49	322	P	Pg	14 24 21.0	+0.1
TUWZ				S	Sg	14 24 28.0	+0.6
SNZO	South Karori	0.57	28		Pg	14 24 22.4	0.0
SNZO	South Karori	0.57	28	P	Pg	14 24 22.7	+0.3
TCW	Tory Channel	0.61	355	P	Pg	14 24 22.7	-0.4
TCW				S	Sg	14 24 31.6	+0.5
WEL	Wellington	0.62	31	P	Pg	14 24 23.5	+0.3
PLWZ	Palliser	0.72	70		Pb	14 24 25.9	+1.0
PLWZ	Palliser	0.72	70	P	Pn	14 24 27.3	+2.1
PLWZ				S	Sn	14 24 39.9	+1.5
MSWZ	Moikau Station	0.79	60	Pg	Pb	14 24 27.3	+0.4
MSWZ	Moikau Station	0.79	60	P	Pb	14 24 27.7	+0.8
MSWZ				S	Sn	14 24 41.3	+1.4
KHZ	Kahutara	0.85	225	Pg	Pb	14 24 28.4	+0.4
KHZ	Kahutara	0.85	225	P	Pb	14 24 28.5	+0.5
KHZ				S	Sn	14 24 43.7	+2.3
CAW	Cannon Point	0.89	38	P	Pg	14 24 28.6	+0.1
CAW				S	Sn	14 24 43.7	+1.3
PAWZ	Paruwai Farm	0.92	62	P	Pb	14 24 29.9	+0.7
NNZ	Nelson	0.94	309		Pg	14 24 28.6	-0.8
NNZ	Nelson	0.94	309	P	Pg	14 24 28.9	-0.5
KIW	Kapiti Island	1.04	24	P	Pb	14 24 30.8	-0.5
DUWZ	D'Urville Isla	1.06	342	P	Pb	14 24 30.9	-0.7
DUWZ				S	Sn	14 24 46.3	-0.5
THZ	Tophouse	1.08	272	Pn	Pb	14 24 32.1	+0.1
THZ	Tophouse	1.08	272	P	Pn	14 24 32.5	+0.2
MTW	Mount Morrison	1.09	53	P	Pb	14 24 32.1	+0.1
TRWZ	Traveller	1.09	68	P	Pb	14 24 31.9	-0.2
OGWZ	Otaki Gorge	1.17	32	P	Pb	14 24 33.2	-0.4
MRNZ	Matariki Terra	1.26	289	P	Pg	14 24 35.6	0.0
HOWZ	Holdsworth Sta	1.27	44	P	Pn	14 24 34.6	-0.2
TKNZ	Takaka Hill	1.30	306	P	Pb	14 24 35.8	0.0
TMWZ	Te Maipa	1.36	59	P	Pn	14 24 35.5	-0.6
MRZ	Mangatainoka R	1.48	39		Pn	14 24 37.3	-0.5
MRZ	Mangatainoka R	1.48	39	P	Pn	14 24 37.7	-0.1
GVZ	Greta Valley S	1.51	220	Pn	Pn	14 24 37.9	-0.2
GVZ	Greta Valley S	1.51	220	P	Pn	14 24 38.6	+0.5
TIWZ	Tintock	1.56	49	P	Pn	14 24 38.4	-0.4
CPWZ	Castlepoint	1.66	58	P	Pn	14 24 39.9	-0.4
QRZ	Quartz Range	1.69	305	P	Pb	14 24 42.3	0.0
QRZ	Quartz Range	1.69	305	P	Pb	14 24 42.1	-0.2
PRWZ	Pori Road	1.76	45	P	Pn	14 24 41.0	-0.5
OHWZ	Ohakea	1.77	25	P	Pn	14 24 43.2	-0.4
POWZ	Post Office Ro	1.78	38	P	Pn	14 24 41.8	-0.2
LTZ	Lake Taylor	1.82	237		Pn	14 24 41.7	-0.7
LTZ	Lake Taylor	1.82	237	P	Pn	14 24 43.0	+0.6
BFZ	Birch Farm	1.82	52	Pn	Pn	14 24 41.1	-1.4
BFZ	Birch Farm	1.82	52	P	Pn	14 24 42.1	-0.4
BFZ	Birch Farm	1.82	52	P	Pn	14 24 41.4	-1.1
AMCZ	Amberley	1.85	222	P	Pn	14 24 42.8	0.0
DSZ	Denniston Nort	1.90	271	P	Pb	14 24 45.1	-0.9
DVHZ	Dannevirke	2.05	43	P	Pn	14 24 44.5	-1.1
ANWZ	Angora Road	2.10	51	P	Pn	14 24 45.5	-0.7
WAZ	Wanganui	2.12	13	P	Pb	14 24 49.6	+0.1
OKCZ	Okains Bay	2.13	206	P	Pn	14 24 46.3	-0.5
TSZ	Takapari Road	2.14	35	P	Pn	14 24 46.4	-0.5
MQZ	McQueen's Vall	2.26	213	P	Pn	14 24 47.5	-1.0
OXZ	Oxford	2.28	228	Pn	Pn	14 24 47.6	-1.1
OXZ	Oxford	2.28	228	P	Pn	14 24 48.2	-0.5
AKCZ	Akaroa Harbour	2.31	207	P	Pn	14 24 48.7	-0.5
PRHZ	Porangahau	2.32	49	P	Pn	14 24 48.4	-0.9
INZ	Inchbonnie	2.34	246	P	Pn	14 24 51.7	+2.2
LREZ	Lake Rotokare	2.35	1	P	Pn	14 24 53.5	-0.1
WPHZ	Waipukurau	2.36	43	P	Pn	14 24 49.0	-0.8
PNHZ	Pukenui	2.36	37	P	Pn	14 24 49.2	-0.7
NMEZ	Namu Road	2.43	351	P	Pb	14 24 55.7	+0.9
RACZ	Rakaia	2.51	220	P	Pn	14 24 51.0	-0.9
KHEZ	Kahui Hut	2.53	354	P	Pb	14 24 55.5	-1.2
KHEZ	Kahui Hut	2.53	354	P	Pb	14 24 57.0	+0.3
NEZ	North Egmont	2.55	356	P	Pb	14 24 56.2	-0.8
NBEZ	Newall Road No	2.57	352	P	Pb	14 24 56.1	-1.2
PXZ	Pawanui	2.61	48	P	Pn	14 24 51.5	-1.7
MOVZ	Moawhango	2.63	24	P	Pn	14 24 52.5	-1.2
PKE	Pukeiti	2.63	354	P	Pb	14 24 57.9	-0.5
WNVZ	Wahianoa	2.66	21	P	Pn	14 24 55.2	+1.0
BHHZ	Black Hill Sta	2.67	30	P	Pn	14 24 54.2	+0.1
TRVZ	Turoa	2.67	20	P	Pb	14 24 58.5	-0.8
DRZ	Dome Shelter	2.70	20	P	Pb	14 24 59.8	+0.1
WHWZ	Whangaehu Hut	2.70	21	P	Pn	14 24 56.0	+1.2
VRZ	Vera Road	2.71	7	P	Pn	14 24 56.9	+2.3
FWVZ	Far West T-bar	2.72	20	P	Pn	14 24 56.3	+1.3
TUVZ	Tukino	2.73	22	P	Pn	14 24 57.5	+2.4
KAHZ	Kahuranaki	2.79	44	P	Pn	14 24 54.0	-1.8
NGZ	Ngauruhoe	2.81	20	P	Pb	14 25 02.0	+0.6
SNVZ	South Ngauruho	2.81	21	P	Pb	14 24 59.4	-2.0
WACZ	Wakanui South	2.81	220	P	Pn	14 24 55.4	-0.6
OTVZ	Oturere	2.83	21	P	Pn	14 24 57.6	+1.1
NNVZ	North Ngauruho	2.85	20	P	Pn	14 24 58.0	+1.2
WTVZ	West Tongariro	2.86	20	P	Pb	14 25 00.0	-2.3
KWHZ	Kaweka Forest	2.86	34	P	Pb	14 25 04.0	+1.7
TWVZ	Taurewa	2.87	17	P	Pb	14 25 00.6	-1.8
ETVZ	East Tongariro	2.87	22	P	Pn	14 24 58.3	+1.3
TMVZ	Te Maari	2.89	21	P	Pn	14 24 58.0	+0.8
KRVZ	Karewarewa	2.89	20	P	Pb	14 25 02.5	-0.4
NTVZ	North Tongarir	2.90	21	P	Pn	14 24 58.1	+0.8
WAVZ	Waitaha Valley	2.95	244	P	Pn	14 24 59.1	+1.1
KATZ	Kakaramea	3.02	20	P	Pb	14 25 04.9	-0.2
RPZ	Rata Peaks	3.08	231	Pn	Pn	14 24 59.3	-0.5
RPZ	9.9nm,0.3s,baz=202,slow=1.3,SNR=6.3			Sn	Sn	14 25 35.7	-0.9
	7.3nm,0.3s,baz=160,slow=22,SNR=9.3 24nm,0.3s						
RPZ	Rata Peaks	3.08	231	P	Pn	14 24 59.5	-0.3
RATZ	Rangitukua	3.14	21	P	Pb	14 24 06.5	-0.6
ARCZ	Arundel	3.16	227	P	Pn	14 25 00.4	-0.5
HATZ	Hinemaiaia	3.21	25	P	Pb	14 25 08.0	-0.3
WATZ	Wairara	3.28	19	P	Pb	14 25 09.2	-0.2
HIZ	Hauiti	3.32	7		Pn	14 25 04.0	+1.0
HIZ	Hauiti	3.32	7	P	Pn	14 25 05.2	+2.2
HIZ	Hauiti	3.32	7	P	Pn	14 25 05.3	+2.2
GCSZ	Gaunt Creek Bo	3.33	242	P	Pn	14 25 05.1	+2.0
MRHZ	Matea Rd	3.37	29	P	Pb	14 25 10.5	-0.5
TMZ	Timaru	3.55	223	P	Pn	14 25 05.5	-0.7
ALRZ	Allen Road	3.59	26	P	Pb	14 25 13.4	-1.4
LBZ	Lake Benmore	3.99	228	P	Pn	14 25 12.4	+0.1
URZ	Urewera	4.14	32	P	Pn	14 25 14.5	+0.2
URZ	Urewera	4.14	32	P	Pn	14 25 13.8	-0.4
TOZ	Tahuroa Road	4.17	13	P	Pn	14 25 16.1	+1.4
OPRZ	Ohinepanea	4.32	24	P	Pn	14 25 17.0	+0.3
RUGZ	Raukumara Rang	4.62	35	P	Pn	14 25 18.7	-2.3
JCZ	Jackson Bay	4.67	239	P	Pn	14 25 22.8	+1.2
MKAZ	Moumakai	4.75	8	P	Pn	14 25 23.9	+1.3
AWAZ	Awhitu Peninsu	4.75	3	P	Pn	14 25 24.4	+1.7
HAZ	Te Kaha	4.84	34	P	Pn	14 25 22.3	-1.6
ETAZ	East Tamaki Re	4.88	5	P	Pn	14 25 26.1	+1.6
WTAZ	Waiatarua	4.88	2	P	Pn	14 25 27.7	+3.2
HHSZ	Highcliff Hill	4.89	212	P	Pn	14 25 23.9	-0.7
RVAZ	Riverhead Bore	5.04	2	P	Pn	14 25 28.2	+1.5
MXZ	Matakaoa Point	5.23	37	P	Pn	14 25 30.2	+0.9
MLZ	Mavora Lakes	5.75	230	Pn	Pn	14 25 36.1	-0.4
SYZ	Scrubby Hill	6.03	217	P	Pn	14 25 40.2	+0.1
SYZ	Scrubby Hill	6.03	217	P	Pn	14 25 40.2	+0.1
OUZ	Omahuta	6.61	355	P	Pn	14 25 52.2	+3.9
OUZ	Omahuta	6.61	355	P	Pn	14 25 50.6	+2.4
CTZ	Chatham Island	6.92	109	P	Pn	14 25 52.4	-0.1
CTZ	Chatham Island	6.92	109	P	Pn	14 25 51.7	-0.8
AS31	Alice Springs	38.12	286	P	P	14 31 28.8	-1.5
AS31				IAmb	IAmb	14 31 53.3	
	comp=Z,0.7nm,1.0s						
ASAR	Alice Springs	38.12	286	P	P	14 31 28.7	-1.6
	comp=Z,0.6nm,0.6s,baz=120,slow=6.3,SNR=20 comp=Z,0.6nm,0.6s						
COEN	Coen	38.73	307	P	P	14 31 34.4	-1.0
COEN				IAmb	IAmb	14 31 38.3	
	comp=Z,9.8nm,1.4s						
WR0	Warramunga Arr	40.04	291	P	P	14 31 45.2	-1.1
WR0				IAmb	IAmb	14 32 09.0	
	comp=Z,3.0nm,0.9s						
WB2	Warramunga Arr	40.19	290	P	P	14 31 46.1	-1.4
WB2				IAmb	IAmb	14 32 30.0	
	comp=Z,6.4nm,0.8s						
WRA	Warramunga Arr	40.19	290	P	P	14 31 46.2	-1.4
	comp=Z,0.9nm,0.7s,baz=127,slow=8.4,SNR=11 comp=Z,0.9nm,0.7s						
WRA	Warramunga Arr	40.19	290	P	P	14 31 46.3	-1.3
WB0	Warramunga Arr	40.27	291	P	P	14 31 46.8	-1.5
WB0				IAmb	IAmb	14 32 27.7	
	comp=Z,11nm,0.6s						
NWAO	Narrogin (SRO)	45.52	262	P	P	14 32 30.6	0.0
QSPA	South Pole Qui	48.31	180	P	P	14 32 54.6	+2.4
	comp=Z,1.1nm,0.8s,baz=14,slow=8.3,SNR=7.1 comp=Z,1.1nm,0.8s						
TORD	Torodi Ar. Bea	150.73	195	PKPbc	PKPbc	14 44 03.6	-0.2
	comp=Z,0.6nm,0.5s,baz=158,slow=2.0,SNR=7.1						

WEL 14 14:25:43.7±0.5, 42°.5S±3°×17°.4E±°, h8km±3km, M3.5/19, ML3.7/13, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=14.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.10	75	P	Pg	14 25 47.1	+0.9
BSWZ	Blackbirch Sta	0.16	292	P	Pg	14 25 48.0	+0.9
BSWZ				S	Sg	14 25 51.2	+1.7
TUWZ	Tuamarina	0.36	343	P	Pg	14 25 51.5	+0.8
TUWZ				S	Sb	14 25 57.4	-0.7
TCW	Tory Channel	0.58	15	P	Pg	14 25 55.1	+0.1
WEL	Wellington	0.71	47	P	Pb	14 25 58.0	-0.3
KHZ	Kahutara	0.76	212	P	Pb	14 25 58.8	-0.2
NNZ	Nelson	0.77	316	P	Pg	14 25 58.7	+0.3
NNZ				S	Sb	14 26 09.1	-0.6
THZ	Tophouse	0.88	270	P	Pg	14 26 00.9	+0.3
THZ				S	Sb	14 26 13.0	-0.1
PLWZ	Palliser	0.90	77	P	Pg	14 26 00.7	-0.4
MSWZ	Moikau Station	0.95	68	P	Pg	14 26 01.7	-0.2
MSWZ				S	Sb	14 26 15.6	+0.5
DUWZ	D'Urville Isla	0.98	353	P	Pg	14 26 02.2	-0.3
DUWZ				S	Sb	14 26 16.4	+0.4
CAW	Cannon Point	1.00	48	P	Pg	14 26 02.9	+0.1
CAW				S	Sn	14 26 17.7	-0.5
MRNZ	Matariki Terra	1.06	290	P	Pn	14 26 04.6	-0.2
MRNZ				S	Sn	14 26 19.9	+0.2
KIW	Kapiti Island	1.11	35	P	Pg	14 26 04.4	-0.5
KIW				S	Sn	14 26 20.3	-0.6
TKNZ	Takaka Hill	1.12	311	P	Pg	14 26 05.2	-0.1
TKNZ				S	Sb	14 26 19.9	-0.1
MTW	Mount Morrison	1.23	60	P	Pn	14 26 08.4	-1.9
OGWZ	Otaki Gorge	1.26	41	P	Pn	14 26 06.8	-0.8
TRWZ	Traveller	1.26	73	P	Pn	14 26 05.4	-2.3
MRZ	Mangatainoka R	1.59	46	P	Pn	14 26 10.7	-1.3
MRZ				S	Sn	14 26 31.8	-1.0
LTZ	Lake Taylor	1.68	233	P	Pn	14 26 12.5	-0.9
LTZ				S	Sn	14 26 34.0	-1.0
DSZ	Denniston Nort	1.70	270	P	Pb	14 26 15.0	-0.3
DSZ				S	Sg	14 26 38.1	-0.3
PRWZ	Pori Road	1.88	50	P	Pn	14 26 14.5	-1.6
LIRZ	Lichensteins R	4.16	26	P	Pn	14 26 45.6	-1.9

WEL ***14*** *14:26:00, 42°.74S×173°.14E, h9km, ML4.4, Mw4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr1.67; Mθθ-1.00; Mϕϕ-0.67; Mrθ0.16; Mθϕ-2.95; Mϕr-1.83; Fault plane solution: M0.73000×10^15 NP1: ϕs85.00000°, δ52.00000°, λ155.00000°. NP2: ϕs191.00000°, δ71.00000°, λ41.00000°. Principal axes: T -402.6400, Plg42.0000°, Azm55.0000°; N 59.5100, Plg46.0000°, Azm211.0000°; P 343.1300, Plg12.0000°, Azm314.0000°;*

IDC ***14*** *14:26:57.4±1.6, 42°.84S×173°.18E, h0km, mb3.7/1, mbtmp3.9/1, MS3.5/8 Error ellipse: s-maj=53.1km s-min=26.8km az=132.0*

NOU ***14*** *14:26:58.8, 42°.91S×173°.42E, h9km, MLv4.7/9, South Island, New Zealand*

WEL ***14*** *14:26:59.9±0.3, 43°.5±2°×17°.3E±°, h9km±2km, M4.3/14, ML4.5/14, MLv4.3/14, Error ellipse: s-maj=0.0km s-min=0.0km az=128.7*

ISC 14 14:26:59.8±1.0, 42°.68S±0°.02×173°.11E±0°.03, h15km±8km, n141, σ1§53/144, MS3.5/9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.29	191	P	Pb	14 27 07.4	+0.6
GVZ				S	Sb	14 27 13.4	+2.0
KHZ	Kahutara	0.41	51	P	Pg	14 27 09.1	+0.9
KHZ	Kahutara	0.41	51	P	Pg	14 27 09.0	+0.9
KHZ				S	Sg	14 27 15.4	+1.6
AMCZ	Amberley	0.60	214	P	Pn	14 27 12.7	+0.7
AMCZ				S	Sb	14 27 21.9	+1.6
LTZ	Lake Taylor	0.62	260	P	Pg	14 27 11.4	-0.8
LTZ				S	Sb	14 27 19.7	-1.4
THZ	Tophouse	0.93	351	P	Pg	14 27 16.6	-1.3
OXZ	Oxford	1.02	230	P	Pg	14 27 19.0	-0.5
OXZ				S	Sb	14 27 33.3	+1.0
OKCZ	Okains Bay	1.04	182	P	Pg	14 27 20.3	+0.3
MQZ	McQueen's Vall	1.08	198	P	Pg	14 27 19.7	-0.9
MQZ				S	Sg	14 27 35.0	+0.2
BSWZ	Blackbirch Sta	1.12	31	P	Pb	14 27 21.4	+0.5
AKCZ	Akaroa Harbour	1.20	187	P	Pn	14 27 22.0	-0.1
INZ	Inchbonnie	1.23	267	P	Pb	14 27 22.0	-0.7
RACZ	Rakaia	1.26	214	P	Pn	14 27 22.3	-0.6
RACZ				S	Sb	14 27 39.7	+0.4
MRNZ	Matariki Terra	1.31	348	P	Pn	14 27 23.3	-0.2
DSZ	Denniston Nort	1.34	314	P	Pb	14 27 24.0	-0.8
DSZ				S	Sn	14 27 42.1	+0.4
TUWZ	Tuamarina	1.40	27	P	Pn	14 27 23.4	-1.3
MHCZ	Mount Hutt	1.41	232	P	Pn	14 27 24.9	-0.1
MHCZ				S	Sg	14 27 44.4	-1.1
NNZ	Nelson	1.48	8	P	Pb	14 27 26.7	-0.2
WACZ	Wakanui South	1.56	216	P	Pn	14 27 26.5	-0.6
WACZ				S	Sn	14 27 47.0	0.0
TKNZ	Takaka Hill	1.65	356	P	Pb	14 27 29.2	-0.7
TKNZ				S	Sg	14 27 50.9	-2.0
WVZ	Waitaha Valley	1.79	256	P	Pn	14 27 30.1	+0.1
RPZ	Rata Peaks	1.82	235	Pn	Pn	14 27 30.0	-0.6
	81nm,0.3s,baz=41,slow=14,SNR=23						
RPZ				Sn	Sn	14 27 52.6	-0.8
	162nm,0.3s,baz=342,slow=14,SNR=5.7						
RPZ	Rata Peaks	1.82	235	P			
ARCZ	Arundel	1.90	227	P	Pn	14 27 31.1	-0.6
QRZ	Quartz Range	1.90	347	P	Pn	14 27 32.7	+1.0
PLWZ	Palliser	1.94	56	P	Pn	14 27 30.7	-1.6
DUWZ	D'Urville Isla	1.97	18	P	Pn	14 27 34.4	+1.7
MSWZ	Moikau Station	2.03	52	P	Pn	14 27 31.6	-1.9
GCSZ	Gaunt Creek Bo	2.14	252	P	Pn	14 27 35.1	+0.2
CAW	Cannon Point	2.15	44	P	Pn	14 27 31.5	-3.5
PAWZ	Paruwai Farm	2.16	54	P	Pn	14 27 34.9	-0.4
KIW	Kapiti Island	2.26	37	P	Pn	14 27 34.0	-2.6
TMZ	Timaru	2.29	221	P	Pn	14 27 37.3	+0.3
TRWZ	Traveller	2.31	57	P	Pn	14 27 35.5	-1.8
MTW	Mount Morrison	2.35	50	P	Pn	14 27 35.5	-2.3
OGWZ	Otaki Gorge	2.42	40	P	Pn	14 27 36.4	-2.4
FOZ	Fox Glacier	2.56	249	P	Pn	14 27 41.5	+0.9
TMWZ	Te Maipa	2.60	54	P	Pn	14 27 39.3	-2.0
LBZ	Lake Benmore	2.73	230	P	Pn	14 27 43.0	-0.1
MRZ	Mangatainoka R	2.74	43	P	Pn	14 27 42.0	-1.2
ODZ	Otahua Downs	2.96	216	P	Pn	14 27 45.5	-0.7
ODZ	Otahua Downs	2.96	216	P	Pn	14 27 45.6	-0.6
OHWZ	Ohakea	2.98	35	P	Pn	14 27 47.7	+1.3
PRWZ	Pori Road	3.02	46	P	Pn	14 27 46.3	-0.8
POWZ	Post Office Ro	3.04	42	P	Pn	14 27 46.7	-0.6
BFZ	Birch Farm	3.08	51	P	Pn	14 27 46.9	-1.0
WAZ	Wanganui	3.25	26	P	Pn	14 27 52.5	+2.3
DVHZ	Dannevirke	3.31	45	P	Pn	14 27 49.8	-1.2
NMEZ	Namu Road	3.31	10	P	Pn	14 27 54.6	+3.5
LREZ	Lake Rotokare	3.36	17	P	Pn	14 27 54.6	+2.9
TSZ	Takapari Road	3.39	40	P	Pn	14 27 51.4	-0.7
JCZ	Jackson Bay	3.44	245	P	Pn	14 27 53.1	+0.1
JCZ	Jackson Bay	3.44	245	P	Pn	14 27 52.8	-0.2
KHEZ	Kahui Hut	3.45	12	P	Pn	14 27 56.9	+3.8
KHEZ	Kahui Hut	3.45	12	P	Pb	14 27 57.4	-3.3
NBEZ	Newall Road No	3.46	10	P	Pn	14 27 55.5	+2.4
NEZ	North Egmont	3.49	13	P	Pb	14 27 58.2	-3.1
PKE	Pukeiti	3.55	11	P	Pn	14 27 57.2	+2.9
DREZ	Durham Road	3.58	14	P	Pn	14 27 58.7	+3.9
PNHZ	Pukenui	3.61	41	P	Pn	14 27 54.2	-1.1
WKZ	Wanaka	3.66	233	P	Pn	14 27 55.1	-0.8
HHSZ	Highcliff Hill	3.68	209	P	Pn	14 27 55.4	-0.7
EAZ	Earnscleugh	3.75	226	P	Pn	14 27 56.3	-0.7
VRZ	Vera Road	3.77	20	P	Pn	14 27 59.4	+2.1
MOVZ	Moawhango	3.83	32	P	Pn	14 27 58.4	+0.1
WNVZ	Wahianoa	3.84	30	P	Pn	14 27 59.6	+1.1
TRVZ	Turoa	3.85	29	P	Pn	14 27 59.6	+1.0
DRZ	Dome Shelter	3.88	29	P	Pn	14 28 00.1	+1.0
WHVZ	Whangaehu Hut	3.88	30	P	Pn	14 27 59.9	+0.8
FWVZ	Far West T-bar	3.89	29	P	Pn	14 27 60.0	+0.7
BHHZ	Black Hill Sta	3.89	36	P	Pn	14 27 59.0	-0.1
TUVZ	Tukino	3.92	30	P	Pn	14 28 00.8	+1.2
NGZ	Ngauruhoe	3.98	29	P	Pn	14 28 01.5	+1.1
SNVZ	South Ngauruho	3.98	30	P	Pn	14 28 01.3	+0.8
OTVZ	Oturere	4.01	30	P	Pn	14 28 01.9	+1.1
TWVZ	Taurewa	4.01	27	P	Pn	14 28 01.7	+0.9
NNVZ	North Ngauruho	4.02	29	P	Pn	14 28 01.8	+0.8
WTVZ	West Tongariro	4.03	29	P	Pn	14 28 01.7	+0.7
KAHZ	Kahuranaki	4.05	46	P	Pn	14 28 00.9	-0.3
ETVZ	East Tongariro	4.05	30	P	Pn	14 28 02.0	+0.6
KRVZ	Karewarewa	4.06	29	P	Pn	14 28 02.3	+0.8
TMVZ	Te Maari	4.07	30	P	Pn	14 28 02.2	+0.6
NTVZ	North Tongarir	4.07	29	P	Pn	14 28 02.4	+0.8
KWHZ	Kaweka Forest	4.11	39	P	Pn	14 28 02.8	+0.8
TUZ	Tuapeka	4.12	216	P	Pn	14 28 01.8	-0.3
KATZ	Kakaramea	4.19	29	P	Pn	14 28 05.0	+1.7
BKZ	Black Stump Fm	4.35	37	P	Pn	14 28 04.3	-1.0
HIZ	Hauiti	4.37	18	P	Pn	14 28 07.1	+1.5
MLZ	Mavora Lakes	4.49	232	P	Pn	14 28 06.7	-0.6
ARHZ	Aropaoanui	4.51	42	P	Pn	14 28 12.2	+4.7
SYZ	Scrubby Hill	4.79	215	P	Pn	14 28 11.5	+0.2
SYZ	Scrubby Hill	4.79	215	P	Pn	14 28 11.2	-0.1
ALRZ	Allen Road	4.79	32	P	Pn	14 28 10.8	-0.6
WHZ	Wether Hill Ro	4.90	227	P	Pn	14 28 11.9	-1.0
HSRZ	Hossack Road	4.98	30	P	Pn	14 28 14.1	+0.1
KNZ	Kokohu	5.03	45	P	Pn	14 28 13.3	-1.4
HLRZ	Highlands Stat	5.07	30	P	Pn	14 28 12.8	-2.4
UTU	Utuhina	5.08	29	P	Pn	14 28 18.1	+2.8
DCZ	Deep Cove	5.11	235	P	Pn	14 28 13.9	-1.9
TARZ	Mount Tarawera	5.14	31	P	Pn	14 28 16.9	+0.6
OMRZ	Omania	5.20	30	P	Pn	14 28 17.9	+0.8
TOZ	Tahuroa Road

M20K	**Styx River**	**7.25**	**17**	Pn		Pn	14 29 45.8	-0.2
L19K	**White Mountain**	**7.31**	**10**	Pn		Pn	14 29 47.3	+0.6
RC01	**Rabbit Creek A**	**7.34**	**31**	Pn		Pn	14 29 46.2	-0.9
SUA	**Susitna One**	**7.37**	**26**	Pn		Pn	14 29 46.9	-0.7
Q23K	**Middleton Isla**	**7.48**	**49**	Pn		Pn	14 29 47.5	-1.6
MID	**Middleton Isla**	**7.49**	**49**	Pn		Pn	14 29 47.5	-1.6
PWL	**Port Wells**	**7.61**	**36**	Pn		Pn	14 29 50.1	-0.7
PMR	**Palmer**	**7.92**	**30**	Pn		Pn	14 29 54.3	-0.7
TTA	**Tatalina**	**7.97**	**5**	Pn		Pn	14 29 54.9	-0.9
GHO	**Glory Hole Cre**	**8.12**	**30**	Pn		Pn	14 29 58.0	+0.1
SML	**Sawmill**	**8.32**	**31**	Pn		Pn	14 30 00.8	+0.2
SCM	**Sheep Creek Mo**	**8.65**	**34**	Pn		Pn	14 30 04.9	-0.3
CAST	**Castle Rocks**	**8.86**	**16**	Pn		Pn	14 30 07.5	-0.5
BMRM	**Bremner River**	**9.06**	**44**	Pn		Pn	14 30 10.2	-0.6
TRF	**Thorofare Moun**	**9.21**	**21**	Pn		Pn	14 30 12.6	-0.4
M24K	**Tolsona, Glenn**	**9.23**	**35**	Pn		Pn	14 30 13.9	+0.9
DHY	**Denali Highway**	**9.60**	**29**	Pn		Pn	14 30 18.7	+0.5
GLB	**Gilahina Butte**	**9.65**	**43**	Pn		Pn	14 30 18.8	0.0
PAX	**Paxson**	**10.08**	**33**	Pn		Pn	14 30 23.3	-1.4
HDA	**Harding Lake**	**10.79**	**25**	Pn		Pn	14 30 34.3	-0.1
CCB	**Clear Creek Bu**	**10.79**	**23**	Pn		Pn	14 30 33.5	-0.9
RIDG	**Independent Ri**	**10.84**	**31**	Pn		Pn	14 30 34.8	-0.3
H21K	**Melozitna Rive**	**10.91**	**10**	Pn		Pn	14 30 36.0	-0.1
MDM	**Murphy Dome**	**10.97**	**21**	Pn		Pn	14 30 35.6	-1.3
J25K	**Salcha River,**	**11.36**	**27**	Pn		Pn	14 30 41.5	-0.8
L27K	**Beaver Creek,**	**11.37**	**39**	Pn		Pn	14 30 42.0	-0.3
BCAR	**Beaver Creek A**	**11.38**	**39**	Pn		Pn	14 30 43.4	+0.8
H23K	**Yukon River**	**11.51**	**17**	Pn		Pn	14 30 42.5	-1.8
C36M	**Paulatuk**	**20.79**	**33**	P		P	14 32 40.0	-0.3
A36M	**Sachs Harbour**	**21.79**	**27**	P		P	14 32 50.9	-0.2

IDC ***14*** *14:29:21.2±2.5, 6˚.89S×130˚.66E, h80^{km}±24^{km}, mb3.6/7, mbtmp4.1/11, Error ellipse: s-maj=30.0km s-min=18.3km az=78.0*

DJA ***14*** *14:29:22.5±0.3, 7˚S±2˚×13˚1E±˚, h124^{km}±9^{km}, M4.5/14, mb4.6/10, mB5.1/7, MLv4.6/14, Mw(mB)4.4/7*

NEIC ***14*** *14:29:23.3±1.7, 6.77S±0.03×130.5E±0.1, h92^{km}±11^{km}, mb4.0/7, Error ellipse: s-maj=16.8km s-min=4.2km az=81.0*

ISC 14 14:29:22.9±0.5, 6˚.84S±0˚.04×130˚.53E±0˚.05, h100^{km}, n61, σ2^{s}19/68, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.38**	**146**		**Pn**	**14 29 49.0**	**+1.3**
SAUI	**Saumlaki**	**1.38**	**146**	P	**Pn**	**14 29 49.4**	**+1.7**
SAUI				S	**Sn**	**14 30 09.1**	**+2.7**
SAUI	**Saumlaki**	**1.38**	**146**	P	**Pn**	**14 29 49.4**	**+1.7**
BNDI	**Bandanaira**	**2.38**	**345**	P	**Pn**	**14 30 02.0**	**+1.5**
BNDI				S	**Sn**	**14 30 32.0**	**+2.8**
BNDI	**Bandanaira**	**2.38**	**345**	P	**Pn**	**14 30 02.3**	**+1.8**
MSAI	**Masohi**	**3.81**	**335**	P	**Pn**	**14 30 21.2**	**+1.6**
MSAI				S	**Sn**	**14 31 06.7**	**+3.2**
AAI	**Ambon**	**3.89**	**323**	P	**Pn**	**14 30 21.6**	**+0.9**
KRAI	**Karang Ratu**	**4.09**	**329**	P	**Pn**	**14 30 24.5**	**+1.2**
FAKI	**Fak Fak**	**4.25**	**24**	Pn	**Pn**	**14 30 24.4**	**-1.1**
FAKI	**Fak Fak**	**4.25**	**24**	P	**Pn**	**14 30 24.4**	**-1.1**
FAKI				S	**Sn**	**14 31 10.5**	**-3.7**
FAKI	**Fak Fak**	**4.25**	**24**	P	**Pn**	**14 30 24.9**	**-0.7**
NLAI	**Namlea**	**4.94**	**316**	P	**Pn**	**14 30 35.7**	**+0.9**
	0.2nm2µm61nm,0.7s						
SIJI	**Sorong**	**5.97**	**7**	P	**Pn**	**14 30 47.4**	**-1.4**
	37nm,0.3s,baz=205,slow=9.6,SNR=95						
SIJI				S	**Sn**	**14 31 49.6**	**-6.4**
	100nm,0.2s,baz=127,slow=23,SNR=21						
SIJI	**Sorong**	**5.97**	**7**	P	**Pn**	**14 30 47.5**	**-1.4**
MTN	**Manton Dam**	**6.00**	**174**	Pn	**Pn**	**14 30 49.7**	**+0.4**
KDU	**Kakadu**	**6.12**	**162**	P	**Pn**	**14 30 50.5**	**-0.4**
RKPI	**Ransiki, Papua**	**6.42**	**35**	P	**Pn**	**14 30 55.1**	**+0.1**
	1.1nm11µm133nm,0.6s						
SANI	**Sanana**	**6.56**	**316**	P	**Pn**	**14 30 58.9**	**+2.0**
	0.1nm512nm18nm,0.8s						
SANI	**Sanana**	**6.56**	**316**	P	**Pn**	**14 31 00.4**	**+3.5**
	19nm,0.8s						
SOEI	**Soe**	**6.84**	**244**	Pn	**Pn**	**14 31 01.1**	**+0.3**
SOEI	**Soe**	**6.84**	**244**	P	**Pn**	**14 31 01.4**	**+0.6**
	0.4nm1µm63nm,0.7s						
SOEI				S	**Sn**	**14 32 16.2**	**-1.0**
	0.4nm1µm63nm,0.7s						
SOEI	**Soe**	**6.84**	**244**	P	**Pn**	**14 31 02.2**	**+1.4**
	64nm,0.6s						
LBMI	**Labuha**	**6.86**	**334**	P	**Pn**	**14 31 01.9**	**+1.0**
	0.2nm27nm,1.0s						
BATI	**Baumata**	**7.57**	**243**	P	**Pn**	**14 31 11.3**	**+0.7**
	41nm,0.4s,baz=108,slow=1.5,SNR=16						
BATI				S	**Sn**	**14 32 32.9**	**-2.0**
	46nm,0.4s,baz=99,slow=19,SNR=6.6						
BATI	**Baumata**	**7.57**	**243**	P	**Pn**	**14 31 10.4**	**-0.2**
	0.3nm45nm,0.5s						
KNRA	**Kununurra**	**8.96**	**191**	Pn	**Pn**	**14 31 27.8**	**-1.7**
KNRA	**Kununurra**	**8.96**	**191**	P	**Pn**	**14 31 28.5**	**-1.0**
	64nm,0.4s						
SMPI	**Sarmi**	**9.47**	**60**	P	**Pn**	**14 31 35.9**	**-0.6**
	36nm,1.0s						
MRSI	**Marisa**	**11.23**	**310**	P	**Pn**	**14 32 00.7**	**+0.3**
WB0	**Warramunga Arr**	**13.39**	**164**		**Pn**	**14 32 24.9**	**-4.2**
WRAB	**Tennant Creek**	**13.54**	**164**	Pn	**Pn**	**14 32 27.2**	**-3.8**
WRAB	**Tennant Creek**	**13.54**	**164**	P	**Pn**	**14 32 28.1**	**-2.9**
	8.8nm,0.7s						
WRA	**Warramunga Arr**	**13.55**	**165**	P	**Pn**	**14 32 27.4**	**-3.7**
	5.8nm,0.5s,baz=348,slow=14,SNR=64						
WRA				S	Sn	14 34 48.5	-12
	8.4nm,0.4s,baz=349,slow=21,SNR=12						
WRA	**Warramunga Arr**	**13.55**	**165**		**Pn**	**14 32 26.5**	**-4.6**
WB2	**Warramunga Arr**	**13.55**	**164**		**Pn**	**14 32 26.4**	**-4.7**
WR0	**Warramunga Arr**	**13.62**	**164**		**Pn**	**14 32 27.4**	**-4.6**
COEN	**Coen**	**14.31**	**121**	Pn	**Pn**	**14 32 38.5**	**-2.4**
QIS	**Mount Isa**	**16.23**	**148**	P	**Pn**	**14 33 05.2**	**0.0**
AS31	**Alice Springs**	**17.05**	**169**	Pn	**Pn**	**14 33 13.6**	**-1.6**
AS31				IAmb	IAmb	14 33 42.2	
	comp=Z,2.5nm,0.4s						
ASAR	**Alice Springs**	**17.05**	**169**	P	**Pn**	**14 33 14.0**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=352,slow=9.3,SNR=71						
ASAR				S	Sn	14 36 13.7	-11
	comp=Z,1.1nm,0.4s,baz=338,slow=9.5,SNR=6.9						
ASAR	**Alice Springs**	**17.05**	**169**	Pn	**Pn**	**14 33 13.5**	**-1.7**
AS01	**Alice Springs**	**17.05**	**169**	P	**Pn**	**14 33 14.3**	**-1.0**
	comp=Z,6.0nm,0.5s						
MTSU	**Mount Surprise**	**17.52**	**131**	P	**Pn**	**14 33 21.2**	**+0.2**
	comp=Z,5.5nm,0.4s						
MBWA	**Marble Bar**	**17.66**	**215**		**P**	**14 33 21.8**	**-0.3**
MBWA				IAmb	IAmb	14 33 33.0	
	comp=Z,32nm,1.4s						
PSA00	**Pilbara Seismi**	**17.92**	**214**		**P**	**14 33 25.4**	**+0.3**
PSA00				IAmb	IAmb	14 33 31.6	
	comp=Z,20nm,1.2s						
KKM	**Kota Kinabalu**	**19.17**	**312**	P	**Pn**	**14 33 40.4**	**-0.4**
CTAO	**Charters Tower**	**20.16**	**132**	P	**P**	**14 33 50.1**	**+0.7**
CTAO				IAmb	IAmb	14 34 10.1	
	comp=Z,5.0nm,1.2s						
STKA	**Stephens Creek**	**26.97**	**159**	P	**P**	**14 34 54.5**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=318,slow=15,SNR=1.5						
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.03**	**309**	P	**P**	**14 36 49.0**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=135,slow=6.9,SNR=11						
	comp=Z,0.8nm,0.6s						
CHTO	**Chiang Mai**	**40.24**	**310**	P	**P**	**14 36 50.0**	**-0.2**
HHC	**Hu-ho-hao-te**	**50.55**	**341**	*eP*	**P**	**14 38 16.0**	**+4.6**
HHC				pmax	pmax		
	comp=Z,32nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.8s						
SONM	**Songino Array**	**58.45**	**341**	P	**P**	**14 39 09.9**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=157,slow=7.1,SNR=7.7						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**58.45**	**341**	P	**P**	**14 39 09.9**	**+1.4**
SONM				IAmb	IAmb	14 39 11.8	
	comp=Z,1.0nm,0.9s						
WMQ	**Urumqi**	**63.54**	**327**	*eP*	**P**	**14 39 46.3**	**+3.4**
PETK	**Petropavlovsk-**	**64.01**	**18**	P	**P**	**14 39 46.6**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=206,slow=6.3,SNR=5.1						
	comp=Z,0.7nm,0.5s						
PETK	**Petropavlovsk-**	**64.01**	**18**	P	**P**	**14 39 47.0**	**+1.3**
MKAR	**Makanchi Array**	**68.38**	**327**	P	**P**	**14 40 15.0**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=128,slow=7.9,SNR=7.9						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**68.38**	**327**	P	**P**	**14 40 14.7**	**+1.0**
SEY	**Seymchan**	**71.55**	**10**	P	**P**	**14 40 33.5**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=0.0,slow=6.1,SNR=3.5						
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**71.67**	**334**	P	**P**	**14 40 34.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=139,slow=7.3,SNR=1.4						
	comp=Z,0.6nm,0.5s						

TORD	**Torodi Ar. Bea**	**129.29**	**281**	PKP		**PKiKP**	**14 48 21.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=52,slow=0.8,SNR=2.7							

WEL 14 14:32:40.0±0.4, 42˚S±3˚×17˚4E±˚, h8^{km}±3^{km}, M3.8/30, ML4.1/12, MLv3.8/30, Error ellipse: s-maj=0.0km s-min=0.0km az=151.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**18**	P	Pg	14 32 47.6	+0.5
BSWZ				S	Sb	14 32 53.5	-1.1
CMWZ	**Cape Campbell**	**0.48**	**50**	P	Pg	14 32 50.0	+0.7
TUWZ	**Tuamarina**	**0.65**	**14**	P	Pg	14 32 52.9	+0.3
TUWZ				S	Sb	14 33 02.4	-0.5
THZ	**Tophouse**	**0.68**	**296**	P	Pg	14 32 53.5	+0.3
THZ				S	Sg	14 33 02.8	+0.7
NNZ	**Nelson**	**0.88**	**343**	P	Pg	14 32 56.7	-0.2
NNZ				S	Sg	14 33 08.7	+0.3
TCW	**Tory Channel**	**0.94**	**26**	P	Pg	14 32 57.7	-0.4
MRNZ	**Matariki Terra**	**0.98**	**312**	P	Pg	14 32 59.0	+0.1
MRNZ				S	Sb	14 33 12.8	+0.3
GVZ	**Greta Valley S**	**1.04**	**209**	P	Pg	14 32 60.0	0.0
WEL	**Wellington**	**1.10**	**45**	P	Pg	14 33 00.6	-0.5
WEL				S	Sb	14 33 15.8	0.0
TKNZ	**Takaka Hill**	**1.18**	**330**	P	Pg	14 33 02.3	-0.3
DUWZ	**D'Urville Isla**	**1.27**	**7**	P	Pn	14 33 03.4	-0.7
DUWZ				S	Sn	14 33 21.8	+0.5
LTZ	**Lake Taylor**	**1.30**	**236**	P	Pn	14 33 03.8	-0.7
MSWZ	**Moikau Station**	**1.31**	**61**	P	Pn	14 33 02.7	-1.9
AMCZ	**Amberley**	**1.37**	**215**	P	Pn	14 33 04.0	-1.5
CAW	**Cannon Point**	**1.38**	**47**	P	Pn	14 33 04.1	-1.6
DSZ	**Denniston Nort**	**1.47**	**282**	P	Pb	14 33 07.8	+0.2
KIW	**Kapiti Island**	**1.49**	**37**	P	Pn	14 33 06.6	-0.6
KIW				S	Sg	14 33 27.6	-0.4
QRZ	**Quartz Range**	**1.53**	**323**	P	Pb	14 33 08.3	-0.3
MTW	**Mount Morrison**	**1.61**	**56**	P	Pn	14 33 07.3	-1.5
TRWZ	**Traveller**	**1.61**	**66**	P	Pn	14 33 06.7	-2.1
OGWZ	**Otaki Gorge**	**1.65**	**42**	P	Pn	14 33 08.2	-1.1
OKCZ	**Okains Bay**	**1.73**	**196**	P	Pn	14 33 08.7	-1.8
OXZ	**Oxford**	**1.77**	**224**	P	Pn	14 33 09.1	-2.0
INZ	**Inchbonnie**	**1.82**	**248**	P	Pn	14 33 12.1	+0.5
MQZ	**McQueen's Vall**	**1.82**	**205**	P	Pn	14 33 08.9	-2.8
TMWZ	**Te Maipa**	**1.88**	**60**	P	Pg	14 33 17.1	+1.0
AKCZ	**Akaroa Harbour**	**1.91**	**198**	P	Pn	14 33 10.9	-2.0
MRZ	**Mangatainoka R**	**1.97**	**45**	P	Pn	14 33 12.1	-1.7
RACZ	**Rakaia**	**2.03**	**214**	P	Pn	14 33 12.3	-2.4
OHWZ	**Ohakea**	**2.21**	**33**	P	Pb	14 33 19.9	-0.3
PRWZ	**Pori Road**	**2.26**	**49**	P	Pb	14 33 21.8	+0.6
WACZ	**Wakanui South**	**2.34**	**216**	P	Pn	14 33 16.7	-2.1
WVZ	**Waitaha Valley**	**2.43**	**244**	P	Pn	14 33 20.3	+0.2
WAZ	**Wanganui**	**2.49**	**23**	P	Pb	14 33 25.3	+0.2
RPZ	**Rata Peaks**	**2.57**	**229**	P	Pn	14 33 20.4	-1.6
TSZ	**Takapari Road**	**2.62**	**41**	P	Pb	14 33 28.1	+0.9
LREZ	**Lake Rotokare**	**2.65**	**11**	P	Pb	14 33 29.4	-1.4
ARCZ	**Arundel**	**2.66**	**224**	P	Pn	14 33 21.3	-1.9
NBEZ	**Newall Road No**	**2.79**	**2**	P	Pb	14 33 31.2	+1.0
GCSZ	**Gaunt Creek Bo**	**2.80**	**242**	P	Pb	14 33 25.5	+0.3
PKE	**Pukeiti**	**2.87**	**4**	P	Pb	14 33 32.0	+0.5
TMZ	**Timaru**	**3.06**	**220**	P	Pn	14 33 26.9	-1.8
MOVZ	**Moawhango**	**3.06**	**31**	P	Pb	14 33 33.1	-1.8
TMVZ	**Te Maari**	**3.30**	**28**	P	Pb	14 33 37.4	-1.5
HHSZ	**Highcliff Hill**	**4.44**	**210**	P	Pn	14 33 45.4	-2.3
EAZ	**Earnscleugh**	**4.51**	**224**	P	Pn	14 33 46.4	-2.2
AWAZ	**Awhitu Peninsu**	**5.04**	**8**	P	Pn	14 33 58.1	+2.1
MKAZ	**Moumakai**	**5.07**	**13**	P	Pn	14 33 58.4	+2.0
RUGZ	**Raukumara Rang**	**5.09**	**38**	P	Pn	14 34 00.2	+3.4
WTAZ	**Waiatarua**	**5.16**	**8**	P	Pn	14 33 60.0	+2.3
ETAZ	**East Tamaki Re**	**5.18**	**11**	P	Pn	14 33 59.8	+1.9
SYZ	**Scrubby Hill**	**5.56**	**215**	P	Pn	14 34 01.0	-2.0
OUZ	**Omahuta**	**6.83**	**359**	P	Pn	14 34 23.5	+3.0

WEL 14 14:32:59.2±0.6, 43˚S±2˚×17˚4E±˚, h5^{km}, M4.0/9, ML4.2/10, MLv4.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=107.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.84**	**10**	P	Pg	14 33 15.4	0.0
BSWZ				S	Sb	14 33 29.1	+1.1
THZ	**Tophouse**	**0.98**	**323**	P	Pg	14 33 16.3	-1.7
THZ				S	Sg	14 33 28.7	-2.0
AMCZ	**Amberley**	**0.99**	**230**	P	Pn	14 33 19.3	-0.4
AMCZ				S	Sn	14 33 34.0	0.0
LTZ	**Lake Taylor**	**1.07**	**257**	P	Pg	14 33 19.2	-0.4
LTZ				S	Sb	14 33 34.9	+0.3
TUWZ	**Tuamarina**	**1.14**	**10**	P	Pg	14 33 21.0	+0.1
TUWZ				S	Sb	14 33 36.7	+0.4
OKCZ	**Okains Bay**	**1.26**	**201**	P	Pg	14 33 23.2	-0.2
OKCZ				S	Sb	14 33 40.4	+0.4
MRNZ	**Matariki Terra**	**1.34**	**329**	P	Pn	14 33 24.1	-0.5
MRNZ				S	Sb	14 33 42.3	0.0
NNZ	**Nelson**	**1.35**	**350**	P	Pn	14 33 24.8	+0.1
NNZ				S	Sb	14 33 42.1	-0.4
MQZ	**McQueen's Vall**	**1.38**	**213**	P	Pn	14 33 23.6	-1.6
MQZ				S	Sb	14 33 42.2	-1.3
OXZ	**Oxford**	**1.44**	**237**	P	Pn	14 33 24.2	-1.8
OXZ				S	Sb	14 33 43.3	-1.9
AKCZ	**Akaroa Harbour**	**1.44**	**203**	S	Sb	14 33 44.9	-0.3
TKNZ	**Takaka Hill**	**1.61**	**340**	P	Pn	14 33 28.1	-0.2
TKNZ				S	Sn	14 33 49.6	+0.1
DSZ	**Denniston Nort**	**1.62**	**299**	P	Pn	14 33 28.5	+0.1
DSZ				S	Sn	14 33 49.8	+0.2
RACZ	**Rakaia**	**1.64**	**223**	S	Sn	14 33 49.1	-0.9
CAW	**Cannon Point**	**1.77**	**36**	P	Pn	14 33 29.3	-1.2
QRZ	**Quartz Range**	**1.93**	**333**	S	Sn	14 33 57.9	+0.6

WEL ***14*** *14:35:00, 42˚.40S×173˚.48E, h14^{km}, ML4.4, Mw4.2, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M$_{rr}$0.20; M$_{θθ}$0.54; M$_{φφ}$-0.74; M$_{rθ}$0.66; M$_{rφ}$-1.82; M$_{θφ}$0.93; Fault plane solution: M$_{o}$2.17000×10^{15} NP1: φ$_{s}$263.00000°, δ74.00000°, λ-163.00000°. NP2: φ$_{s}$168.00000°, δ74.00000°, λ-17.00000°. Principal axes: T -251.3700, Plg0.0000°, Azm36.0000°; N 183.2700, Plg67.0000°, Azm305.0000°; P 68.1000, Plg23.0000°, Azm126.0000°;*

IDC ***14*** *14:35:30.4±2.5, 42˚.46S×173˚.39E, h0^{km}, mb3.6/3, mbtmp3.7/4, ML4.3/1, MS3.3/5 Error ellipse: s-maj=48.4km s-min=34.4km az=115.0*

NEIC ***14*** *14:35:32.6±1.4, 42˚.46S±0˚.03×173˚.48E±0˚.05, h23^{km}±7^{km}, mb4.1/5, Error ellipse: s-maj=5.1km s-min=4.2km az=102.0*

WEL ***14*** *14:35:33.1±0.3, 42˚S±2˚×17˚3E±˚, h18^{km}±2^{km}, M4.5/14, ML4.7/14, MLv4.5/14, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8*

NOU ***14*** *14:35:33.7, 42˚.67S×173˚.84E, h73^{km}, MLv4.8/11, South Island, New Zealand*

ISC 14 14:35:32.6±0.8, 42˚.47S±0˚.02×173˚.55E±0˚.03, h24^{km}±5^{km}, n134, σ1^{s}37/155, mb3.9/6, MS3.2/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.05**	**351**		**Pb**	**14 35 36.5**	**-0.2**
KHZ				Sg	**Sb**	**14 35 39.0**	**-0.4**
KHZ	**Kahutara**	**0.05**	**351**	P	**Pb**	**14 35 36.8**	**+0.1**
KHZ				S	**Sb**	**14 35 39.1**	**-0.3**
GVZ	**Greta Valley S**	**0.63**	**217**		**Pn**	**14 35 46.8**	**+0.8**
GVZ	**Greta Valley S**	**0.63**	**217**	P	**Pn**	**14 35 47.1**	**+1.1**
GVZ				S	**Sn**	**14 35 57.1**	**+1.8**
BSWZ	**Blackbirch Sta**	**0.79**	**18**		**Pn**	**14 35 48.0**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.79**	**18**	P	**Pn**	**14 35 48.2**	**0.0**
BSWZ				S	**Sn**	**14 35 59.7**	**+0.4**
THZ	**Tophouse**	**0.85**	**326**		**Pb**	**14 35 48.3**	**-0.4**
THZ				Sg	**Sb**	**14 35 57.7**	**-2.1**
THZ	**Tophouse**	**0.85**	**326**	P	**Pb**	**14 35 48.4**	**-0.3**
THZ				S	**Sb**	**14 35 58.3**	**-1.5**
CMWZ	**Cape Campbell**	**0.87**	**35**	P	**Pn**	**14 35 51.6**	**+2.3**
AMCZ	**Amberley**	**0.97**	**223**	P	**Pn**	**14 35 51.8**	**+1.2**
LTZ	**Lake Taylor**	**0.99**	**251**	Pn	**Pn**	**14 35 51.0**	**-0.1**
LTZ				Sg	**Sb**	**14 36 02.5**	**-1.3**
LTZ	**Lake Taylor**	**0.99**	**251**	P	**Pb**	**14 35 51.2**	**+0.1**
LTZ				S	**Sb**	**14 36 03.0**	**-0.8**
TUWZ	**Tuamarina**	**1.08**	**16**		**Pb**	**14 35 53.1**	**+0.6**
TUWZ	**Tuamarina**	**1.08**	**16**	P	**Pb**	**14 35 53.6**	**+1.1**
TUWZ				S	**Sn**	**14 36 06.9**	**+0.6**
MRNZ	**Matariki Terra**	**1.22**	**331**	P	**Pb**	**14 35 55.1**	**+0.1**

MRNZ					S	**Sn**	**14 36 09.9**	**-0.1**
NNZ	**Nelson**	**1.26**	**354**			**Pb**	**14 35 55.3**	**-0.2**
NNZ	**Nelson**	**1.26**	**354**	P		**Pb**	**14 35 55.7**	**+0.1**
NNZ				S		**Sn**	**14 36 10.3**	**-0.5**
OKCZ	**Okains Bay**	**1.30**	**196**	P		**Pb**	**14 35 56.7**	**+0.3**
OKCZ				S		**Sb**	**14 36 12.7**	**0.0**
TCW	**Tory Channel**	**1.37**	**24**	P		**Pb**	**14 35 57.4**	**-0.1**
MQZ	**McQueen's Vall**	**1.40**	**208**	Pn		**Pn**	**14 35 56.7**	**+0.1**
MQZ	**McQueen's Vall**	**1.40**	**208**	P		**Pn**	**14 35 57.0**	**+0.4**
MQZ				S		**Sn**	**14 36 14.1**	**-0.3**
OXZ	**Oxford**	**1.40**	**232**			**Pn**	**14 35 56.8**	**+0.1**
OXZ	**Oxford**	**1.40**	**232**	P		**Pn**	**14 35 56.9**	**+0.2**
OXZ				S		**Sn**	**14 36 13.8**	**-0.6**
SNZO	**South Karori**	**1.44**	**37**			**Pb**	**14 35 58.1**	**-0.6**
SNZO	**South Karori**	**1.44**	**37**	P		**Pb**	**14 35 58.8**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.48**	**198**	P		**Pb**	**14 35 58.6**	**-0.8**
AKCZ				S		**Sb**	**14 36 16.9**	**-0.8**
DSZ	**Denniston Nort**	**1.49**	**298**	Pn		**Pb**	**14 35 58.8**	**-0.7**
DSZ	**Denniston Nort**	**1.49**	**298**	P		**Pb**	**14 35 59.1**	**-0.4**
DSZ				S		**Sn**	**14 36 16.9**	**+0.3**
WEL	**Wellington**	**1.49**	**38**	P		**Pb**	**14 35 59.3**	**-0.3**
WEL				S		**Sb**	**14 36 17.6**	**-0.5**
TKNZ	**Takaka Hill**	**1.50**	**343**	P		**Pb**	**14 35 59.4**	**-0.3**
TKNZ				S		**Sn**	**14 36 17.5**	**+0.7**
PLWZ	**Palliser**	**1.56**	**55**			**Pn**	**14 35 59.2**	**+0.4**
PLWZ	**Palliser**	**1.56**	**55**	P		**Pb**	**14 35 59.8**	**-0.9**
INZ	**Inchbonnie**	**1.58**	**260**	P		**Pb**	**14 36 00.1**	**-0.9**
INZ				S		**Sn**	**14 36 18.9**	**+0.3**
RACZ	**Rakaia**	**1.63**	**219**	P		**Pn**	**14 36 00.1**	**+0.4**
RACZ				S		**Sn**	**14 36 19.4**	**-0.6**
MSWZ	**Moikau Station**	**1.65**	**51**			**Pn**	**14 36 00.7**	**+0.6**
MSWZ	**Moikau Station**	**1.65**	**51**	P		**Pn**	**14 36 01.1**	**-1.2**
MSWZ				S		**Sn**	**14 36 20.8**	**+0.4**
DUWZ	**D'Urville Isla**	**1.69**	**10**	P		**Pb**	**14 36 02.3**	**-0.6**
DUWZ				S		**Sn**	**14 36 22.1**	**+0.6**
PAWZ	**Paruwai Farm**	**1.77**	**53**	P		**Pn**	**14 36 02.6**	**+0.9**
MHCZ	**Mount Hutt**	**1.80**	**233**	P		**Pn**	**14 36 03.0**	**+0.8**
MHCZ				S		**Sn**	**14 36 23.0**	**-1.3**
QRZ	**Quartz Range**	**1.81**	**335**	P		**Pn**	**14 36 04.3**	**-0.7**
QRZ				S		**Sn**	**14 36 25.0**	**+0.5**
KIW	**Kapiti Island**	**1.90**	**33**	P		**Pb**	**14 36 05.1**	**-1.4**
TRWZ	**Traveller**	**1.92**	**57**	P		**Pn**	**14 36 04.4**	**+0.6**
WACZ	**Wakanui South**	**1.93**	**220**	P		**Pn**	**14 36 04.7**	**+0.8**
MTW	**Mount Morrison**	**1.96**	**49**	P		**Pn**	**14 36 05.0**	**+0.7**
OGWZ	**Otaki Gorge**	**2.05**	**37**	P		**Pn**	**14 36 06.6**	**+1.1**
HOWZ	**Holdsworth Sta**	**2.15**	**44**	P		**Pb**	**14 36 12.6**	**+1

*TUL **14** 14:41:50.9±0.9, 36°03.03N×0°01.0×96°07.67W±0°01.0, h3km±7km, ML3.3, mb_Lg3.4/108(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=117.0*
*NEIC **14** 14:41:50.7±0.9, 36°31.18N±0°00.8×96°36.64W±0°02.0, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=278.0*
*ANF **14** 14:41:51.6±0.2, 36°31.1N×96°36.5W, h3km, ML3.6/7, Error ellipse: s-maj=2.7km s-min=2.2km az=30.0*
ISC 14 14:41:51.0±0.9, 36°32.32N±0°02.2×96°36.66W±0°02.8, h9km±8km, n107, σ0°69/61, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OK044	**Pawnee Station**	**0.13**	**296**			**Pg**	**14 41 53.7**	**-0.2**
OK044				Sg		**Sg**	14 41 55.7	-0.3
QUOK	**Quay**	**0.15**	**197**	Pg		**Pg**	**14 41 54.0**	**-0.3**
OK046	**Pawnee Station**	**0.22**	**292**			**Pg**	**14 41 55.4**	**-0.1**
OK046				Sg		**Sg**	**14 41 58.6**	**+0.1**
OK051	**E0350 and S346**	**0.24**	**322**	Pg		**Pg**	**14 41 56.0**	**+0.1**
OK048	**Pawnee Station**	**0.25**	**293**	Pg		**Pg**	**14 41 56.0**	**-0.1**
OK045	**Pawnee Station**	**0.25**	**301**			**Pg**	**14 41 56.1**	**0.0**
OK050	**Pawnee Station**	**0.28**	**287**			**Pg**	**14 41 56.4**	**-0.1**
OK034	**N. Norfolk Rd.**	**0.31**	**189**	Pg		**Pg**	**14 41 57.0**	**-0.1**
OK053	**SW of W Deep R**	**0.32**	**200**	Pg		**Pg**	**14 41 57.2**	**-0.1**
OK052	**Battle Ridge R**	**0.34**	**200**	Pg		**Pg**	**14 41 57.6**	**-0.2**
OK033	**Mehan**	**0.35**	**220**	Pg		**Pg**	**14 41 57.8**	**-0.2**
OK031	**S. Brethren Rd**	**0.39**	**202**	Pg		**Pg**	**14 41 58.5**	**-0.2**
OK030	**Cody Creek RV**	**0.40**	**195**			**Pg**	**14 41 58.7**	**-0.1**
DEOK	**Depew**	**0.49**	**165**	Pg		**Pg**	**14 42 00.5**	**-0.1**
T35A	**Sooner Cattle**	**0.61**	**11**	Pg		**Pg**	**14 42 02.8**	**0.0**
T35B	**Sooner Cattle** baz=192	**0.61**	**11**	P		**Pg**	**14 42 03.0**	**+0.2**
T35B	baz=192			S		**Sg**	**14 42 11.6**	**+0.7**
BLOK	**Blackwell**	**0.63**	**315**	Pg		**Pg**	**14 42 03.1**	**-0.2**
TUL1	**Leonard**	**0.81**	**120**	Pg		**Pg**	**14 42 06.3**	**-0.3**
TUL1	**Leonard** baz=299	**0.81**	**120**	P		**Pg**	**14 42 06.4**	**-0.1**
TUL1	baz=299			S		**Sb**	**14 42 17.7**	**-0.5**
OK029	**Liberty Lake**	**0.83**	**232**			**Pg**	**14 42 06.3**	**-0.6**
OK025	**Westminster Rd**	**0.92**	**217**	Pg		**Pg**	**14 42 07.9**	**-0.8**
KAN13	**South Haven SW**	**0.96**	**317**			**Pg**	**14 42 09.0**	**-0.5**
BCOK	**Bluff Creek, N**	**1.02**	**230**			**Pg**	**14 42 09.8**	**-0.8**
CROK	**Carrier**	**1.09**	**280**			**Pg**	**14 42 11.4**	**-0.5**
GC02	**Grant County #**	**1.11**	**299**			**Pg**	**14 42 11.6**	**-0.6**
KAN09	**Caldwell North**	**1.13**	**317**			**Pg**	**14 42 12.2**	**-0.5**
KAN17	**Caldwell West**	**1.15**	**309**			**Pg**	**14 42 12.4**	**-0.7**
KS20	**Mayfield South**	**1.16**	**322**			**Pg**	**14 42 12.9**	**-0.5**
KAN01	**Argonia South**	**1.22**	**314**			**Pg**	**14 42 13.7**	**-0.7**
FNO	**Franklin**	**1.22**	**210**			**Pg**	**14 42 13.0**	**-1.4**
KAN14	**Manchester OK**	**1.23**	**302**			**Pg**	**14 42 13.9**	**-0.8**
KAN05	**Bluff City Nor**	**1.26**	**309**			**Pg**	**14 42 14.5**	**-0.7**
KS21	**Milan North St**	**1.26**	**320**			**Pg**	**14 42 14.8**	**-0.4**
RLO	**Rose Lookout**	**1.33**	**96**			**Pg**	**14 42 15.7**	**-0.8**
KAN06	**Argonia West S**	**1.34**	**314**			**Pn**	**14 42 15.9**	**0.0**
OK032	**Salt Plains WL**	**1.34**	**292**			**Pn**	**14 42 15.8**	**-0.1**
KAN08	**Anthony NE Sta**	**1.39**	**311**			**Pn**	**14 42 16.5**	**-0.1**
KAN12	**Harper NE Stat**	**1.46**	**313**			**Pn**	**14 42 18.0**	**+0.5**
OK038	**West end E0370**	**1.69**	**276**			**Pn**	**14 42 21.2**	**+0.4**
OK035	**E0210 Rd and N**	**1.70**	**284**	Pn		**Pn**	**14 42 21.6**	**+0.8**
CSTR	**Hydro, Custer**	**1.78**	**249**			**Pn**	**14 42 22.7**	**+0.8**
CSTR	comp=Z,3.7nm,0.8s			IAmb_Lg			14 42 45.6	
U38A	**Gravette** baz=266	**1.83**	**85**	P		**Pb**	**14 42 24.1**	**-0.6**
U38A	baz=266			S		**Sg**	**14 42 49.5**	**-0.5**
NOKA	**Waynoka**	**1.86**	**280**			**Pn**	**14 42 23.9**	**+0.8**
NOKA	comp=Z,65nm,0.8s			IAmb_Lg			14 42 49.3	
U32A	**Winter Ranch,** comp=Z,122nm,0.9s	**1.90**	**273**	IAmb_Lg			14 42 51.3	
U32A	**Winter Ranch,** baz=92	**1.90**	**273**	P		**Pn**	**14 42 25.0**	**+1.5**
U32A	baz=92			S		**Sb**	**14 42 51.1**	**+1.6**
X34A	**Smith Ranch, M**	**1.96**	**210**			**Pn**	**14 42 25.2**	**+0.7**
X34A	comp=Z,90nm,0.9s			IAmb_Lg			14 42 53.7	
X37A	**Clayton** comp=Z,238nm,0.7s	**2.02**	**148**	IAmb_Lg			14 42 56.7	
X37A	**Clayton** baz=329	**2.02**	**148**	P		**Pn**	**14 42 26.4**	**+1.3**
HHAR	**Hobbs** comp=Z,245nm,1.1s	**2.19**	**90**	IAmb_Lg			14 43 00.2	
HHAR	**Hobbs** baz=271	**2.19**	**90**	P		**Pn**	**14 42 29.6**	**+1.9**
ELIS	**Ellis County** comp=Z,42nm,0.8s	**2.25**	**264**	IAmb_Lg			14 43 01.0	
WMOK	**Wichita Mounta**	**2.34**	**228**	Pn		**Pn**	**14 42 29.8**	**+0.1**
WMOK	**Wichita Mounta** baz=47	**2.34**	**228**	P		**Pn**	**14 42 30.7**	**+1.0**
LOOK	**Love County** comp=Z,114nm,0.9s	**2.36**	**191**	IAmb_Lg			14 43 08.4	
KSU1	**Kansas State U**	**2.78**	**1**	Pn		**Pn**	**14 42 35.4**	**-0.3**
KSU1	comp=Z,63nm,0.7s			IAmb_Lg			14 43 24.0	
S39A	**Bolivar** comp=Z,196nm,1.1s	**3.00**	**62**	IAmb_Lg			14 43 29.3	
MIAR	**Mount Ida** comp=Z,64nm,0.7s	**3.07**	**124**	IAmb_Lg			14 43 36.2	
MIAR	**Mount Ida** baz=306	**3.07**	**124**	P		**Pn**	**14 42 41.0**	**+1.3**
MGMO	**Mountain Grove** comp=Z,144nm,0.8s	**3.62**	**75**	IAmb_Lg			14 43 45.6	
FCAR	**Ozark Folk Cen** comp=Z,52nm,0.8s	**3.69**	**95**	IAmb_Lg			14 43 57.5	
WHAR	**Wooly Hollow** comp=Z,103nm,0.9s	**3.69**	**105**	IAmb_Lg			14 43 51.9	
UALR	**University of** comp=Z,86nm,1.0s	**3.84**	**112**	IAmb_Lg			14 43 55.1	
WLAR	**White Oak Lake** comp=Z,62nm,0.7s	**3.92**	**131**	IAmb_Lg			14 44 03.3	
R40A	**Maddies Statio** comp=Z,126nm,0.8s	**4.01**	**59**	IAmb_Lg			14 44 00.5	
P38A	**Dawn** comp=Z,74nm,0.8s	**4.12**	**36**	IAmb_Lg			14 44 08.9	
AMTX	**Amarillo**	**4.34**	**252**			**Pn**	**14 42 57.7**	**+0.6**
AMTX	comp=Z,105nm,1.0s			IAmb_Lg			14 44 14.8	
WHTX	**Lake Whitney,**	**4.37**	**189**	Pn		**Pn**	**14 42 57.9**	**+0.5**
ABTX	**Abilene, Hawle** comp=Z,72nm,1.2s	**4.43**	**215**	IAmb_Lg			14 44 14.8	
LCAR	**Lake Charles**	**4.46**	**92**	Pn		**Pn**	**14 42 58.0**	**-0.7**
LCAR	comp=Z,93nm,1.0s			IAmb_Lg			14 44 13.2	
N33A	**J Bar K, Exete** comp=Z,101nm,0.9s	**4.46**	**352**	IAmb_Lg			14 44 22.6	
N35A	**Tabor**	**4.61**	**10**	Pn		**Pn**	**14 43 01.0**	**+0.2**
CCM	**Cathedral Cave** comp=Z,70nm,0.7s	**4.66**	**66**	IAmb_Lg			14 44 31.7	
CCAR	**Cane Creek** comp=Z,69nm,0.9s	**4.66**	**119**	IAmb_Lg			14 44 27.2	
P40A	**Paris** comp=Z,107nm,0.8s	**4.85**	**47**	IAmb_Lg			14 44 23.8	
PBMO	**Poplar Bluff** comp=Z,97nm,0.8s	**5.03**	**83**	IAmb_Lg			14 44 38.3	
N38A	**Joes South For** comp=Z,94nm,0.8s	**5.21**	**30**	IAmb_Lg			14 44 42.4	
BGNE	**Belgrade** comp=Z,82nm,0.7s	**5.22**	**348**	IAmb_Lg			14 44 51.1	
FVM	**French Village** comp=Z,77nm,0.7s	**5.25**	**70**	IAmb_Lg			14 44 43.0	
KSCO	**Kaye Shedlock'** comp=Z,31nm,0.8s	**5.45**	**301**	IAmb_Lg			14 44 57.9	
435B	**Jarrell** comp=Z,53nm,0.7s	**5.57**	**188**	IAmb_Lg			14 45 01.1	
L34A	**Svendsen Farm,** comp=Z,82nm,0.8s	**5.65**	**2**	IAmb_Lg			14 44 52.8	
CGM3	**Cape Girardeau** comp=Z,53nm,0.8s	**5.70**	**78**	IAmb_Lg			14 44 57.3	
OXF	**Oxford** comp=Z,39nm,0.7s	**6.18**	**105**	IAmb_Lg			14 45 07.0	
W45A	**Hickory Valley** comp=Z,67nm,0.8s	**6.18**	**99**	IAmb_Lg			14 45 12.7	
SCIA	**State Center** comp=Z,69nm,0.7s	**6.19**	**25**	IAmb_Lg			14 45 09.3	
OGNE	**Ogallala** comp=Z,77nm,0.8s	**6.25**	**319**	IAmb_Lg			14 45 12.3	
T25A	**Trinidad** comp=Z,50nm,0.9s	**6.28**	**280**	IAmb_Lg			14 45 27.4	
JCT	**Junction City** comp=Z,57nm,0.9s	**6.39**	**205**	IAmb_Lg			14 45 21.7	
K31A	**O'Neill** comp=Z,57nm,0.7s	**6.50**	**346**	IAmb_Lg			14 45 34.4	
K38A	**Parkersburg** comp=Z,48nm,1.0s	**7.00**	**24**	IAmb_Lg			14 45 44.4	
PLAL	**Pickwick Lake** comp=Z,26nm,0.9s	**7.11**	**98**	IAmb_Lg			14 45 43.4	
L40A	**Anamosa** comp=Z,54nm,1.0s	**7.12**	**35**	IAmb_Lg			14 45 34.8	
WVT	**Waverly** comp=Z,24nm,0.8s	**7.14**	**89**	IAmb_Lg			14 45 42.8	
Q24A	**Divide** comp=Z,38nm,1.1s	**7.24**	**294**	IAmb_Lg			14 45 52.1	
BRIGG	**Briggsdale** comp=Z,35nm,0.9s	**7.37**	**308**	IAmb_Lg			14 45 52.9	
T47A	**Sharon Grove** comp=Z,53nm,1.0s	**7.71**	**82**	IAmb_Lg			14 46 05.9	
L42A	**Oliver, Polo** comp=Z,69nm,0.7s	**7.85**	**42**	IAmb_Lg			14 46 03.0	
V48A	**Smith Brothers** comp=Z,34nm,1.1s	**7.99**	**91**	IAmb_Lg			14 46 08.2	
I37A	**Lemond, Waseca** comp=Z,40nm,1.1s	**8.08**	**17**	IAmb_Lg			14 46 25.0	
JFWS	**Jewell Farm** comp=Z,39nm,0.7s	**8.23**	**35**	IAmb_Lg			14 46 29.1	
SUSD	**Miller** comp=Z,33nm,0.9s	**8.30**	**349**	IAmb_Lg			14 46 17.0	
PHWY	**Pilot Hill** comp=Z,36nm,1.2s	**8.48**	**309**	IAmb_Lg			14 46 34.3	
N23A	**Red Feather La** comp=Z,44nm,0.9s	**8.59**	**305**	IAmb_Lg			14 46 32.5	
HQIL	**Hanson Quary C** comp=Z,108nm,1.1s	**8.76**	**49**	IAmb_Lg			14 46 34.3	
I40A	**Norwalk** comp=Z,44nm,1.1s	**8.87**	**30**	IAmb_Lg			14 46 37.9	
RSSD	**Black Hills** comp=Z,28nm,1.1s	**9.62**	**326**	IAmb_Lg			14 47 06.0	
K22A	**Casper** comp=Z,34nm,1.0s	**9.90**	**313**	IAmb_Lg			14 47 26.6	

WEL 14 14:43:03.6±0.5, 42°S±3°×17°4E±°, h12km, M3.7/44, ML4.4/13, MLv3.7/44, Error ellipse: s-maj=0.0km s-min=0.0km az=122.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**242**	P		Pg	14 43 10.4	+0.3
KHZ				S		Sb	14 43 15.6	-0.8
BSWZ	**Blackbirch Sta**	**0.55**	**356**	P		Pg	14 43 14.7	+0.3
BSWZ				S		Sb	14 43 23.6	+0.5
CMWZ	**Cape Campbell**	**0.56**	**23**	P		Pb	14 43 16.0	+0.6
TUWZ	**Tuamarina**	**0.84**	**1**	P		Pg	14 43 19.1	-0.7
THZ	**Tophouse**	**0.91**	**303**	P		Pg	14 43 21.0	-0.2
THZ				S		Sb	14 43 33.6	+0.2
GVZ	**Greta Valley S**	**0.96**	**223**	P		Pn	14 43 22.8	-0.2
TCW	**Tory Channel**	**1.09**	**14**	P		Pb	14 43 24.2	-0.2
NNZ	**Nelson**	**1.12**	**339**	P		Pb	14 43 24.8	-0.2
NNZ				S		Sg	14 43 40.0	+0.1
WEL	**Wellington**	**1.17**	**33**	P		Pb	14 43 25.5	-0.3
MRNZ	**Matariki Terra**	**1.23**	**315**	P		Pg	14 43 27.2	-0.1
AMCZ	**Amberley**	**1.30**	**225**	P		Pn	14 43 27.5	-0.2
MSWZ	**Mokau Station**	**1.31**	**50**	P		Pn	14 43 26.7	-1.0
LTZ	**Lake Taylor**	**1.32**	**247**	P		Pn	14 43 27.7	-0.2
LTZ				S		Sg	14 43 46.0	-0.3
TKNZ	**Takaka Hill**	**1.43**	**329**	P		Pb	14 43 30.2	0.0
CAW	**Cannon Point**	**1.44**	**37**	P		Pn	14 43 29.0	-0.6
DUWZ	**D'Urville Isla**	**1.46**	**360**	P		Pn	14 43 30.2	+0.4
TRWZ	**Traveller**	**1.58**	**57**	P		Pn	14 43 30.3	-1.1
OKCZ	**Okains Bay**	**1.59**	**203**	P		Pn	14 43 31.0	-0.6
KIW	**Kapiti Island**	**1.59**	**28**	P		Pn	14 43 31.4	-0.2
MTW	**Mount Morrison**	**1.62**	**47**	P		Pn	14 43 31.1	-0.9
DSZ	**Denniston Nort**	**1.66**	**288**	P		Pb	14 43 34.4	+0.2
MQZ	**McQueen's Vall**	**1.71**	**212**	P		Pn	14 43 31.9	-1.4
OGWZ	**Otaki Gorge**	**1.73**	**33**	P		Pn	14 43 32.9	-0.6
OXZ	**Oxford**	**1.74**	**232**	P		Pn	14 43 32.5	-1.2
AKCZ	**Akaroa Harbour**	**1.77**	**204**	P		Pn	14 43 33.3	-0.7
QRZ	**Quartz Range**	**1.78**	**324**	P		Pb	14 43 35.9	-0.3
RACZ	**Rakaia**	**1.96**	**221**	P		Pn	14 43 35.3	-1.4
MRZ	**Mangatainoka R**	**2.03**	**38**	P		Pn	14 43 36.8	-0.9
WACZ	**Wakanui South**	**2.27**	**222**	P		Pn	14 43 39.8	-1.0
PRWZ	**Pori Road**	**2.30**	**43**	P		Pg	14 43 47.7	-0.1
OHWZ	**Ohakea**	**2.31**	**27**	P		Pn	14 43 42.4	+0.9
POWZ	**Post Office Ro**	**2.33**	**37**	P		Pg	14 43 47.9	-0.4
BFZ	**Birch Farm**	**2.36**	**49**	P		Pn	14 43 40.7	-1.5
WVZ	**Waitaha Valley**	**2.48**	**250**	P		Pn	14 43 44.1	+0.2
RPZ	**Rata Peaks**	**2.55**	**235**	P		Pn	14 43 43.9	-0.9
ARCZ	**Arundel**	**2.62**	**229**	P		Pn	14 43 44.8	-0.9
WAZ	**Wanganui**	**2.64**	**18**	P		Pn	14 43 47.4	+1.4
TSZ	**Takapari Road**	**2.69**	**36**	P		Pb	14 43 49.6	-2.1
LREZ	**Lake Rotokare**	**2.83**	**8**	P		Pb	14 43 54.9	+0.8
GCSZ	**Gaunt Creek Bo**	**2.85**	**247**	P		Pn	14 43 50.1	+1.2
WPHZ	**Waipukurau**	**2.91**	**42**	P		Pb	14 43 56.7	+1.3
NBEZ	**Newall Road No**	**3.00**	**359**	P		Pb	14 43 56.6	-0.3
TMZ	**Timaru**	**3.00**	**224**	P		Pn	14 43 50.2	-0.8
PKE	**Pukeiti**	**3.07**	**1**	P		Pb	14 43 59.0	+0.8
VRZ	**Vera Road**	**3.20**	**12**	P		Pn	14 43 55.2	+1.4
BHHZ	**Black Hill Sta**	**3.21**	**31**	P		Pb	14 44 00.1	0.0
WHVZ	**Whangaehu Hut**	**3.24**	**24**	P		Pn	14 43 55.0	+0.6
FWVZ	**Far West T-bar**	**3.25**	**23**	P		Pn	14 43 55.3	+0.6
SNVZ	**South Ngauruho**	**3.34**	**24**	P		Pn	14 43 55.0	-0.8
OTVZ	**Oturere**	**3.37**	**24**	P		Pn	14 43 58.9	+2.6
NNVZ	**North Ngauruho**	**3.39**	**23**	P		Pn	14 43 58.3	+1.9
WTVZ	**West Tongariro**	**3.39**	**22**	P		Pn	14 43 57.2	+0.7
ETVZ	**East Tongariro**	**3.41**	**24**	P		Pn	14 43 58.7	+2.0
TMVZ	**Te Maari**	**3.43**	**24**	P		Pn	14 43 57.0	+0.1
KRVZ	**Karewarewa**	**3.43**	**23**	P		Pn	14 43 58.0	+1.1
NTVZ	**North Tongarir**	**3.44**	**23**	P		Pn	14 43 57.2	+0.1
LBZ	**Lake Benmore**	**3.45**	**231**	P		Pn	14 43 56.1	-1.1
ODZ	**Otahua Downs**	**3.66**	**219**	P		Pn	14 43 59.0	-1.0
HIZ	**Hauiti**	**3.82**	**11**	P		Pn	14 44 03.4	+1.2
MKRZ	**Makatiti**	**4.56**	**26**	P		Pn	14 44 17.0	+4.5
TOZ	**Tahuroa Road**	**4.69**	**16**	P		Pn	14 44 14.5	+0.3
AWAZ	**Awhitu Peninsu**	**5.23**	**6**	P		Pn	14 44 22.9	+1.4
MKAZ	**Moumakai**	**5.24**	**11**	P		Pn	14 44 22.2	+0.4
ETAZ	**East Tamaki Re**	**5.36**	**9**	P		Pn	14 44 24.3	+0.9

*ISU **14** 14:44:20, 40°99N×71°94E, h18km*
*SOME **14** 14:44:21.8, 41°07N×71°75E, h0km*
*KRNET **14** 14:44:21.5±0.1, 40°96N×71°86E, h11km, mb3.1*
*NNC **14** 14:44:24.5±4.4, 40°93N×71°77E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=37.3km s-min=13.3km az=4.0*
ISC 14 14:44:21.8±0.9, 40°98N±0°02.2×71°86E±0°02.8, h18km±7km, n46, σ1°61/75, 13C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NAM	**Namangan**	**0.15**	**274**	P		**Pg**	**14 44 25.8**	**-0.2**
NAM				S		**Sg**	**14 44 29.9**	**+1.0**
FRG	**Fergana**	**0.61**	**185**	P		**Pg**	**14 44 32.8**	**-1.0**
FRG				S		**Sg**	**14 44 42.0**	**0.0**
CHMI	**Chimion**	**0.76**	**200**	P		**Pg**	**14 44 35.3**	**-1.3**
CHMI				S		**Sg**	**14 44 46.4**	**-0.2**
TRKS	**Terek-Say** baz=15	**0.77**	**316**	⇑*i*P		**Pg**	**14 44 35.5**	**-1.4**
TRKS	baz=15			⇑*i*S		**Sg**	**14 44 46.1**	**-1.1**
ARK	**Arkit**	**0.82**	**5**	P		**Pb**	**14 44 38.0**	**+0.3**
ARK				S		**Sb**	**14 44 49.5**	**+1.0**
OHH	**Osh** baz=21	**0.84**	**123**	⇑*e*P		**Pg**	**14 44 37.5**	**-0.7**
OHH	baz=21			⇑*i*S		**Sg**	**14 44 49.4**	**+0.1**
OHH	**Osh**	**0.84**	**123**	P		**Pg**	**14 44 37.3**	**-0.9**
OHH				S		**Sg**	**14 44 48.6**	**-0.7**
MINT	**Mingtut**	**0.84**	**233**	S		**Sg**	**14 44 48.6**	**-0.8**
BTK	**Batken** baz=22	**1.22**	**221**	⇑*i*P		**Pn**	**14 44 44.4**	**+0.4**
BTK	baz=22			⇑*i*S		**Sn**	**14 45 01.3**	**+1.2**
CHRV	**Charvak**	**1.58**	**295**	S		**Sg**	**14 45 11.8**	**-1.0**
IUG	**Iuzhnay** 947nm,0.2s	**1.80**	**311**	*e*P		**Pg**	**14 44 55.6**	**-0.8**
IUG	313nm,0.5s			*e*S		**Sg**	**14 45 20.1**	**+0.3**
IUG	**Iuzhnay** 947nm,0.2s	**1.80**	**311**	P		**Pg**	**14 44 55.6**	**-0.8**
IUG	313nm,0.5s			S		**Sg**	**14 45 20.1**	**+0.3**
DZA	**Taraz** 179nm,0.4s	**1.95**	**349**	*e*P		**Pg**	**14 44 58.7**	**-0.6**
DZA	266nm,0.3s			*e*S		**Sg**	**14 45 25.4**	**+0.8**
DZA	**Taraz**	**1.95**	**349**	Pg		**Pg**	**14 44 58.7**	**-0.6**
DZA	179nm,0.4s			Lg		Lg	14 45 25.4	
TAS	**Tashkent** 266nm,0.3s	**1.97**	**281**	S		**Sb**	**14 45 23.3**	**+2.0**
KUMR	**Kumaryk**	**1.98**	**278**	S		**Sg**	**14 45 23.3**	**-1.1**
MRKS	**Merke** 23nm,0.5s	**2.04**	**30**	*e*P		**Pg**	**14 45 01.5**	**+0.6**
MRKS	238nm,0.5s			*e*S		**Sg**	**14 45 29.9**	**+2.4**
MRKS	**Merke** 23nm,0.5s	**2.04**	**30**	Pg		**Pg**	**14 45 01.5**	**+0.6**
MRKS	238nm,0.5s			Lg		Lg	14 45 29.9	
ARLS	**Aral** baz=63	**2.05**	**64**	⇓*i*P		**Pb**	**14 44 59.6**	**+0.9**
ARLS	baz=63			⇓*i*S		**Sg**	**14 45 27.4**	**-0.5**
NZBK	**Nazarbek**	**2.08**	**278**	S		**Sg**	**14 45 27.2**	**-1.7**
CHM	**Chimkent** 1.8nm,0.5s	**2.15**	**309**	*e*P		**Pg**	**14 45 02.6**	**-0.6**
CHM	456nm,0.3s			*e*S		**Sg**	**14 45 32.1**	**+1.0**
EKS2	**Erkin-Say** baz=39	**2.21**	**40**	⇓*e*P		**Pb**	**14 45 01.8**	**+0.5**
EKS2	baz=39			⇓*i*S		**Sg**	**14 45 31.4**	**-1.5**
GAR	**Garm** baz=12	**2.31**	**211**	⇑*e*P		**Pb**	**14 45 02.5**	**-0.5**
GAR	baz=12			⇑*i*S		**Sb**	**14 45 32.8**	**+1.6**
KK31	**Karatay Array** 3.2nm,0.3s,baz=155,slow=15,SNR=145	**2.35**	**335**	⇑Pn		**Pb**	**14 45 02.3**	**-1.3**
KK31	47nm,0.3s,baz=167,slow=28			⇑Sn		**Sb**	**14 45 34.2**	**+1.9**
UCH	**Uchtor** baz=57	**2.35**	**57**	⇑*e*P		**Pb**	**14 45 03.9**	**0.0**
UCH	baz=57			⇑*i*S		**Sb**	**14 45 34.9**	**+2.1**
CHMS	**Chumysh** 5.0nm,0.8s	**2.95**	**46**	⇑Pn		**Pg**	**14 45 19.5**	**+1.2**
CHMS	30nm,0.9s			⇓Sn		**Sg**	**14 45 57.4**	**+0.7**
SGDS	**Sogindy** 0.7nm,0.4s	**3.21**	**39**	*e*P		**Pg**	**14 45 21.9**	**-1.5**
SGDS	12nm,0.7s			*e*S		**Sg**	**14 46 04.7**	**-0.4**
SGDS	**Sogindy** 0.7nm,0.4s	**3.21**	**39**	Pg		**Pg**	**14 45 21.9**	**-1.5**
SGDS	12nm,0.7s			Lg		Lg	14 46 04.7	
DGS	**Degeres** 5.2nm,0.5s	**3.69**	**51**	*e*P		**Pg**	**14 45 32.0**	**-0.4**
DGS	12nm,0.4s			*e*S		**Sg**	**14 46 22.0**	**+1.8**
DGS	**Degeres** 5.2nm,0.5s	**3.69**	**51**	Pg		**Pg**	**14 45 32.0**	**-0.4**
DGS	12nm,0.4s			Lg		Lg	14 46 22.0	
KST	**Kastek** 5.4nm,0.6s	**3.69**	**55**	*e*P		**Pg**	**14 45 30.2**	**-2.2**
KST	11nm,0.9s			*e*S		**Sg**	**14 46 19.2**	**-1.0**
KST	**Kastek** 5.4nm,0.6s	**3.69**	**55**	Pg		**Pg**	**14 45 30.2**	**-2.2**
KST	11nm,0.9s			Lg		Lg	14 46 19.2	
KRBS	**Karabastau** 1.3nm,0.4s	**3.92**	**45**	*e*P		**Pg**	**14 45 34.6**	**-2.2**
KRBS	10nm,1.1s			*e*S		**Sg**	**14 46 26.5**	**-1.1**
KRBS	**Karabastau** 1.3nm,0.4s	**3.92**	**45**	Pg		**Pg**	**14 45 34.6**	**-2.2**
KRBS	10nm,1.1s			Lg		Lg	14 46 26.5	
MTBS	**Maitube** 0.4nm,0.2s	**4.02**	**56**	*e*P		**Pg**	**14 45 36.6**	**-2.3**
MTBS	6.7nm,0.6s			*e*S		**Sg**	**14 46 30.0**	**-1.0**
MTBS	**Maitube** 0.4nm,0.2s	**4.02**	**56**	Pg		**Pg**	**14 45 36.6**	**-2.3**
MTBS	6.7nm,0.6s			Lg		Lg	14 46 30.0	
BTLS	**Baital** 3.7nm,0.5s	**4.36**	**21**	*e*P		**Pg**	**14 45 42.4**	**-3.0**
BTLS	19nm,0.6s			*e*S		**Sg**	**14 46 40.8**	**-1.1**
BTLS	**Baital** 3.7nm,0.5s	**4.36**	**21**	Pg		**Pg**	**14 45 42.4**	**-3.0**
BTLS	19nm,0.6s			Lg		Lg	14 46 40.7	
KUU	**Kurty** 1.6nm,0.1s	**4.41**	**47**	*e*P		**Pg**	**14 45 43.3**	**-2.9**
KUU	8.0nm,0.5s			*e*S		**Sg**	**14 46 41.5**	**-1.9**
KUU	**Kurty** 1.6nm,0.1s	**4.41**	**47**	Pg		**Pg**	**14 45 43.3**	**-2.9**
KUU	8.0nm,0.5s			Lg		Lg	14 46 41.5	
MDOK	**Medeo** 2.0nm,0.4s	**4.44**	**59**	*e*P		**Pg**	**14 45 46.5**	**-0.2**
MDOK	6.3nm,1.1s			*e*S		**Sg**	**14 46 47.6**	**+3.4**
MDOK	**Medeo** 2.0nm,0.4s	**4.44**	**59**	Pg		**Pg**	**14 45 46.5**	**-0.2**
KTBS	**Karatobe** 0.7nm,0.7s	**4.50**	**51**	*e*P		**Pg**	**14 45 45.5**	**-2.5**
KTBS	2.1nm,0.3s			*e*S		**Sg**	**14 46 45.6**	**-0.5**
KTBS	**Karatobe** 0.7nm,0.7s	**4.50**	**51**	Pg		**Pg**	**14 45 45.4**	**-2.5**
KTBS	2.1nm,0.3s			Lg		Lg	14 46 45.6	
ARXS	**Arharly** 1.4nm,0.5s	**5.46**	**52**	*e*P		**Pg**	**14 46 02.9**	**-3.4**
ARXS	2.6nm,0.6s			*e*S		**Sg**	**14 47 14.9**	**-2.2**
ARXS	**Arharly** 1.4nm,0.5s	**5.46**	**52**	Pg		**Pg**	**14 46 02.9**	**-3.4**
ARXS	2.6nm,0.6s			Lg		Lg	14 47 14.9	

WEL 14 14:59:21.9±0.4, 43°S±2°×17°3E±°, h9km±2km, M3.6/12, ML3.8/12, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=124.3, South Island

| Code | Station Name | Δ° |

EAZ	**Earnscleugh**	**3.95**	**225**	P		Pn	15 00 21.2	-1.4
EAZ				S		Sn	15 01 05.3	-3.7
SYZ	**Scrubby Hill**	**4.99**	**215**	P		Pn	15 00 35.8	-1.1

IDC 14 14:59:33.2±1.3, 23°09N×93°53E, h0km, mb3.3/3, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=35.4km s-min=21.4km az=19.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRDH	**Bariadhala**	**1.79**	**257**	Pn		Pb	15 00 06.5	-0.5
	63nm,0.3s,baz=90,slow=20,SNR=1.8							
BRDH				Sn		Sn	15 00 28.1	-0.8
	203nm,0.3s,baz=271,slow=21,SNR=13							
CMAR	**Chiang Mai Arr**	**6.84**	**131**	Pn		Pn	15 01 16.8	+1.8
	0.2nm,0.3s,baz=311,slow=18,SNR=1.5							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**25.33**	**342**	P		P	15 05 01.9	+0.1
	0.4nm,0.8s,baz=144,slow=11,SNR=2.1							
	0.4nm,0.8s							
WRA	**Warramunga Arr**	**58.43**	**134**	P		P	15 09 30.5	-0.6
	0.4nm,0.8s,baz=322,slow=7.5,SNR=5.5							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**60.82**	**137**	P		P	15 09 47.4	-0.1
	0.2nm,0.4s,baz=317,slow=7.0,SNR=12							
	0.2nm,0.4s							

*NEIC **14** 15:02:18.5±1.1, 16°6S±0°2×177°0W±0°2, h440km±17km, mb4.2/8, Error ellipse: s-maj=31.8km s-min=21.7km az=160.0*

*IDC **14** 15:02:18.6±1.8, 16°42S×177°07W, h448km±22km, mb3.1/4, mbtmp4.0/7, Error ellipse: s-maj=77.2km s-min=24.0km az=146.0*

ISC 14 15:02:18.1±0.8, 16°6S±0°2×177°0W±0°1, h450km, n21, σ0s82/21, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.83**	**256**	P		**P**	**15 03 40.8**	**-0.2**
	12nm,0.5s,baz=192,slow=22,SNR=20							
MSVF	**Nonsavu**	**4.83**	**256**	P		**P**	**15 03 40.6**	**-0.4**
AFI	**Afiamalu**	**5.74**	**63**	P		**P**	**15 03 50.6**	**+0.6**
	10nm,0.5s,baz=342,slow=16,SNR=4.9							
AFI	**Afiamalu**	**5.74**	**63**	P		**P**	**15 03 49.0**	**-0.9**
NIUE	**Niue**	**7.19**	**111**	P		**P**	**15 04 05.3**	**+0.4**
MARNC	**Mare, Loyalty**	**14.93**	**249**	P		**P**	**15 05 28.1**	**-0.4**
OUENC	**Ouen Island, N**	**16.26**	**247**	P		**P**	**15 05 42.5**	**-0.1**
OUENC				IAmb		IAmb	15 06 11.3	
	comp=Z,22nm,1.2s							
DZM	**Mont Dzumac**	**16.51**	**248**	P		**P**	**15 05 46.2**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=90,slow=13,SNR=2.1							
DZM	**Mont Dzumac**	**16.51**	**248**	P		**P**	**15 05 46.5**	**+1.0**
DZM				IAmb		IAmb	15 06 08.3	
	comp=Z,29nm,1.4s							
CMWZ	**Cape Campbell**	**26.16**	**195**	P		**P**	**15 07 13.4**	**-1.3**
STKA	**Stephens Creek**	**40.41**	**240**	P		**P**	**15 09 15.6**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=95,slow=12,SNR=2.5							
	comp=Z,2.0nm,1.0s							
STKA	**Stephens Creek**	**40.41**	**240**	P		**P**	**15 09 15.9**	**+0.1**
WR0	**Warramunga Arr**	**45.98**	**258**	P		**P**	**15 10 00.5**	**+0.6**
WB0	**Warramunga Arr**	**46.14**	**258**	P		**P**	**15 10 01.7**	**+0.6**
WB0				IAmb		IAmb	15 10 34.1	
	comp=Z,7.0nm,1.2s							
WB2	**Warramunga Arr**	**46.16**	**258**	P		**P**	**15 10 01.7**	**+0.5**
WB2				IAmb		IAmb	15 10 05.5	
	comp=Z,6.8nm,1.4s							
WRA	**Warramunga Arr**	**46.17**	**258**	P		**P**	**15 10 02.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=6.0,SNR=16							
	comp=Z,0.2nm,0.3s							
AS31	**Alice Springs**	**46.42**	**253**	P		**P**	**15 10 04.0**	**+0.8**
ASAR	**Alice Springs**	**46.42**	**253**	P		**P**	**15 10 04.2**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=89,slow=7.8,SNR=66							
	comp=Z,3.0nm,0.7s							
ASAR	**Alice Springs**	**46.42**	**253**	P		**P**	**15 10 03.8**	**+0.7**
KLR	**Kul'dur**	**79.68**	**329**	P		**P**	**15 13 36.5**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=72,slow=3.2,SNR=2.1							
	comp=Z,0.7nm,0.5s							
TIXI	**Tiksi**	**95.25**	**345**	P		**P**	**15 14 53.0**	**+1.1**

*SJA **14** 15:04:49.4±0.7, 27°80S×71°42W, h8km±3km, ML4.1, MW3.8*

*IDC **14** 15:04:50.0±0.7, 27°97S×71°12W, h0km, mb3.9/7, mbtmp4.0/9, ML4.3/2, MS3.2/5, Error ellipse: s-maj=27.1km s-min=18.5km az=120.0*

*NEIC **14** 15:04:53.7, 27°91S×71°15W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}7.20; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-6.89; $M_{r\theta}$1.17; $M_{r\phi}$-1.76; $M_{\theta\phi}$-5.74; Fault plane solution: $M_0$9.33000×10^{14} NP1:$\phi_0$178.85000°, δ64.66000°, λ76.65000°. NP2:$\phi_0$27.87000°, δ28.43000°, λ116.00000°. Principal axes: T 9.5367, Plg68.0000°, Azm64.0000°; N -0.4212, Plg12.0000°, Azm185.0000°; P -9.1155, Plg19.0000°, Azm279.0000°;*

*NEIC **14** 15:04:53.7±1.3, 27°91S±0°03×71°2W±0°1, h24km±6km, mb4.3/9, Mww3.9/22, Mwr4.2(GUC) Error ellipse: s-maj=13.2km s-min=3.2km az=101.0*

*GUC **14** 15:04:54.5±0.8, 27°93S×71°12W, h19km±4km, ML4.2*

ISC 14 15:04:52.4±0.7, 27°91S±0°02×71°08W±0°04, h15km±4km, n110, σ1s88/145, mb4.1/9, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.30**	**180**	Pg		**Pb**	**15 05 00.6**	**+1.2**
AC04	**Llanos de Chal**	**0.30**	**180**	*i*P		**Pb**	**15 05 00.9**	**+1.4**
AC04				eS		**Sb**	**15 05 05.4**	**+1.2**
AC04	**Llanos de Chal**	**0.30**	**180**	eP		**Pb**	**15 05 00.0**	**+0.5**
AC04				eS		**Pb**	**15 05 00.7**	**+1.2**
GO03	**Copiap**	**0.81**	**67**			**Pn**	**15 05 10.3**	**+1.0**
GO03	**Copiap**	**0.81**	**67**	*i*P		**Pn**	**15 05 10.3**	**+1.0**
GO03				eS		**Sn**	**15 05 22.0**	**+0.9**
GO03	**Copiap**	**0.81**	**67**	eP		**Pn**	**15 05 10.0**	**+0.7**
GO03				eS		**Sn**	**15 05 24.1**	**+3.0**
AC06	**Mina Casimiro**	**0.84**	**50**			**Pn**	**15 05 10.1**	**+0.4**
AC06	**Mina Casimiro**	**0.84**	**50**	*i*P		**Pn**	**15 05 10.3**	**+0.6**
AC06				eS		**Sn**	**15 05 22.0**	**+0.2**
LCO	**Las Campanas**	**1.15**	**163**	Pn		**Pg**	**15 05 14.7**	**0.0**
LCO	**Las Campanas**	**1.15**	**163**	eP		**Pb**	**15 05 14.6**	**+0.4**
LCO				eS		**Sb**	**15 05 29.5**	**+0.5**
AC05	**El Transito**	**1.17**	**143**			**Pg**	**15 05 15.5**	**+0.5**
AC05	**El Transito**	**1.17**	**143**	*i*P		**Pg**	**15 05 15.7**	**+0.8**
AC05				eS		**Sg**	**15 05 31.1**	**+0.9**
AC05				IAML			15 05 34.1	
	comp=N,7μm,0.4s							
AC01	**Pan de Azucar**	**1.80**	**14**			**Pn**	**15 05 23.5**	**+0.5**
AC01	**Pan de Azucar**	**1.80**	**14**	*i*P		**Pn**	**15 05 23.5**	**+0.5**
AC01				eS		**Sn**	**15 05 45.2**	**-0.4**
AC01	**Pan de Azucar**	**1.80**	**14**	eP		**Pn**	**15 05 23.0**	**0.0**
AC01				eS		**Sg**	**15 05 52.4**	**+1.9**
AC01				IAML			15 05 56.6	
	comp=Z,975nm,0.6s							
CO05	**La Serena**	**2.01**	**184**			**Pn**	**15 05 25.9**	**+0.1**
CO05	**La Serena**	**2.01**	**184**	eP		**Pn**	**15 05 25.9**	**+0.1**
CO05				eS		**Sb**	**15 05 53.1**	**-0.4**
CO05				IAML			15 06 04.0	
	comp=E,2μm,0.3s							
AC02	**Maricunga**	**2.03**	**59**	*i*P		**Pg**	**15 05 30.7**	**-0.8**
AC02				eS		**Sg**	**15 05 58.0**	**0.0**
AC02				IAML			15 06 01.4	
	comp=E,3μm,0.4s							
AC02	**Maricunga**	**2.03**	**59**	eP		**Pg**	**15 05 31.0**	**-0.5**
AC02				eS		**Sg**	**15 05 59.6**	**+1.6**
AC02				IAML			15 06 01.1	
	comp=Z,2μm,0.3s							
CO01	**Juntas del Tor**	**2.23**	**158**	Pn		**Pb**	**15 05 31.3**	**-1.4**
CO01	**Juntas del Tor**	**2.23**	**158**	eP		**Pb**	**15 05 32.0**	**-0.6**
CO01				eS		**Sb**	**15 06 00.9**	**+0.7**
CO01	**Juntas del Tor**	**2.23**	**158**	eP		**Pb**	**15 05 32.4**	**-0.3**
CO01				eS		**Sb**	**15 06 02.2**	**+2.0**
CO01				IAML			15 06 03.2	
	comp=Z,795nm,0.6s							
GO04	**Tololo Observa**	**2.27**	**174**			**Pn**	**15 05 30.4**	**+0.7**
GO04	**Tololo Observa**	**2.27**	**174**	eP		**Pn**	**15 05 30.9**	**+1.3**
GO04				eS		**Sb**	**15 06 00.2**	**-1.1**
GO04	**Tololo Observa**	**2.27**	**174**	eP		**Pn**	**15 05 31.0**	**+1.3**
GO04				eS		**Sn**	**15 05 59.0**	**+1.5**
AROD	**Rodeo**	**2.65**	**148**	eP		**Pb**	**15 05 40.0**	**+0.1**
AROD				eS		**Sg**	**15 06 17.2**	**-0.6**
CO06	**Fray Jorge**	**2.80**	**190**	Pn		**Pn**	**15 05 35.8**	**-0.9**
CO06	**Fray Jorge**	**2.80**	**190**	eP		**Pn**	**15 05 35.9**	**-0.8**
CO06				IAML			15 06 29.3	
	comp=N,556nm,0.4s							
CO03	**El Pedregal**	**2.94**	**174**			**Pn**	**15 05 39.7**	**+1.0**
CO03	**El Pedregal**	**2.94**	**174**	eP		**Pn**	**15 05 40.2**	**+1.5**
CO03				IAML			15 06 36.9	
	comp=N,962nm,0.6s							
CO03	**El Pedregal**	**2.94**	**174**	eP		**Pn**	**15 05 40.0**	**+1.3**
CO03				eP		**Pn**	**15 05 40.2**	**+1.5**
CO03				eS		**Sb**	**15 06 20.0**	**-0.4**
CO03				IAML			15 06 31.2	
	comp=Z,462nm,0.3s							
GO02	**Mina Guanaco**	**3.04**	**26**			**Pn**	**15 05 41.6**	**+1.4**
GO02	**Mina Guanaco**	**3.04**	**26**	eP		**Pn**	**15 05 41.5**	**+1.2**
GO02				eS		**Sn**	**15 06 19.2**	**+2.6**
GO02				IAML			15 06 49.0	
	comp=E,932nm,0.6s							
GO02	**Mina Guanaco**	**3.04**	**26**	eP		**Pn**	**15 05 42.0**	**+1.7**
GO02				eS		**Sb**	**15 06 21.4**	**-2.0**
ACCO	**Cerro Coronel**	**3.20**	**147**	eP		**Pb**	**15 05 47.0**	**-2.1**
ACCO				eS		**Sb**	**15 06 29.5**	**+1.5**
CO02	**Combarbal**	**3.29**	**179**			**Pn**	**15 05 43.8**	**+0.3**
CO02	**Combarbal**	**3.29**	**179**	eP		**Pn**	**15 05 43.9**	**+0.5**
CO02	**Combarbal**	**3.29**	**179**	eP		**Pn**	**15 05 44.0**	**+0.5**
CO02				eS		**Sn**	**15 06 23.5**	**+1.1**
ACLC	**CERRO LA CRUZ**	**3.93**	**114**	eP		**Pb**	**15 05 57.4**	**-4.0**
ACLC				IAML			15 07 04.8	
	comp=Z,290nm,1.2s							
RTLL	**Cerro Villicun**	**4.09**	**147**	eP		**Pb**	**15 05 59.8**	**-4.5**
RTLL				eP		Pn	15 06 00.0	+5.5
RTLL				eS		**Sb**	**15 06 50.0**	**-3.6**
RTLS	**Leoncito**	**4.17**	**159**	eP		Pb	15 06 01.0	-4.8
RTLS				eS		**Sb**	**15 06 55.0**	**-1.1**
PB10	**IPOC Station P**	**4.40**	**6**	Pn		**Pn**	**15 05 57.4**	**-1.3**
PB10	**IPOC Station P**	**4.40**	**6**	eP		**Pn**	**15 05 57.5**	**-1.2**
PB10	**IPOC Station P**	**4.40**	**6**	eP		**Pn**	**15 05 57.9**	**-0.8**
PB10				eS		**Sb**	**15 07 05.5**	**+3.1**
PB10				IAML			15 07 29.0	
	comp=Z,92nm,0.5s							
VA06	**Catapilco**	**4.64**	**182**	Pn		**Pn**	**15 06 01.4**	**-0.6**
VA06	**Catapilco**	**4.64**	**182**	eP		**Pn**	**15 06 02.1**	**+0.1**
CYA	**Choya**	**4.69**	**98**	eP		**Pn**	**15 06 07.0**	**+4.3**
CYA				eP		Pn	15 06 07.8	+5.1
CYA				eS		Sn	15 06 47.0	-10
CYA				eS		**Sn**	**15 06 59.0**	**+2.2**
CYA				eS		**Sb**	**15 07 08.0**	**-2.6**
CYA				IAML			15 07 11.0	
	comp=Z,152nm,0.7s							
APLL	**PUNTA DE LOS L**	**4.69**	**123**	eP		**Pn**	**15 06 07.0**	**+4.3**
APLL				eS		**Sb**	**15 07 08.9**	**-1.7**
VA03	**San Esteban**	**4.86**	**175**	eP		**Pn**	**15 06 06.8**	**+1.6**
VA03	**San Esteban**	**4.86**	**175**	eP		**Pn**	**15 06 07.0**	**+1.9**
VA03				eS		**Sb**	**15 07 11.0**	**-4.7**
PB15	**IPOC Station P**	**4.90**	**18**			**Pn**	**15 06 06.1**	**+0.4**
PB15	**IPOC Station P**	**4.90**	**18**	eP		**Pn**	**15 06 06.4**	**+0.6**
PB15	**IPOC Station P**	**4.90**	**18**	eP		**Pn**	**15 06 07.0**	**+1.3**
PB15				eP		**Pn**	**15 06 07.1**	**+1.4**
PB15				eS		**Sn**	**15 07 04.6**	**+2.4**
PB15				eS		**Sn**	**15 07 10.0**	**+7.7**
ROC1	**El Roble**	**5.05**	**179**			**Pn**	**15 06 08.1**	**+0.2**
ROC1	**El Roble**	**5.05**	**179**	eP		**Pn**	**15 06 08.0**	**+0.2**
ASAL	**Salagasta**	**5.05**	**158**	eP		**Pn**	**15 06 12.1**	**+4.3**
ASAL				eS		**Sb**	**15 07 17.0**	**-4.2**
ASAL				eS		Sn	15 07 20.0	+14
ASAL				IAML			15 07 35.5	
	comp=Z,101nm,1.1s							
MT02	**Curacav**	**5.33**	**181**			**Pn**	**15 06 11.0**	**-0.5**
PB06	**IPOC Station P**	**5.36**	**15**			**Pn**	**15 06 11.0**	**-1.0**
PB06	**IPOC Station P**	**5.36**	**15**	eP		**Pn**	**15 06 11.6**	**-0.4**
PB06				eS		**Sb**	**15 07 27.0**	**-2.5**
MT05	**Renca**	**5.47**	**177**	Pn		**Pn**	**15 06 13.2**	**-0.3**
PB04	**IPOC Station P**	**5.61**	**9**			**Pn**	**15 06 13.9**	**-1.6**
LVC	**Limon Verde**	**5.63**	**21**	Pn		**Pn**	**15 06 16.4**	**+0.5**
	comp=Z,6.8nm,0.3s,baz=180,slow=9.2,SNR=52							
LVC				Sn		**Sn**	**15 07 21.4**	**+0.9**
	comp=Z,6.5nm,0.3s,baz=175,slow=19,SNR=3.7							
	comp=Z,21nm,0.5s							
LVC	**Limon Verde**	**5.63**	**21**	Pn		**Pn**	**15 06 16.2**	**+0.3**
MT09	**Talagante**	**5.85**	**179**			**Pn**	**15 06 18.3**	**-0.4**
MT01	**Popeta**	**5.94**	**181**			**Pn**	**15 06 19.2**	**-0.6**
PB03	**IPOC Station P**	**5.96**	**12**			**Pn**	**15 06 18.2**	**-2.0**
BO04	**La Punta**	**6.08**	**176**			**Pn**	**15 06 21.7**	**0.0**
PB07	**IPOC Station P**	**6.25**	**10**			**Pn**	**15 06 22.5**	**-1.8**
PB02	**IPOC Station P**	**6.65**	**10**			**Pn**	**15 06 27.7**	**-1.9**
BO02	**Sierra Bellavi**	**6.87**	**178**			**Pn**	**15 06 32.1**	**-0.6**
PB08	**IPOC Station P**	**7.93**	**13**	Pn		**Pn**	**15 06 46.4**	**-1.1**
GO01	**Chusmiza**	**8.38**	**12**			**Pn**	**15 06 52.6**	**-1.2**
H03N1	**Juan Fernandez**	**8.71**	**229**	Pn		**Pn**	**15 06 54.3**	**-3.4**
H03N1				T		T	15 15 47.7	
	baz=55,slow=72,SNR=604							
H03N2	**Juan Fernandez**	**8.73**	**229**	Pn		**Pn**	**15 06 54.6**	**-3.2**
H03N2				T		T	15 15 48.7	
	baz=55,slow=72,SNR=2666							
H03N3	**Juan Fernandez**	**8.73**	**229**	Pn		**Pn**	**15 06 54.3**	**-3.7**
H03N3				T		T	15 15 45.9	
	baz=55,slow=72,SNR=2729							
MNMC	**Minye Minye**	**8.84**	**9**			**Pn**	**15 06 57.5**	**-2.4**
H03S3	**Juan Fernandez**	**8.95**	**227**	Pn		**Pn**	**15 06 56.4**	**-4.5**
	baz=34,slow=20							
H03S1	**Juan Fernandez**	**8.96**	**227**	Pn		**Pn**	**15 06 56.5**	**-4.5**
	baz=34,slow=20							
H03S2	**Juan Fernandez**	**8.97**	**227**	Pn		**Pn**	**15 06 56.7**	**-4.4**
	baz=34,slow=20							
PB12	**IPOC Station P**	**9.28**	**4**	Pn		**Pn**	**15 07 03.0**	**-2.8**
LPAZ	**La Paz**	**11.88**	**14**	Pn		**Pn**	**15 07 41.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=208,slow=6.2,SNR=12							
LPAZ				LR		LR	15 12 36.2	
	comp=Z,75nm,21.4s,baz=204,slow=39							
	comp=Z,3.0nm,0.4s							
LPAZ	**La Paz**	**11.88**	**14**	Pn		**Pn**	**15 07 41.3**	**-0.6**
CPUP	**Villa Florida**	**12.35**	**86**	LR		LR	15 13 28.8	
	comp=Z,88nm,21.6s,baz=243,slow=42							
TRQA	**Tornquist**	**12.67**	**145**	Pn		**Pn**	**15 07 53.1**	**+1.0**
PLCA	**Paso Flores**	**12.80**	**178**	LR		LR	15 12 51.1	
	comp=Z,123nm,18.5s,baz=356,slow=38							
LL05	**Los Muermos**	**13.61**	**188**	Pn		**Pn**	**15 08 04.8**	**-0.1**
LL01	**San Ignacio de**	**14.48**	**184**	Pn		**Pn**	**15 08 16.8**	**0.0**
SIV	**San Ignacio**	**15.05**	**40**	Pn		**Pn**	**15 08 20.0**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=223,slow=8.4,SNR=9.0							
SIV				LR		LR	15 14 41.7	
	comp=Z,59nm,20.8s,baz=260,slow=39							
PLTB	**Pedras Altas**	**15.64**	**108**	Pn		**Pn**	**15 08 32.9**	**+0.5**
PLTB				IAmb		IAmb	15 08 36.0	
	comp=Z,8.5nm,0.7s							
ITAB	**Concordia**	**16.81**	**92**	P		**P**	**15 08 50.1**	**+0.6**
ETMB	**Extrema**	**18.57**	**15**	P		**Pn**	**15 09 09.3**	**+0.2**
ETMB				IAmb		IAmb	15 09 18.2	
	comp=Z,3.2nm,0.6s							
SAML	**Samuel**	**20.27**	**23**			**P**	**15 09 28.3**	**+0.7**
SAML				IAmb		IAmb	15 09 29.4	
	comp=Z,4.7nm,0.7s							
BDFB	**Brasilia**	**24.60**	**65**	P		**P**	**15 10 12.0**	**-0.4**
BDFB				IAmb		IAmb	15 10 25.4	
	comp=Z,14nm,1.3s							
RCBR	**Riachuelo**	**39.94**	**63**	LR		LR	15 30 20.0	
	comp=Z,62nm,18.4s,baz=334,slow=38							
SNAA	**Sanae**	**56.94**	**159**	P		**P**	**15 14 36.7**	**0.0**
QSPA	**South Pole Qui**	**62.31**	**180**	P		**P**	**15 15 14.2**	**+0.3**
TXAR	**Lajitas Array**	**64.90**	**329**	P		**P**	**15 15 32.1**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=151,slow=8.6,SNR=3.7							
	comp=Z,0.3nm,0.5s							
TXAR	**Lajitas Array**	**64.90**	**329**	P		**P**	**15 15 31.9**	**+0.6**
VNDA	**Vanda**	**70.22**	**191**	P		**P**	**15 16 05.9**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=154,slow=5.8,SNR=4.0							
	comp=Z,0.7nm,0.9s							
DBIC	**Dimbokro**	**72.50**	**72**	P		**P**	**15 16 19.4**	**+0.4**
	comp=Z,4.5nm,0.6s,baz=90,slow=24,SNR=9.4							
	comp=Z,4.5nm,0.6s							
DBIC	**Dimbokro**	**72.50**	**72**	P		**P**	**15 16 19.2**	**+0.3**
DBIC				IAmb		IAmb	15 16 20.3	
	comp=Z,5.0nm,0.8s							
PDAR	**Pinedale Array**	**78.75**	**332**	P		**P**	**15 16 55.9**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=150,slow=6.8,SNR=3.9							
	comp=Z,0.6nm,0.9s							
NVAR	**Mina Array Bea**	**79.41**	**324**	P		**P**	**15 16 58.3**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=146,slow=6.6,SNR=2.5							
	comp=Z,0.2nm,0.7s							
TOA0	**Torodi Ar. Sit**	**81.37**	**70**	P		**P**	**15 17 07.0**	**-1.9**
TOA0				IAmb		IAmb	15 17 08.2	
	comp=Z,3.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**81.37**	**70**	P		**P**	**15 17 09.0**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=261,slow=4.7,SNR=12							
	comp=Z,2.4nm,0.7s							
BOSA	**Boshof**	**82.18**	**118**	P		**P**	**15 17 13.5**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=234,slow=6.0,SNR=3.6							
	comp=Z,0.7nm,0.4s							
ASAR	**Alice Springs**	**123.35**	**208**	PKP		**PKPdf**	**15 23 48.6**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=129,slow=1.7,SNR=15							
ASAR				pPKP		**sPKPdf**	**15 23 56.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=128,slow=1.5,SNR=7.4							
WRA	**Warramunga Arr**	**126.45**	**210**	PKP		**PKPdf**	**15 23 55.0**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=153,slow=1.8,SNR=22							
WRA				pPKP		**sPKPdf**	**15 24 03.1**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=151,slow=1.7,SNR=9.3							
ZALV	**Zalesovo Beam**	**148.54**	**28**	PKPbc		**PKPbc**	**15 24 38.6**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=305,slow=3.5,SNR=17							
MKAR	**Makanchi Array**	**151.86**	**41**	PKPbc		**PKiKP**	**15 24 46.6**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=315,slow=1.8,SNR=7.4							
MKAR				PKPab		**sPKPbc**	**15 24 54.6**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=304,slow=2.0,SNR=4.7							

WEL 14 15:13:02.8±0.6, 42°S±3°×17°4E±°, h5km, M3.2/7, ML3.6/7, MLv3.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=118.3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**232**	P		Pg	15 13 08.8	+0.7
KHZ				S		Sg	15 13 12.7	+1.0
BSWZ	**Blackbirch Sta**	**0.53**	**4**	P		Pg	15 13 13.2	+0.1
BSWZ				S		Sg	15 13 21.1	+1.1
GVZ	**Greta Valley S**	**0.93**	**219**	P		Pg	15 13 20.8	+0.2
NNZ	**Nelson**	**1.08**	**342**	P		Pg	15 13 22.8	-0.8
TCW	**Tory Channel**	**1.09**	**18**	P		Pg	15 13 23.1	-0.6
WEL	**Wellington**	**1.19**	**36**	P		Pg	15 13 25.7	0.0
LTZ	**Lake Taylor**	**1.27**	**245**	P		Pg	15 13 26.2	-1.0
MSWZ	**Moikau Station**	**1.35**	**52**	P		Pg	15 13 30.3	+1.7
MSWZ				S		Sb	15 13 43.5	-2.6
TKNZ	**Takaka Hill**	**1.38**	**331**	P		Pg	15 13 29.6	+0.4
TKNZ				S		Sn	15 13 48.1	+0.8
PRWZ	**Pori Road**	**2.33**	**44**	P		Pn	15 13 41.1	-0.8
POWZ	**Post Office Ro**	**2.36**	**39**	P		Pn	15 13 42.8	+0.6
BFZ	**Birch Farm**	**2.40**	**50**	P		Pn	15 13 43.1	+0.4
BHHZ	**Black Hill Sta**	**3.23**	**32**	P		Pn	15 13 53.6	-0.7
TMVZ	**Te Maari**	**3.44**	**25**	P		Pn	15 13 57.4	+0.3

WEL 14 15:13:54.7±0.5, 42°S±3°×17°4E±°, h5km, M3.5/26, ML3.7/12, MLv3.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=126.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.32**	**227**	P		Pg	15 14 01.6	+0.6
KHZ				S		Sg	15 14 06.7	+1.5
BSWZ	**Blackbirch Sta**	**0.48**	**2**	P		Pg	15 14 04.0	0.0
BSWZ				S		Sg	15 14 11.1	+0.9
CMWZ	**Cape Campbell**	**0.52**	**31**	P		Pg	15 14 05.8	-0.5
TUWZ	**Tuamarina**	**0.77**	**5**	P		Pg	15 14 09.4	0.0
TUWZ				S		Sb	15 14 21.0	-0.3
THZ	**Tophouse**	**0.83**	**301**	P		Pg	15 14 10.3	-0.3
THZ				S		Sg	15 14 21.5	0.0
GVZ	**Greta Valley S**	**0.98**	**218**	P		Pb	15 14 13.9	-0.3
GVZ				S		Sn	15 14 28.6	-0.9
TCW	**Tory Channel**	**1.03**	**18**	P		Pg	15 14 14.1	-0.4
TCW				S		Sb	15 14 29.3	+0.4
NNZ	**Nelson**	**1.04**	**340**	P		Pg	15 14 13.8	-0.9
NNZ				S		Sb	15 14 29.5	+0.4
WEL	**Wellington**	**1.14**	**37**	P		Pg	15 14 15.8	-0.7
WEL				S		Sb	15 14 31.9	0.0
MRNZ	**Matariki Terra**	**1.15**	**314**	P		Pg	15 14 16.4	-0.3

WEL **14** *15:22:00.41˚.65S×174˚.17E,h17km,ML4.6,Mw4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15} Nm; M_{rr}0.02; M_{tt}2.66; M_{pp}-2.68; M_{rt}-0.23; M_{rp}4.18; M_{tp}-0.99; Fault plane solution: $M_0$5.06000×10^{15} NP1: ϕ_s286.00000°,δ78.00000°,λ-1.00000°. NP2:ϕ_s16.00000°, δ89.00000°,λ-168.00000°. Principal axes: T 503.9200, Plg8.0000°, Azm150.0000°; N -508.1400, Plg78.0000°, Azm20.0000°; P 4.2200, Plg9.0000°, Azm242.0000°;*

IDC **14** *15:22:17.0±1.3,41˚.64S×173˚.93E,h0km,mb4.2/5, mbtmp4.1/6,ML4.1/1,MS3.7/10 Error ellipse: s-maj=34.9km s-min=26.3km az=74.0*

NOU **14** *15:22:17.8,41˚.89S×174˚.36E,h0km,MLv5.0/10,Cook Strait, New Zealand*

NEIC **14** *15:22:18.0±1.1,41˚.76S±0˚.04×174˚.17E±0˚.01,h10km±1km, mb4.5/13,Error ellipse: s-maj=7.4km s-min=2.9km az=356.0*

WEL **14** *15:22:18.2±0.2,42˚.5±2˚×17˚.4E±˚,h12km,M4.6/87, ML5.0/15,MLv4.6/87,Error ellipse: s-maj=0.0km s-min=0.0km az=158.9*

ISC 14 15:22:18.0±0.8,**41˚.77S**±0˚.02×**174˚.19E**±0˚.02,**h12**km±4km, **n184,**σ1s**16**/198,**mb4.3**/11,**MS3.7**/12,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.03**	**34**		**Pg**	**15 22 20.0**	**-0.2**
CMWZ	**Cape Campbell**	**0.03**	**34**	P	**Pg**	**15 22 19.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.24**	**283**		**Pg**	**15 22 23.1**	**0.0**
BSWZ	**Blackbirch Sta**	**0.24**	**283**	P	**Pg**	**15 22 23.3**	**+0.1**
BSWZ				S	**Sb**	**15 22 27.5**	**+0.9**
TUWZ	**Tuamarina**	**0.39**	**331**		**Pg**	**15 22 25.2**	**-0.6**
TUWZ	**Tuamarina**	**0.39**	**331**	P	**Pg**	**15 22 25.5**	**-0.3**
TUWZ				S	**Sg**	**15 22 31.0**	**0.0**
TCW	**Tory Channel**	**0.56**	**6**	P	**Pg**	**15 22 28.4**	**-0.6**
TCW				S	**Sg**	**15 22 35.3**	**-1.2**
SNZO	**South Karori**	**0.60**	**40**		**Pg**	**15 22 29.3**	**-0.3**
BHW	**Baring Head**	**0.62**	**55**	P	**Pg**	**15 22 30.4**	**+0.3**
WEL	**Wellington**	**0.65**	**42**	P	**Pg**	**15 22 30.6**	**0.0**
WEL				S	**Sg**	**15 22 39.6**	**+0.4**
KHZ	**Kahutara**	**0.81**	**217**	Pn	**Pn**	**15 22 35.4**	**+0.2**
KHZ	**Kahutara**	**0.81**	**217**	P	**Pn**	**15 22 35.9**	**+0.7**
KHZ				S	**Sn**	**15 22 49.5**	**+2.5**
PLWZ	**Palliser**	**0.82**	**76**	Pg	**Pg**	**15 22 34.1**	**+0.2**
PLWZ	**Palliser**	**0.82**	**76**	P	**Pn**	**15 22 35.0**	**-0.4**
PLWZ				S	**Sn**	**15 22 48.0**	**+0.5**
NNZ	**Nelson**	**0.82**	**312**		**Pg**	**15 22 33.1**	**-0.8**
NNZ	**Nelson**	**0.82**	**312**	P	**Pg**	**15 22 33.4**	**-0.5**
NNZ				S	**Sg**	**15 22 43.3**	**-1.4**
MSWZ	**Moikau Station**	**0.87**	**66**		**Pb**	**15 22 35.1**	**+0.1**
MSWZ	**Moikau Station**	**0.87**	**66**	P	**Pb**	**15 22 35.3**	**+0.3**
MSWZ				S	**Sn**	**15 22 48.7**	**+0.1**
CAW	**Cannon Point**	**0.93**	**45**	P	**Pg**	**15 22 35.7**	**-0.3**
CAW				S	**Sg**	**15 22 48.3**	**+0.2**
THZ	**Tophouse**	**0.96**	**270**		**Pg**	**15 22 36.3**	**-0.3**
THZ	**Tophouse**	**0.96**	**270**	P	**Pb**	**15 22 36.7**	**+0.1**
THZ				S	**Sb**	**15 22 49.3**	**0.0**
DUWZ	**D'Urville Isla**	**0.99**	**348**	P	**Pb**	**15 22 35.9**	**-1.2**
DUWZ				S	**Sg**	**15 22 49.1**	**-0.9**
PAWZ	**Paruwai Farm**	**1.00**	**68**	P	**Pg**	**15 22 37.5**	**+0.2**
PAWZ				S	**Sn**	**15 22 51.8**	**-0.2**
KIW	**Kapiti Island**	**1.06**	**31**	P	**Pb**	**15 22 37.4**	**-0.8**
KIW				S	**Sb**	**15 22 51.6**	**-0.4**
MRNZ	**Matariki Terra**	**1.14**	**289**	P	**Pg**	**15 22 39.8**	**-0.1**
MRNZ				S	**Sg**	**15 22 54.7**	**0.0**
MTW	**Mount Morrison**	**1.16**	**58**	P	**Pb**	**15 22 39.7**	**-0.2**
MTW				S	**Sn**	**15 22 56.9**	**+1.2**
TRWZ	**Traveller**	**1.18**	**72**	P	**Pn**	**15 22 40.1**	**-0.2**
TRWZ				S	**Sn**	**15 23 00.6**	**+4.3**
TKNZ	**Takaka Hill**	**1.19**	**308**	P	**Pn**	**15 22 40.2**	**-0.2**
TKNZ				S	**Sb**	**15 22 55.4**	**-0.2**
OGWZ	**Otaki Gorge**	**1.21**	**38**	P	**Pn**	**15 22 40.5**	**-0.1**
OGWZ				S	**Sn**	**15 22 56.9**	**0.0**
HOWZ	**Holdsworth Sta**	**1.32**	**49**	P	**Pn**	**15 22 42.4**	**+0.1**
HOWZ				S	**Sn**	**15 23 00.2**	**+0.3**
TMWZ	**Te Maipa**	**1.44**	**63**	P	**Pn**	**15 22 43.4**	**-0.5**
GVZ	**Greta Valley S**	**1.47**	**215**		**Pn**	**15 22 44.6**	**+0.3**
GVZ	**Greta Valley S**	**1.47**	**215**	P	**Pb**	**15 22 45.3**	**0.0**
GVZ				S	**Sb**	**15 23 04.6**	**+0.7**
MRZ	**Mangatainoka R**	**1.52**	**44**		**Pn**	**15 22 44.5**	**-0.5**
MRZ	**Mangatainoka R**	**1.52**	**44**	P	**Pn**	**15 22 44.9**	**-0.1**
MRZ				S	**Sb**	**15 23 05.8**	**+0.4**
QRZ	**Quartz Range**	**1.57**	**306**	Pn	**Pn**	**15 22 45.6**	**-0.1**
QRZ	**Quartz Range**	**1.57**	**306**	P	**Pb**	**15 22 47.3**	**+0.4**
QRZ	**Quartz Range**	**1.57**	**306**	P	**Pb**	**15 22 47.1**	**+0.2**
QRZ				S	**Sb**	**15 23 06.9**	**+0.2**
TIWZ	**Tintock**	**1.62**	**53**	P	**Pn**	**15 22 46.1**	**-0.2**
TIWZ				S	**Sb**	**15 23 08.7**	**+0.6**
CPWZ	**Castlepoint**	**1.74**	**61**	P	**Pn**	**15 22 48.4**	**+0.4**
LTZ	**Lake Taylor**	**1.75**	**234**	Pn	**Pn**	**15 22 48.8**	**+0.7**
LTZ	**Lake Taylor**	**1.75**	**234**	P	**Pb**	**15 22 49.1**	**-0.9**
LTZ				S	**Sn**	**15 23 10.7**	**+0.4**
OHWZ	**Ohakea**	**1.78**	**29**	P	**Pb**	**15 22 50.1**	**-0.4**
OHWZ				S	**Sg**	**15 23 16.1**	**+0.9**
DSZ	**Denniston Nort**	**1.79**	**270**	P	**Pb**	**15 22 50.6**	**0.0**
DSZ				S	**Sb**	**15 23 13.3**	**+0.2**
AMCZ	**Amberley**	**1.81**	**219**	P	**Pn**	**15 22 49.4**	**+0.5**
PRWZ	**Pori Road**	**1.81**	**48**	P	**Pn**	**15 22 48.8**	**-0.1**
POWZ	**Post Office Ro**	**1.82**	**41**	P	**Pn**	**15 22 49.1**	**0.0**
BFZ	**Birch Farm**	**1.89**	**56**		**Pn**	**15 22 49.8**	**-0.3**
BFZ	**Birch Farm**	**1.89**	**56**	P	**Pn**	**15 22 50.0**	**-0.1**
DVHZ	**Dannevirke**	**2.10**	**46**	P	**Pn**	**15 22 52.3**	**-0.6**
WAZ	**Wanganui**	**2.10**	**17**	P	**Pb**	**15 22 56.2**	**+0.2**
OKCZ	**Okains Bay**	**2.12**	**203**	P	**Pn**	**15 22 53.0**	**-0.2**
ANWZ	**Angora Road**	**2.17**	**54**	P	**Pn**	**15 22 53.1**	**-0.8**
TSZ	**Takapari Road**	**2.17**	**39**	P	**Pn**	**15 22 53.7**	**-0.3**
OXZ	**Oxford**	**2.23**	**225**	Pn	**Pn**	**15 22 54.3**	**-0.3**
OXZ	**Oxford**	**2.23**	**225**	P	**Pn**	**15 22 54.4**	**-0.3**
MQZ	**McQueen's Vall**	**2.24**	**210**		**Pn**	**15 22 53.8**	**-1.1**
MQZ	**McQueen's Vall**	**2.24**	**210**	P	**Pn**	**15 22 53.9**	**-1.0**
INZ	**Inchbonnie**	**2.25**	**244**	P	**Pn**	**15 22 56.4**	**+1.4**
AKCZ	**Akaroa Harbour**	**2.30**	**204**	P	**Pn**	**15 22 55.4**	**-0.3**
LREZ	**Lake Rotokare**	**2.31**	**4**	P	**Pb**	**15 22 59.7**	**+0.1**
NMEZ	**Namu Road**	**2.37**	**354**	P	**Pg**	**15 23 02.1**	**-1.3**
PRHZ	**Porangahau**	**2.38**	**52**	P	**Pn**	**15 22 55.6**	**-1.2**
PNHZ	**Pukenui**	**2.40**	**40**	P	**Pn**	**15 22 56.5**	**-0.6**
WPHZ	**Waipukurau**	**2.41**	**46**	P	**Pn**	**15 22 56.8**	**-0.4**
RACZ	**Rakaia**	**2.47**	**217**	P	**Pn**	**15 22 57.7**	**-0.3**
KHEZ	**Kahui Hut**	**2.48**	**357**	P	**Pb**	**15 23 02.9**	**+0.4**
KHEZ	**Kahui Hut**	**2.48**	**357**	P	**Pb**	**15 23 02.4**	**-0.1**
NEZ	**North Egmont**	**2.50**	**358**	P	**Pb**	**15 23 02.4**	**-0.4**
NBEZ	**Newall Road No**	**2.51**	**354**	P	**Pb**	**15 23 02.8**	**-0.2**
MTVZ	**Mangateitei**	**2.58**	**23**	P	**Pb**	**15 23 05.0**	**+0.9**
DREZ	**Durham Road**	**2.58**	**0**	P	**Pb**	**15 23 03.7**	**-0.4**
PKE	**Pukeiti**	**2.58**	**356**	P	**Pb**	**15 23 03.2**	**-1.0**
PKVZ	**Pokaka**	**2.63**	**20**	P	**Pb**	**15 23 04.2**	**-0.9**
MOVZ	**Moawhango**	**2.64**	**27**	P	**Pn**	**15 23 01.0**	**+0.5**
WNVZ	**Wahianoa**	**2.67**	**24**	P	**Pb**	**15 23 03.8**	**-2.0**
PXZ	**Pawanui**	**2.67**	**50**	P	**Pn**	**15 22 59.2**	**-1.6**
TRVZ	**Turoa**	**2.68**	**23**	P	**Pb**	**15 23 05.9**	**0.0**
VRZ	**Vera Road**	**2.68**	**9**	P	**Pn**	**15 23 03.2**	**+2.4**
BHHZ	**Black Hill Sta**	**2.69**	**33**	P	**Pb**	**15 23 06.2**	**+0.2**
MHEZ	**Mangahewa**	**2.69**	**2**	P	**Pb**	**15 23 07.1**	**+1.1**
DRZ	**Dome Shelter**	**2.70**	**23**	P	**Pb**	**15 23 06.6**	**+0.2**
WHVZ	**Whangaehu Hut**	**2.70**	**24**	P	**Pn**	**15 23 03.0**	**+1.5**
FWVZ	**Far West T-bar**	**2.72**	**23**	P	**Pb**	**15 23 06.1**	**-0.6**
TUVZ	**Tukino**	**2.74**	**24**	P	**Pb**	**15 23 07.5**	**+0.6**
WACZ	**Wakanui South**	**2.78**	**218**	P	**Pn**	**15 23 01.9**	**-0.3**
NGZ	**Ngauruhoe**	**2.81**	**23**	P	**Pb**	**15 23 08.7**	**+0.6**
SNVZ	**South Ngauruho**	**2.81**	**24**	P	**Pb**	**15 23 08.3**	**+0.2**
KAHZ	**Kahuranaki**	**2.84**	**47**	P	**Pn**	**15 23 01.8**	**-1.3**
OTVZ	**Oturere**	**2.84**	**24**	P	**Pn**	**15 23 05.5**	**+2.3**
NNVZ	**North Ngauruho**	**2.85**	**23**	P	**Pn**	**15 23 05.9**	**+2.5**
WTVZ	**West Tongariro**	**2.86**	**22**	P	**Pb**	**15 23 08.3**	**-0.7**
TWVZ	**Taurewa**	**2.86**	**20**	P	**Pb**	**15 23 07.5**	**-1.5**
WVZ	**Waitaha Valley**	**2.87**	**242**	P	**Pn**	**15 23 05.0**	**+1.5**
ETVZ	**East Tongariro**	**2.88**	**24**	P	**Pb**	**15 23 08.9**	**-0.3**
KRVZ	**Karewarewa**	**2.89**	**23**	P	**Pb**	**15 23 09.8**	**+0.2**
TMVZ	**Te Maari**	**2.89**	**24**	P	**Pb**	**15 23 09.2**	**-0.4**
KWHZ	**Kaweka Forest**	**2.90**	**37**	P	**Pb**	**15 23 11.0**	**+1.4**
NTVZ	**North Tongarir**	**2.90**	**23**	P	**Pb**	**15 23 09.3**	**-0.3**
KATZ	**Kakaramea**	**3.02**	**23**	P	**Pb**	**15 23 12.1**	**+0.4**
RPZ	**Rata Peaks**	**3.02**	**229**	Pn	**Pn**	**15 23 05.5**	**-0.1**
	23nm,0.3s,baz=336,slow=1.0,SNR=9.2						
RPZ					Sn	**Sn**	**15 23 41.0**	**-0.7**
	119nm,0.3s,baz=337,slow=3.9,SNR=5.5 93nm,0.6s						
RPZ	**Rata Peaks**	**3.02**	**229**	P	**Pn**	**15 23 05.6**	**0.0**
ARCZ	**Arundel**	**3.11**	**225**	P	**Pn**	**15 23 07.0**	**+0.2**
BKZ	**Black Stump Fm**	**3.14**	**35**	P	**Pb**	**15 23 13.2**	**-0.5**
RATZ	**Rangitukua**	**3.14**	**23**	P	**Pb**	**15 23 14.4**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**3.25**	**240**	P	**Pn**	**15 23 10.3**	**+1.6**
WATZ	**Wairara**	**3.28**	**22**	P	**Pb**	**15 23 15.5**	**-0.5**
ARHZ	**Aropaoanui**	**3.29**	**41**	P	**Pn**	**15 23 08.0**	**-1.4**
HIZ	**Hauiti**	**3.29**	**9**	P	**Pn**	**15 23 12.5**	**+3.2**
HIZ	**Hauiti**	**3.29**	**9**	P	**Pn**	**15 23 12.4**	**+3.1**
MRHZ	**Matea Rd**	**3.39**	**31**	P	**Pn**	**15 23 09.8**	**-1.0**
TMZ	**Timaru**	**3.50**	**221**	P	**Pn**	**15 23 12.3**	**+0.1**
TLZ	**Tolley Road**	**3.59**	**17**	P	**Pn**	**15 23 15.3**	**+1.9**
ALRZ	**Allen Road**	**3.60**	**28**	P	**Pb**	**15 23 20.9**	**-0.7**
FOZ	**Fox Glacier**	**3.68**	**240**	Pn	**Pn**	**15 23 14.9**	**+0.3**
FOZ	**Fox Glacier**	**3.68**	**240**	P	**Pn**	**15 23 16.1**	**+1.5**
LBZ	**Lake Benmore**	**3.93**	**227**	Pn	**Pn**	**15 23 18.0**	**-0.1**
LBZ	**Lake Benmore**	**3.93**	**227**	P	**Pn**	**15 23 18.7**	**+0.6**
TOZ	**Tahuroa Road**	**4.16**	**14**	P	**Pn**	**15 23 23.1**	**+1.9**
URZ	**Urewera**	**4.16**	**34**	P	**Pn**	**15 23 20.9**	**-0.4**
ODZ	**Otahua Downs**	**4.17**	**217**	P	**Pn**	**15 23 21.3**	**-0.1**
OPRZ	**Ohinepanea**	**4.32**	**26**	P	**Pn**	**15 23 22.4**	**-1.1**
TGRZ	**Tauranga**	**4.34**	**22**	P	**Pn**	15 23 28.6	+4.9
JCZ	**Jackson Bay**	**4.59**	**238**	P	**Pn**	**15 23 30.1**	**+2.9**
JCZ	**Jackson Bay**	**4.59**	**238**	P	**Pn**	**15 23 30.0**	**+2.8**
TWGZ	**Tauwhareparae**	**4.62**	**40**	P	**Pn**	**15 23 26.8**	**-0.9**
RUGZ	**Raukumara Rang**	**4.65**	**36**	P	**Pn**	**15 23 26.6**	**-1.5**
AWAZ	**Awhitu Peninsu**	**4.71**	**4**	P	**Pn**	**15 23 30.7**	**+1.9**
MKAZ	**Moumakai**	**4.72**	**9**	P	**Pn**	**15 23 30.2**	**+1.2**
WTAZ	**Waiatarua**	**4.84**	**4**	P	**Pn**	**15 23 34.1**	**+3.5**
ETAZ	**East Tamaki Re**	**4.84**	**7**	P	**Pn**	**15 23 32.8**	**+2.1**
HHSZ	**Highcliff Hill**	**4.87**	**211**	P	**Pn**	**15 23 30.5**	**-0.4**
HAZ	**Te Kaha**	**4.87**	**36**	P	**Pn**	**15 23 29.7**	**-1.3**
EAZ	**Earnscleugh**	**4.96**	**224**	P	**Pn**	**15 23 32.2**	**0.0**
RVAZ	**Riverhead Bore**	**5.00**	**4**	P	**Pn**	**15 23 36.6**	**+3.7**
WIAZ	**Waiheke Island**	**5.03**	**9**	P	**Pn**	**15 23 37.1**	**+3.9**
KUZ	**Kuaotunu**	**5.16**	**14**	P	**Pn**	**15 23 38.8**	**+3.9**
KUZ	**Kuaotunu**	**5.16**	**14**	P	**Pn**	**15 23 36.5**	**+1.6**
MXZ	**Matakaoa Point**	**5.27**	**38**	P	**Pn**	**15 23 37.9**	**+1.5**
MLZ	**Mavora Lakes**	**5.69**	**229**	Pn	**Pn**	**15 23 41.6**	**-0.7**
MLZ	**Mavora Lakes**	**5.69**	**229**	P	**Pn**	**15 23 43.5**	**+1.2**
SYZ	**Scrubby Hill**	**5.99**	**216**	P	**Pn**	**15 23 46.5**	**+0.1**
SYZ	**Scrubby Hill**	**5.99**	**216**	P	**Pn**	**15 23 46.8**	**+0.4**
WHZ	**Wether Hill Ro**	**6.11**	**226**	Pn	**Pn**	**15 23 46.9**	**-1.2**
WHZ	**Wether Hill Ro**	**6.11**	**226**	P	**Pn**	**15 23 48.8**	**+0.7**
OUZ	**Omahuta**	**6.56**	**356**	P	**Pn**	**15 23 56.6**	**+2.4**
OUZ	**Omahuta**	**6.56**	**356**	P	**Pn**	**15 23 57.1**	**+2.9**
PYZ	**Puysegur Point**	**6.97**	**228**	Pn	**Pn**	**15 24 00.2**	**+0.3**
PYZ	**Puysegur Point**	**6.97**	**228**	P	**Pn**	**15 24 01.5**	**+1.6**
CTZ	**Chatham Island**	**7.04**	**109**	P	**Pn**	**15 24 00.0**	**-0.8**
CTZ	**Chatham Island**	**7.04**	**109**	P	**Pn**	**15 23 59.9**	**-0.9**
DZM	**Mont Dzumac**	**20.70**	**339**	*e*Pn	Pn	15 27 00.7	+0.3
	36nm,1.2s						
DZM				*e*LR	LR	15 31 51.4	
	comp=Z,156nm,23.9s						
DZM	**Mont Dzumac**	**20.70**	**339**	LR	LR	15 35 06.4	
	comp=Z,106nm,18.4s,baz=204,slow=38						
STKA	**Stephens Creek**	**27.76**	**280**	LR	LR	15 38 25.9	
	comp=Z,104nm,19.2s,baz=186,slow=35						
BBOO	**Buckleboo**	**31.42**	**274**	P	**P**	**15 28 37.8**	**-1.1**
BBOO				IAmb	IAmb	15 29 09.0	
	comp=Z,29nm,1.4s						
CTA	**Charters Tower**	**32.03**	**304**	LR	LR	15 40 30.0	
	comp=Z,78nm,20.2s,baz=86,slow=34						
HNR	**Honiara**	**34.57**	**335**	LR	LR	15 42 59.1	
	comp=Z,900nm,18.2s,baz=172,slow=36						
TBI	**Tubuai**	**35.38**	**70**	*e*LR	LR	15 38 40.9	
	comp=Z,3μm,24.8s						
TBI	**Tubuai**	**35.38**	**70**	*e*T	T	16 07 14.9	
	comp=Z,6.2nm,0.3s						
AS31	**Alice Springs**	**37.99**	**286**	P	**P**	**15 29 34.7**	**-1.1**
ASAR	**Alice Springs**	**37.99**	**286**	P	**P**	**15 29 34.9**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=124,slow=6.9,SNR=29						
ASAR				LR	LR	15 44 42.6	
	comp=Z,98nm,19.9s,baz=126,slow=36 comp=Z,0.7nm,0.4s						
ASAR	**Alice Springs**	**37.99**	**286**	P	**P**	**15 29 34.6**	**-1.3**
COEN	**Coen**	**38.61**	**307**	P	**P**	**15 29 40.7**	**-0.4**
COEN				IAmb	IAmb	15 30 03.5	
	comp=Z,8.3nm,1.2s						
PPTF	**Pamatai, Papee**	**39.21**	**63**	P	**P**	**15 29 46.0**	**-0.1**
WR0	**Warramunga Arr**	**39.92**	**291**	P	**P**	**15 29 52.0**	**0.0**
WR0				IAmb	IAmb	15 30 21.8	
	comp=Z,9.4nm,1.4s						
WB2	**Warramunga Arr**	**40.06**	**291**	P	**P**	**15 29 52.0**	**-1.2**
WRA	**Warramunga Arr**	**40.07**	**291**	P	**P**	**15 29 52.2**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=126,slow=8.3,SNR=18						
WRA				LR	LR	15 46 19.0	
	comp=Z,125nm,18.0s,baz=150,slow=36 comp=Z,1.5nm,0.5s						
WRA	**Warramunga Arr**	**40.07**	**291**	P	**P**	**15 29 52.2**	**-1.1**
WB0	**Warramunga Arr**	**40.15**	**291**	P	**P**	**15 29 52.7**	**-1.2**
WB0				IAmb	IAmb	15 30 22.5	
	comp=Z,8.9nm,1.4s						
KRVT	**Keravat (AS076**	**42.24**	**326**	LR	LR	15 46 37.0	
	comp=Z,42nm,18.2s,baz=291,slow=35						
KNRA	**Kununurra**	**46.85**	**290**	P	**P**	**15 30 48.4**	**+0.4**
MTN	**Manton Dam**	**47.19**	**295**	P	**P**	**15 30 50.5**	**-0.1**
MORW	**Morawa**	**48.22**	**266**	P	**P**	**15 30 57.4**	**-1.1**
MORW				IAmb	IAmb	15 31 07.4	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**48.36**	**180**	P	**P**	**15 31 01.9**	**+2.6**
	comp=Z,2.2nm,0.9s,baz=34,slow=1.8,SNR=8.8 comp=Z,2.2nm,0.9s						
QSPA	**South Pole Qui**	**48.36**	**180**	P	**P**	**15 30 60.0**	**+0.7**
QSPA				IAmb	IAmb	15 31 10.0	
	comp=Z,5.3nm,1.0s						
PSA00	**Pilbara Seismi**	**49.58**	**277**	P	**P**	**15 31 08.4**	**-0.6**
PSA00				IAmb	IAmb	15 31 51.8	
	comp=Z,5.7nm,1.4s						
TAOE	**Nuku Hiva Isla**	**51.82**	**64**	*e*LR	LR	15 46 17.6	
	comp=Z,106nm,22.1s						
MAW	**Mawson**	**59.42**	**204**	LR	LR	15 57 06.3	
	comp=Z,52nm,18.5s,baz=111,slow=35						
SNAA	**Sanae**	**66.84**	**181**	LR	LR	16 01 15.1	
	comp=Z,41nm,19.8s,baz=190,slow=35						
LEM	**Lembang**	**68.06**	**281**	LR	LR	16 03 12.8	
	comp=Z,46nm,19.9s,baz=352,slow=36						
KSRS	**Korea Array**	**89.45**	**325**	P	**P**	**15 35 14.8**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=156,slow=5.7,SNR=4.7 comp=Z,1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.61**	**293**	P	**P**	**15 35 25.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=143,slow=3.6,SNR=2.7 comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.74**	**195**	PKPbc	**PKPbc**	**15 42 10.6**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=182,slow=1.7,SNR=7.9						
FINES	**FINESS Array B**	**152.53**	**327**	PKPbc	**PKPbc**	**15 42 12.9**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=45,slow=6.5,SNR=2.0						

WEL 14 15:22:39.9±0.7,**42˚.5S**±4˚×**17˚.4E**±˚,**h11**km±2km,**M4.7/7, ML5.0/7,MLv4.7/7,Error ellipse: s-maj=0.0km s-min=0.0km az=159.5,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.24**	**22**	P	Pb	15 22 47.7	+1.4
BSWZ	**Blackbirch Sta**	**0.31**	**328**	P	Pb	15 22 46.9	-0.5
BSWZ				S	Sg	15 22 50.8	+0.5
TUWZ	**Tuamarina**	**0.56**	**348**	P	Pg	15 22 50.8	+0.1
TUWZ				S	Sg	15 22 58.5	+0.4
TCW	**Tory Channel**	**0.78**	**10**	P	Pg	15 22 55.0	+0.1
TCW				S	Sb	15 23 05.6	+0.4
WEL	**Wellington**	**0.86**	**36**	P	Pb	15 22 57.2	+0.5
WEL				S	Sn	15 23 10.4	0.0
NNZ	**Nelson**	**0.93**	**325**	P	Pb	15 22 58.3	+0.3
NNZ				S	Sb	15 23 10.1	-0.2
MSWZ	**Moikau Station**	**1.03**	**57**	S	Sg	15 23 12.6	-0.6
CAW	**Cannon Point**	**1.14**	**40**	P	Pb	15 23 01.1	-0.4
CAW				S	Sg	15 23 16.6	+0.2
MRNZ	**Matariki Terra**	**1.15**	**300**	S	Sn	15 23 19.0	+1.2
DUWZ	**D'Urville Isla**	**1.18**	**354**	P	Pn	15 23 02.4	0.0
DUWZ				S	Sb	15 23 17.4	-0.2
TKNZ	**Takaka Hill**	**1.27**	**318**	S	Sg	15 23 20.8	+0.1
KIW	**Kapiti Island**	**1.27**	**29**	P	Pn	15 23 03.3	-0.3
KIW				S	Sg	15 23 21.4	+0.5
QRZ	**Quartz Range**	**1.65**	**314**	S	Sb	15 23 31.2	+0.3
MQZ	**McQueen's Vall**	**2.03**	**211**	S	Sn	15 23 37.6	-1.7

WEL 14 15:34:36.7±0.3,**43˚.5S**±3˚×**17˚.3E**±˚,**h14**km±2km,**M3.5**/39, **ML3.6**/12,**MLv3.5**/39,**Error ellipse: s-maj=0.0km s-min=0.0km az=121.1,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.33**	**182**	P	Pb	15 34 45.0	+0.5
GVZ				S	Sb	15 34 51.1	+1.4
KHZ	**Kahutara**	**0.42**	**59**	P	Pg	15 34 45.0	-0.2
KHZ				S	Sg	15 34 51.1	+0.3
LTZ	**Lake Taylor**	**0.59**	**255**	P	Pb	15 34 48.9	0.0
LTZ				S	Sb	15 34 57.5	+0.3
AMCZ	**Amberley**	**0.61**	**208**	P	Pn	15 34 50.3	-0.8
THZ	**Tophouse**	**0.88**	**353**	P	Pg	15 34 52.9	-0.9
THZ				S	Sg	15 35 03.1	-2.1
OXZ	**Oxford**	**1.01**	**227**	P	Pb	15 34 55.8	-0.3
OXZ				S	Sg	15 35 10.0	+0.4
OKCZ	**Okains Bay**	**1.09**	**180**	P	Pb	15 34 57.2	-0.2
BSWZ	**Blackbirch Sta**	**1.11**	**34**	P	Pb	15 34 57.4	-0.3
BSWZ				S	Sn	15 35 13.3	+0.4
MQZ	**McQueen's Vall**	**1.11**	**195**	P	Pb	15 34 56.7	-1.1
INZ	**Inchbonnie**	**1.19**	**265**	P	Pb	15 34 59.3	+0.2
AKCZ	**Akaroa Harbour**	**1.24**	**185**	P	Pn	15 34 58.6	-1.2
MRNZ	**Matariki Terra**	**1.25**	**350**	P	Pn	15 34 59.3	-0.6
RACZ	**Rakaia**	**1.28**	**211**	P	Pn	15 34 59.3	-0.9
DSZ	**Denniston Nort**	**1.28**	**313**	P	Pb	15 35 00.6	-0.1
TUWZ	**Tuamarina**	**1.38**	**29**	P	Pn	15 35 01.5	-0.1
NNZ	**Nelson**	**1.44**	**10**	P	Pn	15 35 02.4	0.0
WACZ	**Wakanui South**	**1.58**	**214**	P	Pn	15 35 03.5	-0.9
TKNZ	**Takaka Hill**	**1.60**	**358**	P	Pn	15 35 04.8	+0.1
TCW	**Tory Channel**	**1.69**	**33**	P	Pn	15 35 05.3	-0.6
WVZ	**Waitaha Valley**	**1.76**	**255**	P	Pn	15 35 07.2	+0.4
RPZ	**Rata Peaks**	**1.81**	**233**	P	Pn	15 35 07.3	-0.4
QRZ	**Quartz Range**	**1.85**	**348**	P	Pn	15 35 08.7	+0.6
WEL	**Wellington**	**1.86**	**44**	P	Pn	15 35 05.2	-3.1
ARCZ	**Arundel**	**1.89**	**226**	P	Pn	15 35 08.0	-0.8
PLWZ	**Palliser**	**1.96**	**58**	P	Pn	15 35 07.6	-2.0
MSWZ	**Moikau Station**	**2.04**	**54**	P	Pn	15 35 08.9	-1.8
GCSZ	**Gaunt Creek Bo**	**2.11**	**250**	P	Pn	15 35 12.6	+1.0
CAW	**Cannon Point**	**2.

MHCZ	**Mount Hutt**	**2.49**	**230**	P	Pn	15 39 57.8	-2.2
WACZ	**Wakanui South**	**2.63**	**220**	P	Pn	15 39 59.3	-2.6
WVZ	**Waitaha Valley**	**2.78**	**245**	P	Pn	15 40 02.5	-1.4
RPZ	**Rata Peaks**	**2.89**	**231**	P	Pn	15 40 02.4	-3.2
ARCZ	**Arundel**	**2.97**	**227**	P	Pn	15 40 03.4	-3.3
GCSZ	**Gaunt Creek Bo**	**3.15**	**243**	P	Pn	15 40 07.3	-1.7
TMZ	**Timaru**	**3.36**	**223**	P	Pn	15 40 09.1	-2.9
FOZ	**Fox Glacier**	**3.58**	**242**	P	Pn	15 40 13.3	-1.7
LBZ	**Lake Benmore**	**3.80**	**229**	P	Pn	15 40 14.9	-3.1
ODZ	**Otahua Downs**	**4.02**	**219**	P	Pn	15 40 18.2	-2.8
JCZ	**Jackson Bay**	**4.49**	**240**	P	Pn	15 40 25.3	-2.2
HHSZ	**Highcliff Hill**	**4.71**	**212**	P	Pn	15 40 28.3	-2.1
EAZ	**Earnscleugh**	**4.82**	**226**	P	Pn	15 40 28.6	-3.4
TUZ	**Tuapeka**	**5.17**	**218**	P	Pn	15 40 34.1	-2.7
MLZ	**Mavora Lakes**	**5.56**	**230**	P	Pn	15 40 38.6	-3.7
SYZ	**Scrubby Hill**	**5.84**	**217**	P	Pn	15 40 43.5	-2.5
WHZ	**Wether Hill Ro**	**5.98**	**227**	P	Pn	15 40 43.9	-4.1

WEL 14 15:43:04.8±0.4, 42°S±2°×17°4E±°, h7km±3km, M3.5/40, ML3.7/11, MLv3.5/40, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.33**	**5**	P	Pg	15 43 11.6	+0.5
BSWZ				S	Sg	15 43 16.8	+1.4
CMWZ	**Cape Campbell**	**0.40**	**44**	P	Pb	15 43 13.4	-0.8
CMWZ				S	Sb	15 43 20.6	+0.1
KHZ	**Kahutara**	**0.44**	**211**	P	Pg	15 43 13.4	+0.1
KHZ				S	Sg	15 43 20.3	+1.3
TUWZ	**Tuamarina**	**0.61**	**7**	P	Pg	15 43 17.0	+0.4
TUWZ				S	Sb	15 43 26.2	-0.4
THZ	**Tophouse**	**0.75**	**291**	P	Pg	15 43 19.4	+0.2
THZ				S	Sb	15 43 30.1	-0.5
TCW	**Tory Channel**	**0.89**	**22**	P	Pg	15 43 21.6	-0.3
TCW				S	Sb	15 43 34.3	-0.2
NNZ	**Nelson**	**0.89**	**337**	P	Pg	15 43 21.8	0.0
NNZ				S	Sb	15 43 34.1	-0.4
WEL	**Wellington**	**1.03**	**43**	P	Pg	15 43 24.3	-0.1
WEL				S	Sn	15 43 40.1	-0.1
MRNZ	**Matariki Terra**	**1.03**	**308**	P	Pb	15 43 24.9	-0.1
GVZ	**Greta Valley S**	**1.10**	**212**	P	Pg	15 43 24.9	-1.0
GVZ				S	Sn	15 43 41.7	-0.4
TKNZ	**Takaka Hill**	**1.20**	**326**	P	Pg	15 43 27.5	-0.3
MSWZ	**Moikau Station**	**1.23**	**60**	P	Pb	15 43 26.5	-1.7
MSWZ				S	Sg	15 43 42.9	-1.2
DUWZ	**D'Urville Isla**	**1.24**	**3**	P	Pb	15 43 27.9	-0.6
CAW	**Cannon Point**	**1.31**	**45**	P	Pn	15 43 28.8	-0.7
LTZ	**Lake Taylor**	**1.38**	**237**	P	Pn	15 43 29.9	-0.6
LTZ				S	Sb	15 43 48.6	-0.1
AMCZ	**Amberley**	**1.44**	**217**	P	Pn	15 43 30.3	-0.8
TRWZ	**Traveller**	**1.52**	**66**	P	Pn	15 43 30.1	-2.3
MTW	**Mount Morrison**	**1.53**	**55**	P	Pg	15 43 34.7	+0.7
DSZ	**Denniston Nort**	**1.55**	**280**	P	Pg	15 43 34.6	+0.1
QRZ	**Quartz Range**	**1.56**	**320**	P	Pb	15 43 33.8	-0.2
OGWZ	**Otaki Gorge**	**1.58**	**40**	P	Pn	15 43 32.2	-0.9
OKCZ	**Okains Bay**	**1.78**	**199**	P	Pn	15 43 33.7	-2.2
TMWZ	**Te Maipa**	**1.80**	**59**	P	Pg	15 43 40.2	+0.9
OXZ	**Oxford**	**1.85**	**121**	P	Pn	15 43 35.1	-1.8
MQZ	**McQueen's Vall**	**1.88**	**207**	P	Pn	15 43 35.0	-2.3
MRZ	**Mangatainoka R**	**1.90**	**44**	P	Pn	15 43 36.1	-1.5
INZ	**Inchbonnie**	**1.90**	**248**	P	Pn	15 43 38.0	+0.4
AKCZ	**Akaroa Harbour**	**1.96**	**200**	P	Pn	15 43 32.9	-5.4
RACZ	**Rakaia**	**2.10**	**216**	P	Pn	15 43 38.6	-1.7
CPWZ	**Castlepoint**	**2.10**	**58**	P	Pg	15 43 47.5	+2.5
BFZ	**Birch Farm**	**2.26**	**54**	P	Pg	15 43 48.9	+0.8
WACZ	**Wakanui South**	**2.40**	**217**	P	Pn	15 43 42.6	-1.8
WAZ	**Wanganui**	**2.44**	**21**	P	Pb	15 43 48.4	-0.6
WVZ	**Waitaha Valley**	**2.52**	**245**	P	Pn	15 43 46.3	+0.3
TSZ	**Takapari Road**	**2.55**	**40**	P	Pb	15 43 49.8	-0.9
LREZ	**Lake Rotokare**	**2.61**	**10**	P	Pb	15 43 51.1	-0.7
RPZ	**Rata Peaks**	**2.65**	**230**	P	Pn	15 43 46.2	-1.6
ARCZ	**Arundel**	**2.73**	**225**	P	Pn	15 43 47.3	-1.7
NBEZ	**Newall Road No**	**2.77**	**0**	P	Pb	15 43 54.1	-0.4
PNHZ	**Pukenui**	**2.77**	**41**	P	Pb	15 43 55.1	+0.4
VRZ	**Vera Road**	**3.00**	**14**	P	Pb	15 43 55.9	-2.5
WNVZ	**Wahianoa**	**3.02**	**27**	P	Pb	15 43 56.6	-2.3
WHVZ	**Whangaehu Hut**	**3.06**	**26**	P	Pb	15 43 57.2	-2.4
TMZ	**Timaru**	**3.13**	**221**	P	Pn	15 43 52.4	-2.1
OTVZ	**Oturere**	**3.19**	**26**	P	Pb	15 43 60.0	-1.9
NNVZ	**North Ngauruho**	**3.20**	**26**	P	Pn	15 43 58.0	+2.4
WTVZ	**West Tongariro**	**3.21**	**25**	P	Pb	15 44 01.8	-0.3
ETVZ	**East Tongariro**	**3.23**	**27**	P	Pb	15 44 01.4	-1.1
KRVZ	**Karewarewa**	**3.25**	**26**	P	Pb	15 44 01.8	-0.9
TMVZ	**Te Maari**	**3.25**	**27**	P	Pb	15 44 00.4	-2.3
NTVZ	**North Tongarir**	**3.25**	**26**	P	Pb	15 44 01.8	-1.1
BKZ	**Black Stump Fm**	**3.51**	**36**	P	Pb	15 44 06.9	-0.3
HIZ	**Hauiti**	**3.61**	**13**	P	Pn	15 44 04.3	+3.3
ODZ	**Otahua Downs**	**3.80**	**217**	P	Pn	15 44 01.9	-1.8
TLZ	**Tolley Road**	**3.93**	**20**	P	Pn	15 44 08.8	+3.3
TOZ	**Tahuroa Road**	**4.49**	**17**	P	Pn	15 44 14.9	+1.8
EAZ	**Earnscleugh**	**4.58**	**224**	P	Pn	15 44 12.9	-1.6
AWAZ	**Awhitu Peninsu**	**5.01**	**7**	P	Pn	15 44 23.3	+3.0
MKAZ	**Moumakai**	**5.03**	**12**	P	Pn	15 44 23.3	+2.7
ETAZ	**East Tamaki Re**	**5.15**	**10**	P	Pn	15 44 25.2	+3.0

*WEL **14** 15:54:00, 42°.49S×173°.04E, h4km, ML4.7, Mw4.7, Moment Tension Solution. s9 Moment tensor: Scale 10^{16} Nm; M_{rr}0.89; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-0.68; $M_{r\theta}$0.46; $M_{\theta\phi}$-0.81; $M_{\phi r}$0.64; Fault plane solution: M_o1.34000×10^{16} NP1: ϕ_s219.00000°, δ27.00000°, λ92.00000°. NP2:ϕ_s36.00000°, δ63.00000°, λ89.00000°. Principal axes: T -1540.9300, Plg72.0000°, Azm303.0000°; N 396.7500, Plg1.0000°, Azm36.0000°; P 1144.1700, Plg18.0000°, Azm127.0000°;*

*IDC **14** 15:54:54.2±0.9, 42°.33S×172°.98E, h0km, mb4.4/7, mbtmp4.4/7, ML6.3/1, MS4.0/34 Error ellipse: s-maj=31.0km s-min=19.4km az=79.0*

*NEIC **14** 15:54:55.8±1.4, 42°.51S±0°.03×173°.07E±0°.07, h10km±1km, mb4.8/19, Mwr4.7/40, Error ellipse: s-maj=9.9km s-min=3.4km az=116.0*

*NOU **14** 15:54:55.6, 42°.70S×173°.26E, h13km, mb4.9/28, South Island, New Zealand*

*WEL **14** 15:54:55.8±0.4, 42°.S±2°×17°3E±°, h5km, M4.8/9, ML5.0/6, MLv4.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=119.8*

*NEIC **14** 15:54:55.8, 42°.51S×173°.07E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.99; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-0.66; $M_{r\theta}$0.31; $M_{\theta\phi}$-0.86; $M_{\phi r}$0.26; Fault plane solution: M_o1.29000×10^{16} NP1:ϕ_s45.33000°, δ54.60000°, λ97.29000°. NP2:ϕ_s212.87000°, δ36.05000°, λ79.87000°. Principal axes: T 1.0643, Plg79.0000°, Azm343.0000°; N 0.3741, Plg6.0000°, Azm221.0000°; P -1.4384, Plg9.0000°, Azm130.0000°;*

ISC 14 15:54:55.6±1.0, 42°.53S±0°.02×173°.12E±0°.03, h11km±7km, n129, σ1°28/109, mb4.7/15, MS4.0/36, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**71**	Pg	**Pg**	**15 55 02.7**	**+0.5**
KHZ	**Kahutara**	**0.33**	**71**	P	**Pb**	**15 55 03.4**	**-0.1**
KHZ	**Kahutara**	**0.33**	**71**	P	**Pb**	**15 55 03.4**	**-0.1**
KHZ				S	**Sb**	**15 55 09.1**	**+0.2**
GVZ	**Greta Valley S**	**0.45**	**188**	Pg	**Pg**	**15 55 04.9**	**+0.6**
GVZ	**Greta Valley S**	**0.45**	**188**	P	**Pg**	**15 55 05.2**	**+0.8**
GVZ				S	**Sb**	**15 55 12.5**	**+0.3**
LTZ	**Lake Taylor**	**0.67**	**247**	Pg	**Pg**	**15 55 07.9**	**-0.7**
LTZ				Sg	**Sg**	**15 55 16.9**	**-0.6**
LTZ	**Lake Taylor**	**0.67**	**247**	P	**Pg**	**15 55 08.4**	**-0.3**
LTZ				S	**Sg**	**15 55 17.4**	**0.0**
AMCZ	**Amberley**	**0.73**	**208**	P	**Pb**	**15 55 10.7**	**+0.3**
AMCZ				S	**Sb**	**15 55 21.2**	**+0.7**
THZ	**Tophouse**	**0.78**	**348**	Pg	**Pg**	**15 55 10.0**	**-0.6**
THZ				Sg	**Sg**	**15 55 19.6**	**-1.2**
THZ	**Tophouse**	**0.78**	**348**	P	**Pg**	**15 55 10.3**	**-0.3**
THZ				S	**Sg**	**15 55 20.8**	**0.0**
BSWZ	**Blackbirch Sta**	**0.99**	**35**	P	**Pg**	**15 55 15.4**	**+0.8**
OXZ	**Oxford**	**1.12**	**224**		**Pb**	**15 55 15.9**	**-1.2**
OXZ	**Oxford**	**1.12**	**224**	P	**Pb**	**15 55 16.5**	**-0.6**
OXZ				S	**Sn**	**15 55 32.5**	**-0.3**
MRNZ	**Matariki Terra**	**1.16**	**347**	P	**Pn**	**15 55 17.3**	**-0.5**
OKCZ	**Okains Bay**	**1.20**	**182**	P	**Pb**	**15 55 18.8**	**+0.4**
MQZ	**McQueen's Vall**	**1.23**	**196**		**Pn**	**15 55 16.9**	**-1.8**
MQZ	**McQueen's Vall**	**1.23**	**196**	P	**Pn**	**15 55 17.8**	**-0.9**
MQZ				S	**Sb**	**15 55 33.8**	**-0.8**
DSZ	**Denniston Nort**	**1.25**	**308**	Pn	**Pn**	**15 55 19.1**	**0.0**
DSZ	**Denniston Nort**	**1.25**	**308**	P	**Pb**	**15 55 19.4**	**+0.2**
DSZ				S	**Sg**	**15 55 37.0**	**+1.2**
NNZ	**Nelson**	**1.32**	**9**		**Pn**	**15 55 20.0**	**0.0**
QRZ	**Quartz Range**	**1.75**	**345**		**Pn**	**15 55 26.2**	**+0.2**
QRZ	**Quartz Range**	**1.75**	**345**	P	**Pb**	**15 55 27.4**	**-0.4**
PLWZ	**Palliser**	**1.86**	**60**	Pn	**Pn**	**15 55 25.3**	**-2.1**
RPZ	**Rata Peaks**	**1.92**	**231**	Pn	**Pn**	**15 55 27.2**	**-1.1**
199nm,0.3s,baz=71,slow=1.7,SNR=326							
RPZ				Sn	**Sn**	**15 55 51.4**	**-1.1**
306nm,0.3s,baz=347,slow=12,SNR=6.7							
RPZ				LR	LR	15 56 30.5	
comp=Z,3μm,18.2s,baz=12,slow=49							
RPZ	**Rata Peaks**	**1.92**	**231**	Pn	**Pn**	**15 55 26.7**	**-1.6**
RPZ	**Rata Peaks**	**1.92**	**231**	P	**Pn**	**15 55 27.4**	**-0.9**
MSWZ	**Moikau Station**	**1.94**	**56**		**Pn**	**15 55 26.8**	**-1.7**
LBZ	**Lake Benmore**	**2.83**	**228**	Pn	**Pn**	**15 55 38.9**	**-1.9**
BFZ	**Birch Farm**	**2.98**	**53**	P	**Pn**	**15 55 41.9**	**-1.0**
ODZ	**Otahua Downs**	**3.09**	**215**		**Pn**	**15 55 42.6**	**-1.7**
ODZ	**Otahua Downs**	**3.09**	**215**	P	**Pn**	**15 55 43.1**	**-1.2**
KHEZ	**Kahui Hut**	**3.30**	**12**	P	**Pb**	**15 55 51.7**	**-2.5**
JCZ	**Jackson Bay**	**3.52**	**242**	P	**Pn**	**15 55 50.2**	**-0.1**
WKZ	**Wanaka**	**3.76**	**231**		**Pn**	**15 55 51.8**	**-1.8**
BKZ	**Black Stump Fm**	**4.22**	**38**	P	**Pn**	**15 55 59.8**	**-0.2**
HIZ	**Hauiti**	**4.22**	**19**	P	**Pn**	**15 56 02.0**	**+2.1**
MLZ	**Mavora Lakes**	**4.59**	**230**	Pn	**Pn**	**15 56 03.0**	**-2.0**
SYZ	**Scrubby Hill**	**4.92**	**214**	P	**Pn**	**15 56 08.5**	**-0.9**
WHZ	**Wether Hill Ro**	**5.01**	**226**	Pn	**Pn**	**15 56 08.2**	**-2.5**
DCZ	**Deep Cove**	**5.21**	**234**	Pn	**Pn**	**15 56 10.8**	**-2.7**
URZ	**Urewera**	**5.24**	**37**	P	**Pn**	**15 56 13.7**	**-0.2**
PYZ	**Puysegur Point**	**5.88**	**230**	P	**Pn**	**15 56 21.0**	**-1.6**
KUZ	**Kuaotunu**	**6.11**	**20**	P	**Pn**	**15 56 26.6**	**+0.7**
MXZ	**Matakaoa Point**	**6.36**	**40**	P	**Pn**	**15 56 28.7**	**-0.5**
OUZ	**Omahuta**	**7.30**	**3**	P	**Pn**	**15 56 45.2**	**+3.0**
CTZ	**Chatham Island**	**7.61**	**103**	P	**Pn**	**15 56 45.7**	**-0.7**
RAO	**Raoul Island**	**15.09**	**32**	Pn	**Pn**	**15 58 26.9**	**-1.9**
142nm,0.3s,baz=57,slow=22,SNR=4.9							
GLAD	**Gladstone**	**18.78**	**266**	P	**Pn**	**15 59 17.5**	**+2.3**
TAU	**Tasmania Unive**	**18.94**	**260**	P	**Pn**	**15 59 19.0**	**+1.8**
DZM	**Mont Dzumac**	**21.15**	**343**	*e*S	Sn	16 03 47.3	+4.7
162nm,23.8s							
DZM				*e*LR	LR	16 04 57.7	
comp=Z,737nm,22.8s							
DZM	**Mont Dzumac**	**21.15**	**343**	LR	LR	16 07 09.5	
comp=Z,568nm,19.4s,baz=194,slow=35							
DZM	**Mont Dzumac**	**21.15**	**343**	P	**P**	**15 59 41.8**	**+1.1**
DZM				IAmb	IAmb	15 59 48.7	
comp=Z,43nm,1.1s							
DZM	**Mont Dzumac**	**21.15**	**343**	P	**P**	**15 59 44.8**	**+4.0**
KOUNC	**Koumac, New Ca**	**23.14**	**339**	P	**P**	**16 00 02.3**	**+0.5**
KOUNC	**Koumac, New Ca**	**23.14**	**339**	P	**P**	**16 00 04.1**	**+2.2**
EIDS	**Eidsvold**	**24.92**	**306**	P	**P**	**16 00 18.7**	**-0.1**
EIDS				IAmb	IAmb	16 00 41.1	
comp=Z,23nm,1.4s							
MSVF	**Nonsavu**	**25.07**	**11**	LR	LR	16 09 10.3	
comp=Z,210nm,18.6s,baz=186,slow=34							
STKA	**Stephens Creek**	**27.12**	**283**	LR	LR	16 09 54.0	
comp=Z,294nm,20.2s,baz=132,slow=33							
LCRK	**Leigh Creek**	**30.33**	**282**	P	**P**	**16 01 07.4**	**+0.2**
RAR	**Rarotonga**	**31.11**	**55**	LR	LR	16 12 44.9	
comp=Z,162nm,20.0s,baz=212,slow=34							
CTA	**Charters Tower**	**31.81**	**306**	LR	LR	16 13 03.6	
comp=Z,384nm,19.1s,baz=306,slow=34							
OOD	**Oodnadatta**	**33.65**	**284**	P	**P**	**16 01 36.7**	**+0.4**
HNR	**Honiara**	**34.93**	**337**	LR	LR	16 13 46.1	
comp=Z,2μm,21.5s,baz=168,slow=33							
VNDA	**Vanda**	**35.41**	**184**	P	**P**	**16 01 53.5**	**+2.4**
comp=Z,1.5nm,1.0s,baz=0.3,slow=6.9,SNR=6.1							
VNDA				LR	LR	16 15 26.4	
comp=Z,164nm,18.7s,baz=15,slow=35							
comp=Z,1.5nm,1.0s							
TBI	**Tubuai**	**36.39**	**70**	*e*LR	LR	16 11 53.5	
comp=Z,4μm,24.0s							
TBI				*e*LR	LR	16 11 53.5	
comp=Z,944nm,25.2s							
TBI	**Tubuai**	**36.39**	**70**	*e*T	T	16 39 55.9	
comp=Z,13nm,0.3s							
AS01	**Alice Springs**	**37.41**	**288**	P	**P**	**16 02 08.3**	**-0.5**
AS31	**Alice Springs**	**37.44**	**288**	P	**P**	**16 02 07.7**	**-1.3**
ASAR	**Alice Springs**	**37.44**	**288**	P	**P**	**16 02 08.1**	**-1.0**
comp=Z,4.6nm,0.9s,baz=126,slow=7.2,SNR=88							
ASAR				PcP	**PcP**	**16 04 26.1**	**-1.5**
comp=Z,0.6nm,0.7s,baz=126,slow=3.8,SNR=6.3							
ASAR				LR	LR	16 17 20.4	
comp=Z,404nm,18.3s,baz=133,slow=36							
comp=Z,4.6nm,0.9s							
ASAR	**Alice Springs**	**37.44**	**288**	P	**P**	**16 02 07.6**	**-1.5**
COEN	**Coen**	**38.44**	**309**	P	**P**	**16 02 17.4**	**0.0**
COEN				IAmb	IAmb	16 02 19.2	
comp=Z,21nm,1.4s							
WB2	**Warramunga Arr**	**39.59**	**292**	P	**P**	**16 02 26.4**	**-0.8**
WB2				IAmb	IAmb	16 02 28.9	
comp=Z,15nm,1.1s							
WRAB	**Tennant Creek**	**39.60**	**292**	P	**P**	**16 02 26.1**	**-1.1**
WRAB	**Tennant Creek**	**39.60**	**292**	P	**P**	**16 02 26.8**	**-0.4**
WRA	**Warramunga Arr**	**39.60**	**292**	P	**P**	**16 02 26.4**	**-0.8**
comp=Z,7.4nm,1.0s,baz=130,slow=8.5,SNR=29							
WRA				LR	LR	16 18 27.3	
comp=Z,300nm,18.6s,baz=136,slow=36							
comp=Z,7.4nm,1.0s							
WRA	**Warramunga Arr**	**39.60**	**292**	P	**P**	**16 02 26.1**	**-1.1**
PMG	**Port Moresby**	**40.08**	**318**	P	**P**	**16 02 32.1**	**+1.0**
comp=Z,36nm,1.1s,baz=128,slow=6.1,SNR=12							
PMG				LR	LR	16 17 10.4	
comp=Z,351nm,21.2s,baz=152,slow=34							
PMG	**Port Moresby**	**40.08**	**318**	P	**P**	**16 02 30.9**	**-0.2**
PMG				IAmb	IAmb	16 02 35.4	
comp=Z,48nm,1.1s							
PAE	**Paea**	**40.21**	**64**	*e*T	T	16 44 48.2	
comp=Z,3.1nm,0.3s							
PPT	**Papeete**	**40.28**	**63**	LR	LR	16 14 49.5	
comp=Z,212nm,21.3s,baz=258,slow=30							
WRKA	**Warakurna**	**40.62**	**281**	P	**P**	**16 02 34.8**	**-0.8**
KRVT	**Keravat (AS076**	**42.44**	**328**	LR	LR	16 19 28.2	
comp=Z,154nm,19.1s,baz=283,slow=35							
RABL	**Rabaul**	**42.49**	**328**	P	**P**	**16 02 50.2**	**-0.7**
NWAO	**Narrogin (SRO)**	**44.52**	**263**	LR	LR	16 18 28.7	
comp=Z,110nm,21.2s,baz=284,slow=32							
NWAO	**Narrogin (SRO)**	**44.52**	**263**	P	**P**	**16 03 06.1**	**-1.1**
KNRA	**Kununurra**	**46.37**	**292**	P	**P**	**16 03 22.1**	**+0.1**
KNRA	**Kununurra**	**46.37**	**292**	P	**P**	**16 03 22.1**	**+0.1**
MTN	**Manton Dam**	**46.79**	**296**	P	**P**	**16 03 24.9**	**-0.4**
MTN	**Manton Dam**	**46.79**	**296**	P	**P**	**16 03 25.5**	**+0.2**
MEEK	**Meekatharra**	**46.80**	**272**	P	**P**	**16 03 24.5**	**-0.9**
QSPA	**South Pole Qui**	**47.60**	**180**	P	**P**	**16 03 33.8**	**+2.5**
comp=Z,17nm,1.1s,baz=30,slow=1.3,SNR=29							
QSPA				LR	LR	16 22 29.0	
comp=Z,125nm,18.2s,baz=41,slow=35							
comp=Z,17nm,1.1s							
QSPA	**South Pole Qui**	**47.60**	**180**	P	**P**	**16 03 33.2**	**+1.9**
QSPA				IAmb	IAmb	16 03 36.4	
comp=Z,24nm,1.2s							
TAOE	**Nuku Hiva Isla**	**52.87**	**65**	*e*LR	LR	16 19 31.3	
comp=Z,209nm,23.0s							
SOEI	**Soe**	**53.64**	**293**	P	**P**	**16 04 17.9**	**+0.5**
BATI	**Baumata**	**53.73**	**292**	LR	LR	16 26 03.3	
comp=Z,146nm,21.9s,baz=174,slow=35							
SIJI	**Sorong**	**55.89**	**306**	LR	LR	16 30 34.8	
comp=Z,200nm,18.2s,baz=74,slow=38							
MAW	**Mawson**	**58.40**	**205**	P	**P**	**16 04 52.0**	**+1.4**
comp=Z,2.7nm,0.8s,baz=109,slow=9.6,SNR=3.7							
comp=Z,2.7nm,0.8s							
MAW	**Mawson**	**58.40**	**205**	P	**P**	**16 04 51.6**	**+1.0**
BELA	**Belgrano 2**	**58.67**	**173**	P	**P**	**16 04 52.6**	**+0.1**
BELA				IAmb	IAmb	16 04 55.7	
comp=Z,4.3nm,0.8s							
KAPI	**Kappang**	**60.14**	**293**	LR	LR	16 31 44.7	
comp=Z,70nm,19.4s,baz=138,slow=37							
RPN	**Rapa Nui**	**63.42**	**103**	LR	LR	16 26 54.6	
comp=Z,164nm,21.7s,baz=8.0,slow=30							
PMSA	**Palmer Station**	**64.11**	**156**	LR	LR	16 28 31.0	
comp=Z,148nm,20.0s,baz=266,slow=31							
TROLL	**Troll, Antarti**	**65.58**	**183**	P	**P**	**16 05 39.0**	**0.0**
DAV	**Davao City (W)**	**65.61**	**306**	LR	LR	16 33 07.5	
comp=Z,144nm,21.7s,baz=86,slow=35							
SNAA	**Sanae**	**66.07**	**181**	P	**P**	**16 05 41.2**	**-0.9**
SNAA	**Sanae**	**66.07**	**181**	LR	LR	16 32 52.5	
comp=Z,95nm,19.5s,baz=190,slow=34							
SNAA	**Sanae**	**66.07**	**181**	P	**P**	**16 05 39.1**	**-3.0**
SNAA				IAmb	IAmb	16 05 46.5	
comp=Z,12nm,1.2s							
LEM	**Lembang**	**67.42**	**282**	LR	LR	16 34 34.0	
comp=Z,81nm,22.0s,baz=122,slow=35							
PLCA	**Paso Flores**	**79.13**	**136**	LR	LR	16 33 07.4	
comp=Z,166nm,19.9s,baz=180,slow=29							
MJAR	**Matsushiro Arr**	**84.89**	**332**	LR	LR	16 40 45.1	
comp=Z,36nm,21.3s,baz=152,slow=32							
KSRS	**Korea Array**	**89.61**	**326**	P	**P**	**16 07 53.3**	**+0.3**
comp=Z,1.9nm,0.7s,baz=149,slow=5.4,SNR=5.3							
KSRS				LR	LR	16 45 25.1	
comp=Z,32nm,20.4s,baz=120,slow=34							
comp=Z,1.9nm,0.7s							
ASAJ	**Asahikawa**	**90.49**	**339**	LR	LR	16 44 03.9	
comp=Z,66nm,20.5s,baz=1,slow=33							
CMAR	**Chiang Mai Arr**	**91.18**	**294**	P	**P**	**16 08 00.9**	**+0.1**
comp=Z,3.8nm,1.1s,baz=146,slow=3.0,SNR=18							
CMAR				LR	LR	16 54 13.6	
comp=Z,28nm,18.2s,baz=65,slow=39							
comp=Z,3.8nm,1.1s							
CMAR	**Chiang Mai Arr**	**91.18**	**294**	P	**P**	**16 07 59.4**	**-1.5**
CM31	**Chiang Mai Arr**	**91.18**	**294**	P	**P**	**16 08 00.1**	**-0.7**
CM31				IAmb	IAmb	16 08 03.7	
comp=Z,9.4nm,1.2s							
USRK	**Ussuriysk Ar.**	**93.86**	**332**	LR	LR	16 49 04.8	
comp=Z,23nm,20.5s,baz=168,slow=35							
PETK	**Petropavlovsk-**	**96.18**	**351**	LR	LR	16 46 04.3	
comp=Z,38nm,20.0s,baz=171,slow=32							
NNA	**Nana**	**96.25**	**112**	LR	LR	16 41 10.4	
comp=Z,83nm,21.7s,baz=204,slow=29							
CPUP	**Villa Florida**	**97.20**	**136**	LR	LR	16 45 00.3	
comp=Z,92nm,21.6s,baz=217,slow=31							
KLR	**Kul'dur**	**98.33**	**334**	LR	LR	16 51 55.2	
comp=Z,30nm,18.5s,baz=132,slow=35							
ATAH	**Atahualpa**	**98.60**	**108**	LR	LR	16 45 09.5	
comp=Z,65nm,18.1s,baz=266,slow=30							
LPAZ	**La Paz**	**98.85**	**122**	LR	LR	16 43 18.3	
comp=Z,56nm,20.9s,baz=212,slow=29							
KBZ	**Khabaz**	**144.09**	**289**	PKhKP	PKPpre	16 14 27.7	
comp=Z,3.3nm,0.9s,baz=260,slow=3.2,SNR=5.4							
ARCES	**ARCESS Array B**	**148.21**	**339**	PKPbc	**PKPbc**	**16 14 39.1**	**-1.3**
comp=Z,3.1nm,0.9s,baz=100,slow=1.4,SNR=6.6							
BRTR	**Keskin Array B**	**149.55**	**279**	PKPbc	**PKPbc**	**16 14 43.7**	**-1.2**
comp=Z,5.7nm,1.0s,baz=158,slow=4.0,SNR=7.2							
TORD	**Torodi Ar. Bea**	**149.80**	**197**	PKPbc	**PKPbc**	**16 14 45.8**	**-0.3**
comp=Z,8.1nm,0.9s,baz=150,slow=1.6,SNR=36							
FINES	**FINESS Array B**	**152.70**	**325**	PKPbc	**PKPbc**	**16 14 49.8**	**-1.6**
comp=Z,2.4nm,0.8s,baz=48,slow=3.3,SNR=7.5							
AKASG	**Malin Array Be**	**154.10**	**301**	PKPbc	**PKiKP**	**16 14 56.2**	**+1.4**
comp=Z,0.6nm,0.6s,baz=72,slow=1.5,SNR=2.1							
AKASG				PKPab	**PKPab**	**16 15 07.7**	**-0.8**
comp=Z,4.4nm,1.1s,baz=73,slow=3.5,SNR=9.2							
GERES	**GERESS Array B**	**164.31**	**301**	PKPab	**PKPbc**	**16 15 52.9**	**-0.2**
comp=Z,0.2nm,0.4s,baz=29,slow=2.5,SNR=5.1							

**WEL 14 16:00

PNHZ	Pukenui	3.17	39	P		Pn	16 02 12.4	-1.1
PKE	Pukeiti	3.21	6	P		Pn	16 02 16.9	+2.7
VRZ	Vera Road	3.38	16	P		Pn	16 02 18.1	+1.6
ODZ	Otahua Downs	3.40	218	Pn		Pn	16 02 16.1	-0.6
WNVZ	Wahianoa	3.42	27	P		Pn	16 02 17.4	+0.2
TRVZ	Turoa	3.43	26	P		Pn	16 02 19.6	+2.2
DRZ	Dome Shelter	3.46	26	P		Pn	16 02 18.6	+0.8
WHVZ	Whangaehu Hut	3.46	27	P		Pn	16 02 18.7	+1.0
FWVZ	Far West T-bar	3.47	26	P		Pn	16 02 18.9	+1.0
OTVZ	Oturere	3.59	27	P		Pn	16 02 20.0	+0.5
KAHZ	Kahuranaki	3.59	45	P		Pn	16 02 18.2	-1.2
NNVZ	North Ngauruho	3.60	26	P		Pn	16 02 20.7	+1.0
ETVZ	East Tongariro	3.63	27	P		Pn	16 02 21.0	+1.0
KRVZ	Karewarewa	3.65	26	P		Pn	16 02 20.9	+0.6
TMVZ	Te Maari	3.65	27	P		Pn	16 02 20.8	+0.6
NTVZ	North Tongariro	3.65	26	P		Pn	16 02 21.1	+0.7
BKZ	Black Stump Fm	3.91	35	P		Pn	16 02 24.7	+1.0
HIZ	Hauiti	4.00	14	Pn		Pn	16 02 24.3	-0.6
HIZ	Hauiti	4.00	14	P		Pn	16 02 24.4	-0.6
ARHZ	Aropaoanui	4.06	41	P		Pn	16 02 24.5	-1.3
TLZ	Tolley Road	4.33	21	P		Pn	16 02 29.7	+0.2
RAHZ	Arahi	4.38	39	P		Pn	16 02 31.6	+1.5
KNZ	Kokohu	4.58	44	P		Pn	16 02 32.7	-0.2
MHGZ	Mahia Peninsul	4.61	47	P		Pn	16 02 30.3	-3.0
TOZ	Tahuroa Road	4.88	18	P		Pn	16 02 37.3	+0.2
TGRZ	Tauranga	5.09	25	P		Pn	16 02 39.8	-0.1
AWAZ	Awhitu Peninsu	5.39	9	P		Pn	16 02 43.2	-0.8
TWGZ	Tauwhareparae	5.39	40	P		Pn	16 02 42.0	-2.1
RUGZ	Raukumara Rang	5.42	37	P		Pn	16 02 43.0	-1.6
MKAZ	Moumakai	5.42	13	P		Pn	16 02 43.4	-1.1
WTAZ	Waiatarua	5.51	8	P		Pn	16 02 47.0	+1.3
ETAZ	East Tamaki Re	5.53	11	P		Pn	16 02 45.0	-1.0
EPAZ	Eden Park BICE	5.58	10	P		Pn	16 02 48.1	+1.4
HAZ	Te Kaha	5.64	36	P		Pn	16 02 47.2	-0.3
PKGZ	Pakihiroa	5.66	39	P		Pn	16 02 45.5	-2.4
RVAZ	Riverhead Bore	5.67	8	P		Pn	16 02 47.5	-0.4
MBAZ	Motutapu North	5.71	11	P		Pn	16 02 49.9	+1.5
KUZ	Kuaotunu	5.88	17	P		Pn	16 02 49.1	-1.7
WMGZ	Waiomatatini S	5.88	41	P		Pn	16 02 48.2	-2.5
KOUNC	Koumac, New Ca	23.15	337	P		P	16 06 31.5	+1.6
KOUNC	comp=Z,18nm,1.2s			IAmb		IAmb	16 07 01.5	
MSVF	Nonsavu	24.87	10	P		P	16 06 48.5	+2.2
HNR	Honiara	34.95	336	P		P	16 08 18.7	+3.2
AS31	Alice Springs	37.74	287	P		P	16 08 39.5	+0.1
ASAR	Alice Springs	37.74	287	P		P	16 08 39.6	+0.2
	comp=Z,0.3nm,0.4s,baz=125,slow=6.9,SNR=16							
	comp=Z,0.3nm,0.4s							
WR0	Warramunga Arr	39.73	292	P		P	16 08 54.3	-1.7
WB2	Warramunga Arr	39.87	292	P		P	16 08 55.7	-1.6
WB2	comp=Z,6.3nm,1.2s			IAmb		IAmb	16 09 29.6	
WRA	Warramunga Arr	39.88	292	P		P	16 08 56.8	-0.5
	comp=Z,0.5nm,0.5s,baz=127,slow=8.5,SNR=12							
	comp=Z,0.5nm,0.5s							
WB0	Warramunga Arr	39.96	292	P		P	16 08 57.1	-0.9
WB0	comp=Z,9.3nm,1.4s			IAmb		IAmb	16 08 59.6	
QSPA	South Pole Qui	47.73	180	P		P	16 10 00.3	+0.2
QSPA	comp=Z,7.2nm,1.5s			IAmb		IAmb	16 10 32.5	
CMAR	Chiang Mai Arr	91.45	294	P		P	16 14 30.2	+0.4
	comp=Z,0.4nm,0.8s,baz=90,slow=1.8,SNR=2.3							
	comp=Z,0.4nm,0.8s							
ARCES	ARCESS Array B	148.21	339	PKPbc		PKPbc	16 21 06.8	-1.3
	comp=Z,8.1nm,1.1s,baz=46,slow=3.5,SNR=4.4							
TORD	Torodi Ar. Bea	150.02	196	PKPbc		PKiKP	16 21 15.3	+0.1
	comp=Z,0.9nm,0.9s,baz=165,slow=2.7,SNR=3.6							
FINES	FINESS Array B	152.79	326	PKPbc		PKPbc	16 21 18.0	-1.3
	comp=Z,1.5nm,0.8s,baz=46,slow=4.0,SNR=4.3							

WEL 14 16:04:30.9±0.3, 42°S±3°×17°4E±°, h16km±3km, M3.8/19, ML4.1/19, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=129.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.06	160	P	Pg	16 04 34.5	+0.6
KHZ				S	Sg	16 04 37.0	+1.1
BSWZ	Blackbirch Sta	0.70	23	P	Pg	16 04 44.4	-0.2
GVZ	Greta Valley S	0.70	210	P	Pn	16 04 46.2	-0.1
GVZ				S	Sn	16 04 57.6	+0.8
THZ	Tophouse	0.75	323	P	Pg	16 04 45.3	-0.2
THZ				S	Sg	16 04 54.7	-0.6
CMWZ	Cape Campbell	0.80	41	P	Pn	16 04 47.5	-0.1
TUWZ	Tuamarina	0.98	19	P	Pb	16 04 49.5	0.0
LTZ	Lake Taylor	1.01	245	P	Pb	16 04 50.2	+0.1
LTZ				S	Sg	16 05 03.6	-0.1
AMCZ	Amberley	1.03	217	P	Pg	16 04 51.4	+0.4
MRNZ	Matariki Terra	1.11	329	P	Pn	16 04 52.0	+0.1
NNZ	Nelson	1.14	355	P	Pn	16 04 52.1	-0.2
TCW	Tory Channel	1.28	27	P	Pn	16 04 53.8	-0.4
TKNZ	Takaka Hill	1.39	343	P	Pb	16 04 56.4	-0.1
OKCZ	Okains Bay	1.40	193	P	Pn	16 04 55.4	-0.5
DSZ	Denniston Nort	1.41	295	P	Pb	16 04 56.9	0.0
WEL	Wellington	1.43	42	P	Pn	16 04 56.0	-0.2
OXZ	Oxford	1.45	228	P	Pn	16 04 55.7	-0.9
MQZ	McQueen's Vall	1.49	205	P	Pn	16 04 55.8	-1.2
PLWZ	Palliser	1.52	59	P	Pn	16 04 56.5	-1.0
INZ	Inchbonnie	1.57	256	P	Pn	16 04 58.7	+0.5
AKCZ	Akaroa Harbour	1.58	196	P	Pn	16 04 57.5	-0.8
DUWZ	D'Urville Isla	1.58	11	P	Pn	16 04 59.1	+0.7
MSWZ	Moikau Station	1.60	55	P	Pn	16 04 57.6	-1.1
RACZ	Rakaia	1.70	216	P	Pn	16 04 59.0	-1.0
QRZ	Quartz Range	1.70	334	P	Pb	16 05 01.2	-0.5
CAW	Cannon Point	1.71	44	P	Pn	16 04 59.3	-0.7
KIW	Kapiti Island	1.83	36	P	Pn	16 05 01.4	-0.4
TRWZ	Traveller	1.89	60	P	Pn	16 05 00.9	-1.7
MTW	Mount Morrison	1.91	52	P	Pn	16 05 01.7	-1.2
OGWZ	Otaki Gorge	1.98	40	P	Pn	16 05 03.1	-0.7
WACZ	Wakanui South	2.00	217	P	Pn	16 05 03.3	-0.8
WVZ	Waitaha Valley	2.17	250	P	Pn	16 05 06.8	+0.5
TMWZ	Te Maipa	2.18	56	P	Pn	16 05 04.7	-1.8
RPZ	Rata Peaks	2.25	232	P	Pn	16 05 06.8	-0.8
MRZ	Mangatainoka R	2.30	43	P	Pn	16 05 07.0	-1.2
ARCZ	Arundel	2.33	226	P	Pn	16 05 07.7	-1.0
OHWZ	Ohakea	2.54	33	P	Pn	16 05 11.9	+0.4
PRWZ	Pori Road	2.58	47	P	Pb	16 05 15.9	-1.0
POWZ	Post Office Ro	2.60	42	P	Pn	16 05 11.5	-0.8
BFZ	Birch Farm	2.65	52	P	Pn	16 05 11.1	-2.0
TMZ	Timaru	2.73	221	P	Pn	16 05 13.9	-0.2
WAZ	Wanganui	2.83	24	P	Pn	16 05 17.1	+1.6
TSZ	Takapari Road	2.95	20	P	Pn	16 05 15.6	-1.5
FOZ	Fox Glacier	2.96	245	P	Pn	16 05 17.7	+0.5
LREZ	Lake Rotokare	2.97	13	P	Pn	16 05 19.9	+2.4
PNHZ	Pukenui	3.18	41	P	Pn	16 05 18.5	-1.8
PKE	Pukeiti	3.18	7	P	Pn	16 05 23.2	+2.8
VRZ	Vera Road	3.37	17	P	Pn	16 05 24.3	+1.4
ODZ	Otahua Downs	3.40	217	P	Pn	16 05 22.2	-1.0
MOVZ	Moawhango	3.40	31	P	Pn	16 05 23.2	-0.3
WNVZ	Wahianoa	3.42	28	P	Pn	16 05 24.6	+0.9
FWVZ	Far West T-bar	3.47	27	P	Pn	16 05 24.8	+0.4
OTVZ	Oturere	3.59	28	P	Pn	16 05 26.2	+0.1
NNVZ	North Ngauruho	3.60	27	P	Pb	16 05 31.2	-3.0
ETVZ	East Tongariro	3.63	28	P	Pn	16 05 27.0	+0.4
KRVZ	Karewarewa	3.64	27	P	Pn	16 05 26.8	+0.1
TMVZ	Te Maari	3.64	28	P	Pn	16 05 27.2	+0.4
NTVZ	North Tongarir	3.65	28	P	Pn	16 05 27.0	+0.2
HIZ	Hauiti	3.98	15	P	Pn	16 05 32.5	+1.3
HHSZ	Highcliff Hill	4.10	210	P	Pn	16 05 29.0	-3.1
EAZ	Earnsceugh	4.18	225	P	Pn	16 05 33.2	-0.9
TLZ	Tolley Road	4.31	22	P	Pn	16 05 35.9	0.0
TOZ	Tahuroa Road	4.87	19	P	Pn	16 05 43.5	0.0
CNGZ	Carnagh Statio	5.27	44	P	Pn	16 05 49.4	+0.4
AWAZ	Awhitu Peninsu	5.36	10	P	Pn	16 05 51.2	+1.0
MKAZ	Moumakai	5.40	14	P	Pn	16 05 50.9	+0.1
WTAZ	Waiatarua	5.48	9	P	Pn	16 05 53.0	+1.1
ETAZ	East Tamaki Re	5.51	12	P	Pn	16 05 53.2	+0.9
RVAZ	Riverhead Bore	5.64	9	P	Pn	16 05 55.0	+0.9
CTZ	Chatham Island	7.36	104	P	Pn	16 06 15.4	-2.3

WEL 14 16:06:14.6±0.5, 42°S±3°×17°4E±°, h5km, M3.4/10, ML3.6/10, MLv3.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.19	246	P	Pg	16 06 17.9	-0.4
KHZ				S	Sg	16 06 20.6	-0.1
BSWZ	Blackbirch Sta	0.63	7	P	Pg	16 06 27.0	+0.4
BSWZ				S	Sg	16 06 35.9	+1.1
CMWZ	Cape Campbell	0.68	29	P	Pn	16 06 31.1	+0.3
GVZ	Greta Valley S	0.83	221	P	Pb	16 06 31.6	+0.1
GVZ				S	Sb	16 06 44.2	+1.3
THZ	Tophouse	0.86	312	P	Pg	16 06 30.7	-0.4
THZ				S	Sg	16 06 42.2	-0.1
TUWZ	Tuamarina	0.92	8	P	Pg	16 06 32.6	+0.4
NNZ	Nelson	1.16	345	P	Pg	16 06 36.8	0.0
TCW	Tory Channel	1.19	19	P	Pg	16 06 36.9	-0.4
MRNZ	Matariki Terra	1.21	321	P	Pg	16 06 37.8	+0.1
MRNZ				S	Sb	16 06 53.9	+0.2
WEL	Wellington	1.29	36	P	Pn	16 06 38.4	-0.9
WEL				S	Sn	16 06 56.7	-0.2
TKNZ	Takaka Hill	1.44	335	P	Pn	16 06 41.4	+0.1
TKNZ				S	Sg	16 07 00.9	+0.1
MSWZ	Moikau Station	1.44	51	P	Pn	16 06 39.7	-1.6
MSWZ				S	Sb	16 06 59.3	-1.2
OKCZ	Okains Bay	1.48	200	P	Pn	16 06 40.1	-1.7
DUWZ	D'Urville Isla	1.54	4	P	Pn	16 06 42.9	+0.1
CAW	Cannon Point	1.57	39	P	Pn	16 06 41.9	-1.2
DSZ	Denniston Nort	1.58	291	P	Pb	16 06 43.8	-0.5
DSZ				S	Sg	16 07 06.0	+0.7
MQZ	McQueen's Vall	1.59	211	P	Pn	16 06 40.9	-2.5
MQZ				S	Sn	16 07 01.1	-3.3
AKCZ	Akaroa Harbour	1.66	202	P	Pn	16 06 42.3	-2.0
QRZ	Quartz Range	1.78	328	P	Pb	16 06 46.8	-0.8
RACZ	Rakaia	1.83	220	P	Pn	16 06 44.5	-2.2
OGWZ	Otaki Gorge	1.85	35	P	Pn	16 06 45.7	-1.2

*KRNET **14** 16:08:22.3±0.1, 40°.30N×73°.24E, h13km, mb2.7*
*ISU **14** 16:08:31, 40°.02N×72°.82E, h30km*

ISC 14 16:08:25.0±2.3, 40°44N±0°.09×73°19E±0°.07, h2km±13km, n11, σ1°10/20, 15C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	Osh	0.32	286	⇑*i*P	Pg	16 08 30.3	-1.0
	baz=3.0						
OHH				⇑*i*S	Sg	16 08 36.2	+0.7
	baz=3.0						
TSTA	Tashata	0.56	285	S	Sb	16 08 45.4	-0.8
FRG	Fergana	1.08	267	P	Pn	16 08 50.2	+3.0
FRG				S	Sn	16 09 02.8	+0.1
ARK	Arkit	1.65	326	⇑*i*P	Pb	16 08 55.3	-0.9
	baz=28						
ARK				⇑*i*S	Sg	16 09 19.3	+1.3
	baz=28						
MINT	Mingtut	1.69	272	P	Pg	16 08 57.9	+0.4
MINT				S	Sg	16 09 19.3	-0.1
BTK	Batken	1.86	259	⇑*i*P	Pn	16 08 56.9	-1.0
	baz=63						
BTK				⇑*i*S	Sb	16 09 22.3	-1.1
	baz=63						
TRKS	Terek-Say	1.90	306	⇑*e*P	Pn	16 08 58.3	-0.3
	baz=7.0						
TRKS				⇑*i*S	Sb	16 09 24.5	-0.3
	baz=7.0						
UCH	Uchtor	2.05	29	⇑*i*P	Pn	16 09 01.2	+0.3
	baz=26						
UCH				⇑*i*S	Sb	16 09 29.6	+0.3
	baz=26						
EKS2	Erkin-Say	2.27	11	⇑*i*P	Pn	16 09 04.3	+0.7
	baz=10.0						
EKS2				⇑*i*S	Sb	16 09 34.9	-0.4
	baz=10.0						
AAK	Ala-Archa	2.41	23	⇑*i*P	Pn	16 09 06.0	+0.4
	baz=22						
AAK				⇑*i*S	Sb	16 09 38.0	-1.3
	baz=22						
KK31	Karatay Array	3.34	324	⇑Pg	Pb	16 09 25.3	+0.4
	0.3nm,0.3s,baz=142,slow=17,SNR=11						
KK31				⇓Lg	Lg	16 10 13.2	
	0.5nm,0.3s,baz=136,slow=30,SNR=4.8						

*IDC **14** 16:14:31.4±1.2, 26°.02S×69°.04E, h0km, mb4.0/8, mbtmp4.0/8, MS3.3/2, Error ellipse: s-maj=45.8km s-min=20.9km az=104.0*

ISC 14 16:14:33.1±1.2, 26°.0S±0°.2×69°.1E±0°.4, h10km, n16, σ0°.47/8, mb4.0/8, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	Diego Carcia H	18.55	11	T	T	16 37 52.7	
	baz=190,slow=76,SNR=4.2						
H08S2	Diego Garcia H	18.55	11	T	T	16 37 46.0	
	baz=190,slow=76,SNR=26						
H08S3	Diego Garcia H	18.57	11	T	T	16 38 01.0	
	baz=190,slow=76,SNR=40						
BOSA	Boshof	38.84	256	LR	LR	16 34 58.0	
	comp=Z,66nm,21.9s,baz=180,slow=32						
H01W2	Cape Leeuwin H	39.59	114	T	T	17 04 51.8	
	baz=269						
H01W3	Cape Leeuwin H	39.59	114	T	T	17 04 58.2	
	baz=269						
H01W1	Cape Leeuwin H	39.61	114	T	T	17 04 51.0	
	baz=269						
MAW	Mawson	41.79	184	P	P	16 22 22.9	+0.6
	1.8nm,0.7s,baz=352,slow=11,SNR=2.4						
	1.8nm,0.7s						
MBAR	Mbarara	44.71	298	LR	LR	16 37 55.6	
	comp=Z,32nm,20.6s,baz=136,slow=31						
CMAR	Chiang Mai Arr	52.89	36	P	P	16 23 50.0	+0.6
	1.8nm,1.0s,baz=224,slow=6.6,SNR=10						
	1.8nm,1.0s						
ASAR	Alice Springs	58.35	103	P	P	16 24 28.7	-0.2
	0.7nm,0.7s,baz=252,slow=6.2,SNR=11						
	0.7nm,0.7s						
WRA	Warramunga Arr	59.88	99	P	P	16 24 39.4	-0.1
	1.1nm,0.9s,baz=252,slow=6.0,SNR=4.8						
	1.1nm,0.9s						
QSPA	South Pole Qui	64.13	180	P	P	16 25 07.2	-0.2
	3.2nm,0.8s,baz=242,slow=0.8,SNR=16						
	3.2nm,0.8s						
VNDA	Vanda	65.41	166	P	P	16 25 15.1	-0.3
	1.1nm,0.8s,baz=281,slow=7.4,SNR=9.6						
	1.1nm,0.8s						
ZALV	Zalesovo Beam	80.78	9	P	P	16 26 46.0	-0.5
	1.9nm,0.8s,baz=204,slow=3.2,SNR=2.4						
	1.9nm,0.8s						
SONM	Songino Array	80.81	24	P	P	16 26 47.0	+0.1
	1.2nm,0.7s,baz=210,slow=6.1,SNR=5.1						
	1.2nm,0.7s						

*BJI **14** 16:15:44.8±0.0, 35°.89N×140°.86E, h52km, mb4.8/61, mB4.7/39, Ms4.1/49, Ms7 4.0/48*
*MOS **14** 16:15:46.1±0.9, 35°.85N×140°.73E, h49km, mb5.0/54, Error ellipse: s-maj=7.4km s-min=4.3km az=123.2*
*JMA **14** 16:15:46.7±0.2, 35°.9N±0°.4×140°.9E±0°.8, h43km±1km, MD4.6/40, MW4.7/40, NEAR CHOSHI CITY*
JMA Felt III J1 at NEAR CHOSHI CITY .
*NIED **14** 16:15:46.7, 35°.90N×140°.86E, h43km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.92; Mθθ-0.04; Mφφ-0.88; Mrθ 0.43; Mθφ-0.29; Mφr 1.23; Fault plane solution: M0 1.61000×10¹⁶ NP1: φs195.00000°, δ18.00000°, λ87.00000°. NP2:φs19.00000°, δ72.00000°, λ91.00000°.*
*NEIC **14** 16:15:47.4±2.1, 35°.89N±0°.05×140°.85E±0°.09, h40km±6km, mb4.8/188, Mww4.7 Error ellipse: s-maj=10.9km s-min=7.6km az=99.0*
*IDC **14** 16:15:47.2±0.7, 35°.82N×140°.77E, h42km±5km, mb4.4/35, mbtmp4.7/36, ML3.5/1, MS3.9/50, Error ellipse: s-maj=12.6km s-min=9.4km az=107.0*
*GCMT **14** 16:15:51.7±0.5, 35°.89N±0°.03×140°.81E±0°.04, h43km±1km, MW4.9/48, Moment Tensor Solution. s33,c39; s48,c69; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.20±.17; Mθθ-0.89±.11; Mφφ-1.32±.10; Mrθ 0.84±.11; Mθφ-0.78±.07; Mφr 0.99±.08; Best double couple: M0 2.43400×10¹⁶ NP1:φs39.00000°, δ61.00000°, λ91.00000°. NP2: φs216.00000°, δ29.00000°, λ88.00000°. Principal axes: T 2.5790, Plg74.0000°, Azm312.0000°; N -0.2950, Plg1.0000°, Azm218.0000°; P -2.2890, Plg16.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 16:15:51, 35°.90N×140°.82E, h50km, Moment Tensor Solution. Duration: 60 Moment tensor: Scale 10¹⁶Nm; Mrr0.98; Mθθ 0.01; Mφφ-0.99; Mrθ 0.25; Mθφ-0.56; Mφr 0.71; Fault plane solution: M0 1.36000×10¹⁶ NP1: φs208.00000°, δ28.00000°, λ97.00000°. NP2:φs21.00000°, δ62.00000°, λ86.00000°. Principal axes: T 1.2149, Plg73.0000°, Azm282.0000°; N 0.2549, Plg3.0000°, Azm22.0000°; P -1.4698, Plg17.0000°, Azm113.0000°:*

ISC 14 16:15:47.2±0.4, 35°.86N±0°.03×140°.77E±0°.04, h49km±2km, h49km:pP-P, n665, σ1°42/612, mb4.8/197, MS4.0/70, 18C-18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.17	156	P	Pn	16 15 54.0	-1.3
CHOJ				S	Sn	16 15 59.7	-1.4
CHOJ	Chosi	0.17	156	A	A	16 15 54.0	
	comp=E,132nm,1.9s,comp=E,74nm,1.6s						
JIHU	Itakohorinouch	0.22	297	⇓P	Pn	16 15 55.4	-0.2
JIHU	Itakohorinouch	0.22	297	A	A	16 15 55.4	
	comp=E,390nm,1.4s,comp=E,200nm,0.8s						
JSMT	Sammumatsuo	0.34	230	⇓P	Pn	16 15 57.1	+0.5
JSMT				⇓S	Sn	16 16 03.9	+0.5
JSMT	Sammumatsuo	0.34	230	A	A	16 15 57.1	
	comp=E,274nm,1.0s,comp=E,157nm,0.9s						
JHYU	Hitachinakayam	0.50	343	⇓P	Pn	16 15 57.6	-0.8
JHYU				⇓eS	Sn	16 16 05.5	-0.9
JHYU	Hitachinakayam	0.50	343	A	A	16 15 57.6	
	comp=E,75nm,0.4s,comp=E,59nm,0.8s						
JYT	Yasato	0.59	308	⇓P	Pn	16 15 59.1	-0.5
JYT	Yasato	0.59	308	A	A	16 15 59.1	
	comp=E,86nm,0.4s,comp=E,75nm,0.3s						
JCN	Nagara	0.64	226	A	A	16 16 00.5	
	comp=E,159nm,1.0s,comp=E,149nm,2.5s						
I30JP	ISUMI INFRASON	0.67	214	P	Pn	16 16 02.6	+2.1
	baz=38,slow=12,SNR=0.1						
JHO	Hitachi	0.76	348	⇓P	Pn	16 16 00.8	-0.9
JHO				⇓S	Sn	16 16 11.1	-1.2
JHO	Hitachi	0.76	348	A	A	16 16 00.8	
	comp=E,20nm,1.0s,comp=E,19nm,0.4s						
JKUC	kamogawauchiur	0.84	214	A	A	16 16 03.3	
	comp=E,35nm,3.3s,comp=E,35nm,0.9s						
TOK	Tokyo	0.84	258	A	A	16 16 03.4	
	comp=E,58nm,0.5s,comp=E,67nm,2.0s						
BSO3	Boso 3	1.08	191	P	Pn	16 16 06.5	+0.7
TATJ	Tateyama 2	1.10	221	A	A	16 16 07.1	
	comp=E,50nm,3.4s,comp=E,49nm,4.0s						
JYO	Yokosk	1.10	235	A	A	16 16 07.3	
	comp=E,39nm,1.8s,comp=E,57nm,3.9s						
JAG	Ashikaga	1.21	298	⇓P	Pn	16 16 07.8	+0.1
JAG	Ashikaga	1.21	298	A	A	16 16 07.8	
	comp=E,8.0nm,1.6s,comp=E,8.0nm,2.3s						
JHU	Hanno	1.21	270	A	A	16 16 08.7	
	comp=E,14nm,1.9s,comp=E,8.0nm,0.7s						
BSO1	Boso 1	1.22	172	P	Pn	16 16 06.9	-0.4
JFFD	Fukushimafurud	1.24	352	A	A	16 16 07.7	
	comp=E,26nm,0.8s,comp=E,29nm,0.7s						
JSGW	Sagamiharawaka	1.30	259	A	A	16 16 10.1	
	comp=E,11nm,1.2s,comp=E,11nm,3.4s						
JSB	Shiboa	1.30	328	A	A	16 16 09.1	
	comp=E,29nm,2.1s,comp=E,33nm,3.1s						
JOD2	Odawara 2	1.50	247	A	A	16 16 13.0	
	comp=E,13nm,2.6s,comp=E,12nm,1.7s						
JFK	Kawauchi	1.50	3	A	A	16 16 11.3	
	comp=E,8.0nm,2.2s,comp=E,6.0nm,0.7s						
JRY	Ryogami san	1.52	276	A	A	16 16 13.3	
	comp=E,8.0nm,3.3s,comp=E,7.0nm,1.2s						
JIM2	Oshima 3	1.58	224	A	A	16 16 14.2	
	comp=E,18nm,1.3s,comp=E,22nm,0.7s						
JHTM	Izuhatsuma	1.70	238	A	A	16 16 15.9	
	comp=E,20nm,1.1s,comp=E,23nm,1.5s						
JFY	Yanaizu	1.76	331	A	A	16 16 15.8	
	comp=E,9.0nm,2.1s,comp=E,7.0nm,7.5s						
JTHY	Toshimahigashi	1.81	223	A	A	16 16 17.4	
	comp=E,15nm,3.5s,comp=E,14nm,2.4s						
JFNN	Fujinakano	1.83	249	A	A	16 16 17.7	
	comp=E,14nm,2.9s,comp=E,13nm,3.7s						
JYN	Shimob	1.85	259	A	A	16 16 18.0	
	comp=E,9.0nm,5.6s,comp=E,10.0nm,3.8s						
JGK	Kuni	1.86	293	A	A	16 16 17.8	
	comp=E,6.0nm,1.0s,comp=E,8.0nm,3.1s						
JMST	Minamisoumatoc	1.86	3	A	A	16 16 16.4	
	comp=E,12nm,1.6s,comp=E,8.0nm,0.8s						
JIZS	Izushimoda	1.93	234	A	A	16 16 19.1	
	comp=E,5.0nm,4.3s,comp=E,7.0nm,2.9s						
JUON	Uonuma	1.93	315	A	A	16 16 18.4	
	comp=E,5.0nm,4.3s,comp=E,4.0nm,6.2s						
JMM	Marumori	2.00	0		Pn	16 16 17.9	-0.6
JMM	Marumori	2.00	0	P	Pn	16 16 19.0	+0.5
JMM	Marumori	2.00	0	A	A	16 16 18.5	
	comp=E,9.0nm,1.4s,comp=E,11nm,0.8s						
JMYK	Miyake Tsubota	2.06	210	A	A	16 16 20.9	
	comp=E,9.0nm,1.2s,comp=E,8.0nm,2.9s						
JYAR	Yonezawaarcadi	2.11	346	A	A	16 16 20.3	
	comp=E,12nm,1.5s,comp=E,15nm,1.1s						

JKA	**Kamikawa-asahi**	**8.36**	**9**			**Pn**	**16 17 43.4**	**-2.3**
NMR	**Nemuro--Hokkai**	**8.41**	**26**	*e*	P	**Pn**	**16 17 42.5**	**-3.9**
JNU	**Nakatsue**	**8.61**	**254**			**Pn**	**16 17 50.7**	**+1.4**
JNU	**Nakatsue**	**8.61**	**254**		P	**Pn**	**16 17 52.8**	**+3.5**
	50nm,1.0s							
JCJ	**Chichijima**	**8.82**	**172**		P	**Pn**	**16 17 49.1**	**-3.1**
	131nm,0.3s,baz=2.7,slow=20,SNR=45							
JCJ					S	Sn	16 19 19.7	-10
	160nm,0.3s,baz=273,slow=23,SNR=8.7							
JCJ	**Chichijima**	**8.82**	**172**			**Pn**	**16 17 49.2**	**-2.9**
JCJ	**Chichijima**	**8.82**	**172**		P	**Pn**	**16 17 49.5**	**-2.6**
RUSJ	**Misakicho**	**8.92**	**21**	⇓ *e*	P	**Pn**	**16 17 50.5**	**-2.8**
YUK	**Yuzh-Kuril'sk**	**9.05**	**24**	*c i*	P	**Pn**	**16 17 52.4**	**-2.7**
YUK					pmax	pmax		
	comp=N,108nm,0.3s							
YUK					pmax	pmax		
	comp=Z,240nm,0.3s							
YUK					pmax	pmax		
	comp=E,133nm,0.4s							
JTU	**Tsushima**	**9.40**	**265**		Pn	**Pn**	**16 17 59.2**	**-0.8**
JTU	**Tsushima**	**9.40**	**265**		P	**Pn**	**16 18 03.5**	**+3.5**
	comp=E,54nm,1.5s							
MSHR	**Mys Shultsa**	**10.03**	**315**	*ce*	P	**Pn**	**16 18 09.5**	**+1.0**
MSHR					pmax	pmax		
	comp=Z,51nm,1.7s							
KSRS	**Korea Array**	**10.45**	**283**		P	Pn	16 18 19.1	+4.9
	comp=Z,5.1nm,0.5s,baz=97,slow=14,SNR=17							
KSRS					LR	LR	16 22 21.9	
	comp=Z,577nm,21.0s,baz=95,slow=38							
KSAR	**Wonju Array Be**	**10.47**	**282**		Pn	**Pn**	**16 18 13.1**	**-1.6**
KSAR	**Wonju Array Be**	**10.47**	**282**		P	**Pn**	**16 18 13.1**	**-1.6**
KS19	**Wonju Array Si**	**10.49**	**283**			**Pn**	**16 18 15.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**10.70**	**324**		P	**Pn**	**16 18 20.6**	**+2.8**
	comp=Z,17nm,0.7s,baz=138,slow=12,SNR=31							
USRK					LR	LR	16 22 10.0	
	comp=Z,750nm,19.6s,baz=133,slow=36							
USRK	**Ussuriysk Ar.**	**10.70**	**324**			**Pn**	**16 18 18.5**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.70**	**324**		P	**Pn**	**16 18 18.5**	**+0.8**
USA0B	**Ussuriysk Arra**	**10.70**	**324**			**Pn**	**16 18 19.1**	**+1.4**
USA0B	**Ussuriysk Arra**	**10.70**	**324**	*i*	P	**Pn**	**16 18 18.8**	**+1.1**
KUR	**Kuril'sk**	**10.80**	**28**	*e*	P	**Pn**	**16 18 16.8**	**-2.2**
KUR					pmax	pmax		
	comp=Z,58nm,0.5s							
KUR					MLR	MLR		
	comp=Z,500nm,20.0s							
TJN	**Taejon**	**10.86**	**277**	*i*	P	**Pn**	**16 18 22.0**	**+2.1**
YSS	**Yuzh-Sakhalins**	**11.18**	**7**		Pn	**Pn**	**16 18 21.7**	**-2.5**
YSS	**Yuzh-Sakhalins**	**11.18**	**7**		P	**Pn**	**16 18 23.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**11.18**	**7**	*e*	P	**Pn**	**16 18 21.5**	**-2.7**
YSS					pmax	pmax		
	comp=Z,40nm,0.8s							
MDJ	**Mudanjiang**	**12.21**	**319**			**Pn**	**16 18 38.9**	**+0.6**
JOW	**Kunigami**	**13.96**	**233**		LR	LR	16 24 22.7	
	comp=Z,277nm,21.4s,baz=102,slow=37							
JOW	**Kunigami**	**13.96**	**233**		Pn	**Pn**	**16 19 02.6**	**+0.4**
JOW	**Kunigami**	**13.96**	**233**		P	**Pn**	**16 19 04.9**	**+2.6**
BNX	**BinXian**	**14.12**	**318**	⇓	P	**Pn**	**16 19 04.0**	**-0.3**
BNX					pmax	pmax		
	comp=Z,17nm,0.9s							
BNX					pmax	pmax		
	comp=Z,97nm,4.6s							
SNY	**Shenyang**	**14.65**	**299**	⇓	P	**Pn**	**16 19 13.1**	**+1.7**
SNY					pP	P	16 19 25.8	+9.2
SNY					sP		16 19 33.0	
SNY					pmax	pmax		
	comp=Z,34nm,0.7s							
SNY					pmax	pmax		
	comp=Z,270nm,5.0s							
SNY					LR	LR		
	comp=Z,440nm,14.5s							
SNY					LR	LR		
	comp=Z,560nm,14.5s							
SNY					LR	LR		
	comp=Z,780nm,16.0s							
KLR	**Kul'dur**	**14.90**	**336**		P	**Pn**	**16 19 12.6**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=169,slow=14,SNR=3.7							
KLR					LR	LR	16 24 52.1	
	comp=Z,387nm,19.0s,baz=152,slow=36							
KLR	**Kul'dur**	**14.90**	**336**	*i*	P	**Pn**	**16 19 14.7**	**0.0**
KLR					pmax	pmax		
	comp=Z,3.0nm,0.4s							
TYV	**Tymovskoe**	**15.05**	**5**	*e*	P	**P**	**16 19 21.6**	**+0.6**
TYV				*e*	S	**S**	**16 22 12.1**	**-5.3**
TYV					pmax	pmax		
	comp=Z,200nm,2.3s							
TYV					pmax	pmax		
	comp=Z,28nm,0.7s							
TYV					smax	smax		
	comp=E,300nm,2.5s							
TYV					smax	smax		
	comp=N,10.0nm,1.8s							
GRNR	**Gornyy**	**15.23**	**349**	⇓ *i*	P	**Pn**	**16 19 18.2**	**-0.7**
GRNR					pmax	pmax		
	comp=Z,4.0nm,0.9s							
GRNR					MLR	MLR		
	comp=E,260nm,15.0s							
JMJ	**Miyako jima 2**	**17.29**	**235**		P	**P**	**16 19 46.6**	**+0.7**
HEH	**HeiHe**	**17.34**	**330**	*e*	P	**Pn**	**16 19 42.9**	**-2.6**
HEH					LR	LR		
	comp=E,290nm,13.9s							
HEH					LR	LR		
	comp=E,310nm,12.9s							
HEH					LR	LR		
	comp=E,530nm,16.9s							
NJ2	**Nanjing**	**18.57**	**265**	*e*	P	**Pn**	**16 20 00.8**	**+0.1**
NJ2					pmax	pmax		
	comp=E,13nm,0.5s							
NJ2					pmax	pmax		
	comp=E,120nm,5.2s							
NJ2					LR	LR		
	comp=E,450nm,20.4s							
NJ2					LR	LR		
	comp=E,470nm,19.9s							
NJ2					LR	LR		
	comp=E,690nm,20.4s							
YOJ	**Yonaguni jima**	**19.07**	**238**		P	**P**	**16 20 03.5**	**-2.1**
YOJ	**Yonaguni jima**	**19.07**	**238**		P	**P**	**16 20 03.3**	**-2.2**
YOJ	**Yonaguni jima**	**19.07**	**238**		P	**P**	**16 20 03.5**	**-2.1**
YOJ					pmax	pmax		
	comp=Z,20nm,0.7s							
TIA	**Tai'an**	**19.12**	**278**		P	**P**	**16 20 04.9**	**-1.2**
TIA					S	**S**	**16 23 35.8**	**-4.5**
TIA					pmax	pmax		
	comp=Z,15nm,0.9s							
TIA					pmax	pmax		
	comp=Z,150nm,3.7s							
TIA					LR	LR		
	comp=Z,240nm,18.2s							
TIA					LR	LR		
	comp=Z,290nm,17.8s							
TIA					LR	LR		
	comp=Z,490nm,27.5s							
BJI	**Beijing**	**19.82**	**290**		P	**P**	**16 20 14.0**	**+0.4**
BJI					pP	**pP**	**16 20 24.4**	**-0.6**
BJI					sP	**sP**	**16 20 29.8**	**-1.4**
BJI					pmax	pmax		
	comp=Z,14nm,0.8s							
BJT	**Baijiatuau**	**19.82**	**289**		P	**P**	**16 20 12.5**	**-1.2**
BJT	**Baijiatuau**	**19.82**	**289**		P	**P**	**16 20 12.5**	**-1.2**
BJT					pmax	pmax		
	comp=Z,30nm,1.1s							
YHNB	**Yeheng**	**20.09**	**242**		P	**P**	**16 20 14.7**	**-2.0**
YHNB	**Yeheng**	**20.09**	**242**		P	**P**	**16 20 17.2**	**+0.4**
ZEA	**Zeya**	**20.22**	**336**	*e*	P	**P**	**16 20 16.1**	**-1.8**
ZEA					pmax	pmax		
	comp=N,20nm,0.9s							
ZEA					pmax	pmax		
	comp=Z,30nm,0.8s							
ZEA					MLR	MLR		
	comp=N,100nm,11.0s							
ZEA					MLR	MLR		
	comp=Z,100nm,15.0s							
NACB	**Ninganchiao**	**20.24**	**240**		P	**P**	**16 20 14.9**	**-3.4**
NACB	**Ninganchiao**	**20.24**	**240**		P	**P**	**16 20 16.8**	**-1.5**
XLT	**XiLinHaoTe**	**20.52**	**301**	⇓ *i*	P	**P**	**16 20 20.0**	**-1.4**
XLT					sP	pP	16 20 35.6	+2.8
XLT					S	Sn	16 24 12.1	-2.4
XLT					pmax	pmax		
	comp=Z,20nm,0.6s							
XLT					pmax	pmax		
	comp=Z,160nm,4.6s							
XLT					LR	LR		
	comp=Z,480nm,15.2s							
XLT					LR	LR		
	comp=Z,570nm,18.1s							
SSLB	**Suanglung**	**20.94**	**240**		P	**P**	**16 20 24.2**	**-1.8**
SSLB	**Suanglung**	**20.94**	**240**		P	**P**	**16 20 24.0**	**-1.9**
YULB	**Yu-li**	**20.95**	**239**		P	**P**	**16 20 23.3**	**-2.7**
YULB	**Yu-li**	**20.95**	**239**		P	**P**	**16 20 23.9**	**-2.1**
HNS	**HongShan**	**20.96**	**282**	⇓	P	**P**	**16 20 24.1**	**-1.8**
HNS					pP	**pP**	**16 20 33.4**	**-4.0**
HNS					PP	**PnPn**	**16 20 48.8**	**+2.7**
HNS				*e*	S	**S**	**16 24 09.8**	**-6.9**
HNS					pmax	pmax		
	comp=Z,37nm,0.7s							
HNS					LR	LR		
	comp=Z,180nm,16.3s							
HNS					LR	LR		
	comp=Z,380nm,21.0s							
HNS					LR	LR		
	comp=Z,380nm,22.6s							
PEA0B	**Petropavlovsk-**	**20.96**	**29**	*ce*	P	**P**	**16 20 27.2**	**+1.4**
PETK	**Petropavlovsk-**	**20.96**	**29**		P	**P**	**16 20 27.0**	**+1.2**
	comp=Z,9.4nm,0.9s,baz=232,slow=1.6,SNR=7.4							
PETK					LR	LR	16 28 25.6	
	comp=Z,65nm,20.9s,baz=216,slow=36							
	comp=Z,9.4nm,0.9s							
PET	**Petropavlovsk**	**21.28**	**31**	*e*	P	P	16 20 37.7	+8.4
PET				*e*	S	Sn	16 24 29.4	-2.9
PET					pmax	pmax		
	comp=Z,100nm,5.4s							
PET					MLR	MLR		
	comp=Z,200nm,19.0s							
TPUB	**Ta-pu**	**21.48**	**240**		P	**P**	**16 20 29.0**	**-2.7**
TPUB	**Ta-pu**	**21.48**	**240**		P	**P**	**16 20 30.0**	**-1.7**
TWG	**Pinlang**	**21.48**	**238**		P	**P**	**16 20 29.5**	**-2.2**
TWG					lAmb	lAmb	16 20 36.6	
	comp=Z,18nm,0.5s							
WHN	**Wuhan**	**22.70**	**264**	⇑	P	**P**	**16 20 44.5**	**-0.2**
WHN					S	**S**	**16 24 47.4**	**-2.2**
WHN					LR	LR		
	comp=Z,540nm,13.3s							
WHN					LR	LR		
	comp=Z,440nm,7.0s							
WHN					LR	LR		
	comp=Z,1μm,23.4s							
LYN	**LuoYang**	**23.14**	**275**	⇑	P	**P**	**16 20 46.9**	**-2.2**
LYN					pP	pP	16 20 59.8	-1.1
LYN					S	**S**	**16 24 50.4**	**-6.4**
LYN					pmax	pmax		
	comp=Z,10.0nm,0.8s							
LYN					pmax	pmax		
	comp=Z,60nm,6.2s							
LYN					LR	LR		
	comp=Z,280nm,19.9s							
LYN					LR	LR		
	comp=Z,240nm,23.9s							
LYN					LR	LR		
	comp=Z,380nm,25.3s							
HHC	**Hu-ho-hao-te**	**23.38**	**291**	*e*	P	**P**	**16 20 52.4**	**+0.8**
HHC					pmax	pmax		
	comp=Z,150nm,4.6s							
HHC					LR	LR		
	comp=Z,320nm,14.9s							
HHC					LR	LR		
	comp=Z,340nm,16.9s							
MA2	**Magadan**	**24.60**	**12**		P	**P**	**16 21 03.1**	**+0.6**
	comp=Z,16nm,0.6s,baz=193,slow=10,SNR=9.9							
MA2					LR	LR	16 32 11.3	
	comp=Z,107nm,18.1s,baz=192,slow=40							
	comp=Z,16nm,0.6s							
MA2	**Magadan**	**24.60**	**12**		P	**P**	**16 21 02.3**	**-0.2**
MA2					lAmb	lAmb	16 21 05.3	
	comp=Z,51nm,1.1s							
MA2	**Magadan**	**24.60**	**12**	*i*	P	**P**	**16 21 03.9**	**+1.4**
MA2					pmax	pmax		
	comp=Z,20nm,0.9s							
XAN	**Xi'an**	**26.11**	**275**	⇓	P	**P**	**16 21 16.1**	**-0.4**
XAN					pP	pP	16 21 30.8	+1.6
XAN					sP	sP	16 21 37.6	+2.5
XAN					pmax	pmax		
	comp=Z,20nm,0.8s							
XAN					LR	LR		
	comp=Z,270nm,19.9s							
XAN					LR	LR		
	comp=Z,240nm,22.0s							
XAN					LR	LR		
	comp=Z,380nm,22.7s							
ENH	**Enshi**	**26.74**	**267**		P	**P**	**16 21 20.9**	**-1.2**
ENH					lAmb	lAmb	16 21 28.2	
	comp=Z,28nm,0.7s							
YAK	**Yakutsk**	**27.10**	**349**		P	**P**	**16 21 25.3**	**+0.3**
	comp=Z,8.9nm,0.4s,baz=166,slow=0.7,SNR=16							
YAK					LR	LR	16 32 17.9	
	comp=Z,250nm,19.8s,baz=244,slow=36							
	comp=Z,8.9nm,0.4s							
YAK	**Yakutsk**	**27.10**	**349**		P	**P**	**16 21 23.0**	**-2.0**
YAK					lAmb	lAmb	16 21 26.0	
	comp=Z,26nm,0.9s							
YAK	**Yakutsk**	**27.10**	**349**	*e*	P	**P**	**16 21 24.8**	**-0.2**
YAK				*e*	*PP	**pP**	**16 21 38.1**	**+0.3**
YAK				*e*			16 22 09.9	
YAK				*e*	S	**S**	**16 25 58.7**	**-0.8**
YAK				*e*	*SS	**sS**	**16 26 22.9**	**+1.9**
YAK				*e*	SS	**SnSn**	**16 27 13.3**	**+3.4**
YAK					pmax	pmax		
	comp=Z,30nm,1.0s							
YAK					pmax	pmax		
	comp=N,12nm,1.0s							
YAK					pmax	pmax		
	comp=E,3.0nm,0.9s							
YAK					pmax	pmax		
	comp=Z,51nm,2.3s							
YAK					pmax	pmax		
	comp=N,55nm,2.3s							
YAK					pmax	pmax		
	comp=E,48nm,2.7s							
YAK					smax	smax		
	comp=N,51nm,2.3s							
YAK					smax	smax		
	comp=E,45nm,2.3s							
YAK					MLR	MLR		
	comp=Z,249nm,19.0s							
YAK					MLR	MLR		
	comp=N,189nm,19.0s							
ULN	**Ulaanbaatar**	**27.61**	**306**		P	**P**	**16 21 28.7**	**-1.2**
ULN					lAmb	lAmb	16 21 33.3	
	comp=Z,22nm,1.3s							
ULN	**Ulaanbaatar**	**27.61**	**306**	*ce*	P	**P**	**16 21 30.5**	**+0.6**
ULN					pmax	pmax		
	comp=Z,22nm,1.7s							
H11N2	**WAKE ISLAND Hy**	**28.02**	**118**		T	T	16 50 44.9	
	baz=311,slow=75,SNR=140							
SONM	**Songino Array**	**28.03**	**306**		P	**P**	**16 21 34.2**	**+0.5**
	comp=Z,7.3nm,0.6s,baz=104,slow=8.9,SNR=36							
SONM					LR	LR	16 33 12.2	
	comp=Z,301nm,18.9s,baz=136,slow=37							
	comp=Z,7.3nm,0.6s							
SONM	**Songino Array**	**28.03**	**306**		P	**P**	**16 21 33.5**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**28.03**	**118**		T	T	16 50 48.1	
	baz=311,slow=75,SNR=236							
SEY	**Seymchan**	**28.04**	**11**		P	**P**	**16 21 34.6**	**+1.2**
	comp=Z,4.5nm,0.7s,baz=201,slow=9.0,SNR=9.9							
	comp=Z,4.5nm,0.7s							
H11N3	**WAKE ISLAND Hy**	**28.04**	**118**		T	T	16 50 49.0	
	baz=311,slow=75,SNR=174							
BOD	**Bodaibo**	**28.26**	**329**	*e*	P	**P**	**16 21 35.5**	**+0.1**
BOD					pmax	pmax		
	comp=Z,20nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**28.69**	**120**		T	T	16 51 42.0	
	baz=312,slow=75,SNR=220							
H11S3	**WAKE ISLAND Hy**	**28.69**	**120**		T	T	16 51 29.2	
	baz=312,slow=75,SNR=174							
H11S2	**WAKE ISLAND Hy**	**28.70**	**120**		T	T	16 51 30.4	
	baz=312,slow=75,SNR=195							
SHEM	**Shemya Is, Ala**	**28.86**	**44**		LR	LR	16 30 54.7	
	comp=Z,95nm,19.6s,baz=134,slow=31							
LZH	**Lanzhou**	**29.77**	**281**	*e*	P	**P**	**16 21 50.3**	**+1.0**
LZH					pP	pP	16 21 59.3	-2.8
LZH					pmax	pmax		
	comp=Z,19nm,1.5s							
LZH					LR	LR		
	comp=Z,230nm,14.1s							
LZH					LR	LR		
	comp=Z,350nm,18.9s							
LZH					LR	LR		
	comp=Z,500nm,17.2s							
GYA	**Guiyang**	**30.53**	**262**	⇑	P	**P**	**16 21 55.8**	**-0.2**
GYA					pP	pP	16 22 08.8	0.0
GYA					S	**S**	**16 26 48.8**	**-5.5**
GYA					pmax	pmax		
	comp=Z,21nm,1.0s							
GYA					LR	LR		
	comp=Z,47nm,11.2s							
GYA					LR	LR		
	comp=Z,150nm,8.8s							
GYA					LR	LR		
	comp=Z,280nm,18.1s							
QIZ	**Qiongzhong**	**31.98**	**247**		P	**P**	**16 22 06.4**	**-2.3**
QIZ					S	**S**	**16 27 19.1**	**+2.2**
QIZ					LR	LR		
	comp=Z,190nm,21.5s							
QIZ					LR	LR		
	comp=Z,220nm,17.5s							
QIZ					LR	LR		
	comp=Z,220nm,20.7s							
GTA	**Gaotai**	**32.43**	**289**	*e*	P	**P**	**16 22 12.8**	**+0.1**
GTA					PcP	**PcP**	**16 25 00.6**	**+1.6**
GTA					pmax	pmax		
	comp=Z,13nm,0.9s							
GTA					pmax	pmax		
	comp=Z,54nm,5.8s							
GTA					LR	LR		
	comp=Z,110nm,16.4s							
GTA					LR	LR		
	comp=Z,150nm,17.1s							
GTA					LR	LR		
	comp=Z,150nm,17.4s							
KMI	**Kunming**	**34.28**	**263**	⇑	P	**P**	**16 22 29.5**	**+0.5**
KMI					pP	pP	16 22 41.8	-0.2
KMI					pmax	pmax		
	comp=Z,12nm,0.6s							
KMI					LR	LR		
	comp=Z,160nm,18.0s							
KMI					LR	LR		
	comp=Z,140nm,21.8s							
PZH	**PanZhiHua**	**34.48**	**265**		P	**P**	**16 22 30.3**	**-0.3**
PZH					S	**S**	**16 28 00.6**	**+4.8**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PZH					pmax	pmax		
	comp=Z,80nm,6.5s							
PZH					LR	LR		
	comp=Z,690nm,20.6s							
PZH					LR	LR		
	comp=Z,700nm,22.1s							
PZH					LR	LR		
	comp=Z,1μm,22.6s							
BILL	**Bilibino**	**35.29**	**16**		P	**P**	**16 22 37.6**	**+0.7**
BILL					lAmb	lAmb	16 22 41.6	
	comp=Z,10nm,1.1s							
BILL	**Bilibino**	**35.29**	**16**	⇑ *e*	P	**P**	**16 22 37.4**	**+0.4**
BILL				*e*			16 23 57.4	
BILL				*e*	S	S	16 27 58.1	-9.1
BILL					pmax	pmax		
	comp=Z,25nm,2.5s							
BILL					MLR	MLR		
	comp=Z,72nm,19.0s							
TIXI	**Tiksi**	**36.39**	**354**		P	**P**	**16 22 46.5**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=127,slow=20,SNR=4.3							
	comp=Z,2.4nm,0.3s							
TIXI	**Tiksi**	**36.39**	**354**		P	**P**	**16 22 46.0**	**-0.3**
TIXI	**Tiksi**	**36.39**	**354**	*ce*	P	**P**	**16 22 47.2**	**+0.9**
TIXI					pmax	pmax		
	comp=Z,8.0nm,1.3s							
MYLDM	**Lahad Datu**	**36.78**	**219**		P	**P**	**16 22 49.6**	**-0.6**
MYLDM	**Lahad Datu**	**36.78**	**219**		P	**P**	**16 22 50.2**	**0.0**
	comp=Z,11nm,2.8s							
GOMU	**GeErMu**	**36.90**	**284**		P	**P**	**16 22 52.1**	**+0.6**
GOMU					pmax	pmax		
	comp=Z,7.0nm,0.6s							
GOMU					pmax	pmax		
	comp=Z,64nm,5.0s							
GOMU					LR	LR		
	comp=Z,110nm,14.6s							
GOMU					LR	LR		
	comp=Z,85nm,15.5s							
GOMU					LR	LR		
	comp=Z,84nm,16.9s							
TNTI	**Ternate**	**37.07**	**203**		P	**P**	**16 22 51.0**	**-1.7**
TNTI					lAmb	lAmb	16 22 54.0	
	comp=Z,14nm,0.8s							
TNTI	**Ternate**	**37.07**	**203**		P	**P**	**16 22 50.7**	**-2.0**
	comp=Z,846nmcomp=Z,19nm,0.9s							
KKM	**Kota Kinabalu**	**37.27**	**223**		P	**P**	**16 22 55.4**	**+0.9**
	comp=Z,16nm,1.1s							
SIJI	**Sorong**	**37.60**	**196**		P	**P**	**16 22 56.8**	**-0.4**
	comp=Z,12nm,0.6s,baz=8.5,slow=6.6,SNR=15							
	comp=Z,12nm,0.6s							
SIJI	**Sorong**	**37.60**	**196**		P	**P**	**16 22 56.1**	**-1.1**
	comp=Z,14nm,0.7s							
SMPI	**Sarmi**	**37.71**	**183**		P	**P**	**16 22 57.0**	**-1.0**
	comp=Z,14nm,0.8s							
SRPI	**Serui, Papua**	**37.78**	**187**		P	**P**	**16 22 58.2**	**-0.4**
LBMI	**Labuha**	**38.36**	**202**		P	**P**	**16 23 03.5**	**-0.1**
	comp=Z,24nm,0.6s							
GTOI	**Gorontalo**	**38.74**	**209**		P	**P**	**16 23 06.6**	**-0.2**
	comp=Z,13nm,0.9s							
MRSI	**Marisa**	**39.32**	**211**		P	**P**	**16 23 13.2**	**+1.6**
	comp=Z,23nm,1.1s							
FAKI	**Fak Fak**	**39.40**	**193**		P	**P**	**16 23 11.2**	**-1.0**
FAKI					lAmb	lAmb	16 23 13.8	
	comp=Z,17nm,0.6s							
FAKI	**Fak Fak**	**39.40**	**193**		P	**P**	**16 23 11.3**	**-1.0**
	comp=Z,30nm,0.8s							
FAKI	**Fak Fak**	**39.40**	**193**		P	**P**	**16 23 12.3**	**+0.1**
PHRA	**Phrae**	**39.67**	**255**		P	**P**	**16 23 15.3**	**+0.7**
SANI	**Sanana**	**40.17**	**203**		P	**P**	**16 23 16.6**	**-2.0**
	comp=Z,43nm,0.6s							
SANI	**Sanana**	**40.17**	**203**		P	**P**	**16 23 17.7**	**-0.9**
MPSI	**Mapaga**	**40.33**	**213**		P	**P**	**16 23 20.0**	**0.0**
	comp=Z,10nm,1.0s							
LUWI	**Luwuk**	**40.37**	**208**		P	**P**	**16 23 19.8**	**-0.5**
	comp=Z,56nm,1.1s							
CHTO	**Chiang Mai**	**40.51**	**257**		P	**P**	**16 23 21.1**	**-0.4**
CHTO	**Chiang Mai**	**40.51**	**257**		P	**P**	**16 23 21.1**	**-0.4**
CHTO					pmax	pmax		
	comp=Z,8.0nm,1.4s							
MSAI	**Masohi**	**40.55**	**198**		P	**P**	**16 23 20.5**	**-1.3**
	comp=Z,321nmcomp=Z,3.1nm,0.6s							
KRAI	**Karang Ratu**	**40.66**	**199**		P	**P**	**16 23 24.4**	**+1.7**
	comp=Z,72nm,0.8s							
DGZ	**Jazzator, Alta**	**40.67**	**307**	*i*	P	**P**	**16 23 23.4**	**+0.7**
DGZ					pmax	pmax		
	comp=Z,17nm,0.9s							
CM31	**Chiang Mai Arr**	**40.71**	**256**		P	**P**	**16 23 23.2**	**0.0**
CMAR	**Chiang Mai Arr**	**40.71**	**256**		P	**P**	**16 23 24.6**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=50,slow=7.3,SNR=9.9							
CMAR					PcP	**PcP**	**16 25 26.1**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=57,slow=0.2,SNR=4.6							
CMAR					LR	LR	16 41 46.9	
	comp=Z,157nm,18.8s,baz=60,slow=38							
	comp=Z,1.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**40.71**	**256**		P	**P**	**16 23 22.3**	**-0.8**
WMQ	**Urumqi**	**40.92**	**298**	*e*	P	**P**	**16 23 27.4**	**+2.7**
WMQ					pP	pP	16 23 37.6	-0.2
WMQ					pmax	pmax		
	comp=Z,50nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,120nm,5.5s							
WMQ					LR	LR		
	comp=Z,200nm,15.5s							
WMQ					LR	LR		
	comp=Z,270nm,16.9s							
WMQ					LR	LR		
	comp=Z,140nm,21.3s							
NLAI	**Namlea**	**40.95**	**201**		P	**P**	**16 23 25.8**	**+0.7**
	comp=Z,15nm,0.6s							
AAI	**Ambon**	**41.07**	**199**		P	**P**	**16 23 26.6**	**+0.5**
	comp=Z,76nm,0.7s							
RABL	**Rabaul**	**41.25**	**163**		P	**P**	**16 23 27.2**	**-0.4**
RABL					lAmb	lAmb	16 23 33.9	
	comp=Z,19nm,1.0s							
KRVT	**Kerav

ZALV Zalesovo Beam 42.33 313 P **P** **16 23 36.8 +0.8**
comp=Z,7.1nm,0.3s,baz=101,slow=8.3,SNR=48
ZALV PcP **PcP** **16 25 29.4 +0.6**
comp=Z,4.1nm,0.5s,baz=101,slow=3.6,SNR=5.6
ZALV LR LR 16 42 04.2
comp=Z,132nm,18.1s,baz=66,slow=37
comp=Z,7.1nm,0.3s
ZALV Zalesovo Beam 42.33 313 P **P** **16 23 36.1 +0.1**
ZALV Zalesovo Beam 42.33 313 *i* P **P** **16 23 37.0 +1.0**
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZSN Zaisan 42.49 304 *e*P **P** **16 23 38.0 +0.5**
comp=Z,18nm,0.9s,baz=304
ZSN Zaisan 42.49 304 *e*P **P** **16 23 37.9 +0.5**
ZSN pmax pmax
comp=Z,18nm,0.9s
SHL Shillong 42.88 270 P **P** **16 23 39.5 -1.6**
SHL Shillong 42.88 270 P **P** **16 23 39.5 -1.6**
SHL pmax pmax
comp=Z,16nm,0.3s
BKB Balikpapan 43.13 216 P **P** **16 23 40.0 -2.8**
BKB IAmb IAmb 16 23 44.0
comp=Z,31nm,0.9s
KKSI Kolaka, Sulawe 43.67 208 P **P** **16 23 48.7 +1.5**
MTKI Muara Teweh, K 43.84 219 P **P** **16 23 49.4 +0.7**
comp=Z,4µmcomp=Z,17nm,0.5s
NRIK Noril'sk 44.12 336 P **P** **16 23 51.1 +0.9**
comp=Z,3.8nm,0.3s,baz=107,slow=4.5,SNR=16
NRIK LR LR 16 43 17.8
comp=Z,153nm,19.0s,baz=130,slow=37
comp=Z,3.8nm,0.3s
NRIK Noril'sk 44.12 336 P **P** **16 23 51.1 +0.9**
NRIK IAmb IAmb 16 23 52.6
comp=Z,13nm,1.1s
NRIK Noril'sk 44.12 336*i e*P **P** **16 23 51.1 +0.9**
NRIK pmax pmax
comp=Z,12nm,1.0s
SPSI Sidrap Palu 44.24 211 P **P** **16 23 51.5 -0.3**
comp=Z,13nm,1.2s
MK31 Makanchi Array 44.31 303 P **P** **16 23 53.2 +1.1**
MK31 Makanchi Array 44.31 303*c i*P **P** **16 23 53.1 +0.9**
MKAR Makanchi Array 44.31 303 P **P** **16 23 53.3 +1.1**
comp=Z,27nm,0.7s,baz=90,slow=9.8,SNR=216
MKAR LR LR 16 43 06.7
comp=Z,208nm,18.6s,baz=82,slow=37
comp=Z,27nm,0.7s
KSM Kuching 44.37 226 P **P** **16 23 52.5 -0.4**
KSM Kuching 44.37 226 P **P** **16 23 53.0 +0.1**
BNSI Bone 44.49 210 P **P** **16 23 54.1 +0.3**
comp=Z,17nm,1.1s
MAKZ Makanchi 44.52 303 P **P** **16 23 55.0 +1.2**
MAKZ Makanchi 44.52 303 P **P** **16 23 55.0 +1.2**
MAKZ pmax pmax
comp=Z,33nm,0.9s
KAPI Kappang 45.19 210 P **P** **16 23 58.5 -0.9**
KAPI IAmb IAmb 16 24 01.0
comp=Z,13nm,0.8s
KAPI Kappang 45.19 210 P **P** **16 24 00.2 +0.8**
comp=Z,17nm,1.3s
KAPI Kappang 45.19 210 P **P** **16 23 58.5 -0.9**
KAPI pmax pmax
comp=Z,13nm,0.8s
BKSI Bulukumba 45.32 210 P **P** **16 24 00.1 -0.3**
comp=Z,15nm,0.7s
PMG Port Moresby 45.43 171 LR LR 16 40 59.6
comp=Z,90nm,21.8s,baz=10.0,slow=33
KURK Kurchatov 46.25 309 P **P** **16 24 08.0 +0.6**
KURK Kurchatov 46.25 309*ce*P **P** **16 24 08.1 +0.6**
KURK pmax pmax
comp=Z,70nm,1.3s
KURBB Kurchatov Arra 46.32 309 LR LR 16 44 15.4
comp=Z,213nm,20.3s,baz=245,slow=37
KURBB Kurchatov Arra 46.32 309 P **P** **16 24 07.7 -0.3**
N18K Kilae Creek 46.60 37 P **P** **16 24 10.6 +0.6**
N18K IAmb IAmb 16 24 26.8
comp=Z,9.4nm,0.8s
PDGK Podgornoye 46.87 299 P **P** **16 24 12.5 -0.1**
O18K Koktuh Hills 46.91 38 P **P** **16 24 12.9 +0.4**
SHLS Shalkode 46.93 299 *e*P **P** **16 24 11.3 -1.7**
comp=Z,5.5nm,0.6s,baz=298
SHLS Shalkode 46.93 299 *e*P **P** **16 24 11.3 -1.7**
SHLS pmax pmax
comp=Z,6.0nm,0.6s
L19K White Mountain 47.16 35 P **P** **16 24 15.4 +0.9**
L19K IAmb IAmb 16 24 30.4
comp=Z,8.0nm,0.9s
UZB Uzynbulak 47.25 299 *e*P **P** **16 24 15.1 -0.5**
baz=299
UZB Uzynbulak 47.25 299 *e*P **P** **16 24 15.0 -0.5**
TDK Taldyqorghan 47.28 301 *e*P **P** **16 24 16.2 +0.5**
baz=301
TDK Taldyqorghan 47.28 301 *e*P **P** **16 24 16.1 +0.5**
N19K Bonanza Creek 47.29 37 P **P** **16 24 16.3 +0.8**
N19K IAmb IAmb 16 24 28.5
comp=Z,18nm,1.3s
M19K Big River Lodg 47.37 36 P **P** **16 24 16.8 +0.8**
M19K IAmb IAmb 16 24 35.4
comp=Z,12nm,1.1s
KPKS Kokpek 47.42 299 *e*P **P** **16 24 16.6 -0.2**
comp=Z,8.1nm,0.9s,baz=299
KPKS Kokpek 47.42 299 *e*P **P** **16 24 16.5 -0.2**
KPKS pmax pmax
comp=Z,8.0nm,0.9s
MMRI Maumere 47.58 205 P **P** **16 24 17.8 -0.3**
comp=Z,47nm,1.3s
K20K Telida 47.59 34 P **P** **16 24 20.1 +2.4**
K20K IAmb IAmb 16 24 34.1
comp=Z,8.8nm,0.8s
SATY Saty 47.71 299 *e*P **P** **16 24 18.4 -0.6**
baz=299
SATY Saty 47.71 299 *e*P **P** **16 24 18.4 -0.6**
ARXS Arharly 47.85 300 *e*P **P** **16 24 21.1 +1.0**
IMAR Indian Mountai 47.92 30 P **P** **16 24 21.6 +1.4**
M20K Styx River 47.97 36 P **P** **16 24 22.8 +2.1**
SOEI Soe 47.97 202 P **P** **16 24 20.9 -0.3**
SOEI Soe 47.97 202 P **P** **16 24 20.9 -0.3**
comp=Z,69nm,1.0s
SOEI Soe 47.97 202 P **P** **16 24 21.2 -0.1**
IPM Ipoh 48.09 239 P **P** **16 24 21.8 -0.3**
IPM IAmb IAmb 16 24 23.9
comp=Z,10nm,0.7s
IPM Ipoh 48.09 239 P **P** **16 24 21.9 -0.3**
comp=Z,15nm,0.7s
H21K Melozitna Rive 48.28 31 P **P** **16 24 23.3 +0.3**
H21K IAmb IAmb 16 24 42.9
comp=Z,9.1nm,1.1s
KDAK Kodiak Island 48.32 41 P **P** **16 24 24.2 +0.9**
comp=Z,10.0nm,0.7s,baz=276,slow=5.5,SNR=6.6
KDAK LR LR 16 44 32.4
comp=Z,54nm,21.9s,baz=253,slow=36
comp=Z,10.0nm,0.7s
KDAK Kodiak Island 48.32 41 P **P** **16 24 23.9 +0.6**
PPLA Purkeypile 48.42 34 P **P** **16 24 25.9 +1.6**
SPU Mount Spurr 48.48 37 P **P** **16 24 26.3 +1.6**
CAST Castle Rocks 48.48 34 P **P** **16 24 26.3 +1.7**
CAST IAmb IAmb 16 24 40.6
comp=Z,7.7nm,0.8s
CHKK Chushkaly 48.53 300 *e*P **P** **16 24 25.9 +0.7**
baz=300
CHKK Chushkaly 48.53 300 *e*P **P** **16 24 25.9 +0.7**
HNR Honiara 48.55 154 LR LR 16 43 20.0
comp=Z,764nm,21.7s,baz=329,slow=34
BATI Baumata 48.58 203 P **P** **16 24 25.7 -0.2**
comp=Z,61nm,0.6s
SKT Skwentna 48.72 36 P **P** **16 24 27.6 +1.2**
SKT IAmb IAmb 16 24 38.3
comp=Z,11nm,1.2s
KUU Kurty 48.97 300 *e*P **P** **16 24 28.5 -0.1**
baz=300
KUU Kurty 48.97 300 *e*P **P** **16 24 28.5 -0.1**
BPAW Bear Paw Mtn. 48.98 33 P **P** **16 24 29.9 +1.4**
BPAW IAmb IAmb 16 25 04.5
comp=Z,12nm,1.3s
KTH Kantishna Hill 49.01 33 P **P** **16 24 29.8 +1.1**
KTH IAmb IAmb 16 24 45.1
comp=Z,14nm,1.0s
SUA Susitna One 49.10 36 P **P** **16 24 30.2 +0.7**
MLY Manley 49.12 31 P **P** **16 24 31.7 +2.2**
MLY IAmb IAmb 16 24 46.9
comp=Z,6.6nm,0.8s
TRF Thorofare Moun 49.29 34 P **P** **16 24 31.6 +0.6**
TRF IAmb IAmb 16 24 41.0
comp=Z,16nm,1.3s
MTN Manton Dam 49.29 192 P **P** **16 24 31.3 0.0**
MTN Manton Dam 49.29 192 P **P** **16 24 31.4 +0.2**
PLAI Plampang 49.45 211 P **P** **16 24 30.3 -2.2**
comp=Z,23nm,1.0s
PLAI Plampang 49.45 211 P **P** **16 24 31.1 -1.4**
KMMI Kalianget 49.57 216 P **P** **16 24 30.9 -2.5**
comp=Z,2µmcomp=Z,15nm,1.2s
COEN Coen 49.60 177 P **P** **16 24 34.7 +1.1**
COEN IAmb IAmb 16 24 57.4
comp=Z,8.0nm,0.8s
COEN Coen 49.60 177 P **P** **16 24 35.0 +1.4**
RC01 Rabbit Creek A 49.60 37 P **P** **16 24 34.2 +1.0**
BOOM Boomskoye usch 49.61 298 P **P** **16 24 35.4 +1.7**
BOOM IAmb IAmb 16 24 42.5
comp=Z,9.8nm,0.8s
BOOM Boomskoye usch 49.61 298 P **P** **16 24 35.4 +1.7**
BOOM pmax pmax
comp=Z,10.0nm,0.9s
H23K Yukon River 49.63 30 P **P** **16 24 35.7 +2.3**
H23K IAmb IAmb 16 24 51.2
comp=Z,7.9nm,0.9s
I23K Minto, Yukon-K 49.70 31 P **P** **16 24 35.4 +1.5**
I23K IAmb IAmb 16 24 56.4
comp=Z,12nm,1.3s
TKM2 Tokmak 2 49.74 299 P **P** **16 24 36.6 +1.9**
SNR=22
TKM2 Tokmak 2 49.74 299 P **P** **16 24 36.1 +1.3**
TOLK Toolik Lake Re 49.75 27 P **P** **16 24 35.7 +1.5**
TWSI Taliwang, Sumb 49.75 212 P **P** **16 24 33.5 -1.3**
comp=Z,17nm,1.2s
SEW Seward 49.80 38 P **P** **16 24 34.5 -0.1**
KLNI Mataram 49.81 213 P **P** **16 24 35.2 0.0**
comp=Z,42nm,1.1s
NEA2 Nenana 49.82 32 P **P** **16 24 35.7 +0.9**
NEA2 IAmb IAmb 16 24 50.5
comp=Z,12nm,1.1s
NRN Naryn 49.85 297 P **P** **16 24 36.8 +1.1**
NRN IAmb IAmb 16 24 40.2
comp=Z,12nm,1.0s
NRN Naryn 49.85 297 P **P** **16 24 36.8 +1.1**
NRN pmax pmax
comp=Z,12nm,1.0s
SRBI Singaraja 49.90 214 P **P** **16 24 37.3 +1.4**
comp=Z,27nm,0.8s
RND Reindeer 49.94 34 P **P** **16 24 35.9 +0.1**
RND IAmb IAmb 16 25 00.9
comp=Z,14nm,1.4s
RND Reindeer 49.94 34 P **P** **16 24 35.9 +0.1**
RND pmax pmax
comp=Z,14nm,1.4s
BRZS Berezniki 50.13 309 *e*P **P** **16 24 37.2 -0.2**
comp=Z,4.5nm,0.4s,baz=309
BRZS Berezniki 50.13 309 *e*P **P** **16 24 37.1 -0.2**
BRZS pmax pmax
comp=Z,4.0nm,0.4s
MDM Murphy Dome 50.18 32 P **P** **16 24 39.2 +1.7**
MDM IAmb IAmb 16 24 54.9
comp=Z,12nm,0.9s
KNK Knik Glacier 50.20 36 P **P** **16 24 38.2 +0.5**
KNK IAmb IAmb 16 25 02.2
comp=Z,20nm,1.1s
SML Sawmill 50.24 36 P **P** **16 24 38.0 -0.1**
SML IAmb IAmb 16 25 09.3
comp=Z,22nm,1.2s
SML Sawmill 50.24 36 P **P** **16 24 37.0 -1.1**
SML pmax pmax
comp=Z,89nm,1.9s
WRH Wood River Hil 50.25 32 P **P** **16 24 38.2 +0.2**
KBK Karagaybulak 50.27 299 P **P** **16 24 40.4 +1.7**
SNR=16
SGDS Sogindy 50.28 300 *e*P **P** **16 24 38.8 0.0**
comp=Z,4.3nm,0.8s,baz=300
SGDS Sogindy 50.28 300 *e*P **P** **16 24 38.7 0.0**
SGDS pmax pmax
comp=Z,4.0nm,0.8s
BTLS Baital 50.29 302 *e*P **P** **16 24 39.1 +0.4**
comp=Z,8.0nm,0.7s,baz=302
BTLS Baital 50.29 302 *e*P **P** **16 24 39.0 +0.4**
BTLS pmax pmax
comp=Z,8.0nm,0.7s
PWL Port Wells 50.30 37 P **P** **16 24 36.6 -1.9**
CHMS Chumysh 50.32 299 P **P** **16 24 39.5 +0.6**
SNR=5.5
H24K Noodor Dome 50.32 30 P **P** **16 24 41.0 +2.4**
H24K IAmb IAmb 16 24 56.5
comp=Z,6.9nm,1.0s
CCB Clear Creek Bu 50.37 32 P **P** **16 24 39.6 +0.8**
KSH Kashi 50.42 295 P **P** **16 24 45.1 +5.3**
KSH sP sP 16 25 02.9 +3.9
KSH pmax pmax
comp=Z,10.0nm,0.9s
USP Ospenovka 50.42 300 P **P** **16 24 41.0 +1.3**
SNR=11
POKR Poker Plat Res 50.52 31 P **P** **16 24 41.7 +1.7**
AAK Ala-Archa 50.60 299 P **P** **16 24 42.5 +1.3**
SNR=7.5
AAK Ala-Archa 50.60 299 LR LR 16 47 27.0
comp=Z,249nm,19.5s,baz=74,slow=38
AAK Ala-Archa 50.60 299 P **P** **16 24 42.2 +1.1**
AAK IAmb IAmb 16 24 50.2
comp=Z,8.2nm,0.9s
AAK Ala-Archa 50.60 299 *i* P **P** **16 24 42.5 +1.3**
SNR=9.7
AAK Ala-Archa 50.60 299*ce*P **P** **16 24 42.0 +0.8**
AAK pmax pmax
comp=Z,6.0nm,0.8s
DHY Denali Highway 50.62 34 P **P** **16 24 41.9 +0.9**
DHY IAmb IAmb 16 24 49.7
comp=Z,11nm,1.4s
UCH Uchtor 50.70 299 P **P** **16 24 44.0 +1.8**
SNR=9.1
SCM Sheep Creek Mo 50.72 36 P **P** **16 24 43.2 +1.5**
SCM Sheep Creek Mo 50.72 36 P **P** **16 24 43.2 +1.5**
SCM pmax pmax
comp=Z,35nm,1.2s
HDA Harding Lake 50.75 32 P **P** **16 24 42.7 +0.9**
HDA IAmb IAmb 16 25 01.1
comp=Z,12nm,1.0s
IL31 50.76 32 P **P** **16 24 42.7 +0.9**
IL31 IAmb IAmb 16 24 56.6
comp=Z,7.8nm,0.7s
ILAR Eielson Array 50.76 32 P **P** **16 24 42.7 +0.8**
comp=Z,5.1nm,0.7s,baz=266,slow=5.6,SNR=47
ILAR pP **pP** **16 24 55.3 0.0**
comp=Z,7.0nm,0.7s,baz=269,slow=6.0,SNR=17
comp=Z,5.1nm,0.7s
BVAR Borovoye Array 50.98 313 LR LR 16 47 33.1
comp=Z,131nm,19.0s,baz=91,slow=37
BRVK Borovoye 51.04 313 P **P** **16 24 45.0 +0.9**
BRVK IAmb IAmb 16 24 46.2
comp=Z,12nm,0.7s
BRVK Borovoye 51.04 313*ce*P **P** **16 24 44.5 +0.4**
BRVK pmax pmax
comp=Z,21nm,1.3s
EKS2 Erkin-Say 51.10 299 P **P** **16 24 46.2 +1.3**
SNR=6.1
M24K Tolsona, Glenn 51.24 35 P **P** **16 24 46.8 +1.2**
AML Almayashu 51.31 299 P **P** **16 24 48.7 +1.9**
SNR=44
KLU Klutina 51.41 36 P **P** **16 24 48.5 +1.5**
PAX Paxson 51.49 34 P **P** **16 24 48.6 +1.1**
PAX IAmb IAmb 16 25 11.2
comp=Z,13nm,1.3s
PAX Paxson 51.49 34 P **P** **16 24 48.6 +1.1**
PAX pmax pmax
comp=Z,13nm,1.3s
EYAK Cordova Ski Ar 51.59 37 P **P** **16 24 49.3 +1.1**
BMAR Burnt Mountain 51.60 28 P **P** **16 24 50.1 +1.9**
RIDG Independent Ri 51.71 33 P **P** **16 24 49.9 +0.8**
RIDG IAmb IAmb 16 25 02.1
comp=Z,14nm,1.4s
SDSI Sungai Dareh 51.78 234 P **P** **16 24 49.7 -0.4**
comp=Z,10nm,0.7s
PCJI Pacitan 51.93 218 P **P** **16 24 54.2 +3.0**
UGM Wanagama 52.02 219 P **P** **16 24 52.0 +0.1**
UGM Wanagama 52.02 219 P **P** **16 24 51.1 -0.8**
N25K Chitina, Valde 52.03 36 P **P** **16 24 52.5 +0.9**
N25K IAmb IAmb 16 25 03.3
comp=Z,22nm,1.4s
DOT Dot Lake 52.06 33 P **P** **16 24 52.3 +0.6**
DOT IAmb IAmb 16 25 06.5
comp=Z,6.6nm,0.8s
SCRK Sand Creek 52.07 33 P **P** **16 24 53.2 +1.3**
SCRK IAmb IAmb 16 25 06.9
comp=Z,9.2nm,0.8s
BMRM Bremner River 52.10 37 P **P** **16 24 53.2 +1.2**
BMRM IAmb IAmb 16 25 16.7
comp=Z,15nm,1.0s
J26L Joseph Creek 52.20 32 P **P** **16 24 53.4 +0.6**
MENT Mentasta 52.29 34 P **P** **16 24 55.6 +2.2**
MENT IAmb IAmb 16 25 20.4
comp=Z,16nm,1.4s
I26K Coal Creek Min 52.31 31 P **P** **16 24 53.4 0.0**
GLB Gilahina Butte 52.43 36 P **P** **16 24 55.9 +1.5**
GLB IAmb IAmb 16 25 09.4
comp=Z,20nm,1.4s
L26K Log Cabin Wild 52.45 34 P **P** **16 24 55.4 +0.9**
L26K IAmb IAmb 16 25 11.1
comp=Z,9.1nm,0.8s
KNRA Kununurra 52.51 195 P **P** **16 24 55.9 +0.6**
KNRA Kununurra 52.51 195 P **P** **16 24 56.1 +0.8**
VRDI Verde Repeater 52.62 36 P **P** **16 24 57.0 +1.0**
VRDI IAmb IAmb 16 25 05.7
comp=Z,23nm,1.4s
LEM Lembang 52.67 223 P **P** **16 24 57.3 +0.4**
comp=Z,35nm,0.6s,baz=52,slow=7.4,SNR=10
comp=Z,35nm,0.6s
LEM Lembang 52.67 223 P **P** **16 24 57.5 +0.6**
comp=Z,52nm,0.8s
GSI Gunungsitoli 52.76 239 P **P** **16 24 57.3 -0.1**
GSI Gunungsitoli 52.76 239 P **P** **16 24 56.6 -0.8**
comp=Z,22nm,0.6s
GSI Gunungsitoli 52.76 239 P **P** **16 24 57.7 +0.3**
MCARA McCarthy VSAT 52.81 36 P **P** **16 24 58.6 +1.4**
WAX Waxell Ridge 53.03 37 P **P** **16 24 59.7 +0.8**
L27K Beaver Creek, 53.13 34 P **P** **16 25 01.5 +1.9**
L27K IAmb IAmb 16 25 16.2
comp=Z,7.8nm,0.9s
BCAR Beaver Creek A 53.15 34 P **P** **16 25 01.9 +2.2**
EGAK Eagle 53.20 32 P **P** **16 25 01.3 +1.3**
EGAK IAmb IAmb 16 25 19.1
comp=Z,13nm,1.3s
M27K Edge Creek, AK 53.21 35 P **P** **16 25 02.1 +1.8**
M27K IAmb IAmb 16 25 05.8
comp=Z,15nm,1.1s
KK31 Karatay Array 53.27 301 P **P** **16 25 01.9 +1.0**
KK31 IAmb IAmb 16 25 03.1
comp=Z,14nm,0.9s
KK31 Karatay Array 53.27 301 P **P** **16 25 01.9 +1.0**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 53.27 301 P **P** **16 25 01.9 +1.0**
KKAR Karatay Array 53.27 301 P **P** **16 25 01.8 +1.0**
KKAR IAmb IAmb 16 25 03.1
comp=Z,14nm,0.9s
KKAR Karatay Array 53.27 301 P **P** **16 25 01.9 +1.0**
KASI Kota Agung 53.41 227 P **P** **16 24 59.8 -2.3**
comp=Z,20nm,0.7s
MTSU Mount Surprise 53.81 176 P **P** **16 25 06.2 +1.3**
TABL Table Mountain 53.87 37 P **P** **16 25 06.3 +1.1**
IUG luzhnay 53.90 300 *e*P **P** **16 25 06.9 +1.3**
baz=300
IUG luzhnay 53.90 300 *e*P **P** **16 25 06.9 +1.3**
BTK Batken 54.01 297 P **P** **16 25 07.2 +0.7**
BTK IAmb IAmb 16 25 27.4
comp=Z,6.9nm,0.6s
BTK Batken 54.01 297 P **P** **16 25 07.2 +0.7**
BTK pmax pmax
comp=Z,7.0nm,0.6s
DAWY Dawson 54.06 32 P **P** **16 25 07.5 +1.1**
I29M Ogilvie Camp, 54.32 31 P **P** **16 25 10.0 +1.8**
I29M IAmb IAmb 16 25 24.0
comp=Z,12nm,1.0s
NIL Nilore 54.49 289 P **P** **16 25 11.2 +1.2**
NIL IAmb IAmb 16 25 11.8
comp=Z,13nm,0.7s
NIL Nilore 54.49 289 P **P** **16 25 11.2 +1.2**
NIL pmax pmax
comp=Z,13nm,0.7s
GAR Garm 54.74 296 P **P** **16 25 12.6 +0.8**
EPYK Eagle Plains 54.80 29 P **P** **16 25 12.6 +0.9**
M30M Minto, Yukon 55.49 34 P **P** **16 25 16.2 -0.6**
M30M IAmb IAmb 16 25 21.9
comp=Z,15nm,1.5s
WB0 Warramunga Arr 55.66 187 P **P** **16 25 18.1 -0.2**
INK Inuvik 55.66 27 P **P** **16 25 19.4 +1.6**
comp=Z,4.1nm,0.6s,baz=300,slow=6.8,SNR=28
comp=Z,4.1nm,0.6s
INK Inuvik 55.66 27 **P** **16 25 19.0 +1.2**
INK IAmb IAmb 16 25 32.9
comp=Z,4.9nm,0.7s
INK Inuvik 55.66 27 P **P** **16 25 18.0 +0.2**
INK pmax pmax
comp=Z,5.0nm,0.7s
SVE Sverdlovsk 55.69 319 *e*P **P** **16 25 19.5 +1.3**
SVE pmax pmax
comp=Z,24nm,0.8s
CHGR Chuyangaron 55.70 296 P **P** **16 25 19.1 +0.4**
CHGR Chuyangaron 55.70 296 P **P** **16 25 19.1 +0.4**
CHGR pmax pmax
comp=Z,48nm,0.8s
WRAB Tennant Creek 55.82 187 P **P** **16 25 19.7 +0.2**
WRAB Tennant Creek 55.82 187*ce*P **P** **16 25 20.1 +0.6**
WRAB pmax pmax
comp=Z,9.0nm,0.7s
WR0 Warramunga Arr 55.83 187 P **P** **16 25 19.0 -0.5**
WR0 IAmb IAmb 16 25 20.6
comp=Z,16nm,0.9s
WB2 Warramunga Arr 55.83 187 P **P** **16 25 19.5 -0.1**
WB2 IAmb IAmb 16 25 20.6
comp=Z,17nm,0.9s
WRA Warramunga Arr 55.83 187 P **P** **16 25 19.4 -0.1**
comp=Z,14nm,0.8s,baz=1.7,slow=7.5,SNR=147
WRA LR LR 16 48 39.5
comp=Z,83nm,20.5s,baz=17,slow=35
comp=Z,14nm,0.8s
WRA Warramunga Arr 55.83 187 P **P** **16 25 19.2 -0.4**
CTA Charters Tower 55.89 174 LR LR 16 48 55.4
comp=Z,27nm,21.3s,baz=294,slow=36
CTA Charters Tower 55.89 174 P **P** **16 25 20.6 +0.6**
CTAO Charters Tower 55.89 174 P **P** **16 25 20.3 +0.4**
CTAO Charters Tower 55.89 174 P **P** **16 25 20.6 +0.6**
CTAO Charters Tower 55.89 174 P **P** **16 25 20.3 +0.4**
CTAO pmax pmax
comp=Z,7.0nm,1.2s
N31M Braeburn, Yuko 56.21 35 P **P** **16 25 23.9 +2.0**
N31M IAmb IAmb 16 26 02.7
comp=Z,26nm,1.4s
M31M Drury Creek, Y 56.67 34 P **P** **16 25 25.8 +0.7**
M31M IAmb IAmb 16 25 39.7
comp=Z,20nm,1.5s
ARU Arti 56.90 319 LR LR 16 51 53.4
comp=Z,84nm,18.1s,baz=80,slow=38
ARU Arti 56.90 319 P **P** **16 25 26.9 +0.1**
ARU Arti 56.90 319*c i*P **P** **16 25 27.5 +0.7**
ARU *PP **sP** **16 25 43.1 -3.0**
ARU 16 26 19.0
ARU 16 27 29.5
ARU S **S** **16 33 18.0 +1.3**
ARU SS **SS** **16 37 01.9 -3.1**
ARU pmax pmax
comp=Z,25nm,0.6s
ARU MLR MLR
comp=Z,176nm,18.0s
KBL Kabul 57.35 291 P **P** **16 25 30.8 +0.1**
KBL IAmb IAmb 16 25 35.2
comp=Z,7.3nm,0.6s
KBL Kabul 57.35 291 P **P** **16 25 30.8 +0.1**
KBL pmax pmax
comp=Z,7.0nm,0.6s
A36M Sachs Harbour 57.53 22 P **P** **16 25 32.2 +1.2**
AB31 Akbulak array 58.30 311 *e*P **P** **16 25 36.9 +0.1**
ABKAR Akbulak array 58.30 311 P **P** **16 25 37.5 +0.7**
ABKAR Akbulak array 58.30 311 P **P** **16 25 37.2 +0.4**
ABKAR IAmb IAmb 16 25 38.6
comp=Z,39nm,1.2s
C36M Paulatuk 58.71 24 **P** **16 25 39.0 -0.3**
C36M IAmb IAmb 16 25 55.5
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 59.08 312 P **P** **16 25 42.1 -0.1**
AS01 Alice Springs 59.55 187 P **P** **16 25 46.2 +0.5**
AS31 Alice Springs 59.56 187 P **P** **16 25 45.8 +0.1**
ASAR Alice Springs 59.56 187 P **P** **16 25 45.9 +0.1**
comp=Z,5.7nm,0.8s,baz=15,slow=8.0,SNR=79
comp=Z,5.7nm,0.8s
ASAR Alice Springs 59.56 187 P **P** **16 25 45.5 -0.2**
MBWA Marble Bar 60.11 203 P **P** **16 25 49.3 -0.2**
MBWA Marble Bar 60.11 203 P **P** **16 25 49.9 +0.4**
PSA00 Pilbara Seismi 60.46 202 P **P** **16 25 51.8 -0.1**
PSA00 IAmb IAmb 16 25 53.1
comp=Z,7.5nm,0.8s
PSA00 Pilbara Seismi 60.46 202 P **P** **16 25 51.8 -0.1**

PSA00	Pilbara Seismi	60.46	202	P	P	16 25 52.2	+0.3
KIRV	Kirov	60.87	323	P	P	16 25 55.4	+1.1
	comp=Z,48nm,0.4s,baz=93,slow=2.4,SNR=22						
KIRV				LR	LR	16 54 08.0	
	comp=Z,146nm,20.5s,baz=68,slow=38						
EUNU	Eureka	81.42	8	P	P	16 25 58.1	+0.3
EUNU				IAmb	IAmb	16 26 13.5	
	comp=Z,6.6nm,1.0s						
SPITS	Spitsbergen Ar	61.57	349	LR	LR	16 54 01.4	
	comp=Z,67nm,18.1s,baz=58,slow=37						
PALK	Pallekele	61.61	258	P	P	16 26 01.2	+1.2
	comp=Z,9.8nm,0.7s,baz=51,slow=6.5,SNR=8.0						
	comp=Z,9.8nm,0.7s						
PALK	Pallekele	61.61	258	P	P	16 26 00.9	+0.8
PALK				IAmb	IAmb	16 26 01.7	
	comp=Z,10.0nm,0.7s						
PALK	Pallekele	61.61	258	P	P	16 26 00.8	+0.8
	comp=Z,14nm,1.3s						
WRKA	Warakurna	61.71	193	P	P	16 26 00.5	+0.2
HRA	Herat	62.52	294	P	P	16 26 06.0	-0.1
HRA				IAmb	IAmb	16 26 07.9	
	comp=Z,6.0nm,0.8s						
DZM	Mont Dzumac	62.54	153	eLR	LR	16 44 46.6	
	comp=Z,372nm,28.6s						
PCHI	Peechi	63.21	264	eP	P	16 26 11.5	+0.9
INKA	Innaminka	63.26	180	P	P	16 26 11.6	+1.0
OOD	Oodnadatta	63.50	185	P	P	16 26 12.7	+0.6
APA	Apatity	63.54	336	iP	P	16 26 07.6	-4.4
APA				pmax	pmax		
	comp=Z,15nm,0.7s						
RES	Resolute Bay	63.86	14	P	P	16 26 14.8	+0.8
	comp=Z,4.5nm,0.5s,baz=321,slow=4.3,SNR=21						
RES				LR	LR	16 56 25.8	
	comp=Z,50nm,19.9s,baz=357,slow=38						
	comp=Z,4.5nm,0.5s						
RES	Resolute Bay	63.86	14	P	P	16 26 13.2	-0.8
RES				IAmb	IAmb	16 26 31.4	
	comp=Z,7.2nm,0.9s						
MSVF	Nonsavu	63.93	140	LR	LR	16 49 03.7	
	comp=Z,85nm,20.0s,baz=321,slow=31						
GEYT	Alibeck	63.95	299	P	P	16 26 16.5	+1.2
	comp=Z,7.4nm,1.0s,baz=60,slow=3.6,SNR=9.6						
GEYT				LR	LR	16 55 58.6	
	comp=Z,123nm,18.2s,baz=59,slow=38						
	comp=Z,7.4nm,1.0s						
GEYT	Alibeck	63.95	299	P	P	16 26 14.6	-0.7
GYA0B	ALIBECK ARRAY	63.95	299	P	P	16 26 15.2	-0.1
GYA0B				IAmb	IAmb	16 26 21.2	
	comp=Z,8.1nm,0.8s						
BELG	Belogornoye	64.30	317	iP	P	16 26 17.5	+0.2
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KLMR	Klimovskoe	64.47	328	eP	P	16 26 17.0	-1.2
KLMR				AMP		16 26 19.4	
	comp=Z,12nm,0.8s						
KLMR	Klimovskoe	64.47	328	eP	P	16 26 17.0	-1.2
KLMR				pmax	pmax		
	comp=Z,12nm,0.8s						
HAMF	Hammerfest	64.75	341	eP	P	16 26 20.9	+1.0
ARA0	ARCESS Array S	64.91	339	eP	P	16 26 22.4	+1.4
ARCES	ARCESS Array B	64.91	339	P	P	16 26 22.3	+1.3
	comp=Z,8.4nm,0.8s,baz=52,slow=7.9,SNR=21						
ARCES				LR	LR	16 57 53.8	
	comp=Z,90nm,20.1s,baz=184,slow=39						
	comp=Z,8.4nm,0.8s						
MEEK	Meekatharra	65.59	202	P	P	16 26 26.3	+0.4
KTK1	Kautokeino	65.87	340	eP	P	16 26 28.3	+1.1
LCRK	Leigh Creek	66.00	182	P	P	16 26 29.6	+1.2
MULG	Mulgathing	66.10	186	P	P	16 26 29.6	+0.6
JETT	Jettan, Norway	66.31	341	eP	P	16 26 31.1	+1.0
WAPA	Wapiti River	66.60	38	P	P	16 26 33.7	+1.6
WAPA				IAmb	IAmb	16 26 35.4	
	comp=Z,10.0nm,0.8s						
TRO	Tromso	66.65	341	eP	P	16 26 33.0	+0.9
AFI	Afiamalu	66.79	129	LR	LR	16 49 14.7	
	comp=Z,111nm,21.8s,baz=188,slow=30						
CMSA	Cobar Meteorol	67.21	175	P	P	16 26 36.2	+0.1
FORT	Forrest	67.36	192	P	P	16 26 37.8	+0.8
FORT	Forrest	67.36	192	P	P	16 26 37.8	+0.8
STKA	Stephens Creek	67.39	179	P	P	16 26 37.6	+0.4
	comp=Z,3.5nm,0.8s,baz=355,slow=6.9,SNR=6.3						
	comp=Z,3.5nm,0.8s						
BBOO	Buckleboo	68.46	184	P	P	16 26 44.6	+0.7
MORW	Morawa	68.66	203	P	P	16 26 46.8	+1.5
MORW	Morawa	68.66	203	P	P	16 26 45.6	+0.3
OBN	Obninsk	68.72	323	eP	P	16 26 45.6	+0.2
OBN				e		16 29 17.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,117nm,15.0s						
MAK	Makhachkala	68.77	308	eP	P	16 26 44.1	-1.9
MAK				e*PP	pP	16 27 02.0	+2.0
MAK				e*SP	PcP	16 27 08.9	-1.5
MAK				eS	S	16 35 42.8	-3.0
MAK				e*SS	sS	16 36 12.2	+2.9
MAK				pmax	pmax		
	comp=Z,118nm,1.1s						
MAK				MLR	MLR		
	comp=Z,221nm,16.0s						
STEI	Steigen	68.80	341	eP	P	16 26 47.0	+1.3
STEI				IAmb	IAmb	16 26 49.6	
	comp=Z,256nm,2.1s						
FAUS	Fauske	69.18	340	eP	P	16 26 49.3	+1.3
VORR	Voronezh	69.21	319	eP	P	16 26 49.7	+1.2
AKT	Akhty	69.36	307	eP	P	16 26 50.6	+0.8
AKT				e*PP	sP	16 27 07.0	-2.4
AKT				e		16 27 13.1	
AKT				pmax	pmax		
	comp=Z,14nm,0.6s						
FIA1	FINESS Array S	69.61	332	P	P	16 26 50.7	-0.1
FINES	FINESS Array B	69.61	332	P	P	16 26 51.5	+0.6
	comp=Z,12nm,0.9s,baz=67,slow=6.4,SNR=18						
FINES				LR	LR	16 59 26.3	
	comp=Z,89nm,18.1s,baz=46,slow=38						
	comp=Z,12nm,0.9s						
FINES	FINESS Array B	69.61	332	P	P	16 26 51.3	+0.5
GROC	Groznyy	69.73	309	eP	P	16 26 52.0	+0.1
GROC				e		16 27 15.5	
GROC				pmax	pmax		
	comp=Z,33nm,1.0s						
BLDU	Ballidu	69.89	202	P	P	16 26 52.8	0.0
MOR8	Moi Rana	70.28	340	eP	P	16 26 55.2	+0.3
KLBR	Kellerberrin	70.49	201	P	P	16 26 57.0	+0.5
WSAR	Wadi Sarin	70.67	285	LR	LR	17 00 50.0	
	comp=Z,52nm,20.1s,baz=94,slow=38						
BANOM	Banah	71.09	289	P	P	16 27 02.2	+1.7
ZEI	Tsey	71.14	309	eP	P	16 27 00.3	-0.5
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SHME	Shamm	71.15	289	iP	P	16 27 02.2	+1.3
	SNR=8.0						
VSU	Vasula	71.20	330	eP	P	16 27 00.7	+0.1
KBZ	Khabaz	71.27	311	P	P	16 27 02.6	+1.3
	comp=Z,7.7nm,0.8s,baz=37,slow=4.9,SNR=14						
KBZ				LR	LR	17 00 05.5	
	comp=Z,78nm,19.6s,baz=44,slow=37						
	comp=Z,7.7nm,0.8s						
KIV	Kislovodsk	71.28	311	P	P	16 27 02.1	+0.6
KIV				IAmb	IAmb	16 27 04.0	
	comp=Z,15nm,0.7s						
KIV	Kislovodsk	71.28	311	P	P	16 27 03.2	+1.7
KIV	Kislovodsk	71.28	311	eP	P	16 27 02.3	+0.8
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
SHA1	Shidzhatmaz	71.41	311	iP	P	16 27 03.1	+0.6
RAF	Rauma	71.48	333	eP	P	16 27 02.4	+0.1
MSFE	Esma-Masafi	71.49	288	P	P	16 27 04.7	+1.7
UOSS	Minazif	71.67	288	P	P	16 27 05.3	+1.3
HATD	Hatta, Dubai	71.79	288	P	P	16 27 06.1	+1.3
NWAO	Narrogin (SRO)	71.89	201	P	P	16 27 05.7	+0.7
	comp=Z,13nm,0.7s,baz=347,slow=18,SNR=7.0						
	comp=Z,13nm,0.7s						
NWAO	Narrogin (SRO)	71.89	201	P	P	16 27 05.3	+0.3
NWAO				IAmb	IAmb	16 27 09.0	
	comp=Z,17nm,0.8s						
NWAO	Narrogin (SRO)	71.89	201	P	P	16 27 05.8	+0.8
NWAO	Narrogin (SRO)	71.89	201	P	P	16 27 05.6	+0.7
ASHO	Ashiyiah	71.92	288	P	P	16 27 06.7	+1.1
GNI	Garni	71.99	307	LR	LR	17 01 30.2	
	comp=Z,103nm,18.7s,baz=64,slow=38						
GNI	Garni	71.99	307	P	P	16 27 05.8	-0.1
GNI				IAmb	IAmb	16 27 25.2	
	comp=Z,14nm,0.9s						
GNI	Garni	71.99	307	P	P	16 27 08.0	+2.1
GNI				pmax	pmax		
	comp=Z,12nm,1.0s						
NSS	Namsos	72.19	339	eP	P	16 27 08.8	+2.4
MTSE	Matsula	72.22	331	eP	P	16 27 07.2	+0.5
FAQ	Al Faqa, Dubai	72.25	288	P	P	16 27 08.3	+0.8
MNK	Minsk	73.17	326	iP	P	16 27 10.7	-1.8
	comp=E,3.0nm,0.7s						
MNK				iP	P	16 27 10.7	-1.8
	comp=N,37nm,0.8s						
MNK				iP	P	16 27 10.7	-1.8
	comp=Z,9.0nm,0.5s,baz=231						
MNK				ipP	pP	16 27 27.2	+0.6
MNK				iPP	PP	16 29 53.9	-1.4
MNK				iPPP	PPP	16 31 38.7	
MNK				iS	S	16 36 34.3	-2.2
MNK				isS	sS	16 37 02.8	+2.6
MNK				iSS	SS	16 41 17.4	-0.1
MNK				iSSS	SSS	16 44 38.5	
MNK				iLQ	LQ	16 55 07.0	
MNK				iLR	LR	17 00 04.4	
MNK				iLRM	MLR	17 01 18.9	
	comp=N,166nm,15.1s						
MNK				iLRM	MLR	17 01 26.1	
	comp=Z,199nm,20.3s						
MNK				iLRM	MLR	17 01 40.5	
	comp=E,28nm,19.0s						
MNK	Minsk	73.17	326	iP	P	16 27 10.6	-1.8
MNK				i*PP	pP	16 27 27.1	+0.6
MNK				i		16 29 53.9	
MNK				iPPP	PPP	16 31 38.7	
MNK				iS	S	16 36 34.2	-2.2
MNK				i*SS	sS	16 37 02.7	+2.6
MNK				i		16 37 13.4	
MNK				iSS	SS	16 41 17.3	-0.1
MNK				iSSS	SSS	16 44 38.4	
MNK				pmax	pmax		
	comp=N,37nm,0.8s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.7s						
MNK				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MNK				MLR	MLR		
	comp=N,166nm,15.0s						
MNK				MLR	MLR		
	comp=Z,199nm,20.0s						
MNK				MLR	MLR		
	comp=E,28nm,19.0s						
ISAL	Salakas	73.28	327	eP	P	16 27 14.3	+1.2
IIGN	Ignalina	73.38	327	eP	P	16 27 14.8	+1.2
NACGM	Naroch	73.42	327	eP	P	16 27 13.1	-0.7
	comp=Z,27nm,0.9s,baz=51						
BEKR	Beckworth	73.98	52	P	P	16 27 18.5	+0.8
GEVA	Gevas	74.08	306	P	P	16 27 19.0	+0.7
GEVA				IAmb	IAmb	16 27 20.9	
	comp=Z,14nm,1.4s						
PABE	Paberze	74.26	328	P	P	16 27 19.9	+1.1
PABE	Paberze	74.26	328	eP	P	16 27 19.3	+0.5
GURO	Guroymak-BITLI	74.62	307	P	P	16 27 23.2	+1.8
GURO				IAmb	IAmb	16 27 24.2	
	comp=Z,12nm,0.8s						
MZR	Muzera	74.81	288	iP	P	16 27 23.1	+0.5
	SNR=9.6						
NC405	NORSAR Array S	74.85	337	P	P	16 27 22.6	+0.4
AKASG	Malin Array Be	74.90	322	P	P	16 27 23.0	+0.3
	comp=Z,5.4nm,0.5s,baz=47,slow=5.9,SNR=46						
AKASG				pP	PcP	16 27 35.6	-0.7
	comp=Z,7.0nm,0.6s,baz=48,slow=6.3,SNR=8.3						
	comp=Z,5.4nm,0.5s						
AKASG	Malin Array Be	74.90	322	P	P	16 27 22.5	-0.1
AKASG	Malin Array Be	74.90	322	iP	P	16 27 23.1	+0.5
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AKBB	Malin Array Si	74.90	322	P	P	16 27 22.9	+0.3
AKBB				IAmb	IAmb	16 27 24.0	
	comp=Z,15nm,0.7s						
AKBB	Malin Array Si	74.90	322	iP	P	16 27 23.2	+0.6
AKBB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HFS	Hagfors	74.94	336	P	P	16 27 24.1	+1.4
	comp=Z,4.4nm,0.6s,baz=74,slow=6.3,SNR=14						
HFS				LR	LR	17 02 58.3	
	comp=Z,174nm,18.7s,baz=54,slow=38						
	comp=Z,4.4nm,0.6s						
DOMB	Dombas	74.94	339	eP	P	16 27 24.2	+1.5
NC204	NORSAR Array S	75.02	337	P	P	16 27 24.0	+0.8
NB201	NORSAR Array S	75.03	337	P	P	16 27 24.0	+0.8
NB2	NORSAR Subarra	75.06	337	P	P	16 27 23.9	+0.5
	baz=40,slow=5.9						
NB2	NORSAR Subarra	75.06	337	P	P	16 27 23.9	+0.5
	comp=Z,2.3nm,0.5s,baz=40,slow=5.9						
NOA	NORSAR Array B	75.06	337	P	P	16 27 24.2	+0.8
	comp=Z,6.1nm,0.8s,baz=39,slow=5.8,SNR=16						
NOA				LR	LR	17 03 25.0	
	comp=Z,112nm,19.7s,baz=45,slow=38						
	comp=Z,6.1nm,0.8s						
YERR	Yerington	75.19	53	P	P	16 27 26.0	+1.3
NC602	NORSAR Array S	75.19	337	eP	P	16 27 24.6	+0.5
NORES	NORESS Array B	75.19	337	P	P	16 27 24.6	+0.5
LRM	Limekiln Ridge	75.35	44	P	P	16 27 26.9	+1.3
KVN	Kaiserville	75.88	52	P	P	16 27 30.0	+1.3
KVN	Kaiserville	75.88	52	P	P	16 27 30.0	+1.3
KVN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
LHV	Little Huntoon	76.08	53	P	P	16 27 30.7	+1.2
LHV				IAmb	IAmb	16 27 45.8	
	comp=Z,11nm,1.2s						
NVAR	Mina Array Bea	76.11	53	P	P	16 27 31.6	+1.6
	comp=Z,1.8nm,0.8s,baz=296,slow=5.5,SNR=13						
	comp=Z,1.8nm,0.8s						
NVAR	Mina Array Bea	76.11	53	P	P	16 27 31.2	+1.1
MARD	Mardin	76.13	306	P	P	16 27 30.4	+0.3
ELK	Elko	76.70	49	P	P	16 27 35.1	+1.7
ELK	Elko	76.70	49	P	P	16 27 35.1	+1.7
ELK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
IMW	Indian Meadow	77.36	45	P	P	16 27 38.5	+1.3
HVU	Hansel Valley	77.58	47	P	P	16 27 40.0	+1.9
HVU	Hansel Valley	77.58	47	P	P	16 27 40.1	+1.9
HVU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
R11A	Troy Canyon, C	77.89	51	P	P	16 27 41.1	+1.0
FRB	Frobisher Bay	78.03	13	LR	LR	17 06 49.7	
	comp=Z,56nm,18.1s,baz=1.0,slow=39						
HWUT	Hardware Ranch	78.40	47	P	P	16 27 43.6	+0.8
QSM	Queen of Sheba	78.46	54	P	P	16 27 43.9	+0.9
DUG	Dugway, Tooele	78.51	49	P	P	16 27 45.0	+1.6
DUG	Dugway, Tooele	78.51	49	P	P	16 27 45.0	+1.6
DUG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BW06	Boulder Array	78.86	45	P	P	16 27 45.6	+0.2
PD31	Pinedale Array	78.86	45	P	P	16 27 44.5	-0.9
PDAR	Pinedale Array	78.86	45	P	P	16 27 46.2	+0.9
	comp=Z,1.1nm,0.6s,baz=333,slow=0.9,SNR=10						
	comp=Z,1.1nm,0.6s						
PDAR	Pinedale Array	78.86	45	P	P	16 27 45.7	+0.4
BUR08	Bucovina Ar. S	78.89	322	P	P	16 27 45.9	+0.6
BUR08				IAmb	IAmb	16 27 59.0	
	comp=Z,13nm,1.5s						
BURAR	Bucovina Array	78.91	322	P	P	16 27 45.7	+0.4
BURAR	Bucovina Array	78.91	322	P	P	16 27 45.7	+0.4
BURAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BR131	Keskin Array S	79.24	311	P	P	16 27 47.5	+0.2
BR131				IAmb	IAmb	16 27 49.5	
	comp=Z,11nm,0.9s						
BR131	Keskin Array S	79.24	311	P	P	16 27 47.5	+0.2
BR131				pmax	pmax		
	comp=Z,11nm,0.9s						
BRTR	Keskin Array B	79.24	311	P	P	16 27 48.0	+0.6
	comp=Z,3.8nm,0.8s,baz=90,slow=4.9,SNR=8.2						
BRTR				LR	LR	17 08 09.1	
	comp=Z,56nm,18.7s,baz=72,slow=40						
	comp=Z,3.8nm,0.8s						
BRTR	Keskin Array B	79.24	311	P	P	16 27 48.0	+0.6
KOLS	Kolonicke sedl	79.46	324	eP	P	16 27 49.8	+1.6
KOLS	Kolonicke sedl	79.46	324	eP	P	16 27 49.8	+1.6
STHS	Stebnicka Huta	79.61	325	eP	P	16 27 50.3	+1.2
STHS	Stebnicka Huta	79.61	325	eP	P	16 27 50.3	+1.2
STHS				pmax	pmax		
	comp=Z,9.0nm,1.5s						
OJC	Ojcow	79.72	326	P	P	16 27 48.2	-1.4
OJC				IAmb	IAmb	16 27 49.3	
	comp=Z,10nm,1.0s						
OJC	Ojcow	79.72	326	P	P	16 27 48.2	-1.4
OJC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CRVS	Cervenica-Dubn	79.87	324	eP	P	16 27 51.5	+1.0
CRVS	Cervenica-Dubn	79.87	324	eP	P	16 27 51.5	+1.0
RAR	Rarotonga	79.90	125	LR	LR	16 53 32.6	
	comp=Z,70nm,21.9s,baz=250,slow=28						
MLR	Muntele Rosu	79.94	320	LR	LR	17 06 37.7	
	comp=Z,160nm,18.3s,baz=62,slow=38						
PFO	Pinyon Flats O	80.12	56	LR	LR	16 55 30.3	
	comp=Z,125nm,21.0s,baz=269,slow=30						
RDMU	Red Mountain	80.23	47	P	P	16 27 53.8	+0.9
SRU	San Rafael Swe	80.57	48	P	P	16 27 55.2	+0.5
SRU	San Rafael Swe	80.57	48	P	P	16 27 55.2	+0.5
SRU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RAYN	Ar Rayn	80.62	292	iP	P	16 27 56.1	+1.1
	SNR=13						
RAYN	Ar Rayn	80.62	292	P	P	16 27 54.7	-0.3
RAYN				pmax	pmax		
	comp=Z,22nm,1.4s						
ULM	Lac du Bonnet	80.76	33	LR	LR	17 04 44.1	
	comp=Z,31nm,20.6s,baz=42,slow=36						
KSP	Ksiaz	80.82	328	P	P	16 27 56.0	+0.5
MORC	Moravsky Berou	81.05	327	eP	P	16 27 57.5	+0.7
DPC	Dobruska-Polom	81.17	328	eP	P	16 27 58.9	+1.5
DPC	Dobruska-Polom	81.17	328	eP	P	16 27 58.9	+1.5
KRLC	Kraliky	81.17	327	eP	P	16 27 58.2	+0.7
KRLC	Kraliky	81.17	327	eP	P	16 27 58.2	+0.7
VYHS	Vyhne	81.39	325	eP	P	16 28 00.1	+1.5
VYHS	Vyhne	81.39	325	eP	P	16 28 00.1	+1.5
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.7s						
VRAC	Vranov	81.82	327	P	P	16 28 02.5	+1.6
	comp=Z,2.1nm,0.4s,baz=79,slow=5.2,SNR=4.3						
	comp=Z,2.1nm,0.4s						
VRAC	Vranov	81.82	327	eP	P	16 27 59.5	-1.3
CLL	Collm	81.85	330	P	P	16 28 00.4	-0.5
CLL				IAmb	IAmb	16 28 02.6	
	comp=Z,9.4nm,0.9s						
CLL	Collm	81.85	330	iP	P	16 28 01.6	+0.7
	comp=Z,9.0nm,0.9s						
CLL	Collm	81.85	330	iP	P	16 28 01.6	+0.7
CLL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KRUC	Moravsky	82.09	327	eP	P	16 28 01.5	-0.7
MODS	Modra-Piesok	82.19	326	eP	P	16 28 05.1	+2.3
MODS	Modra-Piesok	82.19	326	eP	P	16 28 05.1	+2.3
PRU	Pruhonice	82.21	328	eP	P	16 28 03.3	+0.5
PRU	Pruhonice	82.21	328	eP	P	16 28 03.3	+0.5
PV13	Radium Mtn., P	82.21	48	P	P	16 28 03.5	+0.2
MMAI	Mount Meron Ar	82.22	305	LR	LR	17 08 21.0	
	comp=Z,93nm,19.0s,baz=288,slow=38						
NKC	Novy Kostel	82.90	329	epP	pP	16 28 19.6	-1.2
CKRC	Cesky Krumlov	83.19	328	eP	P	16 28 08.8	+0.8
KHC	Kasperske Hory	83.27	328	P	P	16 28 09.0	+0.6
KHC				IAmb	IAmb	16 28 25.2	
	comp=Z,6.8nm,1.1s						
KHC	Kasperske Hory	83.27	328	eP	P	16 28 08.5	+0.1
KHC				epP	pP	16 28 21.5	-1.3
KHC	Kasperske Hory	83.27	328	eP	P	16 28 08.5	+0.1
KHC				e		16 28 21.5	
VTS	Vitosha	83.32	319	P	P	16 28 10.0	+1.0
VTS				IAmb	IAmb	16 28 11.6	
	comp=Z,15nm,1.4s						
VTS	Vitosha	83.32	319	P	P	16 28 10.0	+1.0
VTS				pmax	pmax		
	comp=Z,15nm,1.4s						
GERES	GERESS Array B	83.43	328	P	P	16 28 10.0	+0.6
	comp=Z,1.2nm,0.5s,baz=42,slow=4.9,SNR=13						
GERES				pP	pP	16 28 23.0	-0.7
	comp=Z,1.4nm,0.5s,baz=39,slow=6.6,SNR=5.9						
GERES				LR	LR	17 07 06.8	
	comp=Z,69nm,20.3s,baz=50,slow=37						
	comp=Z,1.2nm,0.5s						
GERES	GERESS Array B	83.43	328	P	P	16 28 10.0	+0.6
GERES				*PP	pP	16 28 23.0	-0.7
DIVS	Divibare	83.97	322	P	P	16 28 12.4	+0.2
EKA	Eskdalemuir Ar	84.06	340	P	P	16 28 13.7	+1.4
	comp=Z,2.2nm,0.8s,baz=37,slow=4.3,SNR=4.3						
EKA				LR	LR	17 09 04.1	
	comp=Z,77nm,18.1s,baz=356,slow=38						
	comp=Z,2.2nm,0.8s						
SOKA	Soboth	84.47	326	eP	P	16 28 15.7	+1.0
	comp=Z,8.0nm,0.8s						
PPT	Papeete	84.58	116	LR	LR	17 02 53.7	
	comp=Z,106nm,18.7s,baz=299,slow=33						
PPT2	Papeete2	84.59	116	eLR	LR	16 54 58.6	
	comp=Z,190nm,27.5s						
PDG	Podgorica	85.54	321	P	P	16 28 20.9	+1.0
RETA	Reutte	85.73	329	iP	P	16 28 21.9	+0.9
	comp=Z,4.4nm,0.8s						
BFO	Black Forest	86.07	330	P	P	16 28 22.9	+0.3
BFO				IAmb	IAmb	16 28 24.1	
	comp=Z,11nm,1.0s						
BFO	Black Forest	86.07	330	P	P	16 28 22.9	+0.3
BFO				pmax	pmax		
	comp=Z,11nm,1.0s						
DAVA	Damuels	86.26	329	iP	P	16 28 23.7	0.0
	comp=Z,11nm,1.2s						
TAOE	Nuku Hiva Isla	86.40	104	eLR	LR	16 55 49.4	
	comp=Z,174nm,25.4s						
FUORN	Ofenpass-Fuorn	86.62	328	P	P	16 28 26.3	+0.7
FUORN				IAmb	IAmb	16 28 41.5	
	comp=Z,4.4nm,0.8s						
DAVOX	Davos/Dischmat	86.66	329	LR	LR	17 10 16.0	
	comp=Z,43nm,18.1s,baz=348,slow=38						
TBI	Tubuai	88.38	120	eLR	LR	16 56 44.3	
	comp=Z,513nm,23.8s						
TBI				eLR	LR	16 56 44.4	
	comp=Z,3µm,23.8s						
TBI	Tubuai	88.38	120	eT	T	18 06 03.0	
	comp=Z,5.1nm,0.3s						
KAN08	Anthony NE Sta	89.14	43	P	P	16 28 36.2	-1.3
LPIG	La Paz	90.22	60	LR	LR	17 08 47.2	
	comp=Z,44nm,18.3s,baz=358,slow=35						
TX31	Lajitas Ar. Si	91.25	52	P	P	16 28 47.5	-0.1
TX32	Lajitas Array	91.25	52	P	P	16 28 47.5	-0.1
TXAR	Lajitas Array	91.25	52	P	P	16 28 48.9	+1.3
	comp=Z,0.7nm,0.5s,baz=298,slow=3.1,SNR=14						
TXAR				LR	LR	17 04 23.7	
	comp=Z,52nm,21.5s,baz=293,slow=32						
	comp=Z,0.7nm,0.5s						
ESDC	Sonseca Array	98.10	333	LR	LR

n68,σ1ᵍ07/78, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**245**	P	**Pg**	**16 27 26.8**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.58**	**359**	P	**Pg**	**16 27 31.0**	**-0.1**
BSWZ				S	**Sg**	**16 27 38.4**	**-0.4**
CMWZ	**Cape Campbell**	**0.60**	**24**	P	**Pb**	**16 27 33.1**	**+1.2**
TUWZ	**Tuamarina**	**0.87**	**2**	P	**Pg**	**16 27 36.4**	**-0.1**
TUWZ				S	**Sb**	**16 27 48.2**	**+0.3**
THZ	**Tophouse**	**0.91**	**306**	P	**Pg**	**16 27 36.3**	**-0.9**
THZ				S	**Sg**	**16 27 47.2**	**-1.9**
GVZ	**Greta Valley S**	**0.92**	**223**	P	**Pn**	**16 27 39.2**	**+1.0**
GVZ				S	**Sn**	**16 27 53.0**	**+1.7**
TCW	**Tory Channel**	**1.12**	**15**	P	**Pb**	**16 27 40.8**	**0.0**
TCW				S	**Sg**	**16 27 55.8**	**-0.1**
NNZ	**Nelson**	**1.15**	**340**	P	**Pb**	**16 27 40.5**	**-0.7**
NNZ				S	**Sn**	**16 27 56.8**	**+0.1**
WEL	**Wellington**	**1.21**	**33**	P	**Pn**	**16 27 42.4**	**+0.4**
MRNZ	**Matariki Terra**	**1.23**	**316**	P	**Pn**	**16 27 42.6**	**+0.1**
PLWZ	**Palliser**	**1.25**	**55**	P	**Pn**	**16 27 42.8**	**+0.1**
AMCZ	**Amberley**	**1.27**	**226**	P	**Pn**	**16 27 43.6**	**+0.6**
LTZ	**Lake Taylor**	**1.29**	**247**	P	**Pn**	**16 27 43.8**	**+0.4**
LTZ				S	**Sb**	**16 28 00.4**	**+0.1**
MSWZ	**Moikau Station**	**1.34**	**49**	P	**Pn**	**16 27 44.0**	**0.0**
MSWZ				S	**Sb**	**16 28 02.0**	**+0.4**
TKNZ	**Takaka Hill**	**1.44**	**331**	P	**Pn**	**16 27 45.6**	**+0.3**
TKNZ				S	**Sb**	**16 28 04.5**	**0.0**
PAWZ	**Paruwai Farm**	**1.47**	**52**	P	**Pn**	**16 27 45.4**	**-0.3**
CAW	**Cannon Point**	**1.48**	**37**	P	**Pn**	**16 27 46.0**	**+0.1**
DUWZ	**D'Urville Isla**	**1.49**	**1**	P	**Pn**	**16 27 46.7**	**+0.7**
DUWZ				S	**Sn**	**16 28 04.7**	**-0.7**
OKCZ	**Okains Bay**	**1.55**	**203**	P	**Pn**	**16 27 47.5**	**+0.6**
TRWZ	**Traveller**	**1.61**	**57**	P	**Pn**	**16 27 47.3**	**-0.4**
KIW	**Kapiti Island**	**1.62**	**288**	P	**Pn**	**16 27 48.3**	**+0.4**
DSZ	**Denniston Nort**	**1.65**	**289**	P	**Pn**	**16 27 49.4**	**+1.1**
MTW	**Mount Morrison**	**1.66**	**47**	P	**Pn**	**16 27 48.0**	**-0.3**
MQZ	**McQueen's Vall**	**1.68**	**212**	P	**Pn**	**16 27 48.2**	**-0.3**
OXZ	**Oxford**	**1.71**	**232**	P	**Pn**	**16 27 48.8**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.73**	**204**	P	**Pn**	**16 27 49.6**	**+0.3**
OGWZ	**Otaki Gorge**	**1.76**	**33**	P	**Pn**	**16 27 49.8**	**0.0**
QRZ	**Quartz Range**	**1.79**	**325**	P	**Pn**	**16 27 51.1**	**+0.9**
INZ	**Inchbonnie**	**1.86**	**256**	P	**Pn**	**16 27 51.9**	**+0.8**
TMWZ	**Te Maipa**	**1.91**	**52**	P	**Pn**	**16 27 51.3**	**-0.5**
RACZ	**Rakaia**	**1.92**	**221**	P	**Pn**	**16 27 51.6**	**-0.3**
MRZ	**Mangatainoka R**	**2.07**	**38**	P	**Pn**	**16 27 53.8**	**-0.1**
WACZ	**Wakanui South**	**2.23**	**222**	P	**Pn**	**16 27 56.1**	**-0.1**
PRWZ	**Pori Road**	**2.34**	**43**	P	**Pn**	**16 27 57.3**	**-0.4**
OHWZ	**Ohakea**	**2.35**	**28**	P	**Pn**	**16 27 59.2**	**+1.5**
POWZ	**Post Office Ro**	**2.37**	**37**	P	**Pn**	**16 27 57.7**	**-0.4**
WVZ	**Waitaha Valley**	**2.45**	**250**	P	**Pn**	**16 27 59.8**	**+0.5**
RPZ	**Rata Peaks**	**2.52**	**235**	Pn	**Pn**	**16 28 00.0**	**-0.2**
	28nm,0.3s,baz=261,slow=1.0,SNR=20						
RPZ				Sn	**Sn**	**16 28 29.4**	**-1.3**
	71nm,0.3s,baz=331,slow=22,SNR=56 69nm,0.3s						
RPZ	**Rata Peaks**	**2.52**	**235**	P	**Pn**	**16 28 00.0**	**-0.2**
ARCZ	**Arundel**	**2.58**	**229**	P	**Pn**	**16 28 01.0**	**-0.1**
DVHZ	**Dannevirke**	**2.63**	**41**	P	**Pn**	**16 28 00.6**	**-1.1**
WAZ	**Wanganui**	**2.67**	**18**	P	**Pn**	**16 28 04.5**	**+2.2**
TSZ	**Takapari Road**	**2.73**	**36**	P	**Pn**	**16 28 02.5**	**-0.5**
PNHZ	**Pukenui**	**2.95**	**37**	P	**Pn**	**16 28 05.3**	**-0.8**
TMZ	**Timaru**	**2.96**	**224**	P	**Pn**	**16 28 06.5**	**+0.2**
FWVZ	**Far West T-bar**	**3.29**	**23**	P	**Pn**	**16 28 12.1**	**+1.1**
OTVZ	**Oturere**	**3.41**	**24**	P	**Pn**	**16 28 15.5**	**+3.0**
LBZ	**Lake Benmore**	**3.42**	**231**	P	**Pn**	**16 28 12.7**	**-0.1**
NNVZ	**North Ngauruho**	**3.42**	**23**	P	**Pn**	**16 28 14.5**	**+1.8**
ETVZ	**East Tongariro**	**3.45**	**24**	P	**Pn**	**16 28 15.0**	**+2.0**
TMVZ	**Te Maari**	**3.46**	**24**	P	**Pn**	**16 28 14.3**	**+1.1**
KRVZ	**Karewarewa**	**3.46**	**23**	P	**Pn**	**16 28 17.0**	**+3.7**
ODZ	**Otahua Downs**	**3.62**	**220**	P	**Pn**	**16 28 15.3**	**0.0**
HIZ	**Hauiti**	**3.85**	**11**	P	**Pn**	**16 28 21.6**	**+3.1**
HHSZ	**Highcliff Hill**	**4.30**	**212**	P	**Pn**	**16 28 24.6**	**0.0**
EAZ	**Earnscleugh**	**4.43**	**227**	P	**Pn**	**16 28 25.9**	**-0.5**
TOZ	**Tahuroa Road**	**4.72**	**16**	P	**Pn**	**16 28 31.9**	**+1.5**
TUZ	**Tuapeka**	**4.77**	**219**	P	**Pn**	**16 28 31.7**	**+0.6**
AWAZ	**Awhitu Peninsu**	**5.26**	**7**	P	**Pn**	**16 28 39.4**	**+1.6**
MKAZ	**Moumakai**	**5.28**	**11**	P	**Pn**	**16 28 38.7**	**+0.6**
ETAZ	**East Tamaki Re**	**5.39**	**9**	P	**Pn**	**16 28 41.7**	**+2.0**
SYZ	**Scrubby Hill**	**5.44**	**217**	P	**Pn**	**16 28 40.6**	**+0.4**
WHZ	**Wether Hill Ro**	**5.59**	**228**	P	**Pn**	**16 28 42.1**	**-0.3**
APZ	**The Paps**	**6.19**	**221**	P	**Pn**	**16 28 50.5**	**-0.1**
ASAR	**Alice Springs**	**37.92**	**287**	P	**P**	**16 34 35.9**	**-0.8**
	0.3nm,0.4s,baz=119,slow=6.7,SNR=22 0.3nm,0.4s						
WRA	**Warramunga Arr**	**40.05**	**291**	P	**P**	**16 34 53.5**	**-0.9**
	0.6nm,0.6s,baz=131,slow=7.2,SNR=7.4 0.6nm,0.6s						
KRVT	**Keravat (AS076**	**42.55**	**327**	LR	LR	16 51 39.2	
	comp=Z,40nm,19.0s,baz=301,slow=34						
TORD	**Torodi Ar. Bea**	**150.18**	**195**	PKPbc	**PKPbc**	**16 47 11.3**	**+0.8**
	0.2nm,0.3s,baz=163,slow=2.3,SNR=2.2						

WEL 14 16:36:34.5±0.5, 42°S±3°×17°4E±°, h5km, M3.2/7, ML3.6/8, MLv3.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=99.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**207**	P	Pg	16 36 40.2	-0.1
KHZ				S	Sg	16 36 45.0	+0.8
BSWZ	**Blackbirch Sta**	**0.45**	**15**	P	Pg	16 36 43.5	+0.3
BSWZ				S	Sg	16 36 50.4	+1.3
THZ	**Tophouse**	**0.72**	**302**	P	Pg	16 36 48.6	+0.2
THZ				S	Sg	16 36 58.7	+0.9
TUWZ	**Tuamarina**	**0.74**	**13**	P	Pg	16 36 48.9	+0.2
GVZ	**Greta Valley S**	**0.96**	**212**	P	Pb	16 36 53.4	-0.3
NNZ	**Nelson**	**0.97**	**345**	P	Pg	16 36 52.8	-0.3
TCW	**Tory Channel**	**1.03**	**24**	P	Pg	16 36 53.9	-0.4
MRNZ	**Matariki Terra**	**1.04**	**316**	P	Pb	16 36 54.8	-0.2
WEL	**Wellington**	**1.17**	**42**	P	Pg	16 36 47.6	-9.3
LTZ	**Lake Taylor**	**1.25**	**239**	P	Pg	16 36 57.7	-0.7
TKNZ	**Takaka Hill**	**1.25**	**333**	P	Pg	16 36 58.3	-0.2
CAW	**Cannon Point**	**1.45**	**44**	P	Pn	16 36 51.8	-10

WEL 14 16:39:59.8±0.7, 42°S±3°×17°4E±°, h8km±4km, M3.1/13, ML3.3/9, MLv3.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=147.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.25**	**212**	P	Pg	16 40 05.5	+0.6
CMWZ				S	Sb	16 40 10.0	-1.1
TCW	**Tory Channel**	**0.34**	**345**	P	Pb	16 40 07.9	-0.1
TCW				S	Sb	16 40 13.8	+0.3
TUWZ	**Tuamarina**	**0.36**	**287**	P	Pb	16 40 07.6	-0.7
TUWZ				S	Sb	16 40 13.4	-0.7
WEL	**Wellington**	**0.38**	**48**	P	Pb	16 40 08.5	-0.2
WEL				S	Sb	16 40 14.7	+0.1
BHW	**Baring Head**	**0.38**	**71**	P	Pg	16 40 07.9	+0.7
BHW				S	Sb	16 40 13.9	-0.8
PLWZ	**Palliser**	**0.65**	**93**	P	Pg	16 40 12.7	+0.5
MSWZ	**Moikau Station**	**0.65**	**80**	P	Pb	16 40 12.9	-0.5
CAW	**Cannon Point**	**0.66**	**50**	P	Pb	16 40 13.2	-0.3
KIW	**Kapiti Island**	**0.78**	**30**	P	Pb	16 40 15.4	-0.1
PAWZ	**Paruwai Farm**	**0.79**	**79**	P	Pg	16 40 11.4	-3.6
DUWZ	**D'Urville Isla**	**0.82**	**334**	P	Pg	16 40 06.8	-8.6
MTW	**Mount Morrison**	**0.91**	**66**	P	Pg	16 40 17.4	+0.1
TRWZ	**Traveller**	**0.98**	**82**	P	Pg	16 40 17.8	-0.8

*IDC **14** 16:40:49.0±2.4, 42°61S×173°73E, h0km, mb3.3/2, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=51.5km s-min=38.2km az=147.0*

*WEL **14** 16:40:50.4±0.7, 42°S±3°×17°4E±°, h5km, M3.9/33, ML4.2/9, MLv3.9/33, Error ellipse: s-maj=0.0km s-min=0.0km az=120.4*

ISC 14 16:40:49.0±1.6, 42°51S±0°04×173°80E±0°04, h3km±10km, n47,σ0ᵍ81/57, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**296**	P	**Pg**	**16 40 52.9**	**-0.2**
KHZ				S	**Sg**	**16 40 55.1**	**-0.9**
GVZ	**Greta Valley S**	**0.72**	**231**	P	**Pn**	**16 41 06.0**	**-0.2**
GVZ				S	**Sn**	**16 41 18.1**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.80**	**4**	P	**Pg**	**16 41 04.7**	**+0.4**
BSWZ				S	**Sb**	**16 41 17.9**	**+1.2**
CMWZ	**Cape Campbell**	**0.82**	**22**	P	**Pg**	**16 41 06.8**	**+2.1**
THZ	**Tophouse**	**1.00**	**318**	P	**Pg**	**16 41 07.8**	**-0.4**
THZ				S	**Sg**	**16 41 20.6**	**-0.6**
AMCZ	**Amberley**	**1.07**	**231**	P	**Pn**	**16 41 11.3**	**+0.4**
AMCZ				S	**Sn**	**16 41 27.3**	**+1.0**
TUWZ	**Tuamarina**	**1.09**	**6**	P	**Pg**	**16 41 09.1**	**-0.7**
TUWZ				S	**Sg**	**16 41 25.7**	**+1.8**
LTZ	**Lake Taylor**	**1.16**	**256**	P	**Pn**	**16 41 12.1**	**0.0**
LTZ				S	**Sn**	**16 41 27.9**	**-0.5**
OKCZ	**Okains Bay**	**1.33**	**204**	P	**Pn**	**16 41 14.7**	**+0.3**
NNZ	**Nelson**	**1.33**	**346**	P	**Pn**	**16 41 12.9**	**-1.5**
NNZ				S	**Sg**	**16 41 32.3**	**+0.5**
TCW	**Tory Channel**	**1.35**	**15**	P	**Pn**	**16 41 13.5**	**-1.1**
MRNZ	**Matariki Terra**	**1.36**	**325**	P	**Pn**	**16 41 14.1**	**-0.7**
MRNZ				S	**Sb**	**16 41 33.2**	**+0.4**
MOZ	**McQueen's Vall**	**1.46**	**215**	P	**Pn**	**16 41 15.7**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.51**	**205**	P	**Pn**	**16 41 17.0**	**+0.1**
OXZ	**Oxford**	**1.53**	**237**	P	**Pn**	**16 41 16.7**	**-0.4**
MSWZ	**Moikau Station**	**1.54**	**45**	P	**Pn**	**16 41 16.3**	**-1.0**
TKNZ	**Takaka Hill**	**1.60**	**337**	P	**Pn**	**16 41 18.5**	**+0.3**
PAWZ	**Paruwai Farm**	**1.66**	**48**	P	**Pn**	**16 41 17.9**	**-1.1**
DSZ	**Denniston Nort**	**1.67**	**297**	P	**Pn**	**16 41 19.5**	**+0.3**
CAW	**Cannon Point**	**1.69**	**34**	P	**Pn**	**16 41 18.3**	**-1.1**
DUWZ	**D'Urville Isla**	**1.71**	**3**	P	**Pn**	**16 41 20.1**	**+0.4**
RACZ	**Rakaia**	**1.72**	**224**	P	**Pn**	**16 41 19.3**	**-0.4**
INZ	**Inchbonnie**	**1.75**	**262**	P	**Pn**	**16 41 20.8**	**+0.6**
QRZ	**Quartz Range**	**1.94**	**330**	P	**Pn**	**16 41 23.5**	**+0.8**
OGWZ	**Otaki Gorge**	**1.98**	**32**	P	**Pn**	**16 41 22.2**	**-1.2**
WACZ	**Wakanui South**	**2.02**	**224**	P	**Pn**	**16 41 23.6**	**-0.3**
WVZ	**Waitaha Valley**	**2.32**	**255**	P	**Pn**	**16 41 28.4**	**+0.3**
RPZ	**Rata Peaks**	**2.34**	**238**	Pn	**Pn**	**16 41 27.6**	**-0.7**
	21nm,0.3s,baz=348,slow=0.6,SNR=25						
RPZ				Sn	**Sn**	**16 41 56.2**	**-1.4**
	55nm,0.3s,baz=156,slow=22,SNR=47 51nm,0.3s						
RPZ	**Rata Peaks**	**2.34**	**238**	P	**Pn**	**16 41 27.7**	**-0.7**
ARCZ	**Arundel**	**2.39**	**232**	P	**Pn**	**16 41 28.4**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.67**	**251**	P	**Pn**	**16 41 34.0**	**+1.2**
TMZ	**Timaru**	**2.76**	**226**	P	**Pn**	**16 41 34.0**	**-0.1**
FOZ	**Fox Glacier**	**3.09**	**249**	P	**Pn**	**16 41 39.5**	**+0.9**
LBZ	**Lake Benmore**	**3.23**	**233**	P	**Pn**	**16 41 40.7**	**+0.1**
PKE	**Pukeiti**	**3.32**	**3**	P	**Pb**	**16 41 47.6**	**-0.9**
ODZ	**Otahua Downs**	**3.41**	**221**	P	**Pn**	**16 41 42.6**	**-0.4**
HHSZ	**Highcliff Hill**	**4.08**	**213**	P	**Pn**	**16 41 51.9**	**-0.4**
EAZ	**Earnscleugh**	**4.23**	**229**	P	**Pn**	**16 41 53.6**	**-0.7**
TOZ	**Tahuroa Road**	**4.95**	**16**	P	**Pn**	**16 42 03.7**	**-0.4**
MLZ	**Mavora Lakes**	**5.00**	**233**	P	**Pn**	**16 42 04.9**	**0.0**
SYZ	**Scrubby Hill**	**5.22**	**218**	P	**Pn**	**16 42 08.1**	**+0.3**
WHZ	**Wether Hill Ro**	**5.40**	**229**	P	**Pn**	**16 42 09.0**	**-1.3**
AWAZ	**Awhitu Peninsu**	**5.48**	**7**	P	**Pn**	**16 42 12.0**	**+0.6**
MKAZ	**Moumakai**	**5.50**	**11**	P	**Pn**	**16 42 11.4**	**-0.3**
ASAR	**Alice Springs**	**37.92**	**287**	P	**P**	**16 48 08.2**	**+0.6**
	0.2nm,0.6s,baz=128,slow=6.9,SNR=5.6 0.2nm,0.6s						
WRA	**Warramunga Arr**	**40.06**	**292**	P	**P**	**16 48 25.4**	**-0.1**
	0.5nm,0.9s,baz=128,slow=8.3,SNR=2.7 0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.95**	**196**	PKPbc	**PKPbc**	**17 00 40.9**	**-0.2**
	0.2nm,0.6s,baz=180,slow=1.4,SNR=4.6						

IDC 14 16:41:14.6±2.7, 13°09S×66°71E, h0km, mb3.8/3, mbtmp3.8/3, MS3.4/6, Error ellipse: s-maj=102.2km s-min=41.9km az=56.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.84**	**47**	T	T	16 51 33.8	
	baz=225,slow=76,SNR=38						
H08S2	**Diego Garcia H**	**7.86**	**47**	T	T	16 51 18.2	
	baz=225,slow=76,SNR=95						
H08S3	**Diego Garcia H**	**7.86**	**47**	T	T	16 51 34.5	
	baz=225,slow=76,SNR=185						
LSZ	**Lusaka**	**37.38**	**262**	LR	LR	17 02 01.1	
	comp=Z,51nm,18.9s,baz=122,slow=33						
BOSA	**Boshof**	**41.47**	**242**	LR	LR	17 03 15.6	
	comp=Z,57nm,20.8s,baz=146,slow=32						
BRDH	**Bariadhala**	**43.14**	**35**	LR	LR	17 07 43.7	
	comp=Z,62nm,18.0s,baz=254,slow=37						
CMAR	**Chiang Mai Arr**	**44.65**	**46**	LR	LR	17 05 52.4	
	comp=Z,14nm,21.9s,baz=300,slow=33						
H01W3	**Cape Leeuwin H**	**47.93**	**125**	T	T	17 41 06.3	
	baz=280						
H01W2	**Cape Leeuwin H**	**47.93**	**125**	T	T	17 41 08.9	
	baz=280						
H01W1	**Cape Leeuwin H**	**47.95**	**125**	T	T	17 41 09.5	
	baz=280						
KAPI	**Kappang**	**52.91**	**86**	LR	LR	17 12 55.5	
	comp=Z,14nm,18.6s,baz=256,slow=36						
MKAR	**Makanchi Array**	**61.23**	**12**	P	P	16 51 31.5	+0.1
	1.0nm,1.0s,baz=198,slow=9.1,SNR=3.6 1.0nm,1.0s						
WRA	**Warramunga Arr**	**64.84**	**106**	P	P	16 51 56.0	0.0
	0.8nm,0.9s,baz=266,slow=6.0,SNR=5.4 0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**68.54**	**11**	P	P	16 52 18.6	-0.2
	0.8nm,0.7s,baz=208,slow=5.9,SNR=3.9 0.8nm,0.7s						
PMSA	**Palmer Station**	**93.97**	**199**	LR	LR	17 33 40.0	
	comp=Z,62nm,18.2s,baz=298,slow=34						
PDAR	**Pinedale Array**	**150.26**	**354**	PKP	PKPdf	17 01 02.8	-0.4
	0.3nm,0.6s,baz=43,slow=4.1,SNR=9						
PDAR				PKPbc	PKPbc	17 01 07.9	-0.4
	0.9nm,0.8s,baz=106,slow=2.2,SNR=3.6						

*NOU **14** 16:44:03.9, 19°96S×168°41E, h15km, MLv4.1/12, Vanuatu Islands*

*NEIC **14** 16:44:05.2±0.7, 20°03S±0°10×168°24E±0°05, h10km±1km, mb4.4/8, Error ellipse: s-maj=16.7km s-min=6.9km az=343.0*

*IDC **14** 16:44:07.2±11.0, 19°89S×167°82E, h0km, mb3.9/3, mbtmp3.9/4, ML3.4/1, MS3.3/2, Error ellipse: s-maj=194.5km s-min=41.5km az=91.0*

ISC 14 16:44:03.6±1.1, 19°98S±0°06×168°4E±0°1, h10km, n26, σ1ᵍ15/27, mb4.3/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**1.33**	**233**		**Pn**	**16 44 27.0**	**-1.3**
LIFNC				Sn	**Sb**	**16 44 44.2**	**-1.5**
LIFNC	**LIFOU**	**1.33**	**233**	P	**Pn**	**16 44 27.5**	**-0.7**
MARNC	**Mare, Loyalty**	**1.53**	**192**	Pn	**Pn**	**16 44 29.9**	**-1.0**
MARNC	**Mare, Loyalty**	**1.53**	**192**	P	**Pn**	**16 44 30.0**	**-1.0**
RTV	**Rentapao**	**2.18**	**1**	P	**Pn**	**16 44 39.4**	**-0.5**
DVP	**Devils Point**	**2.25**	**355**	P	**Pn**	**16 44 40.3**	**-0.6**
YATNC	**Mamie plateau,**	**2.49**	**214**	P	**Pn**	**16 44 43.1**	**-1.2**
DZM	**Mont Dzumac**	**2.76**	**221**	Pn	**Pn**	**16 44 48.0**	**0.0**
	8.7nm,0.3s,baz=102,slow=5.9,SNR=141						
DZM				Sn	**Sn**	**16 45 21.5**	**+0.2**
	32nm,0.3s,baz=312,slow=22,SNR=8.7						
DZM				LR	LR	16 45 27.0	
	comp=Z,193nm,18.7s,baz=24,slow=32 35nm,0.4s						
DZM	**Mont Dzumac**	**2.76**	**221**	P	**Pn**	**16 44 48.3**	**+0.3**
OUENC	**Ouen Island, N**	**2.82**	**210**	Pn	**Pn**	**16 44 49.5**	**+0.8**
OUENC	**Ouen Island, N**	**2.82**	**210**	P	**Pn**	**16 44 49.9**	**+1.2**
NOUC	**Port Laguerre**	**2.87**	**222**	P	**Pn**	**16 44 50.5**	**+1.1**
KOUNC	**Koumac, New Ca**	**3.88**	**261**	P	**Pn**	**16 45 04.5**	**+1.1**
ARMA	**Armidale**	**18.36**	**232**		**Pn**	**16 48 16.6**	**-1.8**
ARMA				IAmb	IAmb	16 48 59.8	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**26.77**	**238**	P	**P**	**16 49 46.8**	**+3.1**
	comp=Z,2.0nm,0.8s,baz=45,slow=10.0,SNR=4.0 comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**26.77**	**238**	P	**P**	**16 49 44.6**	**+0.9**
WB0	**Warramunga Arr**	**31.93**	**264**	P	**P**	**16 50 29.1**	**-0.7**
WB0				IAmb	IAmb	16 50 55.3	
	comp=Z,6.6nm,1.2s						
WB2	**Warramunga Arr**	**31.95**	**264**	P	**P**	**16 50 29.5**	**-0.4**
WRA	**Warramunga Arr**	**31.96**	**264**	P	**P**	**16 50 30.0**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=90,slow=8.9,SNR=4.5 comp=Z,1.1nm,1.0s						
AS31	**Alice Springs**	**32.17**	**257**	P	**P**	**16 50 31.1**	**-0.8**
ASAR	**Alice Springs**	**32.17**	**257**	P	**P**	**16 50 32.5**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=85,slow=8.4,SNR=41 comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**32.17**	**257**	P	**P**	**16 50 31.1**	**-0.8**
KNRA	**Kununurra**	**37.90**	**270**	P	**P**	**16 51 21.4**	**+0.2**
FAKI	**Fak Fak**	**39.12**	**291**	P	**P**	**16 51 30.9**	**-0.6**
FAKI				IAmb	IAmb	16 51 32.4	
	comp=Z,9.4nm,0.9s						
QSPA	**South Pole Qui**	**70.08**	**180**	P	**P**	**16 55 17.2**	**+1.5**
QSPA				IAmb	IAmb	16 55 42.5	
	comp=Z,3.8nm,1.4s						
TIXI	**Tiksi**	**95.30**	**348**	LR	LR	17 32 44.2	
	comp=Z,34nm,21.1s,baz=316,slow=31						

WEL 14 16:52:23.7±0.4, 42°S±3°×17°4E±°, h24km±3km, M3.3/9, ML3.5/9, MLv3.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=107.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.16**	**315**	P	Pn	16 52 32.6	+2.0
CMWZ	**Cape Campbell**	**0.16**	**61**	P	Pb	16 52 29.2	+0.4
TUWZ	**Tuamarina**	**0.40**	**351**	P	Pn	16 52 34.3	+0.4
TUWZ				S	Sn	16 52 40.2	-0.6
PLWZ	**Palliser**	**0.96**	**75**	P	Pb	16 52 41.5	-0.1
MSWZ	**Moikau Station**	**1.01**	**66**	P	Pb	16 52 42.3	-0.1
MSWZ				S	Sb	16 52 54.6	-0.6
CAW	**Cannon Point**	**1.06**	**48**	P	Pn	16 52 42.7	-0.3
MTW	**Mount Morrison**	**1.29**	**59**	P	Pn	16 52 46.1	-0.1
MTW				S	Sn	16 53 02.6	-0.2
OGWZ	**Otaki Gorge**	**1.33**	**41**	P	Pb	16 52 47.4	-0.5
TMWZ	**Te Maipa**	**1.58**	**63**	P	Pn	16 52 49.8	-0.3
MRZ	**Mangatainoka R**	**1.65**	**46**	P	Pn	16 52 51.5	+0.3
AMCZ	**Amberley**	**1.69**	**217**	P	Pn	16 52 51.4	-0.2
OXZ	**Oxford**	**2.10**	**224**	P	Pn	16 52 56.8	-0.5
RACZ	**Rakaia**	**2.35**	**216**	P	Pn	16 53 01.3	+0.6

*NOU **14** 16:53:22.4, 42°62S×174°18E, h0km, MLv4.3/9, Off E. Coast of S. Island, N.Z.*

*IDC **14** 16:53:24.5±2.7, 42°22S×173°36E, h0km, mb3.4/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=54.2km s-min=36.5km az=116.0*

*WEL **14** 16:53:25.0±0.6, 42°S±3°×17°4E±°, h8km±3km, M3.9/10, ML4.2/10, MLv3.9/10, Error ellipse: s-maj=0.0km s-min=0.0km az=119.3*

ISC 14 16:53:23.8±1.3, 42°44S±0°03×173°87E±0°04, h11km±8km, n47,σ1ᵍ07/66, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**275**	P	**Pg**	**16 53 29.0**	**+0.2**
KHZ				S	**Sg**	**16 53 32.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.72**	**0**	P	**Pg**	**16 53 38.5**	**+0.8**
BSWZ				S	**Sb**	**16 53 48.6**	**+0.3**
CMWZ	**Cape Campbell**	**0.74**	**21**	P	**Pb**	**16 53 40.1**	**+1.5**
GVZ	**Greta Valley S**	**0.81**	**229**	P	**Pb**	**16 53 41.8**	**+1.9**
GVZ				S	**Sn**	**16 53 54.6**	**+1.4**
THZ	**Tophouse**	**0.99**	**313**	P	**Pg**	**16 53 42.4**	**-0.3**
THZ				S	**Sg**	**16 53 54.7**	**-0.8**
TUWZ	**Tuamarina**	**1.01**	**3**	P	**Pg**	**16 53 43.4**	**+0.2**
TUWZ				S	**Sb**	**16 53 57.7**	**+1.1**
AMCZ	**Amberley**	**1.16**	**230**	P	**Pg**	**16 53 46.6**	**+0.6**
AMCZ				S	**Sn**	**16 54 03.4**	**+1.5**
LTZ	**Lake Taylor**	**1.23**	**253**	P	**Pg**	**16 53 47.8**	**+0.4**
LTZ				S	**Sn**	**16 54 04.1**	**+0.4**
TCW	**Tory Channel**	**1.27**	**14**	P	**Pn**	**16 53 47.2**	**-0.2**
MRNZ	**Matariki Terra**	**1.33**	**321**	P	**Pn**	**16 53 48.8**	**+0.5**
WEL	**Wellington**	**1.33**	**30**	P	**Pn**	**16 53 48.6**	**+0.2**
OKCZ	**Okains Bay**	**1.41**	**205**	P	**Pn**	**16 53 50.2**	**+0.7**
OKCZ				S	**Sn**	**16 54 09.3**	**+1.2**
MQZ	**McQueen's Vall**	**1.55**	**215**	P	**Pn**	**16 53 51.1**	**-0.2**
MQZ				S	**Sn**	**16 54 10.9**	**-0.5**
TKNZ	**Takaka Hill**	**1.56**	**334**	P	**Pn**	**16 53 52.9**	**+0.9**
TK

TRWZ	Traveller	1.14	72	P		Pn	16 57 32.9	-0.8
MRNZ	Matariki Terra	1.17	288	P		Pg	16 57 35.1	-0.2
OGWZ	Otaki Gorge	1.17	37	P		Pb	16 57 34.4	+0.1
TKNZ	Takaka Hill	1.21	307	P		Pg	16 57 35.3	-0.7
HOWZ	Holdsworth Sta	1.29	48	P		Pn	16 57 35.5	-0.2
TMWZ	Te Maipa	1.40	63	P		Pn	16 57 36.5	-0.7
MRZ	Mangatainoka R	1.49	43			Pn	16 57 38.1	-0.4
MRZ	Mangatainoka R	1.49	43	P		Pn	16 57 38.4	-0.1
GVZ	Greta Valley S	1.50	216	P		Pn	16 57 39.1	+0.5
QRZ	Quartz Range	1.60	305	P		Pb	16 57 41.7	+0.1
CPWZ	Castlepoint	1.70	61	P		Pn	16 57 41.4	0.0
OHWZ	Ohakea	1.75	28	P		Pb	16 57 43.9	-0.3
PRWZ	Pori Road	1.78	48	P		Pn	16 57 42.0	-0.4
LTZ	Lake Taylor	1.78	235	Pn		Pn	16 57 42.8	+0.2
LTZ	Lake Taylor	1.78	235	P		Pn	16 57 43.1	+0.5
POWZ	Post Office Ro	1.79	41	P		Pn	16 57 42.6	0.0
DSZ	Denniston Nort	1.83	270	P		Pb	16 57 45.2	-0.3
AMCZ	Amberley	1.84	219	P		Pn	16 57 43.2	-0.1
BFZ	Birch Farm	1.86	55	P		Pn	16 57 42.3	-1.2
DVHZ	Dannevirke	2.06	45	P		Pn	16 57 45.4	-1.0
WAZ	Wanganui	2.08	16	P		Pb	16 57 49.4	-0.5
ANWZ	Angora Road	2.13	53	P		Pn	16 57 46.0	-1.3
TSZ	Takapari Road	2.14	38	P		Pn	16 57 47.2	-0.2
OKCZ	Okains Bay	2.15	204	P		Pn	16 57 46.7	-0.9
OXZ	Oxford	2.26	226	P		Pn	16 57 48.3	-0.7
MQZ	McQueen's Vall	2.27	211	P		Pn	16 57 47.8	-1.4
INZ	Inchbonnie	2.29	244	P		Pb	16 57 53.2	-0.2
LREZ	Lake Rotokare	2.30	3	P		Pb	16 57 54.2	+0.6
AKCZ	Akaroa Harbour	2.33	205	P		Pn	16 57 48.5	-1.4
PRHZ	Porangahau	2.35	51	P		Pn	16 57 48.7	-1.6
PNHZ	Pukenui	2.37	39	P		Pn	16 57 50.0	-0.7
WPHZ	Waipukurau	2.38	45	P		Pn	16 57 49.8	-0.9
KHEZ	Kahui Hut	2.47	356	P		Pb	16 57 57.3	+0.8
RACZ	Rakaia	2.50	218	P		Pn	16 57 51.3	-1.1
NBEZ	Newall Road No	2.51	353	P		Pb	16 57 57.6	+0.5
PKE	Pukeiti	2.57	356	P		Pg	16 57 59.9	-2.1
MOVZ	Moawhango	2.62	26	P		Pn	16 57 53.2	-0.8
PXZ	Pawanui	2.63	50	P		Pn	16 57 52.3	-1.9
WNVZ	Wahianoa	2.64	23	P		Pn	16 57 55.8	+1.4
BHHZ	Black Hill Sta	2.66	32	P		Pn	16 57 55.0	+0.4
VRZ	Vera Road	2.67	9	P		Pb	16 57 57.0	-2.8
DRZ	Dome Shelter	2.68	22	P		Pg	16 58 01.9	-2.1
WHVZ	Whangaehu Hut	2.68	23	P		Pn	16 57 56.6	+1.5
FWVZ	Far West T-bar	2.70	22	P		Pn	16 57 56.9	+1.6
SNVZ	South Ngauruho	2.79	23	P		Pn	16 57 58.0	+1.5
KAHZ	Kahuranaki	2.80	46	P		Pn	16 57 54.9	-1.6
OTVZ	Oturere	2.81	23	P		Pb	16 58 03.3	+0.9
NNVZ	North Ngauruho	2.83	22	P		Pb	16 58 02.1	-0.5
WTVZ	West Tongariro	2.84	22	P		Pb	16 58 02.7	-0.1
TWVZ	Taurewa	2.84	19	P		Pb	16 58 03.8	+1.0
ETVZ	East Tongariro	2.85	24	P		Pn	16 57 58.3	+1.0
ETVZ				P		Pb	16 57 58.7	-4.4
KWHZ	Kaweka Forest	2.87	36	P		Pn	16 57 56.8	-0.6
TMVZ	Te Maari	2.87	23	P		Pn	16 57 58.5	+0.9
KRVZ	Karewarewa	2.87	22	P		Pn	16 57 59.2	+1.6
NTVZ	North Tongariro	2.88	23	P		Pn	16 57 58.7	+1.1
WVZ	Waitaha Valley	2.91	242	P		Pn	16 58 00.1	+2.1
RPZ	Rata Peaks	3.06	229	Pn		Pn	16 57 59.8	-0.3
	5.2nm,0.3s,baz=137,slow=19,SNR=3.1							
RPZ				Sn		Sn	16 58 33.8	-2.3
	11nm,0.3s,baz=158,slow=23,SNR=7.7							
RPZ				LR		LR	16 59 36.1	
	comp=Z,312nm,18.6s,baz=39,slow=47							
	17nm,0.4s							
RPZ	Rata Peaks	3.06	229			Pn	16 57 59.4	-0.6
RPZ	Rata Peaks	3.06	229	P		Pn	16 57 59.7	-0.3
ARCZ	Arundel	3.14	225	P		Pn	16 58 00.5	-0.7
HIZ	Hauiti	3.28	8	P		Pb	16 58 06.3	-3.9
GCSZ	Gaunt Creek Bo	3.29	241	P		Pb	16 58 08.4	-2.0
TMZ	Timaru	3.53	221	P		Pn	16 58 06.1	-0.6
FOZ	Fox Glacier	3.71	240	P		Pn	16 58 10.0	+0.9
LBZ	Lake Benmore	3.96	227	Pn		Pn	16 58 12.5	0.0
LBZ	Lake Benmore	3.96	227	P		Pn	16 58 12.5	0.0
ODZ	Otahua Downs	4.20	217	P		Pn	16 58 14.9	-0.8
RUGZ	Raukumara Rang	4.62	36	P		Pn	16 58 26.7	+5.1
JCZ	Jackson Bay	4.63	238	P		Pn	16 58 26.7	+5.0
AWAZ	Awhitu Peninsu	4.70	4	P		Pn	16 58 26.0	+3.4
MKAZ	Moumakai	4.71	9	P		Pn	16 58 24.4	+1.7
EAZ	Earnscleugh	4.99	224	P		Pn	16 58 25.8	-0.8
DZM	Mont Dzumac	20.70	339	P		Pn	17 01 52.9	-1.4
DZM				IAmb		IAmb	17 02 35.6	
	comp=Z,13nm,1.3s							
STKA	Stephens Creek	27.79	280	P		P	17 03 00.9	+0.3
VNDA	Vanda	36.23	185	P		P	17 04 07.2	-6.8
VNDA				IAmb		IAmb	17 04 15.0	
	comp=Z,1.3nm,0.9s							
SBA	Scott Base	36.33	183	P		P	17 04 16.4	+1.6
SBA				IAmb		IAmb	17 04 26.4	
	comp=Z,4.1nm,1.5s							
ASAR	Alice Springs	38.03	286	P		P	17 04 29.8	-0.1
	comp=Z,0.9nm,1.1s,baz=121,slow=6.4,SNR=6.6							
	comp=Z,0.9nm,1.1s							
WB2	Warramunga Arr	40.10	290	P		P	17 04 47.1	-0.1
WRA	Warramunga Arr	40.10	290	P		P	17 04 46.2	-1.1
	comp=Z,0.4nm,0.7s,baz=126,slow=8.3,SNR=4.9							
	comp=Z,0.4nm,0.7s							
WRA	Warramunga Arr	40.10	290	P		P	17 04 46.8	-0.5
WB0	Warramunga Arr	40.18	291	P		P	17 04 47.5	-0.5
WB0				IAmb		IAmb	17 05 19.5	
	comp=Z,3.6nm,1.1s							
QSPA	South Pole Qui	48.37	180	P		P	17 05 54.6	+1.6
QSPA				IAmb		IAmb	17 06 25.1	
	comp=Z,2.5nm,1.1s							
PSA00	Pilbara Seismi	49.62	276	P		P	17 06 02.9	-0.1
TORD	Torodi Ar. Bea	150.76	195	PKPbc		PKPbc	17 17 04.6	+0.5
	comp=Z,0.2nm,0.4s,baz=172,slow=4.4,SNR=2.9							

NEIC ***14*** *17:01:50.0±1.1, 41°.85S±0°.04×174°.38E±0°.07, h10km±2km, mb4.4/3, Error ellipse: s-maj=11.4km s-min=3.2km az=305.0*

IDC ***14*** *17:01:50.4±2.7, 41°.71S×174°.05E, h0km, mb3.3/2, mbtmp3.4/3, ML3.6/1, MS3.5/1, Error ellipse: s-maj=51.7km s-min=38.5km az=107.0*

WEL ***14*** *17:01:52.3±0.4, 42°.5S±3°×17°.4E±°, h9km±3km, M3.9/61, ML4.1/16, MLv3.9/61, Error ellipse: s-maj=0.0km s-min=0.0km az=130.5*

ISC 14 17:01:50.5±0.9, 41°.82S±0°.02×174°.31E±0°.02, h13km±5km, n121, σ1s49/128, mb4.2/6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.10	315	Pg	Pg	17 01 52.4	-1.0
CMWZ	Cape Campbell	0.10	315	P	Pg	17 01 54.3	+0.8
CMWZ				S	Sg	17 01 56.7	+1.1
BSWZ	Blackbirch Sta	0.34	288	Pg	Pb	17 01 58.1	-0.3
BSWZ	Blackbirch Sta	0.34	288	P	Pb	17 01 58.2	-0.2
BSWZ				S	Sg	17 02 02.7	+0.6
TUWZ	Tuamarina	0.48	325	Pg	Pb	17 02 00.7	0.0
TUWZ	Tuamarina	0.48	325	P	Pb	17 02 01.1	+0.3
TUWZ				S	Sb	17 02 08.1	+0.4
SNZO	South Karori	0.59	30	Pg	Pn	17 02 04.6	+0.1
TCW	Tory Channel	0.61	358	P	Pn	17 02 03.8	-1.0
TCW				S	Sn	17 02 13.2	-1.3
WEL	Wellington	0.64	33	P	Pn	17 02 05.7	+0.5
WEL				S	Sn	17 02 15.8	+0.6
PLWZ	Palliser	0.75	71	Pg	Pg	17 02 03.7	-1.4
PLWZ	Palliser	0.75	71	P	Pg	17 02 08.7	+1.9
MSWZ	Moikau Station	0.81	60	Pg	Pg	17 02 05.0	-1.2
MSWZ	Moikau Station	0.81	60	P	Pn	17 02 09.8	+2.1
MSWZ				S	Sn	17 02 23.8	+4.3
KHZ	Kahutara	0.83	224		Pn	17 02 08.3	+0.5
KHZ	Kahutara	0.83	224	P	Pn	17 02 09.0	+1.2
KHZ				S	Sn	17 02 21.8	+1.9
CAW	Cannon Point	0.91	39	P	Pn	17 02 10.4	+1.5
CAW				S	Sn	17 02 24.6	+2.6
NNZ	Nelson	0.92	310	Pg	Pn	17 02 08.7	-0.4
NNZ	Nelson	0.92	310	P	Pn	17 02 08.7	-0.4
PAWZ	Paruwai Farm	0.94	63	P	Pn	17 02 11.4	+2.0
THZ	Tophouse	1.05	273		Pn	17 02 11.2	+0.2
THZ	Tophouse	1.05	273	P	Pn	17 02 11.6	+0.6
DUWZ	D'Urville Isla	1.06	344	P	Pn	17 02 11.5	+0.4
KIW	Kapiti Island	1.06	25	P	Pn	17 02 12.6	+1.6
KIW				S	Sn	17 02 27.9	+2.2
MTW	Mount Morrison	1.11	54	P	Pn	17 02 12.1	+0.3
TRWZ	Traveller	1.12	68	P	Pn	17 02 13.4	+1.5
OGWZ	Otaki Gorge	1.19	33	P	Pn	17 02 15.1	+2.2
MRNZ	Matariki Terra	1.24	289	P	Pg	17 02 15.4	+1.1
TKNZ	Takaka Hill	1.28	307	P	Pg	17 02 15.6	+0.4
HOWZ	Holdsworth Sta	1.29	45	P	Pg	17 02 16.4	+1.0
TMWZ	Te Maipa	1.39	60	P	Pg	17 02 17.2	+0.1
GVZ	Greta Valley S	1.49	219	Pn	Pb	17 02 17.3	-0.7
GVZ	Greta Valley S	1.49	219	P	Pg	17 02 18.3	-0.7
MRZ	Mangatainoka R	1.50	40		Pn	17 02 16.2	-0.9
MRZ	Mangatainoka R	1.50	40	P	Pg	17 02 19.2	-0.2
QRZ	Quartz Range	1.67	306	Pn	Pn	17 02 19.9	+0.5
QRZ	Quartz Range	1.67	306	P	Pg	17 02 22.1	-0.4
CPWZ	Castlepoint	1.69	58	P	Pg	17 02 22.0	-0.9
PRWZ	Pori Road	1.78	45	P	Pb	17 02 22.6	-0.4
OHWZ	Ohakea	1.78	26	P	Pg	17 02 24.5	-0.2
LTZ	Lake Taylor	1.79	237	Pn	Pb	17 02 22.4	-0.8
LTZ	Lake Taylor	1.79	237	P	Pb	17 02 22.7	-0.5
POWZ	Post Office Ro	1.80	38	P	Pb	17 02 23.2	-0.2
AMCZ	Amberley	1.83	222	P	Pg	17 02 26.8	+1.3
BFZ	Birch Farm	1.85	53	Pn	Pn	17 02 22.1	+0.1
BFZ	Birch Farm	1.85	53	P	Pb	17 02 23.1	-1.1
DSZ	Denniston Nort	1.88	271	P	Pg	17 02 25.3	-1.1
DVHZ	Dannevirke	2.07	43	P	Pb	17 02 26.0	-1.9
OKCZ	Okains Bay	2.11	205	P	Pn	17 02 26.0	+0.5
ANWZ	Angora Road	2.13	51	P	Pb	17 02 27.2	-1.7
WAZ	Wanganui	2.13	14	P	Pg	17 02 30.2	-1.0
TSZ	Takapari Road	2.16	36	P	Pg	17 02 31.2	-0.6
MQZ	McQueen's Vall	2.25	212		Pn	17 02 27.6	+0.3
MQZ	McQueen's Vall	2.25	212	P	Pn	17 02 27.3	0.0
OXZ	Oxford	2.25	227		Pn	17 02 27.3	-0.2
OXZ	Oxford	2.25	227	P	Pb	17 02 29.9	-1.1
AKCZ	Akaroa Harbour	2.29	206	P	Pn	17 02 28.5	+0.5
INZ	Inchbonnie	2.31	246	P	Pb	17 02 31.8	-0.2
PRHZ	Porangahau	2.35	49	P	Pn	17 02 29.5	+0.8
LREZ	Lake Rotokare	2.36	2	P	Pg	17 02 35.2	-0.5
WPHZ	Waipukurau	2.38	43	P	Pb	17 02 30.8	-2.4
PNHZ	Pukenui	2.38	38	P	Pn	17 02 30.6	+1.4
RACZ	Rakaia	2.49	219	P	Pn	17 02 31.2	+0.6
KHEZ	Kahui Hut	2.53	355	P	Pg	17 02 37.6	-1.4
NEZ	North Egmont	2.55	356	P	Pg	17 02 38.5	-0.9
NBEZ	Newall Road No	2.57	352	P	Pb	17 02 37.3	+0.9
PXZ	Pawanui	2.63	48	P	Pg	17 02 41.7	+0.7
PKE	Pukeiti	2.63	355	P	Pb	17 02 37.7	+0.1
MOVZ	Moawhango	2.65	25	P	Pb	17 02 35.8	-2.0
WNVZ	Wahianoa	2.68	22	P	Pb	17 02 39.2	+0.9
BHHZ	Black Hill Sta	2.68	30	P	Pb	17 02 35.6	-2.8
TRVZ	Turoa	2.69	21	P	Pg	17 02 41.0	-1.0
VRZ	Vera Road	2.71	7	P	Pb	17 02 37.6	-1.3
DRZ	Dome Shelter	2.72	21	P	Pg	17 02 42.0	-0.6
WHVZ	Whangaehu Hut	2.72	21	P	Pb	17 02 37.2	-1.8
FWVZ	Far West T-bar	2.73	21	P	Pb	17 02 37.6	-1.7
NGZ	Ngauruhoe	2.82	21	P	Pg	17 02 43.7	-0.9
OTVZ	Oturere	2.85	22	P	Pb	17 02 38.9	-2.4
NNVZ	North Ngauruho	2.86	21	P	Pb	17 02 39.5	-2.0
WTVZ	West Tongariro	2.87	20	P	Pg	17 02 43.4	-2.1
TWVZ	Taurewa	2.88	18	P	Pg	17 02 44.5	-1.1
ETVZ	East Tongariro	2.89	22	P	Pb	17 02 39.3	-2.6
TMVZ	Te Maari	2.90	22	P	Pb	17 02 39.2	-3.0
KRVZ	Karewarewa	2.91	21	P	Pb	17 02 40.0	-2.3
NTVZ	North Tongarir	2.91	21	P	Pb	17 02 39.4	-2.9
WVZ	Waitaha Valley	2.93	243	P	Pn	17 02 38.9	+2.2
RPZ	Rata Peaks	3.06	231	Pn	Pn	17 02 39.3	+0.8
	7.4nm,0.3s,baz=66,slow=1.6,SNR=12						
RPZ				Sn	Sn	17 03 14.4	-0.5
	13nm,0.3s,baz=177,slow=23,SNR=8.9						
	22nm,0.3s						
RPZ	Rata Peaks	3.06	231	Pn	Pn	17 02 39.1	+0.6
RPZ	Rata Peaks	3.06	231	P	Pn	17 02 39.3	+0.8
BKZ	Black Stump Fm	3.13	33		Pn	17 02 40.2	+0.6
ARCZ	Arundel	3.13	226	P	Pn	17 02 40.1	+0.5
WATZ	Wairara	3.29	20	P	Pg	17 02 50.7	-2.8
GCSZ	Gaunt Creek Bo	3.30	242	P	Pb	17 02 47.4	-1.4
HIZ	Hauiti	3.33	7	Pn	Pn	17 02 42.5	+0.2
HIZ	Hauiti	3.33	7	P	Pb	17 02 46.1	-3.2
TMZ	Timaru	3.52	222	P	Pn	17 02 45.4	+0.4
FOZ	Fox Glacier	3.73	241	Pn	Pn	17 02 47.4	-0.3
FOZ	Fox Glacier	3.73	241	P	Pn	17 02 50.1	+2.3
GRRZ	Galatos Road	3.73	22	P	Pn	17 02 49.2	+1.4
LBZ	Lake Benmore	3.96	228	Pn	Pn	17 02 50.9	-0.1
LBZ	Lake Benmore	3.96	228	P	Pn	17 02 52.4	+1.5
ODZ	Otahua Downs	4.18	218		Pn	17 02 53.9	-0.1
ODZ	Otahua Downs	4.18	218	P	Pn	17 02 54.1	+0.1
TOZ	Tahuroa Road	4.19	13	P	Pn	17 02 57.6	+3.6
JCZ	Jackson Bay	4.64	239	P	Pb	17 03 06.9	-4.8
MKAZ	Moumakai	4.76	8	P	Pn	17 03 04.7	+2.9
AWAZ	Awhitu Peninsu	4.76	3	P	Pn	17 03 06.4	+4.5
HAZ	Te Kaha	4.86	35	P	Pn	17 03 04.7	+1.5
WKZ	Wanaka	4.89	230	Pn	Pn	17 03 03.8	+0.1
WIAZ	Waiheke Island	5.06	8	P	Pn	17 03 11.7	+5.7
MLZ	Mavora Lakes	5.72	230	Pn	Pn	17 03 12.9	-2.3
WHZ	Wether Hill Ro	6.14	226	Pn	Pn	17 03 20.9	0.0
DCZ	Deep Cove	6.34	233	Pn	Pn	17 03 23.7	+0.1
OUZ	Omahuta	6.62	355	Pn	Pn	17 03 28.2	+0.9
AFI	Afiamalu	30.32	28	LR	LR	17 18 48.0	
	comp=Z,83nm,18.8s,baz=186,slow=34						
ASAR	Alice Springs	38.09	286	P	P	17 09 09.3	+0.2
	0.3nm,0.8s,baz=119,slow=6.5,SNR=11						
	0.3nm,0.8s						
WB2	Warramunga Arr	40.16	290	P	P	17 09 26.5	+0.1
WB2				IAmb	IAmb	17 09 48.8	
	comp=Z,7.3nm,1.4s						
WRA	Warramunga Arr	40.17	290	P	P	17 09 26.3	-0.2
	comp=Z,0.3nm,0.6s,baz=126,slow=8.4,SNR=7.4						
	comp=Z,0.3nm,0.6s						
WB0	Warramunga Arr	40.25	291	P	P	17 09 25.3	-1.8
WB0				IAmb	IAmb	17 10 02.1	
	comp=Z,6.7nm,1.3s						
PMSA	Palmer Station	64.39	156	P	P	17 12 23.3	-2.4
PMSA				IAmb	IAmb	17 12 27.4	
	comp=Z,13nm,0.8s						
PZH	PanZhiHua	95.41	301	P	P	17 15 16.5	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,5.7s						
TORD	Torodi Ar. Bea	150.72	195	PKPbc	PKiKP	17 21 44.7	+1.3
	comp=Z,0.7nm,1.0s,baz=158,slow=3.4,SNR=2.3						

WEL ***14*** *17:05:00, 42°.82S×173°.26E, h5km, ML4.2, Mw4.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^15 Nm; Mrr0.68; Mθθ0.41; Mϕϕ-1.08; Mrθ0.53; Mθϕ-0.47; Mϕr0.33; Fault plane solution: M0 1.21000×10^15 NP1: ϕs162.00000°, δ44.00000°, λ34.00000°. NP2:ϕs46.00000°, δ67.00000°, λ129.00000°. Principal axes: T -133.1300, Plg52.0000°, Azm1.0000°; N 23.9300, Plg35.0000°, Azm208.0000°; P 109.2100, Plg13.0000°, Azm109.0000°;*

IDC ***14*** *17:05:05.8±1.5, 42°.62S×172°.98E, h0km, mb3.7/3, mbtmp3.7/3, MS3.2/2 Error ellipse: s-maj=32.7km s-min=29.1km az=104.0*

NOU ***14*** *17:05:06.9, 42°.66S×173°.03E, h0km, MLv4.6/6, South Island, New Zealand*

WEL ***14*** *17:05:07.4±0.4, 43°.5S±2°×17°.3E±°, h5km, M4.0/14, ML4.2/14, MLv4.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=113.2*

ISC 14 17:05:07.5±0.9, 42°.76S±0°.03×173°.14E±0°.04, h16km±6km, n82, σ1s06/88, mb3.3/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	Greta Valley S	0.22	201	P	Pg	17 05 12.9	+0.3
GVZ				S	Sg	17 05 16.8	+0.8
KHZ	Kahutara	0.46	40	P	Pg	17 05 16.0	-0.6
KHZ				S	Sg	17 05 23.0	+0.2
AMCZ	Amberley	0.55	221	P	Pb	17 05 19.4	+0.6
LTZ	Lake Taylor	0.64	268	P	Pn	17 05 20.5	-1.5
LTZ				S	Sn	17 05 30.0	-1.9
OKCZ	Okains Bay	0.96	184	P	Pg	17 05 26.4	+0.2
OXZ	Oxford	0.98	235	P	Pn	17 05 26.4	-0.3
OXZ				S	Sn	17 05 41.2	+0.8
MQZ	McQueen's Vall	1.01	201	P	Pg	17 05 26.1	-0.9
MQZ				S	Sg	17 05 39.8	-0.5
THZ	Tophouse	1.02	350	P	Pn	17 05 26.9	-0.3
AKCZ	Akaroa Harbour	1.12	189	P	Pg	17 05 27.5	-1.7
BSWZ	Blackbirch Sta	1.18	28	P	Pb	17 05 29.8	+0.2
RACZ	Rakaia	1.21	217	P	Pb	17 05 29.3	-0.8
INZ	Inchbonnie	1.25	271	P	Pn	17 05 31.6	+1.2
CMWZ	Cape Campbell	1.29	38	P	Pn	17 05 31.5	+0.6
MRNZ	Matariki Terra	1.39	348	P	Pg	17 05 33.1	-1.2
MRNZ				S	Sg	17 05 53.1	+0.6
DSZ	Denniston Nort	1.42	315	P	Pg	17 05 34.0	-0.9
TUWZ	Tuamarina	1.46	24	P	Pn	17 05 33.6	+0.4
WACZ	Wakanui South	1.51	218	P	Pn	17 05 33.7	-0.3
NNZ	Nelson	1.56	7	P	Pb	17 05 36.1	+0.1
TKNZ	Takaka Hill	1.73	355	P	Pb	17 05 38.6	-0.4
WVZ	Waitaha Valley	1.79	259	P	Pb	17 05 39.3	-0.8
RPZ	Rata Peaks	1.80	237	Pn	Pn	17 05 37.8	-0.1
	36nm,0.3s,baz=185,slow=2.4,SNR=21						
RPZ				Sn	Sn	17 06 00.4	0.0
	31nm,0.3s,baz=314,slow=23,SNR=15						
RPZ	Rata Peaks	1.80	237	P	Pn	17 05 37.8	-0.1
RPZ	Rata Peaks	1.80	237	P	Pn	17 05 37.8	-0.1
ARCZ	Arundel	1.86	230	P	Pn	17 05 38.5	-0.3
PLWZ	Palliser	1.97	53	P	Pn	17 05 39.3	-1.1
QRZ	Quartz Range	1.99	346	P	Pn	17 05 42.3	-1.1
DUWZ	D'Urville Isla	2.04	17	P	Pn	17 05 42.2	+0.9
MSWZ	Moikau Station	2.07	50	P	Pn	17 05 40.4	-1.3
GCSZ	Gaunt Creek Bo	2.14	254	P	Pb	17 05 43.9	-2.0
CAW	Cannon Point	2.19	42	P	Pn	17 05 42.5	-0.8
TMZ	Timaru	2.24	223	P	Pn	17 05 44.0	0.0
TRWZ	Traveller	2.34	55	P	Pn	17 05 44.1	-1.2
FOZ	Fox Glacier	2.55	251	P	Pn	17 05 49.5	+1.3
LBZ	Lake Benmore	2.69	232	P	Pn	17 05 50.3	+0.1
MRZ	Mangatainoka R	2.78	42	P	Pn	17 05 50.2	-1.2
ODZ	Otahua Downs	2.91	218	P	Pn	17 05 52.6	-0.6
WAZ	Wanganui	3.31	25	P	Pn	17 06 00.2	+1.5
JCZ	Jackson Bay	3.43	246	P	Pn	17 06 01.1	+0.6
JCZ	Jackson Bay	3.43	246	P	Pn	17 06 01.1	+0.7
LREZ	Lake Rotokare	3.44	17	P	Pb	17 06 05.5	-2.5
NBEZ	Newall Road No	3.54	9	P	Pn	17 06 04.0	+2.2
HHSZ	Highcliff Hill	3.62	209	P	Pn	17 06 02.0	-0.9
PKE	Pukeiti	3.62	10	P	Pn	17 06 05.0	+2.0
EAZ	Earnscleugh	3.71	227	P	Pn	17 06 03.8	-0.3
VRZ	Vera Road	3.84	19	P	Pn	17 06 07.2	+1.3
MOVZ	Moawhango	3.89	31	P	Pn	17 06 08.0	+1.2
WNVZ	Wahianoa	3.90	29	P	Pn	17 06 07.7	+0.7
WHVZ	Whangaehu Hut	3.94	29	P	Pn	17 06 07.8	+0.2
FWVZ	Far West T-bar	3.95	28	P	Pn	17 06 08.0	+0.3
SNVZ	South Ngauruho	4.04	29	P	Pn	17 06 09.1	+0.2
TUZ	Tuapeka	4.06	217	P	Pn	17 06 09.4	+0.4
OTVZ	Oturere	4.07	29	P	Pn	17 06 09.9	+0.6
WTVZ	West Tongariro	4.09	28	P	Pn	17 06 09.7	+0.2
ETVZ	East Tongariro	4.11	29	P	Pn	17 06 10.4	+0.5
KRVZ	Karewarewa	4.13	28	P	Pn	17 06 12.0	+2.0
TMVZ	Te Maari	4.13	29	P	Pn	17 06 10.7	+0.6
NTVZ	North Tongarir	4.13	29	P	Pn	17 06 10.8	+0.6
HIZ	Hauiti	4.44	18	P	Pn	17 06 15.2	+1.0
HIZ	Hauiti	4.44	18	P	Pn	17 06 15.2	+1.0
MLZ	Mavora Lakes	4.46	233	P	Pn	17 06 14.5	0.0
SYZ	Scrubby Hill	4.73	216	P	Pn	17 06 16.7	+1.5
SYZ	Scrubby Hill	4.73	216	P	Pn	17 06 16.9	-1.3
WHZ	Wether Hill Ro	4.87	228	P	Pn	17 06 19.6	-0.5
TOZ	Tahuroa Road	5.34	21	P	Pn	17 06 26.6	0.0
APZ	The Paps	5.47	220	P	Pn	17 06 28.8	+0.4
PYZ	Puysegur Point	5.74	231	P	Pn	17 06 34.2	+2.1
PYZ	Puysegur Point	5.74	231	P	Pn	17 06 34.3	+2.3
AWAZ	Awhitu Peninsu	5.81	12

comp=Z,20nm,18.9s,baz=236,slow=37
CMAR Chiang Mai Arr 74.29 293 P P 17 22 15.7 +0.1
0.6nm,0.8s,baz=126,slow=4.4,SNR=5.3
0.6nm,0.8s
MKAR Makanchi Array 95.76 317 P P 17 24 03.8 -0.2
0.3nm,0.5s,baz=102,slow=6.5,SNR=4.2
0.3nm,0.5s

WEL 14 17:13:25.6±0.4, 42°S±3°×17°4E±°, h5km, M3.7/15, ML3.9/15, MLv3.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=134.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.43**	**10**	P	Pg	17 13 33.7	0.0
BSWZ				S	Sg	17 13 40.0	+0.7
CMWZ	**Cape Campbell**	**0.50**	**40**	P	Pb	17 13 36.3	-0.6
TUWZ	**Tuamarina**	**0.72**	**10**	P	Pg	17 13 39.2	-0.1
TUWZ				S	Sb	17 13 49.6	-1.0
THZ	**Tophouse**	**0.75**	**299**	P	Pg	17 13 40.1	+0.1
THZ				S	Sg	17 13 49.9	+0.2
NNZ	**Nelson**	**0.96**	**342**	P	Pg	17 13 43.5	-0.6
NNZ				S	Sg	17 13 55.5	-1.1
TCW	**Tory Channel**	**1.00**	**22**	P	Pg	17 13 44.1	-0.5
GVZ	**Greta Valley S**	**1.00**	**213**	P	Pn	17 13 46.7	+0.4
MRNZ	**Matariki Terra**	**1.06**	**314**	P	Pg	17 13 45.9	0.0
WEL	**Wellington**	**1.13**	**41**	P	Pb	17 13 47.6	+0.1
WEL				S	Sb	17 14 03.0	+0.5
PLWZ	**Palliser**	**1.24**	**63**	P	Pg	17 13 48.5	-0.8
TKNZ	**Takaka Hill**	**1.26**	**331**	P	Pg	17 13 49.0	-0.7
LTZ	**Lake Taylor**	**1.29**	**239**	P	Pn	17 13 49.2	-1.1
MSWZ	**Moikau Station**	**1.31**	**57**	P	Pn	17 13 49.4	-1.2
AMCZ	**Amberley**	**1.33**	**218**	P	Pn	17 13 49.3	-1.5
DUWZ	**D'Urville Isla**	**1.34**	**5**	P	Pn	17 13 50.1	-0.8
CAW	**Cannon Point**	**1.41**	**44**	P	Pn	17 13 51.2	-0.7
PAWZ	**Paruwai Farm**	**1.44**	**59**	P	Pn	17 13 50.9	-1.4
DSZ	**Denniston Nort**	**1.52**	**284**	P	Pg	17 13 54.9	+0.2
KIW	**Kapiti Island**	**1.53**	**34**	P	Pn	17 13 53.3	-0.3
TRWZ	**Traveller**	**1.61**	**63**	P	Pn	17 13 53.0	-1.5
QRZ	**Quartz Range**	**1.61**	**324**	P	Pn	17 13 55.0	+0.3
MTW	**Mount Morrison**	**1.62**	**53**	P	Pn	17 13 53.2	-1.6
OKCZ	**Okains Bay**	**1.67**	**198**	P	Pn	17 13 55.2	-0.3
OGWZ	**Otaki Gorge**	**1.68**	**39**	P	Pn	17 13 55.0	-0.6
OXZ	**Oxford**	**1.75**	**227**	P	Pn	17 13 56.0	-0.6
MQZ	**McQueen's Vall**	**1.77**	**207**	P	Pn	17 13 55.7	-1.1
INZ	**Inchbonnie**	**1.83**	**250**	P	Pb	17 13 58.7	-0.7
AKCZ	**Akaroa Harbour**	**1.85**	**200**	P	Pn	17 13 57.5	-0.5
TMWZ	**Te Maipa**	**1.89**	**58**	P	Pn	17 13 56.6	-1.9
RACZ	**Rakaia**	**2.00**	**217**	P	Pn	17 13 59.1	-0.9
MRZ	**Mangatainoka R**	**2.00**	**43**	P	Pn	17 13 58.8	-1.2
OHWZ	**Ohakea**	**2.25**	**32**	P	Pb	17 14 06.6	0.0
PRWZ	**Pori Road**	**2.28**	**47**	P	Pb	17 14 07.8	+0.6
POWZ	**Post Office Ro**	**2.30**	**41**	P	Pg	17 14 08.6	-0.9
BFZ	**Birch Farm**	**2.36**	**53**	P	Pb	17 14 09.3	+0.8
WVZ	**Waitaha Valley**	**2.44**	**246**	P	Pn	17 14 06.8	+0.8
WAZ	**Wanganui**	**2.55**	**21**	P	Pb	17 14 12.1	+0.4
RPZ	**Rata Peaks**	**2.55**	**231**	P	Pn	17 14 07.0	-0.5
DVHZ	**Dannevirke**	**2.57**	**45**	P	Pn	17 14 05.7	-2.2
ARCZ	**Arundel**	**2.63**	**226**	P	Pn	17 14 08.0	-0.7
TSZ	**Takapari Road**	**2.65**	**39**	P	Pb	17 14 14.5	+1.0
LREZ	**Lake Rotokare**	**2.71**	**10**	P	Pb	17 14 13.8	-0.8
GCSZ	**Gaunt Creek Bo**	**2.80**	**244**	P	Pn	17 14 12.1	+1.0
NBEZ	**Newall Road No**	**2.87**	**1**	P	Pb	17 14 16.3	-0.9
PKE	**Pukeiti**	**2.94**	**3**	P	Pb	17 14 17.1	-1.4
TMZ	**Timaru**	**3.02**	**221**	P	Pn	17 14 13.7	-0.4
VRZ	**Vera Road**	**3.10**	**14**	P	Pb	17 14 18.2	-2.9
MOVZ	**Moawhango**	**3.11**	**26**	P	Pb	17 14 18.9	-2.5
WNVZ	**Wahianoa**	**3.13**	**27**	P	Pb	17 14 19.4	-2.3
WHVZ	**Whangaehu Hut**	**3.16**	**26**	P	Pb	17 14 19.4	-3.0
FWVZ	**Far West T-bar**	**3.18**	**26**	P	Pb	17 14 19.8	-2.8
OTVZ	**Oturere**	**3.30**	**26**	P	Pb	17 14 23.5	-1.1
NNVZ	**North Ngauruho**	**3.31**	**26**	P	Pb	17 14 23.5	-1.3
WTVZ	**West Tongariro**	**3.32**	**25**	P	Pb	17 14 22.7	-2.3
ETVZ	**East Tongariro**	**3.34**	**27**	P	Pb	17 14 23.3	-2.0
KRVZ	**Karewarewa**	**3.35**	**26**	P	Pb	17 14 23.7	-1.8
TMVZ	**Te Maari**	**3.35**	**27**	P	Pn	17 14 21.6	+2.9
LBZ	**Lake Benmore**	**3.46**	**228**	P	Pn	17 14 19.8	-0.2
ODZ	**Otahua Downs**	**3.69**	**217**	P	Pn	17 14 22.5	-0.8
HIZ	**Hauiti**	**3.71**	**13**	P	Pn	17 14 27.5	+4.0
HHSZ	**Highcliff Hill**	**4.39**	**210**	P	Pn	17 14 32.6	-0.3
EAZ	**Earnscleugh**	**4.48**	**225**	P	Pn	17 14 33.6	-0.5
AWAZ	**Awhitu Peninsu**	**5.11**	**8**	P	Pn	17 14 45.6	+2.9
MKAZ	**Moumakai**	**5.14**	**12**	P	Pn	17 14 45.9	+2.8
WMGZ	**Waiomatatini S**	**5.59**	**41**	P	Pn	17 14 50.7	+1.4

*JMA **14** 17:16:17.0±0.2, 25°N±2°×124°2E±0°.8, h105km±3km, MV3.0/13, NW OFF ISHIGAKIJIMA IS*
*IDC **14** 17:16:16.0±8.4, 25°.25N×124°.20E, h103km±95km, mb3.0/3, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=72.0km s-min=23.9km az=56.0*
ISC 14 17:16:16.3±1.1, 25°.2N±0°.1×124°.17E±0°.05, h106km±10km, n16, σ0°56/29, mb3.2/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.63**	**168**	P	**Pn**	**17 16 33.6**	**-0.1**
JISG				S	**Sn**	**17 16 46.3**	**-0.5**
JTJ	**Tarama**	**0.74**	**139**	P	**Pn**	**17 16 34.9**	**+0.2**
JTJ				S	**Sn**	**17 16 48.6**	**+0.1**
JIJ	**Ishigaki jima**	**0.84**	**181**	P	**Pn**	**17 16 35.1**	**-0.5**
JIJ				S	**Sn**	**17 16 48.8**	**-1.3**
IRIF	**Iriomote-Funau**	**0.95**	**205**	P	**Pn**	**17 16 36.4**	**-0.4**
IRIF				S	**Sn**	**17 16 51.7**	**-0.4**
JKRS	**Kuro-shima**	**0.98**	**188**	P	**Pn**	**17 16 36.9**	**0.0**
JKRS				S	**Sn**	**17 16 52.0**	**-0.5**
JIRB	**Irabujima**	**0.99**	**112**	P	**Pn**	**17 16 37.2**	**+0.1**
JIRB				S	**Sn**	**17 16 53.0**	**+0.2**
JIKM	**Ikemajima**	**1.02**	**106**	P	**Pn**	**17 16 37.9**	**+0.4**
JIKM				*e*S	**Sn**	**17 16 53.7**	**+0.4**
JMJ2	**Miyako jima3**	**1.15**	**114**	P	**Pn**	**17 16 39.3**	**+0.5**
JMJ2				S	**Sn**	**17 16 56.5**	**+0.6**
HATJ	**Hateruma jima**	**1.19**	**196**	P	**Pn**	**17 16 39.4**	**+0.1**
HATJ				*e*S	**Sn**	**17 16 56.2**	**-0.5**
JOGS	**Gusukube**	**1.21**	**111**	P	**Pn**	**17 16 40.0**	**+0.5**
JOGS				*e*S	**Sn**	**17 16 57.9**	**+0.8**
YOJ	**Yonaguni jima**	**1.28**	**235**	P	**Pn**	**17 16 40.8**	**+0.5**
YOJ				*e*S	**Sn**	**17 16 59.4**	**+0.8**
JYNG	**Yonagunijimaku**	**1.34**	**236**	P	**Pn**	**17 16 41.5**	**+0.5**
JYNG				S	**Sn**	**17 17 00.1**	**+0.4**
JOW	**Kunigami**	**4.04**	**65**	P	**Pn**	**17 17 15.7**	**-0.4**
	2.2nm,0.3s,baz=116,slow=24,SNR=28						
JOW				S	**Sn**	**17 18 01.4**	**-1.0**
	7.2nm,0.3s,baz=132,slow=25,SNR=5.6						
	5.2nm,0.3s						
MKAR	**Makanchi Array**	**39.54**	**314**	P	**P**	**17 23 36.5**	**-0.2**
	0.2nm,0.5s,baz=91,slow=7.7,SNR=5.9						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**45.96**	**167**	P	**P**	**17 24 28.7**	**-0.1**
	0.3nm,0.7s,baz=348,slow=8.9,SNR=6.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**49.49**	**168**	P	**P**	**17 24 56.6**	**+0.5**
	0.2nm,0.3s,baz=354,slow=7.8,SNR=8.8						
	0.2nm,0.3s						

WEL 14 17:19:08.8±0.4, 42°S±3°×17°4E±°, h9km±3km, M2.9/19, ML3.5/15, MLv2.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=148.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**279**	P	Pg	17 19 11.4	+1.0
CMWZ				S	Sg	17 19 12.9	+1.3
BSWZ	**Blackbirch Sta**	**0.28**	**278**	P	Pg	17 19 14.7	+0.2
BSWZ				S	Sg	17 19 19.4	+1.1
TUWZ	**Tuamarina**	**0.40**	**324**	P	Pg	17 19 17.1	+0.5
TUWZ				S	Sg	17 19 23.0	+1.1
TCW	**Tory Channel**	**0.54**	**2**	P	Pg	17 19 19.6	+0.3
TCW				S	Sb	17 19 27.9	-0.5
WEL	**Wellington**	**0.61**	**40**	P	Pb	17 19 21.4	-0.2
WEL				S	Sb	17 19 30.9	+0.6
PLWZ	**Palliser**	**0.77**	**77**	P	Pb	17 19 24.6	+0.1
PLWZ				S	Sn	17 19 37.0	-0.7
MSWZ	**Moikau Station**	**0.82**	**66**	P	Pb	17 19 25.5	+0.2
MSWZ				S	Sn	17 19 38.1	-0.8
NNZ	**Nelson**	**0.85**	**309**	P	Pg	17 19 25.1	0.0
NNZ				S	Sn	17 19 38.7	-0.7
CAW	**Cannon Point**	**0.89**	**44**	P	Pg	17 19 26.1	+0.2
CAW				S	Sb	17 19 38.6	+0.1
PAWZ	**Paruwai Farm**	**0.96**	**68**	P	Pg	17 19 27.2	0.0
DUWZ	**D'Urville Isla**	**0.98**	**345**	P	Pg	17 19 27.8	+0.1
DUWZ				S	Sb	17 19 41.7	+0.6
KIW	**Kapiti Island**	**1.02**	**29**	P	Pg	17 19 28.3	-0.1
MTW	**Mount Morrison**	**1.11**	**58**	P	Pg	17 19 29.3	-0.9
TRWZ	**Traveller**	**1.13**	**72**	P	Pg	17 19 29.4	-1.2
OGWZ	**Otaki Gorge**	**1.16**	**37**	P	Pb	17 19 30.8	-0.3
OGWZ				S	Sg	17 19 46.1	-0.1
MRNZ	**Matariki Terra**	**1.18**	**287**	P	Pb	17 19 31.1	-0.2
MRNZ				S	Sn	17 19 47.6	-0.1
TKNZ	**Takaka Hill**	**1.21**	**306**	P	Pb	17 19 31.9	0.0
TMWZ	**Te Maipa**	**1.39**	**63**	P	Pn	17 19 32.7	-1.7
MRZ	**Mangatainoka R**	**1.48**	**43**	P	Pn	17 19 34.7	-1.0
MRZ				S	Sn	17 19 54.7	-0.5
PRWZ	**Pori Road**	**1.77**	**48**	P	Pn	17 19 38.2	-1.4
DVHZ	**Dannevirke**	**2.05**	**46**	P	Pn	17 19 41.5	-2.0
PNHZ	**Pukenui**	**2.36**	**39**	P	Pn	17 19 46.0	-1.7
PNHZ				S	Sn	17 20 15.2	-1.7
MOVZ	**Moawhango**	**2.61**	**26**	P	Pn	17 19 51.3	+0.1
VRZ	**Vera Road**	**2.65**	**9**	P	Pn	17 19 53.5	+1.7

*IDC **14** 17:20:06.7±2.7, 41°.77S×174°.20E, h0km, mb3.4/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=52.4km s-min=41.2km az=116.0*
*NEIC **14** 17:20:08.9±1.2, 41°.80S±0°.03×174°.30E±0°.02, h15km±3km, mb4.2/3, Mwr3.8/25, Error ellipse: s-maj=5.3km s-min=1.2km az=157.0*
*NEIC **14** 17:20:09.1, 41°.77S×174°.29E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}4.85; $M_{\theta\theta}$2.17; $M_{\phi\phi}$-7.02; $M_{r\theta}$-0.53; $M_{r\phi}$0.78; $M_{\theta\phi}$-0.26; Fault plane solution: $M_0$6.30000×10^{14} NP1:$\phi_1$343.79000°, δ45.15000°, λ73.68000°. NP2:$\phi_2$186.33000°, δ47.13000°, λ105.77000°. Principal axes: T 4.9613, Plg78.0000°, Azm170.0000°; N 2.1271, Plg11.0000°, Azm355.0000°; P -7.0885, Plg1.0000°, Azm265.0000°;*
*WEL **14** 17:20:09.9±0.4, 42°.5S±2°×17°4E±°, h6km±3km, M3.9/14, ML4.2/14, MLv3.9/14 Error ellipse: s-maj=0.0km s-min=0.0km az=144.9*
ISC 14 17:20:09.1±0.8, 41°.79S±0°.03×174°.27E±0°.02, h16km±4km, n117, σ0°93/139, mb3.5/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**312**	Pg	**Pg**	**17 20 11.7**	**-0.4**
CMWZ				Sg	**Sg**	**17 20 14.1**	**0.0**
CMWZ	**Cape Campbell**	**0.06**	**312**	P	**Pg**	**17 20 12.1**	**0.0**
CMWZ				S	**Sg**	**17 20 14.1**	**0.0**
BSWZ	**Blackbirch Sta**	**0.30**	**284**	Pg	**Pg**	**17 20 15.7**	**+0.2**
BSWZ				Sg	**Sb**	**17 20 20.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.30**	**284**	P	**Pb**	**17 20 16.0**	**-0.2**
BSWZ				S	**Sb**	**17 20 21.0**	**+0.2**
TUWZ	**Tuamarina**	**0.43**	**325**	Pg	**Pg**	**17 20 17.8**	**0.0**
TUWZ				Sg	**Sg**	**17 20 23.8**	**+0.1**
TUWZ	**Tuamarina**	**0.43**	**325**	P	**Pg**	**17 20 18.2**	**-0.1**
TUWZ				S	**Sb**	**17 20 24.5**	**0.0**
TCW	**Tory Channel**	**0.58**	**1**	P	**Pg**	**17 20 20.2**	**-0.3**
TCW				S	**Sb**	**17 20 28.5**	**-0.2**
SNZO	**South Karori**	**0.58**	**35**	Pg	**Pg**	**17 20 20.4**	**-0.1**
SNZO				Sg	**Sg**	**17 20 28.3**	**+0.2**
WEL	**Wellington**	**0.63**	**37**	P	**Pg**	**17 20 21.4**	**0.0**
PLWZ	**Palliser**	**0.77**	**74**	Pg	**Pg**	**17 20 24.2**	**+0.1**
PLWZ					**Sn**	**17 20 37.0**	**+0.4**
PLWZ	**Palliser**	**0.77**	**74**	P	**Pn**	**17 20 25.0**	**-0.3**
PLWZ				S	**Sn**	**17 20 37.3**	**+0.8**
MSWZ	**Moikau Station**	**0.82**	**64**		**Pg**	**17 20 25.4**	**+0.3**
MSWZ	**Moikau Station**	**0.82**	**64**	P	**Pn**	**17 20 25.7**	**-0.3**
MSWZ				S	**Sn**	**17 20 38.3**	**+0.5**
KHZ	**Kahutara**	**0.83**	**221**	Pg	**Pn**	**17 20 26.3**	**+0.2**
KHZ	**Kahutara**	**0.83**	**221**	P	**Pn**	**17 20 26.7**	**+0.6**
NNZ	**Nelson**	**0.88**	**310**		**Pb**	**17 20 24.5**	**-1.4**
NNZ	**Nelson**	**0.88**	**310**	P	**Pb**	**17 20 25.8**	**-0.1**
NNZ				S	**Sg**	**17 20 38.0**	**+0.3**
CAW	**Cannon Point**	**0.91**	**42**	P	**Pb**	**17 20 26.4**	**0.0**
PAWZ	**Paruwai Farm**	**0.96**	**65**	P	**Pb**	**17 20 27.4**	**+0.1**
PAWZ				S	**Sn**	**17 20 41.5**	**+0.3**
DUWZ	**D'Urville Isla**	**1.02**	**345**	P	**Pg**	**17 20 29.0**	**+0.2**
DUWZ				S	**Sg**	**17 20 41.7**	**-0.4**
THZ	**Tophouse**	**1.02**	**271**		**Pg**	**17 20 28.9**	**0.0**
THZ	**Tophouse**	**1.02**	**271**	P	**Pg**	**17 20 29.3**	**+0.5**
KIW	**Kapiti Island**	**1.04**	**28**	P	**Pb**	**17 20 28.8**	**0.0**
KIW				S	**Sg**	**17 20 43.0**	**0.0**
TRWZ	**Traveller**	**1.13**	**70**	P	**Pn**	**17 20 29.6**	**-0.7**
OGWZ	**Otaki Gorge**	**1.18**	**35**	P	**Pb**	**17 20 31.3**	**+0.2**
OGWZ				S	**Sg**	**17 20 47.1**	**-0.3**
MRNZ	**Matariki Terra**	**1.20**	**288**	P	**Pg**	**17 20 32.4**	**+0.2**
MRNZ				S	**Sg**	**17 20 49.6**	**+1.8**
TKNZ	**Takaka Hill**	**1.24**	**307**	P	**Pg**	**17 20 32.9**	**-0.1**
TMWZ	**Te Maipa**	**1.40**	**61**	P	**Pn**	**17 20 33.1**	**-0.8**
TMWZ				S	**Sb**	**17 20 52.2**	**-0.2**
POWZ	**Post Office Ro**	**1.80**	**40**	P	**Pn**	**17 20 39.3**	**-0.1**
DSZ	**Denniston Nort**	**1.84**	**270**	Pn	**Pg**	**17 20 42.4**	**1.0**
DSZ	**Denniston Nort**	**1.84**	**270**	P	**Pg**	**17 20 43.5**	**-1.0**
DSZ				S	**Sg**	**17 21 08.1**	**-0.3**
BFZ	**Birch Farm**	**1.85**	**54**	Pn	**Pn**	**17 20 38.3**	**-1.9**
DVHZ	**Dannevirke**	**2.07**	**45**	P	**Pn**	**17 20 42.0**	**-1.1**
WAZ	**Wanganui**	**2.10**	**15**	P	**Pg**	**17 20 48.2**	**-1.2**
ANWZ	**Angora Road**	**2.13**	**52**	P	**Pg**	**17 20 50.6**	**+0.6**
OKCZ	**Okains Bay**	**2.13**	**204**	P	**Pn**	**17 20 43.4**	**-0.6**
TSZ	**Takapari Road**	**2.15**	**37**	P	**Pn**	**17 20 43.9**	**-0.4**
OXZ	**Oxford**	**2.25**	**226**		**Pn**	**17 20 46.0**	**+0.3**
OXZ	**Oxford**	**2.25**	**226**	P	**Pg**	**17 20 50.9**	**-1.4**
MQZ	**McQueen's Vall**	**2.26**	**211**	Pn	**Pn**	**17 20 44.2**	**-1.5**
MQZ	**McQueen's Vall**	**2.26**	**211**	P	**Pn**	**17 20 44.5**	**-1.2**
INZ	**Inchbonnie**	**2.30**	**245**	P	**Pb**	**17 20 50.8**	**+0.7**
AKCZ	**Akaroa Harbour**	**2.31**	**205**	P	**Pn**	**17 20 45.8**	**-0.7**
LREZ	**Lake Rotokare**	**2.33**	**3**	P	**Pg**	**17 20 52.2**	**-1.5**
PRHZ	**Porangahau**	**2.35**	**50**	P	**Pn**	**17 20 45.3**	**-1.6**
PRHZ				P	**Pb**	**17 20 45.6**	**-5.4**
PNHZ	**Pukenui**	**2.38**	**39**	P	**Pn**	**17 20 46.5**	**-0.8**
WPHZ	**Waipukurau**	**2.38**	**44**	P	**Pn**	**17 20 46.9**	**-0.5**
RACZ	**Rakaia**	**2.49**	**218**	P	**Pn**	**17 20 48.3**	**-0.7**
KHEZ	**Kahui Hut**	**2.50**	**355**	P	**Pg**	**17 20 55.4**	**-1.6**
NEZ	**North Egmont**	**2.52**	**357**	P	**Pg**	**17 20 56.3**	**-1.0**
NBEZ	**Newall Road No**	**2.54**	**353**	P	**Pb**	**17 20 54.6**	**+0.4**
PKE	**Pukeiti**	**2.60**	**355**	P	**Pb**	**17 20 55.5**	**+0.2**
MOVZ	**Moawhango**	**2.63**	**26**	P	**Pb**	**17 20 56.1**	**+0.2**
WNVZ	**Wahianoa**	**2.66**	**23**	P	**Pb**	**17 20 55.6**	**-0.8**
BHHZ	**Black Hill Sta**	**2.67**	**31**	P	**Pb**	**17 20 57.3**	**+0.8**
TRVZ	**Turoa**	**2.67**	**22**	P	**Pb**	**17 20 57.5**	**+0.9**
VRZ	**Vera Road**	**2.69**	**8**	P	**Pb**	**17 20 55.1**	**-1.7**
WHVZ	**Whangaehu Hut**	**2.70**	**22**	P	**Pb**	**17 20 58.3**	**+1.2**
FWVZ	**Far West T-bar**	**2.71**	**22**	P	**Pb**	**17 20 58.0**	**+0.7**
SNVZ	**South Ngauruho**	**2.80**	**22**	P	**Pb**	**17 20 59.0**	**+0.2**
KAHZ	**Kahuranaki**	**2.81**	**46**	P	**Pn**	**17 20 51.5**	**-1.8**
OTVZ	**Oturere**	**2.83**	**23**	P	**Pb**	**17 21 00.3**	**+1.0**
NNVZ	**North Ngauruho**	**2.84**	**22**	P	**Pb**	**17 20 58.2**	**-1.3**
WTVZ	**West Tongariro**	**2.85**	**21**	P	**Pb**	**17 21 00.6**	**+1.0**
TWVZ	**Taurewa**	**2.86**	**19**	P	**Pb**	**17 21 00.6**	**+0.9**
ETVZ	**East Tongariro**	**2.87**	**23**	P	**Pb**	**17 20 59.9**	**-0.1**
TMVZ	**Te Maari**	**2.88**	**23**	P	**Pb**	**17 21 00.2**	**0.0**
KRVZ	**Karewarewa**	**2.89**	**22**	P	**Pb**	**17 21 01.1**	**+0.9**
NTVZ	**North Tongariro**	**2.89**	**22**	P	**Pb**	**17 21 01.4**	**+1.1**
WVZ	**Waitaha Valley**	**2.91**	**243**	P	**Pb**	**17 21 01.7**	**+1.1**
RPZ	**Rata Peaks**	**3.05**	**230**	Pn	**Pn**	**17 20 56.5**	**-0.2**
	5.7nm,0.3s,baz=29,slow=1.4,SNR=3.2						
RPZ				S	**Sn**	**17 21 32.1**	**-0.7**
	12nm,0.3s,baz=146,slow=24,SNR=15						
	17nm,0.3s						
RPZ	**Rata Peaks**	**3.05**	**230**	P	**Pn**	**17 20 56.5**	**-0.2**
BKZ	**Black Stump Fm**	**3.12**	**34**		**Pn**	**17 20 57.1**	**-0.5**
ARCZ	**Arundel**	**3.13**	**225**	P	**Pn**	**17 20 57.5**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**3.29**	**241**	P	**Pb**	**17 21 05.5**	**-1.5**
HIZ	**Hauiti**	**3.30**	**8**	Pn	**Pn**	**17 20 59.6**	**-0.5**
HIZ	**Hauiti**	**3.30**	**8**	P	**Pb**	**17 21 06.3**	**-0.9**
TMZ	**Timaru**	**3.53**	**222**	P	**Pn**	**17 21 03.0**	**-0.2**
FOZ	**Fox Glacier**	**3.72**	**241**		**Pn**	**17 21 05.7**	**-0.1**
FOZ	**Fox Glacier**	**3.72**	**241**	P	**Pn**	**17 21 08.6**	**+2.8**
LBZ	**Lake Benmore**	**3.96**	**228**		**Pn**	**17 21 10.7**	**+1.5**
LBZ	**Lake Benmore**	**3.96**	**228**	P	**Pn**	**17 21 11.8**	**+2.7**
TOZ	**Tahuroa Road**	**4.16**	**14**	P	Pn	17 21 16.6	+4.8
ODZ	**Otahua Downs**	**4.19**	**218**		**Pn**	**17 21 12.5**	**+0.2**
ODZ	**Otahua Downs**	**4.19**	**218**	P	**Pn**	**17 21 12.0**	**-0.3**
MWZ	**Matawai**	**4.26**	**37**	P	**Pn**	**17 21 11.3**	**-2.0**
AWAZ	**Awhitu Peninsu**	**4.73**	**4**	P	**Pn**	**17 21 22.9**	**+3.2**
MKAZ	**Moumakai**	**4.73**	**9**	P	**Pn**	**17 21 21.8**	**+2.2**
ETAZ	**East Tamaki Re**	**4.85**	**6**	P	**Pn**	**17 21 23.6**	**+2.2**
WTAZ	**Waiatarua**	**4.85**	**3**	P	Pn	17 21 26.8	+5.4
HHSZ	**Highcliff Hill**	**4.88**	**212**	P	**Pn**	**17 21 20.9**	**-0.9**
WKZ	**Wanaka**	**4.89**	**230**	Pn	**Pn**	**17 21 20.9**	**-1.1**
MLZ	**Mavora Lakes**	**5.72**	**229**		**Pn**	**17 21 33.4**	**+0.1**
WHZ	**Wether Hill Ro**	**6.14**	**226**	Pn	**Pn**	**17 21 38.7**	**-0.4**
DCZ	**Deep Cove**	**6.34**	**232**	Pn	**Pn**	**17 21 43.0**	**+1.3**
OUZ	**Omahuta**	**6.58**	**355**	Pn	**Pn**	**17 21 46.4**	**+1.3**
CTZ	**Chatham Island**	**6.98**	**109**	P	**Pn**	**17 21 49.4**	**-1.2**
RIZ	**Raoul Island**	**14.03**	**29**	P	**Pn**	**17 23 28.7**	**+1.7**
ASAR	**Alice Springs**	**38.05**	**286**	P	**P**	**17 27 26.8**	**-0.1**
	0.3nm,0.6s,baz=122,slow=6.9,SNR=4.7						
	0.3nm,0.6s						
WB2	**Warramunga Arr**	**40.12**	**290**	P	**P**	**17 27 43.3**	**-0.8**
WB2				IAmb	IAmb	17 28 22.7	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**40.13**	**290**	P	**P**	**17 27 43.5**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=126,slow=8.3,SNR=5.2						
	comp=Z,0.5nm,0.6s						
WB0	**Warramunga Arr**	**40.21**	**291**	P	**P**	**17 27 44.0**	**-0.8**
WB0				IAmb	IAmb	17 27 56.9	
	comp=Z,8.8nm,1.4s						
QSPA	**South Pole Qui**	**48.34**	**180**	P	**P**	**17 28 49.0**	**-0.6**
QSPA				IAmb	IAmb	17 28 58.5	
	comp=Z,0.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**99.93**	**317**	*e*P	**Pdif**	**17 33 53.9**	**+1.1**
HHC				pmax	pmax		
	comp=Z,320nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,5.4s						
TORD	**Torodi Ar. Bea**	**150.74**	**195**	PKPbc	**PKPbc**	**17 40 00.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=90,slow=1.6,SNR=2.8						

*NOU **14** 17:21:29.2, 34°.07S×135°.91E, h0km, MLv3.4/8, Near Coast of South Australia*
*IDC **14** 17:21:30.0±7.7, 33°.73S×135°.82E, h0km, mbtmp2.9/3, ML2.8/3, Error ellipse: s-maj=83.0km s-min=29.9km az=16.0*
*AUST **14** 17:21:30.1±1.9, 33°.98S×135°.99E, h4km±12km, Error ellipse: s-maj=12.5km s-min=7.9km az=50.0*
ISC 14 17:21:30.2±1.3, 33°.94S±0°.07×135°.93E±0°.06, h10km, n20, σ1°67/30, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**1.13**	**6**	P	**Pb**	**17 21 52.0**	**+0.1**
	baz=1.2,SNR=46						
BBOO				S	**Sn**	**17 22 08.7**	**+0.9**
	baz=1.2						
BBOO	**Buckleboo**	**1.13**	**6**	P	**Pg**	**17 21 52.6**	**+0.6**
WHYH	**Whyalla**	**1.65**	**57**	P	**Pb**	**17 22 00.4**	**-0.3**
AUMAR	**Marden Senior**	**2.44**	**114**	P	**Pn**	**17 22 10.0**	**0.0**
	baz=2.4						
AUMAR				S	**Sn**	**17 22 39.3**	**-0.6**

ATD	**Arta Tunnel**	**3.75**	**131**	*eP*	**Pg**	**17 29 38.1**	**0.0**
ATD				*eS*	**Sg**	**17 30 26.4**	**-0.3**
ANKE	**Ethiopia-Afar**	**4.41**	**183**	*eP*	Pn	17 29 39.5	+5.9
ANKE				*eS*	**Sb**	**17 30 36.2**	**-1.3**
AAE	**Adis Abeba**	**5.10**	**193**	*eP*	**Pb**	**17 29 51.7**	**-4.1**
AAE				*eS*	**Sb**	**17 30 54.1**	**-3.2**
FURI	**Furi**	**5.25**	**194**	*eP*	**Pb**	**17 29 59.0**	**+0.7**
FURI				*eS*	**Sn**	**17 30 52.2**	**+6.3**
FURI	**Furi**	**5.25**	**194**	*eS*	**Sb**	**17 30 59.5**	**-2.1**

WEL 14 17:35:51.3±0.3, 42°S±2'×17°3E±', h15km±2km, M3.7/23, ML4.1/12, MLv3.7/23, Error ellipse: s-maj=0.0km s-min=0.0km az=128.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.03**	**88**	P	Pg	17 35 54.0	0.0
KHZ				S	Sg	17 35 55.9	+0.2
GVZ	**Greta Valley S**	**0.65**	**211**	P	Pn	17 36 05.5	-0.5
GVZ				S	Sn	17 36 15.2	-0.8
THZ	**Tophouse**	**0.79**	**326**	P	Pg	17 36 06.5	-0.1
THZ				S	Sg	17 36 16.4	-0.6
CMWZ	**Cape Campbell**	**0.86**	**39**	P	Pn	17 36 09.1	+0.3
LTZ	**Lake Taylor**	**0.97**	**248**	P	Pg	17 36 10.3	+0.1
LTZ				S	Sn	17 36 23.9	-0.3
MRNZ	**Matariki Terra**	**1.16**	**331**	P	Pn	17 36 12.6	-0.4
MRNZ				S	Sn	17 36 28.6	0.0
TCW	**Tory Channel**	**1.34**	**26**	P	Pn	17 36 15.3	-0.2
TCW				S	Sb	17 36 33.7	+0.5
OKCZ	**Okains Bay**	**1.34**	**194**	P	Pn	17 36 15.3	-0.4
OKCZ				S	Sn	17 36 33.2	-0.1
OXZ	**Oxford**	**1.40**	**229**	P	Pn	17 36 15.5	-0.9
OXZ				S	Sn	17 36 34.0	-0.7
DSZ	**Denniston Nort**	**1.43**	**298**	P	Pn	17 36 16.8	+0.1
DSZ				S	Sg	17 36 36.8	-0.5
MQZ	**McQueen's Vall**	**1.43**	**205**	P	Pn	17 36 15.6	-1.1
MQZ				S	Sn	17 36 34.4	-0.9
WEL	**Wellington**	**1.48**	**40**	P	Pn	17 36 17.6	+0.1
WEL				S	Sn	17 36 36.3	-0.2
AKCZ	**Akaroa Harbour**	**1.52**	**196**	P	Pn	17 36 17.2	-0.8
AKCZ				S	Sb	17 36 37.9	-0.4
INZ	**Inchbonnie**	**1.54**	**258**	P	Pb	17 36 20.0	+0.3
INZ				S	Sb	17 36 39.8	+0.8
PLWZ	**Palliser**	**1.56**	**58**	P	Pn	17 36 18.0	-0.6
PLWZ				S	Sn	17 36 38.1	-0.5
RACZ	**Rakaia**	**1.64**	**217**	P	Pn	17 36 18.8	-0.9
RACZ				S	Sn	17 36 39.7	-0.9
MSWZ	**Moikau Station**	**1.65**	**53**	P	Pn	17 36 19.1	-0.7
MSWZ				S	Sn	17 36 39.2	-1.5
QRZ	**Quartz Range**	**1.75**	**335**	P	Pb	17 36 22.6	-0.5
QRZ				S	Sb	17 36 45.0	+0.2
CAW	**Cannon Point**	**1.76**	**42**	P	Pn	17 36 21.1	-0.2
CAW				S	Sn	17 36 42.9	-0.6
PAWZ	**Paruwai Farm**	**1.77**	**55**	P	Pn	17 36 20.5	-1.1
PAWZ				S	Sn	17 36 42.5	-1.4
KIW	**Kapiti Island**	**1.88**	**35**	S	Sn	17 36 46.6	+0.1
WACZ	**Wakanui South**	**1.95**	**218**	P	Pn	17 36 23.1	-0.7
WACZ				S	Sn	17 36 46.1	-1.9
MTW	**Mount Morrison**	**1.96**	**51**	P	Pb	17 36 25.5	-1.2
MTW				S	Sn	17 36 47.1	-1.2
WVZ	**Waitaha Valley**	**2.13**	**251**	P	Pn	17 36 27.6	+1.2
WVZ				S	Sn	17 36 53.1	+0.4
RPZ	**Rata Peaks**	**2.21**	**233**	P	Pn	17 36 27.2	-0.3
RPZ				S	Sn	17 36 52.6	-2.0
TMWZ	**Te Maipa**	**2.22**	**55**	S	Sn	17 36 53.5	-1.3
ARCZ	**Arundel**	**2.28**	**227**	P	Pn	17 36 27.8	-0.7
ARCZ				S	Sn	17 36 54.5	-1.9
MRZ	**Mangatainoka R**	**2.35**	**42**	P	Pn	17 36 28.8	-0.6
MRZ				S	Sn	17 36 57.1	-0.9
GCSZ	**Gaunt Creek Bo**	**2.50**	**248**	P	Pn	17 36 33.3	+1.9
GCSZ				S	Sn	17 37 01.7	+0.1
TMZ	**Timaru**	**2.67**	**222**	P	Pn	17 36 33.9	0.0
ODZ	**Otahua Downs**	**3.34**	**217**	P	Pn	17 36 42.1	-0.9
TMVZ	**Te Maari**	**3.70**	**28**	P	Pn	17 36 48.2	+0.1
HHSZ	**Highcliff Hill**	**4.04**	**210**	P	Pn	17 36 52.0	-0.8
EAZ	**Earnscleugh**	**4.13**	**226**	P	Pn	17 36 53.5	-0.4

WEL 14 17:46:39.4±0.5, 42°S±3'×17°4E±', h8km±4km, M3.1/25, ML3.5/31, MLv3.1/25, Error ellipse: s-maj=0.0km s-min=0.0km az=125.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.31**	**260**	P	Pb	17 46 46.9	-0.3
KHZ				S	Sb	17 46 51.9	-0.5
BSWZ	**Blackbirch Sta**	**0.65**	**355**	P	Pg	17 46 52.3	+0.4
BSWZ				S	Sg	17 47 00.9	+0.5
GVZ	**Greta Valley S**	**0.91**	**228**	P	Pn	17 46 58.7	+0.3
GVZ				S	Sn	17 47 12.3	+0.6
TUWZ	**Tuamarina**	**0.93**	**359**	P	Pb	17 46 57.9	+0.2
TUWZ				S	Sb	17 47 10.4	+0.1
THZ	**Tophouse**	**0.99**	**307**	P	Pg	17 46 57.7	-0.7
THZ				S	Sg	17 47 09.6	-1.6
TCW	**Tory Channel**	**1.18**	**12**	P	Pb	17 47 01.3	-0.6
TCW				S	Sg	17 47 16.8	-0.4
NNZ	**Nelson**	**1.23**	**339**	P	Pb	17 47 01.9	-0.8
WEL	**Wellington**	**1.24**	**30**	P	Pn	17 47 02.6	-0.3
PLWZ	**Palliser**	**1.25**	**51**	P	Pn	17 47 02.9	-0.3
AMCZ	**Amberley**	**1.26**	**229**	P	Pn	17 47 02.5	-0.7
LTZ	**Lake Taylor**	**1.31**	**251**	P	Pn	17 47 03.9	-0.1
LTZ				S	Sb	17 47 21.2	-0.1
MRNZ	**Matariki Terra**	**1.32**	**317**	P	Pn	17 47 03.8	-0.2
MRNZ				S	Sn	17 47 21.8	+0.1
MSWZ	**Moikau Station**	**1.35**	**46**	P	Pn	17 47 03.9	-0.6
CAW	**Cannon Point**	**1.51**	**34**	P	Pn	17 47 06.1	-0.5
OKCZ	**Okains Bay**	**1.51**	**206**	P	Pn	17 47 07.0	+0.3
DUWZ	**D'Urville Isla**	**1.56**	**359**	P	Pn	17 47 07.4	0.0
MQZ	**McQueen's Vall**	**1.65**	**215**	P	Pn	17 47 08.0	-0.5
KIW	**Kapiti Island**	**1.66**	**26**	P	Pn	17 47 08.3	-0.5
MTW	**Mount Morrison**	**1.67**	**44**	P	Pn	17 47 08.0	-0.9
AKCZ	**Akaroa Harbour**	**1.69**	**207**	P	Pn	17 47 09.4	+0.2
OXZ	**Oxford**	**1.71**	**235**	P	Pn	17 47 07.9	-1.5
DSZ	**Denniston Nort**	**1.72**	**290**	P	Pn	17 47 10.3	+0.7
OGWZ	**Otaki Gorge**	**1.79**	**31**	P	Pn	17 47 10.0	-0.6
QRZ	**Quartz Range**	**1.87**	**325**	P	Pn	17 47 12.4	+0.8
RACZ	**Rakaia**	**1.91**	**224**	P	Pn	17 47 11.6	-0.5
MRZ	**Mangatainoka R**	**2.09**	**36**	P	Pn	17 47 13.7	-1.0
WACZ	**Wakanui South**	**2.21**	**224**	P	Pn	17 47 16.0	-0.3
BFZ	**Birch Farm**	**2.40**	**46**	P	Pn	17 47 17.4	-1.6
WVZ	**Waitaha Valley**	**2.48**	**252**	P	Pn	17 47 20.2	+0.3
RPZ	**Rata Peaks**	**2.52**	**237**	P	Pn	17 47 19.9	-0.7
ARCZ	**Arundel**	**2.58**	**231**	P	Pn	17 47 20.9	-0.5
TSZ	**Takapari Road**	**2.75**	**34**	P	Pn	17 47 22.7	-1.2
TMZ	**Timaru**	**2.95**	**226**	P	Pn	17 47 26.3	-0.1
PKE	**Pukeiti**	**3.17**	**0**	P	Pb	17 47 33.5	-2.3
DREZ	**Durham Road**	**3.18**	**3**	P	Pn	17 47 28.7	-0.9
VRZ	**Vera Road**	**3.29**	**11**	P	Pn	17 47 32.2	+1.0
LBZ	**Lake Benmore**	**3.41**	**232**	P	Pn	17 47 32.6	-0.3
ODZ	**Otahua Downs**	**3.60**	**221**	P	Pn	17 47 34.7	-0.7
HIZ	**Hauiti**	**3.91**	**10**	P	Pn	17 47 40.7	+1.1
MLZ	**Mavora Lakes**	**5.18**	**233**	P	Pn	17 47 57.1	0.0

RSNC 14 17:49:28.5±1.1, 5°25N×73°71W, h149km±6km, ML3.2, Mw3.5, 5C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIC	**Chingaza**	**0.62**	**182**	*iP*	Pn	17 49 51.2	+0.2
CHIC				*eS*	Sn	17 50 07.5	-0.5
CHIC				IAML		17 50 11.2	
	comp=Z,277nm,0.2s						
ROSC	**El Rosal**	**0.73**	**236**	*iP*	Pn	17 49 52.8	+1.2
ROSC				*eS*	Sn	17 50 10.8	+1.6
ROSC				IAML		17 50 13.1	
	comp=Z,306nm,0.5s						
NORC	**Norcasia**	**1.20**	**285**	*eP*	Pn	17 49 54.8	-0.3
NORC				*eS*	Sn	17 50 14.4	-0.9
NORC				IAML		17 50 15.7	
	comp=Z,235nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.48**	**330**	*eP*	Pn	17 49 56.7	-1.2
PTBC				*eS*	Sn	17 50 18.4	-1.9
PTBC				IAML		17 50 21.6	
	comp=Z,178nm,0.2s						
BRRC	**Barranca, Sant**	**1.84**	**360**	*eP*	Pn	17 50 01.9	0.0
BRRC				*eS*	Sn	17 50 27.0	-0.5
BRRC				IAML		17 50 32.7	
	comp=Z,123nm,0.4s						
ANIL	**Santa Ana**	**1.85**	**246**	*eP*	Pn	17 50 02.0	-0.1
ANIL				*eS*	Sn	17 50 27.4	-0.5
ANIL				IAML		17 50 30.6	
	comp=Z,157nm,0.4s						
PTGC	**Puerto Gaitan,**	**1.89**	**124**	*eP*	Pn	17 50 02.3	0.0
PTGC				*eS*	Sn	17 50 27.4	-0.8
PTGC				IAML		17 50 30.4	
	comp=Z,177nm,0.2s						
PRAC	**Prado**	**1.93**	**218**	*iP*	Pn	17 50 02.8	0.0
PRAC				*eS*	Sn	17 50 28.4	-0.8
PRAC				IAML		17 50 30.4	
	comp=Z,210nm,0.3s						
ORTC	**Ortega, Tolima**	**2.03**	**229**	*eP*	Pn	17 50 03.6	-0.4
ORTC				*eS*	Sn	17 50 30.6	-0.7
ORTC				IAML		17 50 35.0	
	comp=Z,72nm,0.3s						
TAMC	**Tame, Arauca**	**2.24**	**58**	*eP*	Pn	17 50 06.9	+0.4
TAMC				*eS*	Sn	17 50 35.3	-0.4
TAMC				IAML		17 50 37.8	
	comp=Z,54nm,0.3s						
PAMC	**Pamplona, Colo**	**2.30**	**26**	*eP*	Pn	17 50 08.4	+0.7
PAMC				*eS*	Sn	17 50 37.5	-0.4
PAMC				IAML		17 50 40.1	
	comp=Z,50nm,0.4s						
CBOC	**Ciudad Bolivar**	**2.37**	**285**	*eP*	Pn	17 50 08.0	-0.2
CBOC				*eS*	Sn	17 50 38.2	-0.6
CBOC				IAML		17 50 40.0	
	comp=Z,29nm,0.2s						
ZARC	**Zaragoza, Cauc**	**2.50**	**333**	*eP*	Pn	17 50 07.5	-2.1
ZARC				*eS*	Sn	17 50 38.9	-2.6
ZARC				IAML		17 50 45.9	
	comp=Z,128nm,0.3s						
PLMC	**San Jos del P**	**2.59**	**262**	*eP*	Pn	17 50 11.7	+0.9
PLMC				*eS*	Sn	17 50 45.2	+1.8
GUVC	**San Jose del G**	**2.90**	**158**	*eP*	Pn	17 50 13.7	-0.9
GUVC				*eS*	Sn	17 50 48.8	-1.5
GUVC				IAML		17 50 51.7	
	comp=Z,70nm,0.2s						
DBBC	**Dabeiba**	**3.04**	**305**	*eP*	Pn	17 50 16.4	-0.1
DBBC				*eS*	Sn	17 50 52.5	-1.1
UREC	**San Jos de Ur**	**3.08**	**324**	*iP*	Pn	17 50 14.3	-2.5
UREC				*eS*	Sn	17 50 50.4	-3.8
UREC				IAML		17 50 52.1	
	comp=Z,130nm,0.2s						
GARC	**Garzon, Huila**	**3.53**	**210**	*eP*	Pn	17 50 22.1	-0.7
LCBC	**Los crdobas,**	**4.45**	**324**	*eP*	Pn	17 50 32.6	-2.1
LCBC				*eS*	Sn	17 51 25.2	-1.0
LCBC				IAML		17 51 28.1	
	comp=Z,28nm,0.2s						
SJCC	**San Jacinto, C**	**4.84**	**343**	*eP*	Pn	17 50 36.7	-3.2
SJCC				*eS*	Sn	17 51 29.2	-6.3
SJCC				IAML		17 51 33.0	
	comp=Z,23nm,0.3s						

WEL 14 17:51:20.9±0.5, 42°S±3'×17°4E±', h5km, M3.4/7, ML3.7/7, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=128.8

IDC 14 17:51:22.9±2.3, 42°46S×173°17E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=44.6km s-min=34.5km az=115.0

NOU 14 17:51:23.3, 42°70S×173°48E, h0km, MLv4.4/6, South Island, New Zealand

ISC 14 17:51:20.3±1.0, 42°09S±0'05×174°03E±0'04, h10km, n20, σ0s62/17, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.40**	**343**	P	**Pg**	**17 51 27.9**	**-0.2**
BSWZ				S	**Sg**	**17 51 33.2**	**-0.1**
KHZ	**Kahutara**	**0.49**	**229**	P	**Pg**	**17 51 29.0**	**-0.8**
KHZ	**Kahutara**	**0.49**	**229**	P	**Pg**	**17 51 29.4**	**-0.4**
THZ	**Tophouse**	**0.90**	**291**	P	**Pn**	**17 51 39.7**	**+0.6**
THZ				S	**Sb**	**17 51 49.9**	**-0.4**
BHW	**Baring Head**	**0.93**	**43**	P	**Pb**	**17 51 38.5**	**+0.1**
NNZ	**Nelson**	**1.00**	**331**	P	**Pb**	**17 51 39.5**	**-0.3**
MSWZ	**Moikau Station**	**1.14**	**54**	P	**Pb**	**17 51 41.5**	**-0.5**
MSWZ				S	**Sb**	**17 51 56.9**	**+0.1**
MRNZ	**Matariki Terra**	**1.18**	**306**	P	**Pb**	**17 51 42.5**	**-0.3**
DUWZ	**D'Urville Isla**	**1.29**	**356**	P	**Pg**	**17 51 44.7**	**-0.4**
TKNZ	**Takaka Hill**	**1.33**	**322**	P	**Pn**	**17 51 45.0**	**0.0**
KIW	**Kapiti Island**	**1.40**	**28**	P	**Pn**	**17 51 45.5**	**-0.4**
RPZ	**Rata Peaks**	**2.72**	**232**	Pn	Pn	17 51 58.3	-5.8
	144nm,0.3s,baz=195,slow=1.7,SNR=279						
RPZ				Sn	Sn	17 52 23.1	-14
	96nm,0.3s,baz=344,slow=22,SNR=10						
RPZ				LR	LR	17 52 38.2	
	comp=Z,176nm,19.3s,baz=208,slow=38						
RPZ	**Rata Peaks**	**2.72**	**232**	P	Pn	17 51 58.6	-5.5
ODZ	**Otahua Downs**	**3.84**	**219**	P	Pn	17 52 13.6	-5.8
JCZ	**Jackson Bay**	**4.32**	**241**	P	Pn	17 52 22.0	-4.1
SYZ	**Scrubby Hill**	**5.66**	**217**	P	Pn	17 52 38.8	-5.6
PYZ	**Puysegur Point**	**6.67**	**230**	P	Pn	17 52 52.2	-6.1
ASAR	**Alice Springs**	**37.97**	**286**	P	**P**	**17 58 38.1**	**-0.2**
	0.5nm,0.5s,baz=125,slow=7.1,SNR=31 0.5nm,0.5s						
WRA	**Warramunga Arr**	**40.07**	**291**	P	**P**	**17 58 56.1**	**+0.2**
	0.3nm,0.5s,baz=129,slow=8.4,SNR=17 0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.40**	**195**	PKPbc	**PKiKP**	**18 11 14.9**	**+1.8**
	0.6nm,0.3s,baz=165,slow=1.7,SNR=7.2						

IDC 14 17:51:39.8±2.8, 42°.26S×173°.01E, h0km, mb3.7/2, mbtmp3.9/3, ML4.5/1, MS4.2/1, Error ellipse: s-maj=56.9km s-min=41.9km az=79.0

WEL 14 17:51:42.8±0.3, 43°S±2'×17°3E±', h9km±3km, M4.0/9, ML4.2/9, MLv4.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=120.9

ISC 14 17:51:42.7±1.0, 42°71S±0°02×172°85E±0°03, h16km±8km, n37, σ1s19/57, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.43**	**260**	P	**Pb**	**17 51 51.9**	**-0.1**
LTZ				S	**Sb**	**17 51 58.1**	**-0.1**
KHZ	**Kahutara**	**0.59**	**61**	P	**Pb**	**17 51 55.1**	**+0.6**
KHZ				S	**Sb**	**17 52 03.7**	**+1.1**
OXZ	**Oxford**	**0.86**	**224**	P	**Pg**	**17 51 59.2**	**-0.2**
OXZ				S	**Sn**	**17 52 12.8**	**+0.4**
THZ	**Tophouse**	**0.94**	**3**	S	**Sg**	**17 52 12.3**	**-1.0**
MQZ	**McQueen's Vall**	**1.01**	**188**	P	**Pg**	**17 52 02.3**	**+0.1**
MQZ				S	**Sg**	**17 52 16.1**	**+0.6**
OKCZ	**Okains Bay**	**1.03**	**171**	P	**Pg**	**17 52 02.9**	**+0.3**
OKCZ				S	**Sb**	**17 52 18.0**	**+2.6**
INZ	**Inchbonnie**	**1.04**	**268**	P	**Pn**	**17 52 02.8**	**+0.3**
INZ				S	**Sn**	**17 52 17.8**	**+1.1**
RACZ	**Rakaia**	**1.15**	**207**	P	**Pn**	**17 52 03.5**	**-0.6**
RACZ				S	**Sn**	**17 52 20.7**	**+1.3**
AKCZ	**Akaroa Harbour**	**1.17**	**178**	P	**Pb**	**17 52 04.4**	**-0.1**
AKCZ				S	**Sb**	**17 52 20.3**	**+0.9**
DSZ	**Denniston Nort**	**1.23**	**321**	P	**Pg**	**17 52 06.1**	**-0.4**
DSZ				S	**Sn**	**17 52 23.7**	**+2.0**
MHCZ	**Mount Hutt**	**1.25**	**228**	P	**Pn**	**17 52 05.1**	**-0.5**
MHCZ				S	**Sn**	**17 52 23.4**	**+1.3**
WACZ	**Wakanui South**	**1.44**	**210**	P	**Pn**	**17 52 08.0**	**-0.1**
WACZ				S	**Sg**	**17 52 29.6**	**+0.4**
TUWZ	**Tuamarina**	**1.51**	**33**	S	**Sg**	**17 52 31.5**	**+0.1**
NNZ	**Nelson**	**1.54**	**15**	S	**Sg**	**17 52 32.2**	**-0.1**
WVZ	**Waitaha Valley**	**1.60**	**256**	P	**Pn**	**17 52 11.3**	**+1.0**
WVZ				S	**Sb**	**17 52 32.4**	**+0.7**
RPZ	**Rata Peaks**	**1.66**	**232**	Pn	**Pg**	**17 52 15.5**	**+0.9**
	168nm,0.3s,baz=345,slow=3.3,SNR=16						
RPZ				Sn	**Sn**	**17 52 32.1**	**0.0**
	141nm,0.3s,baz=268,slow=18,SNR=15 641nm,0.4s						
RPZ	**Rata Peaks**	**1.66**	**232**	P	**Pg**	**17 52 15.4**	**+0.9**
RPZ				S	**Sn**	**17 52 31.6**	**-0.4**
ARCZ	**Arundel**	**1.74**	**224**	S	**Sn**	**17 52 33.9**	**-0.3**
TCW	**Tory Channel**	**1.83**	**36**	S	**Sg**	**17 52 40.5**	**-1.2**
QRZ	**Quartz Range**	**1.89**	**353**	S	**Sg**	**17 52 41.4**	**-2.2**
GCSZ	**Gaunt Creek Bo**	**1.95**	**251**	P	**Pn**	**17 52 16.7**	**+1.6**
GCSZ				S	**Sn**	**17 52 41.0**	**+1.8**
TMZ	**Timaru**	**2.15**	**218**	S	**Sn**	**17 52 43.9**	**-0.3**
FOZ	**Fox Glacier**	**2.37**	**249**	S	**Sn**	**17 52 52.0**	**+2.4**
LBZ	**Lake Benmore**	**2.56**	**228**	S	**Sn**	**17 52 54.4**	**-0.1**
ODZ	**Otahua Downs**	**2.83**	**214**	S	**Pn**	**17 52 26.7**	**-0.5**
ODZ				S	**Sn**	**17 52 59.0**	**-2.0**
JCZ	**Jackson Bay**	**3.26**	**244**	S	**Sn**	**17 53 11.3**	**-0.5**
HHSZ	**Highcliff Hill**	**3.56**	**206**	P	**Pn**	**17 52 36.9**	**-0.4**
HHSZ				S	**Sn**	**17 53 17.4**	**-1.8**
EAZ	**Earnscleugh**	**3.59**	**224**	P	**Pn**	**17 52 38.1**	**+0.4**
EAZ				S	**Sn**	**17 53 17.6**	**-2.2**
TUZ	**Tuapeka**	**3.98**	**214**	S	**Sn**	**17 53 27.4**	**-2.0**
SYZ	**Scrubby Hill**	**4.66**	**213**	P	**Pn**	**17 52 52.4**	**+0.1**
SYZ				S	**Sn**	**17 53 44.8**	**-1.2**
WHZ	**Wether Hill Ro**	**4.75**	**226**	S	**Sn**	**17 53 46.6**	**-1.6**
APZ	**The Paps**	**5.38**	**218**	P	**Pn**	**17 53 01.6**	**-0.7**
APZ				S	**Sn**	**17 54 03.8**	**-0.2**
PYZ	**Puysegur Point**	**5.61**	**230**	P	**Pn**	**17 53 06.1**	**+0.7**
PYZ				S	**Sn**	**17 54 06.6**	**-2.9**
ASAR	**Alice Springs**	**37.31**	**288**	P	**P**	**17 58 53.9**	**-0.4**
	0.7nm,0.6s,baz=129,slow=7.7,SNR=7.5 0.7nm,0.6s						
WRA	**Warramunga Arr**	**39.49**	**293**	P	**P**	**17 59 11.2**	**-1.4**
	0.9nm,0.8s,baz=130,slow=7.9,SNR=5.5 0.9nm,0.8s						
BATI	**Baumata**	**53.61**	**292**	LR	LR	18 23 24.7	
	comp=Z,241nm,20.4s,baz=23,slow=36						
TORD	**Torodi Ar. Bea**	**149.57**	**197**	PKPbc	**PKPbc**	**18 11 32.3**	**+0.6**
	0.9nm,0.5s,baz=152,slow=2.8,SNR=4.5						

IDC 14 18:01:09.1±2.9, 41°.62S×174°.98E, h0km, mb3.2/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=64.6km s-min=53.8km az=39.0

WEL 14 18:01:17.7±0.4, 42°S±3'×17°4E±', h11km±4km, M3.7/17, ML3.9/17, MLv3.7/17, Error ellipse: s-maj=0.0km s-min=0.0km az=158.0

ISC 14 18:01:17.3±1.4, 41°72S±0°03×174°36E±0°02, h14km±11km, n57, σ0s83/69, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**256**	P	**Pb**	**18 01 21.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.36**	**271**	P	**Pb**	**18 01 25.2**	**-0.3**
BSWZ				S	**Sb**	**18 01 31.3**	**+0.2**
TUWZ	**Tuamarina**	**0.43**	**313**	P	**Pb**	**18 01 26.4**	**-0.2**
TUWZ				S	**Sb**	**18 01 33.1**	**+0.2**
TCW	**Tory Channel**	**0.52**	**353**	P	**Pb**	**18 01 27.9**	**-0.2**
TCW				S	**Sb**	**18 01 35.0**	**-0.4**
WEL	**Wellington**	**0.54**	**35**	P	**Pb**	**18 01 28.9**	**+0.5**
WEL				S	**Sb**	**18 01 37.4**	**+1.4**
PLWZ	**Palliser**	**0.69**	**77**	P	**Pb**	**18 01 32.1**	**+1.0**
MSWZ	**Moikau Station**	**0.73**	**66**	P	**Pb**	**18 01 32.9**	**+1.1**
MSWZ				S	**Sn**	**18 01 44.1**	**-0.1**
CAW	**Cannon Point**	**0.81**	**41**	P	**Pb**	**18 01 33.7**	**+0.5**
CAW				S	**Sb**	**18 01 44.8**	**+0.8**
PAWZ	**Paruwai Farm**	**0.87**	**67**	P	**Pg**	**18 01 34.6**	**+0.4**
PAWZ				S	**Sb**	**18 01 47.2**	**+1.5**
NNZ	**Nelson**	**0.89**	**304**	P	**Pg**	**18 01 34.5**	**-0.1**
NNZ				S	**Sb**	**18 01 46.6**	**+0.3**
KHZ	**Kahutara**	**0.92**	**221**	P	**Pg**	**18 01 35.4**	**+0.2**
KHZ				S	**Sb**	**18 01 48.2**	**+1.0**
KIW	**Kapiti Island**	**0.95**	**26**	P	**Pg**	**18 01 35.8**	**0.0**
KIW				S	**Sb**	**18 01 49.1**	**+1.0**
DUWZ	**D'Urville Isla**	**0.98**	**340**	P	**Pb**	**18 01 36.1**	**+0.1**
DUWZ				S	**Sb**	**18 01 48.9**	**+0.1**
MTW	**Mount Morrison**	**1.03**	**57**	P	**Pb**	**18 01 36.7**	**-0.1**
TRWZ	**Traveller**	**1.05**	**72**	P	**Pb**	**18 01 36.7**	**-0.5**
THZ	**Tophouse**	**1.09**	**267**	P	**Pb**	**18 01 38.0**	**+0.1**
OGWZ	**Otaki Gorge**	**1.09**	**34**	P	**Pb**	**18 01 38.2**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.20**	**47**	P	**Pn**	**18 01 39.3**	**-0.3**
MRNZ	**Matariki Terra**	**1.25**	**285**	P	**Pn**	**18 01 40.6**	**+0.4**
MRNZ				S	**Sn**	**18 01 57.7**	**+0.9**
TKNZ	**Takaka Hill**	**1.26**	**303**	P	**Pn**	**18 01 40.7**	**+0.2**
TMWZ	**Te Maipa**	**1.30**	**62**	P	**Pn**	**18 01 40.3**	**-0.8**
MRZ	**Mangatainoka R**	**1.40**	**41**	P	**Pn**	**18 01 42.2**	**-0.3**
GVZ	**Greta Valley S**	**1.58**	**218**	P	**Pb**	**18 01 46.5**	**+0.1**
QRZ	**Quartz Range**	**1.65**	**302**	P	**Pb**	**18 01 47.0**	**-0.4**
OHWZ	**Ohakea**	**1.68**	**26**	P	**Pb**	**18 01 47.7**	**-0.2**
PRWZ	**Pori Road**	**1.69**	**47**	P	**Pn**	**18 01 45.7**	**-0.6**
POWZ	**Post Office Ro**	**1.70**	**39**	P	**Pn**	**18 01 46.3**	**-0.2**
BFZ	**Birch Farm**	**1.76**	**54**	P	**Pn**	**18 01 46.0**	**-1.4**
LTZ	**Lake Taylor**	**1.88**	**235**	P	**Pn**	**18 01 48.4**	**-0.6**
DSZ	**Denniston Nort**	**1.91**	**268**	P	**Pn**	**18 01 50.4**	**+0.9**
DVHZ	**Dannevirke**	**1.97**	**44**	P	**Pn**	**18 01 49.0**	**-1.3**
WAZ	**Wanganui**	**2.02**	**14**	P	**Pg**	**18 01 55.3

NNZ	Nelson	1.32	351		Pn	18 13 26.1	-0.5
NNZ	Nelson	1.32	351	P	Pg	18 13 28.3	+0.1
MQZ	McQueen's Vall	1.38	211		Pn	18 13 27.2	-0.2
MQZ	McQueen's Vall	1.38	211	P	Pb	18 13 28.0	-0.2
MQZ				S	Sn	18 13 45.3	0.0
OXZ	Oxford	1.42	235	Pn	Pn	18 13 28.1	+0.1
OXZ	Oxford	1.42	235	P	Pn	18 13 28.3	+0.4
AKCZ	Akaroa Harbour	1.45	201	P	Pb	18 13 29.6	+0.2
SNZO	South Karori	1.45	34		Pn	18 13 28.1	-0.3
WEL	Wellington	1.50	35	P	Pg	18 13 31.1	-0.5
PLWZ	Palliser	1.54	52		Pb	18 13 30.5	-0.3
DSZ	Denniston Nort	1.57	299		Pn	18 13 30.3	+0.2
DSZ	Denniston Nort	1.57	299	P	Pb	18 13 31.4	-0.1
TKNZ	Takaka Hill	1.58	341	P	Pb	18 13 32.0	+0.5
RACZ	Rakaia	1.63	222	P	Pn	18 13 31.4	+0.6
INZ	Inchbonnie	1.63	262	P	Pb	18 13 32.1	-0.4
MSWZ	Moikau Station	1.64	48		Pb	18 13 32.2	-0.3
MSWZ	Moikau Station	1.64	48	P	Pb	18 13 32.4	-0.1
DUWZ	D'Urville Isla	1.74	7	P	Pg	18 13 35.7	-0.4
PAWZ	Paruwai Farm	1.76	50	P	Pb	18 13 33.8	-0.8
CAW	Cannon Point	1.77	37	P	Pb	18 13 34.8	-0.1
QRZ	Quartz Range	1.89	334		Pb	18 13 36.0	-1.0
QRZ	Quartz Range	1.89	334	P	Pb	18 13 36.5	-0.4
TRWZ	Traveller	1.90	54	P	Pn	18 13 35.8	+1.3
KIW	Kapiti Island	1.92	30	P	Pb	18 13 36.2	-1.2
WVZ	Waitaha Valley	2.21	255	P	Pn	18 13 39.9	+1.2
RPZ	Rata Peaks	2.23	237	Pn	Pn	18 13 39.4	+0.3
RPZ	Rata Peaks	2.23	237	P	Pn	18 13 39.5	+0.3
ARCZ	Arundel	2.29	231	P	Pn	18 13 40.4	+0.5
MRZ	Mangatainoka R	2.37	39	Pn	Pn	18 13 41.6	+0.7
GCSZ	Gaunt Creek Bo	2.56	251	P	Pn	18 13 45.2	+1.7
TMZ	Timaru	2.67	225	P	Pn	18 13 45.8	+0.7
BFZ	Birch Farm	2.69	48	Pn	Pn	18 13 45.7	+0.4
BFZ	Birch Farm	2.69	48	P	Pn	18 13 46.1	+0.7
FOZ	Fox Glacier	2.98	249		Pn	18 13 48.4	-1.0
FOZ	Fox Glacier	2.98	249	P	Pn	18 13 51.2	+1.9
LBZ	Lake Benmore	3.13	232		Pn	18 13 50.6	-0.8
LBZ	Lake Benmore	3.13	232	P	Pn	18 13 52.4	+1.0
ODZ	Otahua Downs	3.32	220		Pn	18 13 54.1	0.0
ODZ	Otahua Downs	3.32	220	P	Pn	18 13 54.5	+0.5
OTVZ	Oturere	3.69	25	P	Pb	18 14 07.2	-0.6
JCZ	Jackson Bay	3.87	245	P	Pn	18 14 02.7	+1.1
BKZ	Black Stump Fm	4.00	34	Pn	Pn	18 14 04.3	+1.0
HHSZ	Highcliff Hill	4.01	212	P	Pn	18 14 04.0	+0.5
WKZ	Wanaka	4.07	234		Pn	18 14 04.2	-0.1
WKZ	Wanaka	4.07	234	P	Pn	18 14 04.7	+0.4
HIZ	Hauiti	4.12	13	Pn	Pn	18 14 06.0	+1.0
EAZ	Earnscleugh	4.14	228	P	Pn	18 14 05.4	+0.2
TUZ	Tuapeka	4.47	219	P	Pn	18 14 10.7	+0.8
MLZ	Mavora Lakes	4.89	233	Pn	Pn	18 14 14.5	-1.2
MLZ	Mavora Lakes	4.89	233	P	Pn	18 14 15.6	-0.1
TOZ	Tahuroa Road	5.00	17	P	Pn	18 14 19.2	+2.1
SYZ	Scrubby Hill	5.14	217	P	Pn	18 14 19.9	+0.9
WHZ	Wether Hill Ro	5.30	229	Pn	Pn	18 14 20.2	-1.0
WHZ	Wether Hill Ro	5.30	229	P	Pn	18 14 20.6	-0.6
TWGZ	Tauwhareparae	5.46	39	P	Pn	18 14 29.3	+5.7
AWAZ	Awhitu Peninsu	5.51	8	P	Pn	18 14 27.1	+3.0
DCZ	Deep Cove	5.52	236	Pn	Pn	18 14 23.7	-0.6
MKAZ	Moumakai	5.54	13	P	Pn	18 14 26.7	+2.2
WTAZ	Waiatarua	5.63	8	P	Pb	18 14 33.4	-7.3
ETAZ	East Tamaki Re	5.65	11	P	Pn	18 14 29.1	+3.0
APZ	The Paps	5.89	221	P	Pn	18 14 29.6	+0.2
PYZ	Puysegur Point	6.17	232	Pn	Pn	18 14 30.1	-3.2
PYZ	Puysegur Point	6.17	232	P	Pn	18 14 33.4	+0.1
CTZ	Chatham Island	7.23	103	P	Pn	18 14 48.7	+1.0
DZM	Mont Dzumac	21.27	341	LR	LR	18 24 05.9	
	comp=Z,88nm,18.3s,baz=36,slow=34						
EIDS	Eidsvold	25.24	306	P	P	18 18 25.6	-2.3
EIDS				IAmb	IAmb	18 18 38.3	
	comp=Z,20nm,1.5s						
STKA	Stephens Creek	27.50	282	P	P	18 18 51.0	+2.5
	comp=Z,1.8nm,1.0s,baz=125,slow=6.5,SNR=1.9						
STKA				LR	LR	18 28 36.7	
	comp=Z,70nm,18.8s,baz=205,slow=33						
	comp=Z,1.8nm,1.0s						
CTA	Charters Tower	32.13	306	LR	LR	18 31 06.4	
	comp=Z,59nm,18.2s,baz=88,slow=34						
VNDA	Vanda	35.44	184	P	P	18 19 56.9	-0.8
VNDA				IAmb	IAmb	18 20 03.0	
	comp=Z,1.1nm,1.2s						
ASAR	Alice Springs	37.81	287	P	P	18 20 17.9	-0.6
	comp=Z,0.6nm,0.9s,baz=132,slow=10,SNR=4.4						
ASAR				LR	LR	18 35 43.7	
	comp=Z,70nm,18.2s,baz=120,slow=36						
	comp=Z,0.6nm,0.9s						
WRA	Warramunga Arr	39.96	292	P	P	18 20 34.1	-2.5
	comp=Z,0.9nm,1.0s,baz=127,slow=8.3,SNR=3.8						
WRA				LR	LR	18 36 09.2	
	comp=Z,56nm,20.1s,baz=136,slow=34						
	comp=Z,0.9nm,1.0s						
PMG	Port Moresby	40.34	317	LR	LR	18 37 18.1	
	comp=Z,66nm,18.0s,baz=340,slow=37						
MORW	Morawa	47.76	267	P	P	18 21 39.3	+0.2
MORW				IAmb	IAmb	18 22 15.9	
	comp=Z,30nm,1.5s						
HHC	Hu-ho-hao-te	100.15	317	eP	Pdif	18 26 49.3	+1.7
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,4.3s						
WMQ	Urumqi	115.27	307	eP	PKiKP	18 31 44.0	+1.0
TORD	Torodi Ar. Bea	149.91	196	PKPbc	PKiKP	18 32 53.1	-0.4
	comp=Z,1.7nm,0.9s,baz=181,slow=1.3,SNR=4.1						

*JMA **14** 18:14:10.3±0.3,24.7°N±1.1°×122.7°E±0.9,h3km,MV1.6/4,NW OFF ISHIGAKIJIMA IS*

TAP 14 18:14:10.0,24°89N×122°48E,h18km,ML1.8,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.46	285	eP	Pg	18 14 19.1	-0.3
	baz=285						
TWB1				eS	Sg	18 14 25.5	-0.2
	baz=285						
EGS		0.50	265	i P	Pb	18 14 20.4	+0.2
	baz=254						
EGS				i S	Sb	18 14 27.5	+0.4
	baz=254						
SXI1	Grass Mountain	0.58	291	P	Pg	18 14 21.8	+0.2
	baz=290						
SXI1				eS	Sg	18 14 30.6	+1.0
	baz=290						
TIPB	Shuangxi	0.60	278	P	Pg	18 14 22.0	+0.1
	baz=278						
TIPB				eS	Sg	18 14 30.3	+0.4
	baz=278						
JYNG	Yonagunijimaku	0.61	136	P	Pb	18 14 21.4	-0.5
TWC	Suao	0.64	244	i P	Pb	18 14 22.1	-0.4
	baz=251						
TWC				eS	Sn	18 14 32.8	-0.9
	baz=251						
YOJ	Yonaguni jima	0.64	131	P	Pb	18 14 22.2	-0.3
	baz=122						
YOJ				eS	Sb	18 14 30.6	-0.6
	baz=122						
YOJ	Yonaguni jima	0.64	131	P	Pb	18 14 22.0	-0.6
YOJ				S	Sb	18 14 30.3	-0.8
WFSB	Wu-fen Shan	0.66	286	i P	Pg	18 14 23.4	+0.4
	baz=286						
WFSB				S	Sg	18 14 32.8	+0.9
	baz=286						
TWE	Neicheng	0.76	258	i P	Pg	18 14 24.7	-0.1
	baz=257						
TWE				eS	Sn	18 14 36.1	-0.6
	baz=257						
ENA	Nanau	0.81	236	P	Pb	18 14 25.2	-0.3
	baz=228						
FUSB	Fushanzhiwuyua	0.82	261	i P	Pg	18 14 26.2	+0.2
	baz=275						
FUSB				S	Sg	18 14 37.2	+0.3
	baz=275						
PCYT	Pengchaiyu	0.83	334	eP	Pn	18 14 26.4	-0.2
	baz=334						
PCYT				eS	Sb	18 14 35.7	-0.9
	baz=334						
ENTT	Nioudou	0.87	254	P	Pb	18 14 26.0	-0.4
	baz=253						
NWLT	Wulai	0.89	263	P	Pb	18 14 26.7	-0.2
	baz=263						
NWLT				eS	Sn	18 14 39.7	-0.4
	baz=263						
LATG	Datong	0.93	248	i P	Pg	18 14 28.2	0.0
	baz=235						
LATG				i S	Sg	18 14 40.3	-0.2
	baz=235						
YHNB	Yeheng	1.03	258	P	Pb	18 14 29.1	-0.1
	baz=258						
YHNB				S	Sn	18 14 43.1	-0.3
	baz=258						
NSK	Sanguang	1.04	259	eP	Pb	18 14 28.5	-0.9
	baz=272						
NSK				S	Sb	18 14 42.7	0.0
	baz=272						
NACB	Ninganchiao	1.07	229	eP	Pn	18 14 30.3	+0.2
	baz=238						
NACB				S	Sn	18 14 44.1	-0.4
	baz=238						
NNSB	Datong	1.10	246	i P	Pb	18 14 30.3	-0.2
	baz=234						
NNSB				S	Sn	18 14 44.9	-0.4
	baz=234						
NNSH	Datong	1.10	246	eP	Pb	18 14 29.3	-1.2
	baz=236						
NNSH				S	Sb	18 14 43.7	-0.7
	baz=236						
NNS	Nan Shan	1.10	246	eP	Pb	18 14 29.6	-0.9
	baz=235						
NNS				S	Sb	18 14 44.1	-0.4
	baz=235						
ETLH	Xiulin Townshi	1.13	233	eP	Pn	18 14 30.7	-0.2
	baz=244						
ETLH				eS	Sb	18 14 45.3	-0.2
	baz=244						
JKRS	Kuro-shima	1.54	115	eP	Pn	18 14 33.8	-2.6

*IDC **14** 18:20:50.8±0.9,36.55N×26.40E,h0km,mb3.7/6, mbtmp3.6/11,ML3.5/5,MS2.7/5,Error ellipse: s-maj=20.0km s-min=11.2km az=144.0*
*DDA **14** 18:20:51.0±0.0,36.66N×26.45E,h2km±6km,MW3.7*
*ISK **14** 18:20:51.9,36.63N×26.43E,h10km,ML3.7/18*
*ATH **14** 18:20:52.0,36.65N×26.44E,h30km±1km,ML3.7/10,Error ellipse: s-maj=1.6km s-min=0.8km az=359.0*
*THE **14** 18:20:52.7,36.68N×26.43E,h8km±1km,ML3.6/14,Error ellipse: s-maj=1.9km s-min=0.4km az=4.0*
*GII **14** 18:20:56.0±0.0,35.84N×26.36E,h1km,Mm3.8/2*

ISC 14 18:20:52.4±1.0,36.63N±0.02×26.44E±0.02,h15km±7km, n108,σ1°25/139,mb3.7/6,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSK	Kos Island	0.45	75	PG	Pb	18 21 01.5	-0.5
KOSK				SG	Sb	18 21 09.2	+0.7
KOSK	Kos Island	0.45	75	P	Pb	18 21 01.6	-0.5
KOSK				S	Sb	18 21 08.7	+0.2
	15µm,0.7s						
KOSK	Kos Island	0.45	75	P	Pb	18 21 01.6	-0.5
KOSK				S	Sb	18 21 09.1	+0.6
KOSK				AML	AML	18 21 13.2	
	comp=E,97142µm,0.7s						
KOSK				AML	AML	18 21 14.3	
	comp=N,84677µm,0.7s						
NISR	Nisiros	0.55	92	P	Pb	18 21 03.9	+0.1
NISR				S	Sb	18 21 12.4	+0.8
	comp=N,12µm,0.3s						
NISR	Nisiros	0.55	92	P	Pb	18 21 03.8	-0.1
NISR				AML	AML	18 21 14.9	
	comp=N,16587µm,0.3s						
NISR				AML	AML	18 21 17.5	
	comp=E,31548µm,0.3s						
NIS1	Nisyros Isl.	0.59	93	PG	Pg	18 21 04.2	+0.1
NIS1	Nisyros Isl.	0.59	93	P	Pb	18 21 04.7	+0.1
NIS1				S	Sb	18 21 13.7	+0.9
	comp=E,9µm,0.5s						
NIS1	Nisyros Isl.	0.59	93	P	Pb	18 21 04.5	0.0
NIS1				S	Sb	18 21 13.5	+0.7
NIS1				AML	AML	18 21 18.6	
	comp=N,16658µm,0.6s						
NIS1				AML	AML	18 21 22.6	
	comp=E,17744µm,0.4s						
THR8	Santorini-Mono	0.81	254	P	Pg	18 21 07.7	-0.4
THR8	Santorini-Mono	0.81	254	P	Pg	18 21 07.8	-0.4
BODT	Bodrum	0.82	58	PG	Pg	18 21 07.4	-1.0
BODT				SG	Sb	18 21 19.8	+0.6
BODT	Bodrum	0.82	58	P	Pg	18 21 07.1	-1.2
BODT				S	Sg	18 21 19.0	-0.1
BODT	Bodrum	0.82	58	P	Pg	18 21 07.1	-1.2
BODT				S	Sg	18 21 18.7	-0.5
BODT				i AML	AML	18 21 23.0	
	comp=E,3µm,0.4s						
BODT				i AML	AML	18 21 24.0	
	comp=E,4µm,0.9s						
SANT	Santorini	0.83	252	PG	Pb	18 21 08.7	0.0
SANT	Santorini	0.83	252	P	Pg	18 21 08.4	-0.2
SANT				S	Sb	18 21 20.3	+0.6
	comp=E,2µm,0.2s						
SANT	Santorini	0.83	252	P	Pg	18 21 08.3	-0.3
SANT	Santorini	0.83	252	P	Pg	18 21 08.3	-0.3
SANT				AML	AML	18 21 24.8	
	comp=E,6634µm,0.3s						
SANT				AML	AML	18 21 25.2	
	comp=N,2759µm,0.2s						
SFIR	Foira Santorin	0.84	256	P	Pb	18 21 08.9	+0.1
SFIR				S	Sn	18 21 21.9	0.0
	comp=N,13µm,0.9s						
THT2	Imerovigli	0.84	257	PG	Pb	18 21 08.6	-0.2
THT2	Imerovigli	0.84	257	P	Pb	18 21 08.8	0.0
APE	Apeiranthos	0.85	301	PG	Pb	18 21 08.6	-0.3
APE	Apeiranthos	0.85	301	P	Pg	18 21 08.1	-0.9
APE				S	Sb	18 21 21.2	+1.0
	comp=N,5µm,0.7s						
APE	Apeiranthos	0.85	301	P	Pb	18 21 08.6	-0.3
APE	Apeiranthos	0.85	301	P	Pg	18 21 08.0	-0.9
APE				S	Sb	18 21 21.2	+1.0
APE				AML	AML	18 21 22.1	
	comp=N,11851µm,0.7s						
APE				AML	AML	18 21 22.7	
	comp=E,7960µm,0.4s						
CMBO	Columbo, Santo	0.85	259	P	Pb	18 21 08.8	-0.1
CMBO				S	Sn	18 21 22.1	+0.1
	comp=E,8µm,0.6s						
CMBO	Columbo, Santo	0.85	259	P	Pb	18 21 08.7	-0.2
CMBO				AML	AML	18 21 27.6	
	comp=N,16799µm,0.7s						
CMBO				AML	AML	18 21 28.8	
	comp=E,21666µm,0.6s						
THR3	Thira Island,	0.87	255	P	Pb	18 21 09.0	-0.2
THR3	Thira Island,	0.87	255	P	Pb	18 21 09.0	-0.2
THR6	Thira Island,	0.89	252	P	Pb	18 21 09.6	+0.1
THR6	Thira Island,	0.89	252	P	Pb	18 21 09.6	+0.1
SAP3	Santorini-Thir	0.90	258	P	Pb	18 21 09.8	0.0
SAP3				S	Sn	18 21 23.4	0.0
	comp=E,9µm,0.9s						
THR5	Thira Island,	0.91	256	P	Pb	18 21 10.0	+0.1
THR5	Thira Island,	0.91	256	P	Pb	18 21 09.9	+0.1
BDRM	Kayabasi	0.91	62	P	Pg	18 21 09.6	-0.6
BDRM				S	Sb	18 21 22.7	+0.7
BDRM				i AML	AML	18 21 26.0	
	comp=E,997nm,0.6s						
THR9	Santorini-Faro	0.92	253	P	Pb	18 21 10.2	+0.2
THR9	Santorini-Faro	0.92	253	P	Pb	18 21 10.0	0.0
DAT	Datca	0.92	84	PG	Pb	18 21 10.2	0.0
DDIM	Aydin, Didim	1.04	38	P	Pb	18 21 12.5	+0.3
SMG	Samos	1.12	16	P	Pg	18 21 12.9	-1.2
SMG				S	Sg	18 21 27.4	-1.2
	comp=E,2µm,0.4s						
SMG	Samos	1.12	16	P	Pg	18 21 12.8	-1.2
SMG				S	Sg	18 21 27.4	-1.2
SMG				AML	AML	18 21 32.8	
	comp=N,5383µm,0.4s						
SMG				AML	AML	18 21 33.2	
	comp=E,4201µm,0.5s						
KARP	Karpathos	1.23	152	PN	Pn	18 21 15.4	+0.2
KARP	Karpathos	1.23	152	P	Pn	18 21 15.4	+0.2
KARP				S	Sg	18 21 32.6	+0.3
	comp=E,2µm,0.6s						
KARP	Karpathos	1.23	152	P	Pn	18 21 15.2	+0.1
KARP				S	Sb	18 21 31.9	+0.7
KARP				AML	AML	18 21 39.3	
	comp=E,4047µm,0.4s						
KARP				AML	AML	18 21 40.9	
	comp=N,5090µm,0.5s						
GCAM	G?zelcaml?	1.24	31	P	Pb	18 21 15.4	-0.1
TNSA	Tinos	1.36	312	P	Pb	18 21 17.4	-0.2
ARG	Arkhangelos	1.42	107	PN	Pn	18 21 18.5	+0.8
ARG	Arkhangelos	1.42	107	P	Pn	18 21 18.5	+0.8
ARG				S	Sn	18 21 36.8	+0.6
	comp=N,1µm,1.1s						
ARG	Arkhangelos	1.42	107	P	Pn	18 21 18.4	+0.7
TURN	Turunc	1.46	84	PN	Pb	18 21 19.4	+0.2
TURN	Turunc	1.46	84	P	Pn	18 21 18.5	+0.3
STIA	Sitia Lasithi	1.46	191	P	Pn	18 21 18.6	+0.4
STIA	Sitia Lasithi	1.46	191	P	Pn	18 21 18.3	+0.1
STIA				AML	AML	18 21 47.6	
	comp=N,3563µm,0.8s						
STIA				AML	AML	18 21 49.7	
	comp=E,5296µm,0.7s						
DGB	zmir	1.46	14	P	Pb	18 21 18.9	-0.4
DGB				S	Sg	18 21 40.0	+0.5
DGB				i AML	AML	18 21 41.0	
	comp=E,355nm,0.5s						
DGB				i AML	AML	18 21 44.0	
	comp=E,456nm,0.6s						
ZKR	Zakros	1.53	187	PN	Pn	18 21 19.9	+0.7
ZKR	Zakros	1.53	187	P	Pn	18 21 19.8	+0.6
ZKR				S	Sg	18 21 41.4	-0.3
	comp=E,1µm,0.7s						
ZKR	Zakros	1.53	187	P	Pn	18 21 19.6	+0.4
AYDN	Tasoluk	1.54	48	P	Pn	18 21 19.7	+0.2
YER	Yerkesik	1.56	71	PN	Pn	18 21 20.6	+0.9
YER	Yerkesik	1.56	71	P	Pn	18 21 20.4	+0.7
YER	Yerkesik	1.56	71	P	Pn	18 21 20.4	+0.7
MULA	Mugla, Merkez-	1.63	67	P	Pb	18 21 22.6	+0.4
MHLO	Agia Marina, M	1.64	273	P	Pb	18 21 21.8	-0.6
HRKL	Herakleio	1.71	220	PN	Pn	18 21 22.5	+0.8
FRMA	Ierapetra Chan	1.72	200	P	Pn	18 21 22.2	+0.4
FRMA				S	Sn	18 21 43.8	+0.4
	comp=E,598nm,0.7s						
FRMA	Ierapetra Chan	1.72	200	P	Pn	18 21 21.5	-0.2
FRMA				S	Sn	18 21 44.5	+1.1
FRMA				AML	AML	18 21 48.0	
	comp=E,4050µm,0.9s						
FRMA				AML	AML	18 21 50.3	
	comp=N,2988µm,0.6s						
URLA	Izmir	1.73	4	PN	Pb	18 21 23.0	-0.9
URLA	Izmir	1.73	4	P	Pb	18 21 23.3	-0.6
AYDB	Zeytinkoy-Aydi	1.75	41	PN	Pn	18 21 23.5	+1.1
DALY	Dalyan (Mula)	1.79	83	PN	Pn	18 21 24.2	+1.5
BLCB	Balcova	1.81	15	PN	Pn	18 21 24.3	+1.2
BLCB	Balcova	1.81	15	P	Pn	18 21 23.0	-0.1
IDI	Anoyia	1.84	224	Pg	Pn	18 21 23.5	-0.1
	comp=N,14nm,0.3s,baz=47,slow=13,SNR=69						
IDI				Lg	Lg	18 21 46.1	
	comp=N,48nm,0.3s,baz=280,slow=20,SNR=13						
IDI	Anoyia	1.84	224	PN	Pn	18 21 23.6	0.0
IDI	Anoyia	1.84	224	P	Pn	18 21 23.3	-0.3
IDI				S	Sn	18 21 47.2	+0.6
	comp=N,870nm,0.5s						
IDI	Anoyia	1.84	224	P	Pn	18 21 23.5	-0.1
FETY	Fethiye	2.13	89	PN	Pn	18 21 28.8	+1.3
TAVA	DENİZLİ_Tavas	2.15	67	P	Pb	18 21 31.7	+0.6
CAME	Cameli-Denizli	2.32	81	PN	Pn	18 21 31.7	+1.5
CAEL	Denizli, Camel	2.36	77	P	Pb	18 21 34.0	-0.8
APMY	Acipayam-Deniz	2.44	69	PN	Pn	18 21 33.2	+1.4
GOLH	Golhisar	2.57	76	P	Pb	18 21 37.4	-0.9
AKAS	Kas	2.58	98	PN	Pn	18 21 35.2	+1.4
AKAS	Kas	2.58	98	P	Pb	18 21 38.1	-0.4
ELL	Elmali	2.79	87	P	Pb	18 21 41.9	-0.1
VIL2	Platees	2.98	303	P	Pn	18 21 40.0	+0.9
BRTR	Keskin Array B	6.46	59	Pn	Pn	18 22 29.4	+2.4
	comp=N,0.5nm,0.3s,baz=247,slow=14,SNR=5.4						
BRTR				LR	LR	18 25 39.0	
	comp=N,47nm,20.1s,baz=242,slow=44						
	comp=N,1.1nm,0.4s						
MMAI	Mount Meron Ar	8.21	113	Pn	Pn	18 22 50.0	-1.1
	comp=N,1.5nm,0.3s,baz=310,slow=12,SNR=7.7						
MMAI				Sn	Sn	18 24 19.6	-4.0
	comp=N,2.2nm,0.3s,baz=304,slow=24,SNR=2.4						
	comp=N,1.0nm,0.3s						
KZIT	Kziot	8.74	128	Pn	Pn	18 22 58.6	+0.2
KZIT				Sn	Sn	18 24 33.7	-3.0
MLR	Muntele Rosu	8.86	358	Sn	Sn	18 24 35.6	-4.0
	comp=N,0.4nm,0.3s,baz=169,slow=11,SNR=4.4						
MLR				LR	LR	18 27 10.4	
	comp=N,82nm,21.3s,baz=216,slow=42						
DSI	Dead Sea	8.97	122	Sn	Sn	18 24 41.2	-1.0
KRMI	Paran Flat	9.49	131	Pn	Pn	18 23 07.5	-1.2
KRMI				Sn	Sn	18 24 51.2	-4.0
ASF	Jabal al Asfar	9.72	114	Pn	Pn	18 23 12.3	+0.6
	comp=N,0.2nm,0.3s,baz=282,slow=13,SNR=1.5						
ASF				Sn	Sn	18 24 57.9	-2.8
	comp=N,0.4nm,0.3s,baz=198,slow=20,SNR=2.1						
	comp=N,1.5nm,0.6s						
HRFI	Mount Harif	9.74	130	Pn	Pn	18 23 12.1	0.0
HRFI				Sn	Sn	18 24 56.9	-4.4
MBRI	Mt Berech	9.84	131	Pn	Pn	18 23 13.1	-0.4
MBRI				Sn	Sn	18 25 00.4	-3.3
EIL	Elat	9.95	132	Pn	Pn	18 23 14.6	-0.3
	comp=N,1.3nm,0.3s,baz=345,slow=17,SNR=5.1						
EIL				Sn	Sn	18 25 01.7	-4.7
	comp=N,1.3nm,0.3s,baz=329,slow=17,SNR=6.2						
	comp=N,3.6nm,0.4s						
EIL	Elat	9.95	132	Pn	Pn	18 23 14.8	-0.1
EIL				Sn	Sn	18 25 02.4	-4.0
AKASG	Malin Array Be	14.20	7	LR	LR	18 30 22.5	
	comp=N,28nm,20.4s,baz=187,slow=40						
KBZ	Khabaz	14.43	56	Pn	P	18 24 26.5	+3.7
	comp=N,0.1nm,0.3s,baz=248,slow=12,SNR=6.3						
VRAC	Vranov	14.56	334	LR	LR	18 30 03.5	
	comp=N,30nm,20.7s,baz=146,slow=38						
GERES	GERESS Array B	15.35	327	Pn	P	18 24 31.3	-1.9
	comp=N,0.1nm,0.3s,baz=142,slow=14,SNR=3.9						
	comp=N,0.1nm,0.2s						
KHC	Kasperske Hory	15.62	327	eP	P	18 24 36.0	-0.1
ESDC	Sonseca Array	24.05	287	P	P	18 26 06.6	-0.4
	comp=N,0.9nm,0.9s,baz=81,slow=10,SNR=4.3						
	comp=N,0.9nm,0.9s						
NOA	NORSAR Array B	26.27	343	LR	LR	18 38 36.1	
	comp=N,19nm,21.6s,baz=315,slow=40						
EKA	Eskdalemuir Ar	27.48	322	P	P	18 26 38.9	+1.1
	comp=N,0.8nm,0.7s,baz=113,slow=10,SNR=1.4						
	comp=N,0.8nm,0.7s						
TORD

WEL 14 18:24:15.4±1.3, 42°S±4″×17°4E±°, h5km±3km, M3.3/4, ML3.5/4, MLv3.3/4, Error ellipse: s-maj=0.0km s-min=0.0km az=77.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**234**	P	Pg	18 24 18.9	+0.1
KHZ				S	Sg	18 24 21.6	+0.5
THZ	**Tophouse**	**0.82**	**312**	P	Pg	18 24 31.6	+0.4
THZ				S	Sb	18 24 43.6	-0.2
GVZ	**Greta Valley S**	**0.83**	**218**	P	Pg	18 24 31.7	+0.4
GVZ				S	Sb	18 24 43.4	-0.4
LTZ	**Lake Taylor**	**1.17**	**246**	P	Pg	18 24 37.0	-0.9
LTZ				S	Sg	18 24 53.0	-0.1
OKCZ	**Okains Bay**	**1.49**	**199**	P	Pn	18 24 39.7	-3.2
DSZ	**Denniston Nort**	**1.54**	**291**	P	Pn	18 24 44.1	+0.4
DSZ				S	Sg	18 25 05.6	+0.6
MQZ	**McQueen's Vall**	**1.60**	**209**	P	Pn	18 24 40.9	-3.5
MQZ				S	Sn	18 25 00.1	-5.2
OXZ	**Oxford**	**1.60**	**230**	P	Pn	18 24 41.4	-3.0
OXZ				S	Sn	18 25 01.4	-4.0
AKCZ	**Akaroa Harbour**	**1.67**	**201**	P	Pn	18 24 42.4	-2.9
AKCZ				S	Sn	18 25 02.8	-4.3
RACZ	**Rakaia**	**1.83**	**219**	P	Pn	18 24 44.4	-3.1
WACZ	**Wakanui South**	**2.13**	**220**	P	Pn	18 24 48.9	-2.9
RPZ	**Rata Peaks**	**2.41**	**234**	P	Pn	18 24 52.9	-2.6
ARCZ	**Arundel**	**2.48**	**228**	P	Pn	18 24 53.7	-2.8

WEL 14 18:29:29.8±0.4, 42°S±2″×17°4E±°, h10km±3km, M3.1/7, ML3.5/7, MLv3.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=114.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.23**	**335**	P	Pg	18 29 35.3	+0.8
BSWZ				S	Sg	18 29 39.4	+1.8
TUWZ	**Tuamarina**	**0.49**	**355**	P	Pb	18 29 40.3	-0.3
TUWZ				S	Sb	18 29 47.8	0.0
KHZ	**Kahutara**	**0.60**	**215**	P	Pg	18 29 40.9	-0.6
KHZ				S	Sb	18 29 52.2	+1.1
PLWZ	**Palliser**	**1.00**	**70**	P	Pg	18 29 48.3	-0.8
PLWZ				S	Sn	18 30 04.1	-0.1
MSWZ	**Moikau Station**	**1.06**	**62**	P	Pg	18 29 49.2	-1.0
CAW	**Cannon Point**	**1.14**	**45**	P	Pb	18 29 51.1	-0.5
CAW				S	Sg	18 30 06.6	+0.1
TKNZ	**Takaka Hill**	**1.18**	**318**	P	Pn	18 29 52.4	0.0
KIW	**Kapiti Island**	**1.26**	**33**	P	Pn	18 29 53.3	-0.2
KIW				S	Sb	18 30 10.0	0.0
GVZ	**Greta Valley S**	**1.27**	**214**	P	Pn	18 29 52.1	-1.5
GVZ				S	Sb	18 30 10.4	+0.2
OGWZ	**Otaki Gorge**	**1.41**	**39**	P	Pn	18 29 54.8	-0.8
OGWZ				S	Sn	18 30 13.2	-0.9
LTZ	**Lake Taylor**	**1.54**	**236**	P	Pn	18 29 56.7	-0.8
LTZ				S	Sn	18 30 16.6	-1.0
QRZ	**Quartz Range**	**1.56**	**314**	P	Pb	18 29 59.1	+0.4
DSZ	**Denniston Nort**	**1.65**	**275**	P	Pb	18 30 00.1	-0.3
DSZ				S	Sg	18 30 23.0	+0.1

*NNC **14** 18:29:59.5±1.5, 45°.40N×84°.60E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=12.2km s-min=5.9km az=111.0*
*SOME **14** 18:30:00.8, 45°.48N×84°.60E, h25km*
ISC 14 18:29:59.7±1.9, 45°.47N±0°.07×84°.64E±0°.10, h10km, n19, σ3°07/30, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.98**	**4**	*eP*	**Pb**	**18 30 36.3**	**+0.4**
	4.4nm,0.2s						
ZSN				*eS*	**Sb**	**18 31 02.0**	**+1.3**
	38nm,0.3s						
ZSN	**Zaisan**	**1.98**	**4**	Pg	**Pb**	**18 30 36.3**	**+0.4**
	4.4nm,0.2s						
ZSN				Lg	Lg	18 31 02.5	
	25nm,0.3s						
MK31	**Makanchi Array**	**2.10**	**310**	Pn	**Pn**	**18 30 36.1**	**+1.1**
	3.3nm,0.1s,baz=126,slow=18,SNR=502						
MK31				⇓Sn	**Sb**	**18 31 04.2**	**+0.1**
	23nm,0.2s,baz=124,slow=30,SNR=7.9						
MAKZ	**Makanchi**	**2.29**	**307**	⇑Pn	**Pn**	**18 30 39.4**	**+1.9**
	2.8nm,0.3s						
MAKZ				⇑Sn	**Sb**	**18 31 09.3**	**-0.1**
	6.7nm,0.5s						
DJR	**Jarkent**	**3.63**	**253**	*eP*	**Pb**	**18 31 05.4**	**+1.4**
	0.6nm,0.3s						
DJR				*eS*	**Sb**	**18 31 51.8**	**+3.6**
	3.5nm,0.3s						
DJR	**Jarkent**	**3.63**	**253**	Pg	**Pb**	**18 31 05.7**	**+1.7**
	0.6nm,0.3s						
DJR				Lg	Lg	18 31 51.8	
	3.5nm,0.3s						
PDGK	**Podgornoye**	**4.27**	**242**	Pg	**Pb**	**18 31 17.4**	**+2.5**
	0.5nm,0.4s						
PDGK				Lg	Lg	18 32 11.9	
	3.6nm,0.5s						
SHLS	**Shalkode**	**4.38**	**240**	*eP*	**Pb**	**18 31 13.9**	**-2.9**
	1.8nm,0.3s						
SHLS				*eS*	**Sb**	**18 32 06.1**	**-3.6**
	5.9nm,0.3s						
SHLS	**Shalkode**	**4.38**	**240**	Pg	**Pb**	**18 31 14.1**	**-2.7**
	1.8nm,0.3s						
SHLS				Lg	Lg	18 32 06.1	
	4.4nm,0.5s						
TDK	**Taldyqorghan**	**4.43**	**266**	*eP*	**Pg**	**18 31 22.5**	**-2.1**
	21nm,0.1s						
TDK				*eS*	**Sg**	**18 32 20.8**	**-1.2**
	31nm,0.3s						
UZB	**Uzynbulak**	**4.66**	**242**	*eP*	**Pb**	**18 31 22.7**	**+1.2**
	0.7nm,0.2s						
UZB				*eS*	**Sb**	**18 32 21.6**	**+3.9**
	3.6nm,0.7s						
UZB	**Uzynbulak**	**4.66**	**242**	Pg	**Pb**	**18 31 23.1**	**+1.6**
	1.1nm,0.4s						
UZB				Lg	Lg	18 32 21.6	
	3.6nm,0.7s						
KPKS	**Kokpek**	**4.71**	**247**	*eP*	**Pb**	**18 31 25.3**	**+2.8**
	2.0nm,0.4s						
KPKS				*eS*	**Sg**	**18 32 26.2**	**-4.8**
	13nm,0.5s						
KPKS	**Kokpek**	**4.71**	**247**	Pg	**Pb**	**18 31 25.9**	**+3.5**
	2.0nm,0.4s						
KPKS				Lg	Lg	18 32 26.2	
	13nm,0.5s						
ARXS	**Arharly**	**5.01**	**258**	*eP*	**Pb**	**18 31 30.8**	**+3.3**
	2.7nm,0.9s						
ARXS				*eS*	**Sg**	**18 32 35.7**	**-4.8**
	4.3nm,0.6s						
ARXS	**Arharly**	**5.01**	**258**	Pg	**Pb**	**18 31 30.8**	**+3.3**
	2.7nm,0.9s						
ARXS				Lg	Lg	18 32 35.7	
	4.3nm,0.6s						
ZHN	**Zhinishke**	**5.01**	**245**	*eP*	**Pb**	**18 31 29.9**	**+2.3**
	3.3nm,0.3s						
ZHN				*eS*	**Sb**	**18 32 33.6**	**+5.6**
	8.1nm,0.1s						
ZHN	**Zhinishke**	**5.01**	**245**	Pg	**Pb**	**18 31 29.9**	**+2.3**
	3.3nm,0.3s						
ZHN				Lg	Lg	18 32 33.1	
	8.1nm,0.1s						
KURS	**Kuram**	**5.04**	**249**	*eP*	**Pb**	**18 31 31.1**	**+3.1**
	2.4nm,0.5s						
KURS				*eS*	**Sg**	**18 32 36.0**	**-5.5**
	2.3nm,0.5s						

WEL 14 18:30:56.7±0.7, 42°S±4″×17°4E±°, h0km, M2.9/7, ML3.5/7, MLv2.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=146.1, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.29**	**19**	P	Pg	18 31 02.2	-0.1
BSWZ	**Blackbirch Sta**	**0.35**	**332**	P	Pg	18 31 04.0	+0.6
BSWZ				S	Sg	18 31 08.8	+1.0
TUWZ	**Tuamarina**	**0.60**	**349**	S	Sg	18 31 15.2	-0.9
WEL	**Wellington**	**0.90**	**35**	P	Pg	18 31 14.0	+0.1
WEL				S	Sg	18 31 25.5	0.0
MSWZ	**Moikau Station**	**1.06**	**55**	P	Pg	18 31 17.4	+0.4
MSWZ				S	Sb	18 31 31.9	-0.4
CAW	**Cannon Point**	**1.17**	**39**	P	Pg	18 31 18.8	-0.4
DUWZ	**D'Urville Isla**	**1.23**	**354**	P	Pg	18 31 19.8	-0.5
TKNZ	**Takaka Hill**	**1.30**	**319**	P	Pb	18 31 22.1	0.0

WEL 14 18:32:37.5±0.4, 43°S±2″×17°3E±°, h5km, M3.4/23, ML3.5/13, MLv3.4/23, Error ellipse: s-maj=0.0km s-min=0.0km az=122.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**28**	P	Pg	18 32 40.4	-0.6
KHZ				S	Sg	18 32 43.4	0.0
GVZ	**Greta Valley S**	**0.48**	**216**	P	Pb	18 32 48.2	-0.3
GVZ				S	Sb	18 32 56.9	+1.0
AMCZ	**Amberley**	**0.83**	**223**	P	Pb	18 32 54.0	-0.3
LTZ	**Lake Taylor**	**0.88**	**256**	P	Pg	18 32 54.5	+0.3
LTZ				S	Sb	18 33 07.2	0.0
THZ	**Tophouse**	**0.90**	**334**	P	Pg	18 32 54.1	-0.6
THZ				S	Sg	18 33 05.6	-0.7
OKCZ	**Okains Bay**	**1.18**	**193**	P	Pg	18 32 59.4	-0.6
TUWZ	**Tuamarina**	**1.21**	**19**	P	Pg	18 33 00.3	-0.4
TUWZ				S	Sn	18 33 17.9	+0.2
MQZ	**McQueen's Vall**	**1.26**	**206**	P	Pg	18 33 00.0	-1.6
MQZ				S	Sg	18 33 16.7	-1.3
OXZ	**Oxford**	**1.26**	**233**	P	Pg	18 33 01.0	-0.7
OXZ				S	Sg	18 33 17.6	-0.5
MRNZ	**Matariki Terra**	**1.28**	**337**	P	Pg	18 33 01.5	-0.4
MRNZ				S	Sn	18 33 20.0	+0.6
NNZ	**Nelson**	**1.36**	**359**	P	Pn	18 33 03.1	0.0
NNZ				S	Sn	18 33 21.4	-0.1
DSZ	**Denniston Nort**	**1.46**	**304**	P	Pn	18 33 04.2	-0.4
DSZ				S	Sb	18 33 24.0	-0.1
INZ	**Inchbonnie**	**1.47**	**264**	P	Pn	18 33 04.2	-0.3
RACZ	**Rakaia**	**1.49**	**219**	P	Pn	18 33 03.1	-1.8
RACZ				S	Sn	18 33 21.6	-3.0
TKNZ	**Takaka Hill**	**1.58**	**347**	P	Pn	18 33 06.4	+0.3
WACZ	**Wakanui South**	**1.79**	**220**	P	Pn	18 33 07.4	-1.7
DUWZ	**D'Urville Isla**	**1.81**	**12**	P	Pb	18 33 10.7	-0.4
QRZ	**Quartz Range**	**1.87**	**339**	P	Pn	18 33 09.7	-0.5
CAW	**Cannon Point**	**1.91**	**40**	P	Pn	18 33 07.8	-2.9
WVZ	**Waitaha Valley**	**2.04**	**255**	P	Pn	18 33 12.1	-0.3
RPZ	**Rata Peaks**	**2.08**	**236**	P	Pn	18 33 11.5	-1.5
ARCZ	**Arundel**	**2.14**	**229**	P	Pn	18 33 12.1	-1.7
GCSZ	**Gaunt Creek Bo**	**2.39**	**251**	P	Pn	18 33 17.1	-0.2
TMZ	**Timaru**	**2.52**	**223**	P	Pn	18 33 18.2	-0.9
FOZ	**Fox Glacier**	**2.81**	**249**	P	Pn	18 33 23.4	+0.4
ODZ	**Otahua Downs**	**3.18**	**218**	P	Pn	18 33 26.3	-1.9
SNVZ	**South Ngauruho**	**3.78**	**27**	P	Pn	18 33 34.9	-1.6
HHSZ	**Highcliff Hill**	**3.88**	**211**	P	Pn	18 33 36.0	-1.7
AWAZ	**Awhitu Peninsu**	**5.58**	**10**	P	Pn	18 34 01.4	+0.3

WEL 14 18:36:55.0±0.3, 42°S±2″×17°4E±°, h13km±2km, M3.3/25, ML3.4/15, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=115.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**204**	P	Pb	18 37 01.6	-0.1
KHZ				S	Sb	18 37 06.1	-0.1
BSWZ	**Blackbirch Sta**	**0.48**	**17**	P	Pb	18 37 05.1	-0.2
BSWZ				S	Sb	18 37 12.7	+0.4
CMWZ	**Cape Campbell**	**0.58**	**43**	P	Pn	18 37 08.0	-1.0
CMWZ				S	Sn	18 37 18.9	+0.6
THZ	**Tophouse**	**0.71**	**305**	P	Pg	18 37 08.8	0.0
THZ				S	Sg	18 37 17.9	-0.3
TUWZ	**Tuamarina**	**0.77**	**15**	P	Pb	18 37 10.2	0.0
TUWZ				S	Sb	18 37 21.5	+1.0
GVZ	**Greta Valley S**	**0.93**	**211**	P	Pn	18 37 13.7	-0.1
GVZ				S	Sn	18 37 27.1	+0.1
NNZ	**Nelson**	**0.98**	**346**	P	Pn	18 37 13.4	-0.4
MRNZ	**Matariki Terra**	**1.04**	**318**	P	Pg	18 37 15.0	0.0
MRNZ				S	Sg	18 37 28.9	+0.3
TCW	**Tory Channel**	**1.06**	**25**	P	Pb	18 37 15.1	0.0
TCW				S	Sn	18 37 30.1	0.0
AMCZ	**Amberley**	**1.26**	**217**	P	Pn	18 37 17.9	-0.4
TKNZ	**Takaka Hill**	**1.26**	**334**	P	Pb	18 37 18.6	-0.1
TKNZ				S	Sb	18 37 34.6	-0.1
DUWZ	**D'Urville Isla**	**1.38**	**8**	P	Pb	18 37 20.7	0.0
DUWZ				S	Sg	18 37 39.9	+0.3
MSWZ	**Moikau Station**	**1.39**	**58**	P	Pn	18 37 19.5	-0.7
MSWZ				S	Sn	18 37 38.5	+0.1
CAW	**Cannon Point**	**1.48**	**45**	P	Pn	18 37 21.1	-0.3
CAW				S	Sn	18 37 40.3	-0.4
KIW	**Kapiti Island**	**1.60**	**36**	P	Pn	18 37 23.4	+0.4
KIW				S	Sn	18 37 42.3	-1.3
QRZ	**Quartz Range**	**1.60**	**327**	P	Pb	18 37 23.9	-0.6
OKCZ	**Okains Bay**	**1.62**	**196**	P	Pn	18 37 22.4	-0.9
TRWZ	**Traveller**	**1.69**	**63**	P	Pn	18 37 22.9	-1.3
MQZ	**McQueen's Vall**	**1.71**	**206**	P	Pn	18 37 22.7	-1.8
MQZ				S	Sn	18 37 43.8	-2.4
OGWZ	**Otaki Gorge**	**1.75**	**40**	P	Pn	18 37 24.8	-0.3
OGWZ				S	Sn	18 37 46.6	-0.7
AKCZ	**Akaroa Harbour**	**1.79**	**198**	P	Pn	18 37 24.5	-1.1
AKCZ				S	Sn	18 37 46.6	-1.6
HOWZ	**Holdsworth Sta**	**1.87**	**48**	P	Pn	18 37 26.1	-0.7
HOWZ				S	Sn	18 37 49.7	-0.6
RACZ	**Rakaia**	**1.92**	**216**	P	Pn	18 37 25.9	-1.5
RACZ				S	Sn	18 37 48.7	-2.8
MRZ	**Mangatainoka R**	**2.08**	**44**	P	Pn	18 37 28.6	-0.9
MRZ				S	Sn	18 37 54.1	-1.1
WACZ	**Wakanui South**	**2.23**	**217**	P	Pn	18 37 30.2	-1.4
WACZ				S	Sn	18 37 56.9	-2.0
BFZ	**Birch Farm**	**2.44**	**53**	P	Pg	18 37 43.7	+2.0
RPZ	**Rata Peaks**	**2.47**	**231**	P	Pn	18 37 33.9	-1.1
ARCZ	**Arundel**	**2.55**	**225**	P	Pn	18 37 34.7	-1.4
WAZ	**Wanganui**	**2.61**	**23**	P	Pb	18 37 41.2	-0.4
DVHZ	**Dannevirke**	**2.65**	**46**	P	Pg	18 37 46.1	+0.4
ANWZ	**Angora Road**	**2.71**	**52**	P	Pn	18 37 40.6	+2.3
TSZ	**Takapari Road**	**2.72**	**40**	P	Pg	18 37 46.1	-1.1
TMZ	**Timaru**	**2.95**	**221**	P	Pn	18 37 41.0	-0.5
PNHZ	**Pukenui**	**2.95**	**41**	P	Pb	18 37 49.4	+1.9
MOVZ	**Moawhango**	**3.18**	**30**	P	Pb	18 37 51.1	-0.2
BHHZ	**Black Hill Sta**	**3.23**	**35**	P	Pb	18 37 53.4	+1.1
FWVZ	**Far West T-bar**	**3.24**	**27**	P	Pb	18 37 52.6	0.0
SNVZ	**South Ngauruho**	**3.33**	**27**	P	Pb	18 37 54.4	+0.3
OTVZ	**Oturere**	**3.36**	**27**	P	Pb	18 37 55.3	+0.7
NNVZ	**North Ngauruho**	**3.37**	**26**	P	Pb	18 37 54.9	+0.1
WTVZ	**West Tongariro**	**3.38**	**26**	P	Pb	18 37 54.8	0.0
ETVZ	**East Tongariro**	**3.40**	**28**	P	Pb	18 37 56.8	+1.6
KRVZ	**Karewarewa**	**3.42**	**26**	P	Pb	18 37 56.7	+1.2
TMVZ	**Te Maari**	**3.42**	**27**	P	Pb	18 37 55.5	0.0
NTVZ	**North Tongariro**	**3.42**	**27**	P	Pb	18 37 57.8	+2.2
ODZ	**Otahua Downs**	**3.62**	**217**	P	Pn	18 37 49.2	-1.6
HHSZ	**Highcliff Hill**	**4.33**	**210**	P	Pn	18 37 57.8	-2.6
WHZ	**Wether Hill Ro**	**5.56**	**226**	P	Pn	18 38 12.7	-4.8

*MAN **14** 18:37:03.7, 5°.94N×126°.58E, h10km, mb4.3, ML3.1, MS2.8*
*IDC **14** 18:37:03.7±1.9, 6°.02N×126°.36E, h0km, mb3.3/4, mbtmp3.3/4, MS2.5/1, Error ellipse: s-maj=147.5km s-min=16.9km az=61.0*
ISC 14 18:37:02.9±2.0, 6.13N±0°.05×126°.52E±0°.06, h4km±12km, n16, σ1°99/26, mb3.2/4, 4C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.80**	**268**	⇓*eP*	**Pn**	**18 37 20.1**	**-0.9**
DDMP				*eS*	**Sn**	**18 37 32.1**	**-1.4**
MATI	**Mati**	**0.85**	**342**	⇓*eP*	**Pn**	**18 37 22.2**	**+0.5**
MATI				*eS*	**Sn**	**18 37 35.6**	**+1.0**
DAV	**Davao City (W)**	**1.32**	**315**	Pn	**Pg**	**18 37 28.0**	**-0.2**
	32nm,0.3s,baz=157,slow=13,SNR=2.0						
DAV				Sn	**Sg**	**18 37 49.8**	**+4.5**
	61nm,0.3s,baz=156,slow=7.1,SNR=6.4						
DAV				LR	LR	18 37 57.9	
	comp=Z,74nm,19.8s,baz=102,slow=42						
GSPH	**General Santos**	**1.56**	**268**	⇑*eP*	**Pn**	**18 37 29.0**	**-2.6**
GSPH				*i* S	**Sn**	**18 37 48.9**	**-3.5**
KCP	**Kidapawan**	**1.66**	**302**	⇓*iP*	**Pb**	**18 37 33.2**	**-1.0**
KCP				*i* S	**Sb**	**18 37 55.2**	**-0.4**
SKMP	**Bagumbayan, Su**	**2.00**	**281**	⇓*eP*	**Pb**	**18 37 39.6**	**-0.3**
SKMP				*eS*	**Sb**	**18 38 06.0**	**+0.8**
BIPH	**Bislig**	**2.04**	**356**	⇑*iP*	**Pb**	**18 37 39.2**	**-1.4**
BIPH				*i* S	**Sg**	**18 38 08.3**	**-0.4**
CTBH	**Cotabato--PC H**	**2.50**	**296**	⇓*iP*	**Pb**	**18 37 46.5**	**-1.9**
CTBH				*i* S	**Sb**	**18 38 19.5**	**-0.2**
CGP	**Cagayan de Oro**	**2.93**	**322**	⇓*eP*	**Pb**	**18 37 55.0**	**-0.8**
CGP				*eS*	**Sn**	**18 38 27.8**	**+1.7**
GLSP	**General Luna,**	**3.65**	**354**	⇑*eP*	**Pb**	**18 38 05.5**	**-2.6**
GLSP				*eS*	**Sb**	**18 38 49.7**	**-3.0**
MSLP	**Maasin**	**4.30**	**338**	⇑*eP*	Pb	18 38 13.9	-5.3
MSLP				*eS*	**Sb**	**18 39 09.4**	**-2.1**
WRA	**Warramunga Arr**	**27.03**	**164**	P	**P**	**18 42 48.2**	**+1.7**
	0.2nm,0.6s,baz=343,slow=10,SNR=3.0						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**30.48**	**167**	P	**P**	**18 43 18.6**	**+1.4**
	0.2nm,0.5s,baz=343,slow=7.2,SNR=8.6						
ASAR				PcP	**PcP**	**18 46 15.5**	**-1.2**
	0.2nm,0.7s,baz=5.0,slow=2.1,SNR=4.1						
	0.2nm,0.5s						
KSRS	**Korea Array**	**31.20**	**2**	LR	LR	18 57 22.9	
	comp=Z,8.0nm,19.0s,baz=335,slow=39						
STKA	**Stephens Creek**	**40.44**	**160**	P	**P**	**18 44 43.1**	**+0.5**
	1.1nm,0.7s,baz=310,slow=15,SNR=1.8						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**55.48**	**324**	P	**P**	**18 46 41.6**	**+2.6**
	0.1nm,0.4s,baz=120,slow=8.5,SNR=2.2						
	0.1nm,0.4s						

WEL 14 18:39:37.8±0.4, 42°S±3″×17°3E±°, h6km±3km, M3.4/7, ML3.7/7, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=24.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**132**	P	Pg	18 39 40.8	+0.4
KHZ				S	Sg	18 39 43.2	+1.1
THZ	**Tophouse**	**0.69**	**326**	P	Pb	18 39 51.7	-0.5
THZ				S	Sg	18 40 00.9	+1.0
GVZ	**Greta Valley S**	**0.69**	**204**	P	Pg	18 39 51.5	+0.4
GVZ				S	Sb	18 40 01.9	-0.2
BSWZ	**Blackbirch Sta**	**0.71**	**29**	P	Pg	18 39 51.7	+0.4
TUWZ	**Tuamarina**	**0.98**	**24**	P	Pg	18 39 56.8	+0.2
NNZ	**Nelson**	**1.12**	**359**	P	Pg	18 39 58.4	-0.8
NNZ				S	Sb	18 40 14.7	+0.5
TCW	**Tory Channel**	**1.29**	**30**	P	Pn	18 40 00.6	-1.8
TCW				S	Sg	18 40 18.2	-1.1
TKNZ	**Takaka Hill**	**1.34**	**345**	P	Pn	18 40 02.7	-0.4
TKNZ				S	Sn	18 40 22.4	+1.2
PLWZ	**Palliser**	**1.57**	**61**	S	Sb	18 40 27.6	+0.2
QRZ	**Quartz Range**	**1.65**	**336**	P	Pn	18 40 06.8	-0.4
QRZ				S	Sn	18 40 29.1	+0.4
PKE	**Pukeiti**	**3.17**	**8**	P	Pn	18 40 29.4	+1.2
AWAZ	**Awhitu Peninsu**	**5.35**	**11**	P	Pn	18 40 58.1	0.0
MKAZ	**Moumakai**	**5.39**	**15**	P	Pn	18 40 57.9	-0.8
RUGZ	**Raukumara Rang**	**5.45**	**38**	P	Pn	18 40 56.8	-2.8

*ISK **14** 18:39:44.5, 36°.58N×26°.42E, h10km, ML2.9/16*
*THE **14** 18:39:45.1, 36°.68N×26°.43E, h13km±1km, ML2.9/11, Error ellipse: s-maj=1.4km s-min=0.4km az=35.0*
*ATH **14** 18:39:45.0, 36°.61N×26°.44E, h13km±3km, ML2.9/7, Error ellipse: s-maj=3.2km s-min=1.1km az=349.0*
*DDA **14** 18:39:45.2±0.0, 36°.69N×26°.41E, h6km±5km, MW3.6*
ISC 14 18:39:45.0±1.0, 36°.66N±0°.03×26°.43E±0°.02, h15km±9km, n62, σ0°62/84, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.46**	**78**	PG	**Pg**	**18 39 54.0**	**-0.1**
KOSK				SG	**Sb**	**18 40 01.6**	**+0.3**
KOSK	**Kos Island**	**0.46**	**78**	P	**Pg**	**18 39 53.8**	**-0.3**
KOSK				S	**Sb**	**18 40 01.3**	**0.0**
	1µm,0.5s						
KOSK	**Kos Island**	**0.46**	**78**	P	**Pg**	**18 39 53.8**	**-0.3**
KOSK				AML	AML	18 40 06.7	
	comp=E,6266µm,0.4s						
KOSK				AML	AML	18 40 11.2	
	comp=N,8372µm,0.4s						
NISR	**Nisiros**	**0.57**	**94**	P	**Pg**	**18 39 56.2**	**-0.1**
NISR				S	**Sb**	**18 40 05.4**	**+0.9**
	comp=N,2µm,0.4s						
NISR	**Nisiros**	**0.57**	**94**	P	**Pg**	**18 39 56.1**	**-0.1**
NIS1	**Nisyros Isl.**	**0.61**	**95**	PG	**Pg**	**18 39 56.7**	**-0.3**
NIS1	**Nisyros Isl.**	**0.61**	**95**	P	**Pg**	**18 39 56.9**	**-0.1**
NIS1				S	**Sb**	**18 40 06.4**	**+0.7**
	comp=N,1µm,0.6s						
NIS1	**Nisyros Isl.**	**0.61**	**95**	P	**Pg**	**18 39 56.4**	**-0.6**
NIS1				AML	AML	18 40 10.8	
	comp=N,2173µm,0.5s						
NIS1				AML	AML	18 40 13.3	
	comp=E,2151µm,0.7s						
THR8	**Santorini-Mono**	**0.80**	**252**	P	**Pg**	**18 40 00.0**	**-0.7**
THR8	**Santorini-Mono**	**0.80**	**252**	P	**Pg**	**18 39 59.9**	**-0.7**
BODT	**Bodrum**	**0.82**	**60**	P	**Pg**	**18 39 59.6**	**-1.4**
BODT				S	**Sb**	**18 40 12.3**	**+0.5**
APE	**Apeiranthos**	**0.83**	**300**	PG	**Pb**	**18 40 01.5**	**+0.4**
APE	**Apeiranthos**	**0.83**	**300**	P	**Pg**	**18 40 00.7**	**-0.5**
APE				S	**Sb**	**18 40 12.4**	**+0.3**
	comp=E,1µm,0.3s						
APE	**Apeiranthos**	**0.83**	**300**	P	**Pg**	**18 40 01.0**	**-0.2**
APE				S	**Sn**	**18 40 13.7**	**-0.5**
APE				AML	AML	18 40 14.3	
	comp=N,2296µm,0.3s						
APE				AML	AML	18 40 14.8	
	comp=E,2184µm,0.4s						
SANT	**Santorini**	**0.83**	**250**	PG	**Pg**	**18 40 00.6**	**-0.6**
SANT				SG	**Sg**	**18 40 12.1**	**0.0**
SANT	**Santorini**	**0.83**	**250**	P	**P

ZKR	**Zakros**	**1.55**	**186**	P	**Pn**	**18 40 12.0**	**0.0**
ZKR				S	**Sn**	**18 40 31.6**	**-0.2**
ZKR				AML	AML	18 40 38.8	
	comp=E,678μm,0.6s						
ZKR				AML	AML	18 40 39.7	
	comp=N,383μm,0.7s						
YER	**Yerkesik**	**1.56**	**72**	PN	**Pb**	**18 40 13.5**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**1.58**	**2**	P	**Pg**	**18 40 14.4**	**-1.0**
ZEYE				S	**Sg**	**18 40 35.3**	**-0.7**
ZEYE				*i* AML	AML	18 40 38.0	
	comp=N,83nm,0.5s						
ZEYE				*i* AML	AML	18 40 42.0	
	comp=N,140nm,0.5s						
MHLO	**Agia Marina, M**	**1.63**	**272**	P	**Pb**	**18 40 15.5**	**+0.7**
URLA	**Izmir**	**1.71**	**4**	PN	**Pb**	**18 40 16.1**	**0.0**
URLA	**Izmir**	**1.71**	**4**	P	**Pb**	**18 40 16.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**42**	PN	**Pb**	**18 40 16.8**	**+0.1**
BLCB	**Balcova**	**1.79**	**16**	PN	**Pb**	**18 40 17.3**	**-0.3**
DALY	**Dalyan (Mula)**	**1.80**	**84**	PN	**Pn**	**18 40 16.6**	**+1.2**
IDI	**Anoyia**	**1.85**	**223**	PN	**Pn**	**18 40 16.6**	**+0.4**
IDI	**Anoyia**	**1.85**	**223**	P	**Pn**	**18 40 15.5**	**-0.7**
IDI				S	**Sn**	**18 40 38.6**	**-0.7**
	comp=N,220nm,0.7s						
FETY	**Fethiye**	**2.14**	**90**	PN	**Pn**	**18 40 21.3**	**+1.1**
TAVA	**DENİZLİ_Tavas**	**2.15**	**67**	P	**Pg**	**18 40 25.9**	**-0.4**
CAME	**Cameli-Denizli**	**2.33**	**82**	PN	**Pn**	**18 40 24.1**	**+1.2**
APMY	**Acipayam-Deniz**	**2.44**	**70**	PN	**Pn**	**18 40 25.8**	**+1.4**
MANT	**Manisa**	**2.50**	**42**	P	**Pg**	**18 40 31.6**	**-1.3**

*TAP **14** 18:41:02.9,23˚.82N×121˚.71E,h44km,ML2.7,B*
*JMA **14** 18:41:02.6±0.1,23˚.8N±1˚.0×12˚2E±˚,h38km±3km,*
MV2.8/11,TAIWAN REGION
ISC 14 18:41:03.5±1.2,**23˚.82N**±0˚.02×**121˚.72E**±0˚.02,**h43**km±5km,
n94,σ0˚**58**/185,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEYL	**Yanliau Villag**	**0.13**	**294**	P	**Pn**	**18 41 10.6**	**0.0**
	baz=308						
TEYL				S	**Sn**	**18 41 16.1**	**+0.4**
	baz=308						
HWA	**Hwalien**	**0.19**	**326**	P	**Pn**	**18 41 11.4**	**+0.3**
	baz=329						
HWA				S	**Sn**	**18 41 16.6**	**+0.2**
	baz=329						
ESL	**Shilin**	**0.27**	**269**	P	**Pn**	**18 41 11.5**	**-0.2**
	baz=267						
ESL				S	**Sn**	**18 41 17.6**	**+0.1**
	baz=267						
TWD	**Chiawan**	**0.29**	**336**	P	**Pn**	**18 41 11.7**	**-0.2**
	baz=338						
TWD				S	**Sn**	**18 41 18.2**	**+0.4**
	baz=338						
EGFH	**Guangfu**	**0.31**	**242**	P	**Pn**	**18 41 11.9**	**-0.2**
	baz=239						
EGFH				S	**Sn**	**18 41 18.5**	**+0.3**
	baz=239						
NACB	**Ninganchiao**	**0.37**	**342**	P	**Pn**	**18 41 12.5**	**-0.4**
	baz=342						
NACB				S	**Sn**	**18 41 19.5**	**+0.1**
	baz=342						
HGSD	**Ruisui**	**0.42**	**220**	P	**Pn**	**18 41 13.4**	**0.0**
	baz=219						
HGSD				*e*S	**Sn**	**18 41 22.3**	**+1.9**
	baz=219						
ETLH	**Xiulin Townshi**	**0.45**	**330**	P	**Pn**	**18 41 13.4**	**-0.4**
	baz=331						
ETLH				S	**Sn**	**18 41 20.4**	**-0.6**
	baz=331						
EHY	**Hungye**	**0.48**	**230**	P	**Pn**	**18 41 13.5**	**-0.7**
	baz=228						
EHY				S	**Sn**	**18 41 20.6**	**-1.1**
	baz=228						
WHF	**Hehuan Shan**	**0.53**	**308**	P	**Pn**	**18 41 14.7**	**-0.4**
	baz=308						
WHF				S	**Sn**	**18 41 23.0**	**-0.4**
	baz=308						
VWDT	**VWDT**	**0.54**	**263**	P	**Pn**	**18 41 14.9**	**+0.1**
	baz=262						
VWDT				S	**Sn**	**18 41 23.2**	**+0.3**
	baz=262						
CHGB	**Renai**	**0.56**	**296**	P	**Pn**	**18 41 15.3**	**-0.1**
	baz=295						
CHGB				S	**Sn**	**18 41 23.5**	**-0.2**
	baz=295						
YULB	**Yu-li**	**0.58**	**223**	*i* P	**Pn**	**18 41 14.6**	**-0.8**
	baz=221						
YULB				S	**Sn**	**18 41 22.8**	**-1.0**
	baz=221						
WUSB	**Renai**	**0.58**	**288**	*i* P	**Pn**	**18 41 15.6**	**0.0**
	baz=287						
WUSB				S	**Sn**	**18 41 24.1**	**0.0**
	baz=287						
EYUL	**Yuli**	**0.60**	**219**	*e*P	**Pn**	**18 41 15.1**	**-0.6**
	baz=217						
EYUL				*e*S	**Sn**	**18 41 24.8**	**+0.4**
	baz=217						
ENA	**Nanau**	**0.61**	**1**	*e*P	**Pn**	**18 41 15.4**	**-0.4**
	baz=3.0						
ENA				*e*S	**Sn**	**18 41 24.8**	**+0.2**
	baz=3.0						
FUSS	**Fushou**	**0.61**	**314**	P	**Pn**	**18 41 16.0**	**-0.1**
	baz=314						
FUSS				*e*S	**Sn**	**18 41 24.7**	**-0.4**
	baz=314						
TWT	**Tachien**	**0.66**	**311**	P	**Pn**	**18 41 17.0**	**+0.3**
	baz=310						
TWT				S	**Sn**	**18 41 26.1**	**0.0**
	baz=310						
TDCB	**Techi**	**0.68**	**310**	P	**Pn**	**18 41 17.0**	**+0.2**
	baz=310						
TDCB				S	**Sn**	**18 41 26.1**	**-0.3**
	baz=310						
NNSB	**Datong**	**0.68**	**333**	P	**Pn**	**18 41 16.6**	**-0.4**
	baz=333						
NNSB				*e*S	**Sn**	**18 41 26.5**	**0.0**
	baz=333						
NNS	**Nan Shan**	**0.70**	**333**	*e*P	**Pn**	**18 41 15.9**	**-1.2**
	baz=333						
NNS				*e*S	**Sn**	**18 41 25.8**	**-1.1**
	baz=333						
SSLB	**Suanglung**	**0.71**	**268**	P	**Pn**	**18 41 17.0**	**-0.1**
	baz=267						
SSLB				S	**Sn**	**18 41 25.8**	**-1.2**
	baz=267						
FULB	**Fuli**	**0.73**	**213**	P	**Pn**	**18 41 17.3**	**-0.2**
	baz=211						
FULB				S	**Sn**	**18 41 28.1**	**+0.6**
	baz=211						
LATG	**Datong**	**0.74**	**346**	P	**Pn**	**18 41 17.0**	**-0.6**
	baz=346						
LATG				*e*S	**Sn**	**18 41 28.0**	**+0.2**
	baz=346						
SMLT	**Sun Moon Lake**	**0.76**	**275**	P	**Pn**	**18 41 18.0**	**+0.2**
	baz=274						
SMLT				*e*S	**Sn**	**18 41 29.9**	**+1.6**
	baz=274						
YUS	**Yu-Shan**	**0.78**	**245**	P	**Pn**	**18 41 18.5**	**0.0**
	baz=244						
YUS				S	**Sn**	**18 41 29.4**	**0.0**
	baz=244						
WCS	**Beigang Elemen**	**0.78**	**288**	*e*P	**Pn**	**18 41 17.3**	**-0.8**
	baz=287						
WCS				*e*S	**Sn**	**18 41 29.1**	**+0.4**
	baz=287						
CHKT	**Chengkung**	**0.79**	**205**	*e*P	**Pn**	**18 41 17.3**	**-0.8**
	baz=203						
CHKT				*e*S	**Sn**	**18 41 27.9**	**-0.9**
	baz=203						
TWC	**Suao**	**0.80**	**8**	P	**Pn**	**18 41 18.3**	**0.0**
	baz=9.0						
TWC				S	**Sn**	**18 41 29.8**	**+0.8**
	baz=9.0						
TYC	**Yuchr**	**0.80**	**276**	*e*P	**Pn**	**18 41 18.5**	**+0.2**
	baz=276						
TYC				*e*S	**Sn**	**18 41 29.7**	**+0.7**
	baz=276						
WHYT	**Xinyi Township**	**0.81**	**262**	P	**Pn**	**18 41 18.8**	**+0.3**
	baz=261						
WHYT				S	**Sn**	**18 41 29.9**	**+0.5**
	baz=261						
ENTT	**Nioudou**	**0.83**	**350**	*e*P	**Pn**	**18 41 17.6**	**-1.2**
	baz=351						
ENTT				*e*S	**Sn**	**18 41 29.5**	**-0.4**
	baz=351						
WHP	**Taichung City**	**0.85**	**303**	*e*P	**Pn**	**18 41 18.9**	**-0.1**
	baz=302						
WHP				*e*S	**Sn**	**18 41 30.7**	**+0.3**
	baz=302						
ALS	**Alishan**	**0.90**	**250**	*e*P	**Pn**	**18 41 20.2**	**+0.3**
	baz=249						
ALS				*e*S	**Sn**	**18 41 31.8**	**-0.1**
	baz=249						
ELDTW	**Lidau**	**0.90**	**226**	P	**Pn**	**18 41 19.0**	**-0.9**
	baz=225						
ELDTW				*e*S	**Sn**	**18 41 30.9**	**-0.9**
	baz=225						
TWE	**Neicheng**	**0.90**	**357**	*e*P	**Pn**	**18 41 19.9**	**+0.2**
	baz=358						
TWE				*e*S	**Sn**	**18 41 32.4**	**+0.8**
	baz=358						
YHNB	**Yeheng**	**0.91**	**340**	P	**Pn**	**18 41 19.9**	**0.0**
	baz=339						
YHNB				S	**Sn**	**18 41 31.8**	**0.0**
	baz=339						
WJS	**Zhushan**	**0.91**	**270**	*e*P	**Pn**	**18 41 20.0**	**+0.1**
	baz=270						
WJS				*e*S	**Sn**	**18 41 32.4**	**+0.6**
	baz=270						
NSK	**Sanguang**	**0.92**	**339**	*e*P	**Pn**	**18 41 19.0**	**-1.0**
	baz=339						
NSK				*e*S	**Sn**	**18 41 31.0**	**-1.1**
	baz=339						
FUSB	**Fushanzhiwuyua**	**0.95**	**352**	*e*P	**Pn**	**18 41 20.4**	**0.0**
	baz=352						
FUSB				*e*S	**Sn**	**18 41 33.2**	**+0.3**
	baz=352						
WNT	**Mingjian**	**0.95**	**274**	*e*P	**Pn**	**18 41 20.6**	**+0.2**
	baz=273						
WNT				*e*S	**Sn**	**18 41 33.3**	**+0.5**
	baz=273						
NWLT	**Wulai**	**0.98**	**348**	*e*P	**Pn**	**18 41 20.5**	**-0.3**
	baz=348						
NWLT				*e*S	**Sn**	**18 41 33.9**	**+0.4**
	baz=348						
NFF	**Wufeng Townshi**	**0.98**	**326**	*e*P	**Pn**	**18 41 20.8**	**-0.1**
	baz=326						
NFF				*e*S	**Sn**	**18 41 34.1**	**+0.4**
	baz=326						
CHN5	**Tsauling**	**0.98**	**257**	*e*P	**Pn**	**18 41 21.0**	**+0.1**
	baz=256						
CHN5				*e*S	**Sn**	**18 41 33.9**	**+0.2**
	baz=256						
TCU	**Taichung**	**1.01**	**289**	*e*P	**Pn**	**18 41 21.2**	**-0.1**
	baz=288						
TCU				*e*S	**Sn**	**18 41 34.7**	**+0.4**
	baz=288						
TWQ1	**Liyutan**	**1.02**	**302**	*e*P	**Pn**	**18 41 22.1**	**+0.8**
	baz=301						
TWQ1				*e*S	**Sn**	**18 41 35.6**	**+1.1**
	baz=301						
EGS		**1.04**	**10**	*e*P	**Pn**	**18 41 22.0**	**+0.4**
	baz=11						
EGS				*e*S	**Sn**	**18 41 35.5**	**+0.5**
	baz=11						
NSTT	**Nanjuang**	**1.04**	**321**	*e*P	**Pn**	**18 41 21.8**	**+0.1**
	baz=321						
NSTT				*e*S	**Sn**	**18 41 35.7**	**+0.6**
	baz=321						
LIOB	**Emei**	**1.05**	**322**	*e*P	**Pn**	**18 41 22.3**	**+0.5**
	baz=322						
LIOB				*e*S	**Sn**	**18 41 35.8**	**+0.5**
	baz=322						
LONT	**Longtian**	**1.06**	**211**	*e*P	**Pn**	**18 41 21.9**	**0.0**
	baz=210						
LONT				*e*S	**Sn**	**18 41 35.6**	**+0.2**
	baz=210						
STYH	**Taoyuan**	**1.08**	**234**	*e*P	**Pn**	**18 41 22.0**	**-0.2**
	baz=233						
STYH				*e*S	**Sn**	**18 41 36.6**	**+0.7**
	baz=233						
WCKO	**Fanlu**	**1.09**	**250**	*e*P	**Pn**	**18 41 22.5**	**+0.2**
	baz=249						
WCKO				*e*S	**Sn**	**18 41 36.9**	**+0.6**
	baz=249						
WDLH	**Douliu**	**1.09**	**264**	*e*P	**Pn**	**18 41 22.3**	**-0.1**
	baz=263						
WDLH				*e*S	**Sn**	**18 41 36.9**	**+0.6**
	baz=263						
WCHH	**Zhanghua**	**1.10**	**284**	*e*P	**Pn**	**18 41 22.7**	**+0.3**
	baz=283						
WCHH				*e*S	**Sn**	**18 41 37.0**	**+0.6**
	baz=283						
TPUB	**Ta-pu**	**1.13**	**243**	P	**Pn**	**18 41 23.4**	**+0.6**
	baz=242						
TPUB				*e*S	**Sn**	**18 41 38.1**	**+0.9**
	baz=242						
CHN4	**Tsaushan**	**1.14**	**246**	P	**Pn**	**18 41 23.1**	**+0.1**
	baz=245						
CHN4				*e*S	**Sn**	**18 41 37.8**	**+0.5**
	baz=245						
TIPB	**Shuangxi**	**1.15**	**5**	*e*P	**Pn**	**18 41 23.9**	**+0.7**
	baz=5.0						
TIPB				*e*S	**Sn**	**18 41 39.0**	**+1.1**
	baz=5.0						
TWGBT	**Beinan**	**1.16**	**211**	*e*P	**Pn**	**18 41 23.4**	**+0.1**
	baz=210						
TWGBT				*e*S	**Sn**	**18 41 38.4**	**+0.5**
	baz=210						
TWG	**Pinlang**	**1.16**	**211**	*e*P	**Pn**	**18 41 23.5**	**+0.2**
	baz=210						
TWG				*e*S	**Sn**	**18 41 38.3**	**+0.4**
	baz=210						
LDUT	**Ludao**	**1.16**	**192**	*e*P	**Pn**	**18 41 22.9**	**-0.4**
	baz=191						
LDUT				*e*S	**Sn**	**18 41 38.0**	**+0.1**
	baz=191						
WTP	**Ta-pu**	**1.17**	**241**	*e*P	**Pn**	**18 41 24.1**	**+0.7**
	baz=240						
WTP				*e*S	**Sn**	**18 41 38.4**	**+0.2**
	baz=240						
CHY	**Chiayi**	**1.23**	**255**	*e*S	**Sn**	**18 41 39.9**	**+0.2**
	baz=254						
WRL	**Guolierlin Hig**	**1.24**	**274**	*e*P	**Pn**	**18 41 24.3**	**0.0**
	baz=273						
WRL				*e*S	**Sn**	**18 41 40.2**	**+0.5**
	baz=273						
TWK	**Hsinying**	**1.26**	**244**	*e*P	**Pn**	**18 41 25.1**	**+0.5**
	baz=243						
TWK				*e*S	**Sn**	**18 41 40.6**	**+0.2**
	baz=243						
CHN1	**Nanshi**	**1.27**	**240**	*e*P	**Pn**	**18 41 24.9**	**+0.2**
	baz=239						
CHN1				*e*S	**Sn**	**18 41 41.0**	**+0.4**
	baz=239						
SGST	**Jiashian**	**1.28**	**235**	*e*P	**Pn**	**18 41 25.1**	**+0.2**
	baz=234						
SGST				*e*S	**Sn**	**18 41 41.1**	**+0.3**
	baz=234						
SXI1	**Grass Mountain**	**1.28**	**6**	*e*P	**Pn**	**18 41 25.4**	**+0.4**
	baz=6.0						
SXI1				*e*S	**Sn**	**18 41 41.5**	**+0.6**
	baz=6.0						
JYNG	**Yonagunijimaku**	**1.28**	**60**	P	**Pn**	**18 41 25.3**	**+0.4**
JYNG				*e*S	**Sn**	**18 41 41.7**	**+0.8**
TWS1	**Kuangyinshan**	**1.31**	**348**	*e*S	**Sn**	**18 41 41.4**	**-0.1**
	baz=348						
YOJ	**Yonaguni jima**	**1.34**	**61**	*e*P	**Pn**	**18 41 25.9**	**+0.3**
	baz=61						
YOJ				*e*S	**Sn**	**18 41 42.8**	**+0.5**
	baz=61						
YOJ	**Yonaguni jima**	**1.34**	**61**	P	**Pn**	**18 41 26.0**	**+0.3**
YOJ				S	**Sn**	**18 41 42.5**	**+0.2**
WSF	**Szhu**	**1.39**	**263**	*e*P	**Pn**	**18 41 26.5**	**+0.1**
	baz=262						
WSF				*e*S	**Sn**	**18 41 43.8**	**+0.3**
	baz=262						
WSL	**Shuilin Townsh**	**1.40**	**258**	*e*P	**Pn**	**18 41 26.1**	**-0.4**
	baz=257						
WSL				*e*S	**Sn**	**18 41 44.1**	**+0.3**
	baz=257						
ECL	**Taimali**	**1.41**	**210**	*e*P	**Pn**	**18 41 26.6**	**0.0**
	baz=209						
ECL				*e*S	**Sn**	**18 41 44.0**	**+0.1**
	baz=209						
SSD	**Sandimen**	**1.46**	**223**	*e*P	**Pn**	**18 41 27.5**	**+0.1**
	baz=222						
SSD				*e*S	**Sn**	**18 41 45.6**	**+0.2**
	baz=222						
TSMG	**Majia**	**1.49**	**222**	*e*P	**Pn**	**18 41 28.2**	**+0.4**
	baz=221						
TSMG				*e*S	**Sn**	**18 41 46.7**	**+0.8**
	baz=221						
MASBT	**Mashibuluo**	**1.56**	**220**	*e*P	**Pn**	**18 41 29.3**	**+0.5**
	baz=219						
MASBT				*e*S	**Sn**	**18 41 48.2**	**+0.3**
	baz=219						
EAST	**Anshuo**	**1.64**	**210**	*e*P	**Pn**	**18 41 30.2**	**+0.3**
	baz=208						
EAST				*e*S	**Sn**	**18 41 50.2**	**+0.4**
	baz=208						
TSCK	**Chigu Township**	**1.65**	**246**	*e*P	**Pn**	**18 41 29.9**	**0.0**
	baz=245						
TSCK				*e*S	**Sn**	**18 41 50.0**	**+0.2**
	baz=245						
TAWH	**Dawu Township**	**1.66**	**208**	*e*P	**Pn**	**18 41 29.9**	**-0.2**
	baz=207						
TAWH				*e*S	**Sn**	**18 41 50.4**	**+0.2**
	baz=207						
IRIF	**Iriomote-Funau**	**1.91**	**74**	P	**Pn**	**18 41 33.6**	**+0.2**
IRIF				*e*S	**Sn**	**18 41 56.3**	**0.0**
HATJ	**Hateruma jima**	**1.92**	**82**	*e*S	**Sn**	**18 41 56.5**	**-0.1**
SMST	**Manzhou Townsh**	**1.97**	**205**	*e*P	**Pn**	**18 41 34.7**	**+0.4**
	baz=204						
SMST				*e*S	**Sn**	**18 41 57.3**	**-0.5**
	baz=204						
WDGT	**Dungji**	**1.97**	**254**	*e*P	**Pn**	**18 41 34.6**	**+0.2**
	baz=253						
WDGT				*e*S	**Sn**	**18 41 57.3**	**-0.6**
	baz=253						
PHUB	**P'eng-hu**	**2.00**	**262**	*e*P	**Pn**	**18 41 34.7**	**0.0**
	baz=261						
PHUB				*e*S	**Sn**	**18 41 58.5**	**0.0**
	baz=261						
PNG	**Penghu**	**2.00**	**263**	*e*P	**Pn**	**18 41 35.1**	**+0.3**
	baz=262						
PNG				*e*S	**Sn**	**18 41 58.6**	**-0.1**
	baz=262						
JKRS	**Kuro-shima**	**2.13**	**78**	P	**Pn**	**18 41 36.8**	**+0.3**
JKRS				S	**Sn**	**18 42 02.5**	**+0.7**
JIJ	**Ishigaki jima**	**2.28**	**76**	P	**Pn**	**18 41 38.4**	**-0.1**
JIJ				S	**Sn**	**18 42 03.9**	**-1.5**
VWUC	**VWUC**	**2.38**	**300**	*e*P	**Pn**	**18 41 39.7**	**-0.3**
	baz=299						
VWUC				*e*S	**Sn**	**18 42 07.4**	**-0.5**
	baz=299						
JISG	**Ishigakijimahi**	**2.48**	**72**	P	**Pn**	**18 41 41.2**	**-0.2**
JISG				S	**Sn**	**18 42 08.8**	**-1.7**
PTMZ	**Houxiangcun**	**2.67**	**298**	*e*P	**Pn**	**18 41 44.2**	**+0.3**
	baz=297						
PTMZ				*e*S	**Sn**	**18 42 14.2**	**-0.8**
	baz=297						
JTJ	**Tarama**	**2.84**	**73**	P	**Pn**	**18 41 46.3**	**0.0**
JTJ				*e*S	**Sn**	**18 42 18.9**	**-0.4**
KNMB	**Chin-men Tao**	**3.11**	**283**	*e*P	**Pn**	**18 41 50.6**	**+0.5**
	baz=281						
KNMB				*e*S	**Sn**	**18 42 23.9**	**-2.1**
	baz=281						
ZPLA	**Ao Xicun**	**3.64**	**273**	*e*P	**Pn**	**18 41 57.6**	**+0.3**
	baz=271						
ZPLA				*e*S	**Sn**	**18 42 36.7**	**-2.3**
	baz=271						

*NEIC **14** 18:44:28.6±1.3,42˚.03S±0˚.04×173˚.99E±0˚.04,h18km±6km,*
mb4.3/6,Error ellipse: s-maj=5.8km s-min=3.8km
az=138.0
*WEL **14** 18:44:29.3±0.3,42˚S±2˚×17˚4E±˚,h5km±3km,M3.7/16,*
ML4.0/16,MLv3.7/16,Error ellipse: s-maj=0.0km
s-min=0.0km az=149.7
ISC 14 18:44:28.5±1.0,**42˚.02S**±0˚.03×**173˚.97E**±0˚.02,**h15**km±7km,
n102,σ0˚**84**/108,**mb4.3**/4,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.31**	**348**	Pg	**Pg**	**18 44 35.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.31**	**348**	P	**Pg**	**18 44 35.2**	**+0.1**
BSWZ				S	**Sg**	**18 44 39.4**	**-0.2**
CMWZ	**Cape Campbell**	**0.33**	**35**	Pg	**Pb**	**18 44 36.0**	**0.0**
CMWZ	**Cape Campbell**	**0.33**	**35**	P	**Pb**	**18 44 36.1**	**0.0**
KHZ	**Kahutara**	**0.51**	**219**		**Pb**	**18 44 39.9**	**+0.8**
KHZ	**Kahutara**	**0.51**	**219**	P	**Pb**	**18 44 40.1**	**+1.0**
KHZ				S	**Sn**	**18 44 48.8**	**-0.8**
TUWZ	**Tuamarina**	**0.59**	**358**	Pg	**Pg**	**18 44 40.0**	**-0.1**
TUWZ	**Tuamarina**	**0.59**	**358**	P	**Pb**	**18 44 40.4**	**-0.1**
TUWZ				S	**Sb**	**18 44 48.9**	**+0.3**
THZ	**Tophouse**	**0.83**	**288**		**Pg**	**18 44 45.0**	**+0.3**
THZ	**Tophouse**	**0.83**	**288**	P	**Pg**	**18 44 45.1**	**+0.4**
THZ				S	**Sg**	**18 44 55.9**	**+0.2**
TCW	**Tory Channel**	**0.84**	**16**	Pg	**Pb**	**18 44 44.5**	**-0.3**
TCW	**Tory Channel**	**0.84**	**16**	P	**Pg**	**18 44 44.8**	**-0.1**
TCW				S	**Sg**	**18 44 56.2**	**+0.2**
SNZO	**South Karori**	**0.90**	**38**		**Pn**	**18 44 46.7**	**+0.2**
BHW	**Baring Head**	**0.91**	**48**	P	**Pn**	**18 44 47.2**	**+0.5**
BHW				S	**Sn**	**18 45 01.2**	**+1.6**
NNZ	**Nelson**	**0.92**	**331**	Pg	**Pb**	**18 44 45.3**	**-0.7**
NNZ	**Nelson**	**0.92**	**331**	P	**Pb**	**18 44 46.0**	**-0.1**
NNZ				S	**Sg**	**18 44 58.4**	**+0.2**
WEL	**Wellington**	**0.95**	**40**	P	**Pn**	**18 44 47.8**	**+0.6**
PLWZ	**Palliser**	**1.06**	**65**	Pn	**Pg**	**18 44 49.5**	**-0.4**
PLWZ	**Palliser**	**1.06**	**65**	P	**Pg**	**18 44 49.2**	**+0.1**
MRNZ	**Matariki Terra**	**1.10**	**304**		**Pn**	**18 44 49.1**	**-0.2**
MRNZ	**Matariki Terra**	**1.10**	**304**	P	**Pg**	**18 44 49.7**	**0.0**
MSWZ	**Moikau Station**	**1.14**	**58**	Pn	**Pb**	**18 44 49.9**	**0.0**
MSWZ	**Moikau Station**	**1.14**	**58**	P	**Pg**	**18 44 50.2**	**-0.2**
GVZ	**Greta Valley S**	**1.17**	**216**		**Pg**	**18 44 51.1**	**-0.1**
GVZ	**Greta Valley S**	**1.17**	**216**	P	**Pg**	**18 44 51.3**	**+0.2**
DUWZ	**D'Urville Isla**	**1.22**	**358**	P	**Pg**	**18 44 51.5**	**-0.5**
CAW	**Cannon Point**	**1.23**	**43**	P	**Pg**	**18 44 51.7**	**-0.6**
TKNZ	**Takaka Hill**	**1.24**	**322**	Pn	**Pb**	**18 44 51.8**	**+0.2**
TKNZ	**Takaka Hill**	**1.24**	**322**	P	**Pg**	**18 44 52.0**	**-0.5**
PAWZ	**Paruwai Farm**	**1.27**	**60**	P	**Pn**	**18 44 51.6**	**-0.1**
KIW	**Kapiti Island**	**1.36**	**32**	P	**Pg**	**18 44 54.3**	**-0.4**
LTZ	**Lake Taylor**	**1.47**	**238**	Pn	**Pb**	**18 44 55.3**	**-0.2**
LTZ	**Lake Taylor**	**1.47**	**238**	P	**Pb**	**18 44 55.7**	**+0.2**
AMCZ	**Amberley**	**1.51**	**220**	Pn	**Pn**	**18 44 55.1**	**+0.2**
AMCZ	**Amberley**	**1.51**	**220**	P	**Pb**	**18 44 55.7**	**-0.5**
QRZ	**Quartz Range**	**1.61**	**317**		**Pb**	**18 44 58.3**	**+0.4**
QRZ	**Quartz Range**	**1.61**	**317**	P	**Pb**	**18 44 58.4**	**+0.5**
DSZ	**Denniston Nort**	**1.64**	**279**		**Pg**	**18 44 59.3**	**-0.7**
DSZ	**Denniston Nort**	**1.64**	**279**	P	**Pg**	**18 44 59.4**	**-0.6**
TMWZ	**Te Maipa**	**1.71**	**58**	P	**Pn**	**18 44 57.5**	**-0.2**
MRZ	**Mangatainoka R**	**1.82**	**42**		**Pn**	**18 44 57.9**	**-1.4**
OKCZ	**Okains Bay**	**1.83**	**201**	P	**Pn**	**18 44 59.4**	**+0.1**
OXZ	**Oxford**	**1.93**	**227**		**Pn**	**18 45 00.5**	**-0.2**
OXZ	**Oxford**	**1.93**	**227**	P	**Pn**	**18 45 00.8**	**+0.1**
MQZ	**McQueen's Vall**	**1.94**	**209**		**Pn**	**18 45 00.6**	**-0.4**
MQZ	**McQueen's Vall**	**1.94**	**209**	P	**Pn**	**18 45 00.5**	**-0.4**
INZ	**Inchbonnie**	**2.00**	**249**	Pn	**Pn**	**18 45 02.5**	**+0.8**
INZ	**Inchbonnie**	**2.00**	**249**	P	**Pb**	**18 45 03.8**	**-0.7**
AKCZ	**Akaroa Harbour**	**2.01**	**202**	P	**Pn**	**18 45 01.6**	**-0.2**
CPWZ	**Castlepoint**	**2.01**	**57**	P	**Pg**	**18 45 08.9**	**+1.7**
POWZ	**Post Office Ro**	**2.12**	**40**	P	**Pn**	**18 45 04.0**	**+0.7**
RACZ	**Rakaia**	**2.17**	**218**	P	**Pn**	**18 45 03.8**	**-0.2**
BFZ	**Birch Farm**	**2.18**	**53**		**Pn**	**18 45 03.7**	**-0.5**
WAZ	**Wanganui**	**

BKZ	Black Stump Fm	3.44	35	P	Pb	18 45 26.1	-3.0
HIZ	Hauiti	3.57	11	Pn	Pn	18 45 22.4	-0.9
HIZ	Hauiti	3.57	11	P	Pb	18 45 28.2	-3.1
LBZ	Lake Benmore	3.64	228	Pn	Pn	18 45 24.0	-0.2
LBZ	Lake Benmore	3.64	228	P	Pn	18 45 24.9	+0.7
ODZ	Otahua Downs	3.87	217		Pn	18 45 27.2	-0.2
ODZ	Otahua Downs	3.87	217	P	Pn	18 45 26.9	-0.4
JCZ	Jackson Bay	4.32	240	P	Pn	18 45 38.5	+4.8
WKZ	Wanaka	4.57	230	Pn	Pn	18 45 36.3	-0.7
EAZ	Earnscleugh	4.66	225	P	Pn	18 45 38.4	+0.1
MLZ	Mavora Lakes	5.40	230	Pn	Pn	18 45 48.2	-0.3
DCZ	Deep Cove	6.02	233	Pn	Pn	18 45 54.9	-1.9
SBA	Scott Base	36.06	183	P	P	18 51 28.9	0.0
SBA				IAmb	IAmb	18 52 01.9	
	comp=Z,4.2nm,0.9s						
WB2	Warramunga Arr	39.99	291	P	P	18 52 01.3	-1.4
WB2				IAmb	IAmb	18 52 38.9	
	comp=Z,9.2nm,1.5s						
WRA	Warramunga Arr	40.00	291	P	P	18 52 01.7	-1.0
WB0	Warramunga Arr	40.08	291	P	P	18 52 02.3	-1.0
WB0				IAmb	IAmb	18 52 30.4	
	comp=Z,6.7nm,1.2s						
CASY	Casey	41.86	213	P	P	18 52 18.7	+1.2
CASY				IAmb	IAmb	18 52 39.4	
	comp=Z,21nm,1.2s						
PMSA	Palmer Station	64.31	156	P	P	18 55 02.7	-0.1

IDC **14** *18:44:55.1±0.9, 36˚46N×26˚52E, h0km, mb3.6/6, mbtmp3.6/9, ML3.6/3, MS3.1/4, Error ellipse: s-maj=22.6km s-min=11.6km az=144.0*
ATH **14** *18:44:56.3, 36˚62N×26˚45E, h30km±1km, ML3.5/8, Error ellipse: s-maj=2.3km s-min=0.8km az=354.0*
THE **14** *18:44:56.5, 36˚63N×26˚42E, h0km±1km, ML3.4/11, Error ellipse: s-maj=1.3km s-min=0.6km az=175.0*
ISK **14** *18:44:56.4, 36˚62N×26˚43E, h11km, ML3.6/15*
DDA **14** *18:44:56.3±0.0, 36˚65N×26˚44E, h7km±4km, MW3.8*
GII **14** *18:45:02.1±0.0, 36˚52N×27˚15E, h5km*

ISC 14 18:44:56.7±1.0, **36˚61N**±0˚02×**26˚45E**±0˚02, **h11**km±8km, **n93**, σ1§**02**/116, **mb3.6/6, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.45**	**72**	PG		**Pb**	**18 45 06.0**	**-0.6**
KOSK				SG		**Sb**	**18 45 13.2**	**-0.1**
KOSK	**Kos Island**	**0.45**	**72**	P		**Pg**	**18 45 05.8**	**+0.3**
KOSK				S		**Sb**	**18 45 13.5**	**+0.2**
	5µm,0.6s							
KOSK	**Kos Island**	**0.45**	**72**	P		**Pg**	**18 45 05.6**	**+0.1**
KOSK				S		**Sb**	**18 45 13.3**	**-0.1**
KOSK				AML	AML		18 45 21.1	
	comp=E,31205µm,0.7s							
KOSK				AML	AML		18 45 21.7	
	comp=N,30014µm,0.5s							
NISR	**Nisiros**	**0.55**	**90**	P		**Pb**	**18 45 08.0**	**-0.3**
NISR				S		**Sb**	**18 45 17.9**	**+1.7**
	comp=N,4µm,0.4s							
NISR	**Nisiros**	**0.55**	**90**	P		**Pb**	**18 45 07.9**	**-0.4**
NIS1	**Nisyros Isl.**	**0.59**	**91**	PG		**Pb**	**18 45 08.5**	**-0.5**
NIS1	**Nisyros Isl.**	**0.59**	**91**	P		**Pb**	**18 45 08.7**	**-0.3**
NIS1				S		**Sb**	**18 45 19.1**	**+1.7**
	comp=N,4µm,0.7s							
NIS1	**Nisyros Isl.**	**0.59**	**91**	P		**Pb**	**18 45 08.7**	**-0.3**
NIS1				AML	AML		18 45 26.4	
	comp=N,6901µm,0.4s							
NIS1				AML	AML		18 45 30.3	
	comp=E,8388µm,1.2s							
THR8	**Santorini-Mono**	**0.81**	**255**	P		**Pg**	**18 45 11.9**	**-0.4**
THR8	**Santorini-Mono**	**0.81**	**255**	P		**Pg**	**18 45 11.9**	**-0.4**
BODT	**Bodrum**	**0.82**	**57**	P		**Pg**	**18 45 11.6**	**-1.0**
BODT				S		**Sb**	**18 45 24.7**	**+0.5**
BODT	**Bodrum**	**0.82**	**57**	P		**Pg**	**18 45 11.3**	**-1.3**
BODT				S		**Sg**	**18 45 23.4**	**+0.1**
BODT				*i* AML	AML		18 45 30.0	
	comp=E,1µm,0.6s							
SANT	**Santorini**	**0.83**	**253**	PG		**Pg**	**18 45 12.5**	**-0.3**
SANT				SG		**Sb**	**18 45 24.9**	**+0.5**
SANT	**Santorini**	**0.83**	**253**	P		**Pg**	**18 45 12.8**	**0.0**
SANT				S		**Sb**	**18 45 24.8**	**+0.3**
	comp=E,5µm,0.6s							
SANT	**Santorini**	**0.83**	**253**	P		**Pg**	**18 45 12.5**	**-0.3**
SANT	**Santorini**	**0.83**	**253**	P		**Pg**	**18 45 12.5**	**-0.3**
SANT				S		**Sb**	**18 45 24.7**	**+0.3**
SANT				AML	AML		18 45 29.1	
	comp=E,11648µm,0.4s							
SANT				AML	AML		18 45 31.4	
	comp=N,3693µm,0.6s							
SFIR	**Foira Santorin**	**0.84**	**257**	P		**Pb**	**18 45 13.1**	**-0.3**
SFIR				S		**Sb**	**18 45 25.1**	**+0.4**
	comp=N,17µm,0.9s							
THT2	**Imerovigli**	**0.85**	**258**	PG		**Pg**	**18 45 12.7**	**-0.3**
THT2	**Imerovigli**	**0.85**	**258**	P		**Pb**	**18 45 13.3**	**-0.1**
CMBO	**Columbo, Santo**	**0.85**	**261**	P		**Pg**	**18 45 12.9**	**-0.2**
CMBO				S		**Sn**	**18 45 26.5**	**-0.6**
	comp=N,11µm,0.6s							
CMBO	**Columbo, Santo**	**0.85**	**261**	P		**Pb**	**18 45 13.3**	**-0.2**
CMBO				AML	AML		18 45 29.1	
	comp=N,27492µm,0.6s							
CMBO				AML	AML		18 45 33.0	
	comp=E,26621µm,0.6s							
APE	**Apeiranthos**	**0.86**	**302**	PG		**Pg**	**18 45 12.9**	**-0.5**
APE				SG		**Sb**	**18 45 25.3**	**-0.1**
APE	**Apeiranthos**	**0.86**	**302**	P		**Pg**	**18 45 13.1**	**-0.3**
APE				S		**Sb**	**18 45 25.1**	**-0.3**
	comp=E,3µm,0.8s							
APE	**Apeiranthos**	**0.86**	**302**	P		**Pg**	**18 45 12.9**	**-0.5**
APE				S		**Sb**	**18 45 25.1**	**-0.3**
APE	**Apeiranthos**	**0.86**	**302**	P		**Pg**	**18 45 13.0**	**-0.3**
APE				S		**Sb**	**18 45 25.4**	**-0.1**
APE				AML	AML		18 45 26.3	
	comp=N,6741µm,0.8s							
APE				AML	AML		18 45 27.0	
	comp=E,6046µm,0.6s							
THR3	**Thira Island,**	**0.87**	**257**	P		**Pb**	**18 45 13.8**	**0.0**
THR3	**Thira Island,**	**0.87**	**257**	P		**Pb**	**18 45 13.6**	**-0.2**
THR6	**Thira Island,**	**0.89**	**253**	P		**Pb**	**18 45 13.9**	**-0.1**
THR6	**Thira Island,**	**0.89**	**253**	P		**Pb**	**18 45 14.0**	**-0.1**
SAP3	**Santorini-Thir**	**0.91**	**259**	P		**Pg**	**18 45 13.4**	**-0.8**
THR5	**Thira Island,**	**0.91**	**258**	P		**Pb**	**18 45 14.6**	**+0.1**
THR5	**Thira Island,**	**0.91**	**258**	P		**Pb**	**18 45 14.4**	**0.0**
THR9	**Santorini-Faro**	**0.92**	**254**	P		**Pb**	**18 45 14.5**	**-0.1**
THR9	**Santorini-Faro**	**0.92**	**254**	P		**Pb**	**18 45 14.4**	**-0.1**
DDIM	**Aydin, Didim**	**1.05**	**37**	P		**Pb**	**18 45 16.9**	**0.0**
SMG	**Samos**	**1.14**	**16**	P		**Pg**	**18 45 17.4**	**-1.1**
SMG				S		**Sn**	**18 45 35.0**	**+0.8**
	comp=E,1µm,0.5s							
SMG	**Samos**	**1.14**	**16**	P		**Pg**	**18 45 17.5**	**-1.1**
SMG				AML	AML		18 45 38.7	
	comp=N,1877µm,0.6s							
SMG				AML	AML		18 45 42.2	
	comp=E,2832µm,0.5s							
KARP	**Karpathos**	**1.21**	**151**	PN		**Pg**	**18 45 19.5**	**-0.5**
KARP	**Karpathos**	**1.21**	**151**	P		**Pg**	**18 45 19.5**	**-0.5**
KARP				S		**Sn**	**18 45 37.3**	**+1.3**
	comp=E,2µm,0.6s							
KARP	**Karpathos**	**1.21**	**151**	P		**Pg**	**18 45 19.3**	**-0.7**
KARP				S		**Sg**	**18 45 35.0**	**-0.7**
KARP				AML	AML		18 45 44.8	
	comp=E,2472µm,0.7s							
KARP				AML	AML		18 45 46.0	
	comp=N,3597µm,0.6s							
GCAM	**G?zelcaml?**	**1.25**	**30**	PN		**Pg**	**18 45 20.3**	**-0.5**
GCAM	**G?zelcaml?**	**1.25**	**30**	P		**Pg**	**18 45 20.3**	**-0.5**
GCAM				S		**Sg**	**18 45 36.5**	**-0.6**
GCAM				*i* AML	AML		18 45 43.0	
	comp=N,761nm,0.8s							
ARG	**Arkhangelos**	**1.41**	**106**	PN		**Pn**	**18 45 22.4**	**+0.1**
ARG	**Arkhangelos**	**1.41**	**106**	P		**Pn**	**18 45 22.5**	**+0.1**
ARG	**Arkhangelos**	**1.41**	**106**	P		**Pn**	**18 45 22.5**	**+0.1**
STIA	**Sitia Lasithi**	**1.44**	**192**	P		**Pn**	**18 45 21.7**	**-1.0**
TURN	**Turunc**	**1.45**	**83**	PN		**Pb**	**18 45 23.8**	**+0.1**
TURN	**Turunc**	**1.45**	**83**	P		**Pn**	**18 45 23.3**	**+0.4**
TURN				S		**Sn**	**18 45 41.3**	**-0.6**
TURN				*i* AML	AML		18 45 52.0	
	comp=N,162nm,0.7s							
DGB	**zmir**	**1.48**	**13**	P		**Pg**	**18 45 24.8**	**-0.2**
ZKR	**Zakros**	**1.51**	**187**	PN		**Pn**	**18 45 23.8**	**+0.1**
ZKR	**Zakros**	**1.51**	**187**	P		**Pn**	**18 45 23.8**	**+0.1**
ZKR				S		**Sg**	**18 45 45.8**	**+0.6**
	comp=N,1µm,0.9s							
ZKR	**Zakros**	**1.51**	**187**	P		**Pn**	**18 45 23.4**	**-0.2**
ZKR				AML	AML		18 45 52.5	
	comp=N,1285µm,0.7s							
ZKR				AML	AML		18 45 54.6	
	comp=E,2890µm,1.2s							
AYDN	**Tasoluk**	**1.55**	**47**	P		**Pn**	**18 45 24.0**	**-0.3**
AYDN				S		**Sg**	**18 45 47.2**	**+0.6**
AYDN				*i* AML	AML		18 45 55.0	
	comp=E,320nm,1.3s							
YER	**Yerkesik**	**1.56**	**70**	PN		**Pb**	**18 45 25.5**	**-0.1**
YER	**Yerkesik**	**1.56**	**70**	P		**Pn**	**18 45 22.7**	**-1.7**
ZEYE	**Izmir, Urla-Ze**	**1.62**	**2**	P		**Pn**	**18 45 25.9**	**+0.6**
ZEYE				S		**Sg**	**18 45 47.8**	**-1.1**
ZEYE				*i* AML	AML		18 45 50.0	
	comp=E,256nm,0.6s							
MULA	**Mugla, Merkez-**	**1.63**	**66**	P		**Pb**	**18 45 26.9**	**+0.1**
HRKL	**Herakleio**	**1.70**	**220**	PN		**Pb**	**18 45 27.7**	**-0.2**
URLA	**Izmir**	**1.75**	**4**	PN		**Pn**	**18 45 27.5**	**+0.5**
URLA	**Izmir**	**1.75**	**4**	P		**Pn**	**18 45 27.9**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.76**	**40**	PN		**Pn**	**18 45 27.8**	**+0.6**
DALY	**Dalyan (Mula)**	**1.78**	**83**	PN		**Pb**	**18 45 28.6**	**-0.8**
BLCB	**Balcova**	**1.83**	**15**	PN		**Pn**	**18 45 28.8**	**+0.7**
BLCB	**Balcova**	**1.83**	**15**	P		**Pn**	**18 45 26.5**	**-1.6**
IDI	**Anoyia**	**1.83**	**224**	Pg		**Pn**	**18 45 27.5**	**-0.7**
	comp=E,9.3nm,0.3s,baz=0.7,slow=6.0,SNR=30							
IDI				Lg		Lg	18 45 51.5	
	comp=E,26nm,0.3s,baz=285,slow=20,SNR=14							
IDI	**Anoyia**	**1.83**	**224**	PN		**Pn**	**18 45 28.9**	**+0.7**
IDI	**Anoyia**	**1.83**	**224**	P		**Pn**	**18 45 27.7**	**-0.5**
IDI				S		**Sn**	**18 45 52.0**	**+0.6**
	comp=E,742nm,0.7s							
IDI	**Anoyia**	**1.83**	**224**	P		**Pn**	**18 45 27.4**	**-0.7**
FETY	**Fethiye**	**2.12**	**89**	PN		**Pn**	**18 45 33.3**	**+1.2**
IMMV	**Iera Moni Meta**	**2.31**	**241**	P		**Pn**	**18 45 35.0**	**+0.3**
CAME	**Cameli-Denizli**	**2.31**	**81**	PN		**Pn**	**18 45 35.7**	**+0.8**
ZEDA	**zmir-Bergama**	**2.40**	**12**	P		**Pn**	**18 45 35.0**	**-1.0**
APMY	**Acipayam-Deniz**	**2.44**	**69**	PN		**Pn**	**18 45 37.6**	**+1.1**
AKAS	**Kas**	**2.57**	**98**	PN		**Pn**	**18 45 39.3**	**+0.8**
KTHR	**Kythira**	**2.80**	**261**	P		**Pn**	**18 45 40.1**	**-1.3**
MMAI	**Moimt Meron Ar**	**9.19**	**113**	Pn		**Pn**	**18 46 53.8**	**-1.8**
	comp=E,1.0nm,0.3s,baz=304,slow=12,SNR=6.0							
	comp=E,1.1nm,0.4s							
NATI	**Neve Ativ**	**8.33**	**111**	Pn		**Pn**	**18 46 55.5**	**-1.8**
KZIT	**Kziot**	**8.73**	**128**	Pn		**Pn**	**18 47 02.9**	**0.0**
KZIT				Sn		**Sn**	**18 48 36.8**	**-4.5**
MLR	**Muntele Rosu**	**8.88**	**358**	LR		LR	18 50 13.9	
	comp=E,69nm,19.9s,baz=232,slow=35							
KRMI	**Paran Flat**	**9.48**	**131**	Pn		**Pn**	**18 47 13.2**	**0.0**
MBRI	**Mt Berech**	**9.82**	**131**	Pn		**Pn**	**18 47 17.3**	**-0.7**
MBRI				Sn		**Sn**	**18 49 03.0**	**-5.3**
EIL	**Elat**	**9.93**	**132**	Pn		**Pn**	**18 47 18.0**	**-1.4**
	comp=E,0.5nm,0.3s,baz=321,slow=6.5,SNR=1.7							
	comp=E,1.7nm,0.3s							
KBZ	**Khabaz**	**14.43**	**55**	Pn		**P**	**18 48 31.6**	**+3.9**
	comp=E,0.1nm,0.3s,baz=263,slow=9.7,SNR=8.1							
VRAC	**Vranov**	**14.58**	**334**	LR		LR	18 54 29.9	
	comp=E,64nm,18.2s,baz=138,slow=39							
GERES	**GERESS Array B**	**15.37**	**327**	Pn		**P**	**18 48 38.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=152,slow=11,SNR=1.8							
	comp=E,0.3nm,0.5s							
DAVOX	**Davos/Dischmat**	**15.98**	**315**	LR		LR	18 55 57.7	
	comp=E,54nm,18.3s,baz=80,slow=41							
ESDC	**Sonseca Array**	**24.06**	**287**	P		**P**	**18 50 12.0**	**0.0**
	comp=E,0.8nm,0.8s,baz=85,slow=8.5,SNR=4.5							
	comp=E,0.8nm,0.8s							
FINES	**FINESS Array B**	**24.85**	**360**	P		**P**	**18 50 20.1**	**+1.2**
	comp=E,3.4nm,0.9s,baz=173,slow=14,SNR=2.9							
	comp=E,3.4nm,0.9s							
HFS	**Hagfors**	**24.92**	**345**	LR		LR	19 01 17.6	
	comp=E,57nm,18.2s,baz=223,slow=39							
TORD	**Torodi Ar. Bea**	**32.22**	**230**	P		**P**	**18 51 25.0**	**-0.1**
	comp=E,0.4nm,0.6s,baz=32,slow=9.7,SNR=2.7							
	comp=E,0.4nm,0.6s							
MKAR	**Makanchi Array**	**42.11**	**58**	P		**P**	**18 52 49.4**	**+0.6**
	comp=E,0.4nm,0.5s,baz=270,slow=8.5,SNR=8.9							
	comp=E,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**43.25**	**47**	P		**P**	**18 52 58.5**	**+0.7**
	comp=E,0.6nm,0.5s,baz=258,slow=9.5,SNR=4.5							
	comp=E,0.6nm,0.5s							
CMAR	**Chiang Mai Arr**	**65.38**	**85**	P		**P**	**18 55 38.8**	**-0.7**
	comp=E,0.5nm,0.7s,baz=307,slow=8.1,SNR=6.3							
	comp=E,0.5nm,0.7s							

IDC **14** *18:47:24.6±2.6, 42˚27S×173˚73E, h0km, mb3.8/2, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=50.1km s-min=37.5km az=119.0*
NEIC **14** *18:47:25.7±1.0, 42˚42S±0˚02×173˚98E±0˚05, h11km±5km, mb4.4/7, Mwr3.8/22, Error ellipse: s-maj=5.4km s-min=2.4km az=72.0*
WEL **14** *18:47:26.8±0.4, 42˚S×173˚×17˚4E±˚, h10km±3km, M3.9/21, ML4.1/21, MLv3.9/21, Error ellipse: s-maj=0.0km s-min=0.0km az=123.6*
NEIC **14** *18:47:26.1, 42˚39S×173˚98E, h11km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mw4.91; Mθθ-2.15; Mϕϕ-2.76; Mrr1.12; Mθϕ-3.35; Mθr1.64; Fault plane solution: M0 5.77000×10¹⁴ NP1: ϕ226.29000°, δ35.05000°, λ96.03000°. NP2: ϕ38.94000°, δ55.18000°, λ85.79000°. Principal axes: T 5.2765, Plg79.0000°, Azm293.0000°; N 0.8882, Plg3.0000°, Azm41.0000°; P -6.1647, Plg10.0000°, Azm132.0000°;*

ISC 14 18:47:25.6±1.3, **42˚39S**±0˚03×**173˚93E**±0˚03, **h12**km±9km, **n112**, σ0§**97**/123, **mb4.2**/7, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**264**	Pg		**Pb**	**18 47 32.4**	**-0.3**
KHZ				Sg		**Sb**	**18 47 36.6**	**-0.9**
KHZ	**Kahutara**	**0.29**	**264**	P		**Pb**	**18 47 32.5**	**-0.2**
KHZ				S		**Sb**	**18 47 36.6**	**-0.9**
BSWZ	**Blackbirch Sta**	**0.67**	**357**			**Pb**	**18 47 39.7**	**+0.4**
BSWZ				Sg		**Sb**	**18 47 48.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.67**	**357**	P		**Pb**	**18 47 39.7**	**+0.5**
BSWZ				S		**Sb**	**18 47 49.0**	**+0.5**
CMWZ	**Cape Campbell**	**0.67**	**19**			**Pn**	**18 47 41.3**	**+0.3**
CMWZ	**Cape Campbell**	**0.67**	**19**	P		**Pn**	**18 47 42.1**	**+1.1**
GVZ	**Greta Valley S**	**0.88**	**228**			**Pn**	**18 47 44.6**	**+0.8**
GVZ						**Sn**	**18 47 58.1**	**+1.5**
GVZ	**Greta Valley S**	**0.88**	**228**	P		**Pn**	**18 47 44.8**	**+0.9**
GVZ				S		**Sn**	**18 47 58.3**	**+1.8**
TUWZ	**Tuamarina**	**0.95**	**1**			**Pn**	**18 47 44.9**	**+0.1**
TUWZ				Sg		**Sn**	**18 47 58.6**	**+0.2**
TUWZ	**Tuamarina**	**0.95**	**1**	P		**Pn**	**18 47 45.1**	**+0.3**
TUWZ				S		**Sn**	**18 47 58.1**	**-0.3**
THZ	**Tophouse**	**0.98**	**309**			**Pg**	**18 47 44.4**	**-0.1**
THZ	**Tophouse**	**0.98**	**309**	P		**Pg**	**18 47 44.5**	**0.0**
THZ				S		**Sg**	**18 47 56.8**	**-0.5**
TCW	**Tory Channel**	**1.20**	**13**	Pn		**Pg**	**18 47 48.7**	**0.0**
TCW	**Tory Channel**	**1.20**	**13**	P		**Pg**	**18 47 48.8**	**+0.1**
TCW				S		**Sg**	**18 48 05.1**	**+0.8**
SNZO	**South Karori**	**1.22**	**29**			**Pg**	**18 47 49.2**	**+0.2**
AMCZ	**Amberley**	**1.23**	**229**	Pn		**Pb**	**18 47 49.4**	**+0.7**
AMCZ	**Amberley**	**1.23**	**229**	P		**Pb**	**18 47 49.5**	**+0.7**
NNZ	**Nelson**	**1.24**	**341**			**Pg**	**18 47 49.0**	**-0.3**
NNZ	**Nelson**	**1.24**	**341**	P		**Pg**	**18 47 49.2**	**-0.1**
WEL	**Wellington**	**1.27**	**30**	P		**Pg**	**18 47 50.0**	**+0.1**
LTZ	**Lake Taylor**	**1.28**	**251**			**Pb**	**18 47 50.1**	**+0.3**
LTZ	**Lake Taylor**	**1.28**	**251**	P		**Pb**	**18 47 50.1**	**+0.4**
PLWZ	**Palliser**	**1.28**	**51**			**Pb**	**18 47 50.1**	**+0.3**
PLWZ	**Palliser**	**1.28**	**51**	P		**Pb**	**18 47 50.3**	**+0.6**
MRNZ	**Matariki Terra**	**1.32**	**318**	Pn		**Pg**	**18 47 50.6**	**-0.3**
MRNZ	**Matariki Terra**	**1.32**	**318**	P		**Pg**	**18 47 50.9**	**0.0**
MSWZ	**Moikau Station**	**1.38**	**46**			**Pb**	**18 47 51.3**	**+0.5**
MSWZ	**Moikau Station**	**1.38**	**46**	P		**Pb**	**18 47 51.4**	**0.0**
OKCZ	**Okains Bay**	**1.48**	**205**	P		**Pn**	**18 47 52.9**	**+0.7**
PAWZ	**Paruwai Farm**	**1.50**	**49**	P		**Pn**	**18 47 52.9**	**+0.5**
TKNZ	**Takaka Hill**	**1.53**	**332**	Pn		**Pb**	**18 47 53.8**	**-0.1**
TKNZ	**Takaka Hill**	**1.53**	**332**	P		**Pb**	**18 47 54.1**	**+0.2**
CAW	**Cannon Point**	**1.54**	**34**	P		**Pb**	**18 47 53.6**	**-0.4**
DUWZ	**D'Urville Isla**	**1.58**	**360**	P		**Pb**	**18 47 54.6**	**-0.2**
MQZ	**McQueen's Vall**	**1.62**	**215**	Pn		**Pn**	**18 47 54.0**	**0.0**
MQZ	**McQueen's Vall**	**1.62**	**215**	P		**Pn**	**18 47 53.9**	**0.0**
TRWZ	**Traveller**	**1.65**	**54**	P		**Pn**	**18 47 54.7**	**+0.3**
AKCZ	**Akaroa Harbour**	**1.66**	**206**	P		**Pn**	**18 47 55.2**	**+0.6**
OXZ	**Oxford**	**1.68**	**235**			**Pn**	**18 47 54.7**	**-0.1**
OXZ	**Oxford**	**1.68**	**235**	P		**Pn**	**18 47 54.9**	**+0.1**
KIW	**Kapiti Island**	**1.69**	**26**	P		**Pb**	**18 47 56.0**	**-0.7**
MTW	**Mount Morrison**	**1.70**	**44**	P		**Pn**	**18 47 55.4**	**+0.3**
DSZ	**Denniston Nort**	**1.70**	**291**			**Pb**	**18 47 56.3**	**-0.5**
DSZ	**Denniston Nort**	**1.70**	**291**	P		**Pb**	**18 47 56.4**	**-0.5**
OGWZ	**Otaki Gorge**	**1.82**	**31**	P		**Pn**	**18 47 57.4**	**+0.6**
INZ	**Inchbonnie**	**1.86**	**259**	Pn		**Pn**	**18 47 57.7**	**+0.4**
INZ	**Inchbonnie**	**1.86**	**259**	P		**Pn**	**18 47 58.3**	**+0.9**
RACZ	**Rakaia**	**1.87**	**224**	P		**Pn**	**18 47 57.7**	**+0.2**
QRZ	**Quartz Range**	**1.88**	**326**	Pn		**Pb**	**18 47 59.4**	**-0.4**
QRZ	**Quartz Range**	**1.88**	**326**	P		**Pb**	**18 47 59.7**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.91**	**39**	P		**Pn**	**18 47 58.4**	**+0.4**
TMWZ	**Te Maipa**	**1.95**	**50**	P		**Pn**	**18 47 58.7**	**+0.2**
MRZ	**Mangatainoka R**	**2.12**	**36**			**Pn**	**18 48 00.9**	**0.0**
MRZ	**Mangatainoka R**	**2.12**	**36**	P		**Pn**	**18 48 01.2**	**+0.3**
WACZ	**Wakanui South**	**2.18**	**224**	P		**Pn**	**18 48 02.0**	**+0.3**
PRWZ	**Pori Road**	**2.39**	**41**	P		**Pn**	**18 48 05.0**	**+0.5**
BFZ	**Birch Farm**	**2.44**	**46**	Pn		**Pn**	**18 48 04.8**	**-0.4**
BFZ	**Birch Farm**	**2.44**	**46**	P		**Pn**	**18 48 04.9**	**-0.4**
WVZ	**Waitaha Valley**	**2.45**	**253**	P		**Pn**	**18 48 06.4**	**+1.1**
RPZ	**Rata Peaks**	**2.49**	**237**	Pn		**Pn**	**18 48 06.3**	**+0.4**
	20nm,0.3s,baz=113,slow=1.6,SNR=12							
RPZ				Sn		**Sn**	**18 48 35.3**	**-1.0**
	19nm,0.3s,baz=320,slow=23,SNR=18							
	121nm,0.6s							
RPZ	**Rata Peaks**	**2.49**	**237**	Pn		**Pn**	**18 48 06.2**	**+0.2**
RPZ	**Rata Peaks**	**2.49**	**237**	P		**Pn**	**18 48 06.1**	**+0.2**
ARCZ	**Arundel**	**2.54**	**231**	P		**Pn**	**18 48 07.0**	**+0.2**
WAZ	**Wanganui**	**2.75**	**17**	P		**Pb**	**18 48 12.0**	**-2.7**
TSZ	**Takapari Road**	**2.79**	**34**	P		**Pn**	**18 48 10.0**	**0.0**
GCSZ	**Gaunt Creek Bo**	**2.81**	**249**	P		**Pn**	**18 48 11.7**	**+1.4**
TMZ	**Timaru**	**2.92**	**226**	P		**Pn**	**18 48 12.3**	**+0.5**
PRHZ	**Porangahau**	**2.94**	**45**	P		**Pn**	**18 48 11.9**	**-0.2**
NBEZ	**Newall Road No**	**3.12**	**359**	P		**Pn**	**18 48 20.4**	**-0.5**
PKE	**Pukeiti**	**3.19**	**1**	P		**Pb**	**18 48 20.1**	**-2.1**
FOZ	**Fox Glacier**	**3.23**	**248**			**Pn**	**18 48 17.4**	**+1.2**
FOZ	**Fox Glacier**	**3.23**	**248**	P		**Pn**	**18 48 17.3**	**+1.2**
MOVZ	**Moawhango**	**3.28**	**26**	P		**Pn**	**18 48 18.0**	**+1.0**
BHHZ	**Black Hill Sta**	**3.31**	**30**	P		**Pn**	**18 48 18.1**	**+0.7**
VRZ	**Vera Road**	**3.32**	**11**	P		**Pn**	**18 48 19.7**	**+2.4**
FWVZ	**Far West T-bar**	**3.36**	**22**	P		**Pn**	**18 48 19.9**	**+1.7**
LBZ	**Lake Benmore**	**3.38**	**232**			**Pn**	**18 48 18.6**	**+0.4**
LBZ	**Lake Benmore**	**3.38**	**232**	P		**Pn**	**18 48 18.7**	**+0.5**
OTVZ	**Oturere**	**3.48**	**23**	P		**Pn**	**18 48 23.3**	**+3.6**
NNVZ	**North Ngauruho**	**3.49**	**22**	P		**Pn**	**18 48 23.0**	**+3.1**
WTVZ	**West Tongariro**	**3.50**	**22**	P		**Pn**	**18 48 22.1**	**+2.1**
TMVZ	**Te Maari**	**3.54**	**23**	P		**Pn**	**18 48 21.6**	**+1.1**
KRVZ	**Karewarewa**	**3.54**	**22**	P		**Pn**	**18 48 22.3**	**+1.9**
NTVZ	**North Tongarir**	**3.54**	**23**	P		**Pn**	**18 48 21.9**	**+1.3**
ODZ	**Otahua Downs**	**3.57**	**221**	Pn		**Pn**	**18 48 20.9**	**+0.1**
ODZ	**Otahua Downs**	**3.57**	**221**	P		**Pn**	**18 48 20.9**	**+0.1**
BKZ	**Black Stump Fm**	**3.76**	**32**			**Pn**	**18 48 23.2**	**-0.3**
HIZ	**Hauiti**	**3.93**	**11**	Pn		**Pn**	**18 48 27.2**	**+1.4**
HIZ	**Hauiti**	**3.93**	**11**	P		**Pn**	**18 48 28.2**	**+2.4**
TLZ	**Tolley Road**	**4.23**	**17**	P		**Pn**	**18 48 31.9**	**+1.9**
HHSZ	**Highcliff Hill**	**4.24**	**213**	P		**Pn**	**18 48 30.2**	**+0.2**
WKZ	**Wanaka**	**4.32**	**234**			**Pn**	**18 48 31.8**	**+0.7**
EAZ	**Earnscleugh**	**4.39**	**228**	P		**Pn**	**18 48 31.9**	**-0.2**
TOZ	**Tahuroa Road**	**4.80**	**15**	P		**Pn**	**18 48 39.0**	**+1.2**
MLZ	**Mavora Lakes**	**5.15**	**233**			**Pn**	**18 48 41.7

THT2	Imerovigli	0.83	258	PG	Pb	18 53 06.5	-0.4
THT2	Imerovigli	0.83	258	P	Pb	18 53 06.7	-0.2
BODT	Bodrum	0.84	57	P	Pg	18 53 05.4	-1.1
BODT				S	Sb	18 53 18.3	+0.1
CMBO	Columbo, Santo	0.84	261	P	Pb	18 53 06.7	-0.3
CMBO				S	Sn	18 53 19.5	-1.0
	comp=N,11μm,0.5s						
CMBO	Columbo, Santo	0.84	261	P	Pb	18 53 06.6	-0.4
CMBO				AML	AML	18 53 23.4	
	comp=N,26910μm,0.5s						
CMBO				AML	AML	18 53 27.3	
	comp=E,27590μm,0.6s						
APE	Apeiranthos	0.85	302	PG	Pg	18 53 06.6	-0.3
APE	Apeiranthos	0.85	302	P	Pb	18 53 06.8	-0.5
APE				S	Sb	18 53 18.6	-0.2
	comp=E,4μm,0.7s						
APE	Apeiranthos	0.85	302	P	Pg	18 53 06.6	-0.3
APE				S	Sb	18 53 19.1	+0.3
APE				AML	AML	18 53 19.7	
	comp=N,8680μm,0.7s						
APE				AML	AML	18 53 20.4	
	comp=E,7518μm,0.7s						
THR3	Thira Island,	0.85	257	P	Pb	18 53 07.2	-0.1
THR3	Thira Island,	0.85	257	P	Pb	18 53 07.1	-0.2
THR6	Thira Island,	0.87	253	P	Pb	18 53 07.7	+0.1
THR6	Thira Island,	0.87	253	P	Pb	18 53 07.4	-0.1
SAP3	Santorini-Thir	0.89	259	P	Pb	18 53 07.7	-0.2
SAP3				S	Sn	18 53 21.4	-0.5
SAP3	Santorini-Thir	0.89	259	P	Pb	18 53 07.5	-0.4
SAP3				AML	AML	18 53 27.2	
	comp=N,38292μm,0.8s						
SAP3				AML	AML	18 53 28.2	
	comp=E,23204μm,0.6s						
THR5	Thira Island,	0.90	258	P	Pb	18 53 07.3	-0.6
THR5	Thira Island,	0.90	258	P	Pg	18 53 07.2	-0.5
THR9	Santorini-Faro	0.90	254	P	Pb	18 53 08.2	+0.1
THR9	Santorini-Faro	0.90	254	P	Pb	18 53 07.8	-0.2
DDIM	Aydin, Didim	1.06	37	P	Pg	18 53 08.8	-2.0
DDIM				S	Sn	18 53 26.6	+0.5
DDIM				*i* AML	AML	18 53 38.0	
	comp=E,1μm,1.7s						
DDIM				*i* AML	AML	18 53 39.0	
	comp=E,861nm,0.9s						
SMG	Samos	1.14	16	P	Pg	18 53 10.6	-1.7
SMG				S	Sg	18 53 25.5	-1.7
	comp=E,2μm,0.5s						
SMG	Samos	1.14	16	P	Pg	18 53 10.9	-1.5
SMG				S	Sn	18 53 28.4	+0.3
SMG				AML	AML	18 53 31.3	
	comp=N,2370μm,0.5s						
SMG				AML	AML	18 53 35.8	
	comp=E,4246μm,0.5s						
KARP	Karpathos	1.22	151	PN	Pg	18 53 12.8	-1.0
KARP	Karpathos	1.22	151	P	Pb	18 53 13.1	-0.4
KARP				S	Sn	18 53 30.5	+0.6
	comp=E,2μm,0.8s						
KARP	Karpathos	1.22	151	P	Pg	18 53 12.9	-0.8
KARP				AML	AML	18 53 37.6	
	comp=E,3938μm,0.6s						
KARP				AML	AML	18 53 38.0	
	comp=N,3928μm,0.8s						
GCAM	G?zelcaml?	1.26	30	PN	Pn	18 53 13.2	-0.8
TNSA	Tinos	1.37	313	P	Pn	18 53 15.7	+0.2
ARG	Arkhangelos	1.42	106	P	Pn	18 53 16.1	-0.1
ARG				S	Sn	18 53 35.2	+0.3
	comp=N,955nm,1.1s						
ARG	Arkhangelos	1.42	106	P	Pn	18 53 16.1	-0.1
STIA	Sitia Lasithi	1.44	191	P	Pb	18 53 16.8	-0.3
STIA				S	Sg	18 53 36.5	0.0
STIA	Sitia Lasithi	1.44	191	P	Pn	18 53 16.4	0.0
STIA				AML	AML	18 53 45.4	
	comp=N,4122μm,0.8s						
STIA				AML	AML	18 53 50.1	
	comp=E,5450μm,0.8s						
TURN	Turunc	1.47	83	PN	Pn	18 53 16.4	-0.4
DGB	zmir	1.48	14	P	Pn	18 53 15.2	-1.8
DGB				S	Sn	18 53 35.0	-1.4
ZKR	Zakros	1.50	187	PN	Pb	18 53 17.8	-0.6
ZKR	Zakros	1.50	187	P	Pb	18 53 17.9	-0.5
ZKR				S	Sg	18 53 39.5	+0.7
	comp=E,1μm,1.0s						
ZKR	Zakros	1.50	187	P	Pn	18 53 17.5	+0.2
ZKR				AML	AML	18 53 46.1	
	comp=N,1504μm,0.7s						
ZKR				AML	AML	18 53 48.3	
	comp=E,3926μm,1.3s						
YER	Yerkesik	1.57	70	PN	Pn	18 53 18.1	-0.2
ZEYE	Izmir, Urla-Ze	1.62	2	P	Pn	18 53 19.0	0.0
ZEYE				S	Sg	18 53 42.2	-0.4
ZEYE				*i* AML	AML	18 53 46.0	
	comp=E,304nm,0.9s						
ZEYE				*i* AML	AML	18 53 48.0	
	comp=E,452nm,0.6s						
MHLO	Agia Marina, M	1.63	273	P	Pb	18 53 19.7	-0.9
MHLO				S	Sb	18 53 41.6	+0.4
	comp=E,4μm,0.8s						
MHLO	Agia Marina, M	1.63	273	P	Pb	18 53 19.9	-0.7
MHLO				AML	AML	18 53 50.0	
	comp=E,7717μm,1.3s						
MHLO				AML	AML	18 53 50.8	
	comp=N,7271μm,0.6s						
MULA	Mugla, Merkez-	1.64	66	P	Pg	18 53 21.2	-0.7
MULA				S	Sg	18 53 47.0	+3.7
HRKL	Herakleio	1.69	220	PN	Pb	18 53 20.5	-1.0
FRMA	Ierapetra Chan	1.69	200	P	Pn	18 53 20.4	+0.5
URLA	Izmir	1.75	4	PN	Pn	18 53 21.1	+0.4
AYDB	Zeytinkoy-Aydi	1.77	41	PN	Pn	18 53 20.4	-0.7
DALY	Dalyan (Mula)	1.80	83	PN	Pn	18 53 22.2	+0.9
IDI	Anoyia	1.82	224	Pg	Pn	18 53 21.3	-0.4
	comp=N,12nm,0.3s,baz=42,slow=13,SNR=24						
IDI				Lg	Lg	18 53 42.3	
	comp=N,19nm,0.3s,baz=99,slow=18,SNR=10						
IDI	Anoyia	1.82	224	PN	Pn	18 53 21.3	-0.4
IDI	Anoyia	1.82	224	P	Pn	18 53 21.3	-0.4
IDI				S	Sn	18 53 45.6	+0.8
	comp=N,960nm,0.6s						
IDI	Anoyia	1.82	224	P	Pn	18 53 20.8	-1.0
BLCB	Balcova	1.83	15	PN	Pn	18 53 20.9	-1.0
FETY	Fethiye	2.13	89	PN	Pn	18 53 26.6	+0.6
IMMV	Iera Moni Meta	2.29	241	P	Pn	18 53 28.9	+0.7
CAME	Cameli-Denizli	2.33	81	PN	Pn	18 53 29.6	+0.8
ZEDA	zmir-Bergama	2.41	12	P	Pn	18 53 27.9	-1.8
VLY	Voula,Athens	2.44	301	P	Pn	18 53 30.8	+0.6
APMY	Acipayam-Deniz	2.45	69	PN	Pn	18 53 30.4	0.0
DION	Dionisos Attik	2.47	307	P	Pn	18 53 30.7	0.0
ATHU	Athens Univers	2.51	303	P	Pn	18 53 31.9	+0.8
MANT	Manisa	2.52	41	P	Pb	18 53 36.4	+0.5
AKAS	Kas	2.59	97	PN	Pn	18 53 33.4	+1.0
KTHA	Kythira Island	2.74	264	P	Pn	18 53 34.3	0.0
KTHR	Kythira	2.79	264	P	Pn	18 53 35.7	+0.8
VLI	Veliai	2.81	273	P	Pn	18 53 35.0	-0.3
STEP	BALIKESIR_Sava	2.94	20	P	Pb	18 53 42.2	-0.7
STEP				S	Sb	18 54 20.2	+1.4
VIL2	Platees	2.98	303	P	Pn	18 53 36.4	-1.3
MMAI	Mount Meron Ar	8.20	113	Pn	Pn	18 54 48.6	-0.8
	comp=N,0.9nm,0.3s,baz=309,slow=7.3,SNR=5.4						
MMAI				Sn	Sn	18 56 19.4	-2.8
	comp=N,0.7nm,0.3s,baz=299,slow=18,SNR=2.0						
	comp=N,1.7nm,0.5s						
MLR	Muntele Rosu	8.88	358	LR	LR	18 58 58.2	
	comp=N,76nm,19.9s,baz=224,slow=41						
EIL	Elat	9.94	132	Pn	Pn	18 55 12.1	-1.2
	comp=N,1.0nm,0.3s,baz=336,slow=8.8,SNR=5.8						
EIL				Sn	Sn	18 56 57.7	-7.2
	comp=N,0.2nm,0.3s,baz=342,slow=19,SNR=2.6						
	comp=N,2.8nm,0.4s						
AKASG	Malin Array Be	14.23	7	LR	LR	19 02 04.9	
	comp=N,56nm,18.2s,baz=241,slow=39						
KBZ	Khabaz	14.44	55	Pn	P	18 56 25.1	+3.5
	comp=N,0.1nm,0.3s,baz=244,slow=8.5,SNR=9.3						
VRAC	Vranov	14.57	334	LR	LR	19 03 03.8	
	comp=N,33nm,20.4s,baz=178,slow=42						
GERES	GERESS Array B	15.37	327	Pn	P	18 56 30.6	-1.4
	comp=N,0.1nm,0.3s,baz=145,slow=12,SNR=2.2						
	comp=N,0.3nm,0.5s						
BELG	Belogornoye	21.73	37	P	P	18 57 42.4	+0.9
	comp=N,10nm,0.8s,baz=165,slow=20,SNR=2.7						
	comp=N,10nm,0.8s						
ESDC	Sonseca Array	24.05	287	P	P	18 58 05.0	-0.6
	comp=N,1.7nm,0.9s,baz=88,slow=10,SNR=7.0						
	comp=N,1.7nm,0.9s						
FINES	FINESS Array B	24.85	360	P	P	18 58 13.4	+0.7
	comp=N,2.1nm,0.8s,baz=152,slow=9.0,SNR=1.9						
	comp=N,2.1nm,0.8s						
HFS	Hagfors	24.92	345	LR	LR	19 09 58.2	
	comp=N,62nm,19.2s,baz=210,slow=41						
NOA	NORSAR Array B	26.28	343	LR	LR	19 09 43.5	
	comp=N,30nm,18.1s,baz=0.0,slow=38						
EKA	Eskdalemuir Ar	27.49	322	P	P	18 58 37.8	+1.3
	comp=N,1.0nm,0.7s,baz=123,slow=8.6,SNR=1.8						
	comp=N,1.0nm,0.7s						
TORD	Torodi Ar. Bea	32.21	230	P	P	18 59 18.5	-0.2
	comp=N,0.6nm,0.6s,baz=33,slow=8.6,SNR=4.7						
	comp=N,0.6nm,0.6s						
MKAR	Makanchi Array	42.12	58	P	P	19 00 43.1	+0.6
	comp=N,0.5nm,0.5s,baz=297,slow=5.3,SNR=7.3						
	comp=N,0.5nm,0.5s						
ZALV	Zalesovo Beam	43.26	47	P	P	19 00 51.9	+0.3
	comp=N,0.9nm,0.6s,baz=259,slow=9.6,SNR=5.6						
	comp=N,0.9nm,0.6s						
SONM	Songino Array	57.77	52	P	P	19 02 42.4	+0.8
	comp=N,0.6nm,0.9s,baz=308,slow=7.1,SNR=2.3						
	comp=N,0.6nm,0.9s						
CMAR	Chiang Mai Arr	65.39	85	P	P	19 03 33.5	+0.1
	comp=N,0.6nm,0.8s,baz=296,slow=7.6,SNR=7.3						
	comp=N,0.6nm,0.8s						
USRK	Ussuriysk Ar.	75.09	46	P	P	19 04 31.6	-0.7
	comp=N,1.2nm,0.6s,baz=307,slow=4.7,SNR=2.5						
	comp=N,1.2nm,0.6s						

WEL ***14*** *18:58:00.41˝.79S×174˚.20E, h14km, ML4.5, Mw4.1, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}0.16; M_{tt}1.16; M_{pp}-1.32; M_{rt}0.34; M_{rp}0.86; M_{tp}-0.52; Fault plane solution: $M_0$1.61000×10^{15} NP1: ϕ_s29.00000°, δ72.00000°, λ-174.00000°. NP2: ϕ_s297.00000°, δ84.00000°, λ-18.00000°. Principal axes: T -177.4500, Plg8.0000°, Azm344.0000°; N 145.2200, Plg71.0000°, Azm99.0000°; P 32.2300, Plg17.0000°, Azm252.0000°;*

IDC ***14*** *18:58:20.4±1.2, 41˚.71S×174˚.15E, h0km, mb4.1/6, mbtmp4.1/7, ML3.9/1, MS3.0/2 Error ellipse: s-maj=29.3km s-min=24.4km az=162.0*

NEIC ***14*** *18:58:22.9±2.1, 41˚.86S±0˚.01×174˚.25E±0˚.05, h10km±1km, mb4.4/11, Error ellipse: s-maj=6.3km s-min=3.1km az=260.0*

WEL ***14*** *18:58:24.5±0.4, 42˚S±2˚×17˚4E±˚, h8km±3km, M4.3/15, ML4.6/15, MLv4.3/15, Error ellipse: s-maj=0.0km s-min=0.0km az=108.1*

NOU ***14*** *18:58:24.3, 41˚.87S×174˚.37E, h10km, MLv4.8/12, Cook Strait, New Zealand*

ISC 14 18:58:23.2±0.9, 41˚.82S±0˚.03×174˚.23E±0˚.02, h17km±5km, n183, σ1°42/188, mb4.2/13, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CMWZ	Cape Campbell	0.07	348		Pg	Pg	18 58 26.8	+0.3
CMWZ	Cape Campbell	0.07	348	P	Pg	Pg	18 58 27.1	+0.6
BSWZ	Blackbirch Sta	0.28	290	P	Pg	Pg	18 58 29.2	-0.2
BSWZ				S	Sg	Sg	18 58 32.9	-0.8
TUWZ	Tuamarina	0.44	331		Pg	Pg	18 58 31.8	-0.3
TUWZ	Tuamarina	0.44	331	P	Pg	Pg	18 58 31.9	-0.3
TCW	Tory Channel	0.60	3	Pg	Pb	Pb	18 58 35.0	-0.3
TCW	Tory Channel	0.60	3	P	Pb	Pb	18 58 35.1	-0.2
TCW				S	Sg	Sg	18 58 42.7	-0.6
SNZO	South Karori	0.62	35		Pg	Pg	18 58 36.4	+1.0
SNZO	South Karori	0.62	35	P	Pn	Pn	18 58 36.8	-0.3
BHW	Baring Head	0.63	50	P	Pn	Pn	18 58 37.1	-0.2
WEL	Wellington	0.67	37	P	Pn	Pn	18 58 37.5	-0.3
KHZ	Kahutara	0.79	220	Pn	Pn	Pn	18 58 40.6	+1.1
KHZ	Kahutara	0.79	220	P	Pn	Pn	18 58 40.9	+1.4
KHZ				S	Sn	Sn	18 58 53.4	+2.4
PLWZ	Palliser	0.81	73		Pn	Pn	18 58 40.8	+1.1
PLWZ	Palliser	0.81	73	P	Pn	Pn	18 58 41.1	+1.3
MSWZ	Moikau Station	0.86	63		Pn	Pn	18 58 41.8	+1.3
MSWZ	Moikau Station	0.86	63	P	Pn	Pn	18 58 41.9	+1.4
NNZ	Nelson	0.88	313		Pb	Pb	18 58 39.5	-0.4
NNZ	Nelson	0.88	313	P	Pb	Pb	18 58 39.5	-0.4
CAW	Cannon Point	0.94	42	P	Pg	Pg	18 58 42.4	+0.8
THZ	Tophouse	0.99	273	Pn	Pn	Pn	18 58 42.4	0.0
THZ	Tophouse	0.99	273	P	Pg	Pg	18 58 42.5	0.0
PAWZ	Paruwai Farm	0.99	65	P	Pg	Pg	18 58 43.7	+1.2
DUWZ	D'Urville Isla	1.04	347	P	Pb	Pb	18 58 42.4	-0.3
KIW	Kapiti Island	1.08	28	P	Pg	Pg	18 58 44.2	0.0
MTW	Mount Morrison	1.16	56	P	Pg	Pg	18 58 45.7	+0.1
TRWZ	Traveller	1.17	70	P	Pg	Pg	18 58 45.7	-0.1
MRNZ	Matariki Terra	1.18	290	Pn	Pb	Pb	18 58 45.5	+0.4
MRNZ	Matariki Terra	1.18	290	P	Pg	Pg	18 58 45.8	-0.2
OGWZ	Otaki Gorge	1.22	36	P	Pg	Pg	18 58 46.9	+0.1
TKNZ	Takaka Hill	1.23	309	Pn	Pb	Pb	18 58 46.1	0.0
TKNZ	Takaka Hill	1.23	309	P	Pb	Pb	18 58 46.2	+0.2
HOWZ	Holdsworth Sta	1.33	47	P	Pb	Pb	18 58 48.0	+0.3
TMWZ	Te Maipa	1.43	61	P	Pb	Pb	18 58 49.2	-0.3
GVZ	Greta Valley S	1.45	217		Pb	Pb	18 58 49.8	0.0
GVZ	Greta Valley S	1.45	217	P	Pg	Pg	18 58 50.5	-0.7
MRZ	Mangatainoka R	1.54	42		Pb	Pb	18 58 50.9	-0.3
MRZ	Mangatainoka R	1.54	42	P	Pb	Pb	18 58 50.9	-0.3
QRZ	Quartz Range	1.62	307	Pn	Pb	Pb	18 58 52.5	-0.1
QRZ	Quartz Range	1.62	307	P	Pb	Pb	18 58 52.8	+0.2
QRZ	Quartz Range	1.62	307	P	Pb	Pb	18 58 52.7	+0.1
TIWZ	Tintock	1.62	51	P	Pb	Pb	18 58 52.4	-0.3
CPWZ	Castlepoint	1.74	59	P	Pn	Pn	18 58 53.7	+1.2
LTZ	Lake Taylor	1.75	236	Pn	Pb	Pb	18 58 53.9	-0.9
LTZ	Lake Taylor	1.75	236	P	Pb	Pb	18 58 54.2	-0.6
AMCZ	Amberley	1.79	220	Pn	Pb	Pb	18 58 55.0	-0.6
AMCZ	Amberley	1.79	220	P	Pb	Pb	18 58 55.3	-0.3
OHWZ	Ohakea	1.80	27	P	Pb	Pb	18 58 55.9	+0.1
DSZ	Dennistone Nort	1.82	271	Pn	Pb	Pb	18 58 55.4	-0.6
DSZ	Dennistone Nort	1.82	271	P	Pb	Pb	18 58 56.2	+0.2
PRWZ	Pori Road	1.82	47	P	Pn	Pn	18 58 54.5	+0.8
POWZ	Post Office Ro	1.83	40	P	Pn	Pn	18 58 54.9	+1.0
BFZ	Birch Farm	1.89	54	Pn	Pn	Pn	18 58 54.8	+0.1
BFZ	Birch Farm	1.89	54	P	Pn	Pn	18 58 55.5	+0.8
BFZ	Birch Farm	1.89	54	P	Pn	Pn	18 58 55.2	+0.4
OKCZ	Okains Bay	2.09	204	P	Pn	Pn	18 58 58.4	+0.9
DVHZ	Dannevirke	2.11	45	P	Pn	Pn	18 58 57.8	+0.1
WAZ	Wanganui	2.14	16	P	Pb	Pb	18 59 01.1	-0.3
ANWZ	Angora Road	2.17	52	P	Pn	Pn	18 58 58.7	+0.2
TSZ	Takapari Road	2.19	37	P	Pn	Pn	18 58 59.5	+0.7
OXZ	Oxford	2.21	226		Pn	Pn	18 58 59.4	+0.2
OXZ	Oxford	2.21	226	P	Pn	Pn	18 59 00.7	+1.5
MQZ	McQueen's Vall	2.22	211		Pn	Pn	18 58 59.4	+0.3
MQZ	McQueen's Vall	2.22	211	P	Pn	Pn	18 58 59.4	+0.3
INZ	Inchbonnie	2.26	245	Pn	Pn	Pn	18 59 01.1	+1.3
INZ	Inchbonnie	2.26	245	P	Pn	Pn	18 59 01.4	+1.7
AKCZ	Akaroa Harbour	2.27	205	P	Pn	Pn	18 59 00.9	+0.9
LREZ	Lake Rotokare	2.35	3	P	Pn	Pn	18 59 03.9	-1.2
PRHZ	Porangahau	2.39	50	P	Pn	Pn	18 59 01.6	+0.1
NMEZ	Namu Road	2.41	353	P	Pb	Pb	18 59 06.5	+0.3
PNHZ	Pukenui	2.42	39	P	Pn	Pn	18 59 02.2	+0.3
WPHZ	Waipukurau	2.42	44	P	Pn	Pn	18 59 02.4	+0.5
RACZ	Rakaia	2.46	218	P	Pn	Pn	18 59 02.5	+0.1
KHEZ	Kahui Hut	2.52	356	P	Pb	Pb	18 59 07.5	-0.6
KHEZ	Kahui Hut	2.52	356	P	Pb	Pb	18 59 07.4	-0.7
NEZ	North Egmont	2.54	358	P	Pb	Pb	18 59 08.1	-0.3
NBEZ	Newall Road No	2.56	354	P	Pb	Pb	18 59 07.1	-1.6
DREZ	Durham Road	2.62	359	P	Pb	Pb	18 59 08.6	-1.1
PKE	Pukeiti	2.62	356	P	Pb	Pb	18 59 07.5	-2.3
PKVZ	Pokaka	2.66	19	P	Pb	Pb	18 59 09.7	-0.7
MQWZ	Moawhango	2.67	26	P	Pn	Pn	18 59 06.7	+1.2
PXZ	Pawaiki	2.67	49	P	Pn	Pn	18 59 04.8	-0.6
WNVZ	Wahianoa	2.69	23	P	Pb	Pb	18 59 09.0	-2.0
TRVZ	Turoa	2.71	22	P	Pb	Pb	18 59 09.1	-2.2
BHHZ	Black Hill Sta	2.71	32	P	Pn	Pn	18 59 07.1	+1.1
VRZ	Vera Road	2.72	9	P	Pn	Pn	18 59 08.7	+2.7
DRZ	Dome Shelter	2.73	22	P	Pb	Pb	18 59 11.5	-0.3
WHVZ	Whangaehu Hut	2.73	23	P	Pn	Pn	18 59 08.5	+2.1
MHEZ	Mangahewa	2.74	1	P	Pb	Pb	18 59 10.0	-1.7
FWVZ	Far West T-bar	2.75	22	P	Pn	Pn	18 59 09.0	+2.3
WACZ	Wakanui South	2.76	219	P	Pn	Pn	18 59 07.2	+0.6
TUVZ	Tukino	2.77	24	P	Pn	Pn	18 59 10.8	-1.4
NGZ	Ngauruhoe	2.83	22	P	Pn	Pn	18 59 10.2	+2.4
SNVZ	South Ngauruho	2.84	23	P	Pn	Pn	18 59 09.9	+2.0
KAHZ	Kahuranaki	2.85	46	P	Pn	Pn	18 59 07.6	-0.3
OTVZ	Oturere	2.87	23	P	Pn	Pn	18 59 10.1	+1.9
WVZ	Waitaha Valley	2.88	243	P	Pn	Pn	18 59 09.4	+1.2
NNVZ	North Ngauruho	2.88	22	P	Pn	Pn	18 59 10.7	+2.3
WTVZ	West Tongariro	2.89	21	P	Pn	Pn	18 59 10.5	+2.0
TWVZ	Taurewa	2.89	19	P	Pn	Pn	18 59 10.7	+2.2
ETVZ	East Tongariro	2.90	23	P	Pn	Pn	18 59 10.7	+2.0
KWHZ	Kaweka Forest	2.91	36	P	Pn	Pn	18 59 09.3	+0.5
KWHZ				P	Pb	Pb	18 59 16.4	+1.7
TMVZ	Te Maari	2.92	23	P	Pn	Pn	18 59 10.8	+1.8
KRVZ	Karewarewa	2.92	22	P	Pn	Pn	18 59 11.2	+2.3
NTVZ	North Tongarir	2.93	23	P	Pn	Pn	18 59 10.9	+1.8
RPZ	Rata Peaks	3.01	230	Pn	Pn	Pn	18 59 10.2	+0.1
	15nm,0.3s,baz=255,slow=2.2,SNR=17							
RPZ				Sn	Sn	18 59 45.9	+0.1	
	50nm,0.3s,baz=307,slow=21,SNR=12							
RPZ				LR	LR	19 00 11.6		
	comp=Z,89nm,20.0s,baz=48,slow=37							
	34nm,0.4s							
RPZ	Rata Peaks	3.01	230		Pn	Pn	18 59 10.7	+0.5
RPZ	Rata Peaks	3.01	230		Pn	Pn	18 59 10.6	+0.5
MCHZ	McNeill Hill	3.02	39		Pn	Pn	18 59 09.5	-0.7
KATZ	Kakaramea	3.05	22		Pb	Pb	18 59 16.3	-0.7
ARCZ	Arundel	3.10	225		Pn	Pn	18 59 12.5	+1.3
BKZ	Black Stump Fm	3.16	34			Pn	18 59 12.8	+0.6
BKZ	Black Stump Fm	3.16	34	P		Pn	18 59 12.4	+0.3
RATZ	Rangitukua	3.17	22	P		Pb	18 59 18.4	-0.7
GCSZ	Gaunt Creek Bo	3.25	241	P		Pn	18 59 15.2	+1.8
ARHZ	Aropaoanui	3.31	40	P		Pn	18 59 14.4	+0.2
WATZ	Wairara	3.31	21	P		Pb	18 59 18.7	-2.7
HIZ	Hauiti	3.33	8	Pn		Pn	18 59 17.3	+2.8
HIZ	Hauiti	3.33	8	P		Pn	18 59 16.9	+2.4
HIZ	Hauiti	3.33	8	P		Pn	18 59 17.2	+2.7
MRHZ	Matea Rd	3.41	30	P		Pn	18 59 15.6	-0.1
TMZ	Timaru	3.49	222	P		Pn	18 59 17.8	+1.1
TLZ	Tolley Road	3.62	16	P		Pn	18 59 21.1	+2.5
ALRZ	Allen Road	3.63	27	P		Pn	18 59 18.6	0.0
FOZ	Fox Glacier	3.68	241	Pn		Pn	18 59 20.2	+0.9
FOZ	Fox Glacier	3.68	241	P		Pn	18 59 20.6	+1.3
HRRZ	Handcock Road	3.77	25	P		Pb	18 59 27.9	-1.3
LBZ	Lake Benmore	3.92	228	Pn		Pn	18 59 23.5	+0.9
LBZ	Lake Benmore	3.92	228	P		Pn	18 59 23.3	+0.7
ODZ	Otahua Downs	4.15	218			Pn	18 59 26.4	+0.6
ODZ	Otahua Downs	4.15	218	P		Pn	18 59 25.7	-0.1
URZ	Urewera	4.18	33	P		Pn	18 59 26.6	+0.4
TOZ	Tahuroa Road	4.19	14	P		Pn	18 59 28.1	+1.8
JCZ	Jackson Bay	4.59	239	P		Pn	18 59 35.1	+3.2
JCZ	Jackson Bay	4.59	239	P		Pn	18 59 33.6	+1.8
TWGZ	Tauwhareparae	4.63	40	P		Pn	18 59 32.6	+0.1
RUGZ	Raukumara Rang	4.67	36	P		Pn	18 59 33.3	+0.3
AWAZ	Awhitu Peninsu	4.75	4	P		Pn	18 59 36.6	+2.6
MKAZ	Moumakai	4.76	9	P		Pn	18 59 35.8	+1.8
HHSZ	Highcliff Hill	4.84	212	P		Pn	18 59 35.8	+0.5
WKZ	Wanaka	4.85	230			Pn	18 59 36.0	+0.6
WTAZ	Waiatarua	4.88	3	P		Pn	18 59 38.8	+3.0
ETAZ	East Tamaki Re	4.88	7	P		Pn	18 59 38.3	+2.5
HAZ	Te Kaha	4.89	35	P		Pn	18 59 35.4	-0.5
EAZ	Earnscleugh	4.95	225	P		Pn	18 59 37.4	+0.7
WIAZ	Waiheke Island	5.06	8	P		Pn	18 59 41.6	+3.3
MBAZ	Motutapu North	5.07	6	P		Pn	18 59 41.2	+2.9
KUZ	Kuaotunu	5.19	13	P		Pn	18 59 42.3	+2.3
KUZ	Kuaotunu	5.19	13	P		Pn	18 59 41.3	+1.3
MXZ	Matakaoa Point	5.28	38			Pn	18 59 42.2	+0.9
MSZ	Milford Sound	5.42	236	P		Pn	18 59 46.7	+3.6
MLZ	Mavora Lakes	5.68	229			Pn	18 59 47.5	+0.7
SYZ	Scrubby Hill	5.97	216	P		Pn	18 59 51.9	+1.2
SYZ	Scrubby Hill	5.97	216	P		Pn	18 59 51.7	+1.0

VNDA	Vanda	63.65	186	P		P	19 16 30.8	+0.2
	0.3nm,0.6s,baz=36,slow=4.6,SNR=2.8							
	0.3nm,0.6s							
NVAR	Mina Array Bea	74.20	42	P		P	19 17 37.1	0.0
	0.4nm,0.7s,baz=236,slow=9.6,SNR=3.4							
	0.4nm,0.7s							
TXAR	Lajitas Array	80.56	56	P		P	19 18 12.6	-0.1
	1.0nm,1.1s,baz=205,slow=2.6,SNR=5.6							
	1.0nm,1.1s							
PDAR	Pinedale Array	82.14	42	P		P	19 18 20.3	-0.6
	0.5nm,0.9s,baz=250,slow=4.3,SNR=4.5							
	0.5nm,0.9s							
ILAR	Eielson Array	82.19	11	P		P	19 18 20.9	+0.5
	0.2nm,0.4s,baz=198,slow=5.6,SNR=7.4							
	0.2nm,0.4s							

WEL **14** *19:17:00,42˚.26S×173˚.69E,h15km,ML5.0,Mw4.9, Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁶Nm; Mrr1.53; Mθθ0.80; Mϕϕ-2.33; Mrθ0.89; Mrϕ-1.35; Mθϕ0.90; Fault plane solution: M₀2.62000×10¹⁶ NP1: ϕs168.00000˚,δ41.00000˚,λ39.00000˚. NP2:ϕs46.00000˚, δ66.00000˚,λ124.00000˚. Principal axes: T -3120.4400, Plg56.0000˚, Azm1.0000˚; N 998.4600, Plg31.0000˚, Azm210.0000˚; P 2121.9800, Plg14.0000˚, Azm112.0000˚;*

BJI **14** *19:17:28.9±0.0,42˚.62S×173˚.64E,h6km,mb5.4/16, mB5.8/7, Ms5.4/7, Ms7 5.0/6*

IDC **14** *19:17:29.9±0.6,42˚.10S×173˚.72E,h0km,mb4.7/12, mbtmp4.7/13,ML5.4/1,MS4.2/30,Error ellipse: s-maj=23.4km s-min=18.1km az=84.0*

NEIC **14** *19:17:30.5,42˚.35S×173˚.88E,h16km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.76; Mθθ-0.64; Mϕϕ-1.13; Mrθ0.82; Mϕϕ-1.54; Mϕr1.26; Fault plane solution: M₀2.65000×10¹⁶ NP1:ϕs34.36000˚, δ62.99000˚,λ83.11000˚. NP2:ϕs229.25000˚,δ27.81000˚, λ103.23000˚. Principal axes: T 2.2589, Plg71.0000˚, Azm289.0000˚; N 0.6558, Plg6.0000˚, Azm37.0000˚; P -2.9147, Plg18.0000˚, Azm129.0000˚;*

MOS **14** *19:17:30.8±1.0,42˚.00S×173˚.75E,h10km,mb5.1/16 Error ellipse: s-maj=20.6km s-min=11.5km az=42.4*

NEIC **14** *19:17:31.9±1.4,42˚.35S±0˚.03×173˚.96E±0˚.06,h14km±4km, mb5.1/51,Mwr4.9/52,Error ellipse: s-maj=6.9km s-min=3.9km az=118.0*

GCMT **14** *19:17:33.9±0.4,42˚.42S±0˚.03×173˚.73E±0˚.03,h19km±1km, MW5.0/68,Moment Tensor Solution. s26,c31; s68,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.69±.22; Mθθ0.02±.13; Mϕϕ-2.70±.14; Mrθ0.56±.29; Mϕϕ-1.14±.08; Mθr2.03±.26; Best double couple: M₀3.58700×10¹⁶ NP1:ϕs17.00000˚,δ63.00000˚,λ87.00000˚. NP2: ϕs204.00000˚,δ27.00000˚,λ96.00000˚. Principal axes: T 3.3780, Plg72.0000˚, Azm280.0000˚; N 0.4230, Plg3.0000˚, Azm18.0000˚; P -3.7950, Plg18.0000˚, Azm109.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

WEL **14** *19:17:34.3±0.4,42˚.52S±2˚×17˚.4E±˚, h5km,M5.1/6,ML5.4/6, MLv5.1/6 Error ellipse: s-maj=0.0km s-min=0.0km az=118.2*

NOU **14** *19:17:34.4,42˚.45S×174˚.03E,h36km,mb5.1/66,Off E. Coast of S. Island, N.Z.*

ISC 14 19:17:32.8±0.7,**42˚.32S**±0˚.03×**173˚.82E**±0˚.03,**h17**km±4km, **n331,**σ1$16/326,**mb5.2**/74,**MS4.3**/37,**5C-1D,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.23**	**245**	Pg	**Pg**	**19 17 38.3**	**+0.3**
KHZ	**Kahutara**	**0.23**	**245**	P	**Pg**	**19 17 38.5**	**+0.4**
KHZ				S	**Sg**	**19 17 42.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.61**	**4**		**Pg**	**19 17 44.6**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.61**	**4**	P	**Pg**	**19 17 44.7**	**-0.2**
BSWZ				S	**Sb**	**19 17 53.5**	**+0.2**
CMWZ	**Cape Campbell**	**0.64**	**27**		**Pg**	**19 17 46.4**	**+0.9**
CMWZ	**Cape Campbell**	**0.64**	**27**	P	**Pg**	**19 17 46.9**	**+1.4**
CMWZ				S	**Sn**	**19 17 59.1**	**+2.1**
GVZ	**Greta Valley S**	**0.87**	**222**	Pg	**Pg**	**19 17 51.0**	**+1.3**
GVZ	**Greta Valley S**	**0.87**	**222**	P	**Pg**	**19 17 50.7**	**+1.0**
GVZ				S	**Sb**	**19 18 04.2**	**+3.4**
THZ	**Tophouse**	**0.88**	**309**	Pg	**Pg**	**19 17 49.4**	**-0.6**
THZ	**Tophouse**	**0.88**	**309**	P	**Pg**	**19 17 49.4**	**-0.6**
TUWZ	**Tuamarina**	**0.90**	**6**		**Pg**	**19 17 49.9**	**-0.4**
NNZ	**Nelson**	**1.15**	**343**		**Pg**	**19 17 53.8**	**-1.3**
TCW	**Tory Channel**	**1.16**	**17**		**Pg**	**19 17 54.0**	**-1.3**
SNZO	**South Karori**	**1.21**	**34**		**Pg**	**19 17 54.4**	**-1.8**
SNZO	**South Karori**	**1.21**	**34**	P	**Pg**	**19 17 54.9**	**-1.3**
AMCZ	**Amberley**	**1.21**	**225**		**Pg**	**19 17 55.5**	**-0.7**
AMCZ	**Amberley**	**1.21**	**225**	P	**Pg**	**19 17 55.5**	**-0.7**
MRNZ	**Matariki Terra**	**1.22**	**319**	Pn	**Pb**	**19 17 55.7**	**+0.3**
LTZ	**Lake Taylor**	**1.23**	**248**		**Pg**	**19 17 55.6**	**-1.0**
PLWZ	**Palliser**	**1.31**	**55**		**Pn**	**19 17 55.8**	**-0.6**
MSWZ	**Moikau Station**	**1.40**	**50**		**Pn**	**19 17 56.7**	**-0.9**
TKNZ	**Takaka Hill**	**1.44**	**333**	Pn	**Pn**	**19 17 58.8**	**+0.6**
OKCZ	**Okains Bay**	**1.51**	**201**	P	**Pn**	**19 17 59.1**	**0.0**
DSZ	**Denniston Nort**	**1.61**	**290**		**Pb**	**19 18 02.4**	**+0.3**
MQZ	**McQueen's Vall**	**1.63**	**211**		**Pn**	**19 18 00.3**	**-0.4**
MQZ	**McQueen's Vall**	**1.63**	**211**	P	**Pn**	**19 17 59.8**	**-0.8**
MQZ				S	**Sn**	**19 18 20.5**	**-0.7**
OXZ	**Oxford**	**1.65**	**232**		**Pn**	**19 18 00.9**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.69**	**203**	P	**Pn**	**19 18 01.3**	**-0.2**
QRZ	**Quartz Range**	**1.78**	**327**		**Pn**	**19 18 04.2**	**+1.4**
INZ	**Inchbonnie**	**1.80**	**256**	Pn	**Pn**	**19 18 04.2**	**+1.1**
RACZ	**Rakaia**	**1.87**	**221**	P	**Pn**	**19 18 03.2**	**-0.8**
RACZ				S	**Sn**	**19 18 27.3**	**+0.1**
MHCZ	**Mount Hutt**	**2.05**	**233**	P	**Pn**	**19 18 06.2**	**-0.3**
MHCZ				S	**Sn**	**19 18 30.7**	**-1.0**
MRZ	**Mangatainoka R**	**2.12**	**39**		**Pn**	**19 18 06.7**	**-0.8**
WACZ	**Wakanui South**	**2.17**	**221**	P	**Pn**	**19 18 07.7**	**-0.5**
WACZ				S	**Sn**	**19 18 34.6**	**-0.1**
BFZ	**Birch Farm**	**2.45**	**49**	Pn	**Pn**	**19 18 10.8**	**-1.3**
BFZ	**Birch Farm**	**2.45**	**49**	P	**Pn**	**19 18 11.1**	**-1.0**
RPZ	**Rata Peaks**	**2.46**	**235**	Pn	**Pn**	**19 18 11.5**	**-0.7**
	715nm,0.3s,baz=51,slow=3.0,SNR=516						
RPZ				Sn	**Sn**	**19 18 40.7**	**-1.1**
	4μm,0.3s,baz=27,slow=18,SNR=126						
RPZ				LR	LR	19 19 21.1	
	comp=Z,4μm,20.6s,baz=47,slow=44 2μm,0.3s						
RPZ	**Rata Peaks**	**2.46**	**235**	Pn	**Pn**	**19 18 12.1**	**-0.1**
ARCZ	**Arundel**	**2.52**	**229**	P	**Pn**	**19 18 12.4**	**-0.7**
ARCZ				S	**Sn**	**19 18 41.8**	**-1.7**
GCSZ	**Gaunt Creek Bo**	**2.75**	**248**	P	**Pn**	**19 18 17.0**	**+0.8**
GCSZ				S	**Sn**	**19 18 49.5**	**+0.5**
TMZ	**Timaru**	**2.91**	**224**	P	**Pn**	**19 18 18.0**	**-0.3**
KHEZ	**Kahui Hut**	**3.03**	**3**	P	**Pn**	**19 18 23.2**	**+3.1**
FOZ	**Fox Glacier**	**3.18**	**246**		**Pn**	**19 18 23.1**	**+1.0**
FOZ	**Fox Glacier**	**3.18**	**246**	P	**Pn**	**19 18 22.6**	**+0.6**
LBZ	**Lake Benmore**	**3.36**	**231**		**Pn**	**19 18 24.8**	**+0.2**
LBZ	**Lake Benmore**	**3.36**	**231**	P	**Pn**	**19 18 24.2**	**-0.3**
LBZ				S	**Sn**	**19 19 02.5**	**-1.5**
ODZ	**Otahua Downs**	**3.56**	**219**		**Pn**	**19 18 27.1**	**-0.2**
ODZ	**Otahua Downs**	**3.56**	**219**	P	**Pn**	**19 18 27.3**	**0.0**
ODZ	**Otahua Downs**	**3.56**	**219**	P	**Pn**	**19 18 26.5**	**-0.8**
ODZ				S	**Sn**	**19 19 07.5**	**-1.6**
CKHZ	**Cape Kidnapper**	**3.63**	**44**	P	**Pg**	**19 18 44.2**	**+1.9**
BKZ	**Black Stump Fm**	**3.75**	**34**	Pn	**Pn**	**19 18 30.4**	**+0.4**
BKZ	**Black Stump Fm**	**3.75**	**34**	P	**Pn**	**19 18 31.6**	**+1.6**
HIZ	**Hauiti**	**3.89**	**12**	Pn	**Pn**	**19 18 33.0**	**+1.3**
HIZ	**Hauiti**	**3.89**	**12**	P	**Pn**	**19 18 33.5**	**+1.7**
JCZ	**Jackson Bay**	**4.07**	**243**	P	**Pn**	**19 18 34.8**	**+0.4**
JCZ	**Jackson Bay**	**4.07**	**243**	P	**Pn**	**19 18 34.4**	**0.0**
HHSZ	**Highcliff Hill**	**4.25**	**212**	P	**Pn**	**19 18 36.1**	**-0.6**
WKZ	**Wanaka**	**4.29**	**233**		**Pn**	**19 18 37.0**	**-0.4**
WKZ	**Wanaka**	**4.29**	**233**	P	**Pn**	**19 18 36.5**	**-0.8**
WKZ				S	**Sn**	**19 19 25.3**	**-1.8**
EAZ	**Earnscleugh**	**4.37**	**227**	P	**Pn**	**19 18 37.5**	**-1.0**
EAZ				S	**Sn**	**19 19 26.1**	**-2.9**
TUZ	**Tuapeka**	**4.72**	**218**	P	**Pn**	**19 18 42.7**	**-0.4**
URZ	**Urewera**	**4.78**	**33**	P	**Pn**	**19 18 43.6**	**-0.4**
MLZ	**Mavora Lakes**	**5.12**	**232**	Pn	**Pn**	**19 18 48.7**	**-0.1**
MLZ	**Mavora Lakes**	**5.12**	**232**	P	**Pn**	**19 18 47.9**	**-0.9**
MLZ				S	**Sn**	**19 19 45.4**	**-2.2**
SYZ	**Scrubby Hill**	**5.38**	**217**	P	**Pn**	**19 18 52.5**	**+0.2**
SYZ	**Scrubby Hill**	**5.38**	**217**	P	**Pn**	**19 18 52.1**	**-0.2**
SYZ				S	**Sn**	**19 19 51.0**	**-2.8**
WHZ	**Wether Hill Ro**	**5.53**	**228**	Pn	**Pn**	**19 18 53.3**	**-1.1**
DCZ	**Deep Cove**	**5.75**	**235**	Pn	**Pn**	**19 18 56.1**	**-1.2**
KUZ	**Kuaotunu**	**5.76**	**15**	P	**Pn**	**19 18 57.3**	**-0.2**
MXZ	**Matakaoa Point**	**5.87**	**37**		**Pn**	**19 18 57.7**	**-1.3**
MXZ	**Matakaoa Point**	**5.87**	**37**	P	**Pn**	**19 18 59.9**	**+0.8**
APZ	**The Paps**	**6.14**	**221**	P	**Pn**	**19 19 01.8**	**-0.9**
PYZ	**Puysegur Point**	**6.41**	**231**		**Pn**	**19 19 07.0**	**+0.6**
OUZ	**Omahuta**	**7.09**	**359**	Pn	**Pn**	**19 19 16.4**	**+0.5**
CAN	**Canberra**	**20.52**	**282**	P	**P**	**19 22 10.3**	**+0.1**
CAN				IAmb	IAmb	19 22 16.9	
	comp=Z,65nm,1.3s						
CAN	**Canberra**	**20.52**	**282**	P	**P**	**19 22 11.9**	**+1.7**
CAN	**Canberra**	**20.52**	**282**	P	**P**	**19 22 10.3**	**+0.1**
CAN				pmax	pmax		
	comp=Z,65nm,1.3s						
OUENC	**Ouen Island, N**	**20.69**	**341**	P	**P**	**19 22 11.2**	**-0.8**
OUENC	**Ouen Island, N**	**20.69**	**341**	P	**P**	**19 22 13.2**	**+1.2**
ONTNC	**Ouen Toro**	**20.89**	**341**	P	**P**	**19 22 13.8**	**-0.4**
ONTNC				IAmb	IAmb	19 22 16.0	
	comp=Z,97nm,1.3s						
ONTNC	**Ouen Toro**	**20.89**	**341**	P	**P**	**19 22 15.0**	**+0.8**
YATNC	**Mamie plateau,**	**21.02**	**342**	P	**P**	**19 22 17.4**	**+1.7**
DZM	**Mont Dzumac**	**21.12**	**341**	*e*Pn	**P**	**19 22 17.0**	**+0.2**
	comp=Z,103nm,1.2s						
DZM				*e*LR	LR	19 27 16.1	
	comp=Z,1μm,22.1s						
DZM	**Mont Dzumac**	**21.12**	**341**	P	**P**	**19 22 15.6**	**-1.2**
	comp=Z,25nm,1.0s,baz=148,slow=16,SNR=12						
DZM				LR	LR	19 29 59.4	
	comp=Z,1μm,18.5s,baz=186,slow=36						
	comp=Z,25nm,1.0s						
DZM	**Mont Dzumac**	**21.12**	**341**	P	**P**	**19 22 16.1**	**-0.6**
DZM	**Mont Dzumac**	**21.12**	**341**	P	**P**	**19 22 17.5**	**+0.7**
ARMA	**Armidale**	**21.39**	**297**	P	**P**	**19 22 21.8**	**+2.1**
ARMA				IAmb	IAmb	19 22 23.0	
	comp=Z,52nm,1.1s						
ARMA	**Armidale**	**21.39**	**297**	P	**P**	**19 22 22.0**	**+2.3**
TOO	**Toolangi**	**22.18**	**273**	P	**P**	**19 22 29.6**	**+1.5**
TOO				IAmb	IAmb	19 22 47.9	
	comp=Z,70nm,1.6s						
TOO	**Toolangi**	**22.18**	**273**	P	**P**	**19 22 29.0**	**+0.9**
TOO	**Toolangi**	**22.18**	**273**	P	**P**	**19 22 29.6**	**+1.5**
TOO				pmax	pmax		
	comp=Z,70nm,1.6s						
LIFNC	**LIFOU**	**22.18**	**344**	P	**P**	**19 22 27.7**	**-0.4**
LIFNC				IAmb	IAmb	19 22 30.4	
	comp=Z,206nm,1.4s						
LIFNC	**LIFOU**	**22.18**	**344**	P	**P**	**19 22 29.1**	**+1.0**
AUBSH	**Beerwah State**	**23.00**	**305**	P	**P**	**19 22 38.9**	**+2.2**
KOUNC	**Koumac, New Ca**	**23.15**	**337**	P	**P**	**19 22 36.8**	**-1.5**
KOUNC				IAmb	IAmb	19 22 41.4	
	comp=Z,148nm,1.4s						
KOUNC	**Koumac, New Ca**	**23.15**	**337**	P	**P**	**19 22 39.6**	**+1.3**
BRAT	**Ballarat**	**23.34**	**272**	P	**P**	**19 22 41.1**	**+0.9**
AULRC	**Lightning Ridg**	**24.46**	**293**	P	**P**	**19 22 52.9**	**+2.0**
MSVF	**Nonsavu**	**24.77**	**10**	P	**P**	**19 22 52.5**	**-1.3**
	comp=Z,15nm,1.1s,baz=236,slow=18,SNR=5.2						
MSVF				LR	LR	19 31 51.1	
	comp=Z,1μm,18.2s,baz=190,slow=35						
	comp=Z,15nm,1.1s						
MSVF	**Nonsavu**	**24.77**	**10**	P	**P**	**19 22 51.4**	**-2.4**
MSVF	**Nonsavu**	**24.77**	**10**	P	**P**	**19 22 52.4**	**-1.4**
MSVF	**Nonsavu**	**24.77**	**10**	*i* P	**P**	**19 22 52.2**	**-1.6**
MSVF				pmax	pmax		
	comp=Z,24nm,1.3s						
ARPS	**Mount Arapiles**	**25.18**	**272**	P	**P**	**19 22 57.9**	**+0.6**
EIDS	**Eidsvold**	**25.23**	**305**	P	**P**	**19 22 57.1**	**-0.7**
RMQ	**Roma**	**25.89**	**300**	P	**P**	**19 23 04.7**	**+0.9**
STKA	**Stephens Creek**	**27.59**	**282**	P	**P**	**19 23 16.1**	**-3.0**
	comp=Z,12nm,0.9s,baz=136,slow=10,SNR=3.0						
STKA				LR	LR	19 33 10.7	
	comp=Z,286nm,19.0s,baz=190,slow=34						
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**27.59**	**282**	P	**P**	**19 23 19.6**	**+0.6**
STKA	**Stephens Creek**	**27.59**	**282**	P	**P**	**19 23 20.5**	**+1.4**
STKA	**Stephens Creek**	**27.59**	**282**	*i* P	**P**	**19 23 18.6**	**-0.5**
QLP	**Quilpie**	**28.82**	**294**	P	**P**	**19 23 31.1**	**+1.0**
INKA	**Innaminka**	**30.52**	**288**	P	**P**	**19 23 46.9**	**+1.7**
	comp=Z,23nm,1.3s						
RAR	**Rarotonga**	**30.56**	**55**	LR	LR	19 36 16.9	
	comp=Z,355nm,18.2s,baz=182,slow=37						
LCRK	**Leigh Creek**	**30.80**	**281**	P	**P**	**19 23 47.9**	**+0.3**
	comp=Z,129nm,1.0s						
BBOO	**Buckleboo**	**31.18**	**275**	P	**P**	**19 23 50.8**	**-0.1**
BBOO				IAmb	IAmb	19 23 51.9	
	comp=Z,31nm,1.1s						
BBOO	**Buckleboo**	**31.18**	**275**	P	**P**	**19 23 50.9**	**-0.1**
CTA	**Charters Tower**	**32.12**	**305**	LR	LR	19 36 42.6	
	comp=Z,485nm,18.1s,baz=118,slow=36						
CTA	**Charters Tower**	**32.12**	**305**	P	**P**	**19 23 59.4**	**+0.1**
CTA	**Charters Tower**	**32.12**	**305**	P	**P**	**19 23 59.7**	**+0.4**
CTA				pmax	pmax		
	comp=Z,24nm,1.0s						
CTAO	**Charters Tower**	**32.12**	**305**	P	**P**	**19 23 59.0**	**-0.3**
CTAO				IAmb	IAmb	19 24 00.9	
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	**32.12**	**305**	P	**P**	**19 23 59.4**	**+0.1**
CTAO	**Charters Tower**	**32.12**	**305**	P	**P**	**19 23 59.0**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,17nm,1.0s						
MULG	**Mulgathing**	**33.93**	**278**	P	**P**	**19 24 14.9**	**-0.2**
OOD	**Oodnadatta**	**34.11**	**283**	P	**P**	**19 24 17.0**	**+0.4**
MTSU	**Mount Surprise**	**34.78**	**305**	P	**P**	**19 24 23.2**	**+0.6**
HNR	**Honiara**	**34.95**	**336**	LR	LR	19 37 16.9	
	comp=Z,4μm,19.0s,baz=169,slow=34						
HNR	**Honiara**	**34.95**	**336**	P	P	19 24 20.2	-3.8
HNR				pmax	pmax		
	comp=Z,108nm,0.4s						
TBI	**Tubuai**	**35.84**	**70**	*e*LR	LR	19 34 09.0	
	comp=Z,1μm,23.8s						
TBI				*e*LR	LR	19 34 09.2	
	comp=Z,6μm,23.2s						
QIS	**Mount Isa**	**36.01**	**296**	P	**P**	**19 24 33.2**	**+0.1**
AS01	**Alice Springs**	**37.85**	**287**	P	**P**	**19 24 48.1**	**-0.6**
AS31	**Alice Springs**	**37.88**	**287**	P	**P**	**19 24 48.3**	**-0.7**
ASAR	**Alice Springs**	**37.88**	**287**	P	**P**	**19 24 47.9**	**-1.1**
	comp=Z,13nm,1.0s,baz=125,slow=7.1,SNR=55						
ASAR				PcP	**PcP**	**19 27 03.6**	**-1.4**
	comp=Z,2.8nm,0.7s,baz=129,slow=3.5,SNR=7.1						
ASAR				LR	LR	19 40 34.0	
	comp=Z,713nm,18.2s,baz=127,slow=37						
	comp=Z,13nm,1.0s						
FORT	**Forrest**	**38.10**	**272**	P	**P**	**19 24 50.3**	**-0.5**
FORT				IAmb	IAmb	19 24 51.7	
	comp=Z,71nm,0.9s						
FORT	**Forrest**	**38.10**	**272**	P	**P**	**19 24 50.7**	**-0.1**
COEN	**Coen**	**38.72**	**308**	P	**P**	**19 24 55.2**	**-0.9**
COEN	**Coen**	**38.72**	**308**	P	**P**	**19 24 55.5**	**-0.6**
PAE	**Paea**	**39.65**	**63**	*e*T	T	20 07 09.7	
	comp=Z,5.5nm,0.3s						
PPT2	**Papeete2**	**39.71**	**63**	*e*S	**S**	**19 31 09.2**	**+1.8**
	comp=Z,109nm,24.5s						
PPT2				*e*LR	LR	19 35 56.9	
	comp=Z,409nm,24.8s						
PPT2				*e*LR	LR	19 35 57.2	
	comp=Z,325nm,28.8s						
PPT2	**Papeete2**	**39.71**	**63**	*e*T	T	20 07 28.4	
	comp=Z,6.2nm,0.2s						
WR0	**Warramunga Arr**	**39.86**	**292**	P	**P**	**19 25 04.8**	**-0.8**
WR0				IAmb	IAmb	19 25 06.0	
	comp=Z,29nm,0.9s						
WB2	**Warramunga Arr**	**40.00**	**292**	P	**P**	**19 25 06.0**	**-0.8**
WB2				IAmb	IAmb	19 25 07.1	
	comp=Z,46nm,0.9s						
WRAB	**Tennant Creek**	**40.01**	**292**	P	**P**	**19 25 05.9**	**-0.9**
WRAB				IAmb	IAmb	19 25 07.1	
	comp=Z,45nm,0.9s						
WRAB	**Tennant Creek**	**40.01**	**292**	P	**P**	**19 25 06.2**	**-0.6**
WRAB	**Tennant Creek**	**40.01**	**292**	*i* P	**P**	**19 25 06.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,49nm,0.9s						
WRA	**Warramunga Arr**	**40.01**	**292**	P	**P**	**19 25 06.1**	**-0.7**
	comp=Z,29nm,0.8s,baz=131,slow=7.6,SNR=118						
WRA				PcP	**PcP**	**19 27 10.5**	**-1.3**
	comp=Z,4.6nm,0.8s,baz=127,slow=3.2,SNR=7.4						
WRA				ScP	**ScP**	**19 30 59.1**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=149,slow=3.0,SNR=4.8						
WRA				LR	LR	19 41 41.2	
	comp=Z,577nm,18.4s,baz=129,slow=36						
	comp=Z,29nm,0.8s						
WRA	**Warramunga Arr**	**40.01**	**292**	P	**P**	**19 25 05.9**	**-0.9**
WB0	**Warramunga Arr**	**40.09**	**292**	P	**P**	**19 25 06.5**	**-1.0**
WB0				IAmb	IAmb	19 25 07.8	
	comp=Z,32nm,0.8s						
PMG	**Port Moresby**	**40.28**	**317**	LR	LR	19 40 30.1	
	comp=Z,754nm,19.9s,baz=150,slow=34						
PMG	**Port Moresby**	**40.28**	**317**	P	**P**	**19 25 09.1**	**0.0**
PMG				IAmb	IAmb	19 25 11.2	
	comp=Z,74nm,1.1s						
PMG	**Port Moresby**	**40.28**	**317**	P	**P**	**19 25 09.4**	**+0.3**
	comp=Z,694nmcomp=Z,68nm,1.1s						
PMG	**Port Moresby**	**40.28**	**317**	P	**P**	**19 25 09.9**	**+0.8**
PMG	**Port Moresby**	**40.28**	**317**	*i* P	**P**	**19 25 09.3**	**+0.2**
PMG				pmax	pmax		
	comp=Z,55nm,1.0s						
WRKA	**Warakurna**	**41.09**	**280**	P	**P**	**19 25 14.7**	**-1.1**
KRVT	**Keravat (AS076**	**42.54**	**327**	LR	LR	19 42 51.4	
	comp=Z,478nm,18.4s,baz=287,slow=36						
RABL	**Rabaul**	**42.59**	**327**	P	**P**	**19 25 27.4**	**-0.7**
RABL	**Rabaul**	**42.59**	**327**	P	**P**	**19 25 27.9**	**-0.2**
TARA	**Tarawa**	**43.48**	**359**	P	**P**	**19 25 33.6**	**-1.7**
MMPI	**Merauke**	**44.73**	**309**	P	**P**	**19 25 43.3**	**-2.0**
	comp=Z,18nm,0.8s						
KLBR	**Kellerberrin**	**45.33**	**265**	P	**P**	**19 25 50.3**	**+0.3**
KDU	**Kakadu**	**46.39**	**297**	P	**P**	**19 25 58.6**	**+0.2**
KNRA	**Kununurra**	**46.78**	**291**	P	**P**	**19 26 00.7**	**-0.7**
KNRA	**Kununurra**	**46.78**	**291**	P	**P**	**19 26 01.5**	**0.0**
MTN	**Manton Dam**	**47.17**	**296**	P	**P**	**19 26 04.1**	**-0.4**
MTN	**Manton Dam**	**47.17**	**296**	P	**P**	**19 26 04.8**	**+0.3**
MEEK	**Meekatharra**	**47.32**	**271**	P	**P**	**19 26 05.3**	**-0.4**
QSPA	**South Pole Qui**	**47.81**	**180**	P	**P**	**19 26 11.6**	**+2.5**
	comp=Z,7.5nm,0.9s,baz=24,slow=3.9,SNR=8.9						
	comp=Z,7.5nm,0.9s						
QSPA	**South Pole Qui**	**47.81**	**180**	P	**P**	**19 26 10.8**	**+1.6**
QSPA				IAmb	IAmb	19 26 17.2	
	comp=Z,15nm,1.1s						
MORW	**Morawa**	**47.90**	**266**	P	**P**	**19 26 09.6**	**-0.6**
MORW				IAmb	IAmb	19 26 10.9	
	comp=Z,18nm,1.0s						
MORW	**Morawa**	**47.90**	**266**	P	**P**	**19 26 09.8**	**-0.3**
PSA00	**Pilbara Seismi**	**49.37**	**277**	P	**P**	**19 26 20.0**	**-1.5**
PSA00	**Pilbara Seismi**	**49.37**	**277**	P	**P**	**19 26 20.0**	**-1.5**
PSA00				IAmb	IAmb	19 27 04.9	
	comp=Z,57nm,1.6s						
SOEI	**Soe**	**54.04**	**292**	P	**P**	**19 26 57.4**	**+0.8**
SOEI	**Soe**	**54.04**	**292**	P	**P**	**19 26 56.2**	**-0.4**
	comp=Z,50nm,1.3s						
SOEI	**Soe**	**54.04**	**292**	P	**P**	**19 26 57.9**	**+1.3**
BATI	**Baumata**	**54.14**	**291**	LR	LR	19 50 51.1	
	comp=Z,370nm,18.9s,baz=144,slow=37						
BATI	**Baumata**	**54.14**	**291**	P	**P**	**19 26 56.7**	**-0.5**
	comp=Z,39nm,1.1s						
SIJI	**Sorong**	**56.19**	**306**	LR	LR	19 53 33.5	
	comp=Z,239nm,18.1s,baz=84,slow=39						
MMRI	**Maumere**	**56.24**	**291**	P	**P**	**19 27 11.9**	**-0.4**
MMRI				IAmb	IAmb	19 27 27.6	
	comp=Z,38nm,1.1s						
SANI	**Sanana**	**58.57**	**300**	P	**P**	**19 27 28.4**	**-0.4**
MAW	**Mawson**	**58.80**	**205**	P	**P**	**19 27 30.9**	**+1.3**
	comp=Z,4.4nm,1.0s,baz=118,slow=6.9,SNR=5.2						
MAW				PcP	**PcP**	**19 28 20.1**	**+1.0**
	comp=Z,4.7nm,0.8s,baz=180,slow=6.0,SNR=4.7						
MAW				LR	LR	19 52 19.0	
	comp=Z,559nm,18.0s,baz=104,slow=35						
	comp=Z,4.4nm,1.0s						
PLAI	**Plampang**	**59.22**	**287**	P	**P**	**19 27 33.4**	**+0.1**
TWSI	**Taliwang, Sumb**	**59.92**	**287**	P	**P**	**19 27 38.0**	**-0.1**
	comp=Z,45nm,1.1s						
KAPI	**Kappang**	**60.54**	**292**	P	**P**	**19 27 41.5**	**-0.9**
KAPI				IAmb	IAmb	19 27 58.6	
	comp=Z,24nm,1.2s						
KAPI	**Kappang**	**60.54**	**292**	P	**P**	**19 27 43.8**	**+1.4**
	comp=Z,12nm,0.8s						
KAPI	**Kappang**	**60.54**	**292**	P	**P**	**19 27 43.4**	**+1.0**
KAPI	**Kappang**	**60.54**	**292**	P	**P**	**19 27 41.5**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**80.40**	**285**	P	**P**	**19 29 43.1**	**-0.5**
IPM				IAmb	IAmb	19 29 44.0	
	comp=Z,22nm,0.9s						
IPM	**Ipoh**	**80.40**	**285**	P	**P**	**19 29 43.2**	**-0.5**
	comp=Z,27nm,1.1s						
IPM	**Ipoh**	**80.40**	**285**	P	**P**	**19 29 43.3**	**-0.4**
JOW	**Kunigami**	**80.62**	**320**	LR	LR	20 02 43.3	
	comp=Z,116nm,19.3s,baz=292,slow=34						
RPSI	**Rantau Prapat**	**80.69**	**282**	P	**P**	**19 29 44.4**	**-0.8**
RPSI				IAmb	IAmb	19 29 45.0	
	comp=Z,28nm,1.1s						
GSI	**Gunungsitoli**	**80.72**	**280**	P	**P**	**19 29 46.1**	**+0.7**
GSI	**Gunungsitoli**	**80.72**	**280**	P	**P**	**19 29 46.3**	**+0.9**
	comp=Z,2µmcomp=Z,93nm,1.1s						
GSI	**Gunungsitoli**	**80.72**	**280**	P	**P**	**19 29 46.8**	**+1.4**
PSI	**Prapat**	**80.77**	**282**	P	**P**	**19 29 44.2**	**-1.6**
	comp=Z,29nm,1.0s,comp=Z,17nm,1.1s						
PSI				P	**P**	**19 29 44.4**	**-1.3**
	comp=Z,29nm,1.0s,comp=Z,17nm,1.1s						
PSI	**Prapat**	**80.77**	**282**	P	**P**	**19 29 44.5**	**-1.3**
PSI	**Prapat**	**80.77**	**282**	P	**P**	**19 29 44.4**	**-1.3**
PSI				pmax	pmax		
	comp=Z,28nm,1.1s						
KULM	**Kulim**	**81.23**	**285**	P	**P**	**19 29 47.0**	**-1.1**
KULM				IAmb	IAmb	19 29 48.5	
	comp=Z,34nm,1.1s						
KULM	**Kulim**	**81.23**	**285**	P	**P**	**19 29 47.6**	**-0.5**
SURA	**Surathani**	**84.64**	**287**	P	**P**	**19 30 06.3**	**+0.6**
MJAR	**Matsushiro Arr**	**84.96**	**332**	P	**P**	**19 30 05.0**	**-1.7**
	comp=Z,2.0nm,0.9s,baz=160,slow=7.6,SNR=4.2						
MJAR				LR	LR	20 04 36.7	
	comp=Z,238nm,21.8s,baz=54,slow=33						
	comp=Z,2.0nm,0.9s						
GULI	**GuiLin**	**89.14**	**306**	*e*P	P	19 30 24.4	-2.9
NJ2	**Nanjing**	**89.58**	**316**	*e*P	**P**	**19 30 32.3**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSRS	**Korea Array**	**89.74**	**325**	P	**P**	**19 30 28.6**	**-1.1**
	comp=Z,4.6nm,1.0s,baz=147,slow=5.5,SNR=6.7						
	comp=Z,4.6nm,1.0s						
KSAR	**Wonju Array Be**	**89.75**	**325**	P	**P**	**19 30 30.3**	**+0.5**
KSAR	**Wonju Array Be**	**89.75**	**325**	P	**P**	**19 30 30.3**	**+0.5**
CM31	**Chiang Mai Arr**	**91.57**	**294**	P	**P**	**19 30 39.5**	**+0.7**
CM31				IAmb	IAmb	19 30 40.3	
	comp=Z,15nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.57**	**294**	P	**P**	**19 30 39.1**	**+0.3**
	comp=Z,7.8nm,1.0s,baz=152,slow=3.4,SNR=45						
CMAR				PP	**PP**	**19 34 17.3**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=146,slow=7.5,SNR=7.4						
CMAR				LR	LR	20 15 44.6	
	comp=Z,71nm,18.9s,baz=145,slow=38						
	comp=Z,7.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.57**	**294**	P	**P**	**19 30 38.5**	**-0.3**
CHTO	**Chiang Mai**	**91.82**	**294**	P	**P**	**19 30 39.7**	**-0.3**
CHTO	**Chiang Mai**	**91.82**	**294**	P	**P**	**19 30 39.7**	**-0.3**
GYA	**Guiyang**	**92.24**	**304**	⇑P	**P**	**19 30 43.4**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LVC	**Limon Verde**	**93.30**	**125**	LR	LR	20 03 17.7	
	comp=Z,52nm,18.1s,baz=260,slow=29						
ENH	**Enshi**	**93.36**	**309**	P	**P**	**19 30 46.0**	**-0.8**
ENH				IAmb	IAmb	19 30 47.1	
	comp=Z,15nm,1.1s						
ENH	**Enshi**	**93.36**	**309**	P	**P**	**19 30 46.1**	**-0.8**
PB01	**IPOC Station P**	**94.11**	**123**	P	P	19 30 47.7	-3.1
PZH	**PanZhiHua**	**95.35**	**301**	P	**P**	**19 30 56.5**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,70nm,6.1s						
NNA	**Nana**	**95.85**	**112**	LR	LR	20 05 45.2	
	comp=Z,121nm,18.7s,baz=206,slow=30						
PETK	**Petropavlovsk-**	**96.06**	**350**	P	**P**	**19 30 56.9**	**-1.7**
	comp=Z,5.3nm,0.9s,baz=99,slow=9.2,SNR=3.6						
	comp=Z,5.3nm,0.9s						
CN2	**Changchun**	**96.08**	**327**	*e*P	**P**	**19 31 00.4**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPIG	**La Paz**	**96.14**	**63**	LR	LR	20 06 17.7	
	comp=Z,146nm,19.5s,baz=243,slow=30						
TNCH	**TengChong**	**96.40**	**298**	P	**P**	**19 31 02.0**	**+0.9**
TNCH				pP	sP	19 31 07.8	-1.1
TNCH				pmax	pmax		
	comp=Z,9.0nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,100nm,5.1s						
XAN	**Xi'an**	**96.46**	**311**	⇑P	**P**	**19 31 01.5**	**+0.5**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				LR	LR		
	comp=Z,220nm,15.8s						
XAN				LR	LR		
	comp=Z,190nm,17.2s						
XAN				LR	LR		
	comp=Z,260nm,15.8s						
CPUP	**Villa Florida**	**96.98**	**135**	P	**P**	**19 31 05.5**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=225,slow=7.1,SNR=2.2						
CPUP				LR	LR	20 08 29.0	
	comp=Z,57nm,19.2s,baz=218,slow=32						
	comp=Z,1.0nm,0.5s						
PALK	**Pallekele**	**97.14**	**273**	LR	LR	20 11 36.1	
	comp=Z,124nm,20.0s,baz=222,slow=33						
ATAH	**Atahualpa**	**98.17**	**107**	LR	LR	20 07 51.9	
	comp=Z,56nm,18.6s,baz=249,slow=31						
LPAZ	**La Paz**	**98.51**	**121**	LR	LR	20 08 27.6	
	comp=Z,22nm,19.0s,baz=182,slow=31						
BRDH	**Bariadhala**	**99.43**	**292**	LR	LR	20 23 36.3	
	comp=Z,79nm,18.0s,baz=100,slow=40						
HHC	**Hu-ho-hao-te**	**100.09**	**317**	*e*P	**Pdif**	**19 31 18.0**	**+0.8**
HHC				pmax	pmax		
	comp=Z,36nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,5.6s						
HHC				LR	LR		
	comp=Z,340nm,17.1s						
HHC				LR	LR		
	comp=Z,470nm,15.7s						
HHC				LR	LR		
	comp=Z,480nm,16.5s						
WMQ	**Urumqi**	**115.25**	**307**	*e*PKP	**PKPdf**	**19 36 13.3**	**+0.4**
WMQ				LR	LR		
	comp=Z,340nm,18.1s						
WMQ				LR	LR		
	comp=Z,280nm,18.1s						
WMQ				LR	LR		
	comp=Z,96nm,19.7s						
TIXI	**Tiksi**	**118.04**	**345**	*i* PKIKP	**PKPdf**	**19 36 17.6**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**119.03**	**30**	PKP	**PKPdf**	**19 36 18.2**	**-1.3**
	comp=Z,6.4nm,0.9s,baz=231,slow=2.2,SNR=10						
MKAR	**Makanchi Array**	**120.06**	**307**	PKP	**PKPdf**	**19 36 20.4**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=104,slow=3.6,SNR=14						
ULM	**Lac du Bonnet**	**121.12**	**49**	PKP	**PKPdf**	**19 36 24.2**	**+0.4**
	comp=Z,6.7nm,1.0s,baz=293,slow=7.7,SNR=3.1						
KMBO	**Kilima Mbogo**	**121.69**	**234**	PKP	**PKPdf**	**19 36 26.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=49,slow=18,SNR=1.8						
ZALV	**Zalesovo Beam**	**122.24**	**316**	PKP	**PKPdf**	**19 36 23.3**	**-2.6**
	comp=Z,1.4nm,0.8s,baz=132,slow=2.2,SNR=5.8						
KURK	**Kurchatov**	**124.09**	**310**	*i* PKIKP	**PKPdf**	**19 36 28.5**	**-1.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NRIK	**Noril'sk**	**127.59**	**333**	PKP	**PKPdf**	**19 36 33.5**	**-2.2**
	comp=Z,3.3nm,0.6s,baz=113,slow=3.9,SNR=4.2						
BRVK	**Borovoye**	**129.76**	**310**	*i* PKIKP	**PKPdf**	**19 36 39.6**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GEYT	**Alibeck**	**131.68**	**287**	PKP	**PKPdf**	**19 36 44.5**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=144,slow=1.2,SNR=7.0						
ARU	**Arti**	**137.19**	**312**	*i* PKIKP	**PKPdf**	**19 36 54.2**	**0.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZEI	**Tsey**	**143.55**	**288**	*i* PKHKP	PKPpre	19 37 02.1	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LIC	**Lamto**	**144.04**	**182**	⇑*i*PKP1	PKPbc	19 37 10.4	+4.6
	comp=Z,5.4nm,0.2s						
KIC	**Kosan Boka**	**144.17**	**182**	⇓*i*PKP1	**PKPdf**	**19 37 11.1**	**+3.0**
	comp=Z,2.2nm,0.3s						
TIC	**Toumodi**	**144.46**	**182**	⇑*i*PKP1	PKPbc	19 37 11.5	+4.4
	comp=Z,4.8nm,0.3s						
DBIC	**Dimbokro**	**144.48**	**182**	PKP	**PKPab**	**19 37 07.8**	**+0.9**
	comp=Z,10nm,0.9s,baz=196,slow=1.9,SNR=4.2						
KBZ	**Khabaz**	**144.51**	**289**	PKP	**PKPab**	**19 37 06.0**	**-0.2**
	comp=Z,22nm,0.8s,baz=120,slow=2.6,SNR=9.1						
KBZ	**Khabaz**	**144.51**	**289**	PKIKP	**PKPab**	**19 37 06.0**	**-0.2**
ASF	**Jabal al Asfar**	**144.57**	**268**	PKP	**PKPab**	**19 37 07.6**	**+0.7**
	comp=Z,13nm,1.0s,baz=100,slow=1.6,SNR=9.5						
SHA1	**Shidzhatmaz**	**144.68**	**289**	*i* PKIKP	**PKPab**	**19 37 06.6**	**-0.6**
KIV	**Kislovodsk**	**144.72**	**290**	*i* PKIKP	**PKPab**	**19 37 07.4**	**+0.3**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
EIL	**Elat**	**144.74**	**263**	PKP	**PKPab**	**19 37 08.3**	**+0.8**
	comp=Z,29nm,1.1s,baz=137,slow=0.5,SNR=12						
GOF	**Gofitskoye**	**144.74**	**292**	⇑*e*PKIKP	**PKPab**	**19 37 06.7**	**-0.3**
VRH	**Novokhopyorsk**	**146.53**	**302**	*e*PKIKP	**PKPdf**	**19 37 09.9**	**-1.1**
VRH				pmax	pmax		
	comp=Z,40nm,1.5s						
KLMR	**Klimovskoe**	**146.98**	**320**	*e*PKPdf	**PKPdf**	**19 37 11.5**	**0.0**
KLMR				AMP		19 37 14.0	
	comp=Z,20nm,0.8s						
KLMR	**Klimovskoe**	**146.98**	**320**	*e*PKP2	**PKPdf**	**19 37 11.4**	**0.0**
KLMR				pmax	pmax		
	comp=Z,20nm,0.8s						
VORR	**Voronezh**	**148.12**	**303**	*e*PKP2	**PKPdf**	**19 37 16.8**	**+3.2**
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
VSR	**Storozhevoye**	**148.14**	**302**	*e*PKIKP	**PKPdf**	**19 37 14.6**	**+1.0**
VSR				pmax	pmax		
	comp=Z,20nm,1.4s						
ARCES	**ARCESS Array B**	**148.20**	**339**	PKPbc	**PKPdf**	**19 37 15.2**	**+2.0**
	comp=Z,3.9nm,0.7s,baz=66,slow=2.2,SNR=15						
LPSR	**Galich'ya Gora**	**148.30**	**305**	*e*PKP2	**PKPdf**	**19 37 16.7**	**+2.8**
LPSR				pmax	pmax		
	comp=Z,30nm,1.0s						
OBN	**Obninsk**	**149.53**	**310**	*e*PKIKP	**PKPdf**	**19 37 15.3**	**-0.4**
OBN				*e*		19 40 52.1	
OBN				pmax	pmax		
	comp=Z,11nm,1.1s						
OBN				MLR	MLR		
	comp=Z,77nm,18.0s						
BRTR	**Keskin Array B**	**150.03**	**279**	PKP	**PKPdf**	**19 37 16.1**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=168,slow=7.4,SNR=2.0						
BRTR				PKPbc	**pPKPdf**	**19 37 22.0**	**-1.2**
	comp=Z,15nm,1.0s,baz=140,slow=4.7,SNR=24						
TORD	**Torodi Ar. Bea**	**150.14**	**196**	PKP	**PKPdf**	**19 37 17.8**	**-0.2**
	comp=Z,12nm,1.0s,baz=174,slow=0.8,SNR=10						
FINES	**FINESS Array B**	**152.83**	**326**	PKPbc	**PKPdf**	**19 37 26.4**	**+5.8**
	comp=Z,5.9nm,0.9s,baz=81,slow=2.8,SNR=11						
AKASG	**Malin Array Be**	**154.44**	**301**	PKPbc	**PKPbc**	**19 37 30.9**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=75,slow=2.3,SNR=6.0						
AKASG				PKPab	**PKPab**	**19 37 44.8**	**-1.3**
	comp=Z,6.3nm,0.9s,baz=70,slow=3.5,SNR=14						
MNK	**Minsk**	**154.59**	**310**	*i* PKP	**PKPdf**	**19 37 20.8**	**-2.6**
	comp=E,4.0nm,1.2s						
MNK				*i* PKP	**PKPdf**	**19 37 20.8**	**-2.6**
	comp=N,35nm,0.9s						
MNK				*i* PKP	**PKPdf**	**19 37 20.8**	**-2.6**
	comp=Z,6.0nm,0.9s,baz=255						
MNK				*i* PKiKP	**sPKPdf**	**19 37 30.1**	**-1.2**
MNK				*i* PP	**PP**	**19 41 20.2**	**-2.4**
MNK				*i* PPP	PPP	19 44 50.0	
MNK				*i* SKKS		19 53 00.9	
MNK				*i* SS	**SS**	**20 01 02.8**	**0.0**
MNK				*i* SSS	SSS	20 06 56.1	
MNK				*i* LR	LR	20 48 20.8	
MNK				*i* LRM	MLR	20 50 35.6	
	comp=E,13nm,12.8s						
MNK				*i* LRM	MLR	20 50 35.6	
	comp=Z,80nm,14.7s						
MNK				*i* LRM	MLR	20 50 58.6	
	comp=N,334nm,16.0s						
MNK	**Minsk**	**154.59**	**310**	*i* PKIKP	**PKPdf**	**19 37 20.7**	**-2.6**
MNK				*i*		19 41 20.1	
MNK				*i* PPP	PPP	19 44 50.0	
MNK				*i* SS	SS	20 01 02.8	0.0
MNK				*i* SSS	SSS	20 06 56.1	
MNK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,4.0nm,1.2s						
MNK				pmax	pmax		
	comp=N,35nm,0.9s						
KOLS	**Kolonicke sedl**	**159.11**	**298**	*e*PKP	**PKPab**	**19 38 06.4**	**+0.1**
KOLS	**Kolonicke sedl**	**159.11**	**298**	*e*PKP2	**PKPab**	**19 38 06.4**	**+0.1**
CRVS	**Cervenica-Dubn**	**159.64**	**298**	*e*PKP2	**PKPab**	**19 38 08.9**	**+0.2**
VYHS	**Vyhne**	**161.43**	**298**	*e*PKP	**PKPab**	**19 38 15.8**	**-0.7**
VYHS	**Vyhne**	**161.43**	**298**	*e*PKP2	**PKPab**	**19 38 15.8**	**-0.7**
MORC	**Moravsky Berou**	**161.97**	**303**	*e*PKP	**PKPab**	**19 38 18.9**	**+0.1**
BRG	**Berggiesshubel**	**163.78**	**309**	Amp		19 38 27.5	
	comp=Z,9.3nm,1.1s						
BRG	**Berggiesshubel**	**163.78**	**309**	*e*PKP2	**PKPab**	**19 38 26.5**	**-0.1**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRG	**Berggiesshubel**	**163.78**	**309**	*e*PKP	**PKPab**	**19 38 26.6**	**-0.1**
GERES	**GERESS Array B**	**164.65**	**302**	PKPab	**PKPab**	**19 38 29.9**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=72,slow=4.3,SNR=9.0						
WTTA	**Wattenberg**	**166.42**	**297**	*i* P	**PKPab**	**19 38 38.1**	**-0.5**
	comp=Z,11nm,1.1s						
WATA	**Walderalm**	**166.44**	**298**	*i* P	**PKPab**	**19 38 38.1**	**-0.7**
	comp=Z,8.4nm,1.0s						
SQTA	**Sankt Quirin**	**166.72**	**298**	*i* P	**PKPab**	**19 38 39.3**	**-0.6**
	comp=Z,11nm,1.4s						
FETA	**Feichten**	**167.08**	**297**	*i* P	**PKPab**	**19 38 41.2**	**-0.4**
	comp=Z,9.6nm,1.2s						
ESDC	**Sonseca Array**	**176.87**	**213**	PKP	**PKPdf**	**19 37 41.1**	**-0.8**
	comp=Z,2.0nm,1.1s,baz=63,slow=0.3,SNR=5.2						
ESDC				PKPab	**PKPab**	**19 39 25.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=133,slow=3.8,SNR=4.5						

WEL 14 19:22:55.1±0.7**, 42˚S**±4˚×**17˚4E**±˚**, h9**km±5km**, M3.4**/8**, ML3.6**/8**, MLv3.4**/8**, Error ellipse: s-maj=0.0km s-min=0.0km az=118.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.58**	**7**	P	Pg	19 23 06.3	-0.1
CMWZ	**Cape Campbell**	**0.63**	**31**	P	Pb	19 23 08.4	+0.1
TUWZ	**Tuamarina**	**0.87**	**8**	P	Pg	19 23 11.9	+0.1
TUWZ				S	Sb	19 23 24.3	+0.3
GVZ	**Greta Valley S**	**0.87**	**219**	P	Pg	19 23 12.0	+0.1
GVZ				S	Sb	19 23 24.8	+0.6
AMCZ	**Amberley**	**1.22**	**223**	P	Pb	19 23 17.9	-0.3
LTZ	**Lake Taylor**	**1.22**	**246**	P	Pb	19 23 16.8	-1.6
LTZ				S	Sb	19 23 32.6	-1.5
TKNZ	**Takaka Hill**	**1.40**	**334**	P	Pn	19 23 20.2	-0.6
TKNZ				S	Sg	19 23 39.7	-0.3
DUWZ	**D'Urville Isla**	**1.49**	**4**	P	Pn	19 23 21.5	-0.5
DUWZ				S	Sn	19 23 40.9	-0.7
DSZ	**Denniston Nort**	**1.57**	**290**	P	Pn	19 23 23.4	+0.2
DSZ				S	Sb	19 23 44.1	-0.1
QRZ	**Quartz Range**	**1.74**	**327**	P	Pn	19 23 25.3	-0.2
QRZ				S	Sn	19 23 48.3	+0.6

*NEIC **14** 19:26:47.8±1.1, 42˚16S±0˚04×174˚05E±0˚05, h10km±1km, mb4.4/9, Error ellipse: s-maj=9.0km s-min=3.0km az=141.0*

*WEL **14** 19:26:49.1±0.3, 42˚S±3˚×17˚4E±˚, h5km±3km, M3.7/19, ML4.0/19, MLv3.7/19, Error ellipse: s-maj=0.0km s-min=0.0km az=132.5*

ISC 14 19:26:48.5±1.0**, 42˚11S**±0˚02×**173˚97E**±0˚03**, h16**km±7km**, n113,** σ**1s18**/123**, mb4.4**/5**, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.41**	**350**		**Pg**	**19 26 56.0**	**-0.7**
BSWZ	**Blackbirch Sta**	**0.41**	**350**	P	**Pg**	**19 26 56.4**	**-0.3**
BSWZ				S	**Sg**	**19 27 02.0**	**-0.3**
CMWZ	**Cape Campbell**	**0.41**	**27**		**Pg**	**19 26 57.1**	**+0.4**
CMWZ	**Cape Campbell**	**0.41**	**27**	P	**Pb**	**19 26 58.3**	**+1.0**
CMWZ				S	**Sn**	**19 27 06.8**	**-0.3**
KHZ	**Kahutara**	**0.44**	**226**		**Pb**	**19 26 57.9**	**+0.1**
KHZ	**Kahutara**	**0.44**	**226**	P	**Pb**	**19 26 58.3**	**+0.5**
KHZ				S	**Sb**	**19 27 05.0**	**+0.8**
TUWZ	**Tuamarina**	**0.69**	**358**		**Pg**	**19 27 01.4**	**-0.5**
TUWZ	**Tuamarina**	**0.69**	**358**	P	**Pg**	**19 27 01.8**	**0.0**
THZ	**Tophouse**	**0.87**	**294**	Pg	**Pb**	**19 27 04.2**	**-1.1**
THZ	**Tophouse**	**0.87**	**294**	P	**Pb**	**19 27 04.5**	**-0.7**
TCW	**Tory Channel**	**0.93**	**14**		**Pb**	**19 27 06.0**	**-0.3**
TCW	**Tory Channel**	**0.93**	**14**	P	**Pb**	**19 27 06.4**	**+0.1**
SNZO	**South Karori**	**0.97**	**35**		**Pg**	**19 27 07.8**	**+0.5**
NNZ	**Nelson**	**1.00**	**334**		**Pb**	**19 27 06.7**	**-0.7**
NNZ					**Sb**	**19 27 19.6**	**-0.7**
NNZ	**Nelson**	**1.00**	**334**	P	**Pb**	**19 27 06.8**	**-0.7**
WEL	**Wellington**	**1.02**	**36**	P	**Pg**	**19 27 09.0**	**+0.8**
WEL				S	**Sn**	**19 27 24.3**	**+2.1**
GVZ	**Greta Valley S**	**1.10**	**219**		**Pg**	**19 27 10.1**	**+0.4**
GVZ	**Greta Valley S**	**1.10**	**219**	P	**Pg**	**19 27 10.0**	**+0.3**
GVZ				S	**Sg**	**19 27 26.2**	**+2.2**
PLWZ	**Palliser**	**1.10**	**61**		**Pn**	**19 27 07.8**	**-1.6**
PLWZ	**Palliser**	**1.10**	**61**	P	**Pg**	**19 27 10.1**	**+0.2**
MRNZ	**Matariki Terra**	**1.15**	**308**		**Pn**	**19 27 09.4**	**-0.6**
MRNZ	**Matariki Terra**	**1.15**	**308**	P	**Pb**	**19 27 10.0**	**-0.1**
MRNZ				S	**Sg**	**19 27 25.2**	**-0.6**
MSWZ	**Moikau Station**	**1.19**	**54**		**Pb**	**19 27 10.6**	**0.0**
MSWZ	**Moikau Station**	**1.19**	**54**	P	**Pb**	**19 27 10.9**	**+0.3**
MSWZ				S	**Sg**	**19 27 28.2**	**+1.4**
CAW	**Cannon Point**	**1.30**	**40**	P	**Pb**	**19 27 12.7**	**+0.1**
CAW				S	**Sg**	**19 27 31.3**	**+0.8**
DUWZ	**D'Urville Isla**	**1.31**	**358**	P	**Pb**	**19 27 12.7**	**-0.1**
DUWZ				S	**Sg**	**19 27 31.2**	**+0.3**
PAWZ	**Paruwai Farm**	**1.31**	**57**	P	**Pn**	**19 27 12.5**	**+0.2**
TKNZ	**Takaka Hill**	**1.32**	**325**		**Pn**	**19 27 12.0**	**-0.3**
TKNZ	**Takaka Hill**	**1.32**	**325**	P	**Pb**	**19 27 12.5**	**-0.4**
LTZ	**Lake Taylor**	**1.42**	**241**	Pn	**Pb**	**19 27 14.5**	**-0.2**
LTZ	**Lake Taylor**	**1.42**	**241**	P	**Pb**	**19 27 14.4**	**-0.3**
KIW	**Kapiti Island**	**1.44**	**30**	P	**Pb**	**19 27 15.0**	**+0.1**
AMCZ	**Amberley**	**1.44**	**222**		**Pn**	**19 27 12.6**	**-1.3**
AMCZ	**Amberley**	**1.44**	**222**	P	**Pb**	**19 27 14.2**	**-0.8**
TRWZ	**Traveller**	**1.47**	**61**	P	**Pn**	**19 27 14.4**	**0.0**
MTW	**Mount Morrison**	**1.49**	**51**	P	**Pn**	**19 27 13.4**	**-1.2**
OGWZ	**Otaki Gorge**	**1.58**	**35**	P	**Pn**	**19 27 16.5**	**+0.6**
DSZ	**Denniston Nort**	**1.66**	**282**		**Pb**	**19 27 18.2**	**-0.4**
DSZ	**Denniston Nort**	**1.66**	**282**	P	**Pb**	**19 27 18.7**	**0.0**
HOWZ	**Holdsworth Sta**	**1.68**	**44**	P	**Pn**	**19 27 17.0**	**-0.3**
QRZ	**Quartz Range**	**1.68**	**319**		**Pb**	**19 27 18.8**	**-0.3**
QRZ	**Quartz Range**	**1.68**	**319**	P	**Pb**	**19 27 19.0**	**0.0**
OKCZ	**Okains Bay**	**1.74**	**202**	P	**Pn**	**19 27 18.5**	**+0.4**
TMWZ	**Te Maipa**	**1.76**	**56**	P	**Pn**	**19 27 18.2**	**-0.1**
MQZ	**McQueen's Vall**	**1.86**	**211**		**Pn**	**19 27 18.8**	**-0.9**
MQZ	**McQueen's Vall**	**1.86**	**211**	P	**Pn**	**19 27 18.8**	**-0.9**
OXZ	**Oxford**	**1.87**	**229**		**Pn**	**19 27 19.6**	**-0.2**
OXZ	**Oxford**	**1.87**	**229**	P	**Pn**	**19 27 19.6**	**-0.2**
MRZ	**Mangatainoka R**	**1.89**	**40**		**Pn**	**19 27 20.0**	**-0.2**
MRZ	**Mangatainoka R**	**1.89**	**40**	P	**Pn**	**19 27 20.3**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.92**	**204**	P	**Pn**	**19 27 20.6**	**+0.1**
INZ	**Inchbonnie**	**1.97**	**251**	Pn	**Pb**	**19 27 22.0**	**-1.9**
INZ	**Inchbonnie**	**1.97**	**251**	P	**Pb**	**19 27 22.7**	**-1.2**
RACZ	**Rakaia**	**2.10**	**219**	P	**Pn**	**19 27 22.5**	**-0.5**
OHWZ	**Ohakea**	**2.16**	**29**	P	**Pb**	**19 27 25.8**	**-1.4**
PRWZ	**Pori Road**	**2.17**	**45**	P	**Pn**	**19 27 24.2**	**+0.3**
POWZ	**Post Office Ro**	**2.19**	**39**	P	**Pn**	**19 27 24.9**	**+0.6**
BFZ	**Birch Farm**	**2.23**	**51**	Pn	**Pn**	**19 27 24.6**	**-0.2**
BFZ	**Birch Farm**	**2.23**	**51**	P	**Pn**	**19 27 24.1**	**-0.7**
WACZ	**Wakanui South**	**2.40**	**220**	P	**Pn**	**19 27 27.2**	**0.0**
DVHZ	**Dannevirke**	**2.46**	**43**	P	**Pn**	**19 27 27.3**	**-0.6**
WAZ	**Wanganui**	**2.48**	**18**	P	**Pb**	**19 27 31.7**	**-1.0**
ANWZ	**Angora Road**	**2.51**	**50**	P	**Pn**	**19 27 28.5**	**-0.1**
TSZ	**Takapari Road**	**2.55**	**37**	P	**Pn**	**19 27 29.1**	**0.0**
WVZ	**Waitaha Valley**	**2.57**	**247**	P	**Pn**	**19 27 30.4**	**+1.0**
LREZ	**Lake Rotokare**	**2.67**	**7**	P	**Pb**	**19 27 35.8**	**-0.2**
RPZ	**Rata Peaks**	**2.67**	**232**		**Pn**	**19 27 31.0**	**+0.1**
RPZ	**Rata Peaks**	**2.67**	**232**	P	**Pn**	**19 27 30.8**	**-0.1**
PRHZ	**Porangahau**	**2.73**	**48**	P	**Pn**	**19 27 31.6**	**-0.1**
ARCZ	**Arundel**	**2.75**	**227**	P	**Pn**	**19 27 31.7**	**-0.2**
PNHZ	**Pukenui**	**2.77**	**38**	P	**Pn**	**19 27 31.8**	**-0.5**
NBEZ	**Newall Road No**	**2.84**	**358**	P	**Pb**	**19 27 39.2**	**+0.3**
PKE	**Pukeiti**	**2.92**	**0**	P	**Pb**	**19 27 38.6**	**-1.5**
GCSZ	**Gaunt Creek Bo**	**2.94**	**245**	P	**Pn**	**19 27 36.2**	**+1.7**
VRZ	**Vera Road**	**3.05**	**12**	P	**Pn**	**19 27 38.6**	**+2.6**
BHHZ	**Black Hill Sta**	**3.07**	**32**	P	**Pn**	**19 27 37.3**	**+0.9**
WHVZ	**Whangaehu Hut**	**3.08**	**24**	P	**Pb**	**19 27 40.5**	**-2.7**
FWVZ	**Far West T-bar**	**3.10**	**23**	P	**Pn**	**19 27 39.1**	**+2.2**
TMZ	**Timaru**	**3.13**	**223**	P	**Pn**	**19 27 37.4**	**+0.2**
OTVZ	**Oturere**	**3.22**	**24**	P	**Pn**	**19 27 40.0**	**+1.4**
NNVZ	**North Ngauruho**	**3.23**	**23**	P	**Pb**	**19 27 42.5**	**-3.1**
WTVZ	**West Tongariro**	**3.24**	**23**	P	**Pn**	**19 27 40.7**	**+1.9**
ETVZ	**East Tongariro**	**3.26**	**25**	P	**Pn**	**19 27 40.8**	**+1.8**
KRVZ	**Karewarewa**	**3.27**	**23**	P	**Pn**	**19 27 41.6**	**+2.4**
TMVZ	**Te Maari**	**3.27**	**24**	P	**Pn**	**19 27 41.3**	**+2.0**
NTVZ	**North Tongarir**	**3.28**	**24**	P	**Pn**	**19 27 41.1**	**+1.7**
FOZ	**Fox Glacier**	**3.37**	**244**	Pn	**Pn**	**19 27 40.8**	**+0.4**
FOZ	**Fox Glacier**	**3.37**	**244**	P	**Pn**	**19 27 41.9**	**+1.5**
BKZ	**Black Stump Fm**	**3.52**	**34**	Pn	**Pn**	**19 27 41.4**	**-1.1**
LBZ	**Lake Benmore**	**3.58**	**229**	Pn	**Pn**	**19 27 43.5**	**+0.2**
HIZ	**Hauiti**	**3.66**	**11**	Pn	**Pn**	**19 27 44.2**	**-0.3**
HIZ	**Hauiti**	**3.66**	**11**	P	**Pn**	**19 27 47.7**	**+3.3**
ODZ	**Otahua Downs**	**3.80**	**218**	Pn	**Pn**	**19 27 46.1**	**-0.2**
ODZ	**Otahua Downs**	**3.80**	**218**	P	**Pn**	**19 27 45.8**	**-0.5**
KNZ	**Kokohu**	**4.18**	**44**	P	**Pb**	**19 27 57.8**	**-3.9**
JCZ	**Jackson Bay**	**4.27**	**241**	P	**Pn**	**19 27 54.2**	**+1.3**
RIGZ	**Rimuhau**	**4.47**	**42**	P	**Pn**	**19 27 56.6**	**+1.0**
HHSZ	**Highcliff Hill**	**4.49**	**212**	P	**Pn**	**19 27 55.5**	**-0.3**
WKZ	**Wanaka**	**4.51**	**231**	Pn	**Pn**	**19 27 55.9**	**-0.3**
MWZ	**Matawai**	**4.66**	**37**	P	**Pn**	**19 28 02.7**	**+4.6**
AWAZ	**Awhitu Peninsu**	**5.07**	**6**	P	**Pn**	**19 28 06.5**	**+2.7**
MKAZ	**Moumakai**	**5.09**	**11**	P	**Pn**	**19 28 05.8**	**+1.7**
MLZ	**Mavora Lakes**	**5.34**	**231**	Pn	**Pn**	**19 28 06.3**	**-1.2**
DCZ	**Deep Cove**	**5.96**	**234**	Pn	**Pn**	**19 28 16.2**	**+0.2**
MARNC	**Mare, Loyalty**	**21.17**	**345**	P	**P**	**19 31 33.5**	**+0.5**
WR0	**Warramunga Arr**	**39.88**	**291**	P	**P**	**19 34 19.9**	**-1.7**
WR0				IAmb	IAmb	19 34 33.8	
	comp=Z,5.8nm,1.1s						
WB2	**Warramunga Arr**	**40.03**	**291**	P	**P**	**19 34 22.4**	**-0.4**
WB2				IAmb	IAmb	19 34 27.6	
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	**40.04**	**291**	P	**P**	**19 34 22.1**	**-0.8**
WB0	**Warramunga Arr**	**40.12**	**291**	P	**P**	**19 34 23.0**	**-0.6**
WB0				IAmb	IAmb	19 34 59.6	
	comp=Z,13nm,1.5s						
RABL	**Rabaul**	**42.48**	**327**	P	**P**	**19 34 42.7**	**-0.3**
RABL				IAmb	IAmb	19 34 47.0	
	comp=Z,31nm,1.4s						
MTN	**Manton Dam**	**47.18**	**295**	P	**P**	**19 35 20.4**	**0.0**
MORW	**Morawa**	**48.03**	**266**	P	**P**	**19 35 26.7**	**-0.3**
MORW				IAmb	IAmb	19 35 52.6	
	comp=Z,5.9nm,0.9s						
MBWA	**Marble Bar**	**49.79**	**277**	P	**P**	**19 35 40.6**	**+0.1**

*NEIC **14** 19:32:44.6±0.6, 21˚9S±0˚5×179˚0W±0˚3, h615km±33km, mb4.1/13, Error ellipse: s-maj=69.8km s-min=39.1km az=199.0*

*IDC **14** 19:32:47.3±4.6, 21˚72S×179˚60W, h606km±29km, mb3.2/4, mbtmp4.2/5, Error ellipse: s-maj=87.0km s-min=32.8km az=129.0*

ISC 14 19:32:48.5±4.0**, 21˚8S**±0˚2×**179˚8W**±0˚5**, h600**km**, n21,** σ**0s51**/21**, mb4.0**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.52**	**333**	P	**P**	**19 34 17.7**	**-0.1**
	26nm,0.4s,baz=179,slow=5.1,SNR=65						
MSVF				S	**S**	**19 35 30.5**	**-0.1**
	1.8nm,0.5s,baz=203,slow=22,SNR=0.8						
MSVF	**Nonsavu**	**4.52**	**333**	P	**P**	**19 34 17.6**	**-0.2**
CTAO	**Charters Tower**	**31.68**	**267**	P	**P**	**19 38 25.7**	**+1.0**
CTAO				IAmb	IAmb	19 38 26.3	
	comp=Z,3.9nm,0.6s						
STKA	**Stephens Creek**	**35.68**	**245**	P	**P**	**19 38 58.4**	**+0.4**
	comp=Z,2.8nm,0.5s,baz=94,slow=9.3,SNR=10						
	comp=Z,2.8nm,0.5s						
STKA	**Stephens Creek**	**35.68**	**245**	P	**P**	**19 38 58.0**	**0.0**
BBOO	**Buckleboo**	**40.44**	**245**	P	**P**	**19 39 36.2**	**-0.2**
WR0	**Warramunga Arr**	**42.55**	**264**	P	**P**	**19 39 53.0**	**-0.2**
WR0				IAmb	IAmb	19 39 55.8	
	comp=Z,4.1nm,1.1s						
AS31	**Alice Springs**	**42.56**	**258**	P	**P**	**19 39 53.3**	**-0.1**
ASAR	**Alice Springs**	**42.56**	**258**	P	**P**	**19 39 53.5**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=100,slow=8.1,SNR=58						
	comp=Z,3.1nm,0.5s						
ASAR	**Alice Springs**	**42.56**	**258**	P	**P**	**19 39 52.7**	**-0.6**
WB0	**Warramunga Arr**	**42.72**	**264**	P	**P**	**19 39 54.3**	**-0.2**
WB0				IAmb	IAmb	19 39 55.0	
	comp=Z,3.4nm,0.7s						
WB2	**Warramunga Arr**	**42.73**	**264**	P	**P**	**19 39 54.6**	**0.0**
WB2				IAmb	IAmb	19 39 55.0	
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**42.74**	**264**	P	**P**	**19 39 54.4**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=96,slow=8.0,SNR=57						
	comp=Z,1.2nm,0.3s						
WRA	**Warramunga Arr**	**42.74**	**264**	P	**P**	**19 39 54.2**	**-0.5**
MTN	**Manton Dam**	**47.48**	**272**	P	**P**	**19 40 30.9**	**0.0**
KNRA	**Kununurra**	**48.88**	**268**	P	**P**	**19 40 41.5**	**+0.3**
SOEI	**Soe**	**54.84**	**273**	P	**P**	**19 41 23.4**	**-0.7**
SOEI				IAmb	IAmb	19 41 30.9	
	comp=Z,9.8nm,0.7s						
PSA00	**Pilbara Seismi**	**55.71**	**258**	P	**P**	**19 41 29.1**	**-0.8**
PSA00				IAmb	IAmb	19 41 56.9	

comp=Z,6.6nm,1.2s
MBWA Marble Bar 55.91 259 P **P** 19 41 30.6 **-0.6**
MBWA IAmb IAmb 19 41 31.1
comp=Z,32nm,1.4s
CMAR Chiang Mai Arr 88.95 290 P **P** **19 44 41.7 +1.0**
comp=Z,0.7nm,0.8s,baz=128,slow=3.2,SNR=7.3
comp=Z,0.7nm,0.8s
AKASG Malin Array Be 143.28 329 PKP PKPab 19 51 10.9 -2.6
comp=Z,0.5nm,0.3s,baz=42,slow=3.6,SNR=6.5

WEL 14 19:33:39.0±0.5, 43°S±2°×17°3E±°, h6km±3km, M3.6/10, ML3.9/10, MLv3.6/10, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.11**	**134**	P	Pg	19 33 41.5	+0.1
GVZ				S	Sg	19 33 44.1	+1.0
AMCZ	**Amberley**	**0.35**	**215**	P	Pb	19 33 47.1	-0.6
AMCZ				S	Sb	19 33 53.3	-0.2
LTZ	**Lake Taylor**	**0.49**	**282**	P	Pg	19 33 48.9	+0.4
LTZ				S	Sb	19 33 56.5	-1.1
KHZ	**Kahutara**	**0.65**	**44**	P	Pb	19 33 52.8	0.0
OXZ	**Oxford**	**0.78**	**236**	P	Pb	19 33 54.8	-0.2
OKCZ	**Okains Bay**	**0.84**	**173**	P	Pb	19 33 55.8	-0.2
MQZ	**McQueen's Vall**	**0.84**	**194**	P	Pg	19 33 54.9	-0.2
AKCZ	**Akaroa Harbour**	**0.98**	**181**	P	Pg	19 33 57.4	-0.5
RACZ	**Rakaia**	**1.01**	**214**	P	Pg	19 33 58.0	-0.5
INZ	**Inchbonnie**	**1.10**	**278**	P	Pb	19 34 00.7	+0.2
THZ	**Tophouse**	**1.13**	**359**	P	Pg	19 34 00.2	-0.4
WACZ	**Wakanui South**	**1.32**	**217**	P	Pn	19 34 02.3	-1.6
BSWZ	**Blackbirch Sta**	**1.37**	**31**	P	Pn	19 34 04.6	-0.1
DSZ	**Denniston Nort**	**1.42**	**324**	P	Pn	19 34 05.2	-0.1
MRNZ	**Matariki Terra**	**1.50**	**355**	P	Pb	19 34 06.9	-0.2
RPZ	**Rata Peaks**	**1.60**	**238**	P	Pn	19 34 06.6	-1.1
WVZ	**Waitaha Valley**	**1.62**	**263**	P	Pn	19 34 07.7	-0.3
ARCZ	**Arundel**	**1.66**	**230**	P	Pn	19 34 07.1	-1.5
NNZ	**Nelson**	**1.71**	**12**	P	Pn	19 34 09.7	+0.4
TKNZ	**Takaka Hill**	**1.85**	**1**	P	Pn	19 34 12.1	+0.7
GCSZ	**Gaunt Creek Bo**	**1.95**	**257**	P	Pn	19 34 12.7	+0.1
TMZ	**Timaru**	**2.04**	**222**	P	Pn	19 34 14.1	+0.2
DUWZ	**D'Urville Isla**	**2.21**	**20**	P	Pb	19 34 18.3	-1.1
FOZ	**Fox Glacier**	**2.36**	**253**	P	Pn	19 34 18.3	0.0
LBZ	**Lake Benmore**	**2.49**	**232**	P	Pn	19 34 18.8	-1.3
ODZ	**Otahua Downs**	**2.71**	**217**	P	Pn	19 34 21.3	-1.8
JCZ	**Jackson Bay**	**3.24**	**247**	P	Pn	19 34 29.8	-0.7
EAZ	**Earnscleugh**	**3.50**	**227**	P	Pn	19 34 32.3	-1.7
MOVZ	**Moawhango**	**4.08**	**32**	P	Pn	19 34 40.1	-1.9
MLZ	**Mavora Lakes**	**4.26**	**233**	P	Pn	19 34 42.8	-1.5
KATZ	**Kakaramea**	**4.44**	**29**	P	Pn	19 34 47.9	+0.9
RATZ	**Rangitukua**	**4.56**	**29**	P	Pn	19 34 50.4	+1.9
HIZ	**Hauiti**	**4.61**	**19**	P	Pn	19 34 50.9	+1.7
NMHZ	**Naumai**	**4.79**	**39**	P	Pb	19 34 57.7	-5.7
APZ	**The Paps**	**5.28**	**220**	P	Pn	19 34 56.7	-1.7
TGRZ	**Tauranga**	**5.75**	**27**	P	Pn	19 35 04.6	-0.2

ROM 14 19:35:58.7±0.1, 42°983N±0.005×13°157E±0.006, h10km, ML1.8/17, 7C-4D, Error ellipse: s-maj=0.5km s-min=0.4km az=209.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1256	**Bologna (MC)**	**0.06**	**66**	⇑P	Pg	19 36 01.0	0.0
T1256				AML	AML		
	comp=E,686μm,0.5s						
T1256				AML	AML		
	comp=N,848μm,0.9s						
T1256				AML	AML		
	comp=E,690μm,0.5s						
T1256				AML	AML		
	comp=N,848μm,0.9s						
T1256				AML	AML		
	comp=N,839μm,0.9s						
T1256				AML	AML		
	comp=E,690μm,0.5s						
FDMO	**Fiordimonte**	**0.07**	**316**	AML	AML		
	comp=E,1880μm,0.2s						
FDMO				AML	AML		
	comp=N,1470μm,0.2s						
CSP1	**Cessapalombo**	**0.11**	**18**	⇑P	Pg	19 36 01.1	-0.6
CSP1				AML	AML		
	comp=E,840μm,1.3s						
CSP1				AML	AML		
	comp=N,774μm,1.4s						
T1245	**Castelsantange**	**0.13**	**170**	⇓P	Pg	19 36 02.5	+0.6
T1245				S	Sg	19 36 04.3	+0.2
T1245				AML	AML		
	comp=E,2630μm,0.4s						
T1245				AML	AML		
	comp=N,2525μm,0.2s						
T1245				AML	AML		
	comp=E,2475μm,1.3s						
T1245				AML	AML		
	comp=N,2760μm,0.7s						
T1245				AML	AML		
	comp=N,2755μm,0.7s						
T1245				AML	AML		
	comp=E,2635μm,0.4s						
T1219	**Muccia, Frazio**	**0.13**	**304**	AML	AML		
	comp=E,464μm,0.3s						
T1219				AML	AML		
	comp=N,520μm,1.1s						
T1216	**Preci, Frazion**	**0.14**	**228**	P	Pg	19 36 02.4	+0.5
T1216				S	Sg	19 36 05.3	+1.2
T1216				AML	AML		
	comp=E,890μm,0.2s						
T1216				AML	AML		
	comp=N,1526μm,0.2s						
MMO1	**Montemonaco**	**0.15**	**124**	⇓P	Pb	19 36 02.9	-0.8
MMO1				S	Sg	19 36 05.9	+1.4
GUMA	**Gualdo di Mace**	**0.15**	**59**	⇑P	Pg	19 36 02.9	+0.8
GUMA				AML	AML		
	comp=E,808μm,0.4s						
GUMA				AML	AML		
	comp=N,688μm,0.4s						
NRCA	**Norcia**	**0.15**	**192**	⇑P	Pg	19 36 02.7	+0.6
NRCA				AML	AML		
	comp=N,2115μm,1.1s						
NRCA				AML	AML		
	comp=E,3570μm,0.1s						
NRCA				AML	AML		
	comp=N,2230μm,1.1s						
NRCA				AML	AML		
	comp=E,3360μm,0.2s						
NRCA				AML	AML		
	comp=N,2110μm,1.1s						
CESI	**CESI - Serrava**	**0.19**	**277**	P	Pg	19 36 03.2	+0.5
CESI				S	Sg	19 36 06.6	+1.1
CESI				AML	AML		
	comp=N,956μm,0.2s						
CESI				AML	AML		
	comp=N,956μm,0.2s						
CESI				AML	AML		
	comp=E,637μm,0.2s						
T1241	**Roccafluvione,**	**0.24**	**122**	P	Pb	19 36 04.5	-0.6
T1241				S	Sg	19 36 08.5	+1.6
T1241				AML	AML		
	comp=E,524μm,0.2s						
T1241				AML	AML		
	comp=N,270μm,0.1s						
T1215	**Vallo di Nera,**	**0.28**	**230**	P	Pb	19 36 05.3	-0.5
SNTG	**Esanatoglia**	**0.31**	**330**	P	Pg	19 36 05.6	+0.6
SNTG				AML	AML		
	comp=E,86μm,0.3s						
SNTG				AML	AML		
	comp=N,78μm,0.7s						
SNTG				AML	AML		
	comp=N,78μm,0.7s						
T1218	**Civita (PG)**	**0.32**	**186**	⇓P	Pg	19 36 05.0	0.0
T1218				AML	AML		
	comp=N,306μm,0.3s						
T1218				AML	AML		
	comp=E,354μm,0.9s						
EL6	**Elcito**	**0.35**	**353**	P	Pb	19 36 06.5	-0.5
T1243	**Rocca Santa Ma**	**0.36**	**143**	⇓P	Pg	19 36 06.0	+0.2
ASSB	**Assisi San Ben**	**0.37**	**279**	P	Pg	19 36 06.6	+0.6
SMA1	**SAN MARTINO**	**0.38**	**159**	⇑P	Pg	19 36 06.2	0.0
SMA1				AML	AML		
	comp=E,122μm,0.5s						
SMA1				AML	AML		
	comp=N,128μm,0.3s						
LNSS	**Leonessa**	**0.39**	**193**	P	Pg	19 36 06.5	+0.1
LNSS				AML	AML		
	comp=E,42μm,1.3s						
LNSS				AML	AML		
	comp=N,176μm,0.1s						
CING	**Cingoli**	**0.39**	**4**	⇑P	Pg	19 36 07.0	+0.6
CING				AML	AML		
	comp=E,98μm,0.3s						
CING				AML	AML		
	comp=N,68μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.43**	**298**	⇑P	Pb	19 36 07.8	-0.6
ATCC				AML	AML		
	comp=N,127μm,0.6s						
ATCC				AML	AML		
	comp=E,160μm,1.1s						
RM33	**Pellescritta (**	**0.48**	**175**	P	Pg	19 36 07.8	-0.2
RM33				AML	AML		
	comp=E,55μm,1.5s						
RM33				AML	AML		
	comp=N,58μm,0.1s						
CAMP	**Campotosto**	**0.48**	**157**	P	Pg	19 36 08.0	-0.2
CAMP				AML	AML		
	comp=N,84μm,0.2s						
CAMP				AML	AML		
	comp=E,60μm,0.2s						
TERO	**Teramo**	**0.49**	**137**	P	Pg	19 36 08.3	+0.1
TERO				AML	AML		
	comp=E,75μm,1.1s						
TERO				AML	AML		
	comp=N,87μm,1.4s						
ARRO	**Arrone**	**0.50**	**216**	P	Pb	19 36 09.2	-0.3
GIGS	**Gran Sasso**	**0.61**	**150**	P	Pg	19 36 10.2	-0.4

WEL 14 19:37:11.3±0.5, 42°S±3°×17°4E±°, h10km±4km, M3.5/26, ML3.0/12, MLv3.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=151.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.30**	**259**	P	Pg	19 37 17.9	+0.5
TUWZ	**Tuamarina**	**0.34**	**313**	P	Pb	19 37 19.0	-0.3
TUWZ				S	Sb	19 37 24.6	-0.1
TCW	**Tory Channel**	**0.45**	**0**	P	Pb	19 37 20.7	-0.5
BHW	**Baring Head**	**0.52**	**61**	P	Pb	19 37 21.9	-0.5
BHW				S	Sb	19 37 29.7	-0.2
WEL	**Wellington**	**0.53**	**45**	P	Pg	19 37 21.9	+0.4
PLWZ	**Palliser**	**0.74**	**83**	P	Pb	19 37 26.1	-0.2
MSWZ	**Moikau Station**	**0.77**	**72**	P	Pb	19 37 26.9	+0.1
NNZ	**Nelson**	**0.80**	**303**	P	Pb	19 37 27.0	-0.2
CAW	**Cannon Point**	**0.81**	**48**	P	Pb	19 37 27.2	-0.2
MTW	**Mount Morrison**	**1.05**	**62**	P	Pg	19 37 30.6	-0.9
OGWZ	**Otaki Gorge**	**1.08**	**39**	P	Pb	19 37 31.8	-0.2
MRNZ	**Matariki Terra**	**1.17**	**282**	P	Pb	19 37 33.5	0.0
GVZ	**Greta Valley S**	**1.60**	**215**	P	Pn	19 37 39.1	-0.4
LTZ	**Lake Taylor**	**1.86**	**232**	P	Pn	19 37 42.6	-0.7
AMCZ	**Amberley**	**1.93**	**218**	P	Pn	19 37 44.9	+0.7
OKCZ	**Okains Bay**	**2.25**	**203**	P	Pb	19 37 50.7	-1.2
OXZ	**Oxford**	**2.35**	**224**	P	Pn	19 37 50.1	+0.3
INZ	**Inchbonnie**	**2.35**	**242**	P	Pb	19 37 53.2	-0.6
MQZ	**McQueen's Vall**	**2.37**	**210**	P	Pn	19 37 50.7	+0.6
AKCZ	**Akaroa Harbour**	**2.43**	**204**	P	Pn	19 37 52.6	+1.6
MOVZ	**Moawhango**	**2.52**	**27**	P	Pn	19 37 53.0	+0.8
RACZ	**Rakaia**	**2.60**	**217**	P	Pn	19 37 53.4	+0.2
WACZ	**Wakanui South**	**2.90**	**217**	P	Pn	19 37 57.7	+0.3
WVZ	**Waitaha Valley**	**2.98**	**240**	P	Pn	19 38 01.1	+2.7
RPZ	**Rata Peaks**	**3.14**	**228**	P	Pn	19 38 01.2	+0.5
ARCZ	**Arundel**	**3.23**	**224**	P	Pn	19 38 02.2	+0.2
GCSZ	**Gaunt Creek Bo**	**3.35**	**239**	P	Pn	19 38 06.6	+2.9
TMZ	**Timaru**	**3.62**	**220**	P	Pn	19 38 07.5	+0.1
FOZ	**Fox Glacier**	**3.79**	**239**	P	Pn	19 38 12.2	+2.6
MKRZ	**Makatiti**	**3.90**	**26**	P	Pn	19 38 14.2	+2.9
LBZ	**Lake Benmore**	**4.05**	**226**	P	Pn	19 38 13.8	+0.5
ODZ	**Otahua Downs**	**4.29**	**217**	P	Pn	19 38 16.4	-0.2
HHSZ	**Highcliff Hill**	**4.99**	**211**	P	Pn	19 38 26.6	+0.4
EAZ	**Earnscleugh**	**5.08**	**224**	P	Pn	19 38 27.7	+0.3

*IDC **14** 19:40:36.5±0.8, 53°.78N×163°.43W, h0km, mb4.4/30, mbtmp4.3/33, ML3.6/3, MS4.1/57, Error ellipse: s-maj=21.0km s-min=12.4km az=170.0*
*BJI **14** 19:40:38.1±0.0, 54°.10N×163°.98W, h10km, mb4.7/32, mB4.9/16, Ms4.9/20, Ms7 4.6/20*
*AEIC **14** 19:40:41.7±3.3, 53°.56N±0°.04×163°.28W±0°.07, h3km±4km, Error ellipse: s-maj=6.5km s-min=6.0km az=166.0*
*NEIC **14** 19:40:41.2±2.0, 53°.71N±0°.09×163°.37W±0°.09, h29km±5km, mb4.5/150, ML4.2/10, ML4.0(AEIC), Error ellipse: s-maj=13.3km s-min=6.8km az=168.0*
ISC 14 19:40:40.6±0.5, 53°70N±0°.06×163°33W±0°.05, h29km, n501, σ1s26/464, mb4.5/103, MS4.2/67, 3C-1D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.16**	**357**		**Pb**	**19 41 01.9**	**-0.1**
FALS	**False Pass**	**1.16**	**357**		**Sb**	**19 41 17.8**	**+1.2**
FALS	**False Pass**	**1.16**	**357**	P	**Pb**	**19 41 02.2**	**+0.2**
	baz=177,SNR=46						
AKUT	**Akutan**	**1.51**	**288**		**Pn**	**19 41 06.3**	**+0.7**
AKUT				IAML		19 41 32.4	
	comp=E,2μm,0.7s						
AKUT				IAML		19 41 32.9	
	comp=N,2μm,0.6s						
UNV	**Unalaska Valle**	**1.89**	**276**		**Pn**	**19 41 10.3**	**-0.6**
UNV	**Unalaska Valle**	**1.89**	**276**	P	**Pn**	**19 41 10.7**	**-0.2**
	baz=97,SNR=17						
SDPT	**Sand Point**	**2.34**	**44**	Pn	**Pn**	**19 41 17.6**	**+0.5**
SDPT				IAML		19 42 03.8	
	comp=E,2μm,1.2s						
SDPT	**Sand Point**	**2.34**	**44**	P	**Pn**	**19 41 17.5**	**+0.4**
	baz=224,SNR=19						
CNBA	**Chernabura Isl**	**2.46**	**61**		**Pn**	**19 41 18.3**	**-0.4**
CHNA	**Chernabura Isl**	**2.47**	**61**	P	**Pn**	**19 41 18.4**	**-0.4**
	baz=241						
NIKH	**Nikolski High**	**3.39**	**260**		**Sn**	**19 42 09.7**	**-1.1**
NIKH	**Nikolski High**	**3.39**	**260**	Pn	**Pn**	**19 41 33.1**	**+1.6**
NIKH	**Nikolski High**	**3.39**	**260**	P	**Pn**	**19 41 30.5**	**-1.0**
	baz=78						
CHGN	**Chignik**	**3.85**	**45**	Pn	**Pn**	**19 41 38.5**	**+0.8**
CHGN				IAML		19 42 53.0	
	comp=E,420nm,1.4s						
CHGN				IAML		19 44 10.1	
	comp=N,473nm,0.1s						
CHGN	**Chignik**	**3.85**	**45**	P	**Pn**	**19 41 38.9**	**+1.2**
	baz=228						
CLES	**Cleveland East**	**4.04**	**260**	Pn	**Pn**	**19 41 40.3**	**-0.1**
CHIR	**Chirikof Islan**	**4.94**	**61**		**Pn**	**19 41 51.8**	**-1.0**
CHIR	**Chirikof Islan**	**4.94**	**61**	IAML		19 43 46.3	
	comp=N,237nm,2.2s						
CHIR	**Chirikof Islan**	**4.94**	**61**	P	**Pn**	**19 41 52.3**	**-0.4**
	baz=246						
R16K	**Pilot Point**	**5.06**	**38**	P	**Pn**	**19 41 55.1**	**+0.7**
	baz=221						
SPIA	**Saint Paul Isl**	**5.26**	**314**	Pn	**Pn**	**19 41 57.3**	**+0.2**
SII	**Sitkinak Islan**	**5.98**	**58**		**Pn**	**19 42 06.3**	**-0.8**
SII	**Sitkinak Islan**	**5.98**	**58**	P	**Pn**	**19 42 06.2**	**-0.8**
	baz=244						
Q17K	**Contact Creek**	**6.19**	**39**	P	**Pn**	**19 42 10.9**	**+0.9**
	baz=225						
O16K	**Kokwok River B**	**6.58**	**24**	P	**Pn**	**19 42 16.4**	**+1.3**
	baz=208						
P17K	**Kvichak River**	**6.70**	**32**	P	**Pn**	**19 42 16.6**	**-0.2**
	baz=217						
OHAK	**Old Harbor**	**6.71**	**54**	Pn	**Pn**	**19 42 15.7**	**-1.4**
OHAK	**Old Harbor**	**6.71**	**54**	P	**Pn**	**19 42 16.3**	**-0.7**
	baz=241						
Q18K	**Katmai Hardscr**	**6.79**	**40**	P	**Pn**	**19 42 17.6**	**-0.7**
	baz=226,SNR=5.5						
O17K	**Koliganek Bris**	**6.99**	**27**	P	**Pn**	**19 42 20.4**	**-0.4**
	baz=211						
N16K	**Nishlik Lake**	**7.23**	**18**	P	**Pn**	**19 42 24.4**	**+0.2**
	baz=202						
P18K	**Big Mountain,**	**7.25**	**35**	Pn	**Pn**	**19 42 25.6**	**+1.1**
P18K	**Big Mountain,**	**7.25**	**35**	P	**Pn**	**19 42 24.0**	**-0.4**
	baz=221						
KDAK	**Kodiak Island**	**7.31**	**52**	Pn	**Pn**	**19 42 23.8**	**-1.5**
	comp=N,1.2nm,0.3s,baz=248,slow=8.5,SNR=19						
KDAK				Sn	**Sn**	**19 43 39.9**	**-7.3**
	comp=N,1.1nm,0.3s,baz=300,slow=21,SNR=6.2						
	comp=N,7.9nm,0.6s						
KDAK	**Kodiak Island**	**7.31**	**52**	Pn	**Pn**	**19 42 24.2**	**-1.1**
KDAK	**Kodiak Island**	**7.31**	**52**	P	**Pn**	**19 42 24.7**	**-0.6**
	baz=240						
Q19K	**Cape Douglas,**	**7.51**	**42**	Pn	**Pn**	**19 42 27.5**	**-0.6**
Q19K	**Cape Douglas,**	**7.51**	**42**	P	**Pn**	**19 42 29.0**	**+0.9**
	baz=229						
O18K	**Koktuh Hills**	**7.61**	**33**	Pn	**Pn**	**19 42 31.3**	**+2.0**
O18K	**Koktuh Hills**	**7.61**	**33**	P	**Pn**	**19 42 30.1**	**+0.7**
	baz=219						
Q20K	**Shuyak Island**	**7.84**	**47**	P	**Pn**	**19 42 32.5**	**0.0**
	baz=235						
N18K	**Kilae Creek**	**8.08**	**27**	Pn	**Pn**	**19 42 38.3**	**+2.5**
N18K	**Kilae Creek**	**8.08**	**27**	P	**Pn**	**19 42 36.8**	**+1.0**
	baz=213						
P19K	**Oil Pt**	**8.15**	**39**	P	**Pn**	**19 42 37.1**	**+0.3**
	baz=227						
O19K	**Port Alsworth**	**8.16**	**33**	P	**Pn**	**19 42 37.3**	**+0.4**
	baz=220						
ADK	**Adak**	**8.30**	**263**	Pn	**Pn**	**19 42 38.8**	**0.0**
ILSW	**Iliamna Southw**	**8.41**	**37**	Pn	**Pn**	**19 42 41.8**	**+1.4**
SVW2	**Sparrevohn**	**8.51**	**26**	Pn	**Pn**	**19 42 44.1**	**+2.4**
KIWB	**Kanaga Island**	**8.58**	**263**	Pn	**Pn**	**19 42 42.7**	**-0.1**
N19K	**Bonanza Creek**	**8.59**	**30**		**Pn**	**19 42 45.2**	**+2.4**
N19K	**Bonanza Creek**	**8.59**	**30**	P	**Pn**	**19 42 43.4**	**+0.5**
	baz=217						
O20K	**Slope Mountain**	**8.67**	**38**	P	**Pn**	**19 42 43.9**	**0.0**
	baz=226						
CNPM	**China Poot**	**8.86**	**44**	Pn	**Pn**	**19 42 46.6**	**+0.1**
BRLK	**Bradley Lake**	**9.14**	**43**	Pn	**Pn**	**19 42 48.2**	**-2.1**
BRSE	**Bradley Lake S**	**9.19**	**44**	P	**Pn**	**19 42 51.0**	**0.0**
	baz=234						
M19K	**Big River Lodg**	**9.50**	**26**	Pn	**Pn**	**19 42 57.2**	**+1.9**
N20K	**Mount Spurr**	**9.60**	**34**	P	**Pn**	**19 42 56.1**	**-0.7**
	baz=223						
L19K	**White Mountain**	**9.62**	**24**	Pn	**Pn**	**19 42 59.6**	**+2.8**
SPU	**Mount Spurr**	**9.64**	**34**	Pn	**Pn**	**19 42 59.1**	**+1.9**
M20K	**Styx River**	**9.83**	**29**		**Pn**	**19 42 59.9**	**0.0**
M20K	**Styx River**	**9.83**	**29**	P	**Pn**	**19 43 03.2**	**+3.3**
	baz=218						
SEW	**Seward**	**9.93**	**44**	Pn	**Pn**	**19 43 00.0**	**-1.0**
TTA	**Tatalina**	**10.02**	**20**	Pn	**Pn**	**19 43 04.0**	**+1.6**
TTA	**Tatalina**	**10.02**	**20**	P	**Pn**	**19 43 04.7**	**+2.3**
	baz=205						
L20K	**Farewell, AK**	**10.11**	**26**	P	**Pn**	**19 43 06.7**	**+3.0**
	baz=213						
SUA	**Susitna One**	**10.29**	**36**		**Pn**	**19 43 06.6**	**+0.5**
SUA	**Susitna One**	**10.29**	**36**	P	**Pn**	**19 43 05.4**	**-0.8**
	baz=226						
SKT	**Skwentna**	**10.40**	**32**	Pn	**Pn**	**19 43 07.6**	**+0.1**
SKT	**Skwentna**	**10.40**	**32**	P	**Pn**	**19 43 07.1**	**-0.4**
	baz=222						
RC01	**Rabbit Creek A**	**10.40**	**39**	Pn	**Pn**	**19 43 07.8**	**+0.2**
RC01	**Rabbit Creek A**	**10.40**	**39**	P	**Pn**	**19 43 07.6**	**0.0**
	baz=230						
K20K	**Telida**	**10.81**	**23**		**Pn**	**19 43 13.8**	**+0.6**
K20K	**Telida**	**10.81**	**23**	P	**Pn**	**19 43 13.5**	**+0.3**
	baz=210						
PWL	**Port Wells**	**10.81**	**42**	Pn	**Pn**	**19 43 12.0**	**-1.3**
PWL	**Port Wells**	**10.81**	**42**	P	**Pn**	**19 43 12.5**	**-0.7**
	baz=234						
AMKA	**Amchitka**	**10.83**	**265**	Pn	**Pn**	**19 43 14.4**	**+0.9**
PPLA	**Purkeypile**	**10.91**	**28**	Pn	**Pn**	**19 43 16.8**	**+2.1**
PPLA	**Purkeypile**	**10.91**	**28**	P	**Pn**	**19 43 14.8**	**+0.2**
	baz=217						
KNK	**Knik Glacier**	**11.09**	**40**	Pn	**Pn**	**19 43 17.1**	**+0.1**
KNK	**Knik Glacier**	**11.09**	**40**	P	**Pn**	**19 43 17.0**	**-0.1**
	baz=232						
CUT	**Chulitna**	**11.11**	**33**	Pn	**Pn**	**19 43 19.8**	**+2.5**
CUT	**Chulitna**	**11.11**	**33**	P	**Pn**	**19 43 18.0**	**+0.7**
	baz=224						
GHO	**Glory Hole Cre**	**11.14**	**38**	Pn	**Pn**	**19 43 15.8**	**-2.0**
CAST	**Castle Rocks**	**11.36**	**26**	Pn	**Pn**	**19 43 20.4**	**-0.3**
CAST	**Castle Rocks**	**11.36**	**26**	P	**Pn**	**19 43 21.1**	**+0.4**
	baz=216						
SML	**Sawmill**	**11.38**	**39**	Pn	**Pn**	**19 43 19.2**	**-1.9**
SML	**Sawmill**	**11.38**	**39**	P	**Pn**	**19 43 20.0**	**-1.0**
	baz=231						
J20K	**Nowinta River**	**11.51**	**21**	Pn	**Pn**	**19 43 24.5**	**+1.7**
J20K	**Nowinta River**	**11.51**	**21**	P	**Pn**	**19 43 23.7**	**+1.0**
	baz=208						
GCSA	**Galena City Sc**	**11.55**	**14**	P	**Pn**	**19 43 24.0**	**+0.7**
	baz=199						
M23K	**Glacier View**	**11.60**	**39**	P	**Pn**	**19 43 24.4**	**+0.4**
	baz=232						
CHUM	**Lake Minchumin**	**11.68**	**25**	P	**Pn**	**19 43 25.7**	**+0.7**
	baz=214						
EYAK	**Cordova Ski Ar**	**11.73**	**47**	Pn	**Pn**	**19 43 25.4**	**-0.3**
EYAK	**Cordova Ski Ar**	**11.73**	**47**	P	**Pn**	**19 43 25.2**	**-0.6**
	baz=241						
SCM	**Sheep Creek Mo**	**11.78**	**40**	Pn	**Pn**	**19 43 24.6**	**-1.8**
SCM	**Sheep Creek Mo**	**11.78**	**40**	P	**Pn**	**19 43 26.1**	**-0.3**
	baz=238						
KTH	**Kantishna Hill**	**11.78**	**28**	Pn	**Pn**	**19 43 26.8**	**+0.3**
TRF	**Thorofare Moun**	**11.88**	**30**		**Pn**	**19 43 27.7**	**-0.2**
TRF	**Thorofare Moun**	**11.88**	**30**	P	**Pn**	**19 43 28.0**	**0.0**
	baz=220						
WAT1	**Susitna Watana**	**11.98**	**34**	P	**Pn**	**19 43 28.1**	**-1.1**
	baz=226						
WAT6	**Susitna Watana**	**12.09**	**36**	P	**Pn**	**19 43 29.1**	**-1.7**
	baz=229						
KLU	**Klutina**	**12.14**	**43**		**Pn**	**19 43 30.1**	**-1.3**
KLU	**Klutina**	**12.14**	**43**	P	**Pn**	**19 43 30.0**	**-1.4**
	baz=237						
BPAW	**Bear Paw Mtn.**	**12.20**	**26**	Pn	**Pn**	**19 43 33.6**	**+1.5**
BPAW	**Bear Paw Mtn.**	**12.20**	**26**	P	**Pn**	**19 43 31.8**	**-0.3**
	baz=217						
M24K	**Tolsona, Glenn**	**12.38**	**40**	P	**Pn**	**19 43 33.8**	**-0.9**
	baz=234						
BMRM	**Bremner River**	**12.43**	**47**	Pn	**Pn**	**19 43 35.5**	**+0.2**
BMRM	**Bremner River**	**12.43**	**47**	P	**Pn**	**19 43 35.1**	**-0.2**
	baz=242						
MCK	**McKinley**	**12.50**	**31**	Pn	**Pn**	**19 43 37.0**	**+0.8**
MCK	**McKinley**	**12.50**	**31**	P	**Pn**	**19 43 36.0**	**-0.3**
	baz=223						
DHY	**Denali Highway**	**12.54**	**35**	Pn	**Pn**	**19 43 35.1**	**-1.9**
DHY	**Denali Highway**	**12.54**	**35**	P	**Pn**	**19 43 36.7**	**-0.2**
	baz=228						
N25K	**Chitina, Valde**	**12.74**	**44**	Pn	**Pn**	**19 43 39.4**	**-0.2**
N25K	**Chitina, Valde**	**12.74**	**44**	P	**Pn**	**19 43 39.5**	**-0.1**
	baz=239						
I21K	**Tanana

baz=232
IL31 13.87 30 Pn 19 43 54.4 -0.5
ILAR Eielson Array 13.87 30 Pn Pn 19 43 51.6 -3.3
comp=N,0.1nm,0.3s,baz=223,slow=13,SNR=4.2
ILAR LR LR 19 49 51.8
comp=N,2µm,18.2s,baz=216,slow=40
comp=N,0.7nm,0.9s
ILAR Eielson Array 13.87 30 Pn Pn 19 43 54.6 -0.3
H23K Yukon River 13.95 24 Pn 19 43 56.8 +0.7
H23K Yukon River 13.95 24 P Pn 19 43 55.7 -0.4
baz=216
POKR Poker Plat Res 13.96 29 P Pn 19 43 55.4 -0.7
baz=222
L26K Log Cabin Wild 13.98 40 Pn 19 43 57.6 +1.1
L26K Log Cabin Wild 13.98 40 P Pn 19 43 56.3 -0.2
baz=237
DOT Dot Lake 14.07 37 Pn 19 43 58.9 +1.2
PINM Pinnacle 14.09 54 P Pn 19 43 57.7 -0.4
baz=253
M27K Edge Creek, AK 14.23 44 Pn 19 43 59.7 -0.3
M27K Edge Creek, AK 14.23 44 P Pn 19 44 01.2 +1.2
baz=242,SNR=8.6
J25K Salcha River, 14.23 33 Pn 19 44 01.2 +1.2
J25K Salcha River, 14.23 33 P Pn 19 43 59.4 -0.5
baz=228
SCRK Sand Creek 14.29 36 Pn Pn 19 43 59.5 -1.3
SCRK Sand Creek 14.29 36 P Pn 19 44 01.6 +0.8
baz=232,SNR=7.8
O28M Mount Upton 14.33 51 P Pn 19 44 00.9 -0.7
baz=250
F21K Alatna River 14.38 16 P Pn 19 44 01.7 -0.2
baz=204
H24K Noodor Dome 14.38 26 Pn 19 44 02.2 +0.2
H24K Noodor Dome 14.38 26 P Pn 19 44 01.1 -0.9
baz=219
G22K Bettles 14.46 19 P Pn 19 44 04.7 +1.8
baz=209
G23K Bananza Creek 14.58 21 P Pn 19 44 04.9 +0.3
baz=213
YUK3 Moose Creek 14.58 47 P Pn 19 44 05.1 +0.3
baz=246
L27K Beaver Creek, 14.59 42 Pn 19 44 03.4 -1.4
L27K Beaver Creek, 14.59 42 P Pn 19 44 03.9 -0.9
baz=239
BCAR Beaver Creek A 14.61 42 Pn Pn 19 44 03.4 -1.6
YUK8 Steele Glacier 14.70 50 P Pn 19 44 05.9 -0.7
baz=249
J26L Joseph Creek 14.76 35 Pn 19 44 05.7 -1.4
J26L Joseph Creek 14.76 35 P Pn 19 44 06.4 -0.7
baz=232
PRP Porcupine Dome 14.80 30 Pn Pn 19 44 07.4 -0.4
PRP Porcupine Dome 14.80 30 P Pn 19 44 07.1 -0.7
baz=225
F22K John River 14.85 17 P Pn 19 44 10.4 +2.1
baz=206
COLD Coldfoot 14.98 20 Pn Pn 19 44 10.9 +1.0
COLD Coldfoot 14.98 20 P Pn 19 44 10.4 +0.4
baz=211,SNR=16
K27K Chicken 15.01 38 Pn 19 44 10.8 +0.5
G24K Hadweenzic Riv 15.16 25 P Pn 19 44 10.8 -1.6
baz=218
P29M Windy Craggy 15.21 57 Pn Pn 19 44 13.5 +0.4
P29M IAmb IAmb 19 44 31.8
comp=Z,54nm,1.2s
P29M Windy Craggy 15.21 57 P Pn 19 44 12.0 -1.1
baz=258
YUK4 Talbot Arm 15.23 50 P Pn 19 44 12.7 -0.8
baz=250
YUK6 Outpost Mounta 15.24 52 P Pn 19 44 11.0 -2.6
baz=252
I26K Coal Creek Min 15.40 33 Pn 19 44 16.5 +1.0
I26K Coal Creek Min 15.40 33 P Pn 19 44 17.7 +2.2
baz=230
E22K Anaktuvuk Pass 15.48 16 P Pn 19 44 18.1 +1.5
baz=206
G25K Bearman Lake 15.56 26 P Pn 19 44 16.5 -1.0
baz=221
HYT Haines Junctio 15.61 53 Pn Pn 19 44 19.8 +1.4
FYU Fort Yukon 15.64 27 P 19 44 23.6 +1.1
M29M Somme Creek 15.70 46 P Pn 19 44 19.5 -0.1
baz=247
F24K Squaw Lake 15.72 22 P Pn 19 44 19.7 0.0
baz=216
EGAK Eagle 15.76 37 Pn 19 44 21.9 +1.7
EGAK Eagle 15.76 37 P Pn 19 44 19.9 -0.2
baz=235
E23K Chandalar 15.81 19 P Pn 19 44 20.4 -0.4
baz=211
PLBC Pleasant Camp 15.86 58 P Pn 19 44 21.1 -0.4
baz=260
N30M Aishikik Lake 15.98 50 P Pn 19 44 21.8 -1.3
baz=252
DAWY Dawson 16.04 40 Pn Pn 19 44 23.5 -0.2
DAWY Dawson 16.04 40 P Pn 19 44 22.7 -1.1
baz=240,SNR=7.4
E24K Your Creek 16.05 20 P Pn 19 44 24.2 +0.3
baz=213
I27K Kandik River 16.09 34 P Pn 19 44 24.1 -0.4
baz=232
L29M 16.11 44 P Pn 19 44 23.7 -1.0
baz=245
SIT Sitka 16.21 67 P Pn 19 44 25.2 -0.7
baz=269
O30N Mendenhall 16.26 53 P Pn 19 44 26.2 -0.4
baz=256
F25K Christian Rive 16.31 25 P Pn 19 44 26.1 -1.1
baz=220
G26K Porcupine Rive 16.32 28 P Pn 19 44 26.6 -0.7
baz=225
TOLK Toolik Lake Re 16.32 18 P 19 44 30.3 +0.3
TOLK Toolik Lake Re 16.32 18 P Pn 19 44 27.5 +0.1
baz=210,SNR=13
SKAG Skagway 16.39 58 P P 19 44 30.4 -0.3
SKAG IAmb IAmb 19 44 44.9
comp=Z,55nm,1.5s
SKAG Skagway 16.39 58 P Pn 19 44 28.0 -0.1
baz=261
D23K Nanushuk River 16.41 16 P Pn 19 44 28.3 -0.1
baz=207
BMAR Burnt Mountain 16.45 26 Pn Pn 19 44 29.5 +0.5
M30M Minto, Yukon 16.47 47 P P 19 44 32.3 +0.5
M30M Minto, Yukon 16.47 47 P Pn 19 44 26.2 -3.1
baz=249
H27K Steamboat Moun 16.51 32 P Pn 19 44 29.6 -0.2
baz=231
N31M Braeburn, Yuko 16.59 51 P P 19 44 33.6 +0.5
N31M IAmb IAmb 19 44 51.9
comp=Z,30nm,0.9s
N31M Braeburn, Yuko 16.59 51 P P 19 44 35.1 +2.0
baz=254
K29M Barlow Dome 16.67 42 P P 19 44 33.9 -0.1
baz=244
J29M Klondike Camp 16.67 40 P P 19 44 35.5 +1.4
J29M IAmb IAmb 19 44 57.0
comp=Z,21nm,0.7s
J29M Klondike Camp 16.67 40 P P 19 44 35.2 +1.2
baz=241
JIS Juneau Island 16.75 63 P 19 44 36.4 +1.6
JIS IAmb IAmb 19 44 41.3
comp=Z,53nm,1.4s
F26K Sheenjek River 16.76 26 P Pn 19 44 33.3 +0.4
baz=222
WHY Whitehorse 16.82 54 P 19 44 36.3 +0.6
WHY IAmb IAmb 19 45 00.6
comp=Z,27nm,0.9s
WHY Whitehorse 16.82 54 P Pn 19 44 33.9 +0.1
baz=258
G27K Doyon Strip 16.84 30 P Pn 19 44 34.0 +0.1
baz=229
I29M Ogilvie Camp, 17.09 37 P P 19 44 38.8 +0.2
C23K Itkillik River 17.20 15 P Pn 19 44 38.2 -0.2
baz=206
P32M Atlin 17.22 58 P Pn 19 44 39.6 +0.8
baz=263
MAYO Mayo, Yukon 17.23 44 P Pn 19 44 39.3 +0.5
C24K Franklin Bluff 17.41 17 P P 19 44 41.9 -0.2
baz=210
M31M Drury Creek, Y 17.42 49 P P 19 44 43.2 +1.0
M31M IAmb IAmb 19 44 46.9
comp=Z,35nm,1.1s
M31M Drury Creek, Y 17.42 49 P P 19 44 42.8 +0.5
baz=254,SNR=11
D25K Kavik River 17.52 20 P Pn 19 44 42.9 +0.6
baz=215
P33M Teslin, Yukon 17.75 56 P 19 44 47.3 +1.4
P33M Teslin, Yukon 17.75 56 P Pn 19 44 44.8 -0.6
baz=262,SNR=12
FARO Faro, Yukon 17.90 50 P P 19 44 50.2 +2.7
FARO Faro, Yukon 17.90 50 P Pn 19 44 46.4 -0.7
baz=255,SNR=11
Q32M Nakina River 17.90 60 P Pn 19 44 46.9 -0.4
baz=266
EPYK Eagle Plains 18.18 35 P Pn 19 44 50.2 -0.3
EPYK Eagle Plains 18.18 35 P Pn 19 44 49.5 -1.0
baz=238
C26K Camden Bay 18.30 20 P P 19 44 52.0 +0.2
baz=216,SNR=23
C27K Jago River 18.33 22 P P 19 44 51.5 -0.7
baz=219
V35K Ketchikan 18.40 72 P P 19 44 51.2 -1.8
baz=278
S34M Telegraph Cree 18.47 64 P P 19 44 52.5 -1.3
baz=270
R33M Jennings River 18.60 59 P P 19 44 54.3 -1.1
baz=266
G30M tAoh Zraii Nji 18.67 34 P P 19 44 54.9 -1.1
baz=238
MMPY Sheldon Lake, 18.93 49 P P 19 44 58.3 -0.6
baz=256,SNR=9.5
T35M Bob Quinn 18.99 67 P P 19 44 59.1 -0.4
baz=274
DLBC Dease Lake 19.05 62 Pn Pn 19 45 02.3 +1.1
comp=Z,0.1nm,0.3s,baz=274,slow=13,SNR=5.5
DLBC LR LR 19 51 28.8
comp=Z,257nm,21.4s,baz=288,slow=34
comp=Z,4.2nm,0.9s
DLBC Dease Lake 19.05 62 P P 19 44 58.8 -1.5
baz=270
F31M Tsiigehtchic 19.73 34 P P 19 45 06.7 -0.8
baz=240
WTLY Watson Lake, Y 19.74 57 P Pn 19 45 10.2 +0.9
WTLY IAmb IAmb 19 45 21.9
comp=Z,23nm,1.0s
TGTN Hyland Airport 20.13 53 P P 19 45 11.7 -0.3
baz=263,SNR=14
INK Inuvik 20.25 32 P P 19 45 10.9 -2.2
comp=Z,5.5nm,0.8s,baz=229,slow=17,SNR=13
comp=Z,5.5nm,0.8s
INK Inuvik 20.25 32 P P 19 45 13.3 +0.3
INK Inuvik 20.25 32 P P 19 45 13.2 +0.1
baz=238,SNR=5.9
BILL Bilibino 20.30 327 Pn 19 45 15.2 -0.6
BILL IAmb IAmb 19 45 18.8
comp=Z,28nm,1.3s
WRGLY Wrigley 22.55 49 P P 19 45 37.0 -0.9
baz=263
PETK Petropavlovsk- 23.05 284 P P 19 45 42.6 -0.6
comp=Z,6.0nm,0.5s,baz=80,slow=12,SNR=29
PETK LR LR 19 54 33.7
comp=Z,568nm,20.4s,baz=84,slow=36
comp=Z,6.0nm,0.5s
C36M Paulatuk 23.79 34 P P 19 45 51.4 +1.1
C36M Paulatuk 23.79 34 P P 19 45 50.0 -0.3
baz=249
A36M Sachs Harbour 24.53 28 P P 19 45 56.3 -0.8
A36M Sachs Harbour 24.53 28 P P 19 45 56.5 -0.5
baz=242,SNR=26
SEY Seymchan 24.54 310 P P 19 45 56.3 -1.0
comp=Z,4.3nm,1.1s,baz=114,slow=12,SNR=4.4
comp=Z,4.3nm,1.1s
LLLB Lillooet 25.36 80 P P 19 46 05.2 +0.3
MA2 Magadan 25.49 302 P P 19 46 06.3 +0.4
comp=Z,13nm,0.9s,baz=98,slow=15,SNR=2.1
comp=Z,13nm,0.9s
YKA Yellowknife Ar 26.59 51 LR LR 19 57 51.9
comp=Z,709nm,19.4s,baz=260,slow=39
NEW Newport 29.17 82 LR LR 19 56 05.8
comp=Z,160nm,21.5s,baz=299,slow=32
YBH Yreka Blue Hor 29.42 97 LR LR 19 55 36.5
comp=Z,315nm,19.4s,baz=297,slow=30
I07A Izee 29.94 91 P P 19 46 47.7 +1.7
F10A Beach Ranch, E 30.26 86 P P 19 46 50.3 +1.5
MOD Modoc Plateau 30.74 95 P P 19 46 52.3 -0.9
J08A Circle Bar Ran 30.96 91 P P 19 46 55.1 0.0
J08A IAmb IAmb 19 47 17.7
comp=Z,9.4nm,1.2s
WVOR Wild Horse Val 31.41 93 P P 19 47 00.1 +1.1
WVOR IAmb IAmb 19 47 15.4
comp=Z,8.5nm,0.7s
PLID Pearl Lake 31.46 86 P P 19 47 00.7 +1.1
PLID IAmb IAmb 19 47 18.5
comp=Z,10nm,1.4s
MFID Camas Ranch 32.51 89 P P 19 47 10.3 +1.7
MFID IAmb IAmb 19 47 18.5
comp=Z,4.3nm,0.8s
PAHR Pah Rah Range 32.66 97 P P 19 47 11.0 +0.9
PAHR IAmb IAmb 19 47 17.6
comp=Z,9.7nm,1.4s
VCNR Virginia City 32.77 98 P P 19 47 12.4 +1.3
YERR Yerington 33.22 98 P P 19 47 15.8 +0.9
YERR IAmb IAmb 19 47 23.5
comp=Z,9.7nm,1.3s
HLID Hailey 33.26 87 P P 19 47 15.8 +0.5
HLID Hailey 33.26 87 P P 19 47 13.7 -1.6
baz=305
BCYI Bear Canyon 33.43 86 P P 19 47 17.8 +0.9
BMN Battle Mountai 33.48 94 P P 19 47 16.8 -0.4
BMN IAmb IAmb 19 47 48.2
comp=Z,6.6nm,1.1s
TIXI Tiksi 33.51 328 P P 19 47 16.7 -0.2
comp=Z,4.4nm,0.4s,baz=223,slow=0.2,SNR=4.1
TIXI LR LR 20 02 55.1
comp=Z,679nm,18.1s,baz=221,slow=40
comp=Z,4.4nm,0.4s
RES Resolute Bay 33.57 27 LR LR 20 02 39.2
comp=Z,627nm,18.9s,baz=264,slow=40
NVAR Mina Array Bea 34.13 98 P P 19 47 23.2 +0.2
comp=Z,0.8nm,0.8s,baz=312,slow=9.5,SNR=2.8
comp=Z,0.8nm,0.8s
ELK Elko 34.46 92 LR LR 19 59 07.5
comp=Z,236nm,20.1s,baz=307,slow=32
ELK Elko 34.46 92 P P 19 47 26.6 +0.8
ELK IAmb IAmb 19 47 38.2
comp=Z,5.3nm,1.1s
YNR Norris Junctio 34.82 83 P P 19 47 30.0 +1.1
YAK Yakutsk 35.05 311 LR LR 20 03 34.8
comp=Z,552nm,18.0s,baz=90,slow=39
HVU Hansel Valley 35.29 89 P P 19 47 33.3 +0.5
HVU IAmb IAmb 19 47 51.6
comp=Z,5.4nm,0.9s
TPAW Teton Pass 35.36 85 P P 19 47 34.4 +0.9
TPAW IAmb IAmb 19 47 42.7
comp=Z,6.4nm,1.2s
REDW Red Top Meadow 35.49 85 P P 19 47 36.5 +1.9
REDW IAmb IAmb 19 48 05.6
comp=Z,9.0nm,1.3s
GMN Gold Mountain 35.50 99 P P 19 47 35.3 +0.5
BGU Big Grassy Mou 35.66 90 P P 19 47 36.5 +0.5
BGU IAmb IAmb 19 47 43.8
comp=Z,5.5nm,1.0s
AHID Auburn Hatcher 35.69 86 P P 19 47 39.0 +2.6
AHID IAmb IAmb 19 47 55.7
comp=Z,8.1nm,1.0s
SPUT South Promonto 35.77 89 P P 19 47 38.4 +1.4
SPUT IAmb IAmb 19 47 44.2
comp=Z,7.6nm,1.4s
R11A Troy Canyon, C 35.79 96 P P 19 47 37.5 +0.3
R11A IAmb IAmb 19 47 49.9
comp=Z,6.1nm,1.1s
R11A Troy Canyon, C 35.79 96 P P 19 47 36.5 -0.7
baz=311
ASAJ Asahikawa 36.00 277 LR LR 20 05 30.6
comp=Z,95nm,18.2s,baz=150,slow=42
SPR3 Spring Creek 3 36.11 94 P P 19 47 40.3 +0.2
SPR3 IAmb IAmb 19 47 56.9
comp=Z,7.4nm,1.2s
MPMC Manual Prospec 36.21 100 P P 19 47 42.0 +1.1
baz=314
DUG Dugway, Tooele 36.25 91 P P 19 47 41.5 +0.5
DUG IAmb IAmb 19 47 53.9
comp=Z,13nm,1.2s
DUG Dugway, Tooele 36.25 91 P P 19 47 43.0 +1.9
baz=309
GWY Greenwater Val 36.61 99 P P 19 47 47.0 +2.8
GWY IAmb IAmb 19 48 08.1
comp=Z,10.0nm,1.4s
BW06 Boulder Array 36.61 85 P P 19 47 48.7 +4.5
PD31 Pinedale Array 36.61 85 P P 19 47 46.8 +2.6
PD31 IAmb IAmb 19 48 03.2
comp=Z,7.4nm,1.2s
PDAR Pinedale Array 36.61 85 P P 19 47 45.2 +1.0
comp=Z,0.4nm,0.6s,baz=305,slow=3.2,SNR=2.5
PDAR Pinedale Array 36.61 85 P P 19 47 44.7 +0.5
PSUT Pine Spring 36.69 94 P P 19 47 44.8 -0.2
PSUT IAmb IAmb 19 48 06.2
comp=Z,8.3nm,1.3s
PRN Pahroc Range 36.73 96 P P 19 47 46.2 +1.0
PRN IAmb IAmb 19 48 13.7
comp=Z,10nm,1.2s
NLU North Lily Min 36.84 91 P P 19 47 48.4 +2.2
CCUT Cedar City 37.63 95 P P 19 47 53.5 +0.5
MVU Marysvale 37.69 93 P P 19 47 54.2 +0.8
MSU Marysvale 37.70 93 P P 19 47 53.9 +0.3
TMUT Trail Mountain 37.77 91 P P 19 47 56.1 +1.9
TMUT IAmb IAmb 19 48 16.3
comp=Z,9.0nm,1.0s
RDMU Red Mountain 37.94 88 P P 19 47 58.1 +2.5
RDMU IAmb IAmb 19 48 15.2
comp=Z,12nm,0.9s
MTPU Mount Pierson 38.01 93 P P 19 47 59.0 +2.7
Q16A Castle Valley 38.04 91 P P 19 47 58.1 +1.8
Q16A IAmb IAmb 19 48 08.9
comp=Z,11nm,1.1s
LCMT Little Creek M 38.06 95 P P 19 47 55.9 -0.6
LCMT IAmb IAmb 19 48 09.0
comp=Z,11nm,1.3s
P18A Preston Nutter 38.13 90 P P 19 47 59.0 +1.7
P18A IAmb IAmb 19 48 18.9
comp=Z,12nm,1.2s
SRU San Rafael Swe 38.30 90 P P 19 47 59.2 +0.7
SRU IAmb IAmb 19 48 20.2
comp=Z,7.0nm,0.9s
O20A White River Ci 39.00 87 P P 19 48 07.0 +2.6
U15A North Rim 39.02 95 P P 19 48 05.8 +1.1
KLR Kul'dur 39.43 291 LR LR 20 05 23.2
comp=Z,214nm,19.3s,baz=63,slow=38
MDND Maddock 39.51 72 P P 19 48 09.4 +1.1
PV21 Cone Mtn., Par 39.58 90 P P 19 48 10.8 +1.5
PV21 IAmb IAmb 19 48 30.2
comp=Z,12nm,1.3s
E28A Huff 39.59 74 P P 19 48 12.4 +3.4
PV23 Carpenter Ridg 39.62 90 P P 19 48 12.4 +2.7
PV23 IAmb IAmb 19 48 26.4
comp=Z,6.0nm,0.8s
PV10 Paradox Valley 39.66 90 P P 19 48 10.6 +0.6
PV10 IAmb IAmb 19 48 21.9
comp=Z,23nm,1.2s
PV14 Lion Creek, Pa 39.67 90 P P 19 48 13.2 +3.2
PV14 IAmb IAmb 19 48 32.8
comp=Z,13nm,1.2s
PV22 Blue Mesa, Par 39.70 90 P P 19 48 11.4 +1.1
PV20 West Nyswonger 39.72 90 P P 19 48 13.7 +3.2
PV04 Paradox Valley 39.73 90 P P 19 48 13.5 +3.0
PV04 IAmb IAmb 19 48 28.4
comp=Z,7.2nm,1.0s
PV19 Morning Glory 39.73 90 P P 19 48 12.1 +1.6
PV19 IAmb IAmb 19 48 22.7
comp=Z,7.4nm,1.0s
PV17 East Wray Mesa 39.77 90 P P 19 48 13.3 +2.5
PV17 IAmb IAmb 19 48 25.8
comp=Z,8.6nm,0.9s
PV16 Nyswonger Mesa 39.77 90 P P 19 48 12.2 +1.3
PV11 David Mesa, Pa 39.81 90 P P 19 48 11.8 +0.7
PV11 IAmb IAmb 19 48 24.0
comp=Z,9.3nm,0.8s
PV05 Paradox Valley 39.82 91 P P 19 48 12.2 +0.9
PV05 IAmb IAmb 19 48 18.5
comp=Z,6.1nm,0.9s
PV12 Saucer Basin, 39.84 90 P P 19 48 11.6 +0.2
PV12 IAmb IAmb 19 48 49.9
comp=Z,15nm,1.4s
PV03 Paradox Valley 39.85 90 P P 19 48 11.2 -0.3
PV07 Paradox Valley 39.85 90 P P 19 48 13.8 +2.3
PV07 IAmb IAmb 19 48 22.9
comp=Z,8.7nm,1.0s
PV13 Radium Mtn., P 39.93 90 P P 19 48 11.7 -0.6
PV13 IAmb IAmb 19 48 30.3
comp=Z,12nm,0.9s
PV15 Paradox Valley 40.01 90 P P 19 48 12.1 -0.8
PV15 IAmb IAmb 19 48 30.8
comp=Z,11nm,1.2s
PV01 Paradox Valley 40.09 90 P P 19 48 12.3 -1.2
PV01 IAmb IAmb 19 48 31.5
comp=Z,7.9nm,0.8s
WUAZ Wupatki 40.19 95 P P 19 48 15.3 +1.0
ULM Lac du Bonnet 40.29 66 P P 19 48 15.8 +1.0
comp=Z,4.1nm,1.1s,baz=312,slow=19,SNR=1.9
comp=Z,4.1nm,1.1s
H11N2 WAKE ISLAND Hy 40.89 226 T T 20 32 28.9
baz=26,slow=76,SNR=151
H11N3 WAKE ISLAND Hy 40.89 226 T T 20 32 29.3
baz=26,slow=76,SNR=167
H11N1 WAKE ISLAND Hy 40.91 226 T T 20 32 20.5
baz=26,slow=76,SNR=130
HEH HeiHe 41.26 294 eP P 19 48 20.9 -1.9
HEH pmax pmax
comp=Z,12nm,1.0s
AGMN Agassiz Nation 41.35 69 P P 19 48 25.9 +2.4
AGMN IAmb IAmb 19 48 38.6
comp=Z,13nm,1.0s
H11S1 WAKE ISLAND Hy 42.06 225 T T 20 33 42.6
baz=26,slow=76,SNR=135
H11S2 WAKE ISLAND Hy 42.07 225 T T 20 33 47.3
baz=26,slow=76,SNR=82
H11S3 WAKE ISLAND Hy 42.08 225 T T 20 33 24.3
baz=26,slow=76,SNR=85
USRK Ussuriysk Ar. 42.14 284 LR LR 20 06 47.4
comp=Z,162nm,19.1s,baz=55,slow=37
SDCO Great Sand Dun 42.17 88 P P 19 48 33.7 +2.9
B35A Bob, Littlefor 42.50 68 P P 19 48 35.3 +2.4
B35A IAmb IAmb 19 48 39.2
comp=Z,15nm,1.2s
T25A Trinidad 43.23 88 P P 19 48 39.7 +0.5
T25A IAmb IAmb 19 48 58.4
comp=Z,14nm,1.1s
MAJO Matsushiro 43.35 271 P P 19 48 39.9 -0.1
MJAR Matsushiro Arr 43.35 271 P P 19 48 38.7 -1.3
comp=Z,4.3nm,0.9s,baz=50,slow=6.1,SNR=10.0
comp=Z,4.3nm,0.9s
MJB9 Matsu-Tunnel 43.35 271 P P 19 48 39.6 -0.4
ANMO Albuquerque 43.50 92 LR LR 20 05 19.6
comp=Z,149nm,18.3s,baz=290,slow=34
ANMO Albuquerque 43.50 92 P P 19 48 42.5 +1.1
ECSD EROS Data Cent 43.59 75 P P 19 48 42.9 +1.1
BNM Barren Site 43.95 93 P P 19 48 47.2 +2.2
E38A The Farm, Brul 44.72 69 P P 19 48 54.1 +3.3
I37A Lemond, Waseca 45.26 73 P P 19 48 56.0 +0.9
FRB Frobisher Bay 45.73 38 LR LR 20 11 04.5
comp=Z,674nm,18.1s,baz=296,slow=40
NRIK Noril'sk 46.95 333 P P 19 49 08.7 +0.6
comp=Z,4.0nm,0.7s,baz=47,slow=6.9,SNR=5.1
NRIK LR LR 20 10 12.4
comp=Z,261nm,20.1s,baz=86,slow=38
comp=Z,4.0nm,0.7s
JCJ Chichijima 47.76 259 LR LR 20 06 51.2
comp=Z,120nm,21.7s,baz=112,slow=33
DAG Danmarks Havn 47.88 10 i P P 19 49 15.0 -0.2
SPITS Spitsbergen Ar 48.38 0 LR LR 20 10 28.1
comp=Z,204nm,18.8s,baz=332,slow=37
KSRS Korea Array 48.82 280 P P 19 49 22.1 -0.9
comp=Z,5.3nm,1.0s,baz=53,slow=5.8,SNR=7.1
KSRS LR LR 20 09 39.7
comp=Z,103nm,20.8s,baz=70,slow=36
comp=Z,5.3nm,1.0s
TXAR Lajitas Array 49.15 95 P P 19 49 25.6 -0.1
comp=Z,0.7nm,0.6s,baz=308,slow=7.6,SNR=1.3
TXAR LR LR 20 09 06.7
comp=Z,204nm,20.4s,baz=276,slow=35
comp=Z,0.7nm,0.6s
R40A Maddies Statio 49.61 78 P P 19 49 26.5 -2.5
R40A IAmb IAmb 19 49 33.8
comp=Z,4.7nm,0.9s
SCHQ Schefferville 51.91 47 LR LR 20 14 36.5
comp=Z,327nm,19.2s,baz=312,slow=39
SADO Sadowa 52.61 63 LR LR 20 12 57.5
comp=Z,157nm,20.1s,baz=338,slow=37
ULN Ulaanbaatar 53.34 303 P P 19 49 56.9 0.0
ULN IAmb IAmb 19 49 58.1
comp=Z,11nm,1.1s
WVT Waverly 53.66 77 P P 19 49 57.8 -1.5
WVT IAmb IAmb 19 50 16.2
comp=Z,6.8nm,0.8s
SONM Songino Array 53.69 303 P P 19 49 59.7 +0.2
comp=Z,4.4nm,0.9s,baz=46,slow=7.9,SNR=22
SONM PcP PcP 19 51 05.6 +0.2
comp=Z,2.0nm,0.9s,baz=24,slow=4.8,SNR=2.2
comp=Z,4.4nm,0.9s
SONM Songino Array 53.69 303 P 19 49 59.0 -0.5
Q51A Peebles 54.21 71 P P 19 50 03.3 0.0
HHC Hu-ho-hao-te 55.78 294 eP P 19 50 15.5 +0.8

HHC pmax pmax
comp=Z,40nm,0.9s
HHC pmax pmax
comp=Z,120nm,4.3s
HHC LR LR
comp=Z,340nm,14.2s
HHC LR LR
comp=Z,420nm,15.7s
HHC LR LR
comp=Z,480nm,15.1s
TKL Tuckaleechee C 56.33 74 LR LR 20 13 00.4
comp=Z,154nm,22.0s,baz=323,slow=34
HNS HongShan 56.46 289 ⇑P **P** **19 50 20.3 +0.8**
HNS PP **PP** **19 52 23.9 -1.1**
HNS pmax pmax
comp=Z,17nm,1.0s
HNS pmax pmax
comp=Z,180nm,3.7s
HNS LR LR
comp=Z,200nm,19.6s
HNS LR LR
comp=Z,300nm,20.2s
HNS LR LR
comp=Z,260nm,19.4s
P57A Homestead Farm 56.85 67 P **P** **19 50 25.2 +2.9**
ARCES ARCESS Array B 56.91 356 P **P** **19 50 21.9 -0.3**
comp=Z,5.0nm,0.9s,baz=8.2,slow=8.2,SNR=7.4
ARCES LR LR 20 16 54.6
comp=Z,234nm,18.3s,baz=360,slow=38
comp=Z,5.0nm,0.9s
NJ2 Nanjing 57.91 282 ⇓P **P** **19 50 29.9 +0.1**
NJ2 pmax pmax
comp=Z,14nm,0.9s
BORG Borgarnes 58.31 18 LR LR 20 17 57.2
comp=Z,167nm,19.3s,baz=333,slow=38
ZALV Zalesovo Beam 58.82 320 P **P** **19 50 34.8 -1.0**
comp=Z,1.0nm,0.5s,baz=57,slow=6.2,SNR=8.5
ZALV PcP **PcP** **19 51 25.9 +0.8**
comp=Z,1.0nm,0.6s,baz=57,slow=5.3,SNR=2.3
ZALV LR LR 20 18 43.2
comp=Z,350nm,18.4s,baz=3.5,slow=39
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 58.82 320 P **P** **19 50 35.1 -0.7**
XAN Xi'an 62.14 290 ⇑P **P** **19 50 58.8 0.0**
XAN pP pP 19 51 07.9 +0.8
XAN PcP **PcP** **19 51 38.5 -0.3**
XAN pmax pmax
comp=Z,14nm,1.8s
XAN LR LR
comp=Z,170nm,19.9s
XAN LR LR
comp=Z,220nm,17.2s
XAN LR LR
comp=Z,250nm,19.2s
GTA Gaotai 63.04 300 *e*P **P** **19 51 04.8 -0.1**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,84nm,5.8s
GTA LR LR
comp=Z,280nm,17.1s
GTA LR LR
comp=Z,340nm,15.6s
GTA LR LR
comp=Z,380nm,16.4s
LZH Lanzhou 63.40 295 ⇑P **P** **19 51 08.0 +0.6**
LZH pmax pmax
comp=Z,19nm,1.3s
LZH LR LR
comp=Z,310nm,13.7s
LZH LR LR
comp=Z,280nm,14.4s
LZH LR LR
comp=Z,330nm,13.4s
KURK Kurchatov 63.71 321 P **P** **19 51 08.9 0.0**
KURBB Kurchatov Arra 63.82 321 LR LR 20 21 32.6
comp=Z,258nm,20.1s,baz=211,slow=38
KLMR Klimovskoe 64.35 348 *e*P **P** **19 51 12.5 -0.5**
KLMR AMP 19 51 13.8
comp=Z,23nm,1.5s
ENH Enshi 64.62 287 P **P** **19 51 14.2 -1.1**
BVAR Borovoye Array 64.64 327 LR LR 20 22 28.0
comp=Z,141nm,19.8s,baz=47,slow=39
BRVK Borovoye 64.65 327 P **P** **19 51 15.1 +0.1**
FINES FINESS Array B 64.96 355 P **P** **19 51 15.8 -1.1**
comp=Z,4.6nm,0.8s,baz=15,slow=7.5,SNR=11
FINES LR LR 20 21 54.2
comp=Z,142nm,18.6s,baz=21,slow=38
comp=Z,4.6nm,0.8s
KIRV Kirov 64.98 342 P **P** **19 51 16.6 -0.5**
comp=Z,5.6nm,0.5s,baz=22,slow=4.2,SNR=4.5
KIRV LR LR 20 24 55.3
comp=Z,318nm,18.1s,baz=36,slow=41
comp=Z,5.6nm,0.5s
ARU Arti 65.00 336 LR LR 20 23 55.6
comp=Z,222nm,18.3s,baz=36,slow=40
ARU Arti 65.00 336 P **P** **19 51 17.2 -0.1**
TAOE Nuku Hiva Isla 65.34 155 *e*LR LR 20 10 54.0
comp=Z,128nm,22.4s
MK31 Makanchi Array 65.44 317 P **P** **19 51 19.8 -0.7**
MK31 IAmb IAmb 19 51 21.1
comp=Z,4.5nm,1.2s
MKAR Makanchi Array 65.44 317 P **P** **19 51 19.6 -0.9**
comp=Z,0.9nm,0.5s,baz=38,slow=6.0,SNR=15
comp=Z,0.9nm,0.5s
WMQ Urumqi 65.49 311 *e*P **P** **19 51 22.0 +1.2**
WMQ LR LR
comp=Z,370nm,14.3s
WMQ LR LR
comp=Z,280nm,18.5s
WMQ LR LR
comp=Z,130nm,20.5s
NB2 NORSAR Subarra 65.53 3 P **P** **19 51 20.9 +0.2**
comp=Z,24nm,1.4s,baz=356,slow=6.5
NOA NORSAR Array B 65.53 3 P **P** **19 51 21.3 +0.6**
comp=Z,4.6nm,1.0s,baz=357,slow=6.5,SNR=6.2
NOA LR LR 20 21 47.7
comp=Z,106nm,18.2s,baz=0.0,slow=38
comp=Z,4.6nm,1.0s
MAKZ Makanchi 65.56 317 P **P** **19 51 20.5 -0.6**
MAKZ IAmb IAmb 19 51 22.0
comp=Z,12nm,1.4s
HFS Hagfors 66.49 2 P **P** **19 51 27.0 +0.2**
comp=Z,7.2nm,0.5s,baz=11,slow=1.5,SNR=28
HFS LR LR 20 26 08.5
comp=Z,51nm,18.1s,baz=8.0,slow=41
comp=Z,7.2nm,0.5s
AFI Afiamalu 67.72 189 LR LR 20 13 19.5
comp=Z,65nm,21.8s,baz=167,slow=29
KRVT Keravat (AS076 68.78 229 LR LR 20 18 33.2
comp=Z,96nm,18.5s,baz=200,slow=33
EKA Eskdalemuir Ar 70.11 12 P **P** **19 51 49.5 -0.1**
comp=Z,3.0nm,0.6s,baz=346,slow=3.9,SNR=10
comp=Z,3.0nm,0.6s
HNR Honiara 70.16 219 LR LR 20 17 07.9
comp=Z,558nm,21.4s,baz=91,slow=31
PABE Paberze 70.99 356 P **P** **19 51 55.1 +0.2**
ABKAR Akbulak array 71.11 332 P **P** **19 51 55.8 0.0**
ABKAR Akbulak array 71.11 332 P **P** **19 51 56.0 +0.3**
ABKAR IAmb IAmb 19 51 57.6
comp=Z,15nm,0.8s
BELG Belogornoye 71.16 341 P **P** **19 51 56.1 +0.1**
comp=Z,16nm,0.8s,baz=0.8,slow=2.4,SNR=5.1
BELG LR LR 20 28 19.7
comp=Z,206nm,19.1s,baz=8.9,slow=40
comp=Z,16nm,0.8s
TKM2 Tokmak 2 71.33 318 P **P** **19 51 59.1 +1.6**
SNR=6.5
NACGM Naroch 71.44 354 *e*P **P** **19 51 58.2 +0.6**
comp=Z,25nm,0.9s,baz=6.0
TARG Taragay, Kyrgy 71.44 316 P **P** **19 51 59.3 +0.9**
TARG IAmb IAmb 19 52 01.9
comp=Z,3.7nm,0.6s
USP Ospenovka 71.47 319 P **P** **19 51 59.1 +1.0**
SNR=11
BOOM Boomskoye usch 71.56 318 P **P** **19 51 59.8 +0.9**
CHMS Chumysh 71.60 319 P **P** **19 52 00.5 +1.7**
SNR=5.8
MNK Minsk 71.77 353 *i* P **P** **19 51 58.1 -1.5**
MNK *i* P **P** **19 51 58.1 -1.5**
comp=E,2.0nm,0.9s
MNK *i* P **P** **19 51 58.1 -1.5**
comp=N,24nm,0.8s
MNK *i* P **P** **19 51 58.1 -1.5**
comp=Z,24nm,0.9s,baz=187
MNK *i* PcP **PcP** **19 52 17.2 -1.3**
MNK *i* PP **PP** **19 54 36.6 -1.7**
MNK *i* PPP PPP 19 56 20.0
MNK *i* S **S** **20 01 17.9 +0.4**
MNK *i* SS **SS** **20 05 53.9 +1.7**
MNK *i* SSS SSS 20 09 13.3
MNK *i* LR LR 20 21 00.8
MNK *i* LRM MLR 20 25 55.9
comp=E,12nm,17.9s
MNK *i* LRM MLR 20 26 12.6
comp=N,233nm,17.2s
MNK *i* LRM MLR 20 26 26.0
comp=Z,132nm,17.9s
KBK Karagaybulak 71.81 319 P **P** **19 52 01.4 +1.1**
SNR=6.7
PZH PanZhiHua 71.88 290 P **P** **19 52 01.1 +0.2**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,80nm,4.5s
PPT Papeete 71.96 166 LR LR 20 16 28.6
comp=Z,135nm,21.6s,baz=355,slow=30
PPT2 Papeete2 71.98 166 *e*LR LR 20 13 58.3
comp=Z,126nm,22.0s
PPT2 *e*LR LR 20 13 58.8
comp=Z,130nm,23.8s
AAK Ala-Archa 72.00 319 P **P** **19 52 02.4 +0.9**
SNR=8.5
AAK Ala-Archa 72.00 319 P **P** **19 52 01.8 +0.3**
EKS2 Erkin-Say 72.26 319 P **P** **19 52 04.5 +1.5**
SNR=7.5
NRN Naryn 72.42 317 P **P** **19 52 05.1 +0.9**
NRN IAmb IAmb 19 52 06.8
comp=Z,12nm,1.4s
AML Almayashu 72.75 319 P **P** **19 52 07.2 +1.0**
SNR=8.2
MSVF Nonsavu 72.92 199 LR LR 20 16 18.9
comp=Z,124nm,20.4s,baz=109,slow=29
KK31 Karatay Array 73.11 322 P **P** **19 52 07.7 -0.2**
KK31 IAmb IAmb 19 52 08.7
comp=Z,8.9nm,1.4s
KKAR Karatay Array 73.11 322 P **P** **19 52 07.7 -0.2**
KKAR Karatay Array 73.11 322 P **P** **19 52 07.2 -0.7**
KKAR IAmb IAmb 19 52 08.7
comp=Z,8.9nm,1.4s
DAV Davao City (W) 73.17 259 LR LR 20 20 05.8
comp=Z,163nm,21.6s,baz=62,slow=32
KSH Kashi 74.05 316 P **P** **19 52 18.3 +4.7**
KSH pmax pmax
comp=Z,8.0nm,1.5s
KSH LR LR
comp=Z,210nm,21.6s
KSH LR LR
comp=Z,310nm,20.0s
KSH LR LR
comp=Z,460nm,19.4s
RAR Rarotonga 74.66 177 LR LR 20 16 42.3
comp=Z,96nm,19.6s,baz=159,slow=29
TNCH TengChong 74.82 291 P **P** **19 52 18.9 +0.5**
TNCH pP pP 19 52 22.3 -4.5
TNCH sP pwP 19 52 23.4 -6.2
TNCH S **S** **20 01 51.0 -2.4**
TNCH pmax pmax
comp=Z,8.0nm,1.1s
TNCH pmax pmax
comp=Z,32nm,5.2s
TNCH LR LR
comp=Z,100nm,14.3s
TNCH LR LR
comp=Z,120nm,19.9s
TNCH LR LR
comp=Z,190nm,18.8s
LSA Lhasa 75.05 300 P **P** **19 52 20.8 +0.8**
LSA IAmb IAmb 19 52 22.2
comp=Z,10nm,1.1s
AKASG Malin Array Be 75.44 352 P **P** **19 52 20.9 -0.4**
comp=Z,2.9nm,0.5s,baz=10,slow=5.8,SNR=22
AKASG LR LR 20 27 34.9
comp=Z,169nm,19.6s,baz=20,slow=37
comp=Z,2.9nm,0.5s
AKASG Malin Array Be 75.44 352 P **P** **19 52 20.4 -0.8**
AKBB Malin Array Si 75.44 352 P **P** **19 52 20.9 -0.4**
AK05 Malin Array Si 75.52 352 P **P** **19 52 20.6 -1.1**
AK05 IAmb IAmb 19 52 22.5
comp=Z,8.0nm,0.9s
BTK Batken 75.63 320 P **P** **19 52 21.9 -0.8**
BTK IAmb IAmb 19 52 34.2
comp=Z,7.4nm,1.1s
DRK Karamyk 75.76 319 P **P** **19 52 23.9 +0.3**
GAR Garm 76.75 320 P **P** **19 52 29.4 +0.3**
CHGR Chuyangaron 77.48 320 P **P** **19 52 33.0 -0.1**
TBI Tubuai 77.66 167 *e*LR LR 20 16 35.7
comp=Z,3μm,23.2s
TBI *e*LR LR 20 16 36.3
comp=Z,619nm,27.8s
CRVS Cervenica-Dubn 77.69 357 *e*P **P** **19 52 35.8 +1.7**
SHL Shillong 77.99 297 P **P** **19 52 35.0 -1.3**
SHL IAmb IAmb 19 52 36.0
comp=Z,10nm,1.2s
TAPN Taplejung 78.72 301 *e*P **P** **19 52 40.7 +0.2**
BUR08 Bucovina Ar. S 78.77 354 P **P** **19 52 41.5 +1.3**
BUR08 IAmb IAmb 19 52 42.1
comp=Z,7.3nm,1.1s
BURAR Bucovina Array 78.80 354 P **P** **19 52 40.4 +0.1**
BURAR IAmb IAmb 19 52 42.4
comp=Z,4.2nm,0.8s
PHRA Phrae 79.03 286 P **P** **19 52 41.5 -0.4**
GUN Gumba 79.19 303 *e*P **P** **19 52 43.4 +0.3**
comp=Z,48nm,0.8s
CHTO Chiang Mai 79.51 287 P **P** **19 52 42.7 -1.8**
KKN Kakani 79.59 303 *e*P **P** **19 52 45.4 +0.3**
RAMN Ramite 79.61 302 *e*P **P** **19 52 45.3 0.0**
comp=Z,47nm,1.0s
PKI Pulchoki 79.70 303 *e*P **P** **19 52 45.9 0.0**
comp=Z,39nm,1.1s
PKIN Phulchoki 79.70 303 *e*P **P** **19 52 45.8 0.0**
comp=Z,26nm,1.0s
CM31 Chiang Mai Arr 79.80 287 P **P** **19 52 47.1 +1.0**
CM31 IAmb IAmb 19 52 47.5
comp=Z,9.1nm,1.1s
CMAR Chiang Mai Arr 79.80 287 P **P** **19 52 46.0 -0.1**
comp=Z,6.3nm,1.0s,baz=16,slow=5.4,SNR=33
CMAR LR LR 20 29 58.9
comp=Z,68nm,21.1s,baz=85,slow=37
comp=Z,6.3nm,1.0s
DMN Daman 79.82 303 *e*P **P** **19 52 46.8 +0.4**
comp=Z,44nm,1.2s
DZM Mont Dzumac 79.85 208 *e*LR LR 20 17 37.6
comp=Z,113nm,21.1s
DANN Dangsing 79.88 304 *e*P **P** **19 52 47.4 +0.6**
comp=Z,88nm,1.0s
NIL Nilore 80.20 315 P **P** **19 52 48.8 +0.7**
KVAR Kislovodsk Arr 80.20 341 LR LR 20 34 07.9
comp=Z,121nm,18.3s,baz=288,slow=40
KBZ Khabaz 80.38 341 P **P** **19 52 50.2 +1.5**
comp=Z,6.1nm,0.9s,baz=55,slow=17,SNR=7.7
KBZ LR LR 20 33 19.0
comp=Z,150nm,19.3s,baz=22,slow=39
comp=Z,6.1nm,0.9s
MLR Muntele Rosu 80.87 353 LR LR 20 32 01.4
comp=Z,146nm,18.2s,baz=31,slow=38
KBL Kabul 81.13 319 P **P** **19 52 52.5 -0.9**
KBL IAmb IAmb 19 52 54.4
comp=Z,7.4nm,1.1s
GEYT Alibeck 81.97 328 P **P** **19 52 57.6 +0.1**
comp=Z,5.6nm,0.9s,baz=356,slow=4.3,SNR=12
GEYT LR LR 20 34 48.8
comp=Z,146nm,18.2s,baz=49,slow=40
comp=Z,5.6nm,0.9s
GEYT Alibeck 81.97 328 P **P** **19 52 58.2 +0.8**
GEYT IAmb IAmb 19 53 00.3
comp=Z,6.6nm,0.9s
GYA0B ALIBECK ARRAY 81.97 328 P **P** **19 52 58.3 +0.9**
GYA0B IAmb IAmb 19 53 00.3
comp=Z,7.0nm,0.9s
GNI Garni 83.44 339 P **P** **19 53 05.8 +0.6**
comp=Z,6.0nm,0.9s,baz=18,slow=10,SNR=4.2
GNI LR LR 20 36 29.8
comp=Z,132nm,18.6s,baz=21,slow=40
comp=Z,6.0nm,0.9s
GNI Garni 83.44 339 P **P** **19 53 07.2 +2.0**
ESDC Sonseca Array 85.31 16 P **P** **19 53 15.5 +1.0**
comp=Z,1.2nm,1.0s,baz=8.5,slow=2.6,SNR=3.5
ESDC LR LR 20 33 52.9
comp=Z,47nm,19.3s,baz=342,slow=38
comp=Z,1.2nm,1.0s
GEVA Gevas 85.56 339 P **P** **19 53 18.1 +2.1**
BRTR Keskin Array B 85.80 347 P **P** **19 53 17.2 +0.1**
comp=Z,4.8nm,1.0s,baz=14,slow=0.6,SNR=7.9
BRTR LR LR 20 35 47.0
comp=Z,140nm,19.9s,baz=48,slow=39
comp=Z,4.8nm,1.0s
BRTR Keskin Array B 85.80 347 P **P** **19 53 17.9 +0.8**
WRA Warramunga Arr 90.74 236 P **P** **19 53 41.8 +1.3**
comp=Z,0.1nm,0.4s,baz=35,slow=5.9,SNR=1.3
WRA LR LR 20 27 26.2
comp=Z,69nm,21.7s,baz=56,slow=31
comp=Z,0.1nm,0.4s
MMAI Mount Meron Ar 92.13 344 LR LR 20 40 29.4
comp=Z,69nm,18.1s,baz=29,slow=39
ASAR Alice Springs 94.10 235 P **P** **19 53 57.3 +1.3**
comp=Z,0.4nm,0.9s,baz=32,slow=3.7,SNR=2.9
ASAR LR LR 20 31 57.8
comp=Z,62nm,21.1s,baz=60,slow=33
comp=Z,0.4nm,0.9s
WSAR Wadi Sarin 95.24 322 LR LR 20 42 05.4
comp=Z,43nm,18.2s,baz=116,slow=39
EIL Elat 95.47 344 LR LR 20 41 38.6
comp=Z,48nm,19.3s,baz=56,slow=38
STKA Stephens Creek 97.64 225 LR LR 20 33 28.9
comp=Z,57nm,19.8s,baz=26,slow=32
H03N2 Juan Fernandez 113.11 115 T T 22 02 33.1
baz=322,slow=77,SNR=6.8
H03N1 Juan Fernandez 113.12 115 T T 22 02 34.8
baz=322,slow=77,SNR=6.6
H03N3 Juan Fernandez 113.12 115 T T 22 02 33.5
baz=322,slow=77,SNR=9.2

IDC 14 19:41:53.8±5.0, 33.70S×178.62W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=226.2km s-min=52.8km az=162.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.52**	**271**	P	P	19 49 51.0	-0.2
	1.4nm,0.7s,baz=112,slow=7.2,SNR=18						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**43.80**	**276**	P	P	19 50 01.5	-0.2
	1.6nm,0.6s,baz=118,slow=7.4,SNR=17						
	1.6nm,0.6s						
FINES	**FINESS Array B**	**148.03**	**338**	PKPbc	PKPbc	20 01 39.9	-0.6
	1.9nm,0.6s,baz=20,slow=4.4,SNR=13						

WEL 14 19:41:54.9±0.3, 42.3S×173.4E±, h12km±2km, M3.3/25, ML3.5/21, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=128.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.03**	**222**	P	Pg	19 41 56.9	-0.1
KHZ				S	Sg	19 41 58.2	-0.3
GVZ	**Greta Valley S**	**0.69**	**214**	P	Pb	19 42 09.3	+0.4
GVZ				S	Sn	19 42 20.4	-0.8
BSWZ	**Blackbirch Sta**	**0.72**	**19**	P	Pg	19 42 08.5	-0.3
THZ	**Tophouse**	**0.80**	**322**	P	Pg	19 42 10.0	-0.3
THZ				S	Sg	19 42 20.7	-0.1
CMWZ	**Cape Campbell**	**0.81**	**37**	P	Pg	19 42 09.6	-0.9
TUWZ	**Tuamarina**	**1.01**	**16**	P	Pn	19 42 14.8	0.0
AMCZ	**Amberley**	**1.03**	**220**	P	Pn	19 42 15.2	0.0
LTZ	**Lake Taylor**	**1.03**	**248**	P	Pb	19 42 14.2	-0.5
NNZ	**Nelson**	**1.19**	**353**	P	Pb	19 42 17.5	+0.2
TCW	**Tory Channel**	**1.30**	**24**	P	Pn	19 42 17.9	-0.9
OKCZ	**Okains Bay**	**1.38**	**195**	P	Pn	19 42 19.2	-0.8
WEL	**Wellington**	**1.43**	**39**	P	Pn	19 42 20.7	0.0
TKNZ	**Takaka Hill**	**1.43**	**341**	P	Pn	19 42 19.7	-1.0
OXZ	**Oxford**	**1.46**	**230**	P	Pn	19 42 19.9	-1.2
DSZ	**Denniston Nort**	**1.46**	**296**	P	Pb	19 42 22.2	+0.2
MQZ	**McQueen's Vall**	**1.47**	**207**	P	Pn	19 42 19.7	-1.5
PLWZ	**Palliser**	**1.51**	**57**	P	Pn	19 42 21.1	-0.6
AKCZ	**Akaroa Harbour**	**1.55**	**198**	P	Pn	19 42 21.4	-1.0
MSWZ	**Moikau Station**	**1.59**	**53**	P	Pn	19 42 22.3	-0.6
INZ	**Inchbonnie**	**1.60**	**257**	P	Pb	19 42 23.8	-0.5
DUWZ	**D'Urville Isla**	**1.61**	**10**	P	Pb	19 42 24.8	+0.2
RACZ	**Rakaia**	**1.69**	**218**	P	Pn	19 42 23.1	-1.2
QRZ	**Quartz Range**	**1.75**	**333**	P	Pb	19 42 26.7	-0.2
KIW	**Kapiti Island**	**1.83**	**34**	P	Pn	19 42 26.6	+0.3
MTW	**Mount Morrison**	**1.91**	**50**	P	Pn	19 42 26.3	-0.9
OGWZ	**Otaki Gorge**	**1.98**	**38**	P	Pn	19 42 28.1	-0.2
WACZ	**Wakanui South**	**2.00**	**219**	P	Pn	19 42 27.4	-1.0
RPZ	**Rata Peaks**	**2.26**	**234**	P	Pn	19 42 31.2	-1.0
TMZ	**Timaru**	**2.73**	**222**	P	Pn	19 42 38.1	-0.4
GRRZ	**Galatos Road**	**4.48**	**27**	P	Pn	19 43 01.9	-0.8
AWAZ	**Awhitu Peninsu**	**5.39**	**9**	P	Pn	19 43 16.7	+1.6

PGC 14 19:42:34.9±0.0, 48.78N×126.64W, h10km, MLSn2.8/38, Mw3.4/38, 67km Wsw of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NC89	**ODP889**	**0.17**	**232**	P	Pg	19 42 43.2	+4.7
NC89				S	Sg	19 42 48.9	+8.0
LB89	**ODP889**	**0.17**	**232**	P	Pg	19 42 43.2	+4.7
NC89				S	Sg	19 42 48.9	+8.0
NCBC	**Barkley Canyon**	**0.47**	**138**	P	Pn	19 42 46.5	-1.1
NCBC				S	Sb	19 42 52.9	+0.8
NCBC	**Barkley Canyon**	**0.47**	**138**	P	Pn	19 42 46.4	-1.1
NCBC				S	Sb	19 42 53.5	+1.5
ETB	**Estevan Point**	**0.60**	**6**	P	Pg	19 42 47.0	+0.5
ETB				S	Sg	19 42 53.8	-0.6
ETB	**Estevan Point**	**0.60**	**6**	P	Pb	19 42 47.2	-0.3
B012	**Ucluelet**	**0.74**	**78**	P	Pg	19 42 48.7	-0.4
B012				S	Sg	19 42 57.2	-1.6
B012	**Ucluelet**	**0.74**	**78**	P	Pg	19 42 48.7	-0.4
B012				S	Sg	19 42 57.5	-1.3
OZB	**Mount Ozzard**	**0.78**	**76**	P	Pg	19 42 49.3	-0.6
OZB				S	Sg	19 42 58.1	-2.0
OZB	**Mount Ozzard**	**0.78**	**76**	P	Pg	19 42 49.3	-0.6
OZB				S	Sg	19 42 58.3	-1.8
BFSB	**Bamfield**	**1.00**	**86**	P	Pg	19 42 52.5	-1.5
BFSB				S	Sg	19 43 04.1	-2.9
BFSB	**Bamfield**	**1.00**	**86**	P	Pg	19 42 52.5	-1.5
BFSB				S	Sg	19 43 04.1	-2.9
B928	**Bamfield**	**1.00**	**86**	P	Pg	19 42 52.5	-1.5
B928				S	Sg	19 43 04.2	-2.8
B928	**Bamfield**	**1.00**	**86**	P	Pg	19 42 52.5	-1.5
B928				S	Sg	19 43 04.1	-2.9
GDR	**Gold River**	**1.08**	**21**	P	Pg	19 42 53.6	-2.0
GDR	**Gold River**	**1.08**	**21**	P	Pg	19 42 53.6	-2.0
EDB	**Eliza Dome**	**1.14**	**344**	P	Pb	19 42 54.6	-2.1
EDB				S	Sb	19 43 07.2	-4.3
EDB	**Eliza Dome**	**1.14**	**344**	P	Pb	19 42 54.6	-2.1
EDB				S	Sb	19 43 07.2	-4.3
NC27	**ODP1027**	**1.26**	**217**	P	Pn	19 42 56.4	-1.8
NC27				S	Sb	19 43 11.2	-3.4
NC27	**ODP1027**	**1.26**	**217**	P	Pn	19 42 56.3	-1.8
NC27				S	Sb	19 43 11.2	-3.4
B927	**Port Alberni**	**1.28**	**69**	S	Sb	19 43 10.7	-4.9
B927	**Port Alberni**	**1.28**	**69**	S	Sb	19 43 10.5	-5.1
SPLB	**Strathcona Par**	**1.29**	**30**	P	Pn	19 42 57.0	-2.0
SPLB				S	Sb	19 43 11.7	-4.1
SPLB	**Strathcona Par**	**1.29**	**30**	P	Pn	19 42 57.0	-2.0
SPLB				S	Sb	19 43 11.8	-4.0
WOSB	**Woss**	**1.39**	**2**	Pn	Pn	19 42 58.5	-1.8
WOSB				Sn	Sb	19 43 14.4	-4.3
OCP	**Olym-Cheeka Pk**	**1.42**	**109**	Pn	Pn	19 42 59.3	-1.5
OCP	**Olym-Cheeka Pk**	**1.42**	**109**	P	Pn	19 42 59.3	-1.5
PFB	**Port Renfrew**	**1.47**	**97**	Pn	Pn	19 42 59.5	-2.0
PFB				Sn	Sn	19 43 15.9	-5.0
PFB	**Port Renfrew**	**1.47**	**97**	P	Pn	19 42 59.5	-2.0
PFB				S	Sn	19 43 15.9	-5.0
BPBC	**Brooks Peninsu**	**1.56**	**332**	Sn	Sn	19 43 18.9	-4.2
BPBC	**Brooks Peninsu**	**1.56**	**332**	S	Sn	19 43 18.9	-4.2
B926	**Mesachie Lake**	**1.66**	**88**	Pn	Pn	19 43 01.9	-2.1
B926				Sn	Sn	19 43 20.7	-4.6
B926	**Mesachie Lake**	**1.66**	**88**	P	Pn	19 43 01.9	-2.1
B926				S	Sn	19 43 20.7	-4.6
CLRS	**Cowichan Lake**	**1.66**	**88**	Pn	Pn	19 43 01.8	-2.2
CLRS				Sn	Sn	19 43 20.8	-4.6
CLRS	**Cowichan Lake**	**1.66**	**88**	P	Pn	19 43 01.8	-2.2
CLRS				S	Sn	19 43 20.8	-4.6
MAYB	**Maynard**	**1.66**	**348**	Pn	Pn	19 43 02.9	-1.3
MAYB				Sn	Sn	19 43 21.7	-3.9
MAYB	**Maynard**	**1.66**	**348**	P	Pn	19 43 02.9	-1.3
MAYB				S	Sn	19 43 21.7	-4.0
GHNB	**Nanoose**	**1.67**	**71**	Pn	Pn	19 43 02.7	-1.4
GHNB				Sn	Sn	19 43 20.9	-4.6
GHNB	**Nanoose**	**1.67**	**71**	P	Pn	19 43 02.7	-1.4
GHNB				S	Sn	19 43 20.9	-4.6
NCRB	**Newcastle Ridg**	**1.67**	**13**	Pn	Pn	19 43 03.0	-1.3

TXB	**Texada**	**1.71**	**57**	Pn	Pn	19 43 03.0	-1.8		
TXB				Sn	Sn	19 43 22.4	-4.3		
TXB	**Texada**	**1.71**	**57**	P	Pn	19 43 03.0	-1.8		
TXB				S	Sn	19 43 22.4	-4.3		
PACB	**Port Alice, BC**	**1.75**	**342**	Pn	Pn	19 43 04.1	-1.1		
PACB				Sn	Sn	19 43 23.1	-4.5		
PACB	**Port Alice, BC**	**1.75**	**342**	P	Pn	19 43 04.1	-1.1		
PACB				S	Sn	19 43 23.1	-4.5		
NLLB	**Nanaimo Lost L**	**1.80**	**75**	Pn	Pn	19 43 04.5	-1.4		
NLLB				Sn	Sn	19 43 25.4	-3.5		
NLLB	**Nanaimo Lost L**	**1.80**	**75**	P	Pn	19 43 04.5	-1.4		
NLLB				S	Sn	19 43 25.4	-3.5		
NCHR	**NEPTUNE Canada**	**1.82**	**245**	Pn	Pn	19 43 04.1	-1.7		
NCHR				Sn	Sn	19 43 24.7	-4.1		
NCHR	**NEPTUNE Canada**	**1.82**	**245**	P	Pn	19 43 04.1	-1.7		
NCHR				S	Sn	19 43 24.7	-4.1		
KEMF	**NEPTUNE Canada**	**1.84**	**244**	Pn	Pn	19 43 04.4	-1.8		
KEMF				Sn	Sn	19 43 24.7	-4.5		
KEMF	**NEPTUNE Canada**	**1.84**	**244**	P	Pn	19 43 04.4	-1.7		
KEMF				S	Sn	19 43 24.7	-4.5		
OBC	**Olympics--Boni**	**1.86**	**113**	Pn	Pn	19 43 05.5	-1.4		
OBC	**Olympics--Boni**	**1.86**	**113**	P	Pn	19 43 05.5	-1.4		
SYMB	**Survey Mountai**	**1.90**	**96**	Pn	Pn	19 43 05.2	-2.1		
SYMB				Sn	Sn	19 43 26.6	-4.7		
SYMB	**Survey Mountai**	**1.90**	**96**	P	Pn	19 43 05.2	-2.1		
SYMB				S	Sn	19 43 26.6	-4.7		
SHB	**Sechelt**	**1.99**	**65**	Pn	Pn	19 43 07.0	-1.7		
SHB				Sn	Sn	19 43 29.1	-4.6		
SHB	**Sechelt**	**1.99**	**65**	P	Pn	19 43 07.0	-1.7		
SHB				S	Sn	19 43 29.1	-4.6		
GOBB	**Galiano Island**	**2.07**	**84**	Pn	Pn	19 43 08.6	-1.1		
GOBB	**Galiano Island**	**2.07**	**84**	P	Pn	19 43 08.6	-1.1		
STW	**Striped Peak**	**2.07**	**107**	Pn	Pn	19 43 07.9	-1.8		
STW	**Striped Peak**	**2.07**	**107**	P	Pn	19 43 07.9	-1.8		
HOLB	**Holberg**	**2.10**	**333**	Pn	Pn	19 43 08.3	-1.8		
HOLB				Sn	Sn	19 43 31.6	-4.7		
HOLB	**Holberg**	**2.10**	**333**	P	Pn	19 43 08.3	-1.8		
HOLB				S	Sn	19 43 31.6	-4.7		
B009	**North Saanich**	**2.12**	**92**	Pn	Pn	19 43 08.4	-1.8		
B009				Sn	Sn	19 43 32.4	-4.2		
B009	**North Saanich**	**2.12**	**92**	P	Pn	19 43 08.4	-1.8		
B009				S	Sn	19 43 32.4	-4.2		
B010	**North Saanich**	**2.12**	**92**	Pn	Pn	19 43 08.6	-1.6		
B010				Sn	Sn	19 43 32.5	-4.0		
B010	**North Saanich**	**2.12**	**92**	P	Pn	19 43 08.6	-1.6		
B010				S	Sn	19 43 32.5	-4.0		
PGC	**Sidney**	**2.12**	**92**	Pn	Pn	19 43 08.4	-1.8		
PGC				Sn	Sn	19 43 32.7	-3.9		
PGC	**Sidney**	**2.12**	**92**	P	Pn	19 43 08.4	-1.8		
PGC				S	Sn	19 43 32.7	-3.9		
B011	**North Saanich**	**2.12**	**92**	Pn	Pn	19 43 08.6	-1.7		
B011				Sn	Sn	19 43 32.6	-4.0		
B011	**North Saanich**	**2.12**	**92**	P	Pn	19 43 08.6	-1.7		
B011				S	Sn	19 43 32.6	-4.0		
PA01	**PA01 North**	**2.12**	**92**	Pn	Pn	19 43 08.7	-1.6		
PA01	**PA01 North**	**2.12**	**92**	P	Pn	19 43 08.7	-1.6		
VGZ	**Gonzales**	**2.23**	**98**	Pn	Pn	19 43 09.9	-1.9		
VGZ				Sn	Sn	19 43 34.5	-4.9		
VGZ	**Gonzales**	**2.23**	**98**	P	Pn	19 43 09.9	-1.9		
VGZ				S	Sn	19 43 34.5	-4.9		
BIB	**Bowen Island**	**2.28**	**73**	Pn	Pn	19 43 11.4	-1.1		
BIB				Sn	Sn	19 43 36.4	-4.2		
BIB	**Bowen Island**	**2.28**	**73**	P	Pn	19 43 11.4	-1.1		
BIB				S	Sn	19 43 36.4	-4.2		
SNB	**Saturna Island**	**2.29**	**89**	Pn	Pn	19 43 11.2	-1.5		
SNB				Sn	Sn	19 43 36.3	-4.7		
SNB	**Saturna Island**	**2.29**	**89**	P	Pn	19 43 11.2	-1.5		
SNB				S	Sn	19 43 36.3	-4.7		
WPB	**Watts Point**	**2.42**	**67**	Pn	Pn	19 43 12.4	-2.0		
WPB	**Watts Point**	**2.42**	**67**	P	Pn	19 43 12.4	-2.0		
HDW	**Hoodsport**	**2.65**	**114**	Pn	Pn	19 43 17.6	-0.1		
HDW	**Hoodsport**	**2.65**	**114**	P	Pn	19 43 17.6	-0.1		
HNBB	**Haney**	**2.73**	**78**	Pn	Pn	19 43 17.3	-1.4		
HNBB				Sn	Sn	19 43 48.0	-3.6		
HNBB	**Haney**	**2.73**	**78**	P	Pn	19 43 17.3	-1.4		
HNBB				S	Sn	19 43 48.0	-3.6		
WSLR	**Whistler**	**2.78**	**60**	Sn	Sn	19 43 49.8	-3.2		
WSLR	**Whistler**	**2.78**	**60**	S	Sn	19 43 49.8	-3.2		
GNW	**Green Mountain**	**2.83**	**114**	Pn	Pn	19 43 17.8	-2.2		
GNW	**Green Mountain**	**2.83**	**114**	P	Pn	19 43 17.8	-2.2		
CPW	**Capitol Peak**	**2.97**	**126**	Pn	Pn	19 43 20.2	-1.9		
CPW	**Capitol Peak**	**2.97**	**126**	P	Pn	19 43 20.2	-1.9		
VDB	**Vedder Mountai**	**3.00**	**84**	Pn	Pn	19 43 21.0	-1.5		
VDB				Sn	Sn	19 43 54.7	-3.8		
VDB	**Vedder Mountai**	**3.00**	**84**	P	Pn	19 43 21.0	-1.5		
VDB				S	Sn	19 43 54.7	-3.8		
A05A	**Maple Falls**	**3.01**	**84**	Pn	Pn	19 43 21.5	-1.1		
A05A				Sn	Sn	19 43 56.3	-2.5		
A05A	**Maple Falls**	**3.01**	**84**	P	Pn	19 43 21.5	-1.1		
A05A				S	Sn	19 43 55.5	-3.3		
CMW	**Cultus Mountai**	**3.02**	**95**	Pn	Pn	19 43 22.7	-0.1		
E03A	**Lebam**	**3.05**	**136**	Sn	Sn	19 43 56.1	-3.5		
E03A	**Lebam**	**3.05**	**136**	P	Pn	19 43 23.1	0.0		
E03A				S	Sn	19 43 56.1	-3.5		
MBW	**Mount Baker**	**3.13**	**88**	Pn	Pn	19 43 23.9	-0.6		
MBW	**Mount Baker**	**3.13**	**88**	P	Pn	19 43 23.9	-0.6		
JCW	**Jim Creek**	**3.19**	**99**	Pn	Pn	19 43 24.6	-0.5		
JCW	**Jim Creek**	**3.19**	**99**	P	Pn	19 43 24.6	-0.5		
RPW	**Rockport**	**3.42**	**94**	Pn	Pn	19 43 27.6	-0.6		
RPW	**Rockport**	**3.42**	**94**	P	Pn	19 43 27.6	-0.6		
D05A	**Enumclaw**	**3.51**	**115**	Pn	Pn	19 43 28.6	-0.8		
D05A	**Enumclaw**	**3.51**	**115**	P	Pn	19 43 28.6	-0.8		
BBB	**Bella Bella**	**3.54**	**345**	Pn	Pn	19 43 28.7	-1.0		
BBB				Sn	Sn	19 44 07.0	-4.6		
BBB	**Bella Bella**	**3.54**	**345**	P	Pn	19 43 28.7	-1.0		
BBB				S	Sn	19 44 07.0	-4.6		
LLLB	**Lillooet**	**3.59**	**58**	Pn	Pn	19 43 29.8	-0.9		
LLLB				Sn	Sn	19 44 09.6	-3.5		
LLLB	**Lillooet**	**3.59**	**58**	P	Pn	19 43 29.8	-0.9		
LLLB				S	Sn	19 44 09.6	-3.5		
FMW	**Mount Fremont**	**3.82**	**117**	Pn	Pn	19 43 34.1	+0.2		
FMW	**Mount Fremont**	**3.82**	**117**	P	Pn	19 43 34.1	+0.2		
LON	**Longmire**	**3.84**	**120**	Pn	Pn	19 43 34.1	0.0		
LON	**Longmire**	**3.84**	**120**	P	Pn	19 43 34.1	0.0		
LTY	**Liberty**	**4.29**	**109**	Pn	Pn	19 43 40.2	0.0		
LTY				Sn	Sn	19 44 27.8	-2.5		
LTY	**Liberty**	**4.29**	**109**	P	Pn	19 43 40.2	0.0		
LTY				S	Sn	19 44 27.8	-2.5		
UBRB	**Upper Baezaeko**	**4.43**	**21**	Pn	Pn	19 43 41.4	-0.7		
UBRB	**Upper Baezaeko**	**4.43**	**21**	P	Pn	19 43 41.4	-0.7		
HG4B	**Hotspring**	**4.56**	**322**	Pn	Pn	19 43 43.2	-0.7		
HG4B				Sn	Sn	19 44 32.2	-4.8		
HG4B	**Hotspring**	**4.56**	**322**	P	Pn	19 43 43.2	-0.7		
HG4B				S	Sn	19 44 32.2	-4.8		
B08A	**Colville Reser**	**4.87**	**92**	Pn	Pn	19 43 47.3	-0.9		
B08A	**Colville Reser**	**4.87**	**92**	P	Pn	19 43 47.3	-0.9		
BNKB	**Banks Island**	**5.00**	**337**	Sn	Sn	19 44 42.9	-4.9		
BNKB	**Banks Island**	**5.00**	**337**	S	Sn	19 44 42.9	-4.9		
GRNB	**Grenville Isla**	**5.49**	**339**	Sn	Sn	19 44 55.0	-4.6		
GRNB	**Grenville Isla**	**5.49**	**339**	S	Sn	19 44 55.0	-4.6		
BLBC	**Blue River**	**5.75**	**53**	Pn	Pn	19 44 00.2	-0.2		
BLBC	**Blue River**	**5.75**	**53**	P	Pn	19 44 00.2	-0.2		
FSJB	**Fort St James**	**5.87**	**14**	Pn	Pn	19 44 02.1	+0.2		
FSJB	**Fort St James**	**5.87**	**14**	P	Pn	19 44 02.1	+0.2		
FSB	**Fort Saint Jam**	**5.89**	**13**	Pn	Pn	19 44 02.1	0.0		
FSB	**Fort Saint Jam**	**5.89**	**13**	P	Pn	19 44 02.1	0.0		

WEL ***14*** *19:47:14.8±0.5, 42°S±3°×17°4E±°, h12km, M3.7/19, ML3.9/19, MLv3.7/19, Error ellipse: s-maj=0.0km s-min=0.0km az=130.2*

IDC ***14*** *19:47:15.6±5.7, 42°.16S×173°.46E, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=109.6km s-min=35.0km az=113.0*

ISC 14 19:47:14.4±1.3, 42°.38S±0°.04×174°.02E±0°.04, h12km±9km, n52, σ0s97/59, mb3.6/3, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**263**	P		**Pg**	**19 47 21.5**	**0.0**
KHZ				S		**Sg**	**19 47 27.1**	**+0.8**
CMWZ	**Cape Campbell**	**0.64**	**13**	P		**Pb**	**19 47 28.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.67**	**351**	P		**Pg**	**19 47 27.2**	**-0.1**
BSWZ				S		**Sb**	**19 47 37.1**	**-0.1**
GVZ	**Greta Valley S**	**0.94**	**230**	P		**Pn**	**19 47 33.7**	**+0.4**
GVZ				S		**Sn**	**19 47 48.6**	**+1.8**
TUWZ	**Tuamarina**	**0.95**	**357**	P		**Pg**	**19 47 32.2**	**-0.4**
TUWZ				S		**Sn**	**19 47 46.1**	**-0.8**
THZ	**Tophouse**	**1.03**	**306**	P		**Pg**	**19 47 33.2**	**-1.0**
THZ				S		**Sg**	**19 47 46.4**	**-1.2**
TCW	**Tory Channel**	**1.18**	**10**	P		**Pb**	**19 47 36.4**	**-0.3**
PLWZ	**Palliser**	**1.23**	**49**	P		**Pn**	**19 47 37.3**	**-0.1**
WEL	**Wellington**	**1.23**	**27**	P		**Pn**	**19 47 37.3**	**-0.1**
WEL				S		**Sg**	**19 47 54.4**	**+0.5**
NNZ	**Nelson**	**1.25**	**337**	P		**Pn**	**19 47 37.6**	**-0.1**
AMCZ	**Amberley**	**1.28**	**231**	P		**Pn**	**19 47 38.2**	**+0.1**
MSWZ	**Moikau Station**	**1.33**	**44**	P		**Pn**	**19 47 36.6**	**-2.2**
LTZ	**Lake Taylor**	**1.35**	**252**	P		**Pn**	**19 47 39.4**	**+0.3**
MRNZ	**Matariki Terra**	**1.35**	**316**	P		**Pb**	**19 47 39.6**	**-0.1**
PAWZ	**Paruwai Farm**	**1.45**	**47**	P		**Pn**	**19 47 40.0**	**-0.5**
CAW	**Cannon Point**	**1.49**	**32**	P		**Pn**	**19 47 40.9**	**-0.1**
OKCZ	**Okains Bay**	**1.52**	**207**	P		**Pn**	**19 47 41.6**	**+0.2**
TKNZ	**Takaka Hill**	**1.56**	**329**	P		**Pn**	**19 47 42.6**	**+0.6**
DUWZ	**D'Urville Isla**	**1.57**	**357**	P		**Pn**	**19 47 42.7**	**+0.5**
TRWZ	**Traveller**	**1.58**	**52**	P		**Pn**	**19 47 42.1**	**-0.2**
MTW	**Mount Morrison**	**1.65**	**43**	P		**Pn**	**19 47 42.8**	**-0.3**
KIW	**Kapiti Island**	**1.66**	**24**	P		**Pn**	**19 47 43.5**	**+0.2**
MQZ	**McQueen's Vall**	**1.66**	**216**	P		**Pn**	**19 47 42.7**	**-0.6**
AKCZ	**Akaroa Harbour**	**1.70**	**208**	P		**Pn**	**19 47 44.0**	**+0.1**
OXZ	**Oxford**	**1.74**	**236**	P		**Pn**	**19 47 44.9**	**+0.5**
DSZ	**Denniston Nort**	**1.76**	**290**	P		**Pb**	**19 47 46.2**	**-0.5**
OGWZ	**Otaki Gorge**	**1.78**	**29**	P		**Pn**	**19 47 45.0**	**0.0**
TMWZ	**Te Maipa**	**1.89**	**48**	P		**Pn**	**19 47 46.0**	**-0.5**
QRZ	**Quartz Range**	**1.91**	**324**	P		**Pb**	**19 47 48.1**	**-1.0**
RACZ	**Rakaia**	**1.93**	**225**	P		**Pn**	**19 47 46.6**	**-0.3**
INZ	**Inchbonnie**	**1.93**	**259**	P		**Pn**	**19 47 48.5**	**+1.4**
MRZ	**Mangatainoka R**	**2.08**	**35**	P		**Pn**	**19 47 48.7**	**-0.4**
WACZ	**Wakanui South**	**2.23**	**225**	P		**Pn**	**19 47 50.9**	**-0.3**
BFZ	**Birch Farm**	**2.38**	**45**	P		**Pn**	**19 47 52.4**	**-0.8**
POWZ	**Post Office Ro**	**2.38**	**34**	P		**Pb**	**19 47 58.8**	**+1.6**
WVZ	**Waitaha Valley**	**2.58**	**253**	P		**Pn**	**19 47 56.1**	**+1.1**
RPZ	**Rata Peaks**	**2.55**	**237**	Pn		**Pn**	**19 47 55.3**	**-0.3**
	8.8nm,0.3s,baz=90,slow=4.0,SNR=8.8							
RPZ				Sn		**Sn**	**19 48 24.3**	**-2.3**
	9.9nm,0.3s,baz=17,slow=17,SNR=4.1 24nm,0.3s							
RPZ	**Rata Peaks**	**2.55**	**237**	P		**Pn**	**19 47 55.9**	**+0.3**
ARCZ	**Arundel**	**2.60**	**232**	P		**Pn**	**19 47 56.1**	**-0.2**
TSZ	**Takapari Road**	**2.74**	**33**	P		**Pn**	**19 47 57.7**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.87**	**250**	P		**Pn**	**19 48 02.2**	**+2.3**
TMZ	**Timaru**	**2.97**	**227**	P		**Pn**	**19 48 01.5**	**+0.1**
DREZ	**Durham Road**	**3.19**	**3**	P		**Pn**	**19 48 03.7**	**-0.7**
VRZ	**Vera Road**	**3.30**	**10**	P		**Pn**	**19 48 07.4**	**+1.6**
OTVZ	**Oturere**	**3.44**	**22**	P		**Pn**	**19 48 10.6**	**+2.6**
HIZ	**Hauiti**	**3.91**	**10**	P		**Pn**	**19 48 15.7**	**+1.5**
HHSZ	**Highcliff Hill**	**4.29**	**214**	P		**Pn**	**19 48 19.2**	**-0.2**
TOZ	**Tahuroa Road**	**4.78**	**14**	P		**Pn**	**19 48 26.7**	**+0.5**
MKAZ	**Moumakai**	**5.34**	**10**	P		**Pn**	**19 48 34.3**	**+0.5**
ASAR	**Alice Springs**	**38.03**	**287**	P		**P**	**19 54 31.4**	**-1.2**
	0.2nm,0.4s,baz=120,slow=6.5,SNR=8.8 0.2nm,0.4s							
WRA	**Warramunga Arr**	**40.16**	**291**	P		**P**	**19 54 49.6**	**-0.9**
	0.9nm,0.7s,baz=130,slow=7.5,SNR=9.2 0.9nm,0.7s							
CMAR	**Chiang Mai Arr**	**91.73**	**293**	P		**P**	**20 00 23.5**	**+1.6**
	0.3nm,0.3s,baz=131,slow=4.2,SNR=1.7 0.3nm,0.3s							

STR ***14*** *19:49:47.3±0.8, 43°N±11°×1°4E±1°6, h9km±20km, MLv4.3/48, Error ellipse: s-maj=0.0km s-min=0.0km az=121.7, preliminary*

IDC ***14*** *19:49:51.3±0.9, 43°.04N×13°.37E, h0km, mb3.6/7, mbtmp3.7/15, ML3.6/8, MS2.9/4, Error ellipse: s-maj=21.6km s-min=11.4km az=93.0*

NEIC ***14*** *19:49:52.0±1.5, 42°.93N±0°.06×13°.14E±0°.07, h6km±6km, Error ellipse: s-maj=8.9km s-min=6.7km az=214.0*

PDG ***14*** *19:49:52.5±0.6, 42°.96N×13°.15E, h15km, ML3.9/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

LDG ***14*** *19:49:52.6±0.1, 42°.85N×13°.07E, h10km, Ml3.4/38, Error ellipse: s-maj=4.1km s-min=2.5km az=38.0*

MED_RC ***14*** *19:49:52.0±0.8, 42°.94N×13°.15E, h10km, MW4.0/8, Moment Tensor Solution. Mantle waves: s8, c9; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.83±.36; $M_{\theta\theta}$0.04±.48; $M_{\phi\phi}$0.79±.15; $M_{r\theta}$-0.41±.47; $M_{\theta\phi}$0.03±.15; $M_{\phi r}$0.84±.32; Best double couple: $M_0$1.23000×10^{15} NP1: ϕ_s162.00000°, δ70.00000°, λ-103.00000°. NP2: ϕ_s16.00000°, δ24.00000°, λ-58.00000°. Principal axes: T 1.1600, Plg24.0000°, Azm262.0000°; N 0.1300, Plg12.0000°, Azm167.0000°; P -1.3000, Plg63.0000°, Azm52.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

ROM ***14*** *19:49:52.1±0.0, 42°.945N±0°.002×13°.153E±0°.003, h10km, ML3.9/114 Error ellipse: s-maj=0.2km s-min=0.1km az=260.0*

PRU ***14*** *19:49:53.8±0.0, 43°.00N×13°.38E, h10km, M4.1*

ISC 14 19:49:52.6±0.6, 42°.94N±0°.01×13°.15E±0°.02, h14km±3km, n434, σ2s11/554, mb3.9/10, 68C-29D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.07**	**286**	⇑P		**Pg**	**19 49 55.2**	**-0.6**
FEMA				S		**Sg**	**19 49 57.2**	**-0.6**
FEMA				AML		AML		
FEMA				AML		AML		
FEMA				AML		AML		
FEMA				AML		AML		
T1256	**Bolognola (MC)**	**0.09**	**42**	⇓P		**Pg**	**19 49 55.0**	**-0.9**
T1256				S		**Sg**	**19 49 57.0**	**-1.1**
T1256				AML		AML		
T1256				AML		AML		
T1256				AML		AML		
T1256				AML		AML		
T1256				AML		AML		
T1245	**Castelsantange**	**0.09**	**161**	⇓P		**Pg**	**19 49 55.3**	**-0.6**
T1245				S		**Sg**	**19 49 57.7**	**-0.4**
T1245				AML		AML		
T1245				AML		AML		
T1245				AML		AML		
T1245				AML		AML		
FDMO	**Fiordimonte**	**0.10**	**335**			**Pg**	**19 49 54.6**	**-1.4**
FDMO	**Fiordimonte**	**0.10**	**335**	⇓P		**Pg**	**19 49 55.3**	**-0.7**
FDMO				S		**Sg**	**19 49 57.3**	**-0.9**
FDMO				AML		AML		
FDMO				AML		AML		
T1216	**Preci, Frazion**	**0.11**	**242**	⇑P		**Pg**	**19 49 55.6**	**-0.4**
T1216				S		**Sg**	**19 49 58.0**	**-0.1**
NRCA	**Norcia**	**0.11**	**193**			**Pg**	**19 49 54.1**	**-1.9**
NRCA	**Norcia**	**0.11**	**193**	⇑P		**Pg**	**19 49 55.6**	**-0.5**
NRCA				S		**Sg**	**19 49 58.0**	**-0.3**
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
T1219	**Muccia, Frazio**	**0.15**	**318**	⇑P		**Pg**	**19 49 56.1**	**-0.5**
T1219				S		**Sg**	**19 49 58.8**	**-0.4**
T1219				AML		AML		
T1219				AML		AML		
T1219				AML		AML		
T1219				AML		AML		
CSP1	**Cessapalombo**	**0.16**	**16**	⇓P		**Pg**	**19 49 55.9**	**-0.8**
CSP1				S		**Sg**	**19 49 58.6**	**-0.7**
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
CSP1				AML		AML		
T1220	**Camerino, Fraz**	**0.17**	**346**	⇓P		**Pg**	**19 49 56.3**	**-0.6**
T1220				S		**Sg**	**19 49 59.3**	**-0.4**
GUMA	**Gualdo di Mace**	**0.18**	**49**	⇑P		**Pg**	**19 49 56.6**	**-0.4**
GUMA				S		**Sg**	**19 49 60.0**	**0.0**
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
GUMA				AML		AML		
CESI	**CESI - Serrava**	**0.19**	**290**	⇑P		**Pg**	**19 49 56.9**	**-0.3**
CESI				S		**Sg**	**19 50 00.4**	**+0.2**
CESI				AML		AML		
CESI				AML		AML		
CESI				AML		AML		
T1212	**Cascia, Frazio**	**0.20**	**202**	⇑P		**Pg**	**19 49 57.2**	**-0.2**
T1212				S		**Sg**	**19 50 01.0**	**+0.4**
T1213	**Norcia, Frazio**	**0.22**	**184**	⇑P		**Pg**	**19 49 57.2**	**-0.3**
T1213				S		**Sg**	**19 50 00.9**	**+0.1**
T1221	**Campello sul C**	**0.23**	**250**	⇑P		**Pg**	**19 49 57.7**	**-0.1**
T1221				S		**Sg**	**19 50 02.1**	**+0.7**
T1215	**Vallo di Nera,**	**0.25**	**236**	⇑P		**Pg**	**19 49 57.9**	**-0.2**
T1215				S		**Sb**	**19 50 02.2**	**-0.9**
T1215				AML		AML		
	comp=N,22850μm,1.1s							
T1215				AML		AML		
	comp=E,18550μm,0.5s							
T1215				AML		AML		
	comp=E,18100μm,0.5s							
T1215				AML		AML		
	comp=N,21650μm,1.1s							
MDAR	**Monte D'Aria**	**0.25**	**359**	P		**Pg**	**19 49 57.5**	**-0.6**
MDAR				S		**Sg**	**19 50 01.6**	**-0.2**
MDAR				AML		AML		
	comp=N,72950μm,0.5s							
MDAR				AML		AML		
	comp=E,57550μm,0.2s							
MDAR				AML		AML		
	comp=N,73000μm,0.5s							
MDAR				AML		AML		
	comp=N,73000μm,1.5s							
SEF1	**Sefro**	**0.25**	**325**	⇑P		**Pg**	**19 49 57.7**	**-0.4**
SEF1				S		**Sg**	**19 50 01.9**	**+0.1**
SEF1				AML		AML		
SEF1				AML		AML		
SEF1				AML		AML		
PIO1	**Pioraco**	**0.27**	**333**	P		**Pg**	**19 49 57.9**	**-0.5**
PIO1				S		**Sg**	**19 50 02.2**	**0.0**
T1218	**Civita (PG)**	**0.27**	**185**	⇑P		**Pg**	**19 49 58.2**	**-0.3**
T1218				S		**Sb**	**19 50 02.9**	**-1.0**
T1218				AML		AML		
	comp=N,25550μm,0.2s							
T1218				AML		AML		
	comp=E,20750μm,1.0s							
T1218				AML		AML		
	comp=N,25300μm,0.2s							
T1218				AML		AML		
	comp=N,25500μm,0.2s							
T1218				AML		AML		
	comp=E,20850μm,1.0s							
SSM1	**San Severino M**	**0.29**	**4**	P		**Pg**	**19 49 58.2**	**-0.5**
SSM1				S		**Sg**	**19 50 02.8**	**-0.1**
FIU1	**Fiuminata**	**0.29**	**327**	P		**Pg**	**19 49 58.3**	**-0.5**
FIU1				S		**Sg**	**19 50 03.2**	**+0.2**
T1201	**Domo (RI)**	**0.29**	**165**	P		**Pg**	**19 49 58.7**	**-0.1**
MNTP	**Montappone**	**0.31**	**50**	⇑P		**Pb**	**19 49 58.9**	**-0.9**
MNTP				S		**Sb**	**19 50 04.8**	**0.0**
MNTP				AML		AML		
	comp=E,99600μm,0.7s							
MNTP				AML		AML		
T1243	**Rocca Santa Ma**	**0.33**	**138**	⇑P		**Pg**	**19 49 58.8**	**-0.6**
T1243				S		**Sb**	**19 50 04.4**	**-1.1**
SMA1	**SAN MARTINO**	**0.34**	**156**	⇑P		**Pg**	**19 49 59.1**	**-0.5**
SMA1				S		**Sb**	**19 50 04.8**	**-1.0**
SMA1				AML		AML		
	comp=N,18700μm,0.3s							
SMA1				AML		AML		
	comp=E,22800μm,0.7s							
LNSS	**Leonessa**	**0.35**	**193**	⇑P		**Pg**	**19 49 59.5**	**-0.3**
LNSS				S		**Sb**	**19 50 05.3**	**-0.7**
LNSS				AML		AML		
	comp=N,23800μm,0.9s							
LNSS				AML		AML		
	comp=E,9255μm,0.6s							
LNSS				AML		AML		
	comp=E,9255μm,1.4s							
SNTG	**Esanatoglia**	**0.35**	**334**	⇑P		**Pg**	**19 49 59.3**	**-0.5**
SNTG				S		**Sg**	**19 50 04.6**	**-0.1**
SNTG				AML		AML		
	comp=E,26600μm,0.4s							
SNTG				AML		AML		
	comp=N,35050μm,0.2s							
SNTG				AML		AML		
	comp=N,35400μm,0.2s							
SNTG				AML		AML		
	comp=N,35400μm,1.8s							
SNTG				AML		AML		
	comp=N,35050μm,1.8s							
SNTG				AML		AML		
	comp=E,26300μm,0.9s							
EL6	**Elcito**	**0.39**	**355**	⇓P		**Pg**	**19 49 59.9**	**-0.6**
EL6				S		**Sb**	**19 50 06.4**	**-0.9**
EL6				AML		AML		
	comp=E,44400μm,0.2s							
EL6				AML		AML		
	comp=N,60500μm,0.8s							
EL6				AML		AML		
	comp=E,44400μm,1.8s							
EL6				AML		AML		
	comp=N,60500μm,1.2s							
OFFI	**Offida**	**0.40**	**91**

T1211 AML AML
comp=E,12405µm,0.9s
T1211 AML AML
comp=N,17300µm,0.3s
TERO Teramo 0.46 133 ⇑P **Pg 19 50 01.0 -0.9**
TERO S **Sb 19 50 08.7 -0.6**
TERO AML AML
comp=E,15400µm,1.1s
TERO AML AML
comp=E,17050µm,1.1s
TERO AML AML
comp=N,12150µm,1.6s
TERO AML AML
comp=N,12900µm,1.5s
TERO AML AML
comp=E,17050µm,0.9s
TERO AML AML
comp=E,15400µm,0.9s
TERO AML AML
comp=N,12150µm,0.4s
TERO AML AML
comp=N,12900µm,0.5s
MMUR Monte Murano 0.51 348 P **Pg 19 50 02.4 -0.4**
MMUR S **Sb 19 50 10.5 -0.3**
MMUR AML AML
comp=E,34050µm,1.1s
MMUR AML AML
comp=N,26950µm,1.6s
MMUR AML AML
comp=E,34050µm,0.9s
MMUR AML AML
comp=N,26950µm,0.4s
T1247 Pizzolo (AQ) 0.51 167 ⇑P **Pg 19 50 02.2 -0.6**
T1247 S **Sb 19 50 10.5 -0.2**
T1247 AML AML
comp=E,12700µm,0.7s
T1247 AML AML
comp=N,11365µm,0.5s
T1247 AML AML
comp=N,11365µm,1.5s
CADA Capodarco di F 0.52 61 P **Pb 19 50 03.4 0.0**
CIMA Civitanova Mar 0.53 46 P **Pb 19 50 03.2 -0.5**
CIMA AML AML
comp=E,31500µm,0.5s
CIMA AML AML
comp=E,31550µm,0.5s
CIMA AML AML
comp=N,40300µm,1.5s
CIMA AML AML
comp=E,31550µm,0.5s
CIMA AML AML
comp=N,40300µm,0.5s
CIMA AML AML
comp=E,31550µm,1.5s
CESX Cesi 0.53 232 **Pg 19 50 01.7 -1.4**
CESX Cesi 0.53 232 ⇑P **Pg 19 50 02.6 -0.6**
CESX S **Sb 19 50 11.0 -0.3**
CESX AML AML
comp=N,15150µm,0.7s
CESX AML AML
comp=E,14350µm,0.5s
PP3 Marolino 0.55 38 ⇑P **Pb 19 50 03.6 -0.5**
PP3 AML AML
comp=E,57350µm,0.3s
PP3 AML AML
comp=N,42200µm,0.4s
PP3 AML AML
comp=E,59850µm,0.4s
PP3 AML AML
comp=E,57400µm,0.3s
PP3 AML AML
comp=E,59900µm,0.4s
PP3 AML AML
comp=N,42800µm,0.4s
PP3 AML AML
comp=N,42150µm,0.4s
MURB Monte Urbino 0.56 305 **Pg 19 50 03.0 -0.6**
MURB Monte Urbino 0.56 305 ⇑P **Pg 19 50 03.2 -0.5**
MURB AML AML
comp=E,66550µm,0.2s
MURB AML AML
comp=N,49350µm,0.4s
MURB AML AML
comp=E,68600µm,0.3s
MURB AML AML
comp=E,66500µm,0.2s
MURB AML AML
comp=N,51450µm,0.2s
MURB AML AML
comp=N,51450µm,1.8s
MURB AML AML
comp=E,68600µm,1.7s
MURB AML AML
comp=E,66500µm,1.8s
SSFR Montelago di S 0.56 332 P **Pg 19 50 03.0 -0.7**
SSFR S **Sb 19 50 11.8 -0.3**
SSFR AML AML
comp=E,60700µm,0.2s
SSFR AML AML
comp=N,67150µm,0.2s
SSFR AML AML
comp=E,59250µm,0.2s
SSFR AML AML
comp=N,55050µm,0.2s
ARVD Arcevia 0.58 345 P **Pg 19 50 03.2 -0.7**
ARVD S **Sb 19 50 12.4 -0.2**
ARVD AML AML
comp=N,8500µm,0.7s
ARVD AML AML
comp=E,13150µm,0.2s
ARVD AML AML
comp=E,13150µm,1.8s
TRTR Tortoreto Alta 0.58 103 ⇑P **Pb 19 50 04.4 -0.1**
TRTR AML AML
comp=E,45050µm,0.5s
TRTR AML AML
comp=N,39050µm,0.6s
TRTR AML AML
comp=E,45050µm,1.5s
TRTR AML AML
comp=N,39050µm,1.4s
GIGS Gran Sasso 0.58 148 P **Pg 19 50 03.2 -0.9**
GIGS S **Sg 19 50 11.7 -0.1**
GIGS AML AML
comp=N,3085µm,0.3s
GIGS AML AML
comp=E,3155µm,1.0s
GIGS AML AML
comp=N,3085µm,1.7s
ATFO Monte Foce - G 0.60 315 ⇑P **Pg 19 50 03.7 -0.7**
ATFO AML AML
comp=N,11600µm,0.5s
ATFO AML AML
comp=E,11295µm,1.2s
ATFO AML AML
comp=N,11600µm,1.5s
AQU L'Aquila 0.62 162 **Pg 19 50 03.5 -1.2**
AQU L'Aquila 0.62 162 ⇑P **Pg 19 50 03.9 -0.9**
AQU AML AML
comp=E,5825µm,1.4s
AQU AML AML
comp=E,5605µm,1.4s
AQU AML AML
comp=N,5670µm,1.1s
AQU AML AML
comp=E,5830µm,1.4s
AQU AML AML
comp=E,5605µm,0.6s
AQU AML AML
comp=E,5830µm,0.6s
AQU AML AML
comp=N,5645µm,1.4s
AQU AML AML
comp=N,5670µm,0.9s
ATTE AVT- Monte Tez 0.64 294 AML AML
comp=E,9240µm,0.4s
ATTE AML AML
comp=N,7905µm,0.4s
FRON Frontone 0.65 332 ⇑P **Pg 19 50 04.5 -0.9**
FRON AML AML
comp=E,12560µm,0.3s
FRON AML AML
comp=N,20150µm,0.7s
FRON AML AML
comp=E,12565µm,0.3s
FRON AML AML
comp=E,12565µm,1.7s
FIAM Fiamignano 0.67 182 ⇑P **Pg 19 50 04.9 -0.9**
FIAM AML AML
comp=E,5140µm,0.5s
FIAM AML AML
comp=E,5140µm,1.5s
FIAM AML AML
comp=N,4040µm,0.6s
AOI Ancona 0.69 28 ⇑P **Pg 19 50 05.5 -0.7**
AOI S **Sb 19 50 16.7 +0.8**
AOI AML AML
comp=N,10830µm,0.4s
AOI AML AML
comp=E,12000µm,0.3s
AOI AML AML
comp=N,10830µm,1.6s
ATVO AVT- Monte Val 0.70 309 ⇑P **Pg 19 50 05.4 -0.8**
ATVO S **Sb 19 50 17.0 +0.9**
ATVO AML AML
comp=N,14200µm,0.6s
ATVO AML AML
comp=E,9195µm,0.3s
COR1 Corinaldo 0.70 351 ⇑P **Pb 19 50 06.4 -0.2**
COR1 AML AML
comp=E,20250µm,0.5s
COR1 AML AML
comp=E,10300µm,0.5s
COR1 AML AML
comp=N,17750µm,1.1s
COR1 AML AML
comp=N,20000µm,1.1s
COR1 AML AML
comp=E,10250µm,0.5s
MPAG Monte Paganucc 0.74 338 ⇑P **Pg 19 50 06.3 -0.9**
MPAG S **Sb 19 50 17.9 +0.5**
MPAG AML AML
comp=E,9945µm,1.6s
MPAG AML AML
comp=N,8550µm,0.4s
MPAG AML AML
comp=E,9470µm,1.6s
MPAG AML AML
comp=N,8395µm,0.4s
MPAG AML AML
comp=E,9930µm,1.6s
MPAG AML AML
comp=N,8530µm,0.5s
MPAG AML AML
comp=E,9455µm,1.6s
MPAG AML AML
comp=E,9930µm,0.4s
MPAG AML AML
comp=E,9455µm,0.4s
MPAG AML AML
comp=N,8530µm,1.5s
MPAG AML AML
comp=N,8395µm,1.6s
PIEI Pieia 0.74 323 ⇑P **Pg 19 50 06.0 -1.1**
PIEI S **Sb 19 50 17.9 +0.5**
PIEI AML AML
comp=E,9195µm,0.2s
PIEI AML AML
comp=N,8220µm,0.4s
ATPI Pietralunga - 0.75 313 ⇑P **Pg 19 50 06.3 -0.8**
ATPI AML AML
comp=E,10000µm,0.8s
ATPI AML AML
comp=N,10235µm,0.6s
ATPI AML AML
comp=E,10010µm,0.8s
ATPI AML AML
comp=N,10280µm,0.6s
FAGN Fagnano 0.75 154 P **Pg 19 50 05.8 -1.4**
FAGN AML AML
comp=E,13700µm,0.4s
FAGN AML AML
comp=N,11500µm,0.5s
FAGN AML AML
comp=N,11500µm,1.5s
VCEL Villa Celiera 0.75 137 AML AML
comp=E,15350µm,1.4s
VCEL AML AML
comp=E,15350µm,0.6s
VCEL AML AML
comp=N,15850µm,0.9s
VCEL AML AML
comp=N,15850µm,1.1s
ATMI Monte Miggiano 0.75 302 ⇑P **Pg 19 50 06.6 -0.7**
ATMI AML AML
comp=E,19050µm,0.6s
ATMI AML AML
comp=N,23350µm,0.7s
MGAB Montegabbione 0.76 268 ⇑P **Pg 19 50 06.8 -0.6**
MGAB AML AML
comp=E,9595µm,1.1s
MGAB AML AML
comp=N,13650µm,0.6s
MGAB AML AML
comp=E,9625µm,1.1s
MGAB AML AML
comp=E,12035µm,1.0s
MGAB AML AML
comp=N,15450µm,0.6s
MGAB AML AML
comp=E,9625µm,0.9s
MGAB AML AML
comp=E,12035µm,1.0s
SENI Senigallia 0.77 5 ⇑P **Pb 19 50 08.1 +0.4**
SENI AML AML
comp=N,39650µm,0.3s
SENI AML AML
comp=E,8690µm,0.4s
SENI AML AML
comp=N,6425µm,1.0s
SENI AML AML
comp=E,47000µm,0.3s
SENI AML AML
comp=E,8675µm,0.4s
SENI AML AML
comp=N,6420µm,1.0s
SENI AML AML
comp=N,39700µm,0.3s
NARO Abbazia di Nar 0.79 328 ⇑P **Pg 19 50 06.8 -1.1**
NARO S **Sb 19 50 19.2 +0.6**
NARO AML AML
comp=E,5805µm,1.0s
NARO AML AML
comp=N,4905µm,1.6s
NARO AML AML
comp=N,4905µm,0.4s
NARO AML AML
comp=E,5805µm,1.0s
FSSB Fossombrone 0.80 340 ⇑P **Pg 19 50 07.3 -0.9**
FSSB AML AML
comp=N,38000µm,0.5s
FSSB AML AML
comp=E,26550µm,0.4s
SRES S.Oreste - Sor 0.85 214 ⇑P **Pg 19 50 07.9 -1.2**
SRES AML AML
comp=N,6855µm,0.7s
SRES AML AML
comp=E,9290µm,0.7s
SRES AML AML
comp=E,9290µm,1.3s
SRES AML AML
comp=N,6855µm,1.3s
T0110 Collepietro 0.85 147 ⇑P **Pg 19 50 07.8 -1.4**
T0110 AML AML
comp=E,13150µm,1.4s
T0110 AML AML
comp=N,9825µm,0.5s
T0110 AML AML
comp=E,13150µm,0.6s
PE3 Peglio 0.89 328 ⇑P **Pg 19 50 09.1 -0.8**
PE3 AML AML
comp=E,67µm,0.6s
PE3 AML AML
comp=N,64µm,0.2s
PE3 AML AML
comp=N,64µm,0.2s
PE3 AML AML
comp=E,67µm,0.6s
SACS San Casciano d 0.91 265 ⇑P **Pg 19 50 09.7 -0.7**
SACS AML AML
comp=N,4400µm,0.7s
SACS AML AML
comp=N,4555µm,0.7s
SACS AML AML
comp=E,5180µm,0.8s
SACS AML AML
comp=E,5095µm,0.8s
PTQR Pietraquaria 0.94 168 P **Pg 19 50 09.4 -1.3**
PTQR AML AML
comp=N,2160µm,0.6s
PTQR AML AML
comp=E,1960µm,0.5s
CAFI Castiglion Fio 0.95 295 ⇑P **Pg 19 50 10.1 -0.9**
CAFI AML AML
comp=E,5875µm,0.7s
CAFI AML AML
comp=N,6070µm,0.8s
CAFI AML AML
comp=E,5960µm,0.7s
CAFI AML AML
comp=N,6325µm,0.9s
MTCE Montecelio 0.97 198 P **Pg 19 50 09.6 -1.7**
MTCE AML AML
comp=E,3250µm,0.6s
MTCE AML AML
comp=N,2270µm,0.6s
MTCE AML AML
comp=E,3250µm,1.4s
SSP9 Sansepolcro 0.97 311 P **Pg 19 50 10.6 -0.8**
SSP9 AML AML
comp=E,3780µm,1.0s
SSP9 AML AML
comp=N,6635µm,0.6s
SSP9 AML AML
comp=E,3780µm,1.0s
CERT Cerreto 1.00 187 P **Pb 19 50 11.9 +0.2**
CERT AML AML
comp=E,3785µm,0.5s
CERT AML AML
comp=N,3015µm,1.4s
CERT AML AML
comp=N,3015µm,0.6s
PESA Pesaro 1.02 347 P **Pb 19 50 12.0 -0.1**
PESA AML AML
comp=N,12300µm,0.3s
PESA AML AML
comp=E,13800µm,1.3s
LATE Laterza 1.04 252 **Pg 19 50 11.7 -1.1**
MCIV Monte Civitell 1.09 262 P **Pg 19 50 12.6 -1.1**
MCIV AML AML
comp=N,2030µm,0.7s
MCIV AML AML
comp=E,2135µm,0.5s
MCIV AML AML
comp=E,2135µm,1.5s
SF04 Casetta 1.10 265 P **Pg 19 50 12.9 -0.9**
RCAV Rocca di Cave 1.10 188 P **Pg 19 50 13.3 -0.7**
RCAV AML AML
comp=E,3150µm,1.0s
RCAV AML AML
comp=N,2960µm,1.6s
RCAV AML AML
comp=N,2960µm,0.4s
VVLD Villa Vallelon 1.13 162 P **Pb 19 50 12.6 -1.3**
CAFR Castel Frentan 1.14 128 P **Pb 19 50 12.8 -1.2**
CAFR AML AML
comp=E,4015µm,0.7s
CAFR AML AML
comp=N,3330µm,0.8s
GUAR Guarcino 1.15 174 P **Pn 19 50 14.8 +0.4**
GUAR AML AML
comp=E,3210µm,1.3s
GUAR AML AML
comp=N,2180µm,1.4s
GUAR AML AML
comp=E,3210µm,0.7s
GUAR AML AML
comp=N,2180µm,0.6s
SF01 Poggio Pratacc 1.17 264 P **Pb 19 50 14.5 -0.1**
SF01 AML AML
comp=E,2895µm,0.8s
SF01 AML AML
comp=N,2265µm,1.0s
SF01 AML AML
comp=E,2895µm,1.2s
LPEL Lama dei Pelig 1.18 139 P **Pb 19 50 12.9 -1.8**
LPEL AML AML
comp=E,4410µm,0.8s
LPEL AML AML
comp=N,3545µm,0.9s
LPEL AML AML
comp=E,4410µm,1.2s
LPEL AML AML
comp=N,3545µm,1.1s
TOLF Tolfa 1.22 224 P **Pn 19 50 14.2 -1.0**
TOLF AML AML
comp=N,1910µm,0.7s
TOLF AML AML
comp=E,2725µm,0.7s
TOLF AML AML
comp=N,1910µm,1.3s
ARCI Arcidosso 1.23 266 P **Pn 19 50 15.6 +0.1**
POFI Posta Fibreno 1.29 161 P **Pn 19 50 15.5 -0.8**
ASQU Asqua 1.31 311 P **Pn 19 50 16.2 -0.3**
LRP Arpino 1.33 166 P **Pg 19 50 17.7 -0.6**
SFI Santa Sofia 1.35 316 P **Pn 19 50 17.0 0.0**
SFI AML AML
comp=E,2785µm,0.9s
SFI AML AML
comp=E,2815µm,0.9s
SFI AML AML
comp=N,2510µm,1.0s
SFI AML AML
comp=N,2455µm,1.0s
SFI AML AML
comp=E,2815µm,1.1s
SFI AML AML
comp=E,2785µm,1.1s
SFI AML AML
comp=N,2455µm,1.0s
RNI2 Rionero Sannit 1.45 149 P **Pb 19 50 19.2 -0.2**
FROS Frosini 1.48 281 P **Pn 19 50 18.6 -0.2**
FROS AML AML
comp=N,1760µm,1.2s
FROS AML AML
comp=E,2405µm,0.5s
FRES Fresagrandinar 1.48 130 P **Pb 19 50 20.1 +0.1**
FRES AML AML
comp=E,1197µm,1.0s
FRES AML AML
comp=N,1045µm,1.1s
FRES AML AML
comp=E,1197µm,1.0s
FRES AML AML
comp=N,1045µm,0.9s
CERA Filignano 1.49 154 P **Pn 19 50 19.2 +0.2**
RUFI Rufina 1.49 308 P **Pn 19 50 18.9 -0.1**
RUFI AML AML
comp=E,2253µm,0.6s
RUFI AML AML
comp=N,2325µm,0.7s
RUFI AML AML
comp=E,2253µm,1.4s
RUFI AML AML
comp=N,2325µm,1.3s
OSSC Osservatorio P 1.51 293 Pn **Pn 19 50 19.1 -0.1**
OSSC Osservatorio P 1.51 293 P **Pn 19 50 19.0 -0.2**
OSSC AML AML
comp=N,2055µm,0.9s
OSSC AML AML
comp=E,1455µm,1.0s
OSSC AML AML
comp=E,2085µm,0.8s
OSSC AML AML
comp=N,1470µm,1.0s
OSSC AML AML
comp=N,2055µm,1.1s
OSSC AML AML
comp=E,2085µm,1.2s
MIDA Miranda 1.54 147 P **Pn 19 50 19.8 +0.1**
MIDA AML AML
comp=N,1305µm,1.4s
MIDA AML AML
comp=N,1365µm,1.0s
MIDA AML AML
comp=E,2015µm,0.9s
MIDA AML AML
comp=E,2035µm,0.9s
MIDA AML AML
comp=E,2035µm,1.1s
MIDA AML AML

comp=N,1305µm,0.6s
MIDA AML AML
comp=E,2015µm,1.1s
LMD Lutirano 1.54 318 P **Pb 19 50 20.4 -0.6**
LMD AML AML
comp=E,2135µm,0.5s
LMD AML AML
comp=N,2390µm,0.7s
TRIV Trivento 1.57 138 AML AML
comp=N,2060µm,1.0s
TRIV AML AML
comp=E,2265µm,1.1s
TRIV AML AML
comp=N,2060µm,1.0s
TRIV AML AML
comp=E,78550µm,1.1s
TRIV AML AML
comp=N,76000µm,1.1s
TRIV AML AML
comp=E,2265µm,0.9s
TRIF Trifonti 1.66 277 AML AML
comp=N,983µm,0.8s
TRIF AML AML
comp=E,1098µm,0.5s
TRIF AML AML
comp=E,1098µm,1.5s
CASP Castiglione de 1.69 266 Pn **Pn 19 50 20.9 -0.7**
CASP Castiglione de 1.69 266 P **Pn 19 50 21.3 -0.3**
BRIS BRISIGHELLA 1.70 316 P **Pb 19 50 23.3 -0.2**
IMOL Imola, Italy 1.75 325 P **Pg 19 50 25.8 -0.3**
BSSO Busso 1.76 142 P **Pb 19 50 25.0 +0.3**
CIGN Sant'Elia a Pi 1.83 134 P **Pb 19 50 25.4 -0.5**
CIGN AML AML
comp=E,891µm,1.0s
CIGN AML AML
comp=N,892µm,0.6s
CIGN AML AML
comp=E,891µm,1.0s
CIGN AML AML
comp=N,892µm,1.4s
MELA Melanico ??? S 1.92 129 P **Pn 19 50 24.9 +0.1**
MELA AML AML
comp=N,2815µm,0.4s
MELA AML AML
comp=E,3255µm,0.9s
MELA AML AML
comp=N,2885µm,0.5s
MELA AML AML
comp=E,3105µm,0.9s
GATE Gambatesa 1.94 137 P **Pb 19 50 27.8 +0.1**
BRJN Brijuni 2.01 12 P **Pb 19 50 25.9 -0.2**
ZCCA Zocca 2.11 313 **Pn 19 50 28.4 +0.8**
ZCCA Zocca 2.11 313 P **Pb 19 50 30.8 +0.1**
APRC Apricena 2.13 123 P **Pn 19 50 28.7 +0.9**
APRC AML AML
comp=E,1225µm,0.7s
APRC AML AML
comp=N,1310µm,0.6s
MAIM Mastiano 2.17 298 P **Pn 19 50 28.4 +0.2**
MAIM AML AML
comp=N,919µm,0.8s
MAIM AML AML
comp=E,666µm,0.5s
MAIM AML AML
comp=N,919µm,1.2s
PAOL Paolisi 2.18 151 **Pn 19 50 27.8 -0.7**
SGRT San Giovanni R 2.26 121 **Pn 19 50 29.7 0.0**
SGRT San Giovanni R 2.26 121 P **Pn 19 50 30.6 +1.0**
SGRT AML AML
comp=E,1555µm,0.5s
SGRT AML AML
comp=E,1555µm,1.5s
SGRT AML AML
comp=N,1085µm,0.7s
VLC Villacollemand 2.35 302 **Pn 19 50 30.9 +0.1**
MSAG Monte S. Angel 2.39 120 P **Pn 19 50 32.5 +1.2**
MSAG AML AML
comp=N,2445µm,0.8s
MSAG AML AML
comp=N,2405µm,0.7s
MSAG AML AML
comp=E,1275µm,0.7s
MSAG AML AML
comp=N,2405µm,1.3s
MSAG AML AML
comp=E,1335µm,0.7s
MSAG AML AML
comp=N,2445µm,1.2s
SGTA Sant Agata di 2.45 137 P **Pn 19 50 34.2 +2.0**
TEOL Teolo 2.64 337 Pn **Pn 19 50 35.2 +0.4**
TEOL Teolo 2.64 337 P **Pn 19 50 35.2 +0.4**
TEOL AML AML
comp=E,2360µm,0.5s
TEOL AML AML
comp=N,2100µm,0.8s
CAPA Cerignola FG 2.67 131 AML AML
comp=N,1340µm,1.0s
CAPA AML AML
comp=N,1340µm,1.0s
CAPA AML AML
comp=E,1605µm,1.0s
SKDS Skadanscina 2.68 13 *i* Pn **Pn 19 50 35.1 -0.2**
PRMA PARMA 2.74 313 **Pn 19 50 36.1 0.0**
MORSI Morsiglia 2.78 272 P **Pn 19 50 35.8 -0.8**
A050A Klekovaca 2.90 57 *e*Pn **Pn 19 50 39.2 +0.9**
CEY Cerknica 2.94 18 *e*Pn **Pn 19 50 38.4 -0.5**
MSSA Maissana 2.97 299 Pn **Pn 19 50 40.0 +0.6**
BOJS Bojanci 2.98 30 *e*Pn **Pn 19 50 39.1 -0.2**
BOJS Bojanci 2.98 30 AML AML
comp=E,1825µm,1.4s
BOJS AML AML
comp=N,1320µm,0.7s
BOJS AML AML
comp=N,1320µm,1.3s
SMPL Sampolo 2.98 255 P **Pn 19 50 40.3 +0.9**
SABO M.te Sabotino 3.06 6 **Pn 19 50 40.4 -0.1**
SABO M.te Sabotino 3.06 6 P **Pn 19 50 40.3 -0.2**
SABO AML AML
comp=E,1075µm,0.5s
SABO AML AML
comp=N,1425µm,0.7s
SABO AML AML
comp=N,5470µm,0.7s
SABO AML AML
comp=E,4390µm,0.5s
SABO AML AML
comp=N,5470µm,1.3s
SABO AML AML
comp=N,1425µm,1.3s
PGF Pioggiola 3.08 264 *e*P **Pn 19 50 41.6 +0.7**
PGF *e*Sn **Sn 19 51 13.5 -4.1**
comp=N,10nm,0.3s
PGF Pioggiola 3.08 264 P **Pn 19 50 41.4 +0.5**
ROVR Rover Verones 3.09 332 P **Pn 19 50 41.6 +0.6**
ROVR AML AML
comp=N,563µm,0.9s
ROVR AML AML
comp=E,308µm,0.5s
ROVR AML AML
comp=N,563µm,1.1s
CGRP Cima Grappa 3.09 342 P **Pn 19 50 41.4 +0.3**
CGRP AML AML
comp=E,913µm,1.0s
CGRP AML AML
comp=E,868µm,1.0s
CGRP AML AML
comp=N,1055µm,0.5s
CGRP AML AML
comp=E,868µm,1.0s
CGRP AML AML
comp=E,913µm,1.0s
CGRP AML AML
comp=N,1044µm,0.5s
GBAS Gorenja Brezov 3.13 17 *i* Pn **Pn 19 50 41.8 +0.2**
VARN Col Varnada, M 3.14 347 P **Pn 19 50 41.8 +0.1**
VARN AML AML
comp=E,1150µm,0.6s
VARN AML AML
comp=N,1225µm,0.6s
VARN AML AML
comp=N,1235µm,0.6s
VARN AML AML
comp=E,1150µm,1.1s
VARN AML AML
comp=N,1235µm,1.4s
VARN AML AML
comp=N,1225µm,1.4s
VARN AML AML
comp=E,1150µm,0.9s
MGRS Mrkonjic Grad 3.21 61 *e*Pn **Pn 19 50 44.1 +1.4**
LJU Ljubljana 3.25 17 AML AML
comp=E,4190µm,0.6s
LJU AML AML
comp=N,5175µm,0.7s
DOSS Dosso del Somm 3.26 335 P **Pn 19 50 44.1 +0.8**
DOSS AML AML
comp=E,831µm,0.6s
DOSS AML AML
comp=N,852µm,0.5s
DOSS AML AML
comp=N,736µm,0.5s
DOSS AML AML
comp=E,831µm,1.4s
DOSS AML AML
comp=E,764µm,0.5s
DOSS AML AML
comp=N,852µm,1.5s
SALO Salr 3.27 326 Pn **Pn 19 50 44.7 +1.2**
SALO Salr 3.27 326 P **Pn 19 50 44.7 +1.2**
SALO AML AML
comp=E,912µm,0.7s
SALO AML AML
comp=N,911µm,1.4s
SALO AML AML
comp=N,936µm,1.4s
SALO AML AML
comp=E,884µm,0.7s
SALO AML AML
comp=N,936µm,0.6s
SALO AML AML
comp=N,911µm,0.6s
PRIJ Prijedor 3.28 50 *e*Pn **Pg 19 50 53.8 -1.7**
CTI Castel Tesino 3.29 341 **Pn 19 50 44.2 +0.5**
CTI Castel Tesino 3.29 341 P **Pn 19 50 44.5 +0.8**
CTI AML AML
comp=N,813µm,0.3s
CTI AML AML
comp=E,732µm,0.6s
MPRI Monte Prat 3.30 358 P **Pn 19 50 44.2 +0.3**
MPRI AML AML
comp=N,1380µm,0.6s
MPRI AML AML
comp=E,832µm,0.7s
CADS Cadrg 3.31 7 *i* Pn **Pn 19 50 43.7 -0.3**
CRES Cresnjev 3.33 29 *e*Pn **Pn 19 50 43.5 -0.7**
STAL STALIGIAL 3.33 355 **Pn 19 50 44.5 +0.2**
STAL STALIGIAL 3.33 355 P **Pn 19 50 44.4 +0.1**
STAL AML AML
comp=N,700µm,0.8s
STAL AML AML
comp=E,843µm,0.8s
STON Ston 3.34 90 *e*Pn **Pn 19 50 43.6 -0.8**
STON Ston 3.34 90 AML AML
comp=N,250µm,0.6s
STON AML AML
comp=E,212µm,0.8s
AJAC Base Areonaval 3.40 254 P **Pn 19 50 45.7 +0.6**
LUSI Trento, Gardas 3.41 333 P **Pn 19 50 46.5 +1.2**
LUSI AML AML
comp=N,728µm,0.7s
LUSI AML AML
comp=E,602µm,0.6s
LUSI AML AML
comp=N,728µm,1.3s
LUSI AML AML
comp=E,602µm,1.4s
CIMO Cimolais 3.41 352 Pn **Pn 19 50 45.1 -0.1**
CIMO Cimolais 3.41 352 P **Pn 19 50 45.2 -0.1**
CIMO AML AML
comp=E,206µm,1.6s
CIMO AML AML
comp=N,208µm,0.5s
CIMO AML AML
comp=E,201µm,0.5s
CIMO AML AML
comp=E,206µm,0.4s
CIMO AML AML
comp=N,204µm,0.5s
A051A Mrakovica 3.41 51 *e*Pn **Pn 19 50 45.9 +0.5**
BLY Banja Luka 3.43 57 *e*Pn **Pn 19 50 46.6 +1.0**
PTCC Patocco-Chiusa 3.47 2 P **Pn 19 50 45.8 -0.4**
PTCC AML AML
comp=E,306µm,0.6s
PTCC AML AML
comp=N,274µm,1.2s
PTCC AML AML
comp=E,306µm,1.4s
GAGG Gaggia 3.51 334 P **Pn 19 50 47.8 +1.0**
GAGG AML AML
comp=E,729µm,0.4s
GAGG AML AML
comp=N,537µm,0.9s
MATE Matera 3.51 130 ⇓P **Pn 19 50 47.8 +1.2**
PRED Cave del Predi 3.51 5 **Pn 19 50 46.8 -0.1**
CLUD Cludinico 3.52 357 Pn **Pn 19 50 47.0 +0.1**
CLUD Cludinico 3.52 357 P **Pn 19 50 46.8 -0.1**
CLUD AML AML
comp=N,367µm,1.0s
CLUD AML AML
comp=E,516µm,0.8s
ZONE Zone 3.56 323 P **Pn 19 50 48.6 +1.1**
ZONE AML AML
comp=E,407µm,0.8s
ZONE AML AML
comp=E,407µm,1.2s
ZONE AML AML
comp=N,465µm,0.4s
CUC Castrocucco 3.56 145 **Pn 19 50 48.3 +0.9**
ACOM Acomizza, Ital 3.62 4 P **Pn 19 50 48.5 +0.2**
ACOM AML AML
comp=E,802µm,1.1s
ACOM AML AML
comp=N,618µm,1.0s
ACOM AML AML
comp=E,806µm,1.1s
ACOM AML AML
comp=N,622µm,1.0s
ZOU Zoufplan 3.62 358 P **Pn 19 50 48.4 +0.1**
ZOU AML AML
comp=N,514µm,0.6s
ZOU AML AML
comp=N,505µm,0.6s
ZOU AML AML
comp=E,605µm,1.1s
ZOU AML AML
comp=E,642µm,1.1s
ZOU AML AML
comp=N,505µm,1.4s
ZOU AML AML
comp=E,605µm,0.9s
ZOU AML AML
comp=E,642µm,0.9s
ZOU AML AML
comp=N,514µm,1.4s
FVI Forni Avoltri 3.66 356 P **Pn 19 50 49.1 +0.2**
FVI AML AML
comp=E,403µm,0.8s
FVI AML AML
comp=N,486µm,0.6s
OBKA Obir 3.70 15 *e*Pn **Pn 19 50 49.4 -0.1**
OBKA Obir 3.70 15 *i* Pn **Pn 19 50 49.4 -0.1**
comp=N,5.4nm,0.2s
MYKA Terra Mystica 3.71 5 *e*Pn **Pn 19 50 49.9 +0.5**
comp=N,36nm,0.4s,SNR=15
MYKA *e*Sn **Sn 19 51 32.3 -0.6**
comp=N,46nm,0.4s
KOSI Kohlern 3.74 341 P **Pn 19 50 51.5 +1.4**
KOSI AML AML
comp=E,580µm,0.8s
KOSI AML AML
comp=N,427µm,0.8s
APPI Appiano 3.79 340 P **Pn 19 50 51.7 +1.0**
APPI AML AML
comp=E,360µm,1.0s
APPI AML AML
comp=N,532µm,0.5s
ABTA Abfaltersbach 3.83 353 *i* Pn **Pn 19 50 52.1 +0.9**
comp=N,75nm,0.4s,SNR=50
ABTA *e*Sn **Sn 19 51 36.6 +0.5**
comp=N,157nm,0.8s
BRY Bratogost 3.96 89 *e*Pn **Pn 19 50 52.9 -0.1**
BRY Bratogost 3.96 89⇓*i* Pn **Pn 19 50 54.0 +1.0**
BRY *i* Sn **Sn 19 51 41.4 +2.1**
SOKA Soboth 3.97 19 *i* Pn **Pn 19 50 53.1 0.0**
comp=N,2.4nm,0.2s
SOKA *i* Sn **Sn 19 51 39.5 0.0**
comp=N,17nm,0.4s
HCY Herceg Novi 3.97 95 *e*Pn **Pn 19 50 53.8 +0.7**
HCY Herceg Novi 3.97 95⇑*i* Pn **Pn 19 50 54.1 +1.0**
HCY *i* Sn **Sn 19 51 41.7 +2.3**
RISI Rein 4.08 350 P **Pn 19 50 55.9 +1.2**
RISI AML AML
comp=E,1185µm,0.5s
RISI AML AML
comp=N,1410µm,0.5s
MOSI Grossmontoni 4.11 334 P **Pn 19 50 57.5 +2.3**
KBA Koelnbreinsper 4.14 2 *i* Pn **Pn 19 50 56.2 +0.7**
comp=N,26nm,0.3s,SNR=21
KBA *i* Sn **Sn 19 51 43.2 -0.6**
comp=N,83nm,0.6s
ROSI Rosskopf 4.17 343 P **Pn 19 50 57.1 +1.1**
ROSI AML AML
comp=E,520µm,1.0s
ROSI AML AML
comp=N,736µm,0.6s
ROSI AML AML
comp=N,736µm,1.4s
ROSI AML AML
comp=E,520µm,1.0s
MUGIO Muggio 4.19 317 P **Pn 19 50 56.5 +0.5**
MUGIO AML AML
comp=E,219µm,0.4s
MUGIO AML AML
comp=N,196µm,0.5s
MUGIO AML AML
comp=N,196µm,1.5s
SAOF Saorge 4.20 286 P **Pn 19 50 56.4 +0.2**
FUORN Ofenpass-Fuorn 4.21 332 Pn **Pn 19 50 58.7 +2.1**
UPM Unac-Piva 4.23 84 *e*Pn **Pn 19 50 57.7 +1.0**
UPM Unac-Piva 4.23 84 *e*Pn **Pn 19 50 57.6 +0.9**
UPM *i* Sn **Sn 19 51 47.8 +1.9**
SBF Sospel 4.26 284 *e*P **Pn 19 50 57.3 +0.2**
SBF *e*Sn **Sn 19 51 42.1 -4.6**
comp=N,50nm,0.4s
CEME Cevo 4.27 93⇑*i* Pn **Pn 19 50 58.2 +1.0**
CEME *i* Sn **Sn 19 51 48.9 +2.1**
NKME Niksic 4.27 90⇑*i* Pn **Pn 19 50 58.2 +1.0**
NKME *i* Sn **Sn 19 51 49.0 +2.1**
BUM Brajici-Budva 4.29 97⇑*i* Pn **Pn 19 50 58.5 +1.0**
BUM *i* Sn **Sn 19 51 49.4 +2.1**
VARE Varese 4.29 315 P **Pn 19 50 58.3 +0.8**
ESCA l'Escarene 4.30 284 P **Pn 19 50 58.0 +0.4**
TURF col de Turini 4.32 286 P **Pn 19 50 58.3 +0.4**
BEHE Becsehely 4.37 35 P **Pb 19 51 09.9 +0.7**
FETA Feichten 4.42 338 *e*Pn **Pn 19 51 01.4 +1.9**
comp=N,40nm,0.5s,SNR=27
FETA *e*Sn **Sn 19 51 54.9 +4.1**
comp=N,23nm,0.3s
SPIF crte de Spivo 4.44 287 P **Pn 19 51 01.1 +1.5**
TUE Stuetta 4.45 324 P **Pn 19 50 59.8 0.0**
WTTA Wattenberg 4.45 347 *i* Pn **Pn 19 51 01.4 +1.6**
comp=N,32nm,0.4s
WTTA *e*Sn **Sn 19 51 53.0 +1.5**
comp=N,83nm,0.5s
WTTA Wattenberg 4.45 347 P **Pn 19 51 01.7 +1.9**
VSL Villasalto 4.46 221 P **Pn 19 51 01.6 +1.7**
VSL AML AML
comp=N,59µm,0.8s
VSL AML AML
comp=E,74µm,0.9s
MVIF Mont Vial 4.47 284 P **Pn 19 51 01.8 +1.8**
DAVOX Davos/Dischmat 4.49 330 Pn **Pn 19 51 02.6 +2.3**
comp=E,7.8nm,0.3s,baz=157,slow=16,SNR=56
DAVOX Sn **Sn 19 51 53.8 +1.5**
comp=E,9.5nm,0.3s,baz=276,slow=20,SNR=9.4
comp=E,48nm,0.3s
SQTA Sankt Quirin 4.49 343 *i* Pn **Pn 19 51 02.1 +1.7**
comp=E,34nm,0.4s,SNR=32
SQTA *e*Sn **Sn 19 51 54.4 +1.9**
comp=E,54nm,0.3s
DRME Dracevica, Mon 4.52 98 *e*Pn **Pn 19 51 01.7 +1.1**
DRME Dracevica, Mon 4.52 98⇓*i* Pn **Pn 19 51 01.8 +1.1**
DRME *i* Sn **Sn 19 51 55.0 +2.0**
PDG Podgorica 4.53 94 ⇑P **Pn 19 51 02.5 +1.8**
PDG Podgorica 4.53 94 **Pn 19 51 01.8 +1.1**
TTG Podgorica 4.53 94⇑*i* Pn **Pn 19 51 01.9 +1.1**
TTG *i* Sn **Sn 19 51 55.3 +2.2**
WATA Walderalm 4.53 346 *i* Pn **Pn 19 51 02.7 +1.8**
comp=E,36nm,0.5s,SNR=18
WATA *e*Sn **Sn 19 51 56.2 +2.8**
comp=E,39nm,0.3s
PLE Pljevlja 4.58 83 *e*Pn **Pn 19 51 02.6 +1.0**
PLE *i* Sn **Sn 19 51 56.5 +1.8**
RUDO Rudo 4.59 79 *e*Pn **Pn 19 51 01.1 -0.5**
ISO Isola 4.60 288 P **Pn 19 51 03.4 +1.6**
ISO S **Sn 19 51 58.0 +3.0**
CALF Calern 4.61 282 P **Pn 19 51 02.1 +0.2**
ULC Ulcinj 4.62 100⇑*i* Pn **Pn 19 51 03.1 +1.2**
ULC *i* Sn **Sn 19 51 57.4 +2.1**
ARSA Arzberg 4.62 20 *i* Pn **Pn 19 51 02.0 0.0**
comp=E,7.3nm,0.5s
ARSA *i* Sn **Sn 19 51 52.4 -3.2**
comp=E,30nm,0.3s
ARSA Arzberg 4.62 20 **Pn 19 51 01.6 -0.4**
MOTA Moosalm 4.63 343 *i* Pn **Pn 19 51 04.0 +1.7**
comp=E,22nm,0.4s,SNR=26
MOTA *e*Sn **Sn 19 52 00.6 +4.6**
comp=E,97nm,0.6s
TIP Timpagrande 4.64 143 Pn **Pn 19 51 03.7 +1.3**
BBLS Lazići 4.65 76 *e*Pn **Pn 19 51 03.5 +1.0**
TRAV Traversella 4.66 305 P **Pn 19 51 02.9 +0.4**
TRAV AML AML
comp=N,96µm,0.9s
TRAV AML AML
comp=E,128µm,0.9s
TRAV AML AML
comp=N,96µm,1.1s
KOME Kolasin 4.68 89 *e*Pn **Pn 19 51 03.9 +1.0**
KOME *i* Sn **Sn 19 51 58.8 +1.8**
KOVH Kovagotottos 4.74 47 P **Pn 19 51 02.4 -1.1**
KOVH S **Sn 19 51 54.9 -3.3**
FUSIO Fusio 4.75 319 P **Pn 19 51 05.1 +1.2**
BIOA Bad Ischl, Aus 4.76 4 *e*Pn **Pn 19 51 04.7 +0.7**
comp=N,31nm,0.3s,SNR=24
BIOA *e*Sn **Sn 19 51 59.2 +0.3**
comp=N,147nm,0.5s
SURF Saint Ours 4.84 291 P **Pn 19 51 06.2 +1.0**
RETA Reutte 4.85 340 *i* Pn **Pn 19 51 07.5 +2.3**
comp=N,9.0nm,0.3s,SNR=6.2
RETA *i* Sn **Sn 19 52 05.2 +4.1**
comp=N,30nm,0.4s
JAUF Jausiers 4.87 290 P **Pn 19 51 07.1 +1.5**
LMR La Mourre 4.87 277 *e*P **Pn 19 51 05.5 +0.1**
LMR *e*Sn **Sn 19 51 56.5 -5.1**
comp=N,5.3nm,0.4s
TEKS Tekeris 4.89 69 *e*Pn **Pb 19 51 18.2 +0.1**
SCTE Santa Cesarea 4.92 124 Pn **Pn 19 51 06.7 +0.7**
DAVA Damuels 4.92 333 *e*Pn **Pn 19 51 09.0 +2.8**
comp=N,22nm,0.6s,SNR=24
MBDF Montbardon 4.95 293 *e*P **Pn 19 51 07.7 +1.1**
MBDF *e*Sn **Sn 19 51 59.2 -4.4**
comp=N,9.9nm,0.4s
IVA Berane 4.96 89⇑*i* Pn **Pn 19 51 07.7 +1.1**
IVA *i* Sn **Sn 19 52 05.5 +1.7**
MOA Molln 4.97 9 *i* Pn **Pn 19 51 07.5 +0.7**
comp=N,10.0nm,0.3s,SNR=9.0
MOA *i* Sn **Sn 19 52 03.8 -0.3**
comp=N,24nm,0.3s
TRIGF Trigance 4.98 282 P **Pn 19 51 08.0 +1.0**
CREF Crivoux 4.99 291 P **Pn 19 51 08.7 +1.5**
EMBD Embd, Matterta 5.01 313 P **Pn 19 51 06.6 -0.9**
OGAG Argentiere 5.02 290 P **Pn 19 51 10.3 +2.7**
PVY Plav 5.03 92 *e*Pn **Pn 19 51 08.8 +1.1**
PVY *i* Sn **Sn 19 52 07.3 +1.7**
DIVS Divibare 5.11 75 Pn **Pn 19 51 09.8 +1.0**
DIVS Divibare 5.11 75 *e*Pn **Pn 19 51 06.1 -2.7**
MORH Mrgy, Hungar 5.11 48 ⇓P **Pn 19 51 09.6 +0.9**
MORH Mrgy, Hungar 5.11 48 P **Pn 19 51 10.3 +1.7**
BNI Bardonecchia 5.12 297 Pn **Pn 19 51 09.8 +0.8**
DIX Grande Dixence 5.17 309 P **Pn 19 51 11.0 +1.3**
TIR Tirane 5.24 105 **Pn 19 51 11.1 +0.6**
MPLH Magyarpolny 5.25 35 P **Pn 19 51 10.1 -0.5**
RONA Rosalia, Austr 5.25 24 *i* Pn **Pn 19 51 10.5 -0.1**
comp=N,2.9nm,0.2s
RONA *e*Sn **Sn 19 52 07.8 -3.2**
comp=N,7.8nm,0.3s

BLAF	**les Blancs**	**5.27**	**283**	P		**Pn**	19 51 12.5	+1.6
LPL	**La Plagne**	**5.28**	**301**	*e*P		**Pn**	19 51 13.0	+1.8
LPL				*e*Sn		**Sn**	19 52 07.6	-4.3
	comp=N,15nm,0.4s							
FRGS	**Fruska Gora**	**5.29**	**63**	*e*Pn		**Pn**	19 51 09.8	-1.4
SOP	**Sopron**	**5.32**	**26**	P		**Pn**	19 51 11.3	-0.2
SOP				S		**Sn**	19 52 08.1	-4.4
CONA	**Conrad Observa**	**5.34**	**20**	*i* Pn		**Pn**	19 51 11.8	-0.1
	comp=N,4.0nm,0.2s							
CONA				*e*Sn		**Sn**	19 52 11.0	-2.2
	comp=N,13nm,0.3s							
VLO	**Vlora**	**5.36**	**115**	Pn		**Pn**	19 51 10.3	-1.7
EGYH	**Egyhazaskeszo**	**5.36**	**32**	P		**Pn**	19 51 12.5	+0.4
SENIN	**Lac Senin/Sane**	**5.39**	**311**	Pn		**Pn**	19 51 13.7	+0.9
ARTF	**Artigues**	**5.40**	**279**	P		**Pn**	19 51 14.0	+1.3
ARTF				S		**Sn**	19 52 20.7	+6.1
RSL	**Roselend**	**5.42**	**303**	P		**Pn**	19 51 15.4	+2.2
ZUR	**Degenried**	**5.48**	**325**	P		**Pn**	19 51 16.2	+2.4
OGSI	**Sixt**	**5.54**	**307**	P		**Pn**	19 51 17.4	+2.8
BSTF	**la Bastide-des**	**5.54**	**282**	P		**Pn**	19 51 16.1	+1.4
GDM	**Grand'Maison**	**5.55**	**296**	P		**Pn**	19 51 18.9	+4.1
AIGLE	**Aigle**	**5.58**	**310**	P		**Pn**	19 51 17.6	+2.4
ORIF	**Oris-en-Rattie**	**5.61**	**293**	*e*P		**Pn**	19 51 18.2	+2.6
ORIF				*e*Sn		**Sn**	19 52 15.0	-4.8
	comp=N,8.1nm,0.4s							
ORIF	**Oris-en-Rattie**	**5.61**	**293**	P		**Pn**	19 51 18.1	+2.5
SMRF	**Simiane la Rot**	**5.61**	**283**	*e*P		**Pn**	19 51 17.3	+1.7
SMRF				*e*Sn		**Sn**	19 52 14.3	-5.5
	comp=N,3.9nm,0.4s							
RUSF	**Rustrel**	**5.67**	**283**	P		**Pn**	19 51 17.9	+1.5
SULZ	**Cheisacher**	**5.80**	**324**	P		**Pn**	19 51 20.0	+1.8
SULZ	**Cheisacher**	**5.80**	**324**	S		**Sn**	19 52 24.8	+0.2
GRN	**Grenoble**	**5.81**	**296**	P		**Pn**	19 51 21.8	+3.5
SLE	**Schleitheim**	**5.83**	**327**	P		**Pn**	19 51 18.9	+0.3
SLE	**Schleitheim**	**5.83**	**327**	S		**Sn**	19 52 25.3	+0.1
TORNY	**Torny/Romont**	**5.83**	**313**	P		**Pn**	19 51 20.5	+1.9
TORNY	**Torny/Romont**	**5.83**	**313**	S		**Sn**	19 52 25.8	+0.5
BALST	**Balsthal**	**5.84**	**321**	P		**Pn**	19 51 19.8	+0.9
BALST	**Balsthal**	**5.84**	**321**	S		**Sn**	19 52 24.1	-1.5
GEC2	**GERESS Array S**	**5.92**	**4**			**Sn**	19 51 19.5	-0.4
GERES	**GERESS Array B**	**5.92**	**4**	Pn		**Pn**	19 51 19.5	-0.4
	comp=N,2.4nm,0.3s,baz=171,slow=13,SNR=64							
GERES				Sn		**Sn**	19 52 24.5	-2.9
	comp=N,9.7nm,0.3s,baz=163,slow=24,SNR=12							
GERES				LR		LR	19 54 08.9	
	comp=N,59nm,18.6s,baz=220,slow=44							
	comp=N,3.5nm,0.3s							
GERES	**GERESS Array B**	**5.92**	**4**			**Pn**	19 51 18.6	-1.2
CKRC	**Cesky Krumlov**	**5.94**	**7**	*e*PN		**Pn**	19 51 19.4	-0.6
CKRC				*e*SN		**Sn**	19 52 24.3	-3.5
ZST	**Bratislava**	**5.94**	**26**	*e*PN		**Pn**	19 51 20.2	+0.1
ZST				*e*SN		**Sn**	19 52 24.0	-3.9
KEK	**Kerkira**	**5.96**	**121**	Pn		**Pn**	19 51 18.1	-2.2
OGSM	**Saint Maurice**	**5.98**	**299**	P		**Pn**	19 51 22.5	+1.9
OHR	**Ohrid**	**5.98**	**105**	*i* Pn		**Pn**	19 51 22.9	+2.2
GIMEL	**St. Georges /**	**6.08**	**309**	P		**Pn**	19 51 23.7	+1.6
BOURR	**Bourrignon**	**6.11**	**319**	P		**Pn**	19 51 23.1	+0.7
BOURR	**Bourrignon**	**6.11**	**319**	S		**Sn**	19 52 28.7	-3.4
FELD	**Feldberg im Sc**	**6.12**	**326**	P		**Pn**	19 51 22.9	+0.3
FELD	**Feldberg im Sc**	**6.12**	**326**	S		**Sn**	19 52 31.2	-1.3
MODS	**Modra-Piesok**	**6.15**	**27**	*e*PN		**Pn**	19 51 23.4	+0.4
MODS				*e*SN		**Sn**	19 52 30.8	-2.4
KBN	**Korca**	**6.16**	**109**			**Pn**	19 51 22.0	-1.2
BRANT	**Les Verrieres**	**6.20**	**312**	P		**Pn**	19 51 25.0	+1.3
BRANT	**Les Verrieres**	**6.20**	**312**	S		**Sn**	19 52 33.5	-0.9
KHC	**Kasperske Hory**	**6.20**	**3**	Pn		**Pn**	19 51 22.9	-0.8
KHC	**Kasperske Hory**	**6.20**	**3**	*e*PN		**Pn**	19 51 23.2	-0.5
KHC				*e*SN		**Sn**	19 52 30.9	-3.4
KIZ	**Kirchzarten**	**6.22**	**326**	P		**Pn**	19 51 24.0	+0.1
KIZ	**Kirchzarten**	**6.22**	**326**	S		**Sn**	19 52 30.9	-3.8
CABF	**La Chapelle**	**6.22**	**309**	*e*P		**Pn**	19 51 25.7	+1.7
CABF				*e*Sn		**Sn**	19 52 30.7	-4.2
	comp=N,5.4nm,0.3s							
OG35	**Corcelles**	**6.24**	**302**	P		**Pn**	19 51 25.6	+1.3
OG35				S		**Sn**	19 52 33.2	-2.2
CHMF	**Charmoille**	**6.30**	**315**	P		**Pn**	19 51 25.8	+0.8
CHMF				S		**Sn**	19 52 34.9	-1.8
BFO	**Black Forest**	**6.36**	**330**	Pn		**Pn**	19 51 27.1	+1.3
RIVEL	**MONT RIVEL**	**6.40**	**309**	P		**Pn**	19 51 27.6	+1.2
RIVEL				S		**Sn**	19 52 38.7	-0.5
VIVF	**Saint-Julien-l**	**6.42**	**290**	*e*P		**Pn**	19 51 28.4	+1.8
VIVF				*e*Sn		**Sn**	19 52 33.7	-5.9
	comp=N,2.5nm,0.4s							
VOGT	**Vogtsburg - To**	**6.42**	**325**	P		**Pn**	19 51 27.5	+0.8
MDVR	**Moldovita**	**6.46**	**71**	⇓P		**Pn**	19 51 29.7	+2.5
MOF	**Molkenrain**	**6.48**	**321**	P		**Pn**	19 51 28.2	+0.6
MOF				S		**Sn**	19 52 37.3	-4.0
FNA	**Florina**	**6.51**	**107**	Pn		**Pn**	19 51 29.6	+1.6
KRUC	**Moravsky**	**6.53**	**19**	*e*PN		**Pn**	19 51 27.4	-0.7
KRUC				*e*SN		**Sn**	19 52 38.8	-3.5
TREC	**Trest**	**6.56**	**14**	*e*PN		**Pn**	19 51 28.4	-0.2
TREC				*e*SN		**Sn**	19 52 39.7	-3.4
HINF	**Hinteralfeld**	**6.59**	**320**	*e*Pn		**Pn**	19 51 28.9	-0.1
HINF				*e*Sn		**Sn**	19 52 39.7	-4.2
	comp=N,30nm,0.4s							
RONF	**Ronchamp**	**6.61**	**318**	P		**Pn**	19 51 29.8	+0.5
RONF				S		**Sn**	19 52 40.1	-4.3
SSB	**Saint Sauveur**	**6.62**	**294**	P		**Pn**	19 51 30.7	+1.2
BZS	**Buzias**	**6.64**	**63**	⇓P		**Pn**	19 51 31.4	+1.7
ECH	**Echery**	**6.74**	**324**			**Pn**	19 51 31.3	+0.2
ECH	**Echery**	**6.74**	**324**	P		**Pn**	19 51 31.6	+0.5
ECH				S		**Sn**	19 52 45.3	-2.3
ECH	**Echery**	**6.74**	**324**	P		**Pn**	19 51 31.3	+0.2
ECH				S		**Sn**	19 52 43.7	-3.9
VRAC	**Vranov**	**6.80**	**19**	⇑P		**Pn**	19 51 30.4	-1.5
VRAC	**Vranov**	**6.80**	**19**	Pn		**Pn**	19 51 32.2	+0.3
	comp=N,0.6nm,0.3s,baz=203,slow=13,SNR=2.8							
VRAC				Sn		**Sn**	19 52 43.9	-5.2
	comp=N,1.5nm,0.3s,baz=156,slow=9.3,SNR=4.0							
	comp=N,1.8nm,0.4s							
VRAC	**Vranov**	**6.80**	**19**	*e*PN		**Pn**	19 51 31.3	-0.6
VRAC				*e*SN		**Sn**	19 52 45.5	-3.6
WLS	**Welschbruch**	**6.81**	**325**	P		**Pn**	19 51 32.4	+0.3
WLS				S		**Sn**	19 52 47.0	-2.4
STIP	**Stip**	**6.81**	**97**	*i* Pn		**Pn**	19 51 35.0	+2.9
VYHS	**Vyhne**	**6.83**	**34**	*e*PN		**Pn**	19 51 34.5	+2.2
VYHS				*e*SN		**Sn**	19 52 47.4	-2.4
CDF	**Champ du Feu**	**6.84**	**325**	*e*P		**Pn**	19 51 32.7	+0.2
CDF				*e*Sn		**Sn**	19 52 45.0	-5.2
	comp=N,14nm,0.3s							
LASF	**Ste Croix**	**6.85**	**283**	*e*P		**Pn**	19 51 33.6	+1.0
LASF				*e*Sn		**Sn**	19 52 43.7	-6.6
	comp=N,1.8nm,0.4s							
PSZ	**Piszkesteto**	**6.88**	**41**			**Pn**	19 51 31.6	-1.3
PSZ	**Piszkesteto**	**6.88**	**41**	S		**Sn**	19 52 48.4	-2.6
GRFO	**Grafenberg**	**6.88**	**349**	Pn		**Pn**	19 51 33.4	+0.4
GRA1	**Grafenberg Arr**	**6.88**	**350**	Pn		**Pn**	19 51 33.0	-0.1
SIRR	**Siria**	**6.92**	**58**	⇑P		**Pn**	19 51 36.0	+2.3
HAU	**Haudompre**	**6.96**	**319**	*e*Pn		**Pn**	19 51 34.3	+0.2
HAU				*e*Sn		**Sn**	19 52 49.0	-4.0
	comp=N,54nm,0.4s							
HERR	**Herculane**	**6.97**	**71**	⇓P		**Pn**	19 51 36.4	+2.2
SURR	**Surduc**	**7.02**	**63**	⇑P		**Pn**	19 51 36.4	+1.5
GOPC	**GO Pecny, Ondr**	**7.07**	**9**	*e*PN		**Pn**	19 51 34.4	-1.1
PRU	**Pruhonice**	**7.11**	**7**	*e*PN		**Pn**	19 51 34.9	-1.3
PRU				*e*SN		**Sn**	19 52 53.1	-3.6
CIEL	**Dossenheim-sur**	**7.14**	**328**	P		**Pn**	19 51 37.6	+1.1
CIEL				S		**Sn**	19 52 54.8	-2.6
PLYF	**Puligny Montra**	**7.19**	**307**	P		**Pn**	19 51 38.6	+1.5
PLYF				S		**Sn**	19 52 56.9	-1.6
VAY	**Valandovo**	**7.19**	**100**	*i* Pn		**Pn**	19 51 38.2	+0.9
NKC	**Novy Kostel**	**7.31**	**356**	*e*SN		**Sn**	19 52 58.2	-3.4
GZR	**Gura Zlata**	**7.34**	**67**	⇑P		**Pn**	19 51 41.4	+2.0
VTS	**Vitosha**	**7.43**	**89**	⇓P		**Pn**	19 51 42.3	+1.7
VTS	**Vitosha**	**7.43**	**89**	Pn		**Pn**	19 51 41.0	+0.3
VTS	**Vitosha**	**7.43**	**89**	*e*P		**Pn**	19 51 41.8	+1.1
KKB	**Krupnik**	**7.43**	**95**	*e*P		**Pn**	19 51 41.8	+1.2
MORC	**Moravsky Berou**	**7.48**	**22**	⇓P		**Pn**	19 51 39.9	-1.3
MORC	**Moravsky Berou**	**7.48**	**22**	Pn		**Pn**	19 51 40.5	-0.8
MORC	**Moravsky Berou**	**7.48**	**22**	*e*PN		**Pn**	19 51 41.6	+0.3
DEV	**Deva**	**7.58**	**64**	⇑P		**Pn**	19 51 44.8	+2.2
SMF	**Signal de Mont**	**7.58**	**302**	*e*P		**Pn**	19 51 44.1	+1.4
SMF				*e*Sn		**Sn**	19 53 02.2	-6.1
	comp=N,8.8nm,0.4s							
PAGF	**Fort de Pagny**	**7.64**	**320**	*e*P		**Pn**	19 51 45.1	+1.6
	baz=141							
PAGF				*e*Sn		**Sn**	19 53 04.9	-4.9
	comp=N,9.9nm,0.3s							
SFTF	**Sexfontaines**	**7.75**	**316**	*e*P		**Pn**	19 51 46.0	+1.1
	baz=134							
SFTF				*e*Sn		**Sn**	19 53 07.4	-5.0
	comp=N,9.4nm,0.3s							
KEST	**Kesra**	**7.78**	**203**	Pn		**Pn**	19 51 46.5	+1.1
	comp=N,0.1nm,0.3s,baz=354,slow=19,SNR=1.0							
	comp=N,1.9nm,0.9s							
LOR	**Lormes**	**7.87**	**307**	*e*P		**Pn**	19 51 47.5	+1.0
	baz=127							
LOR				*e*Sn		**Sn**	19 53 09.6	-5.7
	comp=N,13nm,0.3s							
LOR	**Lormes**	**7.87**	**307**	P		**Pn**	19 51 47.2	+0.6
LOR	**Lormes**	**7.87**	**307**	S		**Sn**	19 53 12.4	-2.9
MEZF	**Maizieres J'vi**	**7.93**	**317**	*e*P		**Pn**	19 51 49.7	+2.3
	baz=139							
MEZF				*e*Sn		**Sn**	19 53 12.0	-4.9
	comp=N,8.6nm,0.4s							
ABH	**Alteburg**	**7.95**	**333**	P		**Pn**	19 51 48.9	+1.3
AVF	**Avril sur Loir**	**7.95**	**302**	*e*P		**Pn**	19 51 49.2	+1.6
AVF				*e*Sn		**Sn**	19 53 11.0	-6.3
	comp=N,2.1nm,0.3s							
BRG	**Berggiesshubel**	**7.95**	**4**	*e*P		**Pn**	19 51 46.2	-1.4
BRG				Amp			19 51 59.1	
	comp=Z,3.7nm,0.6s							
BRG				*ex*	x		19 52 24.9	
BRG				*ex*	x		19 53 11.7	
BRG				*ex*	x		19 54 22.5	
BRG				Amp			19 54 37.9	
	comp=Z,26nm,1.2s							
MMB	**Musomiste**	**7.96**	**96**	*e*P		**Pn**	19 51 50.0	+2.1
SAVF	**Savonnieres en**	**7.97**	**318**	*e*P		**Pn**	19 51 51.5	+3.5
	baz=139							
SAVF				*e*Sn		**Sn**	19 53 12.9	-5.0
	comp=Z,10nm,0.3s							
SSF	**Saint Saulge**	**7.98**	**304**	*e*P		**Pn**	19 51 49.3	+1.3
SSF				*e*Sn		**Sn**	19 53 11.6	-6.4
	comp=Z,3.9nm,0.3s							
MTLF	**Montolieu**	**8.01**	**277**	*e*P		**Pn**	19 51 51.0	+2.6
MTLF				*e*Sn		**Sn**	19 53 11.8	-6.9
	comp=Z,1.5nm,0.4s							
MARR	**Marisel-Cluj**	**8.01**	**59**	P		**Pn**	19 51 50.2	+1.5
LOT	**Lotru**	**8.03**	**68**	⇑P		**Pn**	19 51 51.1	+2.2
BGF	**Bois d'Agland**	**8.17**	**300**	*e*P		**Pn**	19 51 53.6	+2.9
BGF				*e*Sn		**Sn**	19 53 17.0	-5.8
	comp=Z,7.3nm,0.4s							
CAF	**Calviac**	**8.24**	**288**	*e*P		**Pn**	19 51 53.5	+1.8
CAF				*e*Sn		**Sn**	19 53 17.7	-6.9
	comp=Z,0.4nm,0.1s							
WLF	**Walferdange**	**8.28**	**327**	Pn		**Pn**	19 51 52.5	+0.3
WLF	**Walferdange**	**8.28**	**327**	*dx*	x		19 51 58.9	
CLL	**Collm**	**8.37**	**359**	Pn		**Pn**	19 51 53.1	-0.3
CLL	**Collm**	**8.37**	**359**	*i* Pn		**Pn**	19 51 52.8	-0.6
	comp=Z,4.0nm,0.3s							
CLL				*i* Sn		**Sn**	19 53 21.2	-6.4
CLL				*e*Sg		**Sg**	19 54 18.0	-3.0
	comp=Z,21nm,1.0s							
CLL	**Collm**	**8.37**	**359**	*i* P		**Pb**	19 52 21.1	+3.9
CLL				LmV			20 37 00.0	
	comp=Z,100nm,18.1s							
CLL				LV			20 55 00.0	
	comp=Z,100nm,20.4s							
TRPA	**Tarpa**	**8.39**	**49**	⇓P		**Pn**	19 51 55.2	+1.6
PLVB	**Pleven**	**8.40**	**83**	⇓P		**Pn**	19 51 55.8	+2.0
TCF	**Toulx Ste Croi**	**8.49**	**297**	*e*P		**Pn**	19 51 57.3	+2.2
TCF				*e*Sn		**Sn**	19 53 23.7	-6.9
	comp=Z,1.8nm,0.3s							
STHS	**Stebnicka Huta**	**8.57**	**38**	*e*P		**Pg**	19 52 32.3	-4.2
HYF	**Humbligny**	**8.60**	**304**	*e*P		**Pn**	19 52 00.2	+3.7
HYF				*e*Sn		**Sn**	19 53 26.3	-7.0
ARR	**Arges**	**8.61**	**70**	⇑P		**Pn**	19 51 59.2	+2.4
RZN	**Rozhen**	**8.66**	**94**	*e*P		**Pn**	19 51 59.4	+1.8
RJF	**Les Rejaudoux**	**8.69**	**290**	*e*P		**Pn**	19 52 01.3	+3.4
RJF				*e*Sn		**Sn**	19 53 28.6	-7.0
	comp=Z,0.9nm,0.3s							
KOLS	**Kolonicke sedl**	**8.73**	**44**	*e*P		**Pg**	19 52 35.5	-4.2
VOIR		**8.91**	**70**	⇓P		**Pn**	19 52 02.6	+1.7
RCHB	**Rochefort**	**9.04**	**326**	*dx*	x		19 52 08.0	
RCHB				*dS*		**Sn**	19 53 43.2	-0.9
MEM	**Membach**	**9.10**	**330**	*dx*	x		19 52 09.1	
MEM				*dS*		**Sn**	19 53 42.8	-2.7
GIVF	**Givet**	**9.17**	**324**	*e*P		**Pn**	19 52 08.1	+3.7
GIVF				*e*Sn		**Sn**	19 53 42.0	-5.3
	comp=Z,3.8nm,0.3s							
BCLA	**Clavier**	**9.21**	**327**	*d*P		**Pn**	19 52 05.5	+0.5
BCLA				*d*S		**Sn**	19 53 46.2	-2.2
BSTI	**Sart Tilman**	**9.24**	**328**	*d*S		**Sn**	19 53 47.2	-1.8
DOU	**Dourbes**	**9.27**	**324**	*dx*	x		19 52 14.2	
BMRD	**Maredsous**	**9.35**	**325**	*dx*	x		19 52 12.1	
BMRD				*d*S		**Sn**	19 53 52.4	+0.8
EPF	**Esparros**	**9.39**	**275**	*e*P		**Pn**	19 52 10.2	+2.7
EPF				*e*Sn		**Sn**	19 53 44.5	-8.3
	comp=Z,0.8nm,0.3s							
BAIF	**Baives**	**9.41**	**322**	*e*Sn		**Sn**	19 53 47.3	-5.9
	comp=Z,2.0nm,0.2s							
MLR	**Muntele Rosu**	**9.54**	**70**	⇑P		**Pn**	19 52 12.2	+2.7
MLR	**Muntele Rosu**	**9.54**	**70**	Pn		**Pn**	19 52 12.7	+3.2
	comp=Z,0.1nm,0.3s,baz=180,slow=0,SNR=5.1							
MLR				LR		LR	19 56 20.0	
	comp=Z,85nm,18.9s,baz=269,slow=42							
ETSF	**Etsaut**	**10.06**	**274**	*e*P		**Pn**	19 52 19.6	+3.0
MFF	**Saint Martin d**	**10.14**	**296**	*e*Sn		**Sn**	19 54 02.9	-8.1
	comp=Z,1.2nm,0.4s							
LDF	**La Druitiere**	**10.85**	**306**	*e*Sn		**Sn**	19 54 20.2	-8.3
	comp=Z,1.5nm,0.4s							
FLN	**La Foliniere**	**11.14**	**306**	*e*Sn		**Sn**	19 54 27.8	-7.8
	comp=Z,1.6nm,0.2s							
GRR	**Gorron**	**11.21**	**304**	*e*Sn		**Sn**	19 54 28.6	-8.6
	comp=Z,0.9nm,0.2s							
ESDC	**Sonseca Array**	**13.27**	**262**	LR		LR	19 57 25.1	
	comp=Z,38nm,19.3s,baz=36,slow=34							
ELL	**Elmali**	**14.28**	**110**	P		**P**	19 53 20.1	-1.5
EKA	**Eskdalemuir Ar**	**16.30**	**325**	Pn		**P**	19 53 43.0	-0.9
	baz=136,slow=14							
	comp=Z,0.7nm,0.4s							
NOA	**NORSAR Array B**	**18.16**	**357**	Pn		**Pn**	19 54 02.7	-1.5
	baz=171,slow=12,SNR=3.4							
	comp=Z,0.8nm,0.9s							
FINES	**FINESS Array B**	**20.08**	**18**	Pn		**P**	19 54 25.0	-0.3
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=8.3							
	comp=Z,4.0nm,0.9s							
MMAI	**Mount Meron Ar**	**20.10**	**112**	Pn		Pn	19 54 27.5	-0.1
	comp=Z,0.2nm,0.3s,baz=316,slow=10,SNR=2.2							
	comp=Z,4.1nm,0.9s							
TORD	**Tordi Ar. Bea**	**31.30**	**202**	P		**P**	19 56 12.8	+0.6
	comp=Z,0.8nm,0.5s,baz=11,slow=9.4,SNR=6.4							
	comp=Z,0.8nm,0.5s							
ARU	**Arti**	**31.70**	**49**	P		**P**	19 56 15.6	+0.1
GEYT	**Alibeck**	**34.28**	**83**	LR		LR	20 14 40.5	
	comp=Z,56nm,19.9s,baz=300,slow=44							
BRVK	**Borovoye**	**38.58**	**54**	P		**P**	19 57 16.3	+1.5
KK31	**Karatay Array**	**41.22**	**69**	P		**P**	19 57 37.8	+0.9
KK31				IAmb		IAmb	19 57 45.0	
	comp=Z,2.7nm,0.8s							
KKAR	**Karatay Array**	**41.22**	**69**	P		**P**	19 57 37.9	+1.1
KKAR	**Karatay Array**	**41.22**	**69**	P		**P**	19 57 38.0	+1.2
KKAR				IAmb		IAmb	19 57 45.0	
	comp=Z,2.7nm,0.8s							
CHGR	**Chuyangaron**	**41.95**	**76**	P		**P**	19 57 42.7	-0.3
BTK	**Batken**	**42.56**	**74**	P		**P**	19 57 48.0	+0.1
BTK				IAmb		IAmb	19 57 49.2	
	comp=Z,3.7nm,0.7s							
KURBB	**Kurchatov Arra**	**44.10**	**56**	P		**P**	19 57 59.7	-0.4
	comp=Z,0.1nm,0.3s,baz=304,slow=6.6,SNR=3.0							
	comp=Z,0.1nm,0.3s							
MK31	**Makanchi Array**	**47.71**	**60**	P		**P**	19 58 29.5	+0.8
MKAR	**Makanchi Array**	**47.71**	**60**	P		**P**	19 58 29.2	+0.5
	comp=Z,0.8nm,0.7s,baz=301,slow=5.2,SNR=10							
	comp=Z,0.8nm,0.7s							
MKAR	**Makanchi Array**	**47.71**	**60**	P		**P**	19 58 29.5	+0.8
SONM	**Songino Array**	**61.73**	**50**	P		**P**	20 00 10.9	+0.5
	comp=Z,0.7nm,0.9s,baz=312,slow=8.9,SNR=2.4							
	comp=Z,0.7nm,0.9s							
ILAR	**Eielson Array**	**71.49**	**351**	P		**P**	20 01 13.6	+1.3
	comp=Z,0.8nm,0.8s,baz=11,slow=5.3,SNR=6.3							
	comp=Z,0.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**74.65**	**79**	P		**P**	20 01 30.9	-0.9
	comp=Z,0.9nm,0.8s,baz=302,slow=6.9,SNR=9.6							
	comp=Z,0.9nm,0.8s							
TXAR	**Lajitas Array**	**87.62**	**309**	P		**P**	20 02 41.6	+0.9
	comp=Z,0.2nm,0.7s,baz=58,slow=12,SNR=2.6							
	comp=Z,0.2nm,0.7s							

NEIC ***14*** *19:56:38.1±1.5, 53.5N±0.1×163.3W±0.1, h13km±8km, mb3.7/2, ML3.6/8, ML3.5(AEIC), Error ellipse: s-maj=18.9km s-min=6.2km az=152.0*

AEIC 14 19:56:42.0±1.7, 53.52N±0.09×163.28W±0.08, h33km±7km, Error ellipse: s-maj=13.9km s-min=4.3km az=156.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.34**	**357**		Sn	19 57 21.4	+0.5
FALS	**False Pass**	**1.34**	**357**		Pn	19 57 03.3	-1.0
AKUT	**Akutan**	**1.60**	**294**	Pn	Pn	19 57 05.6	-2.3
UNV	**Unalaska Valle**	**1.94**	**281**		Pn	19 57 10.8	-1.8
UNV					Sn	19 57 35.1	-0.8
SDPT	**Sand Point**	**2.46**	**41**	Pn	Pn	19 57 17.9	-1.7
SDPT				IAML		19 58 10.6	
	comp=E,262nm,1.3s						
SDPT				IAML		19 58 14.6	
	comp=N,208nm,2.8s						
NIKH	**Nikolski High**	**3.39**	**263**		Pn	19 57 31.8	-0.8
CHGN	**Chignik**	**3.95**	**43**	Pn	Pn	19 57 38.8	-1.5
CHGN				IAML		19 59 34.3	
	comp=E,88nm,1.2s						
CHGN				IAML		20 00 15.9	
	comp=N,85nm,0.9s						
CHIR	**Chirikof Islan**	**5.00**	**60**		Pn	19 57 52.5	-2.2
OHAK	**Old Harbor**	**6.79**	**53**	Pn	Pn	19 58 17.1	-2.1
KDAK	**Kodiak Island**	**7.40**	**51**	Pn	Pn	19 58 25.2	-2.4
O18K	**Koktuh Hills**	**7.74**	**32**	Pn	Pn	19 58 31.2	-1.0
ADK	**Adak**	**8.31**	**264**	Pn	Pn	19 58 38.7	-1.3
KIWB	**Kanaga Island**	**8.59**	**264**	Pn	Pn	19 58 41.5	-2.4
SVW2	**Sparrevohn**	**8.65**	**26**	Pn	Pn	19 58 43.6	-1.1
N19K	**Bonanza Creek**	**8.72**	**30**	Pn	Pn	19 58 46.0	+0.2
CNPM	**China Poot**	**8.96**	**43**	Pn	Pn	19 58 48.4	-0.6
RSO	**Redoubt South**	**9.01**	**35**	Pn	Pn	19 58 47.6	-2.2
L19K	**White Mountain**	**9.76**	**24**	Pn	Pn	19 58 58.0	-2.0
SPU	**Mount Spurr**	**9.77**	**34**	Pn	Pn	19 58 58.5	-1.6
SUA	**Susitna One**	**10.41**	**35**	Pn	Pn	19 59 07.3	-1.6
SCM	**Sheep Creek Mo**	**11.89**	**39**	Pn	Pn	19 59 26.8	-2.3
KLU	**Klutina**	**12.25**	**42**	Pn	Pn	19 59 31.2	-2.7
M24K	**Tolsona, Glenn**	**12.49**	**40**	Pn	Pn	19 59 35.0	-2.4
N25K	**Chitina, Valde**	**12.85**	**44**	Pn	Pn	19 59 40.1	-2.0
I26K	**Coal Creek Min**	**15.53**	**33**	Pn	Pn	20 00 17.1	-1.1
I26K				IAmb	IAmb	20 00 57.5	
	comp=Z,9.1nm,1.5s						
TOLK	**Toolik Lake Re**	**16.48**	**18**	P	Pn	20 00 31.3	+0.

WTAZ	Waiatarua	5.30	6	P	Pn	19 59 02.3	+4.0	
HAZ	Te Kaha	5.34	35	P	Pn	19 58 56.7	-2.2	
SYZ	Scrubby Hill	5.52	217	P	Pn	19 59 02.7	+1.3	
CTZ	Chatham Island 106nm,1.3s	7.09	106	P	Pn	19 59 22.3	-0.7	
CTZ	Chatham Island	7.09	106	P	Pn	19 59 22.4	-0.6	

WEL ***14*** *20:04:00, 42.54S×173.20E, h4km, ML4.1, Mw4.1, Moment Tensor Solution. s4 Moment tensor: Scale 10^15 Nm; Mrr1.20; Mθθ-0.63; Mϕϕ-0.57; Mrθ 0.99; Mθϕ-1.11; Mrϕ 0.75; Fault plane solution: M0 1.91000×10^15 NP1: ϕs 216.00000°, δ25.00000°, λ75.00000°. NP2: ϕs 52.00000°, δ65.00000°, λ97.00000°. Principal axes: T -216.1400, Plg69.0000°, Azm336.0000°; N 49.7100, Plg6.0000°, Azm229.0000°; P 166.4300, Plg20.0000°, Azm137.0000°;*

IDC ***14*** *20:04:09.1±1.3, 42.55S×173.36E, h0km, mb4.1/3, mbtmp4.1/4, ML4.3/1, MS3.4/5 Error ellipse: s-maj=43.0km s-min=35.0km az=173.0*

WEL ***14*** *20:04:12.8±0.3, 43.3S×17.3E±, h11km±3km, M4.2/15, ML4.5/15, MLv4.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=123.1*

NOU ***14*** *20:04:12.1, 42.65S×173.10E, h0km, MLv4.7/13, South Island, New Zealand*

NEIC ***14*** *20:04:13.3±0.8, 42.50S±0.03×173.04E±0.03, h10km±1km, mb4.4/7, Error ellipse: s-maj=5.5km s-min=3.2km az=145.0*

ISC 14 20:04:11.8±1.2, **42.55S**±0.02×**173.19E**±0.03, **h9**km±8km, **n156**, σ1§41/166, **mb4.1**/8, **MS3.5**/5, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.29	62		Pb	20 04 20.6	+1.4
KHZ	Kahutara	0.29	62	P	Pb	20 04 20.8	+1.5
KHZ				S	Sb	20 04 26.7	+2.4
GVZ	Greta Valley S	0.43	195		Pb	20 04 22.3	+0.8
GVZ				Sg	Sb	20 04 29.5	+1.3
GVZ	Greta Valley S	0.43	195	P	Pb	20 04 22.5	+1.0
GVZ				S	Sb	20 04 30.2	+2.1
LTZ	Lake Taylor	0.71	251		Pg	20 04 25.5	0.0
LTZ				Sg	Sg	20 04 34.1	-0.8
LTZ	Lake Taylor	0.71	251	P	Pg	20 04 25.5	0.0
LTZ				S	Sg	20 04 34.6	-0.3
AMCZ	Amberley	0.74	212	Pg	Pb	20 04 27.8	+1.0
AMCZ	Amberley	0.74	212	P	Pb	20 04 27.9	+1.1
AMCZ				S	Sn	20 04 39.0	-0.7
THZ	Tophouse	0.82	345	Pg	Pg	20 04 26.2	-1.3
THZ	Tophouse	0.82	345	P	Pg	20 04 27.8	+0.3
BSWZ	Blackbirch Sta	0.98	32		Pg	20 04 30.6	-0.1
BSWZ	Blackbirch Sta	0.98	32	P	Pg	20 04 30.7	0.0
CMWZ	Cape Campbell	1.11	44		Pb	20 04 30.6	-2.5
CMWZ	Cape Campbell	1.11	44	P	Pb	20 04 30.8	-2.3
OXZ	Oxford	1.14	227		Pb	20 04 33.5	-0.2
OXZ	Oxford	1.14	227	P	Pb	20 04 33.5	-0.2
OXZ				S	Sn	20 04 49.5	-0.3
OKCZ	Okains Bay	1.17	185	P	Pn	20 04 35.1	+0.7
MRNZ	Matariki Terra	1.20	344		Pb	20 04 34.7	+0.1
MRNZ	Matariki Terra	1.20	344	P	Pb	20 04 34.9	+0.2
MQZ	McQueen's Vall	1.22	199		Pn	20 04 34.8	-0.2
MQZ	McQueen's Vall	1.22	199	P	Pn	20 04 34.5	-0.5
MQZ				S	Sb	20 04 51.5	+0.8
TUWZ	Tuamarina	1.26	27		Pn	20 04 34.4	-1.1
TUWZ	Tuamarina	1.26	27	P	Pn	20 04 34.9	-0.7
INZ	Inchbonnie	1.30	262	Pn	Pn	20 04 35.7	-0.3
INZ	Inchbonnie	1.30	262	P	Pn	20 04 35.7	-0.3
DSZ	Denniston Nort	1.31	308		Pn	20 04 36.1	-0.2
DSZ	Denniston Nort	1.31	308	P	Pn	20 04 36.3	0.0
DSZ				S	Sn	20 04 54.1	+0.2
AKCZ	Akaroa Harbour	1.33	189	P	Pn	20 04 36.7	+0.1
NNZ	Nelson	1.34	6		Pb	20 04 37.8	+0.7
NNZ	Nelson	1.34	6	P	Pg	20 04 38.1	+0.5
RACZ	Rakaia	1.40	213	P	Pn	20 04 37.3	-0.2
RACZ				S	Sn	20 04 55.8	-0.3
TKNZ	Takaka Hill	1.53	354	Pn	Pn	20 04 40.0	+0.7
TKNZ	Takaka Hill	1.53	354	P	Pb	20 04 40.5	+0.2
MHCZ	Mount Hutt	1.54	230	P	Pn	20 04 39.5	0.0
TCW	Tory Channel	1.57	32	Pn	Pn	20 04 38.5	-1.3
TCW	Tory Channel	1.57	32	P	Pn	20 04 38.8	-1.0
SNZO	South Karori	1.68	43		Pn	20 04 40.5	-0.9
WACZ	Wakanui South	1.70	215	P	Pn	20 04 41.5	-0.1
WEL	Wellington	1.73	43	P	Pn	20 04 41.7	-0.4
QRZ	Quartz Range	1.80	344		Pb	20 04 44.1	-0.7
QRZ	Quartz Range	1.80	344	P	Pb	20 04 44.6	-0.3
QRZ	Quartz Range	1.80	344	P	Pb	20 04 44.5	-0.4
QRZ				S	Sb	20 05 08.0	+0.5
PLWZ	Palliser	1.83	58		Pn	20 04 44.0	+0.5
PLWZ	Palliser	1.83	58	P	Pn	20 04 44.2	+0.7
DUWZ	D'Urville Isla	1.84	18	P	Pb	20 04 45.7	+0.2
WVZ	Waitaha Valley	1.88	253	P	Pn	20 04 44.3	+0.3
MSWZ	Moikau Station	1.91	54		Pn	20 04 44.9	+0.3
MSWZ	Moikau Station	1.91	54	P	Pn	20 04 45.0	+0.5
RPZ	Rata Peaks 94nm,0.3s,baz=130,slow=5.2,SNR=76	1.94	233	Pn	Pn	20 04 44.2	-0.8
RPZ	199nm,0.3s,baz=29,slow=22,SNR=20 274nm,0.3s			Sn	Sn	20 05 08.3	-1.3
RPZ	Rata Peaks	1.94	233	Pn	Pn	20 04 44.4	-0.7
RPZ	Rata Peaks	1.94	233	P	Pn	20 04 44.7	-0.3
RPZ	Rata Peaks	1.94	233	P	Pn	20 04 44.7	-0.3
RPZ				S	Sn	20 05 08.6	-1.0
CAW	Cannon Point	2.02	45	P	Pn	20 04 46.5	+0.5
ARCZ	Arundel	2.02	226	P	Pn	20 04 45.6	-0.5
ARCZ				S	Sn	20 05 10.8	-0.7
PAWZ	Paruwai Farm	2.04	56	P	Pn	20 04 46.9	+0.5
KIW	Kapiti Island	2.13	38	P	Pn	20 04 48.1	+0.6
TRWZ	Traveller	2.19	59	P	Pn	20 04 48.8	+0.4
MTW	Mount Morrison	2.22	52	P	Pn	20 04 48.8	0.0
GCSZ	Gaunt Creek Bo	2.23	249	P	Pn	20 04 49.5	+0.5
GCSZ				S	Sn	20 05 16.7	0.0
OGWZ	Otaki Gorge	2.29	41	P	Pn	20 04 50.2	+0.5
TMZ	Timaru	2.42	220	P	Pn	20 04 51.2	-0.4
TMWZ	Te Maipa	2.48	55	P	Pn	20 04 52.4	-0.1
MRZ	Mangatainoka R	2.61	44		Pn	20 04 53.8	-0.3
MRZ	Mangatainoka R	2.61	44	P	Pn	20 04 54.2	+0.1
FOZ	Fox Glacier	2.66	247	Pn	Pn	20 04 55.7	+0.9
FOZ	Fox Glacier	2.66	247	P	Pn	20 04 55.3	+0.6
LBZ	Lake Benmore	2.85	229	Pn	Pn	20 04 56.9	-0.5
LBZ	Lake Benmore	2.85	229	P	Pn	20 04 57.1	-0.3
PRWZ	Pori Road	2.89	47	P	Pn	20 04 58.0	0.0
POWZ	Post Office Ro	2.90	43	P	Pn	20 04 58.4	+0.3
BFZ	Birch Farm	2.96	52		Pn	20 04 57.7	-1.3
BFZ	Birch Farm	2.96	52	P	Pn	20 04 58.1	+0.1
ODZ	Otahua Downs	3.10	216	Pn	Pn	20 05 00.3	-0.6
ODZ	Otahua Downs	3.10	216	P	Pn	20 05 00.4	-0.4
ODZ	Otahua Downs	3.10	216	P	Pn	20 05 00.2	-0.6
WAZ	Wanganui	3.11	27	P	Pb	20 05 06.6	-0.7
DVHZ	Dannevirke	3.18	46	P	Pn	20 05 01.8	-0.2
NMEZ	Namu Road	3.18	10	P	Pb	20 05 06.9	-1.6
LREZ	Lake Rotokare	3.23	17	P	Pb	20 05 08.8	-0.4
TSZ	Takapari Road	3.25	41	P	Pn	20 05 02.9	-0.2
KHEZ	Kahui Hut	3.32	11	P	Pb	20 05 08.5	-2.3
KHEZ	Kahui Hut	3.32	11	P	Pb	20 05 10.0	-0.9
NBEZ	Newall Road No	3.32	9	P	Pn	20 05 07.5	+3.6
PKE	Pukeiti	3.41	11	P	Pn	20 05 09.0	+3.8
PRHZ	Porangahau	3.46	50	P	Pb	20 05 11.8	-1.4
PNHZ	Pukenui	3.48	42	P	Pn	20 05 06.3	+0.2
JCZ	Jackson Bay	3.55	243	P	Pn	20 05 06.7	-0.5
JCZ	Jackson Bay	3.55	243	P	Pn	20 05 07.3	+0.1
VRZ	Vera Road	3.63	20	P	Pn	20 05 11.6	+3.4
MOVZ	Moawhango	3.70	33	P	Pn	20 05 12.4	+3.3
WNVZ	Wahianoa	3.71	30	P	Pn	20 05 12.1	+2.7
WHVZ	Whangaehu Hut	3.74	30	P	Pn	20 05 12.1	+2.2
FWVZ	Far West T-bar	3.75	29	P	Pn	20 05 12.1	+2.0
BHHZ	Black Hill Sta	3.76	36	P	Pn	20 05 10.4	+0.4
WKZ	Wanaka	3.78	232		Pn	20 05 08.9	-1.4
WKZ	Wanaka	3.78	232	P	Pn	20 05 09.2	-1.1
HHSZ	Highcliff Hill	3.81	208	P	Pn	20 05 10.2	-0.5
SNVZ	South Ngauruho	3.84	30	P	Pn	20 05 13.6	+2.3
EAZ	Earnscleugh	3.88	225	P	Pn	20 05 10.9	-0.6
TWVZ	Taurewa	3.88	27	P	Pn	20 05 16.8	+5.2
NNVZ	North Ngauruho	3.88	29	P	Pn	20 05 13.8	+2.0
WTVZ	West Tongariro	3.89	29	P	Pn	20 05 13.9	+2.1
ETVZ	East Tongariro	3.92	30	P	Pn	20 05 14.3	+2.1
KRVZ	Karewarewa	3.93	29	P	Pn	20 05 14.6	+2.2
TMVZ	Te Maari	3.93	30	P	Pn	20 05 14.5	+2.0
NTVZ	North Tongariro	3.94	30	P	Pn	20 05 14.5	+2.0
BKZ	Black Stump Fm	4.21	38		Pn	20 05 12.6	-3.7
BKZ	Black Stump Fm	4.21	38	P	Pn	20 05 18.2	+2.0
HIZ	Hauiti	4.23	18		Pn	20 05 17.4	+0.9
HIZ	Hauiti	4.23	18	P	Pn	20 05 19.5	+3.0
HIZ	Hauiti	4.23	18	P	Pn	20 05 19.2	+2.7
TUZ	Tuapeka	4.25	216	P	Pn	20 05 16.4	-0.3
TLZ	Tolley Road	4.59	24	P	Pn	20 05 25.4	+4.0
MLZ	Mavora Lakes	4.61	231		Pn	20 05 21.0	-0.7
MLZ	Mavora Lakes	4.61	231	P	Pn	20 05 20.3	-1.4
SYZ	Scrubby Hill	4.92	215	P	Pn	20 05 25.6	-0.3
SYZ	Scrubby Hill	4.92	215	P	Pn	20 05 26.1	+0.3
MHGZ	Mahia Peninsul	4.94	48	P	Pn	20 05 25.7	-0.5
WHZ	Wether Hill Ro	5.03	227		Pn	20 05 26.1	-1.3
TOZ	Tahuroa Road	5.13	21	P	Pn	20 05 30.8	+1.9
URZ	Urewera	5.23	36	P	Pn	20 05 32.8	+2.6
DCZ	Deep Cove	5.23	234		Pn	20 05 28.4	-1.8
AWAZ	Awhitu Peninsu	5.60	12	P	Pn	20 05 38.5	+3.3
MKAZ	Moumakai	5.65	16	P	Pn	20 05 38.1	+2.1
APZ	The Paps	5.66	219	P	Pn	20 05 35.8	-0.3
WTAZ	Waiatarua	5.72	11	P	Pn	20 05 40.5	+3.7
ETAZ	East Tamaki Re	5.75	14	P	Pn	20 05 40.3	+3.0
PYZ	Puysegur Point	5.90	230	Pn	Pn	20 05 39.0	-0.4
PYZ	Puysegur Point	5.90	230	P	Pn	20 05 39.1	-0.2
PYZ	Puysegur Point	5.90	230	P	Pn	20 05 38.5	-0.8
MBAZ	Motutapu North	5.93	13	P	Pn	20 05 43.5	+3.8
KUZ	Kuaotunu	6.12	19	P	Pn	20 05 44.1	+1.7
KUZ	Kuaotunu	6.12	19	P	Pn	20 05 44.1	+1.7
OUZ	Omahuta	7.33	3	P	Pn	20 06 02.2	+3.2
CTZ	Chatham Island	7.55	102	P	Pn	20 06 04.1	+2.1
DZM	Mont Dzumac comp=Z,102nm,18.4s,baz=36,slow=36	21.19	342	LR	LR	20 16 46.2	
CTA	Charters Tower comp=Z,108nm,19.0s,baz=80,slow=35	31.87	306	LR	LR	20 22 59.4	
VNDA	Vanda comp=Z,42nm,20.1s,baz=9.0,slow=32	35.38	184	LR	LR	20 22 52.6	
AS31	Alice Springs AS31	37.50	288	P IAmb	P IAmb	20 11 25.7 20 11 27.8	-0.4
	comp=Z,1.2nm,1.1s						
ASAR	Alice Springs ASAR	37.50	288	P PcP	P PcP	20 11 25.6 20 13 43.2	-0.4 -1.1
	comp=Z,0.3nm,0.6s,baz=124,slow=4.1,SNR=2.9 comp=Z,1.4nm,0.6s						
ASAR	Alice Springs	37.50	288	P	P	20 11 25.9	-0.1
WB2	Warramunga Arr WB2	39.65	292	P IAmb	P IAmb	20 11 43.0 20 11 46.2	-1.0
	comp=Z,4.2nm,0.8s						
WRA	Warramunga Arr comp=Z,1.8nm,0.7s,baz=129,slow=8.4,SNR=15 comp=Z,1.8nm,0.7s	39.66	292	P	P	20 11 43.7	-0.5
WRA	Warramunga Arr	39.66	292	P	P	20 11 43.1	-1.0
PMG	Port Moresby PMG	40.13	318	P IAmb	P IAmb	20 11 49.8 20 11 52.7	+1.7
	comp=Z,10.0nm,1.1s						
RABL	Rabaul	42.54	328	P	P	20 12 07.8	-0.1
NWAO	Narrogin (SRO) NWAO	44.56	263	P IAmb	P IAmb	20 12 24.1 20 12 32.2	+0.1
	comp=Z,24nm,1.2s						
QSPA	South Pole Qui QSPA	47.57	180	P IAmb	P IAmb	20 12 48.1 20 12 54.9	+0.6
	comp=Z,8.3nm,1.0s						
DAV	Davao City (W) comp=Z,26nm,18.0s,baz=122,slow=38	65.67	306	LR	LR	20 45 49.4	
ASAJ	Asahikawa comp=Z,17nm,20.4s,baz=160,slow=33	90.53	338	LR	LR	20 53 45.9	
CMAR	Chiang Mai Arr comp=Z,0.3nm,0.3s,baz=158,slow=2.6,SNR=7.5 comp=Z,0.3nm,0.3s	91.24	294	P	P	20 17 17.7	+0.1
MKAR	Makanchi Array comp=Z,0.6nm,0.9s,baz=98,slow=2.0,SNR=4.1	119.84	308	PKP	PKPdf	20 23 00.9	-1.0
KBZ	Ikabaz comp=Z,1.8nm,0.8s,baz=63,slow=4.5,SNR=3.0	144.15	289	PKP	PKPab	20 23 45.0	-0.1
ARCES	ARCESS Array B comp=Z,3.4nm,0.9s,baz=54,slow=1.6,SNR=3.6	148.25	339	PKPbc	PKPdf	20 23 53.8	+0.1
TORD	Torodi Ar. Bea comp=Z,2.7nm,0.8s,baz=159,slow=1.7,SNR=15	149.79	197	PKPbc	PKPbc	20 24 01.4	-1.1
FINES	FINESS Array B comp=Z,1.8nm,0.7s,baz=30,slow=3.9,SNR=5.6	152.76	325	PKPbc	PKPbc	20 24 07.2	-0.8

JMA ***14*** *20:07:04.9±0.5, 41.1N±2.2×14.7E±, h49km±3km, MV3.5/26, FAR SE OFF HOKKAIDO*

IDC ***14*** *20:07:06.0±1.4, 40.79N×145.60E, h0km, mb3.6/3, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=54.4km s-min=27.8km az=118.0*

ISC 14 20:07:10.1±1.2, **41.08N**±0.07×**145.43E**±0.09, **h35**km, **n16**, σ2§24/20, **mb3.6**/3, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.94	300	eP	Pn	20 07 39.6	-1.0
JAK	Akkeshi	1.99	344	eP	Pn	20 07 38.7	-2.5
JTHR	Tokachihiroo JTHR	2.00	308	eP eS	Pn Sn	20 07 40.0 20 08 04.8	-1.4 -0.3
JCH	Churui JCH	2.17	316	eP eS	Pn Sn	20 07 42.4 20 08 09.8	-1.3 +0.3
NEM2	Nemuro 2	2.30	6	eP	Pn	20 07 42.1	-3.4
JNBK	Urakawa-nobuka	2.33	302	eP	Pn	20 07 44.7	-1.2
JAR	Ashorobuto	2.54	332	eP	Pn	20 07 46.7	-2.1
JNK	Nakash JNK	2.56	348	eP eS	Pn Sn	20 07 46.5 20 08 16.9	-2.6 -2.0
JRA	Rausu	2.87	356	eP	Pn	20 07 50.8	-2.5
JFR	Furan JFR	2.96	316	eP eS	Pn Sn	20 07 53.0 20 08 28.1	-1.7 -0.9
JANG	Nango	3.05	258	eP	Pn	20 07 51.5	-4.4
JTKR	Abashiri--Toko	3.10	339	eS	Sn	20 08 32.3	0.0
MJAR	Matsushiro Arr 0.1nm,0.3s,baz=58,slow=11,SNR=4.9 1.5nm,0.7s	7.23	234	Pn	Pn	20 08 53.5	+0.3
ILAR	Eielson Array 0.4nm,0.6s,baz=266,slow=6.7,SNR=8.1 0.4nm,0.6s	44.40	35	P	P	20 15 19.7	+2.8
WRA	Warramunga Arr 0.3nm,0.6s,baz=12,slow=6.8,SNR=2.1 0.3nm,0.6s	61.58	192	P	P	20 17 22.8	-1.1
FINES	FINESS Array B 0.8nm,0.6s,baz=57,slow=5.1,SNR=6.1 0.8nm,0.6s	66.67	333	P	P	20 17 59.7	+2.9

WEL ***14*** *20:08:00, 41.65S×174.41E, h10km, ML4.1, Mw4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.20; Mθθ 0.96; Mϕϕ-1.16; Mrθ 0.04; Mθϕ-0.40; Mrϕ 0.19; Fault plane solution: M0 1.15000×10^15 NP1: ϕs 145.00000°, δ85.00000°, λ-5.00000°. NP2: ϕs 236.00000°, δ85.00000°, λ-175.00000°. Principal axes: T -126.0200, Plg0.0000°, Azm191.0000°; N 103.2800, Plg83.0000°, Azm281.0000°; P 22.7400, Plg7.0000°, Azm100.0000°;*

NEIC ***14*** *20:08:37.5±2.0, 41.78S±0.04×174.52E±0.06, h8km±7km, mb4.2/4 Error ellipse: s-maj=7.2km s-min=5.6km az=128.0*

IDC ***14*** *20:08:37.7±2.1, 41.60S×174.05E, h0km, mb3.5/2, mbtmp3.5/3, ML3.4/1, MS3.4/1, Error ellipse: s-maj=47.5km s-min=36.0km az=123.0*

WEL ***14*** *20:08:39.0±0.4, 42.3S±3.1×17.4E±, h5km, M4.1/21, ML4.4/21, MLv4.1/21, Error ellipse: s-maj=0.0km s-min=0.0km az=161.5*

NOU ***14*** *20:08:45.1, 41.49S×174.05E, h0km, MLv4.4/7, Cook Strait, New Zealand*

ISC 14 20:08:38.6±0.9, **41.75S**±0.03×**174.45E**±0.02, **h13**km±6km, **n123**, σ1§22/135, **mb3.8**/4, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.17	271		Pg	20 08 42.3	-0.4
CMWZ	Cape Campbell	0.17	271	P	Pg	20 08 42.4	-0.3
CMWZ				S	Sg	20 08 46.6	+1.2
BSWZ	Blackbirch Sta	0.43	275		Pg	20 08 46.9	-0.3
BSWZ	Blackbirch Sta	0.43	275	P	Pg	20 08 47.0	-0.1
BSWZ				S	Sb	20 08 54.0	-0.3
SNZO	South Karori	0.48	24		Pg	20 08 47.8	-0.3
TUWZ	Tuamarina	0.49	310		Pg	20 08 47.4	-1.0
TUWZ	Tuamarina	0.49	310	P	Pg	20 08 47.7	-0.7
TUWZ				S	Sg	20 08 54.8	-0.2
WEL	Wellington	0.53	28	P	Pg	20 08 49.0	0.0
TCW	Tory Channel	0.56	347	Pg	Pg	20 08 48.5	-1.0
TCW	Tory Channel	0.56	347	P	Pg	20 08 48.7	-0.8
TCW				S	Sg	20 08 56.5	-0.4
PLWZ	Palliser	0.63	74		Pb	20 08 52.3	+0.8
PLWZ	Palliser	0.63	74	P	Pb	20 08 52.5	+0.9
MSWZ	Moikau Station	0.69	61		Pg	20 08 52.8	+0.7
MSWZ	Moikau Station	0.69	61	P	Pb	20 08 52.9	+0.4
CAW	Cannon Point	0.80	36	P	Pg	20 08 53.8	-0.3
CAW				S	Sn	20 09 08.6	+1.4
PAWZ	Paruwai Farm	0.82	64	P	Pb	20 08 55.4	+0.6
PAWZ				S	Sn	20 09 09.6	+1.6
KHZ	Kahutara	0.95	225	Pn	Pg	20 08 57.5	+0.6
KHZ	Kahutara	0.95	225	P	Pg	20 08 57.8	+0.9
KHZ				S	Sn	20 09 12.7	+1.7
KIW	Kapiti Island	0.96	22	P	Pg	20 08 56.3	-0.8
KIW				S	Sb	20 09 09.7	+0.1
NNZ	Nelson	0.96	303		Pg	20 08 55.9	-1.3
NNZ	Nelson	0.96	303	P	Pg	20 08 56.1	-1.1
NNZ				S	Sb	20 09 09.6	-0.1
MTW	Mount Morrison	0.99	54	P	Pg	20 08 57.8	+0.1
MTW				S	Sn	20 09 13.6	+1.6
TRWZ	Traveller	1.00	70	P	Pg	20 08 57.8	0.0
DUWZ	D'Urville Isla	1.03	337	P	Pg	20 08 57.6	-0.8
OGWZ	Otaki Gorge	1.08	31	P	Pg	20 08 58.5	-0.9
THZ	Tophouse	1.15	269	Pn	Pg	20 09 00.3	-0.5
THZ	Tophouse	1.15	269	P	Pg	20 09 00.5	-0.3
THZ				S	Sn	20 09 18.6	+2.5
HOWZ	Holdsworth Sta	1.17	44	P	Pg	20 09 00.7	-0.5
HOWZ				S	Sn	20 09 17.9	+1.3
TMWZ	Te Maipa	1.26	60	P	Pg	20 09 01.5	-1.5
MRNZ	Matariki Terra	1.31	285		Pn	20 09 03.2	+0.5
TKNZ	Takaka Hill	1.33	302		Pn	20 09 02.5	-0.3
TKNZ	Takaka Hill	1.33	302	P	Pn	20 09 02.8	-0.1
TKNZ				S	Sb	20 09 20.9	+0.6
MRZ	Mangatainoka R	1.39	38		Pn	20 09 03.3	-0.4
MRZ	Mangatainoka R	1.39	38	P	Pn	20 09 03.5	-0.2
MRZ				S	Sg	20 09 22.9	-0.4
TIWZ	Tintock	1.46	49	P	Pn	20 09 04.3	-0.4
TIWZ				S	Sg	20 09 25.4	-0.2
CPWZ	Castlepoint	1.57	58	P	Pn	20 09 06.2	-0.1
GVZ	Greta Valley S	1.60	220		Pn	20 09 06.5	-0.1
PRWZ	Pori Road	1.66	44	P	Pn	20 09 07.1	-0.3
OHWZ	Ohakea	1.68	23	P	Pb	20 09 09.5	+0.2
POWZ	Post Office Ro	1.69	37	P	Pn	20 09 07.8	0.0
QRZ	Quartz Range	1.71	302		Pn	20 09 09.3	+1.1
QRZ	Quartz Range	1.71	302	P	Pn	20 09 09.3	+1.1
BFZ	Birch Farm	1.73	52		Pn	20 09 07.3	-1.0
BFZ	Birch Farm	1.73	52	P	Pn	20 09 07.4	-1.0
LTZ	Lake Taylor	1.91	237		Pn	20 09 10.8	-0.1
AMCZ	Amberley	1.95	222	Pn	Pn	20 09 10.6	-0.7
DVHZ	Dannevirke	1.95	42	P	Pn	20 09 10.5	-0.9
DSZ	Denniston Nort	1.98	269		Pn	20 09 13.0	+1.2
ANWZ	Angora Road	2.00	51	P	Pn	20 09 11.5	-0.6
WAZ	Wanganui	2.04	12	P	Pb	20 09 15.3	-0.1
TSZ	Takapari Road	2.04	35	P	Pn	20 09 12.5	-0.2
PRHZ	Porangahau	2.22	49	P	Pn	20 09 13.8	-1.3
WPHZ	Waipukurau	2.26	43	P	Pn	20 09 15.0	-0.7
PNHZ	Pukenui	2.27	37	P	Pn	20 09 15.2	-0.6
LREZ	Lake Rotokare	2.29	359	P	Pg	20 09 21.1	-1.4
MQZ	McQueen's Vall	2.36	213	Pn	Pn	20 09 15.5	-1.5
NMEZ	Namu Road	2.38	349	P	Pb	20 09 22.1	+0.9
OXZ	Oxford	2.38	228		Pn	20 09 16.0	-1.2
INZ	Inchbonnie	2.43	245	Pn	Pn	20 09 16.9	-1.1
KHEZ	Kahui Hut	2.48	352	P	Pb	20 09 23.4	+0.4
KHEZ	Kahui Hut	2.48	352	P	Pg	20 09 24.9	-1.2
NEZ	North Egmont	2.49	354	P	Pg	20 09 24.9	-1.5
PXZ	Pawanui	2.51	48	P	Pn	20 09 17.4	-1.7
NBEZ	Newall Road No	2.52	350	P	Pb	20 09 22.1	-1.6
BHHZ	Black Hill Sta	2.57	29	P	Pn	20 09 20.6	+0.6
WNVZ	Wahianoa	2.58	20	P	Pn	20 09 21.7	+1.5
PKE	Pukeiti	2.58	352	P	Pb	20 09 24.7	0.0
TRVZ	Turoa	2.59	19	P	Pb	20 09 25.3	+0.2
DRZ	Dome Shelter	2.62	19	P	Pb	20 09 25.6	+0.1
WHVZ	Whangaehu Hut	2.62	20	P	Pn	20 09 22.3	+1.5
FWVZ	Far West T-bar	2.63	19	P	Pn	20 09 22.3	+2.2
VRZ	Vera Road	2.63	5	P	Pn	20 09 23.7	+3.0
TUVZ	Tukino	2.65	21	P	Pb	20 09 25.8	-0.1
MHEZ	Mangahewa	2.67	358	P	Pg	20 09 28.9	-0.9
KAHZ	Kahuranaki	2.69	44	P	Pn	20 09 20.6	-0.9
NGZ	Ngauruhoe	2.72	19	P	Pb	20 09 27.1	-0.1
SNVZ	South Ngauruho	2.72	20	P	Pn	20 09 22.0	-0.2
OTVZ	Oturere	2.75	20	P	Pb	20 09 27.5	-0.1
NNVZ	North Ngauruho	2.77	19	P	Pn	20 09 24.5	+1.8
KWHZ	Kaweka Forest	2.77	34	P	Pb	20 09 29.4	+1.4
WTVZ	West Tongariro	2.77	19

TUWZ	**Tuamarina**	**0.97**	**1**		**Pb**	**20 15 10.1**	**+0.3**
TUWZ	**Tuamarina**	**0.97**	**1**	P	**Pn**	**20 15 10.4**	**+0.1**
TUWZ				S	**Sb**	**20 15 22.6**	**+0.4**
THZ	**Tophouse**	**0.99**	**309**		**Pg**	**20 15 09.5**	**-1.2**
THZ	**Tophouse**	**0.99**	**309**	P	**Pg**	**20 15 09.6**	**-1.1**
TCW	**Tory Channel**	**1.22**	**12**		**Pn**	**20 15 13.4**	**-0.3**
TCW	**Tory Channel**	**1.22**	**12**	P	**Pn**	**20 15 13.7**	**0.0**
TCW				S	**Sb**	**20 15 29.2**	**-0.2**
AMCZ	**Amberley**	**1.22**	**230**		**Pn**	**20 15 13.8**	**+0.1**
AMCZ	**Amberley**	**1.22**	**230**	P	**Pn**	**20 15 14.6**	**+0.9**
SNZO	**South Karori**	**1.23**	**28**		**Pn**	**20 15 14.3**	**+0.4**
NNZ	**Nelson**	**1.25**	**341**		**Pn**	**20 15 14.0**	**-0.2**
NNZ	**Nelson**	**1.25**	**341**	P	**Pn**	**20 15 14.1**	**0.0**
NNZ				S	**Sg**	**20 15 31.0**	**-0.9**
WEL	**Wellington**	**1.28**	**30**	P	**Pn**	**20 15 15.1**	**+0.6**
WEL				S	**Sb**	**20 15 31.3**	**+0.1**
LTZ	**Lake Taylor**	**1.28**	**252**		**Pn**	**20 15 14.9**	**+0.2**
LTZ	**Lake Taylor**	**1.28**	**252**	P	**Pn**	**20 15 15.2**	**+0.5**
LTZ				S	**Sb**	**20 15 31.5**	**+0.1**
PLWZ	**Palliser**	**1.29**	**50**		**Pn**	**20 15 15.0**	**+0.3**
PLWZ	**Palliser**	**1.29**	**50**	P	**Pn**	**20 15 15.2**	**+0.5**
MRNZ	**Matariki Terra**	**1.33**	**318**		**Pn**	**20 15 15.4**	**+0.2**
MRNZ	**Matariki Terra**	**1.33**	**318**	P	**Pb**	**20 15 16.0**	**0.0**
MRNZ				S	**Sn**	**20 15 32.9**	**+0.4**
MSWZ	**Moikau Station**	**1.39**	**46**		**Pn**	**20 15 16.4**	**+0.3**
MSWZ	**Moikau Station**	**1.39**	**46**	P	**Pn**	**20 15 16.5**	**+0.4**
OKCZ	**Okains Bay**	**1.47**	**205**	P	**Pn**	**20 15 18.3**	**+1.1**
PAWZ	**Paruwai Farm**	**1.51**	**48**	P	**Pn**	**20 15 18.0**	**+0.3**
PAWZ				S	**Sn**	**20 15 37.4**	**+0.3**
TKNZ	**Takaka Hill**	**1.54**	**332**	Pn	**Pn**	**20 15 18.6**	**+0.3**
TKNZ	**Takaka Hill**	**1.54**	**332**	P	**Pn**	**20 15 18.9**	**+0.7**
TKNZ				S	**Sn**	**20 15 38.4**	**+0.5**
CAW	**Cannon Point**	**1.55**	**34**	P	**Pn**	**20 15 18.7**	**+0.5**
DUWZ	**D'Urville Isla**	**1.60**	**360**	P	**Pn**	**20 15 19.9**	**+0.9**
MQZ	**McQueen's Vall**	**1.61**	**215**	Pn	**Pn**	**20 15 18.9**	**-0.2**
MQZ	**McQueen's Vall**	**1.61**	**215**	P	**Pn**	**20 15 19.1**	**0.0**
MQZ				S	**Sn**	**20 15 38.4**	**-1.0**
TRWZ	**Traveller**	**1.65**	**53**	P	**Pn**	**20 15 19.8**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.65**	**207**	P	**Pn**	**20 15 20.5**	**+0.8**
OXZ	**Oxford**	**1.67**	**236**		**Pn**	**20 15 19.6**	**-0.4**
OXZ	**Oxford**	**1.67**	**236**	P	**Pn**	**20 15 19.9**	**-0.1**
KIW	**Kapiti Island**	**1.70**	**26**	P	**Pn**	**20 15 21.0**	**+0.6**
MTW	**Mount Morrison**	**1.71**	**44**	P	**Pn**	**20 15 20.5**	**+0.1**
DSZ	**Denniston Nort**	**1.71**	**292**		**Pb**	**20 15 22.0**	**-0.5**
DSZ	**Denniston Nort**	**1.71**	**292**	P	**Pn**	**20 15 21.6**	**+1.0**
DSZ				S	**Sn**	**20 15 43.1**	**+1.1**
OGWZ	**Otaki Gorge**	**1.83**	**31**	P	**Pn**	**20 15 22.5**	**+0.3**
INZ	**Inchbonnie**	**1.86**	**259**	Pn	**Pn**	**20 15 22.6**	**0.0**
INZ	**Inchbonnie**	**1.86**	**259**	P	**Pn**	**20 15 23.1**	**+0.5**
RACZ	**Rakaia**	**1.87**	**224**	P	**Pn**	**20 15 22.7**	**+0.1**
QRZ	**Quartz Range**	**1.89**	**326**	Pn	**Pn**	**20 15 24.2**	**+1.2**
QRZ	**Quartz Range**	**1.89**	**326**	P	**Pn**	**20 15 24.4**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.91**	**39**	P	**Pn**	**20 15 23.5**	**+0.2**
TMWZ	**Te Maipa**	**1.95**	**49**	P	**Pn**	**20 15 23.7**	**-0.2**
MRZ	**Mangatainoka R**	**2.13**	**36**		**Pn**	**20 15 26.5**	**+0.2**
MRZ	**Mangatainoka R**	**2.13**	**36**	P	**Pn**	**20 15 26.4**	**+0.1**
WACZ	**Wakanui South**	**2.17**	**224**	P	**Pn**	**20 15 27.1**	**+0.3**
BFZ	**Birch Farm**	**2.44**	**46**	Pn	**Pn**	**20 15 30.2**	**-0.4**
WVZ	**Waitaha Valley**	**2.45**	**253**	P	**Pn**	**20 15 31.3**	**+0.7**
RPZ	**Rata Peaks**	**2.48**	**237**	Pn	**Pn**	**20 15 31.0**	**-0.2**
	73nm,0.3s,baz=79,slow=2.7,SNR=60						
RPZ				Sn	**Sn**	**20 15 59.9**	**-1.1**
	31nm,0.3s,baz=15,slow=22,SNR=22						
	246nm,0.4s						
RPZ	**Rata Peaks**	**2.48**	**237**	Pn	**Pn**	**20 15 31.4**	**+0.2**
RPZ	**Rata Peaks**	**2.48**	**237**	P	**Pn**	**20 15 31.0**	**-0.2**
ARCZ	**Arundel**	**2.54**	**232**	P	**Pn**	**20 15 31.8**	**-0.2**
WAZ	**Wanganui**	**2.76**	**17**	P	**Pn**	**20 15 37.1**	**+2.2**
TSZ	**Takapari Road**	**2.79**	**34**	P	**Pn**	**20 15 35.3**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.80**	**250**	P	**Pn**	**20 15 36.3**	**+0.8**
TMZ	**Timaru**	**2.91**	**226**	P	**Pn**	**20 15 37.4**	**+0.4**
PNHZ	**Pukenui**	**3.02**	**35**	P	**Pn**	**20 15 37.9**	**-0.6**
NBEZ	**Newall Road No**	**3.13**	**359**	P	**Pb**	**20 15 46.4**	**-0.2**
FOZ	**Fox Glacier**	**3.23**	**248**	Pn	**Pn**	**20 15 42.2**	**+0.9**
FOZ	**Fox Glacier**	**3.23**	**248**	P	**Pn**	**20 15 42.1**	**+0.9**
WNVZ	**Wahianoa**	**3.32**	**23**	P	**Pb**	**20 15 50.1**	**+0.1**
VRZ	**Vera Road**	**3.33**	**11**	P	**Pn**	**20 15 44.7**	**+2.0**
WHVZ	**Whangaehu Hut**	**3.36**	**23**	P	**Pn**	**20 15 45.4**	**+2.0**
FWVZ	**Far West T-bar**	**3.37**	**22**	P	**Pn**	**20 15 45.5**	**+1.9**
LBZ	**Lake Benmore**	**3.38**	**233**	Pn	**Pn**	**20 15 43.7**	**+0.3**
LBZ	**Lake Benmore**	**3.38**	**233**	P	**Pn**	**20 15 43.7**	**+0.3**
OTVZ	**Oturere**	**3.49**	**23**	P	**Pn**	**20 15 48.3**	**+3.2**
ETVZ	**East Tongariro**	**3.53**	**23**	P	**Pn**	**20 15 47.9**	**+2.3**
TMVZ	**Te Maari**	**3.55**	**23**	P	**Pn**	**20 15 46.8**	**+1.0**
NTVZ	**North Tongarir**	**3.55**	**22**	P	**Pn**	**20 15 46.9**	**+0.9**
ODZ	**Otahua Downs**	**3.56**	**221**	Pn	**Pn**	**20 15 46.3**	**+0.4**
ODZ	**Otahua Downs**	**3.56**	**221**	P	**Pn**	**20 15 46.0**	**+0.1**
BKZ	**Black Stump Fm**	**3.77**	**32**		**Pn**	**20 15 50.8**	**+1.9**
HIZ	**Hauiti**	**3.94**	**11**	Pn	**Pn**	**20 15 52.9**	**+1.7**
HIZ	**Hauiti**	**3.94**	**11**	P	**Pn**	**20 15 53.2**	**+2.0**
HHSZ	**Highcliff Hill**	**4.23**	**213**	P	**Pn**	**20 15 55.5**	**+0.3**
WKZ	**Wanaka**	**4.31**	**234**	Pn	**Pn**	**20 15 55.9**	**-0.4**
EAZ	**Earnscleugh**	**4.38**	**228**	P	**Pn**	**20 15 57.0**	**-0.2**
LIRZ	**Lichensteins R**	**4.78**	**24**	P	Pn	20 16 08.1	+5.5
TOZ	**Tahuroa Road**	**4.82**	**15**	P	**Pn**	**20 16 03.9**	**+0.8**
MLZ	**Mavora Lakes**	**5.14**	**233**	Pn	**Pn**	**20 16 07.4**	**-0.3**
MLZ	**Mavora Lakes**	**5.14**	**233**	P	**Pn**	**20 16 07.6**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.36**	**6**	P	**Pn**	**20 16 12.1**	**+1.5**
MKAZ	**Moumakai**	**5.37**	**11**	P	**Pn**	**20 16 11.5**	**+0.7**
SYZ	**Scrubby Hill**	**5.37**	**218**	P	**Pn**	**20 16 11.1**	**+0.4**
DCZ	**Deep Cove**	**5.77**	**236**	Pn	**Pn**	**20 16 15.1**	**-1.2**
TAU	**Tasmania Unive**	**19.56**	**259**	P	**P**	**20 19 18.6**	**+0.3**
TAU				IAmb	IAmb	20 19 25.6	
	comp=Z,55nm,1.4s						
TOO	**Toolangi**	**22.27**	**273**	P	**P**	**20 19 48.0**	**+0.4**
TOO				IAmb	IAmb	20 20 14.1	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**31.27**	**275**	P	**P**	**20 21 10.1**	**-0.3**
ASAR	**Alice Springs**	**37.98**	**287**	P	**P**	**20 22 07.9**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=127,slow=6.9,SNR=11						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**37.98**	**287**	P	**P**	**20 22 07.5**	**-1.0**
WB2	**Warramunga Arr**	**40.10**	**291**	P	**P**	**20 22 25.9**	**-0.4**
WB2				IAmb	IAmb	20 22 29.8	
	comp=Z,8.7nm,1.2s						
WRA	**Warramunga Arr**	**40.11**	**291**	P	**P**	**20 22 25.5**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=129,slow=8.4,SNR=19						
	comp=Z,0.9nm,0.6s						
WB0	**Warramunga Arr**	**40.19**	**292**	P	**P**	**20 22 26.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**150.09**	**195**	PKPbc	**PKPbc**	**20 34 41.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=178,slow=2.7,SNR=3.6						

WEL 14 20:16:43.4±0.5, 42°S×17°4E±°, h8km±3km, M3.2/10, ML3.6/10, MLv3.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=137.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**54**	P	Pg	20 16 45.6	+0.5
BSWZ	**Blackbirch Sta**	**0.22**	**286**	P	Pg	20 16 48.6	+0.7
TUWZ	**Tuamarina**	**0.39**	**335**	P	Pb	20 16 52.0	-0.5
TUWZ				S	Sb	20 16 57.8	-0.8
TCW	**Tory Channel**	**0.57**	**9**	P	Pg	20 16 54.3	-0.2
TCW				S	Sb	20 17 03.4	-0.6
BHW	**Baring Head**	**0.65**	**56**	P	Pg	20 16 56.1	+0.2
BHW				S	Sb	20 17 07.5	+1.4
WEL	**Wellington**	**0.67**	**43**	P	Pg	20 16 56.4	0.0
WEL				S	Sg	20 17 05.9	+0.8
KHZ	**Kahutara**	**0.79**	**216**	P	Pg	20 16 57.6	-0.9
THZ	**Tophouse**	**0.94**	**271**	P	Pb	20 17 01.8	-0.2
CAW	**Cannon Point**	**0.96**	**46**	P	Pg	20 17 00.8	-0.9
CAW				S	Sn	20 17 16.5	-0.5
KIW	**Kapiti Island**	**1.08**	**32**	P	Pg	20 17 03.5	-0.6
MRNZ	**Matariki Terra**	**1.12**	**289**	P	Pn	20 17 05.4	0.0
MRNZ				S	Sn	20 17 21.5	+0.6
OGWZ	**Otaki Gorge**	**1.23**	**39**	P	Pb	20 17 05.5	-1.3
OGWZ				S	Sb	20 17 22.0	-0.8

WEL 14 20:17:29.8±0.6, 42°S×3°×17°3E±°, h7km±4km, M3.5/9, ML3.7/6, MLv3.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=131.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.12**	**57**	P	Pg	20 17 32.4	0.0
KHZ				S	Sg	20 17 34.8	+0.6
GVZ	**Greta Valley S**	**0.56**	**209**	P	Pb	20 17 41.3	-0.6
GVZ				S	Sb	20 17 50.1	0.0
THZ	**Tophouse**	**0.81**	**332**	P	Pg	20 17 45.6	+0.2
THZ				S	Sg	20 17 55.9	0.0
BSWZ	**Blackbirch Sta**	**0.84**	**25**	P	Pg	20 17 46.2	+0.2
BSWZ				S	Sn	20 17 59.6	-1.1
AMCZ	**Amberley**	**0.89**	**218**	P	Pg	20 17 46.7	-0.2
AMCZ				S	Sn	20 18 01.2	-0.7
LTZ	**Lake Taylor**	**0.89**	**250**	P	Pg	20 17 46.9	-0.1
LTZ				S	Sb	20 17 59.2	-0.5
TUWZ	**Tuamarina**	**1.12**	**21**	P	Pg	20 17 51.0	-0.4
TUWZ				S	Sn	20 18 08.0	+0.4
OKCZ	**Okains Bay**	**1.27**	**191**	P	Pn	20 17 51.6	-2.4
MQZ	**McQueen's Vall**	**1.34**	**204**	P	Pn	20 17 52.1	-2.8
MQZ				S	Sb	20 18 08.9	-3.8
DSZ	**Denniston Nort**	**1.40**	**301**	P	Pn	20 17 55.5	-0.3
DSZ				S	Sg	20 18 14.9	+0.1
AKCZ	**Akaroa Harbour**	**1.44**	**194**	P	Pn	20 17 53.6	-2.7
AKCZ				S	Sn	20 18 11.9	-3.6
RACZ	**Rakaia**	**1.55**	**216**	P	Pn	20 17 55.1	-2.8
RACZ				S	Sn	20 18 14.4	-3.8

GUC 14 20:20:16.0±0.8, 30°69S×71°38W, h48km±2km, ML3.7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.22**	**273**	*iP*	Pn	20 20 24.0	-0.2
CO02	**Combarbal**	**0.61**	**148**	*iP*	Pn	20 20 28.7	0.0
CO02				*eS*	Sn	20 20 37.7	0.0
CO03	**El Pedregal**	**0.61**	**105**	*iP*	Pn	20 20 28.6	0.0
CO03				*eS*	Sn	20 20 38.0	+0.3
CO03				IAML		20 20 38.7	
	comp=N,7μm,0.1s						
GO04	**Tololo Observa**	**0.71**	**44**	*eP*	Pn	20 20 30.1	0.0
GO04				*eS*	Sn	20 20 40.5	+0.2
CO05	**La Serena**	**0.77**	**9**	*eP*	Pn	20 20 30.8	+0.2
CO05				*eS*	Sn	20 20 40.3	-1.0
CO01	**Juntas del Tor**	**1.31**	**58**	*eP*	Pn	20 20 39.2	+1.1
CO01				*eS*	Sn	20 20 56.5	+1.8
CO01				IAML		20 21 00.5	
	comp=N,1μm,0.3s						
LCO	**Las Campanas**	**1.77**	**20**	*eP*	Pn	20 20 44.9	+0.5
VA06	**Catapilco**	**1.87**	**178**	*eP*	Pn	20 20 46.4	+0.9
VA06				IAML		20 21 16.0	
	comp=E,714nm,0.2s						
AC05	**El Transito**	**2.08**	**28**	*eP*	Pn	20 20 50.1	+1.6
AC05				*eS*	Sn	20 21 15.2	+2.0
AC05				IAML		20 21 16.6	
	comp=E,529nm,0.1s						
VA03	**San Esteban**	**2.19**	**161**	*eP*	Pn	20 20 51.1	+1.1
VA03				*eS*	Sn	20 21 18.5	+2.5
VA03				IAML		20 21 21.9	
	comp=E,912nm,0.1s						
ROCH	**El Roble**	**2.30**	**172**	*eP*	Pn	20 20 52.6	+0.9
ROCH				IAML		20 21 30.1	
	comp=N,451nm,0.4s						
AC04	**Llanos de Chal**	**2.49**	**6**	*eP*	Pn	20 20 54.7	+0.7
AC04				IAML		20 21 38.2	
	comp=E,299nm,0.2s						
PEL	**Peldehue**	**2.52**	**167**	*eP*	Pn	20 20 55.4	+0.9
PEL				IAML		20 21 35.0	
	comp=E,192nm,0.1s						
MT02	**Curacav**	**2.57**	**176**	*eP*	Pn	20 20 55.9	+0.7
MT05	**Renca**	**2.75**	**169**	*eP*	Pn	20 20 59.5	+1.7
FCH	**Farellones**	**2.79**	**161**	*eP*	Pn	20 21 00.2	+1.8
MT03	**Universidad Ad**	**2.90**	**166**	*eP*	Pn	20 21 01.2	+1.5
MT03				IAML		20 21 46.2	
	comp=E,444nm,0.1s						
MT09	**Talagante**	**3.10**	**174**	*eP*	Pn	20 21 03.5	+1.0
MT09				*eS*	Sn	20 21 40.5	+2.1
MT09				IAML		20 21 51.5	
	comp=N,227nm,0.2s						
MT01	**Popeta**	**3.17**	**178**	*eP*	Pn	20 21 03.9	+0.5
MT01				IAML		20 21 52.6	
	comp=E,167nm,0.4s						
GO03	**Copiap**	**3.24**	**18**	*eP*	Pn	20 21 05.6	+1.2
GO03				IAML		20 21 58.1	
	comp=E,136nm,0.2s						
BO04	**La Punta**	**3.36**	**169**	*eP*	Pn	20 21 07.0	+0.9
BO04				IAML		20 21 53.5	
	comp=N,124nm,0.3s						
AC06	**Mina Casimiro**	**3.43**	**15**	*eP*	Pn	20 21 08.2	+1.1
AC06				IAML		20 22 03.5	
	comp=E,110nm,0.3s						
BO01	**Tunca**	**3.70**	**176**	*eP*	Pn	20 21 11.4	+0.7
BO03	**Pichilemu**	**3.83**	**187**	*eP*	Pn	20 21 11.4	-1.1
BO02	**Sierra Bellavi**	**4.13**	**173**	*eP*	Pn	20 21 17.6	+1.0

WEL 14 20:24:30.9±0.3, 43°S×3°×17°3E±°, h16km±3km, M2.9/6, ML3.4/14, MLv2.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=116.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.38**	**169**	P	Pg	20 24 38.1	-0.6
GVZ				S	Sg	20 24 47.2	-1.6
GVZ	**Greta Valley S**	**0.38**	**169**	P	Pg	20 24 38.0	-0.7
LTZ	**Lake Taylor**	**0.52**	**249**	P	Pb	20 24 41.9	+0.2
LTZ				S	Sg	20 24 48.0	-0.3
AMCZ	**Amberley**	**0.62**	**200**	P	Pn	20 24 44.9	0.0
AMCZ				S	Sn	20 24 53.4	-1.1
AMCZ	**Amberley**	**0.62**	**200**	P	Pb	20 24 43.6	+0.3
OXZ	**Oxford**	**0.98**	**222**	P	Pn	20 24 50.3	+0.3
OXZ				S	Sg	20 25 03.0	+0.2
MQZ	**McQueen's Vall**	**1.13**	**190**	P	Pg	20 24 52.5	-0.2
MQZ				S	Sn	20 25 06.8	-0.3
MQZ	**McQueen's Vall**	**1.13**	**190**	P	Pn	20 24 47.7	-4.3
OKCZ	**Okains Bay**	**1.13**	**175**	P	Pg	20 24 53.6	+0.9
OKCZ				S	Sg	20 25 08.4	+0.9
OKCZ	**Okains Bay**	**1.13**	**175**	P	Pb	20 24 47.4	-4.7
RACZ	**Rakaia**	**1.27**	**207**	P	Pb	20 24 54.7	+0.3
RACZ				S	Sb	20 25 10.5	-0.1
RACZ	**Rakaia**	**1.27**	**207**	P	Pn	20 24 52.7	-1.2
AKCZ	**Akaroa Harbour**	**1.28**	**181**	P	Pb	20 24 55.0	+0.4
AKCZ				S	Sb	20 25 10.5	-0.2
AKCZ	**Akaroa Harbour**	**1.28**	**181**	P	Pn	20 24 49.4	-4.6
RPZ	**Rata Peaks**	**1.77**	**230**	S	Sn	20 25 22.2	-0.9
RPZ	**Rata Peaks**	**1.77**	**230**	P	Pg	20 25 04.3	-0.6
MRZ	**Mangatainoka R**	**2.77**	**47**	P	Pn	20 25 14.5	0.0
ODZ	**Otahua Downs**	**2.96**	**213**	P	Pn	20 25 17.3	+0.2
ODZ				S	Sn	20 25 49.2	-3.1
DVHZ	**Dannevirke**	**3.34**	**48**	P	Pn	20 25 23.3	+0.8
VRZ	**Vera Road**	**3.73**	**22**	P	Pb	20 25 34.7	-1.7
TMVZ	**Te Maari**	**4.06**	**32**	P	Pb	20 25 39.5	-2.5

WEL 14 20:24:48.1±0.6, 42°S×3°×17°4E±°, h15km±4km, M2.7/10, ML3.0/11, MLv2.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=33.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**39**	P	Pg	20 24 51.6	+0.8
BSWZ	**Blackbirch Sta**	**0.23**	**287**	P	Pb	20 24 54.2	+0.1
TUWZ	**Tuamarina**	**0.40**	**334**	P	Pb	20 24 57.0	+0.2
TUWZ				S	Sb	20 25 03.3	+0.6
TCW	**Tory Channel**	**0.58**	**8**	P	Pb	20 24 59.8	-0.2
TCW				S	Sb	20 25 08.3	+0.3
BHW	**Baring Head**	**0.64**	**54**	P	Pb	20 25 01.3	+0.3
BHW				S	Sn	20 25 11.3	-1.3
NNZ	**Nelson**	**0.82**	**313**	P	Pn	20 25 04.7	-0.5
NNZ				S	Sn	20 25 16.1	-1.0
PLWZ	**Palliser**	**0.84**	**75**	P	Pg	20 25 04.0	-0.4
PLWZ				S	Sn	20 25 16.7	-0.9
MSWZ	**Moikau Station**	**0.89**	**66**	P	Pb	20 25 05.0	-0.2
MSWZ				S	Sg	20 25 17.3	+0.4
CAW	**Cannon Point**	**0.95**	**45**	P	Pg	20 25 06.5	0.0
CAW				S	Sn	20 25 20.2	-0.1
DUWZ	**D'Urville Isla**	**1.00**	**349**	P	Pn	20 25 07.6	-0.1
DUWZ				S	Sn	20 25 21.7	+0.1
PAWZ	**Paruwai Farm**	**1.02**	**67**	P	Pb	20 25 06.7	-0.9
PAWZ				S	Sg	20 25 21.7	+0.4
KIW	**Kapiti Island**	**1.08**	**31**	P	Pb	20 25 08.5	0.0
KIW				S	Sn	20 25 23.9	+0.5
MTW	**Mount Morrison**	**1.18**	**58**	P	Pn	20 25 08.8	-1.3
MTW				S	Sg	20 25 26.9	+0.8
OGWZ	**Otaki Gorge**	**1.22**	**38**	P	Pn	20 25 10.4	-0.3
TMWZ	**Te Maipa**	**1.46**	**63**	P	Pn	20 25 12.1	-1.8
DVHZ	**Dannevirke**	**2.12**	**46**	P	Pg	20 25 28.0	-0.6
TMVZ	**Te Maari**	**2.91**	**24**	P	Pb	20 25 38.9	-0.9
TMVZ				S	Sg	20 26 21.2	-0.4
NTVZ	**North Tongarir**	**2.92**	**24**	P	Pb	20 25 40.0	+0.1

WEL 14 20:31:55.2±0.2, 42°S×2°×17°4E±°, h7km±2km, M3.8/22, ML3.8/22, MLv3.8/22, Error ellipse: s-maj=0.0km s-min=0.0km az=133.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.27**	**19**	P	Pg	20 32 00.8	+0.3
BSWZ				S	Sg	20 32 05.4	+1.2
CMWZ	**Cape Campbell**	**0.41**	**57**	P	Pb	20 32 04.3	-0.4
CMWZ				S	Sb	20 32 11.4	+0.3
KHZ	**Kahutara**	**0.47**	**200**	P	Pb	20 32 05.2	-0.7
KHZ				S	Sb	20 32 12.2	-0.8
TUWZ	**Tuamarina**	**0.56**	**15**	P	Pg	20 32 06.3	+0.3
TUWZ				S	Sb	20 32 14.7	-0.8
THZ	**Tophouse**	**0.67**	**288**	P	Pg	20 32 08.5	+0.4
THZ				S	Sg	20 32 17.4	+0.6
NNZ	**Nelson**	**0.81**	**339**	P	Pg	20 32 10.6	-0.1
NNZ				S	Sg	20 32 21.8	+0.6
TCW	**Tory Channel**	**0.85**	**27**	P	Pg	20 32 11.4	-0.2
TCW				S	Sb	20 32 24.4	+0.4
MRNZ	**Matariki Terra**	**0.94**	**307**	P	Pb	20 32 13.6	-0.2
MRNZ				S	Sb	20 32 27.5	+0.9
WEL	**Wellington**	**1.02**	**48**	P	Pb	20 32 15.4	+0.1
WEL				S	Sn	20 32 30.9	+0.3
TKNZ	**Takaka Hill**	**1.11**	**327**	P	Pg	20 32 16.2	-0.3
TKNZ				S	Sb	20 32 31.9	+0.4
GVZ	**Greta Valley S**	**1.13**	**208**	P	Pn	20 32 17.4	-0.1
GVZ				S	Sn	20 32 34.9	+1.7
DUWZ	**D'Urville Isla**	**1.18**	**6**	P	Pg	20 32 17.0	-0.7
DUWZ				S	Sg	20 32 32.8	-0.2
PLWZ	**Palliser**	**1.19**	**71**	P	Pg	20 32 17.3	-0.7
MSWZ	**Moikau Station**	**1.25**	**64**	P	Pn	20 32 18.1	-0.9
CAW	**Cannon Point**	**1.31**	**49**	P	Pn	20 32 19.7	-0.2
CAW				S	Sn	20 32 37.9	+0.3
LTZ	**Lake Taylor**	**1.37**	**233**	P	Pb	20 32 20.9	-0.2
LTZ				S	Sg	20 32 40.3	+1.2
PAWZ	**Paruwai Farm**	**1.38**	**65**	P	Pn	20 32 20.5	-0.4
KIW	**Kapiti Island**	**1.41**	**38**	P	Pn	20 32 21.1	-0.1
KIW				S	Sn	20 32 40.1	0.0
AMCZ	**Amberley**	**1.45**	**214**	P	Pn	20 32 21.5	-0.4
QRZ	**Quartz Range**	**1.47**	**321**	P	Pb	20 32 22.5	-0.4
QRZ				S	Sb	20 32 42.0	+0.3
DSZ	**Denniston Nort**	**1.48**	**278**	P	Pg	20 32 23.6	+0.1
DSZ				S	Sg	20 32 43.3	+0.6
MTW	**Mount Morrison**	**1.54**	**59**	P	Pn	20 32 21.9	-1.2
MTW				S	Sg	20 32 45.8	+1.0
TRWZ	**Traveller**	**1.56**	**69**	P	Pn	20 32 22.0	-1.3
OGWZ	**Otaki Gorge**	**1.57**	**43**	P	Pn	20 32 22.9	-0.5
OGWZ				S	Sn	20 32 44.0	-0.1
HOWZ	**Holdsworth Sta**	**1.70**	**52**	P	Pn	20 32 25.0	-0.3
TMWZ	**Te Maipa**	**1.82**	**62**	P	Pn	20 32 25.6	-1.4
OKCZ	**Okains Bay**	**1.82**	**196**	P	Pn	20 32 26.2	-0.8
OKCZ				S	Sn	20 32 49.9	-0.5
OXZ	**Oxford**	**1.85**	**223**	P	Pn	20 32 26.4	-1.0
OXZ				S	Sn	20 32 49.8	-1.3
INZ	**Inchbonnie**	**1.87**	**246**	P	Pn	20 32 28.6	+0.9
INZ				S	Sb	20 32 53.9	+0.2
MRZ	**Mangatainoka R**	**1.90**	**47**	P	Pn	20 32 27.2	-0.8
MQZ	**McQueen's Vall**	**1.91**	**

baz=175
P18K Big Mountain, 2.67 29 Pn Pn 20 32 57.4 -0.6
P18K IAML 20 33 38.7
comp=N,960nm,1.1s
P18K IAML 20 33 44.0
comp=E,1µm,0.8s
P18K Big Mountain, 2.67 29 P Pn 20 32 57.5 -0.5
baz=211
O17K Koliganek Bris 2.72 7 P Pn 20 32 58.4 -0.2
baz=187
Q19K Cape Douglas, 2.86 48 Pn Pn 20 33 00.0 -0.6
Q19K IAML 20 33 52.1
comp=N,1µm,0.7s
Q19K Cape Douglas, 2.86 48 P Pn 20 33 00.5 -0.1
baz=231
KDAK Kodiak Island 2.88 74 P Pn 20 33 01.5 +0.7
comp=N,30nm,0.3s,baz=265,slow=4.7,SNR=29
KDAK Lg Lg 20 33 40.8
comp=N,17nm,0.3s,baz=322,slow=5.5,SNR=4.0
KDAK LR LR 20 34 30.2
comp=N,251nm,19.5s,baz=300,slow=47
comp=N,113nm,0.5s
KDAK Kodiak Island 2.88 74 Pn Pn 20 33 01.2 +0.4
O18K Koktuh Hills 3.08 25 Pn Pn 20 33 03.3 -0.3
O18K IAML 20 33 54.5
comp=E,1µm,0.8s
O18K IAML 20 33 55.4
comp=N,1µm,0.9s
O18K Koktuh Hills 3.08 25 P Pn 20 33 03.4 -0.3
baz=206
Q20K Shuyak Island 3.24 60 P Pn 20 33 06.9 +1.1
baz=244
N16K Nishlik Lake 3.44 352 P Pn 20 33 09.5 +0.9
baz=170
OPT Oil Point 3.50 41 P Pn 20 33 10.5 +1.1
baz=224
P19K Oil Pt 3.50 41 Pn 20 33 09.2 -0.3
O19K Port Alsworth 3.59 28 Pn 20 33 10.2 -0.5
O19K Port Alsworth 3.59 28 P Pn 20 33 10.8 +0.2
baz=211
N18K Kilae Creek 3.73 14 Pn 20 33 12.4 -0.1
N18K IAML 20 34 12.2
comp=N,420nm,0.7s
N18K IAML 20 34 16.9
comp=E,629nm,0.7s
N18K Kilae Creek 3.73 14 P Pn 20 33 12.5 -0.1
baz=196
ILSW Iliamna Southw 3.78 38 Pn 20 33 13.1 -0.1
ILSW IAML 20 34 11.5
comp=N,375nm,1.2s
ILSW IAML 20 34 11.7
comp=E,530nm,1.1s
FALS False Pass 3.89 237 Pn Pn 20 33 13.2 -1.6
O20K Slope Mountain 4.03 40 P Pn 20 33 17.2 +0.6
baz=224
N19K Bonanza Creek 4.10 23 Pn 20 33 17.9 +0.2
N19K IAML 20 34 22.9
comp=N,541nm,0.8s
N19K Bonanza Creek 4.10 23 P Pn 20 33 17.9 +0.2
baz=206
HOM Homer 4.12 49 Pn Pn 20 33 18.3 +0.4
HOM IAML 20 34 46.3
comp=N,670nm,0.8s
HOM IAML 20 34 51.1
comp=E,522nm,1.3s
SVW2 Sparrevohn 4.18 15 Pn 20 33 18.2 -0.4
SVW2 IAML 20 34 30.4
comp=E,383nm,0.5s
SVW2 IAML 20 34 38.7
comp=N,441nm,0.7s
CNPM China Poot 4.21 52 Pn 20 33 19.6 +0.4
RSO Redoubt South 4.27 35 Pn 20 33 20.4 +0.3
RDJH Redoubt Jeurge 4.35 34 Pn 20 33 21.6 +0.4
BRLK Bradley Lake 4.50 50 Pn 20 33 23.7 +0.6
BRSE Bradley Lake S 4.54 51 Pn 20 33 24.4 +0.6
BRSE Bradley Lake S 4.54 51 P Pn 20 33 24.4 +0.6
baz=237
N20K Mount Spurr 5.01 32 P Pn 20 33 31.1 +0.9
baz=217
SPU Mount Spurr 5.04 33 Pn 20 33 30.7 +0.1
M19K Big River Lodg 5.12 18 Pn 20 33 31.6 -0.1
M19K IAML 20 35 03.0
comp=N,198nm,0.7s
M19K Big River Lodg 5.12 18 P Pn 20 33 32.0 +0.3
baz=201
SLKM Skilak Lake 5.20 46 Pn 20 33 34.2 +1.4
SEW Seward 5.29 52 Pn 20 33 33.9 +0.1
L19K White Mountain 5.32 15 Pn Pn 20 33 34.2 -0.2
L19K White Mountain 5.32 15 P Pn 20 33 34.2 -0.2
baz=197
M20K Styx River 5.35 24 Pn 20 33 35.1 +0.2
M20K IAML 20 35 06.4
comp=E,220nm,0.7s
M20K IAML 20 35 13.3
comp=N,205nm,1.5s
M20K Styx River 5.35 24 P Pn 20 33 35.7 +0.8
baz=208
O22K Cooper Landing 5.38 47 Pn 20 33 35.0 -0.2
O22K Cooper Landing 5.38 47 P Pn 20 33 36.0 +0.8
baz=234
SUA Susitna One 5.67 36 Pn Pn 20 33 40.4 +1.1
SUA Susitna One 5.67 36 P Pn 20 33 40.3 +1.1
baz=222
L20K Farewell, AK 5.75 18 P Pn 20 33 40.9 +0.6
baz=201
RC01 Rabbit Creek A 5.76 42 Pn 20 33 41.5 +1.2
RC01 Rabbit Creek A 5.76 42 P Pn 20 33 41.5 +1.2
baz=229
SKT Skwentna 5.84 30 Pn 20 33 40.6 -0.8
TTA Tatalina 5.93 8 Pn Pn 20 33 42.2 -0.6
TTA Tatalina 5.93 8 P Pn 20 33 42.4 -0.4
baz=189
UNV Unalaska Valle 5.95 241 Pn Pn 20 33 40.2 -2.7
M22K Willow 6.08 37 Pn 20 33 40.6 -4.2
PWL Port Wells 6.16 48 Pn 20 33 46.0 0.0
PWL Port Wells 6.16 48 P Pn 20 33 46.0 0.0
baz=236
KNK Knik Glacier 6.44 44 Pn Pn 20 33 50.4 +0.6
PPLA Purkeypile 6.46 23 Pn 20 33 51.4 +1.3
PPLA Purkeypile 6.46 23 P Pn 20 33 51.4 +1.3
baz=208
GHO Glory Hole Cre 6.50 40 Pn 20 33 51.0 +0.3
CUT Chulitna 6.53 32 Pn Pn 20 33 47.8 -3.1
K20K Telida 6.55 15 Pn 20 33 50.5 -0.7
K20K Telida 6.55 15 P Pn 20 33 50.8 -0.5
baz=198
SML Sawmill 6.74 41 Pn Pn 20 33 54.7 +0.9
SPIA Saint Paul Isl 6.81 276 Pn Pn 20 33 56.0 +1.2
CAST Castle Rocks 6.95 22 Pn Pn 20 33 56.6 -0.1
CAST Castle Rocks 6.95 22 P Pn 20 33 56.8 +0.1
baz=206
SCM Sheep Creek Mo 7.12 44 Pn Pn 20 34 00.3 +1.1
EYAK Cordova Ski Ar 7.13 56 Pn Pn 20 33 57.4 -1.8
WAT7 Susitna Watana 7.29 34 Pn 20 34 02.0 +0.6
KTH Kantishna Hill 7.31 25 Pn 20 34 02.7 +0.9
CHUM Lake Minchumin 7.33 19 Pn 20 34 01.9 +0.1
CHUM Lake Minchumin 7.33 19 P Pn 20 34 01.9 +0.1
baz=204
J20K Nowinta River 7.33 12 Pn 20 34 01.2 -0.7
J20K Nowinta River 7.33 12 P Pn 20 34 01.4 -0.6
baz=195
DIV Divide 7.37 52 Pn Pn 20 34 02.1 -0.4
TRF Thorofare Moun 7.38 27 Pn 20 34 03.4 +0.7
TRF Thorofare Moun 7.38 27 P Pn 20 34 03.4 +0.7
baz=213
WAT6 Susitna Watana 7.46 38 Pn 20 34 04.4 +0.5
WAT6 Susitna Watana 7.46 38 P Pn 20 34 04.4 +0.5
baz=227
KLU Klutina 7.49 49 Pn 20 34 03.0 -1.1
GCSA Galena City Sc 7.70 3 Pn 20 34 06.9 0.0
GCSA Galena City Sc 7.70 3 P Pn 20 34 06.9 0.0
baz=183
M24K Tolsona, Glenn 7.73 45 Pn Pn 20 34 08.2 +0.7
M24K Tolsona, Glenn 7.73 45 P Pn 20 34 07.7 +0.3
baz=234
BPAW Bear Paw Mtn. 7.78 22 Pn 20 34 08.1 0.0
BPAW Bear Paw Mtn. 7.78 22 P Pn 20 34 08.1 0.0
baz=208
BMRM Bremner River 7.81 55 Pn Pn 20 34 07.3 -1.3
DHY Denali Highway 7.93 36 Pn 20 34 10.0 -0.3
DHY Denali Highway 7.93 36 P Pn 20 34 10.0 -0.3
baz=225
MCK McKinley 7.96 29 Pn Pn 20 34 12.3 +1.7
N25K Chitina, Valde 8.10 51 Pn Pn 20 34 12.1 -0.4
N25K Chitina, Valde 8.10 51 P Pn 20 34 12.8 +0.3
baz=242
BWN Browne 8.18 26 Pn Pn 20 34 12.3 -1.3
GLB Gilahina Butte 8.36 53 Pn 20 34 16.2 +0.1
SNH Sunshine Point 8.37 62 Pn Pn 20 34 16.7 +0.5
ANM Nome 8.37 337 Pn 20 34 17.1 +1.0
ANM Nome 8.37 337 P Pn 20 34 16.7 +0.5
baz=150
VRDI Verde Repeater 8.43 55 Pn Pn 20 34 16.6 -0.6
WAX Waxell Ridge 8.44 60 Pn 20 34 16.5 -0.7
PAX Paxson 8.51 41 Pn Pn 20 34 17.5 -0.7
I21K Tanana 8.58 16 Pn 20 34 19.1 0.0
I21K Tanana 8.58 16 P Pn 20 34 19.1 0.0
baz=201
NEA2 Nenana 8.63 26 Pn 20 34 19.6 -0.2
MLY Manley 8.66 20 Pn 20 34 19.9 -0.2
MLY Manley 8.66 20 P Pn 20 34 20.0 -0.2
baz=206
MCARA McCarthy VSAT 8.68 54 Pn Pn 20 34 21.2 +0.8
WRH Wood River Hil 8.78 28 Pn Pn 20 34 21.4 -0.3
KIAG Kiagna River 8.81 58 Pn 20 34 22.4 0.0
H21K Melozitna Rive 8.92 13 Pn 20 34 23.3 -0.4
H21K Melozitna Rive 8.92 13 P Pn 20 34 23.4 -0.4
baz=198
YAH Yahtse 8.94 62 Pn Pn 20 34 23.1 -1.1
CCB Clear Creek Bu 8.99 28 Pn 20 34 24.9 +0.2
HDA Harding Lake 9.04 31 Pn 20 34 25.5 +0.2
I23K Minto, Yukon-K 9.04 23 Pn 20 34 25.6 +0.2
I23K Minto, Yukon-K 9.04 23 P Pn 20 34 25.5 +0.2
baz=210
MDM Murphy Dome 9.14 26 Pn 20 34 26.3 -0.4
MENT Mentasta 9.14 44 Pn Pn 20 34 26.1 -0.6
M26K Nabesna, AK 9.14 48 Pn Pn 20 34 27.3 +0.4
M26K Nabesna, AK 9.14 48 P Pn 20 34 27.2 +0.4
baz=241
TCOL CIGO, UAF Yank 9.16 27 Pn 20 34 26.9 0.0
COLA College 9.16 27 Pn 20 34 27.3 +0.4
RIDG Independent Ri 9.22 38 Pn 20 34 29.2 +1.4
TABL Table Mountain 9.25 62 Pn Pn 20 34 26.7 -1.7
L26K Log Cabin Wild 9.33 44 Pn 20 34 30.0 +0.7
IL31 9.33 30 Pn Pn 20 34 27.8 -1.5
ILAR Eielson Array 9.33 30 P Pn 20 34 29.2 -0.1
comp=N,0.6nm,0.3s,baz=220,slow=13,SNR=26
ILAR Lg Lg 20 37 02.2
comp=N,0.1nm,0.3s,baz=217,slow=28,SNR=5.0
ILAR LR LR 20 38 20.2
comp=N,73nm,21.9s,baz=223,slow=40
comp=N,2.7nm,0.6s
H22K Ishtalitna Cre 9.34 16 P Pn 20 34 29.3 -0.1
baz=202
DOT Dot Lake 9.43 40 Pn Pn 20 34 29.9 -0.8
POKR Poker Plat Res 9.46 27 Pn Pn 20 34 30.3 -0.8
M27K Edge Creek, AK 9.58 50 Pn Pn 20 34 32.2 -0.7
H23K Yukon River 9.60 21 Pn 20 34 32.9 -0.1
H23K Yukon River 9.60 21 P Pn 20 34 32.9 -0.1
baz=208
PCA Pinnacle 9.61 64 Pn Pn 20 34 31.7 -1.6
J25K Salcha River, 9.65 33 Pn 20 34 34.7 +0.9
J25K Salcha River, 9.65 33 P Pn 20 34 33.5 -0.3
baz=224
SCRK Sand Creek 9.66 39 Pn Pn 20 34 33.4 -0.5
G21K Allakaket 9.67 10 P Pn 20 34 33.5 -0.5
baz=194
L27K Beaver Creek, 9.94 46 Pn Pn 20 34 37.6 -0.1
H24K Noodor Dome 9.95 24 Pn 20 34 38.5 +0.6
H24K Noodor Dome 9.95 24 P Pn 20 34 37.7 -0.2
baz=213
J26L Joseph Creek 10.14 37 Pn 20 34 40.9 +0.4
PRP Porcupine Dome 10.28 30 Pn Pn 20 34 42.8 +0.4
K27K Chicken 10.36 41 Pn Pn 20 34 42.5 -1.0
COLD Coldfoot 10.76 16 Pn Pn 20 34 52.5 +3.7
P29M Windy Craggy 10.80 68 Pn Pn 20 34 48.7 -0.8
I26K Coal Creek Min 10.81 34 Pn 20 34 49.9 +0.3
HYT Haines Junctio 11.09 62 Pn Pn 20 34 53.3 -0.2
EGAK Eagle 11.13 39 Pn Pn 20 34 53.9 +0.1
DAWY Dawson 11.38 45 Pn Pn 20 34 57.5 +0.1
WHY Whitehorse 12.33 64 Pn Pn 20 35 09.5 -1.0
DLBC Dease Lake 14.81 73 P Pn 20 35 46.9 +2.6
comp=N,0.2nm,0.3s,baz=255,slow=12,SNR=2.3
comp=N,1.7nm,0.7s
INK Inuvik 15.66 34 P Pn 20 35 56.2 +0.8
comp=N,0.3nm,0.3s,baz=284,slow=1.8,SNR=4.5
comp=N,1.4nm,0.6s
INK Inuvik 15.66 34 Pn 20 35 55.4 0.0
A36M Sachs Harbour 20.03 29 P P 20 36 45.4 -2.2
WAPA Wapiti River 21.34 79 P P 20 37 02.2 +0.3
HILA High Level 21.51 69 P P 20 37 02.4 -1.2
YKA Yellowknife Ar 22.03 58 P P 20 37 09.4 +0.3
comp=N,0.9nm,0.4s,baz=289,slow=10,SNR=3.5
YKA LR LR 20 46 17.8
comp=N,80nm,20.4s,baz=338,slow=38
SEY Seymchan 25.05 304 P P 20 37 39.6 +0.8
comp=N,4.4nm,0.8s,baz=94,slow=12,SNR=8.3
comp=N,4.4nm,0.8s
PETK Petropavlovsk- 25.45 280 P P 20 37 45.5 +3.0
comp=N,4.3nm,0.9s,baz=67,slow=13,SNR=2.6
comp=N,4.3nm,0.9s
D08A Wollman Farm, 25.55 96 P P 20 37 44.9 +1.4
D08A IAmb IAmb 20 37 49.2
comp=Z,8.8nm,1.2s
HAWA Hanford 25.63 98 P P 20 37 46.0 +1.8
HAWA IAmb IAmb 20 37 46.8
comp=Z,5.2nm,0.8s
NEW Newport 25.81 92 P P 20 37 46.9 +1.0
comp=Z,3.4nm,0.8s,baz=331,slow=10,SNR=4.6
comp=Z,3.4nm,0.8s
E09A Wood Farm, Sta 26.30 97 P P 20 37 52.2 +1.8
E09A IAmb IAmb 20 37 54.4
comp=Z,5.8nm,0.9s
BCYI Bear Canyon 30.28 96 P P 20 38 27.5 +1.3
ELK Elko 31.73 103 P P 20 38 38.9 -0.1
NVAR Mina Array Bea 31.82 109 P P 20 38 41.3 +1.6
comp=Z,1.4nm,0.7s,baz=309,slow=8.7,SNR=14
NVAR PcP PcP 20 41 31.1 +0.6
comp=Z,0.3nm,0.6s,baz=279,slow=1.7,SNR=2.8
comp=Z,1.4nm,0.7s
TIXI Tiksi 32.42 326 P P 20 38 43.8 -0.7
comp=Z,1.7nm,0.5s,baz=28,slow=0.0,SNR=5.4
comp=Z,1.7nm,0.5s
TIXI Tiksi 32.42 326 P P 20 38 44.4 0.0
TIXI IAmb IAmb 20 38 46.1
comp=Z,3.3nm,0.8s
R11A Troy Canyon, C 33.29 106 P P 20 38 53.8 +1.2
PDAR Pinedale Array 33.40 94 P P 20 38 53.9 +0.3
comp=Z,0.5nm,0.6s,baz=317,slow=3.0,SNR=7.7
comp=Z,0.5nm,0.6s
TPNV Topopah Spring 34.00 108 P P 20 38 59.6 +0.8
TPNV IAmb IAmb 20 39 08.0
comp=Z,3.1nm,0.8s
GWY Greenwater Val 34.37 110 P P 20 39 02.5 +0.5
YAK Yakutsk 35.32 309 P P 20 39 09.4 -0.3
comp=Z,3.9nm,0.6s,baz=84,slow=2.1,SNR=4.3
comp=Z,3.9nm,0.6s
YAK Yakutsk 35.32 309 P P 20 39 09.4 -0.3
SRU San Rafael Swe 35.43 100 P P 20 39 12.1 +1.0
SRU IAmb IAmb 20 39 13.6
comp=Z,5.0nm,0.8s
RSSD Black Hills 35.51 88 P P 20 39 11.8 0.0
RSSD IAmb IAmb 20 39 13.4
comp=Z,3.8nm,0.6s
ULM Lac du Bonnet 36.13 74 P P 20 39 18.3 +1.4
comp=Z,2.8nm,0.6s,baz=297,slow=6.8,SNR=2.9
comp=Z,2.8nm,0.6s
AGMN Agassiz Nation 37.30 76 P P 20 39 26.7 -0.1
AGMN IAmb IAmb 20 39 28.1
comp=Z,7.8nm,0.8s
EYMN Ely 39.82 74 P P 20 39 48.0 0.0
EYMN IAmb IAmb 20 39 50.8
comp=Z,8.7nm,0.9s
TXAR Lajitas Array 46.52 103 P P 20 40 43.4 +0.9
comp=Z,0.9nm,0.6s,baz=310,slow=5.6,SNR=14
TXAR PcP PcP 20 42 17.3 +0.7
comp=Z,0.1nm,0.4s,baz=256,slow=1.9,SNR=1.7
comp=Z,0.9nm,0.6s
ARCES ARCESS Array B 53.66 359 P P 20 41 35.2 -0.7
comp=Z,4.5nm,0.9s,baz=9.8,slow=6.8,SNR=1.6
comp=Z,4.5nm,0.9s
SONM Songino Array 54.44 305 P P 20 41 42.7 +0.6
comp=Z,1.1nm,0.7s,baz=45,slow=7.0,SNR=7.8
SONM PcP PcP 20 42 44.6 -1.0
comp=Z,0.9nm,0.7s,baz=59,slow=2.8,SNR=4.2
comp=Z,1.1nm,0.7s
HHC Hu-ho-hao-te 57.26 296 eP P 20 42 02.8 +0.5
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.5s
ZALV Zalesovo Beam 58.19 322 P P 20 42 08.5 -0.1
comp=Z,0.3nm,0.3s,baz=29,slow=3.3,SNR=1.8
comp=Z,0.3nm,0.3s
FINES FINESS Array B 61.77 358 P P 20 42 31.8 -1.2
comp=Z,2.3nm,0.8s,baz=4.4,slow=7.2,SNR=5.8
comp=Z,2.3nm,0.8s
NOA NORSAR Array B 61.90 6 P P 20 42 32.9 -1.0
comp=Z,0.7nm,0.7s,baz=352,slow=6.8,SNR=2.0
comp=Z,0.7nm,0.7s
WMQ Urumqi 65.56 314 eP P 20 43 00.4 +2.0
ABKAR Akbulak array 69.52 335 P P 20 43 22.5 -0.7
ABKAR IAmb IAmb 20 43 25.5
comp=Z,1.5nm,0.8s
AKASG Malin Array Be 72.42 355 P P 20 43 39.1 -1.7
comp=Z,1.5nm,0.5s,baz=10.0,slow=6.3,SNR=9.8
comp=Z,1.5nm,0.5s
PZH PanZhiHua 73.58 293 P P 20 43 49.3 +1.1
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,70nm,6.0s
GERES GERESS Array B 74.20 6 P P 20 43 50.2 -1.2
comp=Z,0.8nm,0.7s,baz=1.9,slow=4.0,SNR=5.6
comp=Z,0.8nm,0.7s
ESDC Sonseca Array 81.10 20 P P 20 44 29.9 -0.1
comp=Z,0.5nm,0.6s,baz=340,slow=5.0,SNR=6.6
comp=Z,0.5nm,0.6s
CMAR Chiang Mai Arr 81.70 291 P P 20 44 32.5 -1.0
comp=Z,1.3nm,0.8s,baz=15,slow=5.9,SNR=10
comp=Z,1.3nm,0.8s
BOSA Boshof 151.46 354 PKPbc PKPbc 20 52 07.6 -1.1
comp=Z,4.5nm,0.9s,baz=21,slow=1.3,SNR=4.3

IDC ***14*** *20:32:23.6±2.7, 12.°90N×87.°89W, h0km, mb3.6/5, mbtmp3.6/6, ML3.4/1, MS3.4/1, Error ellipse: s-maj=78.7km s-min=45.7km az=34.0*
SNET ***14*** *20:32:34.7±1.0, 12.°95N×88.°78W, h58km, ML4.3, ML4.4*
INET ***14*** *20:32:34.1±0.6, 12.°91N×88.°79W, h14km±10km, MW4.0*
GCG ***14*** *20:32:38.3±0.3, 13.°16N×88.°94W, h100km±28km, MD4.0*
ISC 14 20:32:34.6±1.3, 13.°0N±0.°1×88.°76W±0.°05, h61km±9km, n47, σ0s90/57, mb3.8/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.42**	**27**	***eP***	**Pn**	**20 32 45.9**	**0.0**
ALJI				*eS*	**Sn**	**20 32 54.7**	**+0.7**
ALJI				IAML		20 32 57.3	
	comp=Z,20µm,0.2s						
COEB	**Comit de Eme**	**0.59**	**23**	***eP***	**Pn**	**20 32 47.9**	**+0.1**
COEB				*eS*	**Sn**	**20 32 57.7**	**+0.3**
COEB				IAML		20 33 00.5	
	comp=Z,17µm,0.5s						
COEG	**Centro de Oper**	**0.68**	**350**	***eP***	**Pn**	**20 32 48.6**	**-0.2**
COEG				*eS*	**Sn**	**20 32 59.0**	**-0.1**
COEG				IAML		20 33 03.2	
	comp=Z,13µm,0.3s						
PQSS	**Presa 15 de Se**	**0.70**	**16**	***eP***	**Pn**	**20 32 49.3**	**+0.3**
SJTE	**Alcalda de S**	**0.70**	**340**	***eP***	**Pn**	**20 32 48.9**	**-0.2**
SJTE				*eS*	**Sn**	**20 32 59.5**	**-0.1**
LFRS	**El Faro**	**0.73**	**337**	***eP***	**Pn**	**20 32 49.3**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.75**	**3**	***eP***	**Pn**	**20 32 50.1**	**+0.5**
PAVA	**Las Pavas**	**0.78**	**348**	***eP***	**Pn**	**20 32 50.3**	**+0.2**
PAVA				*eS*	**Sn**	**20 33 01.9**	**+0.6**
LBRS	**Las Brisas**	**0.83**	**341**	***eP***	**Pn**	**20 32 51.1**	**+0.4**
SNET	**Serv Nac Est T**	**0.86**	**328**	***eP***	**Pn**	**20 32 50.8**	**-0.3**
SNET				*eS*	**Sn**	**20 33 03.0**	**-0.2**
LFU	**La Fuente**	**0.87**	**337**	***eP***	**Pn**	**20 32 51.2**	**+0.1**
UEES	**Universidad Ev**	**0.89**	**329**	***eP***	**Pn**	**20 32 51.3**	**-0.1**
LCND	**La Caada**	**0.92**	**67**	***eP***	**Pn**	**20 32 52.1**	**+0.3**
LCND				*eS*	**Sn**	**20 33 05.4**	**+1.0**
LCND				IAML		20 33 06.9	
	comp=Z,9µm,0.3s						
BOQS	**Boqueron**	**0.93**	**327**	***eP***	**Pn**	**20 32 52.1**	**0.0**
CNCH	**Conchagua**	**0.96**	**70**	***i P***	**Pn**	**20 32 52.6**	**+0.2**
CNCH				*eS*	**Sn**	**20 33 06.0**	**+0.6**
JAYA	**Jayaque - finc**	**0.97**	**317**	***eP***	**Pn**	**20 32 52.3**	**-0.2**
JAYA				IAML		20 33 06.3	
	comp=Z,7µm,0.2s						
P5NO	**Presa 5 de nov**	**1.03**	**0**	***eP***	**Pn**	**20 32 53.4**	**+0.2**
CEDA	**San Andres**	**1.05**	**324**	***eP***	**Pn**	**20 32 53.8**	**+0.4**
CEDA				*eS*	**Sn**	**20 33 07.3**	**0.0**
CEVE	**Cerro Verde**	**1.21**	**316**	***eP***	**Pn**	**20 32 56.2**	**+0.5**
CEVE				IAML		20 33 21.3	
	comp=Z,6µm,0.5s						
SBLS	**San Blas**	**1.22**	**317**	***eP***	**Pn**	**20 32 56.4**	**+0.5**
SNJE	**San Jose**	**1.23**	**318**	***eP***	**Pn**	**20 32 56.4**	**+0.5**
NUBE	**Las Nubes**	**1.37**	**314**	***eP***	**Pn**	**20 32 58.2**	**+0.4**
NUBE				*eS*	**Sn**	**20 33 15.1**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.46**	**317**	***eP***	**Pn**	**20 32 59.1**	**+0.2**
MTO3	**Montecristo**	**1.56**	**338**	***eP***	**Pn**	**20 33 00.5**	**+0.2**
MTO3	**Montecristo**	**1.56**	**338**	***eP***	**Pn**	**20 33 00.7**	**+0.4**
CRIN	**San Cristobal**	**1.69**	**98**	***eP***	**Pn**	**20 33 02.3**	**+0.4**
ESQI	**Esquipulas**	**1.70**	**341**	***eP***	**Pn**	**20 33 03.1**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.82**	**53**	***eP***	**Pn**	**20 33 04.0**	**+0.8**
TGUH	**Tegucigalpa,Un**	**1.82**	**53**	***eP***	**Pn**	**20 33 04.6**	**+0.8**
CNGN	**Cerro Negro**	**2.06**	**102**	***eP***	**Pn**	**20 33 08.9**	**+1.9**
MOMN	**Momotombo**	**2.24**	**104**	***eP***	**Pn**	**20 33 09.5**	**+0.1**
NBG	**Las Nubes**	**2.24**	**317**	***eP***	**Pn**	**20 33 11.7**	**+2.0**
MRL	**Marmol**	**2.30**	**337**	***eP***	**Pn**	**20 33 12.5**	**+2.0**
FUG	**Fuego 3**	**2.51**	**307**	***eS***	**Sn**	**20 33 43.6**	**+0.8**
STG3	**Santiaguito 3,**	**3.24**	**303**	***eS***	**Sn**	**20 34 01.3**	**+0.6**
CMIG	**Matias Romero**	**7.21**	**306**	Pn	**Pn**	**20 34 19.6**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=164,slow=10,SNR=4.3						
CMIG				Sn	**Sn**	**20 35 38.4**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=54,slow=19,SNR=2.1						
	comp=Z,1.1nm,0.4s						
TXAR	**Lajitas Array**	**21.39**	**322**	**P**	**P**	**20 37 19.6**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=139,slow=10,SNR=12						
	comp=Z,0.8nm,0.7s						
PDAR	**Pinedale Array**	**34.74**	**333**	**P**	**P**	**20 39 20.6**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=126,slow=9.1,SNR=4.7						
PDAR				PcP	**PcP**	**20 41 50.9**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=79,slow=4.7,SNR=2.5						
	comp=Z,0.3nm,0.5s						
LPAZ	**La Paz**	**35.50**	**144**	LR	LR	20 52 25.6	
	comp=Z,63nm,19.1s,baz=337,slow=34						
NVAR	**Mina Array Bea**	**36.49**	**319**	PcP	**PcP**	**20 41 57.7**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=99,slow=2.8,SNR=4.5						
YKA	**Yellowknife Ar**	**52.80**	**345**	**P**	**P**	**20 41 42.3**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=146,slow=6.4,SNR=3.6						
RES	**Resolute Bay**	**61.82**	**358**	**P**	**P**	**20 42 44.8**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=189,slow=5.7,SNR=4.7						
	comp=Z,0.8nm,0.4s						
INK	**Inuvik**	**62.35**	**343**	**P**	**P**	**20 42 49.1**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=103,slow=7.3,SNR=4.4						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**65.05**	**336**	**P**	**P**	**20 43 07.0**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=169,slow=5.3,SNR=4.5						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**138.17**	**255**	PKP	**PKPdf**	**20 51 54.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=87,slow=2.5,SNR=2.7						
ASAR	**Alice Springs**	**138.26**	**249**	PKHKP	PKPpre	20 51 50.0	
	comp=Z,0.4nm,1.0s,baz=92,slow=2.8,SNR=1.5						
CMAR	**Chiang Mai Arr**	**147.88**	**346**	PKPbc	**PKPdf**	**20 52 11.5**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=347,slow=3.7,SNR=1.6						

NEIC ***14*** *20:32:51.0±2.0, 42.°48S±0.°05×174.°22E±0.°05, h6km±7km, mb4.4/3, Error ellipse: s-maj=7.6km s-min=4.2km az=144.0*
WEL ***14*** *20:32:53.9±0.9, 42.°S±4.°×17.°4E±.°, h12km, M4.2/7, ML4.3/7, MLv4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=114.8*
IDC ***14*** *20:32:58.8±2.5, 42.°24S×172.°88E, h0km, mb3.8/3, mbtmp3.8/3, MS3.3/1, Error ellipse: s-maj=51.8km s-min=31.7km az=105.0*
ISC 14 20:32:52.3±1.4, 42.°51S±0.°03×174.°16E±0.°03, h15km±10km, n66, σ1s01/76, mb4.1/6, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.47**	**281**		**Pg**	**20 33 00.6**	**-1.0**
KHZ	**Kahutara**	**0.47**	**281**	P	**Pg**	**20 33 01.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.82**	**345**	Pn	**Pb**	**20 33 08.2**	**0.0**
BSWZ	**Blackbirch Sta**	**0.82**	**345**	S	**Sn**	**20 33 21.5**	**+0.3**
GVZ	**Greta Valley S**	**0.95**	**240**	Pn	**Pb**	**20 33 10.9**	**+0.5**
GVZ	**Greta Valley S**	**0.95**	**240**	P	**Pb**	**20 33 10.9**	**+0.5**
GVZ				S	**Sn**	**20 33 25.2**	**+0.7**
TUWZ	**Tuamarina**	**1.09**	**352**	Pn	**Pb**	**20 33 12.6**	**-0.2**
TUWZ	**Tuamarina**	**1.09**	**352**	P	**Pg**	**20 33 14.3**	**+1.0**
THZ	**Tophouse**	**1.19**	**308**	Pn	**Pn**	**20 33 14.3**	**-0.3**
THZ	**Tophouse**	**1.19**	**308**	P	**Pb**	**20 33 14.7**	**+0.1**

PLWZ	Palliser	1.24	42		Pn	20 33 13.3	-1.9
SNZO	South Karori	1.26	19	Pn	Pn	20 33 13.0	-2.4
AMCZ	Amberley	1.29	238	Pn	Pb	20 33 17.2	+0.8
AMCZ	Amberley	1.29	238	P	Pg	20 33 17.7	+0.4
TCW	Tory Channel	1.30	4	Pn	Pn	20 33 15.5	-0.5
MSWZ	Moikau Station	1.36	37	Pn	Pb	20 33 17.6	0.0
NNZ	Nelson	1.41	336		Pn	20 33 17.6	+0.1
NNZ	Nelson	1.41	336	P	Pb	20 33 19.2	+0.8
LTZ	Lake Taylor	1.42	258	Pn	Pn	20 33 16.9	-0.7
LTZ	Lake Taylor	1.42	258	P	Pn	20 33 17.8	+0.2
OKCZ	Okains Bay	1.46	213	P	Pb	20 33 19.1	-0.1
OKCZ				S	Sb	20 33 39.0	+1.4
MRNZ	Matariki Terra	1.52	316	Pn	Pn	20 33 19.0	0.0
MRNZ	Matariki Terra	1.52	316	P	Pb	20 33 20.2	0.0
CAW	Cannon Point	1.55	26	P	Pb	20 33 20.8	0.0
TRWZ	Traveller	1.59	46	P	Pb	20 33 21.4	0.0
MQZ	McQueen's Vall	1.63	222		Pn	20 33 20.9	+0.4
MQZ	McQueen's Vall	1.63	222	P	Pn	20 33 20.3	-0.2
MQZ				S	Sn	20 33 39.5	-1.7
AKCZ	Akaroa Harbour	1.64	213	P	Pn	20 33 21.8	+1.1
MTW	Mount Morrison	1.68	37	P	Pn	20 33 22.2	+1.0
MTW				S	Sn	20 33 41.8	-0.8
DUWZ	D'Urville Isla	1.71	354	P	Pn	20 33 22.3	+0.6
TKNZ	Takaka Hill	1.72	328	Pn	Pn	20 33 21.9	+0.1
TKNZ	Takaka Hill	1.72	328	P	Pb	20 33 23.9	+0.2
KIW	Kapiti Island	1.74	19	P	Pb	20 33 24.2	+0.2
OXZ	Oxford	1.76	241	Pn	Pn	20 33 22.0	-0.4
OXZ	Oxford	1.76	241	P	Pn	20 33 21.9	-0.4
OXZ				S	Sn	20 33 42.8	-1.7
DSZ	Denniston Nort	1.91	293	Pn	Pn	20 33 25.4	+1.1
DSZ	Denniston Nort	1.91	293	P	Pb	20 33 26.2	-0.6
DSZ				S	Sb	20 33 51.5	+1.0
INZ	Inchbonnie	2.01	263	Pn	Pn	20 33 26.8	+1.0
INZ	Inchbonnie	2.01	263	P	Pb	20 33 28.8	+0.1
INZ				S	Sb	20 33 53.3	-0.3
QRZ	Quartz Range	2.07	323	Pn	Pn	20 33 27.8	+1.2
QRZ	Quartz Range	2.07	323	P	Pb	20 33 29.7	+0.1
QRZ				S	Sb	20 33 55.5	+0.3
MRZ	Mangatainoka R	2.13	31		Pn	20 33 27.9	+0.5
WACZ	Wakanui South	2.22	229	P	Pn	20 33 29.0	+0.4
WACZ				S	Sn	20 33 54.6	-1.2
RPZ	Rata Peaks	2.57	241	Pn	Pn	20 33 33.0	-0.5
	35nm,0.3s,baz=62,slow=5.7,SNR=10						
RPZ				Sn	Sn	20 34 02.3	-2.3
	31nm,0.3s,baz=316,slow=23,SNR=13						
RPZ	Rata Peaks	2.57	241		Pn	20 33 32.9	-0.6
RPZ	Rata Peaks	2.57	241	P	Pn	20 33 33.2	-0.3
RPZ				S	Sn	20 34 02.2	-2.3
WVZ	Waitaha Valley	2.58	256	P	Pn	20 33 34.7	+1.1
WVZ				S	Sn	20 34 02.5	-2.2
GCSZ	Gaunt Creek Bo	2.93	253	P	Pb	20 33 42.8	-1.4
FOZ	Fox Glacier	3.34	251		Pn	20 33 43.0	-1.1
LBZ	Lake Benmore	3.45	236		Pn	20 33 46.4	+0.8
ODZ	Otahua Downs	3.59	224		Pn	20 33 47.7	+0.2
BKZ	Black Stump Fm	3.78	29		Pn	20 33 49.0	-1.2
HHSZ	Highcliff Hill	4.24	216	P	Pn	20 33 56.4	+0.1
WKZ	Wanaka	4.39	236	Pn	Pn	20 33 57.9	-0.6
MLZ	Mavora Lakes	5.21	235		Pn	20 34 10.0	+0.2
SYZ	Scrubby Hill	5.39	220	P	Pn	20 34 13.1	+0.9
MKAZ	Moumakai	5.45	8	P	Pn	20 34 12.8	-0.2
DCZ	Deep Cove	5.85	237	Pn	Pn	20 34 16.6	-2.0
DZM	Mont Dzumac	21.37	340	LR	LR	20 45 02.3	
	comp=Z,75nm,19.0s,baz=38,slow=35						
RAR	Rarotonga	30.47	54	P	P	20 39 02.9	-1.7
RAR				IAmb	IAmb	20 39 40.5	
	comp=Z,69nm,1.3s						
ASAR	Alice Springs	38.17	287	P	P	20 40 11.2	-0.1
	comp=Z,0.2nm,0.5s,baz=125,slow=7.7,SNR=6.9						
	comp=Z,0.2nm,0.5s						
WB2	Warramunga Arr	40.30	291	P	P	20 40 30.1	+1.0
WB2				IAmb	IAmb	20 40 34.9	
	comp=Z,3.0nm,0.8s						
WRA	Warramunga Arr	40.31	291	P	P	20 40 29.6	+0.4
	comp=Z,1.9nm,0.9s,baz=131,slow=7.5,SNR=8.3						
	comp=Z,1.9nm,0.9s						
WB0	Warramunga Arr	40.39	292		P	20 40 31.2	+1.3
WB0				IAmb	IAmb	20 40 52.4	
	comp=Z,6.9nm,1.3s						
CMAR	Chiang Mai Arr	91.87	293	P	P	20 46 05.6	+5.5
	comp=Z,0.4nm,0.3s,baz=134,slow=2.6,SNR=1.4						
	comp=Z,0.4nm,0.3s						
TORD	Torodi Ar. Bea	150.03	195	PKPbc	PKPab	20 52 50.9	+2.6
	comp=Z,0.8nm,0.9s,baz=157,slow=2.4,SNR=3.4						

JMA ***14*** *20:38:57.9±0.3, 35°N±1°×13°7E±°, h352km±2km, MV3.1/36, ENSYUNADA*

IDC ***14*** *20:38:58.4±0.7, 34°49N×137°11E, h351km±14km, mb3.0/5, mbtmp3.7/8, Error ellipse: s-maj=38.3km s-min=11.9km az=65.0*

ISC 14 20:38:58.5±0.8, 34°48N±0°07×136°95E±0°06, h346km±6km, n27, σ0°70/34, mb3.0/5, Western Hokkaido, Japan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAA	Atsumi	0.22	46	P	Pn	20 39 42.4	+0.7
JIE	Ise	0.22	246	P	Pn	20 39 42.3	+0.4
JIE				S	S	20 40 15.9	-0.6
TK02	Tokai 2	0.85	128	P	Pn	20 39 43.7	+0.7
TTO1	TONANKAI O.B.S	0.87	189	P	Pn	20 39 43.6	+0.7
JYTA	Yamagatataniai	1.12	351	P	Pn	20 39 44.6	+0.5
JYTA				S	S	20 40 19.9	-0.9
JWY	Kouya	1.16	257	P	Pn	20 39 44.8	+0.3
JWY				S	S	20 40 20.1	-1.3
JTNC	Tanabenakahech	1.29	240	P	Pn	20 39 45.2	+0.1
JTNC				S	S	20 40 21.6	-0.9
JWT	Wachi	1.50	303	P	Pn	20 39 46.5	+0.4
JWT				S	S	20 40 23.1	-1.3
JYN	Shimob	1.66	52	P	Pn	20 39 47.1	0.0
JKG	Kaga	1.86	344	P	Pn	20 39 48.5	+0.2
JOD2	Odawara 2	1.92	65	P	Pn	20 39 48.8	0.0
JAI	Aioi	2.19	252	P	Pn	20 39 50.7	0.0
JRY	Ryogami san	2.21	46	*i* P	Pn	20 39 51.3	+0.4
MAT	Matsushiro	2.30	26	P	Pn	20 39 51.7	+0.2
MJAR	Matsushiro Arr	2.30	26	P	Pn	20 39 51.4	-0.1
	27nm,0.5s,baz=196,slow=8.3,SNR=61						
MJAR				S	S	20 40 33.6	-0.6
	1.5nm,0.6s,baz=208,slow=15,SNR=1.3						
JMN	Monobe	2.66	254	P	Pn	20 39 54.5	0.0
JHJ	Hachijo jima 2	2.72	119	P	Pn	20 39 55.0	-0.1
	604nm,1.4s,baz=33,slow=4.6,SNR=6.2						
JHJ				S	S	20 40 41.4	+0.9
	69nm,0.6s,baz=56,slow=21,SNR=1.5						
JAG	Ashikaga	2.82	46	*i* P	Pn	20 39 54.7	-1.1
JHS	Saijyo	3.20	280	P	Pn	20 39 59.6	+0.3
JOI	OKI	3.52	302	P	Pn	20 40 02.4	+0.1
JTO	Tosashimizu	3.82	246	P	Pn	20 40 05.2	-0.2
KSRS	Korea Array	7.90	295	P	P	20 40 52.3	+1.1
	1.4nm,0.5s,baz=106,slow=13,SNR=4.9						
SONM	Songino Array	26.40	310	P	P	20 44 05.5	+0.9
	0.3nm,0.4s,baz=101,slow=7.5,SNR=2.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	42.46	304	P	P	20 46 21.1	+0.6
	0.5nm,0.5s,baz=81,slow=9.6,SNR=10						
	0.5nm,0.5s						
WRA	Warramunga Arr	54.18	183	P	P	20 47 48.0	-1.3
	0.5nm,0.3s,baz=357,slow=7.6,SNR=12						
	0.5nm,0.3s						
ASAR	Alice Springs	57.90	183	P	P	20 48 14.8	-0.7
	0.2nm,0.3s,baz=14,slow=12,SNR=6.2						
	0.2nm,0.3s						
FINES	FINESS Array B	69.34	331	P	P	20 49 28.7	-0.3
	1.5nm,0.7s,baz=72,slow=6.2,SNR=9.3						
	1.5nm,0.7s						

IDC ***14*** *20:56:39.9±2.1, 42°64S×173°26E, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=142.1km s-min=47.4km az=31.0*

NOU ***14*** *20:56:41.3, 42°78S×173°24E, h0km, MLv4.1/5, South Island, New Zealand*

WEL ***14*** *20:56:42.2±0.4, 43°S±2°×17°3E±°, h8km±3km, M3.9/8, ML4.1/8, MLv3.9/8, Error ellipse: s-maj=0.0km s-min=0.0km az=128.7*

ISC 14 20:56:41.9±1.1, 42°68S±0°03×173°21E±0°04, h15km±7km, n71, σ1°67/80, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	Greta Valley S	0.32	204	P	Pn	20 56 50.7	-1.3
GVZ				S	Sn	20 56 57.4	-1.1
KHZ	Kahutara	0.36	43	P	Pg	20 56 49.5	+0.4
KHZ	Kahutara	0.36	43	P	Pg	20 56 49.6	+0.5
KHZ				S	Sg	20 56 55.1	+1.0
AMCZ	Amberley	0.65	219	P	Pn	20 56 56.5	0.0
AMCZ				S	Sn	20 57 06.4	-0.2
LTZ	Lake Taylor	0.70	261	P	Pg	20 56 55.3	-0.3
LTZ				S	Sg	20 57 04.7	-0.2
THZ	Tophouse	0.94	346	P	Pb	20 56 58.5	-1.5
THZ				S	Sb	20 57 09.4	-2.9
OKCZ	Okains Bay	1.05	186	P	Pn	20 57 02.8	+0.6
OKCZ				S	Sn	20 57 19.9	+3.3
OXZ	Oxford	1.08	233	P	Pb	20 57 02.4	+0.2
OXZ				S	Sn	20 57 17.6	+0.4
MQZ	McQueen's Vall	1.11	201	P	Pb	20 57 02.6	-0.1
MQZ				S	Sn	20 57 18.1	+0.7
TUWZ	Tuamarina	1.36	24	P	Pn	20 57 07.0	+1.7
NNZ	Nelson	1.47	5	P	Pn	20 57 08.1	+0.3
TKNZ	Takaka Hill	1.65	353	P	Pn	20 57 10.6	+0.2
TKNZ				S	Sn	20 57 31.3	-0.1
TCW	Tory Channel	1.67	29	P	Pn	20 57 11.4	+0.8
WEL	Wellington	1.81	40	P	Pn	20 57 13.2	+0.6
PLWZ	Palliser	1.88	55	P	Pn	20 57 13.5	-0.1
RPZ	Rata Peaks	1.89	236	P	Pn	20 57 13.7	0.0
DUWZ	D'Urville Isla	1.95	16	P	Pn	20 57 16.2	+1.7
ARCZ	Arundel	1.95	229	P	Pn	20 57 14.5	-0.1
MSWZ	Moikau Station	1.97	51	P	Pn	20 57 14.7	-0.1
CAW	Cannon Point	2.09	42	P	Pn	20 57 16.6	+0.1
PAWZ	Paruwai Farm	2.10	53	P	Pn	20 57 16.2	-0.4
GCSZ	Gaunt Creek Bo	2.21	252	P	Pn	20 57 19.0	+1.0
KIW	Kapiti Island	2.21	36	P	Pn	20 57 18.8	+0.7
TRWZ	Traveller	2.24	56	P	Pn	20 57 18.3	-0.2
MTW	Mount Morrison	2.29	49	P	Pn	20 57 18.6	-0.5
TMZ	Timaru	2.34	222	P	Pn	20 57 20.0	+0.1
OGWZ	Otaki Gorge	2.37	39	P	Pn	20 57 17.7	-2.5
HOWZ	Holdsworth Sta	2.48	45	P	Pn	20 57 26.5	+0.4
TMWZ	Te Maipa	2.54	53	P	Pn	20 57 22.0	-0.7
FOZ	Fox Glacier	2.63	250	P	Pn	20 57 24.8	+1.0
MRZ	Mangatainoka R	2.68	42	P	Pn	20 57 24.1	-0.4
LBZ	Lake Benmore	2.79	231	P	Pn	20 57 26.3	+0.3
PRWZ	Pori Road	2.96	45	P	Pn	20 57 28.6	+0.2
ODZ	Otahua Downs	3.01	217	P	Pn	20 57 29.1	+0.1
ODZ	Otahua Downs	3.01	217	P	Pn	20 57 29.0	-0.1
TSZ	Takapari Road	3.33	39	P	Pn	20 57 33.1	-0.5
NBEZ	Newall Road No	3.44	9	P	Pn	20 57 37.5	+2.5
JCZ	Jackson Bay	3.52	245	P	Pn	20 57 37.1	+1.0
JCZ	Jackson Bay	3.52	245	P	Pn	20 57 36.4	+0.3
PRHZ	Porangahau	3.52	48	P	Pn	20 57 35.8	-0.4
PKE	Pukeiti	3.53	10	P	Pn	20 57 39.4	+3.2
PNHZ	Pukenui	3.56	40	P	Pn	20 57 39.2	+2.5
HHSZ	Highcliff Hill	3.71	209	P	Pn	20 57 38.7	-0.1
WKZ	Wanaka	3.72	233	P	Pn	20 57 38.3	-0.5
VRZ	Vera Road	3.74	19	P	Pn	20 57 42.3	+3.2
MOVZ	Moawhango	3.79	31	P	Pn	20 57 42.5	+2.6
EAZ	Earnscleugh	3.80	226	P	Pn	20 57 39.5	-0.4
WNVZ	Wahianoa	3.80	29	P	Pn	20 57 44.0	+3.8
WHVZ	Whangaehu Hut	3.84	29	P	Pb	20 57 47.1	-2.4
BHHZ	Black Hill Sta	3.84	35	P	Pn	20 57 43.0	+2.4
FWVZ	Far West T-bar	3.85	28	P	Pn	20 57 45.5	+4.7
OTVZ	Oturere	3.97	29	P	Pn	20 57 45.6	+3.1
NNVZ	North Ngauruho	3.98	28	P	Pb	20 57 47.9	-4.0
WTVZ	West Tongariro	3.99	28	P	Pn	20 57 45.5	+2.9
ETVZ	East Tongariro	4.01	29	P	Pn	20 57 46.8	+3.8
TMVZ	Te Maari	4.03	29	P	Pn	20 57 46.0	+2.8
NTVZ	North Tongarir	4.03	28	P	Pn	20 57 45.4	+2.2
TUZ	Tuapeka	4.16	217	P	Pn	20 57 45.0	+0.1
HIZ	Hauiti	4.34	17	P	Pn	20 57 49.3	+1.9
MLZ	Mavora Lakes	4.55	232	P	Pn	20 57 49.8	-0.5
SYZ	Scrubby Hill	4.83	216	P	Pn	20 57 54.4	+0.3
SYZ	Scrubby Hill	4.83	216	P	Pn	20 57 54.3	+0.2
TOZ	Tahuroa Road	5.24	20	P	Pn	20 58 01.8	+2.1
APZ	The Paps	5.58	220	P	Pn	20 58 03.8	-0.5
AWAZ	Awhitu Peninsu	5.71	12	P	Pn	20 58 08.0	+1.8
MKAZ	Moumakai	5.76	16	P	Pn	20 58 08.1	+1.2
ASAR	Alice Springs	37.55	288	P	P	21 03 54.6	-1.1
	0.1nm,0.6s,baz=129,slow=6.8,SNR=1.7						
	0.1nm,0.6s						
WRA	Warramunga Arr	39.73	293	P	P	21 04 15.7	+1.8
	0.3nm,0.8s,baz=131,slow=7.7,SNR=1.8						
	0.3nm,0.8s						
BRTR	Keskin Array B	149.64	278	PKPbc	PKPbc	21 16 30.8	0.0
	0.3nm,0.5s,baz=116,slow=3.4,SNR=2.3						
TORD	Torodi Ar. Bea	149.67	197	PKPbc	PKPbc	21 16 31.7	+0.4
	0.7nm,0.5s,baz=173,slow=2.8,SNR=6.5						
FINES	FINESS Array B	152.87	325	PKPbc	PKPbc	21 16 37.5	+0.2
	1.7nm,0.9s,baz=48,slow=2.1,SNR=1.0						

WEL 14 21:03:34.3±0.3, 42°S±2°×17°4E±°, h9km±2km, M3.6/30, ML3.8/17, MLv3.6/30, Error ellipse: s-maj=0.0km s-min=0.0km az=129.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.06	318	P	Pg	21 03 35.9	-0.2
KHZ				S	Sg	21 03 37.1	-0.4
GVZ	Greta Valley S	0.65	219	P	Pb	21 03 48.9	+0.9
GVZ				S	Sn	21 03 59.6	-0.7
BSWZ	Blackbirch Sta	0.77	16	P	Pb	21 03 49.6	-0.4
BSWZ				S	Sb	21 04 00.5	-0.1
CMWZ	Cape Campbell	0.85	33	P	Pn	21 03 52.8	+0.3
THZ	Tophouse	0.86	324	P	Pg	21 03 50.7	-0.2
THZ				S	Sg	21 04 02.1	0.0
AMCZ	Amberley	1.00	224	P	Pn	21 03 54.4	-0.1
AMCZ				S	Sn	21 04 09.4	+0.7
LTZ	Lake Taylor	1.03	251	P	Pb	21 03 54.6	+0.3
TUWZ	Tuamarina	1.06	14	P	Pn	21 03 55.2	-0.2
TUWZ				S	Sn	21 04 10.4	+0.1
MRNZ	Matariki Terra	1.23	329	P	Pn	21 03 57.5	-0.2
NNZ	Nelson	1.25	353	P	Pn	21 03 57.7	-0.2
OKCZ	Okains Bay	1.32	197	P	Pn	21 03 58.6	-0.4
TCW	Tory Channel	1.35	23	P	Pn	21 03 58.6	-0.7
MQZ	McQueen's Vall	1.42	209	P	Pn	21 03 59.3	-1.1
MQZ				S	Sn	21 04 17.8	-1.4
OXZ	Oxford	1.43	232	P	Pn	21 03 59.6	-0.9
OXZ				S	Sn	21 04 18.4	-1.1
AKCZ	Akaroa Harbour	1.50	199	P	Pn	21 04 00.7	-0.8
AKCZ				S	Sn	21 04 20.7	-0.5
TKNZ	Takaka Hill	1.50	341	P	Pb	21 04 02.2	-0.1
DSZ	Denniston Nort	1.51	298	P	Pb	21 04 02.1	-0.4
DSZ				S	Sg	21 04 22.7	-0.1
PLWZ	Palliser	1.53	55	P	Pn	21 04 00.7	-1.1
INZ	Inchbonnie	1.61	260	P	Pn	21 04 02.7	-0.2
RACZ	Rakaia	1.66	219	P	Pn	21 04 02.6	-1.0
DUWZ	D'Urville Isla	1.67	9	P	Pn	21 04 03.8	0.0
PAWZ	Paruwai Farm	1.74	52	P	Pn	21 04 03.2	-1.6
CAW	Cannon Point	1.74	40	P	Pn	21 04 03.9	-0.9
QRZ	Quartz Range	1.81	334	P	Pb	21 04 07.1	-0.6
TRWZ	Traveller	1.89	57	P	Pn	21 04 05.2	-1.6
MTW	Mount Morrison	1.93	48	P	Pn	21 04 06.2	-1.1
WACZ	Wakanui South	1.96	220	P	Pn	21 04 06.9	-0.8
WVZ	Waitaha Valley	2.19	253	P	Pn	21 04 11.2	+0.3
RPZ	Rata Peaks	2.24	235	P	Pn	21 04 10.7	-1.0
ARCZ	Arundel	2.31	229	P	Pn	21 04 11.7	-0.9
MRZ	Mangatainoka R	2.33	40	P	Pn	21 04 12.1	-0.8
GCSZ	Gaunt Creek Bo	2.55	249	P	Pn	21 04 16.6	+0.8
TMZ	Timaru	2.69	224	P	Pn	21 04 17.1	-0.8
FOZ	Fox Glacier	2.97	248	P	Pn	21 04 22.7	+1.1
LBZ	Lake Benmore	3.14	231	P	Pn	21 04 23.6	-0.5
ODZ	Otahua Downs	3.35	219	P	Pn	21 04 25.9	-1.0
MTVZ	Mangateitei	3.38	26	P	Pn	21 04 24.9	-2.6
VRZ	Vera Road	3.45	15	P	Pn	21 04 30.5	+2.3
OTVZ	Oturere	3.65	26	P	Pb	21 04 35.3	-3.8
ETVZ	East Tongariro	3.69	27	P	Pn	21 04 33.2	+1.5
JCZ	Jackson Bay	3.86	244	P	Pn	21 04 34.4	+0.4
HIZ	Hauiti	4.06	14	P	Pn	21 04 38.5	+1.9
EAZ	Earnscleugh	4.16	227	P	Pn	21 04 36.9	-1.1
AWAZ	Awhitu Peninsu	5.45	9	P	Pn	21 04 56.6	+0.9

WEL 14 21:04:50.9±0.3, 42°S±2°×17°4E±°, h5km, M3.7/18, ML4.0/18, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=123.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.26	183	P	Pg	21 04 56.5	+0.5
KHZ				S	Sg	21 05 00.6	+1.1
BSWZ	Blackbirch Sta	0.50	28	P	Pg	21 05 00.8	+0.5
BSWZ				S	Sb	21 05 08.7	-0.9
THZ	Tophouse	0.62	308	P	Pg	21 05 03.2	+0.4
THZ				S	Sg	21 05 12.0	+1.1
CMWZ	Cape Campbell	0.63	51	P	Pb	21 05 04.1	-0.2
TUWZ	Tuamarina	0.78	22	P	Pg	21 05 06.1	+0.3
TUWZ				S	Sb	21 05 17.5	-0.2
GVZ	Greta Valley S	0.90	205	P	Pb	21 05 08.9	-0.1
GVZ				S	Sb	21 05 22.2	+0.9
NNZ	Nelson	0.94	352	P	Pg	21 05 09.1	+0.2
MRNZ	Matariki Terra	0.96	321	P	Pg	21 05 09.6	+0.3
TCW	Tory Channel	1.08	30	P	Pg	21 05 11.2	-0.4
LTZ	Lake Taylor	1.14	236	P	Pg	21 05 12.1	-0.7
TKNZ	Takaka Hill	1.21	338	P	Pg	21 05 13.7	-0.2
AMCZ	Amberley	1.22	213	P	Pn	21 05 13.4	-1.0
WEL	Wellington	1.25	47	P	Pg	21 05 14.1	-0.8
DSZ	Denniston Nort	1.37	287	P	Pg	21 05 17.3	+0.2
DUWZ	D'Urville Isla	1.38	12	P	Pn	21 05 16.4	-0.3
PLWZ	Palliser	1.39	66	P	Pn	21 05 15.2	-1.8
MSWZ	Moikau Station	1.46	60	P	Pn	21 05 16.3	-1.6
QRZ	Quartz Range	1.54	329	P	Pb	21 05 19.3	-0.4
CAW	Cannon Point	1.54	48	P	Pn	21 05 18.0	-1.0
PAWZ	Paruwai Farm	1.59	62	P	Pn	21 05 17.7	-2.0
OKCZ	Okains Bay	1.61	193	P	Pn	21 05 18.0	-2.0
OXZ	Oxford	1.62	223	P	Pn	21 05 17.9	-2.2
KIW	Kapiti Island	1.64	39	P	Pn	21 05 19.8	-0.6
INZ	Inchbonnie	1.67	249	P	Pn	21 05 20.5	-0.3
MQZ	McQueen's Vall	1.69	203	P	Pn	21 05 18.2	-2.9
MTW	Mount Morrison	1.76	56	P	Pn	21 05 20.0	-2.0
TRWZ	Traveller	1.76	65	P	Pn	21 05 19.8	-2.2
AKCZ	Akaroa Harbour	1.78	195	P	Pn	21 05 19.9	-2.5
OGWZ	Otaki Gorge	1.80	43	P	Pn	21 05 21.4	-1.1
RACZ	Rakaia	1.89	213	P	Pn	21 05 21.1	-2.6
HOWZ	Holdsworth Sta	1.93	50	P	Pn	21 05 20.7	-3.7
MRZ	Mangatainoka R	2.13	46	P	Pn	21 05 25.3	-1.7
WVZ	Waitaha Valley	2.28	245	P	Pn	21 05 28.5	-0.6
RPZ	Rata Peaks	2.41	229	P	Pn	21 05 29.2	-1.8
PRWZ	Pori Road	2.42	49	P	Pn	21 05 32.7	-1.7
POWZ	Post Office Ro	2.42	44	P	Pb	21 05 35.7	+0.8
WAZ	Wanganui	2.63	25	P	Pb	21 05 37.7	-0.7
GCSZ	Gaunt Creek Bo	2.65	243	P	Pn	21 05 34.2	0.0
TSZ	Takapari Road	2.77	42	P	Pn	21 05 37.6	+1.7

PGC 14 21:07:32.5±0.0, 48°49N×128°71W, h10km, MLSn2.8/18, Mw3.5/18, 217km Wsw of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NCHR	NEPTUNE Canada	0.57	206	P	Pg	21 07 43.2	-0.4
KEMF	NEPTUNE Canada	0.60	206	P	Pg	21 07 43.6	-0.5
NC27	ODP1027	0.97	139	P	Pg	21 07 49.2	-1.9
EDB	Eliza Dome	1.73	36	Pn	Pn	21 08 00.5	-2.2
EDB				Sn	Sn	21 08 19.9	-4.9
PACB	Port Alice, BC	2.10	22	Pn	Pn	21 08 05.8	-1.9
PACB				Sn	Sn	21 08 29.2	-4.7
B012	Ucluelet	2.14	77	Sn	Sn	21 08 30.6	-4.2
MAYB	Maynard	2.16	27	Pn	Pn	21 08 07.2	-1.6
OZB	Mount Ozzard	2.18	76	Pn	Pn	21 08 07.5	-1.3
OZB				Sn	Sn	21 08 31.7	-4.2
WOSB	Woss	2.18	39	Pn	Pn	21 08 07.5	-1.4
HOLB	Holberg	2.18	10	Pn	Pn	21 08 07.5	-1.5
HOLB				Sn	Sn	21 08 32.1	-4.0
BFSB	Bamfield	2.39	80	Pn	Pn	21 08 10.4	-1.3
BFSB				Sn	Sn	21 08 37.5	-3.5
B928	Bamfield	2.39	80	Pn	Pn	21 08 10.8	-0.9
B928				Sn	Sn	21 08 38.0	-3.0
SPLB	Strathcona Par	2.44	54	Sn	Sn	21 08 39.2	-3.2
NCRB	Newcastle Ridg	2.58	41	Pn	Pn	21 08 13.5	-1.0
PFB	Port Renfrew	2.84	87	Pn	Pn	21 08 16.4	-1.5
PFB				Sn	Sn	21 08 48.7	-3.4
CLRS	Cowichan Lake	3.05	82	Pn	Pn	21 08 19.9	-0.9
TXB	Texada	3.05	65	Pn	Pn	21 08 20.4	-0.4

OXZ S **Sn** **21 14 56.1 -0.6**
PAWZ Paruwai Farm 1.59 56 P **Pn** **21 14 37.0 +0.7**
MQZ McQueen's Vall 1.61 207 Pn **Pn** **21 14 36.3 -0.2**
MQ McQueen's Vall 1.61 207 P **Pn** **21 14 36.5 0.0**
MQZ S **Sn** **21 14 54.9 -2.2**
QRZ Quartz Range 1.68 329 Pn **Pb** **21 14 38.5 -0.7**
QRZ Quartz Range 1.68 329 P **Pb** **21 14 39.6 +0.4**
QRZ Quartz Range 1.68 329 P **Pb** **21 14 39.3 +0.1**
QRZ S **Sn** **21 14 57.5 -1.4**
AKCZ Akaroa Harbour 1.69 199 P **Pn** **21 14 38.3 +0.7**
AKCZ S **Sn** **21 14 58.4 -0.7**
KIW Kapiti Island 1.70 34 P **Pb** **21 14 39.3 -0.2**
KIW S **Sn** **21 14 58.2 -1.0**
INZ Inchbonnie 1.70 254 Pn **Pb** **21 14 38.6 -1.0**
INZ Inchbonnie 1.70 254 P **Pb** **21 14 39.6 0.0**
INZ S **Sn** **21 14 58.3 -1.1**
TRWZ Traveller 1.75 60 P **Pn** **21 14 38.8 +0.4**
MTW Mount Morrison 1.77 51 P **Pn** **21 14 39.3 +0.5**
RACZ Rakaia 1.83 217 P **Pn** **21 14 40.0 +0.4**
RACZ S **Sn** **21 15 01.8 -0.8**
OGWZ Otaki Gorge 1.85 38 P **Pn** **21 14 40.9 +1.2**
OGWZ S **Sn** **21 15 02.0 -0.9**
HOWZ Holdsworth Sta 1.96 46 P **Pg** **21 14 47.6 +1.6**
WACZ Wakanui South 2.13 218 P **Pn** **21 14 44.2 +0.5**
WACZ S **Sn** **21 15 08.6 -1.5**
MRZ Mangatainoka R 2.16 42 Pn **Pn** **21 14 44.2 +0.1**
MRZ Mangatainoka R 2.16 42 P **Pn** **21 14 44.8 +0.6**
WVZ Waitaha Valley 2.30 249 P **Pn** **21 14 47.4 +1.3**
CPWZ Castlepoint 2.34 55 P **Pn** **21 14 47.2 +0.6**
CPWZ P **Pb** **21 14 47.7 -2.8**
RPZ Rata Peaks 2.39 232 Pn **Pn** **21 14 47.6 +0.3**
30nm,0.3s,baz=52,slow=19,SNR=48
RPZ Sn **Sn** **21 15 16.4 -0.2**
57nm,0.3s,baz=14,slow=19,SNR=18
125nm,0.4s
RPZ Rata Peaks 2.39 232 Pn **Pn** **21 14 47.9 +0.6**
RPZ Rata Peaks 2.39 232 P **Pn** **21 14 48.4 +1.1**
RPZ Rata Peaks 2.39 232 P **Pn** **21 14 48.0 +0.6**
RPZ S **Sn** **21 15 15.1 -1.5**
OHWZ Ohakea 2.42 32 P **Pb** **21 14 50.2 -1.5**
PRWZ Pori Road 2.44 46 P **Pn** **21 14 48.3 +0.3**
POWZ Post Office Ro 2.46 41 P **Pn** **21 14 49.0 +0.8**
ARCZ Arundel 2.47 227 P **Pn** **21 14 49.1 +0.7**
BFZ Birch Farm 2.51 51 Pn **Pn** **21 14 48.9 0.0**
BFZ Birch Farm 2.51 51 P **Pn** **21 14 50.8 +1.9**
BFZ Birch Farm 2.51 51 P **Pn** **21 14 48.7 -0.2**
GCSZ Gaunt Creek Bo 2.67 246 P **Pn** **21 14 53.1 +2.0**
WAZ Wanganui 2.71 22 P **Pb** **21 14 55.2 -1.6**
DVHZ Dannevirke 2.73 44 P **Pn** **21 14 51.7 -0.3**
ANWZ Angora Road 2.79 50 P **Pn** **21 14 52.7 0.0**
TSZ Takapari Road 2.81 39 P **Pn** **21 14 53.8 +0.6**
TMZ Timaru 2.86 222 P **Pn** **21 14 54.3 +0.6**
NMEZ Namu Road 2.87 3 P **Pb** **21 14 58.7 -0.7**
LREZ Lake Rotokare 2.87 11 P **Pb** **21 14 59.5 0.0**
KHEZ Kahui Hut 2.99 5 P **Pb** **21 15 00.2 -1.4**
KHEZ Kahui Hut 2.99 5 P **Pb** **21 15 02.0 +0.4**
PRHZ Porangahau 3.01 49 P **Pn** **21 14 55.1 -0.6**
NBEZ Newall Road No 3.01 3 P **Pb** **21 14 59.7 -2.2**
WPHZ Waipukurau 3.05 44 P **Pn** **21 14 56.5 +0.2**
PKE Pukeiti 3.09 5 P **Pb** **21 15 01.6 -1.6**
FOZ Fox Glacier 3.09 245 Pn **Pn** **21 14 57.6 +0.7**
FOZ Fox Glacier 3.09 245 P **Pn** **21 14 58.6 +1.7**
MHEZ Mangahewa 3.24 9 P **Pb** **21 15 04.1 -1.7**
VRZ Vera Road 3.26 15 P **Pn** **21 15 02.6 +3.5**
MOVZ Moawhango 3.28 30 P **Pn** **21 15 00.8 +1.3**
WNVZ Wahianoa 3.29 27 P **Pn** **21 15 02.4 +2.6**
PXZ Pawanui 3.30 48 P **Pn** **21 14 59.0 -0.7**
LBZ Lake Benmore 3.30 229 Pn **Pn** **21 15 00.3 +0.5**
LBZ Lake Benmore 3.30 229 P **Pn** **21 15 00.7 +0.9**
BHHZ Black Hill Sta 3.33 34 P **Pn** **21 15 01.0 +0.8**
WHVZ Whangaehu Hut 3.33 27 P **Pn** **21 15 02.8 +2.4**
FWVZ Far West T-bar 3.34 26 P **Pn** **21 15 03.1 +2.6**
TUVZ Tukino 3.37 27 P **Pb** **21 15 06.7 -1.3**
SNVZ South Ngauruho 3.43 27 P **Pn** **21 15 04.1 +2.3**
OTVZ Oturere 3.46 27 P **Pn** **21 15 04.5 +2.3**
NNVZ North Ngauruho 3.48 26 P **Pb** **21 15 07.3 -2.5**
TWVZ Taurewa 3.48 23 P **Pn** **21 15 03.4 +2.0**
WTVZ West Tongariro 3.48 25 P **Pb** **21 15 10.3 +0.4**
ETVZ East Tongariro 3.50 27 P **Pn** **21 15 04.9 +2.2**
KRVZ Karewarewa 3.52 26 P **Pn** **21 15 04.9 +2.1**
TMVZ Te Maari 3.52 27 P **Pn** **21 15 05.2 +2.3**
NTVZ North Tongariro 3.52 26 P **Pn** **21 15 05.0 +2.1**
ODZ Otahua Downs 3.53 217 Pn **Pn** **21 15 03.0 +0.1**
ODZ Otahua Downs 3.53 217 P **Pn** **21 15 03.5 +0.6**
ODZ Otahua Downs 3.53 217 P **Pn** **21 15 03.3 +0.4**
BKZ Black Stump Fm 3.78 36 Pn **Pn** **21 15 06.0 -0.4**
HIZ Hauiti 3.87 14 Pn **Pn** **21 15 10.1 +2.5**
HIZ Hauiti 3.87 14 P **Pn** **21 15 11.2 +3.6**
HIZ Hauiti 3.87 14 P **Pn** **21 15 10.8 +3.2**
JCZ Jackson Bay 4.00 242 P **Pn** **21 15 13.8 +4.4**
JCZ Jackson Bay 4.00 242 P **Pn** **21 15 12.5 +3.1**
MRHZ Matea Rd 4.03 32 P **Pn** **21 15 09.5 -0.3**
TLZ Tolley Road 4.20 21 P **Pn** **21 15 14.7 +2.6**
HHSZ Highcliff Hill 4.23 210 P **Pn** **21 15 13.0 +0.5**
WKZ Wanaka 4.23 231 Pn **Pn** **21 15 12.8 +0.2**
EAZ Earnscleugh 4.32 225 P **Pn** **21 15 14.7 +0.9**
TUZ Tuapeka 4.66 217 P **Pn** **21 15 19.7 +0.9**
TOZ Tahuroa Road 4.75 18 P **Pn** **21 15 21.8 +2.1**
URZ Urewera 4.80 34 P **Pn** **21 15 24.9 +4.5**
MLZ Mavora Lakes 5.06 231 Pn **Pn** **21 15 24.6 +0.5**
MLZ Mavora Lakes 5.06 231 P **Pn** **21 15 25.4 +1.4**
AWAZ Awhitu Peninsu 5.26 9 P **Pn** **21 15 29.4 +2.7**
MKAZ Moumakai 5.29 13 P **Pn** **21 15 29.5 +2.3**
SYZ Scrubby Hill 5.35 216 P **Pn** **21 15 29.0 +1.1**
72nm,2.0s
SYZ Scrubby Hill 5.35 216 P **Pn** **21 15 28.9 +1.0**
MBAZ Motutapu North 5.58 10 P **Pn** **21 15 35.7 +4.6**
KUZ Kuaotunu 5.75 17 P **Pn** **21 15 39.3 +5.9**
56nm,1.1s
KUZ Kuaotunu 5.75 17 P **Pn** **21 15 37.5 +4.1**
APZ The Paps 6.10 220 P **Pn** **21 15 39.0 +0.8**
PYZ Puysegur Point 6.35 230 Pn **Pn** **21 15 41.3 -0.3**
PYZ Puysegur Point 6.35 230 P **Pn** **21 15 44.8 +3.2**
89nm,1.4s
PYZ Puysegur Point 6.35 230 P **Pn** **21 15 44.1 +2.5**
OUZ Omahuta 7.05 360 P **Pn** **21 15 55.3 +4.1**
33nm,1.8s
OUZ Omahuta 7.05 360 P **Pn** **21 15 55.1 +3.9**
CTZ Chatham Island 7.27 105 P **Pn** **21 15 54.4 +0.1**
110nm,1.8s
CTZ Chatham Island 7.27 105 P **Pn** **21 15 54.9 +0.6**
RAO Raoul Island 14.67 30 Pn **Pn** **21 17 35.7 +0.1**
24nm,0.3s,baz=233,slow=20,SNR=1.3
DZM Mont Dzumac 21.04 341 *e*LR LR 21 24 10.7
comp=Z,151nm,27.2s
MSVF Nonsavu 24.75 10 LR LR 21 27 43.9
comp=Z,136nm,19.6s,baz=116,slow=33
STKA Stephens Creek 27.47 282 LR LR 21 30 07.6
comp=Z,67nm,18.8s,baz=170,slow=35
CTA Charters Tower 32.00 305 LR LR 21 32 54.2
comp=Z,98nm,18.3s,baz=82,slow=35
VNDA Vanda 35.69 184 LR LR 21 33 44.3
comp=Z,50nm,20.1s,baz=37,slow=33
TBI Tubuai 35.93 70 *e*LR LR 21 31 03.4
comp=Z,2μm,24.0s
ASAR Alice Springs 37.76 287 P **P** **21 21 24.2 0.0**
0.1nm,0.4s,baz=119,slow=7.3,SNR=1.6
0.1nm,0.4s
PPT2 Papeete2 39.79 63 *e*LR LR 21 32 51.4
comp=Z,95nm,22.2s
WB2 Warramunga Arr 39.88 292 P **P** **21 21 41.5 -0.5**
WB2 IAmb IAmb 21 22 06.7
comp=Z,10nm,1.4s
WRA Warramunga Arr 39.89 292 P **P** **21 21 42.1 +0.1**
comp=Z,0.6nm,0.5s,baz=129,slow=8.3,SNR=5.9
WRA LR LR 21 38 24.1
comp=Z,59nm,18.8s,baz=114,slow=36
comp=Z,0.6nm,0.5s
WRA Warramunga Arr 39.89 292 P **P** **21 21 40.6 -1.4**
WRA IAmb IAmb 21 22 13.1
comp=Z,0.2nm,1.2s
WB0 Warramunga Arr 39.97 292 P **P** **21 21 41.8 -0.9**
WB0 IAmb IAmb 21 21 53.0
comp=Z,12nm,1.5s
TAOE Nuku Hiva Isla 52.39 64 *e*LR LR 21 38 41.8
comp=Z,74nm,21.3s
MAW Mawson 58.79 205 LR LR 21 48 05.3
comp=Z,60nm,18.4s,baz=74,slow=35
SNAA Sanae 66.33 181 LR LR 21 50 28.9
comp=Z,32nm,21.6s,baz=184,slow=33
CMAR Chiang Mai Arr 91.45 294 LR LR 22 12 38.9
comp=Z,13nm,19.3s,baz=190,slow=38

OBN Obninsk 149.42 310 PKPbc **PKiKP** **21 33 57.4 +0.1**
comp=Z,3.3nm,0.4s,baz=27,slow=2.3,SNR=1.7
BRTR Keskin Array B 149.91 279 PKPbc **PKPbc** **21 33 57.5 -0.7**
comp=Z,0.4nm,0.7s,baz=125,slow=4.0,SNR=1.6
TORD Torodi Ar. Bea 150.15 196 PKPbc **PKPbc** **21 33 58.6 -0.7**
comp=Z,0.6nm,0.7s,baz=179,slow=2.0,SNR=4.0

IDC 14 21:19:29.9±3.7, 34°.89S×179°.25W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=211.6km s-min=54.3km az=170.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.03**	**272**	P	P	21 27 22.9	-0.4
	1.1nm,0.8s,baz=115,slow=7.7,SNR=10						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**43.42**	**278**	P	P	21 27 34.7	+0.1
	2.7nm,0.6s,baz=121,slow=7.5,SNR=28						
	2.7nm,0.6s						
FINES	**FINESS Array B**	**148.91**	**337**	PKPbc	PKPbc	21 39 18.2	-0.6
	2.4nm,0.9s,baz=48,slow=2.1,SNR=1.9						
BRTR	**Keskin Array B**	**153.49**	**290**	PKPbc	PKiKP	21 39 30.5	0.0
	0.5nm,0.7s,baz=54,slow=3.1,SNR=1.7						

WEL 14 21:24:39.0±0.4, 42°S±4°×17°3E±°, h0km, M3.6/9, ML3.8/9, MLv3.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=125.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.63**	**209**	P	Pn	21 24 55.4	+0.1
GVZ				S	Sb	21 25 02.3	0.0
BSWZ	**Blackbirch Sta**	**0.77**	**24**	P	Pn	21 25 06.1	+8.9
BSWZ				S	Sn	21 25 11.3	+1.9
THZ	**Tophouse**	**0.77**	**328**	P	Pn	21 25 00.2	+3.1
THZ				S	Sn	21 25 10.5	+1.0
CMWZ	**Cape Campbell**	**0.88**	**41**	P	Pn	21 25 02.0	+3.4
CMWZ				S	Sg	21 25 03.5	-3.7
LTZ	**Lake Taylor**	**0.94**	**247**	P	Pg	21 24 56.9	-0.2
LTZ				S	Sg	21 25 02.8	-6.6
AMCZ	**Amberley**	**0.96**	**217**	P	Pn	21 24 59.7	-0.1
TUWZ	**Tuamarina**	**1.05**	**21**	P	Pn	21 25 07.2	+6.2
TUWZ				S	Sg	21 25 13.3	+0.5
OKCZ	**Okains Bay**	**1.34**	**192**	P	Pb	21 25 06.0	+1.0
OKCZ				S	Sb	21 25 22.7	+0.1
OXZ	**Oxford**	**1.38**	**228**	P	Pb	21 25 05.7	0.0
OXZ				S	Sg	21 25 17.7	-5.7
MQZ	**McQueen's Vall**	**1.42**	**204**	P	Pg	21 25 06.2	+0.1
MQZ				S	Sg	21 25 21.6	-2.8
WEL	**Wellington**	**1.50**	**41**	P	Pg	21 25 11.0	+3.3
WEL				S	Sg	21 25 20.4	-6.8
AKCZ	**Akaroa Harbour**	**1.51**	**195**	P	Pb	21 25 07.9	0.0
AKCZ				S	Sg	21 25 24.6	-2.9
PLWZ	**Palliser**	**1.59**	**58**	S	Sn	21 25 27.8	-2.0
RACZ	**Rakaia**	**1.62**	**216**	P	Pn	21 25 09.1	+0.2
RACZ				S	Sn	21 25 25.2	-5.3
DUWZ	**D'Urville Isla**	**1.65**	**13**	P	Pg	21 25 18.5	+7.9
DUWZ				S	Sn	21 25 30.8	-0.4
MSWZ	**Moikau Station**	**1.67**	**54**	S	Sn	21 25 28.7	-3.0
CAW	**Cannon Point**	**1.78**	**43**	P	Pg	21 25 15.1	+2.0
CAW				S	Sn	21 25 31.5	-2.9
PAWZ	**Paruwai Farm**	**1.80**	**56**	P	Pg	21 25 18.2	+4.7
PAWZ				S	Sn	21 25 32.5	-2.5
KIW	**Kapiti Island**	**1.90**	**36**	P	Pg	21 25 17.8	+2.3
KIW				S	Sn	21 25 32.0	-5.3
MTW	**Mount Morrison**	**1.98**	**51**	P	Pg	21 25 17.9	+0.9
MTW				S	Sn	21 25 36.7	-2.7
OGWZ	**Otaki Gorge**	**2.05**	**39**	P	Pg	21 25 20.8	+2.5
OGWZ				S	Sn	21 25 37.6	-3.5
MRZ	**Mangatainoka R**	**2.37**	**43**	P	Pg	21 25 25.4	+1.0
PRWZ	**Pori Road**	**2.65**	**46**	P	Pg	21 25 31.1	+1.2

IDC 14 21:26:14.3±2.9, 41°.845×173°.94E, h0km, mb3.3/2, mbtmp3.4/3, ML4.0/1, MS4.2/1, Error ellipse: s-maj=59.5km s-min=50.1km az=77.0
WEL 14 21:26:18.0±0.3, 42°.5±2°×17°4E±°, h11km±2km, M4.0/13, ML4.2/13, MLv4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=123.4
NOU 14 21:26:23.4, 41°.975×173°.54E, h22km, MLv4.6/7, South Island, New Zealand

ISC 14 21:26:14.2±1.1, 42°.19S±0°.02×173°.94E±0°.03, h6km±9km, n102, σ1s85/113, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.37**	**232**	P	**Pn**	**21 26 27.4**	**+1.3**
KHZ				S	Sb	21 26 36.8	+7.5
BSWZ	**Blackbirch Sta**	**0.47**	**354**	P	**Pb**	**21 26 24.3**	**-0.6**
BSWZ				S	**Sg**	**21 26 28.7**	**-0.8**
CMWZ	**Cape Campbell**	**0.48**	**25**	P	**Pb**	**21 26 25.6**	**+0.6**
CMWZ				S	**Sg**	**21 26 31.9**	**+2.1**
TUWZ	**Tuamarina**	**0.76**	**0**	P	**Pb**	**21 26 29.6**	**-0.2**
TUWZ				S	**Sg**	**21 26 37.8**	**-0.7**
THZ	**Tophouse**	**0.88**	**299**	P	**Pn**	**21 26 33.7**	**+0.6**
THZ				S	**Sn**	**21 26 43.7**	**-2.4**
TCW	**Tory Channel**	**1.01**	**15**	P	**Pg**	**21 26 33.9**	**+0.4**
TCW				S	**Sg**	**21 26 45.1**	**-1.5**
GVZ	**Greta Valley S**	**1.02**	**220**	P	Pn	21 26 40.5	+5.4
GVZ				S	**Sn**	**21 26 55.7**	**+5.9**
NNZ	**Nelson**	**1.06**	**337**	P	**Pn**	**21 26 34.9**	**-0.6**
NNZ				S	**Sg**	**21 26 46.2**	**-1.9**
WEL	**Wellington**	**1.10**	**35**	P	**Pn**	**21 26 36.7**	**+0.7**
WEL				S	**Sg**	**21 26 49.1**	**-0.3**
PLWZ	**Palliser**	**1.16**	**58**	P	**Pn**	**21 26 37.7**	**+0.7**
MRNZ	**Matariki Terra**	**1.18**	**311**	P	**Pn**	**21 26 38.6**	**+1.4**
MRNZ				S	**Sn**	**21 26 52.5**	**-1.1**
MSWZ	**Moikau Station**	**1.25**	**52**	P	**Pn**	**21 26 38.7**	**+0.5**
TKNZ	**Takaka Hill**	**1.37**	**327**	P	**Pg**	**21 26 40.7**	**+0.4**
LTZ	**Lake Taylor**	**1.37**	**244**	P	Pg	21 26 44.1	+4.0
LTZ				S	**Sn**	**21 27 01.5**	**+3.3**
AMCZ	**Amberley**	**1.37**	**223**	P	Pg	21 26 45.6	+5.2
CAW	**Cannon Point**	**1.37**	**38**	P	**Pn**	**21 26 40.3**	**+0.5**
PAWZ	**Paruwai Farm**	**1.38**	**55**	P	**Pn**	**21 26 40.3**	**+0.4**
DUWZ	**D'Urville Isla**	**1.39**	**360**	P	**Pb**	**21 26 40.4**	**-0.1**
DUWZ				S	**Sb**	**21 26 55.9**	**-2.4**
KIW	**Kapiti Island**	**1.51**	**29**	P	**Pn**	**21 26 42.5**	**+0.7**
KIW				S	**Sn**	**21 26 59.9**	**-1.9**
TRWZ	**Traveller**	**1.53**	**60**	P	**Pn**	**21 26 42.2**	**+0.2**
MTW	**Mount Morrison**	**1.56**	**49**	P	**Pn**	**21 26 42.5**	**+0.1**
MTW				S	**Sn**	**21 27 00.2**	**-2.7**
DSZ	**Denniston Nort**	**1.65**	**285**	P	**Pg**	**21 26 47.9**	**+2.1**
DSZ				S	**Sg**	**21 27 06.3**	**-0.9**
OGWZ	**Otaki Gorge**	**1.65**	**34**	P	**Pn**	**21 26 44.1**	**+0.4**
OGWZ				S	**Sn**	**21 27 01.8**	**-3.4**
OKCZ	**Okains Bay**	**1.66**	**202**	P	**Pg**	**21 26 48.0**	**+1.9**
QRZ	**Quartz Range**	**1.72**	**322**	P	**Pg**	**21 26 47.1**	**-0.1**
QRZ	**Quartz Range**	**1.72**	**322**	P	**Pg**	**21 26 47.0**	**-0.2**
QRZ				S	**Sb**	**21 27 06.4**	**-1.7**
HOWZ	**Holdsworth Sta**	**1.75**	**43**	P	**Pn**	**21 26 45.5**	**+0.5**
MQZ	**McQueen's Vall**	**1.79**	**211**	P	**Pg**	**21 26 49.2**	**+0.8**
OXZ	**Oxford**	**1.80**	**230**	P	**Pg**	**21 26 49.5**	**+0.8**
TMWZ	**Te Maipa**	**1.82**	**54**	P	**Pn**	**21 26 46.0**	**0.0**
AKCZ	**Akaroa Harbour**	**1.84**	**204**	P	**Pg**	**21 26 50.5**	**+1.0**
MRZ	**Mangatainoka R**	**1.96**	**40**	P	**Pn**	**21 26 48.0**	**0.0**
RACZ	**Rakaia**	**2.03**	**220**	P	**Pg**	**21 26 52.7**	**-0.3**
TIWZ	**Tintock**	**2.03**	**47**	P	**Pg**	**21 26 55.1**	**+2.0**
CPWZ	**Castlepoint**	**2.13**	**54**	P	**Pg**	**21 26 57.5**	**+2.6**
OHWZ	**Ohakea**	**2.24**	**28**	P	**Pb**	**21 26 56.1**	**+1.1**
PRWZ	**Pori Road**	**2.24**	**44**	P	**Pn**	**21 26 51.6**	**-0.2**
POWZ	**Post Office Ro**	**2.26**	**38**	P	**Pn**	**21 26 52.1**	**+0.1**
BFZ	**Birch Farm**	**2.30**	**50**	P	**Pn**	**21 26 52.0**	**-0.6**
WACZ	**Wakanui South**	**2.33**	**221**	P	**Pg**	**21 26 57.1**	**-1.7**
WVZ	**Waitaha Valley**	**2.52**	**248**	P	**Pg**	**21 27 01.8**	**-0.7**
DVHZ	**Dannevirke**	**2.53**	**42**	P	**Pn**	**21 26 54.9**	**-0.8**
WAZ	**Wanganui**	**2.56**	**18**	P	**Pb**	**21 27 00.4**	**0.0**
ANWZ	**Angora Road**	**2.58**	**49**	P	**Pn**	**21 26 56.0**	**-0.4**
RPZ	**Rata Peaks**	**2.61**	**233**	Pn	**Pb**	**21 27 00.9**	**-0.4**
	25nm,0.3s,baz=64,slow=2.7,SNR=27						
RPZ				Sn	**Sb**	**21 27 32.1**	**-1.5**
	7.7nm,0.3s,baz=31,slow=19,SNR=9.4						
	68nm,0.4s						
RPZ	**Rata Peaks**	**2.61**	**233**	P	**Pg**	**21 27 03.1**	**-1.1**
RPZ	**Rata Peaks**	**2.61**	**233**	P	**Pb**	**21 27 00.8**	**-0.5**
TSZ	**Takapari Road**	**2.62**	**36**	P	**Pn**	**21 26 56.8**	**-0.2**
ARCZ	**Arundel**	**2.68**	**228**	P	**Pn**	**21 27 01.8**	**-0.7**
LREZ	**Lake Rotokare**	**2.75**	**8**	P	**Pb**	**21 27 03.4**	**-0.3**
NMEZ	**Namu Road**	**2.77**	**359**	P	**Pb**	**21 27 04.6**	**+0.5**
PRHZ	**Porangahau**	**2.80**	**48**	P	**Pn**	**21 26 58.4**	**-1.0**

WPHZ Waipukurau 2.84 43 P **Pn** **21 27 00.8 +0.7**
PNHZ Pukenui 2.84 38 P **Pn** **21 26 59.5 -0.6**
GCSZ Gaunt Creek Bo 2.89 246 P **Pg** **21 27 06.8 -0.9**
KHEZ Kahui Hut 2.89 1 P **Pb** **21 27 06.2 0.0**
KHEZ Kahui Hut 2.89 1 P **Pb** **21 27 06.8 +0.6**
NBEZ Newall Road No 2.92 359 P **Pb** **21 27 06.3 -0.2**
NEZ North Egmont 2.92 2 P **Pb** **21 27 08.3 +1.6**
PKE Pukeiti 2.99 1 P **Pb** **21 27 06.1 -1.8**
TMZ Timaru 3.06 223 P **Pn** **21 27 07.8 -1.3**
MOVZ Moawhango 3.10 27 P **Pn** **21 27 04.8 +1.1**
MHEZ Mangahewa 3.12 6 P **Pb** **21 27 10.4 +0.4**
VRZ Vera Road 3.12 12 P **Pn** **21 27 06.3 +2.4**
WNVZ Wahianoa 3.12 24 P **Pb** **21 27 08.6 -1.6**
TRVZ Turoa 3.13 24 P **Pb** **21 27 09.4 -1.0**
BHHZ Black Hill Sta 3.14 32 P **Pn** **21 27 04.7 +0.5**
DRZ Dome Shelter 3.16 24 P **Pb** **21 27 11.8 +0.9**
WHVZ Whangaehu Hut 3.16 24 P **Pb** **21 27 08.7 -2.2**
FWVZ Far West T-bar 3.18 23 P **Pb** **21 27 08.8 -2.3**
TUVZ Tukino 3.20 25 P **Pb** **21 27 11.3 -0.1**
NGZ Ngauruhoe 3.26 23 P **Pb** **21 27 12.8 +0.2**
SNVZ South Ngauruho 3.27 24 P **Pb** **21 27 09.8 -2.8**
OTVZ Oturere 3.29 24 P **Pn** **21 27 07.7 +1.3**
NNVZ North Ngauruho 3.31 23 P **Pb** **21 27 11.2 -2.1**
FOZ Fox Glacier 3.31 245 P **Pb** **21 27 14.2 +0.9**
WTVZ West Tongariro 3.32 23 P **Pn** **21 27 09.3 +2.6**
ETVZ East Tongariro 3.33 24 P **Pb** **21 27 11.5 -2.3**
TMVZ Te Maari 3.35 24 P **Pn** **21 27 08.7 +1.5**
KRVZ Karewarewa 3.35 23 P **Pb** **21 27 11.0 -3.1**
NTVZ North Tongariro 3.36 24 P **Pn** **21 27 09.1 +1.9**
LBZ Lake Benmore 3.51 230 P **Pb** **21 27 14.0 -2.7**
BKZ Black Stump Fm 3.59 34 P **Pb** **21 27 17.9 -0.2**
RATZ Rangitukua 3.60 23 P **Pb** **21 27 15.7 -1.0**
ODZ Otahua Downs 3.72 219 P **Pb** **21 27 16.7 -4.6**
HIZ Hauiti 3.74 11 P **Pb** **21 27 17.2 -3.3**
HIZ Hauiti 3.74 11 P **Pn** **21 27 15.3 +2.9**
TLZ Tolley Road 4.04 18 P **Pn** **21 27 20.8 +4.2**
JCZ Jackson Bay 4.21 242 P **Pb** **21 27 27.6 -1.1**
TOZ Tahuroa Road 4.61 16 P **Pn** **21 27 27.8 +3.5**
TGRZ Tauranga 4.80 23 P **Pn** **21 27 29.6 +2.7**
AWAZ Awhitu Peninsu 5.15 6 P **Pn** **21 27 35.2 +3.5**
MKAZ Moumakai 5.16 11 P **Pn** **21 27 35.1 +3.1**
WTAZ Waiatarua 5.27 6 P **Pn** **21 27 38.0 +4.5**
ETAZ East Tamaki Re 5.28 9 P **Pn** **21 27 37.3 +3.7**
SYZ Scrubby Hill 5.54 217 P Pb 21 27 44.7 -6.6
SYZ Scrubby Hill 5.54 217 P Pn 21 27 42.5 +5.4
OUZ Omahuta 6.96 358 P **Pn** **21 28 00.8 +4.2**
ASAR Alice Springs 37.92 286 P **P** **21 33 31.7 -0.7**
0.2nm,0.8s,baz=123,slow=6.7,SNR=1.6
0.2nm,0.8s
WRA Warramunga Arr 40.04 291 P **P** **21 33 51.1 +0.9**
0.3nm,0.5s,baz=130,slow=8.0,SNR=2.1
0.3nm,0.5s
BATI Baumata 54.17 291 LR LR 21 59 24.4
comp=Z,232nm,18.5s,baz=55,slow=37
TORD Torodi Ar. Bea 150.29 195 PKPbc **PKiKP** **21 46 08.3 +0.9**
0.2nm,0.5s,baz=187,slow=2.7,SNR=1.9

IDC 14 21:26:33.8±1.9, 23°.22N×142°.13E, h246km±32km, mb3.3/4, mbtmp4.0/5, Error ellipse: s-maj=109.5km s-min=19.5km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.86**	**1**	P	Pn	21 27 36.9	+1.2
	59nm,0.3s,baz=180,slow=20,SNR=19						
JCJ				S	S	21 28 24.8	-0.1
	74nm,0.5s,baz=260,slow=23,SNR=15						
WRA	**Warramunga Arr**	**43.57**	**191**	P	P	21 34 13.4	-0.3
	0.4nm,0.3s,baz=7.1,slow=8.1,SNR=10						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**52.95**	**312**	P	P	21 35 24.9	-0.1
	0.2nm,0.4s,baz=95,slow=9.1,SNR=2.7						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**60.89**	**319**	P	P	21 36 20.6	+0.1
	0.8nm,0.3s,baz=96,slow=8.3,SNR=7.6						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**81.39**	**334**	P	P	21 38 22.8	0.0
	5.8nm,1.1s,baz=53,slow=5.6,SNR=4.4						
	5.8nm,1.1s						

NAO 14 21:27:46.2±0.9, 67°.85N×20°.35E, ML2.6
HEL 14 21:27:46.6±0.0, 67°.85N×20°.20E, h1km, ML2.0, ML2.6(UPP), Confirmed Induced event
IDC 14 21:27:47.5±1.1, 67°.79N×20°.58E, h0km, mbtmp3.1/4, ML2.1/4, Error ellipse: s-maj=18.1km s-min=8.0km az=117.0
BER 14 21:27:47.1±1.8, 67°.85N×20°.19E, h0km, ML2.0, ML2.6(NAO), Suspected explosion
KOLA 14 21:27:50.2, 67°.88N×20°.66E, h0km, ML2.1

ISC 14 21:27:45.6±0.8, 67°.82N±0°.02×20°.26E±0°.02, h0km, n50, σ0s89/77, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.25**	**271**	*i* P	**Pg**	**21 27 50.7**	**+0.3**
RATU				*i* S	**Sg**	**21 27 54.1**	**+0.5**
RATU	**Laukkuluspa**	**0.25**	**271**	P	**Pg**	**21 27 50.7**	**+0.3**
RATU				S	**Sg**	**21 27 54.1**	**+0.5**
KOVU	**Salmi**	**0.41**	**355**	*i* P	**Pg**	**21 27 53.3**	**0.0**
KOVU				*i* S	**Sg**	**21 27 58.0**	**-0.5**
KOVU	**Salmi**	**0.41**	**355**	P	**Pg**	**21 27 53.3**	**0.0**
KOVU				S	**Sg**	**21 27 58.0**	**-0.5**
NIKU	**Nikkaluokta**	**0.47**	**276**	*i* P	**Pg**	**21 27 54.5**	**+0.1**
NIKU				*i* S	**Sg**	**21 28 00.9**	**+0.4**
**NIKU

ARA0				Sn	Sn	21 29 01.8	+1.2	
	baz=230,slow=28							
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**21 28 29.5**	**+1.0**	
	comp=Z,0.7nm,0.3s,baz=226,slow=16,SNR=48							
ARCES				Sn	**Sn**	**21 29 02.7**	**+2.2**	
	comp=Z,2.8nm,0.3s,baz=227,slow=25,SNR=22							
	comp=Z,1.9nm,0.2s							
ARCES	**ARCESS Array B**	**2.58**	**46**	P	**Pn**	**21 28 30.2**	**+1.7**	
ARCES				S	**Sn**	**21 29 00.3**	**-0.2**	
APA0	**Apatity Array**	**4.86**	**87**	Pn	**Pn**	**21 28 59.9**	**+0.2**	
	baz=276,slow=12							
APA0				Sn	**Sn**	**21 29 55.9**	**-0.7**	
	baz=284,slow=28							
APA0				Lg	Lg	21 30 13.4		
	baz=276,slow=22							
APA0	**Apatity Array**	**4.86**	**87**	P	**Pn**	**21 29 00.2**	**+0.5**	
APA0				S	**Sn**	**21 29 55.9**	**-0.7**	
APA0	**Apatity Array**	**4.86**	**87**	Pn	**Pn**	**21 28 59.9**	**+0.2**	
	baz=276,slow=12							
TERR	**Teriberka**	**5.63**	**69**	P	**Pn**	**21 29 12.0**	**+1.7**	
TERR				S	**Sn**	**21 30 11.7**	**-3.9**	
FIA0	**FINESS Array S**	**6.87**	**156**	Pn	**Pn**	**21 29 29.0**	**+1.6**	
	baz=345,slow=14							
FIA0				Sn	**Sn**	**21 30 44.7**	**-1.4**	
	baz=357,slow=22							
FIA0				Lg	Lg	21 31 21.3		
	baz=341,slow=37							
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**21 29 28.8**	**+1.4**	
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=5.5							
FINES				Sn	**Sn**	**21 30 44.8**	**-1.4**	
	comp=Z,0.2nm,0.3s,baz=357,slow=22,SNR=1.6							
FINES				Lg	Lg	21 31 20.2		
	comp=Z,0.3nm,0.3s,baz=341,slow=29,SNR=3.0							
	comp=Z,1.3nm,0.7s							
NB2	**NORSAR Subarra**	**7.84**	**214**	Pn	**Pn**	**21 29 41.6**	**+0.8**	
NB2	**NORSAR Subarra**	**7.84**	**214**	Pn	**Pn**	**21 29 41.6**	**+0.8**	
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**21 29 41.4**	**+0.6**	
	baz=32,slow=11,SNR=1.6							
NOA				Lg	Lg	21 31 56.3		
	baz=20,slow=20,SNR=4.6							
	comp=Z,1.3nm,1.1s							
NRA0	**NORESS Array S**	**8.05**	**212**	Pn	**Pn**	**21 29 44.1**	**+0.5**	
NRA0	**NORESS Array S**	**8.05**	**212**	Pn	**Pn**	**21 29 44.1**	**+0.5**	
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**21 29 45.9**	**-0.2**	
	baz=27,slow=16							
HFS				Lg	Lg	21 32 06.6		
	baz=32,slow=37							
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**21 29 46.9**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=23,slow=15,SNR=1.9							
HFS				Sn	**Sn**	**21 31 17.1**	**-2.5**	
	comp=Z,0.1nm,0.3s,baz=25,slow=24,SNR=1.9							
HFS				Lg	Lg	21 32 05.9		
	comp=Z,0.2nm,0.3s,baz=26,slow=30,SNR=2.2							
	comp=Z,2.6nm,0.8s							
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**21 29 45.9**	**-0.2**	
	baz=27,slow=16							

WEL 14 21:29:36.0±0.4, 43°S±2°×17°3E±°, h10km±4km, M3.2/10, ML3.4/10, MLv3.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=123.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.37**	**74**	P	Pg	21 29 43.9	+0.6
KHZ				S	Sb	21 29 49.9	-0.4
GVZ	**Greta Valley S**	**0.45**	**182**	P	Pb	21 29 45.5	-0.5
GVZ				S	Sb	21 29 52.9	+0.2
LTZ	**Lake Taylor**	**0.64**	**246**	P	Pg	21 29 48.6	+0.3
LTZ				S	Sb	21 29 57.7	-0.5
AMCZ	**Amberley**	**0.72**	**205**	P	Pb	21 29 50.9	+0.3
AMCZ				S	Sn	21 30 01.9	-1.4
THZ	**Tophouse**	**0.77**	**351**	P	Pg	21 29 50.9	+0.2
THZ				S	Sg	21 30 00.5	-0.3
OXZ	**Oxford**	**1.10**	**223**	P	Pb	21 29 57.1	0.0
OXZ				S	Sn	21 30 12.5	-0.1
MRNZ	**Matariki Terra**	**1.14**	**348**	P	Pn	21 29 58.0	0.0
OKCZ	**Okains Bay**	**1.20**	**180**	P	Pb	21 29 57.6	-1.3
DSZ	**Denniston Nort**	**1.21**	**309**	P	Pg	21 29 59.7	+0.4
DSZ				S	Sn	21 30 15.6	+0.1
MQZ	**McQueen's Vall**	**1.22**	**194**	P	Pn	21 29 57.7	-1.4
MQZ				S	Sb	21 30 12.7	-2.2
NNZ	**Nelson**	**1.32**	**10**	P	Pg	21 30 01.1	-0.2
AKCZ	**Akaroa Harbour**	**1.35**	**185**	P	Pn	21 29 59.5	-1.5
RACZ	**Rakaia**	**1.38**	**209**	P	Pn	21 30 00.3	-1.0
RACZ				S	Sb	21 30 18.3	-1.3
TKNZ	**Takaka Hill**	**1.49**	**357**	P	Pb	21 30 03.6	-0.1
WACZ	**Wakanui South**	**1.68**	**212**	P	Pn	21 30 04.6	-0.8
QRZ	**Quartz Range**	**1.74**	**347**	P	Pb	21 30 07.5	-0.4
WVZ	**Waitaha Valley**	**1.80**	**251**	P	Pn	21 30 07.5	+0.6
DUWZ	**D'Urville Isla**	**1.83**	**21**	P	Pn	21 30 05.6	-1.9
PLWZ	**Palliser**	**1.89**	**61**	P	Pn	21 30 04.6	-3.7
RPZ	**Rata Peaks**	**1.89**	**230**	P	Pn	21 30 07.8	-0.5
MSWZ	**Moikau Station**	**1.97**	**57**	P	Pn	21 30 05.2	-4.1
ARCZ	**Arundel**	**1.98**	**223**	P	Pn	21 30 09.0	-0.6
CAW	**Cannon Point**	**2.06**	**47**	P	Pn	21 30 05.9	-4.7
GCSZ	**Gaunt Creek Bo**	**2.16**	**247**	P	Pn	21 30 12.5	+0.6
KIW	**Kapiti Island**	**2.16**	**40**	P	Pn	21 30 07.5	-4.4
TRWZ	**Traveller**	**2.26**	**61**	P	Pn	21 30 09.0	-4.3
MTW	**Mount Morrison**	**2.28**	**54**	P	Pn	21 30 08.9	-4.7
OGWZ	**Otaki Gorge**	**2.32**	**44**	P	Pn	21 30 10.2	-4.0
TMZ	**Timaru**	**2.39**	**218**	P	Pn	21 30 15.3	+0.1
TMWZ	**Te Maipa**	**2.54**	**57**	P	Pn	21 30 12.6	-4.7
MRZ	**Mangatainoka R**	**2.65**	**46**	P	Pn	21 30 14.1	-4.6
PRWZ	**Pori Road**	**2.94**	**49**	P	Pn	21 30 17.9	-4.7
POWZ	**Post Office Ro**	**2.94**	**45**	P	Pn	21 30 18.3	-4.4
BFZ	**Birch Farm**	**3.01**	**53**	P	Pn	21 30 19.6	-4.1
ODZ	**Otahua Downs**	**3.07**	**214**	P	Pn	21 30 23.6	-0.9
WAZ	**Wanganui**	**3.12**	**28**	P	Pn	21 30 25.8	+0.6
DVHZ	**Dannevirke**	**3.22**	**47**	P	Pn	21 30 26.8	+0.2
ANWZ	**Angora Road**	**3.29**	**52**	P	Pn	21 30 29.0	+1.5
TSZ	**Takapari Road**	**3.29**	**43**	P	Pn	21 30 27.1	-0.4
NBEZ	**Newall Road No**	**3.31**	**11**	P	Pb	21 30 31.5	-3.1
PKE	**Pukeiti**	**3.40**	**12**	P	Pb	21 30 33.1	-3.1
PRHZ	**Porangahau**	**3.51**	**51**	P	Pn	21 30 24.9	-5.5
VRZ	**Vera Road**	**3.63**	**21**	P	Pn	21 30 33.4	+1.2
MOVZ	**Moawhango**	**3.72**	**34**	P	Pn	21 30 33.9	+0.5
WNVZ	**Wahianoa**	**3.72**	**32**	P	Pn	21 30 35.9	+2.3
WHVZ	**Whangaehu Hut**	**3.76**	**31**	P	Pn	21 30 34.8	+0.6
BHHZ	**Black Hill Sta**	**3.79**	**38**	P	Pn	21 30 35.9	+1.5
WTVZ	**West Tongariro**	**3.91**	**30**	P	Pn	21 30 38.4	+2.3
ETVZ	**East Tongariro**	**3.93**	**32**	P	Pn	21 30 38.5	+2.0

WEL 14 21:29:49.1±0.3, 42°S±2°×17°4E±°, h6km±1km, M3.6/15, ML3.8/18, MLv3.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=123.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.11**	**79**	S	Sg	21 29 53.9	-0.9
CMWZ	**Cape Campbell**	**0.11**	**79**	P	Pg	21 29 51.1	-0.3
CMWZ				S	Sg	21 29 53.9	+1.0
CMWZ	**Cape Campbell**	**0.11**	**79**	P	Pg	21 29 51.0	-0.4
BSWZ	**Blackbirch Sta**	**0.16**	**290**	S	Sg	21 29 56.4	+2.0
BSWZ	**Blackbirch Sta**	**0.16**	**290**	P	Pg	21 29 52.5	+0.2
BSWZ				S	Sg	21 29 56.6	+2.2
BSWZ	**Blackbirch Sta**	**0.16**	**290**	P	Pg	21 29 52.6	+0.4
TUWZ	**Tuamarina**	**0.35**	**344**	S	Sg	21 30 00.5	-0.1
TUWZ	**Tuamarina**	**0.35**	**344**	P	Pg	21 29 55.1	-0.8
TCW	**Tory Channel**	**0.58**	**15**	P	Pg	21 29 58.3	-1.9
WEL	**Wellington**	**0.71**	**47**	P	Pg	21 30 00.9	-1.9
KHZ	**Kahutara**	**0.76**	**211**	P	Pb	21 30 04.4	-0.2
KHZ				S	Sn	21 30 17.0	-1.0
THZ	**Tophouse**	**0.87**	**270**	P	Pg	21 30 05.6	-0.2
THZ				S	Sn	21 30 20.0	-1.0
CAW	**Cannon Point**	**1.00**	**49**	P	Pg	21 30 07.6	-0.6
MRNZ	**Matariki Terra**	**1.05**	**290**	P	Pg	21 30 08.8	-0.5
MRNZ				S	Sn	21 30 24.9	-0.4
PAWZ	**Paruwai Farm**	**1.09**	**70**	P	Pg	21 30 07.0	-2.9
GVZ	**Greta Valley S**	**1.42**	**212**	P	Pn	21 30 15.7	+0.2
GVZ				S	Sb	21 30 32.8	-1.6
QRZ	**Quartz Range**	**1.50**	**309**	P	Pn	21 30 15.3	-1.2
LTZ	**Lake Taylor**	**1.68**	**232**	P	Pn	21 30 18.5	-0.5
LTZ				S	Sn	21 30 39.8	-1.0
DSZ	**Denniston Nort**	**1.70**	**270**	P	Pn	21 30 19.6	+0.4
DSZ				S	Sg	21 30 43.5	-0.1
MQZ	**McQueen's Vall**	**2.20**	**208**	S	Sn	21 30 48.8	-4.8
AKCZ	**Akaroa Harbour**	**2.27**	**202**	S	Sn	21 30 50.9	-4.5
FWVZ	**Far West T-bar**	**2.75**	**25**	P	Pn	21 30 35.4	+1.5
FWVZ	**Far West T-bar**	**2.75**	**25**	P	Pn	21 30 35.2	+1.2
OTVZ	**Oturere**	**2.87**	**26**	P	Pn	21 30 35.7	+0.2
OTVZ	**Oturere**	**2.87**	**26**	P	Pn	21 30 35.3	-0.2
NNVZ	**North Ngauruho**	**2.89**	**25**	P	Pn	21 30 38.2	+2.5
WTVZ	**West Tongariro**	**2.89**	**24**	P	Pn	21 30 35.1	-0.6
ETVZ	**East Tongariro**	**2.91**	**26**	P	Pn	21 30 35.9	-0.1
KRVZ	**Karewarewa**	**2.93**	**25**	P	Pn	21 30 38.9	+2.7
TMVZ	**Te Maari**	**2.93**	**26**	P	Pn	21 30 37.5	+1.3
NTVZ	**North Tongarir**	**2.94**	**25**	P	Pn	21 30 37.5	+1.2
HIZ	**Hauiti**	**3.31**	**11**	P	Pn	21 30 42.4	+1.0
MKAZ	**Moumakai**	**4.74**	**11**	P	Pn	21 31 01.3	+0.3

WEL 14 21:32:13.3±0.4, 42°S±3°×17°4E±°, h10km±4km, M3.9/12, ML4.1/12, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=124.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.16**	**206**	P	Pg	21 32 17.3	+0.5
KHZ				S	Sg	21 32 20.3	+1.1
BSWZ	**Blackbirch Sta**	**0.59**	**18**	P	Pg	21 32 25.0	+0.3
BSWZ				S	Sb	21 32 34.3	+0.3
CMWZ	**Cape Campbell**	**0.68**	**40**	P	Pb	21 32 27.0	-0.2
THZ	**Tophouse**	**0.74**	**313**	P	Pg	21 32 27.3	-0.4
GVZ	**Greta Valley S**	**0.82**	**212**	P	Pb	21 32 30.1	+0.3
TUWZ	**Tuamarina**	**0.87**	**15**	P	Pg	21 32 30.2	0.0
NNZ	**Nelson**	**1.07**	**350**	P	Pg	21 32 33.3	-0.6
MRNZ	**Matariki Terra**	**1.09**	**323**	P	Pg	21 32 33.7	-0.6
LTZ	**Lake Taylor**	**1.13**	**243**	P	Pb	21 32 31.9	-3.0
TCW	**Tory Channel**	**1.17**	**25**	P	Pb	21 32 35.0	-0.5
WEL	**Wellington**	**1.30**	**41**	P	Pn	21 32 36.9	-0.7
TKNZ	**Takaka Hill**	**1.34**	**338**	P	Pn	21 32 38.0	-0.1
PLWZ	**Palliser**	**1.40**	**60**	P	Pn	21 32 37.6	-1.4
DSZ	**Denniston Nort**	**1.46**	**291**	P	Pb	21 32 40.4	-0.3
MSWZ	**Moikau Station**	**1.48**	**55**	P	Pn	21 32 38.7	-1.3
DUWZ	**D'Urville Isla**	**1.49**	**8**	P	Pn	21 32 39.7	-0.4
OXZ	**Oxford**	**1.58**	**228**	P	Pn	21 32 39.3	-2.1
CAW	**Cannon Point**	**1.58**	**43**	P	Pn	21 32 40.5	-1.0
MQZ	**McQueen's Vall**	**1.60**	**206**	P	Pn	21 32 39.2	-2.5
PAWZ	**Paruwai Farm**	**1.61**	**57**	P	Pn	21 32 40.2	-1.6
QRZ	**Quartz Range**	**1.67**	**330**	P	Pb	21 32 43.6	-0.5
INZ	**Inchbonnie**	**1.68**	**254**	P	Pn	21 32 42.8	0.0
KIW	**Kapiti Island**	**1.71**	**35**	P	Pn	21 32 42.7	-0.4
TRWZ	**Traveller**	**1.77**	**61**	P	Pn	21 32 42.0	-1.9
MTW	**Mount Morrison**	**1.79**	**52**	P	Pn	21 32 42.9	-1.3
RACZ	**Rakaia**	**1.82**	**217**	P	Pn	21 32 41.7	-3.0
OGWZ	**Otaki Gorge**	**1.86**	**39**	P	Pn	21 32 44.2	-0.9
HOWZ	**Holdsworth Sta**	**1.97**	**46**	P	Pg	21 32 51.1	0.0
TMWZ	**Te Maipa**	**2.05**	**56**	P	Pn	21 32 45.9	-2.0
WACZ	**Wakanui South**	**2.12**	**218**	P	Pn	21 32 46.6	-2.2
WVZ	**Waitaha Valley**	**2.28**	**248**	P	Pn	21 32 50.3	-0.7
RPZ	**Rata Peaks**	**2.38**	**232**	P	Pn	21 32 50.3	-2.0
ARCZ	**Arundel**	**2.46**	**226**	P	Pn	21 32 51.5	-2.0
PRWZ	**Pori Road**	**2.46**	**46**	P	Pb	21 32 56.7	-0.8
POWZ	**Post Office Ro**	**2.47**	**41**	P	Pn	21 32 52.5	-1.1
GCSZ	**Gaunt Creek Bo**	**2.65**	**246**	P	Pn	21 32 56.0	-0.1
WAZ	**Wanganui**	**2.72**	**23**	P	Pn	21 32 58.6	+1.6
TSZ	**Takapari Road**	**2.83**	**39**	P	Pn	21 32 59.7	+1.2
TMZ	**Timaru**	**2.85**	**221**	P	Pn	21 32 56.8	-2.0
LREZ	**Lake Rotokare**	**2.87**	**12**	P	Pb	21 33 03.1	-1.5
NBEZ	**Newall Road No**	**3.01**	**3**	P	Pb	21 33 04.0	-2.9
PNHZ	**Pukenui**	**3.05**	**40**	P	Pb	21 33 06.4	-1.3
FOZ	**Fox Glacier**	**3.08**	**245**	P	Pn	21 33 01.6	-0.3
PKE	**Pukeiti**	**3.09**	**5**	P	Pn	21 33 05.2	+3.1
VRZ	**Vera Road**	**3.26**	**16**	P	Pn	21 33 06.0	+1.5
MOVZ	**Moawhango**	**3.28**	**30**	P	Pn	21 33 06.0	+1.1
LBZ	**Lake Benmore**	**3.29**	**229**	P	Pn	21 33 03.0	-1.8
WNVZ	**Wahianoa**	**3.30**	**28**	P	Pb	21 33 11.3	-0.7
WHVZ	**Whangaehu Hut**	**3.34**	**27**	P	Pn	21 33 08.5	+2.7
FWVZ	**Far West T-bar**	**3.35**	**26**	P	Pn	21 33 09.3	+3.4
SNVZ	**South Ngauruho**	**3.44**	**27**	P	Pn	21 33 05.1	-2.0
OTVZ	**Oturere**	**3.47**	**27**	P	Pb	21 33 13.6	-1.4
TWVZ	**Taurewa**	**3.48**	**24**	P	Pn	21 33 10.7	+3.1
ODZ	**Otahua Downs**	**3.52**	**217**	P	Pn	21 33 05.5	-2.5
TMVZ	**Te Maari**	**3.52**	**27**	P	Pb	21 33 14.2	-1.6
HIZ	**Hauiti**	**3.87**	**14**	P	Pn	21 33 14.2	+1.3
JCZ	**Jackson Bay**	**3.98**	**241**	P	Pn	21 33 18.2	+3.8
TLZ	**Tolley Road**	**4.20**	**21**	P	Pn	21 33 20.7	+3.3
HHSZ	**Highcliff Hill**	**4.22**	**210**	P	Pn	21 33 15.6	-2.1
EAZ	**Earnscleugh**	**4.31**	**225**	P	Pn	21 33 17.0	-1.9
TUZ	**Tuapeka**	**4.57**	**217**	P	Pn	21 33 21.8	-2.1
TOZ	**Tahuroa Road**	**4.76**	**18**	P	Pn	21 33 29.3	+4.2
AWAZ	**Awhitu Peninsu**	**5.26**	**9**	P	Pn	21 33 32.8	+0.8
MKAZ	**Moumakai**	**5.29**	**13**	P	Pn	21 33 32.4	0.0
SYZ	**Scrubby Hill**	**5.34**	**216**	P	Pn	21 33 31.3	-1.7
WTAZ	**Waiatarua**	**5.38**	**8**	P	Pn	21 33 34.8	+1.1
ETAZ	**East Tamaki Re**	**5.41**	**11**	P	Pn	21 33 34.8	+0.8
APZ	**The Paps**	**6.08**	**220**	P	Pn	21 33 41.8	-1.5
CTZ	**Chatham Island**	**7.29**	**105**	P	Pn	21 33 57.0	-2.8

WEL 14 21:34:14.3±0.4, 42°S±3°×17°4E±°, h12km, M3.4/16, ML3.6/17, MLv3.4/16, Error ellipse: s-maj=0.0km s-min=0.0km az=128.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.34**	**258**	P	Pg	21 34 21.2	0.0
KHZ				S	Sg	21 34 26.3	+0.7
CMWZ	**Cape Campbell**	**0.62**	**16**	P	Pb	21 34 28.0	+0.9
BSWZ	**Blackbirch Sta**	**0.64**	**353**	P	Pg	21 34 26.5	-0.2
TUWZ	**Tuamarina**	**0.92**	**358**	P	Pg	21 34 32.0	0.0
TUWZ				S	Sn	21 34 45.3	-0.9
GVZ	**Greta Valley S**	**0.94**	**228**	P	Pn	21 34 33.2	-0.1
GVZ				S	Sn	21 34 46.7	+0.1
THZ	**Tophouse**	**0.99**	**306**	P	Pg	21 34 32.6	-0.9
THZ				S	Sg	21 34 45.5	-0.9
TCW	**Tory Channel**	**1.16**	**11**	P	Pb	21 34 35.6	-0.7
TCW				S	Sg	21 34 51.5	-0.1
WEL	**Wellington**	**1.21**	**29**	P	Pn	21 34 36.8	-0.3
NNZ	**Nelson**	**1.22**	**338**	P	Pn	21 34 36.6	-0.6
NNZ				S	Sg	21 34 53.4	-0.1
AMCZ	**Amberley**	**1.28**	**229**	P	Pb	21 34 38.4	0.0
LTZ	**Lake Taylor**	**1.34**	**250**	P	Pn	21 34 38.6	-0.3
LTZ				S	Sb	21 34 56.2	-0.3
PAWZ	**Paruwai Farm**	**1.45**	**49**	P	Pn	21 34 39.3	-1.0
PAWZ				S	Sn	21 34 59.1	-0.2
CAW	**Cannon Point**	**1.48**	**34**	P	Pn	21 34 40.2	-0.6
TKNZ	**Takaka Hill**	**1.52**	**329**	P	Pn	21 34 41.2	-0.2
TKNZ				S	Sg	21 35 02.5	-0.7
OKCZ	**Okains Bay**	**1.53**	**206**	P	Pn	21 34 40.8	-0.8
DUWZ	**D'Urville Isla**	**1.54**	**358**	P	Pn	21 34 40.4	-1.3
KIW	**Kapiti Island**	**1.64**	**25**	P	Pn	21 34 42.9	-0.1
MQZ	**McQueen's Vall**	**1.67**	**215**	P	Pn	21 34 42.1	-1.3
DSZ	**Denniston Nort**	**1.73**	**290**	P	Pb	21 34 45.5	-0.6
DSZ				S	Sb	21 35 08.4	+0.6
WVZ	**Waitaha Valley**	**2.50**	**252**	P	Pn	21 34 54.8	0.0
RPZ	**Rata Peaks**	**2.55**	**237**	P	Pn	21 34 55.0	-0.5

IDC 14 21:35:19.3±2.7, 4°42S×149°38E, h573km±35km, mb2.9/3, mbtmp3.8/5, Error ellipse: s-maj=92.8km s-min=27.6km az=126.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**204**	P	P	21 36 54.0	0.0
	17nm,0.4s,baz=6.3,slow=9.2,SNR=9.9						
CTA	**Charters Tower**	**15.87**	**191**	P	P	21 38 36.6	-0.1
	2.1nm,0.6s,baz=13,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**21.28**	**222**	P	P	21 39 25.9	0.0
	0.9nm,0.5s,baz=47,slow=9.3,SNR=19						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**24.27**	**217**	P	P	21 39 52.4	-0.2
	1.0nm,0.4s,baz=50,slow=8.1,SNR=32						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**83.11**	**23**	P	P	21 46 45.1	-0.1
	0.4nm,0.6s,baz=247,slow=4.8,SNR=6.3						
	0.4nm,0.6s						

WEL 14 21:38:10.8±1.1, 42°S±6°×17°4E±°, h9km±4km, M2.7/9, ML3.1/9, MLv2.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=169.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.20**	**30**	P	Pg	21 38 15.3	+0.4
BSWZ	**Blackbirch Sta**	**0.26**	**323**	P	Pb	21 38 17.6	-0.1
BSWZ				S	Sb	21 38 22.4	+0.2
TUWZ	**Tuamarina**	**0.50**	**348**	P	Pg	21 38 20.2	-0.3
TUWZ				S	Sb	21 38 28.6	-0.6
TCW	**Tory Channel**	**0.72**	**12**	P	Pg	21 38 24.7	-0.1
TCW				S	Sb	21 38 34.9	-0.7
BHW	**Baring Head**	**0.78**	**49**	P	Pb	21 38 26.6	0.0
BHW				S	Sb	21 38 38.2	+0.9
WEL	**Wellington**	**0.82**	**39**	P	Pg	21 38 26.8	+0.3
WEL				S	Sb	21 38 38.5	+0.2
MSWZ	**Moikau Station**	**1.01**	**60**	P	Pg	21 38 30.0	-0.2
MSWZ				S	Sb	21 38 44.3	+0.5
CAW	**Cannon Point**	**1.10**	**43**	P	Pg	21 38 31.7	-0.1
CAW				S	Sg	21 38 46.1	0.0
KIW	**Kapiti Island**	**1.23**	**31**	P	Pn	21 38 33.8	-0.3
KIW				S	Sg	21 38 50.4	+0.1
MTW	**Mount Morrison**	**1.31**	**55**	P	Pn	21 38 33.9	-1.3
OGWZ	**Otaki Gorge**	**1.37**	**37**	P	Pn	21 38 35.6	-0.6
OGWZ				S	Sb	21 38 52.9	-1.4

WEL 14 21:38:32.1±0.5, 43°S±4°×17°3E±°, h14km±2km, M3.0/6, ML3.1/8, MLv3.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=136.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**66**	P	Pg	21 38 36.7	-0.1
KHZ				S	Sb	21 38 42.0	+0.5
GVZ	**Greta Valley S**	**0.50**	**201**	P	Pb	21 38 43.2	+0.6
GVZ				S	Sb	21 38 50.9	+1.2
LTZ	**Lake Taylor**	**0.79**	**249**	P	Pn	21 38 48.3	-0.6
LTZ				S	Sn	21 38 59.5	-1.1
AMCZ	**Amberley**	**0.81**	**214**	P	Pn	21 38 49.5	+0.3
AMCZ				S	Sn	21 39 01.2	+0.3
OXZ	**Oxford**	**1.23**	**227**	P	Pg	21 38 55.7	0.0
OKCZ	**Okains Bay**	**1.23**	**187**	P	Pb	21 38 55.0	-0.1
OKCZ	**Okains Bay**	**1.23**	**187**	P	Pn	21 38 54.5	-0.4
MQZ	**McQueen's Vall**	**1.28**	**201**	P	Pn	21 38 55.0	-0.5
AKCZ	**Akaroa Harbour**	**1.39**	**191**	P	Pn	21 38 56.7	-0.4
RACZ	**Rakaia**	**1.48**	**214**	P	Pn	21 38 58.0	-0.2
RACZ				S	Sn	21 39 17.3	-0.1
WACZ	**Wakanui South**	**1.78**	**216**	P	Pn	21 39 02.3	-0.1
WACZ				S	Sn	21 39 24.4	-0.4
RPZ	**Rata Peaks**	**2.03**	**233**	P	Pn	21 39 06.2	+0.4
RPZ				S	Sn	21 39 30.4	-0.6

WEL 14 21:40:20.6±0.7, 42°S±5°×17°4E±°, h6km±6km, M3.0/14, ML3.7/12, MLv3.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=125.7, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.38**	**260**	P	Pg	21 40 28.1	+0.2
KHZ				S	Sg	21 40 33.1	+0.2
TUWZ	**Tuamarina**	**0.93**	**356**	P	Pg	21 40 38.1	-0.3
TUWZ				S	Sb	21 40 52.4	+0.7
GVZ	**Greta Valley S**	**0.96**	**230**	P	Pb	21 40 39.9	+0.1
GVZ				S	Sn	21 40 53.9	-0.9
THZ	**Tophouse**	**1.03**	**305**	P	Pg	21 40 39.3	-1.1
THZ				S	Sg	21 40 52.2	-1.6
WEL	**Wellington**	**1.20**	**27**	P	Pg	21 40 43.5	-0.1
MRNZ	**Matariki Terra**	**1.35**	**314**	P	Pn	21 40 45.2	-0.9
LTZ	**Lake Taylor**	**1.37**	**251**	P	Pn	21 40 45.4	-1.1
PAWZ	**Paruwai Farm**	**1.42**	**47**	P	Pn	21 40 46.2	-0.9
CAW	**Cannon Point**	**1.46**	**32**	P	Pn	21 40 47.0	-0.6
CAW				S	Sn	21 41 06.5	-0.6
OKCZ	**Okains

SNVZ	South Ngauruho	3.37	23	P	Pn	21 44 46.4 +0.5
OTVZ	Oturere	3.39	23	P	Pn	21 44 49.4 +3.2
NNVZ	North Ngauruho	3.41	22	P	Pn	21 44 49.3 +2.8
WTVZ	West Tongariro	3.42	22	P	Pn	21 44 48.4 +1.9
ETVZ	East Tongariro	3.43	23	P	Pn	21 44 49.8 +3.0
TMVZ	Te Maari	3.45	23	P	Pn	21 44 47.6 +0.6
KRVZ	Karewarewa	3.45	22	P	Pn	21 44 49.2 +2.2
NTVZ	North Tongarir	3.46	22	P	Pn	21 44 48.3 +1.2
HIZ	Hauiti	3.85	10	P	Pn	21 44 53.8 +1.4
TLZ	Tolley Road	4.15	17	P	Pn	21 44 58.8 +2.2
AWAZ	Awhitu Peninsu	5.26	6	P	Pn	21 45 12.9 +1.1
MKAZ	Moumakai	5.28	10	P	Pn	21 45 12.2 +0.2

IDC ***14*** *21:46:53.6±0.9, 35°.55N×73°.08E, h0km, mb3.8/12, mbtmp3.7/17, ML3.1/5, MS3.1/4, Error ellipse: s-maj=17.9km s-min=16.6km az=65.0*

ISC 14 21:46:58.7±0.7, 35°.47N±0°.08×73°.11E±0°.07, h40km, n25, σ1§54/26, mb3.5/11, MS3.0/3, 1C-1D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.23	8	Pn	Pn	21 48 43.1	+1.2
	0.2nm,0.3s,baz=328,slow=7.8,SNR=2.3						
AAK				Sn	Sn	21 50 03.6	+0.7
	0.6nm,0.3s,baz=331,slow=11,SNR=6.7						
AAK				Lg	Lg	21 50 40.7	
	0.4nm,0.3s,baz=186,slow=23,SNR=1.5						
	0.8nm,0.6s						
KK31	Karatay Array	7.88	346	⇓P	Pn	21 48 51.4	+0.7
	5.1nm,0.5s,baz=171,slow=13,SNR=97						
KK31				⇑S	Sn	21 50 17.2	-1.4
	3.4nm,0.3s,baz=174,slow=24,SNR=3.6						
GEYT	Alibeck	12.28	286	Pn	Pn	21 49 49.9	-1.1
	0.2nm,0.3s,baz=123,slow=5.3,SNR=2.3						
GEYT				Sn	Sn	21 52 06.2	-0.4
	0.4nm,0.3s,baz=229,slow=27,SNR=1.3						
	0.9nm,0.5s						
DMN	Daman	12.88	124	eP	Pn	21 49 58.7	-0.7
PKIN	Phulchoki	13.10	124	eP	Pn	21 50 01.3	-1.1
PKI	Pulchoki	13.11	124	eP	Pn	21 50 01.9	-0.7
	11nm,0.6s						
GUN	Gumba	13.22	121	eP	Pn	21 50 01.8	-2.3
MKAR	Makanchi Array	13.24	29	Pn	Pn	21 50 03.0	-1.1
	0.1nm,0.3s,baz=210,slow=11,SNR=8.3						
	0.8nm,0.7s						
RAMN	Ramite	14.32	123	eP	Pn	21 50 14.8	-4.2
	12nm,0.7s						
KURBB	Kurchatov Arra	15.64	13	Pn	Pn	21 50 32.7	-3.4
	0.1nm,0.3s,baz=199,slow=12,SNR=2.0						
	0.3nm,0.3s						
WSAR	Wadi Sarin	17.52	230	LR	LR	21 58 24.0	
	comp=Z,27nm,18.4s,baz=114,slow=39						
BVAR	Borovoye Array	17.65	355	P	Pn	21 50 59.8	-1.6
	baz=156,slow=9.6,SNR=7.3						
	1.0nm,0.6s						
ZALV	Zalesovo Beam	20.21	20	P	P	21 51 29.4	-0.5
	3.3nm,0.5s,baz=213,slow=12,SNR=17						
	3.3nm,0.5s						
SONM	Songino Array	27.54	53	P	P	21 52 42.8	+1.1
	0.4nm,0.7s,baz=258,slow=9.0,SNR=2.4						
SONM				LR	LR	22 05 03.0	
	comp=Z,43nm,19.9s,baz=318,slow=40						
	0.4nm,0.7s						
CMAR	Chiang Mai Arr	28.46	120	P	P	21 52 51.8	+1.8
	0.4nm,0.3s,baz=317,slow=6.2,SNR=2.2						
	0.4nm,0.3s						
BRTR	Keskin Array B	31.39	290	P	P	21 53 16.3	+0.4
	0.2nm,0.4s,baz=76,slow=8.9,SNR=1.6						
BRTR				LR	LR	22 08 55.0	
	comp=Z,38nm,21.4s,baz=284,slow=42						
	0.2nm,0.4s						
AKASG	Malin Array Be	34.92	310	P	P	21 53 46.6	+0.3
	0.6nm,0.5s,baz=80,slow=7.4,SNR=3.4						
	0.6nm,0.5s						
FINES	FINESS Array B	39.29	326	P	P	21 54 23.9	+0.7
	2.0nm,0.9s,baz=57,slow=7.0,SNR=1.5						
	2.0nm,0.9s						
ARCES	ARCESS Array B	42.74	338	P	P	21 54 52.4	+0.8
	15nm,1.2s,baz=108,slow=5.8,SNR=3.8						
	15nm,1.2s						
NOA	NORSAR Array B	46.23	324	P	P	21 55 19.5	-0.1
	0.5nm,0.7s,baz=101,slow=7.9,SNR=1.9						
	0.5nm,0.7s						
TORD	Torodi Ar. Bea	67.42	270	P	P	21 57 50.4	0.0
	1.2nm,0.7s,baz=44,slow=5.9,SNR=8.3						
	1.2nm,0.7s						
ILAR	Eielson Array	75.28	17	P	P	21 58 37.4	+0.3
	0.3nm,0.9s,baz=342,slow=5.2,SNR=2.4						
	0.3nm,0.9s						
WRA	Warramunga Arr	80.00	123	P	P	21 59 05.0	+1.0
	0.4nm,0.7s,baz=322,slow=4.4,SNR=2.2						
	0.4nm,0.7s						
ASAR	Alice Springs	82.27	126	P	P	21 59 17.0	+0.9
	0.3nm,0.6s,baz=315,slow=5.9,SNR=4.5						
	0.3nm,0.6s						
STKA	Stephens Creek	92.80	128	LR	LR	22 47 12.0	
	comp=Z,17nm,20.3s,baz=227,slow=39						

DJA 14 21:52:16.2±0.5, 0°N±4°×12°2E±°, h184km±4km, M3.7/9, mb4.1/2, MLv3.5/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.29	300	P	Pn	21 52 41.4	+0.6
MRSI				S	Sn	21 53 00.3	+0.7
GTOI	Gorontalo	0.88	70	P	Pn	21 52 44.6	+1.2
GTOI				S	Sn	21 53 06.8	+2.4
APSI	Ampana	1.35	204	P	Pn	21 52 48.3	+1.2
APSI				S	Sn	21 53 11.7	+0.6
LUWI	Luwuk	1.48	157	P	Pn	21 52 48.9	+0.6
LUWI				S	Sn	21 53 13.3	0.0
MPSI	Mapaga	2.29	270	P	Pn	21 52 57.9	+1.1
SANI	Sanana	4.47	122	P	Pn	21 53 21.6	-1.9
KKSI	Kolaka, Sulawe	4.50	187	P	Pn	21 53 24.1	+0.2
BNSI	Bone	5.14	204	P	Pn	21 53 32.3	+0.2
	0.1nm27nm,0.8s						
LBMI	Labuha	5.40	100	P	Pn	21 53 35.1	-0.3

IDC ***14*** *21:57:28.1±2.5, 35°.98S×73°.78W, h0km, mb4.4/5, mbtmp4.3/7, ML4.3/2, MS3.2/1, Error ellipse: s-maj=60.8km s-min=25.2km az=74.0*
VAO ***14*** *21:57:31.5±1.7, 37°.59S×72°.39W, h10km, mb4.3*
GUC ***14*** *21:57:55.6±0.8, 37°.08S×71°.00W, h160km±9km, ML3.9*

ISC 14 21:57:55.1±0.8, 37°.11S±0°.04×70°.96W±0°.10, h153km±10km, n45, σ0§97/47, mb4.0/4, 2C, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ML02	Panimavida	1.39	345	eP	Pn	21 58 24.8	+1.1
ML02				eS	Sn	21 58 46.0	+0.4
ML02				IAML		21 58 47.9	
	comp=E,4μm,0.8s						
CCSP	San Pedro de C	1.74	278	IAML		21 58 57.2	
	comp=N,3μm,0.5s						
BI05	Punta Hualpn	1.82	281	eP	Pn	21 58 29.2	+0.9
BI05				eS	Sn	21 58 53.8	0.0
GO05	Huala	2.23	339	eP	Pn	21 58 33.6	+0.4
GO05				eS	Sn	21 59 01.1	-1.3
GO05				IAML		21 59 03.9	
	comp=E,561nm,0.3s						
BO02	Sierra Bellavi	2.31	4	⇑iP	Pn	21 58 35.0	+0.8
BO02				eS	Sn	21 59 04.3	+0.1
BO02				IAML		21 59 09.9	
	comp=E,579nm,0.2s						
GO06	Curarrehue	2.51	189	⇑iP	Pn	21 58 37.6	+1.1
GO06				IAML		21 59 13.3	
	comp=E,55nm,0.6s						
BO01	Tunca	2.71	358	eP	Pn	21 58 38.9	-0.1
BO01				eS	Sn	21 59 10.7	-2.1
BO03	Pichilemu	2.73	342	eP	Pn	21 58 39.3	+0.1
BO03				IAML		21 59 14.4	
	comp=N,329nm,0.2s						
LR03	Panguipulli	2.75	203	eP	Pn	21 58 38.5	-0.8
LR03				iS	Sn	21 59 13.4	-0.2
LR02	Universidad Au	3.24	213	eS	Sn	21 59 23.4	-1.2
LR04	Corral	3.38	214	eP	Pn	21 58 47.3	0.0
PLCA	Paso Flores	3.64	175	Pn	Pn	21 58 50.7	0.0
	comp=N,2.5nm,0.3s,baz=351,slow=12,SNR=43						
PLCA				Sn	Sn	21 59 54.1	+20
	comp=N,1.1nm,0.3s,baz=54,slow=19,SNR=1.5						
	comp=N,6.7nm,0.4s						
ITQB	Itaqui	14.08	62	eP	Pn	22 01 07.5	-0.3
RODS	Rosario do Sul	14.74	67	eP	P	22 01 16.5	-1.7
UNIS	Unistalda (Bra	15.53	64	eP	P	22 01 26.3	-0.6
CPUP	Villa Florida	15.79	51	Pn	Pn	22 01 28.0	-1.1
	comp=N,0.2nm,0.3s,baz=247,slow=12,SNR=5.6						
	comp=N,1.9nm,0.7s						
CPUP	Villa Florida	15.79	51	eP	P	22 01 28.8	-1.0
ALGR	Alto Alegre (B	17.16	66	eP	Pn	22 01 46.9	+1.1
CRSM	Crissiumal (Br	17.20	61	eP	Pn	22 01 47.0	+0.9
CNLB	Canela	18.51	71	eP	Pn	22 02 01.8	+0.1
ITAB	Concordia	18.70	64	eP	Pn	22 02 04.2	+0.2
FRBT	Francisco Belt	18.83	59	eP	Pn	22 02 04.3	-1.2
MCR1	Marechal Candi	19.21	54	eP	Pn	22 02 08.0	-1.9
MURT	Porto Murtinho	19.26	41	eP	P	22 02 08.3	+0.5
ANTJ	Antonio Joao (	19.86	45	eP	P	22 02 14.8	+0.5
TER01	Tubaro-SC	20.21	71	eP	Pn	22 02 20.2	-1.5
LPAZ	La Paz	20.89	8	P	P	22 02 06.6	-19
	comp=N,22nm,0.6s,baz=188,slow=14,SNR=8.2						
	comp=N,22nm,0.6s						
AQDB	Aquidauana	21.25	43	eP	P	22 02 29.0	-0.2
BBSD	Serra de San D	21.84	27	eP	P	22 02 35.1	-0.4
PANT	Pantanal (Braz	22.00	39	eP	P	22 02 37.4	+0.3
TIJ01	Guaruva-PR	22.09	64	eP	P	22 02 40.6	+2.5
FRTB	Fartura	22.95	59	eP	P	22 02 47.7	+1.5
PTLB	Pontes e Lacer	23.99	29	eP	P	22 02 56.0	+0.4
RCLB	Rio Claro- Sao	24.97	61	eP	P	22 03 05.4	+0.9
ITRB	Iturama	24.99	52	eP	P	22 03 05.1	+0.4
SALV	Santo Antonio	25.09	37	eP	P	22 03 06.0	+0.5
VILB	Vilhena	25.91	25	eP	P	22 03 11.9	-1.1
PDRB	Porto dos Gac	28.43	30	eP	P	22 03 35.1	-0.4
BDFB	Brasilia	29.51	50	P	P	22 03 44.4	-0.8
	comp=N,1.3nm,0.4s,baz=225,slow=7.1,SNR=3.8						
	comp=N,1.3nm,0.4s						
ATAH	Atahualpa	30.59	345	P	P	22 03 30.3	-25
	comp=N,3.2nm,0.4s,baz=158,slow=11,SNR=2.3						
ATAH				LR	LR	22 13 24.4	
	comp=N,40nm,19.2s,baz=61,slow=33						
	comp=N,3.2nm,0.4s						
NPGB	Novo Progresso	33.13	29	eP	P	22 04 16.4	-0.4
SDBA	SAO DESIDERIO	33.91	50	eP	P	22 04 23.7	0.0
ITTB	Itaituba	35.45	27	eP	P	22 04 37.5	+0.7
DBIC	Dimbokro	75.38	70	P	P	22 09 23.4	+1.3
	comp=N,2.8nm,0.8s,baz=252,slow=4.7,SNR=3.9						
	comp=N,2.8nm,0.8s						
TORD	Torodi Ar. Bea	84.47	69	P	P	22 10 11.6	+0.7
	comp=N,1.3nm,0.9s,baz=249,slow=4.0,SNR=6.8						
	comp=N,1.3nm,0.9s						

WEL 14 21:58:42.4±0.3, 43°S±3°×17°3E±°, h7km±3km, M3.4/13, ML3.6/13, MLv3.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=129.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.33	58	P	Pg	21 58 49.2	+0.4
KHZ				S	Sg	21 58 53.9	+0.8
GVZ	Greta Valley S	0.39	194	P	Pb	21 58 51.8	+0.1
LTZ	Lake Taylor	0.69	253	P	Pg	21 58 56.0	+0.4
LTZ				S	Sg	21 59 05.3	+0.8
AMCZ	Amberley	0.70	212	P	Pb	21 58 57.6	+0.6
THZ	Tophouse	0.85	347	P	Pg	21 58 57.9	-0.8
THZ				S	Sg	21 59 08.3	-1.4
BSWZ	Blackbirch Sta	1.02	31	P	Pg	21 59 02.0	0.0
OXZ	Oxford	1.11	228	P	Pg	21 59 03.3	-0.4
OKCZ	Okains Bay	1.14	184	P	Pb	21 59 04.4	0.0
MQZ	McQueen's Vall	1.18	198	P	Pg	21 59 03.9	-1.1
MQZ				S	Sg	21 59 18.8	-1.6
MRNZ	Matariki Terra	1.23	346	P	Pg	21 59 05.2	-0.8
INZ	Inchbonnie	1.28	263	P	Pn	21 59 06.4	-0.2
TUWZ	Tuamarina	1.29	27	P	Pn	21 59 06.6	-0.4
AKCZ	Akaroa Harbour	1.30	188	P	Pn	21 59 05.9	-1.1
AKCZ				S	Sg	21 59 24.1	0.0
DSZ	Denniston Nort	1.32	309	P	Pn	21 59 06.9	-0.4
RACZ	Rakaia	1.36	213	P	Pn	21 59 06.8	-1.1
NNZ	Nelson	1.38	7	P	Pn	21 59 07.6	-0.5
MHCZ	Mount Hutt	1.50	231	P	Pn	21 59 09.1	-0.8
TKNZ	Takaka Hill	1.56	354	P	Pn	21 59 10.4	-0.2
WACZ	Wakanui South	1.66	215	P	Pn	21 59 11.0	-1.0
QRZ	Quartz Range	1.82	345	P	Pn	21 59 14.5	+0.3
WVZ	Waitaha Valley	1.85	254	P	Pn	21 59 14.6	0.0
DUWZ	D'Urville Isla	1.87	18	P	Pn	21 59 15.7	+0.8
RPZ	Rata Peaks	1.91	233	P	Pn	21 59 14.5	-1.0
MSWZ	Moikau Station	1.95	54	P	Pn	21 59 14.5	-1.4
ARCZ	Arundel	1.99	226	P	Pn	21 59 15.4	-1.2
CAW	Cannon Point	2.05	44	P	Pn	21 59 16.3	-1.1
GCSZ	Gaunt Creek Bo	2.21	250	P	Pn	21 59 19.6	+0.1
TMZ	Timaru	2.38	220	P	Pn	21 59 20.9	-1.0
FOZ	Fox Glacier	2.63	248	P	Pn	21 59 26.2	+0.9
LBZ	Lake Benmore	2.82	229	P	Pn	21 59 27.0	-0.9
ODZ	Otahua Downs	3.06	216	P	Pn	21 59 29.9	-1.3
PKE	Pukeiti	3.45	11	P	Pn	21 59 39.2	+2.7
MTVZ	Mangateitei	3.65	29	P	Pn	21 59 43.2	+3.9
MLZ	Mavora Lakes	4.58	231	P	Pn	21 59 51.2	-1.0
APZ	The Paps	5.62	219	P	Pn	22 00 04.6	-1.8
MKAZ	Moumakai	5.69	16	P	Pn	22 00 07.6	+0.3

VAO ***14*** *22:00:26.2±0.6, 21°.02S×70°.09W, h10km, mb4.3*
NEIC ***14*** *22:00:30.8±1.3, 21°.14S±0°.02×69°.99W±0°.03, h50km±4km, mb4.6/23, Mwr4.4/31, ML4.4(GUC), Error ellipse: s-maj=4.3km s-min=3.0km az=111.0*
NEIC ***14*** *22:00:30.8, 21°.14S×69°.99W, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=5.43; $M_{\theta\theta}$=-0.82; $M_{\phi\phi}$=-4.60; $M_{r\theta}$=1.00; $M_{r\phi}$=1.40; $M_{\theta\phi}$=1.79; Fault plane solution: M_0=5.64000×10^{15} NP1:ϕ_s=355.45000°, δ=54.01000°, λ=106.00000°. NP2:ϕ_s=149.44000°, δ=38.95000°, λ=69.22000°. Principal axes: T 5.9617, Plg75.0000°, Azm314.0000°; N -0.7051, Plg13.0000°, Azm166.0000°; P -5.2566, Plg8.0000°, Azm74.0000°.*
GUC ***14*** *22:00:31.6±0.7, 21°.15S×69°.97W, h49km±2km, ML4.4*
IDC ***14*** *22:00:34.7±1.6, 21°.05S×69°.44W, h86km±15km, mb3.6/7, mbtmp4.0/11, MS3.2/5, Error ellipse: s-maj=24.9km s-min=14.4km az=93.0*

ISC 14 22:00:30.0±0.6, 21°.13S±0°.02×70°.03W±0°.04, h48km±5km, n127, σ1§50/147, mb4.5/18, MS3.4/3, 14C-8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB02	IPOC Station P	0.23	147	Pn	Pn	22 00 39.3	+0.9
PB02				Sn	Sn	22 00 45.0	+0.6
PB02	IPOC Station P	0.23	147	⇑iP	Pn	22 00 39.6	+1.2
PB02				iS	Sn	22 00 45.6	+1.2
PATCX	Punta Patache	0.33	339		Pn	22 00 40.2	+1.0
PATCX				Sn	Sn	22 00 47.9	+2.0
PATCX	Punta Patache	0.33	339	⇑iP	Pn	22 00 40.8	+1.6
PATCX				iS	Sn	22 00 47.9	+2.0
PATCX				IAML		22 00 49.1	
	comp=E,42μm,0.3s						
PB01	IPOC Station P	0.51	81	Pn	Pn	22 00 41.1	-0.3
PB01				Sn	Sn	22 00 49.3	-0.2
PB01	IPOC Station P	0.51	81	⇓iP	Pn	22 00 41.9	+0.5
PB01				iS	Sn	22 00 49.8	+0.3
PB01				IAML		22 00 50.6	
	comp=E,75μm,0.2s						
TA01	Diego Aracena	0.58	346		Pn	22 00 43.1	+1.1
TA01				Sn	Sn	22 00 52.2	+1.5
TA01	Diego Aracena	0.58	346	⇑iP	Pn	22 00 43.2	+1.1
TA01				iS	Sn	22 00 52.4	+1.7
PB07	IPOC Station P	0.61	167	Pn	Pn	22 00 42.9	+0.3
PB07				Sn	Sn	22 00 52.2	+0.5
PB07	IPOC Station P	0.61	167	⇑iP	Pn	22 00 43.2	+0.7
PB07				iS	Sn	22 00 52.2	+0.5
PB07				IAML		22 00 53.5	
	comp=E,29μm,0.3s						
HMBC	Humberstone	0.86	9	⇑iP	Pn	22 00 47.0	+1.1
HMBC				iS	Sn	22 00 59.1	+1.7
HMBC				IAML		22 01 04.2	
	comp=N,11μm,0.5s						
TA02	Huaiquique	0.86	354		Pn	22 00 46.9	+1.2
TA02				Sn	Sn	22 00 57.1	-0.2
TA02	Huaiquique	0.86	354	⇑iP	Pn	22 00 47.0	+1.2
TA02				iS	Sn	22 00 58.9	+1.7
TA02				IAML		22 01 02.0	
	comp=N,27μm,0.1s						
PB03	IPOC Station P	0.95	164	Pn	Pn	22 00 47.9	+0.7
PB03				Sn	Sn	22 01 00.1	+0.4
PB03	IPOC Station P	0.95	164	⇑iP	Pn	22 00 47.9	+0.7
PB03				iS	Sn	22 01 00.1	+0.4
PB03				IAML		22 01 00.9	
	comp=E,15μm,0.2s						
PB09	IPOC Station P	0.99	132		Pn	22 00 48.4	+0.7
PB09				Sn	Sn	22 01 00.2	-0.5
PB09	IPOC Station P	0.99	132	⇓iP	Pn	22 00 48.7	+1.0
PB09				iS	Sn	22 01 01.5	+0.8
PB04	IPOC Station P	1.20	185	Pn	Pn	22 00 51.2	+0.6
PB04				Sn	Sn	22 01 06.4	+0.5
PB04	IPOC Station P	1.20	185	⇑iP	Pn	22 00 51.6	+1.0
PB04				iS	Sn	22 01 07.0	+1.1
PB08	IPOC Station P	1.28	40	Pn	Pn	22 00 52.8	+1.0
PB08				Sn	Sn	22 01 09.0	+1.0
PB08	IPOC Station P	1.28	40	⇓iP	Pn	22 00 53.2	+1.4
PB08				iS	Sn	22 01 09.3	+1.2
PB08				IAML		22 01 11.8	
	comp=N,8μm,0.2s						
PB11	IPOC Station P	1.41	15	Pn	Pn	22 00 54.4	+1.1
PB11				Sn	Sn	22 01 10.6	-0.2
PB11	IPOC Station P	1.41	15	⇓iP	Pn	22 00 54.6	+1.3
PB11				iS	Sn	22 01 12.6	+1.8
PB11				IAML		22 01 16.2	
	comp=E,6μm,0.3s						
PSGC	Pisagua	1.53	357	⇑iP	Pn	22 00 56.4	+1.5
PSGC				iS	Sn	22 01 15.0	+1.4
PSGCX	Pisagua	1.53	357	Pn	Pn	22 00 56.0	+1.1
PSGCX				Sn	Sn	22 01 14.8	+1.1
PB06	IPOC Station P	1.63	165	Pn	Pn	22 00 56.8	+0.5
PB06	IPOC Station P	1.63	165	⇓iP	Pn	22 00 57.6	+1.3
PB06				iS	Sn	22 01 17.8	+1.6
PB06				IAML		22 01 20.4	
	comp=E,3μm,0.5s						
GO01	Chusmiza	1.65	28	Pn	Pn	22 00 58.6	+1.6
GO01	Chusmiza	1.65	28	⇑iP	Pn	22 00 58.9	+1.9
GO01				iS	Sn	22 01 19.4	+2.1
GO01				IAML		22 01 23.9	
	comp=E,11μm,0.1s						
LVC	Limon Verde	1.80	145	P	Pn	22 01 00.9	+1.9
	comp=E,353nm,0.3s,baz=352,slow=8.6,SNR=1538						
LVC				S	Sn	22 01 23.3	+2.5
	comp=E,2μm,0.3s,baz=124,slow=23,SNR=17						
LVC	Limon Verde	1.80	145	Pn	Pn	22 01 01.1	+2.1
LVC	Limon Verde	1.80	145	⇓iP	Pn	22 01 01.1	+2.1
LVC				iS	Sn	22 01 22.2	+1.4
MNMC	Minye Minye	2.03	12	Pn	Pn	22 01 03.6	+1.6
MNMC	Minye Minye	2.03	12	⇑iP	Pn	22 01 03.9	+2.0
MNMC				iS	Sn	22 01 28.2	+1.9
MNMC				IAML		22 01 44.2	
	comp=E,5μm,0.4s						
PB15	IPOC Station P	2.13	166	Pn	Pn	22 01 04.4	+1.1
PB15	IPOC Station P	2.13	166	⇓iP	Pn	22 01 04.6	+1.2
PB15				iS	Sn	22 01 32.2	+3.4
PB10	IPOC Station P	2.42	191	Pn	Pn	22 01 07.2	+0.1
PB10	IPOC Station P	2.42	191	⇓iP	Pn	22 01 07.5	-0.1
AF01	San Pedro de A	2.50	137	⇑iP	Pn	22 01 12.2	+3.7
AF01				iS	Sn	22 01 45.4	+7.5
AF01				IAML		22 01 56.2	
	comp=E,6μm,0.4s						
PB12	IPOC Station P	2.52	354	Pn	Pn	22 01 09.5	+1.0
PB12	IPOC Station P	2.52	354	⇑iP	Pn	22 01 09.8	+1.3
PB12				iS	Sn	22 01 38.2	+0.2
PB12				IAML		22 01 47.5	
	comp=E,1μm,0.3s						
AP01	Chacalluta	2.76	354	Pn	Pn	22 01 13.6	+1.9
PB16	IPOC Station P	2.82	10	Pn	Pn	22 01 15.2	+2.0
PB16	IPOC Station P	2.82	10	⇑iP	Pn	22 01 15.3	+2.2
PB16				IAML		22 02 00.9	
	comp=N,764nm,0.2s						
PB14	IPOC Station P	3.50	186		Pn	22 01 23.5	+1.3
GO02	Mina Guanaco	4.04	174	Pn	Pn	22 01 30.2	+0.6
AC01	Pan de Azucar	5.02	186	Pn	Pn	22 01 41.5	-1.3
LPAZ	La Paz	5.14	21	P	Pn	22 01 48.1	+3.1
	comp=N,11nm,0.5s,baz=182,slow=7.5,SNR=43						
LPAZ	La Paz	5.14	21	Pn	Pn	22 01 49.8	+4.8
AC02	Maricunga	5.74	172	Pn	Pn	22 01 54.1	+1.0
AC06	Mina Casimiro	6.21	183	Pn	Pn	22 01 59.0	-0.1
AC04	Llanos de Chal	7.11	187	Pn	Pn	22 02 11.8	+0.4
SIV	San Ignacio	9.91	60	P	Pn	22 02 45.7	-4.2
	comp=N,4.5nm,0.4s,baz=213,slow=8.2,SNR=27						
SIV				LR	LR	22 07 16.8	
	comp=N,69nm,21.2s,baz=280,slow=43						
PTLB	Pontes e Lacer	11.79	63	Pn	Pn	22 03 15.2	-0.3
ETMB	Extrema	11.83	19	Pn	Pn	22 03 15.4	-0.8
ETMB	Extrema	11.83	19	eP	Pn	22 03 15.3	-0.8
MT02	Curacav	12.12	184	Pn	Pn	22 03 20.8	+0.7
VILB	Vilhena	12.42	51	Pn	Pn	22 03 24.0	-0.2
CPUP	Villa Florida	12.73	116	P	Pn	22 03 26.8	-1.6
	comp=N,3.1nm,1.1s,baz=58,slow=20,SNR=2.9						
CPUP				LR	LR	22 09 23.3	
	comp=N,54nm,18.9s,baz=264,slow=43						
H03N1	Juan Fernandez	14.57	211	T	T	22 19 06.8	
	baz=34,slow=72,SNR=315						
H03N2	Juan Fernandez	14.58	211	T	T	22 19 08.1	
	baz=34,slow=72,SNR=261						
H03N3	Juan Fernandez	14.59	211	T	T	22 19 05.0	
	baz=34,slow=72,SNR=284						
CRSM	Crissiumal (Br	15.88	117	eP	P	22 04 13.3	0.0
FRBT	Francisco Belt	16.29	110	eP	Pn	22 04 17.3	+

comp=Z,4.4nm,1.2s
L56A Greenwood 63.33 354 P **P** **22 10 55.0 +0.9**
F64A Sherman 66.69 1 P **P** **22 11 16.4 +0.7**
TRQ Mont Tremblant 67.16 357 P **P** **22 11 19.2 +0.5**
TRQ IAmb IAmb 22 11 19.9
comp=Z,6.2nm,0.8s
D62A Allapoint, All 67.90 1 P **P** **22 11 23.8 +0.4**
D62A IAmb IAmb 22 11 46.8
comp=Z,12nm,1.2s
BATG Bathurst New B 68.18 3 P **P** **22 11 25.2 +0.1**
BATG IAmb IAmb 22 12 07.0
comp=Z,8.7nm,1.2s
DBIC Dimbokro 69.63 74 P P 22 11 30.7 -4.2
comp=Z,1.4nm,0.5s,baz=263,slow=7.1,SNR=4.0
comp=Z,1.4nm,0.5s
DBIC Dimbokro 69.63 74 P **P** **22 11 33.7 -1.2**
DBIC IAmb IAmb 22 12 03.6
comp=Z,12nm,1.4s
B35A Bob, Littlefor 72.36 344 P **P** **22 11 50.6 0.0**
B35A IAmb IAmb 22 11 54.8
comp=Z,11nm,1.5s
PDAR Pinedale Array 73.27 331 P **P** **22 11 57.8 +1.3**
comp=Z,0.2nm,0.4s,baz=112,slow=4.0,SNR=1.8
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 74.56 323 P **P** **22 12 05.8 +1.7**
comp=Z,0.5nm,0.7s,baz=150,slow=9.3,SNR=4.1
comp=Z,0.5nm,0.7s
TOA0 Torodi Ar. Sit 78.22 71 P **P** **22 12 22.4 -2.7**
TORD Torodi Ar. Bea 78.22 71 P **P** **22 12 22.5 -2.6**
comp=Z,2.1nm,0.5s,baz=253,slow=5.5,SNR=20
comp=Z,2.1nm,0.5s
YKA Yellowknife Ar 90.50 341 P **P** **22 13 26.3 +0.1**
comp=Z,1.4nm,0.8s,baz=149,slow=4.2,SNR=3.3
comp=Z,1.4nm,0.8s
H11S2 WAKE ISLAND Hyl 26.79 278 T T 00 38 55.1
baz=103,slow=74,SNR=118
H11S1 WAKE ISLAND Hyl 26.80 278 T T 00 38 55.8
baz=103,slow=74,SNR=82
H11S3 WAKE ISLAND Hyl 26.81 278 T T 00 38 56.3
baz=103,slow=74,SNR=66
H11N3 WAKE ISLAND Hyl 26.87 279 T T 00 39 03.1
baz=102,slow=75,SNR=34
H11N2 WAKE ISLAND Hyl 26.88 279 T T 00 39 13.7
baz=102,slow=75,SNR=33
H11N1 WAKE ISLAND Hyl 26.89 279 T T 00 38 57.6
baz=102,slow=75,SNR=29
ZALV Zalesovo Beam 142.05 24 PKP **PKPdf** **22 19 55.8 -0.7**
comp=Z,1.2nm,0.6s,baz=323,slow=3.3,SNR=6.3
KSH Kashi 145.67 50 PKPbc **PKPab** **22 20 05.3 +1.0**
KSH pPKP pPKPdf 22 20 14.3 -4.1
KSH sPKP 22 20 20.4
MKAR Makanchi Array 145.94 35 PKPbc **PKPdf** **22 20 03.7 +0.1**
comp=Z,2.9nm,0.8s,baz=320,slow=3.1,SNR=25
SONM Songino Array 153.20 5 PKP **PKPdf** **22 20 15.2 0.0**
comp=Z,0.5nm,0.9s,baz=20,slow=4.6,SNR=2.7
SONM PKPbc **PKPbc** **22 20 22.7 0.0**
comp=Z,0.8nm,0.9s,baz=359,slow=2.7,SNR=4.8
PZH PanZhiHua 170.76 53 PKP **PKPdf** **22 20 32.8 -0.8**

WEL 14 22:16:34.3±0.3, 43°S±2°×17°3E±°, h8km±2km, M3.4/26, ML3.6/17, MLv3.4/26, Error ellipse: s-maj=0.0km s-min=0.0km az=116.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**169**	P	Pg	22 16 41.9	+0.6
GVZ				S	Sb	22 16 47.7	-0.9
KHZ	**Kahutara**	**0.48**	**65**	P	Pg	22 16 44.1	+0.5
KHZ				S	Sb	22 16 51.2	-1.1
LTZ	**Lake Taylor**	**0.52**	**252**	P	Pg	22 16 44.9	+0.5
LTZ				S	Sb	22 16 52.6	-1.0
AMCZ	**Amberley**	**0.60**	**201**	P	Pb	22 16 46.8	-0.2
AMCZ				S	Sb	22 16 55.8	+0.2
THZ	**Tophouse**	**0.86**	**358**	P	Pg	22 16 50.7	0.0
OXZ	**Oxford**	**0.97**	**223**	P	Pg	22 16 52.7	-0.2
MQZ	**McQueen's Vall**	**1.11**	**191**	P	Pg	22 16 54.1	-1.4
OKCZ	**Okains Bay**	**1.11**	**176**	P	Pg	22 16 54.6	-0.9
INZ	**Inchbonnie**	**1.11**	**264**	P	Pb	22 16 56.0	+0.2
BSWZ	**Blackbirch Sta**	**1.14**	**38**	P	Pb	22 16 56.3	+0.1
DSZ	**Denniston Nort**	**1.22**	**315**	P	Pn	22 16 57.8	+0.1
MRNZ	**Matariki Terra**	**1.23**	**353**	P	Pb	22 16 57.6	-0.1
AKCZ	**Akaroa Harbour**	**1.25**	**181**	P	Pn	22 16 56.2	-2.0
RACZ	**Rakaia**	**1.25**	**208**	P	Pn	22 16 56.4	-1.8
TUWZ	**Tuamarina**	**1.40**	**32**	P	Pn	22 16 59.9	-0.3
NNZ	**Nelson**	**1.44**	**13**	P	Pb	22 17 01.1	-0.3
WACZ	**Wakanui South**	**1.55**	**211**	P	Pn	22 17 00.7	-1.5
TKNZ	**Takaka Hill**	**1.58**	**0**	P	Pn	22 17 03.1	+0.4
WVZ	**Waitaha Valley**	**1.69**	**254**	P	Pn	22 17 04.1	0.0
TCW	**Tory Channel**	**1.72**	**36**	P	Pn	22 17 04.4	-0.2
RPZ	**Rata Peaks**	**1.76**	**231**	P	Pn	22 17 03.9	-1.3
QRZ	**Quartz Range**	**1.82**	**350**	P	Pb	22 17 07.1	-0.7
ARCZ	**Arundel**	**1.85**	**224**	P	Pn	22 17 04.8	-1.6
DUWZ	**D'Urville Isla**	**1.96**	**22**	P	Pn	22 17 09.0	+1.2
GCSZ	**Gaunt Creek Bo**	**2.04**	**249**	P	Pn	22 17 09.2	+0.2
TMZ	**Timaru**	**2.26**	**218**	P	Pn	22 17 10.5	-1.5
FOZ	**Fox Glacier**	**2.47**	**247**	P	Pn	22 17 15.1	+0.3
LBZ	**Lake Benmore**	**2.67**	**228**	P	Pn	22 17 16.5	-1.2
ODZ	**Otahua Downs**	**2.94**	**214**	P	Pn	22 17 19.4	-1.9
PKE	**Pukeiti**	**3.51**	**13**	P	Pn	22 17 32.3	+3.0
HHSZ	**Highcliff Hill**	**3.67**	**207**	P	Pn	22 17 29.4	-2.0
EAZ	**Earnscleugh**	**3.70**	**224**	P	Pn	22 17 30.0	-1.9
BHHZ	**Black Hill Sta**	**3.92**	**38**	P	Pb	22 17 41.6	-2.0
MKAZ	**Moumakai**	**5.77**	**18**	P	Pn	22 18 00.8	+0.6

WEL 14 22:18:40.4±0.4, 42°S±2°×17°4E±°, h5km, M3.3/12, ML3.6/12, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=131.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**232**	P	Pg	22 18 47.2	+0.6
KHZ				S	Sb	22 18 52.7	-1.3
BSWZ	**Blackbirch Sta**	**0.50**	**0**	P	Pg	22 18 50.2	+0.2
BSWZ				S	Sg	22 18 57.9	+1.3
TUWZ	**Tuamarina**	**0.79**	**4**	P	Pg	22 18 55.5	-0.1
TUWZ				S	Sb	22 19 07.2	-0.4
THZ	**Tophouse**	**0.85**	**302**	P	Pg	22 18 56.5	-0.3
THZ				S	Sg	22 19 08.0	+0.2
GVZ	**Greta Valley S**	**0.97**	**219**	P	Pb	22 19 00.2	+0.4
GVZ				S	Sn	22 19 14.9	0.0
NNZ	**Nelson**	**1.07**	**339**	P	Pg	22 18 59.7	-1.2
NNZ				S	Sg	22 19 14.4	-0.3
BHW	**Baring Head**	**1.10**	**43**	P	Pg	22 19 00.7	-0.8
BHW				S	Sb	22 19 16.3	-0.2
MRNZ	**Matariki Terra**	**1.17**	**314**	P	Pg	22 19 02.5	-0.3
MRNZ				S	Sn	22 19 19.4	-0.3
LTZ	**Lake Taylor**	**1.31**	**244**	P	Pg	22 19 04.8	-0.6
LTZ				S	Sg	22 19 22.2	-0.4
TKNZ	**Takaka Hill**	**1.37**	**330**	P	Pn	22 19 05.6	-0.6
TKNZ				S	Sb	22 19 23.9	-0.4
CAW	**Cannon Point**	**1.43**	**39**	P	Pn	22 19 04.5	-2.5
CAW				S	Sg	22 19 27.0	+0.9
KIW	**Kapiti Island**	**1.56**	**30**	P	Pn	22 19 08.7	-0.2
KIW				S	Sn	22 19 29.3	-0.2
DSZ	**Denniston Nort**	**1.61**	**286**	P	Pn	22 19 10.1	+0.5
DSZ				S	Sg	22 19 33.6	+1.3
OGWZ	**Otaki Gorge**	**1.71**	**35**	P	Pn	22 19 10.9	+0.1
OGWZ				S	Sn	22 19 32.6	-0.3
QRZ	**Quartz Range**	**1.72**	**324**	P	Pn	22 19 11.4	+0.4
QRZ				S	Sg	22 19 35.8	+0.2
RACZ	**Rakaia**	**1.97**	**220**	P	Pn	22 19 13.0	-1.4
RPZ	**Rata Peaks**	**2.55**	**233**	P	Pn	22 19 20.3	-2.1

WEL 14 22:26:15.4±0.4, 42°S±3°×17°4E±°, h5km, M3.7/16, ML3.8/16, MLv3.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=160.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**54**	P	Pg	22 26 19.1	+0.9
CMWZ				S	Sg	22 26 23.1	+3.1
BSWZ	**Blackbirch Sta**	**0.18**	**309**	P	Pg	22 26 19.5	+0.5
BSWZ				S	Sg	22 26 23.1	+1.7
TUWZ	**Tuamarina**	**0.41**	**347**	P	Pg	22 26 23.7	+0.3
TUWZ				S	Sg	22 26 30.0	+1.3
TCW	**Tory Channel**	**0.64**	**14**	P	Pg	22 26 27.5	-0.2
TCW				S	Sg	22 26 36.8	+0.9
KHZ	**Kahutara**	**0.71**	**214**	P	Pg	22 26 28.8	-0.1
KHZ				S	Sb	22 26 40.5	+0.3
WEL	**Wellington**	**0.76**	**44**	P	Pg	22 26 30.2	+0.2
WEL				S	Sb	22 26 42.6	+1.0
NNZ	**Nelson**	**0.80**	**320**	P	Pg	22 26 30.5	-0.3
NNZ				S	Sg	22 26 41.9	+0.8
THZ	**Tophouse**	**0.87**	**274**	P	Pg	22 26 32.0	-0.1
THZ				S	Sg	22 26 43.8	+0.3
PLWZ	**Palliser**	**0.93**	**74**	P	Pg	22 26 32.7	-0.4
MSWZ	**Moikau Station**	**0.98**	**65**	P	Pg	22 26 33.6	-0.6
MSWZ				S	Sb	22 26 48.2	+0.1
DUWZ	**D'Urville Isla**	**1.03**	**354**	P	Pg	22 26 34.7	-0.5
DUWZ				S	Sb	22 26 49.1	-0.5
CAW	**Cannon Point**	**1.04**	**47**	P	Pb	22 26 35.0	-0.4
CAW				S	Sb	22 26 49.9	+0.1
MRNZ	**Matariki Terra**	**1.07**	**293**	P	Pg	22 26 35.9	0.0
MRNZ				S	Sb	22 26 50.8	+0.1
TKNZ	**Takaka Hill**	**1.15**	**313**	P	Pg	22 26 36.8	-0.7
TKNZ				S	Sb	22 26 52.9	-0.1
KIW	**Kapiti Island**	**1.16**	**34**	P	Pg	22 26 36.8	-0.8
MTW	**Mount Morrison**	**1.27**	**59**	P	Pg	22 26 37.3	-2.4
OGWZ	**Otaki Gorge**	**1.31**	**40**	P	Pn	22 26 38.8	-1.6
OGWZ				S	Sg	22 26 56.3	-1.2
GVZ	**Greta Valley S**	**1.37**	**214**	P	Pn	22 26 39.3	-1.9
QRZ	**Quartz Range**	**1.53**	**310**	P	Pn	22 26 43.2	-0.2
TMWZ	**Te Maipa**	**1.55**	**63**	P	Pn	22 26 40.8	-2.8
MRZ	**Mangatainoka R**	**1.63**	**45**	P	Pn	22 26 42.8	-2.0
DSZ	**Denniston Nort**	**1.69**	**272**	P	Pn	22 26 45.6	0.0
DSZ				S	Sg	22 27 09.3	-0.5
AMCZ	**Amberley**	**1.71**	**217**	P	Pb	22 26 47.5	+0.2
PRWZ	**Pori Road**	**1.92**	**49**	P	Pn	22 26 46.9	-1.9
POWZ	**Post Office Ro**	**1.93**	**42**	P	Pn	22 26 47.1	-1.8
OKCZ	**Okains Bay**	**2.03**	**201**	P	Pn	22 26 47.2	-3.1
OXZ	**Oxford**	**2.12**	**224**	P	Pn	22 26 48.8	-2.7
INZ	**Inchbonnie**	**2.14**	**244**	P	Pn	22 26 51.5	-0.3
DVHZ	**Dannevirke**	**2.20**	**47**	P	Pb	22 26 54.6	-1.1
TSZ	**Takapari Road**	**2.28**	**40**	P	Pn	22 26 51.7	-2.0
MOVZ	**Moawhango**	**2.74**	**28**	P	Pb	22 27 04.1	-0.9
WVZ	**Waitaha Valley**	**2.76**	**242**	P	Pn	22 27 00.9	+0.6
PXZ	**Pawanui**	**2.78**	**51**	P	Pn	22 27 02.2	+1.7
BHHZ	**Black Hill Sta**	**2.79**	**34**	P	Pb	22 27 04.8	-0.9
RPZ	**Rata Peaks**	**2.91**	**229**	P	Pn	22 27 00.1	-2.3
OTVZ	**Oturere**	**2.93**	**25**	P	Pb	22 27 06.4	-1.8
WTVZ	**West Tongariro**	**2.95**	**24**	P	Pb	22 27 07.7	-0.8
ETVZ	**East Tongariro**	**2.97**	**26**	P	Pb	22 27 08.0	-0.8
KRVZ	**Karewarewa**	**2.98**	**24**	P	Pb	22 27 08.4	-0.7
TMVZ	**Te Maari**	**2.98**	**25**	P	Pb	22 27 07.5	-1.6
NTVZ	**North Tongariro**	**2.99**	**25**	P	Pn	22 27 04.3	+0.7
MHGZ	**Mahia Peninsul**	**3.96**	**49**	P	Pb	22 27 22.0	-3.8
RUGZ	**Raukumara Rang**	**4.75**	**37**	P	Pn	22 27 27.3	-0.6

WEL 14 22:27:13.3±0.5, 43°S±2°×17°4E±°, h5km, M4.3/20, ML4.5/20, MLv4.3/20, Error ellipse: s-maj=0.0km s-min=0.0km az=113.3
IDC 14 22:27:15.0±1.4, 42°52S×173°68E, h0km, mb4.0/4, mbtmp4.0/5, ML4.1/1, MS3.5/6, Error ellipse: s-maj=39.1km s-min=28.6km az=133.0
ISC 14 22:27:15.0±1.5, 42°54S±0°03×173°93E±0°05, h6km±9km, n55, σ1°38/64, mb4.1/4, MS3.5/6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**293**	P	**Pg**	**22 27 21.2**	**+0.1**
KHZ				S	**Sg**	**22 27 26.4**	**+1.2**
GVZ	**Greta Valley S**	**0.79**	**237**	P	**Pg**	**22 27 31.9**	**+1.9**
GVZ				S	**Sb**	**22 27 42.0**	**0.0**
CMWZ	**Cape Campbell**	**0.82**	**15**	P	**Pg**	**22 27 31.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.83**	**357**	P	Pg	22 27 29.4	-1.4
THZ	**Tophouse**	**1.09**	**315**	P	**Pg**	**22 27 35.0**	**-0.9**
THZ				S	**Sb**	**22 27 51.3**	**+0.6**
TUWZ	**Tuamarina**	**1.11**	**1**	P	Pb	22 27 34.5	-2.1
TUWZ				S	**Sg**	**22 27 50.1**	**-0.5**
AMCZ	**Amberley**	**1.14**	**235**	P	**Pg**	**22 27 37.9**	**+1.2**
LTZ	**Lake Taylor**	**1.25**	**258**	P	**Pb**	**22 27 38.0**	**-0.9**
LTZ				S	**Sn**	**22 27 58.0**	**+1.8**
OKCZ	**Okains Bay**	**1.34**	**208**	P	**Pn**	**22 27 39.3**	**-1.0**
TCW	**Tory Channel**	**1.35**	**11**	P	Pn	22 27 36.6	-3.8
TCW				S	**Sb**	**22 27 57.9**	**-0.5**
NNZ	**Nelson**	**1.38**	**343**	P	**Pn**	**22 27 39.5**	**-1.4**
NNZ				S	**Sb**	**22 27 57.6**	**-1.6**
WEL	**Wellington**	**1.40**	**27**	P	Pn	22 27 37.7	-3.4
MRNZ	**Matariki Terra**	**1.44**	**322**	P	**Pn**	**22 27 40.4**	**-1.2**
MRNZ				S	**Sb**	**22 28 01.2**	**+0.5**
MQZ	**McQueen's Vall**	**1.49**	**218**	P	**Pn**	**22 27 41.4**	**-1.0**
MQZ				S	**Sn**	**22 28 01.1**	**-1.1**
MSWZ	**Moikau Station**	**1.49**	**42**	P	Pn	22 27 38.3	-4.1
AKCZ	**Akaroa Harbour**	**1.53**	**209**	P	**Pn**	**22 27 42.2**	**-0.6**
AKCZ				S	**Sn**	**22 28 02.9**	**-0.1**
OXZ	**Oxford**	**1.59**	**240**	P	**Pn**	**22 27 42.6**	**-1.2**
OXZ				S	**Sn**	**22 28 03.6**	**-1.2**
CAW	**Cannon Point**	**1.67**	**31**	P	Pn	22 27 41.3	-3.5
CAW				S	Sn	22 28 01.9	-4.5
TKNZ	**Takaka Hill**	**1.67**	**334**	P	**Pn**	**22 27 43.8**	**-1.1**
TKNZ				S	**Sn**	**22 28 07.5**	**+0.9**
DUWZ	**D'Urville Isla**	**1.74**	**360**	P	**Pn**	**22 27 44.4**	**-1.4**
DUWZ				S	**Sn**	**22 28 07.7**	**-0.6**
TRWZ	**Traveller**	**1.74**	**50**	P	Pn	22 27 41.9	-3.8
RACZ	**Rakaia**	**1.77**	**227**	P	**Pn**	**22 27 45.0**	**-1.2**
RACZ				S	**Sn**	**22 28 07.4**	**-1.5**
DSZ	**Denniston Nort**	**1.77**	**296**	P	**Pn**	**22 27 46.7**	**+0.5**
DSZ				S	**Sg**	**22 28 10.6**	**-1.2**
INZ	**Inchbonnie**	**1.84**	**263**	P	**Pn**	**22 27 47.5**	**+0.3**
QRZ	**Quartz Range**	**2.01**	**328**	P	**Pn**	**22 27 49.1**	**-0.4**
QRZ				S	**Sn**	**22 28 16.9**	**+1.9**
WACZ	**Wakanui South**	**2.07**	**227**	P	**Pn**	**22 27 49.4**	**-0.9**
WACZ				S	**Sn**	**22 28 16.0**	**-0.5**
WVZ	**Waitaha Valley**	**2.41**	**256**	P	**Pn**	**22 27 54.9**	**0.0**
WVZ				S	**Sn**	**22 28 22.9**	**-1.8**
RPZ	**Rata Peaks**	**2.41**	**240**	Pn	**Pn**	**22 27 53.5**	**-1.5**
	52nm,0.3s,baz=120,slow=4.2,SNR=16						
RPZ				Sn	**Sn**	**22 28 23.4**	**-1.5**
	65nm,0.3s,baz=340,slow=22,SNR=12						
	102nm,0.3s						
RPZ	**Rata Peaks**	**2.41**	**240**	P	**Pn**	**22 27 53.7**	**-1.3**
RPZ				S	**Sn**	**22 28 21.8**	**-3.1**
ARCZ	**Arundel**	**2.45**	**234**	P	**Pn**	**22 27 54.8**	**-0.8**
ARCZ				S	**Sn**	**22 28 24.5**	**-1.4**
GCSZ	**Gaunt Creek Bo**	**2.76**	**252**	P	**Pn**	**22 28 02.4**	**+2.7**
TMZ	**Timaru**	**2.81**	**228**	P	**Pn**	**22 27 59.8**	**-0.7**
FOZ	**Fox Glacier**	**3.17**	**250**	P	**Pb**	**22 28 10.9**	**-0.9**
LBZ	**Lake Benmore**	**3.29**	**235**	P	**Pn**	**22 28 07.9**	**+0.8**
ODZ	**Otahua Downs**	**3.45**	**222**	P	**Pn**	**22 28 08.6**	**-0.8**
HHSZ	**Highcliff Hill**	**4.11**	**214**	P	**Pn**	**22 28 17.7**	**-0.6**
EAZ	**Earnscleugh**	**4.29**	**230**	P	**Pn**	**22 28 20.0**	**-0.8**
SYZ	**Scrubby Hill**	**5.26**	**219**	P	**Pn**	**22 28 34.1**	**0.0**
AWAZ	**Awhitu Peninsu**	**5.50**	**6**	P	**Pn**	**22 28 36.4**	**-1.0**
MKAZ	**Moumakai**	**5.51**	**10**	P	Pn	22 28 35.9	-1.7
APZ	**The Paps**	**6.03**	**223**	P	**Pn**	**22 28 44.3**	**-0.4**
APZ				S	**Sn**	**22 29 51.4**	**-2.6**
RAO	**Raoul Island**	**14.80**	**29**	LR	LR	22 36 27.8	
	comp=Z,272nm,18.6s,baz=335,slow=37						
DZM	**Mont Dzumac**	**21.35**	**341**	P	**P**	**22 32 03.3**	**+0.3**
	9.6nm,1.1s,baz=67,slow=17,SNR=3.6						
DZM				LR	LR	22 38 50.4	
	comp=Z,78nm,21.2s,baz=210,slow=33						
	9.6nm,1.1s						
CTA	**Charters Tower**	**32.31**	**305**	LR	LR	22 46 54.3	
	comp=Z,61nm,18.7s,baz=84,slow=37						
HNR	**Honiara**	**35.19**	**336**	LR	LR	22 47 43.5	
	comp=Z,1μm,18.7s,baz=197,slow=35						
ASAR	**Alice Springs**	**38.02**	**287**	P	**P**	**22 34 34.5**	**+0.4**
	0.6nm,0.7s,baz=135,slow=9.2,SNR=5.6						
ASAR				PcP	**PcP**	**22 36 49.4**	**-0.2**
	0.3nm,0.6s,baz=134,slow=5.3,SNR=2.6						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**40.16**	**292**	P	**P**	**22 34 50.6**	**-1.5**
	3.1nm,0.8s,baz=133,slow=7.4,SNR=16						
	3.1nm,0.8s						
KRVT	**Keravat (AS076**	**42.77**	**327**	LR	LR	22 52 46.4	
	comp=Z,61nm,18.4s,baz=278,slow=36						
NWAO	**Narrogin (SRO)**	**45.11**	**263**	LR	LR	22 50 48.9	
	comp=Z,53nm,19.6s,baz=28,slow=32						
MAW	**Mawson**	**58.64**	**205**	LR	LR	23 00 31.0	
	comp=Z,52nm,20.3s,baz=122,slow=34						
CMAR	**Chiang Mai Arr**	**91.73**	**293**	P	**P**	**22 40 22.6**	**-1.0**
	0.7nm,0.7s,baz=155,slow=3.0,SNR=6.9						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**124.31**	**310**	PKP	**PKPdf**	**22 46 14.7**	**+0.6**
	0.5nm,0.4s,baz=118,slow=1.9,SNR=1.3						
TORD	**Torodi Ar. Bea**	**149.95**	**195**	PKPbc	**PKPdf**	**22 47 07.0**	**+5.2**
	0.9nm,0.9s,baz=175,slow=1.6,SNR=3.7						
BRTR	**Keskin Array B**	**150.15**	**278**	PKPbc	**PKPbc**	**22 47 08.2**	**+1.5**
	1.9nm,0.9s,baz=91,slow=1.0,SNR=8.2						
FINES	**FINESS Array B**	**153.06**	**326**	PKPbc	**PKPbc**	**22 47 12.2**	**-0.2**
	1.6nm,0.8s,baz=70,slow=1.6,SNR=1.5						

IDC 14 22:43:09.5±1.9, 43°87N×105°57W, h0km, mbtmp3.4/2, ML3.3/2, Error ellipse: s-maj=55.6km s-min=11.9km az=151.0
NEIC 14 22:43:10.0±1.7, 43°69N±0°05×105°22W±0°06, h0km±1km, ML3.0/38, Error ellipse: s-maj=10.4km s-min=4.2km az=318.0
ISC 14 22:43:08.9±1.3, 43°69N±0°06×105°16W±0°07, h0km, n57, σ0°83/56, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**62**	Pg	**Pn**	**22 43 28.6**	**-0.7**
K22A	**Casper**	**1.44**	**224**	Pn	**Pn**	**22 43 34.6**	**-1.8**
PHWY	**Pilot Hill**	**2.40**	**185**	Pn	**Pn**	**22 43 50.1**	**+0.4**
PHWY				IAML		22 44 23.8	
	64nm,0.5s						
RWWY	**Rawlins**	**2.51**	**218**	Pn	**Pn**	**22 43 51.4**	**+0.3**
RWWY				IAML		22 44 28.0	
	94nm,0.7s						
N23A	**Red Feather La**	**2.85**	**192**	Pn	**Pn**	**22 43 57.4**	**+1.4**
N23A				IAML		22 44 45.1	
	comp=E,55nm,0.7s						
PD31	**Pinedale Array**	**3.34**	**255**	Pn	**Pn**	**22 44 02.9**	**+0.3**
PDAR	**Pinedale Array**	**3.34**	**255**	Pn	**Pn**	**22 44 03.0**	**+0.4**
	comp=E,3.1nm,0.3s,baz=75,slow=17,SNR=35						
PDAR				Lg	Lg	22 44 47.1	
	comp=E,8.2nm,0.3s,baz=78,slow=34,SNR=3.5						
	comp=E,2.3nm,0.3s						
PDAR	**Pinedale Array**	**3.34**	**255**	Pn	**Pn**	**22 44 02.9**	**+0.3**
BW06	**Boulder Array**	**3.34**	**255**	Pn	**Pn**	**22 44 02.1**	**-0.5**
OGNE	**Ogallala**	**3.59**	**139**	Pn	**Pn**	**22 44 06.1**	**+0.1**
YMP	**Mirror Lake Pl**	**3.74**	**288**	Pn	**Pn**	**22 44 08.2**	**+0.1**
YMP				IAML		22 45 14.4	
	comp=N,33nm,0.5s						
GCMT	**Greycliff**	**3.83**	**305**	Pn	**Pn**	**22 44 10.5**	**+1.2**
MOOW	**Moose Ponds**	**4.05**	**273**	Pn	**Pn**	**22 44 13.9**	**+1.6**
REDW	**Red Top Meadow**	**4.15**	**267**	Pn	**Pn**	**22 44 13.8**	**+0.1**
REDW				IAML		22 45 06.5	
	comp=N,20nm,4.6s						
IMW	**Indian Meadow**	**4.19**	**275**	Pn	**Pn**	**22 44 14.7**	**+0.5**
IMW				IAML		22 45 44.0	
	comp=N,11nm,0.7s						
TPAW	**Teton Pass**	**4.21**	**269**	Pn	**Pn**	**22 44 16.0**	**+1.4**
TPAW				IAML		22 45 43.3	
	comp=N,15nm,3.9s						
TPAW				IAML		22 45 49.8	
	comp=N,21nm,5.0s						
FXWY	**Fox Creek**	**4.25**	**271**	Pn	**Pn**	**22 44 15.7**	**+0.6**
FXWY				IAML		22 45 33.4	
	comp=N,12nm,4.3s						
AHID	**Auburn Hatcher**	**4.44**	**260**	Pn	**Pn**	**22 44 17.2**	**-0.4**
AHID				IAML		22 44 59.5	
	comp=N,14nm,4.4s						
AHID				IAML		22 45 32.2	
	comp=N,12nm,1.2s						
YHL	**Hebgen Lake**	**4.47**	**287**	Pn	**Pn**	**22 44 18.0**	**-0.3**
YHL				IAML		22 45 44.7	
	comp=E,19nm,1.6s						
SMCO	**Snowmass**	**4.71**	**197**	Pn	**Pn**	**22 44 22.2**	**+0.6**
SMCO				IAML		22 44 56.1	
	comp=E,14nm,4.4s						
Q24A	**Divide**	**4.72**	**180**	Pn	**Pn**	**22 44 22.1**	**+0.4**
Q24A				IAML		22 45 39.0	
	comp=N,15nm,0.5s						
BOZ	**Bozeman (W)**	**4.99**	**295**	Pn	**Pn**	**22 44 25.8**	**+0.6**
BOZ				IAML		22 45 31.2	
	comp=N,12nm,4.8s						
BOZ				IAML		22 46 37.3	
	comp=N,12nm,4.9s						
HWUT	**Hardware Ranch**	**5.16**	**248**	Pn	**Pn**	**22 44 27.9**	**+0.3**
HWUT				IAML		22 45 42.7	
	comp=N,11nm,5.0s						
HWUT				IAML		22 46 10.7	
	comp=N,11nm,2.5s						
P18A	**Preston Nutter**	**5.56**	**225**	Pn	**Pn**	**22 44 34.0**	**+0.7**
CTU	**Camp Tracy**	**5.74**	**241**	Pn	**Pn**	**22 44 35.8**	**+0.3**
PV22	**Blue Mesa, Par**	**5.83**	**209**	Pn	**Pn**	**22 44 38.3**	**+1.4**
PV07	**Paradox Valley**	**5.87**	**208**	Pn	**Pn**	**22 44 38.6**	**+1.2**
PV21	**Cone Mtn., Par**	**5.88**	**211**	Pn	**Pn**	**22 44 38.3**	**+0.8**
SPUT	**South Promonto**	**5.89**	**249**	Pn	**Pn**	**22 44 38.0**	**+0.5**
HVU	**Hansel Valley**	**5.92**	**254**	Pn	**Pn**	**22 44 38.2**	**+0.2**
P17A	**Butcher Ranch,**	**5.94**	**227**	Pn	**Pn**	**22 44 38.2**	**0.0**

ASAR Alice Springs 17.86 170 P Pn 22 47 34.5 +0.1
KKM Kota Kinabalu 18.69 310 P P 22 47 43.0 +0.9
KKM IAmb IAmb 22 47 51.5
comp=Z,29nm,1.2s
WRKA Warakurna 19.06 186 P P 22 47 46.5 +0.4
STKA Stephens Creek 27.73 160 P P 22 49 09.8 +0.2
comp=Z,0.8nm,0.4s,baz=332,slow=10,SNR=3.5
comp=Z,0.8nm,0.4s
STKA Stephens Creek 27.73 160 P P 22 49 10.0 +0.4
STKA IAmb IAmb 22 49 48.1
comp=Z,2.3nm,1.5s
YULB Yu-li 30.59 343 P P 22 49 38.1 +3.1
CMAR Chiang Mai Arr 39.56 309 P P 22 50 49.6 -2.3
comp=Z,1.1nm,0.3s,baz=132,slow=6.7,SNR=1.5
comp=Z,1.1nm,0.3s
MK31 Makanchi Array 67.72 326 P 22 54 17.8 +1.4
MK31 IAmb IAmb 22 54 18.7
comp=Z,2.6nm,0.9s
MKAR Makanchi Array 67.72 326 P P 22 54 17.7 +1.3
comp=Z,1.9nm,0.4s,baz=117,slow=7.3,SNR=6.2
comp=Z,1.9nm,0.4s
MAKZ Makanchi 67.90 326 P P 22 54 18.9 +1.3
MAKZ IAmb IAmb 22 54 19.0
comp=Z,10.0nm,1.4s
ZALV Zalesovo Beam 70.95 333 P P 22 54 36.7 +0.6
comp=Z,0.5nm,0.3s,baz=134,slow=4.2,SNR=2.3
comp=Z,0.5nm,0.3s
ZALV Zalesovo Beam 70.95 333 P P 22 54 36.5 +0.5
KURBB Kurchatov Arra 71.97 328 P P 22 54 42.9 +0.6
comp=Z,0.9nm,0.5s,baz=133,slow=5.4,SNR=3.5
comp=Z,0.9nm,0.5s
KKAR Karatay Array 72.98 318 P P 22 54 49.7 +1.2

---

*SOME **14** 22:47:41.7, 37.47N× 79.93E, h15km*
*IDC **14** 22:47:45.8±0.9, 37.21N× 78.70E, h0km, mb3.7/10, mbtmp3.7/15, ML3.4/5, Error ellipse: s-maj=20.6km s-min=13.9km az=60.0*
*NNC **14** 22:47:50.9±6.4, 37.55N× 78.79E, h0km, mb4.3, mpv3.7, Error ellipse: s-maj=52.1km s-min=38.9km az=169.0*

ISC 14 22:47:44.7±0.9, 37.45N±0.04× 79.25E±0.08, h10km, n40, σ2899/32, mb3.8/10, 7C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 8.6nm,0.6s	**5.64**	**354**	*eP*	Pg	22 49 28.1	-4.7
SATY	20nm,0.6s			*eS*	**Sg**	**22 50 45.7**	**-0.1**
UZB	**Uzynbulak** 5.8nm,0.5s	**5.70**	**358**	*eP*	Pg	22 49 28.7	-5.1
UZB	20nm,1.0s			*eS*	**Sg**	**22 50 46.7**	**-0.9**
SHLS	**Shalkode** 18nm,0.5s	**5.71**	**2**	*eP*	Pg	22 49 29.1	-4.9
SHLS	20nm,0.4s			*eS*	**Sg**	**22 50 47.3**	**-0.5**
ZHN	**Zhinishke** 7.2nm,0.2s	**5.75**	**354**	*eP*	**Pg**	**22 49 31.5**	**-3.3**
ZHN	16nm,0.4s			*eS*	**Sg**	**22 50 51.7**	**+2.4**
TNSS	**Tian-Shan** 16nm,0.8s	**5.86**	**343**	*eP*	Pg	22 49 32.7	-4.1
TNSS	22nm,0.9s			*eS*	**Sg**	**22 50 53.6**	**+0.9**
MDOK	**Medeo** 2.5nm,0.6s	**5.95**	**344**	⇑Pn	Pn	22 49 20.2	+7.2
MDOK	41nm,0.8s			Pg	**Pg**	**22 49 40.5**	**+1.8**
MDOK	55nm,0.7s			⇑Lg	Lg	22 50 54.9	
KNDC	**Almaty**	**6.02**	**344**	Pg	**Pg**	**22 49 39.1**	**-0.9**
KNDC				Lg	Lg	22 50 58.9	
KPKS	**Kokpek** 6.0nm,0.6s	**6.03**	**356**	*eP*	**Pb**	**22 49 33.2**	**+3.3**
KPKS	21nm,0.6s			*eS*	**Sg**	**22 50 54.2**	**-4.0**
KURS	**Kuram** 28nm,1.3s	**6.09**	**353**	*eP*	Pg	22 49 36.7	-4.6
KURS	33nm,1.2s			*eS*	**Sg**	**22 51 00.3**	**+0.2**
KST	**Kastek** 5.3nm,0.2s	**6.13**	**337**	*eP*	Pb	22 49 36.7	+5.1
KST	11nm,0.1s			*eS*	**Sg**	**22 51 00.5**	**-1.0**
TKM2	**Tokmak 2** 2.5nm,0.6s	**6.14**	**334**	⇑Pn	**Pn**	**22 49 19.1**	**+3.4**
TKM2	9.0nm,0.6s			⇓Pg	**Pg**	**22 49 43.5**	**+1.2**
TKM2	63nm,1.5s			⇑Lg	Lg	22 51 04.7	
AAK	**Ala-Archa** 1.2nm,0.3s,baz=164,slow=6.5,SNR=13	**6.34**	**326**	Pn	**Pn**	**22 49 23.1**	**+4.7**
AAK	3.5nm,0.3s,baz=129,slow=8.1,SNR=12			Pg	Pg	22 49 40.9	+5.7
AAK	baz=156,slow=17			Sn	**Sn**	**22 50 38.9**	**+8.0**
AAK	1.9nm,0.3s,baz=219,slow=22,SNR=2.7			Lg	Lg	22 51 08.0	
DGS	**Degeres** 11nm,0.3s	**6.37**	**336**	*eP*	Pg	22 49 43.3	-3.4
DGS	24nm,0.3s			*eS*	**Sg**	**22 51 11.7**	**+2.5**
KTBS	**Karatobe** 16nm,1.2s	**6.56**	**343**	*eP*	**Pg**	**22 49 46.8**	**-3.4**
KTBS	24nm,1.0s			*eS*	**Sg**	**22 51 17.4**	**+2.3**
KRBS	**Karabastau** 7.2nm,0.7s	**6.81**	**338**	*eP*	Pb	22 49 49.3	+6.2
KRBS	17nm,1.0s			*eS*	**Sg**	**22 51 22.1**	**-1.2**
KK31	**Karatay Array** 0.6nm,0.3s,baz=128,slow=12,SNR=12	**8.75**	**313**	Pn	**Pn**	**22 49 52.0**	**+0.7**
KK31				Sn	Sn	22 51 24.6	-5.3
MAKZ	**Makanchi** 14nm,0.5s	**9.57**	**11**	⇑Pn	Pn	22 50 08.5	+6.0
MAKZ	2.6nm,0.5s			⇑Sn	**Sn**	**22 51 54.6**	**+4.5**
MK31	**Makanchi Array** 2.6nm,0.4s,baz=196,slow=13,SNR=160	**9.61**	**13**	Pn	Pn	22 50 10.2	+7.2
MK31	3.3nm,0.5s,baz=195,slow=24			⇑Sn	Sn	22 51 57.3	+6.3
MKAR	**Makanchi Array** 1.3nm,0.3s,baz=196,slow=13,SNR=65	**9.61**	**13**	Pn	Pn	22 50 10.4	+7.4
MKAR	0.9nm,0.3s,baz=190,slow=25,SNR=2.2 2.3nm,0.4s			Sn	Sn	22 51 57.1	+6.0
DANN	**Dangsing** 7.5nm,0.4s	**9.83**	**156**	*eP*	Pn	22 50 08.9	+2.6
GKN	**Gorkha** 32nm,0.3s	**10.45**	**153**	*eP*	Pn	22 50 17.7	+3.0
DMN	**Daman**	**10.98**	**152**	*eP*	Pn	22 50 25.5	+3.4
GUN	**Gumba** 26nm,0.4s	**11.02**	**148**	*eP*	Pn	22 50 27.0	+4.3
PKIN	**Phulchoki** 17nm,0.5s	**11.12**	**150**	*eP*	Pn	22 50 27.2	+3.2
PKI	**Pulchoki** 9.8nm,0.3s	**11.13**	**150**	*eP*	Pn	22 50 27.4	+3.2
KURBB	**Kurchatov Arra** baz=184,slow=9.9,SNR=2.8	**13.18**	**358**	Pn	P	22 50 56.3	-5.6
KURBB	baz=185,slow=27,SNR=1.8 0.1nm,0.4s			Lg	Lg	22 54 51.6	
GEYT	**Alibeck** 0.2nm,0.3s,baz=102,slow=12,SNR=1.9 0.5nm,0.4s	**16.74**	**278**	Pn	**Pn**	**22 51 37.8**	**-1.5**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=159,slow=13,SNR=10	**16.76**	**341**	Pn	**P**	**22 51 46.4**	**+4.7**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=194,slow=10,SNR=5.6 1.0nm,0.4s	**16.95**	**11**	P	**P**	**22 51 47.5**	**+3.8**
SONM	**Songino Array** 1.0nm,0.8s,baz=249,slow=10,SNR=6.9 1.0nm,0.8s	**22.39**	**54**	P	P	22 52 51.8	+8.5
WSAR	**Wadi Sarin** 2.2nm,0.6s,baz=259,slow=4.7,SNR=4.1 2.2nm,0.6s	**22.68**	**237**	P	**P**	**22 52 44.0**	**-2.4**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=310,slow=10,SNR=1.8 0.7nm,0.3s	**25.60**	**132**	P	P	22 53 19.5	+5.3
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=78,slow=7.7,SNR=4.9 0.3nm,0.3s	**37.59**	**307**	P	**P**	**22 54 59.6**	**+0.4**
FINES	**FINESS Array B** 3.0nm,0.9s,baz=100,slow=9.9,SNR=7.7 3.0nm,0.9s	**40.52**	**324**	P	**P**	**22 55 26.1**	**+2.5**
ARCES	**ARCESS Array B**	**42.92**	**335**	P	**P**	**22 55 45.3**	**+2.1**
	4.0nm,0.9s,baz=65,slow=6.8,SNR=6.8 4.0nm,0.9s						
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.6s,baz=89,slow=7.9	**47.64**	**322**	P	**P**	**22 56 22.6**	**+1.9**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.6s,baz=88,slow=7.5,SNR=2.0 comp=Z,0.6nm,0.6s	**47.64**	**322**	P	**P**	**22 56 22.7**	**+1.9**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,baz=44,slow=5.7,SNR=3.3 comp=Z,0.5nm,0.6s	**72.31**	**273**	P	**P**	**22 59 10.4**	**-0.5**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.8s,baz=327,slow=5.7,SNR=1.1 comp=Z,0.3nm,0.8s	**77.10**	**128**	P	P	22 59 42.2	+3.8
ASAR	**Alice Springs** comp=Z,0.3nm,0.6s,baz=316,slow=5.2,SNR=2.0 comp=Z,0.3nm,0.6s	**79.60**	**131**	P	P	22 59 55.6	+3.4

---

*IDC **14** 22:48:38.4±1.3, 23.12N× 144.36E±0.4, h35km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=62.2km s-min=19.1km az=75.0*

ISC 14 22:48:41.9±1.3, 23.12N±0.2× 144.36E±0.4, h35km, n13, σ0887/5, mb3.9/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy** baz=283	**21.35**	**95**	T	T	23 15 46.6	
H11N2	**WAKE ISLAND Hy** baz=283	**21.35**	**95**	T	T	23 15 46.3	
H11N3	**WAKE ISLAND Hy** baz=283	**21.36**	**95**	T	T	23 15 45.3	
KLR	**Kul'dur** 1.8nm,0.8s,baz=166,slow=8.3,SNR=2.9 1.8nm,0.8s	**27.83**	**342**	P	**P**	**22 54 28.8**	**+0.9**
CTA	**Charters Tower** 4.0nm,0.7s,baz=346,slow=8.3,SNR=5.2 4.0nm,0.7s	**43.03**	**177**	P	**P**	**22 56 38.6**	**+0.3**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=13,slow=8.6,SNR=2.1 0.4nm,0.5s	**43.92**	**194**	P	P	22 56 46.4	+0.9
ASAR	**Alice Springs** 0.2nm,0.4s,baz=18,slow=9.7,SNR=2.0 0.2nm,0.4s	**47.62**	**193**	P	P	22 57 15.1	+0.4
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=92,slow=8.8,SNR=2.6 0.6nm,0.5s	**53.69**	**321**	P	**P**	**22 57 59.7**	**-0.4**
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=89,slow=10.0,SNR=7.1 0.9nm,0.7s	**54.45**	**312**	P	P	22 58 06.9	+1.0
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=92,slow=7.5,SNR=1.6 0.6nm,0.6s	**57.14**	**316**	P	**P**	**22 58 24.6**	**-0.5**
BVAR	**Borovoye Array** 2.2nm,0.5s,baz=90,slow=6.1,SNR=7.1 2.2nm,0.5s	**62.21**	**319**	P	P	22 59 00.3	+0.4
FINES	**FINESS Array B** 1.7nm,0.9s,baz=49,slow=4.4,SNR=3.8 1.7nm,0.9s	**82.29**	**335**	P	P	23 01 00.6	+1.1
LPAZ	**La Paz** 0.5nm,0.6s,baz=346,slow=4.2,SNR=2.0	**148.81**	**83**	PKPbc	**PKPab**	**23 08 30.8**	**-0.5**

---

*BJI **14** 22:54:32.1±0.0, 54.17N× 160.58W, h10km, mb5.1/70, mB5.2/46, Ms5.0/62, Ms7 4.7/60*
*MOS **14** 22:54:32.1±1.0, 54.15N× 160.18W, h10km, mb5.3/81, MS4.5/10, Error ellipse: s-maj=8.5km s-min=4.5km az=99.3*
*NEIC **14** 22:54:34.4±2.0, 54.17N±0.07× 160.15W±0.08, h17km±4km, mb5.2/425, ML4.9/14, Mww5.2, ML4.9(AEIC), Error ellipse: s-maj=11.3km s-min=4.2km az=146.0*
*AEIC **14** 22:54:36.9±2.2, 54.11N±0.07× 160.07W±0.07, h32km±4km, Error ellipse: s-maj=10.5km s-min=3.8km az=154.0*
*ANF **14** 22:54:36.6±1.0, 54.24N× 160.11W, h23km±7km, ML5.2/15, Error ellipse: s-maj=4.5km s-min=3.4km az=8.0*
*IDC **14** 22:54:36.6±3.2, 54.11N× 160.26W, h29km±22km, mb4.6/47, mbtmp4.9/53, ML4.9/6, MS4.5/62, Error ellipse: s-maj=11.6km s-min=8.5km az=178.0*
*GCMT **14** 22:54:36.4±0.2, 54.10N±0.01× 160.10W±0.01, h22km, MW5.2/140, Moment Tensor Solution. s86,c120; s140,c248; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr2.09±.15; Mθθ-4.01±.15; Mϕϕ1.91±.14; Mrθ1.40±.23; Mθϕ6.99±.12; Mϕr2.79±.26; Best double couple: Mo8.39400×10^16 NP1:ϕ=345.00000°, δ73.00000°, λ159.00000°. NP2:ϕ=82.00000°, δ70.00000°, λ18.00000°. Principal axes: T 8.1330, Plg27.0000°, Azm303.0000°; N 0.5120, Plg63.0000°, Azm128.0000°; P -8.6550, Plg2.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 22:54:38, 54.03N× 159.94W, h24km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^16Nm; Mrr2.20; Mθθ-5.67; Mϕϕ3.47; Mrθ-0.44; Mθϕ7.73; Mϕr0.98; Fault plane solution: Mo9.24000×10^16 NP1:ϕ=75.00000°, δ83.00000°, λ2.00000°. NP2:ϕ=344.00000°, δ88.00000°, λ173.00000°. Principal axes: T 7.9470, Plg6.0000°, Azm299.0000°; N 2.1909, Plg83.0000°, Azm152.0000°; P -10.1378, Plg4.0000°, Azm30.0000°;*

ISC 14 22:54:34.6±0.7, 54.14N±0.04× 160.16W±0.03, h17km±3km, n1190, σ1841/1048, mb5.2/371, MS4.6/100, 70C-39D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.76**	**26**		**Pn**	**22 54 50.0**	**-0.6**
CNBA					**Sb**	**22 55 00.3**	**+0.9**
CHNA	**Chernabura Isl** baz=206,SNR=503	**0.77**	**25**	P	**Pn**	**22 54 50.3**	**-0.4**
CHNA	baz=206			S	**Sn**	**22 55 01.0**	**-0.8**
SDPT	**Sand Point**	**1.23**	**352**	Pn	**Pb**	**22 54 57.1**	**-0.2**
SDPT	comp=N,30μm,1.4s			IAML		22 55 20.8	
SDPT	comp=E,30μm,0.8s			IAML		22 55 29.1	
SDPT	**Sand Point** baz=171,SNR=52	**1.23**	**352**	P	**Pb**	**22 54 57.5**	**+0.2**
SDPT	baz=171			S	**Sg**	**22 55 14.1**	**-0.2**
FALS	**False Pass**	**2.03**	**292**	Pn	**Pn**	**22 55 08.8**	**+0.8**
FALS	**False Pass** baz=109,SNR=132	**2.03**	**292**	P	**Pn**	**22 55 09.1**	**+1.1**
FALS	baz=109			S	**Sb**	**22 55 34.9**	**-1.0**
FALS	**False Pass**	**2.03**	**292**	P	**Pb**	**22 55 10.1**	**-0.9**
CHGN	**Chignik**	**2.39**	**24**	Pn	**Pn**	**22 55 12.6**	**-0.3**
CHGN	comp=E,8μm,0.9s			IAML		22 56 01.5	
CHGN	comp=N,6μm,1.0s			IAML		22 56 08.2	
CHGN	**Chignik** baz=206,SNR=65	**2.39**	**24**	P	**Pn**	**22 55 13.3**	**+0.4**
CHGN	baz=206			S	**Sn**	**22 55 42.5**	**+0.8**
CHIR	**Chirikof Islan**	**3.11**	**55**	Pn	**Pn**	**22 55 21.6**	**-1.3**
CHIR	comp=N,4μm,2.0s			IAML		22 56 38.9	
CHIR	**Chirikof Islan** baz=239,SNR=29	**3.11**	**55**	P	**Pn**	**22 55 22.1**	**-0.8**
AKUT	**Akutan**	**3.30**	**272**	Pn	**Pn**	**22 55 25.9**	**+0.4**
AKUT	comp=E,4μm,0.4s			IAML		22 56 05.5	
AKUT	comp=N,3μm,0.5s			IAML		22 56 06.6	
R16K	**Pilot Point** baz=204	**3.73**	**22**	P	**Pn**	**22 55 31.8**	**+0.4**
UNV	**Unalaska Valle**	**3.76**	**268**		**Sn**	**22 56 13.8**	**-1.7**
UNV	**Unalaska Valle**	**3.76**	**268**	Pn	**Pn**	**22 55 31.7**	**0.0**
UNV	**Unalaska Valle** baz=82,SNR=36	**3.76**	**268**	P	**Pn**	**22 55 32.3**	**+0.6**
SII	**Sitkinak Islan**	**4.18**	**52**	Pn	**Pn**	**22 55 36.5**	**-1.1**
SII	**Sitkinak Islan** baz=237,SNR=70	**4.18**	**52**	P	**Pn**	**22 55 36.9**	**-0.8**
SII	**Sitkinak Islan**	**4.18**	**52**	P	**Pn**	**22 55 37.2**	**-0.4**
Q17K	**Contact Creek** baz=212,SNR=99	**4.77**	**28**	P	**Pn**	**22 55 46.3**	**+0.5**
Q16K	**King Salmon** baz=205,SNR=36	**4.95**	**22**	P	**Pn**	**22 55 48.8**	**+0.7**
OHAK	**Old Harbor**	**4.97**	**49**	Pn	**Pn**	**22 55 47.5**	**-0.7**
OHAK	comp=N,776nm,1.5s			IAML		22 57 33.5	
OHAK	**Old Harbor**	**4.97**	**49**	P	**Pn**	**22 55 47.6**	**-0.7**
	baz=235,SNR=177						
P16K	**Nushagak River** baz=195	**5.05**	**13**	P	**Pn**	**22 55 50.5**	**+1.0**
NIKH	**Nikolski High**	**5.31**	**261**	Pn	**Pn**	**22 55 53.2**	**+0.1**
NIKH	**Nikolski High** baz=74,SNR=19	**5.31**	**261**	P	**Pn**	**22 55 53.4**	**+0.3**
NIKH	**Nikolski High**	**5.31**	**261**	P	**Pn**	**22 55 53.7**	**+0.6**
Q18K	**Katmai Hardscr** baz=215,SNR=66	**5.35**	**30**	P	**Pn**	**22 55 54.0**	**+0.3**
P17K	**Kvichak River** baz=204,SNR=25	**5.47**	**21**	P	**Pn**	**22 55 55.9**	**+0.7**
O16K	**Kokwok River B** baz=193	**5.58**	**11**	P	**Pn**	**22 55 57.3**	**+0.5**
KDAK	**Kodiak Island** comp=N,126nm,0.3s,baz=235,slow=5.8,SNR=766	**5.61**	**46**	Pn	**Pn**	**22 55 56.1**	**-1.0**
KDAK	comp=N,8.3nm,0.3s,baz=317,slow=22,SNR=1.5 comp=N,322nm,0.4s			Sn	**Sn**	**22 56 55.3**	**-5.8**
KDAK	**Kodiak Island**	**5.61**	**46**	Pn	**Pn**	**22 55 55.6**	**-1.5**
KDAK	**Kodiak Island** baz=233	**5.61**	**46**	P	**Pn**	**22 55 56.1**	**-1.0**
O17K	**Koliganek Bris** baz=198	**5.89**	**15**	P	**Pn**	**22 56 01.5**	**+0.5**
P18K	**Big Mountain,**	**5.92**	**25**	Pn	**Pn**	**22 56 01.6**	**+0.2**
P18K	**Big Mountain,** baz=209,SNR=55	**5.92**	**25**	P	**Pn**	**22 56 02.0**	**+0.5**
CLES	**Cleveland East**	**5.96**	**261**	Pn	**Pn**	**22 56 03.2**	**+1.2**
Q19K	**Cape Douglas,**	**6.00**	**34**	Pn	**Pn**	**22 56 02.1**	**-0.5**
Q19K	**Cape Douglas,** baz=220,SNR=13	**6.00**	**34**	P	**Pn**	**22 56 02.7**	**+0.1**
Q20K	**Shuyak Island** baz=227,SNR=8.5	**6.22**	**41**	P	**Pn**	**22 56 05.2**	**-0.3**
O18K	**Koktuh Hills**	**6.33**	**23**	Pn	**Pn**	**22 56 07.0**	**-0.1**
O18K	**Koktuh Hills** baz=207,SNR=49	**6.33**	**23**	P	**Pn**	**22 56 08.0**	**+0.8**
N16K	**Nishlik Lake** baz=187	**6.40**	**6**	P	**Pn**	**22 56 09.1**	**+1.1**
SPIA	**Saint Paul Isl**	**6.47**	**302**	Pn	**Pn**	**22 56 10.2**	**+1.3**
SPIA	**Saint Paul Isl** baz=114	**6.47**	**302**	P	**Pn**	**22 56 09.6**	**+0.6**
P19K	**Oil Pt** baz=218	**6.70**	**32**	P	**Pn**	**22 56 12.6**	**+0.4**
O19K	**Port Alsworth**	**6.85**	**25**	Pn	**Pn**	**22 56 14.4**	**+0.2**
O19K	**Port Alsworth** baz=210,SNR=28	**6.85**	**25**	P	**Pn**	**22 56 14.9**	**+0.7**
N18K	**Kilae Creek** baz=201	**6.95**	**18**	P	**Pn**	**22 56 15.8**	**+0.2**
ILSW	**Iliamna Southw**	**6.99**	**30**	Pn	**Pn**	**22 56 15.7**	**-0.6**
O20K	**Slope Mountain** baz=218,SNR=7.5	**7.23**	**31**	P	**Pn**	**22 56 19.2**	**-0.3**
HOM	**Homer**	**7.23**	**37**		**Pn**	**22 56 17.4**	**-2.0**
HOM	**Homer** baz=224	**7.23**	**37**	P	**Pn**	**22 56 19.4**	**0.0**
CNPM	**China Poot**	**7.28**	**39**	Pn	**Pn**	**22 56 18.9**	**-1.3**
N19K	**Bonanza Creek** baz=207	**7.36**	**22**	P	**Pn**	**22 56 21.9**	**+0.7**
RDJH	**Redoubt Jeurge**	**7.59**	**29**		**Pn**	**22 56 24.5**	**0.0**
BRSE	**Bradley Lake S** baz=227,SNR=18	**7.62**	**39**	P	**Pn**	**22 56 23.5**	**-1.2**
CAPN	**Captain Cook N** baz=220	**8.22**	**32**	P	**Pn**	**22 56 33.7**	**+0.7**
N20K	**Mount Spurr** baz=214,SNR=28	**8.26**	**28**	P	**Pn**	**22 56 33.8**	**+0.3**
SPCR	**Spurr Chakacha** baz=214,SNR=23	**8.26**	**28**	P	**Pn**	**22 56 33.6**	**+0.1**
SEW	**Seward**	**8.34**	**40**		**Pn**	**22 56 33.3**	**-1.3**
SEW	**Seward** baz=229,SNR=14	**8.34**	**40**	P	**Pn**	**22 56 34.5**	**-0.1**
SLKM	**Skilak Lake**	**8.34**	**36**		**Pn**	**22 56 33.5**	**-1.1**
M19K	**Big River Lodg** baz=204	**8.36**	**19**	P	**Pn**	**22 56 35.4**	**+0.5**
L19K	**White Mountain** baz=202,SNR=14	**8.54**	**17**	P	**Pn**	**22 56 37.3**	**0.0**
M20K	**Styx River** baz=209	**8.61**	**23**	P	**Pn**	**22 56 39.3**	**+0.9**
FIS	**Fire Island**	**8.81**	**33**	Pn	**Pn**	**22 56 38.1**	**-2.9**
SUA	**Susitna One**	**8.89**	**31**	Pn	**Pn**	**22 56 41.1**	**-1.2**
SUA	**Susitna One** baz=218,SNR=13	**8.89**	**31**	P	**Pn**	**22 56 41.7**	**-0.5**
RC01	**Rabbit Creek A**	**8.93**	**35**	Pn	**Pn**	**22 56 41.4**	**-1.3**
RC01	**Rabbit Creek A** baz=223,SNR=49	**8.93**	**35**	P	**Pn**	**22 56 41.8**	**-0.8**
L20K	**Farewell, AK** baz=204	**8.99**	**19**	P	**Pn**	**22 56 44.5**	**+1.0**
TTA	**Tatalina**	**9.08**	**12**	Pn	**Pn**	**22 56 44.1**	**-0.7**
TTA	**Tatalina** baz=196,SNR=9.2	**9.08**	**12**	P	**Pn**	**22 56 44.7**	**-0.1**
TTA	**Tatalina**	**9.08**	**12**	P	**Pn**	**22 56 44.1**	**-0.7**
SKT	**Skwentna**	**9.09**	**27**	Pn	**Pn**	**22 56 43.8**	**-1.0**
SKT	**Skwentna** baz=214,SNR=10.0	**9.09**	**27**	P	**Pn**	**22 56 44.9**	**0.0**
P23K	**Montague Islan** baz=235	**9.09**	**45**	P	**Pn**	**22 56 43.6**	**-1.3**
Q23K	**Middleton Isla**	**9.24**	**49**	Pn	**Pn**	**22 56 45.8**	**-1.1**
Q23K	**Middleton Isla** baz=241,SNR=5.5	**9.24**	**49**	P	**Pn**	**22 56 46.1**	**-0.8**
MID	**Middleton Isla**	**9.24**	**49**	Pn	**Pn**	**22 56 45.9**	**-1.1**
MID	**Middleton Isla**	**9.24**	**49**	P	**Pn**	**22 56 45.9**	**-1.1**
PWL	**Port Wells**	**9.26**	**39**	Pn	**Pn**	**22 56 45.1**	**-2.1**
PWL	**Port Wells** baz=229,SNR=174	**9.26**	**39**	P	**Pn**	**22 56 45.6**	**-1.6**
M22K	**Willow** baz=219,SNR=10	**9.30**	**31**	P	**Pn**	**22 56 47.5**	**-0.3**
PMR	**Palmer** baz=223,SNR=13	**9.49**	**34**	P	**Pn**	**22 56 49.4**	**-1.0**
KNK	**Knik Glacier**	**9.59**	**36**	Pn	**Pn**	**22 56 49.5**	**-2.2**
KNK	**Knik Glacier** baz=226,SNR=26	**9.59**	**36**	P	**Pn**	**22 56 50.3**	**-1.5**
HIN	**Hinchinbrook I**	**9.69**	**44**	Pn	**Pn**	**22 56 51.0**	**-2.1**
GHO	**Glory Hole Cre**	**9.69**	**33**	Pn	**Pn**	**22 56 51.3**	**-1.9**
PPLA	**Purkeypile**	**9.71**	**22**	Pn	**Pn**	**22 56 54.1**	**+0.5**
PPLA	**Purkeypile** baz=209,SNR=15	**9.71**	**22**	P	**Pn**	**22 56 55.6**	**+2.1**
K20K	**Telida** baz=202	**9.77**	**16**	P	**Pn**	**22 56 54.2**	**+0.1**
CUT	**Chulitna**	**9.78**	**28**	Pn	**Pn**	**22 56 52.6**	**-1.7**
CUT	**Chulitna** baz=217,SNR=8.7	**9.78**	**28**	P	**Pn**	**22 56 53.2**	**-1.1**
SML	**Sawmill** baz=224,SNR=23	**9.91**	**34**	P	**Pn**	**22 56 54.6**	**-1.6**
EYAK	**Cordova Ski Ar**	**10.08**	**45**	Pn	**Pn**	**22 56 57.1**	**-1.3**
EYAK	**Cordova Ski Ar** baz=237,SNR=20	**10.08**	**45**	P	**Pn**	**22 56 57.0**	**-1.3**
EYAK	**Cordova Ski Ar**	**10.08**	**45**	P	**Pn**	**22 56 57.8**	**-0.6**
M23K	**Glacier View** baz=226,SNR=58	**10.11**	**36**	P	**Pn**	**22 56 58.5**	**-0.3**
CAST	**Castle Rocks** baz=208,SNR=15	**10.20**	**21**	P	**Pn**	**22 57 00.7**	**+0.7**
ADK	**Adak**	**10.21**	**264**	Pn	**Pn**	**22 57 00.7**	**+0.5**
ADK	**Adak**	**10.21**	**264**	P	**Pn**	**22 57 01.6**	**+1.4**
ADK	**Adak**	**10.21**	**264**	P	**Pn**	**22 57 00.7**	**+0.5**
SCM	**Sheep Creek Mo** baz=227,SNR=80	**10.27**	**36**	P	**Pn**	**22 57 00.2**	**-1.0**
KAIM	**Kayak Island** baz=243,SNR=21	**10.34**	**50**	P	**Pn**	**22 57 02.1**	**+0.1**
KIWB	**Kanaga Island**	**10.49**	**264**	Pn	**Pn**	**22 57 03.8**	**-0.3**
J20K	**Nowinta River** baz=200	**10.52**	**15**	P	**Pn**	**22 57 05.2**	**+0.7**
KLU	**Klutina** baz=232,SNR=121	**10.56**	**40**	P	**Pn**	**22 57 03.9**	**-1.2**
CHUM	**Lake Minchumin** baz=206,SNR=13	**10.56**	**19**	P	**Pn**	**22 57 05.7**	**+0.7**
WAT1	**Susitna Watana** baz=220	**10.60**	**30**	P	**Pn**	**22 57 03.8**	**-1.8**
TRF	**Thorofare Moun** baz=213,SNR=19	**10.63**	**25**	P	**Pn**	**22 57 04.9**	**-1.2**
WAT6	**Susitna Watana** baz=223,SNR=16	**10.66**	**33**	P	**Pn**	**22 57 04.3**	**-2.3**
SUCK	**Suckling Hills**	**10.69**	**50**	Pn	**Pn**	**22 57 07.3**	**+0.4**
GCSA	**Galena City Sc** baz=190	**10.77**	**8**	P	**Pn**	**22 57 08.1**	**+0.3**
BMRM	**Bremner River** baz=238,SNR=22	**10.78**	**44**	P	**Pn**	**22 57 06.6**	**-1.5**
M24K	**Tolsona, Glenn** baz=229,SNR=64	**10.86**	**37**	P	**Pn**	**22 57 08.2**	**-1.0**
BPAW	**Bear Paw Mtn.** baz=209,SNR=17	**11.03**	**21**	P	**Pn**	**22 57 10.3**	**-1.2**
N25K	**Chitina, Valde** baz=235,SNR=15	**11.14**	**42**	P	**Pn**	**22 57 12.0**	**-1.0**
DHY	**Denali Highway** baz=222,SNR=32	**11.14**	**31**	P	**Pn**	**22 57 10.9**	**-2.2**
MCK	**McKinley**	**11.21**	**26**	Pn	**Pn**	**22 57 11.6**	**-2.3**
MCK	**McKinley** baz=216,SNR=5.8	**11.21**	**26**	P	**Pn**	**22 57 12.1

HARP **HAARP** 11.41 38 P Pn 22 57 16.4 -0.3
baz=230,SNR=27
MESA **MESA** 11.57 51 Pn Pn 22 57 18.5 -0.4
MESA **MESA** 11.57 51 P Pn 22 57 18.0 -1.0
baz=247,SNR=6.9
MCARA **McCarthy VSAT** 11.65 45 P Pn 22 57 19.5 -0.4
baz=239,SNR=13
PAX **Paxson** 11.68 35 P Pn 22 57 19.3 -1.1
baz=228,SNR=74
YAH **Yahtse** 11.73 51 Pn Pn 22 57 19.9 -1.3
I21K **Tanana** 11.81 17 P Pn 22 57 22.4 +0.4
baz=204
NEA2 **Nenana** 11.89 24 P Pn 22 57 20.2 -3.0
baz=213,SNR=22
MLY **Manley** 11.90 20 P Pn 22 57 21.4 -2.0
baz=208,SNR=15
H21K **Melozitna Rive** 12.12 15 Pn 22 57 25.9 -0.4
H21K **Melozitna Rive** 12.12 15 P Pn 22 57 26.1 -0.1
baz=201
K24K **Donnelly Dome** 12.17 32 P Pn 22 57 26.3 -0.7
baz=224,SNR=57
M26K **Nabesna, AK** 12.22 41 P Pn 22 57 26.7 -1.0
baz=235,SNR=26
HDA **Harding Lake** 12.28 28 P Pn 22 57 24.9 -3.6
baz=219,SNR=28
I23K **Minto, Yukon-K** 12.29 22 P Pn 22 57 26.0 -2.6
baz=211
PCA **Pinnacle** 12.32 53 Pn 22 57 29.3 +0.1
PINM **Pinnacle** 12.32 53 P Pn 22 57 27.9 -1.3
baz=250,SNR=63
TCOL **CIGO, UAF Yank** 12.41 25 P Pn 22 57 28.5 -1.8
baz=216
RIDG **Independent Ri** 12.41 33 P Pn 22 57 28.9 -1.5
baz=226,SNR=34
COLA **College** 12.42 25 Pn Pn 22 57 27.5 -2.8
COLA **College** 12.42 25 P Pn 22 57 27.8 -2.5
baz=216
COLA **College** 12.42 25 *i* P Pn 22 57 27.1 -3.2
COLA pmax pmax
comp=Z,5.0nm,0.2s
L26K **Log Cabin Wild** 12.46 38 P Pn 22 57 30.5 -0.5
baz=232,SNR=32
H22K **Ishtalitna Cre** 12.56 17 P Pn 22 57 32.5 +0.1
baz=204,SNR=22
ILAR **Eielson Array** 12.58 27 Pn Pn 22 57 29.4 -3.2
comp=Z,3.8nm,0.3s,baz=218,slow=13,SNR=81
ILAR Sn Sn 22 59 39.8 -12
comp=Z,1.5nm,0.3s,baz=201,slow=9.7,SNR=1.7
ILAR LR LR 23 03 15.7
comp=Z,2μm,21.9s,baz=218,slow=41
comp=Z,8.7nm,0.4s
ILAR **Eielson Array** 12.58 27 Pn Pn 22 57 28.6 -4.0
PNL **Peninsula** 12.60 56 P Pn 22 57 32.7 -0.2
baz=253,SNR=32
PNL **Peninsula** 12.60 56 P Pn 22 57 33.1 +0.2
comp=Z,787nm,0.8s
O28M **Mount Upton** 12.60 50 P Pn 22 57 31.9 -1.3
baz=247,SNR=126
M27K **Edge Creek, AK** 12.63 42 P Pn 22 57 32.1 -1.2
baz=238
POKR **Poker Plat Res** 12.72 25 P Pn 22 57 31.8 -2.6
baz=216
AMKA **Amchitka** 12.74 266 Pn Pn 22 57 33.5 -1.3
G21K **Allakaket** 12.83 12 P Pn 22 57 36.3 +0.2
baz=198
H23K **Yukon River** 12.84 20 P Pn 22 57 33.1 -3.0
baz=209
SCRK **Sand Creek** 12.86 34 P Pn 22 57 33.7 -2.8
baz=227,SNR=26
J25K **Salcha River,** 12.88 30 P Pn 22 57 33.3 -3.5
baz=222
YUK3 **Moose Creek** 12.91 46 P Pn 22 57 36.8 -0.5
baz=243,SNR=31
YUK8 **Steele Glacier** 13.00 48 P Pn 22 57 38.0 -0.5
baz=246,SNR=65
L27K **Beaver Creek,** 13.04 39 P Pn 22 57 37.8 -1.0
baz=235
BVCY **Beaver Creek** 13.06 43 P Pn 22 57 38.5 -0.6
baz=239
O29M **Mount Kennedy** 13.18 53 P Pn 22 57 40.3 -0.7
baz=252
H24K **Noodor Dome** 13.21 23 P Pn 22 57 37.9 -3.2
baz=213
J26L **Joseph Creek** 13.35 32 P Pn 22 57 41.5 -1.7
baz=227
P29M **Windy Craggy** 13.40 57 P Pn 22 57 43.3 -0.5
baz=256
G22K **Bettles** 13.49 15 P Pn 22 57 45.7 +0.7
baz=202
YUK6 **Outpost Mounta** 13.50 51 P Pn 22 57 45.6 +0.3
baz=249,SNR=19
F21K **Alatna River** 13.51 11 P Pn 22 57 44.0 -1.4
baz=197
YUK4 **Talbot Arm** 13.52 49 P Pn 22 57 46.5 +0.9
baz=247,SNR=27
PRP **Porcupine Dome** 13.53 27 Pn Pn 22 57 41.2 -4.4
PRP **Porcupine Dome** 13.53 27 P Pn 22 57 42.6 -3.0
baz=220,SNR=18
K27K **Chicken** 13.53 36 P Pn 22 57 44.1 -1.5
baz=231
G23K **Bananza Creek** 13.54 17 P Pn 22 57 44.6 -1.1
baz=206
HYT **Haines Junctio** 13.85 52 P Pn 22 57 49.6 -0.4
baz=251
S31K **Pelican** 13.88 64 P Pn 22 57 49.0 -1.3
baz=264,SNR=29
P30M **Million Dollar** 13.90 55 P Pn 22 57 51.7 +1.0
baz=255
F22K **John River** 13.95 13 P Pn 22 57 51.1 -0.1
baz=200
COLD **Coldfoot** 13.98 16 P Pn 22 57 50.1 -1.6
baz=205
G24K **Hadweenzic Riv** 14.03 21 P Pn 22 57 48.7 -3.6
baz=212
I26K **Coal Creek Min** 14.04 30 P Pn 22 57 49.1 -3.4
baz=225
PLBC **Pleasant Camp** 14.04 58 P Pn 22 57 51.1 -1.4
baz=258,SNR=36
M29M **Somme Creek** 14.05 45 P Pn 22 57 51.9 -0.9
baz=244
R31K **City Hall, Gus** 14.19 63 P Pn 22 57 53.6 -0.9
baz=263
N30M **Aishikik Lake** 14.26 50 P Pn 22 57 54.4 -1.2
baz=250
EGAK **Eagle** 14.31 34 P Pn 22 57 54.3 -1.9
baz=231,SNR=20
SIT **Sitka** 14.31 68 P Pn 22 57 53.9 -2.4
baz=269
G25K **Bearman Lake** 14.38 23 P Pn 22 57 53.2 -3.9
baz=215
O30N **Mendenhall** 14.50 53 P Pn 22 57 58.9 +0.1
baz=254,SNR=21
L29M **L29M** 14.50 43 P Pn 22 57 57.8 -1.0
baz=242,SNR=24
DAWY **Dawson** 14.51 39 Pn Pn 22 57 57.4 -1.5
DAWY **Dawson** 14.51 39 P Pn 22 57 58.2 -0.7
baz=236,SNR=50
SKAG **Skagway** 14.56 59 P Pn 22 57 59.8 +0.2
baz=260,SNR=24
E22K **Anaktuvuk Pass** 14.59 12 P Pn 22 57 59.4 -0.6
baz=200
F24K **Squaw Lake** 14.65 19 P Pn 22 57 59.7 -1.2
baz=210
I27K **Kandik River** 14.71 31 P Pn 22 57 59.9 -1.8
baz=228,SNR=8.0
S32K **Killisnoo** 14.73 67 P Pn 22 58 00.4 -1.5
baz=268,SNR=6.5
M30M **Minto, Yukon** 14.81 46 P Pn 22 58 01.3 -1.8
baz=246
R32K **Eaglecrest** 14.81 63 P Pn 22 58 01.8 -1.3
baz=265
E23K **Chandalar** 14.83 16 P Pn 22 58 02.8 -0.5
baz=205,SNR=14
N31M **Braeburn, Yuko** 14.86 51 P Pn 22 58 04.1 +0.4
baz=251,SNR=22
JIS **Juneau Island** 14.88 63 P Pn 22 58 04.1 +0.1
E24K **Your Creek** 15.03 17 P Pn 22 58 04.4 -1.6
baz=207
WHY **Whitehorse** 15.04 54 P Pn 22 58 06.5 +0.3
baz=256,SNR=82
G26K **Porcupine Rive** 15.09 25 P Pn 22 58 04.7 -1.9
baz=220
K29M **Barlow Dome** 15.09 41 P Pn 22 58 07.0 +0.1
baz=240
J29M **Klondike Camp** 15.15 38 IAmb IAmb 22 58 09.2
comp=Z,232nm,1.4s
J29M **Klondike Camp** 15.15 38 P Pn 22 58 06.8 -0.8
baz=237,SNR=33

H27K **Steamboat Moun** 15.17 30 P Pn 22 58 05.6 -2.3
baz=226,SNR=5.4
F25K **Christian Rive** 15.17 22 P Pn 22 58 07.0 -0.8
baz=214
BMAR **Burnt Mountain** 15.27 23 Pn Pn 22 58 07.9 -1.3
TOLK **Toolik Lake Re** 15.37 15 IAmb IAmb 22 58 17.3
comp=Z,279nm,1.6s
TOLK **Toolik Lake Re** 15.37 15 P Pn 22 58 09.4 -1.0
baz=204,SNR=18
SHEM **Shemya Is, Ala** 15.38 275 Pn Pn 22 58 10.0 -0.6
comp=Z,4.4nm,0.3s,baz=63,slow=8.9,SNR=2.6
SHEM LR LR 23 05 04.4
comp=Z,2μm,18.3s,baz=114,slow=41
comp=Z,141nm,1.1s
P32M **Atlin** 15.39 59 P Pn 22 58 09.7 -1.2
baz=261,SNR=12
D23K **Nanushuk River** 15.51 13 P Pn 22 58 11.6 -0.7
baz=201
G27K **Doyon Strip** 15.54 28 P Pn 22 58 09.7 -3.0
baz=224
U33K **Whale Pass** 15.55 72 P Pn 22 58 11.6 -1.3
baz=274
F26K **Sheenjek River** 15.59 23 P Pn 22 58 12.8 -0.4
baz=217
CRAG **Craig** 15.61 74 P Pn 22 58 12.3 -1.3
baz=276
MAYO **Mayo, Yukon** 15.62 43 IAmb IAmb 22 58 20.7
comp=Z,260nm,1.5s
MAYO **Mayo, Yukon** 15.62 43 P Pn 22 58 15.4 +1.7
baz=244
E25K **Arctic Village** 15.62 21 P Pn 22 58 14.4 +0.6
baz=213,SNR=7.5
I29M **Ogilvie Camp,** 15.63 35 P Pn 22 58 13.4 -0.4
baz=234
M31M **Drury Creek, Y** 15.71 49 P Pn 22 58 14.7 -0.3
baz=251,SNR=15
P33M **Teslin, Yukon** 15.94 57 Pn Pn 22 58 17.9 -0.1
P33M **Teslin, Yukon** 15.94 57 P Pn 22 58 18.3 +0.3
baz=260,SNR=132
WRAK **Wrangell Islan** 15.96 71 P Pn 22 58 18.3 +0.2
baz=274
N32M **Quiet Lake** 16.01 53 P Pn 22 58 19.1 +0.2
baz=256
Q32M **Nakina River** 16.05 61 P Pn 22 58 19.7 +0.2
baz=265
FARO **Faro, Yukon** 16.19 49 IAmb IAmb 22 58 27.7
comp=Z,214nm,1.5s
FARO **Faro, Yukon** 16.19 49 P Pn 22 58 20.5 -0.5
baz=252
C23K **Itkillik River** 16.34 12 P Pn 22 58 22.0 -0.9
baz=200,SNR=114
V35K **Ketchikan** 16.48 74 P Pn 22 58 24.0 -0.7
baz=278,SNR=6.9
C24K **Franklin Bluff** 16.48 14 P Pn 22 58 24.2 -0.5
baz=204
D25K **Kavik River** 16.50 17 P Pn 22 58 24.5 -0.5
baz=210
E27K **Coleen River** 16.58 25 P Pn 22 58 24.6 -1.3
baz=221
S34M **Telegraph Cree** 16.59 65 P Pn 22 58 26.5 +0.3
baz=269,SNR=40
EPYK **Eagle Plains** 16.75 34 P Pn 22 58 26.8 -1.4
baz=234,SNR=334
R33M **Jennings River** 16.76 60 P Pn 22 58 27.1 -1.3
baz=265,SNR=37
T35M **Bob Quinn** 17.09 68 P Pn 22 58 32.9 +0.4
baz=273,SNR=14
DLBC **Dease Lake** 17.19 63 P P 22 58 35.2 0.0
comp=Z,4.7nm,0.3s,baz=245,slow=13,SNR=30
comp=Z,36nm,0.6s
DLBC **Dease Lake** 17.19 63 IAmb IAmb 22 58 39.2
comp=Z,223nm,1.5s
DLBC **Dease Lake** 17.19 63 P P 22 58 35.0 -0.2
baz=269,SNR=23
MMPY **Sheldon Lake,** 17.23 49 P P 22 58 35.9 +0.2
baz=254,SNR=52
C27K **Jago River** 17.25 20 P Pn 22 58 34.4 0.0
baz=214
G30M **tAoh Zraii Nji** 17.27 33 P P 22 58 35.8 -0.3
baz=234
C26K **Camden Bay** 17.27 18 P Pn 22 58 33.3 -1.3
baz=211
A21K **Barrow** 17.32 4 P Pn 22 58 33.8 -1.4
baz=187
GRNB **Grenville Isla** 17.70 79 IAmb IAmb 22 58 43.6
comp=Z,348nm,2.0s
WTLY **Watson Lake, Y** 17.92 58 P P 22 58 43.3 0.0
baz=264
F31M **Tsiigehtchic** 18.33 33 P Pn 22 58 46.7 -0.9
baz=236,SNR=39
TGTN **Hyland Airport** 18.36 53 P P 22 58 50.0 +1.8
baz=261,SNR=72
INK **Inuvik** 18.89 31 P P 22 58 53.1 -0.7
comp=Z,5.4nm,0.3s,baz=222,slow=14,SNR=70
comp=Z,32nm,0.4s
INK **Inuvik** 18.89 31 P P 22 58 50.9 -2.9
INK **Inuvik** 18.89 31 P P 22 58 53.2 -0.7
baz=235,SNR=58
BBB **Bella Bella** 19.23 83 P P 22 58 57.3 -0.3
comp=Z,0.5nm,0.3s,baz=262,slow=7.1,SNR=2.5
BBB LR LR 23 05 15.1
comp=Z,928nm,18.2s,baz=291,slow=33
comp=Z,30nm,1.0s
LIRD **Liard River Hi** 19.24 60 P Pn 22 58 59.1 +0.2
baz=269,SNR=32
KOTAN **Kotaneelee Air** 20.29 58 P Pn 22 59 11.1 -0.1
baz=269,SNR=14
WRGLY **Wrigley** 20.84 50 P Pn 22 59 16.5 -1.2
baz=261,SNR=13
BILL **Bilibino** 21.00 325 P P 22 59 16.2 -0.5
BILL IAmb IAmb 22 59 18.2
comp=Z,81nm,0.8s
BILL **Bilibino** 21.00 325 *d i* P P 22 59 16.8 0.0
BILL *e* 22 59 35.3
BILL pmax pmax
comp=Z,98nm,1.1s
BILL MLR MLR
comp=Z,3μm,15.0s
C36M **Paulatuk** 22.38 33 P P 22 59 30.9 -0.7
C36M **Paulatuk** 22.38 33 P P 22 59 31.1 -0.5
baz=246,SNR=117
A36M **Sachs Harbour** 23.28 27 P P 22 59 40.4 -0.5
baz=238,SNR=85
LLLB **Lillooet** 23.44 83 IAmb IAmb 22 59 59.3
comp=Z,80nm,1.1s
HILA **High Level** 23.99 62 P P 22 59 47.6 -0.3
PET **Petropavlovsk** 24.24 284 P P 22 59 49.7 -0.6
PET **Petropavlovsk** 24.24 284 P P 22 59 51.5 +1.2
PET **Petropavlovsk** 24.24 284 *eP* P 22 59 49.8 -0.5
PET *eS* S 23 04 03.0 -4.8
PET pmax pmax
comp=Z,500nm,3.5s
PET pmax pmax
comp=Z,2μm,1.9s
PET pmax pmax
comp=Z,716nm,1.4s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,15.0s
PEA0B **Petropavlovsk-** 24.75 285 *de* P P 22 59 56.0 +1.0
PETK **Petropavlovsk-** 24.75 285 P P 22 59 54.9 -0.1
comp=Z,45nm,0.6s,baz=80,slow=12,SNR=121
PETK LR LR 23 09 52.5
comp=Z,1μm,21.3s,baz=85,slow=37
comp=Z,45nm,0.6s
YKA **Yellowknife Ar** 24.85 52 P P 22 59 56.1 +0.4
comp=Z,7.8nm,0.6s,baz=266,slow=9.2,SNR=31
YKA PcP PcP 23 03 30.9 -0.2
comp=Z,3.1nm,0.7s,baz=264,slow=1.9,SNR=4.6
comp=Z,7.8nm,0.6s
LTY **Liberty** 25.67 89 IAmb IAmb 23 00 19.2
comp=Z,92nm,1.4s
SEY **Seymchan** 25.71 309 P P 23 00 03.3 -0.2
comp=Z,28nm,0.6s,baz=95,slow=9.4,SNR=39
comp=Z,28nm,0.6s
SEY **Seymchan** 25.71 309 *ℓ eP* P 23 00 03.1 -0.5
SEY pmax pmax
comp=Z,141nm,1.6s
B08A **Colville Reser** 25.92 86 IAmb IAmb 23 00 21.6
comp=Z,83nm,1.1s
H04A **Detroit Lake** 26.16 96 P P 23 00 06.6 -1.3
H04A IAmb IAmb 23 00 21.2
comp=Z,80nm,1.3s
SKR **Severo-Kuril's** 26.57 281 *eP* P 23 00 11.6 +0.2
SKR *e* 23 00 14.1
SKR pmax pmax
comp=Z,48nm,0.6s

MA2 **Magadan** 26.85 302 P P 23 00 14.4 +0.5
comp=Z,29nm,0.6s,baz=89,slow=12,SNR=8.2
MA2 LR LR 23 11 56.4
comp=Z,1μm,18.8s,baz=94,slow=39
comp=Z,29nm,0.6s
MA2 **Magadan** 26.85 302 P P 23 00 14.3 +0.4
MA2 **Magadan** 26.85 302 P P 23 00 16.9 +3.0
MA2 **Magadan** 26.85 302 *i* P P 23 00 15.1 +1.2
MA2 pmax pmax
comp=Z,43nm,0.9s
E08A **Dider Farm, El** 27.01 89 IAmb IAmb 23 00 34.9
comp=Z,67nm,1.4s
NEW **Newport** 27.26 85 P P 23 00 19.1 +1.3
comp=Z,11nm,0.6s,baz=298,slow=9.5,SNR=14
NEW LR LR 23 09 37.0
comp=Z,573nm,18.9s,baz=294,slow=33
comp=Z,11nm,0.6s
NEW **Newport** 27.26 85 P P 23 00 17.8 0.0
baz=299,SNR=10.0
E09A **Wood Farm, Sta** 27.54 89 IAmb IAmb 23 00 33.9
comp=Z,70nm,1.3s
YBH **Yreka Blue Hor** 27.64 101 P P 23 00 22.6 +1.3
comp=Z,5.5nm,0.9s,baz=267,slow=8.0,SNR=9.3
YBH LR LR 23 08 35.1
comp=Z,2μm,19.9s,baz=308,slow=30
comp=Z,5.5nm,0.9s
K05A **Summer Lake** 28.08 98 P P 23 00 27.3 +2.0
K05A IAmb IAmb 23 00 39.3
comp=Z,58nm,1.3s
WVOR **Wild Horse Val** 29.58 96 P P 23 00 40.1 +1.6
WVOR pmax pmax
comp=Z,19nm,1.5s
MSO **Missoula** 29.84 85 IAmb IAmb 23 00 43.6
comp=Z,75nm,1.8s
MSO **Missoula** 29.84 85 P P 23 00 41.2 +0.3
baz=302,SNR=7.9
MFID **Camas Ranch** 30.63 92 P P 23 00 47.8 -0.1
MFID IAmb IAmb 23 01 01.3
comp=Z,72nm,2.0s
PAHR **Pah Rah Range** 30.88 101 IAmb IAmb 23 01 04.3
comp=Z,81nm,1.8s
EMB **Emerald Bay** 30.96 103 IAmb IAmb 23 01 05.4
comp=Z,60nm,1.8s
PNTR **Pine Nut** 31.17 102 P P 23 00 53.9 +1.1
PNTR IAmb IAmb 23 01 12.1
comp=Z,28nm,0.9s
HLID **Hailey** 31.38 91 IAmb IAmb 23 01 08.5
comp=Z,70nm,1.9s
HLID **Hailey** 31.38 91 P P 23 00 55.8 +1.3
baz=306,SNR=7.1
WAKR **Walker** 31.66 103 P P 23 00 57.9 +0.9
EGMT **Eagleton** 31.67 80 IAmb IAmb 23 00 59.8
comp=Z,52nm,1.4s
BOZ **Bozeman (W)** 31.86 85 P P 23 00 59.7 +1.0
baz=304,SNR=10
KVN **Kaiserville** 32.06 101 IAmb IAmb 23 01 14.7
comp=Z,78nm,1.9s
RES **Resolute Bay** 32.34 27 LR LR 23 17 50.8
comp=Z,2μm,18.2s,baz=245,slow=43
RES **Resolute Bay** 32.34 27 P P 23 01 02.1 -0.2
RES IAmb IAmb 23 01 04.4
comp=Z,30nm,1.1s
RES **Resolute Bay** 32.34 27 P P 23 01 02.1 -0.2
RES pmax pmax
comp=Z,30nm,1.1s
NVAR **Mina Array Bea** 32.36 102 P P 23 01 04.8 +1.6
comp=Z,7.7nm,0.7s,baz=304,slow=8.9,SNR=53
NVAR PcP PcP 23 03 50.2 -0.4
comp=Z,0.5nm,0.6s,baz=321,slow=2.3,SNR=2.0
NVAR ScP ScP 23 07 31.2 -2.1
comp=Z,0.6nm,0.8s,baz=257,slow=4.5,SNR=4.0
comp=Z,7.7nm,0.7s
LHV **Little Huntoon** 32.37 102 IAmb IAmb 23 01 33.0
comp=Z,32nm,1.3s
YHL **Hebgen Lake** 32.54 86 IAmb IAmb 23 01 18.4
comp=Z,39nm,1.1s
YHB **Horse Butte** 32.59 86 IAmb IAmb 23 01 18.7
comp=Z,47nm,1.2s
ELK **Elko** 32.62 96 LR LR 23 12 11.8
comp=Z,792nm,18.8s,baz=314,slow=32
GCMT **Greycliff** 32.90 84 P P 23 01 06.9 -0.9
FFC **Flin Flon** 33.01 65 P P 23 01 08.5 +0.1
FFC IAmb IAmb 23 01 21.5
comp=Z,84nm,2.0s
FFC **Flin Flon** 33.01 65 P P 23 01 08.5 +0.1
FFC pmax pmax
comp=Z,84nm,2.0s
H17A **Grant Village** 33.15 86 IAmb IAmb 23 01 25.2
comp=Z,60nm,1.1s
H17A **Grant Village** 33.15 86 P P 23 01 10.2 +0.1
baz=305
YMP **Mirror Lake Pl** 33.20 86 IAmb IAmb 23 01 24.5
comp=Z,31nm,1.0s
IMW **Indian Meadow** 33.23 87 IAmb IAmb 23 01 24.9
comp=Z,33nm,1.1s
FXWY **Fox Creek** 33.33 88 P P 23 01 12.4 +0.7
FXWY IAmb IAmb 23 01 27.4
comp=Z,39nm,1.8s
HVU **Hansel Valley** 33.42 92 IAmb IAmb 23 01 26.2
comp=Z,75nm,2.0s
TPAW **Teton Pass** 33.46 88 IAmb IAmb 23 01 28.8
comp=Z,46nm,1.6s
REDW **Red Top Meadow** 33.59 88 IAmb IAmb 23 01 28.1
comp=Z,40nm,1.4s
BGU **Big Grassy Mou** 33.80 93 IAmb IAmb 23 01 29.7
comp=Z,53nm,1.6s
AHID **Auburn Hatcher** 33.80 89 IAmb IAmb 23 01 29.5
comp=Z,38nm,1.2s
CWC **Cottonwood Cre** 33.87 104 P P 23 01 17.7 +1.4
baz=315
GRAC **Grapevine Rang** 33.88 103 IAmb IAmb 23 01 42.3
comp=Z,32nm,1.1s
GRAC **Grapevine Rang** 33.88 103 P P 23 01 17.7 +1.4
baz=314
SPUT **South Promonto** 33.90 92 IAmb IAmb 23 01 31.6
comp=Z,56nm,1.9s
R11A **Troy Canyon, C** 33.99 99 P P 23 01 17.7 +0.4
R11A **Troy Canyon, C** 33.99 99 P P 23 01 18.9 +1.5
baz=312,SNR=18
PKM **Mcpherson Peak** 34.00 108 P P 23 01 18.8 +1.3
baz=317
TIXI **Tiksi** 34.14 328 P P 23 01 16.5 -1.6
TIXI IAmb IAmb 23 01 19.6
comp=Z,31nm,1.2s
TIXI **Tiksi** 34.14 328 *ce* P P 23 01 18.4 +0.3
TIXI pmax pmax
comp=Z,29nm,1.3s
TYV **Tymovskoe** 34.15 288 *eP* P 23 01 19.7 +1.3
TYV *eS* S 23 06 49.3 +5.7
TYV pmax pmax
comp=Z,98nm,1.5s
TYV pmax pmax
comp=Z,300nm,3.9s
TYV smax smax
comp=N,400nm,4.0s
TYV smax smax
comp=E,400nm,4.0s
ISA **Isabella, Lake** 34.19 106 P P 23 01 19.7 +0.6
baz=316
HWUT **Hardware Ranch** 34.24 91 IAmb IAmb 23 01 33.5
comp=Z,53nm,1.8s
SPR3 **Spring Creek 3** 34.28 97 IAmb IAmb 23 01 34.9
comp=Z,59nm,1.7s
S11A **Rachel** 34.37 100 IAmb IAmb 23 02 08.8
comp=Z,51nm,1.4s
DUG **Dugway, Tooele** 34.39 94 IAmb IAmb 23 01 34.0
comp=Z,30nm,1.1s
DUG **Dugway, Tooele** 34.39 94 P P 23 01 21.9 +1.0
baz=310,SNR=8.4
DUG **Dugway, Tooele** 34.39 94 P P 23 01 22.0 +1.2
DUG pmax pmax
comp=Z,25nm,2.0s
EUNU **Eureka** 34.42 17 P P 23 01 21.9 +1.4
EUNU IAmb IAmb 23 01 37.9
comp=Z,28nm,1.2s
MPMC **Manual Prospec** 34.47 104 P P 23 01 22.9 +1.2
baz=315,SNR=12
FURC **Furnace Creek,** 34.54 103 P P 23 01 23.2 +1.3
baz=315
TPNV **Topopah Spring** 34.56 102 P P 23 01 23.7 +1.3
baz=314,SNR=14
DGMT **Dagmar** 34.65 76 P P 23 01 23.2 +0.4
DGMT IAmb IAmb 23 01 25.2
comp=Z,28nm,0.7s
DGMT **Dagmar** 34.65 76 P P 23 01 23.5 +0.7
baz=301,SNR=6.7
DGMT **Dagmar** 34.65 76 P P 23 01 24.2 +1.4

baz=301,SNR=6.7
BW06 Boulder Array 34.71 88 P **P** **23 01 24.9 +1.3**
baz=307,SNR=7.8
PDAR Pinedale Array 34.71 88 P **P** **23 01 24.5 +0.8**
comp=Z,3.8nm,0.6s,baz=317,slow=4.9,SNR=51
PDAR LR LR 23 14 15.9
comp=Z,324nm,18.2s,baz=312,slow=34
comp=Z,3.8nm,0.6s
LRMC Laurel Mtn Rad 34.77 105 P **P** **23 01 24.8 +0.7**
baz=316
GWY Greenwater Val 34.85 103 IAmb IAmb 23 01 39.0
comp=Z,23nm,0.9s
QSM Queen of Sheba 34.89 103 IAmb IAmb 23 01 43.3
comp=Z,31nm,1.1s
EDW2 Edwards Air Fo 35.03 106 P **P** **23 01 27.7 +1.4**
baz=317
SHOC Shoshone, Teco 35.28 103 P **P** **23 01 29.5 +1.1**
baz=315
GSC Goldstone, Bar 35.40 104 P **P** **23 01 29.9 +0.4**
GSC Goldstone, Bar 35.40 104 P **P** **23 01 30.6 +1.1**
baz=316,SNR=7.4
GSC Goldstone, Bar 35.40 104 P **P** **23 01 29.9 +0.4**
GSC pmax pmax
comp=Z,12nm,0.9s
TCRU Three Creeks R 35.64 96 IAmb IAmb 23 01 48.7
comp=Z,34nm,1.4s
TUQ Turquoise Moun 35.81 103 P **P** **23 01 31.4 -1.7**
baz=316
CCUT Cedar City 35.82 98 IAmb IAmb 23 01 47.4
comp=Z,77nm,1.9s
MVU Marysvale 35.85 96 IAmb IAmb 23 01 46.9
comp=Z,58nm,1.2s
HEC Hector,Ludlow 36.01 104 P **P** **23 01 36.2 +1.5**
baz=316
RDMU Red Mountain 36.06 91 IAmb IAmb 23 01 49.7
comp=Z,60nm,1.3s
P17A Butcher Ranch, 36.08 93 IAmb IAmb 23 01 49.4
comp=Z,89nm,2.0s
YSS Yuzh-Sakhalins 36.09 283 *e*P P 23 01 30.2 -5.0
YSS pmax pmax
comp=Z,70nm,1.4s
YAK Yakutsk 36.17 311 LR LR 23 18 06.3
comp=Z,2µm,19.7s,baz=88,slow=39
YAK Yakutsk 36.17 311 P **P** **23 01 34.1 -1.6**
YAK Yakutsk 36.17 311 *e*P **P** **23 01 33.2 -2.5**
YAK *e* 23 02 57.9
YAK *e* 23 04 07.6
YAK *e*S **S** **23 07 10.4 -4.1**
YAK *e*SS **SnSn** **23 09 36.8 -3.4**
YAK *e* 23 11 47.6
YAK pmax pmax
comp=Z,81nm,0.9s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,59nm,1.1s
YAK pmax pmax
comp=Z,57nm,1.5s
YAK pmax pmax
comp=N,24nm,1.6s
YAK pmax pmax
comp=E,33nm,1.5s
YAK smax smax
comp=N,201nm,1.7s
YAK smax smax
comp=E,101nm,1.5s
YAK MLR MLR
comp=Z,2µm,20.0s
YAK MLR MLR
comp=E,1µm,18.0s
Q16A Castle Valley 36.19 94 IAmb IAmb 23 01 49.8
comp=Z,49nm,1.4s
LCMT Little Creek M 36.26 99 IAmb IAmb 23 01 51.2
comp=Z,55nm,1.7s
GMRC Granite Mounta 36.43 104 P **P** **23 01 39.0 +0.6**
baz=316,SNR=11
K22A Casper 36.56 86 IAmb IAmb 23 01 52.3
comp=Z,42nm,1.1s
K22A Casper 36.56 86 P **P** **23 01 40.7 +1.2**
baz=307,SNR=5.2
K22A Casper 36.56 86 P **P** **23 01 40.6 +1.1**
baz=307,SNR=5.2
BELC Belle Mtn. Jos 36.80 105 P **P** **23 01 42.2 +0.6**
baz=317,SNR=7.4
PFO Pinyon Flats O 36.82 106 P **P** **23 01 42.3 +0.6**
PFO Pinyon Flats O 36.82 106 P **P** **23 01 42.8 +1.1**
baz=318
PFO Pinyon Flats O 36.82 106 P **P** **23 01 42.3 +0.6**
PFO pmax pmax
comp=Z,18nm,1.2s
TPFO Pinon Flats 36.83 106 P **P** **23 01 42.6 +0.8**
baz=318
O20A White River Ci 37.12 90 P **P** **23 01 44.9 +0.7**
baz=310,SNR=30
RSSD Black Hills 37.14 82 P **P** **23 01 43.7 -0.7**
RSSD Black Hills 37.14 82 P **P** **23 01 45.6 +1.2**
baz=306,SNR=7.9
RSSD Black Hills 37.14 82 P **P** **23 01 45.0 +0.5**
baz=306
RSSD Black Hills 37.14 82 P **P** **23 01 43.7 -0.7**
RSSD pmax pmax
comp=Z,18nm,0.8s
IRM Iron Mountain 37.17 104 P **P** **23 01 45.8 +1.2**
baz=317,SNR=11
BC3 Big Chuckawall 37.36 105 P **P** **23 01 46.9 +0.7**
baz=317
MONP2 Monument Peak 37.37 107 P **P** **23 01 47.1 +0.6**
baz=318
MDND Maddock 37.59 74 P **P** **23 01 49.4 +1.4**
baz=303,SNR=12
MDND Maddock 37.59 74 P **P** **23 01 48.8 +0.9**
baz=303,SNR=12
PDMCI Parker Dam,Lak 37.64 103 P **P** **23 01 50.2 +1.7**
baz=316
GRNR Gornyy 37.64 292 *c i*P **P** **23 01 48.2 -0.2**
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,40nm,1.1s
GRNR MLR MLR
comp=N,340nm,13.0s
GRNR MLR MLR
comp=Z,450nm,16.0s
E28A Huff 37.67 77 P **P** **23 01 50.5 +1.9**
baz=304,SNR=5.2
SWSC Sam W. Stewart 37.69 106 P **P** **23 01 50.2 +1.3**
baz=318
IKP In-Ko-Pah, Jac 37.73 107 P **P** **23 01 50.1 +0.7**
baz=318
BLYC Blythe 37.82 104 IAmb IAmb 23 02 05.0
comp=Z,54nm,1.5s
YUH Yuha Desert 37.84 106 P **P** **23 01 49.8 -0.3**
PV11 David Mesa, Pa 37.95 93 IAmb IAmb 23 02 05.5
comp=Z,74nm,1.6s
PV07 Paradox Valley 37.99 93 IAmb IAmb 23 02 05.9
comp=Z,74nm,1.7s
N23A Red Feather La 37.99 88 IAmb IAmb 23 02 05.1
comp=Z,63nm,1.3s
N23A Red Feather La 37.99 88 P **P** **23 01 52.0 +0.3**
baz=309,SNR=8.6
GLA Glamis 38.16 105 P **P** **23 01 53.7 +0.8**
baz=318
WUAZ Wupatki 38.38 99 P **P** **23 01 56.5 +1.6**
baz=315
ULM Lac du Bonnet 38.39 69 P **P** **23 01 54.4 -0.3**
comp=Z,36nm,0.7s,baz=306,slow=8.6,SNR=27
ULM PcP **PcP** **23 04 07.0 -0.8**
comp=Z,4.1nm,0.6s,baz=326,slow=8.7,SNR=2.5
ULM LR LR 23 18 01.6
comp=Z,1µm,18.4s,baz=290,slow=36
comp=Z,36nm,0.7s
ULM Lac du Bonnet 38.39 69 P **P** **23 01 54.1 -0.5**
ULM IAmb IAmb 23 01 56.3
comp=Z,41nm,0.8s
ULM Lac du Bonnet 38.39 69 P **P** **23 01 54.1 -0.5**
ULM pmax pmax
comp=Z,41nm,0.8s
TULEG Thule 38.48 22 IAmb IAmb 23 01 57.1
comp=Z,94nm,1.5s
TULEG Thule 38.48 22 *i*P **P** **23 01 54.0 -1.1**
TULEG Thule 38.48 22 *e*P **P** **23 01 54.6 -0.4**
TULEG IAmb IAmb 23 01 56.7
comp=Z,95nm,1.5s
MVCO Mesa Verde 38.90 94 P **P** **23 01 59.4 +0.1**
baz=313
AGMN Agassiz Nation 39.44 71 IAmb IAmb 23 02 05.0
comp=Z,51nm,0.8s
AGMN Agassiz Nation 39.44 71 P **P** **23 02 04.2 +0.7**
baz=304,SNR=21
AGMN Agassiz Nation 39.44 71 P **P** **23 02 03.6 +0.1**
baz=304,SNR=21
S22A 4UR Ranch, Cre 39.52 92 IAmb IAmb 23 02 19.6
comp=Z,88nm,1.8s
S22A 4UR Ranch, Cre 39.52 92 P **P** **23 02 05.5 +0.9**
baz=312,SNR=8.3
W18A Petrified Fore 39.61 98 P **P** **23 02 06.5 +1.2**
baz=315
Q24A Divide 39.70 89 P **P** **23 02 06.8 +0.7**
baz=311,SNR=6.2
214A Organ Pipe Nat 40.11 104 P **P** **23 02 10.7 +1.4**
baz=318,SNR=7.8
SDCO Great Sand Dun 40.30 91 P **P** **23 02 12.6 +1.5**
baz=312,SNR=14
SDCO Great Sand Dun 40.30 91 P **P** **23 02 11.5 +0.4**
baz=312,SNR=14
B35A Bob, Littlefor 40.59 70 IAmb IAmb 23 02 14.4
comp=Z,37nm,0.7s
B35A Bob, Littlefor 40.59 70 P **P** **23 02 13.5 +0.5**
baz=304,SNR=14
ZEA Zeya 40.97 300 *e*P **P** **23 02 15.5 -0.6**
ZEA *e* 23 08 31.6
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA MLR MLR
comp=N,400nm,15.0s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=Z,500nm,13.0s
KLR Kul'dur 41.02 292 P **P** **23 02 15.8 -0.7**
comp=Z,6.8nm,0.4s,baz=57,slow=5.3,SNR=33
comp=Z,6.8nm,0.4s
KLR Kul'dur 41.02 292 *ce*P **P** **23 02 16.4 -0.1**
KLR pmax pmax
comp=Z,78nm,1.7s
TUC Tucson 41.02 102 P **P** **23 02 16.7 -0.1**
TUC Tucson 41.02 102 P **P** **23 02 17.7 +0.9**
baz=317
TUC Tucson 41.02 102 P **P** **23 02 16.7 -0.1**
TUC pmax pmax
comp=Z,13nm,1.1s
KSCO Kaye Shedlock' 41.15 87 IAmb IAmb 23 02 20.6
comp=Z,49nm,0.7s
KSCO Kaye Shedlock' 41.15 87 P **P** **23 02 19.1 +1.2**
baz=311
T25A Trinidad 41.35 91 P **P** **23 02 20.7 +1.1**
baz=313,SNR=16
ANMO Albuquerque 41.65 95 LR LR 23 17 39.0
comp=Z,118nm,18.9s,baz=314,slow=33
ANMO Albuquerque 41.65 95 P **P** **23 02 22.6 +0.5**
ANMO Albuquerque 41.65 95 P **P** **23 02 22.0 -0.2**
baz=315
ANMO Albuquerque 41.65 95 *ce*P **P** **23 02 20.9 -1.2**
ANMO pmax pmax
comp=Z,9.0nm,2.5s
ECSD EROS Data Cent 41.67 77 P **P** **23 02 22.2 +0.2**
baz=308,SNR=9.8
ECSD EROS Data Cent 41.67 77 P **P** **23 02 21.6 -0.3**
baz=308,SNR=9.8
KULLO Kullorsuaq 41.94 23 *e*P **P** **23 02 27.5 +3.8**
KULLO IAmb IAmb 23 02 37.7
comp=Z,56nm,0.8s
EYMN Ely 42.06 69 IAmb IAmb 23 02 27.2
comp=Z,58nm,0.8s
EYMN Ely 42.06 69 P **P** **23 02 25.8 +0.8**
baz=305,SNR=17
EYMN Ely 42.06 69 P **P** **23 02 25.2 +0.2**
baz=305,SNR=17
Y22A Socorro 42.06 96 P **P** **23 02 27.7 +2.3**
baz=316
F36A Milaca 42.15 73 P **P** **23 02 26.3 +0.5**
baz=306,SNR=9.1
H11N2 WAKE ISLAND Hy 42.56 229 T T 23 48 03.6
baz=28,slow=76,SNR=1076
H11N3 WAKE ISLAND Hy 42.57 229 T T 23 48 04.0
baz=28,slow=76,SNR=985
H11N1 WAKE ISLAND Hy 42.58 229 T T 23 48 04.9
baz=28,slow=76,SNR=976
121A Cookes Peak, D 42.59 99 P **P** **23 02 31.0 +1.2**
baz=317
121A Cookes Peak, D 42.59 99 P **P** **23 02 30.7 +0.9**
baz=317
HEH HeiHe 42.78 296 *e*P **P** **23 02 29.5 -1.4**
HEH pmax pmax
comp=Z,48nm,1.2s
HEH LR LR
comp=Z,980nm,16.7s
HEH LR LR
comp=Z,770nm,15.5s
HEH LR LR
comp=Z,1µm,17.1s
E38A The Farm, Brul 42.81 71 IAmb IAmb 23 02 32.5
comp=Z,50nm,0.8s
E38A The Farm, Brul 42.81 71 P **P** **23 02 32.2 +1.1**
baz=306,SNR=11
CBKS Cedar Bluff 42.98 85 IAmb IAmb 23 02 45.8
comp=Z,50nm,1.1s
CBKS Cedar Bluff 42.98 85 P **P** **23 02 33.8 +1.1**
baz=312,SNR=6.8
CBKS Cedar Bluff 42.98 85 P **P** **23 02 33.5 +0.8**
baz=312,SNR=6.8
UPNV Upernavik 43.16 25 *i*P **P** **23 02 34.5 +0.8**
UPNV IAmb IAmb 23 02 47.7
comp=Z,34nm,0.8s
I37A Lemond, Waseca 43.33 75 IAmb IAmb 23 02 50.1
comp=Z,74nm,1.1s
H11S1 WAKE ISLAND Hy 43.73 229 T T 23 49 37.6
baz=28,slow=76,SNR=92
H11S2 WAKE ISLAND Hy 43.74 229 T T 23 49 37.6
baz=28,slow=76,SNR=94
H11S3 WAKE ISLAND Hy 43.74 229 T T 23 49 49.5
baz=28,slow=76,SNR=84
USRK Ussuriysk Ar. 43.84 286 P **P** **23 02 37.9 -1.5**
comp=Z,3.1nm,0.5s,baz=61,slow=10.0,SNR=9.5
USRK LR LR 23 21 35.8
comp=Z,487nm,20.3s,baz=48,slow=37
comp=Z,3.1nm,0.5s
N35A Tabor 44.03 80 IAmb IAmb 23 02 55.2
comp=Z,58nm,1.1s
JSD Sado 44.17 275 P **P** **23 02 42.8 +0.6**
FRB Frobisher Bay 44.21 40 LR LR 23 22 53.2
comp=Z,2µm,18.1s,baz=298,slow=38
G40A Rib Lake 44.37 72 IAmb IAmb 23 02 45.5
comp=Z,33nm,0.9s
G40A Rib Lake 44.37 72 P **P** **23 02 44.9 +1.2**
baz=308,SNR=9.3
COWI Conover 44.45 70 IAmb IAmb 23 02 45.5
comp=Z,18nm,0.7s
COWI Conover 44.45 70 P **P** **23 02 44.2 -0.3**
baz=308
MSTX Muleshoe 44.50 93 P **P** **23 02 46.3 +1.2**
baz=315,SNR=7.0
MSTX Muleshoe 44.50 93 P **P** **23 02 45.9 +0.8**
baz=315,SNR=7.0
AMTX Amarillo 44.50 91 P **P** **23 02 45.0 -0.1**
AMTX IAmb IAmb 23 02 59.1
comp=Z,81nm,1.4s
AMTX Amarillo 44.50 91 P **P** **23 02 45.8 +0.8**
baz=314,SNR=7.7
AMTX Amarillo 44.50 91 P **P** **23 02 45.8 +0.8**
baz=314
NUUG Nuugaatsiaq 44.62 26 *e*P **P** **23 02 46.5 +1.1**
I40A Norwalk 44.98 73 IAmb IAmb 23 03 02.2
comp=Z,31nm,0.8s
I40A Norwalk 44.98 73 P **P** **23 02 48.7 0.0**
baz=309,SNR=8.4
OK035 E0210 Rd and N 44.99 87 IAmb IAmb 23 03 00.9
comp=Z,28nm,0.8s
ELIS Ellis County 45.02 88 IAmb IAmb 23 03 01.9
comp=Z,44nm,1.0s
BOD Bodaibo 45.10 311 *e*P **P** **23 02 48.3 -1.1**
BOD pmax pmax
comp=Z,20nm,1.6s
OK038 West end E0370 45.13 87 IAmb IAmb 23 03 02.0
comp=Z,21nm,0.9s
KAN05 Bluff City Nor 45.21 86 IAmb IAmb 23 02 48.7
comp=Z,17nm,0.8s
F42A Maple Grove Fa 45.21 70 P **P** **23 02 51.2 +0.7**
baz=308
MAJO Matsushiro 45.21 273 P **P** **23 02 49.6 -1.0**
MAJO Matsushiro 45.21 273 P **P** **23 02 51.5 +0.9**
MAJO Matsushiro 45.21 273 *c i*P **P** **23 02 51.1 +0.5**
MAJO pmax pmax
comp=Z,34nm,1.0s
MJAR Matsushiro Arr 45.21 273 P **P** **23 02 50.8 +0.2**
comp=Z,8.1nm,0.5s,baz=34,slow=6.3,SNR=24
comp=Z,8.1nm,0.5s
OK032 Salt Plains WL 45.22 86 IAmb IAmb 23 03 04.0
comp=Z,81nm,1.7s
MSHR Mys Shultsa 45.33 285 *ce*P **P** **23 02 52.4 +1.0**
MSHR pmax pmax
comp=Z,65nm,0.9s
BNX BinXian 45.45 290 ⇑P **P** **23 02 52.1 -0.2**
BNX pmax pmax
comp=Z,34nm,1.8s
BNX pmax pmax
comp=Z,140nm,4.4s
E43A Lone Tree Farm 45.46 68 P **P** **23 02 52.4 -0.1**
baz=308,SNR=8.8
KAN13 South Haven SW 45.51 86 IAmb IAmb 23 03 05.0
comp=Z,40nm,1.2s
L40A Anamosa 45.80 76 IAmb IAmb 23 03 08.3
comp=Z,48nm,1.4s
L40A Anamosa 45.80 76 P **P** **23 02 55.2 0.0**
baz=310,SNR=5.3
JFWS Jewell Farm 45.81 74 P **P** **23 02 54.7 -0.6**
baz=310,SNR=6.6
JFWS Jewell Farm 45.81 74 P **P** **23 02 54.7 -0.6**
baz=310,SNR=6.6
I42A Draeger Farm, 45.94 72 P **P** **23 02 56.2 -0.1**
baz=309,SNR=10
P38A Dawn 46.06 80 P **P** **23 02 56.8 -0.4**
baz=312,SNR=8.5
H43A Windswept, Lux 46.22 71 P **P** **23 02 58.8 +0.3**
baz=309,SNR=6.6
WMOK Wichita Mounta 46.31 89 IAmb IAmb 23 03 01.3
comp=Z,34nm,0.8s
WMOK Wichita Mounta 46.31 89 P **P** **23 02 59.7 +0.4**
baz=315,SNR=47
WMOK Wichita Mounta 46.31 89 P **P** **23 02 59.4 +0.1**
baz=315,SNR=47
JGF Kuroka 46.36 273 P **P** **23 03 01.0 +1.3**
comp=Z,56nm,1.8s
OK033 Mehan 46.49 86 P **P** **23 02 59.4 -1.3**
OK033 IAmb IAmb 23 03 12.7
comp=Z,29nm,1.0s
QUOK Quay 46.53 86 IAmb IAmb 23 03 13.0
comp=Z,19nm,0.9s
L42A Oliver, Polo 46.72 75 IAmb IAmb 23 03 15.1
comp=Z,30nm,1.1s
INU Inuyama 46.73 273 P **P** **23 03 02.2 -0.3**
INU IAmb IAmb 23 03 03.9
comp=Z,42nm,1.4s
INU Inuyama 46.73 273 P **P** **23 03 04.4 +1.8**
comp=Z,23nm,1.3s
E46A Sault Ste Mari 46.93 67 P **P** **23 03 04.5 +0.6**
baz=309,SNR=9.2
P40A Paris 46.98 79 IAmb IAmb 23 03 16.9
comp=Z,24nm,0.8s
P40A Paris 46.98 79 P **P** **23 03 04.5 0.0**
baz=312,SNR=7.8
K43A Burlington 47.03 73 P **P** **23 03 04.6 -0.2**
baz=310,SNR=6.7
DAG Danmarks Havn 47.09 11 *i*P **P** **23 03 05.0 +0.1**
DAG IAmb IAmb 23 03 06.3
comp=Z,32nm,0.7s
TUL1 Leonard 47.25 85 P **P** **23 03 06.1 -0.5**
baz=314
ABTX Abilene, Hawle 47.30 92 P **P** **23 03 07.5 +0.5**
baz=316,SNR=16
ABTX Abilene, Hawle 47.30 92 P **P** **23 03 07.0 0.0**
baz=316,SNR=16
SUMG Summit 47.33 20 *i*P **P** **23 03 08.0 +0.8**
SUMG IAmb IAmb 23 03 10.3
comp=Z,69nm,1.3s
TX31 Lajitas Ar. Si 47.33 98 P **P** **23 03 08.2 +0.8**
baz=318,SNR=28
TX32 Lajitas Array 47.33 98 IAmb IAmb 23 03 21.2
comp=Z,40nm,1.1s
TXAR Lajitas Array 47.33 98 P **P** **23 03 08.2 +0.8**
comp=Z,11nm,0.8s,baz=304,slow=5.3,SNR=95
TXAR LR LR 23 21 45.3
comp=Z,601nm,18.3s,baz=320,slow=34
comp=Z,11nm,0.8s
HIA Hailar 47.37 299 P **P** **23 03 08.9 +1.4**
comp=Z,17nm,1.6s
NRIK Noril'sk 47.41 334 P **P** **23 03 07.8 +0.3**
comp=Z,19nm,0.6s,baz=67,slow=7.2,SNR=30
comp=Z,19nm,0.6s
NRIK Noril'sk 47.41 334 P **P** **23 03 07.6 +0.1**
NRIK IAmb IAmb 23 03 08.3
comp=Z,27nm,0.8s
NRIK Noril'sk 47.41 334 *ce*P **P** **23 03 07.5 +0.1**
NRIK pmax pmax
comp=Z,67nm,1.4s
RLO Rose Lookout 47.53 85 IAmb IAmb 23 03 32.4
comp=Z,26nm,1.3s
LPIG La Paz 47.54 109 LR LR 23 20 13.0
comp=Z,251nm,18.4s,baz=317,slow=32
R40A Maddies Statio 47.68 80 P **P** **23 03 08.4 -1.6**
baz=313,SNR=5.6
U38A Gravette 47.71 84 P **P** **23 03 09.3 -0.9**
baz=314
CN2 Changchun 47.75 290 ⇑P **P** **23 03 10.3 -0.1**
CN2 *es*P pwP 23 03 17.0 -0.8
CN2 *e*S **S** **23 10 03.8 -2.0**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,400nm,4.0s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,400nm,18.0s
LOOK Love County 47.77 88 IAmb IAmb 23 03 12.4
comp=Z,24nm,0.8s
HDIL Hopedale 47.88 76 P **P** **23 03 11.4 -0.1**
baz=312,SNR=8.0
HDIL Hopedale 47.88 76 P **P** **23 03 10.7 -0.8**
baz=312,SNR=8.0
SPITS Spitsbergen Ar 47.93 1 LR LR 23 23 36.4
comp=Z,445nm,19.0s,baz=336,slow=36
M44A Midewin, Midew 48.05 74 P **P** **23 03 11.8 -0.9**
baz=311,SNR=5.5
Z35A Perchaven, San 48.20 89 P **P** **23 03 14.4 +0.4**
baz=316
SFJD Kangerlussuaq 48.23 30 LR LR 23 26 22.7
comp=Z,772nm,18.7s,baz=314,slow=40
SFJD Kangerlussuaq 48.23 30 P **P** **23 03 14.6 +0.8**
SFJD Kangerlussuaq 48.23 30 *e*P **P** **23 03 14.4 +0.6**
SFJD IAmb IAmb 23 03 16.4
comp=Z,31nm,0.9s
SFJD Kangerlussuaq 48.23 30 P **P** **23 03 14.6 +0.8**
SFJD pmax pmax
comp=Z,59nm,1.0s
X37A Clayton 48.42 86 P **P** **23 03 15.7 0.0**
baz=315,SNR=5.9
JCT Junction City 48.75 94 P **P** **23 03 18.6 +0.2**
baz=317,SNR=26
JCT Junction City 48.75 94 P **P** **23 03 17.6 -0.7**
baz=317,SNR=26
WHTX Lake Whitney, 49.04 90 P **P** **23 03 21.0 +0.6**
baz=316,SNR=7.5
WHTX Lake Whitney, 49.04 90 P **P** **23 03 19.9 -0.5**
baz=316,SNR=7.5
SFIN Lafayette 49.25 75 P **P** **23 03 22.1 0.0**
baz=312,SNR=16
SFIN Lafayette 49.25 75 P **P** **23 03 20.9 -1.1**
baz=312,SNR=16
JHS Saijyo 49.27 276 IAmb IAmb 23 03 36.3
comp=Z,38nm,1.2s
JHS Saijyo 49.27 276 P **P** **23 03 23.3 +1.1**
FCAR Ozark Folk Cen 49.41 83 P **P** **23 03 20.9 -2.4**
FCAR IAmb IAmb 23 03 45.6
comp=Z,27nm,1.3s
MIAR Mount Ida 49.50 85 IAmb IAmb 23 03 37.0
comp=Z,61nm,1.8s
MIAR Mount Ida 49.50 85 P **P** **23 03 23.8 -0.2**
baz=315,SNR=5.1
MIAR Mount Ida 49.50 85 P **P** **23 03 24.1 +0.2**
baz=315,SNR=5.1
P46A Rosedale 49.70 76 IAmb IAmb 23 03 38.9
comp=Z,30nm,0.8s
L48A N Adams 49.71 71 P **P** **23 03 24.9 -0.6**
baz=312,SNR=5.3
L48A P **P** **23 03 24.9 -0.6**
baz=312,SNR=5.3
N47A Urbana 49.71 73 P **P** **23 03 24.5 -1.0**
baz=312,SNR=12
N47A P **P** **23 03 24.5 -1.0**
baz=312,SNR=12

JMN Monobe 49.71 274 P **P** **23 03 26.2 +0.6**
JMN Monobe 49.71 274 P **P** **23 03 27.0 +1.3**
OLIL Olney 49.79 77 P **P** **23 03 25.5 -0.6**
baz=313,SNR=9.6
435B Jarrell 49.83 92 P **P** **23 03 26.4 -0.1**
baz=317
CGM3 Cape Girardeau 49.87 79 IAmb IAmb 23 03 39.5
comp=Z,24nm,1.3s
SNY Shenyang 50.09 289 ⇑P **P** **23 03 29.1 +0.8**
SNY S **S** **23 10 40.1 +1.5**
SNY pmax pmax
comp=Z,85nm,1.2s
SNY pmax pmax
comp=Z,350nm,3.7s
SNY LR LR
comp=Z,790nm,17.8s
SNY LR LR
comp=Z,800nm,17.6s
SNY LR LR
comp=Z,810nm,20.4s
SCHQ Schefferville 50.23 49 P **P** **23 03 29.3 +0.1**
comp=Z,13nm,0.6s,baz=308,slow=7.3,SNR=16
SCHQ LR LR 23 27 23.5
comp=Z,857nm,18.4s,baz=302,slow=39
comp=Z,13nm,0.6s
O48B Farmland 50.43 74 P **P** **23 03 29.6 -1.4**
baz=313,SNR=12
O48B Farmland 50.43 74 P **P** **23 03 29.6 -1.4**
baz=313,SNR=12
N49A Columbus Grove 50.53 72 P **P** **23 03 30.4 -1.4**
baz=312,SNR=6.7
N49A P **P** **23 03 30.4 -1.4**
baz=312,SNR=6.7
833A Chaparral WMA, 50.58 95 P **P** **23 03 33.2 +1.0**
baz=318,SNR=6.4
833A Chaparral WMA, 50.58 95 P **P** **23 03 31.4 -0.8**
baz=318,SNR=6.4
KS19 Wonju Array Si 50.58 282 IAmb IAmb 23 03 36.3
comp=Z,45nm,1.1s
KSRS Korea Array 50.58 282 P **P** **23 03 32.9 +0.8**
comp=Z,16nm,0.7s,baz=49,slow=6.8,SNR=19
comp=Z,16nm,0.7s
KSAR Wonju Array Be 50.61 282 P **P** **23 03 32.1 -0.3**
KSAR Wonju Array Be 50.61 282 P **P** **23 03 32.1 -0.3**
SADO Sadowa 50.73 65 IAmb IAmb 23 03 34.0
comp=Z,25nm,0.8s
P48A Milroy 50.82 74 IAmb IAmb 23 03 46.4
comp=Z,60nm,1.4s
NATX Nacogdoches 50.85 88 P **P** **23 03 34.1 -0.1**
baz=316
WCI Wyandotte Cave 51.17 76 P **P** **23 03 35.7 -0.8**
WCI Wyandotte Cave 51.17 76 P **P** **23 03 35.2 -1.3**
baz=314
WCI Wyandotte Cave 51.17 76 P **P** **23 03 35.7 -0.8**
WCI pmax pmax
comp=Z,15nm,0.8s
P49A Miami Univ. Ec 51.17 74 P **P** **23 03 35.3 -1.2**
baz=313
HKT Hockley 51.47 91 P **P** **23 03 38.3 -0.5**
HKT Hockley 51.47 91 P **P** **23 03 40.3 +1.4**
baz=318
HKT Hockley 51.47 91 P **P** **23 03 38.3 -0.5**
HKT pmax pmax
comp=Z,111nm,1.6s
T47A Sharon Grove 51.56 78 IAmb IAmb 23 03 52.9
comp=Z,28nm,0.9s
TJN Taejon 51.65 281 P **P** **23 03 40.8 +0.6**
ACSO Alum Creek Sta 51.67 72 P **P** **23 03 38.8 -1.5**
baz=313
DELO Deloro Mine 51.71 65 IAmb IAmb 23 03 41.8
comp=Z,37nm,1.4s
WVT Waverly 51.74 79 P **P** **23 03 40.3 -0.5**
WVT IAmb IAmb 23 03 41.7
comp=Z,31nm,0.7s
WVT Waverly 51.74 79 P **P** **23 03 40.4 -0.5**
baz=315,SNR=23
WVT Waverly 51.74 79 P **P** **23 03 39.4 -1.5**
baz=315
WVT Waverly 51.74 79 P **P** **23 03 40.3 -0.5**
WVT pmax pmax
comp=Z,31nm,0.7s
JNU Nakatsue 51.90 276 P **P** **23 03 43.0 +0.8**
OXF Oxford 51.96 82 IAmb IAmb 23 03 54.1
comp=Z,37nm,0.9s
OXF Oxford 51.96 82 P **P** **23 03 41.9 -0.6**
baz=315
J54A Appleton 52.00 66 P **P** **23 03 42.8 +0.2**
baz=312,SNR=5.3
J54A P **P** **23 03 42.8 +0.2**
baz=312,SNR=5.3
ERPA Erie 52.05 68 P **P** **23 03 42.1 -1.0**
baz=313
M53A WI Miller and 52.13 69 P **P** **23 03 43.1 -0.6**
baz=313
P51A Williamsport 52.14 73 IAmb IAmb 23 03 44.2
comp=Z,26nm,1.0s
MEDO Medina 52.17 66 IAmb IAmb 23 03 45.3
comp=Z,35nm,0.8s
TRQ Mont Tremblant 52.18 61 IAmb IAmb 23 03 44.7
comp=Z,35nm,0.9s
R50A Paris 52.25 75 P **P** **23 03 44.1 -0.6**
baz=314,SNR=6.4
R50A P **P** **23 03 44.1 -0.6**
baz=314,SNR=6.4
Q51A Peebles 52.29 73 P **P** **23 03 43.6 -1.3**
Q51A Peebles 52.29 73 P **P** **23 03 44.5 -0.5**
baz=314,SNR=15
Q51A P **P** **23 03 44.5 -0.5**
baz=314,SNR=15
O52A Adamsville 52.39 71 IAmb IAmb 23 03 46.7
comp=Z,29nm,1.0s
O52A Adamsville 52.39 71 P **P** **23 03 45.5 -0.2**
baz=314,SNR=5.5
O52A P **P** **23 03 45.5 -0.2**
baz=314,SNR=5.5
PLAL Pickwick Lake 52.40 80 IAmb IAmb 23 03 46.3
comp=Z,18nm,0.7s
PECO Prince Edward 52.44 65 IAmb IAmb 23 03 47.2
comp=Z,41nm,1.4s
J55A Hilton 52.45 66 IAmb IAmb 23 03 47.1
comp=Z,29nm,0.8s
J55A Hilton 52.45 66 P **P** **23 03 46.1 +0.1**
baz=313,SNR=5.2
J55A P **P** **23 03 46.1 +0.1**
baz=313,SNR=5.2
P52A Corning 52.56 72 P **P** **23 03 45.0 -1.9**
baz=314
WVNY West Valley, N 52.61 67 IAmb IAmb 23 03 48.3
comp=Z,38nm,1.0s
WVNY West Valley, N 52.61 67 P **P** **23 03 47.8 +0.5**
baz=313,SNR=6.1
CLTN Cedars of Leba 52.63 78 IAmb IAmb 23 04 01.1
comp=Z,25nm,0.9s
O53A New Philadelph 52.65 71 P **P** **23 03 46.5 -1.0**
baz=314
U49A Red Boiling Sp 52.65 77 IAmb IAmb 23 05 11.7
comp=Z,25nm,0.9s
U49A Red Boiling Sp 52.65 77 P **P** **23 03 47.3 -0.4**
baz=315,SNR=14
MMNY Mt. Morris Dam 52.76 66 P **P** **23 03 46.5 -1.9**
MMNY IAmb IAmb 23 03 49.3
comp=Z,68nm,1.5s
XLT XiLinHaoTe 52.78 296 ⇑P **P** **23 03 49.4 +0.8**
XLT pP sP 23 03 54.8 -0.1
XLT sP pwP 23 03 57.5 +1.5
XLT PP **PP** **23 05 52.1 +4.5**
XLT S **S** **23 11 18.3 +2.4**
XLT sS sS 23 11 28.4 +4.2
XLT pmax pmax
comp=Z,51nm,1.0s
XLT pmax pmax
comp=Z,440nm,3.6s
XLT LR LR
comp=Z,480nm,15.6s
XLT LR LR
comp=Z,330nm,17.9s
T50A Nancy 52.84 76 IAmb IAmb 23 04 02.3
comp=Z,28nm,1.2s
Q52A Bidwell 52.95 73 IAmb IAmb 23 05 12.3
comp=Z,34nm,1.3s
IRK Irkutsk 52.95 310 *e*P **P** **23 03 49.8 +0.2**
IRK pmax pmax
comp=Z,137nm,2.1s
J56A Wolcott 52.96 65 IAmb IAmb 23 04 01.8
comp=Z,39nm,1.4s
S51A Beattyville 53.11 75 IAmb IAmb 23 03 51.5
comp=Z,18nm,0.8s

S51A Beattyville 53.11 75 P **P** **23 03 50.3 -0.7**
baz=314,SNR=5.9
S51A P **P** **23 03 50.3 -0.7**
baz=314,SNR=5.9
WCNY West Carthage 53.12 64 P **P** **23 03 50.9 -0.1**
baz=313,SNR=16
BMNY Brushton-Moira 53.13 62 P **P** **23 03 50.3 -0.7**
baz=313,SNR=5.6
MNTQ Montreal, Queb 53.14 61 IAmb IAmb 23 03 51.2
comp=Z,20nm,0.9s
O54A Avella 53.16 70 P **P** **23 03 50.6 -0.7**
baz=314,SNR=5.8
O54A P **P** **23 03 50.6 -0.7**
baz=314,SNR=5.8
M55A Ridgway 53.16 68 P **P** **23 03 51.2 -0.2**
baz=314,SNR=13
M55A P **P** **23 03 51.2 -0.2**
baz=314,SNR=13
LONY Lake Ozonia 53.24 63 IAmb IAmb 23 03 52.6
comp=Z,26nm,1.1s
LONY Lake Ozonia 53.24 63 P **P** **23 03 51.1 -0.8**
baz=313,SNR=5.1
J57A Williamstown 53.32 65 IAmb IAmb 23 03 53.6
comp=Z,26nm,0.8s
J57A Williamstown 53.32 65 P **P** **23 03 52.4 -0.1**
baz=313,SNR=8.2
J57A P **P** **23 03 52.4 -0.1**
baz=313,SNR=8.2
L56A Greenwood 53.36 67 P **P** **23 03 52.5 -0.3**
baz=314,SNR=14
L56A P **P** **23 03 52.5 -0.3**
baz=314,SNR=14
X48A Hartselle 53.38 80 IAmb IAmb 23 04 05.8
comp=Z,45nm,1.6s
K57A Scipio Center 53.51 66 P **P** **23 03 53.5 -0.4**
baz=314
R53A Hurricane 53.56 73 IAmb IAmb 23 04 07.5
comp=Z,29nm,0.9s
Z47A Carrollton 53.67 82 P **P** **23 03 53.9 -1.3**
Z47A IAmb IAmb 23 03 55.9
comp=Z,23nm,0.7s
Q54A Coxs Mills 53.73 72 IAmb IAmb 23 05 15.4
comp=Z,32nm,1.4s
J58A Remsen 53.73 64 P **P** **23 03 55.2 -0.4**
baz=314,SNR=15
J58A P **P** **23 03 55.2 -0.4**
baz=314,SNR=15
MCWV Mont Chateau 53.81 71 P **P** **23 03 54.1 -2.0**
baz=314
W50A Signal Mountai 53.85 78 IAmb IAmb 23 04 09.5
comp=Z,40nm,1.2s
W50A Signal Mountai 53.85 78 P **P** **23 03 56.5 0.0**
baz=316,SNR=5.6
NCB Newcomb 53.88 63 IAmb IAmb 23 03 57.8
comp=Z,48nm,1.1s
NCB Newcomb 53.88 63 P **P** **23 03 56.7 +0.1**
baz=314,SNR=10
TZTN Tazewell 53.91 76 IAmb IAmb 23 03 57.5
comp=Z,19nm,0.7s
TZTN Tazewell 53.91 76 P **P** **23 03 55.4 -1.5**
baz=315
V51A Loudon 53.97 77 IAmb IAmb 23 04 08.5
comp=Z,23nm,1.2s
J59A Piesco 54.08 64 P **P** **23 03 57.9 -0.1**
baz=314,SNR=13
J59A P **P** **23 03 57.9 -0.1**
baz=314,SNR=13
CPCT Cooper Cave 54.12 77 IAmb IAmb 23 04 16.6
comp=Z,26nm,1.3s
M57A Sunshine Farm, 54.14 67 IAmb IAmb 23 04 09.4
comp=Z,42nm,1.2s
M57A Sunshine Farm, 54.14 67 P **P** **23 03 58.4 -0.1**
baz=314,SNR=5.5
M57A P **P** **23 03 58.4 -0.1**
baz=314,SNR=5.5
FPAL Fort Paine 54.14 79 P **P** **23 03 57.0 -1.7**
FPAL IAmb IAmb 23 03 58.7
comp=Z,22nm,0.7s
BINY Binghamton 54.16 66 IAmb IAmb 23 03 59.8
comp=Z,42nm,1.2s
BINY Binghamton 54.16 66 P **P** **23 03 58.9 +0.2**
baz=314
BINY Binghamton 54.16 66 P **P** **23 03 58.0 -0.7**
baz=314
Y49A Blount Mountai 54.17 80 P **P** **23 03 57.3 -1.5**
baz=316
SSPA Standing Stone 54.21 68 P **P** **23 03 58.2 -0.9**
SSPA Standing Stone 54.21 68 P **P** **23 03 59.0 0.0**
baz=314,SNR=9.8
SSPA Standing Stone 54.21 68 P **P** **23 03 58.4 -0.6**
baz=314
D62A Allapoint, All 54.37 57 IAmb IAmb 23 04 00.9
comp=Z,26nm,0.9s
D62A Allapoint, All 54.37 57 P **P** **23 03 59.8 -0.3**
baz=314,SNR=6.6
D62A P **P** **23 03 59.8 -0.3**
baz=314,SNR=6.6
V52A Sevierville 54.38 76 IAmb IAmb 23 04 00.7
comp=Z,22nm,0.8s
V52A Sevierville 54.38 76 P **P** **23 03 59.8 -0.6**
baz=315,SNR=11
VT1 Waterbury 54.39 62 IAmb IAmb 23 04 01.1
comp=Z,24nm,0.9s
VT1 Waterbury 54.39 62 P **P** **23 04 00.2 -0.2**
baz=314,SNR=5.3
TKL Tuckaleechee C 54.41 77 IAmb IAmb 23 04 13.4
comp=Z,40nm,1.3s
LRAL Lakeview Retre 54.42 81 P **P** **23 03 59.2 -1.4**
baz=316
E62A Clayton Lake 54.46 58 IAmb IAmb 23 04 01.1
comp=Z,18nm,0.8s
E62A Clayton Lake 54.46 58 P **P** **23 04 00.1 -0.6**
baz=314,SNR=5.0
E62A P **P** **23 04 00.1 -0.6**
baz=314,SNR=5.0
ACCN Adirondack Com 54.57 63 IAmb IAmb 23 04 02.9
comp=Z,35nm,0.9s
ACCN Adirondack Com 54.57 63 P **P** **23 04 01.7 +0.1**
baz=314,SNR=9.3
ULN Ulaanbaatar 54.65 304 P **P** **23 04 01.5 -0.8**
ULN Ulaanbaatar 54.65 304 *ce*P **P** **23 04 02.8 +0.4**
ULN pmax pmax
comp=Z,61nm,2.5s
HCNY Howe Caverns 54.66 64 P **P** **23 04 02.8 +0.5**
baz=314,SNR=24
L59A Walton 54.67 65 IAmb IAmb 23 04 03.8
comp=Z,26nm,1.1s
ZAK Zakamensk 54.68 309 *e*P **P** **23 04 02.5 0.0**
ZAK pmax pmax
comp=Z,21nm,1.5s
N58A Sunbury 54.71 67 IAmb IAmb 23 04 03.6
comp=Z,45nm,1.2s
W52A Murphy 54.72 77 IAmb IAmb 23 04 13.9
comp=Z,17nm,0.9s
KSPA Keystone Colle 54.72 66 IAmb IAmb 23 04 03.8
comp=Z,32nm,1.2s
F62A Pittston Farm, 54.74 59 IAmb IAmb 23 04 30.5
comp=Z,53nm,1.4s
MOY Mondy 54.81 311 *e*P **P** **23 04 03.9 +0.5**
MOY pmax pmax
comp=Z,96nm,3.0s
LBNH Lisbon 54.89 61 IAmb IAmb 23 04 04.8
comp=Z,20nm,0.8s
LBNH Lisbon 54.89 61 P **P** **23 04 03.5 -0.4**
baz=314
LBNH Lisbon 54.89 61 P **P** **23 04 03.1 -0.8**
baz=314
U54A Nelsons Funny 54.91 75 IAmb IAmb 23 04 13.4
comp=Z,41nm,1.2s
G62A West of Eustis 54.92 60 IAmb IAmb 23 04 05.0
comp=Z,26nm,0.8s
G62A West of Eustis 54.92 60 P **P** **23 04 04.0 -0.1**
baz=314,SNR=9.0
G62A P **P** **23 04 04.0 -0.1**
baz=314,SNR=9.0
V53A Saluda 54.95 76 IAmb IAmb 23 04 17.7
comp=Z,30nm,1.1s
V53A Saluda 54.95 76 P **P** **23 04 04.1 -0.4**
baz=316,SNR=8.5
V53A P **P** **23 04 04.1 -0.4**
baz=316,SNR=8.5
P57A Homestead Farm 54.95 69 IAmb IAmb 23 04 05.2
comp=Z,40nm,1.2s
P57A Homestead Farm 54.95 69 P **P** **23 04 04.0 -0.4**
baz=315,SNR=8.0
P57A P **P** **23 04 04.0 -0.4**
baz=315,SNR=8.0
SONM Songino Array 54.99 305 P **P** **23 04 05.3 +0.5**
comp=Z,14nm,0.8s,baz=41,slow=6.0,SNR=71
SONM LR LR 23 30 11.1
comp=Z,1μm,18.4s,baz=33,slow=39
comp=Z,14nm,0.8s
SONM Songino Array 54.99 305 P **P** **23 04 05.1 +0.3**
SONM IAmb IAmb 23 04 06.0
comp=Z,18nm,0.7s
SONM Songino Array 54.99 305 P **P** **23 04 05.1 +0.3**
SONM pmax pmax
comp=Z,18nm,0.7s
TRY Troy 55.03 64 IAmb IAmb 23 04 06.2
comp=Z,22nm,0.9s
H62A Milan 55.05 61 P **P** **23 04 05.0 -0.1**
baz=314,SNR=11
H62A P **P** **23 04 05.0 -0.1**
baz=314,SNR=11
HNH Hanover 55.07 62 IAmb IAmb 23 04 06.4
comp=Z,23nm,0.8s
PAGS Pennsylvania G 55.14 68 IAmb IAmb 23 04 06.3
comp=Z,34nm,1.1s
E63A Oxbow 55.14 57 P **P** **23 04 04.1 -1.5**
baz=314
E63A P **P** **23 04 04.1 -1.5**
baz=314
J61A Chester 55.18 63 P **P** **23 04 06.2 +0.1**
baz=314,SNR=7.9
J61A P **P** **23 04 06.2 +0.1**
baz=314,SNR=7.9
BLA Blacksburg 55.21 73 IAmb IAmb 23 04 07.1
comp=Z,20nm,0.8s
BLA Blacksburg 55.21 73 P **P** **23 04 05.0 -1.4**
baz=315
Z51A Franklin 55.27 80 IAmb IAmb 23 04 06.2
comp=Z,18nm,0.7s
Z51A Franklin 55.27 80 P **P** **23 04 05.3 -1.5**
baz=316,SNR=5.7
F63A Nahmakanta, Br 55.30 58 IAmb IAmb 23 04 07.3
comp=Z,17nm,0.8s
F63A Nahmakanta, Br 55.30 58 P **P** **23 04 06.2 -0.7**
baz=314,SNR=6.1
F63A P **P** **23 04 06.2 -0.7**
baz=314,SNR=6.1
BG3 Lake Jocassee 55.36 77 IAmb IAmb 23 04 07.7
comp=Z,14nm,0.8s
BJI Beijing 55.39 292 P **P** **23 04 08.1 +0.5**
BJI pP **pP** **23 04 12.4 +0.2**
BJI PcP **PcP** **23 05 08.5 +0.7**
BJI ScP **ScP** **23 09 03.9 -1.7**
BJI S **S** **23 11 49.8 -1.3**
BJI pmax pmax
comp=Z,14nm,1.4s
BJI pmax pmax
comp=Z,170nm,3.5s
BJI LR LR
comp=Z,220nm,21.4s
BJI LR LR
comp=Z,660nm,22.0s
BJI LR LR
comp=Z,480nm,20.8s
MVL Millersville 55.50 68 IAmb IAmb 23 04 09.0
comp=Z,31nm,1.3s
PKME Peaks-Kenny Pk 55.52 59 P **P** **23 04 06.9 -1.5**
PKME IAmb IAmb 23 04 09.1
comp=Z,39nm,1.2s
PKME Peaks-Kenny Pk 55.52 59 P **P** **23 04 07.8 -0.6**
baz=315
F64A Sherman 55.57 58 IAmb IAmb 23 04 09.2
comp=Z,31nm,0.8s
F64A Sherman 55.57 58 P **P** **23 04 07.6 -1.2**
baz=315,SNR=7.3
F64A P **P** **23 04 07.6 -1.2**
baz=315,SNR=7.3
LUPA Lehigh Univers 55.61 67 IAmb IAmb 23 04 10.2
comp=Z,43nm,1.2s
ODNJ Ogdensburg 55.68 66 IAmb IAmb 23 04 10.6
comp=Z,25nm,1.2s
I63A Otisfield 55.71 61 IAmb IAmb 23 04 10.9
comp=Z,24nm,0.8s
V55A Taylorsville 55.73 75 IAmb IAmb 23 04 22.6
comp=Z,17nm,0.8s
V55A Taylorsville 55.73 75 P **P** **23 04 09.2 -0.8**
baz=316,SNR=5.7
V55A P **P** **23 04 09.2 -0.8**
baz=316,SNR=5.7
L61B Northampton 55.74 63 P **P** **23 04 08.7 -1.4**
baz=315
K62A Royalston 55.83 63 P **P** **23 04 11.1 +0.4**
baz=315,SNR=8.8
K62A P **P** **23 04 11.1 +0.4**
baz=315,SNR=8.8
KSCT Kent School, K 55.83 65 IAmb IAmb 23 04 12.1
comp=Z,33nm,0.8s
WUPA West Chester U 55.95 67 P **P** **23 04 10.7 -0.9**
152A Waverly Hall 56.01 80 IAmb IAmb 23 04 11.2
comp=Z,13nm,0.6s
152A Waverly Hall 56.01 80 P **P** **23 04 10.3 -1.8**
baz=317,SNR=7.1
TUPA Temple Univers 56.01 67 P **P** **23 04 11.5 -0.5**
baz=315
R58B Mineral 56.10 71 IAmb IAmb 23 04 22.8
comp=Z,45nm,1.6s
PAL Palisades 56.11 65 P **P** **23 04 12.9 +0.2**
baz=315
PAULI Pauline 56.12 76 IAmb IAmb 23 04 12.8
comp=Z,17nm,0.7s
PAULI Pauline 56.12 76 P **P** **23 04 12.5 -0.4**
baz=316,SNR=5.6
KMSC Kings Mountain 56.17 75 IAmb IAmb 23 04 13.3
comp=Z,26nm,0.7s
KMSC Kings Mountain 56.17 75 P **P** **23 04 12.1 -1.2**
baz=316,SNR=9.8
KMSC Kings Mountain 56.17 75 P **P** **23 04 12.1 -1.2**
baz=316,SNR=9.8
GOGA Godfrey 56.19 78 IAmb IAmb 23 04 17.0
comp=Z,34nm,1.6s
GOGA Godfrey 56.19 78 P **P** **23 04 12.2 -1.2**
baz=317
HODGE Hodges 56.29 77 P **P** **23 04 12.8 -1.4**
baz=316,SNR=5.8
HRV Adam Dziewonsk 56.29 63 P **P** **23 04 14.0 0.0**
HRV IAmb IAmb 23 04 15.2
comp=Z,30nm,0.9s
HRV Adam Dziewonsk 56.29 63 P **P** **23 04 13.0 -1.0**
baz=315
HRV Adam Dziewonsk 56.29 63 P **P** **23 04 14.0 0.0**
HRV pmax pmax
comp=Z,30nm,1.0s
WSPT Westport, CT 56.30 65 IAmb IAmb 23 04 15.1
comp=Z,37nm,1.1s
UCCT U. Connecticut 56.45 64 IAmb IAmb 23 04 15.6
comp=Z,36nm,0.9s
TRO Tromso 56.53 0 *e*P **P** **23 04 16.0 +0.7**
TRO IAmb IAmb 23 04 17.0
comp=Z,21nm,0.9s
ARCES ARCESS Array B 56.57 358 P **P** **23 04 15.8 +0.3**
comp=Z,5.8nm,0.7s,baz=18,slow=6.6,SNR=11
ARCES LR LR 23 28 28.9
comp=Z,339nm,21.0s,baz=359,slow=36
comp=Z,5.8nm,0.7s
JETT Jettan, Norway 56.61 360 *e*P **P** **23 04 14.8 -1.2**
JETT IAmb IAmb 23 04 17.8
comp=Z,22nm,0.7s
M63A Gales Ferry 56.82 64 P **P** **23 04 17.8 0.0**
baz=316,SNR=5.4
M63A P **P** **23 04 17.8 0.0**
baz=316,SNR=5.4
JSC Jenkinsville 56.83 76 IAmb IAmb 23 04 17.6
comp=Z,12nm,0.6s
JSC Jenkinsville 56.83 76 P **P** **23 04 16.7 -1.2**
baz=317
V58A Windy Hill, Pi 56.96 73 IAmb IAmb 23 04 19.3
comp=Z,23nm,0.9s
T59A Double "B" Far 56.99 71 IAmb IAmb 23 04 20.0
comp=Z,47nm,1.3s
T59A Double "B" Far 56.99 71 P **P** **23 04 18.8 -0.2**
baz=316,SNR=5.3
T59A P **P** **23 04 18.8 -0.2**
baz=316,SNR=5.3
BORG Borgarnes 57.29 20 LR LR 23 31 40.8
comp=Z,319nm,19.7s,baz=336,slow=39
HHC Hu-ho-hao-te 57.30 296 *e*P **P** **23 04 22.3 +1.0**
HHC pP sP 23 04 26.8 -0.9
HHC S **S** **23 12 20.1 +3.4**
HHC pmax pmax
comp=Z,49nm,1.0s
HHC LR LR
comp=Z,760nm,13.5s
HHC LR LR

HHC LR LR
comp=Z,1µm,15.2s
TIA Tai'an 57.59 288 P **P** **23 04 18.6 -4.7**
TIA pmax pmax
comp=Z,18nm,2.0s
TIA LR LR
comp=N,390nm,26.5s
TIA LR LR
comp=E,340nm,25.0s
TIA LR LR
comp=Z,500nm,25.5s
JOW Kunigami 58.04 272 LR LR 23 30 04.5
comp=Z,113nm,20.3s,baz=72,slow=37
HNS HongShan 58.08 291 ⇑P **P** **23 04 27.6 +0.9**
HNS S **S** **23 12 25.4 -1.3**
HNS pmax pmax
comp=Z,48nm,1.3s
HNS pmax pmax
comp=Z,230nm,3.6s
HNS LR LR
comp=Z,390nm,19.7s
HNS LR LR
comp=Z,560nm,21.1s
HNS LR LR
comp=Z,490nm,23.3s
APA Apatity 58.19 354 ⇓*iP* P 23 04 16.4 -11
APA pmax pmax
comp=Z,12nm,1.0s
STEI Steigen 58.20 2 *eP* **P** **23 04 27.7 +0.6**
STEI IAmb IAmb 23 04 38.6
comp=Z,124nm,1.3s
BTO Baotou 58.29 296 *eP* **P** **23 04 28.5 +0.2**
BTO LR LR
comp=Z,2µm,20.4s
BTO LR LR
comp=Z,2µm,20.4s
NHSC New Hope 58.30 76 P **P** **23 04 27.5 -0.7**
baz=317
FAUS Fauske 58.75 2 *eP* **P** **23 04 31.3 +0.4**
FAUS IAmb IAmb 23 04 32.3
comp=Z,10nm,0.8s
TIY Taiyuan 59.09 293 *eP* **P** **23 04 35.1 +1.2**
TIY LR LR
comp=Z,640nm,22.7s
TIY LR LR
comp=Z,520nm,19.9s
TIY LR LR
comp=Z,440nm,22.7s
TLIG Tlapa 59.37 103 IAmb IAmb 23 04 49.2
comp=Z,31nm,1.1s
KONS Konsvik 59.58 3 *eP* **P** **23 04 37.3 +0.7**
NJ2 Nanjing 59.65 284 ⇓*iP* **P** **23 04 37.8 +0.1**
NJ2 pmax pmax
comp=Z,19nm,0.5s
ZAA0 Zalesovo Array 59.66 322 P **P** **23 04 37.1 -0.4**
ZALV Zalesovo Beam 59.66 322 P **P** **23 04 37.4 0.0**
comp=Z,2.7nm,0.3s,baz=46,slow=6.4,SNR=29
ZALV LR LR 23 32 58.1
comp=Z,2µm,18.6s,baz=34,slow=39
comp=Z,2.7nm,0.3s
ZALV Zalesovo Beam 59.66 322 P **P** **23 04 36.2 -1.2**
ZALV Zalesovo Beam 59.66 322 *iP* **P** **23 04 37.7 +0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
LYN LuoYang 61.40 290 ⇑*iP* **P** **23 04 50.3 +0.7**
LYN pP pwP 23 04 57.5 +0.2
LYN S **S** **23 13 15.3 +5.8**
LYN ScS **SKKSac** **23 14 37.6 -2.5**
LYN pmax pmax
comp=Z,30nm,2.0s
LYN pmax pmax
comp=Z,140nm,9.2s
LYN LR LR
comp=Z,560nm,21.6s
LYN LR LR
comp=Z,380nm,20.6s
LYN LR LR
comp=Z,420nm,19.7s
NSS Namsos 61.51 4 *eP* **P** **23 04 50.7 +0.8**
CMIG Matias Romero 61.87 100 LR LR 23 29 31.7
comp=Z,202nm,19.6s,baz=320,slow=34
DGZ Jazzator, Alta 62.01 317*c iP* **P** **23 04 54.4 +0.7**
DGZ pmax pmax
comp=Z,12nm,1.2s
PRGR Permogore 62.78 346 *eP* **P** **23 04 56.0 -2.4**
PRGR pmax pmax
comp=Z,58nm,1.3s
WHN Wuhan 63.34 286 ⇓P **P** **23 05 02.9 +0.3**
WHN pmax pmax
comp=Z,560nm,2.7s
WHN LR LR
comp=Z,670nm,26.2s
WHN LR LR
comp=Z,690nm,14.8s
WHN LR LR
comp=Z,730nm,22.6s
XAN Xi'an 63.73 292 ⇑P **P** **23 05 05.3 +0.1**
XAN pP pwP 23 05 13.6 +0.7
XAN sP sP 23 05 18.3 +6.7
XAN PcP **PcP** **23 05 43.3 +2.1**
XAN S **S** **23 13 39.3 +0.4**
XAN pmax pmax
comp=Z,38nm,1.4s
XAN pmax pmax
comp=Z,230nm,4.3s
XAN LR LR
comp=Z,600nm,17.2s
XAN LR LR
comp=Z,350nm,16.5s
XAN LR LR
comp=Z,650nm,15.8s
DOMB Dombas 63.85 6 *eP* **P** **23 05 05.9 +0.4**
DOMB IAmb IAmb 23 05 07.0
comp=Z,13nm,0.7s
KLMR Klimovskoe 64.29 349 *eP* **P** **23 05 05.1 -3.3**
KLMR AMP 23 05 23.3
comp=Z,46nm,1.2s
KLMR Klimovskoe 64.29 349 *eP* **P** **23 05 05.1 -3.3**
KLMR pmax pmax
comp=Z,46nm,1.2s
GTA Gaotai 64.41 302 ⇑P **P** **23 05 09.8 +0.1**
GTA pP pwP 23 05 20.8 +6.0
GTA S **S** **23 13 46.8 -0.7**
GTA pmax pmax
comp=Z,45nm,1.5s
GTA pmax pmax
comp=Z,200nm,4.7s
GTA LR LR
comp=Z,570nm,20.4s
GTA LR LR
comp=Z,700nm,20.0s
GTA LR LR
comp=Z,730nm,20.7s
SVE Sverdlovsk 64.50 337 *eP* **P** **23 05 10.1 +0.3**
SVE pmax pmax
comp=Z,50nm,1.5s
KURK Kurchatov 64.52 323 P **P** **23 05 09.6 -0.4**
KURK Kurchatov 64.52 323*ceP* **P** **23 05 10.3 +0.3**
KURK pmax pmax
comp=Z,65nm,1.7s
KURBB Kurchatov Arra 64.62 323 LR LR 23 35 56.9
comp=Z,1µm,18.5s,baz=178,slow=38
SSLB Suanglung 64.65 276 P **P** **23 05 10.2 -1.1**
SSLB Suanglung 64.65 276 P **P** **23 05 11.5 +0.2**
FIA1 FINESS Array S 64.66 357 IAmb IAmb 23 05 24.4
comp=Z,21nm,0.7s
FINES FINESS Array B 64.66 357 P **P** **23 05 10.8 +0.1**
comp=Z,12nm,0.7s,baz=12,slow=6.7,SNR=41
FINES LR LR 23 34 54.2
comp=Z,234nm,18.8s,baz=14,slow=37
comp=Z,12nm,0.7s
FINES FINESS Array B 64.66 357 P **P** **23 05 10.4 -0.3**
NC204 NORSAR Array S 64.70 5 P **P** **23 05 11.1 -0.1**
ZSN Zaisan 64.83 317 *eP* **P** **23 05 12.4 +0.1**
comp=Z,50nm,1.7s,baz=317
ZSN Zaisan 64.83 317 *eP* **P** **23 05 12.3 +0.1**
ZSN pmax pmax
comp=Z,50nm,1.7s
LZH Lanzhou 64.89 297 ⇑P **P** **23 05 13.6 +0.7**
LZH sP pwP 23 05 23.8 +3.1
LZH S **S** **23 13 53.4 -0.1**
LZH pmax pmax
comp=Z,47nm,1.4s
LZH pmax pmax
comp=Z,160nm,6.5s
LZH LR LR
comp=Z,790nm,14.1s
LZH LR LR
comp=Z,520nm,15.5s
LZH LR LR
comp=Z,650nm,13.7s
NB2 NORSAR Subarra 64.96 5 P **P** **23 05 13.3 +0.4**
baz=355,slow=6.5
NB2 NORSAR Subarra 64.96 5 P **P** **23 05 13.3 +0.4**
comp=Z,4.0nm,0.6s,baz=355,slow=6.5
NOA NORSAR Array B 64.96 5 P **P** **23 05 13.4 +0.5**
comp=Z,7.5nm,0.7s,baz=355,slow=6.4,SNR=26
NOA LR LR 23 35 13.7
comp=Z,159nm,18.2s,baz=340,slow=38
comp=Z,7.5nm,0.7s
TAOE Nuku Hiva Isla 64.99 158 *e*LR LR 23 24 40.1
comp=Z,314nm,23.3s
TAOE Nuku Hiva Isla 64.99 158 *e*T T 00 15 46.3
comp=Z,48nm,0.2s
KIRV Kirov 65.12 343 P **P** **23 05 13.9 +0.1**
comp=Z,14nm,0.4s,baz=48,slow=5.2,SNR=11
comp=Z,14nm,0.4s
KIRV Kirov 65.12 343*ceP* **P** **23 05 14.1 +0.3**
SKAR Skarslia 65.16 6 *eP* **P** **23 05 15.6 +1.5**
SKAR IAmb IAmb 23 05 16.0
comp=Z,14nm,0.8s
RAF Rauma 65.17 359 *eP* **P** **23 05 14.6 +0.5**
BVAR Borovoye Array 65.26 329 LR LR 23 37 46.8
comp=Z,732nm,18.3s,baz=37,slow=40
BRVK Borovoye 65.26 329 P **P** **23 05 13.9 -1.0**
BRVK Borovoye 65.26 329*ceP* **P** **23 05 15.5 +0.6**
BRVK pmax pmax
comp=Z,72nm,1.7s
NC602 NORSAR Array S 65.28 4 *eP* **P** **23 05 15.4 +0.5**
NORES NORESS Array B 65.28 4 P **P** **23 05 15.8 +0.9**
ARU Arti 65.34 338 LR LR 23 39 52.1
comp=Z,334nm,18.2s,baz=26,slow=42
ARU Arti 65.34 338 P **P** **23 05 14.0 -1.3**
ARU Arti 65.34 338*c iP* **P** **23 05 15.4 +0.1**
ARU 23 05 49.1
ARU 23 07 39.3
ARU S **S** **23 14 01.6 +3.5**
ARU SS **SS** **23 18 09.9 -0.1**
ARU pmax pmax
comp=Z,66nm,1.8s
ODD1 Odda 65.81 7 *eP* **P** **23 05 19.6 +1.3**
CNSH ChangSha 65.93 285 ⇑P **P** **23 05 19.5 0.0**
CNSH S **S** **23 14 08.0 +1.9**
CNSH pmax pmax
comp=Z,25nm,1.4s
CNSH LR LR
comp=Z,260nm,14.5s
CNSH LR LR
comp=Z,200nm,16.4s
CNSH LR LR
comp=Z,300nm,17.1s
MEF Metsahovi 65.93 358 *eP* **P** **23 05 19.4 +0.4**
HFS Hagfors 65.97 3 P **P** **23 05 19.8 +0.4**
baz=25,slow=4.8
OSL Oslo 66.04 5 *eP* **P** **23 05 20.3 +0.5**
ENH Enshi 66.27 289 P **P** **23 05 25.0 +3.2**
BLSS Blasjo 66.28 7 *eP* **P** **23 05 22.1 +0.7**
MK31 Makanchi Array 66.39 318 P **P** **23 05 21.8 -0.5**
MK31 IAmb IAmb 23 05 23.6
comp=Z,41nm,1.6s
MK31 Makanchi Array 66.39 318*c iP* **P** **23 05 21.9 -0.4**
MKAR Makanchi Array 66.39 318 P **P** **23 05 22.1 -0.2**
comp=Z,5.1nm,0.5s,baz=48,slow=6.1,SNR=89
MKAR LR LR 23 36 41.5
comp=Z,996nm,18.9s,baz=33,slow=38
comp=Z,5.1nm,0.5s
MKAR Makanchi Array 66.39 318 P **P** **23 05 21.8 -0.5**
MAKZ Makanchi 66.50 319 P **P** **23 05 22.5 -0.5**
MAKZ IAmb IAmb 23 05 24.3
comp=Z,24nm,1.1s
MAKZ Makanchi 66.50 319 P **P** **23 05 22.5 -0.5**
MAKZ pmax pmax
comp=Z,24nm,1.2s
WMQ Urumqi 66.59 313 ⇑P **P** **23 05 24.4 +0.7**
WMQ pP pwP 23 05 32.0 +3.2
WMQ sP sP 23 05 35.0 +4.9
WMQ PcP **PcP** **23 05 54.4 +1.5**
WMQ S **S** **23 14 14.3 +0.5**
WMQ pmax pmax
comp=Z,39nm,1.7s
WMQ pmax pmax
comp=Z,110nm,4.9s
WMQ LR LR
comp=Z,300nm,18.1s
WMQ LR LR
comp=Z,690nm,18.1s
WMQ LR LR
comp=Z,610nm,21.7s
BRZS Berezniki 67.17 326 *eP* **P** **23 05 26.8 -0.4**
baz=322,slow=326
BRZS Berezniki 67.17 326 *eP* **P** **23 05 26.7 -0.4**
BRZS pmax pmax
comp=Z,22nm,1.5s
SNART Snartemo 67.41 7 *i P* **P** **23 05 30.0 +1.5**
SNART Snartemo 67.41 7 *eP* **P** **23 05 30.1 +1.5**
MTSE Matsula 67.45 358 *eP* **P** **23 05 29.1 +0.4**
VSU Vasula 67.61 356 *eP* **P** **23 05 30.4 +0.6**
BORU Boraas 68.44 4 *i P* **P** **23 05 35.7 +0.7**
AFI Afiamalu 68.50 192 LR LR 23 30 59.7
comp=Z,118nm,20.3s,baz=180,slow=32
SLIT Slitere, Latvi 68.57 359 *eP* **P** **23 05 36.4 +0.6**
FABU Falkenberg 69.07 4 *eP* **P** **23 05 39.9 +0.9**
EKA Eskdalemuir Ar 69.26 14 P **P** **23 05 41.3 +1.1**
comp=Z,16nm,0.7s,baz=344,slow=4.8,SNR=4.1
EKA LR LR 23 37 06.2
comp=Z,330nm,20.1s,baz=352,slow=37
comp=Z,16nm,0.7s
GOMU GeErMu 69.39 303 P **P** **23 05 42.3 +0.5**
GOMU pP sP 23 05 47.3 -0.9
GOMU S **S** **23 14 43.3 -4.8**
GOMU sS pS 23 14 53.6 -0.8
GOMU pmax pmax
comp=Z,13nm,1.3s
GOMU pmax pmax
comp=Z,70nm,3.6s
GOMU LR LR
comp=Z,350nm,15.6s
GOMU LR LR
comp=Z,220nm,14.7s
GOMU LR LR
comp=Z,400nm,15.2s
MOS Moscow 69.52 349 *eP* **P** **23 05 41.1 -0.6**
MOS *e* 23 06 03.8
MOS *eS* **S** **23 14 46.0 -2.2**
MOS pmax pmax
comp=Z,25nm,0.8s
GULI GuiLin 69.61 285 ⇑P **P** **23 05 39.8 -3.0**
DEL Delary 69.64 4 *i P* **P** **23 05 43.0 +0.5**
VAH Vaihoa 69.92 167 *eT* T 00 21 57.9
comp=Z,5.2nm,0.3s
BJUU Bjuv 70.01 4 *i P* **P** **23 05 46.2 +1.5**
OBN Obninsk 70.24 350 P **P** **23 05 45.9 -0.2**
comp=Z,2.8nm,0.4s,baz=246,slow=0.3,SNR=2.2
comp=Z,2.8nm,0.4s
OBN Obninsk 70.24 350⇓*eP* **P** **23 05 46.4 +0.2**
OBN *e* 23 06 05.0
OBN *e* 23 08 18.7
OBN pmax pmax
comp=Z,12nm,0.6s
ARXS Arharly 70.27 320 *eP* **P** **23 05 47.0 +0.3**
LUNU Lund 70.47 4 *i P* **P** **23 05 48.6 +1.0**
SHLS Shalkode 70.53 318⇑*eP* **P** **23 05 47.6 -0.8**
comp=Z,36nm,1.5s,baz=318
SHLS Shalkode 70.53 318*ceP* **P** **23 05 47.6 -0.8**
SHLS pmax pmax
comp=Z,36nm,1.5s
KPKS Kokpek 70.57 319⇑*iP* **P** **23 05 49.2 +0.6**
comp=Z,28nm,1.6s,baz=319
KPKS Kokpek 70.57 319*c iP* **P** **23 05 49.2 +0.6**
KPKS pmax pmax
comp=Z,28nm,1.6s
PABE Paberze 70.67 358 *eP* **P** **23 05 49.4 +0.6**
UZB Uzunbulak 70.71 318 *eP* **P** **23 05 49.1 -0.5**
baz=318
UZB Uzunbulak 70.71 318 *eP* **P** **23 05 49.0 -0.5**
IGN Ignalina 70.75 356 *eP* **P** **23 05 50.2 +0.9**
GYA Guiyang 70.79 289 ⇓P **P** **23 05 50.9 +0.7**
GYA S **S** **23 15 02.9 -1.4**
GYA SKS **SKSac** **23 15 48.0 -3.8**
GYA SS **SS** **23 19 35.1 -0.8**
GYA pmax pmax
comp=Z,27nm,1.4s
GYA pmax pmax
comp=Z,250nm,3.5s
GYA LR LR
comp=Z,150nm,8.8s
GYA LR LR
comp=Z,110nm,6.9s
GYA LR LR
comp=Z,130nm,9.5s
BTLS Baital 70.96 323⇑*iP* **P** **23 05 51.0 +0.2**
comp=Z,15nm,1.3s,baz=322
BTLS Baital 70.96 323*c iP* **P** **23 05 51.0 +0.2**
BTLS pmax pmax
comp=Z,15nm,1.3s
SATY Saty 71.03 319⇑*iP* **P** **23 05 51.1 -0.3**
comp=Z,31nm,1.9s,baz=319
SATY Saty 71.03 319*c iP* **P** **23 05 51.1 -0.3**
SATY pmax pmax
comp=Z,31nm,1.9s
BSD Bornholm Skovb 71.03 3 *eP* **P** **23 05 55.6 +4.6**
KUU Kurty 71.11 320⇑*eP* **P** **23 05 50.7 -1.1**
comp=Z,26nm,1.4s,baz=320
KUU Kurty 71.11 320*ceP* **P** **23 05 50.6 -1.1**
KUU pmax pmax
comp=Z,26nm,1.4s
NACGM Naroch 71.17 356 *eP* **P** **23 05 51.8 -0.1**
comp=Z,23nm,0.8s,baz=4.0
BELG Belogornoye 71.34 342 P **P** **23 05 52.8 -0.2**
comp=Z,17nm,0.7s,baz=340,slow=4.8,SNR=6.2
BELG LR LR 23 39 23.8
comp=Z,393nm,21.9s,baz=345,slow=38
comp=Z,17nm,0.7s
BELG Belogornoye 71.34 342 *i P* **P** **23 05 54.2 +1.3**
BELG pmax pmax
comp=Z,15nm,0.9s
MDOK Medeo 71.46 320 *i P* **P** **23 05 53.7 -0.3**
baz=320
MDOK Medeo 71.46 320 *i P* **P** **23 05 53.7 -0.3**
AAA Alma-Ata 71.47 320 *eP* **P** **23 05 53.3 -0.8**
baz=320
AAA Alma-Ata 71.47 320 *eP* **P** **23 05 53.2 -0.8**
MNK Minsk 71.52 355 *i P* **P** **23 05 54.6 +0.6**
comp=E,2.0nm,1.1s
MNK *i P* **P** **23 05 54.6 +0.6**
comp=N,42nm,0.9s
MNK *i P* **P** **23 05 54.6 +0.6**
comp=Z,14nm,0.9s,baz=185
MNK *i* PcP **PcP** **23 06 14.0 +0.7**
MNK *i* PP **PP** **23 08 32.6 +0.7**
MNK *i* PPP PPP 23 10 15.9
MNK *i* S **S** **23 15 13.3 +1.7**
MNK *i* SS **SS** **23 19 48.7 +3.3**
MNK *i* SSS SSS 23 23 07.9
MNK *i* LQ LQ 23 29 01.5
MNK *i* LR LR 23 35 41.8
MNK *i* LRM MLR 23 39 16.4
comp=N,544nm,17.9s
MNK *i* LRM MLR 23 39 20.9
comp=Z,167nm,19.2s
MNK *i* LRM MLR 23 39 50.9
comp=E,42nm,20.4s
MNK Minsk 71.52 355 *i P* **P** **23 05 54.5 +0.6**
MNK *i* 23 06 14.0
MNK *i* 23 08 32.6
MNK *i* PPP PPP 23 10 15.8
MNK *i* S **S** **23 15 13.3 +1.7**
MNK *i* 23 15 59.2
MNK *i* SS **SS** **23 19 48.6 +3.3**
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.1s
MNK pmax pmax
comp=N,42nm,0.9s
MNK MLR MLR
comp=N,544nm,18.0s
MNK MLR MLR
comp=Z,167nm,19.0s
ABKAR Akbulak array 71.58 334 P **P** **23 05 54.8 +0.3**
TNSS Tian-Shan 71.61 320 *eP* **P** **23 05 54.2 -1.0**
baz=320
TNSS Tian-Shan 71.61 320 *eP* **P** **23 05 54.2 -1.0**
HNR Honiara 71.71 222 LR LR 23 31 54.9
comp=Z,2µm,20.8s,baz=6.5,slow=31
TIAR Tiarei 72.00 169 *eT* T 00 24 35.3
comp=Z,3.9nm,0.2s
PPT2 Papeete2 72.01 169 *e*LR LR 23 27 55.4
comp=Z,222nm,25.5s
PPT2 *e*LR LR 23 27 55.8
comp=Z,253nm,24.5s
SGDS Sogindy 72.12 321 *eP* **P** **23 05 57.8 -0.1**
comp=Z,19nm,1.5s,baz=321
SGDS Sogindy 72.12 321 *eP* **P** **23 05 57.8 -0.1**
SGDS pmax pmax
comp=Z,19nm,1.5s
TKM2 Tokmak 2 72.22 320 P **P** **23 05 59.6 +1.0**
SNR=17
USP Ospenovka 72.33 321 P **P** **23 06 00.1 +0.9**
SNR=15
LPSR Galich'ya Gora 72.45 348 *eP* **P** **23 05 58.7 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
BOOM Boomskoye usch 72.46 320 IAmb IAmb 23 06 15.0
comp=Z,26nm,0.8s
CHMS Chumysh 72.47 321 P **P** **23 06 01.0 +1.1**
SNR=14
ULHL Ulahol 72.55 320 P **P** **23 06 01.6 +0.9**
SNR=8.1
KBK Karagaybulak 72.69 321 P **P** **23 06 02.5 +1.0**
SNR=13
AAK Ala-Archa 72.87 321 P **P** **23 06 03.5 +1.0**
SNR=10
AAK Ala-Archa 72.87 321 LR LR 23 41 11.2
comp=Z,2µm,18.6s,baz=27,slow=38
AAK Ala-Archa 72.87 321 P **P** **23 06 03.0 +0.5**
AAK IAmb IAmb 23 06 17.5
comp=Z,20nm,0.9s
AAK Ala-Archa 72.87 321*ceP* **P** **23 06 03.6 +1.1**
AAK pmax pmax
comp=Z,37nm,1.7s
EKS2 Erkin-Say 73.11 321 P **P** **23 06 05.0 +1.0**
SNR=12
UCH Uchtor 73.22 321 P **P** **23 06 06.4 +1.5**
SNR=7.8
VORR Voronezh 73.32 348 *eP* **P** **23 06 05.1 +0.3**
VORR pmax pmax
comp=Z,30nm,0.4s
NRN Naryn 73.34 319 IAmb IAmb 23 06 21.4
comp=Z,28nm,0.9s
VRH Novokhopyorsk 73.44 346 *eP* **P** **23 06 04.6 -0.9**
VRH *e* 23 06 16.1
VRH pmax pmax
comp=Z,30nm,1.9s
PZH PanZhiHua 73.46 292 P **P** **23 06 06.3 +0.1**
PZH pP **pP** **23 06 09.5 -1.4**
PZH sP **PcP** **23 06 17.9 -4.4**
PZH S **S** **23 15 33.0 -2.0**
PZH SKS **SKSac** **23 16 06.0 -6.0**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,120nm,3.6s
PZH LR LR
comp=Z,220nm,17.2s
PZH LR LR
comp=Z,350nm,16.1s
PZH LR LR
comp=Z,290nm,16.3s
AML Almayashu 73.61 321 P **P** **23 06 08.4 +1.3**
SNR=13
RUE Ruedersdorf 73.63 4 *eP* **P** **23 06 08.8 +2.2**
VSR Storozhevoye 73.78 347 *eP* **P** **23 06 06.8 -0.6**
VSR *e* 23 06 19.0
VSR pmax pmax
comp=Z,10.0nm,0.5s
DZA Taraz 73.79 323 *eP* **P** **23 06 07.5 -0.3**
baz=323
DZA Taraz 73.79 323 *eP* **P** **23 06 07.5 -0.3**
KK31 Karatay Array 73.89 324 IAmb IAmb 23 06 22.7
comp=Z,18nm,0.8s
KKAR Karatay Array 73.89 324 P **P** **23 06 07.7 -0.6**
KKAR Karatay Array 73.89 324 P **P** **23 06 07.7 -0.6**
MSVF Nonsavu 73.98 202 P **P** **23 06 09.1 0.0**
comp=Z,1.3nm,0.5s,baz=219,slow=23,SNR=1.5
MSVF LR LR 23 30 56.4

comp=Z,282nm,20.5s,baz=349,slow=30
comp=Z,1.3nm,0.5s
KMI Kunming 74.01 291 ⇑P **P 23 06 09.5 0.0**
KMI pP pwP 23 06 17.6 +0.3
KMI sP PcP 23 06 21.3 -3.5
KMI S **S 23 15 41.8 +0.4**
KMI pmax pmax
comp=Z,10.0nm,1.7s
KMI LR LR
comp=Z,470nm,21.5s
KMI LR LR
comp=Z,330nm,20.6s
KMI LR LR
comp=Z,430nm,23.8s
SDDR Presa de Saban 74.19 80 P **P 23 06 09.0 -1.4**
SDDR IAmb IAmb 23 06 24.3
comp=Z,29nm,0.9s
CLL Collm 74.77 4 P **P 23 06 12.7 -0.5**
CLL Collm 74.77 4 *i* P **P 23 06 14.1 +0.9**
comp=Z,9.0nm,0.8s
CLL *i* PcP **PcP 23 06 26.6 -0.7**
comp=Z,17nm,1.1s
CLL L L 23 42 00.0
comp=Z,200nm,21.3s
CLL Collm 74.77 4 P **P 23 06 12.7 -0.5**
CLL pmax pmax
comp=Z,16nm,1.1s
QIZ Qiongzhong 74.81 281 P P 23 06 07.6 -6.4
QIZ S **SKiKP 23 15 43.6 +5.7**
QIZ LR LR
comp=N,220nm,28.7s
QIZ LR LR
comp=E,200nm,23.9s
QIZ LR LR
comp=Z,220nm,25.5s
IUG luzhnay 74.91 324⇑ *eP* **P 23 06 15.0 +0.6**
baz=324
IUG luzhnay 74.91 324 *ceP* **P 23 06 14.9 +0.6**
BSTI Sart Tilman 74.96 9 *dP* **P 23 06 15.8 +1.4**
MEM Membach 74.98 9 *dP* **P 23 06 15.3 +0.8**
MEM *dPcP* **PcP 23 06 28.0 -0.3**
KSH Kashi 75.00 318 P P **23 06 19.5 +4.5**
KSH pP pwP 23 06 22.8 +2.6
KSH PcP **PcP 23 06 30.8 +2.1**
KSH S **S 23 15 59.9 +8.0**
KSH pmax pmax
comp=Z,26nm,1.2s
KSH LR LR
comp=Z,700nm,22.4s
KSH LR LR
comp=Z,2μm,21.9s
KSH LR LR
comp=Z,1μm,19.4s
BTNL Ternell 75.01 9 *dP* **P 23 06 15.3 +0.6**
BTNL *dPcP* **PcP 23 06 26.6 -1.8**
RAR Rarotonga 75.04 180 P **P 23 06 15.1 +0.1**
comp=Z,19nm,0.8s,baz=63,slow=4.5,SNR=2.7
RAR LR LR 23 32 53.6
comp=Z,81nm,18.8s,baz=279,slow=31
comp=Z,19nm,0.8s
DAV Davao City (W) 75.09 261 LR LR 23 38 24.7
comp=Z,138nm,19.5s,baz=56,slow=35
BCLA Clavier 75.10 10 *dP* **P 23 06 16.5 +1.4**
BGES Gesves 75.11 10 *dP* **P 23 06 16.5 +1.3**
BMRD Maredsous 75.16 10 *dP* **P 23 06 15.4 -0.1**
BHOU Houvegnez 75.23 9 *dP* **P 23 06 15.1 -0.9**
AKASG Malin Array Be 75.23 354 P **P 23 06 15.8 -0.1**
comp=Z,4.4nm,0.4s,baz=9.7,slow=5.8,SNR=37
comp=Z,4.4nm,0.4s
AKBB Malin Array Si 75.23 354 IAmb IAmb 23 06 28.4
AKBB Malin Array Si 75.23 354 *ceP* **P 23 06 16.1 +0.2**
AKBB pmax pmax
comp=Z,21nm,0.8s
BRG Berggiesshubel 75.24 4 *i* P **P 23 06 17.0 +1.0**
BRG Amp 23 06 18.4
comp=Z,7.9nm,0.9s
BRG *ex* x 23 06 27.7
BRG Amp 23 06 31.1
comp=Z,19nm,1.2s
BRG Berggiesshubel 75.24 4 *i* P **P 23 06 17.0 +1.0**
BRG *e* 23 06 27.7
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,19nm,1.2s
KSP Ksiaz 75.35 2 *eP* **P 23 06 17.4 +0.8**
KSP *eL* L 23 46 15.0
comp=Z,351nm,18.8s
DOU Dourbes 75.35 10 *dP* **P 23 06 15.9 -0.7**
RCHB Rochefort 75.35 10 *dP* **P 23 06 17.0 +0.4**
PVCC Panska Ves 75.61 3 *eP* **P 23 06 19.5 +1.4**
PVCC Panska Ves 75.61 3 *eP* **P 23 06 19.5 +1.4**
OSTC Ostas 75.63 2 *eP* **P 23 06 19.1 +0.8**
UPC Upice 75.68 3 *eP* **P 23 06 19.6 +1.1**
UPC Upice 75.68 3 *eP* **P 23 06 19.6 +1.1**
NKC Novy Kostel 75.81 5 *eP* **P 23 06 20.5 +1.2**
NKC *ePCP* **PcP 23 06 31.6 -0.3**
NKC Novy Kostel 75.81 5 *eP* **P 23 06 20.5 +1.2**
NKC *e* 23 06 31.6
DPC Dobruska-Polom 75.84 2 *eP* **P 23 06 20.5 +1.0**
DPC Dobruska-Polom 75.84 2 *eP* **P 23 06 20.5 +1.0**
WLF Walferdange 75.93 9 *dP* **P 23 06 21.6 +1.7**
OJC Ojcow 76.01 0 *eP* **P 23 06 19.0 -1.5**
OJC *eL* L 23 36 24.9
comp=Z,292nm,25.4s
OJC Ojcow 76.01 0 IAmb IAmb 23 06 35.3
comp=Z,61nm,2.0s
KRLC Kraliky 76.13 2 *eP* **P 23 06 22.3 +1.2**
KRLC Kraliky 76.13 2 *eP* **P 23 06 22.3 +1.2**
PRU Pruhonice 76.15 4 *eP* **P 23 06 22.2 +1.0**
PRU AMS AMS 23 46 10.0
comp=Z,400nm,16.8s
PRU Pruhonice 76.15 4 *eP* **P 23 06 22.2 +1.0**
PRU MLR MLR
comp=Z,400nm,16.8s
GOPC GO Pecny, Ondr 76.23 3 AMS AMS 23 46 30.0
comp=Z,400nm,18.1s
TNCH TengChong 76.38 294 ⇑P **P 23 06 24.0 +0.8**
TNCH pP pP 23 06 27.3 -0.6
TNCH PcP **PcP 23 06 35.6 +0.7**
TNCH S **S 23 16 05.6 -2.1**
TNCH sS sS 23 16 17.1 +0.8
TNCH SKS **SKSac 23 16 32.0 -1.9**
TNCH pmax pmax
comp=Z,21nm,0.4s
TNCH pmax pmax
comp=Z,140nm,2.8s
TNCH LR LR
comp=Z,230nm,20.1s
TNCH LR LR
comp=Z,250nm,18.1s
TNCH LR LR
comp=Z,260nm,20.9s
LSA Lhasa 76.44 302 IAmb IAmb 23 06 39.2
comp=Z,28nm,0.8s
LSA Lhasa 76.44 302 P **P 23 06 24.9 +1.1**
LSA pmax pmax
comp=Z,13nm,1.1s
MORC Moravsky Berou 76.44 2 ⇑P **P 23 06 23.7 +0.8**
MORC Moravsky Berou 76.44 2 *eP* **P 23 06 23.6 +0.7**
MORC *e* 23 06 35.0
MORC Moravsky Berou 76.44 2 P **P 23 06 23.7 +0.8**
BTK Batken 76.47 322 IAmb IAmb 23 06 39.5
comp=Z,14nm,0.8s
STHS Stebnicka Huta 76.81 359 *eP* **P 23 06 25.5 +0.5**
STHS Stebnicka Huta 76.81 359 *eP* **P 23 06 25.5 +0.5**
STHS pmax pmax
comp=Z,20nm,0.6s
MAUC Maruska 76.85 1 *eP* **P 23 06 26.5 +1.2**
TREC Trest 76.87 3 AMS AMS 23 46 20.0
comp=Z,400nm,17.0s
VRAC Vranov 76.89 2 ⇑P **P 23 06 26.7 +1.3**
VRAC Vranov 76.89 2 P **P 23 06 25.9 +0.5**
comp=Z,8.3nm,0.7s,baz=354,slow=4.7,SNR=17
comp=Z,8.3nm,0.7s
VRAC Vranov 76.89 2 *eP* **P 23 06 26.3 +0.9**
VRAC *e* 23 06 36.6
KHC Kasperske Hory 76.97 4 IAmb IAmb 23 06 40.9
comp=Z,21nm,1.1s
KHC Kasperske Hory 76.97 4 *eP* **P 23 06 27.3 +1.4**
KHC *ePCP* **PcP 23 06 37.8 +0.9**
KHC AMS AMS 23 50 20.0
comp=Z,300nm,18.0s
KHC Kasperske Hory 76.97 4 *eP* **P 23 06 27.3 +1.4**
KHC *e* 23 06 37.8
KHC MLR MLR
comp=Z,300nm,18.0s
CLF Chambon-Foret 77.13 12 P **P 23 06 24.4 -2.3**
KRUC Moravsky 77.13 2 *eP* **P 23 06 27.3 +0.5**
PMG Port Moresby 77.25 234 *ceP* **P 23 06 28.4 +0.6**
PMG pmax pmax
comp=Z,17nm,1.3s
GERES GERESS Array B 77.26 4 P **P 23 06 28.4 +0.8**
comp=Z,3.5nm,0.7s,baz=1.7,slow=4.4,SNR=34
comp=Z,3.5nm,0.7s
KOLS Kolonicke sedl 77.28 358 *eP* **P 23 06 29.2 +1.6**
KOLS Kolonicke sedl 77.28 358 *eP* **P 23 06 29.3 +1.6**
KOLS pmax pmax
comp=Z,14nm,0.8s
CKRC Cesky Krumlov 77.31 4 *eP* **P 23 06 28.7 +0.9**
CKRC AMS AMS 23 49 30.0
comp=Z,400nm,16.7s
CRVS Cervenica-Dubn 77.32 359 *eP* **P 23 06 28.8 +0.9**
CRVS Cervenica-Dubn 77.32 359 *eP* **P 23 06 28.8 +0.9**
CRVS pmax pmax
comp=Z,25nm,1.2s
BFO Black Forest 77.44 8 P **P 23 06 28.7 +0.1**
BFO Black Forest 77.44 8 P **P 23 06 28.7 +0.1**
BFO pmax pmax
comp=Z,9.0nm,0.9s
UZH Uzhgorod 77.58 358⇑ *iP* **P 23 06 30.5 +1.2**
UZH *i* 23 06 32.5
UZH *i* 23 06 39.4
SMOL Smolenice 77.70 2 *eP* **P 23 06 32.2 +2.2**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
TBI Tubuai 77.72 170 *eLR* LR 23 30 34.0
comp=Z,1μm,31.8s
TBI *eLR* LR 23 30 34.4
comp=Z,3μm,28.8s
VYHS Vyhne 77.74 1 *eP* **P 23 06 31.1 +0.9**
VYHS Vyhne 77.74 1 *eP* **P 23 06 31.1 +0.9**
VYHS pmax pmax
comp=Z,16nm,1.2s
KECS Kecovo 77.75 360 *eP* **P 23 06 31.2 +1.0**
KECS Kecovo 77.75 360 *eP* **P 23 06 31.2 +1.0**
MODS Modra-Piesok 77.84 2 *eP* **P 23 06 32.0 +1.2**
MODS Modra-Piesok 77.84 2 *eP* **P 23 06 32.0 +1.2**
MODS pmax pmax
comp=Z,42nm,1.0s
SORM Soroca 77.85 354 ⇑P **P 23 06 30.7 -0.1**
SORM Soroca 77.85 354 P **P 23 06 30.6 -0.1**
ABAH Abaujker 77.93 359 P **P 23 06 32.5 +1.3**
ZST Bratislava 78.01 2 *eP* **P 23 06 33.4 +1.7**
ZST Bratislava 78.01 2 *eP* **P 23 06 33.4 +1.7**
ZST pmax pmax
comp=Z,49nm,1.1s
TRPA Tarpa 78.08 358 ⇓P **P 23 06 33.5 +1.5**
TRPA Tarpa 78.08 358 P **P 23 06 33.2 +1.1**
CONA Conrad Observa 78.25 3 *eP* **P 23 06 34.8 +1.7**
comp=Z,9.0nm,0.7s
MOA Molln 78.28 4 *i* P **P 23 06 35.6 +2.4**
comp=Z,3.5nm,0.8s
SIJI Sorong 78.30 252 P **P 23 06 33.4 -0.4**
comp=Z,14nm,0.6s,baz=27,slow=6.8,SNR=11
comp=Z,14nm,0.6s
PSZ Piszkesteto 78.32 360 ⇑P **P 23 06 35.2 +1.7**
PSZ Piszkesteto 78.32 360 P **P 23 06 34.9 +1.4**
PSZ Piszkesteto 78.32 360 P **P 23 06 35.1 +1.7**
BUR08 Bucovina Ar. S 78.49 356 P **P 23 06 34.2 -0.3**
BUR08 IAmb IAmb 23 06 59.3
comp=Z,28nm,1.6s
RONA Rosalia, Austr 78.49 2 *i* P **P 23 06 36.1 +1.7**
comp=Z,6.8nm,0.9s
BMR Baia Mare 78.51 357 ⇑P **P 23 06 35.9 +1.4**
BMR Baia Mare 78.51 357 P **P 23 06 35.8 +1.4**
SOP Sopron 78.51 2 P **P 23 06 35.4 +0.9**
BURAR Bucovina Array 78.52 356 ⇑P **P 23 06 35.2 +0.5**
BURAR Bucovina Array 78.52 356 IAmb IAmb 23 06 36.8
comp=Z,10nm,0.6s
BURAR Bucovina Array 78.52 356 P **P 23 06 35.1 +0.5**
DAVA Damuels 78.60 7 *i* P **P 23 06 38.5 +3.4**
comp=Z,9.1nm,1.4s
MOTA Moosalm 78.62 6 *eP* **P 23 06 36.4 +1.1**
comp=Z,11nm,1.0s,SNR=7.3
WATA Walderalm 78.66 6 *eP* **P 23 06 36.9 +1.4**
comp=Z,9.6nm,0.9s,SNR=6.3
WTTA Wattenberg 78.73 6 *eP* **P 23 06 37.5 +1.5**
comp=Z,11nm,0.6s,SNR=11
SQTA Sankt Quirin 78.75 6 *eP* **P 23 06 37.5 +1.6**
comp=Z,11nm,0.7s,SNR=9.9
CSKK Cskako 78.86 1 P **P 23 06 38.0 +1.6**
ARSA Arzberg 78.92 3 *i* P **P 23 06 38.4 +1.6**
comp=Z,5.8nm,0.7s
FETA Feichten 78.92 6 *eP* **P 23 06 38.5 +1.6**
comp=Z,11nm,0.8s
KBA Koelnbreinsper 79.01 5 *eP* **P 23 06 39.3 +1.9**
comp=Z,12nm,0.7s,SNR=4.6
MILM Milestii Mici 79.03 354⇑ *iP* **P 23 06 37.0 -0.3**
comp=Z,37nm,0.7s
MILM *eL* L 23 48 24.0
MILM LRM MLR 23 49 29.0
comp=Z,400nm,18.5s
MILM Milestii Mici 79.03 354 ⇓P **P 23 06 37.8 +0.5**
MILM Milestii Mici 79.03 354 *c iP* **P 23 06 37.0 -0.3**
MILM pmax pmax
comp=Z,37nm,0.7s
MPLH Magyarpolny 79.05 2 P **P 23 06 39.2 +1.8**
MESR Meseseni 79.05 358 ⇑P **P 23 06 39.1 +1.6**
ARCR ARCALIA 79.08 357 ⇑P **P 23 06 39.1 +1.5**
DAVOX Davos/Dischmat 79.10 7 P **P 23 06 38.0 0.0**
comp=Z,4.8nm,0.7s,baz=158,slow=20,SNR=14
DAVOX LR LR 23 45 50.5
comp=Z,154nm,18.4s,baz=26,slow=39
comp=Z,4.8nm,0.7s
DAVOX Davos/Dischmat 79.10 7 P **P 23 06 38.0 0.0**
GOF Gofitskoye 79.22 343⇑ *eP* **P 23 06 39.4 +1.0**
GOF pmax pmax
comp=Z,44nm,0.8s
ABTA Abfaltersbach 79.30 5 *i* P **P 23 06 41.2 +2.2**
comp=Z,9.5nm,1.2s
TIH Tihany 79.32 1 P **P 23 06 40.8 +1.9**
VASR Vaslui 79.37 354 ⇓P **P 23 06 39.8 +0.6**
CBBR Cluj-Babes-Bol 79.42 357 ⇓P **P 23 06 40.8 +1.3**
FAKI Fak Fak 79.45 250 P **P 23 06 39.4 -0.7**
FAKI IAmb IAmb 23 06 52.4
comp=Z,36nm,1.2s
FAKI Fak Fak 79.45 250 P **P 23 06 40.2 +0.2**
MYKA Terra Mystica 79.47 4 *eP* **P 23 06 40.8 +0.9**
comp=Z,5.4nm,0.6s
CJR Cluj-Napoca 79.47 357 ⇑P **P 23 06 41.1 +1.2**
CJR Cluj-Napoca 79.47 357 P **P 23 06 41.0 +1.2**
SOKA Soboth 79.47 3 *eP* **P 23 06 41.4 +1.5**
comp=Z,14nm,0.8s,SNR=12
PERS Pernice 79.52 3 *eP* **P 23 06 41.4 +1.3**
OBKA Obir 79.63 4 *eP* **P 23 06 42.1 +1.4**
comp=Z,41nm,0.6s,SNR=28
ROBS Robic 79.85 4 *eP* **P 23 06 41.9 +0.1**
SIRR Siria 79.96 359 ⇓P **P 23 06 43.8 +1.3**
OZUR 80.01 356 ⇓P **P 23 06 44.3 +1.5**
MORH Mrgy, Hungar 80.02 1 ⇓P **P 23 06 43.7 +1.0**
MORH Mrgy, Hungar 80.02 1 P **P 23 06 43.4 +0.7**
MND Mandalay 80.11 294 P **P 23 06 46.8 +3.2**
KOVH Kovagotottos 80.14 1 P **P 23 06 44.7 +1.4**
DOPR Dopca 80.16 356 ⇑P **P 23 06 45.0 +1.5**
VRI Vrincioaia 80.20 355 ⇑P **P 23 06 45.3 +1.6**
VRI Vrincioaia 80.20 355 P **P 23 06 45.3 +1.6**
PLOR Plostina 80.22 355 ⇓P **P 23 06 44.8 +0.9**
PLOR Plostina 80.22 355 P **P 23 06 44.8 +0.9**
COVR Voineasa-Covas 80.24 355 ⇓P **P 23 06 45.6 +1.6**
KVAR Kislovodsk Arr 80.35 343 P **P 23 06 45.9 +1.2**
comp=Z,3.2nm,0.7s,baz=267,slow=21,SNR=3.1
KVAR LR LR 23 47 14.4
comp=Z,165nm,19.2s,baz=267,slow=39
comp=Z,3.2nm,0.7s
KIV Kislovodsk 80.35 343 ⇑P **P 23 06 45.5 +0.8**
KIV Kislovodsk 80.35 343 P **P 23 06 44.7 +0.1**
KIV IAmb IAmb 23 07 01.0
comp=Z,13nm,0.7s
KIV Kislovodsk 80.35 343 *eP* **P 23 06 45.4 +0.8**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,87nm,19.0s
MAK Makhachkala 80.42 340 *eP* **P 23 06 40.2 -4.7**
MAK *eS* **S 23 16 44.0 -6.0**
MAK *eSSS* SSS 23 25 19.7
MAK pmax pmax
comp=Z,133nm,1.9s
IZVR Izvoarele 80.46 354 ⇓P **P 23 06 46.4 +1.3**
SURR Surduc 80.46 358 ⇑P **P 23 06 46.0 +0.9**
GUN Gumba 80.50 305 *eP* **P 23 06 46.6 +0.5**
GROC Groznyy 80.52 341 P **P 23 06 44.0 -1.5**
GROC *e* 23 06 50.9
GROC pmax pmax
comp=Z,14nm,0.7s
KBZ Khabaz 80.53 343 P **P 23 06 46.2 +0.7**
comp=Z,8.0nm,0.9s,baz=314,slow=4.9,SNR=14
KBZ LR LR 23 49 38.0
comp=Z,155nm,18.7s,baz=10.0,slow=41
comp=Z,8.0nm,0.9s
KBZ Khabaz 80.53 343 *ceP* **P 23 06 47.1 +1.6**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
SHA1 Shidzhatmaz 80.56 343 *i* P **P 23 06 46.8 +0.8**
BZS Buzias 80.61 359 ⇓P **P 23 06 46.9 +1.0**
BZS Buzias 80.61 359 P **P 23 06 46.9 +1.0**
MLR Muntele Rosu 80.61 356 P **P 23 06 43.6 -2.5**
baz=270,slow=9.1
ODAN Odare 80.64 303 *eP* **P 23 06 47.0 +0.3**
VOIR 80.70 356 ⇓P **P 23 06 47.7 +1.2**
VOIR 80.70 356 P **P 23 06 47.7 +1.2**
ARR Arges 80.78 357 ⇑P **P 23 06 48.3 +1.4**
CFR Carcaliu 80.81 354 ⇑P **P 23 06 47.7 +0.8**
CFR Carcaliu 80.81 354 P **P 23 06 47.7 +0.8**
GZR Gura Zlata 80.81 358 ⇓P **P 23 06 48.3 +1.2**
KKN Kakani 80.89 305 *eP* **P 23 06 48.2 +0.2**
PKI Pulchoki 81.01 305 *eP* **P 23 06 48.7 -0.1**
PKIN Phulchoki 81.01 305 *eP* **P 23 06 48.6 -0.1**
comp=Z,24nm,0.5s
GKN Gorkha 81.02 306 *eP* **P 23 06 48.7 +0.1**
NEY Neytrino 81.03 343 *i* P **P 23 06 49.3 +0.9**
NEY pmax pmax
comp=Z,2.0nm,1.0s
SECR 81.06 356 ⇓P **P 23 06 49.6 +1.2**
TPGR Topolog 81.11 354 ⇓P **P 23 06 48.9 +0.2**
DMN Daman 81.12 305 *eP* **P 23 06 49.6 +0.3**
comp=Z,28nm,0.4s
DANN Dangsing 81.14 307 *eP* **P 23 06 49.9 +0.5**
comp=Z,53nm,0.5s
CHTO Chiang Mai 81.15 290 P **P 23 06 47.6 -1.6**
CHTO Chiang Mai 81.15 290 P **P 23 06 47.6 -1.6**
CHTO pmax pmax
comp=Z,17nm,1.2s
DZM Mont Dzumac 81.16 211 *eLR* LR 23 32 10.3
comp=Z,317nm,21.4s
DZM Mont Dzumac 81.16 211 P **P 23 06 47.8 -1.3**
comp=Z,2.4nm,0.8s,baz=188,slow=22,SNR=1.6
DZM LR LR 23 37 21.4
comp=Z,212nm,19.4s,baz=31,slow=32
comp=Z,2.4nm,0.8s
NIL Nilore 81.18 317 P **P 23 06 48.0 -1.2**
NIL Nilore 81.18 317 P **P 23 06 48.0 -1.2**
NIL pmax pmax
comp=Z,34nm,0.8s
SOC Sochi 81.18 346 *eP* **P 23 06 47.7 -1.3**
SOC *e* 23 09 52.5
SOC *ePPP* PPP 23 11 41.5
SOC *eS* **S 23 16 57.7 -0.3**
SOC *eSS* **SS 23 22 10.1 -1.5**
SOC MLR MLR
comp=Z,322nm,22.0s
ZEI Tsey 81.27 342 *eP* **P 23 06 48.9 -0.9**
ZEI pmax pmax
comp=Z,11nm,1.0s
PGAV Gavieira, Arco 81.28 21 *eP* **P 23 06 49.8 +0.1**
comp=Z,37nm,1.7s
PGAV *eLQ* LQ 23 07 00.5
PGAV Gavieira, Arco 81.28 21 *eLR* LR 23 34 03.1
comp=Z,419nm,18.0s
HERR Herculane 81.33 358 ⇓P **P 23 06 50.5 +0.7**
CMAR Chiang Mai Arr 81.44 290 P **P 23 06 50.6 -0.1**
comp=Z,2.3nm,0.4s,baz=18,slow=5.2,SNR=33
CMAR LR LR 23 45 37.4
comp=Z,137nm,19.3s,baz=45,slow=38
comp=Z,2.3nm,0.4s
CMAR Chiang Mai Arr 81.44 290 *ceP* **P 23 06 50.9 +0.1**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
MDVR Moldovita 81.44 359 ⇑P **P 23 06 50.9 +0.5**
TIRR Tirgusor 81.50 354 ⇓P **P 23 06 51.6 +0.9**
TIRR Tirgusor 81.50 354 P **P 23 06 51.5 +0.9**
HUMR Humele 81.61 356 ⇓P **P 23 06 51.5 +0.3**
PBRG Braganca 81.75 20 *eP* **P 23 06 53.3 +1.2**
comp=Z,27nm,1.6s
AKT Akhty 81.79 339 *eP* **P 23 06 53.3 +0.9**
AKT *e* 23 06 57.9
AKT pmax pmax
comp=Z,14nm,0.7s
ZKTA Zakatala 81.87 340 P **P 23 06 53.6 +0.9**
BRDH Bariadhala 81.94 298 LR LR 23 48 18.1
comp=Z,131nm,18.2s,baz=66,slow=39
KBL Kabul 82.01 321 P **P 23 06 52.2 -1.6**
KBL IAmb IAmb 23 07 19.2
comp=Z,15nm,0.9s
KBL Kabul 82.01 321 P **P 23 06 52.2 -1.6**
KBL pmax pmax
comp=Z,15nm,0.9s
PVRL Vila Real 82.06 21 *eP* **P 23 06 55.7 +2.0**
comp=Z,33nm,1.5s
SEKA Sheki 82.16 340 P **P 23 06 55.3 +1.0**
SANI Sanana 82.25 256 P **P 23 06 55.1 +0.1**
comp=Z,14nm,0.8s
MVO Moncorvo 82.31 20 *eLQ* LQ 23 07 07.8
MVO Moncorvo 82.31 20 *eLR* LR 23 34 44.6
comp=Z,468nm,20.0s
GEYT Alibeck 82.55 330 P **P 23 06 57.4 +1.0**
comp=Z,8.5nm,0.8s,baz=343,slow=4.6,SNR=24
GEYT LR LR 23 49 08.3
comp=Z,733nm,18.0s,baz=38,slow=40
comp=Z,8.5nm,0.8s
GEYT Alibeck 82.55 330 IAmb IAmb 23 07 11.8
comp=Z,13nm,0.8s
GYA0B ALIBECK ARRAY 82.55 330 IAmb IAmb 23 07 18.2
comp=Z,17nm,1.1s
PVIS Viseu 82.56 21 *eP* **P 23 06 58.4 +2.0**
comp=Z,52nm,1.7s
PVIS *eLQ* LQ 23 07 09.9
SDV Santo Domingo 82.59 85 *eP* P 23 07 09.1 +12
MNGR Mingechevir, A 82.60 339 P **P 23 06 57.8 +1.3**
GANJ Ganja 82.88 340 P **P 23 06 59.9 +1.9**
MTE Manteigas 82.93 21 *eP* **P 23 06 59.5 +1.1**
comp=Z,44nm,1.2s
MTE Manteigas 82.93 21 *eSKS* **S 23 17 11.8 -4.5**
MTE Manteigas 82.93 21 *eLR* LR 23 34 52.1
comp=Z,417nm,18.0s
PCAS Casmilo, Conde 83.06 22 *eP* **P 23 07 00.5 +1.5**
comp=Z,37nm,1.1s
PCAS *eLQ* LQ 23 07 08.9
PCBR Castelo Branco 83.49 21 *eP* **P 23 07 02.3 +1.2**
comp=Z,39nm,1.5s
PCBR *eLQ* LQ 23 07 10.8
PSBE So Bento 83.52 22 *eP* **P 23 07 02.9 +1.6**
comp=Z,71nm,1.3s
VTS Vitosha 83.57 357 ⇓P **P 23 07 01.9 +0.2**
ROSC El Rosal 83.67 91 LR LR 23 46 09.2
comp=Z,74nm,20.1s,baz=48,slow=37
GNI Garni 83.67 341 P **P 23 07 02.6 +0.3**
comp=Z,6.1nm,0.9s,baz=326,slow=21,SNR=5.7
GNI LR LR 23 48 43.8
comp=Z,249nm,20.7s,baz=18,slow=39
comp=Z,6.1nm,0.9s
GNI Garni 83.67 341 P **P 23 07 01.4 -0.9**
GNI IAmb IAmb 23 07 24.4
comp=Z,15nm,0.9s
GNI Garni 83.67 341 *ceP* **P 23 07 01.4 -0.9**
GNI pmax pmax
comp=Z,25nm,1.7s
PMRV Marv??o 83.90 21 *eP* **P 23 07 05.6 +2.3**
comp=Z,36nm,1.5s
PMRV *eLQ* LQ 23 07 16.3
PMRV Marv??o 83.90 21 *eLR* LR 23 36 11.4
comp=Z,337nm,18.0s
PMAFR Mafra 83.94 22 *eP* **P 23 07 05.0 +1.5**
comp=Z,147nm,1.4s
BAUV El Baul 84.07 83 P **P 23 07 02.2 -2.2**
PMTG Montargil 84.07 22 *eP* **P 23 07 05.2 +1.1**
comp=Z,41nm,1.4s
PMTG *eLQ* LQ 23 07 16.6
LKRN Lenkeran, Azer 84.22 338 P **P 23 07 06.3 +1.4**
PACT Alcochete 84.22 22 *eP* **P 23 07 03.6 -1.3**
comp=Z,234nm,1.4s
PACT *eLQ* LQ 23 07 18.2

ESBB	**Sonseca Array**	**84.34**	**18**	IAmb	IAmb	23 07 19.8			
	comp=Z,27nm,1.2s								
ESDC	**Sonseca Array**	**84.34**	**18**	P	**P**	**23 07 06.0**	**+0.5**		
	comp=Z,4.0nm,0.8s,baz=342,slow=4.6,SNR=27								
ESDC				PP	**PP**	**23 10 21.4**	**+1.9**		
	comp=Z,1.7nm,0.9s,baz=349,slow=8.2,SNR=5.3								
ESDC				LR	LR	23 49 25.1			
	comp=Z,140nm,18.1s,baz=350,slow=39								
	comp=Z,4.0nm,0.8s								
ESDC	**Sonseca Array**	**84.34**	**18**	IAmb	IAmb	23 07 19.8			
	comp=Z,20nm,1.2s								
PESTR	**Estremoz**	**84.40**	**21**	*e*P	**P**	**23 07 07.1**	**+1.3**		
	comp=Z,50nm,1.3s								
PESTR				*e*LQ	LQ	23 07 18.4			
RAO	**Raoul Island**	**84.46**	**196**	LR	LR	23 37 39.4			
	comp=Z,125nm,20.9s,baz=16,slow=31								
NAX	**Nakhchivan**	**84.47**	**340**	P	**P**	**23 07 07.5**	**+1.2**		
EVO	**Evora**	**84.63**	**22**	eLQ	LQ	23 07 16.1			
TOKA	**Tokat**	**84.83**	**347**	IAmb	IAmb	23 07 10.6			
	comp=Z,14nm,0.8s								
PNCL	**Nicolau / Gran**	**84.92**	**22**	*e*P	**P**	**23 07 10.4**	**+2.0**		
	comp=Z,61nm,1.3s								
PNCL				*e*LQ	LQ	23 07 21.5			
RDO	**Rodhopi**	**84.96**	**356**	IAmb	IAmb	23 07 10.6			
	comp=Z,19nm,0.8s								
PCRV	**Puerto La Cruz**	**85.06**	**80**	LR	LR	23 42 57.0			
	comp=Z,116nm,21.1s,slow=34								
PBEJ	**Beja**	**85.14**	**22**	eLQ	LQ	23 07 23.8			
PBAR	**Barrancos**	**85.18**	**21**	*e*P	**P**	**23 07 11.6**	**+1.9**		
	comp=Z,52nm,1.4s								
PBAR				*e*LQ	LQ	23 07 23.4			
BR131	**Keskin Array S**	**85.75**	**349**	P	**P**	**23 07 13.1**	**+0.3**		
BR131				IAmb	IAmb	23 07 14.6			
	comp=Z,13nm,0.8s								
BR131	**Keskin Array S**	**85.75**	**349**	P	**P**	**23 07 13.1**	**+0.3**		
BR131				pmax	pmax				
	comp=Z,13nm,0.9s								
BRTR	**Keskin Array B**	**85.75**	**349**	P	**P**	**23 07 13.2**	**+0.4**		
	comp=Z,6.5nm,0.8s,baz=36,slow=2.1,SNR=34								
	comp=Z,6.5nm,0.8s								
BRTR	**Keskin Array B**	**85.75**	**349**	*ce*P	**P**	**23 07 13.5**	**+0.7**		
BRTR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
GEVA	**Gevas**	**85.77**	**342**	IAmb	IAmb	23 07 33.8			
	comp=Z,42nm,1.9s								
PVAQ	**Vaqueiros**	**85.78**	**22**	*e*SKS	**SKSac**	**23 17 37.8**	**+0.4**		
PVAQ	**Vaqueiros**	**85.78**	**22**	eLR	LR	23 36 10.3			
	comp=Z,352nm,22.0s								
BORA	**Eskisehir**	**85.91**	**352**	IAmb	IAmb	23 07 15.2			
	comp=Z,12nm,0.9s								
MTSU	**Mount Surprise**	**86.18**	**232**	P	**P**	**23 07 15.9**	**+1.1**		
CTA	**Charters Tower**	**87.01**	**229**	P	**P**	**23 07 18.8**	**-0.1**		
	comp=Z,4.7nm,0.7s,baz=324,slow=3.1,SNR=3.8								
	comp=Z,4.7nm,0.7s								
MARD	**Mardin**	**87.14**	**343**	IAmb	IAmb	23 07 27.4			
	comp=Z,15nm,0.8s								
KAPI	**Kappang**	**88.24**	**259**	P	**P**	**23 07 24.3**	**-0.6**		
	comp=Z,2.7nm,0.2s,baz=39,slow=4.2,SNR=6.7								
KAPI				LR	LR	23 43 10.5			
	comp=Z,42nm,19.9s,baz=29,slow=33								
	comp=Z,2.7nm,0.2s								
KAPI	**Kappang**	**88.24**	**259**	P	**P**	**23 07 25.2**	**+0.3**		
SURA	**Surathani**	**88.57**	**284**	P	**P**	**23 07 28.7**	**+2.2**		
KEST	**Kesra**	**90.03**	**9**	LR	LR	23 52 45.8			
	comp=Z,276nm,19.0s,baz=321,slow=39								
BATI	**Baumata**	**90.23**	**253**	LR	LR	23 47 06.3			
	comp=Z,63nm,18.4s,baz=52,slow=35								
MDT	**Midelt**	**90.86**	**20**	P	**P**	**23 07 38.4**	**+1.3**		
	comp=Z,1.1nm,0.8s,baz=315,slow=1.4,SNR=2.1								
MDT				LR	LR	23 51 53.3			
	comp=Z,196nm,18.1s,baz=5.5,slow=38								
	comp=Z,1.1nm,0.8s								
MMAI	**Mount Meron Ar**	**92.16**	**347**	LR	LR	23 56 07.0			
	comp=Z,76nm,18.1s,baz=269,slow=40								
WRAB	**Tennant Creek**	**92.54**	**239**	*ce*P	**P**	**23 07 44.8**	**0.0**		
WRAB				pmax	pmax				
	comp=Z,16nm,2.5s								
WRA	**Warramunga Arr**	**92.56**	**239**	P	**P**	**23 07 43.5**	**-1.4**		
	comp=Z,3.3nm,1.0s,baz=46,slow=5.2,SNR=12								
WRA				LR	LR	23 42 53.7			
	comp=Z,169nm,21.9s,baz=80,slow=31								
	comp=Z,3.3nm,1.0s								
WRA	**Warramunga Arr**	**92.56**	**239**	*ce*P	**P**	**23 07 44.2**	**-0.7**		
WRA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ASF	**Jabal al Asfar**	**92.78**	**346**	P	**P**	**23 07 44.8**	**-1.3**		
	comp=Z,2.1nm,0.8s,baz=80,slow=2.7,SNR=3.7								
	comp=Z,2.1nm,0.8s								
BOAV	**Boa Vista**	**93.72**	**81**	*e*P	P	23 08 01.7	+11		
CZSB	**Cruzeiro do Su**	**94.71**	**97**	*e*P	P	23 08 07.7	+13		
EIL	**Elat**	**95.52**	**347**	LR	LR	23 58 40.0			
	comp=Z,134nm,18.2s,baz=30,slow=40								
ASAR	**Alice Springs**	**95.90**	**237**	P	**P**	**23 07 59.6**	**-0.5**		
	comp=Z,1.5nm,1.0s,baz=23,slow=4.2,SNR=6.9								
ASAR				PKiP	**PKKPbc**	**23 24 47.5**	**+0.3**		
	comp=Z,0.3nm,0.5s,baz=191,slow=2.8,SNR=2.2								
ASAR				LR	LR	23 45 26.6			
	comp=Z,247nm,22.0s,baz=358,slow=32								
	comp=Z,1.5nm,1.0s								
MDP	**Montagnes des**	**96.03**	**73**	LR	LR	23 49 45.8			
	comp=Z,203nm,21.8s,baz=352,slow=34								
MACA	**Manacapuru-AM**	**98.11**	**84**	*e*P	Pdif	23 08 21.2	+11		
STKA	**Stephens Creek**	**99.29**	**227**	LR	LR	23 48 43.8			
	comp=Z,126nm,20.2s,baz=27,slow=33								
RAYN	**Ar Rayn**	**99.55**	**336**	P	**Pdif**	**23 08 15.0**	**-1.8**		
RAYN				IAmb	IAmb	23 08 30.6			
	comp=Z,4.0nm,0.8s								
RAYN	**Ar Rayn**	**99.55**	**336**	P	**Pdif**	**23 08 17.2**	**+0.3**		
RAYN				pmax	pmax				
	comp=Z,4.0nm,0.7s								
SNDB	**Serra Nova Dou**	**110.66**	**82**	*e*P	**Pdif**	**23 09 17.3**	**+11**		
SALV	**Santo Antonio**	**111.20**	**88**	*e*P	**Pdif**	**23 09 19.5**	**+11**		
TORD	**Torodi Ar. Bea**	**111.22**	**19**	PKiKP	**PKiKP**	**23 13 05.8**	**-1.7**		
	comp=Z,0.1nm,0.4s,baz=354,slow=4.3,SNR=1.8								
H03N2	**Juan Fernandez**	**111.62**	**117**	T	T	01 14 21.7			
	baz=323,slow=77,SNR=19								
H03N1	**Juan Fernandez**	**111.63**	**117**	T	T	01 14 30.7			
	baz=323,slow=77,SNR=36								
H03N3	**Juan Fernandez**	**111.64**	**117**	T	T	01 14 33.7			
	baz=323,slow=77,SNR=22								
CMC01	**Camacan, BA**	**120.14**	**74**	*e*P	PKiKP	23 13 33.5	+8.9		
CRSM	**Crissiumal (Br**	**121.09**	**95**	*e*P	PKiKP	23 13 36.1	+10		
PLCA	**Paso Flores**	**121.50**	**117**	PKP	**PKiKP**	**23 13 27.9**	**+1.3**		
	comp=Z,3.3nm,1.0s,baz=304,slow=11,SNR=3.2								
ITAB	**Concordia**	**122.02**	**93**	*e*P	PKiKP	23 13 37.9	+10		
VAS01	**Vassouras-RJ**	**123.36**	**82**	*e*P	PKiKP	23 13 39.7	+9.0		
PLTB	**Pedras Altas**	**124.50**	**98**	*e*P	PKiKP	23 13 42.7	+10		
KMBO	**Kilima Mbogo**	**125.25**	**339**	PKP	**PKPdf**	**23 13 34.0**	**-0.7**		
	comp=Z,0.7nm,0.4s,baz=54,slow=5.1,SNR=4.4								
KMBO	**Kilima Mbogo**	**125.25**	**339**	*c i*PKIKP	**PKPdf**	**23 13 34.5**	**-0.3**		
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.4s								
QSPA	**South Pole Qui**	**143.91**	**180**		PKPpre	23 14 04.0			
TSUM	**Tsumeb**	**145.08**	**4**		**PKPbc**	**23 14 09.6**	**-1.0**		
BOSA	**Boshof**	**154.19**	**349**	PKP	**PKPdf**	**23 14 24.1**	**-1.1**		
	comp=Z,4.9nm,1.1s,baz=124,slow=18,SNR=2.3								
MAW	**Mawson**	**155.74**	**220**	PKPbc	PKPdf	23 14 35.5	+10		
	comp=Z,1.3nm,0.6s,baz=356,slow=15,SNR=1.9								
MAW				PKPab	**PKPab**	**23 14 51.7**	**-0.9**		
	comp=Z,1.3nm,0.5s,baz=46,slow=2.9,SNR=2.3								

WEL 14 22:56:08.7±0.3, 43.3°S±2.1°×17.3°E±.1°, h10km±3km, M3.6/15, ML3.9/15, MLv3.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=122.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.37**	**69**	P	Pg	22 56 16.5	+0.5
KHZ				S	Sb	22 56 22.2	-0.9
GVZ	**Greta Valley S**	**0.41**	**184**	P	Pb	22 56 18.1	-0.1
GVZ				S	Sb	22 56 25.6	+1.1
LTZ	**Lake Taylor**	**0.63**	**249**	P	Pg	22 56 21.1	+0.1
LTZ				S	Sg	22 56 29.8	+0.5
AMCZ	**Amberley**	**0.69**	**206**	P	Pb	22 56 23.4	+0.5
AMCZ				S	Sn	22 56 34.9	-0.5
THZ	**Tophouse**	**0.80**	**351**	P	Pg	22 56 23.6	-0.6
THZ				S	Sg	22 56 33.5	-1.1
BSWZ	**Blackbirch Sta**	**1.03**	**36**	P	Pg	22 56 27.6	-0.9
OXZ	**Oxford**	**1.08**	**224**	P	Pb	22 56 29.1	-0.4
OXZ				S	Sn	22 56 45.5	+0.6
OKCZ	**Okains Bay**	**1.17**	**180**	P	Pb	22 56 30.9	-0.1
MRNZ	**Matariki Terra**	**1.18**	**348**	P	Pb	22 56 30.7	-0.4
MQZ	**McQueen's Vall**	**1.19**	**195**	P	Pb	22 56 30.4	-1.0
MQZ				S	Sb	22 56 45.8	-1.0
INZ	**Inchbonnie**	**1.21**	**261**	P	Pn	22 56 31.2	-0.5
DSZ	**Denniston Nort**	**1.24**	**310**	P	Pn	22 56 31.9	-0.2
DSZ				S	Sn	22 56 49.2	+0.3
TUWZ	**Tuamarina**	**1.30**	**30**	P	Pn	22 56 32.8	-0.1
AKCZ	**Akaroa Harbour**	**1.32**	**185**	P	Pn	22 56 32.4	-0.9
NNZ	**Nelson**	**1.35**	**10**	P	Pb	22 56 33.9	-0.2
RACZ	**Rakaia**	**1.36**	**210**	P	Pn	22 56 32.8	-0.8
RACZ				S	Sn	22 56 51.6	-0.1
TKNZ	**Takaka Hill**	**1.52**	**357**	P	Pn	22 56 36.2	+0.3
TCW	**Tory Channel**	**1.62**	**34**	P	Pn	22 56 36.8	-0.4
WACZ	**Wakanui South**	**1.66**	**213**	P	Pn	22 56 37.0	-0.8
WACZ				S	Sn	22 56 58.2	-0.9
QRZ	**Quartz Range**	**1.77**	**347**	P	Pn	22 56 40.3	+0.9
QRZ				S	Sb	22 57 03.6	+0.1
WVZ	**Waitaha Valley**	**1.79**	**252**	P	Pn	22 56 40.0	+0.3
DUWZ	**D'Urville Isla**	**1.86**	**20**	P	Pb	22 56 42.3	-0.5
RPZ	**Rata Peaks**	**1.88**	**231**	P	Pn	22 56 40.2	-0.7
PLWZ	**Palliser**	**1.90**	**60**	P	Pn	22 56 40.4	-0.7
ARCZ	**Arundel**	**1.96**	**224**	P	Pn	22 56 41.1	-0.9
MSWZ	**Moikau Station**	**1.98**	**56**	P	Pn	22 56 41.4	-0.9
PAWZ	**Paruwai Farm**	**2.11**	**57**	P	Pn	22 56 42.9	-1.2
GCSZ	**Gaunt Creek Bo**	**2.15**	**248**	P	Pn	22 56 45.1	+0.5
OGWZ	**Otaki Gorge**	**2.34**	**43**	P	Pn	22 56 46.8	-0.4
TMZ	**Timaru**	**2.37**	**219**	P	Pn	22 56 47.0	-0.6
FOZ	**Fox Glacier**	**2.58**	**247**	P	Pn	22 56 51.4	+0.9
MRZ	**Mangatainoka R**	**2.67**	**46**	P	Pn	22 56 50.7	-1.0
LBZ	**Lake Benmore**	**2.79**	**228**	P	Pn	22 56 52.8	-0.6
ODZ	**Otahua Downs**	**3.05**	**214**	P	Pn	22 56 55.9	-1.0
NMEZ	**Namu Road**	**3.20**	**11**	P	Pn	22 57 01.0	+2.1
TSZ	**Takapari Road**	**3.31**	**42**	P	Pb	22 57 07.5	0.0
NBEZ	**Newall Road No**	**3.34**	**11**	P	Pn	22 57 04.2	+3.3
PKE	**Pukeiti**	**3.43**	**12**	P	Pn	22 57 05.0	+2.8
JCZ	**Jackson Bay**	**3.48**	**243**	P	Pn	22 57 02.8	-0.1
VRZ	**Vera Road**	**3.66**	**21**	P	Pn	22 57 07.5	+2.3
WNVZ	**Wahianoa**	**3.75**	**32**	P	Pn	22 57 07.8	+1.1
HHSZ	**Highcliff Hill**	**3.77**	**207**	P	Pn	22 57 06.0	-0.9
EAZ	**Earnscleugh**	**3.82**	**224**	P	Pn	22 57 06.6	-0.9
OTVZ	**Oturere**	**3.92**	**31**	P	Pn	22 57 10.4	+1.4
KRVZ	**Karewarewa**	**3.97**	**30**	P	Pb	22 57 15.8	-2.9
TMVZ	**Te Maari**	**3.97**	**31**	P	Pn	22 57 14.0	+4.3
HIZ	**Hauiti**	**4.26**	**19**	P	Pn	22 57 15.2	+1.6
MLZ	**Mavora Lakes**	**4.55**	**230**	P	Pn	22 57 16.1	-1.5
TOZ	**Tahuroa Road**	**5.16**	**22**	P	Pn	22 57 26.5	+0.5
AWAZ	**Awhitu Peninsu**	**5.61**	**13**	P	Pn	22 57 33.9	+1.7
MKAZ	**Moumakai**	**5.67**	**17**	P	Pn	22 57 33.9	+0.9

IDC 14 22:57:13.1±10.0, 5.0°S×146.3°E, h0km, mb3.6/2, mbtmp3.9/5, ML3.5/3, Error ellipse: s-maj=144.3km s-min=65.0km az=24.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.36**	**169**	Pn	Pn	22 58 19.9	-0.7
	21nm,0.3s,baz=354,slow=10,SNR=39						
PMG				Sn	Sn	22 59 02.3	-10
	15nm,0.3s,baz=163,slow=22,SNR=8.2						
	80nm,0.5s						
CTA	**Charters Tower**	**14.91**	**180**	Pn	Pn	23 00 46.4	+1.1
	0.5nm,0.3s,baz=358,slow=14,SNR=2.2						
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**18.83**	**217**	P	P	23 01 34.0	-0.6
	0.2nm,0.3s,baz=40,slow=12,SNR=7.0						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**22.02**	**212**	P	P	23 02 09.3	+0.1
	0.5nm,0.4s,baz=48,slow=8.1,SNR=8.7						
	0.5nm,0.4s						
STKA	**Stephens Creek**	**27.02**	**189**	P	P	23 02 57.2	+0.3
	1.1nm,0.5s,baz=357,slow=7.4,SNR=4.7						
	1.1nm,0.5s						

UPP 14 23:03:00.1±0.0, 67.7°S±18N×20.6°E±64E, h1km, ML1.7, Explosion
HEL 14 23:03:00.5±0.0, 67.17N×20.63E, h0km, ML1.4, ML1.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.05**	**208**	P	Pg	23 03 01.4	-0.1
DUNU				S	Sg	23 03 02.4	+0.2
DUNU	**Dundret**	**0.05**	**208**	*i* P	Pg	23 03 01.4	-0.1
DUNU				*i* S	Sg	23 03 02.4	+0.2
MASU	**Masugnsbyn**	**0.60**	**61**	P	Pg	23 03 11.4	-0.6
MASU				S	Sg	23 03 19.5	-0.4
MASU	**Masugnsbyn**	**0.60**	**61**	*i* P	Pg	23 03 11.4	-0.6
MASU				*i* S	Sg	23 03 19.5	-0.4
RATU	**Laukkuluspa**	**0.77**	**329**	P	Pg	23 03 14.2	-1.0
RATU	**Laukkuluspa**	**0.77**	**329**	*i* P	Pg	23 03 14.2	-1.0
KUA	**Kurravaara**	**0.80**	**352**	P	Pg	23 03 14.7	-1.1
KUA	**Kurravaara**	**0.80**	**352**	*i* P	Pg	23 03 14.7	-1.1
SALU	**Saltoluokta**	**0.85**	**285**	P	Pg	23 03 16.0	-0.8
SALU	**Saltoluokta**	**0.85**	**285**	*i* P	Pg	23 03 16.0	-0.8
ERTU	**Ertsjaerv**	**0.87**	**134**	P	Pg	23 03 15.9	-1.3
ERTU	**Ertsjaerv**	**0.87**	**134**	*e*P	Pg	23 03 15.9	-1.3
NIKU	**Nikkaluokta**	**0.93**	**320**	P	Pg	23 03 17.3	-1.1
NIKU	**Nikkaluokta**	**0.93**	**320**	*e*P	Pg	23 03 17.3	-1.1
PAJU	**Pajala**	**0.98**	**97**	P	Pg	23 03 18.1	-1.1
PAJU	**Pajala**	**0.98**	**97**	*e*P	Pg	23 03 18.1	-1.1
HARU	**Harads**	**1.02**	**172**	P	Pg	23 03 18.7	-1.3
HARU	**Harads**	**1.02**	**172**	*e*P	Pg	23 03 18.7	-1.3
LANU	**Lannavaara**	**1.03**	**30**	P	Pg	23 03 18.9	-1.3
LANU	**Lannavaara**	**1.03**	**30**	*e*P	Pg	23 03 18.9	-1.3
KLF	**Kolari**	**1.30**	**86**	*e*P	Pg	23 03 23.7	-1.7
KLF				*e*SN	Sn	23 03 45.6	+1.7
HEF	**Hetta**	**1.69**	**41**	*e*P	Pn	23 03 30.2	-1.1
HEF				MSG		23 03 51.5	
	comp=Z,2.8nm,0.2s						
HEF				*e*SG	Sn	23 03 52.8	-0.9
HEF	**Hetta**	**1.69**	**41**	*e*P	Pn	23 03 30.4	-1.0
SJUU	**Sjulsmark**	**1.71**	**166**	P	Pn	23 03 30.9	-0.6
SJUU	**Sjulsmark**	**1.71**	**166**	*e*P	Pn	23 03 30.9	-0.6
TOF	**Tornio**	**1.83**	**125**	*e*PG	Pn	23 03 33.5	+0.3
TOF				MSG		23 03 55.7	
	comp=Z,1.6nm,0.2s						
TOF				*e*SN	Sb	23 03 58.7	+0.4
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*PG	Pb	23 03 34.4	-0.6
KIF				MSG		23 03 56.4	
	comp=Z,2.5nm,0.2s						
KIF				*e*SG	Sg	23 03 59.6	-0.1
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pb	23 03 34.3	-0.7
KTK1	**Kautokeino**	**2.09**	**27**	*e*SG	Sb	23 04 05.2	-0.6
RNF	**Rovaniemi**	**2.20**	**102**	*e*PB	Pn	23 03 38.9	+0.7
RNF				*e*SG	Sb	23 04 08.7	0.0
SGF	**Sodankyl**	**2.30**	**80**	*e*SG	Sb	23 04 11.3	-0.5
ARA0	**ARCESS Array S**	**2.98**	**35**	*e*P	Pn	23 03 49.2	+0.2
OLKF	**Oulanka, Finla**	**3.58**	**100**	*e*S	Sn	23 04 37.5	-2.7
HEMU	**Hemsoen**	**4.64**	**195**	*e*S	Sn	23 05 04.3	-2.1

IDC 14 23:11:16.2±1.7, 42.2°S±17S×173.62E, h0km, mb3.6/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=45.3km s-min=31.2km az=136.0
WEL 14 23:11:18.5±0.4, 42.2°S±4.1°×17.4E±.1°, h5km, M3.6/10, ML3.8/10, MLv3.6/10, Error ellipse: s-maj=0.0km s-min=0.0km az=123.7
ISC 14 23:11:16.7±1.2, 42.32S±0.03°×173.85E±0.03, h6km±8km, n65, σ1.9°07/76, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**248**	P	**Pg**	**23 11 22.7**	**+1.2**
KHZ				S	**Sg**	**23 11 26.9**	**+2.0**
BSWZ	**Blackbirch Sta**	**0.61**	**2**	P	**Pg**	**23 11 28.4**	**0.0**
BSWZ				S	**Sg**	**23 11 36.3**	**-0.1**
CMWZ	**Cape Campbell**	**0.64**	**25**	P	**Pb**	**23 11 30.9**	**+0.7**
CMWZ				S	**Sn**	**23 11 42.9**	**+0.3**
GVZ	**Greta Valley S**	**0.88**	**223**	P	**Pn**	**23 11 36.3**	**+0.7**
GVZ				S	**Sn**	**23 11 50.5**	**+1.8**
TUWZ	**Tuamarina**	**0.90**	**4**	P	**Pg**	**23 11 34.0**	**+0.1**
TUWZ				S	**Sg**	**23 11 45.6**	**+0.1**
THZ	**Tophouse**	**0.90**	**308**	P	**Pg**	**23 11 33.0**	**-1.0**
THZ				S	**Sg**	**23 11 44.1**	**-1.5**
TCW	**Tory Channel**	**1.16**	**16**	P	**Pg**	**23 11 38.8**	**0.0**
TCW				S	**Sb**	**23 11 55.5**	**+1.2**
NNZ	**Nelson**	**1.16**	**342**	P	**Pg**	**23 11 36.3**	**-2.6**
AMCZ	**Amberley**	**1.23**	**226**	P	**Pn**	**23 11 41.1**	**+0.7**
AMCZ				S	**Sn**	**23 11 59.2**	**+1.9**
MRNZ	**Matariki Terra**	**1.23**	**318**	P	**Pg**	**23 11 39.6**	**-0.7**
WEL	**Wellington**	**1.25**	**34**	P	**Pg**	**23 11 40.8**	**+0.2**
WEL				S	**Sb**	**23 11 57.8**	**+1.0**
LTZ	**Lake Taylor**	**1.25**	**248**	P	**Pn**	**23 11 41.1**	**+0.3**
LTZ				S	**Sn**	**23 11 58.4**	**+0.4**
PLWZ	**Palliser**	**1.29**	**55**	P	**Pg**	**23 11 41.2**	**-0.2**
MSWZ	**Moikau Station**	**1.38**	**49**	P	**Pn**	**23 11 42.3**	**-0.3**
TKNZ	**Takaka Hill**	**1.45**	**332**	P	**Pn**	**23 11 43.1**	**-0.4**
PAWZ	**Paruwai Farm**	**1.51**	**52**	P	**Pn**	**23 11 43.8**	**-0.5**
OKCZ	**Okains Bay**	**1.51**	**202**	P	**Pg**	**23 11 45.0**	**-0.8**
CAW	**Cannon Point**	**1.52**	**37**	P	**Pn**	**23 11 44.3**	**-0.1**
DUWZ	**D'Urville Isla**	**1.52**	**2**	P	**Pn**	**23 11 44.4**	**0.0**
DUWZ				S	**Sn**	**23 12 04.7**	**+0.1**
DSZ	**Denniston Nort**	**1.63**	**290**	P	**Pb**	**23 11 47.0**	**-0.2**
MQZ	**McQueen's Vall**	**1.64**	**212**	P	**Pn**	**23 11 45.7**	**-0.3**
TRWZ	**Traveller**	**1.66**	**57**	P	**Pn**	**23 11 45.6**	**-0.7**
KIW	**Kapiti Island**	**1.66**	**29**	P	**Pn**	**23 11 46.6**	**+0.2**
OXZ	**Oxford**	**1.67**	**232**	P	**Pn**	**23 11 46.0**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.69**	**204**	P	**Pb**	**23 11 47.0**	**-1.2**
MTW	**Mount Morrison**	**1.70**	**47**	P	**Pn**	**23 11 46.2**	**-0.6**
QRZ	**Quartz Range**	**1.80**	**326**	P	**Pn**	**23 11 48.9**	**+0.7**
OGWZ	**Otaki Gorge**	**1.80**	**34**	P	**Pn**	**23 11 48.2**	**-0.1**
INZ	**Inchbonnie**	**1.82**	**257**	P	**Pb**	**23 11 49.4**	**-1.0**
RACZ	**Rakaia**	**1.88**	**221**	P	**Pn**	**23 11 49.2**	**-0.2**
MRZ	**Mangatainoka R**	**2.11**	**39**	P	**Pn**	**23 11 52.0**	**-0.5**
WVZ	**Waitaha Valley**	**2.42**	**251**	P	**Pn**	**23 11 57.3**	**+0.6**
BFZ	**Birch Farm**	**2.44**	**48**	P	**Pn**	**23 11 56.0**	**-1.0**
RPZ	**Rata Peaks**	**2.48**	**235**	Pn	**Pn**	**23 11 57.2**	**-0.4**
	13nm,0.3s,baz=126,slow=0.9,SNR=23						
RPZ				Sn	**Sn**	**23 12 26.8**	**-1.4**
	40nm,0.3s,baz=168,slow=22,SNR=27						
	47nm,0.5s						
RPZ	**Rata Peaks**	**2.48**	**235**	P	**Pn**	**23 11 57.3**	**-0.3**
ARCZ	**Arundel**	**2.54**	**229**	P	**Pn**	**23 11 58.4**	**-0.1**
DVHZ	**Dannevirke**	**2.67**	**42**	P	**Pn**	**23 11 58.9**	**-1.3**
WAZ	**Wanganui**	**2.71**	**19**	P	**Pn**	**23 12 02.6**	**+1.9**
TSZ	**Takapari Road**	**2.77**	**36**	P	**Pn**	**23 12 00.7**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.78**	**248**	P	**Pb**	**23 12 04.8**	**-1.9**
TMZ	**Timaru**	**2.92**	**224**	P	**Pn**	**23 12 04.3**	**+0.6**
NBEZ	**Newall Road No**	**3.05**	**0**	P	**Pb**	**23 12 11.8**	**+0.4**
PKE	**Pukeiti**	**3.13**	**2**	P	**Pb**	**23 12 11.0**	**-1.7**
FOZ	**Fox Glacier**	**3.20**	**246**	P	**Pn**	**23 12 09.5**	**+2.0**
MOVZ	**Moawhango**	**3.25**	**27**	P	**Pn**	**23 12 08.5**	**+0.2**
VRZ	**Vera Road**	**3.27**	**12**	P	**Pn**	**23 12 10.3**	**+1.8**
WNVZ	**Wahianoa**	**3.27**	**24**	P	**Pn**	**23 12 09.9**	**+1.2**
BHHZ	**Black Hill Sta**	**3.29**	**31**	P	**Pn**	**23 12 09.0**	**+0.2**
WHVZ	**Whangaehu Hut**	**3.31**	**24**	P	**Pn**	**23 12 10.9**	**+1.6**
LBZ	**Lake Benmore**	**3.38**	**231**	P	**Pn**	**23 12 10.5**	**+0.5**
OTVZ	**Oturere**	**3.44**	**24**	P	**Pn**	**23 12 12.1**	**+1.1**
KRVZ	**Karewarewa**	**3.50**	**23**	P	**Pn**	**23 12 14.0**	**+2.2**
TMVZ	**Te Maari**	**3.50**	**24**	P	**Pn**	**23 12 13.9**	**+2.1**
HIZ	**Hauiti**	**3.

DSZ			S	Sn	23 31 12.7	+0.4	
OKCZ	**Okains Bay**	**1.29 186**	P	Pn	23 30 53.5	-1.2	
OKCZ			S	Sb	23 31 09.9	-1.6	
MQZ	**McQueen's Vall**	**1.34 199**	P	Pn	23 30 53.1	-2.2	
TKNZ	**Takaka Hill**	**1.43 351**	P	Pb	23 30 57.2	0.0	
AKCZ	**Akaroa Harbour**	**1.45 190**	P	Pn	23 30 55.2	-1.7	
WEL	**Wellington**	**1.62 45**	P	Pn	23 30 58.7	-0.6	
QRZ	**Quartz Range**	**1.71 341**	P	Pb	23 31 01.6	-0.4	
CAW	**Cannon Point**	**1.90 46**	P	Pn	23 31 02.2	-0.9	
WVZ	**Waitaha Valley**	**1.96 250**	P	Pn	23 31 03.8	-0.1	
RPZ	**Rata Peaks**	**2.05 231**	P	Pn	23 31 03.9	-1.3	
ARCZ	**Arundel**	**2.14 225**	P	Pn	23 31 04.8	-1.6	
OGWZ	**Otaki Gorge**	**2.17 42**	P	Pn	23 31 06.0	-0.8	
MRZ	**Mangatainoka R**	**2.49 45**	P	Pn	23 31 09.8	-1.5	

WEL 14 23:31:01.2±0.6, 42°S±4°×17°4E±°, h8km±3km, M3.6/12, ML3.9/12, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**230**	P	Pg	23 31 07.2	+1.3
KHZ				S	Sg	23 31 11.3	+2.2
BSWZ	**Blackbirch Sta**	**0.55**	**7**	P	Pg	23 31 11.6	-0.3
BSWZ				S	Sg	23 31 18.9	-0.2
CMWZ	**Cape Campbell**	**0.61**	**32**	P	Pb	23 31 14.2	+0.1
THZ	**Tophouse**	**0.83**	**307**	P	Pg	23 31 16.4	-0.7
THZ				S	Sg	23 31 27.6	-0.2
TUWZ	**Tuamarina**	**0.84**	**8**	P	Pg	23 31 17.1	-0.3
TUWZ				S	Sg	23 31 28.6	+0.3
GVZ	**Greta Valley S**	**0.89**	**218**	P	Pn	23 31 20.5	+0.4
GVZ				S	Sn	23 31 34.5	+1.2
NNZ	**Nelson**	**1.09**	**344**	P	Pg	23 31 21.0	-1.1
TCW	**Tory Channel**	**1.12**	**19**	P	Pg	23 31 21.7	-0.9
TCW				S	Sb	23 31 38.0	+0.5
MRNZ	**Matariki Terra**	**1.16**	**318**	P	Pg	23 31 22.8	-0.6
WEL	**Wellington**	**1.23**	**37**	P	Pb	23 31 24.1	-0.5
WEL				S	Sn	23 31 42.1	+0.7
LTZ	**Lake Taylor**	**1.23**	**245**	P	Pb	23 31 23.8	-1.0
LTZ				S	Sn	23 31 43.0	+1.3
PLWZ	**Palliser**	**1.30**	**58**	P	Pn	23 31 24.7	-1.0
TKNZ	**Takaka Hill**	**1.38**	**333**	P	Pb	23 31 26.4	-0.3
TKNZ				S	Sg	23 31 46.5	+1.1
MSWZ	**Moikau Station**	**1.39**	**53**	P	Pn	23 31 25.8	-1.1
DUWZ	**D'Urville Isla**	**1.47**	**4**	P	Pn	23 31 27.8	-0.2
CAW	**Cannon Point**	**1.50**	**40**	P	Pn	23 31 27.7	-0.8
CAW				S	Sb	23 31 48.9	+0.3
PAWZ	**Paruwai Farm**	**1.51**	**55**	P	Pn	23 31 27.3	-1.4
OKCZ	**Okains Bay**	**1.55**	**200**	P	Pn	23 31 28.9	-0.3
KIW	**Kapiti Island**	**1.64**	**31**	P	Pn	23 31 29.9	-0.4
MQZ	**McQueen's Vall**	**1.66**	**210**	P	Pn	23 31 30.0	-0.7
TRWZ	**Traveller**	**1.67**	**59**	P	Pn	23 31 29.3	-1.4
OXZ	**Oxford**	**1.67**	**230**	P	Pn	23 31 30.2	-0.5
MTW	**Mount Morrison**	**1.70**	**50**	P	Pn	23 31 29.7	-1.4
QRZ	**Quartz Range**	**1.72**	**326**	P	Pb	23 31 32.7	-0.4
OGWZ	**Otaki Gorge**	**1.78**	**36**	P	Pn	23 31 31.5	-0.8
INZ	**Inchbonnie**	**1.79**	**254**	P	Pn	23 31 32.7	+0.3
HOWZ	**Holdsworth Sta**	**1.89**	**44**	P	Pn	23 31 32.4	-1.3
RACZ	**Rakaia**	**1.99**	**218**	P	Pn	23 31 33.3	-0.7
TMWZ	**Te Maipa**	**1.96**	**54**	P	Pn	23 31 33.2	-1.6
MRZ	**Mangatainoka R**	**2.10**	**41**	P	Pn	23 31 35.3	-1.3
WACZ	**Wakanui South**	**2.20**	**220**	P	Pn	23 31 37.6	-0.5
PRWZ	**Pori Road**	**2.37**	**45**	P	Pn	23 31 38.8	-1.6
POWZ	**Post Office Ro**	**2.40**	**39**	P	Pn	23 31 39.5	-1.3
BFZ	**Birch Farm**	**2.43**	**50**	P	Pn	23 31 39.2	-2.1
RPZ	**Rata Peaks**	**2.47**	**233**	P	Pn	23 31 41.3	-0.5
DVHZ	**Dannevirke**	**2.66**	**43**	P	Pn	23 31 42.2	-2.2
WAZ	**Wanganui**	**2.67**	**20**	P	Pn	23 31 45.7	+1.2
TSZ	**Takapari Road**	**2.75**	**37**	P	Pn	23 31 44.1	-1.6
GCSZ	**Gaunt Creek Bo**	**2.75**	**246**	P	Pn	23 31 46.9	+1.2
LREZ	**Lake Rotokare**	**2.84**	**10**	P	Pn	23 31 48.7	+1.8
TMZ	**Timaru**	**2.93**	**223**	P	Pn	23 31 47.6	-0.5
NBEZ	**Newall Road No**	**3.00**	**1**	P	Pn	23 31 51.5	+2.6
PKE	**Pukeiti**	**3.07**	**3**	P	Pb	23 31 53.1	-3.0
FOZ	**Fox Glacier**	**3.18**	**245**	P	Pn	23 31 52.2	+0.7
MOVZ	**Moawhango**	**3.22**	**28**	P	Pn	23 31 51.3	-0.9
VRZ	**Vera Road**	**3.22**	**14**	P	Pn	23 31 53.3	+1.2
WNVZ	**Wahianoa**	**3.24**	**26**	P	Pn	23 31 52.6	+0.1
BHHZ	**Black Hill Sta**	**3.27**	**33**	P	Pn	23 31 51.6	-1.2
WHVZ	**Whangaehu Hut**	**3.28**	**25**	P	Pn	23 31 53.4	+0.3
FWVZ	**Far West T-bar**	**3.29**	**25**	P	Pn	23 31 53.7	+0.4
TUVZ	**Tukino**	**3.31**	**26**	P	Pn	23 31 53.8	+0.3
LBZ	**Lake Benmore**	**3.38**	**230**	P	Pn	23 31 53.3	-0.9
OTVZ	**Oturere**	**3.41**	**25**	P	Pn	23 31 54.9	+0.1
NNVZ	**North Ngauruho**	**3.43**	**25**	P	Pn	23 31 56.0	+0.9
WTVZ	**West Tongariro**	**3.43**	**24**	P	Pn	23 31 55.5	+0.4
ETVZ	**East Tongariro**	**3.45**	**26**	P	Pn	23 31 55.9	+0.5
KRVZ	**Karewarewa**	**3.47**	**25**	P	Pn	23 31 55.8	+0.2
TMVZ	**Te Maari**	**3.47**	**26**	P	Pn	23 31 55.8	+0.2
NTVZ	**North Tongarir**	**3.48**	**25**	P	Pn	23 31 55.8	+0.1
ODZ	**Otahua Downs**	**3.59**	**218**	P	Pn	23 31 56.4	-0.8
HIZ	**Hauiti**	**3.84**	**13**	P	Pn	23 32 01.4	+0.9
HHSZ	**Highcliff Hill**	**4.29**	**211**	P	Pn	23 32 06.0	-0.8
EAZ	**Earnscleugh**	**4.39**	**226**	P	Pn	23 32 07.5	-0.7
TOZ	**Tahuroa Road**	**4.72**	**17**	P	Pn	23 32 12.4	-0.2
AWAZ	**Awhitu Peninsu**	**5.24**	**8**	P	Pn	23 32 20.8	+1.0
MKAZ	**Moumakai**	**5.26**	**12**	P	Pn	23 32 20.3	+0.1
WTAZ	**Waiatarua**	**5.36**	**7**	P	Pn	23 32 22.5	+1.0
SYZ	**Scrubby Hill**	**5.41**	**216**	P	Pn	23 32 21.8	-0.4

WEL 14 23:37:52.5±0.8, 42°S±3°×17°4E±°, h9km±7km, M3.3/6, ML3.5/6, MLv3.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=104.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**187**	P	Pg	23 37 57.6	+0.6
KHZ				S	Sg	23 38 01.9	+1.8
BSWZ	**Blackbirch Sta**	**0.53**	**25**	P	Pb	23 38 03.7	-0.3
BSWZ				S	Sb	23 38 11.4	-0.3
CMWZ	**Cape Campbell**	**0.65**	**47**	P	Pg	23 38 03.5	-1.6
THZ	**Tophouse**	**0.66**	**311**	P	Pg	23 38 05.7	+0.5
THZ				S	Sb	23 38 14.8	-0.7
TUWZ	**Tuamarina**	**0.81**	**20**	P	Pg	23 38 08.1	0.0
GVZ	**Greta Valley S**	**0.87**	**207**	P	Pg	23 38 09.1	-0.1
NNZ	**Nelson**	**0.99**	**351**	P	Pb	23 38 11.6	-0.1
MRNZ	**Matariki Terra**	**1.00**	**322**	P	Pn	23 38 12.4	-0.3
LTZ	**Lake Taylor**	**1.13**	**238**	P	Pg	23 38 13.3	-0.8
AMCZ	**Amberley**	**1.19**	**215**	P	Pb	23 38 15.0	-0.3
TKNZ	**Takaka Hill**	**1.25**	**338**	P	Pg	23 38 16.4	-0.1
DSZ	**Denniston Nort**	**1.40**	**288**	P	Pb	23 38 19.0	+0.2
PLWZ	**Palliser**	**1.40**	**64**	P	Pn	23 38 16.6	-1.6
DUWZ	**D'Urville Isla**	**1.42**	**11**	P	Pg	23 38 19.4	-0.3
MSWZ	**Moikau Station**	**1.47**	**59**	P	Pn	23 38 16.9	-2.3
OKCZ	**Okains Bay**	**1.57**	**194**	P	Pn	23 38 19.1	-1.4
QRZ	**Quartz Range**	**1.58**	**330**	P	Pb	23 38 21.9	+0.1
OXZ	**Oxford**	**1.60**	**225**	P	Pn	23 38 20.3	-0.6
PAWZ	**Paruwai Farm**	**1.60**	**60**	P	Pn	23 38 19.0	-2.1
MQZ	**McQueen's Vall**	**1.65**	**204**	P	Pn	23 38 19.5	-2.2
KIW	**Kapiti Island**	**1.67**	**37**	P	Pn	23 38 19.1	-2.7
AKCZ	**Akaroa Harbour**	**1.74**	**196**	P	Pn	23 38 21.2	-1.7
TRWZ	**Traveller**	**1.77**	**64**	P	Pn	23 38 21.2	-2.1
MTW	**Mount Morrison**	**1.78**	**55**	P	Pn	23 38 21.0	-2.3
OGWZ	**Otaki Gorge**	**1.83**	**41**	P	Pn	23 38 22.0	-2.1
RACZ	**Rakaia**	**1.86**	**214**	P	Pn	23 38 22.9	-1.5
HOWZ	**Holdsworth Sta**	**1.95**	**49**	P	Pn	23 38 24.2	-1.6
TMWZ	**Te Maipa**	**2.05**	**59**	P	Pn	23 38 25.0	-2.1
MRZ	**Mangatainoka R**	**2.15**	**45**	P	Pn	23 38 26.3	-2.1
WVZ	**Waitaha Valley**	**2.27**	**246**	P	Pn	23 38 31.5	+1.3
RPZ	**Rata Peaks**	**2.39**	**230**	P	Pn	23 38 31.5	-0.4
ARCZ	**Arundel**	**2.48**	**224**	P	Pn	23 38 32.3	-0.7
GCSZ	**Gaunt Creek Bo**	**2.64**	**244**	P	Pn	23 38 36.7	+1.5
TMZ	**Timaru**	**2.88**	**220**	P	Pn	23 38 38.2	-0.4
FOZ	**Fox Glacier**	**3.07**	**243**	P	Pn	23 38 43.1	+2.0
MOVZ	**Moawhango**	**3.24**	**31**	P	Pb	23 38 47.4	-2.8
BHHZ	**Black Hill Sta**	**3.30**	**36**	P	Pb	23 38 47.9	-3.3
LBZ	**Lake Benmore**	**3.30**	**227**	P	Pn	23 38 44.1	-0.2
TMVZ	**Te Maari**	**3.48**	**28**	P	Pb	23 38 51.7	-2.5
ODZ	**Otahua Downs**	**3.55**	**216**	P	Pn	23 38 46.5	-1.2
EAZ	**Earnscleugh**	**4.33**	**224**	P	Pn	23 38 57.8	-0.7
RUGZ	**Raukumara Rang**	**5.27**	**38**	P	Pn	23 39 12.2	+0.8

*IDC **14** 23:47:15.7±9.2, 40°.67S×174°.72E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=564.0km s-min=53.1km az=32.0*
*WEL **14** 23:47:20.9±0.3, 42°S±3°×17°4E±°, h9km±2km, M3.7/21, ML4.0/21, MLv3.7/21, Error ellipse: s-maj=0.0km s-min=0.0km az=142.8*

ISC 14 23:47:19.9±1.0, 41°.82S±0°.04×174°.34E±0°.03, h18km±5km, n83, σ1s70/87, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**307**	P	**Pg**	**23 47 23.6**	**-0.1**
CMWZ				S	**Sg**	**23 47 25.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.36**	**287**	P	**Pg**	**23 47 27.7**	**+0.2**
BSWZ				S	**Sb**	**23 47 33.2**	**0.0**
TUWZ	**Tuamarina**	**0.49**	**323**	P	**Pg**	**23 47 29.5**	**-0.3**
TUWZ				S	**Sb**	**23 47 35.7**	**-1.2**
BHW	**Baring Head**	**0.57**	**44**	P	**Pb**	**23 47 32.4**	**+1.0**
TCW	**Tory Channel**	**0.61**	**356**	P	**Pb**	**23 47 31.7**	**-0.4**
TCW				S	**Sb**	**23 47 39.3**	**-1.0**
WEL	**Wellington**	**0.63**	**31**	P	**Pb**	**23 47 33.1**	**+0.8**
PLWZ	**Palliser**	**0.73**	**70**	P	**Pb**	**23 47 36.5**	**+2.4**
MSWZ	**Moikau Station**	**0.79**	**60**	P	**Pb**	**23 47 37.2**	**+2.0**
CAW	**Cannon Point**	**0.90**	**38**	P	**Pb**	**23 47 37.9**	**+1.0**
PAWZ	**Paruwai Farm**	**0.93**	**62**	P	**Pb**	**23 47 39.1**	**+1.6**
KIW	**Kapiti Island**	**1.05**	**24**	P	**Pb**	**23 47 40.1**	**+0.5**
DUWZ	**D'Urville Isla**	**1.06**	**343**	P	**Pb**	**23 47 40.0**	**+0.1**
MTW	**Mount Morrison**	**1.10**	**53**	P	**Pg**	**23 47 41.4**	**+0.3**
TRWZ	**Traveller**	**1.10**	**68**	P	**Pg**	**23 47 41.2**	**0.0**
OGWZ	**Otaki Gorge**	**1.18**	**32**	P	**Pg**	**23 47 42.5**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.28**	**44**	P	**Pn**	**23 47 43.9**	**+1.0**
TMWZ	**Te Maipa**	**1.37**	**59**	P	**Pn**	**23 47 44.8**	**+0.7**
MRZ	**Mangatainoka R**	**1.49**	**39**	P	**Pn**	**23 47 46.9**	**+1.1**
TIWZ	**Tintock**	**1.56**	**49**	P	**Pn**	**23 47 47.6**	**+0.7**
CPWZ	**Castlepoint**	**1.67**	**58**	P	**Pn**	**23 47 49.6**	**+1.3**
QRZ	**Quartz Range**	**1.69**	**306**	P	**Pb**	**23 47 50.7**	**+0.3**
PRWZ	**Pori Road**	**1.77**	**45**	P	**Pn**	**23 47 50.3**	**+0.7**
OHWZ	**Ohakea**	**1.77**	**25**	P	**Pb**	**23 47 52.9**	**+1.0**
POWZ	**Post Office Ro**	**1.79**	**38**	P	**Pn**	**23 47 51.2**	**+1.2**
LTZ	**Lake Taylor**	**1.81**	**237**	P	**Pn**	**23 47 51.9**	**+1.6**
BFZ	**Birch Farm**	**1.83**	**52**	P	**Pn**	**23 47 50.6**	**+0.1**
AMCZ	**Amberley**	**1.84**	**222**	P	**Pn**	**23 47 51.8**	**+1.2**
DSZ	**Denniston Nort**	**1.90**	**271**	P	**Pn**	**23 47 54.0**	**+2.5**
DVHZ	**Dannevirke**	**2.06**	**43**	P	**Pn**	**23 47 53.8**	**+0.2**
ANWZ	**Angora Road**	**2.11**	**51**	P	**Pn**	**23 47 54.3**	**0.0**
WAZ	**Wanganui**	**2.12**	**14**	P	**Pg**	**23 47 59.7**	**-0.9**
OKCZ	**Okains Bay**	**2.12**	**206**	P	**Pn**	**23 47 55.4**	**+0.8**
TSZ	**Takapari Road**	**2.15**	**35**	P	**Pn**	**23 47 55.6**	**+0.7**
OXZ	**Oxford**	**2.27**	**228**	P	**Pn**	**23 47 57.2**	**+0.6**
AKCZ	**Akaroa Harbour**	**2.30**	**207**	P	**Pn**	**23 47 57.8**	**+0.8**
INZ	**Inchbonnie**	**2.33**	**246**	P	**Pn**	**23 47 59.2**	**+1.8**
PRHZ	**Porangahau**	**2.33**	**49**	P	**Pn**	**23 47 57.2**	**-0.1**
LREZ	**Lake Rotokare**	**2.36**	**1**	P	**Pb**	**23 48 03.2**	**+1.3**
WPHZ	**Waipukurau**	**2.37**	**43**	P	**Pg**	**23 48 05.1**	**-0.3**
PNHZ	**Pukenui**	**2.37**	**37**	P	**Pn**	**23 47 58.5**	**+0.5**
NMEZ	**Namu Road**	**2.43**	**352**	P	**Pg**	**23 48 05.6**	**-0.9**
RACZ	**Rakaia**	**2.50**	**220**	P	**Pn**	**23 48 00.5**	**+0.8**
KHEZ	**Kahui Hut**	**2.54**	**354**	P	**Pb**	**23 48 06.0**	**+1.0**
NBEZ	**Newall Road No**	**2.58**	**352**	P	**Pb**	**23 48 06.7**	**+1.2**
PXZ	**Pawanui**	**2.62**	**48**	P	**Pn**	**23 48 00.7**	**-0.6**
PKE	**Pukeiti**	**2.64**	**354**	P	**Pb**	**23 48 06.5**	**-0.2**
MOVZ	**Moawhango**	**2.64**	**25**	P	**Pn**	**23 48 04.0**	**+2.3**
WNVZ	**Wahianoa**	**2.67**	**21**	P	**Pn**	**23 48 04.6**	**+2.5**
BHHZ	**Black Hill Sta**	**2.67**	**30**	P	**Pn**	**23 48 04.5**	**+2.4**
TRVZ	**Turoa**	**2.68**	**21**	P	**Pb**	**23 48 06.7**	**-0.9**
DRZ	**Dome Shelter**	**2.71**	**21**	P	**Pb**	**23 48 10.5**	**-1.4**
WHVZ	**Whangaehu Hut**	**2.71**	**21**	P	**Pn**	**23 48 05.6**	**+2.8**
VRZ	**Vera Road**	**2.71**	**7**	P	**Pn**	**23 48 05.8**	**+3.2**
FWVZ	**Far West T-bar**	**2.73**	**20**	P	**Pb**	**23 48 06.4**	**-1.8**
TUVZ	**Tukino**	**2.74**	**22**	P	**Pn**	**23 48 06.4**	**+3.3**
WACZ	**Wakanui South**	**2.81**	**220**	P	**Pn**	**23 48 04.8**	**+0.9**
SNVZ	**South Ngauruho**	**2.81**	**21**	P	**Pb**	**23 48 11.0**	**+1.2**
OTVZ	**Oturere**	**2.84**	**21**	P	**Pb**	**23 48 08.2**	**-2.0**
NNVZ	**North Ngauruho**	**2.86**	**20**	P	**Pb**	**23 48 11.4**	**+0.9**
WTVZ	**West Tongariro**	**2.87**	**20**	P	**Pb**	**23 48 11.5**	**+0.9**
KWHZ	**Kaweka Forest**	**2.87**	**34**	P	**Pn**	**23 48 05.7**	**+0.8**
TWVZ	**Taurewa**	**2.87**	**17**	P	**Pn**	**23 48 08.0**	**+3.1**
ETVZ	**East Tongariro**	**2.88**	**22**	P	**Pb**	**23 48 12.1**	**+1.3**
TMVZ	**Te Maari**	**2.90**	**22**	P	**Pn**	**23 48 07.4**	**+2.2**
TMVZ				P	**Pb**	**23 48 07.6**	**-3.5**
KRVZ	**Karewarewa**	**2.90**	**20**	P	**Pb**	**23 48 10.7**	**-0.4**
NTVZ	**North Tongarir**	**2.90**	**21**	P	**Pn**	**23 48 07.8**	**+2.5**
WVZ	**Waitaha Valley**	**2.94**	**244**	P	**Pn**	**23 48 08.3**	**+2.5**
RPZ	**Rata Peaks**	**3.07**	**231**	P	**Pn**	**23 48 08.4**	**+0.9**
BKZ	**Black Stump Fm**	**3.12**	**32**	P	**Pb**	**23 48 16.4**	**+1.6**
ARCZ	**Arundel**	**3.15**	**226**	P	**Pn**	**23 48 09.6**	**+0.9**
GCSZ	**Gaunt Creek Bo**	**3.32**	**242**	P	**Pn**	**23 48 14.0**	**+3.1**
HIZ	**Hauiti**	**3.33**	**7**	P	**Pn**	**23 48 14.4**	**+3.4**
TMZ	**Timaru**	**3.54**	**222**	P	**Pn**	**23 48 14.8**	**+0.8**
FOZ	**Fox Glacier**	**3.75**	**241**	P	**Pn**	**23 48 18.4**	**+1.6**
LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	**23 48 21.7**	**+1.7**
TOZ	**Tahuroa Road**	**4.18**	**13**	P	**Pb**	**23 48 28.7**	**-4.3**
ODZ	**Otahua Downs**	**4.20**	**219**	P	**Pn**	**23 48 23.4**	**+0.4**
JCZ	**Jackson Bay**	**4.66**	**239**	P	Pn	23 48 34.9	+5.5
MKAZ	**Moumakai**	**4.75**	**8**	P	**Pn**	**23 48 34.1**	**+3.5**
AWAZ	**Awhitu Peninsu**	**4.76**	**3**	P	**Pn**	**23 48 34.6**	**+3.9**
ASAR	**Alice Springs**	**38.11**	**286**	P	**P**	**23 54 36.1**	**-1.8**
	0.2nm,0.5s,baz=127,slow=6.4,SNR=4.6 0.2nm,0.5s						
WRA	**Warramunga Arr**	**40.19**	**290**	P	**P**	**23 54 53.0**	**-2.3**
	0.2nm,0.4s,baz=129,slow=8.4,SNR=2.6 0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.72**	**195**	PKPbc	**PKPbc**	**00 07 12.8**	**+1.4**
	0.3nm,0.4s,baz=154,slow=3.1,SNR=3.3						

WEL 14 23:52:27.1±0.6, 42°S±4°×17°4E±°, h8km±4km, M2.8/5, ML3.8/8, MLv2.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=79.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.15**	**212**	P	Pg	23 52 31.0	+0.7
KHZ				S	Sg	23 52 34.8	+2.3
CMWZ	**Cape Campbell**	**0.68**	**38**	P	Pg	23 52 40.2	0.0
GVZ	**Greta Valley S**	**0.82**	**213**	P	Pg	23 52 43.2	+0.3
TUWZ	**Tuamarina**	**0.88**	**15**	P	Pb	23 52 45.1	+0.4
NNZ	**Nelson**	**1.09**	**349**	P	Pg	23 52 46.3	-1.6
MRNZ	**Matariki Terra**	**1.11**	**323**	P	Pg	23 52 48.2	-0.1
LTZ	**Lake Taylor**	**1.13**	**244**	P	Pg	23 52 47.9	-0.9
TCW	**Tory Channel**	**1.17**	**24**	P	Pg	23 52 46.7	-2.9
WEL	**Wellington**	**1.30**	**40**	P	Pn	23 52 47.6	-4.0
TKNZ	**Takaka Hill**	**1.35**	**337**	P	Pn	23 52 51.1	-1.1
PLWZ	**Palliser**	**1.40**	**60**	P	Pn	23 52 48.1	-4.8
DSZ	**Denniston Nort**	**1.48**	**291**	P	Pn	23 52 53.7	-0.3
MSWZ	**Moikau Station**	**1.48**	**55**	P	Pn	23 52 49.2	-4.8
DUWZ	**D'Urville Isla**	**1.50**	**8**	P	Pb	23 52 55.0	-0.1
OKCZ	**Okains Bay**	**1.50**	**197**	P	Pn	23 52 51.3	-3.0
OXZ	**Oxford**	**1.58**	**228**	P	Pn	23 52 52.6	-2.7
CAW	**Cannon Point**	**1.59**	**43**	P	Pn	23 52 51.4	-4.1
MQZ	**McQueen's Vall**	**1.60**	**207**	P	Pn	23 52 52.0	-3.6
PAWZ	**Paruwai Farm**	**1.61**	**56**	P	Pn	23 52 50.7	-5.1
AKCZ	**Akaroa Harbour**	**1.68**	**199**	P	Pn	23 52 53.6	-3.1
INZ	**Inchbonnie**	**1.69**	**254**	P	Pn	23 52 51.9	-5.0
KIW	**Kapiti Island**	**1.71**	**34**	P	Pn	23 52 54.5	-2.6
TRWZ	**Traveller**	**1.76**	**61**	P	Pn	23 52 55.5	-2.5
MTW	**Mount Morrison**	**1.79**	**52**	P	Pn	23 52 55.4	-2.8
RACZ	**Rakaia**	**1.82**	**217**	P	Pn	23 52 55.6	-3.1
OGWZ	**Otaki Gorge**	**1.86**	**38**	P	Pn	23 52 57.0	-2.3
HOWZ	**Holdsworth Sta**	**1.97**	**46**	P	Pn	23 52 57.9	-2.8
TMWZ	**Te Maipa**	**2.05**	**56**	P	Pn	23 52 59.1	-2.8
WACZ	**Wakanui South**	**2.12**	**218**	P	Pn	23 53 00.0	-2.8
MRZ	**Mangatainoka R**	**2.18**	**42**	P	Pn	23 53 00.8	-2.8
WVZ	**Waitaha Valley**	**2.29**	**249**	P	Pn	23 53 04.0	-1.1
RPZ	**Rata Peaks**	**2.38**	**232**	P	Pn	23 53 03.9	-2.5
RPZ				P	Pn	23 53 03.9	-2.5
ARCZ	**Arundel**	**2.46**	**227**	P	Pn	23 53 04.6	-2.9
PRWZ	**Pori Road**	**2.46**	**46**	P	Pn	23 53 04.4	-3.1
POWZ	**Post Office Ro**	**2.48**	**41**	P	Pn	23 53 05.0	-2.7
BFZ	**Birch Farm**	**2.52**	**51**	P	Pn	23 53 05.0	-3.4
DVHZ	**Dannevirke**	**2.75**	**45**	P	Pn	23 53 07.3	-3.7
TSZ	**Takapari Road**	**2.83**	**39**	P	Pn	23 53 09.6	-3.0
TMZ	**Timaru**	**2.85**	**222**	P	Pn	23 53 10.3	-2.6
VRZ	**Vera Road**	**3.27**	**15**	P	Pn	23 53 19.8	+1.2
MOVZ	**Moawhango**	**3.29**	**30**	P	Pn	23 53 17.7	-1.3
BHHZ	**Black Hill Sta**	**3.34**	**34**	P	Pn	23 53 22.8	+3.2
WHVZ	**Whangaehu Hut**	**3.34**	**27**	P	Pn	23 53 20.4	+0.6
SNVZ	**South Ngauruho**	**3.45**	**27**	P	Pn	23 53 21.5	+0.3
OTVZ	**Oturere**	**3.48**	**27**	P	Pn	23 53 20.7	-0.9
NNVZ	**North Ngauruho**	**3.49**	**26**	P	Pn	23 53 24.9	+3.1
ETVZ	**East Tongariro**	**3.52**	**27**	P	Pn	23 53 25.7	+3.5
KRVZ	**Karewarewa**	**3.53**	**26**	P	Pn	23 53 25.9	+3.6
TMVZ	**Te Maari**	**3.53**	**27**	P	Pb	23 53 26.4	-3.4
NTVZ	**North Tongarir**	**3.54**	**27**	P	Pn	23 53 21.3	-1.2
HIZ	**Hauiti**	**3.88**	**14**	P	Pn	23 53 28.3	+1.3

WEL 14 23:52:38.9±0.3, 42°S±2°×17°3E±°, h12km±3km, M3.4/13, ML3.6/13, MLv3.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=106.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**72**	P	Pg	23 52 44.0	+0.6
KHZ				S	Sg	23 52 47.8	+1.3
GVZ	**Greta Valley S**	**0.52**	**199**	P	Pb	23 52 50.0	+0.1
GVZ				S	Sb	23 52 58.2	+0.8
LTZ	**Lake Taylor**	**0.80**	**247**	P	Pg	23 52 54.3	0.0
LTZ				S	Sb	23 53 05.5	+0.2
MRNZ	**Matariki Terra**	**1.15**	**340**	P	Pb	23 52 59.3	-1.4
MRNZ				S	Sn	23 53 17.0	+0.6
OXZ	**Oxford**	**1.24**	**227**	P	Pn	23 53 01.7	-0.3
OXZ				S	Sg	23 53 18.8	0.0
OKCZ	**Okains Bay**	**1.25**	**187**	P	Pn	23 53 02.1	-0.1
NNZ	**Nelson**	**1.27**	**4**	S	Sg	23 53 20.5	+0.9
MQZ	**McQueen's Vall**	**1.30**	**200**	P	Pn	23 53 02.3	-0.6
DSZ	**Denniston Nort**	**1.31**	**304**	P	Pb	23 53 03.8	+0.3
INZ	**Inchbonnie**	**1.37**	**259**	P	Pb	23 53 04.4	0.0
AKCZ	**Akaroa Harbour**	**1.42**	**191**	P	Pn	23 53 03.9	-0.5
RACZ	**Rakaia**	**1.49**	**213**	P	Pn	23 53 04.8	-0.7
WACZ	**Wakanui South**	**1.80**	**215**	P	Pn	23 53 09.1	-0.6
WACZ				S	Sn	23 53 32.1	-0.3

WRA	**Warramunga Arr**	**40.18**	**292**	P	**P**	**00 16 35.3**	**-0.3**
WB0	**Warramunga Arr**	**40.26**	**292**	P	**P**	**00 16 35.9**	**-0.3**
WB0				IAmb	IAmb	00 16 49.1	
	comp=Z,4.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**45.15**	**263**	P	**P**	**00 17 14.6**	**-1.2**
NWAO				IAmb	IAmb	00 17 30.0	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**46.95**	**291**	P	**P**	**00 17 28.5**	**-1.6**
MTN	**Manton Dam**	**47.35**	**296**	P	**P**	**00 17 32.8**	**-0.4**
QSPA	**South Pole Qui**	**47.63**	**180**	P	**P**	**00 17 33.6**	**-1.5**
QSPA				IAmb	IAmb	00 17 34.1	
	comp=Z,1.7nm,1.1s						
MORW	**Morawa**	**48.01**	**267**	P	**P**	**00 17 37.0**	**-1.2**
MORW				IAmb	IAmb	00 17 39.3	
	comp=Z,4.5nm,1.1s						
MBWA	**Marble Bar**	**49.84**	**278**	P	**P**	**00 17 51.9**	**-0.4**
MBWA				IAmb	IAmb	00 18 08.7	
	comp=Z,11nm,1.1s						
TORD	**Torodi Ar. Bea**	**150.00**	**195**	PKPbc	**PKPbc**	**00 28 51.7**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=155,slow=2.4,SNR=3.9						
BRTR	**Keskin Array B**	**150.17**	**278**	PKPbc	**PKPbc**	**00 28 50.3**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=125,slow=6.3,SNR=6.6						
FINES	**FINESS Array B**	**153.04**	**326**	PKPbc	**PKPbc**	**00 28 54.6**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=28,slow=6.3,SNR=2.7						

NEIC ***15*** *00:19:38.5±1.6, 17.4S±0.1×178.5W±0.2, h568km±11km, mb4.0/3, Error ellipse: s-maj=22.6km s-min=18.3km az=76.0*

IDC ***15*** *00:19:40.8±6.4, 17.58S×178.67W, h582km±21km, mb2.9/3, mbtmp3.8/4, Error ellipse: s-maj=268.1km s-min=28.7km az=144.0*

ISC 15 00:19:37.3±0.8, 17.5S±0.2×178.4W±0.1, h547km, n16, σ2900/16, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.37**	**266**	P	**P**	**00 20 59.3**	**+4.7**
	37nm,0.7s,baz=126,slow=3.6,SNR=35						
MSVF	**Nonsavu**	**3.37**	**266**	P	**P**	**00 20 58.4**	**+3.7**
AFI	**Afiamalu**	**7.33**	**62**	P	**P**	**00 21 28.9**	**+0.3**
RAO	**Raoul Island**	**11.69**	**178**	P	**P**	**00 22 12.5**	**0.0**
LIFNC	**LIFOU**	**13.93**	**254**	P	**P**	**00 22 34.5**	**-1.4**
WB0	**Warramunga Arr**	**44.66**	**259**	P	**P**	**00 27 01.2**	**-0.8**
WB0				IAmb	IAmb	00 27 39.4	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**44.68**	**259**	P	**P**	**00 27 00.3**	**-1.8**
WB2				IAmb	IAmb	00 27 28.1	
	comp=Z,9.7nm,1.2s						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**00 27 00.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=95,slow=7.3,SNR=6.4						
	comp=Z,0.3nm,0.3s						
AS31	**Alice Springs**	**44.89**	**254**	P	**P**	**00 27 02.5**	**-1.2**
AS31				IAmb	IAmb	00 27 03.4	
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**00 27 02.9**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=88,slow=8.4,SNR=39						
	comp=Z,2.6nm,0.5s						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**00 27 02.6**	**-1.1**
PETK	**Petropavlovsk-**	**73.30**	**345**	P	**P**	**00 30 11.9**	**-1.2**
ILAR	**Eielson Array**	**85.51**	**13**	P	**P**	**00 31 17.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=212,slow=4.9,SNR=4.2						
	comp=Z,0.4nm,0.8s						
AKASG	**Malin Array Be**	**140.21**	**333**	PKP	**PKPdf**	**00 38 03.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=66,slow=1.1,SNR=4.7						
BRTR	**Keskin Array B**	**144.50**	**315**	PKP	**PKPdf**	**00 38 10.1**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=69,slow=4.1,SNR=2.4						
GERES	**GERESS Array B**	**147.23**	**345**	PKPbc	**PKPbc**	**00 38 20.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=29,slow=2.2,SNR=3.0						

WEL 15 00:24:13.8±0.4, 42.3S×173.4E±, h9km±3km, M3.2/32, ML3.5/19, MLv3.2/32, Error ellipse: s-maj=0.0km s-min=0.0km az=167.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**189**	P	Pg	00 24 19.3	+3.2
CMWZ	**Cape Campbell**	**0.08**	**189**	P	Pg	00 24 16.8	+0.7
BSWZ	**Blackbirch Sta**	**0.27**	**260**	P	Pg	00 24 19.2	-0.1
BSWZ	**Blackbirch Sta**	**0.27**	**260**	P	Pg	00 24 19.7	+0.4
TUWZ	**Tuamarina**	**0.32**	**318**	P	Pb	00 24 21.1	-0.7
TUWZ				S	Sb	00 24 26.4	-0.6
TCW	**Tory Channel**	**0.46**	**4**	P	Pg	00 24 23.4	+0.5
TCW				S	Sb	00 24 30.3	-0.7
WEL	**Wellington**	**0.56**	**47**	P	Pb	00 24 25.4	-0.3
WEL				S	Sb	00 24 33.9	+0.1
PLWZ	**Palliser**	**0.78**	**83**	P	Pb	00 24 29.6	+0.1
NNZ	**Nelson**	**0.78**	**305**	P	Pg	00 24 29.1	+0.2
NNZ				S	Sb	00 24 40.2	-0.1
MSWZ	**Moikau Station**	**0.81**	**72**	P	Pb	00 24 29.9	-0.1
CAW	**Cannon Point**	**0.84**	**48**	P	Pg	00 24 30.3	+0.2
CAW				S	Sb	00 24 42.1	0.0
DUWZ	**D'Urville Isla**	**0.90**	**345**	P	Pg	00 24 31.1	0.0
KHZ	**Kahutara**	**0.91**	**214**	P	Pg	00 24 31.4	+0.1
PAWZ	**Paruwai Farm**	**0.94**	**73**	P	Pg	00 24 32.1	+0.1
KIW	**Kapiti Island**	**0.96**	**33**	P	Pg	00 24 32.2	0.0
KIW				S	Sb	00 24 45.7	+0.3
THZ	**Tophouse**	**1.00**	**264**	P	Pg	00 24 32.9	-0.1
MTW	**Mount Morrison**	**1.08**	**62**	P	Pg	00 24 34.0	-0.6
MTW				S	Sn	00 24 50.4	+0.1
OGWZ	**Otaki Gorge**	**1.11**	**40**	P	Pg	00 24 34.8	-0.4
TRWZ	**Traveller**	**1.13**	**77**	P	Pb	00 24 34.2	-1.3
MRNZ	**Matariki Terra**	**1.14**	**283**	P	Pn	00 24 35.8	-0.1
MRNZ				S	Sg	00 24 50.1	-0.4
TKNZ	**Takaka Hill**	**1.15**	**303**	P	Pn	00 24 36.0	-0.1
HOWZ	**Holdsworth Sta**	**1.24**	**52**	P	Pn	00 24 36.5	-0.9
TMWZ	**Te Maipa**	**1.37**	**66**	P	Pn	00 24 37.6	-1.5
MRZ	**Mangatainoka R**	**1.43**	**46**	P	Pn	00 24 39.2	-0.7
QRZ	**Quartz Range**	**1.54**	**303**	P	Pb	00 24 42.4	-0.1
PRWZ	**Pori Road**	**1.72**	**50**	P	Pn	00 24 42.8	-1.2
POWZ	**Post Office Ro**	**1.73**	**43**	P	Pn	00 24 43.3	-0.7
BFZ	**Birch Farm**	**1.81**	**58**	P	Pn	00 24 43.2	-2.0
DSZ	**Denniston Nort**	**1.82**	**267**	P	Pn	00 24 40.5	-4.8
WAZ	**Wanganui**	**2.00**	**17**	P	Pb	00 24 50.6	+0.3
DVHZ	**Dannevirke**	**2.01**	**48**	P	Pn	00 24 46.2	-1.7
TSZ	**Takapari Road**	**2.08**	**40**	P	Pn	00 24 47.9	-1.0
PNHZ	**Pukenui**	**2.31**	**41**	P	Pn	00 24 50.8	-1.2
NBEZ	**Newall Road No**	**2.42**	**353**	P	Pg	00 24 58.8	-1.3
WNVZ	**Wahianoa**	**2.56**	**24**	P	Pn	00 24 57.2	+1.5
VRZ	**Vera Road**	**2.58**	**9**	P	Pb	00 24 59.8	-0.4
BHHZ	**Black Hill Sta**	**2.59**	**33**	P	Pn	00 24 55.6	-0.3
WHVZ	**Whangaehu Hut**	**2.60**	**24**	P	Pb	00 25 00.4	-0.4
SNVZ	**South Ngauruho**	**2.71**	**24**	P	Pb	00 25 01.6	-0.9
OTVZ	**Oturere**	**2.73**	**24**	P	Pn	00 24 58.9	+0.9
NNVZ	**North Ngauruho**	**2.75**	**23**	P	Pb	00 25 03.9	+0.7
TMVZ	**Te Maari**	**2.79**	**24**	P	Pb	00 25 03.6	-0.3
KRVZ	**Karewarewa**	**2.79**	**23**	P	Pb	00 25 02.9	-0.9
NTVZ	**North Tongarir**	**2.80**	**24**	P	Pb	00 25 03.4	-0.6
HIZ	**Hauiti**	**3.19**	**9**	P	Pb	00 25 08.8	-1.8

WEL ***15*** *00:26:00, 42.81S×172.89E, h14km, ML4.5, Mw4.3, Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁵ Nm; Mrr3.31; Mθθ-0.65; Mϕϕ-2.67; Mrθ0.54; Mθϕ-1.91; Mϕr-0.03; Fault plane solution: M0 3.62000×10¹⁵ NP1: ϕs202.00000°, δ44.00000°, λ76.00000°. NP2:ϕs40.00000°, δ48.00000°, λ103.00000°. Principal axes: T -382.9400, Plg81.0000°, Azm19.0000°; N 42.7900, Plg9.0000°, Azm211.0000°; P 340.1400, Plg2.0000°, Azm121.0000°;*

IDC ***15*** *00:26:24.1±1.0, 42.55S×172.82E, h0km, mb4.1/4, mbtmp4.1/4, MS3.4/5 Error ellipse: s-maj=31.9km s-min=25.1km az=58.0*

NOU ***15*** *00:26:24.5, 42.96S×173.06E, h0km, MLv4.8/10, South Island, New Zealand*

WEL ***15*** *00:26:26.8±0.2, 43.2S×17.3E±, h11km±2km, M4.5/16, ML4.7/16, MLv4.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6*

NEIC ***15*** *00:26:26.6, 42.75S×172.78E, h15km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.76; Mθθ-0.47; Mϕϕ-2.29; Mrθ0.86; Mθϕ-1.52; Mrϕ0.21; Fault plane solution: M0 3.10000×10¹⁵ NP1:ϕs42.84000°, δ52.41000°, λ107.34000°. NP2:ϕs195.74000°, δ40.86000°, λ68.84000°. Principal axes: T 2.9787, Plg75.0000°, Azm8.0000°; N 0.2306, Plg14.0000°, Azm212.0000°; P -3.2093, Plg6.0000°, Azm121.0000°;*

NEIC ***15*** *00:26:27.6±1.8, 42.78S±0.02×172.80E±0.04, h20km±5km, mb4.4/12, Mwr4.3/38 Error ellipse: s-maj=4.4km s-min=2.9km az=103.0*

ISC 15 00:26:27.2±0.9, 42.79S±0.02×172.79E±0.02, h18km±5km, n185, σ1835/213, mb4.2/10, MS3.4/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.25**	**134**		**Pg**	**00 26 33.7**	**+0.7**
GVZ				Sg	**Sg**	**00 26 38.1**	**+1.3**
GVZ	**Greta Valley S**	**0.25**	**134**	P	**Pg**	**00 26 33.7**	**+0.7**
GVZ				S	**Sg**	**00 26 38.2**	**+1.4**
LTZ	**Lake Taylor**	**0.38**	**272**		**Pb**	**00 26 35.3**	**-0.3**
LTZ				Sg	**Sb**	**00 26 41.0**	**-0.2**
LTZ	**Lake Taylor**	**0.38**	**272**	P	**Pb**	**00 26 35.4**	**-0.2**
LTZ				S	**Sb**	**00 26 40.9**	**-0.3**
AMCZ	**Amberley**	**0.40**	**195**		**Pn**	**00 26 36.6**	**-1.5**
AMCZ				Sg	**Sb**	**00 26 43.7**	**+2.2**
AMCZ	**Amberley**	**0.40**	**195**	P	**Pn**	**00 26 36.7**	**-1.3**
AMCZ				S	**Sb**	**00 26 44.0**	**+2.5**
KHZ	**Kahutara**	**0.67**	**56**	Pg	**Pb**	**00 26 40.1**	**-0.2**
KHZ				Sg	**Sb**	**00 26 49.6**	**+0.4**
KHZ	**Kahutara**	**0.67**	**56**	P	**Pb**	**00 26 40.5**	**+0.1**
KHZ				S	**Sb**	**00 26 48.2**	**-1.1**
OXZ	**Oxford**	**0.77**	**226**		**Pn**	**00 26 42.6**	**-0.6**
OXZ				Sg	**Sn**	**00 26 53.6**	**-0.7**
OXZ	**Oxford**	**0.77**	**226**	P	**Pn**	**00 26 42.7**	**-0.5**
OXZ				S	**Sn**	**00 26 53.7**	**-0.6**
MQZ	**McQueen's Vall**	**0.92**	**186**		**Pn**	**00 26 44.6**	**-0.7**
MQZ				Sg	**Sn**	**00 26 57.1**	**-0.9**
MQZ	**McQueen's Vall**	**0.92**	**186**	P	**Pn**	**00 26 44.6**	**-0.7**
MQZ				S	**Sb**	**00 26 56.6**	**+0.1**
INZ	**Inchbonnie**	**0.99**	**274**	Pn	**Pn**	**00 26 46.5**	**+0.1**
INZ				Sg	**Sb**	**00 26 58.8**	**+0.1**
INZ	**Inchbonnie**	**0.99**	**274**	P	**Pn**	**00 26 46.2**	**-0.1**
INZ				S	**Sb**	**00 26 58.9**	**+0.2**
THZ	**Tophouse**	**1.03**	**5**	Pn	**Pg**	**00 26 45.8**	**-1.5**
THZ				Sg	**Sg**	**00 26 58.2**	**-2.6**
THZ	**Tophouse**	**1.03**	**5**	P	**Pb**	**00 26 46.0**	**-0.7**
THZ				S	**Sg**	**00 26 58.3**	**-2.6**
RACZ	**Rakaia**	**1.05**	**207**	P	**Pn**	**00 26 46.5**	**-0.5**
RACZ				S	**Sn**	**00 27 01.3**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.08**	**175**	P	**Pn**	**00 26 47.1**	**-0.4**
AKCZ				S	**Sb**	**00 27 00.9**	**-0.4**
MHCZ	**Mount Hutt**	**1.16**	**230**	P	**Pn**	**00 26 48.8**	**+0.2**
MHCZ				S	**Sb**	**00 27 03.3**	**-0.2**
DSZ	**Denniston Nort**	**1.28**	**325**		**Pn**	**00 26 50.4**	**+0.1**
DSZ				Sg	**Sb**	**00 27 07.9**	**+0.9**
DSZ	**Denniston Nort**	**1.28**	**325**	P	**Pn**	**00 26 50.4**	**+0.1**
DSZ				S	**Sg**	**00 27 06.3**	**-2.4**
WACZ	**Wakanui South**	**1.34**	**211**	P	**Pn**	**00 26 50.5**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.34**	**37**	Pn	**Pn**	**00 26 51.1**	**0.0**
BSWZ	**Blackbirch Sta**	**1.34**	**37**	P	**Pg**	**00 26 51.3**	**-1.9**
BSWZ				S	**Sn**	**00 27 11.0**	**+2.4**
MRNZ	**Matariki Terra**	**1.39**	**359**	Pn	**Pn**	**00 26 52.1**	**+0.2**
MRNZ					**Sb**	**00 27 09.8**	**-0.4**
MRNZ	**Matariki Terra**	**1.39**	**359**	P	**Pn**	**00 26 52.2**	**+0.4**
MRNZ				S	**Sb**	**00 27 09.5**	**-0.7**
CMWZ	**Cape Campbell**	**1.48**	**46**	Pn	**Pn**	**00 26 53.2**	**+0.1**
CMWZ	**Cape Campbell**	**1.48**	**46**	P	**Pg**	**00 26 55.2**	**-0.6**
WVZ	**Waitaha Valley**	**1.54**	**259**	P	**Pb**	**00 26 54.3**	**-0.8**
WVZ				S	**Sb**	**00 27 14.2**	**-0.1**
RPZ	**Rata Peaks**	**1.57**	**233**	Pn	**Pn**	**00 26 53.8**	**-0.4**
	105nm,0.3s,baz=77,slow=2.9,SNR=16						
RPZ					**Sn**	**00 27 13.1**	**-1.0**
	170nm,0.3s,baz=80,slow=11,SNR=7.1						
RPZ					LR	00 27 40.8	
	comp=Z,1μm,19.7s,baz=4.5,slow=44						
RPZ	**Rata Peaks**	**1.57**	**233**	P	**Pn**	**00 26 53.6**	**-0.6**
RPZ	**Rata Peaks**	**1.57**	**233**	P	**Pn**	**00 26 53.6**	**-0.6**
RPZ	**Rata Peaks**	**1.57**	**233**	P	**Pn**	**00 26 53.9**	**-0.4**
RPZ				S	**Sn**	**00 27 13.0**	**-1.2**
TUWZ	**Tuamarina**	**1.61**	**33**	Pn	**Pn**	**00 26 54.6**	**-0.2**
TUWZ	**Tuamarina**	**1.61**	**33**	P	**Pn**	**00 26 55.0**	**+0.2**
NNZ	**Nelson**	**1.64**	**16**		**Pb**	**00 26 55.8**	**-1.0**
NNZ				Sg	**Sn**	**00 27 17.3**	**+1.6**
NNZ	**Nelson**	**1.64**	**16**	P	**Pb**	**00 26 56.0**	**-0.8**
NNZ				S	**Sn**	**00 27 15.7**	**0.0**
ARCZ	**Arundel**	**1.65**	**225**	P	**Pn**	**00 26 54.9**	**-0.5**
ARCZ				S	**Sn**	**00 27 14.7**	**-1.4**
TKNZ	**Takaka Hill**	**1.76**	**4**	Pn	**Pn**	**00 26 57.4**	**+0.5**
TKNZ	**Takaka Hill**	**1.76**	**4**	P	**Pb**	**00 26 58.2**	**-0.8**
TKNZ				S	**Sn**	**00 27 20.7**	**+1.8**
GCSZ	**Gaunt Creek Bo**	**1.88**	**253**	P	**Pn**	**00 26 59.1**	**+0.6**
TCW	**Tory Channel**	**1.93**	**35**	Pn	**Pn**	**00 26 58.6**	**-0.6**
TCW	**Tory Channel**	**1.93**	**35**	P	**Pn**	**00 26 58.9**	**-0.3**
QRZ	**Quartz Range**	**1.98**	**354**		**Pb**	**00 27 00.0**	**+0.4**
QRZ	**Quartz Range**	**1.98**	**354**	P	**Pn**	**00 27 00.0**	**+0.2**
TMZ	**Timaru**	**2.05**	**219**	P	**Pn**	**00 27 00.5**	**-0.4**
SNZO	**South Karori**	**2.06**	**44**		**Pn**	**00 27 00.2**	**-0.7**
WEL	**Wellington**	**2.11**	**45**	P	**Pn**	**00 27 00.6**	**-1.0**
DUWZ	**D'Urville Isla**	**2.16**	**23**	P	**Pn**	**00 27 03.2**	**+0.8**
PLWZ	**Palliser**	**2.20**	**57**		**Pn**	**00 27 01.2**	**-1.7**
PLWZ	**Palliser**	**2.20**	**57**	P	**Pn**	**00 27 01.5**	**-1.5**
MSWZ	**Moikau Station**	**2.29**	**54**		**Pn**	**00 27 02.3**	**-1.8**
MSWZ	**Moikau Station**	**2.29**	**54**	P	**Pn**	**00 27 00.9**	**-3.2**
FOZ	**Fox Glacier**	**2.30**	**250**		**Pn**	**00 27 04.8**	**+0.5**
FOZ	**Fox Glacier**	**2.30**	**250**	P	**Pn**	**00 27 05.1**	**+0.8**
PAWZ	**Paruwai Farm**	**2.42**	**55**	P	**Pn**	**00 27 03.8**	**-2.1**
LBZ	**Lake Benmore**	**2.47**	**229**		**Pn**	**00 27 05.9**	**-0.8**
LBZ	**Lake Benmore**	**2.47**	**229**	P	**Pn**	**00 27 06.4**	**-0.3**
TRWZ	**Traveller**	**2.57**	**58**	P	**Pn**	**00 27 06.2**	**-1.8**
MTW	**Mount Morrison**	**2.60**	**52**	P	**Pn**	**00 27 05.0**	**-3.4**
OGWZ	**Otaki Gorge**	**2.68**	**43**	P	**Pn**	**00 27 04.7**	**-4.4**
ODZ	**Otahua Downs**	**2.73**	**214**	Pn	**Pn**	**00 27 09.4**	**-0.8**
ODZ	**Otahua Downs**	**2.73**	**214**	P	**Pn**	**00 27 09.4**	**-0.8**
ODZ	**Otahua Downs**	**2.73**	**214**	P	**Pn**	**00 27 09.6**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.78**	**48**	P	**Pn**	**00 27 09.4**	**-1.5**
MRZ	**Mangatainoka R**	**2.98**	**45**		**Pn**	**00 27 11.9**	**-1.7**
MRZ	**Mangatainoka R**	**2.98**	**45**	P	**Pn**	**00 27 12.0**	**-1.7**
JCZ	**Jackson Bay**	**3.19**	**245**	P	**Pn**	**00 27 16.9**	**+0.4**
JCZ	**Jackson Bay**	**3.19**	**245**	P	**Pn**	**00 27 16.3**	**-0.2**
OHWZ	**Ohakea**	**3.21**	**37**	P	**Pn**	**00 27 16.7**	**0.0**
PRWZ	**Pori Road**	**3.27**	**48**	P	**Pn**	**00 27 15.8**	**-1.8**
POWZ	**Post Office Ro**	**3.28**	**44**	P	**Pn**	**00 27 16.1**	**-1.6**
BFZ	**Birch Farm**	**3.34**	**52**	Pn	**Pn**	**00 27 16.4**	**-2.1**
BFZ	**Birch Farm**	**3.34**	**52**	P	**Pn**	**00 27 16.4**	**-2.1**
WKZ	**Wanaka**	**3.41**	**232**		**Pn**	**00 27 19.2**	**-0.3**
WKZ	**Wanaka**	**3.41**	**232**	P	**Pn**	**00 27 20.1**	**+0.6**
WKZ				P	**Pb**	**00 27 22.6**	**-4.4**
WAZ	**Wanganui**	**3.46**	**29**	P	**Pn**	**00 27 21.3**	**+1.1**
HHSZ	**Highcliff Hill**	**3.47**	**206**	P	**Pn**	**00 27 19.6**	**-0.9**
NMEZ	**Namu Road**	**3.48**	**14**	P	**Pn**	**00 27 22.5**	**+2.1**
EAZ	**Earnscleugh**	**3.50**	**225**	P	**Pn**	**00 27 19.8**	**-0.9**
LREZ	**Lake Rotokare**	**3.55**	**21**	P	**Pn**	**00 27 23.8**	**+2.4**
DVHZ	**Dannevirke**	**3.55**	**47**	P	**Pn**	**00 27 19.0**	**-2.5**
NBEZ	**Newall Road No**	**3.62**	**13**	P	**Pn**	**00 27 24.0**	**+1.6**
KHEZ	**Kahui Hut**	**3.62**	**15**	P	**Pn**	**00 27 23.7**	**+1.2**
KHEZ	**Kahui Hut**	**3.62**	**15**	P	**Pn**	**00 27 24.5**	**+2.0**
TSZ	**Takapari Road**	**3.63**	**42**	P	**Pn**	**00 27 20.7**	**-1.9**
NEZ	**North Egmont**	**3.66**	**16**	P	**Pn**	**00 27 26.0**	**+3.0**
PKE	**Pukeiti**	**3.71**	**15**	P	**Pn**	**00 27 25.7**	**+2.1**
DREZ	**Durham Road**	**3.76**	**17**	P	**Pn**	**00 27 25.9**	**+1.6**
PNHZ	**Pukenui**	**3.85**	**43**	P	**Pn**	**00 27 23.6**	**-2.1**
TUZ	**Tuapeka**	**3.89**	**215**	P	**Pn**	**00 27 25.4**	**-0.7**
MHEZ	**Mangahewa**	**3.89**	**18**	P	**Pn**	**00 27 29.8**	**+3.6**
VRZ	**Vera Road**	**3.96**	**23**	P	**Pn**	**00 27 28.4**	**+1.4**
MTVZ	**Mangateitei**	**3.96**	**32**	P	**Pn**	**00 27 26.2**	**-1.0**
MSZ	**Milford Sound**	**4.00**	**240**	P	**Pn**	**00 27 26.9**	**-0.7**
MOWZ	**Moawhango**	**4.06**	**34**	P	**Pn**	**00 27 27.8**	**-0.7**
TRVZ	**Turoa**	**4.07**	**32**	P	**Pn**	**00 27 28.7**	**-0.1**
DRZ	**Dome Shelter**	**4.09**	**32**	P	**Pn**	**00 27 29.5**	**+0.3**
WHVZ	**Whangaehu Hut**	**4.10**	**32**	P	**Pn**	**00 27 28.9**	**-0.3**
FWVZ	**Far West T-bar**	**4.11**	**31**	P	**Pn**	**00 27 29.0**	**-0.3**
PXZ	**Pawanui**	**4.12**	**49**	P	**Pn**	**00 27 28.3**	**-1.0**
BHHZ	**Black Hill Sta**	**4.12**	**38**	P	**Pn**	**00 27 28.5**	**-0.9**
TUVZ	**Tukino**	**4.13**	**33**	P	**Pn**	**00 27 29.6**	**-0.1**
NGZ	**Ngauruhoe**	**4.19**	**31**	P	**Pn**	**00 27 30.0**	**-0.4**
SNVZ	**South Ngauruho**	**4.20**	**32**	P	**Pn**	**00 27 30.4**	**-0.1**
TWVZ	**Taurewa**	**4.22**	**29**	P	**Pn**	**00 27 30.7**	**-0.2**
OTVZ	**Oturere**	**4.23**	**32**	P	**Pn**	**00 27 31.3**	**+0.4**
MLZ	**Mavora Lakes**	**4.24**	**231**		**Pn**	**00 27 30.3**	**-0.6**
MLZ	**Mavora Lakes**	**4.24**	**231**	P	**Pn**	**00 27 30.6**	**-0.3**
NNVZ	**North Ngauruho**	**4.24**	**31**	P	**Pn**	**00 27 31.0**	**0.0**
WTVZ	**West Tongariro**	**4.24**	**31**	P	**Pn**	**00 27 30.9**	**-0.2**
ETVZ	**East Tongariro**	**4.27**	**32**	P	**Pn**	**00 27 31.2**	**-0.3**
KRVZ	**Karewarewa**	**4.28**	**31**	P	**Pn**	**00 27 31.5**	**-0.1**
TMVZ	**Te Maari**	**4.29**	**32**	P	**Pn**	**00 27 31.2**	**-0.4**
NTVZ	**North Tongarir**	**4.29**	**32**	P	**Pn**	**00 27 31.6**	**-0.2**
HIZ	**Hauiti**	**4.55**	**21**		**Pn**	**00 27 35.1**	**-0.2**
HIZ	**Hauiti**	**4.55**	**21**	P	**Pn**	**00 27 36.4**	**+1.1**
HIZ	**Hauiti**	**4.55**	**21**	P	**Pn**	**00 27 35.7**	**+0.4**
SYZ	**Scrubby Hill**	**4.56**	**214**	P	**Pn**	**00 27 34.8**	**-0.5**
SYZ	**Scrubby Hill**	**4.56**	**214**	P	**Pn**	**00 27 34.4**	**-0.5**
BKZ	**Black Stump Fm**	**4.58**	**39**		**Pn**	**00 27 34.4**	**-1.3**
WHZ	**Wether Hill Ro**	**4.66**	**227**		**Pn**	**00 27 35.4**	**-1.3**
WHZ	**Wether Hill Ro**	**4.66**	**227**	P	**Pn**	**00 27 35.2**	**-1.4**
NMHZ	**Naumai**	**4.78**	**41**	P	Pn	00 27 43.4	+4.9
DCZ	**Deep Cove**	**4.86**	**235**		**Pn**	**00 27 38.2**	**-1.1**
DCZ	**Deep Cove**	**4.86**	**235**	P	**Pn**	**00 27 38.2**	**-1.2**
TLZ	**Tolley Road**	**4.93**	**26**	P	**Pn**	**00 27 41.3**	**+0.9**
MTHZ	**Maungataniwha**	**4.99**	**39**	P	**Pn**	**00 27 39.9**	**-1.4**
ALRZ	**Allen Road**	**5.02**	**34**	P	**Pn**	**00 27 40.8**	**-0.9**
RAHZ	**Arahi**	**5.06**	**41**	P	**Pn**	**00 27 46.4**	**+4.1**
APZ	**The Paps**	**5.29**	**219**	P	**Pn**	**00 27 44.6**	**-0.8**
MHGZ	**Mahia Peninsul**	**5.31**	**48**	P	**Pn**	**00 27 44.1**	**-1.5**
TOZ	**Tahuroa Road**	**5.46**	**23**	P	**Pn**	**00 27 47.7**	**-0.1**
PYZ	**Puysegur Point**	**5.52**	**230**	Pn	**Pn**	**00 27 48.2**	**-0.3**
PYZ	**Puysegur Point**	**5.52**	**230**	P	**Pn**	**00 27 48.9**	**+0.4**
PYZ	**Puysegur Point**	**5.52**	**230**	P	**Pn**	**00 27 48.5**	**0.0**
URZ	**Urewera**	**5.60**	**37**	P	**Pn**	**00 27 47.9**	**-1.7**
MWZ	**Matawai**	**5.73**	**41**	P	**Pn**	**00 27 50.6**	**-0.9**
AWAZ	**Awhitu Peninsu**	**5.90**	**15**	P	**Pn**	**00 27 54.2**	**+0.5**
MKAZ	**Moumakai**	**5.97**	**19**	P	**Pn**	**00 27 54.6**	**-0.1**
WTAZ	**Waiatarua**	**6.01**	**14**	P	**Pn**	**00 27 57.7**	**+2.4**
ETAZ	**East Tamaki Re**	**6.06**	**16**	P	**Pn**	**00 27 56.6**	**+0.7**
TWGZ	**Tauwhareparae**	**6.08**	**42**	P	**Pn**	**00 27 54.6**	**-1.6**
MBAZ	**Motutapu North**	**6.23**	**16**	P	**Pn**	**00 27 59.7**	**+1.4**
WIAZ	**Waiheke Island**	**6.26**	**18**	P	**Pn**	**00 27 58.2**	**-0.5**
HAZ	**Te Kaha**	**6.31**	**39**	P	**Pn**	**00 27 57.7**	**-1.7**
PKGZ	**Pakihiroa**	**6.35**	**41**	P	**Pn**	**00 27 58.0**	**-1.9**
KUZ	**Kuaotunu**	**6.45**	**21**	P	**Pn**	**00 28 01.8**	**+0.5**
	96nm,1.6s						
KUZ	**Kuaotunu**	**6.45**	**21**	P	**Pn**	**00 28 00.5**	**-0.7**
MXZ	**Matakaoa Point**	**6.72**	**41**	Pn	**Pn**	**00 28 02.3**	**-2.6**
OUZ	**Omahuta**	**7.59**

NNZ	**Nelson**	**1.27**	**342**	P		Pg	00 46 37.1	-1.4
WEL	**Wellington**	**1.32**	**30**	P		Pn	00 46 38.2	-0.9
PLWZ	**Palliser**	**1.33**	**50**	P		Pn	00 46 38.1	-1.2
MRNZ	**Matariki Terra**	**1.33**	**320**	P		Pn	00 46 38.9	-0.5
OKCZ	**Okains Bay**	**1.43**	**205**	P		Pn	00 46 40.6	-0.1
MSWZ	**Moikau Station**	**1.43**	**45**	P		Pn	00 46 39.6	-1.2
PAWZ	**Paruwai Farm**	**1.55**	**48**	P		Pn	00 46 41.1	-1.3
TKNZ	**Takaka Hill**	**1.56**	**333**	P		Pn	00 46 42.2	-0.3
MQZ	**McQueen's Vall**	**1.57**	**215**	P		Pn	00 46 41.5	-1.1
MQZ				S		Sn	00 47 02.0	-1.2
CAW	**Cannon Point**	**1.59**	**34**	P		Pn	00 46 41.8	-1.0
AKCZ	**Akaroa Harbour**	**1.61**	**206**	P		Pn	00 46 42.8	-0.4
DUWZ	**D'Urville Isla**	**1.63**	**1**	P		Pn	00 46 43.4	-0.1
OXZ	**Oxford**	**1.63**	**236**	P		Pn	00 46 42.6	-0.9
TRWZ	**Traveller**	**1.69**	**53**	P		Pn	00 46 42.7	-1.6
DSZ	**Denniston Nort**	**1.70**	**293**	P		Pn	00 46 44.8	+0.4
KIW	**Kapiti Island**	**1.74**	**26**	P		Pn	00 46 44.0	-1.0
MTW	**Mount Morrison**	**1.75**	**44**	P		Pn	00 46 43.2	-1.9
RACZ	**Rakaia**	**1.83**	**224**	P		Pn	00 46 45.3	-0.9
OGWZ	**Otaki Gorge**	**1.87**	**31**	P		Pn	00 46 45.7	-1.1
QRZ	**Quartz Range**	**1.90**	**327**	P		Pn	00 46 47.8	+0.6
HOWZ	**Holdsworth Sta**	**1.95**	**39**	P		Pn	00 46 46.5	-1.5
TMWZ	**Te Maipa**	**1.99**	**49**	P		Pn	00 46 46.8	-1.7
WACZ	**Wakanui South**	**2.13**	**224**	P		Pn	00 46 49.6	-0.8
MRZ	**Mangatainoka R**	**2.17**	**36**	P		Pn	00 46 49.3	-1.7
WVZ	**Waitaha Valley**	**2.41**	**253**	P		Pn	00 46 54.3	+0.1
PRWZ	**Pori Road**	**2.44**	**40**	P		Pn	00 46 53.2	-1.4
RPZ	**Rata Peaks**	**2.45**	**237**	P		Pn	00 46 53.9	-0.8
OHWZ	**Ohakea**	**2.47**	**26**	P		Pg	00 47 00.4	-0.9
BFZ	**Birch Farm**	**2.48**	**46**	P		Pn	00 46 53.2	-2.0
ARCZ	**Arundel**	**2.50**	**232**	P		Pn	00 46 54.5	-1.0
DVHZ	**Dannevirke**	**2.73**	**40**	P		Pn	00 46 56.3	-2.3
GCXZ	**Gaunt Creek Bo**	**2.77**	**250**	P		Pn	00 46 59.6	+0.5
WAZ	**Wanganui**	**2.80**	**18**	P		Pn	00 47 01.0	+1.4
TSZ	**Takapari Road**	**2.84**	**34**	P		Pn	00 46 58.3	-1.8
TMZ	**Timaru**	**2.87**	**226**	P		Pn	00 47 00.2	-0.4
PNHZ	**Pukenui**	**3.06**	**35**	P		Pn	00 47 01.1	-2.0
NBEZ	**Newall Road No**	**3.16**	**360**	P		Pb	00 47 10.6	-0.1
FOZ	**Fox Glacier**	**3.19**	**248**	P		Pn	00 47 06.2	+1.4
PKE	**Pukeiti**	**3.23**	**1**	P		Pb	00 47 11.8	-0.2
MOVZ	**Moawhango**	**3.33**	**26**	P		Pn	00 47 06.7	-0.3
LBZ	**Lake Benmore**	**3.34**	**233**	P		Pn	00 47 06.8	-0.1
WNVZ	**Wahianoa**	**3.36**	**23**	P		Pn	00 47 08.0	+0.6
BHHZ	**Black Hill Sta**	**3.37**	**30**	P		Pn	00 47 07.3	0.0
BHHZ				P		Pb	00 47 08.5	-5.7
VRZ	**Vera Road**	**3.37**	**12**	P		Pn	00 47 08.0	+0.7
WHVZ	**Whangaehu Hut**	**3.40**	**23**	P		Pn	00 47 08.7	+0.7
FWVZ	**Far West T-bar**	**3.41**	**22**	P		Pn	00 47 09.8	+1.6
ODZ	**Otahua Downs**	**3.52**	**221**	P		Pn	00 47 08.9	-0.5
OTVZ	**Oturere**	**3.53**	**23**	P		Pn	00 47 11.0	+1.3
NNVZ	**North Ngauruho**	**3.54**	**22**	P		Pn	00 47 10.5	+0.6
HIZ	**Hauiti**	**3.98**	**11**	P		Pn	00 47 16.7	+1.0
JCZ	**Jackson Bay**	**4.08**	**245**	P		Pn	00 47 18.3	+1.1
HHSZ	**Highcliff Hill**	**4.19**	**213**	P		Pn	00 47 18.3	-0.4
EAZ	**Earnscleugh**	**4.34**	**228**	P		Pn	00 47 20.3	-0.4
TOZ	**Tahuroa Road**	**4.85**	**15**	P		Pn	00 47 27.3	-0.4
AWAZ	**Awhitu Peninsu**	**5.39**	**6**	P		Pn	00 47 35.5	+0.4
MKAZ	**Moumakai**	**5.41**	**11**	P		Pn	00 47 34.7	-0.6
APZ	**The Paps**	**6.09**	**222**	P		Pn	00 47 44.8	0.0

IDC ***15*** *00:47:26.0±2.1,6°.54S×129°.93E,h170km±21km,mb3.5/6, mbtmp4.2/9,Error ellipse: s-maj=30.8km s-min=15.2km az=77.0*

DJA ***15*** *00:47:26.2±0.3,7°.5S±2°×13°.0E±°,h181km±6km,M4.4/13, mb4.4/6,mB4.9/7,MLv4.6/13,Mw(mB)4.2/7*

NEIC ***15*** *00:47:26.1±2.0,6°.56S±0°.06×129°.88E±0°.08,h169km±9km, mb4.3/8,Error ellipse: s-maj=11.0km s-min=8.4km az=86.0.*

ISC 15 00:47:25.9±0.5,6°.60S±0°.04×129°.91E±0°.05,h170km,n73, σ1s98/89,mb4.3/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.95**	**135**			**Pn**	**00 48 04.3**	**+2.6**
SAUI					Sn	**Sn**	**00 48 28.6**	**-0.9**
SAUI	**Saumlaki**	**1.95**	**135**	P		**Pn**	**00 48 05.0**	**+3.3**
SAUI				S		**Sn**	**00 48 31.2**	**+1.8**
BNDI	**Bandanaira**	**2.07**	**360**	P		**Pn**	**00 48 06.2**	**+3.2**
BNDI				S		**Sn**	**00 48 36.1**	**+4.3**
BNDI	**Bandanaira**	**2.07**	**360**	P		**Pn**	**00 48 05.9**	**+2.9**
AAI	**Ambon**	**3.36**	**329**	P		**Pn**	**00 48 21.1**	**+2.5**
MSAI	**Masohi**	**3.38**	**343**	P		**Pn**	**00 48 20.6**	**+1.8**
KRAI	**Karang Ratu**	**3.59**	**335**	P		**Pn**	**00 48 21.1**	**-0.4**
FAKI	**Fak Fak**	**4.34**	**33**	Pn		**Pn**	**00 48 31.0**	**0.0**
FAKI				Sn		**Sn**	**00 49 18.1**	**-4.0**
FAKI	**Fak Fak**	**4.34**	**33**	P		**Pn**	**00 48 31.1**	**0.0**
FAKI				S		**Sn**	**00 49 18.5**	**-3.6**
FAKI	**Fak Fak**	**4.34**	**33**	P		**Pn**	**00 48 30.8**	**-0.3**
NLAI	**Namlea**	**4.36**	**320**	P		**Pn**	**00 48 35.7**	**+4.4**
SIJI	**Sorong**	**5.85**	**13**	P		**Pn**	**00 48 50.1**	**-0.8**
	12nm,0.3s,baz=8.9,slow=20,SNR=27							
SIJI				S		**Sn**	**00 49 51.9**	**-5.8**
	107nm,0.2s,baz=97,slow=23,SNR=5.9							
SIJI	**Sorong**	**5.85**	**13**	P		**Pn**	**00 48 50.7**	**-0.2**
SIJI				S		**Sn**	**00 49 52.4**	**-5.3**
SANI	**Sanana**	**5.98**	**319**	P		**Pn**	**00 48 54.3**	**+1.8**
	0.1nm720nm21nm,0.8s							
MTN	**Manton Dam**	**6.32**	**169**	Pn		**Pn**	**00 48 57.0**	**-0.1**
MTN				Sn		**Sn**	**00 50 07.4**	**-1.3**
MTN	**Manton Dam**	**6.32**	**169**	P		**Pn**	**00 48 57.1**	**+0.1**
LBMI	**Labuha**	**6.39**	**338**	P		**Pn**	**00 48 59.8**	**+1.8**
	0.2nm28nm,1.1s							
SOEI	**Soe**	**6.40**	**240**	Pn		**Pn**	**00 48 58.4**	**+0.2**
SOEI				Sn		**Sn**	**00 50 09.2**	**-1.6**
SOEI	**Soe**	**6.40**	**240**	P		**Pn**	**00 48 59.5**	**+1.3**
SOEI				S		**Sn**	**00 50 08.8**	**-2.0**
SOEI	**Soe**	**6.40**	**240**	P		**Pn**	**00 48 59.3**	**+1.1**
	38nm,0.5s							
KDU	**Kakadu**	**6.55**	**157**	P		**Pn**	**00 49 00.3**	**+0.2**
	58nm,0.6s							
RKPI	**Ransiki, Papua**	**6.61**	**40**	P		**Pn**	**00 49 02.5**	**+1.6**
	5.8nm23μm1μm,0.4s							
RKPI				S		**Sn**	**00 50 12.6**	**-3.1**
	5.8nm23μm1μm,0.4s							
MWPI	**Manokwari, Pap**	**6.98**	**36**	P		**Pn**	**00 49 06.6**	**+0.8**
	1.3nm3μm112nm,0.8s							
MWPI				S		**Sn**	**00 50 24.5**	**0.0**
	1.3nm3μm112nm,0.8s							
BATI	**Baumata**	**7.14**	**239**	P		**Pn**	**00 49 08.6**	**+0.7**
	74nm,0.4s,baz=97,slow=1.8,SNR=14							
BATI				S		**Sn**	**00 50 24.7**	**-3.6**
	96nm,0.4s,baz=256,slow=23,SNR=13							
BATI	**Baumata**	**7.14**	**239**	P		**Pn**	**00 49 08.9**	**+1.0**
	0.5nm1μm103nm,0.7s							
BATI				S		**Sn**	**00 50 26.4**	**-1.9**
	0.5nm1μm103nm,0.7s							
KNRA	**Kununurra**	**9.09**	**187**	Pn		**Pn**	**00 49 33.4**	**-0.2**
KNRA				Sn		**Sn**	**00 51 09.0**	**-5.9**
KNRA	**Kununurra**	**9.09**	**187**	P		**Pn**	**00 49 32.8**	**-0.8**
	16nm,0.7s							
PLAI	**Plampang**	**12.22**	**259**	P		**Pn**	**00 50 12.8**	**-1.8**
	34nm,0.9s							
WB0	**Warramunga Arr**	**13.79**	**162**	Pn		**Pn**	**00 50 32.7**	**-1.8**
WRAB	**Tennant Creek**	**13.94**	**162**	Pn		**Pn**	**00 50 37.0**	**+0.8**
WRA	**Warramunga Arr**	**13.94**	**162**	P		**Pn**	**00 50 34.3**	**-2.1**
	7.8nm,0.3s,baz=343,slow=12,SNR=23							
WRA				S		Sn	00 53 01.7	-10
	2.2nm,0.5s,baz=346,slow=22,SNR=6.0							
WRA	**Warramunga Arr**	**13.94**	**162**	Pn		**Pn**	**00 50 35.1**	**-1.2**
WB2	**Warramunga Arr**	**13.95**	**162**			**Pn**	**00 50 35.9**	**-0.5**
WB1	**Warramunga Ar.**	**13.96**	**162**	P		**P**	**00 50 39.7**	**+0.4**
	27nm,0.6s							
WR0	**Warramunga Arr**	**14.02**	**162**			**Pn**	**00 50 36.4**	**-0.9**
DAV	**Davao City (W)**	**14.25**	**342**	P		**Pn**	**00 50 40.9**	**+0.6**
COEN	**Coen**	**14.96**	**120**	P		**P**	**00 50 50.5**	**+0.2**
COEN	**Coen**	**14.96**	**120**	P		**P**	**00 50 50.7**	**+0.4**
	20nm,0.9s							
JAGI	**Jajag, Banyuwa**	**15.73**	**262**			**Pn**	**00 50 57.3**	**-1.2**
JAGI				IAmb		IAmb	00 51 02.0	
	comp=Z,24nm,1.1s							
JAGI	**Jajag, Banyuwa**	**15.73**	**262**	P		**Pn**	**00 50 59.0**	**+0.5**
	comp=Z,11nm,0.8s							
QIS	**Mount Isa**	**16.76**	**147**	P		**P**	**00 51 11.2**	**+0.9**
	comp=Z,26nm,0.6s							
AS31	**Alice Springs**	**17.40**	**168**	Pn		**Pn**	**00 51 18.9**	**+0.4**
AS31				IAmb		IAmb	00 51 20.8	
	comp=Z,9.1nm,1.0s							
ASAR	**Alice Springs**	**17.40**	**168**	P		**Pn**	**00 51 18.8**	**+0.3**
	comp=Z,15nm,0.5s,baz=343,slow=10,SNR=112							
ASAR				S		**S**	**00 54 24.6**	**-5.1**
	comp=Z,1.6nm,0.8s,baz=350,slow=22,SNR=5.7							
ASAR	**Alice Springs**	**17.40**	**168**	Pn		**Pn**	**00 51 19.1**	**+0.6**
AS01	**Alice Springs**	**17.41**	**168**	P		**Pn**	**00 51 19.1**	**+0.5**
MBWA	**Marble Bar**	**17.51**	**213**	P		**P**	**00 51 18.6**	**+0.1**
PSA00	**Pilbara Seismi**	**17.78**	**212**	P		**P**	**00 51 22.4**	**+1.0**
PSA00	**Pilbara Seismi**	**17.78**	**212**	P		**P**	**00 51 22.5**	**+1.1**
MTSU	**Mount Surprise**	**18.13**	**131**	P		**Pn**	**00 51 27.5**	**+0.2**
WRKA	**Warakurna**	**18.40**	**185**	P		**P**	**00 51 29.8**	**+1.6**
OOD	**Oodnadatta**	**21.78**	**166**	P		**P**	**00 52 04.4**	**+0.1**
GIRL	**Giralia**	**21.97**	**222**	P		**P**	**00 52 06.9**	**+0.6**
BBJI	**Bungbulang**	**22.11**	**266**	P		**P**	**00 52 07.7**	**-0.1**
INKA	**Innaminka**	**23.41**	**155**	P		**P**	**00 52 22.4**	**+2.8**
MULG	**Mulgathing**	**23.88**	**171**	P		**P**	**00 52 24.8**	**+0.9**
FORT	**Forrest**	**24.11**	**184**	P		**P**	**00 52 26.8**	**+0.8**
BBOO	**Buckleboo**	**26.70**	**168**	P		**P**	**00 52 49.6**	**+0.3**
STKA	**Stephens Creek**	**27.41**	**158**	P		**P**	**00 52 56.1**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=327,slow=6.5,SNR=5.6							
	comp=Z,2.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**39.41**	**310**	P		**P**	**00 54 39.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=120,slow=5.3,SNR=1.5							
	comp=Z,0.5nm,0.3s							
PZH	**PanZhiHua**	**42.77**	**321**	P		**P**	**00 55 08.4**	**+1.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,80nm,6.8s							
HHC	**Hu-ho-hao-te**	**50.14**	**342**	eP		**P**	**00 56 07.3**	**+3.3**
HHC				pmax		pmax		
	comp=Z,21nm,1.0s							
HHC				pmax		pmax		
	comp=Z,83nm,5.1s							
SONM	**Songino Array**	**58.04**	**342**	P		**P**	**00 57 01.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=154,slow=5.6,SNR=2.3							
	comp=Z,0.3nm,0.6s							
WMQ	**Urumqi**	**63.01**	**327**	eP		**P**	**00 57 34.8**	**0.0**
WMQ				pmax		pmax		
	comp=Z,14nm,0.7s							
MKAR	**Makanchi Array**	**67.84**	**327**	P		**P**	**00 58 05.8**	**0.0**
	comp=Z,3.9nm,0.5s,baz=114,slow=8.8,SNR=92							
	comp=Z,3.9nm,0.5s							
MKAR	**Makanchi Array**	**67.84**	**327**	P		**P**	**00 58 05.9**	**+0.2**
MAKZ	**Makanchi**	**68.02**	**327**	P		**P**	**00 58 06.8**	**0.0**
MAKZ				IAmb		IAmb	00 58 07.4	
	comp=Z,3.2nm,0.6s							
ZALV	**Zalesovo Beam**	**71.19**	**334**	P		**P**	**00 58 24.8**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=111,slow=3.3,SNR=3.6							
	comp=Z,0.5nm,0.6s							
GAR	**Garm**	**71.32**	**315**	P		**P**	**00 58 27.1**	**-0.2**
GAR				IAmb		IAmb	00 58 28.8	
	comp=Z,4.1nm,0.7s							
KURK	**Kurchatov**	**72.13**	**329**	P		**P**	**00 58 31.6**	**-0.2**
VNDA	**Vanda**	**72.85**	**173**	P		**P**	**00 58 35.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=303,slow=6.7,SNR=3.7							
	comp=Z,0.6nm,0.8s							
VNDA	**Vanda**	**72.85**	**173**	P		**P**	**00 58 36.1**	**+0.5**
KKAR	**Karatay Array**	**72.98**	**319**	P		**P**	**00 58 37.0**	**0.0**
TORD	**Torodi Ar. Bea**	**128.64**	**282**	PKP		**PKPdf**	**01 06 14.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=129,slow=2.0,SNR=1.7							

MDD ***15*** *01:07:06.7±1.6,37°.61N×16°.24W,h32km±86km,Mb4.2/9, M_mb3.6/9,Error ellipse: s-maj=43.9km s-min=9.0km az=70.0*

INMG ***15*** *01:07:08.8±2.2,37°.46N×16°.38W,h10km,ML2.8,Error ellipse: s-maj=9.8km s-min=5.6km az=122.0*

ISC 15 01:07:06.1±2.5,37°.63N±0°.08×16°.1W±0°.1,h35km,n39, σ2s60/65,9C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMPST	**Porto Santo, M**	**4.54**	**182**	eP		**Pn**	**01 08 08.9**	**-3.4**
PMPST				eSn		Sn	01 08 51.4	-12
PMPST				A		A	01 08 56.9	
	40nm,0.7s							
PMPS	**Porto Santo**	**4.56**	**182**	eP		**Pn**	**01 08 09.5**	**-3.1**
PMPS				eSn		Sn	01 08 52.7	-12
PMPS				A		A	01 09 01.2	
	14nm,0.6s							
PMAR	**Madeira**	**4.94**	**188**	eSn		Sn	01 09 01.3	-13
PMAFR	**Mafra**	**5.52**	**74**	ePn		**Pn**	**01 08 29.3**	**+3.5**
PMAFR				eSn		**Sn**	**01 09 28.6**	**+0.5**
PMAFR				A		A	01 09 32.8	
	19nm,0.6s							
PMST	**Lisbon--Monsan**	**5.56**	**76**	eSn		**Sn**	**01 09 31.9**	**+3.0**
PMST				A		A	01 09 35.9	
	20nm,0.6s							
PFVI	**Vila Bisbo**	**5.81**	**93**	ePn		**Pn**	**01 08 31.7**	**+2.0**
PFVI				eSn		**Sn**	**01 09 34.3**	**-0.9**
PFVI				A		A	01 09 51.0	
	7.7nm,1.1s							
PACT	**Alcochete**	**5.83**	**76**	ePn		**Pn**	**01 08 33.2**	**+3.2**
PACT				eSn		**Sn**	**01 09 38.2**	**+2.5**
PTEO	**Sao Teotonio**	**5.86**	**89**	ePn		**Pn**	**01 08 32.1**	**+1.7**
PTEO				eSn		**Sn**	**01 09 34.7**	**-1.6**
PTEO				A		A	01 09 41.4	
	5.1nm,0.3s							
MORF	**Marmelete**	**5.93**	**91**	eP		**Pn**	**01 08 33.6**	**+2.1**
PNCL	**Nicolau / Gran**	**6.01**	**83**	ePn		**Pn**	**01 08 34.5**	**+2.1**
PNCL				eSn		**Sn**	**01 09 38.9**	**-1.1**
PNCL				A		A	01 09 41.8	
	3.6nm,0.2s							
PSBE	**So Bento**	**6.03**	**70**	ePn		**Pn**	**01 08 36.6**	**+3.9**
PSBE				eSn		**Sn**	**01 09 40.9**	**+0.4**
PSBE				A		A	01 09 48.8	
	5.7nm,0.7s							
MESJ	**Messejana**	**6.25**	**86**	eP		**Pn**	**01 08 38.0**	**+2.2**
MESJ				eS		**Sn**	**01 09 44.7**	**-1.2**
MESJ				IAML			01 09 48.9	
	comp=N,7.2nm,0.5s							
MESJ	**Messejana**	**6.25**	**86**	ePn		**Pn**	**01 08 39.2**	**+3.5**
MESJ				eSn		**Sn**	**01 09 45.8**	**-0.1**
MESJ				A		A	01 09 52.1	
	comp=N,3.1nm,0.2s							
PMTG	**Montargil**	**6.35**	**74**	ePn		**Pn**	**01 08 40.0**	**+2.8**
PMTG				eSn		**Sn**	**01 09 48.4**	**-0.1**
PMTG				A		A	01 09 54.7	
	comp=N,2.8nm,0.1s							
PCVE	**Castro Verde**	**6.40**	**87**	ePn		**Pn**	**01 08 39.9**	**+2.1**
PCVE				eSn		**Sn**	**01 09 49.1**	**-0.5**
PCVE				A		A	01 09 58.6	
	comp=N,2.8nm,0.6s							
PCAS	**Casmilo, Conde**	**6.41**	**65**	ePn		**Pn**	**01 08 40.2**	**+2.3**
PCAS				eSn		**Sn**	**01 09 49.0**	**-0.9**
PCAS				A		A	01 10 15.9	
	comp=N,2.3nm,0.6s							
EVO	**Evora**	**6.44**	**79**	ePn		**Pn**	**01 08 41.0**	**+2.6**
EVO				eSn		**Sn**	**01 09 51.2**	**+0.5**
EVO				A		A	01 09 56.4	
	comp=N,4.3nm,0.1s							
PBEJ	**Beja**	**6.53**	**84**	eSn		**Sn**	**01 09 52.1**	**-0.7**
PBEJ				A		A	01 09 58.1	
	comp=N,2.1nm,0.2s							
PVAQ	**Vaqueiros**	**6.67**	**89**	ePn		**Pn**	**01 08 44.4**	**+2.9**
PVAQ				eSn		**Sn**	**01 09 54.9**	**-1.3**
PVAQ				A		A	01 09 57.9	
	comp=N,3.7nm,0.4s							
PESTR	**Estremoz**	**6.81**	**77**	ePn		**Pn**	**01 08 45.9**	**+2.4**
PESTR				eSn		**Sn**	**01 09 58.9**	**-0.9**
PESTR				A		A	01 10 11.8	
	comp=N,2.0nm,0.6s							
PMRV	**Marv??o**	**7.06**	**73**	ePn		**Pn**	**01 08 49.5**	**+2.6**
PMRV				eSn		**Sn**	**01 10 04.9**	**-1.0**
PVIS	**Viseu**	**7.08**	**62**	eSn		**Sn**	**01 10 06.0**	**-0.5**
PCBR	**Castelo Branco**	**7.09**	**69**	ePn		**Pn**	**01 08 49.3**	**+2.0**
PCBR				eSn		**Sn**	**01 10 05.7**	**-1.0**
PBAR	**Barrancos**	**7.18**	**83**	ePn		**Pn**	**01 08 48.9**	**+0.3**
PBAR				eSn		**Sn**	**01 10 09.3**	**+0.4**
MTE	**Manteigas**	**7.21**	**65**	ePn		**Pn**	**01 08 48.4**	**-0.6**
MTE				eSn		**Sn**	**01 10 09.4**	**-0.3**
PGAV	**Gavieira, Arco**	**7.42**	**52**	ePn		**Pn**	**01 08 54.2**	**+2.3**
PGAV				eSn		**Sn**	**01 10 14.1**	**-0.8**
POLO	**Lamas de Olo**	**7.43**	**57**	eSn		**Sn**	**01 10 13.8**	**-1.3**
PVRL	**Vila Real**	**7.44**	**58**	ePn		**Pn**	**01 08 55.5**	**+3.4**
PVRL				eSn		**Sn**	**01 10 12.5**	**-2.8**
PCAB	**Cabril**	**7.44**	**54**	ePn		Pn	01 08 45.7	-6.4
PCAB				eSn		**Sn**	**01 10 12.8**	**-2.5**
EMIN	**Mina Concepcio**	**7.47**	**86**	i'Vmb_V			01 08 59.1	
	comp=N,52nm,SNR=0.8							
EMIN				Sn		**Sn**	**01 10 11.4**	**-4.7**
ELOB	**Lobios**	**7.50**	**53**	Pn		**Pn**	**01 08 54.4**	**+1.4**
ELOB				i'Vmb_V			01 08 56.6	
	comp=N,130nm,SNR=1.0							
ELOB				Sn		**Sn**	**01 10 13.2**	**-3.6**
MVO	**Moncorvo**	**7.86**	**60**	ePn		**Pn**	**01 09 02.4**	**+4.5**
MVO				eSn		**Sn**	**01 10 23.2**	**-2.5**
EAGO	**Agolada(Pontev**	**8.02**	**47**	Pn		**Pn**	**01 09 00.2**	**+0.2**
EAGO				i'Vmb_V			01 09 02.9	
	comp=N,105nm,SNR=0.8							
EAGO				Sn		**Sn**	**01 10 24.3**	**-5.1**
EPLA	**Plasencia**	**8.19**	**70**	Pn		**Pn**	**01 09 05.1**	**+2.7**
EPLA				i'Vmb_V			01 09 05.9	
	comp=N,95nm,SNR=1.0							
EPLA				Sn		**Sn**	**01 10 29.2**	**-4.4**
ESPR	**Espera**	**8.20**	**92**	i'Vmb_V			01 09 05.8	
	comp=N,71nm,SNR=0.6							
ESPR				Sn		**Sn**	**01 10 30.1**	**-4.0**
ECAL	**Calabor**	**8.40**	**56**	i'Vmb_V			01 09 08.0	
	comp=N,91nm,SNR=0.7							
ECAL				Sn		**Sn**	**01 10 35.4**	**-3.5**
ECAB	**El Cabril**	**8.46**	**84**	Pn		**Pn**	**01 09 08.3**	**+2.1**
ECAB				i'Vmb_V			01 09 11.2	
	comp=N,55nm,SNR=0.9							
ECAB				Sn		**Sn**	**01 10 35.7**	**-4.7**
EADA	**Adamuz**	**9.12**	**83**	Pn		**Pn**	**01 09 16.2**	**+0.9**
EADA				i'Vmb_V			01 09 17.4	
	comp=N,34nm,SNR=0.4							
EADA				Sn		**Sn**	**01 10 52.7**	**-4.0**
PAB	**San Pablo**	**9.40**	**75**	Pn		**Pn**	**01 09 20.5**	**+1.5**
PAB				i'Vmb_V			01 09 23.7	
	comp=N,122nm,SNR=2.2							
PAB				Sn		**Sn**	**01 10 58.1**	**-5.4**

TEH ***15*** *01:07:29.6,35°.22N×57°.18E,h8km,ML4.1*

IDC ***15*** *01:07:29.3±2.6,35°.06N×57°.11E,h0km,mb3.8/6, mbtmp3.9/8,ML3.7/2,MS3.0/9,Error ellipse: s-maj=46.2km s-min=22.2km az=163.0*

NNC ***15*** *01:07:30.6±1.9,35°.69N×55°.98E,h0km,mb3.8,Error ellipse: s-maj=24.5km s-min=13.6km az=132.0*

ISC 15 01:07:30.9±0.8,35°.24N±0°.03×57°.21E±0°.05,h10km,n83, σ1s71/82,mb3.6/5,MS3.0/8,2C-3D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHRO	**Shahrood**	**1.23**	**308**	ePg		**Pn**	**01 07 52.8**	**-1.5**
TNSJ	**Nastanj**	**1.36**	**201**	ePg		**Pn**	**01 07 56.0**	**-0.1**
TNSJ				e			01 08 21.7	
	comp=Z,54μm,0.4s							
TABS	**Tabas**	**1.59**	**183**	ePg		**Pb**	**01 08 00.7**	**+0.3**
TKDS	**Koohdasht(Taba**	**1.62**	**183**	ePn		**Pn**	**01 07 59.6**	**-0.1**
TKDS				e			01 08 29.2	
	comp=Z,35μm,0.5s							
TBHD	**Torbat heydari**	**1.67**	**83**	ePn		**Pn**	**01 08 00.6**	**+0.3**
TBHD				e			01 08 33.0	
	comp=Z,25μm,0.7s							
IAKL	**Akhelmad**	**1.85**	**42**	ePn		**Pn**	**01 08 03.8**	**+0.8**
IAKL				e			01 08 35.9	
	comp=Z,9μm,0.4s							
IMOG	**Moghan**	**1.94**	**63**	e			01 08 40.9	
	comp=Z,7μm,0.6s							
IMOG				ePn		**Pn**	**01 08 05.7**	**+1.5**
TPRV	**Parvadeh(Tabas**	**2.25**	**191**	e			01 08 50.8	
	comp=Z,18μm,0.4s							
TPRV				ePn		**Pn**	**01 08 08.6**	**+0.4**
AFRZ	**Afriz**	**2.35**	**140**	ePn		**Pn**	**01 08 10.7**	**+1.1**
AFRZ				e			01 08 48.0	
	comp=Z,9μm,0.8s							
IKRD	**Kardeh**	**2.42**	**50**	ePn		**Pn**	**01 08 12.5**	**+1.8**
IKRD				e			01 09 06.8	
	comp=Z,

	comp=Z,2µm,0.8s						
IGZV	**Ghazvin**	**5.79**	**283**	*e*Pn	**Pn**	**01 08 59.3**	**+2.2**
IPIR	**Pirpir**	**5.83**	**246**	*e*Pn	**Pn**	**01 08 58.6**	**+0.9**
ASAO	**Ashtian**	**5.94**	**265**	*e*Pn	**Pn**	**01 09 00.9**	**+1.7**
IRAZ	**Razeghan**	**5.96**	**274**	*e*Pn	**Pn**	**01 09 00.4**	**+1.1**
KHMZ	**Khomeyn**	**6.17**	**258**	*e*Pn	**Pn**	**01 09 04.2**	**+1.9**
JIR1	**Jirandeh**	**6.18**	**286**	*e*Pn	**Pn**	**01 09 03.8**	**+1.4**
KLNJ	**Kolanjah**	**6.32**	**230**	*e*Pn	**Pn**	**01 09 05.4**	**+0.9**
HAGD	**Aghdareh**	**6.63**	**269**	*e*Pn	**Pn**	**01 09 10.6**	**+2.0**
QSDN	**Sirdan**	**6.64**	**283**	*e*Pn	**Pn**	**01 09 10.5**	**+1.7**
HSAM	**Samen**	**7.16**	**264**	*e*Pn	**Pn**	**01 09 17.4**	**+1.5**
IDOB	**Doab**	**7.59**	**262**	*e*Pn	**Pn**	**01 09 22.9**	**+1.1**
ILBA	**Ilam Banvizeh**	**9.23**	**263**	*e*Pn	**Pn**	**01 09 45.7**	**+1.6**
KK31	**Karatay Array**	**12.96**	**49**	Pn	Pn	01 10 42.1	+7.0
	comp=Z,0.6nm,0.5s,baz=236,slow=16,SNR=5.4						
AB31	**Akbulak array**	**14.15**	**7**	Pn	Pn	01 10 47.4	-3.9
	comp=Z,1.1nm,0.7s,baz=202,slow=12,SNR=12						
AB31				⇑Sn	**Sn**	**01 13 25.5**	**-2.8**
	comp=Z,0.8nm,0.6s,baz=194,slow=24,SNR=5.1						
AKTO	**Aktyubinsk**	**15.20**	**2**	⇑Pn	**Pn**	**01 10 59.6**	**-5.9**
	comp=Z,1.3nm,0.7s						
AKTO				⇓Sn	**Sn**	**01 13 47.9**	**-5.9**
	comp=Z,3.4nm,1.4s						
AAK	**Ala-Archa**	**15.33**	**56**	Pn	**Pn**	**01 11 06.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=254,slow=10,SNR=5.8						
	comp=Z,1.8nm,0.6s						
BVAR	**Borovoye Array**	**20.08**	**24**	P	**P**	**01 12 05.8**	**+1.4**
	comp=Z,4.4nm,0.6s,baz=208,slow=9.6,SNR=14						
BVAR				LR	LR	01 21 04.2	
	comp=Z,66nm,18.1s,baz=193,slow=40						
	comp=Z,4.4nm,0.6s						
ARU	**Arti**	**21.21**	**2**	P	**P**	**01 12 19.3**	**+2.7**
	comp=Z,4.1nm,0.6s,baz=182,slow=8.3,SNR=10.0						
ARU				LR	LR	01 20 55.4	
	comp=Z,49nm,19.5s,baz=135,slow=38						
	comp=Z,4.1nm,0.6s						
KURBB	**Kurchatov Arra**	**21.80**	**39**	P	**P**	**01 12 26.2**	**+3.4**
	comp=Z,1.7nm,1.1s,baz=236,slow=9.9,SNR=2.8						
KURBB				LR	LR	01 22 55.2	
	comp=Z,79nm,20.4s,baz=186,slow=42						
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**22.07**	**51**	P	**P**	**01 12 27.1**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=243,slow=11,SNR=8.3						
MKAR				LR	LR	01 22 44.5	
	comp=Z,35nm,20.6s,baz=287,slow=41						
	comp=Z,1.0nm,0.8s						
OBN	**Obninsk**	**24.46**	**331**	LR	LR	01 25 21.3	
	comp=Z,1.1nm,19.6s,baz=216,slow=44						
AKASG	**Malin Array Be**	**25.45**	**316**	P	**P**	**01 12 59.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=120,slow=7.9,SNR=3.2						
	comp=Z,0.7nm,0.5s						
IDI	**Anoyia**	**26.33**	**280**	P	**P**	**01 13 06.2**	**-0.7**
	comp=Z,6.4nm,0.9s,baz=33,slow=11,SNR=1.8						
	comp=Z,6.4nm,0.9s						
ZALV	**Zalesovo Beam**	**26.86**	**37**	LR	LR	01 25 10.6	
	comp=Z,40nm,18.1s,baz=175,slow=39						
ATD	**Arta Tunnel**	**26.97**	**212**	LR	LR	01 25 19.0	
	comp=Z,41nm,20.0s,baz=8.0,slow=40						
CMAR	**Chiang Mai Arr**	**40.48**	**103**	LR	LR	01 34 34.0	
	comp=Z,16nm,18.4s,baz=135,slow=40						

WEL 15 01:13:19.8±0.3,42°S±2°×17°4E±°,h5km,M3.4/19,ML3.6/19,MLv3.4/19,Error ellipse: s-maj=0.0km s-min=0.0km az=111.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**180**	P	Pg	01 13 24.1	+0.8
KHZ				S	Sg	01 13 27.6	+2.0
BSWZ	**Blackbirch Sta**	**0.58**	**26**	P	Pb	01 13 31.9	-0.7
BSWZ				S	Sb	01 13 40.6	-0.6
THZ	**Tophouse**	**0.67**	**315**	P	Pg	01 13 32.9	+0.2
THZ				S	Sg	01 13 42.3	+0.8
GVZ	**Greta Valley S**	**0.81**	**207**	P	Pb	01 13 36.9	+0.4
TUWZ	**Tuamarina**	**0.87**	**21**	P	Pb	01 13 37.1	-0.3
TUWZ				S	Sb	01 13 49.9	+0.6
MRNZ	**Matariki Terra**	**1.03**	**325**	P	Pg	01 13 39.8	+0.3
NNZ	**Nelson**	**1.03**	**353**	P	Pb	01 13 39.9	-0.3
LTZ	**Lake Taylor**	**1.08**	**240**	P	Pg	01 13 38.5	-2.0
AMCZ	**Amberley**	**1.14**	**215**	P	Pb	01 13 41.9	-0.1
TCW	**Tory Channel**	**1.17**	**28**	P	Pg	01 13 39.7	-2.6
TKNZ	**Takaka Hill**	**1.28**	**340**	P	Pg	01 13 44.0	-0.4
WEL	**Wellington**	**1.33**	**44**	P	Pn	01 13 44.6	-0.4
DSZ	**Denniston Nort**	**1.39**	**290**	P	Pg	01 13 46.4	0.0
PLWZ	**Palliser**	**1.45**	**63**	P	Pn	01 13 45.4	-1.3
DUWZ	**D'Urville Isla**	**1.47**	**11**	P	Pb	01 13 47.4	-0.3
OKCZ	**Okains Bay**	**1.52**	**193**	P	Pn	01 13 46.5	-1.2
MSWZ	**Moikau Station**	**1.52**	**58**	P	Pn	01 13 46.4	-1.3
OXZ	**Oxford**	**1.55**	**225**	P	Pn	01 13 46.7	-1.4
MQZ	**McQueen's Vall**	**1.60**	**204**	P	Pn	01 13 46.8	-1.9
QRZ	**Quartz Range**	**1.61**	**332**	P	Pb	01 13 49.6	-0.4
CAW	**Cannon Point**	**1.61**	**46**	P	Pn	01 13 48.2	-0.8
INZ	**Inchbonnie**	**1.62**	**252**	P	Pb	01 13 50.0	-0.2
PAWZ	**Paruwai Farm**	**1.65**	**59**	P	Pn	01 13 48.0	-1.5
AKCZ	**Akaroa Harbour**	**1.69**	**198**	P	Pn	01 13 48.9	-1.1
KIW	**Kapiti Island**	**1.72**	**37**	P	Pn	01 13 50.2	-0.2
RACZ	**Rakaia**	**1.80**	**214**	P	Pn	01 13 50.0	-1.6
TRWZ	**Traveller**	**1.81**	**63**	P	Pn	01 13 49.8	-1.9
MTW	**Mount Morrison**	**1.83**	**54**	P	Pn	01 13 50.5	-1.4
OGWZ	**Otaki Gorge**	**1.88**	**41**	P	Pn	01 13 51.9	-0.7
TMWZ	**Te Maipa**	**2.10**	**58**	P	Pn	01 13 53.6	-2.0
WACZ	**Wakanui South**	**2.11**	**216**	P	Pn	01 13 54.4	-1.4
MRZ	**Mangatainoka R**	**2.20**	**45**	P	Pn	01 13 55.8	-1.2
WVZ	**Waitaha Valley**	**2.23**	**247**	P	Pn	01 13 57.6	+0.2
RPZ	**Rata Peaks**	**2.34**	**230**	P	Pn	01 13 57.8	-1.2
ARCZ	**Arundel**	**2.43**	**225**	P	Pn	01 13 58.8	-1.4
PRWZ	**Pori Road**	**2.49**	**48**	P	Pn	01 13 59.3	-1.7
GCSZ	**Gaunt Creek Bo**	**2.60**	**245**	P	Pn	01 14 03.1	+0.6
WAZ	**Wanganui**	**2.72**	**24**	P	Pn	01 14 06.0	+1.9
TMZ	**Timaru**	**2.83**	**220**	P	Pn	01 14 05.0	-0.7
TSZ	**Takapari Road**	**2.85**	**41**	P	Pn	01 14 04.6	-1.4
FOZ	**Fox Glacier**	**3.02**	**244**	P	Pn	01 14 09.0	+0.7
LBZ	**Lake Benmore**	**3.25**	**228**	P	Pn	01 14 10.1	-1.4
OTVZ	**Oturere**	**3.48**	**28**	P	Pn	01 14 15.3	+0.6
ODZ	**Otahua Downs**	**3.50**	**216**	P	Pn	01 14 11.4	-3.5
RUGZ	**Raukumara Rang**	**5.32**	**38**	P	Pn	01 14 37.5	-2.6

*NOU **15** 01:18:47.3, 19°.09S×177°.07W, h623km, mb4.8/32, Fiji Islands Region*
*IDC **15** 01:18:55.9±1.9, 19°.81S×178°.20W, h608km±17km, mb3.7/12, mbtmp4.6/14, Error ellipse: s-maj=34.6km s-min=14.6km az=142.0*
*NEIC **15** 01:18:56.6±1.1, 19°.8S±0°.2×178°.3W±0°.1, h607km±9km, mb4.2/44, Error ellipse: s-maj=26.4km s-min=16.9km az=160.0*
ISC 15 01:18:55.6±0.5,**19°.7S**±0°.1×**178°.29W**±0°.08,**h600**km,**n141**, σ**0°93**/145,**mb4.2**/33,**17C-4D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.01**	**299**	P	**P**	**01 20 23.4**	**+2.1**
	66nm,0.7s,baz=162,slow=2.8,SNR=78						
MSVF	**Nonsavu**	**4.01**	**299**	P	**P**	**01 20 23.0**	**+1.8**
MSVF	**Nonsavu**	**4.01**	**299**	P	**P**	**01 20 22.9**	**+1.6**
NIUE	**Niue**	**7.92**	**87**	P	**P**	**01 20 55.8**	**+1.7**
RTV	**Rentapao**	**12.74**	**277**	P	**P**	**01 21 42.8**	**+1.0**
MARNC	**Mare, Loyalty**	**12.93**	**260**	P	**P**	**01 21 42.5**	**-1.2**
DVP	**Devils Point**	**12.97**	**277**	P	**P**	**01 21 45.3**	**+1.1**
LIFNC	**LIFOU**	**13.62**	**263**	P	**P**	**01 21 49.3**	**-1.5**
YATNC	**Mamie plateau,**	**14.04**	**258**	P	**P**	**01 21 56.9**	**+2.0**
DZM	**Mont Dzumac**	**14.46**	**258**	P	**P**	**01 22 01.1**	**+2.2**
	16nm,0.4s,baz=105,slow=21,SNR=12						
DZM	**Mont Dzumac**	**14.46**	**258**	P	**P**	**01 22 00.6**	**+1.7**
DZM	**Mont Dzumac**	**14.46**	**258**	P	**P**	**01 22 01.1**	**+2.2**
KOUNC	**Koumac, New Ca**	**16.39**	**264**	P	**P**	**01 22 19.1**	**+2.6**
KOUNC	**Koumac, New Ca**	**16.39**	**264**	P	**P**	**01 22 19.3**	**+2.8**
KUZ	**Kuaotunu**	**17.74**	**196**	P	**P**	**01 22 30.3**	**+1.7**
JCZ	**Jackson Bay**	**26.56**	**201**	P	**P**	**01 23 46.5**	**-0.9**
CTA	**Charters Tower**	**33.30**	**263**	P	**P**	**01 24 46.1**	**+0.6**
CTAO	**Charters Tower**	**33.30**	**263**	P	**P**	**01 24 46.1**	**+0.6**
CTAO	**Charters Tower**	**33.30**	**263**	P	**P**	**01 24 46.1**	**+0.6**
CMSA	**Cobar Meteorol**	**34.38**	**243**	P	**P**	**01 24 54.8**	**+0.4**
PMG	**Port Moresby**	**34.92**	**282**	P	**P**	**01 24 59.5**	**+0.5**
	472nm48nm,0.9s						
QLP	**Quilpie**	**35.03**	**252**	P	**P**	**01 25 00.1**	**+0.3**
COEN	**Coen**	**37.27**	**273**	P	**P**	**01 25 19.3**	**+0.9**
STKA	**Stephens Creek**	**37.88**	**243**	P	**P**	**01 25 23.7**	**+0.7**
	5.2nm,0.4s,baz=88,slow=9.3,SNR=15						
	5.2nm,0.4s						
STKA	**Stephens Creek**	**37.88**	**243**	P	**P**	**01 25 23.6**	**+0.5**
STKA	**Stephens Creek**	**37.88**	**243**	P	**P**	**01 25 23.8**	**+0.7**

ARPS	**Mount Arapiles**	**38.69**	**235**	P	**P**	**01 25 29.7**	**+0.2**
HTT	**Hallett**	**40.35**	**241**	P	**P**	**01 25 43.2**	**+0.3**
WHYH	**Whyalla**	**41.41**	**242**	P	**P**	**01 25 51.6**	**+0.4**
BBOO	**Buckleboo**	**42.65**	**243**	P	**P**	**01 26 01.0**	**+0.1**
BBOO	**Buckleboo**	**42.65**	**243**	P	**P**	**01 26 01.0**	**+0.1**
WR0	**Warramunga Arr**	**44.25**	**261**	P	**P**	**01 26 13.0**	**-0.6**
AS01	**Alice Springs**	**44.39**	**256**	P	**P**	**01 26 14.8**	**+0.2**
WB0	**Warramunga Arr**	**44.42**	**262**	P	**P**	**01 26 14.3**	**-0.5**
WB2	**Warramunga Arr**	**44.43**	**261**	P	**P**	**01 26 14.5**	**-0.5**
AS31	**Alice Springs**	**44.43**	**256**	P	**P**	**01 26 15.0**	**+0.1**
ASAR	**Alice Springs**	**44.44**	**256**	P	**P**	**01 26 14.9**	**0.0**
	37nm,0.7s,baz=87,slow=8.2,SNR=283						
ASAR				PcP	**PcP**	**01 27 44.6**	**-0.6**
	1.9nm,0.5s,baz=100,slow=3.8,SNR=5.1						
ASAR				ScP	**ScP**	**01 30 42.0**	**+1.1**
	0.9nm,0.7s,baz=99,slow=4.9,SNR=4.7						
ASAR				S	**S**	**01 32 05.5**	**-2.0**
	1.7nm,0.6s,baz=93,slow=16,SNR=13						
	37nm,0.7s						
ASAR	**Alice Springs**	**44.44**	**256**	P	**P**	**01 26 14.6**	**-0.4**
WRA	**Warramunga Arr**	**44.44**	**261**	P	**P**	**01 26 14.4**	**-0.6**
	12nm,0.3s,baz=98,slow=7.7,SNR=348						
	12nm,0.3s						
WRA	**Warramunga Arr**	**44.44**	**261**	P	**P**	**01 26 13.7**	**-1.3**
SMPI	**Sarmi**	**45.57**	**287**	P	**P**	**01 26 24.0**	**+0.4**
KDU	**Kakadu**	**47.67**	**271**	P	**P**	**01 26 39.1**	**-0.3**
MTN	**Manton Dam**	**48.89**	**270**	P	**P**	**01 26 48.2**	**-0.2**
MTN	**Manton Dam**	**48.89**	**270**	P	**P**	**01 26 48.3**	**-0.2**
FORT	**Forrest**	**49.35**	**246**	P	**P**	**01 26 51.0**	**-0.6**
FORT	**Forrest**	**49.35**	**246**	P	**P**	**01 26 51.0**	**-0.6**
WRKA	**Warakurna**	**49.42**	**254**	P	**P**	**01 26 52.0**	**-0.3**
KNRA	**Kununurra**	**50.44**	**266**	P	**P**	**01 26 59.6**	**-0.2**
PSA00	**Pilbara Seismi**	**57.58**	**257**	P	**P**	**01 27 49.2**	**-0.5**
PSA00				IAmb	IAmb	01 27 49.9	
	comp=Z,32nm,0.8s						
PSA00	**Pilbara Seismi**	**57.58**	**257**	P	**P**	**01 27 48.6**	**-1.2**
PSA00				IAmb	IAmb	01 27 50.0	
	comp=Z,11nm,0.8s						
PSA00	**Pilbara Seismi**	**57.58**	**257**	P	**P**	**01 27 49.3**	**-0.5**
MBWA	**Marble Bar**	**57.76**	**257**	P	**P**	**01 27 50.5**	**-0.5**
MBWA				IAmb	IAmb	01 27 51.1	
	comp=Z,20nm,0.7s						
MBWA	**Marble Bar**	**57.76**	**257**	P	**P**	**01 27 50.5**	**-0.5**
MEEK	**Meekatharra**	**57.91**	**250**	P	**P**	**01 27 51.1**	**-0.9**
BLDU	**Ballidu**	**59.12**	**246**	P	**P**	**01 27 59.2**	**-0.8**
MUN	**Mundaring**	**59.41**	**244**	P	**P**	**01 28 01.9**	**0.0**
MORW	**Morawa**	**59.87**	**247**	P	**P**	**01 28 04.6**	**-0.4**
TOLI2	**Tolitoli**	**63.19**	**282**	P	**P**	**01 28 26.1**	**-0.6**
TOLI2				IAmb	IAmb	01 28 27.4	
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	**69.44**	**324**	P	**P**	**01 29 04.6**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=160,slow=5.9,SNR=9.6						
	comp=Z,4.2nm,0.6s						
PETK	**Petropavlovsk-**	**75.47**	**345**	P	**P**	**01 29 39.2**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=109,slow=8.3,SNR=1.9						
	comp=Z,2.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**78.19**	**326**	P	**P**	**01 29 55.3**	**+1.3**
	comp=Z,4.0nm,0.7s,baz=156,slow=4.5,SNR=5.4						
	comp=Z,4.0nm,0.7s						
WAKR	**Walker**	**79.97**	**43**	P	**P**	**01 30 04.1**	**+0.2**
BEKR	**Beckworth**	**80.18**	**41**	P	**P**	**01 30 05.5**	**+0.6**
PNTR	**Pine Nut**	**80.20**	**42**	P	**P**	**01 30 05.5**	**+0.4**
PNTR				IAmb	IAmb	01 30 06.7	
	comp=Z,10.0nm,0.8s						
YERR	**Yerington**	**80.37**	**43**	P	**P**	**01 30 06.5**	**+0.6**
YERR				IAmb	IAmb	01 30 07.3	
	comp=Z,6.1nm,0.8s						
LHV	**Little Huntoon**	**80.43**	**44**	P	**P**	**01 30 06.7**	**+0.7**
NVAR	**Mina Array Bea**	**80.66**	**44**	P	**P**	**01 30 07.8**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=225,slow=8.6,SNR=22						
	comp=Z,2.5nm,0.8s						
PAHR	**Pah Rah Range**	**80.70**	**42**	P	**P**	**01 30 08.3**	**+0.7**
PAHR				IAmb	IAmb	01 30 09.0	
	comp=Z,6.3nm,1.1s						
GMN	**Gold Mountain**	**80.72**	**45**	P	**P**	**01 30 08.3**	**+0.5**
113A	**Mohawk Valley,**	**80.76**	**50**	P	**P**	**01 30 08.6**	**+0.8**
113A				IAmb	IAmb	01 30 09.6	
	comp=Z,6.0nm,1.2s						
KVN	**Kaiserville**	**81.14**	**43**	P	**P**	**01 30 10.3**	**+0.4**
KVN				IAmb	IAmb	01 30 11.0	
	comp=Z,3.8nm,0.8s						
TPH	**Tonopah**	**81.17**	**44**	P	**P**	**01 30 10.7**	**+0.6**
TPH				IAmb	IAmb	01 30 11.5	
	comp=Z,18nm,0.8s						
TPNV	**Topopah Spring**	**81.21**	**46**	P	**P**	**01 30 10.8**	**+0.6**
MOD	**Modoc Plateau**	**81.41**	**40**	P	**P**	**01 30 10.9**	**-0.2**
MOD				IAmb	IAmb	01 30 12.5	
	comp=Z,5.3nm,0.7s						
KLR	**Kul'dur**	**81.74**	**330**	P	**P**	**01 30 13.1**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=119,slow=8.6,SNR=4.2						
	comp=Z,1.1nm,0.5s						
PINE	**Pine Mountain**	**82.16**	**38**	P	**P**	**01 30 15.0**	**0.0**
PINE				IAmb	IAmb	01 30 16.8	
	comp=Z,11nm,0.9s						
PRN	**Pahroc Range**	**82.26**	**46**	P	**P**	**01 30 15.8**	**+0.3**
PRN				IAmb	IAmb	01 30 16.8	
	comp=Z,4.3nm,0.7s						
I07A	**Izee**	**83.16**	**38**	P	**P**	**01 30 20.4**	**+0.6**
I07A				IAmb	IAmb	01 30 21.3	
	comp=Z,6.7nm,0.9s						
LCMT	**Little Creek M**	**83.29**	**47**	P	**P**	**01 30 20.8**	**+0.1**
U15A	**North Rim**	**83.65**	**48**		**P**	**01 30 23.5**	**+0.8**
U15A				IAmb	IAmb	01 30 24.5	
	comp=Z,4.7nm,0.9s						
RPSI	**Rantau Prapat**	**84.12**	**275**	P	**P**	**01 30 24.3**	**-0.8**
RPSI				IAmb	IAmb	01 30 25.9	
	comp=Z,5.8nm,0.9s						
F10A	**Beach Ranch, E**	**85.57**	**38**	P	**P**	**01 30 30.5**	**-1.1**
F10A				IAmb	IAmb	01 30 32.4	
	comp=Z,5.2nm,0.8s						
SEY	**Seymchan**	**85.58**	**347**	P	**P**	**01 30 31.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=150,slow=5.7,SNR=4.4						
	comp=Z,1.5nm,0.5s						
PLID	**Pearl Lake**	**85.80**	**39**	P	**P**	**01 30 31.4**	**-1.4**
PLID				IAmb	IAmb	01 30 33.4	
	comp=Z,1.9nm,0.7s						
HLID	**Hailey**	**85.93**	**41**	P	**P**	**01 30 30.9**	**-2.6**
HLID				IAmb	IAmb	01 30 34.9	
	comp=Z,3.5nm,0.8s						
TX31	**Lajitas Ar. Si**	**86.88**	**57**		**P**	**01 30 37.5**	**-0.6**
TX31				IAmb	IAmb	01 30 46.0	
	comp=Z,4.8nm,1.1s						
TX32	**Lajitas Array**	**86.88**	**57**	P	**P**	**01 30 37.2**	**-0.9**
MCMT	**McKenzie Canyo**	**87.55**	**40**	P	**P**	**01 30 40.9**	**-0.2**
ILAR	**Eielson Array**	**87.64**	**13**	P	**P**	**01 30 39.6**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=215,slow=5.4,SNR=11						
	comp=Z,1.2nm,0.6s						
BW06	**Boulder Array**	**88.60**	**43**	P	**P**	**01 30 45.5**	**-0.5**
BW06				IAmb	IAmb	01 30 46.4	
	comp=Z,2.4nm,0.8s						
PD31	**Pinedale Array**	**88.60**	**43**		**P**	**01 30 45.6**	**-0.4**
PDAR	**Pinedale Array**	**88.60**	**43**	P	**P**	**01 30 45.6**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=208,slow=3.3,SNR=20						
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	**P**	**01 30 52.3**	**+1.4**
	comp=Z,1.8nm,0.4s,baz=124,slow=2.9,SNR=17						
	comp=Z,1.8nm,0.4s						
OK046	**Pawnee Station**	**94.84**	**53**	P	**P**	**01 31 14.2**	**-0.4**
ZALV	**Zalesovo Beam**	**109.74**	**321**	PKiKP	**PKiKP**	**01 36 17.4**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=113,slow=3.7,SNR=2.5						
MKAR	**Makanchi Array**	**110.48**	**314**	PKiKP	**PKiKP**	**01 36 19.1**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=239,slow=1.3,SNR=6.0						
KURBB	**Kurchatov Arra**	**113.31**	**318**	PKiKP	**PKiKP**	**01 36 24.3**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=90,slow=1.8,SNR=9.7						
BVAR	**Borovoye Array**	**118.33**	**320**	PKP	**PKPdf**	**01 36 34.2**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=134,slow=0.7,SNR=9.0						
ARCES	**ARCESS Array B**	**128.13**	**350**	PKP	**PKPdf**	**01 36 53.5**	**-0.3**
	comp=Z,7.8nm,1.1s,baz=103,slow=2.6,SNR=7.2						
AKASG	**Malin Array Be**	**142.22**	**331**	PKiKP	PKPpre	01 37 15.9	
	comp=Z,1.6nm,0.3s,baz=43,slow=4.3,SNR=13						
SORM	**Soroca**	**144.42**	**329**	⇑P	**PKPdf**	**01 37 22.9**	**-1.4**
BR131	**Keskin Array S**	**146.13**	**313**	PKPdf	**PKPdf**	**01 37 28.2**	**+0.4**
BRTR	**Keskin Array B**	**146.13**	**313**	PKPbc	**PKPbc**	**01 37 29.2**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=131,slow=3.3,SNR=19						
BUR08	**Bucovina Ar. S**	**146.26**	**331**		**PKPdf**	**01 37 28.3**	**+0.6**
BURAR	**Bucovina Array**	**146.27**	**331**	⇑P	**PKPbc**	**01 37 30.4**	**+0.3**
KOLS	**Kolonicke sedl**	**146.51**	**335**	*e*PKP	**PKPbc**	**01 37 31.2**	**+0.6**
STHS	**Stebnicka Huta**	**146.52**	**337**	*e*PKP	**PKPbc**	**01 37 29.7**	**-0.9**
VRI	**Vrincioaia**	**146.79**	**327**	⇓P	**PKPbc**	**01 37 30.0**	**-1.4**
CRVS	**Cervenica-Dubn**	**146.86**	**336**	*e*PKP	**PKiKP**	**01 37 32.6**	**-0.7**
KSP	**Ksiaz**	**146.89**	**343**	*e*PKP	**PKPbc**	**01 37 31.8**	**+0.3**
TRPA	**Tarpa**	**147.04**	**334**	⇑P	**PKPbc**	**01 37 31.4**	**-0.5**
OSTC	**Ostas**	**147.17**	**343**	⇑*e*PKP	**PKPbc**	**01 37 32.4**	**+0.1**
CLL	**Collm**	**147.27**	**347**	*i* PKPbc	**PKPbc**	**01 37 32.4**	**0.0**
	comp=Z,8.0nm,1.2s						

DPC	**Dobruska-Polom**	**147.33**	**343**	⇑*e*PKP	**PKPbc**	**01 37 32.4**	**-0.3**
DOPR	**Dopca**	**147.39**	**329**	⇑P	**PKPbc**	**01 37 33.2**	**+0.2**
KRLC	**Kraliky**	**147.44**	**342**	⇑*e*PKP	**PKPbc**	**01 37 32.5**	**-0.5**
MLR	**Muntele Rosu**	**147.44**	**328**	⇑P	**PKPbc**	**01 37 32.3**	**-1.0**
BRG	**Berggiesshubel**	**147.46**	**346**	*e*PKP	**PKPbc**	**01 37 32.9**	**0.0**
BRG				Amp		01 37 33.7	
	comp=Z,2.8nm,0.6s						
PVCC	**Panska Ves**	**147.63**	**345**	⇑*e*PKP	**PKPbc**	**01 37 33.4**	**0.0**
MAUC	**Maruska**	**147.75**	**340**	⇑*e*PKP	**PKPbc**	**01 37 33.9**	**+0.1**
PRU	**Pruhonice**	**148.13**	**344**	⇑*e*PKP	**PKPbc**	**01 37 34.3**	**-0.4**
PRU				*e*PKPAB	**PKPab**	**01 37 39.6**	**-0.3**
VYHS	**Vyhne**	**148.16**	**338**	*e*PKP	**PKPbc**	**01 37 34.9**	**+0.1**
VYHS				*e*		01 37 40.5	
ARR	**Arges**	**148.19**	**329**	⇓P	**PKPbc**	**01 37 34.9**	**-0.2**
NKC	**Novy Kostel**	**148.40**	**347**	⇑*e*PKP	**PKPbc**	**01 37 35.2**	**-0.2**
MODS	**Modra-Piesok**	**148.79**	**340**	*e*PKP	**PKPbc**	**01 37 36.8**	**+0.4**
GZR	**Gura Zlata**	**149.05**	**330**	⇑P	**PKPdf**	**01 37 33.4**	**+1.1**
SURR	**Surduc**	**149.07**	**332**	⇓P	**PKPbc**	**01 37 36.5**	**-0.6**
KHC	**Kasperske Hory**	**149.17**	**345**	⇑*e*PKP	**PKPbc**	**01 37 36.9**	**-0.4**
KHC				*e*PKPAB	**PKPab**	**01 37 44.3**	**0.0**
CKRC	**Cesky Krumlov**	**149.27**	**344**	⇑*e*PKP	**PKPbc**	**01 37 37.0**	**-0.5**
GERES	**GERESS Array B**	**149.40**	**344**	PKPbc	**PKPbc**	**01 37 37.7**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=29,slow=3.0,SNR=17						
BZS	**Buzias**	**149.41**	**332**	⇑P	**PKPbc**	**01 37 35.8**	**-2.1**
HERR	**Herculane**	**149.61**	**330**	⇓P	**PKPbc**	**01 37 37.6**	**-0.8**
CONA	**Conrad Observa**	**149.63**	**341**	*e*P	**PKPbc**	**01 37 38.3**	**-0.2**
	comp=Z,1.0nm,0.4s						
RONA	**Rosalia, Austr**	**149.70**	**340**	*e*P	**PKPbc**	**01 37 38.6**	**0.0**
	comp=Z,3.1nm,0.5s						
MORH	**Mrgy, Hungar**	**150.15**	**336**	⇑P	**PKPbc**	**01 37 39.1**	**-0.5**
MOA	**Molln**	**150.17**	**343**	*e*P	**PKPbc**	**01 37 39.0**	**-0.6**
	comp=Z,0.7nm,0.3s						
BIOA	**Bad Ischl, Aus**	**150.48**	**344**	*e*P	**PKPbc**	**01 37 39.6**	**-

KTK1	**Kautokeino**	**1.62**	**41**	*e*P		**Pn**	**01 21 05.5**	**+0.1**
JETT	**Jettan, Norway**	**1.74**	**2**	Pn		**Pn**	**01 21 07.3**	**+0.1**
JETT				Sn		**Sn**	**01 21 29.5**	**-0.6**
JETT	**Jettan, Norway**	**1.74**	**2**	*e*P		**Pn**	**01 21 07.2**	**+0.1**
JETT				IAML			01 21 32.9	
	comp=Z,66nm,0.4s							
TRO	**Tromso**	**1.89**	**346**	*e*P		**Pn**	**01 21 09.3**	**+0.3**
TRO				*e*SN		**Sn**	**01 21 33.7**	**+0.3**
TRO	**Tromso**	**1.89**	**346**	*e*P		**Pn**	**01 21 09.7**	**+0.6**
FAUS	**Fauske**	**1.96**	**259**	*e*P		**Pb**	**01 21 11.4**	**-0.7**
FAUS				IAML			01 21 41.2	
	comp=Z,19nm,0.8s							
KALU	**Kalix**	**2.32**	**147**	*e*S		**Sn**	**01 21 42.1**	**-2.0**
TOF	**Tornio**	**2.37**	**136**	*e*PB		**Pb**	**01 21 17.6**	**-1.4**
	baz=315							
TOF				MSG			01 21 47.3	
	comp=Z,15nm,0.2s							
TOF				*e*SG		**Sb**	**01 21 49.8**	**+1.1**
SGF	**Sodankyl**	**2.42**	**96**	*e*P		**Pn**	**01 21 18.1**	**+1.6**
	baz=285							
SGF				*e*SB		**Sb**	**01 21 49.8**	**-0.7**
RNF	**Rovaniemi**	**2.55**	**116**	*e*PB		**Pb**	**01 21 20.5**	**-1.6**
RNF				*e*SB		**Sb**	**01 21 54.3**	**+0.4**
LOF	**Lofoten**	**2.55**	**280**	*e*		**Pn**	**01 21 19.7**	**+1.5**
ARA0	**ARCESS Array S**	**2.58**	**46**	Pn		**Pn**	**01 21 19.3**	**+0.8**
	baz=227,slow=14							
ARA0				Sn		**Sn**	**01 21 52.1**	**+1.6**
	baz=234,slow=22							
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn		**Pn**	**01 21 19.5**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=227,slow=15,SNR=66							
ARCES				Lg	Lg		01 21 53.2	
	comp=Z,3.6nm,0.3s,baz=226,slow=25,SNR=25							
	comp=Z,2.5nm,0.3s							
ARCES	**ARCESS Array B**	**2.58**	**46**	P		**Pn**	**01 21 19.5**	**+1.0**
ARCES				S		**Sn**	**01 21 50.4**	**-0.1**
MOR8	**Moi Rana**	**2.83**	**237**	*e*		**Pn**	**01 21 24.2**	**+2.3**
KEV	**Kevo**	**3.13**	**48**	*e*P		**Pn**	**01 21 26.8**	**+0.8**
KEV				*e*S		**Sn**	**01 22 05.3**	**+1.3**
KEV				MSG			01 22 08.5	
	comp=Z,7.4nm,0.2s							
BURU	**Burvik**	**3.28**	**172**	*e*P		**Pn**	**01 21 30.5**	**+2.3**
VRF	**Varrio**	**3.55**	**87**	*e*P		**Pn**	**01 21 34.9**	**+3.0**
	baz=276							
VRF				*e*SG		**Sb**	**01 22 25.6**	**+2.8**
OUL	**Oulu**	**3.56**	**138**	*e*PG		**Pb**	**01 21 41.0**	**+1.7**
	baz=324							
OUL				*e*SG		**Sb**	**01 22 25.8**	**+2.9**
OBF4	**Vikkela, Lumij**	**3.59**	**145**	*e*PG		**Pg**	**01 21 42.6**	**-1.9**
OLKF	**Oulanka, Finla**	**3.88**	**109**	*e*P		**Pn**	**01 21 38.2**	**+1.8**
OLKF				*e*SG		**Sg**	**01 22 39.0**	**-1.1**
UMAU	**Umeaa**	**3.96**	**177**	*e*P		**Pn**	**01 21 40.0**	**+2.5**
	baz=353							
KU6	**Riekki**	**4.20**	**111**	*e*P		**Pn**	**01 21 42.2**	**+1.5**
	baz=295							
HUSU	**Husum**	**4.52**	**186**	*e*SG		**Sb**	**01 22 53.8**	**+3.1**
APA0	**Apatity Array**	**4.85**	**87**	Pn		**Pn**	**01 21 49.6**	**-0.1**
	baz=299,slow=16							
APA0				Sn		**Sn**	**01 22 45.1**	**-1.4**
	baz=284,slow=28							
APA0				Lg		Lg	01 23 03.7	
	baz=283,slow=28							
APA0	**Apatity Array**	**4.85**	**87**	P		**Pn**	**01 21 49.7**	**-0.1**
APA0				S		**Sn**	**01 22 45.9**	**-0.6**
APA0	**Apatity Array**	**4.85**	**87**	Pn		**Pn**	**01 21 49.6**	**-0.1**
	baz=299,slow=16							
APA0				Sn		**Sn**	**01 22 45.1**	**-1.4**
	baz=284,slow=28							
TERR	**Teriberka**	**5.63**	**69**	P		**Pn**	**01 22 00.5**	**+0.2**
TERR				S		**Sn**	**01 23 02.4**	**-3.2**
FIA0	**FINESS Array S**	**6.87**	**156**	Pn		**Pn**	**01 22 18.8**	**+1.3**
	baz=347,slow=16							
FIA0				Sn		**Sn**	**01 23 32.3**	**-3.9**
	baz=348,slow=22							
FIA0				Lg		Lg	01 24 10.5	
	baz=339,slow=37							
FIA0	**FINESS Array S**	**6.87**	**156**	Pn		**Pn**	**01 22 18.8**	**+1.3**
	baz=347,slow=16							
FIA0				Sn		**Sn**	**01 23 32.3**	**-3.9**
	baz=348,slow=22							
FINES	**FINESS Array B**	**6.87**	**156**	Pn		**Pn**	**01 22 18.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=5.4							
FINES				Sn		**Sn**	**01 23 32.3**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=341,slow=20,SNR=2.2							
FINES				Lg		Lg	01 24 08.3	
	comp=Z,0.3nm,0.3s,baz=344,slow=29,SNR=3.5							
	comp=Z,3.5nm,1.0s							
NB2	**NORSAR Subarra**	**7.84**	**214**	Pn		**Pn**	**01 22 30.3**	**-0.5**
NB2				Lg		Lg	01 24 43.7	
	baz=38,slow=37							
NB2	**NORSAR Subarra**	**7.84**	**214**	Pn		**Pn**	**01 22 30.3**	**-0.5**
NOA	**NORSAR Array B**	**7.84**	**214**	Pn		**Pn**	**01 22 31.9**	**+1.1**
	baz=22,slow=11,SNR=1.2							
	comp=Z,0.5nm,0.8s							
NRA0	**NORESS Array S**	**8.05**	**212**	Pn		**Pn**	**01 22 32.7**	**-1.0**
NRA0				Sn		**Sn**	**01 24 03.5**	**-1.8**
	baz=36,slow=22							
NRA0				Lg		Lg	01 24 47.6	
NRA0	**NORESS Array S**	**8.05**	**212**	Pn		**Pn**	**01 22 32.7**	**-1.0**
HFS	**Hagfors**	**8.23**	**204**	Pn		**Pn**	**01 22 36.0**	**-0.2**
	baz=18,slow=12							
HFS				Sn		**Sn**	**01 24 07.1**	**-2.7**
	baz=24,slow=28							
HFS				Lg		Lg	01 24 55.1	
	baz=30,slow=28							
HFS	**Hagfors**	**8.23**	**204**	Pn		**Pn**	**01 22 36.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=1.7							
	comp=Z,1.9nm,0.8s							
HFS	**Hagfors**	**8.23**	**204**	Pn		**Pn**	**01 22 36.0**	**-0.2**
	baz=18,slow=12							

IDC ***15*** *01:21:11.2±1.2,33°.53N×46°.08E,h0km,mb3.9/12, mbtmp3.9/15,ML3.3/2,MS3.2/21,Error ellipse: s-maj=26.7km s-min=16.3km az=165.0*
ISN ***15*** *01:21:12.7±0.7,33°.53N×46°.13E,h14km±5km,ML4.2*
TEH ***15*** *01:21:13.0,33°.55N×46°.10E,h16km,ML4.2*
NEIC ***15*** *01:21:14.4±2.0,33°.47N±0°.05×46°.1E±0°.1,h26km±9km, Error ellipse: s-maj=12.8km s-min=7.1km az=99.0*
AZER ***15*** *01:21:16.1±0.2,33°.60N×46°.16E,h18km±1km,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GII ***15*** *01:21:49.4±0.0,33°.60N×46°.16E,h18km*
ISC 15 01:21:12.2±0.4,**33°.40N**±0°.03×**46°.05E**±0°.04,**h10**km,**n181,** σ2**s69**/171,**mb4.2**/21,**MS3.2**/12,**2C-5D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.26**	**30**	*e*Pg		**Pg**	**01 21 16.1**	**-1.5**
IBDR	**Badra**	**0.31**	**200**	*e*Pg		**Pn**	**01 21 22.0**	**-0.7**
IBDR				*e*Sg		**Sb**	**01 21 27.8**	**+3.0**
IBDR				AML		AML	01 21 37.2	
	comp=N,28μm,0.5s							
IBDR				AML		AML	01 21 37.2	
	comp=E,39μm,0.3s							
IGHG	**Ghaleghazi**	**1.02**	**25**	*e*Pg		**Pg**	**01 21 30.2**	**-1.7**
KCHF	**Cheshme Sefid,**	**1.20**	**43**	*e*Pg		**Pn**	**01 21 33.3**	**-2.0**
DHL1	**Dehloran**	**1.26**	**124**	*e*Pg		**Pg**	**01 21 38.6**	**+2.3**
IDHR	**Dehrash**	**1.33**	**12**	*e*Pg		**Pn**	**01 21 35.2**	**-1.8**
IDHR				*e*			01 21 59.5	
	comp=E,41μm,0.3s							
KER	**Kermanshah**	**1.33**	**42**	*e*Pg		**Pn**	**01 21 36.0**	**-1.0**
IKOM	**Komasi**	**1.44**	**57**	*e*Pg		**Pn**	**01 21 38.2**	**-0.3**
IKOM				*e*			01 22 02.0	
	comp=Z,93μm,0.6s							
IKFM	**Kafar-mosalman**	**1.50**	**85**	*e*Pg		**Pb**	**01 21 40.6**	**+0.4**
RAFI	**Al-Rafai**	**1.67**	**178**	*e*Pn		**Pg**	**01 21 45.0**	**+0.7**
RAFI				*e*Sn		**Sg**	**01 22 09.0**	**+3.0**
RAFI				AML		AML	01 22 21.1	
	comp=E,6μm,0.6s							
ILIN	**Lien**	**1.69**	**26**	*e*Pn		**Pn**	**01 21 41.5**	**-0.6**
ILIN				*e*			01 22 08.8	
	comp=Z,25μm,0.4s							
IDOB	**Doab**	**1.82**	**77**	*e*Pn		**Pb**	**01 21 45.4**	**-0.3**
IDOB				*e*			01 22 16.2	
	comp=Z,27μm,1.2s							
IBZA	**Bozab**	**1.84**	**54**	*e*Pn		**Pn**	**01 21 45.0**	**+0.8**
IBZA				*e*			01 22 11.4	
	comp=Z,28μm,0.7s							
IKMR	**Kamar-syah**	**1.95**	**86**	*e*Pn		**Pb**	**01 21 47.2**	**-0.6**
IKMR				*e*			01 22 21.8	
	comp=Z,36μm,0.8s							
SNGE	**Sanandaj**	**2.00**	**32**	*e*Pn		**Pn**	**01 21 47.2**	**+0.9**
HSAM	**Samen**	**2.27**	**68**	*e*Pn		**Pn**	**01 21 51.3**	**+1.2**
HSAM				*e*			01 21 57.6	
	comp=Z,7μm,0.6s							
IKRK	**Kirkuk**	**2.45**	**325**	*e*Pn		**Pn**	**01 21 53.0**	**+0.8**
IKRK				*e*Sn		**Sn**	**01 22 23.0**	**+0.8**
IKRK				AML		AML	01 22 36.1	
	comp=N,582nm,0.8s							
IKRK				AML		AML	01 22 44.2	
	comp=E,666nm,0.7s							
HAGD	**Aghdareh**	**2.93**	**60**	*e*Pn		**Pn**	**01 22 00.2**	**+1.1**
HAGD				*e*			01 22 37.7	
	comp=Z,6μm,1.0s							
AHWZ	**Ahwaz**	**3.01**	**133**	*e*Pn		**Pb**	**01 22 03.0**	**-2.9**
AMIS	**Naft Sefid**	**3.23**	**121**	*e*Pn		**Pn**	**01 22 05.3**	**+2.2**
KHMZ	**Khomeyn**	**3.28**	**83**	*e*Pn		**Pn**	**01 22 05.7**	**+1.8**
MAHB	**Mahabad**	**3.37**	**355**	*e*Pn		**Pn**	**01 22 05.1**	**0.0**
MAHB				*e*			01 23 07.7	
	comp=E,9μm,0.5s							
ASAO	**Ashtian**	**3.50**	**70**	*e*Pn		**Pn**	**01 22 08.6**	**+1.7**
IRAZ	**Razeghan**	**3.78**	**57**	*e*Pn		**Pn**	**01 22 12.2**	**+1.5**
IRAZ				*e*			01 23 25.7	
	comp=Z,4μm,0.8s							
ZNJK	**Zanjan**	**3.91**	**33**	*e*Pn		**Pn**	**01 22 13.5**	**+0.9**
IHSH	**Hashtrud**	**4.02**	**14**	*e*Pn		**Pn**	**01 22 13.3**	**-0.9**
QSDN	**Sirdan**	**4.02**	**39**	*e*Pn		**Pn**	**01 22 15.2**	**+1.1**
IPIR	**Pirpir**	**4.13**	**99**	*e*Pn		**Pn**	**01 22 16.9**	**+1.3**
IPIR				*e*			01 23 10.2	
	comp=Z,6μm,0.7s							
SHK1	**Shahrekord**	**4.20**	**103**	*e*Pn		**Pn**	**01 22 18.0**	**+1.4**
SHK1				*e*			01 23 43.6	
	comp=Z,3μm,1.0s							
IAZR	**Azarshahr**	**4.27**	**359**	*e*Pn		**Pn**	**01 22 17.6**	**+0.1**
IBST	**Bostanabad**	**4.35**	**9**	*e*Pn		**Pn**	**01 22 18.4**	**-0.2**
IQOM	**Qom**	**4.40**	**70**	*e*Pn		**Pn**	**01 22 20.1**	**+0.7**
IQOM				*e*			01 22 34.8	
	comp=Z,2μm,1.0s							
QAMS	**Qamsar**	**4.47**	**84**	*e*Pn		**Pn**	**01 22 21.9**	**+1.6**
QAMS				*e*			01 23 19.7	
	comp=Z,3μm,0.4s							
GHVR	**GHOM**	**4.49**	**75**	*e*Pn		**Pn**	**01 22 21.5**	**+1.1**
JIR1	**Jirandeh**	**4.51**	**42**	*e*Pn		**Pn**	**01 22 21.4**	**+0.6**
ABEH	**Behbahan**	**4.53**	**127**	*e*Pn		**Pn**	**01 22 24.2**	**+3.3**
IGZV	**Ghazvin**	**4.54**	**48**	*e*Pn		**Pn**	**01 22 21.9**	**+0.7**
IGZV				*e*			01 23 37.5	
	comp=Z,2μm,1.4s							
ISRB	**Sarab**	**4.61**	**16**	*e*Pn		**Pn**	**01 22 22.3**	**+0.2**
IKLH	**Kolahrood**	**4.62**	**89**	*e*Pn		**Pn**	**01 22 23.8**	**+1.4**
IKLH				*e*			01 23 21.8	
	comp=Z,2μm,0.4s							
IBRJ	**Brojen**	**4.64**	**107**	*e*Pn		**Pn**	**01 22 23.8**	**+1.2**
IBRJ				*e*			01 24 21.0	
	comp=Z,2μm,1.2s							
GIDE	**GILAN DEYLAMAN**	**4.73**	**41**	*e*Pn		**Pn**	**01 22 25.1**	**+1.3**
IHSB	**Hasanabad**	**4.77**	**63**	*e*Pn		**Pn**	**01 22 24.8**	**+0.5**
QALM	**Alamut, Qazvin**	**4.84**	**50**	*e*Pn		**Pn**	**01 22 25.7**	**+0.4**
QALM				*e*			01 24 09.4	
	comp=Z,1μm,1.1s							
CHTH	**Charan**	**4.87**	**58**	*e*Pn		**Pn**	**01 22 26.5**	**+0.7**
ISHB	**Shabestar**	**4.89**	**356**	*e*Pn		**Pn**	**01 22 25.3**	**-0.7**
IVRN	**Varamin**	**4.96**	**70**	*e*Pn		**Pn**	**01 22 28.0**	**+1.1**
IHRS	**Heris**	**4.97**	**9**	*e*Pn		**Pn**	**01 22 27.1**	**-0.1**
LHJ2	**Lahijan - Gila**	**4.99**	**40**	*e*Pn		**Pn**	**01 22 27.9**	**+0.8**
KRSH	**Karshahi**	**5.10**	**82**	*e*Pn		**Pn**	**01 22 30.1**	**+1.2**
KRSH				*e*			01 24 02.2	
	comp=Z,1μm,0.7s							
IGAR	**Gharneh**	**5.13**	**100**	*e*Pn		**Pn**	**01 22 30.9**	**+1.5**
IGAR				*e*			01 23 33.9	
	comp=Z,1μm,0.3s							
KLST	**Kelardasht - M**	**5.16**	**51**	*e*Pn		**Pn**	**01 22 30.3**	**+0.6**
ISFB	**Sefidab**	**5.24**	**78**	*e*Pn		**Pn**	**01 22 31.0**	**+0.4**
KLNJ	**Kolanjah**	**5.26**	**115**	*e*Pn		**Pn**	**01 22 33.9**	**+2.6**
KLNJ				*e*			01 24 11.2	
	comp=Z,2μm,0.6s							
IZEF	**Zefreh**	**5.29**	**94**	*e*Pn		**Pn**	**01 22 32.9**	**+1.4**
IZEF				*e*			01 22 52.6	
	comp=Z,1μm,1.0s							
IMRD	**Marand**	**5.31**	**357**	*e*Pn		**Pn**	**01 22 32.0**	**+0.2**
IDMV	**Damavand**	**5.39**	**65**	*e*Pn		**Pn**	**01 22 33.6**	**+0.6**
GAS1	**Astara - Iran**	**5.47**	**24**	*e*Pn		**Pn**	**01 22 34.5**	**+0.8**
GEVA	**Gevas**	**5.47**	**334**	Pn		**Pn**	**01 22 34.3**	**+0.4**
GEVA				Sn		**Sn**	**01 23 33.5**	**-3.5**
ORD	**Ordubad**	**5.52**	**360**	P		**Pn**	**01 22 39.3**	**+4.8**
	SNR=9.4							
ORD				S		**Sn**	**01 23 43.9**	**+5.9**
LRK	**Lerik**	**5.55**	**19**	P		**Pn**	**01 22 39.4**	**+4.3**
	SNR=11							
LRK				S		**Sn**	**01 23 46.1**	**+7.1**
IRAM	**Ramesheh**	**5.57**	**105**	*e*Pn		**Pn**	**01 22 36.0**	**+0.6**
IRAM				*e*			01 23 44.4	
	comp=Z,835nm,0.5s							
ASTR	**Astara**	**5.61**	**23**	P		**Pn**	**01 22 40.4**	**+4.7**
ASTR				S		**Sn**	**01 23 45.8**	**+5.7**
NASN	**Na'in**	**5.70**	**94**	*e*Pn		**Pn**	**01 22 38.0**	**+0.7**
LKRN	**Lenkeran, Azer**	**5.74**	**22**	S		**Sn**	**01 23 48.6**	**+5.2**
NAX	**Nakhchivan**	**5.78**	**356**	P		**Pn**	**01 22 42.9**	**+4.8**
	SNR=7.7							
NAX				S		**Sn**	**01 23 50.6**	**+6.1**
YRD	**Yardimli**	**5.78**	**17**	P		**Pn**	**01 22 43.4**	**+5.2**
YRD				S		**Sn**	**01 23 50.1**	**+5.4**
MARD	**Mardin**	**5.81**	**314**	Pn		**Pn**	**01 22 38.6**	**0.0**
IFIR	**Firoozkooh**	**5.97**	**66**	*e*Pn		**Pn**	**01 22 40.9**	**0.0**
SBZ	**Shahbuz**	**6.00**	**356**	P		**Pn**	**01 22 45.9**	**+4.7**
SBZ				S		**Sn**	**01 23 57.7**	**+7.7**
ILAS	**Lasjerd**	**6.04**	**69**	*e*Pn		**Pn**	**01 22 42.8**	**+0.9**
MAKU	**Maku**	**6.05**	**350**	*e*Pn		**Pn**	**01 22 42.0**	**+0.1**
GURO	**Guroymak-BITLI**	**6.09**	**329**			**Pn**	**01 22 42.5**	**+0.1**
GLBA	**Clilabad**	**6.13**	**17**	P		**Pn**	**01 22 47.6**	**+4.8**
	SNR=4.5							
GLBA				S		**Sn**	**01 23 58.8**	**+5.9**
QRD	**Qoradiz**	**6.14**	**9**	P		Pn	01 22 48.2	+5.3
QRD				S		**Sn**	**01 23 59.1**	**+5.9**
AHBU	**AHRAM**	**6.37**	**134**	*e*Pn		**Pn**	**01 22 49.0**	**+2.8**
HYR	**Heyderabad**	**6.38**	**352**	P		Pn	01 22 52.3	+5.9
BLQ	**Beylaqan**	**6.42**	**10**	P		Pn	01 22 53.0	+6.1
ANAR	**Anarak**	**6.43**	**90**	*e*Pn		**Pn**	**01 22 47.5**	**+0.4**
ISAD	**Sadrabad**	**6.61**	**101**	*e*Pn		**Pn**	**01 22 50.1**	**+0.4**
AGDM	**Agdam**	**6.75**	**7**	P		Pn	01 22 57.4	+6.0
AGDM				S		**Sn**	**01 24 14.3**	**+6.0**
IANJ	**Anjilo**	**6.82**	**70**	*e*Pn		**Pn**	**01 22 53.3**	**+0.8**
GNI	**Garni**	**6.82**	**352**	Pn		**Pn**	**01 22 54.1**	**+1.6**
	comp=Z,4.2nm,0.9s,baz=31,slow=12,SNR=3.2							
GNI				LR		LR	01 25 09.8	
	comp=Z,22nm,19.1s,baz=172,slow=36							
BRDA	**Brd**	**6.91**	**7**	S		**Sn**	**01 24 18.5**	**+6.3**
ALIB	**Äli-Bayra**	**6.96**	**19**	P		Pn	01 22 59.9	+5.7
IGLO	**Ghaloghah**	**7.10**	**62**	*e*Pn		**Pn**	**01 22 57.6**	**+1.3**
GANJ	**Ganja**	**7.24**	**2**	S		**Sn**	**01 24 28.3**	**+8.0**
GDB	**GEDABAY**	**7.31**	**358**	S		**Sn**	**01 24 29.9**	**+7.6**
GBS	**Qobustan**	**7.49**	**17**	S		**Sn**	**01 24 34.1**	**+7.6**
IMEH	**Mehriz**	**7.51**	**103**	*e*Pn		**Pn**	**01 23 03.8**	**+1.7**
IMEH				*e*			01 24 33.5	
	comp=Z,303nm,0.6s							
ASF	**Jabal al Asfar**	**7.81**	**263**	Pn		**Pn**	**01 23 06.9**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=3.0							
	comp=Z,0.8nm,0.3s							
JHRM	**Jahrom**	**8.09**	**125**	*e*Pn		**Pn**	**01 23 11.6**	**+1.7**
KSHT	**Keshet**	**8.59**	**270**	Pn		**Pg**	**01 23 54.6**	**-2.2**
SHRO	**Shahrood**	**8.60**	**70**	*e*Pn		**Pn**	**01 23 18.6**	**+1.8**
NATI	**Neve Ativ**	**8.63**	**272**	Pn		**Pg**	**01 23 56.0**	**-1.5**
GEM	**Giv'at Ha'Em**	**8.70**	**272**	Pn		**Pg**	**01 23 57.1**	**-1.6**
TNSJ	**Nastanj**	**8.82**	**83**	*e*Pn		**Pn**	**01 23 21.2**	**+1.4**
TPRV	**Parvadeh(Tabas**	**8.92**	**89**	*e*Pn		**Pn**	**01 23 21.6**	**+0.4**
HMDT	**Nahal Hemdat**	**8.93**	**266**	Pn		**Pg**	**01 23 59.5**	**-3.7**
MMA0B	**Mount Meron ar**	**8.93**	**270**	Pn		**Pg**	**01 23 59.9**	**-3.3**
MMAI	**Mount Meron Ar**	**8.93**	**270**	LR		LR	01 27 44.9	
	comp=Z,267nm,18.2s,baz=282,slow=44							
UJAP	**Al Uja**	**9.04**	**264**	Pn		Pn	01 24 00.1	+37
GHAJ	**Ghor Haditha**	**9.11**	**260**	Pn		**Pn**	**01 23 24.7**	**+0.9**
GHAJ	**Ghor Haditha**	**9.11**	**260**	Pn		Pn	01 24 01.8	+38
LAR1	**LAR**	**9.17**	**126**	*e*Pn		**Pn**	**01 23 26.5**	**+1.9**
DSI	**Dead Sea**	**9.20**	**261**	Pn		Pn	01 24 03.4	+38
MRVT	**Maraveh tapeh**	**9.22**	**60**	*e*Pn		**Pn**	**01 23 26.3**	**+1.0**
MRVT				*e*Pn		**Pn**	**01 23 26.3**	**+1.0**
TABS	**Tabas**	**9.24**	**85**	*e*Pn		**Pn**	**01 23 27.8**	**+2.1**
TKDS	**Koohdasht(Taba**	**9.25**	**86**	*e*Pn		**Pn**	**01 23 26.6**	**+0.8**
KHGB	**Koh Gabri**	**9.36**	**106**	*e*Pn		**Pn**	**01 23 28.8**	**+1.4**
ONI	**Oni**	**9.40**	**348**			**Pn**	**01 23 26.7**	**-1.1**
YTIR	**Yattir**	**9.47**	**261**	Pn		Pn	01 24 06.8	+38
AMAZ	**Amatzia**	**9.59**	**262**	Pn		Pn	01 24 08.1	+38
KRBR	**Kerman**	**9.74**	**108**	*e*Pn		**Pn**	**01 23 35.0**	**+2.4**
NGRK	**Negar Kerman**	**9.85**	**109**	*e*Pn		**Pn**	**01 23 35.4**	**+1.1**
PRNI	**Paran**	**9.87**	**255**	Pn		Pn	01 24 12.2	+38
HRFI	**Mount Harif**	**9.96**	**253**	Pn		Pn	01 24 13.0	+38
EIL	**Elat**	**10.18**	**252**	Pn		**Pn**	**01 23 40.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=90,slow=5.1,SNR=2.8							
EIL				LR		LR	01 28 36.0	
	comp=Z,284nm,20.4s,baz=61,slow=44							
	comp=Z,1.0nm,0.3s							
KBZ	**Khabaz**	**10.60**	**347**	LR		LR	01 28 40.6	
	comp=Z,85nm,19.2s,baz=136,slow=43							
GEYT	**Alibeck**	**10.80**	**62**	Pn		**Pn**	**01 23 50.4**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=260,slow=16,SNR=4.7							
KVAR	**Kislovodsk Arr**	**10.86**	**347**	LR		LR	01 28 36.2	
	comp=Z,107nm,21.6s,baz=48,slow=41							
SHME	**Shamm**	**11.42**	**127**	Pn		**Pn**	**01 23 55.2**	**-0.2**
SHME				Sn		**Sn**	**01 25 57.0**	**-6.0**
BANOM	**Banah**	**11.61**	**127**	Pn		**Pn**	**01 23 57.3**	**-0.8**
BANOM				Sn		**Sn**	**01 25 59.2**	**-8.6**
BRTR	**Keskin Array B**	**11.80**	**306**	LR		LR	01 29 40.3	
	comp=Z,284nm,18.2s,baz=125,slow=43							
MSFE	**Esma-Masafi**	**11.90**	**130**	Pn		**Pn**	**01 24 01.1**	**-1.0**
ASUD	**Al Ashush, Dub**	**11.92**	**135**	Pn		**Pn**	**01 24 03.3**	**+1.0**
MDH	**Madha**	**12.04**	**129**	Pn		**Pn**	**01 24 02.4**	**-1.5**
UOSS	**Minazif**	**12.22**	**131**			**Pn**	**01 24 06.2**	**-0.3**
UOSS	**Minazif**	**12.22**	**131**	Pn		**Pn**	**01 24 03.1**	**-3.4**
HATD	**Hatta, Dubai**	**12.27**	**132**	Pn		**Pn**	**01 24 06.7**	**-0.4**
ZHSF	**Zahedan**	**13.12**	**103**	*e*Pn		**Pn**	**01 24 21.7**	**+2.9**
WSAR	**Wadi Sarin**	**14.99**	**129**	Pn		**Pn**	**01 24 42.2**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=360,slow=12,SNR=5.7							
WSAR				Sn		Sn	01 27 19.1	-11
	comp=Z,0.6nm,0.3s,baz=5.7,slow=23,SNR=2.3							
WSAR				LR		LR	01 31 43.1	
	comp=Z,103nm,18.3s,baz=324,slow=42							
ABKAR	**Akbulak array**	**18.92**	**29**	P		**P**	**01 25 32.5**	**-0.5**
BELG	**Belogornoye**	**19.02**	**3**	LR		LR	01 34 34.4	
	comp=Z,109nm,18.5s,baz=193,slow=42							
KBL	**Kabul**	**19.10**	**80**	P		**P**	**01 25 34.2**	**-1.1**
KBL				IAmb		IAmb	01 25 38.2	
	comp=Z,18nm,1.3s							
CHGR	**Chuyangaron**	**19.39**	**68**	P		**P**	**01 25 34.6**	**-3.8**
CHGR				IAmb		IAmb	01 25 45.3	
	comp=Z,17nm,1.1s							
MLR	**Muntele Rosu**	**19.61**	**314**	LR		LR	01 35 10.2	
	comp=Z,73nm,19.8s,baz=104,slow=43							
VOIR		**20.13**	**313**	⇑P		**P**	**01 25 46.7**	**+0.3**
DOPR	**Dopca**	**20.19**	**315**	⇑P		**P**	**01 25 47.0**	**0.0**
GAR	**Garm**	**20.34**	**67**	P		**P**	**01 25 46.3**	**-2.5**
ARR	**Arges**	**20.35**	**312**	⇓P		**P**	**01 25 49.6**	**+0.9**
BTK	**Batken**	**20.90**	**64**	P		**P**	**01 25 52.1**	**-2.6**
BTK				IAmb		IAmb	01 26 00.9	
	comp=Z,17nm,1.3s							
BURAR	**Bucovina Array**	**21.18**	**318**	⇓P		**P**	**01 25 57.4**	**-0.4**
BUR08	**Bucovina Ar. S**	**21.21**	**318**

TCW	**Tory Channel**	**0.89**	**29**	P	Pg	01 23 03.6	-0.2
TCW				S	Sb	01 23 16.3	+0.5
MRNZ	**Matariki Terra**	**0.93**	**309**	P	Pb	01 23 04.9	+0.3
MRNZ				S	Sn	01 23 18.1	-0.6
WEL	**Wellington**	**1.06**	**49**	P	Pn	01 23 07.6	+0.2
GVZ	**Greta Valley S**	**1.09**	**207**	P	Pn	01 23 08.1	+0.3
GVZ				S	Sn	01 23 24.3	+1.4
TKNZ	**Takaka Hill**	**1.11**	**329**	P	Pb	01 23 07.8	0.0
DUWZ	**D'Urville Isla**	**1.20**	**8**	P	Pn	01 23 08.9	-0.4
PLWZ	**Palliser**	**1.23**	**70**	P	Pn	01 23 08.9	-0.8
MSWZ	**Moikau Station**	**1.29**	**64**	P	Pn	01 23 09.8	-0.6
MSWZ	**Moikau Station**	**1.29**	**64**	P	Pn	01 23 09.8	-0.7
LTZ	**Lake Taylor**	**1.33**	**233**	P	Pb	01 23 11.7	+0.2
CAW	**Cannon Point**	**1.35**	**49**	P	Pn	01 23 11.2	0.0
DSZ	**Denniston Nort**	**1.44**	**279**	P	Pg	01 23 14.3	0.0
KIW	**Kapiti Island**	**1.45**	**39**	P	Pb	01 23 13.5	0.0
QRZ	**Quartz Range**	**1.47**	**322**	P	Pb	01 23 13.9	+0.1
MTW	**Mount Morrison**	**1.58**	**59**	P	Pn	01 23 13.6	-0.9
OGWZ	**Otaki Gorge**	**1.61**	**44**	P	Pn	01 23 14.8	0.0
HOWZ	**Holdsworth Sta**	**1.74**	**52**	P	Pn	01 23 17.2	+0.5
OKCZ	**Okains Bay**	**1.79**	**195**	P	Pn	01 23 17.3	-0.2
OXZ	**Oxford**	**1.81**	**222**	P	Pn	01 23 17.2	-0.5
MQZ	**McQueen's Vall**	**1.88**	**204**	P	Pn	01 23 17.2	-1.3
MRZ	**Mangatainoka R**	**1.94**	**47**	P	Pn	01 23 18.9	-0.5
AKCZ	**Akaroa Harbour**	**1.97**	**197**	P	Pn	01 23 18.7	-1.1
RACZ	**Rakaia**	**2.08**	**213**	P	Pn	01 23 20.6	-0.8
WACZ	**Wakanui South**	**2.38**	**215**	P	Pn	01 23 24.7	-0.8
TSZ	**Takapari Road**	**2.58**	**42**	P	Pb	01 23 30.8	-2.0
RPZ	**Rata Peaks**	**2.60**	**228**	P	Pn	01 23 28.4	-0.2
ARCZ	**Arundel**	**2.70**	**223**	P	Pn	01 23 29.2	-0.6
TRVZ	**Turoa**	**3.03**	**28**	P	Pb	01 23 37.7	-3.0
TMZ	**Timaru**	**3.10**	**219**	P	Pn	01 23 35.0	-0.4
FOZ	**Fox Glacier**	**3.25**	**240**	P	Pn	01 23 38.8	+1.3
ODZ	**Otahua Downs**	**3.78**	**215**	P	Pn	01 23 43.5	-1.2

WEL 15 01:26:35.8±0.6, **42˚S**±6˚×**17˚4E**±˚, **h7**km±4km, **M3.1**/30, **ML4.2**/18, **MLv3.1**/30, **Error ellipse: s-maj=0.0km s-min=0.0km az=167.3, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**53**	P	Pg	01 26 39.4	+1.4
BSWZ	**Blackbirch Sta**	**0.20**	**298**	P	Pg	01 26 40.4	+0.6
BSWZ				S	Sg	01 26 43.5	+1.0
TUWZ	**Tuamarina**	**0.40**	**341**	P	Pg	01 26 43.9	+0.3
TUWZ				S	Sg	01 26 50.0	+1.2
TCW	**Tory Channel**	**0.61**	**12**	P	Pg	01 26 47.4	-0.1
WEL	**Wellington**	**0.72**	**44**	P	Pb	01 26 50.2	-0.4
WEL				S	Sn	01 27 02.3	-1.4
KHZ	**Kahutara**	**0.74**	**215**	P	Pb	01 26 51.5	+0.5
NNZ	**Nelson**	**0.81**	**317**	P	Pg	01 26 51.0	-0.2
PLWZ	**Palliser**	**0.89**	**75**	P	Pg	01 26 53.1	+0.2
THZ	**Tophouse**	**0.90**	**272**	P	Pg	01 26 53.3	+0.2
MSWZ	**Moikau Station**	**0.94**	**66**	P	Pg	01 26 53.9	0.0
CAW	**Cannon Point**	**1.00**	**46**	P	Pb	01 26 55.4	-0.1
DUWZ	**D'Urville Isla**	**1.01**	**352**	P	Pg	01 26 54.6	-0.7
PAWZ	**Paruwai Farm**	**1.07**	**67**	P	Pg	01 26 55.7	-0.7
MRNZ	**Matariki Terra**	**1.09**	**291**	P	Pb	01 26 57.1	+0.1
KIW	**Kapiti Island**	**1.12**	**33**	P	Pg	01 26 57.0	-0.3
TKNZ	**Takaka Hill**	**1.16**	**311**	P	Pb	01 26 57.7	+0.4
MTW	**Mount Morrison**	**1.23**	**59**	P	Pb	01 26 57.7	-1.6
TRWZ	**Traveller**	**1.25**	**71**	P	Pn	01 26 57.7	-2.0
OGWZ	**Otaki Gorge**	**1.27**	**39**	P	Pn	01 26 59.1	-0.9
HOWZ	**Holdsworth Sta**	**1.39**	**50**	P	Pn	01 27 00.2	-1.5
GVZ	**Greta Valley S**	**1.41**	**214**	P	Pn	01 27 01.6	-0.3
QRZ	**Quartz Range**	**1.54**	**309**	P	Pb	01 27 04.5	-0.2
MRZ	**Mangatainoka R**	**1.59**	**44**	P	Pn	01 27 03.1	-1.3
LTZ	**Lake Taylor**	**1.68**	**234**	P	Pn	01 27 05.1	-0.6
DSZ	**Denniston Nort**	**1.73**	**271**	P	Pn	01 27 07.0	+0.7
PRWZ	**Pori Road**	**1.88**	**49**	P	Pn	01 27 06.8	-1.5
POWZ	**Post Office Ro**	**1.89**	**42**	P	Pn	01 27 07.3	-1.2
WAZ	**Wanganui**	**2.15**	**18**	P	Pb	01 27 16.0	+0.9
TSZ	**Takapari Road**	**2.24**	**39**	P	Pb	01 27 15.5	-1.1
MOVZ	**Moawhango**	**2.70**	**28**	P	Pb	01 27 23.5	-1.1
WNVZ	**Wahianoa**	**2.72**	**25**	P	Pb	01 27 24.3	-0.7
BHHZ	**Black Hill Sta**	**2.75**	**33**	P	Pb	01 27 25.4	+0.1
SNVZ	**South Ngauruho**	**2.87**	**24**	P	Pb	01 27 26.5	-0.8
OTVZ	**Oturere**	**2.90**	**25**	P	Pb	01 27 27.8	0.0
ETVZ	**East Tongariro**	**2.93**	**25**	P	Pb	01 27 28.8	+0.3
ARCZ	**Arundel**	**3.04**	**224**	P	Pn	01 27 22.4	-1.9

*IDC **15** 01:26:53.7±1.9, 42˚28S×173˚80E, h0km, mb3.7/2, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=48.1km s-min=32.9km az=139.0*
*WEL **15** 01:26:55.9±0.5, 42˚S±3˚×17˚4E±˚, h10km±4km, M4.2/13, ML4.5/13, MLv4.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=136.4*

ISC 15 01:26:54.4±1.4, **42˚32S**±0˚04×**173˚92E**±0˚03, **h8**km±9km, **n40**, σ0**˚76/60, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**251**	P	**Pb**	**01 27 02.6**	**+0.6**
KHZ				S	**Sb**	**01 27 07.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.61**	**357**	P	**Pb**	**01 27 16.6**	**+0.3**
BSWZ				S	**Sb**	**01 27 16.6**	**-0.7**
CMWZ	**Cape Campbell**	**0.61**	**21**	P	**Pn**	**01 27 09.1**	**-0.3**
TUWZ	**Tuamarina**	**0.89**	**1**	P	**Pn**	**01 27 12.9**	**-0.3**
TUWZ				S	**Sn**	**01 27 25.5**	**-0.8**
GVZ	**Greta Valley S**	**0.92**	**225**	P	**Pn**	**01 27 14.3**	**+0.6**
GVZ				S	**Sn**	**01 27 28.3**	**+1.2**
THZ	**Tophouse**	**0.94**	**306**	P	**Pb**	**01 27 13.1**	**+0.1**
THZ				S	**Sb**	**01 27 25.2**	**-0.4**
TCW	**Tory Channel**	**1.14**	**14**	P	**Pb**	**01 27 16.9**	**+0.4**
TCW				S	**Sn**	**01 27 32.6**	**0.0**
NNZ	**Nelson**	**1.17**	**340**	P	**Pn**	**01 27 17.4**	**+0.2**
NNZ				S	**Sn**	**01 27 33.8**	**+0.4**
WEL	**Wellington**	**1.22**	**32**	P	**Pg**	**01 27 18.0**	**+0.3**
WEL				S	**Sn**	**01 27 35.3**	**+1.0**
PLWZ	**Palliser**	**1.25**	**54**	P	**Pg**	**01 27 18.4**	**0.0**
PLWZ				S	**Sb**	**01 27 35.7**	**+1.1**
MRNZ	**Matariki Terra**	**1.26**	**316**	P	**Pn**	**01 27 19.5**	**+1.1**
MRNZ				S	**Sn**	**01 27 36.2**	**+0.6**
LTZ	**Lake Taylor**	**1.30**	**249**	P	**Pn**	**01 27 19.3**	**+0.4**
MSWZ	**Moikau Station**	**1.34**	**48**	P	**Pn**	**01 27 19.4**	**-0.2**
MSWZ				S	**Sb**	**01 27 37.5**	**+0.2**
PAWZ	**Paruwai Farm**	**1.47**	**51**	P	**Pn**	**01 27 21.0**	**-0.3**
PAWZ				S	**Sn**	**01 27 40.0**	**-0.7**
TKNZ	**Takaka Hill**	**1.47**	**331**	P	**Pg**	**01 27 22.2**	**-0.4**
TKNZ				S	**Sg**	**01 27 41.7**	**0.0**
CAW	**Cannon Point**	**1.49**	**36**	P	**Pn**	**01 27 21.6**	**+0.1**
CAW				S	**Sn**	**01 27 41.1**	**-0.1**
DUWZ	**D'Urville Isla**	**1.52**	**0**	P	**Pb**	**01 27 22.7**	**-0.2**
DUWZ				S	**Sg**	**01 27 42.5**	**-0.6**
TRWZ	**Traveller**	**1.61**	**56**	P	**Pn**	**01 27 23.1**	**-0.1**
KIW	**Kapiti Island**	**1.64**	**27**	P	**Pn**	**01 27 23.9**	**+0.4**
KIW				S	**Sn**	**01 27 43.0**	**-1.9**
MTW	**Mount Morrison**	**1.66**	**46**	P	**Pn**	**01 27 23.9**	**+0.1**
DSZ	**Denniston Nort**	**1.67**	**289**	P	**Pg**	**01 27 26.0**	**-0.5**
DSZ				S	**Sg**	**01 27 48.4**	**+0.2**
OGWZ	**Otaki Gorge**	**1.77**	**32**	P	**Pn**	**01 27 25.7**	**+0.3**
QRZ	**Quartz Range**	**1.82**	**325**	P	**Pn**	**01 27 26.8**	**+0.8**
QRZ				S	**Sg**	**01 27 51.0**	**-1.8**
HOWZ	**Holdsworth Sta**	**1.86**	**41**	P	**Pn**	**01 27 26.6**	**0.0**
HOWZ				S	**Sn**	**01 27 49.8**	**-0.6**
TMWZ	**Te Maipa**	**1.91**	**51**	P	**Pn**	**01 27 26.5**	**-0.8**
MRZ	**Mangatainoka R**	**2.08**	**38**	P	**Pn**	**01 27 29.0**	**-0.6**
POWZ	**Post Office Ro**	**2.38**	**37**	P	**Pg**	**01 27 41.5**	**+1.5**
RPZ	**Rata Peaks**	**2.52**	**235**	Pn	**Pn**	**01 27 35.8**	**+0.1**
	40nm,0.3s,baz=78,slow=1.6,SNR=52						
RPZ				Sn	**Sn**	**01 28 05.4**	**-1.2**
	78nm,0.3s,baz=30,slow=22,SNR=43 108nm,0.3s						
ARCZ	**Arundel**	**2.58**	**230**	P	**Pn**	**01 27 35.7**	**-0.8**
WAZ	**Wanganui**	**2.69**	**18**	P	**Pn**	**01 27 39.9**	**+1.9**
TSZ	**Takapari Road**	**2.74**	**35**	P	**Pn**	**01 27 38.1**	**-0.6**
MOVZ	**Moawhango**	**3.23**	**26**	P	**Pn**	**01 27 45.5**	**+0.1**
WNVZ	**Wahianoa**	**3.25**	**24**	P	**Pn**	**01 27 47.8**	**+1.9**
BHHZ	**Black Hill Sta**	**3.26**	**31**	P	**Pn**	**01 27 46.0**	**0.0**
SNVZ	**South Ngauruho**	**3.39**	**23**	P	**Pn**	**01 27 48.6**	**+0.7**
OTVZ	**Oturere**	**3.42**	**23**	P	**Pn**	**01 27 48.9**	**+0.7**
ASAR	**Alice Springs**	**37.95**	**287**	P	**P**	**01 34 12.2**	**-0.4**
	0.5nm,0.7s,baz=124,slow=6.5,SNR=4.3 0.5nm,0.7s						
WRA	**Warramunga Arr**	**40.07**	**291**	P	**P**	**01 34 30.0**	**-0.4**
	1.7nm,0.8s,baz=128,slow=8.3,SNR=10 1.7nm,0.8s						
ARCES	**ARCESS Array B**	**148.23**	**340**	PKPbc	**PKPbc**	**01 46 39.4**	**-0.4**
	2.8nm,0.8s,baz=35,slow=3.0,SNR=5.8						
TORD	**Torodi Ar. Bea**	**150.16**	**195**	PKPbc	**PKPbc**	**01 46 46.5**	**+0.3**
	0.4nm,0.5s,baz=166,slow=2.9,SNR=3.8						

*IDC **15** 01:30:22.9±2.6, 42˚45S×173˚80E, h0km, mb3.4/2, mbtmp3.6/3, ML3.9/1, MS2.5/1, Error ellipse: s-maj=52.9km s-min=38.8km az=135.0*
*WEL **15** 01:30:23.8±0.4, 42˚S±4˚×17˚4E±˚, h5km, M3.7/20, ML4.0/20, MLv3.7/20, Error ellipse: s-maj=0.0km s-min=0.0km az=137.3*

ISC 15 01:30:23.6±0.9, **42˚46S**±0˚03×**173˚96E**±0˚04, **h10**km, **n64,** σ0**˚74/67, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**277**	P	**Pg**	**01 30 30.2**	**+0.4**
KHZ				S	**Sg**	**01 30 33.9**	**-0.1**
CMWZ	**Cape Campbell**	**0.73**	**15**	P	**Pn**	**01 30 40.3**	**+0.3**
CMWZ				S	**Sn**	**01 30 53.2**	**+2.0**
BSWZ	**Blackbirch Sta**	**0.74**	**355**	P	**Pg**	**01 30 38.1**	**+0.2**
GVZ	**Greta Valley S**	**0.85**	**233**	P	**Pn**	**01 30 42.2**	**+0.6**
TUWZ	**Tuamarina**	**1.03**	**359**	P	**Pb**	**01 30 43.7**	**+0.3**
THZ	**Tophouse**	**1.05**	**311**	P	**Pg**	**01 30 42.8**	**-0.8**
AMCZ	**Amberley**	**1.20**	**233**	P	**Pg**	**01 30 47.0**	**+0.4**
TCW	**Tory Channel**	**1.27**	**11**	P	**Pn**	**01 30 47.0**	**-0.3**
LTZ	**Lake Taylor**	**1.28**	**255**	P	**Pn**	**01 30 47.7**	**0.0**
NNZ	**Nelson**	**1.31**	**341**	P	**Pn**	**01 30 47.6**	**-0.3**
PLWZ	**Palliser**	**1.31**	**48**	P	**Pn**	**01 30 48.3**	**+0.3**
WEL	**Wellington**	**1.32**	**28**	P	**Pn**	**01 30 48.3**	**+0.3**
MRNZ	**Matariki Terra**	**1.39**	**319**	P	**Pn**	**01 30 48.9**	**0.0**
MSWZ	**Moikau Station**	**1.42**	**43**	P	**Pn**	**01 30 49.5**	**+0.1**
OKCZ	**Okains Bay**	**1.43**	**207**	P	**Pb**	**01 30 50.4**	**+0.1**
PAWZ	**Paruwai Farm**	**1.54**	**46**	P	**Pn**	**01 30 51.0**	**0.0**
MQZ	**McQueen's Vall**	**1.57**	**217**	P	**Pn**	**01 30 51.5**	**0.0**
CAW	**Cannon Point**	**1.58**	**32**	P	**Pn**	**01 30 51.8**	**+0.1**
TKNZ	**Takaka Hill**	**1.61**	**332**	P	**Pn**	**01 30 52.2**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.61**	**208**	P	**Pn**	**01 30 52.7**	**+0.7**
DUWZ	**D'Urville Isla**	**1.65**	**359**	P	**Pn**	**01 30 53.2**	**+0.5**
OXZ	**Oxford**	**1.66**	**238**	P	**Pn**	**01 30 52.4**	**-0.3**
TRWZ	**Traveller**	**1.67**	**51**	P	**Pn**	**01 30 53.0**	**+0.1**
MTW	**Mount Morrison**	**1.74**	**42**	P	**Pn**	**01 30 53.6**	**-0.2**
KIW	**Kapiti Island**	**1.75**	**24**	P	**Pn**	**01 30 54.2**	**+0.3**
DSZ	**Denniston Nort**	**1.75**	**293**	P	**Pn**	**01 30 54.6**	**+0.5**
RACZ	**Rakaia**	**1.84**	**226**	P	**Pn**	**01 30 55.1**	**-0.1**
INZ	**Inchbonnie**	**1.87**	**261**	P	**Pn**	**01 30 55.9**	**+0.3**
OGWZ	**Otaki Gorge**	**1.88**	**29**	P	**Pn**	**01 30 55.7**	**0.0**
HOWZ	**Holdsworth Sta**	**1.95**	**37**	P	**Pn**	**01 30 56.7**	**0.0**
QRZ	**Quartz Range**	**1.95**	**326**	P	**Pn**	**01 30 57.7**	**+1.0**
TMWZ	**Te Maipa**	**1.98**	**48**	P	**Pn**	**01 30 56.8**	**-0.4**
WACZ	**Wakanui South**	**2.15**	**225**	P	**Pn**	**01 30 59.6**	**+0.2**
MRZ	**Mangatainoka R**	**2.17**	**35**	P	**Pn**	**01 30 59.5**	**-0.3**
PRWZ	**Pori Road**	**2.43**	**39**	P	**Pb**	**01 31 06.0**	**-1.3**
WVZ	**Waitaha Valley**	**2.45**	**254**	P	**Pn**	**01 31 03.9**	**+0.4**
RPZ	**Rata Peaks**	**2.47**	**238**	Pn	**Pn**	**01 31 03.6**	**-0.3**
	28nm,0.3s,baz=209,slow=2.0,SNR=22						
RPZ				LR	LR	01 31 30.3	
	comp=Z,104nm,20.9s,baz=47,slow=28						
RPZ				Sn	**Sn**	**01 31 32.7**	**-1.4**
	37nm,0.3s,baz=19,slow=22,SNR=17 74nm,0.3s						
RPZ	**Rata Peaks**	**2.47**	**238**	P	**Pn**	**01 31 03.6**	**-0.3**
ARCZ	**Arundel**	**2.52**	**233**	P	**Pn**	**01 31 04.3**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.80**	**251**	P	**Pn**	**01 31 09.1**	**+0.7**
WAZ	**Wanganui**	**2.81**	**16**	P	**Pb**	**01 31 13.1**	**-0.8**
TMZ	**Timaru**	**2.88**	**227**	P	**Pn**	**01 31 09.8**	**+0.2**
NBEZ	**Newall Road No**	**3.19**	**359**	P	**Pb**	**01 31 18.5**	**-1.7**
FOZ	**Fox Glacier**	**3.22**	**249**	P	**Pn**	**01 31 14.8**	**+0.6**
LBZ	**Lake Benmore**	**3.36**	**234**	P	**Pn**	**01 31 16.2**	**+0.2**
WNVZ	**Wahianoa**	**3.37**	**22**	P	**Pn**	**01 31 18.5**	**+2.2**
BHHZ	**Black Hill Sta**	**3.37**	**29**	P	**Pn**	**01 31 17.3**	**+1.1**
VRZ	**Vera Road**	**3.38**	**11**	P	**Pn**	**01 31 18.2**	**+1.7**
ODZ	**Otahua Downs**	**3.53**	**222**	P	**Pn**	**01 31 18.4**	**0.0**
OTVZ	**Oturere**	**3.54**	**22**	P	**Pn**	**01 31 19.4**	**+0.7**
HIZ	**Hauiti**	**4.00**	**10**	P	**Pn**	**01 31 26.5**	**+1.6**
JCZ	**Jackson Bay**	**4.11**	**245**	P	**Pn**	**01 31 26.9**	**+0.4**
HHSZ	**Highcliff Hill**	**4.19**	**214**	P	**Pn**	**01 31 27.9**	**+0.3**
WKZ	**Wanaka**	**4.30**	**235**	P	**Pn**	**01 31 27.8**	**-1.2**
EAZ	**Earnscleugh**	**4.36**	**229**	P	**Pn**	**01 31 29.5**	**-0.4**
TUZ	**Tuapeka**	**4.68**	**220**	P	**Pn**	**01 31 34.5**	**+0.3**
MLZ	**Mavora Lakes**	**5.12**	**233**	P	**Pn**	**01 31 40.3**	**-0.1**
SYZ	**Scrubby Hill**	**5.34**	**219**	P	**Pn**	**01 31 43.8**	**+0.5**
AWAZ	**Awhitu Peninsu**	**5.41**	**6**	P	**Pn**	**01 31 45.6**	**+1.3**
MKAZ	**Moumakai**	**5.43**	**10**	P	**Pn**	**01 31 45.0**	**+0.5**
APZ	**The Paps**	**6.10**	**222**	P	**Pn**	**01 31 54.2**	**+0.4**
ASAR	**Alice Springs**	**38.02**	**287**	P	**P**	**01 37 42.6**	**+0.6**
	0.2nm,0.6s,baz=123,slow=6.7,SNR=1.8 0.2nm,0.6s						
WRA	**Warramunga Arr**	**40.15**	**292**	P	**P**	**01 37 59.2**	**-0.7**
	0.6nm,0.6s,baz=127,slow=8.5,SNR=6.0 0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.03**	**195**	PKPbc	**PKPbc**	**01 50 15.1**	**+0.4**
	0.3nm,0.7s,baz=145,slow=1.0,SNR=1.9						

*WEL **15** 01:34:00, 41˚70S×174˚23E, h16km, ML5.8, Mw5.4, Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁷ Nm; Mrr0.58; Mθθ1.40; Mϕϕ-1.98; Mrθ-0.31; Mθϕ-0.53; Mϕr-0.13; Fault plane solution: M₀1.82000×10¹⁷ NP1: ϕs325.00000°, δ76.00000°, λ9.00000°. NP2:ϕs232.00000°, δ81.00000°, λ166.00000°. Principal axes: T -20714.5500, Plg16.0000°, Azm188.0000°; N 15686.6600, Plg73.0000°, Azm20.0000°; P 5027.8900, Plg3.0000°, Azm279.0000°;*
*IDC **15** 01:34:42.4±0.5, 41˚54S×174˚22E, h0km, mb4.9/16, mbtmp4.9/17, ML4.5/1, MS4.9/35 Error ellipse: s-maj=20.8km s-min=13.4km az=64.0*
*MOS **15** 01:34:43.8±1.5, 41˚76S×174˚06E, h11km, mb5.0/18, MS5.0/5, Error ellipse: s-maj=11.2km s-min=9.1km az=91.6*
*NEIC **15** 01:34:44.6, 41˚81S×174˚32E, h14km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.81; Mθθ1.04; Mϕϕ-1.85; Mrθ-0.51; Mθϕ-0.74; Mϕr0.12; Fault plane solution: M₀1.84000×10¹⁷ NP1:ϕs233.21000°, δ66.67000°, λ154.22000°. NP2:ϕs334.04000°, δ66.46000°, λ25.59000°. Principal axes: T 1.5803, Plg34.0000°, Azm194.0000°; N 0.4472, Plg56.0000°, Azm14.0000°; P -2.0275, Plg0.0000°, Azm284.0000°;*
*NEIC **15** 01:34:44.0±1.9, 41˚79S±0˚04×174˚31E±0˚03, h10km±1km, mb5.4/86, Ms_20 5.3/136, Mwr5.4/44, Mww5.5 Error ellipse: s-maj=6.4km s-min=2.7km az=22.0*
*NEIC **15** 01:34:45, 41˚81S×174˚32E, h20km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.57; Mθθ1.32; Mϕϕ-1.90; Mrθ0.15; Mθϕ-0.52; Mϕr1.04; Fault plane solution: M₀2.05000×10¹⁷ NP1: ϕs236.00000°, δ75.00000°, λ-167.00000°. NP2: ϕs142.00000°, δ78.00000°, λ-15.00000°. Principal axes: T 1.4036, Plg2.0000°, Azm190.0000°; N 0.9520, Plg70.0000°, Azm285.0000°; P -2.3556, Plg20.0000°, Azm99.0000°;*
*WEL **15** 01:34:45.3±0.4, 42˚S±2˚×17˚4E±˚, h6km±3km, M5.8/115, ML5.9/15, MLv5.8/115 Error ellipse: s-maj=0.0km s-min=0.0km az=150.8*
*GCMT **15** 01:34:48.0±0.1, 41˚73S±0˚01×174˚26E±0˚01, h18km, MW5.4/142, Moment Tensor Solution. s98,c150; s142,c264; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr0.29±.02; Mθθ1.13±.02; Mϕϕ-1.43±.02; Mrθ-0.75±.06; Mθϕ-0.62±.02; Mϕr0.40±.05; Best double couple: M₀1.67100×10¹⁷ NP1:ϕs331.00000°, δ75.00000°, λ27.00000°. NP2:ϕs234.00000°, δ64.00000°, λ163.00000°. Principal axes: T 1.7400, Plg30.0000°, Azm195.0000°; N -0.1480, Plg59.0000°, Azm358.0000°; P -1.6020, Plg7.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **15** 01:34:48.6, 41˚97S×174˚64E, h52km, mb5.2/69, Cook Strait, New Zealand*

ISC 15 01:34:44.7±0.6, **41˚79S**±0˚02×**174˚29E**±0˚02, **h13**km±3km, **n689,** σ1**˚73/599, mb5.3**/69, **MS5.2**/112, **22C-11D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**305**	P	**Pg**	**01 34 46.4**	**-0.8**
CMWZ				Sg	**Sg**	**01 34 48.5**	**-0.7**
CMWZ	**Cape Campbell**	**0.07**	**305**	P	**Pg**	**01 34 46.5**	**-0.8**
CMWZ				S	**Sg**	**01 34 53.4**	**+4.2**
BSWZ	**Blackbirch Sta**	**0.32**	**283**	P	**Pg**	**01 34 50.3**	**-0.9**
BSWZ				Sg	**Sg**	**01 34 55.6**	**0.0**
BSWZ	**Blackbirch Sta**	**0.32**	**283**	P	**Pg**	**01 34 50.3**	**-0.9**
BSWZ				S	**Sg**	**01 34 55.0**	**-0.5**
TUWZ	**Tuamarina**	**0.44**	**324**	P	**Pg**	**01 34 52.2**	**-1.2**
TUWZ				Sg	**Sg**	**01 34 58.2**	**-1.2**
TUWZ	**Tuamarina**	**0.44**	**324**	P	**Pg**	**01 34 52.2**	**-1.2**
TUWZ				S	**Sg**	**01 34 57.6**	**-1.7**
SNZO	**South Karori**	**0.57**	**33**	P	**Pg**	**01 34 55.6**	**-0.2**
SNZO				Sg	**Sg**	**01 35 03.6**	**+0.2**
TCW	**Tory Channel**	**0.58**	**359**	Pg	**Pg**	**01 34 54.5**	**-1.5**
TCW				Sg	**Sg**	**01 35 02.8**	**-0.8**
TCW	**Tory Channel**	**0.58**	**359**	P	**Pg**	**01 34 54.7**	**-1.3**
TCW				S	**Sg**	**01 35 02.6**	**-1.0**
WEL	**Wellington**	**0.62**	**36**	P	**Pg**	**01 34 56.7**	**0.0**
WEL	**Wellington**	**0.62**	**36**	P	**Pg**	**01 34 56.7**	**0.0**
WEL				S	**Sb**	**01 35 05.8**	**-0.1**
PLWZ	**Palliser**	**0.76**	**73**		**Pn**	**01 35 00.5**	**-0.6**
PLWZ	**Palliser**	**0.76**	**73**	P	**Pn**	**01 35 00.9**	**-0.2**
MSWZ	**Moikau Station**	**0.81**	**63**		**Pn**	**01 35 01.3**	**-0.5**
MSWZ	**Moikau Station**	**0.81**	**63**	P	**Pn**	**01 35 01.2**	**-0.6**
MSWZ				S	**Sn**	**01 35 14.8**	**+1.0**
KHZ	**Kahutara**	**0.84**	**221**	Pg	**Pg**	**01 35 00.5**	**-0.4**
KHZ	**Kahutara**	**0.84**	**221**	P	**Pn**	**01 35 02.3**	**+0.1**
KHZ				S	**Sn**	**01 35 16.1**	**+1.7**
NNZ	**Nelson**	**0.89**	**310**		**Pg**	**01 35 00.2**	**-1.6**
NNZ	**Nelson**	**0.89**	**310**	P	**Pg**	**01 35 00.3**	**-1.6**
NNZ				S	**Sg**	**01 35 11.7**	**-1.8**
CAW	**Cannon Point**	**0.90**	**41**	P	**Pg**	**01 35 01.7**	**-0.3**
CAW				S	**Sg**	**01 35 13.6**	**-0.1**
PAWZ	**Paruwai Farm**	**0.94**	**65**	P	**Pn**	**01 35 03.3**	**-0.3**
DUWZ	**D'Urville Isla**	**1.02**	**344**	P	**Pg**	**01 35 02.6**	**-1.8**
DUWZ				S	**Sg**	**01 35 15.5**	**-2.3**
THZ	**Tophouse**	**1.04**	**271**	Pg	**Pb**	**01 35 03.8**	**-0.8**
THZ	**Tophouse**	**1.04**	**271**	P	**Pb**	**01 35 04.0**	**-0.5**
KIW	**Kapiti Island**	**1.04**	**27**	P	**Pb**	**01 35 03.7**	**-0.8**
MTW	**Mount Morrison**	**1.11**	**56**	P	**Pb**	**01 35 05.4**	**-0.3**
TRWZ	**Traveller**	**1.12**	**70**	P	**Pb**	**01 35 05.6**	**-0.3**
OGWZ	**Otaki Gorge**	**1.18**	**35**	P	**Pb**	**01 35 06.2**	**-0.6**
MRNZ	**Matariki Terra**	**1.21**	**288**		**Pn**	**01 35 07.1**	**-0.2**
MRNZ	**Matariki Terra**	**1.21**	**288**	P	**Pn**	**01 35 06.9**	**-0.5**
TKNZ	**Takaka Hill**	**1.25**	**307**		**Pn**	**01 35 07.1**	**-0.8**
TKNZ	**Takaka Hill**	**1.25**	**307**	P	**Pn**	**01 35 06.8**	**-1.1**
HOWZ	**Holdsworth Sta**	**1.28**	**46**	P	**Pn**	**01 35 08.0**	**-0.4**
TMWZ	**Te Maipa**	**1.38**	**61**	P	**Pn**	**01 35 09.0**	**-0.7**
MRZ	**Mangatainoka R**	**1.49**	**41**	Pn	**Pn**	**01 35 10.9**	**-0.2**
MRZ	**Mangatainoka R**	**1.49**	**41**	P	**Pn**	**01 35 10.8**	**-0.3**
GVZ	**Greta Valley S**	**1.50**	**218**		**Pn**	**01 35 11.5**	**+0.1**
GVZ	**Greta Valley S**	**1.50**	**218**	P	**Pn**	**01 35 11.4**	**-0.0**
TIWZ	**Tintock**	**1.

EDRZ	Edgecumbe	4.13	28	P		Pn		01 35 47.9	+0.3
URZ	Urewera	4.14	32	P		Pn		01 35 46.6	-1.0
TOZ	Tahuroa Road	4.16	13	P		Pn		01 35 48.7	+0.8
ODZ	Otahua Downs	4.20	218	Pn		Pn		01 35 47.0	-1.4
ODZ	Otahua Downs	4.20	218	P		Pn		01 35 47.1	-1.3
OPRZ	Ohinepanea	4.31	25	P		Pn		01 35 48.9	-1.0
TKGZ	Te Karaka	4.32	40	P		Pn		01 35 47.7	-2.3
TGRZ	Tauranga	4.33	21	P		Pn		01 35 50.8	+0.6
WHRZ	Whale Island	4.44	29	P		Pn		01 35 56.2	+4.5
CNGZ	Carnagh Statio	4.46	44	P		Pn		01 35 49.9	-2.1
TWGZ	Tauwhareparae	4.59	39	P		Pn		01 35 51.8	-2.0
RUGZ	Raukumara Rang	4.62	35	P		Pn		01 35 52.6	-1.7
JCZ	Jackson Bay	4.64	239	P		Pn		01 35 57.7	+3.1
JCZ	Jackson Bay	4.64	239	P		Pn		01 35 54.3	-0.3
AWAZ	Awhitu Peninsu	4.73	3	P		Pn		01 35 57.2	+1.5
MKAZ	Moumakai	4.73	8	P		Pn		01 35 56.2	+0.5
MYRZ	Mayor Island	4.75	19	P		Pn		01 36 00.1	+4.1
WIZ	White Island	4.81	29	P		Pn		01 35 56.2	-0.6
HAZ	Te Kaha	4.84	35	P		Pn		01 35 55.5	-1.8
ETAZ	East Tamaki Re	4.85	6	P		Pn		01 35 59.1	+1.7
WTAZ	Waiatarua	4.86	3	P		Pn		01 36 00.0	+2.6
PKGZ	Pakihiroa	4.87	38	P		Pn		01 35 55.6	-2.1
HHSZ	Highcliff Hill	4.89	212	P		Pn		01 35 56.5	-1.4
WKZ	Wanaka	4.90	230			Pn		01 35 58.0	-0.1
WKZ	Wanaka	4.90	230	P		Pn		01 35 56.9	-1.1
EPAZ	Eden Park BICE	4.92	4	P		Pn		01 36 01.2	+2.9
HBAZ	Herne Bay Bore	4.94	4	P		Pn		01 36 01.5	+2.9
EAZ	Earnscleugh	5.00	225	P		Pn		01 35 58.5	-0.9
RVAZ	Riverhead Bore	5.02	3	P		Pn		01 36 01.6	+2.0
WIAZ	Waiheke Island	5.03	8	P		Pn		01 36 01.9	+2.0
MBAZ	Motutapu North	5.04	6	P		Pn		01 36 01.4	+1.5
KUZ	Kuaotunu	5.16	13	P		Pn		01 36 04.5	+2.9
KUZ	Kuaotunu	5.16	13	P		Pn		01 36 02.5	+1.0
ABAZ	Army Bay	5.20	5	P		Pn		01 36 04.7	+2.6
MXZ	Matakaoa Point	5.24	38	Pn		Pn		01 36 01.1	-1.6
MXZ	Matakaoa Point	5.24	38	P		Pn		01 36 01.1	-1.6
MXZ	Matakaoa Point	5.24	38	P		Pn		01 36 00.9	-1.8
TUZ	Tuapeka	5.35	217	P		Pn		01 36 03.5	-0.7
MSZ	Milford Sound	5.47	236	P		Pn		01 36 11.6	+5.7
GRZ	Great Barrier	5.61	10	P		Pn		01 36 08.8	+1.1
MLZ	Mavora Lakes	5.73	229	Pn		Pn		01 36 08.5	-1.0
MLZ	Mavora Lakes	5.73	229	P		Pn		01 36 08.1	-1.4
WCZ	Waipu Caves	5.84	0	P		Pn		01 36 15.2	+4.2
SYZ	Scrubby Hill	6.02	216	P		Pn		01 36 13.4	0.0
SYZ	Scrubby Hill	6.02	216	P		Pn		01 36 12.7	-0.7
WHZ	Wether Hill Ro	6.15	226	P		Pn		01 36 13.0	-2.2
DCZ	Deep Cove	6.35	232	P		Pn		01 36 17.0	-0.9
OUZ	Omahuta	6.58	355	Pn		Pn		01 36 21.5	+0.4
OUZ	Omahuta	6.58	355	P		Pn		01 36 23.3	+2.2
OUZ	Omahuta	6.58	355	P		Pn		01 36 23.1	+1.9
APZ	The Paps	6.77	220	P		Pn		01 36 22.6	-1.1
CTZ	Chatham Island	6.97	109	P		Pn		01 36 26.7	+0.3
CTZ	Chatham Island	6.97	109	P		Pn		01 36 26.5	+0.1
PYZ	Puysegur Point	7.02	229	Pn		Pn		01 36 28.1	+1.0
PYZ	Puysegur Point	7.02	229	P		Pn		01 36 30.7	+3.6
PYZ	Puysegur Point	7.02	229	P		Pn		01 36 26.3	-0.8
RAO	Raoul Island	14.02	29	LR		LR		01 43 21.7	
	comp=Z,10μm,18.4s,baz=193,slow=38								
LHI	Lord Howe Isla	15.93	305	Pn		Pn		01 38 27.8	-0.7
MCQ	Macquarie Isla	16.27	213	P		P		01 38 34.6	-1.1
	baz=16								
MCQ	Macquarie Isla	16.27	213			Pn		01 38 32.8	0.0
MCQ				IAmb		IAmb		01 38 39.6	
	comp=Z,204nm,1.4s								
MCQ	Macquarie Isla	16.27	213	P		P		01 38 35.5	-0.3
MCQ	Macquarie Isla	16.27	213	P		Pn		01 38 32.8	0.0
MCQ				pmax		pmax			
	comp=Z,204nm,1.4s								
WOLH	Wollongong Har	19.81	284	P		Pn		01 39 19.5	+3.0
MILA	Mila	19.96	275	P		Pn		01 39 21.7	+3.4
OUENC	Ouen Island, N	20.30	340	P		P		01 39 20.9	+0.6
OUENC	Ouen Island, N	20.30	340	P		Pn		01 39 23.6	+1.3
CNB	Canberra Magne	20.50	280	P		Pn		01 39 26.8	+2.1
ONTNC	Ouen Toro	20.51	339	P		P		01 39 22.7	+0.1
ONTNC				IAmb		IAmb		01 39 28.5	
	comp=Z,125nm,1.0s								
ONTNC	Ouen Toro	20.51	339	P		Pn		01 39 27.4	+2.7
YATNC	Mamie plateau,	20.63	340	P		Pn		01 39 29.6	+3.4
DZM	Mont Dzumac	20.74	339	*e*Pn		Pn		01 39 27.7	+0.2
DZM	comp=Z,213nm,1.1s			*e*LR		LR		01 44 21.6	
	comp=Z,3μm,20.4s								
DZM	Mont Dzumac	20.74	339	P		P		01 39 26.0	+0.9
	comp=Z,48nm,1.0s,baz=144,slow=18,SNR=18								
DZM				LR		LR		01 47 08.2	
	comp=Z,5μm,18.6s,baz=178,slow=36								
DZM	Mont Dzumac	20.74	339	P		P		01 39 25.0	-0.2
DZM	Mont Dzumac	20.74	339	P		Pn		01 39 29.2	+1.7
NOUC	Port Laguerre	20.75	339	P		Pn		01 39 29.6	+2.1
CAN	Canberra	20.77	280	P		P		01 39 25.5	+0.2
CAN	Canberra	20.77	280	P		Pn		01 39 29.4	+1.6
CAN	Canberra	20.77	280	P		P		01 39 25.5	+0.2
CAN				pmax		pmax			
	comp=Z,57nm,1.0s								
CAN				MLR		MLR			
	comp=Z,2μm,20.0s								
MARNC	Mare, Loyalty	20.92	343	P		P		01 39 26.9	-0.2
ARMA	Armidale	21.47	295	P		P		01 39 31.9	-1.2
	baz=21,SNR=3.9								
ARMA	Armidale	21.47	295	P		P		01 39 32.5	-0.6
LIFNC	LIFOU	21.78	342	P		P		01 39 37.4	+1.2
LIFNC				IAmb		IAmb		01 39 51.6	
	comp=Z,208nm,1.0s								
LIFNC	LIFOU	21.78	342	P		P		01 39 40.9	+4.7
TOO	Toolangi	22.51	271	P		P		01 39 43.9	-0.2
TOO	Toolangi	22.51	271	P		P		01 39 43.9	-0.2
TOO				pmax		pmax			
	comp=Z,61nm,1.4s								
AUDCS	Dubbo College	22.53	287	P		P		01 39 49.0	+4.7
AUWSH	Wavell State H	22.55	303	P		P		01 39 49.5	+5.1
	comp=Z,46nm,1.1s								
KOUNC	Koumac, New Ca	22.80	335	P		P		01 39 48.3	+1.1
KOUNC				IAmb		IAmb		01 40 05.3	
	comp=Z,100nm,1.1s								
KOUNC				IAMs_20		IAMs_20		01 47 50.6	
	comp=Z,6μm,19.0s								
KOUNC	Koumac, New Ca	22.80	335	P		P		01 39 48.6	+1.4
BRAT	Ballarat	23.68	270	P		P		01 40 01.6	+5.6
MSVF	Nonsavu	24.19	9	P		P		01 39 59.7	-1.3
	comp=Z,25nm,0.8s,baz=154,slow=9.0,SNR=16								
MSVF				LR		LR		01 49 02.7	
	comp=Z,5μm,18.0s,baz=200,slow=36								
	comp=Z,25nm,0.8s								
MSVF	Nonsavu	24.19	9	P		P		01 40 01.2	+0.2
MSVF				IAmb		IAmb		01 40 22.0	
	comp=Z,100nm,0.9s								
MSVF	Nonsavu	24.19	9	IAMs_20		IAMs_20		01 50 17.0	
	comp=Z,7μm,18.0s								
MSVF	Nonsavu	24.19	9	P		P		01 40 02.3	+1.3
MSVF	Nonsavu	24.19	9	*i* P		P		01 40 01.9	+0.9
MSVF				pmax		pmax			
	comp=Z,102nm,1.1s								
CMSA	Cobar Meteorol	25.02	285	P		P		01 40 08.3	-0.1
	baz=25,SNR=10								
CMSA	Cobar Meteorol	25.02	285	P		P		01 40 08.8	+0.5
EIDS	Eidsvold	25.22	303	P		P		01 40 09.2	-1.1
	baz=25,SNR=5.1								
EIDS	Eidsvold	25.22	303	P		P		01 40 10.4	+0.2
EIDS				IAmb		IAmb		01 40 26.9	
	comp=Z,67nm,1.4s								
EIDS	Eidsvold	25.22	303	P		P		01 40 12.6	+2.4
ARPS	Mount Arapiles	25.52	271	P		P		01 40 13.0	+0.1
	baz=25,SNR=6.7								
ARPS	Mount Arapiles	25.52	271	P		P		01 40 17.3	+4.4
RMQ	Roma	25.94	298	P		P		01 40 17.4	+0.6
	baz=26,SNR=7.2								
RMQ	Roma	25.94	298	P		P		01 40 21.8	+5.0
NIUE	Niue	26.33	35	P		P		01 40 19.6	-0.7
STKA	Stephens Creek	27.83	280	P		P		01 40 34.4	+0.6
	comp=Z,7.3nm,1.0s,baz=102,slow=10,SNR=8.7								
STKA				LR		LR		01 49 57.7	
	comp=Z,1μm,21.6s,baz=147,slow=33								
	comp=Z,7.3nm,1.0s								
STKA	Stephens Creek	27.83	280	P		P		01 40 34.5	+0.8
	baz=28,SNR=5.5								
STKA	Stephens Creek	27.83	280	P		P		01 40 33.4	-0.3
STKA	Stephens Creek	27.83	280	P		P		01 40 38.7	+4.9
STKA	Stephens Creek	27.83	280	*i* P		P		01 40 36.7	+2.9
QLP	Quilpie	28.94	292	P		P		01 40 45.9	+2.3
	baz=29,SNR=4.1								
QLP	Quilpie	28.94	292	P		P		01 40 47.5	+3.8
HTT	Hallett	29.07	275	P		P		01 40 44.9	0.0
	baz=29,SNR=5.1								

RAR	Rarotonga	29.97	55	LR		LR		01 51 19.1	
	comp=Z,3μm,20.9s,baz=216,slow=33								
LCRK	Leigh Creek	31.05	280	P		P		01 41 03.1	+0.8
DRV	Dumont d'Urvil	31.23	206	P		P		01 41 04.8	+1.3
BBOO	Buckleboo	31.49	274	P		P		01 41 05.4	-0.8
	baz=31,SNR=8.3								
BBOO	Buckleboo	31.49	274	P		P		01 41 05.4	-0.8
BBOO				IAmb		IAmb		01 41 35.4	
	comp=Z,38nm,1.2s								
BBOO	Buckleboo	31.49	274	P		P		01 41 05.6	-0.6
CTA	Charters Tower	32.10	304	P		P		01 41 11.0	-0.7
	comp=Z,11nm,0.9s,baz=137,slow=8.2,SNR=7.6								
CTA				LR		LR		01 52 19.0	
	comp=Z,4μm,21.8s,baz=125,slow=33								
	comp=Z,11nm,0.9s								
CTA	Charters Tower	32.10	304	P		P		01 41 11.1	-0.6
CTA	Charters Tower	32.10	304	P		P		01 41 11.0	-0.7
CTAO	Charters Tower	32.10	304	P		P		01 41 11.6	-0.1
CTAO				IAmb		IAmb		01 41 20.7	
	comp=Z,32nm,1.1s								
CTAO	Charters Tower	32.10	304	IAMs_20		IAMs_20		01 52 05.9	
	comp=Z,4μm,22.0s								
CTAO	Charters Tower	32.10	304	P		P		01 41 11.8	+0.1
CTAO	Charters Tower	32.10	304	P		P		01 41 11.6	-0.1
CTAO				pmax		pmax			
	comp=Z,32nm,1.2s								
MULG	Mulgathing	34.21	276	P		P		01 41 30.2	+0.2
OOD	Oodnadatta	34.34	282	P		P		01 41 32.3	+1.2
HNR	Honiara	34.62	335	LR		LR		01 56 18.6	
	comp=Z,27μm,18.1s,baz=164,slow=38								
HNR	Honiara	34.62	335	P		P		01 41 33.5	-0.1
HNR	Honiara	34.62	335	P		P		01 41 33.5	-0.1
HNR				pmax		pmax			
	comp=Z,89nm,0.8s								
HNR				MLR		MLR			
	comp=Z,2μm,18.0s								
MTSU	Mount Surprise	34.77	304	P		P		01 41 35.0	0.0
	baz=34,SNR=9.2								
MTSU	Mount Surprise	34.77	304	P		P		01 41 35.0	0.0
TBI	Tubuai	35.32	70	*e*S		S		01 47 14.0	+0.5
	comp=Z,2μm,27.2s								
TBI				*e*LR		LR		01 51 05.4	
	comp=Z,12μm,25.0s								
TBI				*e*LR		LR		01 51 05.6	
	comp=Z,50μm,23.5s								
TBI	Tubuai	35.32	70	*e*T		T		02 19 33.9	
	comp=Z,49nm,0.4s								
QIS	Mount Isa	36.10	295	P		P		01 41 45.6	-0.7
	baz=36								
QIS	Mount Isa	36.10	295	P		P		01 41 45.4	-1.0
VNDA	Vanda	36.21	185	P		P		01 41 48.9	+2.2
	comp=Z,10nm,1.1s,baz=1.8,slow=8.3,SNR=30								
	comp=Z,10nm,1.1s								
VNDA	Vanda	36.21	185	P		P		01 41 47.1	+0.4
VNDA	Vanda	36.21	185	P		P		01 41 47.1	+0.4
VNDA				pmax		pmax			
	comp=Z,15nm,1.1s								
AS01	Alice Springs	38.04	286	P		P		01 42 02.0	-0.8
AS31	Alice Springs	38.07	286	P		P		01 42 02.7	-0.4
ASAR	Alice Springs	38.07	286	P		P		01 42 01.1	-2.0
	comp=Z,8.0nm,0.8s,baz=131,slow=7.9,SNR=45								
ASAR				LR		LR		01 56 44.9	
	comp=Z,2μm,21.5s,baz=130,slow=35								
	comp=Z,8.0nm,0.8s								
ASAR	Alice Springs	38.07	286	P		P		01 42 01.2	-1.9
ASAR	Alice Springs	38.07	286	P		P		01 42 01.2	-1.9
FORT	Forrest	38.44	271	P		P		01 42 05.7	-0.4
FORT				IAmb		IAmb		01 42 16.5	
	comp=Z,43nm,0.9s								
FORT	Forrest	38.44	271	P		P		01 42 09.6	+3.5
COEN	Coen	38.68	307	P		P		01 42 07.3	-0.9
	baz=38,SNR=6.4								
COEN	Coen	38.68	307	P		P		01 42 07.4	-0.9
COEN	Coen	38.68	307	P		P		01 42 10.1	+1.9
PPT2	Papeete2	39.15	63	*e*S		S		01 48 13.3	+1.3
	comp=Z,339nm,27.8s								
PPT2				*e*LR		LR		01 52 52.2	
	comp=Z,2μm,29.0s								
PPT2				*e*LR		LR		01 52 52.3	
	comp=Z,3μm,27.0s								
PPT	Papeete	39.17	63	LR		LR		01 56 41.7	
	comp=Z,2μm,18.2s,baz=234,slow=34								
WR0	Warramunga Arr	39.99	291	P		P		01 42 18.6	-0.7
WB2	Warramunga Arr	40.14	290	P		P		01 42 18.7	-1.8
	baz=40								
WB2	Warramunga Arr	40.14	290	P		P		01 42 18.6	-1.8
PMG	Port Moresby	40.14	316	P		P		01 42 20.4	0.0
	comp=Z,26nm,0.8s,baz=123,slow=6.7,SNR=18								
PMG				LR		LR		01 59 23.7	
	comp=Z,2μm,18.2s,baz=153,slow=37								
PMG	Port Moresby	40.14	316	P		P		01 42 20.2	-0.1
PMG				IAmb		IAmb		01 42 31.7	
	comp=Z,155nm,1.3s								
PMG	Port Moresby	40.14	316	P		P		01 42 21.0	+0.6
	comp=Z,950nmcomp=Z,78nm,1.0s								
PMG	Port Moresby	40.14	316	P		P		01 42 21.4	+1.0
PMG	Port Moresby	40.14	316	P		P		01 42 20.9	+0.6
PMG	Port Moresby	40.14	316	*d i* P		P		01 42 21.3	+0.9
PMG				pmax		pmax			
	comp=Z,28nm,0.9s								
WRAB	Tennant Creek	40.14	290	P		P		01 42 19.3	-1.2
WRAB				IAMs_20		IAMs_20		01 59 02.6	
	comp=Z,3μm,20.0s								
WRAB	Tennant Creek	40.14	290	P		P		01 42 19.3	-1.2
WRAB				pmax		pmax			
	comp=Z,34nm,0.9s								
WRAB				MLR		MLR			
	comp=Z,3μm,20.0s								
WRA	Warramunga Arr	40.15	290	P		P		01 42 18.7	-1.8
	comp=Z,15nm,0.9s,baz=125,slow=8.2,SNR=67								
WRA				LR		LR		01 59 22.0	
	comp=Z,2μm,18.7s,baz=122,slow=37								
	comp=Z,15nm,0.9s								
WRA	Warramunga Arr	40.15	290	P		P		01 42 18.1	-2.4
WB0	Warramunga Arr	40.22	291	P		P		01 42 19.7	-1.5
WRKA	Warakurna	41.35	279	P		P		01 42 28.5	-1.9
	baz=41,SNR=24								
WRKA	Warakurna	41.35	279	P		P		01 42 28.5	-1.9
CASY	Casey	42.19	213	P		P		01 42 37.2	+0.5
CASY				IAmb		IAmb		01 42 38.3	
	comp=Z,39nm,0.9s								
CASY	Casey	42.19	213	IAMs_20		IAMs_20		01 58 52.2	
	comp=Z,4μm,18.0s								
KRVT	Keravat (AS076	42.30	326	LR		LR		01 58 56.1	
	comp=Z,1μm,19.6s,baz=292,slow=35								
RABL	Rabaul	42.34	326	P		P		01 42 38.2	-0.4
KMBL	Kambalda	42.77	267	P		P		01 42 40.7	-1.2
	baz=42								
KMBL	Kambalda	42.77	267	P		P		01 42 40.9	-1.0
TARA	Tarawa	42.96	358	P		P		01 42 42.9	-0.6
TARA				IAmb		IAmb		01 42 48.8	
	comp=Z,98nm,1.0s								
NWAO	Narrogin (SRO)	45.48	262	LR		LR		01 59 27.0	
	comp=Z,368nm,20.0s,baz=338,slow=33								
NWAO	Narrogin (SRO)	45.48	262	P		P		01 43 02.7	-0.9
KLBR	Kellerberrin	45.73	264	P		P		01 43 04.4	-1.3
	baz=45,SNR=5.5								
KLBR	Kellerberrin	45.73	264	P		P		01 43 04.4	-1.3
MANU	Manus Island	46.38	321	P		P		01 43 09.7	-1.2
MANU	Manus Island	46.38	321	P		P		01 43 16.2	+5.3
	comp=Z,20nm,0.4s								
KDU	Kakadu	46.47	296	P		P		01 43 10.4	-1.1
	baz=46,SNR=6.5								
KDU	Kakadu	46.47	296	P		P		01 43 10.4	-1.1
MUN	Mundaring	46.69	262	P		P		01 43 17.1	+3.9
MUN	Mundaring	46.69	262	P		P		01 43 10.9	-2.3
KNRA	Kununurra	46.93	290	P		P		01 43 14.4	-0.8
	baz=47,SNR=8.1								
KNRA	Kununurra	46.93	290	P		P		01 43 14.6	-0.6
KNRA				IAmb		IAmb		01 43 24.3	
	comp=Z,60nm,1.1s								
KNRA	Kununurra	46.93	290	P		P		01 43 14.9	-0.2
BLDU	Ballidu	47.00	264	P		P		01 43 14.2	-1.4
MTN	Manton Dam	47.26	295	P		P		01 43 16.6	-1.1
	baz=47,SNR=34								
MTN	Manton Dam	47.26	295	P		P		01 43 16.3	-1.4
MTN				IAmb		IAmb		01 43 22.6	
	comp=Z,44nm,0.9s								
MTN	Manton Dam	47.26	295	P		P		01 43 16.7	-1.1
MEEK	Meekatharra	47.66	270	P		P		01 43 18.8	-2.1
	baz=47,SNR=29								
MEEK	Meekatharra	47.66	270	P		P		01 43 18.7	-2.2
MORW	Morawa	48.29	266	P		P		01 43 24.3	-1.3
	baz=48,SNR=6.0								
MORW	Morawa	48.29	266	P		P		01 43 24.4	-1.2
MORW				IAmb		IAmb		01 43 41.7	
	comp=Z,26nm,1.1s								
MORW	Morawa	48.29	266	P		P		01 43 24.0	-1.6
QSPA	South Pole Qui	48.34	180	P		P		01 43 28.3	+2.6
	comp=Z,82nm,1.0s,baz=25,slow=2.7,SNR=124								
QSPA				LR		LR		02 01 48.7	
	comp=Z,2μm,21.4s,baz=42,slow=34								
	comp=Z,82nm,1.0s								
QSPA	South Pole Qui	48.34	180	IAMs_20		IAMs_20		02 01 38.2	
	comp=Z,2μm,21.0s								
PSA00	Pilbara Seismi	49.65	276	P		P		01 43 33.9	-2.2
PSA00				IAmb		IAmb		01 43 43.5	
	comp=Z,26nm,1.1s								
PSA00	Pilbara Seismi	49.65	276	P		P		01 43 34.0	-2.2
MBWA	Marble Bar	49.98	277	P		P		01 43 36.4	-2.3
MBWA				IAmb		IAmb		01 43 46.9	
	comp=Z,44nm,0.9s								
MBWA	Marble Bar	49.98	277	IAMs_20		IAMs_20		02 03 06.3	
	comp=Z,3μm,19.0s								
MBWA	Marble Bar	49.98	277	P		P		01 43 36.7	-2.0
TAOE	Nuku Hiva Isla	51.76	64	*e*S		S		01 51 14.4	+0.4
	comp=Z,374nm,29.1s								
TAOE				*e*SS		SS		01 54 52.4	+1.7
	comp=Z,339nm,24.0s								
TAOE				*e*LR		LR		01 58 42.8	
	comp=Z,3μm,25.8s								
GIRL	Giralia	53.20	271	P		P		01 44 01.9	-0.9
	baz=53,SNR=6.5								
FAKI	Fak Fak	53.97	304	P		P		01 44 08.2	-0.3
FAKI				IAmb		IAmb		01 44 13.1	
	comp=Z,21nm,0.7s								
FAKI				IAMs_20		IAMs_20		02 07 47.3	
	comp=Z,2μm,20.0s								
SOEI	Soe	54.17	291	P		P		01 44 09.6	-0.5
SOEI	Soe	54.17	291	P		P		01 44 11.1	+1.0
BATI	Baumata	54.28	290	LR		LR		02 07 04.0	
	comp=Z,3μm,20.7s,baz=148,slow=36								
SIJI	Sorong	56.17	305	P		P		01 44 22.8	-1.6
	comp=Z,6.2nm,0.4s,baz=78,slow=3.7,SNR=12								
SIJI				LR		LR		02 07 19.0	
	comp=Z,1μm,22.0s,baz=175,slow=35								
	comp=Z,6.2nm,0.4s								
MMRI	Maumere	56.38	291	P		P		01 44 24.8	-1.0
MMRI				IAmb		IAmb		01 44 39.1	
	comp=Z,50nm,0.9s								
SANI	Sanana	58.62	299	P		P		01 44 40.3	-1.3
	comp=Z,22nm,0.7s								
BELA	Belgrano 2	59.30	173	P		P		01 44 45.7	+0.2
MAW	Mawson	59.43	204	P		P		01 44 48.2	+1.7
	comp=Z,21nm,1.1s,baz=123,slow=9.9,SNR=16								
MAW				LR		LR		02 10 01.6	
	comp=Z,4μm,18.2s,baz=108,slow=36								
	comp=Z,21nm,1.1s								
MAW	Mawson	59.43	204	P		P		01 44 48.3	+1.7
	baz=59,SNR=7.6								
MAW	Mawson	59.43	204	P		P		01 44 48.0	+1.5
MAW	Mawson	59.43	204	P		P		01 44 48.0	+1.5
MAW				pmax		pmax			
	comp=Z,14nm,1.4s								
TNTI	Ternate	59.88	302	P		P		01 44 48.5	-1.9
TNTI				IAmb		IAmb		01 44 57.8	
	comp=Z,24nm,0.9s								
KAPI	Kappang	60.67	291	P		P		01 44 55.1	-0.6
	comp=Z,6.3nm,0.4s,baz=219,slow=3.5,SNR=6.5								
	comp=Z,6.3nm,0.4s								
KAPI	Kappang	60.67	291	P		P		01 44 54.9	-0.9
KAPI				IAmb		IAmb		01 45 13.7	
	comp=Z,26nm,1.0s								
KAPI	Kappang	60.67	291	P		P		01 45 01.4	+5.6
SMAI	San Martin Ant	61.22	158	P		P		01 44 58.6	-0.2
SMAI				IAmb		IAmb		01 45 02.8	
	comp=Z,52nm,1.1s								
GUMO	Guam	61.42	327	LR		LR		02 11 14.1	
	comp=Z,370nm,18.4s,baz=156,slow=36								
LUWI	Luwuk	61.49	297	P		P		01 45 00.4	-1.0
LUWI	Luwuk	61.49	297	P		P		01 45 02.9	+1.6
RPN	Rapa Nui	62.74	103	LR		LR		02 08 30.5	
	comp=Z,1μm,18.1s,baz=223,slow=32								
TOLI2	Tolitoli	64.41	297	P		P		01 45 18

KULM **Kulim** 81.43 285 P **P** 01 47 06.4 +4.7
SSLB **Suanglung** 81.79 312 P **P** 01 47 02.0 -1.3
SSLB IAmb IAmb 01 47 08.0
comp=Z,87nm,1.8s
ML02 **Panimavida** 82.18 132 P **P** 01 47 02.1 -3.3
GO05 **Huala** 82.44 131 P **P** 01 47 05.1 -1.7
GO05 IAmb IAmb 01 47 09.5
comp=Z,60nm,1.5s
BO02 **Sierra Bellavi** 83.24 131 P **P** 01 47 10.2 -0.8
MT01 **Popeta** 83.65 130 P **P** 01 47 11.7 -1.4
MT09 **Talagante** 83.86 130 P **P** 01 47 13.3 -1.1
MT09 IAmb IAmb 01 47 32.7
comp=Z,46nm,1.4s
BO04 **La Punta** 83.92 131 P **P** 01 47 13.7 -0.8
BO04 IAmb IAmb 01 47 18.3
comp=Z,31nm,1.4s
INU **Inuyama** 84.03 330 P **P** 01 47 13.4 -1.2
INU IAmb IAmb 01 47 23.9
comp=Z,16nm,0.8s
LHMI **Lhok Sumawe** 84.08 282 IAMs_20 IAMs_20 02 26 23.1
comp=Z,741nm,20.0s
MT02 **Curacav** 84.16 130 P **P** 01 47 13.8 -1.8
LMEL **Las Melosas** 84.26 131 P **P** 01 47 14.9 -1.5
LMEL IAmb IAmb 01 47 19.7
comp=Z,58nm,1.6s
MT05 **Renca** 84.29 130 P **P** 01 47 15.0 -1.4
MT03 **Universidad Ad** 84.34 131 P **P** 01 47 15.6 -1.2
JNU **Nakatsue** 84.56 325 P **P** 01 47 18.8 +1.4
JNU IAmb IAmb 01 47 30.9
comp=Z,32nm,1.0s
MJAR **Matsushiro Arr** 84.66 332 P **P** 01 47 16.7 -1.1
comp=Z,1.0nm,0.3s,baz=149,slow=8.1,SNR=2.1
comp=Z,1.0nm,0.3s
QIZ **Qiongzhong** 84.84 301 P **P** 01 47 20.1 +1.0
QIZ **Qiongzhong** 84.84 301 S **S** 01 57 46.3 -0.9
QIZ **Qiongzhong** 84.84 301 SS SS 02 03 19.3 -0.8
QIZ LR LR
comp=N,280nm,19.9s
QIZ LR LR
comp=E,240nm,15.9s
QIZ LR LR
comp=Z,400nm,20.7s
VA03 **San Esteban** 84.85 130 P **P** 01 47 18.9 -0.5
TRQA **Tornquist** 85.43 139 P **P** 01 47 21.4 -0.5
TRQA IAmb IAmb 01 47 24.6
comp=Z,39nm,1.2s
TRQA **Tornquist** 85.43 139 *e*P **P** 01 47 23.4 +1.4
TRQA **Tornquist** 85.43 139 P **P** 01 47 21.5 -0.5
TRQA pmax pmax
comp=Z,39nm,1.2s
CO02 **Combarbal** 85.73 129 P **P** 01 47 22.2 -1.6
CO03 **El Pedregal** 86.18 129 P **P** 01 47 25.3 -0.6
CO03 IAmb IAmb 01 47 28.9
comp=Z,46nm,1.1s
ZON **Zonda** 86.82 130 P **P** 01 47 28.4 -0.6
ZON **Zonda** 86.82 130 P **P** 01 47 28.5 -0.6
ZON pmax pmax
comp=Z,61nm,1.4s
CO01 **Juntas del Tor** 87.16 128 P **P** 01 47 28.8 -2.2
CO01 IAmb IAmb 01 47 34.3
comp=Z,31nm,1.2s
AC05 **El Transito** 87.89 128 P **P** 01 47 32.0 -2.4
AC06 **Mina Casimiro** 88.93 126 P **P** 01 47 37.6 -1.6
AC06 IAmb IAmb 01 47 53.3
comp=Z,45nm,1.7s
KSRS **Korea Array** 89.50 325 P **P** 01 47 40.5 -0.8
comp=Z,6.6nm,0.9s,baz=149,slow=5.8,SNR=10
KSRS LR LR 02 24 50.6
comp=Z,234nm,21.1s,baz=140,slow=34
comp=Z,6.6nm,0.9s
KSAR **Wonju Array Be** 89.51 325 P **P** 01 47 41.1 -0.2
KSAR **Wonju Array Be** 89.51 325 P **P** 01 47 41.1 -0.2
PHRA **Phrae** 90.83 294 **P** 01 47 45.7 -2.2
PB14 **IPOC Station P** 90.91 125 P **P** 01 47 47.2 -1.6
GO02 **Mina Guanaco** 91.01 126 P **P** 01 47 48.9 -0.4
CMAR **Chiang Mai Arr** 91.68 293 P **P** 01 47 51.1 -0.8
comp=Z,4.6nm,0.6s,baz=150,slow=3.4,SNR=31
CMAR PP **PP** 01 51 30.2 -0.6
comp=Z,0.6nm,0.3s,baz=147,slow=6.9,SNR=4.2
CMAR LR LR 02 34 39.7
comp=Z,161nm,18.1s,baz=135,slow=39
comp=Z,4.6nm,0.6s
CMAR **Chiang Mai Arr** 91.68 293 **P** 01 47 51.4 -0.5
CMAR **Chiang Mai Arr** 91.68 293 P **P** 01 47 51.4 -0.5
CHTO **Chiang Mai** 91.93 294 P **P** 01 47 51.9 -1.2
CHTO **Chiang Mai** 91.93 294 P **P** 01 47 51.9 -1.2
GYA **Guiyang** 92.24 304 ⇓P **P** 01 47 58.1 +3.7
GYA PP **PP** 01 51 35.0 -0.2
GYA **Guiyang** 92.24 304 S **S** 01 58 58.4 +1.2
GYA pmax pmax
comp=Z,12nm,0.8s
GYA pmax pmax
comp=Z,160nm,5.3s
GYA LR LR
comp=N,190nm,30.6s
GYA LR LR
comp=E,220nm,23.2s
GYA LR LR
comp=Z,360nm,27.0s
PB15 **IPOC Station P** 92.52 124 **P** 01 47 53.8 -2.4
PB15 IAmb IAmb 01 47 59.9
comp=Z,16nm,1.0s
YSS **Yuzh-Sakhalins** 92.69 339 *i* P **P** 01 47 59.2 +3.4
YSS pmax pmax
comp=Z,20nm,1.2s
LVC **Limon Verde** 93.31 124 LR LR 02 23 04.2
comp=Z,320nm,18.6s,baz=238,slow=31
LVC **Limon Verde** 93.31 124 *e*P **P** 01 48 00.6 +0.6
PAYG **Puerto Ayora** 93.61 94 IAMs_20 IAMs_20 02 28 31.3
comp=Z,6.6nm,18.0s
PLTB **Pedras Altas** 94.55 141 *e*P **P** 01 48 06.4 +1.2
RODS **Rosario do Sul** 94.94 139 *e*P **P** 01 48 08.5 +1.5
PZH **PanZhiHua** 95.38 301 P **P** 01 48 12.9 +4.0
PZH **PanZhiHua** 95.38 301 S **S** 01 59 22.9 -1.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.0s
PZH LR LR
comp=N,720nm,24.5s
PZH LR LR
comp=E,850nm,23.1s
PZH LR LR
comp=Z,2μm,24.5s
LPIG **La Paz** 95.59 63 LR LR 02 24 49.5
comp=Z,1μm,18.1s,baz=226,slow=32
PETK **Petropavlovsk-** 95.60 350 LR LR 02 28 33.0
comp=Z,551nm,19.2s,baz=154,slow=34
NNA **Nana** 95.72 111 LR LR 02 24 28.2
comp=Z,1μm,18.2s,baz=230,slow=31
HNS **HongShan** 95.74 316 ⇑P **P** 01 48 11.8 +1.7
HNS **HongShan** 95.74 316 S **S** 01 59 27.3 +0.2
HNS **HongShan** 95.74 316 SS SS 02 06 07.1 +10
HNS pmax pmax
comp=Z,7.0nm,0.7s
HNS LR LR
comp=N,290nm,15.3s
HNS LR LR
comp=E,220nm,15.9s
HNS LR LR
comp=Z,360nm,24.0s
UNIS **Unistadla (Bra** 96.05 138 *e*P **P** 01 48 14.0 +2.0
XAN **Xi'an** 96.38 311 ⇑P P 01 48 20.5 +7.3
XAN sP sP 01 48 32.3 +13
XAN **Xi'an** 96.38 311 S **S** 01 59 33.9 +0.9
XAN **Xi'an** 96.38 311 SS SS 02 06 04.3 -2.5
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN LR LR
comp=N,270nm,20.6s
XAN LR LR
comp=E,170nm,17.9s
XAN LR LR
comp=Z,450nm,22.0s
AZCA **Azaras, Argent** 96.40 137 *e*P **P** 01 48 15.0 +1.4
TNCH **TengChong** 96.46 298 P **P** 01 48 15.4 +1.4
TNCH pP pP 01 48 18.3 +0.1
TNCH sP sP 01 48 20.9 +1.2
TNCH pmax pmax
comp=Z,33nm,0.8s
TNCH pmax pmax
comp=Z,62nm,1.3s
CPUP **Villa Florida** 97.11 135 P Pdif 01 48 17.8 +0.8
comp=Z,2.1nm,0.9s,baz=199,slow=13,SNR=3.6
CPUP LR LR 02 27 26.4
comp=Z,269nm,18.4s,baz=211,slow=32
comp=Z,2.1nm,0.9s
CPUP **Villa Florida** 97.11 135 *e*P Pdif 01 48 18.3 +1.4
ALGR **Alto Alegre (B** 97.28 139 *e*P Pdif 01 48 19.1 +1.4
PALK **Pallekele** 97.47 273 LR LR 02 29 51.1
comp=Z,188nm,19.0s,baz=226,slow=34
PASC **Pasadena Art C** 97.71 51 IAMs_20 IAMs_20 02 25 03.9
comp=Z,986nm,20.0s
CNLB **Canela** 97.89 141 *e*P Pdif 01 48 21.6 +1.2
ATAH **Atahualpa** 97.99 107 LR LR 02 23 55.9
comp=Z,556nm,20.0s,baz=252,slow=30
KLR **Kul'dur** 98.06 333 LR LR 02 29 07.5
comp=Z,233nm,21.8s,baz=159,slow=33
KLR **Kul'dur** 98.06 333 *i* P Pdif 01 48 25.9 +5.6
KLR pmax pmax
comp=Z,3.0nm,1.2s
LPAZ **La Paz** 98.48 121 LR LR 02 22 21.9
comp=Z,237nm,20.6s,baz=230,slow=29
LPAZ **La Paz** 98.48 121 *e*P Pdif 01 48 24.0 0.0
CMB **Columbia Colle** 99.25 47 IAMs_20 IAMs_20 02 29 12.8
comp=Z,847nm,18.0s
BRDH **Bariadhala** 99.56 292 LR LR 02 40 46.5
comp=Z,315nm,18.5s,baz=90,slow=40
HHC **Hu-ho-hao-te** 99.94 317 *e*P **Pdif** **01 48 29.9 +0.8**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,150nm,6.4s
HHC LR LR
comp=N,320nm,15.2s
HHC LR LR
comp=E,410nm,16.5s
HHC LR LR
comp=Z,560nm,16.1s
MURT **Porto Murtinho** 100.70 132 *e*P **Pdif** **01 48 33.7 +0.8**
LZH **Lanzhou** 100.75 309 *e*P **Pdif** **01 48 25.3 -7.6**
LZH pP pPdif 01 48 32.0 -5.1
TPNV **Topopah Spring** 100.79 50 IAMs_20 IAMs_20 02 34 27.4
comp=Z,1μm,19.0s
MOD **Modoc Plateau** 102.09 44 IAMs_20 IAMs_20 02 35 20.8
comp=Z,952nm,18.0s
HIA **Hailar** 102.56 327 *i* P **Pdif** **01 48 43.5 +3.1**
HIA pmax pmax
comp=Z,3.0nm,1.0s
WUAZ **Wupatki** 102.67 54 IAMs_20 IAMs_20 02 26 31.2
comp=Z,1μm,21.0s
MA2 **Magadan** 102.86 348 IAMs_20 IAMs_20 02 32 13.7
comp=Z,608nm,20.0s
WVOR **Wild Horse Val** 103.33 44 IAMs_20 IAMs_20 02 28 57.8
comp=Z,1μm,20.0s
TXAR **Lajitas Array** 103.48 63 PKKPbc PKKPbc 02 04 39.1 +1.5
comp=Z,0.4nm,0.7s,baz=87,slow=4.5,SNR=6.3
SNET **Serv Nac Est T** 103.78 84 IAMs_20 IAMs_20 02 25 40.3
comp=Z,688nm,20.0s
ELK **Elko** 103.99 48 IAMs_20 IAMs_20 02 35 55.1
comp=Z,1μm,18.0s
DUG **Dugway, Tooele** 104.97 49 IAMs_20 IAMs_20 02 35 34.1
comp=Z,1μm,18.0s
MVCO **Mesa Verde** 105.52 54 IAMs_20 IAMs_20 02 28 54.7
comp=Z,1μm,22.0s
BMO **Blue Mountains** 105.72 43 IAMs_20 IAMs_20 02 29 26.8
comp=Z,1μm,20.0s
PLID **Pearl Lake** 106.55 44 IAMs_20 IAMs_20 02 31 49.9
comp=Z,878nm,19.0s
HWUT **Hardware Ranch** 106.62 49 IAMs_20 IAMs_20 02 33 37.7
comp=Z,904nm,19.0s
JCT **Junction City** 106.80 64 IAMs_20 IAMs_20 02 28 54.7
comp=Z,1μm,20.0s
M22K **Willow** 107.14 17 IAMs_20 IAMs_20 02 33 24.8
comp=Z,993nm,19.0s
ANM **Nome** 107.22 9 IAMs_20 IAMs_20 02 32 42.9
comp=Z,680nm,21.0s
SONM **Songino Array** 107.52 319 PKKPbc PKKPbc 02 04 26.0 +0.1
comp=Z,0.4nm,0.8s,baz=326,slow=2.1,SNR=2.7
AHID **Auburn Hatcher** 107.64 48 IAMs_20 IAMs_20 02 34 18.7
comp=Z,886nm,21.0s
CUT **Chulitna** 107.69 16 IAMs_20 IAMs_20 02 29 36.4
comp=Z,1μm,22.0s
IMW **Indian Meadow** 108.46 47 IAMs_20 IAMs_20 02 31 14.4
comp=Z,758nm,20.0s
BW06 **Boulder Array** 108.50 49 IAMs_20 IAMs_20 02 30 44.6
comp=Z,1μm,20.0s
PDAR **Pinedale Array** 108.50 49 PP **PP** **01 53 36.6 -1.9**
comp=Z,1.4nm,1.1s,baz=219,slow=4.2,SNR=4.0
PDAR PKKPbc **PKKPbc** **02 04 21.7 -1.0**
comp=Z,0.5nm,0.7s,baz=93,slow=5.9,SNR=5.3
KTH **Kantishna Hill** 108.58 16 IAMs_20 IAMs_20 02 35 11.9
comp=Z,903nm,21.0s
FLWY **Flagg Ranch** 108.72 47 IAMs_20 IAMs_20 02 43 08.2
comp=Z,819nm,19.0s
HKT **Hockley** 109.17 67 IAMs_20 IAMs_20 02 32 33.6
comp=Z,1μm,19.0s
CCB **Clear Creek Bu** 110.19 16 IAMs_20 IAMs_20 02 35 46.5
comp=Z,879nm,18.0s
MDM **Murphy Dome** 110.38 16 IAMs_20 IAMs_20 02 36 04.5
comp=Z,952nm,18.0s
RDOG **Red Dog Mine** 110.86 9 IAMs_20 IAMs_20 02 41 38.1
comp=Z,804nm,21.0s
H23K **Yukon River** 110.88 15 IAMs_20 IAMs_20 02 34 55.7
comp=Z,783nm,20.0s
OK038 **West end E0370** 111.17 60 IAMs_20 IAMs_20 02 37 23.3
comp=Z,751nm,19.0s
MC01 **Montes Claros** 111.92 140 *e*P **Pdif** **01 49 24.6 +1.5**
OK051 **E050 and S346** 112.42 61 IAMs_20 IAMs_20 02 33 19.5
comp=Z,1μm,22.0s
RSSD **Black Hills** 112.50 50 IAMs_20 IAMs_20 02 35 51.3
comp=Z,1μm,19.0s
MIAR **Mount Ida** 113.44 64 IAMs_20 IAMs_20 02 35 31.4
comp=Z,1μm,19.0s
SDV **Santo Domingo** 114.52 100 IAMs_20 IAMs_20 02 36 14.3
comp=Z,529nm,19.0s
A21K **Barrow** 114.71 10 IAMs_20 IAMs_20 02 39 56.8
comp=Z,981nm,19.0s
WMQ **Urumqi** 115.21 307 *e*P **PKiKP** **01 53 25.8 +0.4**
WMQ LR LR
comp=N,200nm,17.3s
WMQ LR LR
comp=E,130nm,15.5s
WMQ LR LR
comp=Z,170nm,21.9s
MTDJ **Mount Denham** 115.35 88 IAMs_20 IAMs_20 02 37 20.8
comp=Z,598nm,19.0s
TSUM **Tsumeb** 115.60 204 IAMs_20 IAMs_20 02 40 28.9
comp=Z,903nm,19.0s
ECSD **EROS Data Cent** 116.67 54 **PKiKP** **01 53 28.3 +0.2**
HATO **Hato, Curacao** 117.92 99 IAMs_20 IAMs_20 02 37 31.6
comp=Z,460nm,18.0s
WVT **Waverly** 118.21 66 IAMs_20 IAMs_20 02 36 46.9
comp=Z,807nm,21.0s
YKA **Yellowknife Ar** 118.40 30 PKP **PKPdf** **01 53 29.8 -1.1**
comp=Z,4.1nm,0.7s,baz=266,slow=1.9,SNR=15
DGZ **Jazzator, Alta** 118.57 312 *i* PKIKP **PKiKP** **01 53 36.3 +4.5**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** 120.02 308 PKP **PKPdf** **01 53 32.0 -2.5**
comp=Z,1.5nm,0.9s,baz=186,slow=2.4,SNR=7.2
JFWS **Jewell Farm** 120.18 58 **PKPdf** **01 53 34.7 -0.2**
JFWS **Jewell Farm** 120.18 58 PKIKP **PKPdf** **01 53 34.7 -0.2**
WCI **Wyandotte Cave** 120.36 64 **PKPdf** **01 53 35.4 0.0**
WCI **Wyandotte Cave** 120.36 64 PKIKP **PKPdf** **01 53 35.4 0.0**
KIBK **Kibwezi** 120.85 234 IAMs_20 IAMs_20 02 39 19.1
comp=Z,888nm,19.0s
A36M **Sachs Harbour** 121.08 18 **PKPdf** **01 53 34.6 -1.1**
EYMN **Ely** 121.90 52 **PKPdf** **01 53 37.5 -0.6**
KMBO **Kilima Mbogo** 122.29 234 PKP **PKiKP** **01 53 40.5 +0.1**
comp=Z,4.0nm,0.9s,baz=40,slow=1.8,SNR=9.7
KMBO **Kilima Mbogo** 122.29 234 **PKPdf** **01 53 37.6 -2.6**
KMBO **Kilima Mbogo** 122.29 234 IAMs_20 IAMs_20 02 35 57.6
comp=Z,764nm,21.0s
KMBO **Kilima Mbogo** 122.29 234 PKIKP **PKPdf** **01 53 37.6 -2.6**
COWI **Conover** 122.44 55 **PKPdf** **01 53 37.7 -1.4**
AAK **Ala-Archa** 122.82 300 *c* *i* PKIKP **PKiKP** **01 53 43.6 +3.2**
AAK pmax pmax
comp=Z,2.0nm,1.3s
SJG **San Juan** 123.78 96 IAMs_20 IAMs_20 02 40 19.9
comp=Z,338nm,20.0s
KURK **Kurchatov** 124.02 310 *c* *i* PKIKP **PKiKP** **01 53 46.4 +4.1**
KURK pmax pmax
comp=Z,10.0nm,1.3s
RCBR **Riachuelo** 125.18 142 IAMs_20 IAMs_20 02 56 06.5
comp=Z,441nm,19.0s
E46A **Sault Ste Mari** 125.55 57 **PKPdf** **01 53 44.2 -0.9**
KK31 **Karatay Array** 125.62 299 **PKPdf** **01 53 43.4 -2.0**
KK31 **Karatay Array** 125.62 299 PKIKP **PKPdf** **01 53 43.4 -2.0**
KKAR **Karatay Array** 125.62 299 **PKPdf** **01 53 43.8 -1.5**
KKAR **Karatay Array** 125.62 299 **PKPdf** **01 53 44.1 -1.3**
KKAR **Karatay Array** 125.62 299 PKIKP **PKPdf** **01 53 44.1 -1.3**
TDBA **Terre de Bas,** 125.69 101 IAMs_20 IAMs_20 02 44 34.4
comp=Z,299nm,18.0s
LODK **Lodwar** 127.02 235 IAMs_20 IAMs_20 02 45 17.3
comp=Z,827nm,19.0s
NRIK **Noril'sk** 127.27 334 *i* PKIKP **PKiKP** **01 53 51.5 +3.3**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
ATD **Arta Tunnel** 128.09 249 IAMs_20 IAMs_20 02 44 52.8
comp=Z,341nm,20.0s
FURI **Furi** 129.06 243 IAMs_20 IAMs_20 02 41 39.7
comp=Z,512nm,20.0s
BRVK **Borovoye** 129.69 310 **PKPdf** **01 53 50.9 -1.8**
BRVK **Borovoye** 129.69 310 *c* *i* PKIKP **PKiKP** **01 53 55.0 +1.5**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
GEYT **Alibeck** 131.85 288 PKP **PKPdf** **01 53 57.4 -0.1**
comp=Z,0.7nm,0.5s,baz=70,slow=4.7,SNR=2.1
RAYN **Ar Rayn** 133.90 263 ⇑PKIKP **PKPdf** **01 54 01.1 -0.7**
SVE **Sverdlovsk** 136.01 314 *e*PKIKP **PKiKP** **01 54 10.5 +4.3**
TULEG **Thule** 136.44 18 IAMs_20 IAMs_20 02 51 17.2
comp=Z,699nm,19.0s
ARU **Arti** 137.09 313 *i* PKIKP **PKiKP** **01 54 13.3 +4.9**
ARU 01 56 54.5
ARU SS SS 02 14 54.2 -2.5
ZEI **Tsey** 143.71 289 *i* PKIKP **PKPdf** **01 54 18.4 -0.9**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
GURO **Guroymak-BITLI** 143.74 281 PKPab 01 54 16.6 +0.3
MARD **Mardin** 144.22 279 **PKPab** **01 54 17.7 -0.4**
DAG **Danmarks Havn** 144.48 5 *i* P **PKiKP** **01 54 28.0 +5.0**
LIC **Lamto** 144.58 181 ⇑ *i* PKP1 **PKPdf** **01 54 20.8 -0.6**
comp=Z,48nm,0.7s
KBZ **Khabaz** 144.66 290 PKP **PKPab** **01 54 17.8 -1.5**
comp=Z,9.1nm,0.8s,baz=159,slow=2.5,SNR=12
KBZ **Khabaz** 144.66 290 *c* *i* PKHKP PKPpre 01 54 16.4
KBZ *e* 01 54 22.0
KBZ pmax pmax
comp=Z,11nm,1.0s
NEY **Neytrino** 144.67 289 *i* PKIKP **PKPdf** **01 54 21.8 +0.9**
KIC **Kosan Boka** 144.71 182 ⇑ *e*PKP1 **PKPab** **01 54 20.3 0.0**
comp=Z,15nm,0.5s
SHA1 **Shidzhatmaz** 144.83 290 *i* PKIKP PKPbc 01 54 20.7 +0.3
GOF **Gofitskoye** 144.87 292 ⇑ *e*PKIKP **PKPab** **01 54 18.7 -1.4**
GOF pmax pmax
comp=Z,46nm,0.8s
KIV **Kislovodsk** 144.87 290 ⇑P **PKPab** **01 54 13.7 -6.5**
KIV **Kislovodsk** 144.87 290 IAMs_20 IAMs_20 03 09 01.9
comp=Z,368nm,22.0s
KIV **Kislovodsk** 144.87 290 *i* PKIKP **PKiKP** **01 54 27.8 +2.9**
KIV pmax pmax
comp=Z,15nm,1.0s
TIC **Toumodi** 145.00 181 ⇑ *i* PKP1 **PKPab** **01 54 20.0 -1.4**
comp=Z,130nm,0.3s
DBIC **Dimbokro** 145.02 181 PKPbc **PKPbc** **01 54 21.4 -0.1**
comp=Z,30nm,1.0s,baz=215,slow=3.3,SNR=22
SUMG **Summit** 145.34 17 *i* P **PKPbc** **01 54 20.0 -1.3**
SUMG **Summit** 145.34 17 PKP2 **PKPbc** **01 54 20.1 -1.3**
GHAJ **Ghor Haditha** 145.52 266 **PKPdf** **01 54 21.9 -0.5**
GHAJ IAMs_20 IAMs_20 02 53 33.3
comp=Z,330nm,20.0s
LVZ **Lovozero** 146.12 334 *c* *i* PKP2 **PKPab** **01 54 24.8 +0.7**
LVZ pmax pmax
comp=Z,83nm,1.7s
VRH **Novokhopyorsk** 146.54 303 *e*PKIKP **PKPdf** **01 54 21.6 -2.0**
VRH pmax pmax
comp=Z,40nm,1.6s
APA **Apatity** 146.69 334 ⇓ *i* PKP2 **PKiKP** **01 54 27.1 -0.7**
APA pmax pmax
comp=Z,22nm,1.0s
KLMR **Klimovskoe** 146.80 321 *e*PKPdf **PKPdf** **01 54 22.7 -1.0**
KLMR AMP 01 54 41.9
comp=Z,74nm,1.6s
KLMR **Klimovskoe** 146.80 321 *e*PKIKP **PKPdf** **01 54 22.6 -1.1**
KLMR pmax pmax
comp=Z,74nm,1.6s
GAZ **Gaziantep** 146.81 276 PKPdf **PKPdf** **01 54 24.3 -0.3**
SOC **Sochi** 146.87 289 *e*PKP2 **PKPbc** **01 54 26.6 +0.3**
SOC *e* 01 57 52.5
SOC *e*PPP PPP 02 01 08.4
SOC *e*SS SS 02 16 51.9 +0.7
SOC pmax pmax
comp=Z,41nm,0.9s
ARCES **ARCESS Array B** 147.82 340 PKPbc **PKPdf** **01 54 26.3 +1.1**
comp=Z,7.5nm,0.7s,baz=46,slow=3.5,SNR=18
ARCES **ARCESS Array B** 147.82 340 **PKPdf** **01 54 26.1 +0.9**
ARCES **ARCESS Array B** 147.82 340 PKIKP **PKPdf** **01 54 26.1 +0.9**
VORR **Voronezh** 148.13 304 *e*PKP2 **PKiKP** **01 54 30.9 -0.3**
VORR pmax pmax
comp=Z,22nm,0.5s
VSR **Storozhevoye** 148.15 303 *e*PKIKP **PKPdf** **01 54 26.2 0.0**
VSR pmax pmax
comp=Z,20nm,1.2s
LPSR **Galich'ya Gora** 148.28 305 *e*PKIKP **PKPdf** **01 54 26.8 +0.4**
LPSR pmax pmax
comp=Z,30nm,1.4s
TOKA **Tokat** 148.38 282 PKPdf **PKPdf** **01 54 23.6 -3.4**
BNN **Bunyan** 148.40 279 PKPdf **PKPdf** **01 54 25.6 -1.7**
MOS **Moscow** 148.78 312 *e*PKP2 **PKPbc** **01 54 31.3 +0.3**
MOS pmax pmax
comp=Z,24nm,1.0s
CSS **Mathiatis** 148.85 270 IAMs_20 IAMs_20 03 07 31.5
comp=Z,289nm,20.0s
NRS **Narsarsuaq** 149.27 37 PKIKP **PKPdf** **01 54 28.9 +1.2**
OBN **Obninsk** 149.46 310 ⇑P **PKPbc** **01 54 31.2 -1.5**
OBN **Obninsk** 149.46 310 PKPdf **PKPdf** **01 54 29.8 +1.6**
OBN **Obninsk** 149.46 310 ⇑ *i* PKP2 **PKPbc** **01 54 31.5 -1.2**
OBN *e* 01 58 15.4
OBN *e*SS SS 02 17 19.5 +0.1
OBN pmax pmax
comp=Z,53nm,1.2s
BR131 **Keskin Array S** 150.30 279 PKPdf **PKPdf** **01 54 29.1 -1.2**
BR131 **Keskin Array S** 150.30 279 PKIKP **PKPdf** **01 54 29.1 -1.2**
BRTR **Keskin Array B** 150.30 279 PKPbc **PKPbc** **01 54 33.6 -1.9**
comp=Z,7.3nm,0.9s,baz=148,slow=4.6,SNR=27
TOA0 **Torodi Ar. Sit** 150.75 195 **PKPdf** **01 54 29.4 -2.1**
TORD **Torodi Ar. Bea** 150.75 195 PKP **PKPdf** **01 54 30.9 -0.6**
comp=Z,7.6nm,1.0s,baz=200,slow=0.2,SNR=36
TORD PKPbc **sPKPdf** **01 54 36.6 -0.7**
comp=Z,43nm,0.9s,baz=169,slow=1.5,SNR=75
ANTO **Ankara** 150.96 279 ⇓P **PKPab** **01 54 42.7 -1.8**
ANTO **Ankara** 150.96 279 PKPdf **PKPdf** **01 54 30.2 -1.1**
ANTO **Ankara** 150.96 279 PKIKP **PKPdf** **01 54 30.2 -1.1**
ISP **Isparta** 152.02 274 IAMs_20 IAMs_20 03 06 58.9
comp=Z,295nm,20.0s
FINES **FINESS Array B** 152.58 327 PKPbc **PKPbc** **01 54 38.0 -1.8**
comp=Z,4.9nm,0.6s,baz=48,slow=4.3,SNR=26
FINES **FINESS Array B** 152.58 327 PKIKP **PKPbc** **01 54 38.0 -1.8**
KARP **Karpathos** 153.69 267 IAMs_20 IAMs_20 03 13 28.8
comp=Z,566nm,22.0s
AKASG **Malin Array Be** 154.45 302 PKPbc **PKPbc** **01 54 42.3 -1.9**
comp=Z,1.9nm,0.7s,baz=75,slow=1.8,SNR=2.7
MNK **Minsk** 154.50 311 *i* PKP **PKPdf** **01 54 37.7 +1.9**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKPdf** **01 54 37.7 +1.9**
comp=N,11nm,1.0s,baz=74
MNK *i* PKP **PKPdf** **01 54 37.7 +1.9**
comp=Z,6.0nm,1.0s
MNK *i* PKiKP **pPKPbc** **01 54 47.5 -1.1**
MNK *i* SKP 01 57 41.6
MNK *i* PKS PKSdf 01 57 52.5 -17
MNK *i* PP **PP** **01 58 31.3 -3.3**
MNK *i* SKS **SKSdf** **02 01 40.1 -1.7**
MNK *i* PPP PPP 02 03 05.2
MNK *i* SKKS SKKSac 02 05 38.6 +15
MNK *i* SS **SS** **02 18 18.6 +3.7**
MNK *i* SSS SSS 02 27 51.5
MNK *i* LQ LQ 02 52 00.0
MNK *i* LR LR 03 01 59.1
MNK *i* LRM MLR 03 04 22.0
comp=Z,255nm,19.5s
MNK *i* LRM MLR 03 04 26.8
comp=N,351nm,19.5s
MNK *i* LRM MLR 03 05 46.4
comp=E,37nm,19.7s
MNK **Minsk** 154.50 311 *i* PKIKP **PKPdf** **01 54 37.7 +1.9**
MNK *i* 01 58 31.3
MNK *i* 02 01 40.1
MNK *i* SS SS 02 18 18.6 +3.7
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,6.0nm,1.0s

NACGM	**Naroch**	155.00	313	*e*PKP		**PKPdf**	01 54 37.0	+0.5	
	comp=Z,12nm,0.9s,baz=72								
SORM	**Soroca**	155.22	296	⇓P		**PKPab**	01 54 58.5	-3.6	
SORM	**Soroca**	155.22	296	⇓PKP2		**PKPab**	01 54 58.5	-3.6	
IDI	**Anoyia**	155.28	265	IAMs_20	IAMs_20		03 15 49.8		
	comp=Z,383nm,20.0s								
PLOR	**Plostina**	156.39	291	⇑P		PKPab	01 54 59.1	-8.2	
PLOR	**Plostina**	156.39	291	⇑PKP2		PKPab	01 54 59.1	-8.2	
TESR	**Tescani**	156.41	293	⇑P		**PKPab**	01 55 05.2	-2.0	
MLR	**Muntele Rosu**	156.88	290	⇑P		PKPdf	01 54 51.4	+12	
BURAR	**Bucovina Array**	157.35	295	⇓P		PKPdf	01 54 52.7	+13	
BURAR	**Bucovina Array**	157.35	295	PKPdf		**PKPdf**	01 54 38.2	-1.8	
BURAR						**PKPab**	01 55 10.6	-0.9	
BUR08	**Bucovina Ar. S**	157.36	296	PKPdf		**PKPdf**	01 54 37.5	-2.5	
BUR08						**PKPab**	01 55 10.3	-1.2	
PLVB	**Pleven**	157.67	284	⇑P		PKPab	01 55 04.9	-7.9	
NB2	**NORSAR Subarra**	158.15	338	PKP		**PKPab**	01 55 16.9	+2.6	
	comp=Z,4.8nm,0.8s,baz=38,slow=4.4								
NOA	**NORSAR Array B**	158.15	338	PKPab		**PKPab**	01 55 12.2	-2.1	
	comp=Z,1.1nm,0.8s,baz=39,slow=4.9,SNR=1.8								
VTS	**Vitosha**	158.58	282	⇓P		**PKPab**	01 55 13.9	-3.1	
VTS	**Vitosha**	158.58	282	PKPdf		**PKPdf**	01 54 40.1	-1.6	
VTS						**PKPab**	01 55 15.2	-1.8	
VTS	**Vitosha**	158.58	282	PKIKP		**PKPdf**	01 54 40.1	-1.6	
VTS							01 55 15.2		
TAM	**Tamanrasset**	158.85	210	IAMs_20	IAMs_20		03 04 58.3		
	comp=Z,540nm,19.0s								
TAM	**Tamanrasset**	158.85	210	PKIKP		**PKPdf**	01 54 42.7	0.0	
KOLS	**Kolonicke sedl**	159.16	300	*e*PKP2		**PKPab**	01 55 21.7	+2.6	
UZH	**Uzhgorod**	159.19	299	*e*PKP2		**PKPab**	01 55 20.8	+1.6	
CRVS	**Cervenica-Dubn**	159.69	300	*e*PKP2		**PKPab**	01 55 26.8	+5.4	
SIRR	**Siria**	159.86	292	⇓P		**PKPdf**	01 54 43.6	+0.6	
BZS	**Buzias**	159.92	290	⇑P		**PKPdf**	01 54 43.0	0.0	
BZS	**Buzias**	159.92	290	⇑PKIKP		**PKPdf**	01 54 43.0	0.0	
DIVS	**Divibare**	161.06	286	PKPdf		**PKPdf**	01 54 43.9	-0.6	
MORC	**Moravsky Berou**	161.97	304	⇓P		**PKPdf**	01 54 46.8	+1.7	
MORC	**Moravsky Berou**	161.97	304	⇓PKIKP		**PKPdf**	01 54 46.8	+1.7	
KRLC	**Kraliky**	162.35	306	*e*PKPAB		**PKPab**	01 55 33.8	+0.8	
KRLC	**Kraliky**	162.35	306	*e*PKP2		**PKPab**	01 55 33.8	+0.8	
DPC	**Dobruska-Polom**	162.53	307	*e*PKPAB		**PKPab**	01 55 39.5	+5.7	
DPC	**Dobruska-Polom**	162.53	307	*e*PKP2		**PKPab**	01 55 39.5	+5.7	
BRG	**Berggiesshubel**	163.71	311	*e*PKP		PKPdf	01 54 59.2	+12	
BRG				Amp			01 55 00.5		
	comp=Z,4.8nm,1.1s								
BRG				*ex*	x		01 55 39.1		
BRG				Amp			01 55 41.5		
	comp=Z,8.4nm,1.3s								
PRU	**Pruhonice**	163.73	307	*e*PKPAB		**PKPab**	01 55 38.5	-0.5	
PRU	**Pruhonice**	163.73	307	*e*PKP2		**PKPab**	01 55 38.5	-0.5	
CLL	**Collm**	164.03	313	*e*PKPab		**PKPab**	01 55 42.0	+1.7	
CLL				*em*H			01 16 00.0		
	comp=N,200nm,21.8s								
CLL				*em*H			01 16 00.0		
	comp=E,300nm,20.5s								
CLL				*e*(SSS)			01 26 46.0		
CLL				*e*SSSS			01 30 06.0		
CLL				*e*SSSrev			01 33 00.0		
CLL				*e*H	H		01 45 00.0		
CLL				*e*			01 55 00.0		
CLL				*ex*	x		01 55 47.0		
CKRC	**Cesky Krumlov**	164.28	303	*e*PKPDF		**PKPdf**	01 54 48.9	+1.6	
CKRC				*e*PKPAB		**PKPab**	01 55 41.6	0.0	
SOKA	**Soboth**	164.36	295	*e*P		**PKPdf**	01 54 49.5	+1.9	
	comp=E,8.7nm,1.4s								
KHC	**Kasperske Hory**	164.63	305	*e*PKPDF		**PKPdf**	01 54 48.4	+0.7	
KHC				*e*PKPAB		**PKPab**	01 55 40.3	-2.8	
KHC	**Kasperske Hory**	164.63	305	*e*PKIKP		**PKPdf**	01 54 48.4	+0.7	
KHC				*e*			01 55 40.3		
GERES	**GERESS Array B**	164.65	304	PKP		**PKPdf**	01 54 47.6	-0.2	
	comp=E,0.2nm,0.4s,baz=337,slow=4.3,SNR=4.5								
GERES				PKPab		**PKPab**	01 55 41.5	-1.8	
	comp=E,1.1nm,0.9s,baz=76,slow=5.6,SNR=4.0								
OBKA	**Obir**	164.72	295	*e*P		**PKPdf**	01 54 52.4	+4.5	
	comp=E,14nm,1.5s								
ABTA	**Abfaltersbach**	166.04	297	*e*P		**PKPdf**	01 54 49.1	+0.1	
	comp=E,5.2nm,1.3s								
WTTA	**Wattenberg**	166.48	300	*e*P		**PKPdf**	01 54 49.6	+0.2	
	comp=E,4.3nm,1.0s								
SQTA	**Sankt Quirin**	166.77	300	*e*P		**PKPdf**	01 54 49.7	+0.1	
	comp=E,8.2nm,1.3s								
KEST	**Kesra**	166.79	248	PKPab		**PKPab**	01 55 53.0	-0.1	
	comp=E,12nm,1.1s,baz=55,slow=5.6,SNR=5.6								
KEST	**Kesra**	166.79	248			**PKPab**	01 55 51.7	-1.4	
MOTA	**Moosalm**	166.80	301	*e*P		**PKPdf**	01 54 49.3	-0.3	
	comp=E,6.6nm,1.4s								
RETA	**Reutte**	166.97	301	*e*P		**PKPdf**	01 54 49.5	-0.2	
	comp=E,1.9nm,0.6s								
FETA	**Feichten**	167.14	300	*e*P		**PKPdf**	01 54 55.0	+5.1	
	comp=E,8.0nm,1.2s								
PVAQ	**Vaqueiros**	175.35	160	*e*SS		SS	02 21 55.9	+8.9	
PVAQ	**Vaqueiros**	175.35	160	*e*LR		LR	02 59 32.2		
	comp=E,831nm,20.0s								
PNCL	**Nicolau / Gran**	175.74	149	*e*PKP		**PKPdf**	01 54 55.1	+0.9	
PBEJ	**Beja**	175.89	155	*e*PKP		**PKPdf**	01 54 55.5	+1.2	
PBAR	**Barrancos**	176.25	164	*e*PKP		**PKPdf**	01 54 54.7	+0.4	
EVO	**Evora**	176.30	151	*e*PKP		**PKPdf**	01 54 55.1	+0.8	
PESTR	**Estremoz**	176.75	153	*e*PKP		**PKPdf**	01 54 55.2	+0.8	
PMRV	**Marv??o**	177.32	151	*e*LR		LR	03 05 20.6		
	comp=E,729nm,18.0s								
ESDC	**Sonseca Array**	177.50	213	PKP		**PKPdf**	01 54 54.4	-0.2	
	comp=E,7.8nm,1.1s,baz=332,slow=2.0,SNR=18								
ESDC				PKPab	PKPab		01 56 39.9	-0.4	
	comp=E,4.6nm,1.2s,baz=130,slow=3.5,SNR=5.8								
ESDC	**Sonseca Array**	177.50	213	PKPdf		**PKPdf**	01 54 54.7	+0.1	
ESDC						PKPab	01 56 39.0	-1.3	
MTE	**Manteigas**	178.04	134	*e*SS		SS	02 21 33.6	-40	
MTE	**Manteigas**	178.04	134	*e*LR		LR	03 02 20.1		
	comp=E,640nm,22.0s								
PGAV	**Gavieira, Arco**	178.08	84	*e*LR		LR	02 59 46.5		
	comp=E,795nm,20.0s								
GUD	**Guadarrama**	178.36	226	PKIKP		**PKPdf**	01 54 54.8	0.0	
MVO	**Moncorvo**	178.83	122	*e*PKP		**PKPdf**	01 54 55.6	+0.9	
MVO	**Moncorvo**	178.83	122	*e*LR		LR	03 02 32.1		
	comp=E,706nm,18.0s								

WEL ***15*** *01:43:00, 41.˙66S×174.˙26E, h20km, ML5.2, Mw4.8, Moment Tensor Solution. s9 Moment tensor: Scale 10^{16} Nm; M_{rr}1.62; $M_{\theta\theta}$0.86; $M_{\phi\phi}$-2.48; $M_{r\theta}$-0.43; $M_{\theta\phi}$-0.97; M_{rf}0.11; Fault plane solution: M_o2.30000×10^{16} NP1: ϕ_s348.00000°, δ52.00000°, λ50.00000°. NP2: ϕ_s222.00000°, δ52.00000°, λ129.00000°. Principal axes: T -2734.7000, Plg60.0000°, Azm195.0000°; N 860.9000, Plg30.0000°, Azm15.0000°; P 1873.8100, Plg0.0000°, Azm105.0000°;*

IDC ***15*** *01:43:50.3, 0.6, 41.˙58S×174.˙14E, h0km, mb4.6/12, mbtmp4.6/13, ML4.3/1, MS4.2/2 Error ellipse: s-maj=25.0km s-min=15.1km az=70.0*

NEIC ***15*** *01:43:52.5, 41.˙75S×174.˙24E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.43; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-1.69; $M_{r\theta}$-0.43; $M_{\theta\phi}$-0.91; M_{rf}0.40; Fault plane solution: M_o1.91000×10^{16} NP1: ϕ_s225.98000°, δ47.40000°, λ126.96000°. NP2: ϕ_s357.96000°, δ53.97000°, λ56.82000°. Principal axes: T 1.7135, Plg63.0000°, Azm208.0000°; N 0.3419, Plg26.0000°, Azm19.0000°; P -2.0555, Plg4.0000°, Azm111.0000°;*

NEIC ***15*** *01:43:52.5±1.0, 41.˙73S±0.˙03×174.˙24E±0.˙03, h16km±3km, mb4.8/12, Mwr4.8/50 Error ellipse: s-maj=4.6km s-min=3.0km az=178.0*

WEL ***15*** *01:43:52.9±0.3, 42.˚5S±2.˚×17.˚4E±.˚, h6km±2km, M5.2/20, ML5.5/20, MLv5.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=163.5*

NOU ***15*** *01:43:55.2, 41.˙85S×174.˙32E, h46km, MLv5.3/21, Cook Strait, New Zealand*

ISC 15 01:43:52.5±0.7, 41.˙74S±0.˙03×174.˙27E±0.˙02, h15km, 4km, n210, σ1s18/231, mb4.7/22, MS4.8/3, 2C-1D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**256**			**Pg**	**Pg**	**01 43 54.9**	**-0.4**
CMWZ				Sg		**Sg**	**Sg**	**01 43 57.8**	**+0.7**
CMWZ	**Cape Campbell**	**0.04**	**256**	P		**Pg**	**Pg**	**01 43 55.5**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.29**	**275**			**Pg**	**Pg**	**01 43 58.6**	**-0.1**
BSWZ				Sg		**Sg**	**Sg**	**01 44 02.7**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.29**	**275**	P		**Pg**	**Pg**	**01 43 58.7**	**0.0**
BSWZ				S		**Sb**	**Sb**	**01 44 03.6**	**-0.6**
TUWZ	**Tuamarina**	**0.39**	**322**	Pg		**Pg**	**Pg**	**01 44 00.1**	**-0.4**
TUWZ				Sg		**Sg**	**Sg**	**01 44 05.7**	**-0.2**
TUWZ	**Tuamarina**	**0.39**	**322**	P		**Pg**	**Pg**	**01 44 00.1**	**-0.4**
TUWZ				S		**Sg**	**Sg**	**01 44 05.6**	**-0.3**
TCW	**Tory Channel**	**0.53**	**1**	Pg		**Pg**	**Pg**	**01 44 02.6**	**-0.3**
TCW				Sg		**Sg**	**Sg**	**01 44 09.2**	**-0.8**
TCW	**Tory Channel**	**0.53**	**1**	P		**Pg**	**Pg**	**01 44 02.3**	**-0.7**
TCW				S		**Sg**	**Sg**	**01 44 09.1**	**-0.9**
SNZO	**South Karori**	**0.54**	**38**			**Pg**	**Pg**	**01 44 03.1**	**0.0**
WEL	**Wellington**	**0.59**	**40**	P		**Pg**	**Pg**	**01 44 04.1**	**0.0**
WEL				S		**Sb**	**Sb**	**01 44 12.8**	**+0.1**
PLWZ	**Palliser**	**0.76**	**77**			**Pb**	**Pb**	**01 44 08.1**	**+0.6**
PLWZ	**Palliser**	**0.76**	**77**	P		**Pn**	**Pn**	**01 44 08.3**	**-0.4**
PLWZ				S		**Sn**	**Sn**	**01 44 19.5**	**-0.5**
MSWZ	**Moikau Station**	**0.81**	**67**	Pg		**Pb**	**Pb**	**01 44 08.4**	**+0.2**
MSWZ	**Moikau Station**	**0.81**	**67**	P		**Pb**	**Pb**	**01 44 08.8**	**+0.6**
NNZ	**Nelson**	**0.85**	**308**			**Pb**	**Pb**	**01 44 08.2**	**-0.8**
NNZ	**Nelson**	**0.85**	**308**	P		**Pb**	**Pb**	**01 44 08.1**	**-0.8**
NNZ				S		**Sb**	**Sb**	**01 44 19.6**	**-0.5**
KHZ	**Kahutara**	**0.87**	**218**			**Pn**	**Pn**	**01 44 10.2**	**0.0**
KHZ	**Kahutara**	**0.87**	**218**	P		**Pn**	**Pn**	**01 44 10.4**	**+0.2**
KHZ	**Kahutara**	**0.87**	**218**	P		**Pn**	**Pn**	**01 44 10.4**	**+0.2**
KHZ				S		**Sn**	**Sn**	**01 44 23.5**	**+1.0**
CAW	**Cannon Point**	**0.87**	**44**	P		**Pb**	**Pb**	**01 44 09.1**	**-0.2**
CAW				S		**Sb**	**Sb**	**01 44 19.9**	**-0.9**
PAWZ	**Paruwai Farm**	**0.94**	**68**	P		**Pb**	**Pb**	**01 44 10.8**	**+0.2**
PAWZ				S		**Sn**	**Sn**	**01 44 24.5**	**+0.1**
DUWZ	**D'Urville Isla**	**0.97**	**344**	P		**Pb**	**Pb**	**01 44 10.5**	**-0.5**
DUWZ				S		**Sb**	**Sb**	**01 44 22.7**	**-1.1**
KIW	**Kapiti Island**	**1.00**	**29**	P		**Pb**	**Pb**	**01 44 11.0**	**-0.6**
KIW				S		**Sg**	**Sg**	**01 44 24.8**	**-0.2**
THZ	**Tophouse**	**1.02**	**268**	Pn		**Pg**	**Pg**	**01 44 11.9**	**-0.4**
MTW	**Mount Morrison**	**1.09**	**58**	P		**Pb**	**Pb**	**01 44 12.8**	**-0.3**
MTW				S		**Sn**	**Sn**	**01 44 28.3**	**+0.1**
TRWZ	**Traveller**	**1.12**	**73**	P		**Pb**	**Pb**	**01 44 12.9**	**-0.6**
OGWZ	**Otaki Gorge**	**1.15**	**37**	P		**Pb**	**Pb**	**01 44 13.4**	**-0.3**
OGWZ				S		**Sb**	**Sb**	**01 44 28.6**	**-0.1**
MRNZ	**Matariki Terra**	**1.18**	**286**			**Pg**	**Pg**	**01 44 14.7**	**-0.6**
MRNZ	**Matariki Terra**	**1.18**	**286**	P		**Pg**	**Pg**	**01 44 14.9**	**-0.4**
MRNZ				S		**Sg**	**Sg**	**01 44 32.1**	**+1.4**
TKNZ	**Takaka Hill**	**1.21**	**305**			**Pn**	**Pn**	**01 44 14.5**	**-0.4**
TKNZ	**Takaka Hill**	**1.21**	**305**	P		**Pn**	**Pn**	**01 44 14.7**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.26**	**49**	P		**Pn**	**Pn**	**01 44 15.4**	**-0.2**
HOWZ				S		**Sn**	**Sn**	**01 44 32.6**	**+0.3**
TMWZ	**Te Maipa**	**1.38**	**63**	P		**Pn**	**Pn**	**01 44 16.5**	**-0.7**
TMWZ				S		**Sb**	**Sb**	**01 44 36.2**	**+0.8**
MRZ	**Mangatainoka R**	**1.46**	**43**			**Pn**	**Pn**	**01 44 18.2**	**-0.1**
MRZ	**Mangatainoka R**	**1.46**	**43**	P		**Pn**	**Pn**	**01 44 18.3**	**-0.1**
MRZ				S		**Sb**	**Sb**	**01 44 37.7**	**-0.2**
GVZ	**Greta Valley S**	**1.53**	**216**			**Pn**	**Pn**	**01 44 19.2**	**-0.1**
TIWZ	**Tintock**	**1.55**	**52**	P		**Pn**	**Pn**	**01 44 19.7**	**0.0**
TIWZ				S		**Sb**	**Sb**	**01 44 41.1**	**+0.6**
QRZ	**Quartz Range**	**1.60**	**304**			**Pb**	**Pb**	**01 44 20.9**	**-0.8**
QRZ	**Quartz Range**	**1.60**	**304**	P		**Pb**	**Pb**	**01 44 21.3**	**-0.4**
QRZ	**Quartz Range**	**1.60**	**304**	P		**Pb**	**Pb**	**01 44 21.4**	**-0.3**
QRZ				S		**Sb**	**Sb**	**01 44 42.3**	**+0.6**
CPWZ	**Castlepoint**	**1.68**	**61**	P		**Pn**	**Pn**	**01 44 21.3**	**0.0**
OHWZ	**Ohakea**	**1.73**	**28**	P		**Pb**	**Pb**	**01 44 24.0**	**+0.1**
PRWZ	**Pori Road**	**1.75**	**48**	P		**Pn**	**Pn**	**01 44 22.4**	**+0.1**
POWZ	**Post Office Ro**	**1.76**	**41**	P		**Pn**	**Pn**	**01 44 22.8**	**+0.3**
LTZ	**Lake Taylor**	**1.81**	**234**	Pn		**Pn**	**Pn**	**01 44 23.4**	**+0.1**
BFZ	**Birch Farm**	**1.83**	**55**	Pn		**Pn**	**Pn**	**01 44 22.4**	**-1.0**
BFZ	**Birch Farm**	**1.83**	**55**	P		**Pb**	**Pb**	**01 44 25.2**	**-0.5**
BFZ	**Birch Farm**	**1.83**	**55**	P		**Pn**	**Pn**	**01 44 22.7**	**-0.8**
DSZ	**Dennistion Nort**	**1.84**	**269**	Pn		**Pn**	**Pn**	**01 44 23.8**	**+0.1**
AMCZ	**Amberley**	**1.87**	**219**	Pn		**Pn**	**Pn**	**01 44 23.4**	**-0.6**
DVHZ	**Dannevirke**	**2.03**	**46**	P		**Pn**	**Pn**	**01 44 25.3**	**-1.0**
WAZ	**Wanganui**	**2.06**	**16**	P		**Pb**	**Pb**	**01 44 30.3**	**+0.8**
ANWZ	**Angora Road**	**2.10**	**53**	P		**Pn**	**Pn**	**01 44 26.3**	**-0.9**
TSZ	**Takapari Road**	**2.11**	**38**	P		**Pn**	**Pn**	**01 44 27.9**	**+0.5**
LRRZ	**Lake Rotokare**	**2.28**	**3**	P		**Pb**	**Pb**	**01 44 30.4**	**+0.1**
OXZ	**Oxford**	**2.29**	**225**			**Pn**	**Pn**	**01 44 28.7**	**-1.0**
MQZ	**McQueen's Vall**	**2.30**	**211**	Pn		**Pn**	**Pn**	**01 44 28.3**	**-1.5**
INZ	**Inchbonnie**	**2.32**	**244**	Pn		**Pn**	**Pn**	**01 44 30.1**	**0.0**
PRHZ	**Porangahau**	**2.32**	**51**	P		**Pn**	**Pn**	**01 44 28.8**	**-1.3**
PNHZ	**Pukenui**	**2.34**	**39**	P		**Pn**	**Pn**	**01 44 30.2**	**-0.3**
NMEZ	**Namu Road**	**2.34**	**353**	P		**Pb**	**Pb**	**01 44 33.9**	**-0.5**
WPHZ	**Waipukurau**	**2.35**	**45**	P		**Pn**	**Pn**	**01 44 30.4**	**-0.2**
KHEZ	**Kahui Hut**	**2.45**	**355**	P		**Pb**	**Pb**	**01 44 35.8**	**-0.5**
NEZ	**North Egmont**	**2.47**	**357**	P		**Pb**	**Pb**	**01 44 36.5**	**-0.2**
NBEZ	**Newall Road No**	**2.49**	**353**	P		**Pb**	**Pb**	**01 44 36.1**	**-0.8**
MTVZ	**Mangateitei**	**2.52**	**22**	P		**Pb**	**Pb**	**01 44 37.9**	**+0.3**
DREZ	**Durham Road**	**2.55**	**359**	P		**Pb**	**Pb**	**01 44 36.7**	**-1.2**
PKE	**Pukeiti**	**2.55**	**355**	P		**Pb**	**Pb**	**01 44 36.8**	**-1.2**
PKVZ	**Pokaka**	**2.58**	**19**	P		**Pb**	**Pb**	**01 44 38.4**	**-0.2**
MOVZ	**Moawhango**	**2.59**	**26**	P		**Pn**	**Pn**	**01 44 34.8**	**+0.9**
PXZ	**Pawanui**	**2.60**	**50**	P		**Pn**	**Pn**	**01 44 32.4**	**-1.6**
TRVZ	**Turoa**	**2.63**	**22**	P		**Pn**	**Pn**	**01 44 37.0**	**-2.4**
BHHZ	**Black Hill Sta**	**2.63**	**32**	P		**Pn**	**Pn**	**01 44 35.1**	**+0.6**
VRZ	**Vera Road**	**2.64**	**8**	P		**Pb**	**Pb**	**01 44 37.1**	**-2.4**
DRZ	**Dome Shelter**	**2.65**	**22**	P		**Pn**	**Pn**	**01 44 38.8**	**-1.1**
WHVZ	**Whangaehu Hut**	**2.65**	**23**	P		**Pn**	**Pn**	**01 44 36.8**	**+1.9**
MHEZ	**Mangahewa**	**2.66**	**1**	P		**Pn**	**Pn**	**01 44 38.9**	**-0.9**
FWVZ	**Far West T-bar**	**2.67**	**22**	P		**Pn**	**Pn**	**01 44 37.4**	**+2.2**
TUVZ	**Tukino**	**2.69**	**24**	P		**Pn**	**Pn**	**01 44 36.9**	**+1.6**
NGZ	**Ngauruhoe**	**2.76**	**22**	P		**Pn**	**Pn**	**01 44 38.5**	**+2.2**
SNVZ	**South Ngauruho**	**2.76**	**23**	P		**Pn**	**Pn**	**01 44 38.1**	**+1.8**
KAHZ	**Kahuranaki**	**2.78**	**46**	P		**Pn**	**Pn**	**01 44 35.7**	**-0.7**
OTVZ	**Oturere**	**2.79**	**23**	P		**Pn**	**Pn**	**01 44 38.7**	**+2.0**
NNVZ	**North Ngauruho**	**2.80**	**22**	P		**Pn**	**Pn**	**01 44 39.1**	**+2.2**
WTVZ	**West Tongariro**	**2.81**	**21**	P		**Pn**	**Pn**	**01 44 41.4**	**-1.0**
TWVZ	**Taurewa**	**2.81**	**19**	P		**Pn**	**Pn**	**01 44 39.0**	**+2.0**
ETVZ	**East Tongariro**	**2.83**	**23**	P		**Pn**	**Pn**	**01 44 38.8**	**+1.6**
KWHZ	**Kaweka Forest**	**2.84**	**36**	P		**Pn**	**Pn**	**01 44 37.4**	**+0.1**
TMVZ	**Te Maari**	**2.84**	**23**	P		**Pn**	**Pn**	**01 44 38.8**	**+1.3**
KRVZ	**Karewarewa**	**2.84**	**22**	P		**Pn**	**Pn**	**01 44 39.5**	**+2.1**
NTVZ	**North Tongarir**	**2.85**	**22**	P		**Pn**	**Pn**	**01 44 39.1**	**+1.6**
MCHZ	**McNeill Hill**	**2.95**	**40**	P		**Pn**	**Pn**	**01 44 38.6**	**-0.2**
MCHZ				P		**Pn**	**Pn**	**01 44 38.6**	**-0.2**
KATZ	**Kakaramea**	**2.97**	**22**	P		**Pn**	**Pn**	**01 44 42.6**	**-2.6**
CKHZ	**Cape Kidnapper**	**2.98**	**47**	P		**Pn**	**Pn**	**01 44 38.3**	**-1.0**
BKZ	**Black Stump Fm**	**3.08**	**34**			**Pn**	**Pn**	**01 44 40.5**	**-0.2**
BKZ	**Black Stump Fm**	**3.08**	**34**	P		**Pn**	**Pn**	**01 44 40.5**	**-0.2**
RPZ	**Rata Peaks**	**3.08**	**229**	Pn		**Pn**	**Pn**	**01 44 40.0**	**-0.7**
	39nm,0.3s,baz=192,slow=1.2,SNR=32								
RPZ						**Sn**	**Sn**	**01 45 16.6**	**-0.7**
	64nm,0.3s,baz=142,slow=21,SNR=8.3								
RPZ						LR	LR	01 45 41.5	
	comp=Z,2μm,19.5s,baz=40,slow=36 122nm,0.5s								
RPZ	**Rata Peaks**	**3.08**	**229**	P		**Pn**	**Pn**	**01 44 40.0**	**-0.7**
RATZ	**Rangitukua**	**3.09**	**22**	P		**Pb**	**Pb**	**01 44 38.6**	**-0.5**
HATZ	**Hinemaiaia**	**3.17**	**27**	P		**Pb**	**Pb**	**01 44 47.6**	**-0.9**
ARHZ	**Aropaoanui**	**3.23**	**41**	P		**Pn**	**Pn**	**01 44 42.7**	**0.0**
HIZ	**Hauiti**	**3.25**	**8**				**Pn**	**01 44 42.6**	**-0.4**
HIZ	**Hauiti**	**3.25**	**8**	P		**Pn**	**Pn**	**01 44 45.8**	**+2.8**
HIZ	**Hauiti**	**3.25**	**8**	P		**Pn**	**Pn**	**01 44 45.8**	**+2.8**
NMHZ	**Naumai**	**3.27**	**37**	P		**Pn**	**Pn**	**01 44 43.0**	**-0.3**
MRHZ	**Matea Rd**	**3.34**	**30**	P		**Pn**	**Pn**	**01 44 43.6**	**-0.5**
MTHZ	**Maungataniwha**	**3.49**	**35**	P		**Pn**	**Pn**	**01 44 45.4**	**-0.9**
WHHZ	**Waihua**	**3.49**	**41**	P		**Pn**	**Pn**	**01 44 45.5**	**-0.8**
TLZ	**Tolley Road**	**3.54**	**16**	P		**Pn**	**Pn**	**01 44 49.0**	**+2.0**
RAHZ	**Arahi**	**3.55**	**38**	P		**Pn**	**Pn**	**01 44 46.3**	**-0.8**
ALRZ	**Allen Road**	**3.55**	**27**	P		**Pn**	**Pn**	**01 44 46.8**	**-0.3**
GRRZ	**Galatos Road**	**3.67**	**23**	P		**Pn**	**Pn**	**01 44 49.3**	**+0.6**
HRRZ	**Handcock Road**	**3.69**	**25**	P		**Pn**	**Pn**	**01 44 49.5**	**+0.6**
FOZ	**Fox Glacier**	**3.74**	**240**	Pn		**Pn**	**Pn**	**01 44 49.4**	**-0.3**
KNZ	**Kokohu**	**3.76**	**45**	P		**Pn**	**Pn**	**01 44 48.0**	**-1.9**
MHGZ	**Mahia Peninsu**	**3.79**	**48**	P		**Pn**	**Pn**	**01 44 49.6**	**-0.8**
TARZ	**Mount Tarawera**	**3.90**	**27**	P		**Pn**	**Pn**	**01 44 51.9**	**-0.1**
LBZ	**Lake Benmore**	**3.99**	**227**	Pn		**Pn**	**Pn**	**01 44 53.0**	**-0.1**
RIGZ	**Rimuhau**	**4.04**	**43**	P		**Pn**	**Pn**	**01 44 52.6**	**-1.3**
URZ	**Urewera**	**4.11**	**33**	P		**Pn**	**Pn**	**01 44 55.4**	**+0.7**
TOZ	**Tahuroa Road**	**4.12**	**14**	P		**Pn**	**Pn**	**01 44 56.4**	**+1.6**
MWZ	**Matawai**	**4.22**	**37**	P		**Pn**	**Pn**	**01 44 54.2**	**-2.2**
ODZ	**Otahua Downs**	**4.23**	**217**				**Pn**	**01 44 55.5**	**-0.9**
ODZ	**Otahua Downs**	**4.23**	**217**	P		**Pn**	**Pn**	**01 44 55.7**	**-0.7**
OPRZ	**Ohinepanea**	**4.27**	**25**	P		**Pn**	**Pn**	**01 44 56.3**	**-0.7**
CNGZ	**Carnagh Statio**	**4.44**	**44**	P		**Pn**	**Pn**	**01 44 57.8**	**-1.5**
TWGZ	**Tauwhareparae**	**4.56**	**40**	P		**Pn**	**Pn**	**01 45 00.0**	**-1.0**
RUGZ	**Raukumara Rang**	**4.59**	**36**	P		**Pn**	**Pn**	**01 45 00.1**	**-1.4**
JCZ	**Jackson Bay**	**4.65**	**238**	P		**Pn**	**Pn**	**01 45 03.8**	**+1.5**
AWAZ	**Awhitu Peninsu**	**4.68**	**4**	P		**Pn**	**Pn**	**01 45 05.0**	**+2.4**
MKAZ	**Moumakai**	**4.68**	**9**	P		**Pn**	**Pn**	**01 45 04.0**	**+1.4**
PUZ	**Puketiti**	**4.78**	**41**	P		**Pn**	**Pn**	**01 45 02.3**	**-1.7**
WTAZ	**Waiatarua**	**4.81**	**3**	P		**Pn**	**Pn**	**01 45 07.6**	**+3.3**
ETAZ	**East Tamaki Re**	**4.81**	**6**	P		**Pn**	**Pn**	**01 45 06.8**	**+2.5**
HAZ	**Te Kaha**	**4.81**	**35**	P		**Pn**	**Pn**	**01 45 03.4**	**-1.0**
PKGZ	**P

GVZ	**Greta Valley S**	**0.84**	**213**	P	Pn	01 47 34.4 -0.1
GVZ				S	Sn	01 47 47.4 +0.4
LTZ	**Lake Taylor**	**1.15**	**243**	P	Pb	01 47 38.1 -0.5
LTZ				S	Sg	01 47 52.6 -1.0
AMCZ	**Amberley**	**1.18**	**219**	P	Pn	01 47 39.1 0.0
DSZ	**Denniston Nort**	**1.48**	**290**	P	Pn	01 47 43.5 +0.2
DSZ				S	Sg	01 48 04.0 -0.1
OKCZ	**Okains Bay**	**1.52**	**197**	P	Pn	01 47 43.8 -0.1
OKCZ				S	Sn	01 48 03.8 0.0
MQZ	**McQueen's Vall**	**1.62**	**207**	P	Pn	01 47 44.2 -1.0
MQZ				S	Sn	01 48 05.1 -1.0
AKCZ	**Akaroa Harbour**	**1.70**	**199**	P	Pn	01 47 46.1 -0.1
AKCZ				S	Sn	01 48 07.4 -0.7
INZ	**Inchbonnie**	**1.71**	**254**	P	Pn	01 47 46.6 +0.3
INZ				S	Sb	01 48 09.7 +0.2

*IDC **15** 01:47:51.6±2.3,41°54′S×174°16′E,h0km,mb3.9/3, mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=60.8km s-min=34.2km az=52.0*
*WEL **15** 01:47:53.9±0.3,42°S±2′×17°4′E±°,h9km±2km,M4.5/65, ML4.6/24,MLv4.5/65,Error ellipse: s-maj=0.0km s-min=0.0km az=160.4*
*NEIC **15** 01:47:54.6±1.6,41°.71S±0°.01×174°.24E±0°.02,h10km±1km, mb4.3/5,Error ellipse: s-maj=3.2km s-min=2.6km az=76.0*

ISC 15 01:47:53.5±0.8,41°.68S±0°.02×174°.22E±0°.02,h10km±5km, n104,σ1s31/129,mb4.3/5,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**181**	Pg	**Pg**	**01 47 54.8**	**-1.0**
CMWZ				Sg	**Sg**	**01 47 58.5**	**+1.0**
CMWZ	**Cape Campbell**	**0.07**	**181**	P	**Pg**	**01 47 55.0**	**-0.8**
CMWZ				S	**Sg**	**01 47 58.9**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.26**	**261**	Pg	**Pb**	**01 47 59.7**	**-0.5**
BSWZ				Sg	**Sb**	**01 48 04.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.26**	**261**	P	**Pb**	**01 47 59.8**	**-0.5**
BSWZ				S	**Sb**	**01 48 04.5**	**-0.3**
TUWZ	**Tuamarina**	**0.32**	**320**	Pg	**Pb**	**01 48 01.6**	**+0.3**
TUWZ				Sg	**Sb**	**01 48 07.0**	**+0.5**
TUWZ	**Tuamarina**	**0.32**	**320**	P	**Pb**	**01 48 01.8**	**+0.5**
TUWZ				S	**Sb**	**01 48 07.1**	**+0.6**
TCW	**Tory Channel**	**0.47**	**6**	Pg	**Pb**	**01 48 04.0**	**+0.3**
TCW	**Tory Channel**	**0.47**	**6**	P	**Pb**	**01 48 04.1**	**+0.3**
TCW				S	**Sb**	**01 48 11.1**	**+0.3**
SNZO	**South Karori**	**0.52**	**45**	Pg	**Pb**	**01 48 05.2**	**+0.5**
BHW	**Baring Head**	**0.56**	**62**	P	**Pb**	**01 48 05.4**	**0.0**
BHW				S	**Sb**	**01 48 14.7**	**+1.3**
WEL	**Wellington**	**0.57**	**47**	P	**Pb**	**01 48 06.1**	**+0.6**
NNZ	**Nelson**	**0.78**	**306**	Pg	**Pn**	**01 48 09.6**	**-0.9**
NNZ	**Nelson**	**0.78**	**306**	P	**Pn**	**01 48 09.5**	**-0.9**
NNZ				S	**Sb**	**01 48 19.1**	**-0.6**
PLWZ	**Palliser**	**0.79**	**83**		**Pn**	**01 48 10.1**	**-0.6**
PLWZ	**Palliser**	**0.79**	**83**	P	**Pn**	**01 48 10.3**	**-0.3**
PLWZ				S	**Sb**	**01 48 20.8**	**+0.8**
MSWZ	**Moikau Station**	**0.82**	**72**	Pg	**Pb**	**01 48 10.1**	**+0.3**
MSWZ	**Moikau Station**	**0.82**	**72**	P	**Pb**	**01 48 10.7**	**-0.4**
MSWZ				S	**Sb**	**01 48 21.8**	**+1.0**
CAW	**Cannon Point**	**0.85**	**49**	P	**Pn**	**01 48 11.0**	**-0.6**
CAW				S	**Sn**	**01 48 22.8**	**-1.3**
KHZ	**Kahutara**	**0.90**	**214**	Pg	**Pn**	**01 48 11.5**	**-0.6**
KHZ	**Kahutara**	**0.90**	**214**	P	**Pn**	**01 48 11.7**	**-0.5**
KHZ				S	**Sb**	**01 48 23.8**	**+0.7**
DUWZ	**D'Urville Isla**	**0.90**	**346**	P	**Pn**	**01 48 12.2**	**0.0**
DUWZ				S	**Sn**	**01 48 23.7**	**-1.5**
PAWZ	**Paruwai Farm**	**0.95**	**73**	P	**Pn**	**01 48 12.6**	**-0.4**
PAWZ				S	**Sn**	**01 48 26.8**	**+0.1**
KIW	**Kapiti Island**	**0.97**	**33**	P	**Pn**	**01 48 12.9**	**-0.2**
KIW				S	**Sn**	**01 48 26.1**	**-0.8**
THZ	**Tophouse**	**0.98**	**264**	P	**Pn**	**01 48 13.2**	**-0.2**
THZ				S	**Sn**	**01 48 26.3**	**-1.2**
MTW	**Mount Morrison**	**1.10**	**62**	P	**Pn**	**01 48 14.7**	**-0.2**
MTW				S	**Sn**	**01 48 29.5**	**-0.6**
OGWZ	**Otaki Gorge**	**1.12**	**40**	P	**Pn**	**01 48 15.5**	**+0.4**
OGWZ				S	**Sn**	**01 48 30.9**	**+0.3**
MRNZ	**Matariki Terra**	**1.13**	**284**	P	**Pn**	**01 48 16.2**	**+0.9**
MRNZ				S	**Sn**	**01 48 31.6**	**+0.7**
TRWZ	**Traveller**	**1.14**	**76**	P	**Pb**	**01 48 14.9**	**-0.4**
TRWZ				S	**Sn**	**01 48 34.1**	**+2.9**
TKNZ	**Takaka Hill**	**1.14**	**304**	P	**Pn**	**01 48 16.4**	**+0.9**
TKNZ				S	**Sn**	**01 48 30.4**	**-0.8**
HOWZ	**Holdsworth Sta**	**1.25**	**52**	P	**Pg**	**01 48 17.0**	**-0.5**
HOWZ				S	**Sn**	**01 48 33.6**	**-0.3**
TMWZ	**Te Maipa**	**1.38**	**66**	P	**Pn**	**01 48 18.2**	**-0.6**
MRZ	**Mangatainoka R**	**1.44**	**46**	P	**Pb**	**01 48 20.0**	**-0.5**
MRZ				S	**Sg**	**01 48 39.3**	**-0.6**
QRZ	**Quartz Range**	**1.53**	**303**	P	**Pg**	**01 48 22.9**	**+0.1**
QRZ				S	**Sg**	**01 48 42.4**	**-0.2**
TIWZ	**Tintock**	**1.55**	**55**	P	**Pn**	**01 48 21.1**	**0.0**
GVZ	**Greta Valley S**	**1.56**	**214**	P	**Pn**	**01 48 20.8**	**-0.7**
CPWZ	**Castlepoint**	**1.68**	**64**	P	**Pn**	**01 48 23.3**	**+0.4**
OHWZ	**Ohakea**	**1.69**	**30**	P	**Pg**	**01 48 25.3**	**-0.6**
OHWZ				S	**Sg**	**01 48 48.6**	**+0.9**
PRWZ	**Pori Road**	**1.73**	**50**	P	**Pn**	**01 48 23.6**	**-0.1**
POWZ	**Post Office Ro**	**1.74**	**43**	P	**Pn**	**01 48 24.2**	**+0.4**
DSZ	**Denniston Nort**	**1.81**	**267**	P	**Pb**	**01 48 26.9**	**+0.2**
LTZ	**Lake Taylor**	**1.82**	**232**	P	**Pn**	**01 48 24.8**	**-0.1**
BFZ	**Birch Farm**	**1.83**	**58**	P	**Pn**	**01 48 24.0**	**-0.9**
AMCZ	**Amberley**	**1.90**	**217**	P	**Pg**	**01 48 31.8**	**+2.0**
WAZ	**Wanganui**	**2.00**	**17**	P	**Pg**	**01 48 31.3**	**-0.7**
DVHZ	**Dannevirke**	**2.02**	**48**	P	**Pn**	**01 48 26.9**	**-0.7**
TSZ	**Takapari Road**	**2.09**	**40**	P	**Pn**	**01 48 28.7**	**+0.1**
ANWZ	**Angora Road**	**2.10**	**55**	P	**Pn**	**01 48 28.0**	**-0.6**
LREZ	**Lake Rotokare**	**2.22**	**4**	P	**Pg**	**01 48 35.2**	**-0.8**
OKCZ	**Okains Bay**	**2.22**	**202**	P	**Pn**	**01 48 28.5**	**-1.9**
NMEZ	**Namu Road**	**2.27**	**353**	P	**Pg**	**01 48 37.4**	**+0.4**
PRHZ	**Porangahau**	**2.31**	**53**	P	**Pn**	**01 48 31.6**	**+0.1**
PNHZ	**Pukenui**	**2.32**	**41**	P	**Pn**	**01 48 32.2**	**-0.2**
WPHZ	**Waipukurau**	**2.33**	**47**	P	**Pn**	**01 48 32.2**	**+0.3**
KHEZ	**Kahui Hut**	**2.38**	**356**	P	**Pg**	**01 48 37.8**	**-1.4**
NEZ	**North Egmont**	**2.40**	**358**	P	**Pg**	**01 48 38.7**	**-0.8**
NBEZ	**Newall Road No**	**2.42**	**354**	P	**Pg**	**01 48 39.5**	**-0.3**
MTVZ	**Mangateitei**	**2.48**	**23**	P	**Pg**	**01 48 39.7**	**-1.4**
DREZ	**Durham Road**	**2.48**	**360**	P	**Pg**	**01 48 40.9**	**-0.2**
PKE	**Pukeiti**	**2.48**	**356**	P	**Pg**	**01 48 40.1**	**-1.0**
PKVZ	**Pokaka**	**2.53**	**20**	P	**Pg**	**01 48 40.1**	**-1.9**
MOVZ	**Moawhango**	**2.55**	**28**	P	**Pb**	**01 48 36.8**	**-2.5**
VRZ	**Vera Road**	**2.58**	**9**	P	**Pb**	**01 48 38.5**	**-1.3**
TRVZ	**Turoa**	**2.58**	**24**	P	**Pb**	**01 48 39.3**	**-0.7**
PXZ	**Pawanui**	**2.59**	**52**	P	**Pn**	**01 48 33.9**	**-1.5**
BHHZ	**Black Hill Sta**	**2.60**	**33**	P	**Pn**	**01 48 36.6**	**+1.0**
DRZ	**Dome Shelter**	**2.61**	**24**	P	**Pb**	**01 48 39.6**	**-0.9**
WHVZ	**Whangaehu Hut**	**2.61**	**24**	P	**Pb**	**01 48 38.0**	**-2.4**
FWVZ	**Far West T-bar**	**2.62**	**23**	P	**Pb**	**01 48 41.3**	**+0.6**
TUIZ	**Tukino**	**2.64**	**25**	P	**Pn**	**01 48 38.1**	**+1.8**
NGZ	**Ngauruhoe**	**2.71**	**23**	P	**Pb**	**01 48 33.9**	**-1.6**
SNVZ	**South Ngauruho**	**2.71**	**24**	P	**Pb**	**01 48 40.3**	**-1.9**
OTVZ	**Oturere**	**2.74**	**24**	P	**Pb**	**01 48 39.8**	**-2.9**
NNVZ	**North Ngauruho**	**2.76**	**23**	P	**Pb**	**01 48 40.4**	**-2.5**
KAHZ	**Kahuranaki**	**2.76**	**48**	P	**Pn**	**01 48 36.7**	**-1.1**
TWVZ	**Taurewa**	**2.76**	**20**	P	**Pb**	**01 48 43.7**	**+0.7**
WTVZ	**West Tongariro**	**2.76**	**23**	P	**Pb**	**01 48 43.8**	**+0.8**
ETVZ	**East Tongariro**	**2.78**	**25**	P	**Pb**	**01 48 44.1**	**+0.7**
KRVZ	**Karewarewa**	**2.80**	**23**	P	**Pb**	**01 48 42.9**	**-0.8**
TMVZ	**Te Maari**	**2.80**	**24**	P	**Pb**	**01 48 41.7**	**-2.0**
NTVZ	**North Tongarir**	**2.81**	**24**	P	**Pn**	**01 48 40.7**	**+2.2**
KATZ	**Kakaramea**	**2.92**	**23**	P	**Pg**	**01 48 47.3**	**-2.2**
RPZ	**Rata Peaks**	**3.10**	**228**	Pn	**Pn**	**01 48 41.6**	**-0.8**
	25nm,0.3s,baz=7.7,slow=19,SNR=2.1						
RPZ				Sn	**Sn**	**01 49 16.6**	**-2.9**
	27nm,0.3s,baz=329,slow=21,SNR=7.5 62nm,0.4s						
RPZ	**Rata Peaks**	**3.10**	**228**	P	**Pn**	**01 48 41.2**	**-1.2**
HIZ	**Hauiti**	**3.20**	**9**	Pn	**Pb**	**01 48 47.7**	**-2.7**
HIZ	**Hauiti**	**3.20**	**9**	P	**Pb**	**01 48 49.4**	**-0.9**
TLZ	**Tolley Road**	**3.49**	**17**	P	**Pb**	**01 48 53.5**	**-1.9**
TOZ	**Tahuroa Road**	**4.06**	**15**	P	**Pn**	**01 48 58.9**	**+3.3**
TWGZ	**Tauwhareparae**	**4.54**	**41**	P	**Pn**	**01 49 01.6**	**-0.7**
AWAZ	**Awhitu Peninsu**	**4.62**	**4**	P	**Pn**	**01 49 06.8**	**+3.5**
MKAZ	**Moumakai**	**4.62**	**9**	P	**Pn**	**01 49 06.5**	**+3.1**
JCZ	**Jackson Bay**	**4.66**	**237**	P	**Pn**	**01 49 07.6**	**+3.7**
WTAZ	**Waiatarua**	**4.74**	**3**	P	**Pn**	**01 49 09.2**	**+4.1**
MBAZ	**Motutapu North**	**4.93**	**6**	P	Pn	01 49 11.9	+4.4
HHSZ	**Highcliff Hill**	**4.96**	**211**	P	**Pn**	**01 49 05.9**	**-2.1**
CTZ	**Chatham Island**	**7.06**	**110**	P	**Pn**	**01 49 36.1**	**-0.7**
OUENC	**Ouen Island, N**	**20.18**	**340**	P	Pn	01 52 29.2	-0.7
OUENC				IAmb	IAmb	01 52 52.0	
	comp=Z,20nm,1.3s						
VNDA	**Vanda**	**36.32**	**185**	P	**P**	**01 54 58.0**	**+1.2**

ASAR	**Alice Springs**	**37.98**	**285**	P	**P**	**01 55 11.3 -0.4**
	comp=Z,0.6nm,0.5s,baz=127,slow=6.6,SNR=2.3 comp=Z,0.6nm,0.5s					
WB2	**Warramunga Arr**	**40.04**	**290**	P	**P**	**01 55 28.1 -0.8**
WB2				IAmb	IAmb	01 56 02.8
	comp=Z,7.8nm,1.2s					
WRA	**Warramunga Arr**	**40.05**	**290**	P	**P**	**01 55 27.6 -1.3**
	comp=Z,0.5nm,0.5s,baz=128,slow=8.2,SNR=3.1 comp=Z,0.5nm,0.5s					
WB0	**Warramunga Arr**	**40.13**	**291**	P	**P**	**01 55 28.8 -0.8**
WB0				IAmb	IAmb	01 56 12.2
	comp=Z,11nm,1.5s					
QSPA	**South Pole Qui**	**48.45**	**180**	P	**P**	**01 56 37.3 +1.5**
	comp=Z,2.2nm,0.6s,baz=40,slow=4.3,SNR=3.9 comp=Z,2.2nm,0.6s					
QSPA	**South Pole Qui**	**48.45**	**180**	P	**P**	**01 56 36.7 +0.8**
TORD	**Torodi Ar. Bea**	**150.84**	**195**	PKPbc	**PKPbc**	**02 07 45.7 -0.8**
	comp=Z,0.5nm,0.5s,baz=148,slow=2.0,SNR=6.8					

WEL 15 01:51:52.7±0.4,42°S±2′×17°4E±°,h7km±3km,M3.4/16, ML3.7/16,MLv3.4/16,Error ellipse: s-maj=0.0km s-min=0.0km az=150.2,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**173**	P	Pg	01 51 54.8	+0.4
CMWZ				S	Sg	01 51 56.7	+1.2
BSWZ	**Blackbirch Sta**	**0.25**	**266**	P	Pg	01 51 58.2	+0.6
BSWZ				S	Sg	01 52 02.6	+1.6
TUWZ	**Tuamarina**	**0.33**	**324**	P	Pb	01 52 00.2	-0.8
TUWZ				S	Sb	01 52 05.2	-1.2
TCW	**Tory Channel**	**0.49**	**6**	P	Pg	01 52 02.6	+0.4
TCW				S	Sb	01 52 10.2	-0.8
BHW	**Baring Head**	**0.58**	**60**	P	Pg	01 52 04.3	+0.5
WEL	**Wellington**	**0.59**	**46**	P	Pg	01 52 04.6	+0.5
WEL				S	Sb	01 52 14.1	+0.1
NNZ	**Nelson**	**0.78**	**307**	P	Pg	01 52 08.0	+0.2
PLWZ	**Palliser**	**0.80**	**81**	P	Pb	01 52 08.6	-0.4
MSWZ	**Moikau Station**	**0.83**	**71**	P	Pb	01 52 09.5	0.0
KHZ	**Kahutara**	**0.87**	**214**	P	Pb	01 52 09.9	-0.3
CAW	**Cannon Point**	**0.88**	**48**	P	Pg	01 52 09.9	+0.3
DUWZ	**D'Urville Isla**	**0.92**	**346**	P	Pg	01 52 10.4	+0.1
PAWZ	**Paruwai Farm**	**0.97**	**71**	P	Pg	01 52 11.4	+0.1
THZ	**Tophouse**	**0.97**	**266**	P	Pg	01 52 11.6	+0.2
KIW	**Kapiti Island**	**0.99**	**33**	P	Pg	01 52 11.6	-0.1
MTW	**Mount Morrison**	**1.11**	**62**	P	Pg	01 52 13.2	-0.9
MRNZ	**Matariki Terra**	**1.13**	**285**	P	Pb	01 52 14.6	+0.1
OGWZ	**Otaki Gorge**	**1.14**	**40**	P	Pg	01 52 14.4	-0.2
TKNZ	**Takaka Hill**	**1.15**	**305**	P	Pg	01 52 14.5	-0.3
TRWZ	**Traveller**	**1.15**	**75**	P	Pg	01 52 13.6	-1.3
HOWZ	**Holdsworth Sta**	**1.27**	**51**	P	Pn	01 52 15.9	-1.0
TMWZ	**Te Maipa**	**1.40**	**66**	P	Pn	01 52 16.9	-1.7
MRZ	**Mangatainoka R**	**1.47**	**45**	P	Pn	01 52 18.5	-1.0
QRZ	**Quartz Range**	**1.53**	**304**	P	Pb	01 52 21.4	-0.1
GVZ	**Greta Valley S**	**1.54**	**214**	P	Pn	01 52 19.1	-1.5
PRWZ	**Pori Road**	**1.76**	**50**	P	Pg	01 52 26.8	+0.4
DSZ	**Denniston Nort**	**1.80**	**268**	P	Pb	01 52 25.5	-0.5
LTZ	**Lake Taylor**	**1.80**	**232**	P	Pn	01 52 23.1	-1.1
AMCZ	**Amberley**	**1.87**	**217**	P	Pn	01 52 23.1	-2.0
WAZ	**Wanganui**	**2.03**	**17**	P	Pg	01 52 31.1	-0.5
DVHZ	**Dannevirke**	**2.04**	**47**	P	Pg	01 52 33.7	+1.9
TSZ	**Takapari Road**	**2.11**	**40**	P	Pn	01 52 28.0	-0.5
OKCZ	**Okains Bay**	**2.19**	**202**	P	Pn	01 52 26.8	-2.8
MQZ	**McQueen's Vall**	**2.31**	**209**	P	Pn	01 52 27.8	-3.3
NBEZ	**Newall Road No**	**2.44**	**354**	P	Pg	01 52 39.2	-0.2
PKE	**Pukeiti**	**2.51**	**356**	P	Pb	01 52 38.6	+0.6
RACZ	**Rakaia**	**2.54**	**216**	P	Pn	01 52 31.2	-3.1
MOVZ	**Moawhango**	**2.57**	**28**	P	Pb	01 52 39.1	-0.1
WNVZ	**Wahianoa**	**2.59**	**25**	P	Pb	01 52 39.2	-0.4
VRZ	**Vera Road**	**2.60**	**10**	P	Pb	01 52 37.7	-2.0
BHHZ	**Black Hill Sta**	**2.62**	**33**	P	Pb	01 52 39.9	-0.1
FWVZ	**Far West T-bar**	**2.65**	**23**	P	Pb	01 52 40.8	+0.2
NGZ	**Ngauruhoe**	**2.73**	**23**	P	Pg	01 52 43.8	-1.3
OTVZ	**Oturere**	**2.77**	**24**	P	Pb	01 52 42.1	-0.4
NNVZ	**North Ngauruho**	**2.78**	**23**	P	Pb	01 52 42.3	-0.5
ETVZ	**East Tongariro**	**2.81**	**25**	P	Pb	01 52 44.2	+1.0
KRVZ	**Karewarewa**	**2.82**	**23**	P	Pb	01 52 43.2	+0.5
WACZ	**Wakanui South**	**2.84**	**217**	P	Pn	01 52 39.0	-2.4
WVZ	**Waitaha Valley**	**2.92**	**241**	P	Pb	01 52 43.0	-2.0
KATZ	**Kakaramea**	**2.95**	**23**	P	Pn	01 52 42.4	+2.3
BKZ	**Black Stump Fm**	**3.07**	**35**	P	Pb	01 52 48.8	+1.1
RPZ	**Rata Peaks**	**3.08**	**228**	P	Pn	01 52 39.9	-1.8
HIZ	**Hauiti**	**3.22**	**9**	P	Pb	01 52 47.3	-2.9
TMZ	**Timaru**	**3.56**	**220**	P	Pn	01 52 46.1	-2.4

WEL 15 01:54:02.1±0.3,42°S±2′×17°4E±°,h12km±2km,M3.8/45, ML4.0/22,MLv3.8/45,Error ellipse: s-maj=0.0km s-min=0.0km az=148.4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**31**	P	Pg	01 54 06.0	+1.3
CMWZ				S	Sg	01 54 09.2	+2.6
BSWZ	**Blackbirch Sta**	**0.23**	**296**	P	Pb	01 54 07.9	-0.5
BSWZ				S	Sg	01 54 11.6	+1.2
TUWZ	**Tuamarina**	**0.42**	**338**	P	Pb	01 54 11.1	-0.4
TUWZ				S	Sb	01 54 17.3	-0.6
TCW	**Tory Channel**	**0.61**	**8**	P	Pb	01 54 14.6	-0.3
TCW				S	Sb	01 54 23.6	+0.1
BHW	**Baring Head**	**0.68**	**53**	P	Pb	01 54 16.3	+0.4
WEL	**Wellington**	**0.70**	**41**	P	Pb	01 54 16.5	+0.2
WEL				S	Sn	01 54 28.3	-0.5
KHZ	**Kahutara**	**0.75**	**217**	P	Pb	01 54 17.7	+0.5
KHZ				S	Sn	01 54 29.2	-0.8
NNZ	**Nelson**	**0.84**	**316**	P	Pb	01 54 18.7	0.0
PLWZ	**Palliser**	**0.86**	**73**	P	Pg	01 54 18.6	-0.2
MSWZ	**Moikau Station**	**0.91**	**64**	P	Pg	01 54 19.8	0.0
MSWZ				S	Sn	01 54 33.9	-0.1
THZ	**Tophouse**	**0.94**	**273**	P	Pb	01 54 20.3	-0.1
THZ				S	Sb	01 54 33.4	+0.5
CAW	**Cannon Point**	**0.99**	**44**	P	Pb	01 54 21.3	+0.1
CAW				S	Sn	01 54 35.4	-0.4
DUWZ	**D'Urville Isla**	**1.03**	**350**	P	Pb	01 54 21.8	-0.1
DUWZ				S	Sn	01 54 36.4	-0.5
PAWZ	**Paruwai Farm**	**1.05**	**66**	P	Pb	01 54 21.2	-1.1
KIW	**Kapiti Island**	**1.11**	**31**	P	Pb	01 54 23.3	0.0
KIW				S	Sn	01 54 38.8	-0.1
MRNZ	**Matariki Terra**	**1.13**	**291**	P	Pg	01 54 24.0	+0.1
MRNZ				S	Sn	01 54 39.8	+0.5
TKNZ	**Takaka Hill**	**1.19**	**311**	P	Pn	01 54 24.5	-0.2
TKNZ				S	Sn	01 54 41.8	+0.9
MTW	**Mount Morrison**	**1.21**	**57**	P	Pn	01 54 23.5	-1.4
MTW				S	Sb	01 54 40.1	-0.5
TRWZ	**Traveller**	**1.22**	**70**	P	Pn	01 54 23.3	-1.8
OGWZ	**Otaki Gorge**	**1.26**	**38**	P	Pn	01 54 25.1	-0.5
OGWZ				S	Sb	01 54 42.1	+0.1
HOWZ	**Holdsworth Sta**	**1.38**	**48**	P	Pn	01 54 26.0	-1.2
HOWZ				S	Sn	01 54 44.6	-0.8
GVZ	**Greta Valley S**	**1.42**	**216**	P	Pn	01 54 27.2	-0.6
GVZ				S	Sn	01 54 45.5	-0.9
TMWZ	**Te Maipa**	**1.48**	**62**	P	Pn	01 54 27.0	-1.7
QRZ	**Quartz Range**	**1.58**	**308**	P	Pb	01 54 31.1	-0.1
MRZ	**Mangatainoka R**	**1.58**	**43**	P	Pn	01 54 29.0	-1.0
MRZ				S	Sn	01 54 49.4	-0.9
TIWZ	**Tintock**	**1.67**	**52**	P	Pn	01 54 29.9	-1.3
LTZ	**Lake Taylor**	**1.70**	**235**	P	Pn	01 54 31.5	-0.1
DSZ	**Denniston Nort**	**1.76**	**272**	P	Pb	01 54 33.8	-0.6
CPWZ	**Castlepoint**	**1.79**	**60**	P	Pg	01 54 38.0	+1.6
PRWZ	**Pori Road**	**1.86**	**48**	P	Pn	01 54 32.4	-1.5
POWZ	**Post Office Ro**	**1.88**	**41**	P	Pn	01 54 32.9	-1.1
BFZ	**Birch Farm**	**1.94**	**55**	P	Pn	01 54 33.0	-2.0
DVHZ	**Dannevirke**	**2.15**	**46**	P	Pn	01 54 35.9	-1.9
WAZ	**Wanganui**	**2.16**	**17**	P	Pb	01 54 40.9	-0.2
TSZ	**Takapari Road**	**2.23**	**38**	P	Pn	01 54 37.6	-1.3
PNHZ	**Pukenui**	**2.46**	**40**	P	Pn	01 54 40.5	-1.6
WPHZ	**Waipukurau**	**2.46**	**45**	P	Pn	01 54 40.7	-1.5
KHEZ	**Kahui Hut**	**2.52**	**357**	P	Pb	01 54 47.0	-0.5
NBEZ	**Newall Road No**	**2.56**	**355**	P	Pb	01 54 49.3	+1.3
PKE	**Pukeiti**	**2.63**	**357**	P	Pb	01 54 49.6	+0.5
PKVZ	**Pokaka**	**2.69**	**20**	P	Pb	01 54 49.1	-1.1
MOVZ	**Moawhango**	**2.70**	**27**	P	Pn	01 54 45.1	-0.4
WNVZ	**Wahianoa**	**2.72**	**24**	P	Pn	01 54 47.5	+1.7
VRZ	**Vera Road**	**2.73**	**10**	P	Pb	01 54 49.4	-1.5
BHHZ	**Black Hill Sta**	**2.74**	**33**	P	Pn	01 54 45.5	-0.5
DRZ	**Dome Shelter**	**2.76**	**23**	P	Pb	01 54 50.8	-0.7
WHVZ	**Whangaehu Hut**	**2.76**	**24**	P	Pb	01 54 49.7	-1.8
FWVZ	**Far West T-bar**	**2.77**	**23**	P	Pb	01 54 51.2	-0.6
NGZ	**Ngauruhoe**	**2.86**	**23**	P	Pb	01 54 53.1	-0.1
SNVZ	**South Ngauruho**	**2.86**	**24**	P	Pb	01 54 51.5	-1.8

KAHZ	**Kahuranaki**	**2.89**	**46**	P	Pn	01 54 45.4 -2.6
OTVZ	**Oturere**	**2.89**	**24**	P	Pb	01 54 53.5 -0.3
NNVZ	**North Ngauruho**	**2.91**	**23**	P	Pb	01 54 52.2 -1.8
ETVZ	**East Tongariro**	**2.93**	**24**	P	Pb	01 54 53.5 -0.9
TMVZ	**Te Maari**	**2.95**	**24**	P	Pb	01 54 53.8 -0.9
KRVZ	**Karewarewa**	**2.95**	**23**	P	Pb	01 54 54.3 -0.4
NTVZ	**North Tongarir**	**2.96**	**24**	P	Pn	01 54 49.6 +0.5
KATZ	**Kakaramea**	**3.07**	**23**	P	Pb	01 54 57.4 +0.5
HIZ	**Hauiti**	**3.35**	**9**	P	Pn	01 54 56.5 +2.2
TOZ	**Tahuroa Road**	**4.21**	**15**	P	Pn	01 55 09.2 +3.0
MKAZ	**Moumakai**	**4.77**	**10**	P	Pn	01 55 16.6 +2.7

WEL 15 01:54:32.5±0.6,42°S±3°×17°4E±°,h7km±5km,M3.6/7, ML3.9/7,MLv3.6/7,Error ellipse: s-maj=0.0km s-min=0.0km az=141.3,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**199**	P	Pg	01 54 35.0	+0.6
BSWZ	**Blackbirch Sta**	**0.28**	**263**	P	Pg	01 54 38.4	+0.4
BSWZ				S	Sb	01 54 43.5	-1.2
TUWZ	**Tuamarina**	**0.34**	**318**	P	Pg	01 54 39.9	+0.7
TUWZ				S	Sb	01 54 45.4	-1.1
TCW	**Tory Channel**	**0.47**	**3**	P	Pb	01 54 42.7	-0.4
TCW				S	Sb	01 54 50.2	0.0
BHW	**Baring Head**	**0.54**	**60**	P	Pb	01 54 43.8	-0.5
BHW				S	Sb	01 54 52.7	+0.4
WEL	**Wellington**	**0.56**	**45**	P	Pb	01 54 44.5	-0.1
KHZ	**Kahutara**	**0.91**	**215**	P	Pg	01 54 49.9	0.0
KHZ				S	Sb	01 55 03.4	+0.6

WEL 15 01:56:56.1±0.9,42°S±4′×17°4E±°,h7km±6km,M2.6/7, ML3.1/6,MLv2.6/7,Error ellipse: s-maj=0.0km s-min=0.0km az=163.7,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**193**	P	Pg	01 56 57.8	0.0
CMWZ				S	Sg	01 57 01.1	+2.2
BSWZ	**Blackbirch Sta**	**0.27**	**266**

KRVZ				S	Sn	01 58 06.6	+1.3	
NGZ	**Ngauruhoe**	**0.12**	**132**	P	Pn	01 57 56.1	+0.7	
NTVZ	**North Tongarir**	**0.15**	**92**	P	Pn	01 57 56.0	+0.5	
SNVZ	**South Ngauruho**	**0.15**	**127**	P	Pn	01 57 56.3	+0.8	
SNVZ				S	Sn	01 58 07.6	+2.0	
OTVZ	**Oturere**	**0.15**	**116**	P	Pn	01 57 56.3	+0.8	
OTVZ				S	Sn	01 58 07.5	+1.9	
FWVZ	**Far West T-bar**	**0.17**	**162**	P	Pn	01 57 56.3	+0.7	
FWVZ				S	Sn	01 58 07.2	+1.4	
TMVZ	**Te Maari**	**0.17**	**97**	P	Pn	01 57 56.1	+0.7	
TMVZ				S	Sn	01 58 06.9	+1.4	
ETVZ	**East Tongariro**	**0.18**	**103**	P	Pn	01 57 56.1	+0.6	
ETVZ				S	Sn	01 58 06.9	+1.3	
DRZ	**Dome Shelter**	**0.19**	**162**	P	Pn	01 57 56.6	+0.8	
KATZ	**Kakaramea**	**0.20**	**54**	P	Pn	01 57 55.8	+0.2	
WHVZ	**Whangaehu Hut**	**0.20**	**157**	P	Pn	01 57 56.6	+0.8	
WHVZ				S	Sn	01 58 07.5	+1.5	
TRVZ	**Turoa**	**0.21**	**167**	P	Pn	01 57 56.6	+0.9	
TUVZ	**Tukino**	**0.22**	**143**	P	Pn	01 57 56.4	+0.8	
TUVZ				S	Sn	01 58 07.5	+1.6	
PKVZ	**Pokaka**	**0.22**	**209**	P	Pn	01 57 56.5	+0.9	
WNVZ	**Wahianoa**	**0.25**	**160**	P	Pn	01 57 56.6	+0.8	
WNVZ				S	Sn	01 58 07.5	+1.4	
RATZ	**Rangitukua**	**0.32**	**44**	P	Pn	01 57 56.1	+0.1	
MOVZ	**Moawhango**	**0.37**	**147**	P	Pn	01 57 56.7	+0.4	
HATZ	**Hinemaiaia**	**0.51**	**67**	P	Pn	01 57 57.0	-0.3	
VRZ	**Vera Road**	**0.57**	**267**	P	Pn	01 57 59.1	+1.5	
BHHZ	**Black Hill Sta**	**0.60**	**132**	P	Pn	01 57 58.0	+0.1	
TLZ	**Tolley Road**	**0.77**	**3**	P	Pn	01 57 59.7	+0.2	
WAZ	**Wanganui**	**0.77**	**210**	P	Pn	01 58 01.0	+1.5	
MRHZ	**Matea Rd**	**0.77**	**71**	P	Pn	01 57 59.0	-0.6	
BKZ	**Black Stump Fm**	**0.79**	**95**	P	Pn	01 57 59.5	-0.2	
BKZ	**Black Stump Fm**	**0.79**	**95**	P	Pn	01 57 59.3	-0.4	
KWHZ	**Kaweka Forest**	**0.80**	**115**	P	Pn	01 58 00.1	+0.3	
ALRZ	**Allen Road**	**0.85**	**52**	P	Pn	01 57 59.9	-0.5	
LREZ	**Lake Rotokare**	**0.92**	**246**	P	Pn	01 58 02.3	+1.3	
HRRZ	**Handcock Road**	**0.94**	**42**	P	Pn	01 58 01.2	-0.1	
HSRZ	**Hossack Road**	**0.98**	**37**	P	Pn	01 58 01.7	-0.1	
PNHZ	**Pukenui**	**0.99**	**146**	P	Pn	01 58 02.2	+0.4	
MCHZ	**McNeill Hill**	**1.00**	**111**	P	Pn	01 58 03.7	+1.8	
NMHZ	**Naumai**	**1.03**	**91**	P	Pn	01 58 02.9	+0.6	
TSZ	**Takapari Road**	**1.03**	**159**	P	Pn	01 58 03.1	+0.8	
MTHZ	**Maungataniwha**	**1.08**	**78**	P	Pn	01 58 02.3	-0.6	
NEZ	**North Egmont**	**1.09**	**260**	P	Pn	01 58 05.0	+1.9	
OHWZ	**Ohakea**	**1.12**	**187**	P	Pn	01 58 02.5	-0.8	
KHEZ	**Kahui Hut**	**1.16**	**260**	P	Pn	01 58 04.3	+0.5	
PKE	**Pukeiti**	**1.17**	**265**	P	Pn	01 58 05.1	+1.2	
TARZ	**Mount Tarawera**	**1.17**	**43**	P	Pn	01 58 03.9	-0.1	
ARHZ	**Aropaoanui**	**1.19**	**99**	P	Pn	01 58 05.8	+1.7	
OMRZ	**Omania**	**1.21**	**35**	P	Pn	01 58 04.1	-0.2	
WPHZ	**Waipukurau**	**1.22**	**143**	P	Pn	01 58 06.6	+2.1	
RAHZ	**Arahi**	**1.26**	**82**	P	Pn	01 58 05.2	+0.3	
RTZ	**Ruatahuna**	**1.26**	**68**	P	Pn	01 58 02.7	-2.4	
NBEZ	**Newall Road No**	**1.27**	**262**	P	Pn	01 58 04.0	-1.0	
KAHZ	**Kahuranaki**	**1.28**	**123**	P	Pn	01 58 05.9	+0.6	
DVHZ	**Dannevirke**	**1.31**	**157**	P	Pn	01 58 04.3	-1.3	
POWZ	**Post Office Ro**	**1.31**	**171**	P	Pn	01 58 04.4	-1.2	
CKHZ	**Cape Kidnapper**	**1.35**	**115**	P	Pn	01 58 07.2	+1.1	
WHHZ	**Waihua**	**1.36**	**90**	P	Pn	01 58 08.1	+1.9	
TOZ	**Tahuroa Road**	**1.36**	**0**	P	Pn	01 58 06.2	0.0	
PXZ	**Pawanui**	**1.42**	**132**	P	Pn	01 58 06.9	0.0	
PRHZ	**Porangahau**	**1.47**	**143**	P	Pn	01 58 07.7	+0.2	
OPRZ	**Ohinepanea**	**1.50**	**34**	P	Pn	01 58 07.6	-0.3	
PRWZ	**Pori Road**	**1.50**	**166**	P	Pn	01 58 07.3	-0.7	
URZ	**Urewera**	**1.52**	**57**	P	Pn	01 58 07.4	-0.7	
ANWZ	**Angora Road**	**1.56**	**151**	P	Pn	01 58 08.9	+0.2	
BFZ	**Birch Farm**	**1.69**	**160**	P	Pn	01 58 07.7	-2.6	
KNZ	**Kokohu**	**1.70**	**88**	P	Pn	01 58 08.8	-0.7	
TIWZ	**Tintock**	**1.71**	**170**	P	Pn	01 58 10.5	0.0	
MWZ	**Matawai**	**1.77**	**65**	P	Pn	01 58 10.5	-0.9	
RIGZ	**Rimuhau**	**1.82**	**78**	P	Pn	01 58 11.3	-0.7	
KIW	**Kapiti Island**	**1.82**	**194**	P	Pn	01 58 12.1	+0.1	
MKAZ	**Moumakai**	**2.00**	**353**	P	Pn	01 58 14.1	-0.2	
TMWZ	**Te Maipa**	**2.03**	**171**	P	Pn	01 58 14.2	-0.5	
RUGZ	**Raukumara Rang**	**2.06**	**57**	P	Pn	01 58 14.4	-0.7	
TWGZ	**Tauwhareparae**	**2.16**	**66**	P	Pn	01 58 16.4	0.0	
HAZ	**Te Kaha**	**2.24**	**54**	P	Pn	01 58 16.1	-1.3	
KUZ	**Kuaotunu**	**2.35**	**5**	P	Pn	01 58 18.1	-0.8	
KUZ	**Kuaotunu**	**2.35**	**5**	P	Pn	01 58 18.5	-0.4	
MBAZ	**Motutapu North**	**2.37**	**348**	P	Pn	01 58 19.0	-0.1	
PUZ	**Puketiti**	**2.40**	**66**	P	Pn	01 58 23.3	+3.7	
MXZ	**Matakaoa Point**	**2.69**	**56**	P	Pn	01 58 27.5	+4.0	

WEL 15 02:00:14.1±0.5, 42°S±3°×17°4E±°, h12km, M3.3/12, ML4.2/10, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=117.3, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.41**	**254**	P	Pg	02 00 22.0	-0.2
KHZ				S	Sb	02 00 29.4	+0.1
CMWZ	**Cape Campbell**	**0.57**	**11**	P	Pn	02 00 27.2	-0.8
BSWZ	**Blackbirch Sta**	**0.61**	**347**	P	Pg	02 00 25.9	-0.1
BSWZ				S	Sb	02 00 35.6	+0.4
TUWZ	**Tuamarina**	**0.88**	**354**	P	Pb	02 00 31.3	-0.1
TUWZ				S	Sn	02 00 45.3	+0.3
GVZ	**Greta Valley S**	**1.01**	**229**	P	Pn	02 00 33.9	-0.2
GVZ				S	Sn	02 00 49.3	+1.1
THZ	**Tophouse**	**1.02**	**302**	P	Pb	02 00 33.1	-0.7
THZ				S	Sg	02 00 46.9	-0.1
WEL	**Wellington**	**1.15**	**28**	P	Pb	02 00 35.5	-0.3
WEL				S	Sn	02 00 52.0	+0.4
NNZ	**Nelson**	**1.20**	**335**	P	Pn	02 00 36.3	-0.4
NNZ				S	Sn	02 00 53.3	+0.4
MRNZ	**Matariki Terra**	**1.33**	**312**	P	Pn	02 00 35.2	-3.3
MRNZ				S	Sg	02 00 58.5	+1.5
AMCZ	**Amberley**	**1.36**	**230**	P	Pn	02 00 38.5	-0.3
AMCZ				S	Sg	02 00 57.4	-0.4
LTZ	**Lake Taylor**	**1.41**	**250**	P	Pn	02 00 39.0	-0.7
LTZ				S	Sn	02 00 57.8	-0.3
CAW	**Cannon Point**	**1.41**	**32**	P	Pn	02 00 39.2	-0.4
CAW				S	Sn	02 00 57.5	-0.4
DUWZ	**D'Urville Isla**	**1.51**	**356**	P	Pb	02 00 41.5	-0.5
TKNZ	**Takaka Hill**	**1.52**	**327**	P	Pn	02 00 41.0	-0.1
TKNZ				S	Sb	02 01 01.8	+0.4
KIW	**Kapiti Island**	**1.58**	**24**	P	Pn	02 00 41.6	-0.3
KIW				S	Sn	02 01 01.4	-0.8
OKCZ	**Okains Bay**	**1.60**	**207**	P	Pn	02 00 41.9	-0.4
OKCZ				S	Sn	02 01 03.1	+0.3

WEL 15 02:00:45.9±0.5, 42°S±3°×17°4E±°, h5km±2km, M3.9/13, ML4.1/13, MLv3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=124.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**12**	P	Pg	02 00 53.4	+0.5
BSWZ				S	Sg	02 00 59.0	+1.3
KHZ	**Kahutara**	**0.39**	**207**	P	Pg	02 00 53.5	+0.1
KHZ				S	Sg	02 00 59.5	+1.0
CMWZ	**Cape Campbell**	**0.46**	**46**	P	Pb	02 00 56.2	-0.3
CMWZ				S	Sb	02 01 05.0	+1.4
TUWZ	**Tuamarina**	**0.65**	**11**	P	Pg	02 00 58.8	+0.4
THZ	**Tophouse**	**0.72**	**295**	P	Pg	02 00 59.9	+0.3
NNZ	**Nelson**	**0.90**	**341**	P	Pg	02 01 03.1	0.0
NNZ				S	Sg	02 01 15.0	+0.1
TCW	**Tory Channel**	**0.94**	**24**	P	Pg	02 01 03.6	-0.3
MRNZ	**Matariki Terra**	**1.01**	**311**	P	Pb	02 01 06.0	0.0
MRNZ				S	Sn	02 01 21.3	+0.1
GVZ	**Greta Valley S**	**1.05**	**211**	P	Pg	02 01 05.8	-0.2
GVZ				S	Sb	02 01 20.8	+0.1
WEL	**Wellington**	**1.08**	**44**	P	Pg	02 01 06.7	+0.1
WEL				S	Sn	02 01 22.7	-0.4
LTZ	**Lake Taylor**	**1.32**	**237**	P	Pn	02 01 10.0	-1.1
LTZ				S	Sg	02 01 28.1	-0.3
PAWZ	**Paruwai Farm**	**1.42**	**62**	P	Pn	02 01 10.3	-2.0
KIW	**Kapiti Island**	**1.48**	**36**	P	Pn	02 01 12.2	-1.0
DSZ	**Denniston Nort**	**1.50**	**282**	P	Pb	02 01 14.2	-0.2
QRZ	**Quartz Range**	**1.56**	**323**	P	Pn	02 01 13.1	-1.1
MTW	**Mount Morrison**	**1.58**	**55**	P	Pn	02 01 12.5	-2.1
OGWZ	**Otaki Gorge**	**1.63**	**40**	P	Pn	02 01 14.2	-1.2
OKCZ	**Okains Bay**	**1.73**	**197**	P	Pn	02 01 14.1	-2.6
HOWZ	**Holdsworth Sta**	**1.76**	**49**	P	Pg	02 01 19.7	+0.1
OXZ	**Oxford**	**1.79**	**225**	P	Pn	02 01 15.2	-2.3
MQZ	**McQueen's Vall**	**1.83**	**206**	P	Pn	02 01 14.8	-3.3
INZ	**Inchbonnie**	**1.85**	**248**	P	Pn	02 01 17.8	-0.5
MRZ	**Mangatainoka R**	**1.96**	**45**	P	Pn	02 01 17.9	-1.9
RACZ	**Rakaia**	**2.05**	**215**	P	Pn	02 01 18.2	-2.8
WACZ	**Wakanui South**	**2.35**	**217**	P	Pn	02 01 22.2	-2.9
WVZ	**Waitaha Valley**	**2.46**	**245**	P	Pn	02 01 25.8	-0.8
WAZ	**Wanganui**	**2.49**	**22**	P	Pb	02 01 30.8	-0.3
RPZ	**Rata Peaks**	**2.59**	**230**	P	Pn	02 01 26.4	-2.1
ANWZ	**Angora Road**	**2.59**	**53**	P	Pn	02 01 27.1	-1.4
TSZ	**Takapari Road**	**2.60**	**40**	P	Pb	02 01 33.5	+0.4
LREZ	**Lake Rotokare**	**2.65**	**11**	P	Pb	02 01 32.8	-1.1
NMEZ	**Namu Road**	**2.65**	**2**	P	Pb	02 01 34.8	+0.9
ARCZ	**Arundel**	**2.67**	**225**	P	Pn	02 01 27.2	-2.4
KHEZ	**Kahui Hut**	**2.78**	**4**	P	Pb	02 01 35.4	-0.7
NBEZ	**Newall Road No**	**2.80**	**1**	P	Pb	02 01 35.1	-1.3
NEZ	**North Egmont**	**2.81**	**5**	P	Pb	02 01 36.5	-0.1
GCSZ	**Gaunt Creek Bo**	**2.83**	**243**	P	Pn	02 01 31.2	-0.5
PNHZ	**Pukenui**	**2.83**	**41**	P	Pb	02 01 36.8	-0.2
WPHZ	**Waipukurau**	**2.84**	**46**	P	Pb	02 01 36.1	-1.0
PKE	**Pukeiti**	**2.88**	**3**	P	Pb	02 01 36.6	-1.1
MTVZ	**Mangateitei**	**2.98**	**26**	P	Pn	02 01 33.1	-0.7
MOVZ	**Moawhango**	**3.06**	**30**	P	Pb	02 01 39.0	-1.8
TMZ	**Timaru**	**3.07**	**220**	P	Pn	02 01 32.4	-2.8
FWVZ	**Far West T-bar**	**3.12**	**26**	P	Pb	02 01 41.3	-0.7
FOZ	**Fox Glacier**	**3.26**	**242**	P	Pn	02 01 37.2	-0.5
LBZ	**Lake Benmore**	**3.50**	**227**	P	Pn	02 01 38.9	-2.1
HIZ	**Hauiti**	**3.65**	**13**	P	Pn	02 01 46.2	+3.1
ODZ	**Otahua Downs**	**3.74**	**216**	P	Pn	02 01 41.2	-3.1
JCZ	**Jackson Bay**	**4.17**	**240**	P	Pn	02 01 49.1	-1.2
HHSZ	**Highcliff Hill**	**4.45**	**210**	P	Pn	02 01 51.1	-2.9
EAZ	**Earnscleugh**	**4.53**	**224**	P	Pn	02 01 52.3	-2.8
TOZ	**Tahuroa Road**	**4.53**	**18**	P	Pn	02 01 58.9	+3.7
TUZ	**Tuapeka**	**4.90**	**216**	P	Pn	02 01 57.8	-2.4
AWAZ	**Awhitu Peninsu**	**5.04**	**8**	P	Pn	02 02 04.3	+2.2
MKAZ	**Moumakai**	**5.07**	**13**	P	Pn	02 02 05.3	+2.7
MLZ	**Mavora Lakes**	**5.26**	**229**	P	Pn	02 02 02.0	-3.2
SYZ	**Scrubby Hill**	**5.57**	**215**	P	Pn	02 02 06.0	-3.4
APZ	**The Paps**	**6.31**	**219**	P	Pn	02 02 16.4	-3.2

WEL 15 02:01:52.2±0.6, 42°S±3°×17°4E±°, h8km±3km, M3.4/7, ML3.8/8, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=108.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**195**	P	Pg	02 01 54.2	+0.4
CMWZ				S	Sg	02 01 56.5	+1.6
BSWZ	**Blackbirch Sta**	**0.26**	**270**	P	Pg	02 01 57.8	+0.4
BSWZ				S	Sb	02 02 03.1	-0.8
TUWZ	**Tuamarina**	**0.36**	**323**	P	Pg	02 01 59.8	+0.6
TUWZ				S	Sb	02 02 05.6	-1.0
WEL	**Wellington**	**0.59**	**44**	P	Pg	02 02 04.0	+0.3
WEL				S	Sb	02 02 12.8	-0.6
KHZ	**Kahutara**	**0.87**	**216**	P	Pb	02 02 09.4	-0.1
THZ	**Tophouse**	**0.99**	**267**	P	Pg	02 02 11.2	0.0
THZ				S	Sn	02 02 26.6	-0.2
MRNZ	**Matariki Terra**	**1.15**	**286**	P	Pg	02 02 14.0	-0.2
MRNZ				S	Sn	02 02 31.4	+0.8
TKNZ	**Takaka Hill**	**1.17**	**305**	P	Pb	02 02 14.7	0.0
LTZ	**Lake Taylor**	**1.80**	**233**	P	Pn	02 02 22.2	-1.4
MQZ	**McQueen's Vall**	**2.30**	**210**	P	Pn	02 02 30.5	0.0

WEL 15 02:07:07.0±0.9, 38°S±6°×17°9E±°, h33km, M3.3/15, ML3.5/15, MLv3.3/15, Error ellipse: s-maj=0.0km s-min=0.0km az=19.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.61**	**267**	P	Pn	02 07 19.1	-0.1
MXZ	**Matakaoa Point**	**0.73**	**288**	P	Pb	02 07 21.5	+0.2
MXZ				S	Sb	02 07 32.0	+1.0
PUZ	**Puketiti**	**0.78**	**249**	P	Pn	02 07 21.3	-0.4
PUZ				S	Sb	02 07 32.6	0.0
PKGZ	**Pakihiroa**	**0.88**	**263**	P	Pn	02 07 23.2	+0.2
PKGZ				S	Sb	02 07 35.9	+0.6
TWGZ	**Tauwhareparae**	**1.02**	**248**	P	Pn	02 07 25.3	+0.2
TWGZ				S	Sb	02 07 40.1	+0.7
CNGZ	**Carnagh Statio**	**1.03**	**228**	P	Pn	02 07 25.5	+0.4
HAZ	**Te Kaha**	**1.11**	**271**	P	Pn	02 07 26.8	+0.6
HAZ				S	Sb	02 07 41.6	-0.2
RUGZ	**Raukumara Rang**	**1.20**	**261**	P	Pn	02 07 27.8	+0.2
RUGZ				S	Sn	02 07 43.6	+0.7
MWZ	**Matawai**	**1.41**	**247**	P	Pn	02 07 30.2	-0.2
MWZ				S	Sn	02 07 47.9	-0.1
RIGZ	**Rimuhau**	**1.44**	**230**	P	Pn	02 07 30.7	-0.1
RIGZ				S	Sn	02 07 49.4	+0.7
KNZ	**Kokohu**	**1.71**	**223**	P	Pn	02 07 33.8	-0.6
RAHZ	**Arahi**	**1.99**	**235**	P	Pn	02 07 38.9	+0.5
RAHZ				S	Sn	02 08 02.7	+0.5
WHHZ	**Waihua**	**2.00**	**229**	P	Pn	02 07 38.9	+0.5
WHHZ				S	Sn	02 08 02.9	+0.7
MTHZ	**Maungataniwha**	**2.12**	**239**	P	Pn	02 07 40.4	+0.2
MTHZ				S	Sn	02 08 05.9	+0.5
ARHZ	**Aropaoanui**	**2.26**	**229**	P	Pn	02 07 42.1	+0.1
NMHZ	**Naumai**	**2.28**	**234**	P	Pn	02 07 42.7	+0.3
CKHZ	**Cape Kidnapper**	**2.49**	**221**	P	Pn	02 07 44.6	-0.6
MCHZ	**McNeill Hill**	**2.55**	**229**	P	Pn	02 07 45.9	-0.1
CTZ	**Chatham Island**	**6.74**	**153**	P	Pn	02 08 44.1	+0.6
CTZ				S	Sn	02 09 52.1	-7.0

NEIC ***15*** *02:10:21.1±1.6, 24°.65N±0°.06×92°.33E±0°.08, h32km±4km, mb4.6/44, Error ellipse: s-maj=12.3km s-min=5.7km az=55.0*

BJI ***15*** *02:10:22.9±0.0, 25°.12N×92°.52E, h31km, mb4.7/23, mB4.7/9, ML4.4/1, Ms3.7/6, Ms7 3.5/6*

IDC ***15*** *02:10:22.0±0.5, 24°.66N×92°.44E, h35km±3km, mb4.0/21, mbtmp4.2/23, ML4.5/2, MS3.7/2, Error ellipse: s-maj=15.9km s-min=8.6km az=73.0*

NDI ***15*** *02:10:22.2±3.3, 24°.67N×92°.38E, h28km±8km, ML4.7, mb4.6(NEIC)*

ISC 15 02:10:20.3±0.4, 24°61N±0°.03×92°35E±0°.03, h29km±2km, h29km:pP-P, n127, σ1$41/161, mb4.5/40, 2C-3D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILR	**SILCHAR**	**0.45**	**68**	*eP*	**Pn**	**02 10 31.7**	**+1.0**
SILR				*eS*	**Sn**	**02 10 40.1**	**+2.2**
SILR				IAML		02 10 45.2	
	comp=N,173μm,0.5s						
SILR				IAML		02 10 45.4	
	comp=E,224μm,0.5s						
SHL	**Shillong**	**1.04**	**336**		**Pn**	**02 10 39.7**	**+0.6**
SHL				Sn	**Sn**	**02 10 52.8**	**0.0**
SHL	**Shillong**	**1.04**	**336**	*eP*	**Pb**	**02 10 39.8**	**0.0**
SHL				*eS*	**Sn**	**02 10 52.9**	**+0.2**
SHL				IAML		02 10 54.3	
	comp=E,92μm,0.3s						
AGT	**Agartala**	**1.23**	**234**	*eP*	**Pb**	**02 10 45.8**	**+2.8**
IMP	**Imphal**	**1.47**	**81**	*eP*	**Pb**	**02 10 47.4**	**+0.3**
GUWA	**GUWAHATI**	**1.68**	**340**	*eP*	**Pn**	**02 10 47.8**	**0.0**
GUWA				*eS*	**Sb**	**02 11 10.8**	**-0.5**
GUWA				IAML		02 11 12.7	
	comp=N,6μm,0.4s						
KOHI	**KOHIMA**	**1.94**	**55**	*eP*	**Pb**	**02 10 54.1**	**-1.0**
KOHI				*eS*	**Sn**	**02 11 16.0**	**+1.0**
KOHI				IAML		02 11 28.5	
	comp=N,8μm,0.7s						
BRDH	**Bariadhala**	**2.03**	**199**	Pn	**Pb**	**02 10 55.4**	**-1.1**
	comp=N,289nm,0.3s,baz=116,slow=7.9,SNR=59						
BRDH				Sn	**Sb**	**02 11 22.2**	**+0.8**
	comp=N,1μm,0.3s,baz=216,slow=23,SNR=12						
BRDH				Lg	Lg	02 11 28.0	
	comp=N,1μm,0.3s,baz=5.0,slow=23,SNR=11						
BRDH				LR	LR	02 11 52.4	
	comp=N,1μm,21.8s,baz=89,slow=43						
	comp=N,808nm,0.3s						
TEZP	**TEZPUR**	**2.04**	**12**	*eP*	**Pn**	**02 10 52.6**	**0.0**
TEZP				*eS*	**Sn**	**02 11 16.7**	**-0.4**
TEZP				IAML		02 11 23.1	
	comp=N,10μm,0.2s						
TEZP				IAML		02 11 23.9	
	comp=E,6μm,0.2s						
SAIH	**SAIHA**	**2.19**	**164**	*eP*	**Pb**	**02 10 57.5**	**-1.9**
SAIH				*eS*	**Sn**	**02 11 21.3**	**+0.1**
SAIH				IAML		02 11 26.9	
	comp=E,5μm,0.3s						
SAIH				IAML		02 11 27.2	
	comp=N,2μm,0.4s						
MOKO	**MOKOCHONG**	**2.60**	**49**	*eP*	**Pn**	**02 11 01.7**	**+1.2**
MOKO				*eS*	**Sn**	**02 11 31.3**	**+0.1**
MOKO				IAML		02 11 40.5	
	comp=E,9μm,0.4s						
MOKO				IAML		02 11 40.7	
	comp=N,8μm,0.7s						
JORH	**JORHAT**	**2.73**	**39**	*eS*	**Sn**	**02 11 33.7**	**-0.5**
JORH				IAML		02 11 35.0	
	comp=N,5μm,0.3s						
ITAN	**ITANAGAR**	**2.81**	**26**	*eP*	**Pn**	**02 11 04.1**	**+0.8**
ITAN				*eS*	**Sn**	**02 11 34.9**	**-1.3**
ZIRO	**ZIRO**	**3.20**	**25**	*eP*	**Pn**	**02 11 09.2**	**+0.4**
ZIRO				*eS*	**Sn**	**02 11 44.5**	**-1.7**
ZIRO				IAML		02 11 49.0	
	comp=N,18μm,0.3s						
ZIRO				IAML		02 11 49.1	
	comp=E,15μm,0.4s						
LKP	**Lekhapani**	**4.16**	**49**	*eP*	**Pn**	**02 11 23.5**	**+1.7**
LKP				*eS*	**Sn**	**02 12 06.9**	**-2.5**
LKP				IAML		02 12 09.3	
	comp=E,2μm,0.5s						
LKP				IAML		02 12 11.9	
	comp=N,2μm,0.6s						
GTK	**Tadong**	**4.31**	**309**	*eP*	**Pn**	**02 11 26.5**	**+2.4**
GTK				*eS*	**Sn**	**02 12 14.4**	**+0.9**
MND	**Mandalay**	**4.32**	**126**	Pn	**Pn**	**02 11 24.3**	**+0.2**
ODAN	**Odare**	**5.00**	**298**	*ePn*	**Pn**	**02 11 35.1**	**+1.5**
ODAN				*eSn*	**Sn**	**02 12 32.0**	**+1.5**
LSA	**Lhasa**	**5.18**	**348**	Pn	**Pn**	**02 11 35.8**	**-0.4**
RAMN	**Ramite**	**5.68**	**295**	*ePn*	**Pn**	**02 11 44.8**	**+1.9**
RAMN				*eSn*	**Sn**	**02 12 49.3**	**+2.0**
	comp=N,696nm,0.5s						
BOK	**Bokaro**	**5.95**	**263**	*eP*	**Pn**	**02 11 48.5**	**+2.0**
BOK				*eS*	**Sn**	**02 12 53.1**	**-0.6**
BOK				IAML		02 12 57.9	
	comp=N,308nm,0.3s						
GUN	**Gumba**	**6.67**	**301**	*ePn*	**Pn**	**02 11 57.9**	**+1.3**
GUN				*eSn*	**Sn**	**02 13 10.0**	**-1.8**
PKI	**Pulchoki**	**6.90**	**297**	*ePn*	**Pn**	**02 12 00.7**	**+1.0**
PKI				*eSn*	**Sn**	**02 13 16.5**	**-0.9**
PKIN	**Phulchoki**	**6.91**	**297**	*ePn*	**Pn**	**02 12 00.9**	**+1.0**
PKIN				*eSn*	**Sn**	**02 13 17.3**	**-0.3**
	comp=N,236nm,0.4s						
KKN	**Kakani**	**7.09**	**298**	*ePn*	**Pn**	**02 12 02.9**	**+0.6**
KKN				*eSn*	**Sn**	**02 13 21.7**	**-0.3**
DMN	**Daman**	**7.16**	**296**	*ePn*	**Pn**	**02 12 04.9**	**+1.6**
DMN				*eSn*	**Sn**	**02 13 24.4**	**+0.6**
	comp=N,246nm,0.5s						
GKN	**Gorkha**	**7.70**	**298**	*ePn*	**Pn**	**02 12 11.3**	**+0.7**
GKN				*eSn*	**Sn**	**02 13 35.6**	**-1.3**
	comp=N,661nm,0.3s						
VLK	**Valmikinagar**	**8.09**	**291**	*eP*	**Pn**	**02 12 17.0**	**+1.2**
CHTO	**Chiang Mai**	**8.42**	**132**	Pn	**Pn**	**02 12 21.0**	**+0.6**
DANN	**Dangsing**	**8.54**	**298**	*ePn*	**Pn**	**02 12 22.4**	**+0.1**
DANN				*eSn*	**Sn**	**02 13 55.3**	**-2.6**
	comp=N,313nm,0.4s						
CMAR	**Chiang Mai Arr**	**8.67**	**134**	Pn	**Pn**	**02 12 24.1**	**+0.3**
	comp=N,1.0nm,0.3s,baz=310,slow=13,SNR=29						
	comp=N,5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**8.67**	**134**	Pn	**Pn**	**02 12 23.4**	**-0.4**
PZH	**PanZhiHua**	**8.69**	**76**	P	**Pn**	**02 12 26.8**	**+2.6**
PZH				S	**Sn**	**02 14 01.8**	**+0.4**
PZH				pmax	pmax		
	comp=N,30nm,0.6s						
PZH				pmax	pmax		
	comp=N,80nm,3.5s						
PZH				LR	LR		
	comp=N,530nm,10.0s						
PZH				LR	LR		
	comp=N,130nm,9.0s						
PZH				LR	LR		
	comp=N,230nm,11.6s						

SONM	Songino Array	25.72	22	P		P		02 15 46.8	-1.3		
KK31	Karatay Array	25.73	321	P		P		02 15 48.3	0.0		
ULN	Ulaanbaatar	25.97	23	P		P		02 15 49.8	-0.7		
ULN				IAmb		IAmb		02 16 05.2			
	comp=Z,13nm,0.8s										
ULN	Ulaanbaatar	25.97	23	P		P		02 15 52.2	+1.7		
KURBB	Kurchatov Array	28.08	341	P		P		02 16 09.5	+0.3		
	comp=Z,1.7nm,0.7s,baz=158,slow=9.2,SNR=12										
	comp=Z,1.7nm,0.7s										
KURK	Kurchatov	28.14	341	P		P		02 16 08.6	-1.1		
ZAA0	Zalesovo Array	29.84	351	P		P		02 16 24.2	-0.5		
ZALV	Zalesovo Beam	29.84	351	P		P		02 16 25.4	+0.7		
	comp=Z,2.2nm,0.6s,baz=163,slow=8.4,SNR=13										
ZALV				pP		sP		02 16 36.8	-0.1		
	comp=Z,5.6nm,0.7s,baz=176,slow=8.2,SNR=9.9										
	comp=Z,2.2nm,0.6s										
ZALV	Zalesovo Beam	29.84	351	P		P		02 16 24.5	-0.3		
BVAR	Borovoye Array	32.86	335	P		P		02 16 51.6	+0.2		
	comp=Z,0.9nm,0.5s,baz=139,slow=9.9,SNR=5.6										
BVAR				pP		sP		02 17 03.1	-0.5		
	comp=Z,1.8nm,0.6s,baz=140,slow=11,SNR=7.1										
	comp=Z,0.9nm,0.5s										
BNX	BinXian	35.17	44	⇓P		P		02 17 12.5	+0.9		
BNX				pmax		pmax					
	comp=Z,67nm,4.1s										
ABKAR	Akbulak array	35.27	323	P		P		02 17 12.3	0.0		
TOLI2	Tolitoli	36.08	126	P		P		02 17 19.1	-0.6		
TOLI2				IAmb		IAmb		02 17 22.0			
	comp=Z,13nm,1.2s										
HEH	HeiHe	37.27	38	eP		P		02 17 29.9	+0.5		
KAPI	Kappang	39.73	134	P		P		02 17 51.2	+0.7		
	comp=Z,4.1nm,0.3s,baz=30,slow=16,SNR=3.8										
	comp=Z,4.1nm,0.3s										
ARU	Arti	40.12	331	P		P		02 17 55.0	+1.7		
	comp=Z,1.5nm,0.4s,baz=0.4,slow=13,SNR=3.6										
ARU				pP		sP		02 18 05.1	-0.4		
	comp=Z,2.1nm,0.4s,baz=63,slow=3.8,SNR=3.2										
	comp=Z,1.5nm,0.4s										
NRIK	Noril'sk	44.84	358	P		P		02 18 31.9	+0.5		
	comp=Z,4.2nm,0.6s,baz=122,slow=5.1,SNR=7.5										
	comp=Z,4.2nm,0.6s										
NRIK	Noril'sk	44.84	358	P		P		02 18 31.6	+0.2		
NRIK				IAmb		IAmb		02 18 32.7			
	comp=Z,5.8nm,0.8s										
SOEI	Soe	46.23	134	P		P		02 18 40.9	-2.3		
FAKI	Fak Fak	47.44	120	P		P		02 18 52.4	-0.2		
MBWA	Marble Bar	52.72	147	P		P		02 19 32.6	+0.1		
KNRA	Kununurra	53.54	135	P		P		02 19 38.6	0.0		
AKASG	Malin Array Be	54.46	316	P		P		02 19 44.7	-0.3		
	comp=Z,0.3nm,0.4s,baz=83,slow=7.2,SNR=3.0										
AKASG				pP		sP		02 19 56.6	-0.8		
	comp=Z,2.2nm,0.4s,baz=81,slow=6.7,SNR=9.1										
	comp=Z,0.3nm,0.4s										
FINES	FINESS Array B	57.37	329	P		P		02 20 05.8	+0.2		
	comp=Z,2.7nm,0.9s,baz=124,slow=9.5,SNR=6.3										
	comp=Z,2.7nm,0.9s										
FINES	FINESS Array B	57.37	329	P		P		02 20 05.3	-0.3		
ARCES	ARCESS Array B	59.09	338	P		P		02 20 17.9	+0.4		
	comp=Z,5.0nm,1.0s,baz=128,slow=5.3,SNR=3.9										
	comp=Z,5.0nm,1.0s										
WB0	Warramunga Arr	60.18	133	P		P		02 20 25.9	+0.2		
WRA	Warramunga Arr	60.27	134	P		P		02 20 26.5	+0.2		
	comp=Z,4.5nm,0.6s,baz=322,slow=7.3,SNR=58										
WRA				pP		sP		02 20 37.7	-1.1		
	comp=Z,2.5nm,0.5s,baz=323,slow=7.4,SNR=10										
WRA				LR		LR		02 52 44.4			
	comp=Z,106nm,18.0s,baz=108,slow=42										
	comp=Z,4.5nm,0.6s										
WB2	Warramunga Arr	60.27	134	P		P		02 20 26.5	+0.1		
WB2				sP		sP		02 20 38.3	-0.6		
WR0	Warramunga Arr	60.41	133	P		P		02 20 26.8	-0.5		
WR0				IAmb		IAmb		02 20 28.3			
	comp=Z,5.5nm,0.7s										
AS31	Alice Springs	62.67	137	P		P		02 20 42.5	0.0		
ASAR	Alice Springs	62.67	137	P		P		02 20 43.1	+0.6		
	comp=Z,5.4nm,0.7s,baz=318,slow=6.9,SNR=63										
ASAR				pP		sP		02 20 54.2	-0.8		
	comp=Z,2.9nm,0.6s,baz=319,slow=6.5,SNR=10										
	comp=Z,5.4nm,0.7s										
NB2	NORSAR Subarra	64.53	328	P		P		02 20 54.0	-0.3		
	comp=Z,0.7nm,0.6s,baz=84,slow=6.5										
NOA	NORSAR Array B	64.53	328	P		P		02 20 54.2	0.0		
	comp=Z,1.1nm,0.6s,baz=86,slow=6.7,SNR=4.9										
	comp=Z,1.1nm,0.6s										
GERES	GERESS Array B	64.58	314	P		P		02 20 55.8	+0.9		
	comp=Z,0.6nm,0.5s,baz=101,slow=5.1,SNR=3.0										
GERES				pP		sP		02 21 08.0	+0.5		
	comp=Z,1.6nm,0.6s,baz=81,slow=6.4,SNR=8.9										
	comp=Z,0.6nm,0.5s										
NC204	NORSAR Array S	64.72	328	P		P		02 20 55.5	-0.1		
BBOO	Buckleboo	70.69	142	P		P		02 21 32.2	-1.2		
STKA	Stephens Creek	73.27	138	P		P		02 21 49.2	+0.2		
	comp=Z,2.7nm,0.6s,baz=294,slow=4.3,SNR=6.7										
	comp=Z,2.7nm,0.6s										
STKA	Stephens Creek	73.27	138	P		P		02 21 49.4	+0.4		
EUNU	Eureka	75.54	360	P		P		02 22 02.0	+0.4		
EUNU				IAmb		IAmb		02 22 19.3			
	comp=Z,8.3nm,1.1s										
IMAR	Indian Mountai	76.88	23	P		P		02 22 09.7	+0.4		
MLY	Manley	78.46	23	P		P		02 22 18.6	+0.3		
MLY				IAmb		IAmb		02 22 39.0			
	comp=Z,4.5nm,1.0s										
CAST	Castle Rocks	78.86	24	P		P		02 22 21.2	+0.8		
CAST				IAmb		IAmb		02 22 39.1			
	comp=Z,6.9nm,1.2s										
BMAR	Burnt Mountain	79.03	19	P		P		02 22 21.5	+0.2		
ILAR	Eielson Array	79.94	22	P		P		02 22 26.6	+0.3		
	comp=Z,0.7nm,0.8s,baz=308,slow=5.1,SNR=5.9										
ILAR				pP		sP		02 22 38.5	-0.6		
	comp=Z,1.6nm,0.8s,baz=302,slow=4.9,SNR=7.7										
	comp=Z,0.7nm,0.8s										
A36M	Sachs Harbour	80.26	11	P		P		02 22 28.2	+0.4		
A36M						sP		02 22 41.3	+0.7		
A36M				IAmb		IAmb		02 22 42.4			
	comp=Z,5.5nm,0.7s										
J26L	Joseph Creek	81.23	21	P		P		02 22 33.6	+0.3		
J26L				IAmb		IAmb		02 22 48.7			
	comp=Z,4.9nm,0.8s										
LBTB	Lobatse	81.27	237	P		P		02 22 32.2	-1.9		
LBTB				IAmb		IAmb		02 22 46.0			
	comp=Z,7.4nm,1.0s										
SCRK	Sand Creek	81.42	22	P		P		02 22 35.3	+0.9		
SCRK				IAmb		IAmb		02 22 49.9			
	comp=Z,4.7nm,0.8s										
INK	Inuvik	81.44	16	P		P		02 22 34.9	+0.7		
	comp=Z,1.1nm,0.5s,baz=341,slow=7.3,SNR=9.0										
	comp=Z,1.1nm,0.5s										
INK	Inuvik	81.44	16			P		02 22 34.6	+0.5		
INK				pP		pP		02 22 44.9	+1.4		
INK				sP		sP		02 22 49.4	+2.5		
INK				IAmb		IAmb		02 22 50.3			
	comp=Z,5.8nm,0.8s										
C36M	Paulatuk	82.68	12			P		02 22 40.8	+0.1		
C36M				IAmb		IAmb		02 22 56.5			
	comp=Z,12nm,1.1s										
N25K	Chitina, Valde	82.73	24	P		P		02 22 41.5	+0.2		
N25K				IAmb		IAmb		02 23 16.1			
	comp=Z,8.1nm,0.9s										
L27K	Beaver Creek,	82.76	22	P		P		02 22 41.8	+0.5		
L27K				IAmb		IAmb		02 22 57.5			
	comp=Z,7.7nm,1.1s										
BCAR	Beaver Creek A	82.77	22	P		P		02 22 42.1	+0.8		
BOSA	Boshof	83.44	235	P		P		02 22 46.5	+1.1		
	comp=Z,3.1nm,1.0s,baz=52,slow=7.5,SNR=3.7										
	comp=Z,3.1nm,1.0s										
BOSA	Boshof	83.44	235	P		P		02 22 45.4	0.0		
TORD	Torodi Ar. Bea	85.21	282	P		P		02 22 56.2	+1.6		
	comp=Z,0.4nm,0.7s,baz=64,slow=5.0,SNR=2.7										
	comp=Z,0.4nm,0.7s										
TXAR	Lajitas Array	124.20	17	PKP		PKiKP		02 29 17.6	+0.6		
	comp=Z,0.1nm,0.5s,baz=38,slow=2.3,SNR=4.0										

WEL 15 02:15:32.8±0.4, 42°S±3°×17°4E±°, h5km±3km, M3.4/31, ML3.6/17, MLv3.4/31, Error ellipse: s-maj=0.0km s-min=0.0km az=155.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.07	214	P	Pg	02 15 35.0	+0.6
BSWZ	Blackbirch Sta	0.29	266	P	Pg	02 15 38.6	+0.2
BSWZ				S	Sg	02 15 43.6	+1.3
TUWZ	Tuamarina	0.36	318	P	Pg	02 15 40.2	+0.5
TUWZ				S	Sb	02 15 46.2	-1.4
TCW	Tory Channel	0.48	1	P	Pg	02 15 42.5	+0.4
TCW				S	Sb	02 15 49.8	-1.3
BHW	Baring Head	0.54	58	P	Pg	02 15 43.7	+0.6
WEL	Wellington	0.56	43	P	Pb	02 15 44.4	-0.7
WEL				S	Sb	02 15 53.4	+0.1
PLWZ	Palliser	0.75	81	P	Pb	02 15 48.5	+0.1
PLWZ				S	Sn	02 16 00.8	-1.1
MSWZ	Moikau Station	0.79	70	P	Pb	02 15 48.9	-0.1
MSWZ				S	Sn	02 16 01.8	-1.0
NNZ	Nelson	0.82	305	P	Pg	02 15 48.2	-0.3
NNZ				S	Sg	02 15 59.6	+0.5
CAW	Cannon Point	0.84	46	P	Pg	02 15 49.3	+0.4
CAW				S	Sb	02 16 01.4	-0.1
DUWZ	D'Urville Isla	0.93	344	P	Pb	02 15 51.3	-0.1
PAWZ	Paruwai Farm	0.93	71	P	Pg	02 15 50.8	+0.2
PAWZ				S	Sn	02 16 05.3	-0.9
KIW	Kapiti Island	0.96	31	P	Pg	02 15 51.3	0.0
KIW				S	Sb	02 16 04.9	-0.1
THZ	Tophouse	1.02	266	P	Pg	02 15 52.2	-0.2
THZ				S	Sb	02 16 07.3	+0.6
MTW	Mount Morrison	1.07	61	P	Pg	02 15 52.9	-0.5
MTW				S	Sn	02 16 09.7	0.0
TRWZ	Traveller	1.11	75	P	Pg	02 15 53.0	-1.1
OGWZ	Otaki Gorge	1.11	38	P	Pg	02 15 54.0	-0.1
OGWZ				S	Sb	02 16 09.0	-0.3
MRNZ	Matariki Terra	1.17	284	P	Pg	02 15 55.0	-0.2
MRNZ				S	Sn	02 16 12.4	+0.3
TKNZ	Takaka Hill	1.18	304	P	Pg	02 15 54.9	-0.6
HOWZ	Holdsworth Sta	1.23	50	P	Pg	02 15 55.7	-0.8
TMWZ	Te Maipa	1.36	65	P	Pn	02 15 56.4	-2.0
MRZ	Mangatainoka R	1.43	44	P	Pn	02 15 58.3	-1.1
GVZ	Greta Valley S	1.56	215	P	Pn	02 15 59.3	-2.0
QRZ	Quartz Range	1.57	303	P	Pn	02 16 01.4	+0.1
PRWZ	Pori Road	1.72	49	P	Pn	02 16 02.2	-1.2
POWZ	Post Office Ro	1.73	42	P	Pn	02 16 02.7	-0.8
BFZ	Birch Farm	1.81	57	P	Pn	02 16 02.0	-2.6
LTZ	Lake Taylor	1.84	233	P	Pn	02 16 03.5	-1.5
DSZ	Denniston Nort	1.84	268	P	Pn	02 16 05.3	+0.2
DVHZ	Dannevirke	2.00	47	P	Pg	02 16 10.6	-0.6
WAZ	Wanganui	2.01	16	P	Pb	02 16 10.6	+0.7
TSZ	Takapari Road	2.08	39	P	Pn	02 16 07.0	-1.3
OKCZ	Okains Bay	2.21	203	P	Pn	02 16 07.2	-3.0
PNHZ	Pukenui	2.31	40	P	Pn	02 16 10.1	-1.4
OXZ	Oxford	2.32	225	P	Pb	02 16 15.1	+0.1
INZ	Inchbonnie	2.33	243	P	Pn	02 16 11.2	-0.6
NBEZ	Newall Road No	2.44	353	P	Pb	02 16 17.7	+0.6
MOVZ	Moawhango	2.55	27	P	Pb	02 16 18.7	-0.4
WNVZ	Wahianoa	2.57	24	P	Pb	02 16 18.1	-1.4
BHHZ	Black Hill Sta	2.59	32	P	Pb	02 16 19.3	-0.5
VRZ	Vera Road	2.59	9	P	Pb	02 16 17.9	-1.9
SNVZ	South Ngauruho	2.72	23	P	Pb	02 16 22.1	+0.1
NNVZ	North Ngauruho	2.76	22	P	Pb	02 16 23.3	+0.6
ETVZ	East Tongariro	2.78	24	P	Pb	02 16 22.9	-0.2
TMVZ	Te Maari	2.80	24	P	Pb	02 16 23.4	0.0
KRVZ	Karewarewa	2.80	23	P	Pb	02 16 23.8	+0.4
WACZ	Wakanui South	2.87	218	P	Pn	02 16 16.1	-3.0
WVZ	Waitaha Valley	2.95	241	P	Pb	02 16 23.8	-2.1
BKZ	Black Stump Fm	3.04	35	P	Pb	02 16 28.0	+0.5
RPZ	Rata Peaks	3.11	228	P	Pn	02 16 19.6	-2.9
ARCZ	Arundel	3.20	224	P	Pn	02 16 21.0	-2.8
HIZ	Hauiti	3.21	8	P	Pb	02 16 29.3	-0.9
TMZ	Timaru	3.59	221	P	Pn	02 16 26.2	-3.0
ODZ	Otahua Downs	4.26	217	P	Pn	02 16 34.7	-3.6

WEL 15 02:17:46.8±0.6, 42°S±3°×17°4E±°, h8km±4km, M3.2/6, ML3.9/9, MLv3.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=131.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.30	357	P	Pg	02 17 53.2	+0.6
BSWZ				S	Sg	02 17 57.7	+1.1
CMWZ	Cape Campbell	0.35	42	P	Pb	02 17 54.9	-0.4
KHZ	Kahutara	0.48	213	P	Pb	02 17 57.4	-0.1
TUWZ	Tuamarina	0.58	3	P	Pg	02 17 58.5	+0.5
TUWZ				S	Sb	02 18 07.1	-0.5
THZ	Tophouse	0.78	288	P	Pg	02 18 02.2	+0.4
THZ				S	Sb	02 18 12.8	-0.6
TCW	Tory Channel	0.85	20	P	Pg	02 18 03.1	0.0
TCW				S	Sb	02 18 15.0	-0.3
MRNZ	Matariki Terra	1.05	305	P	Pb	02 18 07.3	+0.1
TKNZ	Takaka Hill	1.20	324	P	Pb	02 18 09.5	-0.3
DUWZ	D'Urville Isla	1.21	1	P	Pn	02 18 10.1	+0.1
DUWZ				S	Sg	02 18 25.0	-0.6
LTZ	Lake Taylor	1.43	237	P	Pn	02 18 12.8	-0.2
QRZ	Quartz Range	1.57	319	P	Pb	02 18 16.3	+0.2
OKCZ	Okains Bay	1.82	200	P	Pn	02 18 16.8	-1.6

IDC 15 02:18:00.9±2.7, 42°35S×173°23E, h0km, mb3.4/2, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=52.3km s-min=35.8km az=114.0
WEL 15 02:18:03.7±0.7, 42°S±3°×17°3E±°, h3km±4km, M3.7/6, ML4.0/5, MLv3.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=97.2
ISC 15 02:18:02.1±1.4, 42°38S±0°03×173°32E±0°07, h6km±13km, n10, σ1s05/17, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.17	103	P	Pg	02 18 05.1	-0.3
KHZ				S	Sg	02 18 07.2	-0.5
GVZ	Greta Valley S	0.62	200	P	Pb	02 18 16.6	+1.2
GVZ				S	Sb	02 18 26.7	+2.2
THZ	Tophouse	0.69	333	P	Pb	02 18 16.8	+0.3
THZ				S	Sb	02 18 26.8	+0.4
TUWZ	Tuamarina	1.06	26	P	Pg	02 18 22.4	+0.1
TUWZ				S	Sn	02 18 38.7	+0.2
MRNZ	Matariki Terra	1.07	337	P	Pn	02 18 24.3	+0.7
MRNZ				S	Sn	02 18 40.1	+1.4
TCW	Tory Channel	1.37	32	P	Pb	02 18 28.9	+0.8
TCW				S	Sg	02 18 45.6	-0.4
RPZ	Rata Peaks	2.13	230	Pn	Pn	02 18 37.9	-0.4
	60nm,0.3s,baz=86,slow=2.2,SNR=7.6						
RPZ				Sn	Sn	02 19 04.0	-1.1
	33nm,0.3s,baz=324,slow=23,SNR=13						
	161nm,0.3s						
ASAR	Alice Springs	37.54	287	P	P	02 25 15.7	-1.5
	0.3nm,0.5s,baz=128,slow=7.3,SNR=5.5						
	0.3nm,0.5s						
WRA	Warramunga Arr	39.69	292	P	P	02 25 34.5	-0.7
	0.3nm,0.5s,baz=127,slow=8.6,SNR=6.1						
	0.3nm,0.5s						
TORD	Torodi Ar. Bea	149.98	196	PKPbc	PKPbc	02 37 53.1	-0.8
	0.1nm,0.4s,baz=159,slow=3.8,SNR=1.2						

IDC 15 02:23:01.9±1.4, 41°.71S×174°.28E, h0km, mb4.0/4, mbtmp4.0/5, ML3.5/1, MS3.9/2, Error ellipse: s-maj=42.3km s-min=30.6km az=127.0
WEL 15 02:23:05.1±0.5, 42°S±4°×17°4E±°, h11km±4km, M4.3/18, ML4.5/18, MLv4.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=163.9
NOU 15 02:23:06.7, 41°.71S×174°.50E, h6km, MLv4.7/11, Cook Strait, New Zealand
ISC 15 02:23:04.4±1.0, 41°.84S±0°03×174°38E±0°02, h18km±4km, n108, σ1s22/127, mb3.9/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.15	306	P	Pb	02 23 08.7	+0.6
BSWZ	Blackbirch Sta	0.39	288	P	Pg	02 23 12.5	-0.1
BSWZ				S	Sg	02 23 18.6	+0.5
TUWZ	Tuamarina	0.52	321	P	Pb	02 23 14.3	-0.7
TUWZ				S	Sb	02 23 21.5	-0.7
SNZO	South Karori	0.58	25	P	Pb	02 23 15.9	-0.1
WEL	Wellington	0.62	28	P	Pb	02 23 16.7	0.0
WEL				S	Sn	02 23 27.4	-0.4
TCW	Tory Channel	0.63	353	P	Pb	02 23 16.3	-0.6
TCW				S	Sb	02 23 24.1	-1.1
PLWZ	Palliser	0.71	68	P	Pn	02 23 19.6	0.0
PLWZ				S	Sn	02 23 31.8	+1.7
MSWZ	Moikau Station	0.78	58	P	Pn	02 23 20.7	+0.2
MSWZ				S	Sn	02 23 33.0	+1.4
KHZ	Kahutara	0.85	227	P	Pn	02 23 22.2	+0.8
KHZ				S	Sn	02 23 35.7	+2.3
CAW	Cannon Point	0.89	36	P	Pb	02 23 21.5	+0.2
CAW				S	Sn	02 23 36.5	+2.0
PAWZ	Paruwai Farm	0.91	60	P	Pn	02 23 22.3	0.0
PAWZ				S	Sn	02 23 37.3	+2.3
NNZ	Nelson	0.97	309	P	Pb	02 23 22.4	-0.3
NNZ				S	Sn	02 23 36.7	+0.3
KIW	Kapiti Island	1.05	23	P	Pb	02 23 24.0	-0.1
KIW				S	Sg	02 23 39.6	+0.9
TRWZ	Traveller	1.08	66	P	Pb	02 23 24.3	-0.2
TRWZ				S	Sg	02 23 42.8	+3.4
MTW	Mount Morrison	1.08	52	P	Pb	02 23 24.6	0.0
MTW				S	Sg	02 23 43.5	+3.9
DUWZ	D'Urville Isla	1.09	342	P	Pn	02 23 24.9	+0.1
THZ	Tophouse	1.10	273	P	Pb	02 23 25.7	+0.7
THZ				S	Sg	02 23 41.3	+1.1
OGWZ	Otaki Gorge	1.18	31	P	Pn	02 23 26.2	+0.2
OGWZ				S	Sg	02 23 43.1	+0.4
HOWZ	Holdsworth Sta	1.27	43	P	Pn	02 23 27.2	-0.1
HOWZ				S	Sb	02 23 44.5	+0.6
MRNZ	Matariki Terra	1.29	289	P	Pb	02 23 28.7	+0.5
MRNZ				S	Sg	02 23 46.4	+0.3
TKNZ	Takaka Hill	1.33	307	P	Pb	02 23 29.1	+0.3
TMWZ	Te Maipa	1.35	58	P	Pn	02 23 28.0	-0.3
MRZ	Mangatainoka R	1.48	38	P	Pn	02 23 30.2	0.0
TIWZ	Tintock	1.55	48	P	Pn	02 23 29.9	-1.2
TIWZ				S	Sb	02 23 52.5	+0.6
CPWZ	Castlepoint	1.66	57	P	Pn	02 23 32.3	-0.3
QRZ	Quartz Range	1.72	305	P	Pb	02 23 35.3	-0.1
QRZ	Quartz Range	1.72	305	P	Pb	02 23 35.2	-0.3
QRZ				S	Sb	02 23 57.4	+0.7
PRWZ	Pori Road	1.76	44	P	Pn	02 23 33.6	-0.3
OHWZ	Ohakea	1.78	24	P	Pb	02 23 35.7	-0.7
POWZ	Post Office Ro	1.79	37	P	Pn	02 23 34.2	-0.2
BFZ	Birch Farm	1.82	51	P	Pn	02 23 34.6	-0.2
BFZ	Birch Farm	1.82	51	P	Pn	02 23 33.8	-1.0
DSZ	Denniston Nort	1.93	272	P	Pn	02 23 38.4	-0.5
DVHZ	Dannevirke	2.05	42	P	Pn	02 23 37.0	-0.9
ANWZ	Angora Road	2.10	50	P	Pn	02 23 37.5	-1.1
WAZ	Wanganui	2.13	13	P	Pb	02 23 41.2	+1.2
TSZ	Takapari Road	2.14	35	P	Pn	02 23 38.9	-0.4
OXZ	Oxford	2.28	228	P	Pn	02 23 40.3	-0.9
OXZ				S	Sn	02 24 08.5	-0.3
PRHZ	Porangahau	2.32	48	P	Pn	02 23 40.5	-1.2
INZ	Inchbonnie	2.35	247	P	Pn	02 23 42.8	+0.7
WPHZ	Waipukurau	2.36	42	P	Pn	02 23 41.5	-0.8
WPHZ				P	Pb	02 23 41.6	-4.8
PNHZ	Pukenui	2.37	36	P	Pn	02 23 41.6	-0.7
LREZ	Lake Rotokare	2.37	0	P	Pb	02 23 45.4	-1.2
NMEZ	Namu Road	2.45	351	P	Pb	02 23 46.9	-1.0
KHEZ	Kahui Hut	2.56	354	P	Pb	02 23 48.5	-1.2
KHEZ	Kahui Hut	2.56	354	P	Pb	02 23 48.5	-1.2
NEZ	North Egmont	2.57	355	P	Pb	02 23 48.4	-1.6
MTVZ	Mangateitei	2.59	19	P	Pn	02 23 47.0	+1.6
PXZ	Pawanui	2.61	47	P	Pn	02 23 44.6	-1.0
MOVZ	Moawhango	2.64	24	P	Pn	02 23 46.4	+0.2
DREZ	Durham Road	2.65	357	P	Pb	02 23 49.8	-1.5
PKVZ	Pokaka	2.65	16	P	Pn	02 23 47.9	+1.6
PKE	Pukeiti	2.66	353	P	Pb	02 23 49.8	-1.6
BHHZ	Black Hill Sta	2.67	29	P	Pn	02 23 46.7	+0.1
TRVZ	Turoa	2.69	20	P	Pn	02 23 48.2	+1.2
WHVZ	Whangaehu Hut	2.71	20	P	Pn	02 23 48.3	+1.0
DRZ	Dome Shelter	2.71	20	P	Pn	02 23 48.5	+1.1
VRZ	Vera Road	2.73	6	P	Pn	02 23 49.2	+1.9
FWVZ	Far West T-bar	2.73	20	P	Pn	02 23 48.9	+1.3
TUVZ	Tukino	2.75	21	P	Pn	02 23 48.6	+1.0
MHEZ	Mangahewa	2.76	359	P	Pb	02 23 51.9	-1.2
KAHZ	Kahuranaki	2.79	44	P	Pn	02 23 46.7	-1.5
NGZ	Ngauruhoe	2.82	20	P	Pn	02 23 49.8	+1.2
SNVZ	South Ngauruho	2.82	20	P	Pn	02 23 49.6	+0.9
OTVZ	Oturere	2.85	21	P	Pn	02 23 50.0	+0.9
NNVZ	North Ngauruho	2.86	20	P	Pn	02 23 50.5	+1.3
KWHZ	Kaweka Forest	2.87	34	P	Pn	02 23 48.5	-0.8
WTVZ	West Tongariro	2.87	19	P	Pn	02 23 50.4	+1.3
TWVZ	Taurewa	2.88	17	P	Pn	02 23 50.4	+1.0
ETVZ	East Tongariro	2.88	21	P	Pn	02 23 50.3	+0.8

NNZ				S	Sg	02 26 39.3	+1.3	PLWZ	Palliser	1.21 68	P	Pb	02 48 23.2	-1.0
INZ	Inchbonnie	1.46	264	P	Pn	02 26 20.5	+0.6	DUWZ	D'Urville Isla	1.24 5	P	Pn	02 48 24.7	0.0
INZ				S	Sb	02 26 40.3	+1.0	MSWZ	Moikau Station	1.27 61	P	Pn	02 48 24.1	-1.0
DSZ	Denniston Nort	1.47	304	P	Pn	02 26 20.7	+0.8	MSWZ			S	Sg	02 48 42.1	0.0
DSZ				S	Sn	02 26 39.0	+0.1	LTZ	Lake Taylor	1.33 236	P	Pn	02 48 25.8	-0.2
RACZ	Rakaia	1.48	219	P	Pn	02 26 19.6	-0.3	LTZ			S	Sn	02 48 43.8	-0.1
RACZ				S	Sn	02 26 39.3	+0.2	CAW	Cannon Point	1.35 47	P	Pn	02 48 25.6	-0.6
TKNZ	Takaka Hill	1.59	347	P	Pb	02 26 23.4	+0.4	CAW			S	Sb	02 48 43.7	-0.3
TKNZ				S	Sb	02 26 43.5	+0.5	AMCZ	Amberley	1.40 216	P	Pn	02 48 26.0	-0.9
WACZ	Wakanui South	1.78	220	P	Pn	02 26 23.8	-0.3	PAWZ	Paruwai Farm	1.41 63	P	Pn	02 48 25.8	-1.2
WACZ				S	Sn	02 26 46.1	-0.5	KIW	Kapiti Island	1.46 37	P	Pn	02 48 27.6	-0.1
MSWZ	Moikau Station	1.80	50	P	Pn	02 26 24.5	+0.1	KIW			S	Sn	02 48 46.6	-0.3
MSWZ				S	Sn	02 26 47.4	+0.3	DSZ	Denniston Nort	1.49 281	P	Pb	02 48 29.1	0.0
DUWZ	D'Urville Isla	1.82	12	P	Pb	02 26 29.6	-0.1	DSZ			S	Sg	02 48 49.8	+0.6
QRZ	Quartz Range	1.88	339	P	Pb	02 26 27.5	-0.4	QRZ	Quartz Range	1.53 322	P	Pb	02 48 29.7	0.0
QRZ				S	Sb	02 26 51.7	+0.4	QRZ			S	Sn	02 48 48.9	+0.2
WVZ	Waitaha Valley	2.03	255	P	Pn	02 26 28.5	+0.9	MTW	Mount Morrison	1.57 57	P	Pn	02 48 27.8	-1.4
WVZ				S	Sn	02 26 52.7	-0.1	OGWZ	Otaki Gorge	1.61 41	P	Pn	02 48 29.3	-0.6
RPZ	Rata Peaks	2.07	236	Pn	Pn	02 26 27.9	-0.3	OKCZ	Okains Bay	1.76 197	P	Pn	02 48 30.6	-1.3
	30nm,0.3s,baz=188,slow=1.6,SNR=7.6							OXZ	Oxford	1.81 224	P	Pn	02 48 31.1	-1.5
RPZ				Sn	Sn	02 26 53.1	-0.6	INZ	Inchbonnie	1.85 248	P	Pn	02 48 33.3	+0.2
	10nm,0.3s,baz=329,slow=22,SNR=11							MQZ	McQueen's Vall	1.86 206	P	Pn	02 48 30.8	-2.3
RPZ	Rata Peaks	2.07	236	P	Pn	02 26 27.9	-0.3	AKCZ	Akaroa Harbour	1.94 199	P	Pn	02 48 32.6	-1.7
RPZ				S	Sn	02 26 52.8	-0.8	MRZ	Mangatainoka R	1.94 45	P	Pn	02 48 33.2	-1.1
ARCZ	Arundel	2.13	230	P	Pn	02 26 28.7	-0.3	RACZ	Rakaia	2.07 215	P	Pn	02 48 34.1	-2.0
ARCZ				S	Sn	02 26 54.7	-0.5	WACZ	Wakanui South	2.37 216	P	Pn	02 48 38.5	-1.7
TMZ	Timaru	2.51	224	P	Pn	02 26 32.4	-1.9	WVZ	Waitaha Valley	2.47 244	P	Pn	02 48 42.0	+0.4
AWAZ	Awhitu Peninsu	5.60	10	P	Pn	02 27 18.4	+1.8	RPZ	Rata Peaks	2.60 229	P	Pn	02 48 42.2	-1.2
MKAZ	Moumakai	5.64	14	P	Pn	02 27 18.3	+1.1	ARCZ	Arundel	2.69 224	P	Pn	02 48 43.1	-1.6
MKAZ				S	Sn	02 28 16.4	-5.2	GCSZ	Gaunt Creek Bo	2.84 242	P	Pn	02 48 47.3	+0.6
ETAZ	East Tamaki Re	5.75	12	P	Pn	02 27 20.5	+1.8	TMZ	Timaru	3.09 220	P	Pn	02 48 49.0	-1.1
ASAR	Alice Springs	37.67	287	P	P	02 33 08.3	-0.4	ODZ	Otahua Downs	3.77 216	P	Pn	02 48 57.6	-1.9
	0.4nm,0.6s,baz=129,slow=6.8,SNR=4.9 0.4nm,0.6s							MTHZ	Maungataniwha	3.95 37	P	Pb	02 49 06.8	-4.2
WRA	Warramunga Arr	39.83	292	P	P	02 33 26.4	-0.5	JCZ	Jackson Bay	4.18 239	P	Pn	02 49 06.5	+1.4
	0.3nm,0.6s,baz=128,slow=8.0,SNR=2.6 0.3nm,0.6s							CNGZ	Carnagh Statio	4.91 45	P	Pn	02 49 21.3	+6.1
TORD	Torodi Ar. Bea	149.80	196	PKPbc	PKPbc	02 45 44.5	+0.8	SYZ	Scrubby Hill	5.59 215	P	Pn	02 49 23.0	-1.4
	0.2nm,0.5s,baz=128,slow=2.0,SNR=2.3							LBZ	Lake Benmore	3.19 231	P	Pn	03 23 47.3	+0.3
								ODZ	Otahua Downs	3.40 219	P	Pn	03 23 48.8	-1.0
								WNVZ	Wahianoa	3.44 26	P	Pn	03 23 51.9	+1.3
								DRZ	Dome Shelter	3.47 25	P	Pn	03 23 51.0	-0.1
								OTVZ	Oturere	3.61 26	P	Pn	03 23 53.5	+0.6
								HIZ	Hauiti	4.02 14	P	Pn	03 24 00.6	+2.2
								AWAZ	Awhitu Peninsu	5.42 8	P	Pn	03 24 18.9	+1.3

WEL 15 02:43:58.3±0.3, 42°S±2°×17°4E±°, h6km±3km, M3.9/19, ML4.2/19, MLv3.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=156.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	196	P	Pg	02 43 59.9	-0.1
BSWZ	Blackbirch Sta	0.27	264	P	Pg	02 44 03.8	+0.2
BSWZ				S	Sg	02 44 08.6	+1.4
TUWZ	Tuamarina	0.34	319	P	Pg	02 44 05.4	+0.5
TUWZ				S	Sb	02 44 11.3	-1.1
TCW	Tory Channel	0.48	4	P	Pg	02 44 07.7	+0.2
TCW				S	Sg	02 44 14.6	+0.8
WEL	Wellington	0.57	45	P	Pg	02 44 09.5	+0.3
WEL				S	Sg	02 44 17.5	+0.9
PLWZ	Palliser	0.77	81	P	Pb	02 44 13.7	-0.5
PLWZ				S	Sb	02 44 25.4	+0.5
NNZ	Nelson	0.80	306	P	Pg	02 44 13.3	-0.3
MSWZ	Moikau Station	0.81	71	P	Pg	02 44 14.0	+0.2
MSWZ				S	Sn	02 44 27.4	-1.1
CAW	Cannon Point	0.85	47	P	Pg	02 44 14.5	-0.2
KHZ	Kahutara	0.89	215	P	Pg	02 44 15.6	+0.2
KHZ				S	Sb	02 44 28.7	+0.4
DUWZ	D'Urville Isla	0.92	345	P	Pg	02 44 15.5	-0.4
PAWZ	Paruwai Farm	0.94	71	P	Pg	02 44 16.1	-0.3
PAWZ				S	Sb	02 44 30.0	+0.2
KIW	Kapiti Island	0.97	32	P	Pg	02 44 16.3	-0.6
MTW	Mount Morrison	1.09	61	P	Pg	02 44 18.3	-0.9
MTW				S	Sb	02 44 34.6	+0.6
OGWZ	Otaki Gorge	1.12	39	P	Pg	02 44 18.9	-0.8
OGWZ				S	Sn	02 44 36.2	0.0
TRWZ	Traveller	1.13	76	P	Pg	02 44 18.3	-1.6
TRWZ				S	Sb	02 44 34.8	-0.2
MRNZ	Matariki Terra	1.15	284	P	Pg	02 44 20.0	-0.2
MRNZ				S	Sn	02 44 37.3	+0.4
TKNZ	Takaka Hill	1.16	304	P	Pg	02 44 19.9	-0.7
HOWZ	Holdsworth Sta	1.25	51	P	Pg	02 44 20.9	-1.3
HOWZ				S	Sb	02 44 38.6	+0.2
TMWZ	Te Maipa	1.37	66	P	Pn	02 44 21.8	-2.2
MRZ	Mangatainoka R	1.44	45	P	Pn	02 44 23.7	-1.2
TWZ	Tintock	1.54	54	P	Pn	02 44 25.4	-0.9
QRZ	Quartz Range	1.55	303	P	Pn	02 44 26.7	+0.3
OHWZ	Ohakea	1.69	29	P	Pb	02 44 29.6	-0.1
PRWZ	Pori Road	1.73	50	P	Pn	02 44 27.4	-1.5
POWZ	Post Office Ro	1.74	42	P	Pn	02 44 28.0	-1.0
BFZ	Birch Farm	1.82	57	P	Pn	02 44 28.8	-1.3
DSZ	Denniston Nort	1.82	267	P	Pn	02 44 30.8	+0.7
AMCZ	Amberley	1.90	218	P	Pn	02 44 28.0	-3.1
WAZ	Wanganui	2.01	17	P	Pb	02 44 35.4	+0.1
DVHZ	Dannevirke	2.02	47	P	Pn	02 44 31.1	-1.7
TSZ	Takapari Road	2.09	39	P	Pn	02 44 33.1	-0.7
ANWZ	Angora Road	2.09	55	P	Pn	02 44 32.7	-1.1
PRHZ	Porangahau	2.31	53	P	Pn	02 44 35.3	-1.5
OXZ	Oxford	2.31	224	P	Pn	02 44 33.9	-2.9
PNHZ	Pukenui	2.32	41	P	Pn	02 44 35.7	-1.3
INZ	Inchbonnie	2.32	243	P	Pn	02 44 36.0	-0.9
WPHZ	Waipukurau	2.33	47	P	Pg	02 44 43.3	+0.4
MQZ	McQueen's Vall	2.33	210	P	Pn	02 44 33.6	-3.5
AKCZ	Akaroa Harbour	2.39	204	P	Pn	02 44 35.7	-2.3
KHEZ	Kahui Hut	2.40	356	P	Pb	02 44 41.8	0.0
NBEZ	Newall Road No	2.43	353	P	Pb	02 44 43.4	+0.9
PKE	Pukeiti	2.50	356	P	Pb	02 44 42.1	-1.5
MOVZ	Moawhango	2.56	27	P	Pn	02 44 40.8	+0.6
RACZ	Rakaia	2.56	216	P	Pn	02 44 36.9	-3.3
WNVZ	Wahianoa	2.58	24	P	Pn	02 44 42.0	+1.3
VRZ	Vera Road	2.59	9	P	Pn	02 44 42.9	+2.2
BHHZ	Black Hill Sta	2.60	33	P	Pb	02 44 44.5	-0.8
DRZ	Dome Shelter	2.61	23	P	Pb	02 44 44.7	-1.0
WHVZ	Whangaehu Hut	2.62	24	P	Pb	02 44 45.7	+0.1
FWVZ	Far West T-bar	2.63	23	P	Pb	02 44 46.0	+0.1
TUVZ	Tukino	2.65	25	P	Pb	02 44 47.0	+0.8
NGZ	Ngauruhoe	2.72	23	P	Pb	02 44 47.5	+0.2
SNVZ	South Ngauruho	2.72	24	P	Pb	02 44 47.3	-0.1
NNVZ	North Ngauruho	2.76	23	P	Pb	02 44 45.9	-2.2
WTVZ	West Tongariro	2.77	22	P	Pb	02 44 48.1	-0.2
TWVZ	Taurewa	2.77	20	P	Pb	02 44 48.3	+0.1
ETVZ	East Tongariro	2.79	24	P	Pb	02 44 48.3	-0.3
TMVZ	Te Maari	2.80	24	P	Pn	02 44 44.6	+0.9
KRVZ	Karewarewa	2.80	23	P	Pb	02 44 48.8	0.0
KWHZ	Kaweka Forest	2.81	37	P	Pb	02 44 48.6	-0.3
NTVZ	North Tongarir	2.81	23	P	Pb	02 44 47.9	-1.0
WACZ	Wakanui South	2.86	217	P	Pn	02 44 41.4	-3.0
KATZ	Kakaramea	2.93	23	P	Pb	02 44 50.8	-0.2
WVZ	Waitaha Valley	2.94	241	P	Pn	02 44 45.2	-0.2
BKZ	Black Stump Fm	3.05	35	P	Pb	02 44 53.3	+0.3
RATZ	Rangitukua	3.05	23	P	Pb	02 44 53.6	+0.6
RPZ	Rata Peaks	3.10	228	P	Pn	02 44 45.4	-2.3
ARCZ	Arundel	3.19	224	P	Pn	02 44 46.3	-2.6
HIZ	Hauiti	3.21	9	P	Pn	02 44 51.9	+2.8
GCSZ	Gaunt Creek Bo	3.32	239	P	Pn	02 44 53.5	+2.8
TMZ	Timaru	3.59	220	P	Pn	02 44 51.8	-2.6
FOZ	Fox Glacier	3.75	239	P	Pn	02 44 55.7	-0.8
JCZ	Jackson Bay	4.66	237	P	Pn	02 45 11.3	+2.0
MSZ	Milford Sound	5.49	235	P	Pn	02 45 19.0	-1.6

WEL 15 02:48:01.2±0.4, 42°S±2°×17°4E±°, h9km±2km, M3.6/30, ML4.1/16, MLv3.6/30, Error ellipse: s-maj=0.0km s-min=0.0km az=144.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.33	14	P	Pb	02 48 08.6	-0.7
BSWZ				S	Sb	02 48 13.8	-1.0
KHZ	Kahutara	0.41	204	P	Pg	02 48 09.8	+0.6
KHZ				S	Sb	02 48 16.1	-0.9
CMWZ	Cape Campbell	0.44	49	P	Pb	02 48 11.3	+0.2
TUWZ	Tuamarina	0.62	12	P	Pb	02 48 13.9	-0.3
TUWZ				S	Sb	02 48 22.8	-0.3
THZ	Tophouse	0.70	293	P	Pg	02 48 14.8	+0.1
THZ				S	Sg	02 48 24.1	+0.3
NNZ	Nelson	0.87	340	P	Pg	02 48 17.9	0.0
NNZ				S	Sb	02 48 29.8	-0.3
TCW	Tory Channel	0.91	25	P	Pg	02 48 18.8	+0.1
TCW				S	Sg	02 48 30.9	+0.4
MRNZ	Matariki Terra	0.99	310	P	Pb	02 48 20.4	-0.1
MRNZ				S	Sb	02 48 34.2	+0.6
WEL	Wellington	1.06	45	P	Pb	02 48 21.9	+0.2
TKNZ	Takaka Hill	1.17	329	P	Pb	02 48 23.4	-0.2
TKNZ				S	Sb	02 48 39.2	+0.3

IDC 15 02:58:41.4±20.0, 3°56S×117°51E, h0km, mb3.8/3, mbtmp3.9/3, Error ellipse: s-maj=422.7km s-min=203.8km az=10.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.12	136	P	P	03 03 49.5	+0.1
	2.7nm,0.7s,baz=318,slow=10,SNR=33 2.7nm,0.7s						
ASAR	Alice Springs	25.50	143	P	P	03 04 11.3	-0.4
	0.6nm,0.5s,baz=318,slow=8.6,SNR=11 0.6nm,0.5s						
STKA	Stephens Creek	36.13	144	P	P	03 05 45.8	+0.3
	1.0nm,0.4s,baz=331,slow=10,SNR=4.7 1.0nm,0.4s						

WEL 15 03:00:35.0±0.5, 42°S±4°×17°4E±°, h12km, M3.0/13, ML3.4/11, MLv3.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=145.4, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.45	323	P	Pb	03 00 45.4	+0.5
BSWZ				S	Sb	03 00 51.1	-0.4
TUWZ	Tuamarina	0.68	341	P	Pg	03 00 46.3	-1.9
TCW	Tory Channel	0.87	2	P	Pg	03 00 48.6	-3.1
MSWZ	Moikau Station	1.00	49	P	Pn	03 00 55.5	+0.6
MSWZ				S	Sn	03 01 08.9	-0.1
CAW	Cannon Point	1.15	33	P	Pb	03 00 55.6	-1.2
DUWZ	D'Urville Isla	1.29	349	P	Pn	03 00 56.5	-2.4
MRNZ	Matariki Terra	1.30	301	P	Pn	03 00 55.7	-3.2
MTW	Mount Morrison	1.32	46	P	Pn	03 00 58.5	-0.7
MTW				S	Sg	03 01 17.5	0.0
AMCZ	Amberley	1.60	226	P	Pb	03 01 04.4	-0.1
LTZ	Lake Taylor	1.62	243	P	Pn	03 01 01.6	-1.7
MRZ	Mangatainoka R	1.74	36	P	Pn	03 01 05.4	+0.5
MQZ	McQueen's Vall	2.00	215	P	Pn	03 01 07.3	-1.3
OXZ	Oxford	2.04	232	P	Pn	03 01 10.0	+0.8
INZ	Inchbonnie	2.17	252	P	Pn	03 01 10.2	-0.6
WAZ	Wanganui	2.39	14	P	Pg	03 01 22.5	+1.8
TSZ	Takapari Road	2.40	33	P	Pg	03 01 26.0	+5.0
PNHZ	Pukenui	2.62	35	P	Pg	03 01 30.5	+5.2
RPZ	Rata Peaks	2.85	234	P	Pn	03 01 19.8	-0.5
MOVZ	Moawhango	2.91	24	P	Pg	03 01 31.6	+1.0
BHHZ	Black Hill Sta	2.93	29	P	Pg	03 01 32.3	+1.1
WNVZ	Wahianoa	2.94	21	P	Pg	03 01 33.6	+2.4
VRZ	Vera Road	2.98	8	P	Pg	03 01 30.7	-1.3
OTVZ	Oturere	3.11	21	P	Pb	03 01 28.2	-2.1
NNVZ	North Ngauruho	3.12	20	P	Pg	03 01 37.0	+2.2
TMVZ	Te Maari	3.16	21	P	Pg	03 01 37.1	+1.6
KRVZ	Karewarewa	3.17	20	P	Pg	03 01 37.7	+2.0
BKZ	Black Stump Fm	3.38	31	P	Pg	03 01 42.0	+2.3
URZ	Urewera	4.40	31	P	Pb	03 01 47.5	-4.7

WEL 15 03:02:35.9±0.8, 42°S±4°×17°4E±°, h5km, M3.5/5, ML3.7/5, MLv3.5/5, Error ellipse: s-maj=0.0km s-min=0.0km az=120.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.20	274	P	Pg	03 02 39.4	-0.4
KHZ				S	Sg	03 02 41.6	-0.9
GVZ	Greta Valley S	0.78	226	P	Pb	03 02 51.8	-0.2
GVZ				S	Sb	03 03 03.0	0.0
THZ	Tophouse	0.95	314	P	Pb	03 02 55.2	+0.4
THZ				S	Sb	03 03 08.2	+0.5
AMCZ	Amberley	1.13	228	P	Pg	03 02 57.4	-0.2
LTZ	Lake Taylor	1.19	252	P	Pg	03 02 58.3	-0.4
LTZ				S	Sg	03 03 13.7	-0.4
PLWZ	Palliser	1.38	52	P	Pg	03 03 03.4	+1.1
PLWZ				S	Sb	03 03 18.9	-1.2
CAW	Cannon Point	1.62	36	P	Pb	03 03 06.6	+0.3
ARCZ	Arundel	2.45	231	P	Pn	03 03 14.7	-1.9

WEL 15 03:22:56.2±0.3, 42°S±2°×17°4E±°, h5km, M3.3/23, ML3.7/25, MLv3.3/23, Error ellipse: s-maj=0.0km s-min=0.0km az=123.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.08	281	P	Pg	03 22 58.0	0.0
KHZ				S	Sg	03 22 59.0	-0.2
GVZ	Greta Valley S	0.70	220	P	Pb	03 23 11.6	+0.7
GVZ				S	Sn	03 23 23.5	-0.5
THZ	Tophouse	0.87	320	P	Pg	03 23 12.4	-0.5
THZ				S	Sg	03 23 23.7	-0.3
TUWZ	Tuamarina	1.02	13	P	Pb	03 23 16.7	+0.3
TUWZ				S	Sb	03 23 30.5	+0.3
AMCZ	Amberley	1.04	224	P	Pn	03 23 17.7	+0.2
AMCZ				S	Sn	03 23 33.2	+0.7
LTZ	Lake Taylor	1.07	250	P	Pg	03 23 16.9	+0.1
LTZ				S	Sb	03 23 32.3	+0.7
MRNZ	Matariki Terra	1.23	327	P	Pb	03 23 19.8	0.0
NNZ	Nelson	1.23	351	P	Pg	03 23 19.6	-0.1
TCW	Tory Channel	1.31	21	P	Pb	03 23 21.2	0.0
TCW				S	Sn	03 23 39.1	+0.2
OKCZ	Okains Bay	1.36	198	P	Pn	03 23 21.8	-0.1
MQZ	McQueen's Vall	1.47	209	P	Pn	03 23 21.4	-1.9
MQZ				S	Sn	03 23 42.0	-0.9
OXZ	Oxford	1.48	232	P	Pn	03 23 22.0	-1.6
OXZ				S	Sn	03 23 42.4	-0.9
TKNZ	Takaka Hill	1.49	340	P	Pn	03 23 23.8	+0.2
DSZ	Denniston Nort	1.53	296	P	Pn	03 23 24.1	-0.2
AKCZ	Akaroa Harbour	1.54	200	P	Pn	03 23 22.9	-1.4
AKCZ				S	Sb	03 23 45.2	+0.2
MSWZ	Moikau Station	1.57	50	P	Pn	03 23 24.0	-0.7
MSWZ				S	Sn	03 23 44.7	-0.7
DUWZ	D'Urville Isla	1.64	7	S	Sg	03 23 49.5	+0.6
INZ	Inchbonnie	1.65	259	P	Pn	03 23 26.5	+0.6
PAWZ	Paruwai Farm	1.69	52	P	Pn	03 23 25.6	-0.8
PAWZ				S	Sn	03 23 47.7	-0.8
CAW	Cannon Point	1.70	39	P	Pn	03 23 22.5	-4.0
RACZ	Rakaia	1.70	220	P	Pn	03 23 25.9	-0.6
QRZ	Quartz Range	1.81	332	P	Pb	03 23 29.2	-0.6
KIW	Kapiti Island	1.83	32	P	Pn	03 23 24.6	-3.7
OGWZ	Otaki Gorge	1.98	36	P	Pn	03 23 26.5	-3.8
WACZ	Wakanui South	2.01	221	P	Pn	03 23 30.6	-0.2
WVZ	Waitaha Valley	2.24	252	P	Pn	03 23 34.5	+0.6
RPZ	Rata Peaks	2.29	235	P	Pn	03 23 33.1	-1.6
ARCZ	Arundel	2.36	229	P	Pn	03 23 34.8	-0.7
TMZ	Timaru	2.74	224	P	Pn	03 23 40.8	-0.1

KEA 15 03:22:57.6, 38°.40N×128°.08E, h18km, ML2.7/6
KMA 15 03:22:59.3±0.1, 38°.35N×128°.09E, h0km, Error ellipse: s-maj=1.7km s-min=0.6km az=5.0

ISC 15 03:22:57.8±1.3, 38°.42N±0°.04×128°.06E±0°.04, h2km±16km, n27, σ0°52/33, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWCA	Hwacheon Acc B	0.42	213	P	Pg	03 23 06.6	+0.7
	SNR=8.4						
YAYA	Ganghyeon	0.51	122	P	Pg	03 23 07.8	+0.2
	SNR=26						
IJAA	Inje Acc Boreh	0.51	156	P	Pg	03 23 07.9	+0.2
	SNR=13						
KSJMJ	Jumunjin	0.77	134	P	Pg	03 23 12.5	0.0
	SNR=27						
KSDGY	Daegwallycong	0.87	146	P	Pg	03 23 14.6	0.0
	SNR=19						
WOSN	Wonsan	0.90	326	Pg	Pg	03 23 15.7	+0.6
WOSN				Sg	Sg	03 23 27.0	+0.3
WOSN				AML	AML		
	comp=N,138nm,0.3s						
WOSN				AML	AML		
	comp=E,256nm,0.1s						
WOSN				AML	AML		
	comp=Z,204nm,0.4s						
KSWJU	Wonju	1.01	180	P	Pg	03 23 17.3	+0.1
	SNR=37						
KSMUS	Musan	1.15	243	P	Pn	03 23 20.9	0.0
	SNR=12						
BURB	Buron	1.21	192	P	Pg	03 23 21.0	0.0
	SNR=29						
KSICN	Icheon	1.23	205	P	Pg	03 23 21.7	+0.2
	SNR=29						
JECH	Jecheon	1.26	175	P	Pg	03 23 22.0	0.0
	SNR=10						
KSSWO	Suwon	1.44	217	P	Pg	03 23 25.5	+0.1
	SNR=7.5						
KSTBA	Taebaek	1.47	151	P	Pg	03 23 26.2	+0.2
	SNR=17						
EMSB	Eumseong	1.48	194	P	Pg	03 23 26.1	-0.1
	SNR=21						
KSCHJ	Chungju	1.54	183	P	Pg	03 23 27.0	-0.4
	SNR=22						
YOJB	Youngju	1.58	167	P	Pg	03 23 28.0	-0.2
	SNR=22						
CHYB	Chungyang	1.62	155	P	Pb	03 23 28.2	-0.2
	SNR=33						
JNPA	Jeungpyeong Ac	1.67	194	P	Pg	03 23 29.4	-0.3
	SNR=18						
HAWB	Hwaseong-si	1.68	218	P	Pg	03 23 30.0	0.0
	SNR=9.0						
KSCEA	Cheonan	1.71	202	P	Pg	03 23 30.3	-0.3
	SNR=22						
KSMGY	Mungyeong	1.76	180	P	Pg	03 23 30.9	-0.6
	SNR=44						
SRW	Sariwon	1.81	273	Pg	Pg	03 23 32.5	-0.1
SRW				Sg	Sg	03 23 56.7	+0.5
SRW				AML	AML		
	comp=N,108nm,0.2s						
SRW				AML	AML		
	comp=E,75nm,0.2s						
SRW				AML	AML		
	comp=Z,129nm,0.3s						
HJU	Haeju	1.88	259	Pg	Pb	03 23 32.7	-0.1
HJU				Sg	Sg	03 23 58.0	-0.1
HJU				AML	AML		
	comp=N,137nm,0.3s						
HJU				AML	AML		
	comp=E,136nm,0.2s						
HJU				AML	AML		
	comp=Z,184nm,0.2s						
PYAG	Pyongyang	1.91	290	Pg	Pg	03 23 34.1	-0.2
PYAG				Sg	Sg	03 23 59.8	+0.7
PYAG				AML	AML		
	comp=N,84nm,0.4s						
PYAG				AML	AML		
	comp=E,50nm,0.2s						
PYAG				AML	AML		
	comp=Z,75nm,0.4s						
PYS	Pyongsong	1.91	296	Pg	Pb	03 23 33.5	+0.1
PYS				Sg	Sb	03 23 58.6	+0.9
PYS				AML	AML		
	comp=N,126nm,0.4s						
PYS				AML	AML		
	comp=E,128nm,0.6s						
PYS				AML	AML		
	comp=Z,118nm,0.5s						
KSBON	Boeun	1.93	186	P	Pb	03 23 33.2	-0.4
	SNR=30						
SUJ	Sinuiju	3.24	302	Pg	Pg	03 23 58.5	-1.4
SUJ				Sg	Sg	03 24 40.4	-1.4
SUJ				AML	AML		
	comp=N,47nm,0.8s						
SUJ				AML	AML		
	comp=E,27nm,0.4s						
SUJ				AML	AML		
	comp=Z,41nm,0.1s						

WEL 15 03:23:41.0±0.4, 42°S±2°×17°4E±°, h18km±3km, M3.3/18, ML3.5/18, MLv3.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=114.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.03	233	P	Pg	03 23 44.4	+0.4
KHZ				S	Sg	03 23 46.7	+0.

AEIC 15 03:26:08.7±1.2, 54°17N±0°09×160°1W±0°2, h42km±9km, ML3.3, mb3.7/1(NEIC), ML3.3/8(NEIC), Error ellipse: s-maj=16.8km s-min=8.2km az=134.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.71**	**23**		Pn	03 26 21.9	-0.4
CNBA	**Chernabura Isl**	**0.71**	**23**		Sn	03 26 33.6	+1.5
SDPT	**Sand Point**	**1.21**	**349**	Pn	Pn	03 26 30.5	+1.5
SDPT	comp=E,156nm,2.7s			IAML		03 26 51.8	
SDPT	comp=N,163nm,3.5s			IAML		03 26 52.7	
FALS	**False Pass**	**2.07**	**291**		Pn	03 26 41.5	+0.7
AKUT	**Akutan**	**3.35**	**272**	Pn	Pn	03 26 57.2	-1.2
AKUT	comp=N,232nm,4.0s			IAML		03 27 25.7	
AKUT	comp=E,152nm,3.5s			IAML		03 27 53.8	
UNV	**Unalaska Valle**	**3.81**	**268**		Pn	03 27 04.7	+0.1
OHAK	**Old Harbor**	**4.91**	**49**	Pn	Pn	03 27 19.8	0.0
KDAK	**Kodiak Island**	**5.55**	**46**	Pn	Pn	03 27 28.2	-0.4
CNPM	**China Poot**	**7.23**	**38**	Pn	Pn	03 27 52.6	+0.9
PWL	**Port Wells**	**9.21**	**39**	Pn	Pn	03 28 19.3	+0.6
KNK	**Knik Glacier**	**9.54**	**36**	Pn	Pn	03 28 24.0	+0.7
SML	**Sawmill**	**9.86**	**34**	Pn	Pn	03 28 28.4	+0.7
SCM	**Sheep Creek Mo**	**10.22**	**36**	Pn	Pn	03 28 33.2	+0.5
KLU	**Klutina**	**10.51**	**40**	Pn	Pn	03 28 37.2	+0.6
M24K	**Tolsona, Glenn**	**10.81**	**37**	Pn	Pn	03 28 41.6	+1.0
PAX	**Paxson**	**11.63**	**35**	Pn	Pn	03 28 52.2	+0.2
SCRK	**Sand Creek**	**12.81**	**33**	Pn	Pn	03 29 07.8	-0.1
WHY	**Whitehorse**	**14.98**	**54**	Pn	Pn	03 29 38.0	+0.5
EPYK	**Eagle Plains**	**16.70**	**34**	Pn	P	03 30 05.0	+3.8
EPYK	comp=Z,5.3nm,0.9s			IAmb	IAmb	03 30 05.9	

WEL 15 03:29:25.3±0.3, 42°S±2°×17°4E±°, h9km±3km, M3.8/19, ML4.0/19, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=150.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**145**	P	Pg	03 29 29.1	+1.4
BSWZ	**Blackbirch Sta**	**0.20**	**259**	P	Pg	03 29 30.4	+1.0
BSWZ				S	Sg	03 29 34.2	+1.8
TUWZ	**Tuamarina**	**0.29**	**328**	P	Pb	03 29 32.2	-0.4
TUWZ				S	Sb	03 29 37.2	-0.3
TCW	**Tory Channel**	**0.48**	**12**	P	Pb	03 29 35.3	-0.6
TCW				S	Sb	03 29 42.9	-0.1
BHW	**Baring Head**	**0.61**	**64**	P	Pb	03 29 37.9	-0.2
BHW				S	Sb	03 29 47.2	+0.5
WEL	**Wellington**	**0.61**	**50**	P	Pb	03 29 38.0	-0.2
WEL				S	Sb	03 29 47.1	+0.3
NNZ	**Nelson**	**0.73**	**308**	P	Pb	03 29 39.9	-0.3
NNZ				S	Sb	03 29 50.2	-0.2
PLWZ	**Palliser**	**0.84**	**83**	P	Pb	03 29 42.1	0.0
KHZ	**Kahutara**	**0.87**	**211**	P	Pb	03 29 42.6	+0.1
KHZ				S	Sn	03 29 55.7	-0.7
MSWZ	**Moikau Station**	**0.87**	**73**	P	Pb	03 29 42.8	+0.2
MSWZ				S	Sn	03 29 56.1	-0.4
DUWZ	**D'Urville Isla**	**0.89**	**349**	P	Pg	03 29 42.6	+0.2
DUWZ				S	Sb	03 29 55.6	+0.7
CAW	**Cannon Point**	**0.90**	**51**	P	Pb	03 29 42.9	-0.1
CAW				S	Sn	03 29 56.4	-0.8
THZ	**Tophouse**	**0.93**	**264**	P	Pg	03 29 43.3	+0.1
KIW	**Kapiti Island**	**1.00**	**36**	P	Pg	03 29 44.4	0.0
PAWZ	**Paruwai Farm**	**1.01**	**73**	P	Pg	03 29 44.5	-0.2
MTW	**Mount Morrison**	**1.15**	**64**	P	Pb	03 29 46.3	-0.9
OGWZ	**Otaki Gorge**	**1.16**	**42**	P	Pb	03 29 47.3	-0.1
TRWZ	**Traveller**	**1.19**	**77**	P	Pb	03 29 46.7	-1.4
HOWZ	**Holdsworth Sta**	**1.29**	**53**	P	Pn	03 29 48.7	-0.9
TMWZ	**Te Maipa**	**1.43**	**67**	P	Pn	03 29 50.0	-1.5
MRZ	**Mangatainoka R**	**1.48**	**47**	P	Pn	03 29 51.4	-0.7
TWZ	**Tintock**	**1.59**	**56**	P	Pb	03 29 53.6	-0.1
OHWZ	**Ohakea**	**1.72**	**32**	P	Pb	03 29 56.7	-0.3
POWZ	**Post Office Ro**	**1.78**	**44**	P	Pb	03 29 55.6	-0.6
LTZ	**Lake Taylor**	**1.78**	**231**	P	Pn	03 29 54.8	-1.4
PRWZ	**Pori Road**	**1.78**	**52**	P	Pn	03 29 55.1	-1.1
BFZ	**Birch Farm**	**1.87**	**59**	P	Pn	03 29 55.6	-1.9
WAZ	**Wanganui**	**2.02**	**19**	P	Pb	03 30 01.8	-0.4
DVHZ	**Dannevirke**	**2.06**	**49**	P	Pn	03 29 58.4	-1.6
TSZ	**Takapari Road**	**2.12**	**41**	P	Pn	03 30 00.1	-0.9
ANWZ	**Angora Road**	**2.14**	**56**	P	Pn	03 29 59.1	-2.1
LREZ	**Lake Rotokare**	**2.22**	**5**	P	Pb	03 30 05.6	0.0
PNHZ	**Pukenui**	**2.35**	**42**	P	Pn	03 30 03.0	-1.2
PRHZ	**Porangahau**	**2.35**	**54**	P	Pn	03 30 02.0	-2.1
KHEZ	**Kahui Hut**	**2.38**	**358**	P	Pb	03 30 07.8	-0.6
NEZ	**North Egmont**	**2.40**	**359**	P	Pb	03 30 08.2	-0.5
PKE	**Pukeiti**	**2.48**	**357**	P	Pb	03 30 09.3	-0.7
PKVZ	**Pokaka**	**2.55**	**21**	P	Pb	03 30 11.3	0.0
MOVZ	**Moawhango**	**2.59**	**29**	P	Pn	03 30 07.1	-0.1
VRZ	**Vera Road**	**2.59**	**11**	P	Pn	03 30 09.4	+2.0
WNVZ	**Wahianoa**	**2.59**	**26**	P	Pn	03 30 08.4	+0.8
TRVZ	**Turoa**	**2.60**	**25**	P	Pb	03 30 10.4	-1.9
BHHZ	**Black Hill Sta**	**2.63**	**34**	P	Pn	03 30 07.7	-0.3
DRZ	**Dome Shelter**	**2.63**	**25**	P	Pb	03 30 13.4	+0.6
WHVZ	**Whangaehu Hut**	**2.63**	**25**	P	Pb	03 30 11.2	-1.5
FWVZ	**Far West T-bar**	**2.65**	**24**	P	Pb	03 30 12.6	-0.4
TUVZ	**Tukino**	**2.67**	**26**	P	Pb	03 30 13.4	+0.1
NGZ	**Ngauruhoe**	**2.73**	**24**	P	Pb	03 30 14.8	+0.3
OTVZ	**Oturere**	**2.77**	**25**	P	Pn	03 30 11.0	+1.0
NNVZ	**North Ngauruho**	**2.78**	**24**	P	Pb	03 30 15.2	0.0
TWVZ	**Taurewa**	**2.78**	**21**	P	Pn	03 30 12.3	+2.2
WTVZ	**West Tongariro**	**2.79**	**24**	P	Pb	03 30 15.3	0.0
KAHZ	**Kahuranaki**	**2.80**	**49**	P	Pn	03 30 08.7	-1.6
ETVZ	**East Tongariro**	**2.81**	**26**	P	Pb	03 30 15.1	-0.5
KRVZ	**Karewarewa**	**2.82**	**24**	P	Pb	03 30 15.5	-0.4
TMVZ	**Te Maari**	**2.82**	**25**	P	Pb	03 30 13.4	-2.5
NTVZ	**North Tongarir**	**2.83**	**25**	P	Pb	03 30 13.8	-2.2
BKZ	**Black Stump Fm**	**3.08**	**36**	P	Pn	03 30 12.9	-1.2
HIZ	**Hauiti**	**3.21**	**10**	P	Pn	03 30 18.1	+2.3
TOZ	**Tahuroa Road**	**4.08**	**15**	P	Pn	03 30 29.7	+2.0
AWAZ	**Awhitu Peninsu**	**4.62**	**5**	P	Pn	03 30 37.1	+1.8
MKAZ	**Moumakai**	**4.63**	**10**	P	Pn	03 30 36.5	+1.1

WEL 15 03:31:24.5±0.6, 42°S±3°×17°4E±°, h5km, M3.3/11, ML3.7/10, MLv3.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**249**	P	Pg	03 31 29.5	0.0
KHZ				S	Sg	03 31 33.2	+0.3
BSWZ	**Blackbirch Sta**	**0.61**	**1**	P	Pg	03 31 35.9	-0.2
BSWZ				S	Sg	03 31 44.5	+0.6
GVZ	**Greta Valley S**	**0.89**	**223**	P	Pb	03 31 43.0	+0.6
GVZ				S	Sg	03 31 50.2	-2.9
TUWZ	**Tuamarina**	**0.89**	**4**	P	Pb	03 31 42.6	+0.1
AMCZ	**Amberley**	**1.24**	**226**	P	Pn	03 31 49.4	+1.0
MRNZ	**Matariki Terra**	**1.24**	**318**	P	Pg	03 31 47.2	-1.0
MRNZ				S	Sg	03 32 03.6	-0.6
TKNZ	**Takaka Hill**	**1.45**	**332**	P	Pn	03 31 51.1	-0.3
CAW	**Cannon Point**	**1.51**	**37**	P	Pn	03 31 49.7	-2.5
CAW				S	Sn	03 32 12.0	-0.3
DUWZ	**D'Urville Isla**	**1.52**	**2**	P	Pn	03 31 51.5	-0.8
DUWZ				S	Sg	03 32 13.1	-0.2
OKCZ	**Okains Bay**	**1.52**	**203**	P	Pn	03 31 51.6	+0.8
DSZ	**Denniston Nort**	**1.64**	**290**	P	Pn	03 31 54.2	+0.3
DSZ				S	Sn	03 32 15.8	+0.3
MQZ	**McQueen's Vall**	**1.64**	**212**	P	Pn	03 31 52.6	-1.4
OXZ	**Oxford**	**1.68**	**233**	P	Pb	03 31 55.2	-0.6

WEL 15 03:34:54.6±0.6, 42°S±3°×17°4E±°, h5km, M2.7/9, ML4.1/7, MLv2.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=119.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**232**	P	Pg	03 34 58.9	+0.1
KHZ				S	Sg	03 35 02.6	+1.0
BSWZ	**Blackbirch Sta**	**0.58**	**8**	P	Pg	03 35 05.8	+0.2
BSWZ				S	Sb	03 35 14.5	-1.2
CMWZ	**Cape Campbell**	**0.63**	**32**	P	Pg	03 35 06.1	-0.6
THZ	**Tophouse**	**0.83**	**309**	P	Pg	03 35 10.1	-0.4
THZ				S	Sg	03 35 21.2	0.0
TUWZ	**Tuamarina**	**0.87**	**9**	P	Pg	03 35 11.3	+0.1
TUWZ				S	Sn	03 35 25.3	-1.1
GVZ	**Greta Valley S**	**0.87**	**218**	P	Pg	03 35 11.6	+0.3
GVZ				S	Sb	03 35 24.6	+0.4
TCW	**Tory Channel**	**1.14**	**20**	P	Pg	03 35 15.4	-1.1
TCW				S	Sg	03 35 31.5	+0.2
MRNZ	**Matariki Terra**	**1.16**	**319**	P	Pg	03 35 16.6	-0.3
MRNZ				S	Sn	03 35 33.7	-0.1
TKNZ	**Takaka Hill**	**1.39**	**334**	P	Pn	03 35 20.5	-0.2
TKNZ				S	Sn	03 35 40.0	+0.6
DUWZ	**D'Urville Isla**	**1.49**	**5**	P	Pn	03 35 21.6	-0.5
DUWZ				S	Sn	03 35 41.0	-0.9
CAW	**Cannon Point**	**1.53**	**40**	P	Pn	03 35 20.6	-2.0
CAW				S	Sn	03 35 39.9	-2.9
QRZ	**Quartz Range**	**1.73**	**327**	S	Sb	03 35 48.6	-0.2

WEL 15 03:35:24.5±0.5, 43°S±3°×17°3E±°, h13km±3km, M3.3/13, ML3.5/13, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=104.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.46**	**196**	P	Pb	03 35 35.1	+0.5
GVZ				S	Sb	03 35 41.9	+0.5
LTZ	**Lake Taylor**	**0.74**	**249**	P	Pg	03 35 38.8	0.0
LTZ				S	Sg	03 35 48.0	-0.5
AMCZ	**Amberley**	**0.77**	**212**	P	Pb	03 35 40.4	+0.6
AMCZ				S	Sn	03 35 51.6	-1.1
THZ	**Tophouse**	**0.79**	**343**	P	Pn	03 35 40.8	-0.6
THZ				S	Sb	03 35 50.6	-0.2
OXZ	**Oxford**	**1.18**	**227**	P	Pn	03 35 46.5	-0.2
OXZ				S	Sg	03 36 02.3	-0.2
MQZ	**McQueen's Vall**	**1.25**	**199**	P	Pn	03 35 47.4	-0.3
MQZ				S	Sb	03 36 03.3	-0.7
INZ	**Inchbonnie**	**1.32**	**261**	P	Pn	03 35 48.6	0.0
INZ				S	Sg	03 36 07.7	+0.7
RACZ	**Rakaia**	**1.44**	**213**	P	Pn	03 35 50.1	-0.1
RACZ				S	Sn	03 36 08.0	-1.0
WACZ	**Wakanui South**	**1.74**	**215**	P	Pn	03 35 54.2	-0.2
WACZ				S	Sn	03 36 15.8	-0.6
WVZ	**Waitaha Valley**	**1.90**	**252**	P	Pn	03 35 57.6	+0.9
RPZ	**Rata Peaks**	**1.98**	**232**	P	Pn	03 35 57.7	0.0
ARCZ	**Arundel**	**2.06**	**226**	P	Pn	03 35 58.6	-0.2
TMZ	**Timaru**	**2.46**	**220**	P	Pn	03 36 04.2	-0.2
ODZ	**Otahua Downs**	**3.13**	**216**	P	Pn	03 36 13.0	-0.5
TRVZ	**Turoa**	**3.67**	**30**	P	Pn	03 36 22.4	+1.2
WHVZ	**Whangaehu Hut**	**3.70**	**30**	P	Pn	03 36 22.3	+0.6
BHHZ	**Black Hill Sta**	**3.72**	**36**	P	Pn	03 36 22.3	+0.6
SNVZ	**South Ngauruho**	**3.81**	**30**	P	Pn	03 36 24.5	+1.5
HIZ	**Hauiti**	**4.20**	**18**	P	Pn	03 36 28.6	+0.4

WEL 15 03:35:35.1±0.4, 42°S±3°×17°4E±°, h12km±3km, M3.4/17, ML3.7/17, MLv3.4/17, Error ellipse: s-maj=0.0km s-min=0.0km az=25.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**171**	P	Pg	03 35 37.9	+0.4
BSWZ	**Blackbirch Sta**	**0.25**	**266**	P	Pb	03 35 41.5	0.0
BSWZ	**Blackbirch Sta**	**0.25**	**266**	P	Pb	03 35 41.3	-0.1
BSWZ				S	Sg	03 35 46.0	+2.2
TUWZ	**Tuamarina**	**0.33**	**324**	P	Pb	03 35 42.8	-0.1
TUWZ				S	Sb	03 35 48.6	+0.4
TCW	**Tory Channel**	**0.49**	**6**	P	Pg	03 35 45.1	+0.4
TCW				S	Sb	03 35 52.4	-0.3
WEL	**Wellington**	**0.59**	**46**	P	Pg	03 35 46.9	+0.3
WEL				S	Sb	03 35 55.6	0.0
NNZ	**Nelson**	**0.78**	**308**	P	Pb	03 35 50.8	+0.2
NNZ				S	Sb	03 36 02.0	+0.9
PLWZ	**Palliser**	**0.80**	**81**	P	Pb	03 35 51.0	+0.1
PLWZ				S	Sn	03 36 03.3	-0.6
MSWZ	**Moikau Station**	**0.83**	**71**	P	Pb	03 35 51.5	0.0
MSWZ				S	Sb	03 36 03.5	+0.9
CAW	**Cannon Point**	**0.88**	**48**	P	Pg	03 35 52.0	-0.1
DUWZ	**D'Urville Isla**	**0.92**	**347**	P	Pn	03 35 53.8	0.0
DUWZ				S	Sn	03 36 06.2	-0.7
PAWZ	**Paruwai Farm**	**0.97**	**71**	P	Pg	03 35 53.4	-0.4
PAWZ				S	Sn	03 36 08.3	+0.1
KIW	**Kapiti Island**	**0.99**	**33**	P	Pb	03 35 53.7	-0.4
KIW				S	Sb	03 36 07.1	0.0
MTW	**Mount Morrison**	**1.11**	**62**	P	Pb	03 35 55.5	-0.8
MTW				S	Sn	03 36 12.1	+0.4
OGWZ	**Otaki Gorge**	**1.14**	**40**	P	Pb	03 35 56.4	-0.4
OGWZ				S	Sb	03 36 11.1	-0.4
TRWZ	**Traveller**	**1.15**	**75**	P	Pb	03 35 55.6	-1.3
HOWZ	**Holdsworth Sta**	**1.27**	**51**	P	Pn	03 35 58.3	-0.4
TMWZ	**Te Maipa**	**1.40**	**66**	P	Pn	03 35 59.0	-1.4
MRZ	**Mangatainoka R**	**1.47**	**45**	P	Pn	03 36 00.9	-0.4
MRZ				S	Sb	03 36 21.2	+0.4
CPWZ	**Castlepoint**	**1.70**	**63**	P	Pn	03 36 03.7	-0.7
PRWZ	**Pori Road**	**1.76**	**50**	P	Pn	03 36 00.0	-0.3
POWZ	**Post Office Ro**	**1.76**	**43**	P	Pn	03 36 05.2	-0.1
BFZ	**Birch Farm**	**1.85**	**57**	P	Pn	03 36 05.6	-0.9
WAZ	**Wanganui**	**2.03**	**17**	P	Pb	03 36 12.8	+0.9
DVHZ	**Dannevirke**	**2.04**	**47**	P	Pb	03 36 13.0	+0.9
TSZ	**Takapari Road**	**2.11**	**40**	P	Pn	03 36 10.0	-0.2
PNHZ	**Pukenui**	**2.34**	**41**	P	Pn	03 36 13.0	-0.4
MOVZ	**Moawhango**	**2.58**	**28**	P	Pb	03 36 20.2	-1.0
WNVZ	**Wahianoa**	**2.60**	**25**	P	Pn	03 36 18.8	+1.8
VRZ	**Vera Road**	**2.60**	**10**	P	Pb	03 36 20.0	-1.7

*IDC **15** 04:04:41.7±2.7, 41°.71S×173°.86E, h0km, mb3.8/2, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=53.5km s-min=37.9km az=107.0*

*NEIC **15** 04:04:42.9±1.6, 41°.89S±0°.03×174°.23E±0°.02, h10km±1km, mb4.5/6, Error ellipse: s-maj=4.9km s-min=3.0km az=350.0*

*WEL **15** 04:04:43.3±0.4, 42°S±3°×17°4E±°, h11km±3km, M4.3/25, ML4.6/25, MLv4.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=164.0*

*NOU **15** 04:04:43.2, 41°.96S×174°.38E, h11km, MLv4.7/14, Cook Strait, New Zealand*

ISC 15 04:04:42.6±1.0, 41°.88S±0°.02×174°.28E±0°.02, h14km±6km, n164, σ1°39/187, mb4.3/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**341**	P	**Pg**	**04 04 46.8**	**+0.5**
CMWZ				Sg	**Sb**	04 04 50.0	+0.2
CMWZ	**Cape Campbell**	**0.14**	**341**	P	**Pb**	**04 04 47.0**	**+0.1**
CMWZ				S	**Sb**	04 04 49.9	+0.2
BSWZ	**Blackbirch Sta**	**0.34**	**299**		**Pg**	**04 04 49.8**	**+0.2**
BSWZ				Sg	**Sb**	04 04 55.1	-0.6
BSWZ	**Blackbirch Sta**	**0.34**	**299**	P	**Pg**	**04 04 49.8**	**+0.2**
TUWZ	**Tuamarina**	**0.52**	**331**		**Pg**	04 04 52.5	-0.2
TUWZ				Sg	**Sg**	04 04 59.0	-0.6
TUWZ	**Tuamarina**	**0.52**	**331**	P	**Pg**	04 04 52.5	-0.2
TUWZ				S	**Sg**	04 04 58.8	-0.8
SNZO	**South Karori**	**0.65**	**30**		**Pg**	04 04 56.0	+0.6
SNZO				Sg	**Sb**	04 05 05.4	+0.8
SNZO	**South Karori**	**0.65**	**30**	P	**Pg**	04 04 55.9	+0.6
TCW	**Tory Channel**	**0.67**	**0**	Pg	**Pg**	04 04 55.2	-0.4
TCW	**Tory Channel**	**0.67**	**0**	P	**Pg**	04 04 55.2	-0.4
TCW				S	**Sg**	04 05 04.0	-0.5
WEL	**Wellington**	**0.70**	**32**	P	**Pg**	04 04 56.8	+0.6
WEL				S	**Sn**	04 05 08.3	-0.3
KHZ	**Kahutara**	**0.77**	**225**	Pn	**Pn**	**04 04 59.8**	**+0.9**
KHZ	**Kahutara**	**0.77**	**225**	P	**Pn**	04 04 59.8	+0.9
KHZ	**Kahutara**	**0.77**	**225**	P	**Pn**	04 04 59.8	+0.9
KHZ				S	**Sn**	04 05 12.1	+1.9
PLWZ	**Palliser**	**0.80**	**67**	Pg	**Pg**	04 04 59.3	+1.3
PLWZ	**Palliser**	**0.80**	**67**	P	**Pg**	04 04 59.3	+1.3
PLWZ				S	**Sn**	04 05 11.8	+0.7
MSWZ	**Moikau Station**	**0.86**	**58**	Pg	**Pg**	04 05 00.3	+1.0
MSWZ	**Moikau Station**	**0.86**	**58**	P	**Pg**	04 05 00.3	+1.0
MSWZ				S	**Sn**	04 05 13.5	+0.9
NNZ	**Nelson**	**0.94**	**314**		**Pb**	04 05 00.2	-0.4
NNZ	**Nelson**	**0.94**	**314**	P	**Pb**	04 05 00.1	-0.5
NNZ				S	**Sb**	04 05 12.0	-1.0
CAW	**Cannon Point**	**0.97**	**38**	P	**Pb**	04 05 01.7	+0.5
CAW				S	**Sg**	04 05 15.5	+1.4
PAWZ	**Paruwai Farm**	**1.00**	**60**	P	**Pb**	04 05 01.9	+0.4
PAWZ				S	**Sg**	04 05 16.2	+1.3
THZ	**Tophouse**	**1.03**	**276**	Pn	**Pn**	04 05 02.8	+0.2
THZ	**Tophouse**	**1.03**	**276**	P	**Pn**	04 05 02.6	0.0
DUWZ	**D'Urville Isla**	**1.11**	**346**	P	**Pb**	04 05 02.8	-0.7
DUWZ				S	**Sb**	04 05 16.8	-1.0
KIW	**Kapiti Island**	**1.12**	**25**	P	**Pn**	04 05 03.7	-0.1
KIW				S	**Sn**	04 05 19.3	+0.3
TRWZ	**Traveller**	**1.16**	**66**	P	**Pn**	04 05 04.0	-0.4
MTW	**Mount Morrison**	**1.17**	**52**	P	**Pn**	04 05 04.2	-0.3
MTW				S	**Sb**	04 05 20.4	+0.9
MRNZ	**Matariki Terra**	**1.23**	**292**	P	**Pb**	04 05 05.8	+0.2
MRNZ				S	**Sg**	04 05 22.7	+0.3
OGWZ	**Otaki Gorge**	**1.26**	**33**	P	**Pn**	04 05 05.7	+0.1
OGWZ				S	**Sb**	04 05 22.1	0.0
TKNZ	**Takaka Hill**	**1.30**	**310**	P	**Pn**	04 05 06.3	0.0
TKNZ				S	**Sn**	04 05 23.3	-0.2
HOWZ	**Holdsworth Sta**	**1.35**	**44**	P	**Pn**	04 05 06.7	-0.3
HOWZ				S	**Sn**	04 05 24.3	-0.5
GVZ	**Greta Valley S**	**1.42**	**220**		**Pb**	04 05 08.7	-0.2
GVZ	**Greta Valley S**	**1.42**	**220**	P	**Pb**	04 05 08.7	-0.1
TMWZ	**Te Maipa**	**1.44**	**58**	P	**Pn**	04 05 07.6	-0.6
MRZ	**Mangatainoka R**	**1.56**	**39**		**Pn**	04 05 09.7	-0.2
MRZ	**Mangatainoka R**	**1.56**	**39**	P	**Pn**	04 05 09.7	-0.2
TIWZ	**Tintock**	**1.64**	**48**	P	**Pn**	04 05 10.7	-0.2
QRZ	**Quartz Range**	**1.69**	**308**	Pn	**Pb**	04 05 12.4	-0.8
QRZ	**Quartz Range**	**1.69**	**308**	P	**Pb**	04 05 12.7	-0.6
QRZ	**Quartz Range**	**1.69**	**308**	P	**Pb**	04 05 12.6	-0.7
LTZ	**Lake Taylor**	**1.74**	**238**		**Pn**	04 05 12.9	+0.6
LTZ	**Lake Taylor**	**1.74**	**238**	P	**Pb**	04 05 13.0	-1.2
CPWZ	**Castlepoint**	**1.74**	**57**	P	**Pn**	04 05 11.9	-0.5
AMCZ	**Amberley**	**1.77**	**222**	P	**Pb**	04 05 14.4	-0.3
PRWZ	**Pori Road**	**1.84**	**45**	P	**Pn**	04 05 13.1	-0.6
OHWZ	**Ohakea**	**1.85**	**26**	P	**Pn**	04 05 15.0	+1.2
DSZ	**Denniston Nort**	**1.85**	**273**	Pn	**Pn**	04 05 14.4	+0.5
DSZ	**Denniston Nort**	**1.85**	**273**	P	**Pb**	04 05 15.4	-0.8
POWZ	**Post Office Ro**	**1.87**	**38**	P	**Pn**	04 05 13.7	-0.3
BFZ	**Birch Farm**	**1.91**	**52**		**Pb**	04 05 17.1	0.0
BFZ	**Birch Farm**	**1.91**	**52**	P	**Pn**	04 05 15.1	+0.5
BFZ	**Birch Farm**	**1.91**	**52**	P	**Pn**	04 05 13.4	-1.2
OKCZ	**Okains Bay**	**2.05**	**205**	P	**Pn**	04 05 16.5	0.0
DVHZ	**Dannevirke**	**2.13**	**43**	P	**Pn**	04 05 16.6	-1.0
MQZ	**McQueen's Vall**	**2.18**	**213**		**Pn**	04 05 17.7	-0.7
MQZ	**McQueen's Vall**	**2.18**	**213**	P	**Pn**	04 05 17.6	-0.8
ANWZ	**Angora Road**	**2.18**	**50**	P	**Pn**	04 05 17.2	-1.1
WAZ	**Wanganui**	**2.19**	**14**	P	**Pn**	04 05 20.2	+1.7
OXZ	**Oxford**	**2.19**	**228**		**Pn**	04 05 18.4	-0.2
OXZ	**Oxford**	**2.19**	**228**	P	**Pn**	04 05 18.2	-0.4
TSZ	**Takapari Road**	**2.22**	**36**	P	**Pn**	04 05 18.3	-0.7
AKCZ	**Akaroa Harbour**	**2.23**	**206**	P	**Pn**	04 05 18.8	-0.2
INZ	**Inchbonnie**	**2.26**	**247**	P	**Pn**	04 05 20.8	+1.3
PRHZ	**Porangahau**	**2.40**	**49**	P	**Pn**	04 05 20.2	-1.2
LREZ	**Lake Rotokare**	**2.42**	**2**	P	**Pb**	04 05 24.1	-1.7
RACZ	**Rakaia**	**2.42**	**220**	P	**Pn**	04 05 21.1	-0.6
PNHZ	**Pukenui**	**2.45**	**37**	P	**Pn**	04 05 21.2	-0.9
NMEZ	**Namu Road**	**2.48**	**353**	P	**Pb**	04 05 25.4	-1.4
KHEZ	**Kahui Hut**	**2.59**	**356**	P	**Pb**	04 05 27.7	-1.1
KHEZ	**Kahui Hut**	**2.59**	**356**	P	**Pb**	04 05 26.9	-1.9
NEZ	**North Egmont**	**2.61**	**357**	P	**Pb**	04 05 27.6	-1.5
NBEZ	**Newall Road No**	**2.63**	**353**	P	**Pn**	04 05 26.9	+2.4
MTVZ	**Mangateitei**	**2.65**	**20**	P	**Pb**	04 05 29.6	-0.3
DREZ	**Durham Road**	**2.69**	**359**	P	**Pn**	04 05 28.1	+2.8
PKE	**Pukeiti**	**2.69**	**355**	P	**Pn**	04 05 27.8	+2.3
PXZ	**Pawanui**	**2.69**	**48**	P	**Pn**	04 05 23.6	-1.8
PKVZ	**Pokaka**	**2.71**	**18**	P	**Pb**	04 05 29.2	-1.6
MOVZ	**Moawhango**	**2.71**	**25**	P	**

TORD Torodi Ar. Bea 150.65 195 PKPbc **PKiKP 04 24 35.9 +0.8**
comp=Z,0.4nm,0.7s,baz=157,slow=2.6,SNR=2.5

WEL ***15*** *04:12:00.42˝.56S×174˚.01E, h9km, ML4.8, Mw4.8, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁶ Nm; Mrr1.42; Mθθ-0.64; Mϕϕ-0.78; Mrθ0.53; Mrϕ-1.47; Mθϕ0.48; Fault plane solution: M₀1.94000×10¹⁶ NP1: ϕ₁219.00000°, δ34.00000°, λ84.00000°. NP2: ϕ₂47.00000°, δ56.00000°, λ94.00000°. Principal axes: T -2320.6800, Plg78.0000°, Azm333.0000°; N 757.1500, Plg4.0000°, Azm224.0000°; P 1563.5300, Plg11.0000°, Azm134.0000°;*

BJI ***15*** *04:12:43.3±0.0, 42˝.34S×174˚.32E, h11km, mb5.4/12, mB5.7/5, Ms4.9/1, Ms7 4.4/2*

NEIC ***15*** *04:12:44.7±1.3, 42˝.57S±0˝.02×173˚.97E±0˝.04, h10km±1km, mb5.1/34, Mwr4.8/32, Error ellipse: s-maj=5.7km s-min=3.3km az=113.0*

MOS ***15*** *04:12:45.1±1.1, 42˝.24S×173˚.75E, h10km, mb5.0/20, Error ellipse: s-maj=24.6km s-min=13.5km az=134.5*

WEL ***15*** *04:12:45.4±0.5, 43˚S±2˝×17˚4E±˚, h15km±4km, M4.9/22, ML5.1/22, MLv4.9/22, Error ellipse: s-maj=0.0km s-min=0.0km az=127.2*

NEIC ***15*** *04:12:45.1, 42˝.56S×173˚.95E, h11km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.75; Mθθ-1.10; Mϕϕ-0.65; Mrθ0.96; Mrϕ-1.16; Mθϕ0.64; Fault plane solution: M₀2.25000×10¹⁶ NP1:ϕ₁226.14000°, δ29.60000°, λ83.12000°. NP2:ϕ₂54.04000°, δ60.63000°, λ93.89000°. Principal axes: T 2.0820, Plg74.0000°, Azm334.0000°; N 0.3003, Plg3.0000°, Azm232.0000°; P -2.3824, Plg16.0000°, Azm141.0000°;*

NOU ***15*** *04:12:45.5, 42˝.70S×174˚.22E, h18km, mb5.0/60, Off E. Coast of S. Island, N.Z.*

GCMT ***15*** *04:12:47.7±0.4, 42˝.72S±0˝.03×173˚.95E±0˝.04, h22km±1km, MW4.9/67, Moment Tensor Solution. s23,c26; s67,c80; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.34±.20; Mθθ-0.98±.12; Mϕϕ-1.36±.13; Mrθ1.44±.17; Mrϕ-0.95±.06; Mθϕ0.67±.17; Best double couple: M₀2.73500×10¹⁶ NP1:ϕ₁53.00000°, δ63.00000°, λ101.00000°. NP2: ϕ₂209.00000°, δ30.00000°, λ69.00000°. Principal axes: T 2.8990, Plg70.0000°, Azm347.0000°; N -0.3320, Plg10.0000°, Azm228.0000°; P -2.5710, Plg17.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***15*** *04:12:48.8±4.6, 42˝.23S×173˚.99E, h30km±30km, mb4.6/10, mbtmp4.8/10, MS4.0/27 Error ellipse: s-maj=32.4km s-min=20.4km az=58.0*

ISC 15 04:12:45.3±1.1, 42˚56S±0˚02×173˚99E±0˚03, h12km±6km, n349, σ1s30/343, mb5.1/46, MS4.0/28, 7C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KHZ	**Kahutara**	**0.36**	**293**	Pg	**Pg**		**04 12 51.8**	**-0.8**
KHZ				Sg	**Sg**		**04 12 55.7**	**-1.8**
KHZ	**Kahutara**	**0.36**	**293**	P	**Pg**		**04 12 51.9**	**-0.7**
KHZ				S	**Sg**		**04 12 56.8**	**-0.6**
GVZ	**Greta Valley S**	**0.81**	**240**		**Pn**		**04 13 02.5**	**-0.1**
GVZ					**Sn**		**04 13 14.5**	**-0.1**
GVZ	**Greta Valley S**	**0.81**	**240**	P	**Pn**		**04 13 02.5**	**-0.1**
GVZ				S	**Sn**		**04 13 15.3**	**+0.7**
CMWZ	**Cape Campbell**	**0.83**	**12**	Pg	**Pb**		**04 13 02.3**	**+0.7**
CMWZ					**Sn**		**04 13 15.6**	**+0.8**
CMWZ	**Cape Campbell**	**0.83**	**12**	P	**Pn**		**04 13 03.4**	**+0.6**
CMWZ				S	**Sn**		**04 13 15.4**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.85**	**354**	Pg	**Pb**		**04 13 01.8**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.85**	**354**	P	**Pb**		**04 13 02.1**	**+0.1**
BSWZ				S	**Sn**		**04 13 14.9**	**-0.5**
TUWZ	**Tuamarina**	**1.13**	**358**		**Pb**		**04 13 06.3**	**-0.4**
TUWZ	**Tuamarina**	**1.13**	**358**	P	**Pb**		**04 13 06.7**	**-0.1**
TUWZ				S	**Sg**		**04 13 22.3**	**+0.5**
THZ	**Tophouse**	**1.14**	**314**		**Pb**		**04 13 05.9**	**-1.0**
THZ	**Tophouse**	**1.14**	**314**	P	**Pb**		**04 13 06.1**	**-0.8**
THZ				S	**Sb**		**04 13 21.0**	**-0.6**
AMCZ	**Amberley**	**1.16**	**238**	Pn	**Pn**		**04 13 06.9**	**-0.5**
LTZ	**Lake Taylor**	**1.29**	**260**	Pn	**Pn**		**04 13 08.7**	**-0.5**
LTZ	**Lake Taylor**	**1.29**	**260**	P	**Pn**		**04 13 08.8**	**-0.3**
LTZ				S	**Sb**		**04 13 25.3**	**-0.7**
OKCZ	**Okains Bay**	**1.35**	**210**	P	**Pb**		**04 13 10.8**	**+0.3**
OKCZ				S	**Sg**		**04 13 28.8**	**+0.1**
SNZO	**South Karori**	**1.36**	**23**	Pn	**Pn**		**04 13 09.8**	**-0.2**
PLWZ	**Palliser**	**1.37**	**44**	Pn	**Pn**		**04 13 09.6**	**-0.6**
PLWZ	**Palliser**	**1.37**	**44**	P	**Pn**		**04 13 10.1**	**-0.1**
PLWZ				S	**Sn**		**04 13 28.1**	**-0.1**
TCW	**Tory Channel**	**1.37**	**9**	Pn	**Pn**		**04 13 09.2**	**-0.9**
TCW	**Tory Channel**	**1.37**	**9**	P	**Pn**		**04 13 09.7**	**-0.5**
TCW				S	**Sn**		**04 13 26.7**	**-1.4**
WEL	**Wellington**	**1.40**	**25**	P	**Pn**		**04 13 10.6**	**0.0**
WEL				S	**Sn**		**04 13 28.8**	**-0.2**
NNZ	**Nelson**	**1.42**	**341**	Pn	**Pn**		**04 13 10.0**	**-0.8**
NNZ	**Nelson**	**1.42**	**341**	P	**Pn**		**04 13 10.3**	**-0.5**
MSWZ	**Moikau Station**	**1.48**	**40**	Pn	**Pn**		**04 13 11.3**	**-0.4**
MSWZ	**Moikau Station**	**1.48**	**40**	P	**Pn**		**04 13 11.5**	**-0.2**
MSWZ				S	**Sn**		**04 13 29.8**	**-1.1**
MRNZ	**Matariki Terra**	**1.48**	**321**	Pn	**Pn**		**04 13 11.4**	**-0.4**
MRNZ	**Matariki Terra**	**1.48**	**321**	P	**Pn**		**04 13 11.9**	**+0.1**
MRNZ				S	**Sn**		**04 13 30.7**	**-0.3**
MQZ	**McQueen's Vall**	**1.51**	**220**	Pn	**Pn**		**04 13 11.6**	**-0.5**
MQZ	**McQueen's Vall**	**1.51**	**220**	P	**Pn**		**04 13 11.9**	**-0.2**
MQZ				S	**Sn**		**04 13 30.9**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.53**	**211**	P	**Pn**		**04 13 13.0**	**+0.6**
AKCZ				S	**Sb**		**04 13 33.5**	**+0.5**
PAWZ	**Paruwai Farm**	**1.59**	**43**	P	**Pn**		**04 13 12.9**	**-0.3**
PAWZ				S	**Sn**		**04 13 33.1**	**-0.7**
OXZ	**Oxford**	**1.63**	**241**		**Pn**		**04 13 13.1**	**-0.6**
OXZ	**Oxford**	**1.63**	**241**	P	**Pn**		**04 13 13.2**	**-0.6**
OXZ				S	**Sn**		**04 13 33.5**	**-1.1**
CAW	**Cannon Point**	**1.66**	**29**	P	**Pn**		**04 13 14.1**	**-0.1**
TKNZ	**Takaka Hill**	**1.71**	**333**	Pn	**Pn**		**04 13 14.9**	**0.0**
TKNZ	**Takaka Hill**	**1.71**	**333**	P	**Pn**		**04 13 15.0**	**+0.1**
TKNZ				S	**Sb**		**04 13 38.0**	**-0.1**
TRWZ	**Traveller**	**1.72**	**48**	P	**Pn**		**04 13 14.9**	**-0.1**
TRWZ				S	**Sn**		**04 13 36.6**	**-0.3**
DUWZ	**D'Urville Isla**	**1.76**	**358**	P	**Pn**		**04 13 15.7**	**+0.1**
RACZ	**Rakaia**	**1.79**	**229**	P	**Pn**		**04 13 15.9**	**0.0**
MTW	**Mount Morrison**	**1.80**	**39**	P	**Pn**		**04 13 15.6**	**-0.5**
DSZ	**Denniston Nort**	**1.82**	**296**	Pn	**Pn**		**04 13 15.8**	**-0.6**
DSZ	**Denniston Nort**	**1.82**	**296**	P	**Pn**		**04 13 16.2**	**-0.2**
KIW	**Kapiti Island**	**1.83**	**22**	P	**Pn**		**04 13 16.6**	**0.0**
INZ	**Inchbonnie**	**1.89**	**264**	P	**Pn**		**04 13 17.0**	**-0.3**
OGWZ	**Otaki Gorge**	**1.95**	**27**	P	**Pn**		**04 13 18.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**2.02**	**35**	P	**Pn**		**04 13 18.8**	**-0.3**
TMWZ	**Te Maipa**	**2.03**	**45**	P	**Pn**		**04 13 18.8**	**-0.5**
QRZ	**Quartz Range**	**2.05**	**327**	Pn	**Pn**		**04 13 19.8**	**+0.2**
QRZ	**Quartz Range**	**2.05**	**327**	P	**Pn**		**04 13 20.0**	**+0.4**
WACZ	**Wakanui South**	**2.09**	**228**	P	**Pn**		**04 13 20.2**	**+0.1**
MRZ	**Mangatainoka R**	**2.24**	**33**		**Pn**		**04 13 21.3**	**-0.8**
MRZ	**Mangatainoka R**	**2.24**	**33**	P	**Pn**		**04 13 21.6**	**-0.5**
RPZ	**Rata Peaks**	**2.44**	**241**	Pn	**Pn**		**04 13 24.3**	**-0.6**
	161nm,0.3s,baz=97,slow=2.5,SNR=265							
RPZ					**Sn**		**04 13 53.2**	**-1.5**
	95nm,0.3s,baz=161,slow=24,SNR=18							
RPZ					LR		LR	04 14 15.9
	comp=Z,778nm,19.8s,baz=333,slow=33							
RPZ	**Rata Peaks**	**2.44**	**241**	P	**Pn**		**04 13 24.4**	**-0.6**
WVZ	**Waitaha Valley**	**2.45**	**257**	P	**Pn**		**04 13 25.0**	**0.0**
ARCZ	**Arundel**	**2.48**	**235**	P	**Pn**		**04 13 25.1**	**-0.4**
PRWZ	**Pori Road**	**2.50**	**37**	P	**Pn**		**04 13 25.1**	**-0.5**
BFZ	**Birch Farm**	**2.53**	**43**	Pn	**Pn**		**04 13 25.3**	**-0.8**
BFZ	**Birch Farm**	**2.53**	**43**	P	**Pn**		**04 13 25.6**	**-0.5**
BFZ	**Birch Farm**	**2.53**	**43**	P	**Pn**		**04 13 25.2**	**-0.9**
POWZ	**Post Office Ro**	**2.54**	**32**	P	**Pn**		**04 13 25.8**	**-0.6**
OHWZ	**Ohakea**	**2.56**	**23**	P	**Pn**		**04 13 27.6**	**+1.1**
DVHZ	**Dannevirke**	**2.79**	**37**	P	**Pn**		**04 13 28.5**	**-1.2**
GCSZ	**Gaunt Creek Bo**	**2.79**	**253**	P	**Pn**		**04 13 30.0**	**+0.3**
ANWZ	**Angora Road**	**2.81**	**42**	P	**Pn**		**04 13 28.9**	**-1.0**
TMZ	**Timaru**	**2.84**	**229**	P	**Pn**		**04 13 30.6**	**+0.2**
WAZ	**Wanganui**	**2.90**	**15**	P	**Pn**		**04 13 32.8**	**+1.5**
TSZ	**Takapari Road**	**2.91**	**31**	P	**Pn**		**04 13 30.5**	**-0.9**
WPHZ	**Waipukurau**	**3.10**	**37**	P	**Pn**		**04 13 33.4**	**-0.7**
LREZ	**Lake Rotokare**	**3.11**	**6**	P	**Pn**		**04 13 36.4**	**+2.2**
PNHZ	**Pukenui**	**3.12**	**33**	P	**Pn**		**04 13 33.3**	**-1.1**
FOZ	**Fox Glacier**	**3.21**	**251**	Pn	**Pn**		**04 13 35.3**	**-0.2**
FOZ	**Fox Glacier**	**3.21**	**251**	P	**Pn**		**04 13 35.7**	**+0.2**
KHEZ	**Kahui Hut**	**3.26**	**0**	P	**Pn**		**04 13 39.9**	**+3.6**
KHEZ	**Kahui Hut**	**3.26**	**0**	P	**Pn**		**04 13 38.9**	**+2.5**
NEZ	**North Egmont**	**3.29**	**1**	P	**Pn**		**04 13 40.1**	**+3.4**
NBEZ	**Newall Road No**	**3.29**	**358**	P	**Pn**		**04 13 38.8**	**+2.2**
LBZ	**Lake Benmore**	**3.32**	**235**	Pn	**Pn**		**04 13 36.5**	**-0.5**
LBZ	**Lake Benmore**	**3.32**	**235**	P	**Pn**		**04 13 36.8**	**-0.2**
PXZ	**Pawanui**	**3.33**	**41**	P	**Pn**		**04 13 35.5**	**-1.6**
PKE	**Pukeiti**	**3.36**	**360**	P	**Pn**		**04 13 39.8**	**+2.1**
MOVZ	**Moawhango**	**3.42**	**24**	P	**Pn**		**04 13 38.2**	**-0.3**
PKVZ	**Pokaka**	**3.43**	**18**	P	**Pn**		**04 13 39.7**	**+1.2**
BHHZ	**Black Hill Sta**	**3.44**	**28**	P	**Pn**		**04 13 38.4**	**-0.4**
ODZ	**Otahua Downs**	**3.47**	**223**	Pn	**Pn**		**04 13 38.8**	**-0.2**
ODZ	**Otahua Downs**	**3.47**	**223**	P	**Pn**		**04 13 39.0**	**-0.1**
MHEZ	**Mangahewa**	**3.49**	**4**	P	**Pn**		**04 13 42.9**	**+3.6**
WHVZ	**Whangaehu Hut**	**3.49**	**21**	P	**Pn**		**04 13 40.3**	**+0.7**
FWVZ	**Far West T-bar**	**3.51**	**20**	P	**Pn**		**04 13 41.4**	**+1.6**
KAHZ	**Kahuranaki**	**3.52**	**39**	P	**Pn**		**04 13 38.5**	**-1.3**
TUVZ	**Tukino**	**3.52**	**21**	P	**Pn**		**04 13 40.9**	**+1.0**
KWHZ	**Kaweka Forest**	**3.63**	**31**	P	**Pn**		**04 13 40.3**	**-1.1**
TMVZ	**Te Maari**	**3.68**	**21**	P	**Pn**		**04 13 42.6**	**+0.6**
NTVZ	**North Tongarir**	**3.69**	**21**	P	**Pn**		**04 13 42.8**	**+0.6**
BKZ	**Black Stump Fm**	**3.89**	**30**		**Pn**		**04 13 44.7**	**-0.2**
BKZ	**Black Stump Fm**	**3.89**	**30**	P	**Pn**		**04 13 44.5**	**-0.3**
JCZ	**Jackson Bay**	**4.09**	**247**	P	**Pn**		**04 13 47.7**	**0.0**
HIZ	**Hauiti**	**4.10**	**10**	Pn	**Pn**		**04 13 48.2**	**+0.5**
HIZ	**Hauiti**	**4.10**	**10**	P	**Pn**		**04 13 48.9**	**+1.2**
WKZ	**Wanaka**	**4.26**	**236**	Pn	**Pn**		**04 13 49.7**	**-0.3**
URZ	**Urewera**	**4.91**	**30**	P	**Pn**		**04 13 57.5**	**-1.4**
MLZ	**Mavora Lakes**	**5.08**	**235**		**Pn**		**04 14 00.9**	**-0.3**
SYZ	**Scrubby Hill**	**5.28**	**219**	P	**Pn**		**04 14 04.4**	**+0.6**
WHZ	**Wether Hill Ro**	**5.47**	**230**	Pn	**Pn**		**04 14 06.2**	**-0.3**
DCZ	**Deep Cove**	**5.72**	**237**	Pn	**Pn**		**04 14 09.1**	**-0.9**
KUZ	**Kuautunu**	**5.96**	**13**	P	**Pn**		**04 14 13.1**	**-0.2**
PYZ	**Puysegur Point**	**6.36**	**233**	Pn	**Pn**		**04 14 18.4**	**-0.4**
CTZ	**Chatham Island**	**6.97**	**103**	P	**Pn**		**04 14 27.8**	**+0.7**
CTZ				S	**Sn**		**04 15 40.8**	**-5.4**
RAO	**Raoul Island**	**14.80**	**29**	LR	LR		04 21 56.4	
	comp=Z,760nm,20.7s,baz=199,slow=38							
CNB	**Canberra Magne**	**20.43**	**283**	P	**P**		**04 17 23.1**	**+0.6**
	baz=21							
CNB	**Canberra Magne**	**20.43**	**283**	P	Pn		04 17 24.0	-0.6
CAN	**Canberra**	**20.70**	**282**	P	**P**		**04 17 21.1**	**-4.2**
CAN	**Canberra**	**20.70**	**282**	P	Pn		04 17 26.6	-1.0
CAN	**Canberra**	**20.70**	**282**	P	**P**		**04 17 21.1**	**-4.2**
CAN				pmax	pmax			
	comp=Z,57nm,1.3s							
OUENC	**Ouen Island, N**	**20.95**	**341**	P	**P**		**04 17 26.0**	**-2.0**
OUENC	**Ouen Island, N**	**20.95**	**341**	P	Pn		04 17 29.5	-1.1
ONTNC	**Ouen Toro**	**21.16**	**340**	P	**P**		**04 17 28.3**	**-1.9**
ONTNC				IAmb	IAmb		04 17 32.5	
	comp=Z,90nm,1.4s							
ONTNC	**Ouen Toro**	**21.16**	**340**	P	**P**		**04 17 31.5**	**+1.3**
DZM	**Mont Dzumac**	**21.39**	**340**	*e*Pn	**P**		**04 17 33.1**	**+0.3**
	comp=Z,93nm,1.4s							
DZM				*e*S	**S**		**04 21 26.4**	**-3.6**
	comp=Z,459nm,24.2s							
DZM				*e*LR	LR		04 22 38.9	
	comp=Z,935nm,25.9s							
DZM	**Mont Dzumac**	**21.39**	**340**	P	**P**		**04 17 30.6**	**-2.2**
	comp=Z,15nm,1.0s,baz=138,slow=18,SNR=8.0							
DZM					LR		LR	04 25 14.6
	comp=Z,460nm,18.9s,baz=202,slow=35							
	comp=Z,15nm,1.0s							
DZM	**Mont Dzumac**	**21.39**	**340**	P	**P**		**04 17 30.8**	**-2.0**
DZM	**Mont Dzumac**	**21.39**	**340**	P	**P**		**04 17 34.1**	**+1.3**
ARMA	**Armidale**	**21.61**	**297**	P	**P**		**04 17 37.2**	**+2.0**
TOO	**Toolangi**	**22.32**	**273**	P	**P**		**04 17 42.8**	**+0.1**
	baz=22,SNR=4.2							
TOO	**Toolangi**	**22.32**	**273**	P	**P**		**04 17 45.5**	**+2.8**
TOO	**Toolangi**	**22.32**	**273**	P	**P**		**04 17 44.0**	**+1.3**
LIFNC	**LIFOU**	**22.45**	**343**	P	**P**		**04 17 42.9**	**-1.2**
LIFNC				IAmb	IAmb		04 18 01.6	
	comp=Z,131nm,1.1s							
LIFNC	**LIFOU**	**22.45**	**343**	P	**P**		**04 17 45.2**	**+1.1**
KOUNC	**Koumac, New Ca**	**23.42**	**337**	P	**P**		**04 17 55.4**	**+1.2**
BRAT	**Ballarat**	**23.48**	**272**	P	**P**		**04 17 56.8**	**+2.1**
AULRC	**Lightning Ridg**	**24.68**	**294**	P	**P**		**04 18 07.8**	**+1.8**
	comp=Z,83nm,1.5s							
MSVF	**Nonsavu**	**24.99**	**9**	P	**P**		**04 18 10.7**	**+1.8**
	comp=Z,8.9nm,0.8s,baz=164,slow=13,SNR=3.4							
MSVF					LR		LR	04 27 11.5
	comp=Z,780nm,18.4s,baz=174,slow=35							
MSVF	**Nonsavu**	**24.99**	**9**	P	**P**		**04 18 10.9**	**+2.0**
MSVF	**Nonsavu**	**24.99**	**9**	*i* P	**P**		**04 18 07.2**	**-1.7**
MSVF				pmax	pmax			
	comp=Z,27nm,1.0s							
CMSA	**Cobar Meteorol**	**25.01**	**287**	P	**P**		**04 18 09.8**	**+0.8**
ARPS	**Mount Arapiles**	**25.32**	**272**	P	**P**		**04 18 13.5**	**+1.7**
EIDS	**Eidsvold**	**25.47**	**305**	P	**P**		**04 18 13.9**	**+0.7**
	baz=26							
EIDS	**Eidsvold**	**25.47**	**305**	P	**P**		**04 18 11.6**	**-1.5**
STKA	**Stephens Creek**	**27.76**	**282**	P	**P**		**04 18 34.8**	**+1.0**
	comp=Z,6.2nm,0.9s,baz=117,slow=12,SNR=9.3							
STKA					LR		LR	04 28 12.7
	comp=Z,235nm,18.0s,baz=193,slow=33							
	comp=Z,6.2nm,0.9s							
STKA	**Stephens Creek**	**27.76**	**282**	P	**P**		**04 18 34.8**	**+1.0**
	baz=28,SNR=6.7							
STKA	**Stephens Creek**	**27.76**	**282**	P	**P**		**04 18 32.8**	**-1.1**
STKA	**Stephens Creek**	**27.76**	**282**	P	**P**		**04 18 34.8**	**+1.0**
STKA	**Stephens Creek**	**27.76**	**282**	*i* P	**P**		**04 18 33.7**	**-0.1**
QLP	**Quilpie**	**29.04**	**294**	P	**P**		**04 18 46.8**	**+1.6**
RAR	**Rarotonga**	**30.60**	**54**	LR	LR		04 30 07.0	
	comp=Z,350nm,20.3s,baz=247,slow=34							
LCRK	**Leigh Creek**	**30.97**	**281**	P	**P**		**04 19 03.2**	**+0.9**
BBOO	**Buckleboo**	**31.33**	**275**	P	**P**		**04 19 06.1**	**+0.6**
	baz=31,SNR=9.4							
BBOO	**Buckleboo**	**31.33**	**275**	P	**P**		**04 19 05.8**	**+0.3**
BBOO				IAmb	IAmb		04 19 06.9	
	comp=Z,43nm,1.1s							
BBOO	**Buckleboo**	**31.33**	**275**	P	**P**		**04 19 05.9**	**+0.4**
CTA	**Charters Tower**	**32.36**	**305**	P	**P**		**04 19 14.7**	**+0.1**
	comp=Z,10nm,1.0s,baz=137,slow=12,SNR=5.7							
CTA					LR		LR	04 30 51.9
	comp=Z,283nm,18.4s,baz=111,slow=34							
	comp=Z,10nm,1.0s							
CTA	**Charters Tower**	**32.36**	**305**	P	**P**		**04 19 15.3**	**+0.7**
CTAO	**Charters Tower**	**32.36**	**305**	P	**P**		**04 19 13.3**	**-1.3**
CTAO				IAmb	IAmb		04 19 17.8	
	comp=Z,22nm,1.1s							
CTAO	**Charters Tower**	**32.36**	**305**	P	**P**		**04 19 15.1**	**+0.5**
CTAO	**Charters Tower**	**32.36**	**305**	P	**P**		**04 19 13.3**	**-1.3**
CTAO				pmax	pmax			
	comp=Z,23nm,1.2s							
MULG	**Mulgathing**	**34.09**	**278**	P	**P**		**04 19 29.3**	**-0.3**
OOD	**Oodnadatta**	**34.29**	**283**	P	**P**		**04 19 31.8**	**+0.4**
MTSU	**Mount Surprise**	**35.02**	**305**	P	**P**		**04 19 38.3**	**+0.4**
	baz=35,SNR=11							
MTSU	**Mount Surprise**	**35.02**	**305**	P	**P**		**04 19 38.1**	**+0.3**
VNDA	**Vanda**	**35.42**	**185**	LR	LR		04 33 26.3	
	comp=Z,391nm,18.4s,baz=17,slow=35							
QIS	**Mount Isa**	**36.23**	**296**	P	**P**		**04 19 48.4**	**+0.2**
	baz=36,SNR=7.4							
QIS	**Mount Isa**	**36.23**	**296**	P	**P**		**04 19 48.8**	**+0.6**
AS01	**Alice Springs**	**38.04**	**287**	P	**P**		**04 20 03.5**	**-0.1**
AS31	**Alice Springs**	**38.07**	**287**	P	**P**		**04 20 01.6**	**-2.2**
ASAR	**Alice Springs**	**38.07**	**287**	P	**P**		**04 20 03.0**	**-0.8**
	comp=Z,10nm,1.0s,baz=120,slow=7.1,SNR=33							
ASAR				PcP	**PcP**		**04 22 18.4**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=130,slow=3.5,SNR=8.9							
ASAR				ScP	**ScP**		**04 26 04.4**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=133,slow=5.4,SNR=4.2							
ASAR					LR		LR	04 35 02.8
	comp=Z,177nm,18.3s,baz=147,slow=35							
	comp=Z,10nm,1.0s							
ASAR	**Alice Springs**	**38.07**	**287**	P	**P**		**04 20 03.0**	**-0.8**
FORT	**Forrest**	**38.24**	**273**	P	**P**		**04 20 05.7**	**+0.5**
	baz=38,SNR=6.7							
FORT	**Forrest**	**38.24**	**273**	P	**P**		**04 20 04.2**	**-1.0**
FORT				IAmb	IAmb		04 20 06.9	
	comp=Z,64nm,1.1s							
FORT	**Forrest**	**38.24**	**273**	P	**P**		**04 20 05.7**	**+0.5**
COEN	**Coen**	**38.97**	**308**	P	**P**		**04 20 09.5**	**-1.9**
COEN				IAmb	IAmb		04 20 26.8	
	comp=Z,90nm,2.0s							
PPT2	**Papeete2**	**39.70**	**62**	*e*LR	LR		04 31 07.8	
	comp=Z,212nm,22.8s							
PPT2				*e*LR	LR		04 31 08.3	
	comp=Z,228nm,21.8s							
PPT	**Papeete**	**39.72**	**62**	LR	LR		04 35 46.2	
	comp=Z,192nm,18.1s,baz=248,slow=35							
WR0	**Warramunga Arr**	**40.06**	**292**	P	**P**		**04 20 19.1**	**-1.4**
WR0				IAmb	IAmb		04 20 26.2	
	comp=Z,51nm,1.4s							
WB2	**Warramunga Arr**	**40.21**	**292**	P	**P**		**04 20 21.8**	**+0.1**
	baz=40							
WB2	**Warramunga Arr**	**40.21**	**292**	P	**P**		**04 20 21.1**	**-0.6**
WB2				IAmb	IAmb		04 20 23.5	
	comp=Z,34nm,0.8s							
WRA	**Warramunga Arr**	**40.22**	**292**	P	**P**		**04 20 21.1**	**-0.7**
	comp=Z,21nm,0.8s,baz=128,slow=8.5,SNR=66							
WRA				PcP	**PcP**		**04 22 25.1**	**-0.6**
	comp=Z,4.9nm,1.0s,baz=126,slow=3.3,SNR=7.9							
WRA				LR	LR		04 36 12.1	
	comp=Z,156nm,21.1s,baz=118,slow=35							
	comp=Z,21nm,0.8s							
WRA	**Warramunga Arr**	**40.22**	**292**	P	**P**		**04 20 21.1**	**-0.7**
WRA	**Warramunga Arr**	**40.22**	**292**	P	**P**		**04 20 21.1**	**-0.7**
WRA				pmax	pmax			
	comp=Z,3.0nm,1.4s							
WB0	**Warramunga Arr**	**40.30**	**292**	P	**P**		**04 20 21.6**	**-0.9**
WB0				IAmb	IAmb		04 20 24.2	
	comp=Z,28nm,0.8s							
PMG	**Port Moresby**	**40.54**	**317**	P	**P**		**04 20 22.7**	**-1.7**
	comp=Z,16nm,0.7s,baz=119,slow=6.0,SNR=14							
PMG					LR		LR	04 35 45.8
	comp=Z,214nm,19.7s,baz=182,slow=34							
	comp=Z,16nm,0.7s							
PMG	**Port Moresby**	**40.54**	**317**	P	**P**		**04 20 21.8**	**-2.6**
PMG				IAmb	IAmb		04 20 26.8	
	comp=Z,40nm,1.1s							
PMG	**Port Moresby**	**40.54**	**317**	P	**P**		**04 20 25.4**	**+1.0**
	comp=Z,622nmcomp=Z,38nm,1.3s							
PMG	**Port Moresby**	**40.54**	**317**	P	**P**		**04 20 25.8**	**+1.4**
PMG	**Port Moresby**	**40.54**	**317**	*ce*P	**P**		**04 20 24.7**	**+0.3**
PMG				pmax	pmax			
	comp=Z,49nm,1.1s							
WRKA	**Warakurna**	**41.26**	**280**	P	**P**		**04 20 29.4**	**-1.0**
	baz=41,SNR=26							
WRKA	**Warakurna**	**41.26**	**280**	P	**P**		**04 20 29.5**	**-0.9**
KMBL	**Kambalda**	**42.51**	**268**	P	**P**		**04 20 41.2**	**+0.7**
KRVT	**Keravat (AS076**	**42.82**	**327**	P	**P**		**04 20 42.0**	**-1.1**
	comp=Z,44nm,0.6s,baz=156,slow=16,SNR=4.0							
KRVT					LR		LR	04 35 40.9
	comp=Z,132nm,20.8s,baz=287,slow=32							
	comp=Z,44nm,0.6s							
KLBR	**Kellerberrin**	**45.44**	**265**	P	**P**		**04 21 04.4**	**+0.4**
KDU	**Kakadu**	**46.61**	**297**	P	**P**		**04 21 13.5**	**+0.2**
	baz=47,SNR=4.1							
KDU	**Kakadu**	**46.61**	**297**	P	**P**		**04 21 13.3**	**-0.1**
KNRA	**Kununurra**	**46.99**	**291**	P	**P**		**04 21 16.6**	**+0.3**
	baz=47,SNR=6.8							
KNRA	**Kununurra**	**46.99**	**291**	P	**P**		**04 21 15.1**	**-1.2**
KNRA	**Kununur

NONG	**Nongkai**	**88.69**	**296**	P		**P**		**04 25 39.8**	**+1.2**
KSRS	**Korea Array**	**90.01**	**325**	P		**P**		**04 25 44.3**	**0.0**
	comp=Z,4.1nm,1.0s,baz=136,slow=7.2,SNR=7.1								
	comp=Z,4.1nm,1.0s								
KSAR	**Wonju Array Be**	**90.02**	**325**	P		**P**		**04 25 43.8**	**-0.6**
KSAR	**Wonju Array Be**	**90.02**	**325**	P		**P**		**04 25 43.8**	**-0.6**
PHRA	**Phrae**	**90.94**	**294**	P		**P**		**04 25 46.3**	**-2.9**
CMAR	**Chiang Mai Arr**	**91.78**	**293**	P		**P**		**04 25 53.5**	**+0.5**
	comp=Z,6.5nm,0.8s,baz=154,slow=3.3,SNR=34								
CMAR				PP		**PP**		**04 29 31.9**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=149,slow=6.6,SNR=4.8								
CMAR				LR		LR		05 10 39.5	
	comp=Z,15nm,20.1s,baz=135,slow=38								
	comp=Z,6.5nm,0.8s								
CMAR	**Chiang Mai Arr**	**91.78**	**293**	P		**P**		**04 25 50.6**	**-2.5**
CMAR	**Chiang Mai Arr**	**91.78**	**293**	*i* P		**P**		**04 25 54.5**	**+1.4**
CMAR				pmax		pmax			
	comp=Z,8.0nm,0.9s								
ENH	**Enshi**	**93.61**	**309**	P		**P**		**04 26 01.8**	**+0.6**
	comp=Z,18nm,1.0s								
PZH	**PanZhiHua**	**95.58**	**301**	P		**P**		**04 26 12.5**	**+2.0**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,40nm,4.3s								
NNA	**Nana**	**95.64**	**112**	LR		LR		05 00 55.9	
	comp=Z,94nm,20.1s,baz=189,slow=30								
PETK	**Petropavlovsk-**	**96.32**	**350**	LR		LR		05 03 30.6	
	comp=Z,96nm,20.8s,baz=170,slow=32								
CN2	**Changchun**	**96.35**	**327**	*e*P		**P**		**04 26 12.0**	**-1.4**
TNCH	**TengChong**	**96.63**	**298**	P		**P**		**04 26 17.0**	**+1.6**
TNCH				sP		sP		04 26 21.1	+0.8
XAN	**Xi'an**	**96.71**	**311**	P		**P**		**04 26 16.0**	**+0.6**
XAN				sP		pwP		04 26 24.6	+5.6
XAN				pmax		pmax			
	comp=Z,6.0nm,1.3s								
CPUP	**Villa Florida**	**96.72**	**135**	LR		LR		05 03 01.0	
	comp=Z,82nm,20.8s,baz=210,slow=31								
KLR	**Kul'dur**	**98.65**	**334**	LR		LR		05 09 08.6	
	comp=Z,44nm,19.3s,baz=148,slow=34								
KLR	**Kul'dur**	**98.65**	**334**	*i* P		Pdif		04 26 25.3	+1.7
KLR				pmax		pmax			
	comp=Z,2.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**100.35**	**317**	*e*P		**Pdif**		**04 26 32.4**	**+0.8**
HHC				pmax		pmax			
	comp=Z,33nm,0.8s								
HHC				pmax		pmax			
	comp=Z,57nm,4.1s								
LZH	**Lanzhou**	**101.07**	**309**	⇓P		**Pdif**		**04 26 43.3**	**+8.3**
LZH				pP		pwP		04 26 50.6	+12
LZH				pmax		pmax			
	comp=Z,13nm,1.4s								
ILAR	**Eielson Array**	**111.30**	**17**	PKiKP		**PKiKP**		**04 31 18.6**	**+0.8**
	comp=Z,2.3nm,1.1s,baz=238,slow=4.7,SNR=7.4								
COLD	**Coldfoot**	**112.80**	**14**	P		**PKiKP**		**04 31 23.1**	**+2.4**
	baz=208								
F24K	**Squaw Lake**	**113.49**	**15**	P		**PKiKP**		**04 31 23.9**	**+1.9**
	baz=210								
E23K	**Chandalar**	**113.64**	**14**	P		**PKiKP**		**04 31 24.2**	**+1.9**
	baz=209								
F25K	**Christian Rive**	**113.99**	**16**	P		**PKiKP**		**04 31 25.3**	**+2.3**
	baz=212								
F26K	**Sheenjek River**	**114.38**	**16**	P		**PKiKP**		**04 31 25.6**	**+1.9**
	baz=213								
WMQ	**Urumqi**	**115.50**	**307**	*e*PKP		**PKiKP**		**04 31 27.4**	**+0.8**
WMQ				LR		LR			
	comp=Z,49nm,18.7s								
G30M	**tAoh Zraii Nji**	**115.59**	**19**	P		**PKiKP**		**04 31 27.2**	**+1.2**
	baz=219								
C27K	**Jago River**	**116.09**	**15**	P		**PKiKP**		**04 31 28.5**	**+1.6**
	baz=214								
C26K	**Camden Bay**	**116.11**	**15**	P		**PKiKP**		**04 31 28.6**	**+1.8**
	baz=213								
INK	**Inuvik**	**117.28**	**19**	P		**PKiKP**		**04 31 30.4**	**+1.2**
	baz=221								
TIXI	**Tiksi**	**118.30**	**345**	*i* PKiKP		**PKPdf**		**04 31 30.5**	**-0.5**
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.0s								
DGZ	**Jazzator, Alta**	**118.93**	**312**	*i* PKiKP		**PKPdf**		**04 31 31.3**	**-1.9**
DGZ				pmax		pmax			
	comp=Z,3.0nm,1.1s								
YKA	**Yellowknife Ar**	**119.17**	**30**	PKP		**PKPdf**		**04 31 32.7**	**-0.3**
	comp=Z,4.9nm,1.1s,baz=252,slow=1.2,SNR=4.4								
MKAR	**Makanchi Array**	**120.31**	**307**	PKP		**PKPdf**		**04 31 34.8**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=108,slow=2.7,SNR=18								
C36M	**Paulatuk**	**120.45**	**21**	P		**PKiKP**		**04 31 36.0**	**+0.7**
	baz=229								
A36M	**Sachs Harbour**	**121.88**	**19**	P		**PKiKP**		**04 31 38.8**	**+0.7**
	baz=229								
ZALV	**Zalesovo Beam**	**122.50**	**316**	PKP		**PKPdf**		**04 31 38.4**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=132,slow=2.2,SNR=6.0								
AAK	**Ala-Archa**	**123.01**	**300**	*i* PKiKP		**PKPdf**		**04 31 41.3**	**0.0**
AAK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KURK	**Kurchatov**	**124.34**	**310***c*	*i* PKiKP		**PKPdf**		**04 31 42.9**	**-0.4**
KURK				pmax		pmax			
	comp=Z,12nm,1.3s								
NRIK	**Noril'sk**	**127.86**	**333**	*i* PKiKP		**PKPdf**		**04 31 49.0**	**-0.5**
NRIK				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BRVK	**Borovoye**	**130.01**	**310***c*	*i* PKiKP		**PKPdf**		**04 31 54.3**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,8.0nm,1.3s								
GEYT	**Alibeck**	**131.87**	**287**	PKP		**PKPdf**		**04 31 57.0**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=200,slow=7.5,SNR=3.7								
ARU	**Arti**	**137.44**	**312**	*i* PKiKP		**PKPdf**		**04 32 08.5**	**+0.6**
ARU								04 34 52.1	
KIRV	**Kirov**	**142.53**	**315***c*	*i* PKiKP		**PKPdf**		**04 32 17.4**	**+0.4**
ZEI	**Tsey**	**143.74**	**288**	*i* PKiKP		PKPbc		04 32 18.1	+0.5
ZEI				pmax		pmax			
	comp=Z,7.0nm,1.4s								
NEY	**Neytrino**	**144.70**	**288**	*i* PKiKP		**PKPdf**		**04 32 21.3**	**-0.3**
NEY				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KBZ	**Khabaz**	**144.71**	**289**	PKP		PKPbc		04 32 20.6	+0.3
	comp=Z,19nm,1.0s,baz=116,slow=1.7,SNR=22								
KBZ	**Khabaz**	**144.71**	**289**	*i* PKiKP		PKPbc		04 32 20.7	+0.4
KBZ				pmax		pmax			
	comp=Z,28nm,1.0s								
SHA1	**Shidzhatmaz**	**144.88**	**289**	*i* PKiKP		**PKPab**		**04 32 20.6**	**-0.5**
KIV	**Kislovodsk**	**144.92**	**289**	*e*PKiKP		**PKPdf**		**04 32 23.2**	**+1.3**
KIV				pmax		pmax			
	comp=Z,14nm,1.1s								
GOF	**Gofitskoye**	**144.94**	**291**⇑	*e*PKiKP		**PKPdf**		**04 32 21.6**	**-0.1**
GOF				pmax		pmax			
	comp=Z,259nm,1.4s								
DAG	**Danmarks Havn**	**145.27**	**5**	*i* P		**PKPbc**		**04 32 20.0**	**-1.1**
SFJD	**Kangerlussuaq**	**145.73**	**29**	*e*P		**PKPab**		**04 32 23.4**	**+0.2**
SUMG	**Summit**	**146.14**	**17**	*i* P		**PKPab**		**04 32 25.0**	**-0.2**
LVZ	**Lovozero**	**146.71**	**333***c*	*i* PKP2		**PKPbc**		**04 32 25.3**	**-0.5**
LVZ				pmax		pmax			
	comp=Z,174nm,2.5s								
VRH	**Novokhopyorsk**	**146.77**	**302**	*e*PKiKP		**PKPdf**		**04 32 24.7**	**+0.1**
VRH				pmax		pmax			
	comp=Z,20nm,0.9s								
KLMR	**Klimovskoe**	**147.25**	**320**	*e*PKPdf		**PKPdf**		**04 32 25.2**	**+0.1**
KLMR				AMP				04 32 28.0	
	comp=Z,42nm,1.0s								
KLMR				*e*SKPbc		**SKPbc**		**04 36 02.6**	**-2.8**
KLMR	**Klimovskoe**	**147.25**	**320**	*e*PKiKP		**PKPdf**		**04 32 25.2**	**+0.1**
KLMR				*e*				04 36 02.5	
KLMR				pmax		pmax			
	comp=Z,42nm,1.0s								
APA	**Apatity**	**147.28**	**333**⇓	*i* PKHKP		PKPpre		04 32 14.5	
APA				pmax		pmax			
	comp=Z,15nm,1.0s								
VORR	**Voronezh**	**148.36**	**303**	*e*PKP2		**PKPbc**		**04 32 31.0**	**+0.3**
VORR				pmax		pmax			
	comp=Z,45nm,0.4s								
VSR	**Storozhevoye**	**148.38**	**302**	*e*PKiKP		**PKPbc**		**04 32 29.2**	**-1.6**
VSR				pmax		pmax			
	comp=Z,20nm,1.0s								
ARCES	**ARCESS Array B**	**148.47**	**339**	PKPbc		**PKPbc**		**04 32 30.2**	**-0.3**
	comp=Z,11nm,0.8s,baz=29,slow=2.8,SNR=15								
LPSR	**Galich'ya Gora**	**148.54**	**304**	*e*PKP2		**PKPbc**		**04 32 30.7**	**-0.5**
LPSR				pmax		pmax			
	comp=Z,30nm,0.9s								
MOS	**Moscow**	**149.12**	**311**	*e*PKP2		**PKPbc**		**04 32 32.0**	**-0.5**
MOS				pmax		pmax			
	comp=Z,39nm,0.7s								
OBN	**Obninsk**	**149.79**	**309**⇑	*i* PKP2		**PKPbc**		**04 32 34.3**	**+0.1**
OBN				*e*				04 36 08.0	
OBN				pmax		pmax			
	comp=Z,63nm,1.3s								
TORD	**Torodi Ar. Bea**	**149.94**	**195**	PKP		**PKPdf**		**04 32 32.4**	**+1.4**
	comp=Z,8.6nm,1.0s,baz=274,slow=0.6,SNR=14								
TORD				PKPbc		**PKiKP**		**04 32 36.7**	**-0.1**
	comp=Z,12nm,1.1s,baz=155,slow=1.6,SNR=28								
BRTR	**Keskin Array B**	**150.19**	**278**	PKPbc		**PKPbc**		**04 32 36.1**	**+0.1**
	comp=Z,18nm,1.0s,baz=146,slow=5.6,SNR=56								
FINES	**FINESS Array B**	**153.10**	**326**	PKPbc		**PKPbc**		**04 32 41.6**	**-0.1**
	comp=Z,8.3nm,0.8s,baz=94,slow=6.3,SNR=12								
AKASG	**Malin Array Be**	**154.67**	**301**	PKPbc		**PKPbc**		**04 32 44.9**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=68,slow=3.0,SNR=9.2								
MNK	**Minsk**	**154.84**	**310**	*i* SSS		SSS		05 02 56.5	
MNK	**Minsk**	**154.84**	**310**	*i* PKiKP		**PKPdf**		**04 32 36.1**	**-0.9**
MNK				*i*				04 36 36.0	
MNK				*i* PPP		PPP		04 40 06.2	
MNK				*i* SS		SS		04 56 19.4	+0.1
MNK				pmax		pmax			
	comp=N,37nm,1.0s								
MNK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MNK				pmax		pmax			
	comp=E,2.0nm,1.0s								
MNK	**Minsk**	**154.84**	**310**	*i* PKP		**PKPdf**		**04 32 36.1**	**-0.9**
	comp=E,2.0nm,1.0s								
MNK	**Minsk**	**154.84**	**310**	*i* PKP		**PKPdf**		**04 32 36.1**	**-0.9**
	comp=Z,7.0nm,1.1s,baz=76								
MNK	**Minsk**	**154.84**	**310**	*i* PKP		**PKPdf**		**04 32 36.1**	**-0.9**
	comp=N,37nm,1.0s								
MNK	**Minsk**	**154.84**	**310**	*i* PKiKP		**PKiKP**		**04 32 45.7**	**+0.1**
MNK	**Minsk**	**154.84**	**310**	*i* SKP				04 36 05.5	
MNK	**Minsk**	**154.84**	**310**	*i* PKS				04 36 10.3	
MNK	**Minsk**	**154.84**	**310**	*i* PP		PP		04 36 36.1	-1.2
MNK	**Minsk**	**154.84**	**310**	*i* SKS		SKSdf		04 39 30.6	-12
MNK	**Minsk**	**154.84**	**310**	*i* PPP		PPP		04 40 06.2	
MNK	**Minsk**	**154.84**	**310**	*i* SKKS				04 43 02.4	
MNK	**Minsk**	**154.84**	**310**	*i* SS		SS		04 56 19.5	+0.1
UZH	**Uzhgorod**	**159.36**	**297**	*e*PKiKP		PKPdf		04 32 55.4	+13
UZH				*i*				04 33 18.7	
CRVS	**Cervenica-Dubn**	**159.87**	**298**	*e*PKP2		**PKPab**		**04 33 22.9**	**0.0**
VYHS	**Vyhne**	**161.65**	**297**	*e*PKP		**PKPab**		**04 33 31.2**	**+0.5**
VYHS	**Vyhne**	**161.65**	**297**	*e*PKP2		**PKPab**		**04 33 31.2**	**+0.5**
BRG	**Berggiesshubel**	**164.03**	**308**	Amp				04 33 43.4	
	comp=Z,16nm,1.3s								
BRG	**Berggiesshubel**	**164.03**	**308**	*i* PKP2		**PKPab**		**04 33 41.6**	**+0.6**
BRG				pmax		pmax			
	comp=Z,16nm,1.3s								
BRG	**Berggiesshubel**	**164.03**	**308**	*i* PKP		**PKPab**		**04 33 41.6**	**+0.6**
GERES	**GERESS Array B**	**164.88**	**301**	PKPab		**PKPab**		**04 33 45.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=95,slow=4.3,SNR=5.9								
KEST	**Kesra**	**166.28**	**245**	PKPab		**PKPab**		**04 33 53.1**	**+1.7**
	comp=Z,7.9nm,0.9s,baz=328,slow=2.9,SNR=5.2								

WEL 15 04:16:54.0±0.3, 43.3°S±2.1°×17.3°E±1.1°, h9km±2km, M3.9/12, ML4.1/17, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=116.6, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.32**	**155**	P		Pb	04 17 01.5	-0.5
GVZ				S		Sb	04 17 07.3	0.0
LTZ	**Lake Taylor**	**0.44**	**256**	P		Pg	04 17 03.2	+0.6
LTZ				S		Sb	04 17 10.0	-0.8
AMCZ	**Amberley**	**0.52**	**196**	P		Pb	04 17 05.4	+0.1
AMCZ				S		Sb	04 17 13.6	+0.6
KHZ	**Kahutara**	**0.57**	**63**	P		Pg	04 17 05.6	+0.5
KHZ				S		Sg	04 17 13.3	+0.7
OXZ	**Oxford**	**0.88**	**222**	P		Pb	04 17 11.4	-0.1
OXZ				S		Sb	04 17 24.4	+0.9
THZ	**Tophouse**	**0.92**	**3**	P		Pg	04 17 11.1	-0.6
THZ				S		Sg	04 17 22.1	-1.4
INZ	**Inchbonnie**	**1.04**	**267**	P		Pg	04 17 14.0	0.0
INZ				S		Sn	04 17 29.0	-0.5
MQZ	**McQueen's Vall**	**1.04**	**188**	P		Pg	04 17 13.2	-0.8
MQZ				S		Sb	04 17 27.8	-0.1
OKCZ	**Okains Bay**	**1.06**	**172**	P		Pg	04 17 14.1	-0.2
RACZ	**Rakaia**	**1.17**	**206**	P		Pb	04 17 15.4	-1.1
AKCZ	**Akaroa Harbour**	**1.20**	**178**	P		Pb	04 17 15.6	-1.2
AKCZ				S		Sb	04 17 31.0	-1.5
DSZ	**Denniston Nort**	**1.21**	**320**	P		Pb	04 17 17.0	-0.2
DSZ				S		Sn	04 17 33.7	-0.2
BSWZ	**Blackbirch Sta**	**1.23**	**39**	P		Pn	04 17 17.2	-0.2
BSWZ				S		Sn	04 17 35.4	+1.3
MRNZ	**Matariki Terra**	**1.28**	**357**	P		Pn	04 17 17.8	-0.3
MRNZ				S		Sb	04 17 34.2	-0.7
WACZ	**Wakanui South**	**1.46**	**210**	P		Pn	04 17 19.2	-1.4
TUWZ	**Tuamarina**	**1.49**	**33**	P		Pn	04 17 21.1	+0.2
NNZ	**Nelson**	**1.51**	**15**	P		Pn	04 17 21.2	-0.1
NNZ				S		Sb	04 17 41.7	+0.1
WVZ	**Waitaha Valley**	**1.60**	**255**	P		Pn	04 17 22.7	+0.1
WVZ				S		Sb	04 17 43.8	-0.4
TKNZ	**Takaka Hill**	**1.65**	**3**	P		Pn	04 17 23.4	+0.2
RPZ	**Rata Peaks**	**1.67**	**231**	P		Pn	04 17 22.5	-1.0
RPZ				S		Sn	04 17 43.7	-1.5
ARCZ	**Arundel**	**1.76**	**223**	P		Pn	04 17 23.6	-1.2
TCW	**Tory Channel**	**1.81**	**36**	P		Pn	04 17 24.4	-1.0
QRZ	**Quartz Range**	**1.87**	**352**	P		Pn	04 17 27.0	+0.8
QRZ				S		Sn	04 17 50.5	+0.6
GCSZ	**Gaunt Creek Bo**	**1.96**	**250**	P		Pn	04 17 27.6	+0.1
DUWZ	**D'Urville Isla**	**2.04**	**24**	P		Pb	04 17 30.1	-1.2
PLWZ	**Palliser**	**2.10**	**59**	P		Pn	04 17 27.8	-1.7
TMZ	**Timaru**	**2.17**	**218**	P		Pn	04 17 29.1	-1.3
MSWZ	**Moikau Station**	**2.19**	**56**	P		Pn	04 17 28.9	-1.7
FOZ	**Fox Glacier**	**2.38**	**248**	P		Pn	04 17 34.0	+0.7
KIW	**Kapiti Island**	**2.38**	**41**	P		Pb	04 17 36.1	-1.0
TRWZ	**Traveller**	**2.47**	**60**	P		Pn	04 17 32.6	-1.9
MTW	**Mount Morrison**	**2.49**	**53**	P		Pn	04 17 40.0	+1.0
OGWZ	**Otaki Gorge**	**2.54**	**44**	P		Pn	04 17 34.4	-1.1
LBZ	**Lake Benmore**	**2.58**	**228**	P		Pn	04 17 35.4	-0.7
HOWZ	**Holdsworth Sta**	**2.67**	**49**	P		Pn	04 17 35.7	-1.6
ODZ	**Otahua Downs**	**2.85**	**213**	P		Pn	04 17 38.2	-1.6
MRZ	**Mangatainoka R**	**2.87**	**46**	P		Pn	04 17 38.3	-1.7
POWZ	**Post Office Ro**	**3.16**	**45**	P		Pn	04 17 42.4	-1.6
JCZ	**Jackson Bay**	**3.27**	**243**	P		Pn	04 17 45.5	-0.1
WAZ	**Wanganui**	**3.33**	**30**	P		Pb	04 17 51.5	-1.8
NMEZ	**Namu Road**	**3.35**	**14**	P		Pn	04 17 49.7	+3.1
DVHZ	**Dannevirke**	**3.44**	**47**	P		Pn	04 17 45.3	-2.6
NBEZ	**Newall Road No**	**3.49**	**13**	P		Pn	04 17 51.3	+2.8
KHEZ	**Kahui Hut**	**3.49**	**15**	P		Pn	04 17 52.1	+3.4
TSZ	**Takapari Road**	**3.51**	**43**	P		Pn	04 17 51.6	+2.8
PKE	**Pukeiti**	**3.58**	**14**	P		Pn	04 17 52.2	+2.3
HHSZ	**Highcliff Hill**	**3.59**	**206**	P		Pn	04 17 48.5	-1.4
DREZ	**Durham Road**	**3.63**	**17**	P		Pn	04 17 52.3	+1.8
VRZ	**Vera Road**	**3.83**	**23**	P		Pn	04 17 55.3	+2.0
MOWZ	**Moawhango**	**3.94**	**35**	P		Pn	04 17 59.7	-4.0
WNVZ	**Wahianoa**	**3.94**	**33**	P		Pn	04 17 54.9	0.0
NGZ	**Ngauruhoe**	**4.07**	**32**	P		Pn	04 18 00.9	+4.3
WTVZ	**West Tongariro**	**4.12**	**31**	P		Pb	04 18 03.2	-3.6
HIZ	**Hauiti**	**4.43**	**21**	P		Pn	04 18 02.1	+0.6
TOZ	**Tahuroa Road**	**5.34**	**23**	P		Pn	04 18 14.2	+0.3
AWAZ	**Awhitu Peninsu**	**5.77**	**14**	P		Pn	04 18 20.8	+1.0
MKAZ	**Moumakai**	**5.84**	**18**	P		Pn	04 18 21.1	+0.3

ISK 15 04:17:59.3, 35.87N×22.77E, h8km, ML3.5/13
ATH 15 04:17:59.4, 35.86N×22.73E, h1km±5km, ML3.2/5, Error ellipse: s-maj=5.4km s-min=0.8km az=44.0
THE 15 04:18:00.7, 35.88N×22.82E, h17km, ML3.1/7, Error ellipse: s-maj=1.2km s-min=0.4km az=56.0

ISC 15 04:17:59.1±1.2, 35.85N±0.03×22.74E±0.04, h9km±10km, n32, σ0.76/48, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.46**	**87**	P		**Pb**	**04 18 08.8**	**-0.6**
ANKY				S		**Sb**	**04 18 14.8**	**-1.5**
	4μm,0.5s							
ANKY	**Antikythira Is**	**0.46**	**87**	P		**Pb**	**04 18 08.7**	**-0.7**
ANKY				S		**Sb**	**04 18 14.8**	**-1.5**
ANKY				AML	AML		04 18 17.2	
	comp=N,8602μm,0.5s							
ANKY				AML	AML		04 18 17.5	
	comp=E,6793μm,0.5s							
KTHR	**Kythira**	**0.47**	**27**	P		**Pg**	**04 18 08.2**	**0.0**
KTHR				S		**Sg**	**04 18 14.7**	**+0.3**
	comp=E,7μm,0.3s							
KTHR	**Kythira**	**0.47**	**27**	P		**Pg**	**04 18 08.3**	**0.0**
KTHR				S		**Sg**	**04 18 14.1**	**-0.3**
KTHR				AML	AML		04 18 17.8	
	comp=E,43078μm,0.3s							
KTHR				AML	AML		04 18 18.8	
	comp=N,36853μm,0.3s							
KTHA	**Kythira Island**	**0.49**	**32**	PG		**Pg**	**04 18 08.9**	**+0.3**
KTHA				SG		**Sb**	**04 18 15.4**	**-1.8**
KTHA	**Kythira Island**	**0.49**	**32**	P		**Pg**	**04 18 08.9**	**+0.3**
KTHA				S		**Sb**	**04 18 15.7**	**-1.5**
	comp=N,4μm,0.2s							
KTHA	**Kythira Island**	**0.49**	**32**	P		**Pg**	**04 18 08.9**	**+0.3**
KTHA				S		**Sg**	**04 18 15.2**	**+0.2**
KTHA				AML	AML		04 18 17.2	
	comp=N,6616μm,0.2s							
KTHA				AML	AML		04 18 17.4	
	comp=E,10080μm,0.1s							
MNVA	**Monemvasia**	**0.87**	**16**	P		**Pb**	**04 18 16.2**	**-0.3**
VLI	**Veliai**	**0.89**	**10**	P		**Pg**	**04 18 16.2**	**0.0**
VLI				S		**Sb**	**04 18 28.3**	**-0.4**
	comp=E,1μm,0.3s							
VLI	**Veliai**	**0.89**	**10**	P		**Pg**	**04 18 16.1**	**0.0**
VLI				S		**Sb**	**04 18 27.9**	**-0.8**
VLI				AML	AML		04 18 30.5	
	comp=E,2032μm,0.5s							
VLI				AML	AML		04 18 30.5	
	comp=N,2504μm,0.3s							
KNDR	**Palaiochora Ch**	**0.98**	**128**	PG		**Pg**	**04 18 17.2**	**-0.9**
KNDR				SG		**Sb**	**04 18 31.5**	**+0.1**
KNDR	**Palaiochora Ch**	**0.98**	**128**	P		**Pg**	**04 18 17.2**	**-0.9**
KNDR				S		**Sg**	**04 18 30.6**	**-0.2**
	comp=N,1μm,0.3s							
KNDR	**Palaiochora Ch**	**0.98**	**128**	P		**Pg**	**04 18 17.1**	**-0.9**
KNDR				S		**Sb**	**04 18 31.3**	**-0.2**
IMMV	**Iera Moni Meta**	**1.08**	**110**	PG		**Pg**	**04 18 19.9**	**0.0**
IMMV	**Iera Moni Meta**	**1.08**	**110**	P		**Pg**	**04 18 19.6**	**-0.3**
IMMV				S		**Sg**	**04 18 33.9**	**-0.1**
	comp=N,2μm,0.6s							
IMMV	**Iera Moni Meta**	**1.08**	**110**	P		**Pg**	**04 18 19.7**	**-0.3**
CHAN	**Chania**	**1.11**	**107**	P		**Pg**	**04 18 20.4**	**-0.1**
CHAN				S		**Sn**	**04 18 36.3**	**0.0**
PYL	**PYLOS**	**1.32**	**323**	P		**Pn**	**04 18 23.7**	**-0.1**
PYL				S		**Sg**	**04 18 41.7**	**0.0**
	comp=N,468nm,0.3s							
PYL	**PYLOS**	**1.32**	**323**	P		**Pn**	**04 18 23.9**	**0.0**
PYL				S		**Sg**	**04 18 41.7**	**0.0**
PYL				AML	AML		04 18 48.0	
	comp=E,987μm,0.5s							
PYL				AML	AML		04 18 48.3	
	comp=N,798μm,0.5s							
ITM	**Ithomi**	**1.48**	**334**	PN		**Pb**	**04 18 26.7**	**-0.2**
ITM	**Ithomi**	**1.48**	**334**	P		**Pb**	**04 18 27.0**	**+0.1**
GVDS	**Gavdos**	**1.49**	**132**	PN		**Pn**	**04 18 26.7**	**+0.6**
GVD	**Gavdhos**	**1.49**	**132**	PN		**Pg**	**04 18 27.9**	**+0.2**
GVD	**Gavdhos**	**1.49**	**132**	P		**Pb**	**04 18 27.4**	**+0.4**
IDI	**Anoyia**	**1.84**	**107**	PN		**Pn**	**04 18 31.9**	**+0.9**
IDI	**Anoyia**	**1.84**	**107**	P		**Pb**	**04 18 33.6**	**+0.6**
HRKL	**Herakleio**	**2.00**	**105**	PN		**Pn**	**04 18 33.8**	**+0.7**
SANT	**Santorini**	**2.26**	**76**	PN		**Pn**	**04 18 37.6**	**+0.8**
APE	**Apeiranthos**	**2.56**	**61**	PN		**Pn**	**04 18 42.0**	**+1.1**
ZKR	**Zakros**	**2.93**	**103**	PN		**Pn**	**04 18 47.6**	**+1.7**
AGG	**Agios Georgios**	**3.19**	**354**	PN		**Pn**	**04 18 51.1**	**+1.6**
KARP	**Karpathos**	**3.61**	**93**	PN		**Pn**	**04 18 56.5**	**+1.2**

IDC 15 04:24:23.8±1.2, 13.35S×66.63E, h0km, mb4.0/9, mbtmp4.0/9, MS3.7/8, Error ellipse: s-maj=41.6km s-min=22.8km az=41.0
*NEIC 15 04:24:30.4±0.8, 12.5S±0.2×66.5E±0.2, h10km±1km, mb4.7/8, Error ellipse: s-maj=31.8km s-min

VYHS				*e*SN	Sn	04 31 33.7	-1.9
DPC	**Dobruska-Polom**	**1.86**	**276**	*e*PG	Pn	04 31 15.1	+0.4
DPC				*e*SG	Sg	04 31 41.1	-0.2

ROM 15 04:31:46.3±0.0, 42°44′N±0″.003×13°49′E±0″.004, h11km, ML2.0/7, 8C-6D, Error ellipse: s-maj=0.3km s-min=0.2km az=60.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.12**	**338**	P	Pg	04 31 50.0	+0.5
T1245				S	Sg	04 31 52.5	+0.7
T1245				AML	AML		
	comp=E,1015μm,0.6s						
T1245				AML	AML		
	comp=N,1710μm,0.2s						
T1245				AML	AML		
	comp=N,1540μm,0.2s						
T1245				AML	AML		
	comp=E,1020μm,0.6s						
T1245				AML	AML		
	comp=E,1000μm,0.9s						
SMA1	**SAN MARTINO**	**0.13**	**151**	P	Pg	04 31 50.2	+0.6
SMA1				S	Sg	04 31 52.5	+0.7
SMA1				AML	AML		
	comp=E,429μm,0.3s						
SMA1				AML	AML		
	comp=N,392μm,0.1s						
NRCA	**Norcia**	**0.13**	**312**	P	Pg	04 31 50.1	+0.5
NRCA				S	Sg	04 31 52.5	+0.6
NRCA				AML	AML		
	comp=E,2235μm,0.1s						
NRCA				AML	AML		
	comp=E,2230μm,0.1s						
NRCA				AML	AML		
	comp=N,1735μm,0.1s						
NRCA				AML	AML		
	comp=E,2480μm,0.1s						
NRCA				AML	AML		
	comp=N,1920μm,0.1s						
T1243	**Rocca Santa Ma**	**0.15**	**108**	P	Pg	04 31 50.5	+0.6
T1243				S	Sg	04 31 53.2	+0.8
MMO1	**Montemonaco**	**0.17**	**20**	P	Pg	04 31 50.7	+0.6
MMO1				S	Sg	04 31 53.6	+0.9
T1241	**Roccafluvione,**	**0.17**	**50**	P	Pg	04 31 50.7	+0.5
T1241				S	Sg	04 31 53.7	+0.8
LNSS	**Leonessa**	**0.21**	**228**	P	Pg	04 31 51.4	+0.6
LNSS				S	Sg	04 31 54.9	+1.1
LNSS				AML	AML		
	comp=E,200μm,0.1s						
LNSS				AML	AML		
	comp=N,574μm,0.3s						
LNSS				AML	AML		
	comp=E,200μm,0.1s						
LNSS				AML	AML		
	comp=N,574μm,0.3s						
T1216	**Preci, Frazion**	**0.22**	**311**	⇓P	Pg	04 31 51.6	+0.5
T1216				S	Sg	04 31 55.0	+0.8
RM33	**Pellescritta (**	**0.24**	**186**	⇑P	Pg	04 31 51.9	+0.7
RM33				AML	AML		
	comp=N,369μm,0.2s						
RM33				AML	AML		
	comp=E,239μm,0.2s						
CAMP	**Campotosto**	**0.24**	**150**	P	Pg	04 31 51.9	+0.5
T1256	**Bolognola (MC)**	**0.26**	**356**	⇑P	Pg	04 31 52.3	+0.5
T1215	**Vallo di Nera,**	**0.29**	**282**	P	Pg	04 31 52.7	+0.5
TERO	**Teramo**	**0.29**	**115**	⇑P	Pg	04 31 52.6	+0.4
T1247	**Pizzolo (AQ)**	**0.30**	**173**	⇑P	Pg	04 31 53.0	+0.5
T1247				AML	AML		
	comp=E,202μm,1.3s						
T1247				AML	AML		
	comp=N,226μm,1.2s						
FDMO	**Fiordimonte**	**0.32**	**338**	⇓P	Pg	04 31 53.2	+0.5
GUMA	**Gualdo di Mace**	**0.33**	**11**	⇓P	Pb	04 31 53.8	-0.4
GUMA				AML	AML		
	comp=E,632μm,0.3s						
GUMA				AML	AML		
	comp=E,592μm,0.3s						
GUMA				AML	AML		
	comp=N,610μm,1.1s						
GUMA				AML	AML		
	comp=N,696μm,0.3s						
CSP1	**Cessapalombo**	**0.35**	**355**	⇑P	Pg	04 31 53.8	+0.4
T1211	**Morro Reatino**	**0.36**	**234**	⇑P	Pg	04 31 54.0	+0.5
T1219	**Muccia, Frazio**	**0.36**	**330**	⇑P	Pg	04 31 53.9	+0.3
GIGS	**Gran Sasso**	**0.38**	**141**	⇓P	Pg	04 31 54.0	+0.2
AQU	**L'Aquila**	**0.41**	**164**	⇓P	Pg	04 31 52.8	-1.6
FIAM	**Fiamignano**	**0.49**	**192**	P	Pg	04 31 55.2	-0.6
SNTG	**Esanatoglia**	**0.56**	**336**	P	Pb	04 31 57.8	-0.4
EL6	**Elcito**	**0.59**	**350**	⇓P	Pg	04 31 58.2	+0.3
T0110	**Collepietro**	**0.65**	**143**	⇑P	Pg	04 31 56.8	-2.2

IDC 15 04:33:19.4±2.4, 6°72′N×125°15′E, h0km, mb4.0/3, mbtmp4.0/3, MS3.7/1, Error ellipse: s-maj=218.5km s-min=24.5km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.00**	**161**	P	P	04 39 12.3	+0.2
	0.6nm,0.3s,baz=342,slow=9.1,SNR=19						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**31.39**	**164**	P	P	04 39 42.1	-0.2
	0.9nm,0.3s,baz=343,slow=7.1,SNR=19						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**54.22**	**325**	P	P	04 42 47.0	-0.1
	0.6nm,0.5s,baz=120,slow=7.8,SNR=9.9						
	0.6nm,0.5s						
MA2	**Magadan**	**56.23**	**15**	LR	LR	05 06 43.6	
	comp=Z,70nm,21.9s,baz=162,slow=36						

TEH 15 04:37:08.7, 35°23′N×57°18′E, h8km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRO	**Shahrood**	**1.21**	**309**	*e*Pg	Pn	04 37 32.5	+0.4
TNSJ	**Nastanj**	**1.35**	**200**	*e*Pg	Pg	04 37 35.6	+1.0
TNSJ				*e*		04 38 01.6	
	comp=Z,17μm,0.3s						
TABS	**Tabas**	**1.58**	**182**	*e*Pn	Pg	04 37 40.2	+1.2
TKDS	**Koohdasht(Taba**	**1.62**	**182**	*e*Pg	Pg	04 37 40.4	+0.7
TKDS				*e*		04 38 14.5	
	comp=Z,10μm,0.5s						
TBHD	**Torbat heydari**	**1.69**	**83**	*e*Pn	Pb	04 37 40.6	+0.4
TBHD				*e*		04 38 12.9	
	comp=Z,8μm,0.6s						
IAKL	**Akhelmad**	**1.87**	**43**	*e*Pn	Pg	04 37 44.3	-0.3
IAKL				*e*		04 38 15.9	
	comp=Z,4μm,0.4s						
IPAY	**Payeh**	**1.91**	**50**	*e*Pn	Pg	04 37 44.8	-0.6
IPAY				*e*		04 38 17.7	
	comp=Z,4μm,0.4s						
IMOG	**Moghan**	**1.97**	**63**	*e*Pn	Pb	04 37 45.5	+0.6
TPRV	**Parvadeh(Tabas**	**2.24**	**191**	*e*Pn	Pb	04 37 48.7	-0.7
TPRV				*e*		04 38 24.6	
	comp=Z,6μm,0.4s						
AFRZ	**Afriz**	**2.36**	**139**	*e*Pn	Pb	04 37 51.0	-0.6
AFRZ				*e*		04 38 27.7	
	comp=Z,4μm,0.8s						
IKRD	**Kardeh**	**2.44**	**50**	*e*Pn	Pb	04 37 53.2	+0.2
BJRD	**Bojnurd**	**2.47**	**4**	*e*Pn	Pb	04 37 52.0	-1.4
IMND	**Minoodasht**	**2.47**	**325**	*e*Pn	Pb	04 37 52.7	-0.7
IMND				*e*		04 38 39.1	
	comp=Z,1μm,0.8s						
IEMG	**Emamgholi**	**2.48**	**28**	*e*Pn	Pb	04 37 51.8	-1.9
MRVT	**Maraveh tapeh**	**2.57**	**340**	*e*Pn	Pb	04 37 54.0	-1.2
TBJM	**Torbat-e-JAM**	**2.58**	**88**	*e*Pn	Pb	04 37 53.4	-1.9
TBJM				*e*		04 38 39.6	
	comp=Z,4μm,0.4s						
IMYA	**Miami**	**2.62**	**64**	*e*Pn	Pb	04 37 54.8	-1.2
ITEG	**Tejag**	**2.67**	**150**	*e*Pn	Pb	04 37 55.5	-1.4
ITEG				*e*		04 38 44.8	
	comp=Z,5μm,0.4s						
JRKH	**Jarkhoshk**	**2.67**	**75**	*e*Pn	Pb	04 37 55.2	-1.7
IANJ	**Anjilo**	**2.68**	**276**	*e*Pn	Pb	04 37 55.4	-1.6
IANJ				*e*		04 38 38.9	
	comp=Z,2μm,0.4s						
IMON	**Monand**	**2.90**	**134**	*e*Pn	Pb	04 37 59.0	-1.8
IMON				*e*		04 38 09.3	
	comp=Z,2μm,0.3s						
BAGH	**Bagheran - Bir**	**2.97**	**145**	*e*Pn	Pb	04 37 59.8	-2.2
IGLO	**Ghaloghah**	**3.00**	**296**	*e*Pn	Pb	04 38 00.1	-2.4
IGLO				*e*		04 38 56.5	
	comp=Z,2μm,1.0s						
SHRT	**Shahrakht**	**3.02**	**121**	*e*Pn	Pn	04 37 59.8	+2.9
IKOO	**Kooshah**	**3.19**	**151**	*e*Pn	Pn	04 38 02.3	+2.9
IKOO				*e*		04 38 59.2	
	comp=Z,2μm,0.6s						
ISHM	**Shahmirzad**	**3.22**	**281**	*e*Pn	Pn	04 38 03.0	+3.2
ISHM				*e*		04 38 56.0	
	comp=Z,3μm,0.4s						
IDAH	**Dahanechah**	**3.35**	**137**	*e*Pn	Pn	04 38 04.3	+2.8
IDAH				*e*		04 39 06.1	
	comp=Z,804nm,0.7s						
ILAS	**Lasjerd**	**3.45**	**274**	*e*Pn	Pn	04 38 05.8	+2.8
ILAS				*e*		04 39 03.9	
	comp=Z,2μm,0.6s						
ANAR	**Anarak**	**3.51**	**235**	*e*Pn	Pn	04 38 05.7	+2.0
ANAR				*e*		04 39 07.0	
	comp=Z,1μm,0.7s						
YZKH	**Yazd**	**3.56**	**218**	*e*Pn	Pb	04 38 08.5	-3.5
IFIR	**Firoozkooh**	**3.63**	**278**	*e*Pn	Pn	04 38 08.7	+3.2
IFIR				*e*		04 39 12.8	
	comp=Z,759nm,0.5s						
BSRN	**Basiran**	**3.64**	**153**	*e*Pn	Pb	04 38 09.5	-3.9
ICHK	**Chekchek**	**3.77**	**219**	*e*Pn	Pn	04 38 10.0	+2.7
ICHK				*e*		04 39 10.7	
	comp=Z,2μm,0.4s						
IBAF	**Bafgh**	**3.88**	**201**	*e*Pn	Pn	04 38 11.9	+3.2
IBAF				*e*		04 39 22.6	
	comp=Z,1μm,0.5s						
IPRN	**Peran**	**4.06**	**286**	*e*Pn	Pn	04 38 14.6	+3.3
ISFB	**Sefidab**	**4.16**	**259**	*e*Pn	Pn	04 38 15.0	+2.5
ISFB				*e*		04 39 36.6	
	comp=Z,657nm,0.6s						
IDMV	**Damavand**	**4.21**	**276**	*e*Pn	Pn	04 38 16.1	+2.6
IDMV				*e*		04 39 35.2	
	comp=Z,597nm,0.6s						
KRSH	**Karshahi**	**4.34**	**255**	*e*Pn	Pn	04 38 17.4	+2.2
NASN	**Na'in**	**4.37**	**237**	*e*Pn	Pn	04 38 16.8	+1.2
IMEH	**Mehriz**	**4.39**	**210**	*e*Pn	Pn	04 38 19.1	+3.2
ISAD	**Sadrabad**	**4.41**	**222**	*e*Pn	Pn	04 38 18.8	+2.6
ISAD				*e*		04 39 36.2	
	comp=Z,1μm,0.6s						
IVRN	**Varamin**	**4.47**	**269**	*e*Pn	Pn	04 38 19.9	+3.1
IZEF	**Zefreh**	**4.65**	**241**	*e*Pn	Pn	04 38 22.1	+2.6
KHGB	**Koh Gabri**	**4.88**	**187**	*e*Pn	Pn	04 38 26.4	+3.8
GHVR	**GHOM**	**4.89**	**263**	*e*Pn	Pn	04 38 27.0	+4.4
CHTH	**Charan**	**4.98**	**280**	*e*Pn	Pn	04 38 28.2	+4.3
QAMS	**Qamsar**	**5.00**	**254**	*e*Pn	Pn	04 38 26.8	+2.5
QAMS				*e*		04 39 58.9	
	comp=Z,613nm,0.4s						
IKLH	**Kolahrood**	**5.01**	**249**	*e*Pn	Pn	04 38 27.5	+3.1
IKLH				*e*		04 40 04.6	
	comp=Z,824nm,0.6s						
IQOM	**Qom**	**5.03**	**267**	*e*Pn	Pn	04 38 27.3	+2.7
KLST	**Kelardasht - M**	**5.13**	**286**	*e*Pn	Pn	04 38 29.6	+3.5
KLST				*e*		04 40 16.3	
	comp=Z,364nm,0.6s						
TVBK	**TV Kerman**	**5.25**	**184**	*e*Pn	Pn	04 38 30.8	+3.1
IRAM	**Ramesheh**	**5.26**	**231**	*e*Pn	Pn	04 38 30.3	+2.4
IRAM				*e*		04 40 12.3	
	comp=Z,306nm,0.6s						
IPIR	**Pirpir**	**5.81**	**246**	*e*Pn	Pn	04 38 38.2	+2.8
ASAO	**Ashtian**	**5.92**	**265**	*e*Pn	Pn	04 38 41.0	+4.1
IRAZ	**Razeghan**	**5.93**	**274**	*e*Pn	Pn	04 38 40.2	+3.2
KHMZ	**Khomeyn**	**6.14**	**258**	*e*Pn	Pn	04 38 44.2	+4.3
KLNJ	**Kolanjah**	**6.30**	**230**	*e*Pn	Pn	04 38 45.2	+3.0

WEL 15 04:48:24.6±0.6, 43°S±3°×177°4E±°, h12km, M3.9/12, ML4.1/12, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=131.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.35**	**293**	P	Pg	04 48 31.1	-0.5
KHZ				S	Sg	04 48 35.6	-0.6
GVZ	**Greta Valley S**	**0.80**	**239**	P	Pn	04 48 42.1	+0.3
GVZ				S	Sn	04 48 54.4	+0.7
CMWZ	**Cape Campbell**	**0.82**	**13**	P	Pg	04 48 40.3	-0.2
CMWZ				S	Sn	04 48 55.1	+0.9
BSWZ	**Blackbirch Sta**	**0.84**	**355**	P	Pb	04 48 41.5	+0.4
BSWZ				S	Sb	04 48 52.9	+0.5
THZ	**Tophouse**	**1.12**	**315**	P	Pb	04 48 45.2	-0.7
THZ				S	Sn	04 49 01.6	+0.1
TUWZ	**Tuamarina**	**1.12**	**359**	P	Pb	04 48 45.1	-0.8
TUWZ				S	Sb	04 49 00.2	-0.3
AMCZ	**Amberley**	**1.15**	**237**	P	Pg	04 48 47.2	+0.4
LTZ	**Lake Taylor**	**1.27**	**259**	P	Pn	04 48 48.1	-0.1
LTZ				S	Sb	04 49 04.7	-0.2
TCW	**Tory Channel**	**1.36**	**10**	P	Pn	04 48 49.0	-0.4
TCW				S	Sb	04 49 06.2	-1.2
PLWZ	**Palliser**	**1.37**	**45**	P	Pn	04 48 49.7	0.0
PLWZ				S	Sn	04 49 07.4	-0.3
WEL	**Wellington**	**1.40**	**25**	P	Pn	04 48 50.1	+0.2
WEL				S	Sn	04 49 07.7	-0.7
NNZ	**Nelson**	**1.41**	**342**	P	Pn	04 48 47.9	-2.1
MRNZ	**Matariki Terra**	**1.46**	**322**	P	Pn	04 48 51.1	+0.3
MRNZ				S	Sb	04 49 10.4	+0.1
MSWZ	**Moikau Station**	**1.48**	**40**	P	Pn	04 48 51.1	-0.1
MSWZ				S	Sn	04 49 10.1	-0.3
MQZ	**McQueen's Vall**	**1.50**	**219**	P	Pn	04 48 51.4	+0.1
MQZ				S	Sn	04 49 10.5	-0.4
AKCZ	**Akaroa Harbour**	**1.53**	**210**	P	Pb	04 48 52.6	-0.4
AKCZ				S	Sb	04 49 12.3	0.0
PAWZ	**Paruwai Farm**	**1.60**	**43**	P	Pn	04 48 52.5	-0.3
PAWZ				S	Sn	04 49 12.7	-0.6
OXZ	**Oxford**	**1.61**	**241**	P	Pn	04 48 52.6	-0.3
OXZ				S	Sn	04 49 12.5	-1.2
CAW	**Cannon Point**	**1.66**	**30**	P	Pn	04 48 53.5	0.0
CAW				S	Sn	04 49 13.6	-1.2
TKNZ	**Takaka Hill**	**1.69**	**333**	P	Pn	04 48 54.4	+0.4
TKNZ				S	Sn	04 49 16.3	+0.7
TRWZ	**Traveller**	**1.72**	**49**	P	Pn	04 48 54.4	-0.1
TRWZ				S	Sn	04 49 15.1	-1.3
DUWZ	**D'Urville Isla**	**1.75**	**359**	P	Pn	04 48 55.2	+0.4
DUWZ				S	Sn	04 49 16.3	-0.7
RACZ	**Rakaia**	**1.78**	**228**	P	Pn	04 48 55.2	0.0
RACZ				S	Sn	04 49 17.6	-0.1
DSZ	**Denniston Nort**	**1.80**	**296**	P	Pn	04 48 56.5	+1.0
DSZ				S	Sn	04 49 19.2	+0.8
MTW	**Mount Morrison**	**1.80**	**40**	P	Pn	04 48 55.2	-0.4
MTW				S	Sn	04 49 17.2	-1.1
KIW	**Kapiti Island**	**1.83**	**23**	P	Pn	04 48 56.0	+0.1
KIW				S	Sn	04 49 16.8	-2.2
INZ	**Inchbonnie**	**1.87**	**264**	P	Pn	04 48 56.6	+0.2
OGWZ	**Otaki Gorge**	**1.95**	**28**	P	Pn	04 48 57.5	-0.1
OGWZ				S	Sn	04 49 20.5	-1.5
HOWZ	**Holdsworth Sta**	**2.02**	**36**	P	Pn	04 48 58.6	+0.1
HOWZ				S	Sn	04 49 22.2	-1.5
QRZ	**Quartz Range**	**2.03**	**328**	P	Pn	04 48 59.4	+0.7
QRZ				S	Sb	04 49 25.6	-1.2
TMWZ	**Te Maipa**	**2.04**	**45**	P	Pn	04 48 58.1	-0.7
TMWZ				S	Sn	04 49 23.1	-1.0
WACZ	**Wakanui South**	**2.09**	**228**	P	Pn	04 48 59.3	-0.1
WACZ				S	Sn	04 49 25.0	-0.3
MRZ	**Mangatainoka R**	**2.24**	**33**	P	Pn	04 49 01.2	-0.3
MRZ				S	Sn	04 49 27.5	-1.7
RPZ	**Rata Peaks**	**2.43**	**240**	P	Pn	04 49 03.9	-0.2
RPZ				S	Sn	04 49 31.8	-2.0
WVZ	**Waitaha Valley**	**2.44**	**257**	P	Pn	04 49 04.2	0.0
ARCZ	**Arundel**	**2.47**	**235**	P	Pn	04 49 04.5	-0.2
PRWZ	**Pori Road**	**2.50**	**38**	P	Pn	04 49 05.1	0.0
BFZ	**Birch Farm**	**2.53**	**43**	P	Pn	04 49 04.9	-0.6
GCSZ	**Gaunt Creek Bo**	**2.78**	**253**	P	Pn	04 49 09.7	+0.7
DVHZ	**Dannevirke**	**2.79**	**37**	P	Pn	04 49 08.0	-1.1
TMZ	**Timaru**	**2.83**	**229**	P	Pn	04 49 10.0	+0.3
WAZ	**Wanganui**	**2.90**	**16**	P	Pn	04 49 12.2	+1.6
TSZ	**Takapari Road**	**2.91**	**32**	P	Pn	04 49 10.3	-0.5
PNHZ	**Pukenui**	**3.13**	**33**	P	Pn	04 49 12.9	-0.9
FOZ	**Fox Glacier**	**3.20**	**251**	P	Pn	04 49 15.6	+0.9
KHEZ	**Kahui Hut**	**3.25**	**1**	P	Pb	04 49 19.2	-3.1
NBEZ	**Newall Road No**	**3.28**	**359**	P	Pb	04 49 20.9	-1.9
LBZ	**Lake Benmore**	**3.31**	**235**	P	Pn	04 49 16.4	+0.2
PKE	**Pukeiti**	**3.35**	**0**	P	Pn	04 49 19.3	+2.4
MOVZ	**Moawhango**	**3.42**	**24**	P	Pn	04 49 18.1	+0.3
BHHZ	**Black Hill Sta**	**3.45**	**28**	P	Pn	04 49 17.9	-0.2
WNVZ	**Wahianoa**	**3.45**	**21**	P	Pn	04 49 19.9	+1.6
ODZ	**Otahua Downs**	**3.46**	**223**	P	Pn	04 49 18.4	+0.1
VRZ	**Vera Road**	**3.48**	**10**	P	Pn	04 49 20.0	+1.5
KWHZ	**Kaweka Forest**	**3.63**	**32**	P	Pn	04 49 20.7	-0.1
NNVZ	**North Ngauruho**	**3.64**	**21**	P	Pn	04 49 22.0	+1.1
ARHZ	**Aropaoanui**	**4.01**	**36**	P	Pn	04 49 25.7	-0.1
JCZ	**Jackson Bay**	**4.08**	**246**	P	Pn	04 49 27.2	+0.3
HIZ	**Hauiti**	**4.09**	**10**	P	Pn	04 49 27.5	+0.5
HHSZ	**Highcliff Hill**	**4.12**	**215**	P	Pn	04 49 27.3	0.0
EAZ	**Earnscleugh**	**4.30**	**230**	P	Pn	04 49 30.0	+0.1
TOZ	**Tahuroa Road**	**4.96**	**14**	P	Pn	04 49 38.4	-0.4
MLZ	**Mavora Lakes**	**5.07**	**234**	P	Pn	04 49 39.7	-0.8
SYZ	**Scrubby Hill**	**5.27**	**219**	P	Pn	04 49 43.7	+0.6
WHZ	**Wether Hill Ro**	**5.46**	**230**	P	Pn	04 49 45.1	-0.8
AWAZ	**Awhitu Peninsu**	**5.51**	**6**	P	Pn	04 49 47.5	+1.1
MKAZ	**Moumakai**	**5.52**	**10**	P	Pn	04 49 46.4	-0.2
WSRZ	**White Island S**	**5.60**	**27**	P	Pn	04 49 46.8	-0.9
APZ	**The Paps**	**6.04**	**223**	P	Pn	04 49 54.1	+0.4

*AUST **15** 04:57:53.8±0.8, 30°67′S×118°41′E, h10km, Error ellipse: s-maj=9.2km s-min=7.4km az=155.0*
*CUPWA **15** 04:57:54.2±4.1, 30°64′S×118°46′E, h0km±19km, Region: WESTERN AUSTRALIA*
ISC 15 04:57:55.4±1.1, 30°66′S±0″.04×118°41′E±0″.04, h24km±9km, n22, σ0°79/34, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BR4	**Bonnie Rock 4**	**0.07**	**277**	P	**Pb**	**04 58 00.0**	**+0.3**
BENC	**Bencubbin**	**0.50**	**252**	P	**Pb**	**04 58 03.6**	**-2.0**
KLBR	**Kellerberrin**	**1.09**	**211**	P	**Pn**	**04 58 14.7**	**-0.5**
KLBR	baz=1.1,SNR=9.7			S	**Sb**	**04 58 28.9**	**-0.5**
	baz=1.1,SNR=6.0						
KLBR	**Kellerberrin**	**1.09**	**211**	P	**Pn**	**04 58 14.7**	**-0.5**
KLBR				S	**Sb**	**04 58 28.9**	**-0.5**
CADX	**Cadoux**	**1.10**	**264**	P	**Pn**	**04 58 15.0**	**-0.4**
CADX				S	**Sb**	**04 58 29.4**	**-0.4**
BLDU	**Ballidu**	**1.47**	**271**	P	**Pn**	**04 58 21.0**	**+0.6**
BLDU	baz=1.5,SNR=21			S	**Sb**	**04 58 39.9**	**-0.4**
	baz=1.5,SNR=6.0						
BLDU	**Ballidu**	**1.47**	**271**	P	**Pn**	**04 58 21.0**	**+0.6**
BLDU	**Ballidu**	**1.47**	**271**	S	**Sb**	**04 58 39.9**	**-0.4**
MECK	**Meckering**	**1.55**	**231**	P	**Pb**	**04 58 22.8**	**-0.6**
MECK				S	**Sb**	**04 58 42.5**	**0.0**
MUN	**Mundaring**	**2.30**	**234**	P	**Pn**	**04 58 32.3**	**+0.5**
MUN	baz=2.3,SNR=3.5			S	**Sn**	**04 59 01.6**	**+2.2**
	baz=2.3						
MUN	**Mundaring**	**2.30**	**234**	P	**Pn**	**04 58 32.3**	**+0.5**
MUN	**Mundaring**	**2.30**	**234**	S	**Sn**	**04 59 01.6**	**+2.2**
NWAO	**Narrogin (SRO)**	**2.48**	**204**	P	**Pn**	**04 58 34.7**	**+0.4**
NWAO	baz=2.5,SNR=6.4			P	**Pn**	**04 58 34.7**	**+0.4**
	baz=2.5,SNR=6.4						
NWAO				S	**Sn**	**04 59 04.2**	**+0.5**
	baz=2.5						
NWAO	**Narrogin (SRO)**	**2.48**	**204**	P	**Pn**	**04 58 34.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**2.48**	**204**	S	**Sn**	**04 59 04.2**	**+0.5**
MORW	**Morawa**	**2.60**	**307**	P	**Pn**	**04 58 36.1**	**+0.1**
MORW	baz=2.6			S	**Sn**	**04 59 07.2**	**+0.4**
	baz=2.6,SNR=3.6						
MORW	**Morawa**	**2.60**	**307**	P	**Pn**	**04 58 36.1**	**+0.1**
MORW				S	**Sn**	**04 59 07.2**	**+0.4**
KMBL	**Kambalda**	**3.06**	**104**	P	**Pn**	**04 58 42.4**	**0.0**
KMBL	baz=3.1			S	**Sn**	**04 59 18.5**	**+0.2**
	baz=3.1						
KMBL	**Kambalda**	**3.06**	**104**	P	**Pn**	**04 58 42.4**	**0.0**
KMBL				S	**Sn**	**04 59 18.5**	**+0.2**
MEEK	**Meekatharra**	**4.01**	**3**	P	**Pn**	**04 58 56.4**	**+0.9**
	baz=4.0,SNR=5.6						
FORT	**Forrest**	**8.31**	**93**	P	**Pn**	**04 59 54.7**	**+0.3**
	baz=8.3						
WRKA	**Warakurna**	**10.38**	**60**	P	**Pn**	**05 00 22.8**	**-0.1**
	baz=10						

NOU 15 04:59:32.9, 17°03′S×170°07′E, h99km, MLv4.0/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.74**	**244**	P	Pn	05 00 03.3	+1.2
DVP	**Devils Point**	**1.93**	**249**	P	Pn	05 00 03.1	-1.4
LIFNC	**LIFOU**	**4.59**	**215**	P	Pn	05 00 39.6	-0.5
YATNC	**Mamie plateau,**	**5.83**	**210**	P	Pn	05 00 56.6	-0.3
DZM	**Mont Dzumac**	**6.07**	**214**	P	Pn	05 00 59.2	-1.0
OUENC	**Ouen Island, N**	**6.16**	**209**	P	Pn	05 01 02.7	+1.3
	12nm,1.4s						
KOUNC	**Koumac, New Ca**	**6.50**	**237**	P	Pn	05 01 06.6	+0.6
	10nm,1.3s						

*IDC **15** 05:04:28.8±0.7, 19°53′S×69°11′W, h104km±6km, mb3.7/8, mbtmp4.1/11, MS2.7/1, Error ellipse: s-maj=21.3km s-min=9.7km az=92.0*
*GUC **15** 05:04:28.6±0.8, 19°54′S×69°27′W, h101km±3km, ML4.2*
*NEIC **15** 05:04:28.5±2.2, 19°57′S±0°.05×69°29′W±0°.08, h99km±5km, mb4.5/6, ML4.2(GUC), Error ellipse: s-maj=10.5km s-min=7.1km az=86.0*
*VAO **15** 05:04:29.1±0.5, 19°37′S×69°06′W, h96km±4km, mb4.2*
ISC 15 05:04:27.9±0.5, 19°54′S±0°.03×69°26′W±0°.05, h100km±5km, n124, σ1°24/129, mb4.1/8, 8C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.14**	**152**		**Pn**	**05 04 43.0**	**+0.4**
GO01	**Chusmiza**	**0.14**	**152**	⇓*i*P	**Pn**	**05 04 43.2**	**+0.6**
GO01				*e*S	**Sn**	**05 04 54.5**	**+1.1**
GO01

PB03	IPOC Station P	2.54	190	*i* P		Pn	05 05 07.1	-0.6
PB04	IPOC Station P	2.90	196			Pn	05 05 12.8	+0.3
PB04	IPOC Station P	2.90	196	*i* P		Pn	05 05 12.9	+0.3
LVC	Limon Verde	3.07	174	P		Pn	05 05 15.9	+0.9
	comp=N,247nm,0.5s,baz=340,slow=8.6,SNR=253							
LVC				S		Sn	05 05 52.2	+1.1
	comp=N,198nm,0.4s,baz=76,slow=16,SNR=12							
LVC	Limon Verde	3.07	174	Pn		Pn	05 05 16.7	+1.7
LVC	Limon Verde	3.07	174	*eP*		Pn	05 05 17.2	+2.2
PB06	IPOC Station P	3.11	185			Pn	05 05 15.9	-0.1
LPAZ	La Paz	3.41	19	P		Pn	05 05 22.6	+2.8
	comp=N,68nm,0.6s,baz=208,slow=6.6,SNR=258							
LPAZ				LR		LR	05 07 01.4	
	comp=N,116nm,21.5s,baz=164,slow=46							
AF01	San Pedro de A	3.54	164			Pn	05 05 25.0	+3.8
PB15	IPOC Station P	3.65	183			Pn	05 05 22.6	-0.1
PB10	IPOC Station P	4.13	197	Pn		Pn	05 05 27.5	-1.4
AC02	Maricunga	7.26	179	Pn		Pn	05 06 11.5	-0.3
BBSD	Serra de San D	8.54	75	*eP*		Pn	05 06 27.0	-1.9
SIV	San Ignacio	8.57	67	P		Pn	05 06 27.0	-2.2
	comp=N,39nm,0.6s,baz=255,slow=10,SNR=255							
AC04	Llanos de Chal	8.78	191	Pn		Pn	05 06 27.4	-4.7
AC05	El Transito	9.30	185	Pn		Pn	05 06 35.6	-3.6
ETMB	Extrema	10.11	17	Pn		Pn	05 06 48.5	-1.6
ETMB	Extrema	10.11	17	*eP*		Pn	05 06 49.1	-1.1
PTLB	Pontes e Lacer	10.48	69	Pn		Pn	05 06 53.0	-2.2
PTLB	Pontes e Lacer	10.48	69	*eP*		Pn	05 06 52.9	-2.4
VILB	Vilhena	10.89	54	Pn		Pn	05 07 00.1	-0.7
VILB	Vilhena	10.89	54	*eP*		Pn	05 06 58.9	-1.9
MURT	Porto Murtinho	11.12	103	*eP*		Pn	05 07 01.2	-2.7
PANT	Pantanal (Braz	11.96	89	*eP*		Pn	05 07 13.0	-2.1
CZSB	Cruzeiro do Su	12.21	344	Pn		Pn	05 07 19.9	+1.4
CZSB	Cruzeiro do Su	12.21	344	*eP*		Pn	05 07 20.4	+1.9
ANTJ	Antonio Joao (	12.64	103	*eP*		Pn	05 07 24.1	-0.1
AQDB	Aquidauana	12.79	96	*eP*		Pn	05 07 24.2	-1.8
CPUP	Villa Florida	12.90	124	P		Pn	05 07 26.2	-1.4
	comp=N,1.5nm,0.5s,baz=306,slow=12,SNR=6.5							
CPUP	Villa Florida	12.90	124	Pn		Pn	05 07 26.6	-0.9
CPUP	Villa Florida	12.90	124	*eP*		Pn	05 07 26.2	-1.4
SALV	Santo Antonio	13.43	76	*eP*		Pn	05 07 33.4	-1.1
MT02	Curacav	13.76	187	Pn		Pn	05 07 38.2	-0.6
MT03	Universidad Ad	13.94	184			Pn	05 07 42.5	+1.3
MT09	Talagante	14.26	186	P		P	05 07 50.1	+0.5
PDRB	Porto dos Gac	14.41	59	*eP*		Pn	05 07 43.5	-3.8
AZCA	Azaras, Argent	14.82	127	*eP*		P	05 07 54.2	-1.5
BO01	Tunca	14.88	186	P		P	05 07 57.2	+0.8
BO02	Sierra Bellavi	15.25	185	P		P	05 08 01.4	+0.9
TBTG	Tabatinga, AM	15.28	358	Pn		Pn	05 07 56.9	-1.3
TBTG				IAmb		IAmb	05 08 01.2	
	comp=Z,18nm,0.6s							
CLDB	Colider	15.59	58	*eP*		Pn	05 08 00.5	-1.7
UNIS	Unistalda (Bra	16.03	129	*eP*		P	05 08 09.6	+0.5
CRSM	Crissiumal (Br	16.04	122	*eP*		P	05 08 08.9	-0.3
FRBT	Francisco Belt	16.25	116	*eP*		P	05 08 11.3	-0.4
H03N1	Juan Fernandez	16.30	210	T		T	05 24 56.2	
	baz=32,slow=72,SNR=19							
H03N2	Juan Fernandez	16.31	210	T		T	05 24 58.4	
	baz=32,slow=72,SNR=18							
H03N3	Juan Fernandez	16.32	210	T		T	05 24 36.2	
	baz=32,slow=72,SNR=4.9							
PTGB	Pitanga	16.74	111	*eP*		P	05 08 17.5	+0.4
PCMB	Pacaembu	16.98	100	*eP*		P	05 08 19.7	0.0
ALGR	Alto Alegre (B	17.43	125	*eP*		P	05 08 25.4	+0.7
ITAB	Concordia	17.48	119	*eP*		P	05 08 26.5	+1.3
ITRB	Iturama	17.81	94	*eP*		Pn	05 08 28.8	-0.7
MACA	Manacapuru-AM	18.31	28			P	05 08 32.5	-1.8
MACA				IAmb		IAmb	05 08 35.8	
	comp=Z,24nm,0.6s							
MACA	Manacapuru-AM	18.31	28	*eP*		P	05 08 33.0	-1.4
NPGB	Novo Progresso	18.35	49	*eP*		P	05 08 33.1	-1.7
BOSC	San Juan Bosco	18.62	330	P		P	05 08 39.0	+1.0
FRTB	Fartura	18.72	105	*eP*		Pn	05 08 39.2	-1.2
SNDB	Serra Nova Dou	18.85	69	*eP*		P	05 08 39.4	-0.8
SGCB	S£o Gabriel d	19.42	7	*eP*		P	05 08 44.9	-1.7
TRQA	Tornquist	19.51	163	P		P	05 08 47.0	-0.3
TRQA				IAmb		IAmb	05 08 48.1	
	comp=Z,17nm,0.9s							
TIJ01	Guaruva-PR	19.58	111	*eP*		P	05 08 48.7	+0.4
IPMB	Ipameri, GO	20.00	89	*eP*		P	05 08 52.2	-0.6
ITTB	Itaituba	20.04	43	*eP*		P	05 08 51.5	-1.7
RCLB	Rio Claro- Sao	20.49	102	*eP*		P	05 08 57.9	-0.2
BDFB	Brasilia	20.62	83	P		P	05 09 00.2	+0.6
	comp=Z,4.2nm,0.5s,baz=247,slow=9.6,SNR=17							
	comp=Z,4.2nm,0.5s							
BDFB	Brasilia	20.62	83	*eP*		P	05 08 60.0	+0.4
PLCA	Paso Flores	21.15	183	P		P	05 09 05.7	+0.7
	comp=Z,7.1nm,0.8s,baz=354,slow=10,SNR=11							
	comp=Z,7.1nm,0.8s							
PLCA	Paso Flores	21.15	183	*eP*		P	05 09 07.9	+2.9
PMNB	Patos De Minas	21.60	91	*eP*		P	05 09 08.6	-1.4
PRPB	Parauapebas	23.12	57	*eP*		P	05 09 24.9	-0.6
BOAV	Boa Vista	23.43	22	P		P	05 09 26.8	-1.6
BOAV				IAmb		IAmb	05 09 28.3	
	comp=Z,13nm,0.7s							
BOAV	Boa Vista	23.43	22	*eP*		P	05 09 27.1	-1.3
SMTB	Santa Maria do	23.51	66	*eP*		P	05 09 28.8	-0.4
MC01	Montes Claros	24.22	87	*eP*		P	05 09 35.4	-0.3
JANB	Januaria	24.23	83	*eP*		P	05 09 34.7	-1.0
DIAM	Diamantina, MG	24.24	91	*eP*		P	05 09 36.0	+0.1
SDBA	SAO DESIDERIO	24.45	77	*eP*		P	05 09 36.5	-1.3
DUB01	Friburgo-RJ	25.25	100	*eP*		P	05 09 45.0	0.0
MCPB	Macapa, AP	25.45	43	*eP*		P	05 09 46.0	-0.8
PCRV	Puerto La Cruz	29.88	9	P		P	05 10 26.4	+0.1
	comp=Z,4.8nm,0.7s,baz=180,slow=1.0,SNR=5.8							
	comp=Z,4.8nm,0.7s							
TXAR	Lajitas Array	58.84	325	P		P	05 14 16.4	0.0
	comp=Z,0.2nm,0.8s,baz=126,slow=6.1,SNR=2.0							
	comp=Z,0.2nm,0.8s							
QSPA	South Pole Qui	70.64	180	P		P	05 15 33.7	+1.1
	comp=Z,1.7nm,0.6s,baz=102,slow=2.6,SNR=12							
	comp=Z,1.7nm,0.6s							
TORD	Torodi Ar. Bea	77.02	71	P		P	05 16 09.3	-1.2
	comp=Z,0.7nm,0.3s,baz=251,slow=5.5,SNR=11							
TORD				pP		pP	05 16 36.9	-0.6
	comp=Z,0.9nm,0.5s,baz=253,slow=5.7,SNR=3.5							
	comp=Z,0.7nm,0.3s							
VNDA	Vanda	78.71	190	P		P	05 16 20.8	+2.0
	comp=Z,0.5nm,0.7s,baz=126,slow=2.3,SNR=3.7							
	comp=Z,0.5nm,0.7s							
YKA	Yellowknife Ar	89.24	341	P		P	05 17 11.7	-0.5
	comp=Z,2.3nm,0.8s,baz=140,slow=4.3,SNR=5.8							
YKA				pP		pP	05 17 40.3	+0.8
	comp=Z,2.8nm,0.8s,baz=138,slow=4.8,SNR=5.5							
	comp=Z,2.3nm,0.8s							
H11S2	WAKE ISLAND Hyl	27.28	279	T		T	07 42 56.4	
	baz=101,slow=75,SNR=12							
H11S1	WAKE ISLAND Hyl	27.29	279	T		T	07 42 57.7	
	baz=101,slow=75,SNR=10							
H11S3	WAKE ISLAND Hyl	27.30	279	T		T	07 42 54.9	
	baz=101,slow=75,SNR=6.9							
H11N3	WAKE ISLAND Hyl	27.31	280	T		T	07 42 58.5	
	baz=100,slow=74,SNR=7.0							
H11N2	WAKE ISLAND Hyl	27.32	280	T		T	07 43 01.1	
	baz=100,slow=74,SNR=7.0							
H11N1	WAKE ISLAND Hyl	27.33	280	T		T	07 43 01.2	
	baz=100							
WRA	Warramunga Arr	134.45	212	PKP		PKPdf	05 23 35.4	+0.1
	comp=Z,0.4nm,0.4s,baz=141,slow=1.6,SNR=5.4							
KLR	Kul'dur	145.92	335	PKPbc		PKPdf	05 23 56.1	+1.1
	comp=Z,1.3nm,0.6s,baz=56,slow=3.6,SNR=4.5							
SONM	Songino Array	151.56	6	PKPbc		PKPbc	05 24 11.0	+0.4
	comp=Z,1.6nm,0.5s,baz=325,slow=1.2,SNR=8.6							
SONM				pPKPbc		pPKPbc	05 24 39.4	+0.1
	comp=Z,0.8nm,0.7s,baz=250,slow=1.9,SNR=3.6							

WEL ***15*** *05:07:31.0±0.4, 42°S±3°×17°4E±°, h12km±3km, M3.8/19, ML4.0/19, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=126.1*

IDC ***15*** *05:07:30.8±2.7, 42°30S×173°42E, h0km, mb3.3/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=54.0km s-min=37.1km az=121.0*

NOU ***15*** *05:07:31.1, 42°43S×173°75E, h10km, MLv4.9/10, South Island, New Zealand*

ISC 15 05:07:30.0±1.0, 42°40S±0°03×173°85E±0°03, h12km±7km, n85, σ1°42/93, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.23	267	P	Pg	05 07 35.8	+0.9
KHZ	Kahutara	0.23	267	P	Pg	05 07 35.7	+0.9
KHZ				S	Sg	05 07 38.6	+0.5
BSWZ	Blackbirch Sta	0.69	2	P	Pg	05 07 43.5	+0.2
BSWZ				S	Sg	05 07 52.2	-0.2
CMWZ	Cape Campbell	0.71	23	P	Pn	05 07 46.0	+0.2
CMWZ				S	Sn	05 07 58.3	+1.7
GVZ	Greta Valley S	0.82	227	P	Pn	05 07 48.3	+0.9
GVZ				S	Sn	05 08 01.0	+1.5
THZ	Tophouse	0.95	312	P	Pg	05 07 46.5	-1.8
THZ				S	Sg	05 07 57.2	-3.5
TUWZ	Tuamarina	0.98	4	P	Pg	05 07 48.8	0.0
TUWZ				S	Sg	05 08 02.3	+0.8
AMCZ	Amberley	1.17	228	P	Pb	05 07 52.6	+0.5
LTZ	Lake Taylor	1.23	252	P	Pg	05 07 52.9	-0.7
LTZ				S	Sg	05 08 08.8	-0.7
TCW	Tory Channel	1.23	15	P	Pg	05 07 53.1	-0.6
NNZ	Nelson	1.24	343	P	Pn	05 07 51.7	-1.4
SNZO	South Karori	1.27	31	P	Pn	05 07 54.2	+0.8
MRNZ	Matariki Terra	1.29	321	P	Pn	05 07 53.1	-0.7
WEL	Wellington	1.31	32	P	Pb	05 07 54.7	+0.2
PLWZ	Palliser	1.34	52	P	Pb	05 07 55.1	+0.1
MSWZ	Moikau Station	1.44	47	P	Pg	05 07 56.4	-1.2
OKCZ	Okains Bay	1.44	203	P	Pg	05 07 56.8	-0.8
TKNZ	Takaka Hill	1.52	334	P	Pn	05 07 56.9	-0.1
PAWZ	Paruwai Farm	1.56	50	P	Pb	05 07 57.9	-0.9
MQZ	McQueen's Vall	1.57	214	P	Pn	05 07 57.5	-0.1
CAW	Cannon Point	1.58	36	P	Pb	05 07 58.3	-0.9
DUWZ	D'Urville Isla	1.60	2	P	Pn	05 07 58.2	+0.1
OXZ	Oxford	1.62	235	P	Pn	05 07 57.8	-0.5
AKCZ	Akaroa Harbour	1.62	205	P	Pb	05 07 59.0	-0.8
DSZ	Denniston Nort	1.66	293	P	Pn	05 07 59.0	+0.1
TRWZ	Traveller	1.70	54	P	Pb	05 07 60.0	-1.2
KIW	Kapiti Island	1.73	28	P	Pn	05 08 00.5	+0.6
MTW	Mount Morrison	1.75	45	P	Pn	05 08 00.3	+0.1
INZ	Inchbonnie	1.81	255	P	Pn	05 08 00.7	-0.2
RACZ	Rakaia	1.82	223	P	Pn	05 08 00.9	-0.2
QRZ	Quartz Range	1.86	327	P	Pn	05 08 02.1	+0.4
QRZ	Quartz Range	1.86	327	P	Pn	05 08 02.2	+0.5
OGWZ	Otaki Gorge	1.87	32	P	Pn	05 08 02.1	+0.3
HOWZ	Holdsworth Sta	1.96	40	P	Pg	05 08 06.5	-1.0
TMWZ	Te Maipa	2.00	50	P	Pn	05 08 03.6	0.0
WACZ	Wakanui South	2.13	223	P	Pn	05 08 05.3	0.0
MRZ	Mangatainoka R	2.17	37	P	Pn	05 08 05.9	0.0
WVZ	Waitaha Valley	2.39	253	P	Pn	05 08 08.9	0.0
RPZ	Rata Peaks	2.43	236	Pn	Pn	05 08 09.3	-0.3
	12nm,0.3s,baz=235,slow=1.9,SNR=15							
RPZ				Sn	Sn	05 08 37.6	-1.5
	22nm,0.3s,baz=327,slow=24,SNR=24							
	31nm,0.3s							
RPZ	Rata Peaks	2.43	236	P	Pn	05 08 09.2	-0.3
RPZ	Rata Peaks	2.43	236	P	Pn	05 08 09.1	-0.4
OHWZ	Ohakea	2.46	27	P	Pn	05 08 11.7	+1.8
POWZ	Post Office Ro	2.48	36	P	Pn	05 08 10.5	+0.4
ARCZ	Arundel	2.49	231	P	Pn	05 08 10.3	-0.1
DVHZ	Dannevirke	2.73	40	P	Pb	05 08 19.2	+0.4
GCSZ	Gaunt Creek Bo	2.75	249	P	Pn	05 08 15.6	+1.8
WAZ	Wanganui	2.78	18	P	Pn	05 08 16.6	+2.2
TSZ	Takapari Road	2.83	35	P	Pn	05 08 14.8	-0.3
TMZ	Timaru	2.86	225	P	Pn	05 08 15.5	0.0
LREZ	Lake Rotokare	2.97	8	P	Pb	05 08 21.6	-1.2
NMEZ	Namu Road	2.99	0	P	Pb	05 08 21.8	-1.3
PRHZ	Porangahau	2.99	45	P	Pn	05 08 17.3	+0.1
PNHZ	Pukenui	3.06	36	P	Pn	05 08 17.5	-0.6
KHEZ	Kahui Hut	3.11	2	P	Pn	05 08 21.7	+2.8
KHEZ	Kahui Hut	3.11	2	P	Pn	05 08 22.6	+3.7
NBEZ	Newall Road No	3.13	0	P	Pn	05 08 22.8	+3.7
NEZ	North Egmont	3.14	4	P	Pn	05 08 22.8	+3.6
FOZ	Fox Glacier	3.17	248	P	Pn	05 08 21.2	+1.6
PKE	Pukeiti	3.21	2	P	Pn	05 08 22.6	+2.4
MOVZ	Moawhango	3.32	26	P	Pn	05 08 21.8	0.0
LBZ	Lake Benmore	3.33	232	P	Pn	05 08 21.8	0.0
WNVZ	Wahianoa	3.35	24	P	Pn	05 08 23.6	+1.4
TRVZ	Turoa	3.36	23	P	Pb	05 08 28.7	-0.9
WHVZ	Whangaehu Hut	3.39	24	P	Pb	05 08 28.0	-2.0
SNVZ	South Ngauruho	3.49	24	P	Pn	05 08 27.2	+2.9
ODZ	Otahua Downs	3.52	220	P	Pn	05 08 24.2	-0.2
ODZ	Otahua Downs	3.52	220	P	Pn	05 08 24.2	-0.2
OTVZ	Oturere	3.52	24	P	Pn	05 08 25.5	+0.9
NNVZ	North Ngauruho	3.53	23	P	Pn	05 08 26.3	+1.5
BKZ	Black Stump Fm	3.81	33	P	Pb	05 08 35.4	-1.7
HIZ	Hauiti	3.96	12	P	Pn	05 08 32.3	+1.8
HIZ	Hauiti	3.96	12	P	Pn	05 08 32.6	+2.0
JCZ	Jackson Bay	4.06	244	P	Pn	05 08 32.7	+0.8
JCZ	Jackson Bay	4.06	244	P	Pn	05 08 36.3	+4.3
EAZ	Earnscleugh	4.33	228	P	Pn	05 08 35.1	-0.6
RIGZ	Rimuhau	4.75	40	P	Pn	05 08 43.6	+2.2
TOZ	Tahuroa Road	4.84	16	P	Pn	05 08 43.0	+0.5
SYZ	Scrubby Hill	5.33	218	P	Pn	05 08 49.9	+0.6
AWAZ	Awhitu Peninsu	5.37	7	P	Pn	05 08 51.1	+1.2
MKAZ	Moumakai	5.39	11	P	Pn	05 08 50.5	+0.4
ETAZ	East Tamaki Re	5.51	9	P	Pn	05 08 53.0	+1.2
CTZ	Chatham Island	7.11	104	P	Pn	05 09 16.3	+2.6
	94nm,1.6s							
ASAR	Alice Springs	37.92	287	P	P	05 14 47.9	+0.6
	0.3nm,0.7s,baz=119,slow=6.7,SNR=2.4							
	0.3nm,0.7s							
WRA	Warramunga Arr	40.06	292	P	P	05 15 04.2	-0.9
	0.2nm,0.3s,baz=126,slow=9.1,SNR=2.3							
	0.2nm,0.3s							
TORD	Torodi Ar. Bea	150.06	195	PKPbc	PKiKP	05 27 23.3	+1.6
	0.5nm,0.8s,baz=147,slow=1.4,SNR=2.4							

WEL ***15*** *05:09:00, 42°27S×173°62E, h17km, ML5.4, Mw5.1, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁶ Nm; Mrr5.30; Mθθ-1.03; Mϕϕ-4.26; Mrθ0.92; Mrϕ-2.36; Mθϕ1.03; Fault plane solution: M₀5.58000×10¹⁶ NP1: ϕ₂204.00000°, δ38.00000°, λ84.00000°. NP2:ϕ₂31.00000°, δ52.00000°, λ94.00000°. Principal axes: T -5672.0800, Plg82.0000°, Azm324.00000°; N 189.4100, Plg3.0000°, Azm208.0000°; P 5482.6700, Plg7.0000°, Azm118.0000°;*

IDC ***15*** *05:09:23.8±0.5, 42°08S×173°72E, h0km, mb4.7/10, mbtmp4.8/11, ML5.0/1, MS4.6/33 Error ellipse: s-maj=20.6km s-min=18.0km az=56.0*

NEIC ***15*** *05:09:25.2±1.9, 42°35S±0°04×173°75E±0°05, h10km±1km, mb5.3/42, Mwr5.1/52, ML5.4(WEL), Error ellipse: s-maj=7.3km s-min=5.7km az=122.0*

MOS ***15*** *05:09:25.5±1.0, 42°33S×173°47E, h17km, mb5.0/13, Error ellipse: s-maj=15.8km s-min=12.2km az=45.0*

NEIC ***15*** *05:09:26.8, 42°34S×173°72E, h21km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr4.73; Mθθ-0.68; Mϕϕ-4.05; Mrθ0.27; Mϕϕ-1.93; Mθr1.79; Fault plane solution: M₀5.16000×10¹⁶ NP1:ϕ₂210.33000°, δ35.33000°, λ99.45000°. NP2:ϕ₂18.81000°, δ55.22000°, λ83.36000°. Principal axes: T 5.0813, Plg79.0000°, Azm264.0000°; N 0.1521, Plg5.0000°, Azm23.0000°; P -5.2333, Plg10.0000°, Azm114.0000°;*

WEL ***15*** *05:09:27.6±0.5, 42°S±3°×17°4E±°, h11km±4km, M5.3/13, ML5.6/13, MLv5.3/13 Error ellipse: s-maj=0.0km s-min=0.0km az=126.1*

NOU ***15*** *05:09:28.5, 42°50S×173°93E, h41km, mb5.1/68, South Island, New Zealand*

GCMT ***15*** *05:09:29.2±0.2, 42°40S±0°02×173°62E±0°02, h22km, MW5.1/110, Moment Tensor Solution. s71, c96; s110, c148; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.72±.18; Mθθ-1.71±.12; Mϕϕ-4.00±.11; Mrθ1.17±.21; Mθϕ-2.12±.07; Mrϕ2.58±.19; Best double couple: M₀6.17900×10¹⁶ NP1:ϕ₂28.00000°, δ59.00000°, λ87.00000°. NP2:ϕ₂213.00000°, δ31.00000°, λ94.00000°. Principal axes: T 6.4130, Plg76.0000°, Azm290.0000°; N -0.4580, Plg2.0000°, Azm29.0000°; P -5.9450, Plg14.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 05:09:25.7±0.7, 42°31S±0°02×173°73E±0°02, h13km±4km, n532, σ1°35/502, mb5.1/79, MS4.6/41, 11C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.18	233		Pb	05 09 31.8	+0.9
KHZ	Kahutara	0.18	233	P	Pb	05 09 31.9	+1.1
BSWZ	Blackbirch Sta	0.60	10		Pn	05 09 39.2	-0.9
BSWZ	Blackbirch Sta	0.60	10	P	Pn	05 09 39.3	-0.7
BSWZ				S	Sn	05 09 48.2	-1.4
CMWZ	Cape Campbell	0.67	33		Pn	05 09 42.0	+1.2
CMWZ	Cape Campbell	0.67	33	P	Pn	05 09 42.2	+1.3
CMWZ				S	Sn	05 09 53.5	+2.3
THZ	Tophouse	0.82	311		Pb	05 09 42.2	+0.3
THZ	Tophouse	0.82	311	P	Pb	05 09 42.3	+0.3
THZ				S	Sb	05 09 53.0	+0.1
GVZ	Greta Valley S	0.83	218		Pn	05 09 43.8	+0.5
GVZ	Greta Valley S	0.83	218	P	Pn	05 09 43.3	+0.1
GVZ				S	Sn	05 09 56.2	+0.8
TUWZ	Tuamarina	0.89	10		Pn	05 09 44.2	+0.2
TUWZ	Tuamarina	0.89	10	P	Pn	05 09 44.5	+0.5
NNZ	Nelson	1.12	346	Pn	Pg	05 09 47.5	+0.2
NNZ	Nelson	1.12	346	P	Pg	05 09 47.7	+0.4
MRNZ	Matariki Terra	1.17	321	Pn	Pg	05 09 48.1	0.0
MRNZ	Matariki Terra	1.17	321	P	Pg	05 09 48.6	+0.5
TCW	Tory Channel	1.17	21	Pn	Pg	05 09 48.8	+0.6
TCW	Tory Channel	1.17	21	P	Pg	05 09 48.6	+0.4
TCW				S	Sn	05 10 04.7	+1.0
AMCZ	Amberley	1.18	222	Pn	Pn	05 09 47.8	-0.1
AMCZ	Amberley	1.18	222	P	Pg	05 09 48.3	0.0
LTZ	Lake Taylor	1.18	246	Pn	Pg	05 09 48.2	-0.2
LTZ	Lake Taylor	1.18	246	P	Pg	05 09 48.3	0.0
LTZ				S	Sn	05 10 04.9	+1.0
SNZO	South Karori	1.23	36	Pn	Pg	05 09 49.6	+0.2
SNZO	South Karori	1.23	36	P	Pg	05 09 49.9	+0.5
WEL	Wellington	1.28	37	P	Pg	05 09 50.5	+0.1
WEL	Wellington	1.28	37	P	Pg	05 09 50.5	+0.1
PLWZ	Palliser	1.36	57	Pn	Pn	05 09 50.6	+0.2
PLWZ	Palliser	1.36	57	P	Pb	05 09 50.9	-0.1
TKNZ	Takaka Hill	1.40	335	Pn	Pb	05 09 51.9	+0.2
TKNZ	Takaka Hill	1.40	335	P	Pg	05 09 52.3	-0.3
MSWZ	Moikau Station	1.44	52	Pn	Pn	05 09 51.9	+0.4
MSWZ	Moikau Station	1.44	52	P	Pb	05 09 52.1	-0.4
OKCZ	Okains Bay	1.50	199	P	Pn	05 09 52.6	+0.3
DUWZ	D'Urville Isla	1.51	5	P	Pb	05 09 53.6	0.0
DUWZ				S	Sg	05 10 14.9	+0.5
DSZ	Denniston Nort	1.54	291	Pn	Pb	05 09 53.8	-0.4
DSZ	Denniston Nort	1.54	291	P	Pb	05 09 53.9	-0.2
DSZ				S	Sg	05 10 14.6	-0.7
CAW	Cannon Point	1.56	40	P	Pb	05 09 54.0	-0.5
PAWZ	Paruwai Farm	1.57	54	P	Pn	05 09 53.5	+0.2
MQZ	McQueen's Vall	1.60	209	Pn	Pn	05 09 53.1	-0.6
MQZ	McQueen's Vall	1.60	209	P	Pn	05 09 53.1	-0.6
OXZ	Oxford	1.61	230	Pn	Pn	05 09 53.3	-0.5
OXZ	Oxford	1.61	230	P	Pn	05 09 53.4	-0.5
AKCZ	Akaroa Harbour	1.67	201	P	Pn	05 09 54.6	-0.2
KIW	Kapiti Island	1.70	32	P	Pb	05 09 56.3	-0.5
TRWZ	Traveller	1.72	59	P	Pn	05 09 55.5	+0.1
QRZ	Quartz Range	1.74	328	Pn	Pb	05 09 57.1	-0.3
QRZ	Quartz Range	1.74	328	P	Pb	05 09 57.4	0.0
INZ	Inchbonnie	1.74	255	Pn	Pn	05 09 55.8	+0.2
INZ	Inchbonnie	1.74	255	P	Pn	05 09 56.2	+0.6
MTW	Mount Morrison	1.75	50	P	Pn	05 09 56.0	+0.2
RACZ	Rakaia	1.84	219	P	Pn	05 09 56.4	+0.6
OGWZ	Otaki Gorge	1.84	36	P	Pn	05 09 57.8	+0.8
HOWZ	Holdsworth Sta	1.94	44	P	Pn	05 09 58.9	+0.5
MHCZ	Mount Hutt	2.00	232	P	Pn	05 09 59.0	-0.3
TMWZ	Te Maipa	2.01	54	P	Pn	05 09 59.4	-0.1
WACZ	Wakanui South	2.14	220	P	Pn	05 10 00.6	-0.5
MRZ	Mangatainoka R	2.15	41	Pn	Pn	05 10 01.7	+0.3
MRZ	Mangatainoka R	2.15	41	P	Pn	05 10 01.8	+0.5
TIWZ	Tintock	2.23	47	P	Pn	05 10 03.2	+0.8
CPWZ	Castlepoint	2.32	54	P	Pn	05 10 04.2	+0.6
WVZ	Waitaha Valley	2.34	250	P	Pn	05 10 04.

AWAZ Awhitu Peninsu 5.29 8 P **Pn** **05 10 46.5 +2.1**
RUGZ Raukumara Rang 5.29 36 P **Pn** **05 10 44.2 -0.3**
MKAZ Moumakai 5.31 12 P **Pn** **05 10 46.4 +1.6**
SYZ Scrubby Hill 5.36 216 P **Pn** **05 10 45.2 -0.1**
265nm,0.7s
SYZ Scrubby Hill 5.36 216 P **Pn** **05 10 45.3 -0.1**
WTAZ Waiatarua 5.41 7 P **Pn** **05 10 48.4 +2.3**
ETAZ East Tamaki Re 5.43 10 P **Pn** **05 10 48.8 +2.4**
PUZ Puketiti 5.47 41 P **Pn** **05 10 45.2 -1.7**
EPAZ Eden Park BICE 5.48 9 P **Pn** **05 10 49.9 +2.8**
WHZ Wether Hill Ro 5.49 227 P **Pn** **05 10 45.6 -1.6**
HAZ Te Kaha 5.51 36 P **Pn** **05 10 46.2 -1.3**
PKGZ Pakihiroa 5.53 38 P **Pn** **05 10 46.6 -1.2**
RVAZ Riverhead Bore 5.57 7 P **Pn** **05 10 51.0 +2.7**
MBAZ Motutapu North 5.61 10 P **Pn** **05 10 51.4 +2.7**
WIAZ Waiheke Island 5.62 12 P **Pn** **05 10 51.6 +2.7**
DCZ Deep Cove 5.70 234 P **Pn** **05 10 48.9 -1.2**
ABAZ Army Bay 5.76 9 P **Pn** **05 10 53.5 +2.5**
KUZ Kuaotunu 5.76 16 P **Pn** **05 10 51.7 +0.7**
494nm,1.0s
KUZ Kuaotunu 5.76 16 P **Pn** **05 10 51.5 +0.6**
MXZ Matakaoa Point 5.90 38 **Pn** **05 10 52.1 -0.7**
MXZ Matakaoa Point 5.90 38 P **Pn** **05 10 52.9 +0.1**
671nm,0.8s
MXZ Matakaoa Point 5.90 38 P **Pn** **05 10 51.4 -1.4**
APZ The Paps 6.10 220 P **Pn** **05 10 54.5 -1.1**
GRZ Great Barrier 6.20 13 P Pn 05 11 01.7 +4.8
PYZ Puysegur Point 6.36 230 P **Pn** **05 10 59.5 +0.3**
220nm,1.6s
PYZ Puysegur Point 6.36 230 P **Pn** **05 10 57.7 -1.5**
WCZ Waipu Caves 6.38 4 P **Pn** **05 11 03.3 +3.9**
OUZ Omahuta 7.08 359 Pn **Pn** **05 11 11.1 +2.1**
OUZ Omahuta 7.08 359 P **Pn** **05 11 12.2 +3.2**
230nm,0.9s
OUZ Omahuta 7.08 359 P **Pn** **05 11 12.3 +3.3**
CTZ Chatham Island 7.21 105 P **Pn** **05 11 10.6 -0.2**
253nm,0.7s
CTZ Chatham Island 7.21 105 P **Pn** **05 11 10.7 -0.2**
RAO Raoul Island 14.67 30 LR LR 05 18 19.2
comp=Z,µm,19.4s,baz=202,slow=37
RIV Riverview 19.64 288 P **Pn** **05 13 56.8 +1.3**
baz=20
CNB Canberra Magne 20.19 282 P Pn 05 14 02.1 0.0
baz=20,SNR=6.4
CNB Canberra Magne 20.19 282 P Pn 05 14 01.9 -0.2
64nm,1.6s
CAN Canberra 20.45 282 P **P** **05 14 02.2 -0.8**
CAN Canberra 20.45 282 P Pn 05 14 04.2 -0.9
59nm,1.4s
CAN Canberra 20.45 282 P **P** **05 14 02.2 -0.8**
CAN pmax pmax
comp=Z,110nm,1.6s
OUENC Ouen Island, N 20.66 342 P **P** **05 14 04.9 -0.3**
OUENC Ouen Island, N 20.66 342 P **P** **05 14 06.3 +1.1**
comp=Z,46nm,1.2s
YATNC Mamie plateau, 20.99 342 P Pn 05 14 11.5 +0.1
comp=Z,38nm,2.8s
DZM Mont Dzumac 21.08 341 *e*Pn **P** **05 14 10.2 +0.3**
comp=Z,143nm,1.4s
DZM *e*LR LR 05 19 12.9
DZM Mont Dzumac 21.08 341 P **P** **05 14 11.1 +1.3**
comp=Z,33nm,1.1s,baz=151,slow=15,SNR=13
DZM LR LR 05 21 59.9
comp=Z,2µm,18.5s,baz=181,slow=36
DZM Mont Dzumac 21.08 341 P **P** **05 14 10.7 +0.8**
DZM Mont Dzumac 21.08 341 P **P** **05 14 11.2 +1.3**
comp=Z,52nm,1.3s
NOUC Port Laguerre 21.09 341 P **P** **05 14 11.8 +1.9**
comp=Z,46nm,1.3s
ARMA Armidale 21.32 297 P **P** **05 14 14.7 +2.3**
baz=22,SNR=4.3
ARMA Armidale 21.32 297 P **P** **05 14 12.8 +0.3**
ARMA IAmb IAmb 05 14 23.3
comp=Z,231nm,1.9s
ARMA Armidale 21.32 297 P **P** **05 14 15.0 +2.5**
comp=Z,61nm,1.8s
AUPHS Peel High Scho 21.39 294 P **P** **05 14 15.7 +2.6**
comp=Z,50nm,2.0s
TOO Toolangi 22.11 273 P **P** **05 14 22.1 +1.2**
baz=22,SNR=5.6
TOO Toolangi 22.11 273 P **P** **05 14 20.9 0.0**
TOO Toolangi 22.11 273 P **P** **05 14 22.5 +1.6**
comp=Z,40nm,1.7s
TOO Toolangi 22.11 273 P **P** **05 14 20.9 0.0**
TOO pmax pmax
comp=Z,72nm,1.4s
LIFNC LIFOU 22.15 344 P **P** **05 14 21.5 +0.2**
LIFNC LIFOU 22.15 344 P **P** **05 14 23.1 +1.8**
comp=Z,223nm,1.7s
KOUNC Koumac, New Ca 23.11 337 P **P** **05 14 31.2 -0.1**
KOUNC Koumac, New Ca 23.11 337 P **P** **05 14 33.5 +2.1**
comp=Z,157nm,1.6s
BRAT Ballarat 23.28 272 P **P** **05 14 34.4 +1.4**
comp=Z,34nm,1.2s
AULRC Lightning Ridg 24.40 293 P **P** **05 14 45.9 +2.1**
comp=Z,101nm,1.4s
MSVF Nonsavu 24.77 10 P **P** **05 14 45.7 -1.6**
comp=Z,25nm,1.1s,baz=126,slow=9.0,SNR=7.0
comp=Z,25nm,1.1s
MSVF Nonsavu 24.77 10 P **P** **05 14 45.2 -2.1**
MSVF IAmb IAmb 05 15 12.9
comp=Z,47nm,1.0s
MSVF Nonsavu 24.77 10 P **P** **05 14 46.6 -0.7**
comp=Z,47nm,1.1s
MSVF Nonsavu 24.77 10 *i*P **P** **05 14 44.4 -2.9**
MSVF pmax pmax
comp=Z,42nm,0.9s
ARPS Mount Arapiles 25.12 272 P **P** **05 14 50.9 +0.7**
baz=25,SNR=10
ARPS Mount Arapiles 25.12 272 P **P** **05 14 51.3 +1.0**
comp=Z,49nm,1.0s
EIDS Eidsvold 25.17 305 P **P** **05 14 51.1 +0.3**
baz=25,SNR=4.0
EIDS Eidsvold 25.17 305 P **P** **05 14 49.8 -1.0**
EIDS IAmb IAmb 05 15 01.3
comp=Z,94nm,1.8s
EIDS Eidsvold 25.17 305 P **P** **05 14 51.3 +0.5**
comp=Z,25nm,1.7s
RMQ Roma 25.82 300 P **P** **05 14 57.9 +1.1**
baz=26,SNR=6.5
RMQ Roma 25.82 300 P **P** **05 15 00.5 +3.7**
comp=Z,34nm,1.1s
STKA Stephens Creek 27.52 282 P **P** **05 15 12.8 +0.7**
comp=Z,12nm,1.0s,baz=119,slow=9.8,SNR=15
STKA LR LR 05 25 28.0
comp=Z,1µm,18.0s,baz=139,slow=35
comp=Z,12nm,1.0s
STKA Stephens Creek 27.52 282 P **P** **05 15 12.8 +0.7**
baz=28,SNR=9.4
STKA Stephens Creek 27.52 282 P **P** **05 15 10.1 -1.9**
STKA Stephens Creek 27.52 282 P **P** **05 15 13.1 +1.1**
comp=Z,4.7nm,1.6s
STKA Stephens Creek 27.52 282 *i*P **P** **05 15 12.1 +0.1**
HTT Hallett 28.71 276 P **P** **05 15 22.9 +0.2**
baz=29,SNR=5.0
QLP Quilpie 28.76 294 P **P** **05 15 23.8 +0.7**
comp=Z,42nm,1.5s
RAR Rarotonga 30.61 55 LR LR 05 28 23.8
comp=Z,580nm,18.0s,baz=230,slow=37
LCRK Leigh Creek 30.73 281 P **P** **05 15 41.2 +0.7**
comp=Z,104nm,1.2s
BBOO Buckleboo 31.12 275 P **P** **05 15 43.8 -0.2**
baz=31,SNR=15
BBOO Buckleboo 31.12 275 P **P** **05 15 43.1 -0.8**
BBOO IAmb IAmb 05 15 45.1
comp=Z,119nm,1.8s
BBOO Buckleboo 31.12 275 P **P** **05 15 43.9 0.0**
comp=Z,34nm,1.4s
CTA Charters Tower 32.06 305 P **P** **05 15 52.2 -0.1**
comp=Z,6.7nm,0.5s,baz=101,slow=15,SNR=6.0
CTA LR LR 05 28 41.7
comp=Z,2µm,18.1s,baz=119,slow=36
comp=Z,6.7nm,0.5s
CTA Charters Tower 32.06 305 P **P** **05 15 53.4 +1.1**
comp=Z,28nm,0.9s
CTAO Charters Tower 32.06 305 P **P** **05 15 51.2 -1.1**
CTAO IAmb IAmb 05 16 01.2
comp=Z,23nm,1.0s
CTAO Charters Tower 32.06 305 P **P** **05 15 53.4 +1.1**
comp=Z,24nm,0.9s
CTAO Charters Tower 32.06 305 P **P** **05 15 51.2 -1.1**
CTAO pmax pmax
comp=Z,23nm,1.0s
MULG Mulgathing 33.86 278 P **P** **05 16 07.6 -0.4**
comp=Z,30nm,1.4s
OOD Oodnadatta 34.04 283 P **P** **05 16 10.1 +0.5**
comp=Z,39nm,1.7s
MTSU Mount Surprise 34.72 305 P **P** **05 16 16.2 +0.6**
baz=35,SNR=4.9
MTSU Mount Surprise 34.72 305 P **P** **05 16 16.4 +0.8**
comp=Z,9.9nm,1.1s
HNR Honiara 34.92 336 LR LR 05 29 28.3
comp=Z,9µm,19.0s,baz=174,slow=35
VNDA Vanda 35.66 184 LR LR 05 29 54.0
comp=Z,782nm,18.7s,baz=12,slow=34
QIS Mount Isa 35.95 296 P **P** **05 16 26.3 +0.2**
baz=36,SNR=5.0
QIS Mount Isa 35.95 296 P **P** **05 16 26.7 +0.6**
comp=Z,17nm,1.7s
AS01 Alice Springs 37.78 287 P **P** **05 16 40.8 -0.9**
comp=Z,12nm,0.9s
AS31 Alice Springs 37.81 287 P **P** **05 16 40.0 -2.0**
ASAR Alice Springs 37.81 287 P **P** **05 16 41.0 -1.0**
comp=Z,7.6nm,0.7s,baz=126,slow=5.6,SNR=40
ASAR PcP **PcP** **05 18 57.0 -1.4**
comp=Z,2.7nm,0.7s,baz=126,slow=4.1,SNR=6.8
ASAR LR LR 05 32 33.1
comp=Z,2µm,18.0s,baz=160,slow=37
comp=Z,7.6nm,0.7s
ASAR Alice Springs 37.81 287 P **P** **05 16 40.4 -1.6**
FORT Forrest 38.04 272 P **P** **05 16 43.6 -0.2**
baz=38,SNR=7.5
FORT Forrest 38.04 272 P **P** **05 16 43.2 -0.5**
FORT IAmb IAmb 05 16 44.6
comp=Z,61nm,0.9s
FORT Forrest 38.04 272 P **P** **05 16 44.0 +0.2**
comp=Z,70nm,1.1s
COEN Coen 38.66 308 P **P** **05 16 49.0 -0.1**
baz=39,SNR=4.8
PAE Paea 39.70 63 *e*T T 05 59 06.6
comp=Z,11nm,0.3s
PPT2 Papeete2 39.76 63 *e*S **S** **05 23 03.3 +1.2**
comp=Z,205nm,27.2s
PPT2 *e*SS **SnSn** **05 26 00.0 -0.2**
comp=Z,239nm,26.8s
PPT2 *e*LR LR 05 27 53.2
comp=Z,786nm,23.8s
PPT2 *e*LR LR 05 27 53.3
comp=Z,644nm,24.8s
PPT2 Papeete2 39.76 63 *e*T T 05 59 05.8
comp=Z,12nm,0.4s
PPT Papeete 39.77 63 LR LR 05 31 31.4
comp=Z,671nm,19.2s,baz=252,slow=34
WR0 Warramunga Arr 39.79 292 P **P** **05 16 56.9 -1.7**
WR0 IAmb IAmb 05 16 59.3
comp=Z,55nm,1.3s
WB1 Warramunga Ar. 39.93 292 P **P** **05 16 59.3 -0.4**
comp=Z,57nm,1.3s
WB2 Warramunga Arr 39.94 292 P **P** **05 16 59.2 -0.5**
baz=40
WB2 Warramunga Arr 39.94 292 P **P** **05 16 57.1 -2.7**
WB2 IAmb IAmb 05 17 07.8
comp=Z,40nm,0.8s
WRAB Tennant Creek 39.94 292 P **P** **05 16 58.3 -1.5**
WRAB IAmb IAmb 05 17 06.7
comp=Z,39nm,0.9s
WRAB Tennant Creek 39.94 292 P **P** **05 16 58.3 -1.5**
WRAB pmax pmax
comp=Z,39nm,0.9s
WRA Warramunga Arr 39.94 292 P **P** **05 16 59.1 -0.7**
comp=Z,23nm,0.8s,baz=129,slow=7.6,SNR=101
WRA LR LR 05 33 31.2
comp=Z,1µm,18.1s,baz=118,slow=36
comp=Z,23nm,0.8s
WB0 Warramunga Arr 40.02 292 P **P** **05 16 58.5 -2.0**
WB0 IAmb IAmb 05 17 08.4
comp=Z,35nm,0.9s
PMG Port Moresby 40.23 317 P **P** **05 17 03.0 +0.8**
comp=Z,31nm,0.7s,baz=120,slow=5.4,SNR=19
PMG LR LR 05 33 28.4
comp=Z,2µm,18.4s,baz=163,slow=36
PMG Port Moresby 40.23 317 P **P** **05 17 02.5 +0.4**
PMG IAmb IAmb 05 17 04.1
comp=Z,129nm,1.3s
PMG Port Moresby 40.23 317 P **P** **05 17 03.2 +1.1**
comp=Z,901nmcomp=Z,75nm,1.2s
PMG Port Moresby 40.23 317 P **P** **05 17 03.5 +1.4**
comp=Z,76nm,1.2s
PMG Port Moresby 40.23 317 *ce*P **P** **05 17 02.8 +0.7**
PMG pmax pmax
comp=Z,103nm,1.2s
WRKA Warakurna 41.02 280 P **P** **05 17 07.6 -1.2**
baz=41,SNR=26
WRKA Warakurna 41.02 280 P **P** **05 17 07.6 -1.2**
comp=Z,66nm,1.3s
KRVT Keravat (AS076 42.50 327 LR LR 05 34 51.4
comp=Z,908nm,18.5s,baz=286,slow=36
TARA Tarawa 43.47 359 P **P** **05 17 26.4 -2.2**
TARA Tarawa 43.47 359 P **P** **05 17 28.8 +0.2**
comp=Z,154nm,0.8s
NWAO Nogin (SRO) 44.99 263 LR LR 05 33 49.6
comp=Z,610nm,18.4s,baz=324,slow=33
KLBR Kellerberrin 45.27 265 P **P** **05 17 43.0 0.0**
baz=45,SNR=5.0
KLBR Kellerberrin 45.27 265 P **P** **05 17 42.9 -0.1**
comp=Z,61nm,1.1s
MUN Mundaring 46.22 263 P **P** **05 17 50.0 -0.5**
baz=46,SNR=4.4
KDU Kakadu 46.33 297 P **P** **05 17 50.9 -0.6**
baz=47,SNR=3.1
KDU Kakadu 46.33 297 P **P** **05 17 50.9 -0.6**
comp=Z,41nm,1.9s
MANU Manus Island 46.53 322 P **P** **05 17 52.4 -0.7**
KNRA Kununurra 46.72 291 P **P** **05 17 54.3 -0.2**
baz=47,SNR=6.3
KNRA Kununurra 46.72 291 P **P** **05 17 54.0 -0.5**
KNRA Kununurra 46.72 291 P **P** **05 17 54.3 -0.2**
comp=Z,80nm,1.7s
MTN Manton Dam 47.10 296 P **P** **05 17 57.1 -0.5**
baz=47,SNR=5.6
MTN Manton Dam 47.10 296 IAmb IAmb 05 17 58.4
comp=Z,40nm,0.9s
MTN Manton Dam 47.10 296 P **P** **05 17 57.3 -0.3**
comp=Z,59nm,1.4s
MEEK Meekatharra 47.25 271 P **P** **05 17 57.7 -0.9**
baz=47,SNR=7.5
MEEK Meekatharra 47.25 271 P **P** **05 17 57.8 -0.9**
comp=Z,36nm,1.1s
QSPA South Pole Qui 47.82 180 P **P** **05 18 05.3 +2.6**
comp=Z,10nm,1.1s,baz=31,slow=4.1,SNR=15
QSPA LR LR 05 36 48.0
comp=Z,440nm,18.4s,baz=42,slow=34
comp=Z,10nm,1.1s
MORW Morawa 47.84 267 P **P** **05 18 02.6 -0.6**
MORW IAmb IAmb 05 18 04.1
comp=Z,54nm,1.4s
MORW Morawa 47.84 267 P **P** **05 18 03.4 +0.2**
comp=Z,38nm,1.6s
PSA00 Pilbara Seismi 49.30 277 P **P** **05 18 12.8 -1.7**
PSA00 IAmb IAmb 05 18 14.5
comp=Z,56nm,1.4s
PSA00 Pilbara Seismi 49.30 277 P **P** **05 18 13.5 -1.0**
comp=Z,34nm,1.4s
MBWA Marble Bar 49.64 278 P **P** **05 18 15.6 -1.5**
MBWA IAmb IAmb 05 18 17.0
comp=Z,32nm,1.1s
MBWA Marble Bar 49.64 278 P **P** **05 18 16.0 -1.1**
comp=Z,18nm,1.3s
SMPI Sarmi 50.93 312 P **P** **05 18 24.3 -2.6**
TAOE Nuku Hiva Isla 52.36 64 *e*S **S** **05 26 03.3 0.0**
comp=Z,191nm,26.4s
TAOE *e*SS **SS** **05 29 42.8 +1.6**
comp=Z,163nm,26.5s
TAOE *e*LR LR 05 33 43.2
comp=Z,615nm,21.8s
SOEI Soe 53.98 292 P **P** **05 18 49.9 +0.2**
SOEI Soe 53.98 292 P **P** **05 18 49.5 -0.2**
comp=Z,1µmcomp=Z,91nm,1.5s
SOEI Soe 53.98 292 P **P** **05 18 51.4 +1.7**
comp=Z,90nm,1.5s
BATI Baumata 54.07 291 LR LR 05 40 59.9
comp=Z,855nm,21.4s,baz=168,slow=35
SIJI Sorong 56.14 306 LR LR 05 45 14.9
comp=Z,705nm,18.2s,baz=142,slow=38
SIJI Sorong 56.14 306 P **P** **05 19 04.2 -0.9**
comp=Z,14nm,1.1s
SWI Sorong 56.14 306 P **P** **05 19 04.5 -0.6**
comp=Z,1µmcomp=Z,34nm,1.0s
MMRI Maumere 56.17 291 IAmb IAmb 05 19 06.4
comp=Z,58nm,0.9s
MMRI Maumere 56.17 291 P **P** **05 19 06.3 +0.9**
comp=Z,70nm,0.7s
MAW Mawson 58.79 205 P **P** **05 19 24.9 +1.9**
comp=Z,5.9nm,1.1s,baz=119,slow=13,SNR=4.8
MAW LR LR 05 44 11.8
comp=Z,2µm,18.2s,baz=104,slow=35
comp=Z,5.9nm,1.1s
PLAI Plampang 59.16 287 P **P** **05 19 24.4 -2.0**
comp=Z,58nm,1.2s
PLAI Plampang 59.16 287 P **P** **05 19 26.6 +0.2**
comp=Z,56nm,1.2s
TWSI Taliwang, Sumb 59.85 287 P **P** **05 19 30.1 -1.1**
comp=Z,896nmcomp=Z,45nm,1.0s
BKSI Bulukumba 60.00 292 P **P** **05 19 31.1 -1.1**
comp=Z,473nmcomp=Z,24nm,1.5s
KAPI Kappang 60.48 292 LR LR 05 45 48.9
comp=Z,391nm,20.1s,baz=141,slow=36
KAPI Kappang 60.48 292 P **P** **05 19 35.1 -0.4**
KAPI Kappang 60.48 292 P **P** **05 19 36.6 +1.1**
comp=Z,31nm,1.5s
KAPI Kappang 60.48 292 P **P** **05 19 35.1 -0.4**
KAPI pmax pmax
comp=Z,80nm,1.6s
BNSI Bone 60.68 293 P P 05 19 49.1 +12
SPSI Sidrap Palu 61.22 293 P **P** **05 19 40.8 +0.3**
comp=Z,21nm,1.4s
LUWI Luwuk 61.36 298 P **P** **05 19 40.3 -1.2**
SRBI Singaraja 61.49 286 P **P** **05 19 42.9 +0.5**
comp=Z,1µmcomp=Z,61nm,1.7s
RPN Rapa Nui 63.02 103 LR LR 05 43 17.9
comp=Z,377nm,18.0s,baz=320,slow=32
PMSA Palmer Station 64.12 156 LR LR 05 43 12.2
comp=Z,332nm,19.1s,baz=222,slow=32
PMSA Palmer Station 64.12 156 *e*P **P** **05 20 02.4 +3.2**
TOLI2 Tolitoli 64.28 298 P **P** **05 20 00.2 -0.8**
TOLI2 IAmb IAmb 05 20 11.0
comp=Z,13nm,0.9s
TOLI2 Tolitoli 64.28 298 P **P** **05 20 01.6 +0.7**
comp=Z,16nm,1.0s
MPSI Mapaga 64.29 296 P **P** **05 19 59.6 -1.4**
comp=Z,513nmcomp=Z,17nm,1.9s
NGJI Ngawi 64.67 284 P P 05 20 15.0 +11
BBKI Banjar Baru 64.99 289 P **P** **05 20 06.1 +0.5**
TROLL Troll, Antarti 65.82 183 P **P** **05 20 11.4 +1.1**
DAV Davao City (W) 65.85 306 LR LR 05 49 23.1
comp=Z,357nm,20.5s,baz=154,slow=36
SNAA Sanae 66.30 181 P **P** **05 20 14.4 +1.1**
SNAA Sanae 66.30 181 LR LR 05 47 37.8
comp=Z,433nm,19.9s,baz=190,slow=34
SNAA Sanae 66.30 181 P **P** **05 20 14.0 +0.7**
SNAA IAmb IAmb 05 20 21.1
comp=Z,38nm,1.4s
SNAA Sanae 66.30 181 *i*P **P** **05 20 14.2 +0.9**
SNAA pmax pmax
comp=Z,16nm,1.2s
NVL N'lazarevskaya 66.48 186 *e*P **P** **05 20 13.1 -1.3**
NVL pmax pmax
comp=Z,82nm,1.4s
VNA3 Neumayer Olymp 66.73 179 P **P** **05 20 17.2 +1.2**
VNA2 Neumayer--Watz 67.07 180 P **P** **05 20 20.0 +1.8**
baz=171,slow=6.0
VNA1 Neumayer--Stat 67.34 179 P **P** **05 20 21.1 +1.3**
LEM Lembang 67.83 281 LR LR 05 52 09.4
comp=Z,425nm,18.5s,baz=148,slow=38
CNJI Cibinong 67.85 281 P **P** **05 20 24.9 +1.0**
comp=Z,43nm,1.4s
MYLDM Lahad Datu 68.83 299 P **P** **05 20 30.0 0.0**
comp=Z,22nm,0.9s
SBUM Sibu 71.03 292 P **P** **05 20 43.6 0.0**
comp=Z,12nm,1.4s
KSM Kuching 71.66 290 IAmb IAmb 05 20 48.0
comp=Z,40nm,1.1s
KSM Kuching 71.66 290 P **P** **05 20 46.7 -0.7**
comp=Z,40nm,1.1s
KSM Kuching 71.66 290 P **P** **05 20 47.4 0.0**
comp=Z,40nm,1.1s
DSRI Dabo 74.36 284 P **P** **05 21 04.1 +0.7**
comp=Z,4µmcomp=Z,29nm,0.4s
PDSI Padang 77.05 281 P **P** **05 21 17.8 -1.0**
comp=Z,20nm,1.0s
PLCA Paso Flores 78.97 136 P **P** **05 21 31.7 +2.5**
comp=Z,8.2nm,1.0s,baz=196,slow=6.5,SNR=5.0
PLCA LR LR 05 49 31.2
comp=Z,183nm,18.3s,baz=203,slow=30
comp=Z,8.2nm,1.0s
IPM Ipoh 80.34 285 IAmb IAmb 05 21 36.7
comp=Z,20nm,0.9s
IPM Ipoh 80.34 285 P **P** **05 21 36.6 -0.3**
comp=Z,31nm,0.9s
RPSI Rantau Prapat 80.63 282 IAmb IAmb 05 21 38.3
comp=Z,52nm,1.4s
GSI Gunungsitoli 80.66 280 P **P** **05 21 37.1 -1.6**
GSI Gunungsitoli 80.66 280 P **P** **05 21 39.5 +0.9**
comp=Z,95nm,1.4s
GSI Gunungsitoli 80.66 280 P **P** **05 21 39.5 +0.9**
comp=Z,95nm,1.4s
PSI Prapat 80.70 282 P **P** **05 21 37.1 -1.9**
comp=Z,508nmcomp=Z,28nm,1.3s
PSI Prapat 80.70 282 P **P** **05 21 37.2 -1.8**
comp=Z,28nm,1.3s
KULM Kulim 81.17 285 IAmb IAmb 05 21 41.9
comp=Z,72nm,1.4s
KULM Kulim 81.17 285 P **P** **05 21 41.1 -0.2**
comp=Z,36nm,1.4s
JHJ Hachijo jima 2 81.28 332 LR LR 05 54 40.4
comp=Z,169nm,21.4s,baz=116,slow=34
KCSI Kotacane, Aceh 82.03 282 P **P** **05 21 45.0 -0.9**
comp=Z,37nm,1.3s
MLSI Meulaboh, Aceh 83.53 282 P **P** **05 21 54.1 +0.4**
SURA Surathani 84.58 287 P **P** **05 21 59.8 +0.9**
comp=Z,41nm,1.4s
QIZ Qiongzhong 84.75 301 P **P** **05 22 01.6 +1.9**
QIZ Qiongzhong 84.75 301 S **S** **05 32 29.8 +2.4**
QIZ Qiongzhong 84.75 301 SS SS 05 38 00.8 +1.0
QIZ pmax pmax
comp=Z,210nm,8.8s
QIZ LR LR
comp=N,190nm,22.3s
QIZ LR LR
comp=E,190nm,15.9s
QIZ LR LR
comp=Z,170nm,22.3s
TRQA Tornquist 85.31 139 *e*P **P** **05 22 05.1 +2.7**
KSRS Korea Array 89.69 325 P **P** **05 22 23.4 +0.3**
comp=Z,3.3nm,0.8s,baz=140,slow=5.1,SNR=6.8
comp=Z,3.3nm,0.8s
KSAR Wonju Array Be 89.70 325 P **P** **05 22 22.9 -0.3**
KSAR Wonju Array Be 89.70 325 P **P** **05 22 22.9 -0.3**
WHN Wuhan 90.76 312 ⇑P **P** **05 22 28.1 -0.2**
WHN sP **sP** **05 22 34.5 +0.2**
WHN Wuhan 90.76 312 S **S** **05 33 23.1 -1.2**
CMAR Chiang Mai Arr 91.51 294 P **P** **05 22 32.5 +0.3**
comp=Z,5.6nm,1.0s,baz=154,slow=3.3,SNR=33
CMAR LR LR 06 07 35.5
comp=Z,138nm,18.7s,baz=145,slow=38
comp=Z,5.6nm,1.0s
CHTO Chiang Mai 91.75 294 P **P** **05 22 32.8 -0.4**
CHTO Chiang Mai 91.75 294 P **P** **05 22 32.8 -0.4**
CHTO pmax pmax
comp=Z,1.0nm,1.6s
GYA Guiyang 92.18 304 ⇓P **P** **05 22 37.3 +2.1**
GYA pmax pmax
comp=Z,13nm,1.3s
LVC Limon Verde 93.36 125 *e*P **P** **05 22 43.7 +2.5**
USA0B Ussuriysk Arra 93.89 331 *i*P **P** **05 22 45.2 +2.7**
PLTB Pedras Altas 94.41 141 *e*P **P** **05 22 48.7 +3.2**
RODS Rosario do Sul 94.83 139 *e*P **P** **05 22 51.2 +3.8**
PZH PanZhiHua 95.29 301 P **P** **05 22 49.3 -0.2**
PZH PanZhiHua 95.29 301 S **S** **05 33 59.3 -5.7**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,40nm,4.3s
PZH LR LR
comp=N,260nm,21.0s
PZH LR LR
comp=E,400nm,21.8s
PZH LR LR
comp=Z,670nm,23.5s
NNA Nana 95.91 112 LR LR 05 58 01.0
comp=Z,159nm,18.8s,baz=232,slow=30
UNIS Unistalda (Bra 95.94 139 *e*P **P** **05 22 55.5 +2.9**
CN2 Changchun 96.04 327 *e*P **P** **05 22 51.9 -0.4**
CN2 LR LR
comp=N,320nm,20.0s
CN2 LR LR
comp=E,330nm,20.0s
CN2 LR LR
comp=Z,340nm,22.0s
LPIG La Paz 96.19 63 LR LR 05 59 47.1
comp=Z,331nm,18.1s,baz=236,slow=32

XAN	**Xi'an**	**96.40**	**311**	⇑P		**P**	**05 22 53.8**	**-0.5**	
XAN				pP		sP	05 23 02.0	+1.7	
XAN				sP		pP	05 23 07.1	+8.4	
XAN				pmax		pmax			
	comp=Z,7.0nm,1.6s								
XAN				LR		LR			
	comp=N,180nm,16.5s								
XAN				LR		LR			
	comp=E,230nm,14.4s								
XAN				LR		LR			
	comp=Z,320nm,15.1s								
CPUP	**Villa Florida**	**97.04**	**135**	LR		LR	06 00 29.5		
	comp=Z,126nm,19.4s,baz=208,slow=32								
PALK	**Pallekele**	**97.08**	**273**	LR		LR	06 03 35.8		
	comp=Z,279nm,19.6s,baz=229,slow=34								
ALGR	**Alto Alegre (B**	**97.16**	**140**	*eP*		Pdif	05 23 02.0	+3.8	
ATAH	**Atahualpa**	**98.23**	**107**	LR		LR	05 59 52.5		
	comp=Z,134nm,18.9s,baz=231,slow=31								
KLR	**Kul'dur**	**98.34**	**334**	*i* P		Pdif	05 23 05.6	+3.0	
KLR				pmax		pmax			
	comp=Z,2.0nm,1.3s								
LPAZ	**La Paz**	**98.57**	**121**	LR		LR	05 58 55.3		
	comp=Z,72nm,18.6s,baz=230,slow=30								
LPAZ	**La Paz**	**98.57**	**121**	*eP*		Pdif	05 23 07.4	+2.1	
ITAB	**Concordia**	**98.89**	**140**	*eP*		Pdif	05 23 09.1	+3.2	
BRDH	**Bariadhala**	**99.37**	**292**	LR		LR	06 09 47.8		
	comp=Z,224nm,21.9s,baz=131,slow=36								
HHC	**Hu-ho-hao-te**	**100.03**	**317**	*eP*		**Pdif**	**05 23 13.0**	**+2.5**	
HHC				pmax		pmax			
	comp=Z,31nm,1.0s								
HHC				pmax		pmax			
	comp=Z,150nm,6.2s								
HHC				LR		LR			
	comp=N,520nm,16.5s								
HHC				LR		LR			
	comp=E,380nm,15.2s								
HHC				LR		LR			
	comp=Z,420nm,17.1s								
TXAR	**Lajitas Array**	**104.09**	**63**	PKKPbc		PKKPbc	05 39 19.2	+2.4	
	comp=Z,0.2nm,0.6s,baz=65,slow=2.8,SNR=3.7								
R33M	**Jennings River**	**111.11**	**27**	P		**PKiKP**	**05 27 58.9**	**+0.8**	
	baz=221								
ILAR	**Eielson Array**	**111.11**	**17**	PKiKP		**PKiKP**	**05 27 56.6**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=294,slow=1.8,SNR=7.6								
L29M	**L29M**	**111.85**	**21**	P		**PKiKP**	**05 28 00.4**	**+1.1**	
	baz=216								
F24K	**Squaw Lake**	**113.30**	**15**	P		**PKiKP**	**05 28 02.8**	**+0.9**	
	baz=210								
G26K	**Porcupine Rive**	**113.64**	**17**	P		**PKiKP**	**05 28 04.1**	**+1.6**	
	baz=213								
F25K	**Christian Rive**	**113.80**	**16**	P		**PKiKP**	**05 28 04.1**	**+1.2**	
	baz=212								
E27K	**Coleen River**	**115.14**	**17**	P		**PKiKP**	**05 28 07.6**	**+2.1**	
	baz=215								
WMQ	**Urumqi**	**115.19**	**307**	*eP*		**PKiKP**	**05 28 06.9**	**+0.5**	
WMQ				LR		LR			
	comp=N,430nm,19.7s								
WMQ				LR		LR			
	comp=E,440nm,19.7s								
WMQ				LR		LR			
	comp=Z,410nm,19.7s								
G30M	**tAoh Zraii Nji**	**115.42**	**19**	P		**PKiKP**	**05 28 06.2**	**+0.1**	
	baz=219								
C27K	**Jago River**	**115.90**	**15**	P		**PKiKP**	**05 28 07.4**	**+0.5**	
	baz=214								
INK	**Inuvik**	**117.11**	**19**	PKP		**PKPdf**	**05 28 08.5**	**-0.7**	
	comp=Z,2.0nm,0.8s,baz=354,slow=0.7,SNR=8.4								
TIXI	**Tiksi**	**118.01**	**345**	*i* PKiKP		**PKiKP**	**05 28 12.8**	**+2.0**	
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.0s								
WVT	**Waverly**	**118.80**	**66**	P		**PKiKP**	**05 28 14.0**	**+0.5**	
	baz=237								
YKA	**Yellowknife Ar**	**119.05**	**30**	PKP		**PKPdf**	**05 28 12.9**	**-0.2**	
	comp=Z,5.9nm,1.1s,baz=233,slow=2.0,SNR=6.4								
MKAR	**Makanchi Array**	**120.01**	**308**	PKP		**PKPdf**	**05 28 13.9**	**-1.6**	
	comp=Z,2.0nm,0.8s,baz=111,slow=2.1,SNR=7.6								
MKAR	**Makanchi Array**	**120.01**	**308***c*	*i* PKiKP		**PKPdf**	**05 28 13.8**	**-1.7**	
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
AGMN	**Agassiz Nation**	**120.18**	**51**	P		**PKiKP**	**05 28 16.0**	**+0.2**	
	baz=239								
FFC	**Flin Flon**	**120.23**	**42**	PKPdf		**PKPdf**	**05 28 14.7**	**-0.9**	
FFC	**Flin Flon**	**120.23**	**42**	PKIKP		**PKPdf**	**05 28 14.7**	**-0.9**	
C36M	**Paulatuk**	**120.28**	**21**			**PKPdf**	**05 28 14.4**	**-0.8**	
C36M	**Paulatuk**	**120.28**	**21**	P		**PKPdf**	**05 28 14.6**	**-0.7**	
	baz=230								
WCI	**Wyandotte Cave**	**120.96**	**65**	PKPdf		**PKPdf**	**05 28 16.0**	**-1.6**	
WCI	**Wyandotte Cave**	**120.96**	**65**	P		**PKiKP**	**05 28 18.8**	**+1.1**	
	baz=238								
WCI	**Wyandotte Cave**	**120.96**	**65**	PKIKP		**PKPdf**	**05 28 16.0**	**-1.6**	
ULM	**Lac du Bonnet**	**121.16**	**49**	PKP		**PKPdf**	**05 28 16.8**	**-0.7**	
	comp=Z,10nm,1.0s,baz=269,slow=2.7,SNR=4.6								
KMBO	**Kilima Mbogo**	**121.65**	**234**	PKP		**PKiKP**	**05 28 20.5**	**+0.3**	
	comp=Z,0.6nm,0.3s,baz=359,slow=5.6,SNR=3.9								
KMBO				PP		**PP**	**05 29 52.2**	**+0.3**	
	comp=Z,0.6nm,0.3s,baz=144,slow=9.1,SNR=3.3								
A36M	**Sachs Harbour**	**121.71**	**19**	PKPdf		**PKPdf**	**05 28 16.8**	**-1.1**	
A36M	**Sachs Harbour**	**121.71**	**19**	P		**PKPdf**	**05 28 17.6**	**-0.4**	
	baz=230								
EYMN	**Ely**	**122.55**	**53**	PKPdf		**PKPdf**	**05 28 17.3**	**-3.0**	
EYMN	**Ely**	**122.55**	**53**	P		**PKiKP**	**05 28 20.4**	**-0.1**	
	baz=241								
GAR	**Garm**	**123.67**	**294**			**PKiKP**	**05 28 23.2**	**0.0**	
BTK	**Batken**	**123.86**	**296**	PKPdf		**PKiKP**	**05 28 23.4**	**-0.1**	
BTK	**Batken**	**123.86**	**296**	PKIKP		**PKiKP**	**05 28 23.4**	**-0.1**	
KURK	**Kurchatov**	**124.04**	**310**			**PKPdf**	**05 28 21.2**	**-1.8**	
KURK	**Kurchatov**	**124.04**	**310***c*	*i* PKIKP		**PKPdf**	**05 28 21.9**	**-1.1**	
KURK				pmax		pmax			
	comp=Z,10.0nm,2.5s								
KKAR	**Karatay Array**	**125.51**	**299**	PKPdf		**PKPdf**	**05 28 25.1**	**-1.1**	
KKAR	**Karatay Array**	**125.51**	**299**	PKIKP		**PKPdf**	**05 28 25.1**	**-1.1**	
UOSS	**Minazif**	**126.33**	**272**			**PKPdf**	**05 28 27.8**	**-0.5**	
BVAR	**Borovoye Array**	**129.63**	**310**	PKP		**PKPdf**	**05 28 33.0**	**-0.7**	
	comp=Z,0.9nm,0.6s,baz=107,slow=1.5,SNR=5.2								
BVAR	**Borovoye Array**	**129.63**	**310**	PKIKP		**PKPdf**	**05 28 33.0**	**-0.7**	
BRVK	**Borovoye**	**129.71**	**310***c*	*i* PKIKP		**PKPdf**	**05 28 31.7**	**-2.1**	
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
ARU	**Arti**	**137.13**	**312**	*i* PKIKP		**PKPdf**	**05 28 47.8**	**+0.2**	
ARU							05 31 33.3		
ZEI	**Tsey**	**143.48**	**288**	*i* PKIKP		PKPab	05 28 55.7	-0.5	
ZEI				pmax		pmax			
	comp=Z,7.0nm,1.3s								
MARD	**Mardin**	**143.88**	**278**			PKPbc	05 28 58.3	-0.2	
LIC	**Lamto**	**144.05**	**182**⇑	*eP*		PKPbc	05 29 00.0	+0.6	
	comp=Z,26nm,0.8s								
KIC	**Kosan Boka**	**144.18**	**183**⇓	*iP*		PKPbc	05 29 00.2	+0.4	
	comp=Z,7.0nm,0.7s								
KBZ	**Khabaz**	**144.45**	**289**	PKP		**PKPab**	**05 28 59.2**	**-0.3**	
	comp=Z,15nm,0.9s,baz=148,slow=1.8,SNR=17								
KBZ	**Khabaz**	**144.45**	**289***c*	*i* PKIKP		**PKPab**	**05 28 58.5**	**-1.0**	
TIC	**Toumodi**	**144.47**	**182**⇑	*eP*		**PKPdf**	**05 29 02.5**	**+0.2**	
	comp=Z,103nm,0.3s								
DBIC	**Dimbokro**	**144.49**	**182**	PKP		PKPbc	05 29 00.8	+0.1	
	comp=Z,14nm,1.1s,baz=220,slow=3.5,SNR=5.9								
SHA1	**Shidzhatmaz**	**144.62**	**289**	*i* PKIKP		**PKPab**	**05 29 00.2**	**-0.3**	
KIV	**Kislovodsk**	**144.65**	**290**	*i* PKIKP		**PKPdf**	**05 29 01.5**	**-0.2**	
KIV				pmax		pmax			
	comp=Z,11nm,1.1s								
KIV				MLR		MLR			
	comp=Z,126nm,25.0s								
GOF	**Gofitskoye**	**144.67**	**292**⇑	*eP*		**PKPab**	**05 28 59.4**	**-1.0**	
DAG	**Danmarks Havn**	**145.03**	**5**	*i* P		**PKPbc**	**05 28 58.0**	**-2.7**	
SFJD	**Kangerlussuaq**	**145.60**	**29**	PKPbc		**PKPdf**	**05 29 02.4**	**-0.1**	
	comp=Z,25nm,0.6s,baz=276,slow=2.4,SNR=16								
SFJD	**Kangerlussuaq**	**145.60**	**29**	PKPdf		**PKPbc**	**05 29 02.8**	**0.0**	
SFJD	**Kangerlussuaq**	**145.60**	**29**	*i* P		**PKPbc**	**05 29 02.8**	**0.0**	
SFJD	**Kangerlussuaq**	**145.60**	**29**	PKP2		**PKPbc**	**05 29 02.8**	**0.0**	
SUMG	**Summit**	**145.96**	**17**	*i* P		**PKPab**	**05 29 04.6**	**-0.2**	
VRH	**Novokhopyorsk**	**146.47**	**302**	*e*PKIKP		**PKPdf**	**05 29 03.0**	**-1.4**	
VRH				pmax		pmax			
	comp=Z,20nm,1.0s								
KLMR	**Klimovskoe**	**146.93**	**320**	*e*PKPdf		**PKPdf**	**05 29 04.6**	**-0.4**	
KLMR				AMP			05 29 11.4		
	comp=Z,43nm,1.2s								
KLMR	**Klimovskoe**	**146.93**	**320**	*e*PKIKP		**PKPdf**	**05 29 04.5**	**-0.4**	
KLMR				pmax		pmax			
	comp=Z,43nm,1.2s								
BNN	**Bunyan**	**148.06**	**278**			**PKPdf**	**05 29 05.5**	**-2.3**	
VORR	**Voronezh**	**148.06**	**303**	*e*PKP2		**PKPbc**	**05 29 09.6**	**-0.7**	
VORR				pmax		pmax			
	comp=Z,77nm,0.5s								
VSR	**Storozhevoye**	**148.08**	**302**	*e*PKIKP		**PKPdf**	**05 29 06.7**	**-0.4**	
VSR				pmax		pmax			
	comp=Z,20nm,1.3s								
ARCES	**ARCESS Array B**	**148.17**	**339**	PKPbc		**PKPbc**	**05 29 09.0**	**-1.1**	
	comp=Z,8.2nm,0.8s,baz=76,slow=2.8,SNR=24								
LPSR	**Galich'ya Gora**	**148.24**	**305**	*e*PKP2		**PKPbc**	**05 29 09.5**	**-1.2**	
LPSR				pmax		pmax			
	comp=Z,50nm,1.2s								
IVI	**Ivigtut**	**148.66**	**38**			**PKPbc**	**05 29 11.9**	**+0.4**	
MOS	**Moscow**	**148.81**	**311**	*e*PKHKP		PKPpre	05 29 06.0		
OBN	**Obninsk**	**149.48**	**310***c*	*i* PKIKP		**PKPdf**	**05 29 08.9**	**-0.3**	
OBN				pmax		pmax			
	comp=Z,83nm,1.6s								
NRS	**Narsarsuaq**	**149.94**	**38**			**PKPbc**	**05 29 13.2**	**-1.5**	
NRS	**Narsarsuaq**	**149.94**	**38**	PKIKP		**PKPbc**	**05 29 13.2**	**-1.5**	
BRTR	**Keskin Array B**	**149.97**	**279**	PKPbc		**PKPbc**	**05 29 14.6**	**-1.1**	
	comp=Z,5.8nm,0.7s,baz=149,slow=5.7,SNR=17								
BRTR	**Keskin Array B**	**149.97**	**279**			**PKPbc**	**05 29 14.2**	**-1.5**	
BRTR	**Keskin Array B**	**149.97**	**279**	PKHKP		PKPpre	05 29 14.2		
TOA0	**Torodi Ar. Sit**	**150.13**	**196**			**PKPdf**	**05 29 10.4**	**-1.2**	
TORD	**Torodi Ar. Bea**	**150.13**	**196**	PKP		**PKPdf**	**05 29 12.2**	**+0.6**	
	comp=Z,7.9nm,1.1s,baz=170,slow=0.6,SNR=5.0								
TORD				PKPbc		**PKPbc**	**05 29 16.7**	**+0.1**	
	comp=Z,19nm,1.1s,baz=164,slow=1.0,SNR=48								
FINES	**FINESS Array B**	**152.78**	**326**	PKPbc		**PKPbc**	**05 29 19.9**	**-1.4**	
	comp=Z,3.9nm,0.6s,baz=57,slow=3.9,SNR=14								
AKASG	**Malin Array Be**	**154.38**	**301**	PKPbc		**PKPbc**	**05 29 24.4**	**-0.6**	
	comp=Z,0.7nm,0.5s,baz=52,slow=1.7,SNR=4.5								
AKASG				PKPab		**PKPab**	**05 29 37.9**	**-1.5**	
	comp=Z,5.2nm,0.8s,baz=67,slow=3.8,SNR=17								
AKASG	**Malin Array Be**	**154.38**	**301**			**PKPab**	**05 29 38.0**	**-1.3**	
AKASG	**Malin Array Be**	**154.38**	**301**	PKP2		**PKPab**	**05 29 38.1**	**-1.3**	
MNK	**Minsk**	**154.53**	**310**	*i* PKP		**PKPdf**	**05 29 15.7**	**-1.2**	
	comp=E,1.0nm,1.0s								
MNK				*i* PKP		**PKPdf**	**05 29 15.7**	**-1.2**	
	comp=N,14nm,1.0s								
MNK				*i* PKP		**PKPdf**	**05 29 15.7**	**-1.2**	
	comp=Z,7.0nm,1.0s,baz=75								
MNK				*i* PKiKP		**pPKPbc**	**05 29 27.8**	**-2.0**	
MNK				*i* SKP			05 32 35.9		
MNK				*i* PKS		**PKSdf**	**05 32 47.9**	**-2.9**	
MNK				*i* PP		PP	05 32 55.1	-21	
MNK				*i* SKS		SKSdf	05 36 09.2	-14	
MNK				*i* PPP		PPP	05 36 30.9		
MNK				*i* SKKS			05 42 12.9		
MNK				*i* SS		**SS**	**05 52 56.4**	**+0.2**	
MNK				*i* SSS		SSS	05 59 00.2		
MNK	**Minsk**	**154.53**	**310**	*i* PKIKP		**PKPdf**	**05 29 15.7**	**-1.2**	
MNK				*i* SS		SS	05 52 56.4	+0.1	
MNK				pmax		pmax			
	comp=N,14nm,1.0s								
MNK				pmax		pmax			
	comp=E,1.0nm,1.0s								
MNK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MLR	**Muntele Rosu**	**156.66**	**289**	PKPdf		**PKPdf**	**05 29 16.0**	**-4.2**	
MLR	**Muntele Rosu**	**156.66**	**289**	PKIKP		**PKPdf**	**05 29 16.0**	**-4.2**	
KOLS	**Kolonicke sedl**	**159.05**	**298**	*e*PKP		**PKPab**	**05 30 01.8**	**+2.2**	
KOLS	**Kolonicke sedl**	**159.05**	**298**	*e*PKP2		**PKPab**	**05 30 01.8**	**+2.2**	
UZH	**Uzhgorod**	**159.07**	**297**	*e*PKP2		**PKPab**	**05 29 57.3**	**-2.4**	
CRVS	**Cervenica-Dubn**	**159.58**	**298**	*e*PKP		**PKPab**	**05 30 02.5**	**+0.5**	
CRVS	**Cervenica-Dubn**	**159.58**	**298**	*e*PKP2		**PKPab**	**05 30 02.5**	**+0.5**	
STHS	**Stebnicka Huta**	**159.64**	**300**	*e*PKP		**PKPab**	**05 30 01.6**	**-0.6**	
STHS	**Stebnicka Huta**	**159.64**	**300**	*e*PKP2		**PKPab**	**05 30 01.6**	**-0.6**	
DIVS	**Divibare**	**160.80**	**284**	PKPdf		**PKPdf**	**05 29 23.4**	**-1.8**	
VYHS	**Vyhne**	**161.36**	**298**	*e*PKP		**PKPab**	**05 30 09.7**	**-0.1**	
VYHS	**Vyhne**	**161.36**	**298**	*e*PKP2		**PKPab**	**05 30 09.7**	**-0.1**	
MORC	**Moravsky Berou**	**161.91**	**303**	*e*PKP		**PKPab**	**05 30 12.6**	**+0.4**	
KRLC	**Kraliky**	**162.30**	**304**	*e*PKPAB		**PKPab**	**05 30 14.0**	**+0.1**	
KRLC	**Kraliky**	**162.30**	**304**	*e*PKP2		**PKPab**	**05 30 14.0**	**+0.1**	
DPC	**Dobruska-Polom**	**162.50**	**305**	*e*PKPAB		**PKPab**	**05 30 15.1**	**+0.4**	
DPC	**Dobruska-Polom**	**162.50**	**305**	*e*PKP2		**PKPab**	**05 30 15.1**	**+0.4**	
VRAC	**Vranov**	**162.63**	**302**	*e*PKP		**PKPab**	**05 30 15.7**	**+0.4**	
UPC	**Upice**	**162.63**	**306**	*e*PKPAB		**PKPab**	**05 30 15.6**	**+0.4**	
UPC	**Upice**	**162.63**	**306**	*e*PKP2		**PKPab**	**05 30 15.6**	**+0.4**	
KRUC	**Moravsky**	**162.82**	**301**	*e*PKP		**PKPab**	**05 30 16.3**	**+0.2**	
RONA	**Rosalia, Austr**	**163.18**	**296**	*e*P		**PKPab**	**05 30 18.0**	**+0.2**	
	comp=Z,3.6nm,1.1s								
PRU	**Pruhonice**	**163.70**	**305**	*e*PKPAB		**PKPab**	**05 30 20.0**	**+0.1**	
PRU	**Pruhonice**	**163.70**	**305**	*e*PKP2		**PKPab**	**05 30 20.0**	**+0.1**	
BRG	**Berggiesshubel**	**163.72**	**309**	*e*PKP		**PKPab**	**05 30 19.6**	**-0.4**	
BRG				Amp			05 30 21.2		
	comp=Z,12nm,1.1s								
BRG	**Berggiesshubel**	**163.72**	**309**	*e*PKP2		**PKPab**	**05 30 19.6**	**-0.4**	
BRG				pmax		pmax			
	comp=Z,13nm,1.1s								
ARSA	**Arzberg**	**163.78**	**295**	*e*P		**PKPab**	**05 30 20.5**	**+0.1**	
	comp=Z,8.1nm,1.2s								
CLL	**Collm**	**164.07**	**311**	*e*PKPab		**PKPab**	**05 30 20.0**	**-1.5**	
CLL				*e*PP		**PP**	**05 34 11.0**	**+3.3**	
CLL				*e*PPS		PPS	05 47 40.0		
SOKA	**Soboth**	**164.20**	**293**	*e*P		**PKPab**	**05 30 22.1**	**-0.3**	
	comp=Z,11nm,1.7s								
MOA	**Molln**	**164.49**	**298**	*e*P		**PKPab**	**05 30 23.5**	**0.0**	
	comp=Z,15nm,1.7s								
OBKA	**Obir**	**164.55**	**293**	*e*P		**PKPab**	**05 30 23.6**	**-0.3**	
	comp=Z,16nm,1.8s								
KHC	**Kasperske Hory**	**164.57**	**303**	*e*PKPAB		**PKPab**	**05 30 23.3**	**-0.6**	
KHC	**Kasperske Hory**	**164.57**	**303**	*e*PKP2		**PKPab**	**05 30 23.3**	**-0.6**	
GERES	**GERESS Array B**	**164.59**	**302**	PKPab		**PKPab**	**05 30 23.5**	**-0.5**	
	comp=Z,1.4nm,0.9s,baz=72,slow=4.3,SNR=8.2								
KEST	**Kesra**	**166.21**	**247**	PKPab		**PKPab**	**05 30 33.0**	**+1.5**	
	comp=Z,9.1nm,1.0s,baz=80,slow=2.8,SNR=4.6								
WTTA	**Wattenberg**	**166.36**	**297**	*e*P		**PKPab**	**05 30 31.3**	**-0.7**	
	comp=Z,20nm,1.4s								
WATA	**Walderalm**	**166.38**	**298**	*e*P		**PKPab**	**05 30 30.8**	**-1.2**	
	comp=Z,13nm,1.3s								
SQTA	**Sankt Quirin**	**166.65**	**298**	*e*P		**PKPab**	**05 30 32.6**	**-0.6**	
	comp=Z,15nm,1.3s								
MOTA	**Moosalm**	**166.69**	**298**	*e*P		**PKPab**	**05 30 33.1**	**-0.3**	
	comp=Z,17nm,1.5s								
RETA	**Reutte**	**166.87**	**299**	*e*P		**PKPab**	**05 30 35.8**	**+1.7**	
	comp=Z,7.5nm,1.3s								
FETA	**Feichten**	**167.02**	**297**	*e*P		**PKPab**	**05 30 34.3**	**-0.6**	
	comp=Z,14nm,1.4s								
DAVA	**Damuels**	**167.50**	**299**	*e*P		**PKPab**	**05 30 36.1**	**-0.9**	
	comp=Z,7.6nm,1.2s								
ESDC	**Sonseca Array**	**176.84**	**214**	PKP		**PKPdf**	**05 29 36.1**	**+0.6**	
	comp=Z,5.8nm,1.2s,baz=334,slow=2.4,SNR=8.9								

IDC ***15*** *05:12:44.4±0.9, 37.°37N×144.°75E, h0km, mb3.7/7, mbtmp3.6/8, ML2.8/1, Error ellipse: s-maj=31.7km s-min=21.9km az=119.0*
JMA ***15*** *05:12:49.5±0.2, 37.°6N±0.°9×14.°4E±.°, h44km, MV3.9/27, FAR E OFF NORTH HONSHU*
ISC 15 05:12:49.8±0.9, 37.°66N±0.°07×144.°62E±0.°07, h35km, n24, σ1s77/33, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.57**	**286**	P		P	**Pn**	**05 13 28.3**	**-0.6**
JIKH				S		S	**Sn**	**05 13 57.3**	**-1.7**
JIO	**Ouri**	**2.70**	**288**	P		P	**Pn**	**05 13 30.6**	**-0.1**
JIO				S		S	**Sn**	**05 14 00.7**	**-1.4**
OFUJ	**Ofunato**	**2.72**	**302**	P		P	**Pn**	**05 13 31.1**	**+0.2**
OFUJ				eS		S	**Sn**	**05 14 02.1**	**-0.5**
JKMT	**Kesennumamotoy**	**2.73**	**296**	P		P	**Pn**	**05 13 30.8**	**-0.3**
JKMT				S		S	**Sn**	**05 14 01.9**	**-0.9**
JMK	**Ichinoseki**	**2.97**	**297**	P		P	**Pn**	**05 13 34.6**	**+0.3**
JMK				S		S	**Sn**	**05 14 08.0**	**-0.7**
JOM	**Ohasama**	**3.17**	**306**	P		P	**Pn**	**05 13 38.0**	**+0.7**
JOM				eS		S	**Sn**	**05 14 14.4**	**+0.6**
JYK	**Kaneyama**	**3.58**	**292**	P		P	**Pn**	**05 13 43.7**	**+0.9**
JYK				eS		S	**Sn**	**05 14 24.3**	**+0.5**
JANG	**Nango**	**3.63**	**319**	P		P	**Pn**	**05 13 44.2**	**+0.7**
JANG				eS		S	**Sn**	**05 14 24.3**	**-0.8**
JOT	**Ohata**	**4.63**	**325**	eS		S	**Sn**	**05 14 47.9**	**-1.8**
JRY	**Ryogami san**	**4.87**	**252**	P		P	**Pn**	**05 13 58.6**	**-2.0**
JRY				eS		S	**Sn**	**05 14 50.4**	**-5.3**
JCH	**Churui**	**5.04**	**349**	P		P	**Pn**	**05 14 02.8**	**-0.1**
JCH				S		S	**Sn**	**05 14 57.6**	**-2.2**
MJAR	**Matsushiro Arr**	**5.24**	**260**	Pn		**Pn**	**05 14 05.8**	**+0.1**	
	0.3nm,0.3s,baz=89,slow=15,SNR=9.5								
	2.0nm,0.3s								
NEM2	**Nemuro 2**	**5.76**	**8**	P		**Pn**	**05 14 10.6**	**-2.2**	
NEM2				eS		**Sn**	**05 15 13.8**	**-3.8**	
JTKR	**Abashiri--Toko**	**6.33**	**355**	P		**Pn**	**05 14 20.2**	**-0.3**	
JTKR				eS		**Sn**	**05 15 28.8**	**-2.7**	
H11N2	**WAKE ISLAND Hy**	**26.37**	**126**	T		T	05 45 33.0		
	baz=318,slow=74,SNR=16								
H11N1	**WAKE ISLAND Hy**	**26.38**	**127**	T		T	05 45 32.7		
	baz=318,slow=74,SNR=10								
H11N3	**WAKE ISLAND Hy**	**26.39**	**126**	T		T	05 45 33.3		
	baz=318,slow=74,SNR=12								
ILAR	**Eielson Array**	**47.59**	**33**	P		**P**	**05 21 22.9**	**+1.2**	
	0.4nm,0.7s,baz=257,slow=6.3,SNR=5.0								
	0.4nm,0.7s								
KURBB	**Kurchatov Arra**	**47.63**	**308**	P		**P**	**05 21 23.7**	**+1.5**	
	0.7nm,0.5s,baz=82,slow=8.0,SNR=5.8								
	0.7nm,0.5s								
INK	**Inuvik**	**52.66**	**28**	P		**P**	**05 22 01.8**	**+1.7**	
	0.5nm,0.6s,baz=313,slow=8.8,SNR=5.1								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**58.11**	**191**	P		**P**	**05 22 37.6**	**-2.2**	
	0.9nm,0.6s,baz=11,slow=7.0,SNR=8.0								
	0.9nm,0.6s								
ASAR	**Alice Springs**	**61.83**	**191**	P		**P**	**05 23 03.6**	**-1.7**	
	0.3nm,0.4s,baz=17,slow=6.8,SNR=2.9								
	0.3nm,0.4s								
AKASG	**Malin Array Be**	**75.34**	**324**	P		**P**	**05 24 30.8**	**+1.4**	
	0.3nm,0.4s,baz=43,slow=6.5,SNR=3.3								
	0.3nm,0.4s								
PDAR	**Pinedale Array**	**75.39**	**47**	P		**P**	**05 24 31.0**	**+0.9**	
	0.4nm,0.7s,baz=281,slow=2.3,SNR=4.7								
	0.4nm,0.7s								

IDC ***15*** *05:19:52.2±0.9, 34.°37N×141.°52E, h0km, mb3.8/9, mbtmp3.9/12, ML3.5/3, MS3.3/5, Error ellipse: s-maj=23.2km s-min=16.3km az=94.0*
JMA ***15*** *05:19:53.1±0.4, 34.°N±1.°×14.°2E±.°, h24km±1km, MV3.4/31, FAR SE OFF BOSO PEN*
ISC 15 05:19:53.8±3.4, 34.°39N±0.°05×141.°57E±0.°07, h11km±21km, n31, σ0s74/31, mb4.0/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.55**	**299**	P		P	**Pb**	**05 20 05.7**	**+0.5**
BSO3	**Boso 3**	**0.96**	**296**	P		P	**Pb**	**05 20 12.6**	**+0.3**
BSO3				eS		S	**Sn**	**05 20 27.1**	**+0.5**
BSO4	**Boso 4**	**1.18**	**301**	P		P	**Pn**	**05 20 16.5**	**+0.4**
BSO4				eS		S	**Sb**	**05 20 32.4**	**+1.1**
JKUC	**kamogawauchiur**	**1.36**	**305**	P		P	**Pn**	**05 20 18.9**	**+0.2**
CHOJ	**Chosi**	**1.44**	**336**	P		P	**Pn**	**05 20 19.1**	**-0.6**
CHOJ				eS		S	**Sn**	**05 20 37.9**	**-0.7**
JMYK	**Miyake Tsubota**	**1.71**	**260**	eP		P	**Pn**	**05 20 23.3**	**-0.1**
JMYK				eS		S	**Sn**	**05 20

SPIA	Saint Paul Isl	8.88	42			Pn		05 39 15.2	+2.8
SPIA	Saint Paul Isl	8.88	42	P		Pn		05 39 13.5	+1.1
	baz=231								
UNV	Unalaska Valle	9.40	67	Pn		Pn		05 39 21.0	+1.5
UNV	Unalaska Valle	9.40	67	P		Pn		05 39 20.2	+0.7
	baz=259								
AKUT	Akutan	9.88	66	Pn		Pn		05 39 28.6	+2.5
FALS	False Pass	11.38	64	P		Pn		05 39 46.8	+0.3
	baz=258								
PET	Petropavlovsk	12.56	287	*e*P		Pn		05 40 01.1	-1.5
PET				pmax		pmax			
	comp=Z,16nm,1.0s								
SDPT	Sand Point	13.13	63	P		Pn		05 40 10.9	+0.4
	baz=260								
PEA0B	Petropavlovsk-	13.13	287			Pn		05 40 11.7	+1.1
PEA0B	Petropavlovsk-	13.13	287	P		Pn		05 40 11.7	+1.1
PETK	Petropavlovsk-	13.13	287	Pn		Pn		05 40 10.6	+0.1
	comp=Z,0.5nm,0.3s,baz=75,slow=17,SNR=12								
PETK				LR		LR		05 46 39.9	
	comp=Z,430nm,18.0s,baz=96,slow=44								
	comp=Z,19nm,1.0s								
PETK	Petropavlovsk-	13.13	287	Pn		Pn		05 40 10.1	-0.5
SKR	Severo-Kuril's	14.32	277	‖ *e*P		Pn		05 40 22.9	-3.8
R16K	Pilot Point	15.20	55	P		Pn		05 40 37.5	-1.0
	baz=255								
P16K	Nushagak River	15.45	50	P		Pn		05 40 41.4	-0.4
	baz=249								
O16K	Kokwok River B	15.62	48	P		Pn		05 40 43.9	+0.1
	baz=247								
N16K	Nishlik Lake	15.68	44	P		Pn		05 40 44.6	-0.1
	baz=243								
CHIR	Chirikof Islan	15.93	63	P		Pn		05 40 47.9	0.0
	baz=263								
Q16K	King Salmon	15.99	52	P		Pn		05 40 48.1	-0.5
	baz=252								
TNA	Tin City	16.08	20	P		Pn		05 40 51.1	+1.4
TNA	Tin City	16.08	20	P		Pn		05 40 48.6	-1.1
	baz=212								
O17K	Koliganek Bris	16.15	48	P		Pn		05 40 49.6	-1.1
	baz=248								
Q17K	Contact Creek	16.26	54	P		Pn		05 40 51.4	-0.8
	baz=255								
P17K	Kvichak River	16.26	50	P		Pn		05 40 51.6	-0.5
	baz=251								
Q18K	Katmai Hardscr	16.80	53	P		Pn		05 40 58.8	-0.4
	baz=254								
SII	Sitkinak Islan	16.82	60			Pn		05 40 59.7	+0.5
SII				IAmb		IAmb		05 41 12.5	
	comp=Z,110nm,1.0s								
SII	Sitkinak Islan	16.82	60	P		Pn		05 40 58.8	-0.4
	baz=262								
P18K	Big Mountain,	16.91	50	P		Pn		05 40 59.4	-1.0
	baz=252								
N18K	Kilae Creek	17.06	46			P		05 41 03.1	-0.5
N18K	Kilae Creek	17.06	46	P		Pn		05 41 00.8	-1.3
	baz=247								
O18K	Koktuh Hills	17.07	49			P		05 41 03.1	-0.7
O18K				IAmb		IAmb		05 41 06.0	
	comp=Z,61nm,0.8s								
O18K	Koktuh Hills	17.07	49	P		Pn		05 41 00.5	-1.9
	baz=250								
SVW2	Sparrevohn	17.36	45			Pn		05 41 06.0	+0.1
OHAK	Old Harbor	17.40	58	P		Pn		05 41 04.9	-1.5
OHAK	Old Harbor	17.40	58	P		Pn		05 41 05.1	-1.3
	baz=261								
Q19K	Cape Douglas,	17.56	53			P		05 41 09.0	-0.2
Q19K				IAmb		IAmb		05 41 24.0	
	comp=Z,114nm,1.1s								
O19K	Port Alsworth	17.61	48	P		Pn		05 41 08.3	-0.6
	baz=251								
N19K	Bonanza Creek	17.75	46	P		Pn		05 41 10.6	-0.2
	baz=249								
KDAK	Kodiak Island	17.87	57	Pn		Pn		05 41 09.6	-2.6
KDAK	Kodiak Island	17.87	57	P		Pn		05 41 10.7	-1.5
	baz=260								
KDAK	Kodiak Island	17.87	57	*i* P		Pn		05 41 09.5	-2.6
P19K	Oil Pt	17.96	51	P		Pn		05 41 11.0	-2.4
	baz=254								
MA2	Magadan	17.97	309	P		P		05 41 14.9	+1.2
	comp=Z,16nm,0.7s,baz=71,slow=7.9,SNR=7.3								
MA2				LR		LR		05 48 01.4	
	comp=Z,877nm,18.7s,baz=110,slow=37								
MA2	Magadan	17.97	309	⇑ *e*P		Pn		05 41 12.2	-1.2
MA2				pmax		pmax			
	comp=Z,24nm,0.9s								
TTA	Tatalina	18.01	39			P		05 41 15.8	+1.6
TTA	Tatalina	18.01	39	P		Pn		05 41 13.3	-0.7
	baz=240								
TTA	Tatalina	18.01	39	P		P		05 41 15.8	+1.6
TTA				pmax		pmax			
	comp=Z,26nm,1.0s								
ILSW	Iliamna Southw	18.10	50	P		P		05 41 15.2	-0.1
ILSW				IAmb		IAmb		05 41 21.2	
	comp=Z,47nm,1.0s								
BILL	Bilibino	18.11	345	P		Pn		05 41 13.9	-1.2
BILL	Bilibino	18.11	345	‖ *i* P		P		05 41 15.9	+0.7
BILL				*e*S		S		05 44 39.5	-1.1
BILL				pmax		pmax			
	comp=Z,41nm,1.0s								
BILL				MLR		MLR			
	comp=Z,861nm,16.0s								
L19K	White Mountain	18.13	42	P		Pn		05 41 14.4	-1.1
	baz=244								
M19K	Big River Lodg	18.21	43	P		P		05 41 16.4	0.0
	baz=246								
O20K	Slope Mountain	18.38	50	P		Pn		05 41 19.0	+0.5
	baz=253								
RSO	Redoubt South	18.43	48	P		Pn		05 41 20.4	+1.1
SEY	Seymchan	18.50	320	P		Pn		05 41 21.4	+1.5
	comp=Z,4.9nm,0.6s,baz=116,slow=13,SNR=8.1								
SEY	Seymchan	18.50	320	*ce*P		Pn		05 41 21.0	+1.1
SEY				pmax		pmax			
	comp=Z,19nm,1.3s								
GCSA	Galena City Sc	18.67	33	P		Pn		05 41 22.4	+0.5
	baz=234,SNR=13								
L20K	Farewell, AK	18.67	42	P		Pn		05 41 21.9	-0.1
	baz=245								
M20K	Styx River	18.75	44	P		Pn		05 41 23.3	+0.3
	baz=248								
N20K	Mount Spurr	18.92	46	P		P		05 41 24.6	+0.4
	baz=251								
SPCR	Spurr Chakacha	18.92	46	P		Pn		05 41 25.0	0.0
	baz=251,SNR=18								
K20K	Telida	18.99	39	P		P		05 41 24.9	+0.1
K20K	Telida	18.99	39	P		Pn		05 41 25.7	0.0
	baz=242,SNR=8.0								
BRLK	Bradley Lake	19.14	51	P		P		05 41 26.3	-0.3
BRSE	Bradley Lake S	19.20	51	P		P		05 41 27.0	-0.3
	baz=257								
CAPN	Captain Cook N	19.27	48	P		P		05 41 27.1	-0.9
	baz=253								
J20K	Nowinta River	19.36	37	IAmb		IAmb		05 41 36.0	
	comp=Z,60nm,1.1s								
J20K	Nowinta River	19.36	37	P		P		05 41 28.7	-0.1
	baz=240								
SKT	Skwentna	19.49	44	IAmb		IAmb		05 41 43.5	
	comp=Z,85nm,0.9s								
SKT	Skwentna	19.49	44	P		P		05 41 31.0	+0.6
	baz=249,SNR=16								
PPLA	Purkeypile	19.56	42	IAmb		IAmb		05 41 44.5	
	comp=Z,92nm,1.2s								
PPLA	Purkeypile	19.56	42	P		P		05 41 31.0	-0.2
	baz=246								
SUA	Susitna One	19.67	46	IAmb		IAmb		05 41 44.0	
	comp=Z,41nm,1.0s								
SUA	Susitna One	19.67	46	P		P		05 41 31.6	-0.8
	baz=252								
CAST	Castle Rocks	19.82	40	P		P		05 41 34.7	+0.7
CAST				IAmb		IAmb		05 41 35.6	
	comp=Z,53nm,1.0s								
CAST	Castle Rocks	19.82	40	P		Pn		05 41 34.9	-0.7
	baz=245,SNR=17								
O22K	Cooper Landing	19.88	50	P		P		05 41 34.4	-0.1
O22K	Cooper Landing	19.88	50	P		P		05 41 34.9	+0.3
	baz=256								
SEW	Seward	19.92	51	P		P		05 41 35.6	+0.6
SEW	Seward	19.92	51	P		P		05 41 34.9	-0.1
	baz=257								
CHUM	Lake Minchumin	19.93	39	P		Pn		05 41 36.5	-0.4
	baz=243,SNR=9.6								
RC01	Rabbit Creek A	20.03	48	P		P		05 41 36.2	0.0
RC01	Rabbit Creek A	20.03	48	P		P		05 41 36.3	0.0
	baz=254								
M22K	Willow	20.05	46	P		P		05 41 35.8	-0.6
	baz=252								
CUT	Chulitna	20.20	44	P		P		05 41 37.9	-0.1
CUT				IAmb		IAmb		05 41 42.4	
	comp=Z,59nm,0.8s								
CUT	Chulitna	20.20	44	P		P		05 41 37.5	-0.4
	baz=250								
PMR	Palmer	20.45	47	P		P		05 41 39.6	-1.1
PMR	Palmer	20.45	47	P		P		05 41 39.8	-0.9
	baz=254								
PMR	Palmer	20.45	47	P		P		05 41 39.6	-1.1
PMR				pmax		pmax			
	comp=Z,15nm,0.9s								
IMAR	Indian Mountai	20.46	33	P		P		05 41 41.5	+0.7
BPAW	Bear Paw Mtn.	20.55	39	IAmb		IAmb		05 41 55.9	
	comp=Z,39nm,1.0s								
BPAW	Bear Paw Mtn.	20.55	39	P		P		05 41 42.2	+0.3
	baz=245,SNR=13								
TRF	Thorofare Moun	20.57	41	IAmb		IAmb		05 41 55.0	
	comp=Z,53nm,1.0s								
TRF	Thorofare Moun	20.57	41	P		P		05 41 42.7	+0.5
	baz=247,SNR=7.2								
GHO	Glory Hole Cre	20.60	46	P		P		05 41 42.1	-0.4
H21K	Melozitna Rive	20.61	34	IAmb		IAmb		05 41 47.8	
	comp=Z,73nm,1.1s								
H21K	Melozitna Rive	20.61	34	P		P		05 41 42.5	0.0
	baz=238								
PWL	Port Wells	20.63	49	P		P		05 41 41.4	-1.3
PWL				IAmb		IAmb		05 41 45.4	
	comp=Z,47nm,1.2s								
PWL	Port Wells	20.63	49	P		P		05 41 41.0	-1.8
	baz=256								
I21K	Tanana	20.66	36	IAmb		IAmb		05 41 44.6	
	comp=Z,41nm,0.8s								
I21K	Tanana	20.66	36	P		P		05 41 42.6	-0.4
	baz=241								
KNK	Knik Glacier	20.71	47	IAmb		IAmb		05 42 02.2	
	comp=Z,37nm,0.9s								
KNK	Knik Glacier	20.71	47	P		P		05 41 41.3	-2.4
	baz=255								
G21K	Allakaket	20.84	32	P		P		05 41 44.5	-0.4
	baz=236								
SML	Sawmill	20.88	46			P		05 41 44.9	-0.6
SML				IAmb		IAmb		05 41 55.0	
	comp=Z,40nm,0.9s								
SML	Sawmill	20.88	46	P		P		05 41 44.7	-0.7
	baz=254								
SML	Sawmill	20.88	46	P		P		05 41 44.9	-0.6
SML				pmax		pmax			
	comp=Z,40nm,0.9s								
MLY	Manley	21.06	37	IAmb		IAmb		05 42 00.1	
	comp=Z,44nm,1.1s								
MLY	Manley	21.06	37	P		P		05 41 47.2	-0.2
	baz=243,SNR=16								
WAT1	Susitna Watana	21.09	44	P		P		05 41 46.4	-1.3
	baz=251								
M23K	Glacier View	21.15	47	P		P		05 41 46.6	-1.7
	baz=255								
RND	Reindeer	21.15	42	P		P		05 41 49.8	+1.4
RND	Reindeer	21.15	42	P		P		05 41 49.8	+1.4
RND				pmax		pmax			
	comp=Z,16nm,0.9s								
H22K	Ishtalitna Cre	21.24	34	P		P		05 41 50.1	+0.9
	baz=240,SNR=6.8								
MCK	McKinley	21.24	41			P		05 41 50.1	+0.9
MCK	McKinley	21.24	41	P		P		05 41 48.6	-0.7
	baz=248,SNR=6.3								
MCK	McKinley	21.24	41	P		P		05 41 50.1	+0.9
MCK				pmax		pmax			
	comp=Z,35nm,1.1s								
F21K	Alatna River	21.25	30	P		P		05 41 49.1	-0.3
	baz=234								
SCM	Sheep Creek Mo	21.34	47	IAmb		IAmb		05 41 54.1	
	comp=Z,84nm,1.1s								
SCM	Sheep Creek Mo	21.34	47	P		P		05 41 50.0	-0.5
	baz=255,SNR=8.5								
WAT6	Susitna Watana	21.36	44	P		P		05 41 50.0	-0.8
	baz=253,SNR=14								
NEA2	Nenana	21.51	39	IAmb		IAmb		05 42 04.8	
	comp=Z,77nm,0.8s								
NEA2	Nenana	21.51	39	P		P		05 41 51.8	-0.4
	baz=246,SNR=38								
I23K	Minto, Yukon-K	21.63	37	IAmb		IAmb		05 42 05.9	
	comp=Z,34nm,1.0s								
I23K	Minto, Yukon-K	21.63	37	P		P		05 41 53.5	0.0
	baz=245,SNR=7.0								
DHY	Denali Highway	21.67	43	IAmb		IAmb		05 42 06.8	
	comp=Z,60nm,0.9s								
DHY	Denali Highway	21.67	43	P		P		05 41 53.0	-1.1
	baz=252,SNR=17								
G22K	Bettles	21.73	32	P		P		05 41 54.1	-0.3
	baz=238								
EYAK	Cordova Ski Ar	21.81	50	P		P		05 41 54.0	-1.5
EYAK				IAmb		IAmb		05 42 07.7	
	comp=Z,54nm,1.1s								
EYAK	Cordova Ski Ar	21.81	50	P		P		05 41 53.9	-1.5
	baz=260								
F22K	John River	21.83	30	P		P		05 41 55.1	-0.5
	baz=235								
WRH	Wood River Hil	21.86	39			P		05 41 53.9	-2.0
H23K	Yukon River	21.87	35	IAmb		IAmb		05 42 09.8	
	comp=Z,35nm,1.0s								
H23K	Yukon River	21.87	35	P		P		05 41 54.9	-1.1
	baz=243								
DIV	Divide	21.91	49	IAmb		IAmb		05 42 08.7	
	comp=Z,36nm,1.0s								
KLU	Klutina	21.91	48	P		P		05 41 57.0	+0.4
KLU	Klutina	21.91	48	P		P		05 41 55.6	-1.0
	baz=258								
M24K	Tolsona, Glenn	21.94	46	IAmb		IAmb		05 42 11.7	
	comp=Z,62nm,0.9s								
M24K	Tolsona, Glenn	21.94	46	P		P		05 41 55.8	-1.1
	baz=256								
MDM	Murphy Dome	21.99	38	IAmb		IAmb		05 42 04.0	
	comp=Z,36nm,0.8s								
TCOL	CIGO, UAF Yank	22.10	39	P		P		05 41 57.8	-0.6
TCOL				IAmb		IAmb		05 42 06.9	
	comp=Z,25nm,0.8s								
TCOL	CIGO, UAF Yank	22.10	39	P		P		05 41 57.7	-0.8
	baz=247								
COLA	College	22.11	39	P		P		05 41 58.3	-0.2
COLA				IAmb		IAmb		05 42 06.9	
	comp=Z,33nm,1.0s								
COLA	College	22.11	39	P		P		05 41 57.9	-0.6
	baz=247								
COLA	College	22.11	39	*c* i P		P		05 41 57.4	-1.1
G23K	Bananza Creek	22.12	33	P		P		05 41 58.3	-0.4
	baz=240								
HDA	Harding Lake	22.30	40	P		P		05 41 59.8	-0.7
	baz=250								
E22K	Anaktuvuk Pass	22.31	29	P		P		05 41 59.5	-1.2
	baz=235								
COLD	Coldfoot	22.32	32	P		P		05 42 02.5	+1.6
COLD	Coldfoot	22.32	32	P		P		05 42 00.4	-0.4
	baz=239,SNR=7.9								
POKR	Poker Plat Res	22.36	38	IAmb		IAmb		05 42 01.8	
	comp=Z,27nm,0.7s								
POKR	Poker Plat Res	22.36	38	P		P		05 42 01.2	-0.1
	baz=247,SNR=11								
BMRM	Bremner River	22.44	50	P		P		05 42 00.5	-1.8
BMRM				IAmb		IAmb		05 42 14.5	
	comp=Z,40nm,1.0s								
BMRM	Bremner River	22.44	50	P		P		05 42 01.6	-0.6
	baz=260								
IL31		22.45	39	P		P		05 42 01.4	-0.8
ILAR	Eielson Array	22.45	39	P		P		05 41 59.3	-2.9
	comp=Z,6.0nm,0.6s,baz=243,slow=9.1,SNR=8.5								
	comp=Z,6.0nm,0.6s								
ILAR	Eielson Array	22.45	39	P		P		05 42 01.2	-1.0
ILAR	Eielson Array	22.45	39	P		P		05 42 01.2	-1.0
HARP	HAARP	22.47	46	P		P		05 42 01.2	-1.4
	baz=256								
PAX	Paxson	22.48	44	IAmb		IAmb		05 42 08.4	
	comp=Z,40nm,1.2s								
PAX	Paxson	22.48	44	P		P		05 42 00.9	-1.8
	baz=255,SNR=13								
H24K	Noodor Dome	22.49	36	IAmb		IAmb		05 42 09.2	
	comp=Z,38nm,0.8s								
H24K	Noodor Dome	22.49	36	P		P		05 42 01.6	-1.0
	baz=245								
N25K	Chitina, Valde	22.56	48	P		P		05 42 02.8	-0.7
N25K	Chitina, Valde	22.56	48	P		P		05 42 02.4	-1.1
	baz=259								
K24K	Donnelly Dome	22.58	42	P		P		05 42 02.2	-1.5
	baz=252								
GLB	Gilahina Butte	22.90	49	P		P		05 42 05.8	-1.3
GLB				IAmb		IAmb		05 42 18.6	
	comp=Z,29nm,1.0s								
E23K	Chandalar	22.95	30	P		P		05 42 06.4	-1.2
	baz=238								
RIDG	Independent Ri	22.96	43	P		P		05 42 05.7	-2.0
	baz=254								
RIDG	Independent Ri	22.96	43	P		P		05 42 05.8	-1.8
	baz=254								
J25K	Salcha River,	23.01	40	P		P		05 42 05.4	-2.7
	baz=251								
G24K	Hadweenzic Riv	23.01	34	P		P		05 42 07.4	-0.7
	baz=244								
VRDI	Verde Repeater	23.03	49	P		P		05 42 07.0	-1.6
VRDI				IAmb		IAmb		05 42 19.9	
	comp=Z,50nm,1.2s								
D23K	Nanushuk River	23.13	28	P		P		05 42 08.9	-0.4
	baz=235,SNR=27								
A21K	Barrow	23.19	20	P		P		05 42 09.6	-0.2
A21K	Barrow	23.19	20	P		P		05 42 08.9	-0.9
	baz=222								
WAX	Waxell Ridge	23.22	51	P		P		05 42 10.1	-0.3
WAX				IAmb		IAmb		05 42 16.5	
	comp=Z,42nm,1.1s								
MENT	Mentasta	23.24	45	P		P		05 42 10.6	+0.1
F24K	Squaw Lake	23.24	32	P		P		05 42 10.7	+0.2
	baz=241,SNR=26								
PRP	Porcupine Dome	23.26	38	IAmb		IAmb		05 42 25.3	
	comp=Z,20nm,0.7s								
PRP	Porcupine Dome	23.26	38	P		P		05 42 09.1	-1.7
	baz=249,SNR=10								
MCARA	McCarthy VSAT	23.26	49	P		P		05 42 09.1	-1.6
MCARA	McCarthy VSAT	23.26	49	P		P		05 42 09.6	-1.1
	baz=261								
TOLK	Toolik Lake Re	23.28	29	IAmb		IAmb		05 42 14.4	
	comp=Z,22nm,0.8s								
TOLK	Toolik Lake Re	23.28	29	P		P		05 42 10.6	-0.2
	baz=237,SNR=13								
E24K	Your Creek	23.32	31	P		P		05 42 10.6	-0.6
	baz=240								
SCRK	Sand Creek	23.39	42	P		P		05 42 10.1	-2.0
SCRK	Sand Creek	23.39	42	P		P		05 42 10.7	-1.4
	baz=254,SNR=15								
L26K	Log Cabin Wild	23.43	45	P		P		05 42 11.7	-0.6
	baz=257,SNR=6.3								
H25L	Birch Creek	23.43	36	P		P		05 42 11.5	-0.7
	baz=247								
M26K	Nabesna, AK	23.45	46	P		P		05 42 11.7	-0.9
	baz=259								
G25K	Bearman Lake	23.53	35	P		P		05 42 13.0	-0.2
	baz=245,SNR=11								
C23K	Itkillik River	23.66	26	P		P		05 42 14.0	-0.4
	baz=233,SNR=18								
J26L	Joseph Creek	23.71	41	IAmb		IAmb		05 42 14.0	
	comp=Z,34nm,0.8s								
J26L	Joseph Creek	23.71	41	P		P		05 42 13.5	-1.6
	baz=253,SNR=20								
YSS	Yuzh-Sakhalins	23.84	274	P		P		05 42 15.4	-0.9
YSS				IAmb		IAmb		05 42 19.1	
	comp=Z,55nm,1.0s								
YSS	Yuzh-Sakhalins	23.84	274	*e*P		P		05 42 15.8	-0.5
YSS				*e*S		S		05 46 28.3	-1.3
YSS				pmax		pmax			
	comp=Z,50nm,0.9s								
YSS				MLR		MLR			
	comp=Z,900nm,16.0s								
BARN	Barnard Glacie	23.87	50	P		P		05 42 15.9	-0.8
M27K	Edge Creek, AK	23.96	47	IAmb		IAmb		05 42 18.7	
	comp=Z,26nm,0.9s								
M27K	Edge Creek, AK	23.96	47	P		P		05 42 17.0	-0.5
	baz=260								
F25K	Christian River	24.05	33	P		P		05 42 18.2	+0.1
	baz=244								
L27K	Beaver Creek,	24.11	45	IAmb		IAmb		05 42 30.7	
	comp=Z,35nm,1.0s								
L27K	Beaver Creek,	24.11	45	P		P		05 42 18.1	-0.7
	baz=259								
I26K	Coal Creek Min	24.12	39	P		P		05 42 16.6	-2.1
	baz=252								
BCAR	Beaver Creek A	24.13	45	P		P		05 42 19.1	+0.1
C24K	Franklin Bluff	24.14	27	P		P		05 42 18.3	-0.6
	baz=236								
K27K	Chicken	24.22	43	IAmb		IAmb		05 42 26.6	
	comp=Z,21nm,0.8s								
K27K	Chicken	24.22	43	P		P		05 42 19.4	-0.3
	baz=256								
E25K	Arctic Village	24.30	32	P		P		05 42 19.9	-0.6
	baz=243,SNR=23								
BMAR	Burnt Mountain	24.35	34	P		P		05 42 20.9	0.0
BVCY	Beaver Creek	24.44	47	P		P		05 42 20.9	-0.8
	baz=261,SNR=8.6								
G26K	Porcupine Rive	24.44	35	P		P		05 42 21.3	-0.4
	baz=248								
PINM	Pinnacle	24.48	52	P		P		05 42 20.6	-1.6
	baz=267								
YUK3	Moose Creek	24.53	48	P		P		05 42 21.5	-1.3
	baz=263,SNR=15								
O28M	Mount Upton	24.56	51	P		P		05 42 21.8	-1.4
	baz=265								
F26K	Sheenjek River	24.61	34	P		P		05 42 22.9	-0.4
	baz=246								
D25K	Kavik River	24.62	29	P		P		05 42 22.9	-0.5
	baz=240								
EGAK	Eagle	24.79	41	P		P		05 42 24.9	+0.1
EGAK	Eagle	24.79	41	P		P		05 42 24.3	-0.6
	baz=256,SNR=26								
YUK8	Steele Glacier	24.81	50	P		P		05 42 24.4	-1.0
	baz=265								
I27K	Kandik River	24.82	39	P		P		05 42 24.3	-1.0
	baz=253								
H27K	Steamboat Moun	25.05	38	P		P		05 42 25.7	-1.5
	baz=252								
G27K	Doyon Strip	25.18	36	P		P		05 42 27.5	-0.9
	baz=251								
JKA	Kamikawa-asahi	25.19	268	P		P		05 42 29.9	+1.2
ASAJ	Asahikawa	25.19	268	P		P		05 42 29.9	+1.3
ASAJ				pmax		pmax			
	comp=Z,59nm,0.9s								
YUK4	Talbot Arm	25.35	50	P		P		05 42 29.6	-0.6
	baz=265								
C26K	Camden Bay	25.36	29	P		P		05 42 30.1	+0.2
	baz=241								
DAWY	Dawson	25.38	43	P		P		05 42 31.7	+1.4
DAWY				IAmb		IAmb		05 42 33.5	
	comp=Z,44nm,1.0s								
DAWY	Dawson	25.38	43	P		P		05 42 29.3	-1.0
	baz=259,SNR=14								
M29M	Somme Creek	25.55	47	P		P		05 42 31.2	-0.7
	baz=263								
C27K	Jago River	25.59	30	P		P		05 42 31.9	-0.2
	baz=243								
E27K	Coleen River	25.69

YAK *e*PPP PPP 05 43 54.9
YAK *e*S **S** **05 47 42.1 -1.1**
YAK *e**SS **sS** **05 48 03.2 +6.6**
YAK *e*SS **SnSn** **05 49 02.8 -0.7**
YAK *e*SSS SSS 05 49 26.9
YAK pmax pmax
comp=Z,49nm,1.0s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,102nm,3.2s
YAK pmax pmax
comp=N,34nm,2.2s
YAK pmax pmax
comp=E,57nm,2.3s
YAK smax smax
comp=E,49nm,2.0s
YAK smax smax
comp=N,42nm,1.6s
YAK MLR MLR
comp=Z,510nm,19.0s
YAK MLR MLR
comp=N,355nm,18.0s
YAK MLR MLR
comp=E,291nm,18.0s
INK Inuvik 28.59 35 P **P** **05 42 58.1 -0.9**
comp=E,12nm,1.0s,baz=239,slow=9.8,SNR=16
comp=E,12nm,1.0s
INK Inuvik 28.59 35 P **P** **05 42 58.3 -0.7**
INK IAmb IAmb 05 43 04.1
comp=Z,23nm,0.9s
INK Inuvik 28.59 35 P **P** **05 42 58.0 -0.9**
baz=257,SNR=8.2
INK Inuvik 28.59 35 P **P** **05 42 58.3 -0.7**
INK pmax pmax
comp=Z,23nm,1.0s
MMPY Sheldon Lake, 28.89 47 P **P** **05 43 00.4 -1.3**
baz=270
DLBC Dease Lake 29.79 56 LR LR 05 55 41.9
comp=Z,673nm,19.4s,baz=272,slow=38
KLR Kul'dur 29.81 285 P **P** **05 43 09.4 -0.6**
comp=Z,16nm,0.6s,baz=61,slow=9.3,SNR=48
KLR LR LR 05 55 46.9
comp=Z,293nm,19.7s,baz=92,slow=38
comp=Z,16nm,0.6s
KLR Kul'dur 29.81 285*ce*P **P** **05 43 09.5 -0.6**
KLR pmax pmax
comp=Z,33nm,1.0s
TIXI Tiksi 30.19 331 P **P** **05 43 09.6 -3.5**
comp=Z,1.3nm,0.3s,baz=152,slow=0.9,SNR=3.6
TIXI LR LR 05 56 00.7
comp=Z,478nm,18.3s,baz=219,slow=38
TIXI Tiksi 30.19 331⇑*e*P **P** **05 43 13.3 +0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TGTN Hyland Airport 30.33 49 P **P** **05 43 13.8 -0.8**
baz=274
ZEA Zeya 31.01 295 *e*P **P** **05 43 19.0 -1.5**
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=Z,300nm,15.0s
USA0B Ussuriysk Arra 31.83 276⇓*e*P **P** **05 43 25.8 -2.1**
USRK Ussuriysk Ar. 31.83 276 LR LR 05 58 44.2
comp=Z,111nm,18.6s,baz=72,slow=41
HEH HeiHe 32.05 289 *e*P **P** **05 43 28.8 -0.9**
HEH pmax pmax
comp=Z,12nm,1.1s
HEH LR LR
comp=Z,360nm,11.6s
HEH LR LR
comp=Z,280nm,13.7s
HEH LR LR
comp=Z,370nm,12.0s
A36M Sachs Harbour 32.10 29 P **P** **05 43 30.3 +0.3**
A36M IAmb IAmb 05 43 31.3
comp=Z,22nm,0.8s
A36M **PcP** **05 46 18.4 +0.2**
A36M Sachs Harbour 32.10 29 P **P** **05 43 29.9 0.0**
baz=260,SNR=18
C36M Paulatuk 32.15 34 IAmb IAmb 05 43 35.5
comp=Z,13nm,0.9s
C36M Paulatuk 32.15 34 P **P** **05 43 29.4 -0.9**
baz=265,SNR=11
MAJO Matsushiro 32.24 259⇑*e*P **P** **05 43 31.0 -0.6**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MJAR Matsushiro Arr 32.24 259 P **P** **05 43 32.0 +0.4**
comp=Z,2.8nm,0.7s,baz=60,slow=6.8,SNR=6.2
comp=Z,2.8nm,0.7s
MJAR Matsushiro Arr 32.24 259 P **P** **05 43 32.0 +0.4**
WRGLY Wrigley 32.42 46 P **P** **05 43 31.7 -1.1**
baz=276
H11N2 WAKE ISLAND Hy 32.64 201 T T 06 18 59.5
baz=19,slow=75,SNR=6.8
H11N3 WAKE ISLAND Hy 32.65 201 T T 06 18 47.3
baz=19,slow=75,SNR=6.1
H11N1 WAKE ISLAND Hy 32.66 201 T T 06 18 49.6
baz=19,slow=75,SNR=6.4
MSHR Mys Shultsa 33.17 274⇓*e*P **P** **05 43 37.9 -1.7**
MSHR pmax pmax
comp=Z,49nm,1.2s
H11S1 WAKE ISLAND Hy 33.86 201 T T 06 20 28.5
baz=19,slow=76,SNR=7.1
H11S2 WAKE ISLAND Hy 33.88 201 T T 06 20 23.0
baz=19,slow=76,SNR=4.5
H11S3 WAKE ISLAND Hy 33.88 201 T T 06 20 17.3
baz=19,slow=76,SNR=5.0
BNX BinXian 33.95 282 ⇑P **P** **05 43 44.8 -1.6**
BNX pmax pmax
comp=Z,19nm,1.0s
BNX pmax pmax
comp=Z,110nm,5.4s
YKA Yellowknife Ar 36.55 46 P **P** **05 44 07.3 -1.2**
comp=Z,7.5nm,0.9s,baz=283,slow=8.5,SNR=16
YKA pP **pP** **05 44 18.6 0.0**
comp=Z,8.3nm,0.7s,baz=283,slow=8.0,SNR=12
comp=Z,7.5nm,0.9s
BOD Bodaibo 36.96 306 *e*P **P** **05 44 10.6 -1.4**
BOD pmax pmax
comp=Z,42nm,1.1s
HIA Hailar 37.00 291*de*P **P** **05 44 11.7 -0.8**
HIA pmax pmax
comp=Z,9.0nm,0.9s
KSRS Korea Array 38.13 269 P **P** **05 44 22.4 +0.2**
comp=Z,12nm,0.8s,baz=57,slow=8.5,SNR=19
KSRS pP **sP** **05 44 34.3 -0.7**
comp=Z,4.1nm,0.9s,baz=61,slow=9.5,SNR=3.6
comp=Z,12nm,0.8s
TJN Taejon 39.14 268⇑*e*P **P** **05 44 31.6 +0.9**
H04A Detroit Lake 39.16 76 P **P** **05 44 31.2 +0.3**
H04A IAmb IAmb 05 44 44.2
comp=Z,44nm,1.2s
HAWA Hanford 39.90 72 IAmb IAmb 05 44 49.2
comp=Z,19nm,0.9s
D08A Wollman Farm, 39.94 71 P **P** **05 44 37.3 +0.1**
C09A Chrisman Ranch 39.96 69 P **P** **05 44 37.3 -0.1**
E08A Dider Farm, El 40.14 71 P **P** **05 44 38.9 0.0**
NEW Newport 40.41 68 P **P** **05 44 41.1 -0.1**
comp=Z,11nm,0.8s,baz=294,slow=7.9,SNR=15
comp=Z,11nm,0.8s
NEW Newport 40.41 68 P **P** **05 44 39.4 -1.8**
NEW Newport 40.41 68 P **P** **05 44 40.5 -0.6**
baz=299,SNR=7.7
YBH Yreka Blue Hor 40.42 80 P **P** **05 44 42.0 +0.6**
comp=Z,3.7nm,0.9s,baz=305,slow=7.3,SNR=5.0
YBH LR LR 05 59 08.5
comp=Z,258nm,19.6s,baz=277,slow=33
comp=Z,3.7nm,0.9s
YBH Yreka Blue Hor 40.42 80 IAmb IAmb 05 44 54.7
comp=Z,19nm,1.1s
RES Resolute Bay 40.66 24 P **P** **05 44 42.6 -0.3**
comp=Z,5.3nm,0.9s,baz=2.3,slow=23,SNR=7.6
RES LR LR 06 04 18.1
comp=Z,261nm,18.9s,baz=280,slow=40
comp=Z,5.3nm,0.9s
RES Resolute Bay 40.66 24 P **P** **05 44 41.2 -1.6**
E09A Wood Farm, Sta 40.67 71 P **P** **05 44 42.8 -0.4**
G08A Pilot Rock 40.81 73 P **P** **05 44 43.6 -1.0**
K05A Summer Lake 41.00 77 P **P** **05 44 47.5 +1.2**
K05A IAmb IAmb 05 44 54.9
comp=Z,22nm,1.0s
EUNU Eureka 41.00 15 P **P** **05 44 45.1 -0.6**
I07A Izee 41.12 75 P **P** **05 44 47.4 +0.3**
I07A IAmb IAmb 05 45 00.3
comp=Z,33nm,1.2s
MOD Modoc Plateau 41.82 78 IAmb IAmb 05 45 05.7
comp=Z,20nm,1.0s
XLT XiLinHaoTe 41.83 286⇑*i*P **P** **05 44 53.0 0.0**
XLT pP sP 05 45 04.3 -1.7
XLT sP pwP 05 45 14.3 +7.9
XLT S **S** **05 51 07.5 -0.6**
XLT pmax pmax
comp=Z,31nm,1.0s
XLT pmax pmax
comp=Z,140nm,3.7s
XLT LR LR
comp=Z,44nm,16.1s
XLT LR LR
comp=Z,440nm,18.1s
XLT LR LR
comp=Z,240nm,16.0s
WALA Waterton Lakes 41.88 65 P **P** **05 44 53.1 -0.3**
WALA IAmb IAmb 05 45 10.4
comp=Z,19nm,1.1s
BMO Blue Mountains 42.03 73 IAmb IAmb 05 45 06.8
comp=Z,18nm,1.1s
J08A Circle Bar Ran 42.13 75 P **P** **05 44 56.0 +0.6**
J08A IAmb IAmb 05 45 08.0
comp=Z,20nm,1.1s
ORV Oroville 42.43 82 P **P** **05 44 58.1 +0.4**
ORV Oroville 42.43 82 P **P** **05 44 58.1 +0.4**
ORV pmax pmax
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 42.55 76 IAmb IAmb 05 45 11.9
comp=Z,26nm,0.9s
WVOR Wild Horse Val 42.55 76 P **P** **05 44 59.9 +1.1**
WVOR pmax pmax
comp=Z,29nm,1.0s
PLID Pearl Lake 42.69 72 P **P** **05 45 00.4 +0.3**
BEKR Beckworth 42.95 81 P **P** **05 45 01.5 -0.8**
MSO Missoula 42.99 68 P **P** **05 45 01.2 -1.2**
baz=302,SNR=5.5
PLTX Planet X, Gerl 43.02 79 P **P** **05 45 03.6 +1.0**
PLTX IAmb IAmb 05 45 16.1
comp=Z,43nm,0.9s
ALE Alert 43.20 10 P **P** **05 45 02.8 -0.7**
ALE pP **pP** **05 45 13.5 +0.1**
PAHR Pah Rah Range 43.66 80 IAmb IAmb 05 45 20.3
comp=Z,21nm,1.0s
MFID Camas Ranch 43.71 73 IAmb IAmb 05 45 20.3
comp=Z,17nm,1.1s
VCNR Virginia City 43.73 81 IAmb IAmb 05 45 22.6
comp=Z,24nm,1.1s
PNTR Pine Nut 43.89 81 P **P** **05 45 10.2 +0.3**
PNTR IAmb IAmb 05 45 23.9
comp=Z,24nm,0.7s
NRIK Noril'sk 43.92 329 P **P** **05 45 08.8 -0.6**
comp=Z,11nm,1.1s,baz=84,slow=6.0,SNR=7.0
comp=Z,11nm,1.1s
NRIK Noril'sk 43.92 329 P **P** **05 45 07.1 -2.3**
NRIK Noril'sk 43.92 329⇑*e*P **P** **05 45 08.8 -0.6**
NRIK pmax pmax
comp=Z,25nm,1.3s
BJI Beijing 43.96 281 P **P** **05 45 10.5 +0.4**
BJI pP **pwP** **05 45 22.3 -1.2**
BJI sP **sP** **05 45 27.3 +4.2**
BJI pmax pmax
comp=Z,9.0nm,0.9s
SAO San Andreas Ge 44.15 85 P **P** **05 45 10.4 -1.2**
SAO San Andreas Ge 44.15 85 P **P** **05 45 10.5 -1.2**
SAO pmax pmax
comp=Z,11nm,1.1s
YERR Yerington 44.17 81 IAmb IAmb 05 45 24.7
comp=Z,13nm,0.9s
HLID Hailey 44.48 72 IAmb IAmb 05 45 27.2
comp=Z,33nm,1.1s
HLID Hailey 44.48 72 P **P** **05 45 14.3 -0.1**
baz=304,SNR=25
BMN Battle Mountai 44.57 78 IAmb IAmb 05 45 27.6
comp=Z,19nm,0.9s
EGMT Eagleton 44.79 65 IAmb IAmb 05 45 27.8
comp=Z,9.6nm,0.8s
EGMT Eagleton 44.79 65 P **P** **05 45 15.3 -1.4**
baz=302
RYN Ryan 44.84 81 IAmb IAmb 05 45 29.8
comp=Z,15nm,0.9s
BOZ Bozeman (W) 45.01 68 IAmb IAmb 05 45 36.4
comp=Z,11nm,0.8s
BOZ Bozeman (W) 45.01 68 P **P** **05 45 17.9 -0.8**
baz=303,SNR=12
ULN Ulaanbaatar 45.04 295 P **P** **05 45 18.4 -0.5**
ULN IAmb IAmb 05 45 19.9
comp=Z,15nm,1.0s
ULN Ulaanbaatar 45.04 295*ce*P **P** **05 45 18.6 -0.3**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 45.04 295 P **P** **05 45 18.7 -0.1**
ULN pP **pP** **05 45 28.9 +0.5**
LHV Little Huntoon 45.08 81 P **P** **05 45 20.1 +1.1**
LHV IAmb IAmb 05 45 36.6
comp=Z,13nm,1.1s
NVAR Mina Array Bea 45.09 81 P **P** **05 45 19.5 +0.1**
comp=Z,3.9nm,0.9s,baz=288,slow=7.8,SNR=25
comp=Z,3.9nm,0.9s
MDPB Devils Postpil 45.10 82 P **P** **05 45 19.9 +0.4**
MDPB IAmb IAmb 05 45 32.3
comp=Z,12nm,0.9s
NV11 Mina Array Sit 45.18 81 IAmb IAmb 05 45 32.5
comp=Z,11nm,0.9s
SONM Songino Array 45.43 296 P **P** **05 45 22.0 0.0**
comp=Z,7.7nm,0.8s,baz=54,slow=10,SNR=38
SONM PcP **PcP** **05 47 00.5 -0.1**
comp=Z,3.5nm,0.8s,baz=93,slow=2.9,SNR=5.1
SONM ScP **ScP** **05 50 51.9 +1.7**
comp=Z,2.2nm,1.2s,baz=28,slow=3.4,SNR=3.9
SONM LR LR 06 06 01.7
comp=Z,287nm,18.1s,baz=65,slow=38
comp=Z,7.7nm,0.8s
SONM Songino Array 45.43 296 IAmb IAmb 05 45 22.6
comp=Z,12nm,1.1s
ELK Elko 45.60 76 IAmb IAmb 05 45 36.4
comp=Z,14nm,0.9s
ELK Elko 45.60 76 P **P** **05 45 24.2 +0.7**
YHL Hebgen Lake 45.69 69 IAmb IAmb 05 45 37.0
comp=Z,31nm,1.1s
TIA Tai'an 45.70 276 ⇓P **P** **05 45 24.1 +0.1**
TIA pmax pmax
comp=Z,33nm,0.8s
TIA LR LR
comp=Z,270nm,19.1s
TIA LR LR
comp=Z,170nm,19.1s
TIA LR LR
comp=Z,350nm,15.7s
YHB Horse Butte 45.73 69 P **P** **05 45 24.4 -0.1**
YHB IAmb IAmb 05 45 42.9
comp=Z,23nm,0.9s
TULEG Thule 45.75 18 P **P** **05 45 21.9 -2.0**
TULEG IAmb IAmb 05 45 35.9
comp=Z,11nm,0.9s
ZAK Zakamensk 45.82 300 *e*P **P** **05 45 23.0 -1.9**
ZAK *e* 05 46 57.1
ZAK pmax pmax
comp=Z,16nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,0.9s
YMR Madison River 45.92 69 P **P** **05 45 25.2 -0.6**
YMR IAmb IAmb 05 45 38.7
comp=Z,14nm,1.0s
TPH Tonopah 45.98 80 P **P** **05 45 26.5 0.0**
TPH Tonopah 45.98 80 P **P** **05 45 26.5 0.0**
TPH pmax pmax
comp=Z,72nm,1.0s
TIN Tinemaha, Big 45.99 82 P **P** **05 45 26.5 +0.1**
baz=309
YNR Norris Junctio 46.06 69 P **P** **05 45 27.3 +0.3**
YNR IAmb IAmb 05 45 46.7
comp=Z,16nm,1.0s
VES Vestal, Richgr 46.21 84 P **P** **05 45 27.7 -0.3**
baz=310
LCH Last Change Ra 46.24 82 P **P** **05 45 28.8 +0.4**
LCH IAmb IAmb 05 45 40.8
comp=Z,8.9nm,0.9s
H17A Grant Village 46.30 69 P **P** **05 45 29.1 +0.2**
H17A IAmb IAmb 05 45 42.6
comp=Z,17nm,0.9s
H17A Grant Village 46.30 69 P **P** **05 45 29.4 +0.5**
baz=305,SNR=5.6
HHC Hu-ho-hao-te 46.32 285 *e*P **P** **05 45 29.8 +0.8**
HHC pmax pmax
comp=Z,39nm,0.9s
HHC pmax pmax
comp=Z,150nm,4.9s
HHC LR LR
comp=Z,510nm,15.9s
HHC LR LR
comp=Z,380nm,15.2s
HHC LR LR
comp=Z,470nm,16.5s
GUMO Guam 46.34 229 LR LR 06 03 05.2
comp=Z,149nm,20.3s,baz=76,slow=34
IMW Indian Meadow 46.37 70 P **P** **05 45 29.8 +0.3**
IMW IAmb IAmb 05 45 42.1
comp=Z,9.3nm,0.9s
MOY Mondy 46.38 303 *e*P **P** **05 45 28.7 -0.6**
MOY pmax pmax
comp=Z,18nm,2.0s
FLWY Flagg Ranch 46.41 70 P **P** **05 45 30.0 +0.2**
FLWY IAmb IAmb 05 45 41.3
comp=Z,19nm,1.1s
CWC Cottonwood Cre 46.46 83 P **P** **05 45 30.7 +0.5**
baz=309
HNS HongShan 46.47 279 ⇑P **P** **05 45 30.3 +0.3**
HNS pP **sP** **05 45 42.8 -0.3**
HNS sP **pwP** **05 45 46.8 +2.7**
HNS *e*S **S** **05 52 14.3 -1.2**
HNS pmax pmax
comp=Z,19nm,1.3s
HNS pmax pmax
comp=Z,130nm,3.6s
HNS LR LR
comp=Z,190nm,17.3s
HNS LR LR
comp=Z,240nm,17.9s
HNS LR LR
comp=Z,340nm,17.1s
HVU Hansel Valley 46.49 74 IAmb IAmb 05 45 43.2
comp=Z,27nm,1.0s
GRAC Grapevine Rang 46.56 82 P **P** **05 45 31.6 +0.8**
GRAC IAmb IAmb 05 45 49.9
comp=Z,12nm,1.0s
GRAC Grapevine Rang 46.56 82 P **P** **05 45 31.1 +0.2**
baz=309
MOOW Moose Ponds 46.57 70 P **P** **05 45 31.2 +0.2**
TPAW Teton Pass 46.59 71 P **P** **05 45 31.7 +0.4**
RLMT Red Lodge 46.66 68 P **P** **05 45 31.6 -0.1**
baz=304
ISA Isabella, Lake 46.71 84 IAmb IAmb 05 45 43.6
comp=Z,8.1nm,0.9s
ISA Isabella, Lake 46.71 84 P **P** **05 45 31.5 -0.5**
baz=310
SNOW Snow King Moun 46.73 70 P **P** **05 45 33.4 +1.0**
ARVC Arvin 46.83 85 P **P** **05 45 33.3 +0.4**
baz=310
R11A Troy Canyon, C 46.83 79 IAmb IAmb 05 45 45.1
comp=Z,15nm,1.1s
R11A Troy Canyon, C 46.83 79 P **P** **05 45 33.4 +0.3**
baz=308,SNR=11
BGU Big Grassy Mou 46.84 75 IAmb IAmb 05 45 45.5
comp=Z,20nm,1.0s
AHID Auburn Hatcher 46.93 71 IAmb IAmb 05 45 45.8
comp=Z,15nm,1.1s
SPUT South Promonto 46.97 74 IAmb IAmb 05 45 46.5
comp=Z,19nm,1.1s
MPMC Manual Prospec 47.08 83 P **P** **05 45 34.9 -0.1**
baz=310
FURC Furnace Creek, 47.21 82 P **P** **05 45 35.9 +0.1**
baz=309,SNR=7.6
SPR3 Spring Creek 3 47.21 78 P **P** **05 45 36.5 +0.3**
SPR3 IAmb IAmb 05 45 50.7
comp=Z,7.8nm,0.8s
TPNV Topopah Spring 47.29 81 P **P** **05 45 36.9 +0.2**
baz=309,SNR=12
NJ2 Nanjing 47.31 270 *e*P **P** **05 45 37.1 +0.5**
NJ2 pmax pmax
comp=Z,19nm,0.5s
LRMC Laurel Mtn Rad 47.32 84 P **P** **05 45 37.1 +0.2**
baz=310
HWUT Hardware Ranch 47.33 73 IAmb IAmb 05 45 49.1
comp=Z,20nm,1.1s
BTO Baotou 47.40 285 *e*P **P** **05 45 38.3 +0.9**
BTO LR LR
comp=Z,750nm,18.6s
BTO LR LR
comp=Z,1μm,14.6s
DUG Dugway, Tooele 47.41 75 P **P** **05 45 37.9 +0.3**
baz=307,SNR=20
DUG Dugway, Tooele 47.41 75 P **P** **05 45 38.0 +0.4**
DUG pmax pmax
comp=Z,38nm,1.1s
GWY Greenwater Val 47.51 82 IAmb IAmb 05 45 53.7
comp=Z,9.0nm,1.0s
EDW2 Edwards Air Fo 47.51 84 P **P** **05 45 38.5 +0.2**
baz=310
CTU Camp Tracy 47.76 74 IAmb IAmb 05 45 52.3
comp=Z,17nm,1.0s
PSUT Pine Spring 47.79 78 IAmb IAmb 05 45 52.6
comp=Z,13nm,1.0s
BW06 Boulder Array 47.84 71 P **P** **05 45 41.0 0.0**
baz=306,SNR=20
PD31 Pinedale Array 47.84 71 IAmb IAmb 05 45 53.2
comp=Z,21nm,0.9s
PDAR Pinedale Array 47.84 71 P **P** **05 45 40.6 -0.4**
comp=Z,11nm,0.8s,baz=306,slow=3.6,SNR=92
PDAR pP **pwP** **05 45 52.1 -1.3**
comp=Z,16nm,0.7s,baz=308,slow=4.4,SNR=18
comp=Z,11nm,0.8s
SHOC Shoshone, Teco 47.94 82 P **P** **05 45 41.3 -0.2**
baz=310
GSC Goldstone, Bar 47.98 83 IAmb IAmb 05 45 54.1
comp=Z,16nm,0.9s
GSC Goldstone, Bar 47.98 83 P **P** **05 45 42.6 +0.6**
baz=310,SNR=6.8
JLU Jordanelle 48.00 74 IAmb IAmb 05 45 54.5
comp=Z,21nm,1.0s
NLU North Lily Min 48.01 75 IAmb IAmb 05 45 54.5
comp=Z,17nm,1.1s
BFSC Mount Baldy Ra 48.14 85 P **P** **05 45 43.8 +0.6**
baz=311
RRX Edison Barstow 48.14 84 P **P** **05 45 43.0 -0.1**
baz=310
MPU Maple Canyon 48.24 75 IAmb IAmb 05 45 56.3
comp=Z,8.3nm,0.9s
TUQ Turquoise Moun 48.45 82 P **P** **05 45 45.5 -0.2**
baz=310
WTNK Soaring Height 48.54 81 P **P** **05 45 47.1 +0.9**
WTNK IAmb IAmb 05 45 58.0
comp=Z,1.8nm,0.7s
BBRC Big Bear Solar 48.58 84 P **P** **05 45 47.1 +0.3**
baz=311
HEC Hector,Ludlow 48.58 83 P **P** **05 45 46.7 +0.1**
baz=310
TCRU Three Creeks R 48.61 77 IAmb IAmb 05 46 04.0
comp=Z,11nm,0.9s
ELS Elsinore Mount 48.67 85 P **P** **05 45 47.3 0.0**
ELS IAmb IAmb 05 45 59.1
comp=Z,7.6nm,0.8s
MVU Marysvale 48.82 77 P **P** **05 45 48.7 +0.1**
MURC Murrieta 48.84 85 P **P** **05 45 48.2 -0.3**
baz=311
V12A Nelson 48.94 81 P **P** **05 45 48.6 -0.7**
TMUT Trail Mountain 48.94 75 P **P** **05 45 49.8 +0.2**
GMRC Granite Mounta 49.04 83 P **P** **05 45 49.7 -0.4**
baz=311
LCMT Little Creek M 49.12 79 IAmb IAmb 05 46 03.8
comp=Z,22nm,1.1s
P17A Butcher Ranch, 49.12 75 IAmb IAmb 05 46 03.1
comp=Z,18nm,0.9s
MTPU Mount Pierson 49.12 77 IAmb IAmb 05 46 03.7
comp=Z,13nm,1.0s
Q16A Castle Valley 49.20 76 IAmb IAmb 05 46 05.8
comp=Z,17nm,1.2s
PFO Pinyon Flats O 49.30 85 P **P** **05 45 51.5 -0.6**
PFO Pinyon Flats O 49.30 85 P **P** **05 45 51.5 -0.6**
baz=311
PFO Pinyon Flats O 49.30 85 P **P** **05 45 51.6 -0.6**
PFO pmax pmax
comp=Z,7.0nm,1.0s
PFO Pinyon Flats O 49.30 85 P **P** **05 45 51.5 -0.6**
PFO pP **pP** **05 46 03.0 +1.2**
PFO sP **pwP** **05 46 07.9 +2.1**
TPFO Pinon Flats 49.31 85 P **P** **05 45 51.4 -0.8**
baz=311
BELC Belle Mtn. Jos 49.33 84 P **P** **05 45 51.5 -0.9**
baz=311
109C Camp Elliot, M 49.37 86 P **P** **05 45 52.7 +0.2**
baz=312

KNB **Kanab** 49.38 79 IAmb IAmb 05 46 05.4
comp=Z,24nm,1.1s
PKCU **Pink Cliffs** 49.42 78 IAmb IAmb 05 46 06.0
comp=Z,14nm,1.0s
LYN **LuoYang** 49.68 277 *eP* **P** **05 45 54.4 -0.5**
LYN pmax pmax
comp=Z,10.0nm,1.9s
LYN pmax pmax
comp=Z,140nm,4.4s
LYN LR LR
comp=Z,210nm,16.5s
LYN LR LR
comp=Z,180nm,15.7s
K22A **Casper** 49.71 69 P **P** **05 45 54.4 -0.8**
baz=307
IRM **Iron Mountain** 49.77 83 P **P** **05 45 54.9 -0.7**
baz=311
MONP2 **Monument Peak** 49.80 85 P **P** **05 45 55.5 -0.5**
baz=312
RWWY **Rawlins** 49.89 70 IAmb IAmb 05 46 07.5
comp=Z,12nm,0.9s
BC3 **Big Chuckawall** 49.90 84 P **P** **05 45 56.2 -0.6**
baz=311
CBX **Cerro Bola** 50.03 86 P **P** **05 45 57.5 -0.2**
CBX IAmb IAmb 05 46 10.3
comp=Z,8.2nm,0.8s
U15A **North Rim** 50.08 79 IAmb IAmb 05 46 10.7
comp=Z,23nm,1.0s
O20A **White River Ci** 50.22 73 P **P** **05 45 59.0 -0.2**
baz=308,SNR=16
RSSD **Black Hills** 50.28 66 P **P** **05 45 58.8 -0.8**
baz=307
PDMCI **Parker Dam,Lak** 50.30 82 P **P** **05 45 59.5 -0.1**
baz=311
BLYC **Blythe** 50.42 83 IAmb IAmb 05 46 12.4
comp=Z,10nm,0.8s
SPITS **Spitsbergen Ar** 50.59 355 P **P** **05 45 59.7 -1.5**
comp=Z,39nm,1.0s,baz=42,slow=7.8,SNR=8.3
SPITS LR LR 06 08 47.0
comp=Z,57nm,18.1s,baz=318,slow=38
comp=Z,39nm,1.0s
GLA **Glamis** 50.69 84 IAmb IAmb 05 46 14.6
comp=Z,14nm,0.8s
GLA **Glamis** 50.69 84 P **P** **05 46 02.6 0.0**
baz=312
PV23 **Carpenter Ridg** 50.81 75 IAmb IAmb 05 46 16.0
comp=Z,19nm,0.9s
N23A **Red Feather La** 51.13 70 P **P** **05 46 06.0 0.0**
N23A **Red Feather La** 51.13 70 P **P** **05 46 05.9 -0.2**
baz=308
PV15 **Paradox Valley** 51.20 74 P **P** **05 46 05.8 -0.9**
WUAZ **Wupatki** 51.23 79 IAmb IAmb 05 46 19.1
comp=Z,17nm,0.9s
WUAZ **Wupatki** 51.23 79 P **P** **05 46 07.0 +0.2**
baz=311
MVCO **Mesa Verde** 51.91 76 IAmb IAmb 05 46 25.2
comp=Z,14nm,1.1s
MVCO **Mesa Verde** 51.91 76 P **P** **05 46 11.5 -0.4**
baz=310
DAG **Danmarks Havn** 51.97 5 *i* P **P** **05 46 09.6 -1.9**
XAN **Xi'an** 52.23 279 ⇑P **P** **05 46 13.4 -0.7**
XAN pP pP 05 46 25.5 +1.8
XAN sP pwP 05 46 31.4 +3.1
XAN pmax pmax
comp=Z,16nm,1.0s
XAN LR LR
comp=Z,270nm,22.0s
XAN LR LR
comp=Z,390nm,19.2s
BRIGG **Briggsdale** 52.29 70 P **P** **05 46 14.1 -0.5**
BRIGG **pP** **05 46 25.7 +0.9**
BRIGG IAmb IAmb 05 46 28.9
comp=Z,23nm,1.1s
AGMN **Agassiz Nation** 52.29 57 P **P** **05 46 12.9 -1.5**
baz=307
W18A **Petrified Fore** 52.51 78 IAmb IAmb 05 46 29.2
comp=Z,21nm,1.1s
W18A **Petrified Fore** 52.51 78 P **P** **05 46 16.4 +0.1**
baz=311
S22A **4UR Ranch, Cre** 52.58 74 IAmb IAmb 05 46 29.8
comp=Z,18nm,1.0s
S22A **4UR Ranch, Cre** 52.58 74 P **P** **05 46 17.5 +0.5**
baz=310,SNR=12
214A **Organ Pipe Nat** 52.69 84 P **P** **05 46 18.3 +0.8**
baz=313
Q24A **Divide** 52.82 72 P **P** **05 46 19.1 +0.3**
baz=310
ZALV **Zalesovo Beam** 53.15 313 P **P** **05 46 18.8 -1.8**
comp=Z,1.6nm,0.5s,baz=54,slow=7.5,SNR=9.4
ZALV LR LR 06 10 47.3
comp=Z,299nm,18.1s,baz=64,slow=38
comp=Z,1.6nm,0.5s
ZALV **Zalesovo Beam** 53.15 313 *i* P **P** **05 46 21.3 +0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
SDCO **Great Sand Dun** 53.39 73 IAmb IAmb 05 46 35.3
comp=Z,18nm,1.1s
SDCO **Great Sand Dun** 53.39 73 P **P** **05 46 23.1 +0.2**
baz=310,SNR=17
OGNE **Ogallala** 53.40 68 P **P** **05 46 22.9 +0.2**
baz=310
TUC **Tucson** 53.72 82 P **P** **05 46 25.5 +0.3**
TUC **Tucson** 53.72 82 P **P** **05 46 25.1 -0.1**
baz=313
TUC **Tucson** 53.72 82 P **P** **05 46 25.5 +0.3**
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC **Tucson** 53.72 82 P **P** **05 46 25.1 -0.1**
TUC pP **pP** **05 46 36.2 +1.3**
TUC sP **sP** **05 46 40.8 +1.9**
SUMG **Summit** 53.97 13 *eP* **P** **05 46 25.4 -1.4**
SUMG **Summit** 53.97 13 P **P** **05 46 26.4 -0.4**
SUMG pmax pmax
comp=Z,23nm,0.9s
LZH **Lanzhou** 54.02 285 ⇓P **P** **05 46 28.1 +0.7**
LZH pP pwP 05 46 39.6 -1.3
LZH sP sP 05 46 48.6 +7.7
LZH pmax pmax
comp=Z,33nm,1.4s
LZH LR LR
comp=Z,280nm,13.1s
LZH LR LR
comp=Z,260nm,14.4s
LZH LR LR
comp=Z,380nm,15.1s
GTA **Gaotai** 54.27 290 ⇑P **P** **05 46 28.9 -0.3**
GTA pP sP 05 46 41.3 -1.2
GTA sP pwP 05 46 46.6 +3.8
GTA PcP **PcP** **05 47 32.6 -0.4**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,80nm,7.3s
GTA LR LR
comp=Z,260nm,17.8s
GTA LR LR
comp=Z,360nm,17.8s
GTA LR LR
comp=Z,390nm,17.1s
KSCO **Kaye Shedlock'** 54.29 70 P **P** **05 46 28.3 -1.0**
KSCO **pwP** **05 46 40.9 -0.9**
KSCO **Kaye Shedlock'** 54.29 70 P **P** **05 46 29.5 +0.2**
baz=310
ENH **Enshi** 54.41 276 P **P** **05 46 29.5 -0.7**
T25A **Trinidad** 54.44 73 P **P** **05 46 31.3 +0.8**
baz=311,SNR=18
DGZ **Jazzator, Alta** 54.54 307 *c iP* **P** **05 46 30.8 -0.2**
DGZ pmax pmax
comp=Z,12nm,1.0s
ANMO **Albuquerque** 54.64 76 LR LR 06 08 01.9
comp=Z,265nm,18.2s,baz=280,slow=34
ANMO **Albuquerque** 54.64 76 P **P** **05 46 31.3 -0.7**
ANMO **Albuquerque** 54.64 76 P **P** **05 46 30.8 -1.2**
baz=312
ANMO **Albuquerque** 54.64 76⇓ *eP* **P** **05 46 32.2 +0.2**
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO **Albuquerque** 54.64 76 P **P** **05 46 31.8 -0.2**
ANMO pP **pP** **05 46 42.9 +0.7**
ECSD **EROS Data Cent** 54.73 62 P **P** **05 46 31.1 -1.2**
baz=310
EYMN **Ely** 54.81 55 P **P** **05 46 31.8 -1.0**
baz=310
SBM **South Baldy** 54.84 78 P **P** **05 46 33.3 -0.4**
Y22D **IRIS PASSCAL I** 54.94 77 P **P** **05 46 33.4 -0.6**
baz=312
Y22F **Passcal Instru** 54.94 77 P **P** **05 46 33.7 -0.4**
baz=312
BNM **Barren Site** 55.06 77 P **P** **05 46 34.4 -0.7**
E38A **The Farm, Brul** 55.63 57 IAmb IAmb 05 46 39.3
comp=Z,18nm,1.1s
SPMN **Marine on St.** 55.86 59 P **P** **05 46 40.3 -0.1**
baz=310
CBKS **Cedar Bluff** 56.13 69 P **P** **05 46 42.4 -0.1**
CBKS **Cedar Bluff** 56.13 69 P **P** **05 46 42.6 +0.2**
baz=311
CBKS **Cedar Bluff** 56.13 69 P **P** **05 46 42.4 -0.1**
CBKS pmax pmax
comp=Z,25nm,0.9s
R32A **Long Quarter,** 56.99 68 P **P** **05 46 47.5 -1.1**
R32A IAmb IAmb 05 47 01.8
comp=Z,9.0nm,0.9s
GULI **GuiLin** 57.34 271 ⇓P **P** **05 46 47.8 -3.4**
MSTX **Muleshoe** 57.55 75 IAmb IAmb 05 47 07.2
comp=Z,21nm,1.1s
MSTX **Muleshoe** 57.55 75 P **P** **05 46 52.4 -0.3**
baz=313
AMTX **Amarillo** 57.59 73 P **P** **05 46 52.6 -0.3**
AMTX **Amarillo** 57.59 73 P **P** **05 46 52.6 -0.3**
baz=313
KSU1 **Kansas State U** 57.76 66 P **P** **05 46 53.4 -0.5**
baz=312
SCIA **State Center** 57.81 62 P **P** **05 46 53.8 -0.5**
baz=312
KURK **Kurchatov** 58.14 313 P **P** **05 46 55.2 -1.2**
KURK **Kurchatov** 58.14 313 *c iP* **P** **05 46 55.7 -0.7**
KURK pmax pmax
comp=Z,28nm,1.0s
KURK **Kurchatov** 58.14 313 P **P** **05 46 55.5 -0.9**
ARCES **ARCESS Array B** 58.15 349 P **P** **05 46 54.7 -1.5**
comp=Z,5.8nm,1.0s,baz=19,slow=7.8,SNR=6.6
ARCES LR LR 06 14 13.2
comp=Z,172nm,18.9s,baz=16,slow=38
comp=Z,5.8nm,1.0s
ELIS **Ellis County** 58.15 71 P **P** **05 46 54.7 -2.1**
ELIS IAmb IAmb 05 47 09.2
comp=Z,13nm,0.8s
JMIC **Jan Mayen** 58.16 3 LR LR 06 13 26.9
comp=Z,72nm,19.3s,baz=314,slow=38
WMQ **Urumqi** 58.24 302 *eP* **P** **05 46 57.8 +0.5**
WMQ sP sP 05 47 17.8 +6.6
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ LR LR
comp=Z,390nm,20.5s
WMQ LR LR
comp=Z,400nm,16.3s
WMQ LR LR
comp=Z,430nm,21.7s
KAN01 **Argonia South** 58.40 69 IAmb IAmb 05 47 10.1
comp=Z,14nm,0.8s
KAN17 **Caldwell West** 58.47 69 **P** **05 46 58.3 -0.6**
KAN17 IAmb IAmb 05 46 59.0
comp=Z,20nm,1.1s
KAN09 **Caldwell North** 58.49 69 **P** **05 46 58.8 -0.3**
JFWS **Jewell Farm** 58.77 59 P **P** **05 46 59.7 -1.2**
baz=313
L40A **Anamosa** 58.81 61 IAmb IAmb 05 47 01.8
comp=Z,8.9nm,0.7s
I42A **Draeger Farm,** 58.83 58 P **P** **05 47 01.4 0.0**
GYA **Guiyang** 58.85 274 ⇓P **P** **05 47 04.5 +2.7**
GYA pmax pmax
comp=Z,12nm,1.2s
MK31 **Makanchi Array** 59.04 307 IAmb IAmb 05 47 02.7
comp=Z,6.9nm,0.9s
MK31 **Makanchi Array** 59.04 307 *d iP* **P** **05 47 01.8 -1.0**
MKAR **Makanchi Array** 59.04 307 P **P** **05 47 01.4 -1.4**
comp=Z,6.1nm,0.8s,baz=55,slow=7.2,SNR=36
MKAR LR LR 06 13 54.6
comp=Z,288nm,18.8s,baz=84,slow=37
comp=Z,6.1nm,0.8s
MKAR **Makanchi Array** 59.04 307 *i* P **P** **05 47 01.3 -1.5**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
P38A **Dawn** 59.17 64 P **P** **05 47 02.5 -1.3**
MAKZ **Makanchi** 59.19 307 P **P** **05 47 02.4 -1.4**
MAKZ IAmb IAmb 05 47 03.7
comp=Z,8.6nm,0.8s
MAKZ **Makanchi** 59.19 307 P **P** **05 47 02.4 -1.4**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ **Makanchi** 59.19 307 P **P** **05 47 02.5 -1.4**
MAKZ sP **pwP** **05 47 16.6 -1.2**
T35A **Sooner Cattle** 59.29 68 IAmb IAmb 05 47 16.3
comp=Z,9.6nm,0.9s
GOMU **GeErMu** 59.36 291 P **P** **05 47 04.0 -1.6**
GOMU S **S** **05 55 13.6 +1.6**
GOMU pmax pmax
comp=Z,10.0nm,0.9s
GOMU pmax pmax
comp=Z,63nm,4.7s
GOMU LR LR
comp=Z,210nm,15.4s
GOMU LR LR
comp=Z,140nm,15.7s
GOMU LR LR
comp=Z,310nm,16.5s
OK046 **Pawnee Station** 59.41 69 P **P** **05 47 04.6 -0.9**
OK046 IAmb IAmb 05 47 18.0
comp=Z,17nm,1.1s
WMOK **Wichita Mounta** 59.43 71 IAmb IAmb 05 47 17.8
comp=Z,18nm,1.0s
WMOK **Wichita Mounta** 59.43 71 P **P** **05 47 06.0 +0.4**
baz=314,SNR=12
WMOK **Wichita Mounta** 59.43 71 P **P** **05 47 06.1 +0.4**
WMOK pmax pmax
comp=Z,21nm,1.0s
OK044 **Pawnee Station** 59.49 69 IAmb IAmb 05 47 18.0
comp=Z,10.0nm,0.9s
KRVT **Keravat (AS076** 59.73 211 LR LR 06 09 49.2
comp=Z,84nm,19.3s,baz=157,slow=33
OK053 **SW of W Deep R** 59.74 69 **P** **05 47 08.1 +0.3**
OK052 **Battle Ridge R** 59.75 69 P **P** **05 47 08.0 +0.2**
OK031 **S. Brethren Rd** 59.76 69 **P** **05 47 07.7 -0.1**
OK034 **N. Norfolk Rd.** 59.79 69 **P** **05 47 08.4 +0.3**
OK034 IAmb IAmb 05 47 08.5
comp=Z,17nm,1.1s
OK030 **Cody Creek RV** 59.80 69 P **P** **05 47 08.5 +0.3**
DEOK **Depew** 60.03 69 **P** **05 47 09.4 -0.3**
DEOK IAmb IAmb 05 47 21.9
comp=Z,26nm,1.1s
X34A **Smith Ranch, M** 60.09 71 **P** **05 47 10.5 +0.3**
BVAR **Borovoye Array** 60.15 319 LR LR 06 15 53.4
comp=Z,380nm,18.3s,baz=49,slow=39
BRVK **Borovoye** 60.17 319 P **P** **05 47 10.0 -0.5**
BRVK **Borovoye** 60.17 319 *c iP* **P** **05 47 09.9 -0.5**
BRVK pmax pmax
comp=Z,18nm,0.6s
BRVK **Borovoye** 60.17 319 P **P** **05 47 09.8 -0.5**
TX32 **Lajitas Array** 60.20 79 IAmb IAmb 05 47 23.7
comp=Z,6.2nm,0.9s
TXAR **Lajitas Array** 60.20 79 P **P** **05 47 10.6 -0.5**
comp=Z,1.6nm,0.5s,baz=305,slow=5.2,SNR=32
TXAR pP **pP** **05 47 22.3 +1.4**
comp=Z,2.9nm,0.7s,baz=300,slow=5.3,SNR=9.9
comp=Z,1.6nm,0.5s
ABTX **Abilene, Hawle** 60.37 74 P **P** **05 47 11.7 -0.5**
ABTX **Abilene, Hawle** 60.37 74 P **P** **05 47 12.6 +0.4**
baz=314,SNR=7.0
TUL1 **Leonard** 60.40 69 IAmb IAmb 05 47 12.8
comp=Z,20nm,1.1s
TUL1 **Leonard** 60.40 69 P **P** **05 47 12.1 -0.2**
baz=314,SNR=5.1
L44A **Lake County Fo** 60.53 58 P **P** **05 47 12.1 -1.0**
baz=314
R40A **Maddies Statio** 60.80 64 IAmb IAmb 05 47 14.3
comp=Z,7.6nm,0.6s
HDIL **Hopedale** 60.90 61 P **P** **05 47 15.4 -0.2**
HDIL IAmb IAmb 05 47 29.7
comp=Z,16nm,0.9s
HDIL **Hopedale** 60.90 61 P **P** **05 47 14.8 -0.8**
baz=314
LOOK **Love County** 60.91 71 **P** **05 47 15.5 -0.2**
LOOK IAmb IAmb 05 47 28.1
comp=Z,24nm,1.0s
SVE **Sverdlovsk** 61.04 326 *eP* **P** **05 47 16.8 +0.5**
SVE pmax pmax
comp=Z,48nm,1.3s
SCHQ **Schefferville** 61.19 37 P **P** **05 47 16.4 -0.9**
comp=Z,4.0nm,0.8s,baz=316,slow=12,SNR=5.8
comp=Z,4.0nm,0.8s
CCM **Cathedral Cave** 61.54 64 P **P** **05 47 17.9 -2.1**
CCM IAmb IAmb 05 47 35.6
baz=314
CCM **Cathedral Cave** 61.54 64 P **P** **05 47 17.9 -2.1**
CCM pmax pmax
comp=Z,5.0nm,0.7s
MGMO **Mountain Grove** 61.59 65 IAmb IAmb 05 47 19.7
comp=Z,7.1nm,1.0s
PRGR **Permogore** 61.62 337 *eP* **P** **05 47 19.6 -0.5**
PRGR *e* 05 48 00.1
PRGR pmax pmax
comp=Z,18nm,0.6s
JCT **Junction City** 61.77 76 P **P** **05 47 21.0 -0.7**
baz=315
PZH **PanZhiHua** 61.90 278 P **P** **05 47 25.0 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
DAV **Davao City (W)** 61.97 244 LR LR 06 10 34.9
comp=Z,124nm,20.1s,baz=127,slow=32
ARU **Arti** 62.07 327 LR LR 06 16 51.2
comp=Z,265nm,20.4s,baz=46,slow=38
ARU **Arti** 62.07 327 P **P** **05 47 22.4 -0.8**
ARU **Arti** 62.07 327 *c iP* **P** **05 47 23.2 0.0**
ARU 05 47 59.4
ARU 05 49 35.5
ARU S **S** **05 55 50.0 +4.8**
ARU SS **SS** **05 59 49.7 +2.5**
ARU pmax pmax
comp=Z,54nm,0.8s
ARU MLR MLR
comp=Z,283nm,16.0s
ARU **Arti** 62.07 327 P **P** **05 47 23.4 +0.1**
WHTX **Lake Whitney,** 62.14 73 P **P** **05 47 24.5 +0.5**
baz=315,SNR=6.6
SFIN **Lafayette** 62.22 59 IAmb IAmb 05 47 30.4
comp=Z,12nm,0.8s
SFIN **Lafayette** 62.22 59 P **P** **05 47 24.2 -0.3**
baz=315
HNR **Honiara** 62.41 201 LR LR 06 11 51.0
comp=Z,2µm,19.0s,baz=7.5,slow=33
MIAR **Mount Ida** 62.65 68 P **P** **05 47 27.6 +0.1**
baz=315,SNR=19
WHAR **Wooly Hollow** 62.88 67 IAmb IAmb 05 47 42.1
comp=Z,13nm,0.8s
435B **Jarrell** 62.91 74 P **P** **05 47 29.4 +0.1**
435B **Jarrell** 62.91 74 P **P** **05 47 28.9 -0.3**
baz=315
KIRV **Kirov** 63.20 333 LR LR 06 18 54.8
comp=Z,210nm,18.4s,baz=48,slow=40
KIRV **Kirov** 63.20 333 *de* P **P** **05 47 31.2 +0.6**
O48B **Farmland** 63.36 58 P **P** **05 47 30.7 -1.4**
baz=316
KLMR **Klimovskoe** 63.76 339 *eP* **P** **05 47 33.2 -1.2**
KLMR AMP 05 47 38.8
comp=Z,55nm,2.2s
KLMR **Klimovskoe** 63.76 339 *eP* **P** **05 47 33.2 -1.2**
KLMR pmax pmax
comp=Z,55nm,2.2s
P48A **Milroy** 63.78 59 IAmb IAmb 05 47 49.5
comp=Z,7.7nm,0.7s
NATX **Nacogdoches** 63.98 71 P **P** **05 47 36.0 -0.3**
baz=316
P49A **Miami Univ. Ec** 64.11 59 P **P** **05 47 36.3 -0.8**
baz=316
HKT **Hockley** 64.56 73 P **P** **05 47 39.6 -0.4**
HKT **Hockley** 64.56 73 *d iP* **P** **05 47 40.9 +0.9**
HKT pmax pmax
comp=Z,12nm,1.3s
HKT **Hockley** 64.56 73 P **P** **05 47 40.5 +0.5**
HKT pP **pwP** **05 47 51.8 -1.1**
WVT **Waverly** 64.83 63 P **P** **05 47 39.8 -2.0**
WVT IAmb IAmb 05 47 55.6
comp=Z,9.5nm,0.9s
WVT **Waverly** 64.83 63 P **P** **05 47 41.2 -0.6**
baz=316
WVT **Waverly** 64.83 63 P **P** **05 47 41.4 -0.4**
WVT pmax pmax
comp=Z,9.0nm,0.9s
WVT **Waverly** 64.83 63 P **P** **05 47 41.0 -0.8**
WVT pP **pP** **05 47 52.6 +0.5**
TNCH **TengChong** 64.97 279 P **P** **05 47 45.0 +1.9**
TNCH pmax pmax
comp=Z,88nm,3.5s
OXF **Oxford** 65.09 66 P **P** **05 47 43.6 +0.1**
baz=316
TKM2 **Tokmak 2** 65.14 308 P **P** **05 47 43.9 -0.1**
SNR=10
AFI **Afiamalu** 65.21 170 LR LR 06 12 56.3
comp=Z,148nm,18.4s,baz=160,slow=33
Q51A **Peebles** 65.22 58 IAmb IAmb 05 47 49.6
comp=Z,14nm,1.1s
BOOM **Boomskoye usch** 65.28 307 IAmb IAmb 05 47 46.2
comp=Z,19nm,1.1s
P52A **Corning** 65.42 57 P **P** **05 47 43.7 -1.9**
baz=317
USP **Ospenovka** 65.43 309 P **P** **05 47 45.8 +0.1**
SNR=11
PLAL **Pickwick Lake** 65.52 64 IAmb IAmb 05 47 59.5
comp=Z,11nm,0.7s
SIJI **Sorong** 65.52 234 LR LR 06 11 33.7
comp=Z,68nm,19.7s,baz=0.5,slow=32
CLTN **Cedars of Leba** 65.70 62 IAmb IAmb 05 48 00.6
comp=Z,17nm,1.0s
FINES **FINESS Array B** 65.75 346 P **P** **05 47 46.5 -0.8**
comp=Z,3.4nm,0.5s,baz=28,slow=7.9,SNR=21
comp=Z,3.4nm,0.5s
FINES **FINESS Array B** 65.75 346 *i* P **P** **05 47 47.0 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.5s
T50A **Nancy** 65.86 61 IAmb IAmb 05 48 03.8
comp=Z,7.0nm,0.8s
AAK **Ala-Archa** 65.90 308 LR LR 06 18 15.1
comp=Z,257nm,19.5s,baz=86,slow=38
AAK **Ala-Archa** 65.90 308 P **P** **05 47 48.8 0.0**
AAK IAmb IAmb 05 47 52.8
comp=Z,9.5nm,0.9s
AAK **Ala-Archa** 65.90 308 *c iP* **P** **05 47 48.5 -0.3**
AAK pmax pmax
comp=Z,25nm,1.7s
AAK **Ala-Archa** 65.90 308 P **P** **05 47 48.8 0.0**
NRN **Naryn** 66.03 307 P **P** **05 47 50.0 +0.2**
NRN IAmb IAmb 05 47 51.4
comp=Z,7.0nm,1.0s
NRN **Naryn** 66.03 307 P **P** **05 47 50.1 +0.2**
NRN pmax pmax
comp=Z,7.0nm,1.0s
VBMS **Vicksburg** 66.10 68 P **P** **05 47 50.3 +0.3**
baz=316
PMG **Port Moresby** 66.15 214 LR LR 06 15 11.3
comp=Z,122nm,18.7s,baz=42,slow=34
UCH **Uchtor** 66.19 308 P **P** **05 47 51.3 +0.2**
SNR=5.5
EKS2 **Erkin-Say** 66.23 309 P **P** **05 47 51.2 +0.3**
SNR=7.2
AML **Almayashu** 66.67 309 P **P** **05 47 54.5 +0.4**
SNR=9.8
BINY **Binghamton** 66.67 51 P **P** **05 47 52.1 -1.5**
baz=319
SSPA **Standing Stone** 66.89 54 P **P** **05 47 53.8 -1.2**
baz=318
SSPA **Standing Stone** 66.89 54 P **P** **05 47 53.6 -1.4**
SSPA pP **pP** **05 48 06.2 +0.9**
W50A **Signal Mountai** 66.92 62 IAmb IAmb 05 48 11.6
comp=Z,10.0nm,0.9s
LBNH **Lisbon** 67.08 47 P **P** **05 47 54.2 -1.9**
baz=320
FPAL **Fort Paine** 67.23 63 IAmb IAmb 05 48 16.2
comp=Z,13nm,1.0s
ABKAR **Akbulak array** 67.27 322 IAmb IAmb 05 47 58.5
comp=Z,7.6nm,0.7s
KSH **Kashi** 67.47 305 P **P** **05 48 02.6 +3.8**
KSH sP sP 05 48 17.8 +4.8
KSH PcP **PcP** **05 48 25.8 -0.3**
KSH pmax pmax
comp=Z,27nm,1.0s
KK31 **Karatay Array** 67.48 311 IAmb IAmb 05 47 59.5
comp=Z,15nm,1.1s
KKAR **Karatay Array** 67.48 311 IAmb IAmb 05 47 59.5
comp=Z,15nm,1.1s
MYLDM **Lahad Datu** 67.60 249 P **P** **05 48 00.4 +0.7**
NB2 **NORSAR Subarra** 67.82 354 P **P** **05 47 59.2 -1.4**
comp=Z,12nm,1.2s,baz=8.8,slow=6.5
NOA **NORSAR Array B** 67.82 354 P **P** **05 47 58.9 -1.7**
comp=Z,3.1nm,0.7s,baz=9.0,slow=6.4,SNR=11

NOA LR LR 06 17 21.1
comp=Z,59nm,20.2s,baz=25,slow=36
comp=Z,3.1nm,0.7s
L61B Northampton 68.09 49 P **P 05 48 01.9 -0.6**
baz=320
SHL Shillong 68.68 284 P **P 05 48 05.5 -1.2**
SHL pmax pmax
comp=Z,22nm,1.0s
PHRA Phrae 68.69 273 P **P 05 48 05.8 -0.9**
BRAL Brewton 68.88 66 P **P 05 48 07.9 +0.3**
baz=318
BELG Belogornoye 69.00 330*d* *i* P **P 05 48 08.4 +0.4**
BELG pmax pmax
comp=Z,11nm,0.9s
KMSC Kings Mountain 69.16 60 IAmb IAmb 05 48 22.2
comp=Z,16nm,0.9s
KMSC Kings Mountain 69.16 60 P **P 05 48 09.2 -0.1**
baz=318
GOGA Godfrey 69.27 62 P **P 05 48 09.7 -0.3**
baz=318
CHTO Chiang Mai 69.27 274 P **P 05 48 09.4 -0.8**
CHTO Chiang Mai 69.27 274 P **P 05 48 09.5 -0.8**
HODGE Hodges 69.33 61 IAmb IAmb 05 48 23.7
comp=Z,8.2nm,0.8s
TAOE Nuku Hiva Isla 69.41 136 *e*LR LR 06 09 23.9
comp=Z,315nm,22.2s
CMAR Chiang Mai Arr 69.54 274 P **P 05 48 11.1 -0.7**
comp=Z,2.4nm,0.4s,baz=27,slow=7.0,SNR=17
CMAR pP **pP 05 48 23.3 +1.5**
comp=Z,2.5nm,0.5s,baz=26,slow=6.9,SNR=3.2
CMAR LR LR 06 22 38.6
comp=Z,56nm,18.6s,baz=125,slow=39
comp=Z,2.4nm,0.4s
CMAR Chiang Mai Arr 69.54 274 P **P 05 48 11.9 +0.1**
CMAR Chiang Mai Arr 69.54 274 *i* P **P 05 48 11.6 -0.3**
CMAR pmax pmax
comp=Z,3.0nm,0.5s
TOLI2 Tolitoli 69.56 245 IAmb IAmb 05 48 11.8
comp=Z,18nm,0.9s
OBN Obninsk 69.62 338⇓ *e*P **P 05 48 12.1 +0.3**
OBN *i* 05 48 23.0
OBN *e* 05 48 33.9
OBN *e* 05 50 46.5
OBN pmax pmax
comp=Z,53nm,2.5s
OBN MLR MLR
comp=Z,281nm,17.0s
BTK Batken 69.66 309 P **P 05 48 12.6 +0.1**
BTK Batken 69.66 309 P **P 05 48 12.6 +0.1**
BTK pmax pmax
comp=Z,27nm,1.1s
352A Blakely 69.87 65 IAmb IAmb 05 48 15.8
comp=Z,19nm,0.9s
TAPN Taplejung 69.89 289 *e*P **P 05 48 14.2 -0.1**
GUN Gumba 70.57 290 *e*P **P 05 48 18.7 +0.2**
comp=Z,166nm,1.0s
KKN Kakani 71.01 291 *e*Pg **P 05 48 20.7 -0.3**
PKI Pulchoki 71.10 290 *e*P **P 05 48 21.6 -0.1**
comp=Z,99nm,1.1s
PKIN Phulchoki 71.10 291 *e*P **P 05 48 21.5 -0.2**
GKN Gorkha 71.23 291 *e*P **P 05 48 22.1 -0.2**
comp=Z,132nm,1.0s
DMN Daman 71.25 291 *e*P **P 05 48 22.6 +0.1**
comp=Z,90nm,1.1s
NHSC New Hope 71.32 60 P **P 05 48 21.4 -1.1**
baz=319
LPSR Galich'ya Gora 71.32 335 *e*P **P 05 48 18.7 -3.5**
LPSR pmax pmax
comp=Z,6.0nm,0.9s
DANN Dangsing 71.49 292 *e*P **P 05 48 24.0 0.0**
comp=Z,118nm,0.8s
CHGR Chuyangaron 71.55 309 P **P 05 48 23.9 -0.1**
SIMJ Simiganj 71.63 309 P **P 05 48 24.1 -0.4**
SIMJ sP **sP 05 48 40.2 +1.5**
VRH Novokhopyorsk 71.81 333 *e*P **P 05 48 22.7 -2.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
NACGM Naroch 71.86 343 *e*P P 05 48 13.7 -12
comp=Z,16nm,0.8s,baz=18
VORR Voronezh 72.08 335 *e*P **P 05 48 26.8 0.0**
VORR pmax pmax
comp=Z,50nm,0.5s
VSR Storozhevoye 72.51 335 *e*P **P 05 48 26.1 -3.3**
VSR pmax pmax
comp=Z,7.0nm,0.9s
NIL Nilore 73.34 303 P **P 05 48 34.3 -0.4**
NIL Nilore 73.34 303 P **P 05 48 34.3 -0.4**
NIL pmax pmax
comp=Z,46nm,1.1s
DZM Mont Dzumac 73.61 192 *e*LR LR 06 11 14.6
comp=Z,246nm,22.9s
PPT Papeete 73.74 149 LR LR 06 16 11.7
comp=Z,36nm,20.9s,baz=323,slow=32
PPT2 Papeete2 73.76 149 *e*LR LR 06 11 24.4
comp=Z,177nm,20.8s
PPT2 *e*LR LR 06 11 25.2
comp=Z,198nm,26.0s
PPT2 Papeete2 73.76 149 *e*T T 07 09 32.5
comp=Z,3.0nm,0.3s
ESK Eskdalemuir 73.99 1 *i* P **P 05 48 39.5 +1.5**
DWPF Disney Wildern 74.40 65 P **P 05 48 41.1 +0.2**
baz=320
CMIG Matias Romero 74.61 82 LR LR 06 21 48.5
comp=Z,74nm,18.8s,baz=329,slow=36
KBL Kabul 74.83 306 P **P 05 48 42.2 -1.4**
KBL Kabul 74.83 306 P **P 05 48 42.2 -1.4**
KBL pmax pmax
comp=Z,28nm,1.1s
KAPI Kappang 75.16 242 P **P 05 48 44.4 -1.0**
KAPI IAmb IAmb 05 48 45.6
comp=Z,12nm,1.1s
KAPI Kappang 75.16 242*c* *i* P **P 05 48 44.9 -0.5**
KAPI pmax pmax
comp=Z,7.0nm,1.0s
AKASG Malin Array Be 75.37 341 P **P 05 48 44.9 -1.3**
comp=Z,2.5nm,0.3s,baz=26,slow=6.2,SNR=12
comp=Z,2.5nm,0.3s
AKASG Malin Array Be 75.37 341 *i* P **P 05 48 45.2 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 75.37 341 P **P 05 48 44.6 -1.5**
AKBB IAmb IAmb 05 48 46.9
comp=Z,8.3nm,0.8s
AKBB Malin Array Si 75.37 341⇑ *e*P **P 05 48 45.5 -0.6**
AK05 Malin Array Si 75.46 341 P **P 05 48 45.8 -0.8**
AK05 IAmb IAmb 05 48 47.0
comp=Z,9.3nm,0.8s
GOF Gofitskoye 76.90 329⇑ *e*P **P 05 48 54.0 -0.9**
GEYT Alibeck 77.28 316 P **P 05 48 57.5 +0.3**
comp=Z,1.5nm,0.4s,baz=318,slow=1.9,SNR=2.0
GEYT PP **PP 05 51 49.3 -1.7**
comp=Z,1.6nm,0.5s,baz=231,slow=17,SNR=3.9
GEYT LR LR 06 27 07.0
comp=Z,329nm,18.1s,baz=56,slow=39
comp=Z,1.5nm,0.4s
GROC Groznyy 77.62 327 *e*P **P 05 48 58.7 -0.3**
GROC *e**PP **pP 05 49 08.1 -1.1**
GROC *e* 05 49 09.4
GROC *e**SP **sP 05 49 13.8 -0.1**
GROC *e* 05 51 55.6
GROC pmax pmax
comp=Z,103nm,1.2s
DPC Dobruska-Polom 77.88 349 *e*P **P 05 49 00.2 -0.2**
DPC Dobruska-Polom 77.88 349 *e*P **P 05 49 00.2 -0.2**
SORM Soroca 77.99 340⇑ P **P 05 49 00.6 -0.3**
SORM Soroca 77.99 340 P **P 05 49 00.6 -0.3**
KIV Kislovodsk 78.00 329 *e*P **P 05 49 01.8 +0.6**
KIV pmax pmax
comp=Z,18nm,1.1s
STHS Stebnicka Huta 78.09 345 *e*P **P 05 49 01.9 +0.4**
STHS Stebnicka Huta 78.09 345 *e*P **P 05 49 01.9 +0.4**
STHS pmax pmax
comp=Z,5.0nm,1.0s
KRLC Kraliky 78.09 348 *e*P **P 05 49 00.9 -0.7**
KRLC Kraliky 78.09 348 *e*P **P 05 49 00.9 -0.7**
KBZ Khabaz 78.13 329 P **P 05 49 02.6 +0.8**
comp=Z,9.4nm,0.8s,baz=33,slow=1.3,SNR=18
KBZ LR LR 06 28 56.3
comp=Z,187nm,19.2s,baz=40,slow=40
comp=Z,9.4nm,0.8s
KBZ Khabaz 78.13 329⇓ *e*P **P 05 49 02.7 +0.9**
KBZ pmax pmax
comp=Z,12nm,0.9s
HRA Herat 78.31 311 IAmb IAmb 05 49 04.1
comp=Z,10nm,1.0s
KOLS Kolonicke sedl 78.39 344 *e*P **P 05 49 04.1 +0.9**
KOLS Kolonicke sedl 78.39 344 *e*P **P 05 49 04.1 +0.9**
KOLS pmax pmax
comp=Z,11nm,0.9s
AKT Akhty 78.45 325 *e*P **P 05 49 04.2 +0.4**
AKT *e* 05 49 11.8
AKT pmax pmax
comp=Z,32nm,1.0s
CRVS Cervenica-Dubn 78.55 345 *e*P **P 05 49 05.1 +1.0**
CRVS Cervenica-Dubn 78.55 345 *e*P **P 05 49 05.1 +1.0**
ZEI Tsey 78.64 328 *e*P **P 05 49 03.4 -1.5**
ZEI pmax pmax
comp=Z,32nm,1.1s
ZKTA Zakatala 78.71 325 P **P 05 49 05.5 +0.4**
ONI Oni 78.96 328 IAmb IAmb 05 49 12.1
comp=Z,12nm,1.0s
BUR08 Bucovina Ar. S 79.10 342 IAmb IAmb 05 49 09.4
comp=Z,13nm,0.8s
TRPA Tarpa 79.12 344⇓⇓ P **P 05 49 07.1 0.0**
BURAR Bucovina Array 79.12 342⇓⇓ P **P 05 49 07.5 +0.1**
BURAR Bucovina Array 79.12 342 IAmb IAmb 05 49 09.4
comp=Z,21nm,0.9s
BURAR Bucovina Array 79.12 342 P **P 05 49 07.4 +0.1**
KRUC Moravsky 79.14 348 *e*P **P 05 49 06.2 -1.1**
TBI Tubuai 79.18 151 *e*LR LR 06 13 54.7
TBI pmax pmax
comp=Z,6μm,21.0s
TBI *e*LR LR 06 13 55.3
comp=Z,888nm,21.8s
TBI Tubuai 79.18 151 *e*T T 07 15 39.0
comp=Z,52nm,0.4s
VYHS Vyhne 79.36 347 *e*P **P 05 49 09.5 +1.0**
VYHS Vyhne 79.36 347 *e*P **P 05 49 09.5 +1.0**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 79.40 350 *e*P **P 05 49 09.3 +0.5**
KHC Kasperske Hory 79.40 350 *e*P **P 05 49 09.3 +0.5**
GERES GERESS Array B 79.67 350 P **P 05 49 09.7 -0.6**
comp=Z,0.7nm,0.7s,baz=23,slow=7.2,SNR=4.4
comp=Z,0.7nm,0.7s
ARCR ARCALIA 79.80 343⇓ P **P 05 49 11.8 +0.9**
TESR Tescani 79.89 341⇓ P **P 05 49 11.7 +0.3**
CONA Conrad Observa 80.32 348 *e*P **P 05 49 14.1 +0.3**
comp=Z,8.3nm,1.2s
OZUR 80.47 341⇑ P **P 05 49 16.0 +1.4**
LKRN Lenkeran, Azer 80.47 323 P **P 05 49 15.3 +0.6**
WB0 Warramunga Arr 80.57 222 P **P 05 49 14.1 -1.2**
WB0 IAmb IAmb 05 49 14.9
comp=Z,7.2nm,0.8s
COVR Voineasa-Covas 80.62 341⇓ P **P 05 49 16.8 +1.4**
GNI Garni 80.69 326 LR LR 06 29 18.5
comp=Z,214nm,19.5s,baz=32,slow=39
GNI Garni 80.69 326*c* *i* P **P 05 49 17.3 +1.2**
GNI pmax pmax
comp=Z,33nm,1.7s
WRAB Tennant Creek 80.73 222*de* P **P 05 49 15.3 -0.8**
WRAB pmax pmax
comp=Z,15nm,1.7s
WB2 Warramunga Arr 80.74 222 IAmb IAmb 05 49 16.0
comp=Z,12nm,0.9s
WRA Warramunga Arr 80.75 222 P **P 05 49 14.9 -1.3**
comp=Z,8.5nm,0.9s,baz=31,slow=5.8,SNR=62
comp=Z,8.5nm,0.9s
WRA Warramunga Arr 80.75 222 *i* P **P 05 49 15.3 -0.9**
WRA pmax pmax
comp=Z,9.0nm,0.8s
CFR Carcaliu 80.84 339⇑ P **P 05 49 16.9 +0.4**
CFR Carcaliu 80.84 339 P **P 05 49 16.9 +0.4**
MLR Muntele Rosu 81.01 341⇑ P **P 05 49 18.6 +1.0**
MLR Muntele Rosu 81.01 341 P **P 05 49 18.0 +0.4**
MLR IAmb IAmb 05 49 19.7
comp=Z,6.8nm,0.7s
MLR Muntele Rosu 81.01 341 P **P 05 49 18.0 +0.4**
MLR pmax pmax
comp=Z,7.0nm,0.7s
ARSA Arzberg 81.03 349 *e*P **P 05 49 17.0 -0.5**
comp=Z,9.1nm,1.2s
SIRR Siria 81.07 344⇓ P **P 05 49 18.6 +0.8**
TPGR Topolog 81.08 339⇓ P **P 05 49 19.0 +1.1**
VOIR 81.24 342⇑ P **P 05 49 18.5 -0.3**
VOIR 81.24 342 P **P 05 49 18.5 -0.3**
RETA Reutte 81.30 352 *e*P **P 05 49 19.2 +0.2**
comp=Z,0.9nm,0.5s
WATA Walderalm 81.38 351 *e*P **P 05 49 19.5 -0.1**
comp=Z,13nm,1.0s
MOTA Moosalm 81.41 352 *e*P **P 05 49 19.6 -0.2**
comp=Z,7.9nm,1.0s
WTTA Wattenberg 81.44 351 *e*P **P 05 49 19.4 -0.6**
comp=Z,6.2nm,1.2s
KBA Konbreinsper 81.45 350 *e*P **P 05 49 20.4 +0.4**
comp=Z,14nm,0.9s
SURR Surduc 81.49 344⇓ P **P 05 49 20.2 +0.3**
SQTA Sankt Quirin 81.53 351 *e*P **P 05 49 20.4 0.0**
comp=Z,9.0nm,0.9s
RPSI Rantau Prapat 81.54 264 IAmb IAmb 05 49 20.2
comp=Z,9.9nm,0.9s
SOKA Soboth 81.65 349 *e*P **P 05 49 20.8 -0.1**
comp=Z,6.4nm,0.9s
GZR Gura Zlata 81.72 343⇑ P **P 05 49 21.6 +0.3**
GZR Gura Zlata 81.72 343 P **P 05 49 21.6 +0.3**
FETA Feichten 81.77 352 *e*P **P 05 49 21.8 +0.2**
comp=Z,10nm,1.0s
ABTA Abfaltersbach 81.87 351 *e*P **P 05 49 20.8 -1.2**
comp=Z,7.0nm,1.2s
OBKA Obir 81.87 349 *e*P **P 05 49 22.4 +0.3**
comp=Z,7.0nm,0.8s
FUORN Ofenpass-Fuorn 82.21 352 P **P 05 49 25.5 +1.4**
MDVR Moldovita 82.50 344⇑ P **P 05 49 25.2 -0.2**
DIVS Divibare 83.46 345 IAmb IAmb 05 49 31.9
comp=Z,6.8nm,1.0s
ASAR Alice Springs 84.24 221 P **P 05 49 33.7 -0.7**
comp=Z,5.3nm,0.7s,baz=24,slow=5.0,SNR=46
comp=Z,5.3nm,0.7s
ASAR Alice Springs 84.24 221 P **P 05 49 34.2 -0.2**
ASAR Alice Springs 84.24 221 P **P 05 49 34.2 -0.2**
BR131 Keskin Array S 84.59 334 IAmb IAmb 05 49 37.5
comp=Z,11nm,0.8s
BR131 Keskin Array S 84.59 334*de* P **P 05 49 36.2 -0.1**
BRTR Keskin Array B 84.59 334 P **P 05 49 35.8 -0.5**
comp=Z,7.6nm,0.7s,baz=48,slow=1.8,SNR=17
BRTR LR LR 06 29 53.9
comp=Z,95nm,21.7s,baz=83,slow=38
comp=Z,7.6nm,0.7s
BRTR Keskin Array B 84.59 334 *i* P **P 05 49 36.4 +0.1**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BNN Bunyan 84.77 332 P **P 05 49 36.8 -0.4**
STKA Stephens Creek 88.85 211 P **P 05 49 56.9 +0.2**
comp=Z,3.5nm,0.7s,baz=311,slow=5.8,SNR=6.8
comp=Z,3.5nm,0.7s
STKA Stephens Creek 88.85 211 P **P 05 49 55.5 -1.1**
SJG San Juan 90.83 60 LR LR 06 30 57.7
comp=Z,52nm,21.4s,baz=298,slow=36
EIL Elat 93.53 329 LR LR 06 38 43.4
comp=Z,164nm,18.5s,baz=79,slow=40
TORD Torodi Ar. Bea 116.03 357 PKP **PKiKP 05 55 44.7 -1.3**
comp=Z,1.1nm,0.9s,baz=356,slow=4.2,SNR=5.0
DBIC Dimbokro 122.42 4 PKP **PKPdf 05 55 57.4 -1.0**
comp=Z,2.1nm,0.5s,baz=6.9,slow=3.4,SNR=4.1
H03N2 Juan Fernandez 122.52 104 T T 08 10 26.8
baz=317,slow=77,SNR=8.1
H03N1 Juan Fernandez 122.53 104 T T 08 10 28.7
baz=317,slow=77,SNR=9.7
H03N3 Juan Fernandez 122.53 104 T T 08 10 37.8
baz=317,slow=77,SNR=10
CPUP Villa Florida 131.14 82 PKP **PKPdf 05 56 14.0 -0.5**
comp=Z,1.7nm,0.9s,baz=260,slow=2.6,SNR=3.8
CPUP Villa Florida 131.14 82 PKiKP **PKiKP 05 56 16.4 +1.0**
PLCA Paso Flores 132.32 106 PKP **PKPdf 05 56 16.4 0.0**
comp=Z,2.7nm,1.1s,baz=252,slow=3.2,SNR=3.2
QSPA South Pole Qui 140.80 180 PKP **PKPdf 05 56 30.5 -0.8**
comp=Z,2.3nm,0.7s,baz=270,slow=0.7,SNR=7.1
MAW Mawson 145.30 217 PKPbc **PKPbc 05 56 38.9 0.0**
comp=Z,4.4nm,0.9s,baz=128,slow=3.4,SNR=6.0
BOSA Boshof 150.04 308 PKPbc **PKPbc 05 56 52.8 -0.5**
comp=Z,9.5nm,0.8s,baz=20,slow=2.0,SNR=14

NEIC ***15*** *05:37:32.8±1.1, 60.06°N±0.05°×153.65°W±0.09, h165km±5km, Error ellipse: s-maj=7.8km s-min=5.3km az=135.0*
AEIC ***15*** *05:37:34.7±1.1, 60.09°N±0.05°×153.6°W±0.1, h157km±6km, ML3.6, ML3.8/112(NEIC), Error ellipse: s-maj=8.1km s-min=6.1km az=49.0*
ISC 15 05:37:33.2±1.6, 60.08N±0.05×153.58W±0.05, h162km±9km, n169, σ0.66/160, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.24**	**113**			**Pn**	**05 37 54.8**	**-0.4**
ILSW					IAML		05 38 11.2	
	comp=E,197nm,1.1s							
ILSW					IAML		05 38 15.3	
	comp=N,202nm,0.7s							
O19K	**Port Alsworth**	**0.39**	**288**			**Pn**	**05 37 55.2**	**-0.2**
O19K					IAML		05 38 11.7	
	comp=E,594nm,0.5s							
O19K					IAML		05 38 11.9	
	comp=N,452nm,0.4s							
O19K	**Port Alsworth**	**0.39**	**288**	P		**Pn**	**05 37 55.2**	**-0.2**
	baz=107							
O19K					S	**Sn**	**05 38 11.4**	**-1.0**
	baz=107							
OPT	**Oil Point**	**0.46**	**157**	P		**Pn**	**05 37 56.1**	**+0.3**
	baz=338							
P19K	**Oil Pt**	**0.46**	**157**			**Pn**	**05 37 56.1**	**+0.3**
P19K					IAML		05 38 13.8	
	comp=N,3μm,0.5s							
P19K	**Oil Pt**	**0.46**	**157**	P		**Pn**	**05 37 56.0**	**+0.2**
	baz=338							
P19K					S	**Sn**	**05 38 13.1**	**+0.1**
	baz=338							
O20K	**Slope Mountain**	**0.48**	**89**	P		**Pn**	**05 37 56.1**	**+0.2**
	baz=270							
O20K					S	**Sn**	**05 38 13.2**	**0.0**
	baz=270							
RSO	**Redoubt South**	**0.56**	**46**			**Pn**	**05 37 56.5**	**0.0**
RDJH	**Redoubt Jeurge**	**0.65**	**36**			**Pn**	**05 37 56.9**	**+0.1**
RDJH						**Sn**	**05 38 14.1**	**-0.8**
O18K	**Koktuh Hills**	**0.85**	**255**			**Pn**	**05 37 58.0**	**0.0**
O18K	**Koktuh Hills**	**0.85**	**255**	P		**Pn**	**05 37 58.2**	**+0.2**
	baz=74							
O18K					S	**Sn**	**05 38 16.4**	**-0.6**
	baz=74							
N19K	**Bonanza Creek**	**0.86**	**329**			**Pn**	**05 37 58.2**	**0.0**
N19K	**Bonanza Creek**	**0.86**	**329**	P		**Pn**	**05 37 58.2**	**0.0**
	baz=148							
N19K					S	**Sn**	**05 38 16.9**	**-0.5**
	baz=148							
HOM	**Homer**	**1.06**	**112**			**Pn**	**05 38 00.0**	**+0.4**
HOM					IAML		05 38 20.4	
	comp=E,1μm,0.5s							
HOM					IAML		05 38 21.7	
	comp=N,2μm,0.3s							
HOM	**Homer**	**1.06**	**112**			**Sn**	**05 38 19.7**	**-0.1**
HOM	**Homer**	**1.06**	**112**	P		**Pn**	**05 37 59.9**	**+0.3**
	baz=295							
HOM					S	**Sn**	**05 38 19.8**	**0.0**
	baz=295							
P18K	**Big Mountain,**	**1.08**	**231**			**Pn**	**05 37 59.7**	**-0.1**
P18K	**Big Mountain,**	**1.08**	**231**	P		**Pn**	**05 37 59.8**	**-0.1**
	baz=50							
Q19K	**Cape Douglas,**	**1.15**	**182**			**Pn**	**05 38 00.6**	**+0.1**
Q19K					IAML		05 38 26.3	
	comp=N,1μm,0.9s							
Q19K					IAML		05 38 29.3	
	comp=E,2μm,1.0s							
Q19K	**Cape Douglas,**	**1.15**	**182**	P		**Pn**	**05 38 00.6**	**+0.1**
	baz=1.8							
Q19K					S	**Sn**	**05 38 21.0**	**-0.3**
	baz=1.8							
N18K	**Kilae Creek**	**1.30**	**299**	Pn		**Pn**	**05 38 02.0**	**+0.3**
N18K	**Kilae Creek**	**1.30**	**299**	P		**Pn**	**05 38 02.0**	**+0.3**
	baz=117							
CNPM	**China Poot**	**1.31**	**114**			**Pn**	**05 38 02.0**	**+0.2**
CNPM	**China Poot**	**1.31**	**114**	IAML			05 38 23.1	
	comp=N,1μm,0.6s							
CNPM					IAML		05 38 23.6	
	comp=E,1μm,0.6s							
N20K	**Mount Spurr**	**1.31**	**30**	P		**Pn**	**05 38 02.3**	**+0.4**
	baz=212							
SPCR	**Spurr Chakacha**	**1.31**	**30**	P		**Pn**	**05 38 02.3**	**+0.4**
	baz=212							
SPU	**Mount Spurr**	**1.34**	**33**			**Pn**	**05 38 02.4**	**+0.3**
CAPN	**Captain Cook N**	**1.39**	**59**			**Pn**	**05 38 04.2**	**+1.7**
CAPN	**Captain Cook N**	**1.39**	**59**	IAML			05 38 28.3	
	comp=E,2μm,0.5s							
CAPN	**Captain Cook N**	**1.39**	**59**	P		**Pn**	**05 38 03.7**	**+1.2**
	baz=241							
BRLK	**Bradley Lake**	**1.39**	**102**			**Pn**	**05 38 03.0**	**+0.3**
BRLK	**Bradley Lake**	**1.39**	**102**	IAML			05 38 25.3	
	comp=N,2μm,0.2s							
BRLK					IAML		05 38 25.7	
	comp=E,2μm,0.5s							
SVW2	**Sparrevohn**	**1.42**	**317**			**Pn**	**05 38 02.9**	**0.0**
BRSE	**Bradley Lake S**	**1.47**	**102**			**Pn**	**05 38 03.7**	**+0.3**
BRSE	**Bradley Lake S**	**1.47**	**102**	P		**Pn**	**05 38 03.6**	**+0.2**
	baz=285							
Q20K	**Shuyak Island**	**1.59**	**157**	P		**Pn**	**05 38 04.4**	**-0.2**
	baz=338							
Q18K	**Katmai Hardscr**	**1.61**	**208**	P		**Pn**	**05 38 04.9**	**0.0**
	baz=26							
P17K	**Kvichak River**	**1.70**	**240**	P		**Pn**	**05 38 06.5**	**+0.8**
	baz=57							
SLKM	**Skilak Lake**	**1.73**	**74**			**Pn**	**05 38 05.9**	**-0.2**
O17K	**Koliganek Bris**	**1.80**	**262**	P		**Pn**	**05 38 07.4**	**+0.7**
	baz=79							
M20K	**Styx River**	**1.83**	**7**			**Pn**	**05 38 07.8**	**+0.7**
M20K	**Styx River**	**1.83**	**7**	P		**Pn**	**05 38 07.7**	**+0.6**
	baz=187							
M19K	**Big River Lodg**	**1.88**	**348**			**Pn**	**05 38 07.5**	**-0.1**
M19K	**Big River Lodg**	**1.88**	**348**	P		**Pn**	**05 38 07.8**	**+0.1**
	baz=167							
O22K	**Cooper Landing**	**1.96**	**76**			**Pn**	**05 38 08.8**	**+0.2**
O22K					IAML		05 38 35.5	
	comp=E,1μm,0.4s							
O22K	**Cooper Landing**	**1.96**	**76**	P		**Pn**	**05 38 08.5**	**0.0**
	baz=260							
SUA	**Susitna One**	**1.97**	**44**			**Pn**	**05 38 08.9**	**+0.1**
SUA	**Susitna One**	**1.97**	**44**	P		**Pn**	**05 38 09.0**	**+0.3**
	baz=226							
FIS	**Fire Island**	**1.97**	**56**	Pn		**Pn**	**05 38 11.3**	**+2.7**
FIS					IAML		05 38 40.5	
	comp=E,1μm,0.6s							
SEW	**Seward**	**2.07**	**87**			**Pn**	**05 38 09.7**	**-0.1**
SEW	**Seward**	**2.07**	**87**	P		**Pn**	**05 38 09.7**	**-0.1**
	baz=271							
Q16K	**King Salmon**	**2.11**	**230**	P		**Pn**	**05 38 11.2**	**+0.9**
	baz=47							
RC01	**Rabbit Creek A**	**2.15**	**60**			**Pn**	**05 38 10.4**	**-0.3**
RC01	**Rabbit Creek A**	**2.15**	**60**	IAML			05 38 39.4	
	comp=N,683nm,0.3s							
RC01					IAML		05 38 42.3	
	comp=E,609nm,0.4s							
RC01	**Rabbit Creek A**	**2.15**	**60**	P		**Pn**	**05 38 11.7**	**+0.9**
	baz=244							
SKT	**Skwentna**	**2.15**	**27**			**Pn**	**05 38 11.3**	**+0.5**
SKT					IAML		05 38 40.1	
	comp=E,145nm,0.6s							
SKT					IAML		05 38 41.0	
	comp=N,156nm,0.6s							
SKT	**Skwentna**	**2.15**	**27**	P		**Pn**	**05 38 11.2**	**+0.5**
	baz=208							
Q17K	**Contact Creek**	**2.17**	**214**	P		**Pn**	**05 38 11.4**	**+0.3**
	baz=32							
L19K	**White Mountain**	**2.20**	**344**	P		**Pn**	**05 38 11.4**	**+0.1**
	baz=163							
O16K	**Kokwok River B**	**2.33**	**260**	P		**Pn**	**05 38 13.7**	**+0.9**
	baz=76							
KDAK	**Kodiak Island**	**2.36**	**167**	Pn		**Pn**	**05 38 11.6**	**-1.6**
KDAK					IAML		05 38 43.2	
	comp=N,644nm,0.4s							
KDAK					IAML		05 38 44.8	
	comp=N,625nm,0.6s							
M22K	**Willow**	**2.38**	**44**			**Pn**	**05 38 13.5**	**+0.1**
M22K					IAML		05 38 50.2	
	comp=E,782nm,0.4s							
M22K	**Willow**	**2.38**	**44**	P		**Pn**	**05 38 13.2**	**-0.2**
	baz=227							
L20K	**Farewell, AK**	**2.42**	**357**	P		**Pn**	**05 38 14.5**	**+0.7**
	baz=176							
P16K	**Nushagak River**	**2.48**	**247**	P		**Pn**	**05 38 15.5**	**+0.9**
	baz=63							
N16K	**Nishlik Lake**	**2.62**	**281**	P		**Pn**	**05 38 17.2**	**+1.0**
	baz=96							
PMR	**Palmer**	**2.66**	**53**			**Pn**	**05 38 16.2**	**-0.5**
PMR					IAML		05 38 49.5	
	comp=N,359nm,0.2s							
PMR					IAML		05 38 49.9	
	comp=E,182nm,0.3s							
PMR	**Palmer**	**2.66**	**53**	P		**Pn**	**05 38 15.4**	**-1.3**
	baz=237							
PWL	**Port Wells**	**2.71**	**71**			**Pn**	**05 38 16.3**	**-1.2**

PWL	**Port Wells**	**2.71**	**71**	IAML		05 38 50.7	
	comp=E,397nm,0.1s						
PWL				IAML		05 38 50.8	
	comp=N,510nm,0.3s						
PWL	**Port Wells**	**2.71**	**71**	P	**Pn**	**05 38 17.9**	**+0.5**
	baz=256						
CUT	**Chulitna**	**2.83**	**33**		**Pn**	**05 38 18.9**	**+0.1**
CUT	**Chulitna**	**2.83**	**33**	P	**Pn**	**05 38 19.4**	**+0.5**
	baz=216						
GHO	**Glory Hole Cre**	**2.84**	**51**		**Pn**	**05 38 18.0**	**-1.0**
GHO				IAML		05 38 53.1	
	comp=N,418nm,0.8s						
KNK	**Knik Glacier**	**2.85**	**60**		**Pn**	**05 38 18.2**	**-0.9**
KNK	**Knik Glacier**	**2.85**	**60**	IAML		05 38 54.7	
	comp=N,490nm,0.3s						
KNK	**Knik Glacier**	**2.85**	**60**	P	**Pn**	**05 38 18.4**	**-0.7**
	baz=244						
OHAK	**Old Harbor**	**2.87**	**177**	Pn	**Pn**	**05 38 18.2**	**-1.1**
OHAK				IAML		05 38 53.8	
	comp=N,325nm,0.4s						
OHAK				IAML		05 38 54.9	
	comp=E,219nm,0.4s						
OHAK	**Old Harbor**	**2.87**	**177**	P	**Pn**	**05 38 18.1**	**-1.2**
	baz=357						
PPLA	**Purkeypile**	**2.91**	**13**		**Pn**	**05 38 21.0**	**+1.1**
PPLA	**Purkeypile**	**2.91**	**13**	P	**Pn**	**05 38 21.0**	**+1.1**
	baz=194						
TTA	**Tatalina**	**3.09**	**339**		**Pn**	**05 38 22.1**	**-0.1**
SML	**Sawmill**	**3.09**	**54**		**Pn**	**05 38 21.2**	**-1.0**
SML				IAML		05 38 58.1	
	comp=N,336nm,0.7s						
SML				IAML		05 39 01.2	
	comp=E,182nm,0.7s						
SML	**Sawmill**	**3.09**	**54**	P	**Pn**	**05 38 21.0**	**-1.1**
	baz=238						
P23K	**Montague Islan**	**3.10**	**89**	P	**Pn**	**05 38 22.6**	**+0.3**
	baz=274						
K20K	**Telida**	**3.30**	**356**		**Pn**	**05 38 25.4**	**+0.7**
K20K	**Telida**	**3.30**	**356**	P	**Pn**	**05 38 25.4**	**+0.7**
	baz=176						
M23K	**Glacier View**	**3.34**	**56**	P	**Pn**	**05 38 24.3**	**-0.9**
	baz=242						
CAST	**Castle Rocks**	**3.43**	**11**	Pn	**Pn**	**05 38 27.0**	**+0.6**
CAST	**Castle Rocks**	**3.43**	**11**	P	**Pn**	**05 38 27.0**	**+0.6**
	baz=193						
SCM	**Sheep Creek Mo**	**3.52**	**57**		**Pn**	**05 38 26.7**	**-0.9**
SCM	**Sheep Creek Mo**	**3.52**	**57**	IAML		05 39 10.3	
	comp=N,359nm,0.9s						
SCM	**Sheep Creek Mo**	**3.52**	**57**	P	**Pn**	**05 38 26.8**	**-0.9**
	baz=243						
SII	**Sitkinak Islan**	**3.54**	**185**	Pn	**Pn**	**05 38 26.5**	**-1.4**
SII				IAML		05 39 09.7	
	comp=E,329nm,0.4s						
HIN	**Hinchinbrook I**	**3.54**	**82**	Pn	**Pn**	**05 38 27.1**	**-0.7**
HIN				IAML		05 39 09.7	
	comp=E,309nm,1.1s						
WAT1	**Susitna Watana**	**3.67**	**39**		**Pn**	**05 38 29.2**	**-0.2**
WAT1	**Susitna Watana**	**3.67**	**39**	P	**Pn**	**05 38 29.0**	**-0.4**
	baz=223						
KTH	**Kantishna Hill**	**3.71**	**19**		**Pn**	**05 38 30.0**	**0.0**
Q23K	**Middleton Isla**	**3.71**	**97**	P	**Pn**	**05 38 30.7**	**+0.7**
	baz=283						
TRF	**Thorofare Moun**	**3.73**	**23**	IAML		05 39 14.6	
	comp=N,108nm,0.4s						
TRF				IAML		05 39 17.5	
	comp=E,78nm,0.6s						
TRF	**Thorofare Moun**	**3.73**	**23**	P	**Pn**	**05 38 30.4**	**+0.1**
	baz=206						
WAT6	**Susitna Watana**	**3.77**	**46**	P	**Pn**	**05 38 30.2**	**-0.7**
	baz=231						
CHUM	**Lake Minchumin**	**3.87**	**8**		**Pn**	**05 38 32.8**	**+0.8**
CHUM	**Lake Minchumin**	**3.87**	**8**	P	**Pn**	**05 38 32.8**	**+0.8**
	baz=189						
EYAK	**Cordova Ski Ar**	**3.92**	**80**	P	**Pn**	**05 38 32.7**	**+0.1**
	baz=266						
KLU	**Klutina**	**4.01**	**66**		**Pn**	**05 38 33.2**	**-0.7**
KLU	**Klutina**	**4.01**	**66**	P	**Pn**	**05 38 33.7**	**-0.2**
	baz=253						
RND	**Reindeer**	**4.03**	**32**		**Pn**	**05 38 34.0**	**-0.1**
RND				IAML		05 39 23.5	
	comp=N,36nm,0.5s						
RND				IAML		05 39 23.9	
	comp=E,65nm,0.2s						
J20K	**Nowinta River**	**4.12**	**357**	IAML		05 41 32.4	
	comp=N,16nm,1.2s						
J20K				IAML		05 41 33.6	
	comp=E,23nm,1.0s						
J20K	**Nowinta River**	**4.12**	**357**	P	**Pn**	**05 38 35.9**	**+0.7**
	baz=176						
M24K	**Tolsona, Glenn**	**4.13**	**57**	P	**Pn**	**05 38 35.5**	**+0.1**
	baz=244						
BPAW	**Bear Paw Mtn.**	**4.22**	**16**		**Pn**	**05 38 35.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**4.22**	**16**	P	**Pn**	**05 38 36.3**	**-0.2**
	baz=198						
DHY	**Denali Highway**	**4.22**	**42**	IAML		05 39 25.8	
	comp=E,118nm,0.4s						
DHY				IAML		05 39 28.1	
	comp=N,136nm,0.6s						
DHY	**Denali Highway**	**4.22**	**42**	P	**Pn**	**05 38 36.3**	**-0.4**
	baz=227						
MCK	**McKinley**	**4.28**	**29**	Pn	**Pn**	**05 38 37.5**	**+0.2**
MCK				IAML		05 39 27.4	
	comp=N,53nm,0.3s						
MCK				IAML		05 39 28.0	
	comp=E,57nm,0.4s						
MCK	**McKinley**	**4.28**	**29**	P	**Pn**	**05 38 37.4**	**+0.2**
	baz=213						
BMRM	**Bremner River**	**4.52**	**75**		**Pn**	**05 38 41.0**	**+0.5**
BMRM	**Bremner River**	**4.52**	**75**	P	**Pn**	**05 38 40.6**	**+0.1**
	baz=263						
BWN	**Browne**	**4.54**	**23**		**Pn**	**05 38 41.3**	**+0.6**
BWN	**Browne**	**4.54**	**23**	IAML		05 39 59.9	
	comp=N,49nm,0.7s						
BWN				IAML		05 40 02.1	
	comp=E,62nm,2.1s						
KAIM	**Kayak Island**	**4.60**	**88**		**Pn**	**05 38 40.6**	**-0.9**
KAIM	**Kayak Island**	**4.60**	**88**	P	**Pn**	**05 38 41.7**	**+0.2**
	baz=276						
N25K	**Chitina, Valde**	**4.65**	**67**	P	**Pn**	**05 38 42.9**	**+0.7**
	baz=255						
HARP	**HAARP**	**4.69**	**57**	P	**Pn**	**05 38 43.2**	**+0.6**
	baz=244						
PAX	**Paxson**	**4.85**	**50**	P	**Pn**	**05 38 44.7**	**0.0**
	baz=237						
GLB	**Gilahina Butte**	**4.98**	**70**	IAML		05 39 44.7	
	comp=E,112nm,0.7s						
NEA2	**Nenana**	**5.00**	**23**		**Pn**	**05 38 46.0**	**-0.6**
NEA2				IAML		05 41 53.4	
	comp=N,31nm,1.0s						
NEA2	**Nenana**	**5.00**	**23**	P	**Pn**	**05 38 46.0**	**-0.6**
	baz=207						
WRH	**Wood River Hil**	**5.10**	**28**	IAML		05 39 44.8	
	comp=E,31nm,0.8s						
WRH				IAML		05 39 46.1	
	comp=N,26nm,0.7s						
VRDI	**Verde Repeater**	**5.12**	**73**		**Pn**	**05 38 48.8**	**+0.4**
VRDI	**Verde Repeater**	**5.12**	**73**	IAML		05 39 47.7	
	comp=E,98nm,0.7s						
MLY	**Manley**	**5.14**	**14**	IAML		05 42 11.5	
	comp=E,21nm,3.7s						
MLY				IAML		05 42 13.9	
	comp=N,16nm,2.5s						
MLY	**Manley**	**5.14**	**14**	P	**Pn**	**05 38 48.1**	**-0.5**
	baz=196						
I21K	**Tanana**	**5.18**	**7**	IAML		05 41 51.6	
	comp=E,43nm,3.4s						
I21K				IAML		05 41 52.1	
	comp=N,28nm,2.4s						
K24K	**Donnelly Dome**	**5.25**	**41**	P	**Pn**	**05 38 51.3**	**+1.3**
	baz=228						
CCB	**Clear Creek Bu**	**5.32**	**28**	IAML		05 39 49.9	
	comp=E,29nm,0.5s						
CCB				IAML		05 39 53.9	
	comp=N,20nm,0.4s						
HDA	**Harding Lake**	**5.34**	**33**	P	**Pn**	**05 38 50.9**	**-0.3**
	baz=218						
MCARA	**McCarthy VSAT**	**5.34**	**71**		**Pn**	**05 38 51.8**	**+0.6**
MCARA	**McCarthy VSAT**	**5.34**	**71**	P	**Pn**	**05 38 52.1**	**+0.8**
	baz=260						
I23K	**Minto, Yukon-K**	**5.45**	**19**	P	**Pn**	**05 38 52.1**	**-0.5**
	baz=203						
TCOL	**CIGO, UAF Yank**	**5.50**	**26**	P	**Pn**	**05 38 53.2**	**0.0**
	baz=211						
COLA	**College**	**5.50**	**26**		**Pn**	**05 38 53.2**	**0.0**
RIDG	**Independent Ri**	**5.53**	**45**	P	**Pn**	**05 38 54.2**	**+0.6**
	baz=232						
L26K	**Log Cabin Wild**	**5.71**	**54**	P	**Pn**	**05 38 56.7**	**+0.5**
	baz=243						
BAGL	**Bagley Icefiel**	**5.73**	**81**		**Pn**	**05 38 57.2**	**+0.8**
PKER	**Poker Flat Res**	**5.80**	**27**	P	**Pn**	**05 38 57.2**	**0.0**
	baz=212						
YAH	**Yahtse**	**5.91**	**82**		**Pn**	**05 38 58.9**	**0.0**
IMAR	**Indian Mountai**	**5.93**	**359**	Pn	**Pn**	**05 38 59.0**	**+0.1**
BARN	**Barnard Glacie**	**5.96**	**75**		**Pn**	**05 39 00.4**	**+0.8**
SCRK	**Sand Creek**	**5.97**	**45**	P	**Pn**	**05 38 59.0**	**-0.6**
	baz=233						
TABL	**Table Mountain**	**6.20**	**81**		**Pn**	**05 39 03.4**	**+0.6**
H24K	**Noodor Dome**	**6.34**	**22**	P	**Pn**	**05 39 04.0**	**-0.4**
	baz=207						
PRP	**Porcupine Dome**	**6.59**	**31**	P	**Pn**	**05 39 07.6**	**-0.1**
	baz=218						
YUK3	**Moose Creek**	**6.62**	**69**	P	**Pn**	**05 39 08.7**	**+0.4**
	baz=261						
YUK8	**Steele Glacier**	**6.89**	**74**	P	**Pn**	**05 39 13.3**	**+1.4**
	baz=266						
PNL	**Peninsula**	**7.15**	**87**		**Pn**	**05 39 15.6**	**+0.4**
PNL	**Peninsula**	**7.15**	**87**	P	**Pn**	**05 39 15.9**	**+0.7**
	baz=280						
COLD	**Coldfoot**	**7.33**	**10**		**Pn**	**05 39 17.6**	**+0.1**
COLD	**Coldfoot**	**7.33**	**10**	P	**Pn**	**05 39 18.1**	**+0.6**
	baz=193						
EGAK	**Eagle**	**7.44**	**45**	P	**Pn**	**05 39 18.8**	**-0.1**
	baz=236						
G25K	**Bearman Lake**	**7.50**	**23**	P	**Pn**	**05 39 19.5**	**-0.2**
	baz=210						
DAWY	**Dawson**	**7.76**	**53**	P	**Pn**	**05 39 23.4**	**+0.1**
	baz=245						
P29M	**Windy Craggy**	**7.99**	**86**		**Pn**	**05 39 28.0**	**+1.7**
F25K	**Christian Rive**	**8.31**	**21**	P	**Pn**	**05 39 29.7**	**-0.8**
	baz=209						
PLBC	**Pleasant Camp**	**8.71**	**87**	P	**Pn**	**05 39 37.0**	**+1.2**
	baz=282						
E25K	**Arctic Village**	**8.79**	**20**	P	**Pn**	**05 39 36.2**	**-0.6**
	baz=207						
EPYK	**Eagle Plains**	**9.86**	**43**		**Pn**	**05 39 51.8**	**+0.8**
INK	**Inuvik**	**11.95**	**38**	Pn	**Pn**	**05 40 18.1**	**-0.1**

IDC ***15*** *05:44:10.7±3.0,51˚.18N×179˚.07E,h0km,mb3.3/3, mbtmp3.5/4,ML4.0/1,Error ellipse: s-maj=77.3km s-min=32.8km az=12.0*
NEIC ***15*** *05:44:13.1±2.5,51˚.02N±0˚.05×178˚.69E±0˚.07, h14km±10km,Error ellipse: s-maj=8.4km s-min=5.2km az=149.0*
AEIC ***15*** *05:44:13.3±2.1,51˚.05N±0˚.06×178˚.79E±0˚.04,h17km±3km, ML3.3,Error ellipse: s-maj=9.0km s-min=2.9km az=163.0*

ISC 15 05:44:08.3±1.8, 50˚.9N±0˚.2×178˚.35E±0˚.08, h10km, n10, σ1§07/11, mb3.2/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.78**	**49**		**Pg**	**05 44 22.8**	**-0.6**
KIWB	**Kanaga Island**	**2.98**	**69**	Pn	**Pn**	**05 44 56.0**	**+0.4**
SHEM	**Shemya Is, Ala**	**3.23**	**307**	Pn	**Pb**	**05 45 05.7**	**+0.1**
	15nm,0.3s,baz=71,slow=2.5,SNR=10						
SHEM				Sn	**Sg**	**05 45 51.7**	**-0.2**
	4.2nm,0.3s,baz=328,slow=23,SNR=2.6 71nm,0.5s						
SMY	**Shemya**	**3.23**	**307**	Pn	**Pb**	**05 45 05.7**	**0.0**
ADK	**Adak**	**3.27**	**70**	Pn	**Pn**	**05 44 59.0**	**-0.5**
SPIA	**Saint Paul Isl**	**9.21**	**42**	Pn	**Pn**	**05 46 22.6**	**+1.6**
UNV	**Unalaska Valle**	**9.73**	**66**	Pn	**Pn**	**05 46 29.9**	**+1.8**
ILAR	**Eielson Array**	**22.77**	**39**	P	**P**	**05 49 08.8**	**-1.6**
	0.7nm,0.8s,baz=260,slow=12,SNR=7.0 0.7nm,0.8s						
PDAR	**Pinedale Array**	**48.17**	**70**	P	**P**	**05 52 48.8**	**0.0**
	0.7nm,0.8s,baz=316,slow=4.0,SNR=5.9 0.7nm,0.8s						
TXAR	**Lajitas Array**	**60.51**	**79**	P	**P**	**05 54 18.9**	**+0.3**
	0.1nm,0.5s,baz=307,slow=5.5,SNR=5.1 0.1nm,0.5s						

WEL 15 05:45:03.8±0.6, 42˚S±3˚×17˚4E±˚, h6km±4km, M2.5/12, ML3.0/12, MLv2.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=177.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**204**	P	Pg	05 45 06.5	+1.0
CMWZ				S	Sg	05 45 09.3	+2.6
BSWZ	**Blackbirch Sta**	**0.28**	**265**	P	Pg	05 45 09.6	+0.3
BSWZ				S	Sg	05 45 14.2	+1.1
TUWZ	**Tuamarina**	**0.35**	**318**	P	Pg	05 45 11.3	+0.7
TUWZ				S	Sb	05 45 17.1	-1.0
TCW	**Tory Channel**	**0.48**	**2**	P	Pg	05 45 13.6	+0.5
TCW				S	Sg	05 45 20.3	+1.0
BHW	**Baring Head**	**0.54**	**59**	P	Pb	05 45 15.1	-0.7
BHW				S	Sb	05 45 23.2	-0.6
WEL	**Wellington**	**0.56**	**44**	P	Pb	05 45 15.4	-0.7
PLWZ	**Palliser**	**0.76**	**81**	P	Pg	05 45 19.0	+0.5
PLWZ				S	Sb	05 45 30.0	-0.2
MSWZ	**Moikau Station**	**0.80**	**70**	P	Pb	05 45 19.7	-0.4
MSWZ				S	Sb	05 45 32.1	+1.0
NNZ	**Nelson**	**0.81**	**305**	P	Pg	05 45 19.2	-0.1
NNZ				S	Sb	05 45 32.0	+0.7
CAW	**Cannon Point**	**0.85**	**47**	P	Pg	05 45 18.5	-1.5
DUWZ	**D'Urville Isla**	**0.92**	**344**	P	Pg	05 45 20.8	-0.6
DUWZ				S	Sb	05 45 34.8	+0.1
KIW	**Kapiti Island**	**0.96**	**31**	P	Pg	05 45 21.8	-0.5
KIW				S	Sg	05 45 34.8	-0.1
MTW	**Mount Morrison**	**1.08**	**61**	P	Pg	05 45 23.6	-0.9
OGWZ	**Otaki Gorge**	**1.11**	**39**	P	Pg	05 45 25.0	-0.2
OGWZ				S	Sn	05 45 41.9	+0.4
MRNZ	**Matariki Terra**	**1.16**	**284**	P	Pg	05 45 25.7	-0.3
MRNZ				S	Sb	05 45 42.0	+0.6
MRZ	**Mangatainoka R**	**1.44**	**45**	P	Pn	05 45 28.9	-1.5
QRZ	**Quartz Range**	**1.56**	**303**	P	Pn	05 45 32.4	+0.4
QRZ				S	Sb	05 45 52.8	-0.2

IDC ***15*** *05:45:56.3±2.7,42˚.14S×173˚.62E,h0km,mb3.9/2, mbtmp4.0/3,ML4.4/1,Error ellipse: s-maj=51.0km s-min=36.5km az=112.0*
NEIC ***15*** *05:45:56.5±1.8,42˚.30S±0˚.04×174˚.02E±0˚.05,h11km±8km, mb4.0/5,ML4.3(WEL),Error ellipse: s-maj=5.9km s-min=4.8km az=155.0*
WEL ***15*** *05:45:57.7±0.4,42˚S±3˚×17˚4E±˚,h12km,M4.2/14, ML4.4/14,MLv4.2/14,Error ellipse: s-maj=0.0km s-min=0.0km az=126.0*
NOU ***15*** *05:45:57.1,42˚.35S×174˚.07E,h7km,MLv4.6/11,Off E. Coast of S. Island, N.Z.*

ISC 15 05:45:56.6±1.1, 42˚28S±0˚.03×173˚97E±0˚.03, h13km±8km, n154, σ1§17/165, mb3.9/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.35**	**247**	Pg	**Pg**	**05 46 01.9**	**-1.7**
KHZ	**Kahutara**	**0.35**	**247**	P	**Pb**	**05 46 04.9**	**+0.2**
KHZ				S	**Sg**	**05 46 09.3**	**+0.9**
CMWZ	**Cape Campbell**	**0.56**	**19**	Pg	**Pn**	**05 46 09.5**	**-0.7**
CMWZ	**Cape Campbell**	**0.56**	**19**	P	**Pn**	**05 46 09.6**	**-0.7**
CMWZ				S	**Sn**	**05 46 19.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.57**	**353**		**Pg**	**05 46 07.7**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.57**	**353**	P	**Pg**	**05 46 07.8**	**+0.1**
BSWZ				S	**Sg**	**05 46 15.3**	**+0.1**
TUWZ	**Tuamarina**	**0.85**	**358**		**Pb**	**05 46 13.0**	**-0.1**
TUWZ	**Tuamarina**	**0.85**	**358**	P	**Pg**	**05 46 13.4**	**+0.4**
TUWZ				S	**Sg**	**05 46 24.6**	**+0.5**
THZ	**Tophouse**	**0.95**	**303**	Pg	**Pb**	**05 46 14.1**	**-0.8**
THZ	**Tophouse**	**0.95**	**303**	P	**Pb**	**05 46 14.1**	**-0.8**
THZ				S	**Sb**	**05 46 25.8**	**-1.6**
GVZ	**Greta Valley S**	**0.98**	**225**		**Pn**	**05 46 16.8**	**+0.8**
GVZ	**Greta Valley S**	**0.98**	**225**	P	**Pn**	**05 46 17.2**	**+1.2**
GVZ				S	**Sn**	**05 46 31.9**	**+2.1**
TCW	**Tory Channel**	**1.09**	**12**		**Pn**	**05 46 17.7**	**+0.1**
TCW	**Tory Channel**	**1.09**	**12**	P	**Pn**	**05 46 17.8**	**+0.1**
TCW				S	**Sg**	**05 46 32.8**	**+1.0**
BHW	**Baring Head**	**1.10**	**38**	P	**Pg**	**05 46 18.3**	**+0.5**
SNZO	**South Karori**	**1.11**	**30**		**Pg**	**05 46 18.4**	**+0.4**
SNZO	**South Karori**	**1.11**	**30**	P	**Pg**	**05 46 18.6**	**+0.6**
NNZ	**Nelson**	**1.15**	**337**		**Pn**	**05 46 17.7**	**-0.7**
NNZ	**Nelson**	**1.15**	**337**	P	**Pn**	**05 46 17.7**	**-0.7**
NNZ				S	**Sb**	**05 46 32.4**	**-0.8**
WEL	**Wellington**	**1.16**	**31**	P	**Pg**	**05 46 19.1**	**+0.3**
WEL				S	**Sg**	**05 46 35.2**	**+1.2**
PLWZ	**Palliser**	**1.19**	**54**		**Pb**	**05 46 19.2**	**+0.1**
PLWZ	**Palliser**	**1.19**	**54**	P	**Pb**	**05 46 19.4**	**+0.4**
MRNZ	**Matariki Terra**	**1.26**	**314**		**Pn**	**05 46 19.9**	**-0.1**
MRNZ	**Matariki Terra**	**1.26**	**314**	P	**Pn**	**05 46 20.0**	**0.0**
MSWZ	**Moikau Station**	**1.28**	**48**	Pn	**Pb**	**05 46 20.6**	**-0.1**
AMCZ	**Amberley**	**1.32**	**227**		**Pb**	**05 46 21.9**	**+0.6**
AMCZ	**Amberley**	**1.32**	**227**	P	**Pb**	**05 46 21.5**	**+0.2**
LTZ	**Lake Taylor**	**1.35**	**248**	Pn	**Pn**	**05 46 21.1**	**-0.1**
LTZ	**Lake Taylor**	**1.35**	**248**	P	**Pb**	**05 46 21.7**	**-0.2**
LTZ				S	**Sn**	**05 46 38.8**	**-0.3**
PAWZ	**Paruwai Farm**	**1.41**	**51**	P	**Pn**	**05 46 22.1**	**+0.1**
CAW	**Cannon Point**	**1.43**	**35**	P	**Pb**	**05 46 22.7**	**-0.4**
TKNZ	**Takaka Hill**	**1.46**	**328**		**Pn**	**05 46 22.9**	**+0.3**
TKNZ	**Takaka Hill**	**1.46**	**328**	P	**Pb**	**05 46 23.2**	**-0.4**
DUWZ	**D'Urville Isla**	**1.48**	**359**	P	**Pn**	**05 46 23.1**	**+0.2**
TRWZ	**Traveller**	**1.55**	**56**	P	**Pn**	**05 46 24.0**	**0.0**
KIW	**Kapiti Island**	**1.58**	**27**	P	**Pn**	**05 46 25.0**	**+0.6**
OKCZ	**Okains Bay**	**1.59**	**205**	P	**Pb**	**05 46 25.4**	**-0.5**
MTW	**Mount Morrison**	**1.60**	**46**	P	**Pn**	**05 46 24.5**	**-0.1**
DSZ	**Denniston Nort**	**1.70**	**288**		**Pb**	**05 46 27.4**	**-0.4**
DSZ	**Denniston Nort**	**1.70**	**288**	P	**Pb**	**05 46 27.6**	**-0.2**
OGWZ	**Otaki Gorge**	**1.71**	**32**	P	**Pn**	**05 46 26.5**	**+0.4**
MQZ	**McQueen's Vall**	**1.72**	**214**	Pn	**Pn**	**05 46 26.3**	**-0.1**
MQZ	**McQueen's Vall**	**1.72**	**214**	P	**Pn**	**05 46 26.2**	**-0.1**
OXZ	**Oxford**	**1.77**	**233**		**Pn**	**05 46 26.9**	**0.0**
OXZ	**Oxford**	**1.77**	**233**	P	**Pn**	**05 46 27.0**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.77**	**206**	P	**Pn**	**05 46 27.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.80**	**41**	P	**Pn**	**05 46 27.4**	**0.0**
QRZ	**Quartz Range**	**1.81**	**323**	Pn	**Pb**	**05 46 28.6**	**-1.0**
QRZ	**Quartz Range**	**1.81**	**323**	P	**Pb**	**05 46 29.0**	**-0.6**
QRZ	**Quartz Range**	**1.81**	**323**	P	**Pb**	**05 46 29.0**	**-0.6**
TMWZ	**Te Maipa**	**1.85**	**51**	P	**Pn**	**05 46 27.9**	**-0.2**
INZ	**Inchbonnie**	**1.92**	**256**		**Pn**	**05 46 30.1**	**+1.1**
INZ	**Inchbonnie**	**1.92**	**256**	P	**Pn**	**05 46 30.4**	**-1.1**
RACZ	**Rakaia**	**1.98**	**222**	P	**Pn**	**05 46 29.7**	**-0.1**
MRZ	**Mangatainoka R**	**2.02**	**37**		**Pn**	**05 46 30.3**	**0.0**
MRZ	**Mangatainoka R**	**2.02**	**37**	P	**Pn**	**05 46 30.3**	**0.0**
WACZ	**Wakanui South**	**2.28**	**222**	P	**Pn**	**05 46 34.2**	**+0.2**
PRWZ	**Pori Road**	**2.29**	**42**	P	**Pn**	**05 46 33.8**	**-0.2**
OHWZ	**Ohakea**	**2.31**	**27**	P	**Pn**	**05 46 35.9**	**+1.7**
POWZ	**Post Office Ro**	**2.32**	**36**	P	**Pn**	**05 46 34.4**	**-0.1**
BFZ	**Birch Farm**	**2.34**	**48**	Pn	**Pn**	**05 46 34.3**	**-0.4**
BFZ	**Birch Farm**	**2.34**	**48**	P	**Pn**	**05 46 34.4**	**-0.4**
BFZ	**Birch Farm**	**2.34**	**48**	P	**Pn**	**05 46 34.3**	**-0.4**
WVZ	**Waitaha Valley**	**2.52**	**250**	P	**Pn**	**05 46 38.0**	**+0.9**
DVHZ	**Dannevirke**	**2.58**	**41**	P	**Pn**	**05 46 37.1**	**-0.9**
RPZ	**Rata Peaks**	**2.58**	**235**	Pn	**Pn**	**05 46 38.0**	**-0.1**
	82nm,0.3s,baz=77,slow=3.3,SNR=58						
RPZ				Sn	**Sn**	**05 47 08.5**	**-0.8**
	50nm,0.3s,baz=18,slow=20,SNR=18 154nm,0.4s						
RPZ	**Rata Peaks**	**2.58**	**235**	Pn	**Pn**	**05 46 38.1**	**0.0**
RPZ	**Rata Peaks**	**2.58**	**235**	P	**Pn**	**05 46 38.2**	**+0.1**
RPZ	**Rata Peaks**	**2.58**	**235**	P	**Pn**	**05 46 38.0**	**0.0**
ANWZ	**Angora Road**	**2.62**	**47**	P	**Pn**	**05 46 38.0**	**-0.5**
WAZ	**Wanganui**	**2.63**	**17**	P	**Pn**	**05 46 41.1**	**+2.2**
ARCZ	**Arundel**	**2.64**	**230**	P	**Pn**	**05 46 39.2**	**+0.3**
TSZ	**Takapari Road**	**2.68**	**35**	P	**Pn**	**05 46 39.2**	**-0.3**
LREZ	**Lake Rotokare**	**2.83**	**7**	P	**Pb**	**05 46 47.1**	**+0.1**
PRHZ	**Porangahau**	**2.84**	**46**	P	**Pn**	**05 46 40.4**	**-1.3**
NMEZ	**Namu Road**	**2.86**	**359**	P	**Pb**	**05 46 47.9**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**2.88**	**248**	P	**Pn**	**05 46 43.4**	**+1.3**
WPHZ	**Waipukurau**	**2.89**	**41**	P	**Pn**	**05 46 41.7**	**-0.6**
PNHZ	**Pukenui**	**2.90**	**36**	P	**Pn**	**05 46 41.9**	**-0.6**
KHEZ	**Kahui Hut**	**2.98**	**1**	P	**Pb**	**05 46 48.2**	**-1.4**
NEZ	**North Egmont**	**3.01**	**2**	P	**Pb**	**05 46 49.8**	**-0.2**
NBEZ	**Newall Road No**	**3.01**	**358**	P	**Pb**	**05 46 48.0**	**-2.0**
TMZ	**Timaru**	**3.02**	**225**	P	**Pn**	**05 46 44.4**	**+0.3**
PKE	**Pukeiti**	**3.08**	**0**	P	**Pb**	**05 46 49.3**	**-2.0**
DREZ	**Durham Road**	**3.09**	**3**	P	**Pb**	**05 46 50.3**	**-1.1**
MOVZ	**Moawhango**	**3.17**	**26**	P	**Pn**	**05 46 46.6**	**+0.3**
WNVZ	**Wahianoa**	**3.20**	**23**	P	**Pn**	**05 46 47.9**	**+1.2**
BHHZ	**Black Hill Sta**	**3.21**	**30**	P	**Pn**	**05 46 47.0**	**+0.3**
VRZ	**Vera Road**	**3.21**	**11**	P	**Pn**	**05 46 48.9**	**+2.2**
TRVZ	**Turoa**	**3.21**	**22**	P	**Pn**	**05 46 48.9**	**+1.9**
MHEZ	**Mangahewa**	**3.21**	**5**	P	**Pb**	**05 46 52.9**	**-0.6**
DRZ	**Dome Shelter**	**3.23**	**22**	P	**Pn**	**05 46 49.8**	**+2.4**
WHVZ	**Whangaehu Hut**	**3.23**	**23**	P	**Pn**	**05 46 48.7**	**+1.4**
FWVZ	**Far West T-bar**	**3.25**	**22**	P	**Pn**	**05 46 49.5**	**+2.0**
TUVZ	**Tukino**	**3.27**	**24**	P	**Pn

KHZ	Kahutara	0.61	217	P	Pg	05 47 52.7 +0.2
KHZ				S	Sb	05 48 03.9 +1.1
TCW	Tory Channel	0.74	14	P	Pg	05 47 53.9 -0.9
TCW				S	Sb	05 48 06.4 0.0
WEL	Wellington	0.84	40	P	Pg	05 47 56.5 -0.3
WEL				S	Sb	05 48 10.5 +1.1
THZ	Tophouse	0.87	281	P	Pg	05 47 57.0 -0.2
THZ				S	Sb	05 48 09.6 -0.6
NNZ	Nelson	0.87	325	P	Pg	05 47 56.6 -0.7
NNZ				S	Sb	05 48 10.0 -0.1
MSWZ	Moikau Station	1.04	61	P	Pg	05 47 59.4 -1.2
MSWZ				S	Sb	05 48 14.7 -0.4
MRNZ	Matariki Terra	1.10	298	P	Pb	05 48 02.1 -0.1
MRNZ				S	Sb	05 48 17.3 +0.5
CAW	Cannon Point	1.12	44	P	Pg	05 48 01.2 -1.0
CAW				S	Sg	05 48 16.6 -0.2
DUWZ	D'Urville Isla	1.13	355	P	Pg	05 48 01.8 -0.5
TKNZ	Takaka Hill	1.21	317	P	Pg	05 48 03.3 -0.5
TKNZ				S	Sn	05 48 21.3 +0.3
OGWZ	Otaki Gorge	1.40	38	P	Pn	05 48 05.1 -1.7
OGWZ				S	Sb	05 48 24.6 -0.8
LTZ	Lake Taylor	1.57	236	P	Pn	05 48 08.0 -1.2
LTZ				S	Sn	05 48 29.8 -0.1
QRZ	Quartz Range	1.58	314	P	Pb	05 48 10.0 -0.5
QRZ				S	Sg	05 48 31.5 -0.1
DSZ	Denniston Nort	1.68	275	P	Pb	05 48 11.5 -0.6
DSZ				S	Sg	05 48 36.3 +1.6

IDC 15 05:50:06.5±13.0, 17°49S×179°61E, h537km±58km, mb3.3/3, mbtmp4.3/3, Error ellipse: s-maj=288.8km s-min=116.3km az=80.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.50	261	P	P	05 51 13.0	0.0
	27nm,0.7s,baz=62,slow=3.0,SNR=19						
STKA	Stephens Creek	37.18	240	P	P	05 56 32.6	+0.5
	0.8nm,0.3s,baz=82,slow=8.1,SNR=3.3						
	0.8nm,0.3s						
WRA	Warramunga Arr	42.85	259	P	P	05 57 17.2	-0.5
	1.5nm,0.7s,baz=98,slow=7.5,SNR=25						
	1.5nm,0.7s						
ASAR	Alice Springs	43.08	254	P	P	05 57 19.4	-0.1
	9.6nm,0.5s,baz=88,slow=8.1,SNR=120						
	9.6nm,0.5s						

IDC 15 06:08:23.3±7.9, 6°14S×148°57E, h75km±64km, mb2.7/1, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=97.4km s-min=55.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.54	203	P	Pn	06 09 15.9	+0.1
	28nm,0.6s,baz=14,slow=7.1,SNR=9.5						
PMG				S	Sn	06 09 57.2	+0.7
	73nm,0.7s,baz=18,slow=19,SNR=12						
WRA	Warramunga Arr	19.48	224	P	P	06 12 44.5	+0.2
	0.2nm,0.3s,baz=51,slow=11,SNR=5.0						
	0.9nm,0.3s						
ASAR	Alice Springs	22.42	217	P	P	06 13 16.0	-0.1
	0.2nm,0.3s,baz=35,slow=13,SNR=4.8						
	0.2nm,0.3s						
TORD	Torodi Ar. Bea	146.63	285	PKPbc	PKPdf	06 27 56.5	+0.7
	0.1nm,0.3s,baz=62,slow=5.2,SNR=1.3						

WEL ***15*** *06:09:00.4±1.7, 41°.71S×174°.23E, h14km±4km, ML4.5, Mw4.1, Moment Tensor Solution. s4 Moment tensor: Scale 10^15 Nm; Mrr1.02; Mθθ1.19; Mϕϕ-2.21; Mrθ-0.62; Mθϕ-0.68; Mϕr-0.22; Fault plane solution: M0 2.07000×10^15 NP1: ϕs332.00000°, δ60.00000°, λ25.00000°. NP2: ϕs228.00000°, δ69.00000°, λ147.00000°. Principal axes: T -237.6700, Plg38.0000°, Azm188.0000°; N 176.9800, Plg52.0000°, Azm18.0000°; P 60.7000, Plg6.0000°, Azm282.0000°;*

IDC ***15*** *06:09:33.5±1.6, 41°.55S×174°.12E, h0km, mb3.9/3, mbtmp4.0/4, ML4.2/1, MS2.8/1 Error ellipse: s-maj=44.1km s-min=28.3km az=55.0*

NEIC ***15*** *06:09:35.6±1.7, 41°.78S±0°.03×174°.29E±0°.04, h14km±8km, ML4.5(WEL), Error ellipse: s-maj=6.2km s-min=1.5km az=139.0*

WEL ***15*** *06:09:36.0±0.4, 42°.5S×17°.4E±°, h11km±4km, M4.4/18, ML4.7/18, MLv4.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=119.2*

NOU ***15*** *06:09:35.7, 41°.85S×174°.40E, h12km, MLv4.8/15, Cook Strait, New Zealand*

ISC 15 06:09:35.0±1.0, 41°81S±0°.03×174°33E±0°.03, h13km±7km, n139, σ1s32/144, mb3.8/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11	305		Pg	06 09 38.5	+0.5
CMWZ	Cape Campbell	0.11	305	P	Pg	06 09 38.5	+0.5
BSWZ	Blackbirch Sta	0.36	286		Pg	06 09 41.9	-0.2
BSWZ	Blackbirch Sta	0.36	286	P	Pg	06 09 41.9	-0.2
BSWZ				S	Sg	06 09 47.0	0.0
TUWZ	Tuamarina	0.48	322		Pg	06 09 43.8	-0.7
TUWZ	Tuamarina	0.48	322	P	Pg	06 09 43.9	-0.6
TUWZ				S	Sg	06 09 49.7	-1.2
SNZO	South Karori	0.57	29		Pb	06 09 47.1	+0.2
SNZO	South Karori	0.57	29	P	Pb	06 09 47.0	+0.2
TCW	Tory Channel	0.60	356		Pg	06 09 46.2	-0.5
TCW	Tory Channel	0.60	356	P	Pg	06 09 46.2	-0.5
TCW				S	Sg	06 09 53.8	-0.9
WEL	Wellington	0.62	32	P	Pb	06 09 48.3	+0.3
WEL				S	Sb	06 09 56.9	+0.7
PLWZ	Palliser	0.73	71		Pn	06 09 51.5	+0.4
PLWZ	Palliser	0.73	71	P	Pn	06 09 51.7	+0.7
MSWZ	Moikau Station	0.79	60		Pn	06 09 52.4	+0.5
MSWZ	Moikau Station	0.79	60	P	Pn	06 09 52.3	+0.4
KHZ	Kahutara	0.84	224		Pn	06 09 53.5	+1.0
KHZ	Kahutara	0.84	224	P	Pn	06 09 53.6	+1.0
KHZ	Kahutara	0.84	224	P	Pn	06 09 53.5	+1.0
CAW	Cannon Point	0.90	38	P	Pn	06 09 53.0	-0.3
PAWZ	Paruwai Farm	0.93	63	P	Pn	06 09 54.3	+0.5
NNZ	Nelson	0.93	309		Pb	06 09 51.8	-1.1
NNZ	Nelson	0.93	309	P	Pb	06 09 51.8	-1.1
KIW	Kapiti Island	1.04	25	P	Pb	06 09 54.9	-0.1
DUWZ	D'Urville Isla	1.06	343	P	Pb	06 09 54.0	-1.1
THZ	Tophouse	1.07	272	Pn	Pb	06 09 55.2	-0.1
MTW	Mount Morrison	1.09	54	P	Pg	06 09 56.3	+0.3
TRWZ	Traveller	1.10	68	P	Pg	06 09 56.4	+0.3
OGWZ	Otaki Gorge	1.18	33	P	Pb	06 09 57.4	+0.2
MRNZ	Matariki Terra	1.25	289		Pb	06 09 58.3	-0.1
HOWZ	Holdsworth Sta	1.28	45	P	Pb	06 09 58.9	0.0
TKNZ	Takaka Hill	1.29	307		Pn	06 09 58.2	-0.5
TKNZ	Takaka Hill	1.29	307	P	Pn	06 09 58.2	-0.5
TMWZ	Te Maipa	1.37	59	P	Pn	06 09 59.9	+0.1
MRZ	Mangatainoka R	1.48	40		Pn	06 10 01.8	+0.4
MRZ	Mangatainoka R	1.48	40	P	Pn	06 10 01.7	+0.4
GVZ	Greta Valley S	1.50	219		Pn	06 10 02.4	+0.8
TIWZ	Tintock	1.56	49	P	Pb	06 10 03.3	-0.5
CPWZ	Castlepoint	1.67	58	P	Pn	06 10 04.7	+0.8
QRZ	Quartz Range	1.68	305		Pn	06 10 04.8	+0.7
QRZ	Quartz Range	1.68	305	P	Pb	06 10 04.9	-0.8
PRWZ	Pori Road	1.76	45	P	Pn	06 10 05.3	+0.1
OHWZ	Ohakea	1.77	25	P	Pb	06 10 07.5	+0.3
POWZ	Post Office Ro	1.79	38	P	Pn	06 10 05.8	+0.3
LTZ	Lake Taylor	1.81	237	Pn	Pn	06 10 06.5	+0.6
BFZ	Birch Farm	1.83	53		Pn	06 10 05.9	-0.2
BFZ	Birch Farm	1.83	53	P	Pn	06 10 05.7	-0.5
BFZ	Birch Farm	1.83	53	P	Pn	06 10 05.5	-0.6
AMCZ	Amberley	1.84	222	Pn	Pn	06 10 06.7	+0.4
DSZ	Denniston Nort	1.89	271		Pn	06 10 08.1	+1.1
DVHZ	Dannevirke	2.05	43	P	Pn	06 10 08.7	-0.5
ANWZ	Angora Road	2.11	51	P	Pn	06 10 09.5	-0.5
WAZ	Wanganui	2.12	14	P	Pb	06 10 12.7	-0.4
TSZ	Takapari Road	2.14	36	P	Pn	06 10 10.5	0.0
MQZ	McQueen's Vall	2.26	213		Pn	06 10 11.2	-0.8
OXZ	Oxford	2.27	228		Pn	06 10 11.9	-0.3
PRHZ	Porangahau	2.33	49	P	Pn	06 10 12.1	-0.9
INZ	Inchbonnie	2.33	246		Pn	06 10 13.6	+0.6
LREZ	Lake Rotokare	2.35	1	P	Pb	06 10 16.4	-0.8
WPHZ	Waipukurau	2.37	43	P	Pn	06 10 13.8	+0.3
PNHZ	Pukenui	2.37	37	P	Pn	06 10 13.5	-0.1
NMEZ	Namu Road	2.42	352	P	Pb	06 10 17.9	-0.5
KHEZ	Kahui Hut	2.53	354	P	Pb	06 10 19.2	-1.0
KHEZ	Kahui Hut	2.53	354	P	Pb	06 10 18.7	-1.6
NEZ	North Egmont	2.55	356	P	Pb	06 10 19.6	-1.0
NBEZ	Newall Road No	2.57	352	P	Pn	06 10 18.2	+1.9
MTVZ	Mangateitei	2.58	20	P	Pb	06 10 21.5	+0.4
PXZ	Pawanui	2.62	48	P	Pn	06 10 15.7	-1.2
DREZ	Durham Road	2.62	358	P	Pb	06 10 20.2	-1.6
PKE	Pukeiti	2.63	354	P	Pn	06 10 19.1	+2.0
MOVZ	Moawhango	2.63	25	P	Pn	06 10 18.1	+0.8
PKVZ	Pokaka	2.64	17	P	Pn	06 10 19.9	-2.2
WNVZ	Wahianoa	2.66	22	P	Pn	06 10 19.1	+1.4
BHHZ	Black Hill Sta	2.67	30	P	Pn	06 10 18.7	+1.0
TRVZ	Turoa	2.68	21	P	Pb	06 10 23.5	+0.7
WHVZ	Whangaehu Hut	2.70	21	P	Pn	06 10 20.5	+2.2
VRZ	Vera Road	2.71	7	P	Pn	06 10 20.4	+2.2
FWVZ	Far West T-bar	2.72	20	P	Pn	06 10 24.2	+0.7
MHEZ	Mangahewa	2.73	360	P	Pb	06 10 22.8	-0.9
TUVZ	Tukino	2.73	22	P	Pn	06 10 21.1	+2.4
KAHZ	Kahuranaki	2.79	45	P	Pn	06 10 18.3	-1.1
NGZ	Ngauruhoe	2.81	21	P	Pn	06 10 21.7	+2.0
SNVZ	South Ngauruho	2.81	21	P	Pn	06 10 21.4	+1.7
OTVZ	Oturere	2.83	21	P	Pn	06 10 21.9	+1.8
NNVZ	North Ngauruho	2.85	20	P	Pn	06 10 22.5	+2.2
WTVZ	West Tongariro	2.86	20	P	Pb	06 10 23.2	-2.7
TWVZ	Taurewa	2.87	17	P	Pn	06 10 22.4	+2.0
KWHZ	Kaweka Forest	2.87	34	P	Pn	06 10 20.4	-0.1
ETVZ	East Tongariro	2.87	22	P	Pn	06 10 22.1	+1.5
TMVZ	Te Maari	2.89	22	P	Pn	06 10 22.1	+1.3
KRVZ	Karewarewa	2.89	21	P	Pn	06 10 22.9	+2.1
NTVZ	North Tongariro	2.90	21	P	Pn	06 10 22.6	+1.6
MCHZ	McNeill Hill	2.97	38	P	Pn	06 10 21.4	-0.4
KATZ	Kakaramea	3.02	21	P	Pb	06 10 27.2	-1.4
RPZ	Rata Peaks	3.07	231	Pn	Pn	06 10 23.0	-0.2
	31nm,0.3s,baz=91,slow=2.7,SNR=49						
RPZ				Sn	Sn	06 10 58.4	-1.4
	32nm,0.3s,baz=131,slow=22,SNR=18						
RPZ				LR	LR	06 11 34.3	
	comp=Z,149nm,18.2s,baz=336,slow=39						
	67nm,0.4s						
RPZ	Rata Peaks	3.07	231	Pn	Pn	06 10 23.0	-0.2
RPZ	Rata Peaks	3.07	231	P	Pn	06 10 23.1	-0.2
BKZ	Black Stump Fm	3.12	33		Pn	06 10 23.4	-0.4
BKZ	Black Stump Fm	3.12	33	P	Pn	06 10 24.2	+0.4
BKZ	Black Stump Fm	3.12	33	P	Pn	06 10 23.5	-0.3
RATZ	Rangitukua	3.14	21	P	Pb	06 10 31.0	+0.4
ARHZ	Aropaoanui	3.26	39	P	Pn	06 10 25.1	-0.7
NMHZ	Naumai	3.30	36	P	Pn	06 10 26.2	-0.2
HIZ	Hauiti	3.32	7		Pn	06 10 28.9	+2.3
HIZ	Hauiti	3.32	7	P	Pn	06 10 29.6	+3.0
HIZ	Hauiti	3.32	7	P	Pn	06 10 29.1	+2.5
MRHZ	Matea Rd	3.38	29	P	Pb	06 10 34.6	-0.1
MTHZ	Maungataniwha	3.52	34	P	Pn	06 10 29.0	-0.4
TLZ	Tolley Road	3.60	15	P	Pb	06 10 34.6	-3.9
FOZ	Fox Glacier	3.75	241	Pn	Pn	06 10 34.2	+1.7
KNZ	Kokohu	3.78	44	P	Pn	06 10 31.3	-1.6
LBZ	Lake Benmore	3.98	228	Pn	Pn	06 10 36.0	+0.3
OMRZ	Omania	4.02	24	P	Pb	06 10 42.3	-3.3
URZ	Urewera	4.14	32	P	Pn	06 10 38.7	+0.8
TOZ	Tahuroa Road	4.17	13	P	Pn	06 10 40.8	+2.5
ODZ	Otahua Downs	4.20	219	Pn	Pn	06 10 37.8	-0.9
ODZ	Otahua Downs	4.20	219	P	Pn	06 10 38.5	-0.2
MWZ	Matawai	4.25	36	P	Pn	06 10 41.5	-2.0
CNGZ	Carnagh Statio	4.46	43	P	Pn	06 10 40.2	-2.0
MKAZ	Moumakai	4.75	8	P	Pn	06 10 47.6	+1.4
AWAZ	Awhitu Peninsu	4.75	3	P	Pn	06 10 48.4	+2.2
HAZ	Te Kaha	4.84	34	P	Pn	06 10 47.0	-0.5
PKGZ	Pakihiroa	4.86	38	P	Pn	06 10 46.6	-1.3
ETAZ	East Tamaki Re	4.88	6	P	Pn	06 10 50.4	+2.5
WTAZ	Waiatarua	4.88	2	P	Pn	06 10 50.9	+2.9
WKZ	Wanaka	4.91	230	Pn	Pn	06 10 48.8	+0.3
RVAZ	Riverhead Bore	5.04	2	P	Pn	06 10 53.2	+3.0
MBAZ	Motutapu North	5.06	5	P	Pn	06 10 53.4	+3.0
KUZ	Kuaotunu	5.17	12	P	Pn	06 10 52.5	+0.4
SYZ	Scrubby Hill	6.02	217	P	Pn	06 11 04.1	+0.4
OUZ	Omahuta	6.61	355	P	Pn	06 11 12.5	+0.7
OUZ	Omahuta	6.61	355	P	Pn	06 11 14.2	+2.4
CTZ	Chatham Island	6.93	109	P	Pn	06 11 17.2	+1.0
PYZ	Puysegur Point	7.03	229	P	Pn	06 11 19.7	+2.2
AS31	Alice Springs	38.11	286	P	P	06 16 53.3	-0.4
ASAR	Alice Springs	38.11	286	P	P	06 16 52.5	-1.3
	0.6nm,0.4s,baz=122,slow=7.0,SNR=18						
	0.6nm,0.4s						
WRA	Warramunga Arr	40.18	290	P	P	06 17 09.7	-1.4
	0.6nm,0.3s,baz=127,slow=8.4,SNR=28						
	0.6nm,0.3s						
QSPA	South Pole Qui	48.31	180	P	P	06 18 19.1	+3.3
	2.0nm,0.6s,baz=30,slow=2.1,SNR=7.9						
	2.0nm,0.6s						
ARCES	ARCESS Array B	147.86	340	PKPbc	PKPbc	06 29 17.7	-0.8
	2.8nm,0.8s,baz=27,slow=3.0,SNR=5.1						
TORD	Torodi Ar. Bea	150.73	195	PKPbc	PKPbc	06 29 27.5	+0.3
	0.8nm,0.4s,baz=170,slow=2.3,SNR=13						

NOU ***15*** *06:18:10.7, 42°.17S×170°.57E, h0km, MLv4.1/5, Off W. Coast of S. Island, N.Z.*

WEL ***15*** *06:18:12.6±0.3, 43°S±2°×17°3E±°, h5km, M3.3/16, ML3.5/16, MLv3.3/16, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2*

ISC 15 06:18:13.2±1.1, 42°76S±0°.02×172°75E±0°.03, h12km±9km, n47, σ1s21/57, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.30	134	P	Pg	06 18 19.7	+0.4
GVZ				S	Sb	06 18 25.6	+0.3
LTZ	Lake Taylor	0.35	266	P	Pg	06 18 20.2	-0.1
LTZ				S	Sg	06 18 25.8	+0.8
AMCZ	Amberley	0.42	189	P	Pb	06 18 22.9	+0.3
AMCZ				S	Sb	06 18 30.9	+2.0
OXZ	Oxford	0.77	222	P	Pb	06 18 28.8	+0.3
OXZ				S	Sb	06 18 40.5	+1.7
MQZ	McQueen's Vall	0.95	184	P	Pg	06 18 30.9	-0.6
MQZ				S	Sb	06 18 45.3	+1.2
INZ	Inchbonnie	0.96	272	P	Pg	06 18 31.1	-0.7
OKCZ	Okains Bay	0.99	167	P	Pg	06 18 31.9	-0.4
OKCZ				S	Sb	06 18 46.4	+1.1
THZ	Tophouse	1.00	7	P	Pg	06 18 30.2	-2.4
RACZ	Rakaia	1.06	204	P	Pg	06 18 32.7	-1.0
RACZ				S	Sb	06 18 48.8	+1.5
AKCZ	Akaroa Harbour	1.12	174	P	Pg	06 18 33.4	-1.3
AKCZ				S	Sg	06 18 48.8	-0.5
MHCZ	Mount Hutt	1.16	228	P	Pg	06 18 35.1	-0.4
MHCZ				S	Sg	06 18 50.9	+0.4
DSZ	Denniston Nort	1.23	325	P	Pg	06 18 35.1	-1.8
DSZ				S	Sn	06 18 52.5	-0.3
BSWZ	Blackbirch Sta	1.34	39	P	Pn	06 18 37.2	-0.5
WACZ	Wakanui South	1.35	209	P	Pn	06 18 36.7	-1.2
WVZ	Waitaha Valley	1.51	257	P	Pn	06 18 39.9	-0.1
RPZ	Rata Peaks	1.56	232	P	Pn	06 18 39.8	-1.0
RPZ	Rata Peaks	1.56	232	P	Pn	06 18 39.8	-1.0
TUWZ	Tuamarina	1.60	34	P	Pn	06 18 41.0	-0.3
NNZ	Nelson	1.61	17	P	Pn	06 18 40.6	-0.8
ARCZ	Arundel	1.65	223	P	Pn	06 18 40.9	-1.1
TKNZ	Takaka Hill	1.73	5	P	Pn	06 18 43.1	-0.1
GCSZ	Gaunt Creek Bo	1.86	252	P	Pn	06 18 44.9	+0.1
TCW	Tory Channel	1.93	37	P	Pn	06 18 45.9	+0.1
QRZ	Quartz Range	1.94	355	P	Pn	06 18 46.5	+0.6
TMZ	Timaru	2.06	217	P	Pn	06 18 46.5	-1.1
DUWZ	D'Urville Isla	2.15	25	P	Pn	06 18 49.9	+1.0
FOZ	Fox Glacier	2.28	249	P	Pn	06 18 50.8	+0.2
MSWZ	Moikau Station	2.30	55	P	Pn	06 18 50.6	-0.3
LBZ	Lake Benmore	2.47	228	P	Pn	06 18 52.5	-0.8
ODZ	Otahua Downs	2.74	213	P	Pn	06 18 55.6	-1.4
ODZ	Otahua Downs	2.74	213	P	Pn	06 18 55.7	-1.3
MRZ	Mangatainoka R	2.98	46	P	Pn	06 18 59.9	-0.4
JCZ	Jackson Bay	3.17	244	P	Pn	06 19 02.4	-0.6
HHSZ	Highcliff Hill	3.48	206	P	Pn	06 19 05.5	-1.7
EAZ	Earnscleugh	3.50	224	P	Pn	06 19 05.9	-1.6
NBEZ	Newall Road No	3.59	14	P	Pn	06 19 11.2	+2.6
PKE	Pukeiti	3.69	15	P	Pn	06 19 11.6	+1.6
TUZ	Tuapeka	3.90	214	P	Pn	06 19 11.5	-1.3
VRZ	Vera Road	3.91	23	P	Pn	06 19 14.0	+0.5
MLZ	Mavora Lakes	4.23	230	P	Pn	06 19 15.6	-1.9
HIZ	Hauiti	4.54	21	P	Pn	06 19 25.0	+3.3
HIZ	Hauiti	4.54	21	P	Pn	06 19 22.5	+0.9
SYZ	Scrubby Hill	4.57	213	P	Pn	06 19 21.0	-1.1
SYZ	Scrubby Hill	4.57	213	P	Pn	06 19 20.8	-1.2
BKZ	Black Stump Fm	4.58	40	P	Pb	06 19 33.1	-0.4
APZ	The Paps	5.29	218	P	Pn	06 19 30.3	-1.8
MKAZ	Moumakai	5.95	19	P	Pn	06 19 42.0	+0.9

NOU ***15*** *06:27:37.5, 42°.75S×173°.29E, h0km, MLv5.2/10, South Island, New Zealand*

IDC ***15*** *06:27:37.0±1.3, 42°.34S×172°.98E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=38.2km s-min=27.3km az=65.0*

WEL ***15*** *06:27:38.1±0.3, 43°S±2°×17°3E±°, h9km±3km, M4.1/15, ML4.3/16, MLv4.1/15, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5*

NEIC ***15*** *06:27:38.9±2.6, 42°.54S±0°.04×173°.15E±0°.06, h15km±5km, mb4.5/4, ML4.2(WEL), Error ellipse: s-maj=8.1km s-min=3.2km az=124.0*

ISC 15 06:27:38.0±1.1, 42°55S±0°.02×173°16E±0°.03, h9km±8km, n145, σ1s58/155, mb4.4/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.31	66	Pg	Pb	06 27 46.4	+0.7
KHZ	Kahutara	0.31	66	P	Pg	06 27 45.2	+1.0
KHZ				S	Sb	06 27 52.4	+1.5
GVZ	Greta Valley S	0.43	192		Pb	06 27 48.0	+0.2
GVZ	Greta Valley S	0.43	192	P	Pb	06 27 48.0	+0.2
GVZ				S	Sb	06 27 55.6	+1.3
LTZ	Lake Taylor	0.69	250		Pg	06 27 50.9	-0.4
LTZ	Lake Taylor	0.69	250	P	Pg	06 27 51.0	-0.4
LTZ				S	Sg	06 27 60.0	-0.5
AMCZ	Amberley	0.73	210		Pb	06 27 53.3	+0.5
AMCZ	Amberley	0.73	210	P	Pb	06 27 53.4	+0.5
THZ	Tophouse	0.81	347		Pg	06 27 53.4	-0.1
THZ	Tophouse	0.81	347	P	Pg	06 27 53.5	-0.1
THZ				S	Sg	06 28 03.5	-0.4
BSWZ	Blackbirch Sta	0.99	33		Pb	06 27 56.6	-0.7
BSWZ	Blackbirch Sta	0.99	33	P	Pb	06 27 56.7	-0.5
OXZ	Oxford	1.13	226		Pb	06 27 59.3	-0.4
OXZ	Oxford	1.13	226	P	Pb	06 27 59.3	-0.4
OKCZ	Okains Bay	1.18	183	P	Pn	06 28 00.6	-0.1
MRNZ	Matariki Terra	1.18	345		Pn	06 28 00.3	-0.3
MRNZ	Matariki Terra	1.18	345	P	Pb	06 28 00.6	0.0
MQZ	McQueen's Vall	1.22	197		Pn	06 28 00.3	-0.8
MQZ	McQueen's Vall	1.22	197	P	Pn	06 28 00.1	-1.0
MQZ				S	Sb	06 28 16.3	-0.6
TUWZ	Tuamarina	1.26	28		Pb	06 28 02.2	+0.3
TUWZ	Tuamarina	1.26	28	P	Pn	06 28 00.6	-1.1
INZ	Inchbonnie	1.27	261		Pn	06 28 00.8	-1.1
INZ	Inchbonnie	1.27	261	P	Pn	06 28 01.1	-0.8
INZ				S	Sg	06 28 19.2	+0.3
DSZ	Denniston Nort	1.28	308	Pn	Pb	06 28 02.1	-0.2
DSZ	Denniston Nort	1.28	308	P	Pn	06 28 01.7	-0.4
AKCZ	Akaroa Harbour	1.34	188	P	Pn	06 28 02.3	-0.5
NNZ	Nelson	1.34	7		Pb	06 28 03.5	+0.3
NNZ	Nelson	1.34	7	P	Pb	06 28 03.7	+0.5
RACZ	Rakaia	1.40	212	P	Pn	06 28 02.8	-0.8
RACZ				S	Sn	06 28 21.0	-1.1
TKNZ	Takaka Hill	1.52	354		Pb	06 28 06.0	-0.3
TKNZ	Takaka Hill	1.52	354	P	Pb	06 28 06.2	-0.1
MHCZ	Mount Hutt	1.52	229	P	Pn	06 28 04.8	-0.6
TCW	Tory Channel	1.58	32		Pn	06 28 05.0	-1.1
TCW	Tory Channel	1.58	32	P	Pn	06 28 04.1	-1.9
SNZO	South Karori	1.69	44		Pb	06 28 04.7	-3.0
WACZ	Wakanui South	1.69	214	P	Pn	06 28 07.0	+0.7
WEL	Wellington	1.74	44	P	Pn	06 28 06.0	-2.4
QRZ	Quartz Range	1.78	345	Pn	Pb	06 28 09.8	-0.9
QRZ	Quartz Range	1.78	345	P	Pb	06 28 10.0	-0.7
DUWZ	D'Urville Isla	1.83	19	P	Pb	06 28 11.9	+0.2
PLWZ	Palliser	1.84	59		Pn	06 28 09.9	+0.1
PLWZ	Palliser	1.84	59	P	Pn	06 28 08.1	-1.6
WVZ	Waitaha Valley	1.86	253	P	Pn	06 28 10.0	+0.1
MSWZ	Moikau Station	1.93	55		Pn	06 28 11.0	+0.1
MSWZ	Moikau Station	1.93	55	P	Pn	06 28 08.9	-2.1
RPZ	Rata Peaks	1.93	232	Pn	Pn	06 28 10.2	-0.8
	39nm,0.3s,baz=201,slow=2.9,SNR=38						
RPZ				Sn	Sn	06 28 33.8	-1.6
	77nm,0.3s,baz=275,slow=23,SNR=8.4						
RPZ	Rata Peaks	1.93	232		Pn	06 28 10.1	-0.9
RPZ	Rata Peaks	1.93	232	P	Pn	06 28 10.8	-0.2

KUZ	Kuaotunu	6.12	20	P		Pn	06 29 10.0	+1.5
OUZ	Omahuta	7.32	3	P		Pn	06 29 28.1	+3.1
OUZ	Omahuta	7.32	3	P		Pn	06 29 27.9	+2.9
ASAR	Alice Springs	37.48	288	P		P	06 34 51.2	-0.8
	0.6nm,0.6s,baz=127,slow=7.4,SNR=15							
ASAR				PcP		PcP	06 37 09.3	-1.0
	0.1nm,0.4s,baz=125,slow=4.1,SNR=4.3							
	0.6nm,0.6s							
ASAR	Alice Springs	37.48	288	P		P	06 34 52.0	+0.1
COEN	Coen	38.47	309	P		P	06 34 59.8	-0.5
COEN				IAmb		IAmb	06 35 06.7	
	comp=Z,13nm,1.2s							
WB2	Warramunga Arr	39.63	292	P		P	06 35 09.2	-0.8
WRA	Warramunga Arr	39.63	292	P		P	06 35 09.3	-0.7
	comp=Z,1.0nm,0.7s,baz=130,slow=8.5,SNR=11							
	comp=Z,1.0nm,0.7s							
WB0	Warramunga Arr	39.72	293	P		P	06 35 10.2	-0.5
WB0				IAmb		IAmb	06 35 16.9	
	comp=Z,12nm,1.4s							
QSPA	South Pole Qui	47.58	180	P		P	06 36 16.8	+3.1
	comp=Z,5.4nm,1.0s,baz=23,slow=6.8,SNR=10							
	comp=Z,5.4nm,1.0s							
QSPA	South Pole Qui	47.58	180	P		P	06 36 16.7	+3.0
ARCES	ARCESS Array B	148.24	339	PKPbc		PKPbc	06 47 22.0	-1.1
	comp=Z,3.5nm,0.9s,baz=46,slow=5.2,SNR=3.8							
TORD	Torodi Ar. Bea	149.79	197	PKPbc		PKPbc	06 47 28.7	0.0
	comp=Z,1.8nm,0.7s,baz=150,slow=2.1,SNR=7.6							
FINES	FINESS Array B	152.74	325	PKPbc		PKiKP	06 47 34.0	-0.3
	comp=Z,2.9nm,0.9s,baz=64,slow=4.4,SNR=4.2							

WEL **15** *06:30:00, 42.2°S×173.7°E, h16km, ML5.8, Mw5.2, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁶ Nm; Mrr2.50; Mθθ4.06; Mφφ-6.56; Mrθ4.16; Mθφ-6.15; Mφr0.28; Fault plane solution: Mo9.37000×10¹⁶ NP1: φs163.00000°, δ62.00000°, λ15.00000°. NP2:φs66.00000°, δ76.00000°, λ151.00000°. Principal axes: T -9717.3400, Plg30.0000°, Azm21.0000°; N 9013.2400, Plg58.0000°, Azm222.0000°; P 704.1000, Plg9.0000°, Azm117.0000°;*

BJI **15** *06:30:28.0±0.0, 41.9°S×174.4°E, h9km, mb5.6/24, mB5.7/11, Ms5.1/16, Ms7 4.8/19*

NEIC **15** *06:30:30.5±2.0, 42.3°S±0.0°×173.9°E±0.0°S, h10km±1km, mb5.4/51, Mwr5.3/48, Mww5.3, ML5.8(WEL), Error ellipse: s-maj=7.0km s-min=5.8km az=114.0*

NEIC **15** *06:30:30.6, 42.3°S×173.9°E, h23km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr4.05; Mθθ3.36; Mφφ-7.41; Mrθ2.25; Mθφ-6.92; Mφr-0.48; Fault plane solution: Mo9.72000×10¹⁶ NP1:φs164.77000°, δ67.92000°, λ20.32000°. NP2:φs66.84000°, δ71.23000°, λ156.61000°. Principal axes: T 8.0072, Plg30.0000°, Azm25.0000°; N 2.8065, Plg60.0000°, Azm210.0000°; P -10.8136, Plg2.0000°, Azm116.0000°;*

MOS **15** *06:30:31.0±1.2, 42.1°S×173.6°E, h17km, mb5.3/11 Error ellipse: s-maj=14.9km s-min=11.5km az=44.9*

WEL **15** *06:30:31.7±0.4, 42.3°S±3.1°×174.4°E±0.1°, h11km±2km, M5.8/119, ML5.8/19, MLv5.8/119, Error ellipse: s-maj=0.0km s-min=0.0km az=133.3*

NEIC **15** *06:30:34, 42.0°S×173.8°E, h24km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.44; Mθθ0.38; Mφφ-0.82; Mrθ0.33; Mθφ-0.73; Mφr-0.06; Fault plane solution: Mo1.08000×10¹⁷ NP1:φs165.00000°, δ65.00000°, λ23.00000°. NP2:φs65.00000°, δ70.00000°, λ153.00000°. Principal axes: T 0.9412, Plg33.0000°, Azm24.0000°; N 0.2314, Plg57.0000°, Azm210.0000°; P -1.1726, Plg3.0000°, Azm116.0000°;*

IDC **15** *06:30:34.6±3.3, 41.9°S×173.7°E, h32km±22km, mb4.9/13, mbtmp5.1/13, MS4.6/30 Error ellipse: s-maj=20.8km s-min=15.4km az=42.0*

NOU **15** *06:30:34.7, 42.4°S×174.1°E, h52km, mb5.4/102, Off E. Coast of S. Island, N.Z.*

GCMT **15** *06:30:35.5±0.2, 42.1°S±0.0°×173.8°E±0.0°, h19km, MW5.2/116, Moment Tensor Solution. s85,c125; s116,c197; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.22±.02; Mθθ0.29±.01; Mφφ-0.50±.01; Mrθ0.35±.04; Mθφ-0.67±.01; Mφr0.39±.04; Best double couple: Mo0.89700×10¹⁷ NP1:φs253.00000°, δ88.00000°, λ-151.00000°. NP2:φs162.00000°, δ61.00000°, λ-2.00000°. Principal axes: T 0.7050, Plg19.0000°, Azm23.0000°; N 0.3840, Plg61.0000°, Azm255.0000°; P -1.0890, Plg21.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 06:30:31.6±0.7, 42°28S±0.0°×173°85E±0.0°, h16km±3km, n715, σ1§56/706, mb5.5/85, MS4.7/43, 38C-15D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.27	240		Pb	06 30 38.1	+0.1
KHZ	Kahutara	0.27	240	P	Pb	06 30 38.1	+0.1
KHZ				S	Sb	06 30 42.6	+0.3
BSWZ	Blackbirch Sta	0.57	2		Pb	06 30 43.5	+0.4
BSWZ	Blackbirch Sta	0.57	2	P	Pb	06 30 43.5	+0.4
CMWZ	Cape Campbell	0.60	27		Pn	06 30 45.6	+0.3
CMWZ	Cape Campbell	0.60	27	P	Pn	06 30 45.7	+0.3
TUWZ	Tuamarina	0.86	5		Pn	06 30 49.0	+0.1
TUWZ	Tuamarina	0.86	5	P	Pn	06 30 48.8	-0.1
TUWZ				S	Sn	06 31 01.2	+0.1
THZ	Tophouse	0.88	306		Pb	06 30 48.3	-0.1
THZ	Tophouse	0.88	306	P	Pb	06 30 48.2	-0.1
THZ				S	Sb	06 30 59.6	-0.3
GVZ	Greta Valley S	0.91	221		Pn	06 30 50.0	+0.2
GVZ	Greta Valley S	0.91	221	P	Pn	06 30 50.1	+0.3
GVZ				S	Sn	06 31 03.5	+1.0
TCW	Tory Channel	1.12	17		Pg	06 30 53.0	-0.2
TCW	Tory Channel	1.12	17	P	Pg	06 30 52.9	-0.2
TCW				S	Sg	06 31 08.5	+0.8
NNZ	Nelson	1.12	342		Pb	06 30 53.0	+0.4
NNZ	Nelson	1.12	342	P	Pn	06 30 52.7	+0.1
NNZ				S	Sb	06 31 07.4	+0.5
SNZO	South Karori	1.16	34		Pb	06 30 53.7	+0.5
SNZO	South Karori	1.16	34	P	Pg	06 30 54.1	+0.1
MRNZ	Matariki Terra	1.20	317		Pb	06 30 54.2	+0.3
MRNZ	Matariki Terra	1.20	317	P	Pb	06 30 54.3	+0.3
MRNZ				S	Sg	06 31 10.7	+0.2
WEL	Wellington	1.21	35	P	Pb	06 30 54.4	+0.3
WEL	Wellington	1.21	35	P	Pb	06 30 54.4	+0.3
WEL				S	Sg	06 31 11.2	+0.5
AMCZ	Amberley	1.25	224		Pn	06 30 54.5	+0.1
AMCZ	Amberley	1.25	224	P	Pn	06 30 54.5	+0.1
PLWZ	Palliser	1.27	56		Pn	06 30 54.8	+0.1
PLWZ	Palliser	1.27	56	P	Pn	06 30 54.9	+0.3
LTZ	Lake Taylor	1.27	246		Pb	06 30 55.0	-0.1
LTZ	Lake Taylor	1.27	246	P	Pn	06 30 54.9	+0.2
LTZ				S	Sb	06 31 11.3	+0.1
MSWZ	Moikau Station	1.36	51		Pn	06 30 56.2	+0.4
MSWZ	Moikau Station	1.36	51	P	Pn	06 30 56.0	+0.2
MSWZ				S	Sb	06 31 14.5	+0.8
TKNZ	Takaka Hill	1.42	332		Pb	06 30 57.5	-0.1
TKNZ	Takaka Hill	1.42	332	P	Pb	06 30 57.5	-0.1
TKNZ				S	Sg	06 31 16.9	-0.3
DUWZ	D'Urville Isla	1.48	2	P	Pn	06 30 58.1	+0.6
DUWZ				S	Sb	06 31 17.1	-0.2
PAWZ	Paruwai Farm	1.48	53	P	Pn	06 30 57.5	-0.1
CAW	Cannon Point	1.49	38	P	Pn	06 30 58.0	+0.4
CAW				S	Sb	06 31 17.9	+0.4
OKCZ	Okains Bay	1.55	202	P	Pn	06 30 58.4	-0.2
OKCZ				S	Sn	06 31 18.3	-0.1
DSZ	Denniston Nort	1.62	289		Pb	06 31 01.1	+0.1
DSZ	Denniston Nort	1.62	289	P	Pb	06 31 00.6	-0.5
DSZ				S	Sb	06 31 22.0	+0.8
KIW	Kapiti Island	1.63	30	P	Pn	06 31 00.2	+0.6
TRWZ	Traveller	1.63	58	P	Pn	06 30 59.4	-0.2
MQZ	McQueen's Vall	1.67	211		Pn	06 30 59.2	-0.9
MQZ	McQueen's Vall	1.67	211	P	Pn	06 30 59.2	-0.9
MTW	Mount Morrison	1.67	48	P	Pn	06 30 59.9	-0.2
OXZ	Oxford	1.69	231		Pn	06 30 59.9	-0.6
OXZ	Oxford	1.69	231	P	Pn	06 30 59.8	-0.6
AKCZ	Akaroa Harbour	1.70	203	P	Pn	06 31 00.6	-0.4
QRZ	Quartz Range	1.76	325		Pb	06 31 03.0	-0.5
QRZ	Quartz Range	1.76	325	P	Pb	06 31 02.8	-0.6
OGWZ	Otaki Gorge	1.77	35	P	Pn	06 31 01.8	+0.3
INZ	Inchbonnie	1.83	255		Pn	06 31 02.9	+0.6
INZ	Inchbonnie	1.83	255	P	Pn	06 31 02.8	+0.4
HOWZ	Holdsworth Sta	1.86	43	P	Pn	06 31 03.2	+0.4
RACZ	Rakaia	1.91	220	P	Pn	06 31 02.7	-0.7
TMWZ	Te Maipa	1.93	53	P	Pn	06 31 03.4	-0.3
MRZ	Mangatainoka R	2.08	39		Pn	06 31 05.8	0.0
MRZ	Mangatainoka R	2.08	39	P	Pn	06 31 05.6	-0.1
MHCZ	Mount Hutt	2.09	233	P	Pn	06 31 05.6	-0.4
TIWZ	Tintock	2.15	46	P	Pn	06 31 06.8	0.0
WACZ	Wakanui South	2.22	221	P	Pn	06 31 07.0	-0.6
CPWZ	Castlepoint	2.23	53	P	Pn	06 31 08.0	+0.2
PRWZ	Pori Road	2.35	43	P	Pn	06 31 09.1	-0.4
OHWZ	Ohakea	2.35	29	P	Pn	06 31 11.1	+1.6
POWZ	Post Office Ro	2.38	38	P	Pn	06 31 09.7	-0.1
BFZ	Birch Farm	2.41	49	Pn	Pn	06 31 09.6	-0.7
BFZ	Birch Farm	2.41	49	P	Pn	06 31 10.6	+0.3
BFZ	Birch Farm	2.41	49	P	Pn	06 31 09.6	-0.7
WVZ	Waitaha Valley	2.43	250	P	Pn	06 31 10.9	+0.4
RPZ	Rata Peaks	2.50	234	Pn	Pn	06 31 10.7	-0.8
	555nm,0.3s,baz=88,slow=2.4,SNR=114						
RPZ				Sn	Sn	06 31 39.9	-1.8
	829nm,0.3s,baz=7.6,slow=10.0,SNR=6.2						
RPZ				LR	LR	06 31 55.5	
	comp=Z,2μm,18.8s,baz=319,slow=30						
RPZ	Rata Peaks	2.50	234	Pn	Pn	06 31 11.1	-0.5
RPZ	Rata Peaks	2.50	234	P	Pn	06 31 11.1	-0.5
ARCZ	Arundel	2.57	229	P	Pn	06 31 11.9	-0.6
DVHZ	Dannevirke	2.64	42	P	Pn	06 31 12.6	-1.0
WAZ	Wanganui	2.67	19	P	Pn	06 31 16.2	+2.3
ANWZ	Angora Road	2.69	48	P	Pn	06 31 13.5	-0.6
TSZ	Takapari Road	2.73	36	P	Pn	06 31 14.4	-0.5
GCSZ	Gaunt Creek Bo	2.79	247	P	Pn	06 31 16.3	+0.8
LREZ	Lake Rotokare	2.85	9	P	Pn	06 31 19.2	+2.9
NMEZ	Namu Road	2.87	0	P	Pn	06 31 19.5	+2.9
PRHZ	Porangahau	2.91	47	P	Pn	06 31 16.4	-0.7
TMZ	Timaru	2.95	224	P	Pn	06 31 17.2	-0.6
WPHZ	Waipukurau	2.96	42	P	Pn	06 31 17.2	-0.7
PNHZ	Pukenui	2.96	38	P	Pn	06 31 17.2	-0.7
KHEZ	Kahui Hut	2.99	2	P	Pb	06 31 22.6	-1.9
KHEZ	Kahui Hut	2.99	2	P	Pn	06 31 21.2	+2.9
NBEZ	Newall Road No	3.01	0	P	Pn	06 31 21.2	+2.6
NEZ	North Egmont	3.02	4	P	Pb	06 31 22.3	-2.6
PKE	Pukeiti	3.09	2	P	Pn	06 31 22.2	+2.5
DREZ	Durham Road	3.10	5	P	Pn	06 31 22.3	+2.4
MTVZ	Mangateitei	3.15	24	P	Pn	06 31 22.8	+2.3
PKVZ	Pokaka	3.20	21	P	Pn	06 31 23.1	+1.9
PXZ	Pawanui	3.20	46	P	Pn	06 31 19.9	-1.3
FOZ	Fox Glacier	3.22	246		Pn	06 31 23.0	+1.7
FOZ	Fox Glacier	3.22	246	P	Pn	06 31 22.0	+0.6
MOVZ	Moawhango	3.22	27	P	Pn	06 31 21.8	+0.3
MHEZ	Mangahewa	3.22	7	P	Pn	06 31 24.8	+3.3
VRZ	Vera Road	3.23	13	P	Pn	06 31 23.7	+2.1
WNVZ	Wahianoa	3.24	25	P	Pn	06 31 23.0	+1.2
TRVZ	Turoa	3.25	24	P	Pn	06 31 23.7	+1.7
BHHZ	Black Hill Sta	3.26	32	P	Pn	06 31 22.2	+0.2
WHVZ	Whangaehu Hut	3.28	24	P	Pn	06 31 23.9	+1.5
FWVZ	Far West T-bar	3.29	24	P	Pn	06 31 23.9	+1.3
TUVZ	Tukino	3.31	25	P	Pn	06 31 24.5	+1.7
NGZ	Ngauruhoe	3.38	24	P	Pn	06 31 25.1	+1.3
KAHZ	Kahuranaki	3.38	44	P	Pn	06 31 22.6	-1.1
SNVZ	South Ngauruho	3.38	24	P	Pn	06 31 25.3	+1.4
LBZ	Lake Benmore	3.40	231		Pn	06 31 23.9	0.0
LBZ	Lake Benmore	3.40	231	P	Pn	06 31 23.6	-0.3
OTVZ	Oturere	3.41	24	P	Pn	06 31 25.3	+1.1
NNVZ	North Ngauruho	3.42	24	P	Pn	06 31 25.7	+1.3
TWVZ	Tauwera	3.43	21	P	Pn	06 31 25.8	+1.4
WTVZ	West Tongariro	3.43	23	P	Pn	06 31 25.7	+1.3
ETVZ	East Tongariro	3.45	25	P	Pn	06 31 25.7	+1.0
KWHZ	Kaweka Forest	3.46	35	P	Pn	06 31 24.0	-0.8
TMVZ	Te Maari	3.46	25	P	Pn	06 31 26.0	+1.1
KRVZ	Karewarewa	3.46	24	P	Pn	06 31 26.1	+1.2
NTVZ	North Tongariro	3.47	24	P	Pn	06 31 26.3	+1.3
MCHZ	McNeill Hill	3.56	38	P	Pn	06 31 25.4	-0.8
CKHZ	Cape Kidnapper	3.58	44	P	Pn	06 31 26.6	+0.1
KATZ	Kakaramea	3.59	24	P	Pn	06 31 28.3	+1.6
ODZ	Otahua Downs	3.61	219		Pn	06 31 25.9	-0.8
ODZ	Otahua Downs	3.61	219	P	Pn	06 31 25.9	-0.8
BKZ	Black Stump Fm	3.71	34		Pn	06 31 27.5	-0.7
BKZ	Black Stump Fm	3.71	34	P	Pn	06 31 30.7	+2.5
BKZ	Black Stump Fm	3.71	34	P	Pn	06 31 27.1	-1.1
RATZ	Rangitukua	3.71	24	P	Pn	06 31 29.7	+1.4
HIZ	Hauiti	3.84	12		Pn	06 31 31.8	+1.8
HIZ	Hauiti	3.84	12	P	Pn	06 32 6.4	+2.6
HIZ	Hauiti	3.84	12	P	Pn	06 31 31.9	+1.8
ARHZ	Aropaoanui	3.85	39	P	Pn	06 31 29.2	-0.9
NMHZ	Naumai	3.90	36	P	Pn	06 31 30.0	-0.8
WHTZ	Whakaora	3.96	25	P	Pn	06 31 33.7	+2.1
MRHZ	Matea Rd	3.96	30	P	Pn	06 31 31.2	-0.5
WHHZ	Waihua	4.11	40	P	Pn	06 31 33.1	-0.5
JCZ	Jackson Bay	4.11	243	P	Pn	06 31 36.6	+2.8
JCZ	Jackson Bay	4.11	243	P	Pn	06 31 33.8	0.0
MTHZ	Maungataniwha	4.12	35	P	Pn	06 31 33.3	-0.5
TLZ	Tolley Road	4.16	19	P	Pn	06 31 35.7	+1.4
RAHZ	Arahi	4.17	37	P	Pn	06 31 33.2	-1.3
ALRZ	Allen Road	4.18	28	P	Pn	06 31 34.2	-0.4
GRRZ	Galatos Road	4.29	24	P	Pn	06 31 37.0	+0.8
HHSZ	Highcliff Hill	4.29	212	P	Pn	06 31 35.4	-0.8
HRRZ	Handcock Road	4.31	26	P	Pn	06 31 36.6	+0.1
WKZ	Wanaka	4.33	232	P	Pn	06 31 36.0	-0.8
KNZ	Kokohu	4.37	42	P	Pn	06 31 36.4	-1.8
HSRZ	Hosack Road	4.37	26	P	Pn	06 31 38.5	+1.2
MHGZ	Mahia Peninsul	4.39	46	P	Pn	06 31 36.9	-0.6
EAZ	Earnscleugh	4.42	227	P	Pn	06 31 36.9	-1.0
UTU	Utuhina	4.48	24	P	Pn	06 31 40.0	+1.3
TARZ	Mount Tarawera	4.53	28	P	Pb	06 31 45.5	-5.1
NGRZ	Ngongotaha	4.54	24	P	Pn	06 31 41.3	+1.6
OMRZ	Omania	4.60	26	P	Pn	06 31 41.4	+0.9
KARZ	Kaharoa	4.64	24	P	Pn	06 31 43.7	+2.8
RIGZ	Rimuhau	4.65	41	P	Pn	06 31 39.6	-1.6
RAGZ	Rawiri	4.66	37	P	Pn	06 31 46.9	+5.6
TOZ	Tahuroa Road	4.72	16	P	Pn	06 31 42.8	+0.8
EDRZ	Edgecumbe	4.72	29	P	Pn	06 31 41.2	-1.0
URZ	Urewera	4.73	33	P	Pn	06 31 42.6	+0.4
TUZ	Tuapeka	4.76	218	P	Pn	06 31 42.3	-0.4
OPRZ	Ohinepanea	4.89	26	P	Pn	06 31 44.4	-0.1
TKGZ	Te Karaka	4.91	40	P	Pn	06 31 43.6	-1.0
TGRZ	Tauranga	4.91	23	P	Pn	06 31 45.4	+0.7
MSZ	Milford Sound	4.93	239	P	Pn	06 31 43.9	-0.9
MLZ	Mamora Lakes	5.17	231	P	Pn	06 31 47.1	-1.1
TWGZ	Tauwhareparae	5.18	39	P	Pn	06 31 47.8	-0.6
RUGZ	Raukumara Rang	5.22	35	P	Pn	06 31 47.9	-1.1
AWAZ	Awhitu Peninsu	5.25	7	P	Pn	06 31 51.2	+1.9
MKAZ	Moumakai	5.27	11	P	Pn	06 31 50.5	+0.8
MYRZ	Mayor Island	5.33	21	P	Pn	06 31 51.7	+1.3
WTAZ	Waiatarua	5.37	6	P	Pn	06 31 53.3	+2.2
ETAZ	East Tamaki Re	5.39	9	P	Pn	06 31 52.8	+1.5
PUZ	Puketiti	5.39	40	P	Pn	06 31 49.8	-1.5
SYZ	Scrubby Hill	5.43	217	P	Pn	06 31 52.1	+0.4
SYZ	Scrubby Hill	5.43	217	P	Pn	06 31 51.5	-0.2
HAZ	Te Kaha	5.44	35	P	Pn	06 31 50.4	-1.5
EPAZ	Eden Park BICE	5.45	8	P	Pn	06 31 54.2	+2.1
PKGZ	Pakihiroa	5.46	38	P	Pn	06 31 50.4	-1.8
HBAZ	Herne Bay Bore	5.47	7	P	Pn	06 31 54.5	+2.1
RVAZ	Riverhead Bore	5.54	6	P	Pn	06 31 55.1	+1.9
MBAZ	Motutapu North	5.57	9	P	Pn	06 31 55.2	+1.6
WIAZ	Waiheke Island	5.57	11	P	Pn	06 31 55.5	+1.7
WHZ	Wether Hill Ro	5.58	228	P	Pn	06 31 51.9	-1.9
WMGZ	Waiomatatini S	5.67	40	P	Pn	06 31 54.4	-0.7
KUZ	Kuaotunu	5.72	15	P	Pn	06 31 56.5	+0.7
KUZ	Kuaotunu	5.72	15	P	Pn	06 31 55.9	+0.2
ABAZ	Army Bay	5.73	8	P	Pn	06 31 57.5	+1.6
DCZ	Deep Cove	5.79	234	P	Pn	06 31 55.7	-1.1
MXZ	Matakaoa Point	5.83	37	P	Pn	06 31 57.2	-0.1
MXZ	Matakaoa Point	5.83	37	P	Pn	06 31 57.1	-0.2
GRZ	Great Barrier	6.15	12	P	Pn	06 32 02.2	+0.4
APZ	The Paps	6.18	221	P	Pn	06 32 01.2	-1.0
WCZ	Waipu Caves	6.35	4	P	Pn	06 32 06.5	+2.1
PYZ	Puysegur Point	6.45	231	P	Pn	06 32 08.3	+2.5
PYZ	Puysegur Point	6.45	231	P	Pn	06 32 04.6	-1.2
OUZ	Omahuta	7.06	358		Pn	06 32 15.9	+1.7
OUZ	Omahuta	7.06	358	P	Pn	06 32 16.7	+2.6
OUZ	Omahuta	7.06	358	P	Pn	06 32 16.4	+2.2
CTZ	Chatham Island	7.14	105	P	Pn	06 32 14.4	-0.8
CTZ	Chatham Island	7.14	105	P	Pn	06 32 14.6	-0.6
NFK	Norfolk Island	14.05	338	P	P	06 33 54.5	-3.2
RAO	Raoul Island	14.61	30	LR	LR	06 39 28.4	
	comp=Z,3μm,20.6s,baz=190,slow=37						
LHI	Lord Howe Isla	15.95	308	P	Pn	06 34 15.1	-0.2
	baz=16						
GLAD	Gladstone	19.34	265	P	Pn	06 35 00.7	+3.5
WOLH	Wollongong Har	19.62	286	P	Pn	06 35 03.5	+2.8
MILA	Mila	19.68	277	P	Pn	06 35 01.1	-0.4
	baz=20,SNR=3.2						
MILA	Mila	19.68	277	P	Pn	06 35 02.8	+1.3
RIV	Riverview	19.72	288	P	Pn	06 35 05.3	+3.5
RIV				pmax	pmax		
	comp=Z,150nm,1.3s						
SYDH	Sydney Hard Ro	20.05	288	P	Pn	06 35 09.3	+3.6
MGCD	Mangrove Creek	20.09	289	P	Pn	06 35 07.0	+0.8
CNB	Canberra Magne	20.27	282	P	Pn	06 35 07.9	-0.5
	baz=20,SNR=10						
CNB	Canberra Magne	20.27	282	P	Pn	06 35 09.1	+0.7
AUSMG	Snowy Mountain	20.34	278	P	Pn	06 35 09.1	-0.1
CAN	Canberra	20.54	282	P	P	06 35 09.1	-0.2
CAN	Canberra	20.54	282	P	Pn	06 35 11.2	-0.3
CAN	Canberra	20.54	282	P	P	06 35 09.1	-0.2
CAN				pmax	pmax		
	comp=Z,59nm,1.1s						
OUENC	Ouen Island, N	20.66	341	P	P	06 35 11.1	+0.5
OUENC				IAmb	IAmb	06 35 12.8	
	comp=Z,151nm,1.0s						
OUENC	Ouen Island, N	20.66	341	P	P	06 35 11.8	+1.2
YATNC	Mamie plateau,	20.99	342	P	Pn	06 35 16.0	-0.8
DZM	Mont Dzumac	21.09	341	*e*Pn	P	06 35 14.0	-1.3
	comp=Z,399nm,1.1s						
DZM				*e*LR	LR	06 40 18.1	
	comp=Z,4μm,22.2s						
DZM	Mont Dzumac	21.09	341	P	P	06 35 16.4	+1.1
	comp=Z,120nm,0.9s,baz=148,slow=12,SNR=71						
DZM				LR	LR	06 43 07.3	
	comp=Z,4μm,18.0s,baz=178,slow=36						
DZM	Mont Dzumac	21.09	341	P	P	06 35 15.1	-0.3
DZM				IAmb	IAmb	06 35 17.6	
	comp=Z,161nm,1.0s						
DZM	Mont Dzumac	21.09	341	P	P	06 35 16.5	+1.1
NOUC	Port Laguerre	21.09	340	P	P	06 35 16.1	+0.8
MARNC	Mare, Loyalty	21.31	345	P	P	06 35 18.7	+1.1
MARNC	Mare, Loyalty	21.31	345	P	P	06 35 19.8	+2.2
ARMA	Armidale	21.39	296	P	P	06 35 20.8	+2.2
	baz=21,SNR=16						
ARMA	Armidale	21.39	296	P	P	06 35 20.4	+1.8
ARMA	Armidale	21.39	296	P	P	06 35 20.8	+2.2
AUPHS	Peel High Scho	21.46	294	P	P	06 35 21.8	+2.6
LIFNC	LIFOU	22.15	343	P	P	06 35 27.2	+0.5
LIFNC	LIFOU	22.15	343	P	P	06 35 27.8	+1.1
TOO	Toolangi	22.20	273	P	P	06 35 28.8	+1.7
	baz=22,SNR=14						
TOO	Toolangi	22.20	273	P	P	06 35 27.8	+0.6
TOO	Toolangi	22.20	273	P	P	06 35 28.7	+1.5
TOO	Toolangi	22.20	273	P	P	06 35 27.8	+0.6
TOO				pmax	pmax		
	comp=Z,40nm,1.0s						
AUDCS	Dubbo College	22.37	288	P	P	06 35 34.0	+5.0
	comp=Z,82nm,1.2s						
AUWSH	Wavell State H	22.55	305	P	P	06 35 33.7	+2.8
GEXS	Deakin Univers	22.87	270	P	P	06 35 37.7	+3.5
	comp=Z,94nm,0.8s						
AUBSH	Beerwah State	23.00	305	P	P	06 35 37.4	+1.8
KOUNC	Koumac, New Ca	23.12	337	P	P	06 35 39.4	+2.5
BRAT	Ballarat	23.36	272	P	P	06 35 40.5	+1.3
AULRC	Lightning Ridg	24.47	293	P	P	06 35 51.5	+1.7
MSVF	Nonsavu	24.73	10	P	P	06 35 50.7	-1.6
	comp=Z,65nm,0.9s,baz=145,slow=9.4,SNR=19						
MSVF				LR	LR	06 44 49.6	
	comp=Z,4μm,18.6s,baz=196,slow=35						
	comp=Z,65nm,0.9s						
MSVF	Nonsavu	24.73	10	P	P	06 35 49.6	-2.6
MSVF				IAmb	IAmb	06 36 16.6	
	comp=Z,169nm,1.3s						
MSVF	Nonsavu	24.73	10	P	P	06 35 50.9	-1.4
MSVF	Nonsavu	24.73	10	*d

comp=Z,973nm,23.0s
PPT2 eLR LR 06 48 52.7
comp=Z,805nm,23.5s
PPT2 Papeete2 39.67 63 *e*T T 07 20 07.9
comp=Z,9.7nm,0.3s
PPT Papeete 39.68 63 LR LR 06 52 09.3
comp=Z,607nm,20.9s,baz=246,slow=33
WR0 Warramunga Arr 39.86 292 P **P** **06 38 03.7 -0.9**
WR0 IAmb IAmb 06 38 04.9
comp=Z,63nm,0.9s
WB2 Warramunga Arr 40.01 291 P **P** **06 38 04.9 -0.7**
baz=40
WB2 Warramunga Arr 40.01 291 P **P** **06 38 05.0 -0.7**
WB2 IAmb IAmb 06 38 06.1
comp=Z,105nm,0.8s
WRAB Tennant Creek 40.01 291 P **P** **06 38 05.3 -0.5**
WRAB Tennant Creek 40.01 291*c i*P **P** **06 38 04.9 -0.9**
WRAB pmax pmax
comp=Z,82nm,0.8s
WRA Warramunga Arr 40.02 291 P **P** **06 38 05.0 -0.7**
comp=Z,72nm,0.8s,baz=129,slow=7.5,SNR=323
WRA PcP **PcP** **06 40 09.2 -1.5**
comp=Z,8.0nm,0.8s,baz=120,slow=3.0,SNR=5.1
WRA S **S** **06 44 07.0 -3.9**
comp=Z,3.7nm,1.1s,baz=133,slow=15,SNR=7.7
WRA LR LR 06 54 39.9
comp=Z,1μm,19.0s,baz=117,slow=36
comp=Z,72nm,0.8s
WB0 Warramunga Arr 40.10 292 P **P** **06 38 05.6 -0.8**
WB0 IAmb IAmb 06 38 06.7
comp=Z,82nm,0.8s
PMG Port Moresby 40.27 317 P **P** **06 38 08.4 +0.6**
comp=Z,172nm,1.0s,baz=133,slow=4.7,SNR=40
PMG LR LR 06 53 18.3
comp=Z,2μm,20.0s,baz=154,slow=34
PMG Port Moresby 40.27 317 P **P** **06 38 08.2 +0.4**
PMG Port Moresby 40.27 317 P **P** **06 38 08.4 +0.6**
comp=Z,2μmcomp=Z,228nm,1.2s
PMG Port Moresby 40.27 317 P **P** **06 38 08.8 +1.0**
PMG Port Moresby 40.27 317*c i*P **P** **06 38 08.1 +0.3**
PMG pmax pmax
comp=Z,215nm,1.1s
WRKA Warakurna 41.11 280 P **P** **06 38 13.6 -1.2**
baz=41,SNR=76
WRKA Warakurna 41.11 280 P **P** **06 38 13.8 -1.0**
KMBL Kambalda 42.41 267 P **P** **06 38 25.0 -0.4**
baz=42,SNR=7.0
KMBL Kambalda 42.41 267 P **P** **06 38 25.7 +0.3**
KRVT Keravat (AS076 42.53 327 LR LR 06 55 40.6
comp=Z,2μm,18.4s,baz=288,slow=36
RABL Rabaul 42.58 327 P **P** **06 38 27.2 +0.4**
comp=Z,539nm,1.1s
TARA Tarawa 43.45 359 P **P** **06 38 32.5 -1.3**
TARA Tarawa 43.45 359 P **P** **06 38 32.9 -0.9**
NWAO Narrogin (SRO) 45.09 263 P **P** **06 38 47.0 +0.1**
comp=Z,15nm,0.8s,baz=357,slow=4.8,SNR=4.9
NWAO LR LR 06 54 57.9
comp=Z,633nm,19.1s,baz=320,slow=32
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 45.09 263 P **P** **06 38 47.0 +0.1**
KLBR Kellerberrin 45.36 265 P **P** **06 38 49.0 0.0**
baz=45,SNR=7.0
KLBR Kellerberrin 45.36 265 P **P** **06 38 49.1 0.0**
MUN Mundaring 46.30 263 P **P** **06 38 56.9 +0.3**
baz=46,SNR=6.1
KDU Kakadu 46.39 297 P **P** **06 38 56.9 -0.5**
baz=46,SNR=10.0
KDU Kakadu 46.39 297 P **P** **06 38 57.3 0.0**
MANU Manus Island 46.57 322 P **P** **06 39 00.8 +2.1**
comp=Z,59nm,1.3s
KNRA Kununurra 46.79 291 P **P** **06 39 00.1 -0.3**
baz=47,SNR=17
KNRA Kununurra 46.79 291 P **P** **06 38 60.0 -0.4**
KNRA Kununurra 46.79 291 P **P** **06 39 00.6 +0.2**
MTN Manton Dam 47.17 296 P **P** **06 39 03.0 -0.5**
baz=47,SNR=23
MTN Manton Dam 47.17 296 P **P** **06 39 02.6 -0.8**
MTN Manton Dam 47.17 296 P **P** **06 39 03.5 +0.1**
MEEK Meekatharra 47.34 271 P **P** **06 39 03.7 -1.0**
baz=47,SNR=26
MEEK Meekatharra 47.34 271 P **P** **06 39 04.0 -0.7**
QSPA South Pole Qui 47.84 180 P **P** **06 39 11.3 +3.1**
comp=Z,15nm,0.9s,baz=104,slow=0.7,SNR=10
QSPA LR LR 06 57 50.7
comp=Z,996nm,18.9s,baz=42,slow=34
comp=Z,15nm,0.9s
MORW Morawa 47.93 266 P **P** **06 39 09.2 0.0**
baz=48,SNR=9.1
MORW Morawa 47.93 266 P **P** **06 39 09.1 -0.1**
MORW IAmb IAmb 06 39 09.9
comp=Z,28nm,0.9s
MORW Morawa 47.93 266 P **P** **06 39 09.7 +0.5**
PSA00 Pilbara Seismi 49.38 277 P **P** **06 39 18.3 -2.2**
PSA00 IAmb IAmb 06 39 20.3
comp=Z,53nm,1.2s
PSA00 Pilbara Seismi 49.38 277 IAmb IAmb 06 39 20.3
comp=Z,24nm,1.2s
PSA00 Pilbara Seismi 49.38 277 P **P** **06 39 19.7 -0.8**
MBWA Marble Bar 49.72 278 P **P** **06 39 21.4 -1.7**
MBWA IAmb IAmb 06 39 22.3
comp=Z,29nm,0.9s
MBWA Marble Bar 49.72 278 P **P** **06 39 22.2 -0.8**
TAOE Nuku Hiva Isla 52.27 64 *e*S **S** **06 47 06.8 -0.3**
comp=Z,128nm,22.7s
TAOE eLR LR 06 54 43.3
comp=Z,807nm,22.0s
FAKI Fak Fak 53.98 305 IAmb IAmb 06 39 55.8
comp=Z,27nm,0.7s
SOEI Soe 54.05 292 P **P** **06 39 56.6 +1.1**
SOEI Soe 54.05 292 P **P** **06 39 53.9 -1.6**
comp=Z,2μmcomp=Z,156nm,1.0s
SOEI Soe 54.05 292 P **P** **06 39 57.2 +1.7**
BATI Baumata 54.15 291 LR LR 07 02 55.4
comp=Z,963nm,20.8s,baz=135,slow=36
SIJI Sorong 56.19 305 P **P** **06 40 09.5 -1.3**
comp=Z,36nm,1.1s,baz=122,slow=2.5,SNR=16
SIJI LR LR 07 05 38.7
comp=Z,395nm,18.1s,baz=110,slow=38
comp=Z,36nm,1.1s
SIJI Sorong 56.19 305 P **P** **06 40 09.1 -1.7**
comp=Z,31nm,0.8s
SWI Sorong 56.20 305 P **P** **06 40 09.1 -1.8**
comp=Z,2μmcomp=Z,58nm,1.0s
MMRI Maumere 56.24 291 P **P** **06 40 14.3 +3.1**
comp=Z,97nm,0.9s
SANI Sanana 58.58 300 P **P** **06 40 26.0 -1.7**
comp=Z,31nm,0.9s
SANI Sanana 58.58 300 P **P** **06 40 27.1 -0.6**
MAW Mawson 58.85 205 LR LR 07 05 17.6
comp=Z,1μm,18.6s,baz=106,slow=35
BELA Belgrano 2 58.85 173 P **P** **06 40 30.1 +1.3**
BSSI Bau Bau, Buton 59.23 292 P **P** **06 40 30.5 -1.7**
comp=Z,55nm,0.8s
PLAI Plampang 59.23 287 P **P** **06 40 30.6 -1.7**
comp=Z,833nmcomp=Z,100nm,1.0s
PLAI Plampang 59.23 287 P **P** **06 40 32.2 -0.1**
TWSI Taliwang, Sumb 59.93 287 P **P** **06 40 35.3 -1.8**
comp=Z,75nm,1.0s
BKSI Bulukumba 60.07 292 P **P** **06 40 36.3 -1.7**
comp=Z,286nmcomp=Z,24nm,0.8s
KAPI Kappang 60.55 292 P **P** **06 40 41.5 +0.2**
comp=Z,26nm,1.0s,baz=183,slow=2.3,SNR=14
KAPI LR LR 07 09 44.4
comp=Z,284nm,18.1s,baz=136,slow=39
comp=Z,26nm,1.0s
KAPI Kappang 60.55 292 P **P** **06 40 41.7 +0.4**
KAPI IAmb IAmb 06 41 12.1
comp=Z,49nm,1.4s
KAPI Kappang 60.55 292 P **P** **06 40 39.5 -1.8**
comp=Z,403nmcomp=Z,23nm,0.9s
KAPI Kappang 60.55 292 P **P** **06 40 42.7 +1.4**
comp=Z,26nm,0.9s
KAPI Kappang 60.55 292*c i*P **P** **06 40 41.0 -0.3**
KAPI pmax pmax
comp=Z,27nm,1.1s
BNSI Bone 60.75 293 P **P** **06 40 40.8 -1.8**
comp=Z,17nm,1.1s
SMAI San Martin Ant 60.89 158 P **P** **06 40 45.1 +2.3**
SMAI IAmb IAmb 06 40 52.2
comp=Z,33nm,1.2s
KHKI Kahang-Kahang 61.10 286 P **P** **06 40 48.4 +3.4**
SPSI Sidrap Palu 61.29 293 P **P** **06 40 44.5 -1.8**
comp=Z,2μmcomp=Z,27nm,1.0s
LUWI Luwuk 61.43 298 P **P** **06 40 50.4 +3.1**
comp=Z,159nm,1.1s
SRBI Singaraja 61.57 286 P **P** **06 40 46.4 -1.8**
comp=Z,75nm,1.0s

GUMO Guam 61.66 328 LR LR 07 08 04.4
comp=Z,230nm,18.5s,baz=147,slow=37
ABJI Asem Bagus 62.47 285 P **P** **06 40 52.4 -1.9**
comp=Z,106nm,1.0s
GTOI Gorontalo 62.53 299 P **P** **06 40 54.0 -0.7**
comp=Z,140nmcomp=Z,8.8nm,0.6s
RPN Rapa Nui 62.94 103 LR LR 07 02 49.3
comp=Z,212nm,20.7s,baz=313,slow=31
MRSI Marisa 63.11 298 P **P** **06 40 56.6 -1.9**
comp=Z,20nm,0.9s
KMMI Kalianget 63.17 286 P **P** **06 40 57.4 -1.6**
comp=Z,2μmcomp=Z,68nm,1.2s
PMSA Palmer Station 64.11 156 LR LR 07 03 56.0
comp=Z,502nm,19.7s,baz=237,slow=31
PMSA Palmer Station 64.11 156*e*P **P** **06 41 07.9 +3.5**
TOLI2 Tolitoli 64.35 298 P **P** **06 41 04.7 -2.0**
TOLI2 IAmb IAmb 06 41 08.7
comp=Z,28nm,1.1s
TOLI2 Tolitoli 64.35 298 P **P** **06 41 05.9 -0.8**
MPSI Mapaga 64.36 296 P **P** **06 41 04.8 -1.9**
comp=Z,25nm,0.8s
BBKI Banjar Baru 65.06 289 P **P** **06 41 09.4 -2.0**
comp=Z,126nm,1.1s
SMRI Semarang 65.71 283 P **P** **06 41 15.0 -0.6**
TROLL Troll, Antarti 65.85 183 P **P** **06 41 17.4 +1.6**
DAV Davao City (W) 65.90 306 LR LR 07 11 29.6
comp=Z,331nm,18.6s,baz=156,slow=37
SNAA Sanae 66.33 181 P **P** **06 41 20.3 +1.4**
SNAA Sanae 66.33 181 LR LR 07 08 31.3
comp=Z,905nm,20.7s,baz=188,slow=34
SNAA Sanae 66.33 181 P **P** **06 41 18.6 -0.2**
SNAA IAmb IAmb 06 41 26.4
comp=Z,48nm,1.4s
SNAA Sanae 66.33 181⇑*e*P **P** **06 41 18.7 -0.1**
SNAA pmax pmax
comp=Z,5.0nm,1.2s
NVL N'lazarevskaya 66.51 186*e*P P 06 41 25.9 +6.0
NVL *e*S **S** **06 50 13.7 +4.2**
NVL pmax pmax
comp=Z,72nm,1.3s
NVL MLR MLR
comp=Z,594nm,16.0s
CTJI Waduk Cacaban 66.64 282 P **P** **06 41 19.6 -2.0**
comp=Z,125nm,1.2s
VNA3 Neumayer Olymp 66.75 179 P **P** **06 41 23.1 +1.6**
VNA2 Neumayer--Watz 67.10 180 P **P** **06 41 25.0 +1.3**
baz=168,slow=6.0
VNA1 Neumayer--Stat 67.37 179 P **P** **06 41 26.5 +1.1**
BBJI Bungbulang 67.45 281 P **P** **06 41 26.5 -0.3**
LEM Lembang 67.91 281 LR LR 07 13 35.3
comp=Z,318nm,18.1s,baz=142,slow=38
CNJI Cibinong 67.94 281 P **P** **06 41 27.8 -2.0**
comp=Z,71nm,1.1s
MYLDM Lahad Datu 68.89 299 P **P** **06 41 35.8 +0.1**
MYLDM IAmb IAmb 06 42 03.4
comp=Z,40nm,0.9s
MYLDM Lahad Datu 68.89 299 P **P** **06 41 33.6 -2.1**
comp=Z,42nm,0.8s
USHA Ushuaia 69.69 147 LR LR 07 04 01.0
comp=Z,392nm,21.5s,baz=218,slow=29
KKM Kota Kinabalu 71.04 297 P **P** **06 41 48.5 -0.5**
KKM IAmb IAmb 06 41 49.2
comp=Z,33nm,0.7s
KKM Kota Kinabalu 71.04 297 P **P** **06 41 48.6 -0.4**
SBUM Sibu 71.11 292 P **P** **06 41 48.1 -1.2**
SBUM Sibu 71.11 292 P **P** **06 41 47.2 -2.1**
comp=Z,9.4nm,0.9s
KSM Kuching 71.74 290 P **P** **06 41 52.6 -0.5**
KSM IAmb IAmb 06 41 54.2
comp=Z,51nm,0.9s
KSM Kuching 71.74 290 P **P** **06 41 50.9 -2.2**
comp=Z,611nmcomp=Z,66nm,0.9s
KSM Kuching 71.74 290 P **P** **06 41 53.2 +0.1**
PPBI Pangkal Pinang 72.16 284 P **P** **06 41 55.3 -0.4**
comp=Z,9μmcomp=Z,101nm,0.9s
MASI Maura Aman, Be 74.32 280 P **P** **06 42 08.5 0.0**
comp=Z,2μmcomp=Z,126nm,0.6s
DSRI Dabo 74.44 284 P **P** **06 42 06.9 -2.3**
comp=Z,2μmcomp=Z,77nm,0.9s
JCJ Chichijima 74.97 331 LR LR 07 13 01.4
comp=Z,272nm,20.7s,baz=124,slow=34
TPRI Tanjung Pinang 75.44 285 P **P** **06 42 12.6 -2.4**
BTDF Bukit Timah Da 76.29 285 P **P** **06 42 17.4 -2.4**
comp=Z,719nmcomp=Z,76nm,0.9s
MYKOM Kota Tinggi 76.53 285 P **P** **06 42 18.8 -2.3**
PDSI Padang 77.13 281 P **P** **06 42 22.8 -1.8**
comp=Z,8μmcomp=Z,57nm,0.9s
PLCA Paso Flores 78.93 136 P **P** **06 42 37.1 +2.8**
comp=Z,10nm,0.9s,baz=234,slow=6.9,SNR=13
PLCA LR LR 07 12 50.6
comp=Z,267nm,18.3s,baz=212,slow=32
comp=Z,10nm,0.9s
PLCA Paso Flores 78.93 136 P **P** **06 42 33.3 -1.0**
MNSI Mandailing Nat 78.94 281 P **P** **06 42 33.3 -1.3**
comp=Z,87nm,0.9s
IPM Ipoh 80.42 285 IAmb IAmb 06 42 42.9
comp=Z,46nm,0.8s
IPM Ipoh 80.42 285 P **P** **06 42 40.1 -2.5**
comp=Z,64nm,0.9s
IPM Ipoh 80.42 285 P **P** **06 42 42.3 -0.3**
RPSI Rantau Prapat 80.71 282 IAmb IAmb 06 42 44.4
comp=Z,45nm,1.0s
GSI Gunungsitoli 80.74 280 P **P** **06 42 41.8 -2.6**
comp=Z,2μmcomp=Z,153nm,1.1s
GSI Gunungsitoli 80.74 280 P **P** **06 42 45.1 +0.7**
PSI Prapat 80.78 282 P **P** **06 42 41.6 -3.1**
comp=Z,418nmcomp=Z,53nm,1.0s
PSI Prapat 80.78 282 P **P** **06 42 43.1 -1.6**
KULM Kulim 81.25 285 IAmb IAmb 06 42 47.5
comp=Z,59nm,1.0s
KULM Kulim 81.25 285 P **P** **06 42 44.4 -2.6**
comp=Z,501nmcomp=Z,60nm,1.2s
TSI Tuntungan 81.52 283 P **P** **06 42 48.5 0.0**
KCSI Kotacane, Aceh 82.11 282 P **P** **06 42 49.0 -2.6**
comp=Z,38nm,1.1s
SKLT Songkhla 82.57 287 P **P** **06 42 51.3 -2.6**
comp=Z,47nm,1.1s
SKLT Songkhla 82.57 287 P **P** **06 42 54.1 +0.1**
MLSI Meulaboh, Aceh 83.61 282 P **P** **06 42 59.8 +0.4**
comp=Z,77nm,0.9s
JMN Monobe 84.06 327 P **P** **06 43 00.8 -0.4**
SRIT Nakonsitamara 84.28 287 P **P** **06 43 03.5 +0.8**
comp=Z,30nm,1.0s
INU Inuyama 84.29 330 P **P** **06 43 00.5 -1.8**
INU IAmb IAmb 06 43 02.4
comp=Z,30nm,0.8s
INU Inuyama 84.29 330 P **P** **06 43 01.6 -0.7**
SURA Surathani 84.65 287 P **P** **06 43 05.3 +0.7**
JNU Nakatsue 84.77 325 IAmb IAmb 06 43 04.6
comp=Z,29nm,0.9s
QIZ Qiongzhong 84.81 301 P **P** **06 43 07.8 +2.5**
QIZ S **S** **06 53 34.4 +1.5**
QIZ SS **SS** **06 59 08.0 +2.3**
QIZ LR LR
comp=Z,220nm,19.1s
QIZ LR LR
comp=Z,180nm,20.7s
QIZ LR LR
comp=Z,200nm,20.7s
MJAR Matsushiro Arr 84.94 332 P **P** **06 43 04.3 -1.2**
comp=Z,9.7nm,0.9s,baz=166,slow=6.0,SNR=11
comp=Z,9.7nm,0.9s
MAJO Matsushiro 84.94 332 P **P** **06 43 04.2 -1.4**
MAJO IAmb IAmb 06 43 05.9
comp=Z,18nm,0.9s
MAJO Matsushiro 84.94 332 P **P** **06 43 05.1 -0.4**
MAJO Matsushiro 84.94 332*d i*P **P** **06 43 04.7 -0.8**
MAJO pmax pmax
comp=Z,15nm,0.9s
MJB9 Matsu-Tunnel 84.94 332 IAmb IAmb 06 43 05.9
comp=Z,17nm,0.9s
TRQA Tornquist 85.27 139*e*P **P** **06 43 10.9 +3.4**
AAGR Agrelo 85.51 132 *i* P **P** **06 43 12.3 +3.4**
ASAL Salagasta 85.88 131 *i* P **P** **06 43 13.8 +3.1**
RTLS Leoncito 86.21 130 *i* P **P** **06 43 15.7 +3.0**
ACCO Cerro Coronel 87.25 130 *i* P **P** **06 43 20.5 +2.7**
AROD Rodeo 87.33 129 *i* P **P** **06 43 21.3 +3.1**
ACDV Cuesta del Vie 87.53 129 *i* P **P** **06 43 22.3 +3.3**
MRA San Martin 87.72 133 *i* P **P** **06 43 21.9 +2.1**
APLL PUNTA DE LOS L 88.82 131 *i* P **P** **06 43 27.6 +2.6**
GULI GuiLin 89.13 306 ⇓P **P** **06 43 23.8 -2.4**
ACLC CERRO LA CRUZ 89.32 130 *i* P **P** **06 43 29.9 +2.5**
KSRS Korea Array 89.72 325 P **P** **06 43 28.6 0.0**
comp=Z,16nm,0.8s,baz=144,slow=5.6,SNR=24
KSRS LR LR 07 21 27.0
comp=Z,159nm,20.5s,baz=130,slow=34

comp=Z,16nm,0.8s
CYA Choya 90.72 131 *i* P **P** **06 43 36.5 +2.6**
WHN Wuhan 90.80 312 ⇓P **P** **06 43 34.1 +0.3**
WHN sP **pP** **06 43 38.3 -0.9**
WHN S **S** **06 54 31.8 +2.2**
WHN pmax pmax
comp=Z,84nm,1.2s
WHN LR LR
comp=Z,540nm,26.6s
CMAR Chiang Mai Arr 91.58 294 P **P** **06 43 37.9 +0.1**
comp=Z,12nm,0.9s,baz=152,slow=3.4,SNR=62
CMAR PP **PP** **06 47 16.2 -0.1**
comp=Z,1.3nm,0.3s,baz=152,slow=6.8,SNR=6.9
comp=Z,12nm,0.9s
CHTO Chiang Mai 91.82 294 P **P** **06 43 38.6 -0.3**
CHTO Chiang Mai 91.82 294 P **P** **06 43 38.6 -0.3**
GYA Guiyang 92.24 304 ⇓*i*P **P** **06 43 40.9 +0.1**
GYA pmax pmax
comp=Z,25nm,0.9s
LVC Limon Verde 93.30 125*e*P **P** **06 43 47.4 +1.1**
ENH Enshi 93.35 309 P **P** **06 43 45.5 -0.2**
TIA Tai'an 93.73 317 ⇓P **P** **06 43 47.3 +0.1**
TIA pmax pmax
comp=Z,26nm,0.8s
TIA LR LR
comp=Z,230nm,18.1s
TIA LR LR
comp=Z,180nm,14.2s
TIA LR LR
comp=Z,290nm,18.1s
KMI Kunming 93.74 301 ⇓P **P** **06 43 49.3 +1.4**
KMI pmax pmax
comp=Z,17nm,1.0s
PLTB Pedras Altas 94.37 141*e*P **P** **06 43 53.3 +2.6**
SHEM Shemya Is, Ala 94.64 0 LR LR 07 23 33.2
comp=Z,133nm,19.9s,baz=230,slow=34
RODS Rosario do Sul 94.79 139*e*P **P** **06 43 55.6 +3.1**
PZH PanZhiHua 95.35 301 P **P** **06 43 58.3 +3.2**
PZH S **S** **06 55 13.1 +2.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,40nm,4.0s
PZH LR LR
comp=Z,500nm,24.1s
PZH LR LR
comp=Z,470nm,23.7s
PZH LR LR
comp=Z,1μm,22.6s
NNA Nana 95.84 112 LR LR 07 17 54.6
comp=Z,340nm,20.9s,baz=228,slow=30
HNS HongShan 95.87 317 ⇑P **P** **06 43 56.8 -0.2**
HNS *e*S **S** **06 55 10.0 -4.2**
HNS pmax pmax
comp=Z,8.0nm,0.9s
HNS LR LR
comp=Z,140nm,18.4s
HNS LR LR
comp=Z,300nm,20.0s
HNS LR LR
comp=Z,280nm,20.6s
UNIS Unistalda (Bra 95.90 138*e*P **P** **06 43 59.9 +2.2**
CN2 Changchun 96.06 327*e*P **P** **06 43 57.3 -0.4**
TNCH TengChong 96.41 298 P **P** **06 44 01.1 +1.1**
TNCH sP sP 06 44 06.6 -0.7
TNCH pmax pmax
comp=Z,89nm,4.5s
XAN Xi'an 96.45 311 ⇑P **P** **06 43 59.4 -0.4**
XAN pP sP 06 44 09.1 +2.0
XAN pmax pmax
comp=Z,16nm,1.1s
XAN LR LR
comp=Z,220nm,22.0s
XAN LR LR
comp=Z,250nm,22.0s
CPUP Villa Florida 96.99 135*e*P **P** **06 44 05.8 +3.2**
CNLB Canela 97.71 142*e*P Pdif 06 44 08.9 +2.9
CRSM Crissiumal (Br 97.71 138*e*P Pdif 06 44 08.2 +2.2
KLR Kul'dur 98.35 334⇑*e*P **P** **06 44 07.8 -0.1**
KLR pmax pmax
comp=Z,4.0nm,2.7s
LPAZ La Paz 98.51 121*e*P Pdif 06 44 12.7 +2.3
HHC Hu-ho-hao-te 100.08 317*e*P **Pdif** **06 44 16.8 +0.8**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,170nm,6.3s
LZH Lanzhou 100.81 309 ⇓P **Pdif** **06 44 23.6 +4.1**
LZH pP sP 06 44 28.4 +1.5
LZH pmax pmax
comp=Z,15nm,1.4s
LZH LR LR
comp=Z,160nm,13.7s
LZH LR LR
comp=Z,150nm,14.1s
LZH LR LR
comp=Z,190nm,13.4s
PCHI Peechi 102.53 273*e*P **Pdif** **06 44 12.7 -15**
ZEA Zeya 103.67 334*e*P **Pdif** **06 44 21.8 -10**
TXAR Lajitas Array 104.00 63 PKKPbc PKKPbc 07 00 24.9 +2.5
comp=Z,1.2nm,0.8s,baz=80,slow=4.0,SNR=12
PDAR Pinedale Array 109.08 49 PP **PP** **06 49 24.6 -4.5**
comp=Z,1.0nm,1.0s,baz=251,slow=4.5,SNR=4.0
PDAR PKKPbc **PKKPbc** **07 00 07.7 +0.5**
comp=Z,0.6nm,0.8s,baz=69,slow=8.1,SNR=4.5
SKAG Skagway 109.69 25 P **PKiKP** **06 49 02.8 +2.3**
baz=218
BOZ Bozeman (W) 109.77 46 P **PKiKP** **06 49 02.2 +0.8**
baz=229
S34M Telegraph Cree 109.86 28 P **PKiKP** **06 49 01.9 +0.9**
baz=220
H21K Melozitna Rive 110.68 14 P **PKiKP** **06 49 03.4 +1.1**
baz=206
COLA College 110.95 16⇑*i*PKIKP **PKiKP** **06 49 01.7 -1.0**
ILAR Eielson Array 111.06 17 PKIKP **PKiKP** **06 49 02.8 -0.2**
comp=Z,1.3nm,0.8s,baz=293,slow=2.8,SNR=11
ILAR PKKPab **PKKPab** **07 00 09.3 +2.6**
comp=Z,1.2nm,0.8s,baz=4.3,slow=2.5,SNR=10
EGAK Eagle 112.38 19 P **PKiKP** **06 49 07.1 +1.6**
baz=214
FARO Faro, Yukon 112.47 24 P **PKiKP** **06 49 07.3 +1.5**
baz=220
RSSD Black Hills 113.06 51 P **PKiKP** **06 49 08.1 +0.3**
baz=233
TGTN Hyland Airport 113.53 26 P **PKiKP** **06 49 08.7 +0.8**
baz=223
FLDN Fort Liard 114.27 29 P **PKiKP** **06 49 10.3 +1.1**
baz=226
C23K Itkillik River 114.79 13 P **PKiKP** **06 49 11.4 +1.4**
baz=208
C24K Franklin Bluff 115.02 14 P **PKiKP** **06 49 12.2 +1.8**
baz=210
WMQ Urumqi 115.25 307*e*PKP **PKiKP** **06 49 12.0 +0.2**
WMQ LR LR
comp=Z,130nm,22.1s
DGMT Dagmar 115.54 47 P **PKiKP** **06 49 12.5 +0.4**
baz=234
C27K Jago River 115.85 15 P **PKiKP** **06 49 13.5 +1.5**
baz=214
C26K Camden Bay 115.87 15 P **PKiKP** **06 49 13.6 +1.5**
baz=213
WRGLY Wrigley 116.33 27 P **PKiKP** **06 49 14.5 +1.4**
baz=227
INK Inuvik 117.05 19 PKKPab PKKPab 06 59 44.5 +4.1
comp=Z,1.8nm,0.9s,baz=350,slow=7.5,SNR=6.3
INK Inuvik 117.05 19 PKPdf **PKPdf** **06 49 13.3 -1.0**
INK Inuvik 117.05 19 PKIKP **PKPdf** **06 49 13.3 -1.0**
ECSD EROS Data Cent 117.22 55 P **PKiKP** **06 49 16.3 +0.8**
baz=236
CCM Cathedral Cave 117.49 62 P **PKiKP** **06 49 16.9 +0.7**
baz=236
LRAL Lakeview Retre 117.57 69 P **PKiKP** **06 49 17.1 +0.6**
baz=236
MDND Maddock 117.73 49 P **PKiKP** **06 49 16.9 +0.5**
baz=237
TIXI Tiksi 118.00 345⇑*i*PKIKP **PKPdf** **06 49 15.3 -0.8**
DGZ Jazzator, Alta 118.67 312⇓*i*PKIKP **PKPdf** **06 49 16.8 -1.5**
WVT Waverly 118.71 66 PKPdf **PKPdf** **06 49 16.0 -2.6**
WVT Waverly 118.71 66 P **PKiKP** **06 49 19.3 +0.7**
baz=237
WVT Waverly 118.71 66 PKIKP **PKPdf** **06 49 16.0 -2.6**
YKA Yellowknife Ar 118.99 30 PKP **PKPdf** **06 49 17.8 -0.4**
comp=Z,12nm,0.9s,baz=252,slow=1.8,SNR=23
MK31 Makanchi Array 120.06 307*d i*PKIKP **PKPdf** **06 49 19.4 -1.5**
MKAR Makanchi Array 120.06 307 PKP **PKPdf** **06 49 19.5 -1.4**
comp=Z,2.5nm,0.5s,baz=186,slow=1.4,SNR=29

MKAR PKKPab **PKKPbc** **06 59 31.8 +2.7**
comp=Z,0.6nm,0.6s,baz=304,slow=5.5,SNR=4.6
MKAR Makanchi Array 120.06 307 PKPdf **PKPdf** **06 49 18.1 -2.8**
AGMN Agassiz Nation 120.10 51 P **PKiKP** **06 49 21.9 +0.9**
baz=239
HDIL Hopedale 120.11 61 P **PKiKP** **06 49 21.6 +0.4**
baz=238
FFC Flin Flon 120.15 42 PKPdf **PKPdf** **06 49 20.7 -0.1**
FFC Flin Flon 120.15 42 PKIKP **PKPdf** **06 49 20.7 -0.1**
C36M Paulatuk 120.23 21 PKPdf **PKPdf** **06 49 19.0 -1.4**
C36M Paulatuk 120.23 21 P **PKiKP** **06 49 21.8 +1.3**
baz=229,SNR=5.9
GOGA Godfrey 120.24 71 P **PKiKP** **06 49 22.6 +1.0**
baz=237
MAKZ Makanchi 120.25 307 PKPdf **PKPdf** **06 49 19.8 -1.5**
MAKZ Makanchi 120.25 307 ⇑PKIKP **PKPdf** **06 49 19.9 -1.3**
SPMN Marine on St. 120.32 55 P **PKiKP** **06 49 22.6 +1.1**
baz=239
JFWS Jewell Farm 120.72 58 P **PKiKP** **06 49 23.3 +1.0**
baz=239,SNR=6.0
WCI Wyandotte Cave 120.87 65 P **PKiKP** **06 49 24.0 +1.2**
baz=238
ULM Lac du Bonnet 121.08 49 PKP **PKiKP** **06 49 22.9 +0.1**
comp=Z,28nm,1.0s,baz=259,slow=3.0,SNR=17
SFIN Lafayette 121.45 62 P **PKiKP** **06 49 24.9 +1.1**
baz=239
A36M Sachs Harbour 121.65 19 PKPdf **PKPdf** **06 49 22.8 -0.3**
KMBO Kilima Mbogo 121.73 234 PKP **PKiKP** **06 49 26.3 +0.7**
comp=Z,3.2nm,0.7s,baz=44,slow=6.3,SNR=6.4
KMBO Kilima Mbogo 121.75 234⇑*i*PKIKP **PKiKP** **06 49 26.4 +0.8**
TZTN Tazewell 121.86 68 P **PKiKP** **06 49 25.5 +0.7**
baz=238
ZALV Zalesovo Beam 122.23 316 PKP **PKPdf** **06 49 22.8 -1.9**
comp=Z,0.6nm,0.5s,baz=95,slow=11,SNR=4.6
NHSC New Hope 122.40 73 P **PKiKP** **06 49 25.9 0.0**
baz=237
EYMN Ely 122.46 53 P **PKiKP** **06 49 26.6 +1.0**
baz=241
P49A Miami Univ. Ec 122.60 64 P **PKiKP** **06 49 27.0 +0.8**
baz=240
KMSC Kings Mountain 122.66 70 P **PKiKP** **06 49 27.5 +1.1**
baz=238
O48B Farmland 122.67 63 P **PKiKP** **06 49 27.3 +1.1**
baz=240
AAK Ala-Archa 122.78 300⇑*i*PKIKP **PKiKP** **06 49 26.9 +0.3**
KURK Kurchatov 124.09 310 PKPdf **PKPdf** **06 49 26.5 -1.9**
KURK Kurchatov 124.09 310⇓*i*PKIKP **PKPdf** **06 49 27.5 -0.9**
ACSO Alum Creek Sta 124.10 64 P **PKiKP** **06 49 30.1 +1.0**
baz=241,SNR=6.5
BLA Blacksburg 124.35 69 P **PKiKP** **06 49 30.8 +1.1**
baz=240
P52A Corning 124.38 65 P **PKiKP** **06 49 30.2 +0.6**
baz=240,SNR=5.9
GLMI Grayling 125.21 59 P **PKiKP** **06 49 31.7 +0.6**
baz=243
O53A New Philadelph 125.30 65 P **PKiKP** **06 49 32.8 +1.3**
baz=241,SNR=6.8
MCWV Mont Chateau 125.94 66 P **PKiKP** **06 49 34.0 +1.2**
baz=241
M53A WI Miller and 126.22 64 P **PKiKP** **06 49 34.5 +1.3**
baz=242
UOSS Minazif 126.42 272 PKPdf **PKPdf** **06 49 33.3 -0.5**
CBN Corbin Frederi 126.94 69 P **PKiKP** **06 49 35.6 +0.9**
baz=241
ERPA Erie 126.98 63 P **PKiKP** **06 49 36.1 +1.3**
baz=243
NRIK Noril'sk 127.56 333 PKP **PKPdf** **06 49 33.7 -0.8**
comp=Z,4.9nm,0.9s,baz=155,slow=1.0,SNR=6.3
NRIK Noril'sk 127.56 333 PKPdf **PKPdf** **06 49 34.4 -0.2**
NRIK Noril'sk 127.56 333⇑*i*PKIKP **PKPdf** **06 49 32.8 -1.7**
SSPA Standing Stone 127.72 66 PKPdf **PKPdf** **06 49 33.6 -2.1**
SSPA Standing Stone 127.72 66 P **PKiKP** **06 49 36.9 +0.6**
baz=243
BVAR Borovoye Array 129.68 310 PKP **PKPdf** **06 49 37.5 -1.6**
comp=Z,2.3nm,0.6s,baz=212,slow=1.4,SNR=10.0
BINY Binghamton 129.69 65 P **PKiKP** **06 49 41.3 +1.1**
baz=245
BRVK Borovoye 129.76 310⇑*i*PKIKP **PKPdf** **06 49 38.4 -0.8**
LONY Lake Ozonia 131.61 63 P **PKiKP** **06 49 44.6 +0.6**
baz=247
GEYT Alibeck 131.69 287 PKP **PKPdf** **06 49 42.9 -0.5**
comp=Z,5.1nm,0.8s,baz=191,slow=2.4,SNR=7.1
GEYT SKPbc **SKPbc** **06 53 06.4 -1.9**
comp=Z,1.5nm,0.4s,baz=133,slow=6.5,SNR=4.5
L61B Northampton 132.03 66 P **PKiKP** **06 49 45.9 +1.0**
baz=246
HRV Adam Dziewonsk 132.81 66 P **PKiKP** **06 49 47.3 +0.8**
baz=247
ARU Arti 137.18 312 *i*PKIKP **PKPdf** **06 49 53.8 +0.8**
ARU 06 52 35.7
AKT Akhty 140.44 288 *e*PKIKP **PKPdf** **06 49 59.9 +0.2**
AKT *e* 06 52 59.4
AKT pmax pmax
comp=Z,21nm,1.3s
MAK Makhachkala 141.08 290 *e*P **Pdif** **06 47 17.1 -1.0**
MAK *i* 06 49 58.9
MAK *e* 06 52 59.9
MAK *e*SSS SSS 07 16 41.5
GNI Garni 142.12 284⇑*e*PKIKP **PKPdf** **06 50 03.7 +0.9**
KIRV Kirov 142.26 315⇓*e*PKIKP **PKPdf** **06 50 01.6 -0.6**
BELG Belogornoye 142.98 305 PKhKP PKPpre 06 49 59.2
comp=Z,18nm,0.6s,baz=71,slow=1.6,SNR=8.1
BELG Belogornoye 142.98 305 *i*PKIKP **PKPdf** **06 49 59.5 -4.1**
ZEI Tsey 143.56 288 *i*PKIKP PKPab 06 50 01.8 0.0
ZEI pmax pmax
comp=Z,8.0nm,1.0s
PRGR Permogore 143.92 320 *e*PKIKP **PKiKP** **06 50 07.4 -1.1**
PRGR pmax pmax
comp=Z,24nm,1.0s
LIC Lamto 144.08 182⇑*e*PKIKP PKPbc 06 50 05.8 +1.0
comp=Z,71nm,0.8s
DRLN Deer Lake 144.10 61 PKPdf **PKPdf** **06 50 05.8 +0.1**
KIC Kosan Boka 144.21 182⇑*i*PKIKP **PKPdf** **06 50 06.2 -0.9**
comp=Z,18nm,0.7s
TIC Toumodi 144.50 182⇑*i*PKIKP PKPbc 06 50 06.6 +0.5
comp=Z,12nm,0.3s
DBIC Dimbokro 144.51 182 PKP **PKPdf** **06 50 07.0 -0.6**
comp=Z,22nm,0.7s,baz=198,slow=4.5,SNR=8.5
DBIC Dimbokro 144.51 182 PKIKP **PKPdf** **06 50 07.0 -0.6**
KBZ Khabaz 144.52 289 PKP **PKPab** **06 50 04.9 -0.2**
comp=Z,38nm,0.8s,baz=119,slow=2.0,SNR=59
KBZ Khabaz 144.52 289*ce*PKIKP **PKPab** **06 50 04.4 -0.7**
ASF Jabal al Asfar 144.60 268 PKP **PKPdf** **06 50 07.0 -0.3**
comp=Z,17nm,1.1s,baz=146,slow=1.4,SNR=13
KIV Kislovodsk 144.73 290 *i*PKIKP **PKPab** **06 50 05.7 -0.3**
KIV pmax pmax
comp=Z,21nm,1.0s
GOF Gofitskoye 144.75 292⇑*e*PKIKP **PKPab** **06 50 05.6 -0.3**
GOF pmax pmax
comp=Z,163nm,0.9s
EIL Elat 144.76 263 PKP **PKPdf** **06 50 07.3 -0.2**
comp=Z,39nm,0.9s,baz=175,slow=2.6,SNR=12
DAG Danmarks Havn 145.00 5 *i*P **PKPbc** **06 50 04.1 -1.8**
SFJD Kangerlussuaq 145.54 29 PKPbc **PKPbc** **06 50 07.9 0.0**
comp=Z,69nm,0.7s,baz=203,slow=1.8,SNR=25
SFJD Kangerlussuaq 145.54 29 PKPdf **PKPdf** **06 50 07.1 -0.5**
SFJD Kangerlussuaq 145.54 29 *i*P **PKPab** **06 50 08.2 0.0**
SUMG Summit 145.91 17 *i*P **PKPab** **06 50 09.9 0.0**
MMAI Mount Meron Ar 146.11 268 PKPbc **PKPab** **06 50 11.6 +0.1**
comp=Z,35nm,0.6s,baz=94,slow=4.3,SNR=35
NUUK Nuuk 146.11 34 *i*P **PKPab** **06 50 10.2 -0.1**
LVZ Lovozero 146.41 333⇑PKIKP **PKPdf** **06 50 07.3 -1.9**
VRH Novokhopyorsk 146.53 302 *e*PKIKP **PKPdf** **06 50 08.5 -1.3**
VRH pmax pmax
comp=Z,50nm,0.8s
SOC Sochi 146.72 288 *e*PKHKP PKPpre 06 50 07.8
SOC *e* 06 53 34.2
SOC *e*PPP PPP 06 56 51.1
SOC *e*SS SS 07 12 28.6 -6.8
SOC *e*SSS SSS 07 18 00.3
SOC MLR MLR
comp=Z,88nm,17.0s
KLMR Klimovskoe 146.97 320 *e*PKPdf **PKPdf** **06 50 10.1 -0.2**
KLMR AMP 06 50 12.9
comp=Z,53nm,0.9s
KLMR Klimovskoe 146.97 320 *e*PKIKP **PKPdf** **06 50 10.1 -0.2**
KLMR pmax pmax
comp=Z,53nm,0.9s
VORR Voronezh 148.12 303 *e*PKP2 **PKPbc** **06 50 15.8 +0.1**
VORR pmax pmax
comp=Z,90nm,0.4s
VSR Storozhevoye 148.14 302 *e*PKIKP **PKPdf** **06 50 12.8 +0.3**
VSR pmax pmax
comp=Z,40nm,1.2s
ARA0 ARCESS Array S 148.17 340 *e*P **PKPbc** **06 50 14.3 -1.1**
ARCES ARCESS Array B 148.17 340 PKPbc **PKPbc** **06 50 14.5 -0.9**
comp=Z,13nm,0.6s,baz=68,slow=3.2,SNR=77
ARCES ARCESS Array B 148.17 340 **PKPbc** **06 50 14.1 -1.3**
ARCES ARCESS Array B 148.17 340 PKP2 **PKPbc** **06 50 14.1 -1.3**
LPSR Galich'ya Gora 148.30 305 *e*PKP2 **PKPbc** **06 50 15.2 -1.0**
LPSR pmax pmax
comp=Z,80nm,1.1s
IVI Ivigtut 148.59 38 **PKPbc** **06 50 16.6 0.0**
MOS Moscow 148.85 311 *e*PKHKP PKPpre 06 50 11.0
KTK1 Kautokeino 149.12 340 *e*P **PKPbc** **06 50 16.5 -1.3**
OBN Obninsk 149.53 310 PKPbc **PKPbc** **06 50 19.0 -0.2**
comp=Z,4.2nm,0.2s,baz=68,slow=5.9,SNR=9.4
OBN Obninsk 149.53 310⇑*e*PKIKP **PKPdf** **06 50 13.9 -0.7**
OBN *i* 06 50 18.7
OBN *e* 06 53 51.4
OBN pmax pmax
comp=Z,9.0nm,1.1s
OBN pmax pmax
comp=Z,65nm,1.3s
TRO Tromso 149.68 343 *e*P **PKPbc** **06 50 18.2 -0.9**
NRS Narsarsuaq 149.86 38 **PKPbc** **06 50 20.0 +0.2**
NRS Narsarsuaq 149.86 38 *i*P **PKPbc** **06 50 19.9 +0.2**
NRS Narsarsuaq 149.86 38 PKP2 **PKPbc** **06 50 20.0 +0.2**
BR131 Keskin Array S 150.05 279 **PKPbc** **06 50 20.8 -0.4**
BR131 Keskin Array S 150.05 279⇑*e*PKHKP PKPpre 06 50 16.3
BRTR Keskin Array B 150.05 279 PKPbc **PKPbc** **06 50 20.6 -0.6**
comp=Z,23nm,0.8s,baz=165,slow=5.1,SNR=28
BRTR Keskin Array B 150.05 279 PKPdf **PKPdf** **06 50 15.3 -0.8**
BRTR Keskin Array B 150.05 279 PKIKP **PKPdf** **06 50 15.4 -0.8**
TOA0 Torodi Ar. Sit 150.18 196 PKPdf **PKPdf** **06 50 16.6 -0.4**
TORD Torodi Ar. Bea 150.18 196 PKP **PKPdf** **06 50 17.5 +0.6**
comp=Z,3.1nm,0.9s,baz=262,slow=2.9,SNR=1.1
TORD PKPbc **PKiKP** **06 50 23.1 +0.2**
comp=Z,17nm,0.8s,baz=147,slow=1.9,SNR=6.1
SIM Simferopol' 150.93 289 *i*PKIKP **PKPdf** **06 50 12.3 -4.9**
SIM pmax pmax
comp=Z,42nm,0.8s
STEI Steigen 151.85 343 *e*P **PKPbc** **06 50 23.1 -1.1**
FAUS Fauske 152.29 342 *e*P **PKPbc** **06 50 24.2 -1.1**
FINES FINESS Array B 152.81 326 PKPbc **PKPbc** **06 50 25.7 -0.9**
comp=Z,7.3nm,0.5s,baz=65,slow=3.7,SNR=32
VSU Vasula 153.87 320⇑*e*PKIKP **PKPdf** **06 50 20.8 -0.3**
AKASG **Malin Array Be 154.44 301** PKPbc **PKPbc** **06 50 29.4 -1.1**
comp=Z,4.1nm,0.7s,baz=69,slow=2.5,SNR=5.9
AKASG PKPab **PKPab** **06 50 43.8 -1.2**
comp=Z,9.0nm,0.6s,baz=68,slow=4.2,SNR=14
AKBB Malin Array Si 154.44 301⇑*e*PKIKP **PKPdf** **06 50 23.1 +1.0**
MNK Minsk 154.58 310 *i*PKP **PKPdf** **06 50 19.9 -2.3**
comp=E,3.0nm,1.0s
MNK *i*PKP **PKPdf** **06 50 19.9 -2.3**
comp=N,35nm,1.0s
MNK *i*PKP **PKPdf** **06 50 19.9 -2.3**
comp=Z,3.0nm,1.0s,baz=75
MNK *i*PKiKP **sPKPdf** **06 50 29.8 +0.3**
MNK *i*SKP 06 53 53.0
MNK *i*PKS **PKSdf** **06 53 54.2 -1.9**
MNK *i*PP PP **06 54 19.5 -2.0**
MNK *i*PPP PPP 06 57 49.4
MNK *i*SKS SKSdf 06 57 49.8 +22
MNK *i*SKKS SKKSac 07 00 40.9 -29
MNK *i*SS **SS** **07 14 02.3 +0.6**
MNK *i*SSS SSS 07 17 47.1
MNK *i*LQ LQ 07 47 24.9
MNK *i*LR LR 07 55 30.7
MNK *i*LRM MLR 07 59 18.9
comp=E,31nm,19.3s
MNK *i*LRM MLR 07 59 18.9
comp=N,674nm,19.3s
MNK *i*LRM MLR 07 59 18.9
comp=Z,108nm,19.3s
MNK Minsk 154.58 310 *i*PKIKP **PKPdf** **06 50 19.9 -2.3**
MNK *i* 06 50 29.7
MNK *i* 06 54 19.4
MNK *i* 06 57 49.8
MNK *i*SS SS 07 14 02.3 +0.6
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,3.0nm,1.0s
MNK pmax pmax
comp=N,35nm,1.0s
IDI Anoyia 154.91 264 PKPbc **PKiKP** **06 50 32.9 +0.7**
comp=N,20nm,0.8s,baz=109,slow=6.8,SNR=8.0
NACGM Naroch 155.09 312 *e*PKP **PKPdf** **06 50 28.0 +5.1**
comp=Z,17nm,0.9s,baz=74
SORM Soroca 155.14 295⇑P **PKPab** **06 50 46.6 -1.4**
SORM Soroca 155.14 295⇑PKP2 **PKPab** **06 50 46.6 -1.4**
VRI Vrincioaia 156.21 290⇑P **PKPab** **06 50 52.3 -0.5**
VRI Vrincioaia 156.21 290⇑PKP2 **PKPab** **06 50 52.3 -0.5**
PLOR Plostina 156.26 290⇑P PKPab 06 50 44.5 -8.5
PLOR Plostina 156.26 290⇑PKP2 PKPab 06 50 44.5 -8.5
MLR Muntele Rosu 156.73 289⇑P **PKPdf** **06 50 24.3 -1.3**
MLR Muntele Rosu 156.73 289 PKP **PKPdf** **06 50 24.8 -0.8**
comp=Z,5.5nm,0.8s,baz=55,slow=7.2,SNR=3.4
BURAR Bucovina Array 157.26 294⇓P **PKPab** **06 50 57.4 0.0**
BURAR Bucovina Array 157.26 294 PKPdf **PKPdf** **06 50 24.8 -1.4**
BURAR Bucovina Array 157.26 294⇓PKP2 **PKPab** **06 50 57.4 0.0**
PLVB Pleven 157.47 283⇑P **PKPab** **06 50 58.0 -0.3**
VTS Vitosha 158.36 281⇑P **PKPab** **06 51 01.5 -0.8**
VTS Vitosha 158.36 281 PKPab **PKPab** **06 51 01.6 -0.7**
VTS Vitosha 158.36 281⇑PKP2 **PKPab** **06 51 01.5 -0.8**
HFS Hagfors 158.38 333 PKPab **PKPab** **06 50 59.8 -1.8**
comp=Z,3.6nm,0.7s,baz=57,slow=5.5,SNR=7.9
NB2 NORSAR Subarra 158.48 337 PKP **PKPab** **06 51 00.2 -1.9**
comp=Z,2.5nm,0.8s,baz=38,slow=4.4
NOA NORSAR Array B 158.48 337 PKPab **PKPab** **06 51 00.6 -1.5**
comp=Z,1.5nm,0.7s,baz=39,slow=4.5,SNR=5.2
KOLS Kolonicke sedl 159.11 298 *e*PKP **PKPab** **06 51 06.0 +0.8**
KOLS Kolonicke sedl 159.11 298 *e*PKP2 **PKPab** **06 51 06.0 +0.8**
UZH Uzhgorod 159.14 297 *e*PKP2 **PKPab** **06 51 04.4 -0.9**
BEL Belsk 159.42 307 *e*PKP **PKPab** **06 51 06.8 +0.5**
BEL *e*L L 08 01 11.7
comp=Z,234nm,25.9s
CRVS Cervenica-Dubn 159.65 298 *e*PKP **PKPab** **06 51 07.9 +0.3**
CRVS Cervenica-Dubn 159.65 298 *e*PKP2 **PKPab** **06 51 07.9 +0.3**
MDVR Moldovita 159.68 287⇑P **PKPdf** **06 50 31.1 +1.9**
STHS Stebnicka Huta 159.70 300 *e*PKP **PKPab** **06 51 08.2 +0.4**
STHS Stebnicka Huta 159.70 300 *e*PKP2 **PKPab** **06 51 08.2 +0.4**
MAUC Maruska 161.90 301 *e*PKPAB **PKPab** **06 51 17.7 +0.3**
MORC Moravsky Berou 161.97 303⇑P **PKPab** **06 51 17.5 -0.2**
MORC Moravsky Berou 161.97 303 *e*PKP **PKPab** **06 51 17.5 -0.2**
MORC Moravsky Berou 161.97 303⇑PKP2 **PKPab** **06 51 17.5 -0.2**
KRLC Kraliky 162.36 304 *e*PKPAB **PKPab** **06 51 19.6 +0.2**
KRLC Kraliky 162.36 304 *e*PKP2 **PKPab** **06 51 19.6 +0.2**
KSP Ksiaz 162.41 307 *e*PKP **PKPab** **06 51 19.4 -0.1**
KSP *e*L L 08 06 21.9
comp=Z,190nm,23.4s
MODS Modra-Piesok 162.47 298 *e*PKP **PKPab** **06 51 20.0 +0.1**
MODS Modra-Piesok 162.47 298 *e*PKP2 **PKPab** **06 51 20.0 +0.1**
OSTC Ostas 162.55 306 *e*PKPAB **PKPab** **06 51 19.8 -0.4**
DPC Dobruska-Polom 162.55 305 *e*PKPAB **PKPab** **06 51 19.9 -0.3**
DPC Dobruska-Polom 162.55 305 *e*PKP2 **PKPab** **06 51 19.9 -0.3**
UPC Upice 162.69 306 *e*PKPAB **PKPab** **06 51 21.1 +0.3**
UPC Upice 162.69 306 *e*PKP2 **PKPab** **06 51 21.1 +0.3**
VRAC Vranov 162.69 302 PKPab **PKPab** **06 51 21.3 +0.5**
comp=Z,4.8nm,0.9s,baz=84,slow=5.8,SNR=5.6
VRAC Vranov 162.69 302 *e*PKP **PKPab** **06 51 20.9 0.0**
KRUC Moravsky 162.88 301 *e*PKP **PKPab** **06 51 21.0 -0.7**
RONA Rosalia, Austr 163.25 297 *e*P **PKPab** **06 51 23.6 +0.2**
comp=Z,5.9nm,0.9s
GOPC GO Pecny, Ondr 163.63 305 *e*PKPAB **PKPab** **06 51 25.2 +0.2**
GOPC GO Pecny, Ondr 163.63 305 *e*PKP2 **PKPab** **06 51 25.2 +0.2**
PRU Pruhonice 163.75 305 *e*PKPAB **PKPab** **06 51 25.2 -0.3**
PRU Pruhonice 163.75 305 *e*PKP2 **PKPab** **06 51 25.2 -0.3**
BRG Berggiesshubel 163.77 309 *e*PKP **PKPab** **06 51 25.2 -0.3**
BRG Amp 06 51 26.9
comp=Z,18nm,0.9s
BRG *ex* x 06 51 32.5
BRG Amp 06 51 34.6
comp=Z,11nm,1.2s
BRG *ex* x 06 51 43.1
BRG Amp 06 51 44.0
comp=Z,8.7nm,0.8s
BRG Berggiesshubel 163.77 309 *e*PKP2 **PKPab** **06 51 25.1 -0.4**
BRG pmax pmax
comp=Z,18nm,0.9s
ARSA Arzberg 163.84 295 *e*P **PKPab** **06 51 26.3 +0.3**
comp=Z,11nm,1.2s
CLL Collm 164.12 311 *e*(PKPab) **PKPab** **06 51 33.0 +6.0**
SOKA Soboth 164.27 293 *e*P **PKPab** **06 51 28.3 +0.3**
comp=Z,11nm,1.3s
MOA Molln 164.56 298 *e*P **PKPab** **06 51 29.3 +0.1**
comp=Z,12nm,1.3s
OBKA Obir 164.62 293 *e*P **PKPab** **06 51 29.8 +0.3**
comp=Z,12nm,1.1s
KHC Kasperske Hory 164.63 303 *e*PKPAB **PKPab** **06 51 28.9 -0.5**
KHC Kasperske Hory 164.63 303 *e*PKP2 **PKPab** **06 51 28.9 -0.5**
GERES GERESS Array B 164.65 302 PKPab **PKPab** **06 51 28.9 -0.6**
comp=Z,2.5nm,0.7s,baz=90,slow=4.0,SNR=12
NKC Novy Kostel 164.91 308 *e*PKPAB **PKPab** **06 51 30.3 -0.2**
NKC Novy Kostel 164.91 308 *e*PKP2 **PKPab** **06 51 30.3 -0.2**
ABTA Abfaltersbach 165.96 295 *e*P **PKPab** **06 51 34.7 -0.7**
comp=Z,8.4nm,0.9s
KEST Kesra 166.30 247 PKPab **PKPab** **06 51 37.7 +0.6**
comp=Z,9.1nm,0.9s,baz=327,slow=5.4,SNR=6.6
WTTA Wattenberg 166.43 298 *e*P **PKPab** **06 51 37.4 -0.2**
comp=Z,21nm,1.2s
WATA Walderalm 166.45 298 *e*P **PKPab** **06 51 37.3 -0.4**
comp=Z,20nm,1.1s
SQTA Sankt Quirin 166.72 298 *e*P **PKPab** **06 51 38.4 -0.4**
comp=Z,13nm,1.2s
MOTA Moosalm 166.75 298 *e*P **PKPab** **06 51 38.4 -0.6**
comp=Z,16nm,1.0s
FETA Feichten 167.09 297 *e*P **PKPab** **06 51 39.9 -0.6**
comp=Z,15nm,1.1s
FUORN Ofenpass-Fuorn 167.50 296 PKPab **PKPab** **06 51 42.6 +0.1**
DAVA Damuels 167.57 299 *e*P **PKPab** **06 51 42.0 -0.6**
comp=Z,6.3nm,0.9s
DAVOX Davos/Dischmat 167.71 297 PKPab **PKPab** **06 51 43.1 -0.2**
comp=Z,16nm,0.9s,baz=243,slow=0.4,SNR=11
BFO Black Forest 168.16 306 PKPab **PKPab** **06 51 44.2 -0.8**
BFO Black Forest 168.16 306 PKP2 **PKPab** **06 51 44.2 -0.8**
MDT Midelt 170.47 188 PKP **PKPdf** **06 50 39.9 +1.2**
comp=Z,6.8nm,1.2s,baz=322,slow=5.5,SNR=3.7
MDT PKPab **PKPab** **06 51 57.2 +1.7**
comp=Z,4.0nm,0.9s,baz=270,slow=2.6,SNR=4.9
ESDC Sonseca Array 176.91 213 PKP **PKPdf** **06 50 42.0 +1.2**
comp=Z,5.9nm,1.1s,baz=356,slow=1.3,SNR=15
ESDC PKPab **PKPab** **06 52 25.5 +1.6**
comp=Z,2.0nm,1.0s,baz=144,slow=3.7,SNR=4.9

IDC ***15*** *06:30:51.2±11.0, 56°.31S×27°.61W, h89km±99km, mb3.8/4, mbtmp4.1/4, Error ellipse: s-maj=44.1km s-min=23.8km az=65.0*

ISC 15 06:30:50.5±0.9, 56.7S±0.2×27.7W±0.3, h100km, n14, σ0.5 55/8, mb4.1/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olympr**	**16.45**	**159**	P	**P**	**06 34 35.9**	**0.0**
SNAA	**Sanae**	**18.24**	**155**	P	**P**	**06 34 55.9**	**+0.2**
TROLL	**Troll, Antarti**	**19.77**	**152**	P	**Pn**	**06 35 14.3**	**-0.5**
QSPA	**South Pole Qui**	**33.52**	**180**	P	P	06 37 25.5	+5.3
	3.0nm,0.6s,baz=184,slow=3.2,SNR=11						
	3.0nm,0.6s						
CPUP	**Villa Florida**	**37.05**	**313**	P	**P**	**06 37 50.5**	**-0.1**
	1.0nm,0.7s,baz=143,slow=8.5,SNR=3.8						
	1.0nm,0.7s						
H10S2	**ASCENSION HYDR**	**48.73**	**17**	T	T	07 31 23.3	
	baz=31,slow=74,SNR=430						
H10S3	**ASCENSION HYDR**	**48.74**	**17**	T	T	07 31 23.2	
	baz=189,slow=74,SNR=1297						
H10N1	**ASCENSION HYDR**	**49.85**	**17**	T	T	07 32 46.9	
	baz=189,slow=75,SNR=462						
H10N3	**ASCENSION HYDR**	**49.85**	**17**	T	T	07 32 46.9	
	baz=189,slow=75,SNR=1351						
H10N2	**ASCENSION HYDR**	**49.87**	**17**	T	T	07 32 48.0	
	baz=189,slow=75,SNR=389						
LPAZ	**La Paz**	**50.54**	**306**	P	**P**	**06 39 39.2**	**-0.2**
	2.0nm,0.7s,baz=173,slow=5.6,SNR=10						
	2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.79**	**30**	P	**P**	**06 42 13.4**	**-0.3**
	1.6nm,0.6s,baz=200,slow=6.9,SNR=7.7						
	1.6nm,0.6s						
ILAR	**Eielson Array**	**150.35**	**311**	PKPbc	**PKiKP**	**06 50 29.7**	**+0.5**
	7.6nm,0.8s,baz=126,slow=1.9,SNR=37						
SONM	**Songino Array**	**151.04**	**88**	PKPbc	**PKiKP**	**06 50 32.3**	**+0.9**
	1.3nm,0.8s,baz=219,slow=2.8,SNR=4.4						

IDC 15 06:39:57.0±5.2, 33°.47S×179°.39W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=227.6km s-min=53.6km az=162.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.87**	**271**	P	P	06 47 48.9	-0.2
	1.0nm,0.6s,baz=114,slow=7.5,SNR=16						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**43.14**	**276**	P	P	06 47 59.5	0.0
	1.1nm,0.7s,baz=117,slow=7.8,SNR=10						
	1.1nm,0.7s						
FINES	**FINESS Array B**	**147.57**	**337**	PKPbc	PKPbc	06 59 41.6	-0.8
	1.2nm,0.5s,baz=64,slow=4.4,SNR=12						

IDC ***15*** *06:49:29.6±2.5, 50°.97N×178°.66E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=77.5km s-min=24.2km az=3.0*

NEIC ***15*** *06:49:31.5±0.5, 50°.79N±0°.04×179°.0E±0°.1, h8km±3km, Error ellipse: s-maj=11.5km s-min=5.3km az=111.0*

AEIC ***15*** *06:49:32.5±2.5, 50°.97N±0°.08×178°.7E±0°.1, h12km±8km, ML3.0, Error ellipse: s-maj=14.4km s-min=3.3km az=137.0*

ISC 15 06:49:30.7±1.4, 50.8N±0.2×178.84E±0°.07, h10km, n11, σ1.9 38/11, mb3.6/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.66**	**26**		**Pg**	**06 49 43.2**	**-0.3**
KIWB	**Kanaga Island**	**2.73**	**65**	Pn	**Pn**	**06 50 16.4**	**+1.8**
ADK	**Adak**	**3.02**	**67**	Pn	**Pn**	**06 50 18.8**	**+0.3**
SHEM	**Shemya Is, Ala**	**3.53**	**305**	Pn	**Pn**	**06 50 27.3**	**+1.8**
	14nm,0.3s,baz=48,slow=2.2,SNR=9.3						
SMY	**Shemya**	**3.53**	**305**	Pn	**Pn**	**06 50 27.2**	**+1.6**
ILAR	**Eielson Array**	**22.64**	**39**	P	**P**	**06 54 31.6**	**0.0**
	0.4nm,0.6s,baz=256,slow=12,SNR=6.7						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**45.11**	**81**	P	**P**	**06 57 48.6**	**+1.4**
	0.1nm,0.3s,baz=331,slow=4.6,SNR=2.4						
	0.1nm,0.3s						
SONM	**Songino Array**	**45.57**	**296**	P	**P**	**06 57 50.6**	**-0.1**
	0.3nm,0.5s,baz=71,slow=5.8,SNR=2.2						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**47.91**	**70**	P	**P**	**06 58 09.3**	**+0.1**
	0.5nm,0.9s,baz=324,slow=3.8,SNR=2.9						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**59.23**	**307**	P	**P**	**06 59 30.1**	**-1.7**
	0.6nm,0.8s,baz=31,slow=3.4,SNR=4.1						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**60.37**	**319**	P	**P**	**06 59 38.5**	**-1.0**
	0.9nm,0.6s,baz=46,slow=8.5,SNR=4.6						
	0.9nm,0.6s						

OSPL ***15*** *06:53:21.7±4.0, 19°.28N×73°.05W, h0km±19km, ML2.5*
SSNC ***15*** *06:53:22.5±1.6, 19°.09N×73°.06W, h5km, MD3.3, ML2.4, MW3.2*

ISC 15 06:53:20.4±1.7, 19°.29N±0°.07×73°.03W±0°.04, h9km±13km, n15, σ1.9 16/26, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGNH	**Logne**	**0.87**	**152**	*i*P	**Pg**	**06 53 37.0**	**-0.2**
LGNH				*e*S	**Sg**	**06 53 49.0**	**+0.5**
LGNH				IAML		06 53 52.5	
	comp=Z,32nm,0.3s						
PAPH	**Port-au-Prince**	**1.03**	**138**	*i*P	**Pg**	**06 53 39.6**	**-0.6**
PAPH				*e*S	**Sg**	**06 53 54.0**	**+0.4**
PAPH				IAML		06 53 57.0	
	comp=Z,115nm,0.2s						
MASC	**Masc**	**1.44**	**308**	*e*P	**Pn**	**06 53 46.5**	**-0.1**
MASC				*e*S	**Sn**	**06 54 05.5**	**0.0**
MASC				IAML		06 54 08.9	
	comp=E,40nm,0.2s						
MASC				IAML		06 54 09.0	
	comp=N,20nm,0.2s						
MASC	**Masc**	**1.44**	**308**	*i*P	**Pn**	**06 53 46.7**	**+0.1**
MASC				*e*S	**Sn**	**06 54 06.0**	**+0.4**
MASC		

LOPE2					IAML		06 54 16.3	
	comp=Z,62nm,0.7s							
GTBY	**Guantanamo Bay**	**2.06**	**288**	*eP*		**Pn**	**06 53 55.5**	**+0.3**
GTBY				*eS*		**Sn**	**06 54 21.1**	**0.0**
SC01	**Santiago de lo**	**2.18**	**86**	*eS*		**Sn**	**06 54 24.3**	**+0.3**
MOAC	**Moa**	**2.27**	**307**	*eP*		**Pn**	**06 53 59.1**	**+1.0**
MOAC				*eS*		**Sn**	**06 54 28.3**	**+2.0**
MOAC					IAML		06 54 32.0	
	comp=E,16nm,0.2s							
MOAC					IAML		06 54 40.4	
	comp=N,13nm,0.3s							
RCC	**Rio Carpintero**	**2.61**	**286**	*eP*		**Pn**	**06 54 02.9**	**+0.1**
RCC				*eS*		**Sn**	**06 54 34.1**	**-0.5**
RCC					IAML		06 54 36.3	
	comp=N,12nm,0.3s							
RCC					IAML		06 54 41.5	
	comp=E,16nm,0.2s							
GRTK	**Grand Turk**	**2.84**	**38**	*eS*		**Sn**	**06 54 40.1**	**-0.2**
HLGC	**Holguin**	**3.26**	**300**	*eP*		**Pn**	**06 54 15.3**	**+3.5**
HLGC				*eS*		**Sb**	**06 54 56.8**	**-1.6**
HLGC					IAML		06 55 05.2	
	comp=E,4.6nm,0.5s							
HLGC					IAML		06 55 16.7	
	comp=N,4.9nm,0.4s							
LMGC	**Las Mercedes**	**3.83**	**282**	*eP*		**Pn**	**06 54 19.3**	**-0.2**
LMGC				*eS*		**Sn**	**06 55 02.5**	**-2.1**
LMGC					IAML		06 55 07.5	
	comp=N,4.1nm,0.2s							
LMGC					IAML		06 55 11.1	
	comp=E,4.5nm,0.2s							
CCCC	**Cccc**	**4.84**	**294**	*eP*		Pn	06 54 29.1	-4.3
CCCC				*eS*		Sn	06 55 20.6	-9.0
CCCC					IAML		06 55 29.1	
	comp=E,0.7nm,0.3s							
CCCC					IAML		06 55 31.9	
	comp=N,1.0nm,0.6s							

WEL 15 06:58:17.8±0.3, 42°S±2°×17°4E±°, h8km±2km, M3.4/15, ML3.6/15, MLv3.4/15, Error ellipse: s-maj=0.0km s-min=0.0km az=129.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.29**	**3**	P	Pg	06 58 23.9	+0.5
BSWZ				S	Sg	06 58 28.1	+0.8
CMWZ	**Cape Campbell**	**0.37**	**47**	P	Pb	06 58 25.9	-0.6
CMWZ				S	Sb	06 58 32.6	+0.2
KHZ	**Kahutara**	**0.48**	**210**	P	Pb	06 58 28.0	-0.4
KHZ				S	Sb	06 58 35.1	-0.6
TUWZ	**Tuamarina**	**0.57**	**6**	P	Pg	06 58 29.2	+0.3
TUWZ				S	Sb	06 58 37.8	-0.6
THZ	**Tophouse**	**0.75**	**288**	P	Pg	06 58 32.7	+0.4
THZ				S	Sb	06 58 43.1	-0.4
TCW	**Tory Channel**	**0.85**	**22**	P	Pg	06 58 33.8	-0.4
TCW				S	Sn	06 58 48.0	-0.7
NNZ	**Nelson**	**0.86**	**335**	P	Pg	06 58 34.2	-0.1
NNZ				S	Sg	06 58 45.9	+0.4
WEL	**Wellington**	**0.99**	**44**	P	Pg	06 58 36.9	+0.1
WEL				S	Sb	06 58 51.2	+0.9
MRNZ	**Matariki Terra**	**1.02**	**306**	P	Pb	06 58 37.7	0.0
MRNZ				S	Sn	06 58 52.1	-0.8
PLWZ	**Palliser**	**1.13**	**68**	P	Pg	06 58 37.5	-2.0
GVZ	**Greta Valley S**	**1.14**	**212**	P	Pg	06 58 38.4	-1.3
GVZ				S	Sb	06 58 55.2	+0.5
TKNZ	**Takaka Hill**	**1.18**	**325**	P	Pb	06 58 40.1	-0.3
TKNZ				S	Sg	06 58 55.6	-0.1
MSWZ	**Moikau Station**	**1.19**	**61**	P	Pb	06 58 39.0	-1.7
DUWZ	**D'Urville Isla**	**1.20**	**2**	P	Pb	06 58 40.1	-0.7
DUWZ				S	Sb	06 58 56.5	+0.1
CAW	**Cannon Point**	**1.27**	**46**	P	Pn	06 58 40.5	-1.3
PAWZ	**Paruwai Farm**	**1.33**	**63**	P	Pn	06 58 41.0	-1.7
KIW	**Kapiti Island**	**1.39**	**35**	P	Pn	06 58 42.7	-0.7
KIW				S	Sg	06 59 03.2	+0.8
LTZ	**Lake Taylor**	**1.41**	**236**	P	Pn	06 58 43.3	-0.5
LTZ				S	Sb	06 59 02.4	-0.2
AMCZ	**Amberley**	**1.47**	**217**	P	Pn	06 58 42.3	-2.3
MTW	**Mount Morrison**	**1.49**	**56**	P	Pn	06 58 42.7	-2.1
TRWZ	**Traveller**	**1.50**	**67**	P	Pn	06 58 41.0	-3.9
OGWZ	**Otaki Gorge**	**1.54**	**40**	P	Pn	06 58 44.3	-1.2
QRZ	**Quartz Range**	**1.54**	**319**	P	Pb	06 58 46.4	-0.2
QRZ				S	Sg	06 59 08.0	+0.7
DSZ	**Denniston Nort**	**1.56**	**279**	P	Pb	06 58 46.9	+0.1
DSZ				S	Sg	06 59 08.5	+0.7
HOWZ	**Holdsworth Sta**	**1.66**	**49**	P	Pb	06 58 49.0	+0.3
TMWZ	**Te Maipa**	**1.77**	**60**	P	Pn	06 58 46.2	-2.5
OKCZ	**Okains Bay**	**1.82**	**199**	P	Pn	06 58 47.4	-2.0
OKCZ				S	Sn	06 59 10.0	-2.6
MRZ	**Mangatainoka R**	**1.86**	**45**	P	Pn	06 58 48.2	-1.8
OXZ	**Oxford**	**1.89**	**225**	P	Pn	06 58 48.4	-1.9
OXZ				S	Sn	06 59 11.7	-2.6
MQZ	**McQueen's Vall**	**1.92**	**207**	P	Pn	06 58 48.1	-2.6
MQZ				S	Sn	06 59 11.5	-3.6
AKCZ	**Akaroa Harbour**	**2.00**	**200**	P	Pn	06 58 50.0	-1.8
AKCZ				S	Sn	06 59 13.6	-3.4
OHWZ	**Ohakea**	**2.10**	**32**	P	Pn	06 58 52.3	-1.0
RACZ	**Rakaia**	**2.14**	**216**	P	Pn	06 58 51.6	-2.2
PRWZ	**Pori Road**	**2.15**	**48**	P	Pn	06 58 51.8	-2.1
POWZ	**Post Office Ro**	**2.16**	**42**	P	Pn	06 58 52.7	-1.3
WAZ	**Wanganui**	**2.40**	**21**	P	Pb	06 58 59.8	-1.4
DVHZ	**Dannevirke**	**2.44**	**46**	P	Pn	06 58 55.6	-2.3
WACZ	**Wakanui South**	**2.44**	**217**	P	Pn	06 58 55.8	-2.1
TSZ	**Takapari Road**	**2.51**	**40**	P	Pn	06 58 56.5	-2.3
LREZ	**Lake Rotokare**	**2.57**	**9**	P	Pn	06 58 57.7	-2.0
NMEZ	**Namu Road**	**2.58**	**0**	P	Pn	06 58 57.1	-2.8
RPZ	**Rata Peaks**	**2.68**	**229**	P	Pn	06 59 00.1	-1.1
RPZ				S	Sn	06 59 31.0	-2.9
KHEZ	**Kahui Hut**	**2.71**	**3**	P	Pb	06 59 04.5	-2.0
PRHZ	**Porangahau**	**2.72**	**51**	P	Pn	06 58 58.6	-3.2
NBEZ	**Newall Road No**	**2.73**	**0**	P	Pn	06 59 04.6	-2.2
NEZ	**North Egmont**	**2.73**	**4**	P	Pn	06 59 02.3	+0.3
PNHZ	**Pukenui**	**2.74**	**41**	P	Pn	06 58 59.8	-2.2
ARCZ	**Arundel**	**2.77**	**224**	P	Pn	06 59 00.7	-1.7
ARCZ				S	Sn	06 59 33.0	-3.0
PKE	**Pukeiti**	**2.81**	**2**	P	Pn	06 59 05.3	+2.4
VRZ	**Vera Road**	**2.95**	**14**	P	Pn	06 59 07.5	+2.5
MOVZ	**Moawhango**	**2.96**	**30**	P	Pn	06 59 06.5	+1.3
WNVZ	**Wahianoa**	**2.98**	**27**	P	Pn	06 59 07.3	+1.8
DRZ	**Dome Shelter**	**3.02**	**26**	P	Pb	06 59 11.8	-0.1
BHHZ	**Black Hill Sta**	**3.02**	**34**	P	Pn	06 59 08.3	+2.4
TUVZ	**Tukino**	**3.05**	**27**	P	Pb	06 59 11.6	-0.8
NGZ	**Ngauruhoe**	**3.12**	**26**	P	Pb	06 59 10.5	-3.0
SNVZ	**South Ngauruho**	**3.12**	**26**	P	Pb	06 59 11.4	-2.2
OTVZ	**Oturere**	**3.15**	**26**	P	Pn	06 59 10.5	+2.7
NNVZ	**North Ngauruho**	**3.16**	**26**	P	Pn	06 59 10.9	+2.9
TMZ	**Timaru**	**3.17**	**220**	P	Pn	06 59 06.4	-1.5
WVZ	**West Tongariro**	**3.17**	**25**	P	Pb	06 59 11.8	-2.6
ETVZ	**East Tongariro**	**3.19**	**27**	P	Pn	06 59 11.5	+3.1
KRVZ	**Karewarewa**	**3.21**	**26**	P	Pb	06 59 12.3	-2.7
TMVZ	**Te Maari**	**3.21**	**27**	P	Pn	06 59 11.1	+2.5
NTVZ	**North Tongarir**	**3.21**	**26**	P	Pn	06 59 11.1	+2.5
KWHZ	**Kaweka Forest**	**3.23**	**38**	P	Pb	06 59 15.5	+0.1
KATZ	**Kakaramea**	**3.33**	**25**	P	Pb	06 59 17.1	-0.1
BKZ	**Black Stump Fm**	**3.47**	**36**	P	Pn	06 59 11.6	-0.5
HIZ	**Hauiti**	**3.57**	**13**	P	Pn	06 59 15.4	+2.0
ODZ	**Otahua Downs**	**3.84**	**216**	P	Pn	06 59 14.6	-2.5
TOZ	**Tahuroa Road**	**4.45**	**17**	P	Pn	06 59 28.2	+2.7
EAZ	**Earnscleugh**	**4.62**	**224**	P	Pn	06 59 26.0	-1.9
AWAZ	**Awhitu Peninsu**	**4.97**	**7**	P	Pn	06 59 34.6	+2.0
MKAZ	**Moumakai**	**4.99**	**12**	P	Pn	06 59 35.1	+2.1
ETAZ	**East Tamaki Re**	**5.11**	**10**	P	Pn	06 59 37.1	+2.5

ASRS 15 07:12:03.0±0.4, 50°N±1°×8°2E±°, h9km, MLh3.0/7, Error ellipse: s-maj=5.6km s-min=2.9km az=106.0, confirmed
NNC 15 07:12:12.3±1.9, 49.57N×81.29E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=35.1km s-min=7.1km az=52.0, Suspected Mining explosion.

ISC 15 07:12:07.2±1.0, 49.72N±0.04×81.70E±0.04, h0km, n16, σ1s26/26, 5C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.21**	**298**	⇑P	**Pb**	**07 12 48.0**	**0.0**
KURK	10nm,0.6s			⇑S	**Sb**	**07 13 15.4**	**-0.6**
KURBB	**Kurchatov Arra**	**2.23**	**295**	⇑P	**Pb**	**07 12 48.1**	**-0.1**
KURBB	12nm,0.7s			⇑S	**Sb**	**07 13 16.0**	**-0.4**
	60nm,0.7s						

UKR	**Ust'-Kan**	**2.31**	**57**	Pg		**Pg**	**07 12 52.6**	**+1.1**
UKR				Sg		**Sg**	**07 13 23.5**	**+2.0**
MAKZ	**Makanchi**	**2.92**	**176**	⇓Lg		Lg	07 13 40.1	
	6.8nm,0.8s							
MAKZ	**Makanchi**	**2.92**	**176**	Pg		**Pb**	**07 12 59.6**	**-0.5**
MAKZ				Sg		**Sb**	**07 13 36.4**	**+0.1**
MK31	**Makanchi Array**	**2.96**	**172**	⇓Pn		**Pb**	**07 13 00.3**	**-0.4**
	1.3nm,0.6s,baz=349,slow=15,SNR=12							
MK31				⇑Lg		Lg	07 13 40.4	
	6.4nm,0.7s,baz=355,slow=27,SNR=8.7							
MKAR	**Makanchi Array**	**2.96**	**172**	Pg		**Pb**	**07 13 00.4**	**-0.3**
MKAR				Sg		**Sb**	**07 13 37.2**	**-0.2**
DGZ	**Jazzator, Alta**	**3.72**	**88**	Pg		**Pg**	**07 13 19.3**	**+0.9**
DGZ				Sg		**Sg**	**07 14 07.2**	**+0.6**
CHBI	**Chibit, Altay**	**3.79**	**79**	Pg		**Pg**	**07 13 21.1**	**+1.3**
CHBI				Sg		**Sg**	**07 14 08.9**	**+0.1**
ARTR	**Artybash**	**4.11**	**57**	Pg		**Pg**	**07 13 25.4**	**-0.4**
ARTR				Sg		**Sg**	**07 14 17.5**	**-1.6**
ULGR	**Ulagan, Altay**	**4.12**	**75**	Pg		**Pg**	**07 13 26.5**	**+0.3**
ULGR				Sg		**Sg**	**07 14 20.8**	**+1.2**
CUR	**Chagan-Uzun**	**4.32**	**82**	Pg		**Pg**	**07 13 29.0**	**-0.8**
CUR				Sg		**Sg**	**07 14 26.3**	**+0.6**
ELT	**Eltsovka**	**4.54**	**37**	Pg		**Pb**	**07 13 27.5**	**-0.2**
ELT				Sg		**Sg**	**07 14 29.7**	**-3.2**
TASR	**Tashtagol**	**4.93**	**50**	Sg		**Sg**	**07 14 42.9**	**-2.6**
NVS	**Novosibirsk**	**5.21**	**10**	Sg		**Sg**	**07 14 56.2**	**+1.7**
NVSII	**Novosibirsk**	**5.21**	**10**	Sg		**Sg**	**07 14 56.2**	**+1.7**

WEL 15 07:12:00, 41.71S×174.26E, h17km, ML4.9, Mw4.5, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁵ Nm; Mrr0.94; Mθθ4.60; Mφφ-5.54; Mrθ0.73; Mrφ-4.33; Mθφ0.04; Fault plane solution: M₀6.71000×10¹⁵ NP1: φs155.00000°, δ83.00000°, λ4.00000°. NP2:φs85.00000°, δ86.00000°, λ173.00000°. Principal axes: T -714.6800, Plg8.0000°, Azm20.0000°; N 627.9800, Plg82.0000°, Azm215.0000°; P 86.6900, Plg2.0000°, Azm110.0000°;
IDC 15 07:12:24.5±1.4, 41.49S×174.09E, h0km, mb3.9/3, mbtmp4.0/4, ML4.2/1, MS3.6/8 Error ellipse: s-maj=40.0km s-min=28.5km az=58.0
WEL 15 07:12:26.7±0.2, 42°S±2°×17°4E±°, h10km±2km, M4.7/28, ML5.0/28, MLv4.7/28, Error ellipse: s-maj=0.0km s-min=0.0km az=146.8
NOU 15 07:12:26.5, 41.86S×174.48E, h12km, MLv5.0/16, Cook Strait, New Zealand

ISC 15 07:12:25.9±0.9, 41.80S±0.03×174.33E±0.02, h13km±6km, n167, σ1s34/173, mb3.8/3, MS3.5/8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**301**	P	**Pg**	**07 12 29.4**	**+0.5**
CMWZ				S	**Sg**	**07 12 31.5**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.35**	**284**	P	**Pg**	**07 12 32.9**	**-0.1**
BSWZ				S	**Sg**	**07 12 38.0**	**+0.3**
TUWZ	**Tuamarina**	**0.47**	**322**	P	**Pg**	**07 12 34.6**	**-0.5**
TUWZ				S	**Sg**	**07 12 40.7**	**-0.7**
BHW	**Baring Head**	**0.57**	**46**	P	**Pb**	**07 12 38.1**	**+0.5**
BHW				S	**Sn**	**07 12 47.4**	**-1.3**
SNZO	**South Karori**	**0.57**	**30**	P	**Pb**	**07 12 38.0**	**+0.4**
TCW	**Tory Channel**	**0.59**	**356**	P	**Pg**	**07 12 36.9**	**-0.5**
TCW				S	**Sg**	**07 12 44.6**	**-0.6**
WEL	**Wellington**	**0.61**	**33**	P	**Pb**	**07 12 38.7**	**+0.3**
WEL				S	**Sb**	**07 12 47.9**	**+1.0**
PLWZ	**Palliser**	**0.73**	**72**	P	**Pn**	**07 12 42.3**	**+0.4**
MSWZ	**Moikau Station**	**0.79**	**61**	P	**Pn**	**07 12 43.1**	**+0.5**
MSWZ				S	**Sn**	**07 12 55.3**	**+1.0**
KHZ	**Kahutara**	**0.85**	**223**	P	**Pn**	**07 12 44.4**	**+1.0**
KHZ	**Kahutara**	**0.85**	**223**	P	**Pn**	**07 12 44.3**	**+0.8**
KHZ				S	**Sn**	**07 12 57.5**	**+1.7**
CAW	**Cannon Point**	**0.89**	**39**	P	**Pg**	**07 12 43.5**	**+0.5**
CAW				S	**Sg**	**07 12 55.2**	**+0.5**
NNZ	**Nelson**	**0.92**	**309**	P	**Pb**	**07 12 42.5**	**-1.1**
NNZ				S	**Sb**	**07 12 53.7**	**-2.1**
PAWZ	**Paruwai Farm**	**0.93**	**63**	P	**Pn**	**07 12 44.9**	**+0.3**
PAWZ				S	**Sn**	**07 12 59.3**	**+1.6**
KIW	**Kapiti Island**	**1.04**	**25**	P	**Pb**	**07 12 45.5**	**-0.1**
DUWZ	**D'Urville Isla**	**1.04**	**343**	P	**Pb**	**07 12 45.0**	**-0.8**
DUWZ				S	**Sb**	**07 12 57.7**	**-1.6**
THZ	**Tophouse**	**1.06**	**272**	P	**Pb**	**07 12 46.1**	**-0.1**
MTW	**Mount Morrison**	**1.09**	**54**	P	**Pn**	**07 12 47.1**	**+0.3**
TRWZ	**Traveller**	**1.10**	**69**	P	**Pn**	**07 12 47.1**	**+0.5**
OGWZ	**Otaki Gorge**	**1.17**	**33**	P	**Pn**	**07 12 48.2**	**+0.2**
MRNZ	**Matariki Terra**	**1.24**	**288**	P	**Pn**	**07 12 49.1**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.27**	**45**	P	**Pn**	**07 12 49.6**	**+0.3**
TKNZ	**Takaka Hill**	**1.28**	**306**	P	**Pn**	**07 12 49.0**	**-0.4**
TMWZ	**Te Maipa**	**1.36**	**60**	P	**Pn**	**07 12 50.6**	**0.0**
MRZ	**Mangatainoka R**	**1.48**	**40**	P	**Pn**	**07 12 52.4**	**+0.3**
GVZ	**Greta Valley S**	**1.51**	**219**	P	**Pn**	**07 12 53.2**	**+0.7**
TIWZ	**Tintock**	**1.56**	**49**	P	**Pn**	**07 12 53.9**	**+0.7**
CPWZ	**Castlepoint**	**1.67**	**58**	P	**Pn**	**07 12 55.4**	**+0.7**
QRZ	**Quartz Range**	**1.67**	**305**	P	**Pb**	**07 12 55.8**	**-0.6**
QRZ	**Quartz Range**	**1.67**	**305**	P	**Pn**	**07 12 55.6**	**+0.9**
PRWZ	**Pori Road**	**1.76**	**45**	P	**Pn**	**07 12 56.0**	**+0.1**
OHWZ	**Ohakea**	**1.76**	**25**	P	**Pb**	**07 12 57.6**	**-0.3**
POWZ	**Post Office Ro**	**1.78**	**38**	P	**Pn**	**07 12 56.4**	**+0.1**
LTZ	**Lake Taylor**	**1.81**	**237**	P	**Pn**	**07 12 57.4**	**+0.6**
BFZ	**Birch Farm**	**1.83**	**53**	P	**Pn**	**07 12 57.2**	**+0.3**
BFZ	**Birch Farm**	**1.83**	**53**	P	**Pn**	**07 12 56.4**	**-0.5**
AMCZ	**Amberley**	**1.85**	**221**	P	**Pn**	**07 12 57.6**	**+0.4**
DSZ	**Denniston Nort**	**1.89**	**271**	P	**Pn**	**07 12 59.0**	**-0.6**
DVHZ	**Dannevirke**	**2.05**	**43**	P	**Pn**	**07 12 59.4**	**-0.6**
ANWZ	**Angora Road**	**2.10**	**51**	P	**Pn**	**07 13 00.1**	**-0.6**
WAZ	**Wanganui**	**2.10**	**14**	P	**Pb**	**07 13 03.0**	**-0.8**
OKCZ	**Okains Bay**	**2.14**	**205**	P	**Pn**	**07 13 01.0**	**-0.1**
TSZ	**Takapari Road**	**2.14**	**36**	P	**Pn**	**07 13 01.1**	**-0.1**
MQZ	**McQueen's Vall**	**2.27**	**212**	P	**Pn**	**07 13 02.1**	**-0.9**
OXZ	**Oxford**	**2.28**	**227**	P	**Pn**	**07 13 02.6**	**-0.5**
AKCZ	**Akaroa Harbour**	**2.32**	**206**	P	**Pn**	**07 13 03.4**	**-0.3**
PRHZ	**Porangahau**	**2.32**	**49**	P	**Pn**	**07 13 02.8**	**-0.9**
INZ	**Inchbonnie**	**2.33**	**246**	P	**Pb**	**07 13 06.9**	**-0.8**
LREZ	**Lake Rotokare**	**2.34**	**1**	P	**Pb**	**07 13 06.3**	**-1.5**
PNHZ	**Pukenui**	**2.36**	**38**	P	**Pn**	**07 13 03.9**	**-0.4**
WPHZ	**Waipukurau**	**2.36**	**43**	P	**Pn**	**07 13 03.9**	**-0.3**
NMEZ	**Namu Road**	**2.41**	**352**	P	**Pn**	**07 13 07.9**	**-1.1**
RACZ	**Rakaia**	**2.51**	**219**	P	**Pn**	**07 13 05.7**	**-0.6**
KHEZ	**Kahui Hut**	**2.52**	**354**	P	**Pb**	**07 13 10.3**	**-0.6**
KHEZ	**Kahui Hut**	**2.52**	**354**	P	**Pb**	**07 13 08.1**	**-2.1**
NEZ	**North Egmont**	**2.53**	**356**	P	**Pn**	**07 13 09.7**	**-1.0**
NBEZ	**Newall Road No**	**2.55**	**352**	P	**Pn**	**07 13 08.8**	**+1.9**
MTVZ	**Mangateitei**	**2.57**	**20**	P	**Pn**	**07 13 09.8**	**-1.9**
DREZ	**Durham Road**	**2.61**	**358**	P	**Pn**	**07 13 10.0**	**+2.3**
PKE	**Pukeiti**	**2.62**	**354**	P	**Pn**	**07 13 09.6**	**+1.8**
MOVZ	**Moawhango**	**2.63**	**25**	P	**Pn**	**07 13 08.3**	**+0.3**
PKVZ	**Pokaka**	**2.63**	**18**	P	**Pn**	**07 13 09.6**	**+1.6**
WNVZ	**Wahianoa**	**2.65**	**22**	P	**Pn**	**07 13 09.4**	**+1.0**
BHHZ	**Black Hill Sta**	**2.66**	**30**	P	**Pn**	**07 13 08.9**	**+0.5**
TRVZ	**Turoa**	**2.67**	**21**	P	**Pn**	**07 13 10.4**	**+1.7**
WHVZ	**Whangaehu Hut**	**2.69**	**21**	P	**Pn**	**07 13 10.3**	**+1.3**
VRZ	**Vera Road**	**2.69**	**7**	P	**Pn**	**07 13 10.8**	**+2.0**
FWVZ	**Far West T-bar**	**2.71**	**21**	P	**Pn**	**07 13 10.8**	**+1.6**
MHEZ	**Mangahewa**	**2.72**	**360**	P	**Pb**	**07 13 12.5**	**-1.9**
TUVZ	**Tukino**	**2.73**	**22**	P	**Pn**	**07 13 10.5**	**+1.1**
KAHZ	**Kahuranaki**	**2.79**	**45**	P	**Pn**	**07 13 09.1**	**-1.0**
NGZ	**Ngauruhoe**	**2.80**	**21**	P	**Pn**	**07 13 11.7**	**+1.3**
SNVZ	**South Ngauruho**	**2.80**	**21**	P	**Pn**	**07 13 11.5**	**+1.1**
WACZ	**Wakanui South**	**2.81**	**220**	P	**Pn**	**07 13 10.2**	**-0.2**
OTVZ	**Oturere**	**2.83**	**22**	P	**Pn**	**07 13 11.8**	**+1.0**
NNVZ	**North Ngauruho**	**2.84**	**21**	P	**Pn**	**07 13 12.4**	**+1.4**
WTVZ	**West Tongariro**	**2.85**	**20**	P	**Pn**	**07 13 12.5**	**+1.4**
TWVZ	**Taurewa**	**2.86**	**18**	P	**Pn**	**07 13 12.1**	**+1.0**
KWHZ	**Kaweka Forest**	**2.86**	**35**	P	**Pn**	**07 13 11.2**	**0.0**
ETVZ	**East Tongariro**	**2.86**	**22**	P	**Pn**	**07 13 12.2**	**+0.9**
TMVZ	**Te Maari**	**2.88**	**22**	P	**Pn**	**07 13 12.4**	**+0.9**
KRVZ	**Karewarewa**	**2.88**	**21**	P	**Pn**	**07 13 13.0**	**+1.5**
NTVZ	**North Tongarir**	**2.89**	**21**	P	**Pn**	**07 13 12.6**	**+1.0**
WVZ	**Waitaha Valley**	**2.95**	**243**	P	**Pn**	**07 13 13.7**	**+1.4**
MCHZ	**McNeill Hill**	**2.96**	**38**	P	**Pn**	**07 13 11.7**	**-0.8**
KATZ	**Kakaramea**	**3.01**	**21**	P	**Pn**	**07 13 15.1**	**+1.8**
RPZ	**Rata Peaks**	**3.08**	**230**	Pn	**Pn**	**07 13 13.9**	**-0.2**
	27nm,0.3s,baz=84,slow=3.1,SNR=51						
RPZ				Sn	**Sn**	**07 13 49.1**	**-1.6**
	67nm,0.3s,baz=145,slow=23,SNR=17						
	57nm,0.3s						
RPZ	**Rata Peaks**	**3.08**	**230**	P	**Pn**	**07 13 14.3**	**+0.2**
RPZ	**Rata Peaks**	**3.08**	**230**	P	**Pn**	**07 13 13.9**	**-0.2**
BKZ	**Black Stump Fm**	**3.11**	**33**	P	**Pn**	**07 13 15.4**	**+0.8**
BKZ	**Black Stump Fm**	**3.11**	**33**	P	**Pn**	**07 13 14.0**	**-0.6**
RATZ	**Rangitukua**	**3.13**	**21**	P	**Pn**	**07 13 17.8**	**+2.9**
ARCZ	**Arundel**	**3.16**	**226**	P	**Pn**	**07 13 14.8**	**-0.4**
ARHZ	**Aropaoanui**	**3.25**	**40**	P	**Pn**	**07 13 16.3**	**-0.2**
NMHZ	**Naumai**	**3.30**	**36**	P	**Pn**	**07 13 16.9**	**-0.3**
HIZ	**Hauiti**	**3.31**	**7**	P	**Pn**	**07 13 19.5**	**+2.2**
HIZ	**Hauiti**	**3.31**	**7**	P	**Pn**	**07 13 19.1**	**+1.8**
GCSZ	**Gaunt Creek Bo**	**3.32**	**242**	P	**Pn**	**07 13 20.8**	**+3.4**
WHHZ	**Waihua**	**3.51**	**40**	P	**Pn**	**07 13 19.5**	**-0.6**
MTHZ	**Maungataniwha**	**3.52**	**34**	P	**Pn**	**07 13 19.6**	**-0.6**
TMZ	**Timaru**	**3.55**	**222**	P	**Pn**	**07 13 20.1**	**-0.4**
RAHZ	**Arahi**	**3.57**	**37**	P	**Pn**	**07 13 20.4**	**-0.5**
ALRZ	**Allen Road**	**3.58**	**26**	P	**Pn**	**07 13 21.2**	**+0.1**
TLZ	**Tolley Road**	**3.59**	**15**	P	**Pn**	**07 13 22.4**	**+1.3**
HRRZ	**Handcock Road**	**3.72**	**24**	P	**Pn**	**07 13 22.6**	**-0.4**
FOZ	**Fox Glacier**	**3.75**	**241**	P	**Pn**	**07 13 24.1**	**+0.8**
KNZ	**Kokohu**	**3.77**	**44**	P	**Pn**	**07 13 21.7**	**-2.0**
HSRZ	**Hossack Road**	**3.78**	**24**	P	**Pb**	**07 13 30.1**	**-2.4**
MHGZ	**Mahia Peninsul**	**3.80**	**47**	P	**Pn**	**07 13 23.6**	**-0.5**
RRRZ	**Republican Roa**	**3.84**	**27**	P	**Pb**	**07 13 31.5**	**-2.0**
LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	**07 13 26.4**	**-0.1**
URZ	**Urewera**	**4.13**	**32**	P	**Pn**	**07 13 28.4**	**-0.2**
TOZ	**Tahuroa Road**	**4.16**	**13**	P	**Pn**	**07 13 29.7**	**+0.7**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	**07 13 29.7**	**+0.1**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	**07 13 28.8**	**-0.8**
OPRZ	**Ohinepanea**	**4.31**	**24**	P	**Pn**	**07 13 31.2**	**+0.2**
TKGZ	**Te Karaka**	**4.31**	**40**	P	**Pb**	**07 13 37.9**	**-3.5**
TGRZ	**Tauranga**	**4.33**	**21**	P	**Pn**	**07 13 32.1**	**+0.7**
CNGZ	**Carnagh Statio**	**4.45**	**43**	P	**Pb**	**07 13 40.3**	**-3.6**
TWGZ	**Tauwhareparae**	**4.58**	**39**	P	**Pn**	**07 13 34.3**	**-0.5**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**07 13 39.4**	**+3.5**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**07 13 37.9**	**+2.0**
MKAZ	**Moumakai**	**4.74**	**8**	P	**Pn**	**07 13 37.7**	**+0.9**
AWAZ	**Awhitu Peninsu**	**4.74**	**3**	P	**Pn**	**07 13 38.6**	**+1.7**
PUZ	**Puketiti**	**4.79**	**40**	P	**Pn**	**07 13 35.8**	**-1.9**
HAZ	**Te Kaha**	**4.84**	**35**	P	**Pn**	**07 13 38.4**	**+0.2**
PKGZ	**Pakihiroa**	**4.86**	**38**	P	**Pn**	**07 13 37.2**	**-1.4**
PKGZ				P	Pn	07 13 37.2	-1.4
ETAZ	**East Tamaki Re**	**4.86**	**6**	P	**Pn**	**07 13 40.3**	**+1.7**
WTAZ	**Wai

TKM2				⇑Lg		Lg	07 24 36.3			
	4.8nm,1.0s									
KRBS	**Karabastau**	**4.19**	**84**	Pg		**Pb**	**07 23 38.1**	**+1.2**		
	1.1nm,0.7s									
KRBS				Lg		Lg	07 24 33.8			
	2.2nm,0.6s									
DGS	**Degeres**	**4.27**	**90**	Pg		**Pb**	**07 23 39.3**	**+1.1**		
	2.2nm,0.6s									
DGS				Lg		Lg	07 24 36.7			
	4.7nm,0.3s									
KST	**Kastek**	**4.43**	**93**	Pg		**Pb**	**07 23 41.6**	**+0.7**		
	3.7nm,1.0s									
KST				Lg		Lg	07 24 40.1			
	11nm,0.6s									
KUU	**Kurty**	**4.68**	**82**	Pg		**Pb**	**07 23 45.1**	**0.0**		
	0.5nm,0.3s									
KUU				Lg		Lg	07 24 46.8			
	5.0nm,0.5s									

NEIC ***15*** *07:22:33.0±1.1,22°.6S±0°.2×176°.7W±0°.1, h230km±13km, mb4.2/19, Error ellipse: s-maj=31.6km s-min=17.9km az=196.0*

IDC ***15*** *07:22:43.7±19.0,22°.06S×177°.53W, h289km±140km, mb3.5/3, mbtmp4.1/4, Error ellipse: s-maj=261.3km s-min=47.1km az=145.0*

ISC 15 07:22:33.9±1.0, 22°.5S±0°.1×176°.7W±0°.1, h250km, n27, σ0.9 97/27, mb3.9/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.86**	**313**	P	**Pn**	**07 24 12.6**	**-0.4**
	15nm,0.8s,baz=120,slow=14,SNR=7.7						
MSVF	**Nonsavu**	**6.86**	**313**	Pn	**Pn**	**07 24 12.1**	**-0.9**
LIFNC	**LIFOU**	**15.07**	**273**	P	**P**	**07 25 55.1**	**+0.4**
LIFNC				IAmb	IAmb	07 25 59.7	
	comp=Z,32nm,0.8s						
OUZ	**Omahuta**	**15.29**	**212**	P	**P**	**07 25 55.5**	**-1.3**
DZM	**Mont Dzumac**	**15.65**	**268**	P	**Pn**	**07 26 05.2**	**+3.1**
	comp=Z,2.3nm,0.7s,baz=127,slow=11,SNR=5.2						
DZM	**Mont Dzumac**	**15.65**	**268**	P	**P**	**07 26 01.1**	**0.0**
DZM				IAmb	IAmb	07 26 15.6	
	comp=Z,23nm,1.5s						
CTA	**Charters Tower**	**34.59**	**267**	P	**P**	**07 29 00.5**	**+0.9**
	comp=Z,3.8nm,0.6s,baz=100,slow=11,SNR=7.4						
	comp=Z,3.8nm,0.6s						
CTAO	**Charters Tower**	**34.59**	**267**	P	**P**	**07 28 59.9**	**+0.3**
CTAO				IAmb	IAmb	07 29 22.6	
	comp=Z,15nm,1.4s						
TAU	**Tasmania Unive**	**36.16**	**227**	P	**P**	**07 29 12.7**	**+0.2**
STKA	**Stephens Creek**	**38.11**	**247**	P	**P**	**07 29 27.1**	**-2.0**
PTCN	**Pitcairn Islan**	**42.53**	**103**	P	**P**	**07 30 05.5**	**+0.1**
BBOO	**Buckleboo**	**42.84**	**246**	P	**P**	**07 30 06.5**	**-1.2**
BBOO				IAmb	IAmb	07 30 42.2	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**45.32**	**258**	P	**P**	**07 30 27.7**	**+0.1**
ASAR	**Alice Springs**	**45.32**	**258**	P	**P**	**07 30 27.4**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=100,slow=6.7,SNR=30						
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**45.32**	**258**	P	**P**	**07 30 27.0**	**-0.6**
WR0	**Warramunga Arr**	**45.41**	**264**	P	**P**	**07 30 27.7**	**-0.6**
WR0				IAmb	IAmb	07 30 29.0	
	comp=Z,7.1nm,1.4s						
WB0	**Warramunga Arr**	**45.59**	**264**	P	**P**	**07 30 29.2**	**-0.5**
WB0				IAmb	IAmb	07 30 40.2	
	comp=Z,3.4nm,1.1s						
WB2	**Warramunga Arr**	**45.59**	**264**	P	**P**	**07 30 29.2**	**-0.5**
WB2				IAmb	IAmb	07 30 31.4	
	comp=Z,7.0nm,1.4s						
WRA	**Warramunga Arr**	**45.60**	**264**	P	**P**	**07 30 29.3**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=91,slow=5.9,SNR=35						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**45.60**	**264**	P	**P**	**07 30 29.3**	**-0.5**
FORT	**Forrest**	**49.70**	**248**	P	**P**	**07 31 00.7**	**-0.3**
FORT				IAmb	IAmb	07 31 44.3	
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**51.80**	**267**	P	**P**	**07 31 16.6**	**-0.2**
KNRA				IAmb	IAmb	07 31 48.5	
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**56.07**	**186**	P	**P**	**07 31 47.3**	**+0.7**
NWAO	**Narrogin (SRO)**	**58.63**	**244**	P	**P**	**07 32 05.3**	**+0.1**
CASY	**Casey**	**62.73**	**206**	P	**P**	**07 32 31.7**	**-0.5**
CASY				IAmb	IAmb	07 32 32.5	
	comp=Z,29nm,1.4s						
QSPA	**South Pole Qui**	**67.61**	**180**	P	**P**	**07 33 04.6**	**+0.9**
QSPA				IAmb	IAmb	07 33 25.7	
	comp=Z,3.6nm,1.3s						
AKASG	**Malin Array Be**	**145.34**	**331**	PKP	**PKiKP**	**07 41 45.6**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=42,slow=4.2,SNR=8.8						

WEL 15 07:24:28.5±0.3, 42°S±2°×17°4E±°, h5km, M3.6/17, ML3.9/17, MLv3.6/17, Error ellipse: s-maj=0.0km s-min=0.0km az=132.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.37**	**190**	P	Pg	07 24 35.7	0.0
KHZ				S	Sg	07 24 41.3	+0.9
BSWZ	**Blackbirch Sta**	**0.39**	**29**	P	Pg	07 24 36.3	+0.3
BSWZ				S	Sb	07 24 42.7	-1.4
CMWZ	**Cape Campbell**	**0.54**	**55**	P	Pg	07 24 39.4	+0.7
CMWZ				S	Sb	07 24 48.2	-0.1
THZ	**Tophouse**	**0.61**	**298**	P	Pg	07 24 40.6	+0.4
THZ				S	Sb	07 24 49.5	-1.1
TUWZ	**Tuamarina**	**0.67**	**21**	P	Pg	07 24 41.4	+0.1
TUWZ				S	Sb	07 24 52.0	-0.2
NNZ	**Nelson**	**0.86**	**348**	P	Pg	07 24 44.8	-0.1
NNZ				S	Sg	07 24 56.5	+0.5
MRNZ	**Matariki Terra**	**0.92**	**315**	P	Pg	07 24 46.5	+0.4
MRNZ				S	Sb	07 24 59.7	+0.2
TCW	**Tory Channel**	**0.97**	**30**	P	Pg	07 24 46.8	-0.3
TCW				S	Sb	07 25 00.6	-0.4
GVZ	**Greta Valley S**	**1.01**	**205**	P	Pg	07 24 48.2	+0.3
GVZ				S	Sn	07 25 03.6	-0.5
TKNZ	**Takaka Hill**	**1.14**	**334**	P	Pg	07 24 50.0	-0.2
TKNZ				S	Sb	07 25 05.5	-0.1
WEL	**Wellington**	**1.15**	**48**	P	Pg	07 24 50.5	-0.1
WEL				S	Sn	07 25 07.0	-0.4
LTZ	**Lake Taylor**	**1.24**	**234**	P	Pg	07 24 51.3	-0.9
LTZ				S	Sg	07 25 07.4	-0.9
DUWZ	**D'Urville Isla**	**1.27**	**10**	P	Pg	07 24 51.9	-1.0
AMCZ	**Amberley**	**1.33**	**212**	P	Pn	07 24 52.5	-1.2
MSWZ	**Moikau Station**	**1.37**	**63**	P	Pn	07 24 52.6	-1.7
DSZ	**Denniston Nort**	**1.39**	**282**	P	Pg	07 24 55.2	0.0
CAW	**Cannon Point**	**1.44**	**49**	P	Pn	07 24 54.2	-1.0
QRZ	**Quartz Range**	**1.48**	**326**	P	Pb	07 24 56.3	-0.1
PAWZ	**Paruwai Farm**	**1.51**	**64**	P	Pn	07 24 55.4	-0.8
KIW	**Kapiti Island**	**1.53**	**39**	P	Pn	07 24 56.1	-0.5
MTW	**Mount Morrison**	**1.67**	**58**	P	Pn	07 24 56.6	-1.8
TRWZ	**Traveller**	**1.68**	**68**	P	Pn	07 24 57.5	-1.0
OGWZ	**Otaki Gorge**	**1.70**	**44**	P	Pn	07 24 57.7	-1.0
OKCZ	**Okains Bay**	**1.72**	**194**	P	Pn	07 24 57.0	-2.1
OXZ	**Oxford**	**1.73**	**222**	P	Pn	07 24 57.3	-1.9
INZ	**Inchbonnie**	**1.75**	**247**	P	Pn	07 24 59.9	+0.4
MQZ	**McQueen's Vall**	**1.80**	**203**	P	Pn	07 24 57.5	-2.7
HOWZ	**Holdsworth Sta**	**1.83**	**51**	P	Pg	07 25 03.8	+0.2
AKCZ	**Akaroa Harbour**	**1.89**	**196**	P	Pn	07 24 59.2	-2.2
TMWZ	**Te Maipa**	**1.94**	**62**	P	Pn	07 25 00.4	-1.9
RACZ	**Rakaia**	**2.00**	**213**	P	Pn	07 25 00.7	-2.2
MRZ	**Mangatainoka R**	**2.02**	**47**	P	Pn	07 25 01.9	-1.4
OHWZ	**Ohakea**	**2.25**	**35**	P	Pb	07 25 09.1	-0.4
WACZ	**Wakanui South**	**2.30**	**214**	P	Pn	07 25 04.9	-2.1
PRWZ	**Pori Road**	**2.32**	**50**	P	Pn	07 25 08.3	+1.0
POWZ	**Post Office Ro**	**2.32**	**45**	P	Pb	07 25 11.5	+0.8
WVZ	**Waitaha Valley**	**2.37**	**243**	P	Pn	07 25 07.9	0.0
BFZ	**Birch Farm**	**2.40**	**56**	P	Pg	07 25 14.7	+0.2
RPZ	**Rata Peaks**	**2.52**	**228**	P	Pn	07 25 08.4	-1.6
WAZ	**Wanganui**	**2.52**	**25**	P	Pb	07 25 13.3	-0.9
DVHZ	**Dannevirke**	**2.60**	**48**	P	Pn	07 25 11.2	0.0
NMEZ	**Namu Road**	**2.65**	**4**	P	Pb	07 25 15.7	-0.7
LREZ	**Lake Rotokare**	**2.66**	**13**	P	Pb	07 25 16.0	-0.5
TSZ	**Takapari Road**	**2.66**	**42**	P	Pn	07 25 10.4	-1.7
GCSZ	**Gaunt Creek Bo**	**2.74**	**241**	P	Pn	07 25 13.3	+0.2
KHEZ	**Kahui Hut**	**2.77**	**6**	P	Pb	07 25 16.7	-1.9
NBEZ	**Newall Road No**	**2.79**	**4**	P	Pb	07 25 16.7	-2.1
PKE	**Pukeiti**	**2.87**	**6**	P	Pb	07 25 17.9	-2.3
PNHZ	**Pukenui**	**2.89**	**43**	P	Pb	07 25 20.0	-0.6
DREZ	**Durham Road**	**2.90**	**9**	P	Pb	07 25 18.3	-2.3
MTVZ	**Mangateitei**	**3.01**	**28**	P	Pb	07 25 23.4	+0.7
TMZ	**Timaru**	**3.01**	**219**	P	Pn	07 25 12.9	-4.0
VRZ	**Vera Road**	**3.05**	**17**	P	Pb	07 25 20.8	-2.5
PKVZ	**Pokaka**	**3.06**	**26**	P	Pb	07 25 23.3	-0.1
MOVZ	**Moawhango**	**3.10**	**32**	P	Pb	07 25 21.3	-2.9
WNVZ	**Wahianoa**	**3.11**	**29**	P	Pb	07 25 21.7	-2.7
DRZ	**Dome Shelter**	**3.14**	**29**	P	Pb	07 25 25.1	+0.1
WHVZ	**Whangaehu Hut**	**3.15**	**29**	P	Pb	07 25 24.7	-0.3
FWVZ	**Far West T-bar**	**3.16**	**28**	P	Pb	07 25 25.2	0.0
BHHZ	**Black Hill Sta**	**3.16**	**37**	P	Pb	07 25 23.8	-1.3
FOZ	**Fox Glacier**	**3.17**	**241**	P	Pn	07 25 19.0	0.0
PXZ	**Pawanui**	**3.17**	**52**	P	Pn	07 25 21.9	+2.8
NGZ	**Ngauruhoe**	**3.25**	**28**	P	Pn	07 25 23.2	+3.0
SNVZ	**South Ngauruho**	**3.25**	**29**	P	Pb	07 25 24.2	-2.5
OTVZ	**Oturere**	**3.28**	**29**	P	Pb	07 25 25.0	-2.3
TWVZ	**Taurewa**	**3.28**	**25**	P	Pb	07 25 26.2	-1.1
NNVZ	**North Ngauruho**	**3.29**	**28**	P	Pb	07 25 25.3	-2.1
WTVZ	**West Tongariro**	**3.29**	**28**	P	Pb	07 25 25.4	-2.1
ETVZ	**East Tongariro**	**3.32**	**29**	P	Pb	07 25 26.0	-1.9
KRVZ	**Karewarewa**	**3.33**	**28**	P	Pb	07 25 28.4	+0.3
TMVZ	**Te Maari**	**3.33**	**29**	P	Pb	07 25 26.9	-1.3
NTVZ	**North Tongarir**	**3.34**	**29**	P	Pb	07 25 27.0	-1.2
KWHZ	**Kaweka Forest**	**3.38**	**40**	P	Pb	07 25 28.7	-0.2
LBZ	**Lake Benmore**	**3.43**	**226**	P	Pn	07 25 21.2	-1.4
KATZ	**Kakaramea**	**3.46**	**28**	P	Pb	07 25 28.8	-1.4
BKZ	**Black Stump Fm**	**3.62**	**38**	P	Pb	07 25 32.3	-0.7
HIZ	**Hauiti**	**3.66**	**15**	P	Pn	07 25 28.1	+2.4
ODZ	**Otahua Downs**	**3.69**	**215**	P	Pn	07 25 23.6	-2.6
JCZ	**Jackson Bay**	**4.08**	**239**	P	Pn	07 25 31.7	+0.1
HHSZ	**Highcliff Hill**	**4.41**	**209**	P	Pn	07 25 33.1	-3.0
EAZ	**Earnscleugh**	**4.46**	**223**	P	Pn	07 25 34.8	-2.0
TOZ	**Tahuroa Road**	**4.55**	**19**	P	Pn	07 25 40.0	+2.0
AWAZ	**Awhitu Peninsu**	**5.04**	**9**	P	Pn	07 25 46.6	+1.8
MKAZ	**Moumakai**	**5.08**	**14**	P	Pn	07 25 47.7	+2.4
ETAZ	**East Tamaki Re**	**5.19**	**12**	P	Pn	07 25 49.2	+2.4

WEL 15 07:28:59.7±0.3, 43°S±3°×17°3E±°, h9km±3km, M3.6/15, ML3.9/15, MLv3.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=127.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.22**	**64**	P	Pg	07 29 04.5	+0.3
KHZ				S	Sg	07 29 08.4	+1.2
GVZ	**Greta Valley S**	**0.48**	**201**	P	Pb	07 29 10.3	-0.1
GVZ				S	Sb	07 29 18.8	+1.0
LTZ	**Lake Taylor**	**0.78**	**250**	P	Pg	07 29 14.7	-0.1
LTZ				S	Sg	07 29 25.3	+0.3
THZ	**Tophouse**	**0.80**	**340**	P	Pg	07 29 14.4	-0.7
THZ				S	Sg	07 29 24.3	-1.2
AMCZ	**Amberley**	**0.80**	**214**	P	Pb	07 29 16.3	+0.4
AMCZ				S	Sn	07 29 29.4	0.0
BSWZ	**Blackbirch Sta**	**0.92**	**30**	P	Pg	07 29 17.4	+0.1
CMWZ	**Cape Campbell**	**1.04**	**43**	P	Pn	07 29 20.9	+0.4
MRNZ	**Matariki Terra**	**1.18**	**341**	P	Pb	07 29 22.1	-0.2
TUWZ	**Tuamarina**	**1.20**	**25**	P	Pb	07 29 22.1	-0.4
OXZ	**Oxford**	**1.22**	**228**	P	Pn	07 29 22.1	-0.8
OXZ				S	Sb	07 29 38.6	-0.1
OKCZ	**Okains Bay**	**1.22**	**187**	P	Pb	07 29 22.5	-0.5
MQZ	**McQueen's Vall**	**1.27**	**201**	P	Pn	07 29 22.3	-1.4
MQZ				S	Sb	07 29 39.2	-1.2
NNZ	**Nelson**	**1.30**	**4**	P	Pn	07 29 23.7	-0.3
DSZ	**Denniston Nort**	**1.33**	**305**	P	Pn	07 29 24.5	-0.1
DSZ				S	Sb	07 29 42.3	+0.1
RACZ	**Rakaia**	**1.47**	**214**	P	Pn	07 29 25.3	-1.1
RACZ				S	Sn	07 29 44.6	-1.1
TKNZ	**Takaka Hill**	**1.50**	**351**	P	Pn	07 29 26.8	0.0
TCW	**Tory Channel**	**1.50**	**30**	P	Pn	07 29 26.9	0.0
WEL	**Wellington**	**1.66**	**43**	P	Pn	07 29 28.7	-0.4
PLWZ	**Palliser**	**1.75**	**58**	P	Pn	07 29 29.6	-0.8
WACZ	**Wakanui South**	**1.77**	**216**	P	Pn	07 29 29.3	-1.2
QRZ	**Quartz Range**	**1.78**	**342**	P	Pn	07 29 31.4	+0.7
DUWZ	**D'Urville Isla**	**1.78**	**16**	P	Pb	07 29 31.7	-0.8
CAW	**Cannon Point**	**1.94**	**44**	P	Pn	07 29 32.2	-0.7
WVZ	**Waitaha Valley**	**1.95**	**252**	P	Pn	07 29 32.9	-0.1
PAWZ	**Paruwai Farm**	**1.97**	**56**	P	Pn	07 29 32.3	-1.0
RPZ	**Rata Peaks**	**2.02**	**233**	P	Pn	07 29 33.2	-0.8
KIW	**Kapiti Island**	**2.06**	**37**	P	Pn	07 29 34.2	-0.3
ARCZ	**Arundel**	**2.10**	**226**	P	Pn	07 29 34.0	-1.0
TMZ	**Timaru**	**2.49**	**221**	P	Pn	07 29 40.7	+0.2
MRZ	**Mangatainoka R**	**2.54**	**44**	P	Pn	07 29 39.8	-1.2
FOZ	**Fox Glacier**	**2.73**	**247**	P	Pn	07 29 44.0	+0.3
LBZ	**Lake Benmore**	**2.92**	**229**	P	Pn	07 29 46.2	-0.2
WAZ	**Wanganui**	**3.05**	**26**	P	Pn	07 29 50.5	+2.4
ODZ	**Otahua Downs**	**3.16**	**216**	P	Pn	07 29 48.3	-1.4
TSZ	**Takapari Road**	**3.18**	**40**	P	Pn	07 29 48.5	-1.6
NBEZ	**Newall Road No**	**3.27**	**8**	P	Pn	07 29 53.7	+2.4
PKE	**Pukeiti**	**3.36**	**10**	P	Pn	07 29 54.7	+2.2
WNVZ	**Wahianoa**	**3.64**	**30**	P	Pn	07 29 57.1	+0.7
OTVZ	**Oturere**	**3.81**	**29**	P	Pn	07 29 59.1	+0.4
EAZ	**Earnscleugh**	**3.95**	**225**	P	Pn	07 29 59.1	-1.4
HIZ	**Hauiti**	**4.18**	**17**	P	Pn	07 30 05.0	+1.3
MLZ	**Mavora Lakes**	**4.69**	**231**	P	Pn	07 30 10.6	-0.1
TOZ	**Tahuroa Road**	**5.08**	**20**	P	Pn	07 30 16.0	+0.1
MKAZ	**Moumakai**	**5.60**	**16**	P	Pn	07 30 23.7	+0.6

IDC ***15*** *07:28:59.9±3.1, 53°.60N×87°.86E, h0km, mbtmp3.6/3, ML3.1/3, Error ellipse: s-maj=33.2km s-min=15.6km az=54.0*

NNC ***15*** *07:29:01.1±3.3, 53°.39N×87°.65E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=25.8km s-min=12.5km az=69.0, Suspected Mining explosion.*

ISC 15 07:29:00.8±3.2, 53°.6N±0°.1×87°.6E±0°.2, h0km, n10, σ1.1 79/13, 10C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**285**	I		07 42 45.0	
	0.2nm,1.4s,baz=96,slow=349,SNR=3.3						
ZAA0	**Zalesovo Array**	**1.71**	**285**	⇓Pn	**Pn**	**07 29 31.7**	**-0.1**
	2.4nm,0.7s						
ZAA0				⇑Sn	**Sg**	**07 29 57.8**	**+2.2**
	9.5nm,0.6s						
ZALV	**Zalesovo Beam**	**1.71**	**285**	Pg	**Pb**	**07 29 31.8**	**-1.2**
	6.5nm,0.3s,baz=99,slow=16,SNR=74						
ZALV				Lg	Lg	07 29 57.8	
	7.8nm,0.3s,baz=104,slow=25,SNR=14						
KURK	**Kurchatov**	**6.22**	**246**	⇑Pn	**Pn**	**07 30 35.1**	**+1.3**
	1.9nm,0.6s						
KURK				⇑Sn	**Sn**	**07 31 43.1**	**-2.5**
	2.4nm,0.7s						
KURK				⇑Lg	Lg	07 32 18.5	
	14nm,1.0s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	**Pn**	**07 30 36.6**	**+1.4**
	0.6nm,0.3s,baz=62,slow=14,SNR=11						
	5.6nm,0.5s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	⇑Pn	**Pn**	**07 30 36.7**	**+1.5**
	6.2nm,0.5s						
KURBB				⇑Sn	**Sn**	**07 31 47.2**	**-0.8**
	10.0nm,0.7s						
KURBB				⇑Lg	Lg	07 32 20.6	
	12nm,0.7s						
MK31	**Makanchi Array**	**7.58**	**209**	⇑Pn	**Pn**	**07 30 53.9**	**+1.5**
	1.2nm,0.6s,baz=29,slow=13,SNR=18						
MK31				⇑Sn	**Sn**	**07 32 19.1**	**0.0**
	1.7nm,0.8s						
MK31				⇑Lg	Lg	07 32 59.2	
	11nm,1.2s,baz=36,slow=32,SNR=5.3						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	**Pn**	**07 30 54.1**	**+1.6**
	0.5nm,0.3s,baz=30,slow=13,SNR=24						
	1.1nm,0.4s						
MAKZ	**Makanchi**	**7.66**	**210**	⇓Sn	**Sn**	**07 32 18.2**	**-2.7**
	3.4nm,1.4s						
MAKZ				⇓Lg	Lg	07 32 59.0	
	3.2nm,0.7s						
BVAR	**Borovoye Array**	**10.33**	**274**	Pn	**Pn**	**07 31 30.8**	**+0.7**
	0.1nm,0.3s,baz=72,slow=15,SNR=9.2						
	1.0nm,0.4s						

WEL 15 07:31:18.7±0.5, 42°S±3°×17°4E±°, h8km±3km, M4.0/12, ML4.1/12, MLv4.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=128.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.23**	**235**	P	Pg	07 31 24.5	+1.3
KHZ				S	Sg	07 31 28.5	+2.2
BSWZ	**Blackbirch Sta**	**0.58**	**7**	P	Pg	07 31 30.2	+0.4
BSWZ				S	Sg	07 31 38.1	+0.8
CMWZ	**Cape Campbell**	**0.62**	**31**	P	Pb	07 31 32.2	+0.4
THZ	**Tophouse**	**0.84**	**308**	P	Pg	07 31 34.8	-0.1
THZ				S	Sb	07 31 47.0	-0.1
TUWZ	**Tuamarina**	**0.86**	**8**	P	Pg	07 31 35.6	+0.3
TUWZ				S	Sb	07 31 48.0	+0.3
GVZ	**Greta Valley S**	**0.88**	**219**	P	Pb	07 31 36.7	+0.5
GVZ				S	Sn	07 31 50.1	-0.3
NNZ	**Nelson**	**1.11**	**344**	P	Pg	07 31 39.3	-0.7
NNZ				S	Sb	07 31 55.5	+0.6
TCW	**Tory Channel**	**1.14**	**19**	P	Pg	07 31 39.4	-1.0
TCW				S	Sn	07 31 56.4	-0.3
MRNZ	**Matariki Terra**	**1.18**	**319**	P	Pg	07 31 40.9	-0.4
MRNZ				S	Sn	07 31 57.6	-0.1
AMCZ	**Amberley**	**1.22**	**223**	P	Pb	07 31 40.9	-1.1
LTZ	**Lake Taylor**	**1.23**	**246**	P	Pb	07 31 41.3	-0.9
LTZ				S	Sg	07 31 57.6	-0.5
WEL	**Wellington**	**1.24**	**36**	P	Pn	07 31 40.9	-1.4
PLWZ	**Palliser**	**1.31**	**57**	P	Pn	07 31 41.2	-2.1
TKNZ	**Takaka Hill**	**1.40**	**333**	P	Pn	07 31 44.3	-0.3
TKNZ				S	Sn	07 32 03.2	0.0
DUWZ	**D'Urville Isla**	**1.49**	**4**	P	Pn	07 31 45.1	-0.7
DUWZ				S	Sn	07 32 03.7	-1.8
CAW	**Cannon Point**	**1.52**	**39**	P	Pn	07 31 44.5	-1.7
CAW				S	Sn	07 32 03.8	-2.4
PAWZ	**Paruwai Farm**	**1.52**	**54**	P	Pn	07 31 44.0	-2.3
OKCZ	**Okains Bay**	**1.53**	**200**	P	Pn	07 31 45.2	-1.2
DSZ	**Denniston Nort**	**1.57**	**289**	P	Pn	07 31 47.4	+0.4
DSZ				S	Sn	07 32 07.8	+0.2
MQZ	**McQueen's Vall**	**1.64**	**210**	P	Pn	07 31 45.7	-2.2
MQZ				S	Sn	07 32 05.6	-3.6
OXZ	**Oxford**	**1.65**	**231**	P	Pn	07 31 46.2	-1.8
OXZ				S	Sn	07 32 06.9	-2.6
KIW	**Kapiti Island**	**1.66**	**31**	P	Pn	07 31 46.8	-1.3
KIW				S	Sn	07 32 07.3	-2.2
TRWZ	**Traveller**	**1.68**	**59**	P	Pn	07 31 45.8	-2.5
MTW	**Mount Morrison**	**1.71**	**49**	P	Pn	07 31 46.5	-2.3
AKCZ	**Akaroa Harbour**	**1.71**	**202**	P	Pn	07 31 47.3	-1.5
AKCZ				S	Sn	07 32 08.6	-2.3
QRZ	**Quartz Range**	**1.74**	**327**	P	Pn	07 31 49.7	+0.5
QRZ				S	Sn	07 32 12.0	+0.4
INZ	**Inchbonnie**	**1.79**	**255**	P	Pn	07 31 48.4	-1.5
INZ				S	Sn	07 32 11.2	-1.6
RACZ	**Rakaia**	**1.88**	**219**	P	Pn	07 31 49.2	-1.9
RACZ				S	Sn	07 32 12.5	-2.6
HOWZ	**Holdsworth Sta**	**1.90**	**44**	P	Pg	07 31 55.0	0.0
TMWZ	**Te Maipa**	**1.97**	**54**	P	Pn	07 31 49.7	-2.7
MRZ	**Mangatainoka R**	**2.11**	**40**	P	Pn	07 31 52.1	-2.2
MRZ				S	Sn	07 32 15.9	-4.8
WACZ	**Wakanui South**	**2.19**	**220**	P	Pn	07 31 53.6	-1.8
WACZ				S	Sn	07 32 19.7	-2.9
WVZ	**Waitaha Valley**	**2.38**	**250**	P	Pn	07 31 57.6	-0.5
PRWZ	**Pori Road**	**2.39**	**44**	P	Pn	07 31 55.5	-2.6
POWZ	**Post Office Ro**	**2.41**	**39**	P	Pn	07 31 56.4	-2.0
BFZ	**Birch Farm**	**2.45**	**50**	P	Pn	07 31 55.8	-3.1
RPZ	**Rata Peaks**	**2.46**	**234**	P	Pn	07 31 57.5	-1.6
ARCZ	**Arundel**	**2.53**	**228**	P	Pn	07 31 58.6	-1.6
WAZ	**Wanganui**	**2.69**	**20**	P	Pn	07 32 02.6	+0.4
TSZ	**Takapari Road**	**2.77**	**37**	P	Pn	07 32 00.9	-2.5
NMEZ	**Namu Road**	**2.87**	**1**	P	Pb	07 32 08.8	-1.4
TMZ	**Timaru**	**2.92**	**223**	P	Pn	07 32 03.7	-1.7
PRHZ	**Porangahau**	**2.95**	**48**	P	Pn	07 32 02.8	-3.0
PRHZ				P	Pb	07 32 03.6	-7.9
PNHZ	**Pukenui**	**2.99**	**38**	P	Pn	07 32 03.6	-2.8
KHEZ	**Kahui Hut**	**3.00**	**3**	P	Pn	07 32 09.2	+2.6
NBEZ	**Newall Road No**	**3.02**	**1**	P	Pb	07 32 10.7	-2.0
NEZ	**North Egmont**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.65**	**42**	*i* P	**Pn**	**07 36 49.8**	**-0.5**
ALJI				*eS*	**Sn**	**07 36 60.0**	**+0.5**
SJTE	**Alcalda de S**	**0.77**	**1**	*eP*	**Pn**	**07 36 51.1**	**-0.9**
SJTE				*eS*	**Sn**	**07 37 02.6**	**+0.2**
LFRS	**El Faro**	**0.78**	**357**	⇓*iP*	**Pn**	**07 36 51.4**	**-0.7**
COEG	**Centro de Oper**	**0.78**	**10**	*i* P	**Pn**	**07 36 51.3**	**-0.8**
COEG				*eS*	**Sn**	**07 37 02.8**	**0.0**
COEB	**Comit de Eme**	**0.81**	**36**	*i* P	**Pn**	**07 36 52.1**	**-0.4**
COEB				*eS*	**Sn**	**07 37 04.0**	**+0.5**
UESV	**Universidad de**	**0.82**	**16**	*i* P	**Pn**	**07 36 52.0**	**-0.7**
UESV				*eS*	**Sn**	**07 37 04.0**	**+0.3**
SNET	**Serv Nac Est T**	**0.86**	**346**		**Pn**	**07 36 52.6**	**-0.6**
SNET	**Serv Nac Est T**	**0.86**	**346**	*eP*	**Pn**	**07 36 52.6**	**-0.6**
SNET				*eS*	**Sn**	**07 37 04.8**	**0.0**
PAVA	**Las Pavas**	**0.87**	**5**	*eP*	**Pn**	**07 36 52.9**	**-0.5**
PAVA				*eS*	**Sn**	**07 37 05.4**	**+0.4**
UTEC	**Universidad Te**	**0.87**	**348**	*eP*	**Pn**	**07 36 52.8**	**-0.6**
UTEC				*eS*	**Sn**	**07 37 05.0**	**+0.1**
IGN	**Direccin Gen**	**0.88**	**350**	*eP*	**Pn**	**07 36 52.9**	**-0.5**
IGN				⇓*iP*	**Pn**	**07 36 52.9**	**-0.5**
IGN				*eS*	**Sn**	**07 37 05.2**	**+0.2**
SEMO	**Seminario San**	**0.88**	**347**	*eP*	**Pn**	**07 36 52.8**	**-0.6**
SEMO				*eS*	**Sn**	**07 37 05.2**	**+0.1**
UESS	**Universidad de**	**0.89**	**349**	*eP*	**Pn**	**07 36 53.1**	**-0.4**
UESS				*eS*	**Sn**	**07 37 06.4**	**+1.0**
LBRS	**Las Brisas**	**0.89**	**359**	*eP*	**Pn**	**07 36 53.5**	**-0.1**
UEES	**Universidad Ev**	**0.89**	**346**	*i* P	**Pn**	**07 36 53.1**	**-0.6**
UEES				*eS*	**Sn**	**07 37 05.8**	**+0.3**
PQSS	**Presa 15 de Se**	**0.90**	**30**	*eP*	**Pn**	**07 36 53.5**	**0.0**
PQSS				*eS*	**Sn**	**07 37 06.2**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.90**	**18**	*i* P	**Pn**	**07 36 53.5**	**-0.2**
SCLA				*eS*	**Sn**	**07 37 06.2**	**+0.6**
LFU	**La Fuente**	**0.90**	**354**	*eP*	**Pn**	**07 36 53.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.91**	**333**	⇓*iP*	**Pn**	**07 36 53.1**	**-0.8**
JAYA				*eS*	**Sn**	**07 37 05.8**	**-0.1**
JAYA				*eS*	**Sn**	**07 37 05.9**	**0.0**
BOQS	**Boqueron**	**0.92**	**344**	⇓*iP*	**Pn**	**07 36 53.7**	**-0.5**
RANC	**El Ranchito**	**0.92**	**51**	*eP*	**Pn**	**07 36 53.6**	**-0.5**
RANC				*eP*	**Pn**	**07 36 54.5**	**+0.4**
CEDA	**San Andres**	**1.02**	**339**	*eP*	**Pn**	**07 36 54.9**	**-0.5**
CEDA				*eS*	**Sn**	**07 37 09.2**	**+0.7**
CNRM	**Centro Naciona**	**1.04**	**53**	*eP*	**Pn**	**07 36 55.2**	**-0.3**
CNRM				*eS*	**Sn**	**07 37 10.4**	**+1.5**
CEVE	**Cerro Verde**	**1.14**	**329**	*eP*	**Pn**	**07 36 56.6**	**-0.5**
SBLS	**San Blas**	**1.15**	**329**	*i* P	**Pn**	**07 36 56.8**	**-0.5**
P5NO	**Presa 5 de nov**	**1.16**	**13**	*eP*	**Pn**	**07 36 57.2**	**-0.1**
P5NO				*eS*	**Sn**	**07 37 13.2**	**+1.2**
SNJE	**San Jose**	**1.17**	**331**	*eP*	**Pn**	**07 36 57.1**	**-0.4**
LCND	**La Caada**	**1.19**	**67**	*i* P	**Pn**	**07 36 57.2**	**-0.5**
LCND				*eS*	**Sn**	**07 37 13.1**	**+0.4**
CAHU	**Cacacuatique**	**1.21**	**40**	*eP*	**Pn**	**07 36 58.5**	**+0.4**
CNCH	**Conchagua**	**1.23**	**70**	*eP*	**Pn**	**07 36 57.6**	**-0.7**
CNCH				*eS*	**Sn**	**07 37 14.0**	**+0.2**
UNIC	**Universidad Ca**	**1.24**	**336**	*i* P	**Pn**	**07 36 58.4**	**0.0**
UNIC				*eS*	**Sn**	**07 37 15.1**	**+1.1**
NUBE	**Las Nubes**	**1.28**	**325**	*eP*	**Pn**	**07 36 58.3**	**-0.8**
NUBE				*eS*	**Sn**	**07 37 15.0**	**-0.2**
LLGN	**La Laguna**	**1.31**	**3**	*eP*	**Pn**	**07 36 59.5**	**+0.2**
LLGN				*eS*	**Sn**	**07 37 17.5**	**+1.7**
SLOZ	**Alcaldia de Sa**	**1.39**	**328**	*eP*	**Pn**	**07 37 00.4**	**0.0**
SLOZ				*eS*	**Sn**	**07 37 19.7**	**+2.1**
MTO3	**Montecristo**	**1.58**	**348**		**Pn**	**07 37 03.1**	**0.0**
MTO3	**Montecristo**	**1.58**	**348**	*eP*	**Pn**	**07 37 03.2**	**0.0**
ESQI	**Esquipulas**	**1.73**	**350**	Pn	**Pn**	**07 37 05.4**	**+0.2**
CRIS	**San Cristobal**	**1.93**	**94**		**Pn**	**07 37 07.6**	**-0.2**
CRIN	**San Cristobal**	**1.93**	**94**	*eP*	**Pn**	**07 37 07.3**	**-0.5**
CRIN				*eS*	**Sn**	**07 37 30.9**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.08**	**54**		**Pn**	**07 37 10.2**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.08**	**54**	*i* P	**Pn**	**07 37 10.2**	**+0.2**
NBG	**Las Nubes**	**2.16**	**323**	*eP*	**Pn**	**07 37 13.0**	**+1.9**
PCG	**Pacaya**	**2.18**	**315**	*eP*	**Pn**	**07 37 12.7**	**+1.3**
CNGN	**Cerro Negro**	**2.29**	**98**		**Pn**	**07 37 12.1**	**-0.6**
CNGN	**Cerro Negro**	**2.29**	**98**	*eP*	**Pn**	**07 37 12.0**	**-0.8**
CNGN				*eS*	**Sn**	**07 37 39.5**	**-0.3**
MRL	**Marmol**	**2.31**	**344**	*eP*	**Pn**	**07 37 14.8**	**+1.5**
FUG	**Fuego 3**	**2.38**	**312**	*eP*	**Pn**	**07 37 14.9**	**+0.8**
FUG				*eS*	**Sn**	**07 37 43.2**	**+1.0**
MATN	**Matagalpa**	**3.02**	**88**		**Pn**	**07 37 22.1**	**-0.7**
MATN	**Matagalpa**	**3.02**	**88**	*eP*	**Pn**	**07 37 21.9**	**-0.9**
MATN				*eS*	**Sn**	**07 37 57.0**	**-0.8**
STG3	**Santiaguito 3,**	**3.10**	**307**	*eP*	**Pn**	**07 37 24.6**	**+0.7**
STG3				*eS*	**Sn**	**07 37 58.0**	**-1.8**
BOAB	**BOACO BROADBAN**	**3.30**	**96**		**Pn**	**07 37 25.4**	**-1.2**
ACON	**Acoyapa**	**3.86**	**103**		**Pn**	**07 37 33.7**	**+0.5**
PETF	**Flores**	**4.13**	**349**	Pn	**Pn**	**07 37 38.5**	**+0.5**
ORTG	**Ortega, Santa**	**4.27**	**125**		**Pn**	**07 37 41.2**	**+1.1**
DUNO	**Dulce Nombre,**	**4.42**	**128**		**Pn**	**07 37 42.7**	**+0.8**
JACO	**JACO, Garabito**	**5.32**	**126**	Pn	**Pn**	**07 37 55.6**	**+1.2**
RIMA	**Rio Macho**	**5.91**	**121**		**Pn**	**07 38 04.2**	**+1.6**
PEZE	**Perez Zeledon,**	**6.27**	**123**		**Pn**	**07 38 09.7**	**+2.2**
SRBA	**San Rafael, Bu**	**6.62**	**122**		**Pn**	**07 38 13.6**	**+1.3**
CDITO	**Canoas**	**7.38**	**124**	Pn	**Pn**	**07 38 23.4**	**+0.7**
GOGA	**Godfrey**	**21.09**	**13**	P	**P**	**07 41 18.6**	**+0.6**
GOGA				IAmb	IAmb	07 41 30.9	
	comp=Z,14nm,1.4s						
TXAR	**Lajitas Array**	**21.31**	**323**	P	**P**	**07 41 20.7**	**0.0**
TX31	**Lajitas Ar. Si**	**21.32**	**323**	P	**P**	**07 41 20.9**	**+0.2**
ETMB	**Extrema**	**31.94**	**134**	P	**P**	**07 42 57.8**	**-1.4**
ETMB				IAmb	IAmb	07 43 02.6	
	comp=Z,3.4nm,1.1s						
REDW	**Red Top Meadow**	**35.77**	**332**	P	**P**	**07 43 32.3**	**-0.1**
REDW				IAmb	IAmb	07 44 10.9	
	comp=Z,3.0nm,1.4s						

WEL 15 07:43:17.4±0.5,**42°S**±3°×**17°4E**±°,**h5**km,**M3.1**/11,
ML3.2/11,**MLv3.1**/11,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=99.2,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.11**	**307**	P	Pg	07 43 19.4	-0.3
KHZ				S	Sg	07 43 20.6	-0.5
MRNZ	**Matariki Terra**	**1.27**	**328**	P	Pg	07 43 41.5	-0.2
MRNZ				S	Sn	07 43 59.7	+0.4
NNZ	**Nelson**	**1.28**	**351**	P	Pn	07 43 41.7	-0.3
OKCZ	**Okains Bay**	**1.32**	**199**	P	Pn	07 43 42.0	-0.5
OKCZ				S	Sb	07 43 59.9	0.0
MQZ	**McQueen's Vall**	**1.43**	**211**	P	Pn	07 43 42.5	-1.5
MQZ				S	Sb	07 44 00.3	-2.6
OXZ	**Oxford**	**1.46**	**234**	P	Pn	07 43 44.2	-0.2
AKCZ	**Akaroa Harbour**	**1.49**	**201**	P	Pn	07 43 44.1	-0.8
AKCZ				S	Sn	07 44 03.7	-1.1
TKNZ	**Takaka Hill**	**1.54**	**340**	P	Pb	07 43 46.3	-0.1
DSZ	**Denniston Nort**	**1.56**	**298**	P	Pn	07 43 45.9	0.0
QRZ	**Quartz Range**	**1.86**	**333**	P	Pn	07 43 50.8	+0.9
MTW	**Mount Morrison**	**1.91**	**47**	P	Pn	07 43 49.8	-0.9
WACZ	**Wakanui South**	**1.97**	**222**	P	Pn	07 43 50.4	-1.1
RPZ	**Rata Peaks**	**2.27**	**236**	P	Pn	07 43 54.2	-1.4
NNVZ	**North Ngauruho**	**3.66**	**25**	P	Pb	07 44 21.5	-1.2

WEL 15 07:43:20.8±0.5,**42°S**±3°×**17°4E**±°,**h5**km,**M3.0**/12,
ML3.3/14,**MLv3.0**/12,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=124.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**255**	P	Pb	07 43 27.3	-0.9
KHZ				S	Sb	07 43 33.0	-0.2
BSWZ	**Blackbirch Sta**	**0.63**	**359**	P	Pg	07 43 33.1	+0.2
BSWZ				S	Sg	07 43 41.7	+0.5
TUWZ	**Tuamarina**	**0.92**	**2**	P	Pg	07 43 38.7	+0.4
TUWZ				S	Sb	07 43 51.7	0.0
THZ	**Tophouse**	**0.94**	**308**	P	Pg	07 43 38.2	-0.6
THZ				S	Sg	07 43 51.1	0.0
TCW	**Tory Channel**	**1.17**	**14**	P	Pg	07 43 42.8	-0.5
TCW				S	Sb	07 43 58.8	-0.2
WEL	**Wellington**	**1.25**	**32**	P	Pg	07 43 44.2	-0.4
WEL				S	Sg	07 44 00.6	-0.2
MRNZ	**Matariki Terra**	**1.27**	**318**	P	Pb	07 43 45.3	+0.1
LTZ	**Lake Taylor**	**1.28**	**250**	P	Pg	07 43 44.5	-0.8
LTZ				S	Sb	07 44 02.4	+0.3
PLWZ	**Palliser**	**1.28**	**53**	P	Pg	07 43 44.2	-1.0
MSWZ	**Moikau Station**	**1.37**	**48**	P	Pn	07 43 45.4	-1.2
TKNZ	**Takaka Hill**	**1.49**	**332**	P	Pn	07 43 48.5	+0.2
OKCZ	**Okains Bay**	**1.51**	**204**	P	Pn	07 43 48.1	-0.3
CAW	**Cannon Point**	**1.52**	**36**	P	Pn	07 43 47.7	-0.9
DUWZ	**D'Urville Isla**	**1.54**	**1**	P	Pn	07 43 49.2	+0.2
DUWZ				S	Sg	07 44 10.4	0.0
MQZ	**McQueen's Vall**	**1.64**	**213**	P	Pn	07 43 49.1	-1.1
MQZ				S	Sn	07 44 10.3	-1.3
KIW	**Kapiti Island**	**1.67**	**27**	P	Pn	07 43 50.2	-0.5
DSZ	**Denniston Nort**	**1.67**	**290**	P	Pb	07 43 52.1	0.0
DSZ				S	Sg	07 44 14.1	-0.3
AKCZ	**Akaroa Harbour**	**1.69**	**205**	S	Sn	07 44 12.7	-0.2
VRZ	**Vera Road**	**3.29**	**12**	P	Pn	07 44 13.8	+0.9
HIZ	**Hauiti**	**3.90**	**11**	P	Pn	07 44 23.0	+1.6
TOZ	**Tahuroa Road**	**4.77**	**15**	P	Pn	07 44 34.5	+1.1

WEL ***15*** *08:00:00,42°.51S×173°.26E, h6km, ML4.1, Mw4.3, Moment Tensor Solution. s7 Moment tensor: Scale 10^15 Nm; Mrr2.43; Mθθ-1.46; Mϕϕ-0.96; Mrθ-0.33; Mθϕ-1.92; Mϕr2.03; Fault plane solution: Mo3.51000×10^15 NP1: ϕs255.00000°, δ41.00000°, λ137.00000°. NP2: ϕs20.00000°, δ63.00000°, λ57.00000°. Principal axes: T -338.2700, Plg58.0000°, Azm244.0000°; N -26.0700, Plg29.0000°, Azm36.0000°; P 364.3400, Plg12.0000°, Azm133.0000°;*

IDC ***15*** *08:00:36.9±1.3,42°.43S×172°.94E, h0km, mb4.3/5, mbtmp4.3/5, MS3.6/10 Error ellipse: s-maj=32.6km s-min=25.6km az=93.0*

WEL ***15*** *08:00:38.1±0.3,43°.3S±4°×17°.3E±°, h23km±3km, M4.1/25, ML4.3/25, MLv4.1/25, Error ellipse: s-maj=0.0km s-min=0.0km az=129.2*

NOU ***15*** *08:00:38.4,42°.72S×173°.22E, h3km, MLv4.6/13, South Island, New Zealand*

ISC 15 08:00:38.6±0.7,**42°.52S**±0°.03×**173°.18E**±0°.03,**h15**km,**n71,**
σ1§64/67,mb4.6/5,MS3.4/10,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**69**	P	**Pb**	**08 00 46.1**	**+0.7**
KHZ	**Kahutara**	**0.28**	**69**	P	**Pb**	**08 00 45.9**	**+0.5**
KHZ				S	**Sb**	**08 00 51.0**	**+1.0**
GVZ	**Greta Valley S**	**0.46**	**194**	P	**Pb**	**08 00 48.3**	**-0.1**
GVZ				S	**Sb**	**08 00 55.5**	**+0.3**
LTZ	**Lake Taylor**	**0.72**	**248**	P	**Pg**	**08 00 52.0**	**-0.7**
LTZ				S	**Sb**	**08 01 01.8**	**-0.9**
AMCZ	**Amberley**	**0.76**	**211**	P	**Pn**	**08 00 53.8**	**-1.0**
THZ	**Tophouse**	**0.78**	**345**	P	**Pb**	**08 00 54.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.95**	**33**	P	**Pn**	**08 00 58.6**	**+1.1**
CMWZ	**Cape Campbell**	**1.09**	**45**	P	**Pb**	**08 00 57.6**	**-1.6**
MRNZ	**Matariki Terra**	**1.16**	**344**	P	**Pg**	**08 01 01.2**	**+0.1**
OXZ	**Oxford**	**1.16**	**226**	P	**Pb**	**08 00 59.6**	**-0.9**
OKCZ	**Okains Bay**	**1.21**	**184**	P	**Pn**	**08 01 00.4**	**-0.6**
TUWZ	**Tuamarina**	**1.23**	**28**	P	**Pn**	**08 00 57.3**	**-4.0**
MQZ	**McQueen's Vall**	**1.25**	**198**	P	**Pn**	**08 01 00.3**	**-1.2**
DSZ	**Denniston Nort**	**1.28**	**307**	P	**Pg**	**08 01 02.9**	**-0.5**
INZ	**Inchbonnie**	**1.30**	**260**	P	**Pb**	**08 01 02.6**	**-0.1**
NNZ	**Nelson**	**1.31**	**7**	P	**Pg**	**08 01 03.1**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.37**	**188**	P	**Pn**	**08 01 02.2**	**-1.0**
RACZ	**Rakaia**	**1.43**	**212**	P	**Pn**	**08 01 03.1**	**-0.9**
TKNZ	**Takaka Hill**	**1.49**	**354**	P	**Pb**	**08 01 06.6**	**+0.6**
TCW	**Tory Channel**	**1.54**	**32**	P	**Pn**	**08 01 01.7**	**-3.9**
MHCZ	**Mount Hutt**	**1.56**	**229**	P	**Pn**	**08 01 05.5**	**-0.3**
WEL	**Wellington**	**1.71**	**44**	P	**Pn**	**08 01 04.9**	**-3.0**
WACZ	**Wakanui South**	**1.73**	**214**	P	**Pn**	**08 01 07.2**	**-0.9**
QRZ	**Quartz Range**	**1.76**	**344**	P	**Pb**	**08 01 11.1**	**+0.5**
QRZ	**Quartz Range**	**1.76**	**344**	P	**Pb**	**08 01 10.9**	**+0.3**
DUWZ	**D'Urville Isla**	**1.80**	**18**	P	**Pn**	**08 01 08.5**	**-0.7**
PLWZ	**Palliser**	**1.81**	**59**	P	**Pn**	**08 01 08.0**	**-1.3**
WVZ	**Waitaha Valley**	**1.88**	**252**	P	**Pn**	**08 01 10.5**	**+0.3**
MSWZ	**Moikau Station**	**1.90**	**55**	P	**Pn**	**08 01 09.8**	**-0.6**
RPZ	**Rata Peaks**	**1.96**	**232**	Pn	**Pn**	**08 01 10.7**	**-0.7**
	147nm,0.3s,baz=76,slow=2.4,SNR=267						
RPZ				LR	LR	08 01 31.4	
	comp=Z,233nm,18.4s,baz=333,slow=29						
RPZ				Sn	**Sn**	**08 01 35.5**	**-0.2**
	128nm,0.3s,baz=348,slow=22,SNR=22						
RPZ	**Rata Peaks**	**1.96**	**232**	P	**Pn**	**08 01 10.9**	**-0.5**
RPZ	**Rata Peaks**	**1.96**	**232**	P	**Pn**	**08 01 10.7**	**-0.7**
CAW	**Cannon Point**	**1.99**	**46**	P	**Pn**	**08 01 09.1**	**-2.7**
PAWZ	**Paruwai Farm**	**2.02**	**57**	P	**Pn**	**08 01 12.8**	**+0.6**
ARCZ	**Arundel**	**2.05**	**225**	P	**Pn**	**08 01 11.8**	**-0.8**
KIW	**Kapiti Island**	**2.10**	**39**	P	**Pn**	**08 01 11.1**	**-2.2**
TRWZ	**Traveller**	**2.18**	**60**	P	**Pn**	**08 01 15.1**	**+0.8**
MTW	**Mount Morrison**	**2.20**	**53**	P	**Pn**	**08 01 11.4**	**-3.3**
GCSZ	**Gaunt Creek Bo**	**2.24**	**248**	P	**Pn**	**08 01 15.7**	**+0.5**
OGWZ	**Otaki Gorge**	**2.26**	**42**	P	**Pn**	**08 01 13.1**	**-2.3**
TMZ	**Timaru**	**2.45**	**220**	P	**Pn**	**08 01 17.1**	**-0.9**
TMWZ	**Te Maipa**	**2.47**	**56**	P	**Pn**	**08 01 18.2**	**-0.1**
MRZ	**Mangatainoka R**	**2.58**	**45**	P	**Pn**	**08 01 16.9**	**-3.0**
FOZ	**Fox Glacier**	**2.67**	**247**	P	**Pn**	**08 01 21.6**	**+0.6**
LBZ	**Lake Benmore**	**2.87**	**228**	P	**Pn**	**08 01 23.3**	**-0.6**
BFZ	**Birch Farm**	**2.94**	**52**	P	**Pn**	**08 01 26.6**	**+1.8**
ODZ	**Otahua Downs**	**3.12**	**215**	P	**Pn**	**08 01 26.2**	**-1.1**
ODZ	**Otahua Downs**	**3.12**	**215**	P	**Pn**	**08 01 26.0**	**-1.3**
KHEZ	**Kahui Hut**	**3.28**	**11**	P	**Pb**	**08 01 34.7**	**-1.9**
JCZ	**Jackson Bay**	**3.56**	**243**	P	**Pn**	**08 01 33.7**	**+0.2**
HIZ	**Hauiti**	**4.20**	**18**	P	**Pn**	**08 01 45.4**	**+3.3**
SYZ	**Scrubby Hill**	**4.95**	**214**	P	**Pn**	**08 01 51.8**	**-0.6**
URZ	**Urewera**	**5.21**	**36**	P	**Pn**	**08 01 59.1**	**+3.2**
PYZ	**Puysegur Point**	**5.92**	**230**	P	**Pn**	**08 02 05.4**	**-0.3**
	97nm,2.6s						
KUZ	**Kuaotunu**	**6.09**	**20**	P	**Pn**	**08 02 11.4**	**+3.3**
OUZ	**Omahuta**	**7.30**	**3**	P	**Pn**	**08 02 29.0**	**+4.4**
DZM	**Mont Dzumac**	**21.16**	**342**	LR	LR	08 12 43.4	
	comp=Z,140nm,18.1s,baz=208,slow=35						
RAR	**Rarotonga**	**31.06**	**55**	LR	LR	08 19 46.4	
	comp=Z,40nm,18.3s,baz=226,slow=37						
CTA	**Charters Tower**	**31.85**	**306**	LR	LR	08 17 40.4	
	comp=Z,52nm,18.6s,baz=94,slow=32						
HNR	**Honiara**	**34.95**	**337**	LR	LR	08 19 55.8	
	comp=Z,736nm,18.1s,baz=302,slow=33						
ASAR	**Alice Springs**	**37.49**	**287**	P	**P**	**08 07 50.6**	**-1.2**
	1.2nm,1.0s,baz=126,slow=7.4,SNR=6.5						
ASAR				LR	LR	08 22 25.3	
	comp=Z,59nm,19.1s,baz=138,slow=35						
	1.2nm,1.0s						
WRA	**Warramunga Arr**	**39.64**	**292**	P	**P**	**08 08 08.8**	**-1.1**
	2.4nm,1.2s,baz=127,slow=8.2,SNR=5.6						
WRA				LR	LR	08 22 56.9	
	comp=Z,45nm,21.8s,baz=112,slow=34						
	2.4nm,1.2s						
PMG	**Port Moresby**	**40.10**	**318**	LR	LR	08 23 07.1	
	comp=Z,47nm,19.3s,baz=213,slow=34						
QSPA	**South Pole Qui**	**47.61**	**180**	P	**P**	**08 09 16.3**	**+2.6**
	5.3nm,1.0s,baz=18,slow=3.8,SNR=9.2						
	5.3nm,1.0s						
KAPI	**Kappang**	**60.18**	**293**	LR	LR	08 36 44.1	
	comp=Z,24nm,18.3s,baz=164,slow=36						
SNAA	**Sanae**	**66.08**	**181**	LR	LR	08 40 37.7	
	comp=Z,34nm,18.0s,baz=186,slow=36						
USHA	**Ushuaia**	**69.76**	**147**	LR	LR	08 34 08.3	
	comp=Z,82nm,20.2s,baz=213,slow=29						
CMAR	**Chiang Mai Arr**	**91.22**	**294**	P	**P**	**08 13 43.7**	**+0.4**
	1.3nm,0.3s,baz=168,slow=4.3,SNR=4.6						
	1.3nm,0.3s						
PETK	**Petropavlovsk-**	**96.18**	**351**	P	**P**	**08 14 06.6**	**+1.3**
	1.9nm,0.6s,baz=209,slow=7.7,SNR=3.6						
	1.9nm,0.6s						
BRTR	**Keskin Array B**	**149.60**	**279**	PKPbc	**PKPbc**	**08 20 26.9**	**-0.5**
	2.7nm,1.0s,baz=116,slow=3.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.82**	**197**	PKPbc	**PKPbc**	**08 20 26.9**	**-1.5**
	5.1nm,1.1s,baz=221,slow=4.0,SNR=14						

WEL 15 08:07:36.8±0.6,**43°S**±4°×**17°3E**±°,**h13**km±5km,**M2.9**/7,
ML3.9/9,**MLv2.9**/7,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=121.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**58**	P	Pb	08 07 41.7	-0.2
KHZ				S	Sb	08 07 45.6	+0.4
GVZ	**Greta Valley S**	**0.51**	**206**	P	Pb	08 07 47.6	0.0
GVZ				S	Sb	08 07 56.2	+1.2
LTZ	**Lake Taylor**	**0.83**	**251**	P	Pg	08 07 52.2	-0.9
LTZ				S	Sg	08 08 03.6	-0.4
AMCZ	**Amberley**	**0.84**	**217**	P	Pb	08 07 53.6	+0.4
AMCZ				S	Sn	08 08 06.5	0.0
OXZ	**Oxford**	**1.26**	**229**	P	Pn	08 07 59.8	-0.3
OXZ				S	Sb	08 08 15.8	-0.7
DSZ	**Denniston Nort**	**1.37**	**303**	P	Pb	08 08 02.4	0.0
DSZ				S	Sg	08 08 20.6	-0.6
RACZ	**Rakaia**	**1.50**	**215**	P	Pn	08 08 02.5	-0.9
WVZ	**Waitaha Valley**	**2.00**	**253**	P	Pn	08 08 10.5	+0.2
RPZ	**Rata Peaks**	**2.06**	**233**	P	Pn	08 08 10.5	-0.7
TMZ	**Timaru**	**2.53**	**221**	P	Pn	08 08 17.8	+0.2
LBZ	**Lake Benmore**	**2.97**	**230**	P	Pn	08 08 23.3	-0.3

NOU ***15*** *08:08:26.1,42°.55S×173°.88E, h0km, MLv4.6/10, South Island, New Zealand*

WEL ***15*** *08:08:27.5±0.3,42°.2S±2°×17°.4E±°, h10km±2km, M4.1/22, ML4.4/22, MLv4.1/22, Error ellipse: s-maj=0.0km s-min=0.0km az=120.1*

IDC ***15*** *08:08:29.9±2.9,42°.04S×172°.68E, h0km, mb3.5/2, mbtmp3.5/3, ML3.8/1, MS3.5/1, Error ellipse: s-maj=58.3km s-min=31.8km az=96.0*

ISC 15 08:08:27.3±0.9,**42°.33S**±0°.03×**173°.66E**±0°.03,**h20**km±4km,
n109,σ1§96/115,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**225**	P	**Pg**	**08 08 31.5**	**0.0**
KHZ	**Kahutara**	**0.12**	**225**	P	**Pg**	**08 08 31.8**	**+0.3**
KHZ				S	**Sg**	**08 08 35.0**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.64**	**15**	P	**Pg**	**08 08 39.6**	**-0.3**
BSWZ				S	**Sg**	**08 08 48.1**	**-0.4**
GVZ	**Greta Valley S**	**0.79**	**216**	P	**Pn**	**08 08 44.4**	**+1.1**
GVZ				S	**Sn**	**08 08 56.7**	**+2.2**
THZ	**Tophouse**	**0.80**	**315**	P	**Pg**	**08 08 40.9**	**-2.0**
THZ				S	**Sg**	**08 08 50.0**	**-3.6**
TUWZ	**Tuamarina**	**0.93**	**13**	P	**Pg**	**08 08 44.9**	**-0.5**
TUWZ				S	**Sg**	**08 08 57.3**	**-0.3**
LTZ	**Lake Taylor**	**1.12**	**246**	P	**Pb**	**08 08 48.0**	**-0.1**
LTZ				S	**Sb**	**08 09 02.0**	**-0.2**
AMCZ	**Amberley**	**1.12**	**221**	P	**Pn**	**08 08 49.4**	**+1.4**
NNZ	**Nelson**	**1.13**	**349**	P	**Pb**	**08 08 47.0**	**-1.2**
NNZ				S	**Sb**	**08 09 02.1**	**-0.4**
MRNZ	**Matariki Terra**	**1.15**	**324**	P	**Pb**	**08 08 48.0**	**-0.5**
TCW	**Tory Channel**	**1.21**	**23**	P	**Pn**	**08 08 49.9**	**+0.7**
SNZO	**South Karori**	**1.29**	**38**	P	**Pn**	**08 08 51.4**	**+0.6**
WEL	**Wellington**	**1.34**	**39**	P	**Pn**	**08 08 52.3**	**+0.6**
TKNZ	**Takaka Hill**	**1.40**	**338**	P	**Pn**	**08 08 52.0**	**+0.3**
PLWZ	**Palliser**	**1.41**	**58**	P	**Pn**	**08 08 53.0**	**+1.0**
OKCZ	**Okains Bay**	**1.46**	**197**	P	**Pb**	**08 08 53.9**	**0.0**
DSZ	**Denniston Nort**	**1.50**	**292**	P	**Pn**	**08 08 54.0**	**+0.9**
MSWZ	**Moikau Station**	**1.50**	**53**	P	**Pn**	**08 08 54.0**	**+0.9**
DUWZ	**D'Urville Isla**	**1.54**	**8**	P	**Pn**	**08 08 55.0**	**+1.3**
OXZ	**Oxford**	**1.55**	**230**	P	**Pn**	**08 08 53.9**	**+0.1**
MQZ	**McQueen's Vall**	**1.56**	**208**	P	**Pn**	**08 08 54.2**	**+0.3**
CAW	**Cannon Point**	**1.61**	**41**	P	**Pn**	**08 08 55.8**	**+1.1**
PAWZ	**Paruwai Farm**	**1.63**	**55**	P	**Pn**	**08 08 55.6

KHZ	Kahutara	12.50 212	Pn	Pn	08 14 51.9	+1.9	
KHZ	Kahutara	12.50 212	P	Pn	08 14 52.2	+2.2	
GVZ	Greta Valley S	13.16 211	P	P	08 15 04.8	-4.3	
LTZ	Lake Taylor	13.36 214	P	P	08 15 10.6	-0.8	
AMCZ	Amberley	13.50 212	Pn	Pn	08 15 06.2	+2.6	
AMCZ	Amberley	13.50 212	P	P	08 15 09.9	-2.9	
OKCZ	Okains Bay	13.76 209	P	P	08 15 13.3	-2.5	
MQZ	McQueen's Vall	13.92 210	Pn	P	08 15 13.8	-3.7	
MQZ	McQueen's Vall	13.92 210	P	P	08 15 14.3	-3.2	
CTA	Charters Tower	34.37 281	P	P	08 18 39.8	+0.5	
	4.0nm,0.8s,baz=139,slow=11,SNR=2.6						
	4.0nm,0.8s						
CTAO	Charters Tower	34.37 281	P	P	08 18 39.5	+0.2	
CTAO			IAmb	IAmb	08 18 42.4		
	comp=Z,6.9nm,0.9s						
BBOO	Buckleboo	38.82 256	P	P	08 19 17.0	-0.2	
BBOO			IAmb	IAmb	08 19 46.2		
	comp=Z,23nm,1.4s						
COEN	Coen	40.01 288	P	P	08 19 27.2	0.0	
COEN			IAmb	IAmb	08 20 10.0		
	comp=Z,17nm,1.4s						
AS31	Alice Springs	43.33 269	P	P	08 19 54.1	-0.2	
ASAR	Alice Springs	43.33 269	P	P	08 19 54.2	-0.2	
	comp=Z,0.5nm,0.3s,baz=108,slow=8.2,SNR=8.4						
	comp=Z,0.5nm,0.3s						
WR0	Warramunga Arr	44.28 274	P	P	08 20 02.7	+0.6	
WR0			IAmb	IAmb	08 20 11.6		
	comp=Z,4.5nm,0.6s						
WB2	Warramunga Arr	44.45 274	P	P	08 20 03.2	-0.2	
WRA	Warramunga Arr	44.46 274	P	P	08 20 03.7	+0.2	
	comp=Z,0.9nm,0.4s,baz=112,slow=8.0,SNR=28						
	comp=Z,0.9nm,0.4s						
WRA	Warramunga Arr	44.46 274	P	P	08 20 03.3	-0.2	
WB0	Warramunga Arr	44.49 274	P	P	08 20 03.9	+0.2	
QSPA	South Pole Qui	58.08 180	P	P	08 21 44.9	-0.2	
QSPA			IAmb	IAmb	08 21 58.3		
	comp=Z,5.8nm,1.2s						
SNAA	Sanae	76.51 178	P	P	08 23 43.0	+1.3	
SNAA			IAmb	IAmb	08 23 48.1		
	comp=Z,5.6nm,1.2s						
FINES	FINESS Array B	146.78 339	PKPbc	PKPab	08 31 34.4	-0.1	
	comp=Z,3.6nm,0.7s,baz=49,slow=3.5,SNR=12						

IDC 15 08:29:56.3±2.7, 5°95S×130°62E, h0km, mb3.6/1, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=161.8km s-min=33.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.37 166		Pn	Pn	08 33 22.8	+1.6
	0.1nm,0.3s,baz=349,slow=13,SNR=7.2						
WRA				Sn	Sn	08 35 46.9	-15
	0.3nm,0.3s,baz=331,slow=24,SNR=8.1						
	0.2nm,0.4s						
ASAR	Alice Springs	17.89 170		P	Pn	08 34 05.6	-1.2
	baz=350,slow=10,SNR=4.3						
	0.2nm,0.7s						
MKAR	Makanchi Array	67.70 326		P	P	08 40 55.6	+0.1
	0.2nm,0.3s,baz=118,slow=8.8,SNR=2.9						
	0.2nm,0.3s						

SSNC 15 08:36:08.7±1.3, 19°.98N×71°.85W, h13km±12km, MD3.6, ML3.4, MW3.9

OSPL 15 08:36:10.3±2.4, 19°.77N×72°.01W, h0km±8km, ML2.8

ISC 15 08:36:08.0±1.4, 19°.82N±0°.04×71°.99W±0°.04, h14km±13km, n18, σ0°89/34, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LODA1	ITESIL, Dajabo	0.39 135		*i* P	Pn	08 36 18.1	-1.1
LODA1				eS	Sb	08 36 23.4	+0.9
LODA1				IAML		08 36 23.9	
	comp=Z,5μm,0.3s						
SDDR	Presa de Saban	1.07 141		*i* P	Pb	08 36 28.1	-0.2
SDDR				eS	Sb	08 36 40.9	-1.3
SDDR	Presa de Saban	1.07 141		*i* P	Pn	08 36 28.4	-0.3
SDDR				eS	Sb	08 36 41.5	-0.7
SDDR				IAML		08 36 45.3	
	comp=Z,757nm,0.9s						
SC01	Santiago de lo	1.26 108		*i* P	Pg	08 36 32.2	0.0
SC01				eS	Sg	08 36 50.0	+1.4
SC01				IAML		08 36 53.8	
	comp=Z,416nm,0.3s						
PAPH	Port-au-Prince	1.33 193		*i* P	Pb	08 36 32.5	-0.2
PAPH				eS	Sn	08 36 49.6	+0.1
PAPH				IAML		08 36 55.2	
	comp=Z,100nm,0.3s						
LGNH	Logne	1.43 204		*i* P	Pb	08 36 34.1	-0.3
LGNH				eS	Sn	08 36 52.0	-0.1
LGNH				IAML		08 36 54.4	
	comp=Z,60nm,0.5s						
LOPE2	Hotel El Peder	1.80 172		*i* P	Pb	08 36 40.5	-0.2
LOPE2				IAML		08 36 51.2	
	comp=Z,76nm,0.3s						
LOPE2				eS	Sn	08 37 02.2	+1.0
GRTK	Grand Turk	1.86 26		*i* P	Pg	08 36 42.8	-1.0
GRTK				eS	Sb	08 37 05.3	+0.3
GRTK				IAML		08 37 07.3	
	comp=Z,72nm,0.3s						
MASC	Masc	2.13 280		*e*P	Pn	08 36 43.9	+0.8
MASC				*e*Pg	Pb	08 36 45.8	-0.6
MASC				eS	Sb	08 37 11.7	-1.0
MASC				IAML		08 37 18.7	
	comp=N,193nm,0.5s						
MASC				IAML		08 37 19.7	
	comp=E,211nm,0.2s						
MASC	Masc	2.13 280		*i* P	Pn	08 36 44.4	+1.2
MASC				eS	Sb	08 37 12.5	-0.2
MASC				IAML		08 37 20.6	
	comp=Z,113nm,0.2s						
MOAC	Moa	2.91 287		*e*P	Pn	08 36 53.3	-0.5
MOAC				eS	Sn	08 37 29.0	+0.5
GTBY	Guantanamo Bay	2.94 273		*e*P	Pn	08 36 54.9	+0.7
GTBY				eS	Sn	08 37 29.5	+0.2
GTBY	Guantanamo Bay	2.94 273		*i* P	Pn	08 36 55.8	+1.6
GTBY				eS	Sn	08 37 31.2	+1.9
GTBY				IAML		08 37 33.8	
	comp=Z,17nm,1.4s						
RCC	Rio Carpintero	3.49 273		*e*P	Pn	08 37 01.7	-0.1
RCC				eS	Sn	08 37 42.0	-0.9
PCDR	Punta Cana, DR	3.66 110		*i* P	Pn	08 37 04.8	+0.7
HLGC	Holguin	3.96 286		*e*P	Pn	08 37 09.4	+1.1
HLGC				eS	Sn	08 37 55.1	+0.4
LMGC	Las Mercedes	4.72 274		*e*P	Pn	08 37 19.1	+0.3
LMGC				eS	Sn	08 38 11.9	-1.4
CCCC	Cccc	5.58 285		*e*P	Pn	08 37 24.8	-5.8
CCCC				eS	Sn	08 38 23.5	-11

WEL 15 08:42:00, 41°.70S×174°.26E, h14km, ML4.6, Mw4.3, Moment Tensor Solution. s6 Moment tensor: Scale 10^15 Nm; Mrr0.87; Mθθ1.81; Mϕϕ-2.68; Mrθ-0.69; Mθϕ-3.05; Mϕr-0.16; Fault plane solution: M0 3.87000×10^15 NP1: ϕs342.00000°, δ78.00000°, λ5.00000°. NP2: ϕs251.00000°, δ85.00000°, λ168.00000°. Principal axes: T -426.5500, Plg12.0000°, Azm206.0000°; N 347.2800, Plg77.0000°, Azm48.0000°; P 79.2700, Plg5.0000°, Azm297.0000°;

IDC 15 08:42:11.4±1.2, 41°.54S×174°.13E, h0km, mb4.1/6, mbtmp4.1/7, ML4.5/1, MS3.6/3 Error ellipse: s-maj=39.2km s-min=22.9km az=65.0

WEL 15 08:42:14.0±0.3, 42°.5S×174°.4E, h7km±2km, M4.6/24, ML4.9/24, MLv4.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=140.7

NEIC 15 08:42:13.0±1.4, 41°.78S±0°.04×174°.28E±0°.05, h8km±6km, mb4.2/9, Error ellipse: s-maj=5.3km s-min=5.0km az=112.0

NOU 15 08:42:15.2, 41°.75S×174°.37E, h2km, MLv4.9/7, Cook Strait, New Zealand

ISC 15 08:42:13.8±0.8, 41°.76S±0°.03×174°.27E±0°.02, h14km±4km, n188, σ1°28/194, mb4.2/10, MS3.4/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.04 284			Pg	08 42 16.1	-0.2
CMWZ	Cape Campbell	0.04 284		P	Pg	08 42 16.1	-0.2
CMWZ				S	Sg	08 42 18.8	+0.7
BSWZ	Blackbirch Sta	0.30 278			Pg	08 42 19.5	-0.5
BSWZ	Blackbirch Sta	0.30 278		P	Pg	08 42 19.7	-0.3
BSWZ				S	Sg	08 42 24.5	+0.4
TUWZ	Tuamarina	0.41 323			Pg	08 42 21.3	-0.7
TUWZ	Tuamarina	0.41 323		P	Pg	08 42 21.3	-0.7
TUWZ				S	Sg	08 42 26.8	-0.7
TCW	Tory Channel	0.55 1			Pg	08 42 23.7	-0.8
TCW	Tory Channel	0.55 1		P	Pg	08 42 23.7	-0.8
TCW				S	Sg	08 42 31.1	-0.7
SNZO	South Karori	0.56 36			Pg	08 42 24.4	-0.3
SNZO	South Karori	0.56 36		P	Pb	08 42 24.9	-0.4
WEL	Wellington	0.60 38		P	Pg	08 42 25.7	+0.1
WEL				S	Sb	08 42 34.7	+0.2
PLWZ	Palliser	0.76 76			Pn	08 42 29.6	-0.6
PLWZ	Palliser	0.76 76		P	Pn	08 42 29.8	-0.4
MSWZ	Moikau Station	0.81 65			Pb	08 42 30.0	+0.3
MSWZ	Moikau Station	0.81 65		P	Pb	08 42 30.2	+0.5
KHZ	Kahutara	0.85 219			Pn	08 42 31.3	-0.1
KHZ	Kahutara	0.85 219		P	Pn	08 42 31.6	+0.2
KHZ				S	Sn	08 42 44.9	+1.2
NNZ	Nelson	0.86 309			Pg	08 42 29.3	-1.1
NNZ	Nelson	0.86 309		P	Pg	08 42 29.3	-1.1
CAW	Cannon Point	0.89 43		P	Pg	08 42 30.5	-0.4
PAWZ	Paruwai Farm	0.95 67		P	Pg	08 42 32.3	+0.2
DUWZ	D'Urville Isla	0.99 345		P	Pb	08 42 31.4	-1.4
KIW	Kapiti Island	1.02 28		P	Pb	08 42 32.5	-0.8
THZ	Tophouse	1.02 269		Pn	Pb	08 42 32.9	-0.4
THZ	Tophouse	1.02 269		P	Pb	08 42 32.8	-0.4
MTW	Mount Morrison	1.10 57		P	Pb	08 42 34.4	-0.3
TRWZ	Traveller	1.12 72		P	Pb	08 42 34.5	-0.5
OGWZ	Otaki Gorge	1.16 36		P	Pb	08 42 35.0	-0.6
MRNZ	Matariki Terra	1.19 287			Pn	08 42 35.7	-0.3
MRNZ	Matariki Terra	1.19 287		P	Pn	08 42 35.9	-0.2
MRNZ				S	Sg	08 42 52.4	+0.2
TKNZ	Takaka Hill	1.22 306			Pn	08 42 35.5	-1.0
TKNZ	Takaka Hill	1.22 306		P	Pn	08 42 35.7	-0.8
HOWZ	Holdsworth Sta	1.27 48		P	Pn	08 42 36.8	-0.4
TMWZ	Te Maipa	1.38 62		P	Pn	08 42 37.9	-0.8
MRZ	Mangatainoka R	1.48 42			Pn	08 42 39.6	-0.4
MRZ	Mangatainoka R	1.48 42		P	Pn	08 42 39.7	-0.3
GVZ	Greta Valley S	1.51 217			Pn	08 42 40.4	-0.1
GVZ	Greta Valley S	1.51 217		P	Pn	08 42 40.6	+0.1
TIWZ	Tintock	1.56 52		P	Pn	08 42 41.1	-0.1
QRZ	Quartz Range	1.61 305		Pn	Pn	08 42 42.4	+0.6
QRZ	Quartz Range	1.61 305		P	Pn	08 42 42.3	+0.6
QRZ				S	Sg	08 43 04.8	-0.8
CPWZ	Castlepoint	1.69 60		P	Pn	08 42 43.2	+0.3
OHWZ	Ohakea	1.74 27		P	Pb	08 42 44.9	-0.6
PRWZ	Pori Road	1.76 47		P	Pn	08 42 43.2	-0.7
POWZ	Post Office Ro	1.77 40		P	Pn	08 42 43.7	-0.4
LTZ	Lake Taylor	1.80 235			Pn	08 42 44.5	+0.1
LTZ	Lake Taylor	1.80 235		P	Pn	08 42 44.6	+0.2
BFZ	Birch Farm	1.84 55			Pn	08 42 45.3	+0.3
BFZ	Birch Farm	1.84 55		P	Pn	08 42 47.7	+0.7
BFZ	Birch Farm	1.84 55		P	Pn	08 42 43.7	-1.3
DSZ	Denniston Nort	1.84 270			Pn	08 42 45.8	+0.7
DSZ	Denniston Nort	1.84 270		P	Pb	08 42 46.2	-1.1
AMCZ	Amberley	1.85 220			Pn	08 42 44.7	-0.5
DVHZ	Dannevirke	2.05 45		P	Pn	08 42 46.6	-1.2
WAZ	Wanganui	2.08 15		P	Pb	08 42 50.2	-1.0
ANWZ	Angora Road	2.11 53		P	Pn	08 42 47.7	-1.0
TSZ	Takapari Road	2.13 38		P	Pn	08 42 48.3	-0.7
OKCZ	Okains Bay	2.15 204		P	Pn	08 42 48.2	-1.1
OXZ	Oxford	2.27 226			Pn	08 42 49.8	-1.1
MQZ	McQueen's Vall	2.28 211			Pn	08 42 49.3	-1.7
LREZ	Lake Rotokare	2.30 3		P	Pb	08 42 54.5	-0.5
INZ	Inchbonnie	2.31 244			Pn	08 42 51.3	-0.1
INZ	Inchbonnie	2.31 244		P	Pn	08 42 53.3	+1.9
PRHZ	Porangahau	2.33 51		P	Pn	08 42 50.0	-1.7
AKCZ	Akaroa Harbour	2.34 205		P	Pn	08 42 50.6	-1.2
PNHZ	Pukenui	2.35 39		P	Pn	08 42 51.3	-0.8
WPHZ	Waipukurau	2.36 45		P	Pn	08 42 51.2	-0.9
NMEZ	Namu Road	2.36 353		P	Pb	08 42 54.8	-1.3
KHEZ	Kahui Hut	2.47 355		P	Pb	08 42 57.7	-0.3
KHEZ	Kahui Hut	2.47 355		P	Pb	08 42 56.3	-1.7
NEZ	North Egmont	2.49 357		P	Pb	08 42 57.0	-1.4
NBEZ	Newall Road No	2.51 353		P	Pn	08 42 55.6	+1.4
RACZ	Rakaia	2.52 218		P	Pn	08 42 52.8	-1.5
MTVZ	Mangateitei	2.54 21		P	Pb	08 42 56.9	-2.3
DREZ	Durham Road	2.57 359		P	Pb	08 42 57.5	-2.1
PKE	Pukeiti	2.57 355		P	Pn	08 42 56.5	+1.5
PKVZ	Pokaka	2.60 19		P	Pn	08 42 57.0	+1.5
MOVZ	Moawhango	2.61 26		P	Pn	08 42 55.6	0.0
PXZ	Pawanui	2.62 50		P	Pn	08 42 53.6	-2.0
WNVZ	Wahianoa	2.63 23		P	Pn	08 42 56.7	+0.7
TRVZ	Turoa	2.64 22		P	Pb	08 43 00.2	-0.9
BHHZ	Black Hill Sta	2.65 32		P	Pn	08 42 55.8	-0.3
VRZ	Vera Road	2.66 8		P	Pn	08 42 58.0	+1.8
WHVZ	Whangaehu Hut	2.67 23		P	Pn	08 42 58.7	+2.1
MHEZ	Manawhewa	2.68 1		P	Pn	08 42 59.9	-1.6
FWVZ	Far West T-bar	2.69 22		P	Pn	08 43 00.9	-0.9
TUVZ	Tukino	2.70 23		P	Pn	08 42 59.2	+2.2
NGZ	Ngauruhoe	2.77 22		P	Pn	08 42 58.9	+0.9
SNVZ	South Ngauruho	2.77 23		P	Pn	08 42 58.8	+0.8
KAHZ	Kahuranaki	2.79 46		P	Pn	08 42 56.3	-1.8
OTVZ	Oturere	2.80 23		P	Pn	08 42 59.1	+0.7
NNVZ	North Ngauruho	2.82 22		P	Pn	08 42 59.6	+1.0
WACZ	Wakanui South	2.82 218		P	Pn	08 42 57.1	-1.3
WTVZ	West Tongariro	2.83 21		P	Pn	08 42 59.8	+1.2
TWVZ	Taurewa	2.83 19		P	Pn	08 42 59.6	+1.0
ETVZ	East Tongariro	2.84 23		P	Pn	08 42 59.8	+0.9
KWHZ	Kaweka Forest	2.85 36		P	Pn	08 42 58.1	-0.8
TMVZ	Te Maari	2.86 23		P	Pn	08 42 59.6	+0.5
KRVZ	Karewarewa	2.86 22		P	Pn	08 43 00.2	+1.1
NTVZ	North Tongarir	2.87 22		P	Pn	08 42 59.8	+0.6
WVZ	Waitaha Valley	2.93 242		P	Pn	08 43 00.6	+0.7
MCHZ	McNeill Hill	2.96 39		P	Pn	08 42 58.9	-1.4
KATZ	Kakaramea	2.99 22		P	Pn	08 43 03.1	+2.2
CKHZ	Cape Kidnapper	2.99 46		P	Pn	08 43 00.9	+0.1
RPZ	Rata Peaks	3.07 229		Pn	Pn	08 43 00.9	-1.0
	54nm,0.3s,baz=84,slow=2.1,SNR=95						
RPZ				Sn	Sn	08 43 37.5	-1.0
	57nm,0.3s,baz=27,slow=9.4,SNR=4.4						
	96nm,0.3s						
RPZ	Rata Peaks	3.07 229			Pn	08 43 01.2	-0.7
RPZ	Rata Peaks	3.07 229		P	Pn	08 43 01.1	-0.8
BKZ	Black Stump Fm	3.10 34			Pn	08 43 01.9	-0.4
BKZ	Black Stump Fm	3.10 34		P	Pn	08 43 00.8	-1.5
RAZ	Rangitukua	3.11 22		P	Pn	08 43 04.9	+2.5
ARCZ	Arundel	3.15 225		P	Pn	08 43 02.2	-0.8
ARHZ	Aropaoanui	3.25 41		P	Pn	08 43 02.8	-1.5
HIZ	Hauiti	3.27 8		Pn	Pn	08 43 05.6	+0.9
HIZ	Hauiti	3.27 8		P	Pn	08 43 07.1	+2.4
HIZ	Hauiti	3.27 8		P	Pn	08 43 06.2	+1.5
NMHZ	Naumai	3.29 37		P	Pn	08 43 03.9	-1.0
GCSZ	Gaunt Creek Bo	3.30 241		P	Pn	08 43 05.8	+0.8
MRHZ	Matea Rd	3.35 30		P	Pn	08 43 04.4	-1.4
MTHZ	Maungataniwha	3.51 35		P	Pn	08 43 06.9	-1.1
WHHZ	Waihua	3.51 41		P	Pn	08 43 07.5	-0.4
TMZ	Timaru	3.55 221		P	Pn	08 43 07.4	-1.0
TLZ	Tolley Road	3.56 16		P	Pn	08 43 10.2	+1.5
RAHZ	Arahi	3.56 38		P	Pn	08 43 07.2	-1.5
FOZ	Fox Glacier	3.73 240			Pn	08 43 12.4	+1.5
FOZ	Fox Glacier	3.73 240		P	Pn	08 43 11.2	+0.2
KNZ	Kokohu	3.77 45		P	Pn	08 43 09.1	-2.4
MHNZ	Mahia Peninsul	3.81 48		P	Pn	08 43 10.9	-1.1
LBZ	Lake Benmore	3.98 227			Pn	08 43 15.3	+0.9
LBZ	Lake Benmore	3.98 227		P	Pn	08 43 13.6	-0.8
RIGZ	Rimuhau	4.06 42		P	Pn	08 43 13.1	-2.3
URZ	Urewera	4.12 33		P	Pn	08 43 16.0	-0.3
TOZ	Tahuroa Road	4.13 14		P	Pn	08 43 17.5	+1.0
ODZ	Otahua Downs	4.21 218		Pn	Pn	08 43 16.7	-0.9
ODZ	Otahua Downs	4.21 218		P	Pn	08 43 16.1	-1.4
TWGZ	Tauwhareparae	4.58 40		P	Pn	08 43 22.1	-0.5
JCZ	Jackson Bay	4.64 238		P	Pn	08 43 27.1	+3.5
JCZ	Jackson Bay	4.64 238		P	Pn	08 43 25.6	+2.0
AWAZ	Awhitu Peninsu	4.70 4		P	Pn	08 43 25.5	+1.3
MKAZ	Moumakai	4.70 9		P	Pn	08 43 25.1	+0.8
WTAZ	Waiatarua	4.83 3		P	Pn	08 43 28.9	+2.8
ETAZ	East Tamaki Re	4.83 6		P	Pn	08 43 27.8	+1.8
HAZ	Te Kaha	4.83 35		P	Pn	08 43 25.7	-0.4
EPAZ	Eden Park BICE	4.89 4		P	Pn	08 43 31.3	+4.4
HHSZ	Highcliff Hill	4.90 212		P	Pn	08 43 25.8	-1.3
WKZ	Wanaka	4.91 230		Pn	Pn	08 43 27.0	-0.2
WKZ	Wanaka	4.91 230		P	Pn	08 43 26.7	-0.4
RVAZ	Riverhead Bore	4.99 3		P	Pn	08 43 29.9	+1.7
EAZ	Earnscleugh	5.01 224		P	Pn	08 43 27.3	-1.2
MBAZ	Motutapu North	5.01 6		P	Pn	08 43 31.0	+2.5
KUZ	Kuaotunu	5.13 13		P	Pn	08 43 32.8	+2.6
ABAZ	Army Bay	5.17 5		P	Pn	08 43 33.2	+2.4
TUZ	Tuapeka	5.37 217		P	Pn	08 43 32.8	-0.6
MSZ	Milford Sound	5.47 236		P	Pn	08 43 39.4	+4.6
MLZ	Mavora Lakes	5.74 229			Pn	08 43 38.6	0.0
MLZ	Mavora Lakes	5.74 229		P	Pn	08 43 37.7	-0.9
SYZ	Scrubby Hill	6.04 216		P	Pn	08 43 41.9	-0.7
WHZ	Wether Hill Ro	6.16 226		Pn	Pn	08 43 43.5	-0.8
WHZ	Wether Hill Ro	6.16 226		P	Pn	08 43 43.0	-1.3
DCZ	Deep Cove	6.35 232		Pn	Pn	08 43 46.4	-0.6
OUZ	Omahuta	6.55 355			Pn	08 43 51.4	+1.7
OUZ	Omahuta	6.55 355		P	Pn	08 43 51.9	+2.2
OUZ	Omahuta	6.55 355		P	Pn	08 43 52.0	+2.2
APZ	The Paps	6.78 219		P	Pn	08 43 51.7	-1.2
CTZ	Chatham Island	6.99 109		P	Pn	08 43 55.0	-0.8
PYZ	Puysegur Point	7.03 229		Pn	Pn	08 43 56.5	+0.3
PYZ	Puysegur Point	7.03 229		P	Pn	08 43 56.5	+0.3
STKA	Stephens Creek	27.81 280		LR	LR	08 57 12.9	
	comp=Z,89nm,19.2s,baz=187,slow=33						
CTA	Charters Tower	32.08 304		LR	LR	08 59 57.7	
	comp=Z,89nm,20.6s,baz=96,slow=34						
VNDA	Vanda	36.24 185		P	P	08 49 17.6	+1.7
	0.4nm,0.7s,baz=15,slow=4.5,SNR=4.4						
	0.4nm,0.7s						
VNDA	Vanda	36.24 185		P	P	08 49 17.7	+1.8
VNDA				IAmb	IAmb	08 49 44.4	
	comp=Z,2.4nm,1.1s						
AS31	Alice Springs	38.05 286		P	P	08 49 31.8	-0.1
ASAR	Alice Springs	38.05 286		P	P	08 49 30.3	-1.6
	comp=Z,0.7nm,0.4s,baz=126,slow=6.8,SNR=19						
	comp=Z,0.7nm,0.4s						
ASAR	Alice Springs	38.05 286		P	P	08 49 31.2	-0.7
WR0	Warramunga Arr	39.97 291		P	P	08 49 49.3	+1.3
WR0				IAmb	IAmb	08 49 54.5	
	comp=Z,8.8nm,1.3s						
WB2	Warramunga Arr	40.11 290		P	P	08 49 47.5	-1.7
WB2				IAmb	IAmb	08 49 57.2	
	comp=Z,5.5nm,0.8s						
WRA	Warramunga Arr	40.12 290		P	P	08 49 47.6	-1.7
	comp=Z,1.6nm,0.5s,baz=126,slow=8.4,SNR=24						
	comp=Z,1.6nm,0.5s						
WRA	Warramunga Arr	40.12 290		P	P	08 49 47.5	-1.7
WB0	Warramunga Arr	40.20 291		P	P	08 49 48.9	-1.0
WB0				IAmb	IAmb	08 49 54.6	
	comp=Z,3.8nm,0.8s						
QSPA	South Pole Qui	48.37 180		P	P	08 50 56.7	+1.8
	comp=Z,3.1nm,0.7s,baz=38,slow=1.1,SNR=13						
	comp=Z,3.1nm,0.7s						
QSPA	South Pole Qui	48.37 180		P	P	08 50 56.7	+1.8
BELA	Belgrano 2	59.33 173		P	P	08 52 14.8	0.0
MAW	Mawson	59.45 204		LR	LR	09 16 40.6	
	comp=Z,101nm,19.4s,baz=103,slow=35						
SNAA	Sanae	66.86 181		P	P	08 53 05.5	+0.7
SNAA				IAmb	IAmb	08 53 44.3	
	comp=Z,4.6nm,1.3s						
KSRS	Korea Array	89.47 325		P	P	08 55 09.8	-0.2
	comp=Z,0.8nm,0.6s,baz=154,slow=6.6,SNR=1.8						
	comp=Z,0.8nm,0.6s						
CMAR	Chiang Mai Arr	91.66 293		P	P	08 55 19.7	-1.0
	comp=Z,0.8nm,0.3s,baz=141,slow=3.0,SNR=1.4						
	comp=Z,0.8nm,0.3s						
ARCES	ARCESS Array B	147.79 340		PKPbc	PKPdf	09 01 55.0	+1.0
	comp=Z,4.4nm,0.9s,baz=18,slow=3.2,SNR=2.3						
TORD	Torodi Ar. Bea	150.77 195		PKPbc	PKPbc	09 02 05.9	-0.2
	comp=Z,2.3nm,0.8s,baz=138,slow=1.4,SNR=12						
FINES	FINESS Array B	152.55 327		PKPbc	PKPbc	09 02 06.9	-1.8
	comp=Z,1.1nm,0.6s,baz=70,slow=4.6,SNR=1.1						

AEIC 15 08:50:40.7±0.8, 53°51N±0°08×165°22W±0°07, h47km±10km, ML2.5, Error ellipse: s-maj=11.6km s-min=5.1km az=198.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKUT	Akutan	0.71 333		Pn	Pn	08 50 55.2	+0.7
UNV	Unalaska Valle	0.84 294			Pn	08 50 56.2	+0.1
UNV					Sn	08 51 08.2	+0.8
FALS	False Pass	1.71 37		Pn	Pn	08 51 09.3	+1.2
NIKH	Nikolski High	2.25 258		Pn	Pn	08 51 16.4	+0.9
CLES	Cleveland East	2.90 258		Pn	Pn	08 51 22.7	-1.6

WEL 15 08:51:00, 42°.36S×173°.89E, h12km, ML4.5, Mw4.3, Moment Tensor Solution. s6 Moment tensor: Scale 10^15 Nm; Mrr0.05; Mθθ0.80; Mϕϕ-0.86; Mrθ1.98; Mθϕ-2.08; Mϕr1.11; Fault plane solution: M0 3.13000×10^15 NP1: ϕs165.00000°, δ46.00000°, λ-3.00000°. NP2: ϕs257.00000°, δ88.00000°, λ-136.00000°. Principal axes: T -349.8500, Plg28.0000°, Azm22.0000°; N 276.4500, Plg46.0000°, Azm259.0000°; P 73.4000, Plg31.0000°, Azm131.0000°;

IDC 15 08:51:12.9±1.3, 42°.21S×173°.78E, h0km, mb4.0/4, mbtmp4.1/5, ML4.4/1, MS3.4/6 Error ellipse: s-maj=36.6km s-min=26.5km az=72.0

*WEL

INZ	Inchbonnie	1.82	258	P	Pn	08 51 47.0	+0.4
OGWZ	Otaki Gorge	1.84	33	P	Pn	08 51 46.3	-0.5
QRZ	Quartz Range	1.85	327	Pn	Pn	08 51 47.0	+0.2
QRZ	Quartz Range	1.85	327	P	Pn	08 51 47.4	+0.5
QRZ	Quartz Range	1.85	327	P	Pn	08 51 47.5	+0.6
QRZ				S	Sn	08 52 10.4	+0.4
RACZ	Rakaia	1.85	223	P	Pn	08 51 46.2	-0.7
HOWZ	Holdsworth Sta	1.93	40	P	Pb	08 51 52.5	+1.9
TMWZ	Te Maipa	1.98	51	P	Pn	08 51 47.7	-1.0
MRZ	Mangatainoka R	2.14	37		Pn	08 51 50.3	-0.7
MRZ	Mangatainoka R	2.14	37	P	Pn	08 51 50.0	-1.0
WACZ	Wakanui South	2.16	223	P	Pn	08 51 50.5	-0.6
WVZ	Waitaha Valley	2.41	252	P	Pn	08 51 54.7	+0.1
PRWZ	Pori Road	2.41	42	P	Pn	08 51 53.5	-1.2
OHWZ	Ohakea	2.43	27	P	Pn	08 51 55.6	+0.7
POWZ	Post Office Ro	2.45	36	P	Pn	08 51 54.5	-0.6
RPZ	Rata Peaks	2.46	236	Pn	Pn	08 51 54.1	-1.2
	72nm,0.3s,baz=78,slow=2.1,SNR=49						
RPZ				Sn	Sn	08 52 23.3	-1.8
	89nm,0.3s,baz=320,slow=22,SNR=19						
RPZ				LR	LR	08 52 28.4	
	comp=Z,156nm,21.9s,baz=346,slow=30						
	271nm,0.4s						
RPZ	Rata Peaks	2.46	236	Pn	Pn	08 51 54.3	-0.9
RPZ	Rata Peaks	2.46	236	P	Pn	08 51 54.4	-0.9
RPZ	Rata Peaks	2.46	236	P	Pn	08 51 54.5	-0.8
BFZ	Birch Farm	2.46	47		Pn	08 51 53.8	-1.6
BFZ	Birch Farm	2.46	47	P	Pn	08 51 54.1	-1.3
ARCZ	Arundel	2.52	231	P	Pn	08 51 55.3	-0.8
DVHZ	Dannevirke	2.70	41	P	Pn	08 51 56.9	-1.8
DVHZ				P	Pn	08 51 56.9	-1.8
WAZ	Wanganui	2.75	18	P	Pn	08 52 00.5	+1.1
GCSZ	Gaunt Creek Bo	2.77	249	P	Pn	08 52 00.7	+1.2
TSZ	Takapari Road	2.80	35	P	Pn	08 51 58.7	-1.4
TMZ	Timaru	2.89	225	P	Pn	08 52 01.2	-0.1
LREZ	Lake Rotokare	2.94	8	P	Pn	08 52 03.5	+1.6
NMEZ	Namu Road	2.96	0	P	Pn	08 52 04.3	+2.1
PRHZ	Porangahau	2.97	46	P	Pn	08 52 00.2	-2.1
WPHZ	Waipukurau	3.02	41	P	Pn	08 52 01.4	-1.6
PNHZ	Pukenui	3.03	36	P	Pn	08 52 01.6	-1.6
KHEZ	Kahui Hut	3.08	2	P	Pn	08 52 06.5	+2.6
KHRZ	Kahui Hut	3.08	2	P	Pn	08 52 06.2	+2.2
NBEZ	Newall Road No	3.11	0	P	Pn	08 52 05.8	+1.6
NEZ	North Egmont	3.11	3	P	Pn	08 52 06.4	+2.0
PKE	Pukeiti	3.18	2	P	Pn	08 52 06.9	+1.7
FOZ	Fox Glacier	3.19	247	Pn	Pn	08 52 05.5	+0.2
FOZ	Fox Glacier	3.19	247	P	Pn	08 52 06.2	+0.9
DREZ	Durham Road	3.19	5	P	Pn	08 52 06.7	+1.3
MTVZ	Mangateitei	3.23	23	P	Pn	08 52 07.0	+1.0
PXZ	Pawanui	3.26	45	P	Pn	08 52 04.5	-1.7
PKVZ	Pokaka	3.28	20	P	Pn	08 52 07.3	+0.6
MOVZ	Moawhango	3.29	26	P	Pn	08 52 06.2	-0.6
MHEZ	Mangahewa	3.32	6	P	Pn	08 52 09.1	+2.0
WNVZ	Wahianoa	3.32	24	P	Pn	08 52 07.9	+0.6
VRZ	Vera Road	3.32	12	P	Pn	08 52 08.1	+1.0
BHHZ	Black Hill Sta	3.33	31	P	Pn	08 52 06.8	-0.5
LBZ	Lake Benmore	3.35	232	Pn	Pn	08 52 06.9	-0.7
LBZ	Lake Benmore	3.35	232	P	Pn	08 52 07.2	-0.4
DRZ	Dome Shelter	3.36	23	P	Pn	08 52 08.6	+0.6
WHWZ	Whangaehu Hut	3.36	23	P	Pn	08 52 09.2	+1.3
FWVZ	Far West T-bar	3.37	23	P	Pn	08 52 08.6	+0.5
TUVZ	Tukino	3.39	24	P	Pn	08 52 09.0	+0.8
KAHZ	Kahuranaki	3.44	42	P	Pn	08 52 07.4	-1.4
NGZ	Ngauruhoe	3.46	23	P	Pn	08 52 09.6	+0.4
SNVZ	South Ngauruho	3.46	23	P	Pn	08 52 10.3	+1.1
OTVZ	Oturere	3.49	24	P	Pn	08 52 09.8	+0.2
NNVZ	North Ngauruho	3.50	23	P	Pn	08 52 10.2	+0.4
TWVZ	Taurewa	3.51	20	P	Pn	08 52 10.0	+0.1
WTVZ	West Tongariro	3.51	22	P	Pn	08 52 10.4	+0.5
ETVZ	East Tongariro	3.53	24	P	Pn	08 52 10.7	+0.5
KWHZ	Kaweka Forest	3.53	34	P	Pn	08 52 09.0	-1.1
ODZ	Otahua Downs	3.54	220		Pn	08 52 09.4	-0.8
ODZ	Otahua Downs	3.54	220	P	Pn	08 52 09.6	-0.6
ODZ	Otahua Downs	3.54	220	P	Pn	08 52 09.6	-0.6
TMVZ	Te Maari	3.54	24	P	Pn	08 52 10.4	+0.1
KRVZ	Karewarewa	3.55	23	P	Pn	08 52 10.8	+0.4
NTVZ	North Tongariro	3.55	23	P	Pn	08 52 10.7	+0.2
MCHZ	McNeill Hill	3.63	37	P	Pn	08 52 11.9	+0.5
KATZ	Kakaramea	3.67	23	P	Pn	08 52 13.3	+1.2
BKZ	Black Stump Fm	3.78	33		Pn	08 52 12.5	-1.0
BKZ	Black Stump Fm	3.78	33	P	Pn	08 52 14.5	+1.0
BKZ	Black Stump Fm	3.78	33	P	Pn	08 52 13.8	+0.3
RATZ	Rangitukua	3.79	23	P	Pn	08 52 14.9	+1.2
ARHZ	Aropaoanui	3.91	38	P	Pn	08 52 13.7	-1.6
HIZ	Hauiti	3.93	11	Pn	Pn	08 52 16.2	+0.7
HIZ	Hauiti	3.93	11	P	Pn	08 52 16.7	+1.1
HIZ	Hauiti	3.93	11	P	Pn	08 52 16.3	+0.7
MRHZ	Matea Rd	4.04	30	P	Pn	08 52 15.1	-2.0
JCZ	Jackson Bay	4.08	244	P	Pn	08 52 19.1	+1.4
JCZ	Jackson Bay	4.08	244	P	Pn	08 52 22.3	+4.6
MTHZ	Maungataniwha	4.19	34	P	Pn	08 52 17.6	-1.5
HHSZ	Highcliff Hill	4.22	213	P	Pn	08 52 18.8	-0.7
RAHZ	Arahi	4.24	36	P	Pn	08 52 19.2	-0.6
TLZ	Tolley Road	4.24	18	P	Pn	08 52 19.8	0.0
ALRZ	Allen Road	4.25	22	P	Pn	08 52 18.4	-1.6
WKZ	Wanaka	4.29	234		Pn	08 52 20.2	-0.2
WKZ	Wanaka	4.29	234	P	Pn	08 52 19.6	-0.9
EAZ	Earnscleugh	4.36	228	P	Pn	08 52 20.3	-1.1
HRRZ	Handcock Road	4.39	26	P	Pn	08 52 20.3	-1.6
KNZ	Kokohu	4.43	42	P	Pn	08 52 20.3	-2.1
MHGZ	Mahia Peninsul	4.45	45	P	Pn	08 52 21.2	-1.5
OMRZ	Omania	4.68	25	P	Pn	08 52 26.6	+0.8
TUZ	Tuapeka	4.70	219	P	Pn	08 52 25.6	-0.4
KARZ	Kaharoa	4.72	23	P	Pn	08 52 26.0	-0.4
RIGZ	Rimuhau	4.72	40	P	Pn	08 52 24.0	-2.3
URZ	Urewera	4.80	32	P	Pn	08 52 26.4	-1.1
TOZ	Tahuroa Road	4.81	16	P	Pn	08 52 27.2	-0.3
MSZ	Milford Sound	4.89	240	P	Pn	08 52 32.2	+3.5
MLZ	Mavora Lakes	5.12	232	Pn	Pn	08 52 30.8	-1.1
MLZ	Mavora Lakes	5.12	232	P	Pn	08 52 31.4	-0.5
TWGZ	Tauwhareparae	5.24	38	P	Pn	08 52 31.5	-2.1
AWAZ	Awhitu Peninsu	5.34	7	P	Pn	08 52 35.4	+0.5
MKAZ	Moumakai	5.36	11	P	Pn	08 52 34.8	-0.3
SYZ	Scrubby Hill	5.36	218	P	Pn	08 52 34.9	-0.2
SYZ	Scrubby Hill	5.36	218	P	Pn	08 52 34.7	-0.5
WTAZ	Waiatarua	5.46	6	P	Pn	08 52 37.5	+0.8
ETAZ	East Tamaki Re	5.48	9	P	Pn	08 52 37.0	+0.2
HAZ	Te Kaha	5.51	34	P	Pn	08 52 35.1	-2.1
WHZ	Wether Hill Ro	5.52	228		Pn	08 52 36.1	-1.3
WHZ	Wether Hill Ro	5.52	228	P	Pn	08 52 36.0	-1.3
PKGZ	Pakihiroa	5.52	37	P	Pn	08 52 39.9	+2.4
EPAZ	Eden Park BICE	5.54	7	P	Pn	08 52 38.1	+0.5
HBAZ	Herne Bay Bore	5.56	7	P	Pn	08 52 38.7	+0.8
RVAZ	Riverhead Bore	5.63	6	P	Pn	08 52 39.1	+0.2
MBAZ	Motutapu North	5.66	8	P	Pn	08 52 39.4	+0.2
WIAZ	Waiheke Island	5.66	10	P	Pn	08 52 39.4	+0.1
DCZ	Deep Cove	5.75	235		Pn	08 52 38.4	-2.1
KUZ	Kuaotunu	5.80	15	P	Pn	08 52 40.7	-0.6
KUZ	Kuaotunu	5.80	15	P	Pn	08 52 40.4	-0.9
ABAZ	Army Bay	5.82	8	P	Pn	08 52 41.8	+0.6
MXZ	Matakana Point	5.89	37	Pn	Pn	08 52 40.3	-2.2
APZ	The Paps	6.12	221	P	Pn	08 52 44.6	-1.0
PYZ	Puysegur Point	6.40	231	Pn	Pn	08 52 49.9	+0.5
PYZ	Puysegur Point	6.40	231	P	Pn	08 52 49.4	0.0
PYZ	Puysegur Point	6.40	231	P	Pn	08 52 49.2	-0.2
CTZ	Chatham Island	7.10	104	P	Pn	08 52 58.4	-0.7
CTZ	Chatham Island	7.10	104	P	Pn	08 52 57.9	-1.2
OUZ	Omahuta	7.15	358	Pn	Pn	08 53 00.7	+0.9
OUZ	Omahuta	7.15	358	P	Pn	08 53 00.7	+0.9
OUZ	Omahuta	7.15	358	P	Pn	08 53 00.6	+0.9
DZM	Mont Dzumac	21.18	341	P	P	08 55 59.5	-1.2
	7.4nm,1.0s,baz=155,slow=18,SNR=2.7						
DZM				LR	LR	09 03 44.6	
	comp=Z,138nm,19.0s,baz=200,slow=36						
	7.4nm,1.0s						
KOUNC	Koumac, New Ca	23.21	337	P	P	08 56 22.9	+0.7
KOUNC				IAmb	IAmb	08 56 58.5	
	comp=Z,27nm,1.4s						
MSVF	Nonsavu	24.82	10	LR	LR	09 05 34.6	
	comp=Z,147nm,18.3s,baz=70,slow=35						
CTA	Charters Tower	32.18	305	LR	LR	09 10 18.3	
	comp=Z,63nm,18.3s,baz=82,slow=36						
VNDA	Vanda	35.60	184	LR	LR	09 11 30.0	
	comp=Z,60nm,19.2s,baz=7.5,slow=34						
ASAR	Alice Springs	37.93	287	P	P	08 58 31.1	-1.5
	comp=Z,0.6nm,0.5s,baz=125,slow=6.9,SNR=18						
	comp=Z,0.6nm,0.5s						
ASAR	Alice Springs	37.93	287	P	P	08 58 31.9	-0.8
WB2	Warramunga Arr	40.05	292	P	P	08 58 49.3	-1.2
WB2				IAmb	IAmb	08 58 57.2	
	comp=Z,6.7nm,0.8s						
WRA	Warramunga Arr	40.06	292	P	P	08 58 49.0	-1.5
	comp=Z,1.6nm,0.5s,baz=129,slow=8.5,SNR=26						
WRA				LR	LR	09 15 18.9	
	comp=Z,86nm,18.4s,baz=122,slow=36						
	comp=Z,1.6nm,0.5s						
WRA	Warramunga Arr	40.06	292	P	P	08 58 49.1	-1.5
WB0	Warramunga Arr	40.14	292	P	P	08 58 50.2	-1.0
WB0				IAmb	IAmb	08 58 57.2	
	comp=Z,5.0nm,0.7s						
CASY	Casey	41.52	213	P	P	08 59 03.1	+1.1
KNRA	Kununurra	46.83	291	P	P	08 59 44.8	-0.3
QSPA	South Pole Qui	47.75	180	P	P	08 59 54.2	+2.3
	comp=Z,2.1nm,0.8s,baz=33,slow=4.6,SNR=4.6						
	comp=Z,2.1nm,0.8s						
QSPA	South Pole Qui	47.75	180		P	08 59 53.8	+1.9
QSPA				IAmb	IAmb	09 00 14.3	
	comp=Z,9.8nm,1.4s						
BELA	Belgrano 2	58.76	173	P	P	09 01 13.7	+1.2
SNAA	Sanae	66.23	181	P	P	09 02 01.5	-1.1
SNAA				IAmb	IAmb	09 02 03.4	
	comp=Z,9.4nm,1.4s						
ARCES	ARCESS Array B	148.27	339	PKPbc	PKPdf	09 10 56.5	-0.1
	comp=Z,2.7nm,0.8s,baz=72,slow=2.9,SNR=4.6						
TORD	Torodi Ar. Bea	150.09	195	PKPbc	PKPbc	09 11 04.4	-1.8
	comp=Z,1.0nm,0.7s,baz=149,slow=1.1,SNR=6.3						
FINES	FINESS Array B	152.90	326	PKPbc	PKiKP	09 11 12.1	+0.6
	comp=Z,3.8nm,1.0s,baz=75,slow=1.6,SNR=3.9						

WEL 15 08:57:12.9±0.5, 43°S±2°×17°4E±°, h5km, M3.9/19, ML4.1/19, MLv3.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=109.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.26	302	P	Pg	08 57 18.1	0.0
KHZ				S	Sg	08 57 21.4	-0.1
GVZ	Greta Valley S	0.72	235	P	Pg	08 57 26.7	-0.1
BSWZ	Blackbirch Sta	0.84	2	P	Pg	08 57 29.2	+0.1
BSWZ				S	Sb	08 57 41.8	+0.2
THZ	Tophouse	1.05	318	P	Pg	08 57 32.2	-1.0
THZ				S	Sb	08 57 47.4	-0.4
AMCZ	Amberley	1.07	234	P	Pn	08 57 34.6	0.0
TUWZ	Tuamarina	1.13	4	P	Pg	08 57 34.1	-0.5
LTZ	Lake Taylor	1.18	258	P	Pb	08 57 35.8	-0.1
LTZ				S	Sn	08 57 52.6	-0.1
OKCZ	Okains Bay	1.30	206	P	Pn	08 57 37.6	-0.1
NNZ	Nelson	1.38	345	P	Pn	08 57 38.3	-0.5
NNZ				S	Sn	08 57 57.5	+0.1
TCW	Tory Channel	1.38	14	P	Pn	08 57 37.3	-1.6
TCW				S	Sn	08 57 58.4	+0.9
MRNZ	Matariki Terra	1.41	325	P	Pn	08 57 38.9	-0.4
MRNZ				S	Sb	08 57 58.0	0.0
MQZ	McQueen's Vall	1.44	217	P	Pn	08 57 38.8	-0.9
MQZ				S	Sb	08 57 58.5	-0.4
WEL	Wellington	1.45	29	P	Pn	08 57 38.1	-1.6
AKCZ	Akaroa Harbour	1.48	207	P	Pn	08 57 40.0	-0.3
AKCZ				S	Sb	08 58 00.2	+0.1
OXZ	Oxford	1.53	239	P	Pn	08 57 40.1	-0.8
OXZ				S	Sn	08 57 59.8	-1.5
TKNZ	Takaka Hill	1.66	336	P	Pn	08 57 42.4	-0.2
TKNZ				S	Sn	08 58 04.3	0.0
RACZ	Rakaia	1.71	226	P	Pn	08 57 42.6	-0.7
CAW	Cannon Point	1.71	33	P	Pn	08 57 41.7	-1.8
CAW				S	Sn	08 58 02.3	-3.4
DSZ	Denniston Nort	1.72	297	P	Pn	08 57 44.2	+0.6
DSZ				S	Sb	08 58 06.9	0.0
DUWZ	D'Urville Isla	1.75	2	P	Pn	08 57 44.1	+0.1
INZ	Inchbonnie	1.78	264	P	Pn	08 57 44.1	-0.2
INZ				S	Sn	08 58 06.8	-0.5
QRZ	Quartz Range	1.99	330	P	Pn	08 57 47.4	+0.2
WACZ	Wakanui South	2.02	226	P	Pn	08 57 46.9	-0.7
WVZ	Waitaha Valley	2.34	256	P	Pn	08 57 52.0	0.0
RPZ	Rata Peaks	2.35	239	P	Pn	08 57 51.2	-0.9
ARCZ	Arundel	2.39	234	P	Pn	08 57 52.0	-0.8
GCSZ	Gaunt Creek Bo	2.69	252	P	Pn	08 57 57.0	+0.1
TMZ	Timaru	2.76	228	P	Pn	08 57 57.4	-0.4
FOZ	Fox Glacier	3.11	250	P	Pn	08 58 02.6	0.0
LBZ	Lake Benmore	3.23	234	P	Pn	08 58 04.0	-0.3
ODZ	Otahua Downs	3.40	222	P	Pn	08 58 05.9	-0.7
VRZ	Vera Road	3.50	12	P	Pn	08 58 08.0	+0.1
JCZ	Jackson Bay	3.99	246	P	Pn	08 58 14.7	-0.1
HHSZ	Highcliff Hill	4.06	214	P	Pn	08 58 15.2	-0.6
HIZ	Hauiti	4.11	11	P	Pn	08 58 17.2	+0.8
WKZ	Wanaka	4.17	235	P	Pn	08 58 16.0	-1.2
EAZ	Earnscleugh	4.23	229	P	Pn	08 58 17.0	-1.0
TLZ	Tolley Road	4.42	18	P	Pn	08 58 20.2	-0.4
TUZ	Tuapeka	4.55	220	P	Pn	08 58 21.9	-0.5
MLZ	Mavora Lakes	5.00	234	P	Pn	08 58 27.1	-1.5
SYZ	Scrubby Hill	5.21	219	P	Pn	08 58 31.1	-0.3
WHZ	Wether Hill Ro	5.39	230	P	Pn	08 58 31.9	-2.1
AWAZ	Awhitu Peninsu	5.52	7	P	Pn	08 58 35.4	-0.3
MKAZ	Moumakai	5.54	11	P	Pn	08 58 34.8	-1.2
ETAZ	East Tamaki Re	5.66	9	P	Pn	08 58 37.7	0.0
MBAZ	Motutapu North	5.84	8	P	Pn	08 58 41.6	+1.6
APZ	The Paps	5.97	222	P	Pn	08 58 41.6	-0.4

*KRNET **15** 08:58:55.3±0.1, 40°.86N×71°.29E, mb2.7*
*SOME **15** 08:58:56.1, 40°.88N×71°.30E, h10km*
ISC 15 08:58:54.3±1.4, 40°.85N±0°.04×71°.34E±0°.04, h1km±19km, n11, σ0°.95/20, 7C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.69	347	⇑*i*P	Pg	08 59 07.0	-0.6
	baz=51						
TRKS				⇑*i*S	Sg	08 59 15.5	-1.1
	baz=51						
IUG	Iuzhnay	1.63	323	*e*P	Pg	08 59 25.5	+0.1
	187nm,0.2s						
IUG				*e*S	Sg	08 59 46.4	-0.1
	48nm,0.3s						
CHM	Chimkent	1.96	319	*e*P	Pg	08 59 32.5	+0.6
	188nm,0.2s						
CHM				*e*S	Sg	08 59 58.4	+1.1
	173nm,0.5s						
GAR	Garm	2.01	203	⇑*i*P	Pb	08 59 31.8	0.0
	baz=2.0						
GAR				⇑*i*S	Sg	08 59 58.6	-0.3
	baz=2.0						
DZA	Taraz	2.04	360	*e*P	Pg	08 59 34.0	+0.7
	50nm,0.1s						
DZA				*e*S	Sg	09 00 01.2	+1.5
	143nm,0.3s						
KK31	Karatay Array	2.33	345	Pn	Pb	08 59 36.9	-0.3
	1.2nm,0.3s,baz=167,slow=17,SNR=29						
KK31				Sn	Sb	09 00 07.8	+1.3
	1.7nm,0.3s,baz=167,slow=27,SNR=7.4						
KKAR	Karatay Array	2.33	345	⇑*i*P	Pb	08 59 36.2	-1.0
	baz=46						
KKAR				⇑*i*S	Sb	09 00 06.1	-0.5
	baz=46						
MRKS	Merke	2.36	36	*e*P	Pg	08 59 39.8	+0.3
	2.2nm,0.4s						
MRKS				*e*S	Sg	09 00 11.4	+1.4
	16nm,0.6s						
TKM2	Tokmak 2	3.79	56	⇑Lg	Lg	09 00 55.1	
	0.9nm,0.4s						
KST	Kastek	4.08	56	*e*P	Pg	09 00 12.2	-0.3
	1.0nm,0.3s						
KST				*e*S	Sg	09 01 06.5	+1.1
	3.3nm,1.1s						
BTLS	Baital	4.63	24	*e*P	Pg	09 00 21.6	-1.4
	0.5nm,0.3s						
BTLS				*e*S	Sg	09 01 22.5	-0.6
	3.2nm,0.5s						

*IDC **15** 09:02:38.4±5.4, 6°.77S×129°.43E, h98km±68km, mb4.0/1, mbtmp4.3/4, ML4.3/3, MS3.6/1, Error ellipse: s-maj=115.1km s-min=24.8km az=82.0*
*DJA **15** 09:02:41.5±0.4, 7°.5±3°×13°.0E±°, h201km±7km, M4.3/13, mb4.1/6, mB5.0/5, MLv4.4/13, Mw(mB)4.3/5*
*NEIC **15** 09:02:43.2±1.4, 6°.49S±0°.06×129°.82E±0°.09, h149km±10km, mb4.3/7, Error ellipse: s-maj=13.8km s-min=7.6km az=114.0*
ISC 15 09:02:41.6±0.7, 6°.58S±0°.05×129°.88E±0°.07, h146km, n45, σ2s20/46, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.99	135	P	Pn	09 03 19.1	+2.8
SAUI				S	Sn	09 03 47.0	+4.0
BNDI	Bandanaira	2.04	1	P	Pn	09 03 20.7	+3.7
AAI	Ambon	3.32	330	P	Pn	09 03 35.5	+2.5
KRAI	Karang Ratu	3.56	335	P	Pn	09 03 39.1	+3.1
NLAI	Namlea	4.32	320	P	Pn	09 03 52.1	+6.1
FAKI	Fak Fak	4.33	33	Pn	Pn	09 03 46.7	+0.5
FAKI	Fak Fak	4.33	33	P	Pn	09 03 46.8	+0.6
FAKI	Fak Fak	4.33	33	P	Pn	09 03 47.2	+1.0
SIJI	Sorong	5.84	14	P	Pn	09 04 06.7	+0.6
	13nm,0.3s,baz=102,slow=4.0,SNR=19						
SIJI				S	Sn	09 05 08.9	-3.4
	39nm,0.2s,baz=340,slow=23,SNR=10						
	36nm,0.2s						
SIJI	Sorong	5.84	14	P	Pn	09 04 06.3	+0.1
MTN	Manton Dam	6.35	169	Pn	Pn	09 04 13.4	+0.4
MTN	Manton Dam	6.35	169	P	Pn	09 04 13.4	+0.4
LBMI	Labuha	6.36	338	P	Pn	09 04 15.1	+2.0
	0.2nm1μm73nm,0.8s						
SOEI	Soe	6.39	240	Pn	Pn	09 04 15.1	+1.6
SOEI	Soe	6.39	240	P	Pn	09 04 15.5	+1.9
	0.3nm20nm,0.8s						
SOEI	Soe	6.39	240	P	Pn	09 04 15.2	+1.6
KDU	Kakadu	6.59	157	P	Pn	09 04 16.6	+0.4
MWPI	Manokwari, Pap	6.98	37	P	Pn	09 04 20.7	-0.7
	0.3nm69nm,0.9s						
BATI	Baumata	7.13	239	P	Pn	09 04 25.1	+1.7
	0.3nm52nm,0.7s						
KNRA	Kununurra	9.11	187		Pn	09 04 48.8	-1.1
KNRA	Kununurra	9.11	187	P	Pn	09 04 48.7	-1.2
PLAI	Plampang	12.20	259	P	Pn	09 05 29.5	-1.2
	14nm,1.1s						
PLAI	Plampang	12.20	259	P	Pn	09 05 30.6	-0.1
TWSI	Taliwang, Sumb	13.06	260	P	Pn	09 05 41.7	-0.1
WB0	Warramunga Arr	13.83	162		Pn	09 05 48.9	-2.7
WRAB	Tennant Creek	13.97	162	P	Pn	09 05 51.0	-2.4
WRA	Warramunga Arr	13.98	162	P	Pn	09 05 50.8	-2.6
	1.6nm,0.3s,baz=339,slow=13,SNR=35						
WRA				S	Sn	09 08 16.8	-12
	1.9nm,0.3s,baz=344,slow=17,SNR=7.7						
	2.7nm,0.4s						
WRA	Warramunga Arr	13.98	162		Pn	09 05 51.5	-1.9
WB2	Warramunga Arr	13.98	162		Pn	09 05 51.2	-2.3
WR0	Warramunga Arr	14.05	162		Pn	09 05 53.3	-1.1
COEN	Coen	14.99	120	Pn	Pn	09 06 06.6	+0.4
COEN				IAmb	IAmb	09 06 16.8	
	comp=Z,22nm,1.4s						
COEN	Coen	14.99	120	P	Pn	09 06 06.7	+0.4
PMG	Port Moresby	17.34	100	P	Pn	09 06 36.4	+1.4
PMG				IAmb	IAmb	09 07 00.4	
	comp=Z,12nm,0.9s						
ASAR	Alice Springs	17.43	168	P	P	09 06 34.9	-0.2
	comp=Z,0.7nm,0.3s,baz=340,slow=9.9,SNR=24						
ASAR				S	S	09 09 40.6	-8.5
	comp=Z,1.1nm,0.5s,baz=345,slow=25,SNR=6.1						
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	17.43	168	P	Pn	09 06 36.9	+1.0
MBWA	Marble Bar	17.51	213	P	P	09 06 36.0	+0.1
MBWA				IAmb	IAmb	09 06 51.0	
	comp=Z,20nm,1.4s						
PSA00	Pilbara Seismi	17.79	212	P	P	09 06 39.1	+0.2
PSA00				IAmb	IAmb	09 07 01.2	
	comp=Z,28nm,1.5s						
DZM	Mont Dzumac	38.49	117	P	P	09 09 51.3	+1.3
RAO	Raoul Island	54.03	121	LR	LR	09 34 44.7	
	comp=Z,60nm,19.3s,baz=346,slow=36						
MK31	Makanchi Array	67.81	327	P	P	09 13 24.4	+0.5
MKAR	Makanchi Array	67.81	327	P	P	09 13 25.4	+1.5
	comp=Z,1.6nm,0.4s,baz=118,slow=7.9,SNR=20						
	comp=Z,1.6nm,0.4s						
MKAR	Makanchi Array	67.81	327	P	P	09 13 24.2	+0.4
MAKZ	Makanchi	67.98	327	P	P	09 13 24.1	-0.9
MAKZ				IAmb	IAmb	09 13 53.0	
	comp=Z,4.1nm,1.1s						
BMAR	Burnt Mountain	94.31

WEL 15 09:09:16.2±0.3, 42˚S×17˚4E±˚, h5km, M3.0/25, ML3.5/18, MLv3.0/25, Error ellipse: s-maj=0.0km s-min=0.0km az=155.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.12**	**216**	P	Pg	09 09 18.4	-0.2
BSWZ	**Blackbirch Sta**	**0.33**	**260**	P	Pg	09 09 22.6	0.0
BSWZ				S	Sg	09 09 28.3	+1.4
TUWZ	**Tuamarina**	**0.35**	**310**	P	Pg	09 09 23.6	+0.5
TUWZ				S	Sb	09 09 29.4	-1.5
TCW	**Tory Channel**	**0.45**	**357**	P	Pg	09 09 25.4	+0.6
TCW				S	Sg	09 09 31.6	+1.0
BHW	**Baring Head**	**0.49**	**60**	P	Pg	09 09 26.4	+0.7
WEL	**Wellington**	**0.51**	**43**	P	Pb	09 09 26.9	-0.8
WEL				S	Sb	09 09 34.7	-0.6
PLWZ	**Palliser**	**0.72**	**83**	P	Pb	09 09 30.9	-0.4
MSWZ	**Moikau Station**	**0.75**	**72**	P	Pb	09 09 31.2	-0.6
CAW	**Cannon Point**	**0.79**	**46**	P	Pg	09 09 31.8	+0.4
NNZ	**Nelson**	**0.82**	**302**	P	Pg	09 09 31.9	-0.1
PAWZ	**Paruwai Farm**	**0.89**	**72**	P	Pb	09 09 34.0	-0.1
DUWZ	**D'Urville Isla**	**0.90**	**341**	P	Pg	09 09 33.4	-0.1
KIW	**Kapiti Island**	**0.92**	**30**	P	Pg	09 09 33.8	0.0
MTW	**Mount Morrison**	**1.03**	**61**	P	Pg	09 09 36.0	0.0
THZ	**Tophouse**	**1.05**	**264**	P	Pg	09 09 36.2	-0.2
OGWZ	**Otaki Gorge**	**1.06**	**38**	P	Pg	09 09 36.5	-0.1
TRWZ	**Traveller**	**1.07**	**76**	P	Pg	09 09 36.1	-0.7
TKNZ	**Takaka Hill**	**1.19**	**301**	P	Pg	09 09 38.7	-0.3
MRNZ	**Matariki Terra**	**1.19**	**282**	P	Pg	09 09 38.9	-0.2
TMWZ	**Te Maipa**	**1.31**	**66**	P	Pn	09 09 39.6	-1.6
MRZ	**Mangatainoka R**	**1.38**	**44**	P	Pn	09 09 41.3	-0.9
QRZ	**Quartz Range**	**1.58**	**301**	P	Pb	09 09 46.1	+0.3
GVZ	**Greta Valley S**	**1.61**	**215**	P	Pg	09 09 48.5	+1.3
OHWZ	**Ohakea**	**1.64**	**28**	P	Pb	09 09 47.2	+0.3
PRWZ	**Pori Road**	**1.67**	**49**	P	Pn	09 09 44.9	-1.3
POWZ	**Post Office Ro**	**1.68**	**42**	P	Pn	09 09 45.6	-0.6
BFZ	**Birch Farm**	**1.76**	**57**	P	Pn	09 09 46.5	-0.8
DSZ	**Denniston Nort**	**1.87**	**266**	P	Pb	09 09 50.0	-1.0
LTZ	**Lake Taylor**	**1.88**	**233**	P	Pn	09 09 47.7	-1.4
DVHZ	**Dannevirke**	**1.96**	**47**	P	Pb	09 09 48.5	-1.6
WAZ	**Wanganui**	**1.97**	**15**	P	Pb	09 09 53.1	+0.6
TSZ	**Takapari Road**	**2.03**	**39**	P	Pn	09 09 50.2	-1.0
WPHZ	**Waipukurau**	**2.27**	**46**	P	Pg	09 09 59.8	+0.1
KHEZ	**Kahui Hut**	**2.37**	**355**	P	Pg	09 10 01.1	-0.5
PKE	**Pukeiti**	**2.47**	**354**	P	Pb	09 10 00.4	-0.7
MOVZ	**Moawhango**	**2.50**	**27**	P	Pb	09 10 01.1	-0.6
WNVZ	**Wahianoa**	**2.53**	**23**	P	Pb	09 10 01.9	-0.3
PXZ	**Pawanui**	**2.53**	**51**	P	Pg	09 10 03.6	-1.1
BHHZ	**Black Hill Sta**	**2.54**	**32**	P	Pb	09 10 01.7	-0.7
VRZ	**Vera Road**	**2.55**	**8**	P	Pb	09 10 01.3	-1.2
NGZ	**Ngauruhoe**	**2.67**	**22**	P	Pb	09 10 05.2	+0.7
SNVZ	**South Ngauruho**	**2.67**	**23**	P	Pb	09 10 03.0	-1.6
OTVZ	**Oturere**	**2.70**	**23**	P	Pb	09 10 04.9	-0.1
NNVZ	**North Ngauruho**	**2.71**	**22**	P	Pb	09 10 05.4	+0.1
WTVZ	**West Tongariro**	**2.72**	**22**	P	Pb	09 10 05.6	+0.2
ETVZ	**East Tongariro**	**2.74**	**24**	P	Pb	09 10 06.1	+0.4
KWHZ	**Kaweka Forest**	**2.75**	**37**	P	Pb	09 10 06.9	+1.0
TMWZ	**Te Maari**	**2.75**	**23**	P	Pb	09 10 05.7	-0.3
KRVZ	**Karewarewa**	**2.75**	**22**	P	Pb	09 10 06.3	+0.3
BKZ	**Black Stump Fm**	**3.00**	**35**	P	Pb	09 10 10.5	+0.4
HIZ	**Hauiti**	**3.17**	**8**	P	Pb	09 10 10.4	-2.6

IDC 15 09:10:00.8±2.6, 42˚10S×173˚79E, h0km, mb3.3/2, mbtmp3.3/2, ML4.5/1, MS2.6/1, Error ellipse: s-maj=51.6km s-min=37.9km az=117.0
WEL 15 09:10:03.3±0.3, 42˚S±2˚×17˚4E±˚, h10km±2km, M4.1/24, ML4.2/24, MLv4.1/24, Error ellipse: s-maj=0.0km s-min=0.0km az=124.2
NEIC 15 09:10:03.6±1.8, 42˚.09S±0˚.03×173˚.81E±0˚.05, h20km±6km, mb4.2/7, Error ellipse: s-maj=5.5km s-min=3.2km az=123.0
NOU 15 09:10:04.6, 42˚.49S×174˚.28E, h60km, MLv4.6/9, Off E. Coast of S. Island, N.Z.

ISC 15 09:10:03.7±0.7, 42˚.10S±0˚.02×173˚.82E±0˚.02, h22km±5km, n156, σ1§23/174, mb4.1/7, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.38**	**214**		**Pb**	**09 10 11.6**	**-0.1**
KHZ				Sg	**Sb**	**09 10 17.7**	**+0.6**
KHZ	**Kahutara**	**0.38**	**214**	P	**Pb**	**09 10 11.6**	**-0.1**
KHZ				S	**Sb**	**09 10 17.4**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.39**	**6**		**Pb**	**09 10 11.2**	**-0.8**
BSWZ				Sg	**Sb**	**09 10 17.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.39**	**6**	P	**Pb**	**09 10 11.2**	**-0.8**
BSWZ				S	**Sb**	**09 10 16.7**	**-0.8**
CMWZ	**Cape Campbell**	**0.46**	**40**		**Pb**	**09 10 13.7**	**+0.6**
CMWZ	**Cape Campbell**	**0.46**	**40**	P	**Pb**	**09 10 13.7**	**+0.6**
TUWZ	**Tuamarina**	**0.68**	**8**		**Pb**	**09 10 16.6**	**-0.3**
TUWZ				Sg	**Sb**	**09 10 25.6**	**-0.2**
TUWZ	**Tuamarina**	**0.68**	**8**	P	**Pb**	**09 10 16.6**	**-0.3**
TUWZ				S	**Sb**	**09 10 25.8**	**-0.1**
THZ	**Tophouse**	**0.76**	**296**		**Pb**	**09 10 17.5**	**-0.8**
THZ				Sg	**Sb**	**09 10 27.4**	**-0.9**
THZ	**Tophouse**	**0.76**	**296**	P	**Pb**	**09 10 17.6**	**-0.8**
NNZ	**Nelson**	**0.94**	**339**		**Pb**	**09 10 20.8**	**-0.6**
NNZ	**Nelson**	**0.94**	**339**	P	**Pb**	**09 10 20.8**	**-0.6**
NNZ				S	**Sb**	**09 10 33.2**	**-0.2**
TCW	**Tory Channel**	**0.95**	**21**		**Pb**	**09 10 21.3**	**-0.3**
TCW	**Tory Channel**	**0.95**	**21**	P	**Pb**	**09 10 21.4**	**-0.2**
SNZO	**South Karori**	**1.03**	**40**		**Pb**	**09 10 23.6**	**+0.7**
GVZ	**Greta Valley S**	**1.04**	**214**		**Pb**	**09 10 23.8**	**+0.7**
GVZ	**Greta Valley S**	**1.04**	**214**	P	**Pb**	**09 10 23.8**	**+0.7**
GVZ				S	**Sn**	**09 10 39.3**	**+2.4**
MRNZ	**Matariki Terra**	**1.06**	**311**		**Pn**	**09 10 23.1**	**-0.2**
MRNZ	**Matariki Terra**	**1.06**	**311**	P	**Pn**	**09 10 23.2**	**0.0**
MRNZ				S	**Sn**	**09 10 38.5**	**+1.1**
WEL	**Wellington**	**1.08**	**41**	P	**Pb**	**09 10 24.4**	**+0.7**
WEL				S	**Sn**	**09 10 40.1**	**+2.3**
PLWZ	**Palliser**	**1.20**	**64**		**Pn**	**09 10 24.7**	**-0.5**
PLWZ	**Palliser**	**1.20**	**64**	P	**Pb**	**09 10 25.6**	**-0.2**
TKNZ	**Takaka Hill**	**1.25**	**329**		**Pn**	**09 10 26.1**	**+0.3**
TKNZ	**Takaka Hill**	**1.25**	**329**	P	**Pb**	**09 10 26.3**	**-0.3**
TKNZ				S	**Sb**	**09 10 42.5**	**+0.3**
MSWZ	**Moikau Station**	**1.27**	**58**		**Pn**	**09 10 26.4**	**+0.3**
MSWZ	**Moikau Station**	**1.27**	**58**	P	**Pn**	**09 10 26.5**	**+0.3**
MSWZ				S	**Sb**	**09 10 44.5**	**+1.6**
DUWZ	**D'Urville Isla**	**1.30**	**3**	P	**Pb**	**09 10 27.3**	**-0.2**
DUWZ				S	**Sb**	**09 10 44.5**	**+0.7**
LTZ	**Lake Taylor**	**1.33**	**239**	Pn	**Pb**	**09 10 27.9**	**-0.2**
LTZ	**Lake Taylor**	**1.33**	**239**	P	**Pb**	**09 10 28.0**	**0.0**
LTZ				S	**Sb**	**09 10 45.9**	**+1.2**
CAW	**Cannon Point**	**1.36**	**44**	P	**Pb**	**09 10 28.1**	**-0.5**
CAW				S	**Sb**	**09 10 46.6**	**+1.0**
AMCZ	**Amberley**	**1.38**	**218**		**Pn**	**09 10 27.9**	**+0.4**
AMCZ	**Amberley**	**1.38**	**218**	P	**Pn**	**09 10 28.0**	**+0.4**
PAWZ	**Paruwai Farm**	**1.40**	**60**	P	**Pn**	**09 10 28.0**	**0.0**
KIW	**Kapiti Island**	**1.49**	**34**	P	**Pb**	**09 10 30.1**	**-0.5**
DSZ	**Denniston Nort**	**1.55**	**283**		**Pb**	**09 10 31.2**	**-0.4**
DSZ	**Denniston Nort**	**1.55**	**283**	P	**Pb**	**09 10 32.2**	**+0.6**
DSZ				S	**Sb**	**09 10 51.8**	**+1.0**
TRWZ	**Traveller**	**1.56**	**64**	P	**Pn**	**09 10 30.0**	**-0.2**
MTW	**Mount Morrison**	**1.57**	**54**	P	**Pn**	**09 10 30.3**	**0.0**
MTW				S	**Sb**	**09 10 51.1**	**-0.5**
QRZ	**Quartz Range**	**1.60**	**322**	Pn	**Pb**	**09 10 31.8**	**-0.8**
QRZ	**Quartz Range**	**1.60**	**322**	P	**Pb**	**09 10 32.3**	**-0.3**
QRZ				S	**Sb**	**09 10 53.2**	**+0.8**
OGWZ	**Otaki Gorge**	**1.64**	**39**	P	**Pb**	**09 10 31.8**	**+0.6**
OGWZ				S	**Sb**	**09 10 53.3**	**-0.1**
OKCZ	**Okains Bay**	**1.71**	**199**	P	**Pn**	**09 10 32.2**	**0.0**
HOWZ	**Holdsworth Sta**	**1.75**	**47**	P	**Pb**	**09 10 37.3**	**+2.1**
OXZ	**Oxford**	**1.79**	**226**		**Pn**	**09 10 33.1**	**-0.2**
OXZ	**Oxford**	**1.79**	**226**	P	**Pn**	**09 10 33.1**	**-0.2**
MQZ	**McQueen's Vall**	**1.82**	**208**	Pn	**Pn**	**09 10 32.8**	**-0.8**
MQZ	**McQueen's Vall**	**1.82**	**208**	P	**Pn**	**09 10 32.9**	**-0.7**
TMWZ	**Te Maipa**	**1.84**	**58**	P	**Pn**	**09 10 33.7**	**-0.4**
INZ	**Inchbonnie**	**1.87**	**250**		**Pn**	**09 10 35.2**	**+0.9**
INZ	**Inchbonnie**	**1.87**	**250**	P	**Pb**	**09 10 36.0**	**-1.1**
AKCZ	**Akaroa Harbour**	**1.89**	**200**	P	**Pn**	**09 10 34.5**	**-0.2**
MRZ	**Mangatainoka R**	**1.96**	**43**		**Pn**	**09 10 35.7**	**+0.1**
MRZ	**Mangatainoka R**	**1.96**	**43**	P	**Pn**	**09 10 35.7**	**+0.1**
RACZ	**Rakaia**	**2.04**	**217**	P	**Pn**	**09 10 36.2**	**-0.5**
TIWZ	**Tintock**	**2.04**	**50**	P	**Pb**	**09 10 42.9**	**+2.8**
MHCZ	**Mount Hutt**	**2.19**	**228**	P	**Pn**	**09 10 38.6**	**-0.1**
OHWZ	**Ohakea**	**2.21**	**31**	P	**Pb**	**09 10 40.9**	**-2.0**
PRWZ	**Pori Road**	**2.24**	**47**	P	**Pn**	**09 10 39.2**	**-0.2**
POWZ	**Post Office Ro**	**2.25**	**41**	P	**Pn**	**09 10 39.8**	**+0.1**
BFZ	**Birch Farm**	**2.31**	**53**	Pn	**Pn**	**09 10 39.1**	**-1.4**
BFZ	**Birch Farm**	**2.31**	**53**	P	**Pn**	**09 10 39.7**	**-0.8**
WACZ	**Wakanui South**	**2.34**	**218**	P	**Pn**	**09 10 40.3**	**-0.5**
WVZ	**Waitaha Valley**	**2.48**	**246**	P	**Pn**	**09 10 43.7**	**+1.0**
WAZ	**Wanganui**	**2.51**	**21**	P	**Pb**	**09 10 46.2**	**-1.8**
DVHZ	**Dannevirke**	**2.53**	**45**	P	**Pn**	**09 10 42.6**	**-0.8**
RPZ	**Rata Peaks**	**2.59**	**231**	Pn	**Pn**	**09 10 44.0**	**-0.4**
RPZ	96nm,0.3s,baz=244,slow=0.8,SNR=152			Sn	**Sn**	**09 11 15.3**	**+0.1**
RPZ	36nm,0.3s,baz=155,slow=24,SNR=29			LR	LR	09 11 45.8	
	comp=Z,134nm,21.1s,baz=326,slow=41						
RPZ	**Rata Peaks**	**2.59**	**231**	Pn	**Pn**	**09 10 44.3**	**0.0**
RPZ	**Rata Peaks**	**2.59**	**231**	P	**Pn**	**09 10 44.3**	**0.0**
RPZ	**Rata Peaks**	**2.59**	**231**	P	**Pn**	**09 10 44.0**	**-0.4**
TSZ	**Takapari Road**	**2.61**	**39**	P	**Pn**	**09 10 44.4**	**-0.1**
ARCZ	**Arundel**	**2.67**	**226**	P	**Pn**	**09 10 44.7**	**-0.7**
LREZ	**Lake Rotokare**	**2.68**	**10**	P	**Pb**	**09 10 50.8**	**-0.1**
NMEZ	**Namu Road**	**2.69**	**1**	P	**Pb**	**09 10 53.2**	**+2.1**
KHEZ	**Kahui Hut**	**2.81**	**3**	P	**Pb**	**09 10 53.7**	**+0.5**
KHEZ	**Kahui Hut**	**2.81**	**3**	P	**Pb**	**09 10 54.6**	**+1.3**
NBEZ	**Newall Road No**	**2.83**	**1**	P	**Pb**	**09 10 54.6**	**+1.0**
PNHZ	**Pukenui**	**2.83**	**40**	P	**Pn**	**09 10 47.2**	**-0.5**
NEZ	**North Egmont**	**2.84**	**4**	P	**Pb**	**09 10 54.6**	**+0.9**
GCSZ	**Gaunt Creek Bo**	**2.84**	**244**	P	**Pn**	**09 10 48.9**	**+1.1**
PKE	**Pukeiti**	**2.91**	**3**	P	**Pb**	**09 10 54.2**	**-0.7**
DREZ	**Durham Road**	**2.93**	**6**	P	**Pb**	**09 10 54.8**	**-0.4**
MTVZ	**Mangateitei**	**2.99**	**25**	P	**Pb**	**09 10 57.5**	**+1.2**
PKVZ	**Pokaka**	**3.04**	**23**	P	**Pb**	**09 10 57.9**	**+0.7**
VRZ	**Vera Road**	**3.06**	**14**	P	**Pb**	**09 10 54.6**	**-2.8**
MOVZ	**Moawhango**	**3.07**	**29**	P	**Pb**	**09 10 57.0**	**-0.7**
TMZ	**Timaru**	**3.07**	**221**	P	**Pn**	**09 10 50.4**	**-0.5**
WNVZ	**Wahianoa**	**3.08**	**27**	P	**Pb**	**09 10 55.5**	**-2.5**
TRVZ	**Turoa**	**3.09**	**26**	P	**Pb**	**09 10 58.9**	**+0.7**
BHHZ	**Black Hill Sta**	**3.12**	**34**	P	**Pb**	**09 10 58.6**	**+0.1**
WHVZ	**Whangaehu Hut**	**3.12**	**26**	P	**Pb**	**09 10 59.0**	**+0.4**
FWVZ	**Far West T-bar**	**3.14**	**25**	P	**Pb**	**09 10 59.4**	**+0.5**
TUVZ	**Tukino**	**3.16**	**27**	P	**Pn**	**09 10 53.8**	**+1.6**
SNVZ	**South Ngauruho**	**3.23**	**26**	P	**Pn**	**09 10 55.0**	**+1.8**
OTVZ	**Oturere**	**3.25**	**26**	P	**Pb**	**09 10 58.3**	**-2.6**
KAHZ	**Kahuranaki**	**3.27**	**46**	P	**Pn**	**09 10 52.1**	**-1.5**
NNVZ	**North Ngauruho**	**3.27**	**25**	P	**Pb**	**09 11 01.1**	**0.0**
FOZ	**Fox Glacier**	**3.27**	**243**	Pn	**Pn**	**09 10 54.8**	**+1.1**
FOZ	**Fox Glacier**	**3.27**	**243**	P	**Pn**	**09 10 54.8**	**+1.1**
WTVZ	**West Tongariro**	**3.27**	**25**	P	**Pb**	**09 10 59.9**	**-1.3**
KRVZ	**Karewarewa**	**3.31**	**25**	P	**Pb**	**09 11 01.4**	**-0.4**
TMVZ	**Te Maari**	**3.31**	**26**	P	**Pn**	**09 10 56.1**	**+1.7**
LBZ	**Lake Benmore**	**3.50**	**228**		**Pn**	**09 10 56.8**	**0.0**
LBZ	**Lake Benmore**	**3.50**	**228**	P	**Pn**	**09 10 56.6**	**-0.2**
BKZ	**Black Stump Fm**	**3.57**	**36**	Pn	**Pn**	**09 10 57.0**	**-0.8**
HIZ	**Hauiti**	**3.67**	**13**	Pn	**Pn**	**09 10 58.9**	**-0.2**
HIZ	**Hauiti**	**3.67**	**13**	P	**Pn**	**09 11 03.0**	**+3.8**
ARHZ	**Aropaoanui**	**3.73**	**41**	P	**Pn**	**09 10 59.5**	**-0.4**
ODZ	**Otahua Downs**	**3.74**	**217**	Pn	**Pn**	**09 10 59.3**	**-0.7**
ODZ	**Otahua Downs**	**3.74**	**217**	P	**Pn**	**09 10 59.6**	**-0.4**
ODZ	**Otahua Downs**	**3.74**	**217**	P	**Pn**	**09 10 59.3**	**-0.7**
MRHZ	**Matea Rd**	**3.82**	**32**	P	**Pn**	**09 11 00.4**	**-0.9**
TLZ	**Tolley Road**	**3.99**	**20**	P	**Pn**	**09 11 07.5**	**+3.9**
ALRZ	**Allen Road**	**4.03**	**29**	P	**Pn**	**09 11 03.3**	**-0.8**
JCZ	**Jackson Bay**	**4.18**	**240**	P	**Pn**	**09 11 06.4**	**+0.2**
JCZ	**Jackson Bay**	**4.18**	**240**	P	**Pn**	**09 11 06.3**	**+0.1**
MHGZ	**Mata Peninsul**	**4.28**	**48**	P	**Pn**	**09 11 06.8**	**-0.9**
WKZ	**Wanaka**	**4.43**	**230**	Pn	**Pn**	**09 11 08.9**	**-0.6**
WKZ	**Wanaka**	**4.43**	**230**	P	**Pn**	**09 11 09.0**	**-0.6**
HHSZ	**Highcliff Hill**	**4.44**	**210**	P	**Pn**	**09 11 09.2**	**-0.4**
EAZ	**Earnscleugh**	**4.53**	**225**	P	**Pn**	**09 11 09.9**	**-1.0**
TOZ	**Tahuroa Road**	**4.55**	**17**	P	**Pn**	**09 11 12.7**	**+1.5**
URZ	**Urewera**	**4.59**	**34**	P	**Pn**	**09 11 11.7**	**-0.1**
TUZ	**Tuapeka**	**4.89**	**217**	P	**Pn**	**09 11 15.4**	**-0.5**
TWGZ	**Tauwhareparae**	**5.05**	**40**	P	**Pn**	**09 11 17.3**	**-0.9**
AWAZ	**Awhitu Peninsu**	**5.07**	**7**	P	**Pn**	**09 11 21.0**	**+2.6**
MKAZ	**Moumakai**	**5.10**	**12**	P	**Pn**	**09 11 21.2**	**+2.4**
WTAZ	**Waiatarua**	**5.20**	**7**	P	**Pn**	**09 11 24.2**	**+4.1**
ETAZ	**East Tamaki Re**	**5.21**	**10**	P	**Pn**	**09 11 24.2**	**+3.8**
MLZ	**Mavora Lakes**	**5.26**	**230**	Pn	**Pn**	**09 11 20.4**	**-0.7**
MLZ	**Mavora Lakes**	**5.26**	**230**	P	**Pn**	**09 11 20.3**	**-0.7**
HAZ	**Te Kaha**	**5.30**	**36**	P	**Pn**	**09 11 20.5**	**-1.0**
RVAZ	**Riverhead Bore**	**5.36**	**7**	P	**Pn**	**09 11 26.2**	**+3.9**
MBAZ	**Motutapu North**	**5.39**	**9**	P	**Pn**	**09 11 29.2**	**+6.6**
WWAZ	**Waiheke Island**	**5.40**	**11**	P	**Pn**	**09 11 28.6**	**+3.7**
KUZ	**Kuaotunu**	**5.55**	**16**	P	**Pn**	**09 11 29.8**	**+4.9**
SYZ	**Scrubby Hill**	**5.56**	**216**	P	**Pn**	**09 11 24.8**	**-0.3**
SYZ	**Scrubby Hill**	**5.56**	**216**	P	**Pn**	**09 11 24.8**	**-0.3**
WHZ	**Wether Hill Ro**	**5.68**	**226**	Pn	**Pn**	**09 11 25.0**	**-1.8**
WHZ	**Wether Hill Ro**	**5.68**	**226**	P	**Pn**	**09 11 25.0**	**-1.8**
DCZ	**Deep Cove**	**5.88**	**233**	Pn	**Pn**	**09 11 27.9**	**-1.5**
APZ	**The Paps**	**6.30**	**219**	P	**Pn**	**09 11 34.3**	**-1.0**
PYZ	**Puysegur Point**	**6.55**	**229**	Pn	**Pn**	**09 11 38.1**	**-0.5**
PYZ	**Puysegur Point**	**6.55**	**229**	P	**Pn**	**09 11 38.3**	**-0.3**
PYZ	**Puysegur Point**	**6.55**	**229**	P	**Pn**	**09 11 37.8**	**-0.8**
OUZ	**Omahuta**	**6.88**	**358**	P	Pn	09 11 48.0	+4.8
OUZ	**Omahuta**	**6.88**	**358**	P	**Pn**	**09 11 46.6**	**+3.5**
MSVF	**Nonsavu**	**24.56**	**10**	P	**P**	**09 15 20.5**	**-1.5**
MSVF				IAmb	IAmb	09 15 22.0	
	comp=Z,12nm,1.1s						
EIDS	**Eidsvold**	**25.10**	**304**	P	**P**	**09 15 25.1**	**-1.7**
EIDS				IAmb	IAmb	09 15 29.3	
	comp=Z,11nm,1.3s						
STKA	**Stephens Creek**	**27.55**	**281**	P	**P**	**09 15 49.2**	**+0.3**
STKA				IAmb	IAmb	09 16 09.1	
	comp=Z,2.2nm,1.5s						
BBOO	**Buckleboo**	**31.17**	**275**	P	**P**	**09 16 20.1**	**-0.9**
ASAR	**Alice Springs**	**37.82**	**286**	P	**P**	**09 17 19.4**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=120,slow=6.6,SNR=6.0						
	comp=Z,0.2nm,0.4s						
WB2	**Warramunga Arr**	**39.92**	**291**	P	**P**	**09 17 35.9**	**-0.3**
WB2				IAmb	IAmb	09 17 58.9	
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**39.93**	**291**	P	**P**	**09 17 36.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=128,slow=8.4,SNR=7.3						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**39.93**	**291**	P	**P**	**09 17 36.1**	**-0.3**
WB0	**Warramunga Arr**	**40.01**	**292**	P	**P**	**09 17 37.0**	**0.0**
WB0				IAmb	IAmb	09 17 59.9	
	comp=Z,8.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**150.35**	**196**	PKPbc	**PKiKP**	**09 29 54.0**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=163,slow=2.3,SNR=2.7						

WEL 15 09:12:02.2±0.3, 42˚S×17˚4E±˚, h5km, M3.8/19, ML4.0/19, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=129.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.38**	**8**	P	Pg	09 12 10.0	+0.5
BSWZ				S	Sg	09 12 15.5	+1.0
KHZ	**Kahutara**	**0.38**	**211**	P	Pg	09 12 10.5	+0.9
KHZ				S	Sb	09 12 16.3	-1.4
CMWZ	**Cape Campbell**	**0.46**	**42**	P	Pb	09 12 12.7	0.0
TUWZ	**Tuamarina**	**0.67**	**9**	P	Pg	09 12 15.5	+0.5
TUWZ				S	Sg	09 12 24.7	+1.1
THZ	**Tophouse**	**0.75**	**296**	P	Pg	09 12 16.4	-0.2
THZ				S	Sg	09 12 26.3	0.0
NNZ	**Nelson**	**0.93**	**340**	P	Pg	09 12 19.6	-0.4
NNZ				S	Sg	09 12 31.5	-0.6
TCW	**Tory Channel**	**0.95**	**22**	P	Pg	09 12 20.2	-0.1
MRNZ	**Matariki Terra**	**1.05**	**311**	P	Pg	09 12 22.1	-0.1
GVZ	**Greta Valley S**	**1.05**	**213**	P	Pb	09 12 22.7	-0.1
GVZ				S	Sn	09 12 38.3	-0.3
WEL	**Wellington**	**1.08**	**42**	P	Pb	09 12 23.4	+0.1
PLWZ	**Palliser**	**1.20**	**65**	P	Pg	09 12 24.5	-0.7
TKNZ	**Takaka Hill**	**1.23**	**329**	P	Pg	09 12 25.2	-0.6
MSWZ	**Moikau Station**	**1.27**	**59**	P	Pg	09 12 25.4	-1.2
DUWZ	**D'Urville Isla**	**1.29**	**4**	P	Pn	09 12 26.2	-0.7
LTZ	**Lake Taylor**	**1.33**	**238**	P	Pn	09 12 26.9	-0.6
CAW	**Cannon Point**	**1.36**	**44**	P	Pn	09 12 27.1	-0.8
AMCZ	**Amberley**	**1.38**	**218**	P	Pn	09 12 27.0	-1.1
PAWZ	**Paruwai Farm**	**1.40**	**60**	P	Pn	09 12 27.0	-1.5
KIW	**Kapiti Island**	**1.48**	**34**	P	Pn	09 12 29.0	-0.5
DSZ	**Denniston Nort**	**1.53**	**282**	P	Pb	09 12 31.0	-0.2
TRWZ	**Traveller**	**1.57**	**64**	P	Pn	09 12 28.9	-1.8
MTW	**Mount Morrison**	**1.57**	**54**	P	Pn	09 12 29.2	-1.6
QRZ	**Quartz Range**	**1.59**	**322**	P	Pn	09 12 31.1	+0.2
OGWZ	**Otaki Gorge**	**1.63**	**39**	P	Pn	09 12 30.8	-0.8
OKCZ	**Okains Bay**	**1.72**	**198**	P	Pn	09 12 31.3	-1.5
OXZ	**Oxford**	**1.80**	**226**	P	Pn	09 12 32.0	-1.9
MQZ	**McQueen's Vall**	**1.82**	**207**	P	Pn	09 12 31.8	-2.4
TMWZ	**Te Maipa**	**1.84**	**59**	P	Pn	09 12 32.7	-1.9
INZ	**Inchbonnie**	**1.86**	**249**	P	Pn	09 12 34.9	+0.2
AKCZ	**Akaroa Harbour**	**1.90**	**200**	P	Pn	09 12 33.7	-1.6
MRZ	**Mangatainoka R**	**1.95**	**44**	P	Pn	09 12 34.7	-1.3
RACZ	**Rakaia**	**2.04**	**216**	P	Pn	09 12 35.1	-2.2
PRWZ	**Pori Road**	**2.24**	**47**	P	Pg	09 12 45.6	+0.5
WACZ	**Wakanui South**	**2.35**	**217**	P	Pn	09 12 39.5	-1.9
WVZ	**Waitaha Valley**	**2.47**	**246**	P	Pn	09 12 42.7	-0.4
DVHZ	**Dannevirke**	**2.52**	**46**	P	Pb	09 12 49.1	+1.1
RPZ	**Rata Peaks**	**2.59**	**230**	P	Pn	09 12 43.3	-1.5
ARCZ	**Arundel**	**2.68**	**225**	P	Pn	09 12 44.2	-1.7
GCSZ	**Gaunt Creek Bo**	**2.84**	**243**	P	Pn	09 12 48.3	+0.1
PKE	**Pukeiti**	**2.90**	**3**	P	Pb	09 12 52.9	-1.4
MOVZ	**Moawhango**	**3.06**	**30**	P	Pb	09 12 55.8	-1.3
TMZ	**Timaru**	**3.07**	**221**	P	Pn	09 12 49.9	-1.5
BHHZ	**Black Hill Sta**	**3.11**	**34**	P	Pb	09 12 57.5	-0.5
LBZ	**Lake Benmore**	**3.50**	**228**	P	Pn	09 12 55.7	-1.6
ODZ	**Otahua Downs**	**3.74**	**217**	P	Pn	09 12 58.6	-2.0
HHSZ	**Highcliff Hill**	**4.44**	**210**	P	Pn	09 13 08.5	-1.8
AWAZ	**Awhitu Peninsu**	**5.06**	**8**	P	Pn	09 13 21.6	+2.9
SYZ	**Scrubby Hill**	**5.57**	**215**	P	Pn	09 13 24.2	-1.4
APZ	**The Paps**	**6.31**	**219**	P	Pn	09 13 34.3	-1.6

*IDC 15

BUC 15 09:28:47.7±0.2, 45°.97N × 25°.27E, h5km, ml2.4/15, 45C-5D, Error ellipse: s-maj=2.5km s-min=1.4km az=163.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OZUR		**0.38**	**70**	⇑P	Pg	09 28 53.8	-1.3
OZUR				⇑S	Sg	09 29 00.3	+0.1
OZUR		**0.38**	**70**	⇑P	Pg	09 28 53.8	-1.3
OZUR				⇑S	Sg	09 29 00.3	+0.1
VOIR		**0.55**	**196**	⇑P	Pg	09 28 57.5	-0.7
VOIR				⇓S	Sg	09 29 06.5	+1.1
VOIR		**0.55**	**196**	⇑P	Pg	09 28 57.5	-0.7
VOIR				⇓S	Sg	09 29 06.5	+1.1
COVR	**Voineasa-Covas**	**0.67**	**100**	⇑P	Pg	09 29 00.6	+0.1
COVR				⇑S	Sg	09 29 09.4	+0.3
COVR	**Voineasa-Covas**	**0.67**	**100**	⇑P	Pg	09 29 00.6	+0.1
COVR				⇑S	Sg	09 29 09.4	+0.3
MLR	**Muntele Rosu**	**0.67**	**135**	⇑P	Pg	09 29 00.7	+0.2
MLR				⇑S	Sg	09 29 10.4	+1.1
MLR	**Muntele Rosu**	**0.67**	**135**	⇑P	Pg	09 29 00.7	+0.2
MLR				⇑S	Sg	09 29 10.4	+1.1
ARR	**Arges**	**0.74**	**217**	⇑P	Pg	09 29 02.1	+0.1
ARR				⇑S	Sb	09 29 13.5	-0.2
ARR	**Arges**	**0.74**	**217**	⇑P	Pg	09 29 02.1	+0.1
ARR				⇑S	Sb	09 29 13.5	-0.2
MTUR	**Matau**	**0.75**	**191**	⇑P	Pg	09 29 02.1	0.0
MTUR	**Matau**	**0.75**	**191**	⇑P	Pg	09 29 02.1	0.0
NEHR	**Nehoiu**	**0.90**	**126**	⇑P	Pg	09 29 04.6	-0.3
NEHR	**Nehoiu**	**0.90**	**126**	⇑P	Pg	09 29 04.6	-0.3
PLOR	**Plostina**	**0.97**	**96**	⇑P	Pg	09 29 06.3	0.0
PLOR				⇑S	Sg	09 29 19.2	+0.3
PLOR	**Plostina**	**0.97**	**96**	⇑P	Pg	09 29 06.3	0.0
PLOR				⇑S	Sg	09 29 19.2	+0.3
VRI	**Vrincioaia**	**1.02**	**95**	⇑P	Pb	09 29 07.6	-0.3
VRI				⇑S	Sb	09 29 22.4	+0.7
VRI	**Vrincioaia**	**1.02**	**95**	⇑P	Pb	09 29 07.6	-0.3
VRI				⇑S	Sb	09 29 22.4	+0.7
BISRR	**Bisoca**	**1.09**	**112**	⇑P	Pb	09 29 09.1	0.0
BISRR	**Bisoca**	**1.09**	**112**	⇑P	Pb	09 29 09.1	0.0
TESR	**Tescani**	**1.10**	**60**	⇑P	Pn	09 29 09.6	-0.2
TESR	**Tescani**	**1.10**	**60**	⇑P	Pn	09 29 09.6	-0.2
LOT	**Lotru**	**1.17**	**244**	⇑P	Pg	09 29 09.3	-0.9
LOT				⇑S	Sb	09 29 25.7	-0.3
LOT	**Lotru**	**1.17**	**244**	⇑P	Pg	09 29 09.3	-0.9
LOT				⇑S	Sb	09 29 25.7	-0.3
ARCR	**ARCALIA**	**1.28**	**331**	⇑P	Pn	09 29 12.3	0.0
ARCR	**ARCALIA**	**1.28**	**331**	⇑P	Pn	09 29 12.3	0.0
BURAR	**Bucovina Array**	**1.65**	**359**	⇑P	Pb	09 29 18.7	0.0
BURAR	**Bucovina Array**	**1.65**	**359**	⇑P	Pb	09 29 18.7	0.0
GZR	**Gura Zlata**	**1.84**	**253**	⇑P	Pn	09 29 20.6	+0.6
GZR	**Gura Zlata**	**1.84**	**253**	⇑P	Pn	09 29 20.6	+0.6
SURR	**Surduc**	**2.21**	**266**	⇓S	Sn	09 29 53.6	+1.0
SURR	**Surduc**	**2.21**	**266**	⇓S	Sn	09 29 53.6	+1.0
HERR	**Herculane**	**2.28**	**243**	⇓P	Pb	09 29 30.4	+1.0
BZS	**Buzias**	**2.58**	**264**	⇑P	Pb	09 29 35.2	+0.9

BEO 15 09:29:28.0±0.7, 44°.41N × 21°.91E, h0km, ML1.6/9, 3C-1D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUBS	**Kucevo**	**0.17**	**270**	*e*Pg	Pg	09 29 30.2	-1.0
KUBS				*e*Sg	Sg	09 29 33.0	-0.4
MDVR	**Moldovita**	**0.39**	**339**	⇑P	Pg	09 29 35.5	0.0
MDVR				⇓S	Sg	09 29 41.2	+0.6
HERR	**Herculane**	**0.59**	**38**	⇑S	Sg	09 29 45.7	-1.3
ZAGS	**Zajecar**	**0.65**	**159**	*e*Pg	Pg	09 29 39.5	-0.8
ZAGS				*e*Sg	Sg	09 29 48.5	-0.2
GRUS	**Gruza**	**1.01**	**239**	*e*Pg	Pg	09 29 47.2	-0.1
GRUS				*e*Sg	Sg	09 30 00.2	-0.1
TRUS	**Trudelj**	**1.09**	**261**	*e*Pg	Pg	09 29 48.2	-0.8
TRUS				*e*Sg	Sg	09 30 02.9	-0.3
BZS	**Buzias**	**1.22**	**350**	⇑S	Pg	09 29 50.9	-0.5
ZAPS	**Zavoj**	**1.25**	**155**	*e*Pg	Pg	09 29 50.8	-1.2
ZAPS				*e*Sg	Sg	09 30 08.3	0.0
SELS	**Selova**	**1.32**	**206**	*e*Pg	Pg	09 29 52.3	-1.1
SELS				*e*Sg	Sg	09 30 10.6	+0.1
DIVS	**Divibare**	**1.41**	**258**	*e*Pg	Pn	09 29 53.3	-1.8
DIVS				*e*Sg	Sg	09 30 12.6	-0.8
IVAS	**Ivanjica**	**1.52**	**237**	*e*Pg	Pn	09 29 54.5	-2.0
IVAS				*e*Sg	Sg	09 30 15.8	-1.0
BARS	**Barje**	**1.60**	**182**	*e*Pg	Sn	09 30 18.4	-0.5

WEL 15 09:32:17.1±0.4, 43°.S ×2°.×17°.3E±°, h5km, M3.3/7, ML3.5/7, MLv3.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=118.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.34**	**182**	P	Pg	09 32 24.2	+0.5
GVZ				S	Sb	09 32 30.3	-1.1
KHZ	**Kahutara**	**0.42**	**60**	P	Pg	09 32 25.8	+0.6
KHZ				S	Sb	09 32 33.0	-0.7
LTZ	**Lake Taylor**	**0.59**	**255**	P	Pg	09 32 28.7	+0.2
LTZ				S	Sb	09 32 37.8	-0.9
AMCZ	**Amberley**	**0.62**	**208**	P	Pb	09 32 29.8	-0.6
AMCZ				S	Sb	09 32 39.8	+0.3
THZ	**Tophouse**	**0.87**	**353**	P	Pg	09 32 33.9	+0.1
THZ				S	Sb	09 32 46.0	-0.8
OXZ	**Oxford**	**1.02**	**226**	P	Pg	09 32 36.2	-0.5
OXZ				S	Sb	09 32 51.2	+0.3
OKCZ	**Okains Bay**	**1.09**	**180**	P	Pg	09 32 37.1	-1.1
OKCZ				S	Sg	09 32 52.1	-0.2
MQZ	**McQueen's Vall**	**1.11**	**195**	P	Pg	09 32 36.8	-1.7
MQZ				S	Sg	09 32 51.9	-1.1
MRNZ	**Matariki Terra**	**1.25**	**350**	P	Pb	09 32 41.1	0.0
TUWZ	**Tuamarina**	**1.37**	**29**	P	Pg	09 32 43.3	-0.1
NNZ	**Nelson**	**1.43**	**10**	P	Pn	09 32 43.9	+0.1
TKNZ	**Takaka Hill**	**1.59**	**358**	P	Pb	09 32 47.1	0.0
TCW	**Tory Channel**	**1.69**	**33**	P	Pn	09 32 47.6	+0.4
QRZ	**Quartz Range**	**1.84**	**348**	P	Pb	09 32 51.6	+0.3
MSWZ	**Moikau Station**	**2.04**	**54**	P	Pn	09 32 51.0	-1.2
CAW	**Cannon Point**	**2.14**	**45**	P	Pn	09 32 52.7	-0.8
PAWZ	**Paruwai Farm**	**2.17**	**56**	P	Pn	09 32 52.4	-1.5
LBZ	**Lake Benmore**	**2.73**	**229**	P	Pn	09 32 59.9	-1.7
MRZ	**Mangatainoka R**	**2.73**	**45**	P	Pn	09 33 01.0	-0.7
TSZ	**Takapari Road**	**3.38**	**41**	P	Pn	09 33 09.2	-1.3
JCZ	**Jackson Bay**	**3.43**	**244**	P	Pn	09 33 10.3	-1.0
EAZ	**Earnscleugh**	**3.75**	**225**	P	Pn	09 33 13.4	-2.2
MLZ	**Mavora Lakes**	**4.49**	**231**	P	Pn	09 33 24.0	-1.8
SYZ	**Scrubby Hill**	**4.80**	**214**	P	Pn	09 33 28.5	-1.5
TKGZ	**Te Karaka**	**5.56**	**43**	P	Pn	09 33 39.0	-1.4
CNGZ	**Carnagh Statio**	**5.71**	**45**	P	Pn	09 33 34.1	-8.4

*SOME **15** 09:37:25.0, 41°.53N × 73°.95E, h5km*
*KRNET **15** 09:37:25.1±0.1, 41°.52N × 73°.96E, h16km, mb2.4*
*NNC **15** 09:37:27.4±0.8, 41°.69N × 73°.88E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=6.0km s-min=2.5km az=1.0*

ISC 15 09:37:25.2±1.8, 41°.55N±0°.09 × 73°.92E±0°.03, h7km±14km, n17, σ0°.90/30, 10C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.43**	**44**	⇑*i*P	**Pg**	**09 37 33.6**	**0.0**
	baz=40						
ARLS				⇑*i*S	**Sg**	**09 37 39.5**	**+0.2**
	baz=40						
UCH	**Uchtor**	**0.81**	**33**	⇑*i*P	**Pg**	**09 37 40.7**	**-0.1**
	baz=30						
UCH				⇑*i*S	**Sg**	**09 37 52.1**	**+0.8**
	baz=30						
MRKS	**Merke**	**1.30**	**337**	*e*P	**Pn**	**09 37 49.5**	**-0.3**
	2.5nm,0.3s						
MRKS				*e*S	**Sg**	**09 38 06.7**	**-0.2**
	4.7nm,0.2s						
MRKS	**Merke**	**1.30**	**337**	P	**Pn**	**09 37 49.0**	**-0.8**
	1.6nm,0.1s						
MRKS				S	**Sg**	**09 38 05.7**	**-1.2**
	4.3nm,0.3s						
USP	**Ospenovka**	**1.77**	**14**	⇑*i*P	**Pb**	**09 37 58.0**	**+0.1**
	baz=13						
USP				⇑*i*S	**Sg**	**09 38 21.9**	**0.0**
	baz=13						
BOOM	**Boomskoye usch**	**1.77**	**57**	⇓*i*P	**Pb**	**09 37 57.6**	**-0.5**
	baz=56						
BOOM				⇓*i*S	**Sg**	**09 38 21.3**	**-0.9**
	baz=56						
TKM2	**Tokmak 2**	**1.85**	**42**	⇑*i*P	**Pb**	**09 37 59.2**	**-0.2**
	baz=41						
TKM2				⇑*i*S	**Sg**	**09 38 24.1**	**-0.5**
	baz=41						
TKM2	**Tokmak 2**	**1.85**	**42**	⇑P	**Pb**	**09 37 59.5**	**+0.1**
	1.1nm,0.4s						
TKM2				⇑S	**Sb**	**09 38 23.1**	**+0.3**
	1.0nm,0.3s						
KST	**Kastek**	**2.12**	**45**	*e*P	**Pg**	**09 38 05.7**	**-0.2**
	1.7nm,0.2s						
KST				*e*S	**Sg**	**09 38 34.3**	**+0.8**
	2.2nm,1.0s						
KST	**Kastek**	**2.12**	**45**	Pg	**Pg**	**09 38 05.0**	**-0.9**
	2.1nm,0.3s						
KST				Lg	Lg	09 38 33.2	
	4.0nm,0.3s						
MTBS	**Maitube**	**2.44**	**49**	*e*P	**Pg**	**09 38 11.8**	**-0.1**
	2.8nm,0.4s						
MTBS				*e*S	**Sg**	**09 38 45.4**	**+1.9**
	6.0nm,0.7s						
KRBS	**Karabastau**	**2.50**	**31**	*e*P	**Pb**	**09 38 11.8**	**+1.3**
	6.5nm,0.3s						
KRBS				*e*S	**Sg**	**09 38 45.2**	**-0.4**
	2.6nm,0.3s						
KRBS	**Karabastau**	**2.50**	**31**	Pg	**Pb**	**09 38 11.8**	**+1.3**
	6.5nm,0.3s						
KRBS				Lg	Lg	09 38 44.8	
	2.6nm,0.3s						
KUU	**Kurty**	**2.94**	**37**	*e*P	**Pb**	**09 38 18.9**	**+1.0**
	2.2nm,0.3s						
KUU				*e*S	**Sg**	**09 38 58.1**	**-1.5**
	3.8nm,0.7s						
KUU	**Kurty**	**2.94**	**37**	Pg	**Pb**	**09 38 19.4**	**+1.5**
	2.4nm,0.3s						
KUU				Lg	Lg	09 38 58.2	
	3.7nm,0.6s						
KK31	**Karatay Array**	**2.96**	**303**	⇓Pg	**Pb**	**09 38 19.5**	**+1.3**
	0.5nm,0.6s,baz=121,slow=17,SNR=5.0						
KK31				⇓Lg	Lg	09 38 59.5	
	0.5nm,0.3s,baz=122,slow=30,SNR=5.2						
IUG	**luzhnay**	**2.96**	**283**	*e*P	**Pg**	**09 38 21.2**	**-0.7**
	39nm,0.5s						
IUG				*e*S	**Sg**	**09 39 01.1**	**+0.7**
	5.7nm,0.4s						

WEL 15 09:38:46.9±0.5, 43°.S ×3°.×17°.3E±°, h14km±6km, M3.6/20, ML3.7/9, MLv3.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=108.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.22**	**46**	P	Pb	09 38 52.8	+0.1
KHZ				S	Sb	09 38 57.1	+0.6
GVZ	**Greta Valley S**	**0.45**	**208**	P	Pb	09 38 57.3	+0.6
GVZ				S	Sn	09 39 05.1	-1.7
AMCZ	**Amberley**	**0.78**	**219**	P	Pn	09 39 03.1	-0.4
AMCZ				S	Sn	09 39 14.7	-0.3
THZ	**Tophouse**	**0.87**	**339**	P	Pg	09 39 02.3	-1.4
THZ				S	Sg	09 39 12.5	-2.6
OXZ	**Oxford**	**1.21**	**231**	P	Pn	09 39 08.9	-0.5
OXZ				S	Sb	09 39 24.9	-0.2
MQZ	**McQueen's Vall**	**1.24**	**203**	P	Pn	09 39 09.2	-0.5
MQZ				S	Sb	09 39 25.4	-0.4
NNZ	**Nelson**	**1.35**	**2**	P	Pb	09 39 12.0	0.0
INZ	**Inchbonnie**	**1.40**	**263**	P	Pb	09 39 12.0	0.0
INZ				S	Sb	09 39 30.7	+0.3
DSZ	**Denniston Nort**	**1.40**	**306**	P	Pn	09 39 12.0	0.0
DSZ				S	Sn	09 39 29.3	-1.0
RACZ	**Rakaia**	**1.45**	**217**	P	Pn	09 39 12.1	-0.5
RACZ				S	Sn	09 39 30.7	-0.7
TKNZ	**Takaka Hill**	**1.56**	**350**	P	Pn	09 39 14.7	+0.6
TKNZ				S	Sb	09 39 35.1	+0.1
WACZ	**Wakanui South**	**1.75**	**218**	P	Pn	09 39 16.3	-0.4
WACZ				S	Sn	09 39 38.0	-0.9
DUWZ	**D'Urville Isla**	**1.82**	**14**	P	Pb	09 39 20.4	+0.5
QRZ	**Quartz Range**	**1.84**	**341**	P	Pn	09 39 19.1	+1.1
WVZ	**Waitaha Valley**	**1.97**	**254**	P	Pn	09 39 19.3	-0.6
RPZ	**Rata Peaks**	**2.02**	**235**	P	Pn	09 39 20.0	-0.5
ARCZ	**Arundel**	**2.09**	**228**	P	Pn	09 39 20.6	-0.8
TMZ	**Timaru**	**2.48**	**222**	P	Pn	09 39 26.5	-0.3
FOZ	**Fox Glacier**	**2.75**	**248**	P	Pn	09 39 31.0	+0.5
ODZ	**Otahua Downs**	**3.15**	**217**	P	Pn	09 39 35.1	-0.8
NBEZ	**Newall Road No**	**3.32**	**7**	P	Pn	09 39 41.6	+3.1
PKE	**Pukeiti**	**3.41**	**9**	P	Pn	09 39 42.8	+3.2
JCZ	**Jackson Bay**	**3.64**	**244**	P	Pn	09 39 42.6	-0.2
EAZ	**Earnscleugh**	**3.94**	**226**	P	Pn	09 39 45.8	-1.1
SYZ	**Scrubby Hill**	**4.97**	**216**	P	Pn	09 40 00.9	-0.1
TOZ	**Tahuroa Road**	**5.11**	**20**	P	Pn	09 40 04.3	+1.3
AWAZ	**Awhitu Peninsu**	**5.59**	**11**	P	Pn	09 40 11.5	+2.0
MKAZ	**Moumakai**	**5.64**	**15**	P	Pn	09 40 11.4	+1.2
ETAZ	**East Tamaki Re**	**5.74**	**13**	P	Pn	09 40 13.4	+1.8
MBAZ	**Motutapu North**	**5.92**	**12**	P	Pn	09 40 16.2	+2.1
WIAZ	**Waiheke Island**	**5.94**	**14**	P	Pn	09 40 16.3	+2.0

WEL 15 09:40:45.2±0.4, 43°.S ×2°.×17°.3E±°, h7km±2km, M3.3/14, ML3.5/14, MLv3.3/14, Error ellipse: s-maj=0.0km s-min=0.0km az=119.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**70**	P	Pg	09 40 50.8	+0.2
KHZ				S	Sg	09 40 54.9	+0.7
GVZ	**Greta Valley S**	**0.47**	**194**	P	Pb	09 40 55.3	-0.6
GVZ				S	Sb	09 41 03.2	+0.1
LTZ	**Lake Taylor**	**0.73**	**248**	P	Pg	09 40 59.7	+0.4
LTZ				S	Sb	09 41 10.2	-0.4
AMCZ	**Amberley**	**0.78**	**211**	P	Pb	09 41 01.2	+0.1
THZ	**Tophouse**	**0.78**	**344**	P	Pg	09 41 00.3	+0.2
THZ				S	Sg	09 41 10.7	+0.5
BSWZ	**Blackbirch Sta**	**0.94**	**33**	P	Pb	09 41 03.9	0.0
OXZ	**Oxford**	**1.18**	**226**	P	Pg	09 41 07.0	-0.8
TUWZ	**Tuamarina**	**1.22**	**28**	P	Pg	09 41 08.4	-0.1
OKCZ	**Okains Bay**	**1.22**	**185**	P	Pg	09 41 07.8	-0.8
MQZ	**McQueen's Vall**	**1.26**	**198**	P	Pn	09 41 07.4	-1.8
DSZ	**Denniston Nort**	**1.28**	**306**	P	Pg	09 41 10.1	+0.3
NNZ	**Nelson**	**1.30**	**6**	P	Pn	09 41 09.6	-0.1
AKCZ	**Akaroa Harbour**	**1.38**	**189**	P	Pn	09 41 10.4	-0.6
RACZ	**Rakaia**	**1.44**	**212**	P	Pn	09 41 10.2	-1.5
TKNZ	**Takaka Hill**	**1.48**	**353**	P	Pn	09 41 12.8	+0.4
WACZ	**Wakanui South**	**1.74**	**214**	P	Pn	09 41 14.4	-1.5
DUWZ	**D'Urville Isla**	**1.79**	**18**	P	Pb	09 41 18.1	-0.3
WVZ	**Waitaha Valley**	**1.89**	**252**	P	Pn	09 41 18.0	+0.1
RPZ	**Rata Peaks**	**1.98**	**232**	P	Pn	09 41 18.3	-0.9
ARCZ	**Arundel**	**2.06**	**225**	P	Pn	09 41 19.0	-1.3
TMZ	**Timaru**	**2.46**	**220**	P	Pn	09 41 26.0	+0.2
AWAZ	**Awhitu Peninsu**	**5.55**	**12**	P	Pn	09 42 08.8	+0.6
MKAZ	**Moumakai**	**5.61**	**16**	P	Pn	09 42 09.9	+0.8
ETAZ	**East Tamaki Re**	**5.71**	**14**	P	Pn	09 42 11.5	+1.1
WIAZ	**Waiheke Island**	**5.90**	**15**	P	Pn	09 42 14.3	+1.2

NNC 15 09:50:21.2±3.3, 53°.86N × 90°.83E, h0km, mb3.6, mpv3.4, 9C-2D, Error ellipse: s-maj=25.7km s-min=20.0km az=55.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.56**	**274**	⇑Pg	Pb	09 51 24.4	-0.5
	1.1nm,0.7s						
ZAA0				⇑Lg	Lg	09 52 15.1	
	7.5nm,1.1s						
KURK	**Kurchatov**	**8.12**	**252**	⇑Pn	Pn	09 52 20.8	+0.6
	2.2nm,0.8s						
KURK				⇑Lg	Lg	09 54 40.3	
	13nm,1.1s						
KURBB	**Kurchatov Arra**	**8.21**	**252**	⇑Pn	Pn	09 52 22.2	+0.7
	2.8nm,0.6s						
KURBB				⇑Sn	Sn	09 53 57.6	+2.8
	11nm,0.7s						
KURBB				⇑Lg	Lg	09 54 41.6	
	33nm,1.1s						
MK31	**Makanchi Array**	**8.93**	**221**	⇓Pn	Pn	09 52 32.5	+1.2
	1.1nm,0.7s,baz=41,slow=13,SNR=9.6						
MK31				⇑Sn	Sn	09 54 11.8	-0.7
	2.1nm,0.8s						
MK31				⇓Lg	Lg	09 55 05.8	
	9.6nm,0.9s,baz=42,slow=32,SNR=3.6						
MAKZ	**Makanchi**	**9.04**	**222**	⇑Lg	Lg	09 55 06.4	
	12nm,1.2s						

*NOU **15** 09:55:11.9, 42°.11S × 173°.01E, h71km, MLv4.5/14, South Island, New Zealand*
*WEL **15** 09:55:13.6±0.5, 42°.S ±3°.× 17°.3E±°, h55km±7km, M3.9/17, ML4.2/17, MLv3.9/17, Error ellipse: s-maj=0.0km s-min=0.0km az=120.7*

ISC 15 09:55:12.0±1.3, 42°.10S±0°.02 × 172°.88E±0°.03, h17km±10km, n132, σ1°.92/146, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.33**	**3**	P	**Pn**	**09 55 25.2**	**+3.0**
THZ				S	**Sn**	**09 55 33.4**	**+4.8**
KHZ	**Kahutara**	**0.58**	**124**	P	**Pn**	**09 55 28.3**	**+2.8**
KHZ				S	**Sn**	**09 55 38.5**	**+3.8**
MRNZ	**Matariki Terra**	**0.70**	**352**	P	**Pn**	**09 55 28.1**	**+0.9**
MRNZ				S	**Sn**	**09 55 38.5**	**+0.9**
LTZ	**Lake Taylor**	**0.82**	**213**	P	**Pn**	**09 55 30.4**	**+1.6**
LTZ				S	**Sn**	**09 55 43.0**	**+2.3**
BSWZ	**Blackbirch Sta**	**0.83**	**63**	P	**Pn**	**09 55 30.4**	**+1.4**
BSWZ				S	**Sn**	**09 55 43.6**	**+2.8**
DSZ	**Denniston Nort**	**0.88**	**293**	P	**Pn**	**09 55 29.9**	**+0.3**
DSZ				S	**Sn**	**09 55 41.5**	**-0.5**
GVZ	**Greta Valley S**	**0.88**	**173**	P	**Pn**	**09 55 31.7**	**+2.0**
GVZ				S	**Sn**	**09 55 44.1**	**+2.1**
NNZ	**Nelson**	**0.95**	**23**	P	**Pg**	**09 55 31.1**	**+0.6**
NNZ				S	**Sg**	**09 55 43.6**	**+0.6**
TUWZ	**Tuamarina**	**1.03**	**50**	P	**Pb**	**09 55 32.3**	**+0.9**
TUWZ				S	**Sb**	**09 55 45.3**	**+0.6**
CMWZ	**Cape Campbell**	**1.05**	**71**	P	**Pb**	**09 55 29.4**	**-2.4**
CMWZ				S	**Sn**	**09 55 48.7**	**-2.4**
TKNZ	**Takaka Hill**	**1.06**	**3**	P	**Pb**	**09 55 32.3**	**+0.4**
TKNZ				S	**Sb**	**09 55 45.5**	**-0.1**
AMCZ	**Amberley**	**1.09**	**189**	P	**Pg**	**09 55 33.7**	**+0.6**
AMCZ				S	**Sb**	**09 55 47.7**	**+1.3**
INZ	**Inchbonnie**	**1.24**	**239**	P	**Pn**	**09 55 34.9**	**+0.4**
INZ				S	**Sb**	**09 55 50.7**	**+0.1**
QRZ	**Quartz Range**	**1.30**	**348**	P	**Pn**	**09 55 34.7**	**-0.6**
QRZ	**Quartz Range**	**1.30**	**348**	P	**Pn**	**09 55 34.7**	**-0.6**
QRZ				S	**Sb**	**09 55 48.9**	**-3.3**
TCW	**Tory Channel**	**1.37**	**50**	P	**Pn**	**09 55 36.2**	**-0.1**
OXZ	**Oxford**	**1.38**	**207**	P	**Pn**	**09 55 36.5**	**0.0**
OXZ				S	**Sn**	**09 55 54.3**	**-0.1**
DUWZ	**D'Urville Isla**	**1.51**	**31**	P	**Pn**	**09 55 38.4**	**+0.1**
DUWZ				S	**Sn**	**09 55 58.1**	**+0.5**
MQZ	**McQueen's Vall**	**1.62**	**186**	P	**Pn**	**09 55 39.3**	**-0.4**
MQZ				S	**Sn**	**09 55 58.8**	**-1.4**
WEL	**Wellington**	**1.63**	**61**	P	**Pn**	**09 55 39.4**	**-0.5**
OKCZ	**Okains Bay**	**1.63**	**176**	P	**Pn**	**09 55 40.3**	**+0.3**
RACZ	**Rakaia**	**1.72**	**198**	P	**Pn**	**09 55 40.8**	**-0.3**
MHCZ	**Mount Hutt**	**1.73**	**214**	P	**Pn**	**09 55 41.2**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.78**	**179**	P	**Pn**	**09 55 41.7**	**-0.2**
PLWZ	**Palliser**	**1.85**	**74**	P	**Pn**	**09 55 41.7**	**-1.3**
WVZ	**Waitaha Valley**	**1.86**	**238**	P	**Pn**	**09 55 42.8**	**-0.3**
MSWZ	**Moikau Station**	**1.90**	**70**	P	**Pn**	**09 55 42.4**	**-1.2**
CAW	**Cannon Point**	**1.91**	**60**	P	**Pn**	**09 55 42.8**	**-1.0**
KIW	**Kapiti Island**	**1.96**	**52**	P	**Pn**	**09 55 43.7**	**-0.7**
WACZ	**Wakanui South**	**2.00**	**202**	P	**Pn**	**09 55 44.4**	**-0.6**
PAWZ	**Paruwai Farm**	**2.03**	**70**	P	**Pn**	**09 55 43.8**	**-1.7**
RPZ	**Rata Peaks**	**2.10**	**219**	P	**Pn**	**09 55 45.4**	**-1.1**
RPZ	**Rata Peaks**	**2.10**	**219**	P	**Pn**	**09 55 45.5**	**-0.9**
OGWZ	**Otaki Gorge**	**2.14**	**54**	P	**Pn**	**09 55 45.8**	**-1.2**
MTW	**Mount Morrison**	**2.17**	**65**	P	**Pn**	**09 55 45.6**	**-1.8**
TRWZ	**Traveller**	**2.21**	**73**	P	**Pn**	**09 55 46.1**	**-1.8**
ARCZ	**Arundel**	**2.23**	**213**	P	**Pn**	**09 55 47.7**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.25**	**236**	P	**Pn**	**09 55 48.8**	**+0.4**
TMWZ	**Te Maipa**	**2.46**	**67**	P	**Pn**	**09 55 49.2**	**-2.2**
MRZ	**Mangatainoka R**	**2.48**	**56**	P	**Pn**	**09 55 49.8**	**-1.8**
TIWZ	**Tintock**	**2.61**	**61**	P	**Pn**	**09 55 51.6**	**-1.9**
OHWZ	**Ohakea**	**2.63**	**45**	P	**Pn**	**09 55 53.1**	**-0.6**
TMZ	**Timaru**	**2.67**	**210**	P	**Pn**	**09 55 53.3**	**-0.9**
FOZ	**Fox Glacier**	**2.67**	**237**	P	**Pn**	**09 55 53.2**	**-1.1**
POWZ	**Post Office Ro**	**2.76**	**53**	P	**Pn**	**09 55 53.7**	**-1.8**
NMEZ	**Namu Road**	**2.78**	**16**	P	**Pn**	**09 55 55.5**	**-0.3**
PRWZ	**Pori Road**	**2.79**	**58**	P	**Pn**	**09 55 53.7**	**-2.2**

CTZ	**Chatham Island**	**7.88**	**106**	P	**Pn**	**09 57 03.0**	**-2.8**

IDC 15 09:57:34.5±2.4, 17°.00S×177°.59W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=137.2km s-min=29.2km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.57**	**259**	P	P	10 05 56.9	+0.2
	0.6nm,0.4s,baz=96,slow=7.6,SNR=30 0.6nm,0.4s						
ASAR	**Alice Springs**	**45.79**	**253**	P	P	10 05 58.0	-0.4
	1.2nm,0.5s,baz=92,slow=8.0,SNR=25 1.2nm,0.5s						
ILAR	**Eielson Array**	**84.84**	**13**	P	P	10 10 09.9	-0.7
	0.6nm,1.1s,baz=219,slow=4.9,SNR=4.0 0.6nm,1.1s						
TXAR	**Lajitas Array**	**84.86**	**57**	P	P	10 10 12.2	+0.6
	0.1nm,0.6s,baz=207,slow=5.7,SNR=2.4 0.1nm,0.6s						

IDC 15 10:00:05.8±2.7, 64°.58N×31°.00E, h0km, mbtmp2.9/3, ML2.1/2, Error ellipse: s-maj=35.6km s-min=9.2km az=102.0

HEL 15 10:00:05.1±0.2, 64°.68N×30°.73E, h0km, ML1.7, Explosion

ISC 15 10:00:04.9±1.2, 64°.71N±0°.03×30°.83E±0°.07, h0km, n24, σ1s68/38, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.63**	**219**	PG	**Pg**	**10 00 15.7**	**-1.3**
	baz=36						
KU6	**Riekki**	**1.38**	**344**	PG	**Pn**	**10 00 30.5**	**-0.9**
	baz=164						
KU6				MSG		10 00 47.1	
	comp=Z,5.4nm,0.2s						
KU6				SG	**Sg**	**10 00 48.7**	**-0.5**
MSF	**Maaselka**	**1.42**	**329**	PG	**Pn**	**10 00 29.8**	**-2.2**
MSF				SN	**Sg**	**10 00 50.7**	**+0.2**
OLKF	**Oulanka, Finla**	**1.72**	**340**	PN	**Pn**	**10 00 36.6**	**+0.5**
OLKF				SN	**Sb**	**10 01 00.4**	**+0.8**
JOF	**Joensuu**	**1.81**	**173**	PG	**Pn**	**10 00 36.9**	**-0.4**
JOF				SN	**Sn**	**10 01 00.3**	**-0.6**
OUL	**Oulu**	**2.14**	**282**	PG	**Pn**	**10 00 43.0**	**+1.2**
	baz=101						
OUL				SG	**Sn**	**10 01 09.2**	**+0.3**
OBF4	**Vikkela, Lumij**	**2.46**	**275**	PB	**Pn**	**10 00 46.6**	**+0.5**
RNF	**Rovaniemi**	**2.76**	**316**	PB	**Pn**	**10 00 52.0**	**+1.6**
	baz=134						
RNF				SG	**Sb**	**10 01 28.4**	**-0.9**
OBF0	**Syolatti, Pyha**	**2.85**	**269**	PB	**Pn**	**10 00 52.4**	**+0.9**
OBF0				SG	**Sb**	**10 01 31.3**	**-0.6**
TOF	**Tornio**	**3.05**	**300**	PB	**Pn**	**10 00 55.9**	**+1.6**
TOF				MSG		10 01 34.0	
	comp=Z,3.5nm,0.2s						
TOF				SG	**Sb**	**10 01 37.8**	**+0.1**
VRF	**Varrio**	**3.09**	**351**	PN	**Pn**	**10 00 54.9**	**0.0**
VRF				MSG		10 01 36.6	
	comp=Z,1.6nm,0.2s						
VRF				SG	**Sb**	**10 01 40.5**	**+1.5**
SGF	**Sodankyl**	**3.26**	**329**	PB	**Pb**	**10 01 01.5**	**-2.0**
SGF				SB	**Sb**	**10 01 42.4**	**-1.2**
KAF	**Kangasniemi**	**3.31**	**220**	SG	**Sb**	**10 01 45.1**	**0.0**
KALU	**Kalix**	**3.34**	**294**	SG	**Sb**	**10 01 47.5**	**+1.4**
KEF	**Keuruu**	**3.70**	**229**	PB	**Pn**	**10 01 05.4**	**+2.2**
KEF				SG	**Sb**	**10 01 58.8**	**+2.5**
FIA0	**FINESS Array S**	**3.92**	**216**	PB	**Pn**	**10 01 09.5**	**+3.2**
	baz=27						
FINES	**FINESS Array B**	**3.92**	**216**	Pn	**Pn**	**10 01 06.4**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=38,slow=13,SNR=1.7						
FINES				Lg	Lg	10 02 05.7	
	comp=Z,0.9nm,0.3s,baz=37,slow=28,SNR=12						
PAJU	**Pajala**	**3.93**	**310**	SG	**Sb**	**10 02 06.9**	**+3.9**
VAF	**Ylistaro**	**3.98**	**249**	PN	**Pn**	**10 01 07.9**	**+0.9**
VAF				SG	**Sb**	**10 02 08.2**	**+3.9**
UMAU	**Umeaa**	**4.50**	**264**	PN	**Pn**	**10 01 13.9**	**-0.3**
	baz=74						
UMAU				SG	**Sb**	**10 02 18.5**	**-0.8**
HEF	**Hetta**	**4.69**	**326**	PN	**Pn**	**10 01 17.4**	**+0.6**
HEF				SG	**Sb**	**10 02 28.4**	**+3.6**
ARCES	**ARCESS Array B**	**5.27**	**339**	Pn	**Pn**	**10 01 25.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=158,slow=13,SNR=11						
ARCES				Sn	**Sn**	**10 02 27.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=150,slow=22,SNR=5.2						
ARCES				Lg	Lg	10 02 51.9	
	comp=Z,0.4nm,0.3s,baz=152,slow=29,SNR=5.8 comp=Z,1.4nm,0.8s						
I43RU	**DUBNA INFRASON**	**8.60**	**156**	I		10 54 10.0	
	baz=346,slow=332,SNR=3.8						
NOA	**NORSAR Array B**	**9.66**	**257**	Pn	**Pn**	**10 02 23.1**	**-2.0**
	baz=50,slow=18,SNR=1.1 comp=Z,0.2nm,0.3s						

SOME 15 10:00:35.5, 44°.00N×87°.18E, h5km

NNC 15 10:00:39.0±2.5, 43°.15N×87°.24E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=17.7km s-min=11.5km az=114.0

ISC 15 10:00:45.2±3.0, 43°.3N±0°.1×86°.9E±0°.1, h10km, n11, σ2s80/17, 7C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.38**	**341**	*e*P	**Pn**	**10 01 51.1**	**-0.7**
	3.3nm,0.6s						
ZSN				*e*S	**Sn**	**10 02 45.9**	**+2.9**
	12nm,1.0s						
ZSN	**Zaisan**	**4.38**	**341**	Pg	**Pg**	**10 02 06.9**	**-2.2**
	4.0nm,0.4s						
ZSN				Lg	Lg	10 03 11.4	
	20nm,0.6s						
MK31	**Makanchi Array**	**4.79**	**318**	Pn	**Pn**	**10 01 55.8**	**-1.6**
	0.5nm,0.3s,baz=132,slow=15,SNR=15						
MK31				⇑Sn	**Sn**	**10 02 56.5**	**+3.6**
	6.5nm,0.7s,baz=137,slow=26,SNR=3.6						
MK31				⇑Lg	Lg	10 03 19.2	
	7.1nm,0.6s,baz=134,slow=29,SNR=4.2						
MAKZ	**Makanchi**	**4.95**	**317**	⇑Pn	**Pn**	**10 01 58.6**	**-1.1**
	1.9nm,0.7s						
MAKZ				⇓Sn	**Sn**	**10 03 00.2**	**+3.2**
	1.8nm,0.5s						
MAKZ				⇑Lg	Lg	10 03 23.1	
	5.7nm,0.7s						
PDGK	**Podgornoye**	**5.43**	**273**	⇓Pn	**Pn**	**10 02 04.5**	**-1.8**
	2.5nm,1.0s						
PDGK				⇑Pg	**Pb**	**10 02 22.4**	**+2.2**
	3.5nm,0.8s						
PDGK				⇑Sn	**Sn**	**10 03 14.2**	**+5.3**
	6.1nm,0.6s						
PDGK				⇑Lg	Lg	10 03 41.3	
	9.3nm,0.8s						
SHLS	**Shalkode**	**5.46**	**271**	*e*P	Pb	10 02 15.2	-5.5
	3.5nm,0.3s						
SHLS				*e*S	**Sb**	**10 03 25.8**	**-0.5**
	18nm,0.6s						
SHLS	**Shalkode**	**5.46**	**271**	Pg	Pb	10 02 15.2	-5.5
	3.5nm,0.3s						
SHLS				Lg	Lg	10 03 25.8	
	18nm,0.6s						
UZB	**Uzynbulak**	**5.78**	**271**	*e*P	**Pb**	**10 02 27.5**	**+1.3**
	0.9nm,0.2s						
UZB				*e*S	**Sg**	**10 03 47.3**	**-3.5**
	6.6nm,0.8s						
UZB	**Uzynbulak**	**5.78**	**271**	Pg	**Pb**	**10 02 27.5**	**+1.3**
	1.4nm,0.1s						
UZB				Lg	Lg	10 03 47.5	
	6.2nm,0.6s						
KPKS	**Kokpek**	**6.01**	**274**	*e*P	**Pb**	**10 02 32.0**	**+2.0**
	2.9nm,0.4s						
KPKS				*e*S	**Sg**	**10 03 55.2**	**-3.0**
	14nm,0.5s						
KPKS	**Kokpek**	**6.01**	**274**	Pg	**Pb**	**10 02 32.0**	**+2.0**
	2.9nm,0.4s						
KPKS				Lg	Lg	10 03 55.2	
	14nm,0.5s						

NEIC 15 10:02:16.8±1.4, 18°.5S±0°.1×179°.09W±0°.07, h10km±2km, mb4.2/5, Error ellipse: s-maj=22.9km s-min=10.8km az=13.0

IDC 15 10:02:23.9±1.2, 19°.25S×179°.99E, h0km, mb3.9/6, mbtmp3.9/7, ML5.2/1, MS3.2/7, Error ellipse: s-maj=40.6km s-min=22.2km az=172.0

ISC 15 10:02:24.4±0.9, 19°.3S±0°.1×179°.8E±0°.1, h10km, n21, σ1s61/16, mb3.9/9, MS3.3/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.28**	**314**	Pn	**Pb**	**10 03 04.0**	**-1.7**
	28nm,0.3s,baz=242,slow=22,SNR=9.5						
MSVF				LR	LR	10 03 29.6	
	comp=Z,126nm,18.2s,baz=74,slow=28						
MSVF				Sn	**Sg**	**10 03 36.6**	**-1.1**
	58nm,0.3s,baz=243,slow=22,SNR=7.0 88nm,0.5s						
MSVF	**Nonsavu**	**2.28**	**314**	Pn	**Pn**	**10 03 02.7**	**+0.5**
MSVF				Sn	**Sb**	**10 03 35.6**	**+1.6**
AFI	**Afiamalu**	**9.73**	**58**	LR	LR	10 07 18.7	
	comp=Z,114nm,21.8s,baz=227,slow=31						
AFI	**Afiamalu**	**9.73**	**58**	Pn	Pn	10 04 18.4	-26
NIUE	**Niue**	**9.74**	**90**	Pn	Pn	10 04 23.0	-22
DZM	**Mont Dzumac**	**12.76**	**255**	LR	LR	10 09 55.6	
	comp=Z,98nm,20.2s,baz=41,slow=35						
RAR	**Rarotonga**	**19.28**	**99**	LR	LR	10 14 20.4	
	comp=Z,38nm,18.2s,baz=197,slow=38						
WB0	**Warramunga Arr**	**42.66**	**262**	P	**P**	**10 10 21.4**	**-0.2**
WB0				IAmb	IAmb	10 10 51.5	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**42.68**	**261**	P	**P**	**10 10 21.4**	**-0.3**
WB2				IAmb	IAmb	10 10 29.6	
	comp=Z,8.2nm,1.3s						
WRA	**Warramunga Arr**	**42.69**	**261**	P	**P**	**10 10 24.3**	**+2.5**
	comp=Z,0.6nm,1.0s,baz=100,slow=7.8,SNR=3.2						
WRA				LR	LR	10 28 01.1	
	comp=Z,41nm,18.9s,baz=37,slow=36 comp=Z,0.6nm,1.0s						
WRA	**Warramunga Arr**	**42.69**	**261**	P	**P**	**10 10 22.0**	**+0.3**
AS31	**Alice Springs**	**42.75**	**256**	P	**P**	**10 10 24.1**	**+1.8**
AS31				IAmb	IAmb	10 10 32.0	
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**42.75**	**256**	P	**P**	**10 10 25.4**	**+3.1**
	comp=Z,1.5nm,0.6s,baz=91,slow=8.3,SNR=30 comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**42.75**	**256**	P	**P**	**10 10 23.5**	**+1.2**
QSPA	**South Pole Qui**	**70.72**	**180**	P	**P**	**10 13 38.4**	**-2.2**
KSRS	**Korea Array**	**74.64**	**320**	LR	LR	10 41 26.7	
	comp=Z,10nm,21.3s,baz=165,slow=31						
NVAR	**Mina Array Bea**	**81.65**	**44**	P	**P**	**10 14 43.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=221,slow=9.4,SNR=7.2 comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**87.67**	**14**	P	**P**	**10 15 12.9**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=212,slow=6.5,SNR=4.5 comp=Z,1.7nm,1.1s						
DLBC	**Dease Lake**	**87.82**	**24**	LR	LR	10 50 35.6	
	comp=Z,67nm,18.2s,baz=239,slow=33						
TXAR	**Lajitas Array**	**88.22**	**58**	P	**P**	**10 15 17.4**	**+1.1**
	comp=Z,1.3nm,1.0s,baz=211,slow=5.1,SNR=6.8 comp=Z,1.3nm,1.0s						
PDAR	**Pinedale Array**	**89.57**	**44**	P	**P**	**10 15 22.0**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=258,slow=4.3,SNR=2.0 comp=Z,0.2nm,0.6s						

IDC 15 10:05:31.8±1.3, 25°.26S×179°.57E, h496km±14km, mb3.7/11, mbtmp4.5/13, Error ellipse: s-maj=16.5km s-min=14.5km az=19.0

NOU 15 10:05:32.5, 25°.35S×179°.84E, h529km, mb4.5/25, South of Fiji Islands

NEIC 15 10:05:33.2±1.0, 25°.4S±0°.1×179°.6E±0°.1, h511km±9km, mb4.4/27, Error ellipse: s-maj=18.1km s-min=16.8km az=217.0

ISC 15 10:05:32.4±0.5, 25°.30S±0°.08×179°.59E±0°.07, h507km, n87, σ0s99/91, mb4.4/29, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.52**	**151**	P	**P**	**10 06 55.3**	**-0.2**
	698nm,0.2s,baz=73,slow=9.7,SNR=23						
RAO	**Raoul Island**	**4.52**	**151**	P	**P**	**10 06 56.3**	**+0.9**
RAO	**Raoul Island**	**4.52**	**151**	P	**P**	**10 06 56.4**	**+0.9**
MSVF	**Nonsavu**	**7.67**	**349**	P	**P**	**10 07 24.6**	**-1.1**
	2.0nm,0.3s,baz=89,slow=21,SNR=1.9						
MSVF	**Nonsavu**	**7.67**	**349**	P	**P**	**10 07 23.0**	**-2.7**
MARNC	**Mare, Loyalty**	**11.28**	**287**	P	**P**	**10 08 04.5**	**+1.2**
MARNC	**Mare, Loyalty**	**11.28**	**287**	P	**P**	**10 08 04.8**	**+1.5**
OUENC	**Ouen Island, N**	**12.02**	**281**	P	**P**	**10 08 12.2**	**+1.1**
YATNC	**Mamie plateau,**	**12.08**	**283**	P	**P**	**10 08 14.0**	**+2.2**
LIFNC	**LIFOU**	**12.23**	**289**	P	**P**	**10 08 14.3**	**+0.9**
DZM	**Mont Dzumac**	**12.47**	**282**	P	**P**	**10 08 16.5**	**+0.5**
	8.1nm,0.5s,baz=75,slow=16,SNR=6.8						
DZM	**Mont Dzumac**	**12.47**	**282**	P	**P**	**10 08 16.9**	**+0.8**
DZM	**Mont Dzumac**	**12.47**	**282**	P	**P**	**10 08 17.8**	**+1.8**
URZ	**Urewera**	**13.09**	**189**	P	**P**	**10 08 21.1**	**-1.1**
AFI	**Afiamalu**	**13.94**	**37**	P	**P**	**10 08 32.2**	**+0.6**
KOUNC	**Koumac, New Ca**	**14.87**	**285**	P	**P**	**10 08 41.5**	**+0.3**
KOUNC	**Koumac, New Ca**	**14.87**	**285**	P	**P**	**10 08 45.2**	**+4.0**
HNR	**Honiara**	**24.45**	**307**	P	**P**	**10 10 09.7**	**-1.0**
	677nm,0.5s,baz=203,slow=0.4,SNR=4.2						
HNR	**Honiara**	**24.45**	**307**	P	**P**	**10 10 10.1**	**-0.7**
ARMA	**Armidale**	**25.21**	**252**	P	**P**	**10 10 17.9**	**+0.5**
ARMA				IAmb	IAmb	10 10 19.9	
	comp=Z,12nm,0.7s						
EIDS	**Eidsvold**	**25.75**	**264**	P	**P**	**10 10 22.3**	**+0.1**
EIDS	**Eidsvold**	**25.75**	**264**	P	**P**	**10 10 22.9**	**+0.7**
RMQ	**Roma**	**27.73**	**261**	P	**P**	**10 10 41.6**	**+1.9**
AULRC	**Lightning Ridg**	**28.33**	**255**	P	**P**	**10 10 46.2**	**+1.4**
	comp=Z,40nm,1.2s						
TV1H	**Townsville Har**	**30.89**	**275**	P	**P**	**10 11 07.8**	**+0.7**
CTA	**Charters Tower**	**31.14**	**273**	P	**P**	**10 11 10.0**	**+0.7**
	baz=102,slow=12						
CTA	**Charters Tower**	**31.14**	**273**	P	**P**	**10 11 10.1**	**+0.8**
CTAO	**Charters Tower**	**31.14**	**273**	P	**P**	**10 11 10.1**	**+0.8**
CTAO	**Charters Tower**	**31.14**	**273**	P	**P**	**10 11 10.2**	**+0.8**
QLP	**Quilpie**	**31.76**	**260**	P	**P**	**10 11 15.0**	**+0.4**
MTSU	**Mount Surprise**	**33.47**	**275**	P	**P**	**10 11 30.1**	**+0.9**
STKA	**Stephens Creek**	**33.88**	**250**	P	**P**	**10 11 32.6**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=89,slow=10.0,SNR=31 comp=Z,2.4nm,0.4s						
STKA	**Stephens Creek**	**33.88**	**250**	P	**P**	**10 11 33.0**	**+0.6**
PMG	**Port Moresby**	**34.63**	**291**	P	**P**	**10 11 38.4**	**-0.5**
	comp=Z,24nm,0.7s,baz=98,slow=5.8,SNR=8.1 comp=Z,24nm,0.7s						
PMG	**Port Moresby**	**34.63**	**291**	P	**P**	**10 11 38.9**	**0.0**
PMG	**Port Moresby**	**34.63**	**291**	P	**P**	**10 11 39.4**	**+0.5**
PMG	**Port Moresby**	**34.63**	**291**	P	**P**	**10 11 39.3**	**+0.4**
INKA	**Innaminka**	**34.75**	**257**	P	**P**	**10 11 40.8**	**+1.0**
COEN	**Coen**	**36.00**	**281**	P	**P**	**10 11 51.3**	**+0.9**
COEN				IAmb	IAmb	10 11 51.9	
	comp=Z,14nm,0.8s						
QIS	**Mount Isa**	**37.03**	**269**	P	**P**	**10 11 58.9**	**0.0**
BBOO	**Buckleboo**	**38.57**	**248**	P	**P**	**10 12 10.8**	**-0.5**
BBOO				IAmb	IAmb	10 12 18.9	
	comp=Z,13nm,1.1s						
OOD	**Oodnadatta**	**39.20**	**256**	P	**P**	**10 12 17.1**	**+0.6**
MULG	**Mulgathing**	**40.38**	**252**	P	**P**	**10 12 25.5**	**-0.4**
AS01	**Alice Springs**	**41.42**	**262**	P	**P**	**10 12 34.3**	**-0.1**
AS31	**Alice Springs**	**41.46**	**262**	P	**P**	**10 12 34.5**	**-0.2**
AS31				IAmb	IAmb	10 12 35.9	
	comp=Z,6.8nm,1.1s						
ASAR	**Alice Springs**	**41.46**	**262**	P	**P**	**10 12 34.5**	**-0.1**
	comp=Z,5.3nm,0.3s,baz=94,slow=8.2,SNR=110						
ASAR				S	**S**	**10 18 12.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=99,slow=16,SNR=6.8 comp=Z,5.3nm,0.3s						
WR0	**Warramunga Arr**	**41.77**	**268**	P	**P**	**10 12 36.4**	**-0.8**
WR0				IAmb	IAmb	10 12 37.5	
	comp=Z,28nm,1.4s						
WB2	**Warramunga Arr**	**41.95**	**268**		**P**	**10 12 38.2**	**-0.4**
WB2				IAmb	IAmb	10 12 39.4	
	comp=Z,13nm,0.6s						
WRAB	**Tennant Creek**	**41.95**	**268**	P	**P**	**10 12 37.9**	**-0.7**
WB0	**Warramunga Arr**	**41.96**	**268**		**P**	**10 12 38.2**	**-0.5**
WB0				IAmb	IAmb	10 12 39.4	
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**41.96**	**268**	P	**P**	**10 12 38.0**	**-0.6**
	comp=Z,8.2nm,0.5s,baz=100,slow=6.2,SNR=151						
WRA				ScP	**ScP**	**10 17 26.6**	**+2.2**
	comp=Z,1.1nm,0.9s,baz=100,slow=3.8,SNR=5.8						
WRA				S	**S**	**10 18 19.1**	**-1.4**
	comp=Z,1.1nm,0.8s,baz=101,slow=14,SNR=5.6 comp=Z,8.2nm,0.5s						
WRA	**Warramunga Arr**	**41.96**	**268**		**P**	**10 12 37.8**	**-0.9**
FORT	**Forrest**	**45.49**	**251**	P	**P**	**10 13 04.4**	**-1.5**
WRKA	**Warakurna**	**46.19**	**259**	P	**P**	**10 13 10.7**	**-0.7**
MTN	**Manton Dam**	**47.21**	**276**	P	**P**	**10 13 18.8**	**-0.4**
MTN				IAmb	IAmb	10 13 37.6	
	comp=Z,19nm,1.3s						
KNRA	**Kununurra**	**48.33**	**271**		**P**	**10 13 27.1**	**-0.4**
KNRA	**Kununurra**	**48.33**	**271**	P	**P**	**10 13 27.5**	**-0.1**
FAKI	**Fak Fak**	**50.65**	**288**	P	**P**	**10 13 44.2**	**-0.5**
FAKI				IAmb	IAmb	10 14 03.6	
	comp=Z,11nm,1.3s						
SIJI	**Sorong**	**52.54**	**290**	P	**P**	**10 13 58.1**	**-0.4**
	comp=Z,24nm,0.7s,baz=90,slow=5.2,SNR=11 comp=Z,24nm,0.7s						
VNDA	**Vanda**	**52.96**	**185**	P	**P**	**10 14 00.4**	**0.0**
	comp=Z,0.8nm,0.6s,baz=354,slow=7.9,SNR=6.4 comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**52.96**	**185**	P	**P**	**10 14 00.8**	**+0.4**
SANI	**Sanana**	**56.51**	**285**	P	**P**	**10 14 25.7**	**-0.6**
	comp=Z,14nm,0.7s						
QSPA	**South Pole Qui**	**64.79**	**180**	P	**P**	**10 15 20.8**	**+0.4**
QSPA				IAmb	IAmb	10 15 21.5	
	comp=Z,6.4nm,0.8s						
MJAR	**Matsushiro Arr**	**72.84**	**326**	P	**P**	**10 16 08.1**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=164,slow=5.3,SNR=5.7 comp=Z,2.5nm,0.7s						
SMAI	**San Martin Ant**	**74.94**	**159**	P	**P**	**10 16 21.5**	**+0.9**
SMAI				IAmb	IAmb	10 16 22.0	
	comp=Z,11nm,0.9s						
BELA	**Belgrano 2**	**75.10**	**173**	P	**P**	**10 16 20.7**	**-0.8**
BELA				IAmb	IAmb	10 16 21.1	
	comp=Z,5.6nm,0.5s						
KSRS	**Korea Array**	**79.08**	**321**	P	**P**	**10 16 43.8**	**0.0**
	comp=Z,2.3nm,0.7s,baz=133,slow=5.5,SNR=6.3 comp=Z,2.3nm,0.7s						
KSAR	**Wonju Array Be**	**79.10**	**320**	P	**P**	**10 16 45.3**	**+1.4**
TROLL	**Troll, Antarti**	**82.93**	**181**	P	**P**	**10 17 02.7**	**-0.7**
SNAA	**Sanae**	**83.28**	**179**	P	**P**	**10 17 03.9**	**-1.2**
SNAA	**Sanae**	**83.28**	**179**	P	**P**	**10 17 03.6**	**-1.4**
VNA3	**Neumayer Olymp**	**83.50**	**177**	P	**P**	**10 17 05.3**	**-0.8**
GMN	**Gold Mountain**	**86.01**	**45**	P	**P**	**10 17 18.7**	**-0.4**
NVAR	**Mina Array Bea**	**86.01**	**44**	P	**P**	**10 17 19.3**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=218,slow=8.7,SNR=12 comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**86.01**	**44**	P	**P**	**10 17 19.5**	**+0.4**
TPNV	**Topopah Spring**	**86.46**	**46**	P	**P**	**10 17 21.8**	**+0.6**
TPNV				IAmb	IAmb	10 17 22.2	
	comp=Z,3.2nm,0.8s						
KVN	**Kaiserville**	**86.51**	**44**	P	**P**	**10 17 21.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**89.66**	**291**	P	**P**	**10 17 37.5**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=120,slow=3.0,SNR=5.8 comp=Z,0.9nm,0.3s						
TX31	**Lajitas Ar. Si**	**91.48**	**58**	P	**P**	**10 17 44.7**	**0.0**
TX31				IAmb	IAmb	10 18 02.0	
	comp=Z,4.8nm,1.1s						
TX32	**Lajitas Array**	**91.48**	**58**	P	**P**	**10 17 44.9**	**+0.2**
TX32				IAmb	IAmb	10 17 50.0	
	comp=Z,2.2nm,1.4s						
TXAR	**Lajitas Array**	**91.48**	**58**	P	**P**	**10 17 45.2**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=213,slow=6.6,SNR=12 comp=Z,1.4nm,0.8s						
TXAR	**Lajitas Array**	**91.48**	**58**	P	**P**	**10 17 44.9**	**+0.2**
ARCES	**ARCESS Array B**	**133.17**	**348**	SKPbc	**SKPbc**	**10 26 30.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=66,slow=2.9,SNR=12						
FINES	**FINESS Array B**	**139.64**	**341**	SKPbc	**SKPbc**	**10 26 49.7**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=62,slow=3.5,SNR=12						
AKASG	**Malin Array Be**	**145.93**	**326**	PKPbc	**PKPbc**	**10 24 15.0**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=45,slow=4.4,SNR=4.8						
BRTR	**Keskin Array B**	**148.10**	**305**	PKPbc	**PKiKP**	**10 24 22.5**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=92,slow=6.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**167.75**	**190**	PKP	**PKPdf**	**10 24 40.4**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=270,slow=2.9,SNR=1.7						
TORD				PKPab	**PKPab**	**10 25 49.8**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=204,slow=3.2,SNR=6.1						

DDA 15 10:06:09.0±0.0, 39°.33N×29°.35E, h7km±5km, ML1.7

ISK 15 10:06:05.9, 39°.33N×29°.28E, h0km, ML2.2/7, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.18**	**51**	PG	Pg	10 06 10.5	+1.1
TVSB				SG	Sg	10 06 12.9	+1.1
GDZ	**Gediz**	**0.29**	**147**	P	Pb	10 06 13.5	-0.6
GDZ				S	Sb	10 06 19.7	+0.1
GDZ				*i* AML	AML	10 06 26.0	
	comp=N,70nm,1.4s						
GDZ	**Gediz**	**0.29**	**147**	P	Pb	10 06 13.5	-0.6
GDZ				S	Sb	10 06 19.4	-0.2
GDZ				*i* AML	AML	10 06 26.0	
	comp=N,70nm,1.4s						
GDZ				*i* AML	AML	10 06 26.0	
	comp=E,66nm,0.7s						
SIMA	**Simav-Kutahya**	**0.34**	**223**	PG	Pg	10 06 13.2	+0.8
ANDZ	**Kutahya, Merke**	**0.51**	**70**	P	Pb	10 06 17.4	-0.4
ANDZ				*i* AML	AML	10 06 23.0	
	comp=N,76nm,1.5s						
ANDZ				S	Sb	10 06 24.8	-1.1
ANDZ				*i* AML	AML	10 06 27.0	
	comp=E,40nm,0.5s						
ANDZ	**Kutahya, Merke**	**0.51**	**70**	P	Pb	10 06 17.4	-0.5
ANDZ				*i* AML	AML	10 06 24.0	
	comp=N,77nm,1.6s						
ANDZ				S	Sb	10 06 25.0	-0.9
ANDZ				*i* AML	AML	10 06 27.0	
	comp=E,40nm,0.5s						
USAK	**Uak-Merkez**	**0.65**	**198**	P	Pn	10 06 21.9	-0.6
USAK				S	Sn	10 06 32.8	-0.6
USAK				*i* AML	AML	10 06 51.0	
	comp=N,29nm,1.3s					

MSWZ				S	Sb	10 09 56.7	+0.9		
CAW	**Cannon Point**	**1.03**	**43**	P	Pg	10 09 44.0	0.0		
CAW				S	Sn	10 09 59.4	-0.6		
DUWZ	**D'Urville Isla**	**1.08**	**351**	P	Pg	10 09 44.3	-0.5		
PAWZ	**Paruwai Farm**	**1.08**	**64**	P	Pg	10 09 44.2	-0.7		
PAWZ				S	Sb	10 09 59.8	0.0		
MRNZ	**Matariki Terra**	**1.14**	**294**	P	Pn	10 09 46.8	0.0		
MRNZ				S	Sn	10 10 03.0	+0.3		
KIW	**Kapiti Island**	**1.16**	**30**	P	Pg	10 09 46.0	-0.5		
TKNZ	**Takaka Hill**	**1.22**	**313**	P	Pg	10 09 47.1	-0.4		
MTW	**Mount Morrison**	**1.25**	**56**	P	Pg	10 09 46.4	-1.6		
TRWZ	**Traveller**	**1.25**	**68**	P	Pg	10 09 46.2	-2.0		
OGWZ	**Otaki Gorge**	**1.31**	**37**	P	Pn	10 09 48.1	-0.9		
OGWZ				S	Sg	10 10 05.7	-0.5		
HOWZ	**Holdsworth Sta**	**1.42**	**47**	P	Pn	10 09 48.9	-1.7		
TMWZ	**Te Maipa**	**1.52**	**60**	P	Pn	10 09 49.8	-2.2		
QRZ	**Quartz Range**	**1.60**	**310**	P	Pb	10 09 53.6	-0.5		
MRZ	**Mangatainoka R**	**1.62**	**42**	P	Pn	10 09 52.0	-1.4		
LTZ	**Lake Taylor**	**1.66**	**236**	P	Pn	10 09 53.6	-0.4		
AMCZ	**Amberley**	**1.71**	**220**	P	Pn	10 09 52.9	-1.7		
DSZ	**Denniston Nort**	**1.75**	**273**	P	Pb	10 09 56.1	-0.7		
OHWZ	**Ohakea**	**1.89**	**28**	P	Pn	10 09 58.0	+1.0		
PRWZ	**Pori Road**	**1.91**	**47**	P	Pn	10 09 56.0	-1.2		
POWZ	**Post Office Ro**	**1.92**	**40**	P	Pn	10 09 56.3	-1.2		
BFZ	**Birch Farm**	**1.98**	**54**	P	Pn	10 09 56.2	-2.2		
OKCZ	**Okains Bay**	**2.02**	**203**	P	Pn	10 09 52.0	-6.8		
OXZ	**Oxford**	**2.13**	**226**	P	Pn	10 09 58.8	-1.6		
MQZ	**McQueen's Vall**	**2.14**	**210**	P	Pn	10 09 52.5	-7.9		
DVHZ	**Dannevirke**	**2.19**	**45**	P	Pn	10 09 59.0	-2.2		
AKCZ	**Akaroa Harbour**	**2.20**	**204**	P	Pb	10 09 60.0	-1.3		
WAZ	**Wanganui**	**2.21**	**17**	P	Pb	10 10 04.6	0.0		
TSZ	**Takapari Road**	**2.27**	**38**	P	Pn	10 10 00.8	-1.6		
RACZ	**Rakaia**	**2.37**	**218**	P	Pn	10 10 02.0	-1.6		
NMEZ	**Namu Road**	**2.46**	**355**	P	Pb	10 10 08.6	-0.3		
WPHZ	**Waipukurau**	**2.51**	**45**	P	Pg	10 10 10.9	-1.3		
KHEZ	**Kahui Hut**	**2.58**	**358**	P	Pb	10 10 09.7	-1.1		
NEZ	**North Egmont**	**2.60**	**359**	P	Pb	10 10 10.3	-0.9		
NBEZ	**Newall Road No**	**2.61**	**355**	P	Pb	10 10 10.3	-1.1		
WACZ	**Wakanui South**	**2.67**	**218**	P	Pn	10 10 06.6	-1.2		
PKE	**Pukeiti**	**2.68**	**357**	P	Pb	10 10 10.3	-2.2		
MOVZ	**Moawhango**	**2.75**	**27**	P	Pb	10 10 11.9	-1.9		
WNVZ	**Wahianoa**	**2.77**	**24**	P	Pn	10 10 11.3	+1.9		
VRZ	**Vera Road**	**2.78**	**10**	P	Pn	10 10 10.7	+1.4		
WVZ	**Waitaha Valley**	**2.79**	**243**	P	Pn	10 10 10.5	+1.1		
BHHZ	**Black Hill Sta**	**2.79**	**32**	P	Pn	10 10 10.8	+1.3		
DRZ	**Dome Shelter**	**2.81**	**23**	P	Pb	10 10 15.8	+0.8		
WHVZ	**Whangaehu Hut**	**2.81**	**24**	P	Pb	10 10 13.8	-1.1		
TUVZ	**Tukino**	**2.84**	**24**	P	Pb	10 10 13.2	-2.3		
NGZ	**Ngauruhoe**	**2.91**	**23**	P	Pn	10 10 13.7	+2.4		
SNVZ	**South Ngauruho**	**2.92**	**24**	P	Pb	10 10 16.3	-0.4		
RPZ	**Rata Peaks**	**2.93**	**230**	P	Pn	10 10 10.1	-1.2		
OTVZ	**Oturere**	**2.94**	**24**	P	Pn	10 10 10.3	-1.4		
NNVZ	**North Ngauruho**	**2.96**	**23**	P	Pb	10 10 16.3	-1.1		
TWVZ	**Taurewa**	**2.97**	**20**	P	Pb	10 10 16.7	-0.8		
WTVZ	**West Tongariro**	**2.97**	**22**	P	Pb	10 10 16.7	-0.8		
ETVZ	**East Tongariro**	**2.98**	**24**	P	Pb	10 10 15.4	-2.5		
TMVZ	**Te Maari**	**3.00**	**24**	P	Pb	10 10 17.1	-1.0		
KRVZ	**Karewarewa**	**3.00**	**23**	P	Pb	10 10 17.6	-0.5		
NTVZ	**North Tongarir**	**3.01**	**23**	P	Pb	10 10 17.5	-0.7		
ARCZ	**Arundel**	**3.01**	**225**	P	Pn	10 10 11.2	-1.2		
RATZ	**Rangitukua**	**3.25**	**23**	P	Pb	10 10 22.4	+0.1		
HIZ	**Hauiti**	**3.40**	**9**	P	Pn	10 10 19.8	+2.1		
TMZ	**Timaru**	**3.40**	**221**	P	Pn	10 10 16.9	-1.0		
MRHZ	**Matea Rd**	**3.50**	**31**	P	Pb	10 10 26.1	-0.4		
TLZ	**Tolley Road**	**3.70**	**17**	P	Pn	10 10 24.0	+2.1		
LBZ	**Lake Benmore**	**3.83**	**228**	P	Pn	10 10 22.9	-1.0		
ODZ	**Otahua Downs**	**4.07**	**218**	P	Pn	10 10 25.7	-1.3		
TOZ	**Tahuroa Road**	**4.26**	**15**	P	Pn	10 10 32.7	+3.0		
AWAZ	**Awhitu Peninsu**	**4.82**	**5**	P	Pn	10 10 39.3	+2.1		
MKAZ	**Moumakai**	**4.83**	**10**	P	Pn	10 10 38.5	+1.1		
ETAZ	**East Tamaki Re**	**4.95**	**7**	P	Pn	10 10 41.5	+2.4		

IDC 15 10:10:47.0±5.3, 12°28N×145°69E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=184.4km s-min=23.7km az=75.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.53**	**329**	Pn	Pn	10 11 15.5	0.0
	586nm,0.3s,baz=120,slow=1.7,SNR=466						
GUMO				Sn	Sg	10 11 28.9	-7.3
	285nm,0.3s,baz=350,slow=23,SNR=56						
WRA	**Warramunga Arr**	**33.91**	**199**	P	P	10 17 31.4	-0.6
	0.3nm,0.5s,baz=26,slow=9.2,SNR=2.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**37.54**	**198**	P	P	10 18 02.6	-0.5
	0.2nm,0.5s,baz=22,slow=14,SNR=5.4						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**44.08**	**185**	P	P	10 18 57.6	+0.6
	0.9nm,0.4s,baz=17,slow=7.4,SNR=5.1						
	0.9nm,0.4s						

IDC 15 10:15:07.7±51.0, 16°84S×179°30W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=929.7km s-min=143.8km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.41**	**240**	P	P	10 22 31.6	+0.5
	1.9nm,0.5s,baz=94,slow=8.4,SNR=10						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**44.00**	**259**	P	P	10 23 16.6	-0.6
	0.7nm,0.5s,baz=96,slow=7.9,SNR=26						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**44.27**	**253**	P	P	10 23 19.2	-0.2
	6.2nm,0.6s,baz=88,slow=8.3,SNR=118						
	6.2nm,0.6s						

IDC 15 10:15:30.4±26.0, 22°08S×173°02W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=489.8km s-min=150.7km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.98**	**265**	P	P	10 22 50.3	0.0
	5.0nm,0.4s,baz=95,slow=11,SNR=22						
	5.0nm,0.4s						
STKA	**Stephens Creek**	**41.36**	**246**	P	P	10 23 18.6	+0.2
	1.0nm,0.5s,baz=104,slow=12,SNR=5.9						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**48.70**	**257**	P	P	10 24 16.1	-0.8
	1.5nm,0.5s,baz=95,slow=7.4,SNR=15						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**48.99**	**262**	P	P	10 24 19.4	+0.2
	1.9nm,0.5s,baz=102,slow=8.2,SNR=66						
	1.9nm,0.5s						

WEL 15 10:15:34.0±0.2, 42°S±2°×17°4E±°, h8km±2km, M3.5/28, ML3.7/30, MLv3.5/28, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.37**	**17**	P	Pg	10 15 41.6	+0.5
BSWZ				S	Sg	10 15 46.5	+0.6
KHZ	**Kahutara**	**0.38**	**202**	P	Pb	10 15 42.7	-0.3
KHZ				S	Sb	10 15 48.3	-0.6
CMWZ	**Cape Campbell**	**0.48**	**49**	P	Pb	10 15 44.5	-0.1
CMWZ				S	Sb	10 15 52.1	+0.3
TUWZ	**Tuamarina**	**0.65**	**14**	P	Pg	10 15 47.0	+0.4
TUWZ				S	Sg	10 15 56.0	+0.8
THZ	**Tophouse**	**0.69**	**296**	P	Pg	10 15 47.7	+0.5
THZ				S	Sb	10 15 57.1	-0.8
NNZ	**Nelson**	**0.89**	**343**	P	Pg	10 15 51.0	0.0
NNZ				S	Sg	10 16 02.8	+0.2
TCW	**Tory Channel**	**0.95**	**26**	P	Pg	10 15 52.0	-0.2
TCW				S	Sg	10 16 04.6	+0.2
MRNZ	**Matariki Terra**	**0.99**	**312**	P	Pb	10 15 53.6	+0.2
MRNZ				S	Sb	10 16 06.8	+0.3
GVZ	**Greta Valley S**	**1.04**	**210**	P	Pn	10 15 54.7	-0.1
GVZ				S	Sg	10 16 07.0	-0.5
WEL	**Wellington**	**1.10**	**45**	P	Pb	10 15 55.2	0.0
TKNZ	**Takaka Hill**	**1.18**	**330**	P	Pb	10 15 56.5	-0.2
DUWZ	**D'Urville Isla**	**1.27**	**6**	P	Pn	10 15 57.9	-0.1
LTZ	**Lake Taylor**	**1.30**	**236**	P	Pb	10 15 58.7	+0.1
MSWZ	**Moikau Station**	**1.31**	**61**	P	Pn	10 15 57.3	-1.2
AMCZ	**Amberley**	**1.37**	**215**	P	Pn	10 15 59.0	-0.4
CAW	**Cannon Point**	**1.38**	**47**	P	Pn	10 15 58.9	-0.7
PAWZ	**Paruwai Farm**	**1.44**	**62**	P	Pn	10 15 59.0	-1.3
DSZ	**Denniston Nort**	**1.48**	**282**	P	Pg	10 16 02.3	0.0
KIW	**Kapiti Island**	**1.49**	**37**	P	Pn	10 16 00.8	-0.3
OGWZ	**Otaki Gorge**	**1.65**	**41**	P	Pn	10 16 02.6	-0.7
OKCZ	**Okains Bay**	**1.73**	**196**	P	Pn	10 16 03.8	-0.6
OXZ	**Oxford**	**1.77**	**224**	P	Pn	10 16 04.0	-1.0
INZ	**Inchbonnie**	**1.82**	**248**	P	Pb	10 16 06.6	-0.9
MQZ	**McQueen's Vall**	**1.82**	**205**	P	Pn	10 16 03.9	-1.7
AKCZ	**Akaroa Harbour**	**1.91**	**198**	P	Pn	10 16 05.7	-1.1
MRZ	**Mangatainoka R**	**1.97**	**45**	P	Pn	10 16 06.5	-1.2
RACZ	**Rakaia**	**2.03**	**215**	P	Pn	10 16 07.0	-1.4
WACZ	**Wakanui South**	**2.33**	**216**	P	Pn	10 16 11.7	-1.0
WVZ	**Waitaha Valley**	**2.43**	**244**	P	Pn	10 16 14.9	+0.9
RPZ	**Rata Peaks**	**2.57**	**229**	P	Pn	10 16 15.2	-0.7
ARCZ	**Arundel**	**2.66**	**224**	P	Pn	10 16 16.2	-0.9
GCSZ	**Gaunt Creek Bo**	**2.81**	**242**	P	Pn	10 16 20.1	+0.9
TMZ	**Timaru**	**3.06**	**220**	P	Pn	10 16 22.9	+0.3
NGZ	**Ngauruhoe**	**3.22**	**27**	P	Pb	10 16 29.0	-2.4
JCZ	**Jackson Bay**	**4.14**	**239**	P	Pn	10 16 38.8	+1.2
HHSZ	**Highcliff Hill**	**4.44**	**210**	P	Pn	10 16 40.1	-1.4
EAZ	**Earnscleugh**	**4.51**	**224**	P	Pn	10 16 41.3	-1.2
KMRZ	**Kaimai**	**4.54**	**23**	P	Pb	10 16 49.4	-4.6
AWAZ	**Awhitu Peninsu**	**5.04**	**8**	P	Pn	10 16 52.0	+2.1
SYZ	**Scrubby Hill**	**5.55**	**215**	P	Pn	10 16 55.8	-1.1

WEL 15 10:25:14.6±0.5, 42°S±3°×17°4E±°, h9km±3km, M3.5/24, ML3.9/31, MLv3.5/24, Error ellipse: s-maj=0.0km s-min=0.0km az=126.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**264**	P	Pg	10 25 21.4	+2.0
KHZ				S	Sg	10 25 25.5	+2.9
BSWZ	**Blackbirch Sta**	**0.68**	**1**	P	Pg	10 25 28.0	+0.4
BSWZ				S	Sb	10 25 37.7	-0.2
CMWZ	**Cape Campbell**	**0.69**	**23**	P	Pb	10 25 29.5	+0.7
CMWZ				S	Sn	10 25 40.4	-1.0
GVZ	**Greta Valley S**	**0.84**	**226**	P	Pb	10 25 31.2	-0.1
THZ	**Tophouse**	**0.95**	**311**	P	Pg	10 25 32.8	0.0
TUWZ	**Tuamarina**	**0.96**	**4**	P	Pb	10 25 33.3	-0.1
TUWZ				S	Sb	10 25 46.1	-0.1
AMCZ	**Amberley**	**1.19**	**228**	P	Pb	10 25 34.7	-2.5
NNZ	**Nelson**	**1.23**	**343**	P	Pn	10 25 36.3	-1.6
NNZ				S	Sb	10 25 51.8	-1.9
LTZ	**Lake Taylor**	**1.24**	**251**	P	Pb	10 25 38.2	+0.1
LTZ				S	Sb	10 25 51.0	-3.1
MRNZ	**Matariki Terra**	**1.29**	**320**	P	Pn	10 25 38.2	-0.5
WEL	**Wellington**	**1.30**	**32**	P	Pn	10 25 38.2	-0.6
WEL				S	Sb	10 25 54.1	-1.7
PLWZ	**Palliser**	**1.32**	**52**	P	Pn	10 25 38.2	-1.1
MSWZ	**Moikau Station**	**1.42**	**47**	P	Pn	10 25 39.5	-1.1
MSWZ				S	Sn	10 25 56.7	-2.8
OKCZ	**Okains Bay**	**1.46**	**203**	P	Pn	10 25 41.1	0.0
TKNZ	**Takaka Hill**	**1.51**	**333**	P	Pn	10 25 41.9	+0.1
TKNZ				P	Pn	10 25 41.9	+0.1
PAWZ	**Paruwai Farm**	**1.54**	**50**	P	Pn	10 25 40.8	-1.5
MQZ	**McQueen's Vall**	**1.58**	**213**	P	Pn	10 25 42.1	-0.7
DUWZ	**D'Urville Isla**	**1.59**	**2**	P	Pn	10 25 43.1	+0.2
OXZ	**Oxford**	**1.63**	**234**	P	Pn	10 25 40.7	-2.8
AKCZ	**Akaroa Harbour**	**1.64**	**205**	P	Pn	10 25 43.0	-0.1
DSZ	**Denniston Nort**	**1.66**	**292**	P	Pn	10 25 44.4	+0.5
INZ	**Inchbonnie**	**1.82**	**259**	P	Pb	10 25 47.0	-1.0
RACZ	**Rakaia**	**1.84**	**223**	P	Pn	10 25 45.9	-0.4
QRZ	**Quartz Range**	**1.85**	**327**	P	Pn	10 25 47.4	+0.9
WACZ	**Wakanui South**	**2.14**	**223**	P	Pn	10 25 50.2	-0.2
WVZ	**Waitaha Valley**	**2.40**	**252**	P	Pn	10 25 54.5	+0.5
RPZ	**Rata Peaks**	**2.45**	**236**	P	Pn	10 25 54.1	-0.5
ARCZ	**Arundel**	**2.50**	**231**	P	Pn	10 25 55.2	-0.3
TMZ	**Timaru**	**2.88**	**225**	P	Pn	10 26 00.4	-0.2
PNHZ	**Pukenui**	**3.04**	**36**	P	Pn	10 26 05.5	+2.7
FOZ	**Fox Glacier**	**3.18**	**248**	P	Pn	10 26 06.1	+1.4
PKE	**Pukeiti**	**3.19**	**2**	P	Pn	10 26 08.1	+3.1
LBZ	**Lake Benmore**	**3.34**	**232**	P	Pn	10 26 07.2	+0.3
ODZ	**Otahua Downs**	**3.53**	**220**	P	Pn	10 26 09.1	-0.5
HIZ	**Hauiti**	**3.95**	**11**	P	Pn	10 26 16.3	+1.0
JCZ	**Jackson Bay**	**4.07**	**244**	P	Pn	10 26 17.0	0.0
EAZ	**Earnscleugh**	**4.35**	**228**	P	Pn	10 26 20.9	+0.1
SYZ	**Scrubby Hill**	**5.35**	**218**	P	Pn	10 26 35.0	+0.5
AWAZ	**Awhitu Peninsu**	**5.35**	**7**	P	Pn	10 26 35.1	+0.1
MKAZ	**Moumakai**	**5.37**	**11**	P	Pn	10 26 34.4	-0.4

WEL 15 10:28:04.3±0.3, 42°S±2°×17°3E±°, h37km±6km, M3.5/18, ML3.8/18, MLv3.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=107.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.49**	**89**	P	Pn	10 28 16.1	+1.4
KHZ				S	Sn	10 28 24.5	+2.4
GVZ	**Greta Valley S**	**0.55**	**168**	P	Pn	10 28 17.4	+1.6
GVZ				S	Sn	10 28 26.7	+2.9
LTZ	**Lake Taylor**	**0.57**	**232**	P	Pn	10 28 17.2	+1.1
LTZ				S	Sn	10 28 25.6	+1.3
THZ	**Tophouse**	**0.67**	**2**	P	Pn	10 28 17.3	0.0
THZ				S	Sn	10 28 26.0	-0.5
AMCZ	**Amberley**	**0.77**	**192**	P	Pn	10 28 19.8	+1.3
AMCZ				S	Sn	10 28 31.2	+2.3
BSWZ	**Blackbirch Sta**	**1.03**	**47**	P	Pn	10 28 20.0	-2.2
MRNZ	**Matariki Terra**	**1.03**	**355**	P	Pn	10 28 22.8	+0.6
MRNZ				S	Sn	10 28 36.0	+0.6
DSZ	**Denniston Nort**	**1.05**	**310**	P	Pn	10 28 22.8	+0.3
DSZ				S	Sn	10 28 35.8	-0.1
OXZ	**Oxford**	**1.09**	**214**	P	Pn	10 28 23.4	+0.4
OXZ				S	Sn	10 28 37.5	+0.7
INZ	**Inchbonnie**	**1.10**	**254**	P	Pn	10 28 24.4	+1.3
INZ				S	Sn	10 28 38.3	+1.2
CMWZ	**Cape Campbell**	**1.21**	**56**	P	Pn	10 28 24.0	-0.6
NNZ	**Nelson**	**1.27**	**17**	P	Pn	10 28 26.4	+1.0
NNZ				S	Sn	10 28 42.3	+1.1
TUWZ	**Tuamarina**	**1.28**	**39**	P	Pn	10 28 26.7	+1.2
TUWZ				S	Sn	10 28 42.4	+1.0
MQZ	**McQueen's Vall**	**1.29**	**187**	P	Pn	10 28 25.7	0.0
MQZ				S	Sn	10 28 41.1	-0.5
OKCZ	**Okains Bay**	**1.30**	**174**	P	Pn	10 28 26.7	+0.8
OKCZ				S	Sn	10 28 42.6	+0.6
TKNZ	**Takaka Hill**	**1.40**	**3**	P	Pn	10 28 28.2	+1.0
TKNZ				S	Sn	10 28 45.1	+0.7
RACZ	**Rakaia**	**1.41**	**202**	P	Pn	10 28 27.4	+0.1
RACZ				S	Sn	10 28 44.4	-0.2
AKCZ	**Akaroa Harbour**	**1.44**	**179**	P	Pn	10 28 28.3	+0.4
AKCZ				S	Sn	10 28 45.0	-0.6
TCW	**Tory Channel**	**1.60**	**41**	P	Pn	10 28 30.5	+0.6
QRZ	**Quartz Range**	**1.62**	**351**	P	Pn	10 28 30.5	+0.1
WACZ	**Wakanui South**	**1.69**	**206**	P	Pn	10 28 31.1	-0.1
WVZ	**Waitaha Valley**	**1.70**	**247**	P	Pn	10 28 32.5	+1.1
DUWZ	**D'Urville Isla**	**1.80**	**26**	P	Pn	10 28 34.3	+1.4
WEL	**Wellington**	**1.82**	**52**	P	Pn	10 28 33.2	+0.2
RPZ	**Rata Peaks**	**1.85**	**225**	P	Pn	10 28 33.8	+0.3
ARCZ	**Arundel**	**1.96**	**219**	P	Pn	10 28 35.1	+0.1
PLWZ	**Palliser**	**1.97**	**65**	P	Pn	10 28 34.5	-0.7
MSWZ	**Moikau Station**	**2.04**	**61**	P	Pn	10 28 35.5	-0.5
GCSZ	**Gaunt Creek Bo**	**2.07**	**244**	P	Pn	10 28 38.1	+1.6
CAW	**Cannon Point**	**2.10**	**52**	P	Pn	10 28 36.8	-0.2
PAWZ	**Paruwai Farm**	**2.17**	**62**	P	Pn	10 28 36.8	-1.1
KIW	**Kapiti Island**	**2.19**	**45**	P	Pn	10 28 38.3	+0.3
MTW	**Mount Morrison**	**2.34**	**58**	P	Pn	10 28 39.3	-0.8
TRWZ	**Traveller**	**2.34**	**65**	P	Pn	10 28 39.3	-0.8
OGWZ	**Otaki Gorge**	**2.36**	**48**	P	Pn	10 28 40.3	-0.1
TMZ	**Timaru**	**2.38**	**214**	P	Pn	10 28 40.6	-0.2
FOZ	**Fox Glacier**	**2.50**	**243**	P	Pn	10 28 43.7	+1.3
TMWZ	**Te Maipa**	**2.61**	**61**	P	Pn	10 28 42.8	+1.1
MRZ	**Mangatainoka R**	**2.69**	**50**	P	Pn	10 28 44.3	-0.7
LBZ	**Lake Benmore**	**2.77**	**224**	P	Pn	10 28 46.5	+0.4
POWZ	**Post Office Ro**	**2.98**	**48**	P	Pn	10 28 48.3	-0.7
PRWZ	**Pori Road**	**2.98**	**52**	P	Pn	10 28 48.0	-1.0
BFZ	**Birch Farm**	**3.07**	**57**	P	Pn	10 28 50.0	-0.2
ODZ	**Otahua Downs**	**3.07**	**211**	P	Pn	10 28 49.8	-0.4
NMEZ	**Namu Road**	**3.11**	**14**	P	Pn	10 28 52.8	+2.1
WAZ	**Wanganui**	**3.11**	**32**	P	Pn	10 28 52.4	+1.6
NBEZ	**Newall Road No**	**3.25**	**14**	P	Pn	10 28 54.5	+1.8
KHEZ	**Kahui Hut**	**3.25**	**16**	P	Pn	10 28 54.3	+1.6
DVHZ	**Dannevirke**	**3.26**	**50**	P	Pn	10 28 51.3	-1.6
NEZ	**North Egmont**	**3.29**	**17**	P	Pn	10 28 55.0	+1.7
TSZ	**Takapari Road**	**3.32**	**46**	P	Pn	10 28 52.6	-1.1
PKE	**Pukeiti**	**3.34**	**15**	P	Pn	10 28 55.7	+1.7
DREZ	**Durham Road**	**3.39**	**18**	P	Pn	10 28 56.4	+1.8
JCZ	**Jackson Bay**	**3.41**	**240**	P	Pn	10 28 56.9	+1.9
MHEZ	**Mangahewa**	**3.52**	**19**	P	Pn	10 28 58.5	+2.0
PRHZ	**Porangahau**	**3.56**	**54**	P	Pn	10 28 55.1	-1.9
VRZ	**Vera Road**	**3.60**	**24**	P	Pn	10 28 59.0	+1.5
WNVZ	**Wahianoa**	**3.72**	**35**	P	Pn	10 29 00.2	+0.9
MOVZ	**Moawhango**	**3.72**	**37**	P	Pn	10 28 59.3	+0.1
BHHZ	**Black Hill Sta**	**3.80**	**40**	P	Pn	10 29 00.1	-0.2
EAZ	**Earnscleugh**	**3.81**	**221**	P	Pn	10 29 00.5	+0.1
NGZ	**Ngauruhoe**	**3.85**	**33**	P	Pn	10 29 03.5	+2.4
TWVZ	**Taurewa**	**3.88**	**31**	P	Pn	10 29 01.4	0.0
OTVZ	**Oturere**	**3.89**	**34**	P	Pn	10 29 02.4	+0.8
NNVZ	**North Ngauruho**	**3.89**	**33**	P	Pn	10 29 02.2	+0.5
WTVZ	**West Tongariro**	**3.90**	**33**	P	Pn	10 29 02.1	+0.3
ETVZ	**East Tongariro**	**3.93**	**34**	P	Pn	10 29 03.6	+1.5
KRVZ	**Karewarewa**	**3.94**	**33**	P	Pn	10 29 04.7	+2.5
NTVZ	**North Tongarir**	**3.95**	**33**	P	Pn	10 29 05.0	+2.6
HIZ	**Hauiti**	**4.19**	**22**	P	Pn	10 29 06.4	+0.7
TUZ	**Tuapeka**	**4.23**	**212**	P	Pn	10 29 06.3	+0.2
BKZ	**Black Stump Fm**	**4.26**	**41**	P	Pn	10 29 07.9	+1.3
ARHZ	**Aropaoanui**	**4.45**	**46**	P	Pn	10 29 09.7	+0.6
MRHZ	**Matea Rd**	**4.49**	**38**	P	Pn	10 29 08.3	-1.5
TLZ	**Tolley Road**	**4.57**	**27**	P	Pn	10 29 11.1	+0.2
SYZ	**Scrubby Hill**	**4.90**	**212**	P	Pn	10 29 15.5	+0.1
KNZ	**Kokohu**	**4.99**	**49**	P	Pn	10 29 15.7	-0.8
TOZ	**Tahuroa Road**	**5.11**	**24**	P	Pn	10 29 18.7	+0.5
KMRZ	**Kaimai**	**5.14**	**28**	P	Pn	10 29 25.2	+6.4
MWZ	**Matawai**	**5.42**	**42**	P	Pn	10 29 21.4	-1.1
AWAZ	**Awhitu Peninsu**	**5.53**	**15**	P	Pn	10 29 24.9	+0.9
MKAZ	**Moumakai**	**5.60**	**19**	P	Pn	10 29 25.3	+0.3
ETAZ	**East Tamaki Re**	**5.69**	**17**	P	Pn	10 29 26.9	+0.6
TWGZ	**Tauwhareparae**	**5.77**	**44**	P	Pn	10 29 27.9	+0.5
RVAZ	**Riverhead Bore**	**5.80**	**14**	P	Pn	10 29 29.2	+1.5
WSRZ	**White Island S**	**5.91**	**35**	P	Pn	10 29 30.2	+0.9
OUZ	**Omahuta**	**7.22**	**5**	P	Pn	10 29 48.4	+1.1

*HEL **15** 10:28:20.4, 63°33N×23°29E, h0km, ML1.1, Explosion*
HEL 15 10:28:20.5±0.1, 63°33N×23°26E, h0km, ML1.1, ML1.1(UPP), Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.39**	**223**	*e*P	Pg	10 28 27.5	-0.5
VAF				*e*S	Sg	10 28 32.7	-0.4
OBF0	**Syolatti, Pyha**	**1.25**	**20**	*e*PN	Pg	10 28 44.3	-0.2
UMAU	**Umeaa**	**1.28**	**297**	*e*P	Pg	10 28 43.1	-2.0
UMAU				*e*SB	Sg	10 29 00.8	-0.8
KEF	**Keuruu**	**1.38**	**147**	*e*PN	Pg	10 28 46.5	-0.4
KEF				MSG		10 29 01.9	
	comp=Z,0.

MOVZ	**Moawhango**	**2.60**	**29**	P		Pn	10 32 39.1	+0.1
VRZ	**Vera Road**	**2.61**	**11**	P		Pn	10 32 41.4	+2.3
BHHZ	**Black Hill Sta**	**2.65**	**34**	P		Pn	10 32 39.5	-0.2
PXZ	**Pawanui**	**2.66**	**52**	P		Pn	10 32 37.5	-2.2
NGZ	**Ngauruhoe**	**2.75**	**25**	P		Pn	10 32 42.4	+1.2
SNVZ	**South Ngauruho**	**2.75**	**25**	P		Pn	10 32 43.5	+2.2
OTVZ	**Oturere**	**2.78**	**25**	P		Pn	10 32 42.8	+1.2
NNVZ	**North Ngauruho**	**2.80**	**24**	P		Pn	10 32 43.4	+1.6
TWVZ	**Taurewa**	**2.80**	**21**	P		Pn	10 32 44.3	+2.5
KAHZ	**Kahuranaki**	**2.82**	**49**	P		Pn	10 32 40.2	-1.9
ETVZ	**East Tongariro**	**2.82**	**26**	P		Pn	10 32 43.3	+1.1
TMVZ	**Te Maari**	**2.84**	**26**	P		Pn	10 32 43.4	+1.0
NTVZ	**North Tongarir**	**2.85**	**25**	P		Pn	10 32 43.8	+1.3
BKZ	**Black Stump Fm**	**3.10**	**36**	P		Pn	10 32 44.8	-1.2
MRHZ	**Matea Rd**	**3.35**	**32**	P		Pn	10 32 48.0	-1.4
TLZ	**Tolley Road**	**3.53**	**18**	P		Pn	10 32 53.4	+1.6
HLRZ	**Highlands Stat**	**3.84**	**27**	P		Pn	10 32 52.0	-4.0
MKAZ	**Moumakai**	**4.65**	**10**	P		Pn	10 33 08.9	+1.8

WEL 15 10:36:47.9±0.3,**43°S**±2°×**17°3E**±°,**h12**km,**M3.4**/18,
ML3.6/18,**MLv3.4**/18,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=113.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.30**	**146**	P	Pb	10 36 54.6	-0.6
GVZ				S	Sb	10 37 00.3	+0.2
LTZ	**Lake Taylor**	**0.40**	**261**	P	Pg	10 36 55.7	-0.1
LTZ				S	Sb	10 37 02.1	-0.9
AMCZ	**Amberley**	**0.47**	**194**	P	Pb	10 36 58.3	+0.2
AMCZ				S	Sb	10 37 06.1	+1.0
KHZ	**Kahutara**	**0.62**	**61**	P	Pg	10 36 59.6	-0.3
KHZ				S	Sb	10 37 08.9	-0.3
OXZ	**Oxford**	**0.83**	**223**	P	Pb	10 37 04.5	+0.3
OXZ				S	Sn	10 37 16.7	-0.9
THZ	**Tophouse**	**0.96**	**4**	P	Pg	10 37 04.8	-1.5
MQZ	**McQueen's Vall**	**0.99**	**186**	P	Pb	10 37 06.3	-0.7
MQZ				S	Sb	10 37 20.1	+0.1
INZ	**Inchbonnie**	**1.00**	**269**	P	Pb	10 37 05.9	-1.3
OKCZ	**Okains Bay**	**1.02**	**170**	P	Pb	10 37 07.5	0.0
OKCZ				S	Sn	10 37 21.9	-0.5
RACZ	**Rakaia**	**1.12**	**206**	P	Pb	10 37 08.5	-0.7
RACZ				S	Sg	10 37 24.3	+0.3
AKCZ	**Akaroa Harbour**	**1.16**	**176**	P	Pb	10 37 09.0	-0.8
DSZ	**Denniston Nort**	**1.22**	**322**	P	Pb	10 37 10.7	-0.1
BSWZ	**Blackbirch Sta**	**1.28**	**39**	P	Pb	10 37 11.7	-0.1
MRNZ	**Matariki Terra**	**1.32**	**358**	P	Pn	10 37 11.8	-0.3
WACZ	**Wakanui South**	**1.41**	**210**	P	Pn	10 37 12.5	-0.8
TUWZ	**Tuamarina**	**1.54**	**34**	P	Pn	10 37 15.4	+0.3
NNZ	**Nelson**	**1.56**	**16**	P	Pn	10 37 15.5	+0.1
WVZ	**Waitaha Valley**	**1.56**	**256**	P	Pn	10 37 16.0	+0.5
RPZ	**Rata Peaks**	**1.62**	**232**	P	Pn	10 37 15.7	-0.6
TKNZ	**Takaka Hill**	**1.69**	**4**	P	Pn	10 37 17.5	+0.3
ARCZ	**Arundel**	**1.71**	**224**	P	Pn	10 37 17.0	-0.5
TCW	**Tory Channel**	**1.86**	**37**	P	Pn	10 37 20.5	+0.9
QRZ	**Quartz Range**	**1.90**	**354**	P	Pn	10 37 21.1	+1.0
GCSZ	**Gaunt Creek Bo**	**1.92**	**251**	P	Pn	10 37 21.4	+1.1
DUWZ	**D'Urville Isla**	**2.09**	**24**	P	Pb	10 37 25.9	+0.2
TMZ	**Timaru**	**2.12**	**218**	P	Pb	10 37 22.7	-0.9
MSWZ	**Moikau Station**	**2.24**	**55**	P	Pn	10 37 23.8	+0.9
CAW	**Cannon Point**	**2.33**	**47**	P	Pn	10 37 25.3	-0.7
FOZ	**Fox Glacier**	**2.34**	**249**	P	Pn	10 37 27.3	+1.3
LBZ	**Lake Benmore**	**2.53**	**228**	P	Pn	10 37 29.9	+1.1
ODZ	**Otahua Downs**	**2.80**	**213**	P	Pn	10 37 31.3	-1.2
JCZ	**Jackson Bay**	**3.23**	**244**	P	Pn	10 37 39.2	+0.7
NBEZ	**Newall Road No**	**3.54**	**13**	P	Pn	10 37 45.6	+3.0
KHEZ	**Kahui Hut**	**3.54**	**15**	P	Pn	10 37 46.4	+3.7
PKE	**Pukeiti**	**3.63**	**15**	P	Pn	10 37 46.5	+2.6
MOVZ	**Moawhango**	**3.99**	**35**	P	Pb	10 37 56.1	-1.9
OTVZ	**Oturere**	**4.16**	**32**	P	Pb	10 37 57.4	-3.7
WTVZ	**West Tongariro**	**4.17**	**31**	P	Pb	10 37 58.4	-2.8
HIZ	**Hauiti**	**4.48**	**21**	P	Pn	10 37 57.3	+1.7
TLZ	**Tolley Road**	**4.85**	**26**	P	Pn	10 38 03.9	+3.2
MKAZ	**Moumakai**	**5.89**	**19**	P	Pn	10 38 16.8	+1.9

WEL 15 10:37:41.9±0.3,**42°S**±2°×**17°4E**±°,**h15**km±2km,**M3.4**/23,
ML3.5/18,**MLv3.4**/23,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=123.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**213**	P	Pb	10 37 47.2	+0.5
KHZ				S	Sb	10 37 50.8	+0.9
BSWZ	**Blackbirch Sta**	**0.58**	**16**	P	Pb	10 37 53.7	0.0
BSWZ				S	Sb	10 38 02.7	+0.9
CMWZ	**Cape Campbell**	**0.67**	**38**	P	Pn	10 37 56.5	-0.3
CMWZ				S	Sn	10 38 09.8	+2.8
THZ	**Tophouse**	**0.76**	**312**	P	Pg	10 37 56.4	-0.3
THZ				S	Sg	10 38 06.1	-0.6
GVZ	**Greta Valley S**	**0.83**	**213**	P	Pn	10 37 58.9	-0.1
GVZ				S	Sn	10 38 11.3	+0.2
TUWZ	**Tuamarina**	**0.87**	**14**	P	Pg	10 37 59.0	+0.3
TUWZ				S	Sn	10 38 12.3	+0.4
NNZ	**Nelson**	**1.08**	**349**	P	Pb	10 38 02.0	-0.2
NNZ				S	Sn	10 38 17.1	0.0
MRNZ	**Matariki Terra**	**1.10**	**322**	P	Pn	10 38 02.8	0.0
MRNZ				S	Sg	10 38 17.5	-0.1
LTZ	**Lake Taylor**	**1.15**	**243**	P	Pb	10 38 03.2	-0.2
LTZ				S	Sb	10 38 18.4	+0.3
TCW	**Tory Channel**	**1.16**	**24**	P	Pn	10 38 03.3	-0.3
TCW				S	Sb	10 38 18.3	-0.2
WEL	**Wellington**	**1.29**	**40**	P	Pn	10 38 05.2	-0.2
WEL				S	Sb	10 38 21.8	-0.4
TKNZ	**Takaka Hill**	**1.35**	**337**	P	Pb	10 38 06.6	-0.2
TKNZ				S	Sb	10 38 23.9	+0.1
PLWZ	**Palliser**	**1.38**	**60**	P	Pn	10 38 06.0	-0.7
MSWZ	**Moikau Station**	**1.47**	**55**	P	Pn	10 38 07.3	-0.5
MSWZ				S	Sn	10 38 24.3	-2.4
DSZ	**Denniston Nort**	**1.48**	**290**	P	Pb	10 38 08.7	-0.4
DUWZ	**D'Urville Isla**	**1.48**	**8**	P	Pb	10 38 08.7	-0.4
OKCZ	**Okains Bay**	**1.51**	**197**	P	Pn	10 38 07.7	-0.7
CAW	**Cannon Point**	**1.57**	**43**	P	Pn	10 38 08.7	-0.5
MQZ	**McQueen's Vall**	**1.61**	**207**	P	Pn	10 38 08.3	-1.5
AKCZ	**Akaroa Harbour**	**1.69**	**199**	P	Pn	10 38 09.9	-0.9
KIW	**Kapiti Island**	**1.69**	**34**	P	Pn	10 38 10.9	0.0
MTW	**Mount Morrison**	**1.77**	**52**	P	Pn	10 38 12.2	+0.2
OGWZ	**Otaki Gorge**	**1.85**	**38**	P	Pn	10 38 12.4	-0.5
MRZ	**Mangatainoka R**	**2.16**	**42**	P	Pn	10 38 16.4	-0.9
POWZ	**Post Office Ro**	**2.46**	**41**	P	Pn	10 38 20.8	-0.6
WAZ	**Wanganui**	**2.71**	**22**	P	Pn	10 38 26.6	+1.8
LREZ	**Lake Rotokare**	**2.87**	**12**	P	Pn	10 38 31.1	-1.6
VRZ	**Vera Road**	**3.26**	**15**	P	Pn	10 38 34.4	+2.0
KRVZ	**Karewarewa**	**3.52**	**26**	P	Pn	10 38 39.2	+3.1
AWAZ	**Awhitu Peninsu**	**5.26**	**9**	P	Pn	10 39 01.1	+1.2
ETAZ	**East Tamaki Re**	**5.40**	**11**	P	Pn	10 39 02.8	+0.9

WEL 15 10:48:41.8±0.5,**42°S**±3°×**17°4E**±°,**h16**km±4km,**M3.5**/43,
ML3.8/18,**MLv3.5**/43,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=123.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**270**	P	Pb	10 48 47.5	+0.1
KHZ				S	Sb	10 48 51.0	-0.1
BSWZ	**Blackbirch Sta**	**0.70**	**3**	P	Pb	10 48 56.4	+0.7
BSWZ				S	Sn	10 49 06.4	-1.2
CMWZ	**Cape Campbell**	**0.73**	**24**	P	Pn	10 48 57.8	+0.3
GVZ	**Greta Valley S**	**0.80**	**226**	P	Pn	10 48 58.0	-0.5
GVZ				S	Sn	10 49 10.7	+0.5
THZ	**Tophouse**	**0.95**	**313**	P	Pb	10 48 59.8	-0.2
THZ				S	Sb	10 49 11.5	-0.7
TUWZ	**Tuamarina**	**0.99**	**5**	P	Pg	10 49 01.0	0.0
TUWZ				S	Sn	10 49 15.0	+0.3
AMCZ	**Amberley**	**1.15**	**228**	P	Pg	10 49 04.0	0.0
LTZ	**Lake Taylor**	**1.21**	**252**	P	Pb	10 49 04.3	-0.1
LTZ				S	Sb	10 49 19.5	-0.2
NNZ	**Nelson**	**1.24**	**344**	P	Pn	10 49 04.3	-0.3
NNZ				S	Sb	10 49 20.5	-0.2
TCW	**Tory Channel**	**1.25**	**16**	P	Pn	10 49 04.4	-0.3
MRNZ	**Matariki Terra**	**1.29**	**321**	P	Pb	10 49 05.6	-0.1
MRNZ				S	Sg	10 49 22.9	-0.6
WEL	**Wellington**	**1.33**	**32**	P	Pn	10 49 05.9	+0.1
WEL				S	Sn	10 49 23.0	-0.2
PLWZ	**Palliser**	**1.36**	**52**	P	Pn	10 49 05.9	-0.3
OKCZ	**Okains Bay**	**1.42**	**203**	P	Pn	10 49 07.4	+0.3
MSWZ	**Moikau Station**	**1.46**	**47**	P	Pn	10 49 07.2	-0.3
MSWZ				S	Sn	10 49 25.6	-0.7
TKNZ	**Takaka Hill**	**1.52**	**335**	P	Pn	10 49 09.0	+0.6
TKNZ				S	Sb	10 49 28.8	0.0
MQZ	**McQueen's Vall**	**1.55**	**213**	P	Pn	10 49 07.7	-1.1
MQZ				S	Sn	10 49 27.5	-1.1
PAWZ	**Paruwai Farm**	**1.58**	**50**	P	Pn	10 49 08.8	-0.4
PAWZ				S	Sn	10 49 28.7	-0.7
OXZ	**Oxford**	**1.60**	**235**	P	Pn	10 49 09.0	-0.4
AKCZ	**Akaroa Harbour**	**1.60**	**204**	P	Pn	10 49 09.5	0.0
CAW	**Cannon Point**	**1.60**	**36**	P	Pn	10 49 09.3	-0.2
CAW				S	Sn	10 49 29.2	-0.7
DUWZ	**D'Urville Isla**	**1.61**	**3**	P	Pb	10 49 10.6	-0.7
DUWZ				S	Sg	10 49 34.5	+0.7
DSZ	**Denniston Nort**	**1.65**	**293**	P	Pb	10 49 11.0	-0.8
TRWZ	**Traveller**	**1.72**	**54**	P	Pn	10 49 10.6	-0.6
KIW	**Kapiti Island**	**1.75**	**28**	P	Pn	10 49 11.6	0.0
MTW	**Mount Morrison**	**1.77**	**45**	P	Pn	10 49 11.2	-0.6
INZ	**Inchbonnie**	**1.79**	**259**	P	Pn	10 49 13.1	+1.1
RACZ	**Rakaia**	**1.80**	**223**	P	Pn	10 49 11.9	-0.4
QRZ	**Quartz Range**	**1.86**	**328**	P	Pn	10 49 14.1	+1.0
OGWZ	**Otaki Gorge**	**1.89**	**33**	P	Pn	10 49 13.1	-0.4
HOWZ	**Holdsworth Sta**	**1.98**	**40**	P	Pg	10 49 18.7	-1.0
TMWZ	**Te Maipa**	**2.02**	**50**	P	Pn	10 49 14.5	-0.8
WACZ	**Wakanui South**	**2.11**	**223**	P	Pn	10 49 16.2	-0.2
MRZ	**Mangatainoka R**	**2.19**	**37**	P	Pn	10 49 17.0	-0.6
WVZ	**Waitaha Valley**	**2.37**	**253**	P	Pn	10 49 20.5	+0.5
RPZ	**Rata Peaks**	**2.41**	**236**	P	Pn	10 49 20.3	-0.3
ARCZ	**Arundel**	**2.47**	**231**	P	Pn	10 49 21.2	-0.3
BFZ	**Birch Farm**	**2.51**	**47**	P	Pn	10 49 20.9	-1.1
WAZ	**Wanganui**	**2.80**	**19**	P	Pn	10 49 28.0	+2.0
TMZ	**Timaru**	**2.84**	**225**	P	Pn	10 49 27.2	+0.6
TSZ	**Takapari Road**	**2.85**	**35**	P	Pn	10 49 25.7	-1.0
NBEZ	**Newall Road No**	**3.15**	**1**	P	Pn	10 49 35.9	-1.4
PKE	**Pukeiti**	**3.22**	**2**	P	Pn	10 49 35.3	-3.4
LBZ	**Lake Benmore**	**3.31**	**232**	P	Pn	10 49 33.9	+1.0
MOVZ	**Moawhango**	**3.34**	**27**	P	Pn	10 49 33.8	+0.3
VRZ	**Vera Road**	**3.36**	**12**	P	Pn	10 49 35.4	+1.7
WNVZ	**Wahianoa**	**3.37**	**24**	P	Pn	10 49 35.9	+2.0
ODZ	**Otahua Downs**	**3.50**	**220**	P	Pn	10 49 35.3	-0.3
NGZ	**Ngauruhoe**	**3.51**	**23**	P	Pn	10 49 37.8	+1.9
OTVZ	**Oturere**	**3.54**	**24**	P	Pn	10 49 37.9	+1.7
NNVZ	**North Ngauruho**	**3.55**	**23**	P	Pn	10 49 38.9	+2.5
TMVZ	**Te Maari**	**3.59**	**24**	P	Pn	10 49 39.6	+2.7
KRVZ	**Karewarewa**	**3.59**	**23**	P	Pn	10 49 40.4	+3.4
BKZ	**Black Stump Fm**	**3.83**	**33**	P	Pn	10 49 40.8	+0.7
HIZ	**Hauiti**	**3.98**	**12**	P	Pn	10 49 43.9	+1.8
JCZ	**Jackson Bay**	**4.04**	**244**	P	Pn	10 49 46.5	+3.4
TOZ	**Tahuroa Road**	**4.85**	**16**	P	Pn	10 49 54.4	+0.2
AWAZ	**Awhitu Peninsu**	**5.38**	**7**	P	Pn	10 50 02.5	+1.1
MKAZ	**Moumakai**	**5.40**	**11**	P	Pn	10 50 01.9	+0.2
ETAZ	**East Tamaki Re**	**5.52**	**9**	P	Pn	10 50 04.4	+1.0
MBAZ	**Motutapu North**	**5.70**	**9**	P	Pn	10 50 07.7	+1.9

WEL 15 10:49:13.6±0.3,**42°S**±2°×**17°4E**±°,**h8**km±2km,**M3.4**/15,
ML3.7/14,**MLv3.4**/15,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=130.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.34**	**19**	P	Pg	10 49 20.9	+0.6
BSWZ				S	Sb	10 49 26.3	-1.2
KHZ	**Kahutara**	**0.40**	**201**	P	Pg	10 49 21.8	+0.3
KHZ				S	Sg	10 49 27.7	+0.9
CMWZ	**Cape Campbell**	**0.46**	**51**	P	Pb	10 49 23.6	-0.5
CMWZ				S	Sb	10 49 31.6	+0.5
TUWZ	**Tuamarina**	**0.63**	**15**	P	Pb	10 49 26.5	-0.3
TUWZ				S	Sb	10 49 35.4	-0.4
THZ	**Tophouse**	**0.68**	**294**	P	Pb	10 49 27.4	-0.3
THZ				S	Sg	10 49 36.3	+0.8
NNZ	**Nelson**	**0.86**	**342**	P	Pg	10 49 30.1	-0.1
NNZ				S	Sb	10 49 42.5	-0.1
TCW	**Tory Channel**	**0.92**	**26**	P	Pg	10 49 31.1	-0.2
TCW				S	Sg	10 49 43.5	+0.2
GVZ	**Greta Valley S**	**1.06**	**209**	P	Pg	10 49 34.2	+0.1
GVZ				S	Sn	10 49 49.5	-0.4
WEL	**Wellington**	**1.08**	**46**	P	Pg	10 49 33.9	-0.5
WEL				S	Sn	10 49 50.9	+0.6
PLWZ	**Palliser**	**1.23**	**68**	P	Pb	10 49 35.4	-1.8
DUWZ	**D'Urville Isla**	**1.24**	**7**	S	Sb	10 49 53.3	-0.3
MSWZ	**Moikau Station**	**1.29**	**62**	P	Pn	10 49 36.4	-1.7
LTZ	**Lake Taylor**	**1.31**	**235**	P	Pn	10 49 38.3	-0.1
LTZ				S	Sn	10 49 56.7	+0.6
CAW	**Cannon Point**	**1.37**	**48**	P	Pn	10 49 37.9	-1.2
CAW				S	Sb	10 49 56.5	-0.6
PAWZ	**Paruwai Farm**	**1.43**	**63**	P	Pn	10 49 38.1	-1.9
KIW	**Kapiti Island**	**1.47**	**37**	P	Pn	10 49 40.1	-0.4
KIW				S	Sg	10 50 02.6	+1.6
TRWZ	**Traveller**	**1.60**	**67**	P	Pn	10 49 40.0	-2.2
OGWZ	**Otaki Gorge**	**1.63**	**42**	P	Pn	10 49 41.5	-1.2

IDC ***15*** *10:50:47.6*±*1.3, 10°.62S×73°.24W, h0km, mb3.5/3, mbtmp3.5/7, ML3.3/4, Error ellipse: s-maj=38.7km s-min=17.4km az=36.0*

ISC 15 10:50:52.5±0.9,**10°.8S**±0°.1×**73°.34W**±0°.08,**h35**km,**n7,**
σ0°.74/8,mb3.5/3,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.64**	**250**	Pn	**Pn**	**10 51 46.7**	**+0.2**
	9.6nm,0.3s,baz=100,slow=7.8,SNR=14						
NNA				Sn	**Sn**	**10 52 27.9**	**-0.4**
	20nm,0.3s,baz=282,slow=22,SNR=9.7						
	18nm,0.3s						
ATAH	**Atahualpa**	**6.17**	**305**	Pn	**Pn**	**10 52 22.4**	**+0.9**
	0.5nm,0.3s,baz=15,slow=21,SNR=2.0						
	1.7nm,0.4s						
LPAZ	**La Paz**	**7.46**	**138**	Pn	**Pn**	**10 52 39.7**	**+0.2**
	0.1nm,0.3s,baz=326,slow=11,SNR=1.6						
LPAZ				Lg	Lg	10 54 45.1	
	1.5nm,0.3s,baz=63,slow=18,SNR=4.2						
	0.6nm,0.6s						
SIV	**San Ignacio**	**13.01**	**115**	Pn	**Pn**	**10 53 54.7**	**-0.2**
	baz=295,slow=14,SNR=3.0						
SIV				Lg	Lg	10 57 41.6	
	0.1nm,0.3s,baz=192,slow=22,SNR=6.8						
	0.3nm,0.3s						
CPUP	**Villa Florida**	**21.63**	**138**	P	**P**	**10 55 40.6**	**+0.9**
	0.7nm,0.4s,baz=299,slow=10,SNR=2.9						
	0.7nm,0.4s						
TXAR	**Lajitas Array**	**49.46**	**325**	P	**P**	**10 59 38.9**	**-0.7**
	0.3nm,0.7s,baz=149,slow=9.2,SNR=6.2						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.15**	**74**	P	**P**	**11 02 48.3**	**-0.5**
	0.3nm,0.4s,baz=244,slow=6.1,SNR=3.7						
	0.3nm,0.4s						

AEIC ***15*** *10:52:51.2*±*2.4, 53°.43N*±*0°.08×166°.4W*±*0°.1, h52km*±*8km, Error ellipse: s-maj=13.4km s-min=8.3km az=144.0*

NEIC 15 10:52:50.9±2.1,**53°.38N**±0°.09×**166°.3W**±0°.1,**h52**km±13km,
mb3.7/9,ML3.5(AEIC),**Error ellipse: s-maj=14.9km**
s-min=8.7km az=150.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.49**	**344**		Pn	10 53 01.9	-0.2
UNV	**Unalaska Valle**	**0.49**	**344**		Sn	10 53 10.2	0.0
AKUT	**Akutan**	**0.82**	**21**		Pn	10 53 06.4	+0.2
NIKH	**Nikolski High**	**1.60**	**256**		Pn	10 53 17.1	+0.3
FALS	**False Pass**	**2.24**	**47**		Pn	10 53 26.4	+0.9
CLES	**Cleveland East**	**2.25**	**257**	Pn	Pn	10 53 25.8	+0.2
SPIA	**Saint Paul Isl**	**4.43**	**331**		Pn	10 53 54.9	-0.6
CHGN	**Chignik**	**5.41**	**54**	Pn	Pn	10 54 08.1	-0.7
OHAK	**Old Harbor**	**8.35**	**57**	Pn	Pn	10 54 48.2	-0.8
KDAK	**Kodiak Island**	**8.92**	**55**	Pn	Pn	10 54 56.0	-0.8
Q19K	**Cape Douglas,**	**8.97**	**47**	Pn	Pn	10 54 58.3	+0.6
N18K	**Kilae Creek**	**9.24**	**34**	Pn	Pn	10 55 01.7	+0.3
ILSW	**Iliamna Southw**	**9.79**	**42**	Pn	Pn	10 55 08.7	-0.2
N19K	**Bonanza Creek**	**9.82**	**36**	Pn	Pn	10 55 08.7	-0.6
BRLK	**Bradley Lake**	**10.62**	**47**	Pn	Pn	10 55 21.1	+0.9
M19K	**Big River Lodg**	**10.64**	**32**	Pn	Pn	10 55 20.9	+0.4
L19K	**White Mountain**	**10.71**	**30**	Pn	Pn	10 55 22.6	+1.2
GAMB	**Gambell**	**10.80**	**347**	Pn	Pn	10 55 22.0	-0.5
M20K	**Styx River**	**11.04**	**34**	Pn	Pn	10 55 27.6	+1.6
K20K	**Telida**	**11.86**	**28**	Pn	Pn	10 55 36.2	-0.8
J20K	**Nowinta River**	**12.49**	**25**	Pn	Pn	10 55 45.6	-0.1
GHO	**Glory Hole Cre**	**12.51**	**41**	Pn	Pn	10 55 44.1	-1.9
SCM	**Sheep Creek Mo**	**13.18**	**43**	Pn	Pn	10 55 53.6	-1.5
KLU	**Klutina**	**13.60**	**45**	Pn	Pn	10 55 58.9	-1.9
MCK	**McKinley**	**13.71**	**34**	Pn	Pn	10 56 02.2	-0.2
M24K	**Tolsona, Glenn**	**13.79**	**43**	Pn	Pn	10 56 02.2	-1.2
I21K	**Tanana**	**13.86**	**26**	Pn	Pn	10 56 04.1	-0.1
H21K	**Melozitna Rive**	**14.04**	**23**	Pn	Pn	10 56 06.3	-0.4
BERG	**Berg Lake**	**14.15**	**51**	Pn	Pn	10 56 08.9	+0.8
N25K	**Chitina, Valde**	**14.21**	**46**	Pn	Pn	10 56 07.9	-1.2
I23K	**Minto, Yukon-K**	**14.56**	**29**	Pn	Pn	10 56 12.6	-0.9
WAX	**Waxell Ridge**	**14.56**	**52**	Pn	Pn	10 56 12.2	-1.6
J26L	**Joseph Creek**	**16.06**	**37**	Pn	Pn	10 56 32.3	-0.7
I26K	**Coal Creek Min**	**16.66**	**35**	Pn	Pn	10 56 39.7	-0.7
I26K				IAmb	IAmb	10 57 16.8	
	comp=Z,9.2nm,1.4s						
DAWY	**Dawson**	**17.43**	**42**		Pn	10 56 50.0	-0.1
SKAG	**Skagway**	**18.05**	**58**	P	Pn	10 56 58.5	+0.9
SKAG				IAmb	IAmb	10 57 21.6	
	comp=Z,9.7nm,1.1s						
M31M	**Drury Creek, Y**	**18.97**	**50**	P	Pn	10 57 09.6	+0.9
M31M				IAmb	IAmb	10 57 11.2	
	comp=Z,5.9nm,1.2s						
P33M	**Teslin, Yukon**	**19.39**	**56**	P	Pn	10 57 13.3	-0.5
FARO	**Faro, Yukon**	**19.45**	**50**	P	Pn	10 57 14.8	+0.4
FARO				IAmb	IAmb	10 57 41.5	
	comp=Z,6.9nm,1.4s						
INK	**Inuvik**	**21.47**	**33**	P	P	10 57 36.0	+1.5
INK				IAmb	IAmb	10 57 40.2	
	comp=Z,4.6nm,1.4s						
C36M	**Paulatuk**	**25.04**	**34**	P	P	10 58 08.8	-0.8

WEL ***15*** *10:54:59.0*±*0.4, 42°.5S×2°.×17°.4E*±*°, h5km, M3.9/18, ML4.2/18, MLv3.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=132.9*

NEIC ***15*** *10:54:58.4*±*2.0, 42°.35S*±*0°.04×174°.00E*±*0°.05, h10km*±*2km, mb4.1/4, Error ellipse: s-maj=7.2km s-min=5.3km az=325.0*

NOU ***15*** *10:54:58.1, 42°.46S×174°.04E, h4km, MLv4.4/8, Off E. Coast of S. Island, N.Z.*

IDC ***15*** *10:55:04.6*±*2.7, 42°.06S×172°.75E, h0km, mb3.7/2, mbtmp3.7/3, ML3.9/1, MS3.4/5, Error ellipse: s-maj=53.5km s-min=30.9km az=95.0*

ISC 15 10:54:59.0±1.1,**42°.34S**±0°.03×**174°.00E**±0°.03,**h13**km±8km,
n120,σ1°.05/134,mb3.9/4,MS3.5/5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.35**	**257**		**Pg**	**10 55 06.1**	**0.0**
KHZ				Sg	**Sg**	**10 55 11.1**	**+0.4**
KHZ	**Kahutara**	**0.35**	**257**	P	**Pg**	**10 55 05.9**	**-0.1**
KHZ	**Kahutara**	**0.35**	**257**	P	**Pg**	**10 55 06.0**	**0.0**
KHZ				S	**Sg**	**10 55 11.2**	**+0.4**
CMWZ	**Cape Campbell**	**0.61**	**15**	Pg	**Pb**	**10 55 09.4**	**-2.1**
CMWZ	**Cape Campbell**	**0.61**	**15**	P	**Pb**	**10 55 12.2**	**+0.7**
CMWZ				S	**Sn**	**10 55 23.7**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.63**	**352**		**Pb**	**10 55 10.7**	**-1.2**
BSWZ				Sg	**Sb**	**10 55 18.1**	**-2.4**
BSWZ	**Blackbirch Sta**	**0.63**	**352**	P	**Pb**	**10 55 10.8**	**-1.1**
BSWZ				S	**Sb**	**10 55 20.0**	**-0.5**
TUWZ	**Tuamarina**	**0.91**	**357**		**Pb**	**10 55 16.0**	**-0.5**
TUWZ	**Tuamarina**	**0.91**	**357**	P	**Pb**	**10 55 16.1**	**

MTHZ	Maungataniwha	4.10	33	P	Pn	10 56 02.7	+1.3
TLZ	Tolley Road	4.17	17	P	Pn	10 56 02.7	+0.3
WKZ	Wanaka	4.39	234	Pn	Pn	10 56 04.9	-0.4
TOZ	Tahuroa Road	4.75	15	P	Pn	10 56 10.6	+0.4
MLZ	Mavora Lakes	5.22	233	Pn	Pn	10 56 16.8	+0.1
AWAZ	Awhitu Peninsu	5.29	6	P	Pn	10 56 18.7	+1.0
MKAZ	Moumakai	5.30	10	P	Pn	10 56 18.1	+0.3
WTAZ	Waiatarua	5.42	5	P	Pn	10 56 22.2	+2.7
ETAZ	East Tamaki Re	5.43	8	P	Pn	10 56 20.4	+0.9
SYZ	Scrubby Hill	5.45	218	P	Pn	10 56 19.5	-0.3
RVAZ	Riverhead Bore	5.58	5	P	Pn	10 56 25.9	+4.2
MBAZ	Motutapu North	5.61	7	P	Pn	10 56 28.3	+6.3
WHZ	Wether Hill Ro	5.62	229	Pn	Pn	10 56 22.2	0.0
DCZ	Deep Cove	5.85	235	Pn	Pn	10 56 23.7	-1.6
PYZ	Puysegur Point	6.50	231	Pn	Pn	10 56 34.2	-0.1
OUZ	Omahuta	7.12	357	Pn	Pn	10 56 44.7	+2.0
OUZ	Omahuta	7.12	357	P	Pn	10 56 48.2	+5.5
DZM	Mont Dzumac	21.18	340	LR	LR	11 06 57.3	
	comp=Z,65nm,18.9s,baz=32,slow=35						
CTA	Charters Tower	32.23	305	LR	LR	11 12 57.8	
	comp=Z,31nm,19.5s,baz=128,slow=34						
ASAR	Alice Springs	38.01	286	P	P	11 02 16.5	-0.3
	0.4nm,0.7s,baz=122,slow=6.5,SNR=12						
	0.4nm,0.7s						
PPT	Papeete	39.61	63	LR	LR	11 16 09.0	
	comp=Z,63nm,19.3s,baz=352,slow=31						
WR0	Warramunga Arr	39.99	292	P	P	11 02 33.6	+0.2
WB2	Warramunga Arr	40.13	291	P	P	11 02 35.3	+0.7
WB2				IAmb	IAmb	11 02 45.0	
	comp=Z,4.1nm,1.1s						
WRA	Warramunga Arr	40.14	291	P	P	11 02 33.8	-0.9
	comp=Z,1.5nm,0.8s,baz=131,slow=7.3,SNR=8.9						
WRA				LR	LR	11 19 13.5	
	comp=Z,66nm,18.6s,baz=99,slow=37						
	comp=Z,1.5nm,0.8s						
WRA	Warramunga Arr	40.14	291	P	P	11 02 33.8	-0.9
WB0	Warramunga Arr	40.22	292	P	P	11 02 34.4	-0.9
WB0				IAmb	IAmb	11 02 43.1	
	comp=Z,7.5nm,1.4s						
PMG	Port Moresby	40.38	317	LR	LR	11 17 57.1	
	comp=Z,60nm,18.4s,baz=121,slow=35						
TORD	Torodi Ar. Bea	150.16	195	PKPbc	PKPab	11 14 57.7	+1.9
	comp=Z,1.1nm,1.0s,baz=149,slow=3.0,SNR=4.0						

*IDC **15** 11:03:13.2±7.3,2˚.14S×77˚.35W,h142km±74km,mb3.1/6, mbtmp3.6/7,Error ellipse: s-maj=89.1km s-min=23.7km az=55.0*

ISC 15 11:03:13.8±1.1,**2˚.16S**±0˚.09×**77˚.4W**±0˚.3,**h150**km,**n8, σ0§69/9,mb3.3/6,Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	5.05	192	P	Pn	11 04 28.6	+0.3
	26nm,0.5s,baz=20,slow=10,SNR=24						
ATAH				S	Sn	11 05 25.9	-0.4
	40nm,0.7s,baz=223,slow=22,SNR=8.9						
CPUP	Villa Florida	30.79	143	P	P	11 09 15.6	+0.3
	0.7nm,0.4s,baz=269,slow=2.7,SNR=3.2						
	0.7nm,0.4s						
TXAR	Lajitas Array	40.19	323	P	P	11 10 35.8	+0.1
	0.1nm,0.5s,baz=142,slow=6.5,SNR=4.4						
	0.1nm,0.5s						
ANMO	Albuquerque	45.90	326	P	P	11 11 21.8	+0.2
	1.5nm,0.6s,baz=138,slow=10,SNR=7.8						
	1.5nm,0.6s						
PDAR	Pinedale Array	53.32	331	P	P	11 12 16.8	-1.0
	0.2nm,0.6s,baz=130,slow=8.4,SNR=2.7						
	0.2nm,0.6s						
NVAR	Mina Array Bea	55.27	321	P	P	11 12 32.5	+0.6
	0.3nm,0.5s,baz=126,slow=6.9,SNR=5.0						
	0.3nm,0.5s						
ILAR	Eielson Array	83.34	336	P	P	11 15 23.7	+0.1
	0.3nm,0.7s,baz=167,slow=4.9,SNR=5.6						
	0.3nm,0.7s						
WRA	Warramunga Arr	141.92	233	PKP	PKiKP	11 22 30.7	-1.1
	0.1nm,0.4s,baz=113,slow=1.7,SNR=7.4						

IDC 15 11:07:16.6±8.2,**18˚.28S**×**176˚.76W,h0**km,**mb3.5**/3, **mbtmp3.5/3,Error ellipse: s-maj=360.5km s-min=39.3km az=142.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	46.11	260	P	P	11 15 43.0	0.0
	0.4nm,0.8s,baz=96,slow=7.5,SNR=2.3						
	0.4nm,0.8s						
ASAR	Alice Springs	46.21	254	P	P	11 15 43.5	-0.2
	0.5nm,0.7s,baz=90,slow=8.7,SNR=5.8						
	0.5nm,0.7s						
ILAR	Eielson Array	85.90	12	P	P	11 19 58.0	0.0
	0.2nm,0.4s,baz=221,slow=5.7,SNR=5.8						
	0.2nm,0.4s						

WEL 15 11:08:36.4±0.4,**42˚S**±3˚×**17˚4E**±˚,**h8**km±3km,**M3.0**/14, **ML3.2**/14,**MLv3.0**/14,**Error ellipse: s-maj=0.0km s-min=0.0km az=126.9,South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	Blackbirch Sta	0.27	12	P	Pg	11 08 42.4	+0.6
BSWZ				S	Sg	11 08 46.6	+1.2
CMWZ	Cape Campbell	0.39	53	P	Pb	11 08 45.2	-0.3
TUWZ	Tuamarina	0.56	11	P	Pg	11 08 47.7	+0.5
TUWZ				S	Sb	11 08 56.1	-0.6
THZ	Tophouse	0.70	288	P	Pg	11 08 49.8	-0.1
THZ				S	Sg	11 08 59.6	+0.5
NNZ	Nelson	0.82	337	P	Pg	11 08 52.2	-0.1
TCW	Tory Channel	0.85	25	P	Pg	11 08 52.5	-0.2
TCW				S	Sb	11 09 04.9	0.0
WEL	Wellington	1.00	47	P	Pb	11 08 56.1	0.0
WEL				S	Sn	11 09 10.6	-0.6
PLWZ	Palliser	1.16	70	P	Pg	11 08 57.6	-1.1
DUWZ	D'Urville Isla	1.18	4	P	Pg	11 08 58.3	-0.8
DUWZ				S	Sn	11 09 15.4	-0.2
MSWZ	Moikau Station	1.22	63	P	Pb	11 08 58.3	-1.5
CAW	Cannon Point	1.29	48	P	Pn	11 08 59.9	-0.9
LTZ	Lake Taylor	1.39	234	P	Pn	11 09 01.8	-0.4
LTZ				S	Sn	11 09 20.7	0.0
KIW	Kapiti Island	1.39	37	P	Pn	11 09 01.9	-0.3
QRZ	Quartz Range	1.50	320	P	Pb	11 09 04.6	+0.1
MTW	Mount Morrison	1.52	58	P	Pn	11 09 02.5	-1.4
TRWZ	Traveller	1.53	68	P	Pn	11 09 02.4	-1.6
OGWZ	Otaki Gorge	1.55	42	P	Pn	11 09 03.9	-0.5
TMWZ	Te Maipa	1.79	62	P	Pn	11 09 06.0	-1.8
MRZ	Mangatainoka R	1.88	46	P	Pn	11 09 07.7	-1.2
INZ	Inchbonnie	1.90	246	P	Pn	11 09 09.1	-0.1
PRWZ	Pori Road	2.17	50	P	Pg	11 09 18.0	0.0
WAZ	Wanganui	2.40	22	P	Pb	11 09 18.7	-1.2
WACZ	Wakanui South	2.43	216	P	Pn	11 09 14.5	-2.0
TSZ	Takapari Road	2.52	41	P	Pb	11 09 22.1	+0.1
KHEZ	Kahui Hut	2.69	4	P	Pb	11 09 25.4	+0.6
NBEZ	Newall Road No	2.71	1	P	Pb	11 09 26.5	+1.3
PKE	Pukeiti	2.79	3	P	Pb	11 09 26.8	+0.3
VRZ	Vera Road	2.94	15	P	Pb	11 09 27.2	-2.0
TLZ	Tolley Road	3.88	21	P	Pb	11 09 45.6	+0.5
TOZ	Tahuroa Road	4.44	18	P	Pb	11 09 50.2	-4.5
KMRZ	Kaimai	4.44	22	P	Pg	11 09 58.8	-2.8

WEL 15 11:09:25.4±2.1,**39˚S**±13˚×**17˚6E**±1˚1,**h0**km,**M1.8**/7, **ML2.1**/10,**MLv1.8**/7,**Error ellipse: s-maj=0.0km s-min=0.0km az=38.1,North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNVZ	South Ngauruho	0.31	347	P	Pg	11 09 31.5	+0.1
SNVZ				S	Sg	11 09 33.3	-2.1
OTVZ	Oturere	0.33	351	P	Pg	11 09 32.7	+1.0
NNVZ	North Ngauruho	0.37	346	P	Pg	11 09 33.0	+0.5
TMVZ	Te Maari	0.37	357	P	Pg	11 09 32.8	+0.3
WTVZ	West Tongariro	0.39	344	P	Pg	11 09 32.7	-0.2
KRVZ	Karewarewa	0.40	350	P	Pg	11 09 33.9	+0.9
TWVZ	Taurewa	0.47	331	P	Pg	11 09 33.2	-1.3
KATZ	Kakaramea	0.51	357	P	Pg	11 09 36.0	+0.8
KWHZ	Kawekaweka Forest	0.54	83	P	Pg	11 09 35.4	-0.4
RATZ	Rangitukua	0.62	3	P	Pb	11 09 39.0	-0.2
BKZ	Black Stump Fm	0.67	62	P	Pg	11 09 38.3	0.0
MCHZ	McNeill Hill	0.75	87	P	Pg	11 09 39.2	-0.6

KRSC 15 11:34:13.8±1.5,**51˚.22N**×**161˚.09E,h48**km±30km,**ML3.6,**

Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	Khodutka, Kamc	1.97	288	*eP*	Pn	11 34 46.3	+1.5
KDTR				*eS*	Sn	11 35 09.5	+1.2
SPN	Mys Shipunski	1.99	341	*eP*	Pn	11 34 47.5	+2.5
SPN				*eS*	Sn	11 35 10.5	+1.8
RUS	Russkaya	2.01	308	*eP*	Pn	11 34 46.7	+1.5
RUS				*eS*	Sn	11 35 11.1	+2.0
MTVR	Mutnovka	2.20	306	*eP*	Pn	11 34 50.4	+2.4
MTVR				*eS*	Sn	11 35 16.7	+2.6
NLC	Nalytchevo	2.23	332	*eS*	Sn	11 35 18.7	+4.2
GRL	Gorelyy	2.30	307	*eP*	Pn	11 34 52.3	+3.0
GRL				*eS*	Sn	11 35 20.2	+3.8
DALK	Dalny	2.31	322	*eP*	Pn	11 34 52.5	+3.1
DALK				*eS*	Sn	11 35 19.9	+3.3
PET	Petropavlovsk	2.35	321	*eS*	Sn	11 35 21.4	+3.9
KRMR	Karymshinskiy	2.44	312	*eP*	Pn	11 34 53.8	+2.7
KRMR				*eS*	Sn	11 35 23.2	+3.5
SMAR	Somma	2.48	326	*eP*	Pn	11 34 55.0	+3.1
KRER	Koryakskii	2.53	326	*eP*	Pn	11 34 57.2	+4.6
GNL	Ganaly	3.14	323	*eP*	Pn	11 35 05.2	+4.4
TUMD	Tumrok D	4.01	354	*eP*	Pn	11 35 16.4	+3.7
TUMD				*eS*	Sn	11 36 02.0	+3.6
TUMR	Tumrok	4.11	352	*eP*	Pn	11 35 18.5	+4.4
KBTR	Krutoberegovo	5.10	11	P	Pn	11 35 31.1	+3.5

WEL 15 11:36:53.2±0.3,**42˚S**±3˚×**17˚4E**±˚,**h11**km±2km,**M3.8**/23, **ML3.9**/23,**MLv3.8**/23,**Error ellipse: s-maj=0.0km s-min=0.0km az=134.7,South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.29	202	P	Pb	11 37 00.4	+0.1
KHZ				S	Sb	11 37 04.9	-0.2
BSWZ	Blackbirch Sta	0.46	18	P	Pb	11 37 03.0	-0.3
BSWZ				S	Sg	11 37 09.1	+0.9
CMWZ	Cape Campbell	0.56	45	P	Pb	11 37 05.6	+0.5
THZ	Tophouse	0.70	303	P	Pb	11 37 07.3	-0.1
THZ				S	Sb	11 37 16.7	-0.4
TUWZ	Tuamarina	0.75	15	P	Pb	11 37 08.3	+0.1
TUWZ				S	Sb	11 37 18.6	+0.2
GVZ	Greta Valley S	0.95	210	P	Pn	11 37 12.7	+0.3
GVZ				S	Sn	11 37 27.0	+1.0
TCW	Tory Channel	1.04	25	P	Pg	11 37 13.1	0.0
WEL	Wellington	1.19	43	P	Pb	11 37 15.2	-0.5
LTZ	Lake Taylor	1.22	238	P	Pg	11 37 16.5	-0.1
AMCZ	Amberley	1.28	216	P	Pn	11 37 16.9	-0.1
DUWZ	D'Urville Isla	1.36	8	P	Pb	11 37 18.4	-0.2
MSWZ	Moikau Station	1.38	58	P	Pn	11 37 17.4	-1.0
DSZ	Denniston Nort	1.46	286	P	Pg	11 37 21.5	+0.3
CAW	Cannon Point	1.47	45	P	Pn	11 37 19.3	-0.3
PAWZ	Paruwai Farm	1.51	60	P	Pn	11 37 19.3	-0.9
KIW	Kapiti Island	1.58	36	P	Pn	11 37 21.4	+0.2
OKCZ	Okains Bay	1.64	196	P	Pn	11 37 21.3	-0.7
OXZ	Oxford	1.69	225	P	Pn	11 37 21.9	-0.8
MQZ	McQueen's Vall	1.73	206	P	Pn	11 37 21.9	-1.3
MQZ				S	Sn	11 37 43.4	-1.8
OGWZ	Otaki Gorge	1.74	40	P	Pn	11 37 23.1	-0.2
INZ	Inchbonnie	1.76	250	P	Pn	11 37 24.5	-0.9
AKCZ	Akaroa Harbour	1.81	198	P	Pn	11 37 23.5	-0.9
RACZ	Rakaia	1.94	215	P	Pn	11 37 25.0	-1.1
MRZ	Mangatainoka R	2.06	44	P	Pn	11 37 27.0	-0.8
WACZ	Wakanui South	2.24	216	P	Pn	11 37 29.3	-0.9
WVZ	Waitaha Valley	2.36	246	P	Pn	11 37 32.5	+0.6
RPZ	Rata Peaks	2.48	230	P	Pn	11 37 33.0	-0.6
ARCZ	Arundel	2.57	225	P	Pn	11 37 34.0	-0.8
GCSZ	Gaunt Creek Bo	2.73	244	P	Pn	11 37 38.0	+1.0
PNHZ	Pukenui	2.94	41	P	Pn	11 37 38.5	-1.3
TMZ	Timaru	2.97	220	P	Pn	11 37 39.5	-0.7
MOVZ	Moawhango	3.16	30	P	Pn	11 37 41.6	-1.3
FOZ	Fox Glacier	3.16	243	P	Pn	11 37 43.6	+0.7
WNVZ	Wahianoa	3.17	28	P	Pn	11 37 43.9	+0.7
BHHZ	Black Hill Sta	3.21	35	P	Pn	11 37 43.5	-0.2
NGZ	Ngauruhoe	3.31	27	P	Pn	11 37 47.3	+2.2
SNVZ	South Ngauruho	3.31	27	P	Pn	11 37 46.0	+0.8
OTVZ	Oturere	3.34	27	P	Pn	11 37 46.4	+0.9
NNVZ	North Ngauruho	3.35	27	P	Pn	11 37 46.6	+0.9
ETVZ	East Tongariro	3.38	28	P	Pn	11 37 47.0	+0.9
TMVZ	Te Maari	3.40	28	P	Pn	11 37 47.1	+0.8
KATZ	Kakaramea	3.52	26	P	Pb	11 37 54.1	-1.5
ODZ	Otahua Downs	3.64	216	P	Pn	11 37 48.1	-1.3
BKZ	Black Stump Fm	3.67	37	P	Pn	11 37 48.3	-1.6
MRHZ	Matea Rd	3.91	33	P	Pn	11 37 51.6	-1.6
JCZ	Jackson Bay	4.07	240	P	Pn	11 37 55.5	+0.1
TLZ	Tolley Road	4.07	21	P	Pn	11 37 56.3	+0.8
ALRZ	Allen Road	4.12	30	P	Pn	11 37 54.7	-1.4
HHSZ	Highcliff Hill	4.35	210	P	Pn	11 37 57.7	-1.4
EAZ	Earnscleugh	4.42	224	P	Pn	11 37 59.1	-1.1
TUZ	Tuapeka	4.79	216	P	Pn	11 38 04.4	-0.9
AWAZ	Awhitu Peninsu	5.13	9	P	Pn	11 38 11.8	+1.9
MLZ	Mavora Lakes	5.16	230	P	Pn	11 38 09.3	-1.0
MKAZ	Moumakai	5.17	13	P	Pn	11 38 11.2	+0.8
ETAZ	East Tamaki Re	5.28	11	P	Pn	11 38 13.7	+1.7
RVAZ	Riverhead Bore	5.42	8	P	Pn	11 38 15.8	+1.9
MBAZ	Motutapu North	5.46	10	P	Pn	11 38 18.0	+3.6
SYZ	Scrubby Hill	5.46	215	P	Pn	11 38 13.5	-1.0
WIAZ	Waiheke Island	5.47	12	P	Pn	11 38 16.2	+1.7
WHZ	Wether Hill Ro	5.58	226	P	Pn	11 38 14.3	-1.8
APZ	The Paps	6.20	219	P	Pn	11 38 23.4	-1.3
PYZ	Puysegur Point	6.44	229	P	Pn	11 38 27.8	-0.1

*VAO **15** 11:41:45.7±0.5,20˚.75S×68˚.52W,h99km±4km,mb4.2*
*IDC **15** 11:41:47.2±1.4,21˚.06S×68˚.33W,h119km±20km,mb3.5/2, mbtmp3.8/5,Error ellipse: s-maj=38.5km s-min=18.4km az=107.0*
*GUC **15** 11:41:47.0±0.7,20˚.97S×68˚.73W,h121km±4km,ML3.6*

ISC 15 11:41:45.1±0.7,**20˚.96S**±0˚.04×**68˚.69W**±0˚.07,**h123**km±9km, **n53,σ1§33/67,10C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	IPOC Station P	0.75	263	⇑*iP*	Pn	11 42 06.0	+0.7
PB01				*eS*	Sn	11 42 21.1	+0.7
PB01				IAML		11 42 21.8	
	comp=E,2μm,0.1s						
PB08	IPOC Station P	0.92	332	⇑*iP*	Pn	11 42 08.3	+1.2
PB08				*eS*	Sn	11 42 24.5	+0.8
PB08				IAML		11 42 25.9	
	comp=N,1μm,0.3s						
PB09	IPOC Station P	0.98	211	*eP*	Pn	11 42 09.0	+1.6
PB09				*eS*	Sn	11 42 25.7	+1.3
PB02	IPOC Station P	1.18	252	⇑*iP*	Pn	11 42 10.4	+1.0
PB02				*eS*	Sn	11 42 28.1	+0.4
PB02				IAML		11 42 30.1	
	comp=E,2μm,0.4s						
HMBC	Humberstone	1.31	301	⇑*iP*	Pn	11 42 11.3	+0.5
HMBC				*eS*	Sn	11 42 30.6	+0.4
HMBC				IAML		11 42 31.6	
	comp=N,1μm,0.3s						
PB07	IPOC Station P	1.35	235	⇑*iP*	Pn	11 42 12.1	+0.8
PB07				*eS*	Sn	11 42 31.1	0.0
GO01	Chusmiza	1.37	340	⇑*iP*	Pn	11 42 13.0	+1.2
GO01				*eS*	Sn	11 42 33.4	+1.4
GO01				IAML		11 42 36.0	
	comp=N,1μm,0.3s						
PATCX	Punta Patache	1.37	275	⇑*iP*	Pn	11 42 12.1	+0.7
PATCX				*eS*	Sn	11 42 31.5	+0.1
TA01	Diego Aracena	1.45	285	⇑*iP*	Pn	11 42 12.5	+0.4
TA01				*eS*	Sn	11 42 32.2	-0.4
PB03	IPOC Station P	1.47	222	⇑*iP*	Pn	11 42 13.5	+1.0
PB03				*eS*	Sn	11 42 33.6	+0.1
PB11	IPOC Station P	1.50	323	⇑*iP*	Pn	11 42 13.5	+0.6
PB11				*eS*	Sn	11 42 34.5	+0.5
PB11				IAML		11 42 36.0	
	comp=E,1μm,0.2s						
LVC	Limon Verde	1.66	187	P	Pn	11 42 16.8	+1.9
	comp=E,34nm,0.2s,baz=24,slow=11,SNR=208						
LVC				S	Sn	11 42 38.6	+0.9
	comp=E,41nm,0.3s,baz=125,slow=17,SNR=3.7						
LVC	Limon Verde	1.66	187	*eP*	Pn	11 42 16.9	+2.0
PB04	IPOC Station P	1.93	224	*eP*	Pn	11 42 18.8	+0.8
PB04				*eS*	Sn	11 42 42.7	-0.4
PB04				IAML		11 42 50.6	
	comp=N,313nm,0.4s						
PB16	IPOC Station P	2.72	343	*eP*	Pn	11 42 30.4	+1.9
PB16				*eS*	Sn	11 43 04.0	+2.3
LPAZ	La Paz	4.67	7	P	Pn	11 42 57.3	+2.9
	comp=N,1.9nm,0.4s,baz=180,slow=2.1,SNR=12						

BBSD	Serra de San D	8.51	65	*eP*	Pn	11 43 43.0	-2.6
SIV	San Ignacio	8.76	57	P	Pn	11 43 47.2	-1.7
	comp=N,7.0nm,0.6s,baz=237,slow=12,SNR=33						
BBRB	Robore, Bolivi	8.79	74	*eP*	Pn	11 43 46.3	-3.0
MURT	Porto Murtinho	10.36	96	*eP*	Pn	11 44 09.0	-1.4
PTLB	Pontes e Lacer	10.60	60	*eP*	Pn	11 44 11.4	-2.3
ETMB	Extrema	11.33	13	*eP*	Pn	11 44 21.3	-2.2
VILB	Vilhena	11.37	47	*eP*	Pn	11 44 22.0	-2.1
CPUP	Villa Florida	11.71	119	P	Pn	11 44 24.6	-3.7
	comp=N,0.9nm,0.3s,baz=274,slow=2.5,SNR=3.2						
ANTJ	Antonio Joao (	11.86	97	*eP*	Pn	11 44 30.1	-0.4
AQDB	Aquidauana	12.17	90	*eP*	Pn	11 44 34.2	-0.3
SALV	Santo Antonio	12.32	70	*eP*	Pn	11 44 48.5	-1.0
CZSB	Cruzeiro do Su	13.71	343	*eP*	Pn	11 44 53.8	-0.8
UNIS	Unistalda (Bra	14.74	126	*eP*	P	11 45 09.0	-1.4
FRBT	Francisco Belt	15.18	112	*eP*	P	11 45 14.3	-1.1
ALGR	Alto Alegre (B	16.21	122	*eP*	P	11 45 27.6	+0.9
ITRB	Iturama	17.24	89	*eP*	P	11 45 38.3	+0.2
FRTB	Fartura	17.88	101	*eP*	Pn	11 45 46.2	0.0
SNDB	Serra Nova Dou	18.91	65	*eP*	P	11 45 56.1	-0.3
IPMB	Ipameri, GO	19.54	85	*eP*	P	11 46 04.1	+0.8
RCLB	Rio Claro- Sao	19.72	98	*eP*	P	11 46 05.8	+0.6
PET01	Itanhaem-SP	20.04	104	*eP*	P	11 46 09.9	+1.3
BDFB	Brasilia	20.33	78	P	P	11 46 12.6	+0.7
	comp=N,2.7nm,0.5s,baz=280,slow=6.6,SNR=5.4						
	comp=N,2.7nm,0.5s						
ITTB	Itaituba	20.75	39	*eP*	P	11 46 15.7	-0.6
SGCB	São Gabriel d	20.77	5	*eP*	P	11 46 16.6	+0.2
PMNB	Patos De Minas	21.08	87	*eP*	P	11 46 19.9	0.0
MAN01	Angra dos Reis	23.02	99	*eP*	P	11 46 41.0	+1.3
PRPB	Parauapebas	23.47	54	*eP*	P	11 46 44.0	+0.1
SMTB	Santa Maria do	23.64	63	*eP*	P	11 46 45.7	+0.3
DIAM	Diamantina, MG	23.71	88	*eP*	P	11 46 47.3	+1.2
MC01	Montes Claros	23.79	84	*eP*	P	11 46 48.0	+1.1
JANB	Januaria	23.90	80	*eP*	P	11 46 48.5	+0.7
SDBA	SAO DESIDERIO	24.30	73	*eP*	P	11 46 52.2	+0.9
BOAV	Boa Vista	24.55	20	*eP*	P	11 46 54.1	+0.5
MCPB	Macapa, AP	26.14	41	*eP*	P	11 47 09.9	+1.9
NAN01	Guarapari, ES	27.11	88	*eP*	P	11 47 17.5	+0.8
ROSB	Rosrio	29.91	56	*eP*	P	11 47 42.1	+0.5
TORD	Torodi Ar. Bea	76.98	70	P	P	11 53 25.4	+0.6
	comp=N,0.7nm,0.7s,baz=258,slow=5.9,SNR=6.5						
	comp=N,0.7nm,0.7s						

*WEL **15** 11:45:00,42˚.63S×173˚.41E,h15km,ML4.0,Mw3.9, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}3.74; $M_{\theta\theta}$2.77; $M_{\phi\phi}$-6.51; $M_{r\theta}$-4.04; $M_{\theta\phi}$-6.09; $M_{\phi r}$0.48; Fault plane solution: $M_0$9.22000×10^{14} NP1: ϕ_s348.00000°,δ59.00000°,λ25.00000°. NP2: ϕ_s244.00000°,δ69.00000°,λ147.00000°. Principal axes: T -96.7600, Plg38.0000°, Azm203.0000°; N 87.6900, Plg51.0000°, Azm35.0000°; P 9.0700, Plg6.0000°, Azm298.0000°;*
*IDC **15** 11:45:23.6±2.5,42˚.50S×173˚.15E,h0km,mb3.3/2, mbtmp3.3/2,MS3.3/1 Error ellipse: s-maj=49.2km s-min=35.2km az=118.0*
*NOU **15** 11:45:24.9,42˚.655×173˚.24E,h0km,MLv4.5/9,South Island, New Zealand*
*WEL **15** 11:45:25.7±0.3,43˚S±3˚×17˚3E±˚,h12km±3km,M4.1/19, ML4.3/19,MLv4.1/19,Error ellipse: s-maj=0.0km s-min=0.0km az=121.3*
*NEIC **15** 11:45:26.3±2.0,42˚.55S±0˚.02×173˚.39E±0˚.05,h20km±6km, mb4.2/6,Error ellipse: s-maj=6.1km s-min=1.1km az=118.0*

ISC 15 11:45:25.2±1.0,**42˚.60S**±0˚.03×**173˚.36E**±0˚.03,**h14**km±7km, **n143,σ1§18/159,mb4.1/6,South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.23	36		Pb	11 45 31.0	-0.2
KHZ				Sg	Sg	11 45 34.4	+0.8
KHZ	Kahutara	0.23	36	P	Pb	11 45 31.0	-0.2
KHZ				S	Sg	11 45 34.4	+0.8
GVZ	Greta Valley S	0.44	213	Pg	Pn	11 45 36.7	-0.4
GVZ				Sg	Sn	11 45 44.4	-0.5
GVZ	Greta Valley S	0.44	213	P	Pn	11 45 36.7	-0.4
GVZ				S	Sn	11 45 44.5	-0.5
AMCZ	Amberley	0.78	222		Pn	11 45 42.2	+0.5
AMCZ					Sn	11 45

LBZ	Lake Benmore	2.92	231	P		Pn	11 46 11.4	+0.1
WAZ	Wanganui	3.10	24	P		Pn	11 46 16.5	+2.8
DVHZ	Dannevirke	3.12	43	P		Pn	11 46 15.7	+1.6
ODZ	Otahua Downs	3.13	218	Pn		Pn	11 46 13.8	-0.3
ODZ	Otahua Downs	3.13	218	P		Pn	11 46 13.9	-0.3
ODZ	Otahua Downs	3.13	218	P		Pn	11 46 13.9	-0.3
TSZ	Takapari Road	3.21	38	P		Pn	11 46 15.1	-0.2
NMEZ	Namu Road	3.21	7	P		Pb	11 46 19.1	-2.9
KHEZ	Kahui Hut	3.34	9	P		Pn	11 46 19.6	+2.5
NBEZ	Newall Road No	3.35	7	P		Pn	11 46 19.5	+2.3
NEZ	North Egmont	3.37	10	P		Pb	11 46 22.9	-2.0
PKE	Pukeiti	3.44	8	P		Pn	11 46 20.5	+2.1
DREZ	Durham Road	3.47	11	P		Pn	11 46 21.3	+2.5
VRZ	Vera Road	3.63	17	P		Pn	11 46 23.6	+2.5
JCZ	Jackson Bay	3.65	245	P		Pn	11 46 21.3	0.0
JCZ	Jackson Bay	3.65	245	P		Pn	11 46 21.6	+0.2
MOVZ	Moawhango	3.67	30	P		Pn	11 46 23.4	+1.8
WNVZ	Wahianoa	3.68	28	P		Pn	11 46 23.8	+1.9
BHHZ	Black Hill Sta	3.72	34	P		Pn	11 46 22.6	+0.3
BHHZ				P		Pb	11 46 28.0	-2.8
NGZ	Ngauruhoe	3.82	27	P		Pn	11 46 26.4	+2.6
HHSZ	Highcliff Hill	3.83	210	P		Pn	11 46 23.4	-0.5
OTVZ	Oturere	3.85	28	P		Pn	11 46 26.4	+2.2
WKZ	Wanaka	3.85	233	Pn		Pn	11 46 23.6	-0.6
WKZ	Wanaka	3.85	233	P		Pn	11 46 23.5	-0.7
KAHZ	Kahuranaki	3.86	45	P		Pn	11 46 25.2	+1.0
NNVZ	North Ngauruho	3.87	27	P		Pn	11 46 26.9	+2.5
WTVZ	West Tongariro	3.87	27	P		Pn	11 46 27.9	+3.5
ETVZ	East Tongariro	3.89	28	P		Pn	11 46 26.5	+1.7
TMVZ	Te Maari	3.91	28	P		Pn	11 46 28.5	+3.6
EAZ	Earnscleugh	3.93	227	P		Pn	11 46 24.4	-0.8
BKZ	Black Stump Fm	4.17	36	Pn		Pn	11 46 27.4	-1.1
HIZ	Hauiti	4.24	16	Pn		Pn	11 46 30.7	+1.3
HIZ	Hauiti	4.24	16	P		Pn	11 46 31.4	+2.0
HIZ	Hauiti	4.24	16	P		Pn	11 46 30.9	+1.5
TUZ	Tuapeka	4.29	217	P		Pn	11 46 29.9	-0.1
ARHZ	Aropaoanui	4.33	41	P		Pn	11 46 31.8	+1.2
MSZ	Milford Sound	4.46	240	P		Pn	11 46 32.0	-0.3
TLZ	Tolley Road	4.58	22	P		Pn	11 46 36.3	+2.2
MLZ	Mavora Lakes	4.69	232	Pn		Pn	11 46 34.8	-0.7
MLZ	Mavora Lakes	4.69	232	P		Pn	11 46 34.6	-1.0
SYZ	Scrubby Hill	4.96	216	P		Pn	11 46 39.2	0.0
SYZ	Scrubby Hill	4.96	216	P		Pn	11 46 39.2	0.0
WHZ	Wether Hill Ro	5.09	228	Pn		Pn	11 46 39.6	-1.4
WHZ	Wether Hill Ro	5.09	228	P		Pn	11 46 39.7	-1.4
TOZ	Tahuroa Road	5.13	19	P		Pn	11 46 42.0	+0.4
URZ	Urewera	5.20	35	P		Pn	11 46 45.1	+2.6
DCZ	Deep Cove	5.31	235	Pn		Pn	11 46 42.9	-1.2
MWZ	Matawai	5.32	38	P		Pn	11 46 45.0	+0.7
AWAZ	Awhitu Peninsu	5.62	17	P		Pn	11 46 49.7	+1.4
MKAZ	Moumakai	5.66	15	P		Pn	11 46 49.4	+0.5
APZ	The Paps	5.70	220	P		Pn	11 46 48.9	-0.7
WTAZ	Waiatarua	5.74	10	P		Pn	11 46 51.4	+1.4
ETAZ	East Tamaki Re	5.77	13	P		Pn	11 46 51.4	+1.0
RVAZ	Riverhead Bore	5.90	10	P		Pn	11 46 54.2	+2.0
MBAZ	Motutapu North	5.95	12	P		Pn	11 46 54.2	+1.4
WIAZ	Waiheke Island	5.96	14	P		Pn	11 46 54.1	+1.0
PYZ	Puysegur Point	5.97	231	Pn		Pn	11 46 52.4	-0.7
PYZ	Puysegur Point	5.97	231	P		Pn	11 46 52.9	-0.2
PYZ	Puysegur Point	5.97	231	P		Pn	11 46 52.8	-0.3
ABAZ	Army Bay	6.10	11	P		Pn	11 46 56.2	+1.2
OUZ	Omahuta	7.37	2	Pn		Pn	11 47 14.4	+2.0
OUZ	Omahuta	7.37	2	P		Pn	11 47 14.9	+2.5
MSVF	Nonsavu	25.11	11	LR		LR	11 59 18.1	
	comp=Z,71nm,19.3s,baz=45,slow=33							
SBA	Scott Base	35.46	182	P		P	11 52 20.8	+0.2
SBA				IAmb		IAmb	11 52 49.8	
	comp=Z,3.6nm,1.2s							
ASAR	Alice Springs	37.64	287	P		P	11 52 38.9	-1.0
	comp=Z,0.2nm,0.6s,baz=123,slow=6.4,SNR=6.1							
	comp=Z,0.2nm,0.6s							
ASAR	Alice Springs	37.64	287	P		P	11 52 39.2	-0.7
WR0	Warramunga Arr	39.65	292	P		P	11 52 55.7	-1.0
WR0				IAmb		IAmb	11 53 09.8	
	comp=Z,5.3nm,1.1s							
WB2	Warramunga Arr	39.79	292	P		P	11 52 57.4	-0.5
WB2				IAmb		IAmb	11 53 13.5	
	comp=Z,1.1nm,1.5s							
WRA	Warramunga Arr	39.80	292	P		P	11 52 56.8	-1.1
	comp=Z,0.3nm,0.5s,baz=129,slow=8.3,SNR=9.4							
	comp=Z,0.3nm,0.5s							
WRA	Warramunga Arr	39.80	292	P		P	11 52 57.9	-0.1
WB0	Warramunga Arr	39.88	293	P		P	11 52 58.8	+0.1
WB0				IAmb		IAmb	11 53 16.1	
	comp=Z,3.7nm,1.0s							
QSPA	South Pole Qui	47.53	180	P		P	11 54 01.2	+1.3
TORD	Torodi Ar. Bea	149.78	196	PKPbc		PKPbc	12 05 15.4	+0.3
	comp=Z,0.4nm,0.4s,baz=169,slow=2.7,SNR=4.1							

IDC 15 11:57:59.0±14.0, 3°70'N×92°86'E, h0km, mb3.7/3, mbtmp3.7/4, ML4.5/1, Error ellipse: s-maj=277.5km s-min=106.4km az=155.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.83	22	Pn	Pn	12 01 43.5	+0.1
	0.7nm,0.3s,baz=221,slow=8.1,SNR=5.0						
	1.2nm,0.3s						
H08S2	Diego Garcia H	23.23	241	T	T	12 28 14.1	
	baz=62,slow=76,SNR=12						
H08S3	Diego Garcia H	23.23	241	T	T	12 28 38.0	
	baz=62,slow=76,SNR=14						
H08S1	Diego Garcia H	23.25	241	T	T	12 28 22.5	
	baz=62,slow=76,SNR=4.3						
MKAR	Makanchi Array	43.90	350	P	P	12 06 07.7	+0.2
	0.6nm,0.6s,baz=170,slow=9.7,SNR=4.7						
	0.6nm,0.6s						
SONM	Songino Array	45.49	13	P	P	12 06 20.0	-0.3
	0.4nm,0.6s,baz=210,slow=8.3,SNR=1.2						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	50.52	354	P	P	12 06 58.6	-0.3
	0.8nm,0.4s,baz=180,slow=8.9,SNR=3.9						
	0.8nm,0.4s						

HEL 15 11:58:59.1±0.3, 60°55'N×27°16E, h0km, ML1.2, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.19	92	PG	Pg	11 59 02.3	-0.5
VJF				SG	Sg	11 59 05.7	+0.4
PVF	Pernaja	0.64	270	PG	Pg	11 59 10.3	-1.1
PVF				SG	Sg	11 59 19.4	-0.3
FIA0	FINESS Array S	1.04	330	PG	Pg	11 59 17.5	-1.6
	baz=154						
FIA0				SN	Sn	11 59 35.7	-0.5
NUR	Nurmijrvi	1.24	269	SN	Sn	11 59 42.7	+1.6
MEF	Metsahovi	1.41	258	PN	Pn	11 59 24.9	-1.1
	baz=78						
MEF				MSG		11 59 41.6	
	comp=Z,3.3nm,0.2s						
MEF				SN	Sn	11 59 47.0	+1.7
KAF	Kangasniemi	1.62	346	MSG		11 59 47.6	
	comp=Z,0.7nm,0.2s						
KAF				SN	Sg	11 59 51.5	+0.3
KEF	Keuruu	1.97	327	PG	Pn	11 59 34.2	+0.6
KEF				MSG		11 59 57.4	
	comp=Z,1.0nm,0.2s						
KEF				SG	Sb	12 00 01.0	+0.2
RAF	Rauma	2.69	283	MSG		12 00 18.4	
	comp=Z,0.8nm,0.2s						
RAF				SG	Sb	12 00 19.4	-2.2
OBF4	Vikkela, Lumij	4.39	348	PN	Pn	12 00 06.1	-0.8

IDC 15 12:04:57.6±5.7, 2°57S×140°41E, h0km, mb3.3/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=140.9km s-min=71.9km az=129.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.26	199	P	Pn	12 09 11.8	-0.8
	0.3nm,0.3s,baz=22,slow=12,SNR=19						
	1.1nm,0.5s						
ASAR	Alice Springs	21.90	196	P	P	12 09 51.3	-1.2
	0.6nm,0.6s,baz=31,slow=10,SNR=15						
	0.6nm,0.6s						
VNDA	Vanda	75.78	175	P	P	12 16 46.1	+1.2
	0.4nm,0.8s,baz=322,slow=8.6,SNR=2.5						
	0.4nm,0.8s						

WEL 15 12:11:08.1±1.4, 43°S±8°×17°3E±°, h5km, M2.6/2, ML2.5/4, MLv2.6/2, Error ellipse: s-maj=0.0km s-min=0.0km az=7.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.37	153	P	Pg	12 11 15.4	+0.1
GVZ				S	Sg	12 11 21.2	+1.0
LTZ	Lake Taylor	0.42	250	P	Pg	12 11 16.5	+0.3
LTZ				S	Sg	12 11 22.8	+1.0
AMCZ	Amberley	0.55	192	P	Pg	12 11 19.2	+0.5
AMCZ				S	Sb	12 11 27.2	-1.3
OXZ	Oxford	0.89	219	P	Pg	12 11 25.4	+0.2
OXZ				S	Sb	12 11 37.7	-0.5
MQZ	McQueen's Vall	1.07	186	P	Pg	12 11 27.4	-1.3

IDC 15 12:12:01.9±2.5, 41°65S×174°10E, h0km, mb3.5/2, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=48.3km s-min=38.2km az=105.0

WEL 15 12:12:05.9±0.6, 42°S±2°×17°4E±°, h10km±4km, M4.0/11, ML4.3/11, MLv4.0/11, Error ellipse: s-maj=0.0km s-min=0.0km az=94.5

NEIC 15 12:12:05.6±1.5, 41°75S±0°03×174°22E±0°04, h19km±6km, mb4.0/6, Error ellipse: s-maj=4.9km s-min=4.0km az=149.0

NOU 15 12:12:05.2, 41°92S×174°47E, h15km, MLv4.4/12, Cook Strait, New Zealand

ISC 15 12:12:05.2±0.9, 41°80S±0°03×174°27E±0°02, h19km±2km, n163, σ1°913/178, mb3.8/6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	321		Pg	12 12 08.6	-0.1
CMWZ				Sg	Sg	12 12 11.3	+0.3
CMWZ	Cape Campbell	0.06	321	P	Pg	12 12 08.6	-0.1
CMWZ				S	Sg	12 12 11.1	+0.1
BSWZ	Blackbirch Sta	0.30	286		Pb	12 12 11.5	-0.5
BSWZ				Sg	Sg	12 12 16.0	-0.4
BSWZ	Blackbirch Sta	0.30	286	P	Pb	12 12 11.5	-0.5
BSWZ				S	Sg	12 12 16.0	-0.4
TUWZ	Tuamarina	0.44	327		Pg	12 12 13.5	-0.7
TUWZ				Sg	Sg	12 12 19.1	-1.2
TUWZ	Tuamarina	0.44	327	P	Pg	12 12 13.5	-0.7
TUWZ				S	Sg	12 12 18.9	-1.4
TCW	Tory Channel	0.59	1		Pb	12 12 16.1	-0.7
TCW				Sg	Sg	12 12 24.2	-0.6
TCW	Tory Channel	0.59	1	P	Pb	12 12 16.1	-0.7
TCW				S	Sb	12 12 23.7	-0.9
SNZO	South Karori	0.59	34		Pg	12 12 17.1	+0.1
SNZO				Sg	Sg	12 12 24.9	+0.1
SNZO	South Karori	0.59	34	P	Pg	12 12 17.6	+0.7
WEL	Wellington	0.64	36	P	Pg	12 12 18.0	+0.2
PLWZ	Palliser	0.78	73		Pn	12 12 21.5	+0.3
PLWZ	Palliser	0.78	73	P	Pn	12 12 21.5	+0.3
KHZ	Kahutara	0.82	221	Pg	Pn	12 12 22.8	+1.1
KHZ	Kahutara	0.82	221	P	Pn	12 12 23.0	+1.2
KHZ	Kahutara	0.82	221	P	Pn	12 12 22.8	+1.1
KHZ				S	Sn	12 12 35.4	+2.0
MSWZ	Moikau Station	0.83	63		Pn	12 12 22.4	+0.5
MSWZ	Moikau Station	0.83	63	P	Pn	12 12 22.4	+0.5
MSWZ				S	Sn	12 12 35.6	+2.0
NNZ	Nelson	0.88	311		Pb	12 12 21.4	-0.6
NNZ	Nelson	0.88	311	P	Pb	12 12 21.3	-0.6
CAW	Cannon Point	0.92	41	P	Pn	12 12 22.9	-0.2
CAW				S	Sn	12 12 37.7	+2.0
PAWZ	Paruwai Farm	0.96	65	P	Pn	12 12 24.1	+0.3
THZ	Tophouse	1.02	272		Pg	12 12 24.6	-0.4
THZ	Tophouse	1.02	272	P	Pg	12 12 24.6	-0.4
THZ				S	Sg	12 12 41.2	+2.8
DUWZ	D'Urville Isla	1.03	345	P	Pb	12 12 23.7	-0.7
DUWZ				S	Sg	12 12 38.1	-0.6
KIW	Kapiti Island	1.05	28	P	Pb	12 12 24.8	-0.1
MTW	Mount Morrison	1.13	56	P	Pb	12 12 26.3	+0.2
TRWZ	Traveller	1.14	70	P	Pn	12 12 26.2	0.0
OGWZ	Otaki Gorge	1.19	35	P	Pb	12 12 27.4	+0.2
MRNZ	Matariki Terra	1.20	289		Pg	12 12 27.6	-0.8
MRNZ	Matariki Terra	1.20	289	P	Pg	12 12 27.7	-0.8
MRNZ				S	Sg	12 12 44.5	+0.4
TKNZ	Takaka Hill	1.24	307		Pb	12 12 27.7	-0.4
TKNZ	Takaka Hill	1.24	307	P	Pb	12 12 27.8	-0.3
HOWZ	Holdsworth Sta	1.30	47	P	Pn	12 12 28.8	+0.4
HOWZ				S	Sg	12 12 46.5	-0.9
TMWZ	Te Maipa	1.40	61	P	Pn	12 12 29.8	0.0
GVZ	Greta Valley S	1.48	218		Pn	12 12 31.7	+0.8
GVZ	Greta Valley S	1.48	218	P	Pn	12 12 31.8	+0.9
MRZ	Mangatainoka R	1.51	42		Pn	12 12 31.5	+0.3
MRZ	Mangatainoka R	1.51	42	P	Pn	12 12 31.5	+0.3
TIWZ	Tintock	1.59	51	P	Pn	12 12 32.6	+0.1
QRZ	Quartz Range	1.63	306		Pb	12 12 34.2	-0.4
QRZ	Quartz Range	1.63	306	P	Pb	12 12 34.6	-0.1
QRZ	Quartz Range	1.63	306	P	Pb	12 12 34.3	-0.3
CPWZ	Castlepoint	1.71	59	P	Pn	12 12 34.2	+0.2
LTZ	Lake Taylor	1.78	236		Pn	12 12 35.9	+0.9
LTZ	Lake Taylor	1.78	236	P	Pn	12 12 35.9	+0.9
OHWZ	Ohakea	1.78	27	P	Pb	12 12 36.8	-0.4
PRWZ	Pori Road	1.79	47	P	Pn	12 12 35.1	0.0
POWZ	Post Office Ro	1.81	39	P	Pn	12 12 35.6	+0.3
AMCZ	Amberley	1.82	220		Pn	12 12 35.9	+0.3
AMCZ	Amberley	1.82	220	P	Pn	12 12 35.9	+0.3
DSZ	Denniston Nort	1.84	271	Pn	Pn	12 12 35.3	-0.6
DSZ	Denniston Nort	1.84	271	P	Pb	12 12 37.5	-0.8
BFZ	Birch Farm	1.86	54		Pn	12 12 35.5	-0.6
BFZ	Birch Farm	1.86	54	P	Pn	12 12 35.7	-0.4
BFZ	Birch Farm	1.86	54	P	Pn	12 12 35.5	-0.6
DVHZ	Dannevirke	2.08	44	P	Pn	12 12 38.6	-0.5
WAZ	Wanganui	2.11	15	P	Pb	12 12 42.2	-0.7
OKCZ	Okains Bay	2.12	204	P	Pn	12 12 39.6	-0.1
ANWZ	Angora Road	2.14	52	P	Pn	12 12 39.7	-0.2
TSZ	Takapari Road	2.16	37	P	Pn	12 12 40.2	0.0
OXZ	Oxford	2.25	226		Pn	12 12 41.0	-0.4
OXZ	Oxford	2.25	226	P	Pn	12 12 41.0	-0.4
MQZ	McQueen's Vall	2.25	211		Pn	12 12 40.6	-0.8
MQZ	McQueen's Vall	2.25	211	P	Pn	12 12 40.6	-0.8
INZ	Inchbonnie	2.29	245		Pn	12 12 42.6	+0.6
INZ	Inchbonnie	2.29	245	P	Pb	12 12 46.5	+0.6
AKCZ	Akaroa Harbour	2.30	205	P	Pn	12 12 41.9	-0.2
LREZ	Lake Rotokare	2.34	3	P	Pg	12 12 48.3	-1.7
PRHZ	Porangahau	2.36	50	P	Pn	12 12 42.1	-0.8
PNHZ	Pukenui	2.39	39	P	Pn	12 12 43.2	-0.2
WPHZ	Waipukurau	2.39	44	P	Pn	12 12 43.1	-0.3
NMEZ	Namu Road	2.40	353	P	Pb	12 12 48.7	+0.9
RACZ	Rakaia	2.48	218	P	Pn	12 12 43.9	-0.7
KHEZ	Kahui Hut	2.51	356	P	Pb	12 12 49.3	-0.4
KHEZ	Kahui Hut	2.51	356	P	Pb	12 12 48.3	-1.4
NEZ	North Egmont	2.53	357	P	Pb	12 12 49.4	-0.7
NBEZ	Newall Road No	2.54	353	P	Pb	12 12 49.1	-1.2
MTVZ	Mangateitei	2.58	21	P	Pb	12 12 49.8	-1.1
DREZ	Durham Road	2.61	359	P	Pb	12 12 50.1	-1.2
PKE	Pukeiti	2.61	355	P	Pb	12 12 49.0	-2.4
PKVZ	Pokaka	2.64	19	P	Pb	12 12 51.5	-0.4
MOVZ	Moawhango	2.64	26	P	Pn	12 12 47.5	+0.6
PXZ	Pawanui	2.64	49	P	Pn	12 12 45.5	-1.4
WNVZ	Wahianoa	2.67	23	P	Pn	12 12 48.7	+1.4
TRVZ	Turoa	2.68	22	P	Pb	12 12 51.3	-1.4
BHHZ	Black Hill Sta	2.68	31	P	Pn	12 12 47.9	+0.5
VRZ	Vera Road	2.70	8	P	Pn	12 12 49.8	+2.2
DRZ	Dome Shelter	2.71	22	P	Pn	12 12 53.9	+0.7
WHVZ	Whangaehu Hut	2.71	22	P	Pb	12 12 51.2	-2.0
MHEZ	Mangahewa	2.72	1	P	Pb	12 12 53.0	-0.2
FWVZ	Far West T-bar	2.72	22	P	Pb	12 12 53.8	+0.4
TUVZ	Tukino	2.74	23	P	Pb	12 12 53.7	0.0
WACZ	Wakanui South	2.79	219	P	Pn	12 12 48.5	-0.4
NGZ	Ngauruhoe	2.81	22	P	Pn	12 12 51.0	+1.7
SNVZ	South Ngauruho	2.81	22	P	Pb	12 12 55.1	+0.1
KAHZ	Kahuranaki	2.82	46	P	Pn	12 12 48.2	-1.0
OTVZ	Oturere	2.84	23	P	Pn	12 12 51.2	+1.5
NNVZ	North Ngauruho	2.85	22	P	Pn	12 12 51.7	+1.8
WTVZ	West Tongariro	2.86	21	P	Pb	12 12 53.2	-2.6
TWVZ	Taurewa	2.87	19	P	Pb	12 12 54.8	-1.1
ETVZ	East Tongariro	2.88	23	P	Pn	12 12 51.5	+1.3
KWHZ	Kaweka Forest	2.88	35	P	Pb	12 12 57.5	+1.4
TMVZ	Te Maari	2.90	23	P	Pn	12 12 51.5	+1.1
KRVZ	Karewarewa	2.90	22	P	Pn	12 12 52.1	+1.7
NTVZ	North Tongarir	2.90	22	P	Pn	12 12 51.8	+1.2
WVZ	Waitaha Valley	2.91	243	P	Pn	12 12 52.1	+1.7
MCHZ	McNeill Hill	2.99	39	P	Pn	12 12 51.2	-0.4
KATZ	Kakaramea	3.02	22	P	Pb	12 12 58.8	+0.3
RPZ	Rata Peaks	3.04	230	Pn	Pn	12 12 51.9	-0.5
	19nm,0.3s,baz=87,slow=2.3,SNR=55						
RPZ				Sn	Sn	12 13 27.7	-0.6
	26nm,0.3s,baz=146,slow=22,SNR=14						
	38nm,0.4s						
RPZ	Rata Peaks	3.04	230		Pn	12 12 52.2	-0.2
RPZ	Rata Peaks	3.04	230	P	Pn	12 12 52.6	+0.2
RPZ	Rata Peaks	3.04	230	P	Pn	12 12 52.2	-0.2
ARCZ	Arundel	3.13	226	P	Pn	12 12 53.2	-0.3
BKZ	Black Stump Fm	3.13	34	Pn	Pn	12 12 52.7	-0.9
BKZ	Black Stump Fm	3.13	34	P	Pn	12 12 53.2	-0.4
RATZ	Rangitukua	3.15	22	P	Pb	12 13 00.2	-0.4
ARHZ	Aropaoanui	3.28	40	P	Pn	12 12 54.5	-1.0
GCSZ	Gaunt Creek Bo	3.28	241	P	Pb	12 13 00.6	-2.2
HIZ	Hauiti	3.31	8	Pn	Pn	12 12 56.2	+0.2
HIZ	Hauiti	3.31	8	P	Pn	12 12 58.4	+2.4
HIZ	Hauiti	3.31	8	P	Pn	12 12 58.1	+2.0
MRHZ	Matea Rd	3.39	30	P	Pn	12 12 56.4	-0.7
TMZ	Timaru	3.52	222	P	Pn	12 12 58.6	-0.3
MTHZ	Maungataniwha	3.54	35	P	Pn	12 12 58.7	-0.5
TLZ	Tolley Road	3.60	16	P	Pn	12 13 01.9	+1.8
FOZ	Fox Glacier	3.71	241	Pn	Pn	12 13 02.0	+0.5
FOZ	Fox Glacier	3.71	241	P	Pn	12 13 02.3	+0.8
LBZ	Lake Benmore	3.95	228	Pn	Pn	12 13 04.7	-0.2
LBZ	Lake Benmore	3.95	228	P	Pn	12 13 04.6	-0.2
URZ	Urewera	4.15	33	P	Pn	12 13 08.4	+0.8
TOZ	Tahuroa Road	4.17	14	P	Pn	12 13 09.5	+1.7
ODZ	Otahua Downs	4.18	218	Pn	Pn	12 13 07.4	-0.5
ODZ	Otahua Downs	4.18	218	P	Pn	12 13 07.6	-0.4
ODZ	Otahua Downs	4.18	218	P	Pn	12 13 07.5	-0.5
MWZ	Matawai	4.27	37	P	Pn	12 13 07.6	-1.7
JCZ	Jackson Bay	4.62	239	P	Pn	12 13 16.0	+1.9
JCZ	Jackson Bay	4.62	239	P	Pn	12 13 16.9	+2.8
AWAZ	Awhitu Peninsu	4.74	4	P	Pn	12 13 18.6	+2.9
MKAZ	Moumakai	4.74	9	P	Pn	12 13 16.8	+1.2
WTAZ	Waiatarua	4.86	3	P	Pn	12 13 22.4	+5.0
ETAZ	East Tamaki Re	4.87	6	P	Pn	12 13 20.2	+2.8
HHSZ	Highcliff Hill	4.87	212	P	Pn	12 13 17.0	-0.5
WKZ	Wanaka	4.88	230	Pn	Pn	12 13 17.2	-0.4
EAZ	Earnscleugh	4.98	225	P	Pn	12 13 19.3	+0.4
WIAZ	Waiheke Island	5.04	8	P	Pn	12 13 22.0	+2.1
MBAZ	Motutapu North	5.05	6	P	Pn	12 13 23.3	+3.4
MSZ	Milford Sound	5.45	236	P	Pn	12 13 30.8	+5.4
MLZ	Mavora Lakes	5.71	229	Pn	Pn	12 13 29.0	0.0
SYZ	Scrubby Hill	6.00	216	P	Pn	12 13 33.5	+0.5
SYZ	Scrubby Hill	6.00	216	P	Pn	12 13 33.3	+0.4
WHZ	Wether Hill Ro	6.13	226	Pn	Pn	12 13 34.5	-0.2
DCZ	Deep Cove	6.33	232	Pn	Pn	12 13 37.1	-0.4
OUZ	Omahuta	6.59	355	P	Pn	12 13 42.6	+1.5
AS31	Alice Springs	38.05	286	P	P	12 19 21.9	-0.7
AS31				IAmb	IAmb	12 19 40.4	
	comp=Z,1.4nm,1.4s						
ASAR	Alice Springs	38.05	286	P	P	12 19 21.3	-1.3
	comp=Z,0.4nm,0.5s,baz=122,slow=6.5,SNR=15						
	comp=Z,0.4nm,0.5s						
WB2	Warramunga Arr	40.12	290	P	P	12 19 38.6	-1.3
WB2				IAmb	IAmb	12 20 03.0	
	comp=Z,6.0nm,1.3s						
WRAB	Tennant Creek	40.13	291	P	P	12 19 37.4	-2.6
WRAB				IAmb	IAmb	12 19 38.1	
	comp=Z,3.3nm,0.8s						
WRA	Warramunga Arr	40.13	290	P	P	12 19 37.6	-2.4
	comp=Z,0.5nm,0.6s,baz=125,slow=8.3,SNR=12						
	comp=Z,0.5nm,0.6s						
WRA	Warramunga Arr	40.13	290	P	P	12 19 37.3	-2.6
WB0	Warramunga Arr	40.21	291	P	P	12 19 38.7	-1.9
WB0				IAmb	IAmb	12 19 52.4	
	comp=Z,5.3nm,1.2s						
QSPA	South Pole Qui	48.33	180	P	P	12 20 48.0	+2.7
TORD	Torodi Ar. Bea	150.73	195	PKPbc	PKPbc	12 31 56.4	-0.2
	comp=Z,0.7nm,0.5s,baz=153,slow=2.4,SNR=4.5						

**WEL 15 12:14:14.5±0.5, 42°S±3°×17°4E±°, h5km, M3.5

comp=Z,0.6nm,0.6s
PDAR Pinedale Array 88.72 43 P P 12 33 22.9 +3.8
comp=Z,0.2nm,0.5s,baz=201,slow=7.3,SNR=2.1
comp=Z,0.2nm,0.5s
CMAR Chiang Mai Arr 89.85 290 P **P** **12 33 28.2 +3.6**
comp=Z,0.5nm,0.3s,baz=146,slow=4.0,SNR=4.4
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 142.56 331 PKP **PKPdf** **12 39 53.6 +0.1**
comp=Z,2.0nm,0.5s,baz=43,slow=4.3,SNR=13

---

*IDC **15** 12:31:07.5±0.5,53˚.85S×2˚.58E,h0km,mb4.7/17, mbtmp4.7/17,ML5.7/1,MS4.5/46,Error ellipse: s-maj=16.9km s-min=14.0km az=96.0*
*NEIC **15** 12:31:08.6±1.9,53˚.90S±0˚.10×2˚.6E±0˚.2,h10km±1km, mb5.2/72,Error ellipse: s-maj=17.9km s-min=16.5km az=109.0*
*GCMT **15** 12:31:12.6±0.1,53˚.94S±0˚.01×3˚.03E±0˚.02,h13km, MW5.3/149,Moment Tensor Solution. s73,c101; s149,c252; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.19±.02; Mθθ 1.02±.02; Mφφ -0.82±.02; Mrθ 0.13±.04; Mθφ -0.08±.01; Mφr 0.23±.04; Best double couple: M₀ 0.97100×10¹⁷ NP1:φs 229.00000˚,δ81.00000˚, λ -162.00000˚. NP2:φs 136.00000˚,δ73.00000˚, λ -9.00000˚. Principal axes: T 1.0360, Plg6.0000˚, Azm2.0000˚; N -0.1260, Plg70.0000˚, Azm255.0000˚; P -0.9060, Plg19.0000˚, Azm94.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 12:31:08.6±0.3,53˚.88S±0˚.06×2˚.72E±0˚.07,h10km,n193, σ1§46/155,mb5.1/50,MS4.7/53,3C,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.54**	**192**	P	**P**	**12 35 14.3**	**+0.4**
VNA2	**Neumayer--Watz**	**17.69**	**191**	P	**Pn**	**12 35 14.9**	**+0.2**
	baz=13,slow=16						
SNAA	**Sanae**	**18.03**	**186**	P	**Pn**	**12 35 18.8**	**0.0**
SNAA	**Sanae**	**18.03**	**186**	P	**P**	**12 35 19.8**	**+0.4**
	24nm,0.3s,baz=0.6,slow=14,SNR=29						
SNAA				LR	LR	12 40 34.7	
	comp=Z,2μm,21.3s,baz=9.5,slow=31						
SNAA	**Sanae**	**18.03**	**186**		**Pn**	**12 35 17.9**	**-1.0**
TROLL	**Troll, Antarti**	**18.20**	**180**	P	**Pn**	**12 35 21.1**	**0.0**
VNA3	**Neumayer Olymp**	**18.27**	**193**	P	**Pn**	**12 35 21.6**	**-0.1**
VNA3				S	Sn	12 38 27.4	-18
HOPE	**Hope Point**	**22.81**	**253**	P	**P**	**12 36 08.2**	**-3.0**
SUR	**Sutherland**	**25.08**	**38**	P	**P**	**12 36 34.6**	**+1.3**
	14nm,0.9s,baz=157,slow=6.5,SNR=4.5						
SUR				LR	LR	12 43 45.7	
	comp=Z,805nm,21.6s,baz=202,slow=30						
	14nm,0.9s						
SOE	**Somerset East**	**26.69**	**47**	P	**P**	**12 36 47.9**	**+0.1**
BELA	**Belgrano 2**	**27.48**	**196**	P	**P**	**12 36 53.1**	**-1.3**
BOSA	**Boshof**	**30.14**	**42**	P	**P**	**12 37 19.3**	**+0.7**
	8.8nm,1.0s,baz=193,slow=10,SNR=6.4						
BOSA				LR	LR	12 47 15.0	
	comp=Z,608nm,19.2s,baz=206,slow=32						
	8.8nm,1.0s						
BOSA	**Boshof**	**30.14**	**42**	P	**P**	**12 37 17.7**	**-0.9**
MAW	**Mawson**	**30.99**	**140**	P	**P**	**12 37 27.8**	**+2.3**
	5.2nm,0.9s,baz=272,slow=12,SNR=5.1						
MAW				LR	LR	12 47 40.8	
	comp=Z,859nm,21.6s,baz=276,slow=32						
	5.2nm,0.9s						
MAW	**Mawson**	**30.99**	**140**	P	**P**	**12 37 23.4**	**-2.2**
LBTB	**Lobatse**	**33.51**	**40**	LR	LR	12 49 35.6	
	comp=Z,92nm,19.0s,baz=203,slow=33						
LBTB	**Lobatse**	**33.51**	**40**	P	**P**	**12 37 47.9**	**-0.3**
LBTB				IAmb	IAmb	12 37 49.2	
	comp=Z,47nm,1.6s						
PMSA	**Palmer Station**	**34.09**	**225**	P	**P**	**12 37 53.4**	**+0.7**
	comp=Z,16nm,0.8s,baz=93,slow=6.1,SNR=6.4						
PMSA				LR	LR	12 48 42.3	
	comp=Z,185nm,20.5s,baz=102,slow=31						
	comp=Z,16nm,0.8s						
PMSA	**Palmer Station**	**34.09**	**225**	P	**P**	**12 37 51.8**	**-0.8**
PMSA				IAmb	IAmb	12 37 55.7	
	comp=Z,18nm,0.8s						
SMAI	**San Martin Ant**	**34.55**	**218**	P	**P**	**12 37 56.2**	**-0.4**
SMAI				IAmb	IAmb	12 38 09.6	
	comp=Z,28nm,0.9s						
QSPA	**South Pole Qui**	**36.36**	**180**	P	**P**	**12 38 12.7**	**+0.2**
	comp=Z,25nm,0.7s,baz=232,slow=3.5,SNR=248						
QSPA				LR	LR	12 52 20.4	
	comp=Z,3μm,20.4s,baz=222,slow=35						
	comp=Z,25nm,0.7s						
QSPA	**South Pole Qui**	**36.36**	**180**	P	**P**	**12 38 12.9**	**+0.3**
QSPA				IAmb	IAmb	12 38 13.8	
	comp=Z,30nm,0.7s						
TSUM	**Tsumeb**	**36.46**	**24**	LR	LR	12 50 09.1	
	comp=Z,1μm,21.0s,baz=170,slow=31						
TSUM	**Tsumeb**	**36.46**	**24**	P	**P**	**12 38 12.4**	**-1.3**
TSUM				IAmb	IAmb	12 38 15.7	
	comp=Z,45nm,1.1s						
SHEL	**Horse Pasture**	**38.41**	**347**	P	**P**	**12 38 30.1**	**-0.1**
USHA	**Ushuaia**	**39.83**	**239**	LR	LR	12 51 04.3	
	comp=Z,1μm,21.5s,baz=118,slow=30						
LSZ	**Lusaka**	**43.37**	**37**	LR	LR	12 55 40.4	
	comp=Z,955nm,18.1s,baz=202,slow=34						
MG05	**Puerto Natales**	**43.56**	**241**	P	**P**	**12 39 10.1**	**-2.1**
MG05				IAmb	IAmb	12 40 18.3	
	comp=Z,62nm,1.2s						
PLTB	**Pedras Altas**	**45.43**	**276**	P	**P**	**12 39 27.0**	**-0.3**
PLTB				IAmb	IAmb	12 39 28.7	
	comp=Z,28nm,1.0s						
PLTB	**Pedras Altas**	**45.43**	**276**	*e*P	**P**	**12 39 27.6**	**+0.2**
CNLB	**Canela**	**45.60**	**280**	*e*P	**P**	**12 39 29.9**	**+1.1**
TRQA	**Tornquist**	**46.02**	**263**	P	**P**	**12 39 31.3**	**-0.7**
TRQA				IAmb	IAmb	12 39 32.6	
	comp=Z,32nm,1.2s						
TRQA	**Tornquist**	**46.02**	**263**	*e*P	**P**	**12 39 33.1**	**+1.1**
ALGR	**Alto Alegre (B**	**47.26**	**279**	*e*P	**P**	**12 39 42.8**	**+0.9**
RODS	**Rosario do Sul**	**47.39**	**276**	*e*P	**P**	**12 39 43.9**	**+1.1**
RIB01	**Linhares ES**	**47.69**	**299**	*e*P	**P**	**12 39 48.7**	**+3.5**
ITAB	**Concordia**	**47.91**	**281**	P	**P**	**12 39 46.4**	**-0.4**
ITAB				IAmb	IAmb	12 39 51.1	
	comp=Z,15nm,0.9s						
AY01	**Puyuhuapi**	**47.99**	**249**	P	**P**	**12 39 47.0**	**-0.2**
SBA	**Scott Base**	**48.16**	**176**	P	**P**	**12 39 49.5**	**+1.3**
VNDA	**Vanda**	**48.23**	**174**	P	**P**	**12 39 49.4**	**+0.7**
	comp=Z,13nm,0.9s,baz=213,slow=7.5,SNR=100						
VNDA				LR	LR	12 59 51.3	
	comp=Z,828nm,20.1s,baz=188,slow=36						
	comp=Z,13nm,0.9s						
VNDA	**Vanda**	**48.23**	**174**	P	**P**	**12 39 49.6**	**+0.9**
VNDA				IAmb	IAmb	12 40 00.1	
	comp=Z,19nm,0.8s						
UNIS	**Unistalda (Bra**	**48.26**	**277**	*e*P	**P**	**12 39 49.9**	**+0.4**
LL02	**Futaleuf**	**48.33**	**251**	P	**P**	**12 39 50.1**	**+0.2**
LL02				IAmb	IAmb	12 39 50.7	
	comp=Z,25nm,0.9s						
CASY	**Casey**	**48.42**	**149**	P	**P**	**12 39 50.0**	**-0.3**
ITQB	**Itaqui**	**48.73**	**275**	P	**P**	**12 39 52.5**	**-0.6**
ITQB				IAmb	IAmb	12 40 07.0	
	comp=Z,22nm,1.0s						
CRSM	**Crissiumal (Br**	**48.82**	**279**	*e*P	**P**	**12 39 54.3**	**+0.4**
PLCA	**Paso Flores**	**49.20**	**254**	P	**P**	**12 39 56.6**	**-0.2**
	comp=Z,6.3nm,0.8s,baz=123,slow=9.4,SNR=8.1						
PLCA				LR	LR	12 58 07.0	
	comp=Z,296nm,21.3s,baz=140,slow=33						
	comp=Z,6.3nm,0.8s						
PLCA	**Paso Flores**	**49.20**	**254**	P	**P**	**12 39 56.6**	**-0.2**
PLCA	**Paso Flores**	**49.20**	**254**	*e*P	**P**	**12 39 56.0**	**-0.7**
FRBT	**Francisco Belt**	**49.40**	**281**	*e*P	**P**	**12 40 00.9**	**+2.5**
PTGB	**Pitanga**	**49.79**	**283**	*e*P	**P**	**12 40 01.9**	**+0.5**
LL04	**Puerto Octay**	**50.14**	**253**	P	**P**	**12 40 03.3**	**-0.5**
LL04				IAmb	IAmb	12 40 03.9	
	comp=Z,21nm,0.8s						
PMNB	**Patos De Minas**	**51.53**	**294**	*e*P	**P**	**12 40 17.5**	**+2.9**
CPUP	**Villa Florida**	**51.62**	**277**	P	**P**	**12 40 14.8**	**-0.3**
	comp=Z,19nm,1.0s,baz=129,slow=6.1,SNR=18						
CPUP				LR	LR	12 58 00.6	
	comp=Z,356nm,21.7s,baz=147,slow=31						
	comp=Z,19nm,1.0s						
CPUP	**Villa Florida**	**51.62**	**277**	P	**P**	**12 40 14.4**	**-0.7**
CPUP				IAmb	IAmb	12 40 18.7	
	comp=Z,24nm,1.1s						
MC01	**Montes Claros**	**51.71**	**297**	*e*P	**P**	**12 40 19.5**	**+3.6**
GDU01	**Guandu, BA**	**52.01**	**304**	*e*P	**P**	**12 40 21.8**	**+3.7**
IPMB	**Ipameri, GO**	**52.95**	**292**	*e*P	**P**	**12 40 25.5**	**+0.4**
ML02	**Panimavida**	**53.09**	**258**	P	**P**	**12 40 25.9**	**0.0**
BO02	**Sierra Bellavi**	**53.41**	**259**	P	**P**	**12 40 27.5**	**-0.9**
BO02				IAmb	IAmb	12 40 29.0	
	comp=Z,22nm,0.9s						
LMEL	**Las Melosas**	**53.74**	**261**	P	**P**	**12 40 29.1**	**-1.8**
LMEL				IAmb	IAmb	12 40 52.5	
	comp=Z,22nm,1.2s						
BO04	**La Punta**	**53.87**	**260**	P	**P**	**12 40 29.5**	**-2.2**
ANTJ	**Antonio Joao (**	**54.17**	**282**	*e*P	**P**	**12 40 36.4**	**+2.4**
MT09	**Talagante**	**54.25**	**260**	P	**P**	**12 40 33.5**	**-1.1**
MT01	**Popeta**	**54.34**	**260**	P	**P**	**12 40 33.7**	**-1.3**
MT01				IAmb	IAmb	12 40 51.1	
	comp=Z,22nm,1.1s						
MT02	**Curacav**	**54.70**	**260**	P	**P**	**12 40 34.9**	**-2.8**
BDFB	**Brasilia**	**54.76**	**294**	P	**P**	**12 40 38.4**	**0.0**
	comp=Z,11nm,0.9s,baz=149,slow=7.5,SNR=7.8						
BDFB				LR	LR	12 58 51.5	
	comp=Z,551nm,20.8s,baz=147,slow=30						
	comp=Z,11nm,0.9s						
BDFB	**Brasilia**	**54.76**	**294**	P	**P**	**12 40 37.4**	**-1.1**
BDFB				IAmb	IAmb	12 40 47.7	
	comp=Z,23nm,1.0s						
BDFB	**Brasilia**	**54.76**	**294**	*e*P	**P**	**12 40 41.3**	**+2.9**
AQDB	**Aquidauana**	**55.18**	**283**	P	**P**	**12 40 40.7**	**-0.6**
AQDB				IAmb	IAmb	12 40 45.0	
	comp=Z,24nm,1.1s						
SDBA	**SAO DESIDERIO**	**55.81**	**299**	*e*P	**P**	**12 40 48.6**	**+2.7**
CO01	**Juntas del Tor**	**56.47**	**264**	P	**P**	**12 40 49.1**	**-1.6**
ARAG	**Araguaiana, MT**	**56.79**	**290**	*e*P	**P**	**12 40 55.7**	**+2.8**
RCBR	**Riachuelo**	**57.21**	**312**	LR	LR	12 59 31.1	
	comp=Z,298nm,21.7s,baz=300,slow=30						
LCO	**Las Campanas**	**57.53**	**264**	P	**P**	**12 40 56.1**	**-2.2**
LCO				IAmb	IAmb	12 41 19.6	
	comp=Z,30nm,1.5s						
MBAR	**Mbarara**	**57.92**	**34**	LR	LR	13 05 06.7	
	comp=Z,1μm,18.0s,baz=174,slow=35						
MBAR	**Mbarara**	**57.92**	**34**	P	**P**	**12 41 00.1**	**-0.9**
AC02	**Maricunga**	**58.22**	**267**	P	**P**	**12 41 02.2**	**-1.3**
AC06	**Mina Casimiro**	**58.55**	**266**	P	**P**	**12 41 03.3**	**-1.9**
AC06				IAmb	IAmb	12 41 09.8	
	comp=Z,28nm,1.2s						
KIBK	**Kibwezi**	**58.98**	**42**	P	**P**	**12 41 07.9**	**-0.4**
KIBK				IAmb	IAmb	12 41 12.0	
	comp=Z,20nm,1.1s						
SNDB	**Serra Nova Dou**	**59.56**	**293**	*e*P	**P**	**12 41 15.3**	**+3.0**
AC01	**Pan de Azucar**	**59.60**	**267**	P	**P**	**12 41 10.6**	**-1.9**
AC01				IAmb	IAmb	12 42 51.1	
	comp=Z,31nm,1.2s						
GO02	**Mina Guanaco**	**59.75**	**268**	P	**P**	**12 41 11.5**	**-2.3**
KMBO	**Kilima Mbogo**	**59.77**	**41**	P	**P**	**12 41 15.6**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=196,slow=8.2,SNR=7.1						
KMBO				LR	LR	13 06 01.7	
	comp=Z,452nm,18.8s,baz=110,slow=35						
	comp=Z,0.8nm,0.3s						
KMBO	**Kilima Mbogo**	**59.77**	**41**	P	**P**	**12 41 12.8**	**-1.2**
SMTB	**Santa Maria do**	**60.20**	**299**	*e*P	**P**	**12 41 19.8**	**+3.1**
LIC	**Lamto**	**60.23**	**351**	*i*P	**P**	**12 41 17.1**	**+0.3**
	comp=Z,81nm,0.9s						
KIC	**Kosan Boka**	**60.34**	**351**	*i*P	**P**	**12 41 18.6**	**+1.1**
	comp=Z,1.8nm,0.4s						
BBSD	**Serra de San D**	**60.61**	**281**	*e*P	**P**	**12 41 19.0**	**-0.4**
PB14	**IPOC Station P**	**60.63**	**268**	P	**P**	**12 41 18.9**	**-1.0**
TIC	**Toumodi**	**60.65**	**351**	*i*P	**P**	**12 41 19.9**	**+0.3**
	comp=Z,8.9nm,0.3s						
DBIC	**Dimbokro**	**60.66**	**351**	P	**P**	**12 41 20.0**	**+0.3**
	comp=Z,21nm,1.1s,baz=173,slow=8.3,SNR=14						
DBIC				LR	LR	13 01 33.4	
	comp=Z,541nm,21.2s,baz=153,slow=30						
	comp=Z,21nm,1.1s						
DBIC	**Dimbokro**	**60.66**	**351**	P	**P**	**12 41 19.8**	**+0.1**
PTLB	**Pontes e Lacer**	**61.14**	**284**	P	**P**	**12 41 22.3**	**-0.7**
PTLB				IAmb	IAmb	12 41 26.7	
	comp=Z,13nm,1.1s						
PTLB	**Pontes e Lacer**	**61.14**	**284**	*e*P	**P**	**12 41 24.0**	**+0.9**
LVC	**Limon Verde**	**61.28**	**271**	LR	LR	13 04 21.2	
	comp=Z,366nm,21.9s,baz=147,slow=33						
LVC	**Limon Verde**	**61.28**	**271**	P	**P**	**12 41 23.1**	**-1.3**
LVC				IAmb	IAmb	12 41 41.1	
	comp=Z,36nm,1.5s						
PB06	**IPOC Station P**	**61.60**	**270**	P	**P**	**12 41 25.1**	**-1.2**
PB06				IAmb	IAmb	12 41 30.2	
	comp=Z,17nm,1.0s						
SIV	**San Ignacio**	**61.83**	**282**	LR	LR	13 04 55.9	
	comp=Z,724nm,19.5s,baz=126,slow=33						
PB03	**IPOC Station P**	**62.21**	**270**	P	**P**	**12 41 29.5**	**-0.9**
PB03				IAmb	IAmb	12 41 37.1	
	comp=Z,16nm,1.3s						
PB04	**IPOC Station P**	**62.23**	**270**	P	**P**	**12 41 29.3**	**-1.3**
PB04				IAmb	IAmb	12 42 08.5	
	comp=Z,21nm,1.1s						
PB07	**IPOC Station P**	**62.54**	**270**	P	**P**	**12 41 31.5**	**-1.1**
PB07				IAmb	IAmb	12 42 02.5	
	comp=Z,18nm,1.1s						
PB01	**IPOC Station P**	**62.83**	**271**	P	**P**	**12 41 33.3**	**-1.2**
PB01				IAmb	IAmb	12 41 41.4	
	comp=Z,19nm,1.5s						
PB02	**IPOC Station P**	**62.85**	**271**	P	**P**	**12 41 33.4**	**-1.3**
PB02				IAmb	IAmb	12 41 55.9	
	comp=Z,23nm,1.3s						
PDRB	**Porto dos Gac**	**62.87**	**289**	*e*P	**P**	**12 41 35.2**	**+0.5**
CLDB	**Colider**	**62.95**	**290**	*e*P	**P**	**12 41 37.9**	**+2.7**
LODK	**Lodwar**	**63.26**	**37**	P	**P**	**12 41 36.8**	**-0.5**
LODK				IAmb	IAmb	12 41 41.8	
	comp=Z,22nm,1.8s						
PB08	**IPOC Station P**	**63.32**	**272**	P	**P**	**12 41 37.4**	**-0.7**
GO01	**Chusmiza**	**63.71**	**272**	P	**P**	**12 41 39.2**	**-1.6**
GO01				IAmb	IAmb	12 41 49.6	
	comp=Z,21nm,1.6s						
VILB	**Vilhena**	**63.75**	**285**	P	**P**	**12 41 39.1**	**-1.5**
VILB				IAmb	IAmb	12 41 52.3	
	comp=Z,11nm,0.7s						
VILB	**Vilhena**	**63.75**	**285**	*e*P	**P**	**12 41 43.0**	**+2.4**
PSGCX	**Pisagua**	**64.32**	**272**	P	**P**	**12 41 43.4**	**-0.9**
PSGCX				IAmb	IAmb	12 41 52.9	
	comp=Z,18nm,1.3s						
MNMC	**Minye Minye**	**64.37**	**272**	P	**P**	**12 41 43.6**	**-1.3**
PB16	**IPOC Station P**	**64.93**	**273**	P	**P**	**12 41 48.6**	**-0.4**
LPAZ	**La Paz**	**65.72**	**276**	P	**P**	**12 41 54.2**	**0.0**
	comp=Z,19nm,0.8s,baz=125,slow=5.6,SNR=32						
LPAZ				LR	LR	13 08 52.6	
	comp=Z,179nm,19.2s,baz=124,slow=34						
	comp=Z,19nm,0.8s						
LPAZ	**La Paz**	**65.72**	**276**	P	**P**	**12 41 53.6**	**-0.6**
LPAZ	**La Paz**	**65.72**	**276**	*e*P	**P**	**12 41 54.6**	**+0.5**
NPGB	**Novo Progresso**	**65.86**	**293**	*e*P	**P**	**12 41 57.0**	**+2.7**
TOA0	**Torodi Ar. Sit**	**66.76**	**359**	P	**P**	**12 41 58.1**	**-1.8**
TOA0				IAmb	IAmb	12 41 59.5	
	comp=Z,16nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.76**	**359**	P	**P**	**12 41 59.3**	**-0.5**
	comp=Z,6.2nm,1.0s,baz=190,slow=6.5,SNR=28						
TORD				LR	LR	13 06 41.2	
	comp=Z,476nm,19.2s,baz=202,slow=32						
	comp=Z,6.2nm,1.0s						
ITTB	**Itaituba**	**68.29**	**294**	*e*P	**P**	**12 42 12.4**	**+2.7**
ETMB	**Extrema**	**69.74**	**281**	P	**P**	**12 42 17.3**	**-1.4**
ETMB				IAmb	IAmb	12 42 21.6	
	comp=Z,4.4nm,0.9s						
ETMB	**Extrema**	**69.74**	**281**	*e*P	**P**	**12 42 20.7**	**+2.0**
BBTS	**Babate**	**70.22**	**340**	LR	LR	13 07 32.8	
	comp=Z,668nm,18.2s,baz=154,slow=31						
SACV	**Santiago Islan**	**72.18**	**333**	P	**P**	**12 42 32.1**	**-1.2**
ATD	**Arta Tunnel**	**73.52**	**41**	LR	LR	13 15 31.2	
	comp=Z,452nm,18.1s,baz=205,slow=36						
H01W2	**Cape Leeuwin H**	**73.67**	**127**	T	T	14 03 38.3	
	baz=216,slow=74,SNR=68						
H01W3	**Cape Leeuwin H**	**73.68**	**127**	T	T	14 03 39.1	
	baz=216,slow=74,SNR=71						
H01W1	**Cape Leeuwin H**	**73.68**	**127**	T	T	14 03 40.2	
	baz=216,SNR=62						
NNA	**Nana**	**74.26**	**271**	LR	LR	13 13 09.6	
	comp=Z,280nm,21.5s,baz=150,slow=34						
MDP	**Montagnes des**	**74.69**	**302**	LR	LR	13 12 04.4	
	comp=Z,135nm,19.6s,baz=143,slow=33						
NWAO	**Narrogin (SRO)**	**76.74**	**128**	LR	LR	13 09 38.4	
	comp=Z,139nm,21.3s,baz=64,slow=30						
ATAH	**Atahualpa**	**79.03**	**273**	LR	LR	13 13 49.5	
	comp=Z,79nm,21.2s,baz=159,slow=32						
PCRV	**Puerto La Cruz**	**85.24**	**294**	LR	LR	13 17 15.6	
	comp=Z,642nm,21.6s,slow=32						
ROSC	**El Rosal**	**86.28**	**283**	LR	LR	13 20 02.6	
	comp=Z,1μm,19.2s,baz=178,slow=34						
MDT	**Midelt**	**86.57**	**354**	LR	LR	13 17 29.5	
	comp=Z,665nm,21.2s,baz=174,slow=32						
STKA	**Stephens Creek**	**87.48**	**146**	P	**P**	**12 43 56.2**	**0.0**
	comp=Z,2.6nm,0.8s,baz=195,slow=3.5,SNR=5.9						
STKA				LR	LR	13 19 45.3	
	comp=Z,106nm,19.0s,baz=202,slow=33						
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**87.48**	**146**	P	**P**	**12 43 56.0**	**-0.2**
SDV	**Santo Domingo**	**87.48**	**289**	LR	LR	13 20 27.2	
	comp=Z,455nm,20.1s,baz=122,slow=34						
PSA00	**Pilbara Seismi**	**87.52**	**124**	P	**P**	**12 43 57.0**	**+0.4**
EIL	**Elat**	**87.76**	**28**	LR	LR	13 20 46.2	
	comp=Z,649nm,21.3s,baz=223,slow=34						
PALK	**Pallekele**	**88.80**	**76**	LR	LR	13 15 36.0	
	comp=Z,214nm,19.5s,baz=322,slow=30						
KEST	**Kesra**	**89.43**	**5**	LR	LR	13 23 55.5	
	comp=Z,352nm,18.1s,baz=235,slow=35						
ASF	**Jabal al Asfar**	**90.67**	**28**	LR	LR	13 23 09.3	
	comp=Z,341nm,19.3s,baz=234,slow=34						
IDI	**Anoyia**	**90.85**	**18**	LR	LR	13 26 02.1	
	comp=Z,208nm,19.2s,baz=234,slow=36						
MMAI	**Mount Meron Ar**	**91.05**	**27**	LR	LR	13 23 20.9	
	comp=Z,883nm,20.5s,baz=72,slow=34						
VAE	**Valguarnera**	**91.55**	**9**	LR	LR	13 22 48.8	
	comp=Z,281nm,19.2s,baz=157,slow=34						
ASAR	**Alice Springs**	**92.05**	**136**	P	**P**	**12 44 17.9**	**0.0**
	comp=Z,2.0nm,0.9s,baz=203,slow=4.1,SNR=15						
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**92.05**	**136**	P	**P**	**12 44 18.2**	**+0.4**
AS31	**Alice Springs**	**92.06**	**136**	P	**P**	**12 44 18.4**	**+0.5**
SJG	**San Juan**	**92.64**	**297**	LR	LR	13 21 34.1	
	comp=Z,166nm,21.9s,baz=152,slow=33						
LEM	**Lembang**	**93.21**	**106**	LR	LR	13 19 07.8	
	comp=Z,193nm,18.6s,baz=206,slow=31						
ESDC	**Sonseca Array**	**93.36**	**355**	P	**P**	**12 44 24.2**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=190,slow=3.0,SNR=6.4						
ESDC				LR	LR	13 21 33.5	
	comp=Z,268nm,21.6s,baz=168,slow=32						
	comp=Z,1.9nm,0.9s						
ESDC	**Sonseca Array**	**93.36**	**355**	P	**P**	**12 44 24.3**	**+1.0**
GSI	**Gunungsitoli**	**93.92**	**93**	P	**P**	**12 44 26.7**	**+0.2**
WRA	**Warramunga Arr**	**95.55**	**135**	P	**P**	**12 44 34.9**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=178,slow=26,SNR=2.8						
WRA				LR	LR	13 25 04.4	
	comp=Z,100nm,18.2s,baz=188,slow=34						
	comp=Z,0.4nm,0.8s						
BRTR	**Keskin Array B**	**96.96**	**24**	LR	LR	13 31 09.3	
	comp=Z,147nm,18.3s,baz=186,slow=37						
BATI	**Baumata**	**99.08**	**121**	LR	LR	13 23 10.6	
	comp=Z,148nm,21.0s,baz=223,slow=32						
TBI	**Tubuai**	**99.42**	**206**	*e*LR	LR	13 17 08.7	
	comp=Z,4μm,23.2s						
TBI				*e*LR	LR	13 17 09.7	
	comp=Z,2μm,31.8s						
GERES	**GERESS Array B**	**102.77**	**7**	PP	**PP**	**12 49 16.2**	**-3.7**
	comp=Z,0.3nm,0.2s,baz=289,slow=4.1,SNR=3.9						
DZM	**Mont Dzumac**	**103.07**	**165**	*e*LR	LR	13 18 52.6	
	comp=Z,607nm,30.2s						
PPT2	**Papeete2**	**104.95**	**207**	*e*SS	SS	13 04 30.0	+1.6
	comp=Z,142nm,29.2s						
PPT2	**Papeete2**	**104.95**	**207**	*e*LR	LR	13 19 42.6	
	comp=Z,333nm,24.0s						
PPT2				*e*LR	LR	13 19 44.1	
	comp=Z,244nm,25.2s						
CLL	**Collm**	**105.17**	**7**	*e*PP	PKiKP	12 49 39.0	+9.0
CLL				*e*PS	**PS**	**12 58 53.0**	**+1.4**
CLL				*e*PPS	PPS	12 59 52.0	
CLL				*e*SS	SS	13 04 42.0	+9.4
CLL				L	L	13 22 00.0	
	comp=Z,200nm,19.8s						
AKASG	**Malin Array Be**	**106.56**	**17**	PP	**PP**	**12 49 44.6**	**-3.3**
	comp=Z,2.4nm,1.0s,baz=204,slow=6.3,SNR=9.2						
TAOE	**Nuku Hiva Isla**	**110.08**	**219**	*e*LR	LR	13 22 05.9	
	comp=Z,261nm,27.8s						
QIZ	**Qiongzhong**	**115.22**	**92**	PKP	**PKPdf**	**12 49 48.3**	**-1.7**
QIZ				PP	**PP**	**12 50 53.6**	**+3.0**
QIZ	**Qiongzhong**	**115.22**	**92**	SS	SS	13 06 50.0	+2.1
QIZ				LR	LR		
	comp=N,190nm,15.1s						
QIZ				LR	LR		
	comp=E,120nm,17.5s						
QIZ				LR	LR		
	comp=Z,150nm,17.5s						
PZH	**PanZhiHua**	**116.16**	**80**	PKP	**PKiKP**	**12 49 53.0**	**+1.2**
CD2	**Chengdu**	**120.62**	**79**	PKP	**PKiKP**	**12 50 00.3**	**+0.1**
WMQ	**Urumqi**	**121.23**	**57**	*e*P	**PKiKP**	**12 50 02.8**	**+1.7**
WMQ				LR	LR		
	comp=Z,140nm,21.7s						
TXAR	**Lajitas Array**	**122.59**	**276**	PKP	**PKiKP**	**12 50 04.8**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=141,slow=39,SNR=3.8

PXZ	**Pawanui**	**3.17**	**51**	P	Pn	12 33 11.7	+2.3
TUVZ	**Tukino**	**3.19**	**29**	P	Pb	12 33 16.7	+0.7
NGZ	**Ngauruhoe**	**3.25**	**28**	P	Pn	12 33 13.8	+3.2
SNVZ	**South Ngauruho**	**3.25**	**29**	P	Pb	12 33 16.9	-0.2
OTVZ	**Oturere**	**3.28**	**29**	P	Pb	12 33 18.1	+0.4
WTVZ	**West Tongariro**	**3.30**	**27**	P	Pb	12 33 17.2	-0.7
ETVZ	**East Tongariro**	**3.32**	**29**	P	Pb	12 33 18.0	-0.3
KRVZ	**Karewarewa**	**3.33**	**28**	P	Pb	12 33 18.7	+0.2
TMVZ	**Te Maari**	**3.34**	**29**	P	Pb	12 33 16.9	-1.7
NTVZ	**North Tongarir**	**3.34**	**28**	P	Pb	12 33 17.7	-0.9
HIZ	**Hauiti**	**3.67**	**15**	P	Pn	12 33 19.7	+3.5
TOZ	**Tahuroa Road**	**4.56**	**19**	P	Pn	12 33 30.8	+2.3
MKAZ	**Moumakai**	**5.09**	**14**	P	Pn	12 33 38.5	+2.7
MYRZ	**Mayor Island**	**5.18**	**24**	P	Pn	12 33 43.3	+6.3
RVAZ	**Riverhead Bore**	**5.34**	**8**	P	Pn	12 33 41.2	+2.1

*DJA **15** 12:41:10.5±0.2,8°S±4°×10°9E±°, h77km±4km, M4.7/25, mb4.8/21, mB5.1/12, MLv4.8/25, Mw(mB)4.5/12*
*NEIC **15** 12:41:13.4±2.6, 8°06S±0°08×109°40E±0°08, h103km±6km, mb4.2/23, Error ellipse: s-maj=12.4km s-min=10.4km az=208.0*
*IDC **15** 12:41:13.8±1.2, 7°93S×109°40E, h108km±12km, mb3.8/13, mbtmp4.2/15, MS4.2/7, Error ellipse: s-maj=23.6km s-min=11.1km az=43.0*
ISC 15 12:41:10.7±0.7, 8°24S±0°06×109°30E±0°04, h86km±7km, n135, σ1°93/130, mb4.1/23, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCJI	**Gunung Srandil**	**0.57**	**347**	P	**Pn**	**12 41 26.0**	**+0.4**
SCJI				S	**Sn**	**12 41 36.3**	**-0.3**
YOGI	**Yogyakarta**	**1.07**	**67**	P	**Pn**	**12 41 31.7**	**+0.8**
CTJI	**Waduk Cacaban**	**1.23**	**355**	P	**Pn**	**12 41 34.9**	**+2.1**
CTJI				S	**Sn**	**12 41 53.2**	**+3.7**
UGM	**Wanagama**	**1.25**	**75**	P	**Pn**	**12 41 33.8**	**+0.7**
UGM				Sn	**Sn**	**12 41 50.9**	**+0.8**
UGM	**Wanagama**	**1.25**	**75**	P	**Pn**	**12 41 34.2**	**+1.1**
UGM				S	**Sn**	**12 41 50.8**	**+0.7**
UGM	**Wanagama**	**1.25**	**75**	P	**Pn**	**12 41 34.4**	**+1.3**
SMRI	**Semarang**	**1.63**	**44**			**12 41 40.4**	**+2.4**
SMRI	**Semarang**	**1.63**	**44**	P	**Pn**	**12 41 40.9**	**+2.9**
SMRI	**Semarang**	**1.63**	**44**	P	**Pn**	**12 41 41.2**	**+3.2**
BBJI	**Bungbulang**	**1.81**	**295**	P	**Pn**	**12 41 40.6**	**+0.3**
PCJI	**Pacitan**	**1.86**	**89**	P	**Pn**	**12 41 42.2**	**+1.3**
PCJI				S	**Sn**	**12 42 05.1**	**+1.3**
LEM	**Lembang**	**2.18**	**310**	P	**Pn**	**12 41 47.8**	**+2.5**
	140nm,0.4s,baz=86,slow=9.5,SNR=32						
LEM				S	**Sn**	**12 42 14.7**	**+3.0**
	489nm,0.7s,baz=82,slow=20,SNR=7.4						
LEM				LR	LR	12 42 55.3	
	comp=Z,199nm,19.3s,baz=2.0,slow=49						
LEM	**Lembang**	**2.18**	**310**	P	**Pn**	**12 41 47.3**	**+2.0**
NGJI	**Ngawi**	**2.31**	**68**	P	**Pn**	**12 41 50.6**	**+3.8**
CNJI	**Cibinong**	**2.34**	**293**	P	**Pn**	**12 41 47.3**	**0.0**
PWJI	**Pagerwojo**	**2.49**	**85**	P	**Pn**	**12 41 50.6**	**+1.4**
PWJI				S	**Sn**	**12 42 20.0**	**+1.2**
SKJI	**Sukabumi**	**2.98**	**294**	P	**Pn**	**12 41 56.0**	**+0.1**
KRKI	**Karangkates**	**3.12**	**89**	P	**Pn**	**12 41 59.7**	**+1.9**
GRJI	**Gresik**	**3.41**	**68**	P	**Pn**	**12 42 04.3**	**+2.6**
SBJI	**Serang**	**3.78**	**304**	P	**Pn**	**12 42 07.4**	**+0.6**
BWJI	**Bawean**	**4.09**	**55**	P	**Pn**	**12 42 13.4**	**+2.5**
GMJI	**Gumukmas**	**4.10**	**91**	P	**Pn**	**12 42 13.5**	**+2.5**
GMJI				S	**Sn**	**12 43 00.4**	**+2.5**
XMI	**Christmas Isla**	**4.19**	**238**	P	**Pn**	**12 42 10.5**	**-1.8**
BLJI	**Banyuglugur**	**4.28**	**84**	P	**Pn**	**12 42 15.6**	**+2.1**
KMMI	**Kalianget**	**4.77**	**76**	P	**Pn**	**12 42 21.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**4.81**	**93**	Pn	**Pn**	**12 42 22.6**	**+1.9**
JAGI	**Jajag, Banyuwa**	**4.81**	**93**	P	**Pn**	**12 42 22.8**	**+2.1**
JAGI	**Jajag, Banyuwa**	**4.81**	**93**	P	**Pn**	**12 42 23.1**	**+2.4**
ABJI	**Asem Bagus**	**4.91**	**85**	P	**Pn**	**12 42 24.1**	**+2.1**
	1.4nm3µm139nm,0.4s						
BYJI	**Banyuwangi**	**5.00**	**90**	P	**Pn**	**12 42 27.3**	**+4.0**
	2.0nm13µm298nm,1.0s						
RTBI	**Rangdo, Negare**	**5.59**	**93**	P	**Pn**	**12 42 34.5**	**+3.2**
	1.4nm3µm186nm,0.9s						
IGBI	**Denpasar**	**5.81**	**96**	P	**Pn**	**12 42 36.3**	**+2.0**
	3µm131nm,1.1s						
SRBI	**Singaraja**	**5.85**	**89**	P	**Pn**	**12 42 37.7**	**+2.8**
	0.9nm2µm72nm,0.5s						
DNP	**Denpasar**	**5.86**	**95**	P	**Pn**	**12 42 35.2**	**+0.1**
	4.9nm26µm336nm,0.6s						
PBKI	**Pangkalan Bun**	**5.98**	**23**	P	**Pn**	**12 42 38.8**	**+2.1**
	0.7nm172nm,1.0s						
LWLI	**Liwa**	**6.11**	**301**	P	**Pn**	**12 42 36.5**	**-2.1**
	1.1nm82nm,0.5s						
KHKI	**Kahang-Kahang**	**6.24**	**92**	P	**Pn**	**12 42 43.1**	**+2.9**
KLNI	**Mataram**	**6.73**	**92**	P	**Pn**	**12 42 48.0**	**+1.2**
	0.3nm1µm42nm,0.6s						
MNAI	**Manna**	**7.39**	**301**	Pn	**Pn**	**12 42 56.7**	**+0.8**
MNAI	**Manna**	**7.39**	**301**	P	**Pn**	**12 42 54.7**	**-1.2**
	1.7nm328nm,1.2s						
MNAI	**Manna**	**7.39**	**301**	P	**Pn**	**12 42 57.4**	**+1.5**
TWSI	**Taliwang, Sumb**	**7.52**	**94**	P	**Pn**	**12 42 58.6**	**+1.0**
	0.4nm1µm23nm,0.9s						
EGSI	**Enggano, Bengk**	**7.54**	**292**	P	**Pn**	**12 42 58.1**	**+0.1**
	0.5nm115nm,0.8s						
PLAI	**Plampang**	**8.40**	**95**	P	**Pn**	**12 43 10.9**	**+1.2**
	911nm64nm,0.7s						
PLAI	**Plampang**	**8.40**	**95**	P	**Pn**	**12 43 11.2**	**+1.5**
KAPI	**Kappang**	**10.86**	**74**	LR	LR	12 47 52.8	
	comp=Z,75nm,21.9s,baz=254,slow=37						
BKSI	**Bulukumba**	**11.13**	**76**	P	**Pn**	**12 43 49.4**	**+2.5**
	15nm,0.8s						
BSSI	**Bau Bau, Buton**	**11.29**	**80**	P	**Pn**	**12 43 51.9**	**+2.7**
	495nm29nm,0.8s						
BNSI	**Bone**	**11.39**	**71**	P	**Pn**	**12 43 53.7**	**+3.2**
	8.0nm,0.8s						
SISI	**Saibi**	**12.27**	**303**	P	**Pn**	**12 43 58.2**	**-4.2**
	38nm,1.0s						
MPSI	**Mapaga**	**13.57**	**52**	P	**P**	**12 44 23.4**	**-2.2**
	334nm5.4nm,1.4s						
APSI	**Ampana**	**14.29**	**60**	P	**P**	**12 44 33.5**	**-0.2**
	31nm,0.6s						
BATI	**Baumata**	**14.31**	**99**	P	**Pn**	**12 44 31.4**	**+2.0**
	15nm,0.3s,baz=313,slow=8.0,SNR=3.1						
BATI				S	**Sn**	**12 46 58.9**	**-8.1**
	14nm,0.4s,baz=147,slow=21,SNR=1.7						
SOEI	**Soe**	**14.86**	**97**	Pn	**Pn**	**12 44 36.4**	**-0.1**
SOEI	**Soe**	**14.86**	**97**	P	**Pn**	**12 44 36.8**	**+0.3**
	836nm38nm,0.7s						
GIRL	**Giralia**	**15.09**	**162**	P	**Pn**	**12 44 39.0**	**-0.2**
LUWI	**Luwuk**	**15.20**	**63**	Pn	**Pn**	**12 44 39.2**	**-1.5**
LUWI				IAmb	IAmb	12 45 01.2	
	comp=Z,17nm,0.8s						
MRSI	**Marisa**	**15.29**	**56**	P	**P**	**12 44 45.1**	**+0.4**
	comp=Z,12nm,0.8s						
MYLDM	**Lahad Datu**	**16.18**	**35**	P	P	12 45 06.6	+12
MBWA	**Marble Bar**	**16.32**	**143**	Pn	**Pn**	**12 44 53.8**	**-1.0**
MBWA				IAmb	IAmb	12 44 57.5	
	comp=Z,16nm,1.1s						
MBWA	**Marble Bar**	**16.32**	**143**	P	**Pn**	**12 44 54.1**	**-0.7**
PSA00	**Pilbara Seismi**	**16.71**	**144**	Pn	**Pn**	**12 44 58.2**	**-1.4**
PSA00	**Pilbara Seismi**	**16.71**	**144**	P	**Pn**	**12 44 59.2**	**-0.3**
SANI	**Sanana**	**17.71**	**71**	P	**Pn**	**12 45 14.8**	**+2.9**
LHMI	**Lhok Sumawe**	**18.19**	**317**	P	**Pn**	**12 45 18.0**	**+0.4**
AAI	**Ambon**	**19.32**	**78**	P	**Pn**	**12 45 31.3**	**+0.1**
KRAI	**Karang Ratu**	**19.61**	**77**	P	**Pn**	**12 45 34.6**	**+0.1**
LBMI	**Labuha**	**19.64**	**68**	P	**Pn**	**12 45 35.4**	**+0.5**
TNTI	**Ternate**	**20.11**	**64**	P	**P**	**12 45 36.5**	**-1.2**
TNTI	**Ternate**	**20.11**	**64**	P	Pn	12 45 43.3	+2.9
KNRA	**Kununurra**	**20.41**	**113**	P	**P**	**12 45 42.1**	**+1.0**
KNRA				IAmb	IAmb	12 45 43.6	
	comp=Z,12nm,0.7s						
KNRA	**Kununurra**	**20.41**	**113**	P	Pn	12 45 42.9	-1.0
GAMI	**Galela, Maluku**	**20.98**	**62**	P	Pn	12 45 51.1	+0.6
MORW	**Morawa**	**21.67**	**164**	P	**P**	**12 45 57.1**	**+2.7**
MORW				IAmb	IAmb	12 46 21.8	
	comp=Z,28nm,1.4s						
MTN	**Manton Dam**	**21.94**	**104**	P	**P**	**12 45 58.1**	**+0.6**
SIJI	**Sorong**	**23.07**	**73**	P	**P**	**12 46 08.4**	**-0.8**
	comp=Z,15nm,0.7s,baz=256,slow=5.9,SNR=12						
	comp=Z,15nm,0.7s						
SIJI	**Sorong**	**23.07**	**73**	P	**P**	**12 46 09.2**	**0.0**
FAKI	**Fak Fak**	**23.43**	**78**	P	**P**	**12 46 10.4**	**-2.2**
FAKI				IAmb	IAmb	12 46 16.6	
	comp=Z,8.1nm,0.7s						
WRKA	**Warakurna**	**24.65**	**135**	P	**P**	**12 46 25.2**	**+1.7**
WB0	**Warramunga Arr**	**26.86**	**118**	P	**P**	**12 46 45.0**	**+1.4**
WB0				IAmb	IAmb	12 47 09.4	
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**26.88**	**118**	P	**P**	**12 46 45.6**	**+1.8**
	comp=Z,2.2nm,1.0s,baz=222,slow=16,SNR=20						
	comp=Z,2.2nm,1.0s						
WRA	**Warramunga Arr**	**26.88**	**118**	P	**P**	**12 46 45.0**	**+1.3**
WRAB	**Tennant Creek**	**26.89**	**118**	P	**P**	**12 46 45.5**	**+1.7**
WB2	**Warramunga Arr**	**26.89**	**118**	P	**P**	**12 46 44.9**	**+1.0**
WB2				IAmb	IAmb	12 47 07.6	
	comp=Z,4.7nm,0.8s						
WR0	**Warramunga Arr**	**27.07**	**118**	P	**P**	**12 46 46.5**	**+1.1**
WR0				IAmb	IAmb	12 47 09.0	
	comp=Z,4.3nm,0.8s						
AS31	**Alice Springs**	**28.12**	**126**	P	**P**	**12 46 56.3**	**+1.5**
ASAR	**Alice Springs**	**28.12**	**126**	P	**P**	**12 46 56.5**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=306,slow=9.5,SNR=47						
ASAR				ScP	**ScP**	**12 53 41.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=289,slow=2.5,SNR=5.4						
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**28.12**	**126**	P	**P**	**12 46 56.1**	**+1.3**
AS01	**Alice Springs**	**28.16**	**126**	P	**P**	**12 46 56.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**28.43**	**339**	P	**P**	**12 46 56.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=178,slow=8.1,SNR=1.4						
CMAR				LR	LR	12 58 16.7	
	comp=Z,38nm,19.2s,baz=175,slow=36						
	comp=Z,0.5nm,0.3s						
OOD	**Oodnadatta**	**31.62**	**131**	P	**P**	**12 47 27.2**	**+1.6**
MULG	**Mulgathing**	**31.91**	**137**	P	**P**	**12 47 29.8**	**+1.7**
COEN	**Coen**	**33.70**	**103**	P	**P**	**12 47 43.9**	**-0.1**
COEN	**Coen**	**33.70**	**103**	P	**P**	**12 47 45.4**	**+1.4**
BBOO	**Buckleboo**	**34.81**	**138**	P	**P**	**12 47 54.9**	**+1.5**
BBOO	**Buckleboo**	**34.81**	**138**	P	**P**	**12 47 54.8**	**+1.4**
PZH	**PanZhiHua**	**35.30**	**348**	P	**P**	**12 47 59.3**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,60nm,4.7s						
MTSU	**Mount Surprise**	**35.42**	**110**	P	**P**	**12 48 01.1**	**+2.3**
H08S2	**Diego Garcia H**	**36.45**	**268**	T	T	13 27 25.8	
	baz=94,slow=76,SNR=81						
H08S3	**Diego Garcia H**	**36.46**	**268**	T	T	13 27 25.2	
	baz=94,slow=76,SNR=90						
H08S1	**Diego Garcia H**	**36.47**	**268**	T	T	13 27 26.2	
	baz=94,slow=76,SNR=15						
STKA	**Stephens Creek**	**38.13**	**133**	P	**P**	**12 48 23.9**	**+2.3**
	comp=Z,2.3nm,0.4s,baz=320,slow=9.7,SNR=17						
	comp=Z,2.3nm,0.4s						
STKA	**Stephens Creek**	**38.13**	**133**	P	**P**	**12 48 23.4**	**+1.8**
STKA				IAmb	IAmb	12 48 24.8	
	comp=Z,2.7nm,1.4s						
STKA	**Stephens Creek**	**38.13**	**133**	P	**P**	**12 48 23.8**	**+2.2**
ARPS	**Mount Arapiles**	**40.99**	**139**	P	**P**	**12 48 45.8**	**+0.5**
HHC	**Hu-ho-hao-te**	**48.88**	**2**	*eP*	**P**	**12 49 50.0**	**+2.1**
MJAR	**Matsushiro Arr**	**52.16**	**30**	P	**P**	**12 50 10.6**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=204,slow=8.8,SNR=4.2						
	comp=Z,1.7nm,0.7s						
WMQ	**Urumqi**	**55.39**	**341**	*eP*	**P**	**12 50 37.0**	**+0.9**
SONM	**Songino Array**	**55.88**	**358**	P	**P**	**12 50 39.2**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=181,slow=5.6,SNR=4.2						
	comp=Z,1.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**56.08**	**20**	P	**P**	**12 50 38.5**	**-2.4**
MK31	**Makanchi Array**	**59.84**	**339**	P	**P**	**12 51 05.5**	**-1.7**
MK31				IAmb	IAmb	12 51 22.0	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**59.84**	**339**	P	**P**	**12 51 04.9**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=154,slow=7.8,SNR=6.4						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.84**	**339**	P	**P**	**12 51 05.4**	**-1.7**
MAKZ	**Makanchi**	**59.96**	**339**	P	**P**	**12 51 07.6**	**-0.5**
ZAA0	**Zalesovo Array**	**65.31**	**344**	P	**P**	**12 51 42.0**	**-1.4**
ZALV	**Zalesovo Beam**	**65.31**	**344**	P	**P**	**12 51 41.7**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=167,slow=4.5,SNR=4.9						
	comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**65.31**	**344**	P	**P**	**12 51 41.5**	**-1.9**
ABKAR	**Akbulak array**	**71.64**	**328**	P	**P**	**12 52 22.6**	**-0.4**
ABKAR				IAmb	IAmb	12 52 23.3	
	comp=Z,2.8nm,0.7s						
PETK	**Petropavlovsk-**	**73.58**	**28**	P	**P**	**12 52 33.6**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=211,slow=2.8,SNR=6.2						
	comp=Z,1.7nm,0.7s						
PETK	**Petropavlovsk-**	**73.58**	**28**	P	**P**	**12 52 34.0**	**-0.4**
VNDA	**Vanda**	**74.35**	**170**	P	**P**	**12 52 40.3**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=297,slow=6.4,SNR=6.0						
	comp=Z,0.7nm,0.4s						
VNDA	**Vanda**	**74.35**	**170**	P	**P**	**12 52 40.6**	**+2.1**
GNI	**Garni**	**76.44**	**315**	LR	LR	13 31 11.1	
	comp=Z,233nm,18.3s,baz=210,slow=39						
KBZ	**Khabaz**	**79.09**	**317**	LR	LR	13 33 16.4	
	comp=Z,233nm,18.1s,baz=211,slow=40						
KVAR	**Kislovodsk Arr**	**79.31**	**318**	LR	LR	13 32 31.6	
	comp=Z,144nm,19.1s,baz=98,slow=39						
LSZ	**Lusaka**	**79.35**	**256**	LR	LR	13 23 59.8	
	comp=Z,75nm,18.1s,baz=180,slow=32						
TIXI	**Tiksi**	**80.77**	**6**	P	**P**	**12 53 13.0**	**-1.2**
TIXI				IAmb	IAmb	12 53 13.4	
	comp=Z,3.0nm,0.6s						
QSPA	**South Pole Qui**	**81.76**	**180**	P	**P**	**12 53 21.7**	**+1.8**
QSPA				IAmb	IAmb	12 53 23.2	
	comp=Z,6.7nm,1.2s						
BRTR	**Keskin Array B**	**84.35**	**311**	P	**P**	**12 53 33.8**	**0.0**
	comp=Z,2.4nm,0.8s,baz=133,slow=6.9,SNR=9.5						
	comp=Z,2.4nm,0.8s						
OBN	**Obninsk**	**87.00**	**327**	LR	LR	13 35 05.4	
	comp=Z,30nm,21.7s,baz=188,slow=37						
AKASG	**Malin Array Be**	**90.08**	**321**	P	**P**	**12 54 00.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=89,slow=4.7,SNR=3.1						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**95.48**	**339**	LR	LR	13 41 38.4	
	comp=Z,179nm,18.2s,baz=192,slow=38						
SPITS	**Spitsbergen Ar**	**98.61**	**348**	LR	LR	13 46 25.0	
	comp=Z,116nm,19.2s,baz=171,slow=40						
TXAR	**Lajitas Array**	**142.61**	**51**	PKP	**PKPdf**	**13 00 32.3**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=202,slow=1.3,SNR=4.5						
TKL	**Tuckaleechee C**	**150.20**	**22**	PKPbc	**PKPbc**	**13 00 52.0**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=258,slow=0.5,SNR=4.6						

PGC 15 12:41:12.4±0.1, 52°85N×132°57W, h19km, ML3.5/19, 66km Wsw of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG1B	**Mitchell Dam**	**0.28**	**72**	P	Pg	12 41 18.1	-0.5
HG1B				S	Sb	12 41 22.1	-0.7
DIB	**Dawson Inlet,**	**0.36**	**9**	P	Pg	12 41 19.6	-0.3
DIB				S	Sg	12 41 24.7	-0.4
MOBC	**Moresby Island**	**0.47**	**51**	P	Pg	12 41 21.5	-0.5
MOBC				S	Sg	12 41 28.0	-0.3
BNB	**Barry Inlet**	**0.57**	**119**	P	Pb	12 41 23.2	-0.4
BNB				S	Sb	12 41 31.3	0.0
HG4B	**Hotspring**	**1.00**	**123**	P	Pb	12 41 29.9	-1.2
HG4B				S	Sb	12 41 44.1	+0.1
NDB	**Naden**	**1.13**	**349**	P	Pn	12 41 32.5	-0.7
NDB				S	Sb	12 41 47.3	-0.3
MASB	**Masset**	**1.21**	**15**	P	Pb	12 41 34.9	+0.3
BNAB	**Bonilla**	**1.33**	**60**	P	Pn	12 41 35.1	-0.7
BNAB				S	Sn	12 41 52.4	-0.6
LIB	**Langara Island**	**1.44**	**348**	P	Pn	12 41 37.7	+0.3
BNKB	**Banks Island**	**1.68**	**72**	Pn	Pn	12 41 39.7	-1.0
BNKB				Pg	Pb	12 41 42.0	-0.6
BNKB				Sn	Sn	12 42 00.6	-1.1
BNKB				Sg	Sb	12 42 03.7	+0.3
GRNB	**Grenville Isla**	**1.85**	**56**	Pn	Pn	12 41 42.4	-0.7
GRNB				Pg	Pb	12 41 44.7	-0.9
GRNB				Sn	Sn	12 42 05.7	-0.3
GRNB				Sg	Sb	12 42 08.7	+0.3
RUBB	**Prince Rupert**	**2.02**	**42**	Pn	Pn	12 41 45.1	-0.2
RUBB				Sg	Sb	12 42 14.0	+0.8
HWKB	**Hawksbury Isla**	**2.18**	**69**	Pn	Pn	12 41 47.2	-0.5
HWKB				Pg	Pb	12 41 50.5	-0.7
HWKB				Sn	Sn	12 42 13.6	-0.6
HWKB				Sg	Sb	12 42 18.3	+0.3
MBLB	**Minette Bay Lo**	**2.64**	**62**	Pg	Pb	12 41 59.8	+0.8
MBLB				Sn	Sn	12 42 24.7	-0.6
KITB	**Kitimat**	**2.65**	**61**	Pn	Pn	12 41 53.8	-0.2
KITB				Sn	Sn	12 42 24.8	-0.8
BBB	**Bella Bella**	**2.80**	**102**	Pn	Pn	12 41 55.0	-1.1
BBB				Sn	Sn	12 42 27.7	-1.6
HOLB	**Holberg**	**3.53**	**127**	Pn	Pn	12 42 05.0	-1.2
HOLB				Sn	Sn	12 42 46.3	-1.1
PACB	**Port Alice, BC**	**3.98**	**125**	Pn	Pn	12 42 12.1	-0.2
PACB				Sn	Sn	12 42 55.9	-2.5
BPBC	**Brooks Peninsu**	**4.03**	**130**	Pn	Pn	12 42 13.3	+0.2
MAYB	**Maynard**	**4.16**	**124**	Pn	Pn	12 42 14.8	-0.2
T35M	**Bob Quinn**	**4.35**	**17**	Pn	Pn	12 42 19.3	+1.9
T35M				Sg	Sg	12 43 26.2	-5.7
WOSB	**Woss**	**4.61**	**123**	Pn	Pn	12 42 20.8	-0.3
NCRB	**Newcastle Ridg**	**4.74**	**119**	Pn	Pn	12 42 22.6	-0.3
S34M	**Telegraph Cree**	**5.14**	**9**	Pn	Pn	12 42 30.4	+2.2
S34M				Sg	Sg	12 43 52.8	-4.3
FSB	**Fort Saint Jam**	**5.16**	**68**	Pg	Pb	12 42 44.9	+2.9
FSJB	**Fort St James**	**5.18**	**69**	Pn	Pn	12 42 29.3	+0.5
FSJB				Pg	Pb	12 42 43.8	+1.5
FSJB				Sg	Sg	12 43 51.6	-6.8

WEL 15 12:42:36.7±0.5, 42°S±3°×17°4E±°, h5km, M2.8/4, ML3.8/5, MLv2.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=120.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**195**	P	Pg	12 42 42.9	+0.5
KHZ				S	Sg	12 42 47.5	+1.2
BSWZ	**Blackbirch Sta**	**0.45**	**23**	P	Pg	12 42 45.8	+0.3
BSWZ				S	Sg	12 42 52.7	+1.4
CMWZ	**Cape Campbell**	**0.57**	**48**	P	Pb	12 42 48.5	-0.7
TUWZ	**Tuamarina**	**0.74**	**18**	P	Pg	12 42 51.2	+0.4
TUWZ				S	Sg	12 43 01.3	+0.9

WEL 15 12:43:31.1±0.5, 42°S±4°×17°4E±°, h7km±5km, M3.5/13, ML3.8/13, MLv3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=134.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**250**	P	Pg	12 43 33.5	+0.2
CMWZ				S	Sg	12 43 36.2	+1.4
BSWZ	**Blackbirch Sta**	**0.34**	**270**	P	Pg	12 43 38.1	+0.4
BSWZ	**Blackbirch Sta**	**0.34**	**270**	P	Pg	12 43 38.0	+0.3
TUWZ	**Tuamarina**	**0.41**	**314**	P	Pg	12 43 39.5	+0.4
TUWZ				S	Sb	12 43 46.1	-1.0
TCW	**Tory Channel**	**0.51**	**355**	P	Pg	12 43 41.2	+0.4
WEL	**Wellington**	**0.54**	**37**	P	Pg	12 43 42.1	+0.5
PLWZ	**Palliser**	**0.71**	**78**	P	Pb	12 43 45.6	-0.2
MSWZ	**Moikau Station**	**0.75**	**67**	P	Pb	12 43 46.2	-0.3
CAW	**Cannon Point**	**0.82**	**42**	P	Pg	12 43 46.8	0.0
NNZ	**Nelson**	**0.87**	**305**	P	Pg	12 43 47.6	-0.2
PAWZ	**Paruwai Farm**	**0.89**	**68**	P	Pg	12 43 48.1	0.0
KHZ	**Kahutara**	**0.92**	**220**	P	Pg	12 43 48.6	0.0
KHZ				S	Sb	12 44 02.1	+0.5
KIW	**Kapiti Island**	**0.96**	**27**	P	Pg	12 43 49.2	-0.3
DUWZ	**D'Urville Isla**	**0.96**	**341**	P	Pb	12 43 50.1	0.0
MTW	**Mount Morrison**	**1.04**	**58**	P	Pg	12 43 50.4	-0.7
TRWZ	**Traveller**	**1.06**	**73**	P	Pg	12 43 50.2	-1.3
THZ	**Tophouse**	**1.07**	**267**	P	Pg	12 43 51.5	-0.1
OGWZ	**Otaki Gorge**	**1.10**	**35**	P	Pg	12 43 51.6	-0.6
MRNZ	**Matariki Terra**	**1.22**	**284**	P	Pb	12 43 54.4	-0.2
TKNZ	**Takaka Hill**	**1.24**	**303**	P	Pb	12 43 54.1	-0.7
TNWZ	**Te Maipa**	**1.32**	**63**	P	Pn	12 43 53.8	-2.2
MRZ	**Mangatainoka R**	**1.41**	**42**	P	Pn	12 43 55.9	-1.3
GVZ	**Greta Valley S**	**1.58**	**217**	P	Pn	12 44 00.0	+0.5
QRZ	**Quartz Range**	**1.62**	**303**	P	Pn	12 44 00.7	+0.6
OHWZ	**Ohakea**	**1.68**	**27**	P	Pn	12 44 01.4	+0.5
PRWZ	**Pori Road**	**1.70**	**47**	P	Pn	12 43 59.4	-1.8
POWZ	**Post Office Ro**	**1.71**	**40**	P	Pn	12 43 60.0	-1

TUWZ	**Tuamarina**	**0.34**	**321**	P		Pb	12 50 51.7	-0.8
TUWZ	**Tuamarina**	**0.34**	**321**	P		Pn	12 50 56.2	+0.8
TUWZ				S		Sb	12 51 01.7	+3.7
TCW	**Tory Channel**	**0.48**	**4**	P		Pg	12 50 54.0	+0.4
BHW	**Baring Head**	**0.56**	**60**	P		Pg	12 50 55.4	+0.4
WEL	**Wellington**	**0.57**	**45**	P		Pb	12 50 55.9	-0.6
PLWZ	**Palliser**	**0.78**	**81**	P		Pb	12 50 59.6	-0.4
NNZ	**Nelson**	**0.80**	**306**	P		Pg	12 50 59.6	+0.1
MSWZ	**Moikau Station**	**0.81**	**71**	P		Pg	12 51 00.2	+0.3
CAW	**Cannon Point**	**0.86**	**47**	P		Pg	12 51 00.8	+0.1
KHZ	**Kahutara**	**0.89**	**215**	P		Pg	12 51 01.5	+0.2
KHZ				S		Sb	12 51 14.0	+0.2
DUWZ	**D'Urville Isla**	**0.92**	**345**	P		Pg	12 51 01.9	0.0
PAWZ	**Paruwai Farm**	**0.95**	**71**	P		Pg	12 51 02.3	-0.2
KIW	**Kapiti Island**	**0.98**	**32**	P		Pg	12 51 02.8	-0.1
THZ	**Tophouse**	**0.99**	**266**	P		Pg	12 51 03.3	0.0
THZ	**Tophouse**	**0.99**	**266**	P		Pn	12 51 08.0	+3.5
MTW	**Mount Morrison**	**1.09**	**61**	P		Pg	12 51 04.1	-1.1
OGWZ	**Otaki Gorge**	**1.13**	**39**	P		Pg	12 51 05.5	-0.3
TRWZ	**Traveller**	**1.13**	**75**	P		Pg	12 51 04.2	-1.7
MRNZ	**Matariki Terra**	**1.14**	**284**	P		Pn	12 51 06.4	-0.1
TKNZ	**Takaka Hill**	**1.16**	**304**	P		Pb	12 51 06.6	+0.1
TMWZ	**Te Maipa**	**1.38**	**65**	P		Pn	12 51 07.6	-2.1
MRZ	**Mangatainoka R**	**1.45**	**45**	P		Pn	12 51 09.4	-1.2
GVZ	**Greta Valley S**	**1.55**	**214**	P		Pn	12 51 11.3	-0.8
PRWZ	**Pori Road**	**1.74**	**50**	P		Pn	12 51 13.0	-1.6
POWZ	**Post Office Ro**	**1.74**	**42**	P		Pn	12 51 13.8	-0.9
DSZ	**Denniston Nort**	**1.82**	**268**	P		Pb	12 51 17.2	-0.5
LTZ	**Lake Taylor**	**1.82**	**233**	P		Pn	12 51 14.6	-1.1
BFZ	**Birch Farm**	**1.83**	**57**	P		Pn	12 51 14.2	-1.7
AMCZ	**Amberley**	**1.89**	**218**	P		Pb	12 51 18.9	0.0
WAZ	**Wanganui**	**2.02**	**17**	P		Pb	12 51 21.7	+0.5
DVHZ	**Dannevirke**	**2.02**	**47**	P		Pn	12 51 16.7	-1.9
TSZ	**Takapari Road**	**2.09**	**39**	P		Pn	12 51 18.5	-1.1
OKCZ	**Okains Bay**	**2.21**	**203**	P		Pn	12 51 18.4	-2.7
OXZ	**Oxford**	**2.30**	**224**	P		Pn	12 51 19.9	-2.5
AKCZ	**Akaroa Harbour**	**2.39**	**204**	P		Pn	12 51 20.0	-3.6
KHEZ	**Kahui Hut**	**2.40**	**356**	P		Pb	12 51 27.6	-0.1
NBEZ	**Newall Road No**	**2.44**	**353**	P		Pb	12 51 29.4	+1.1
PKE	**Pukeiti**	**2.50**	**356**	P		Pg	12 51 31.1	-1.1
RACZ	**Rakaia**	**2.55**	**216**	P		Pn	12 51 22.8	-3.0
MOVZ	**Moawhango**	**2.56**	**27**	P		Pb	12 51 30.1	-0.3
WNVZ	**Wahianoa**	**2.58**	**24**	P		Pb	12 51 30.7	-0.1
VRZ	**Vera Road**	**2.60**	**9**	P		Pb	12 51 29.7	-1.2
BHHZ	**Black Hill Sta**	**2.61**	**33**	P		Pb	12 51 30.4	-0.7
NGZ	**Ngauruhoe**	**2.72**	**23**	P		Pb	12 51 33.1	-0.1
SNVZ	**South Ngauruho**	**2.73**	**24**	P		Pn	12 51 29.8	+1.4
NNVZ	**North Ngauruho**	**2.77**	**23**	P		Pb	12 51 34.0	0.0
WTVZ	**West Tongariro**	**2.77**	**22**	P		Pb	12 51 34.5	+0.4
ETVZ	**East Tongariro**	**2.79**	**24**	P		Pb	12 51 34.6	+0.3
TMVZ	**Te Maari**	**2.81**	**24**	P		Pb	12 51 34.1	-0.6
WACZ	**Wakanui South**	**2.85**	**217**	P		Pn	12 51 27.6	-2.4
WVZ	**Waitaha Valley**	**2.93**	**241**	P		Pb	12 51 34.9	-1.8
RPZ	**Rata Peaks**	**3.09**	**228**	P		Pn	12 51 31.6	-1.7
ARCZ	**Arundel**	**3.18**	**224**	P		Pn	12 51 33.2	-1.3
HIZ	**Hauiti**	**3.21**	**9**	P		Pb	12 51 38.3	-3.1
TMZ	**Timaru**	**3.58**	**220**	P		Pn	12 51 38.2	-1.8
ODZ	**Otahua Downs**	**4.25**	**217**	P		Pn	12 51 46.4	-2.7
MYRZ	**Mayor Island**	**4.67**	**20**	P		Pn	12 51 51.9	-3.1

IDC 15 12:52:39.6±1.7,1°68S×138°49E,h0km,mb3.1/2, mbtmp3.1/3,ML3.1/1,MS4.3/1,Error ellipse: s-maj=88.5km s-min=26.0km az=96.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.60**	**192**	P	P	12 56 58.7	0.0
	0.1nm,0.3s,baz=17,slow=13,SNR=5.1						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**22.31**	**191**	P	P	12 57 39.7	+0.8
	0.3nm,0.7s,baz=26,slow=9.4,SNR=2.2						
	0.3nm,0.7s						
BRDH	**Bariadhala**	**51.66**	**301**	LR	LR	13 26 00.3	
	comp=Z,288nm,20.6s,baz=258,slow=39						
PETK	**Petropavlovsk-**	**56.91**	**14**	P	P	13 02 26.4	0.0
	8.8nm,1.1s,baz=213,slow=7.1,SNR=4.1						
MKAR	**Makanchi Array**	**68.84**	**322**	P	P	13 03 45.4	-0.6
	0.2nm,0.4s,baz=115,slow=6.5,SNR=1.9						
	0.2nm,0.4s						

*PAS **15** 12:54:48.8±2.7,33°184N±0°008×115°62W±0°01, h2km±6km,ML3.0/105,ML2.8/58(NEIC),Error ellipse: s-maj=1.4km s-min=1.1km az=119.0*
*ANF **15** 12:54:48.2±0.1,33°18N×115°62W,h15km,ML2.9/22, Error ellipse: s-maj=1.3km s-min=0.9km az=126.0*
*NEIC **15** 12:54:48.7±2.6,33°190N±0°008×115°64W±0°01, h5km±1km,Error ellipse: s-maj=2.9km s-min=1.9km az=123.0*
*ECX **15** 12:54:49.6±0.6,33°18N×115°63W,h20km±3km,MD2.8, ML3.0*

ISC 15 12:54:48.9±0.9,33°16N±0°01×115°64W±0°01,h18km±3km, n147,σ0§89/195,9C-9D,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEMD	**Westmorland, C**	**0.13**	**159**		**Pg**	**12 54 52.6**	**-0.3**
WEMD					**Sg**	**12 54 56.3**	**+0.8**
SWSC	**Sam W. Stewart**	**0.25**	**213**		**Sg**	**12 54 58.9**	**+0.2**
SWSC	**Sam W. Stewart**	**0.25**	**213**	P	**Pb**	**12 54 54.7**	**-0.1**
	baz=32,SNR=22						
SWSC				S	**Sb**	**12 54 58.6**	**-0.2**
	baz=32						
SWSC	**Sam W. Stewart**	**0.25**	**213**	*eP*	**Pb**	**12 54 54.7**	**-0.1**
SWSC				*e*		12 55 05.4	
SWSC				IAML		12 55 05.4	
	comp=N,2μm,0.5s						
SWSC				IAML		12 55 05.4	
	comp=E,3μm,0.6s						
SWSC				*e*		12 55 05.4	
SUP	**Superstition M**	**0.26**	**218**		**Pb**	**12 54 54.9**	**0.0**
SUP					**Sg**	**12 54 59.1**	**+0.4**
IMPE	**Imperial**	**0.27**	**166**		**Pg**	**12 54 55.3**	**+0.4**
IMPE					**Sg**	**12 55 00.6**	**+1.7**
SALN	**Salton City**	**0.32**	**292**		**Pg**	**12 54 55.8**	**+0.1**
SALN					**Sb**	**12 55 01.3**	**+0.5**
COK2	**Cook Ranch 2**	**0.32**	**194**		**Pb**	**12 54 56.4**	**+0.4**
COK2					**Sb**	**12 55 02.1**	**+1.3**
COK2	**Cook Ranch 2**	**0.32**	**194**	*iP*	**Pb**	**12 54 56.4**	**+0.4**
DREC	**Desert Rsrch C**	**0.39**	**156**		**Pb**	**12 54 57.5**	**+0.2**
DREC	**Desert Rsrch C**	**0.39**	**156**	*eP*	**Pg**	**12 54 56.9**	**-0.1**
CRR	**Carrizo Plain**	**0.39**	**226**		**Pg**	**12 54 57.2**	**+0.2**
CRR					**Sb**	**12 55 03.2**	**+0.2**
CRR	**Carrizo Plain**	**0.39**	**226**	*eP*	**Pg**	**12 54 57.2**	**+0.2**
WESC	**Westside Schoo**	**0.41**	**191**		**Pb**	**12 54 57.7**	**+0.2**
WESC					**Sb**	**12 55 05.0**	**+1.5**
WESC	**Westside Schoo**	**0.41**	**191**	*eP*	**Pb**	**12 54 57.8**	**+0.2**
SGL	**Mount Signal**	**0.51**	**188**		**Sb**	**12 55 06.9**	**+0.4**
SGL	**Mount Signal**	**0.51**	**188**	*eP*	**Pb**	**12 54 59.0**	**-0.3**
BC3	**Big Chuckawall**	**0.52**	**17**		**Pb**	**12 54 58.6**	**-1.0**
BC3	**Big Chuckawall**	**0.52**	**17**	P	**Pb**	**12 54 58.6**	**-1.0**
	baz=196,SNR=41						
BC3				S	**Sb**	**12 55 05.5**	**-1.3**
	baz=196						
SLH	**Sleepy Hollow**	**0.52**	**274**		**Pb**	**12 54 59.4**	**0.0**
SLH					**Sg**	**12 55 07.5**	**+1.1**
SLH	**Sleepy Hollow**	**0.52**	**274**	*iP*	**Pb**	**12 54 59.4**	**0.0**
COA	**Coachella**	**0.52**	**124**		**Pb**	**12 54 59.2**	**-0.3**
COA					**Sb**	**12 55 07.7**	**+0.9**
COA	**Coachella**	**0.52**	**124**	*eP*	**Pb**	**12 54 59.2**	**-0.3**
HAY	**Hayfield**	**0.55**	**356**		**Pb**	**12 54 59.2**	**-0.8**
HAY					**Sb**	**12 55 06.9**	**-0.6**
UABX	**UABC, Campus M**	**0.55**	**162**	Pg	**Pb**	**12 54 57.9**	**-2.1**
UABX					Sb	12 54 58.4	-9.1
UABX				IAML		12 55 10.0	
	comp=E,881nm,0.7s						
CTW	**Cottonwood Mou**	**0.55**	**339**		**Pb**	**12 54 59.5**	**-0.6**
CTW					**Sb**	**12 55 07.3**	**-0.3**
YUH	**Yuha Desert**	**0.56**	**205**	Pg	**Pb**	**12 55 00.1**	**-0.1**
YUH				IAML		12 55 09.5	
	comp=E,357nm,0.3s						
YUH	**Yuha Desert**	**0.56**	**205**		**Sg**	**12 55 08.2**	**+0.5**
YUH2	**Yuha Desert**	**0.56**	**205**	*eP*	**Pb**	**12 55 00.1**	**-0.1**
YUH2				*eS*	**Sg**	**12 55 08.2**	**+0.4**
CTCC	**Cactus City**	**0.58**	**329**		**Pb**	**12 54 60.0**	**-0.5**
CTCC					**Sg**	**12 55 08.8**	**+0.6**
RUN	**Ruthven**	**0.58**	**108**		**Pb**	**12 54 59.9**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.65**	**218**	P	**Pb**	**12 55 01.6**	**-0.1**
	baz=38,SNR=23						
IKP				S	**Sg**	**12 55 10.8**	**+0.5**
	baz=38						
IKP	**In-Ko-Pah, Jac**	**0.65**	**218**	*eP*	**Pb**	**12 55 01.6**	**-0.1**
IKP				*eS*	**Sb**	**12 55 10.3**	**0.0**
BORC	**Borrego Spring**	**0.66**	**280**		**Pb**	**12 55 01.7**	**-0.2**
BORC					**Sb**	**12 55 10.7**	**-0.1**
RMX	**La Rumorosa**	**0.67**	**214**		**Sg**	**12 55 11.9**	**+0.9**
RMX	**La Rumorosa**	**0.67**	**214**	Pg	**Pb**	**12 55 02.2**	**+0.1**
RMX	**La Rumorosa**	**0.67**	**214**	IAML		12 55 12.8	
	comp=E,568nm,0.3s						
RMX				IAML		12 55 13.2	
	comp=N,316nm,0.2s						
RMX	**La Rumorosa**	**0.67**	**214**	*eP*	**Pg**	**12 55 02.4**	**+0.3**
RMX				*eS*	**Sg**	**12 55 12.3**	**+1.2**
RMX				*e*		12 55 12.8	
RMX				IAML		12 55 12.8	
	comp=E,553nm,0.2s						
GLA	**Glamis**	**0.69**	**99**	Pg	**Pb**	**12 55 01.6**	**-0.8**
GLA	**Glamis**	**0.69**	**99**		**Sb**	**12 55 10.9**	**-0.6**
GLA	**Glamis**	**0.69**	**99**	IAML		12 55 15.0	
	comp=N,741nm,0.4s						
GLA	**Glamis**	**0.69**	**99**	P	**Pb**	**12 55 01.6**	**-0.8**
	baz=282,SNR=29						
GLA				S	**Sb**	**12 55 11.0**	**-0.6**
	baz=282						
GLA	**Glamis**	**0.69**	**99**	*eP*	**Pb**	**12 55 01.6**	**-0.8**
GLA				*eS*	**Sb**	**12 55 11.5**	**-0.1**
EMSC	**East Mesa**	**0.69**	**127**		**Pb**	**12 55 02.0**	**-0.4**
EMSC					**Sg**	**12 55 12.6**	**+0.9**
EMSC	**East Mesa**	**0.69**	**127**	*eP*	**Pb**	**12 55 02.0**	**-0.4**
EMSC				*eS*	**Sg**	**12 55 12.6**	**+0.9**
MONP2	**Monument Peak**	**0.71**	**248**		**Sg**	**12 55 12.9**	**+0.4**
MONP2	**Monument Peak**	**0.71**	**248**	P	**Pb**	**12 55 02.8**	**-0.1**
	baz=66,SNR=45						
MONP2				S	**Sg**	**12 55 13.0**	**+0.5**
	baz=66						
MONP2	**Monument Peak**	**0.71**	**248**	*eP*	**Pb**	**12 55 02.8**	**-0.1**
CPBX	**Cerro Prieto**	**0.79**	**159**		**Pb**	**12 55 03.4**	**-0.7**
CPBX	**Cerro Prieto**	**0.79**	**159**	*eP*	**Pb**	**12 55 03.1**	**-1.0**
CPBX				IAML		12 55 29.5	
	comp=N,1μm,0.4s						
CPBX				*e*		12 55 29.5	
CPBX				*e*		12 55 43.4	
CPBX				IAML		12 55 43.4	
	comp=E,1μm,0.4s						
JUEM	**Julian Eagle M**	**0.81**	**265**		**Pb**	**12 55 04.3**	**-0.2**
JUEM					**Sn**	**12 55 17.1**	**-0.1**
XPFO	**Pion Flat**	**0.82**	**304**		**Pb**	**12 55 04.2**	**-0.5**
XPFO					**Sb**	**12 55 16.1**	**+0.6**
PFO	**Pinyon Flats O**	**0.82**	**303**		**Pb**	**12 55 04.1**	**-0.6**
PFO				IAML		12 55 16.4	
	comp=E,290nm,0.5s						
PFO	**Pinyon Flats O**	**0.82**	**303**		**Pb**	**12 55 04.2**	**-0.6**
PFO					**Sb**	**12 55 16.0**	**+0.4**
PFO	**Pinyon Flats O**	**0.82**	**303**	P	**Pb**	**12 55 04.2**	**-0.6**
	baz=121,SNR=31						
PFO				S	**Sb**	**12 55 15.9**	**+0.4**
	baz=121						
MATG	**Mataguay Scout**	**0.85**	**273**		**Pb**	**12 55 04.8**	**-0.4**
MATG					**Sb**	**12 55 16.7**	**+0.5**
SALX	**Saltillo**	**0.85**	**150**	*iP*	Pb	12 54 55.8	-9.3
SALX				IAML		12 55 08.8	
	comp=N,3μm,0.5s						
SALX				*e*		12 55 08.8	
SALX				IAML		12 55 13.6	
	comp=E,4μm,0.3s						
SALX				*e*		12 55 13.6	
FRD	**Ford Ranch, An**	**0.87**	**293**		**Pb**	**12 55 05.2**	**-0.4**
FRD					**Sb**	**12 55 17.7**	**+0.7**
FRD	**Ford Ranch, An**	**0.87**	**293**		**Pb**	**12 55 05.2**	**-0.4**
FRD					**Sb**	**12 55 17.6**	**+0.7**
BELC	**Belle Mtn. Jos**	**0.89**	**340**		**Pb**	**12 55 05.2**	**-0.7**
BELC					**Sb**	**12 55 18.1**	**+0.5**
BELC	**Belle Mtn. Jos**	**0.89**	**340**	P	**Pb**	**12 55 05.2**	**-0.7**
	baz=159,SNR=22						
BELC				S	**Sb**	**12 55 17.9**	**+0.3**
	baz=159						
SNDA	**J Saunders Pla**	**0.91**	**296**		**Pb**	**12 55 05.8**	**-0.3**
SNDA					**Sg**	**12 55 19.2**	**+0.7**
BZNA	**Buzz No.'s Pla**	**0.92**	**291**		**Pb**	**12 55 06.0**	**-0.4**
DNR	**Dunn Ranch,Anz**	**0.93**	**296**		**Pb**	**12 55 06.2**	**-0.3**
BAR	**Barrett**	**0.99**	**242**		**Pb**	**12 55 07.4**	**-0.2**
BAR	**Barrett**	**0.99**	**242**	*eP*	**Pb**	**12 55 07.0**	**-0.5**
BAR				*eS*	**Sb**	**12 55 20.5**	**+0.2**
BAR				IAML		12 55 21.7	
	comp=N,371nm,0.2s						
BAR				*e*		12 55 21.9	
BAR				IAML		12 55 21.9	
	comp=E,224nm,0.3s						
CRY	**Cary Ranch**	**1.01**	**294**		**Pb**	**12 55 07.2**	**-0.7**
CRY					**Sb**	**12 55 21.6**	**+0.7**
TKX	**Tecate**	**1.01**	**234**		**Pn**	**12 55 08.3**	**+0.1**
TKX				IAML		12 55 22.3	
	comp=E,295nm,0.2s						
EW2	**E Wide Canyon**	**1.01**	**321**		**Pb**	**12 55 06.9**	**-1.0**
PLM	**Palomar**	**1.04**	**281**		**Pb**	**12 55 07.9**	**-0.7**
EML	**El Monte Cty P**	**1.05**	**256**		**Pb**	**12 55 07.8**	**-0.7**
EML					**Sb**	**12 55 22.2**	**+0.3**
EML	**El Monte Cty P**	**1.05**	**256**	*eP*	**Pb**	**12 55 07.7**	**-0.9**
IRM	**Iron Mountain**	**1.08**	**22**		**Pn**	**12 55 09.7**	**+0.5**
IRM	**Iron Mountain**	**1.08**	**22**	P	**Pb**	**12 55 08.5**	**-0.5**
	baz=202,SNR=51						
IRM				S	**Sn**	**12 55 23.8**	**+0.1**
	baz=202						
BLYC	**Blythe**	**1.10**	**57**	Pg	**Pn**	**12 55 09.4**	**0.0**
BLAC	**Blackrock camp**	**1.10**	**326**		**Pn**	**12 55 08.3**	**-1.2**
DUZA	**Dulzura**	**1.10**	**240**		**Pn**	**12 55 08.9**	**-0.6**
DUZA					**Sn**	**12 55 24.1**	**-0.2**
DPP	**Dos Picos Cty**	**1.11**	**262**		**Pn**	**12 55 08.7**	**-0.8**
DPP					**Sb**	**12 55 24.0**	**+0.4**
TJIG	**Tijuana**	**1.14**	**231**	*eP*	**Pn**	**12 55 09.2**	**-0.6**
SDRC	**San Diego Road**	**1.18**	**249**		**Pb**	**12 55 10.9**	**+0.2**
SDRC					**Sn**	**12 55 26.2**	**+0.2**
ESJX	**Sierra Juarez**	**1.18**	**193**		**Pn**	**12 55 10.2**	**-0.5**
ESJX	**Sierra Juarez**	**1.18**	**193**		**Sg**	**12 55 27.2**	**-0.1**
POB	**Polly Butte**	**1.20**	**296**		**Pn**	**12 55 09.9**	**-1.0**
CBX	**Cerro Bola**	**1.21**	**226**		**Pb**	**12 55 11.8**	**+0.5**
CBX					**Sn**	**12 55 27.7**	**+0.7**
CBX				IAML		12 55 29.3	
	comp=N,166nm,0.4s						
CBX				IAML		12 55 29.5	
	comp=E,217nm,0.4s						
CBX	**Cerro Bola**	**1.21**	**226**	*eP*	**Pn**	**12 55 10.7**	**-0.3**
CBX				*eS*	**Sn**	**12 55 27.3**	**+0.3**
OLP	**Otay Lakes Par**	**1.22**	**244**	IAML		12 55 28.6	
	comp=N,275nm,0.2s						
OLP				*e*		12 55 28.6	
OLP				*e*		12 55 28.6	
OLP				IAML		12 55 28.6	
	comp=E,330nm,0.3s						
DGR	**Domenigoni Val**	**1.25**	**293**		**Pn**	**12 55 10.4**	**-1.0**
BACC	**Bachelor Mtn.**	**1.26**	**291**		**Pn**	**12 55 10.6**	**-1.0**
109C	**Camp Elliot, M**	**1.26**	**258**	Pg	**Pn**	**12 55 11.1**	**-0.5**
109C				IAML		12 55 32.4	
	comp=E,198nm,0.3s						
109C	**Camp Elliot, M**	**1.26**	**258**	P	**Pn**	**12 55 11.0**	**-0.6**
	baz=76,SNR=23						
109C				S	**Sn**	**12 55 27.8**	**-0.4**
	baz=76						
CPE	**Camp Elliot**	**1.26**	**258**		**Pn**	**12 55 11.2**	**-0.5**
CPE					**Sn**	**12 55 28.1**	**0.0**
HMTC	**Hemet**	**1.27**	**296**		**Pn**	**12 55 10.8**	**-1.0**
GORC	**Green Oak Ranc**	**1.33**	**270**		**Pn**	**12 55 12.1**	**-0.6**
GORC					**Sn**	**12 55 29.6**	**-0.4**
TJX	**Tijuana**	**1.36**	**242**		**Pb**	**12 55 14.1**	**+0.4**
MURC	**Murrieta**	**1.38**	**289**	P	**Pn**	**12 55 12.3**	**-0.9**
	baz=107,SNR=43						
MURC				S	**Sb**	**12 55 32.7**	**+1.3**
	baz=107						
SJX	**San Joaquin**	**1.42**	**191**	*eP*	**Pn**	**12 55 09.9**	**-3.9**
SJX				*eS*	**Sn**	**12 55 26.0**	**-5.9**
BBRC	**Big Bear Solar**	**1.53**	**316**	Pb	**Pn**	**12 55 16.4**	**+0.8**
	baz=134						
BBRC				S	**Sn**	**12 55 35.7**	**+0.4**
	baz=134						
CCX	**Cicese**	**1.55**	**214**		**Pn**	**12 55 16.2**	**+0.6**
CCX				IAML		12 55 39.4	
	comp=E,151nm,0.7s						
CCX				IAML		12 55 41.7	
	comp=N,101nm,0.3s						
ELS	**Elsinore Mount**	**1.57**	**289**	Pn	**Pn**	**12 55 16.2**	**+0.2**
113A	**Mohawk Valley,**	**1.62**	**103**		**Pn**	**12 55 17.0**	**+0.4**
113A				IAML		12 55 40.8	
	comp=N,92nm,0.8s						
113A				IAML		12 55 45.4	
	comp=E,75nm,0.6s						
GMRC	**Granite Mounta**	**1.62**	**359**	Pg	**Pb**	**12 55 19.1**	**+0.7**
	baz=179						
GMRC				Sb	**Sb**	**12 55 40.2**	**+1.6**
	baz=179						
PDMCI	**Parker Dam,Lak**	**1.69**	**47**	Pg	**Pb**	**12 55 20.1**	**+0.6**
	baz=228						
PDMCI				Sb	**Sb**	**12 55 41.2**	**+0.8**
	baz=228						
HEC	**Hector,Ludlow**	**1.76**	**341**	Pg	**Pg**	**12 55 22.5**	**-0.4**
	baz=160						
HEC				Sg	**Sg**	**12 55 46.7**	**+0.9**
	baz=160						
NEE2	**Needles Airpor**	**1.81**	**28**	Pg	**Pb**	**12 55 22.6**	**+1.0**
	baz=208						
NEE2				Sb	**Sb**	**12 55 45.7**	**+1.7**
	baz=208						
BFSC	**Mount Baldy Ra**	**2.00**	**303**	P	**Pn**	**12 55 21.6**	**-0.3**
	baz=121						
SFX	**San Felipe**	**2.22**	**162**	Pn	**Pn**	**12 55 24.6**	**-0.1**
TUQ	**Turquoise Moun**	**2.28**	**354**	Pg	**Pg**	**12 55 31.7**	**-1.0**
	baz=174						
Y14A	**Wickenburg**	**2.33**	**70**	Pn	**Pn**	**12 55 27.4**	**+1.0**
CIS	**Catalina Islan**	**2.34**	**277**	Pg	**Pg**	**12 55 33.9**	**+0.1**
	baz=94						
GSC	**Goldstone, Bar**	**2.35**	**336**	Pn	**Pn**	**12 55 26.6**	**0.0**
GSC				IAML		12 56 09.7	
	comp=E,48nm,1.3s						
PASC	**Pasadena Art C**	**2.35**	**296**	Pn	**Pn**	**12 55 26.4**	**-0.2**
W13A	**Hualapai Mount**	**2.42**	**36**	Pn	**Pn**	**12 55 28.1**	**+0.3**
V12A	**Nelson**	**2.64**	**14**	Pn	**Pn**	**12 55 31.5**	**+0.7**
214A	**Organ Pipe Nat**	**2.67**	**116**	Pn	**Pn**	**12 55 31.1**	**+0.1**
214A				IAML		12 56 15.4	
	comp=N,40nm,0.9s						
214A				IAML		12 56 16.8	
	comp=E,38nm,0.4s						
214A	**Organ Pipe Nat**	**2.67**	**116**	P	**Pn**	**12 55 30.0**	**-1.1**
	baz=298						
CCAC	**Calif City Air**	**2.80**	**316**	Pn	**Pn**	**12 55 32.2**	**-0.7**
CCAC				IAML		12 56 41.7	
	comp=N,43nm,1.3s						
CCAC				IAML		12 56 54.0	
	comp=E,40nm,1.7s						
QSM	**Queen of Sheba**	**2.98**	**340**	Pn	**Pn**	**12 55 36.1**	**+0.8**
WTNK	**Soaring Height**	**3.07**	**10**	Pn	**Pn**	**12 55 36.5**	**0.0**
GWY	**Greenwater Val**	**3.14**	**345**	Pn	**Pn**	**12 55 38.0**	**+0.4**
ARVC	**Arvin**	**3.30**	**307**	Pg	**Pg**	**12 55 51.3**	**-0.8**
	baz=125						
SHPR	**Sheep Range**	**3.36**	**7**	Pn	**Pn**	**12 55 41.1**	**+0.4**
ISA	**Isabella, Lake**	**3.43**	**318**	Pn	**Pn**	**12 55 41.2**	**-0.3**
ISA	**Isabella, Lake**	**3.43**	**318**	Pg	**Pg**	**12 55 53.4**	**-1.2**
	baz=136						
BCW	**Bitter Crk WRg**	**3.60**	**301**	Pn	**Pn**	**12 55 44.7**	**+0.7**
WCT	**Wildcat Mounta**	**3.71**	**348**	Pn	**Pn**	**12 55 45.8**	**+0.3**
TPNV	**Topopah Spring**	**3.81**	**353**	Pn	**Pn**	**12 55 48.1**	**+1.2**
TPNV				IAML		12 56 57.1	
	comp=E,18nm,0.9s						
TPNV				IAML		12 57 09.1	
	comp=E,13nm,1.4s						
TPNV	**Topopah Spring**	**3.81**	**353**	Pg	**Pg**	**12 56 01.9**	**-0.1**
	baz=172						
GRAC	**Grapevine Rang**	**4.08**	**340**	Pn	**Pn**	**12 55 49.5**	**-1.0**
TUC	**Tucson**	**4.18**	**100**	IAML		12 57 11.6	
	comp=E,7.4nm,1.0s						
TUC	**Tucson**	**4.18**	**100**	Pn	**Pn**	**12 55 54.2**	**+2.4**
WUAZ	**Wupatki**	**4.24**	**55**	Pn	**Pn**	**12 55 54.5**	**+1.8**
PRN	**Pahroc Range**	**4.26**	**6**	Pn	**Pn**	**12 55 53.0**	**-0.1**
U15A	**North Rim**	**4.27**	**39**		**Pn**	**12 55 52.6**	**-0.7**
U15A				IAML		12 57 20.5	
	comp=N,16nm,4.2s						
LCH	**Last Change Ra**	**4.38**	**339**	Pn	**Pn**	**12 55 53.8**	**-0.9**
S11A	**Rachel**	**4.48**	**359**	Pn	**Pn**	**12 55 55.1**	**-0.9**
KNB	**Kanab**	**4.49**	**30**	Pn	**Pn**	**12 55 56.8**	**+0.7**
MZP	**Montezuma Peak**	**4.75**	**343**	Pn	**Pn**	**12 55 58.2**	**-1.6**
CCUT	**Cedar City**	**4.76**	**22**	Pn	**Pn**	**12 55 59.5**	**-0.5**
SZCU	**Shurtz Canyon**	**4.89**	**24**	Pn	**Pn**	**12 56 00.9**	**-0.9**
X18A	**Snowflake**	**4.93**	**72**	Pn	**Pn**	**12 56 00.9**	**-1.3**
PKCU	**Pink Cliffs**	**5.07**	**32**	Pn	**Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.33**	**162**	P	**Pg**	**12 56 54.3**	**-0.2**
GVZ				S	**Sg**	**12 57 00.0**	**+0.7**
LTZ	**Lake Taylor**	**0.48**	**254**	P	**Pb**	**12 56 57.1**	**-0.3**
LTZ				S	**Sb**	**12 57 04.7**	**+0.6**
KHZ	**Kahutara**	**0.53**	**64**	P	**Pg**	**12 56 57.3**	**-0.7**
AMCZ	**Amberley**	**0.55**	**199**	P	**Pb**	**12 56 59.0**	**+0.3**
AMCZ				S	**Sb**	**12 57 07.7**	**+1.4**
THZ	**Tophouse**	**0.89**	**1**	P	**Pn**	**12 57 04.6**	**-0.6**
THZ				S	**Sb**	**12 57 15.1**	**-0.9**
OXZ	**Oxford**	**0.92**	**223**	P	**Pn**	**12 57 05.4**	**-0.2**
MQZ	**McQueen's Vall**	**1.07**	**189**	P	**Pb**	**12 57 06.6**	**-0.8**
MQZ				S	**Sb**	**12 57 21.2**	**+0.2**
OKCZ	**Okains Bay**	**1.08**	**174**	P	**Pb**	**12 57 07.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.19**	**38**	P	**Pb**	**12 57 09.7**	**+0.3**
BSWZ				S	**Sn**	**12 57 27.0**	**+2.1**
DSZ	**Denniston Nort**	**1.22**	**318**	P	**Pg**	**12 57 10.9**	**-0.1**
DSZ				S	**Sn**	**12 57 28.5**	**+2.8**
TUWZ	**Tuamarina**	**1.45**	**33**	P	**Pb**	**12 57 14.1**	**+0.2**
TUWZ				S	**Sg**	**12 57 34.7**	**+0.4**
RPZ	**Rata Peaks**	**1.71**	**231**	Pn	**Pn**	**12 57 16.4**	**0.0**
	78nm,0.3s,baz=317,slow=1.0,SNR=22						
RPZ				Sn	**Sn**	**12 57 37.3**	**-0.7**
	156nm,0.3s,baz=243,slow=13,SNR=6.1						
MSVF	**Nonsavu**	**25.22**	**12**	LR	LR	13 10 28.8	
	comp=Z,94nm,18.5s,baz=37,slow=33						
VNDA	**Vanda**	**35.27**	**184**	P	**P**	**13 03 43.1**	**+2.4**
	0.6nm,0.9s,baz=6.8,slow=4.7,SNR=4.8						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**37.33**	**288**	P	P	13 03 51.8	-7.1
	0.3nm,0.6s,baz=125,slow=6.6,SNR=6.0						
ASAR				PcP	**PcP**	**13 06 17.0**	**-0.9**
	0.5nm,0.6s,baz=124,slow=3.6,SNR=4.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**39.50**	**293**	P	P	13 04 09.3	-7.8
	0.6nm,0.8s,baz=131,slow=7.4,SNR=6.0						
	0.6nm,0.8s						
RPN	**Rapa Nui**	**63.55**	**103**	LR	LR	13 30 07.7	
	comp=Z,76nm,20.7s,baz=12,slow=31						
LEM	**Lembang**	**67.29**	**282**	LR	LR	13 35 18.2	
	comp=Z,75nm,20.7s,baz=197,slow=35						
KSRS	**Korea Array**	**89.62**	**326**	LR	LR	13 45 30.3	
	comp=Z,15nm,21.1s,baz=270,slow=33						
CMAR	**Chiang Mai Arr**	**91.08**	**294**	P	**P**	**13 09 49.0**	**-2.1**
	0.4nm,0.3s,baz=134,slow=3.9,SNR=0.9						
	0.4nm,0.3s						
USRK	**Ussuriysk Ar.**	**93.90**	**332**	LR	LR	13 50 20.4	
	comp=Z,46nm,19.3s,baz=235,slow=34						
ARCES	**ARCESS Array B**	**148.27**	**339**	PKPbc	**PKPdf**	**13 16 28.9**	**+1.0**
	2.4nm,0.7s,baz=29,slow=2.1,SNR=1.4						
BRTR	**Keskin Array B**	**149.41**	**278**	PKPbc	**PKPbc**	**13 16 35.0**	**-0.3**
	2.3nm,0.9s,baz=119,slow=5.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.63**	**197**	PKPbc	**PKPbc**	**13 16 35.3**	**-1.0**
	3.3nm,0.9s,baz=166,slow=2.0,SNR=11						
FINES	**FINESS Array B**	**152.71**	**325**	PKPbc	**PKPbc**	**13 16 40.7**	**-1.4**
	3.4nm,0.9s,baz=208,slow=32,SNR=2.4						

WEL 15 13:04:19.2±1.0, 43°S±6°×17°4E±1°, h25km±5km, M2.4/7, ML3.3/8, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**338**	P	Pn	13 04 27.2	+0.9
KHZ				S	Sb	13 04 31.3	+3.0
GVZ	**Greta Valley S**	**0.58**	**228**	P	Pn	13 04 32.0	0.0
GVZ				S	Sn	13 04 40.0	-0.7
GVZ	**Greta Valley S**	**0.58**	**228**	P	Sn	13 04 39.9	-0.8
AMCZ	**Amberley**	**0.93**	**230**	P	Pb	13 04 37.9	+1.1
THZ	**Tophouse**	**0.98**	**326**	P	Pn	13 04 37.0	-0.4
LTZ	**Lake Taylor**	**1.02**	**258**	P	Pn	13 04 36.3	-1.7
LTZ				S	Sb	13 04 46.4	-4.9
TUWZ	**Tuamarina**	**1.17**	**12**	P	Pn	13 04 40.0	-0.1
MQZ	**McQueen's Vall**	**1.33**	**212**	P	Pb	13 04 43.7	+0.2
OXZ	**Oxford**	**1.39**	**237**	P	Pn	13 04 43.2	+0.2
TCW	**Tory Channel**	**1.45**	**20**	P	Pn	13 04 41.8	-2.0
TCW				S	Sn	13 05 02.7	+0.6
DSZ	**Denniston Nort**	**1.59**	**301**	P	Pn	13 04 46.5	+0.6

WEL 15 13:04:37.4±0.7, 43°S±4°×17°3E±°, h20km±4km, M2.6/6, ML2.9/9, MLv2.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=123.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.28**	**196**	P	Pb	13 04 44.6	+0.8
GVZ				S	Sn	13 04 53.6	+1.6
LTZ	**Lake Taylor**	**0.64**	**262**	P	Pb	13 04 50.2	+0.1
LTZ				S	Sn	13 05 02.2	+1.2
OKCZ	**Okains Bay**	**1.02**	**183**	P	Pb	13 04 55.8	-0.7
OKCZ				S	Sn	13 05 11.9	+1.4
AKCZ	**Akaroa Harbour**	**1.18**	**188**	P	Pn	13 04 57.1	-1.7
AKCZ				S	Sn	13 05 14.9	+0.5
RACZ	**Rakaia**	**1.26**	**215**	P	Pn	13 04 58.6	-1.2
RACZ				S	Sb	13 05 17.7	+1.5
WACZ	**Wakanui South**	**1.56**	**217**	P	Pn	13 05 02.8	-1.2
WACZ				S	Sb	13 05 25.3	+0.4
WVZ	**Waitaha Valley**	**1.80**	**257**	P	Pn	13 05 07.1	-0.2
WVZ				S	Sb	13 05 31.6	-0.3
RPZ	**Rata Peaks**	**1.83**	**236**	P	Pn	13 05 06.8	-0.9
RPZ				S	Sn	13 05 30.5	+0.2
ARCZ	**Arundel**	**1.90**	**228**	P	Pn	13 05 07.3	-1.3
ARCZ				S	Sn	13 05 31.7	-0.2
TMZ	**Timaru**	**2.29**	**222**	P	Pn	13 05 12.8	-1.2
TRWZ	**Traveller**	**2.30**	**56**	P	Pb	13 05 21.6	+3.4
ODZ	**Otahua Downs**	**2.96**	**217**	P	Pn	13 05 21.8	-1.4
ODZ				S	Sn	13 05 58.3	+0.3
WAZ	**Wanganui**	**3.25**	**26**	P	Pb	13 05 33.4	-1.1
WAZ				S	Sn	13 06 06.8	+1.4
DVHZ	**Dannevirke**	**3.31**	**45**	P	Pn	13 05 30.0	+2.0

WEL 15 13:04:57.3±0.6, 42°S±3°×17°4E±°, h11km±4km, M3.0/12, ML3.5/12, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=98.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**125**	P	Pg	13 04 59.6	-0.4
BSWZ	**Blackbirch Sta**	**0.17**	**262**	P	Pb	13 05 03.2	+0.7
TUWZ	**Tuamarina**	**0.29**	**335**	P	Pg	13 05 03.2	+0.1
TUWZ				S	Sb	13 05 10.9	+1.6
TCW	**Tory Channel**	**0.50**	**15**	P	Pb	13 05 07.8	-0.3
TCW				S	Sb	13 05 15.2	-0.1
WEL	**Wellington**	**0.64**	**51**	P	Pg	13 05 09.8	+0.1
WEL				S	Sg	13 05 18.8	+0.6
PLWZ	**Palliser**	**0.87**	**82**	P	Pg	13 05 13.8	-0.2
PLWZ				S	Sb	13 05 26.5	+0.3
DUWZ	**D'Urville Isla**	**0.90**	**351**	P	Pg	13 05 13.9	-0.7
DUWZ				S	Sn	13 05 29.3	+0.3
MSWZ	**Moikau Station**	**0.90**	**73**	P	Pg	13 05 14.5	-0.2
MSWZ				S	Sn	13 05 28.1	-1.0
CAW	**Cannon Point**	**0.93**	**51**	P	Pg	13 05 14.9	-0.3
CAW				S	Sn	13 05 29.2	-0.5
KIW	**Kapiti Island**	**1.03**	**36**	P	Pg	13 05 16.9	-0.2
KIW				S	Sb	13 05 30.7	+0.1
MTW	**Mount Morrison**	**1.18**	**64**	P	Pb	13 05 18.4	-1.3
MTW				S	Sb	13 05 34.3	-0.7
OGWZ	**Otaki Gorge**	**1.19**	**43**	P	Pb	13 05 18.6	-1.3
OGWZ				S	Sn	13 05 36.5	+0.4
TRWZ	**Traveller**	**1.23**	**77**	P	Pn	13 05 18.4	-2.0
TRWZ				S	Sn	13 05 41.0	+4.0
HOWZ	**Holdsworth Sta**	**1.33**	**54**	P	Pn	13 05 21.3	-0.5
TMWZ	**Te Maipa**	**1.47**	**67**	P	Pn	13 05 22.1	-1.6
MRZ	**Mangatainoka R**	**1.52**	**48**	P	Pn	13 05 22.5	-1.9
POWZ	**Post Office Ro**	**1.81**	**45**	P	Pn	13 05 26.7	-1.8
PRWZ	**Pori Road**	**1.81**	**52**	P	Pn	13 05 27.8	-0.7
WAZ	**Wanganui**	**2.05**	**19**	P	Pb	13 05 35.4	+0.9
DVHZ	**Dannevirke**	**2.09**	**49**	P	Pn	13 05 30.9	-1.4
TSZ	**Takapari Road**	**2.15**	**41**	P	Pn	13 05 31.1	-2.1
WPHZ	**Waipukurau**	**2.40**	**48**	P	Pb	13 05 40.5	-0.1
MOVZ	**Moawhango**	**2.60**	**29**	P	Pb	13 05 43.7	-0.4
VRZ	**Vera Road**	**2.61**	**11**	P	Pb	13 05 43.2	-0.9
WNVZ	**Wahianoa**	**2.62**	**26**	P	Pn	13 05 41.9	+2.1
BHHZ	**Black Hill Sta**	**2.66**	**35**	P	Pb	13 05 45.0	0.0
OTVZ	**Oturere**	**2.79**	**26**	P	Pb	13 05 46.1	-1.2

WEL 15 13:06:10.2±0.3, 42°S±2°×17°4E±°, h5km, M3.7/15,

ML4.0/15, MLv3.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**190**	P	Pg	13 06 17.0	-0.3
KHZ				S	Sg	13 06 22.3	+0.3
BSWZ	**Blackbirch Sta**	**0.39**	**29**	P	Pg	13 06 17.5	-0.2
BSWZ				S	Sg	13 06 24.0	+1.2
CMWZ	**Cape Campbell**	**0.54**	**55**	P	Pg	13 06 21.0	+0.5
CMWZ				S	Sb	13 06 30.0	-0.2
THZ	**Tophouse**	**0.61**	**298**	P	Pg	13 06 21.9	-0.1
THZ				S	Sg	13 06 30.7	+0.8
TUWZ	**Tuamarina**	**0.67**	**21**	P	Pg	13 06 22.8	-0.3
TUWZ				S	Sb	13 06 33.5	-0.4
NNZ	**Nelson**	**0.86**	**348**	P	Pg	13 06 26.1	-0.6
NNZ				S	Sg	13 06 37.9	+0.1
MRNZ	**Matariki Terra**	**0.92**	**315**	P	Pg	13 06 27.9	-0.1
MRNZ				S	Sb	13 06 41.4	+0.1
TCW	**Tory Channel**	**0.98**	**30**	P	Pg	13 06 28.1	-0.9
TCW				S	Sg	13 06 42.0	+0.4
GVZ	**Greta Valley S**	**1.01**	**205**	P	Pg	13 06 29.5	0.0
GVZ				S	Sb	13 06 44.5	+0.7
TKNZ	**Takaka Hill**	**1.14**	**334**	P	Pg	13 06 31.8	-0.3
TKNZ				S	Sn	13 06 48.5	-0.3
WEL	**Wellington**	**1.15**	**48**	P	Pg	13 06 31.9	-0.4
WEL				S	Sn	13 06 48.9	-0.3
LTZ	**Lake Taylor**	**1.24**	**234**	P	Pg	13 06 31.5	-2.4
DUWZ	**D'Urville Isla**	**1.27**	**10**	P	Pg	13 06 33.3	-1.4
DUWZ				S	Sb	13 06 51.6	+0.2
AMCZ	**Amberley**	**1.33**	**212**	P	Pn	13 06 35.5	0.0
MSWZ	**Moikau Station**	**1.37**	**63**	P	Pg	13 06 37.7	+1.1
DSZ	**Denniston Nort**	**1.39**	**282**	P	Pb	13 06 36.6	-0.2
DSZ				S	Sn	13 06 55.8	+0.6
CAW	**Cannon Point**	**1.44**	**49**	P	Pn	13 06 36.0	-0.9
CAW				S	Sb	13 06 54.8	-1.3
QRZ	**Quartz Range**	**1.48**	**326**	P	Pg	13 06 38.4	-0.2
QRZ				S	Sn	13 06 56.8	-0.5
KIW	**Kapiti Island**	**1.54**	**39**	P	Pn	13 06 37.4	-0.9
KIW				S	Sg	13 07 00.5	+0.9
MTW	**Mount Morrison**	**1.67**	**58**	P	Pg	13 06 41.9	-0.3
OGWZ	**Otaki Gorge**	**1.70**	**44**	P	Pn	13 06 39.4	-1.1
OGWZ				S	Sn	13 07 01.4	-1.3
OKCZ	**Okains Bay**	**1.72**	**194**	P	Pn	13 06 38.4	-2.4
OKCZ				S	Sn	13 06 59.8	-3.3
OXZ	**Oxford**	**1.73**	**222**	P	Pb	13 06 42.4	0.0
INZ	**Inchbonnie**	**1.75**	**247**	P	Pn	13 06 41.4	+0.2
INZ				S	Sb	13 07 04.7	-0.3
MQZ	**McQueen's Vall**	**1.80**	**203**	P	Pn	13 06 39.0	-2.8
MQZ				S	Sn	13 07 00.8	-4.2
AKCZ	**Akaroa Harbour**	**1.89**	**196**	P	Pn	13 06 40.8	-2.4
AKCZ				S	Sn	13 07 03.7	-3.7
TMWZ	**Te Maipa**	**1.95**	**62**	P	Pg	13 06 48.7	+1.1
TIWZ	**Tintock**	**2.13**	**54**	P	Pg	13 06 51.5	+0.5
OHWZ	**Ohakea**	**2.25**	**35**	P	Pb	13 06 50.3	-1.0
PRWZ	**Pori Road**	**2.32**	**50**	P	Pb	13 06 53.3	+0.8
POWZ	**Post Office Ro**	**2.32**	**45**	P	Pb	13 06 52.8	+0.2
WVZ	**Waitaha Valley**	**2.36**	**244**	P	Pn	13 06 49.6	-0.1
BFZ	**Birch Farm**	**2.40**	**56**	P	Pg	13 06 56.5	+0.2
WAZ	**Wanganui**	**2.52**	**25**	P	Pb	13 06 55.2	-0.7
DVHZ	**Dannevirke**	**2.60**	**48**	P	Pg	13 06 58.9	-1.2
NMEZ	**Namu Road**	**2.65**	**4**	P	Pb	13 06 59.2	+1.1
LREZ	**Lake Rotokare**	**2.66**	**13**	P	Pb	13 06 57.4	-0.9
TSZ	**Takapari Road**	**2.67**	**42**	P	Pb	13 06 58.1	-0.3
GCSZ	**Gaunt Creek Bo**	**2.74**	**242**	P	Pn	13 06 55.9	+1.1
KHEZ	**Kahui Hut**	**2.78**	**6**	P	Pb	13 06 59.4	-1.0
NBEZ	**Newall Road No**	**2.79**	**4**	P	Pb	13 06 58.2	-2.4
NEZ	**North Egmont**	**2.81**	**7**	P	Pg	13 07 02.6	-1.4
PKE	**Pukeiti**	**2.87**	**6**	P	Pb	13 06 59.5	-2.5
PNHZ	**Pukenui**	**2.90**	**43**	P	Pb	13 07 02.8	+0.4
MTVZ	**Mangateitei**	**3.02**	**28**	P	Pb	13 07 04.7	+0.3
VRZ	**Vera Road**	**3.05**	**17**	P	Pb	13 07 01.8	+2.7
PKVZ	**Pokaka**	**3.06**	**26**	P	Pb	13 07 04.7	-0.5
MOVZ	**Moawhango**	**3.10**	**32**	P	Pb	13 07 03.4	-2.5
WNVZ	**Wahianoa**	**3.11**	**29**	P	Pb	13 07 04.8	-1.3
TRVZ	**Turoa**	**3.12**	**29**	P	Pn	13 07 00.8	+0.6
DRZ	**Dome Shelter**	**3.15**	**29**	P	Pn	13 07 06.4	-0.4
WHVZ	**Whangaehu Hut**	**3.15**	**29**	P	Pb	13 07 06.0	-0.8
FWVZ	**Far West T-bar**	**3.16**	**28**	P	Pb	13 07 06.5	-0.5
BHHZ	**Black Hill Sta**	**3.16**	**37**	P	Pb	13 07 04.9	-2.1
FOZ	**Fox Glacier**	**3.17**	**241**	P	Pn	13 06 60.0	-0.7
TUVZ	**Tukino**	**3.19**	**30**	P	Pb	13 07 06.9	-0.5
NGZ	**Ngauruhoe**	**3.25**	**28**	P	Pb	13 07 07.3	-1.1
SNVZ	**South Ngauruho**	**3.25**	**29**	P	Pb	13 07 08.2	-0.3
OTVZ	**Oturere**	**3.28**	**29**	P	Pb	13 07 05.9	-3.2
TWVZ	**Taurewa**	**3.29**	**25**	P	Pb	13 07 07.2	-1.8
NNVZ	**North Ngauruho**	**3.29**	**28**	P	Pb	13 07 07.9	-1.2
WTVZ	**West Tongariro**	**3.30**	**28**	P	Pb	13 07 07.4	-1.9
ETVZ	**East Tongariro**	**3.32**	**29**	P	Pb	13 07 07.8	-1.8
KRVZ	**Karewarewa**	**3.33**	**28**	P	Pb	13 07 08.0	-0.2
TMVZ	**Te Maari**	**3.34**	**29**	P	Pb	13 07 08.0	-1.9
NTVZ	**North Tongarir**	**3.34**	**29**	P	Pb	13 07 09.8	-0.3
KWHZ	**Kaweka Forest**	**3.38**	**40**	P	Pb	13 07 09.9	-0.7
LBZ	**Lake Benmore**	**3.43**	**226**	P	Pb	13 07 08.7	-2.7
KATZ	**Kakaramea**	**3.46**	**28**	P	Pb	13 07 11.7	-0.3
RATZ	**Rangitukua**	**3.58**	**28**	P	Pb	13 07 13.9	-0.2
BKZ	**Black Stump Fm**	**3.62**	**38**	P	Pb	13 07 13.7	-1.0
HIZ	**Hauiti**	**3.66**	**15**	P	Pn	13 07 10.3	+2.8
TLZ	**Tolley Road**	**4.00**	**22**	P	Pn	13 07 15.1	+2.9
JCZ	**Jackson Bay**	**4.08**	**239**	P	Pn	13 07 16.8	+3.5
TOZ	**Tahuroa Road**	**4.55**	**19**	P	Pn	13 07 21.8	+2.1
CNGZ	**Carnagh Statio**	**5.00**	**46**	P	Pn	13 07 30.6	+4.7
AWAZ	**Awhitu Peninsu**	**5.05**	**9**	P	Pn	13 07 28.4	+1.9
MKAZ	**Moumakai**	**5.09**	**14**	P	Pn	13 07 28.9	+1.8
ETAZ	**East Tamaki Re**	**5.20**	**12**	P	Pn	13 07 30.6	+2.0
RVAZ	**Riverhead Bore**	**5.33**	**8**	P	Pn	13 07 32.1	+1.7
MBAZ	**Motutapu North**	**5.37**	**11**	P	Pn	13 07 33.2	+2.2

*HEL **15** 13:12:49.5±0.2, 62°60N×21°30E, h0km, ML1.3, Explosion*
UPP 15 13:12:53.0±1.0, 63°66N×23°27E, h0km, ML1.6, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.68**	**204**	*e*PB	Pg	13 13 04.0	-1.9
VAF				*e*S	Sg	13 13 13.3	-1.3
UMAU	**Umeaa**	**1.17**	**282**	P	Pg	13 13 14.6	-0.8
UMAU				S	Sb	13 13 31.2	-0.6
UMAU	**Umeaa**	**1.17**	**282**	*e*PN	Pg	13 13 14.7	-0.8
UMAU				*e*SB	Sg	13 13 31.0	+0.4
BURU	**Burvik**	**1.25**	**319**	P	Pg	13 13 16.1	-0.7
BURU				S	Sb	13 13 33.6	-0.3
ODEU	**Stanfors**	**1.35**	**305**	P	Pg	13 13 18.0	-0.8
ODEU				S	Sb	13 13 37.0	0.0
KEF	**Keuruu**	**1.67**	**153**	*e*PN	Pn	13 13 20.7	-2.7
KEF				MSG		13 13 39.9	
	comp=Z,1.4nm,0.2s						
KEF				*e*S	Sn	13 13 41.7	-3.8
SVAU	**Svanoeiden**	**1.83**	**299**	P	Pn	13 13 25.9	+0.3
HUSU	**Husum**	**1.84**	**262**	P	Pn	13 13 26.5	+0.6
KAF	**Kangasniemi**	**2.08**	**137**	MSG		13 13 50.8	
	comp=Z,1.1nm,0.2s						
FIA0	**FINESS Array S**	**2.58**	**148**	*e*PG	Pn	13 13 35.1	-0.8
FIA0				*e*SG	Sn	13 14 09.9	+2.0

*IDC **15** 13:13:38.2±0.8, 12°30N×144°62E, h0km, mb4.0/7, mbtmp4.0/7, MS3.6/1, Error ellipse: s-maj=31.2km s-min=15.5km az=106.0*
*NEIC **15** 13:13:39.5±1.9, 12°38N±0°06×144°40E±0°05, h10km±1km, mb4.6/23, Error ellipse: s-maj=12.0km s-min=5.1km az=221.0*
ISC 15 13:13:39.1±0.6, 12°34N±0°06×144°5E±0°, h10km, n43, σ1°15/40, mb4.5/20, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.30**	**16**	Pn	**Pg**	**13 14 04.7**	**+0.7**
	52nm,0.3s,baz=319,slow=7.0,SNR=34						
GUMO				Sn	**Sg**	**13 14 21.3**	**+0.3**
	69nm,0.3s,baz=184,slow=23,SNR=7.1						
GUMO	**Guam**	**1.30**	**16**		**Pg**	**13 14 04.3**	**+0.3**
GUMO				Sn	**Sb**	**13 14 17.7**	**-2.7**
PATS	**Pohnpei**	**14.67**	**111**	Pn	Pn	13 17 01.9	-5.0
H11N1	**WAKE ISLAND Hy**	**22.72**	**68**	T	T	13 42 28.0	
	baz=251,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**22.73**	**68**	T	T	13 42 26.6	
	baz=251						
H11N3	**WAKE ISLAND Hy**	**22.74**	**68**	T	T	13 42 25.2	
	baz=251,slow=75,SNR=3.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**24.76**	**348**	LR	LR	13 28 36.7	
	comp=Z,139nm,18.2s,baz=164,slow=36						
WB0	**Warramunga Arr**	**33.42**	**197**	P	**P**	**13 20 17.3**	**-0.9**
WR0	**Warramunga Arr**	**33.55**	**197**	P	**P**	**13 20 19.0**	**-0.4**
WB2	**Warramunga Arr**	**33.59**	**197**	P	**P**	**13 20 19.6**	**-0.2**
WB2				IAmb	IAmb	13 20 20.6	
	comp=Z,7.8nm,0.9s						
WRA	**Warramunga Arr**	**33.60**	**197**	P	**P**	**13 20 19.7**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=20,slow=9.7,SNR=21						
	comp=Z,3.8nm,0.8s						
ASAR	**Alice Springs**	**37.25**	**196**	P	**P**	**13 20 51.5**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=16,slow=8.6,SNR=14						
	comp=Z,1.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.25**	**284**	P	**P**	**13 21 51.6**	**+2.4**
	comp=Z,2.3nm,0.8s,baz=84,slow=6.4,SNR=14						
	comp=Z,2.3nm,0.8s						
MSVF	**Nonsavu**	**44.61**	**131**	P	**P**	**13 21 53.0**	**+0.9**
MSVF				IAmb	IAmb	13 21 56.0	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**45.61**	**190**	P	**P**	**13 21 59.2**	**-0.5**
BBOO				IAmb	IAmb	13 22 38.8	
	comp=Z,17nm,1.2s						
MA2	**Magadan**	**47.38**	**4**	P	**P**	**13 22 11.7**	**-1.6**
AFI	**Afiamalu**	**50.58**	**120**	P	**P**	**13 22 39.2**	**+0.7**
NWAO	**Narrogin (SRO)**	**52.00**	**209**	P	**P**	**13 22 45.6**	**-3.2**
MK31	**Makanchi Array**	**62.14**	**317**	P	**P**	**13 24 01.2**	**+0.6**
MKAR	**Makanchi Array**	**62.14**	**317**	P	**P**	**13 24 01.4**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=90,slow=8.5,SNR=7.0						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**62.14**	**317**	P	**P**	**13 24 01.5**	**+0.9**
PPLA	**Purkeypile**	**67.06**	**26**	P	**P**	**13 24 31.9**	**-0.7**
CAST	**Castle Rocks**	**67.28**	**26**	P	**P**	**13 24 33.8**	**0.0**
CAST				IAmb	IAmb	13 25 00.8	
	comp=Z,6.1nm,1.2s						
IMAR	**Indian Mountai**	**67.48**	**23**	P	**P**	**13 24 35.3**	**+0.3**
PMR	**Palmer**	**68.05**	**28**	P	**P**	**13 24 38.1**	**-0.5**
PMR				IAmb	IAmb	13 25 14.9	
	comp=Z,16nm,1.3s						
PWL	**Port Wells**	**68.24**	**29**	P	**P**	**13 24 41.7**	**+1.8**
MLY	**Manley**	**68.34**	**24**	P	**P**	**13 24 39.3**	**-1.2**
MLY				IAmb	IAmb	13 25 08.6	
	comp=Z,5.1nm,1.4s						
I23K	**Minto, Yukon-K**	**68.94**	**24**	P	**P**	**13 24 44.7**	**+0.6**
I23K				IAmb	IAmb	13 25 11.3	
	comp=Z,8.2nm,1.5s						
COLD	**Coldfoot**	**69.24**	**22**	P	**P**	**13 24 46.6**	**+0.6**
WRH	**Wood River Hil**	**69.27**	**25**	P	**P**	**13 24 45.1**	**-1.1**
WRH				IAmb	IAmb	13 25 08.3	
	comp=Z,7.8nm,1.4s						
ILAR	**Eielson Array**	**69.85**	**25**	P	**P**	**13 24 48.6**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=252,slow=5.7,SNR=8.2						
	comp=Z,0.5nm,0.6s						
TOLK	**Toolik Lake Re**	**69.91**	**21**	P	**P**	**13 24 50.6**	**+0.4**
TOLK				IAmb	IAmb	13 24 51.8	
	comp=Z,5.9nm,1.3s						
KKAR	**Karatay Array**	**70.00**	**311**	P	**P**	**13 24 50.9**	**-0.3**
J25K	**Salcha River,**	**70.45**	**25**	P	**P**	**13 24 52.3**	**-1.2**
J25K				IAmb	IAmb	13 25 30.2	
	comp=Z,5.2nm,1.4s						
J26L	**Joseph Creek**	**71.19**	**26**	P	**P**	**13 24 57.3**	**-0.8**
J26L				IAmb	IAmb	13 25 16.4	
	comp=Z,4.9nm,1.4s						
BMAR	**Burnt Mountain**	**71.39**	**23**	P	**P**	**13 24 59.2**	**0.0**
M30M	**Minto, Yukon**	**73.94**	**28**	P	**P**	**13 25 12.8**	**-1.7**
INK	**Inuvik**	**75.66**	**22**	P	**P**	**13 25 24.5**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=202,slow=5.1,SNR=3.3						
	comp=Z,1.7nm,1.0s						
ABKAR	**Akbulak array**	**77.

KHEZ	Kahui Hut	3.35	11	P		Pn	13 31 52.1	+2.0
NBEZ	Newall Road No	3.36	9	P		Pn	13 31 52.1	+2.0
PKE	Pukeiti	3.44	10	P		Pn	13 31 52.6	+1.4
VRZ	Vera Road	3.66	19	P		Pn	13 31 55.1	+0.9
WNVZ	Wahianoa	3.73	30	P		Pn	13 31 59.1	+3.7
NGZ	Ngauruhoe	3.87	29	P		Pb	13 32 01.9	-3.8
OTVZ	Oturere	3.90	30	P		Pb	13 32 02.5	-3.8
WTVZ	West Tongariro	3.92	28	P		Pn	13 32 00.7	+2.9
KRVZ	Karewarewa	3.95	29	P		Pb	13 32 03.4	-3.8
HIZ	Hauiti	4.26	18	P		Pn	13 32 02.9	+0.5
MTHZ	Maungataniwha	4.65	38	P		Pn	13 32 06.6	-1.3
TOZ	Tahuroa Road	5.16	21	P		Pn	13 32 14.3	-0.6
MKAZ	Moumakai	5.68	16	P		Pn	13 32 22.0	0.0
RVAZ	Riverhead Bore	5.91	11	P		Pn	13 32 25.7	+0.6
MBAZ	Motutapu North	5.96	13	P		Pn	13 32 25.6	-0.1

WEL 15 13:32:06.6±0.5, 42°S±3°×17°4E±°, h5km, M3.7/15, ML3.9/15, MLv3.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=133.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**254**	P	Pg	13 32 13.9	+0.9
KHZ				S	Sg	13 32 18.7	+1.4
CMWZ	**Cape Campbell**	**0.60**	**18**	P	Pb	13 32 20.4	+0.7
BSWZ	**Blackbirch Sta**	**0.61**	**354**	P	Pg	13 32 18.6	+0.1
BSWZ				S	Sg	13 32 27.5	+1.1
TUWZ	**Tuamarina**	**0.90**	**359**	P	Pg	13 32 24.2	+0.4
TUWZ				S	Sb	13 32 36.5	-0.3
GVZ	**Greta Valley S**	**0.94**	**227**	P	Pn	13 32 26.0	-0.5
GVZ				S	Sn	13 32 40.0	-0.4
THZ	**Tophouse**	**0.97**	**305**	P	Pg	13 32 24.6	-0.6
THZ				S	Sg	13 32 36.5	-1.2
TCW	**Tory Channel**	**1.14**	**12**	P	Pg	13 32 28.3	-0.1
TCW				S	Sg	13 32 43.4	+0.2
NNZ	**Nelson**	**1.19**	**338**	P	Pg	13 32 28.7	-0.7
WEL	**Wellington**	**1.20**	**30**	P	Pg	13 32 29.6	-0.1
WEL				S	Sb	13 32 45.6	0.0
PLWZ	**Palliser**	**1.22**	**52**	P	Pg	13 32 29.7	-0.4
AMCZ	**Amberley**	**1.29**	**228**	P	Pn	13 32 30.9	-0.4
MRNZ	**Matariki Terra**	**1.29**	**315**	P	Pn	13 32 30.8	-0.5
MSWZ	**Moikau Station**	**1.32**	**47**	P	Pn	13 32 30.9	-0.9
LTZ	**Lake Taylor**	**1.33**	**249**	P	Pn	13 32 31.1	-0.8
LTZ				S	Sg	13 32 48.5	-0.9
PAWZ	**Paruwai Farm**	**1.44**	**50**	P	Pn	13 32 32.4	-1.0
PAWZ				S	Sb	13 32 51.8	-0.9
CAW	**Cannon Point**	**1.47**	**34**	P	Pn	13 32 33.1	-0.6
TKNZ	**Takaka Hill**	**1.49**	**329**	P	Pn	13 32 34.0	-0.2
DUWZ	**D'Urville Isla**	**1.52**	**359**	P	Pn	13 32 34.4	-0.1
OKCZ	**Okains Bay**	**1.55**	**205**	P	Pn	13 32 34.1	-0.8
TRWZ	**Traveller**	**1.59**	**55**	P	Pn	13 32 34.3	-1.1
KIW	**Kapiti Island**	**1.63**	**26**	P	Pn	13 32 35.8	-0.1
MTW	**Mount Morrison**	**1.64**	**45**	P	Pn	13 32 35.0	-1.1
MQZ	**McQueen's Vall**	**1.68**	**214**	P	Pn	13 32 35.1	-1.6
DSZ	**Denniston Nort**	**1.71**	**289**	P	Pn	13 32 37.7	+0.5
AKCZ	**Akaroa Harbour**	**1.73**	**206**	P	Pn	13 32 36.4	-0.9
OXZ	**Oxford**	**1.73**	**234**	P	Pn	13 32 36.0	-1.4
OGWZ	**Otaki Gorge**	**1.76**	**31**	P	Pn	13 32 37.4	-0.4
QRZ	**Quartz Range**	**1.85**	**324**	P	Pn	13 32 39.6	+0.7
TMWZ	**Te Maipa**	**1.89**	**50**	P	Pn	13 32 38.1	-1.5
RACZ	**Rakaia**	**1.94**	**223**	P	Pn	13 32 38.8	-1.4
MRZ	**Mangatainoka R**	**2.06**	**37**	P	Pn	13 32 41.3	-0.6
WACZ	**Wakanui South**	**2.24**	**223**	P	Pn	13 32 43.2	-1.2
WVZ	**Waitaha Valley**	**2.50**	**251**	P	Pn	13 32 47.4	-0.4
RPZ	**Rata Peaks**	**2.55**	**236**	P	Pn	13 32 47.2	-1.4
TSZ	**Takapari Road**	**2.72**	**34**	P	Pn	13 32 50.5	-0.5
GCSZ	**Gaunt Creek Bo**	**2.85**	**248**	P	Pn	13 32 53.2	+0.4
TMZ	**Timaru**	**2.98**	**225**	P	Pn	13 32 53.8	-0.8
MOVZ	**Moawhango**	**3.21**	**26**	P	Pn	13 32 58.6	+0.8
WNVZ	**Wahianoa**	**3.24**	**23**	P	Pn	13 33 00.6	+2.3
VRZ	**Vera Road**	**3.25**	**11**	P	Pn	13 33 00.8	+2.5
NNVZ	**North Ngauruho**	**3.43**	**22**	P	Pb	13 33 04.4	-3.5
WTVZ	**West Tongariro**	**3.44**	**22**	P	Pn	13 33 03.1	+2.2
TMVZ	**Te Maari**	**3.47**	**23**	P	Pb	13 33 05.4	-3.2
ODZ	**Otahua Downs**	**3.63**	**220**	P	Pn	13 33 02.4	-1.1
HIZ	**Hauiti**	**3.87**	**10**	P	Pb	13 33 12.6	-2.7
HHSZ	**Highcliff Hill**	**4.31**	**213**	P	Pn	13 33 11.7	-1.1
EAZ	**Earnscleugh**	**4.45**	**228**	P	Pn	13 33 13.7	-1.0
SYZ	**Scrubby Hill**	**5.45**	**218**	P	Pn	13 33 28.0	-0.4

JMA ***15*** *13:35:22.8s-0.3,25°.7N×0°.7×125°.1E×0°.9, h26km±4km, MD4.1/15, MV4.0/15, NW OFF MIYAKOJIMA ISLAND*
NIED ***15*** *13:35:22.8,25°.74N×125°.07E, h26km, MW4.1, Moment Tensor Solution. s1 Moment tensor: Scale 10^15 Nm; Mrr-0.66; Mθθ 0.65; Mφφ 0.01; Mrθ-0.60; Mθφ 0.18; Mφr-1.05; Fault plane solution: M0 1.37000×10^15 NP1: φs 271.00000°, δ 20.00000°, λ-39.00000°. NP2: φs 39.00000°, δ 77.00000°, λ-106.00000°.*
IDC ***15*** *13:35:22.4±1.1,25°.57N×124°.88E, h0km, mb3.6/5, mbtmp3.6/7, ML3.1/2 Error ellipse: s-maj=35.3km s-min=19.3km az=68.0*

ISC 15 13:35:23.5±2.2, 25°.59N±0°.05×125°.08E±0°.05, h9km±15km, n26, σ1s12/27, mb3.7/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.68**	**167**	*i* P	**Pb**	**13 35 38.3**	**+0.7**
JIKM				S	**Sn**	**13 35 49.4**	**-0.7**
JIKM	**Ikemajima**	**0.68**	**167**	A	A	13 35 38.3	
	comp=E,14nm,0.4s,comp=E,11nm,0.3s						
JIRB	**Irabujima**	**0.76**	**174**	*i* P	**Pb**	**13 35 39.3**	**+0.3**
JIRB				S	**Sb**	**13 35 50.6**	**+1.1**
JIRB	**Irabujima**	**0.76**	**174**	A	A	13 35 39.3	
	comp=E,12nm,1.9s,comp=E,13nm,0.7s						
JMJ2	**Miyako jima3**	**0.88**	**165**	*i* P	**Pb**	**13 35 41.3**	**+0.4**
JMJ2				S	**Sn**	**13 35 54.6**	**-0.3**
JMJ2	**Miyako jima3**	**0.88**	**165**	A	A	13 35 41.3	
	comp=E,6.0nm,4.1s,comp=E,10.0nm,0.3s						
JOGS	**Gusukube**	**0.88**	**160**	*i* P	**Pb**	**13 35 41.5**	**+0.5**
JOGS				S	**Sn**	**13 35 54.7**	**-0.3**
JOGS	**Gusukube**	**0.88**	**160**	A	A	13 35 41.5	
	comp=E,16nm,0.9s,comp=E,17nm,0.4s						
JTJ	**Tarama**	**1.01**	**200**	P	**Pb**	**13 35 43.0**	**-0.2**
JTJ				*eS*	**Sn**	**13 35 57.4**	**-0.8**
JTJ	**Tarama**	**1.01**	**200**	A	A	13 35 43.0	
	comp=E,5.0nm,1.9s,comp=E,4.0nm,0.8s						
JISG	**Ishigakijimahi**	**1.22**	**215**	P	**Pn**	**13 35 46.4**	**-0.4**
JISG				*eS*	**Sn**	**13 36 03.3**	**-0.2**
JISG	**Ishigakijimahi**	**1.22**	**215**	A	A	13 35 46.4	
	comp=E,3.0nm,11.8s,comp=E,4.0nm,8.1s						
JIJ	**Ishigaki jima**	**1.49**	**215**	P	**Pn**	**13 35 50.1**	**-0.5**
JIJ				S	**Sb**	**13 36 10.2**	**-0.3**
JKRS	**Kuro-shima**	**1.66**	**216**	P	**Pn**	**13 35 53.3**	**+0.4**
JKRS				*eS*	**Sg**	**13 36 15.7**	**-1.3**
JKRS	**Kuro-shima**	**1.66**	**216**	A	A	13 35 53.3	
	comp=E,4.0nm,2.0s,comp=E,4.0nm,1.9s						
JKE	**Kume jima 2**	**1.70**	**64**	P	**Pn**	**13 35 50.5**	**-2.9**
IRIF	**Iriomote-Funau**	**1.75**	**225**	P	**Pn**	**13 35 54.1**	**0.0**
HATJ	**Hateruma jima**	**1.92**	**218**	*eS*	**Sn**	**13 36 20.3**	**-0.4**
JJT3	**Tamagusuku3**	**2.50**	**77**	P	**Pn**	**13 36 03.2**	**-1.2**
JOW	**Kunigami**	**3.12**	**66**	Pn	**Pn**	**13 36 14.2**	**+1.2**
	5.9nm,0.3s,baz=144,slow=28,SNR=14 13nm,0.3s						
KSRS	**Korea Array**	**12.07**	**11**	Pn	**Pn**	**13 38 18.1**	**+2.3**
	0.1nm,0.3s,baz=193,slow=12,SNR=1.9 0.6nm,0.7s						
SONM	**Songino Array**	**26.65**	**331**	P	**P**	**13 41 03.9**	**+1.1**
	0.7nm,0.8s,baz=146,slow=8.4,SNR=2.8 0.7nm,0.8s						
MKAR	**Makanchi Array**	**39.88**	**313**	P	**P**	**13 42 56.0**	**-1.6**
	0.2nm,0.5s,baz=97,slow=11,SNR=5.7 0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**41.08**	**324**	P	**P**	**13 43 05.9**	**-1.5**
	1.2nm,0.6s,baz=99,slow=9.2,SNR=6.0 1.2nm,0.6s						
WRA	**Warramunga Arr**	**46.15**	**168**	P	**P**	**13 43 48.6**	**0.0**
	1.0nm,0.8s,baz=351,slow=8.9,SNR=7.7 1.0nm,0.8s						
ASAR	**Alice Springs**	**49.71**	**169**	P	**P**	**13 44 16.8**	**+0.6**
	0.4nm,0.5s,baz=354,slow=8.8,SNR=13 0.4nm,0.5s						

WEL 15 13:35:40.7±0.3, 42°S±2°×17°4E±°, h5km, M3.4/31, ML3.5/24, MLv3.4/31, Error ellipse: s-maj=0.0km s-min=0.0km az=124.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**254**	P	Pb	13 35 48.0	-0.6
KHZ				S	Sb	13 35 52.5	-1.5
BSWZ	**Blackbirch Sta**	**0.62**	**356**	P	Pg	13 35 53.1	+0.7
BSWZ				S	Sg	13 36 01.2	+0.7
CMWZ	**Cape Campbell**	**0.62**	**20**	P	Pn	13 35 55.2	-0.9
TUWZ	**Tuamarina**	**0.90**	**0**	P	Pb	13 35 58.6	-0.2
TUWZ				S	Sb	13 36 10.8	-0.2
GVZ	**Greta Valley S**	**0.92**	**226**	P	Pn	13 35 59.9	-0.4
THZ	**Tophouse**	**0.95**	**306**	P	Pg	13 35 58.7	-0.2
THZ				S	Sg	13 36 10.5	-0.9
TCW	**Tory Channel**	**1.15**	**13**	P	Pg	13 36 02.5	-0.1
TCW				S	Sb	13 36 18.5	+0.4
NNZ	**Nelson**	**1.19**	**339**	P	Pg	13 36 02.9	-0.5
NNZ				S	Sg	13 36 18.4	-0.4
WEL	**Wellington**	**1.22**	**31**	P	Pg	13 36 03.9	-0.1
WEL				S	Sb	13 36 20.2	+0.1
PLWZ	**Palliser**	**1.24**	**53**	P	Pg	13 36 04.1	-0.4
AMCZ	**Amberley**	**1.27**	**228**	P	Pg	13 36 04.7	-0.3
MRNZ	**Matariki Terra**	**1.28**	**316**	P	Pg	13 36 05.0	-0.2
MRNZ				S	Sg	13 36 21.6	-0.2
LTZ	**Lake Taylor**	**1.31**	**249**	P	Pn	13 36 05.0	-0.6
MSWZ	**Moikau Station**	**1.34**	**47**	P	Pn	13 36 05.3	-0.7
MSWZ				S	Sg	13 36 22.7	-1.0
PAWZ	**Paruwai Farm**	**1.46**	**50**	P	Pn	13 36 06.7	-1.0
CAW	**Cannon Point**	**1.49**	**35**	P	Pn	13 36 07.4	-0.6
TKNZ	**Takaka Hill**	**1.49**	**330**	P	Pn	13 36 08.0	-0.1
DUWZ	**D'Urville Isla**	**1.53**	**360**	P	Pn	13 36 08.4	-0.2
OKCZ	**Okains Bay**	**1.53**	**204**	P	Pn	13 36 08.0	-0.7
TRWZ	**Traveller**	**1.61**	**55**	P	Pn	13 36 08.6	-1.1
KIW	**Kapiti Island**	**1.64**	**27**	P	Pn	13 36 09.7	-0.4
MTW	**Mount Morrison**	**1.66**	**46**	P	Pn	13 36 09.5	-0.9
MQZ	**McQueen's Vall**	**1.67**	**214**	P	Pn	13 36 09.1	-1.4
DSZ	**Denniston Nort**	**1.69**	**289**	P	Pn	13 36 11.5	+0.6
AKCZ	**Akaroa Harbour**	**1.71**	**206**	P	Pn	13 36 10.3	-0.9
OXZ	**Oxford**	**1.71**	**234**	P	Pn	13 36 09.9	-1.3
OGWZ	**Otaki Gorge**	**1.77**	**32**	P	Pn	13 36 11.4	-0.6
QRZ	**Quartz Range**	**1.84**	**324**	P	Pn	13 36 13.5	+0.7
TMWZ	**Te Maipa**	**1.91**	**51**	P	Pn	13 36 12.6	-1.3
RACZ	**Rakaia**	**1.92**	**223**	P	Pn	13 36 12.7	-1.2
WACZ	**Wakanui South**	**2.23**	**223**	P	Pn	13 36 17.1	-1.1
OHWZ	**Ohakea**	**2.36**	**27**	P	Pn	13 36 21.0	+0.9
BFZ	**Birch Farm**	**2.39**	**47**	P	Pn	13 36 19.0	-1.4
WVZ	**Waitaha Valley**	**2.47**	**251**	P	Pn	13 36 21.3	-0.3
RPZ	**Rata Peaks**	**2.53**	**236**	P	Pn	13 36 21.1	-1.3
ARCZ	**Arundel**	**2.59**	**230**	P	Pn	13 36 21.7	-1.5
WAZ	**Wanganui**	**2.69**	**17**	P	Pn	13 36 26.3	+1.7
GCSZ	**Gaunt Creek Bo**	**2.83**	**248**	P	Pn	13 36 26.9	+0.4
TMZ	**Timaru**	**2.96**	**225**	P	Pn	13 36 27.3	-1.1
KHEZ	**Kahui Hut**	**3.03**	**1**	P	Pb	13 36 35.0	-0.2
PKE	**Pukeiti**	**3.13**	**1**	P	Pb	13 36 36.7	-0.2
MOVZ	**Moawhango**	**3.23**	**26**	P	Pn	13 36 38.6	+0.1
WNVZ	**Wahianoa**	**3.25**	**23**	P	Pn	13 36 33.4	+0.9
VRZ	**Vera Road**	**3.26**	**11**	P	Pn	13 36 33.5	+1.0
LBZ	**Lake Benmore**	**3.42**	**232**	P	Pn	13 36 33.9	-0.7
OTVZ	**Oturere**	**3.42**	**23**	P	Pn	13 36 37.3	+2.4
ODZ	**Otahua Downs**	**3.61**	**220**	P	Pn	13 36 36.2	-1.1
HIZ	**Hauiti**	**3.88**	**11**	P	Pn	13 36 41.9	+1.1
EAZ	**Earnscleugh**	**4.43**	**228**	P	Pn	13 36 47.1	-1.5
TOZ	**Tahuroa Road**	**4.75**	**15**	P	Pn	13 36 52.8	-0.1
AWAZ	**Awhitu Peninsu**	**5.29**	**6**	P	Pn	13 37 01.0	+0.8
MKAZ	**Moumakai**	**5.30**	**11**	P	Pn	13 37 00.3	-0.2

TAP 15 13:36:30.6, 23°.23N×120°.59E, h12km, ML0.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.03**	**60**	*e*P	Pg	13 36 33.3	+0.5
	baz=68						
WTP				S	Sg	13 36 35.1	+0.7
	baz=68						
CHN1	**Wanshi**	**0.07**	**229**	P	Pg	13 36 33.5	+0.3
	baz=229						
CHN1				S	Sg	13 36 35.8	+0.8
	baz=229						
TPUB	**Ta-pu**	**0.08**	**30**	P	Pg	13 36 33.8	+0.5
	baz=30						
TPUB				S	Sg	13 36 35.9	+0.7
	baz=30						

IDC 15 13:37:18.2±2.1, 5°.33S×150°.35E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=123.3km s-min=30.4km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.29**	**226**	P	P	13 42 07.1	+0.5
	0.7nm,0.8s,baz=51,slow=10,SNR=8.0 0.7nm,0.8s						
ASAR	**Alice Springs**	**24.15**	**219**	P	P	13 42 35.5	-0.7
	1.3nm,0.7s,baz=54,slow=8.8,SNR=19 1.3nm,0.7s						
ILAR	**Eielson Array**	**83.58**	**23**	P	P	13 49 47.9	-0.2
	0.7nm,1.1s,baz=260,slow=5.4,SNR=2.7 0.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**148.13**	**286**	PKPbc	PKPbc	13 57 07.1	0.0
	0.3nm,0.4s,baz=69,slow=3.2,SNR=2.5						

HVO ***15*** *13:39:32.4±0.6, 19°.350N±0°.008×155°.467W±0°.007, h10km±1km, ML2.9/36, ML2.9/44(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=161.0*

NEIC 15 13:39:32.2±0.8, 19°.345N±0°.010×155°.490W±0°.008, h12km±2km, Error ellipse: s-maj=1.5km s-min=1.0km az=177.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIN	**Ainahou**	**0.04**	**48**	Pg	Pg	13 39 34.7	+0.1
HTC	**Hot Caves**	**0.14**	**141**		Pg	13 39 35.8	+0.3
HTC					Sg	13 39 36.5	+0.5
KHU	**Kahuku**	**0.15**	**230**		Pg	13 39 36.4	+0.4
KHU					Sg	13 39 39.3	+0.7
KHU	**Kahuku**	**0.15**	**230**	IAML		13 39 39.6	
	comp=E,9μm,0.2s						
MWH	**Moku'aweowe**	**0.17**	**324**		Pg	13 39 36.5	+0.1
MWH	**Moku'aweowe**	**0.17**	**324**	IAML		13 39 40.2	
	comp=N,1μm,0.2s						
MWH				IAML		13 39 40.7	
	comp=E,2μm,0.6s						
HLP	**Hilina Pali**	**0.18**	**106**		Pg	13 39 36.3	+0.1
HLP					Sg	13 39 39.4	+0.4
HLP	**Hilina Pali**	**0.18**	**106**	IAML		13 39 41.2	
	comp=N,4μm,0.2s						
MLH	**Mauna Loa**	**0.18**	**33**		Pg	13 39 36.2	-0.1
MLH					Sg	13 39 38.9	-0.4
MLH	**Mauna Loa**	**0.18**	**33**	IAML		13 39 39.1	
	comp=E,831nm,0.7s						
MLH				IAML		13 39 39.3	
	comp=N,2μm,0.4s						
WRMHI	**West Rim**	**0.19**	**71**		Pg	13 39 36.3	-0.1
WRMHI					Sg	13 39 39.2	-0.2
SDHHI	**Sand Hill**	**0.19**	**77**		Pg	13 39 36.3	-0.2
SDHHI					Sg	13 39 39.1	-0.3
SDHHI	**Sand Hill**	**0.19**	**77**	IAML		13 39 39.2	
	comp=E,7μm,0.2s						
SDHHI				IAML		13 39 41.2	
	comp=N,6μm,0.2s						
UWE	**Uwekahuna**	**0.20**	**68**		Pg	13 39 36.5	-0.2
UWE	**Uwekahuna**	**0.20**	**68**	IAML		13 39 41.0	
	comp=E,3μm,0.3s						
UWE				IAML		13 39 42.3	
	comp=N,3μm,0.2s						
MLOA	**Mauna Loa Obse**	**0.21**	**337**		Pg	13 39 37.1	+0.1
MLOA					Sg	13 39 40.4	+0.2
MLOA	**Mauna Loa Obse**	**0.21**	**337**	IAML		13 39 40.5	
	comp=E,3μm,0.3s						
MLOA				IAML		13 39 40.6	
	comp=N,6μm,0.3s						
OBL	**Observatory Le**	**0.21**	**70**		Pg	13 39 36.5	-0.2
OBL					Sg	13 39 39.8	-0.1
OBL	**Observatory Le**	**0.21**	**70**	IAML		13 39 42.0	
	comp=E,4μm,0.6s						
NPH	**North Pit**	**0.21**	**71**		Pg	13 39 36.4	-0.4
RIM	**Rim**	**0.21**	**76**		Pg	13 39 36.6	-0.2
RIM					Sg	13 39 39.3	-0.7
RIM	**Rim**	**0.21**	**76**	IAML		13 39 42.5	
	comp=E,2μm,0.5s						
RIM				IAML		13 39 42.5	
	comp=N,2μm,0.3s						
UWB	**Uwekahuna B**	**0.21**	**68**		Pg	13 39 36.6	-0.3
UWB					Sg	13 39 39.6	-0.5
UWB	**Uwekahuna B**	**0.21**	**68**	IAML		13 39 41.3	
	comp=N,793nm,0.3s						
KKO	**Keanakako`i**	**0.22**	**76**		Pg	13 39 36.7	-0.2
KKO					Sg	13 39 39.8	-0.3
KKO	**Keanakako`i**	**0.22**	**76**	IAML		13 39 40.0	
	comp=E,3μm,0.3s						
KKO				IAML		13 39 41.2	
	comp=N,3μm,0.3s						
SBLHI	**Steaming Bluff**	**0.23**	**69**		Pg	13 39 36.7	-0.3
SBLHI	**Steaming Bluff**	**0.23**	**69**	IAML		13 39 41.7	
	comp=N,3μm,0.2s						
SBLHI				IAML		13 39 41.8	
	comp=E,2μm,0.3s						
BYL	**Byron's Ledge**	**0.23**	**73**	Pg	Pg	13 39 36.8	-0.3
BYL					IAML	13 39 43.1	
	comp=E,2μm,0.5s						
HATHI	**Halema'uma'u T**	**0.23**	**70**		Pg	13 39 36.8	-0.3
HATHI	**Halema'uma'u T**	**0.23**	**70**	IAML		13 39 42.0	
	comp=N,2μm,0.2s						
HATHI				IAML		13 39 42.3	
	comp=E,2μm,0.2s						
RSD	**Rainshed**	**0.23**	**60**		Pg	13 39 37.1	-0.1
ALEP	**Alea Permanent**	**0.24**	**323**		Pg	13 39 37.5	0.0
ALEP					Sg	13 39 41.8	+0.7
HMH	**Humu'ula Sheep**	**0.26**	**1**		Pg	13 39 37.8	+0.1
HMH					Sg	13 39 41.7	+0.3
HMH	**Humu'ula Sheep**	**0.26**	**1**	IAML		13 39 41.9	
	comp=E,2μm,0.3s						
PUH	**Pauahi**	**0.26**	**84**		Pg	13 39 37.2	-0.4
PUH	**Pauahi**	**0.26**	**84**	IAML		13 39 43.6	
	comp=N,2μm,0.3s						
PUH				IAML		13 39 43.6	
	comp=E,1μm,0.5s						
HPO	**Honuapo**	**0.26**	**193**		Pb	13 39 38.5	-0.4
KNHH	**Kane Nui o Ham**	**0.30**	**83**		Pg	13 39 38.2	-0.2
NPOC	**North of Pu'u**	**0.36**	**82**		Pg	13 39 39.1	-0.4
NPOC					Sg	13 39 44.5	+0.1
NPOC	**North of Pu'u**	**0.36**	**82**	IAML		13 39 44.9	
	comp=N,3μm,0.3s						
NPOC				IAML		13 39 45.0	
	comp=E,2μm,0.2s						
JCUZ	**Jacuzzi**	**0.37**	**84**		Pg	13 39 39.3	-0.3
JCUZ					Sg	13 39 44.6	+0.1
JCUZ	**Jacuzzi**	**0.37**	**84**	IAML		13 39 44.8	
	comp=E,1μm,0.4s						
JCUZ				IAML		13 39 45.3	
	comp=N,2μm,0.5s						
POHA	**Pohakuloa**	**0.41**	**354**		Pg	13 39 40.5	0.0
POHA				IAML		13 39 53.2	
	comp=N,2μm,0.2s						
POHA	**Pohakuloa**	**0.41**	**354**		Sg	13 39 46.6	+0.5
CPH	**Captain Cook**	**0.43**	**289**		Pg	13 39 40.8	+0.1
KHLU	**Kahalu`u**	**0.45**	**303**		Pg	13 39 41.3	+0.1
KHLU					Sb	13 39 48.3	-0.6
KHLU	**Kahalu`u**	**0.45**	**303**	IAML		13 39 48.8	
	comp=N,7μm,0.3s						
KHLU				IAML		13 39 49.0	
	comp=E,4μm,0.4s						
JOKA	**Jonika Flow**	**0.47**	**79**		Pg	13 39 40.5	-0.8
JOKA					Sg	13 39 47.3	-0.3
HUH	**Hualalai**	**0.47**	**316**		Pg	13 39 42.0	+0.5
HPAH	**Hawaii Prepara**	**0.71**	**344**		Pg	13 39 44.4	-1.6
HPAH	**Hawaii Prepara**	**0.71**	**344**		Sg	13 39 53.5	-1.8

WEL 15 13:43:56.8±1.6, 42°S±8°×17°4E±°, h11km±7km, M2.6/6, ML3.0/6, MLv2.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=37.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.11**	**46**	P	Pb	13 44 00.6	-0.3
TUWZ	**Tuamarina**	**0.41**	**342**	P	Pb	13 44 06.3	+0.2
TUWZ				S	Sb	13 44 12.6	+0.2
TCW	**Tory Channel**	**0.63**	**11**	P	Pg	13 44 09.1	+0.1
TCW				S	Sb	13 44 18.1	-0.4
PLWZ	**Palliser**	**0.89**	**74**	P	Pg	13 44 13.9	-0.2
MSWZ	**Moikau Station**	**0.95**	**65**	P	Pg	13 44 15.0	0.0
MSWZ				S	Sn	13 44 28.7	-0.8
CAW	**Cannon Point**	**1.01**	**45**	P	Pg	13 44 16.2	-0.1
CAW				S	Sn	13 44 30.7	-0.5
KIW	**Kapiti Island**	**1.14**	**32**	P	Pb	13 44 18.2	-0.2
KIW				S	Sn	13 44 34.0	-0.2
MTW	**Mount Morrison**	**1.24**	**58**	P	Pn	13 44 18.9	-1.1
MTW				S	Sb	13 44 35.6	-0.6
WAZ	**Wanganui**	**2.17**	**18**	P	Pb	13 44 37.0	+1.0
PNHZ	**Pukenui**	**2.48**	**40**	P	Pg	13 44 48.4	+4.0
KHEZ	**Kahui Hut**	**2.53**	**358**	P	Pb	13 44 43.4	+1.2
NBEZ	**Newall Road No**	**2.56**	**356**	P	Pg	13 44 45.4	-0.5
PKE	**Pukeiti**	**2.63**	**358**	P	Pb	13 44 43.7	-0.2
MOVZ	**Moawhango**	**2.72**	**28**	P	Pb	13 44 45.3	-0.2
VRZ	**Vera Road**	**2.74**	**11**	P	Pb	13 44 43.5	-2.3
BHHZ	**Black Hill Sta**	**2.77**	**33**	P	Pb	13 44 47.0	+0.7
WTVZ	**West Tongariro**	**2.93**	**23**	P	Pb	13 44 50.6	+1.4
ETVZ	**East Tongariro**	**2.95**	**25**	P	Pb	13 44 49.4	0.0
KRVZ	**Karewarewa**	**2.97**	**24**	P	Pb	13 44 50.6	+0.9
BKZ	**Black Stump Fm**	**3.22**	**35**	P	Pb	13 44 55.9	+2.0
HIZ	**Hauiti**	**3.36**	**10**	P	Pn	13 44 52.4	+3.3
WHHZ	**Waihua**	**3.63**	**42**	P	Pb	13 45 01.3

SAML	**Samuel**	**55.51**	**296**	P	**P**	**13 59 33.2**	**+0.7**
SBA	**Scott Base**	**56.56**	**180**	P	**P**	**13 59 39.4**	**+0.1**
SBA				lAmb	lAmb	13 59 46.5	
	comp=Z,11nm,1.1s						
ETMB	**Extrema**	**56.79**	**292**	P	**P**	**13 59 40.3**	**-1.4**
ETMB				lAmb	lAmb	13 59 49.3	
	comp=Z,8.5nm,1.4s						
VNDA	**Vanda**	**56.88**	**179**	P	**P**	**13 59 41.5**	**0.0**
VNDA				lAmb	lAmb	13 59 48.9	
	comp=Z,18nm,1.6s						
TBI	**Tubuai**	**99.91**	**221**	*e*LR	LR	14 36 10.8	
	comp=Z,353nm,27.8s						
TBI				*e*LR	LR	14 36 11.2	
	comp=Z,1μm,23.0s						
PPT2	**Papeete2**	**104.91**	**224**	*e*LR	LR	14 38 29.7	
	comp=Z,146nm,29.0s						
TNCH	**TengChong**	**123.28**	**87**	PKP	**PKPdf**	**14 08 54.0**	**-0.5**
TNCH				sPKP		14 09 01.3	
TNCH				PP	PP	14 10 49.8	+14
TNCH				AMB	AMB		
	comp=Z,49nm,6.1s						
KMI	**Kunming**	**126.28**	**90**	⇑P	**Pdif**	**14 05 43.3**	**+3.6**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
PZH	**PanZhiHua**	**126.46**	**88**	PKP	**PKiKP**	**14 09 02.0**	**+1.0**
PZH	**PanZhiHua**	**126.46**	**88**	PKP	**PKiKP**	**14 09 02.0**	**+1.0**
WMQ	**Urumqi**	**126.89**	**62**	*e*P	**PKiKP**	**14 09 03.6**	**+2.4**
CD2	**Chengdu**	**130.53**	**85**	PKP	**PKiKP**	**14 09 09.0**	**+0.1**
GTA	**Gaotai**	**132.46**	**73**	PKPbc	**PKPdf**	**14 09 10.1**	**-1.4**
HHC	**Hu-ho-hao-te**	**141.08**	**77**	*e*P	**PKPdf**	**14 09 23.9**	**-3.5**
HHC				pmax	pmax		
	comp=Z,43nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,6.0s						
YUK4	**Talbot Arm**	**144.67**	**316**	P	**PKPdf**	**14 09 33.1**	**-0.1**
	baz=90						
E27K	**Coleen River**	**145.19**	**329**	P	**PKPdf**	**14 09 33.9**	**+0.1**
	baz=78						
XLT	**XiLinHaoTe**	**145.36**	**75**	pmax	pmax		
	comp=Z,15nm,0.8s						
XLT				pmax	pmax		
	comp=Z,170nm,5.1s						
O28M	**Mount Upton**	**145.43**	**315**	P	**PKPab**	**14 09 35.7**	**+0.8**
	baz=90						
YUK3	**Moose Creek**	**145.53**	**317**	P	**PKPab**	**14 09 35.6**	**+0.4**
	baz=88						
H27K	**Steamboat Moun**	**145.54**	**325**	P	**PKPab**	**14 09 35.6**	**+0.7**
	baz=81						
C27K	**Jago River**	**145.57**	**331**	P	**PKPab**	**14 09 35.7**	**+0.9**
	baz=74						
EGAK	**Eagle**	**145.60**	**323**		**PKPab**	**14 09 35.3**	**+0.2**
EGAK	**Eagle**	**145.60**	**323**	P	**PKPab**	**14 09 35.6**	**+0.5**
	baz=83						
I27K	**Kandik River**	**145.68**	**324**	P	**PKPab**	**14 09 36.3**	**+0.9**
	baz=81						
C26K	**Camden Bay**	**145.88**	**332**	P	**PKPab**	**14 09 36.2**	**+0.3**
	baz=72						
M27K	**Edge Creek, AK**	**146.17**	**318**	P	**PKPab**	**14 09 37.7**	**+0.2**
	baz=86						
F26K	**Sheenjek River**	**146.24**	**328**	P	**PKPab**	**14 09 38.0**	**+0.6**
	baz=76						
G26K	**Porcupine Rive**	**146.28**	**327**	P	**PKPab**	**14 09 37.7**	**+0.1**
	baz=77						
I26K	**Coal Creek Min**	**146.36**	**324**	P	**PKPab**	**14 09 37.7**	**-0.2**
	baz=80						
BMAR	**Burnt Mountain**	**146.47**	**328**		**PKPdf**	**14 09 36.5**	**+0.6**
J26L	**Joseph Creek**	**146.67**	**322**	PKPdf	**PKPdf**	**14 09 37.1**	**+0.6**
J26L	**Joseph Creek**	**146.67**	**322**	P	**PKPbc**	**14 09 37.9**	**-0.2**
	baz=81						
F25K	**Christian Rive**	**146.82**	**328**	P	**PKPab**	**14 09 39.8**	**0.0**
	baz=74						
PRP	**Porcupine Dome**	**147.29**	**324**	PKPdf	**PKPbc**	**14 09 39.9**	**0.0**
RIDG	**Independent Ri**	**147.35**	**321**	P	**PKPab**	**14 09 41.4**	**-0.5**
	baz=81						
F24K	**Squaw Lake**	**147.67**	**329**	P	**PKiKP**	**14 09 42.5**	**-0.2**
	baz=72						
TOLK	**Toolik Lake Re**	**147.87**	**331**		**PKPdf**	**14 09 39.6**	**+1.4**
TOLK	**Toolik Lake Re**	**147.87**	**331**	P	**PKPdf**	**14 09 39.8**	**+1.5**
	baz=68						
IL31		**148.02**	**323**	PKPdf	**PKPbc**	**14 09 40.3**	**-1.3**
ILAR	**Eielson Array**	**148.02**	**323**		**PKPbc**	**14 09 40.1**	**-1.5**
COLD	**Coldfoot**	**148.61**	**329**	P	**PKiKP**	**14 09 44.1**	**-0.5**
	baz=70						
G23K	**Bananza Creek**	**148.72**	**328**	P	**PKiKP**	**14 09 45.1**	**+0.2**
	baz=71						
NEA2	**Nenana**	**148.97**	**323**		**PKiKP**	**14 09 45.9**	**+0.5**
F22K	**John River**	**149.22**	**330**	P	**PKiKP**	**14 09 45.4**	**-0.5**
	baz=67						
TRF	**Thorofare Moun**	**149.79**	**322**	P	**PKPbc**	**14 09 46.7**	**+0.3**
	baz=76						
BPAW	**Bear Paw Mtn.**	**149.91**	**323**	PKPdf	**PKPbc**	**14 09 44.2**	**-2.3**
BPAW	**Bear Paw Mtn.**	**149.91**	**323**	P	**PKPbc**	**14 09 45.6**	**-0.9**
	baz=74						
G21K	**Allakaket**	**150.09**	**328**	P	**PKPbc**	**14 09 46.9**	**+0.1**
	baz=67						
H21K	**Melozitna Rive**	**150.15**	**326**		**PKiKP**	**14 09 47.9**	**0.0**
J20K	**Nowinta River**	**151.21**	**324**		**PKiKP**	**14 09 50.3**	**+0.2**
J20K	**Nowinta River**	**151.21**	**324**	P	**PKiKP**	**14 09 50.2**	**+0.2**
	baz=70						

WEL ***15*** *13:52:00,41˙.69S×174˙.18E,h14km,ML4.8,Mw4.5, Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁵Nm; Mrr2.66; Mθθ3.23; Mϕϕ-5.88; Mrθ-0.20; Mθϕ-4.00; Mϕr3.52; Fault plane solution: M₀7.00000×10¹⁵ NP1: ϕs245.00000°,δ54.00000°,λ167.00000°. NP2: ϕs342.00000°,δ80.00000°,λ36.00000°. Principal axes: T -834.7900, Plg32.0000°, Azm210.0000°; N 565.6100, Plg52.0000°, Azm355.0000°; P 269.1800, Plg17.0000°, Azm109.0000°;*

NOU ***15*** *13:52:01.0,41˙.99S×174˙.73E,h169km, MLv5.0/11, Cook Strait, New Zealand*

NEIC ***15*** *13:52:01.9±1.9,41˙.80S±0˙.04×174˙.31E±0˙.05,h22km±8km, mb4.0/5, Error ellipse: s-maj=7.2km s-min=4.3km az=150.0*

IDC ***15*** *13:52:02.4±0.9,41˙.79S×173˙.66E,h0km,mb4.0/7, mbtmp4.1/8, ML4.1/1, MS3.8/8, Error ellipse: s-maj=28.8km s-min=19.0km az=90.0*

WEL ***15*** *13:52:03.2±0.4,42˙S±2˚×17˙4E±˚,h12km±3km, M4.8/15, ML5.1/15, MLv4.8/15, Error ellipse: s-maj=0.0km s-min=0.0km az=147.9*

ISC 15 13:52:02.9±0.8,**41˙.81S**±0˙.03×**174˙.26E**±0˙.02,**h19**km±2km, **n210,**σ1§**42**/211,**mb4.3**/11,**MS3.9**/10,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**327**		**Pg**	**13 52 06.2**	**-0.4**
CMWZ				Sg	**Sg**	13 52 08.1	-0.8
CMWZ	**Cape Campbell**	**0.07**	**327**	P	**Pg**	**13 52 06.1**	**-0.4**
CMWZ				S	**Sg**	13 52 09.1	+0.2
BSWZ	**Blackbirch Sta**	**0.30**	**287**		**Pg**	**13 52 08.6**	**-1.0**
BSWZ				Sg	**Sb**	13 52 12.8	-1.4
BSWZ	**Blackbirch Sta**	**0.30**	**287**	P	**Pg**	**13 52 08.7**	**-0.9**
BSWZ				S	**Sb**	13 52 13.5	-0.7
TUWZ	**Tuamarina**	**0.45**	**327**		**Pg**	**13 52 10.4**	**-1.6**
TUWZ	**Tuamarina**	**0.45**	**327**	P	**Pg**	**13 52 10.6**	**-1.4**
TUWZ				S	**Sg**	13 52 16.2	-2.1
TCW	**Tory Channel**	**0.59**	**1**	Pg	**Pb**	**13 52 13.1**	**-1.4**
TCW	**Tory Channel**	**0.59**	**1**	P	**Pb**	**13 52 13.3**	**-1.3**
TCW				S	**Sb**	13 52 21.1	-1.4
SNZO	**South Karori**	**0.60**	**34**		**Pb**	**13 52 14.0**	**-0.5**
WEL	**Wellington**	**0.64**	**36**	P	**Pb**	**13 52 15.2**	**-0.2**
PLWZ	**Palliser**	**0.78**	**73**		**Pg**	**13 52 18.2**	**+0.1**
PLWZ	**Palliser**	**0.78**	**73**	P	**Pn**	**13 52 18.6**	**-0.2**
PLWZ				S	**Sn**	13 52 31.8	+1.8
KHZ	**Kahutara**	**0.81**	**221**	Pn	**Pn**	**13 52 19.8**	**+0.5**
KHZ	**Kahutara**	**0.81**	**221**	P	Pn	13 52 30.1	+11
KHZ	**Kahutara**	**0.81**	**221**	P	**Pn**	**13 52 19.9**	**+0.6**
KHZ				S	**Sn**	13 52 33.4	+2.6
MSWZ	**Moikau Station**	**0.83**	**62**	P	**Pn**	**13 52 19.5**	**0.0**
MSWZ				S	**Sn**	13 52 33.1	+1.8
NNZ	**Nelson**	**0.89**	**311**		**Pb**	**13 52 18.2**	**-1.3**
NNZ	**Nelson**	**0.89**	**311**	P	**Pb**	**13 52 18.4**	**-1.2**
CAW	**Cannon Point**	**0.92**	**41**	P	**Pb**	**13 52 20.0**	**-0.2**
PAWZ	**Paruwai Farm**	**0.97**	**64**	P	**Pn**	**13 52 21.3**	**-0.1**
THZ	**Tophouse**	**1.02**	**272**	Pn	**Pb**	**13 52 21.4**	**-0.5**
THZ	**Tophouse**	**1.02**	**272**	P	**Pb**	**13 52 21.6**	**-0.3**
DUWZ	**D'Urville Isla**	**1.04**	**345**	P	**Pb**	**13 52 20.8**	**-1.4**
DUWZ				S	**Sb**	**13 52 34.4**	**-0.9**
KIW	**Kapiti Island**	**1.06**	**27**	P	**Pb**	**13 52 22.0**	**-0.6**
KIW				S	**Sg**	**13 52 36.9**	**-0.5**
MTW	**Mount Morrison**	**1.13**	**56**	P	**Pn**	**13 52 23.2**	**-0.4**
MTW				S	**Sg**	**13 52 39.8**	**+0.1**
TRWZ	**Traveller**	**1.14**	**70**	P	**Pn**	**13 52 23.3**	**-0.5**
MRNZ	**Matariki Terra**	**1.20**	**289**		**Pn**	**13 52 24.3**	**-0.2**
MRNZ	**Matariki Terra**	**1.20**	**289**	P	**Pn**	**13 52 24.7**	**+0.1**
OGWZ	**Otaki Gorge**	**1.20**	**35**	P	**Pn**	**13 52 24.5**	**-0.1**
TKNZ	**Takaka Hill**	**1.25**	**308**		**Pn**	**13 52 24.3**	**-1.0**
TKNZ	**Takaka Hill**	**1.25**	**308**	P	**Pn**	**13 52 24.8**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.31**	**46**	P	**Pn**	**13 52 25.6**	**-0.4**
TMWZ	**Te Maipa**	**1.41**	**61**	P	**Pn**	**13 52 26.7**	**-0.7**
GVZ	**Greta Valley S**	**1.48**	**218**		**Pn**	**13 52 28.5**	**+0.1**
GVZ	**Greta Valley S**	**1.48**	**218**	P	**Pn**	**13 52 28.7**	**+0.3**
MRZ	**Mangatainoka R**	**1.51**	**41**		**Pn**	**13 52 28.3**	**-0.6**
MRZ	**Mangatainoka R**	**1.51**	**41**	P	**Pn**	**13 52 28.6**	**-0.3**
TIWZ	**Tintock**	**1.60**	**50**	P	**Pn**	**13 52 29.3**	**-0.8**
QRZ	**Quartz Range**	**1.63**	**306**	P	**Pn**	**13 52 31.2**	**+0.7**
CPWZ	**Castlepoint**	**1.71**	**59**	P	**Pn**	**13 52 31.0**	**-0.6**
LTZ	**Lake Taylor**	**1.77**	**236**	Pn	**Pn**	**13 52 32.6**	**+0.2**
LTZ	**Lake Taylor**	**1.77**	**236**	P	**Pn**	**13 52 32.8**	**+0.3**
OHWZ	**Ohakea**	**1.79**	**27**	P	**Pn**	**13 52 33.5**	**+0.9**
PRWZ	**Pori Road**	**1.79**	**46**	P	**Pn**	**13 52 32.0**	**-0.7**
POWZ	**Post Office Ro**	**1.81**	**39**	P	**Pn**	**13 52 32.4**	**-0.6**
AMCZ	**Amberley**	**1.82**	**221**		**Pn**	**13 52 32.7**	**-0.3**
AMCZ	**Amberley**	**1.82**	**221**	P	**Pn**	**13 52 32.9**	**-0.1**
DSZ	**Denniston Nort**	**1.84**	**271**	P	**Pn**	**13 52 34.2**	**+0.8**
BFZ	**Birch Farm**	**1.87**	**54**	Pn	**Pn**	**13 52 32.3**	**-1.4**
BFZ	**Birch Farm**	**1.87**	**54**	P	**Pn**	**13 52 32.7**	**-1.1**
BFZ	**Birch Farm**	**1.87**	**54**	P	**Pn**	**13 52 32.4**	**-1.4**
DVHZ	**Dannevirke**	**2.08**	**44**	P	**Pn**	**13 52 35.4**	**-1.3**
OKCZ	**Okains Bay**	**2.11**	**204**	P	**Pn**	**13 52 36.6**	**-0.5**
WAZ	**Wanganui**	**2.12**	**15**	P	**Pb**	**13 52 38.8**	**-1.8**
ANWZ	**Angora Road**	**2.14**	**52**	P	**Pn**	**13 52 36.1**	**-1.5**
TSZ	**Takapari Road**	**2.17**	**37**	P	**Pn**	**13 52 37.1**	**-0.8**
OXZ	**Oxford**	**2.24**	**227**		**Pn**	**13 52 37.7**	**-1.1**
OXZ	**Oxford**	**2.24**	**227**	P	**Pn**	**13 52 38.0**	**-0.9**
MQZ	**McQueen's Vall**	**2.24**	**211**	Pn	**Pn**	**13 52 37.3**	**-1.5**
MQZ	**McQueen's Vall**	**2.24**	**211**	P	**Pn**	**13 52 37.6**	**-1.2**
INZ	**Inchbonnie**	**2.29**	**245**		**Pn**	**13 52 39.4**	**0.0**
INZ	**Inchbonnie**	**2.29**	**245**	P	**Pn**	**13 52 40.4**	**+0.9**
AKCZ	**Akaroa Harbour**	**2.29**	**205**	P	**Pn**	**13 52 38.9**	**-0.7**
LREZ	**Lake Rotokare**	**2.35**	**3**	P	**Pn**	**13 52 42.2**	**+1.8**
PRHZ	**Porangahau**	**2.36**	**50**	P	**Pn**	**13 52 38.8**	**-1.8**
PNHZ	**Pukenui**	**2.39**	**38**	P	**Pn**	**13 52 40.0**	**-1.0**
WPHZ	**Waipukurau**	**2.40**	**44**	P	**Pn**	**13 52 39.7**	**-1.3**
NMEZ	**Namu Road**	**2.41**	**353**	P	**Pb**	**13 52 44.5**	**-1.0**
RACZ	**Rakaia**	**2.48**	**218**	P	**Pn**	**13 52 41.0**	**-1.1**
KHEZ	**Kahui Hut**	**2.52**	**356**	P	**Pb**	**13 52 45.1**	**-2.3**
KHEZ	**Kahui Hut**	**2.52**	**356**	P	**Pn**	**13 52 44.6**	**+1.9**
NEZ	**North Egmont**	**2.54**	**357**	P	**Pn**	**13 52 45.1**	**+2.1**
NBEZ	**Newall Road No**	**2.55**	**353**	P	**Pn**	**13 52 44.8**	**+1.6**
MTVZ	**Mangateitei**	**2.59**	**21**	P	**Pn**	**13 52 45.1**	**+1.4**
DREZ	**Durham Road**	**2.62**	**359**	P	**Pn**	**13 52 46.0**	**+1.9**
PKE	**Pukeiti**	**2.62**	**355**	P	**Pn**	**13 52 45.6**	**+1.5**
PKVZ	**Pokaka**	**2.65**	**19**	P	**Pb**	**13 52 47.3**	**-2.3**
PXZ	**Pawanui**	**2.65**	**49**	P	**Pn**	**13 52 42.2**	**-2.2**
MOVZ	**Moawhango**	**2.65**	**26**	P	**Pn**	**13 52 44.3**	**-0.3**
WNVZ	**Wahianoa**	**2.68**	**23**	P	**Pn**	**13 52 45.6**	**+0.6**
BHHZ	**Black Hill Sta**	**2.69**	**31**	P	**Pn**	**13 52 44.7**	**-0.4**
VRZ	**Vera Road**	**2.71**	**8**	P	**Pn**	**13 52 46.7**	**+1.5**
DRZ	**Dome Shelter**	**2.71**	**22**	P	**Pn**	**13 52 47.2**	**+1.5**
WHVZ	**Whangaehu Hut**	**2.71**	**22**	P	**Pn**	**13 52 46.5**	**+0.9**
MHEZ	**Mangahewa**	**2.73**	**1**	P	**Pb**	**13 52 48.6**	**-2.4**
FWVZ	**Far West T-bar**	**2.73**	**21**	P	**Pn**	**13 52 46.7**	**+0.9**
TUVZ	**Tukino**	**2.75**	**23**	P	**Pn**	**13 52 46.8**	**+0.8**
WACZ	**Wakanui South**	**2.78**	**219**	P	**Pn**	**13 52 45.2**	**-1.1**
NGZ	**Ngauruhoe**	**2.82**	**22**	P	**Pn**	**13 52 47.6**	**+0.7**
SNVZ	**South Ngauruho**	**2.82**	**22**	P	**Pn**	**13 52 47.5**	**+0.5**
KAHZ	**Kahuranaki**	**2.82**	**48**	P	**Pn**	**13 52 45.0**	**-1.9**
OTVZ	**Ohurtz**	**2.85**	**22**	P	**Pn**	**13 52 48.0**	**+0.6**
NNVZ	**North Ngauruho**	**2.86**	**22**	P	**Pn**	**13 52 48.4**	**+0.9**
WTVZ	**West Tongariro**	**2.87**	**21**	P	**Pn**	**13 52 48.3**	**+0.6**
TWVZ	**Taurewa**	**2.88**	**19**	P	**Pn**	**13 52 48.3**	**+0.6**
ETVZ	**East Tongariro**	**2.89**	**23**	P	**Pn**	**13 52 48.4**	**+0.5**
KWHZ	**Kaweka Forest**	**2.89**	**35**	P	**Pn**	**13 52 46.5**	**-1.4**
WVZ	**Waitaha Valley**	**2.90**	**243**	P	**Pn**	**13 52 48.1**	**+0.2**
TMVZ	**Te Maari**	**2.90**	**23**	P	**Pn**	**13 52 48.4**	**+0.3**
KRVZ	**Karewarewa**	**2.91**	**22**	P	**Pn**	**13 52 49.1**	**+1.0**
NTVZ	**North Tongarir**	**2.91**	**22**	P	**Pn**	**13 52 48.8**	**+0.6**
MCHZ	**McNeill Hill**	**3.00**	**39**	P	**Pn**	**13 52 47.8**	**-1.5**
CKHZ	**Cape Kidnapper**	**3.03**	**46**	P	**Pn**	**13 52 47.3**	**-2.4**
KATZ	**Kakaramea**	**3.03**	**22**	P	**Pb**	**13 52 54.4**	**-1.8**
RPZ	**Rata Peaks**	**3.04**	**230**	Pn	**Pn**	**13 52 49.2**	**-0.7**
	34nm,0.3s,baz=132,slow=0.5,SNR=89						
RPZ				Sn	**Sn**	**13 53 23.6**	**-2.0**
	146nm,0.3s,baz=160,slow=21,SNR=22 68nm,0.2s						
RPZ	**Rata Peaks**	**3.04**	**230**	Pn	**Pn**	**13 52 48.8**	**-1.0**
RPZ	**Rata Peaks**	**3.04**	**230**	P	**Pn**	**13 52 49.1**	**-0.7**
RPZ	**Rata Peaks**	**3.04**	**230**	P	**Pn**	**13 52 48.8**	**-1.0**
ARCZ	**Arundel**	**3.12**	**226**	P	**Pn**	**13 52 50.0**	**-0.9**
BKZ	**Black Stump Fm**	**3.14**	**34**		**Pn**	**13 52 49.4**	**-1.8**
BKZ	**Black Stump Fm**	**3.14**	**34**	P	**Pn**	**13 52 50.5**	**-0.8**
BKZ	**Black Stump Fm**	**3.14**	**34**	P	**Pn**	**13 52 49.6**	**-1.6**
RATZ	**Rangitukua**	**3.15**	**22**	P	**Pn**	**13 52 52.4**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**3.28**	**241**	P	**Pn**	**13 52 53.7**	**+0.6**
ARHZ	**Aropaoanui**	**3.28**	**40**	P	**Pn**	**13 52 51.2**	**-2.0**
HIZ	**Hauiti**	**3.32**	**8**	P	**Pn**	**13 52 55.5**	**+1.8**
HIZ	**Hauiti**	**3.32**	**8**	P	**Pn**	**13 52 55.0**	**+1.3**
NMHZ	**Naumai**	**3.33**	**36**	P	**Pn**	**13 52 52.3**	**-1.6**
MRHZ	**Matea Rd**	**3.40**	**30**	P	**Pn**	**13 52 53.2**	**-1.6**
TMZ	**Timaru**	**3.51**	**222**	P	**Pn**	**13 52 55.4**	**-1.0**
WHHZ	**Waihua**	**3.54**	**41**	P	**Pn**	**13 52 55.4**	**-1.4**
MTHZ	**Maungataniwha**	**3.55**	**35**	P	**Pn**	**13 52 54.7**	**-2.1**
RAHZ	**Arahi**	**3.60**	**38**	P	**Pn**	**13 52 55.5**	**-2.2**
TLZ	**Tolley Road**	**3.61**	**16**	P	**Pn**	**13 52 58.2**	**+0.5**
ALRZ	**Allen Road**	**3.61**	**27**	P	**Pn**	**13 52 56.2**	**-1.6**
FOZ	**Fox Glacier**	**3.71**	**241**	Pn	**Pn**	**13 52 59.2**	**+0.2**
FOZ	**Fox Glacier**	**3.71**	**241**	P	**Pn**	**13 52 59.3**	**+0.3**
HRRZ	**Handcock Road**	**3.75**	**25**	P	**Pn**	**13 52 58.6**	**-1.0**
HSRZ	**Hossack Road**	**3.81**	**24**	P	**Pn**	**13 52 59.5**	**-0.9**
KNZ	**Kokohu**	**3.81**	**44**	P	**Pn**	**13 52 57.4**	**-3.0**
MHGZ	**Mahia Peninsul**	**3.84**	**48**	P	**Pn**	**13 52 58.0**	**-2.9**
MUGZ	**Murupara**	**3.84**	**31**	P	**Pn**	**13 52 58.7**	**-2.2**
RRRZ	**Republican Roa**	**3.87**	**27**	P	**Pn**	**13 52 59.3**	**-2.0**
LBZ	**Lake Benmore**	**3.95**	**228**	Pn	**Pn**	**13 53 02.0**	**-0.3**
LBZ	**Lake Benmore**	**3.95**	**228**	P	**Pn**	**13 53 01.5**	**-0.9**
TARZ	**Mount Tarawera**	**3.96**	**26**	P	**Pn**	**13 53 01.2**	**-1.4**
OMRZ	**Omania**	**4.04**	**24**	P	**Pn**	**13 53 07.4**	**+3.8**
URZ	**Urewera**	**4.16**	**33**	P	**Pn**	**13 53 03.1**	**-2.2**
ODZ	**Otahua Downs**	**4.17**	**218**	P	**Pn**	**13 53 04.5**	**-0.9**
ODZ	**Otahua Downs**	**4.17**	**218**	P	**Pn**	**13 53 04.1**	**-1.4**
TOZ	**Tahuroa Road**	**4.18**	**14**	P	**Pn**	**13 53 05.6**	**+0.1**
OPRZ	**Ohinepanea**	**4.33**	**25**	P	**Pn**	**13 53 05.9**	**-1.7**
TGRZ	**Tauranga**	**4.35**	**21**	P	**Pn**	**13 53 08.0**	**+0.1**
CNGZ	**Carnagh Station**	**4.49**	**44**	P	**Pn**	**13 53 07.8**	**-1.9**
TWGZ	**Tauwhareparae**	**4.61**	**39**	P	**Pn**	**13 53 08.8**	**-2.7**
JCZ	**Jackson Bay**	**4.62**	**239**	P	**Pn**	**13 53 12.0**	**+0.4**
JCZ	**Jackson Bay**	**4.62**	**239**	P	**Pn**	**13 53 11.7**	**+0.1**
AWAZ	**Awhitu Peninsu**	**4.75**	**4**	P	**Pn**	**13 53 14.5**	**+1.3**
MKAZ	**Moumakai**	**4.75**	**9**	P	**Pn**	**13 53 13.7**	**+0.4**
PUZ	**Puketiti**	**4.83**	**41**	P	**Pn**	**13 53 11.4**	**-3.0**
HHSZ	**Highcliff Hill**	**4.86**	**212**	P	**Pn**	**13 53 14.1**	**-0.8**
HAZ	**Te Kaha**	**4.87**	**35**	P	**Pn**	**13 53 12.5**	**-2.5**
ETAZ	**East Tamaki Re**	**4.87**	**6**	P	**Pn**	**13 53 16.3**	**+1.2**
WTAZ	**Waiatarua**	**4.87**	**3**	P	**Pn**	**13 53 16.9**	**+1.9**
WKZ	**Wanaka**	**4.88**	**230**	Pn	**Pn**	**13 53 14.2**	**-0.9**
WKZ	**Wanaka**	**4.88**	**230**	P	**Pn**	**13 53 14.5**	**-0.6**
EPAZ	**Eden Park BICE**	**4.94**	**4**	P	**Pn**	**13 53 18.9**	**+2.9**
HBAZ	**Herne Bay Bore**	**4.96**	**4**	P	**Pn**	**13 53 19.2**	**+2.9**
EAZ	**Earnscleugh**	**4.97**	**225**	P	**Pn**	**13 53 15.4**	**-1.0**
RVAZ	**Riverhead Bore**	**5.04**	**3**	P	**Pn**	**13 53 18.3**	**+1.0**
WIAZ	**Waiheke Island**	**5.05**	**8**	P	**Pn**	**13 53 18.2**	**+0.7**
MBAZ	**Motutapu North**	**5.05**	**6**	P	**Pn**	**13 53 19.5**	**+1.9**
KUZ	**Kuaotunu**	**5.18**	**13**	P	**Pn**	**13 53 20.6**	**+1.4**
KUZ	**Kuaotunu**	**5.18**	**13**	P	**Pn**	**13 53 18.8**	**-0.4**
ABAZ	**Army Bay**	**5.22**	**5**	P	**Pn**	**13 53 21.1**	**+1.4**
TUZ	**Tuapeka**	**5.33**	**217**	P	**Pn**	**13 53 20.9**	**-0.4**
MSZ	**Milford Sound**	**5.44**	**236**	P	**Pn**	**13 53 24.8**	**+2.0**
MLZ	**Mavora Lakes**	**5.71**	**229**	P	**Pn**	**13 53 25.6**	**-1.0**
SYZ	**Scrubby Hill**	**6.00**	**216**	P	**Pn**	**13 53 30.3**	**-0.1**
SYZ	**Scrubby Hill**	**6.00**	**216**	P	**Pn**	**13 53 29.9**	**-0.5**
WHZ	**Wether Hill Ro**	**6.13**	**226**	P	**Pn**	**13 53 30.0**	**-2.3**
OUZ	**Omahuta**	**6.60**	**355**	P	**Pn**	**13 53 40.1**	**+1.4**
APZ	**The Paps**	**6.74**	**220**	P	**Pn**	**13 53 39.5**	**-1.2**
CTZ	**Chatham Island**	**6.98**	**109**	P	**Pn**	**13 53 43.9**	**-0.1**
PYZ	**Puysegur Point**	**6.99**	**229**	Pn	**Pn**	**13 53 42.6**	**-1.5**
PYZ	**Puysegur Point**	**6.99**	**229**	P	**Pn**	**13 53 43.6**	**-0.6**
DZM	**Mont Dzumac**	**20.75**	**339**	*e*LR	LR	14 01 37.9	
	comp=Z,159nm,25.2s						
DZM	**Mont Dzumac**	**20.75**	**339**	P	Pn	13 56 44.4	-0.5
	5.4nm,1.0s,baz=135,slow=19,SNR=3.1						
DZM				LR	LR	14 04 26.1	
	comp=Z,168nm,18.4s,baz=173,slow=36 5.4nm,1.0s						
MSVF	**Nonsavu**	**24.21**	**9**	P	**P**	**13 57 21.7**	**+3.4**
	9.5nm,0.9s,baz=148,slow=8.5,SNR=4.3 9.5nm,0.9s						
STKA	**Stephens Creek**	**27.82**	**280**	LR	LR	14 07 19.0	
	comp=Z,153nm,20.0s,baz=164,slow=34						
RAR	**Rarotonga**	**29.99**	**55**	LR	LR	14 09 00.6	
	comp=Z,72nm,22.0s,baz=244,slow=34						
TBI	**Tubuai**	**35.35**	**70**	*e*LR	LR	14 08 22.4	
	comp=Z,3μm,23.0s						
TBI				*e*LR	LR	14 08 22.4	
	comp=Z,816nm,27.0s						
TBI	**Tubuai**	**35.35**	**70**	*e*T	T	14 36 55.9	
	11nm,0.3s						
VNDA	**Vanda**	**36.19**	**185**	P	**P**	**13 59 05.8**	**+2.1**
	0.8nm,1.1s,baz=12,slow=5.1,SNR=3.9 0.8nm,1.1s						
AS31	**Alice Springs**	**38.05**	**286**	P	**P**	**13 59 17.6**	**-2.6**
AS31				lAmb	lAmb	13 59 26.9	
	comp=Z,1.7nm,1.2s						
ASAR	**Alice Springs**	**38.05**	**286**	P	**P**	**13 59 18.4**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=129,slow=7.3,SNR=29 comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**38.05**	**286**	P	**P**	**13 59 17.8**	**-2.4**
PPT2	**Papeete2**	**39.17**	**63**	*e*LR	LR	14 10 09.7	
	comp=Z,181nm,26.5s						
PPT2				*e*LR	LR	14 10 09.7	
	comp=Z,146nm,26.5s						
WR0	**Warramunga Arr**	**39.98**	**291**	P	**P**	**13 59 33.2**	**-3.1**
WR0				lAmb	lAmb	13 59 43.3	
	comp=Z,4.5nm,1.1s						
WB2	**Warramunga Arr**	**40.12**	**291**	P	**P**	**13 59 35.6**	**-1.8**
WRA	**Warramunga Arr**	**40.13**	**290**	P	**P**	**13 59 35

comp=Z,40nm,1.0s
SKR Severo-Kuril's 5.39 41 *e*P **Pn 13 58 05.7 -0.2**
SKR AMB AMB 13 58 06.8
comp=Z,70nm,0.7s
SKR Severo-Kuril's 5.39 41 *e*PN **Pn 13 58 05.7 -0.2**
SKR *e*S **Sn 13 59 04.1 -3.5**
SKR pmax pmax
comp=Z,65nm,1.0s
SKR smax smax
comp=N,67nm,1.0s
SKR smax smax
comp=E,114nm,0.9s
JTKR Abashiri--Toko 5.45 242 *e*P **Pn 13 58 07.8 +1.0**
AKK Akkeshi 5.51 230 *i* P **Pn 13 58 05.4 -2.2**
AKK AMB AMB 13 58 05.5
comp=E,20nm,0.4s
JAK Akkeshi 5.61 230 *e*P **Pn 13 58 07.1 -1.7**
JAK *e*S **Sn 13 59 07.2 -5.5**
JAR Ashorobuto 5.92 237 *e*P **Pn 13 58 13.8 +0.8**
JAR *e*S **Sn 13 59 18.7 -1.6**
JOB Onbets 6.13 234 *e*P **Pn 13 58 14.8 -1.0**
JOB *e*S **Sn 13 59 20.9 -4.4**
JKA Kamikawa-asahi 6.19 248 Pn 13 58 18.7 +2.1
JKA Kamikawa-asahi 6.19 248 *e*P **Pn 13 58 18.7 +2.1**
ASAJ Asahikawa 6.20 248 PN **Pn 13 58 18.7 +2.1**
JWK2 Keihoku 6.21 260 *e*P **Pn 13 58 21.0 +4.3**
JKK2 Kamakawa 2 6.22 245 *e*P **Pn 13 58 18.7 +1.8**
PAU Pauzhetka 6.26 39 *e*P **Pn 13 58 18.1 +0.8**
PAU AMB AMB 13 58 18.6
comp=E,80nm,0.5s
JCH Churui 6.59 234 *e*P **Pn 13 58 20.3 -1.5**
JCH *e*S **Sn 13 59 29.4 -6.8**
ERM Erimo 7.11 231 Pn **Pn 13 58 28.5 -0.1**
ERM Erimo 7.11 231⇓ *e*PN **Pn 13 58 29.3 +0.7**
JNBK Urakawa-nobuka 7.15 234 P **Pn 13 58 26.8 -2.4**
JNBK *e*S Sn 13 59 38.9 -11
PEA0B Petropavlovsk- 7.86 33 Pn **Pn 13 58 38.2 -0.3**
PEA0B Petropavlovsk- 7.86 33⇓ *e*PN **Pn 13 58 39.8 +1.3**
PETK Petropavlovsk- 7.86 33 P **Pn 13 58 39.6 +1.1**
comp=E,3.2nm,0.4s,baz=205,slow=14,SNR=31
PETK Petropavlovsk- 7.86 33 Pn **Pn 13 58 38.5 -0.1**
PET Petropavlovsk 8.17 37 *e*P **Pn 13 58 42.9 +0.3**
PET AMB AMB 13 58 44.6
comp=E,20nm,0.3s
OKH Okha 8.40 327 *e*P **Pn 13 58 46.5 +0.9**
OKH AMB AMB 13 58 47.8
comp=E,180nm,0.8s
JTM Tenmabayashi 9.09 233 Pn **Pn 13 58 50.9 -4.0**
KLR Kul'dur 12.86 288 P **Pn 13 59 44.8 +1.0**
comp=E,1.2nm,0.5s,baz=110,slow=14,SNR=2.8
KLR Kul'dur 12.86 288 *e*P **Pn 13 59 44.5 +0.7**
KLR Kul'dur 12.86 288⇓ *e*PN **Pn 13 59 44.5 +0.7**
KLR pmax pmax
comp=Z,2.0nm,0.7s
MA2 Magadan 12.87 0 *e*P **Pn 13 59 43.2 -0.6**
MA2 Magadan 12.87 0⇑ *e*PN **Pn 13 59 43.2 -0.6**
MA2 pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 13.29 266 Pn **Pn 13 59 50.6 +1.2**
USA0B Ussuriysk Arra 13.29 266 PN **Pn 13 59 50.6 +1.2**
USRK Ussuriysk Ar. 13.29 266 P **Pn 13 59 50.6 +1.3**
comp=Z,3.1nm,0.8s,baz=56,slow=13,SNR=2.8
MJAR Matsushiro Arr 13.74 227 P **P 13 59 58.3 +0.1**
comp=Z,1.3nm,0.6s,baz=47,slow=9.6,SNR=4.1
JGF Kuroka 14.90 226 P 14 00 12.6 +1.5
HEH HeiHe 15.74 291 *e*P Pn 14 00 11.8 -7.9
SEY Seymchan 16.27 3 P **Pn 14 00 26.0 0.0**
comp=Z,5.6nm,0.8s,baz=177,slow=9.1,SNR=12
SEY Seymchan 16.27 3 *e*P **Pn 14 00 26.6 +0.6**
SEY Seymchan 16.27 3⇑ *e*P **Pn 14 00 26.6 +0.6**
SEY pmax pmax
comp=Z,14nm,1.6s
SMY Shemya 16.31 60 P **Pn 14 00 27.5 +0.9**
SMY Shemya 16.31 60 P **Pn 14 00 27.5 +0.9**
SMY pmax pmax
comp=Z,290nm,1.2s
ZEA Zeya 16.44 304 *e*P **Pn 14 00 30.0 +1.8**
ZEA Zeya 16.44 304 *e*P **Pn 14 00 31.0 +2.8**
ZEA *e* 14 03 27.9
KSRS Korea Array 19.14 249 P **Pn 14 00 59.8 -0.5**
comp=Z,1.6nm,0.7s,baz=50,slow=11,SNR=5.7
YAK Yakutsk 19.42 330 P **P 14 01 00.3 0.0**
comp=Z,7.0nm,0.4s,baz=308,slow=2.1,SNR=8.3
YAK Yakutsk 19.42 330 P **P 14 00 59.9 -0.4**
YAK Yakutsk 19.42 330 *e*P **P 14 01 00.4 +0.1**
YAK Yakutsk 19.42 330 *e*P **P 14 01 00.4 +0.1**
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.0s
TIXI Tiksi 27.01 345 P **P 14 02 11.6 -1.4**
comp=E,3.6nm,0.3s,baz=188,slow=0.2,SNR=34
comp=E,3.6nm,0.3s
TIXI Tiksi 27.01 345 P **P 14 02 11.5 -1.6**
TIXI IAmb IAmb 14 02 12.6
comp=Z,5.0nm,0.5s
TIXI Tiksi 27.01 345⇑ *e*P **P 14 02 11.7 -1.4**
TIXI pmax pmax
comp=Z,3.0nm,0.5s
NJ2 Nanjing 28.34 250 *e*P **P 14 02 26.1 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 pmax pmax
comp=Z,12nm,0.6s
HHC Hu-ho-hao-te 28.55 272 *e*P **P 14 02 27.9 +0.6**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,200nm,6.1s
ULN Ulaanbaatar 29.25 288 *e*P **P 14 02 33.3 -0.2**
ULN Ulaanbaatar 29.25 288⇑ *e*P **P 14 02 33.3 -0.2**
ULN pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 29.69 289 P **P 14 02 36.1 -1.2**
comp=Z,0.4nm,0.6s,baz=79,slow=10.0,SNR=3.6
comp=Z,0.4nm,0.6s
H11N2 WAKE ISLAND Hy 30.07 148 T T 14 33 54.5
baz=339,slow=75,SNR=63
H11N1 WAKE ISLAND Hy 30.08 148 T T 14 33 54.5
baz=339,slow=75,SNR=24
H11N3 WAKE ISLAND Hy 30.09 148 T T 14 33 54.5
baz=339,slow=75,SNR=33
H11S1 WAKE ISLAND Hy 31.12 149 T T 14 35 12.4
baz=337,SNR=35
H11S3 WAKE ISLAND Hy 31.13 149 T T 14 35 12.9
baz=337,slow=74,SNR=19
H11S2 WAKE ISLAND Hy 31.14 149 T T 14 35 13.6
baz=337,slow=74,SNR=25
GUMO Guam 33.39 190 P **P 14 03 10.3 +0.5**
GUMO Guam 33.39 190 P **P 14 03 10.3 +0.5**
GUMO pmax pmax
comp=Z,130nm,1.1s
N19K Bonanza Creek 34.27 45 P **P 14 03 19.3 +2.2**
M19K Big River Lodg 34.31 43 P **P 14 03 18.8 +1.5**
M19K IAmb IAmb 14 03 55.5
comp=Z,11nm,1.2s
K20K Telida 34.49 41 P **P 14 03 20.3 +1.5**
K20K IAmb IAmb 14 03 20.9
comp=Z,11nm,1.5s
J20K Nowinta River 34.50 39 P **P 14 03 19.2 +0.3**
J20K IAmb IAmb 14 03 33.0
comp=Z,8.1nm,1.4s
A21K Barrow 34.80 27 P **P 14 03 21.7 +0.3**
H21K Melozitna Rive 35.17 37 P **P 14 03 25.9 +1.3**
CAST Castle Rocks 35.39 41 P **P 14 03 27.8 +1.2**
CAST IAmb IAmb 14 03 59.9
comp=Z,6.9nm,1.4s
I21K Tanana 35.48 38 P **P 14 03 28.5 +1.2**
I21K IAmb IAmb 14 03 31.4
comp=Z,9.5nm,1.4s
BPAW Bear Paw Mtn. 35.88 40 P **P 14 03 31.9 +1.2**
BPAW IAmb IAmb 14 04 03.0
comp=Z,10nm,1.5s
KTH Kantishna Hill 35.91 41 P **P 14 03 32.6 +1.6**
KTH IAmb IAmb 14 03 48.5
comp=Z,19nm,1.4s
MLY Manley 36.00 38 P **P 14 03 32.9 +1.1**
BRLK Bradley Lake 36.12 47 P **P 14 03 32.6 -0.2**
TRF Thorofare Moun 36.19 41 P **P 14 03 35.1 +1.6**
TRF IAmb IAmb 14 03 44.5
comp=Z,14nm,1.4s
COLD Coldfoot 36.33 34 P **P 14 03 35.6 +1.1**
COLD IAmb IAmb 14 03 39.5
comp=Z,9.4nm,1.1s
H23K Yukon River 36.52 37 P **P 14 03 36.6 +0.5**
H23K IAmb IAmb 14 03 38.4
comp=Z,5.1nm,0.9s
I23K Minto, Yukon-K 36.59 38 P **P 14 03 37.4 +0.7**
I23K IAmb IAmb 14 03 45.5
comp=Z,9.5nm,1.4s
O22K Cooper Landing 36.63 46 P **P 14 03 37.6 +0.6**
TOLK Toolik Lake Re 36.68 32 P **P 14 03 38.7 +1.3**
TOLK IAmb IAmb 14 03 39.6
comp=Z,12nm,1.3s
NEA2 Nenana 36.71 39 P **P 14 03 38.5 +0.7**
NEA2 IAmb IAmb 14 03 39.4
comp=Z,4.3nm,0.5s
MCK McKinley 36.79 40 P **P 14 03 38.5 +0.1**
MCK IAmb IAmb 14 03 45.5
comp=Z,7.6nm,1.3s
MCK McKinley 36.79 40 P **P 14 03 38.5 +0.1**
MCK pmax pmax
comp=Z,8.0nm,1.3s
GHO Glory Hole Cre 36.91 44 P **P 14 03 40.0 +0.5**
MDM Murphy Dome 37.07 38 P **P 14 03 41.3 +0.5**
MDM IAmb IAmb 14 03 43.0
comp=Z,4.8nm,0.9s
WRH Wood River Hil 37.14 39 P **P 14 03 42.2 +0.9**
WRH IAmb IAmb 14 03 53.5
comp=Z,9.4nm,1.2s
SML Sawmill 37.18 43 P **P 14 03 42.8 +1.0**
H24K Noodor Dome 37.21 37 P **P 14 03 43.3 +1.3**
TCOL CIGO, UAF Yank 37.23 38 P **P 14 03 43.2 +1.2**
TCOL IAmb IAmb 14 03 43.9
comp=Z,8.2nm,0.8s
COLA College 37.23 38 *d i*P **P 14 03 43.6 +1.6**
COLA pmax pmax
comp=Z,6.0nm,0.7s
CCB Clear Creek Bu 37.26 39 P **P 14 03 43.0 +0.7**
CCB IAmb IAmb 14 03 44.4
comp=Z,3.2nm,0.4s
DHY Denali Highway 37.53 41 P **P 14 03 45.2 +0.4**
DHY IAmb IAmb 14 03 48.8
comp=Z,7.9nm,1.2s
HDA Harding Lake 37.64 39 P **P 14 03 45.5 0.0**
HDA IAmb IAmb 14 03 46.9
comp=Z,5.9nm,0.6s
IL31 37.65 39 P **P 14 03 46.2 +0.7**
ILAR Eielson Array 37.65 39 P **P 14 03 46.4 +0.8**
comp=Z,1.5nm,0.5s,baz=268,slow=6.8,SNR=37
comp=Z,1.5nm,0.5s
ILAR Eielson Array 37.65 39 P **P 14 03 46.2 +0.6**
SCM Sheep Creek Mo 37.66 43 P **P 14 03 46.7 +0.9**
SCM Sheep Creek Mo 37.66 43 P **P 14 03 46.7 +0.9**
SCM pmax pmax
comp=Z,23nm,1.2s
NRIK Noril'sk 37.87 329⇓ *e*P **P 14 03 47.7 +0.3**
NRIK pmax pmax
comp=Z,13nm,1.6s
M24K Tolsona, Glenn 38.17 43 P **P 14 03 51.5 +1.4**
PRP Porcupine Dome 38.19 37 P **P 14 03 50.9 +0.6**
PRP IAmb IAmb 14 03 52.6
comp=Z,11nm,1.3s
FYU Fort Yukon 38.27 36 P **P 14 03 52.1 +1.4**
FYU IAmb IAmb 14 03 56.6
comp=Z,5.9nm,0.6s
J25K Salcha River, 38.31 39 P **P 14 03 50.9 -0.3**
KLU Klutina 38.36 44 P **P 14 03 51.5 -0.2**
KLU IAmb IAmb 14 04 11.0
comp=Z,20nm,1.5s
BMAR Burnt Mountain 38.51 34 P **P 14 03 54.6 +1.8**
SCRK Sand Creek 38.96 40 P **P 14 03 56.7 0.0**
DOT Dot Lake 38.96 40 P **P 14 03 56.6 0.0**
DOT IAmb IAmb 14 04 26.4
comp=Z,10nm,1.4s
BMRM Bremner River 39.07 44 P **P 14 03 58.8 +1.2**
J26L Joseph Creek 39.09 39 P **P 14 03 58.1 +0.4**
L26K Log Cabin Wild 39.36 41 P **P 14 04 01.7 +1.8**
L26K IAmb IAmb 14 04 06.9
comp=Z,6.0nm,1.2s
GLB Gilahina Butte 39.37 44 P **P 14 04 01.5 +1.4**
GLB IAmb IAmb 14 04 13.8
comp=Z,16nm,1.5s
VRDI Verde Repeater 39.58 44 P **P 14 04 03.0 +1.1**
VRDI IAmb IAmb 14 04 37.3
comp=Z,14nm,1.2s
M26K Nabesna, AK 39.60 42 P **P 14 04 04.1 +2.1**
M26K IAmb IAmb 14 04 10.2
comp=Z,6.0nm,1.1s
L27K Beaver Creek, 40.04 41 P **P 14 04 05.0 -0.5**
L27K IAmb IAmb 14 04 07.9
comp=Z,4.9nm,0.8s
BCAR Beaver Creek A 40.06 41 P **P 14 04 05.1 -0.6**
EGAK Eagle 40.09 38 P **P 14 04 06.0 +0.1**
M27K Edge Creek, AK 40.13 42 P **P 14 04 07.9 +1.5**
M27K IAmb IAmb 14 04 49.6
comp=Z,19nm,1.4s
DAWY Dawson 40.96 39 P **P 14 04 13.9 +0.9**
ZALV Zalesovo Beam 41.20 305 PcP **PcP 14 06 10.9 +0.2**
comp=Z,0.5nm,0.4s,baz=92,slow=2.1,SNR=4.4
EPYK Eagle Plains 41.69 35 P **P 14 04 20.6 +1.6**
EPYK IAmb IAmb 14 04 21.8
comp=Z,11nm,1.2s
M30M Minto, Yukon 42.40 41 P **P 14 04 27.2 +2.4**
HYT Haines Junctio 42.49 44 P **P 14 04 27.9 +2.3**
HYT IAmb IAmb 14 04 29.7
comp=Z,7.9nm,1.0s
INK Inuvik 42.60 32 P **P 14 04 27.6 +1.5**
comp=Z,3.3nm,0.4s,baz=293,slow=8.6,SNR=23
comp=Z,3.3nm,0.4s
INK Inuvik 42.60 32 P **P 14 04 27.7 +1.5**
INK IAmb IAmb 14 04 29.1
comp=Z,5.7nm,0.9s
INK Inuvik 42.60 32 P **P 14 04 27.7 +1.5**
INK pmax pmax
comp=Z,6.0nm,1.0s
PZH PanZhiHua 43.29 260 P **P 14 04 33.3 +0.8**
WMQ Urumqi 43.30 290 *e*P **P 14 04 34.4 +2.1**
M31M Drury Creek, Y 43.58 41 P **P 14 04 36.2 +2.0**
M31M IAmb IAmb 14 04 40.1
comp=Z,11nm,1.4s
FARO Faro, Yukon 44.04 41 P **P 14 04 39.5 +1.6**
A36M Sachs Harbour 44.64 26 P 14 04 43.1 +0.7
A36M IAmb IAmb 14 04 44.7
comp=Z,11nm,0.7s
MK31 Makanchi Array 45.39 296 P **P 14 04 47.9 -0.8**
MK31 Makanchi Array 45.39 296 *d i*P **P 14 04 48.0 -0.8**
MKAR Makanchi Array 45.39 296 P **P 14 04 47.6 -1.1**
comp=Z,2.4nm,0.8s,baz=64,slow=8.5,SNR=13
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 45.39 296 P **14 04 48.1 -0.7**
MKAR Makanchi Array 45.39 296 *e*P **P 14 04 48.2 -0.6**
MKAR Makanchi Array 45.39 296 *ce*P **P 14 04 48.2 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
C36M Paulatuk 45.70 30 P **P 14 04 51.5 +0.7**
C36M IAmb IAmb 14 04 52.7
comp=Z,18nm,1.2s
KURK Kurchatov 45.91 303 P 14 04 51.5 -1.2
KURK Kurchatov 45.91 303 *e*P **P 14 04 51.6 -1.2**
KURK Kurchatov 45.91 303⇓ *e*P **P 14 04 51.6 -1.2**
KURK pmax pmax
comp=Z,4.0nm,0.8s
EUNU Eureka 49.48 11 P **P 14 05 19.9 0.0**
BRVK Borovoye 49.55 309 P **P 14 05 19.9 -0.8**
BRVK Borovoye 49.55 309 *e*P **P 14 05 19.9 -0.8**
BRVK Borovoye 49.55 309 *e*P **P 14 05 19.9 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 50.68 254 *ce*P **P 14 05 32.7 +3.1**
RES Resolute Bay 51.40 18 P **P 14 05 34.3 +0.1**
RES Resolute Bay 51.40 18 P **P 14 05 34.3 +0.1**
RES pmax pmax
comp=Z,19nm,1.0s
YKA Yellowknife Ar 51.97 36 P **P 14 05 39.5 +0.9**
comp=Z,2.0nm,0.6s,baz=294,slow=6.9,SNR=4.8
comp=Z,2.0nm,0.6s
AAK Ala-Archa 52.27 295 *e*P **P 14 05 40.4 -0.9**
AAK Ala-Archa 52.27 295⇓ *e*P **P 14 05 40.4 -0.9**
AAK pmax pmax
comp=Z,9.0nm,3.3s
TAPN Taplejung 52.36 271 *e*P **P 14 05 43.3 +0.9**
JIRN Jiri 53.20 273 *e*P **P 14 05 49.6 +0.9**
comp=Z,23nm,0.5s
GUN Gumba 53.26 273 *e*P **P 14 05 49.6 +0.6**
comp=Z,12nm,0.4s
RAMN Ramite 53.37 272 *e*P **P 14 05 50.3 +0.6**
comp=Z,26nm,0.5s
PKI Pulchoki 53.80 273 *e*P **P 14 05 53.5 +0.6**
PKIN Phulchoki 53.80 273 *e*P **P 14 05 53.4 +0.5**
ARU Arti 53.83 317 *c i*P **P 14 05 50.4 -2.0**
ARU *PP **pwP 14 06 32.5 -1.2**
ARU 14 06 51.4
ARU S **S 14 13 11.8 -2.0**
ARU SS **SKiKP 14 16 49.5 +2.4**
ARU pmax pmax
comp=Z,15nm,1.6s
DMN Daman 53.98 274 *e*P **P 14 05 54.5 +0.3**
GKN Gorkha 54.06 274 *e*P **P 14 05 55.3 +0.7**
DANN Dangsing 54.44 275 *e*P **P 14 05 58.6 +1.1**
comp=Z,25nm,0.5s
KK31 Karatay Array 54.47 298 P **P 14 05 56.5 -0.6**
KK31 Karatay Array 54.47 298 P **P 14 05 56.6 -0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 54.47 298 P **P 14 05 55.4 -1.8**
KKAR Karatay Array 54.47 298 P **P 14 05 55.4 -1.8**
KOLN Koldanda 54.91 275 *e*Pg **P 14 06 01.8 +1.0**
DAG Danmarks Havn 56.58 357 *e*P **P 14 06 10.5 -1.2**
KIRV Kirov 56.73 322⇓ *e*P **P 14 06 12.5 -0.5**
KEV Kevo 56.76 340 P **P 14 06 12.4 -0.7**
KEV Kevo 56.76 340 P **P 14 06 12.4 -0.7**
KEV pmax pmax
comp=Z,48nm,1.4s
ABKAR Akbulak array 57.09 309 P 14 06 14.5 -1.2
ARCES ARCESS Array B 57.28 340 P **P 14 06 16.9 +0.2**
comp=Z,4.0nm,0.8s,baz=66,slow=4.1,SNR=7.0
comp=Z,4.0nm,0.8s
CHGR Chuyangaron 57.86 294 P **P 14 06 22.0 +0.6**
CHGR Chuyangaron 57.86 294 P **P 14 06 22.0 +0.6**
CHGR pmax pmax
comp=Z,17nm,0.5s
KTK1 Kautokeino 58.21 340 *e*P **P 14 06 23.1 -0.1**
KTK1 IAmb IAmb 14 06 24.4
comp=Z,14nm,0.8s
JETT Jettan, Norway 58.42 342 *e*P **P 14 06 24.6 -0.1**
JETT IAmb IAmb 14 06 25.3
comp=Z,24nm,0.5s
TRO Tromso 58.67 342 *e*P **P 14 06 26.3 -0.1**
SUMG Summit 60.82 3 *i* P **P 14 06 41.0 -0.5**
FAUS Fauske 61.29 342 *e*P **P 14 06 43.6 -0.7**
BELG Belogornoye 61.37 317 *ce*P **P 14 06 43.4 -1.6**
BELG pmax pmax
comp=Z,4.0nm,1.4s
MOR8 Moi Rana 62.50 341 *e*P **P 14 06 50.4 -2.0**
ILULI Ilulissat 63.27 8 P **P 14 06 57.3 0.0**
ILULI Ilulissat 63.27 8 P **P 14 06 57.3 0.0**
ILULI pmax pmax
comp=Z,55nm,1.2s
FIA1 FINESS Array S 63.29 334 P **P 14 06 56.1 -1.5**
FINES FINESS Array B 63.30 334 P **P 14 06 56.2 -1.4**
comp=Z,2.6nm,0.5s,baz=38,slow=7.6,SNR=15
comp=Z,2.6nm,0.5s
FINES FINESS Array B 63.30 334 P **P 14 06 56.0 -1.6**
NVAR Mina Array Bea 63.98 61 P **P 14 07 02.6 -0.2**
comp=Z,0.4nm,0.5s,baz=300,slow=7.1,SNR=4.2
comp=Z,0.4nm,0.5s
OBN Obninsk 64.32 324 *e*P **P 14 07 04.0 -0.4**
OBN Obninsk 64.32 324⇑ *e*P **P 14 07 04.0 -0.4**
OBN pmax pmax
comp=Z,6.0nm,0.9s
GEYT Alibeck 65.10 299 P **P 14 07 10.1 +0.2**
comp=Z,3.0nm,0.6s,baz=352,slow=3.0,SNR=7.6
comp=Z,3.0nm,0.6s
GEYT Alibeck 65.10 299 P **P 14 07 09.3 -0.6**
GEYT IAmb IAmb 14 07 11.2
comp=Z,3.4nm,0.7s
GYA0B ALIBECK ARRAY 65.10 299 P **P 14 07 09.3 -0.6**
GYA0B IAmb IAmb 14 07 10.9
comp=Z,3.9nm,0.6s
VSU Vasula 65.41 331⇑ *e*P **P 14 07 12.1 +0.7**
VSU pmax pmax
comp=Z,50nm,1.1s
BW06 Boulder Array 66.15 52 P **P 14 07 17.1 +0.3**
PD31 Pinedale Array 66.15 52 P **P 14 07 17.2 +0.5**
PDAR Pinedale Array 66.15 52 P **P 14 07 17.6 +0.9**
comp=Z,0.6nm,0.6s,baz=293,slow=1.4,SNR=9.5
comp=Z,0.6nm,0.6s
PDAR Pinedale Array 66.15 52 P **P 14 07 17.4 +0.5**
NC303 NORSAR Array S 67.46 340 P **P 14 07 24.1 -0.3**
NC405 NORSAR Array S 67.48 340 P **P 14 07 23.5 -1.0**
NC204 NORSAR Array S 67.56 340 P **P 14 07 24.5 -0.6**
NB201 NORSAR Array S 67.63 340 P **P 14 07 24.6 -1.0**
NB2 NORSAR Subarra 67.66 340 P **P 14 07 24.7 -1.0**
baz=30,slow=6.2
NB2 NORSAR Subarra 67.66 340 P **P 14 07 24.7 -1.0**
comp=Z,0.8nm,0.4s,baz=30,slow=6.2
NOA NORSAR Array B 67.66 340 P **P 14 07 24.9 -0.8**
comp=Z,2.1nm,0.5s,baz=29,slow=6.6,SNR=18
comp=Z,2.1nm,0.5s
WB0 Warramunga Arr 67.78 196 P **P 14 07 26.7 -0.2**
WB0 IAmb IAmb 14 08 11.0
comp=Z,4.5nm,1.1s
NC602 NORSAR Array S 67.85 340 P **P 14 07 25.5 -1.4**
NC602 NORSAR Array S 67.85 340 *e*P **P 14 07 26.1 -0.8**
NORES NORESS Array B 67.85 340 P **P 14 07 26.4 -0.4**
WRA Warramunga Arr 67.97 196 P **P 14 07 27.8 -0.3**
comp=Z,1.9nm,0.9s,baz=15,slow=6.6,SNR=9.5
comp=Z,1.9nm,0.9s
WRA Warramunga Arr 67.97 196 P **P 14 07 28.1 +0.1**
WRA Warramunga Arr 67.97 196 P **P 14 07 28.1 +0.1**
KIV Kislovodsk 69.54 313 *e*P **P 14 07 38.6 +0.9**
KIV Kislovodsk 69.54 313 *e*P **P 14 07 38.6 +0.9**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 69.60 313 P **P 14 07 37.8 -0.2**
comp=Z,3.1nm,1.0s,baz=186,slow=10,SNR=4.5
comp=Z,3.1nm,1.0s
KBZ Khabaz 69.60 313⇑ *e*P **P 14 07 39.4 +1.5**
AKASG Malin Array Be 70.57 325 P **P 14 07 42.5 -1.2**
comp=Z,5.1nm,0.5s,baz=37,slow=6.4,SNR=25
comp=Z,5.1nm,0.5s
AKASG Malin Array Be 70.57 325 P **P 14 07 42.6 -1.1**
AKBB Malin Array Si 70.57 325 P **P 14 07 42.6 -1.1**
AKBB IAmb IAmb 14 07 44.1
comp=Z,5.4nm,0.7s
AKBB Malin Array Si 70.57 325⇑ *e*P **P 14 07 43.0 -0.7**
AS31 Alice Springs 71.67 196 P **P 14 07 51.3 +0.7**
ASAR Alice Springs 71.67 196 P **P 14 07 51.2 +0.6**
comp=Z,1.7nm,0.8s,baz=14,slow=6.2,SNR=16
comp=Z,1.7nm,0.8s
ASAR Alice Springs 71.67 196 P **P 14 07 50.8 +0.2**
SCHQ Schefferville 73.98 21 P **P 14 08 04.1 +0.2**
comp=Z,2.8nm,0.8s,baz=299,slow=6.3,SNR=7.3
comp=Z,2.8nm,0.8s
SCHQ Schefferville 73.98 21 P **P 14 08 04.4 +0.5**
SCHQ IAmb IAmb 14 08 18.8
comp=Z,13nm,1.3s
BUR08 Bucovina Ar. S 74.60 325 P **P 14 08 07.6 -0.2**
BUR08 IAmb IAmb 14 08 11.2
comp=Z,15nm,1.5s
BURAR Bucovina Array 74.62 325 P **P 14 08 07.7 -0.1**
BURAR IAmb IAmb 14 08 09.2
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 74.63 328 *e*P **P 14 08 06.9 -0.9**
STHS Stebnicka Huta 74.63 328 *e*P **P 14 08 06.9 -0.9**
CLL Collm 75.74 334 *i* P **P 14 08 14.2 +0.2**
comp=Z,8.0nm,0.8s
CLL Collm 75.74 334 *i* P **P 14 08 14.2 +0.2**
CLL pmax pmax
comp=Z,8.0nm,0.8s
EKA Eskdalemuir Ar 75.92 345 P **P 14 08 14.4 -0.6**
ESK Eskdalemuir 75.94 345 P **P 14 08 15.7 +0.6**
ESK Eskdalemuir 75.94 345 P **P 14 08 15.7 +0.6**
ESK pmax pmax
comp=Z,14nm,1.1s
BR131 Keskin Array S 77.19 315⇑ *e*P **P 14 08 22.7 +0.1**
BRTR Keskin Array B 77.19 315 P **P 14 08 22.2 -0.4**
comp=Z,1.0nm,0.7s,baz=47,slow=4.4,SNR=4.8
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 77.19 315 *ce*P **P 14 08 23.8 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 77.47 333⇑ *e*P **P 14 08 23.9 0.0**
KHC pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 77.68 332 P **P 14 08 24.6 -0.5**
comp=Z,0.5nm,0.4s,baz=48,slow=6.0,SNR=4.7
comp=Z,0.5nm,0.4s
STKA Stephens Creek 78.67 188 P **P 14 08 30.9 +0.6**
comp=Z,3.5nm,0.8s,baz=114,slow=10.0,SNR=7.3
comp=Z,3.5nm,0.8s
STKA Stephens Creek 78.67 188⇑ *e*P **P 14 08 30.8 +0.4**

TX31	**Lajitas Ar. Si**	79.01	59	P	**P**	14 08 33.2	+0.5
TX31				IAmb	IAmb	14 08 41.8	
	comp=Z,6.4nm,1.1s						
TX32	**Lajitas Array**	79.01	59	P	**P**	14 08 33.2	+0.5
TXAR	**Lajitas Array**	79.01	59	P	**P**	14 08 33.5	+0.8
	comp=Z,0.4nm,0.5s,baz=304,slow=4.6,SNR=10						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	79.01	59	P	**P**	14 08 33.1	+0.4
CDF	**Champ du Feu**	79.99	336	*eP*	**P**	14 08 40.3	+2.6
CDF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HAU	**Haudompre**	80.61	337	*eP*	**P**	14 08 43.1	+2.2
HAU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
Z38A	**Mt. Pleasant**	80.92	51	P	**P**	14 08 43.9	+1.1
Z38A				IAmb	IAmb	14 08 46.9	
	comp=Z,6.9nm,0.6s						
BATG	**Bathurst New B**	81.04	24	P	**P**	14 08 43.5	+0.4
BATG				IAmb	IAmb	14 09 06.4	
	comp=Z,12nm,1.4s						
FLN	**La Foliniere**	81.61	341	*eP*	**P**	14 08 46.1	0.0
FLN				pmax	pmax		
	comp=Z,45nm,1.5s						
LDF	**La Druitiere**	81.69	341	*eP*	**P**	14 08 46.7	+0.2
LDF				pmax	pmax		
	comp=Z,18nm,1.2s						
FNA	**Florina**	81.82	324	P	**P**	14 08 47.8	+0.3
FNA	**Florina**	81.82	324	P	**P**	14 08 47.8	+0.3
FNA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
LOR	**Lormes**	81.95	338	*eP*	**P**	14 08 47.6	-0.4
LOR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GRR	**Gorron**	82.04	341	*eP*	**P**	14 08 48.8	+0.4
GRR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AVF	**Avril sur Loir**	82.53	338	*eP*	**P**	14 08 51.5	+0.6
AVF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SGMF	**Saint Gilles**	82.54	342	*eP*	**P**	14 08 51.0	0.0
SGMF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LPL	**La Plagne**	82.78	335	*eP*	**P**	14 08 54.0	+1.4
LPL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RAYN	**Ar Rayn**	82.88	297	P	**P**	14 08 53.6	+0.3
RAYN				IAmb	IAmb	14 08 54.7	
	comp=Z,3.9nm,0.8s						
RAYN	**Ar Rayn**	82.88	297	P	**P**	14 08 53.6	+0.3
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TCF	**Toulx Ste Croi**	83.29	339	*eP*	**P**	14 08 55.1	+0.2
TCF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MBDF	**Montbardon**	83.49	335	*eP*	**P**	14 08 56.9	+0.8
MBDF				pmax	pmax		
	comp=Z,24nm,1.5s						
MFF	**Saint Martin d**	83.56	340	*eP*	**P**	14 08 56.4	+0.1
MFF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ORIF	**Oris-en-Rattie**	83.57	336	*eP*	**P**	14 08 57.5	+1.0
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VIVF	**Saint-Julien-l**	83.97	336	*eP*	**P**	14 08 59.3	+0.9
VIVF				pmax	pmax		
	comp=Z,90nm,2.2s						
RJF	**Les Rejaudoux**	84.38	339	*eP*	**P**	14 09 01.5	+1.1
RJF				pmax	pmax		
	comp=Z,12nm,1.3s						
CAF	**Calviac**	84.59	338	*eP*	**P**	14 09 02.3	+0.7
CAF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LFF	**La Frestale**	84.91	339	*eP*	**P**	14 09 03.6	+0.5
LFF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIP	**Timpagrande**	85.03	326	P	**P**	14 09 04.0	+0.1
ETSF	**Etsaut**	87.15	339	*eP*	**P**	14 09 15.7	+1.5
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.6s						

*IDC **15** 13:57:05.4±1.8,42.°60S×172.°65E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=35.5km s-min=29.7km az=80.0*

*NOU **15** 13:57:05.2,42.°90S×173.°23E,h11km,MLv4.4/15,South Island, New Zealand*

*WEL **15** 13:57:06.1±0.3,43.°S±2.°×17.°3E±.°,h7km±4km,M3.9/15, ML4.1/15,MLv3.9/15,Error ellipse: s-maj=0.6km s-min=0.0km az=111.5*

ISC 15 13:57:06.8±0.9,**42.°74S**±0.°02×**173.°00E**±0.°03,**h16**km±7km, **n122**,σ1°35/133,**mb3.2**/3,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	0.23	173	P	**Pg**	13 57 12.5	+0.5
GVZ				S	**Sg**	13 57 18.1	+2.5
AMCZ	**Amberley**	0.51	210	P	**Pg**	13 57 17.4	+0.6
AMCZ				S	**Sb**	13 57 26.2	+1.8
KHZ	**Kahutara**	0.52	51	P	**Pg**	13 57 16.4	-0.6
KHZ	**Kahutara**	0.52	51	P	**Pg**	13 57 16.4	-0.6
LTZ	**Lake Taylor**	0.54	265	P	**Pg**	13 57 16.0	-1.5
LTZ				S	**Sg**	13 57 23.7	-0.9
OXZ	**Oxford**	0.92	230	P	**Pg**	13 57 23.8	-0.7
OXZ				S	**Sb**	13 57 37.7	+1.5
THZ	**Tophouse**	0.98	356	P	**Pg**	13 57 23.4	-2.3
THZ				S	**Sg**	13 57 36.7	-1.9
OKCZ	**Okains Bay**	0.98	177	P	**Pg**	13 57 25.3	-0.5
MQZ	**McQueen's Vall**	1.00	194	P	**Pg**	13 57 24.7	-1.4
MQZ				S	**Sn**	13 57 40.8	+0.9
AKCZ	**Akaroa Harbour**	1.13	183	P	**Pb**	13 57 27.1	-0.9
INZ	**Inchbonnie**	1.14	270	P	**Pb**	13 57 27.1	-1.1
RACZ	**Rakaia**	1.17	212	P	**Pb**	13 57 27.4	-1.2
RACZ				S	**Sb**	13 57 44.5	+1.0
BSWZ	**Blackbirch Sta**	1.21	33	P	**Pn**	13 57 29.0	-0.1
DSZ	**Denniston Nort**	1.33	318	P	**Pn**	13 57 29.9	-0.8
DSZ				S	**Sb**	13 57 48.4	+0.2
MRNZ	**Matariki Terra**	1.35	352	P	**Pn**	13 57 30.3	-0.7
WACZ	**Wakanui South**	1.47	215	P	**Pn**	13 57 31.6	-1.0
TUWZ	**Tuamarina**	1.49	29	P	**Pn**	13 57 32.8	0.0
NNZ	**Nelson**	1.55	11	P	**Pn**	13 57 33.6	0.0
NNZ				S	**Sn**	13 57 55.7	+2.3
WVZ	**Waitaha Valley**	1.69	258	P	**Pn**	13 57 35.2	-0.5
TKNZ	**Takaka Hill**	1.71	359	P	**Pn**	13 57 35.8	-0.1
TKNZ				S	**Sn**	13 58 00.2	+2.9
RPZ	**Rata Peaks**	1.72	235	Pn	**Pn**	13 57 35.0	-1.2
	30nm,0.3s,baz=281,slow=0.9,SNR=41						
RPZ				Sn	**Sn**	13 57 57.0	-0.8
	77nm,0.3s,baz=267,slow=6.4,SNR=5.2						
RPZ				LR	LR	13 58 31.4	
	comp=Z,194nm,18.7s,baz=110,slow=53						
RPZ	**Rata Peaks**	1.72	235	P	**Pn**	13 57 35.1	-1.0
RPZ	**Rata Peaks**	1.72	235	P	**Pn**	13 57 35.0	-1.2
ARCZ	**Arundel**	1.79	227	P	**Pn**	13 57 36.1	-1.1
TCW	**Tory Channel**	1.80	32	P	**Pn**	13 57 36.4	-0.8
SNZO	**South Karori**	1.91	42	P	**Pn**	13 57 38.5	-0.2
QRZ	**Quartz Range**	1.94	349	P	**Pn**	13 57 40.5	+1.4
QRZ	**Quartz Range**	1.94	349	P	**Pn**	13 57 39.2	+0.1
WEL	**Wellington**	1.96	43	P	**Pn**	13 57 39.0	-0.4
GCSZ	**Gaunt Creek Bo**	2.04	253	P	**Pn**	13 57 40.2	-0.2
DUWZ	**D'Urville Isla**	2.06	20	P	**Pn**	13 57 41.2	+0.5
TMZ	**Timaru**	2.19	221	P	**Pn**	13 57 41.4	-1.2
CAW	**Cannon Point**	2.25	44	P	**Pn**	13 57 42.5	-0.8
PAWZ	**Paruwai Farm**	2.26	54	P	**Pn**	13 57 41.7	-1.8
KIW	**Kapiti Island**	2.36	38	P	**Pn**	13 57 44.5	-0.4
TRWZ	**Traveller**	2.41	57	P	**Pn**	13 57 43.6	-1.9
FOZ	**Fox Glacier**	2.46	250	P	**Pn**	13 57 46.1	-0.1
LBZ	**Lake Benmore**	2.62	230	P	**Pn**	13 57 47.6	-0.9
TMWZ	**Te Maipa**	2.71	54	P	**Pn**	13 57 47.9	-1.7
MRZ	**Mangatainoka R**	2.84	44	P	**Pn**	13 57 50.1	-1.3
ODZ	**Otahua Downs**	2.86	216	P	**Pn**	13 57 50.5	-1.3
ODZ	**Otahua Downs**	2.86	216	P	**Pn**	13 57 50.6	-1.3
OHWZ	**Ohakea**	3.07	35	P	**Pn**	13 57 55.1	+0.5
PRWZ	**Pori Road**	3.12	47	P	**Pn**	13 57 54.4	-0.9
POWZ	**Post Office Ro**	3.13	42	P	**Pn**	13 57 54.2	-1.4
BFZ	**Birch Farm**	3.19	51	P	**Pn**	13 57 54.2	-2.0
BFZ	**Birch Farm**	3.19	51	P	**Pn**	13 57 54.2	-2.0
WAZ	**Wanganui**	3.34	27	P	**Pn**	13 58 00.0	+1.7
JCZ	**Jackson Bay**	3.35	245	P	**Pn**	13 57 58.1	-0.4
JCZ	**Jackson Bay**	3.35	245	P	**Pn**	13 57 58.2	-0.3
NMEZ	**Namu Road**	3.39	12	P	**Pn**	13 58 01.2	+2.2
DVHZ	**Dannevirke**	3.41	45	P	**Pn**	13 57 57.2	-2.0
TSZ	**Takapari Road**	3.48	41	P	**Pn**	13 57 58.8	-1.6
KHEZ	**Kahui Hut**	3.53	13	P	**Pn**	13 58 02.4	+1.4
KHEZ	**Kahui Hut**	3.53	13	P	**Pn**	13 58 03.1	+2.1
NBEZ	**Newall Road No**	3.53	11	P	**Pn**	13 58 02.4	+1.4
WKZ	**Wanaka**	3.56	233	P	**Pn**	13 57 59.8	-1.5
NEZ	**North Egmont**	3.56	14	P	**Pn**	13 58 03.9	+2.4
HHSZ	**Highcliff Hill**	3.58	208	P	**Pn**	13 58 00.5	-1.2
PKE	**Pukeiti**	3.62	12	P	**Pn**	13 58 03.8	+1.5
EAZ	**Earnscleugh**	3.65	226	P	**Pn**	13 58 01.0	-1.5
DREZ	**Durham Road**	3.66	15	P	**Pn**	13 58 04.6	+1.8
WPHZ	**Waipukurau**	3.72	45	P	**Pn**	13 58 02.1	-1.5
MHEZ	**Mangahewa**	3.79	16	P	**Pn**	13 58 08.3	+3.8
VRZ	**Vera Road**	3.85	21	P	**Pn**	13 58 06.7	+1.4
MOVZ	**Moawhango**	3.93	33	P	**Pn**	13 58 05.7	-0.8
WNVZ	**Wahianoa**	3.94	31	P	**Pn**	13 58 07.0	+0.3
TRVZ	**Turoa**	3.94	30	P	**Pn**	13 58 07.0	+0.1
DRZ	**Dome Shelter**	3.97	30	P	**Pn**	13 58 08.3	+1.0
WHVZ	**Whangaehu Hut**	3.97	30	P	**Pn**	13 58 08.1	+0.9
FWVZ	**Far West T-bar**	3.98	30	P	**Pn**	13 58 08.6	+1.2
BHHZ	**Black Hill Sta**	3.99	37	P	**Pn**	13 58 06.2	-1.1
TUZ	**Tuapeka**	4.02	216	P	**Pn**	13 58 06.4	-1.2
NGZ	**Ngauruhoe**	4.07	30	P	**Pn**	13 58 08.1	-0.4
SNVZ	**South Ngauruho**	4.08	30	P	**Pn**	13 58 09.0	+0.4
OTVZ	**Oturere**	4.10	30	P	**Pn**	13 58 09.3	+0.3
TWVZ	**Taurewa**	4.11	28	P	**Pn**	13 58 09.3	+0.3
NNVZ	**North Ngauruho**	4.11	30	P	**Pn**	13 58 09.4	+0.3
WTVZ	**West Tongariro**	4.12	29	P	**Pn**	13 58 09.4	+0.2
ETVZ	**East Tongariro**	4.14	31	P	**Pn**	13 58 09.5	0.0
KAHZ	**Kahuranaki**	4.15	46	P	**Pn**	13 58 07.5	-2.0
KRVZ	**Karewarewa**	4.16	30	P	**Pn**	13 58 09.8	+0.1
TMVZ	**Te Maari**	4.16	30	P	**Pn**	13 58 09.8	+0.1
NTVZ	**North Tongarir**	4.17	30	P	**Pn**	13 58 09.8	0.0
KATZ	**Kakaramea**	4.28	29	P	**Pn**	13 58 12.8	+1.4
MLZ	**Mavora Lakes**	4.39	232	P	**Pn**	13 58 11.5	+1.3
RATZ	**Rangitukua**	4.41	29	P	**Pn**	13 58 14.5	+1.5
BKZ	**Black Stump Fm**	4.44	38	P	**Pn**	13 58 13.3	-0.3
BKZ	**Black Stump Fm**	4.44	38	P	**Pn**	13 58 11.3	-2.3
HIZ	**Hauiti**	4.45	19	P	**Pn**	13 58 14.4	+0.8
HIZ	**Hauiti**	4.45	19	P	**Pn**	13 58 14.2	+0.5
ARHZ	**Aropaoanui**	4.61	42	P	**Pn**	13 58 14.2	-1.5
MRHZ	**Matea Rd**	4.69	35	P	**Pn**	13 58 14.6	-2.3
SYZ	**Scrubby Hill**	4.69	215	P	**Pn**	13 58 16.0	-0.8
SYZ	**Scrubby Hill**	4.69	215	P	**Pn**	13 58 15.8	-1.1
WHZ	**Wether Hill Ro**	4.80	227	P	**Pn**	13 58 16.1	-2.3
TLZ	**Tolley Road**	4.81	25	P	**Pn**	13 58 19.0	+0.4
MTHZ	**Maungataniwha**	4.86	38	P	**Pn**	13 58 17.1	-2.2
ALRZ	**Allen Road**	4.89	32	P	**Pn**	13 58 19.0	-0.6
KNZ	**Kokohu**	5.13	45	P	**Pn**	13 58 20.2	-2.8
MUGZ	**Murupara**	5.13	35	P	**Pn**	13 58 21.6	-1.4
MHGZ	**Mahia Peninsul**	5.16	48	P	**Pn**	13 58 22.4	-1.0
TOZ	**Tahuroa Road**	5.36	22	P	**Pn**	13 58 25.8	-0.2
APZ	**The Paps**	5.43	219	P	**Pn**	13 58 25.2	-1.9
URZ	**Urewera**	5.46	36	P	**Pn**	13 58 26.1	-1.4
PYZ	**Puysegur Point**	5.67	231	P	**Pn**	13 58 30.3	-0.1
AWAZ	**Awhitu Peninsu**	5.81	13	P	**Pn**	13 58 33.1	+0.9
MKAZ	**Moumakai**	5.87	17	P	**Pn**	13 58 33.0	-0.1
WTAZ	**Waiatarua**	5.92	12	P	**Pn**	13 58 36.8	+2.9
TWGZ	**Tauwhareparae**	5.93	41	P	**Pn**	13 58 32.9	-1.2
ETAZ	**East Tamaki Re**	5.97	15	P	**Pn**	13 58 34.9	+0.5
RVAZ	**Riverhead Bore**	6.08	12	P	**Pn**	13 58 37.0	+1.0
MBAZ	**Motutapu North**	6.14	14	P	**Pn**	13 58 38.6	+1.8
WIAZ	**Waiheke Island**	6.16	16	P	**Pn**	13 58 38.0	+0.8
ABAZ	**Army Bay**	6.29	14	P	**Pn**	13 58 39.7	+0.8
KUZ	**Kuaotunu**	6.34	20	P	**Pn**	13 58 39.3	-0.3
KUZ	**Kuaotunu**	6.34	20	P	**Pn**	13 58 38.9	-0.7
OUZ	**Omahuta**	7.52	4	P	**Pn**	13 58 57.4	+1.6
ASAR	**Alice Springs**	37.42	288	P	**P**	14 04 18.2	-1.1
	0.4nm,0.9s,baz=122,slow=6.1,SNR=2.8						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	39.60	293	P	**P**	14 04 36.2	-1.4
	0.5nm,0.9s,baz=128,slow=8.4,SNR=2.5						
	0.5nm,0.9s						
QSPA	**South Pole Qui**	47.39	180	P	**P**	14 05 42.6	+2.6
	2.6nm,0.8s,baz=2.2,slow=1.0,SNR=16						
	2.6nm,0.8s						
TORD	**Torodi Ar. Bea**	149.57	197	PKPbc	**PKPbc**	14 16 55.8	0.0
	0.6nm,0.4s,baz=171,slow=1.7,SNR=4.4						

*WEL **15** 14:02:00,42.°44S×173.°87E,h18km,ML4.6,Mw4.3, Moment Tensor Solution. s10 Moment tensor: Scale 10^{15}Nm; M_{rr}2.37; $M_{\theta\theta}$1.56; $M_{\phi\phi}$-3.93; $M_{r\theta}$-0.86; $M_{r\phi}$-2.45; $M_{\theta r}$-1.14; Fault plane solution: $M_0$4.03000×10^{15} NP1: ϕ_s344.00000°,δ49.00000°,λ32.00000°. NP2: ϕ_s232.00000°,δ66.00000°,λ134.00000°. Principal axes: T -51.5400, Plg48.0000°, Azm190.0000°; N 295.1200, Plg40.0000°, Azm30.0000°; P 216.4200, Plg10.0000°, Azm292.0000°;*

*NEIC **15** 14:02:35.2±0.7,42.°41S±0.°04×173.°87E±0.°05,h9km±3km, mb4.5/11,Mwr4.3/36 Error ellipse: s-maj=6.4km s-min=4.4km az=155.0*

*NOU **15** 14:02:35.6,42.°45S×173.°85E,h6km,MLv4.9/16,South Island, New Zealand*

*NEIC **15** 14:02:35.5,42.°40S×173.°86E,h9km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.39; $M_{\theta\theta}$-1.64; $M_{\phi\phi}$2.03; $M_{r\theta}$2.34; $M_{\theta\phi}$0.86; $M_{\phi r}$2.82; Fault plane solution: $M_0$4.20000×10^{15} NP1:ϕ_s324.65000°, δ26.54000°,λ-169.96000°. NP2:ϕ_s225.65000°, δ85.53000°,λ-63.81000°. Principal axes: T 4.5680, Plg35.0000°, Azm293.0000°; N -0.8813, Plg26.0000°, Azm43.0000°; P -3.6868, Plg43.0000°, Azm161.0000°;*

*WEL **15** 14:02:39.8±0.4,42.°S±3.°×17.°4E±.°,h7km±2km,M4.7/13, ML5.0/13,MLv4.7/13 Error ellipse: s-maj=0.6km s-min=0.0km az=124.3*

*IDC **15** 14:02:39.5±1.0,42.°16S×172.°85E,h0km,mb4.0/5, mbtmp4.1/6,ML4.2/1,MS3.7/10,Error ellipse: s-maj=31.1km s-min=22.4km az=93.0*

ISC 15 14:02:38.1±0.7,**42.°34S**±0.°02×**173.°77E**±0.°02,**h12**km±4km, **n221**,σ2°02/237,**mb4.3**/12,**MS3.6**/9,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	0.19	247	Pg	**Pg**	14 02 40.5	-1.8
KHZ				Sg	**Pg**	14 02 43.9	+1.7
KHZ	**Kahutara**	0.19	247	P	**Pg**	14 02 43.9	+1.5
KHZ	**Kahutara**	0.19	247	P	**Pg**	14 02 43.9	+1.7
KHZ				S	**Sg**	14 02 48.0	+2.9
KHZ	**Kahutara**	0.19	247	P	**Pg**	14 02 40.7	-1.5
KHZ				S	**Pg**	14 02 43.9	+1.7
BSWZ	**Blackbirch Sta**	0.63	7		**Pg**	14 02 49.0	-1.4
BSWZ	**Blackbirch Sta**	0.63	7	P	**Pg**	14 02 49.4	-1.1
BSWZ				S	**Sb**	14 03 00.7	+0.9
BSWZ	**Blackbirch Sta**	0.63	7	P	**Pg**	14 02 49.3	-1.1
CMWZ	**Cape Campbell**	0.68	29	P	**Pg**	14 02 51.7	+0.4
CMWZ	**Cape Campbell**	0.68	29	P	**Pg**	14 02 51.5	+0.3
GVZ	**Greta Valley S**	0.83	221	P	**Pn**	14 02 57.4	+1.8
GVZ				S	**Sn**	14 03 09.6	+1.9
GVZ	**Greta Valley S**	0.83	221	P	**Pg**	14 02 53.5	-0.6
GVZ				S	**Sb**	14 03 06.2	+0.7
THZ	**Tophouse**	0.87	312	Pg	**Pg**	14 02 53.0	-1.9
THZ	**Tophouse**	0.87	312	P	**Pn**	14 02 57.6	+1.5
THZ				S	**Sb**	14 03 08.8	+2.1
THZ	**Tophouse**	0.87	312	P	**Pg**	14 02 53.2	-1.7
THZ				S	**Sg**	14 03 04.1	-2.2
TUWZ	**Tuamarina**	0.92	8		**Pg**	14 02 54.1	-1.8
TUWZ	**Tuamarina**	0.92	8	P	**Pg**	14 02 54.9	-1.0
TUWZ	**Tuamarina**	0.92	8	P	**Pg**	14 02 54.7	-1.2
TUWZ				S	**Sg**	14 03 08.9	+1.0
NNZ	**Nelson**	1.16	345		**Pb**	14 02 58.3	-1.8
NNZ	**Nelson**	1.16	345	P	**Pb**	14 02 58.4	-1.6
AMCZ	**Amberley**	1.17	224		**Pb**	14 02 57.9	-2.3
AMCZ	**Amberley**	1.17	224	P	**Pb**	14 03 00.9	+0.7
AMCZ				S	**Sn**	14 03 20.2	+4.1
AMCZ	**Amberley**	1.17	224	P	**Pb**	14 02 58.5	-1.7
LTZ	**Lake Taylor**	1.19	248		**Pb**	14 02 58.4	-2.3
LTZ	**Lake Taylor**	1.19	248	P	**Pg**	14 03 02.7	+1.7
LTZ	**Lake Taylor**	1.19	248	P	**Pb**	14 02 58.6	-2.0
TCW	**Tory Channel**	1.19	19		**Pb**	14 02 58.3	-2.3
TCW	**Tory Channel**	1.19	19	P	**Pb**	14 02 58.8	-1.8
TCW				S	**Sb**	14 03 15.8	-0.2
MRNZ	**Matariki Terra**	1.21	321		**Pn**	14 02 59.5	-1.3
MRNZ	**Matariki Terra**	1.21	321	P	**Pg**	14 03 02.4	+1.1
MRNZ				S	**Sb**	14 03 17.5	+1.0
MRNZ	**Matariki Terra**	1.21	321	P	**Pn**	14 02 59.8	-1.0
SNZO	**South Karori**	1.25	34		**Pn**	14 02 59.2	-2.1
SNZO	**South Karori**	1.25	34	P	**Pn**	14 02 59.5	-1.7
WEL	**Wellington**	1.29	35	P	**Pn**	14 03 00.3	-1.7
WEL				S	**Sb**	14 03 18.5	-0.4
PLWZ	**Palliser**	1.35	55		**Pn**	14 02 59.9	-2.8
PLWZ	**Palliser**	1.35	55	P	**Pg**	14 03 04.6	+0.6
PLWZ				S	**Sg**	14 03 25.8	+4.2
PLWZ	**Palliser**	1.35	55	P	**Pn**	14 03 00.3	-2.4
MSWZ	**Moikau Station**	1.44	50		**Pn**	14 03 01.1	-2.9
MSWZ	**Moikau Station**	1.44	50	P	**Pn**	14 03 05.3	+1.3
MSWZ				S	**Sg**	14 03 25.1	+0.7
MSWZ	**Moikau Station**	1.44	50	P	**Pn**	14 03 01.7	-2.3
MSWZ				S	**Sg**	14 03 24.9	+0.4
TKNZ	**Takaka Hill**	1.44	335		**Pn**	14 03 02.6	-1.5
TKNZ	**Takaka Hill**	1.44	335	P	**Pn**	14 03 03.2	-0.8
TKNZ				S	**Sn**	14 03 24.1	+1.2
OKCZ	**Okains Bay**	1.47	201	P	**Pb**	14 03 06.2	+0.8
OKCZ	**Okains Bay**	1.47	201	P	**Pb**	14 03 01.9	-2.6
DUWZ	**D'Urville Isla**	1.54	4	S	**Sb**	14 03 27.7	+1.5
DUWZ	**D'Urville Isla**	1.54	4	P	**Pn**	14 03 04.0	-1.4
PAWZ	**Paruwai Farm**	1.56	53	P	**Pn**	14 03 03.1	-2.6
CAW	**Cannon Point**	1.57	38	P	**Pb**	14 03 07.9	+0.9
CAW	**Cannon Point**	1.57	38	P	**Pn**	14 03 03.8	-1.9
DSZ	**Denniston Nort**	1.58	292	P	**Pn**	14 03 04.9	-1.0
MQZ	**McQueen's Vall**	1.59	211	P	**Pn**	14 03 02.8	-3.2
MQZ				S	**Sn**	14 03 23.5	-3.0
OXZ	**Oxford**	1.61	232	P	**Pn**	14 03 03.6	-2.7
AKCZ	**Akaroa Harbour**	1.65	202	P	**Pn**	14 03 04.1	-2.8
KIW	**Kapiti Island**	1.71	30	P	**Pn**	14 03 06.1	-1.6
TRWZ	**Traveller**	1.71	57	P	**Pn**	14 03 05.2	-2.5
MTW	**Mount Morrison**	1.75	48	P	**Pn**	14 03 05.7	-2.6
INZ	**Inchbonnie**	1.76	257	Pn	**Pn**	14 03 06.3	-2.1
INZ	**Inchbonnie**	1.76	257	P	**Pn**	14 03 06.9	-1.4
QRZ	**Quartz Range**	1.78	328	P	**Pn**	14 03 08.5	-0.2
QRZ	**Quartz Range**	1.78	328	P	**Pn**	14 03 08.4	-0.2
RACZ	**Rakaia**	1.83	220	P	**Pn**	14 03 06.4	-2.8
OGWZ	**Otaki Gorge**	1.85	35	P	**Pn**	14 03 07.6	-2.0
HOWZ	**Holdsworth Sta**	1.95	43	P	**Pn**	14 03 08.5	-2.4
TMWZ	**Te Maipa**	2.01	53	P	**Pn**	14 03 08.8	-3.0
WACZ	**Wakanui South**	2.13	221	P	**Pn**	14 03 10.8	-2.7
MRZ	**Mangatainoka R**	2.16	39		**Pn**	14 03 11.1	-2.8
MRZ	**Mangatainoka R**	2.16	39	P	**Pn**	14 03 11.4	-2.4
TIWZ	**Tintock**	2.23	46	P	**Pn**	14 03 12.9	-1.9
WVZ	**Waitaha Valley**	2.35	251	P	**Pn**	14 03 14.9	-1.6
RPZ	**Rata Peaks**	2.42	235	Pn	**Pn**	14 03 14.7	-2.7
	82nm,0.3s,baz=92,slow=2.9,SNR=208						
RPZ				Sn	**Sn**	14 03 43.2	-3.8
	293nm,0.3s,baz=158,slow=18,SNR=17						
	371nm,0.4s						
RPZ	**Rata Peaks**	2.42	235	Pn	**Pn**	14 03 14.6	-2.8
RPZ	**Rata Peaks**	2.42	235	P	**Pn**	14 03 14.7	-2.8
RPZ	**Rata Peaks**	2.42	235	P	**Pn**	14 03 14.6	-2.8
OHWZ	**Ohakea**	2.43	29	P	**Pn**	14 03 16.8	-0.8
PRWZ	**Pori Road**	2.43	43	P	**Pn**	14 03 14.9	-2.8
POWZ	**Post Office Ro**	2.46	38	P	**Pn**	14 03 15.5	-2.5
ARCZ	**Arundel**	2.48	229	P	**Pn**	14 03 15.5	-2.8
BFZ	**Birch Farm**	2.49	49	P	**Pn**	14 03 15.9	-2.5
BFZ	**Birch Farm**	2.49	49	P	**Pn**	14 03 15.3	-3.2
GCSZ	**Gaunt Creek Bo**	2.71	248	P	**Pn**	14 03 20.1	-1.4
DVHZ	**Dannevirke**

OUZ	Omahuta	7.12 359	P	Pn	14 04 21.0	-0.9
OUZ	Omahuta	7.12 359	P	Pn	14 04 23.6	+1.7
CTZ	Chatham Island	7.18 104	P	Pn	14 04 20.9	-1.8
CTZ	Chatham Island	7.18 104	P	Pn	14 04 20.7	-2.0
RAO	Raoul Island	14.69 30	LR	LR	14 11 55.7	
	comp=Z,261nm,18.2s,baz=181,slow=37					
DZM	Mont Dzumac	21.13 341	P	P	14 07 21.8	-1.0
	3.2nm,0.8s,baz=131,slow=18,SNR=1.8					
DZM			LR	LR	14 15 11.3	
	comp=Z,195nm,18.5s,baz=205,slow=36					
	3.2nm,0.8s					
DZM	Mont Dzumac	21.13 341	P	P	14 07 20.9	-1.9
DZM			IAmb	IAmb	14 07 37.2	
	comp=Z,25nm,1.4s					
KOUNC	Koumac, New Ca	23.15 337	P	P	14 07 43.8	-0.5
KOUNC			IAmb	IAmb	14 08 06.1	
	comp=Z,14nm,1.0s					
MSVF	Nonsavu	24.80 10	LR	LR	14 16 52.2	
	comp=Z,248nm,18.1s,baz=212,slow=34					
EIDS	Eidsvold	25.21 305	P	P	14 08 01.6	-2.0
EIDS			IAmb	IAmb	14 08 40.1	
	comp=Z,11nm,1.2s					
STKA	Stephens Creek	27.56 282	LR	LR	14 18 18.9	
	comp=Z,108nm,19.4s,baz=190,slow=35					
VNDA	Vanda	35.63 184	LR	LR	14 22 49.5	
	comp=Z,85nm,19.9s,baz=264,slow=34					
AS31	Alice Springs	37.85 287	P	P	14 09 51.7	-3.0
ASAR	Alice Springs	37.85 287	P	P	14 09 51.8	-3.0
	comp=Z,1.1nm,0.6s,baz=121,slow=6.8,SNR=28					
ASAR			PcP	PcP	14 12 11.6	+0.5
	comp=Z,1.2nm,0.6s,baz=125,slow=3.8,SNR=5.1					
	comp=Z,1.1nm,0.6s					
WR0	Warramunga Arr	39.83 292	P	P	14 10 08.9	-2.4
WR0			IAmb	IAmb	14 10 21.6	
	comp=Z,8.8nm,1.2s					
WB2	Warramunga Arr	39.98 292	P	P	14 10 10.1	-2.4
WB2			IAmb	IAmb	14 10 18.3	
	comp=Z,8.1nm,0.6s					
WRA	Warramunga Arr	39.98 292	P	P	14 10 10.2	-2.5
	comp=Z,2.4nm,0.6s,baz=126,slow=8.6,SNR=42					
WRA			PcP	PcP	14 12 18.5	+0.7
	comp=Z,0.7nm,0.8s,baz=147,slow=3.2,SNR=2.8					
WRA			LR	LR	14 26 32.3	
	comp=Z,113nm,19.1s,baz=137,slow=36					
	comp=Z,2.4nm,0.6s					
WRA	Warramunga Arr	39.98 292	P	P	14 10 10.2	-2.5
WB0	Warramunga Arr	40.07 292	P	P	14 10 10.8	-2.5
WB0			IAmb	IAmb	14 10 22.3	
	comp=Z,6.9nm,0.8s					
RABL	Rabaul	42.59 327	P	P	14 10 32.1	-1.9
KNRA	Kununurra	46.76 291	P	P	14 11 05.3	-2.0
KNRA			IAmb	IAmb	14 11 24.4	
	comp=Z,14nm,1.1s					
MTN	Manton Dam	47.15 296	P	P	14 11 08.2	-2.1
QSPA	South Pole Qui	47.78 180	P	P	14 11 18.8	+3.9
QSPA			LR	LR	14 29 26.5	
	comp=Z,1.8nm,0.9s,baz=36,slow=3.0,SNR=4.3					
	comp=Z,56nm,19.2s,baz=22,slow=34					
	comp=Z,1.6nm,0.9s					
SIJI	Sorong	56.18 306	LR	LR	14 37 01.5	
	comp=Z,75nm,18.9s,baz=34,slow=37					
TROLL	Troll, Antarti	65.78 183	P	P	14 13 24.9	+2.4
SNAA	Sanae	66.27 181	P	P	14 13 28.9	+3.3
SNAA	Sanae	66.27 181	LR	LR	14 41 28.5	
	comp=Z,38nm,19.2s,baz=191,slow=35					
VNA3	Neumayer Olymp	66.69 179	P	P	14 13 34.6	+6.3
PLCA	Paso Flores	78.92 136	LR	LR	14 45 42.9	
	comp=Z,45nm,18.7s,baz=190,slow=32					
CMAR	Chiang Mai Arr	91.55 294	P	P	14 15 43.2	-1.5
	comp=Z,0.4nm,0.4s,baz=156,slow=4.0,SNR=2.4					
	comp=Z,0.4nm,0.4s					
PZH	PanZhiHua	95.33 301	P	P	14 16 02.0	-0.2
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,100nm,4.6s					
HHC	Hu-ho-hao-te	100.08 317	*eP*	Pdif	14 16 22.5	-0.7
MKAR	Makanchi Array	120.05 307	PKP	PKPdf	14 21 27.9	-0.2
	comp=Z,0.3nm,0.5s,baz=101,slow=1.5,SNR=2.3					
KBZ	Khabaz	144.49 289	PKP	PKPdf	14 22 14.8	+1.1
	comp=Z,4.4nm,0.7s,baz=80,slow=4.1,SNR=8.8					
ARCES	ARCESS Array B	148.21 339	PKPbc	PKiKP	14 22 25.2	+0.8
	comp=Z,1.2nm,0.4s,baz=42,slow=2.0,SNR=8.4					
BRTR	Keskin Array B	150.00 279	PKP	PKPdf	14 22 24.9	+1.5
	comp=Z,0.8nm,0.5s,baz=130,slow=6.7,SNR=3.8					
BRTR			PKPbc	pPKPbc	14 22 31.6	-0.8
	comp=Z,2.5nm,0.7s,baz=142,slow=6.7,SNR=7.8					
TORD	Torodi Ar. Bea	150.11 196	PKP	PKPdf	14 22 25.9	+1.9
	comp=Z,0.6nm,0.6s,baz=106,slow=1.2,SNR=3.8					
TORD			PKPbc	pPKPbc	14 22 33.5	+0.5
	comp=Z,3.6nm,1.0s,baz=138,slow=2.5,SNR=8.7					
FINES	FINESS Array B	152.83 326	PKP	PKPdf	14 22 28.4	+1.8
	comp=Z,2.8nm,0.9s,baz=183,slow=7.6,SNR=3.8					
FINES			PKPbc	PKiKP	14 22 35.6	+1.6
	comp=Z,5.3nm,1.0s,baz=182,slow=1.8,SNR=4.7					

WEL 15 14:09:01.2±0.5, 42°S±3°×17°4E±°, h9km±4km, M3.5/12, ML3.8/12, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=160.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	11	P	Pg	14 09 04.2	+1.0
BSWZ	Blackbirch Sta	0.26	290	P	Pg	14 09 06.9	+0.5
BSWZ				S	Sb	14 09 11.9	-0.8
TUWZ	Tuamarina	0.42	333	P	Pg	14 09 09.9	+0.4
TUWZ				S	Sb	14 09 16.2	-1.1
TCW	Tory Channel	0.60	6	P	Pg	14 09 12.8	0.0
TCW				S	Sb	14 09 21.8	-0.6
WEL	Wellington	0.67	39	P	Pg	14 09 14.6	+0.4
PLWZ	Palliser	0.82	74	P	Pg	14 09 17.3	+0.2
NNZ	Nelson	0.85	313	P	Pg	14 09 17.4	-0.2
MSWZ	Moikau Station	0.88	64	P	Pg	14 09 18.4	+0.2
MSWZ				S	Sb	14 09 31.5	+1.0
CAW	Cannon Point	0.95	43	P	Pg	14 09 19.5	-0.1
CAW				S	Sn	14 09 34.4	-0.2
THZ	Tophouse	0.97	272	P	Pg	14 09 19.5	-0.4
THZ				S	Sb	14 09 33.8	+0.6
PAWZ	Paruwai Farm	1.01	66	P	Pg	14 09 20.1	-0.6
DUWZ	D'Urville Isla	1.02	348	P	Pg	14 09 20.3	-0.6
DUWZ				S	Sb	14 09 35.0	+0.3
KIW	Kapiti Island	1.08	30	P	Pg	14 09 21.5	-0.6
KIW				S	Sb	14 09 37.0	+0.6
MRNZ	Matariki Terra	1.16	290	P	Pb	14 09 23.4	0.0
MRNZ				S	Sn	14 09 39.5	-0.1
MTW	Mount Morrison	1.17	57	P	Pb	14 09 22.1	-1.6
MTW				S	Sb	14 09 39.2	+0.2
TRWZ	Traveller	1.19	70	P	Pb	14 09 22.2	-1.8
TKNZ	Takaka Hill	1.21	309	P	Pb	14 09 23.8	-0.5
TKNZ				S	Sn	14 09 40.6	-0.3
OGWZ	Otaki Gorge	1.23	37	P	Pn	14 09 23.6	-1.0
OGWZ				S	Sb	14 09 40.7	+0.1
HOWZ	Holdsworth Sta	1.34	48	P	Pn	14 09 25.2	-1.0
TMWZ	Te Maipa	1.45	62	P	Pn	14 09 25.7	-2.0
MRZ	Mangatainoka R	1.55	43	P	Pn	14 09 27.6	-1.4
QRZ	Quartz Range	1.59	307	P	Pb	14 09 30.3	-0.5
TIWZ	Tintock	1.64	52	P	Pn	14 09 30.8	+0.6
LTZ	Lake Taylor	1.73	235	P	Pn	14 09 30.5	-1.1
AMCZ	Amberley	1.79	219	P	Pn	14 09 30.5	-1.7
DSZ	Denniston Nort	1.79	271	P	Pn	14 09 33.3	+0.9
OHWZ	Ohakea	1.81	28	P	Pn	14 09 33.5	+1.0
PRWZ	Pori Road	1.83	48	P	Pn	14 09 31.6	-1.3
POWZ	Post Office Ro	1.84	41	P	Pn	14 09 31.9	-1.2
BFZ	Birch Farm	1.91	55	P	Pg	14 09 38.6	+0.7
OKCZ	Okains Bay	2.09	203	P	Pn	14 09 34.1	-2.4
DVHZ	Dannevirke	2.12	45	P	Pn	14 09 34.7	-2.1
WAZ	Wanganui	2.13	16	P	Pb	14 09 40.0	-0.1
TSZ	Takapari Road	2.20	38	P	Pn	14 09 36.3	-1.6
OXZ	Oxford	2.20	226	P	Pn	14 09 35.8	-2.2
MQZ	McQueen's Vall	2.21	210	P	Pn	14 09 35.2	-3.0
AKCZ	Akaroa Harbour	2.27	204	P	Pn	14 09 36.6	-2.4
PRHZ	Porangahau	2.40	51	P	Pn	14 09 38.4	-2.3
NMEZ	Namu Road	2.40	354	P	Pb	14 09 45.3	+0.6
WPHZ	Waipukurau	2.43	45	P	Pn	14 09 39.5	-1.6
RACZ	Rakaia	2.45	218	P	Pn	14 09 38.6	-2.8
KHEZ	Kahui Hut	2.51	357	P	Pb	14 09 45.9	-0.6
NEZ	North Egmont	2.53	358	P	Pb	14 09 45.9	-1.1
NBEZ	Newall Road No	2.55	354	P	Pb	14 09 46.5	-0.7
DREZ	Durham Road	2.61	0	P	Pb	14 09 48.0	-0.3
PKE	Pukeiti	2.61	356	P	Pb	14 09 46.4	-1.9
PKVZ	Pokaka	2.66	20	P	Pb	14 09 47.6	-1.5
MOVZ	Moawhango	2.67	27	P	Pn	14 09 44.1	-0.5
WNVZ	Wahianoa	2.69	24	P	Pn	14 09 45.4	+0.4
TRVZ	Turoa	2.71	23	P	Pb	14 09 49.5	-0.5
VRZ	Vera Road	2.71	9	P	Pn	14 09 46.3	+1.3
BHHZ	Black Hill Sta	2.71	32	P	Pb	14 09 49.1	-0.8
DRZ	Dome Shelter	2.73	23	P	Pb	14 09 50.0	-0.5
WHVZ	Whangaehu Hut	2.73	23	P	Pb	14 09 50.0	-0.4
FWVZ	Far West T-bar	2.75	22	P	Pb	14 09 50.2	-0.5
WACZ	Wakanui South	2.75	218	P	Pn	14 09 43.2	-2.3
TUVZ	Tukino	2.77	24	P	Pb	14 09 50.2	-0.7
NGZ	Ngauruhoe	2.84	23	P	Pn	14 09 49.0	+2.1
WVZ	Waitaha Valley	2.86	243	P	Pn	14 09 46.8	-0.2
OTVZ	Oturere	2.87	23	P	Pb	14 09 51.8	-0.8
NNVZ	North Ngauruho	2.88	22	P	Pn	14 09 50.1	+2.6
WTVZ	West Tongariro	2.89	22	P	Pn	14 09 49.7	+2.2
ETVZ	East Tongariro	2.91	24	P	Pn	14 09 49.8	+2.1
KWHZ	Kaweka Forest	2.92	36	P	Pb	14 09 54.6	+1.1
TMVZ	Te Maari	2.92	24	P	Pn	14 09 48.5	+0.5
KRVZ	Karewarewa	2.92	23	P	Pn	14 09 50.0	+2.0
NTVZ	North Tongarir	2.93	23	P	Pn	14 09 48.5	+0.4
RPZ	Rata Peaks	3.00	229	P	Pn	14 09 47.1	-1.9
KATZ	Kakaramea	3.05	22	P	Pb	14 09 55.0	-0.7
ARCZ	Arundel	3.08	225	P	Pn	14 09 48.1	-2.1
RITZ	Rihia Road	3.10	25	P	Pb	14 09 56.4	-0.1
BKZ	Black Stump Fm	3.16	34	P	Pb	14 09 57.8	+0.1
RATZ	Rangitukua	3.17	23	P	Pb	14 09 57.6	-0.2
GCSZ	Gaunt Creek Bo	3.23	241	P	Pn	14 09 51.9	-0.3
HIZ	Hauiti	3.33	9	P	Pn	14 09 54.9	+1.4
MRHZ	Matea Rd	3.42	30	P	Pb	14 10 01.0	-1.0
TMZ	Timaru	3.48	221	P	Pn	14 09 53.0	-2.5
TLZ	Tolley Road	3.62	17	P	Pn	14 09 59.9	+2.3
FOZ	Fox Glacier	3.66	240	P	Pn	14 09 57.3	-0.8
LBZ	Lake Benmore	3.91	227	P	Pn	14 10 00.1	-1.4
ODZ	Otahua Downs	4.14	217	P	Pn	14 10 01.7	-3.0
TOZ	Tahuroa Road	4.19	14	P	Pn	14 10 08.6	+3.3
MKAZ	Moumakai	4.75	9	P	Pn	14 10 13.6	+0.5
HHSZ	Highcliff Hill	4.84	211	P	Pn	14 10 11.9	-2.4
ETAZ	East Tamaki Re	4.88	7	P	Pn	14 10 18.0	+3.2
EAZ	Earnscleugh	4.94	224	P	Pn	14 10 13.4	-2.2
SYZ	Scrubby Hill	5.97	216	P	Pn	14 10 27.9	-1.8

WEL 15 14:31:45.7±0.3, 42°S±2°×17°4E±°, h9km±2km, M3.5/18, ML3.7/18, MLv3.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=131.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.28	29	P	Pg	14 31 52.1	+0.8
BSWZ				S	Sb	14 31 56.6	-1.2
CMWZ	Cape Campbell	0.44	61	P	Pb	14 31 55.2	-0.5
KHZ	Kahutara	0.47	194	P	Pb	14 31 55.6	-0.5
KHZ				S	Sb	14 32 02.7	-0.5
TUWZ	Tuamarina	0.56	19	P	Pg	14 31 57.1	+0.5
TUWZ				S	Sb	14 32 05.8	-0.1
THZ	Tophouse	0.62	288	P	Pg	14 31 57.9	+0.1
THZ				S	Sg	14 32 06.6	+0.6
NNZ	Nelson	0.78	342	P	Pb	14 32 01.1	-0.3
NNZ				S	Sg	14 32 11.1	+0.2
TCW	Tory Channel	0.87	30	P	Pg	14 32 02.1	-0.4
TCW				S	Sn	14 32 15.9	-1.0
MRNZ	Matariki Terra	0.90	308	P	Pg	14 32 03.2	+0.1
MRNZ				S	Sb	14 32 15.8	+0.2
WEL	Wellington	1.05	50	P	Pb	14 32 06.3	+0.2
WEL				S	Sn	14 32 21.4	0.0
TKNZ	Takaka Hill	1.08	329	P	Pg	14 32 06.2	-0.3
TKNZ				S	Sb	14 32 20.8	+0.1
GVZ	Greta Valley S	1.12	206	P	Pg	14 32 06.9	-0.3
GVZ				S	Sb	14 32 22.4	+0.5
DUWZ	D'Urville Isla	1.17	8	P	Pb	14 32 07.6	-0.6
DUWZ				S	Sb	14 32 23.6	+0.1
PLWZ	Palliser	1.23	72	P	Pn	14 32 07.8	-1.4
MSWZ	Moikau Station	1.29	65	P	Pn	14 32 08.6	-1.3
LTZ	Lake Taylor	1.34	232	P	Pn	14 32 10.2	-0.4
LTZ				S	Sb	14 32 28.2	0.0
CAW	Cannon Point	1.34	51	P	Pn	14 32 10.1	-0.5
CAW				S	Sb	14 32 28.1	-0.1
DSZ	Denniston Nort	1.43	278	P	Pb	14 32 12.7	+0.1
DSZ				S	Sn	14 32 30.2	-0.6
KIW	Kapiti Island	1.43	40	P	Pn	14 32 11.9	0.0
KIW				S	Sb	14 32 31.1	+0.3
QRZ	Quartz Range	1.43	322	P	Pb	14 32 12.3	-0.3
QRZ				S	Sb	14 32 31.4	+0.4
AMCZ	Amberley	1.44	212	P	Pn	14 32 10.9	-1.1
MTW	Mount Morrison	1.58	60	P	Pn	14 32 12.4	-1.5
OGWZ	Otaki Gorge	1.59	45	P	Pn	14 32 13.4	-0.7
OGWZ				S	Sn	14 32 35.0	+0.1
TRWZ	Traveller	1.60	70	P	Pn	14 32 11.5	-2.6
OKCZ	Okains Bay	1.82	195	P	Pn	14 32 15.5	-1.8
OKCZ				S	Sn	14 32 38.0	-2.5
OXZ	Oxford	1.83	221	P	Pn	14 32 15.7	-1.7
OXZ				S	Sn	14 32 38.0	-2.7
INZ	Inchbonnie	1.83	245	P	Pn	14 32 17.8	+0.3
INZ				S	Sn	14 32 41.2	+0.5
TMWZ	Te Maipa	1.86	63	P	Pg	14 32 21.7	+0.4
MQZ	McQueen's Vall	1.90	203	P	Pn	14 32 15.9	-2.4
MQZ				S	Sn	14 32 39.4	-3.1
MRZ	Mangatainoka R	1.93	48	P	Pn	14 32 41.4	-1.2
AKCZ	Akaroa Harbour	2.00	197	P	Pn	14 32 17.8	-1.8
AKCZ				S	Sn	14 32 41.7	-3.1
RACZ	Rakaia	2.10	212	P	Pn	14 32 19.4	-1.7
OHWZ	Ohakea	2.14	35	P	Pb	14 32 24.0	-0.6
POWZ	Post Office Ro	2.22	46	P	Pb	14 32 26.9	+0.9
PRWZ	Pori Road	2.22	51	P	Pb	14 32 26.7	+0.7
WACZ	Wakanui South	2.40	214	P	Pn	14 32 23.2	-2.0
WAZ	Wanganui	2.41	24	P	Pb	14 32 28.4	-0.9
WVZ	Waitaha Valley	2.45	242	P	Pn	14 32 26.2	+0.3
DVHZ	Dannevirke	2.50	49	P	Pg	14 32 32.9	-0.7
NMEZ	Namu Road	2.55	3	P	Pn	14 32 29.1	+1.9
LREZ	Lake Rotokare	2.56	12	P	Pb	14 32 32.8	+1.1
TSZ	Takapari Road	2.56	43	P	Pn	14 32 28.8	+1.4
RPZ	Rata Peaks	2.62	227	P	Pn	14 32 26.9	-1.3
KHEZ	Kahui Hut	2.68	5	P	Pb	14 32 31.9	-2.0
NBEZ	Newall Road No	2.69	3	P	Pb	14 32 32.1	-2.0
NEZ	North Egmont	2.71	2	P	Pb	14 32 32.5	-1.8
ARCZ	Arundel	2.71	222	P	Pn	14 32 28.2	-1.4
PKE	Pukeiti	2.77	5	P	Pb	14 32 33.2	-2.3
DREZ	Durham Road	2.80	8	P	Pn	14 32 32.4	+1.8
GCSZ	Gaunt Creek Bo	2.83	240	P	Pn	14 32 32.4	+1.3
MTVZ	Mangateitei	2.91	28	P	Pb	14 32 38.7	+0.9
VRZ	Vera Road	2.95	16	P	Pb	14 32 36.0	-2.4
MOVZ	Moawhango	2.99	32	P	Pn	14 32 36.3	+2.9
WNVZ	Wahianoa	3.00	29	P	Pn	14 32 36.3	+2.6
TRVZ	Turoa	3.01	29	P	Pn	14 32 36.5	+2.7
DRZ	Dome Shelter	3.04	29	P	Pb	14 32 40.8	+0.6
WHVZ	Whangaehu Hut	3.04	29	P	Pb	14 32 37.2	-3.0
FWVZ	Far West T-bar	3.05	28	P	Pn	14 32 37.3	+2.9
BHHZ	Black Hill Sta	3.06	37	P	Pb	14 32 38.4	-1.9
TUVZ	Tukino	3.08	30	P	Pb	14 32 41.4	+0.6
TMZ	Timaru	3.12	218	P	Pn	14 32 33.8	-1.3
NGZ	Ngauruhoe	3.14	28	P	Pn	14 32 39.0	-2.8
SNVZ	South Ngauruho	3.14	29	P	Pn	14 32 41.3	-0.6
OTVZ	Oturere	3.17	29	P	Pn	14 32 38.6	+2.7
TWVZ	Taurewa	3.18	25	P	Pn	14 32 41.4	-1.1
NNVZ	North Ngauruho	3.18	28	P	Pb	14 32 40.8	-1.7
WTVZ	West Tongariro	3.19	28	P	Pb	14 32 40.8	-1.8
ETVZ	East Tongariro	3.21	29	P	Pn	14 32 39.3	+2.8
KRVZ	Karewarewa	3.23	28	P	Pb	14 32 42.9	-0.4
TMVZ	Te Maari	3.23	29	P	Pb	14 32 41.6	-1.7
NTVZ	North Tongarir	3.23	28	P	Pb	14 32 43.8	+0.4
FOZ	Fox Glacier	3.26	240	P	Pn	14 32 38.8	+1.8
KWHZ	Kaweka Forest	3.27	40	P	Pb	14 32 44.9	+0.9
KATZ	Kakaramea	3.35	28	P	Pb	14 32 45.0	-0.3
RATZ	Rangitukua	3.48	28	P	Pb	14 32 47.9	+0.4
BKZ	Black Stump Fm	3.51	38	P	Pb	14 32 47.1	-1.0
LBZ	Lake Benmore	3.53	225	P	Pn	14 32 39.5	-1.3
HIZ	Hauiti	3.56	15	P	Pn	14 32 44.1	+3.0
NMHZ	Naumai	3.72	41	P	Pb	14 32 48.4	-3.2
ODZ	Otahua Downs	3.80	215	P	Pn	14 32 42.5	-1.9
TLZ	Tolley Road	3.89	22	P	Pn	14 32 51.1	-3.5
JCZ	Jackson Bay	4.17	238	P	Pn	14 32 51.1	+1.4
AWAZ	Awhitu Peninsu	4.95	9	P	Pn	14 33 02.2	+2.0
MKAZ	Moumakai	4.98	14	P	Pn	14 33 02.3	+1.6
ETAZ	East Tamaki Re	5.09	11	P	Pn	14 33 04.2	+2.0
RVAZ	Riverhead Bore	5.23	8	P	Pn	14 33 05.9	+1.8
MBAZ	Motutapu North	5.27	11	P	Pn	14 33 07.1	+2.5

*NEIC **15** 14:40:14.0±0.9, 5°.37S±0°.07×151°.9E±0°.1, h13km±5km, mb4.1/11, Error ellipse: s-maj=17.1km s-min=8.1km az=113.0*

*IDC **15** 14:40:18.4±1.0, 5°.15S×151°.80E, h66km±10km, mb3.5/6, mbtmp3.8/7, Error ellipse: s-maj=27.8km s-min=11.8km az=119.0*

ISC 15 14:40:17.2±0.7, 5°.26S±0°.06×151°.9E±0°.1, h45km, n24, σ1s59/27, mb3.9/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.96	9	P	Pn	14 40 34.9	+0.5
	875nm,0.3s,baz=247,slow=1.8,SNR=518						
KRVT				S	Sn	14 40 48.2	+1.3
	5μm,0.4s,baz=298,slow=23,SNR=26						
KRVT				LR	LR	14 41 05.4	
	comp=Z,378nm,20.9s,baz=41,slow=54						
RABL	Rabaul	1.10	15	Pn	Pn	14 40 36.6	+0.3
RABL				Sn	Sn	14 40 52.0	+1.6
MANU	Manus Island	5.52	305	Pn	Pn	14 41 36.6	-0.4
PMG	Port Moresby	6.23	228	P	Pn	14 41 47.6	+0.9
	3.3nm,0.3s,baz=18,slow=9.6,SNR=3.5						
PMG				S	Sn	14 42 59.6	+2.8
	17nm,0.6s,baz=137,slow=16,SNR=11						
PMG	Port Moresby	6.23	228	Pn	Pn	14 41 47.1	+0.4
DZM	Mont Dzumac	21.86	141	P	P	14 45 07.2	+0.8
	2.6nm,0.5s,baz=270,slow=4.0,SNR=8.3						
	2.6nm,0.5s						
DZM	Mont Dzumac	21.86	141	P	P	14 45 04.8	-1.6
DZM				IAmb	IAmb	14 45 10.4	
	comp=Z,18nm,1.4s						
WB0	Warramunga Arr	22.31	228	P	P	14 45 10.3	-0.8
WB0				IAmb	IAmb	14 45 25.0	
	comp=Z,7.9nm,1.2s						
WR0	Warramunga Arr	22.32	228	P	P	14 45 10.5	-0.7
WR0				IAmb	IAmb	14 45 43.8	
	comp=Z,5.0nm,1.1s						
WB2	Warramunga Arr	22.45	228	P	P	14 45 11.9	-0.7
WB2				IAmb	IAmb	14 45 25.9	
	comp=Z,4.6nm,0.8s						
WRA	Warramunga Arr	22.45	228	P	P	14 45 12.1	-0.6
	comp=Z,1.7nm,0.5s,baz=51,slow=9.9,SNR=33						
	comp=Z,1.7nm,0.5s						
WRA	Warramunga Arr	22.45	228	P	P	14 45 11.1	-1.6
KNRA	Kununurra	24.95	244	P	P	14 45 36.5	-0.1
AS31	Alice Springs	25.19	222	P	P	14 45 38.3	-0.5
ASAR	Alice Springs	25.19	222	P	P	14 45 38.5	-0.3
	comp=Z,2.6nm,0.6s,baz=54,slow=9.0,SNR=40						
	comp=Z,2.6nm,0.6s						
BBOO	Buckleboo	31.13	206	P	P	14 46 30.8	-1.0
SONM	Songino Array	66.23	328	P	P	14 50 57.5	-3.2
	comp=Z,2.0nm,0.4s,baz=128,slow=8.5,SNR=1.9						
	comp=Z,2.0nm,0.4s						
SONM	Songino Array	66.23	328	P	P	14 51 03.2	+2.4
SONM				IAmb	IAmb	14 51 45.0	
	comp=Z,2.3nm,1.5s						
VNDA	Vanda	72.41	178	P	P	14 51 38.6	+0.4
VNDA				IAmb	IAmb	14 51 45.3	
	comp=Z,1.2nm,1.4s						
ZALV	Zalesovo Beam	81.03	327	P	P	14 52 26.3	-1.0
	comp=Z,0.3nm,0.3s,baz=100,slow=7.7,SNR=2.1						
	comp=Z,0.3nm,0.3s						
ILAR	Eielson Array	82.93	22	P	P	14 52 36.0	-1.1
	comp=Z,0.4nm,0.7s,baz=254,slow=4.9,SNR=2.8						
	comp=Z,0.4nm,0.7s						
TOLK	Toolik Lake Re	83.94	18	P	P	14 52 44.8	+2.5
TOLK				IAmb	IAmb	14 53 16.8	
	comp=Z,2.1nm,1.1s						
BMAR	Burnt Mountain	85.00	20	P	P	14 52 50.5	+2.9
TORD	Torodi Ar. Bea	149.57	287	PKPbc	PKPbc	15 00 00.7	-2.2
	comp=Z,0.5nm,0.5s,baz=100,slow=3.3,SNR=4.6						

*IDC **15** 14:41:14.3±1.2, 34°.48N×142°.10E, h0km, mb3.6/7, mbtmp3.7/9, ML3.2/2, MS2.9/3, Error ellipse: s-maj=25.9km s-min=20.4km az=81.0*

*JMA **15** 14:41:16.7±0.3, 34°.6N±0°.8×14°2E±°, h61km±4km, MV3.5/33, FAR E OFF CENTRAL HONSHU*

ISC 15 14:41:16.1±2.2, 34°.54N±0°.05×142°.19E±0°.08, h14km±13km, n31, σ1s31/39, mb3.5/7, Off east coast of Honshu

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s

OXZ	**Oxford**	**1.09**	**222**	P	Pn	14 49 52.6	+0.4
OXZ				S	Sn	14 50 06.3	+0.3
MRNZ	**Matariki Terra**	**1.14**	**349**	P	Pn	14 49 53.8	+0.9
MRNZ				S	Sn	14 50 07.8	+0.5
INZ	**Inchbonnie**	**1.19**	**260**	P	Pn	14 49 54.9	+1.3
INZ				S	Sn	14 50 09.3	+0.8
OKCZ	**Okains Bay**	**1.20**	**179**	P	Pn	14 49 54.4	+0.6
OKCZ				S	Sn	14 50 08.9	+0.2
DSZ	**Denniston Nort**	**1.20**	**310**	P	Pn	14 49 54.3	+0.5
DSZ				S	Sn	14 50 08.8	-0.1
MQZ	**McQueen's Vall**	**1.21**	**193**	P	Pn	14 49 53.9	0.0
MQZ				S	Sn	14 50 08.9	-0.2
TUWZ	**Tuamarina**	**1.29**	**32**	P	Pn	14 49 55.6	+0.7
TUWZ				S	Sn	14 50 11.1	+0.2
NNZ	**Nelson**	**1.33**	**11**	P	Pn	14 49 56.6	+1.1
NNZ				S	Sn	14 50 12.9	+0.9
AKCZ	**Akaroa Harbour**	**1.35**	**184**	P	Pn	14 49 56.2	+0.4
AKCZ				S	Sn	14 50 12.5	0.0
RACZ	**Rakaia**	**1.37**	**208**	P	Pn	14 49 56.2	+0.1
RACZ				S	Sn	14 50 13.0	+0.1
TKNZ	**Takaka Hill**	**1.49**	**358**	P	Pn	14 49 58.9	+1.2
TKNZ				S	Sn	14 50 17.1	+1.1
TCW	**Tory Channel**	**1.61**	**36**	P	Pn	14 49 59.9	+0.5
WACZ	**Wakanui South**	**1.67**	**211**	P	Pn	14 50 00.5	+0.3
WACZ				S	Sn	14 50 20.4	+0.2
QRZ	**Quartz Range**	**1.74**	**347**	P	Pn	14 50 01.8	+0.6
WVZ	**Waitaha Valley**	**1.78**	**251**	P	Pn	14 50 02.8	+1.2
WVZ				S	Sn	14 50 22.7	-0.3
DUWZ	**D'Urville Isla**	**1.84**	**21**	P	Pn	14 50 04.9	+2.3
RPZ	**Rata Peaks**	**1.88**	**230**	P	Pn	14 50 03.7	+0.6
RPZ				S	Sn	14 50 24.6	-0.9
PLWZ	**Palliser**	**1.91**	**61**	P	Pn	14 50 02.9	-0.6
PLWZ				S	Sn	14 50 25.3	-1.0
ARCZ	**Arundel**	**1.97**	**223**	P	Pn	14 50 04.7	+0.4
MSWZ	**Moikau Station**	**1.99**	**57**	P	Pn	14 50 04.0	-0.6
MSWZ				S	Sn	14 50 26.3	-1.9
CAW	**Cannon Point**	**2.08**	**48**	P	Pn	14 50 05.5	-0.3
KIW	**Kapiti Island**	**2.17**	**41**	P	Pn	14 50 07.3	+0.1
MTW	**Mount Morrison**	**2.29**	**54**	P	Pn	14 50 08.0	-0.8
OGWZ	**Otaki Gorge**	**2.34**	**44**	P	Pn	14 50 09.0	-0.4
TMZ	**Timaru**	**2.37**	**218**	P	Pn	14 50 10.7	+0.8
FOZ	**Fox Glacier**	**2.57**	**246**	P	Pn	14 50 14.5	+2.0
MRZ	**Mangatainoka R**	**2.67**	**46**	P	Pn	14 50 13.0	-0.8
NBEZ	**Newall Road No**	**3.31**	**11**	P	Pn	14 50 25.2	+2.4
PKE	**Pukeiti**	**3.41**	**13**	P	Pn	14 50 26.8	+2.7
DREZ	**Durham Road**	**3.45**	**15**	P	Pn	14 50 31.2	+6.6
VRZ	**Vera Road**	**3.64**	**22**	P	Pn	14 50 30.0	+2.7
HIZ	**Hauiti**	**4.24**	**20**	P	Pn	14 50 36.6	+1.1
TLZ	**Tolley Road**	**4.61**	**25**	P	Pn	14 50 43.0	+2.4
TOZ	**Tahuroa Road**	**5.15**	**22**	P	Pn	14 50 48.8	+0.8
CNGZ	**Carnagh Statio**	**5.64**	**46**	P	Pn	14 51 00.9	+6.1
ETAZ	**East Tamaki Re**	**5.75**	**15**	P	Pn	14 50 57.5	+1.2
RVAZ	**Riverhead Bore**	**5.87**	**12**	P	Pn	14 50 59.9	+2.0

*IDC **15** 15:05:27.6±2.2, 1°.27′N×126°.10′E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=177.4km s-min=27.9km az=65.0*
*DJA **15** 15:05:31.5±0.5, 1°.N±4′×12°.6E±°, h82km±11km, M3.1/6, MLv3.1/6*
ISC 15 15:05:33.4±1.1, **1°.48N**±0°.09×**126°.14E**±0°.08, **h54**km, **n7,** σ1§**79**/**8**, **mb3.1**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**120**	P	**Pn**	**15 05 55.7**	**-1.1**
TNTI				S	**Sn**	**15 06 14.8**	**+0.5**
SGSI	**Sangihe**	**2.28**	**345**	P	**Pn**	**15 06 07.0**	**-1.6**
LBMI	**Labuha**	**2.50**	**147**	P	**Pn**	**15 06 11.2**	**-0.5**
GTOI	**Gorontalo**	**3.24**	**255**	P	**Pn**	**15 06 20.7**	**-1.0**
WRA	**Warramunga Arr**	**22.75**	**160**	P	**P**	**15 10 29.1**	**-2.1**
	0.3nm,0.4s,baz=338,slow=11,SNR=15 0.3nm,0.4s						
ASAR	**Alice Springs**	**26.11**	**164**	P	**P**	**15 11 02.4**	**0.0**
	0.2nm,0.6s,baz=344,slow=10,SNR=7.1 0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.08**	**326**	P	**P**	**15 15 30.6**	**+2.5**
	0.1nm,0.3s,baz=114,slow=8.0,SNR=1.8 0.1nm,0.3s						

*WEL **15** 15:07:00, 42°.10S×173°.82E, h8km, ML4.0, Mw3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴ Nm; Mrr2.08; Mθθ-2.08; Mϕϕ-0.01; Mrθ1.98; Mθϕ-7.91; Mϕr-2.31; Fault plane solution: M₀8.70000×10¹⁴ NP1: ϕs91.00000°, δ72.00000°, λ161.00000°. NP2: ϕs187.00000°, δ72.00000°, λ19.00000°. Principal axes: T -90.1400, Plg26.0000°, Azm49.0000°; N 83.9500, Plg64.0000°, Azm229.0000°; P 6.1900, Plg0.0000°, Azm139.0000°;*
*IDC **15** 15:07:17.6±2.7, 42°.10S×173°.68E, h0km, mb3.4/2, mbtmp3.5/3, ML3.7/1, MS2.5/1 Error ellipse: s-maj=52.3km s-min=37.5km az=116.0*
*NOU **15** 15:07:19.4, 42°.29S×174°.00E, h17km, MLv4.4/12, Off E. Coast of S. Island, N.Z.*
*WEL **15** 15:07:19.5±0.3, 42°.S±2′×17°.4E±°, h6km±2km, M4.2/65, ML4.3/19, MLv4.2/65, Error ellipse: s-maj=0.0km s-min=0.0km az=137.9*
ISC 15 15:07:18.5±1.1, **42°.17S**±0°.02×**173°.86E**±0°.03, **h10**km±8km, **n100,** σ1§**55**/**117**, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.34**	**223**	P	**Pb**	**15 07 27.1**	**+0.4**
KHZ				S	**Sb**	**15 07 32.7**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.45**	**2**	P	**Pg**	**15 07 27.4**	**0.0**
BSWZ				S	**Sg**	**15 07 33.3**	**0.0**
CMWZ	**Cape Campbell**	**0.49**	**33**	P	**Pb**	**15 07 30.0**	**+0.7**
TUWZ	**Tuamarina**	**0.74**	**5**	P	**Pg**	**15 07 32.8**	**0.0**
TUWZ				S	**Sg**	**15 07 43.3**	**+0.9**
THZ	**Tophouse**	**0.82**	**299**	P	**Pg**	**15 07 33.3**	**-1.0**
THZ				S	**Sg**	**15 07 43.7**	**-1.3**
GVZ	**Greta Valley S**	**1.00**	**217**	P	**Pn**	**15 07 39.6**	**+1.0**
GVZ				S	**Sn**	**15 07 55.4**	**+2.5**
TCW	**Tory Channel**	**1.01**	**18**	P	**Pb**	**15 07 37.7**	**-0.3**
TCW				S	**Sb**	**15 07 51.3**	**+0.1**
NNZ	**Nelson**	**1.01**	**339**	P	**Pb**	**15 07 36.8**	**-1.3**
NNZ				S	**Sb**	**15 07 49.5**	**-1.9**
SNZO	**South Karori**	**1.06**	**37**	P	**Pg**	**15 07 40.1**	**+1.1**
WEL	**Wellington**	**1.11**	**38**	P	**Pg**	**15 07 40.8**	**+0.9**
WEL				S	**Sn**	**15 07 57.3**	**+1.8**
MRNZ	**Matariki Terra**	**1.12**	**313**	P	**Pb**	**15 07 39.1**	**-1.0**
MRNZ				S	**Sb**	**15 07 54.1**	**-0.7**
PLWZ	**Palliser**	**1.20**	**61**	P	**Pg**	**15 07 41.7**	**+0.1**
MSWZ	**Moikau Station**	**1.28**	**55**	P	**Pb**	**15 07 42.8**	**+0.1**
MSWZ				S	**Sg**	**15 08 00.6**	**+0.8**
TKNZ	**Takaka Hill**	**1.32**	**329**	P	**Pn**	**15 07 42.3**	**-0.7**
LTZ	**Lake Taylor**	**1.32**	**242**	P	**Pb**	**15 07 43.5**	**0.0**
LTZ				S	**Sg**	**15 08 01.8**	**+0.6**
AMCZ	**Amberley**	**1.34**	**221**	P	**Pb**	**15 07 43.9**	**+0.1**
DUWZ	**D'Urville Isla**	**1.36**	**2**	P	**Pg**	**15 07 43.5**	**-0.1**
DUWZ				S	**Sn**	**15 08 01.3**	**-0.4**
CAW	**Cannon Point**	**1.39**	**41**	P	**Pb**	**15 07 44.4**	**-0.2**
PAWZ	**Paruwai Farm**	**1.41**	**57**	P	**Pb**	**15 07 44.5**	**-0.5**
KIW	**Kapiti Island**	**1.52**	**32**	P	**Pb**	**15 07 46.5**	**-0.3**
KIW				S	**Sg**	**15 08 08.8**	**+1.2**
TRWZ	**Traveller**	**1.57**	**61**	P	**Pn**	**15 07 46.3**	**-0.1**
MTW	**Mount Morrison**	**1.59**	**51**	P	**Pn**	**15 07 46.7**	**0.0**
OKCZ	**Okains Bay**	**1.66**	**200**	P	**Pb**	**15 07 48.3**	**-0.9**
OKCZ				S	**Sb**	**15 08 10.4**	**+0.2**
OGWZ	**Otaki Gorge**	**1.67**	**37**	P	**Pn**	**15 07 48.1**	**+0.4**
QRZ	**Quartz Range**	**1.67**	**323**	P	**Pn**	**15 07 48.4**	**+0.6**
QRZ	**Quartz Range**	**1.67**	**323**	P	**Pn**	**15 07 48.2**	**+0.4**
QRZ				S	**Sn**	**15 08 09.7**	**+0.5**
MQZ	**McQueen's Vall**	**1.77**	**209**	P	**Pn**	**15 07 49.2**	**0.0**
MQZ				S	**Sn**	**15 08 10.9**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.78**	**45**	P	**Pn**	**15 07 49.3**	**0.0**
TMWZ	**Te Maipa**	**1.86**	**56**	P	**Pn**	**15 07 50.1**	**-0.3**
MRZ	**Mangatainoka R**	**1.98**	**41**	P	**Pn**	**15 07 52.1**	**0.0**
OHWZ	**Ohakea**	**2.25**	**30**	P	**Pn**	**15 07 57.5**	**-1.6**
PRWZ	**Pori Road**	**2.26**	**45**	P	**Pn**	**15 07 55.6**	**-0.3**
POWZ	**Post Office Ro**	**2.28**	**40**	P	**Pn**	**15 07 56.1**	**-0.1**
BFZ	**Birch Farm**	**2.33**	**51**	P	**Pn**	**15 07 56.1**	**-0.8**
BFZ	**Birch Farm**	**2.33**	**51**	P	**Pn**	**15 07 56.0**	**-0.9**
DVHZ	**Dannevirke**	**2.55**	**44**	P	**Pn**	**15 07 59.1**	**-0.9**
WAZ	**Wanganui**	**2.56**	**20**	P	**Pb**	**15 08 02.6**	**-1.8**
RPZ	**Rata Peaks**	**2.58**	**232**	Pn	**Pn**	**15 07 59.8**	**-0.4**
	15nm,0.3s,baz=62,slow=1.3,SNR=45						
RPZ				Sn	**Sn**	**15 08 31.1**	**-0.5**
	22nm,0.3s,baz=335,slow=23,SNR=24						
	86nm,0.6s						
RPZ	**Rata Peaks**	**2.58**	**232**	P	**Pn**	**15 08 00.1**	**-0.2**
TSZ	**Takapari Road**	**2.64**	**38**	P	**Pn**	**15 08 00.8**	**-0.3**
LREZ	**Lake Rotokare**	**2.73**	**9**	P	**Pb**	**15 08 07.2**	**-0.3**
NMEZ	**Namu Road**	**2.75**	**0**	P	**Pb**	**15 08 07.5**	**-0.3**
PRHZ	**Porangahau**	**2.83**	**49**	P	**Pn**	**15 08 02.4**	**-1.3**
WPHZ	**Waipukurau**	**2.87**	**44**	P	**Pn**	**15 08 03.5**	**-0.7**
KHEZ	**Kahui Hut**	**2.87**	**2**	P	**Pb**	**15 08 08.6**	**-1.3**
NBEZ	**Newall Road No**	**2.90**	**0**	P	**Pb**	**15 08 08.3**	**-1.9**
NEZ	**North Egmont**	**2.90**	**4**	P	**Pb**	**15 08 09.5**	**-0.8**
PKE	**Pukeiti**	**2.97**	**2**	P	**Pb**	**15 08 09.8**	**-1.7**
DREZ	**Durham Road**	**2.99**	**5**	P	**Pb**	**15 08 09.7**	**-2.1**
MTVZ	**Mangateitei**	**3.04**	**24**	P	**Pb**	**15 08 12.5**	**-0.2**
PKVZ	**Pokaka**	**3.09**	**22**	P	**Pb**	**15 08 14.3**	**+0.7**
MOVZ	**Moawhango**	**3.11**	**28**	P	**Pn**	**15 08 08.0**	**+0.3**
PXZ	**Pawanui**	**3.12**	**48**	P	**Pn**	**15 08 06.0**	**-1.6**
VRZ	**Vera Road**	**3.12**	**13**	P	**Pn**	**15 08 10.7**	**+3.0**
WNVZ	**Wahianoa**	**3.13**	**26**	P	**Pn**	**15 08 09.3**	**+1.3**
TRVZ	**Turoa**	**3.14**	**25**	P	**Pb**	**15 08 12.4**	**-2.1**
BHHZ	**Black Hill Sta**	**3.15**	**33**	P	**Pn**	**15 08 08.6**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.17**	**25**	P	**Pb**	**15 08 13.2**	**-1.7**
FWVZ	**Far West T-bar**	**3.18**	**24**	P	**Pb**	**15 08 13.2**	**-2.0**
NGZ	**Ngauruhoe**	**3.27**	**24**	P	**Pb**	**15 08 14.9**	**-1.8**
SNVZ	**South Ngauruho**	**3.27**	**25**	P	**Pb**	**15 08 15.0**	**-1.7**
KAHZ	**Kahuranaki**	**3.29**	**45**	P	**Pn**	**15 08 08.6**	**-1.5**
OTVZ	**Oturere**	**3.30**	**25**	P	**Pn**	**15 08 11.4**	**+1.0**
NNVZ	**North Ngauruho**	**3.31**	**24**	P	**Pn**	**15 08 11.9**	**+1.4**
TWVZ	**Taurewa**	**3.32**	**22**	P	**Pb**	**15 08 15.7**	**-1.8**
WTVZ	**West Tongariro**	**3.32**	**24**	P	**Pn**	**15 08 12.0**	**+1.4**
ETVZ	**East Tongariro**	**3.34**	**26**	P	**Pn**	**15 08 11.9**	**+1.0**
KRVZ	**Karewarewa**	**3.36**	**24**	P	**Pn**	**15 08 14.0**	**+2.9**
TMVZ	**Te Maari**	**3.36**	**25**	P	**Pn**	**15 08 12.3**	**+1.3**
NTVZ	**North Tongarir**	**3.36**	**25**	P	**Pn**	**15 08 12.7**	**+1.5**
MCHZ	**McNeill Hill**	**3.47**	**39**	P	**Pn**	**15 08 11.4**	**-1.1**
RATZ	**Rangitukua**	**3.60**	**24**	P	**Pb**	**15 08 20.8**	**-1.5**
BKZ	**Black Stump Fm**	**3.61**	**35**	P	**Pn**	**15 08 14.7**	**+0.2**
BKZ	**Black Stump Fm**	**3.61**	**35**	P	**Pn**	**15 08 13.4**	**-1.1**
ODZ	**Otahua Downs**	**3.70**	**218**	P	**Pn**	**15 08 15.2**	**-0.5**
HIZ	**Hauiti**	**3.73**	**12**	P	**Pn**	**15 08 18.3**	**+2.2**
HIZ	**Hauiti**	**3.73**	**12**	P	**Pn**	**15 08 18.8**	**+2.8**
MRHZ	**Matea Rd**	**3.86**	**31**	P	**Pn**	**15 08 16.8**	**-1.1**
MTHZ	**Maungataniwha**	**4.02**	**35**	P	**Pn**	**15 08 19.0**	**-1.1**
TLZ	**Tolley Road**	**4.04**	**19**	P	**Pn**	**15 08 24.4**	**+4.0**
JCZ	**Jackson Bay**	**4.17**	**241**	P	**Pn**	**15 08 22.9**	**+0.6**
KKNZ	**Kokohu**	**4.28**	**44**	P	**Pn**	**15 08 21.7**	**-2.0**
TOZ	**Tahuroa Road**	**4.61**	**16**	P	**Pn**	**15 08 32.0**	**+3.9**
URZ	**Urewera**	**4.63**	**34**	P	**Pn**	**15 08 28.4**	**-0.1**
TWGZ	**Tauwhareparae**	**5.08**	**40**	P	**Pn**	**15 08 34.0**	**-0.8**
AWAZ	**Awhitu Peninsu**	**5.13**	**7**	P	**Pn**	**15 08 37.3**	**+1.9**
MKAZ	**Moumakai**	**5.16**	**12**	P	**Pn**	**15 08 37.7**	**+2.0**
WTAZ	**Waiatarua**	**5.26**	**6**	P	**Pn**	**15 08 40.6**	**+3.5**
ETAZ	**East Tamaki Re**	**5.27**	**9**	P	**Pn**	**15 08 40.3**	**+3.0**
RVAZ	**Riverhead Bore**	**5.42**	**6**	P	**Pn**	**15 08 43.2**	**+3.9**
MBAZ	**Motutapu North**	**5.45**	**9**	P	**Pn**	**15 08 43.6**	**+3.9**
WIAZ	**Waiheke Island**	**5.46**	**11**	P	**Pn**	**15 08 43.3**	**+3.4**
SYZ	**Scrubby Hill**	**5.53**	**216**	P	**Pn**	**15 08 41.0**	**+0.3**
KUZ	**Kuaotunu**	**5.60**	**16**	P	**Pn**	**15 08 43.4**	**+1.6**
KUZ	**Kuaotunu**	**5.60**	**16**	P	**Pn**	**15 08 45.2**	**+3.3**
OUZ	**Omahuta**	**6.94**	**358**	P	**Pn**	**15 09 03.6**	**+3.4**
	34nm,1.8s						
OUZ	**Omahuta**	**6.94**	**358**	P	**Pn**	**15 09 03.4**	**+3.2**
ASAR	**Alice Springs**	**37.86**	**286**	P	**P**	**15 14 35.2**	**-0.3**
	0.1nm,0.4s,baz=122,slow=6.8,SNR=6.6 0.1nm,0.4s						
WRA	**Warramunga Arr**	**39.98**	**291**	P	**P**	**15 14 52.2**	**-1.1**
	0.6nm,0.7s,baz=127,slow=8.5,SNR=4.3 0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.30**	**196**	PKPbc	**PKiKP**	**15 27 10.7**	**-0.3**
	0.2nm,0.5s,baz=188,slow=2.0,SNR=2.3						

*IDC **15** 15:08:01.4±2.7, 41°.61S×174°.02E, h0km, mb3.3/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=54.1km s-min=40.7km az=109.0*
*WEL **15** 15:08:04.7±0.3, 42°.S±3′×17°.4E±°, h10km±3km, M3.7/18, ML3.9/18, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=154.2*
ISC 15 15:08:04.2±0.9, **41°.75S**±0°.03×**174°.24E**±0°.02, **h17**km±6km, **n28,** σ1§**15**/**43**, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.02**	**267**	P	**Pg**	**15 08 07.5**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.28**	**277**	P	**Pg**	**15 08 10.8**	**+0.5**
BSWZ				S	**Sb**	**15 08 15.3**	**+0.2**
TUWZ	**Tuamarina**	**0.39**	**325**	P	**Pg**	**15 08 12.4**	**+0.2**
TUWZ				S	**Sg**	**15 08 17.5**	**-0.1**
TCW	**Tory Channel**	**0.54**	**3**	P	**Pg**	**15 08 14.7**	**-0.3**
TCW				S	**Sg**	**15 08 22.0**	**-0.1**
WEL	**Wellington**	**0.61**	**41**	P	**Pg**	**15 08 16.9**	**+0.6**
WEL				S	**Sb**	**15 08 25.5**	**+0.8**
PLWZ	**Palliser**	**0.78**	**77**	P	**Pb**	**15 08 20.8**	**+1.5**
MSWZ	**Moikau Station**	**0.82**	**67**	P	**Pb**	**15 08 21.3**	**+1.2**
NNZ	**Nelson**	**0.84**	**309**	P	**Pg**	**15 08 20.3**	**-0.2**
NNZ				S	**Sb**	**15 08 32.6**	**+1.4**
KHZ	**Kahutara**	**0.85**	**218**	P	**Pb**	**15 08 21.8**	**+1.3**
KHZ				S	**Sn**	**15 08 34.9**	**+1.6**
CAW	**Cannon Point**	**0.89**	**44**	P	**Pg**	**15 08 21.2**	**-0.3**
CAW				S	**Sn**	**15 08 35.4**	**+1.0**
PAWZ	**Paruwai Farm**	**0.96**	**68**	P	**Pg**	**15 08 23.2**	**+0.4**
PAWZ				S	**Sn**	**15 08 38.8**	**+2.6**
DUWZ	**D'Urville Isla**	**0.98**	**346**	P	**Pg**	**15 08 21.9**	**-1.2**
DUWZ				S	**Sg**	**15 08 35.9**	**-0.1**
THZ	**Tophouse**	**1.00**	**269**	P	**Pg**	**15 08 23.5**	**-0.1**
THZ				S	**Sn**	**15 08 39.3**	**+2.1**
KIW	**Kapiti Island**	**1.02**	**30**	P	**Pg**	**15 08 22.7**	**-1.2**
KIW				S	**Sn**	**15 08 38.9**	**+1.3**
MTW	**Mount Morrison**	**1.11**	**58**	P	**Pb**	**15 08 24.9**	**-0.1**
OGWZ	**Otaki Gorge**	**1.16**	**37**	P	**Pb**	**15 08 26.2**	**+0.3**
MRNZ	**Matariki Terra**	**1.17**	**287**	P	**Pb**	**15 08 26.5**	**+0.6**
MRNZ				S	**Sn**	**15 08 43.6**	**+2.3**
TKNZ	**Takaka Hill**	**1.20**	**306**	P	**Pb**	**15 08 26.8**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.28**	**49**	P	**Pn**	**15 08 26.9**	**-0.4**
TMWZ	**Te Maipa**	**1.40**	**63**	P	**Pn**	**15 08 28.4**	**-0.5**
MRZ	**Mangatainoka R**	**1.48**	**43**	P	**Pn**	**15 08 30.2**	**+0.2**
GVZ	**Greta Valley S**	**1.51**	**216**	P	**Pn**	**15 08 29.3**	**-1.2**
QRZ	**Quartz Range**	**1.59**	**305**	P	**Pn**	**15 08 33.2**	**+1.7**
QRZ				S	**Sb**	**15 08 54.1**	**+1.3**
LTZ	**Lake Taylor**	**1.79**	**234**	P	**Pn**	**15 08 35.0**	**+0.6**
LTZ				S	**Sn**	**15 08 57.5**	**+0.8**
RPZ	**Rata Peaks**	**3.06**	**229**	Pn	**Pn**	**15 08 51.3**	**-0.5**
	11nm,0.3s,baz=252,slow=18,SNR=3.3						
RPZ				Sn	**Sn**	**15 09 27.0**	**-1.0**
	baz=88,slow=1.3 132nm,0.7s						
ASAR	**Alice Springs**	**38.02**	**286**	P	**P**	**15 15 20.2**	**-1.3**
	0.3nm,0.7s,baz=122,slow=6.8,SNR=4.3 0.3nm,0.7s						
WRA	**Warramunga Arr**	**40.10**	**290**	P	**P**	**15 15 36.4**	**-2.5**
	0.4nm,0.6s,baz=126,slow=8.4,SNR=1.9 0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.78**	**195**	PKPbc	**PKPbc**	**15 27 55.9**	**0.0**
	0.4nm,0.5s,baz=153,slow=2.7,SNR=2.4						

WEL 15 15:14:35.8±0.3, **42°.S**±2′×**17°.4E**±°, **h9**km±2km, **M2.9**/24, **ML3.5**/18, **MLv2.9**/24, **Error ellipse: s-maj=0.0km s-min=0.0km az=141.2, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**194**	P	Pg	15 14 42.2	+1.5
KHZ				S	Sg	15 14 45.7	+1.6
BSWZ	**Blackbirch Sta**	**0.50**	**23**	P	Pb	15 14 46.4	-0.3
BSWZ				S	Sb	15 14 54.5	+0.3
CMWZ	**Cape Campbell**	**0.62**	**46**	P	Pg	15 14 48.1	+0.4
THZ	**Tophouse**	**0.68**	**308**	P	Pg	15 14 49.0	+0.1
THZ				S	Sg	15 14 57.9	+0.3
TUWZ	**Tuamarina**	**0.79**	**18**	P	Pb	15 14 51.6	0.0
TUWZ				S	Sb	15 15 02.7	+0.3
GVZ	**Greta Valley S**	**0.90**	**208**	P	Pn	15 14 54.2	-0.4
GVZ				S	Sn	15 15 07.6	0.0
NNZ	**Nelson**	**0.98**	**349**	P	Pg	15 14 54.4	-0.2
NNZ				S	Sg	15 15 07.2	-0.1
MRNZ	**Matariki Terra**	**1.01**	**320**	P	Pg	15 14 55.2	0.0
TCW	**Tory Channel**	**1.09**	**27**	P	Pg	15 14 56.5	-0.1
TCW				S	Sn	15 15 11.9	-0.3
LTZ	**Lake Taylor**	**1.16**	**238**	P	Pb	15 14 57.5	-0.5
LTZ				S	Sg	15 15 13.7	+0.4
AMCZ	**Amberley**	**1.22**	**215**	P	Pn	15 14 58.6	-0.4
WEL	**Wellington**	**1.24**	**44**	P	Pn	15 14 59.0	-0.3
TKNZ	**Takaka Hill**	**1.25**	**337**	P	Pn	15 14 59.2	-0.1
TKNZ				S	Sg	15 15 15.8	-0.1
PLWZ	**Palliser**	**1.37**	**64**	P	Pn	15 14 59.6	-1.4
PLWZ				S	Sb	15 15 18.6	-0.5
DUWZ	**D'Urville Isla**	**1.40**	**10**	P	Pb	15 15 01.9	0.0
DUWZ				S	Sg	15 15 20.3	-0.3
DSZ	**Denniston Nort**	**1.42**	**287**	P	Pb	15 15 02.1	-0.3
DSZ				S	Sg	15 15 21.7	+0.2
MSWZ	**Moikau Station**	**1.44**	**58**	P	Pn	15 15 00.4	-1.6
MSWZ				S	Sn	15 15 19.9	-1.1
CAW	**Cannon Point**	**1.53**	**46**	P	Pn	15 15 01.3	-1.9
CAW				S	Sn	15 15 22.5	-0.6
PAWZ	**Paruwai Farm**	**1.57**	**60**	P	Pn	15 15 02.6	-1.2
QRZ	**Quartz Range**	**1.58**	**329**	P	Pb	15 15 04.8	-0.4
OKCZ	**Okains Bay**	**1.60**	**195**	P	Pn	15 15 03.3	-0.9
OXZ	**Oxford**	**1.63**	**225**	P	Pn	15 15 03.2	-1.4
KIW	**Kapiti Island**	**1.64**	**37**	P	Pn	15 15 04.6	-0.1
MQZ	**McQueen's Vall**	**1.68**	**205**	P	Pn	15 15 03.5	-1.8
MQZ				S	Sn	15 15 24.2	-2.7
MTW	**Mount Morrison**	**1.74**	**55**	P	Pn	15 15 04.8	-1.3
AKCZ	**Akaroa Harbour**	**1.77**	**197**	P	Pn	15 15 05.3	-1.3
AKCZ				S	Sn	15 15 27.5	-1.7
OGWZ	**Otaki Gorge**	**1.79**	**41**	P	Pn	15 15 05.2	-1.7
TMWZ	**Te Maipa**	**2.01**	**59**	P	Pn	15 15 08.3	-1.6
MRZ	**Mangatainoka R**	**2.12**	**45**	P	Pn	15 15 10.2	-1.1
WACZ	**Wakanui South**	**2.19**	**216**	P	Pn	15 15 10.7	-1.6
RPZ	**Rata Peaks**	**2.43**	**230**	P	Pn	15 15 14.4	-1.2
RPZ				S	Sn	15 15 42.5	-2.9

*WEL **15** 15:15:00, 41°.74S×174°.29E, h14km, ML4.4, Mw4.5, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁵ Nm; Mrr4.49; Mθθ3.25; Mϕϕ-7.75; Mrθ-1.15; Mθϕ-2.43; Mϕr-1.66; Fault plane solution: M₀6.85000×10¹⁵ NP1: ϕs344.00000°, δ44.00000°, λ47.00000°. NP2: ϕs216.00000°, δ59.00000°, λ123.00000°. Principal axes: T -852.8100, Plg61.0000°, Azm178.0000°; N 334.7000, Plg28.0000°, Azm17.0000°; P 518.1000, Plg8.0000°, Azm283.0000°;*
*IDC **15** 15:15:53.7±1.3, 41°.58S×174°.17E, h0km, mb3.9/4, mbtmp3.9/5, ML4.2/1, MS3.7/12 Error ellipse: s-maj=39.5km s-min=28.0km az=59.0*
*NEIC **15** 15:15:55.4, 41°.78S×174°.35E, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr4.54; Mθθ2.23; Mϕϕ-6.77; Mrθ-0.04; Mθϕ-1.56; Mϕr-0.49; Fault plane solution: M₀6.20000×10¹⁵ NP1:ϕs10.78000°, δ42.58000°, λ91.74000°. NP2:ϕs188.42000°, δ47.45000°, λ88.40000°. Principal axes: T 4.5618, Plg87.0000°, Azm74.0000°; N 2.4947, Plg1.0000°, Azm190.0000°; P -7.0564, Plg2.0000°, Azm280.0000°;*
*NEIC **15** 15:15:55.5±0.9, 41°.78S±0°.03×174°.35E±0°.05, h16km±3km, mb4.5/11, Mwr4.5/50 Error ellipse: s-maj=6.0km s-min=3.5km az=119.0*
*NOU **15** 15:15:56.5, 41°.85S×174°.38E, h12km, MLv4.7/15, Cook Strait, New Zealand*

WHVZ	Whangaehu Hut	2.67	21	P		Pb	15 16 40.7	-2.4
VRZ	Vera Road	2.67	7	P		Pb	15 16 40.8	-2.2
FWVZ	Far West T-bar	2.68	21	P		Pb	15 16 42.0	-1.4
MHEZ	Mangahewa	2.70	360	P		Pb	15 16 43.4	-0.1
TUVZ	Tukino	2.70	22	P		Pb	15 16 41.8	-1.8
KAHZ	Kahuranaki	2.76	45	P		Pn	15 16 38.4	-0.8
NGZ	Ngauruhoe	2.77	21	P		Pb	15 16 42.2	-2.6
SNVZ	South Ngauruho	2.77	21	P		Pn	15 16 41.5	+2.1
OTVZ	Oturere	2.80	22	P		Pb	15 16 42.7	-2.6
NNVZ	North Ngauruho	2.82	21	P		Pb	15 16 42.6	-3.0
WTVZ	West Tongariro	2.83	20	P		Pb	15 16 43.0	-2.8
TWVZ	Taurewa	2.83	18	P		Pb	15 16 43.4	-2.4
KWHZ	Kaweka Forest	2.84	35	P		Pn	15 16 40.6	+0.4
ETVZ	East Tongariro	2.84	22	P		Pn	15 16 42.4	+2.1
WACZ	Wakanui South	2.84	220	P		Pn	15 16 39.7	-0.4
TMVZ	Te Maari	2.86	22	P		Pn	15 16 42.7	+2.2
KRVZ	Karewarewa	2.86	21	P		Pn	15 16 43.3	-3.0
NTVZ	North Tongariro	2.86	21	P		Pn	15 16 42.7	+2.1
MCHZ	McNeill Hill	2.94	38	P		Pn	15 16 41.3	-0.2
WVZ	Waitaha Valley	2.97	243	P		Pn	15 16 43.1	+1.2
KATZ	Kakaramea	2.98	21	P		Pb	15 16 50.1	+1.6
BKZ	Black Stump Fm	3.08	33			Pn	15 16 43.3	-0.2
BKZ	Black Stump Fm	3.08	33	P		Pb	15 16 46.9	-3.2
BKZ	Black Stump Fm	3.08	33	P		Pn	15 16 43.2	-0.4
RPZ	Rata Peaks	3.10	230	Pn		Pn	15 16 43.2	-0.5
	28nm,0.3s,baz=91,slow=2.9,SNR=46							
RPZ				Sn		Sn	15 17 19.0	-1.3
	33nm,0.3s,baz=335,slow=23,SNR=10							
	63nm,0.4s							
RPZ	Rata Peaks	3.10	230	Pn		Pn	15 16 43.5	-0.3
RPZ	Rata Peaks	3.10	230	P		Pn	15 16 43.9	+0.2
RPZ	Rata Peaks	3.10	230	P		Pn	15 16 43.6	-0.1
RATZ	Rangitukua	3.11	21	P		Pb	15 16 49.5	-1.0
ARCZ	Arundel	3.18	226	P		Pn	15 16 44.5	-0.4
NMHZ	Naumai	3.27	36	P		Pn	15 16 47.0	+0.8
HIZ	Hauiti	3.29	7	P		Pb	15 16 50.3	-3.2
HIZ	Hauiti	3.29	7	P		Pn	15 16 49.5	+3.2
GCSZ	Gaunt Creek Bo	3.34	241	P		Pn	15 16 49.4	+2.4
MRHZ	Matea Rd	3.34	29	P		Pn	15 16 47.5	+0.3
MTHZ	Maungataniwha	3.49	34	P		Pn	15 16 48.7	-0.5
ALRZ	Allen Road	3.56	26	P		Pb	15 16 57.9	-0.3
TLZ	Tolley Road	3.56	15	P		Pn	15 16 52.7	+2.5
TMZ	Timaru	3.57	222	P		Pn	15 16 50.1	-0.1
FOZ	Fox Glacier	3.77	241	P		Pn	15 16 54.0	+1.1
MUGZ	Murupara	3.79	30	P		Pn	15 16 54.0	+0.8
HLRZ	Highlands Stat	3.84	24	P		Pb	15 17 01.2	-1.9
TARZ	Mount Tarawera	3.91	26	P		Pn	15 16 55.8	+0.8
LBZ	Lake Benmore	4.01	228	Pn		Pn	15 16 56.2	0.0
LBZ	Lake Benmore	4.01	228	P		Pn	15 16 56.1	0.0
URZ	Urewera	4.11	32	P		Pn	15 16 57.7	+0.1
TOZ	Tahuroa Road	4.14	13	P		Pn	15 17 00.2	+2.2
ODZ	Otahua Downs	4.23	218	P		Pn	15 16 58.9	-0.4
ODZ	Otahua Downs	4.23	218	P		Pn	15 16 58.5	-0.8
OPRZ	Ohinepanea	4.28	24	P		Pn	15 17 00.0	0.0
TGRZ	Tauranga	4.31	21	P		Pn	15 17 03.7	+3.4
TWGZ	Tauwhareparae	4.55	39	P		Pn	15 17 03.6	-0.2
JCZ	Jackson Bay	4.68	239	P		Pn	15 17 06.7	+1.2
JCZ	Jackson Bay	4.68	239	P		Pn	15 17 08.4	+2.9
MKAZ	Moumakai	4.71	8	P		Pn	15 17 08.6	+2.8
AWAZ	Awhitu Peninsu	4.71	3	P		Pn	15 17 09.1	+3.2
ETAZ	East Tamaki Re	4.84	6	P		Pn	15 17 10.4	+2.8
WTAZ	Waiatarua	4.84	5	P		Pn	15 17 11.8	+4.1
HHSZ	Highcliff Hill	4.92	212	P		Pn	15 17 08.3	-0.4
WKZ	Wanaka	4.94	230	P		Pn	15 17 09.7	+0.7
RVAZ	Riverhead Bore	5.00	2	P		Pn	15 17 13.6	+3.7
WIAZ	Waiheke Island	5.02	7	P		Pn	15 17 13.6	+3.6
MBAZ	Motutapu North	5.02	5	P		Pn	15 17 12.8	+2.7
EAZ	Earnscleugh	5.03	225	P		Pn	15 17 09.7	-0.5
KUZ	Kuaotunu	5.14	12	P		Pn	15 17 13.9	+2.2
KUZ	Kuaotunu	5.14	12	P		Pn	15 17 14.3	+2.6
ABAZ	Army Bay	5.18	4	P		Pn	15 17 14.6	+2.2
MLZ	Mavora Lakes	5.77	229	P		Pn	15 17 21.4	+1.0
SYZ	Scrubby Hill	6.05	216	P		Pn	15 17 25.0	+0.8
SYZ	Scrubby Hill	6.05	216	P		Pn	15 17 24.5	+0.3
WHZ	Wether Hill Ro	6.19	226	Pn		Pn	15 17 25.8	-0.3
WHZ	Wether Hill Ro	6.19	226	P		Pn	15 17 25.8	-0.3
OUZ	Omahuta	6.57	355	P		Pn	15 17 34.9	+3.4
OUZ	Omahuta	6.57	355	P		Pn	15 17 35.3	+3.8
CTZ	Chatham Island	6.94	109	P		Pn	15 17 38.7	+2.3
	115nm,0.4s							
PYZ	Puysegur Point	7.05	229	P		Pn	15 17 39.4	+1.4
PYZ	Puysegur Point	7.05	229	P		Pn	15 17 40.0	+2.0
RAO	Raoul Island	13.99	29	Pn		Pn	15 19 11.8	-1.2
TAU	Tasmania Unive	19.98	258	P		P	15 20 26.4	-0.5
TAU				IAmb		IAmb	15 21 06.1	
	comp=Z,83nm,1.4s							
DZM	Mont Dzumac	20.74	339	LR		LR	15 28 29.0	
	comp=Z,213nm,18.3s,baz=186,slow=37							
MSVF	Nonsavu	24.17	9	LR		LR	15 30 32.0	
	comp=Z,203nm,18.4s,baz=193,slow=37							
EIDS	Eidsvold	25.25	303	P		P	15 21 20.5	-0.2
EIDS				IAmb		IAmb	15 22 02.0	
	comp=Z,11nm,1.4s							
STKA	Stephens Creek	27.87	280	LR		LR	15 30 48.1	
	comp=Z,104nm,21.4s,baz=185,slow=32							
RAR	Rarotonga	29.93	55	LR		LR	15 33 51.9	
	comp=Z,57nm,19.4s,baz=246,slow=36							
AFI	Afiamalu	30.27	28	LR		LR	15 33 44.7	
	comp=Z,58nm,21.1s,baz=227,slow=36							
AS31	Alice Springs	38.10	285	P		P	15 23 13.8	+0.1
ASAR	Alice Springs	38.10	285	P		P	15 23 12.9	-0.7
	comp=Z,0.6nm,0.5s,baz=123,slow=6.4,SNR=26							
ASAR				LR		LR	15 38 53.8	
	comp=Z,90nm,18.2s,baz=121,slow=36							
	comp=Z,0.6nm,0.5s							
ASAR	Alice Springs	38.10	285	P		P	15 23 13.7	+0.1
WR0	Warramunga Arr	40.02	291	P		P	15 23 27.7	-2.0
WR0				IAmb		IAmb	15 23 28.8	
	comp=Z,7.7nm,1.4s							
PMG	Port Moresby	40.16	316	LR		LR	15 40 36.3	
	comp=Z,86nm,18.2s,baz=152,slow=37							
PMG	Port Moresby	40.16	316	P		P	15 23 28.8	-2.0
PMG				IAmb		IAmb	15 24 00.7	
	comp=Z,12nm,1.0s							
WB2	Warramunga Arr	40.17	290	P		P	15 23 30.1	-0.8
WB2				IAmb		IAmb	15 23 41.7	
	comp=Z,5.2nm,1.0s							
WRA	Warramunga Arr	40.18	290	P		P	15 23 30.3	-0.6
	comp=Z,0.6nm,0.4s,baz=128,slow=8.5,SNR=12							
WRA				LR		LR	15 40 43.7	
	comp=Z,117nm,18.3s,baz=147,slow=37							
	comp=Z,0.6nm,0.4s							
CASY	Casey	42.22	213	P		P	15 23 48.3	+1.1
CASY				IAmb		IAmb	15 23 51.3	
	comp=Z,24nm,1.2s							
KRVT	Keravat (AS076	42.31	326	LR		LR	15 41 16.4	
	comp=Z,51nm,18.3s,baz=287,slow=36							
KNRA	Kununurra	46.96	290	P		P	15 24 25.7	+0.1
MTN	Manton Dam	47.29	295	P		P	15 24 27.5	-0.7
FITZ	Fitzroy Crossi	47.59	285	P		P	15 24 28.7	-1.8
MORW	Morawa	48.33	266	P		P	15 24 34.9	-1.2
QSPA	South Pole Qui	48.35	180	P		P	15 24 39.0	+3.0
	comp=Z,0.8nm,0.7s,baz=192,slow=3.3,SNR=8.6							
	comp=Z,0.8nm,0.7s							
MAW	Mawson	59.46	204	LR		LR	15 51 03.0	
	comp=Z,168nm,19.0s,baz=94,slow=35							
SNAA	Sanae	66.84	181	LR		LR	15 54 44.1	
	comp=Z,83nm,18.7s,baz=187,slow=35							
LEM	Lembang	68.17	281	LR		LR	15 57 57.4	
	comp=Z,66nm,18.3s,baz=218,slow=37							
CMAR	Chiang Mai Arr	91.71	293	P		P	15 29 02.7	+0.5
	comp=Z,0.5nm,0.3s,baz=134,slow=6.4,SNR=1.2							
	comp=Z,0.5nm,0.3s							
PZH	PanZhiHua	95.40	301	P		P	15 29 21.0	+1.8
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
ARCES	ARCESS Array B	147.83	340	PKPbc		PKPbc	15 35 37.8	-0.5
	comp=Z,9.4nm,1.2s,baz=43,slow=2.3,SNR=8.2							
TORD	Torodi Ar. Bea	150.76	195	PKPbc		PKiKP	15 35 47.7	-0.2
	comp=Z,1.2nm,0.4s,baz=156,slow=3.5,SNR=11							
FINES	FINESS Array B	152.59	327	PKPbc		PKPbc	15 35 50.0	+0.1
	comp=Z,2.7nm,0.8s,baz=31,slow=3.6,SNR=4.3							

WEL 15 15:20:39.3±0.3, 42°S±3°×17°4E±°, h5km, M2.9/19, ML3.4/19, MLv2.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=150.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.16	213	P	Pg	15 20 43.0	+0.4
CMWZ				S	Sg	15 20 46.4	+1.6
TUWZ	Tuamarina	0.34	302	P	Pg	15 20 46.3	+0.3
TUWZ				S	Sg	15 20 51.7	+1.1
BSWZ	Blackbirch Sta	0.36	253	P	Pg	15 20 46.3	+0.1
TCW	Tory Channel	0.40	354	P	Pg	15 20 47.4	+0.3
TCW				S	Sg	15 20 53.5	+1.2
WEL	Wellington	0.46	45	P	Pg	15 20 48.7	+0.5
WEL				S	Sb	15 20 55.9	-1.2
PLWZ	Palliser	0.69	87	P	Pg	15 20 53.1	+0.5
MSWZ	Moikau Station	0.72	74	P	Pg	15 20 53.3	+0.3
MSWZ				S	Sn	15 21 06.4	-1.1
CAW	Cannon Point	0.75	48	P	Pg	15 20 53.8	+0.1
NNZ	Nelson	0.82	299	P	Pg	15 20 55.5	+0.5
PAWZ	Paruwai Farm	0.85	75	P	Pg	15 20 56.3	-0.3
DUWZ	D'Urville Isla	0.87	339	P	Pg	15 20 56.1	+0.2
KIW	Kapiti Island	0.87	30	P	Pg	15 20 55.7	-0.2
MTW	Mount Morrison	0.99	63	P	Pg	15 20 58.2	-0.1
KHZ	Kahutara	1.00	216	P	Pg	15 20 58.4	0.0
OGWZ	Otaki Gorge	1.01	39	P	Pg	15 20 58.2	-0.6
TRWZ	Traveller	1.04	79	P	Pg	15 20 59.1	-0.2
THZ	Tophouse	1.08	262	P	Pg	15 20 59.7	-0.4
TKNZ	Takaka Hill	1.18	299	P	Pg	15 21 01.6	-0.5
MRNZ	Matariki Terra	1.20	280	P	Pg	15 21 02.0	-0.3
TMWZ	Te Maipa	1.28	67	P	Pg	15 21 02.4	-1.4
MRZ	Mangatainoka R	1.34	45	P	Pn	15 21 03.6	-1.1
QRZ	Quartz Range	1.57	299	P	Pn	15 21 08.1	+0.2
PRWZ	Pori Road	1.63	50	P	Pn	15 21 09.2	+0.6
POWZ	Post Office Ro	1.63	42	P	Pn	15 21 07.8	-0.9
GVZ	Greta Valley S	1.66	215	P	Pn	15 21 08.3	-0.8
DSZ	Denniston Nort	1.90	265	P	Pn	15 21 12.8	+0.4
WAZ	Wanganui	1.92	15	P	Pb	15 21 15.2	+0.3
LTZ	Lake Taylor	1.93	232	P	Pn	15 21 11.7	-1.1
TSZ	Takapari Road	1.98	39	P	Pn	15 21 12.4	-1.2
AMCZ	Amberley	2.00	218	P	Pb	15 21 15.8	-0.4
PNHZ	Pukenui	2.21	40	P	Pn	15 21 15.1	-1.6
OKCZ	Okains Bay	2.31	204	P	Pn	15 21 15.0	-3.0
KHEZ	Kahui Hut	2.33	354	P	Pg	15 21 23.0	-0.9
NBEZ	Newall Road No	2.37	351	P	Pb	15 21 23.5	+1.0
OXZ	Oxford	2.41	224	P	Pn	15 21 21.1	+1.7
MOVZ	Moawhango	2.46	27	P	Pb	15 21 23.2	-0.7
WNVZ	Wahianoa	2.48	23	P	Pg	15 21 26.6	-0.2
AKCZ	Akaroa Harbour	2.49	204	P	Pn	15 21 22.1	+1.6
BHHZ	Black Hill Sta	2.50	32	P	Pb	15 21 24.5	-0.2
VRZ	Vera Road	2.51	8	P	Pb	15 21 25.6	+0.8
OTVZ	Oturere	2.65	23	P	Pb	15 21 27.1	-0.3
RACZ	Rakaia	2.66	217	P	Pn	15 21 24.0	+1.2
NNVZ	North Ngauruho	2.67	22	P	Pb	15 21 27.5	-0.1
WTVZ	West Tongariro	2.67	21	P	Pb	15 21 27.8	+0.1
ETVZ	East Tongariro	2.69	23	P	Pb	15 21 27.8	-0.2
KWHZ	Kaweka Forest	2.71	37	P	Pn	15 21 29.9	-1.3
TMVZ	Te Maari	2.71	23	P	Pb	15 21 28.0	-0.3
KRVZ	Karewarewa	2.71	22	P	Pb	15 21 28.2	-0.1
BKZ	Black Stump Fm	2.95	35	P	Pb	15 21 32.4	0.0
WACZ	Wakanui South	2.96	217	P	Pn	15 21 24.7	-2.4
WVZ	Waitaha Valley	3.04	240	P	Pb	15 21 32.2	-1.7
HIZ	Hauiti	3.12	8	P	Pb	15 21 34.2	-1.1
RPZ	Rata Peaks	3.20	228	P	Pn	15 21 32.2	+1.9
ARCZ	Arundel	3.29	224	P	Pn	15 21 33.2	+1.6
TMZ	Timaru	3.69	220	P	Pn	15 21 35.4	-1.6
ODZ	Otahua Downs	4.36	217	P	Pn	15 21 44.3	-1.9

IDC 15 15:21:38.1±2.7, 41°.72S×173°.96E, h0km, mb3.4/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=52.5km s-min=38.4km az=108.0
WEL 15 15:21:40.0±0.4, 42°S±3°×17°4E±°, h5km, M3.8/18, ML4.1/18, MLv3.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=165.6
ISC 15 15:21:40.1±0.9, 41°.83S±0°.03×174°.13E±0°.02, h16km±5km, n83, σ1s53/91, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.10	39	P	Pg	15 21 42.4	-1.2
CMWZ				S	Sg	15 21 46.7	+0.9
BSWZ	Blackbirch Sta	0.22	300	P	Pg	15 21 45.2	0.0
BSWZ				S	Sg	15 21 49.2	+0.5
TUWZ	Tuamarina	0.42	340	P	Pb	15 21 49.0	-0.2
TUWZ				S	Sb	15 21 55.9	+0.7
TCW	Tory Channel	0.62	10	P	Pb	15 21 52.2	-0.5
TCW				S	Sb	15 22 01.8	+0.6
WEL	Wellington	0.72	42	P	Pb	15 21 54.3	0.0
KHZ	Kahutara	0.74	217	P	Pb	15 21 55.6	+1.0
KHZ				S	Sn	15 22 08.5	+1.8
NNZ	Nelson	0.83	317	P	Pn	15 21 56.5	-0.6
NNZ				S	Sn	15 22 09.0	0.0
PLWZ	Palliser	0.88	73	P	Pb	15 21 57.1	0.0
PLWZ				S	Sn	15 22 11.7	+1.4
THZ	Tophouse	0.92	274	P	Pn	15 21 58.5	0.0
MSWZ	Moikau Station	0.93	64	P	Pb	15 21 58.0	+0.1
MSWZ				S	Sn	15 22 13.6	+2.0
CAW	Cannon Point	1.00	45	P	Pb	15 21 59.0	-0.1
DUWZ	D'Urville Isla	1.03	351	P	Pn	15 21 59.6	-0.3
PAWZ	Paruwai Farm	1.07	66	P	Pg	15 21 59.6	-1.2
MRNZ	Matariki Terra	1.11	292	P	Pn	15 22 02.3	+1.2
KIW	Kapiti Island	1.13	32	P	Pb	15 22 01.1	-0.2
TKNZ	Takaka Hill	1.18	312	P	Pn	15 22 02.9	+0.8
MTW	Mount Morrison	1.23	58	P	Pg	15 22 01.9	-1.9
TRWZ	Traveller	1.24	70	P	Pg	15 22 01.6	-2.6
OGWZ	Otaki Gorge	1.28	38	P	Pb	15 22 03.5	-0.3
HOWZ	Holdsworth Sta	1.40	49	P	Pn	15 22 04.6	-0.3
GVZ	Greta Valley S	1.40	215	P	Pn	15 22 05.5	+0.5
TMWZ	Te Maipa	1.50	62	P	Pn	15 22 05.4	-1.1
QRZ	Quartz Range	1.57	309	P	Pg	15 22 09.4	-0.8
MRZ	Mangatainoka R	1.60	44	P	Pn	15 22 07.3	-0.3
LTZ	Lake Taylor	1.68	235	P	Pn	15 22 09.5	+0.7
AMCZ	Amberley	1.74	219	P	Pn	15 22 09.7	0.0
DSZ	Denniston Nort	1.74	272	P	Pg	15 22 12.1	-1.5
CPWZ	Castlepoint	1.81	60	P	Pg	15 22 17.0	+2.2
OHWZ	Ohakea	1.85	29	P	Pb	15 22 12.9	-0.6
PRWZ	Pori Road	1.88	48	P	Pn	15 22 10.9	-0.7
POWZ	Post Office Ro	1.89	41	P	Pn	15 22 11.5	-0.3
BFZ	Birch Farm	1.96	55	P	Pg	15 22 18.3	+0.5
OXZ	Oxford	2.15	225	P	Pn	15 22 15.2	-0.1
DVHZ	Dannevirke	2.17	46	P	Pn	15 22 14.4	-1.2
WAZ	Wanganui	2.17	18	P	Pg	15 22 19.9	-1.8
MQZ	McQueen's Vall	2.17	210	P	Pn	15 22 14.5	-1.1
INZ	Inchbonnie	2.19	245	P	Pg	15 22 20.1	-2.0
TSZ	Takapari Road	2.24	39	P	Pn	15 22 16.2	-0.4
LREZ	Lake Rotokare	2.37	5	P	Pg	15 22 23.8	-1.9
RACZ	Rakaia	2.40	217	P	Pn	15 22 18.3	-0.4
PRHZ	Porangahau	2.45	51	P	Pn	15 22 20.0	+0.5
WPHZ	Waipukurau	2.48	46	P	Pg	15 22 26.6	-1.1
KHEZ	Kahui Hut	2.53	358	P	Pg	15 22 26.1	-2.5
PKE	Pukeiti	2.63	358	P	Pb	15 22 26.3	-0.6
MTVZ	Mangateitei	2.64	23	P	Pg	15 22 28.5	-2.3
WACZ	Wakanui South	2.70	218	P	Pn	15 22 22.5	-0.4
MOVZ	Moawhango	2.71	28	P	Pn	15 22 25.1	+2.0
WNVZ	Wahianoa	2.73	25	P	Pb	15 22 28.6	-0.2
PXZ	Pawanui	2.74	50	P	Pb	15 22 29.7	+1.0
VRZ	Vera Road	2.74	10	P	Pb	15 22 28.5	-0.3
TRVZ	Turoa	2.75	24	P	Pb	15 22 28.8	-0.1
BHHZ	Black Hill Sta	2.76	33	P	Pb	15 22 29.7	+0.6
WHVZ	Whangaehu Hut	2.77	24	P	Pb	15 22 29.1	-0.4
FWVZ	Far West T-bar	2.79	23	P	Pb	15 22 29.8	+0.1
WVZ	Waitaha Valley	2.81	242	P	Pn	15 22 27.0	+2.7
TUVZ	Tukino	2.81	25	P	Pb	15 22 28.8	-1.1
NGZ	Ngauruhoe	2.88	23	P	Pg	15 22 32.2	-3.0
SNVZ	South Ngauruho	2.88	24	P	Pb	15 22 31.6	+0.4
OTVZ	Oturere	2.91	24	P	Pb	15 22 31.8	+0.2
KAHZ	Kahuranaki	2.91	47	P	Pn	15 22 24.3	-1.4
NNVZ	North Ngauruho	2.92	23	P	Pb	15 22 32.5	+0.6
WTVZ	West Tongariro	2.93	23	P	Pb	15 22 32.7	+0.7
ETVZ	East Tongariro	2.94	25	P	Pb	15 22 32.7	+0.4
RPZ	Rata Peaks	2.95	229	Pn	Pn	15 22 26.3	0.0
	10nm,0.3s,baz=161,slow=0.3,SNR=14						
RPZ				Sn	Sn	15 23 01.4	+0.1
	7.8nm,0.3s,baz=153,slow=21,SNR=8.8						
	28nm,0.3s						
RPZ	Rata Peaks	2.95	229	P	Pn	15 22 26.3	0.0
KRVZ	Karewarewa	2.96	23	P	Pb	15 22 32.3	-0.3
TMVZ	Te Maari	2.96	24	P	Pb	15 22 32.4	-0.2
NTVZ	North Tongarir	2.97	24	P	Pb	15 22 32.3	-0.4
GCSZ	Gaunt Creek Bo	3.18	241	P	Pb	15 22 35.4	-0.8
HIZ	Hauiti	3.35	10	P	Pb	15 22 35.9	-3.3
TLZ	Tolley Road	3.66	18	P	Pn	15 22 42.5	-1.9
LBZ	Lake Benmore	3.86	227	P	Pn	15 22 39.6	+0.8
KMRZ	Kaimai	4.21	20	P	Pb	15 22 50.2	-3.6
TOZ	Tahuroa Road	4.22	15	P	Pn	15 22 47.6	+3.8
JCZ	Jackson Bay	4.52	238	P	Pn	15 22 53.0	+5.0
AWAZ	Awhitu Peninsu	4.77	5	P	Pn	15 22 54.3	+3.0
MKAZ	Moumakai	4.78	10	P	Pn	15 22 52.8	+1.3
WTAZ	Waiatarua	4.90	4	P	Pn	15 22 57.7	+4.6
ETAZ	East Tamaki Re	4.91	7	P	Pn	15 22 57.0	+3.8
RVAZ	Riverhead Bore	5.06	4	P	Pn	15 22 59.4	+4.1
ASAR	Alice Springs	37.97	286	P	P	15 28 56.8	-0.4
	0.2nm,0.4s,baz=122,slow=6.5,SNR=6.7						
	0.2nm,0.4s						
WRA	Warramunga Arr	40.05	291	P	P	15 29 13.3	-1.3
	0.7nm,0.9s,baz=126,slow=8.4,SNR=5.8						
	0.7nm,0.9s						
TORD	Torodi Ar. Bea	150.68	195	PKPbc	PKPbc	15 41 32.4	+0.6
	0.3nm,0.4s,baz=164,slow=2.2,SNR=2.4						

IDC 15 15:43:03.9±8.7, 41°.13S×174°.44E, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=519.5km s-min=52.5km az=33.0
WEL 15 15:43:05.4, 42°S±12°×17°4E±°, h5km±10km, M2.5/8, ML2.8/8, MLv2.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=152.7
ISC 15 15:43:04.5±0.9, 41°.78S±0°.07×174°.39E±0°.03, h10km, n26, σ1s62/34, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.14	281	P	Pg	15 43 09.4	+1.8
CMWZ				S	Sg	15 43 14.6	+4.7
BSWZ	Blackbirch Sta	0.39	279	P	Pb	15 43 14.0	+0.5
BSWZ				S	Sb	15 43 21.4	+1.7
TUWZ	Tuamarina	0.48	316	P	Pb	15 43 14.8	-0.3
TUWZ				S	Sb	15 43 22.5	+0.3
WEL	Wellington	0.57	30	P	Pb	15 43 15.7	-0.8
TCW	Tory Channel	0.57	351	P	Pb	15 43 15.9	-0.7
PLWZ	Palliser	0.68	73	P	Pb	15 43 18.9	+0.4
PLWZ				S	Sn	15 43 30.6	-0.3
MSWZ	Moikau Station	0.74	61	P	Pb	15 43 20.0	+0.5
MSWZ				S	Sn	15 43 32.5	+0.2
CAW	Cannon Point	0.84	37	P	Pb	15 43 20.5	-0.7
PAWZ	Paruwai Farm	0.87	63	P	Pb	15 43 22.0	+0.3
PAWZ				S	Sn	15 43 36.0	+0.4
NNZ	Nelson	0.94	306	P	Pb	15 43 23.1	+0.1
NNZ				S	Sn	15 43 37.3	-0.1
KIW	Kapiti Island	0.99	23	P	Pb	15 43 23.3	-0.5
DUWZ	D'Urville Isla	1.04	340	P	Pn	15 43 24.9	-0.3
MTW	Mount Morrison	1.04	54	P	Pb	15 43 24.1	-0.4
THZ	Tophouse	1.11	270	P	Pb	15 43 25.5	-0.4
THZ				S	Sg	15 43 35.5	-4.9
OGWZ	Otaki Gorge	1.12	32	P	Pb	15 43 25.5	-0.5
HOWZ	Holdsworth Sta	1.22	44	P	Pb	15 43 25.0	-2.7
MRNZ	Matariki Terra	1.28	286	P	Pg	15 43 29.6	+0.5
TMWZ	Te Maipa	1.31	60	P	Pn	15 43 27.5	-1.4
MRZ	Mangatainoka R	1.43	39	P	Pn	15 43 29.8	-0.7
QRZ	Quartz Range	1.69	303	P	Pb	15 43 36.0	+0.2
DSZ	Denniston Nort	1.94	270	P	Pn	15 43 34.2	-3.4
TSZ	Takapari Road	2.09	35	P	Pn	15 43 38.7	-0.8
OTVZ	Otur

2.7nm,0.5s,baz=138,slow=25,SNR=3.8
KK31 ⇓Lg Lg 15 49 42.5
2.8nm,0.5s,baz=144,slow=25,SNR=4.3
DGS Degeres 3.98 28 *eP* **Pg 15 48 50.3 -0.1**
2.4nm,0.5s
DGS *eS* **Sg 15 49 44.5 +2.6**
9.1nm,0.7s
DGS Degeres 3.98 28 Pg **Pb 15 48 48.1 +3.0**
2.9nm,0.8s
DGS Lg Lg 15 49 44.6
9.1nm,0.7s
TNSS Tian-Shan 4.32 39 *eP* **Pg 15 48 56.2 -0.7**
1.1nm,0.1s
TNSS *eS* **Sg 15 49 54.9 +2.0**
3.4nm,0.7s
TNSS Tian-Shan 4.32 39 Pg **Pb 15 48 54.0 +2.9**
1.8nm,0.4s
TNSS Lg Lg 15 49 54.1
3.5nm,0.8s
KRBS Karabastau 4.35 24 *eP* **Pg 15 48 55.4 -2.1**
1.8nm,0.7s
KRBS *eS* **Sg 15 49 53.5 -0.3**
5.4nm,0.6s
KRBS Karabastau 4.35 24 Pg **Pb 15 48 53.5 +2.1**
1.9nm,0.6s
KRBS Lg Lg 15 49 53.5
4.4nm,0.7s
MDOK Medeo 4.46 39 *eP* **Pg 15 48 58.2 -1.4**
2.0nm,0.6s
MDOK *eS* **Sg 15 49 57.9 +0.4**
9.8nm,0.7s
MDOK Medeo 4.46 39 Pg **Pb 15 48 56.1 +2.7**
1.3nm,0.1s
MDOK ⇑Pg **Pg 15 48 56.9 -2.8**
2.4nm,0.7s
MDOK Lg Lg 15 49 57.9
9.8nm,0.7s
MDOK Lg Lg 15 49 58.0
6.5nm,0.6s
KOTS Kotyrbulak 4.55 39 *eP* **Pg 15 49 00.5 -0.8**
3.6nm,0.6s
KOTS *eS* **Sg 15 50 01.8 +1.7**
20nm,0.9s
KOTS Kotyrbulak 4.55 39 Pg **Pb 15 48 57.5 +2.7**
1.9nm,0.8s
KOTS Lg Lg 15 50 00.2
20nm,0.9s
KTBS Karatobe 4.73 32 *eP* **Pg 15 49 02.4 -2.4**
0.5nm,0.6s
KTBS *eS* **Sg 15 50 05.3 -0.8**
17nm,0.6s
KTBS Karatobe 4.73 32 Pg **Pb 15 49 00.4 +2.6**
1.0nm,0.4s
KTBS Lg Lg 15 50 04.9
17nm,0.6s
CHKK Chushkaly 4.97 33 *eP* **Pg 15 49 06.9 -2.5**
0.7nm,0.3s
CHKK *eS* **Sg 15 50 12.9 -1.0**
5.1nm,0.5s
CHKK Chushkaly 4.97 33 Pg **Pb 15 49 04.8 +2.8**
0.5nm,0.1s
CHKK Lg Lg 15 50 12.9
5.1nm,0.5s
BTLS Baital 5.32 6 *eP* **Pg 15 49 14.1 -2.0**
1.1nm,0.6s
BTLS *eS* **Sg 15 50 25.0 0.0**
2.2nm,0.7s
BLB Baldybastay 5.85 40 *eP* **Pg 15 49 23.6 -2.6**
1.7nm,0.6s
BLB *eS* **Sg 15 50 42.1 0.0**
6.4nm,0.9s
BLB Baldybastay 5.85 40 Pg **Pb 15 49 20.0 +3.0**
0.6nm,0.1s
BLB Lg Lg 15 50 39.1
6.4nm,0.9s
PDGK Podgornoye 5.91 51 Pg **Pb 15 49 20.2 +2.2**
0.4nm,0.3s
PDGK Lg Lg 15 50 39.7
1.7nm,0.9s

WEL 15 15:55:33.3±0.5, 42°S±3°×17°4E±°, h5km, M3.1/18, ML3.8/15, MLv3.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=136.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**249**	P	Pg	15 55 39.0	+0.5
KHZ				S	Sg	15 55 42.7	+0.6
BSWZ	**Blackbirch Sta**	**0.61**	**0**	P	Pg	15 55 45.5	+0.5
TUWZ	**Tuamarina**	**0.89**	**3**	P	Pg	15 55 50.7	+0.3
TUWZ				S	Sb	15 56 03.7	+0.2
GVZ	**Greta Valley S**	**0.90**	**224**	P	Pb	15 55 51.5	+0.1
GVZ				S	Sb	15 56 04.6	+1.0
TCW	**Tory Channel**	**1.15**	**15**	P	Pg	15 55 55.0	-0.4
TCW				S	Sb	15 56 11.2	+0.3
WEL	**Wellington**	**1.23**	**33**	P	Pg	15 55 56.4	-0.5
WEL				S	Sg	15 56 12.8	-0.2
MRNZ	**Matariki Terra**	**1.24**	**317**	P	Pg	15 55 56.6	-0.6
MRNZ				S	Sg	15 56 12.6	-0.7
LTZ	**Lake Taylor**	**1.27**	**248**	P	Pg	15 55 56.5	-1.2
LTZ				S	Sg	15 56 12.8	-1.4
PLWZ	**Palliser**	**1.27**	**54**	P	Pg	15 55 57.0	-0.8
PLWZ				S	Sg	15 56 14.1	-0.2
MSWZ	**Moikau Station**	**1.37**	**49**	P	Pn	15 55 57.9	-1.2
MSWZ				S	Sb	15 56 16.3	-1.0
TKNZ	**Takaka Hill**	**1.46**	**332**	P	Pn	15 55 59.8	-0.5
PAWZ	**Paruwai Farm**	**1.49**	**52**	P	Pn	15 55 59.4	-1.4
CAW	**Cannon Point**	**1.51**	**37**	P	Pn	15 56 00.0	-1.0
CAW				S	Sn	15 56 20.9	-0.1
DUWZ	**D'Urville Isla**	**1.52**	**1**	P	Pn	15 56 01.0	-0.2
DSZ	**Denniston Nort**	**1.65**	**290**	P	Pn	15 56 02.9	0.0
KIW	**Kapiti Island**	**1.65**	**28**	P	Pn	15 56 02.6	-0.4
OGWZ	**Otaki Gorge**	**1.79**	**33**	P	Pn	15 56 03.8	-1.1
QRZ	**Quartz Range**	**1.80**	**326**	P	Pn	15 56 05.3	+0.2
BFZ	**Birch Farm**	**2.42**	**48**	P	Pb	15 56 18.0	+0.6
VRZ	**Vera Road**	**3.26**	**12**	P	Pn	15 56 25.8	+0.6
MKAZ	**Moumakai**	**5.30**	**11**	P	Pn	15 56 52.7	-0.4

*NNC **15** 16:02:52.5±2.5, 36°.95N×70°.46E, h0km, mb5.8, mpv5.9, Error ellipse: s-maj=24.6km s-min=13.6km az=159.0*
*MOS **15** 16:02:54.4±0.9, 36°.50N×70°.90E, h189km, mb5.3/114, MS4.2/5, Error ellipse: s-maj=3.7km s-min=2.7km az=106.1*
*NEIC **15** 16:02:56.3±1.4, 36°.52N±0°.05×70°.84E±0°.07, h191km±2km, mb5.3/300, Mww5.4, Error ellipse: s-maj=8.3km s-min=7.5km az=221.0*
*BJI **15** 16:02:56.3±0.0, 36°.55N×70°.95E, h198km, mb5.0/72, mB4.9/46*
*GCMT **15** 16:02:57.3±0.1, 36°.49N±0°.01×70°.70E±0°.01, h204km, MW5.4/147, Moment Tensor Solution. s101,c144; s147,c257; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.04±.02; Mθθ-0.86±.02; Mφφ-0.17±.02; Mrθ0.74±.02; Mθφ-0.43±.02; Mφr0.86±.02; Best double couple: Mo1.55300×10^17 NP1:φs48.00000°, δ69.00000°, λ78.00000°. NP2:φs259.00000°, δ24.00000°, λ119.00000°. Principal axes: T 1.5840, Plg64.0000°, Azm298.0000°; N -0.0600, Plg11.0000°, Azm52.0000°; P -1.5220, Plg23.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **15** 16:02:57.5±0.8, 36°.47N×70°.89E, h208km±6km, mb4.8/39, mbtmp5.3/44 Error ellipse: s-maj=7.3km s-min=5.9km az=3.0*
*NEIC **15** 16:02:59, 36°.52N×70°.98E, h190km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^17Nm; Mrr1.41; Mθθ-1.13; Mφφ-0.28; Mrθ0.58; Mθφ-0.61; Mφr0.42; Fault plane solution: Mo1.59000×10^17 NP1: φs246.00000°, δ32.00000°, λ97.00000°. NP2:φs58.00000°, δ58.00000°, λ86.00000°. Principal axes: T 1.5774, Plg76.0000°, Azm316.0000°; N 0.0331, Plg4.0000°, Azm61.0000°; P -1.6105, Plg13.0000°, Azm152.0000°;*

ISC 15 16:02:56.1±0.2, 36°.46N±0°.03×70°.85E±0°.02, h198km±1km, h198km: pP-P, n1463, σ1s58/1746, mb5.2/430, 95C-73D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.42**	**218**	Pn	**Pn**	**16 03 38.6**	**-0.6**
KBL	**Kabul**	**2.42**	**218**	P	**Pn**	**16 03 38.9**	**-0.4**
KBL				S	**Sn**	**16 04 12.5**	**-0.3**
KBL	**Kabul**	**2.42**	**218**	PN	**Pn**	**16 03 38.6**	**-0.6**
GAR	**Garm**	**2.57**	**351**		**Pn**	**16 03 39.4**	**-1.4**
CHGR	**Chuyangaron**	**2.57**	**329**		**Pn**	**16 03 39.0**	**-1.7**
CHGR	**Chuyangaron**	**2.57**	**329**	PN	**Pn**	**16 03 39.0**	**-1.7**
CEP	**Cherat**	**2.77**	**162**	P	**Pn**	**16 03 45.0**	**+1.8**
CEP				S	**Sn**	**16 04 21.0**	**+1.1**
DRK	**Karamyk**	**3.10**	**14**	Pn	**Pn**	**16 03 45.2**	**-2.0**
CHCP	**Chirah Chowk**	**3.42**	**144**	P	**Pn**	**16 03 51.5**	**+0.7**
NIL	**Nilore**	**3.43**	**144**		**Pn**	**16 03 51.3**	**+0.5**
NIL	**Nilore**	**3.43**	**144**	PN	**Pn**	**16 03 51.3**	**+0.5**
BTK	**Batken**	**3.59**	**360**		**Pn**	**16 03 52.1**	**-0.7**
BTK	**Batken**	**3.59**	**360**	PN	**Pn**	**16 03 52.1**	**-0.7**
THW	**Thamme Wali**	**3.73**	**168**	P	**Pn**	**16 03 54.6**	**0.0**
SARP	**Sargodha**	**4.77**	**161**	P	**Pn**	**16 04 06.7**	**-0.9**
TAS	**Tashkent**	**5.01**	**346**	Pn	**Pn**	**16 04 09.6**	**-0.8**
TAS	**Tashkent**	**5.01**	**346**	PN	**Pn**	**16 04 09.6**	**-0.8**
JMU	**Jammu**	**5.01**	**137**	*eP*	**Pn**	**16 04 06.5**	**-4.1**
JMU				*eS*	**Sn**	**16 05 04.5**	**-4.7**
KSH	**Kashi**	**5.06**	**51**	P	**Pn**	**16 04 06.9**	**-4.4**
KSH				S	Sn	16 04 58.6	-12
KSH	comp=N,7μm,0.9s			smax	smax		
KSH	comp=E,4μm,0.8s			smax	smax		
TRKS	**Terek-Say**	**5.07**	**2**	PN	**Pn**	**16 04 09.4**	**-2.0**
THN	**Thein Dam**	**5.68**	**134**	*eP*	**Pn**	**16 04 19.3**	**+0.1**
THN				*eS*	**Sn**	**16 05 23.3**	**-1.5**
IUG	**Iuzhnay** baz=353	**5.71**	**354**	⇓*iP*	**Pn**	**16 04 18.8**	**-0.8**
IUG	baz=353			*i* S	**Sn**	**16 05 21.6**	**-4.2**
IUG	**Iuzhnay**	**5.71**	**354**	*d iPN*	**Pn**	**16 04 18.8**	**-0.8**
IUG				*i* S	**Sn**	**16 05 21.5**	**-4.2**
AML	**Almayashu** SNR=3566	**6.07**	**20**	P	**Pn**	**16 04 23.0**	**-1.6**
NRN	**Naryn**	**6.38**	**37**		**Pn**	**16 04 25.5**	**-3.0**
NRN	**Naryn**	**6.38**	**37**	PN	**Pn**	**16 04 25.5**	**-3.0**
UCH	**Uchtor** SNR=1498	**6.42**	**25**	P	**Pn**	**16 04 27.7**	**-1.4**
DZA	**Taraz** baz=2.8	**6.43**	**3**	⇓*iP*	**Pn**	**16 04 27.6**	**-1.2**
DZA	baz=2.8			*i* S	**Sn**	**16 05 37.7**	**-4.7**
DZA	**Taraz**	**6.43**	**3**	*d iPN*	**Pn**	**16 04 27.6**	**-1.2**
EKS2	**Erkin-Say** SNR=712	**6.59**	**19**	P	**Pn**	**16 04 29.9**	**-1.1**
KK31	**Karatay Array**	**6.64**	**358**	Pn	**Pn**	**16 04 29.8**	**-1.7**
KK31	**Karatay Array** 330nm,0.5s,baz=188,slow=13,SNR=5029	**6.64**	**358**	⇑P	**Pn**	**16 04 27.3**	**-4.2**
KK31	2μm,0.8s,baz=187,slow=24,SNR=4.9			⇓S	**Sn**	**16 05 39.3**	**-7.9**
KK31	**Karatay Array**	**6.64**	**358**	PN	**Pn**	**16 04 29.8**	**-1.7**
KKAR	**Karatay Array**	**6.64**	**358**	Pn	**Pn**	**16 04 29.7**	**-1.8**
KKAR	**Karatay Array**	**6.64**	**358**		**Pn**	**16 04 29.8**	**-1.8**
KKAR	**Karatay Array**	**6.64**	**358**	PN	**Pn**	**16 04 29.8**	**-1.8**
AAK	**Ala-Archa** SNR=224	**6.78**	**23**	P	**Pn**	**16 04 32.4**	**-1.1**
AAK	**Ala-Archa** 165nm,0.3s,baz=187,slow=6.7,SNR=385	**6.78**	**23**	P	**Pn**	**16 04 32.9**	**-0.6**
AAK	195nm,0.5s,baz=347,slow=21,SNR=9.8			S	**Sn**	**16 05 49.5**	**-1.2**
AAK	**Ala-Archa**	**6.78**	**23**	Pn	**Pn**	**16 04 32.1**	**-1.3**
AAK	**Ala-Archa** SNR=252	**6.78**	**23**	*i* P	**Pn**	**16 04 32.7**	**-0.8**
AAK	**Ala-Archa**	**6.78**	**23**	*d iPN*	**Pn**	**16 04 32.3**	**-1.2**
AAK	comp=Z,302nm,0.8s			pmax	pmax		
BHK	**Bhakra**	**6.83**	**136**	*eP*	**Pn**	**16 04 33.5**	**-0.6**
BHK				*eS*	**Sn**	**16 05 48.2**	**-3.7**
KBK	**Karagaybulak** SNR=307	**6.95**	**26**	P	**Pn**	**16 04 34.9**	**-0.8**
ULHL	**Ulahol** SNR=40	**7.12**	**34**	P	**Pn**	**16 04 36.9**	**-1.1**
CHMS	**Chumysh** SNR=310	**7.18**	**23**	P	**Pn**	**16 04 37.2**	**-1.5**
CHMS	**Chumysh** comp=Z,516nm,0.8s	**7.18**	**23**	⇓P	**Pn**	**16 04 36.3**	**-2.3**
CHMS	comp=Z,490nm,0.8s			⇑S	**Sn**	**16 05 56.4**	**-3.7**
CHMS	**Chumysh**	**7.18**	**23**	PN	**Pn**	**16 04 36.3**	**-2.3**
CHMS				S	**Sn**	**16 05 56.4**	**-3.7**
BOOM	**Boomskoye usch**	**7.19**	**32**		**Pn**	**16 04 37.2**	**-1.6**
BOOM	**Boomskoye usch**	**7.19**	**32**	PN	**Pn**	**16 04 37.2**	**-1.6**
HRA	**Herat**	**7.33**	**256**	Pn	**Pn**	**16 04 39.8**	**-1.0**
USP	**Ospenovka** SNR=94	**7.35**	**21**	P	**Pn**	**16 04 39.3**	**-1.5**
TKM2	**Tokmak 2** SNR=1549	**7.41**	**28**	P	**Pn**	**16 04 40.7**	**-1.1**
TKM2	**Tokmak 2** comp=Z,1μm,0.7s	**7.41**	**28**	⇓P	**Pn**	**16 04 40.1**	**-1.7**
TKM2	comp=Z,695nm,1.1s			⇑S	**Sn**	**16 05 59.3**	**-6.5**
TKM2	**Tokmak 2**	**7.41**	**28**	PN	**Pn**	**16 04 40.8**	**-1.0**
SMLA	**Simla**	**7.47**	**134**	*eP*	**Pn**	**16 04 41.8**	**-0.7**
SMLA				*eS*	**Sn**	**16 06 02.3**	**-4.7**
SMLA	comp=N,5μm,0.4s			IAML		16 06 07.7	
SMLA	comp=E,6μm,0.8s			IAML		16 06 09.1	
SGDS	**Sogindy** comp=E,64nm,0.6s,baz=22	**7.56**	**21**	⇓*iP*	**Pn**	**16 04 41.5**	**-2.1**
SGDS	baz=22			*eS*	**Sn**	**16 06 04.3**	**-4.7**
SGDS	**Sogindy**	**7.56**	**21**	*d iPN*	**Pn**	**16 04 41.4**	**-2.1**
SGDS	comp=Z,64nm,0.6s			pmax	pmax		
TNSS	**Tian-Shan** baz=35	**8.07**	**34**	*eP*	**Pn**	**16 04 49.0**	**-1.5**
TNSS	**Tian-Shan**	**8.07**	**34**	*e*PN	**Pn**	**16 04 49.0**	**-1.5**
AAA	**Alma-Ata** baz=34	**8.19**	**33**	*eP*	**Pn**	**16 04 51.0**	**-0.8**
AAA	**Alma-Ata**	**8.19**	**33**	*e*PN	**Pn**	**16 04 51.0**	**-0.8**
MDOK	**Medeo** comp=Z,172nm,0.6s	**8.21**	**34**	⇑P	**Pn**	**16 04 51.2**	**-1.0**
MDOK	comp=Z,270nm,1.0s			S	**Sn**	**16 06 22.2**	**-2.4**
MDOK	**Medeo**	**8.21**	**34**	PN	**Pn**	**16 04 51.2**	**-1.0**
MDOK				S	**Sn**	**16 06 22.2**	**-2.4**
KNDC	**Almaty** comp=Z,1μm,1.2s	**8.22**	**33**	⇓P	**Pn**	**16 04 51.9**	**-0.2**
KNDC	comp=Z,903nm,0.9s			⇓S	**Sn**	**16 06 22.9**	**-1.8**
KNDC	**Almaty**	**8.22**	**33**	PN	**Pn**	**16 04 51.9**	**-0.2**
KNDC				S	**Sn**	**16 06 22.9**	**-1.8**
KUU	**Kurty** comp=Z,56nm,0.8s,baz=29	**8.53**	**28**	⇓*iP*	**Pn**	**16 04 53.6**	**-2.5**
KUU	baz=29			*eS*	**Sn**	**16 06 28.8**	**-3.0**
KUU	**Kurty**	**8.53**	**28**	*d iPN*	**Pn**	**16 04 53.6**	**-2.5**
KUU	comp=Z,56nm,0.8s			pmax	pmax		
DDI	**Dehra Dun** comp=Z,2μm,0.4s	**8.59**	**133**	IAmb	IAmb	16 04 58.6	
DDI				*eS*	**Sn**	**16 06 25.8**	**-7.7**
DDI	comp=N,5μm,0.4s			IAML		16 06 37.0	
CHKK	**Chushkaly** baz=32	**8.75**	**31**	⇓*iP*	**Pn**	**16 04 56.6**	**-2.3**
CHKK	**Chushkaly**	**8.75**	**31**	⇓*iP*N	**Pn**	**16 04 56.6**	**-2.3**
SATY	**Saty** baz=40	**8.78**	**39**	⇓*eP*	**Pn**	**16 04 57.3**	**-2.3**
SATY	**Saty**	**8.78**	**39**	*de*PN	**Pn**	**16 04 57.3**	**-2.3**
ZHN	**Zhinishke** baz=40	**8.88**	**39**	*eP*	**Pn**	**16 04 59.1**	**-1.7**
ZHN	**Zhinishke**	**8.88**	**39**	*e*PN	**Pn**	**16 04 59.1**	**-1.7**
BTLS	**Baital** comp=N,49nm,1.0s,baz=15	**8.90**	**15**	⇓*iP*	**Pn**	**16 04 59.0**	**-2.0**
BTLS	**Baital**	**8.90**	**15**	*d iPN*	**Pn**	**16 04 58.9**	**-2.0**
BTLS	comp=Z,49nm,1.0s			pmax	pmax		
UZB	**Uzynbulak** baz=42	**9.16**	**41**	*eP*	**Pn**	**16 05 01.9**	**-2.7**
UZB	**Uzynbulak**	**9.16**	**41**	*eP*	**Pn**	**16 05 01.8**	**-2.7**
KPKS	**Kokpek** comp=Z,31nm,0.9s,baz=39	**9.22**	**38**	⇓*iP*	**Pn**	**16 05 03.4**	**-1.8**
KPKS	**Kokpek**	**9.22**	**38**	*d iP*	**Pn**	**16 05 03.4**	**-1.8**
KPKS	comp=Z,31nm,0.9s			pmax	pmax		
KHET	**Khetri**	**9.35**	**152**	*eP*	**Pn**	**16 05 05.3**	**-1.7**
KHET				*eS*	**Sn**	**16 06 43.9**	**-7.9**
SHLS	**Shalkode** baz=45	**9.41**	**42**	*eP*	**Pn**	**16 05 09.0**	**+1.3**
SHLS	**Shalkode**	**9.41**	**42**	*eP*	**Pn**	**16 05 08.9**	**+1.3**
NDI	**New Delhi**	**9.43**	**144**	*eP*	**Pn**	**16 05 07.5**	**-0.5**
NDI				*eS*	**Sn**	**16 06 45.5**	**-8.0**
MERT	**Meerut**	**9.45**	**140**	*eP*	**Pn**	**16 05 07.9**	**-0.3**
JASL	**Jaisalmer**	**9.51**	**180**	*eP*	**Pn**	**16 05 07.6**	**-1.4**
PDGK	**Podgornoye** comp=Z,47nm,0.7s	**9.54**	**41**	⇓P	**Pn**	**16 05 07.0**	**-2.3**
PDGK	comp=Z,210nm,0.9s			⇑S	**Sn**	**16 06 54.3**	**-1.8**
PDGK	**Podgornoye**	**9.54**	**41**	P	**Pn**	**16 05 07.4**	**-2.0**
PDGK				S	**Sn**	**16 06 54.3**	**-1.8**
SONA	**Sohna**	**9.73**	**146**	*eP*	**Pn**	**16 05 09.8**	**-2.1**
SONA				*eS*	**Sn**	**16 06 52.4**	**-8.3**
GEYT	**Alibeck** comp=Z,36nm,0.3s,baz=126,slow=9.0,SNR=129	**10.27**	**282**	P	**Pn**	**16 05 16.2**	**-2.5**
GEYT	comp=Z,14nm,0.8s,baz=284,slow=1.2,SNR=6.5			ScP	**ScP**	**16 14 19.5**	**-0.9**
GEYT	**Alibeck**	**10.27**	**282**		**Pn**	**16 05 15.9**	**-2.8**
GYA0	**ALIBECK ARRAY**	**10.27**	**282**	P	**Pn**	**16 05 16.0**	**-2.8**
GYA0				S	**Sn**	**16 07 09.6**	**-3.8**
GYA0B	**ALIBECK ARRAY**	**10.27**	**282**		**Pn**	**16 05 16.0**	**-2.8**
GYA0B	**ALIBECK ARRAY**	**10.27**	**282**	⇑P	**Pn**	**16 05 16.0**	**-2.8**
GYA0B				⇓S	**Sn**	**16 07 09.6**	**-3.8**
TDK	**Taldyqorghan** comp=Z,77nm,0.9s,baz=32	**10.27**	**32**	*eP*	**Pn**	**16 05 16.4**	**-2.3**
TDK	baz=32			*eS*	**Sn**	**16 07 10.3**	**-3.1**
TDK	**Taldyqorghan**	**10.27**	**32**	*eP*	**Pn**	**16 05 16.4**	**-2.3**
TDK				*eS*	**Sn**	**16 07 10.2**	**-3.1**
TDK	comp=Z,77nm,0.9s			pmax	pmax		
PTH	**Pithoragarh**	**10.45**	**129**	*eP*	**Pn**	**16 05 19.3**	**-2.0**
PTH				*eS*	Sn	16 07 08.8	-9.3
AJM	**Ajmer**	**10.46**	**161**	*eP*	**Pn**	**16 05 19.3**	**-2.1**
AJM				*eS*	**Sn**	**16 07 12.0**	**-6.3**
LGTI	**Lohaghat**	**10.54**	**129**	*eP*	**Pn**	**16 05 19.9**	**-2.4**
OTUK	**Ortayu** comp=Z,149nm,1.1s	**11.83**	**5**	⇓P	**Pn**	**16 05 36.2**	**-2.4**
OTUK	comp=Z,115nm,1.1s			⇑S	**Sn**	**16 07 43.0**	**-7.3**
OTUK	**Ortayu**	**11.83**	**5**	P	**Pn**	**16 05 36.2**	**-2.4**
OTUK				S	**Sn**	**16 07 45.2**	**-5.1**
BHUJ	**Bhuj**	**13.20**	**185**	*eP*	**Pn**	**16 05 54.6**	**-1.6**
BHUJ				*eP*	**P**	**16 05 55.5**	**-3.7**
BHUJ				*eS*	Sn	16 08 11.0	-13
MAKZ	**Makanchi**	**13.25**	**35**	P	**Pn**	**16 05 54.9**	**-1.8**
MAKZ	**Makanchi** comp=Z,142nm,0.8s	**13.25**	**35**	⇑P	**Pn**	**16 05 56.9**	**+0.3**
MAKZ	**Makanchi**	**13.25**	**35**	P	**Pn**	**16 05 54.9**	**-1.8**
MK31	**Makanchi Array**	**13.39**	**36**		**Pn**	**16 05 57.3**	**-1.0**
MK31	**Makanchi Array** comp=Z,15nm,0.4s,baz=216,slow=11,SNR=381	**13.39**	**36**	⇑P	**Pn**	**16 05 58.7**	**+0.3**
MK31	**Makanchi Array**	**13.39**	**36**	P	**Pn**	**16 05 57.3**	**-1.0**
MKAR	**Makanchi Array** comp=Z,32nm,0.7s,baz=223,slow=12,SNR=128	**13.39**	**36**	P	**Pn**	**16 05 57.5**	**-0.8**
MKAR	comp=Z,7.9nm,0.8s,baz=242,slow=2.6,SNR=5.7			ScP	**ScP**	**16 14 24.2**	**-0.6**
MKAR	**Makanchi Array**	**13.39**	**36**	P	**Pn**	**16 05 57.2**	**-1.2**
DANN	**Dangsing** comp=Z,457nm,0.4s	**13.56**	**123**	*eP*	**Pn**	**16 05 58.8**	**-2.2**
BRZS	**Berezniki** baz=4.9	**13.58**	**5**	*eP*	**Pn**	**16 05 58.7**	**-1.9**
BRZS	baz=4.9			*eS*	S	16 08 22.8	-9.3
BRZS	**Berezniki**	**13.58**	**5**	*eP*	**Pn**	**16 05 58.7**	**-1.9**
BRZS				*eS*	S	16 08 22.7	-9.3
KOLN	**Koldanda**	**13.84**	**125**	*eP*	**Pn**	**16 06 01.5**	**-2.8**
KOLN	**Koldanda**	**13.84**	**125**	*eP*	**Pn**	**16 06 01.7**	**-2.6**
NGCH	**Negor - Chabah**	**13.85**	**220**	P	**Pn**	**16 06 04.8**	**+0.6**
NGCH				S	**S**	**16 08 38.5**	**-0.1**
VLK	**Valmikinagar**	**14.32**	**126**	*eP*	**Pn**	**16 06 08.0**	**-1.9**
VLK				*eS*	S	16 08 37.6	-12
BHPL	**Bhopal**	**14.35**	**155**	*eP*	**Pn**	**16 06 08.3**	**-2.2**
BHPL				*eS*	S	16 08 39.1	-11
GKN	**Gorkha**	**14.38**	**122**	*eP*	**Pn**	**16 06 10.0**	**-1.0**
WMQ	**Urumqi**	**14.81**	**55**	⇓P	**Pn**	**16 06 16.3**	**+0.3**
WMQ				S	**S**	**16 08 58.8**	**-1.9**
WMQ	comp=Z,49nm,0.7s			pmax	pmax		
WMQ	comp=Z,500nm,3.9s			pmax	pmax		
WMQ	comp=Z,430nm,21.7s			LR	LR		
DMN	**Daman** comp=Z,922nm,0.5s	**14.95**	**122**	*eP*	**Pn**	**16 06 17.2**	**-0.9**
KKN	**Kakani**	**14.96**	**121**	*eP*	**Pn**	**16 06 16.8**	**-1.3**
KKN	**Kakani**	**14.96**	**121**	*eP*	**Pn**	**16 06 17.1**	**-1.0**
KKN	**Kakani**	**14.96**	**121**	*eP*	**Pn**	**16 06 17.2**	**-0.9**
AB31	**Akbulak array** comp=Z,65nm,0.5s,baz=142,slow=11,SNR=1914	**15.06**	**331**	⇑P	**Pn**	**16 06 17.1**	**-1.8**
AB31	comp=Z,98nm,0.8s,baz=160,slow=22,SNR=6.9			⇑S	**S**	**16 09 01.3**	**-4.8**
AB31	**Akbulak array**	**15.06**	**331**	P	**Pn**	**16 06 17.6**	**-1.3**
AB31				S	**S**	**16 09 01.3**	**-4.8**
ABKAR	**Akbulak array**	**15.06**	**331**	P	**Pn**	**16 06 16.9**	**-2.0**
ZSN	**Zaisan** baz=40	**15.11**	**39**	*eP*	**Pn**	**16 06 18.4**	**-1.2**
ZSN	baz=40			*i* S	**S**	**16 09 03.3**	**-4.2**
ZSN	**Zaisan**	**15.11**	**39**	*eP*	**Pn**	**16 06 18.4**	**-1.2**
ZSN				*i* S	**S**	**16 09 03.2**	**-4.2**
PKI	**Pulchoki** comp=Z,349nm,0.4s	**15.18**	**122**	*eP*	**Pn**	**16 06 19.9**	**-0.9**
KURBB	**Kurchatov Arra** comp=Z,15nm,0.3s,baz=210,slow=9.9,SNR=84	**15.20**	**19**	P	**Pn**	**16 06 18.5**	**-2.0**
KURBB	**Kurchatov Arra** comp=Z,114nm,0.8s	**15.20**	**19**	⇓P	**P**	**16 06 21.6**	**+0.6**
KURBB	**Kurchatov Arra**	**15.20**	**19**	P	**P**	**16 06 21.6**	**+0.6**
GUN	**Gumba** comp=Z,311nm,0.4s	**15.30**	**120**	*eP*	**Pn**	**16 06 22.2**	**-0.2**
KURK	**Kurchatov**	**15.30**	**19**	P	**Pn**	**16 06 19.6**	**-2.3**
KURK	**Kurchatov** comp=Z,91nm,1.0s	**15.30**	**19**	⇑P	**P**	**16 06 22.2**	**0.0**
KURK	**Kurchatov**	**15.30**	**19**	*c iP*	**Pn**	**16 06 19.8**	**-2.0**
KURK	comp=Z,93nm,1.0s			pmax	pmax		
JASK	**Jask - Hormozg** SNR=8.4	**15.32**	**230**	P	**P**	**16 06 24.1**	**+1.5**
JASK				S	**S**	**16 09 10.5**	**-1.9**
JIRN	**Jiri** comp=Z,648nm,0.4s	**15.67**	**120**	*eP*	**Pn**	**16 06 27.1**	**+0.2**
BANOM	**Banah** SNR=14	**16.27**	**234**	P	**Pn**	**16 06 33.8**	**0.0**
BANOM				S	**S**	**16 09 29.2**	**-4.4**
BANOM	**Banah** SNR=42	**16.27**	**234**	*i* P	**P**	**16 06 33.1**	**-0.1**
SHME	**Shamm** SNR=12	**16.29**	**235**	P	**Pn**	**16 06 34.4**	**+0.4**
SHME				S	**S**	**16 09 29.3**	**-4.6**
SHME	**Shamm** SNR=21	**16.29**	**235**	*i* P	**P**	**16 06 33.5**	**+0.2**
RAMN	**Ramite** comp=Z,1μm,0.8s	**16.40**	**121**	*eP*	**P**	**16 06 34.5**	**-0.3**
BVA0	**Borovoye Array** comp=Z,139nm,1.1s	**16.57**	**359**	⇑P	**Pn**	**16 06 38.1**	**+1.1**
BVA0	comp=Z,168nm,1.2s			⇑S	**S**	**16 09 37.0**	**-2.0**
BVA0	**Borovoye Array**	**16.57**	**359**	P	**Pn**	**16 06 38.1**	**+1.1**
BVA0				S	**S**	**16 09 37.0**	**-2.0**
BVAR	**Borovoye Array** comp=Z,54nm,0.5s,baz=158,slow=8.1,SNR=219	**16.57**	**359**	P	**P**	**16 06 36.4**	**+0.3**
BVAR	comp=Z,88nm,1.0s,baz=165,slow=18,SNR=6.9			S	**S**	**16

SNR=24
WSAR Wadi Sarin 16.89 222 P **Pn** 16 06 40.9 -0.3
comp=Z,13nm,0.5s,baz=74,slow=7.8,SNR=36
WSAR Wadi Sarin 16.89 222 P **Pn** 16 06 41.2 0.0
SNR=14
WSAR S **S** 16 09 44.2 -1.9
BIDO Bidbid 16.94 224 P **Pn** 16 06 43.0 +1.2
SNR=9.2
UMQ Umm Al-Quwin 16.96 234 P **Pn** 16 06 42.7 +0.7
SNR=5.2
UMQ S **S** 16 09 45.6 -1.8
UMQ Umm Al-Quwin 16.96 234 *i* P **Pn** 16 06 42.1 +0.1
SNR=6.2
UOSS Minazif 17.02 232 P **P** 16 06 40.4 -1.0
UOSS Minazif 17.02 232 P **Pn** 16 06 42.4 -0.3
UOSS S **S** 16 09 43.1 -5.5
UOSS Minazif 17.02 232 *i* P **P** 16 06 42.0 +0.6
SNR=20
HATD Hatta, Dubai 17.15 232 P **P** 16 06 43.2 +0.4
SNR=19
HATD S **S** 16 09 48.7 -2.5
HATD Hatta, Dubai 17.15 232 *i* P **Pn** 16 06 43.7 -0.5
SNR=17
WBK Wadi Bani Khal 17.23 220 P **Pn** 16 06 45.0 -0.2
SNR=14
WBK S **S** 16 09 53.3 +0.5
ASHO Ashiyiah 17.30 231 P **P** 16 06 44.7 +0.3
SNR=71
ASHO S **S** 16 09 52.1 -2.1
ASHO Ashiyiah 17.30 231 *i* P **Pn** 16 06 45.5 -0.6
SNR=81
NAZ Nazwa, Dubai 17.34 233 P **P** 16 06 44.9 +0.1
SNR=15
NAZ S **S** 16 09 51.5 -3.3
NAZ Nazwa, Dubai 17.34 233 *i* P **P** 16 06 45.6 +0.8
SNR=16
SMDO Samad 17.35 223 P **Pn** 16 06 46.3 -0.4
SNR=11
HOQ Hoqain 17.36 226 P **P** 16 06 45.5 +0.3
SNR=6.3
FAQ Al Faqa, Dubai 17.55 233 P **P** 16 06 47.7 +0.6
SNR=13
FAQ S **S** 16 09 56.7 -2.6
FAQ Al Faqa, Dubai 17.55 233 *i* P **P** 16 06 47.5 +0.4
SNR=16
LKRN Lenkeran, Azer 17.64 284 P **Pn** 16 06 50.2 +0.4
ASUD Al Ashush, Dub 17.80 233 P **P** 16 06 50.9 +1.0
SNR=9.0
ASUD S **S** 16 10 02.8 -1.5
ASUD Al Ashush, Dub 17.80 233 *i* P **P** 16 06 50.6 +0.7
SNR=19
JMDO Jabal Madar 17.88 222 P **Pn** 16 06 52.8 0.0
SNR=22
JMDO S **S** 16 10 06.7 +0.8
DGZ Jazzator, Alta 17.88 37*c i* P **P** 16 06 51.5 +0.8
DGZ pmax pmax
comp=Z,48nm,0.9s
ALNE Al Ain 17.95 231 P **P** 16 06 52.3 +0.8
SNR=39
ALNE S **S** 16 10 04.9 -2.2
ALNE Al Ain 17.95 231 *i* P **P** 16 06 52.2 +0.8
SNR=28
ARQ Araqi 18.01 227 P **Pn** 16 06 53.8 -0.6
SNR=21
ARQ P **Pn** 16 06 53.8 -0.6
SNR=21
BSY Bisya 18.08 225 P **Pn** 16 06 54.6 -0.5
SNR=18
BSY P **Pn** 16 06 54.6 -0.5
SNR=18
LSA Lhasa 18.28 106 **Pn** 16 06 57.9 0.0
LSA Lhasa 18.28 106 P **Pn** 16 06 58.6 +0.7
LSA S **S** 16 10 16.4 +1.9
LSA pmax pmax
comp=Z,190nm,1.3s
LSA pmax pmax
comp=Z,760nm,2.8s
LSA Lhasa 18.28 106 P **Pn** 16 06 58.5 +0.5
LSA Lhasa 18.28 106 P **Pn** 16 06 57.9 0.0
AKT Akhty 18.65 293 *eP* **P** 16 06 59.6 +0.6
AKT *eS* **S** 16 10 22.0 +1.1
AKT pmax pmax
comp=Z,64nm,0.4s
AKT smax smax
comp=E,56nm,0.6s
AKT smax smax
comp=N,57nm,0.6s
SEKA Sheki 19.01 292 P **P** 16 07 04.3 +1.4
MNGR Mingechevir, A 19.05 290 P **P** 16 07 04.5 +1.3
MAK Makhachkala 19.07 297*d i* P **Pn** 16 07 05.3 -1.3
MAK *eS* **S** 16 10 32.9 +3.9
MAK pmax pmax
comp=Z,193nm,1.1s
MAK MLR MLR
comp=Z,1μm,14.0s
MHTO MHTO 19.09 220 P **Pn** 16 07 05.6 -1.3
SNR=19
MHTO S **S** 16 10 31.7 +2.0
GOMU GeErMu 19.30 84 P **Pn** 16 07 08.3 -1.5
GOMU sP sP 16 08 06.3 -0.1
GOMU S **S** 16 10 33.3 -1.0
GOMU pmax pmax
comp=Z,27nm,1.3s
GOMU pmax pmax
comp=Z,380nm,3.8s
UMZA Um Al Zommool 19.30 229 P **P** 16 07 06.8 +0.6
UMZA S **S** 16 10 31.2 -2.7
MZWR Madinat Zayed 19.35 234 P **P** 16 07 06.2 -0.5
MZWR S **S** 16 10 29.8 -5.0
ZKTA Zakatala 19.49 293 P **P** 16 07 09.5 +1.5
GANJ Ganja 19.61 290 P **P** 16 07 11.2 +1.8
GHWR Ruwais 19.87 236 P **P** 16 07 11.9 -0.3
GHWR S **S** 16 10 39.7 -5.3
ZAA0 Zalesovo Array 20.00 25 P **P** 16 07 12.8 -0.5
ZALV Zalesovo Beam 20.00 25 P **P** 16 07 13.1 -0.2
comp=Z,104nm,0.5s,baz=221,slow=11,SNR=243
ZALV ScP **ScP** 16 14 35.6 -2.1
comp=Z,7.2nm,0.8s,baz=212,slow=5.3,SNR=4.1
ZALV Zalesovo Beam 20.00 25 P **P** 16 07 12.6 -0.6
SHMA Al-Shehemyia 20.00 244 P **P** 16 07 13.7 +0.1
SHMA S **S** 16 10 42.6 -4.9
MZR Muzera 20.14 233 P **P** 16 07 14.6 -0.6
SNR=9.8
MZR S **S** 16 10 45.8 -4.7
MZR Muzera 20.14 233 *i* P **P** 16 07 14.1 -1.1
SNR=20
HYBB Hyderabad (bro 20.16 158⇓ *e* P **P** 16 07 16.1 +0.8
HYBB *e* 16 10 51.0
DQM DQM 20.19 219 P **P** 16 07 16.5 +0.9
SNR=7.4
DQM S **S** 16 10 52.4 +1.1
NAX Nakhchivan 20.20 285 P **P** 16 07 17.9 +2.2
SAKB Bahrain 20.24 245 P **P** 16 07 16.4 +0.3
SAKB S **S** 16 10 47.5 -4.6
GROC Groznyy 20.34 297 *eP* **P** 16 07 18.7 +1.6
GROC *eS* **S** 16 10 56.1 +2.2
GROC *e**SS Sn 16 11 25.0 +12
GROC pmax pmax
comp=Z,2μm,1.4s
SLWR Sila 20.61 238 P **P** 16 07 19.5 -0.5
SLWR P **P** 16 07 19.5 -0.5
SLWR S **S** 16 10 53.3 -5.9
SLWR S **S** 16 10 53.3 -5.9
SMRA Abu-Samra 20.78 241 P **P** 16 07 21.4 -0.5
SMRA S **S** 16 10 58.0 -4.4
GNI Garni 20.79 288 P **P** 16 07 23.4 +1.3
comp=Z,62nm,0.9s,baz=164,slow=5.6,SNR=28
comp=Z,62nm,0.9s
GNI Garni 20.79 288 P **P** 16 07 23.8 +1.6
GNI Garni 20.79 288 P **P** 16 07 24.0 +1.9
GNI Garni 20.79 288 P **P** 16 07 23.7 +1.6
GNI Garni 20.79 288*c i* P **P** 16 07 23.6 +1.5
GNI pmax pmax
comp=Z,83nm,1.0s
SHL Shillong 21.00 115 P **P** 16 07 24.6 +0.2
SHL Shillong 21.00 115 P **P** 16 07 24.6 +0.2
SVE Sverdlovsk 21.50 345*de* **P** 16 07 29.1 0.0
SVE *eS* **S** 16 11 16.3 +2.1
SVE pmax pmax
comp=Z,234nm,1.5s
ARU Arti 21.63 341 P **P** 16 07 31.0 +0.6
comp=Z,50nm,0.4s,baz=155,slow=7.9,SNR=61
comp=Z,50nm,0.4s
ARU Arti 21.63 341 P **P** 16 07 29.9 -0.6
ARU Arti 21.63 341*c i* P **P** 16 07 30.6 +0.2
ARU *PP **pP** 16 08 04.3 -0.3
ARU S **S** 16 11 18.5 +2.2
ARU pmax pmax
comp=Z,441nm,1.5s
ZEI Tsey 21.65 295 *eP* **P** 16 07 30.0 -1.0
ZEI pmax pmax
comp=Z,62nm,1.5s
ONI Oni 21.95 295 P **P** 16 07 35.4 +1.5
ONI Oni 21.95 295 P **P** 16 07 35.4 +1.5
GEVA Gevas 22.13 283 P **P** 16 07 37.2 +1.4
KBZ Khabaz 22.51 297 P **P** 16 07 39.2 +0.2
comp=Z,8.6nm,0.7s,baz=126,slow=7.9,SNR=19
comp=Z,8.6nm,0.7s
KBZ Khabaz 22.51 297*c i* P **P** 16 07 39.5 +0.5
KBZ pmax pmax
comp=Z,16nm,1.0s
NEY Neytrino 22.57 296*de* **P** 16 07 42.2 +2.4
NEY pmax pmax
comp=Z,94nm,2.6s
BRDH Bariadhala 22.64 122 P **P** 16 07 40.8 +0.4
comp=Z,183nm,0.3s,baz=271,slow=16,SNR=14
comp=Z,183nm,0.3s
GOF Gofitskoye 22.66 301⇑ *eP* **P** 16 07 42.1 +1.7
GOF pmax pmax
comp=Z,311nm,0.9s
KIV Kislovodsk 22.70 298 P **P** 16 07 40.9 +0.1
KIV Kislovodsk 22.70 298 P **P** 16 07 40.9 +0.1
KIV Kislovodsk 22.70 298 *i* P **P** 16 07 41.2 +0.4
SNR=8.5
KIV Kislovodsk 22.70 298 *eP* **P** 16 07 41.1 +0.3
KIV *eS* **S** 16 11 36.5 +2.5
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,548nm,14.0s
BELG Belogornoye 22.85 321 P **P** 16 07 42.5 +0.6
comp=Z,674nm,0.8s,baz=78,slow=0.4,SNR=158
BELG Belogornoye 22.85 321*c i* P **P** 16 07 42.2 +0.3
BELG pmax pmax
comp=Z,91nm,0.9s
GTA Gaotai 22.99 74 ⇓ P **P** 16 07 46.1 +2.6
GTA pP pP 16 08 23.3 +2.7
GTA PP **PnPn** 16 08 24.6 +2.1
GTA sP sP 16 08 45.3 -0.7
GTA S **S** 16 11 41.3 +2.5
GTA SS **SnSn** 16 12 40.9 +3.7
GTA ScP **ScP** 16 14 44.4 -1.4
GTA PcS **PcS** 16 15 04.3 -1.8
GTA ScS **ScS** 16 18 28.9 -3.0
GTA pmax pmax
comp=Z,52nm,1.2s
GTA pmax pmax
comp=Z,180nm,4.7s
GTA LR LR
comp=Z,390nm,14.2s
GTA LR LR
comp=Z,470nm,12.7s
GTA LR LR
comp=Z,430nm,13.5s
DOK Doka 23.09 224 P **P** 16 07 45.0 +0.6
SNR=8.2
DOK S **S** 16 11 39.0 -1.5
DMTO DMTO 23.37 221 P **P** 16 07 46.8 -0.2
DMTO S **S** 16 11 44.9 -0.2
RBK Rabkut 23.95 222 P **P** 16 07 52.7 +0.4
RBK P **P** 16 07 52.7 +0.4
RBK S **S** 16 11 53.8 -0.6
RBK S **S** 16 11 53.8 -0.6
MARD Mardin 24.03 281 P **P** 16 07 53.8 +0.9
ABTO Aybut 24.57 224 P **P** 16 08 00.0 +2.1
SNR=12
ABTO S **S** 16 12 02.6 -1.6
SOC Sochi 24.78 296 *eP* **P** 16 08 00.6 +1.0
SOC *e**PP **pP** 16 08 34.7 -3.9
SOC *e* 16 08 43.3
SOC *e**SP PP 16 08 56.4 -3.4
SOC *e**S **S** 16 12 11.2 +4.2
SOC pmax pmax
comp=Z,36nm,0.9s
RAYN Ar Rayn 25.38 246 P **P** 16 08 05.4 +0.2
RAYN S **S** 16 12 16.7 -0.2
RAYN Ar Rayn 25.38 246 *i* P **P** 16 08 05.5 +0.3
SNR=10
RAYN Ar Rayn 25.38 246 P **P** 16 08 05.4 +0.2
RAYN pmax pmax
comp=Z,165nm,1.1s
VRH Novokhopyorsk 25.45 315 *eP* **P** 16 08 05.6 +0.1
VRH pmax pmax
comp=Z,150nm,1.0s
MOY Mondy 26.22 45 *eP* **P** 16 08 14.2 +1.7
MOY *e* 16 08 57.7
MOY pmax pmax
comp=Z,60nm,1.9s
KIRV Kirov 26.22 334 P **P** 16 08 13.3 +1.0
comp=Z,64nm,0.5s,baz=136,slow=14,SNR=40
comp=Z,64nm,0.5s
KIRV Kirov 26.22 334*c i* P **P** 16 08 13.1 +0.8
MND Mandalay 26.23 116 P **P** 16 08 13.3 +0.5
comp=Z,109nm,0.6s
LZH Lanzhou 26.53 81 ⇓ P **P** 16 08 18.3 +2.7
LZH pP pP 16 08 53.0 -3.8
LZH sP sP 16 09 25.4 +4.9
LZH PcP **PcP** 16 11 36.1 +1.3
LZH S **S** 16 12 38.3 +3.2
LZH sS sS 16 13 44.4 -4.1
LZH ScP **ScP** 16 14 54.6 -1.2
LZH ScS **ScS** 16 18 44.6 -2.1
LZH pmax pmax
comp=Z,37nm,1.5s
LZH pmax pmax
comp=Z,370nm,5.2s
LZH LR LR
comp=Z,420nm,14.4s
LZH LR LR
comp=Z,310nm,14.1s
LZH LR LR
comp=Z,420nm,12.7s
ANN Anapa 26.55 299 *eP* **P** 16 08 16.0 +0.6
ANN *e**PP **pP** 16 08 54.8 -0.8
ANN *e* 16 09 08.7
ANN *eS* **S** 16 12 38.9 +4.1
ANN pmax pmax
comp=Z,51nm,0.8s
ANN MLR MLR
comp=N,479nm,18.0s
ANN MLR MLR
comp=Z,676nm,17.0s
ANN MLR MLR
comp=E,596nm,17.0s
GAZ Gaziantep 26.87 282 P **P** 16 08 18.9 +0.5
GAZ IAmb IAmb 16 09 05.7
comp=Z,97nm,1.5s
VSR Storozhevoye 26.94 313 *eP* **P** 16 08 18.9 0.0
VSR pmax pmax
comp=Z,60nm,0.7s
VORR Voronezh 27.08 314 *eP* **P** 16 08 21.0 +0.9
VORR pmax pmax
comp=Z,106nm,0.5s
ZAK Zakamensk 27.10 49 *eP* **P** 16 08 21.2 +0.7
ZAK pmax pmax
comp=Z,18nm,1.2s
LPSR Galich'ya Gora 27.60 316 *eP* **P** 16 08 24.5 -0.2
LPSR pmax pmax
comp=Z,220nm,1.0s
CD2 Chengdu 27.85 92 P **P** 16 08 27.3 +0.1
CD2 pP pP 16 09 08.5 -0.3
CD2 S **S** 16 12 51.3 -4.4
CD2 sS sS 16 14 09.4 +0.1
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,70nm,3.5s
PZH PanZhiHua 28.05 102 P **P** 16 08 30.8 +1.7
PZH pP **pP** 16 09 08.0 -2.5
PZH PP **PP** 16 09 30.8 -5.7
PZH sP **sP** 16 09 34.5 +0.5
PZH S **S** 16 12 59.5 +0.5
PZH SS **SnSn** 16 14 43.6 +4.2
PZH ScS **ScS** 16 18 49.9 -3.8
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,60nm,4.7s
MNCI Minicoy 28.12 175 P **P** 16 08 30.6 +0.9
ASF Jabal al Asfar 28.28 271 P **P** 16 08 32.5 +1.3
comp=Z,3.7nm,0.7s,baz=41,slow=1.3,SNR=11
comp=Z,3.7nm,0.7s
SONM Songino Array 28.45 55 P **P** 16 08 33.9 +1.4
comp=Z,12nm,0.7s,baz=257,slow=10.0,SNR=66
SONM ScP **ScP** 16 14 59.9 -1.6
comp=Z,3.8nm,0.9s,baz=235,slow=2.1,SNR=7.6
comp=Z,12nm,0.7s
SONM Songino Array 28.45 55 P **P** 16 08 33.3 +0.8
ULN Ulaanbaatar 28.89 55 P **P** 16 08 36.2 -0.2
ULN Ulaanbaatar 28.89 55 P **P** 16 08 37.9 +1.5
comp=Z,2μmcomp=Z,110nm,0.9s
ULN Ulaanbaatar 28.89 55*c i* P **P** 16 08 37.8 +1.4
ULN pmax pmax
comp=Z,17nm,0.8s
SIM Simferopol' 28.91 299 P **P** 16 08 38.0 +1.6
SIM *e* 16 09 14.0
SIM *e* 16 09 39.0
SIM *eS **S** 16 13 11.0 -1.0
SIM *eSS **ScP** 16 15 05.0 +2.2
SIM pmax pmax
comp=Z,70nm,1.4s
MMAI Mount Meron Ar 29.23 274 P **P** 16 08 41.3 +1.8
comp=Z,1.4nm,0.4s,baz=82,slow=7.0,SNR=8.2
MMAI PcP **PcP** 16 11 42.1 +0.7
comp=Z,5.4nm,0.4s,baz=82,slow=6.9,SNR=18
BR131 Keskin Array S 29.33 288 P **P** 16 08 40.6 +0.2
BR131 IAmb IAmb 16 08 43.2
comp=Z,196nm,2.0s
BR131 Keskin Array S 29.33 288 P **P** 16 08 42.3 +1.9
SNR=7.8
BR131 Keskin Array S 29.33 288*c i* P **P** 16 08 41.7 +1.3
BRTR Keskin Array B 29.33 288 P **P** 16 08 41.9 +1.5
comp=Z,8.0nm,0.7s,baz=101,slow=8.5,SNR=35
BRTR PcP **PcP** 16 11 42.4 +0.7
comp=Z,3.1nm,0.5s,baz=136,slow=2.2,SNR=7.8
BRTR ScP **ScP** 16 15 03.0 -1.4
comp=Z,2.8nm,0.8s,baz=134,slow=3.6,SNR=6.3
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 29.33 288 P **P** 16 08 40.8 +0.4
KMI Kunming 29.50 104 ⇓ P **P** 16 08 43.8 +1.7
KMI sP sP 16 09 47.8 +0.6
KMI S **S** 16 13 23.1 +1.0
KMI sS sS 16 14 34.9 -0.9
KMI ScP **ScP** 16 15 03.3 -2.0
KMI pmax pmax
comp=Z,96nm,3.5s
KMI LR LR
comp=Z,380nm,8.1s
KMI LR LR
comp=Z,150nm,7.7s
KMI LR LR
comp=Z,280nm,13.9s
MOS Moscow 29.62 321 *eP* **P** 16 08 42.4 -0.1
MOS *e**PP **pP** 16 09 23.7 +0.6
MOS *e* 16 09 42.4
MOS *eS **S** 16 13 20.2 -2.5
MOS pmax pmax
comp=Z,600nm,1.4s
MOS pmax pmax
comp=Z,316nm,1.1s
PRGR Permogore 29.76 336 *eP* **P** 16 08 41.3 -2.3
PRGR pmax pmax
comp=Z,79nm,0.7s
OBN Obninsk 29.89 320 ⇑ P **P** 16 08 45.8 +0.9
OBN Obninsk 29.89 320 P **P** 16 08 45.8 +0.9
comp=Z,34nm,0.4s,baz=357,slow=0.9,SNR=32
comp=Z,34nm,0.4s
OBN Obninsk 29.89 320 P **P** 16 08 44.7 -0.1
OBN Obninsk 29.89 320*c i* P **P** 16 08 45.4 +0.5
OBN *e**PP **pP** 16 09 20.4 -5.1
OBN *i* 16 09 50.5
OBN *e* 16 11 44.3
OBN *i* S **S** 16 13 30.1 +3.1
OBN pmax pmax
comp=Z,215nm,1.2s
CHTO Chiang Mai 30.31 118 P **P** 16 08 49.5 +0.5
CHTO Chiang Mai 30.31 118 P **P** 16 08 49.5 +0.5
CHTO pmax pmax
comp=Z,26nm,0.8s
PALK Pallekele 30.41 160 P **P** 16 08 51.4 +1.4
comp=Z,43nm,0.7s,baz=83,slow=9.9,SNR=31
comp=Z,43nm,0.7s
PALK Pallekele 30.41 160 P **P** 16 08 50.8 +0.8
PALK IAmb IAmb 16 08 53.0
comp=Z,48nm,0.8s
PALK Pallekele 30.41 160 P **P** 16 08 52.0 +2.0
comp=Z,68nm,0.8s
PALK Pallekele 30.41 160 P **P** 16 08 50.8 +0.8
PALK pmax pmax
comp=Z,48nm,0.8s
PALK Pallekele 30.41 160 P **P** 16 08 50.7 +0.7
CM31 Chiang Mai Arr 30.54 118 P **P** 16 08 51.7 +0.7
CM31 IAmb IAmb 16 08 54.7
comp=Z,86nm,1.2s
CM31 Chiang Mai Arr 30.54 118 P **P** 16 08 52.8 +1.7
SNR=27
CMAR Chiang Mai Arr 30.54 118 P **P** 16 08 52.2 +1.2
comp=Z,25nm,0.9s,baz=296,slow=8.6,SNR=146
CMAR PP **PnPn** 16 09 59.4 -0.3
comp=Z,15nm,0.8s,baz=306,slow=9.8,SNR=4.8
CMAR PcP **PcP** 16 11 45.5 +0.7
comp=Z,8.5nm,0.9s,baz=285,slow=5.7,SNR=4.0
CMAR ScP **ScP** 16 15 06.5 -2.0
comp=Z,10.0nm,0.8s,baz=297,slow=5.0,SNR=14
comp=Z,25nm,0.9s
CMAR Chiang Mai Arr 30.54 118 P **P** 16 08 51.7 +0.6
CMAR Chiang Mai Arr 30.54 118 *i* P **P** 16 08 52.2 +1.2
CMAR pmax pmax
comp=Z,21nm,0.6s
BTO Baotou 30.74 70 *eP* **P** 16 08 53.9 +1.2
BTO S **S** 16 13 42.8 +1.8
BTO LR LR
comp=Z,1μm,11.7s
BTO LR LR
comp=Z,1μm,11.0s
XAN Xi'an 31.05 83 ⇓ P **P** 16 08 57.0 +1.6
XAN pP pP 16 09 42.3 +4.9
XAN sP sP 16 09 55.8 -5.0
XAN PcP **PcP** 16 11 46.4 +0.3
XAN S **S** 16 13 47.3 +1.5
XAN ScP **ScP** 16 15 08.0 -2.0
XAN PcS **PcS** 16 15 28.1 -2.4
XAN SS **SnSn** 16 15 44.0 -8.6
XAN ScS **ScS** 16 19 03.5 -4.1
XAN pmax pmax
comp=Z,94nm,1.0s
XAN LR LR
comp=Z,270nm,15.8s
XAN LR LR
comp=Z,410nm,14.4s
XAN LR LR
comp=Z,440nm,17.2s
XAN Xi'an 31.05 83 P **P** 16 08 56.6 +1.2
XAN ScP **ScP** 16 15 07.7 -2.3
MDUB Mudurnu 31.13 290 P **P** 16 08 56.4 +0.3
PHRA Phrae 31.43 117 P **P** 16 08 59.3 +0.4
KLMR Klimovskoe 31.46 331 *eP* **P** 16 08 58.8 +0.2
KLMR AMP 16 09 01.4
comp=Z,313nm,1.3s
KLMR Klimovskoe 31.46 331 *eP* **P** 16 08 58.7 +0.2
KLMR pmax pmax
comp=Z,313nm,1.3s
PBA Port Blair 31.61 136 P **P** 16 09 02.0 +1.5
BORA Eskisehir 31.76 289 P **P** 16 09 02.8 +1.2
HHC Hu-ho-hao-te 31.89 69 *eP* **P** 16 09 04.4 +1.6
HHC pP pP 16 09 44.8 +0.1
HHC S **S** 16 13 59.8 +1.0
HHC sS ScP 16 15 15.3 +2.5
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,160nm,4.3s
GYA Guiyang 31.98 98 ⇑ P **P** 16 09 05.8 +2.1
GYA sP sP 16 10 06.8 -2.3
GYA PcP **PcP** 16 11 49.3 +0.5
GYA S **S** 16 14 01.1 +0.6
GYA SS **SnSn** 16 16 13.3 -1.8
GYA ScS **ScS** 16 19 08.9 -3.7
GYA pmax pmax
comp=Z,37nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.4s
GYA LR LR
comp=Z,300nm,11.3s

GYA LR LR
comp=Z,270nm,7.1s
GYA LR LR
comp=Z,330nm,10.5s
PURM Purcari 31.98 301 ⇑P **P** **16 09 05.3 +1.9**
ENH Enshi 32.69 90 P **P** **16 09 10.2 +0.4**
ENH IAmb IAmb 16 09 13.7
comp=Z,48nm,0.8s
ENH Enshi 32.69 90 P **P** **16 09 11.7 +1.9**
comp=Z,68nm,1.1s
ENH Enshi 32.69 90 P **P** **16 09 11.7 +1.9**
ENH sP **sP** **16 10 18.4 +3.4**
ENH ScP **ScP** **16 15 13.5 -2.2**
ELL Elmali 32.69 283 P **P** **16 09 10.7 +0.9**
ELL Elmali 32.69 283 P **P** **16 09 10.7 +0.9**
ELL pmax pmax
comp=Z,283nm,0.7s
MILM Milestii Mici 32.73 302 ⇑ *i*P **P** **16 09 10.9 +1.0**
comp=Z,120nm,0.7s
MILM *e*pP **pP** **16 09 53.0 +2.2**
MILM Milestii Mici 32.73 302 ⇓P **P** **16 09 11.3 +1.4**
MILM Milestii Mici 32.73 302 P **P** **16 09 11.2 +1.4**
AKASG Malin Array Be 32.88 309 P **P** **16 09 11.3 +0.2**
comp=Z,24nm,0.6s,baz=81,slow=7.2,SNR=214
AKASG PP **PP** **16 10 31.3 +1.7**
comp=Z,3.4nm,0.5s,baz=89,slow=10.0,SNR=5.2
AKASG ScP **ScP** **16 15 14.1 -1.8**
comp=Z,8.6nm,0.8s,baz=77,slow=3.6,SNR=15
comp=Z,24nm,0.6s
AKASG Malin Array Be 32.88 309 P **P** **16 09 10.8 -0.3**
AKASG IAmb IAmb 16 09 13.3
comp=Z,118nm,1.0s
AKBB Malin Array Si 32.88 309 P **P** **16 09 10.8 -0.3**
AKBB Malin Array Si 32.88 309 *ce*P **P** **16 09 11.3 +0.2**
TPGR Topolog 32.95 298 ⇑P **P** **16 09 13.6 +1.7**
MFTR Murfatlar 32.96 297 ⇑P **P** **16 09 13.2 +1.3**
TIY Taiyuan 33.00 75 ⇑P **P** **16 09 15.1 +2.7**
TIY S **S** **16 14 18.4 +2.4**
TIY SS **SnSn** **16 16 25.3 -14**
AKAS Kas 33.04 282 P **P** **16 09 12.3 -0.6**
AKAS IAmb IAmb 16 09 13.3
comp=Z,53nm,0.9s
CFR Carcaliu 33.15 299 ⇑P **P** **16 09 14.9 +1.4**
CFR Carcaliu 33.15 299 P **P** **16 09 14.9 +1.4**
VLDR Vladesti 33.20 300 ⇑P **P** **16 09 15.7 +1.8**
TATR Tataica 33.22 299 ⇑P **P** **16 09 16.0 +1.9**
SCTR Scanteiesti 33.26 300 ⇑P **P** **16 09 16.5 +2.1**
HARR Harsova 33.30 298 ⇑P **P** **16 09 17.0 +2.1**
HARR Harsova 33.30 298 P **P** **16 09 16.9 +2.1**
VARL Varlezi 33.36 300 ⇑P **P** **16 09 17.4 +2.0**
ICOR Ion Corvin 33.41 297 ⇑P **P** **16 09 17.8 +2.0**
VASR Vaslui 33.42 301 ⇑P **P** **16 09 17.5 +1.6**
GHRR 33.67 300 ⇑P **P** **16 09 20.3 +2.3**
PRD Provadia 33.74 295 *i*P **P** **16 09 20.5 +1.8**
LYN LuoYang 33.74 81 ⇓ *i*P **P** **16 09 21.8 +3.0**
LYN S **S** **16 14 29.8 +2.4**
LYN ScP **ScP** **16 15 17.6 -1.6**
LYN pmax pmax
comp=Z,50nm,1.1s
LYN pmax pmax
comp=Z,140nm,6.1s
CIT Chita 33.76 49 *e*P **P** **16 09 19.8 +1.0**
CIT *e* 16 10 02.8
CIT *e* 16 10 25.2
CIT *e* 16 10 46.6
CIT *e* 16 14 21.4
CIT pmax pmax
comp=Z,91nm,1.4s
NONG Nongkai 33.83 114 P **P** **16 09 20.6 +0.9**
comp=Z,152nm,0.7s
PANC Panciu 33.85 300 ⇑P **P** **16 09 22.2 +2.7**
ODBI Odobesti 33.91 300 ⇑P **P** **16 09 22.0 +1.9**
GRER 33.97 299 ⇑P **P** **16 09 23.2 +2.6**
VRI Vrincioaia 34.15 300 ⇑P **P** **16 09 24.5 +2.4**
VRI Vrincioaia 34.15 300 P **P** **16 09 24.5 +2.4**
BISRR Bisoca 34.16 299 ⇓P **P** **16 09 24.4 +2.0**
NRIK Noril'sk 34.19 10 P **P** **16 09 23.6 +1.4**
comp=Z,115nm,0.8s,baz=200,slow=6.3,SNR=113
comp=Z,115nm,0.8s
NRIK Noril'sk 34.19 10 P **P** **16 09 23.0 +0.8**
NRIK Noril'sk 34.19 10 *c i*P **P** **16 09 23.5 +1.4**
NRIK pmax pmax
comp=Z,154nm,1.0s
PLOR Plostina 34.20 300 ⇑P **P** **16 09 25.2 +2.5**
PLOR Plostina 34.20 300 P **P** **16 09 25.1 +2.5**
TESR Tescani 34.20 301 ⇑P **P** **16 09 23.5 +0.8**
ARG Arkhangelos 34.21 283 P **P** **16 09 23.3 +0.5**
ARG IAmb IAmb 16 09 24.9
comp=Z,115nm,1.0s
ARG Arkhangelos 34.21 283 P **P** **16 09 23.3 +0.5**
ARG pmax pmax
comp=Z,115nm,1.0s
ISR Istrita 34.28 299 ⇑P **P** **16 09 25.9 +2.4**
ISR Istrita 34.28 299 P **P** **16 09 25.8 +2.4**
DRBR Darabani 34.30 304 ⇑P **P** **16 09 25.1 +1.7**
RAZG Razgrad 34.37 296 ⇓P **P** **16 09 25.5 +1.4**
JMB Yambol 34.40 294 *i*P **P** **16 09 26.5 +2.2**
MNK Minsk 34.44 315 *i*P **P** **16 09 25.1 +0.5**
comp=E,16nm,0.9s
MNK *i*P **P** **16 09 25.1 +0.5**
comp=N,33nm,0.9s
MNK *i*P **P** **16 09 25.1 +0.5**
comp=Z,136nm,0.9s,baz=103
MNK *i*pP **pP** **16 09 59.1 -6.6**
MNK *i*sP sP 16 10 17.7 -11
MNK *i*PP **PP** **16 10 45.0 -1.8**
MNK *i*S **S** **16 14 39.9 +2.2**
MNK *i*sS sS 16 16 09.2 +17
MNK *i*LRM MLR 16 26 29.8
comp=Z,367nm,15.6s
MNK *i*LRM MLR 16 26 34.6
comp=E,47nm,15.6s
MNK *i*LRM MLR 16 26 45.9
comp=N,185nm,15.6s
MNK Minsk 34.44 315 *i*P **P** **16 09 25.1 +0.5**
MNK *i* 16 10 44.9
MNK *i* 16 11 58.3
MNK *i*S **S** **16 14 39.8 +2.2**
MNK pmax pmax
comp=N,33nm,0.9s
MNK pmax pmax
comp=E,16nm,0.9s
MNK pmax pmax
comp=Z,136nm,0.9s
MNK MLR MLR
comp=Z,367nm,16.0s
MNK MLR MLR
comp=E,47nm,16.0s
MNK MLR MLR
comp=N,185nm,16.0s
COVR Voineasa-Covas 34.51 300 ⇑P **P** **16 09 27.5 +2.2**
SECR 34.62 298 ⇑P **P** **16 09 28.4 +2.1**
MLR Muntele Rosu 34.70 299 ⇓P **P** **16 09 28.7 +1.7**
MLR Muntele Rosu 34.70 299 P **P** **16 09 27.9 +0.9**
MLR Muntele Rosu 34.70 299 P **P** **16 09 27.9 +0.9**
MLR pmax pmax
comp=Z,148nm,0.9s
OZUR 34.80 300 ⇓P **P** **16 09 28.9 +1.1**
SZH Strazhica 34.81 295 *e*P **P** **16 09 28.7 +0.9**
HNS HongShan 34.83 75 ⇑P **P** **16 09 30.0 +1.9**
HNS sP **sP** **16 10 37.8 +3.7**
HNS PcP **PcP** **16 11 57.6 +1.1**
HNS S **S** **16 14 47.0 +3.0**
HNS ScS **ScS** **16 19 25.1 -1.8**
HNS pmax pmax
comp=Z,23nm,1.1s
HNS LR LR
comp=Z,260nm,12.7s
HNS LR LR
comp=Z,320nm,13.1s
HNS LR LR
comp=Z,340nm,17.6s
PUL Pulkovo 34.88 325 ⇑ *e*P **P** **16 09 29.2 +1.0**
PUL pmax pmax
comp=Z,461nm,1.2s
XLT XiLinHaoTe 34.99 64 ⇓ *i*P **P** **16 09 31.9 +2.4**
XLT S **S** **16 14 50.3 +3.9**
XLT ScP **ScP** **16 15 22.8 -0.8**
XLT sS sS 16 15 58.9 -2.1
XLT pmax pmax
comp=Z,14nm,1.4s
XLT pmax pmax
comp=Z,91nm,4.6s
DOPR Dopca 35.08 300 ⇓P **P** **16 09 31.8 +1.7**

KARP Karpathos 35.13 282 P **P** **16 09 31.9 +1.1**
NACGM Naroch 35.16 316 *e*P **P** **16 09 32.1 +1.5**
comp=E,11μm,0.9s
BURAR Bucovina Array 35.21 303 ⇑P **P** **16 09 32.4 +1.1**
BURAR Bucovina Array 35.21 303 P **P** **16 09 32.5 +1.1**
BURAR IAmb IAmb 16 09 34.1
comp=Z,35nm,0.7s
BURAR Bucovina Array 35.21 303 P **P** **16 09 32.5 +1.1**
BURAR pmax pmax
comp=Z,35nm,0.6s
BUR08 Bucovina Ar. S 35.22 303 P **P** **16 09 32.7 +1.3**
COPA Copaceanca 35.27 297 ⇑P **P** **16 09 33.9 +2.1**
MTUR Matau 35.33 299 ⇑P **P** **16 09 33.8 +1.5**
VOIR 35.33 299 ⇑P **P** **16 09 34.1 +1.8**
VOIR 35.33 299 P **P** **16 09 34.1 +1.8**
KDZ Kurdzhali 35.34 293 *i*P **P** **16 09 34.0 +1.5**
ATD Arta Tunnel 35.41 233 P **P** **16 09 34.9 +1.6**
comp=Z,18nm,1.0s,baz=29,slow=6.5,SNR=5.2
comp=Z,18nm,1.0s
BOD Bodaibo 35.45 39 *e*P **P** **16 09 32.9 -0.2**
BOD pmax pmax
comp=Z,40nm,1.7s
BJT Baijiatuau 35.48 70 P **P** **16 09 35.3 +1.7**
BJT Baijiatuau 35.48 70 P **P** **16 09 35.3 +1.7**
BJT pmax pmax
comp=Z,12nm,0.7s
BJI Beijing 35.48 70 P **P** **16 09 35.8 +2.2**
BJI PcP **PcP** **16 11 59.4 +1.0**
BJI S **S** **16 14 58.4 +4.6**
BJI ScP **ScP** **16 15 24.1 -1.2**
BJI ScS **ScS** **16 19 31.8 +1.4**
BJI pmax pmax
comp=Z,17nm,0.8s
IIGN Ignalina 35.58 316 *e*P **P** **16 09 35.2 +1.0**
ARR Arges 35.62 299 ⇑P **P** **16 09 36.8 +1.9**
ISAL Salakas 35.68 317 *e*P **P** **16 09 35.9 +0.8**
PLVB Pleven 35.75 296 ⇑P **P** **16 09 36.6 +0.7**
ARCR ARCALIA 35.79 302 ⇑P **P** **16 09 38.8 +2.6**
KAAM Kaadhehdhoo 35.84 176 P **P** **16 09 38.9 +2.0**
KAAM IAmb IAmb 16 10 13.2
comp=Z,133nm,1.1s
RZN Rozhen 35.86 293 *i*P **P** **16 09 38.6 +1.5**
APE Apeiranthos 36.05 285 ⇓P **P** **16 09 40.0 +1.4**
APE Apeiranthos 36.05 285 ⇓ *e*P **P** **16 09 40.0 +1.4**
APE pmax pmax
comp=Z,58nm,0.9s
LVV L'vov 36.09 307 *e*P **P** **16 09 39.8 +1.1**
LVV *e*S **S** **16 15 05.2 +2.3**
LVV pmax pmax
comp=Z,150nm,1.2s
VSU Vasula 36.14 322 *e*P **P** **16 09 39.1 +0.1**
VSU Vasula 36.14 322 *de*P **P** **16 09 39.7 +0.8**
VSU pmax pmax
comp=Z,516nm,1.0s
PGB Panagyurishte 36.17 294 *i*P **P** **16 09 41.6 +2.1**
LOT Lotru 36.23 299 ⇑P **P** **16 09 41.1 +1.1**
CNSH ChangSha 36.27 91 ⇑P **P** **16 09 40.4 -0.1**
CNSH S **S** **16 15 07.0 +0.8**
CNSH pmax pmax
comp=Z,50nm,0.8s
CNSH LR LR
comp=Z,320nm,14.8s
CNSH LR LR
comp=Z,530nm,12.1s
CJR Cluj-Napoca 36.31 301 ⇑P **P** **16 09 43.1 +2.4**
CJR Cluj-Napoca 36.31 301 P **P** **16 09 43.0 +2.4**
BMR Baia Mare 36.37 303 ⇑P **P** **16 09 43.4 +2.3**
BMR Baia Mare 36.37 303 P **P** **16 09 43.3 +2.3**
WHN Wuhan 36.51 86 ⇓P **P** **16 09 44.8 +2.3**
WHN PcP **PcP** **16 12 02.4 +0.7**
WHN S **S** **16 15 11.8 +2.1**
WHN ScP **ScP** **16 15 27.5 -1.8**
WHN ScS **ScS** **16 19 34.3 -2.1**
WHN pmax pmax
comp=Z,90nm,0.9s
MMB Musomiste 36.61 293 *i*P **P** **16 09 44.0 +0.8**
MESR Meseseni 36.74 302 ⇑P **P** **16 09 46.0 +1.7**
DEV Deva 36.81 300 ⇑P **P** **16 09 47.1 +2.3**
DEV Deva 36.81 300 P **P** **16 09 47.1 +2.3**
VTS Vitosha 36.84 295 ⇑P **P** **16 09 47.2 +1.9**
VTS Vitosha 36.84 295 P **P** **16 09 46.4 +1.1**
VTS Vitosha 36.84 295 *i*P **P** **16 09 46.9 +1.6**
VTS Vitosha 36.84 295 P **P** **16 09 46.4 +1.1**
VTS pmax pmax
comp=Z,20nm,0.9s
PABE Paberze 36.86 316 P **P** **16 09 45.8 +0.7**
PABE Paberze 36.86 316 *e*P **P** **16 09 45.8 +0.7**
PUNG Punghina 36.90 297 ⇑P **P** **16 09 47.3 +1.8**
GZR Gura Zlata 36.93 299 ⇑P **P** **16 09 47.4 +1.1**
VSVD Vaisvydziai 36.98 317 *e*P **P** **16 09 47.1 +1.0**
IDI Anoyia 36.99 282 ⇑P **P** **16 09 47.5 +0.9**
IDI Anoyia 36.99 282 P **P** **16 09 46.6 +0.1**
IDI IAmb IAmb 16 11 12.1
comp=Z,198nm,1.7s
TIA Tai'an 36.99 76 ⇓P **P** **16 09 48.6 +2.1**
TIA pP **pP** **16 10 32.8 +3.3**
TIA S **S** **16 15 20.1 +3.1**
TIA pmax pmax
comp=Z,30nm,1.1s
TIA LR LR
comp=Z,200nm,11.4s
TIA LR LR
comp=Z,260nm,13.3s
TRPA Tarpa 37.02 304 ⇑P **P** **16 09 47.9 +1.4**
TRPA Tarpa 37.02 304 P **P** **16 09 48.2 +1.7**
KKB Krupnik 37.05 293 *i*P **P** **16 09 48.3 +1.4**
UZH Uzhgorod 37.18 305 ⇓ *i*P **P** **16 09 48.8 +0.9**
UZH *e* 16 10 30.0
UZH *e* 16 10 53.4
UZH *e*S **S** **16 15 20.8 +1.3**
KOLS Kolonicke sedl 37.20 305 *e*P **P** **16 09 49.6 +1.5**
KOLS *e*PP **PnPn** **16 11 23.1 +2.8**
KOLS *e* 16 15 31.9
KOLS Kolonicke sedl 37.20 305 *e*P **P** **16 09 49.6 +1.5**
KOLS pmax pmax
comp=Z,35nm,0.7s
UBPT Khong Chiam 37.32 115 P **P** **16 09 49.7 +0.3**
UBPT Khong Chiam 37.32 115 P **P** **16 09 50.3 +0.9**
comp=Z,37nm,0.8s
SURR Surduc 37.37 300 ⇑P **P** **16 09 51.7 +2.2**
HIA Hailar 37.41 54 P **P** **16 09 50.5 +0.7**
HIA Hailar 37.41 54 P **P** **16 09 51.1 +1.2**
comp=Z,9.1nm,1.4s
HIA Hailar 37.41 54 P **P** **16 09 50.5 +0.7**
HIA pmax pmax
comp=Z,26nm,1.3s
FIA1 FINESS Array S 37.45 326 P **P** **16 09 50.2 +0.3**
FINES FINESS Array B 37.45 326 P **P** **16 09 50.5 +0.6**
comp=Z,121nm,0.8s,baz=112,slow=8.6,SNR=165
comp=Z,121nm,0.8s
FINES FINESS Array B 37.45 326 P **P** **16 09 50.1 +0.2**
LVZ Lovozero 37.45 338 P **P** **16 09 49.9 0.0**
LVZ Lovozero 37.45 338 ⇓ *e*P **P** **16 09 51.3 +1.4**
LVZ pmax pmax
comp=Z,118nm,1.1s
LVZ Lovozero 37.45 338 P **P** **16 09 50.2 +0.2**
APA Apatity 37.63 338 ⇓ *i*P **P** **16 09 51.5 +0.1**
APA *i*S **S** **16 15 21.0 -4.7**
APA pmax pmax
comp=Z,47nm,0.9s
APA MLR MLR
comp=Z,1μm,12.0s
SIRR Siria 37.66 301 ⇑P **P** **16 09 53.5 +1.5**
MTSE Matsula 37.68 321 *e*P **P** **16 09 52.2 +0.3**
SURA Surathani 37.69 129 P **P** **16 09 54.0 +1.5**
comp=Z,114nm,0.8s
MDVR Moldovita 37.72 298 ⇓P **P** **16 09 54.2 +1.7**
BZS Buzias 37.73 300 ⇑P **P** **16 09 53.9 +1.3**
BZS Buzias 37.73 300 P **P** **16 09 53.8 +1.3**
CRVS Cervenica-Dubn 37.74 305 *e*P **P** **16 09 54.7 +2.1**
CRVS *e*PP **PnPn** **16 11 27.2 +0.6**
CRVS *e* 16 15 33.6
CRVS Cervenica-Dubn 37.74 305 *e*P **P** **16 09 54.7 +2.1**
CRVS *e* 16 15 33.6
CRVS pmax pmax
comp=Z,43nm,1.4s
MEF Metsahovi 37.82 324 *e*P **P** **16 09 53.4 +0.4**
ABAH Abaujker 37.88 304 P **P** **16 09 55.1 +1.4**
STHS Stebnicka Huta 37.88 306 *e*P **P** **16 09 53.8 0.0**
STHS *e* 16 15 33.2
STHS Stebnicka Huta 37.88 306 *e*P **P** **16 09 53.8 0.0**
STHS *e* 16 15 33.2
STHS pmax pmax

comp=Z,15nm,0.7s
PBUR Paburge 38.09 317 *e*P **P** **16 09 56.2 +0.8**
SRIT Nakonsritamara 38.11 130 P **P** **16 09 57.4 +1.3**
SRIT IAmb IAmb 16 09 58.7
comp=Z,51nm,0.7s
SRIT Nakonsritamara 38.11 130 P **P** **16 09 57.5 +1.5**
comp=Z,89nm,0.7s
SLIT Slitere, Latvi 38.21 319 *e*P **P** **16 09 56.2 -0.1**
QIZ Qiongzhong 38.32 106 P **P** **16 09 57.3 -0.5**
QIZ PP **PnPn** **16 11 32.3 -1.6**
QIZ S **S** **16 15 32.3 -5.0**
QIZ sS **sS** **16 16 52.5 -0.1**
QIZ LR LR
comp=Z,200nm,15.1s
QIZ LR LR
comp=Z,170nm,11.2s
QIZ LR LR
comp=Z,320nm,15.9s
KECS Kecovo 38.39 304 *e*P **P** **16 10 00.2 +2.2**
KECS Kecovo 38.39 304 *e*P **P** **16 10 00.2 +2.2**
FNA Florina 38.49 292 P **P** **16 09 59.2 +0.3**
FNA Florina 38.49 292 P **P** **16 09 59.3 +0.3**
FNA pmax pmax
comp=Z,10.0nm,0.8s
PSZ Piszkesteto 38.80 304 ⇑P **P** **16 10 02.9 +1.4**
PSZ Piszkesteto 38.80 304 P **P** **16 10 02.1 +0.6**
PSZ Piszkesteto 38.80 304 P **P** **16 10 02.3 +0.8**
PSZ Piszkesteto 38.80 304 P **P** **16 10 02.1 +0.6**
PSZ pmax pmax
comp=Z,20nm,0.8s
ITM Ithomi 38.82 286 P **P** **16 10 00.3 -1.5**
OJC Ojcow 38.83 307 *e*P **P** **16 10 00.5 -1.2**
OJC Ojcow 38.83 307 P **P** **16 09 59.5 -2.2**
OJC IAmb IAmb 16 10 01.5
comp=Z,65nm,1.2s
OJC Ojcow 38.83 307 P **P** **16 09 59.5 -2.2**
OJC pmax pmax
comp=Z,65nm,1.2s
KLNR Kaliningrad 38.86 314 *de*P **P** **16 10 02.9 +1.1**
KLNR pmax pmax
comp=Z,156nm,0.9s
DIVS Divibare 39.02 297 P **P** **16 10 03.5 +0.1**
DIVS Divibare 39.02 297 *e*P **P** **16 10 03.8 +0.4**
FRGS Fruska Gora 39.03 299 *e*P **P** **16 10 02.4 -1.1**
LHMI Lhok Sumawe 39.23 136 P **P** **16 10 06.0 +0.7**
LHMI Lhok Sumawe 39.23 136 P **P** **16 10 06.7 +1.4**
comp=Z,216nm,0.7s
RAF Rauma 39.30 324 *e*P **P** **16 10 05.3 0.0**
TEKS Tekeris 39.30 298 *e*P **P** **16 10 06.4 +0.8**
BBLS Lazići 39.47 297 *e*P **P** **16 10 05.5 -1.6**
VYHS Vyhne 39.48 304 *e*P **P** **16 10 08.8 +1.7**
VYHS *e* 16 15 39.3
VYHS Vyhne 39.48 304 *e*P **P** **16 10 08.8 +1.7**
VYHS pmax pmax
comp=Z,150nm,2.5s
NJ2 Nanjing 39.60 82 *e*P **P** **16 10 07.0 -1.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
MORH Mrgy, Hungar 39.75 301 ⇓P **P** **16 10 10.5 +1.2**
MORH Mrgy, Hungar 39.75 301 P **P** **16 10 10.0 +0.6**
HAPS Han Pijesak,Bl 39.77 298 *e*P **P** **16 10 10.1 +0.5**
PDG Podgorica 39.78 295 ⇑P **P** **16 10 10.2 +0.5**
PDG Podgorica 39.78 295 P **P** **16 10 10.1 +0.5**
SKLT Songkhla 39.85 130 P **P** **16 10 11.6 +1.2**
comp=Z,94nm,0.8s
SRO Srobarova 39.86 303 *e*P **P** **16 10 12.3 +2.1**
SRO Srobarova 39.86 303 *e*P **P** **16 10 12.3 +2.1**
SRO pmax pmax
comp=Z,80nm,0.8s
DRME Dracevica, Mon 39.87 295 *e*P **P** **16 10 09.5 -0.9**
KEK Kerkira 39.88 291 P **P** **16 10 09.6 -0.8**
OKC Ostrava-Krasne 39.90 307 *e*P **P** **16 10 12.1 +1.6**
OKC *e*PP **PP** **16 11 43.2 -3.1**
OKC Ostrava-Krasne 39.90 307 *e*P **P** **16 10 12.1 +1.6**
OKC *e* 16 11 43.2
UPM Unac-Piva 39.92 296 *e*P **P** **16 10 12.1 +1.1**
CSKK Cskako 39.93 303 P **P** **16 10 13.2 +2.5**
MAUC Maruska 40.12 306 *e*P **P** **16 10 13.4 +1.1**
KOVH Kovagotottos 40.14 301 P **P** **16 10 13.6 +1.0**
BRY Bratogost 40.23 296 *e*P **P** **16 10 13.0 -0.5**
MORC Moravsky Berou 40.29 306 ⇓P **P** **16 10 15.2 +1.4**
MORC Moravsky Berou 40.29 306 P **P** **16 10 14.0 +0.2**
MORC Moravsky Berou 40.29 306 *e*P **P** **16 10 14.6 +0.8**
MORC *e*PP **PP** **16 11 52.1 +1.5**
MORC *e*SCP **ScP** **16 15 43.2 -0.3**
MORC Moravsky Berou 40.29 306 P **P** **16 10 14.0 +0.2**
MORC pmax pmax
comp=Z,29nm,0.8s
HCY Herceg Novi 40.34 295 *e*P **P** **16 10 14.3 +0.1**
TREB Trebinje 40.40 296 *e*P **P** **16 10 14.6 -0.1**
SMOL Smolenice 40.42 305 *e*P **P** **16 10 16.4 +1.6**
SMOL pmax pmax
comp=Z,9.0nm,0.9s
MPLH Magyarpolny 40.43 302 P **P** **16 10 16.1 +1.2**
GKP Gorka Klasztor 40.51 312 *e*P **P** **16 10 16.9 +1.6**
GKP *e*L L 16 19 49.2
comp=Z,1μm,20.3s
GKP Gorka Klasztor 40.51 312 *e*P **P** **16 10 16.5 +1.1**
GKP Gorka Klasztor 40.51 312 P **P** **16 10 17.0 +1.6**
MODS Modra-Piesok 40.52 304 *e*P **P** **16 10 17.4 +1.7**
MODS *e*PP **PP** **16 11 54.4 +1.2**
MODS *e* 16 15 44.1
MODS Modra-Piesok 40.52 304 *e*P **P** **16 10 17.4 +1.7**
MODS pmax pmax
comp=Z,48nm,1.2s
ZST Bratislava 40.65 304 *e*P **P** **16 10 18.5 +1.8**
ZST *e*PP **PP** **16 11 57.2 +2.7**
ZST Bratislava 40.65 304 *e*P **P** **16 10 18.5 +1.8**
ZST pmax pmax
comp=Z,677nm,2.8s
SNY Shenyang 40.71 66 ⇓P **P** **16 10 18.1 +0.9**
SNY S **S** **16 16 14.4 +2.1**
SNY pmax pmax
comp=Z,21nm,0.7s
SNY pmax pmax
comp=Z,270nm,4.7s
SNY LR LR
comp=Z,270nm,4.3s
SNY LR LR
comp=Z,460nm,13.1s
KRLC Kraliky 40.77 307 *e*P **P** **16 10 19.1 +1.4**
KRLC Kraliky 40.77 307 *e*P **P** **16 10 19.1 +1.4**
KEV Kevo 40.79 338 P **P** **16 10 18.0 +0.5**
KEV IAmb IAmb 16 10 19.6
comp=Z,83nm,0.8s
KEV Kevo 40.79 338 P **P** **16 10 18.0 +0.5**
KEV pmax pmax
comp=Z,83nm,0.8s
KEV Kevo 40.79 338 P **P** **16 10 18.0 +0.5**
STON Ston 40.84 296 *e*P **P** **16 10 16.9 -1.4**
VRAC Vranov 40.93 306 *e*P **P** **16 10 19.9 +1.0**
VRAC *e*PP **PP** **16 11 56.6 -0.8**
VRAC *e*SCP **ScP** **16 15 45.5 -0.5**
BLY Banja Luka 40.94 299 *e*P **P** **16 10 18.5 -0.5**
SRKY Kupres RS 41.04 298 *e*P **P** **16 10 19.2 -0.9**
MGRS Mrkonjic Grad 41.05 298 *e*P **P** **16 10 21.3 +1.3**
SOP Sopron 41.05 303 P **P** **16 10 21.0 +1.0**
SOP Sopron 41.05 303 P **P** **16 10 21.7 +1.7**
DPC Dobruska-Polom 41.06 307 *e*P **P** **16 10 21.1 +1.0**
DPC Dobruska-Polom 41.06 307 *e*P **P** **16 10 21.1 +1.0**
KSP Ksiaz 41.07 308 *e*P **P** **16 10 21.5 +1.5**
KSP *e*L L 16 19 53.2
comp=Z,843nm,21.4s
KSP Ksiaz 41.07 308 P **P** **16 10 21.7 +1.7**
KRUC Moravsky 41.07 305 *e*P **P** **16 10 20.8 +0.7**
KRUC *e*SCP **ScP** **16 15 44.8 -1.7**
A051A Mrakovica 41.09 299 *e*P **P** **16 10 20.1 -0.3**
OSTC Ostas 41.12 308 *e*P **P** **16 10 22.1 +1.6**
ARA0 ARCESS Array S 41.13 338 *e*P **P** **16 10 21.5 +1.1**
ARA0 IAmb IAmb 16 10 22.9
comp=Z,328nm,1.2s
ARCES ARCESS Array B 41.13 338 P **P** **16 10 21.2 +0.8**
comp=Z,103nm,0.7s,baz=114,slow=8.1,SNR=252
comp=Z,103nm,0.7s
ARCES ARCESS Array B 41.13 338 P **P** **16 10 21.1 +0.8**
RONA Rosalia, Austr 41.23 303 *i*P **P** **16 10 22.4 +0.9**
comp=Z,21nm,1.0s,SNR=8.4
RONA *e*P **PP** **16 12 04.1 +3.3**
comp=Z,54nm,1.3s
RONA *e*S **ScP** **16 15 45.8 -1.5**
comp=Z,12nm,1.4s
UPC Upice 41.26 308 *e*P **P** **16 10 23.2 +1.6**
UPC Upice 41.26 308 *e*P **P** **16 10 23.2 +1.6**

KULM Kulim 41.34 131 P **P** **16 10 23.6 +1.0**
KOGS Kog 41.38 302 *i* P **P** **16 10 24.1 +1.5**
A050A Klekovaca 41.43 299 *e*P **P** **16 10 24.0 +0.8**
CONA Conrad Observa 41.50 304 *i* P **P** **16 10 25.0 +1.2**
comp=Z,42nm,0.8s,SNR=19
CONA *e*P **PP** **16 12 10.2 +6.5**
comp=Z,39nm,1.2s
CONA *e*S **ScP** **16 15 47.5 -0.9**
comp=Z,7.5nm,1.1s
KTK1 Kautokeino 41.60 336 *e*P **P** **16 10 24.8 +0.7**
KTK1 lAmb lAmb 16 10 26.2
comp=Z,127nm,0.6s
PTJ Puntijarka 41.64 301 P **P** **16 10 26.4 +1.5**
TREC Trest 41.65 306 *e*P **P** **16 10 26.5 +1.7**
TREC Trest 41.65 306 *e*P **P** **16 10 26.5 +1.7**
CN2 Changchun 41.73 62 *e*P **P** **16 10 22.8 -2.7**
CN2 *e*S **S** **16 16 22.8 -4.5**
CN2 LR LR
comp=Z,270nm,15.0s
CN2 LR LR
comp=Z,330nm,15.0s
CN2 LR LR
comp=Z,420nm,15.0s
ARSA Arzberg 41.79 303 *e*P **P** **16 10 27.6 +1.5**
comp=Z,14nm,1.4s
ARSA *e*P **PcP** **16 12 18.2 0.0**
comp=Z,21nm,1.2s
ARSA *e*S **ScP** **16 15 48.9 -0.6**
comp=Z,15nm,1.1s
GROS Grobnik 41.89 302 *i* P **P** **16 10 27.4 +0.5**
BSD Bornholm Skovb 41.95 315 lAmb lAmb 16 10 27.9
comp=Z,182nm,1.4s
BSD *i* P **P** **16 10 28.0 +0.9**
CRES Cresnjev 42.00 301 *e*P **P** **16 10 28.3 +0.6**
GOPC GO Pecny, Ondr 42.07 307 *e*P **P** **16 10 29.8 +1.6**
GOPC GO Pecny, Ondr 42.07 307 *e*P **P** **16 10 29.8 +1.6**
PVCC Panska Ves 42.17 308 *e*P **P** **16 10 31.1 +2.1**
PVCC Panska Ves 42.17 308 *e*P **P** **16 10 31.1 +2.1**
ZEA Zeya 42.18 47 *e*P **P** **16 10 31.5 +2.5**
ZEA *e* 16 11 17.3
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=E,20nm,0.4s
ZEA pmax pmax
comp=Z,30nm,0.8s
BOJS Bojanci 42.19 300 *e*P **P** **16 10 29.5 +0.3**
BOJS Bojanci 42.19 300 *i* P **P** **16 10 30.0 +0.8**
BOJS *e*pP **pP** **16 11 12.7 +1.0**
BOJS *i* PcP **PcP** **16 12 19.8 +0.3**
BOJS *i* ScP **ScP** **16 15 49.7 -1.4**
SOKA Soboth 42.19 302 *i* P **P** **16 10 30.6 +1.3**
comp=Z,51nm,0.9s,SNR=19
SOKA *e*P **PP** **16 12 10.7 -0.4**
comp=Z,17nm,1.1s
SOKA *i* S **ScP** **16 15 50.3 -0.8**
comp=Z,23nm,1.6s,SNR=6.0
IPM Ipoh 42.20 132 P **P** **16 10 29.8 +0.1**
IPM Ipoh 42.20 132 P **P** **16 10 30.2 +0.5**
comp=Z,147nm,0.8s
HAMF Hammerfest 42.22 339 *e*P **P** **16 10 30.4 +1.4**
HAMF lAmb lAmb 16 10 31.4
comp=Z,239nm,0.8s
PRU Pruhonice 42.22 307 *e*P **P** **16 10 31.0 +1.6**
PRU *ex* x 16 10 57.4
PRU *e*PP **PP** **16 12 12.7 +1.4**
PRU Pruhonice 42.22 307 *e*P **P** **16 10 31.0 +1.6**
PRU *e* 16 12 12.7
TIP Timpagrande 42.29 291 P **P** **16 10 30.0 -0.2**
PSI Prapat 42.34 136 P **P** **16 10 30.6 -0.2**
comp=Z,89nm,0.7s
PSI Prapat 42.34 136 P **P** **16 10 30.9 +0.1**
PSI pmax pmax
comp=Z,60nm,0.8s
HEH HeiHe 42.36 53 *e*P **P** **16 10 31.3 +0.8**
HEH pmax pmax
comp=Z,82nm,1.1s
RPSI Rantau Prapat 42.42 136 P **P** **16 10 30.9 -0.5**
RPSI lAmb lAmb 16 10 32.2
comp=Z,60nm,0.8s
CKRC Cesky Krumlov 42.46 305 *e*P **P** **16 10 32.3 +0.9**
CKRC *e*PP **PcP** **16 12 21.1 +0.7**
SGRT San Giovanni R 42.47 295 P **P** **16 10 31.4 -0.3**
SGRT lAmb lAmb 16 10 33.9
comp=Z,57nm,0.9s
OBKA Obir 42.54 302 *e*P **P** **16 10 32.8 +0.7**
OBKA Obir 42.54 302 *e*P **P** **16 10 33.7 +1.5**
comp=Z,16nm,0.9s
OBKA *e*P **PcP** **16 12 19.6 -1.2**
comp=Z,26nm,1.3s
OBKA *e*S **ScP** **16 15 51.7 -0.9**
comp=Z,15nm,1.1s
BRG Berggiesshubel 42.55 308⇓ *i*P **P** **16 10 33.4 +1.3**
BRG Amp 16 10 35.3
comp=Z,36nm,0.9s
BRG *ex* x 16 10 59.4
BRG Amp 16 11 04.2
comp=Z,8.6nm,1.0s
BRG *ex* x 16 11 17.8
BRG Amp 16 11 22.1
comp=Z,13nm,1.0s
BRG PP **PP** **16 12 17.3 +2.5**
BRG Amp 16 12 19.6
comp=Z,27nm,1.4s
BRG *ex* x 16 12 44.9
BRG Amp 16 12 45.9
comp=Z,13nm,1.1s
BRG ⇑SP **ScP** **16 15 51.8 -0.6**
BRG Amp 16 15 53.4
comp=Z,26nm,1.2s
BRG Berggiesshubel 42.55 308 S S 16 16 52.0 +13
BRG Berggiesshubel 42.55 308 sS sS 16 18 01.0 +5.3
BRG Berggiesshubel 42.55 308 SS SS 16 20 01.0 +4.1
BRG Berggiesshubel 42.55 308⇓ *i*P **P** **16 10 33.3 +1.3**
BRG *e* 16 11 17.8
BRG 16 12 17.3
BRG pmax pmax
comp=Z,36nm,0.9s
MOA Molln 42.58 304 *i* P **P** **16 10 33.3 +1.0**
comp=Z,34nm,0.8s,SNR=7.0
MOA *e*P **PcP** **16 12 19.1 -1.8**
comp=Z,28nm,1.6s
MOA *e*S **ScP** **16 15 51.7 -0.9**
comp=Z,11nm,1.2s
RUE Ruedersdorf 42.60 311 *e*P **P** **16 10 33.2 +0.9**
DEL Delary 42.61 317 *i* P **P** **16 10 33.0 +0.6**
LJU Ljubljana 42.62 301 *i* P **P** **16 10 33.6 +1.0**
LJU *e*pP **pP** **16 11 16.7 +1.4**
LJU *e* 16 11 41.3
LJU *i* PcP **PcP** **16 12 21.4 +0.5**
LJU *e*ScP **ScP** **16 15 51.3 -1.5**
CEY Cerknica 42.73 301 *e*P **P** **16 10 34.8 +1.2**
JETT Jettan, Norway 42.75 336 *e*P **P** **16 10 34.5 +1.1**
JETT lAmb lAmb 16 10 36.6
comp=Z,116nm,0.7s
CUC Castrocucco 42.80 292 P **P** **16 10 34.8 +0.5**
CUC lAmb lAmb 16 10 37.2
comp=Z,77nm,1.0s
LUNU Lund 42.81 315 *i* P **P** **16 10 35.1 +1.1**
BNX BinXian 42.81 59 ⇑P **P** **16 10 34.9 +0.7**
BNX pmax pmax
comp=Z,20nm,1.0s
BNX pmax pmax
comp=Z,170nm,4.6s
GSI Gunungsitoli 42.84 139 P **P** **16 10 35.8 +1.0**
GSI Gunungsitoli 42.84 139 P **P** **16 10 36.5 +1.7**
comp=Z,296nm,0.9s
GEC2 GERESS Array S 42.86 305 P **P** **16 10 34.8 +0.1**
GERES GERESS Array B 42.86 305 P **P** **16 10 35.5 +0.8**
comp=Z,4.5nm,0.8s,baz=95,slow=9.5,SNR=23
GERES PcP **PcP** **16 12 21.5 -0.3**
comp=Z,7.6nm,0.9s,baz=100,slow=5.5,SNR=6.8
GERES ScP **ScP** **16 15 53.1 -0.7**
comp=Z,4.6nm,1.0s,baz=83,slow=4.2,SNR=9.2
comp=Z,4.5nm,0.8s
GERES GERESS Array B 42.86 305 P **P** **16 10 35.0 +0.4**
KHC Kasperske Hory 42.91 306 *e*P **P** **16 10 35.5 +0.5**
KHC *e*PP **PP** **16 12 17.7 -1.0**
KHC *e*SCP **ScP** **16 15 52.9 -1.1**
KHC Kasperske Hory 42.91 306 *e*P **P** **16 10 35.5 +0.5**
KHC *e* 16 12 17.7
BIOA Bad Ischl, Aus 43.02 304 *i* P **P** **16 10 36.6 +0.7**
comp=Z,10.0nm,0.8s,SNR=6.6
BIOA *e*P **PcP** **16 12 22.1 -0.2**
comp=Z,21nm,1.2s
BIOA *e*S **ScP** **16 15 52.9 -1.5**
comp=Z,15nm,1.2s
BJUU Bjuv 43.06 316 *i* P **P** **16 10 37.5 +1.4**
CLL Collm 43.12 309 P **P** **16 10 36.7 +0.1**
CLL lAmb lAmb 16 10 38.9
comp=Z,155nm,2.0s
CLL Collm 43.12 309 *i* P **P** **16 10 37.8 +1.2**
comp=Z,129nm,2.0s
CLL *i* pP **pP** **16 11 17.7 -1.6**
CLL *e*sP **sP** **16 11 41.0 -0.9**
CLL *e*PP **PcP** **16 12 22.0 -0.5**
CLL *e*sPP 16 13 18.0
CLL *e*ScP **ScP** **16 15 53.0 -1.7**
comp=Z,15nm,1.3s
CLL *e*SS **ScS** **16 20 18.0 +3.0**
CLL Collm 43.12 309 *i* P **P** **16 10 37.8 +1.2**
CLL pmax pmax
comp=Z,129nm,2.0s
CADS Cadrg 43.14 301 *i* P **P** **16 10 37.3 +0.4**
CADS *e* 16 11 44.5
CADS *i* ScP **ScP** **16 15 52.5 -2.5**
MYKA Terra Mystica 43.15 302 *e*P **P** **16 10 38.4 +1.4**
comp=Z,12nm,0.8s
MYKA *e*P **PP** **16 12 21.4 +0.1**
comp=Z,11nm,1.0s
PRED Cave del Predi 43.22 302 P **P** **16 10 38.1 +0.5**
TRO Tromso 43.26 336 *e*P **P** **16 10 39.1 +1.8**
TRO lAmb lAmb 16 10 40.2
comp=Z,165nm,1.3s
SABO M.te Sabotino 43.27 301 P **P** **16 10 38.4 +0.5**
SABO lAmb lAmb 16 10 40.1
comp=Z,80nm,1.0s
FABU Falkenberg 43.27 317 *i* P **P** **16 10 38.3 +0.6**
BORU Boraas 43.28 318 *i* P **P** **16 10 38.7 +1.0**
KBA Koelnbreinsper 43.29 303 *i* P **P** **16 10 39.2 +1.0**
comp=Z,12nm,0.8s,SNR=7.6
KBA *e*P **PcP** **16 12 28.3 +4.9**
comp=Z,17nm,1.2s
KBA *e*S **ScP** **16 15 53.9 -1.8**
comp=Z,13nm,1.3s
MSEY Mahe Island 43.38 203 P **P** **16 10 40.3 +1.3**
MSEY Mahe Island 43.38 203 P **P** **16 10 40.3 +1.3**
MSEY pmax pmax
comp=Z,74nm,1.6s
COP Copenhagen 43.39 315 *e*P **P** **16 10 37.2 -1.4**
COP lAmb lAmb 16 10 41.9
comp=Z,238nm,1.1s
PAOL Paolisi 43.49 294 P **P** **16 10 40.3 +0.5**
PAOL lAmb lAmb 16 10 41.8
comp=Z,119nm,1.8s
NKC Novy Kostel 43.55 307 *e*P **P** **16 10 42.4 +2.3**
NKC Novy Kostel 43.55 307 *e*P **P** **16 10 42.4 +2.3**
CLUD Cludinico 43.69 302 P **P** **16 10 41.6 +0.3**
FAUS Fauske 43.78 333 *e*P **P** **16 10 42.6 +0.9**
FAUS lAmb lAmb 16 10 43.9
comp=Z,223nm,0.9s
MOR8 Moi Rana 43.79 331 *e*P **P** **16 10 41.7 0.0**
MOR8 lAmb lAmb 16 10 43.2
comp=Z,275nm,0.7s
STAL STALIGIAL 43.84 302 P **P** **16 10 42.2 -0.2**
ABTA Abfaltersbach 43.90 302 *e*P **P** **16 10 43.5 +0.5**
comp=Z,14nm,0.9s
ABTA *e*P **PcP** **16 12 24.7 -0.7**
comp=Z,15nm,1.4s
ABTA *e*S **ScP** **16 15 56.4 -1.6**
comp=Z,16nm,1.2s
STEI Steigen 43.95 333 *e*P **P** **16 10 43.9 +0.9**
STEI lAmb lAmb 16 10 45.2
comp=Z,164nm,0.9s
CIMO Cimolais 44.01 302 P **P** **16 10 43.8 -0.1**
CIMO lAmb lAmb 16 10 45.6
comp=Z,42nm,0.8s
YAK Yakutsk 44.06 35 P **P** **16 10 44.2 +0.3**
comp=Z,32nm,0.5s,baz=190,slow=0.7,SNR=36
comp=Z,32nm,0.5s
YAK Yakutsk 44.06 35 P **P** **16 10 43.3 -0.6**
YAK lAmb lAmb 16 10 45.4
comp=Z,68nm,0.6s
YAK Yakutsk 44.06 35 *e*P **P** **16 10 43.9 0.0**
YAK *e**PP **pP** **16 11 26.7 -1.1**
YAK *e* 16 12 22.0
YAK *e* 16 12 30.4
YAK *e*PPP PPP 16 13 15.7
YAK *e*S **S** **16 17 00.8 0.0**
YAK *e**SS **sS** **16 18 17.2 -0.5**
YAK *e* 16 20 12.3
YAK *e*SS **SS** **16 20 23.0 -1.2**
YAK pmax pmax
comp=Z,52nm,0.9s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,185nm,3.5s
YAK pmax pmax
comp=N,179nm,3.2s
YAK pmax pmax
comp=E,137nm,3.0s
YAK smax smax
comp=E,169nm,2.7s
YAK smax smax
comp=N,131nm,2.7s
YAK Yakutsk 44.06 35 P **P** **16 10 43.9 0.0**
YAK pP **pP** **16 11 29.7 +1.9**
YAK sP **sP** **16 11 54.0 +3.4**
YAK ScP **ScP** **16 15 56.5 -1.8**
NC405 NORSAR Array S 44.10 323 P **P** **16 10 44.4 0.0**
NC602 NORSAR Array S 44.15 323 P **P** **16 10 44.4 -0.3**
NC602 NORSAR Array S 44.15 323 *e*P **P** **16 10 45.4 +0.7**
NC602 lAmb lAmb 16 10 46.8
comp=Z,218nm,1.4s
NORES NORESS Array B 44.15 323 P **P** **16 10 45.0 +0.3**
STRU Stroemstad 44.20 320 *i* P **P** **16 10 45.4 +0.4**
NC303 NORSAR Array S 44.28 323 P **P** **16 10 45.8 0.0**
NB201 NORSAR Array S 44.30 323 P **P** **16 10 45.7 -0.2**
NB2 NORSAR Subarra 44.34 323 P **P** **16 10 42.5 -3.7**
NB2 pmax pmax
comp=Z,126nm,1.5s
NB2 NORSAR Subarra 44.34 323 P **P** **16 10 46.2 0.0**
baz=97,slow=7.9
NB2 NORSAR Subarra 44.34 323 P **P** **16 10 46.2 0.0**
comp=Z,141nm,0.8s,baz=97,slow=7.9
NOA NORSAR Array B 44.34 323 P **P** **16 10 46.2 0.0**
comp=Z,81nm,0.7s,baz=97,slow=7.8,SNR=262
comp=Z,81nm,0.7s
KONS Konsvik 44.39 331 *e*P **P** **16 10 47.3 +0.9**
KONS lAmb lAmb 16 10 49.6
comp=Z,52nm,0.6s
GRFO Grafenberg 44.39 307 P **P** **16 10 47.8 +1.1**
GRFO lAmb lAmb 16 10 50.4
comp=Z,227nm,1.9s
GRFO Grafenberg 44.39 307 P **P** **16 10 47.8 +1.1**
GRFO pmax pmax
comp=Z,227nm,1.9s
STOK Stokkvaagen 44.39 331 *e*P **P** **16 10 47.5 +1.1**
WTTA Wattenberg 44.42 303 *i* P **P** **16 10 47.4 +0.2**
comp=Z,27nm,0.9s,SNR=12
WTTA *e*P **PcP** **16 12 27.0 -0.3**
comp=Z,16nm,1.0s
WTTA *i* S **ScP** **16 15 59.1 -1.2**
comp=Z,27nm,1.1s,SNR=6.5
WATA Walderalm 44.45 303 *i* P **P** **16 10 46.9 -0.6**
comp=Z,18nm,0.8s,SNR=6.7
WATA *e*P **PcP** **16 12 27.1 -0.3**
comp=Z,18nm,1.3s
WATA *i* S **ScP** **16 15 59.2 -1.2**
comp=Z,25nm,1.1s,SNR=5.6
NSS Namsos 44.47 328 *e*P **P** **16 10 48.1 +1.0**
NSS lAmb lAmb 16 10 49.0
comp=Z,51nm,0.9s
NAO01 NORSAR Array S 44.48 323 P **P** **16 10 47.3 0.0**
OSL Oslo 44.49 321 *e*P **P** **16 10 48.2 +0.8**
OSL lAmb lAmb 16 10 49.0
comp=Z,62nm,0.7s
NBO00 NORSAR Array S 44.55 323 P **P** **16 10 47.7 -0.2**
NC204 NORSAR Array S 44.58 323 P **P** **16 10 48.0 -0.1**
CESX Cesi 44.60 297 P **P** **16 10 48.5 +0.1**
CESX lAmb lAmb 16 10 50.5
comp=Z,190nm,2.0s
CTI Castel Tesino 44.60 302 P **P** **16 10 48.3 -0.3**
CTI Castel Tesino 44.60 302 P **P** **16 10 48.3 -0.3**
CTI pmax pmax
comp=Z,26nm,0.8s
LOF Lofoten 44.62 333 *e*P **P** **16 10 49.1 +0.8**
LOF lAmb lAmb 16 10 50.2
comp=Z,63nm,0.7s
OVD Ostervraa, Den 44.65 318 *e*P **P** **16 10 50.1 +1.5**
OVD lAmb lAmb 16 10 50.6
comp=Z,200nm,0.6s
TPUB Ta-pu 44.65 93 P **P** **16 10 49.9 +0.7**
TPUB lAmb lAmb 16 12 29.6
comp=Z,337nm,2.0s
SSLB Suanglung 44.68 92 P **P** **16 10 50.8 +1.4**
SSLB Suanglung 44.68 92 P **P** **16 10 52.3 +2.9**
comp=Z,68nm,1.2s
TEOL Teolo 44.70 301 P **P** **16 10 49.6 +0.3**
SQTA Sankt Quirin 44.71 303 *i* P **P** **16 10 49.3 -0.2**
comp=Z,13nm,0.7s,SNR=6.4
SQTA *e*P **PcP** **16 12 28.3 +0.1**
comp=Z,12nm,0.7s
SQTA *e*S **ScP** **16 15 59.9 -1.5**
comp=Z,21nm,1.1s
MOTA Moosalm 44.77 303 *i* P **P** **16 10 49.8 -0.1**
comp=Z,24nm,0.7s,SNR=8.6
MOTA *e*P **PcP** **16 12 28.9 +0.5**
comp=Z,22nm,1.4s
MOTA *i* S **ScP** **16 16 00.4 -1.3**
comp=Z,32nm,1.1s,SNR=6.8
RETA Reutte 44.97 304 *e*P **P** **16 10 51.9 +0.4**
comp=Z,16nm,1.0s
RETA *e*S **ScP** **16 16 01.9 -0.6**
comp=Z,9.6nm,1.0s
KSAR Wonju Array Be 44.98 71 P **P** **16 10 51.9 +0.4**
KSAR Wonju Array Be 44.98 71 P **P** **16 10 51.9 +0.4**
KSRS Korea Array 45.00 71 P **P** **16 10 52.0 +0.3**
comp=Z,7.7nm,1.0s,baz=276,slow=6.7,SNR=11
KSRS PcP **PcP** **16 12 28.6 -0.5**
comp=Z,7.5nm,0.8s,baz=295,slow=2.8,SNR=6.9
KSRS ScP **ScP** **16 16 00.4 -2.2**
comp=Z,8.2nm,0.7s,baz=293,slow=4.0,SNR=16
comp=Z,7.7nm,1.0s
TBLU Trondheim 45.03 326 *e*P **P** **16 10 50.6 -0.9**
TBLU lAmb lAmb 16 10 52.7
comp=Z,148nm,1.3s
KONO Kongsberg 45.04 321 P **P** **16 10 52.2 +0.5**
KONO lAmb lAmb 16 10 53.5
comp=Z,314nm,1.8s
KONO Kongsberg 45.04 321⇑ *e*P **P** **16 10 52.6 +0.9**
KONO pmax pmax
comp=Z,79nm,1.3s
KONO Kongsberg 45.04 321 *e*P **P** **16 10 52.3 +0.5**
KONO Kongsberg 45.04 321 P **P** **16 10 52.2 +0.5**
KONO sP **sP** **16 11 57.1 -0.3**
FETA Feichten 45.07 303 *i* P **P** **16 10 52.1 -0.2**
comp=Z,20nm,0.8s,SNR=7.7
FETA *e*P **PcP** **16 12 30.2 +0.7**
comp=Z,32nm,1.2s
FETA *i* S **ScP** **16 16 02.1 -0.8**
comp=Z,26nm,1.1s,SNR=7.8
LATE Laterza 45.15 297 P **P** **16 10 53.1 +0.2**
MUD Monsted U'grnd 45.22 316 *i* P **P** **16 10 55.0 +1.9**
TWGBT Beinan 45.25 93 P **P** **16 10 55.5 +1.6**
comp=Z,85nm,0.9s
KLR Kul'dur 45.26 54 P **P** **16 10 53.9 +0.2**
comp=Z,5.1nm,0.4s,baz=270,slow=7.6,SNR=17
comp=Z,5.1nm,0.4s
KLR Kul'dur 45.26 54*de*P **P** **16 10 55.0 +1.4**
KLR pmax pmax
comp=Z,29nm,1.3s
BJO1 Bjornoya 45.27 343 *e*P **P** **16 10 54.4 +1.2**
BJO1 lAmb lAmb 16 10 55.6
comp=Z,318nm,1.0s
OSSC Osservatorio P 45.36 298 P **P** **16 10 54.3 -0.2**
SALO Salr 45.45 301 P **P** **16 10 55.5 +0.3**
SALO lAmb lAmb 16 10 57.1
comp=Z,58nm,0.8s
FUORN Ofenpass-Fuorn 45.45 303 P **P** **16 10 55.3 -0.2**
DOMB Dombas 45.45 324 *e*P **P** **16 10 55.3 +0.3**
DOMB lAmb lAmb 16 10 57.4
comp=Z,77nm,1.0s
BKNI Bangkinang 45.56 135 P **P** **16 10 56.5 +0.2**
BKNI Bangkinang 45.56 135 P **P** **16 10 57.3 +1.0**
comp=Z,275nm,0.9s
HOMB Homborsund 45.57 319 *i* P **P** **16 10 57.0 +1.1**
HOMB Homborsund 45.57 319 *e*P **P** **16 10 56.7 +0.9**
HOMB lAmb lAmb 16 10 57.6
comp=Z,261nm,1.5s
DAVA Damuels 45.60 304 *i* P **P** **16 10 56.6 +0.1**
comp=Z,79nm,0.8s,SNR=22
DAVA *i* S **ScP** **16 16 04.5 -0.7**
comp=Z,33nm,1.2s,SNR=6.2
SKAR Skarslia 45.73 322 *e*P **P** **16 10 58.9 +1.7**
SKAR lAmb lAmb 16 11 00.7
comp=Z,269nm,1.8s
CASP Castiglione de 45.79 297 P **P** **16 10 58.2 +0.3**
TIXI Tiksi 45.85 22 P **P** **16 10 58.2 +0.4**
comp=Z,45nm,0.3s,baz=13,slow=0.0,SNR=51
comp=Z,45nm,0.3s
TIXI Tiksi 45.85 22 P **P** **16 10 58.1 +0.2**
TIXI lAmb lAmb 16 10 59.9
comp=Z,134nm,1.1s
TIXI Tiksi 45.85 22 *i* P **P** **16 10 58.3 +0.4**
TIXI pmax pmax
comp=Z,79nm,1.1s
TIXI Tiksi 45.85 22 P **P** **16 10 58.3 +0.5**
TIXI ScP **ScP** **16 16 03.6 -1.9**
YOJ Yonaguni jima 46.02 90 P **P** **16 10 59.7 -0.2**
YOJ lAmb lAmb 16 12 07.1
comp=Z,188nm,1.2s
YOJ Yonaguni jima 46.02 90 P **P** **16 10 59.7 -0.2**
MYKOM Kota Tinggi 46.04 131 P **P** **16 11 00.9 +0.8**
TUE Stuetta 46.10 303 P **P** **16 11 00.3 -0.2**
SNART Snartemo 46.25 319 *i* P **P** **16 11 02.8 +1.6**
USRK Ussuriysk Ar. 46.29 61 P **P** **16 11 02.4 +0.7**
comp=Z,3.0nm,0.7s,baz=300,slow=5.1,SNR=6.0
LODK Lodwar 46.35 233 P **P** **16 11 04.0 +1.5**
MSSA Maissana 46.41 300 P **P** **16 11 02.8 0.0**
BFO Black Forest 46.46 305 P **P** **16 11 03.1 +0.1**
BFO Black Forest 46.46 305 P **P** **16 11 03.1 +0.1**
BFO pmax pmax
comp=Z,59nm,1.9s
BFO Black Forest 46.46 305 P **P** **16 11 03.2 +0.1**
BFO ScP **ScP** **16 16 07.2 -1.4**
CDF Champ du Feu 47.14 306 *e*P **P** **16 11 09.2 +0.9**
CDF pmax pmax
comp=Z,14nm,1.0s
HSPB Hornsund (broa 47.14 345 *e*P **P** **16 11 09.7 +1.8**
PGF Pioggiola 47.18 297 *e*P **P** **16 11 08.3 -0.5**
PGF pmax pmax
comp=Z,24nm,0.7s
ECH Echery 47.25 305 P **P** **16 11 09.3 +0.1**
ECH Echery 47.25 305 P **P** **16 11 09.3 +0.1**
ECH pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 47.25 305 P **P** **16 11 09.6 +0.5**
SPB2 Spitsbergen Ar 47.50 347 P **P** **16 11 12.5 +1.9**
SPB2 lAmb lAmb 16 11 13.8
comp=Z,80nm,0.7s
SPITS Spitsbergen Ar 47.50 347 P **P** **16 11 12.5 +1.9**
SPITS pmax pmax
comp=Z,137nm,1.2s
SENIN Lac Senin/Sane 47.51 303 P **P** **16 11 11.7 +0.3**
BTNL Ternell 47.52 309 *d*P **P** **16 11 12.0 +0.8**
comp=Z,21nm,1.0s
HINF Hinteralfeld 47.52 305 *e*P **P** **16 11 10.8 -0.5**
HINF pmax pmax
comp=Z,24nm,1.0s
MEM Membach 47.59 309 *d*P **P** **16 11 12.6 +0.9**
comp=Z,20nm,0.9s
WLF Walferdange 47.65 307 P **P** **16 11 12.6 +0.4**
WLF Walferdange 47.65 307 *d*P **P** **16 11 13.7 +1.5**
comp=Z,29nm,1.0s
WLF Walferdange 47.65 307 P **P** **16 11 12.6 +0.4**
WLF pmax pmax
comp=Z,54nm,1.0s
HAU Haudompre 47.82 305 *e*P **P** **16 11 13.2 -0.3**
HAU pmax pmax
comp=Z,151nm,1.9s
BSTI Sart Tilman 47.88 309 *d*P **P** **16 11 15.5 +1.7**
SBF Sospel 47.97 299 *e*P **P** **16 11 15.3 +0.5**
SBF pmax pmax
comp=Z,22nm,0.6s
GRNR Gornyy 48.02 51⇓ *i*P **P** **16 11 16.3 +1.3**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=N,430nm,13.0s
GRNR MLR MLR

BCLA Clavier 48.07 308 *d*P P 16 11 15.5 +0.2
LPL La Plagne 48.08 302 *e*P P 16 11 15.8 0.0
LPL pmax pmax
comp=Z,32nm,0.9s
RCHB Rochefort 48.16 308 *d*P P 16 11 16.7 +0.7
BGES Gesves 48.21 308 *d*P P 16 11 17.9 +1.5
BNI Bardonecchia 48.22 301 P P 16 11 17.2 +0.4
BNI Bardonecchia 48.22 301 P P 16 11 17.2 +0.4
BNI pmax pmax
comp=Z,55nm,1.6s
MBDF Montbardon 48.23 301 *e*P P 16 11 16.2 -0.7
MBDF pmax pmax
comp=Z,31nm,0.9s
CABF La Chapelle 48.28 303 *e*P P 16 11 18.0 +0.9
CABF pmax pmax
comp=Z,72nm,1.3s
GIVF Givet 48.43 308 *e*P P 16 11 18.6 +0.5
GIVF pmax pmax
comp=Z,119nm,1.7s
BMRD Maredsous 48.43 308 *d*P P 16 11 19.9 +1.8
comp=Z,23nm,1.0s
DOU Dourbes 48.57 308 *d*P P 16 11 20.4 +1.2
comp=Z,17nm,1.1s
KBS Kingsbay 48.62 347 P P 16 11 20.2 +1.0
KBS Kingsbay 48.62 347 *i* P P 16 11 21.6 +2.4
KBS Kingsbay 48.62 347 *c i* P P 16 11 21.0 +1.8
KBS pmax pmax
comp=Z,117nm,1.0s
KBS Kingsbay 48.62 347 P P 16 11 20.7 +1.5
KBS pP **pP** 16 12 06.1 +2.6
KBS sP **sP** 16 12 28.6 +2.6
SNF Seneffe 48.70 309 *d*P P 16 11 21.8 +1.7
comp=Z,26nm,1.1s
SNF *d*PcP **PcP** 16 12 42.3 +0.3
JNU Nakatsue 48.72 75 P P 16 11 21.3 +0.7
JNU Nakatsue 48.72 75 P P 16 11 21.6 +1.0
comp=Z,31nm,1.2s
KMBO Kilima Mbogo 48.72 227 P P 16 11 22.4 +1.4
comp=Z,27nm,0.6s,baz=33,slow=11,SNR=95
KMBO ScP **ScP** 16 16 18.0 -0.8
comp=Z,1.0nm,0.4s,baz=61,slow=1.8,SNR=4.4
comp=Z,27nm,0.6s
KMBO Kilima Mbogo 48.72 227 P P 16 11 22.2 +1.2
KMBO Kilima Mbogo 48.72 227⇑ *i*P P 16 11 22.9 +1.9
KMBO IAmb IAmb 16 11 23.7
comp=Z,15nm,0.7s
KMBO Kilima Mbogo 48.72 227 P P 16 11 22.9 +1.9
KMBO Kilima Mbogo 48.72 227 *i* P P 16 11 22.8 +1.7
SNR=37
KMBO Kilima Mbogo 48.72 227 P P 16 11 22.7 +1.7
KMBO pP **pP** 16 12 07.3 +1.6
KMBO ScP **ScP** 16 16 17.9 -1.0
ORIF Oris-en-Rattie 48.80 301 *e*P P 16 11 22.2 +1.1
ORIF pmax pmax
comp=Z,33nm,1.3s
BAIF Baives 48.82 308 *e*P P 16 11 21.7 +0.6
BAIF pmax pmax
comp=Z,65nm,1.2s
KEST Kesra 48.94 288 P P 16 11 23.2 +0.9
comp=Z,28nm,0.8s,baz=62,slow=0.8,SNR=22
comp=Z,28nm,0.8s
KEST Kesra 48.94 288 P P 16 11 23.1 +0.8
KEST IAmb IAmb 16 11 25.1
comp=Z,246nm,1.8s
KEST Kesra 48.94 288 P P 16 11 23.7 +1.4
SNR=13
JOW Kunigami 49.19 84 P P 16 11 24.2 0.0
JOW IAmb IAmb 16 11 39.7
comp=Z,167nm,1.8s
KIBK Kibwezi 49.23 226 P P 16 11 26.4 +1.7
KIBK IAmb IAmb 16 11 28.1
comp=Z,59nm,0.8s
LOR Lormes 49.62 305 *e*P P 16 11 26.5 -0.7
LOR pmax pmax
comp=Z,28nm,1.4s
SSB Saint Sauveur 49.63 302 P P 16 11 27.7 +0.3
SSB IAmb IAmb 16 11 29.7
comp=Z,130nm,1.9s
SSB Saint Sauveur 49.63 302 P P 16 11 27.7 +0.3
SSB pmax pmax
comp=Z,130nm,1.9s
SSB Saint Sauveur 49.63 302 P P 16 11 27.6 +0.2
SSB ScP **ScP** 16 16 21.3 -0.9
VIVF Saint-Julien-l 49.65 301 *e*P P 16 11 27.9 +0.4
VIVF pmax pmax
comp=Z,133nm,1.6s
SMF Signal de Mont 49.78 304 *e*P P 16 11 28.0 -0.4
SMF pmax pmax
comp=Z,44nm,1.0s
AVF Avril sur Loir 50.07 304 *e*P P 16 11 30.1 -0.5
AVF pmax pmax
comp=Z,42nm,1.0s
KSM Kuching 50.40 124 P P 16 11 33.9 +0.4
KSM Kuching 50.40 124 P P 16 11 34.6 +1.1
comp=Z,22nm,1.1s
ELMS Elmsett, Ipswi 50.44 311 *e*P P 16 11 33.8 +0.6
ELMS IAmb IAmb 16 11 35.0
comp=Z,76nm,0.8s
LRW Lerwick 50.45 322 *e*P P 16 11 33.6 +0.5
LRW IAmb IAmb 16 11 34.8
comp=Z,111nm,1.0s
BGF Bois d'Agland 50.46 304 *e*P P 16 11 33.0 -0.5
BGF pmax pmax
comp=Z,19nm,1.1s
WACR West Acre 50.54 312 *e*P P 16 11 34.6 +0.6
WACR IAmb IAmb 16 11 35.6
comp=Z,133nm,0.9s
TCF Toulx Ste Croi 50.96 304 *e*P P 16 11 37.2 -0.1
TCF pmax pmax
comp=Z,59nm,1.3s
SBUM Sibu 50.98 122 P P 16 11 38.7 +0.9
KKM Kota Kinabalu 51.30 115 P P 16 11 39.6 -0.7
KKM IAmb IAmb 16 12 29.2
comp=Z,137nm,1.4s
CAF Calviac 51.42 302 *e*P P 16 11 40.8 +0.1
CAF pmax pmax
comp=Z,31nm,1.2s
HPK Haverah Park 51.63 314 *e*P P 16 11 42.8 +0.7
EDMD Edmundbyers 51.66 315 *e*P P 16 11 42.2 -0.1
EDMD IAmb IAmb 16 11 43.8
comp=Z,118nm,1.3s
RJF Les Rejaudoux 51.69 303 *e*P P 16 11 42.9 +0.2
RJF pmax pmax
comp=Z,89nm,1.7s
MTLF Montolieu 51.76 300 *e*P P 16 11 43.1 -0.2
MTLF pmax pmax
comp=Z,181nm,2.1s
MLA1 Latheron 51.81 320 *e*P P 16 11 44.2 +0.9
ESY Stoneypath 51.82 317 *e*P P 16 11 44.0 +0.5
MCD Coleburn Disti 51.87 319 *e*P P 16 11 44.6 +0.8
LDF La Druitiere 51.91 307 *e*P P 16 11 43.7 -0.5
LDF pmax pmax
comp=Z,79nm,1.6s
FLN La Foliniere 52.09 307 *e*P P 16 11 45.7 +0.1
FLN pmax pmax
comp=Z,58nm,1.3s
EKA Eskdalemuir Ar 52.23 316 P P 16 11 46.2 -0.3
ESK Eskdalemuir 52.26 316 P P 16 11 47.0 +0.3
ESK IAmb IAmb 16 11 48.3
comp=Z,75nm,1.2s
ESK Eskdalemuir 52.26 316 P P 16 11 47.0 +0.3
ESK pmax pmax
comp=Z,75nm,1.3s
LFF La Frestale 52.32 302 *e*P P 16 11 47.2 -0.1
LFF pmax pmax
comp=Z,63nm,1.4s
KESW Keswick, Cumbr 52.35 315 *e*P P 16 11 48.1 +0.8
KESW IAmb IAmb 16 11 49.1
comp=Z,163nm,1.4s
MBAR Mbarara 52.39 234 P P 16 11 48.0 -0.3
MBAR IAmb IAmb 16 11 50.9
comp=Z,67nm,0.7s
MBAR Mbarara 52.39 234 *c i* P P 16 11 49.7 +1.3
MBAR pmax pmax
comp=Z,51nm,0.9s
MBAR Mbarara 52.39 234 P P 16 11 49.4 +1.0
MBAR ScP **ScP** 16 16 33.4 -1.2
GRR Gorron 52.43 307 *e*P P 16 11 47.4 -0.7
GRR pmax pmax
comp=Z,22nm,0.8s
MFF Saint Martin d 52.45 305 *e*P P 16 11 47.6 -0.6
MFF pmax pmax
comp=Z,59nm,1.4s
MONM Monmouth 52.79 312 *e*P P 16 11 51.1 +0.5

PGBU Glenifferbraes 52.87 317 *e*P P 16 11 51.2 0.0
PGBU IAmb IAmb 16 11 52.8
comp=Z,124nm,1.2s
NEWG New Galloway 52.88 316 *e*P P 16 11 51.0 -0.2
NEWG IAmb IAmb 16 11 52.9
comp=Z,51nm,0.8s
YSS Yuzh-Sakhalins 52.94 55 P P 16 11 53.1 +1.4
YSS IAmb IAmb 16 11 54.2
comp=Z,50nm,1.1s
YSS Yuzh-Sakhalins 52.94 55 *e*P P 16 11 53.2 +1.4
YSS pmax pmax
comp=Z,40nm,1.3s
YSS Yuzh-Sakhalins 52.94 55 P P 16 11 53.7 +1.9
KAC Achnashellach 52.97 319 *e*P P 16 11 52.2 +0.4
MJAR Matsushiro Arr 53.08 68 P P 16 11 53.6 +0.5
comp=Z,4.1nm,0.9s,baz=297,slow=9.6,SNR=8.2
MJAR PcP **PcP** 16 12 58.9 +0.2
comp=Z,6.2nm,0.9s,baz=316,slow=4.8,SNR=5.1
MJAR ScP **ScP** 16 16 35.0 -2.1
comp=Z,8.7nm,1.0s,baz=282,slow=5.7,SNR=8.5
comp=Z,4.1nm,0.9s
EPF Esparros 53.16 300 *e*P P 16 11 54.1 +0.5
EPF pmax pmax
comp=Z,8.0nm,0.6s
KPL Plockton 53.19 319 *e*P P 16 11 53.4 -0.1
IOMK Kirk Michael 53.26 315 *e*P P 16 11 54.7 +0.7
IOMK IAmb IAmb 16 11 55.8
comp=Z,90nm,0.8s
LAWE Loch Awe, Argy 53.28 317 *e*P P 16 11 54.7 +0.6
LAWE IAmb IAmb 16 11 55.8
comp=Z,75nm,1.1s
YLL Llanberis 53.29 313 *e*P P 16 11 54.8 +0.6
WIM Isle of Man 53.34 315 *e*P P 16 11 55.5 +0.8
LPW Lampeter 53.48 312 *e*P P 16 11 56.2 +0.6
YRC Rhoscolyn 53.50 314 *e*P P 16 11 56.8 +1.0
MYLDM Lahad Datu 53.56 114 P P 16 11 58.4 +1.7
MYLDM IAmb IAmb 16 12 46.2
comp=Z,39nm,0.9s
SGMF Saint Gilles 53.56 307 *e*P P 16 11 57.4 +1.1
SGMF pmax pmax
comp=Z,63nm,1.3s
ASAJ Asahikawa 53.67 58 P P 16 11 58.1 +0.9
ASAJ pmax pmax
comp=Z,140nm,1.8s
JKA Kamikawa-asahi 53.68 58 P P 16 11 58.1 +0.9
JKA IAmb IAmb 16 12 09.5
comp=Z,140nm,1.8s
ETSF Etsaut 53.83 300 *e*P P 16 11 59.3 +0.8
ETSF pmax pmax
comp=Z,21nm,0.6s
RSBS Rosebush, Pemb 53.92 312 *e*P P 16 11 59.7 +0.8
CLGH Cloghs, Cushen 53.94 316 *e*P P 16 12 00.1 +1.1
ROSF Rostrenen 54.00 308 *e*P P 16 12 00.0 +0.5
ROSF pmax pmax
comp=Z,44nm,1.0s
QUIF Quistinic 54.05 307 *e*P P 16 12 00.6 +0.8
QUIF pmax pmax
comp=Z,94nm,1.8s
SJPF Ste Jean 54.23 301 *e*P P 16 12 03.3 +2.0
SJPF pmax pmax
comp=Z,46nm,1.6s
JMM Marumori 54.51 66 P P 16 12 03.1 -0.2
JMM IAmb IAmb 16 12 12.1
comp=Z,161nm,1.7s
SEY Seymchan 54.52 34⇓ *e*P P 16 12 04.3 +1.3
SEY pmax pmax
comp=Z,31nm,1.0s
DSB Dublin 54.55 314 P P 16 12 04.4 +1.1
DAG Danmarks Havn 54.73 344 *i* P P 16 12 04.3 -0.1
DAG IAmb IAmb 16 12 06.6
comp=Z,92nm,0.9s
CART Cartagena 56.02 294 P P 16 12 15.1 +0.9
CART IAmb IAmb 16 12 15.7
comp=Z,51nm,0.8s
SCO Scoresbysund 57.04 336 P P 16 12 22.7 +1.9
SCO IAmb IAmb 16 12 25.2
comp=Z,102nm,1.6s
SCO Scoresbysund 57.04 336 P P 16 12 22.7 +1.9
SCO pmax pmax
comp=Z,102nm,1.6s
ESBB Sonseca Array 57.37 298 P P 16 12 24.5 +0.8
ESBB IAmb IAmb 16 12 25.4
comp=Z,33nm,0.9s
ESDC Sonseca Array 57.37 298 P P 16 12 24.1 +0.4
comp=Z,24nm,0.9s,baz=59,slow=7.4,SNR=92
comp=Z,24nm,0.9s
ESDC Sonseca Array 57.37 298 P P 16 12 24.4 +0.7
TAM Tamanrasset 57.42 276 P P 16 12 23.8 -0.6
TAM IAmb IAmb 16 12 28.2
comp=Z,119nm,1.9s
TAM Tamanrasset 57.42 276 P P 16 12 23.8 -0.6
TAM pmax pmax
comp=Z,119nm,1.9s
TAM Tamanrasset 57.42 276 P P 16 12 24.8 +0.4
PAB San Pablo 57.70 298 P P 16 12 25.9 -0.1
PAB IAmb IAmb 16 12 27.8
comp=Z,64nm,1.4s
PAB San Pablo 57.70 298 P P 16 12 25.9 -0.1
PAB pmax pmax
comp=Z,64nm,1.4s
PAB San Pablo 57.70 298 P P 16 12 25.6 -0.4
TOLI2 Tolitoli 57.98 116 P P 16 12 28.6 +0.5
TOLI2 Tolitoli 57.98 116 P P 16 12 29.1 +1.0
comp=Z,10.0nm,1.0s
PBRG Braganca 58.51 301 *e*P P 16 12 32.8 +1.3
comp=Z,43nm,1.7s
BILL Bilibino 58.69 26⇑ *i*P P 16 12 33.8 +1.5
BILL *e**PP **pP** 16 13 15.5 -2.9
BILL *i* 16 13 21.4
BILL *i* 16 14 45.0
BILL *e*S **S** 16 20 23.9 +3.1
BILL *e*SS **SS** 16 24 21.3 +5.0
BILL pmax pmax
comp=Z,87nm,1.2s
BILL Bilibino 58.69 26 P P 16 12 33.6 +1.2
BILL pP **PcP** 16 13 21.3 +1.3
BILL sP **sP** 16 13 41.7 +1.2
MVO Moncorvo 58.95 300 *e*P P 16 12 35.8 +1.2
comp=Z,32nm,1.2s
ALE Alert 59.06 354 P P 16 12 32.5 -2.2
ALE pP **pP** 16 13 21.0 +0.1
ALE sP **sP** 16 13 41.7 -1.2
POLO Lamas de Olo 59.40 301 *e*P P 16 12 39.0 +1.3
comp=Z,20nm,1.9s
PCAB Cabril 59.43 301 *e*P P 16 12 39.8 +1.9
comp=Z,90nm,1.6s
PGAV Gavieira, Arco 59.49 302 *e*P P 16 12 40.1 +1.7
comp=Z,65nm,1.9s
ABPO Ambohimpanom 59.53 206 P P 16 12 39.7 +0.9
ABPO ScP **ScP** 16 17 04.7 -1.0
MTE Manteigas 59.62 300 *e*P P 16 12 40.5 +1.3
comp=Z,86nm,1.5s
MTE Manteigas 59.62 300 P P 16 12 39.3 +0.2
MTE IAmb IAmb 16 12 41.6
comp=Z,54nm,1.0s
PVIS Viseu 59.73 300 *e*P P 16 12 41.4 +1.4
comp=Z,69nm,1.1s
PCBR Castelo Branco 59.79 299 *e*P P 16 12 41.9 +1.6
comp=Z,30nm,1.6s
PMRV Marv??o 59.90 299 *e*P P 16 12 42.3 +1.2
comp=Z,42nm,1.5s
PEA0B Petropavlovsk- 60.08 44 P P 16 12 42.1 +0.1
PEA0B Petropavlovsk- 60.08 44 P P 16 12 42.1 +0.1
PEA0B pmax pmax
comp=Z,448nm,2.0s
PETK Petropavlovsk- 60.08 44 P P 16 12 41.5 -0.5
comp=Z,2.8nm,0.7s,baz=321,slow=2.1,SNR=5.8
PETK Petropavlovsk- 60.08 44 P P 16 12 42.1 +0.1
PBAR Barrancos 60.17 297 *e*P P 16 12 43.7 +0.8
comp=Z,78nm,1.2s
PESTR Estremoz 60.27 298 *e*P P 16 12 44.8 +1.2
comp=Z,53nm,1.3s
PESTR Estremoz 60.27 298 P P 16 12 44.0 +0.4
COI Coimbra 60.30 300 *e*P P 16 12 45.4 +1.7
comp=Z,71nm,1.2s
COI Coimbra 60.30 300 P P 16 12 44.9 +1.1
COI IAmb IAmb 16 12 46.0
comp=Z,48nm,0.8s
COI Coimbra 60.30 300 P P 16 12 44.9 +1.1
COI pmax pmax
comp=Z,48nm,0.8s
PCAS Casmilo, Conde 60.42 300 *e*P P 16 12 46.2 +1.6
comp=Z,57nm,2.0s
PMTG Montargil 60.64 299 *e*P P 16 12 47.0 +0.9
comp=Z,16nm,1.9s

EVO Evora 60.71 298 *e*P P 16 12 47.4 +0.8
comp=Z,57nm,1.3s
PBEJ Beja 60.82 297 *e*P P 16 12 48.4 +1.1
comp=Z,68nm,1.5s
PSBE So Bento 60.85 299 *e*P P 16 12 49.3 +1.7
comp=Z,99nm,1.7s
PVAQ Vaqueiros 60.98 297 *e*P P 16 12 49.2 +0.8
comp=Z,59nm,1.4s
PVAQ Vaqueiros 60.98 297 P P 16 12 49.2 +0.8
SUMG Summit 61.06 341 *i* P P 16 12 49.9 +1.0
SUMG IAmb IAmb 16 12 51.6
comp=Z,332nm,1.6s
MESJ Messejana 61.16 297 *e*P P 16 12 50.3 +0.7
MESJ IAmb IAmb 16 12 51.9
comp=Z,46nm,1.1s
MESJ Messejana 61.16 297 *e*P P 16 12 50.7 +1.1
comp=Z,69nm,1.3s
MESJ Messejana 61.16 297 *e*P P 16 12 50.3 +0.7
MESJ pmax pmax
comp=Z,46nm,1.0s
PNCL Nicolau / Gran 61.26 298 *e*P P 16 12 51.8 +1.6
comp=Z,52nm,1.7s
PMAFR Mafra 61.43 299 *e*P P 16 12 52.9 +1.5
comp=Z,147nm,1.5s
PMST Lisbon--Monsan 61.46 299 *e*P P 16 12 51.9 +0.3
comp=Z,126nm,1.9s
PTEO Sao Teotonio 61.64 297 *e*P P 16 12 54.1 +1.3
comp=Z,82nm,1.3s
PFVI Vila Bisbo 61.90 297 *e*P P 16 12 55.7 +1.2
comp=Z,121nm,1.7s
PFVI Vila Bisbo 61.90 297 P P 16 12 55.3 +0.8
VOI Vohitsoka 62.35 205 P P 16 12 58.9 +1.2
VOI IAmb IAmb 16 13 00.5
comp=Z,49nm,1.0s
VOI Vohitsoka 62.35 205 P P 16 12 59.7 +2.0
AVE Averroes 62.57 293 P P 16 12 58.8 -0.3
AVE IAmb IAmb 16 13 00.7
comp=Z,44nm,0.6s
EUNU Eureka 63.04 356 P P 16 13 02.5 +1.0
TNTI Ternate 63.08 111 P P 16 13 03.1 +0.5
TNTI Ternate 63.08 111 P P 16 13 03.9 +1.2
comp=Z,56nm,1.2s
SANI Sanana 63.93 114 P P 16 13 08.3 +0.1
comp=Z,30nm,0.8s
KULLO Kullorsuaq 64.08 346 *e*P P 16 13 09.2 +0.9
KULLO IAmb IAmb 16 13 10.1
comp=Z,154nm,1.6s
ANGG Ammassalik, Gr 64.39 334 P P 16 13 11.6 +1.2
TULEG Thule 64.45 350 P P 16 13 10.8 +0.1
TULEG Thule 64.45 350 *e*P P 16 13 12.2 +1.5
TULEG IAmb IAmb 16 13 12.3
comp=Z,179nm,1.7s
LSZ Lusaka 65.34 226 P P 16 13 18.4 +1.0
TOA0 Torodi Ar. Sit 65.60 269 P P 16 13 16.3 -2.7
TORD Torodi Ar. Bea 65.60 269 P P 16 13 18.1 -0.9
comp=Z,53nm,0.4s,baz=46,slow=5.9,SNR=181
comp=Z,53nm,0.4s
ILULI Ilulissat 66.40 341 P P 16 13 24.0 +0.8
ILULI Ilulissat 66.40 341 *e*P P 16 13 24.1 +0.9
ILULI IAmb IAmb 16 13 26.0
comp=Z,150nm,1.4s
ILULI Ilulissat 66.40 341 P P 16 13 24.0 +0.8
ILULI pmax pmax
comp=Z,192nm,1.4s
CHIPN CHIPINGE 66.96 219 *i* P P 16 13 26.9 -0.7
CHIPN CHIPINGE 66.96 219 *i* P P 16 13 26.9 -0.7
A21K Barrow 67.38 15 P P 16 13 30.3 +1.0
A21K Barrow 67.38 15 P P 16 13 29.7 +0.3
baz=320
SFJD Kangerlussuaq 67.75 339 P P 16 13 32.5 +0.8
SFJD IAmb IAmb 16 13 33.9
comp=Z,44nm,1.1s
SFJD Kangerlussuaq 67.75 339 *e*P P 16 13 32.1 +0.4
SFJD Kangerlussuaq 67.75 339 P P 16 13 32.5 +0.8
SFJD pmax pmax
comp=Z,44nm,1.1s
SOEI Soe 68.03 121 P P 16 13 34.0 -0.4
SOEI Soe 68.03 121 P P 16 13 35.1 +0.7
comp=Z,109nm,0.9s
RDOG Red Dog Mine 68.33 19 P P 16 13 36.0 +0.5
baz=316
BNDI Bandanaira 68.47 113 P P 16 13 37.1 +0.1
comp=Z,86nm,0.8s
GAMB Gambell 68.59 25 P P 16 13 37.8 +0.8
baz=310
TNA Tin City 68.64 22 P P 16 13 38.5 +1.2
TNA IAmb IAmb 16 14 50.2
comp=Z,52nm,1.2s
TNA Tin City 68.64 22 P P 16 13 37.9 +0.7
baz=312
RES Resolute Bay 68.73 356 P P 16 13 38.6 +1.0
RES Resolute Bay 68.73 356 P P 16 13 38.7 +1.0
RES pmax pmax
comp=Z,56nm,1.8s
FAKI Fak Fak 69.17 110 P P 16 13 41.7 +0.3
FAKI IAmb IAmb 16 13 58.1
comp=Z,42nm,1.0s
FAKI Fak Fak 69.17 110 P P 16 13 42.5 +1.1
comp=Z,45nm,1.1s
C23K Itkillik River 69.79 14 P P 16 13 45.7 +1.5
baz=325
NRS Narsarsuaq 69.85 332 P P 16 13 45.6 +0.8
NRS Narsarsuaq 69.85 332 P P 16 13 45.6 +0.8
NRS pmax pmax
comp=Z,321nm,1.9s
MUSN Musina, Limpop 70.10 220 *e*P P 16 13 48.1 +1.2
MUSN IAmb IAmb 16 13 49.1
comp=Z,34nm,0.9s
MUSN Musina, Limpop 70.10 220 *i* P P 16 13 48.2 +1.4
MUSN Musina, Limpop 70.10 220 *i* P P 16 13 48.2 +1.4
ANM Nome 70.11 22 P P 16 13 47.9 +1.5
ANM IAmb IAmb 16 13 49.3
comp=Z,70nm,1.0s
ANM Nome 70.11 22 P P 16 13 47.6 +1.2
baz=315
ANM Nome 70.11 22 P P 16 13 47.9 +1.5
ANM pmax pmax
comp=Z,70nm,1.0s
C24K Franklin Bluff 70.25 14 P P 16 13 48.1 +1.0
baz=327,SNR=29
MOPA Mopani 70.33 218 *e*P P 16 13 49.4 +1.2
MOPA IAmb IAmb 16 13 50.4
comp=Z,71nm,1.0s
MOPA Mopani 70.33 218 *i* P P 16 13 48.2 0.0
MOPA Mopani 70.33 218 *i* P P 16 13 48.2 0.0
D23K Nanushuk River 70.49 15 P P 16 13 49.8 +1.2
baz=326
C26K Camden Bay 70.77 12 P P 16 13 52.0 +1.8
baz=330
E22K Anaktuvuk Pass 70.94 16 P P 16 13 52.0 +0.7
baz=325,SNR=29
TOLK Toolik Lake Re 70.99 15 P P 16 13 52.8 +1.1
TOLK Toolik Lake Re 70.99 15 P P 16 13 52.5 +0.9
baz=326,SNR=67
D25K Kavik River 71.03 13 P P 16 13 53.0 +1.2
baz=329,SNR=70
C27K Jago River 71.23 12 P P 16 13 54.7 +1.6
baz=331
A36M Sachs Harbour 71.25 5 P P 16 13 54.1 +1.0
A36M Sachs Harbour 71.25 5 P P 16 13 53.8 +0.7
baz=346,SNR=94
F21K Alatna River 71.31 17 P P 16 13 54.3 +0.8
baz=324,SNR=62
F22K John River 71.37 16 P P 16 13 54.9 +0.9
baz=325
E23K Chandalar 71.47 15 P P 16 13 55.3 +0.7
baz=327
GIRL Giralia 71.65 138 P P 16 13 57.3 +1.1
E24K Your Creek 71.69 15 P P 16 13 56.7 +0.8
baz=328
G21K Allakaket 71.87 17 P P 16 13 57.0 0.0
baz=324,SNR=24
G22K Bettles 72.00 16 P P 16 13 58.4 +0.8
baz=325
COLD Coldfoot 72.04 16 P P 16 13 58.1 +0.2
COLD IAmb IAmb 16 14 00.3
comp=Z,94nm,1.1s
COLD Coldfoot 72.04 16 P P 16 13 58.6 +0.7
baz=326,SNR=48
E25K Arctic Village 72.22 14 P P 16 13 59.6 +0.6
baz=330,SNR=24
IMAR Indian Mountai 72.24 18 P P 16 13 59.1 0.0
F24K Squaw Lake 72.28 15 P P 16 14 00.5 +1.1
baz=328,SNR=16
GCSA Galena City Sc 72.43 19 P P 16 14 01.2 +1.1
baz=321,SNR=20

LEPH **Lephalale, Lim** 72.46 221 ⇑*i*P P 16 14 02.1 +1.0
LEPH IAmb IAmb 16 14 02.7
comp=Z,179nm,1.5s

G23K **Bananza Creek** 72.51 16 P P 16 14 01.7 +1.0
baz=326

F25K **Christian Rive** 72.66 14 P P 16 14 03.1 +1.5
baz=330,SNR=36

H21K **Melozitna Rive** 72.74 17 P P 16 14 02.4 +0.3
H21K IAmb IAmb 16 14 04.3
comp=Z,76nm,1.2s

H21K **Melozitna Rive** 72.74 17 P P 16 14 03.0 +0.9
baz=324

F26K **Sheenjek River** 72.85 13 P P 16 14 04.2 +1.5
baz=331

E27K **Coleen River** 72.87 12 P P 16 14 04.0 +1.2
baz=333

H22K **Ishtalitna Cre** 72.88 17 P P 16 14 04.0 +1.0
baz=326,SNR=13

BMAR **Burnt Mountain** 73.00 14 P P 16 14 04.6 +0.9
G24K **Hadweenzic Riv** 73.06 15 P P 16 14 05.0 +1.0
baz=328,SNR=36

G25K **Bearman Lake** 73.29 14 P P 16 14 06.7 +1.5
baz=330,SNR=25

I21K **Tanana** 73.33 17 P P 16 14 05.9 +0.4
I21K IAmb IAmb 16 14 07.9
comp=Z,54nm,1.1s

I21K **Tanana** 73.33 17 P P 16 14 06.5 +1.0
baz=325,SNR=22

H23K **Yukon River** 73.36 16 P P 16 14 06.6 +0.8
H23K IAmb IAmb 16 14 08.6
comp=Z,43nm,0.8s

H23K **Yukon River** 73.36 16 P P 16 14 07.1 +1.4
baz=327

POGA **Pongola** 73.40 216 P P 16 14 07.0 +0.6
POGA IAmb IAmb 16 14 08.6
comp=Z,66nm,0.8s

POGA **Pongola** 73.40 216 *e*P P 16 14 08.0 +1.6
POGA IAmb IAmb 16 14 08.4
comp=Z,62nm,0.8s

G26K **Porcupine Rive** 73.58 13 P P 16 14 08.2 +1.3
baz=332

MBWA **Marble Bar** 73.59 133 P P 16 14 07.8 +0.2
MBWA IAmb IAmb 16 14 16.2
comp=Z,80nm,1.7s

J20K **Nowinta River** 73.60 19 P P 16 14 07.8 +0.7
J20K IAmb IAmb 16 14 09.6
comp=Z,63nm,0.7s

J20K **Nowinta River** 73.60 19 P P 16 14 08.1 +1.0
baz=324

FYU **Fort Yukon** 73.63 14 P P 16 14 08.4 +1.2
H24K **Noodor Dome** 73.72 16 P P 16 14 08.6 +0.8
H24K IAmb IAmb 16 14 10.5
comp=Z,30nm,0.7s

H24K **Noodor Dome** 73.72 16 P P 16 14 09.0 +1.2
baz=328

MLY **Manley** 73.75 17 P P 16 14 08.4 +0.4
MLY IAmb IAmb 16 14 10.2
comp=Z,58nm,1.2s

MLY **Manley** 73.75 17 P P 16 14 08.8 +0.8
baz=326,SNR=23

H25L **Birch Creek** 73.78 15 P P 16 14 09.3 +1.2
baz=330

C36M **Paulatuk** 73.93 5 P P 16 14 08.8 -0.1
C36M **Paulatuk** 73.93 5 P P 16 14 09.1 +0.2
baz=348,SNR=134

INK **Inuvik** 73.96 9 P P 16 14 10.1 +1.0
comp=Z,42nm,0.4s,baz=352,slow=6.9,SNR=201
comp=Z,42nm,0.4s

INK **Inuvik** 73.96 9 P P 16 14 09.7 +0.6
INK **Inuvik** 73.96 9 P P 16 14 09.8 +0.7
baz=340,SNR=82

I23K **Minto, Yukon-K** 73.97 16 P P 16 14 09.9 +0.7
I23K IAmb IAmb 16 14 11.8
comp=Z,55nm,1.0s

I23K **Minto, Yukon-K** 73.97 16 P P 16 14 10.3 +1.0
baz=327,SNR=27

PSA00 **Pilbara Seismi** 73.97 133 P P 16 14 09.6 -0.2
PSA00 **Pilbara Seismi** 73.97 133 P P 16 14 09.9 +0.1
PSA00 IAmb IAmb 16 14 25.2
comp=Z,24nm,0.9s

G27K **Doyon Strip** 74.09 13 P P 16 14 11.3 +1.3
baz=333

TTA **Tatalina** 74.10 20 P P 16 14 10.9 +0.8
TTA IAmb IAmb 16 14 12.5
comp=Z,58nm,1.3s

TTA **Tatalina** 74.10 20 P P 16 14 10.9 +0.8
baz=322,SNR=9.6

TTA **Tatalina** 74.10 20 P P 16 14 10.9 +0.8
TTA pmax pmax
comp=Z,58nm,1.3s

K20K **Telida** 74.29 19 P P 16 14 11.9 +0.7
K20K IAmb IAmb 16 14 13.6
comp=Z,65nm,0.7s

K20K **Telida** 74.29 19 P P 16 14 12.2 +1.0
baz=324

CHUM **Lake Minchumin** 74.31 18 P P 16 14 12.0 +0.8
baz=325,SNR=26

MDM **Murphy Dome** 74.39 16 P P 16 14 12.2 +0.5
MDM IAmb IAmb 16 14 14.0
comp=Z,71nm,1.0s

POKR **Poker Plat Res** 74.43 16 P P 16 14 12.4 +0.5
POKR **Poker Plat Res** 74.43 16 P P 16 14 12.7 +0.8
baz=329,SNR=60

BPAW **Bear Paw Mtn.** 74.47 18 P P 16 14 12.3 +0.1
BPAW IAmb IAmb 16 14 14.0
comp=Z,74nm,1.2s

BPAW **Bear Paw Mtn.** 74.47 18 P P 16 14 12.2 0.0
baz=326,SNR=23

PRP **Porcupine Dome** 74.49 15 P P 16 14 12.8 +0.3
PRP IAmb IAmb 16 14 15.4
comp=Z,86nm,1.6s

PRP **Porcupine Dome** 74.49 15 P P 16 14 13.3 +0.9
baz=330,SNR=20

NEA2 **Nenana** 74.51 17 P P 16 14 12.5 +0.1
NEA2 IAmb IAmb 16 14 14.3
comp=Z,72nm,0.7s

NEA2 **Nenana** 74.51 17 P P 16 14 12.8 +0.4
baz=328,SNR=48

TCOL **CIGO, UAF Yank** 74.54 16 P P 16 14 12.9 +0.4
TCOL **CIGO, UAF Yank** 74.54 16 P P 16 14 13.1 +0.5
baz=328,SNR=16

COLA **College** 74.55 16 P P 16 14 13.0 +0.5
COLA **College** 74.55 16 P P 16 14 13.0 +0.5
baz=328

COLA **College** 74.55 16 P P 16 14 13.6 +1.1
comp=Z,121nm,0.8s

COLA **College** 74.55 16 *c*P P 16 14 13.6 +1.1
COLA pmax pmax
comp=Z,72nm,0.9s

KSR **Koster** 74.56 220 *e*P P 16 14 14.1 +0.8
KSR IAmb IAmb 16 14 15.4
comp=Z,26nm,0.9s

LBTB **Lobatse** 74.57 222 P P 16 14 14.1 +0.7
LBTB **Lobatse** 74.57 222 ⇑*i*P P 16 14 14.3 +1.0
LBTB IAmb IAmb 16 14 15.6
comp=Z,292nm,1.6s

LBTB **Lobatse** 74.57 222 *i* P P 16 14 15.7 +2.3
LBTB **Lobatse** 74.57 222 *i* P P 16 14 15.7 +2.3
LBTB **Lobatse** 74.57 222 P P 16 14 14.1 +0.7
LBTB pmax pmax
comp=Z,287nm,1.6s

DBIC **Dimbokro** 74.58 267 P P 16 14 12.4 -1.1
comp=Z,24nm,0.8s,baz=60,slow=6.9,SNR=24
comp=Z,24nm,0.8s

DBIC **Dimbokro** 74.58 267 P P 16 14 12.8 -0.8
DBIC IAmb IAmb 16 14 14.1
comp=Z,38nm,1.0s

DBIC **Dimbokro** 74.58 267 *e*P P 16 14 12.0 -1.6
DBIC IAmb IAmb 16 14 13.8
comp=Z,36nm,1.0s

DBIC **Dimbokro** 74.58 267 P P 16 14 12.8 -0.8
DBIC pmax pmax
comp=Z,38nm,1.0s

NWCL **Newcastle** 74.59 217 *e*P P 16 14 14.2 +0.7
NWCL IAmb IAmb 16 14 15.2
comp=Z,66nm,0.8s

H27K **Steamboat Moun** 74.64 13 P P 16 14 13.9 +0.8
baz=333

KIC **Kosan Boka** 74.67 267 ⇑*i*P P 16 14 13.6 -0.5
comp=Z,15nm,0.3s

TIC **Toumodi** 74.72 267 ⇑*i*P P 16 14 13.9 -0.6
comp=Z,20nm,0.3s

F31M **Tsiigehtchic** 74.75 10 P P 16 14 14.3 +0.6
baz=340,SNR=22

WDLM **Western Deep L** 74.75 220 *e*P P 16 14 15.7 +1.3
WDLM IAmb IAmb 16 14 16.3
comp=Z,32nm,0.9s

CCB **Clear Creek Bu** 74.75 16 P P 16 14 13.9 +0.2
CCB IAmb IAmb 16 14 15.6
comp=Z,157nm,2.0s

CAST **Castle Rocks** 74.75 19 P P 16 14 14.0 +0.1
CAST **Castle Rocks** 74.75 19 P P 16 14 14.3 +0.5
baz=325,SNR=59

BWN **Browne** 74.77 17 P P 16 14 14.7 +0.8
TSUM **Tsumeb** 74.80 232 P P 16 14 14.6 -0.2
TSUM IAmb IAmb 16 14 17.0
comp=Z,90nm,1.2s

TSUM **Tsumeb** 74.80 232 *e*P P 16 14 15.6 +0.7
G30M **tAoh Zraii Nji** 74.83 11 P P 16 14 15.0 +0.7
baz=338

WRH **Wood River Hil** 74.84 16 P P 16 14 14.0 -0.3
IL31 74.85 16 P P 16 14 14.0 -0.2
IL31 IAmb IAmb 16 14 15.7
comp=Z,47nm,1.1s

ILAR **Eielson Array** 74.85 16 P P 16 14 13.9 -0.3
comp=Z,21nm,0.9s,baz=294,slow=4.2,SNR=178
ILAR PP PP 16 17 05.9 +2.1
comp=Z,2.4nm,0.9s,baz=319,slow=6.2,SNR=4.9
comp=Z,21nm,0.9s

ILAR **Eielson Array** 74.85 16 P P 16 14 14.0 -0.3
KTH **Kantishna Hill** 74.94 18 P P 16 14 15.7 +0.8
KTH IAmb IAmb 16 14 16.9
comp=Z,62nm,0.7s

LIC **Lamto** 74.98 267 ⇑*i*P P 16 14 15.3 -0.6
comp=Z,26nm,0.3s

MTN **Manton Dam** 74.98 119 P P 16 14 15.2 -0.6
L19K **White Mountain** 75.02 20 P P 16 14 16.0 +0.6
L19K IAmb IAmb 16 14 17.9
comp=Z,44nm,1.1s

L19K **White Mountain** 75.02 20 P P 16 14 16.7 +1.3
baz=323,SNR=12

L20K **Farewell, AK** 75.05 20 P P 16 14 16.3 +0.7
baz=324

GENI **Genyem** 75.05 105 P P 16 14 17.5 +1.2
comp=Z,89nm,1.1s

HDA **Harding Lake** 75.15 16 P P 16 14 15.4 -0.5
HDA **Harding Lake** 75.15 16 P P 16 14 15.5 -0.5
baz=329,SNR=14

I26K **Coal Creek Min** 75.15 14 P P 16 14 16.6 +0.5
I26K IAmb IAmb 16 14 18.5
comp=Z,37nm,0.8s

I26K **Coal Creek Min** 75.15 14 P P 16 14 16.7 +0.7
baz=332

PPLA **Purkeypile** 75.16 19 P P 16 14 16.5 +0.2
PPLA **Purkeypile** 75.16 19 P P 16 14 16.7 +0.4
baz=325,SNR=11

TRF **Thorofare Moun** 75.18 18 P P 16 14 16.6 +0.1
TRF **Thorofare Moun** 75.18 18 P P 16 14 16.3 -0.2
baz=327,SNR=6.9

I27K **Kandik River** 75.18 13 P P 16 14 17.2 +1.0
baz=333

PRYS **Parys** 75.19 219 *e*P P 16 14 17.6 +0.7
PRYS IAmb IAmb 16 14 18.4
comp=Z,86nm,1.2s

N16K **Nishlik Lake** 75.21 23 P P 16 14 17.4 +0.9
baz=321,SNR=11

MCK **McKinley** 75.27 17 P P 16 14 17.1 +0.3
MCK IAmb IAmb 16 14 18.5
comp=Z,30nm,0.6s

MCK **McKinley** 75.27 17 P P 16 14 16.3 -0.4
baz=328,SNR=22

MCK **McKinley** 75.27 17 P P 16 14 17.1 +0.3
MCK pmax pmax
comp=Z,30nm,0.6s

KNRA **Kununurra** 75.31 122 P P 16 14 17.7 +0.2
KNRA **Kununurra** 75.31 122 P P 16 14 17.8 +0.2
comp=Z,152nm,0.8s

J25K **Salcha River,** 75.31 15 P P 16 14 16.8 -0.3
J25K IAmb IAmb 16 14 18.6
comp=Z,28nm,0.8s

J25K **Salcha River,** 75.31 15 P P 16 14 17.2 +0.1
baz=330

EPYK **Eagle Plains** 75.32 11 P P 16 14 17.4 +0.3
EPYK IAmb IAmb 16 14 19.1
comp=Z,83nm,1.4s

EPYK **Eagle Plains** 75.32 11 P P 16 14 17.6 +0.6
baz=337,SNR=18

M19K **Big River Lodg** 75.38 20 P P 16 14 18.0 +0.6
M19K IAmb IAmb 16 14 20.4
comp=Z,57nm,1.4s

M19K **Big River Lodg** 75.38 20 P P 16 14 18.5 +1.1
baz=324,SNR=6.3

RND **Reindeer** 75.57 17 P P 16 14 18.5 0.0
RND IAmb IAmb 16 14 19.6
comp=Z,103nm,1.5s

RND **Reindeer** 75.57 17 P P 16 14 18.5 0.0
RND pmax pmax
comp=Z,103nm,1.5s

M20K **Styx River** 75.74 20 P P 16 14 19.6 0.0
M20K **Styx River** 75.74 20 P P 16 14 20.1 +0.6
baz=325

J26L **Joseph Creek** 75.79 15 P P 16 14 20.0 +0.3
J26L IAmb IAmb 16 14 21.8
comp=Z,51nm,0.7s

J26L **Joseph Creek** 75.79 15 P P 16 14 20.1 +0.3
baz=332

KDU **Kakadu** 75.83 118 P P 16 14 21.1 +0.5
comp=Z,40nm,1.1s

N18K **Kilo Creek** 75.93 22 P P 16 14 21.4 +0.8
K24K **Donnelly Dome** 75.93 16 P P 16 14 20.5 0.0
baz=330,SNR=51

I29M **Ogilvie Camp,** 75.99 12 P P 16 14 20.9 +0.1
I29M **Ogilvie Camp,** 75.99 12 P P 16 14 20.6 -0.3
baz=336,SNR=42

EGAK **Eagle** 76.01 14 P P 16 14 21.2 +0.3
EGAK IAmb IAmb 16 14 23.1
comp=Z,37nm,1.0s

EGAK **Eagle** 76.01 14 P P 16 14 21.3 +0.4
baz=334,SNR=16

CUT **Chulitna** 76.06 18 P P 16 14 20.7 -0.5
CUT IAmb IAmb 16 14 22.3
comp=Z,52nm,0.6s

CUT **Chulitna** 76.06 18 P P 16 14 21.3 +0.1
baz=327,SNR=9.3

SNKL **Senekal, Frees** 76.09 218 *e*P P 16 14 22.8 +0.8
SNKL IAmb IAmb 16 14 23.8
comp=Z,106nm,0.7s

SKT **Skwentna** 76.09 19 P P 16 14 21.4 0.0
SKT IAmb IAmb 16 14 22.8
comp=Z,105nm,1.2s

SKT **Skwentna** 76.09 19 P P 16 14 21.0 -0.4
baz=326,SNR=24

O16K **Kokwok River B** 76.11 23 P P 16 14 22.1 +0.6
baz=321

WAT1 **Susitna Watana** 76.13 17 P P 16 14 21.0 -0.6
baz=328

SCRK **Sand Creek** 76.16 15 P P 16 14 22.1 +0.1
SCRK IAmb IAmb 16 14 24.1
comp=Z,142nm,1.4s

SCRK **Sand Creek** 76.16 15 P P 16 14 22.0 +0.1
baz=332,SNR=48

RIDG **Independent Ri** 76.19 16 P P 16 14 21.6 -0.4
RIDG IAmb IAmb 16 14 24.2
comp=Z,54nm,1.1s

RIDG **Independent Ri** 76.19 16 P P 16 14 21.8 -0.2
baz=331,SNR=23

DHY **Denali Highway** 76.20 17 P P 16 14 21.9 -0.3
DHY IAmb IAmb 16 14 23.8
comp=Z,55nm,0.7s

DHY **Denali Highway** 76.20 17 P P 16 14 22.0 -0.2
baz=329,SNR=36

N19K **Bonanza Creek** 76.23 21 P P 16 14 23.1 +0.7
N19K IAmb IAmb 16 14 26.9
comp=Z,72nm,1.4s

N19K **Bonanza Creek** 76.23 21 P P 16 14 22.8 +0.5
baz=324

O17K **Koliganek Bris** 76.28 23 P P 16 14 22.9 +0.4
baz=322

DOT **Dot Lake** 76.44 15 P P 16 14 23.4 +0.1
DOT IAmb IAmb 16 14 25.1
comp=Z,29nm,0.7s

SWZ **Schweizer** 76.45 221 *e*P P 16 14 24.3 +0.3
SWZ IAmb IAmb 16 14 25.8
comp=Z,89nm,0.9s

K27K **Chicken** 76.51 14 P P 16 14 24.3 +0.6
baz=333

WAT6 **Susitna Watana** 76.54 17 P P 16 14 23.5 -0.6
baz=329,SNR=18

N20K **Mount Spurr** 76.56 20 P P 16 14 23.7 -0.4
baz=326

SPCR **Spurr Chakacha** 76.56 20 P P 16 14 24.0 -0.1
baz=326

SPU **Mount Spurr** 76.61 20 P P 16 14 24.6 +0.1
M22K **Willow** 76.65 19 P P 16 14 24.5 0.0
M22K IAmb IAmb 16 14 25.7
comp=Z,49nm,0.8s

M22K **Willow** 76.65 19 P P 16 14 24.2 -0.3
baz=327

PAX **Paxson** 76.73 16 P P 16 14 24.9 -0.2
PAX IAmb IAmb 16 14 26.8
comp=Z,54nm,0.6s

PAX **Paxson** 76.73 16 P P 16 14 24.9 -0.2
baz=331,SNR=40

PAX **Paxson** 76.73 16 P P 16 14 24.9 -0.2
PAX pmax pmax
comp=Z,54nm,0.6s

SUA **Susitna One** 76.73 19 P P 16 14 25.4 +0.3
SUA **Susitna One** 76.73 19 P P 16 14 25.0 -0.2
baz=327

O19K **Port Alsworth** 76.78 21 P P 16 14 26.1 +0.8
baz=324

O18K **Koktuh Hills** 76.79 22 P P 16 14 26.4 +0.9
O18K IAmb IAmb 16 14 28.3
comp=Z,62nm,0.8s

O18K **Koktuh Hills** 76.79 22 P P 16 14 26.8 +1.4
baz=324,SNR=5.3

J29M **Klondike Camp** 76.84 12 P P 16 14 26.3 +0.7
J29M **Klondike Camp** 76.84 12 P P 16 14 27.2 +1.5
baz=336,SNR=10

GHO **Glory Hole Cre** 76.94 18 P P 16 14 26.4 +0.1
GHO IAmb IAmb 16 14 28.1
comp=Z,85nm,1.2s

P17K **Kvichak River** 76.94 23 P P 16 14 27.8 +1.6
baz=323,SNR=8.4

NIKH **Nikolski High** 76.98 32 P P 16 14 27.4 +0.8
baz=314

DAWY **Dawson** 76.98 13 P P 16 14 26.7 +0.2
DAWY IAmb IAmb 16 14 28.6
comp=Z,91nm,1.3s

DAWY **Dawson** 76.98 13 P P 16 14 27.1 +0.7
baz=335,SNR=33

RSO **Redoubt South** 77.01 21 P P 16 14 27.6 +0.8
PMR **Palmer** 77.04 18 P P 16 14 27.2 +0.5
PMR IAmb IAmb 16 14 28.2
comp=Z,44nm,1.0s

PMR **Palmer** 77.04 18 P P 16 14 27.0 +0.3
baz=328

PMR **Palmer** 77.04 18 P P 16 14 27.2 +0.5
PMR pmax pmax
comp=Z,44nm,1.0s

SML **Sawmill** 77.06 18 P P 16 14 27.1 +0.2
SML **Sawmill** 77.06 18 P P 16 14 27.0 0.0
baz=329,SNR=16

SML **Sawmill** 77.06 18 P P 16 14 27.1 +0.2
SML pmax pmax
comp=Z,85nm,0.6s

L26K **Log Cabin Wild** 77.14 15 P P 16 14 27.8 +0.5
L26K IAmb IAmb 16 14 29.7
comp=Z,138nm,1.9s

L26K **Log Cabin Wild** 77.14 15 P P 16 14 27.9 +0.6
baz=332,SNR=18

P18K **Big Mountain,** 77.16 22 P P 16 14 28.5 +1.0
P18K IAmb IAmb 16 14 29.7
comp=Z,84nm,1.2s

P18K **Big Mountain,** 77.16 22 P P 16 14 28.4 +0.9
baz=324

M23K **Glacier View** 77.22 18 P P 16 14 27.8 0.0
baz=329,SNR=31

MEEK **Meekatharra** 77.22 137 P P 16 14 28.6 +0.4
comp=Z,26nm,1.5s

SCM **Sheep Creek Mo** 77.28 18 P P 16 14 28.4 +0.2
SCM IAmb IAmb 16 14 29.9
comp=Z,60nm,0.6s

SCM **Sheep Creek Mo** 77.28 18 P P 16 14 28.8 +0.6
baz=329,SNR=12

SCM **Sheep Creek Mo** 77.28 18 P P 16 14 28.4 +0.2
SCM pmax pmax
comp=Z,60nm,0.6s

Q16K **King Salmon** 77.29 23 P P 16 14 29.3 +1.2
baz=322,SNR=5.7

ILSW **Iliamna Southw** 77.30 21 P P 16 14 28.5 +0.2
ILSW IAmb IAmb 16 14 31.8
comp=Z,207nm,2.0s

HARP **HAARP** 77.30 16 P P 16 14 29.4 +1.2
baz=331,SNR=29

RC01 **Rabbit Creek A** 77.31 19 P P 16 14 28.7 +0.4
RC01 IAmb IAmb 16 14 29.7
comp=Z,116nm,1.4s

RC01 **Rabbit Creek A** 77.31 19 P P 16 14 28.5 +0.2
baz=328

M24K **Tolsona, Glenn** 77.32 17 P P 16 14 29.5 +1.1
M24K **Tolsona, Glenn** 77.32 17 P P 16 14 29.3 +0.9
baz=330,SNR=15

UNV **Unalaska Valle** 77.35 31 P P 16 14 27.8 -0.8
UNV **Unalaska Valle** 77.35 31 P P 16 14 28.6 0.0
baz=316

KNK **Knik Glacier** 77.36 18 P P 16 14 28.7 +0.1
KNK IAmb IAmb 16 14 30.6
comp=Z,89nm,1.1s

KNK **Knik Glacier** 77.36 18 P P 16 14 28.7 +0.1
baz=328,SNR=14

L27K **Beaver Creek,** 77.42 15 P P 16 14 29.8 +0.9
L27K IAmb IAmb 16 14 31.6
comp=Z,32nm,0.7s

L27K **Beaver Creek,** 77.42 15 P P 16 14 30.0 +1.1
baz=334

BCAR **Beaver Creek A** 77.43 15 P P 16 14 30.2 +1.2
AKUT **Akutan** 77.44 30 P P 16 14 28.3 -0.8
K29M **Barlow Dome** 77.52 12 P P 16 14 30.5 +1.0
baz=337

P19K **Oil Pt** 77.54 21 P P 16 14 29.8 +0.2
P19K **Oil Pt** 77.54 21 P P 16 14 29.9 +0.2
baz=325

BOSA **Boshof** 77.64 220 P P 16 14 30.9 +0.4
comp=Z,65nm,0.8s,baz=20,slow=3.7,SNR=74
comp=Z,65nm,0.8s

BOSA **Boshof** 77.64 220 P P 16 14 30.8 +0.2
BOSA IAmb IAmb 16 14 32.4
comp=Z,83nm,0.9s

BOSA **Boshof** 77.64 220 *e*P P 16 14 31.3 +0.7
BOSA IAmb IAmb 16 14 32.3
comp=Z,83nm,0.9s

BOSA **Boshof** 77.64 220 *i* P P 16 14 32.5 +1.8
BOSA **Boshof** 77.64 220 *i* P P 16 14 32.5 +1.8
BOSA **Boshof** 77.64 220 P P 16 14 31.0 +0.4
M26K **Nabesna, AK** 77.77 15 P P 16 14 31.7 +0.8
M26K **Nabesna, AK** 77.77 15 P P 16 14 31.3 +0.5
baz=333,SNR=11

MORW **Morawa** 77.80 141 P P 16 14 30.6 -0.6
MORW IAmb IAmb 16 15 22.5
comp=Z,80nm,1.6s

Q18K **Katmai Hardscr** 77.83 23 P P 16 14 31.4 +0.1
baz=324

O22K **Cooper Landing** 77.83 19 P P 16 14 31.6 +0.6
O22K **Cooper Landing** 77.83 19 P P 16 14 31.1 0.0
baz=328

Q17K **Contact Creek** 77.86 23 P P 16 14 31.7 +0.3
baz=323

PWL **Port Wells** 77.87 18 P P 16 14 31.7 +0.4
PWL IAmb IAmb 16 14 32.5
comp=Z,172nm,1.8s

PWL **Port Wells** 77.87 18 P P 16 14 31.1 -0.3
baz=329,SNR=6.3

KLU **Klutina** 77.91 17 P P 16 14 31.5 -0.2
KLU IAmb IAmb 16 14 34.0
comp=Z,61nm,1.1s

KLU **Klutina** 77.91 17 P P 16 14 32.7 +1.0
baz=330,SNR=10

Q19K **Cape Douglas,** 78.01 22 P P 16 14 31.8 -0.5
MAYO **Mayo, Yukon** 78.03 12 P P 16 14 32.8 +0.6
baz=338

M27K **Edge Creek, AK** 78.05 15 P P 16 14 33.3 +0.8
M27K IAmb IAmb 16 14 35.3
comp=Z,116nm,1.2s

M27K **Edge Creek, AK** 78.05 15 P P 16 14 32.9 +0.5
baz=334,SNR=23

L29M **L29M** 78.09 13 P P 16 14 33.7 +1.0
baz=336

BRLK **Bradley Lake** 78.12 20 P P 16 14 32.3 -0.5
BRLK IAmb IAmb 16 14 33.7
comp=Z,39nm,0.7s

N25K **Chitina, Valde** 78.12 16 P P 16 14 33.8 +1.0
N25K IAmb IAmb 16 14 35.5
comp=Z,155nm,1.8s

N25K **Chitina, Valde** 78.12 16 P P 16 14 33.1 +0.3
baz=332,SNR=7.1

BRSE **Bradley Lake S** 78.18 20 P P 16 14 33.1 0.0
baz=327

BVCY Beaver Creek 78.20 14 P P 16 14 34.3 +1.0
baz=334,SNR=14

CNPM China Poot 78.22 20 P P 16 14 33.3 0.0
SEW Seward 78.22 19 P P 16 14 33.6 +0.3
SEW IAmb IAmb 16 14 34.6
comp=Z,72nm,1.3s

SEW Seward 78.22 19 P P 16 14 33.7 +0.4
baz=328

DIV Divide 78.27 17 P P 16 14 34.0 +0.4
DIV IAmb IAmb 16 14 35.7
comp=Z,41nm,0.6s

GLB Gilahina Butte 78.45 16 P P 16 14 35.3 +0.7
M29M Somme Creek 78.64 13 P P 16 14 36.9 +1.2
baz=336

Q20K Shuyak Island 78.65 21 P P 16 14 36.3 +0.7
baz=326

MCARA McCarthy VSAT 78.67 16 P P 16 14 36.6 +0.9
MCARA McCarthy VSAT 78.67 16 P P 16 14 36.5 +0.7
baz=333

BMRM Bremner River 78.68 17 P P 16 14 36.1 +0.3
BMRM IAmb IAmb 16 14 38.2
comp=Z,120nm,1.3s

BMRM Bremner River 78.68 17 P P 16 14 36.7 +0.8
baz=332,SNR=9.2

VRDI Verde Repeater 78.72 16 P P 16 14 36.1 -0.1
VRDI IAmb IAmb 16 14 38.5
comp=Z,66nm,1.2s

HIN Hinchinbrook I 78.73 18 P P 16 14 36.5 +0.4
EYAK Cordova Ski Ar 78.78 17 P P 16 14 37.2 +0.9
EYAK IAmb IAmb 16 14 38.8
comp=Z,52nm,0.7s

EYAK Cordova Ski Ar 78.78 17 P P 16 14 37.9 +1.5
baz=331,SNR=5.6

EYAK Cordova Ski Ar 78.78 17 P P 16 14 37.8 +1.5
comp=Z,75nm,1.0s

M30M Minto, Yukon 78.82 13 P P 16 14 36.8 +0.2
M30M Minto, Yukon 78.82 13 P P 16 14 37.5 +0.9
baz=338

YUK3 Moose Creek 78.86 15 P P 16 14 37.9 +0.8
baz=335,SNR=16

HVD Gariep Dam 79.13 219 eP P 16 14 39.9 +1.1
HVD IAmb IAmb 16 14 40.4
comp=Z,84nm,1.3s

BARN Barnard Glacie 79.26 15 P P 16 14 40.0 +0.8
BARN IAmb IAmb 16 14 41.8
comp=Z,115nm,1.5s

KDAK Kodiak Island 79.28 22 P P 16 14 39.7 +0.7
KDAK Kodiak Island 79.28 22 P P 16 14 39.6 +0.5
baz=326

KDAK Kodiak Island 79.28 22 P P 16 14 39.7 +0.7
KDAK pmax pmax
comp=Z,75nm,0.7s

CHNA Chernabura Isl 79.31 27 P P 16 14 39.5 +0.3
baz=321

HMT Hamilton 79.32 17 P P 16 14 40.4 +1.0
YUK8 Steele Glacier 79.45 14 P P 16 14 40.6 +0.3
baz=335,SNR=7.2

ISLE Juniper Island 79.52 16 P P 16 14 41.3 +0.8
OHAK Old Harbor 79.52 23 P P 16 14 41.6 +1.2
OHAK Old Harbor 79.52 23 P P 16 14 42.1 +1.7
baz=325,SNR=5.1

WAX Waxell Ridge 79.55 16 P P 16 14 41.6 +1.0
WAX IAmb IAmb 16 14 43.5
comp=Z,66nm,1.2s

M31M Drury Creek, Y 79.58 12 P P 16 14 41.3 +0.6
M31M IAmb IAmb 16 14 42.9
comp=Z,86nm,1.4s

M31M Drury Creek, Y 79.58 12 P P 16 14 41.6 +0.9
baz=340,SNR=28

UPI Upington 79.58 223 eP P 16 14 41.8 +0.6
UPI IAmb IAmb 16 14 43.3
comp=Z,40nm,1.0s

YUK4 Talbot Arm 79.62 14 P P 16 14 42.2 +1.1
baz=336,SNR=9.7

MMPY Sheldon Lake, 79.67 10 P P 16 14 42.3 +1.1
baz=342,SNR=9.7

FARO Faro, Yukon 79.72 11 P P 16 14 42.0 +0.5
FARO IAmb IAmb 16 14 43.9
comp=Z,80nm,1.5s

FARO Faro, Yukon 79.72 11 P P 16 14 42.3 +0.8
baz=340,SNR=15

SII Sitkinak Islan 79.78 23 P P 16 14 42.8 +0.9
SII Sitkinak Islan 79.78 23 P P 16 14 42.7 +0.8
baz=325

N30M Aishikik Lake 79.81 13 P P 16 14 43.6 +1.7
baz=338

O28M Mount Upton 79.83 15 P P 16 14 43.3 +0.9
baz=335

YAH Yahtse 79.87 16 P P 16 14 43.1 +0.5
YAH IAmb IAmb 16 14 45.0
comp=Z,38nm,0.7s

CHIR Chirikof Islan 79.91 25 P P 16 14 42.8 +0.3
baz=324

MESA MESA 79.99 16 P P 16 14 43.7 +0.6
MESA IAmb IAmb 16 16 04.3
comp=Z,117nm,1.4s

MESA MESA 79.99 16 P P 16 14 43.8 +0.6
baz=334

WRGLY Wrigley 79.99 7 P P 16 14 43.3 +0.6
baz=348

KEIM Keimoes 80.00 223 eP P 16 14 44.4 +1.0
KEIM IAmb IAmb 16 14 45.7
comp=Z,76nm,1.0s

N31M Braeburn, Yuko 80.02 13 P P 16 14 43.4 +0.4
N31M IAmb IAmb 16 14 45.4
comp=Z,96nm,1.3s

N31M Braeburn, Yuko 80.02 13 P P 16 14 44.6 +1.6
baz=338,SNR=9.5

YUK6 Outpost Mounta 80.04 14 P P 16 14 44.4 +0.9
baz=336,SNR=6.2

AUGR Augrabies 80.27 224 eP P 16 14 45.8 +1.0
AUGR IAmb IAmb 16 14 46.9
comp=Z,43nm,1.1s

HYT Haines Junctio 80.32 14 P P 16 14 45.9 +1.2
HYT IAmb IAmb 16 14 47.5
comp=Z,69nm,1.3s

HYT Haines Junctio 80.32 14 P P 16 14 46.0 +1.2
baz=337,SNR=16

PCA Pinnacle 80.43 15 P P 16 14 46.5 +1.2
PCA IAmb IAmb 16 14 47.9
comp=Z,44nm,0.9s

PINM Pinnacle 80.43 15 P P 16 14 46.7 +1.3
baz=335

O29M Mount Kennedy 80.59 14 P P 16 14 46.8 +0.6
baz=336

O30N Mendenhall 80.63 13 P P 16 14 47.2 +0.8
baz=338,SNR=12

N32M Quiet Lake 80.79 11 P P 16 14 48.0 +0.8
baz=341

SOE Somerset East 80.80 217 P P 16 14 47.9 +0.4
GRHM Grahamstown, E 80.87 216 eP P 16 14 48.4 +0.6
GRHM IAmb IAmb 16 14 49.8
comp=Z,80nm,1.1s

WHY Whitehorse 80.95 13 P P 16 14 48.2 +0.1
WHY Whitehorse 80.95 13 P P 16 14 48.4 +0.3
baz=339,SNR=7.6

BFON Badsfontein, M 81.00 219 eP P 16 14 50.5 +1.8
BFON IAmb IAmb 16 14 51.1
comp=Z,70nm,1.0s

PNL Peninsula 81.00 15 P P 16 14 49.6 +1.3
baz=336

P30M Million Dollar 81.07 14 P P 16 14 50.0 +1.2
baz=338

TGTN Hyland Airport 81.12 9 P P 16 14 50.1 +1.1
baz=344,SNR=11

YKA Yellowknife Ar 81.29 3 P P 16 14 50.4 +0.7
comp=Z,23nm,0.7s,baz=343,slow=5.1,SNR=51
comp=Z,23nm,0.7s

YKA Yellowknife Ar 81.29 3 P P 16 14 50.0 +0.3
P29M Windy Craggy 81.37 14 P P 16 14 50.6 +0.3
P29M Windy Craggy 81.37 14 P P 16 14 51.2 +0.9
baz=337

ROOI Rooidraai Farm 81.63 219 IAmb IAmb 16 14 53.2
comp=Z,289nm,2.1s

ROOI eP P 16 14 53.8 +1.9
WRKA Warakurna 81.69 129 P P 16 14 52.7 +0.3
comp=Z,20nm,1.2s

P33M Teslin, Yukon 81.72 12 P P 16 14 52.7 +0.5
P33M IAmb IAmb 16 14 54.0
comp=Z,123nm,1.2s

P33M Teslin, Yukon 81.72 12 P P 16 14 52.5 +0.4
baz=341,SNR=28

PLBC Pleasant Camp 81.80 14 P P 16 14 53.5 +1.1
baz=338,SNR=16

WB0 Warramunga Arr 81.99 122 P P 16 14 53.3 -0.7
WB0 IAmb IAmb 16 14 55.7
comp=Z,33nm,0.8s

SKAG Skagway 81.99 13 P P 16 14 54.6 +1.2
SKAG IAmb IAmb 16 14 56.2
comp=Z,85nm,1.3s

SKAG Skagway 81.99 13 P P 16 14 54.6 +1.2
baz=339,SNR=9.0

WRA Warramunga Arr 82.07 122 P P 16 14 53.6 -0.8
comp=Z,39nm,0.8s,baz=326,slow=4.9,SNR=589
WRA S S 16 24 47.0 -5.4
comp=Z,7.3nm,1.2s,baz=318,slow=9.5,SNR=9.5
WRA PKKPbc PKKPbc 16 33 23.5 +1.8
comp=Z,0.8nm,0.7s,baz=222,slow=1.2,SNR=13
WRA PKPPKP P'P'df 16 41 29.0 +2.2
comp=Z,1.3nm,1.1s,baz=155,slow=1.7,SNR=4.8
comp=Z,39nm,0.8s

WRA Warramunga Arr 82.07 122 P P 16 14 53.6 -0.8
WRAB Tennant Creek 82.07 122 P P 16 14 53.9 -0.5
comp=Z,68nm,0.8s

WRAB Tennant Creek 82.07 122 P P 16 14 53.6 -0.8
WRAB pmax pmax
comp=Z,67nm,1.0s

WB2 Warramunga Arr 82.08 122 P P 16 14 53.7 -0.8
WB2 IAmb IAmb 16 14 54.9
comp=Z,76nm,1.0s

SCHQ Schefferville 82.08 337 P P 16 14 54.9 +0.8
comp=Z,18nm,0.7s,baz=20,slow=4.9,SNR=18
comp=Z,18nm,0.7s

SCHQ Schefferville 82.08 337 P P 16 14 54.1 +0.1
WB1 Warramunga Ar. 82.09 122 P P 16 14 53.8 -0.7
comp=Z,75nm,0.8s

P32M Atlin 82.16 12 P P 16 14 55.4 +1.0
baz=340,SNR=6.8

GRAN Grantham 82.18 220 eP P 16 14 56.4 +1.6
GRAN IAmb IAmb 16 14 57.0
comp=Z,22nm,0.8s

WR0 Warramunga Arr 82.22 122 P P 16 14 54.4 -0.9
WR0 IAmb IAmb 16 14 55.5
comp=Z,40nm,0.9s

FRAZ Fraserburg 82.28 221 eP P 16 14 57.2 +1.7
FRAZ IAmb IAmb 16 14 57.7
comp=Z,46nm,0.8s

WTLY Watson Lake, Y 82.42 10 P P 16 14 56.7 +1.0
baz=344,SNR=12

R33M Jennings River 82.79 11 P P 16 14 59.0 +1.2
baz=342

MERW Merweville 82.81 220 eP P 16 14 59.1 +1.1
MERW IAmb IAmb 16 14 59.5
comp=Z,212nm,1.8s

CVNA Calvinia 82.81 222 eP P 16 14 58.8 +0.7
CVNA IAmb IAmb 16 15 00.2
comp=Z,59nm,1.2s

BESE Bessie Mountai 82.91 13 P P 16 14 59.7 +1.4
FLDN Fort Liard 82.93 7 P P 16 14 59.7 +1.4
baz=348

SUR Sutherland 82.95 221 P P 16 14 59.9 +0.9
SUR IAmb IAmb 16 15 01.6
comp=Z,48nm,0.9s

KOTAN Kotaneelee Air 82.97 7 P P 16 15 00.4 +1.9
baz=348,SNR=7.1

Q32M Nakina River 83.00 12 P P 16 15 00.2 +1.2
baz=341

DRLN Deer Lake 83.15 329 P P 16 15 00.4 +0.7
DRLN IAmb IAmb 16 15 01.8
comp=Z,49nm,1.0s

R32K Eaglecrest 83.25 13 P P 16 15 00.9 +0.9
baz=340

JIS Juneau Island 83.28 13 P P 16 15 01.8 +1.7
comp=Z,39nm,1.2s

LIRD Liard River Hi 83.45 9 P P 16 15 02.0 +1.0
baz=346,SNR=5.9

DLBC Dease Lake 83.85 11 P P 16 15 04.2 +1.1
DLBC IAmb IAmb 16 15 05.8
comp=Z,68nm,1.3s

DLBC Dease Lake 83.85 11 P P 16 15 04.0 +0.9
baz=343,SNR=12

S32K Killisnoo 84.00 13 P P 16 15 04.5 +0.8
baz=340

S34M Telegraph Cree 84.18 12 P P 16 15 05.7 +1.0
baz=342,SNR=16

SIT Sitka 84.24 14 P P 16 15 06.1 +1.1
SIT IAmb IAmb 16 17 03.0
comp=Z,128nm,1.6s

SIT Sitka 84.24 14 P P 16 15 06.3 +1.3
baz=339

SIT Sitka 84.24 14 P P 16 15 06.1 +1.1
SIT pmax pmax
comp=Z,128nm,1.6s

FCC Fort Churchill 84.30 352 P P 16 15 06.3 +1.0
FCC IAmb IAmb 16 15 07.6
comp=Z,56nm,1.1s

FCC Fort Churchill 84.30 352 P P 16 15 06.3 +1.0
FCC pmax pmax
comp=Z,57nm,1.1s

AS31 Alice Springs 84.33 125 P P 16 15 05.1 -0.9
ASAR Alice Springs 84.33 125 P P 16 15 05.2 -0.8
comp=Z,43nm,0.9s,baz=314,slow=4.7,SNR=453
ASAR PKiKP PKiKP 16 20 19.9 +1.0
comp=Z,0.3nm,0.5s,baz=350,slow=0.9,SNR=4.4
ASAR S S 16 25 04.0 -11
comp=Z,3.4nm,0.9s,baz=325,slow=3.8,SNR=5.3
ASAR PKKPbc PKKPbc 16 33 17.9 +1.2
comp=Z,1.1nm,1.0s,baz=166,slow=4.7,SNR=4.5
ASAR PKPPKP P'P'df 16 41 27.4 +5.0
comp=Z,1.1nm,1.2s,baz=127,slow=3.3,SNR=4.5
comp=Z,43nm,0.9s

AS01 Alice Springs 84.36 125 P P 16 15 05.6 -0.5
comp=Z,46nm,0.8s

COEN Coen 84.50 112 P P 16 15 06.4 -0.5
COEN IAmb IAmb 16 15 07.5
comp=Z,27nm,0.8s

COEN Coen 84.50 112 P P 16 15 06.9 0.0
comp=Z,43nm,1.1s

CER Ceres 84.52 221 eP P 16 15 07.7 +1.0
CER IAmb IAmb 16 15 09.8
comp=Z,15nm,0.9s

PMG Port Moresby 84.71 106 P P 16 15 07.2 -0.8
comp=Z,13nm,0.8s,baz=212,slow=7.5,SNR=4.4
comp=Z,13nm,0.8s

T35M Bob Quinn 85.22 11 P P 16 15 11.0 +1.0
baz=343,SNR=6.4

WRAK Wrangell Islan 85.40 13 P P 16 15 12.5 +1.8
baz=342

U33K Whale Pass 85.55 13 P P 16 15 13.4 +1.9
baz=341

FORT Forrest 85.73 133 P P 16 15 12.4 -0.2
FORT IAmb IAmb 16 15 13.5
comp=Z,44nm,0.7s

FORT Forrest 85.73 133 P P 16 15 12.9 +0.2
comp=Z,62nm,0.9s

QIS Mount Isa 86.14 119 P P 16 15 14.3 -0.7
comp=Z,46nm,1.2s

CRAG Craig 86.16 13 P P 16 15 16.0 +1.5
baz=341

GBN Guysborough 87.86 329 P P 16 15 23.9 +1.0
GBN IAmb IAmb 16 15 25.6
comp=Z,26nm,0.8s

MTSU Mount Surprise 87.98 114 P P 16 15 24.3 +0.4
comp=Z,12nm,1.0s

BATG Bathurst New B 88.14 332 P P 16 15 25.3 +1.1
GRNB Grenville Isla 88.27 12 P P 16 15 26.0 +1.3
WAPA Wapiti River 88.31 6 P P 16 15 25.6 +0.7
OOD Oodnadatta 88.32 127 P P 16 15 24.4 -0.8
comp=Z,138nm,0.9s

FFC Flin Flon 88.97 356 P P 16 15 28.8 +0.8
FFC IAmb IAmb 16 15 30.0
comp=Z,47nm,1.0s

FFC Flin Flon 88.97 356 P P 16 15 28.8 +0.8
FFC pmax pmax
comp=Z,47nm,1.0s

MULG Mulgathing 89.00 129 P P 16 15 28.0 -0.3
comp=Z,19nm,1.0s

D62A Allapoint, All 89.40 334 P P 16 15 30.7 +0.6
CTA Charters Tower 90.63 115 P P 16 15 35.6 -0.6
comp=Z,31nm,0.8s,baz=318,slow=4.5,SNR=48
comp=Z,31nm,0.8s

CTA Charters Tower 90.63 115 P P 16 15 36.3 +0.1
comp=Z,49nm,0.7s

CTAO Charters Tower 90.63 115 P P 16 15 36.0 -0.2
CTAO IAmb IAmb 16 15 36.8
comp=Z,32nm,0.7s

CTAO Charters Tower 90.63 115 P P 16 15 36.4 +0.2
comp=Z,42nm,0.8s

CTAO Charters Tower 90.63 115 P P 16 15 36.0 -0.2
CTAO pmax pmax
comp=Z,32nm,0.7s

PKME Peaks-Kenny Pk 91.04 333 P P 16 15 38.5 +0.8
baz=31

INKA Innaminka 91.62 124 P P 16 15 40.7 +0.1
comp=Z,28nm,0.8s

LCRK Leigh Creek 91.74 127 P P 16 15 41.0 -0.1
comp=Z,34nm,1.1s

LLLB Lillooet 92.58 8 P P 16 15 46.4 +1.6
LLLB IAmb IAmb 16 15 47.5
comp=Z,32nm,1.2s

LBNH Lisbon 92.87 334 P P 16 15 47.5 +1.3
baz=29

ULM Lac du Bonnet 92.87 352 P P 16 15 45.8 -0.3
comp=Z,16nm,0.8s,baz=356,slow=5.0,SNR=13
comp=Z,16nm,0.8s

ULM Lac du Bonnet 92.87 352 P P 16 15 46.0 -0.1
ULM IAmb IAmb 16 15 47.3
comp=Z,23nm,0.9s

ULM Lac du Bonnet 92.87 352 P P 16 15 46.0 -0.1
ULM pmax pmax
comp=Z,23nm,0.9s

QLP Quilpie 93.26 121 P P 16 15 48.1 -0.1
comp=Z,41nm,1.3s

LONY Lake Ozonia 93.43 336 P P 16 15 49.0 +0.1
baz=27

HTT Hallett 94.17 129 P P 16 15 52.3 +0.1
comp=Z,14nm,1.3s

EYMN Ely 94.50 348 P P 16 15 53.9 +0.3
EYMN IAmb IAmb 16 15 55.8
comp=Z,23nm,1.0s

EYMN Ely 94.50 348 P P 16 15 53.7 +0.1
baz=14

E46A Sault Ste Mari 94.57 343 P P 16 15 54.5 +0.5
L61B Northampton 94.70 334 P P 16 15 55.1 +0.4
baz=29

AGMN Agassiz Nation 94.79 351 P P 16 15 55.2 +0.2
AGMN IAmb IAmb 16 15 56.5
comp=Z,23nm,1.1s

AGMN Agassiz Nation 94.79 351 P P 16 15 55.0 0.0
baz=11

STKA Stephens Creek 94.86 126 P P 16 15 54.4 -1.0
comp=Z,2.2nm,0.3s,baz=1.7,slow=4.6,SNR=16
comp=Z,2.2nm,0.3s

STKA Stephens Creek 94.86 126 P P 16 15 54.6 -0.8
STKA Stephens Creek 94.86 126 P P 16 15 54.6 -0.8
B08A Colville Reser 95.07 7 P P 16 15 56.2 -0.1
DGMT Dagmar 95.33 357 P P 16 15 57.8 +0.4
DGMT IAmb IAmb 16 16 00.1
comp=Z,25nm,1.0s

DGMT Dagmar 95.33 357 P P 16 15 57.9 +0.4
baz=4.0

NEW Newport 95.35 5 P P 16 15 58.6 +1.0
NEW IAmb IAmb 16 15 59.7
comp=Z,16nm,1.1s

NEW Newport 95.35 5 P P 16 15 57.8 +0.2
baz=354

NEW Newport 95.35 5 P P 16 15 58.6 +1.0
NEW pmax pmax
comp=Z,16nm,1.1s

MDND Maddock 95.63 354 P P 16 15 59.1 +0.2
baz=7.7

EGMT Eagleton 95.89 0 P P 16 16 00.6 +0.6
EGMT IAmb IAmb 16 16 02.7
comp=Z,29nm,1.1s

EGMT Eagleton 95.89 0 P P 16 16 00.1 0.0
baz=360

BINY Binghamton 96.06 336 P P 16 16 01.0 +0.1
baz=26

LAO LASA Array 97.18 358 P Pdif 16 16 06.6 +0.6
LAO IAmb IAmb 16 16 08.9
comp=Z,21nm,0.9s

LAO LASA Array 97.18 358 P Pdif 16 16 07.2 +1.2
baz=2.4

BOZ Bozeman (W) 98.29 2 P Pdif 16 16 11.1 +0.1
baz=358

PLID Pearl Lake 98.59 5 P Pdif 16 16 12.6 +0.1
ECSD EROS Data Cent 99.37 351 P Pdif 16 16 16.2 +0.5
baz=10

PDAR Pinedale Array 101.15 0 P Pdif 16 16 23.5 -0.4
comp=Z,1.1nm,0.8s,baz=70,slow=1.4,SNR=8.8
PDAR PP PP 16 20 30.6 -3.2
comp=Z,0.9nm,0.9s,baz=20,slow=4.7,SNR=4.6
PDAR PKiKP PKiKP 16 20 47.8 +0.1
comp=Z,0.6nm,0.6s,baz=59,slow=3.0,SNR=5.5
PDAR PKKPbc PKKPbc 16 32 33.0 -0.5
comp=Z,0.7nm,0.9s,baz=186,slow=3.0,SNR=3.8

NVAR Mina Array Bea 105.00 7 Pdiff Pdif 16 16 42.8 +1.7
comp=Z,1.5nm,1.0s,baz=20,slow=4.7,SNR=5.4
NVAR PKiKP PKiKP 16 20 56.4 +1.5
comp=Z,0.8nm,0.6s,baz=334,slow=3.1,SNR=5.8
NVAR PKKPbc PKKPbc 16 32 22.9 +0.8
comp=Z,0.5nm,0.8s,baz=191,slow=7.1,SNR=3.6

TXAR Lajitas Array 114.35 355 PKP PKPdf 16 21 13.2 +0.7
comp=Z,1.0nm,1.0s,baz=297,slow=0.3,SNR=5.7
TXAR PP PP 16 22 06.4 -3.5
comp=Z,1.1nm,1.0s,baz=342,slow=7.1,SNR=4.4
TXAR PKKPbc PKKPbc 16 31 53.8 +1.7
comp=Z,0.5nm,0.9s,baz=185,slow=6.6,SNR=5.0

TROLL Troll, Antarti 118.03 199 PKPdf PKPdf 16 21 18.0 -0.2
VNA2 Neumayer--Watz 120.32 202 PKPdf PKPdf 16 21 22.4 0.0
baz=29,slow=3.0

VNA1 Neumayer--Stat 120.47 202 PKPdf PKiKP 16 21 23.1 +0.3
BOAV Boa Vista 120.52 300 PKPdf PKPdf 16 21 24.4 -0.2
BOAV Boa Vista 120.52 300 eP PKiKP 16 21 25.0 +0.3
VNA3 Neumayer Olymp 121.13 202 PKPdf PKPdf 16 21 23.7 -0.3
ITTB Itaituba 121.59 290 eP PKiKP 16 21 26.8 0.0
SDV Santo Domingo 122.18 313 eP PKPdf 16 21 27.4 -0.6
BDFB Brasilia 122.24 274 PKP PKiKP 16 21 28.3 +0.2
comp=Z,2.0nm,0.4s,baz=80,slow=6.5,SNR=5.9
BDFB PP PP 16 23 07.5 +1.3
comp=Z,4.7nm,0.9s,baz=89,slow=4.5,SNR=3.7

PMNB Patos De Minas 122.53 270 eP PKiKP 16 21 29.1 +0.5
IPMB Ipameri, GO 123.66 272 eP PKPdf 16 21 30.2 -0.3
ARAG Araguaiana, MT 125.33 276 eP PKiKP 16 21 34.1 +0.1
VNDA Vanda 125.49 165 PKP PKPdf 16 21 32.1 0.0
comp=Z,1.8nm,0.7s,baz=314,slow=5.1,SNR=17

VNDA Vanda 125.49 165 PKPdf 16 21 32.0 -0.2
CLDB Colider 125.70 284 eP PKiKP 16 21 34.7 -0.2
ITRB Iturama 126.29 271 eP PKiKP 16 21 36.2 +0.3
SBA Scott Base 126.57 165 PKPdf 16 21 34.4 +0.2
SBA Scott Base 126.57 165 PKIKP PKPdf 16 21 34.4 +0.2
ACON Acoyapa 126.79 330 PKPdf 16 21 36.4 -0.2
SGCB SΣo Gabriel d 126.82 303 eP PKPdf 16 21 35.7 -0.9
PDRB Porto dos Gac 126.88 284 eP PKPdf 16 21 35.7 -1.0
FRTB Fartura 127.47 267 eP PKiKP 16 21 38.8 +0.6
SALV Santo Antonio 128.54 279 eP PKPdf 16 21 40.0 +0.3
PRAC Prado 128.82 314 PKPdf 16 21 39.4 -1.1
PTGB Pitanga 130.13 267 eP PKiKP 16 21 43.6 0.0
VILB Vilhena 130.39 285 eP PKiKP 16 21 44.2 0.0
AQDB Aquidauana 130.99 274 PKPdf 16 21 43.5 -0.8
AQDB Aquidauana 130.99 274 eP PKPdf 16 21 44.3 0.0
PTLB Pontes e Lacer 131.01 282 PKPdf PKPdf 16 21 44.0 -0.4
PTLB Pontes e Lacer 131.01 282 eP PKPdf 16 21 44.0 -0.4
CNLB Canela 131.17 261 eP PKiKP 16 21 45.4 0.0
MCR1 Marechal Candi 131.59 268 eP PKPdf 16 21 45.5 +0.1
ANTJ Antonio Joao (132.00 272 eP PKPdf 16 21 46.6 +0.4
ALGR Alto Alegre (B 132.69 262 eP PKPdf 16 21 46.1 -1.3
SIV San Ignacio 132.85 283 PKP PKPdf 16 21 48.0 0.0
comp=Z,4.1nm,0.6s,baz=24,slow=4.1,SNR=4.3
SIV SKPbc SKPbc 16 24 56.0 -0.8
comp=Z,8.7nm,0.8s,baz=81,slow=6.7,SNR=15

CRSM Crissiumal (Br 132.96 265 eP PKPdf 16 21 48.2 +0.3
ETMB Extrema 133.00 293 PKPdf PKPdf 16 21 47.4 -0.9
ETMB Extrema 133.00 293 eP PKPdf 16 21 48.5 +0.2
BBRB Robore, Bolivi 133.12 279 eP PKPdf 16 21 48.6 +0.1
MURT Porto Murtinho 133.12 274 eP PKPdf 16 21 47.9 -0.4
BBSD Serra de San D 133.16 281 eP PKPdf 16 21 48.7 +0.2
CPSB Cacapava Do Su 133.66 261 eP PKPdf 16 21 49.1 +0.1
PLTB Pedras Altas 134.31 259 eP PKiKP 16 21 51.7 0.0
UNIS Unistalda (Bra 134.43 263 eP PKPdf 16 21 51.3 +0.7
AZCA Azaras, Argent 134.76 265 eP PKPdf 16 21 51.6 +0.3
RODS Rosario do Sul 135.04 262 eP PKiKP 16 21 52.9 -0.3
CPUP Villa Florida 135.09 268 PKhKP PKPpre 16 21 45.7
comp=Z,0.8nm,0.6s,baz=130,slow=4.7,SNR=3.1
CPUP PKP PKPdf 16 21 51.8 -0.1
comp=Z,11nm,0.6s,baz=59,slow=2.2,SNR=34
CPUP SKPbc SKPbc 16 25 01.9 -1.9
comp=Z,11nm,1.1s,baz=53,slow=3.4,SNR=7.3

CPUP Villa Florida 135.09 268 PKPdf 16 21 51.2 -0.7
CPUP Villa Florida 135.09 268 eP PKPdf 16 21 51.9 -0.1
ITQB Itaqui 135.92 263 PKPdf PKPdf 16 21 53.2 -0.1
CZSB Cruzeiro do Su 136.20 302 eP PKiKP 16 21 56.1 +0.1
LPAZ La Paz 138.51 288 PKP PKPdf 16 21 59.8 +0.5
comp=Z,17nm,1.3s,baz=1.3,slow=8.8,SNR=13
LPAZ SKPbc SKPbc 16 25 13.7 -1.3
comp=Z,3.8nm,0.8s,baz=16,slow=6.5,SNR=6.7

LPAZ La Paz 138.51 288 PKPdf PKPdf 16 21 58.7 -0.6
LPAZ La Paz 138.51 288 eP PKPdf 16 21 59.5 +0.3

LPAZ	**La Paz**	**138.51 288**	PKIKP	**PKPdf**	**16 21 58.7**	**-0.6**	
ATAH	**Atahualpa**	**139.51 309**	PKP	**PKPdf**	**16 22 01.1**	**+0.1**	
	comp=Z,2.9nm,0.5s,baz=295,slow=2.6,SNR=3.6						
ATAH			SKPbc	**SKPbc**	**16 25 16.6**	**-1.1**	
	comp=Z,12nm,0.8s,baz=64,slow=2.9,SNR=5.4						
PMSA	**Palmer Station**	**141.12 209**	*eP*	**PKiKP**	**16 22 03.9**	**-0.6**	
PB11	**IPOC Station P**	**141.70 285**		PKPpre	16 21 59.9		
LVC	**Limon Verde**	**142.64 280**	PKhKP	PKPpre	16 22 02.4		
	comp=Z,4.1nm,0.6s,baz=219,slow=2.8,SNR=6.7						
LVC			PKP	**PKPdf**	**16 22 06.7**	**+0.5**	
	comp=Z,6.1nm,0.7s,baz=82,slow=4.2,SNR=6.0						
LVC			SKPbc	**SKPbc**	**16 25 24.6**	**-0.8**	
	comp=Z,11nm,0.7s,baz=106,slow=4.5,SNR=7.1						
LVC	**Limon Verde**	**142.64 280**	PKPpre	PKPpre	16 22 01.4		
TRQA	**Tornquist**	**142.74 253**	PKPpre	PKPpre	16 22 01.7		
TRQA	**Tornquist**	**142.74 253**	PKHKP	PKPpre	16 22 01.7		
CYA	**Choya**	**142.81 270**	*i* P	**PKPdf**	**16 22 01.1**	**-4.9**	
ACLC	**CERRO LA CRUZ**	**144.12 269**	*eP*	PKPbc	16 22 06.8	-0.2	
APLL	**PUNTA DE LOS L**	**144.14 267**	*i* P	**PKPab**	**16 22 06.3**	**-0.2**	
MRA	**San Martin**	**144.18 263**	*eP*	**PKPab**	**16 22 06.6**	**-0.1**	
PB10	**IPOC Station P**	**144.40 280**		**PKPab**	**16 22 07.5**	**-0.1**	
GO02	**Mina Guanaco**	**144.44 277**	PKPdf	**PKPab**	**16 22 08.0**	**0.0**	
AC02	**Maricunga**	**144.82 274**		PKPbc	16 22 09.6	-0.1	
AC01	**Pan de Azucar**	**145.69 276**	PKPbc	**PKPbc**	**16 22 12.1**	**+0.3**	
AC06	**Mina Casimiro**	**146.03 274**		**PKPbc**	**16 22 12.6**	**-0.2**	
GO03	**Copiap**	**146.03 274**	PKPdf	**PKPdf**	**16 22 11.7**	**+0.1**	
ACDV	**Cuesta del Vie**	**146.15 269**	*eP*	**PKPbc**	**16 22 13.3**	**+0.1**	
ACCO	**Cerro Coronel**	**146.25 268**	*eP*	**PKPbc**	**16 22 13.3**	**-0.4**	
ZON	**Zonda**	**146.27 266**	PKPdf	**PKPdf**	**16 22 12.4**	**+0.5**	
ZON	**Zonda**	**146.27 266**	PKIKP	**PKPdf**	**16 22 12.4**	**+0.5**	
AC05	**El Transito**	**146.57 272**		**PKPbc**	**16 22 14.1**	**-0.4**	
ASAL	**Salagasta**	**146.73 265**	*eP*	**PKPbc**	**16 22 14.0**	**-0.7**	
RTLS	**Leoncito**	**146.85 266**	*i* P	**PKPbc**	**16 22 14.6**	**-0.8**	
CO01	**Juntas del Tor**	**146.86 270**		**PKPbc**	**16 22 14.4**	**-1.0**	
AAGR	**Agrelo**	**146.88 264**	*eP*	**PKPbc**	**16 22 15.1**	**-0.1**	
AC04	**Llanos de Chal**	**146.96 273**		**PKPbc**	**16 22 15.1**	**-0.3**	
LCO	**Las Campanas**	**146.99 272**		**PKPdf**	**16 22 14.5**	**+1.1**	
LCO	**Las Campanas**	**146.99 272**	PKIKP	**PKPdf**	**16 22 14.5**	**+1.1**	
GO04	**Tololo Observa**	**147.50 270**		**PKPbc**	**16 22 16.6**	**-0.5**	
CO03	**El Pedregal**	**147.65 269**		**PKPbc**	**16 22 16.7**	**-0.6**	
CO05	**La Serena**	**147.76 271**		**PKPbc**	**16 22 17.2**	**-0.2**	
CO02	**Combarbal**	**148.03 268**		**PKPbc**	**16 22 18.2**	**-0.1**	
VA03	**San Esteban**	**148.16 265**	PKPdf	**PKPdf**	**16 22 15.9**	**+0.8**	
VA03			PKPbc	**PKPbc**	**16 22 18.7**	**+0.1**	
LMEL	**Las Melosas**	**148.20 263**		**PKPbc**	**16 22 19.2**	**+0.4**	
MT03	**Universidad Ad**	**148.34 264**		**PKPbc**	**16 22 18.6**	**-0.4**	
BO04	**La Punta**	**148.56 263**		**PKPbc**	**16 22 19.2**	**-0.3**	
ROC1	**El Roble**	**148.60 265**		**PKPbc**	**16 22 19.1**	**-0.8**	
VA06	**Catapilco**	**148.70 266**		**PKPbc**	**16 22 19.6**	**-0.2**	
MT02	**Curacav**	**148.78 265**		**PKPbc**	**16 22 19.3**	**-0.8**	
MT09	**Talagante**	**148.81 264**		**PKPbc**	**16 22 19.6**	**-0.6**	
MT01	**Popeta**	**149.04 263**		**PKPbc**	**16 22 20.2**	**-0.5**	
BO01	**Tunca**	**149.05 262**	PKPdf	**PKPdf**	**16 22 16.7**	**+0.4**	
BO01			PKPbc	**PKPbc**	**16 22 20.7**	**+0.1**	
VA05	**Santo Domingo**	**149.28 264**		**PKPbc**	**16 22 20.8**	**-0.4**	
ML02	**Panimavida**	**149.64 260**		**PKPbc**	**16 22 22.0**	**-0.1**	
PLCA	**Paso Flores**	**149.70 250**	PKP	**PKPdf**	**16 22 18.2**	**+1.0**	
	comp=Z,12nm,1.0s,baz=157,slow=4.9,SNR=9.1						
PLCA			PKPbc	**PKiKP**	**16 22 23.1**	**+0.1**	
	comp=Z,33nm,0.7s,baz=89,slow=1.6,SNR=37						
PLCA	**Paso Flores**	**149.70 250**	PKPbc	**PKiKP**	**16 22 22.7**	**-0.4**	
PLCA	**Paso Flores**	**149.70 250**	*eP*	**PKPdf**	**16 22 19.0**	**+1.7**	
GO05	**Huala**	**149.87 262**		**PKPbc**	**16 22 22.7**	**0.0**	
MG05	**Puerto Natales**	**149.97 228**		**PKPbc**	**16 22 22.3**	**0.0**	
GO09	**Cerro Castillo**	**149.98 229**		**PKPbc**	**16 22 22.7**	**+0.4**	
GO06	**Curarrehue**	**150.30 252**	PKPdf	**PKPdf**	**16 22 18.6**	**+0.3**	
GO06			PKPbc	**PKPbc**	**16 22 23.4**	**-0.2**	
LL02	**Futaleuf**	**150.76 245**		**PKPbc**	**16 22 24.0**	**-0.4**	
LR03	**Panguipulli**	**150.98 252**		**PKPbc**	**16 22 24.5**	**-0.6**	
LL04	**Puerto Octay**	**151.12 250**		**PKPbc**	**16 22 24.7**	**-0.7**	
AY01	**Puyuhuapi**	**151.29 243**		**PKPbc**	**16 22 24.8**	**-0.8**	
LL05	**Los Muermos**	**151.95 249**		**PKPbc**	**16 22 27.2**	**-0.1**	

WEL 15 16:03:23.9±0.5, 43°S±3°×17°4E±°, h5km, M3.2/16, ML3.5/16, MLv3.2/16, Error ellipse: s-maj=0.0km s-min=0.0km az=105.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**289**	P	Pb	16 03 30.3	-0.9
KHZ				S	Sg	16 03 34.0	+1.3
GVZ	**Greta Valley S**	**0.78**	**233**	P	Pg	16 03 37.1	-1.7
BSWZ	**Blackbirch Sta**	**0.79**	**360**	P	Pg	16 03 39.0	-0.1
THZ	**Tophouse**	**1.04**	**315**	P	Pg	16 03 43.3	-0.5
THZ				S	Sg	16 03 57.2	-0.1
TUWZ	**Tuamarina**	**1.08**	**2**	P	Pg	16 03 44.5	-0.1
TUWZ				S	Sb	16 03 59.9	+0.5
TCW	**Tory Channel**	**1.33**	**13**	P	Pn	16 03 48.3	-0.8
TCW				S	Sg	16 04 06.3	-0.3
NNZ	**Nelson**	**1.34**	**344**	P	Pn	16 03 48.1	-1.1
NNZ				S	Sb	16 04 06.7	-0.3
OKCZ	**Okains Bay**	**1.36**	**206**	P	Pg	16 03 49.9	-0.1
MRNZ	**Matariki Terra**	**1.39**	**322**	P	Pn	16 03 50.1	+0.2
MRNZ				S	Sn	16 04 09.0	+0.4
MSWZ	**Moikau Station**	**1.49**	**44**	P	Pn	16 03 50.8	-0.6
MQZ	**McQueen's Vall**	**1.50**	**216**	P	Pn	16 03 49.3	-2.1
AKCZ	**Akaroa Harbour**	**1.54**	**207**	P	Pn	16 03 51.5	-0.5
TKNZ	**Takaka Hill**	**1.62**	**335**	P	Pn	16 03 53.5	+0.3
CAW	**Cannon Point**	**1.66**	**33**	P	Pn	16 03 53.0	-0.6
DUWZ	**D'Urville Isla**	**1.70**	**1**	P	Pn	16 03 55.0	+0.7
DSZ	**Denniston Nort**	**1.72**	**296**	P	Pb	16 03 55.4	-0.6
QRZ	**Quartz Range**	**1.96**	**328**	P	Pb	16 03 59.0	-1.1
QRZ				S	Sn	16 04 23.6	+0.8
RPZ	**Rata Peaks**	**2.40**	**239**	P	Pn	16 04 02.8	-1.0
ARCZ	**Arundel**	**2.45**	**233**	P	Pn	16 04 05.6	+1.1
TWGZ	**Tauwhareparae**	**5.34**	**37**	P	Pn	16 04 46.6	+2.3

ROM 15 16:07:07.0±0.1, 42°746N±0°003×13°281E±0°005, h14km, ML1.6/6, 6C-6D, Error ellipse: s-maj=0.3km s-min=0.1km az=250.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.12**	**161**	⇑P	Pg	16 07 10.8	+0.3
SMA1				S	Sg	16 07 13.3	+0.4
T1245	**Castelsantange**	**0.13**	**328**	⇓P	Pg	16 07 10.9	+0.2
T1245				S	Sg	16 07 13.6	+0.3
T1245				AML	AML		
	comp=E,452μm,0.1s						
T1245				AML	AML		
	comp=N,966μm,1.3s						
T1245				AML	AML		
	comp=E,442μm,0.1s						
T1245				AML	AML		
	comp=E,452μm,0.1s						
T1245				AML	AML		
	comp=N,962μm,1.3s						
T1245				AML	AML		
	comp=E,442μm,0.1s						
T1245				AML	AML		
	comp=N,840μm,0.2s						
T1243	**Rocca Santa Ma**	**0.13**	**112**	⇑P	Pg	16 07 11.0	+0.3
T1243				S	Sg	16 07 13.7	+0.5
NRCA	**Norcia**	**0.15**	**306**	⇓P	Pg	16 07 11.1	+0.2
NRCA				S	Sg	16 07 13.8	+0.3
NRCA				AML	AML		
	comp=E,970μm,0.8s						
NRCA				AML	AML		
	comp=N,854μm,0.1s						
T1241	**Roccafluvione,**	**0.16**	**45**	P	Pg	16 07 11.2	+0.2
T1241				S	Sg	16 07 14.2	+0.5
T1241				AML	AML		
	comp=E,311μm,0.6s						
T1241				AML	AML		
	comp=N,155μm,1.3s						
T1241				AML	AML		
	comp=E,310μm,0.6s						
MMO1	**Montemonaco**	**0.16**	**12**	P	Pg	16 07 11.2	+0.2
MMO1				S	Sg	16 07 14.1	+0.4
RM33	**Pellescritta (**	**0.24**	**192**	⇑P	Pg	16 07 12.7	+0.4
RM33				S	Sb	16 07 16.9	-0.5
RM33				AML	AML		
	comp=N,88μm,0.8s						
RM33				AML	AML		
	comp=E,112μm,0.2s						
T1216	**Preci, Frazion**	**0.24**	**307**	⇓P	Pg	16 07 12.5	+0.2
T1216				S	Sg	16 07 16.4	+0.5
T1256	**Bolognola (MC)**	**0.26**	**351**	⇑P	Pg	16 07 13.0	+0.2
T1256				S	Sg	16 07 17.3	+0.7
TERO	**Teramo**	**0.27**	**117**	P	Pg	16 07 12.9	+0.2
TERO				S	Sg	16 07 17.3	+0.7
TERO				AML	AML		
	comp=E,174μm,0.4s						
TERO				AML	AML		
	comp=N,144μm,0.1s						
TERO				AML	AML		
	comp=E,174μm,0.4s						
T1215	**Vallo di Nera,**	**0.31**	**281**	P	Pg	16 07 13.7	+0.3
T1215				S	Sb	16 07 18.7	-0.7
GUMA	**Gualdo di Mace**	**0.32**	**7**	P	Pb	16 07 14.3	-0.2
GUMA				S	Sb	16 07 20.0	+0.4
GUMA				AML	AML		
	comp=E,440μm,0.2s						
GUMA				AML	AML		
	comp=N,570μm,0.2s						
FDMO	**Fiordimonte**	**0.32**	**334**	AML	AML		
	comp=N,98μm,0.2s						
FDMO				AML	AML		
	comp=E,96μm,1.2s						
FDMO				AML	AML		
	comp=N,98μm,0.2s						
FDMO				AML	AML		
	comp=E,96μm,1.2s						
FDMO				AML	AML		
	comp=N,98μm,0.2s						
FDMO				AML	AML		
	comp=E,96μm,1.2s						
CSP1	**Cessapalombo**	**0.35**	**351**	⇓P	Pg	16 07 14.5	+0.2
CSP1				S	Sb	16 07 20.1	-0.5
GIGS	**Gran Sasso**	**0.36**	**144**	⇓P	Pg	16 07 14.4	+0.1
GIGS				S	Sg	16 07 20.2	+0.7
T1219	**Muccia, Frazio**	**0.37**	**327**	P	Pg	16 07 14.6	0.0
T1219				S	Sb	16 07 20.4	-0.7
T1219				AML	AML		
	comp=E,164μm,1.2s						
T1219				AML	AML		
	comp=N,212μm,0.2s						
CESI	**CESI - Serrava**	**0.38**	**313**	⇓P	Pg	16 07 15.0	+0.3
CESI				S	Sb	16 07 21.0	-0.4
CESI				AML	AML		
	comp=E,108μm,0.6s						
CESI				AML	AML		
	comp=N,136μm,0.2s						
T1211	**Morro Reatino**	**0.38**	**236**	P	Pg	16 07 15.0	+0.3
T1211				S	Sb	16 07 21.0	-0.4
EL6	**Elcito**	**0.60**	**347**	⇑P	Pb	16 07 19.1	-0.2
PESA	**Pesaro**	**1.24**	**345**	⇑P	Pn	16 07 22.0	-7.9
PIGN	**Pignataro Magg**	**1.68**	**156**	S	Sn	16 07 48.0	-9.4

*NOU **15** 16:25:31.0, 42°.07S×174°.56E, h0km, MLv4.5/5, Off E. Coast of S. Island, N.Z.*
*IDC **15** 16:25:41.0±2.4, 42°.44S×173°.67E, h0km, mb3.3/2, mbtmp3.5/3, ML4.1/1, MS3.3/1, Error ellipse: s-maj=47.8km s-min=37.7km az=134.0*
*NEIC **15** 16:25:41.7±0.9, 42°.47S±0°.03×173°.83E±0°.04, h11km±6km, mb4.2/3, Mwr3.7/21, Error ellipse: s-maj=5.4km s-min=3.8km az=135.0*
*NEIC **15** 16:25:41.8, 42°.48S×173°.82E, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=4.47; $M_{\theta\theta}$-3.74; $M_{\phi\phi}$-0.73; $M_{r\theta}$-1.16; $M_{r\phi}$-2.03; $M_{\theta\phi}$-0.73; Fault plane solution: M_o4.82000×10^{14} NP1:φ_s241.58000°, δ53.25000°, λ87.88000°. NP2:φ_s65.13000°, δ36.80000°, λ92.84000°. Principal axes: T 4.6704, Plg82.0000°, Azm141.0000°; N 0.2893, Plg2.0000°, Azm243.0000°; P -4.9597, Plg8.0000°, Azm333.0000°;*
*WEL **15** 16:25:42.5±0.5, 42°S±3°×17°4E±°, h12km±3km, M3.7/23, ML3.9/23, MLv3.7/23 Error ellipse: s-maj=0.0km s-min=0.0km az=129.9*

ISC 15 16:25:41.3±1.2, 42°50S±0°.04×173°86E±0°.04, h10km±8km, n118, σ1s07/125, mb4.2/7, 1C, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**290**	Pg	**Pg**	**16 25 46.7**	**+0.3**
KHZ				Sg	**Sg**	**16 25 49.2**	**-0.7**
KHZ	**Kahutara**	**0.25**	**290**	P	**Pg**	**16 25 47.0**	**+0.6**
KHZ	**Kahutara**	**0.25**	**290**	P	**Pg**	**16 25 46.9**	**+0.5**
KHZ				S	**Sg**	**16 25 49.8**	**0.0**
GVZ	**Greta Valley S**	**0.77**	**232**		**Pn**	**16 25 58.9**	**+0.7**
GVZ	**Greta Valley S**	**0.77**	**232**	P	**Pn**	**16 25 59.0**	**+0.9**
GVZ				S	**Sn**	**16 26 11.0**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.79**	**1**		**Pn**	**16 25 57.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.79**	**1**	P	**Pb**	**16 25 57.3**	**+0.3**
CMWZ	**Cape Campbell**	**0.80**	**20**	P	**Pn**	**16 25 59.5**	**+0.9**
THZ	**Tophouse**	**1.02**	**316**		**Pb**	**16 26 00.2**	**-1.0**
THZ	**Tophouse**	**1.02**	**316**	P	**Pb**	**16 26 00.6**	**-0.6**
TUWZ	**Tuamarina**	**1.07**	**3**		**Pb**	**16 26 01.8**	**-0.1**
TUWZ				Sg	**Sb**	**16 26 15.0**	**-1.0**
TUWZ	**Tuamarina**	**1.07**	**3**	P	**Pb**	**16 26 02.5**	**+0.6**
AMCZ	**Amberley**	**1.11**	**232**		**Pn**	**16 26 03.3**	**+0.4**
AMCZ	**Amberley**	**1.11**	**232**	P	**Pn**	**16 26 03.8**	**+0.8**
LTZ	**Lake Taylor**	**1.20**	**256**		**Pn**	**16 26 04.2**	**0.0**
LTZ	**Lake Taylor**	**1.20**	**256**	P	**Pn**	**16 26 04.6**	**+0.4**
LTZ				S	**Sb**	**16 26 20.7**	**+0.9**
TCW	**Tory Channel**	**1.33**	**14**		**Pn**	**16 26 05.7**	**-0.2**
TCW	**Tory Channel**	**1.33**	**14**	P	**Pn**	**16 26 05.9**	**+0.1**
NNZ	**Nelson**	**1.33**	**344**		**Pn**	**16 26 05.6**	**-0.3**
NNZ	**Nelson**	**1.33**	**344**	P	**Pn**	**16 26 06.0**	**+0.1**
SNZO	**South Karori**	**1.35**	**28**		**Pn**	**16 26 06.3**	**+0.2**
OKCZ	**Okains Bay**	**1.35**	**205**	P	**Pn**	**16 26 07.5**	**+1.2**
MRNZ	**Matariki Terra**	**1.37**	**323**		**Pn**	**16 26 06.3**	**-0.2**
MRNZ	**Matariki Terra**	**1.37**	**323**	P	**Pn**	**16 26 06.9**	**+0.4**
WEL	**Wellington**	**1.39**	**29**	P	**Pn**	**16 26 07.3**	**+0.5**
PLWZ	**Palliser**	**1.40**	**49**		**Pn**	**16 26 07.1**	**+0.2**
PLWZ	**Palliser**	**1.40**	**49**	P	**Pn**	**16 26 07.2**	**+0.4**
MQZ	**McQueen's Vall**	**1.49**	**216**	Pn	**Pn**	**16 26 08.1**	**0.0**
MQZ	**McQueen's Vall**	**1.49**	**216**	P	**Pn**	**16 26 08.3**	**+0.2**
MQZ				S	**Sn**	**16 26 28.3**	**+0.6**
MSWZ	**Moikau Station**	**1.50**	**44**		**Pn**	**16 26 08.4**	**+0.2**
MSWZ	**Moikau Station**	**1.50**	**44**	P	**Pn**	**16 26 08.6**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.54**	**207**	P	**Pn**	**16 26 09.7**	**+0.9**
OXZ	**Oxford**	**1.57**	**238**		**Pn**	**16 26 08.9**	**-0.3**
OXZ	**Oxford**	**1.57**	**238**	P	**Pn**	**16 26 09.2**	**-0.1**
OXZ				S	**Sn**	**16 26 28.9**	**-0.7**
TKNZ	**Takaka Hill**	**1.61**	**335**		**Pn**	**16 26 10.2**	**+0.4**
TKNZ	**Takaka Hill**	**1.61**	**335**	P	**Pn**	**16 26 10.5**	**+0.7**
PAWZ	**Paruwai Farm**	**1.62**	**47**	P	**Pn**	**16 26 10.1**	**+0.2**
CAW	**Cannon Point**	**1.66**	**33**	P	**Pn**	**16 26 10.8**	**+0.4**
DUWZ	**D'Urville Isla**	**1.70**	**2**	P	**Pn**	**16 26 12.1**	**+1.1**
DSZ	**Denniston Nort**	**1.70**	**296**		**Pn**	**16 26 11.2**	**+0.1**
DSZ	**Denniston Nort**	**1.70**	**296**	P	**Pn**	**16 26 12.6**	**+1.5**
TRWZ	**Traveller**	**1.75**	**52**	P	**Pn**	**16 26 11.9**	**+0.1**
RACZ	**Rakaia**	**1.76**	**225**	P	**Pn**	**16 26 12.0**	**+0.3**
INZ	**Inchbonnie**	**1.80**	**262**		**Pn**	**16 26 12.3**	**0.0**
INZ	**Inchbonnie**	**1.80**	**262**	P	**Pn**	**16 26 12.5**	**+0.2**
KIW	**Kapiti Island**	**1.82**	**26**	P	**Pn**	**16 26 13.2**	**+0.6**
MTW	**Mount Morrison**	**1.82**	**43**	P	**Pn**	**16 26 12.7**	**0.0**
QRZ	**Quartz Range**	**1.95**	**329**	Pn	**Pn**	**16 26 14.5**	**+0.1**
QRZ	**Quartz Range**	**1.95**	**329**	P	**Pn**	**16 26 15.5**	**+1.1**
OGWZ	**Otaki Gorge**	**1.95**	**31**	P	**Pn**	**16 26 14.7**	**+0.3**
TMWZ	**Te Maipa**	**2.06**	**48**	P	**Pn**	**16 26 15.8**	**-0.2**
WACZ	**Wakanui South**	**2.06**	**225**	P	**Pn**	**16 26 16.3**	**+0.3**
MRZ	**Mangatainoka R**	**2.25**	**36**		**Pn**	**16 26 18.3**	**-0.2**
MRZ	**Mangatainoka R**	**2.25**	**36**	P	**Pn**	**16 26 18.4**	**-0.1**
WVZ	**Waitaha Valley**	**2.37**	**255**	P	**Pn**	**16 26 20.7**	**+0.6**
RPZ	**Rata Peaks**	**2.38**	**238**	Pn	**Pn**	**16 26 20.3**	**-0.1**
	52nm,0.3s,baz=283,slow=0.9,SNR=211						
RPZ				Sn	**Sn**	**16 26 48.8**	**-0.9**
	85nm,0.3s,baz=30,slow=21,SNR=47						
	162nm,0.4s						
RPZ	**Rata Peaks**	**2.38**	**238**	P	**Pn**	**16 26 20.4**	**-0.1**
RPZ	**Rata Peaks**	**2.38**	**238**	P	**Pn**	**16 26 20.3**	**-0.1**
ARCZ	**Arundel**	**2.44**	**233**	P	**Pn**	**16 26 21.0**	**-0.1**
PRWZ	**Pori Road**	**2.51**	**40**	P	**Pn**	**16 26 23.2**	**+1.1**
BFZ	**Birch Farm**	**2.55**	**45**	P	**Pn**	**16 26 22.3**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**2.72**	**251**	P	**Pn**	**16 26 26.1**	**+1.1**
DVHZ	**Dannevirke**	**2.80**	**39**	P	**Pn**	**16 26 30.2**	**-1.2**
TMZ	**Timaru**	**2.80**	**227**	P	**Pn**	**16 26 26.5**	**+0.3**
WAZ	**Wanganui**	**2.87**	**18**	P	**Pn**	**16 26 29.0**	**+1.9**
TSZ	**Takapari Road**	**2.91**	**34**	P	**Pn**	**16 26 27.2**	**-0.4**
LREZ	**Lake Rotokare**	**3.07**	**8**	P	**Pn**	**16 26 36.3**	**+0.4**
PNHZ	**Pukenui**	**3.13**	**35**	P	**Pn**	**16 26 34.6**	**+3.9**
FOZ	**Fox Glacier**	**3.14**	**249**	P	**Pn**	**16 26 31.6**	**+0.9**
KHEZ	**Kahui Hut**	**3.21**	**2**	P	**Pb**	**16 26 36.9**	**-1.4**
NBEZ	**Newall Road No**	**3.23**	**0**	P	**Pb**	**16 26 37.2**	**-1.5**
LBZ	**Lake Benmore**	**3.27**	**234**	Pn	**Pn**	**16 26 32.8**	**+0.2**
LBZ	**Lake Benmore**	**3.27**	**234**	P	**Pn**	**16 26 32.8**	**+0.2**
PKE	**Pukeiti**	**3.31**	**2**	P	**Pb**	**16 26 37.8**	**-2.3**
MOVZ	**Moawhango**	**3.41**	**26**	P	**Pn**	**16 26 37.0**	**+2.4**
WNVZ	**Wahianoa**	**3.43**	**23**	P	**Pn**	**16 26 37.3**	**+2.3**
BHHZ	**Black Hill Sta**	**3.44**	**30**	P	**Pn**	**16 26 35.3**	**+0.3**
VRZ	**Vera Road**	**3.44**	**12**	P	**Pn**	**16 26 36.8**	**+1.9**
ODZ	**Otahua Downs**	**3.45**	**221**	Pn	**Pn**	**16 26 35.1**	**+0.1**
ODZ	**Otahua Downs**	**3.45**	**221**	P	**Pn**	**16 26 35.3**	**+0.3**
ODZ	**Otahua Downs**	**3.45**	**221**	P	**Pn**	**16 26 35.3**	**+0.3**
NGZ	**Ngauruhoe**	**3.58**	**22**	P	**Pn**	**16 26 39.4**	**+2.5**
OTVZ	**Ōtūrere**	**3.60**	**23**	P	**Pn**	**16 26 38.3**	**+1.0**
NNVZ	**North Ngauruho**	**3.62**	**22**	P	**Pn**	**16 26 40.9**	**+3.4**
WTVZ	**West Tongariro**	**3.63**	**22**	P	**Pb**	**16 26 44.4**	**-1.1**
ETVZ	**East Tongariro**	**3.64**	**23**	P	**Pn**	**16 26 40.4**	**+2.5**
TMVZ	**Te Maari**	**3.66**	**23**	P	**Pn**	**16 26 41.9**	**+3.8**
KRVZ	**Karewarewa**	**3.66**	**22**	P	**Pn**	**16 26 39.1**	**+1.0**
JCZ	**Jackson Bay**	**4.02**	**245**	P	**Pn**	**16 26 42.8**	**-0.2**
HIZ	**Hauiti**	**4.06**	**11**	P	**Pn**	**16 26 45.4**	**+2.0**
NMHZ	**Naumai**	**4.07**	**34**	P	**Pn**	**16 26 42.9**	**-0.7**
HHSZ	**Highcliff Hill**	**4.12**	**214**	P	**Pn**	**16 26 44.6**	**+0.4**
WKZ	**Wanaka**	**4.21**	**235**	Pn	**Pn**	**16 26 44.9**	**-0.6**
WKZ	**Wanaka**	**4.21**	**235**	P	**Pn**	**16 26 45.1**	**-0.5**
EAZ	**Earnscleugh**	**4.27**	**229**	P	**Pn**	**16 26 46.2**	**-0.2**
MTHZ	**Maungataniwha**	**4.29**	**33**	P	**Pn**	**16 26 49.1**	**+2.5**
KNZ	**Kokohu**	**4.52**	**41**	P	**Pn**	**16 26 49.8**	**0.0**
TUZ	**Tuapeka**	**4.60**	**220**	P	**Pn**	**16 26 51.4**	**+0.6**
TOZ	**Tahuroa Road**	**4.93**	**15**	P	**Pn**	**16 26 55.9**	**+0.6**
MLZ	**Mavora Lakes**	**5.04**	**233**	P	**Pn**	**16 26 56.4**	**-0.5**
SYZ	**Scrubby Hill**	**5.26**	**218**	P	**Pn**	**16 26 59.6**	**-0.3**
SYZ	**Scrubby Hill**	**5.26**	**218**	P	**Pn**	**16 27 00.5**	**+0.6**
WHZ	**Wether Hill Ro**	**5.44**	**229**	Pn	**Pn**	**16 27 00.9**	**-1.4**
WHZ	**Wether Hill Ro**	**5.44**	**229**	P	**Pn**	**16 27 01.0**	**-1.4**
AWAZ	**Awhitu Peninsu**	**5.46**	**7**	P	**Pn**	**16 27 04.2**	**+1.5**
MKAZ	**Moumakai**	**5.48**	**11**	P	**Pn**	**16 27 03.5**	**+0.6**
ETAZ	**East Tamaki Re**	**5.60**	**9**	P	**Pn**	**16 27 05.7**	**+1.1**
MBAZ	**Motutapu North**	**5.78**	**8**	P	**Pn**	**16 27 08.6**	**+1.6**
APZ	**The Paps**	**6.02**	**222**	P	**Pn**	**16 27 10.3**	**-0.1**
RAO	**Raoul Island**	**14.79**	**29**	LR	LR	16 34 45.7	
	comp=Z,109nm,18.9s,baz=317,slow=37						
ASAR	**Alice Springs**	**37.96**	**287**	P	**P**	**16 33 00.5**	**+1.3**
	0.3nm,0.7s,baz=123,slow=6.2,SNR=5.5						
	0.3nm,0.7s						
WB2	**Warramunga Arr**	**40.09**	**292**	P	**P**	**16 33 16.8**	**-0.2**
WB2				IAmb	IAmb	16 33 37.0	
	comp=Z,9.1nm,1.4s						
WRAB	**Tennant Creek**	**40.10**	**292**	P	**P**	**16 33 16.6**	**-0.5**
WRAB				IAmb	IAmb	16 33 35.9	
	comp=Z,8.7nm,1.4s						
WRA	**Warramunga Arr**	**40.10**	**292**	P	**P**	**16 33 15.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=127,slow=8.3,SNR=8.0						
	comp=Z,0.2nm,0.5s						
WB0	**Warramunga Arr**	**40.18**	**292**	P	**P**	**16 33 17.5**	**-0.3**
WB0				IAmb	IAmb	16 33 29.3	
	comp=Z,4.5nm,1.1s						
KMI	**Kunming**	**93.86**	**301**	⇑P	**P**	**16 38 58.1**	**-1.0**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
PZH	**PanZhiHua**	**95.47**	**301**	P	**P**	**16 39 07.1**	**+0.8**
PZH		

OGWZ	Otaki Gorge	1.75	27	P		Pn	16 32 41.3	-0.4
OXZ	Oxford	1.80	237			Pn	16 32 41.7	-0.7
OXZ	Oxford	1.80	237	P		Pn	16 32 41.9	-0.5
DSZ	Denniston Nort	1.83	289	P		Pn	16 32 43.8	+0.9
TMWZ	Te Maipa	1.84	47	P		Pn	16 32 42.3	-0.6
QRZ	Quartz Range	1.95	322	Pn		Pn	16 32 44.5	0.0
QRZ	Quartz Range	1.95	322	P		Pn	16 32 45.2	+0.7
RACZ	Rakaia	1.98	226	P		Pn	16 32 44.8	-0.1
INZ	Inchbonnie	2.00	259			Pn	16 32 44.9	-0.3
INZ	Inchbonnie	2.00	259	P		Pn	16 32 45.6	+0.4
MRZ	Mangatainoka R	2.04	33			Pn	16 32 44.8	-0.9
MRZ	Mangatainoka R	2.04	33	P		Pn	16 32 45.0	-0.7
WACZ	Wakanui South	2.29	226	P		Pn	16 32 48.8	-0.3
PRNZ	Pori Road	2.29	38	P		Pn	16 32 48.3	-0.9
BFZ	Birch Farm	2.33	44	P		Pn	16 32 48.3	-1.4
WVZ	Waitaha Valley	2.58	253	P		Pn	16 32 53.5	+0.4
RPZ	Rata Peaks	2.61	238	Pn		Pn	16 32 53.2	-0.4
	27nm,0.3s,baz=93,slow=1.6,SNR=46							
RPZ				Sn		Sn	16 33 24.3	-1.1
	16nm,0.3s,baz=130,slow=23,SNR=20							
	65nm,0.4s							
RPZ	Rata Peaks	2.61	238	Pn		Pn	16 32 52.9	-0.7
RPZ	Rata Peaks	2.61	238	P		Pn	16 32 53.1	-0.4
ARCZ	Arundel	2.66	233	P		Pn	16 32 54.0	-0.3
WAZ	Wanganui	2.70	14	P		Pn	16 32 56.2	+1.4
TSZ	Takapari Road	2.70	32	P		Pn	16 32 53.8	-1.0
WPHZ	Waipukurau	2.90	38	P		Pn	16 32 56.3	-1.2
LREZ	Lake Rotokare	2.92	4	P		Pn	16 33 00.3	+2.5
GCSZ	Gaunt Creek Bo	2.94	250	P		Pn	16 32 58.8	+0.8
TMZ	Timaru	3.03	227	P		Pn	16 32 59.4	+0.1
KHEZ	Kahui Hut	3.08	359	P		Pn	16 33 03.2	+3.1
PKE	Pukeiti	3.18	358	P		Pb	16 33 07.6	-0.3
MOVZ	Moawhango	3.21	23	P		Pn	16 33 01.5	-0.5
BHHZ	Black Hill Sta	3.24	28	P		Pn	16 33 01.7	-0.5
WNVZ	Wahianoa	3.25	21	P		Pn	16 33 02.8	+0.3
VRZ	Vera Road	3.29	9	P		Pn	16 33 04.0	+1.1
FWVZ	Far West T-bar	3.30	20	P		Pn	16 33 04.5	+1.2
TUVZ	Tukino	3.32	21	P		Pn	16 33 04.1	+0.6
FOZ	Fox Glacier	3.36	248	Pn		Pn	16 33 04.0	+0.2
FOZ	Fox Glacier	3.36	248	P		Pn	16 33 04.5	+0.7
NGZ	Ngauruhoe	3.39	20	P		Pn	16 33 05.4	+1.0
OTVZ	Oturere	3.42	21	P		Pn	16 33 05.0	+0.2
WTVZ	West Tongariro	3.44	19	P		Pn	16 33 06.0	+0.8
ETVZ	East Tongariro	3.46	21	P		Pn	16 33 06.4	+1.1
TMVZ	Te Maari	3.47	21	P		Pn	16 33 05.8	+0.2
KRVZ	Karewarewa	3.48	20	P		Pn	16 33 06.2	+0.6
LBZ	Lake Benmore	3.50	234	Pn		Pn	16 33 05.9	+0.1
LBZ	Lake Benmore	3.50	234	P		Pn	16 33 06.0	+0.3
ODZ	Otahua Downs	3.67	222	Pn		Pn	16 33 07.9	-0.2
ODZ	Otahua Downs	3.67	222	P		Pn	16 33 07.9	-0.2
BKZ	Black Stump Fm	3.68	30	P		Pn	16 33 10.6	+2.3
HIZ	Hauiti	3.90	9	Pn		Pn	16 33 11.8	+0.5
HIZ	Hauiti	3.90	9	P		Pn	16 33 12.2	+0.9
WKZ	Wanaka	4.44	235	Pn		Pn	16 33 18.9	+0.2
EAZ	Earnscleugh	4.50	229	P		Pn	16 33 19.2	-0.3
TOZ	Tahuroa Road	4.76	13	P		Pn	16 33 23.3	+0.2
MLZ	Mavora Lakes	5.26	233	Pn		Pn	16 33 29.7	-0.4
AWAZ	Awhitu Peninsu	5.32	5	P		Pn	16 33 31.9	+1.1
MKAZ	Moumakai	5.33	9	P		Pn	16 33 30.9	0.0
MYRZ	Mayor Island	5.35	19	P		Pn	16 33 32.9	+1.8
ETAZ	East Tamaki Re	5.45	7	P		Pn	16 33 32.0	-0.6
ASAR	Alice Springs	38.10	286	P		P	16 39 28.9	-1.6
	0.2nm,0.6s,baz=126,slow=6.9,SNR=9.7							
	0.2nm,0.6s							
WR0	Warramunga Arr	40.08	291	P		P	16 39 47.1	+0.1
WB2	Warramunga Arr	40.22	291	P		P	16 39 48.0	-0.2
WB2				IAmb		IAmb	16 40 21.1	
	comp=Z,4.6nm,1.2s							
WRA	Warramunga Arr	40.23	291	P		P	16 39 46.5	-1.8
	comp=Z,0.4nm,0.6s,baz=128,slow=7.6,SNR=8.9							
	comp=Z,0.4nm,0.6s							
WRA	Warramunga Arr	40.23	291	P		P	16 39 48.1	-0.2
WB0	Warramunga Arr	40.31	292	P		P	16 39 48.7	-0.2
WB0				IAmb		IAmb	16 40 25.8	
	comp=Z,5.6nm,1.2s							
PZH	PanZhiHua	95.56	301	P		P	16 45 38.8	+1.9
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
HHC	Hu-ho-hao-te	100.28	317	eP		Pdif	16 45 58.3	+0.6
TORD	Torodi Ar. Bea	150.10	195	PKPbc		PKiKP	16 52 04.0	+0.3
	comp=Z,0.3nm,0.5s,baz=178,slow=3.7,SNR=2.2							

WEL 15 16:35:33.2±0.4, 42°S±3°×17°4E±°, h12km±4km, M3.1/14, ML3.6/12, MLv3.1/14, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.28	201	P	Pb	16 35 40.2	0.0
KHZ				S	Sb	16 35 44.7	-0.2
BSWZ	Blackbirch Sta	0.47	19	P	Pb	16 35 42.9	-0.5
THZ	Tophouse	0.69	304	P	Pb	16 35 47.1	-0.3
THZ				S	Sb	16 35 56.4	-0.4
TUWZ	Tuamarina	0.75	16	P	Pb	16 35 48.1	-0.1
GVZ	Greta Valley S	0.94	210	P	Pn	16 35 52.1	-0.2
NNZ	Nelson	0.96	347	P	Pg	16 35 51.6	-0.3
MRNZ	Matariki Terra	1.02	318	P	Pn	16 35 53.3	-0.1
TCW	Tory Channel	1.05	26	P	Pb	16 35 53.2	-0.1
LTZ	Lake Taylor	1.21	238	P	Pn	16 35 56.1	0.0
TKNZ	Takaka Hill	1.24	334	P	Pb	16 35 56.7	+0.1
AMCZ	Amberley	1.27	216	P	Pn	16 35 56.3	-0.5
DUWZ	D'Urville Isla	1.37	8	P	Pb	16 35 58.7	0.0
DSZ	Denniston Nort	1.45	286	P	Pg	16 36 01.0	-0.1
OKCZ	Okains Bay	1.63	196	P	Pn	16 36 00.7	-1.1
OXZ	Oxford	1.68	225	P	Pn	16 36 01.3	-1.2
MQZ	McQueen's Vall	1.72	205	P	Pn	16 36 01.3	-1.7
AKCZ	Akaroa Harbour	1.80	198	P	Pn	16 36 03.1	-1.1
RACZ	Rakaia	1.93	215	P	Pn	16 36 04.4	-1.5
WACZ	Wakanui South	2.23	216	P	Pn	16 36 08.7	-1.3
RPZ	Rata Peaks	2.48	230	P	Pn	16 36 12.5	-1.0
ARCZ	Arundel	2.56	225	P	Pn	16 36 13.3	-1.3
TMZ	Timaru	2.96	220	P	Pn	16 36 19.1	-1.0
ODZ	Otahua Downs	3.63	216	P	Pn	16 36 27.5	-1.8

WEL 15 16:35:58.1±0.6, 42°S±3°×17°4E±°, h5km, M3.5/16, ML3.8/16, MLv3.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=160.4, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.42	263	P	Pg	16 36 07.0	+0.7
KHZ				S	Sb	16 36 13.6	-1.2
CMWZ	Cape Campbell	0.62	8	P	Pb	16 36 12.0	+0.5
BSWZ	Blackbirch Sta	0.67	345	P	Pg	16 36 11.3	+0.2
BSWZ				S	Sb	16 36 21.6	-0.4
TUWZ	Tuamarina	0.95	353	P	Pb	16 36 16.7	-0.3
THZ	Tophouse	1.08	304	P	Pg	16 36 17.9	-0.9
THZ				S	Sg	16 36 31.3	-1.5
TCW	Tory Channel	1.16	6	P	Pg	16 36 20.1	-0.4
PLWZ	Palliser	1.17	47	P	Pg	16 36 20.6	0.0
WEL	Wellington	1.19	25	P	Pg	16 36 20.9	0.0
WEL				S	Sb	16 36 37.2	+0.4
NNZ	Nelson	1.27	335	P	Pg	16 36 21.6	-0.9
NNZ				S	Sg	16 36 38.5	-0.5
MSWZ	Moikau Station	1.28	42	P	Pg	16 36 22.0	-0.6
MSWZ				S	Sb	16 36 39.4	0.0
MRNZ	Matariki Terra	1.40	313	P	Pn	16 36 23.9	-0.4
MRNZ				S	Sn	16 36 43.2	+0.1
PAWZ	Paruwai Farm	1.40	46	P	Pn	16 36 23.4	-0.9
PAWZ				S	Sb	16 36 42.0	-0.8
LTZ	Lake Taylor	1.42	252	P	Pn	16 36 24.2	-0.4
LTZ				S	Sb	16 36 42.9	-0.5
CAW	Cannon Point	1.45	30	P	Pn	16 36 24.5	-0.5
CAW				S	Sb	16 36 43.4	-1.0
TRWZ	Traveller	1.53	51	P	Pn	16 36 25.1	-1.0
TRWZ				S	Sn	16 36 45.3	-1.1
TKNZ	Takaka Hill	1.58	327	P	Pn	16 36 26.6	-0.3
TKNZ				S	Sn	16 36 47.4	-0.4
MTW	Mount Morrison	1.60	41	P	Pn	16 36 26.2	-0.8
KIW	Kapiti Island	1.62	22	P	Pn	16 36 27.0	-0.4
KIW				S	Sn	16 36 46.4	-2.3
OGWZ	Otaki Gorge	1.74	28	P	Pn	16 36 28.4	-0.6
HOWZ	Holdsworth Sta	1.81	36	P	Pn	16 36 28.6	-1.4
DSZ	Denniston Nort	1.82	289	P	Pb	16 36 31.1	-0.8
TMWZ	Te Maipa	1.84	47	P	Pn	16 36 29.5	-0.8
MRZ	Mangatainoka R	2.03	33	P	Pn	16 36 32.2	-0.8
PRWZ	Pori Road	2.29	38	P	Pn	16 36 35.6	-1.0
BFZ	Birch Farm	2.33	44	P	Pn	16 36 35.6	-1.5
WVZ	Waitaha Valley	2.58	253	P	Pn	16 36 40.5	0.0
RPZ	Rata Peaks	2.61	238	P	Pn	16 36 40.7	-0.3
WAZ	Wanganui	2.69	15	P	Pn	16 36 43.3	+1.1
TSZ	Takapari Road	2.70	32	P	Pn	16 36 41.0	-1.2
MOVZ	Moawhango	3.21	23	P	Pn	16 36 49.5	+0.2
WNVZ	Wahianoa	3.24	21	P	Pn	16 36 50.8	+1.0
VRZ	Vera Road	3.28	9	P	Pn	16 36 51.1	+1.0
SNVZ	South Ngauruho	3.39	21	P	Pn	16 36 53.4	+1.6
OTVZ	Oturere	3.41	21	P	Pn	16 36 54.2	+2.0
LBZ	Lake Benmore	3.50	233	P	Pn	16 36 52.7	-0.5
HIZ	Hauiti	3.89	9	P	Pn	16 36 59.4	+0.8
AWAZ	Awhitu Peninsu	5.31	5	P	Pn	16 37 19.1	+1.0
MKAZ	Moumakai	5.32	9	P	Pn	16 37 18.0	-0.2

IDC 15 16:38:20.5±2.3, 6°30S×129°22E, h0km, mb3.5/1, mbtmp3.1/3, ML2.7/2, MS2.8/1, Error ellipse: s-maj=155.6km s-min=32.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	5.77	21	LR	LR	16 42 47.5	
	comp=Z,98nm,21.5s,baz=98,slow=46						
WRA	Warramunga Arr	14.44	160	Pn	Pn	16 41 45.5	-0.8
	baz=342,slow=13,SNR=6.2						
WRA				Sn	Sn	16 44 14.8	-13
	0.2nm,0.3s,baz=342,slow=22,SNR=7.2						
	0.1nm,0.4s						
ASAR	Alice Springs	17.84	166	P	P	16 42 31.0	-0.2
	baz=349,slow=8.5,SNR=2.5						
	0.3nm,0.8s						
MKAR	Makanchi Array	67.22	327	P	P	16 49 16.7	0.0
	0.2nm,0.4s,baz=118,slow=8.0,SNR=5.8						
	0.2nm,0.4s						

*NEIC **15** 16:40:41.1±2.5, 18°1S±0°2×178°11W±0°.06, h549km±10km, mb4.4/19, Error ellipse: s-maj=30.9km s-min=4.7km az=166.0*

*IDC **15** 16:40:44.5±2.4, 17°58S×178°69W, h562km±21km, mb3.2/4, mbtmp4.1/6, Error ellipse: s-maj=110.4km s-min=26.8km az=155.0*

ISC 15 16:40:41.4±0.7, 18°1S±0°2×178°2W±0°.1, h550km, n30, σ1°21/30, mb4.3/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.60	275	P	P	16 42 01.4	+0.8
	30nm,0.7s,baz=78,slow=4.2,SNR=23						
MSVF	Nonsavu	3.60	275	P	P	16 42 01.2	+0.6
AFI	Afiamalu	7.45	57	P	P	16 42 32.0	-2.0
NIUE	Niue	7.89	98	P	P	16 42 36.4	-1.8
MARNC	Mare, Loyalty	13.39	253	P	P	16 43 33.5	-0.9
DZM	Mont Dzumac	14.96	252	P	P	16 43 50.0	-0.6
	2.1nm,0.5s,baz=124,slow=22,SNR=5.8						
DZM	Mont Dzumac	14.96	252	P	P	16 43 49.7	-0.9
DZM				IAmb	IAmb	16 44 08.2	
	comp=Z,25nm,1.5s						
ARMA	Armidale	30.02	240	P	P	16 46 08.3	+2.1
ARMA				IAmb	IAmb	16 46 41.6	
	comp=Z,16nm,1.4s						
CTAO	Charters Tower	33.62	261	P	P	16 46 35.1	-1.8
CTAO				IAmb	IAmb	16 46 59.6	
	comp=Z,12nm,1.2s						
COEN	Coen	37.31	271	P	P	16 47 06.9	-0.7
STKA	Stephens Creek	38.71	241	P	P	16 47 19.5	+0.7
	comp=Z,3.4nm,0.7s,baz=78,slow=8.8,SNR=6.7						
	comp=Z,3.4nm,0.7s						
STKA	Stephens Creek	38.71	241	P	P	16 47 20.0	+1.3
BBOO	Buckleboo	43.49	241	P	P	16 47 57.9	+1.3
BBOO				IAmb	IAmb	16 48 17.8	
	comp=Z,20nm,1.4s						
WR0	Warramunga Arr	44.61	260	P	P	16 48 04.5	-1.0
WR0				IAmb	IAmb	16 48 07.5	
	comp=Z,9.2nm,1.3s						
WB0	Warramunga Arr	44.77	260	P	P	16 48 05.3	-1.4
WB0				IAmb	IAmb	16 48 42.9	
	comp=Z,11nm,1.4s						
WB2	Warramunga Arr	44.79	260	P	P	16 48 05.3	-1.6
WRA	Warramunga Arr	44.80	260	P	P	16 48 05.9	-1.0
	comp=Z,1.1nm,0.5s,baz=95,slow=8.0,SNR=36						
	comp=Z,1.1nm,0.5s						
AS31	Alice Springs	44.94	254	P	P	16 48 07.8	-0.2
ASAR	Alice Springs	44.94	254	P	P	16 48 08.2	+0.2
	comp=Z,8.4nm,0.4s,baz=88,slow=8.1,SNR=204						
	comp=Z,8.4nm,0.4s						
ASAR	Alice Springs	44.94	254	P	P	16 48 07.4	-0.6
MTN	Manton Dam	49.00	269	P	P	16 48 37.0	-1.7
MTN				IAmb	IAmb	16 49 06.7	
	comp=Z,13nm,1.2s						
FORT	Forrest	50.11	245	P	P	16 48 47.0	+0.4
KNRA	Kununurra	50.67	264	P	P	16 48 50.0	-0.9
KNRA				IAmb	IAmb	16 49 09.8	
	comp=Z,24nm,1.4s						
PSA00	Pilbara Seismi	58.06	256	P	P	16 49 42.8	+0.2
MBWA	Marble Bar	58.23	256	P	P	16 49 43.5	-0.2
MBWA				IAmb	IAmb	16 49 53.7	
	comp=Z,20nm,1.1s						
NWAO	Narrogin (SRO)	59.30	242	P	P	16 49 51.1	+0.3
MORW	Morawa	60.59	246	P	P	16 49 59.9	+0.4
MORW				IAmb	IAmb	16 50 05.5	
	comp=Z,21nm,1.4s						
SMAI	San Martin Ant	80.89	159	P	P	16 51 58.0	-0.1
SMAI				IAmb	IAmb	16 52 00.6	
	comp=Z,21nm,1.0s						
MCARA	McCarthy VSAT	84.06	16	P	P	16 52 14.9	+0.9
TXAR	Lajitas Array	85.93	58	P	P	16 52 26.4	+2.4
	comp=Z,0.3nm,0.8s,baz=222,slow=6.7,SNR=4.2						
	comp=Z,0.3nm,0.8s						

*WEL **15** 16:43:55.6±0.6, 42°S±4°×17°4E±°, h5km, M4.0/13, ML4.2/13, MLv4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=143.7*

*IDC **15** 16:43:56.1±1.6, 42°.25S×173°.68E, h0km, mb3.9/3, mbtmp3.9/4, ML4.3/1, MS3.5/7, Error ellipse: s-maj=42.3km s-min=33.0km az=143.0*

*NEIC **15** 16:43:56.2±1.2, 42°.30S±0°.04×174°.09E±0°.05, h16km±7km, mb4.1/4, Error ellipse: s-maj=7.1km s-min=4.6km az=146.0*

ISC 15 16:43:55.8±1.3, 42°35S±0°03×174°12E±0°04, h10km±8km, n81, σ1°901/90, mb3.9/5, MS3.4/7, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.44	261		Pg	16 44 03.9	-0.5
KHZ					Sg	16 44 10.5	+0.3
KHZ	Kahutara	0.44	261	P	Pg	16 44 04.0	-0.3
KHZ				S	Sg	16 44 11.3	+1.1
CMWZ	Cape Campbell	0.61	7		Pb	16 44 07.6	-0.9
BSWZ	Blackbirch Sta	0.66	344		Pb	16 44 08.0	-1.5
TUWZ	Tuamarina	0.93	352		Pb	16 44 13.2	-0.9
TUWZ	Tuamarina	0.93	352	P	Pb	16 44 13.5	-0.5
TUWZ				S	Sg	16 44 27.9	+2.1
GVZ	Greta Valley S	1.01	232	P	Pb	16 44 16.2	+0.8
GVZ				S	Sn	16 44 31.2	+0.8
THZ	Tophouse	1.08	303	Pn	Pb	16 44 14.9	-1.7
THZ	Tophouse	1.08	303	P	Pb	16 44 15.6	-1.0
SNZO	South Karori	1.13	23	Pn	Pn	16 44 17.0	-0.7
TCW	Tory Channel	1.15	6	Pn	Pn	16 44 16.2	-1.7
TCW	Tory Channel	1.15	6	P	Pn	16 44 17.1	-0.8
TCW				S	Sn	16 44 34.2	+0.5
PLWZ	Palliser	1.15	48	Pn	Pn	16 44 16.9	-1.1
PLWZ	Palliser	1.15	48	P	Pn	16 44 17.8	-0.2
WEL	Wellington	1.17	25	P	Pn	16 44 17.9	-0.3
WEL				S	Sn	16 44 35.0	+0.7
MSWZ	Moikau Station	1.26	42	Pn	Pn	16 44 18.6	-0.8
MSWZ	Moikau Station	1.26	42	P	Pn	16 44 19.0	-0.5
NNZ	Nelson	1.26	334	Pn	Pn	16 44 18.0	-1.5
NNZ	Nelson	1.26	334	P	Pn	16 44 18.6	-0.9
NNZ				S	Sb	16 44 35.7	-0.3
PAWZ	Paruwai Farm	1.38	46	P	Pn	16 44 20.5	-0.6
MRNZ	Matariki Terra	1.40	313	Pn	Pn	16 44 20.7	-0.6
MRNZ	Matariki Terra	1.40	313	P	Pn	16 44 21.2	-0.2
MRNZ				S	Sb	16 44 40.9	+1.1
CAW	Cannon Point	1.43	30	P	Pn	16 44 21.5	-0.4
CAW				S	Sn	16 44 40.4	-0.2
LTZ	Lake Taylor	1.43	252	Pn	Pn	16 44 21.6	-0.2
LTZ	Lake Taylor	1.43	252	P	Pn	16 44 21.4	-0.5
LTZ				S	Sn	16 44 40.5	-0.3
TRWZ	Traveller	1.51	51	P	Pn	16 44 22.5	-0.4
DUWZ	D'Urville Isla	1.56	354	P	Pn	16 44 23.5	-0.1
MTW	Mount Morrison	1.58	41	P	Pn	16 44 23.2	-0.7
TKNZ	Takaka Hill	1.58	326	Pn	Pn	16 44 22.1	-1.8
TKNZ	Takaka Hill	1.58	326	P	Pn	16 44 22.5	-1.4
TKNZ				S	Sn	16 44 44.7	+0.4
KIW	Kapiti Island	1.60	22	P	Pn	16 44 24.0	-0.2
KIW				S	Sn	16 44 44.6	-0.3
OGWZ	Otaki Gorge	1.73	27	P	Pn	16 44 25.4	-0.5
MQZ	McQueen's Vall	1.73	218		Pn	16 44 25.8	-0.1
HOWZ	Holdsworth Sta	1.79	36	P	Pn	16 44 26.5	-0.3
HOWZ				S	Sn	16 44 48.7	-0.9
OXZ	Oxford	1.81	237	Pn	Pn	16 44 26.4	-0.7
TMWZ	Te Maipa	1.82	47	P	Pn	16 44 26.4	-0.7
QRZ	Quartz Range	1.94	321	Pn	Pn	16 44 28.7	-0.1
QRZ	Quartz Range	1.94	321	P	Pn	16 44 29.4	+0.6
RACZ	Rakaia	2.00	226	P	Pn	16 44 28.9	-0.8
INZ	Inchbonnie	2.01	258		Pn	16 44 29.9	0.0
MRZ	Mangatainoka R	2.01	33	Pn	Pn	16 44 29.1	-0.8
MRZ	Mangatainoka R	2.01	33	P	Pn	16 44 29.3	-0.6
MRZ				S	Sn	16 44 54.6	-0.4
PRWZ	Pori Road	2.27	38	P	Pn	16 44 32.8	-0.6
BFZ	Birch Farm	2.31	44	P	Pn	16 44 33.0	-0.9
POWZ	Post Office Ro	2.32	33	P	Pn	16 44 34.1	+0.1
RPZ	Rata Peaks	2.63	238	Pn	Pn	16 44 36.3	-2.0
	64nm,0.3s,baz=74,slow=1.9,SNR=13						
RPZ				Sn	Sn	16 45 09.5	-0.8
	57nm,0.3s,baz=2.2,slow=16,SNR=10						
	174nm,0.4s						
RPZ	Rata Peaks	2.63	238	Pn	Pn	16 44 37.3	-1.0
WAZ	Wanganui	2.68	14	P	Pn	16 44 40.5	+1.6
TSZ	Takapari Road	2.68	32	P	Pn	16 44 38.2	-0.8
MOVZ	Moawhango	3.19	23	P	Pn	16 44 46.4	+0.2
VRZ	Vera Road	3.26	9	P	Pn	16 44 48.3	+1.3
OTVZ	Oturere	3.40	21	P	Pn	16 44 50.6	+1.6
WTVZ	West Tongariro	3.42	20	P	Pn	16 44 51.5	+2.2
ETVZ	East Tongariro	3.43	21	P	Pn	16 44 51.0	+1.5
CKHZ	Cape Kidnapper	3.50	41	P	Pn	16 44 48.9	-1.3
LBZ	Lake Benmore	3.52	233		Pn	16 44 50.3	-0.2
ODZ	Otahua Downs	3.69	222		Pn	16 44 52.5	-0.4
KMRZ	Kaimai	4.71	18	P	Pn	16 45 11.6	+4.6
MLZ	Mavora Lakes	5.28	233	Pn	Pn	16 45 13.8	-1.1
AWAZ	Awhitu Peninsu	5.30	5	P	Pn	16 45 16.3	+1.3
MKAZ	Moumakai	5.30	9	P	Pn	16 45 15.3	+0.3
ETAZ	East Tamaki Re	5.43	7	P	Pn	16 45 17.5	+0.8
WIAZ	Waiheke Island	5.61	8	P	Pn	16 45 20.1	+0.9
MBAZ	Motutapu North	5.61	6	P	Pn	16 45 20.3	+1.1
MSVF	Nonsavu	24.77	9	LR	LR	16 57 52.5	
	comp=Z,126nm,18.6s,baz=211,slow=34						
CTA	Charters Tower	32.32	305	LR	LR	17 02 22.0	
	comp=Z,76nm,19.0s,baz=272,slow=35						
AS31	Alice Springs	38.10	286	P	P	16 51 13.8	-1.2
ASAR	Alice Springs	38.10	286	P	P	16 51 13.9	-1.0
	0.7nm,0.6s,baz=123,slow=6.4,SNR=13						
ASAR				LR	LR	17 06 11.4	
	comp=Z,65nm,19.4s,baz=147,slow=35						
	0.7nm,0.6s						
ASAR	Alice Springs	38.10	286	P	P	16 51 13.8	-1.1
WB2	Warramunga Arr	40.22	291	P	P	16 51 31.4	-1.3
WB2				IAmb	IAmb	16 51 36.0	
	comp=Z,4.3nm,0.7s						
WRA	Warramunga Arr	40.23	291	P	P	16 51 31.1	-1.6
	comp=Z,2.1nm,0.7s,baz=128,slow=7.7,SNR=20						
WRA				LR	LR	17 06 45.5	
	comp=Z,63nm,21.4s,baz=113,slow=34						
	comp=Z,2.1nm,0.7s						
WB0	Warramunga Arr	40.31	291	P	P	16 51 32.1	-1.3
WB0				IAmb	IAmb	16 51 34.2	
	comp=Z,2.1nm,0.7s						
PMG	Port Moresby	40.46	316	LR	LR	17 06 07.5	
	comp=Z,51nm,19.8s,baz=344,slow=33						
PATS	Pohnpei	51.03	340	P	P	16 52 57.0	-1.1
SIJI	Sorong	56.40	305	LR	LR	17 17 29.3	
	comp=Z,44nm,18.3s,baz=241,slow=36						
CMAR	Chiang Mai Arr	91.79	293	P	P	16 57 06.2	+2.2
	comp=Z,0.3nm,0.6s,baz=145,slow=3.4,SNR=2.4						
	comp=Z,0.3nm,0.6s						
SHEM	Shemya Is, Ala	94.70	360	LR	LR	17 32 36.1	
	comp=Z,25nm,21.1s,baz=316,slow=31						
KURBB	Kurchatov Arra	124.29	310	PKP	PKiKP	17 02 56.0	+1.6
	comp=Z,0.3nm,0.6s,baz=119,slow=1.8,SNR=2.5						
KBZ	Kh

PKE	**Pukeiti**	**2.55**	**354**	P		Pb	16 49 21.3	+0.5
MOVZ	**Moawhango**	**2.56**	**25**	P		Pn	16 49 16.7	+0.1
WNVZ	**Wahianoa**	**2.58**	**22**	P		Pn	16 49 17.2	+0.2
BHHZ	**Black Hill Sta**	**2.59**	**31**	P		Pn	16 49 16.3	-0.8
TRVZ	**Turoa**	**2.60**	**21**	P		Pb	16 49 21.5	-0.3
VRZ	**Vera Road**	**2.62**	**7**	P		Pb	16 49 20.4	-1.6
DRZ	**Dome Shelter**	**2.62**	**21**	P		Pb	16 49 22.8	+0.5
WHVZ	**Whangaehu Hut**	**2.62**	**22**	P		Pb	16 49 21.6	-0.6
FWVZ	**Far West T-bar**	**2.64**	**21**	P		Pb	16 49 21.0	-1.5
TUVZ	**Tukino**	**2.66**	**23**	P		Pn	16 49 18.6	+0.6
NGZ	**Ngauruhoe**	**2.73**	**21**	P		Pb	16 49 24.0	+0.1
SNVZ	**South Ngauruho**	**2.73**	**22**	P		Pb	16 49 23.6	-0.4
OTVZ	**Oturere**	**2.76**	**22**	P		Pn	16 49 19.7	+0.3
NNVZ	**North Ngauruho**	**2.77**	**21**	P		Pn	16 49 19.9	+0.2
WTVZ	**West Tongariro**	**2.78**	**20**	P		Pb	16 49 23.2	-1.6
TWVZ	**Taurewa**	**2.79**	**18**	P		Pb	16 49 25.1	+0.1
ETVZ	**East Tongariro**	**2.79**	**22**	P		Pn	16 49 20.4	+0.6
KWHZ	**Kaweka Forest**	**2.80**	**35**	P		Pb	16 49 25.9	+0.8
TMVZ	**Te Maari**	**2.81**	**22**	P		Pb	16 49 24.2	-1.2
KRVZ	**Karewarewa**	**2.81**	**21**	P		Pb	16 49 24.9	-0.5
NTVZ	**North Tongarir**	**2.82**	**22**	P		Pn	16 49 20.2	0.0
WACZ	**Wakanui South**	**2.88**	**219**	P		Pn	16 49 18.6	-2.3
KATZ	**Kakaramea**	**2.94**	**21**	P		Pb	16 49 26.7	-0.8
WVZ	**Waitaha Valley**	**2.99**	**242**	P		Pb	16 49 26.4	-1.9
RATZ	**Rangitukua**	**3.06**	**21**	P		Pb	16 49 29.2	-0.4
RPZ	**Rata Peaks**	**3.13**	**230**	P		Pn	16 49 23.4	-1.0
HIZ	**Hauiti**	**3.24**	**7**	P		Pn	16 49 29.1	+3.3
TMZ	**Timaru**	**3.61**	**222**	P		Pn	16 49 28.7	-2.2
TOZ	**Tahuroa Road**	**4.09**	**13**	P		Pn	16 49 42.2	+4.6
CNGZ	**Carnagh Statio**	**4.39**	**44**	P		Pb	16 49 47.6	-4.7
MKAZ	**Moumakai**	**4.66**	**8**	P		Pn	16 49 46.1	+0.7
WKZ	**Wanaka**	**4.97**	**230**	P		Pn	16 49 51.2	+1.5

IDC 15 16:49:11.7±3.4,**22°80N**×**11°32W**,**h0**km,**mb4.1**/1,
mbtmp3.8/3,**ML3.6**/2,**Error ellipse: s-maj=126.7km**
s-min=37.0km az=80.0,Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.65**	**126**	Pn	Pn	16 52 54.6	+0.9
	0.1nm,0.3s,baz=316,slow=11,SNR=2.6						
	0.3nm,0.5s						
DBIC	**Dimbokro**	**17.20**	**158**	P	Pn	16 53 11.6	-1.9
	0.5nm,0.3s,baz=340,slow=12,SNR=5.3						
	1.4nm,0.4s						
FINES	**FINESS Array B**	**46.36**	**24**	P	P	16 57 38.6	-0.8
	2.8nm,1.0s,baz=234,slow=16,SNR=4.4						
	2.8nm,1.0s						
WRA	**Warramunga Arr**	**147.94**	**91**	PKPbc	PKPbc	17 08 59.5	-0.2
	0.4nm,0.7s,baz=284,slow=2.5,SNR=4.8						
ASAR	**Alice Springs**	**148.08**	**99**	PKPbc	PKPbc	17 08 59.8	-0.2
	0.4nm,0.8s,baz=294,slow=2.1,SNR=5.7						

WEL ***15*** *16:49:24.9±0.6,43°S±2°×17°4E±°,h12km,M4.0/19,*
ML4.1/17,MLv4.0/19,Error ellipse: s-maj=0.0km
s-min=0.0km az=106.0
IDC ***15*** *16:49:27.2±2.4,42°22S×173°12E,h0km,mb3.7/3,*
mbtmp3.7/4,ML3.7/1,Error ellipse: s-maj=51.0km
s-min=33.0km az=109.0
ISC 15 16:49:25.2±1.5,**42°51S**±0°04×**173°82E**±0°07,**h13**km±8km,
n27,σ1s14/42,mb3.8/3,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.23**	**294**	P	**Pg**	**16 49 30.7**	**+0.6**
KHZ				S	**Sg**	**16 49 34.7**	**+1.4**
GVZ	**Greta Valley S**	**0.74**	**231**	P	**Pn**	**16 49 41.6**	**+0.2**
GVZ				S	**Sn**	**16 49 54.0**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.79**	**3**	P	**Pb**	**16 49 41.2**	**+0.3**
THZ	**Tophouse**	**1.01**	**317**	P	**Pn**	**16 49 45.1**	**-0.1**
TUWZ	**Tuamarina**	**1.08**	**5**	P	**Pb**	**16 49 45.8**	**0.0**
TUWZ				S	**Sn**	**16 50 00.7**	**-0.2**
AMCZ	**Amberley**	**1.09**	**232**	P	**Pb**	**16 49 46.0**	**+0.1**
LTZ	**Lake Taylor**	**1.17**	**256**	P	**Pn**	**16 49 47.8**	**+0.3**
LTZ				S	**Sn**	**16 50 04.4**	**+1.0**
OKCZ	**Okains Bay**	**1.34**	**204**	P	**Pn**	**16 49 49.7**	**0.0**
OKCZ				S	**Sb**	**16 50 07.8**	**+0.5**
MRNZ	**Matariki Terra**	**1.36**	**324**	P	**Pn**	**16 49 50.9**	**+0.9**
MRNZ				S	**Sn**	**16 50 10.6**	**+2.7**
MQZ	**McQueen's Vall**	**1.47**	**215**	P	**Pn**	**16 49 52.9**	**-0.5**
MQZ				S	**Sn**	**16 50 10.2**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.52**	**206**	P	**Pn**	**16 49 52.0**	**-0.1**
AKCZ				S	**Sn**	**16 50 11.7**	**-0.1**
OXZ	**Oxford**	**1.54**	**237**	P	**Pn**	**16 49 52.2**	**-0.3**
OXZ				S	**Sb**	**16 50 11.7**	**-1.5**
TKNZ	**Takaka Hill**	**1.61**	**336**	P	**Pg**	**16 49 54.3**	**-1.8**
TKNZ				S	**Sg**	**16 50 15.8**	**-1.1**
DSZ	**Denniston Nort**	**1.68**	**296**	P	**Pg**	**16 49 56.1**	**-1.3**
DSZ				S	**Sg**	**16 50 19.2**	**-0.1**
RACZ	**Rakaia**	**1.73**	**225**	P	**Pn**	**16 49 54.8**	**-0.3**
RACZ				S	**Sn**	**16 50 17.2**	**+0.2**
QRZ	**Quartz Range**	**1.94**	**330**	P	**Pg**	**16 49 59.4**	**-2.9**
WACZ	**Wakanui South**	**2.04**	**225**	P	**Pn**	**16 49 59.0**	**-0.2**
WACZ				S	**Sn**	**16 50 24.4**	**-0.2**
RPZ	**Rata Peaks**	**2.36**	**238**	Pn	**Pn**	**16 50 03.6**	**-0.1**
	25nm,0.3s,baz=116,slow=4.6,SNR=7.8						
RPZ				Sn	**Sn**	**16 50 32.0**	**-0.5**
	61nm,0.3s,baz=5.1,slow=19,SNR=24						
	80nm,0.3s						
RPZ	**Rata Peaks**	**2.36**	**238**	P	**Pn**	**16 50 03.4**	**-0.3**
RPZ				S	**Sn**	**16 50 31.4**	**-1.1**
EAZ	**Earnscleugh**	**4.25**	**229**	P	**Pn**	**16 50 29.5**	**-0.1**
MLZ	**Mavora Lakes**	**5.01**	**233**	P	**Pn**	**16 50 39.2**	**-0.9**
SYZ	**Scrubby Hill**	**5.24**	**218**	P	**Pn**	**16 50 43.2**	**0.0**
MKAZ	**Moumakai**	**5.49**	**11**	P	**Pn**	**16 50 46.6**	**-0.2**
ASAR	**Alice Springs**	**37.93**	**287**	P	**P**	**16 56 41.8**	**-0.8**
	0.2nm,0.4s,baz=123,slow=7.0,SNR=7.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.08**	**292**	P	**P**	**16 56 59.6**	**-0.9**
	1.1nm,0.6s,baz=128,slow=8.3,SNR=18						
	1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**91.64**	**294**	P	**P**	**17 02 32.8**	**+0.5**
	0.4nm,0.8s,baz=157,slow=2.5,SNR=4.7						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.96**	**195**	PKPbc	**PKiKP**	**17 09 20.3**	**+3.6**
	0.5nm,0.8s,baz=170,slow=3.4,SNR=2.2						

WEL 15 16:52:00.8±0.5,**42°S**±3°×**17°4E**±°,**h6**km±3km,**M2.7**/10,
ML3.6/10,**MLv2.7**/10,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=119.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**226**	P	Pg	16 52 06.3	+0.3
KHZ				S	Sg	16 52 10.4	+1.0
BSWZ	**Blackbirch Sta**	**0.52**	**6**	P	Pg	16 52 11.1	+0.3
BSWZ				S	Sb	16 52 19.4	-0.9
TUWZ	**Tuamarina**	**0.81**	**8**	P	Pg	16 52 16.6	+0.3
TUWZ				S	Sb	16 52 29.0	+0.5
THZ	**Tophouse**	**0.81**	**305**	P	Pg	16 52 16.1	-0.3
THZ				S	Sg	16 52 27.2	+0.1
GVZ	**Greta Valley S**	**0.92**	**217**	P	Pg	16 52 18.8	+0.3
GVZ				S	Sb	16 52 32.4	+0.6
TCW	**Tory Channel**	**1.08**	**19**	P	Pg	16 52 21.3	-0.3
TCW				S	Sb	16 52 37.0	+0.6
MRNZ	**Matariki Terra**	**1.14**	**317**	P	Pg	16 52 22.6	0.0
MRNZ				S	Sn	16 52 38.7	-0.6
TKNZ	**Takaka Hill**	**1.35**	**332**	P	Pn	16 52 24.5	-1.8
TKNZ				S	Sn	16 52 45.0	+0.4
MSWZ	**Moikau Station**	**1.36**	**53**	P	Pn	16 52 24.7	-1.7
MSWZ				S	Sb	16 52 43.3	-1.0
DUWZ	**D'Urville Isla**	**1.43**	**4**	P	Pn	16 52 26.9	-0.5
DUWZ				S	Sb	16 52 45.9	-0.7
CAW	**Cannon Point**	**1.47**	**41**	P	Pn	16 52 26.6	-1.3
CAW				S	Sn	16 52 46.9	-0.7

WEL 15 16:52:42.6±0.4,**42°S**±3°×**17°4E**±°,**h6**km±3km,**M3.4**/19,
ML3.7/19,**MLv3.4**/19,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=135.9,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.43**	**257**	P	Pg	16 52 51.2	+0.4
KHZ				S	Sb	16 52 58.5	-0.8
CMWZ	**Cape Campbell**	**0.58**	**8**	P	Pb	16 52 55.5	+0.4
BSWZ	**Blackbirch Sta**	**0.63**	**344**	P	Pg	16 52 55.0	+0.2
TUWZ	**Tuamarina**	**0.90**	**352**	P	Pb	16 53 00.3	-0.3
TUWZ				S	Sn	16 53 14.6	-0.6
GVZ	**Greta Valley S**	**1.02**	**230**	P	Pg	16 53 02.2	0.0
GVZ				S	Sn	16 53 17.8	-0.2
THZ	**Tophouse**	**1.05**	**302**	P	Pg	16 53 02.1	-0.7
THZ				S	Sg	16 53 15.7	-0.8
TCW	**Tory Channel**	**1.12**	**7**	P	Pg	16 53 03.8	-0.3
PLWZ	**Palliser**	**1.14**	**49**	P	Pg	16 53 04.4	-0.1
PLWZ				S	Sg	16 53 18.6	-0.7
WEL	**Wellington**	**1.15**	**26**	P	Pg	16 53 04.7	0.0
WEL				S	Sb	16 53 20.5	+0.4
NNZ	**Nelson**	**1.23**	**334**	P	Pg	16 53 05.4	-0.8
NNZ				S	Sg	16 53 22.1	-0.1
MSWZ	**Moikau Station**	**1.25**	**44**	P	Pg	16 53 05.7	-0.8
MSWZ				S	Sb	16 53 23.3	+0.4
MRNZ	**Matariki Terra**	**1.37**	**312**	P	Pn	16 53 07.7	-0.5
MRNZ				S	Sn	16 53 27.1	+0.5
PAWZ	**Paruwai Farm**	**1.37**	**47**	P	Pn	16 53 07.2	-1.1
PAWZ				S	Sn	16 53 27.0	+0.3
AMCZ	**Amberley**	**1.37**	**231**	P	Pb	16 53 08.6	0.0
CAW	**Cannon Point**	**1.41**	**31**	P	Pn	16 53 08.2	-0.7
CAW				S	Sb	16 53 27.4	-0.3
LTZ	**Lake Taylor**	**1.43**	**251**	P	Pn	16 53 08.2	-1.0
LTZ				S	Sb	16 53 27.0	-1.1
TRWZ	**Traveller**	**1.50**	**52**	P	Pn	16 53 09.2	-0.9
TRWZ				S	Sn	16 53 29.2	-0.8
DUWZ	**D'Urville Isla**	**1.53**	**355**	P	Pn	16 53 10.3	-0.1
TKNZ	**Takaka Hill**	**1.55**	**326**	P	Pn	16 53 10.5	-0.3
TKNZ				S	Sb	16 53 31.4	-0.2
MTW	**Mount Morrison**	**1.57**	**42**	P	Pn	16 53 09.8	-1.1
MTW				S	Sn	16 53 30.7	-0.9
KIW	**Kapiti Island**	**1.58**	**23**	P	Pn	16 53 10.7	-0.5
KIW				S	Sn	16 53 31.3	-0.7
OKCZ	**Okains Bay**	**1.59**	**208**	P	Pn	16 53 10.2	-1.2
OKCZ				S	Sn	16 53 32.1	-0.2
OGWZ	**Otaki Gorge**	**1.71**	**28**	P	Pn	16 53 12.1	-0.8
OGWZ				S	Sn	16 53 33.3	-1.7
DSZ	**Denniston Nort**	**1.81**	**288**	P	Pn	16 53 14.9	+0.5
DSZ				S	Sb	16 53 38.8	-0.3
TMWZ	**Te Maipa**	**1.81**	**48**	P	Pn	16 53 13.1	-1.3
TMWZ				S	Sn	16 53 36.8	-0.8
OXZ	**Oxford**	**1.82**	**236**	P	Pn	16 53 13.0	-1.5
OXZ				S	Sn	16 53 35.8	-2.1
QRZ	**Quartz Range**	**1.91**	**321**	P	Pn	16 53 15.8	+0.1
MRZ	**Mangatainoka R**	**2.00**	**34**	P	Pn	16 53 15.9	-1.0
MRZ				S	Sn	16 53 41.5	-0.7
PRWZ	**Pori Road**	**2.26**	**39**	P	Pn	16 53 20.0	-0.5
PRWZ				S	Sn	16 53 48.0	-0.6
BFZ	**Birch Farm**	**2.30**	**45**	P	Pn	16 53 19.4	-1.6
OHWZ	**Ohakea**	**2.31**	**24**	P	Pn	16 53 21.6	+0.5
WACZ	**Wakanui South**	**2.32**	**225**	P	Pn	16 53 20.7	-1.2
DVHZ	**Dannevirke**	**2.55**	**38**	P	Pn	16 53 22.7	-1.9
WVZ	**Waitaha Valley**	**2.59**	**252**	P	Pn	16 53 24.6	-0.4
RPZ	**Rata Peaks**	**2.63**	**237**	P	Pn	16 53 24.4	-1.2
WAZ	**Wanganui**	**2.65**	**15**	P	Pn	16 53 27.0	+1.1
TSZ	**Takapari Road**	**2.66**	**32**	P	Pn	16 53 24.8	-1.3
ARCZ	**Arundel**	**2.69**	**232**	P	Pn	16 53 25.1	-1.3
LREZ	**Lake Rotokare**	**2.87**	**5**	P	Pn	16 53 31.3	+2.4
KHEZ	**Kahui Hut**	**3.03**	**359**	P	Pb	16 53 36.9	-0.1
TMZ	**Timaru**	**3.06**	**227**	P	Pn	16 53 30.7	-0.7
MOVZ	**Moawhango**	**3.17**	**24**	P	Pn	16 53 32.4	-0.7
BHHZ	**Black Hill Sta**	**3.20**	**28**	P	Pn	16 53 32.6	-0.8
WNVZ	**Wahianoa**	**3.20**	**21**	P	Pn	16 53 34.5	+0.9
VRZ	**Vera Road**	**3.23**	**9**	P	Pn	16 53 34.8	+0.9
WHVZ	**Whangaehu Hut**	**3.24**	**21**	P	Pn	16 53 35.3	+1.0
FWVZ	**Far West T-bar**	**3.26**	**20**	P	Pn	16 53 35.5	+1.0
SNVZ	**South Ngauruho**	**3.34**	**21**	P	Pn	16 53 35.3	-0.3
OTVZ	**Oturere**	**3.37**	**21**	P	Pn	16 53 35.9	-0.1
NNVZ	**North Ngauruho**	**3.39**	**20**	P	Pn	16 53 36.4	+0.3
WTVZ	**West Tongariro**	**3.40**	**20**	P	Pn	16 53 36.5	+0.2
ETVZ	**East Tongariro**	**3.41**	**21**	P	Pn	16 53 36.5	0.0
TMVZ	**Te Maari**	**3.43**	**21**	P	Pn	16 53 36.8	+0.2
KRVZ	**Karewarewa**	**3.43**	**20**	P	Pn	16 53 37.9	+1.2
NTVZ	**North Tongarir**	**3.44**	**21**	P	Pn	16 53 36.6	-0.3
BKZ	**Black Stump Fm**	**3.64**	**31**	P	Pn	16 53 41.8	+2.3
ODZ	**Otahua Downs**	**3.70**	**222**	P	Pn	16 53 37.0	-3.3
HIZ	**Hauiti**	**3.85**	**9**	P	Pn	16 53 43.1	+0.7
MTHZ	**Maungataniwha**	**4.05**	**32**	P	Pn	16 53 44.0	-1.1
TOZ	**Tahuroa Road**	**4.71**	**14**	P	Pn	16 53 54.2	0.0
AWAZ	**Awhitu Peninsu**	**5.27**	**5**	P	Pn	16 54 02.8	+0.9
MKAZ	**Moumakai**	**5.28**	**9**	P	Pn	16 54 01.6	-0.3
ETAZ	**East Tamaki Re**	**5.40**	**7**	P	Pn	16 54 04.1	+0.4

WEL 15 16:55:51.9±0.4,**42°S**±3°×**17°4E**±°,**h5**km±4km,**M3.1**/26,
ML3.8/18,**MLv3.1**/26,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=131.5,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.45**	**265**	P	Pg	16 56 00.9	+0.3
KHZ				S	Sg	16 56 07.4	+1.0
CMWZ	**Cape Campbell**	**0.63**	**5**	P	Pb	16 56 05.6	+0.1
BSWZ	**Blackbirch Sta**	**0.69**	**343**	P	Pg	16 56 05.1	-0.1
TUWZ	**Tuamarina**	**0.96**	**351**	P	Pg	16 56 10.3	0.0
TUWZ				S	Sb	16 56 24.4	+0.3
GVZ	**Greta Valley S**	**1.01**	**234**	P	Pn	16 56 12.8	0.0
GVZ				S	Sn	16 56 28.0	+0.5
THZ	**Tophouse**	**1.11**	**303**	P	Pg	16 56 12.1	-1.1
PLWZ	**Palliser**	**1.16**	**46**	P	Pb	16 56 14.4	0.0
TCW	**Tory Channel**	**1.17**	**5**	P	Pg	16 56 13.9	-0.5
TCW				S	Sb	16 56 30.1	-0.1
WEL	**Wellington**	**1.19**	**23**	P	Pb	16 56 14.9	-0.1
WEL				S	Sn	16 56 31.5	-0.3
MSWZ	**Moikau Station**	**1.27**	**41**	P	Pg	16 56 15.8	-0.4
MSWZ				S	Sg	16 56 32.5	-0.1
NNZ	**Nelson**	**1.29**	**334**	P	Pn	16 56 15.7	-1.0
NNZ				S	Sg	16 56 32.8	-0.7
AMCZ	**Amberley**	**1.36**	**233**	P	Pn	16 56 17.5	-0.1
MRNZ	**Matariki Terra**	**1.42**	**313**	P	Pn	16 56 18.1	-0.4
MRNZ				S	Sg	16 56 38.1	+0.4
LTZ	**Lake Taylor**	**1.44**	**253**	P	Pn	16 56 18.1	-0.7
LTZ				S	Sb	16 56 37.1	-0.9
CAW	**Cannon Point**	**1.45**	**29**	P	Pn	16 56 18.3	-0.5
CAW				S	Sb	16 56 36.9	-1.1
TRWZ	**Traveller**	**1.51**	**50**	P	Pn	16 56 19.1	-0.6
TRWZ				S	Sn	16 56 38.9	-1.0
OKCZ	**Okains Bay**	**1.56**	**210**	P	Pn	16 56 20.7	+0.3
DUWZ	**D'Urville Isla**	**1.58**	**354**	P	Pn	16 56 20.4	-0.3
MTW	**Mount Morrison**	**1.59**	**40**	P	Pn	16 56 20.0	-0.7
MTW				S	Sn	16 56 41.0	-0.6
TKNZ	**Takaka Hill**	**1.61**	**326**	P	Pn	16 56 20.9	-0.2
KIW	**Kapiti Island**	**1.62**	**21**	P	Pn	16 56 20.9	-0.3
KIW				S	Sn	16 56 40.6	-1.9
MQZ	**McQueen's Vall**	**1.72**	**219**	P	Pn	16 56 21.5	-1.0
MQZ				S	Sn	16 56 44.0	-0.9
OGWZ	**Otaki Gorge**	**1.74**	**27**	P	Pn	16 56 21.9	-0.9
OGWZ				S	Sn	16 56 44.1	-1.3
AKCZ	**Akaroa Harbour**	**1.75**	**211**	P	Pn	16 56 22.7	-0.3
AKCZ				S	Sn	16 56 45.6	0.0
OXZ	**Oxford**	**1.81**	**238**	P	Pn	16 56 22.8	-1.1
OXZ				S	Sn	16 56 44.6	-2.7
DSZ	**Denniston Nort**	**1.85**	**289**	P	Pn	16 56 25.1	+0.7
DSZ				S	Sn	16 56 48.9	+0.7
QRZ	**Quartz Range**	**1.97**	**321**	P	Pb	16 56 27.1	-1.1
RACZ	**Rakaia**	**1.99**	**227**	P	Pn	16 56 25.6	-0.7
RACZ				S	Sn	16 56 50.5	-1.2
MRZ	**Mangatainoka R**	**2.03**	**33**	P	Pn	16 56 26.0	-0.8
MRZ				S	Sn	16 56 51.1	-1.4
WACZ	**Wakanui South**	**2.30**	**226**	P	Pn	16 56 29.9	-0.6
WACZ				S	Sn	16 56 58.7	-0.6
WVZ	**Waitaha Valley**	**2.60**	**253**	P	Pn	16 56 34.4	-0.3
RPZ	**Rata Peaks**	**2.63**	**238**	P	Pn	16 56 34.4	-0.7
ARCZ	**Arundel**	**2.68**	**233**	P	Pn	16 56 34.9	-0.8
ARCZ				S	Sn	16 57 06.1	-2.5
TMZ	**Timaru**	**3.04**	**228**	P	Pn	16 56 40.2	-0.5
TMZ				S	Sn	16 57 15.0	-2.6
VRZ	**Vera Road**	**3.28**	**8**	P	Pn	16 56 45.6	+1.5
OTVZ	**Oturere**	**3.41**	**20**	P	Pn	16 56 46.9	+0.9
LBZ	**Lake Benmore**	**3.52**	**234**	P	Pn	16 56 47.3	0.0
ODZ	**Otahua Downs**	**3.68**	**222**	P	Pn	16 56 48.8	-0.7

WEL ***15*** *16:56:47.6±0.4,42°S±3°×17°4E±°,h12km,M3.7/16,*
ML3.9/16,MLv3.7/16,Error ellipse: s-maj=0.0km
s-min=0.0km az=122.8
IDC ***15*** *16:56:47.7±2.7,42°24S×173°44E,h0km,mb3.3/2,*
mbtmp3.4/3,ML3.7/1,Error ellipse: s-maj=52.2km
s-min=36.5km az=115.0
ISC 15 16:56:46.0±1.5,**42°45S**±0°03×**173°95E**±0°04,**h5**km±11km,
n62,σ0s94/71,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.31**	**276**	P	**Pg**	**16 56 52.1**	**+0.1**
CMWZ	**Cape Campbell**	**0.72**	**16**	P	**Pn**	**16 57 02.7**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.73**	**356**	P	**Pg**	**16 57 00.6**	**+0.5**
BSWZ				S	**Sn**	**16 57 13.6**	**-1.1**
GVZ	**Greta Valley S**	**0.85**	**232**	P	**Pn**	**16 57 05.0**	**+0.3**
GVZ				S	**Sn**	**16 57 18.2**	**+0.6**
TUWZ	**Tuamarina**	**1.02**	**360**	P	**Pb**	**16 57 06.1**	**0.0**
THZ	**Tophouse**	**1.04**	**311**	P	**Pg**	**16 57 05.0**	**-0.9**
AMCZ	**Amberley**	**1.20**	**232**	P	**Pn**	**16 57 10.2**	**+0.7**
AMCZ				S	**Sn**	**16 57 28.2**	**+2.0**
TCW	**Tory Channel**	**1.26**	**11**	P	**Pg**	**16 57 10.0**	**-0.2**
TCW				S	**Sb**	**16 57 26.9**	**+0.1**
LTZ	**Lake Taylor**	**1.28**	**254**	P	**Pn**	**16 57 10.8**	**+0.1**
LTZ				S	**Sb**	**16 57 27.9**	**+0.3**
NNZ	**Nelson**	**1.30**	**341**	P	**Pn**	**16 57 10.3**	**-0.6**
PLWZ	**Palliser**	**1.31**	**48**	P	**Pg**	**16 57 11.3**	**+0.2**
WEL	**Wellington**	**1.31**	**28**	P	**Pg**	**16 57 11.2**	**0.0**
MRNZ	**Matariki Terra**	**1.38**	**319**	P	**Pn**	**16 57 11.8**	**-0.1**
MRNZ				S	**Sb**	**16 57 29.9**	**-0.2**
MSWZ	**Moikau Station**	**1.41**	**44**	P	**Pn**	**16 57 12.4**	**0.0**
OKCZ	**Okains Bay**	**1.43**	**207**	P	**Pb**	**16 57 13.5**	**+0.3**
PAWZ	**Paruwai Farm**	**1.53**	**46**	P	**Pn**	**16 57 13.9**	**-0.2**
MQZ	**McQueen's Vall**	**1.58**	**217**	P	**Pn**	**16 57 14.3**	**-0.4**
MQZ				S	**Sn**	**16 57 35.1**	**-0.4**
CAW	**Cannon Point**	**1.58**	**32**	P	**Pn**	**16 57 14.7**	**+0.1**
CAW				S	**Sn**	**16 57 35.4**	**0.0**
TKNZ	**Takaka Hill**	**1.60**	**332**	P	**Pn**	**16 57 15.2**	**+0.3**
TKNZ				S	**Sb**	**16 57 36.5**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.61**	**208**	P	**Pn**	**16 57 15.7**	**+0.5**
DUWZ	**D'Urville Isla**	**1.65**	**359**	P	**Pb**	**16 57 16.6**	**-0.2**
OXZ	**Oxford**	**1.66**	**237**	P	**Pn**	**16 57 15.3**	**-0.5**
TRWZ	**Traveller**	**1.67**	**52**	P	**Pn**	**16 57 15.9**	**0.0**
MTW	**Mount Morrison**	**1.73**	**42**	P	**Pn**	**16 57 16.5**	**-0.3**
KIW	**Kapiti Island**	**1.74**	**25**	P	**Pn**	**16 57 17.1**	**+0.2**
DSZ	**Denniston Nort**	**1.75**	**293**	P	**Pn**	**16 57 17.4**	**+0.4**
RACZ	**Rakaia**	**1.84**	**225**	P	**Pn**	**16 57 18.0**	**-0.2**
OGWZ	**Otaki Gorge**	**1.87**	**30**	P	**Pn**	**16 57 18.6**	**0.0**
INZ	**Inchbonnie**	**1.87**	**261**	P	**Pn**	**16 57 18.9**	**+0.1**
QRZ	**Quartz Range**	**1.94**	**326**	P	**Pn**	**16 57 20.6**	**+1.0**
TMWZ	**Te Maipa**	**1.97**	**48**	P	**Pn**	**16 57 19.7**	**-0.5**
WACZ	**Wakanui South**	**2.15**	**225**	P	**Pn**	**16 57 22.4**	**-0.1**
MRZ	**Mangatainoka R**	**2.16**	**35**	P	**Pn**	**16 57 22.9**	**+0.2**
WVZ	**Waitaha Valley**	**2.45**	**254**	P	**Pn**	**16 57 27.0**	**+0.4**
BFZ	**Birch Farm**	**2.46**	**45**	P	**Pn**	**16 57 26.1**	**-0.7**
RPZ	**Rata Peaks**	**2.47**	**238**	Pn	**Pn**	**16 57 26.6**	**-0.4**
	19nm,0.3s,baz=79,slow=2.8,SNR=12						
RPZ				Sn	**Sn**	**16 57 56.1**	**-1.5**
	34nm,0.3s,baz=356,slow=7.1,SNR=18						
	75nm,0.5s						
RPZ	**Rata Peaks**	**2.47**	**238**	P	**Pn**	**16 57 26.6**	**-0.4**
GCSZ	**Gaunt

TARG	**Taragay, Kyrgy**	**6.10**	**43**	Pn		**Pn**	17 05 22.5	**-1.3**
MDOK	**Medeo**	**6.82**	**31**	P		**Pn**	17 05 32.8	**-0.2**
	comp=E,11nm,0.5s							
BHK	**Bhakra**	**6.93**	**149**	*e*P		**Pn**	17 05 35.0	**+0.6**
BHK				*e*S		**Sn**	17 06 49.9	**-3.3**
SMLA	**Simla**	**7.50**	**145**	*e*P		**Pn**	17 05 41.9	**+0.1**
SMLA				*e*S		**Sn**	17 07 01.4	**-5.2**
SMLA				IAML			17 07 03.8	
	comp=E,66nm,0.4s							
SMLA				IAML			17 07 04.6	
	comp=N,104nm,0.5s							
HRA	**Herat**	**8.63**	**252**	Pn		**Pn**	17 05 55.5	**-1.2**
KHET	**Khetri**	**9.80**	**161**	*e*P		**Pn**	17 06 10.1	**-1.6**
KHET				*e*S		**Sn**	17 07 54.2	**-7.2**
PTH	**Pithoragarh**	**10.31**	**137**	*e*P		**Pn**	17 06 17.5	**-0.9**
LGTI	**Lohaghat**	**10.41**	**137**	*e*P		**Pn**	17 06 17.6	**-1.8**
GEYT	**Alibeck**	**11.18**	**277**	P		**Pn**	17 06 29.7	**+0.3**
	comp=N,1.2nm,0.3s,baz=110,slow=13,SNR=8.5							
GEYT				S		**Sn**	17 08 28.6	**-5.4**
	comp=N,4.6nm,0.6s,baz=88,slow=23,SNR=5.7							
GEYT	**Alibeck**	**11.18**	**277**	Pn		**Pn**	17 06 29.5	**+0.1**
GYA0B	**ALIBECK ARRAY**	**11.18**	**277**	Pn		**Pn**	17 06 31.0	**+1.6**
GYA0B				Sn		**Sn**	17 08 27.3	**-6.7**
MAKZ	**Makanchi**	**11.85**	**35**	Pn		**Pn**	17 06 36.7	**-1.1**
MK31	**Makanchi Array**	**11.98**	**35**	Pn		**Pn**	17 06 38.2	**-1.3**
MKAR	**Makanchi Array**	**11.98**	**35**	P		**Pn**	17 06 39.5	**0.0**
	comp=N,0.3nm,0.5s,baz=202,slow=9.9,SNR=12							
MKAR	**Makanchi Array**	**11.98**	**35**	Pn		**Pn**	17 06 38.1	**-1.4**
DANN	**Dangsing**	**13.26**	**130**	*e*P		**Pn**	17 06 55.2	**-0.9**
	comp=N,25nm,0.3s							
KURBB	**Kurchatov Arra**	**13.95**	**17**	P		**P**	17 07 06.5	**+0.5**
	comp=N,1.2nm,0.5s,baz=203,slow=11,SNR=9.7							
GKN	**Gorkha**	**14.05**	**128**	*e*P		**Pn**	17 07 05.9	**+0.2**
	comp=N,8.9nm,0.3s							
KURK	**Kurchatov**	**14.06**	**17**	P		**P**	17 07 06.8	**-0.4**
VLK	**Valmikinagar**	**14.08**	**132**	*e*P		**P**	17 07 08.0	**+0.3**
DMN	**Daman**	**14.62**	**128**	*e*P		**Pn**	17 07 13.3	**+0.4**
	comp=N,11nm,0.3s							
AB31	**Akbulak array**	**14.79**	**327**	P		**P**	17 07 15.9	**+0.6**
	comp=N,3.1nm,0.3s,baz=138,slow=12,SNR=171							
AB31				⇑S		**S**	17 09 55.0	**-3.6**
	comp=N,4.5nm,0.7s,baz=140,slow=24,SNR=9.0							
ABKAR	**Akbulak array**	**14.79**	**327**	Pn		**Pn**	17 07 13.9	**-0.5**
ABKAR	**Akbulak array**	**14.79**	**327**			**Pn**	17 07 14.0	**-0.5**
PKIN	**Phulchoki**	**14.83**	**128**	*e*P		**P**	17 07 16.6	**+0.3**
	comp=N,15nm,0.6s							
PKI	**Pulchoki**	**14.84**	**128**	*e*P		**P**	17 07 16.4	**-0.1**
	comp=N,10nm,0.2s							
GUN	**Gumba**	**14.91**	**126**	*e*P		**P**	17 07 17.5	**+0.3**
JIRN	**Jiri**	**15.28**	**126**	*e*P		**P**	17 07 22.0	**+0.6**
	comp=N,53nm,0.5s							
BVAR	**Borovoye Array**	**15.65**	**356**	P		**P**	17 07 24.6	**-0.2**
	comp=N,3.5nm,0.7s,baz=162,slow=12,SNR=18							
BRVK	**Borovoye**	**15.69**	**356**			**Pn**	17 07 25.5	**+0.1**
TAPN	**Taplejung**	**16.48**	**123**	*e*P		**Pn**	17 07 37.1	**+1.6**
	comp=N,5.5nm,0.3s							
AKTO	**Aktyubinsk**	**16.50**	**327**	⇓P		**Pn**	17 07 37.6	**+2.5**
	comp=N,3.5nm,0.5s							
AKTO				⇓S		**S**	17 10 37.7	**+1.2**
	comp=N,3.0nm,0.9s							
ZAA0	**Zalesovo Array**	**18.68**	**24**	P		**P**	17 07 58.9	**+1.0**
ZAA0				IAmb		IAmb	17 07 59.4	
	comp=Z,6.5nm,0.8s							
ZALV	**Zalesovo Beam**	**18.68**	**24**	P		**P**	17 07 58.9	**+0.9**
	comp=Z,3.6nm,0.3s,baz=220,slow=10,SNR=30							
ZALV				S		**S**	17 11 28.6	**+8.9**
	comp=Z,1.1nm,0.8s,baz=221,slow=18,SNR=3.8							
ARU	**Arti**	**21.10**	**339**	P		**P**	17 08 25.4	**+1.7**
	comp=Z,2.8nm,0.5s,baz=188,slow=7.3,SNR=7.7							
	comp=Z,2.8nm,0.5s							
ARU	**Arti**	**21.10**	**339**	P		**P**	17 08 24.2	**+0.5**
ARU				IAmb		IAmb	17 08 25.6	
	comp=Z,4.9nm,1.0s							
BELG	**Belogornoye**	**22.80**	**319**	P		**P**	17 08 42.6	**+2.4**
	comp=Z,11nm,1.0s,baz=98,slow=14,SNR=3.0							
	comp=Z,11nm,1.0s							
SONM	**Songino Array**	**27.02**	**56**	P		**P**	17 09 20.3	**+1.7**
	comp=Z,0.8nm,0.6s,baz=276,slow=11,SNR=5.8							
	comp=Z,0.8nm,0.6s							
SONM	**Songino Array**	**27.02**	**56**	P		**P**	17 09 20.0	**+1.4**
BURAR	**Bucovina Array**	**35.60**	**302**	P		**P**	17 10 36.1	**+2.7**
BUR08	**Bucovina Ar. S**	**35.62**	**302**	P		**P**	17 10 36.3	**+2.8**
FINES	**FINESS Array B**	**37.27**	**325**	P		**P**	17 10 49.2	**+2.1**
	comp=Z,2.3nm,0.9s,baz=121,slow=9.1,SNR=6.1							
	comp=Z,2.3nm,0.9s							
FINES	**FINESS Array B**	**37.27**	**325**	P		**P**	17 10 48.5	**+1.3**
ARCES	**ARCESS Array B**	**40.67**	**337**	P		**P**	17 11 17.6	**+2.3**
	comp=Z,0.6nm,0.4s,baz=108,slow=6.5,SNR=6.5							
	comp=Z,0.6nm,0.4s							
NB201	**NORSAR Array S**	**44.19**	**322**	P		**P**	17 11 44.9	**+1.1**
NB2	**NORSAR Subarra**	**44.23**	**322**	P		**P**	17 11 45.8	**+1.7**
	comp=Z,0.7nm,0.5s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.23**	**322**	P		**P**	17 11 45.6	**+1.5**
	comp=Z,0.7nm,0.5s,baz=104,slow=6.9,SNR=4.2							
	comp=Z,0.7nm,0.5s							
NC204	**NORSAR Array S**	**44.46**	**323**	P		**P**	17 11 47.4	**+1.5**
TIXI	**Tiksi**	**44.56**	**22**	P		**P**	17 11 47.9	**+1.5**
TORD	**Torodi Ar. Bea**	**66.70**	**269**	P		**P**	17 14 23.6	**-1.1**
	comp=Z,0.8nm,1.0s,baz=45,slow=2.9,SNR=3.9							
	comp=Z,0.8nm,1.0s							
TOLK	**Toolik Lake Re**	**69.78**	**15**	P		**P**	17 14 44.7	**+1.6**
TOLK				IAmb		IAmb	17 14 47.4	
	comp=Z,5.5nm,1.4s							
IMAR	**Indian Mountai**	**71.00**	**18**	P		**P**	17 14 51.7	**+1.2**
BMAR	**Burnt Mountain**	**71.82**	**14**	P		**P**	17 14 57.8	**+2.5**
H23K	**Yukon River**	**72.13**	**17**	P		**P**	17 14 59.6	**+2.3**
H23K				IAmb		IAmb	17 15 31.1	
	comp=Z,7.6nm,1.5s							
K20K	**Telida**	**73.02**	**20**	P		**P**	17 15 04.5	**+2.0**
K20K				IAmb		IAmb	17 15 14.7	
	comp=Z,6.8nm,1.3s							
CAST	**Castle Rocks**	**73.50**	**19**	P		**P**	17 15 06.7	**+1.4**
CAST				IAmb		IAmb	17 15 41.3	
	comp=Z,6.4nm,1.5s							
ILAR	**Eielson Array**	**73.63**	**16**	P		**P**	17 15 05.9	**-0.1**
	comp=Z,0.3nm,0.9s,baz=316,slow=6.3,SNR=2.2							
	comp=Z,0.3nm,0.9s							
PPLA	**Purkeypile**	**73.90**	**19**	P		**P**	17 15 08.3	**+0.6**
MCK	**McKinley**	**74.03**	**18**	P		**P**	17 15 09.8	**+1.4**
MCK				IAmb		IAmb	17 15 19.0	
	comp=Z,7.6nm,1.4s							
J26L	**Joseph Creek**	**74.58**	**15**	P		**P**	17 15 11.5	**-0.2**
J26L				IAmb		IAmb	17 15 21.9	
	comp=Z,5.6nm,1.4s							
SKT	**Skwentna**	**74.83**	**20**	P		**P**	17 15 14.0	**+1.1**
SKT				IAmb		IAmb	17 15 54.2	
	comp=Z,5.4nm,1.2s							
KNRA	**Kununurra**	**74.92**	**124**	P		**P**	17 15 15.1	**+1.0**
KNRA				IAmb		IAmb	17 15 55.4	
	comp=Z,8.1nm,1.1s							
DHY	**Denali Highway**	**74.96**	**17**	P		**P**	17 15 15.2	**+1.3**
WRA	**Warramunga Arr**	**81.67**	**123**	P		**P**	17 15 51.3	**+0.3**
	comp=Z,0.4nm,0.8s,baz=332,slow=5.5,SNR=2.1							
	comp=Z,0.4nm,0.8s							

WEL 15 17:13:52.5±0.5, 43°S±3°×17°3E±°, h11km±4km, M3.0/10, ML3.2/7, MLv3.0/10, Error ellipse: s-maj=0.0km s-min=0.0km az=108.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**181**	P	Pb	17 14 00.2	-0.6
GVZ				S	Sb	17 14 06.2	-0.2
KHZ	**Kahutara**	**0.42**	**62**	P	Pb	17 14 01.5	-0.3
KHZ				S	Sb	17 14 08.4	+0.3
LTZ	**Lake Taylor**	**0.59**	**253**	P	Pb	17 14 04.6	-0.3
LTZ				S	Sb	17 14 13.5	+0.1
AMCZ	**Amberley**	**0.63**	**207**	P	Pb	17 14 05.8	+0.3
AMCZ				S	Sb	17 14 15.5	+1.1
THZ	**Tophouse**	**0.86**	**353**	P	Pb	17 14 09.7	+0.3
THZ				S	Sb	17 14 21.3	+0.4
OXZ	**Oxford**	**1.02**	**226**	P	Pg	17 14 12.1	-0.1
OXZ				S	Sn	17 14 27.0	-0.2
OKCZ	**Okains Bay**	**1.11**	**179**	P	Pb	17 14 13.5	-0.1
MQZ	**McQueen's Vall**	**1.13**	**195**	P	Pb	17 14 12.7	-1.3
MQZ				S	Sb	17 14 27.7	-0.9
AKCZ	**Akaroa Harbour**	**1.26**	**184**	P	Pn	17 14 15.0	-1.1
RACZ	**Rakaia**	**1.29**	**210**	P	Pn	17 14 15.4	-1.0
RACZ				S	Sb	17 14 33.4	-0.1
ARCZ	**Arundel**	**1.91**	**225**	P	Pn	17 14 24.3	-0.6
ARCZ				S	Sn	17 14 47.7	-1.3
KIW	**Kapiti Island**	**2.24**	**39**	P	Pn	17 14 25.1	-4.4
TMZ	**Timaru**	**2.31**	**219**	P	Pn	17 14 29.9	-0.5
TMZ				S	Sn	17 14 57.4	-1.5
OGWZ	**Otaki Gorge**	**2.40**	**42**	P	Pn	17 14 27.7	-4.0
FOZ	**Fox Glacier**	**2.54**	**248**	P	Pn	17 14 35.2	+1.7
FOZ				S	Sn	17 15 04.8	+0.3
LBZ	**Lake Benmore**	**2.73**	**229**	P	Pn	17 14 35.9	-0.4
LBZ				S	Sn	17 15 07.8	-1.5
ODZ	**Otahua Downs**	**2.99**	**215**	P	Pn	17 14 38.7	-1.0
EAZ	**Earnscleugh**	**3.76**	**225**	P	Pn	17 14 49.2	-1.2
OTVZ	**Oturere**	**3.98**	**31**	P	Pn	17 14 45.7	-7.8
RIGZ	**Rimuhau**	**5.30**	**44**	P	Pn	17 15 07.8	-3.8

*IDC **15** 17:14:36.9±2.7, 41°.60S×174°.16E, h0km, mb3.3/2, mbtmp3.3/3, Error ellipse: s-maj=51.0km s-min=40.2km az=103.0*
*WEL **15** 17:14:39.7±0.4, 42°S±3°×17°4E±°, h6km±2km, M3.5/20, ML3.8/20, MLv3.5/20, Error ellipse: s-maj=0.0km s-min=0.0km az=164.4*
ISC 15 17:14:39.1±1.0, 41°.68S±0°.03×174°.28E±0°.02, h13km±7km, n68, σ1$17/84, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**217**	P	**Pg**	**17 14 41.6**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.30**	**264**	P	**Pb**	**17 14 46.2**	**-0.2**
BSWZ				S	**Sb**	**17 14 52.1**	**+0.7**
TUWZ	**Tuamarina**	**0.36**	**315**	P	**Pb**	**17 14 47.5**	**+0.2**
TUWZ				S	**Sb**	**17 14 54.1**	**+1.2**
TCW	**Tory Channel**	**0.47**	**360**	P	**Pb**	**17 14 49.2**	**-0.1**
TCW				S	**Sb**	**17 14 56.8**	**+0.6**
WEL	**Wellington**	**0.54**	**43**	P	**Pb**	**17 14 50.3**	**-0.2**
WEL				S	**Sb**	**17 14 59.3**	**+1.2**
PLWZ	**Palliser**	**0.74**	**82**	P	**Pb**	**17 14 54.1**	**+0.3**
MSWZ	**Moikau Station**	**0.78**	**70**	P	**Pb**	**17 14 54.6**	**+0.1**
MSWZ				S	**Sn**	**17 14 59.8**	**+0.5**
NNZ	**Nelson**	**0.82**	**304**	P	**Pb**	**17 14 55.5**	**-0.9**
CAW	**Cannon Point**	**0.82**	**46**	P	**Pb**	**17 14 55.0**	**-0.3**
PAWZ	**Paruwai Farm**	**0.91**	**71**	P	**Pb**	**17 14 56.9**	**+0.1**
DUWZ	**D'Urville Isla**	**0.92**	**343**	P	**Pn**	**17 14 57.4**	**-0.4**
DUWZ				S	**Sn**	**17 15 10.7**	**-0.2**
KIW	**Kapiti Island**	**0.95**	**30**	P	**Pb**	**17 14 57.4**	**-0.1**
KIW				S	**Sb**	**17 15 10.6**	**+0.7**
THZ	**Tophouse**	**1.03**	**265**	P	**Pn**	**17 14 59.5**	**+0.1**
THZ				S	**Sn**	**17 15 15.5**	**+1.8**
MTW	**Mount Morrison**	**1.06**	**61**	P	**Pg**	**17 14 59.1**	**-0.4**
MTW				S	**Sn**	**17 15 14.8**	**+0.5**
TRWZ	**Traveller**	**1.09**	**75**	P	**Pn**	**17 15 01.1**	**+0.9**
OGWZ	**Otaki Gorge**	**1.09**	**38**	P	**Pb**	**17 14 59.9**	**0.0**
OGWZ				S	**Sn**	**17 15 16.7**	**+1.5**
MRNZ	**Matariki Terra**	**1.18**	**283**	P	**Pn**	**17 15 02.8**	**+1.4**
MRNZ				S	**Sn**	**17 15 18.8**	**+1.6**
TKNZ	**Takaka Hill**	**1.19**	**303**	P	**Pn**	**17 15 01.7**	**+0.2**
TKNZ				S	**Sn**	**17 15 18.9**	**+1.3**
HOWZ	**Holdsworth Sta**	**1.22**	**50**	P	**Pg**	**17 15 01.7**	**-0.8**
HOWZ				S	**Sb**	**17 15 18.4**	**+0.7**
TMWZ	**Te Maipa**	**1.34**	**65**	P	**Pn**	**17 15 02.7**	**-0.9**
MRZ	**Mangatainoka R**	**1.42**	**44**	P	**Pn**	**17 15 04.6**	**0.0**
MRZ				S	**Sn**	**17 15 24.4**	**+1.3**
QRZ	**Quartz Range**	**1.57**	**302**	P	**Pg**	**17 15 09.2**	**-0.1**
QRZ				S	**Sg**	**17 15 30.5**	**+0.8**
OHWZ	**Ohakea**	**1.67**	**28**	P	**Pb**	**17 15 09.3**	**-0.4**
PRWZ	**Pori Road**	**1.70**	**49**	P	**Pn**	**17 15 08.9**	**+0.3**
POWZ	**Post Office Ro**	**1.71**	**42**	P	**Pn**	**17 15 08.6**	**0.0**
BFZ	**Birch Farm**	**1.79**	**57**	P	**Pn**	**17 15 10.6**	**+0.8**
DSZ	**Denniston Nort**	**1.85**	**267**	P	**Pg**	**17 15 13.4**	**-1.2**
DVHZ	**Dannevirke**	**1.99**	**47**	P	**Pn**	**17 15 11.6**	**-0.9**
WAZ	**Wanganui**	**2.00**	**16**	P	**Pg**	**17 15 16.1**	**-1.3**
TSZ	**Takapari Road**	**2.06**	**39**	P	**Pn**	**17 15 13.4**	**-0.1**
LREZ	**Lake Rotokare**	**2.22**	**2**	P	**Pg**	**17 15 20.4**	**-1.3**
NMEZ	**Namu Road**	**2.29**	**352**	P	**Pg**	**17 15 21.6**	**-1.3**
PNHZ	**Pukenui**	**2.29**	**40**	P	**Pn**	**17 15 16.1**	**-0.5**
WPHZ	**Waipukurau**	**2.30**	**46**	P	**Pb**	**17 15 21.2**	**+0.7**
KHEZ	**Kahui Hut**	**2.39**	**355**	P	**Pg**	**17 15 22.9**	**-2.1**
NEZ	**North Egmont**	**2.41**	**357**	P	**Pb**	**17 15 22.5**	**+0.1**
NBEZ	**Newall Road No**	**2.43**	**352**	P	**Pb**	**17 15 22.7**	**0.0**
PKE	**Pukeiti**	**2.50**	**355**	P	**Pb**	**17 15 23.7**	**-0.1**
MOVZ	**Moawhango**	**2.54**	**27**	P	**Pb**	**17 15 24.4**	**-0.1**
WNVZ	**Wahianoa**	**2.56**	**24**	P	**Pb**	**17 15 23.6**	**-1.4**
TRVZ	**Turoa**	**2.57**	**23**	P	**Pb**	**17 15 25.5**	**+0.3**
BHHZ	**Black Hill Sta**	**2.58**	**32**	P	**Pb**	**17 15 25.6**	**+0.4**
VRZ	**Vera Road**	**2.58**	**8**	P	**Pb**	**17 15 24.1**	**-1.1**
DRZ	**Dome Shelter**	**2.60**	**23**	P	**Pg**	**17 15 27.1**	**-1.8**
WHVZ	**Whangaehu Hut**	**2.60**	**23**	P	**Pb**	**17 15 25.5**	**-0.1**
FWVZ	**Far West T-bar**	**2.61**	**22**	P	**Pb**	**17 15 25.7**	**-0.2**
TUVZ	**Tukino**	**2.63**	**24**	P	**Pb**	**17 15 26.6**	**+0.4**
NGZ	**Ngauruhoe**	**2.70**	**22**	P	**Pg**	**17 15 28.4**	**-2.4**
SNVZ	**South Ngauruho**	**2.70**	**23**	P	**Pn**	**17 15 24.3**	**+1.9**
OTVZ	**Oturere**	**2.73**	**23**	P	**Pn**	**17 15 27.4**	**+1.5**
NNVZ	**North Ngauruho**	**2.74**	**22**	P	**Pb**	**17 15 28.5**	**+0.3**
WTVZ	**West Tongariro**	**2.75**	**22**	P	**Pg**	**17 15 29.3**	**-2.6**
TWVZ	**Taurewa**	**2.75**	**19**	P	**Pb**	**17 15 28.1**	**-0.2**
ETVZ	**East Tongariro**	**2.77**	**24**	P	**Pb**	**17 15 28.5**	**-0.1**
KWHZ	**Kaweka Forest**	**2.79**	**37**	P	**Pg**	**17 15 30.5**	**-1.9**
TMVZ	**Te Maari**	**2.79**	**23**	P	**Pb**	**17 15 28.5**	**-0.3**
KRVZ	**Karewarewa**	**2.79**	**22**	P	**Pb**	**17 15 28.9**	**+0.1**
NTVZ	**North Tongarir**	**2.79**	**23**	P	**Pb**	**17 15 28.8**	**-0.1**
KATZ	**Kakaramea**	**2.91**	**22**	P	**Pb**	**17 15 31.1**	**+0.1**
BKZ	**Black Stump Fm**	**3.03**	**35**	P	**Pb**	**17 15 34.2**	**+1.3**
RATZ	**Rangitukua**	**3.04**	**23**	P	**Pb**	**17 15 34.3**	**+1.3**
RPZ	**Rata Peaks**	**3.13**	**228**	Pn	**Pn**	**17 15 27.6**	**-0.6**
	14nm,0.7s,baz=43,slow=18,SNR=0.7						
RPZ				Sn	**Sn**	**17 16 05.5**	**+0.1**
	2.0nm,0.3s,baz=222,slow=20,SNR=1.8						
HIZ	**Hauiti**	**3.20**	**8**	P	**Pb**	**17 15 32.9**	**-2.9**
TOZ	**Tahuroa Road**	**4.06**	**14**	P	**Pn**	**17 15 45.3**	**+4.4**
AWAZ	**Awhitu Peninsu**	**4.62**	**4**	P	**Pn**	**17 15 51.6**	**+3.0**
ASAR	**Alice Springs**	**38.03**	**285**	P	**P**	**17 21 56.0**	**-1.2**
	0.2nm,0.6s,baz=124,slow=6.4,SNR=8.9						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**40.10**	**290**	P	**P**	**17 22 13.3**	**-1.3**
	0.4nm,0.7s,baz=126,slow=8.4,SNR=9.4						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.84**	**195**	PKPbc	**PKPbc**	**17 34 31.5**	**-0.3**
	0.2nm,0.5s,baz=147,slow=2.1,SNR=2.3						

WEL 15 17:23:51.3±0.3, 42°S±2°×17°4E±°, h5km, M3.5/23, ML3.7/23, MLv3.5/23, Error ellipse: s-maj=0.0km s-min=0.0km az=134.5, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.44**	**263**	P	Pg	17 24 00.5	+0.6
KHZ				S	Sb	17 24 07.8	-0.8
CMWZ	**Cape Campbell**	**0.62**	**6**	P	Pb	17 24 04.9	+0.4
BSWZ	**Blackbirch Sta**	**0.68**	**343**	P	Pg	17 24 04.4	+0.1
TUWZ	**Tuamarina**	**0.94**	**351**	P	Pg	17 24 09.7	+0.3
TUWZ				S	Sb	17 24 23.8	+0.8
GVZ	**Greta Valley S**	**1.01**	**233**	P	Pn	17 24 12.2	0.0
GVZ				S	Sn	17 24 26.5	-0.3
THZ	**Tophouse**	**1.09**	**303**	P	Pg	17 24 11.4	-0.9
THZ				S	Sg	17 24 25.4	-1.1
PLWZ	**Palliser**	**1.15**	**47**	P	Pb	17 24 13.6	-0.1
TCW	**Tory Channel**	**1.16**	**5**	P	Pg	17 24 13.1	-0.4
WEL	**Wellington**	**1.18**	**24**	P	Pb	17 24 14.0	-0.1
WEL				S	Sb	17 24 29.8	+0.1
MSWZ	**Moikau Station**	**1.26**	**42**	P	Pg	17 24 15.0	-0.5
MSWZ				S	Sn	17 24 32.6	-0.4
NNZ	**Nelson**	**1.28**	**334**	P	Pg	17 24 14.8	-1.0
NNZ				S	Sg	17 24 31.7	-0.7
AMCZ	**Amberley**	**1.36**	**233**	P	Pn	17 24 15.5	-1.5
PAWZ	**Paruwai Farm**	**1.38**	**45**	P	Pn	17 24 16.5	-0.7
PAWZ				S	Sn	17 24 36.2	+0.4
MRNZ	**Matariki Terra**	**1.41**	**313**	P	Pn	17 24 17.0	-0.6
MRNZ				S	Sn	17 24 36.9	+0.3
CAW	**Cannon Point**	**1.44**	**29**	P	Pn	17 24 17.5	-0.5
CAW				S	Sb	17 24 36.4	-0.7
LTZ	**Lake Taylor**	**1.44**	**253**	P	Pn	17 24 17.5	-0.6
LTZ				S	Sb	17 24 36.1	-1.2
TRWZ	**Traveller**	**1.51**	**51**	P	Pn	17 24 18.3	-0.7
TRWZ				S	Sn	17 24 38.1	-0.9
DUWZ	**D'Urville Isla**	**1.57**	**354**	P	Pn	17 24 19.7	-0.2
OKCZ	**Okains Bay**	**1.57**	**210**	P	Pn	17 24 19.9	0.0
MTW	**Mount Morrison**	**1.58**	**41**	P	Pn	17 24 19.2	-0.8
MTW				S	Sn	17 24 39.9	-0.9
TKNZ	**Takaka Hill**	**1.59**	**326**	P	Pn	17 24 19.7	-0.5
TKNZ				S	Sn	17 24 40.8	-0.4
KIW	**Kapiti Island**	**1.61**	**21**	P	Pn	17 24 19.9	-0.5
KIW				S	Sn	17 24 40.4	-1.2
MQZ	**McQueen's Vall**	**1.73**	**218**	P	Pn	17 24 21.1	-0.9
MQZ				S	Sn	17 24 43.2	-1.2
OGWZ	**Otaki Gorge**	**1.73**	**27**	P	Pn	17 24 21.4	-0.6
OGWZ				S	Sn	17 24 44.2	-0.3
AKCZ	**Akaroa Harbour**	**1.75**	**210**	P	Pn	17 24 22.4	0.0
OXZ	**Oxford**	**1.82**	**237**	P	Pn	17 24 22.2	-1.0
TMWZ	**Te Maipa**	**1.82**	**47**	P	Pn	17 24 22.3	-1.0
DSZ	**Denniston Nort**	**1.84**	**289**	P	Pn	17 24 24.3	+0.7
QRZ	**Quartz Range**	**1.95**	**321**	P	Pn	17 24 25.5	+0.4
RACZ	**Rakaia**	**2.00**	**226**	P	Pn	17 24 25.2	-0.5
MRZ	**Mangatainoka R**	**2.02**	**33**	P	Pn	17 24 25.1	-0.9
PRWZ	**Pori Road**	**2.27**	**38**	P	Pn	17 24 28.6	-0.9
WACZ	**Wakanui South**	**2.30**	**226**	P	Pn	17 24 29.3	-0.6
BFZ	**Birch Farm**	**2.31**	**44**	P	Pn	17 24 28.7	-1.4
POWZ	**Post Office Ro**	**2.32**	**32**	P	Pn	17 24 29.6	-0.6
DVHZ	**Dannevirke**	**2.57**	**37**	P	Pn	17 24 32.1	-1.5
WVZ	**Waitaha Valley**	**2.60**	**253**	P	Pn	17 24 33.8	-0.2
RPZ	**Rata Peaks**	**2.63**	**238**	P	Pn	17 24 33.9	-0.6
ARCZ	**Arundel**	**2.68**	**233**	P	Pn	17 24 34.3	-0.9
TSZ	**Takapari Road**	**2.68**	**31**	P	Pn	17 24 34.0	-1.2
WAZ	**Wanganui**	**2.69**	**14**	P	Pn	17 24 36.3	+1.1
TMZ	**Timaru**	**3.04**	**227**	P	Pn	17 24 39.7	-0.5
KHEZ	**Kahui Hut**	**3.07**	**358**	P	Pb	17 24 45.5	-0.9
MOVZ	**Moawhango**	**3.20**	**23**	P	Pn	17 24 41.6	-0.7
BHHZ	**Black Hill Sta**	**3.22**	**28**	P	Pn	17 24 41.8	-0.8
WNVZ	**Wahianoa**	**3.23**	**21**	P	Pn	17 24 42.8	0.0
WHVZ	**Whangaehu Hut**	**3.27**	**20**	P	Pn	17 24 45.0	+1.6
DRZ	**Dome Shelter**	**3.27**	**20**	P	Pn	17 24 45.3	+1.8
VRZ	**Vera Road**	**3.27**	**9**	P	Pn	17 24 44.2	+1.0
FWVZ	**Far West T-bar**	**3.29**	**20**	P	Pn	17 24 44.6	+1.0
SNVZ	**South Ngauruho**	**3.37**	**20**	P	Pn	17 24 44.9	+0.1
OTVZ	**Oturere**	**3.40**	**20**	P	Pn	17 24 45.3	+0.1
NNVZ	**North Ngauruho**	**3.42**	**20**	P	Pn	17 24 45.7	+0.3
WTVZ	**West Tongariro**	**3.43**	**19**	P	Pn	17 24 45.7	+0.2
ETVZ	**East Tongariro**	**3.44**	**21**	P	Pn	17 24 45.7	+0.1
TMVZ	**Te Maari**	**3.46**	**21**	P	Pn	17 24 45.9	0.0
KRVZ	**Karewarewa**	**3.46**	**20**	P	Pn	17 24 46.4	+0.5
NTVZ	**North Tongarir**	**3.47**	**20**	P	Pn	17 24 46.2	+0.1
LBZ	**Lake Benmore**	**3.52**	**234**	P	Pn	17 24 46.5	-0.1
ODZ	**Otahua Downs**	**3.69**	**222**	P	Pn	17 24 48.8	-0.1
HIZ	**Hauiti**	**3.89**	**8**	P	Pn	17 24 52.3	+0.6
TKGZ	**Te

PNIG Pinotepa 4.21 279 Pn 17 28 09.5 -1.0
PNIG Sn 17 28 54.6 -4.0
PNIG Pinotepa 4.21 279 eP Pn 17 28 09.5 -1.0
PNIG eS Sn 17 28 54.6 -4.0
NUBE Las Nubes 4.30 115 eP Pn 17 28 13.3 +1.5
TPIG Tehuac#an 4.31 308 Pn 17 28 13.6 +1.7
TPIG Sn 17 28 58.3 -2.6
TPIG Tehuac#an 4.31 308 eP Pn 17 28 13.6 +1.7
TPIG eS Sn 17 28 58.3 -2.6
ESQI Esquipulas 4.46 105 Pn 17 28 12.7 -1.2
CEVE Cerro Verde 4.47 115 eP Pn 17 28 16.5 +2.3
MTO3 Montecristo 4.49 107 Pn 17 28 13.0 -1.4
JAUV Jalcomulco 4.58 322 eP Pn 17 28 14.1 -1.4
JAUV eS Sn 17 29 03.1 -4.3
LVIG Laguna Verde 4.65 328 /P Pn 17 28 14.5 -1.8
LVIG eS Sn 17 29 03.0 -6.0
FTIG Fresnillo de T 4.67 298 Pn 17 28 18.7 +2.0
FTIG Sn 17 29 08.7 -1.0
FTIG Fresnillo de T 4.67 298 eP Pn 17 28 18.7 +2.0
FTIG eS Sn 17 29 08.7 -1.0
JAYA Jayaque - finc 4.70 116 eP Pn 17 28 17.9 +0.7
MGIG Malinaltepec 4.87 288 Pn 17 28 20.3 +0.8
MGIG Sn 17 29 11.5 -3.2
MGIG Malinaltepec 4.87 288 eP Pn 17 28 20.3 +0.8
MGIG eS Sn 17 29 11.5 -3.2
TLIG Tlapa 4.91 292 Pn Pn 17 28 21.2 +1.2
TLIG Sn Sn 17 29 14.4 -1.3
TLIG Tlapa 4.91 292 eP Pn 17 28 21.2 +1.2
TLIG eS Sn 17 29 14.3 -1.3
LFRS El Faro 5.05 115 eP Pn 17 28 24.4 +2.5
P5NO Presa 5 de nov 5.18 110 eP Pn 17 28 24.2 +0.7
CRIG Cruz Grande 5.22 281 Pn 17 28 23.5 -0.6
CRIG Sn 17 29 18.5 -4.5
CRIG Cruz Grande 5.22 281 eP Pn 17 28 23.5 -0.6
CRIG eS Sn 17 29 18.5 -4.5
PPM Popocatepetl 5.66 306 eP Pn 17 28 33.5 +3.0
PPM eS Sn 17 29 31.6 -2.8
PPIG Popocatepetl 5.66 306 Pn 17 28 33.5 +3.0
PPIG Sn 17 29 31.6 -2.8
CXUV Coxquihui 5.67 321 eP Pn 17 28 29.8 -0.5
CXUV eS Sn 17 29 29.5 -4.5
DAIG Los Arroyos 5.76 283 Pn 17 28 31.0 -0.5
DAIG Sn 17 29 32.6 -3.6
DAIG Los Arroyos 5.76 283 eP Pn 17 28 31.0 -0.5
DAIG eS Sn 17 29 32.6 -3.6
YAIG Yautepec 5.90 302 Pn 17 28 36.1 +2.6
YAIG Sn 17 29 37.5 -2.3
YAIG Yautepec 5.90 302 eP Pn 17 28 36.1 +2.6
YAIG eS Sn 17 29 37.5 -2.3
MEIG Mezcala 5.98 292 Pn 17 28 35.2 +0.7
MEIG Sn 17 29 37.8 -3.8
MEIG Mezcala 5.98 292 eP Pn 17 28 35.2 +0.7
MEIG eS Sn 17 29 37.8 -3.8
PLIG Platanillo 6.05 296 Pn 17 28 37.4 +1.9
PLIG Sn 17 29 40.1 -3.3
PLIG Platanillo 6.05 296 eP Pn 17 28 37.4 +1.9
PLIG eS Sn 17 29 40.1 -3.3
AOVM Tlapan 6.31 304 eP Pn 17 28 40.0 +0.6
AOVM eS Sn 17 29 52.2 +1.8
CAIG El Cayaco 6.34 282 Pn 17 28 39.3 -0.1
CAIG Sn 17 29 45.0 -5.5
CAIG El Cayaco 6.34 282 eP Pn 17 28 39.3 -0.1
CAIG eS Sn 17 29 45.0 -5.5
DEIG Demacu 6.71 313 eP Pn 17 28 47.7 +3.0
DHIG Demacu 6.71 313 Pn 17 28 47.7 +3.0
ARIG Puente Sto Nin 6.75 293 Pn 17 28 47.0 +2.0
ARIG Sn 17 29 59.1 -1.3
ARIG Puente Sto Nin 6.75 293 eP Pn 17 28 47.0 +2.0
ARIG eS Sn 17 29 59.1 -1.3
TEIG Tepich 6.86 49 Pn Pn 17 28 43.7 -2.7
TEIG Sn Sn 17 29 57.1 -5.9
CRIN San Cristobal 7.22 114 Pn Pn 17 28 54.0 +2.5
CNGN Cerro Negro 7.61 115 Pn 17 28 58.3 +1.5
MOIG Morelia 8.04 300 Pn 17 29 05.5 +2.7
MATN Matagalpa 8.13 109 Pn 17 29 05.7 +1.7
ACON Acoyapa 9.18 113 Pn Pn 17 29 18.5 +0.3
MMIG Aquila 9.47 287 Pn 17 29 22.9 +0.7
MMIG Aquila 9.47 287 eP Pn 17 29 22.9 +0.7
ORTG Ortega, Santa 9.74 123 Pn 17 29 26.6 +0.8
DUNO Dulce Nombre, 9.87 124 Pn 17 29 28.2 +0.6
ESPN Las Esperanzas 9.88 110 Pn Pn 17 29 28.0 +0.4
COIG Colima 10.03 291 eP Pn 17 29 32.2 +2.3
JTS Las Juntas de 10.19 121 Pn 17 29 32.5 +0.5
R15V 10.29 291 Pn 17 29 35.7 +2.3
R15V 10.29 291 eP Pn 17 29 35.7 +2.3
COVE Coope Vega, Sa 10.43 118 Pn Pn 17 29 34.8 +2.5
JACO JACO, Garabito 10.78 123 Pn 17 29 40.5 +0.4
RIMA Rio Macho 11.38 121 Pn 17 29 47.6 -0.7
PEZE Perez Zeledon, 11.74 122 Pn Pn 17 29 53.7 +0.6
SRBA San Rafael, Bu 12.08 121 Pn Pn 17 29 57.3 -0.4
KVTX Kingsville 12.31 343 Pn Pn 17 30 00.8 +0.2
SOR Soroa 12.33 54 Pn Pn 17 29 56.9 -4.1
833A Chaparral WMA, 13.51 338 Pn Pn 17 30 18.3 +1.6
LCCY Blossom Villag 13.62 72 Pn Pn 17 30 16.7 -1.3
MTDJ Mount Denham 15.73 79 P 17 30 47.3 -0.3
MTDJ IAmb IAmb 17 31 02.1
comp=Z,85nm,1.4s
TXAR Lajitas Array 16.27 328 P Pn 17 30 52.8 +0.8
comp=Z,2.0nm,0.9s,baz=154,slow=14,SNR=14
TXAR Lajitas Array 16.27 328 P 17 30 53.5 0.0
TX31 Lajitas Ar. Si 16.27 328 P 17 30 53.5 0.0
TX32 Lajitas Array 16.27 328 P Pn 17 30 53.4 +1.4
WHTX Lake Whitney, 16.48 349 Pn 17 30 54.8 +0.4
WHTX IAmb IAmb 17 31 28.2
comp=Z,23nm,0.6s
BRAL Brewton 16.50 21 Pn 17 30 55.5 +0.7
Z38A Mt. Pleasant 17.43 357 Pn 17 31 06.5 +0.3
Z38A IAmb IAmb 17 31 37.6
comp=Z,29nm,1.1s
LPIG La Paz 17.59 301 LR LR 17 36 46.4
comp=Z,46nm,21.0s,baz=22,slow=33
ABTX Abilene, Hawle 17.59 343 P P 17 31 07.6 -0.3
352A Blakely 17.59 26 P P 17 31 07.2 -0.7
352A IAmb IAmb 17 31 09.4
comp=Z,36nm,0.8s
Z47A Carrollton 18.09 16 P 17 31 12.9 -0.6
CCAR Cane Creek 18.15 5 P Pn 17 31 15.4 +0.6
CCAR IAmb IAmb 17 31 16.8
comp=Z,34nm,1.1s
TIGA Tifton 18.15 29 P P 17 31 14.0 -0.1
TIGA IAmb IAmb 17 31 16.0
comp=Z,28nm,0.8s
LRAL Lakeview Retre 18.24 18 P 17 31 15.7 +0.6
LOOK Love County 18.39 351 P Pn 17 31 18.0 +0.3
LOOK IAmb IAmb 17 31 36.1
comp=Z,27nm,0.6s
MIAR Mount Ida 18.68 1 P 17 31 19.4 -0.5
152A Waverly Hall 18.71 24 P P 17 31 21.0 +0.7
CLNB Carlsbad 18.80 333 P Pn 17 31 23.1 +0.3
HTMS Hat Mesa 18.87 333 P P 17 31 23.4 +1.2
CLN7 Carlsbad 7 18.89 333 P P 17 31 23.3 +0.9
UALR University of 18.95 4 P P 17 31 23.4 +0.5
UALR IAmb IAmb 17 31 43.5
comp=Z,17nm,0.7s
GDL2 Guadalupe Moun 18.96 331 P P 17 31 22.4 -0.8
OXF Oxford 19.06 11 P P 17 31 24.4 +0.4
OXF IAmb IAmb 17 31 31.6
comp=Z,47nm,1.3s
X34A Smith Ranch, M 19.09 350 P P 17 31 25.5 +1.1
Z51A Franklin 19.11 23 P Pn 17 31 26.4 0.0
Y49A Blount Mountai 19.19 19 P Pn 17 31 27.0 -0.2
Y49A IAmb IAmb 17 31 47.0
comp=Z,34nm,0.9s
154A Montrose 19.36 28 P P 17 31 26.5 -0.8
WMOK Wichita Mounta 19.40 348 P P 17 31 27.6 -0.2
CPRX Cap Rock 19.45 334 P P 17 31 29.9 +1.5
WHAR Wooly Hollow 19.47 4 P Pn 17 31 30.0 -0.5
WHAR IAmb IAmb 17 31 34.2
comp=Z,22nm,1.0s
X48A Hartselle 19.55 17 P P 17 31 29.8 +0.4
FNO Franklin 19.66 351 P P 17 31 31.2 +0.7
FNO IAmb IAmb 17 31 37.7
comp=Z,33nm,0.8s
PLAL Pickwick Lake 19.79 14 P P 17 31 32.2 +0.2
PLAL IAmb IAmb 17 31 51.7
comp=Z,17nm,0.7s
MSTX Muleshoe 19.84 338 P P 17 31 31.7 -1.0
GOGA Godfrey 19.88 26 P P 17 31 33.1 +0.2
GOGA IAmb IAmb 17 31 37.1
comp=Z,28nm,0.9s
OK025 Westminster Rd 19.97 352 P 17 31 34.0 +0.1

Y52A Lilburn 20.03 24 P P 17 31 34.1 -0.5
Y52A IAmb IAmb 17 31 39.6
comp=Z,23nm,0.8s
FPAL Fort Paine 20.07 20 P P 17 31 33.5 -1.6
FCAR Ozark Folk Cen 20.08 4 P P 17 31 34.8 -0.3
BCOK Bluff Creek, N 20.08 351 P 17 31 35.9 +0.7
BCOK IAmb IAmb 17 31 54.2
comp=Z,136nm,0.8s
DEOK Depew 20.12 354 P P 17 31 34.9 -0.7
DEOK IAmb IAmb 17 31 54.4
comp=Z,56nm,1.2s
TUL1 Leonard 20.12 355 P P 17 31 34.9 -0.7
TUL1 IAmb IAmb 17 32 07.1
comp=Z,23nm,0.8s
OK029 Liberty Lake 20.20 351 P P 17 31 36.0 -0.4
OK030 Cody Creek RV 20.24 353 P P 17 31 36.9 +0.1
CSTR Hydro, Custer 20.26 348 P P 17 31 38.4 +1.3
CSTR IAmb IAmb 17 32 09.0
comp=Z,3.7nm,1.1s
OK031 S. Brethren Rd 20.27 353 P 17 31 38.3 +1.2
AMTX Amarillo 20.30 341 P P 17 31 37.9 +0.4
OK052 Battle Ridge R 20.30 353 P P 17 31 38.9 +1.3
OK034 N. Norfolk Rd. 20.31 353 P 17 31 38.1 +0.5
OK053 SW of W Deep R 20.32 353 P 17 31 37.6 -0.1
RLO Rose Lookout 20.33 357 P Pn 17 31 39.8 -0.7
RLO IAmb IAmb 17 32 09.6
comp=Z,17nm,0.9s
X51A Calhoun 20.35 22 P P 17 31 39.4 +1.4
X51A IAmb IAmb 17 32 08.2
comp=Z,32nm,1.1s
OK033 Mehan 20.37 353 P 17 31 39.0 +0.7
OK033 IAmb IAmb 17 31 57.5
comp=Z,40nm,0.8s
QUOK Quay 20.47 353 P 17 31 37.6 -1.8
QUOK IAmb IAmb 17 31 57.9
comp=Z,64nm,1.2s
U38A Gravette 20.58 359 P P 17 31 40.0 -0.5
SWET Sewanee 20.59 19 P P 17 31 40.1 -0.6
OK044 Pawnee Station 20.68 353 P 17 31 41.5 -0.1
OK044 IAmb IAmb 17 32 00.5
comp=Z,36nm,0.9s
OK046 Pawnee Station 20.72 353 P P 17 31 41.1 -0.8
OK046 IAmb IAmb 17 32 01.0
comp=Z,29nm,0.8s
OK050 Pawnee Station 20.72 353 P P 17 31 41.9 -0.2
OK050 IAmb IAmb 17 32 01.1
comp=Z,34nm,0.8s
OK048 Pawnee Station 20.74 353 P 17 31 41.3 -0.9
OK048 IAmb IAmb 17 32 01.2
comp=Z,31nm,0.8s
OK045 Pawnee Station 20.77 353 P P 17 31 42.1 -0.4
OK045 IAmb IAmb 17 32 01.5
comp=Z,27nm,0.8s
W50A Signal Mountai 20.77 20 P P 17 31 41.3 -1.3
W50A IAmb IAmb 17 31 48.3
comp=Z,31nm,0.8s
ELIS Ellis County 20.81 347 P 17 31 43.8 +0.7
ELIS IAmb IAmb 17 32 02.2
comp=Z,23nm,0.8s
OK051 E0350 and S346 20.81 353 P 17 31 43.7 +0.6
OK051 IAmb IAmb 17 32 14.8
comp=Z,35nm,0.9s
V48A Smith Brothers 20.82 16 P P 17 31 42.8 -0.4
V48A IAmb IAmb 17 32 03.1
comp=Z,38nm,0.9s
WVT Waverly 20.95 14 P P 17 31 45.6 +1.2
121A Cookes Peak, D 20.96 325 P P 17 31 45.4 +0.5
CROK Carrier 20.97 351 P P 17 31 45.7 +0.9
CROK IAmb IAmb 17 32 02.9
comp=Z,34nm,0.7s
OK038 West end E0370 21.08 349 P 17 31 46.4 +0.5
OK038 IAmb IAmb 17 32 08.2
comp=Z,36nm,1.0s
HODGE Hodges 21.10 27 P P 17 31 47.0 +0.9
HODGE IAmb IAmb 17 32 16.2
comp=Z,22nm,1.0s
BLOK Blackwell 21.11 352 P P 17 31 44.8 -1.5
BLOK IAmb IAmb 17 32 05.2
comp=Z,41nm,1.1s
T35A Sooner Cattle 21.18 354 P 17 31 45.2 -1.8
T35A IAmb IAmb 17 32 06.1
comp=Z,29nm,0.9s
NOKA Waynoka 21.26 349 P P 17 31 48.8 +0.9
NOKA IAmb IAmb 17 32 06.5
comp=Z,22nm,0.7s
CPCT Cooper Cave 21.27 21 P P 17 31 46.6 -1.3
CPCT IAmb IAmb 17 32 09.5
comp=Z,16nm,0.8s
CLTN Cedars of Leba 21.29 17 P P 17 31 47.3 -0.8
CLTN IAmb IAmb 17 32 07.9
comp=Z,28nm,1.1s
GC02 Grant County # 21.29 351 P P 17 31 46.9 -1.3
OK032 Salt Plains WL 21.30 350 P 17 31 48.3 0.0
OK032 IAmb IAmb 17 32 06.2
comp=Z,21nm,0.6s
MGMO Mountain Grove 21.33 3 P P 17 31 47.9 -0.6
KAN13 South Haven SW 21.39 352 P P 17 31 48.4 -0.8
KAN13 IAmb IAmb 17 32 11.2
comp=Z,22nm,0.7s
BG3 Lake Jocassee 21.46 25 P P 17 31 48.4 -1.6
BG3 IAmb IAmb 17 32 18.3
comp=Z,29nm,1.4s
CRNM Carthage 21.53 330 P P 17 31 52.3 +1.4
KAN09 Caldwell North 21.54 352 P P 17 31 50.5 -0.2
KAN09 IAmb IAmb 17 32 21.4
comp=Z,16nm,0.6s
KAN05 Bluff City Nor 21.55 351 P P 17 31 49.6 -1.3
KAN05 IAmb IAmb 17 32 08.8
comp=Z,16nm,0.8s
URIC Uribia, Colomb 21.55 98 P P 17 31 50.6 -0.5
URIC IAmb IAmb 17 32 21.8
comp=Z,31nm,1.1s
KAN01 Argonia South 21.57 351 P P 17 31 50.0 -1.2
KAN01 IAmb IAmb 17 32 09.2
comp=Z,16nm,0.8s
JSC Jenkinsville 21.60 29 P P 17 31 50.7 -0.7
JSC IAmb IAmb 17 32 20.4
comp=Z,19nm,1.1s
BNM Barren Site 21.64 330 P P 17 31 53.7 +1.5
V51A Loudon 21.64 21 P P 17 31 51.9 0.0
V51A IAmb IAmb 17 32 12.7
comp=Z,13nm,0.7s
TKL Tuckaleechee C 21.72 22 P P 17 31 53.3 +0.6
comp=Z,3.6nm,0.6s,baz=189,slow=13,SNR=4.2
TKL LR LR 17 41 38.5
comp=Z,47nm,18.5s,baz=132,slow=40
comp=Z,3.6nm,0.6s
TKL Tuckaleechee C 21.72 22 P P 17 31 52.6 -0.2
CGM3 Cape Girardeau 21.74 9 P P 17 31 52.5 -0.4
CGM3 IAmb IAmb 17 32 13.9
comp=Z,15nm,0.9s
SBM South Baldy 21.77 329 P P 17 31 52.5 -1.2
PAULI Pauline 21.79 27 P P 17 31 54.0 +0.5
PAULI IAmb IAmb 17 31 59.8
comp=Z,19nm,0.9s
S39A Bolivar 21.82 1 P P 17 31 52.2 -1.6
U49A Red Boiling Sp 21.84 18 P P 17 31 54.0 +0.1
U49A IAmb IAmb 17 32 14.8
comp=Z,20nm,0.8s
ANMO Albuquerque 22.21 332 P P 17 31 59.2 +1.0
comp=Z,2.8nm,0.7s,baz=150,slow=11,SNR=6.3
comp=Z,2.8nm,0.7s
CCM Cathedral Cave 22.30 5 P P 17 31 59.0 +0.2
CCM IAmb IAmb 17 32 19.5
comp=Z,19nm,0.7s
R40A Maddies Statio 22.46 3 P 17 31 59.8 -0.8
T25A Trinidad 23.26 338 P P 17 32 09.4 +0.6
OLIL Olney 23.40 11 P 17 32 08.8 -1.1
X18A Snowflake 23.65 325 P P 17 32 13.3 +0.9
P40A Paris 23.70 3 P P 17 32 12.0 -0.6
P40A IAmb IAmb 17 32 43.2
comp=Z,15nm,0.7s
P43A Skaggs, Pawnee 24.06 8 P P 17 32 17.1 +1.4
BOSC San Juan Bosco 24.14 140 P P 17 32 18.8 +1.9
SDCO Great Sand Dun 24.20 337 P P 17 32 18.6 +1.2
P48A Milroy 24.70 16 P 17 32 22.0 +0.4
S22A 4UR Ranch, Cre 24.73 335 P 17 32 22.5 +0.3
113A Mohawk Valley, 24.78 317 P P 17 32 24.4 +2.1
Q51A Peebles 24.90 20 P P 17 32 23.9 +0.4
P49A Miami Univ. Ec 24.96 17 P P 17 32 23.6 -0.3
MVCO Mesa Verde 25.01 331 P 17 32 24.4 -0.4
WUAZ Wupatki 25.17 325 P 17 32 27.2 +1.1
SFIN Lafayette 25.19 12 P 17 32 24.9 -1.1
SFIN IAmb IAmb 17 32 46.7
comp=Z,26nm,0.8s
T59A Double "B" Far 25.55 31 P 17 32 28.3 -1.0
T59A IAmb IAmb 17 32 49.5
comp=Z,24nm,1.2s
O49A Covington 25.67 17 P 17 32 30.1 -0.3
PV13 Radium Mtn., P 25.93 332 P P 17 32 34.2 +1.1
P53A Whipple 25.99 22 P P 17 32 33.9 +0.6
P53A IAmb IAmb 17 32 55.0
comp=Z,25nm,0.8s
PV11 David Mesa, Pa 26.07 332 P P 17 32 35.6 +1.3
PV11 IAmb IAmb 17 33 08.7
comp=Z,11nm,0.6s
PV23 Carpenter Ridg 26.26 332 P P 17 32 36.8 +0.7
PV23 IAmb IAmb 17 33 02.0
comp=Z,15nm,0.8s
L40A Anamosa 26.28 4 P P 17 32 36.0 +0.2
L40A IAmb IAmb 17 33 09.3
comp=Z,16nm,0.7s
L42A Oliver, Polo 26.37 7 P P 17 32 36.7 0.0
L42A IAmb IAmb 17 32 56.6
comp=Z,13nm,0.8s
O52A Adamsville 26.39 21 P P 17 32 35.6 -1.2
O52A IAmb IAmb 17 32 56.3
comp=Z,24nm,0.9s
JFWS Jewell Farm 27.21 6 P 17 32 44.8 +0.6
PDAR Pinedale Array 30.09 336 P P 17 33 12.2 +2.0
comp=Z,0.4nm,0.7s,baz=125,slow=9.3,SNR=5.4
PDAR pP pP 17 33 30.2 +0.4
comp=Z,0.4nm,0.5s,baz=146,slow=9.4,SNR=6.0
comp=Z,0.4nm,0.7s
ELK Elko 31.06 327 P P 17 33 18.9 +0.2
SNOW Snow King Moun 31.15 336 P P 17 33 19.8 +0.3
SNOW IAmb IAmb 17 33 22.0
comp=Z,11nm,0.8s
NVAR Mina Array Bea 31.20 321 P P 17 33 22.1 +2.1
comp=Z,1.1nm,0.6s,baz=131,slow=8.9,SNR=12
NVAR pP pP 17 33 41.5 +1.8
comp=Z,3.6nm,0.8s,baz=135,slow=8.9,SNR=13
comp=Z,1.1nm,0.6s
SADO Sadowa 31.43 20 LR LR 17 46 06.1
comp=Z,25nm,20.7s,baz=358,slow=36
MCMT McKenzie Canyo 33.12 335 P P 17 33 37.7 +0.9
LRM Limekiln Ridge 33.79 336 P P 17 33 43.3 +0.8
PLID Pearl Lake 34.69 332 P 17 33 50.8 +0.5
YBH Yreka Blue Hor 35.90 322 LR LR 17 48 47.7
comp=Z,60nm,18.1s,baz=91,slow=36
F10A Beach Ranch, E 35.93 332 P P 17 34 00.9 +0.2
NEW Newport 37.64 334 P P 17 34 15.9 +0.7
NEW IAmb IAmb 17 34 37.2
comp=Z,3.4nm,0.6s
LPAZ La Paz 40.70 140 P P 17 34 40.9 -0.8
comp=Z,0.7nm,0.4s,baz=277,slow=7.5,SNR=4.4
comp=Z,0.7nm,0.4s
MDP Montagnes des 41.75 100 LR LR 17 55 19.6
comp=Z,39nm,18.3s,baz=262,slow=40
GO01 Chusmiza 42.73 145 P P 17 34 58.5 +0.4
YKA Yellowknife Ar 48.91 347 P P 17 35 45.2 -0.3
comp=Z,4.2nm,0.6s,baz=154,slow=7.3,SNR=9.5
comp=Z,4.2nm,0.6s
VA06 Catapilco 52.67 156 P P 17 36 15.2 +1.1
BDFB Brasilia 54.93 122 P P 17 36 30.6 -0.5
comp=Z,1.0nm,0.3s,baz=280,slow=6.6,SNR=3.4
comp=Z,1.0nm,0.3s
YAH Yahtse 56.29 334 P P 17 36 40.5 +0.1
INK Inuvik 58.25 344 P P 17 36 53.3 -0.4
INK IAmb IAmb 17 37 15.5
comp=Z,7.1nm,0.8s
PLCA Paso Flores 60.23 160 P P 17 37 08.4 +0.6
comp=Z,5.2nm,1.0s,baz=349,slow=4.7,SNR=3.7
comp=Z,5.2nm,1.0s
PRP Porcupine Dome 60.38 338 P 17 37 08.8 +0.1
PRP IAmb IAmb 17 37 31.4
comp=Z,5.7nm,0.8s
ILAR Eielson Array 60.53 337 P P 17 37 09.8 +0.3
comp=Z,0.4nm,0.7s,baz=152,slow=4.9,SNR=7.7
ILAR pP pP 17 37 30.8 -0.3
comp=Z,1.9nm,0.9s,baz=128,slow=5.4,SNR=13
comp=Z,0.4nm,0.7s
BMAR Burnt Mountain 61.03 340 P 17 37 13.8 +0.9
TRF Thorofare Moun 61.30 335 P P 17 37 16.3 +1.4
BPAW Bear Paw Mtn. 61.84 335 P 17 37 19.9 +1.5
BPAW IAmb IAmb 17 37 41.0
comp=Z,6.7nm,0.9s
CAST Castle Rocks 62.03 334 P P 17 37 22.0 +2.3
CAST IAmb IAmb 17 37 41.5
comp=Z,7.5nm,1.0s
MLY Manley 62.12 336 P P 17 37 21.0 +0.8
BORG Borgarnes 68.37 26 LR LR 18 06 44.3
comp=Z,35nm,19.2s,baz=202,slow=35
BBTS Babate 74.12 79 LR LR 18 10 52.3
comp=Z,31nm,18.1s,baz=89,slow=35
SPITS Spitsbergen Ar 78.69 11 LR LR 18 15 53.7
comp=Z,53nm,18.0s,baz=96,slow=37
ARCES ARCESS Array B 84.99 18 P P 17 39 34.3 +0.2
comp=Z,1.2nm,0.5s,baz=294,slow=3.9,SNR=4.5
comp=Z,1.2nm,0.5s
MLR Muntele Rosu 98.26 38 LR LR 18 24 28.5
comp=Z,30nm,18.9s,baz=259,slow=35
PZH PanZhiHua 135.34 340 PKP PKPdf 17 46 19.3 0.0

KRSC 15 17:27:21.9±1.8, 48°.15N×156°.00E, h42km±38km, ML4.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.54	2	eP	Pn	17 28 02.9	+2.4
SKR				eS	Sn	17 28 33.2	+3.1
PAU	Pauzhetka	3.36	9	eP	Pn	17 28 15.4	+3.5
PAU				eS	Sn	17 28 55.9	+5.4
ASAK	Asacha	4.41	15	eP	Pn	17 28 30.7	+4.4
MTVR	Mutnovka	4.56	17	eP	Pn	17 28 33.0	+4.6
MTVR				eS	Sn	17 29 24.9	+4.7
RUS	Russkaya	4.58	20	eP	Pn	17 28 31.9	+3.3
RUS				eS	Sn	17 29 23.5	+3.0
GRL	Gorelyy	4.60	16	eP	Pn	17 28 33.7	+4.7
GRL				eS	Sn	17 29 25.7	+4.5
KRMR	Karymshinskiy	4.88	15	eP	Pn	17 28 37.2	+4.5
KOK	Koryaka	5.41	17	eP	Pn	17 28 45.4	+5.3
KRER	Koryakskii	5.45	18	eP	Pn	17 28 45.4	+4.7
SPN	Mys Shipunski	5.58	26	eP	Pn	17 28 46.8	+4.6
GNL	Ganaly	5.69	12	eP	Pn	17 28 46.7	+2.8
TUMR	Tumrok	7.59	18	eP	Pn	17 29 16.0	+6.0

IDC 15 17:30:38.9±2.8, 16°.49N×148°.33E, h0km, mb3.3/3, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=61.6km s-min=28.7km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	4.42	230	Pn	Pn	17 31 47.2	-0.1
GUMO	3.4nm,0.3s,baz=31,slow=19,SNR=2.4						
				Sn	Sn	17 32 38.5	-1.0
	2.7nm,0.3s,baz=150,slow=20,SNR=2.2						
	60nm,0.9s						
WRA	Warramunga Arr	38.73	201	P	P	17 38 05.0	-0.1
	0.2nm,0.7s,baz=34,slow=9.1,SNR=4.0						
	0.2nm,0.7s						
SONM	Songino Array	46.43	322	P	P	17 39 06.8	-0.7
	0.2nm,0.4s,baz=130,slow=5.8,SNR=2.7						
	0.2nm,0.4s						
CMAR	Chiang Mai Arr	47.04	280	P	P	17 39 13.2	+0.6
	0.2nm,0.3s,baz=75,slow=6.9,SNR=3.9						
	0.2nm,0.3s						

*HVO **15** 17:34:33.3±1.2, 18°.74N±0°.07×156°.62W±0°.06, h32km±9km, Error ellipse: s-maj=11.4km s-min=7.2km az=212.0*
NEIC 15 17:34:32.3±1.0, 18°.92N±0°.06×156°.58W±0°.04, h52km±9km, ML3.1/40, ML2.9/5(HVO), Error ellipse: s-maj=9.2km s-min=3.7km az=156.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPH	Captain Cook	0.84	47		Pn	17 34 48.6	+0.5
KHLU	Kahalu`u	0.93	44		Pn	17 34 49.8	+0.5
KHLU	Kahalu`u	0.93	44	Sn	Sn	17 35 01.4	-0.3
KHU	Kahuku	0.96	70		Pn	17 34 49.9	0.0
KHU	Kahuku	0.96	70	IAML		17 34 57.5	
	comp=N,310nm,4.0s						
KHU				Sn	Sn	17 35 02.4	-0.3
KHU				IAML		17 35 05.2	
	comp=E,415nm,4.0s						
HUH	Hualalai	1.03	42	Pn	Pn	17 34 51.3	+0.5
HUH				Sn	Sn	17 35 04.2	-0.3

ALEP	**Alea Permanent**	**1.08**	**55**		Pn	17 34 52.2	+0.7
ALEP					Sn	17 35 05.8	+0.2
MWH	**Moku'aweowe**	**1.08**	**58**	Pn	Pn	17 34 51.5	-0.2
MWH				IAML		17 34 59.0	
	comp=E,381nm,1.9s						
MWH				Sn	Sn	17 35 05.6	-0.4
MWH				IAML		17 35 11.0	
	comp=N,339nm,2.4s						
MLOA	**Mauna Loa Obse**	**1.13**	**57**	Pn	Pn	17 34 52.2	0.0
MLOA				Sn	Sn	17 35 06.2	-0.7
MLOA				IAML		17 35 30.9	
	comp=E,324nm,3.3s						
AIN	**Ainahou**	**1.15**	**67**		Pn	17 34 52.4	+0.1
AIN	**Ainahou**	**1.15**	**67**	Sn	Sn	17 35 06.7	-0.4
AIN				IAML		17 35 15.1	
	comp=N,399nm,3.1s						
AIN				IAML		17 35 21.1	
	comp=E,314nm,3.4s						
HTC	**Hot Caves**	**1.16**	**74**		Pn	17 34 52.2	0.0
HMH	**Humu'ula Sheep**	**1.24**	**56**		Pn	17 34 53.9	+0.3
HMH				IAML		17 35 03.9	
	comp=E,298nm,4.6s						
HMH				Sn	Sn	17 35 09.0	-0.4
HMH				IAML		17 35 29.6	
	comp=N,265nm,4.0s						
HLP	**Hilina Pali**	**1.26**	**72**	Pn	Pn	17 34 53.3	-0.3
HLP				Sn	Sn	17 35 09.0	-0.5
HLP				IAML		17 35 36.9	
	comp=E,579nm,3.3s						
MLH	**Mauna Loa**	**1.26**	**63**	Pn	Pn	17 34 54.1	+0.2
MLH				Sn	Sn	17 35 09.5	-0.4
MLH				IAML		17 35 44.6	
	comp=N,346nm,3.6s						
POHA	**Pohakuloa**	**1.29**	**49**	Pn	Pn	17 34 54.9	+0.6
POHA				Sn	Sn	17 35 10.1	-0.5
POHA				IAML		17 35 35.5	
	comp=N,259nm,4.0s						
SDHHI	**Sand Hill**	**1.30**	**69**	Pn	Pn	17 34 54.2	0.0
UWE	**Uwekahuna**	**1.31**	**67**	Pn	Pn	17 34 51.9	-2.5
UWB	**Uwekahuna B**	**1.33**	**67**		Pn	17 34 53.9	-0.7
UWB				Sn	Sn	17 35 10.0	-1.3
UWB				IAML		17 35 29.3	
	comp=N,421nm,1.8s						
UWB				IAML		17 35 30.9	
	comp=E,253nm,3.3s						
SBLHI	**Steaming Bluff**	**1.34**	**67**	Pn	Pn	17 34 53.3	-1.4
SBLHI				IAML		17 35 30.6	
	comp=N,471nm,2.1s						
SBLHI				IAML		17 35 47.8	
	comp=E,340nm,1.7s						
HATHI	**Halema'uma'u T**	**1.34**	**68**	Pn	Pn	17 34 54.6	-0.2
HATHI				IAML		17 35 25.2	
	comp=E,508nm,1.5s						
RSD	**Rainshed**	**1.34**	**66**	Pn	Pn	17 34 53.3	-1.5
RSD				IAML		17 35 10.1	
	comp=E,357nm,3.7s						
RSD				IAML		17 35 11.6	
	comp=N,322nm,3.6s						
PUH	**Pauahi**	**1.36**	**70**		Pn	17 34 54.8	-0.3
PUH	**Pauahi**	**1.36**	**70**	IAML		17 35 05.1	
	comp=N,380nm,3.8s						
PUH				IAML		17 35 06.5	
	comp=E,210nm,3.8s						
PUH				Sn	Sn	17 35 10.9	-1.2
HPAH	**Hawaii Prepara**	**1.38**	**37**		Pn	17 34 56.1	+0.8
HLK	**Haleakala**	**1.86**	**9**		Pn	17 35 02.4	+0.4
HON	**Honolulu**	**2.75**	**331**		Pn	17 35 13.4	-0.4
KEKH	**Kekaha**	**4.24**	**317**	Pn	Pn	17 35 32.7	-1.7

IDC ***15*** *17:36:14.8±2.7,41°.82S×173°.68E,h0km,mb3.2/2, mbtmp3.3/3,ML3.6/1,Error ellipse: s-maj=53.0km s-min=36.7km az=106.0*
WEL ***15*** *17:36:16.0±0.4,42°.S±3°×17°.4E±°,h8km±3km,M3.5/16, ML3.8/16,MLv3.5/16,Error ellipse: s-maj=0.0km s-min=0.0km az=137.7*

ISC 15 17:36:14.3±1.4,42°.03S±0°.04×174°.04E±0°.03,h6km±10km, n65,σ1°32/77,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.31**	**26**	P	**Pb**	**17 36 22.0**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.33**	**339**	P	**Pg**	**17 36 21.4**	**+0.6**
TUWZ	**Tuamarina**	**0.60**	**353**	P	**Pg**	**17 36 26.3**	**+0.4**
TUWZ				S	**Sb**	**17 36 34.0**	**-1.9**
TCW	**Tory Channel**	**0.83**	**13**	P	**Pg**	**17 36 30.7**	**+0.4**
TCW				S	**Sb**	**17 36 41.7**	**-0.9**
THZ	**Tophouse**	**0.88**	**287**	P	**Pg**	**17 36 32.4**	**+1.1**
THZ				S	**Sb**	**17 36 43.7**	**-0.5**
WEL	**Wellington**	**0.92**	**37**	P	**Pb**	**17 36 33.7**	**+1.1**
WEL				S	**Sn**	**17 36 47.3**	**0.0**
NNZ	**Nelson**	**0.94**	**328**	P	**Pg**	**17 36 32.8**	**+0.4**
NNZ				S	**Sg**	**17 36 43.8**	**-1.0**
PLWZ	**Palliser**	**1.02**	**64**	P	**Pg**	**17 36 34.8**	**+1.0**
MSWZ	**Moikau Station**	**1.09**	**57**	P	**Pg**	**17 36 36.0**	**+0.7**
MRNZ	**Matariki Terra**	**1.14**	**303**	P	**Pn**	**17 36 37.2**	**+0.3**
MRNZ				S	**Sn**	**17 36 52.2**	**-0.7**
CAW	**Cannon Point**	**1.20**	**40**	P	**Pg**	**17 36 37.8**	**+0.5**
CAW				S	**Sn**	**17 36 54.1**	**-0.1**
PAWZ	**Paruwai Farm**	**1.22**	**59**	P	**Pb**	**17 36 37.6**	**-0.3**
DUWZ	**D'Urville Isla**	**1.23**	**356**	P	**Pg**	**17 36 37.4**	**-0.5**
DUWZ				S	**Sb**	**17 36 53.3**	**-0.7**
TKNZ	**Takaka Hill**	**1.28**	**320**	P	**Pb**	**17 36 38.8**	**0.0**
TKNZ				S	**Sg**	**17 36 53.9**	**-1.5**
KIW	**Kapiti Island**	**1.33**	**30**	P	**Pn**	**17 36 39.9**	**+0.4**
KIW				S	**Sn**	**17 36 58.4**	**+0.8**
TRWZ	**Traveller**	**1.39**	**64**	P	**Pn**	**17 36 39.5**	**-0.7**
MTW	**Mount Morrison**	**1.40**	**52**	P	**Pn**	**17 36 39.9**	**-0.5**
OGWZ	**Otaki Gorge**	**1.48**	**36**	P	**Pn**	**17 36 41.6**	**+0.1**
LTZ	**Lake Taylor**	**1.51**	**239**	P	**Pn**	**17 36 43.3**	**+1.4**
LTZ				S	**Sn**	**17 37 03.7**	**+1.7**
HOWZ	**Holdsworth Sta**	**1.58**	**45**	P	**Pg**	**17 36 47.9**	**+3.3**
QRZ	**Quartz Range**	**1.65**	**316**	P	**Pb**	**17 36 45.3**	**+0.2**
QRZ				S	**Sb**	**17 37 05.8**	**-0.3**
TMWZ	**Te Maipa**	**1.67**	**57**	P	**Pn**	**17 36 43.2**	**-0.9**
DSZ	**Denniston Nort**	**1.69**	**279**	P	**Pb**	**17 36 46.6**	**+0.8**
MRZ	**Mangatainoka R**	**1.79**	**41**	P	**Pn**	**17 36 45.3**	**-0.4**
OKCZ	**Okains Bay**	**1.84**	**203**	P	**Pn**	**17 36 46.8**	**+0.3**
MQZ	**McQueen's Vall**	**1.96**	**211**	P	**Pn**	**17 36 46.1**	**-2.1**
INZ	**Inchbonnie**	**2.04**	**249**	P	Pn	17 36 45.7	-3.6
PRWZ	**Pori Road**	**2.07**	**45**	P	**Pn**	**17 36 49.9**	**+0.3**
POWZ	**Post Office Ro**	**2.09**	**29**	P	**Pn**	**17 36 49.8**	**-0.1**
RACZ	**Rakaia**	**2.20**	**219**	P	**Pn**	**17 36 50.7**	**-0.7**
DVHZ	**Dannevirke**	**2.36**	**44**	P	**Pn**	**17 36 52.4**	**-1.2**
WAZ	**Wanganui**	**2.38**	**18**	P	**Pb**	**17 36 58.4**	**+0.9**
TSZ	**Takapari Road**	**2.44**	**37**	P	**Pn**	**17 36 54.2**	**-0.6**
WACZ	**Wakanui South**	**2.50**	**219**	P	**Pn**	**17 36 55.7**	**+0.1**
LREZ	**Lake Rotokare**	**2.58**	**6**	P	**Pb**	**17 37 01.7**	**+0.7**
WVZ	**Waitaha Valley**	**2.65**	**246**	P	**Pn**	**17 36 59.9**	**+2.2**
KHEZ	**Kahui Hut**	**2.73**	**360**	P	**Pb**	**17 37 03.9**	**+0.4**
NBEZ	**Newall Road No**	**2.76**	**357**	P	**Pb**	**17 37 03.2**	**-0.8**
RPZ	**Rata Peaks**	**2.77**	**231**	Pn	**Pn**	**17 36 59.9**	**+0.7**
	9.5nm,0.3s,baz=122,slow=2.9,SNR=18						
RPZ				Sn	**Sn**	**17 37 32.8**	**-0.2**
	20nm,0.3s,baz=161,slow=22,SNR=27 19nm,0.4s						
RPZ	**Rata Peaks**	**2.77**	**231**	P	**Pn**	**17 36 60.0**	**+0.7**
PKE	**Pukeiti**	**2.83**	**359**	P	**Pg**	**17 37 07.1**	**-1.4**
ARCZ	**Arundel**	**2.84**	**227**	P	**Pn**	**17 37 00.6**	**+0.3**
PKVZ	**Pokaka**	**2.91**	**20**	P	**Pn**	**17 37 03.6**	**+2.4**
MOVZ	**Moawhango**	**2.92**	**27**	P	**Pb**	**17 37 06.5**	**-0.4**
WNVZ	**Wahianoa**	**2.94**	**24**	P	**Pb**	**17 37 07.3**	**0.0**
VRZ	**Vera Road**	**2.95**	**11**	P	**Pb**	**17 37 05.8**	**-1.5**
TRVZ	**Turoa**	**2.96**	**23**	P	**Pb**	**17 37 06.5**	**-1.1**
BHHZ	**Black Hill Sta**	**2.96**	**32**	P	**Pb**	**17 37 08.4**	**+0.8**
WHVZ	**Whangaehu Hut**	**2.98**	**24**	P	**Pb**	**17 37 08.3**	**+0.3**
FWVZ	**Far West T-bar**	**3.00**	**23**	P	**Pb**	**17 37 08.6**	**+0.3**
SNVZ	**South Ngauruho**	**3.09**	**24**	P	**Pb**	**17 37 10.1**	**+0.4**
NNVZ	**North Ngauruho**	**3.13**	**23**	P	**Pb**	**17 37 10.6**	**+0.1**
TMVZ	**Te Maari**	**3.17**	**24**	P	**Pb**	**17 37 10.4**	**-0.7**
KRVZ	**Karewarewa**	**3.17**	**23**	P	**Pb**	**17 37 11.7**	**+0.5**
TMZ	**Timaru**	**3.23**	**222**	P	**Pn**	**17 37 05.8**	**+0.1**
FOZ	**Fox Glacier**	**3.45**	**243**	P	**Pn**	**17 37 10.7**	**+2.1**
HIZ	**Hauiti**	**3.56**	**10**	P	**Pb**	**17 37 14.4**	**-3.3**
LBZ	**Lake Benmore**	**3.67**	**229**	P	**Pn**	**17 37 12.4**	**+0.7**
ODZ	**Otahua Downs**	**3.90**	**218**	P	**Pn**	**17 37 14.6**	**-0.2**
MWZ	**Matawai**	**4.55**	**37**	P	**Pn**	**17 37 27.6**	**+3.8**
AWAZ	**Awhitu Peninsu**	**4.98**	**6**	P	**Pn**	**17 37 33.1**	**+3.5**
MKAZ	**Moumakai**	**4.99**	**10**	P	**Pn**	**17 37 33.9**	**+4.1**
ASAR	**Alice Springs**	**37.95**	**286**	P	**P**	**17 43 31.3**	**-1.5**
	0.3nm,0.7s,baz=123,slow=6.7,SNR=6.6 0.3nm,0.7s						
WRA	**Warramunga Arr**	**40.05**	**291**	P	**P**	**17 43 49.1**	**-1.3**
	0.2nm,0.8s,baz=130,slow=8.3,SNR=5.9 0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.47**	**195**	PKPbc	**PKPbc**	**17 56 08.6**	**+1.4**
	0.1nm,0.4s,baz=150,slow=4.9,SNR=1.8						

NEIC ***15*** *17:36:56.7±2.8,20°.6S±0°.2×173°.77E±0°.10,h10km±1km, mb4.4/15,Error ellipse: s-maj=33.1km s-min=4.6km az=333.0*

ISC 15 17:36:56.2±1.6,21°.6S±0°.3×174°.4E±0°.2,h35km,n26, σ2s13/21,mb4.4/11,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.18**	**43**		**Pn**	**17 38 10.4**	**-1.0**
MARNC	**Mare, Loyalty**	**5.91**	**270**		**Pn**	**17 38 20.3**	**-0.9**
LIFNC	**LIFOU**	**6.71**	**276**	Pn	**Pn**	**17 38 34.0**	**+1.8**
OUENC	**Ouen Island, N**	**7.03**	**262**		**Pn**	**17 38 33.8**	**-2.9**
DZM	**Mont Dzumac**	**7.38**	**265**		**Pn**	**17 38 39.1**	**-2.4**
ONTNC	**Ouen Toro**	**7.38**	**263**		**Pn**	**17 38 38.7**	**-2.8**
KOUNC	**Koumac, New Ca**	**9.48**	**275**	Pn	**Pn**	**17 39 08.2**	**-2.0**
EIDS	**Eidsvold**	**21.68**	**256**	P	**P**	**17 41 43.4**	**-0.6**
EIDS				IAmb	IAmb	17 41 51.2	
	comp=Z,12nm,0.8s						
ARMA	**Armidale**	**22.21**	**242**	P	**P**	**17 41 50.5**	**+0.7**
ARMA				IAmb	IAmb	17 42 23.2	
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**26.31**	**268**	P	**P**	**17 42 29.7**	**+0.9**
CTAO				IAmb	IAmb	17 43 12.4	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**30.90**	**244**	LR	LR	17 53 43.9	
	comp=Z,117nm,21.3s,baz=45,slow=31						
STKA	**Stephens Creek**	**30.90**	**244**	P	**P**	**17 43 13.1**	**+3.4**
BBOO	**Buckleboo**	**35.68**	**244**	P	**P**	**17 43 50.7**	**-0.5**
WR0	**Warramunga Arr**	**37.21**	**265**	P	**P**	**17 44 02.7**	**-1.7**
WR0				IAmb	IAmb	17 44 15.1	
	comp=Z,8.1nm,1.4s						
AS31	**Alice Springs**	**37.32**	**259**	P	**P**	**17 44 04.2**	**-1.2**
ASAR	**Alice Springs**	**37.32**	**259**	P	P	17 43 55.6	-10
	comp=Z,0.4nm,0.4s,baz=108,slow=7.3,SNR=9.4 comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**37.32**	**259**	P	**P**	**17 44 03.5**	**-1.9**
WB0	**Warramunga Arr**	**37.38**	**265**	P	**P**	**17 44 04.3**	**-1.6**
WB0				IAmb	IAmb	17 44 27.3	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**37.39**	**265**	P	**P**	**17 44 04.1**	**-1.8**
WB2				IAmb	IAmb	17 44 14.7	
	comp=Z,4.6nm,1.0s						
WRA	**Warramunga Arr**	**37.40**	**265**	P	**P**	**17 44 04.3**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=113,slow=7.9,SNR=22 comp=Z,0.8nm,0.6s						
MTN	**Manton Dam**	**42.09**	**275**	P	**P**	**17 44 46.9**	**+1.8**
FORT	**Forrest**	**42.30**	**248**	P	**P**	**17 44 50.8**	**+4.1**
KNRA	**Kununurra**	**43.50**	**270**	P	**P**	**17 44 57.0**	**+0.4**
KNRA				IAmb	IAmb	17 45 35.4	
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**56.29**	**183**	P	P	17 46 44.2	+11
SBA	**Scott Base**	**56.41**	**182**	P	P	17 46 45.9	+12
SBA				IAmb	IAmb	17 47 13.0	
	comp=Z,5.5nm,1.2s						
QSPA	**South Pole Qui**	**68.46**	**180**	P	P	17 48 06.0	+11
QSPA				IAmb	IAmb	17 48 28.1	
	comp=Z,3.7nm,1.1s						

IDC 15 17:37:44.5±2.2,20°.29S×173°.32E,h0km,mb4.1/3, mbtmp4.1/5,ML4.4/2,MS3.7/8,Error ellipse: s-maj=112.6km s-min=29.8km az=156.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.15**	**61**	Pn	Pn	17 39 03.1	+0.1
	0.9nm,0.3s,baz=246,slow=20,SNR=4.6						
MSVF				Sn	Sn	17 39 50.3	-13
	1.7nm,0.3s,baz=306,slow=23,SNR=4.3						
MSVF				LR	LR	17 41 08.6	
	comp=Z,673nm,18.0s,baz=207,slow=40 7.0nm,0.6s						
DZM	**Mont Dzumac**	**6.66**	**253**	Pn	Pn	17 39 24.6	+0.9
	2.6nm,0.3s,baz=128,slow=19,SNR=1.3						
DZM				Sn	Sn	17 40 32.5	-7.9
	7.4nm,0.3s,baz=176,slow=20,SNR=1.9 13nm,0.4s						
HNR	**Honiara**	**16.83**	**308**	LR	LR	17 47 25.8	
	comp=Z,5μm,19.5s,baz=172,slow=34						
CTA	**Charters Tower**	**25.40**	**266**	LR	LR	17 52 08.6	
	comp=Z,144nm,18.4s,baz=80,slow=34						
STKA	**Stephens Creek**	**30.63**	**241**	P	P	17 44 00.0	-0.6
	1.4nm,0.6s,baz=65,slow=11,SNR=3.8 1.4nm,0.6s						
WRA	**Warramunga Arr**	**36.55**	**264**	P	P	17 44 52.6	+0.4
	0.8nm,0.4s,baz=96,slow=8.5,SNR=6.7						
WRA				LR	LR	17 58 31.5	
	comp=Z,107nm,19.0s,baz=28,slow=34 0.8nm,0.4s						
ASAR	**Alice Springs**	**36.63**	**257**	P	P	17 44 52.5	-0.4
	3.2nm,0.8s,baz=87,slow=8.9,SNR=8.1 3.2nm,0.8s						
GUMO	**Guam**	**43.78**	**318**	LR	LR	18 02 28.4	
	comp=Z,99nm,19.4s,baz=146,slow=34						
SIJI	**Sorong**	**45.41**	**290**	LR	LR	18 05 55.5	
	comp=Z,80nm,18.1s,baz=100,slow=37						
BATI	**Baumata**	**48.79**	**274**	LR	LR	18 06 52.8	
	comp=Z,104nm,18.2s,baz=126,slow=36						
KAPI	**Kappang**	**54.18**	**279**	LR	LR	18 08 54.1	
	comp=Z,47nm,20.1s,baz=120,slow=34						
ELK	**Elko**	**89.84**	**46**	LR	LR	18 28 29.3	
	comp=Z,60nm,18.1s,baz=274,slow=34						

NEIC ***15*** *17:46:27.8±2.0,40°.51N±0°.02×124°.22W±0°.03,h26km±9km, Error ellipse: s-maj=4.5km s-min=2.7km az=51.0*

NCEDC 15 17:46:28.2±2.5,40°.51N±0°.02×124°.21W±0°.04,h21km±5km, ML3.1/19,ML3.0/62(NEIC),Error ellipse: s-maj=4.8km s-min=3.4km az=89.0,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.10**	**251**		Pb	17 46 32.7	+0.4
KCTM					Sb	17 46 36.8	+1.7
KMPM	**Mount Pierce**	**0.12**	**142**		Pb	17 46 32.4	-2.4
KMPM				Sg	Sb	17 46 35.8	-3.6
KCRM	**Chalk Rock**	**0.31**	**105**		Pb	17 46 35.3	+0.1
KSMM	**Slide Mountain**	**0.32**	**175**		Pb	17 46 35.6	+0.3
JCC	**Jacoby Creek,**	**0.34**	**24**		Pb	17 46 35.3	-0.1
JCC				Sg	Sb	17 46 41.1	+0.7
JCC				IAML		17 46 41.6	
	comp=N,4μm,0.7s						
KMRM	**Mail Ridge**	**0.48**	**126**		Pb	17 46 38.4	+0.4
KMRM				Sg	Sb	17 46 45.9	+1.3
KHMM	**Horse Mountain**	**0.52**	**45**	Pg	Pb	17 46 38.5	-0.3
KHMM				Sg	Sb	17 46 47.1	+1.1
KRPM	**Rodgers**	**0.67**	**12**		Pb	17 46 40.3	-1.0
KRPM				Sg	Sb	17 46 49.3	-0.8
KRPM				IAML		17 46 52.0	
	comp=E,754nm,0.8s						
KRPM				IAML		17 46 52.2	
	comp=N,2μm,0.6s						
KHBM	**Hayfork Bally**	**0.77**	**78**		Pb	17 46 42.2	-0.9
KIPM	**Iron Peak**	**0.90**	**141**		Pb	17 46 44.1	-1.1
KCPM	**Cahto Peak**	**0.95**	**149**		Pb	17 46 43.9	-2.2
KCPM				Sg	Sb	17 46 56.4	-1.9
KOMM	**Orleans Mounta**	**0.96**	**37**		Pb	17 46 44.8	-1.5
KBNM	**Bluenose Ridge**	**0.99**	**128**		Pb	17 46 46.1	-0.7
LBPM	**Beegum Peak**	**1.03**	**100**		Pb	17 46 45.8	-1.7
KFPM	**Farley Peak**	**1.06**	**145**		Pb	17 46 46.1	-1.8
LGPM	**Granite Peak**	**1.13**	**69**		Pn	17 46 47.3	-1.7
GTC	**Three Chop Rid**	**1.22**	**155**		Pn	17 46 47.9	-2.1
LBKM	**Bonanza King**	**1.31**	**63**		Pn	17 46 49.8	-1.6
GNAM	**Navarro Ridge**	**1.38**	**161**		Pn	17 46 50.1	-2.3
GVV	**Valley View**	**1.39**	**121**		Pn	17 46 51.7	-0.9
KTRM	**Thompson Ridge**	**1.54**	**24**		Pn	17 46 52.9	-1.7
GHOM	**Hamilton Openi**	**1.55**	**160**		Pn	17 46 52.3	-2.4
LTCM	**Tuscan Springs**	**1.62**	**100**		Pn	17 46 54.6	-1.0
LAMM	**Antelope Mount**	**1.63**	**47**		Pn	17 46 54.5	-1.3
LCSM	**College of the**	**1.65**	**56**		Pn	17 46 55.0	-1.1
YBH	**Yreka Blue Hor**	**1.67**	**42**		Pn	17 46 54.9	-1.4
GCK	**Clark Valley**	**1.67**	**125**		Pn	17 46 56.4	+0.1
LSHM	**Sage Hen Hill**	**1.68**	**80**		Pn	17 46 55.4	-1.1
KBO	**Bosley Butte**	**1.70**	**360**	Pn	Pn	17 46 55.0	-1.8
KBO				Sn	Sn	17 47 14.6	-3.4
KBO				IAML		17 47 17.0	
	comp=N,196nm,0.3s						
KBO				IAML		17 47 17.1	
	comp=E,238nm,0.3s						
GHLM	**Highland Sprin**	**1.73**	**148**		Pn	17 46 55.1	-2.1
GGUM	**Gualala**	**1.74**	**161**		Pn	17 46 54.7	-2.6
GHGM	**Hogback Ridge**	**1.74**	**142**		Pn	17 46 56.2	-1.2
HOPS	**Hopland Field**	**1.75**	**149**		Pn	17 46 55.2	-2.1
M03C	**McCloud**	**1.76**	**64**		Pn	17 46 57.4	-0.3
LMPM	**Military Pass**	**1.83**	**57**		Pn	17 46 58.8	0.0
LDBM	**Digger Butte**	**1.85**	**92**		Pn	17 46 57.6	-1.3
LHEM	**Herd Peak**	**1.88**	**53**		Pn	17 46 59.1	-0.3
GACM	**Adobe Creek**	**1.94**	**147**		Pn	17 46 58.8	-1.2
LBFM	**Black Fox Moun**	**1.95**	**64**		Pn	17 47 00.3	0.0
LMEM	**Manzanita Entr**	**2.01**	**88**		Pn	17 47 01.5	+0.3
LRDM	**Redding Peak**	**2.10**	**90**		Pn	17 47 01.4	-0.8
LGMM	**Garner Mountai**	**2.10**	**58**		Pn	17 47 02.2	-0.2
HATC	**Hat Creek Radi**	**2.12**	**81**		Pn	17 47 02.0	-0.5
LTIM	**Timbered Crate**	**2.17**	**71**		Pn	17 47 02.4	-0.8
OSUM	**Sutter Buttes**	**2.20**	**123**		Pn	17 47 01.9	-1.6
LBCM	**Butte Creek Ri**	**2.20**	**80**		Pn	17 47 02.9	-0.8
SUTB	**Sutter Butte**	**2.26**	**124**		Pn	17 47 02.3	-2.1
ORV	**Oroville**	**2.29**	**114**		Pn	17 47 03.2	-1.6
HUMO	**Hull Mountain**	**2.30**	**24**	Pn	Pn	17 47 03.6	-1.4
KPK	**Kanaka Peak**	**2.42**	**112**		Pn	17 47 05.5	-1.1
MCCM	**Marconi Confer**	**2.58**	**156**	Pn	Pn	17 47 07.3	-1.4
MCCM				IAML		17 48 17.0	
	comp=N,47nm,1.9s						
MCCM				IAML		17 48 46.0	
	comp=E,52nm,2.3s						
DBO	**Dodson Butte**	**2.71**	**15**	Pn	Pn	17 47 10.0	-0.6
DBO				IAML		17 48 02.5	
	comp=N,48nm,4.3s						
DBO				IAML		17 48 22.9	
	comp=E,49nm,3.9s						
FARB	**Farallon Islan**	**2.96**	**161**		Pn	17 47 12.8	-1.2
BEKR	**Beckworth**	**3.02**	**101**	Pn	Pn	17 47 14.5	-0.5
MOD	**Modoc Plateau**	**3.26**	**63**		Pn	17 47 17.1	-1.2
JCHM	**Cahill Ridge**	**3.31**	**154**		Pn	17 47 19.6	+0.7
K05A	**Summer Lake**	**3.33**	**47**		Pn	17 47 18.5	-0.8
K05A				IAML		17 48 21.9	
	comp=N,39nm,5.0s						
K05A				IAML		17 48 31.9	
	comp=E,35nm,3.7s						
EMB	**Emerald Bay**	**3.52**	**114**	Pn	Pn	17 47 21.8	-0.1
EMB				IAML		17 48 09.8	
	comp=E,24nm,1.2s						
EMB				IAML		17 48 43.9	
	comp=N,28nm,0.9s						
JSGM	**Saratoga Golf**	**3.64**	**152**		Pn	17 47 24.3	+1.0
PAHR	**Pah Rah Range**	**3.79**	**101**	Pn	Pn	17 47 24.4	-1.2
AMC	**Almaden**	**3.82**	**150**		Pn	17 47 27.1	+1.3
PNTR	**Pine Nut**	**3.83**	**110**	Pn	Pn	17 47 26.3	+0.2
PNTR				IAML		17 48 22.5	
	comp=E,23nm,1.2s						
PNTR				IAML		17 48 43.5	
	comp=N,21nm,1.2s						
GHS	**Gilroy Hot Spr**	**4.03**	**147**		Pn	17 47 31.4	+2.6
PINE	**Pine Mountain**	**4.08**	**35**		Pn	17 47 28.9	-0.8
PINE				IAML		17 48 20.2	
	comp=N,28nm,4.1s						
PINE				IAML		17 48 57.1	
	comp=E,27nm,4.0s						
YERR	**Yerington**	**4.12**	**110**		Pn	17 47 28.1	-2.1
YERR				IAML		17 48 30.8	
	comp=E,19nm,3.7s						
YERR				IAML		17 48 59.8	
	comp=N,12nm,4.0s						
HTUM	**Tustin Road**	**4.19**	**151**		Pn	17 47 31.9	+1.0
SAO	**San Andreas Ge**	**4.32**	**149**	Pn	Pn	17 47 31.9	-0.8
BJOM	**Mount Johnson**	**4.49**	**149**		Pn	17 47 36.4	+1.3
BJCM	**Johnson Can.**	**4.53**	**150**		Pn	17 47 36.4	+0.8
BVL	**Bear Valley**	**4.59**	**148**		Pn	17 47 38.1	+1.7
WVOR	**Wild Horse Val**	**4.61**	**64**	Pn	Pn	17 47 35.5	-1.3
WVOR				IAML		17 49 17.3	
	comp=N,10nm,3.1s						
WVOR				IAML		17 49 21.5	
	comp=N,12nm,5.0s						
HAST	**Hastings Reser**	**4.61**	**152**		Pn	17 47 36.4	-0.3
BBGB	**Big Mountain B**	**4.64**	**147**	Pn	Pn	17 47 37.8	+0.5
BSMM	**Soledad Missio**	**4.66**	**151**		Pn	17 47 37.4	-0.1
BPIM	**Pinnacles**	**4.67**	**148**		Pn	17 47 38.5	+1.0
BPOM	**Post Ranch**	**4.69**	**155**		Pn	17 47 36.9	-0.8
RYN	**Ryan**	**4.78**	**111**	Pn	Pn	17 47 38.7	-0.5
RYN				IAML		17 48 38.2

LBZ	**Lake Benmore**	**3.29**	**234**	P	Pn	17 52 20.4	-0.2
ODZ	**Otahua Downs**	**3.45**	**222**	P	Pn	17 52 22.2	-0.6
TRVZ	**Turoa**	**3.46**	**21**	P	Pb	17 52 27.7	-2.7
VRZ	**Vera Road**	**3.46**	**11**	P	Pn	17 52 23.9	+0.9
HIZ	**Hauiti**	**4.08**	**10**	P	Pn	17 52 32.8	+1.4
MLZ	**Mavora Lakes**	**5.06**	**234**	P	Pn	17 52 43.5	-1.4
AWAZ	**Awhitu Peninsu**	**5.49**	**6**	P	Pn	17 52 51.4	+0.6
MKAZ	**Moumakai**	**5.50**	**10**	P	Pn	17 52 50.5	-0.5

WEL 15 17:53:59.4±0.5, 42°S±2°×17°4E±°, h5km±2km, M2.6/11, ML3.6/11, MLv2.6/11, Error ellipse: s-maj=0.0km s-min=0.0km az=137.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.31**	**16**	P	Pg	17 54 05.7	+0.4
BSWZ				S	Sg	17 54 10.7	+1.3
CMWZ	**Cape Campbell**	**0.43**	**52**	P	Pg	17 54 08.5	+0.9
KHZ	**Kahutara**	**0.44**	**202**	P	Pg	17 54 08.2	+0.4
KHZ				S	Sg	17 54 14.4	+0.9
TUWZ	**Tuamarina**	**0.60**	**13**	P	Pg	17 54 11.2	+0.4
THZ	**Tophouse**	**0.69**	**291**	P	Pg	17 54 12.8	+0.3
THZ				S	Sg	17 54 22.0	+0.5
TCW	**Tory Channel**	**0.89**	**26**	P	Pg	17 54 16.1	-0.3
TCW				S	Sb	17 54 29.7	+0.2
WEL	**Wellington**	**1.05**	**46**	P	Pb	17 54 20.0	0.0
WEL				S	Sn	17 54 35.0	-0.7
TKNZ	**Takaka Hill**	**1.15**	**328**	P	Pg	17 54 21.0	-0.4
TKNZ				S	Sb	17 54 36.8	-0.1
MSWZ	**Moikau Station**	**1.26**	**62**	P	Pg	17 54 21.8	-1.8
MSWZ				S	Sg	17 54 39.4	-0.5
LTZ	**Lake Taylor**	**1.35**	**235**	P	Pn	17 54 24.0	-0.8
LTZ				S	Sn	17 54 43.2	+0.1
KIW	**Kapiti Island**	**1.44**	**37**	P	Pn	17 54 25.7	-0.4
MTW	**Mount Morrison**	**1.56**	**57**	P	Pn	17 54 26.2	-1.5

*IDC **15** 18:00:56.6±4.5, 21°25S×173°15E, h0km, mb3.9/4, mbtmp3.9/5, ML3.4/1, MS3.9/24, Error ellipse: s-maj=111.5km s-min=30.0km az=25.0*
*NEIC **15** 18:00:59.3±2.2, 21°3S±0°2×173°2E±0°1, h21km±8km, mb4.5/14, Error ellipse: s-maj=25.8km s-min=12.4km az=165.0*
ISC 15 18:00:57.9±0.9, 21°3S±0°2×173°19E±0°09, h10km, n50, σ1§41/24, mb4.4/9, MS3.8/22, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**4.81**	**267**		**Pn**	**18 02 10.1**	**-0.4**
LIFNC	**LIFOU**	**5.58**	**274**	Pn	**Pn**	**18 02 21.1**	**+0.2**
MSVF	**Nonsavu**	**5.78**	**53**	Pn	**Pn**	**18 02 23.6**	**-0.3**
OUENC	**Ouen Island, N**	**6.00**	**258**		**Pn**	**18 02 25.3**	**-1.5**
DZM	**Mont Dzumac**	**6.32**	**262**	Pn	**Pn**	**18 02 31.2**	**-0.1**
DZM	0.9nm,0.3s,baz=123,slow=18,SNR=3.2			Sn	**Sn**	**18 03 43.4**	**-0.3**
	3.9nm,0.3s,baz=58,slow=22,SNR=1.9 4.2nm,0.4s						
DZM	**Mont Dzumac**	**6.32**	**262**		Pn	18 02 28.4	-3.0
ONTNC	**Ouen Toro**	**6.34**	**259**		Pn	18 02 28.9	-2.6
KOUNC	**Koumac, New Ca**	**8.35**	**273**	Pn	**Pn**	**18 02 58.6**	**-0.5**
RAO	**Raoul Island**	**11.31**	**136**	LR	LR	18 06 53.6	
	comp=Z,722nm,19.7s,baz=330,slow=32						
HNR	**Honiara**	**17.35**	**311**	LR	LR	18 10 48.1	
	comp=Z,4μm,20.5s,baz=151,slow=34						
EIDS	**Eidsvold**	**20.70**	**254**	P	**P**	**18 05 40.6**	**+2.2**
EIDS				IAmb	IAmb	18 06 05.3	
	comp=Z,31nm,1.1s						
ARMA	**Armidale**	**21.40**	**240**	P	P	18 05 41.5	-4.7
ARMA				IAmb	IAmb	18 06 22.6	
	comp=Z,23nm,1.4s						
CTA	**Charters Tower**	**25.21**	**268**	LR	LR	18 16 01.3	
	comp=Z,216nm,19.3s,baz=87,slow=36						
PMG	**Port Moresby**	**27.68**	**291**	LR	LR	18 17 04.9	
	comp=Z,187nm,18.3s,baz=48,slow=35						
STKA	**Stephens Creek**	**30.06**	**243**	LR	LR	18 18 13.2	
	comp=Z,76nm,20.4s,baz=46,slow=34						
STKA	**Stephens Creek**	**30.06**	**243**	P	**P**	**18 07 06.1**	**-1.3**
AS31	**Alice Springs**	**36.30**	**259**	P	**P**	**18 08 01.0**	**-1.1**
ASAR	**Alice Springs**	**36.30**	**259**	P	**P**	**18 08 01.4**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=88,slow=9.6,SNR=13						
ASAR				LR	LR	18 22 22.3	
	comp=Z,110nm,18.4s,baz=92,slow=35 comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**36.30**	**259**	P	**P**	**18 08 00.4**	**-1.7**
WB0	**Warramunga Arr**	**36.30**	**265**	P	**P**	**18 08 00.5**	**-1.6**
WB0				IAmb	IAmb	18 08 07.9	
	comp=Z,4.0nm,1.0s						
WB2	**Warramunga Arr**	**36.31**	**265**	P	**P**	**18 08 00.7**	**-1.5**
WB2				IAmb	IAmb	18 08 20.4	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**36.33**	**265**	P	**P**	**18 08 02.6**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=97,slow=8.4,SNR=84						
WRA				LR	LR	18 22 55.4	
	comp=Z,181nm,18.2s,baz=76,slow=36 comp=Z,1.3nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**40.02**	**350**	T	T	18 53 34.9	
	baz=172,slow=76						
H11S3	**WAKE ISLAND Hy**	**40.03**	**350**	T	T	18 53 30.5	
	baz=172,slow=76						
H11S1	**WAKE ISLAND Hy**	**40.04**	**350**	T	T	18 53 32.7	
	baz=172,slow=76						
FORT	**Forrest**	**41.41**	**247**	P	**P**	**18 08 43.0**	**-1.7**
KNRA	**Kununurra**	**42.40**	**270**	P	**P**	**18 08 53.4**	**+0.4**
KNRA				IAmb	IAmb	18 09 27.1	
	comp=Z,11nm,1.1s						
GUMO	**Guam**	**44.42**	**319**	LR	LR	18 25 50.5	
	comp=Z,136nm,21.2s,baz=133,slow=34						
NWAO	**Narrogin (SRO)**	**50.63**	**244**	P	**P**	**18 10 00.2**	**+2.7**
NWAO	**Narrogin (SRO)**	**50.63**	**244**	P	**P**	**18 10 00.5**	**+3.0**
NWAO				IAmb	IAmb	18 10 08.8	
	comp=Z,14nm,1.0s						
VNDA	**Vanda**	**56.56**	**183**	P	**P**	**18 10 41.6**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=5.1,slow=7.3,SNR=3.1						
VNDA				LR	LR	18 30 30.8	
	comp=Z,267nm,21.7s,baz=18,slow=31 comp=Z,0.3nm,0.6s						
VNDA	**Vanda**	**56.56**	**183**	P	**P**	**18 10 40.6**	**+0.3**
SBA	**Scott Base**	**56.71**	**182**	P	**P**	**18 10 41.6**	**+0.4**
SBA				IAmb	IAmb	18 11 04.3	
	comp=Z,9.3nm,1.2s						
CASY	**Casey**	**59.79**	**205**	P	**P**	**18 11 02.0**	**-0.9**
JHJ	**Hachijo jima 2**	**62.79**	**329**	LR	LR	18 37 49.7	
	comp=Z,22nm,19.1s,baz=110,slow=35						
MJAR	**Matsushiro Arr**	**66.32**	**330**	LR	LR	18 37 02.4	
	comp=Z,28nm,21.9s,baz=137,slow=33						
QSPA	**South Pole Qui**	**68.79**	**180**	P	**P**	**18 12 01.8**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=2.2,slow=1.6,SNR=2.5						
QSPA				LR	LR	18 39 41.3	
	comp=Z,100nm,18.3s,baz=46,slow=34 comp=Z,2.1nm,1.0s						
QSPA	**South Pole Qui**	**68.79**	**180**	P	P	18 12 00.4	-1.8
QSPA				IAmb	IAmb	18 12 33.2	
	comp=Z,6.2nm,1.2s						
ASAJ	**Asahikawa**	**70.85**	**337**	LR	LR	18 38 32.1	
	comp=Z,53nm,21.1s,baz=143,slow=32						
SHEM	**Shemya Is, Ala**	**73.69**	**1**	LR	LR	18 39 27.6	
	comp=Z,45nm,19.4s,baz=48,slow=31						
USRK	**Ussurisyk Ar.**	**75.28**	**331**	LR	LR	18 41 40.5	
	comp=Z,40nm,19.8s,baz=70,slow=32						
PETK	**Petropavlovsk-**	**75.28**	**350**	LR	LR	18 40 15.1	
	comp=Z,86nm,21.2s,baz=226,slow=31						
KLR	**Kul'dur**	**79.28**	**334**	LR	LR	18 46 02.4	
	comp=Z,28nm,18.6s,baz=152,slow=34						
MA2	**Magadan**	**82.63**	**349**	LR	LR	18 44 53.5	
	comp=Z,99nm,21.1s,baz=139,slow=32						
KDAK	**Kodiak Island**	**83.77**	**18**	LR	LR	18 45 21.3	
	comp=Z,104nm,19.3s,baz=217,slow=32						
YBH	**Yreka Blue Hor**	**86.23**	**42**	LR	LR	18 48 20.6	
	comp=Z,65nm,18.6s,baz=304,slow=33						
SNAA	**Sanae**	**87.26**	**181**	LR	LR	18 49 18.3	
	comp=Z,102nm,21.0s,baz=188,slow=33						
SONM	**Songino Array**	**91.08**	**322**	LR	LR	18 52 07.1	
	comp=Z,37nm,21.5s,baz=127,slow=34						
ILAR	**Eielson Array**	**91.11**	**16**	LR	LR	18 52 28.5	
	comp=Z,91nm,18.2s,baz=220,slow=34						
TIXI	**Tiksi**	**97.51**	**347**	LR	LR	18 55 08.6	
	comp=Z,57nm,18.3s,baz=350,slow=33						

WEL 15 18:06:10.2±0.4, 42°S±2°×17°4E±°, h10km±2km, M3.2/25, ML3.5/20, MLv3.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=125.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**258**	P	Pb	18 06 16.6	-0.6
KHZ				S	Sb	18 06 20.7	-1.2
BSWZ	**Blackbirch Sta**	**0.64**	**358**	P	Pg	18 06 23.0	+0.4
CMWZ	**Cape Campbell**	**0.65**	**21**	P	Pb	18 06 24.0	+0.4
GVZ	**Greta Valley S**	**0.88**	**226**	P	Pn	18 06 28.4	-0.2
GVZ				S	Sn	18 06 42.1	+0.5
TUWZ	**Tuamarina**	**0.93**	**2**	P	Pb	18 06 28.4	+0.1
TUWZ				S	Sn	18 06 41.8	-0.9
THZ	**Tophouse**	**0.95**	**309**	P	Pg	18 06 28.3	-0.1
THZ				S	Sg	18 06 39.5	-1.2
TCW	**Tory Channel**	**1.18**	**14**	P	Pb	18 06 32.2	-0.4
TCW				S	Sg	18 06 48.5	+0.3
NNZ	**Nelson**	**1.21**	**341**	P	Pb	18 06 32.6	-0.5
NNZ				S	Sn	18 06 49.5	0.0
AMCZ	**Amberley**	**1.23**	**228**	P	Pg	18 06 34.3	+0.6
AMCZ				S	Sn	18 06 51.4	+1.3
WEL	**Wellington**	**1.26**	**31**	P	Pn	18 06 33.6	-0.1
WEL				S	Sb	18 06 49.9	-0.3
LTZ	**Lake Taylor**	**1.27**	**250**	P	Pn	18 06 33.9	-0.2
LTZ				S	Sb	18 06 50.6	-0.1
MRNZ	**Matariki Terra**	**1.28**	**318**	P	Pn	18 06 34.0	-0.1
MRNZ				S	Sg	18 06 51.4	0.0
PLWZ	**Palliser**	**1.28**	**52**	P	Pn	18 06 33.8	-0.4
PLWZ				S	Sb	18 06 50.7	-0.3
MSWZ	**Moikau Station**	**1.38**	**47**	P	Pn	18 06 34.9	-0.6
MSWZ				S	Sb	18 06 53.2	-0.6
OKCZ	**Okains Bay**	**1.50**	**204**	P	Pn	18 06 36.8	-0.4
OKCZ				S	Sb	18 06 57.0	-0.2
TKNZ	**Takaka Hill**	**1.50**	**332**	P	Pn	18 06 37.3	+0.2
TKNZ				S	Sn	18 06 56.7	-0.1
PAWZ	**Paruwai Farm**	**1.50**	**50**	P	Pn	18 06 36.5	-0.7
CAW	**Cannon Point**	**1.53**	**35**	P	Pn	18 06 37.2	-0.3
CAW				S	Sn	18 06 56.1	-1.3
DUWZ	**D'Urville Isla**	**1.56**	**1**	P	Pn	18 06 38.5	+0.6
DUWZ				S	Sb	18 06 59.4	+0.6
MQZ	**McQueen's Vall**	**1.63**	**214**	P	Pn	18 06 37.6	-1.3
MQZ				S	Sn	18 06 58.5	-1.4
TRWZ	**Traveller**	**1.65**	**55**	P	Pn	18 06 38.2	-1.0
OXZ	**Oxford**	**1.68**	**234**	P	Pn	18 06 38.6	-1.0
OXZ				S	Sn	18 06 59.6	-1.5
DSZ	**Denniston Nort**	**1.68**	**291**	P	Pn	18 06 40.1	+0.5
DSZ				S	Sb	18 07 01.8	-0.5
AKCZ	**Akaroa Harbour**	**1.68**	**205**	P	Pn	18 06 39.2	-0.4
AKCZ				S	Sn	18 07 00.3	-0.9
MTW	**Mount Morrison**	**1.70**	**46**	P	Pn	18 06 39.0	-0.8
OGWZ	**Otaki Gorge**	**1.81**	**32**	P	Pn	18 06 40.4	-1.0
QRZ	**Quartz Range**	**1.84**	**326**	P	Pn	18 06 42.9	+1.0
QRZ				S	Sb	18 07 06.6	-0.5
INZ	**Inchbonnie**	**1.85**	**258**	P	Pn	18 06 42.0	+0.1
INZ				S	Sn	18 07 04.1	-1.3
RACZ	**Rakaia**	**1.88**	**223**	P	Pn	18 06 41.5	-0.9
RACZ				S	Sn	18 07 04.9	-1.2
MRZ	**Mangatainoka R**	**2.12**	**37**	P	Pn	18 06 44.8	-0.8
MRZ				S	Sn	18 07 09.7	-2.2
WACZ	**Wakanui South**	**2.19**	**223**	P	Pn	18 06 45.9	-0.7
WACZ				S	Sn	18 07 12.2	-1.5
WVZ	**Waitaha Valley**	**2.44**	**252**	P	Pn	18 06 50.1	+0.1
WVZ				S	Sn	18 07 18.4	-1.5
RPZ	**Rata Peaks**	**2.49**	**236**	P	Pn	18 06 49.9	-0.8
RPZ				S	Sn	18 07 18.5	-2.6
ARCZ	**Arundel**	**2.55**	**231**	P	Pn	18 06 50.8	-0.7
ARCZ				S	Sn	18 07 20.4	-2.3
TSZ	**Takapari Road**	**2.77**	**35**	P	Pn	18 06 54.0	-0.7
TSZ				S	Sn	18 07 26.9	-1.4
TMZ	**Timaru**	**2.92**	**225**	P	Pn	18 06 56.7	0.0
LBZ	**Lake Benmore**	**3.38**	**232**	P	Pn	18 07 02.7	-0.3
ODZ	**Otahua Downs**	**3.57**	**220**	P	Pn	18 07 04.9	-0.8
HIZ	**Hauiti**	**3.91**	**11**	P	Pn	18 07 11.8	+1.5

*SOME **15** 18:14:30.2, 42°03N×80°58E, h10km*
*KRNET **15** 18:14:30.9±0.1, 41°99N×80°59E, mb3.5*
*NNC **15** 18:14:33.3±1.0, 42°16N×80°55E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=6.3km s-min=5.5km az=149.0*
ISC 15 18:14:32.7±2.4, 42°27N±0°07×80°67E±0°06, h10km±12km, n45, σ1§75/72, 19C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.26**	**315**	*eP*	**Pn**	**18 14 53.8**	**-2.6**
	37nm,0.1s						
SHLS				*eS*	**Sb**	**18 15 10.4**	**-2.5**
	295nm,0.3s						
SHLS	**Shalkode**	**1.26**	**315**	P	**Pn**	**18 14 53.8**	**-2.6**
	37nm,0.1s						
SHLS				S	**Sb**	**18 15 10.4**	**-2.5**
	295nm,0.3s						
PDGK	**Podgornoye**	**1.37**	**321**	P	**Pb**	**18 14 58.6**	**+0.1**
	7.7nm,0.2s						
PDGK				S	**Sg**	**18 15 18.8**	**+1.9**
	40nm,0.4s						
PDGK	**Podgornoye**	**1.37**	**321**	⇑P	**Pb**	**18 14 58.6**	**+0.1**
	5.3nm,0.3s						
PDGK				⇑S	**Sg**	**18 15 18.5**	**+1.7**
	77nm,0.5s						
UZB	**Uzunbulak**	**1.50**	**306**	*eP*	**Pb**	**18 15 00.2**	**-0.5**
	38nm,0.0s						
UZB				*eS*	**Sg**	**18 15 21.8**	**+0.9**
	62nm,0.5s						
UZB	**Uzunbulak**	**1.50**	**306**	P	**Pb**	**18 15 00.2**	**-0.5**
	38nm,0.0s						
UZB				S	**Sg**	**18 15 21.8**	**+0.9**
	62nm,0.5s						
SATY	**Saty**	**1.85**	**296**	*eP*	**Pb**	**18 15 06.2**	**-0.4**
	27nm,0.5s						
SATY				*eS*	**Sg**	**18 15 32.0**	**-0.2**
	83nm,0.3s						
SATY	**Saty**	**1.85**	**296**	P	**Pb**	**18 15 06.2**	**-0.4**
	27nm,0.5s						
SATY				S	**Sg**	**18 15 32.0**	**-0.2**
	83nm,0.3s						
ZHN	**Zhinishke**	**1.88**	**299**	*eP*	**Pb**	**18 15 07.0**	**-0.2**
	89nm,0.2s						
ZHN				*eS*	**Sg**	**18 15 33.5**	**+0.4**
	194nm,0.2s						
ZHN	**Zhinishke**	**1.88**	**299**	Pg	**Pb**	**18 15 07.0**	**-0.2**
	89nm,0.2s						
ZHN				Lg	Lg	18 15 33.5	
	194nm,0.2s						
KPKS	**Kokpek**	**1.89**	**310**	*eP*	**Pb**	**18 15 07.5**	**+0.2**
	62nm,0.2s						
KPKS				*eS*	**Sg**	**18 15 34.1**	**+0.7**
	354nm,0.2s						
KPKS	**Kokpek**	**1.89**	**310**	Pg	**Pb**	**18 15 07.5**	**+0.2**
	62nm,0.2s						
KPKS				Lg	Lg	18 15 34.1	
	354nm,0.2s						
DJR	**Jarkent**	**2.16**	**343**	*eP*	**Pg**	**18 15 13.7**	**-0.4**
	12nm,0.2s						
DJR				*eS*	**Sg**	**18 15 44.3**	**+2.1**
	94nm,0.5s						
TARG	**Taragay, Kyrgy**	**2.20**	**257**	⇓*eP*	**Pn**	**18 15 09.3**	**-0.4**
	baz=64						
TARG				⇓*iS*	**Sn**	**18 15 37.2**	**0.0**
	baz=64						
KURS	**Kuram**	**2.21**	**304**	*eP*	**Pb**	**18 15 13.0**	**+0.4**
	21nm,0.3s						
KURS				*eS*	**Sg**	**18 15 43.7**	**+0.2**
	64nm,0.2s						
KURS	**Kuram**	**2.21**	**304**	Pg	**Pb**	**18 15 13.0**	**+0.4**
	21nm,0.3s						
KURS				Lg	Lg	18 15 43.7	
	64nm,0.2s						
ANVS	**Anan'yevo**	**2.28**	**284**	⇑*iP*	**Pb**	**18 15 12.0**	**-2.0**
	baz=91						
ANVS				⇑*iS*	**Sb**	**18 15 42.2**	**-0.1**
	baz=91						
BLB	**Baldybastay**	**2.43**	**319**	*eP*	**Pb**	**18 15 17.7**	**+1.1**
	70nm,0.3s						
BLB				*eS*	**Sg**	**18 15 51.4**	**+0.6**
	418nm,0.5s						
BLB	**Baldybastay**	**2.43**	**319**	Pg	**Pb**	**18 15 17.7**	**+1.1**
	70nm,0.3s						
BLB				Lg	Lg	18 15 51.4	
	418nm,0.5s						
KOTS	**Kotyrbulak**	**2.79**	**291**	*eP*	**Pb**	**18 15 22.1**	**-0.7**
	30nm,0.3s						
KOTS				*eS*	**Sb**	**18 15 59.4**	**+2.3**
	208nm,0.5s						
KOTS	**Kotyrbulak**	**2.79**	**291**	Pg	**Pb**	**18 15 22.1**	**-0.7**
	30nm,0.3s						
KOTS				Lg	Lg	18 15 59.4	
	208nm,0.5s						
MDOK	**Medeo**	**2.81**	**290**	*eP*	**Pb**	**18 15 23.1**	**-0.1**
	14nm,0.3s						
MDOK				*eS*	**Sg**	**18 16 01.1**	**-2.1**
	40nm,0.1s						
MDOK	**Medeo**	**2.81**	**290**	⇑Pn	**Pb**	**18 15 21.8**	**-1.4**
	8.0nm,0.4s						
MDOK				Pg	**Pb**	**18 15 23.1**	**-0.1**
	14nm,0.3s						
MDOK				⇑Lg	Lg	18 16 00.6	
	23nm,0.4s						
MDOK				Lg	Lg	18 16 01.1	
	40nm,0.1s						
TNSS	**Tian-Shan**	**2.85**	**287**	*eP*	**Pb**	**18 15 23.8**	**-0.1**
	15nm,0.3s						
TNSS				*eS*	**Sg**	**18 16 02.5**	**-1.9**
	20nm,0.3s						
TNSS	**Tian-Shan**	**2.85**	**287**	Pg	**Pb**	**18 15 23.8**	**-0.1**
	15nm,0.3s						
TNSS				Lg	Lg	18 16 02.5	
	20nm,0.3s						
KNDC	**Almaty**	**2.89**	**290**	⇑Pg	**Pb**	**18 15 23.7**	**-0.7**
	33nm,0.5s						
KNDC				⇑Lg	Lg	18 16 05.2	
	60nm,0.6s						
MTBS	**Maitube**	**3.24**	**287**	*eP*	**Pb**	**18 15 29.9**	**-0.5**
	8.1nm,0.4s						
MTBS				*eS*	**Sb**	**18 16 12.7**	**+2.7**
	26nm,0.6s						
MTBS	**Maitube**	**3.24**	**287**	Pg	**Pb**	**18 15 29.9**	**-0.5**
	8.1nm,0.4s						
MTBS				Lg	Lg	18 16 12.7	
	26nm,0.6s						
ULHL	**Ulahol**	**3.29**	**271**	⇓*iP*	**Pn**	**18 15 25.0**	**+0.6**
	baz=76						
ULHL				⇓*iS*	**Sn**	**18 16 04.7**	**+1.0**
	baz=76						
BOOM	**Boomskoye usch**	**3.51**	**275**	⇓*eP*	**Pn**	**18 15 28.5**	**+1.0**
	baz=80						
BOOM				⇓*iS*	**Sn**	**18 16 10.4**	**+1.3**
	baz=80						
KUU	**Kurty**	**3.56**	**299**	*eP*	**Pb**	**18 15 37.1**	**+1.3**
	3.7nm,0.5s						
KUU				*eS*	**Sg**	**18 16 24.9**	**-2.3**
	30nm,0.2s						
KUU	**Kurty**	**3.56**	**299**	Pg	**Pb**	**18 15 37.1**	**+1.3**
	3.7nm,0.5s						
KUU				Lg	Lg	18 16 24.9	
	30nm,0.2s						
NRN	**Naryn**	**3.59**	**258**	⇓*iP*	**Pn**	**18 15 28.6**	**0.0**
	baz=62						
NRN				⇓*iS*	**Sn**	**18 16 10.6**	**-0.6**
	baz=62						
TKM2	**Tokmak 2**	**3.80**	**282**	⇓*eP*	**Pn**	**18 15 33.0**	**+1.5**
	baz=86						
TKM2				⇓*eS*	**Sn**	**18 16 18.1**	**+1.7**
	baz=86						
TKM2	**Tokmak 2**	**3.80**	**282**	⇑Pn	**Pn**	**18 15 34.1**	**+2.6**
	7.8nm,0.7s						
TKM2				⇑Lg	Lg	18 16 32.6	
	10nm,0.5s						
KBK	**Karagaybulak**	**4.25**	**277**	⇓*eP*	**Pn**	**18 15 39.0**	**+1.4**
	baz=81						
KBK				⇓*eS*	**Sn**	**18 16 28.5**	**+1.1**
	baz=81						
CHMS	**Chumysh**	**4.43**	**281**	⇑Pg	**Pb**	**18 15 53.2**	**+2.6**
	4.4nm,0.8s						
CHMS				⇓Lg	Lg	18 16 50.0	
	4.5nm,0.5s						
SGDS	**Sogindy**	**4.59**	**287**	*eP*	**Pb**	**18 15 55.4**	**+2.0**
	2.1nm,0.2s						
SGDS				*eS*	**Sg**	**18 16 56.3**	**-3.9**
	9.8nm,0.2s						
SGDS	**Sogindy**	**4.59**	**287**	Pg	**Pb**	**18 15 55.4**	**+2.0**
	2.1nm,0.2s						
SGDS				Lg	Lg	18 16 56.3	
	9.8nm,0.2s						
MAKZ	**Makanchi**	**4.63**	**11**	⇑Pn	**Pn**	**18 15 46.4**	**+3.7**
	3.2nm,0.6s						
MAKZ				⇑Sn	**Sb**	**18 16 45.3**	**-4.6**
	1.2nm,0.3s						
MAKZ				⇑Lg	Lg	18 17 02.8	
	3.4nm,0.5s						
MK31	**Makanchi Array**	**4.67**	**14**	Pn	**Pn**	**18 15 46.0**	**+2.7**
	0.5nm,0.3s,baz=203,slow=13,SNR=76						
MK31				⇓Sn	**Sb**	**18 16 44.9**	**-6.0**
	2.8nm,0.5s,baz=195,slow=18,SNR=5.2						
MK31				⇓Lg	Lg	18 17 03.1	
	4.3nm,0.6s,baz=197,slow=26,SNR=5.2						
ARLS	**Aral**	**4.74**	**267**	⇑*iP*	**Pn**	**18 15 44.9**	**+0.5**
	baz=70						
ARLS				⇑*iS*	**Sn**	**18 16 38.6**	**-0.9**
	baz=70						
KK31	**Karatay Array**	**7.53**	**280**	⇑Pg	Pb	18 16 51.8	+8.4
	0.6nm,0.6s,baz=91,slow=15,SNR=6.3						
KK31				⇑Lg	Lg	18 18 33.2	
	1.0nm,0.5s,baz=95,slow=25,SNR=6.5						
KURBB	**Kurchatov Arra**	**8.48**	**351**	⇑Lg	Lg	18 19 07.1	
	7.8nm,0.8s						
KURK	**Kurchatov**	**8.57**	**351**	⇓Lg	Lg	18 19 07.3	
	4.9nm,1.0s						

*IDC **15** 18:18:58.8±0.9, 42°19S×173°44E, h0km, mb4.2/6, mbtmp4.3/7, ML4.8/1, MS3.7/18, Error ellipse: s-maj=33.6km s-min=23.8km az=75.0*
*NEIC **15** 18:18:58.8±1.5, 42°57S±0°03×173°63E±0°05, h7km±4km, mb4.6/16, Mwr4.5/32, Error ellipse: s-maj=6.3km s-min=3.9km az=119.0*
*NEIC **15** 18:18:58.8, 42°58S×173°65E, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.50; $M_{\theta\theta}$-1.57; $M_{\phi\phi}$5.07; $M_{r\theta}$-2.25; $M_{\theta\phi}$0.07; $M_{\phi r}$-3.36; Fault plane solution: M_o6.05000×10^{15} NP1:ϕ_s25.19000°, δ68.98000°, λ-64.85000°. NP2:ϕ_s152.57000°, δ32.33000°, λ-137.88000°. Principal axes: T 6.3197, Plg20.0000°, Azm97.0000°; N -0.5859, Plg23.0000°, Azm196.0000°; P -5.7338, Plg58.0000°, Azm330.0000°;*
*WEL **

TUWZ				S	Sn	18 19 38.3	+1.2		
OKCZ	**Okains Bay**	**1.25**	**200**	P	Pn	18 19 24.1	+1.6		
MRNZ	**Matariki Terra**	**1.33**	**330**		Pn	18 19 23.5	0.0		
MRNZ	**Matariki Terra**	**1.33**	**330**	P	Pb	18 19 23.7	+0.1		
MRNZ				S	Sn	18 19 41.8	+0.1		
NNZ	**Nelson**	**1.35**	**352**		Pn	18 19 23.6	-0.2		
NNZ				Sn	Sn	18 19 41.9	-0.2		
NNZ	**Nelson**	**1.35**	**352**	P	Pb	18 19 24.3	+0.4		
MQZ	**McQueen's Vall**	**1.36**	**212**		Pb	18 19 24.4	+0.2		
MQZ	**McQueen's Vall**	**1.36**	**212**	P	Pb	18 19 24.5	+0.3		
MQZ				S	Sn	18 19 43.1	+0.5		
OXZ	**Oxford**	**1.41**	**236**		Pb	18 19 25.0	-0.1		
OXZ	**Oxford**	**1.41**	**236**	P	Pb	18 19 25.0	-0.1		
OXZ				S	Sn	18 19 43.8	-0.1		
TCW	**Tory Channel**	**1.42**	**20**		Pg	18 19 25.4	+0.1		
TCW	**Tory Channel**	**1.42**	**20**	P	Pg	18 19 25.6	+0.4		
TCW				S	Sn	18 19 44.7	+0.7		
AKCZ	**Akaroa Harbour**	**1.43**	**202**	P	Pg	18 19 26.1	+0.7		
SNZO	**South Karori**	**1.47**	**33**		Pg	18 19 26.5	+0.3		
SNZO	**South Karori**	**1.47**	**33**	P	Pg	18 19 26.9	+0.7		
WEL	**Wellington**	**1.52**	**34**	P	Pg	18 19 27.3	+0.1		
WEL				S	Sg	18 19 47.2	+0.4		
PLWZ	**Palliser**	**1.55**	**51**		Pb	18 19 27.4	0.0		
PLWZ	**Palliser**	**1.55**	**51**	P	Pg	18 19 27.7	0.0		
PLWZ				S	Sb	18 19 47.6	+0.1		
DSZ	**Denniston Nort**	**1.59**	**300**		Pb	18 19 27.7	-0.4		
DSZ	**Denniston Nort**	**1.59**	**300**	P	Pb	18 19 28.1	0.0		
TKNZ	**Takaka Hill**	**1.60**	**341**		Pn	18 19 27.6	+0.3		
TKNZ	**Takaka Hill**	**1.60**	**341**	P	Pn	18 19 28.5	+0.2		
RACZ	**Rakaia**	**1.61**	**223**	P	Pn	18 19 27.9	+0.5		
RACZ				S	Sg	18 19 49.7	-0.2		
INZ	**Inchbonnie**	**1.63**	**263**		Pn	18 19 27.9	+0.1		
INZ	**Inchbonnie**	**1.63**	**263**	P	Pn	18 19 29.3	0.0		
MSWZ	**Moikau Station**	**1.65**	**47**		Pb	18 19 28.7	-0.4		
MSWZ	**Moikau Station**	**1.65**	**47**	P	Pb	18 19 28.8	-0.3		
MSWZ				S	Sb	18 19 50.4	+0.1		
DUWZ	**D'Urville Isla**	**1.76**	**7**	P	Pb	18 19 30.9	-0.1		
PAWZ	**Paruwai Farm**	**1.77**	**49**	P	Pn	18 19 30.4	+0.7		
PAWZ				S	Sb	18 19 53.5	-0.3		
CAW	**Cannon Point**	**1.79**	**37**	P	Pb	18 19 30.8	-0.7		
CAW				S	Sn	18 19 53.5	+0.4		
MHCZ	**Mount Hutt**	**1.81**	**236**	P	Pn	18 19 31.0	+0.7		
TRWZ	**Traveller**	**1.91**	**54**	P	Pn	18 19 32.4	+0.8		
QRZ	**Quartz Range**	**1.91**	**334**		Pn	18 19 32.3	+0.7		
QRZ	**Quartz Range**	**1.91**	**334**	P	Pb	18 19 33.1	-0.5		
WACZ	**Wakanui South**	**1.92**	**223**	P	Pn	18 19 32.1	+0.5		
WACZ				S	Sn	18 19 56.9	+0.7		
KIW	**Kapiti Island**	**1.94**	**30**	P	Pb	18 19 33.2	-0.9		
KIW				S	Sn	18 19 56.9	+0.2		
MTW	**Mount Morrison**	**1.96**	**46**	P	Pn	18 19 32.8	+0.5		
OGWZ	**Otaki Gorge**	**2.08**	**34**	P	Pn	18 19 34.7	+0.8		
HOWZ	**Holdsworth Sta**	**2.17**	**41**	P	Pn	18 19 35.8	+0.7		
WVZ	**Waitaha Valley**	**2.20**	**255**	P	Pn	18 19 36.4	+0.9		
TMWZ	**Te Maipa**	**2.21**	**50**	P	Pn	18 19 36.4	+0.6		
RPZ	**Rata Peaks**	**2.22**	**238**	Pn	Pn	18 19 36.2	+0.3		
	244nm,0.3s,baz=202,slow=0.9,SNR=258								
RPZ				Sn	Sn	18 20 02.9	-1.0		
	246nm,0.3s,baz=322,slow=22,SNR=30								
RPZ				LR	LR	18 20 14.5			
	comp=Z,547nm,21.8s,baz=68,slow=33								
	811nm,0.5s								
RPZ	**Rata Peaks**	**2.22**	**238**	P	Pn	18 19 36.4	+0.5		
RPZ	**Rata Peaks**	**2.22**	**238**	P	Pn	18 19 36.2	+0.3		
ARCZ	**Arundel**	**2.28**	**231**	P	Pn	18 19 37.0	+0.3		
MRZ	**Mangatainoka R**	**2.38**	**38**		Pn	18 19 38.2	+0.2		
MRZ	**Mangatainoka R**	**2.38**	**38**	P	Pn	18 19 38.5	+0.4		
CPWZ	**Castlepoint**	**2.52**	**50**	P	Pn	18 19 40.7	+0.8		
GCSZ	**Gaunt Creek Bo**	**2.55**	**251**	P	Pn	18 19 42.2	+1.8		
PRWZ	**Pori Road**	**2.65**	**42**	P	Pn	18 19 42.2	+0.5		
TMZ	**Timaru**	**2.65**	**225**	P	Pn	18 19 42.4	+0.6		
OHWZ	**Ohakea**	**2.66**	**29**	P	Pb	18 19 44.4	-1.9		
POWZ	**Post Office Ro**	**2.68**	**37**	P	Pn	18 19 42.8	+0.6		
BFZ	**Birch Farm**	**2.70**	**47**		Pn	18 19 42.5	+0.1		
BFZ	**Birch Farm**	**2.70**	**47**	P	Pn	18 19 42.7	+0.2		
DVHZ	**Dannevirke**	**2.94**	**41**	P	Pn	18 19 45.5	-0.2		
WAZ	**Wanganui**	**2.97**	**20**	P	Pn	18 19 48.0	+1.9		
FOZ	**Fox Glacier**	**2.97**	**249**		Pn	18 19 47.8	+1.7		
FOZ	**Fox Glacier**	**2.97**	**249**	P	Pn	18 19 47.9	+1.8		
ANWZ	**Angora Road**	**2.98**	**46**	P	Pn	18 19 46.5	+0.3		
TSZ	**Takapari Road**	**3.04**	**36**	P	Pn	18 19 47.4	+0.2		
LBZ	**Lake Benmore**	**3.12**	**233**		Pn	18 19 48.5	+0.4		
LBZ	**Lake Benmore**	**3.12**	**233**	P	Pn	18 19 49.0	+0.8		
NMEZ	**Namu Road**	**3.14**	**3**	P	Pb	18 19 52.0	-2.5		
LREZ	**Lake Rotokare**	**3.14**	**11**	P	Pb	18 19 51.9	-2.7		
PRHZ	**Porangahau**	**3.20**	**46**	P	Pn	18 19 49.7	+0.3		
WPHZ	**Waipukurau**	**3.26**	**41**	P	Pn	18 19 50.1	+0.1		
PNHZ	**Pukenui**	**3.26**	**37**	P	Pn	18 19 50.3	+0.1		
KHEZ	**Kahui Hut**	**3.27**	**5**	P	Pb	18 19 54.2	-2.5		
KHEZ	**Kahui Hut**	**3.27**	**5**	P	Pn	18 19 53.3	+3.0		
NBEZ	**Newall Road No**	**3.28**	**3**	P	Pn	18 19 53.3	+2.9		
NEZ	**North Egmont**	**3.29**	**6**	P	Pn	18 19 53.5	+2.8		
ODZ	**Otahua Downs**	**3.31**	**220**		Pn	18 19 50.8	+0.1		
ODZ	**Otahua Downs**	**3.31**	**220**	P	Pn	18 19 51.5	+0.8		
ODZ	**Otahua Downs**	**3.31**	**220**	P	Pn	18 19 51.1	+0.4		
PKEZ	**Pukeiti**	**3.38**	**7**	P	Pn	18 19 54.3	+2.9		
DREZ	**Durham Road**	**3.38**	**7**	P	Pn	18 19 54.9	+3.1		
MTVZ	**Mangateitei**	**3.45**	**24**	P	Pn	18 19 54.4	+1.6		
PXZ	**Pawanui**	**3.50**	**45**	P	Pn	18 19 56.6	+3.3		
PKVZ	**Pokaka**	**3.50**	**22**	P	Pn	18 19 55.2	+1.7		
MHEZ	**Mangahewa**	**3.51**	**9**	P	Pb	18 19 57.5	-3.3		
MOVZ	**Moawhango**	**3.52**	**28**	P	Pn	18 19 54.7	+0.9		
VRZ	**Vera Road**	**3.52**	**14**	P	Pn	18 19 56.2	+2.4		
WNVZ	**Wahianoa**	**3.54**	**25**	P	Pn	18 19 55.7	+1.6		
TRVZ	**Turoa**	**3.55**	**25**	P	Pn	18 19 56.6	+2.3		
BHHZ	**Black Hill Sta**	**3.56**	**32**	P	Pn	18 19 55.2	+0.8		
DRZ	**Dome Shelter**	**3.58**	**25**	P	Pn	18 19 57.4	+2.6		
WHVZ	**Whangaehu Hut**	**3.58**	**25**	P	Pn	18 19 56.8	+2.0		
FWVZ	**Far West T-bar**	**3.60**	**24**	P	Pn	18 19 56.9	+2.0		
TUVZ	**Tukino**	**3.62**	**26**	P	Pn	18 19 57.2	+2.1		
KAHZ	**Kahuranaki**	**3.68**	**43**	P	Pn	18 19 55.7	-0.2		
NGZ	**Ngauruhoe**	**3.68**	**24**	P	Pn	18 19 57.9	+1.8		
SNVZ	**South Ngauruho**	**3.69**	**25**	P	Pn	18 19 58.4	+2.3		
OTVZ	**Oturere**	**3.71**	**25**	P	Pn	18 19 58.1	+1.6		
NNVZ	**North Ngauruho**	**3.73**	**24**	P	Pn	18 19 58.2	+1.5		
TWVZ	**Taurewa**	**3.73**	**22**	P	Pn	18 19 58.5	+1.8		
WTVZ	**West Tongariro**	**3.73**	**24**	P	Pn	18 19 58.4	+1.6		
ETVZ	**East Tongariro**	**3.75**	**25**	P	Pn	18 19 58.6	+1.6		
KWHZ	**Kaweka Forest**	**3.77**	**35**	P	Pn	18 19 58.4	+1.3		
KRVZ	**Karewarewa**	**3.77**	**24**	P	Pn	18 19 59.0	+1.7		
TMVZ	**Te Maari**	**3.77**	**25**	P	Pn	18 19 58.8	+1.6		
NTVZ	**North Tongarir**	**3.78**	**25**	P	Pn	18 19 59.0	+1.7		
JCZ	**Jackson Bay**	**3.86**	**245**	P	Pn	18 19 59.7	+1.3		
JCZ	**Jackson Bay**	**3.86**	**245**	P	Pn	18 19 59.7	+1.3		
MCHZ	**McNeill Hill**	**3.87**	**38**	P	Pn	18 19 58.5	0.0		
KATZ	**Kakaramea**	**3.90**	**24**	P	Pn	18 20 01.6	+2.6		
HHSZ	**Highcliff Hill**	**3.99**	**212**	P	Pn	18 20 00.7	+0.5		
BKZ	**Black Stump Fm**	**4.01**	**34**		Pn	18 19 59.7	-0.8		
BKZ	**Black Stump Fm**	**4.01**	**34**	P	Pn	18 20 01.8	+1.3		
BKZ	**Black Stump Fm**	**4.01**	**34**	P	Pn	18 20 00.2	-0.3		
RATZ	**Rangitukua**	**4.02**	**24**	P	Pn	18 20 04.1	+3.5		
WKZ	**Wanaka**	**4.05**	**234**		Pn	18 20 00.9	-0.2		
WKZ	**Wanaka**	**4.05**	**234**	P	Pn	18 20 01.2	+0.1		
EAZ	**Earnscleugh**	**4.12**	**228**	P	Pn	18 20 02.2	+0.2		
HIZ	**Hauiti**	**4.14**	**13**		Pn	18 20 04.3	+2.1		
HIZ	**Hauiti**	**4.14**	**13**	P	Pn	18 20 05.4	+3.2		
HIZ	**Hauiti**	**4.14**	**13**	P	Pn	18 20 04.8	+2.6		
ARHZ	**Aropaoanui**	**4.15**	**39**	P	Pn	18 20 03.1	+0.8		
NMHZ	**Naumai**	**4.20**	**36**	P	Pn	18 20 02.9	-0.3		
MRHZ	**Matea Rd**	**4.27**	**31**	P	Pn	18 20 03.7	-0.4		
TLZ	**Tolley Road**	**4.46**	**20**	P	Pn	18 20 08.2	+1.6		
TUZ	**Tuapeka**	**4.46**	**219**	P	Pn	18 20 07.5	+0.9		
ALRZ	**Allen Road**	**4.48**	**28**	P	Pn	18 20 06.9	0.0		
KNZ	**Kokohu**	**4.67**	**42**	P	Pn	18 20 09.1	-0.3		
HSRZ	**Hossack Road**	**4.68**	**26**	P	Pn	18 20 10.8	+1.2		
MHGZ	**Mahia Peninsul**	**4.69**	**45**	P	Pn	18 20 09.8	+0.1		
MLZ	**Mavora Lakes**	**4.88**	**233**		Pn	18 20 12.3	-0.1		
MLZ	**Mavora Lakes**	**4.88**	**233**	P	Pn	18 20 12.8	+0.4		
OMRZ	**Omania**	**4.90**	**26**	P	Pn	18 20 18.1	+5.4		
RIGZ	**Rimuhau**	**4.96**	**41**	P	Pn	18 20 13.0	-0.5		
LIRZ	**Lichensteins R**	**5.00**	**26**	P	Pn	18 20 13.1	-1.0		
TOZ	**Tahuroa Road**	**5.02**	**17**	P	Pn	18 20 15.5	+1.2		
URZ	**Urewera**	**5.04**	**33**	P	Pn	18 20 15.0	+0.5		
SYZ	**Scrubby Hill**	**5.12**	**217**	P	Pn	18 20 17.1	+1.4		
SYZ	**Scrubby Hill**	**5.12**	**217**	P	Pn	18 20 16.7	+1.0		
OPRZ	**Ohinepanea**	**5.20**	**26**	P	Pn	18 20 16.4	-0.3		
TKGZ	**Te Karaka**	**5.21**	**39**	P	Pn	18 20 16.6	-0.3		
WHZ	**Wether Hill Ro**	**5.28**	**229**		Pn	18 20 17.3	-0.6		
WHZ	**Wether Hill Ro**	**5.28**	**229**	P	Pn	18 20 17.4	-0.6		
TWGZ	**Tauwhareparae**	**5.48**	**39**	P	Pn	18 20 20.9	+0.2		
DCZ	**Deep Cove**	**5.51**	**236**		Pn	18 20 20.8	-0.2		
RUGZ	**Raukumara Rang**	**5.52**	**35**	P	Pn	18 20 21.0	-0.3		
AWAZ	**Awhitu Peninsu**	**5.53**	**8**	P	Pn	18 20 23.3	+1.9		
MKAZ	**Moumakai**	**5.56**	**13**	P	Pn	18 20 23.0	+1.2		
WTAZ	**Waiatarua**	**5.66**	**8**	P	Pn	18 20 25.2	+2.2		
ETAZ	**East Tamaki Re**	**5.68**	**10**	P	Pn	18 20 25.1	+1.8		
EPAZ	**Eden Park BICE**	**5.73**	**9**	P	Pn	18 20 26.3	+2.3		
HAZ	**Te Kaha**	**5.74**	**35**	P	Pn	18 20 23.2	-1.0		
RVAZ	**Riverhead Bore**	**5.82**	**7**	P	Pn	18 20 27.7	+2.5		
MBAZ	**Motutapu North**	**5.85**	**10**	P	Pn	18 20 27.9	+2.1		
WIAZ	**Waiheke Island**	**5.86**	**12**	P	Pn	18 20 27.5	+1.6		
APZ	**The Peaks**	**5.88**	**221**	P	Pn	18 20 26.4	+0.2		
WMGZ	**Waiomatatini S**	**5.97**	**39**	P	Pn	18 20 25.8	-1.6		
ABAZ	**Army Bay**	**6.01**	**9**	P	Pn	18 20 29.9	+2.0		
KUZ	**Kuaotunu**	**6.01**	**16**	P	Pn	18 20 29.6	+1.7		
MXZ	**Matakaoa Point**	**6.13**	**37**	Pn	Pn	18 20 28.9	-0.7		
PYZ	**Puysegur Point**	**6.16**	**232**		Pn	18 20 28.3	-1.7		
PYZ	**Puysegur Point**	**6.16**	**232**	P	Pn	18 20 30.5	+0.6		
PYZ	**Puysegur Point**	**6.16**	**232**	P	Pn	18 20 30.6	+0.6		
GRZ	**Great Barrier**	**6.45**	**13**	P	Pn	18 20 35.1	+1.2		
CTZ	**Chatham Island**	**7.22**	**103**	P	Pn	18 20 44.8	+0.3		
OUZ	**Omahuta**	**7.32**	**360**	Pn	Pn	18 20 45.6	-0.3		
OUZ	**Omahuta**	**7.32**	**360**	P	Pn	18 20 48.4	+2.5		
OUZ	**Omahuta**	**7.32**	**360**	P	Pn	18 20 48.2	+2.3		
OUENC	**Ouen Island, N**	**20.86**	**342**		P	18 23 40.0	-1.2		
OUENC				IAmb	IAmb	18 23 43.3			
	comp=Z,38nm,1.2s								
ONTNC	**Ouen Toro**	**21.06**	**341**	P	P	18 23 42.0	-1.3		
ONTNC				IAmb	IAmb	18 23 58.3			
	comp=Z,37nm,1.1s								
DZM	**Mont Dzumac**	**21.29**	**341**	*e*Pn	P	18 23 45.5	-0.4		
	comp=Z,70nm,1.4s								
DZM				*e*LR	LR	18 28 52.4			
	comp=Z,160nm,25.0s								
DZM	**Mont Dzumac**	**21.29**	**341**	P	P	18 23 42.6	-3.4		
	comp=Z,18nm,1.0s,baz=76,slow=7.4,SNR=2.7								
DZM				LR	LR	18 30 47.9			
	comp=Z,114nm,18.3s,baz=192,slow=34								
	comp=Z,18nm,1.0s								
DZM	**Mont Dzumac**	**21.29**	**341**	P	P	18 23 43.9	-2.0		
DZM				IAmb	IAmb	18 23 51.6			
	comp=Z,34nm,1.2s								
LIFNC	**LIFOU**	**22.37**	**344**	P	P	18 23 55.8	-1.6		
KOUNC	**Koumac, New Ca**	**23.31**	**337**	P	P	18 24 06.4	-0.8		
KOUNC	**Koumac, New Ca**	**23.31**	**337**	P	P	18 24 09.1	+1.9		
MSVF	**Nonsavu**	**25.02**	**10**	P	P	18 24 22.8	-0.6		
MSVF				IAmb	IAmb	18 24 28.7			
	comp=Z,14nm,0.8s								
MSVF	**Nonsavu**	**25.02**	**10**	P	P	18 24 26.3	+2.9		
EIDS	**Eidsvold**	**25.25**	**306**	P	P	18 24 24.8	-0.6		
EIDS				IAmb	IAmb	18 24 28.8			
	comp=Z,6.8nm,0.9s								
STKA	**Stephens Creek**	**27.51**	**282**	LR	LR	18 34 28.8			
	comp=Z,94nm,18.2s,baz=129,slow=34								
LCRK	**Leigh Creek**	**30.72**	**281**	P	P	18 25 15.5	+1.2		
RAR	**Rarotonga**	**30.80**	**55**	LR	LR	18 35 59.9			
	comp=Z,143nm,20.2s,baz=278,slow=33								
CTA	**Charters Tower**	**32.14**	**306**	LR	LR	18 37 30.7			
	comp=Z,141nm,18.2s,baz=121,slow=35								
HNR	**Honiara**	**35.11**	**336**	LR	LR	18 40 03.2			
	comp=Z,2µm,18.5s,baz=167,slow=36								
TBI	**Tubuai**	**36.03**	**70**	*e*LR	LR	18 35 40.3			
	comp=Z,524nm,24.8s								
TBI				*e*LR	LR	18 35 40.3			
	comp=Z,3µm,25.5s								
TBI	**Tubuai**	**36.03**	**70**	*e*T	T	19 03 57.9			
	comp=Z,27nm,0.3s								
AS01	**Alice Springs**	**37.79**	**287**	P	P	18 26 15.8	+0.1		
AS31	**Alice Springs**	**37.82**	**287**	P	P	18 26 15.1	-0.9		
ASAR	**Alice Springs**	**37.82**	**287**	P	P	18 26 15.2	-0.7		
	comp=Z,1.3nm,0.7s,baz=131,slow=7.2,SNR=31								
ASAR				PcP	**PcP**	18 28 31.8	-0.8		
	comp=Z,1.1nm,0.6s,baz=127,slow=3.8,SNR=10								
ASAR				LR	LR	18 42 03.1			
	comp=Z,170nm,18.7s,baz=122,slow=37								
	comp=Z,1.3nm,0.7s								
ASAR	**Alice Springs**	**37.82**	**287**	P	P	18 26 15.1	-0.9		
ASAR	**Alice Springs**	**37.82**	**287**	P	**PcP**	18 28 32.1	-0.5		
PAE	**Paea**	**39.87**	**63**	*e*T	T	19 08 51.0			
	comp=Z,4.2nm,0.3s								
PPT2	**Papeete2**	**39.92**	**63**	*e*LR	LR	18 37 28.8			
	comp=Z,256nm,26.2s								
PPT2				*e*LR	LR	18 37 29.2			
	comp=Z,195nm,27.8s								
WB2	**Warramunga Arr**	**39.96**	**292**	P	P	18 26 32.0	-1.9		
WRAB	**Tennant Creek**	**39.97**	**292**	P	P	18 26 32.1	-1.9		
WRAB				IAmb	IAmb	18 26 34.7			
	comp=Z,9.6nm,1.2s								
WRAB	**Tennant Creek**	**39.97**	**292**	P	P	18 26 34.3	+0.3		
WRA	**Warramunga Arr**	**39.97**	**292**	P	P	18 26 33.4	-0.6		
	comp=Z,1.8nm,0.6s,baz=129,slow=7.6,SNR=19								
WRA				PcP	**PcP**	18 28 38.7	-0.6		
	comp=Z,1.1nm,0.8s,baz=135,slow=3.1,SNR=5.6								
WRA				LR	LR	18 44 33.0			
	comp=Z,151nm,18.4s,baz=125,slow=39								
	comp=Z,1.8nm,0.6s								
WRA	**Warramunga Arr**	**39.97**	**292**	P	P	18 26 32.4	-1.6		
WB0	**Warramunga Arr**	**40.05**	**292**	P	P	18 26 34.0	-0.7		
PMG	**Port Moresby**	**40.36**	**317**	LR	LR	18 43 50.3			
	comp=Z,174nm,18.3s,baz=150,slow=37								
PMG	**Port Moresby**	**40.36**	**317**	P	P	18 26 36.7	-0.4		
WRKA	**Warakurna**	**41.00**	**280**	P	P	18 26 42.6	+0.1		
CASY	**Casey**	**41.29**	**213**	P	P	18 26 44.4	+0.1		
CASY				IAmb	IAmb	18 26 53.0			
	comp=Z,12nm,1.1s								
KRVT	**Keravat (AS076**	**42.67**	**327**	LR	LR	18 44 11.0			
	comp=Z,94nm,18.5s,baz=266,slow=36								
NWAO	**Narrogin (SRO)**	**44.90**	**263**	LR	LR	18 42 16.8			
	comp=Z,123nm,21.9s,baz=358,slow=31								
QSPA	**South Pole Qui**	**47.58**	**180**	P	P	18 27 40.3	+5.5		
	comp=Z,2.5nm,0.8s,baz=15,slow=3.6,SNR=8.5								
	comp=Z,2.5nm,0.8s								
TAOE	**Nuku Hiva Isla**	**52.53**	**64**	*e*LR	LR	18 43 19.2			
	comp=Z,649nm,28.7s								
BATI	**Baumata**	**54.10**	**291**	LR	LR	18 52 22.2			
	comp=Z,152nm,18.5s,baz=210,slow=37								
SIJI	**Sorong**	**56.22**	**306**	LR	LR	18 53 11.5			
	comp=Z,70nm,19.7s,baz=144,slow=37								
MAW	**Mawson**	**58.54**	**205**	LR	LR	18 56 03.0			
	comp=Z,90nm,18.1s,baz=89,slow=38								
KAPI	**Kappang**	**60.51**	**292**	LR	LR	18 57 08.0			
	comp=Z,57nm,18.2s,baz=152,slow=38								
DAV	**Davao City (W)**	**65.94**	**306**	LR	LR	18 59 32.7			
	comp=Z,32nm,18.2s,baz=128,slow=37								
SNAA	**Sanae**	**66.06**	**181**	P	P	18 29 44.7	-1.1		
SNAA				IAmb	IAmb	18 29 51.2			
	comp=Z,7.6nm,1.1s								
LEM	**Lembang**	**67.81**	**282**	LR	LR	18 59 48.5			
	comp=Z,62nm,19.3s,baz=145,slow=36								
KKM	**Kota Kinabalu**	**71.03**	**298**	P	P	18 30 17.6	0.0		
KSRS	**Korea Array**	**89.85**	**325**	P	P	18 31 58.5	+0.5		
	comp=Z,2.0nm,0.8s,baz=154,slow=6.2,SNR=5.9								
	comp=Z,2.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**91.54**	**294**	P	P	18 32 07.4	+1.1		
	comp=Z,1.6nm,0.8s,baz=147,slow=3.6,SNR=12								
CMAR				LR	LR	19 16 49.4			
	comp=Z,16nm,19.3s,baz=205,slow=38								
	comp=Z,1.6nm,0.8s								
PZH	**PanZhiHua**	**95.36**	**301**	P	P	18 32 25.0	+1.2		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.8s								
PZH				pmax	pmax				
	comp=Z,100nm,4.6s								
PALK	**Pallekele**	**97.03**	**273**	LR	LR	19 12 51.4			
	comp=Z,45nm,18.8s,baz=253,slow=33								
HHC	**Hu-ho-hao-te**	**100.17**	**317**	*e*P	**Pdif**	18 32 46.1	+1.0		
HHC				pmax	pmax				
	comp=Z,37nm,0.9s								
HHC				pmax	pmax				
	comp=Z,290nm,5.1s								
WMQ	**Urumqi**	**115.28**	**307**	*e*P	**PKiKP**	18 37 41.3	+0.7		
MKAR	**Makanchi Array**	**120.10**	**307**	PKP	**PKPdf**	18 37 49.1	-0.6		
	comp=Z,1.2nm,1.0s,baz=135,slow=1.0,SNR=5.2								
ZALV	**Zalesovo Beam**	**122.31**	**316**	PKP	**PKiKP**	18 37 54.0	+0.1		
	comp=Z,0.3nm,0.4s,baz=107,slow=1.5,SNR=2.4								
KBZ	**Khabaz**	**144.46**	**289**	PKP	PKPbc	18 38 33.8	-0.1		
	comp=Z,3.5nm,0.8s,baz=157,slow=2.6,SNR=8.6								
KLMR	**Klimovskoe**	**147.07**	**320**	*e*PKPdf	**PKPdf**	18 38 40.2	+1.0		
KLMR				AMP		18 38 51.7			
	comp=Z,46nm,2.0s								
ARCES	**ARCESS Array B**	**148.37**	**339**	PKPbc	**PKPbc**	18 38 44.3	-0.4		
	comp=Z,2.4nm,0.7s,baz=43,slow=1.8,SNR=6.6								
TORD	**Torodi Ar. Bea**	**149.88**	**196**	PKPbc	**PKiKP**	18 38 51.3	+0.3		
	comp=Z,5.1nm,1.0s,baz=169,slow=1.4,SNR=15								
BRTR	**Keskin Array B**	**149.94**	**278**	PKPbc	**PKPbc**	18 38 49.8	+0.1		
	comp=Z,3.5nm,0.9s,baz=134,slow=3.6,SNR=14								
FINES	**FINESS Array B**	**152.94**	**325**	PKPbc	**PKPbc**	18 38 55.2	-0.5		
	comp=Z,2.3nm,0.7s,baz=107,slow=2.0,SNR=7.5								
AKASG	**Malin Array Be**	**154.44**	**301**	PKPab	**PKPab**	18 39 13.3	-0.4		
	comp=Z,1.8nm,0.9s,baz=78,slow=3.9,SNR=5.2								

WEL ***15*** *18:21:00,42.˚58S×173.˚61E,h6km,ML4.2,Mw4.2, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁵ Nm; Mrr-0.53; Mθθ 1.96; Mϕϕ-1.43; Mrθ 0.86; Mθϕ-2.25; Mϕr 0.26; Fault plane solution: M₀2.97000×10¹⁵ NP1: ϕs161.00000°,δ71.00000°,λ-4.00000°. NP2:ϕs253.00000°, δ86.00000°,λ-161.00000°. Principal axes: T 320.6100, Plg10.0000°, Azm26.0000°; N -273.5800, Plg71.0000°, Azm264.0000°; P -47.0200, Plg16.0000°, Azm119.0000°;*

NEIC ***15*** *18:21:19.4±2.8, 42.˚63S±0.˚02×173.˚61E±0.˚04,h10km±3km, mb4.6/10,Mwr4.3/29 Error ellipse: s-maj=4.2km s-min=2.1km az=109.0*

NEIC ***15*** *18:21:19.3, 42.˚62S×173.˚63E,h17km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.25; Mθθ2.33; Mϕϕ-2.08; Mrθ 0.74; Mθϕ-3.29; Mϕr-0.98; Fault plane solution: M₀4.16000×10¹⁵ NP1:ϕs163.43000°, δ86.31000°,λ15.75000°. NP2:ϕs72.40000°,δ74.28000°, λ

NNZ	**Nelson**	**0.81**	**310**	P		Pn	18 24 25.5	-0.1
PLWZ	**Palliser**	**0.81**	**79**	P		Pg	18 24 24.7	+0.1
PLWZ				S		Sn	18 24 37.4	+0.2
MSWZ	**Moikau Station**	**0.85**	**68**	P		Pg	18 24 25.5	+0.1
MSWZ				S		Sg	18 24 37.2	+0.6
CAW	**Cannon Point**	**0.90**	**46**	P		Pg	18 24 26.4	0.0
CAW				S		Sn	18 24 39.4	-0.1
DUWZ	**D'Urville Isla**	**0.96**	**347**	P		Pn	18 24 28.3	+0.7
DUWZ				S		Sn	18 24 41.1	+0.2
PAWZ	**Paruwai Farm**	**0.98**	**69**	P		Pb	18 24 27.4	-0.2
KIW	**Kapiti Island**	**1.02**	**32**	P		Pn	18 24 28.5	0.0
MTW	**Mount Morrison**	**1.13**	**60**	P		Pn	18 24 29.4	-0.7
TRWZ	**Traveller**	**1.16**	**74**	P		Pn	18 24 29.0	-1.5
OGWZ	**Otaki Gorge**	**1.17**	**39**	P		Pb	18 24 30.9	+0.1
HOWZ	**Holdsworth Sta**	**1.29**	**50**	P		Pn	18 24 31.9	-0.4
TMWZ	**Te Maipa**	**1.42**	**64**	P		Pn	18 24 32.8	-1.2
MRZ	**Mangatainoka R**	**1.49**	**45**	P		Pn	18 24 34.8	-0.2
QRZ	**Quartz Range**	**1.55**	**305**	P		Pn	18 24 34.4	-1.5
PRWZ	**Pori Road**	**1.78**	**49**	P		Pn	18 24 38.3	-0.7
BFZ	**Birch Farm**	**1.87**	**56**	P		Pg	18 24 45.4	+0.7
MOVZ	**Moawhango**	**2.61**	**27**	P		Pb	18 24 55.6	+0.4

*IDC **15** 18:24:51.0±2.7, 41.˙86S×173.˙90E, h0km, mb3.3/2, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=52.3km s-min=38.8km az=111.0*
*WEL **15** 18:24:54.3±0.4, 42.˚S±2.˚×17.˚4E±.˚, h9km±2km, M3.6/19, ML3.9/19, MLv3.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=134.2*

ISC 15 18:24:53.8±0.9, 41.˚97S±0.˙04×174.˙07E±0.˙03, h20km±3km, n45, σ1§23/58, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.25**	**26**	P	**Pb**	**18 24 60.0**	**+0.2**
CMWZ				S	**Sb**	**18 25 04.7**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.30**	**331**	P	**Pb**	**18 24 59.6**	**-0.8**
BSWZ				S	**Sb**	**18 25 03.8**	**-1.1**
TUWZ	**Tuamarina**	**0.55**	**350**	P	**Pb**	**18 25 04.3**	**-0.5**
TUWZ				S	**Sb**	**18 25 11.5**	**-0.7**
KHZ	**Kahutara**	**0.59**	**222**	P	**Pn**	**18 25 07.5**	**+0.5**
TCW	**Tory Channel**	**0.78**	**12**	P	**Pb**	**18 25 08.3**	**-0.3**
TCW				S	**Sb**	**18 25 18.6**	**0.0**
WEL	**Wellington**	**0.86**	**37**	P	**Pn**	**18 25 11.2**	**+0.4**
THZ	**Tophouse**	**0.90**	**283**	P	**Pb**	**18 25 10.9**	**+0.3**
THZ				S	**Sb**	**18 25 21.8**	**-0.3**
NNZ	**Nelson**	**0.92**	**325**	P	**Pb**	**18 25 10.7**	**-0.3**
NNZ				S	**Sb**	**18 25 22.8**	**+0.2**
PLWZ	**Palliser**	**0.97**	**66**	P	**Pn**	**18 25 12.8**	**+0.5**
MSWZ	**Moikau Station**	**1.04**	**58**	P	**Pn**	**18 25 13.4**	**+0.1**
MSWZ				S	**Sn**	**18 25 27.9**	**+0.6**
MRNZ	**Matariki Terra**	**1.14**	**300**	P	**Pb**	**18 25 15.3**	**+0.7**
MRNZ				S	**Sn**	**18 25 31.3**	**+1.8**
CAW	**Cannon Point**	**1.14**	**41**	P	**Pb**	**18 25 14.9**	**+0.1**
CAW				S	**Sn**	**18 25 30.4**	**+0.8**
DUWZ	**D'Urville Isla**	**1.18**	**354**	P	**Pn**	**18 25 15.1**	**0.0**
DUWZ				S	**Sn**	**18 25 30.0**	**-0.5**
GVZ	**Greta Valley S**	**1.25**	**217**	P	**Pb**	**18 25 17.3**	**+0.5**
TKNZ	**Takaka Hill**	**1.25**	**318**	P	**Pb**	**18 25 16.6**	**-0.1**
TKNZ				S	**Sn**	**18 25 33.4**	**+0.9**
KIW	**Kapiti Island**	**1.28**	**30**	P	**Pb**	**18 25 17.2**	**0.0**
KIW				S	**Sb**	**18 25 33.7**	**+0.6**
MTW	**Mount Morrison**	**1.35**	**53**	P	**Pn**	**18 25 17.4**	**0.0**
OGWZ	**Otaki Gorge**	**1.42**	**36**	P	**Pn**	**18 25 18.7**	**+0.3**
LTZ	**Lake Taylor**	**1.56**	**238**	P	**Pn**	**18 25 21.5**	**+1.1**
AMCZ	**Amberley**	**1.59**	**221**	P	**Pn**	**18 25 22.2**	**+1.4**
QRZ	**Quartz Range**	**1.63**	**314**	P	**Pb**	**18 25 23.2**	**0.0**
DSZ	**Denniston Nort**	**1.71**	**277**	P	**Pb**	**18 25 24.7**	**+0.2**
MRZ	**Mangatainoka R**	**1.73**	**41**	P	**Pn**	**18 25 22.6**	**-0.1**
PRWZ	**Pori Road**	**2.02**	**46**	P	**Pn**	**18 25 32.3**	**+2.6**
OXZ	**Oxford**	**2.02**	**227**	P	**Pn**	**18 25 26.8**	**+0.1**
MQZ	**McQueen's Vall**	**2.02**	**211**	P	**Pn**	**18 25 26.0**	**-0.7**
POWZ	**Post Office Ro**	**2.03**	**40**	P	**Pn**	**18 25 27.7**	**+0.9**
WVZ	**Waitaha Valley**	**2.70**	**245**	P	**Pn**	**18 25 37.9**	**+1.9**
NBEZ	**Newall Road No**	**2.71**	**357**	P	**Pb**	**18 25 42.4**	**+0.9**
PKE	**Pukeiti**	**2.78**	**359**	P	**Pb**	**18 25 40.9**	**-1.8**
RPZ	**Rata Peaks**	**2.82**	**231**	Pn	**Pn**	**18 25 37.6**	**-0.1**
	10nm,0.3s,baz=146,slow=3.2,SNR=6.1						
RPZ				Sn	**Sn**	**18 26 11.3**	**+0.3**
	5.9nm,0.3s,baz=337,slow=23,SNR=12						
	31nm,0.4s						
RPZ	**Rata Peaks**	**2.82**	**231**	P	**Pn**	**18 25 37.8**	**+0.1**
MOVZ	**Moawhango**	**2.87**	**27**	P	**Pb**	**18 25 43.4**	**-0.9**
VRZ	**Vera Road**	**2.89**	**11**	P	**Pb**	**18 25 42.8**	**-1.9**
BHHZ	**Black Hill Sta**	**2.91**	**32**	P	**Pb**	**18 25 45.0**	**+0.1**
OTVZ	**Oturere**	**3.06**	**24**	P	**Pb**	**18 25 46.2**	**-1.3**
GCSZ	**Gaunt Creek Bo**	**3.07**	**243**	P	**Pb**	**18 25 45.5**	**-2.1**
WTVZ	**West Tongariro**	**3.08**	**23**	P	**Pb**	**18 25 48.5**	**+0.5**
ETVZ	**East Tongariro**	**3.10**	**24**	P	**Pb**	**18 25 46.7**	**-1.5**
TMVZ	**Te Maari**	**3.11**	**24**	P	**Pb**	**18 25 46.4**	**-2.1**
HIZ	**Hauiti**	**3.51**	**10**	P	**Pn**	**18 25 51.0**	**+3.9**
LIRZ	**Lichensteins R**	**4.34**	**25**	P	**Pb**	**18 26 05.5**	**-3.9**
ASAR	**Alice Springs**	**37.96**	**286**	P	**P**	**18 32 08.8**	**-1.4**
	0.4nm,0.9s,baz=125,slow=6.5,SNR=6.9						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**40.06**	**291**	P	**P**	**18 32 26.9**	**-0.8**
	0.3nm,0.6s,baz=137,slow=6.9,SNR=5.3						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.52**	**195**	PKPbc	**PKPbc**	**18 44 44.9**	**+0.5**
	0.2nm,0.5s,baz=140,slow=3.2,SNR=2.4						

*IDC **15** 18:29:42.2±2.6, 42.˚34S×173.˙44E, h0km, mb3.4/2, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=49.7km s-min=36.2km az=117.0*
*WEL **15** 18:29:43.4±0.4, 42.˚S±2.˚×17.˚4E±.˚, h9km±3km, M3.7/21, ML4.0/21, MLv3.7/21, Error ellipse: s-maj=0.0km s-min=0.0km az=121.8*

ISC 15 18:29:42.6±1.0, 42.˚48S±0.˙03×173.˙67E±0.˙04, h11km±6km, n76, σ1§26/87, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.11**	**303**	P	**Pg**	**18 29 46.0**	**+0.6**
KHZ				S	**Sg**	**18 29 47.6**	**+0.1**
GVZ	**Greta Valley S**	**0.68**	**223**	P	**Pg**	**18 29 55.9**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.78**	**12**	P	**Pg**	**18 29 58.0**	**+0.3**
THZ	**Tophouse**	**0.91**	**321**	P	**Pg**	**18 29 59.5**	**-0.8**
THZ				S	**Sg**	**18 30 10.6**	**-1.5**
AMCZ	**Amberley**	**1.02**	**227**	P	**Pn**	**18 30 04.3**	**+1.3**
AMCZ				S	**Sn**	**18 30 20.0**	**+2.6**
TUWZ	**Tuamarina**	**1.07**	**11**	P	**Pg**	**18 30 03.4**	**+0.2**
TUWZ				S	**Sn**	**18 30 18.0**	**-0.4**
LTZ	**Lake Taylor**	**1.07**	**253**	P	**Pn**	**18 30 04.6**	**+0.8**
LTZ				S	**Sn**	**18 30 19.6**	**+0.9**
MRNZ	**Matariki Terra**	**1.27**	**328**	P	**Pn**	**18 30 06.1**	**-0.3**
MRNZ				S	**Sn**	**18 30 23.8**	**+0.3**
NNZ	**Nelson**	**1.28**	**350**	P	**Pn**	**18 30 06.2**	**-0.2**
OKCZ	**Okains Bay**	**1.32**	**199**	P	**Pn**	**18 30 08.2**	**+1.1**
OKCZ				S	**Sg**	**18 30 26.8**	**+1.6**
TCW	**Tory Channel**	**1.35**	**20**	P	**Pn**	**18 30 07.5**	**+0.1**
TCW				S	**Sn**	**18 30 25.7**	**+0.4**
MQZ	**McQueen's Vall**	**1.44**	**211**	P	**Pn**	**18 30 08.0**	**-0.6**
MQZ				S	**Sn**	**18 30 28.4**	**+0.9**
WEL	**Wellington**	**1.45**	**35**	P	**Pn**	**18 30 09.3**	**+0.5**
WEL				S	**Sn**	**18 30 27.6**	**-0.2**
OXZ	**Oxford**	**1.47**	**234**	P	**Pn**	**18 30 06.6**	**-2.5**
OXZ				S	**Sn**	**18 30 28.6**	**+0.3**
PLWZ	**Palliser**	**1.49**	**53**	P	**Pn**	**18 30 09.7**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.50**	**201**	P	**Pn**	**18 30 10.0**	**+0.4**
TKNZ	**Takaka Hill**	**1.54**	**340**	P	**Pn**	**18 30 10.8**	**+0.7**
DSZ	**Denniston Nort**	**1.57**	**297**	P	**Pn**	**18 30 11.2**	**+0.6**
MSWZ	**Moikau Station**	**1.59**	**49**	P	**Pn**	**18 30 10.8**	**0.0**
INZ	**Inchbonnie**	**1.66**	**261**	P	**Pn**	**18 30 12.6**	**+1.1**
RACZ	**Rakaia**	**1.68**	**221**	P	**Pn**	**18 30 10.2**	**-1.8**
DUWZ	**D'Urville Isla**	**1.69**	**7**	P	**Pn**	**18 30 12.7**	**+0.6**
PAWZ	**Paruwai Farm**	**1.71**	**51**	P	**Pn**	**18 30 12.2**	**-0.2**
CAW	**Cannon Point**	**1.72**	**38**	P	**Pn**	**18 30 12.7**	**+0.1**
TRWZ	**Traveller**	**1.85**	**55**	P	**Pn**	**18 30 14.3**	**-0.1**
QRZ	**Quartz Range**	**1.86**	**332**	P	**Pn**	**18 30 15.7**	**+1.2**
KIW	**Kapiti Island**	**1.86**	**30**	P	**Pn**	**18 30 15.0**	**+0.4**
MTW	**Mount Morrison**	**1.90**	**47**	P	**Pn**	**18 30 14.7**	**-0.4**
WACZ	**Wakanui South**	**1.98**	**222**	P	**Pn**	**18 30 14.3**	**-1.9**
OGWZ	**Otaki Gorge**	**2.01**	**35**	P	**Pn**	**18 30 16.5**	**0.0**
TMWZ	**Te Maipa**	**2.15**	**51**	P	**Pn**	**18 30 18.1**	**-0.4**
WVZ	**Waitaha Valley**	**2.24**	**254**	P	**Pn**	**18 30 18.0**	**-1.7**
RPZ	**Rata Peaks**	**2.28**	**236**	Pn	**Pn**	**18 30 20.7**	**+0.4**
	22nm,0.3s,baz=241,slow=2.6,SNR=64						
RPZ				Sn	**Sn**	**18 30 48.5**	**+0.1**
	61nm,0.3s,baz=23,slow=21,SNR=44						
	48nm,0.3s						
RPZ	**Rata Peaks**	**2.28**	**236**	P	**Pn**	**18 30 18.0**	**-2.3**
MRZ	**Mangatainoka R**	**2.31**	**39**	P	**Pn**	**18 30 20.3**	**-0.5**
ARCZ	**Arundel**	**2.34**	**230**	P	**Pn**	**18 30 18.8**	**-2.3**
PRWZ	**Pori Road**	**2.58**	**43**	P	**Pb**	**18 30 29.2**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**2.59**	**250**	P	**Pn**	**18 30 25.9**	**+1.4**
POWZ	**Post Office Ro**	**2.62**	**38**	P	**Pn**	**18 30 24.7**	**-0.2**
BFZ	**Birch Farm**	**2.64**	**48**	P	**Pn**	**18 30 24.4**	**-0.8**
TMZ	**Timaru**	**2.72**	**225**	P	**Pn**	**18 30 24.2**	**-2.1**
WAZ	**Wanganui**	**2.90**	**21**	P	**Pn**	**18 30 30.9**	**+2.2**
TSZ	**Takapari Road**	**2.97**	**36**	P	**Pn**	**18 30 29.1**	**-0.7**
FOZ	**Fox Glacier**	**3.02**	**248**	P	**Pn**	**18 30 31.4**	**+1.0**
NMEZ	**Namu Road**	**3.07**	**3**	P	**Pb**	**18 30 35.1**	**-2.1**
LBZ	**Lake Benmore**	**3.17**	**232**	P	**Pn**	**18 30 33.2**	**+0.6**
KHEZ	**Kahui Hut**	**3.19**	**5**	P	**Pn**	**18 30 35.7**	**+2.8**
NBEZ	**Newall Road No**	**3.21**	**3**	P	**Pn**	**18 30 35.6**	**+2.6**
NEZ	**North Egmont**	**3.22**	**6**	P	**Pb**	**18 30 38.3**	**-1.7**
PKE	**Pukeiti**	**3.29**	**4**	P	**Pn**	**18 30 36.7**	**+2.5**
ODZ	**Otahua Downs**	**3.37**	**219**	P	**Pn**	**18 30 33.3**	**-2.0**
MOVZ	**Moawhango**	**3.45**	**28**	P	**Pn**	**18 30 36.6**	**+0.1**
VRZ	**Vera Road**	**3.45**	**14**	P	**Pn**	**18 30 35.8**	**-0.6**
WNVZ	**Wahianoa**	**3.47**	**26**	P	**Pn**	**18 30 38.0**	**+1.2**
TRVZ	**Turoa**	**3.48**	**25**	P	**Pn**	**18 30 40.1**	**+3.1**
BHHZ	**Black Hill Sta**	**3.49**	**32**	P	**Pn**	**18 30 37.3**	**+0.3**
OTVZ	**Oturere**	**3.64**	**25**	P	**Pn**	**18 30 39.9**	**+0.7**
WTVZ	**West Tongariro**	**3.66**	**24**	P	**Pn**	**18 30 40.3**	**+0.9**
ETVZ	**East Tongariro**	**3.68**	**26**	P	**Pn**	**18 30 41.9**	**+2.3**
TMVZ	**Te Maari**	**3.70**	**25**	P	**Pn**	**18 30 40.8**	**+1.0**
JCZ	**Jackson Bay**	**3.91**	**244**	P	**Pn**	**18 30 43.3**	**+0.6**
HHSZ	**Highcliff Hill**	**4.06**	**212**	P	**Pn**	**18 30 45.6**	**+0.9**
HIZ	**Hauiti**	**4.06**	**13**	P	**Pn**	**18 30 46.5**	**+1.7**
EAZ	**Earnscleugh**	**4.18**	**227**	P	**Pn**	**18 30 44.6**	**-1.9**
TUZ	**Tuapeka**	**4.53**	**218**	P	**Pn**	**18 30 51.8**	**+0.6**
MLZ	**Mavora Lakes**	**4.94**	**232**	P	**Pn**	**18 30 56.7**	**-0.1**
SYZ	**Scrubby Hill**	**5.19**	**217**	P	**Pn**	**18 31 00.8**	**+0.6**
WHRZ	**Whale Island**	**5.27**	**30**	P	Pn	18 31 08.3	+6.9
AWAZ	**Awhitu Peninsu**	**5.46**	**8**	P	**Pn**	**18 31 05.4**	**+1.4**
MKAZ	**Moumakai**	**5.49**	**13**	P	**Pn**	**18 31 04.9**	**+0.5**
ETAZ	**East Tamaki Re**	**5.60**	**10**	P	**Pn**	**18 31 07.3**	**+1.4**
WIAZ	**Waiheke Island**	**5.79**	**12**	P	**Pn**	**18 31 10.0**	**+1.5**
APZ	**The Paps**	**5.95**	**221**	P	**Pn**	**18 31 10.8**	**+0.1**
ASAR	**Alice Springs**	**37.82**	**287**	P	**P**	**18 36 58.7**	**-0.6**
	0.3nm,0.7s,baz=124,slow=6.4,SNR=8.0						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**39.96**	**292**	P	**P**	**18 37 16.6**	**-0.7**
	0.5nm,0.8s,baz=135,slow=7.0,SNR=9.8						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.96**	**196**	PKPbc	**PKPbc**	**18 49 34.7**	**+1.2**
	0.3nm,0.4s,baz=160,slow=2.3,SNR=3.6						

ROM 15 18:45:52.9±0.0, 42.˚770N±0.˚003×13.˚217E±0.˚004, h11km, ML1.6/5, 5C-7D, Error ellipse: s-maj=0.4km s-min=0.3km az=299.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.09**	**346**	⇑P	Pg	18 45 56.1	+0.4
T1245				S	Sg	18 45 58.1	+0.3
T1245				AML	AML		
	comp=E,381μm,1.0s						
T1245				AML	AML		
	comp=E,344μm,0.9s						
T1245				AML	AML		
	comp=N,452μm,0.5s						
T1245				AML	AML		
	comp=E,344μm,0.9s						
T1245				AML	AML		
	comp=E,382μm,1.0s						
T1245				AML	AML		
	comp=N,452μm,0.5s						
T1245				AML	AML		
	comp=N,495μm,0.3s						
NRCA	**Norcia**	**0.10**	**310**	⇑P	Pg	18 45 56.1	+0.4
NRCA				S	Sg	18 45 58.0	+0.3
NRCA				AML	AML		
	comp=E,1002μm,0.1s						
NRCA				AML	AML		
	comp=N,813μm,0.1s						
T1218	**Civita (PG)**	**0.12**	**217**	⇓P	Pg	18 45 56.5	+0.5
T1218				S	Sg	18 45 59.1	+0.7
T1218				AML	AML		
	comp=E,623μm,0.2s						
T1218				AML	AML		
	comp=N,924μm,0.1s						
T1218				AML	AML		
	comp=N,926μm,0.1s						
MMO1	**Montemonaco**	**0.15**	**32**	P	Pg	18 45 57.0	+0.5
MMO1				S	Sg	18 45 59.9	+0.9
T1243	**Rocca Santa Ma**	**0.19**	**113**	⇓P	Pg	18 45 57.5	+0.5
T1243				S	Sg	18 46 00.7	+0.8
T1216	**Preci, Frazion**	**0.19**	**310**	P	Pg	18 45 57.5	+0.5
T1256	**Bolognola (MC)**	**0.24**	**2**	⇓P	Pg	18 45 58.4	+0.4
T1215	**Vallo di Nera,**	**0.26**	**277**	P	Pg	18 45 58.6	+0.3
RM33	**Pellescritta (**	**0.26**	**180**	⇓P	Pg	18 45 58.9	+0.6
FDMO	**Fiordimonte**	**0.28**	**340**	S	Sb	18 46 04.0	-0.8
GUMA	**Gualdo di Mace**	**0.30**	**17**	⇓P	Pb	18 45 59.9	-0.5
GUMA				AML	AML		
	comp=E,218μm,0.2s						
GUMA				AML	AML		
	comp=N,134μm,0.6s						
TERO	**Teramo**	**0.32**	**117**	⇑P	Pg	18 45 59.8	+0.4
TERO				AML	AML		
	comp=N,74μm,0.2s						
TERO				AML	AML		
	comp=E,51μm,0.9s						
CSP1	**Cessapalombo**	**0.32**	**358**	⇓P	Pg	18 45 59.8	+0.4
T1219	**Muccia, Frazio**	**0.33**	**332**	⇑P	Pg	18 45 59.8	+0.3
T1211	**Morro Reatino**	**0.36**	**229**	⇓P	Pg	18 46 00.5	+0.5
GIGS	**Gran Sasso**	**0.41**	**141**	P	Pb	18 46 02.1	-0.2
PE3	**Peglio**	**1.06**	**331**	⇑P	Pb	18 46 10.7	-2.7
VIVA	**Pratoni del Vi**	**1.07**	**198**	S	Sb	18 46 28.0	+0.5
LRP	**Arpino**	**1.16**	**166**	P	Pb	18 46 14.4	-0.4
LRP				S	Sn	18 46 31.0	+0.2

*THE **15** 18:57:52.3, 37.˚63N×20.˚93E, h0km, 2km, ML3.4/25, Error ellipse: s-maj=2.5km s-min=0.8km az=216.0*
*ATH **15** 18:57:53.7, 37.˚77N×20.˚90E, h13km±1km, ML3.4/17, Error ellipse: s-maj=2.0km s-min=1.0km az=223.0*
*NEIC **15** 18:57:54.6±1.9, 37.˚69N±0.˚07×20.˚88E±0.˚06, h44km±12km, mb4.0/8, Error ellipse: s-maj=11.9km s-min=5.2km az=209.0*
*IDC **15** 18:57:55.3±2.7, 37.˚73N×21.˚00E, h47km±32km, mb3.6/10, mbtmp3.8/11, ML2.7/1, MS2.8/2, Error ellipse: s-maj=24.8km s-min=18.2km az=44.0*

ISC 15 18:57:51.5±0.5, 37.˚70N±0.˚02×20.˚95E±0.˚02, h12km, n120, σ1§56/152, mb4.0/12, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.09**	**274**	P	**Pg**	**18 57 56.0**	**+1.9**
LTHK				S	**Sg**	**18 57 57.5**	**+1.4**
	67μm,0.4s						
LTHK	**Lithakia**	**0.09**	**274**	P	**Pg**	**18 57 56.1**	**+2.0**
LTHK				S	**Sg**	**18 57 58.7**	**+2.6**
LTHK				AML	AML	18 57 58.8	
LTHK				AML	AML	18 57 59.6	
	comp=N,78183μm,0.3s						
RLS	**Riolos of Patr**	**0.54**	**49**	P	**Pb**	**18 58 03.7**	**+0.8**
RLS				S	**Sn**	**18 58 13.3**	**-0.8**
	comp=N,3μm,0.6s						
RLS	**Riolos of Patr**	**0.54**	**49**	P	**Pb**	**18 58 03.6**	**+0.8**
RLS				S	**Sn**	**18 58 12.3**	**-1.8**
RLS				AML	AML	18 58 13.9	
	comp=N,8183μm,0.8s						
RLS				AML	AML	18 58 18.5	
	comp=E,5661μm,0.6s						
VLS	**Valsamata**	**0.55**	**329**	P	**Pb**	**18 58 03.0**	**-0.1**
VLS				S	**Sn**	**18 58 12.4**	**-1.9**
	comp=E,3μm,0.5s						
VLS	**Valsamata**	**0.55**	**329**	P	**Pb**	**18 58 03.0**	**-0.1**
VLS				S	**Sb**	**18 58 09.8**	**-1.2**
VLS				AML	AML	18 58 16.0	
	comp=E,3798μm,0.4s						
VLS				AML	AML	18 58 23.8	
	comp=N,4996μm,0.5s						
DRO	**Drossia**	**0.65**	**67**	P	**Pn**	**18 58 05.8**	**-0.8**
DRO				S	**Sn**	**18 58 16.4**	**-0.4**
	comp=N,7μm,0.6s						
DRO	**Drossia**	**0.65**	**67**	P	**Pb**	**18 58 05.6**	**+0.7**
DRO				S	**Sn**	**18 58 16.8**	**0.0**
DRO				AML	AML	18 58 29.1	
	comp=E,14448μm,0.4s						
DRO				AML	AML	18 58 30.9	
	comp=N,11952μm,0.4s						
KEF3	**Kipouria, Keph**	**0.69**	**317**	P	**Pb**	**18 58 05.5**	**+0.1**
KEF3				S	**Sn**	**18 58 17.8**	**+0.1**
	comp=N,9μm,0.5s						
KEF3	**Kipouria, Keph**	**0.69**	**317**	P	**Pb**	**18 58 05.4**	**0.0**
KEF4	**Livadi, Kephal**	**0.69**	**323**	P	**Pn**	**18 58 06.5**	**-0.6**
KEF4				S	**Sn**	**18 58 17.5**	**-0.2**
	comp=N,16μm,0.4s						
KEF4	**Livadi, Kephal**	**0.69**	**323**	P	**Pb**	**18 58 05.4**	**0.0**
DMLN	**Damoulianata-K**	**0.70**	**320**	P	**Pn**	**18 58 06.0**	**-1.2**
DMLN				S	**Sn**	**18 58 18.9**	**+0.9**
	comp=N,5μm,0.4s						
FSK	**Fiskardo**	**0.81**	**338**	P	**Pn**	**18 58 08.1**	**-0.7**
FSK				S	**Sn**	**18 58 23.8**	**+3.0**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**0.81**	**338**	P	**Pb**	**18 58 07.4**	**-0.2**
FSK				AML	AML	18 58 26.9	
	comp=E,3874μm,0.4s						
FSK				AML	AML	18 58 28.9	
	comp=N,2554μm,0.5s						
UPR	**University Cam**	**0.88**	**49**	P	**Pn**	**18 58 10.2**	**+0.5**
ITM	**Ithomi**	**0.94**	**124**		**Pg**	**18 58 09.7**	**+0.2**
ITM				Sn	**Sn**	**18 58 24.6**	**+0.8**
ITM	**Ithomi**	**0.94**	**124**	P	**Pb**	**18 58 10.1**	**+0.4**
ITM				S	**Sn**	**18 58 24.0**	**+0.2**
	comp=N,1μm,0.4s						
ITM	**Ithomi**	**0.94**	**124**	P	**Pn**	**18 58 10.7**	**+0.2**
ITM				AML	AML	18 58 30.5	
	comp=N,2704μm,0.3s						
ITM				AML	AML	18 58 37.6	
	comp=E,1890μm,0.5s						
EVGl	**Lefkada island**	**0.94**	**346**	P	**Pn**	**18 58 10.2**	**-0.4**
EVGl				S	**Sn**	**18 58 27.7**	**+3.7**
EVGl	**Lefkada island**	**0.94**	**346**	P	**Pb**	**18 58 09.7**	**-0.1**
LAKA	**Lakka**	**0.98**	**56**	P	**Pn**	**18 58 11.0**	**0.0**
LAKA				S	**Sn**	**18 58 27.4**	**+2.6**
	comp=E,5μm,0.9s						
LAKA	**Lakka**	**0.98**	**56**	P	**Pn**	**18 58 10.8**	**-0.2**
PVO	**Paravola**	**1.02**	**26**	P	**Pn**	**18 58 12.6**	**+1.0**
PVO				S	**Sn**	**18 58 29.1**	**+3.2**
	comp=E,4μm,0.4s						
PVO	**Paravola**	**1.02**	**26**	P	**Pn**	**18 58 12.1**	**+0.5**
PYL	**PYLOS**	**1.02**	**142**	P	**Pb**	**18 58 10.8**	**-0.3**
PYL				S	**Sb**	**18 58 25.3**	**+0.7**
	comp=E,925nm,0.5s						
NYDR	**Nydri-Lefkada**	**1.03**	**349**	P	**Pn**	**18 58 11.5**	**-0.2**
NYDR				S	**Sn**	**18 58 29.4**	**+3.4**
	comp=E,1μm,0.6s						
EFP	**Efpalio**	**1.05**	**46**	P	**Pn**	**18 58 12.2**	**+0.2**
EFP				S	**Sn**	**18 58 28.5**	**+2.0**
	comp=E,2μm,0.4s						
EFP	**Efpalio**	**1.05**	**46**	P	**Pn**	**18 58 12.0**	**0.0**
EFP				AML	AML	18 58 35.9	
	comp=E,2999μm,0.3s						
EFP				AML	AML	18 58 36.0	
	comp=N,3236μm,0.5s						
ALIK	**Aliki, Aigiali**	**1.07**	**58**	P	**Pn**	**18 58 13.1**	**+0.8**
LKD2	**Lefkada island**	**1.11**	**348**	P	**Pn**	**18 58 13.2**	**+0.4**
LKD2				S	**Sn**	**18 58 31.5**	**+3.4**
	comp=N,2μm,0.6s						
LKD2	**Lefkada island**	**1.11**	**348**	P	**Pn**	**18 58 12.8**	**-0.1**
LKD2				AML	AML	18 58 35.0	
	comp=N,3202μm,0.7s						
LKD2				AML	AML	18 58 39.0	
	comp=E,4751μm,0.5s						
TRIZ	**Trizonia**	**1.11**	**53**	P	**Pn**	**18 58 13.1**	**+0.3**
SERG	**Sergoula**	**1.13**	**51**	P	**Pg**	**18 58 13.5**	**+0.3**
SERG				S	**Sn**	**18 58 30.9**	**+2.4**
	comp=E,2μm,0.6s						
SERG	**Sergoula**	**1.13**	**51**	P	**Pg**	**18 58 13.4**	**+0.2**
SERG				AML	AML	18 58 40.5	
	comp=N,4177μm,0.7s						
SERG				AML	AML	18 58 40.7	
	comp=E

SCTE				Sn	**Sn**	18 59 13.8	-2.3
FNA	**Florina**	3.10	6		**Pn**	18 58 42.7	+2.5
OHR	**Ohrid**	3.41	358	*i* Pn	**Pb**	18 58 47.9	-3.9
TIP	**Timpagrande**	3.60	295	Pn	**Pn**	18 58 47.7	+0.5
TIR	**Tirane**	3.73	347	Pn	**Pn**	18 58 47.6	-1.3
SANT	**Santorini**	3.85	109	Pn	**Pb**	18 58 55.9	-3.4
IDI	**Anoyia**	3.99	126	P	**Pn**	18 58 53.9	+1.4
	comp=N,0.5nm,0.3s,baz=5.0,slow=16,SNR=2.0						
IDI				S	**Sn**	18 59 39.5	+0.3
	comp=N,7.2nm,0.3s,baz=65,slow=23,SNR=2.2						
	comp=N,17nm,1.0s						
CEL	**Celeste**	4.03	279	Pn	**Pn**	18 58 51.7	-1.4
STIP	**Stip**	4.10	13	*i* Pn	**Pn**	18 58 58.0	+4.1
CUC	**Castrocucco**	4.61	301	Pn	**Pn**	18 59 01.9	+0.9
PDG	**Podgorica**	4.90	345	Pn	**Pn**	18 59 03.6	-1.2
RDO	**Rodhopi**	4.95	45	Pn	**Pn**	18 59 06.5	+0.9
VTS	**Vitosha**	5.21	19	Pn	**Pn**	18 59 11.2	+1.8
RAFF	**Raffo Rosso**	5.26	267	Pn	**Pn**	18 59 08.2	-1.7
KARP	**Karpathos**	5.44	111	Pn	**Pn**	18 59 12.6	+0.2
SGRT	**San Giovanni R**	5.70	317	Pn	**Pn**	18 59 15.4	-0.6
ARG	**Arkhangelos**	5.94	102	Pn	**Pn**	18 59 20.3	+1.1
CLTB	**Caltabellotta**	6.14	271	Pn	**Pn**	18 59 23.7	+1.6
DIVS	**Divibare**	6.43	354	Pn	**Pn**	18 59 26.3	+0.3
INTR	**Introdacqua**	6.92	311	Pn	**Pn**	18 59 32.8	+0.1
AKAS	**Kas**	7.08	99	Pn	**Pn**	18 59 37.7	+2.6
CAMP	**Campotosto**	7.53	312	Pn	**Pn**	18 59 41.8	+0.7
SABO	**M.te Sabotino**	9.92	329	Pn	**Pn**	19 00 13.6	-0.2
VRAC	**Vranov**	12.02	346	LR	LR	19 06 12.2	
	comp=N,30nm,22.0s,baz=338,slow=41						
DAVOX	**Davos/Dischmat**	12.22	321	LR	LR	19 07 25.7	
	comp=N,86nm,19.7s,baz=330,slow=47						
CLL	**Collm**	14.72	340	*e*PP	**P**	19 01 29.0	+3.5
HFS	**Hagfors**	22.92	351	P	**P**	19 02 53.9	-1.2
	comp=N,3.1nm,0.5s,baz=165,slow=11,SNR=11						
	comp=N,3.1nm,0.5s						
BELG	**Belogornoye**	23.71	43	P	**P**	19 03 03.0	-0.1
	comp=N,3.7nm,0.3s,baz=54,slow=3.0,SNR=5.2						
	comp=N,3.7nm,0.3s						
NC602	**NORSAR Array S**	23.81	349	P	**P**	19 03 02.9	-1.0
FINES	**FINESS Array B**	23.98	6	P	**P**	19 03 04.9	-0.7
	comp=N,1.4nm,0.7s,baz=191,slow=9.3,SNR=4.7						
	comp=N,1.4nm,0.7s						
FINES	**FINESS Array B**	23.98	6	P	**P**	19 03 04.5	-1.0
EKA	**Eskdalemuir Ar**	24.01	325	P	**P**	19 03 06.1	+0.2
	comp=N,3.3nm,0.8s,baz=123,slow=8.9,SNR=7.5						
	comp=N,3.3nm,0.8s						
NAO01	**NORSAR Array S**	24.02	348	P	**P**	19 03 05.3	-0.6
NB2	**NORSAR Subarra**	24.15	348	P	**P**	19 03 06.7	-0.5
	comp=Z,1.7nm,0.7s,baz=161,slow=9.3						
NOA	**NORSAR Array B**	24.15	348	P	**P**	19 03 06.5	-0.7
	comp=Z,0.7nm,0.7s,baz=150,slow=6.3,SNR=3.6						
	comp=Z,0.7nm,0.7s						
NC303	**NORSAR Array S**	24.30	349	P	**P**	19 03 08.2	-0.3
TORD	**Torodi Ar. Bea**	29.88	220	P	**P**	19 03 58.9	-0.1
	comp=Z,0.3nm,0.6s,baz=22,slow=9.3,SNR=2.6						
	comp=Z,0.3nm,0.6s						
ABKAR	**Akbulak array**	30.23	55	P	**P**	19 04 01.1	-0.8
ABKAR	**Akbulak array**	30.23	55	P	**P**	19 04 01.1	-0.8
ABKAR				IAmb	IAmb	19 04 40.1	
	comp=Z,3.8nm,1.4s						
ARU	**Arti**	31.19	41	P	**P**	19 04 08.7	-1.5
ARCES	**ARCESS Array B**	31.99	3	P	**P**	19 04 16.2	-0.9
	comp=Z,2.8nm,0.9s,baz=189,slow=11,SNR=1.7						
	comp=Z,2.8nm,0.9s						
MK31	**Makanchi Array**	45.26	58	P	**P**	19 06 07.0	-1.8
MKAR	**Makanchi Array**	45.26	58	P	**P**	19 06 07.5	-1.2
	comp=Z,0.4nm,0.4s,baz=270,slow=7.1,SNR=11						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	45.26	58	P	**P**	19 06 06.5	-2.3
MKAR				PcP	**PcP**	19 07 46.2	-2.3
ZAA0	**Zalesovo Array**	45.76	48	P	**P**	19 06 10.2	-2.3
ZAA0				IAmb	IAmb	19 06 12.1	
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	45.76	48	P	**P**	19 06 11.4	-1.1
	comp=Z,1.2nm,0.4s,baz=275,slow=8.2,SNR=6.4						
	comp=Z,1.2nm,0.4s						
ZALV	**Zalesovo Beam**	45.76	48	P	**P**	19 06 11.1	-1.4
CMAR	**Chiang Mai Arr**	69.62	82	P	**P**	19 08 59.4	-1.5
	comp=Z,0.4nm,0.6s,baz=309,slow=8.0,SNR=4.7						
	comp=Z,0.4nm,0.6s						

WEL ***15*** *19:03:00,41.70S×174.34E,h23km,ML4.8,Mw4.5, Moment Tensor Solution. s7 Moment tensor: Scale 10^{15} Nm; M_{rr}2.51; $M_{\theta\theta}$3.12; $M_{\phi\phi}$-5.64; $M_{r\theta}$-2.25; $M_{\theta\phi}$-2.71; $M_{\phi r}$0.84; Fault plane solution: $M_0$6.05000×10^{15} NP1: ϕ_s235.00000°,δ64.00000°,λ153.00000°. NP2: ϕ_s337.00000°,δ66.00000°,λ29.00000°. Principal axes: T 569.6600, Plg37.0000°, Azm197.0000°; N 71.6600, Plg53.0000°, Azm13.0000°; P -641.3200, Plg1.0000°, Azm106.0000°;*

IDC ***15*** *19:03:55.0±1.1,41.47S×174.19E,h0km,mb4.1/6, mbtmp4.1/7,ML4.0/1,MS3.7/10 Error ellipse: s-maj=39.2km s-min=21.9km az=62.0*

NOU ***15*** *19:03:56.7,41.89S×174.46E,h7km,MLv4.9/13,Cook Strait, New Zealand*

NEIC ***15*** *19:03:58.2±2.1,41.71S±0.03×174.35E±0.02,h21km±4km, mb4.4/13,Mwr4.4/36,Error ellipse: s-maj=4.4km s-min=1.6km az=154.0*

NEIC ***15*** *19:03:58,41.75S×174.36E,h19km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.01; $M_{\theta\theta}$0.71; $M_{\phi\phi}$-3.72; $M_{r\theta}$-0.80; $M_{\theta\phi}$-2.55; $M_{\phi r}$0.99; Fault plane solution: $M_0$4.45000×10^{15} NP1:ϕ_s232.78000°, δ49.10000°,λ133.11000°. NP2:ϕ_s357.75000°,δ56.51000°, λ51.73000°. Principal axes: T 3.7438, Plg59.0000°, Azm211.0000°; N 1.1790, Plg31.0000°, Azm21.0000°; P -4.9228, Plg4.0000°, Azm114.0000°;*

WEL ***15*** *19:03:58.6±0.3,42.3S±3.3×17.4E±,h12km±3km,M4.7/18, ML5.0/18,MLv4.7/18 Error ellipse: s-maj=0.0km s-min=0.0km az=152.8*

ISC 15 19:03:57.5±1.0,41.77S±0.03×174.39E±0.02,h17km±6km, n218,σ1§31/235,mb4.3/15,MS3.6/12,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**280**		**Pb**	19 04 02.5	**+0.8**
CMWZ				Sg	**Sb**	19 04 05.9	**+1.5**
CMWZ	**Cape Campbell**	**0.13**	**280**	P	**Pb**	19 04 02.6	**+1.0**
CMWZ				S	**Sb**	19 04 06.4	**+2.1**
BSWZ	**Blackbirch Sta**	**0.39**	**278**		**Pg**	19 04 05.8	**+0.4**
BSWZ					**Sb**	19 04 12.3	**+0.6**
BSWZ	**Blackbirch Sta**	**0.39**	**278**	P	**Pg**	19 04 06.0	**+0.5**
BSWZ				S	**Sb**	19 04 11.9	**+0.2**
TUWZ	**Tuamarina**	**0.48**	**316**		**Pg**	19 04 07.1	**0.0**
TUWZ					**Sg**	19 04 13.4	**-0.2**
TUWZ	**Tuamarina**	**0.48**	**316**	P	**Pg**	19 04 07.1	**0.0**
TUWZ				S	**Sg**	19 04 13.6	**0.0**
BHW	**Baring Head**	**0.51**	**45**	P	**Pb**	19 04 08.7	**+0.6**
SNZO	**South Karori**	**0.52**	**27**		**Pb**	19 04 08.7	**+0.5**
SNZO	**South Karori**	**0.52**	**27**	P	**Pb**	19 04 09.0	**+0.8**
WEL	**Wellington**	**0.57**	**30**	P	**Pb**	19 04 09.4	**+0.4**
WEL				S	**Sb**	19 04 18.2	**+1.4**
TCW	**Tory Channel**	**0.57**	**352**		**Pg**	19 04 08.6	**-0.2**
TCW					**Sg**	19 04 15.7	**-0.7**
TCW	**Tory Channel**	**0.57**	**352**	P	**Pg**	19 04 08.6	**-0.2**
TCW				S	**Sg**	19 04 15.8	**-0.5**
PLWZ	**Palliser**	**0.68**	**73**		**Pn**	19 04 12.7	**+0.2**
PLWZ				Sn	**Sn**	19 04 23.7	**+1.0**
PLWZ	**Palliser**	**0.68**	**73**	P	**Pn**	19 04 12.7	**+0.2**
PLWZ				S	**Sn**	19 04 24.3	**+1.6**
MSWZ	**Moikau Station**	**0.74**	**61**		**Pn**	19 04 13.5	**+0.3**
MSWZ				Sn	**Sn**	19 04 25.0	**+0.9**
MSWZ	**Moikau Station**	**0.74**	**61**	P	**Pn**	19 04 13.6	**+0.3**
MSWZ				S	**Sn**	19 04 25.3	**+1.2**
CAW	**Cannon Point**	**0.84**	**38**	P	**Pg**	19 04 14.3	**+0.4**
CAW				S	**Sn**	19 04 26.7	**+0.1**
PAWZ	**Paruwai Farm**	**0.87**	**64**	P	**Pg**	19 04 15.2	**+0.7**
PAWZ				S	**Sn**	19 04 28.7	**+1.2**
KHZ	**Kahutara**	**0.90**	**224**	Pn	**Pn**	19 04 16.1	**+0.7**
KHZ				Sn	**Sn**	19 04 29.1	**+1.1**
KHZ	**Kahutara**	**0.90**	**224**	P	**Pn**	19 04 16.2	**+0.8**
KHZ				S	**Sn**	19 04 29.2	**+1.1**
NNZ	**Nelson**	**0.94**	**306**		**Pb**	19 04 15.1	**-0.2**
NNZ				Sn	**Sg**	19 04 27.7	**-0.4**
NNZ	**Nelson**	**0.94**	**306**	P	**Pb**	19 04 15.1	**-0.2**
NNZ				S	**Sn**	19 04 28.5	**-0.5**
KIW	**Kapiti Island**	**0.99**	**24**	P	**Pb**	19 04 16.5	**+0.2**
KIW				S	**Sn**	19 04 30.4	**0.0**
DUWZ	**D'Urville Isla**	**1.03**	**340**	P	**Pb**	19 04 16.7	**-0.3**
DUWZ				S	**Sg**	19 04 30.5	**-0.5**
MTW	**Mount Morrison**	**1.04**	**54**	P	**Pb**	19 04 17.4	**+0.3**
MTW				S	**Sn**	19 04 33.5	**+2.0**
TRWZ	**Traveller**	**1.04**	**69**	P	**Pb**	19 04 17.4	**+0.2**
THZ	**Tophouse**	**1.11**	**270**	Pn	**Pb**	19 04 18.4	**+0.1**
THZ	**Tophouse**	**1.11**	**270**	P	**Pn**	19 04 18.8	**+0.5**
THZ				S	**Sg**	19 04 35.1	**+1.6**
OGWZ	**Otaki Gorge**	**1.12**	**32**	P	**Pn**	19 04 18.8	**+0.3**
OGWZ				S	**Sg**	19 04 34.0	**+0.1**
HOWZ	**Holdsworth Sta**	**1.22**	**45**	P	**Pn**	19 04 19.9	**+0.1**
HOWZ				S	**Sg**	19 04 37.9	**+0.9**
MRNZ	**Matariki Terra**	**1.28**	**286**		**Pb**	19 04 21.2	**0.0**
MRNZ	**Matariki Terra**	**1.28**	**286**	P	**Pb**	19 04 21.3	**+0.1**
MRNZ				S	**Sg**	19 04 39.0	**+0.2**
TKNZ	**Takaka Hill**	**1.30**	**304**		**Pn**	19 04 21.2	**+0.2**
TKNZ	**Takaka Hill**	**1.30**	**304**	P	**Pn**	19 04 21.3	**+0.2**
TMWZ	**Te Maipa**	**1.31**	**60**	P	**Pn**	19 04 20.9	**-0.3**
MRZ	**Mangatainoka R**	**1.43**	**39**		**Pn**	19 04 22.7	**0.0**
MRZ	**Mangatainoka R**	**1.43**	**39**	P	**Pn**	19 04 22.8	**0.0**
TIWZ	**Tintock**	**1.51**	**49**	P	**Pn**	19 04 23.6	**-0.2**
GVZ	**Greta Valley S**	**1.56**	**220**	Pn	**Pn**	19 04 24.6	**+0.1**
GVZ	**Greta Valley S**	**1.56**	**220**	P	**Pn**	19 04 24.9	**+0.3**
CPWZ	**Castlepoint**	**1.61**	**58**	P	**Pn**	19 04 25.2	**-0.1**
QRZ	**Quartz Range**	**1.69**	**303**	Pn	**Pn**	19 04 26.8	**+0.5**
QRZ	**Quartz Range**	**1.69**	**303**	P	**Pb**	19 04 27.8	**-0.4**
QRZ	**Quartz Range**	**1.69**	**303**	P	**Pb**	19 04 27.5	**-0.7**
QRZ				S	**Sb**	19 04 49.6	**+0.4**
PRWZ	**Pori Road**	**1.71**	**45**	P	**Pn**	19 04 26.3	**-0.3**
OHWZ	**Ohakea**	**1.72**	**24**	P	**Pb**	19 04 28.3	**-0.3**
POWZ	**Post Office Ro**	**1.73**	**38**	P	**Pn**	19 04 26.8	**-0.1**
BFZ	**Birch Farm**	**1.78**	**53**		**Pn**	19 04 26.6	**-0.9**
BFZ	**Birch Farm**	**1.78**	**53**	P	**Pn**	19 04 27.1	**-0.4**
BFZ	**Birch Farm**	**1.78**	**53**	P	**Pn**	19 04 26.6	**-0.9**
LTZ	**Lake Taylor**	**1.87**	**237**	Pn	**Pn**	19 04 29.0	**+0.2**
LTZ	**Lake Taylor**	**1.87**	**237**	P	**Pn**	19 04 29.2	**+0.4**
AMCZ	**Amberley**	**1.90**	**222**		**Pn**	19 04 28.9	**-0.3**
AMCZ	**Amberley**	**1.90**	**222**	P	**Pn**	19 04 29.2	**-0.1**
DSZ	**Denniston Nort**	**1.93**	**270**	Pn	**Pn**	19 04 30.8	**+1.1**
DSZ	**Denniston Nort**	**1.93**	**270**	P	**Pn**	19 04 31.1	**+1.4**
DVHZ	**Dannevirke**	**2.00**	**43**	P	**Pn**	19 04 29.7	**-0.9**
ANWZ	**Angora Road**	**2.05**	**51**	P	**Pn**	19 04 30.4	**-0.8**
WAZ	**Wanganui**	**2.07**	**13**	P	**Pb**	19 04 33.8	**-0.8**
TSZ	**Takapari Road**	**2.09**	**35**	P	**Pn**	19 04 31.5	**-0.3**
OKCZ	**Okains Bay**	**2.18**	**206**	P	**Pn**	19 04 32.7	**-0.4**
PRHZ	**Porangahau**	**2.27**	**49**	P	**Pn**	19 04 33.0	**-1.3**
LREZ	**Lake Rotokare**	**2.31**	**0**	P	**Pb**	19 04 38.0	**-0.8**
WPHZ	**Waipukurau**	**2.31**	**43**	P	**Pn**	19 04 34.1	**-0.7**
PNHZ	**Pukenui**	**2.31**	**37**	P	**Pn**	19 04 34.3	**-0.6**
MQZ	**McQueen's Vall**	**2.32**	**213**	Pn	**Pn**	19 04 33.6	**-1.3**
MQZ	**McQueen's Vall**	**2.32**	**213**	P	**Pn**	19 04 33.9	**-1.0**
OXZ	**Oxford**	**2.33**	**227**	Pn	**Pn**	19 04 34.0	**-1.1**
OXZ	**Oxford**	**2.33**	**227**	P	**Pn**	19 04 34.5	**-0.6**
AKCZ	**Akaroa Harbour**	**2.36**	**207**	P	**Pn**	19 04 35.1	**-0.4**
INZ	**Inchbonnie**	**2.38**	**245**		**Pn**	19 04 34.4	**-1.4**
INZ	**Inchbonnie**	**2.38**	**245**	P	**Pn**	19 04 36.8	**+1.0**
NMEZ	**Namu Road**	**2.39**	**350**	P	**Pb**	19 04 39.3	**-0.8**
KHEZ	**Kahui Hut**	**2.49**	**353**	P	**Pb**	19 04 40.9	**-1.0**
KHEZ	**Kahui Hut**	**2.49**	**353**	P	**Pb**	19 04 40.1	**-1.8**
NEZ	**North Egmont**	**2.51**	**355**	P	**Pb**	19 04 40.9	**-1.3**
MTVZ	**Mangateitei**	**2.52**	**19**	P	**Pb**	19 04 42.2	**-0.3**
NBEZ	**Newall Road No**	**2.53**	**351**	P	**Pb**	19 04 40.7	**-1.9**
PXZ	**Pawanui**	**2.56**	**48**	P	**Pn**	19 04 36.7	**-1.6**
RACZ	**Rakaia**	**2.56**	**220**	P	**Pn**	19 04 37.2	**-1.1**
MOVZ	**Moawhango**	**2.58**	**24**	P	**Pn**	19 04 38.8	**+0.2**
DREZ	**Durham Road**	**2.58**	**357**	P	**Pb**	19 04 41.8	**-1.6**
PKVZ	**Pokaka**	**2.59**	**17**	P	**Pn**	19 04 40.1	**+1.4**
PKE	**Pukeiti**	**2.59**	**353**	P	**Pb**	19 04 41.6	**-2.1**
WNWZ	**Wahianoa**	**2.61**	**21**	P	**Pn**	19 04 40.2	**+1.1**
BHHZ	**Black Hill Sta**	**2.61**	**30**	P	**Pn**	19 04 39.4	**+0.4**
TRVZ	**Turoa**	**2.62**	**20**	P	**Pn**	19 04 40.6	**+1.2**
DRZ	**Dome Shelter**	**2.65**	**20**	P	**Pn**	19 04 41.8	**+2.0**
WHVZ	**Whangaehu Hut**	**2.65**	**21**	P	**Pn**	19 04 40.9	**+1.2**
VRZ	**Vera Road**	**2.66**	**6**	P	**Pn**	19 04 41.6	**+1.9**
FWVZ	**Far West T-bar**	**2.67**	**20**	P	**Pn**	19 04 41.3	**+1.3**
TUVZ	**Tukino**	**2.68**	**22**	P	**Pn**	19 04 41.2	**+1.1**
MHEZ	**Mangahewa**	**2.69**	**359**	P	**Pb**	19 04 44.0	**-1.3**
KAHZ	**Kahuranaki**	**2.73**	**45**	P	**Pn**	19 04 39.3	**-1.4**
NGZ	**Ngauruhoe**	**2.75**	**20**	P	**Pn**	19 04 42.4	**+1.3**
SNVZ	**South Ngauruho**	**2.75**	**21**	P	**Pn**	19 04 42.7	**+1.6**
OTVZ	**Oturere**	**2.78**	**21**	P	**Pn**	19 04 42.6	**+1.1**
NNVZ	**North Ngauruho**	**2.80**	**20**	P	**Pn**	19 04 42.9	**+1.2**
WTVZ	**West Tongariro**	**2.81**	**19**	P	**Pn**	19 04 43.3	**+1.5**
KWHZ	**Kaweka Forest**	**2.81**	**34**	P	**Pn**	19 04 41.3	**-0.5**
TWVZ	**Taurewa**	**2.82**	**17**	P	**Pn**	19 04 43.1	**+1.2**
ETVZ	**East Tongariro**	**2.82**	**21**	P	**Pn**	19 04 43.2	**+1.2**
TMVZ	**Te Maari**	**2.84**	**21**	P	**Pn**	19 04 43.4	**+1.1**
KRVZ	**Karewarewa**	**2.84**	**20**	P	**Pn**	19 04 43.8	**+1.5**
NTVZ	**North Tongarir**	**2.85**	**21**	P	**Pn**	19 04 43.4	**+1.1**
WACZ	**Wakanui South**	**2.87**	**220**	P	**Pn**	19 04 41.7	**-0.7**
MCHZ	**McNeill Hill**	**2.92**	**38**	P	**Pn**	19 04 42.2	**-0.9**
CKHZ	**Cape Kidnapper**	**2.94**	**45**	P	**Pn**	19 04 41.8	**-1.7**
KATZ	**Kakaramea**	**2.97**	**20**	P	**Pb**	19 04 50.1	**0.0**
WVZ	**Waitaha Valley**	**3.00**	**243**	P	**Pn**	19 04 45.0	**+0.7**
BKZ	**Black Stump Fm**	**3.06**	**32**		**Pn**	19 04 44.3	**-0.9**
BKZ	**Black Stump Fm**	**3.06**	**32**	P	**Pn**	19 04 44.5	**-0.7**
RATZ	**Rangitukua**	**3.09**	**20**	P	**Pb**	19 04 49.8	**-2.3**
RPZ	**Rata Peaks**	**3.13**	**231**	Pn	**Pn**	19 04 45.4	**-0.8**
	15nm,0.3s,baz=91,slow=1.6,SNR=36						
RPZ				Sn	**Sn**	19 05 20.7	**-2.4**
	20nm,0.3s,baz=353,slow=20,SNR=16						
	91nm,0.5s						
RPZ	**Rata Peaks**	**3.13**	**231**	P	**Pn**	19 04 45.2	**-0.9**
RPZ	**Rata Peaks**	**3.13**	**231**	P	**Pn**	19 04 45.6	**-0.5**
HATZ	**Hinemaiaia**	**3.16**	**25**	P	**Pb**	19 04 53.1	**-0.2**
ARHZ	**Aropaoanui**	**3.20**	**39**	P	**Pn**	19 04 45.8	**-1.2**
ARCZ	**Arundel**	**3.21**	**226**	P	**Pn**	19 04 46.7	**-0.5**
NMHZ	**Naumai**	**3.25**	**35**	P	**Pn**	19 04 47.3	**-0.5**
HIZ	**Hauiti**	**3.28**	**6**	Pn	**Pn**	19 04 49.0	**+0.8**
HIZ	**Hauiti**	**3.28**	**6**	P	**Pn**	19 04 51.3	**+3.2**
HIZ	**Hauiti**	**3.28**	**6**	P	**Pn**	19 04 49.7	**+1.6**
MRHZ	**Matea Rd**	**3.32**	**29**	P	**Pb**	19 04 54.3	**-1.7**
WHTZ	**Whakaora**	**3.33**	**22**	P	**Pb**	19 04 56.3	**+0.1**
GCSZ	**Gaunt Creek Bo**	**3.37**	**241**	P	**Pn**	19 04 50.5	**+1.1**
MTHZ	**Maungataniwha**	**3.47**	**34**	P	**Pn**	19 04 50.0	**-0.8**
ALRZ	**Allen Road**	**3.54**	**26**	P	**Pn**	19 04 58.1	**-1.6**
TLZ	**Tolley Road**	**3.55**	**15**	P	**Pn**	19 04 53.3	**+3.3**
TMZ	**Timaru**	**3.60**	**222**	P	**Pn**	19 04 51.9	**-0.7**
KNZ	**Kokohu**	**3.72**	**43**	P	**Pn**	19 04 52.2	**-2.1**
HSRZ	**Hossack Road**	**3.74**	**23**	P	**Pb**	19 05 01.0	**-2.1**
MHGZ	**Mahia Peninsul**	**3.75**	**47**	P	**Pn**	19 04 52.4	**-2.3**
RRRZ	**Republican Roa**	**3.80**	**26**	P	**Pb**	19 05 02.5	**-1.6**
FOZ	**Fox Glacier**	**3.80**	**241**		**Pn**	19 04 55.4	**+0.1**
FOZ	**Fox Glacier**	**3.80**	**241**	P	**Pn**	19 04 55.5	**+0.1**
TARZ	**Mount Tarawera**	**3.89**	**25**	P	**Pn**	19 04 55.9	**-0.7**
RIGZ	**Rimuhau**	**4.01**	**41**	P	**Pn**	19 04 56.5	**-1.7**
LBZ	**Lake Benmore**	**4.04**	**228**	Pn	**Pn**	19 04 56.6	**-1.9**
LBZ	**Lake Benmore**	**4.04**	**228**	P	**Pn**	19 04 58.6	**0.0**
URZ	**Urewera**	**4.08**	**32**	P	**Pn**	19 04 59.0	**-0.2**
TOZ	**Tahuroa Road**	**4.13**	**12**	P	**Pn**	19 05 00.6	**+0.8**
ODZ	**Otahua Downs**	**4.26**	**219**		**Pn**	19 05 00.2	**-1.3**
ODZ	**Otahua Downs**	**4.26**	**219**	P	**Pn**	19 05 00.5	**-1.1**
ODZ	**Otahua Downs**	**4.26**	**219**	P	**Pn**	19 05 00.5	**-1.1**
TWGZ	**Tauwhareparae**	**4.53**	**39**	P	**Pn**	19 05 04.2	**-1.2**
RUGZ	**Raukumara Rang**	**4.57**	**35**	P	**Pn**	19 05 04.0	**-2.0**
MKAZ	**Moumakai**	**4.70**	**8**	P	**Pn**	19 05 08.4	**+0.8**
AWAZ	**Awhitu Peninsu**	**4.71**	**2**	P	**Pn**	19 05 09.4	**+1.6**
JCZ	**Jackson Bay**	**4.71**	**239**	P	**Pn**	19 05 08.9	**+1.0**
JCZ	**Jackson Bay**	**4.71**	**239**	P	**Pn**	19 05 08.1	**+0.2**
HAZ	**Te Kaha**	**4.79**	**34**	P	**Pn**	19 05 07.5	**-1.4**
ETAZ	**East Tamaki Re**	**4.83**	**5**	P	**Pn**	19 05 11.3	**+1.8**
WTAZ	**Waiatarua**	**4.84**	**2**	P	**Pn**	19 05 13.0	**+3.4**
HHSZ	**Highcliff Hill**	**4.94**	**212**	P	**Pn**	19 05 10.4	**-0.6**
WKZ	**Wanaka**	**4.97**	**230**		**Pn**	19 05 09.5	**-1.9**
WKZ	**Wanaka**	**4.97**	**230**	P	**Pn**	19 05 09.6	**-1.8**
WIAZ	**Waiheke Island**	**5.01**	**7**	P	**Pn**	19 05 13.5	**+1.6**
MBAZ	**Motutapu North**	**5.01**	**5**	P	**Pn**	19 05 15.1	**+3.2**
EAZ	**Earnscleugh**	**5.06**	**225**	P	**Pn**	19 05 12.4	**-0.2**
KUZ	**Kuaotunu**	**5.13**	**12**	P	**Pn**	19 05 14.0	**+0.5**
KUZ	**Kuaotunu**	**5.13**	**12**	P	**Pn**	19 05 16.2	**+2.7**
ABAZ	**Army Bay**	**5.18**	**4**	P	**Pn**	19 05 17.3	**+3.1**
MXZ	**Matakaoa Point**	**5.18**	**37**	Pn	**Pn**	19 05 11.2	**-3.1**
MXZ	**Matakaoa Point**	**5.18**	**37**	P	**Pn**	19 05 16.1	**+1.8**
TUZ	**Tuapeka**	**5.41**	**218**	P	**Pn**	19 05 16.6	**-0.9**
MLZ	**Mavora Lakes**	**5.80**	**230**		**Pn**	19 05 21.6	**-1.2**
MLZ	**Mavora Lakes**	**5.80**	**230**	P	**Pn**	19 05 22.3	**-0.5**
SYZ	**Scrubby Hill**	**6.08**	**217**	P	**Pn**	19 05 26.1	**-0.5**
SYZ	**Scrubby Hill**	**6.08**	**217**	P	**Pn**	19 05 26.1	**-0.5**
WHZ	**Wether Hill Ro**	**6.22**	**226**		**Pn**	19 05 26.1	**-2.5**
DCZ	**Deep Cove**	**6.42**	**232**		**Pn**	19 05 28.3	**-2.9**
OUZ	**Omahuta**	**6.57**	**354**		**Pn**	19 05 30.3	**-3.1**
OUZ	**Omahuta**	**6.57**	**354**	P	**Pn**	19 05 36.1	**+2.7**
CTZ	**Chatham Island**	**6.91**	**110**	P	**Pn**	19 05 38.2	**+0.2**
CTZ	**Chatham Island**	**6.91**	**110**	P	**Pn**	19 05 38.1	**+0.1**
PYZ	**Puysegur Point**	**7.08**	**229**	Pn	**Pn**	19 05 39.3	**-1.1**
DZM	**Mont Dzumac**	**20.75**	**339**	*e*LR	LR	19 13 30.3	
	comp=Z,64nm,23.2s						
DZM	**Mont Dzumac**	**20.75**	**339**	LR	LR	19 16 31.0	
	comp=Z,146nm,18.1s,baz=202,slow=37						
MSVF	**Nonsavu**	**24.16**	**9**	LR	LR	19 18 23.8	
	comp=Z,140nm,18.5s,baz=192,slow=36						
STKA	**Stephens Creek**	**27.90**	**280**	LR	LR	19 20 12.8	
	comp=Z,145nm,18.4s,baz=200,slow=35						
BBOO	**Buckleboo**	**31.56**	**274**	P	**P**	19 10 18.2	**-0.9**
BBOO				IAmb	IAmb	19 10 34.8	
	comp=Z,19nm,1.4s						
CTA	**Charters Tower**	**32.16**	**304**	LR	LR	19 22 54.3	
	comp=Z,129nm,18.4s,baz=120,slow=36						
TBI	**Tubuai**	**35.25**	**70**	*e*LR	L

INZ	**Inchbonnie**	**2.18**	**250**	P		**Pb**	19 19 31.7	**+0.1**
DVHZ	**Dannevirke**	**2.26**	**41**	P		**Pn**	19 19 29.3	**-0.1**
RACZ	**Rakaia**	**2.29**	**221**	P		**Pn**	19 19 30.8	**+0.9**
WAZ	**Wanganui**	**2.33**	**15**	P		**Pb**	19 19 32.9	**-1.4**
TSZ	**Takapari Road**	**2.36**	**34**	P		**Pn**	19 19 31.1	**+0.3**
PRHZ	**Porangahau**	**2.52**	**47**	P		**Pn**	19 19 32.8	**-0.2**
LREZ	**Lake Rotokare**	**2.56**	**3**	P		**Pb**	19 19 36.9	**-1.2**
WPHZ	**Waipukurau**	**2.57**	**41**	P		**Pn**	19 19 33.8	**+0.1**
PNHZ	**Pukenui**	**2.58**	**36**	P		**Pn**	19 19 33.9	**+0.1**
WACZ	**Wakanui South**	**2.60**	**222**	P		**Pn**	19 19 35.1	**+1.1**
NMEZ	**Namu Road**	**2.62**	**354**	P		**Pb**	19 19 40.0	**+0.9**
KHEZ	**Kahui Hut**	**2.73**	**357**	P		**Pb**	19 19 40.3	**-0.7**
NEZ	**North Egmont**	**2.75**	**358**	P		**Pb**	19 19 40.4	**-1.0**
NBEZ	**Newall Road No**	**2.76**	**354**	P		**Pb**	19 19 41.5	**0.0**
WVZ	**Waitaha Valley**	**2.79**	**247**	P		**Pn**	19 19 38.6	**+2.0**
PKE	**Pukeiti**	**2.83**	**356**	P		**Pb**	19 19 41.6	**-1.1**
MOVZ	**Moawhango**	**2.86**	**24**	P		**Pn**	19 19 38.4	**+0.8**
PKVZ	**Pokaka**	**2.86**	**18**	P		**Pn**	19 19 39.8	**+2.1**
RPZ	**Rata Peaks**	**2.88**	**233**	Pn		**Pn**	19 19 38.5	**+0.5**
	8.1nm,0.3s,baz=91,slow=3.1,SNR=20							
RPZ				Sn		**Sn**	19 20 11.1	**-1.3**
	37nm,0.3s,baz=155,slow=23,SNR=46							
RPZ				LR		LR	19 20 24.6	
	comp=Z,88nm,20.9s,baz=45,slow=33							
	82nm,0.5s							
RPZ	**Rata Peaks**	**2.88**	**233**	P		**Pn**	19 19 38.8	**+0.9**
RPZ	**Rata Peaks**	**2.88**	**233**	P		**Pn**	19 19 38.8	**+0.9**
WNVZ	**Wahianoa**	**2.88**	**22**	P		**Pn**	19 19 39.6	**+1.5**
BHHZ	**Black Hill Sta**	**2.89**	**30**	P		**Pn**	19 19 38.3	**+0.3**
TRVZ	**Turoa**	**2.90**	**21**	P		**Pn**	19 19 40.1	**+1.7**
VRZ	**Vera Road**	**2.92**	**8**	P		**Pn**	19 19 40.8	**+2.3**
DRZ	**Dome Shelter**	**2.92**	**21**	P		**Pb**	19 19 42.2	**-2.4**
WHVZ	**Whangaehu Hut**	**2.92**	**21**	P		**Pn**	19 19 40.4	**+1.6**
FWVZ	**Far West T-bar**	**2.94**	**21**	P		**Pn**	19 19 40.8	**+1.9**
ARCZ	**Arundel**	**2.95**	**228**	P		**Pn**	19 19 39.7	**+0.8**
TUVZ	**Tukino**	**2.96**	**22**	P		**Pn**	19 19 40.7	**+1.6**
KAHZ	**Kahuranaki**	**3.00**	**43**	P		**Pn**	19 19 38.9	**-0.7**
NGZ	**Ngauruhoe**	**3.03**	**21**	P		**Pn**	19 19 42.0	**+1.9**
SNVZ	**South Ngauruho**	**3.03**	**21**	P		**Pn**	19 19 42.1	**+2.0**
OTVZ	**Oturere**	**3.06**	**21**	P		**Pn**	19 19 41.9	**+1.5**
NNVZ	**North Ngauruho**	**3.07**	**21**	P		**Pn**	19 19 42.5	**+1.8**
WTVZ	**West Tongariro**	**3.08**	**20**	P		**Pn**	19 19 42.5	**+1.7**
TWVZ	**Taurewa**	**3.09**	**18**	P		**Pn**	19 19 42.4	**+1.5**
ETVZ	**East Tongariro**	**3.09**	**22**	P		**Pn**	19 19 42.5	**+1.5**
TMVZ	**Te Maari**	**3.11**	**22**	P		**Pn**	19 19 42.5	**+1.3**
KRVZ	**Karewarewa**	**3.11**	**21**	P		**Pn**	19 19 43.2	**+1.9**
NTVZ	**North Tongarir**	**3.12**	**21**	P		**Pn**	19 19 42.9	**+1.6**
GCSZ	**Gaunt Creek Bo**	**3.15**	**244**	P		**Pb**	19 19 48.2	**0.0**
MCHZ	**McNeill Hill**	**3.19**	**37**	P		**Pn**	19 19 42.3	**+0.2**
BKZ	**Black Stump Fm**	**3.33**	**32**	P		**Pn**	19 19 44.7	**+0.5**
BKZ	**Black Stump Fm**	**3.33**	**32**	P		**Pn**	19 19 43.7	**-0.5**
TMZ	**Timaru**	**3.33**	**224**	P		**Pn**	19 19 45.3	**+1.1**
RATZ	**Rangitukua**	**3.36**	**21**	P		**Pb**	19 19 52.1	**+0.2**
ARHZ	**Aropaoanui**	**3.47**	**38**	P		**Pn**	19 19 45.9	**-0.1**
HIZ	**Hauiti**	**3.54**	**8**	P		**Pn**	19 19 49.2	**+2.3**
HIZ	**Hauiti**	**3.54**	**8**	P		**Pn**	19 19 49.0	**+2.1**
FOZ	**Fox Glacier**	**3.58**	**244**	P		**Pn**	19 19 49.6	**+2.1**
MRHZ	**Matea Rd**	**3.59**	**28**	P		**Pn**	19 19 47.5	**-0.3**
MTHZ	**Maungataniwha**	**3.74**	**33**	P		**Pn**	19 19 49.9	**+0.1**
LBZ	**Lake Benmore**	**3.78**	**230**	P		**Pn**	19 19 51.4	**+1.0**
TLZ	**Tolley Road**	**3.82**	**16**	P		**Pn**	19 19 52.3	**+1.4**
ODZ	**Otahua Downs**	**3.99**	**220**	P		**Pn**	19 19 54.0	**+0.8**
ODZ	**Otahua Downs**	**3.99**	**220**	P		**Pn**	19 19 53.3	**+0.1**
URZ	**Urewera**	**4.36**	**31**	P		**Pn**	19 19 58.2	**0.0**
TOZ	**Tahuroa Road**	**4.39**	**13**	P		**Pn**	19 20 00.2	**+1.5**
JCZ	**Jackson Bay**	**4.48**	**241**	P		**Pn**	19 20 01.6	**+1.6**
JCZ	**Jackson Bay**	**4.48**	**241**	P		Pn	19 20 05.0	+4.9
EAZ	**Earnscleugh**	**4.80**	**226**	P		**Pn**	19 20 05.5	**+1.2**
RUGZ	**Raukumara Rang**	**4.84**	**34**	P		**Pn**	19 20 03.6	**-1.4**
AWAZ	**Awhitu Peninsu**	**4.96**	**4**	P		**Pn**	19 20 09.3	**+2.8**
MKAZ	**Moumakai**	**4.96**	**9**	P		**Pn**	19 20 07.8	**+1.3**
HAZ	**Te Kaha**	**5.06**	**34**	P		**Pn**	19 20 07.1	**-0.7**
STKA	**Stephens Creek**	**27.82**	**281**	LR		LR	19 33 19.5	
	comp=Z,46nm,21.1s,baz=203,slow=32							
ASAR	**Alice Springs**	**38.09**	**286**	P		**P**	**19 26 09.3**	**-1.5**
	0.2nm,0.5s,baz=126,slow=7.3,SNR=5.4							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**40.18**	**291**	P		**P**	**19 26 27.9**	**-0.5**
	0.6nm,0.7s,baz=130,slow=8.4,SNR=9.0							
	0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**150.51**	**195**	PKPbc		**PKiKP**	**19 38 45.5**	**+0.7**
	0.2nm,0.5s,baz=171,slow=1.3,SNR=2.0							

TIR ***15*** *19:21:57.3,39°.73N×20°.75E,h5km,Md3.2*
PDG ***15*** *19:21:58.8±0.5,39°.80N×20°.70E,h17km±1km,ML3.4/12, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0*
ATH ***15*** *19:21:58.2,39°.78N×20°.73E,h8km±1km,ML3.2/15,Error ellipse: s-maj=1.3km s-min=0.6km az=318.0*
BEO ***15*** *19:21:58.3±0.7,39°.70N×20°.75E,h16km±3km,ML3.1/11*
THE ***15*** *19:21:58.0,39°.77N×20°.74E,h0km±2km,ML3.1/13,Error ellipse: s-maj=2.7km s-min=0.6km az=119.0*
IDC ***15*** *19:21:59.9±5.7,39°.80N×20°.73E,h36km±57km,mb3.4/7, mbtmp3.6/8,ML2.9/1,MS3.3/2,Error ellipse: s-maj=27.4km s-min=20.6km az=73.0*

ISC 15 19:21:57.5±0.8,39°.75N±0°.01×20°.76E±0°.02,h11km±5km, n121,σ1°24/179,mb3.5/6,15C-6D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAN	**Janina**	**0.12**	**144**	P	**Pg**		**19 21 59.6**	**-0.9**
JAN				S	**Sg**		**19 22 02.7**	**0.0**
	15μm,0.2s							
JAN	**Janina**	**0.12**	**144**	P	**Pg**		**19 22 00.8**	**+0.2**
JAN				S	**Sg**		**19 22 03.7**	**+1.0**
IGT	**Igoumenitsa**	**0.40**	**237**	P	**Pg**		**19 22 05.5**	**+0.1**
IGT				S	**Sg**		**19 22 10.9**	**+0.3**
	7μm,0.4s							
IGT	**Igoumenitsa**	**0.40**	**237**	P	**Pg**		**19 22 05.5**	**+0.1**
	baz=240							
IGT				S	**Sb**		**19 22 12.3**	**-0.3**
	baz=240							
IGT	**Igoumenitsa**	**0.40**	**237**	P	**Pg**		**19 22 05.7**	**+0.4**
IGT				S	**Sg**		**19 22 11.5**	**+0.8**
IGT				AML	AML		19 22 15.2	
	comp=N,14867μm,0.4s							
IGT				AML	AML		19 22 15.2	
	comp=E,13523μm,0.3s							
LSK	**Leskovik**	**0.42**	**343**	P	**Pg**		**19 22 05.6**	**-0.1**
LSK				S	**Sg**		**19 22 11.5**	**+0.2**
	comp=E,14μm,0.6s							
LSK	**Leskovik**	**0.42**	**343**	P	**Pg**		**19 22 05.9**	**+0.2**
	baz=345							
LSK				S	**Sb**		**19 22 13.6**	**+0.4**
	baz=345							
KPRO	**Kipourio**	**0.51**	**66**	P	**Pg**		**19 22 06.8**	**-0.6**
KPRO				S	**Sb**		**19 22 15.0**	**-0.8**
	comp=E,6μm,0.5s							
KPRO	**Kipourio**	**0.51**	**66**	P	**Pg**		**19 22 07.9**	**+0.5**
KPRO				S	**Sb**		**19 22 15.4**	**-0.4**
KPRO				AML	AML		19 22 17.7	
	comp=E,14097μm,0.5s							
KPRO				AML	AML		19 22 17.7	
	comp=N,7434μm,0.4s							
PENT	**Pentalofos**	**0.53**	**33**	P	**Pg**		**19 22 08.1**	**+0.2**
PENT				S	**Sb**		**19 22 17.2**	**+0.7**
	comp=N,978nm,0.4s							
PENT	**Pentalofos**	**0.53**	**33**	P	**Pg**		**19 22 08.2**	**+0.3**
PENT				S	**Sb**		**19 22 15.6**	**-0.9**
PENT				AML	AML		19 22 20.1	
	comp=N,1302μm,0.5s							
PENT				AML	AML		19 22 21.2	
	comp=E,2842μm,0.6s							
SRN	**Sarande**	**0.60**	**282**	P	**Pg**		**19 22 08.5**	**-0.6**
SRN				S	**Sg**		**19 22 17.6**	**+0.5**
	comp=E,3μm,0.3s							
SRN	**Sarande**	**0.60**	**282**	P	**Pg**		**19 22 08.6**	**-0.6**
	baz=285							
SRN				S	**Sb**		**19 22 18.2**	**-0.2**
	baz=285							
KASA	**Kassiopi**	**0.64**	**270**	P	**Pg**		**19 22 09.1**	**-0.7**
KASA				S	**Sg**		**19 22 18.3**	**0.0**
KASA				AML	AML		19 22 21.1	
	comp=N,12932μm,0.3s							
KASA				AML	AML		19 22 22.0	
	comp=E,13911μm,0.4s							
NEST	**Nestorio**	**0.70**	**18**	P	**Pb**		**19 22 11.6**	**-0.1**
NEST				S	**Sb**		**19 22 22.3**	**+1.0**
	comp=E,1μm,0.6s							
NEST	**Nestorio**	**0.70**	**18**	P	**Pg**		**19 22 11.1**	**+0.1**
NEST				S	**Sg**		**19 22 20.6**	**+0.4**
NEST				AML	AML		19 22 29.3	
	comp=N,3884μm,0.6s							
NEST				AML	AML		19 22 31.9	
	comp=E,3507μm,0.5s							
KEK	**Kerkira**	**0.74**	**267**	P	**Pg**		**19 22 11.1**	**-0.8**
KEK				S	**Sg**		**19 22 22.1**	**+0.5**
	comp=E,3μm,0.5s							
KEK	**Kerkira**	**0.74**	**267**	P	**Pg**		**19 22 11.5**	**-0.4**
KEK				S	**Sg**		**19 22 21.8**	**+0.2**
KEK				AML	AML		19 22 24.3	
	comp=E,6300μm,0.2s							
KEK				AML	AML		19 22 26.6	
	comp=N,6289μm,0.4s							
KBN	**Korca**	**0.87**	**1**	P	**Pg**		**19 22 13.8**	**-0.5**
KBN				S	**Sn**		**19 22 27.8**	**-0.6**
	comp=N,1μm,0.5s							
KBN	**Korca**	**0.87**	**1**	P	**Pg**		**19 22 14.0**	**-0.3**
	baz=1.0							
KBN				S	**Sn**		**19 22 30.0**	**+1.6**
	baz=1.0							
TSLK	**Tsoukalades, L**	**0.93**	**185**	P	**Pg**		**19 22 15.7**	**+0.3**
TSLK				S	**Sn**		**19 22 31.0**	**+1.3**
	comp=N,1μm,0.6s							
TSLK	**Tsoukalades, L**	**0.93**	**185**	P	**Pb**		**19 22 16.4**	**+0.8**
TSLK				S	**Sn**		**19 22 29.4**	**-0.3**
KZN	**Kozani**	**0.95**	**54**	P	**Pg**		**19 22 15.7**	**-0.2**
KZN	**Kozani**	**0.95**	**54**	P	**Pg**		**19 22 16.0**	**+0.1**
KZN				S	**Sb**		**19 22 29.1**	**+0.5**
KZN				AML	AML		19 22 37.7	
	comp=E,2780μm,0.5s							
KZN				AML	AML		19 22 37.9	
	comp=N,2199μm,0.6s							
LKD2	**Lefkada island**	**0.97**	**185**	P	**Pb**		**19 22 16.6**	**+0.4**
LKD2				S	**Sn**		**19 22 30.9**	**+0.3**
	comp=N,1μm,0.7s							
LKD2	**Lefkada island**	**0.97**	**185**	P	**Pn**		**19 22 17.2**	**+0.3**
LKD2				S	**Sn**		**19 22 31.0**	**+0.3**
LKD2				AML	AML		19 22 34.3	
	comp=E,2455μm,1.0s							
LKD2				AML	AML		19 22 38.0	
	comp=N,2511μm,0.5s							
THL	**Klokotos Trika**	**0.99**	**101**	P	**Pg**		**19 22 15.9**	**-0.6**
THL				S	**Sn**		**19 22 32.2**	**+1.1**
	comp=N,645nm,0.6s							
THL	**Klokotos Trika**	**0.99**	**101**	P	**Pb**		**19 22 16.9**	**+0.4**
THL				S	**Sn**		**19 22 30.7**	**-0.3**
THL				AML	AML		19 22 34.1	
	comp=N,1766μm,0.7s							
THL				AML	AML		19 22 38.8	
	comp=E,807μm,0.4s							
NYDR	**Nydri-Lefkada**	**1.04**	**183**	P	**Pb**		**19 22 17.8**	**+0.4**
NYDR				S	**Sn**		**19 22 34.2**	**+1.8**
	comp=E,1μm,0.6s							
FNA	**Florina**	**1.13**	**24**	*e*Pg	**Pn**		**19 22 19.4**	**+0.1**
FNA				*e*Sg	**Sn**		**19 22 36.9**	**+2.1**
FNA	**Florina**	**1.13**	**24**	P	**Pb**		**19 22 19.2**	**+0.1**
	baz=24							
FNA				S	**Sn**		**19 22 37.3**	**+2.5**
	baz=24							
FNA	**Florina**	**1.13**	**24**	P	**Pb**		**19 22 19.0**	**0.0**
EVGI	**Lefkada island**	**1.13**	**184**	P	**Pg**		**19 22 20.2**	**+0.9**
EVGI	**Lefkada island**	**1.13**	**184**	P	**Pg**		**19 22 20.1**	**+0.9**
TYRN	**Tyrnavos**	**1.14**	**92**	P	**Pg**		**19 22 19.5**	**+0.1**
TYRN				S	**Sn**		**19 22 35.6**	**+0.8**
TYRN				AML	AML		19 22 40.1	
	comp=N,2518μm,0.7s							
TYRN				AML	AML		19 22 41.5	
	comp=E,1976μm,0.6s							
EVR	**Evrytania**	**1.17**	**135**	P	**Pb**		**19 22 19.8**	**+0.2**
EVR	**Evrytania**	**1.17**	**135**	P	**Pg**		**19 22 20.7**	**+0.8**
EVR				S	**Sn**		**19 22 36.6**	**+0.9**
EVR				AML	AML		19 22 44.4	
	comp=E,1218μm,0.6s							
EVR				AML	AML		19 22 46.0	
	comp=N,1254μm,0.5s							
VLO	**Vlora**	**1.21**	**307**	P	**Pg**		**19 22 23.0**	**+2.4**
	baz=308							
VLO				S	**Sn**		**19 22 41.1**	**+4.6**
	baz=308							
KTI	**Kastanea**	**1.22**	**58**	P	**Pg**		**19 22 21.5**	**+0.5**
PVO	**Paravola**	**1.28**	**152**	P	**Pg**		**19 22 22.8**	**+0.7**
PVO	**Paravola**	**1.28**	**152**	P	**Pb**		**19 22 21.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.29**	**124**	P	**Pn**		**19 22 21.9**	**+0.4**
MAKR				S	**Sg**		**19 22 40.0**	**+0.8**
MAKR				AML	AML		19 22 47.9	
	comp=N,3161μm,0.6s							
MAKR				AML	AML		19 22 50.5	
	comp=E,2726μm,0.5s							
FSK	**Fiskardo**	**1.30**	**187**	P	**Pb**		**19 22 22.3**	**+0.4**
FSK	**Fiskardo**	**1.30**	**187**	P	**Pn**		**19 22 22.1**	**+0.5**
FSK				S	**Sg**		**19 22 39.9**	**+0.6**
FSK				AML	AML		19 22 46.3	
	comp=E,2130μm,0.5s							
FSK				AML	AML		19 22 48.8	
	comp=N,1441μm,0.8s							
OHR	**Ohrid**	**1.36**	**1**	*e*Pg	**Pb**		**19 22 22.9**	**0.0**
OHR				*e*Sg	**Sg**		**19 22 43.2**	**+2.0**
OHR	**Ohrid**	**1.36**	**1**	*i* Pn	**Pb**		**19 22 22.9**	**0.0**
AGG	**Agios Georgios**	**1.42**	**120**	P	**Pn**		**19 22 23.4**	**+0.2**
ANX	**Ano Chora**	**1.47**	**142**	P	**Pb**		**19 22 25.0**	**+0.2**
ANX				S	**Sn**		**19 22 43.7**	**+0.6**
ANX				AML	AML		19 22 57.0	
	comp=E,1227μm,0.9s							
ANX				AML	AML		19 22 59.3	
	comp=N,1973μm,0.5s							
KEF4	**Livadi, Kephal**	**1.52**	**190**	P	**Pb**		**19 22 26.4**	**+0.9**
KEF4	**Livadi, Kephal**	**1.52**	**190**	P	**Pn**		**19 22 25.4**	**+1.0**
DMLN	**Damoulianata-K**	**1.54**	**191**	P	**Pb**		**19 22 26.7**	**+0.7**
VLS	**Valsamata**	**1.58**	**185**	P	**Pb**		**19 22 26.9**	**+0.3**
VLS	**Valsamata**	**1.58**	**185**	P	**Pn**		**19 22 25.6**	**+0.2**
VLS				S	**Sn**		**19 22 46.8**	**+1.0**
VLS				AML	AML		19 22 56.0	
	comp=N,1015μm,0.7s							
VLS				AML	AML		19 22 59.2	
	comp=E,883μm,0.5s							
KEF3	**Kipouria, Keph**	**1.58**	**192**	P	**Pn**		**19 22 25.8**	**+0.5**
EFP	**Efpalio**	**1.60**	**146**	P	**Pb**		**19 22 26.7**	**-0.2**
SERG	**Sergoula**	**1.68**	**143**	P	**Pb**		**19 22 28.1**	**-0.2**
TIR	**Tirane**	**1.73**	**337**	P	**Pb**		**19 22 28.9**	**-0.4**
TIR	**Tirane**	**1.73**	**337**	P	**Pn**		**19 22 28.0**	**+0.5**
TIR	**Tirane**	**1.73**	**337**	*e*Pn	**Pb**		**19 22 29.4**	**+0.1**
TIR				*e*Sn	**Sb**		**19 22 50.8**	**-0.2**
TIR	**Tirane**	**1.73**	**337**	P	**Pg**		**19 22 30.2**	**-0.6**
	baz=338							
TIR				S	**Sg**		**19 22 54.6**	**+1.4**
	baz=338							
GRG	**Griva**	**1.74**	**46**	P	**Pb**		**19 22 28.7**	**-0.7**
GRG	**Griva**	**1.74**	**46**	P	**Pn**		**19 22 27.7**	**+0.2**
THE	**Thessaloniki**	**1.90**	**62**	P	**Pn**		**19 22 30.9**	**+1.1**
VAY	**Valandovo**	**2.09**	**41**	*e*Pn	**Pn**		**19 22 32.7**	**+0.4**
VAY				*e*Sn	**Sn**		**19 22 58.5**	**+0.2**
STIP	**Stip**	**2.22**	**29**	*i* Pn	**Pn**		**19 22 35.5**	**+1.3**
SOH	**Sokhos**	**2.25**	**61**	P	**Pn**		**19 22 35.8**	**+1.1**
SOH	**Sokhos**	**2.25**	**61**	P	**Pn**		**19 22 35.1**	**+0.4**
PAIG	**Paliouri**	**2.25**	**85**	P	**Pn**		**19 22 35.2**	**+0.6**
SKO	**Skopje**	**2.28**	**13**	*e*Pn	**Pb**		**19 22 37.2**	**-1.3**
SKO	**Skopje**	**2.28**	**13**	*i* Pn	**Pb**		**19 22 38.1**	**-0.5**
ULC	**Ulcinj**	**2.49**	**333**	*e*Pn	**Pn**		**19 22 39.0**	**+1.1**
ULC				*i* Sn	**Sn**		**19 23 09.5**	**+1.2**
SRS	**Serrai**	**2.56**	**57**	*e*Pn	**Pn**		**19 22 39.1**	**+0.3**
SRS				*e*Sn	**Sn**		**19 23 11.0**	**+1.1**
BCI	**Bajram Curri**	**2.66**	**349**	P	**Pb**		**19 22 43.2**	**-1.9**
	baz=350							
BCI				S	**Sb**		**19 23 17.4**	**-0.5**
	baz=350							
KOKK	**Kokkinochori,**	**2.70**	**66**	P	**Pn**		**19 22 41.8**	**+1.1**
DRME	**Dracevica, Mon**	**2.71**	**334**	*i* Pn	**Pn**		**19 22 42.0**	**+1.1**
DRME				*i* Sn	**Sn**		**19 23 14.9**	**+1.3**
PVY	**Plav**	**2.90**	**348**	*i* Pn	**Pn**		**19 22 45.0**	**+1.3**
PVY				*i* Sn	**Sn**		**19 23 20.0**	**+1.4**
PDG	**Podgorica**	**2.91**	**337**	P	**Pn**		**19 22 44.9**	**+1.3**
TTG	**Podgorica**	**2.91**	**337**	*e*Pn	**Pn**		**19 22 44.9**	**+1.3**
TTG				*i* Sn	**Sn**		**19 23 19.8**	**+1.3**
BUM	**Brajici-Budva**	**2.91**	**332**	*e*Pn	**Pn**		**19 22 44.6**	**+0.9**
BUM				*i* Sn	**Sn**		**19 23 19.7**	**+1.0**
BOSS	**Bosilegrad**	**3.03**	**25**	*e*Pn	**Pn**		**19 22 46.6**	**+1.2**
CEME	**Cevo**	**3.12**	**334**	*e*Pn	**Pn**		**19 22 47.1**	**+0.5**
CEME				*i* Sn	**Sn**		**19 23 24.9**	**+1.1**
BARS	**Barje**	**3.16**	**14**	*e*Pn	**Pn**		**19 22 48.7**	**+1.6**
IVA	**Berane**	**3.18**	**348**	*i* Pn	**Pn**		**19 22 48.8**	**+1.3**
IVA				*i* Sn	**Sn**		**19 23 26.7**	**+1.2**
HCY	**Herceg Novi**	**3.19**	**328**	*e*Pn	**Pn**		**19 22 48.3**	**+0.8**
HCY				*i* Sn	**Sn**		**19 23 25.5**	**0.0**
MATE	**Matera**	**3.23**	**287**	⇑P	**Pn**		19 22 41.4	-6.7
KOME	**Kolasin**	**3.23**	**344**	⇑*i*Pn	**Pn**		**19 22 49.5**	**+1.3**
KOME				*i* Sn	**Sn**		**19 23 27.9**	**+1.2**
NKME	**Niksic**	**3.31**	**336**	⇓*i*Pn	**Pn**		**19 22 50.3**	**+1.2**
NKME				*i* Sn	**Sn**		**19 23 29.4**	**+1.0**
VTS	**Vitosha**	**3.42**	**32**	⇓P	**Pn**		**19 22 53.3**	**+2.5**
VTS	**Vitosha**	**3.42**	**32**	*e*Pn	**Pn**		**19 22 51.7**	**+0.9**
SELS	**Selova**	**3.47**	**4**	*e*Pn	**Pn**		**19 22 52.6**	**+1.2**
SJES	**Sjenica**	**3.56**	**351**	*e*Pn	**Pn**		**19 22 53.9**	**+1.3**
SJES				*e*Sn	**Sn**		**19 23 34.9**	**+0.2**
BRY	**Bratogost**	**3.56**	**333**	*e*Pn	**Pn**		**19 22 53.9**	**+1.1**
BRY				*i* Sn	**Sn**		**19 23 35.7**	**+0.8**
UPM	**Unac-Piva**	**3.72**	**339**	⇓*i*Pn	**Pn**		**19 22 56.2**	**+1.2**
UPM				*i* Sn	**Sn**		**19 23 39.7**	**+0.9**
ZAPS	**Zavoj**	**3.79**	**21**	*e*Pn	**Pn**		**19 22 57.6**	**+1.8**
IVAS	**Ivanjica**	**3.85**	**353**	*e*Pn	**Pn**		**19 22 57.5**	**+0.9**
IVAS				*e*Sn	**Sn**		**19 23 41.2**	**-0.6**
GRUS	**Gruza**	**4.13**	**360**	*e*Pn	**Pn**		**19 23 01.7**	**+1.2**
ZAGS	**Zajecar**	**4.20**	**15**	*e*Pn	**Pn**		**19 23 02.3**	**+0.9**
ZAGS				*e*Sn	**Sn**		**19 23 50.8**	**+0.3**
DIVS	**Divibare**	**4.38**	**353**	*e*Pn	**Pn**		**19 23 04.4**	**+0.5**
DIVS				*e*Sn	**Sn**		**19 23 54.1**	**-0.9**
TRUS	**Trudelj**	**4.47**	**357**	*e*Pn	**Pn**		**19 23 05.1**	**-0.1**
PLVB	**Pleven**	**4.64**	**37**	⇑P	**Pn**		**19 23 09.9**	**+2.5**
MDVR	**Moldovita**	**5.08**	**8**	⇑P	**Pn**		**19 23 16.9**	**+3.4**
IDI	**Anoyia**	**5.53**	**142**	Pn	**Pn**		**19 23 21.3**	**+1.5**
	comp=E,0.4nm,0.3s,baz=349,slow=16,SNR=2.0							
IDI				Sn	**Sn**		**19 24 21.8**	**-1.6**
	comp=E,0.4nm,0.3s,baz=44,slow=14,SNR=2.0							
	comp=E,11nm,0.8s							
GZR	**Gura Zlata**	**5.83**	**14**	⇑P	**Pn**		**19 23 26.9**	**+3.1**
BZS	**Buzias**	**5.89**	**6**	⇑P	**Pn**		**19 23 27.5**	**+2.9**
VOIR		**6.50**	**28**	⇑P	**Pn**		**19 23 35.9**	**+2.9**
SIRR	**Siria**	**6.54**	**5**	⇑P	**Pn**		**19 23 36.3**	**+2.7**
MLR	**Muntele Rosu**	**6.89**	**32**	⇑P	**Pn**		**19 23 41.7**	**+3.3**
MLR	**Muntele Rosu**	**6.89**	**32**	Pn	**Pn**		**19 23 43.0**	**+4.6**
	comp=E,0.7nm,0.3s,baz=261,slow=5.5,SNR=8.4							
MLR				LR	LR		19 27 16.0	
	comp=E,91nm,21.2s,baz=6.5,slow=46							
NEHR	**Nehoiu**	**6.99**	**34**	⇑P	**Pn**		**19 23 41.8**	**+2.1**
BISRR	**Bisoca**	**7.26**	**35**	⇑P	**Pn**		**19 23 46.3**	**+2.8**
PLOR	**Plostina**	**7.47**	**33**	⇓P	**Pn**		**19 23 48.8**	**+2.5**
VRI	**Vrincioaia**	**7.52**	**34**	⇑P	**Pn**		**19 23 49.5**	**+2.5**
HFS	**Hagfors**	**20.88**	**350**	P	**P**		**19 26 38.0**	**-1.2**
	comp=E,1.7nm,0.6s,baz=151,slow=9.4,SNR=5.6							
	comp=E,1.7nm,0.6s							
FINES	**FINESS Array B**	**21.96**	**7**	P	**P**		**19 26 49.2**	**-1.7**
	comp=E,3.6nm,1.0s,baz=166,slow=9.8,SNR=7.9							
	comp=E,3.6nm,1.0s							
NB2	**NORSAR Subarra**	**22.12**	**348**	P	**P**		**19 26 51.0**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=163,slow=11							
NOA	**NORSAR Array B**	**22.12**	**348**	P	**P**		**19 26 51.1**	**-1.6**
	comp=Z,

INZ	**Inchbonnie**	**1.67**	**251**	P	**Pn**	**19 28 17.4**	**+0.7**
AKCZ	**Akaroa Harbour**	**1.75**	**196**	P	**Pn**	**19 28 16.6**	**-1.1**
TRWZ	**Traveller**	**1.76**	**64**	P	**Pn**	**19 28 16.4**	**-1.4**
MTW	**Mount Morrison**	**1.77**	**55**	P	**Pn**	**19 28 16.9**	**-1.0**
OGWZ	**Otaki Gorge**	**1.81**	**41**	P	**Pn**	**19 28 18.4**	**-0.2**
RACZ	**Rakaia**	**1.87**	**214**	P	**Pn**	**19 28 17.8**	**-1.5**
HOWZ	**Holdsworth Sta**	**1.94**	**49**	P	**Pg**	**19 28 24.7**	**-0.1**
TMWZ	**Te Maipa**	**2.04**	**59**	P	**Pn**	**19 28 20.3**	**-1.4**
MRZ	**Mangatainoka R**	**2.14**	**45**	P	**Pn**	**19 28 22.1**	**-1.0**
WACZ	**Wakanui South**	**2.17**	**216**	P	**Pn**	**19 28 22.1**	**-1.4**
WVZ	**Waitaha Valley**	**2.28**	**246**	P	**Pn**	**19 28 25.3**	**+0.3**
OHWZ	**Ohakea**	**2.37**	**34**	P	**Pb**	**19 28 29.7**	**-0.5**
RPZ	**Rata Peaks**	**2.41**	**230**	Pn	**Pn**	**19 28 25.6**	**-1.1**
	15nm,0.3s,baz=38,slow=2.3,SNR=27						
RPZ				Sn	**Sn**	**19 28 55.0**	**-1.0**
	25nm,0.3s,baz=27,slow=18,SNR=2.6						
	49nm,0.4s						
RPZ	**Rata Peaks**	**2.41**	**230**	P	**Pn**	**19 28 25.7**	**-1.1**
PRWZ	**Pori Road**	**2.42**	**48**	P	**Pn**	**19 28 29.2**	**+2.2**
POWZ	**Post Office Ro**	**2.43**	**43**	P	**Pn**	**19 28 26.3**	**-0.8**
ARCZ	**Arundel**	**2.49**	**224**	P	**Pn**	**19 28 26.8**	**-1.1**
BFZ	**Birch Farm**	**2.50**	**54**	P	**Pn**	**19 28 28.7**	**+0.6**
WAZ	**Wanganui**	**2.65**	**24**	P	**Pn**	**19 28 32.6**	**+2.5**
GCSZ	**Gaunt Creek Bo**	**2.65**	**244**	P	**Pn**	**19 28 31.0**	**+0.9**
DVHZ	**Dannevirke**	**2.71**	**47**	P	**Pb**	**19 28 37.7**	**+1.7**
NMEZ	**Namu Road**	**2.78**	**5**	P	**Pb**	**19 28 31.8**	**-1.8**
TSZ	**Takapari Road**	**2.78**	**41**	P	**Pb**	**19 28 31.8**	**-0.1**
LREZ	**Lake Rotokare**	**2.79**	**13**	P	**Pb**	**19 28 36.0**	**-1.4**
TMZ	**Timaru**	**2.89**	**220**	P	**Pn**	**19 28 32.2**	**-1.2**
KHEZ	**Kahui Hut**	**2.91**	**7**	P	**Pb**	**19 28 37.1**	**-2.3**
NBEZ	**Newall Road No**	**2.93**	**4**	P	**Pb**	**19 28 37.1**	**-2.5**
NEZ	**North Egmont**	**2.94**	**8**	P	**Pb**	**19 28 39.0**	**-1.0**
PKE	**Pukeiti**	**3.01**	**6**	P	**Pn**	**19 28 37.9**	**+2.8**
PNHZ	**Pukenui**	**3.01**	**42**	P	**Pn**	**19 28 34.6**	**-0.5**
FOZ	**Fox Glacier**	**3.08**	**243**	P	**Pn**	**19 28 36.8**	**+0.8**
VRZ	**Vera Road**	**3.19**	**17**	P	**Pn**	**19 28 40.0**	**+2.5**
PKVZ	**Pokaka**	**3.19**	**25**	P	**Pb**	**19 28 44.7**	**+0.5**
MOVZ	**Moawhango**	**3.23**	**31**	P	**Pn**	**19 28 38.4**	**+0.3**
WNVZ	**Wahianoa**	**3.24**	**29**	P	**Pn**	**19 28 39.7**	**+1.3**
TRVZ	**Turoa**	**3.25**	**28**	P	**Pn**	**19 28 42.3**	**+3.8**
WHVZ	**Whangaehu Hut**	**3.28**	**28**	P	**Pn**	**19 28 42.5**	**+3.6**
BHHZ	**Black Hill Sta**	**3.29**	**36**	P	**Pn**	**19 28 39.2**	**+0.3**
LBZ	**Lake Benmore**	**3.32**	**227**	P	**Pn**	**19 28 38.4**	**-0.8**
NGZ	**Ngauruhoe**	**3.38**	**28**	P	**Pb**	**19 28 46.9**	**-0.6**
SNVZ	**South Ngauruho**	**3.38**	**28**	P	**Pb**	**19 28 46.2**	**-1.3**
OTVZ	**Oturere**	**3.41**	**28**	P	**Pb**	**19 28 47.1**	**-1.0**
NNVZ	**North Ngauruho**	**3.42**	**27**	P	**Pb**	**19 28 46.2**	**-2.0**
ETVZ	**East Tongariro**	**3.45**	**29**	P	**Pb**	**19 28 47.8**	**-0.9**
KAHZ	**Kahuranaki**	**3.45**	**47**	P	**Pn**	**19 28 41.2**	**0.0**
KRVZ	**Karewarewa**	**3.46**	**27**	P	**Pb**	**19 28 46.9**	**-2.0**
TMVZ	**Te Maari**	**3.47**	**28**	P	**Pb**	**19 28 47.5**	**-1.4**
NTVZ	**North Tongarir**	**3.47**	**28**	P	**Pb**	**19 28 48.2**	**-0.9**
ODZ	**Otahua Downs**	**3.56**	**216**	P	**Pn**	**19 28 40.9**	**-1.8**
HIZ	**Hauiti**	**3.80**	**15**	P	**Pn**	**19 28 48.1**	**+2.3**
JCZ	**Jackson Bay**	**3.99**	**240**	P	**Pn**	**19 28 49.3**	**+0.7**
TLZ	**Tolley Road**	**4.13**	**22**	P	**Pb**	**19 28 57.7**	**-2.6**
HHSZ	**Highcliff Hill**	**4.28**	**209**	P	**Pn**	**19 28 51.0**	**-1.5**
EAZ	**Earnscleugh**	**4.34**	**224**	P	**Pn**	**19 28 52.8**	**-0.6**
TOZ	**Tahuroa Road**	**4.69**	**19**	P	**Pn**	**19 29 01.1**	**+3.1**
AWAZ	**Awhitu Peninsu**	**5.18**	**9**	P	**Pn**	**19 29 06.7**	**+1.8**
MKAZ	**Moumakai**	**5.22**	**14**	P	**Pn**	**19 29 07.0**	**+1.6**
SYZ	**Scrubby Hill**	**5.39**	**215**	P	**Pn**	**19 29 06.8**	**-0.9**
MBAZ	**Motutapu North**	**5.51**	**11**	P	**Pn**	**19 29 09.3**	**0.0**
ASAR	**Alice Springs**	**37.68**	**287**	P	**P**	**19 35 01.9**	**-0.9**
	0.3nm,0.8s,baz=122,slow=7.8,SNR=2.0						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**39.80**	**292**	P	**P**	**19 35 20.7**	**+0.1**
	0.3nm,0.7s,baz=129,slow=8.0,SNR=5.9						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.22**	**196**	PKPbc	**PKiKP**	**19 47 43.2**	**+3.6**
	0.2nm,0.5s,baz=207,slow=3.3,SNR=1.9						

WEL 15 19:28:32.7±0.5,**42°S**±3°×**17°4E**±°,**h6**km±3km,**M3.8**/12,
ML4.1/12,**MLv3.8**/12,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=158.9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**254**	P	Pg	19 28 34.0	-0.6
CMWZ				S	Sg	19 28 37.2	+1.3
BSWZ	**Blackbirch Sta**	**0.33**	**272**	P	Pg	19 28 38.7	-0.5
BSWZ				S	Sg	19 28 44.5	+1.0
TUWZ	**Tuamarina**	**0.41**	**317**	P	Pg	19 28 40.8	+0.2
TUWZ				S	Sb	19 28 47.6	-1.2
TCW	**Tory Channel**	**0.52**	**357**	P	Pg	19 28 42.6	-0.1
TCW				S	Sb	19 28 50.8	-1.1
BHW	**Baring Head**	**0.53**	**53**	P	Pg	19 28 42.7	-0.2
BHW				S	Sb	19 28 51.1	-1.0
WEL	**Wellington**	**0.56**	**38**	P	Pg	19 28 43.8	+0.3
WEL				S	Sb	19 28 52.6	-0.6
PLWZ	**Palliser**	**0.72**	**78**	P	Pg	19 28 46.6	0.0
PLWZ				S	Sb	19 28 58.7	+0.8
MSWZ	**Moikau Station**	**0.77**	**66**	P	Pg	19 28 47.3	-0.2
MSWZ				S	Sb	19 28 59.7	+0.5
CAW	**Cannon Point**	**0.84**	**43**	P	Pg	19 28 48.5	-0.4
CAW				S	Sb	19 29 02.0	+0.8
NNZ	**Nelson**	**0.87**	**306**	P	Pg	19 29 49.7	+0.3
NNZ				S	Sn	19 29 03.5	+0.8
PAWZ	**Paruwai Farm**	**0.91**	**68**	P	Pg	19 28 49.2	-0.9
PAWZ				S	Sb	19 29 03.1	-0.1
THZ	**Tophouse**	**1.05**	**268**	P	Pn	19 28 54.1	0.0
THZ				S	Sb	19 29 08.0	+0.5
MRNZ	**Matariki Terra**	**1.21**	**285**	P	Pg	19 28 55.4	-0.6
MRNZ				S	Sn	19 29 13.2	+0.2

WEL 15 19:35:38.7±0.3,**42°S**±3°×**17°3E**±°,**h12**km±4km,**M3.4**/19,
ML3.6/12,**MLv3.4**/19,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=121.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.11**	**76**	P	Pb	19 35 42.3	-0.6
KHZ				S	Sg	19 35 44.7	+0.9
GVZ	**Greta Valley S**	**0.59**	**206**	P	Pn	19 35 52.0	-0.9
GVZ				S	Sn	19 36 01.5	-1.0
THZ	**Tophouse**	**0.77**	**332**	P	Pg	19 35 53.5	-0.1
THZ				S	Sg	19 36 02.8	-0.9
BSWZ	**Blackbirch Sta**	**0.81**	**27**	P	Pg	19 35 54.4	0.0
LTZ	**Lake Taylor**	**0.89**	**247**	P	Pg	19 35 55.9	-0.1
LTZ				S	Sg	19 36 07.8	+0.1
AMCZ	**Amberley**	**0.91**	**216**	P	Pn	19 35 57.6	+0.1
TUWZ	**Tuamarina**	**1.09**	**22**	P	Pb	19 35 59.4	-0.1
TUWZ				S	Sn	19 36 15.0	+0.1
MRNZ	**Matariki Terra**	**1.15**	**335**	P	Pg	19 36 00.5	0.0
MRNZ				S	Sn	19 36 16.2	-0.1
NNZ	**Nelson**	**1.23**	**360**	P	Pn	19 36 01.2	-0.5
NNZ				S	Sn	19 36 18.5	+0.3
OKCZ	**Okains Bay**	**1.30**	**191**	P	Pn	19 36 02.2	-0.6
OXZ	**Oxford**	**1.33**	**228**	P	Pn	19 36 02.5	-0.7
DSZ	**Denniston Nort**	**1.37**	**300**	P	Pb	19 36 04.5	+0.1
MQZ	**McQueen's Vall**	**1.37**	**203**	P	Pn	19 36 02.6	-1.2
MQZ				S	Sn	19 36 20.0	-1.9
TCW	**Tory Channel**	**1.40**	**29**	P	Pn	19 36 03.8	-0.3
TCW				S	Sn	19 36 21.2	-1.3
TKNZ	**Takaka Hill**	**1.45**	**347**	P	Pn	19 36 04.8	0.0
INZ	**Inchbonnie**	**1.47**	**258**	P	Pb	19 36 05.8	-0.1
INZ				S	Sg	19 36 25.3	-0.6
AKCZ	**Akaroa Harbour**	**1.47**	**194**	P	Pn	19 36 04.2	-0.9
WEL	**Wellington**	**1.55**	**42**	S	Sn	19 36 24.4	-1.8
RACZ	**Rakaia**	**1.58**	**215**	P	Pn	19 36 06.0	-0.6
PLWZ	**Palliser**	**1.64**	**58**	P	Pn	19 36 06.6	-0.8
PLWZ				S	Sn	19 36 26.6	-1.9
DUWZ	**D'Urville Isla**	**1.69**	**14**	P	Pn	19 36 08.0	-0.1
DUWZ				S	Sb	19 36 31.0	0.0
QRZ	**Quartz Range**	**1.74**	**338**	P	Pb	19 36 09.9	-0.7

WEL 15 19:42:07.9±0.3,**43°S**±2°×**17°3E**±°,**h11**km±2km,**M3.5**/16,
ML3.7/17,**MLv3.5**/16,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=101.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.33**	**160**	P	Pb	19 42 15.8	-0.1
GVZ				S	Sb	19 42 21.2	-0.1
LTZ	**Lake Taylor**	**0.46**	**254**	P	Pb	19 42 17.9	-0.3
LTZ				S	Sb	19 42 24.9	-0.2
AMCZ	**Amberley**	**0.55**	**198**	P	Pb	19 42 20.1	+0.6
AMCZ				S	Sb	19 42 28.6	+1.2
KHZ	**Kahutara**	**0.55**	**64**	P	Pg	19 42 18.4	-0.1
THZ	**Tophouse**	**0.90**	**1**	P	Pg	19 42 24.7	-0.5
THZ				S	Sg	19 42 35.3	-1.5
OXZ	**Oxford**	**0.91**	**222**	P	Pb	19 42 25.6	-0.1
OXZ				S	Sn	19 42 39.0	-0.8
INZ	**Inchbonnie**	**1.06**	**266**	P	Pn	19 42 28.7	0.0
MQZ	**McQueen's Vall**	**1.06**	**189**	P	Pb	19 42 27.2	-1.1
MQZ				S	Sg	19 42 41.2	-0.9
OKCZ	**Okains Bay**	**1.07**	**173**	P	Pb	19 42 27.7	-0.9
OKCZ				S	Sn	19 42 43.5	-0.4
RACZ	**Rakaia**	**1.20**	**207**	P	Pn	19 42 29.4	-1.2
RACZ				S	Sb	19 42 45.7	-0.5
BSWZ	**Blackbirch Sta**	**1.20**	**39**	P	Pb	19 42 30.6	-0.1
DSZ	**Denniston Nort**	**1.21**	**318**	P	Pb	19 42 30.9	0.0
DSZ				S	Sn	19 42 48.1	+0.8
AKCZ	**Akaroa Harbour**	**1.21**	**179**	P	Pn	19 42 29.3	-1.6
AKCZ				S	Sb	19 42 45.7	-1.0
MRNZ	**Matariki Terra**	**1.26**	**356**	P	Pn	19 42 31.1	-0.4
MRNZ				S	Sb	19 42 47.3	-0.6
CMWZ	**Cape Campbell**	**1.34**	**48**	P	Pn	19 42 32.8	+0.1
TUWZ	**Tuamarina**	**1.46**	**33**	P	Pn	19 42 34.1	-0.1
TUWZ				S	Sb	19 42 54.0	+0.3
NNZ	**Nelson**	**1.49**	**15**	P	Pn	19 42 34.7	+0.1
WACZ	**Wakanui South**	**1.49**	**210**	P	Pn	19 42 33.5	-1.2
WACZ				S	Sn	19 42 53.3	-0.8
TKNZ	**Takaka Hill**	**1.62**	**2**	P	Pn	19 42 36.6	+0.1
WVZ	**Waitaha Valley**	**1.63**	**254**	P	Pn	19 42 36.9	+0.3
RPZ	**Rata Peaks**	**1.70**	**231**	P	Pn	19 42 36.7	-0.9
TCW	**Tory Channel**	**1.78**	**36**	P	Pn	19 42 38.1	-0.6
ARCZ	**Arundel**	**1.79**	**223**	P	Pn	19 42 37.7	-1.1
QRZ	**Quartz Range**	**1.85**	**352**	P	Pn	19 42 39.9	+0.4
WEL	**Wellington**	**1.97**	**46**	P	Pn	19 42 40.3	-0.9
GCSZ	**Gaunt Creek Bo**	**1.98**	**250**	P	Pn	19 42 42.2	+0.8
DUWZ	**D'Urville Isla**	**2.01**	**23**	P	Pn	19 42 42.5	+0.7
PLWZ	**Palliser**	**2.08**	**59**	P	Pn	19 42 40.9	-1.8
MSWZ	**Moikau Station**	**2.16**	**56**	P	Pn	19 42 42.1	-1.7
TMZ	**Timaru**	**2.20**	**218**	P	Pn	19 42 43.3	-1.1
CAW	**Cannon Point**	**2.25**	**47**	P	Pn	19 42 43.9	-1.2
PAWZ	**Paruwai Farm**	**2.29**	**57**	P	Pn	19 42 43.7	-2.0
KIW	**Kapiti Island**	**2.35**	**41**	P	Pn	19 42 45.7	-0.8
FOZ	**Fox Glacier**	**2.41**	**248**	P	Pn	19 42 47.8	+0.5
TRWZ	**Traveller**	**2.44**	**60**	P	Pn	19 42 44.8	-3.0
MTW	**Mount Morrison**	**2.46**	**53**	P	Pn	19 42 46.1	-2.0
OGWZ	**Otaki Gorge**	**2.52**	**44**	P	Pn	19 42 47.5	-1.2
LBZ	**Lake Benmore**	**2.61**	**228**	P	Pn	19 42 49.3	-0.8
TMWZ	**Te Maipa**	**2.73**	**56**	P	Pn	19 42 49.4	-2.4
MRZ	**Mangatainoka R**	**2.84**	**46**	P	Pn	19 42 51.4	-1.8
ODZ	**Otahua Downs**	**2.88**	**213**	P	Pn	19 42 52.3	-1.4
POWZ	**Post Office Ro**	**3.13**	**45**	P	Pn	19 42 55.5	-1.8
JCZ	**Jackson Bay**	**3.30**	**243**	P	Pn	19 42 59.5	-0.1
WAZ	**Wanganui**	**3.31**	**29**	P	Pn	19 43 00.6	+1.0
KHEZ	**Kahui Hut**	**3.47**	**15**	P	Pn	19 43 04.5	+2.6
NBEZ	**Newall Road No**	**3.47**	**13**	P	Pn	19 43 05.2	+3.4
TSZ	**Takapari Road**	**3.48**	**43**	P	Pn	19 42 59.9	-2.1
PKE	**Pukeiti**	**3.56**	**14**	P	Pn	19 43 05.8	+2.7
HHSZ	**Highcliff Hill**	**3.62**	**206**	P	Pn	19 43 02.5	-1.4
EAZ	**Earnscleugh**	**3.64**	**224**	P	Pn	19 43 02.8	-1.4
MOVZ	**Moawhango**	**3.91**	**35**	P	Pn	19 43 06.7	-1.3
WNVZ	**Wahianoa**	**3.91**	**33**	P	Pn	19 43 08.0	-0.1
BHHZ	**Black Hill Sta**	**3.98**	**38**	P	Pn	19 43 07.5	-1.4
OTVZ	**Oturere**	**4.08**	**32**	P	Pn	19 43 09.9	-0.5
NNVZ	**North Ngauruho**	**4.09**	**31**	P	Pn	19 43 10.4	-0.1
WTVZ	**West Tongariro**	**4.09**	**31**	P	Pn	19 43 10.3	-0.2
ETVZ	**East Tongariro**	**4.12**	**32**	P	Pn	19 43 10.5	-0.5
TMVZ	**Te Maari**	**4.14**	**32**	P	Pn	19 43 10.7	-0.4
HIZ	**Hauiti**	**4.41**	**21**	P	Pn	19 43 15.2	+0.5
SYZ	**Scrubby Hill**	**4.71**	**213**	P	Pn	19 43 17.8	-1.0
MKAZ	**Moumakai**	**5.82**	**18**	P	Pn	19 43 34.7	+0.6

*IDC **15** 19:49:03.5±1.8,5°.64S×150°.89E,h67km±22km,mb3.6/6,*
mbtmp4.0/7,MS3.1/4,Error ellipse: s-maj=61.7km
s-min=13.5km az=127.0
*NEIC **15** 19:49:04.0±1.5,5°.6S±0°.3×150°.7E±0°.3,h51km±21km,*
mb4.1/10,Error ellipse: s-maj=62.6km s-min=7.7km
az=132.0

ISC 15 19:49:02.3±0.8,**5°.4S**±0°.2×**150°.5E**±0°.1,**h35**km,**n26,**
σ1$57/27,mb4.0/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.83**	**55**	P	**Pn**	**19 49 31.5**	**+0.2**
	802nm,0.5s,baz=293,slow=0.7,SNR=77						
KRVT				S	**Sn**	**19 49 56.4**	**+3.1**
	632nm,0.4s,baz=120,slow=12,SNR=8.7						
KRVT				LR	LR	19 50 30.9	
	comp=Z,511nm,18.6s,baz=350,slow=50						
RABL	**Rabaul**	**2.01**	**54**		**Pn**	**19 49 34.7**	**+0.8**
RABL					Sn	**Sn**	**19 50 01.1**	**+3.3**
PMG	**Port Moresby**	**5.21**	**220**	P	**Pn**	**19 50 20.1**	**+2.3**
	36nm,0.5s,baz=49,slow=5.3,SNR=28						
PMG				S	**Sn**	**19 51 18.7**	**+1.8**
	26nm,0.4s,baz=217,slow=18,SNR=2.6						
PMG				LR	LR	19 51 47.3	
	comp=Z,66nm,18.8s,baz=8.0,slow=31						
PMG	**Port Moresby**	**5.21**	**220**	Pn	**Pn**	**19 50 19.0**	**+1.1**
PMG				Sn	**Sn**	**19 51 17.7**	**+0.9**
HNR	**Honiara**	**10.17**	**114**	LR	LR	19 55 04.2	
	comp=Z,638nm,19.9s,baz=334,slow=37						
COEN	**Coen**	**11.19**	**220**	Pn	**Pn**	**19 51 39.2**	**-0.7**
CTA	**Charters Tower**	**15.20**	**196**	LR	LR	19 57 55.3	
	comp=Z,60nm,18.7s,baz=72,slow=35						
GUMO	**Guam**	**19.66**	**343**	LR	LR	20 01 49.5	
	comp=Z,20nm,18.2s,baz=132,slow=38						
MTN	**Manton Dam**	**20.53**	**247**	P	**P**	**19 53 39.3**	**+1.5**
WB0	**Warramunga Arr**	**21.24**	**226**	P	**P**	**19 53 45.3**	**-0.2**
WB0				IAmb	IAmb	19 53 59.0	
	comp=Z,7.9nm,0.8s						
WR0	**Warramunga Arr**	**21.26**	**226**	P	**P**	**19 53 45.4**	**-0.4**
WR0				IAmb	IAmb	19 54 01.8	
	comp=Z,9.9nm,1.1s						
WB2	**Warramunga Arr**	**21.39**	**226**	P	**P**	**19 53 45.9**	**-1.2**
WB2				IAmb	IAmb	19 54 02.5	
	comp=Z,8.6nm,0.7s						
WRA	**Warramunga Arr**	**21.39**	**226**	P	**P**	**19 53 47.0**	**-0.2**
	comp=Z,4.6nm,0.6s,baz=51,slow=10,SNR=56						
	comp=Z,4.6nm,0.6s						
WRA	**Warramunga Arr**	**21.39**	**226**	P	**P**	**19 53 45.5**	**-1.7**
KNRA	**Kununurra**	**23.70**	**243**	P	**P**	**19 54 11.6**	**+0.5**
AS31	**Alice Springs**	**24.23**	**220**		**P**	**19 54 15.2**	**-0.9**
ASAR	**Alice Springs**	**24.23**	**220**	P	**P**	**19 54 15.4**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=55,slow=8.1,SNR=27						
	comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**24.23**	**220**	P	**P**	**19 54 15.1**	**-1.1**
MBWA	**Marble Bar**	**33.73**	**239**	P	**P**	**19 55 39.8**	**-1.0**
SONM	**Songino Array**	**65.63**	**329**	P	**P**	**19 59 45.1**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=142,slow=5.5,SNR=7.5						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**65.63**	**329**	P	**P**	**19 59 44.2**	**+1.2**
SONM				IAmb	IAmb	19 59 47.2	
	comp=Z,2.1nm,1.3s						
MK31	**Makanchi Array**	**79.28**	**320**	P	**P**	**20 01 04.4**	**+0.1**
MK31				IAmb	IAmb	20 01 16.3	
	comp=Z,2.3nm,1.4s						
MKAR	**Makanchi Array**	**79.28**	**320**	P	**P**	**20 01 02.5**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=101,slow=5.5,SNR=5.5						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**79.28**	**320**	P	**P**	**20 01 04.9**	**+0.6**
ZALV	**Zalesovo Beam**	**80.39**	**327**	P	**P**	**20 01 09.3**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=90,slow=3.6,SNR=3.8						
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**83.55**	**23**	P	**P**	**20 01 23.9**	**-2.6**
	comp=Z,0.6nm,0.8s,baz=256,slow=5.1,SNR=2.9						
	comp=Z,0.6nm,0.8s						

*WEL **15** 19:53:00,41°.66S×174°.39E,h13km,ML4.8,Mw4.9,*
Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁶
Nm; Mrr0.47; Mθθ2.61; Mθφ-3.08; Mrθ0.47; Mθφ-1.21;
Mφr-0.37; Fault plane solution: M₀3.16000×10¹⁶ NP1:
φs56.00000°,δ78.00000°,λ174.00000°. NP2:
φs147.00000°,δ84.00000°,λ12.00000°. Principal axes: T
-3350.2200, Plg13.0000°, Azm12.0000°; N 2972.8800,
Plg77.0000°, Azm173.0000°; P 377.3400, Plg4.0000°,
Azm281.0000°;
*IDC **15** 19:53:00.6±1.2,41°.49S×174°.23E,h0km,mb4.3/5,*
mbtmp4.3/6,ML4.4/1,MS4.1/35 Error ellipse:
s-maj=39.7km s-min=22.6km az=64.0
*NOU **15** 19:53:01.4,41°.81S×174°.61E,h5km,MLv5.3/16,Cook*
Strait, New Zealand
*NEIC **15** 19:53:01.3±2.2,41°.72S±0°.03×174°.42E±0°.02,h13km±4km,*
mb4.9/29,Mwr4.9/27,Error ellipse: s-maj=4.8km
s-min=2.2km az=169.0
*NEIC **15** 19:53:02,41°.71S×174°.44E,h13km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.70;
Mθθ1.90; Mφφ-2.60; Mrθ0.29; Mφθ-0.74; Mφr-0.31; Fault
plane solution: M₀2.48000×10¹⁶ NP1:φs53.62000°,
δ77.37000°,λ173.33000°. NP2:φs145.08000°,δ83.49000°,
λ12.71000°. Principal axes: T 2.1030, Plg14.0000°,
Azm10.0000°; N 0.6389, Plg76.0000°, Azm172.0000°; P
-2.7419, Plg4.0000°, Azm279.0000°;
*WEL **15** 19:53:02.7±0.4,42°.5±3°×17°.4E±°, h9km±4km,M4.7/18,*
ML5.1/18,MLv4.7/18 Error ellipse: s-maj=0.0km
s-min=0.0km az=162.4
*GCMT **15** 19:53:06.3±0.4,41°.65S±0°.02×174°.47E±0°.02,h20km±1km,*
MW4.9/80,Moment Tensor Solution. s14,c15; s80,c100;
Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.30±.16;
Mθθ2.44±.14; Mφφ-2.14±.12; Mrθ-0.39±.26; Mφθ-0.77±.11;
Mφr1.52±.28; Best double couple: M₀2.88000×10¹⁶
NP1:φs142.00000°,δ80.00000°,λ-31.00000°. NP2:
φs238.00000°,δ60.00000°,λ-169.00000°. Principal axes:
T 2.7200, Plg14.0000°, Azm193.0000°; N 0.3230,
Plg58.0000°, Azm306.0000°; P -3.0400, Plg28.0000°,
Azm96.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function

ISC 15 19:53:02.2±0.9,**41°.69S**±0°.02×**174°.41E**±0°.02,**h18**km±4km,
n242,σ1$24/218,mb4.8/19,MS4.2/39,3C,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.16**	**247**		**Pg**	**19 53 06.7**	**+0.1**
CMWZ				Sg	**Sg**	**19 53 10.9**	**+1.3**
CMWZ	**Cape Campbell**	**0.16**	**247**	P	**Pg**	**19 53 06.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.40**	**266**		**Pb**	**19 53 11.0**	**+0.2**
BSWZ					**Sb**	**19 53 17.9**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.40**	**266**	P	**Pb**	**19 53 11.1**	**+0.3**
BSWZ				S	**Sb**	**19 53 17.7**	**+1.1**
SNZO	**South Karori**	**0.43**	**31**		**Pg**	**19 53 10.9**	**-0.2**
SNZO	**South Karori**	**0.43**	**31**	P	**Pg**	**19 53 11.2**	**+0.2**
TUWZ	**Tuamarina**	**0.43**	**306**		**Pg**	**19 53 11.1**	**0.0**
TUWZ					**Sb**	**19 53 18.4**	**+0.9**
TUWZ	**Tuamarina**	**0.43**	**306**	P	**Pb**	**19 53 11.5**	**+0.2**
TUWZ				S	**Sb**	**19 53 18.5**	**+0.9**
BHW	**Baring Head**	**0.44**	**51**	P	**Pg**	**19 53 11.0**	**-0.1**
WEL	**Wellington**	**0.48**	**34**	P	**Pg**	**19 53 12.0**	**+0.1**
TCW	**Tory Channel**	**0.48**	**348**		**Pg**	**19 53 11.9**	**-0.1**
TCW	**Tory Channel**	**0.48**	**348**	P	**Pb**	**19 53 12.2**	**0.0**
TCW				S	**Sg**	**19 53 18.1**	**-0.4**
PLWZ	**Palliser**	**0.64**	**80**		**Pg**	**19 53 15.5**	**+0.6**
PLWZ					**Sn**	**19 53 27.2**	**+1.0**
PLWZ	**Palliser**	**0.64**	**80**	P	**Pg**	**19 53 15.7**	**+0.8**
PLWZ				S	**Sn**	**19 53 27.0**	**+0.8**
MSWZ	**Moikau Station**	**0.68**	**67**		**Pg**	**19 53 15.9**	**+0.3**
MSWZ	**Moikau Station**	**0.68**	**67**	P	**Pg**	**19 53 16.0**	**+0.3**
MSW

WVZ	Waitaha Valley	3.06	242	P		Pn	19 53 50.0	+0.5
HATZ	Hinemaiaia	3.07	25	P		Pb	19 53 57.1	+0.8
ARHZ	Aropaoanui	3.12	40	P		Pn	19 53 49.7	-0.8
NMHZ	Naumai	3.17	36	P		Pn	19 53 51.1	-0.1
HIZ	Hauiti	3.19	6			Pn	19 53 53.5	+2.1
HIZ	Hauiti	3.19	6	P		Pn	19 53 53.5	+2.1
HIZ	Hauiti	3.19	6	P		Pn	19 53 53.9	+2.6
RPZ	Rata Peaks	3.20	230	Pn		Pn	19 53 51.1	-0.5
	39nm,0.3s,baz=86,slow=2.8,SNR=53							
RPZ				Sn		Sn	19 54 28.3	-0.9
	207nm,0.3s,baz=15,slow=10.0,SNR=14							
	104nm,0.3s							
RPZ	Rata Peaks	3.20	230			Pn	19 53 50.9	-0.7
RPZ	Rata Peaks	3.20	230	P		Pn	19 53 51.7	+0.1
RPZ	Rata Peaks	3.20	230	P		Pn	19 53 51.3	-0.3
ARCZ	Arundel	3.28	225	P		Pn	19 53 52.1	-0.6
MTHZ	Maungataniwha	3.38	34	P		Pn	19 53 53.6	-0.5
GCSZ	Gaunt Creek Bo	3.43	240	P		Pn	19 53 55.9	+1.1
RAHZ	Arahi	3.44	37	P		Pn	19 53 53.7	-1.1
RAHZ				P		Pb	19 53 54.5	-8.1
ALRZ	Allen Road	3.45	26	P		Pb	19 54 02.3	-0.5
TLZ	Tolley Road	3.46	15	P		Pb	19 54 02.0	-1.0
KNZ	Kokohu	3.65	44	P		Pn	19 53 56.2	-1.4
TMZ	Timaru	3.67	222	P		Pn	19 53 57.2	-0.9
MHGZ	Mahia Peninsul	3.68	48	P		Pn	19 53 56.6	-1.6
TARZ	Mount Tarawera	3.80	26	P		Pn	19 53 59.8	-0.1
FOZ	Fox Glacier	3.86	240			Pn	19 54 00.8	+0.1
FOZ	Fox Glacier	3.86	240	P		Pn	19 54 01.4	+0.7
URZ	Urewera	4.00	32	P		Pn	19 54 03.4	+0.8
TOZ	Tahuroa Road	4.04	12	P		Pn	19 54 04.7	+1.7
LBZ	Lake Benmore	4.11	228			Pn	19 54 04.0	0.0
LBZ	Lake Benmore	4.11	228	P		Pn	19 54 03.9	-0.2
CNGZ	Carnagh Statio	4.32	44	P		Pn	19 54 08.8	+1.8
ODZ	Otahua Downs	4.34	218			Pn	19 54 06.2	-1.0
ODZ	Otahua Downs	4.34	218	P		Pn	19 54 06.9	-0.3
ODZ	Otahua Downs	4.34	218	P		Pn	19 54 05.9	-1.3
TWGZ	Tauwhareparae	4.45	39	P		Pn	19 54 07.2	-1.6
RUGZ	Raukumara Rang	4.49	35	P		Pn	19 54 07.9	-1.4
HAZ	Te Kaha	4.71	35	P		Pn	19 54 11.3	-1.0
JCZ	Jackson Bay	4.77	238	P		Pn	19 54 14.3	+1.0
KUZ	Kuaotunu	5.04	12	P		Pn	19 54 18.0	+1.2
WKZ	Wanaka	5.04	230			Pn	19 54 17.0	+0.2
MXZ	Matakaoa Point	5.10	37			Pn	19 54 16.6	-1.0
MLZ	Mavora Lakes	5.87	229			Pn	19 54 27.3	-1.0
SYZ	Scrubby Hill	6.16	216	P		Pn	19 54 31.7	-0.5
WHZ	Wether Hill Ro	6.29	226			Pn	19 54 32.5	-1.5
DCZ	Deep Cove	6.48	232			Pn	19 54 34.2	-2.4
OUZ	Omahuta	6.49	354	P		Pn	19 54 40.4	+3.7
CTZ	Chatham Island	6.92	110	P		Pn	19 54 41.9	-0.7
PYZ	Puysegur Point	7.16	229	Pn		Pn	19 54 45.6	-0.3
PYZ	Puysegur Point	7.16	229	P		Pn	19 54 49.0	+3.1
RAO	Raoul Island	13.88	29	LR		LR	20 01 30.4	
	comp=Z,810nm,19.0s,baz=196,slow=37							
OUENC	Ouen Island, N	20.24	339			P	19 57 35.1	-1.2
OUENC				IAmb		IAmb	19 57 49.5	
	comp=Z,60nm,1.7s							
DZM	Mont Dzumac	20.67	339	*e*Pn		Pn	19 57 44.2	+0.6
	comp=Z,70nm,1.4s							
DZM				*e*S		S	20 01 28.6	-2.9
	comp=Z,216nm,23.8s							
DZM				*e*LR		LR	20 02 37.7	
	comp=Z,1μm,24.6s							
DZM	Mont Dzumac	20.67	339	LR		LR	20 05 18.9	
	comp=Z,639nm,18.3s,baz=196,slow=36							
DZM	Mont Dzumac	20.67	339	P		P	19 57 39.6	-1.6
DZM				IAmb		IAmb	19 57 56.0	
	comp=Z,32nm,1.3s							
TOO	Toolangi	22.60	271	P		P	19 58 01.0	-0.8
TOO				IAmb		IAmb	19 58 16.5	
	comp=Z,58nm,1.6s							
KOUNC	Koumac, New Ca	22.75	335	P		P	19 58 02.2	-1.2
KOUNC				IAmb		IAmb	19 58 18.9	
	comp=Z,62nm,1.5s							
MSVF	Nonsavu	24.07	9	LR		LR	20 07 37.1	
	comp=Z,1μm,18.5s,baz=194,slow=37							
MSVF	Nonsavu	24.07	9	P		P	19 58 14.9	-1.7
MSVF				IAmb		IAmb	19 58 34.0	
	comp=Z,15nm,0.9s							
STKA	Stephens Creek	27.90	280	LR		LR	20 08 41.1	
	comp=Z,272nm,21.0s,baz=128,slow=34							
STKA	Stephens Creek	27.90	280	P		P	19 58 50.4	-0.7
CTA	Charters Tower	32.12	303	LR		LR	20 10 47.1	
	comp=Z,755nm,21.0s,baz=125,slow=33							
FUNA	Funafuti	33.30	9	P		P	19 59 39.3	+0.5
HNR	Honiara	34.57	334	LR		LR	20 12 51.5	
	comp=Z,4μm,18.4s,baz=146,slow=35							
TBI	Tubuai	35.20	70	*e*LR		LR	20 09 20.4	
	comp=Z,6μm,24.2s							
TBI				*e*LR		LR	20 09 20.6	
	comp=Z,1μm,26.0s							
TBI	Tubuai	35.20	70	*e*T		T	20 37 45.0	
	comp=Z,14nm,0.3s							
VNDA	Vanda	36.32	185	P		P	20 00 07.2	+2.9
	comp=Z,1.7nm,1.0s,baz=6.4,slow=8.5,SNR=11							
	comp=Z,1.7nm,1.0s							
VNDA	Vanda	36.32	185	P		P	20 00 03.8	-0.5
SBA	Scott Base	36.41	183	P		P	20 00 04.0	-1.1
AS31	Alice Springs	38.13	285	P		P	20 00 19.3	-1.1
ASAR	Alice Springs	38.13	285	P		P	20 00 19.7	-0.6
	comp=Z,1.1nm,0.4s,baz=121,slow=6.7,SNR=30							
ASAR				LR		LR	20 15 03.8	
	comp=Z,352nm,21.8s,baz=119,slow=35							
	comp=Z,1.1nm,0.4s							
ASAR	Alice Springs	38.13	285	P		P	20 00 18.1	-2.3
FORT	Forrest	38.53	271	P		P	20 00 22.1	-1.4
FORT				IAmb		IAmb	20 00 45.5	
	comp=Z,31nm,0.8s							
PPT2	Papeete2	39.02	63	*e*LR		LR	20 11 07.4	
	comp=Z,263nm,26.5s							
PPT	Papeete	39.04	63	LR		LR	20 13 47.6	
	comp=Z,323nm,19.6s,baz=218,slow=32							
WR0	Warramunga Arr	40.04	290	P		P	20 00 35.9	-0.4
WR0				IAmb		IAmb	20 00 45.3	
	comp=Z,32nm,1.8s							
PMG	Port Moresby	40.13	315	LR		LR	20 16 03.2	
	comp=Z,306nm,19.4s,baz=107,slow=35							
PMG	Port Moresby	40.13	315	P		P	20 00 34.5	-2.5
PMG				IAmb		IAmb	20 00 57.2	
	comp=Z,16nm,0.9s							
WB2	Warramunga Arr	40.19	290	P		P	20 00 36.0	-1.5
WRAB	Tennant Creek	40.19	290	P		P	20 00 36.5	-1.1
WRAB				IAmb		IAmb	20 00 51.3	
	comp=Z,9.3nm,0.8s							
WRA	Warramunga Arr	40.19	290	P		P	20 00 37.0	-0.6
	comp=Z,2.2nm,0.5s,baz=127,slow=8.3,SNR=20							
WRA				LR		LR	20 17 50.1	
	comp=Z,462nm,18.7s,baz=138,slow=37							
	comp=Z,2.2nm,0.5s							
WRA	Warramunga Arr	40.19	290	P		P	20 00 36.1	-1.5
WB0	Warramunga Arr	40.27	290	P		P	20 00 36.8	-1.4
KRVT	Keravat (AS076	42.26	326	LR		LR	20 18 01.6	
	comp=Z,234nm,19.1s,baz=292,slow=36							
NWAO	Narrogin (SRO)	45.58	262	P		P	20 01 20.2	-0.9
NWAO				IAmb		IAmb	20 03 00.9	
	comp=Z,36nm,1.3s							
KNRA	Kununurra	46.98	290	P		P	20 01 31.0	-1.2
KNRA				IAmb		IAmb	20 01 41.8	
	comp=Z,38nm,1.6s							
MTN	Manton Dam	47.30	295	P		P	20 01 33.0	-1.8
MORW	Morawa	48.39	266	P		P	20 01 40.9	-2.1
QSPA	South Pole Qui	48.44	180	P		P	20 01 46.6	+3.3
	comp=Z,5.1nm,0.8s,baz=30,slow=2.1,SNR=9.9							
	comp=Z,5.1nm,0.8s							
PSA00	Pilbara Seismi	49.73	276	P		P	20 01 51.7	-1.7
PSA00				IAmb		IAmb	20 02 13.3	
	comp=Z,19nm,1.6s							
PSA00	Pilbara Seismi	49.73	276	P		P	20 01 51.7	-1.7
PSA00				IAmb		IAmb	20 03 49.5	
	comp=Z,48nm,1.4s							
MBWA	Marble Bar	50.06	277	P		P	20 01 55.1	-0.8
MBWA				IAmb		IAmb	20 03 28.0	
	comp=Z,32nm,1.2s							
TAOE	Nuku Hiva Isla	51.63	64	*e*LR		LR	20 16 57.2	
	comp=Z,266nm,24.8s							
GIRL	Giralia	53.29	271	P		P	20 02 19.1	-1.0
BATI	Baumata	54.33	290	LR		LR	20 25 32.9	
	comp=Z,482nm,20.2s,baz=90,slow=36							
SIJI	Sorong	56.19	305	LR		LR	20 29 03.8	
	comp=Z,167nm,18.4s,baz=172,slow=39							
MAW	Mawson	59.56	204	LR		LR	20 28 29.6	
	comp=Z,762nm,18.1s,baz=108,slow=36							
KAPI	Kappang	60.72	291	LR		LR	20 29 48.5	
	comp=Z,190nm,19.0s,baz=128,slow=36							
GUMO	Guam	61.38	327	LR		LR	20 29 33.2	
	comp=Z,76nm,18.7s,baz=132,slow=36							
GUMO	Guam	61.38	327	P		P	20 03 16.6	-0.5
LUWI	Luwuk	61.53	297	P		P	20 03 19.2	+1.0
RPN	Rapa Nui	62.67	103	LR		LR	20 26 10.8	
	comp=Z,125nm,19.0s,baz=358,slow=32							
PMSA	Palmer Station	64.49	156	LR		LR	20 28 52.6	
	comp=Z,122nm,18.4s,baz=228,slow=33							
DAV	Davao City (W)	65.90	305	LR		LR	20 31 58.1	
	comp=Z,124nm,21.6s,baz=144,slow=36							
SNAA	Sanae	66.93	181	LR		LR	20 33 01.6	
	comp=Z,122nm,19.0s,baz=188,slow=36							
LEM	Lembang	68.20	281	LR		LR	20 32 35.7	
	comp=Z,189nm,21.9s,baz=166,slow=35							
KKM	Kota Kinabalu	71.14	297	P		P	20 04 19.5	-0.4
KKM				IAmb		IAmb	20 04 58.1	
	comp=Z,24nm,1.4s							
JCJ	Chichijima	74.65	330	LR		LR	20 34 12.8	
	comp=Z,80nm,18.5s,baz=103,slow=33							
PLCA	Paso Flores	79.06	135	LR		LR	20 33 18.9	
	comp=Z,192nm,19.0s,baz=216,slow=30							
KSRS	Korea Array	89.47	325	LR		LR	20 43 08.0	
	comp=Z,44nm,20.6s,baz=150,slow=34							
ASAJ	Asahikawa	90.07	338	LR		LR	20 41 02.8	
	comp=Z,108nm,21.6s,baz=150,slow=32							
CMAR	Chiang Mai Arr	91.72	293	P		P	20 06 10.7	+1.9
	comp=Z,2.2nm,0.7s,baz=150,slow=3.8,SNR=17							
CMAR				LR		LR	20 50 34.8	
	comp=Z,36nm,19.1s,baz=150,slow=38							
	comp=Z,2.2nm,0.7s							
SHEM	Shemya Is, Ala	94.04	360	LR		LR	20 40 30.9	
	comp=Z,90nm,21.3s,baz=280,slow=30							
PZH	PanZhiHua	95.40	301	P		P	20 06 27.8	+2.2
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,150nm,5.9s							
LPIG	La Paz	95.46	63	LR		LR	20 42 43.1	
	comp=Z,174nm,18.3s,baz=231,slow=31							
PETK	Petropavlovsk-	95.51	350	LR		LR	20 45 17.2	
	comp=Z,150nm,19.3s,baz=208,slow=33							
NNA	Nana	95.67	111	LR		LR	20 42 16.3	
	comp=Z,239nm,18.2s,baz=208,slow=31							
CPUP	Villa Florida	97.12	135	LR		LR	20 44 12.9	
	comp=Z,46nm,18.4s,baz=216,slow=32							
PALK	Pallekele	97.55	273	LR		LR	20 50 34.6	
	comp=Z,40nm,18.1s,baz=241,slow=36							
ATAH	Atahualpa	97.93	107	LR		LR	20 42 00.0	
	comp=Z,67nm,20.8s,baz=245,slow=30							
KLR	Kul'dur	98.00	333	LR		LR	20 46 12.4	
	comp=Z,52nm,21.4s,baz=121,slow=33							
LPAZ	La Paz	98.45	121	LR		LR	20 42 56.8	
	comp=Z,43nm,18.5s,baz=225,slow=30							
BRDH	Bariadhala	99.61	292	LR		LR	20 59 05.6	
	comp=Z,72nm,18.0s,baz=128,slow=40							
HHC	Hu-ho-hao-te	99.93	317	*e*P		Pdif	20 06 48.1	+2.5
HHC				pmax	pmax			
	comp=Z,30nm,1.0s							
HHC				pmax	pmax			
	comp=Z,170nm,5.6s							
WMQ	Urumqi	115.22	307	*e*P		PKiKP	20 11 42.1	+0.1
WMQ				LR		LR		
	comp=Z,59nm,19.9s							
LIC	Lamto	144.69	181⇑	*e*P		PKPbc	20 12 37.5	+0.5
	comp=Z,10nm,0.6s							
KIC	Kosan Boka	144.82	181⇑	*e*P		PKPdf	20 12 39.6	+1.1
	comp=Z,1.8nm,0.5s							
TIC	Tomoqdi	145.10	181⇑	*e*P		PKPdf	20 12 38.8	-0.2
	comp=Z,9.9nm,0.8s							
SUMG	Summit	145.22	17	*i* P		PKiKP	20 12 48.0	+6.3
ARCES	ARCESS Array B	147.76	340	PKPbc		PKPbc	20 12 44.5	-0.1
	comp=Z,2.1nm,0.6s,baz=33,slow=2.2,SNR=4.1							
BRTR	Keskin Array B	150.37	279	PKPbc		PKiKP	20 12 53.1	0.0
	comp=Z,1.0nm,0.7s,baz=97,slow=6.0,SNR=6.5							
TORD	Torodi Ar. Bea	150.87	195	PKPbc		PKiKP	20 12 54.7	+0.1
	comp=Z,1.0nm,0.4s,baz=154,slow=2.8,SNR=13							
FINES	FINESS Array B	152.54	327	PKPbc		PKPbc	20 12 55.7	-0.6
	comp=Z,2.1nm,0.8s,baz=11,slow=0.7,SNR=1.4							

WEL 15 20:02:56.4±0.6, 42°S±3°×17°4E±°, h12km, M2.2/6, ML4.2/7, MLv2.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=121.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cook Campbell	0.05	142	P	Pg	20 02 59.8	+1.0
CMWZ				S	Sg	20 03 02.4	+1.9
TCW	Tory Channel	0.51	9	P	Pb	20 03 07.1	-0.2
TCW				S	Sb	20 03 15.9	+1.3
PLWZ	Palliser	0.82	80	P	Pg	20 03 11.8	-0.5
PLWZ				S	Sg	20 03 22.8	-0.3
MSWZ	Moikau Station	0.86	70	P	Pg	20 03 12.5	-0.5
MSWZ				S	Sg	20 03 24.4	+0.1
CAW	Cannon Point	0.90	48	P	Pg	20 03 13.5	-0.3
CAW				S	Sn	20 03 27.4	-0.6
THZ	Tophouse	0.95	266	P	Pg	20 03 12.9	-1.9
THZ				S	Sg	20 03 23.9	-3.3
KIW	Kapiti Island	1.01	33	P	Pb	20 03 15.9	0.0
KIW				S	Sn	20 03 31.1	+0.4
MTW	Mount Morrison	1.14	61	P	Pb	20 03 16.6	-1.5
MTW				S	Sn	20 03 35.4	+1.6
TMWZ	Te Maipa	1.43	66	P	Pn	20 03 20.2	-2.0

NOU 15 20:03:43.4, 41°.89S×174°.44E, h1km, MLv4.4/9, Cook Strait, New Zealand
WEL 15 20:03:44.6±0.5, 42°S±2°×17°4E±°, h9km±4km, M3.9/14, ML4.2/14, MLv3.9/14, Error ellipse: s-maj=0.0km s-min=0.0km az=116.8
ISC 15 20:03:44.4±0.9, 41°.73S±0°.03×174°.27E±0°.03, h16km±6km, n83, σ1°15/94, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cook Campbell	0.05	249	P	Pg	20 03 47.2	-0.1
CMWZ				S	Sg	20 03 50.0	+0.7
BSWZ	Blackbirch Sta	0.30	273	P	Pg	20 03 50.5	-0.2
BSWZ				S	Sb	20 03 55.3	-0.7
TUWZ	Tuamarina	0.39	321	P	Pg	20 03 51.9	-0.4
TUWZ				S	Sg	20 03 57.5	-0.2
TCW	Tory Channel	0.52	0	P	Pg	20 03 54.3	-0.5
TCW				S	Sg	20 04 01.6	-0.2
SNZO	South Karori	0.53	38	P	Pb	20 03 55.3	0.0
WEL	Wellington	0.58	40	P	Pb	20 03 56.1	0.0
WEL				S	Sb	20 04 04.9	+0.7
PLWZ	Palliser	0.76	78	P	Pn	20 04 00.2	-0.2
PLWZ				S	Sn	20 04 13.9	+2.4
MSWZ	Moikau Station	0.80	67	P	Pn	20 04 00.7	-0.3
MSWZ				S	Sn	20 04 14.0	+1.5
NNZ	Nelson	0.84	307	P	Pb	20 04 00.1	-0.6
CAW	Cannon Point	0.86	44	P	Pb	20 04 01.0	0.0
CAW				S	Sn	20 04 13.5	-0.7
KHZ	Kahutara	0.87	218	P	Pn	20 04 02.5	+0.5
PAWZ	Paruwai Farm	0.94	68	P	Pg	20 04 02.7	+0.2
DUWZ	D'Urville Isla	0.97	344	P	Pb	20 04 02.0	-0.7
DUWZ				S	Sg	20 04 15.5	-0.2
KIW	Kapiti Island	0.99	29	P	Pb	20 04 02.9	-0.3
KIW				S	Sn	20 04 17.5	+0.1
THZ	Tophouse	1.02	268	P	Pn	20 04 03.9	-0.1
MTW	Mount Morrison	1.09	59	P	Pb	20 04 04.7	-0.1
TRWZ	Traveller	1.11	73	P	Pb	20 04 04.8	-0.4
OGWZ	Otaki Gorge	1.14	37	P	Pn	20 04 05.5	-0.1
OGWZ				S	Sg	20 04 21.5	+0.3
TKNZ	Takaka Hill	1.21	305	P	Pn	20 04 06.4	-0.2
HOWZ	Holdsworth Sta	1.25	49	P	Pb	20 04 07.4	-0.2
TMWZ	Te Maipa	1.37	63	P	Pn	20 04 08.3	-0.5
MRZ	Mangatainoka R	1.46	43	P	Pn	20 04 10.1	+0.1
GVZ	Greta Valley S	1.54	216	P	Pn	20 04 11.4	+0.2
TIWZ	Tintock	1.55	52	P	Pn	20 04 09.7	-1.5
OHWZ	Ohakea	1.72	28	P	Pb	20 04 15.9	+0.3
PRWZ	Pori Road	1.74	48	P	Pn	20 04 13.7	-0.2
POWZ	Post Office Ro	1.75	41	P	Pn	20 04 14.2	+0.1
LTZ	Lake Taylor	1.82	234	P	Pn	20 04 15.5	+0.5
BFZ	Birch Farm	1.82	55	P	Pn	20 04 14.8	-0.2
BFZ	Birch Farm	1.82	55	P	Pn	20 04 14.3	-0.7
DSZ	Dennistoun Nort	1.85	269	P	Pb	20 04 17.0	-0.8
DVHZ	Dannevirke	2.03	46	P	Pn	20 04 16.5	-1.3
WAZ	Wanganui	2.05	16	P	Pb	20 04 22.0	+0.8
ANWZ	Angora Road	2.10	53	P	Pn	20 04 18.1	-0.6
TSZ	Takapari Road	2.11	38	P	Pn	20 04 18.8	-0.2
LREZ	Lake Rotokare	2.27	3	P	Pb	20 04 24.5	-0.5
PRHZ	Porangahau	2.31	51	P	Pn	20 04 20.9	-0.9
PNHZ	Pukenui	2.33	39	P	Pn	20 04 21.6	-0.5
NMEZ	Namu Road	2.34	352	P	Pb	20 04 25.8	-0.2
WPHZ	Waipukurau	2.34	45	P	Pn	20 04 21.7	-0.5
KHEZ	Kahui Hut	2.44	355	P	Pb	20 04 28.1	+0.1
KHEZ	Kahui Hut	2.44	355	P	Pb	20 04 27.5	-0.5
NEZ	North Egmont	2.46	357	P	Pb	20 04 28.3	0.0
NBEZ	Newall Road No	2.48	353	P	Pb	20 04 27.4	-1.2
MTVZ	Mangateitei	2.52	22	P	Pg	20 04 31.0	-1.6
PKE	Pukeiti	2.54	355	P	Pb	20 04 28.9	-0.8
PKVZ	Pokaka	2.58	19	P	Pb	20 04 29.4	-0.8
MOVZ	Moawhango	2.58	26	P	Pn	20 04 26.4	+0.9
PXZ	Pawanui	2.60	50	P	Pn	20 04 24.3	-1.3
WNVZ	Wahianoa	2.61	23	P	Pn	20 04 27.7	+1.7
TRVZ	Turoa	2.62	22	P	Pb	20 04 29.0	-2.0
BHHZ	Black Hill Sta	2.62	32	P	Pn	20 04 26.4	+0.3
VRZ	Vera Road	2.63	8	P	Pb	20 04 28.5	-2.6
DRZ	Dome Shelter	2.65	22	P	Pb	20 04 32.1	+0.6
WHVZ	Whangaehu Hut	2.65	23	P	Pb	20 04 31.0	-0.5
FWVZ	Far West T-bar	2.66	22	P	Pb	20 04 32.2	+0.5
TUVZ	Tukino	2.68	24	P	Pb	20 04 32.7	+0.7
NGZ	Ngauruhoe	2.75	22	P	Pb	20 04 32.8	-0.4
SNVZ	South Ngauruho	2.75	23	P	Pb	20 04 33.0	-0.3
KAHZ	Kahuranaki	2.77	46	P	Pn	20 04 27.2	-0.8
OTVZ	Oturere	2.78	23	P	Pn	20 04 29.8	+1.5
NNVZ	North Ngauruho	2.79	22	P	Pn	20 04 30.8	+2.2
WTVZ	West Tongariro	2.80	21	P	Pn	20 04 30.7	+2.1
TWVZ	Taurewa	2.80	19	P	Pb	20 04 31.6	-2.5
ETVZ	East Tongariro	2.82	23	P	Pn	20 04 30.4	+1.6
TMVZ	Te Maari	2.83	23	P	Pn	20 04 30.9	+1.8
KRVZ	Karewarewa	2.83	22	P	Pb	20 04 34.8	+0.1
NTVZ	North Tongarir	2.84	23	P	Pb	20 04 35.6	+0.8
MCHZ	McNeill Hill	2.94	40	P	Pn	20 04 29.9	-0.5
KATZ	Kakaramea	2.96	22	P	Pb	20 04 37.9	+1.0
RITZ	Rihia Road	3.01	24	P	Pb	20 04 38.1	+0.7
HIZ	Hauiti	3.25	8	P	Pn	20 04 36.7	+2.1
HIZ	Hauiti	3.25	8	P	Pn	20 04 36.6	+2.0
MTHZ	Maungataniwha	3.48	35	P	Pn	20 04 37.7	-0.2
TLZ	Tolley Road	3.54	16	P	Pb	20 04 43.4	-3.1
URZ	Urewera	4.10	33	P	Pn	20 04 46.9	+0.6
TOZ	Tahuroa Road	4.11	14	P	Pn	20 04 49.8	+3.4
ODZ	Otahua Downs	4.24	217	P	Pn	20 04 47.0	-1.2
JCZ	Jackson Bay	4.66	238	P	Pn	20 04 56.6	+2.5
AWAZ	Awhitu Peninsu	4.67	4	P	Pn	20 04 56.6	+2.4
MKAZ	Moumakai	4.67	9	P	Pn	20 04 56.3	+2.0
SYZ	Scrubby Hill	6.06	216	P	Pn	20 05 12.7	-0.5
CTZ	Chatham Island	7.00	110	P	Pn	20 05 25.9	-0.3

IDC 15 20:21:37.9±2.0, 41°.74S×174°.00E, h0km, mb3.6/3, mbtmp3.7/4, ML4.0/1, MS2.7/1, Error ellipse: s-maj=43.5km s-min=36.7km az=109.0
NOU 15 20:21:39.7, 41°.94S×174°.41E, h13km, MLv4.5/12, Cook Strait, New Zealand
WEL 15 20:21:40.6±0.3, 42°S±2°×17°4E±°, h7km±3km, M4.2/18, ML4.5/18, MLv4.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=139.7
ISC 15 20:21:39.4±0.9, 41°.84S±0°.03×174°.22E±0°.02, h16km±5km, n103, σ1°18/115, mb3.4/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.09	360	P	Pb	20 21 43.0	+0.3
BSWZ	Blackbirch Sta	0.28	296	P	Pg	20 21 45.2	-0.3
BSWZ				S	Sg	20 21 48.8	-0.8
TUWZ	Tuamarina	0.46	333	P	Pg	20 21 48.4	-0.2
TUWZ				S	Sg	20 21 54.3	-0.5
TCW	Tory Channel	0.63	4	P	Pg	20 21 51.6	-0.2
TCW				S	Sg	20 21 59.4	-0.8
SNZO	South Karori	0.64	35	P	Pb	20 21 52.8	+0.5
WEL	Wellington	0.69	37	P	Pn	20 21 54.0	-0.6
WEL				S	Sn	20 22 04.5	-0.5
KHZ	Kahutara	0.77	221	P	Pn	20 21 56.1	+0.5
KHZ	Kahutara	0.77	221	P	Pn	20 21 56.2	+0.6
KHZ				S	Sn	20 22 08.6	+1.8
PLWZ	Palliser	0.82	71	P	Pg	20 21 57.2	+0.7
NNZ	Nelson	0.88	314	P	Pb	20 21 55.9	-0.5
MSWZ	Moikau Station	0.88	62	P	Pn	20 21 58.2	+0.9
CAW	Cannon Point	0.97	42	P	Pn	20 21 58.9	+0.5
THZ	Tophouse	0.98

MTHZ	Maungataniwha	3.59	35	P		Pn	20 22 34.5	-0.1
TLZ	Tolley Road	3.65	17	P		Pn	20 22 37.0	+1.7
ALRZ	Allen Road	3.66	27	P		Pn	20 22 34.9	-0.5
KNZ	Kokohu	3.86	44	P		Pn	20 22 36.5	-1.6
MHGZ	Mahia Peninsul	3.89	48	P		Pn	20 22 37.9	-0.7
ODZ	Otahua Downs	4.13	218	P		Pn	20 22 41.7	-0.1
URZ	Urewera	4.21	33	P		Pn	20 22 43.5	+0.6
TOZ	Tahuroa Road	4.22	14	P		Pn	20 22 44.3	+1.2
JCZ	Jackson Bay	4.57	239	P		Pn	20 22 49.5	+1.5
RUGZ	Raukumara Rang	4.70	36	P		Pn	20 22 48.3	-1.5
AWAZ	Awhitu Peninsu	4.78	4	P		Pn	20 22 53.4	+2.6
MKAZ	Moumakai	4.78	9	P		Pn	20 22 52.3	+1.4
WTAZ	Waiatarua	4.91	3	P		Pn	20 22 55.7	+3.1
WMGZ	Waiomatatini S	5.15	40	P		Pn	20 22 54.2	-1.7
KUZ	Kuaotunu	5.22	13	P		Pn	20 22 57.7	+0.9
SYZ	Scrubby Hill	5.95	216	P		Pn	20 23 08.4	+1.6
ASAR	Alice Springs	38.03	286	P		P	20 28 56.5	-0.5
	0.3nm,0.4s,baz=120,slow=6.8,SNR=11 0.3nm,0.4s							
WRA	Warramunga Arr	40.11	291	P		P	20 29 13.4	-1.1
	0.4nm,0.5s,baz=126,slow=8.4,SNR=12 0.4nm,0.5s							
CMAR	Chiang Mai Arr	91.65	293	P		P	20 34 46.1	+0.1
	0.3nm,0.5s,baz=141,slow=3.0,SNR=4.2 0.3nm,0.5s							
TORD	Torodi Ar. Bea	150.68	195	PKPbc		PKiKP	20 41 32.0	+0.2
	0.8nm,0.6s,baz=169,slow=2.6,SNR=10							

WEL ***15*** *20:32:14.2±0.3,42.˚2S×17.˚4E±.˚, h6km±2km, M3.8/25, ML4.0/25, MLv3.8/25, Error ellipse: s-maj=0.0km s-min=0.0km az=130.0*

NOU ***15*** *20:32:14.5, 42.˚09S×174.˚02E, h95km, MLv4.2/7, Off E. Coast of S. Island, N.Z.*

ISC 15 20:32:13.5±1.3, 42.˚08S±0.˚03×173.˚83E±0.˚03, h6km±11km, n84, σ1.˚26/96, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.37	5	P	Pg	20 32 21.3	+0.6
BSWZ				S	Sg	20 32 26.5	+1.0
KHZ	Kahutara	0.40	213	P	Pb	20 32 22.8	-0.1
KHZ				S	Sb	20 32 29.4	+0.1
CMWZ	Cape Campbell	0.44	41	P	Pb	20 32 23.9	+0.2
TUWZ	Tuamarina	0.66	7	P	Pg	20 32 26.7	+0.6
TUWZ				S	Sb	20 32 35.9	-0.9
THZ	Tophouse	0.76	295	P	Pg	20 32 28.1	0.0
THZ				S	Sg	20 32 37.9	-0.1
NNZ	Nelson	0.93	339	P	Pg	20 32 30.9	-0.4
NNZ				S	Sg	20 32 43.3	-0.1
TCW	Tory Channel	0.94	21	P	Pg	20 32 31.6	+0.2
TCW				S	Sb	20 32 44.8	0.0
SNZO	South Karori	1.01	41	P	Pn	20 32 34.2	0.0
MRNZ	Matariki Terra	1.05	310	P	Pg	20 32 33.7	0.0
GVZ	Greta Valley S	1.06	213	P	Pn	20 32 35.5	+0.5
GVZ				S	Sn	20 32 51.6	+1.6
WEL	Wellington	1.06	42	P	Pn	20 32 35.2	+0.3
WEL				S	Sn	20 32 50.9	+0.8
PLWZ	Palliser	1.18	65	P	Pb	20 32 36.3	0.0
TKNZ	Takaka Hill	1.24	328	P	Pb	20 32 36.5	-0.7
MSWZ	Moikau Station	1.25	58	P	Pn	20 32 37.1	-0.5
MSWZ				S	Sn	20 32 56.0	+1.1
DUWZ	D'Urville Isla	1.28	3	P	Pn	20 32 37.7	-0.3
DUWZ				S	Sn	20 32 55.1	-0.5
CAW	Cannon Point	1.35	44	P	Pn	20 32 38.9	0.0
LTZ	Lake Taylor	1.35	238	P	Pb	20 32 39.3	+0.1
PAWZ	Paruwai Farm	1.39	60	P	Pn	20 32 39.0	-0.5
AMCZ	Amberley	1.40	218	P	Pn	20 32 39.6	+0.1
KIW	Kapiti Island	1.47	34	P	Pn	20 32 40.9	+0.4
KIW				S	Sb	20 33 00.1	0.0
DSZ	Denniston Nort	1.55	282	P	Pg	20 32 43.2	0.0
TRWZ	Traveller	1.55	64	P	Pn	20 32 41.1	-0.6
MTW	Mount Morrison	1.56	54	P	Pn	20 32 41.0	-0.8
QRZ	Quartz Range	1.59	322	P	Pb	20 32 42.7	-0.6
QRZ	Quartz Range	1.59	322	P	Pb	20 32 42.6	-0.7
QRZ				S	Sb	20 33 03.5	-0.3
OGWZ	Otaki Gorge	1.62	39	P	Pn	20 32 42.6	0.0
OKCZ	Okains Bay	1.73	199	P	Pn	20 32 43.9	-0.3
HOWZ	Holdsworth Sta	1.73	47	P	Pg	20 32 47.6	+0.8
OXZ	Oxford	1.81	226	P	Pn	20 32 44.6	-0.6
TMWZ	Te Maipa	1.83	58	P	Pn	20 32 44.5	-1.0
MQZ	McQueen's Vall	1.84	208	P	Pn	20 32 44.5	-1.1
INZ	Inchbonnie	1.88	249	P	Pb	20 32 47.5	-0.7
AKCZ	Akaroa Harbour	1.91	200	P	Pn	20 32 46.1	-0.5
MRZ	Mangatainoka R	1.94	43	P	Pn	20 32 46.5	-0.5
RACZ	Rakaia	2.06	217	P	Pn	20 32 48.0	-0.6
PRWZ	Pori Road	2.22	47	P	Pn	20 32 50.5	-0.4
POWZ	Post Office Ro	2.23	41	P	Pn	20 32 51.0	-0.1
WAKZ	Wakanui South	2.36	218	P	Pn	20 32 52.2	-0.6
WAZ	Wanganui	2.49	21	P	Pn	20 32 58.8	+0.2
WVZ	Waitaha Valley	2.49	246	P	Pn	20 32 55.2	+0.7
TSZ	Takapari Road	2.59	39	P	Pn	20 32 55.1	-0.8
RPZ	Rata Peaks	2.61	230	P	Pn	20 32 55.9	-0.4
RPZ	Rata Peaks	2.61	230	P	Pn	20 32 55.8	-0.4
LREZ	Lake Rotokare	2.66	10	P	Pb	20 33 02.2	+0.7
NMEZ	Namu Road	2.67	1	P	Pb	20 33 01.2	-0.5
ARCZ	Arundel	2.69	225	P	Pn	20 32 56.7	-0.7
KHEZ	Kahui Hut	2.79	3	P	Pb	20 33 02.4	-1.4
NBEZ	Newall Road No	2.81	1	P	Pb	20 33 02.1	-2.0
PNHZ	Pukenui	2.81	40	P	Pb	20 33 05.2	+1.0
NEZ	North Egmont	2.82	4	P	Pb	20 33 04.4	+0.1
GCSZ	Gaunt Creek Bo	2.86	243	P	Pn	20 33 00.9	+1.2
PKE	Pukeiti	2.89	2	P	Pb	20 33 03.7	-1.7
PKVZ	Pokaka	3.02	23	P	Pb	20 33 05.4	-2.3
VRZ	Vera Road	3.04	14	P	Pb	20 33 05.2	-2.8
MOVZ	Moawhango	3.05	29	P	Pn	20 33 05.2	+2.9
WNVZ	Wahianoa	3.06	27	P	Pn	20 33 06.8	-2.0
TRVZ	Turoa	3.07	26	P	Pn	20 33 02.3	-0.6
TMZ	Timaru	3.09	221	P	Pn	20 33 09.1	+0.1
BHHZ	Black Hill Sta	3.10	34	P	Pb	20 33 07.5	-1.7
WHVZ	Whangaehu Hut	3.10	26	P	Pb	20 33 09.3	-0.2
FWVZ	Far West T-bar	3.12	25	P	Pb	20 33 08.8	-2.7
OTVZ	Oturere	3.23	26	P	Pb	20 33 09.3	-2.3
NNVZ	North Ngauruho	3.25	25	P	Pb	20 33 10.2	-1.9
ETVZ	East Tongariro	3.27	27	P	Pb	20 33 07.1	+1.6
FOZ	Fox Glacier	3.29	243	P	Pn	20 33 11.1	-1.3
KRVZ	Karewarewa	3.29	25	P	Pb	20 33 09.4	-2.9
TMVZ	Te Maari	3.29	26	P	Pb	20 33 08.4	-0.3
LBZ	Lake Benmore	3.52	228	P	Pn	20 33 13.8	+3.2
HIZ	Hauiti	3.65	13	P	Pn	20 33 11.1	-0.9
ODZ	Otahua Downs	3.76	217	P	Pn	20 33 10.8	-1.1
ODZ	Otahua Downs	3.76	217	P	Pn	20 33 18.4	+0.3
JCZ	Jackson Bay	4.20	240	P	Pn	20 33 18.6	+0.5
JCZ	Jackson Bay	4.20	240	P	Pn	20 33 20.8	-0.8
HHSZ	Highcliff Hill	4.46	210	P	Pn	20 33 25.7	+3.0
TOZ	Tahuroa Road	4.53	17	P	Pn	20 33 22.2	-0.6
EAZ	Earnscleugh	4.54	225	P	Pn	20 33 20.2	-3.0
URZ	Urewera	4.57	34	P	Pn	20 33 33.0	+3.2
AWAZ	Awhitu Peninsu	5.05	7	P	Pn	20 33 33.1	+3.0
MKAZ	Moumakai	5.08	12	P	Pn	20 33 32.5	+0.1
WSRZ	White Island S	5.24	31	P	Pn	20 33 32.3	-0.7
MLZ	Mavora Lakes	5.28	230	P	Pn	20 33 36.0	-1.0
SYZ	Scrubby Hill	5.58	215	P	Pn	20 33 36.6	-0.4
SYZ	Scrubby Hill	5.58	215	P	Pn	20 33 47.0	-0.2
APZ	The Paps	6.32	219	P	Pn		

WEL 15 20:36:12.4±0.4, 42.˚S±3.˚×17.˚4E±.˚, h5km±3km, M3.2/31, ML3.9/17, MLv3.2/31, Error ellipse: s-maj=0.0km s-min=0.0km az=135.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.25	34	P	Pg	20 36 18.0	+0.8
BSWZ	Blackbirch Sta	0.27	334	P	Pg	20 36 17.9	+0.4
BSWZ				S	Sg	20 36 22.4	+1.3
TUWZ	Tuamarina	0.53	353	P	Pg	20 36 22.9	+0.3
TUWZ				S	Sg	20 36 30.7	+1.3
KHZ	Kahutara	0.59	218	P	Pb	20 36 24.5	-0.7
TCW	Tory Channel	0.77	14	P	Pg	20 36 27.0	-0.1
TCW				S	Sb	20 36 38.9	-0.1
THZ	Tophouse	0.86	282	P	Pg	20 36 29.1	+0.2
THZ				S	Sb	20 36 41.0	-0.8
WEL	Wellington	0.87	40	P	Pb	20 36 30.1	+0.1
WEL				S	Sn	20 36 44.3	-0.1
NNZ	Nelson	0.88	326	P	Pg	20 36 29.2	-0.2
NNZ				S	Sg	20 36 40.9	+0.1
PLWZ	Palliser	0.99	68	P	Pg	20 36 31.4	-0.1
MSWZ	Moikau Station	1.06	60	P	Pg	20 36 32.4	-0.4
MRNZ	Matariki Terra	1.10	300	P	Pg	20 36 33.6	+0.1
MRNZ				S	Sb	20 36 49.1	+0.4
CAW	Cannon Point	1.15	43	P	Pg	20 36 34.2	-0.3
DUWZ	D'Urville Isla	1.15	356	P	Pg	20 36 33.9	-0.7
DUWZ				S	Sb	20 36 50.2	0.0
PAWZ	Paruwai Farm	1.19	62	P	Pg	20 36 34.0	-1.3
TKNZ	Takaka Hill	1.22	319	P	Pg	20 36 35.4	-0.5
GVZ	Greta Valley S	1.25	216	P	Pg	20 36 35.7	-0.8
KIW	Kapiti Island	1.28	32	P	Pg	20 36 36.4	-0.5
MTW	Mount Morrison	1.36	55	P	Pn	20 36 36.3	-1.8
OGWZ	Otaki Gorge	1.42	37	P	Pn	20 36 38.1	-0.8
LTZ	Lake Taylor	1.54	237	P	Pn	20 36 40.1	-0.5
AMCZ	Amberley	1.59	219	P	Pn	20 36 40.1	-1.1
QRZ	Quartz Range	1.59	314	P	Pb	20 36 41.9	-0.5
TMWZ	Te Maipa	1.63	59	P	Pn	20 36 39.7	-2.2
DSZ	Denniston Nort	1.68	276	P	Pb	20 36 43.7	-0.1
MRZ	Mangatainoka R	1.74	43	P	Pn	20 36 41.8	-1.6
OKCZ	Okains Bay	1.91	202	P	Pn	20 36 43.7	-2.0
OXZ	Oxford	2.01	226	P	Pn	20 36 45.3	-1.8
MQZ	McQueen's Vall	2.02	210	P	Pn	20 36 44.7	-2.5
PRWZ	Pori Road	2.02	47	P	Pg	20 36 50.6	-0.6
AKCZ	Akaroa Harbour	2.09	203	P	Pn	20 36 46.1	-2.0
WACZ	Wakanui South	2.56	218	P	Pn	20 36 52.6	-1.9
NBEZ	Newall Road No	2.69	357	P	Pg	20 37 02.5	-1.4
RPZ	Rata Peaks	2.81	230	P	Pn	20 36 56.5	-1.6
MOVZ	Moawhango	2.86	28	P	Pb	20 37 03.0	-1.0
BHHZ	Black Hill Sta	2.91	33	P	Pb	20 37 04.9	+0.1
TMZ	Timaru	3.28	221	P	Pn	20 37 02.6	-1.9
HIZ	Hauiti	3.50	11	P	Pn	20 37 11.0	+3.6
ODZ	Otahua Downs	3.95	217	P	Pn	20 37 11.3	-2.4

IDC ***15*** *20:36:47.7±2.9, 42.˚15S×173.˚91E, h0km, mb3.4/2, mbtmp3.6/3, ML4.3/1, Error ellipse: s-maj=56.7km s-min=49.7km az=76.0*

WEL ***15*** *20:36:50.4±0.4, 42.˚S±4.˚×17.˚4E±.˚, h12km, M3.8/22, ML4.0/22, MLv3.8/22, Error ellipse: s-maj=0.0km s-min=0.0km az=137.2*

ISC 15 20:36:49.4±1.3, 42.˚34S±0.˚04×173.˚94E±0.˚04, h12km±10km, n80, σ1.˚42/85, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.31	255	P	Pb	20 36 57.3	+0.5
KHZ				S	Sb	20 37 01.3	-0.6
CMWZ	Cape Campbell	0.62	19	P	Pn	20 37 04.6	+0.6
BSWZ	Blackbirch Sta	0.62	355	P	Pb	20 37 02.3	+0.1
TUWZ	Tuamarina	0.91	360	P	Pn	20 37 07.9	0.0
GVZ	Greta Valley S	0.92	226	P	Pn	20 37 09.8	+1.6
GVZ				S	Sn	20 37 23.1	+1.7
THZ	Tophouse	0.96	306	P	Pb	20 37 07.3	-0.8
TCW	Tory Channel	1.15	13	P	Pg	20 37 11.7	+0.2
NNZ	Nelson	1.20	339	P	Pb	20 37 11.5	-0.4
WEL	Wellington	1.22	31	P	Pg	20 37 13.3	+0.5
WEL				S	Sg	20 37 29.6	+1.0
PLWZ	Palliser	1.24	52	P	Pb	20 37 13.4	+0.6
AMCZ	Amberley	1.27	228	P	Pb	20 37 13.9	+0.6
MRNZ	Matariki Terra	1.29	316	P	Pg	20 37 13.7	-0.4
LTZ	Lake Taylor	1.31	250	P	Pg	20 37 14.3	-0.3
LTZ				S	Sg	20 37 31.0	-0.7
MSWZ	Moikau Station	1.34	47	P	Pb	20 37 14.8	+0.4
PAWZ	Paruwai Farm	1.46	50	P	Pn	20 37 16.3	+0.7
CAW	Cannon Point	1.49	35	P	Pb	20 37 16.8	-0.1
TKNZ	Takaka Hill	1.50	330	P	Pb	20 37 16.9	-0.2
DUWZ	D'Urville Isla	1.53	359	P	Pb	20 37 17.5	-0.2
TRWZ	Traveller	1.61	55	P	Pn	20 37 18.2	+0.6
KIW	Kapiti Island	1.64	27	P	Pb	20 37 19.2	-0.4
MTW	Mount Morrison	1.66	45	P	Pn	20 37 18.9	+0.6
MQZ	McQueen's Vall	1.66	214	P	Pn	20 37 18.9	+0.6
DSZ	Denniston Nort	1.70	290	P	Pb	20 37 20.5	-0.1
OXZ	Oxford	1.71	234	P	Pn	20 37 19.4	+0.3
OGWZ	Otaki Gorge	1.78	32	P	Pn	20 37 20.6	+0.7
HOWZ	Holdsworth Sta	1.86	40	P	Pn	20 37 21.6	+0.5
INZ	Inchbonnie	1.89	257	P	Pb	20 37 22.4	-1.3
TMWZ	Te Maipa	1.91	51	P	Pn	20 37 22.1	+0.4
RACZ	Rakaia	1.92	223	P	Pn	20 37 22.3	+0.5
MRZ	Mangatainoka R	2.08	37	P	Pn	20 37 24.5	+0.5
WACZ	Wakanui South	2.22	223	P	Pn	20 37 26.4	+0.3
PRWZ	Pori Road	2.34	41	P	Pn	20 37 28.0	+0.3
POWZ	Post Office Ro	2.38	36	P	Pn	20 37 28.7	+0.5
BFZ	Birch Farm	2.39	47	P	Pn	20 37 28.5	+0.2
WVZ	Waitaha Valley	2.48	252	P	Pn	20 37 30.5	+1.0
RPZ	Rata Peaks	2.53	236	Pn	Pn	20 37 30.4	+0.2
	52nm,0.3s,baz=93,slow=2.2,SNR=54						
RPZ				Sn	Sn	20 37 59.9	-1.1
	33nm,0.3s,baz=146,slow=23,SNR=26 135nm,0.4s						
RPZ	Rata Peaks	2.53	236	P	Pn	20 37 30.5	+0.2
ARCZ	Arundel	2.59	231	P	Pn	20 37 31.5	+0.5
DVHZ	Dannevirke	2.64	40	P	Pn	20 37 30.7	-1.0
WAZ	Wanganui	2.70	17	P	Pb	20 37 35.1	-2.5
TSZ	Takapari Road	2.74	34	P	Pn	20 37 33.5	+0.3
LREZ	Lake Rotokare	2.90	7	P	Pb	20 37 38.9	-2.0
TMZ	Timaru	2.96	225	P	Pn	20 37 36.9	+0.7
KHEZ	Kahui Hut	3.04	1	P	Pn	20 37 39.3	+1.9
NBEZ	Newall Road No	3.07	359	P	Pb	20 37 45.2	+1.4
NEZ	North Egmont	3.07	2	P	Pb	20 37 44.1	+0.2
PKE	Pukeiti	3.14	1	P	Pb	20 37 41.7	-3.4
MOVZ	Moawhango	3.23	26	P	Pn	20 37 40.9	+0.9
FOZ	Fox Glacier	3.26	247	P	Pn	20 37 42.4	+1.9
WNVZ	Wahianoa	3.26	23	P	Pn	20 37 42.5	+2.0
BHHZ	Black Hill Sta	3.27	30	P	Pb	20 37 45.0	-2.3
VRZ	Vera Road	3.27	11	P	Pn	20 37 42.9	+2.5
WHVZ	Whangaehu Hut	3.30	23	P	Pn	20 37 44.3	+3.3
FWVZ	Far West T-bar	3.31	22	P	Pn	20 37 43.4	+2.2
KAHZ	Kahuranaki	3.37	42	P	Pn	20 37 41.3	-0.6
NGZ	Ngauruhoe	3.40	22	P	Pn	20 37 45.2	+2.8
LBZ	Lake Benmore	3.42	232	P	Pn	20 37 43.3	+0.8
OTVZ	Oturere	3.43	23	P	Pn	20 37 45.0	+2.2
NNVZ	North Ngauruho	3.44	22	P	Pn	20 37 46.2	+3.2
WTVZ	West Tongariro	3.45	22	P	Pn	20 37 45.9	+2.8
KWHZ	Kaweka Forest	3.46	34	P	Pn	20 37 46.8	+3.7
ETVZ	East Tongariro	3.47	23	P	Pn	20 37 46.0	+2.7
TMVZ	Te Maari	3.48	23	P	Pn	20 37 45.8	+2.3
ODZ	Otahua Downs	3.61	220	P	Pn	20 37 45.6	+0.4
BKZ	Black Stump Fm	3.71	32	P	Pn	20 37 47.8	+1.2
HIZ	Hauiti	3.88	11	P	Pn	20 37 51.2	+2.3
MTHZ	Maungataniwha	4.12	33	P	Pn	20 37 52.8	+0.6
TLZ	Tolley Road	4.18	17	P	Pn	20 37 54.9	+1.8
HHSZ	Highcliff Hill	4.29	213	P	Pn	20 37 55.2	+0.7
EAZ	Earnscleugh	4.43	228	P	Pn	20 37 56.6	+0.2
TOZ	Tahuroa Road	4.75	15	P	Pn	20 38 02.1	+1.3
MLZ	Mavora Lakes	5.19	232	P	Pn	20 38 06.8	-0.1
RUGZ	Raukumara Rang	5.22	34	P	Pn	20 38 07.9	+0.5
AWAZ	Awhitu Peninsu	5.29	6	P	Pn	20 38 10.1	+1.9
MKAZ	Moumakai	5.31	11	P	Pn	20 38 09.5	+1.0
ETAZ	East Tamaki Re	5.43	8	P	Pn	20 38 11.9	+1.8
APZ	The Paps	6.19	221	P	Pn	20 38 21.4	+0.8
ASAR	Alice Springs	37.97	287	P	P	20 44 06.6	-0.5
	0.4nm,0.8s,baz=122,slow=6.6,SNR=2.5 0.4nm,0.8s						
WRA	Warramunga Arr	40.10	291	P	P	20 44 24.2	-0.7
	0.6nm,0.7s,baz=129,slow=7.5,SNR=7.9 0.6nm,0.7s						
TORD	Torodi Ar. Bea	150.15	195	PKPbc	PKiKP	20 56 41.1	-0.3
	0.2nm,0.5s,baz=190,slow=2.3,SNR=2.2						

IDC ***15*** *20:42:25.5±2.9, 41.˚63S×174.˚22E, h0km, mb3.5/2, mbtmp3.6/3, ML3.5/1, MS2.7/1, Error ellipse: s-maj=60.0km s-min=48.8km az=67.0*

WEL ***15*** *20:42:28.1±0.4, 42.˚S±3.˚×17.˚4E±.˚, h7km±4km, M3.7/18, ML4.0/18, MLv3.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=165.6*

ISC 15 20:42:27.4±1.1, 41.˚79S±0.˚03×174.˚34E±0.˚02, h11km±7km, n90, σ1.˚34/102, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.10	295	P	Pg	20 42 29.8	-0.3
BSWZ	Blackbirch Sta	0.35	283	P	Pg	20 42 34.9	+0.4
BSWZ				S	Sb	20 42 40.4	-0.9
TUWZ	Tuamarina	0.47	321	P	Pg	20 42 36.6	0.0
TUWZ				S	Sb	20 42 43.2	-1.4
BHW	Baring Head	0.55	46	P	Pg	20 42 38.7	+0.6
TCW	Tory Channel	0.58	355	P	Pg	20 42 38.5	-0.3
TCW				S	Sg	20 42 46.3	-0.1
WEL	Wellington	0.60	32	P	Pg	20 42 39.5	+0.4
PLWZ	Palliser	0.72	72	P	Pb	20 42 43.0	+1.1
PLWZ				S	Sn	20 42 55.7	+1.1
MSWZ	Moikau Station	0.78	61	P	Pg	20 42 43.5	+1.1
MSWZ				S	Sn	20 42 56.7	+0.7
KHZ	Kahutara	0.86	223	P	Pb	20 42 45.7	+1.4
KHZ				S	Sn	20 42 59.7	+1.7
CAW	Cannon Point	0.88	39	P	Pg	20 42 44.2	0.0
CAW				S	Sn	20 42 58.9	+0.6
PAWZ	Paruwai Farm	0.91	64	P	Pg	20 42 45.7	+0.8
PAWZ				S	Sb	20 42 59.3	+1.9
NNZ	Nelson	0.92	308	P	Pg	20 42 44.7	-0.5
NNZ				S	Sg	20 42 57.7	+0.1
KIW	Kapiti Island	1.02	25	P	Pg	20 42 46.7	-0.4
KIW				S	Sg	20 43 00.5	+0.1
DUWZ	D'Urville Isla	1.04	342	P	Pg	20 42 46.5	-0.9
DUWZ				S	Sn	20 43 01.6	-0.8
THZ	Tophouse	1.07	271	P	Pg	20 42 48.3	+0.4
MTW	Mount Morrison	1.08	54	P	Pg	20 42 47.9	+0.3
TRWZ	Traveller	1.09	69	P	Pg	20 42 47.8	-0.4
OGWZ	Otaki Gorge	1.16	33	P	Pg	20 42 48.9	-0.7
MRNZ	Matariki Terra	1.25	288	P	Pn	20 42 51.3	+0.6
HOWZ	Holdsworth Sta	1.26	45	P	Pb	20 42 50.9	-0.2
TKNZ	Takaka Hill	1.28	306	P	Pg	20 42 51.2	-0.8
TMWZ	Te Maipa	1.35	60	P	Pn	20 42 51.4	-0.8
MRZ	Mangatainoka R	1.47	40	P	Pn	20 42 53.5	-0.3
GVZ	Greta Valley S	1.52	219	P	Pn	20 42 54.2	-0.3
CPWZ	Castlepoint	1.66	58	P	Pn	20 42 56.0	-0.3
QRZ	Quartz Range	1.67	305	P	Pb	20 42 58.1	-0.1
PRWZ	Pori Road	1.75	45	P	Pn	20 42 57.0	-0.6
OHWZ	Ohakea	1.75	25	P	Pb	20 42 59.2	-0.2
POWZ	Post Office Ro	1.77	38	P	Pn	20 42 57.7	-0.2
BFZ	Birch Farm	1.82	53	P	Pn	20 42 57.4	-1.1
LTZ	Lake Taylor	1.82	237	P	Pn	20 42 59.0	+0.3
AMCZ	Amberley	1.86	222	P	Pn	20 42 58.9	-0.3
DSZ	Denniston Nort	1.90	271	P	Pn	20 43 01.5	+1.8
DVHZ	Dannevirke	2.03	43	P	Pn	20 43 00.4	-1.1
ANWZ	Angora Road	2.09	51	P	Pn	20 43 01.5	-0.8
WAZ	Wanganui	2.09	14	P	Pb	20 43 06.1	+0.8
TSZ	Takapari Road	2.12	36	P	Pn	20 43 02.3	-0.5
OKCZ	Okains Bay	2.15	206	P	Pn	20 43 02.4	-0.8
MQZ	McQueen's Vall	2.28	212	P	Pn	20 43 03.6	-1.3
OXZ	Oxford	2.29	227	P	Pn	20 43 04.4	-0.7
PRHZ	Porangahau	2.31	49	P	Pn	20 43 04.5	-0.8
AKCZ	Akaroa Harbour	2.33	206	P	Pn	20 43 04.8	-0.9
LREZ	Lake Rotokare	2.33	1	P	Pg	20 43 10.9	-1.2
PNHZ	Pukenui	2.35	38	P	Pn	20 43 05.3	-0.6
WPHZ	Waipukurau	2.35	43	P	Pn	20 43 05.7	-0.2
NMEZ	Namu Road	2.40	351	P	Pb	20 43 10.1	-0.5
KHEZ	Kahui Hut	2.51	354	P	Pb	20 43 11.7	-0.8
NEZ	North Egmont	2.53	356	P	Pb	20 43 13.1	+0.3
NBEZ	Newall Road No	2.55	352	P	Pb	20 43 11.8	-1.3
PKE	Pukeiti	2.61	354	P	Pb	20 43 12.5	-1.6
MOVZ	Moawhango	2.62	25	P	Pn	20 43 10.5	+0.9
PKVZ	Pokaka	2.62	17	P	Pb	20 43 14.3	0.0
WNVZ	Wahianoa	2.64	22	P	Pn	20 43 11.1	+1.0
BHHZ	Black Hill Sta	2.65	30	P	Pn	20 43 13.1	+3.1
TRVZ	Turoa	2.66	21	P	Pn	20 43 13.1	+2.8
DRZ	Dome Shelter	2.68	21	P	Pb	20 43 17.0	+1.4
WHVZ	Whangaehu Hut	2.68	21	P	Pn	20 43 13.1	+2.5
VRZ	Vera Road	2.69	7	P	Pn	20 43 12.7	+2.2
FWVZ	Far West T-bar	2.70	20	P	Pn	20 43 13.9	+3.0
TUVZ	T

COEN				IAmb	IAmb	21 05 13.3	
	comp=Z,21nm,1.2s						
COEN	**Coen**	**15.27 116**	P		**P**	**21 04 47.6**	**+0.5**
MBWA	**Marble Bar**	**16.41 213**			**Pn**	**21 04 58.6**	**-0.6**
MBWA	**Marble Bar**	**16.41 213**	P		**P**	**21 04 59.9**	**+0.3**
PSA00	**Pilbara Seismi**	**16.69 211**	P		**P**	**21 05 03.2**	**+0.6**
PSA00	**Pilbara Seismi**	**16.69 211**	P		**P**	**21 05 04.1**	**+1.4**
AS31	**Alice Springs**	**16.81 165**	P		**P**	**21 05 03.8**	**-0.3**
ASAR	**Alice Springs**	**16.81 165**	P		**Pn**	**21 05 05.0**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=336,slow=9.3,SNR=29						
ASAR			S		Sn	21 07 60.0	-12
	comp=Z,1.1nm,0.6s,baz=328,slow=17,SNR=3.2						
ASAR	**Alice Springs**	**16.81 165**	P		**Pn**	**21 05 05.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**39.32 311**	P		**P**	**21 08 33.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=144,slow=7.9,SNR=5.1						
	comp=Z,0.4nm,0.3s						
MK31	**Makanchi Array**	**68.08 327**	P		**P**	**21 12 02.4**	**+0.4**
MK31				IAmb	IAmb	21 12 21.8	
	comp=Z,2.8nm,1.4s						
MKAR	**Makanchi Array**	**68.08 327**	P		**P**	**21 12 02.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=113,slow=8.7,SNR=36						
	comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**68.08 327**	P		**P**	**21 12 02.6**	**+0.6**
MAKZ	**Makanchi**	**68.26 327**	P		**P**	**21 12 04.2**	**+1.1**
MAKZ				IAmb	IAmb	21 12 23.2	
	comp=Z,3.4nm,1.2s						
ZALV	**Zalesovo Beam**	**71.56 334**	P		**P**	**21 12 23.2**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=120,slow=3.3,SNR=5.1						
	comp=Z,0.7nm,0.5s						
VNDA	**Vanda**	**72.16 173**	P		**P**	**21 12 27.1**	**+0.8**
ABKAR	**Akbulak array**	**82.28 322**	P		**P**	**21 13 23.3**	**+0.1**
ABKAR	**Akbulak array**	**82.28 322**	P		**P**	**21 13 23.2**	**0.0**
ABKAR				IAmb	IAmb	21 13 27.8	
	comp=Z,5.0nm,1.5s						

WEL 15 21:09:12.6±0.4, 42°S±2°×17°4E±°, h5km±2km, M3.4/12, ML3.6/12, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=117.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.32**	**14**	P	Pg	21 09 19.2	+0.3
BSWZ				S	Sg	21 09 24.5	+1.4
KHZ	**Kahutara**	**0.42**	**204**	P	Pg	21 09 21.2	+0.5
KHZ				S	Sg	21 09 27.3	+1.0
CMWZ	**Cape Campbell**	**0.43**	**50**	P	Pb	21 09 22.0	-0.7
TUWZ	**Tuamarina**	**0.61**	**12**	P	Pg	21 09 24.7	+0.4
THZ	**Tophouse**	**0.70**	**292**	P	Pg	21 09 26.2	+0.2
THZ				S	Sg	21 09 36.1	+1.1
NNZ	**Nelson**	**0.86**	**340**	P	Pg	21 09 28.7	-0.4
NNZ				S	Sg	21 09 40.9	+0.6
TCW	**Tory Channel**	**0.90**	**25**	P	Pg	21 09 29.7	-0.2
MRNZ	**Matariki Terra**	**0.98**	**309**	P	Pb	21 09 31.8	-0.3
WEL	**Wellington**	**1.06**	**45**	P	Pb	21 09 33.2	-0.1
GVZ	**Greta Valley S**	**1.08**	**210**	P	Pg	21 09 33.4	0.0
TKNZ	**Takaka Hill**	**1.17**	**328**	P	Pg	21 09 34.7	-0.3
MSWZ	**Moikau Station**	**1.27**	**62**	P	Pg	21 09 35.3	-1.5
CAW	**Cannon Point**	**1.34**	**47**	P	Pn	21 09 37.5	-0.5
LTZ	**Lake Taylor**	**1.34**	**235**	P	Pn	21 09 37.6	-0.5
PAWZ	**Paruwai Farm**	**1.40**	**63**	P	Pn	21 09 37.2	-1.7
AMCZ	**Amberley**	**1.41**	**215**	P	Pn	21 09 37.8	-1.2
KIW	**Kapiti Island**	**1.45**	**37**	P	Pn	21 09 39.0	-0.4
DSZ	**Denniston Nort**	**1.49**	**280**	P	Pg	21 09 41.2	0.0
QRZ	**Quartz Range**	**1.52**	**322**	P	Pb	21 09 41.4	+0.1
MTW	**Mount Morrison**	**1.56**	**57**	P	Pn	21 09 39.2	-1.9
TRWZ	**Traveller**	**1.57**	**67**	P	Pn	21 09 39.6	-1.5
OGWZ	**Otaki Gorge**	**1.60**	**41**	P	Pn	21 09 40.7	-0.9
HOWZ	**Holdsworth Sta**	**1.73**	**50**	P	Pb	21 09 45.2	+0.4
OKCZ	**Okains Bay**	**1.77**	**197**	P	Pn	21 09 42.2	-1.7
OXZ	**Oxford**	**1.82**	**224**	P	Pn	21 09 42.9	-1.7
MQZ	**McQueen's Vall**	**1.87**	**206**	P	Pn	21 09 43.2	-1.9
MRZ	**Mangatainoka R**	**1.93**	**45**	P	Pn	21 09 44.6	-1.5
AKCZ	**Akaroa Harbour**	**1.95**	**199**	P	Pn	21 09 44.7	-1.6
RACZ	**Rakaia**	**2.08**	**215**	P	Pn	21 09 46.2	-1.8
OHWZ	**Ohakea**	**2.16**	**33**	P	Pb	21 09 52.1	-0.1
PRWZ	**Pori Road**	**2.22**	**49**	P	Pb	21 09 53.8	+0.7
POWZ	**Post Office Ro**	**2.23**	**43**	P	Pn	21 09 48.9	-1.2
BFZ	**Birch Farm**	**2.30**	**55**	P	Pg	21 09 57.6	+1.0
WACZ	**Wakanui South**	**2.38**	**216**	P	Pn	21 09 50.5	-1.8
WAZ	**Wanganui**	**2.45**	**22**	P	Pb	21 09 56.8	-0.4
WVZ	**Waitaha Valley**	**2.47**	**244**	P	Pn	21 09 54.0	+0.5
TSZ	**Takapari Road**	**2.57**	**41**	P	Pb	21 09 59.1	-0.1
RPZ	**Rata Peaks**	**2.61**	**229**	P	Pn	21 09 54.1	-1.3
NMEZ	**Namu Road**	**2.62**	**2**	P	Pb	21 09 59.3	-0.6
ARCZ	**Arundel**	**2.70**	**224**	P	Pn	21 09 55.1	-1.6
KHEZ	**Kahui Hut**	**2.74**	**4**	P	Pb	21 10 00.7	-1.4
NBEZ	**Newall Road No**	**2.76**	**2**	P	Pb	21 10 00.8	-1.6
GCSZ	**Gaunt Creek Bo**	**2.85**	**242**	P	Pn	21 10 01.2	+2.5
VRZ	**Vera Road**	**3.00**	**15**	P	Pb	21 10 04.1	-2.3
MOVZ	**Moawhango**	**3.02**	**31**	P	Pn	21 10 03.8	+2.7
WNVZ	**Wahianoa**	**3.04**	**28**	P	Pb	21 10 04.6	-2.6
WHVZ	**Whangaehu Hut**	**3.07**	**27**	P	Pb	21 10 05.4	-2.5

*NEIC **15** 21:09:28.9±1.5, 21°.92S±0°.05×68°.62W±0°.06, h124km±6km, mb4.1/12, ML3.8(GUC), Error ellipse: s-maj=9.3km s-min=6.2km az=57.0*
*IDC **15** 21:09:28.4±0.8, 21°.95S×68°.22W, h104km±10km, mb3.6/5, mbtmp4.0/8, Error ellipse: s-maj=28.4km s-min=16.2km az=119.0*
*VAO **15** 21:09:29.0±0.5, 21°.81S×68°.46W, h121km, mb4.3*
*GUC **15** 21:09:29.8±0.8, 21°.97S×68°.55W, h112km±5km, ML3.8*
ISC 15 21:09:28.3±0.6, 21°.92S±0°.03×68°.55W±0°.05, h121km±6km, n110, σ1§16/128, mb4.1/6, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.65**	**281**		**Pn**	**21 09 48.2**	**+0.6**
PB09				Sn	**Sn**	**21 10 02.4**	**+0.4**
PB09	**IPOC Station P**	**0.65**	**281**	⇑*iP*	**Pn**	**21 09 48.4**	**+0.8**
PB09				*eS*	**Sn**	**21 10 02.5**	**+0.4**
PB09				IAML		21 10 05.3	
	comp=E,2μm,0.5s						
LVC	**Limon Verde**	**0.76**	**206**	P	**Pn**	**21 09 49.1**	**+0.5**
	comp=E,785nm,0.3s,baz=37,slow=8.5,SNR=2111						
LVC				S	**Sn**	**21 10 04.4**	**+0.4**
	comp=E,589nm,0.3s,baz=210,slow=21,SNR=44						
LVC	**Limon Verde**	**0.76**	**206**		**Pn**	**21 09 49.0**	**+0.4**
LVC				Sn	**Sn**	**21 10 04.2**	**+0.2**
LVC	**Limon Verde**	**0.76**	**206**	*i* P	**Pn**	**21 09 49.1**	**+0.5**
LVC				*eS*	**Sn**	**21 10 03.6**	**-0.4**
LVC	**Limon Verde**	**0.76**	**206**	*eP*	**Pn**	**21 09 49.2**	**+0.6**
AF01	**San Pedro de A**	**1.08**	**161**		**Pn**	**21 09 52.7**	**+1.1**
AF01				Sn	**Sn**	**21 10 11.0**	**+1.9**
AF01	**San Pedro de A**	**1.08**	**161**	*eP*	**Pn**	**21 09 52.9**	**+1.3**
PB03	**IPOC Station P**	**1.12**	**263**		**Pn**	**21 09 52.1**	**+0.3**
PB03				Sn	**Sn**	**21 10 09.3**	**-0.2**
PB03	**IPOC Station P**	**1.12**	**263**	*e*	**Pn**	**21 09 50.4**	**-1.3**
PB03				⇑*iP*	**Pn**	**21 09 52.1**	**+0.3**
PB03				*eS*	**Sn**	**21 10 09.5**	**0.0**
PB03				IAML		21 10 11.3	
	comp=E,2μm,0.1s						
PB06	**IPOC Station P**	**1.23**	**230**		**Pn**	**21 09 53.6**	**+0.7**
PB06	**IPOC Station P**	**1.23**	**230**	⇑*iP*	**Pn**	**21 09 53.6**	**+0.7**
PB06				*eS*	**Sn**	**21 10 12.2**	**+0.7**
PB06				IAML		21 10 13.7	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**1.23**	**315**		**Pn**	**21 09 53.0**	**+0.1**
PB01	**IPOC Station P**	**1.23**	**315**	⇑*iP*	**Pn**	**21 09 53.2**	**+0.3**
PB01				*eS*	**Sn**	**21 10 11.9**	**+0.4**
PB01				IAML		21 10 13.4	
	comp=N,3μm,0.3s						
PB07	**IPOC Station P**	**1.25**	**279**		**Pn**	**21 09 53.6**	**+0.4**
PB07	**IPOC Station P**	**1.25**	**279**	⇑*iP*	**Pn**	**21 09 53.5**	**+0.3**
PB07				*eS*	**Sn**	**21 10 12.2**	**+0.1**
PB07				IAML		21 10 13.5	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**1.39**	**295**		**Pn**	**21 09 54.9**	**+0.3**
PB02	**IPOC Station P**	**1.39**	**295**	⇑*iP*	**Pn**	**21 09 54.9**	**+0.3**
PB02				*eS*	**Sn**	**21 10 14.6**	**0.0**
PB02				IAML		21 10 16.2	
	comp=E,4μm,0.3s						
PB04	**IPOC Station P**	**1.54**	**254**		**Pn**	**21 09 56.7**	**+0.3**
PB04	**IPOC Station P**	**1.54**	**254**	⇑*iP*	**Pn**	**21 09 56.7**	**+0.3**
PB04				*eS*	**Sn**	**21 10 18.0**	**+0.3**
PB04				IAML		21 10 19.9	
	comp=E,1μm,0.1s						
PB15	**IPOC Station P**	**1.54**	**213**		**Pn**	**21 09 57.2**	**+0.7**
PB08	**IPOC Station P**	**1.86**	**342**		**Pn**	**21 10 01.5**	**+1.0**
PB08	**IPOC Station P**	**1.86**	**342**	⇑*iP*	**Pn**	**21 10 01.8**	**+1.4**
PB08				*eS*	**Sn**	**21 10 26.5**	**+1.6**
PB08				IAML		21 10 28.0	
	comp=E,506nm,0.2s						
TA01	**Diego Aracena**	**2.03**	**311**		**Pn**	**21 10 02.3**	**+0.1**
TA01	**Diego Aracena**	**2.03**	**311**	*eP*	**Pn**	**21 10 02.1**	**-0.1**
TA01				*eS*	**Sn**	**21 10 27.3**	**-0.8**
TA02	**Huaiquique**	**2.21**	**318**		**Pn**	**21 10 04.5**	**+0.1**
TA02	**Huaiquique**	**2.21**	**318**	*eP*	**Pn**	**21 10 05.5**	**+1.1**
GO01	**Chusmiza**	**2.32**	**345**		**Pn**	**21 10 07.2**	**+0.8**
GO01	**Chusmiza**	**2.32**	**345**	*eP*	**Pn**	**21 10 07.8**	**+1.5**
GO01				*eS*	**Sn**	**21 10 37.4**	**+2.0**
GO01				IAML		21 10 43.4	
	comp=E,582nm,0.2s						
PB11	**IPOC Station P**	**2.38**	**334**		**Pn**	**21 10 06.1**	**-0.7**
PB11	**IPOC Station P**	**2.38**	**334**	*eP*	**Pn**	**21 10 06.9**	**+0.1**
PB11				*eS*	**Sn**	**21 10 36.0**	**-0.4**
PB11				IAML		21 10 38.9	
	comp=E,506nm,0.3s						
PB10	**IPOC Station P**	**2.43**	**229**		**Pn**	**21 10 07.3**	**0.0**
PB10	**IPOC Station P**	**2.43**	**229**	*eP*	**Pn**	**21 10 07.2**	**0.0**
PB10				IAML		21 10 49.1	
	comp=N,255nm,0.3s						
PSGC	**Pisagua**	**2.74**	**327**	*eP*	**Pn**	**21 10 10.4**	**-0.9**
PSGCX	**Pisagua**	**2.74**	**327**		**Pn**	**21 10 10.6**	**-0.8**
MNMC	**Minye Minye**	**2.94**	**340**		**Pn**	**21 10 13.3**	**-0.9**
MNMC	**Minye Minye**	**2.94**	**340**	*eP*	**Pn**	**21 10 14.3**	**+0.2**
MNMC				IAML		21 11 02.6	
	comp=N,482nm,0.4s						
PB14	**IPOC Station P**	**3.19**	**212**	Pn	**Pn**	**21 10 17.6**	**+0.2**
GO02	**Mina Guanaco**	**3.36**	**196**	Pn	**Pn**	**21 10 19.9**	**+0.2**
GO02	**Mina Guanaco**	**3.36**	**196**	*eP*	**Pn**	**21 10 19.8**	**+0.1**
PB16	**IPOC Station P**	**3.68**	**346**		**Pn**	**21 10 24.6**	**+0.4**
PB16	**IPOC Station P**	**3.68**	**346**	*eP*	**Pn**	**21 10 23.7**	**-0.5**
PB12	**IPOC Station P**	**3.69**	**333**	Pn	**Pn**	**21 10 23.8**	**-0.1**
PB12	**IPOC Station P**	**3.69**	**333**	*eP*	**Pn**	**21 10 22.2**	**-1.7**
AC01	**Pan de Azucar**	**4.61**	**204**	Pn	**Pn**	**21 10 34.6**	**-1.4**
AC02	**Maricunga**	**4.92**	**186**	Pn	**Pn**	**21 10 39.4**	**-1.3**
LPAZ	**La Paz**	**5.62**	**4**	P	**Pn**	**21 10 52.1**	**+1.8**
	comp=N,4.1nm,0.4s,baz=195,slow=6.0,SNR=16						
LPAZ	**La Paz**	**5.62**	**4**	Pn	**Pn**	**21 10 51.5**	**+1.3**
LPAZ	**La Paz**	**5.62**	**4**	*eP*	**Pn**	**21 10 49.8**	**-0.4**
AC06	**Mina Casimiro**	**5.66**	**196**		**Pn**	**21 10 47.9**	**-2.2**
GO03	**Copiap**	**5.85**	**195**	Pn	**Pn**	**21 10 50.9**	**-1.9**
AC05	**El Transito**	**7.06**	**192**	Pn	**Pn**	**21 11 07.0**	**-2.1**
LCO	**Las Campanas**	**7.32**	**195**	Pn	**Pn**	**21 11 09.1**	**-3.8**
CO01	**Juntas del Tor**	**8.14**	**189**	Pn	**Pn**	**21 11 22.3**	**-1.6**
GO04	**Tololo Observa**	**8.46**	**193**	Pn	**Pn**	**21 11 25.1**	**-3.1**
BBSD	**Serra de San D**	**8.85**	**59**	*eP*	**Pn**	**21 11 30.3**	**-3.0**
SIV	**San Ignacio**	**9.21**	**51**	P	**Pn**	**21 11 34.9**	**-3.4**
	comp=N,6.9nm,0.3s,baz=234,slow=10,SNR=43						
PTLB	**Pontes e Lacer**	**11.00**	**56**	Pn	**Pn**	**21 11 59.9**	**-2.4**
PTLB	**Pontes e Lacer**	**11.00**	**56**	*eP*	**Pn**	**21 12 00.1**	**-2.2**
ANTJ	**Antonio Joao (**	**11.65**	**93**	*eP*	**Pn**	**21 12 10.4**	**-0.5**
VILB	**Vilhena**	**11.96**	**43**	*eP*	**Pn**	**21 12 13.9**	**-1.1**
AQDB	**Aquidauana**	**12.08**	**86**	*eP*	**Pn**	**21 12 16.1**	**-0.5**
SALV	**Santo Antonio**	**13.56**	**66**	*eP*	**Pn**	**21 12 33.8**	**-2.0**
MCR1	**Marechal Candi**	**13.59**	**104**	*eP*	**Pn**	**21 12 37.1**	**+0.9**
FRBT	**Francisco Belt**	**14.72**	**109**	*eP*	**Pn**	**21 12 51.6**	**+0.9**
PDRB	**Porto dos Gac**	**15.26**	**50**	*eP*	**Pn**	**21 12 56.1**	**-1.4**
PTGB	**Pitanga**	**15.40**	**104**	*eP*	**P**	**21 13 00.2**	**-1.0**
ALGR	**Alto Alegre (B**	**15.61**	**119**	*eP*	**Pn**	**21 13 01.3**	**-0.5**
ITAB	**Concordia**	**15.84**	**113**		**P**	**21 13 06.0**	**0.0**
ITAB				IAmb	IAmb	21 13 32.6	
	comp=Z,22nm,1.5s						
ITAB	**Concordia**	**15.84**	**113**	*eP*	**P**	**21 13 05.1**	**-0.9**
CLDB	**Colider**	**16.43**	**50**	*eP*	**Pn**	**21 13 11.5**	**-0.4**
ARAG	**Araguaiana, MT**	**17.00**	**72**	*eP*	**P**	**21 13 18.3**	**-0.6**
TRQA	**Tornquist**	**17.05**	**162**	P	**Pn**	**21 13 20.0**	**+0.6**
FRTB	**Fartura**	**17.59**	**98**	*eP*	**Pn**	**21 13 25.5**	**-0.5**
GO06	**Curranehue**	**17.78**	**187**	P	**P**	**21 13 26.8**	**-0.5**
TER01	**Tubaro-SC**	**18.75**	**114**	*eP*	**P**	**21 13 37.9**	**-0.1**
PLCA	**Paso Flores**	**18.83**	**185**	P	**Pn**	**21 13 40.3**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=360,slow=7.2,SNR=5.8						
PLCA	**Paso Flores**	**18.83**	**185**	P	**P**	**21 13 39.3**	**+0.5**
PLCA				IAmb	IAmb	21 13 51.2	
	comp=Z,10nm,1.4s						
SNDB	**Serra Nova Dou**	**19.23**	**62**	*eP*	**P**	**21 13 42.2**	**-1.1**
RCLB	**Rio Claro- Sao**	**19.48**	**95**	*eP*	**P**	**21 13 45.8**	**-0.2**
IPMB	**Ipameri, GO**	**19.52**	**82**	*eP*	**P**	**21 13 46.3**	**-0.2**
NPGB	**Novo Progresso**	**19.52**	**43**	*eP*	**P**	**21 13 44.7**	**-1.7**
PET01	**Itanhaem-SP**	**19.71**	**101**	*eP*	**P**	**21 13 47.8**	**-0.6**
MACA	**Manacapuru-AM**	**20.15**	**23**	P	**P**	**21 13 51.9**	**-1.3**
MACA				IAmb	IAmb	21 13 55.3	
	comp=Z,43nm,0.7s						
MACA	**Manacapuru-AM**	**20.15**	**23**	*eP*	**P**	**21 13 52.1**	**-1.2**
BDFB	**Brasilia**	**20.41**	**76**	P	**P**	**21 13 54.9**	**-1.3**
	comp=Z,1.7nm,0.4s,baz=243,slow=9.0,SNR=6.3						
	comp=Z,1.7nm,0.4s						
BDFB	**Brasilia**	**20.41**	**76**	P	**P**	**21 13 54.8**	**-1.3**
BDFB				IAmb	IAmb	21 14 16.7	
	comp=Z,15nm,1.4s						
BDFB	**Brasilia**	**20.41**	**76**	*eP*	**P**	**21 13 55.0**	**-1.1**
ITTB	**Itatuba**	**21.42**	**37**	*eP*	**P**	**21 14 05.6**	**-1.3**
SGCB	**SEo Gabriel d**	**21.72**	**4**	*eP*	**P**	**21 14 09.8**	**-0.1**
PRPB	**Parauapebas**	**23.94**	**52**	*eP*	**P**	**21 14 30.2**	**-1.3**
JANB	**Januaria**	**23.96**	**78**	*eP*	**P**	**21 14 31.0**	**-0.7**
SMTB	**Santa Maria do**	**23.98**	**60**	*eP*	**P**	**21 14 31.5**	**-0.4**
MALB	**Monte Alegre**	**24.32**	**37**	*eP*	**P**	**21 14 34.8**	**-0.1**
BOAV	**Boa Vista**	**25.41**	**19**		**P**	**21 14 45.3**	**+0.5**
BOAV				IAmb	IAmb	21 14 46.3	
	comp=Z,4.6nm,0.6s						
BOAV	**Boa Vista**	**25.41**	**19**	*eP*	**P**	**21 14 45.5**	**+0.7**
MCPB	**Macapa, AP**	**26.79**	**39**	*eP*	**P**	**21 14 56.8**	**-0.5**
GDU01	**Guandu, BA**	**28.73**	**78**	*eP*	**P**	**21 15 13.8**	**-0.8**
SNAA	**Sanae**	**61.78**	**161**	P	**P**	**21 19 35.5**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=264,slow=6.0,SNR=7.2						
	comp=Z,1.6nm,0.8s						
SNAA	**Sanae**	**61.78**	**161**	P	**P**	**21 19 35.3**	**+1.4**
SNAA				IAmb	IAmb	21 19 39.4	
	comp=Z,4.1nm,1.2s						
QSPA	**South Pole Qui**	**68.27**	**180**	P	**P**	**21 20 18.1**	**+2.0**
DBIC	**Dimbokro**	**68.54**	**73**	P	**P**	**21 20 18.6**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=247,slow=7.5,SNR=6.6						
	comp=Z,2.3nm,0.6s						
DBIC	**Dimbokro**	**68.54**	**73**	P	**P**	**21 20 18.3**	**-0.1**
NVAR	**Mina Arroy Bea**	**76.03**	**322**	P	**P**	**21 21 05.6**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=152,slow=8.1,SNR=2.6						
	comp=Z,0.3nm,0.5s						
TOA0	**Torodi Ar. Sit**	**77.19**	**70**	P	**P**	**21 21 08.1**	**-1.3**
TOA0				IAmb	IAmb	21 21 10.6	
	comp=Z,2.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.19**	**70**	P	**P**	**21 21 09.0**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=256,slow=5.6,SNR=8.9						
	comp=Z,0.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**77.19**	**70**	P	**P**	**21 21 08.8**	**-0.6**
WRA	**Warramunga Arr**	**132.76**	**210**	PKP	**PKiKP**	**21 28 32.1**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=152,slow=1.6,SNR=2.2						
MKAR	**Makanchi Array**	**145.78**	**37**	PKPbc	**PKPab**	**21 28 54.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=318,slow=1.9,SNR=2.5						
PZH	**PanZhiHua**	**170.04**	**61**	PKP	**PKPdf**	**21 29 21.0**	**-1.5**

*NOU **15** 21:10:54.1, 30°.64S×118°.42E, h0km, MLv3.4/8, Western Australia*
*AUST **15** 21:10:54.4±2.6, 30°.65S×118°.37E, h9km±18km, Error ellipse: s-maj=15.1km s-min=11.2km az=147.0*
ISC 15 21:10:54.1±1.0, 30°.66S±0°.06×118°.48E±0°.06, h13km, n12, σ1§51/15, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.11**	**213**	P	**Pb**	**21 11 14.9**	**-0.4**
	baz=1.1,SNR=51						
KLBR				S	**Sb**	**21 11 29.1**	**-0.6**
	baz=1.1,SNR=7.1						
KLBR	**Kellerberrin**	**1.11**	**213**	P	**Pb**	**21 11 14.9**	**-0.4**
BLDU	**Ballidu**	**1.52**	**271**	P	**Pn**	**21 11 21.3**	**+0.3**
MUN	**Mundaring**	**2.34**	**235**	P	**Pn**	**21 11 32.8**	**+0.5**
	baz=2.3,SNR=6.4						
MUN				S	**Sn**	**21 12 01.2**	**+0.3**
	baz=2.3						
MUN	**Mundaring**	**2.34**	**235**	P	**Pn**	**21 11 32.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**2.50**	**205**	P	**Pn**	**21 11 37.0**	**+2.6**
NWAO	**Narrogin (SRO)**	**2.50**	**205**	P	**Pn**	**21 11 35.7**	**+1.3**
MORW	**Morawa**	**2.64**	**306**	P	**Pn**	**21 11 36.8**	**+0.3**
KMBL	**Kambalda**	**3.01**	**104**	P	**Pn**	**21 11 43.3**	**+1.8**
MEEK	**Meekatharra**	**4.01**	**2**	P	**Pn**	**21 11 57.0**	**+1.7**
FORT	**Forrest**	**8.25**	**93**	P	**Pn**	**21 12 53.6**	**+0.1**
	baz=8.3						
FORT				S	**Sn**	**21 14 23.2**	**-3.4**
	baz=8.3						
JAY	**Jayapura**	**35.01**	**41**	S	**S**	**21 23 18.9**	**+0.3**
	baz=35,SNR=3.4						

WEL 15 21:23:02.1±0.3, 42°S±2°×17°4E±°, h11km±3km, M3.4/19, ML3.7/19, MLv3.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=153.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.04**	**190**	P	Pg	21 23 04.4	+0.2
CMWZ				S	Sg	21 23 07.2	+1.5
BSWZ	**Blackbirch Sta**	**0.26**	**268**	P	Pg	21 23 08.1	+0.6
BSWZ				S	Sb	21 23 12.9	-0.5
TUWZ	**Tuamarina**	**0.35**	**323**	P	Pb	21 23 09.8	-0.5
TUWZ				S	Sb	21 23 15.7	-0.2
TCW	**Tory Channel**	**0.50**	**5**	P	Pg	21 23 12.1	+0.3
TCW				S	Sb	21 23 20.3	+0.1
BHW	**Baring Head**	**0.57**	**59**	P	Pg	21 23 13.3	+0.1
BHW				S	Sg	21 23 21.0	+0.3
WEL	**Wellington**	**0.59**	**44**	P	Pg	21 23 14.0	+0.4
WEL				S	Sb	21 23 24.0	+1.3
PLWZ	**Palliser**	**0.78**	**80**	P	Pb	21 23 17.7	-0.2
PLWZ				S	Sn	21 23 30.3	-0.7
NNZ	**Nelson**	**0.80**	**307**	P	Pg	21 23 17.8	+0.2
NNZ				S	Sb	21 23 29.1	+0.2
MSWZ	**Moikau Station**	**0.82**	**70**	P	Pb	21 23 18.5	+0.1
MSWZ				S	Sn	21 23 31.6	-0.3
CAW	**Cannon Point**	**0.87**	**47**	P	Pg	21 23 18.9	0.0
KHZ	**Kahutara**	**0.87**	**216**	P	Pg	21 23 18.7	-0.3
DUWZ	**D'Urville Isla**	**0.93**	**346**	P	Pg	21 23 20.0	-0.1
PAWZ	**Paruwai Farm**	**0.96**	**71**	P	Pg	21 23 20.2	-0.4
THZ	**Tophouse**	**0.99**	**266**	P	Pb	21 23 21.4	0.0
KIW	**Kapiti Island**	**0.99**	**32**	P	Pg	21 23 20.7	-0.4
MTW	**Mount Morrison**	**1.11**	**61**	P	Pb	21 23 22.3	-1.0
OGWZ	**Otaki Gorge**	**1.14**	**39**	P	Pb	21 23 23.4	-0.4
TRWZ	**Traveller**	**1.14**	**75**	P	Pb	21 23 22.4	-1.5
MRNZ	**Matariki Terra**	**1.14**	**285**	P	Pn	21 23 24.4	+0.2
TKNZ	**Takaka Hill**	**1.17**	**305**	P	Pb	21 23 24.3	-0.1
TMWZ	**Te Maipa**	**1.39**	**65**	P	Pn	21 23 26.0	-1.6
MRZ	**Mangatainoka R**	**1.46**	**45**	P	Pn	21 23 27.0	-0.8
GVZ	**Greta Valley S**	**1.54**	**215**	P	Pn	21 23 28.6	-1.0
QRZ	**Quartz Range**	**1.55**	**304**	P	Pb	21 23 31.0	+0.1
PRWZ	**Pori Road**	**1.75**	**49**	P	Pn	21 23 31.3	-1.2
POWZ	**Post Office Ro**	**1.76**	**42**	P	Pn	21 23 32.1	-0.5
LTZ	**Lake Taylor**	**1.81**	**233**	P	Pn	21 23 32.6	-0.7
DSZ	**Denniston Nort**	**1.81**	**268**	P	Pb	21 23 35.0	-0.4
BFZ	**Birch Farm**	**1.84**	**57**	P	Pb	21 23 36.4	+0.6

GVZ	Greta Valley S	1.11	212	P		Pg	21 37 13.7	-0.2
GVZ				S		Sn	21 37 30.7	+0.2
PLWZ	Palliser	1.15	67	P		Pg	21 37 14.1	-0.5
TKNZ	Takaka Hill	1.20	326	P		Pg	21 37 14.9	-0.6
MSWZ	Moikau Station	1.22	60	P		Pg	21 37 14.7	-1.2
DUWZ	D'Urville Isla	1.23	3	P		Pg	21 37 15.3	-0.9
CAW	Cannon Point	1.30	45	P		Pn	21 37 16.4	-1.1
LTZ	Lake Taylor	1.39	237	P		Pn	21 37 17.9	-0.7
KIW	Kapiti Island	1.42	35	P		Pn	21 37 18.6	-0.4
AMCZ	Amberley	1.45	217	P		Pn	21 37 17.9	-1.5
MTW	Mount Morrison	1.52	56	P		Pn	21 37 18.5	-1.9
TRWZ	Traveller	1.52	66	P		Pn	21 37 18.4	-2.0
DSZ	Denniston Nort	1.55	280	P		Pb	21 37 21.9	+0.1
QRZ	Quartz Range	1.56	320	P		Pn	21 37 21.1	+0.2
OGWZ	Otaki Gorge	1.57	40	P		Pn	21 37 20.5	-0.6
HOWZ	Holdsworth Sta	1.69	49	P		Pg	21 37 25.0	0.0
OKCZ	Okains Bay	1.79	199	P		Pn	21 37 22.0	-2.2
TMWZ	Te Maipa	1.79	60	P		Pn	21 37 22.2	-2.0
OXZ	Oxford	1.86	225	P		Pn	21 37 22.9	-2.2
MQZ	McQueen's Vall	1.89	207	P		Pn	21 37 22.6	-2.9
MRZ	Mangatainoka R	1.89	44	P		Pn	21 37 24.0	-1.6
INZ	Inchbonnie	1.91	248	P		Pn	21 37 26.1	+0.3
AKCZ	Akaroa Harbour	1.96	200	P		Pn	21 37 24.1	-2.4
RACZ	Rakaia	2.11	216	P		Pn	21 37 26.1	-2.4
PRWZ	Pori Road	2.18	48	P		Pg	21 37 33.7	-0.7
POWZ	Post Office Ro	2.19	42	P		Pn	21 37 29.2	-0.4
WACZ	Wakanui South	2.41	217	P		Pn	21 37 30.5	-2.1
WAZ	Wanganui	2.43	21	P		Pb	21 37 37.4	+0.5
DVHZ	Dannevirke	2.46	46	P		Pn	21 37 32.2	-1.2
WVZ	Waitaha Valley	2.52	245	P		Pn	21 37 33.7	-0.4
ANWZ	Angora Road	2.53	53	P		Pn	21 37 32.2	-2.1
TSZ	Takapari Road	2.54	40	P		Pn	21 37 32.8	-1.6
RPZ	Rata Peaks	2.65	230	P		Pn	21 37 34.3	-1.8
KHEZ	Kahui Hut	2.74	3	P		Pb	21 37 42.0	0.0
ARCZ	Arundel	2.74	225	P		Pn	21 37 35.2	-2.0
NBEZ	Newall Road No	2.76	0	P		Pb	21 37 41.5	-0.9
NEZ	North Egmont	2.76	4	P		Pb	21 37 42.5	0.0
GCSZ	Gaunt Creek Bo	2.89	242	P		Pn	21 37 39.4	0.0
PKVZ	Pokaka	2.97	23	P		Pb	21 37 44.8	-1.1
VRZ	Vera Road	2.98	14	P		Pn	21 37 42.2	+1.7
MOVZ	Moawhango	3.00	30	P		Pb	21 37 44.5	-1.9
WNVZ	Wahianoa	3.01	27	P		Pb	21 37 44.6	-2.2
TRVZ	Turoa	3.02	26	P		Pb	21 37 45.2	-1.8
BHHZ	Black Hill Sta	3.05	34	P		Pb	21 37 46.4	-0.9
WHVZ	Whangaehu Hut	3.05	26	P		Pb	21 37 46.6	-0.8
FWVZ	Far West T-bar	3.06	26	P		Pb	21 37 47.6	-0.1
TMZ	Timaru	3.14	220	P		Pn	21 37 40.8	-1.8
NGZ	Ngauruhoe	3.15	26	P		Pb	21 37 48.0	-1.1
OTVZ	Oturere	3.18	26	P		Pn	21 37 43.6	+0.2
NNVZ	North Ngauruho	3.19	26	P		Pb	21 37 48.5	-1.4
WTVZ	West Tongariro	3.20	25	P		Pb	21 37 48.3	-1.7
ETVZ	East Tongariro	3.22	27	P		Pb	21 37 48.7	-1.7
KRVZ	Karewarewa	3.24	26	P		Pb	21 37 49.7	-0.9
TMVZ	Te Maari	3.24	27	P		Pb	21 37 48.2	-2.4
KWHZ	Kaweka Forest	3.26	38	P		Pn	21 37 43.7	-0.7
FOZ	Fox Glacier	3.32	242	P		Pn	21 37 45.8	+0.6
RITZ	Rihia Road	3.42	27	P		Pb	21 37 52.3	-1.3
LBZ	Lake Benmore	3.56	227	P		Pn	21 37 46.9	-1.7
HIZ	Hauiti	3.60	13	P		Pn	21 37 52.8	+3.8
ODZ	Otahua Downs	3.81	217	P		Pn	21 37 49.7	-2.2
GRRZ	Galatos Road	4.07	26	P		Pn	21 37 56.1	+0.6
JCZ	Jackson Bay	4.23	239	P		Pn	21 37 59.7	+1.9
TOZ	Tahuroa Road	4.48	17	P		Pn	21 38 03.5	+2.4
HHSZ	Highcliff Hill	4.51	210	P		Pn	21 37 59.1	-2.4
MKAZ	Moumakai	5.02	12	P		Pn	21 38 11.4	+2.9
SYZ	Scrubby Hill	5.63	215	P		Pn	21 38 14.9	-2.0

WEL 15 21:50:34.1±0.6, 42°S±3°×17°4E±°, h7km±4km, M3.3/10, ML3.6/10, MLv3.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=146.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.07	227	P	Pg	21 50 36.5	+0.6
CMWZ				S	Sg	21 50 39.2	+2.0
BSWZ	Blackbirch Sta	0.31	267	P	Pg	21 50 40.1	0.0
BSWZ				S	Sg	21 50 45.6	+1.5
TUWZ	Tuamarina	0.37	316	P	Pg	21 50 41.8	+0.5
TUWZ				S	Sb	21 50 48.1	-0.9
TCW	Tory Channel	0.49	359	P	Pg	21 50 44.0	+0.5
TCW				S	Sb	21 50 51.8	-0.6
BHW	Baring Head	0.53	57	P	Pg	21 50 44.7	+0.4
WEL	Wellington	0.55	41	P	Pg	21 50 45.4	+0.7
WEL				S	Sb	21 50 53.7	-0.5
MSWZ	Moikau Station	0.78	69	P	Pb	21 50 49.8	-0.1
MSWZ				S	Sb	21 51 01.5	+0.7
CAW	Cannon Point	0.83	45	P	Pg	21 50 50.3	+0.2
CAW				S	Sb	21 51 02.4	+0.1
KIW	Kapiti Island	0.96	30	P	Pg	21 50 52.6	+0.1
KIW				S	Sb	21 51 06.4	+0.4
THZ	Tophouse	1.03	266	P	Pg	21 50 53.9	0.0
MTW	Mount Morrison	1.06	60	P	Pg	21 50 53.7	-0.7
MTW				S	Sn	21 51 10.6	+0.1
OGWZ	Otaki Gorge	1.11	37	P	Pg	21 50 54.8	-0.5
OGWZ				S	Sb	21 51 10.2	0.0

IDC 15 22:02:59.3±7.4, 7°47S×128°23E, h155km±80km, mb2.8/1, mbtmp3.6/4, Error ellipse: s-maj=74.0km s-min=27.7km az=34.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.27	239	P	Pn	22 04 17.3	+0.9
	41nm,0.4s,baz=69,slow=0.2,SNR=9.9						
BATI				S	Sn	22 05 16.0	-0.6
	32nm,0.5s,baz=21,slow=21,SNR=6.2						
WRA	Warramunga Arr	13.74	155	P	Pn	22 06 06.2	-1.7
	0.8nm,0.6s,baz=342,slow=11,SNR=20						
ASAR	Alice Springs	17.00	162	P	Pn	22 06 49.0	+1.0
	0.4nm,0.4s,baz=336,slow=10,SNR=7.3						
MKAR	Makanchi Array	67.67	328	P	P	22 13 39.7	0.0
	0.2nm,0.6s,baz=117,slow=8.1,SNR=1.5						
	0.2nm,0.6s						

WEL 15 22:05:35.1±0.4, 42°S±3°×17°4E±°, h5km, M3.2/13, ML3.5/13, MLv3.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=141.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.07	4	P	Pg	22 05 39.0	+2.2
BSWZ	Blackbirch Sta	0.27	293	P	Pg	22 05 40.2	-0.1
BSWZ				S	Sb	22 05 48.6	+1.3
TUWZ	Tuamarina	0.44	333	P	Pb	22 05 44.6	-0.7
TUWZ				S	Sb	22 05 50.9	-1.3
TCW	Tory Channel	0.61	5	P	Pg	22 05 46.3	-0.6
TCW				S	Sg	22 05 53.9	-0.9
WEL	Wellington	0.68	38	P	Pg	22 05 47.8	-0.4
WEL				S	Sg	22 05 56.4	-0.6
PLWZ	Palliser	0.82	72	P	Pb	22 05 51.6	-0.3
PLWZ				S	Sb	22 06 03.7	+0.3
NNZ	Nelson	0.87	314	P	Pn	22 05 54.6	+0.7
MSWZ	Moikau Station	0.88	63	P	Pg	22 05 52.4	+0.4
MSWZ				S	Sg	22 06 04.2	+0.8
CAW	Cannon Point	0.96	42	P	Pb	22 05 54.2	0.0
CAW				S	Sb	22 06 07.7	+0.4
THZ	Tophouse	0.97	273	P	Pg	22 05 52.8	-1.0
DUWZ	D'Urville Isla	1.04	348	P	Pg	22 05 54.7	-0.4
KIW	Kapiti Island	1.10	29	P	Pg	22 05 54.9	-1.2
MRNZ	Matariki Terra	1.17	291	P	Pg	22 05 57.3	-0.1
TKNZ	Takaka Hill	1.22	310	P	Pn	22 05 59.0	+0.1
OGWZ	Otaki Gorge	1.24	36	P	Pg	22 05 57.3	-1.6
GVZ	Greta Valley S	1.44	217	P	Pg	22 06 02.9	+0.3
MRZ	Mangatainoka R	1.56	42	P	Pg	22 06 06.2	+1.3
QRZ	Quartz Range	1.61	308	P	Pg	22 06 05.7	-0.2
LTZ	Lake Taylor	1.73	236	P	Pn	22 06 03.2	-2.6
DSZ	Denniston Nort	1.80	272	P	Pn	22 06 07.4	+0.6
PRWZ	Pori Road	1.84	47	P	Pb	22 06 09.1	-0.1
BFZ	Birch Farm	1.91	54	P	Pg	22 06 11.3	-0.4
OKCZ	Okains Bay	2.08	204	P	Pn	22 06 08.3	-2.4
DVHZ	Dannevirke	2.12	45	P	Pn	22 06 12.4	+1.2
WAZ	Wanganui	2.15	16	P	Pb	22 06 14.1	-0.3
AKCZ	Akaroa Harbour	2.26	205	P	Pn	22 06 12.0	-1.1
WNVZ	Wahianoa	2.71	23	P	Pb	22 06 22.8	-1.3
TRVZ	Turoa	2.72	23	P	Pb	22 06 23.6	-0.7
BHHZ	Black Hill Sta	2.73	32	P	Pb	22 06 23.5	-0.8
VRZ	Vera Road	2.73	9	P	Pb	22 06 23.7	-0.6
FWVZ	Far West T-bar	2.76	22	P	Pb	22 06 24.3	-0.7
NNVZ	North Ngauruho	2.90	22	P	Pb	22 06 27.4	+0.2
WTVZ	West Tongariro	2.90	22	P	Pb	22 06 26.7	-0.6
ETVZ	East Tongariro	2.92	24	P	Pb	22 06 27.2	-0.5
BKZ	Black Stump Fm	3.17	34	P	Pb	22 06 31.2	-0.8
HIZ	Hauiti	3.34	9	P	Pb	22 06 32.2	-2.6
TMZ	Timaru	3.47	221	P	Pn	22 06 28.8	-0.9
MXZ	Matakaoa Point	5.30	38	P	Pn	22 06 52.8	-2.0

IDC 15 22:14:33.0±0.8, 3°59S×144°22E, h0km, mb4.1/10, mbtmp4.1/11, ML4.0/1, MS3.5/25, Error ellipse: s-maj=32.9km s-min=12.1km az=100.0
NEIC 15 22:14:35.2±1.8, 3°48S±0°05×144°18E±0°08, h10km±1km, mb4.6/50, Error ellipse: s-maj=14.5km s-min=4.8km az=118.0
DJA 15 22:14:38.4±2.7, 4°S±5°×144°4E±°, h16km±20km, M4.6/14, mB5.0/4, mb4.5/14, MLv4.8/2, Mw(mB)4.3/4
ISC 15 22:14:34.7±0.5, 3°51S±0°06×144°20E±0°08, h10km, n118, σ1s07/95, mb4.6/43, MS3.6/21, 3C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.48	65	Pn	Pn	22 15 29.1	+0.1
GENI	Genyem	4.13	283	P	Pn	22 15 39.5	+1.5
PMG	Port Moresby	6.55	154	LR	LR	22 19 06.8	
	comp=Z,128nm,21.8s,baz=312,slow=42						
PMG	Port Moresby	6.55	154		Pn	22 16 12.7	+1.6
PMG	Port Moresby	6.55	154	P	Pg	22 16 35.1	-5.1
COEN	Coen	10.43	186	Pn	Pn	22 17 06.6	+2.2
FAKI	Fak Fak	11.95	272	Pn	Pn	22 17 23.7	-1.7
MTN	Manton Dam	15.90	234	Pn	Pn	22 18 17.6	-1.2
CTA	Charters Tower	16.59	173	LR	LR	22 26 12.7	
	comp=Z,150nm,19.0s,baz=317,slow=42						
GUMO	Guam	17.00	2	LR		22 24 46.4	
	comp=Z,52nm,19.6s,baz=147,slow=36						
GUMO	Guam	17.00	2	Pn	Pn	22 18 30.6	-2.2
WB0	Warramunga Arr	18.78	210	P	P	22 18 54.2	-0.1
WR0	Warramunga Arr	18.87	209	P	P	22 18 53.8	-1.5
WR0				IAmb	IAmb	22 19 09.8	
	comp=Z,45nm,1.5s						
WB2	Warramunga Arr	18.95	210	P	P	22 18 54.9	-1.3
WRA	Warramunga Arr	18.95	210	P	P	22 18 55.6	-0.6
	comp=Z,0.5nm,0.3s,baz=32,slow=12,SNR=17						
WRA				LR	LR	22 26 55.4	
	comp=Z,284nm,20.3s,baz=35,slow=39						
	comp=Z,1.2nm,0.4s						
WRA	Warramunga Arr	18.95	210	P	P	22 18 55.4	-0.8
KNRA	Kununurra	19.42	230	P	P	22 19 00.4	-0.9
KNRA				IAmb	IAmb	22 19 17.5	
	comp=Z,38nm,1.2s						
SOEI	Soe	20.74	252	P	P	22 19 15.4	-0.5
SOEI	Soe	20.74	252	P	P	22 19 15.0	-0.9
	comp=Z,64nm,1.0s						
BATI	Baumata	21.44	251	P	P	22 19 25.9	+2.6
	comp=Z,16nm,0.4s,baz=30,slow=3.4,SNR=5.8						
BATI				LR	LR	22 27 51.9	
	comp=Z,103nm,20.6s,baz=22,slow=37						
BATI	Baumata	21.44	251	P	P	22 19 23.1	-0.3
	comp=Z,30nm,0.6s						
LUWI	Luwuk	21.55	276	P	P	22 19 23.7	-0.8
LUWI				IAmb	IAmb	22 19 48.5	
	comp=Z,23nm,0.8s						
LUWI	Luwuk	21.55	276	P	P	22 19 25.1	+0.5
	comp=Z,4μmcomp=Z,37nm,1.2s						
AS31	Alice Springs	22.37	206	P	P	22 19 33.6	+0.3
ASAR	Alice Springs	22.37	206	P	P	22 19 32.8	-0.5
	comp=Z,1.3nm,0.5s,baz=32,slow=12,SNR=15						
ASAR				S	S	22 23 39.3	-0.1
	comp=Z,1.9nm,0.9s,baz=23,slow=24,SNR=6.7						
ASAR				LR	LR	22 28 52.2	
	comp=Z,281nm,22.0s,baz=28,slow=38						
	comp=Z,1.3nm,0.5s						
ASAR	Alice Springs	22.37	206	P	P	22 19 33.5	+0.2
MRSI	Marisa	22.60	280	P	P	22 19 37.4	+1.6
	comp=Z,26nm,1.1s						
APSI	Ampana	22.68	276	P	P	22 19 38.3	+1.6
	comp=Z,783nmcomp=Z,67nm,1.4s						
EIDS	Eidsvold	22.71	164	P	P	22 19 37.9	+1.0
TOLI2	Tolitoli	23.86	281	P	P	22 19 46.5	-2.1
TOLI2				IAmb	IAmb	22 20 03.0	
	comp=Z,18nm,1.1s						
BNSI	Bone	24.06	267	P	P	22 19 52.2	+1.8
	comp=Z,13nm,1.0s						
KAPI	Kappang	24.43	266	P	P	22 19 52.9	-1.0
KAPI				IAmb	IAmb	22 20 00.0	
	comp=Z,10nm,1.1s						
MPSI	Mapaga	24.59	278	P	P	22 19 56.2	+0.9
	comp=Z,11nm,1.0s						
MYLDM	Lahad Datu	27.09	288	P	P	22 20 16.7	-1.2
MYLDM				IAmb	IAmb	22 20 34.6	
	comp=Z,16nm,1.1s						
MYLDM	Lahad Datu	27.09	288	P	P	22 20 19.8	+1.8
	comp=Z,15nm,1.6s						
STKA	Stephens Creek	28.32	185	P	P	22 20 27.9	-0.9
	comp=Z,1.6nm,0.5s,baz=350,slow=12,SNR=4.0						
STKA				LR	LR	22 33 14.3	
	comp=Z,265nm,19.0s,baz=22,slow=40						
	comp=Z,1.6nm,0.5s						
STKA	Stephens Creek	28.32	185	P	P	22 20 27.8	-0.9
DZM	Mont Dzumac	28.39	132	LR	LR	22 30 28.0	
	comp=Z,83nm,21.1s,baz=342,slow=34						
MBWA	Marble Bar	29.56	232	P	P	22 20 38.9	-1.0
PSA00	Pilbara Seismi	29.70	231	P	P	22 20 41.4	+0.2
BBOO	Buckleboo	30.13	194	P	P	22 20 44.9	+0.1
BBOO				IAmb	IAmb	22 21 05.8	
	comp=Z,18nm,1.1s						
FORT	Forrest	31.11	208	P	P	22 20 53.6	+0.1
H11S3	WAKE ISLAND Hy	31.13	45	T	T	22 53 33.1	
	baz=228,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	31.14	45	T	T	22 53 33.9	
	baz=228,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	31.14	45	T	T	22 53 33.4	
	baz=228,slow=76,SNR=13						
H11N1	WAKE ISLAND Hy	32.09	43	T	T	22 54 45.0	
	baz=226,slow=76,SNR=33						
H11N2	WAKE ISLAND Hy	32.11	43	T	T	22 54 45.3	
	baz=226,slow=76,SNR=42						
H11N3	WAKE ISLAND Hy	32.11	43	T	T	22 54 44.6	
	baz=226,slow=76,SNR=18						
JOW	Kunigami	33.87	334	LR	LR	22 32 59.0	
	comp=Z,170nm,20.8s,baz=350,slow=33						
JHJ	Hachijo jima 2	36.67	354	LR	LR	22 36 21.1	
	comp=Z,51nm,19.8s,baz=273,slow=36						
NWAO	Narrogin (SRO)	38.64	218	LR	LR	22 39 05.6	
	comp=Z,120nm,18.3s,baz=124,slow=38						
MJAR	Matsushiro Arr	40.24	353	LR	LR	22 38 26.1	
	comp=Z,21nm,18.8s,baz=140,slow=36						
KSRS	Korea Array	43.48	341	P	P	22 22 38.5	+0.3
	comp=Z,3.7nm,0.9s,baz=158,slow=9.4,SNR=7.3						
KSRS				LR	LR	22 37 33.6	
	comp=Z,63nm,21.6s,baz=140,slow=32						
	comp=Z,3.7nm,0.9s						
KSAR	Wonju Array Be	43.48	341	P	P	22 22 38.1	-0.1
ASAJ	Asahikawa	47.44	358	LR	LR	22 43 25.6	
	comp=Z,15nm,19.8s,baz=166,slow=36						
PHRA	Phrae	48.51	298	P	P	22 23 18.1	-0.2
HNS	HongShan	49.08	329	↑P	P	22 23 22.8	+0.5
HNS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CMAR	Chiang Mai Arr	49.63	298	P	P	22 23 27.3	+0.4
	comp=Z,0.7nm,0.4s,baz=126,slow=6.3,SNR=9.9						
	comp=Z,0.7nm,0.4s						
CMAR	Chiang Mai Arr	49.63	298	P	P	22 23 26.4	-0.5
CHTO	Chiang Mai	49.76	298	P	P	22 23 27.2	-0.6
CHTO				IAmb	IAmb	22 23 34.8	
	comp=Z,7.4nm,1.5s						
XAN	Xi'an	50.01	321	↑P	P	22 23 29.6	0.0
XAN				pP	sP	22 23 38.3	+4.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.5s						
PZH	PanZhiHua	50.74	309	P	P	22 23 37.4	+2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
BNX	BinXian	51.26	345	↑P	P	22 23 38.0	-0.7
BNX				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,180nm,5.6s						
HHC	Hu-ho-hao-te	53.28	329	eP	P	22 23 56.3	+2.3
HHC				pmax	pmax		
	comp=Z,33nm,1.0s						
HHC				pmax	pmax		
	comp=Z,330nm,5.1s						
KLR	Kul'dur	53.63	350	LR	LR	22 44 59.6	
	comp=Z,43nm,20.8s,baz=176,slow=34						
LZH	Lanzhou	54.52	320	↓P	P	22 24 04.9	+1.6
LZH				pP	sP	22 24 10.5	+3.1
LZH				sP	pP	22 24 15.1	+8.9
LZH				pmax	pmax		
	comp=Z,13nm,1.5s						
PEA0B	Petropavlovsk-	57.55	10	P	P	22 24 24.9	+0.5
PETK	Petropavlovsk-	57.55	10	P	P	22 24 25.3	+1.0
	comp=Z,2.2nm,0.5s,baz=136,slow=7.2,SNR=8.1						
	comp=Z,2.2nm,0.5s						
PETK	Petropavlovsk-	57.55	10	P	P	22 24 24.9	+0.5
SHL	Shillong	58.34	303	P	P	22 24 30.6	-0.1
SHL				IAmb	IAmb	22 24 32.2	
	comp=Z,10nm,1.2s						
GTA	Gaotai	59.06	321	eP	P	22 24 36.5	+1.1
GTA				pP	sP	22 24 41.9	+2.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
LSA	Lhasa	60.53	307	P	P	22 24 46.1	0.0
ULN	Ulaanbaatar	60.61	332	P	P	22 24 46.6	+0.7
ULN				IAmb	IAmb	22 25 14.2	
	comp=Z,5.9nm,1.4s						
ULN	Ulaanbaatar	60.61	332	P	P	22 24 48.5	+2.6
	comp=Z,26nm,1.8s						
SONM	Songino Array	60.90	332	P	P	22 24 48.9	+1.1
	comp=Z,1.0nm,0.7s,baz=142,slow=5.7,SNR=5.9						
SONM				LR	LR	22 49 52.4	
	comp=Z,52nm,20.6s,baz=160,slow=35						
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	60.90	332	P	P	22 24 48.3	+0.4
SONM				IAmb	IAmb	22 24 50.7	
	comp=Z,7.8nm,1.4s						
SHEM	Shemya Is, Ala	61.45	20	LR	LR	22 46 47.6	
	comp=Z,70nm,19.8s,baz=110,slow=31						
YAK	Yakutsk	66.31	353	LR	LR	22 52 32.7	
	comp=Z,25nm,20.9s,baz=101,slow=34						
WMQ	Urumqi	69.10	320	eP		22 25 42.8	+1.5
MK31	Makanchi Array	73.82	321	P	P	22 26 08.7	-1.0
MKAR	Makanchi Array	73.82	321	P	P	22 26 10.2	+0.6
	comp=Z,1.0nm,0.7s,baz=105,slow=7.6,SNR=9.8						
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	73.82	321	P	P	22 26 09.6	-0.1
VNDA	Vanda	74.55	176	P	P	22 26 13.6	+0.3
	comp=Z,1.8nm,0.7s,baz=318,slow=5.6,SNR=14						
VNDA				LR	LR	22 56 43.6	
	comp=Z,32nm,21.6s,baz=311,slow=34						
	comp=Z,1.8nm,0.7s						
VNDA	Vanda	74.55	176	P	P	22 26 13.3	0.0
VNDA				IAmb	IAmb	22 26 16.1	
	comp=Z,5.6nm,1.4s						
ZAA0	Zalesovo Array	75.44	328	P	P	22 26 18.3	-0.5
ZALV	Zalesovo Beam	75.44	328	P	P	22 26 18.2	-0.6
	comp=Z,0.7nm,0.5s,baz=108,slow=4.8,SNR=7.3						
	comp=Z,0.7nm,0.5s						
ZALV	Zalesovo Beam	75.44	328	P	P	22 26 18.4	-0.5
TIXI	Tiksi	75.69	355	LR	LR	23 00 22.6	
	comp=Z,26nm,18.6s,baz=202,slow=36						
NIL	Nilore	76.22	306	P	P	22 26 23.9	+0.1
BOOM	Boomskoye usch	76.56	315	P	P	22 26 25.1	-0.6
BOOM				IAmb	IAmb	22 26 31.3	
	comp=Z,5.1nm,1.2s						
KURK	Kurchatov	77.57	324	P	P	22 26 30.1	-0.8
KURK				IAmb	IAmb	22 26 33.5	
	comp=Z,3.9nm,1.0s						
DRK	Karamyk	78.76	311	P	P	22 26 36.5	-1.7
DRK				IAmb	IAmb	22 26 42.3	
	comp=Z,8.2nm,1.4s						
GAR	Garm	79.76	310	P	P	22 26 42.6	-1.0
GAR				IAmb	IAmb	22 26 44.8	
	comp=Z,11nm,1.3s						
KK31	Karatay Array	80.57	315	P	P	22 26 47.0	-0.6
KK31				IAmb	IAmb	22 26 49.2	
	comp=Z,4.9nm,1.1s						
KKAR	Karatay Array	80.57	315	P	P	22 26 47.2	-0.4
CHGR	Chuyangaron	80.57	310	P	P	22 26 47.3	-0.5
CHGR				IAmb	IAmb	22 27 06.8	
	comp=Z,6.3nm,1.1s						
J20K	Nowinta River	81.21	23	P	P	22 26 50.7	+0.2
J20K				IAmb	IAmb	22 26 58.7	
	comp=Z,12nm,1.5s						
IMAR	Indian Mountai	82.19	21	P	P	22 26 56.4	+0.7
SML	Sawmill	82.64	26	P	P	22 26 58.5	+0.3
BRVK	Borovoye	83.20	324	P	P	22 27 01.7	+0.5
BRVK				IAmb	IAmb	22 27 03.8	
	comp=Z,6.6nm,1.3s						
MAW	Mawson	83.46	202	LR	LR	22 59 53.3	
	comp=Z,44nm,21.1s,baz=73,slow=33						
DHY	Denali Highway	83.52	25	P	P	22 27 03.1	+0.2
DHY				IAmb	IAmb	22 27 05.6	
	comp=Z,5.1nm,0.8s						
CCB	Clear Creek Bu	83.91	24	P	P	22 27 03.9	-0.7
IL31		84.32	24	P	P	22 27 06.0	-0.7
IL31				IAmb	IAmb	22 27 06.7	
	comp=Z,2.9nm,0.8s						
ILAR	Eielson Array	84.32	24	P	P	22 27 06.0	-0.8
	comp=Z,2.1nm,0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.11**	**255**	P	**Pg**	**22 41 11.7**	**-0.4**
CMWZ				S	**Sg**	**22 41 14.8**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.36**	**271**	P	**Pg**	**22 41 16.6**	**+0.2**
BSWZ				S	**Sb**	**22 41 22.9**	**-0.6**
TUWZ	**Tuamarina**	**0.43**	**313**	P	**Pg**	**22 41 18.0**	**+0.4**
TUWZ				S	**Sb**	**22 41 24.8**	**-0.6**
TCW	**Tory Channel**	**0.51**	**353**	P	**Pg**	**22 41 19.1**	**-0.1**
TCW				S	**Sb**	**22 41 27.2**	**-0.7**
PLWZ	**Palliser**	**0.69**	**78**	P	**Pb**	**22 41 23.5**	**+0.1**
MSWZ	**Moikau Station**	**0.73**	**66**	P	**Pb**	**22 41 24.7**	**+0.5**
MSWZ				S	**Sn**	**22 41 37.0**	**0.0**
CAW	**Cannon Point**	**0.81**	**41**	P	**Pg**	**22 41 24.7**	**-0.2**
PAWZ	**Paruwai Farm**	**0.87**	**67**	P	**Pg**	**22 41 26.5**	**+0.4**
PAWZ				S	**Sn**	**22 41 40.3**	**-0.1**
NNZ	**Nelson**	**0.89**	**304**	P	**Pg**	**22 41 26.5**	**0.0**
NNZ				S	**Sg**	**22 41 37.7**	**-0.3**
KHZ	**Kahutara**	**0.93**	**221**	P	**Pg**	**22 41 27.2**	**+0.1**
KIW	**Kapiti Island**	**0.95**	**26**	P	**Pg**	**22 41 27.6**	**-0.1**
DUWZ	**D'Urville Isla**	**0.97**	**340**	P	**Pg**	**22 41 27.5**	**-0.5**
DUWZ				S	**Sb**	**22 41 41.0**	**-0.3**
MTW	**Mount Morrison**	**1.03**	**57**	P	**Pg**	**22 41 28.8**	**-0.2**
MTW				S	**Sn**	**22 41 45.3**	**+1.1**
TRWZ	**Traveller**	**1.05**	**73**	P	**Pg**	**22 41 28.6**	**-0.8**
THZ	**Tophouse**	**1.09**	**267**	P	**Pb**	**22 41 30.3**	**0.0**
OGWZ	**Otaki Gorge**	**1.09**	**34**	P	**Pb**	**22 41 29.6**	**-0.7**
OGWZ				S	**Sn**	**22 41 46.6**	**+0.8**
HOWZ	**Holdsworth Sta**	**1.20**	**47**	P	**Pb**	**22 41 31.4**	**-0.7**
MRNZ	**Matariki Terra**	**1.24**	**284**	P	**Pb**	**22 41 32.8**	**-0.1**
TKNZ	**Takaka Hill**	**1.26**	**303**	P	**Pb**	**22 41 33.7**	**+0.3**
TMWZ	**Te Maipa**	**1.30**	**63**	P	**Pn**	**22 41 32.2**	**-1.4**
MRZ	**Mangatainoka R**	**1.40**	**61**	P	**Pn**	**22 41 34.3**	**-0.6**
CPWZ	**Castlepoint**	**1.61**	**60**	P	**Pg**	**22 41 40.5**	**+0.4**
OHWZ	**Ohakea**	**1.68**	**26**	P	**Pg**	**22 41 41.2**	**-0.3**
PRWZ	**Pori Road**	**1.69**	**47**	P	**Pn**	**22 41 37.7**	**-1.1**
POWZ	**Post Office Ro**	**1.70**	**39**	P	**Pn**	**22 41 38.4**	**-0.6**
BFZ	**Birch Farm**	**1.76**	**55**	P	**Pn**	**22 41 38.8**	**-1.1**
DSZ	**Denniston Nort**	**1.91**	**268**	P	**Pb**	**22 41 44.3**	**0.0**
DVHZ	**Dannevirke**	**1.97**	**45**	P	**Pn**	**22 41 41.3**	**-1.5**
WAZ	**Wanganui**	**2.02**	**14**	P	**Pb**	**22 41 46.9**	**+0.8**
TSZ	**Takapari Road**	**2.06**	**37**	P	**Pn**	**22 41 43.2**	**-0.8**
LREZ	**Lake Rotokare**	**2.26**	**1**	P	**Pg**	**22 41 51.8**	**-0.8**
WPHZ	**Waipukurau**	**2.29**	**44**	P	**Pb**	**22 41 52.0**	**+1.4**
INZ	**Inchbonnie**	**2.39**	**244**	P	**Pb**	**22 41 52.5**	**+0.1**
KHEZ	**Kahui Hut**	**2.44**	**354**	P	**Pg**	**22 41 55.4**	**-0.6**
KHEZ	**Kahui Hut**	**2.44**	**354**	P	**Pb**	**22 41 53.6**	**+0.4**
NEZ	**North Egmont**	**2.46**	**355**	P	**Pg**	**22 41 55.5**	**-0.8**
NBEZ	**Newall Road No**	**2.48**	**351**	P	**Pb**	**22 41 55.2**	**+1.3**
PKE	**Pukeiti**	**2.54**	**353**	P	**Pg**	**22 41 56.9**	**-1.0**
PKVZ	**Pokaka**	**2.54**	**18**	P	**Pb**	**22 41 55.9**	**+0.9**
MOVZ	**Moawhango**	**2.54**	**25**	P	**Pb**	**22 41 54.9**	**-0.2**
WNVZ	**Wahianoa**	**2.57**	**22**	P	**Pb**	**22 41 56.6**	**+1.0**
BHHZ	**Black Hill Sta**	**2.58**	**31**	P	**Pb**	**22 41 55.9**	**+0.3**
TRVZ	**Turoa**	**2.58**	**21**	P	**Pb**	**22 41 56.6**	**+0.8**
WHVZ	**Whangaehu Hut**	**2.61**	**21**	P	**Pb**	**22 41 56.6**	**+0.3**
VRZ	**Vera Road**	**2.61**	**7**	P	**Pb**	**22 41 56.3**	**+0.1**
FWVZ	**Far West T-bar**	**2.62**	**21**	P	**Pb**	**22 41 56.2**	**-0.4**
NGZ	**Ngauruhoe**	**2.71**	**21**	P	**Pb**	**22 41 58.8**	**+0.8**
OTVZ	**Oturere**	**2.74**	**22**	P	**Pb**	**22 41 59.0**	**+0.5**
NNVZ	**North Ngauruho**	**2.76**	**21**	P	**Pb**	**22 41 59.3**	**+0.5**
WTVZ	**West Tongariro**	**2.77**	**20**	P	**Pb**	**22 41 59.9**	**+1.0**
TWVZ	**Taurewa**	**2.77**	**18**	P	**Pb**	**22 42 00.3**	**+1.3**
ETVZ	**East Tongariro**	**2.78**	**22**	P	**Pb**	**22 41 59.8**	**+0.6**
TMVZ	**Te Maari**	**2.80**	**22**	P	**Pb**	**22 41 59.0**	**-0.4**
KRVZ	**Karewarewa**	**2.80**	**21**	P	**Pb**	**22 42 00.1**	**+0.6**
KATZ	**Kakaramea**	**2.93**	**21**	P	**Pb**	**22 42 02.4**	**+0.8**
RITZ	**Rihia Road**	**2.97**	**23**	P	**Pb**	**22 42 03.7**	**+1.4**
WVZ	**Waitaha Valley**	**3.00**	**242**	P	**Pb**	**22 42 02.0**	**-0.9**
HIZ	**Hauiti**	**3.23**	**7**	P	**Pb**	**22 42 06.4**	**-0.3**
HIZ	**Hauiti**	**3.23**	**7**	P	**Pb**	**22 42 06.2**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**3.38**	**240**	P	**Pb**	**22 42 07.6**	**-1.7**
URZ	**Urewera**	**4.05**	**32**	P	**Pg**	**22 42 29.8**	**+2.9**
ODZ	**Otahua Downs**	**4.29**	**218**	P	**Pn**	**22 42 15.9**	**+1.4**
JCZ	**Jackson Bay**	**4.72**	**238**	P	**Pn**	**22 42 22.9**	**+2.3**
SYZ	**Scrubby Hill**	**6.11**	**216**	P	**Pb**	**22 42 51.8**	**-3.9**

WEL 15 22:41:38.4±0.8, 42°S±4'×17°3E±°, h5km, M3.7/8, ML3.7/8, MLv3.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=42.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.49**	**180**	P	**Pg**	22 41 48.4	+0.5
GVZ				S	**Sb**	22 41 56.2	-0.8
LTZ	**Lake Taylor**	**0.64**	**241**	P	**Pg**	22 41 51.0	+0.3
LTZ				S	**Sg**	22 41 59.9	+0.9
AMCZ	**Amberley**	**0.75**	**202**	P	**Pb**	22 41 53.6	-0.4
OXZ	**Oxford**	**1.12**	**220**	P	**Pg**	22 41 59.2	-0.6
DSZ	**Denniston Nort**	**1.17**	**308**	P	**Pn**	22 42 01.4	-0.1
INZ	**Inchbonnie**	**1.20**	**258**	P	**Pb**	22 42 01.5	0.0
OKCZ	**Okains Bay**	**1.24**	**179**	P	**Pg**	22 42 01.1	-1.2
MQZ	**McQueen's Vall**	**1.26**	**193**	P	**Pg**	22 42 00.6	-2.0
AKCZ	**Akaroa Harbour**	**1.40**	**184**	P	**Pn**	22 42 02.9	-1.7
RACZ	**Rakaia**	**1.41**	**207**	P	**Pn**	22 42 02.9	-1.9
MHCZ	**Mount Hutt**	**1.50**	**225**	P	**Pn**	22 42 04.5	-1.6
WACZ	**Wakanui South**	**1.70**	**210**	P	**Pn**	22 42 07.1	-1.7
RPZ	**Rata Peaks**	**1.90**	**229**	P	**Pn**	22 42 08.7	-2.9
RPZ	**Rata Peaks**	**1.90**	**229**	P	**Pn**	22 42 08.6	-2.9
ARCZ	**Arundel**	**2.00**	**222**	P	**Pn**	22 42 11.2	-1.7
TMZ	**Timaru**	**2.41**	**217**	P	**Pn**	22 42 16.8	-1.7
FOZ	**Fox Glacier**	**2.58**	**245**	P	**Pn**	22 42 21.4	+0.6
LBZ	**Lake Benmore**	**2.81**	**226**	P	**Pn**	22 42 22.6	-1.5
ODZ	**Otahua Downs**	**3.09**	**213**	P	**Pn**	22 42 25.9	-2.0
ODZ	**Otahua Downs**	**3.09**	**213**	P	**Pn**	22 42 25.8	-2.1
MHEZ	**Mangahewa**	**3.54**	**17**	P	**Pn**	22 42 33.2	-0.8
WKZ	**Wanaka**	**3.74**	**230**	P	**Pn**	22 42 34.7	-2.1
HHSZ	**Highcliff Hill**	**3.83**	**206**	P	**Pn**	22 42 35.7	-2.3
EAZ	**Earnscleugh**	**3.85**	**223**	P	**Pn**	22 42 36.1	-2.2
MLZ	**Mavora Lakes**	**4.57**	**229**	P	**Pn**	22 42 45.8	-2.5
SYZ	**Scrubby Hill**	**4.92**	**213**	P	**Pn**	22 42 51.3	-1.7
MKAZ	**Moumakai**	**5.61**	**18**	P	**Pn**	22 43 08.3	+1.8
MBAZ	**Motutapu North**	**5.88**	**15**	P	**Pn**	22 43 08.7	+3.5
PKGZ	**Pakihiroa**	**6.00**	**42**	P	**Pn**	22 43 08.7	+0.8

*DJA **15** 22:43:19.3±1.4, 11°S±11'×12°2E±°, h20km±14km, M4.1/8, mb4.2/4, mB5.0/1, MLv4.0/8, Mw(mB)4.3/1*
*IDC **15** 22:43:26.3±5.6, 11°.09S×122°.44E, h98km±58km, mb3.3/1, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=77.9km s-min=28.5km az=75.0*
ISC 15 22:43:19.4±0.9, 11°.41S±0°.08×122°.09E±0°.05, h35km, n13, σ2s47/19, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.90**	**308**	P	**Pn**	**22 43 50.6**	**+1.3**
BASI				S	**Sn**	**22 44 13.5**	**+1.5**
BATI	**Baumata**	**1.95**	**52**	P	**Pn**	**22 43 52.2**	**+2.2**
	73nm,0.2s,baz=278,slow=7.1,SNR=24						
BATI				S	**Sn**	**22 44 12.1**	**-1.2**
	259nm,0.3s,baz=270,slow=3.9,SNR=18						
BATI	**Baumata**	**1.95**	**52**	P	**Pn**	**22 43 51.9**	**+1.9**
BATI				S	**Sn**	**22 44 14.1**	**+0.8**
SOEI	**Soe**	**2.69**	**53**	P	**Pn**	**22 44 01.3**	**+1.0**
SOEI				S	**Sn**	**22 44 31.3**	**-0.5**
MMRI	**Maumere**	**2.76**	**3**	P	**Pn**	**22 43 59.7**	**-1.4**
PLAI	**Plampang**	**4.96**	**301**	P	**Pn**	**22 44 31.9**	**+0.5**
BSSI	**Bau Bau, Buton**	**5.46**	**343**	P	**Pn**	**22 44 37.4**	**-1.0**
	0.1nm25nn,0.9s						
TWSI	**Taliwang, Sumb**	**5.78**	**297**	P	**Pn**	**22 44 42.8**	**+0.2**
	0.2nm1um28nm,0.6s						
BKSI	**Bulukumba**	**6.35**	**342**	P	**Pn**	**22 44 49.7**	**-0.8**
	0.1nm12nm,0.6s						
KLNI	**Mataram**	**6.61**	**296**	P	**Pn**	**22 44 52.8**	**-1.3**
WRA	**Warramunga Arr**	**14.52**	**127**	P	**Pn**	**22 46 44.6**	**+2.1**
	0.3nm,0.3s,baz=304,slow=14,SNR=20						
WRA				S	**Sn**	**22 49 15.7**	**-6.6**
	1.5nm,0.5s,baz=292,slow=22,SNR=7.6						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**16.58**	**139**	P	**P**	**22 47 15.0**	**+3.5**
	0.2nm,0.3s,baz=319,slow=12,SNR=6.6						
ASAR				S	**Sn**	**22 50 08.5**	**-4.0**
	1.9nm,0.7s,baz=315,slow=25,SNR=4.0						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**67.99**	**332**	P	**P**	**22 54 14.2**	**-0.8**
	0.4nm,0.6s,baz=138,slow=6.5,SNR=7.2						
	0.4nm,0.6s						

WEL 15 22:45:19.4±0.4, 42°S±3'×17°4E±°, h8km±3km, M3.3/32, ML3.5/15, MLv3.3/32, Error ellipse: s-maj=0.0km s-min=0.0km az=123.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.03**	**18**	P	Pg	22 45 19.9	-1.0
KHZ				S	Sg	22 45 20.6	-1.4
GVZ	**Greta Valley S**	**0.64**	**215**	P	Pb	22 45 32.6	-0.2
GVZ				S	Sb	22 45 42.5	+0.7
BSWZ	**Blackbirch Sta**	**0.77**	**20**	P	Pg	22 45 34.6	+0.3
THZ	**Tophouse**	**0.82**	**326**	P	Pg	22 45 35.1	-0.2
THZ				S	Sg	22 45 46.0	0.0
AMCZ	**Amberley**	**0.97**	**221**	P	Pg	22 45 38.3	+0.1
LTZ	**Lake Taylor**	**0.99**	**250**	P	Pg	22 45 38.2	-0.2
LTZ				S	Sb	22 45 52.5	+0.5
TUWZ	**Tuamarina**	**1.06**	**17**	P	Pb	22 45 40.0	+0.1
TUWZ				S	Sn	22 45 55.1	-0.4
MRNZ	**Matariki Terra**	**1.19**	**331**	P	Pg	22 45 42.3	0.0
NNZ	**Nelson**	**1.23**	**355**	P	Pn	22 45 42.7	-0.2
OKCZ	**Okains Bay**	**1.32**	**195**	P	Pn	22 45 42.7	-1.5
TCW	**Tory Channel**	**1.35**	**25**	P	Pn	22 45 44.1	-0.5
OXZ	**Oxford**	**1.41**	**231**	P	Pn	22 45 43.9	-1.4
MQZ	**McQueen's Vall**	**1.41**	**207**	P	Pn	22 45 43.4	-2.0
DSZ	**Denniston Nort**	**1.46**	**298**	P	Pb	22 45 46.7	-0.1
TKNZ	**Takaka Hill**	**1.47**	**343**	P	Pb	22 45 47.2	+0.2
WEL	**Wellington**	**1.48**	**39**	P	Pn	22 45 43.9	-2.4
AKCZ	**Akaroa Harbour**	**1.50**	**197**	P	Pn	22 45 44.9	-1.6
PLWZ	**Palliser**	**1.56**	**56**	P	Pn	22 45 45.9	-1.5
RACZ	**Rakaia**	**1.64**	**218**	P	Pn	22 45 46.8	-1.6
MSWZ	**Moikau Station**	**1.65**	**52**	P	Pn	22 45 47.3	-1.3
DUWZ	**D'Urville Isla**	**1.67**	**10**	P	Pb	22 45 49.8	-0.6
CAW	**Cannon Point**	**1.76**	**41**	P	Pn	22 45 49.3	-0.9
PAWZ	**Paruwai Farm**	**1.77**	**54**	P	Pn	22 45 46.7	-3.6
QRZ	**Quartz Range**	**1.78**	**335**	P	Pb	22 45 51.9	-0.4
MHCZ	**Mount Hutt**	**1.80**	**232**	P	Pn	22 45 49.3	-1.5
KIW	**Kapiti Island**	**1.89**	**34**	P	Pn	22 45 51.7	-0.3
WAZ	**Wakanui South**	**1.94**	**219**	P	Pn	22 45 51.0	-1.6
MTW	**Mount Morrison**	**1.99**	**50**	P	Pn	22 45 51.2	-1.7
OGWZ	**Otaki Gorge**	**2.04**	**38**	P	Pn	22 45 53.1	-0.9
HOWZ	**Holdsworth Sta**	**2.15**	**45**	P	Pg	22 46 00.8	+0.3
WVZ	**Waitaha Valley**	**2.15**	**252**	P	Pn	22 45 55.7	+0.2
RPZ	**Rata Peaks**	**2.21**	**234**	P	Pn	22 45 55.0	-1.4
ARCZ	**Arundel**	**2.28**	**228**	P	Pn	22 45 56.0	-1.4
MRZ	**Mangatainoka R**	**2.35**	**42**	P	Pn	22 45 56.9	-1.4
TMZ	**Timaru**	**2.67**	**223**	P	Pn	22 46 01.4	-1.3
TSZ	**Takapari Road**	**3.01**	**38**	P	Pn	22 46 05.8	-1.6
LBZ	**Lake Benmore**	**3.11**	**230**	P	Pn	22 46 07.8	-1.0
ODZ	**Otahua Downs**	**3.33**	**218**	P	Pn	22 46 10.0	-1.8
VRZ	**Vera Road**	**3.45**	**16**	P	Pn	22 46 14.1	+0.8
BHHZ	**Black Hill Sta**	**3.52**	**34**	P	Pn	22 46 13.8	-0.7
OTVZ	**Oturere**	**3.66**	**27**	P	Pb	22 46 21.7	-2.7
HIZ	**Hauiti**	**4.06**	**15**	P	Pn	22 46 23.3	+1.6
EAZ	**Earnscleugh**	**4.13**	**226**	P	Pn	22 46 21.9	-0.9
AWAZ	**Awhitu Peninsu**	**5.44**	**9**	P	Pn	22 46 41.7	+0.9
MKAZ	**Moumakai**	**5.48**	**14**	P	Pn	22 46 41.4	+0.1

WEL 15 22:52:26.9±0.4, 42°S±2°×17°4E±°, h8km±3km, M3.4/13, ML3.6/13, MLv3.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=109.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.00**	**197**	P	Pg	22 52 27.7	-0.6
KHZ				S	Sg	22 52 28.8	-0.5
GVZ	**Greta Valley S**	**0.67**	**214**	P	Pb	22 52 41.0	+0.2
GVZ				S	Sb	22 52 51.2	+1.0
BSWZ	**Blackbirch Sta**	**0.74**	**20**	P	Pg	22 52 41.4	+0.2
THZ	**Tophouse**	**0.80**	**324**	P	Pg	22 52 42.4	0.0
THZ				S	Sg	22 52 53.1	+0.3
AMCZ	**Amberley**	**1.00**	**220**	P	Pb	22 52 46.8	+0.3
AMCZ				S	Sn	22 53 02.0	+0.4
LTZ	**Lake Taylor**	**1.01**	**248**	P	Pb	22 52 46.7	0.0
LTZ				S	Sb	22 53 00.9	+0.8
TUWZ	**Tuamarina**	**1.03**	**17**	P	Pg	22 52 46.7	+0.1
MRNZ	**Matariki Terra**	**1.17**	**330**	P	Pn	22 52 50.0	+0.4
MRNZ				S	Sn	22 53 07.9	+2.2
NNZ	**Nelson**	**1.20**	**354**	P	Pb	22 52 49.5	-0.4
OKCZ	**Okains Bay**	**1.35**	**195**	P	Pn	22 52 50.6	-1.6
OKCZ				S	Sb	22 53 08.5	-1.6
OXZ	**Oxford**	**1.43**	**230**	P	Pn	22 52 51.8	-1.5
MQZ	**McQueen's Vall**	**1.45**	**206**	P	Pn	22 52 51.3	-2.1
DSZ	**Denniston Nort**	**1.45**	**297**	P	Pb	22 52 54.4	+0.2
DSZ				S	Sg	22 53 14.7	+1.0
AKCZ	**Akaroa Harbour**	**1.53**	**197**	P	Pn	22 52 52.7	-1.8
AKCZ				S	Sn	22 53 12.1	-2.5
MSWZ	**Moikau Station**	**1.62**	**53**	P	Pn	22 52 53.8	-2.0
MSWZ				S	Sn	22 53 13.8	-3.1
RACZ	**Rakaia**	**1.67**	**218**	P	Pn	22 52 54.5	-1.9
RACZ				S	Sn	22 53 15.8	-2.1
CAW	**Cannon Point**	**1.73**	**42**	P	Pn	22 52 56.0	-1.4
QRZ	**Quartz Range**	**1.76**	**334**	P	Pb	22 52 59.0	-0.4
QRZ				S	Sb	22 53 22.2	+0.6
MHCZ	**Mount Hutt**	**1.83**	**232**	P	Pn	22 52 57.0	-1.7
WVZ	**Waitaha Valley**	**2.17**	**251**	P	Pn	22 53 03.4	+0.1
RPZ	**Rata Peaks**	**2.24**	**234**	P	Pn	22 53 02.9	-1.4
RPZ				S	Sn	22 53 29.7	-2.4
ARCZ	**Arundel**	**2.31**	**228**	P	Pn	22 53 03.7	-1.6
ARCZ				S	Sn	22 53 31.1	-2.8
ODZ	**Otahua Downs**	**3.36**	**218**	P	Pn	22 53 18.0	-1.7
MWZ	**Matawai**	**5.09**	**38**	P	Pn	22 53 43.2	-0.3

WEL 15 22:53:21.0±0.3, 42°S±2°×17°3E±°, h5km, M3.4/14, ML3.6/14, MLv3.4/14, Error ellipse: s-maj=0.0km s-min=0.0km az=126.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**73**	P	Pg	22 53 25.9	+0.2
KHZ				S	Sg	22 53 30.0	+1.1
GVZ	**Greta Valley S**	**0.50**	**196**	P	Pb	22 53 31.9	-0.1
GVZ				S	Sb	22 53 40.5	+0.5
THZ	**Tophouse**	**0.76**	**342**	P	Pg	22 53 35.2	-0.5
THZ				S	Sg	22 53 44.6	-0.9
LTZ	**Lake Taylor**	**0.76**	**247**	P	Pg	22 53 35.9	+0.2
LTZ				S	Sg	22 53 46.2	+0.6
AMCZ	**Amberley**	**0.81**	**211**	P	Pb	22 53 37.6	0.0
BSWZ	**Blackbirch Sta**	**0.91**	**32**	P	Pg	22 53 38.7	+0.2
MRNZ	**Matariki Terra**	**1.14**	**342**	P	Pg	22 53 42.3	-0.6
TUWZ	**Tuamarina**	**1.18**	**27**	P	Pg	22 53 43.2	-0.5
OXZ	**Oxford**	**1.21**	**226**	P	Pg	22 53 43.5	-0.8
OXZ				S	Sb	22 54 00.7	+0.3
NNZ	**Nelson**	**1.27**	**5**	P	Pg	22 53 45.3	-0.2
MQZ	**McQueen's Vall**	**1.29**	**199**	P	Pn	22 53 43.8	-1.9
MQZ				S	Sg	22 54 01.3	-1.2
DSZ	**Denniston Nort**	**1.29**	**305**	P	Pn	22 53 45.5	-0.3
DSZ				S	Sn	22 54 03.1	-0.3
INZ	**Inchbonnie**	**1.34**	**259**	P	Pn	22 53 45.8	-0.5
INZ				S	Sn	22 54 05.2	+0.7
TKNZ	**Takaka Hill**	**1.47**	**352**	P	Pn	22 53 47.7	-0.4
TKNZ				S	Sb	22 54 07.4	-0.2
RACZ	**Rakaia**	**1.47**	**212**	P	Pn	22 53 46.6	-1.6
RACZ				S	Sn	22 54 06.2	-1.7
TCW	**Tory Channel**	**1.50**	**32**	P	Pn	22 53 47.8	-0.8
TCW				S	Sb	22 54 08.8	+0.2
MHCZ	**Mount Hutt**	**1.60**	**229**	P	Pn	22 53 48.7	-1.4
MHCZ				S	Sn	22 54 09.9	-1.2
WEL	**Wellington**	**1.67**	**44**	P	Pn	22 53 50.2	-0.7
QRZ	**Quartz Range**	**1.74**	**342**	P	Pn	22 53 52.3	+0.4
DUWZ	**D'Urville Isla**	**1.76**	**17**	P	Pn	22 53 52.9	+0.7
PLWZ	**Palliser**	**1.77**	**59**	P	Pn	22 53 50.8	-1.5
MSWZ	**Moikau Station**	**1.85**	**55**	P	Pn	22 53 51.7	-1.7
WVZ	**Waitaha Valley**	**1.92**	**251**	P	Pn	22 53 54.2	-0.2
RPZ	**Rata Peaks**	**2.01**	**232**	P	Pn	22 53 54.5	-1.1
KIW	**Kapiti Island**	**2.06**	**38**	P	Pn	22 53 55.3	-0.9
ARCZ	**Arundel**	**2.09**	**225**	P	Pn	22 53 55.4	-1.4
OGWZ	**Otaki Gorge**	**2.21**	**42**	P	Pn	22 53 57.1	-1.3
GCSZ	**Gaunt Creek Bo**	**2.29**	**248**	P	Pn	22 54 00.0	+0.7
TMZ	**Timaru**	**2.49**	**220**	P	Pn	22 54 01.5	-0.8
MRZ	**Mangatainoka R**	**2.54**	**45**	P	Pn	22 54 01.1	-1.8
FOZ	**Fox Glacier**	**2.71**	**246**	P	Pn	22 54 05.8	+0.6
CPWZ	**Castlepoint**	**2.73**	**56**	P	Pn	22 54 07.5	+2.0
KHEZ	**Kahui Hut**	**3.24**	**11**	P	Pn	22 54 14.4	+1.7
NBEZ	**Newall Road No**	**3.25**	**9**	P	Pn	22 54 14.4	+1.7
PKE	**Pukeiti**	**3.34**	**10**	P	Pn	22 54 15.5	+1.5
VRZ	**Vera Road**	**3.55**	**20**	P	Pn	22 54 19.3	+2.5
JCZ	**Jackson Bay**	**3.61**	**242**	P	Pn	22 54 17.0	-0.7
OTVZ	**Oturere**	**3.80**	**30**	P	Pn	22 54 23.7	+3.3
HIZ	**Hauiti**	**4.16**	**18**	P	Pn	22 54 26.0	+0.9
SYZ	**Scrubby Hill**	**4.99**	**214**	P	Pn	22 54 35.5	-1.1
AWAZ	**Awhitu Peninsu**	**5.53**	**12**	P	Pn	22 54 44.7	+0.7
MKAZ	**Moumakai**	**5.58**	**16**	P	Pn	22 54 43.9	-0.8

*IDC **15** 22:54:18.9±3.9, 15°.19S×167°.50E, h124km±33km, mb4.0/11, mbtmp4.4/12, Error ellipse: s-maj=26.0km s-min=18.8km az=71.0*
*NEIC **15** 22:54:18.6±1.7, 15°.20S±0°.10×167°.6E±0°.2, h122km±7km, mb4.5/22, Error ellipse: s-maj=22.7km s-min=14.2km az=93.0*
*NOU **15** 22:54:28.6, 15°.80S×167°.24E, h66km, MLv4.8/8, Vanuatu Islands*
ISC 15 22:54:19.1±0.6, 15°.18S±0°.07×167°.5E±0°.1, h129km, n65, σ1s16/66, mb4.4/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.61**	**166**	P	**Pn**	**22 55 02.1**	**+1.5**
LIFNC	**LIFOU**	**5.57**	**183**	Pn	**Pn**	**22 55 38.0**	**-1.8**
KOUNC	**Koumac, New Ca**	**6.16**	**209**	Pn	**Pn**	**22 55 47.4**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.16**	**209**	P	**Pn**	**22 55 47.9**	**+0.1**
MARNC	**Mare, Loyalty**	**6.29**	**176**		**Pn**	**22 55 47.8**	**-1.6**
YATNC	**Mamie plateau,**	**6.87**	**185**	P	**Pn**	**22 55 57.6**	**+0.3**
DZM	**Mont Dzumac**	**6.93**	**188**	P	**Pn**	**22 55 58.3**	**+0.1**
	18nm,0.3s,baz=90,slow=5.4,SNR=58						
DZM				S	**Sn**	**22 57 15.7**	**0.0**
	34nm,0.5s,baz=140,slow=20,SNR=3.2						
DZM	**Mont Dzumac**	**6.93**	**188**		**Pn**	**22 55 58.1**	**-0.1**
DZM	**Mont Dzumac**	**6.93**	**188**	P	**Pn**	**22 55 58.6**	**+0.4**
NOUC	**Port Laguerre**	**6.98**	**189**	P	**Pn**	**22 55 59.6**	**+0.8**
ONTNC	**Ouen Toro**	**7.16**	**188**		**Pn**	**22 56 01.0**	**-0.2**
OUENC	**Ouen Island, N**	**7.23**	**185**		**Pn**	**22 56 02.2**	**+0.1**
EIDS	**Eidsvold**	**18.43**	**234**		**Pn**	**22 58 26.4**	**+0.1**
EIDS				IAmb	IAmb	22 58 27.5	
	comp=Z,15nm,0.7s						
CTAO	**Charters Tower**	**20.84**	**253**	P	**P**	**22 58 51.5**	**+0.8**
CTAO				IAmb	IAmb	22 58 53.1	
	comp=Z,22nm,1.5s						
ARMA	**Armidale**	**21.04**	**221**	P	**P**	**22 58 55.4**	**+2.5**
STKA	**Stephens Creek**	**28.89**	**230**	P	**P**	**23 00 07.3**	**+1.5**
	comp=Z,2.2nm,0.3s,baz=55,slow=9.2,SNR=12						
	comp=Z,2.2nm,0.3s						
STKA	**Stephens Creek**	**28.89**	**230**	P	**P**	**23 00 07.0**	**+1.3**
WB0	**Warramunga Arr**	**31.89**	**257**	P	**P**	**23 00 31.1**	**-1.3**
WB0		

TUMR	**Tumrok**	**1.17**	**355**	*eP*	**Pn**	**22 57 56.6**	**+0.3**
TUMR				*eS*	**Sn**	**22 58 13.3**	**+0.5**
SDLR	**Sedlovina**	**1.21**	**226**	*eP*	**Pn**	**22 57 57.0**	**+0.2**
KRER	**Koryakskii**	**1.25**	**230**	*eP*	**Pn**	**22 57 57.8**	**+0.5**
KRER				*eS*	**Sn**	**22 58 15.6**	**+1.0**
SMAR	**Somma**	**1.25**	**227**	*eP*	**Pn**	**22 57 57.6**	**+0.2**
UGLR	**Uglovaya**	**1.28**	**225**	*eP*	**Pn**	**22 57 58.0**	**+0.3**
KOK	**Koryaka**	**1.31**	**231**	*eP*	**Pn**	**22 57 58.6**	**+0.6**
DALK	**Dalny**	**1.44**	**222**	*eP*	**Pn**	**22 57 59.6**	**+0.1**
DALK				*eS*	**Sn**	**22 58 18.7**	**+0.3**
GNL	**Ganaly**	**1.48**	**254**	*eP*	**Pn**	**22 58 00.4**	**+0.3**
GNL				*eS*	**Sn**	**22 58 20.0**	**+0.5**
PET	**Petropavlovsk**	**1.49**	**223**	*eP*	**Pn**	**22 58 00.4**	**+0.3**
PET				*eS*	**Sn**	**22 58 20.1**	**+0.6**
KMNR	**Kamenistaya**	**1.64**	**358**	*eP*	**Pn**	**22 58 02.7**	**+0.6**
BZMR	**Bezymyannaya**	**1.82**	**3**	*eP*	**Pn**	**22 58 05.7**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**1.83**	**6**	*eP*	**Pn**	**22 58 05.4**	**+0.8**
KIRR	**Kirishev**	**1.84**	**0**	*eP*	**Pn**	**22 58 05.6**	**+0.9**
KRMR	**Karymshinskiy**	**1.85**	**226**	*eP*	**Pn**	**22 58 04.7**	**0.0**
BZWR	**Bezymyannyi-We**	**1.85**	**3**	*eP*	**Pn**	**22 58 06.1**	**+1.2**
PETK	**Petropavlovsk-**	**1.87**	**238**	P	**Pn**	**22 58 04.3**	**-0.7**
	21nm,0.7s,baz=66,slow=19,SNR=34						
KOZ	**Kozyrevsk**	**1.96**	**352**	*eP*	**Pn**	**22 58 06.6**	**+0.5**
ESO	**Esso**	**2.04**	**333**	*eP*	**Pn**	**22 58 07.0**	**-0.2**
GRL	**Gorelyy**	**2.08**	**222**	*eP*	**Pn**	**22 58 08.6**	**+0.8**
MTVR	**Mutnovka**	**2.09**	**219**	*eP*	**Pn**	**22 58 09.0**	**+1.0**
KLY	**Klyuchi**	**2.21**	**5**	*eP*	**Pn**	**22 58 10.4**	**+1.1**
ASAK	**Asacha**	**2.27**	**221**	*eP*	**Pn**	**22 58 11.6**	**+1.2**
KBTR	**Krutoberegovo**	**2.53**	**33**	*eP*	**Pn**	**22 58 14.5**	**+0.9**
KBTR				*eS*	**Sn**	**22 58 44.3**	**+0.6**
KBG	**Krutoberegovo**	**2.53**	**31**	*eP*	**Pn**	**22 58 16.2**	**+2.6**
SMKR	**Semkarok**	**2.55**	**14**	*eP*	**Pn**	**22 58 14.6**	**+0.6**
SRKR	**Sorokina**	**2.58**	**10**	*eP*	**Pn**	**22 58 15.8**	**+1.4**
KDTR	**Khodutka, Kamc**	**2.69**	**211**	*eP*	**Pn**	**22 58 17.7**	**+1.9**
BKI	**Bering**	**3.45**	**69**	*eP*	**Pn**	**22 58 25.9**	**0.0**
BKI				*eS*	**Sn**	**22 59 03.0**	**-2.7**
ILAR	**Eielson Array**	**27.99**	**47**	P	**P**	**23 03 15.6**	**-0.6**
	0.4nm,0.7s,baz=267,slow=8.3,SNR=4.9 0.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.70**	**169**	T	T	23 41 14.2	
	baz=354,slow=76,SNR=59						
H11N3	**WAKE ISLAND Hy**	**34.71**	**169**	T	T	23 41 34.1	
	baz=354,slow=76,SNR=68						
H11N1	**WAKE ISLAND Hy**	**34.71**	**169**	T	T	23 41 19.9	
	baz=354,slow=76,SNR=68						
H11S1	**WAKE ISLAND Hy**	**35.88**	**170**	T	T	23 42 54.7	
	baz=345						
H11S3	**WAKE ISLAND Hy**	**35.90**	**170**	T	T	23 42 48.9	
	baz=345						
H11S2	**WAKE ISLAND Hy**	**35.90**	**170**	T	T	23 43 06.8	
	baz=345						
MKAR	**Makanchi Array**	**47.85**	**295**	P	**P**	**23 05 58.9**	**-3.7**
	0.2nm,0.5s,baz=55,slow=7.1,SNR=4.3 0.2nm,0.5s						
TXAR	**Lajitas Array**	**70.10**	**67**	P	**P**	**23 08 37.7**	**+0.9**
	0.6nm,0.6s,baz=295,slow=4.1,SNR=11						
TXAR				*pP*	**PcP**	**23 09 01.5**	**+3.2**
	0.3nm,0.6s,baz=306,slow=5.1,SNR=3.6 0.6nm,0.6s						

PRU ***15*** *22:57:50.0±0.0, 42°.48N×13°.94E, h10km*
LDG ***15*** *22:57:52.5±0.2, 42°.74N×13°.21E, h10km, Ml2.9/10, Error ellipse: s-maj=5.8km s-min=3.8km az=38.0*

ROM 15 22:57:52.5±0.0, 42°.750N±0°.002×13°.212E±0°.004, h10km, ML3.3/75, 46C-26D, Error ellipse: s-maj=0.3km s-min=0.0km az=243.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
T1218	**Civita (PG)**	**0.11**	**222**	⇑P		Pg	22 57 55.8	+0.5
T1218				S		Sg	22 57 58.1	+0.8
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
	comp=N,83450μm,0.3s							
T1218				AML		AML		
	comp=N,83650μm,0.3s							
T1218				AML		AML		
	comp=N,88050μm,0.3s							
T1218				AML		AML		
T1245	**Castelsantange**	**0.11**	**350**	P		Pg	22 57 55.7	+0.4
T1245				S		Sg	22 57 57.8	+0.3
T1245				AML		AML		
	comp=E,44500μm,0.3s							
T1245				AML		AML		
	comp=N,62500μm,0.4s							
T1245				AML		AML		
	comp=N,57550μm,0.3s							
T1245				AML		AML		
	comp=E,45500μm,1.5s							
T1245				AML		AML		
	comp=N,62550μm,0.3s							
NRCA	**Norcia**	**0.11**	**319**	P		Pg	22 57 55.6	+0.3
NRCA				S		Sg	22 57 57.5	+0.2
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
	comp=N,68250μm,0.1s							
NRCA				AML		AML		
	comp=N,63850μm,0.1s							
NRCA				AML		AML		
NRCA				AML		AML		
SMA1	**SAN MARTINO**	**0.15**	**143**	⇑P		Pg	22 57 56.5	+0.6
SMA1				S		Sg	22 57 59.2	+0.9
SMA1				AML		AML		
	comp=E,31450μm,1.6s							
SMA1				AML		AML		
	comp=N,16250μm,1.2s							
SMA1				AML		AML		
	comp=E,31500μm,1.6s							
MMO1	**Montemonaco**	**0.17**	**29**	P		Pg	22 57 56.7	+0.4
MMO1				S		Sg	22 57 59.8	+0.9
T1243	**Rocca Santa Ma**	**0.18**	**107**	⇑P		Pg	22 57 56.9	+0.5
T1243				S		Sg	22 58 00.1	+0.9
LNSS	**Leonessa**	**0.19**	**221**	⇑P		Pg	22 57 57.4	+0.7
LNSS				S		Sg	22 58 00.9	+1.5
LNSS				AML		AML		
	comp=E,31250μm,0.4s							
LNSS				AML		AML		
	comp=N,76900μm,0.9s							
T1216	**Preci, Frazion**	**0.20**	**315**	P		Pg	22 57 57.2	+0.4
T1216				S		Sg	22 58 00.6	+1.0
T1216				AML		AML		
	comp=N,28450μm,1.6s							
T1216				AML		AML		
	comp=E,30650μm,0.4s							
RM33	**Pellescritta (**	**0.24**	**180**	P		Pg	22 57 58.1	+0.7
RM33				S		Sg	22 58 02.4	+1.6
RM33				AML		AML		
	comp=E,11495μm,0.5s							
RM33				AML		AML		
	comp=N,11020μm,0.5s							
RM33				AML		AML		
	comp=E,11505μm,0.5s							
RM33				AML		AML		
	comp=N,10940μm,0.5s							
RM33				AML		AML		
	comp=E,11510μm,0.5s							
RM33				AML		AML		
	comp=N,11005μm,0.5s							
RM33				AML		AML		
	comp=N,10960μm,0.5s							
RM33				AML		AML		
	comp=N,11035μm,0.5s							
RM33				AML		AML		
	comp=E,11515μm,0.5s							
RM33				AML		AML		
	comp=E,11495μm,0.5s							
RM33				AML		AML		
	comp=N,10970μm,0.5s							
FEMA	**Monte Fema**	**0.24**	**331**	P		Pg	22 57 58.1	+0.6
FEMA				AML		AML		
	comp=E,24150μm,1.5s							
FEMA				AML		AML		
	comp=N,16950μm,0.6s							
FEMA				AML		AML		
	comp=E,24200μm,1.5s							
FEMA				AML		AML		
	comp=N,16950μm,0.5s							
T1256	**Bolognola (MC)**	**0.26**	**2**	P		Pg	22 57 58.2	+0.4
T1256				S		Sb	22 58 02.9	-1.0
T1256				AML		AML		
	comp=E,5565μm,0.8s							
T1256				AML		AML		
	comp=N,5905μm,0.3s							
T1256				AML		AML		
	comp=E,5760μm,0.8s							
T1256				AML		AML		
	comp=N,5900μm,0.4s							
T1256				AML		AML		
	comp=E,5755μm,0.8s							
T1256				AML		AML		
	comp=E,5570μm,0.8s							
T1256				AML		AML		
	comp=N,5580μm,0.4s							
T1215	**Vallo di Nera,**	**0.26**	**282**	⇑P		Pg	22 57 58.3	+0.5
T1215				S		Sb	22 58 02.7	-1.1
T1215				AML		AML		
	comp=E,10215μm,0.2s							
T1215				AML		AML		
	comp=N,9935μm,0.3s							
T1215				AML		AML		
	comp=E,9465μm,0.2s							
T1215				AML		AML		
	comp=N,10750μm,0.2s							
T1215				AML		AML		
	comp=N,9930μm,0.3s							
T1215				AML		AML		
	comp=N,10740μm,0.2s							
T1215				AML		AML		
	comp=E,10210μm,0.2s							
T1215				AML		AML		
	comp=E,9450μm,0.2s							
CAMP	**Campotosto**	**0.26**	**146**	⇑P		Pg	22 57 58.3	+0.5
CAMP				S		Sb	22 58 02.6	-1.3
CAMP				AML		AML		
	comp=N,8840μm,0.2s							
CAMP				AML		AML		
	comp=E,9915μm,0.6s							
T1246	**Crognaleto (TE**	**0.27**	**129**	P		Pg	22 57 58.4	+0.5
T1246				S		Sg	22 58 02.7	+1.2
FDMO	**Fiordimonte**	**0.30**	**342**	P		Pg	22 57 59.0	+0.4
FDMO				S		Sb	22 58 03.9	-1.2
FDMO				AML		AML		
	comp=E,7395μm,0.3s							
FDMO				AML		AML		
	comp=N,9050μm,0.3s							
T1247	**Pizzolo (AQ)**	**0.32**	**168**	P		Pg	22 57 59.5	+0.7
T1247				S		Sb	22 58 04.9	-0.6
T1247				AML		AML		
	comp=E,10015μm,1.6s							
T1247				AML		AML		
	comp=N,9160μm,0.6s							
TERO	**Teramo**	**0.32**	**114**	⇑P		Pg	22 57 59.1	+0.3
TERO				S		Sb	22 58 04.4	-1.1
TERO				AML		AML		
	comp=E,8765μm,0.3s							
TERO				AML		AML		
	comp=N,12550μm,0.3s							
TERO				AML		AML		
	comp=E,9295μm,0.3s							
TERO				AML		AML		
	comp=N,13700μm,0.3s							
TERO				AML		AML		
	comp=E,8770μm,0.3s							
TERO				AML		AML		
	comp=N,12600μm,0.3s							
GUMA	**Gualdo di Mace**	**0.33**	**16**	⇓P		Pb	22 57 60.0	-0.5
GUMA				AML		AML		
	comp=E,73750μm,0.3s							
GUMA				AML		AML		
	comp=N,71750μm,0.3s							
GUMA				AML		AML		
	comp=N,71700μm,0.3s							
GUMA				AML		AML		
GUMA				AML		AML		
	comp=E,73800μm,0.3s							
GUMA				AML		AML		
	comp=N,55100μm,0.7s							
CESI	**CESI - Serrava**	**0.34**	**318**	⇑P		Pg	22 57 59.8	+0.5
CESI				S		Sb	22 58 05.3	-0.9
CESI				AML		AML		
	comp=E,21000μm,0.4s							
CESI				AML		AML		
	comp=N,24850μm,0.4s							
CSP1	**Cessapalombo**	**0.34**	**359**	⇑P		Pg	22 57 59.8	+0.4
CSP1				S		Sb	22 58 05.5	-0.9
CSP1				AML		AML		
	comp=N,10330μm,0.4s							
CSP1				AML		AML		
	comp=N,10300μm,0.4s							
CSP1				AML		AML		
	comp=E,7315μm,0.4s							
T1219	**Muccia, Frazio**	**0.34**	**334**	P		Pg	22 57 59.7	+0.3
T1219				S		Sb	22 58 05.2	-1.1
T1219				AML		AML		
	comp=N,19950μm,0.4s							
T1219				AML		AML		
	comp=E,22250μm,0.3s							
T1219				AML		AML		
	comp=N,19950μm,0.4s							
T1219				AML		AML		
	comp=E,23050μm,0.3s							
T1219				AML		AML		
	comp=N,18200μm,0.2s							
T1219				AML		AML		
	comp=N,18150μm,0.2s							
ARRO	**Arrone**	**0.37**	**243**	⇑P		Pg	22 58 00.3	+0.5
ARRO				AML		AML		
	comp=E,6605μm,0.2s							
ARRO				AML		AML		
	comp=E,6600μm,0.2s							
ARRO				AML		AML		
	comp=N,5880μm,0.4s							
OFFI	**Offida**	**0.39**	**62**	⇑P		Pb	22 58 01.6	0.0
OFFI				AML		AML		
	comp=E,10685μm,0.8s							
OFFI				AML		AML		
	comp=N,20600μm,0.7s							
GIGS	**Gran Sasso**	**0.40**	**139**	P		Pg	22 58 00.4	0.0
GIGS				S		Sg	22 58 06.5	+0.8
GIGS				AML		AML		
	comp=E,1735μm,1.4s							
GIGS				AML		AML		
	comp=N,1185μm,0.2s							
GIGS				AML		AML		
	comp=E,1740μm,1.4s							
AQU	**L'Aquila**	**0.42**	**160**	P		Pg	22 58 01.2	+0.4
AQU				S		Sb	22 58 07.9	-0.6
AQU				AML		AML		
	comp=N,2915μm,1.2s							
AQU				AML		AML		
	comp=E,3390μm,1.3s							
AQU				AML		AML		
	comp=N,2815μm,1.2s							
AQU				AML		AML		
	comp=N,2920μm,1.2s							
AQU				AML		AML		
	comp=E,3230μm,1.1s							
MNTP	**Montappone**	**0.43**	**26**	P		Pb	22 58 02.0	-0.2
MNTP				AML		AML		
	comp=E,11600μm,0.2s							
MNTP				AML		AML		
	comp=N,8365μm,0.7s							
MNTP				AML		AML		
	comp=N,8360μm,0.7s							
MNTP				AML		AML		
	comp=E,11550μm,0.2s							
SEF1	**Sefro**	**0.44**	**334**	P		Pg	22 58 01.6	+0.5
SEF1				S		Sb	22 58 08.5	-0.6
SEF1				AML		AML		
	comp=N,10805μm,0.6s							
SEF1				AML		AML		
	comp=N,10815μm,0.6s							
SEF1				AML		AML		
	comp=E,14550μm,0.3s							
CESX	**Cesi**	**0.49**	**253**	⇑P		Pg	22 58 02.2	+0.2
CESX				AML		AML		
	comp=E,4280μm,0.4s							
CESX				AML		AML		
	comp=N,4390μm,1.5s							
FIAM	**Fiamignano**	**0.49**	**188**	⇑P		Pg	22 58 02.3	+0.3
FIAM				S		Sb	22 58 09.8	-0.6
FIAM				AML		AML		
	comp=N,1905μm,0.6s							
FIAM				AML		AML		
	comp=E,2385μm,1.6s							
FIAM				AML		AML		
	comp=N,1910μm,0.6s							
TRTR	**Tortoreto Alta**	**0.52**	**83**	⇑P		Pb	22 58 04.2	+0.5
TRTR				AML		AML		
	comp=E,6970μm,0.5s							
TRTR				AML		AML		
	comp=N,6175μm,0.5s							
SNTG	**Esanatoglia**	**0.54**	**339**	P		Pg	22 58 03.2	+0.1
SNTG				S		Sb	22 58 11.8	-0.2
SNTG				AML		AML		
	comp=E,2725μm,0.4s							
SNTG				AML		AML		
	comp=E,2760μm,0.4s							
SNTG				AML		AML		
	comp=N,1885μm,1.6s							
SNTG				AML		AML		
	comp=N,1885μm,1.6s							
SNTG				AML		AML		
	comp=E,2720μm,0.4s							
FAGN	**Fagnano**	**0.56**	**150**	⇑P		Pg	22 58 03.3	0.0
FAGN				AML		AML		
	comp=N,7360μm,0.3s							
FAGN				AML		AML		
	comp=E,7385μm,0.4s							
EL6	**Elcito**	**0.58**	**352**	P		Pg	22 58 04.1	+0.2
EL6				AML		AML		
	comp=E,4545μm,0.9s							
EL6				AML		AML		
	comp=N,4030μm,0.4s							
EL6				AML		AML		
	comp=N,4025μm,0.4s							
EL6				AML		AML		
	comp=E,4540μm,0.9s							
VCEL	**Villa Celiera**	**0.58**	**127**	P		Pg	22 58 04.2	+0.4
VCEL				AML		AML		
	comp=E,5565μm,0.4s							
VCEL				AML		AML		
	comp=N,5900μm,0.4s							
ATCC	**AVT- Casa Cast**	**0.60**	**316**	⇑P		Pg	22 58 04.4	+0.2
ATCC				S		Sb	22 58 13.8	0.0
ATCC				AML		AML		
	comp=E,6015μm,0.3s							
ATCC				AML		AML		
	comp=N,4990μm,0.3s							
CING	**Cingoli**	**0.62**	**359**	⇓P		Pg	22 58 04.8	+0.1
CING				AML		AML		
	comp=E,1700μm,0.5s							
CING				AML		AML		
	comp=N,2010μm,0.8s							
FOSV	**Fossato di Vic**	**0.64**	**329**	⇑P		Pg	22 58 05.0	+0.1
FOSV				S		Sb	22 58 14.7	0.0
FOSV				AML		AML		
	comp=N,2180μm,0.2s							
FOSV				AML		AML		
	comp=E,2255μm,0.4s							
T0110	**Collepietro**	**0.67**	**141**	P		Pg	22 58 05.1	-0.3
T0110				S		Sb	22 58 15.8	+0.1
T0110				AML		AML		
	comp=E,6655μm,0.7s							
T0110				AML		AML		
	comp=N,7050μm,0.4s							
PP3	**Marolino**	**0.69**	**25**	⇑P		Pn	22 58 07.8	-0.6
PP3				AML		AML		
	comp=N,6065μm,0.4s							
PP3				AML		AML		
	comp=E,11100μm,0.5s							
PP3				AML		AML		
	comp=E,10950μm,0.5s							
PP3				AML		AML		
	comp=N,6555μm,0.4s							
MURB	**Monte Urbino**	**0.72**	**316**	P		Pg	22 58 06.5	0.0
MURB				AML		AML		
	comp=E,7110μm,0.3s							
MURB				AML		AML		
	comp=N,7100μm,0.4s							
MURB				AML		AML		
	comp=N,7070μm,0.4s							
MURB				AML		AML		
	comp=E,7865μm,0.3s							
MURB				AML		AML		
	comp=E,7115μm,0.3s							
SRES	**S.Oreste - Sor**	**0.73**	**226**	P		Pg	22 58 06.3	-0.3
SRES				AML		AML		
	comp=N,1165μm,1.4s							
SRES				AML		AML		
	comp=E,1030μm,0.8s							
PTQR	**Pietraquaria**	**0.74**	**169**	P		Pg	22 58 06.5	-0.3
PTQR				AML		AML		
	comp=N,470μm,1.2s							
PTQR				AML		AML		
	comp=N,470μm,1.2s							
PTQR				AML		AML		
	comp=E,618μm,0.9s							
SSFR	**Montelago di S**	**0.76**	**335**	⇑P		Pg	22 58 07.1	0.0
SSFR				AML		AML		
	comp=E,3565μm,0.7s							
SSFR				AML		AML		
	comp=N,3360μm,0.2s							
SSFR				AML		AML		
	comp=E,3965μm,0.2s							
SSFR				AML		AML		
	comp=N,3770μm,0.2s							
ARVD	**Arcevia**	**0.77**	**345**	⇑P		Pg	22 58 07.7	+0.2
ARVD				S		Sn	22 58 20.0	-1.2
ARVD				AML		AML		
	comp=N,822μm,1.1s							
ARVD				AML		AML		
	comp=E,1057μm,0.8s							
ATFO	**Monte Foce - G**	**0.78**	**323**	⇑P		Pg	22 58 07.4	0.0
ATFO				AML		AML		
	comp=N,2160μm,0.4s							
ATFO				AML		AML		
	comp=E,1695μm,0.4s							
MTCE	**Montecelio**	**0.81**	**206**	P		Pg	22 58 07.3	-0.8
MTCE				AML		AML		
	comp=E,1404μm,0.6s							
MTCE				AML		AML		
	comp=N,1350μm,0.5s							
CERT	**Cerreto**	**0.82**	**192**	⇓P		Pg	22 58 07.8	-0.4
CERT				AML		AML		
	comp=N,1655μm,0.4s							
CERT				AML		AML		
	comp=E,2570μm,0.4s							
MGAB	**Montegabbione**	**0.82**	**282**	P		Pg	22 58 08.4	0.0
MGAB				AML		AML		
	comp=N,4210μm,0.4s							
MGAB				AML		AML		
	comp=E,2710μm,0.4s							
MGAB				AML		AML		
	comp=E,3615μm,0.4s							
MGAB				AML		AML		
	comp=N,4400μm,0.4s							
FRON	**Frontone**	**0.85**	**335**	⇑P		Pg	22 58 08.5	-0.3
FRON				AML		AML		
	comp=E,1050μm,0.5s							
FRON				AML		AML		
	comp=N,1585μm,0.3s							
AOI	**Ancona**	**0.85**	**20**	P		Pb	22 58 09.4	0.0
AOI				AML		AML		
	comp=E,1035μm,0.4s							
AOI				AML		AML		
	comp=N,1180μm,1.1s							
ATVO	**AVT- Monte Val**	**0.86**	**317**	⇑P		Pg	22 58 08.9	-0.3
ATVO				AML		AML		
	comp=N,1500μm,0.3s							
ATVO				AML		AML		
	comp=E,1305μm,0.9s							
COR1	**Corinaldo**	**0.90**	**350**	⇑P		Pn	22 58 10.8	-0.3
ATMI	**Monte Miggiano**	**0.91**	**310**	⇑P		Pb	22 58 10.6	+0.3
ATMI				AML		AML		
	comp=E,4575μm,0.5s							
ATMI				AML		AML		
	comp=N,4495μm,0.5s							
ATPI	**Pietralunga -**	**0.92**	**320**	⇑P		Pg	22 58 09.9	-0.2
ATPI				AML		AML		
	comp=N,960μm,1.4s							
ATPI				AML		AML		
	comp=E,1049μm,0.5s							
RCAV	**Rocca di Cave**	**0.92**	**192**	⇑P		Pn	22 58 12.9	+1.3
RCAV				AML		AML		
	comp=E,1572μm,0.4s							
RCAV				AML		AML		
	comp=N,2125μm,0.4s							
PIEI	**Pieia**	**0.93**	**328**	⇑P		Pg	22 58 09.9	-0.4
PIEI				AML		AML		
	comp=N,873μm,0.4s							
PIEI				AML		AML		
	comp=E,1245μm,0.2s							

VVLD	**Villa Vallelon**	**0.93**	**161**	⇓P		Pb	22 58 10.6	-0.2
VVLD				AML		AML			
	comp=E,568μm,0.6s								
VVLD				AML		AML			
	comp=N,862μm,0.5s								
MPAG	**Monte Paganucc**	**0.94**	**340**	⇑P		Pg	22 58 10.4	-0.2	
MPAG				AML		AML			
	comp=N,1189μm,1.5s								
MPAG				AML		AML			
	comp=E,932μm,0.3s								
SACS	**San Casciano d**	**0.96**	**276**	⇑P		Pg	22 58 11.0	0.0	
SACS				AML		AML			
	comp=E,940μm,0.8s								
SACS				AML		AML			
	comp=N,916μm,0.6s								
SACS				AML		AML			
	comp=N,932μm,0.6s								
SACS				AML		AML			
	comp=E,970μm,0.6s								
CAFR	**Castel Frentan**	**0.99**	**122**	P		Pg	22 58 11.1	-0.4	
CAFR				AML		AML			
	comp=N,1075μm,0.4s								
CAFR				AML		AML			
	comp=E,912μm,0.3s								
FSSB	**Fossombrone**	**0.99**	**341**	⇓P		Pg	22 58 11.6	0.0	
FSSB				S		Sn	22 58 28.0	+1.3	
FSSB				AML		AML			
	comp=E,3400μm,0.4s								
FSSB				AML		AML			
	comp=N,4105μm,0.3s								
LPEL	**Lama dei Pelig**	**1.01**	**134**	P		Pg	22 58 11.2	-0.6	
LPEL				AML		AML			
	comp=E,1218μm,0.9s								
LPEL				AML		AML			
	comp=N,1032μm,0.6s								
BADI	**Badiali**	**1.04**	**317**	⇓P		Pg	22 58 12.5	0.0	
LATE	**Laterza**	**1.05**	**263**	P		Pb	22 58 12.8	0.0	
CAFI	**Castiglion Fio**	**1.08**	**303**	P		Pg	22 58 13.0	-0.3	
CAFI				S		Sn	22 58 30.0	+1.2	
CAFI				AML		AML			
	comp=N,812μm,0.9s								
CAFI				AML		AML			
	comp=E,1102μm,0.4s								
CAFI				AML		AML			
	comp=N,834μm,0.9s								
CAFI				AML		AML			
	comp=E,1145μm,0.4s								
PE3	**Peglio**	**1.08**	**331**	⇑P		Pb	22 58 13.3	0.0	
TOLF	**Tolfa**	**1.13**	**233**	⇑P		Pb	22 58 13.7	-0.5	
TOLF				AML		AML			
	comp=N,469μm,0.4s								
TOLF				AML		AML			
	comp=E,571μm,0.5s								
MCIV	**Monte Civitell**	**1.13**	**272**	⇓P		Pn	22 58 14.9	+0.4	
MCIV				AML		AML			
	comp=N,512μm,0.4s								
MCIV				AML		AML			
	comp=E,526μm,1.0s								
SSP9	**Sansepolcro**	**1.14**	**317**	⇓P		Pn	22 58 15.3	+0.8	
SF04	**Casetta**	**1.15**	**275**	⇓P		Pn	22 58 16.1	+1.5	
GIUL	**Giuliano Di Ro**	**1.19**	**178**	⇑P		Pg	22 58 17.0	+1.6	
GIUL				AML		AML			
	comp=N,196μm,0.8s								
GIUL				AML		AML			
	comp=E,190μm,0.5s								
SF01	**Poggio Pratacc**	**1.22**	**273**	⇓P		Pg	22 58 15.9	0.0	
SF01				AML		AML			
	comp=E,1006μm,0.7s								
SF01				AML		AML			
	comp=N,646μm,0.3s								
CRE	**Caprese Michel**	**1.27**	**314**	⇓P		Pg	22 58 17.2	+0.4	
CRE				AML		AML			
	comp=N,440μm,1.1s								
CRE				AML		AML			
	comp=E,424μm,1.6s								
ARCI	**Arcidosso**	**1.28**	**275**	P		Pg	22 58 18.1	+1.0	
ARCI				AML		AML			
	comp=E,154μm,0.7s								
ARCI				AML		AML			
	comp=N,140μm,0.8s								
FRES	**Fresagrandinar**	**1.33**	**125**	⇓P		Pg	22 58 19.2	+1.2	
FRES				AML		AML			
	comp=N,328μm,0.6s								
FRES				AML		AML			
	comp=E,432μm,0.5s								
TRIV	**Trivento**	**1.40**	**134**	⇓P		Pg	22 58 20.7	+1.4	
SFI	**Santa Sofia**	**1.52**	**320**	⇓P		Pg	22 58 22.5	+0.8	
OSSC	**Osservatorio P**	**1.63**	**299**	⇑P		Pb	22 58 22.7	0.0	
OSSC				AML		AML			
	comp=N,209μm,0.7s								
OSSC				AML		AML			
	comp=E,166μm,0.7s								
LMD	**Lutirano**	**1.72**	**321**	P		Pb	22 58 24.5	+0.3	
CASP	**Castiglione de**	**1.73**	**272**	⇓P		Pn	22 58 23.1	+0.5	
CASP				AML		AML			
	comp=E,81μm,1.2s								
CASP				AML		AML			
	comp=N,55μm,1.2s								
TRIF	**Trifonti**	**1.73**	**283**	⇑P		Pn	22 58 23.5	+0.8	
TRIF				AML		AML			
	comp=E,152μm,0.7s								
TRIF				AML		AML			
	comp=N,188μm,0.7s								
MELA	**Melanico ??? S**	**1.76**	**126**	⇓P		Pb	22 58 25.3	+0.4	
APRC	**Apricena**	**2.00**	**119**	⇓P		Pb	22 58 28.5	-0.4	
MTCR	**Monte La Croce**	**2.06**	**309**	⇓P		Pn	22 58 28.0	+0.7	
MTCR				AML		AML			
	comp=E,176μm,1.0s								
MTCR				AML		AML			
	comp=N,165μm,0.9s								
SGRT	**San Giovanni R**	**2.13**	**117**	⇑P		Pb	22 58 30.2	-1.0	
SGRT				AML		AML			
	comp=E,285μm,0.8s								
SGRT				AML		AML			
	comp=N,272μm,0.4s								
MAIM	**Mastiano**	**2.30**	**301**	⇑P		Pn	22 58 31.9	+1.4	
MAIM				AML		AML			
	comp=N,101μm,0.3s								
MAIM				AML		AML			
	comp=E,108μm,0.3s								
CARD	**Cardoso**	**2.36**	**304**	S		Sn	22 59 01.0	+0.6	
HVAR	**Hvar**	**2.41**	**79**	⇓P		Pn	22 58 33.4	+1.3	
SARO	**Sassorosso**	**2.50**	**306**	⇑P		Pn	22 58 33.6	+0.3	
SMPL	**Sampolo**	**2.98**	**259**	⇓P		Pn	22 58 40.4	+0.5	
PGF	**Pioggiola**	**3.11**	**268**	*e*P		Pn	22 58 43.1	+1.3	
PGF	**Pioggiola**	**3.11**	**268**	*e*Pg		Pg	22 58 50.3	-1.9	
PGF				*e*Sn		Sn	22 59 14.2	-4.9	
	comp=E,7.2nm,0.4s								
BOJS	**Bojanci**	**3.12**	**27**	⇑P		Pn	22 58 43.8	+2.0	
AMUR	**Altamura**	**3.13**	**125**	⇓P		Pn	22 58 44.1	+2.2	
SABO	**M.te Sabotino**	**3.24**	**5**	⇑P		Pn	22 58 44.1	+0.7	
SABO				AML		AML			
	comp=E,134μm,0.5s								
SABO				AML		AML			
	comp=E,568μm,0.6s								
SABO				AML		AML			
	comp=N,146μm,0.6s								
SABO				AML		AML			
	comp=N,551μm,0.7s								
ROVR	**Rover Verones**	**3.28**	**333**	⇑P		Pn	22 58 46.9	+2.8	
STON	**Ston**	**3.30**	**86**	⇓P		Pn	22 58 45.0	+0.7	
STON				AML		AML			
	comp=N,40μm,0.5s								
STON				AML		AML			
	comp=E,54μm,0.3s								
LJU	**Ljubljana**	**3.42**	**16**	P		Pb	22 58 51.0	-2.3	
DOSS	**Dosso del Somm**	**3.45**	**336**	⇓P		Pn	22 58 49.0	+2.5	
SALO	**Salr**	**3.46**	**327**	⇑P		Pn	22 58 49.1	+2.6	
CTI	**Castel Tesino**	**3.48**	**342**	P		Pn	22 58 48.8	+1.9	
NOCI	**Noci**	**3.48**	**123**	⇓P		Pn	22 58 49.8	+3.0	
STAL	**STALIGIAL**	**3.53**	**354**	⇑P		Pn	22 58 48.6	+1.2	
STAL				AML		AML			
	comp=E,108μm,1.4s								
STAL				AML		AML			
	comp=N,82μm,0.2s								
LUSI	**Trento, Gardas**	**3.60**	**334**	⇓P		Pn	22 58 50.7	+2.3	
ZONE	**Zone**	**3.74**	**325**	⇓P		Pn	22 58 53.0	+2.6	
OBKA	**Obir**	**3.88**	**14**	*e*Pn		Pn	22 58 54.3	+2.1	
	comp=N,0.3nm,0.1s								
OBKA				*e*Sn		Sg	22 59 57.6	+0.7	
	comp=N,12nm,0.4s								
MYKA	**Terra Mystica**	**3.89**	**4**	*e*Pn		Pn	22 58 54.5	+2.1	
	comp=N,1.3nm,0.2s								
MYKA				*e*Sn		Sn	22 59 39.9	+1.7	
	comp=N,1.3nm,0.2s								

KOSI	**Kohlern**	**3.94**	**341**	⇑P		Pn	22 58 55.9	+2.7
APPI	**Appiano**	**3.99**	**340**	⇑P		Pn	22 58 56.2	+2.5
ABTA	**Abfaltersbach**	**4.03**	**353**	Pn		Pn	22 58 56.3	+2.0
	comp=N,5.5nm,0.5s,SNR=16							
ABTA				*e*Sn		Sn	22 59 46.4	+4.8
	comp=N,11nm,0.9s							
SOKA	**Soboth**	**4.14**	**18**	*e*Pn		Pn	22 59 00.0	+4.2
	comp=N,0.3nm,0.2s							
SOKA				*e*Sn		Sn	22 59 44.1	-0.2
	comp=N,1.9nm,0.3s							
KBA	**Koelnbreinsper**	**4.33**	**1**	*e*Pn		Pn	22 59 00.5	+2.0
	comp=N,0.6nm,0.2s							
KBA				*e*Sn		Sn	22 59 51.4	+2.2
	comp=N,4.2nm,0.3s							
VSL	**Villasalto**	**4.35**	**223**	⇑P		Pn	22 58 59.0	+0.3
SBF	**Sospel**	**4.36**	**287**	*e*P		Pn	22 59 00.0	+1.1
SBF	**Sospel**	**4.36**	**287**	*e*Pg		Pg	22 59 13.4	-2.6
SBF				*e*Sn		Sn	22 59 44.8	-5.0
	comp=N,17nm,0.6s							
FETA	**Feichten**	**4.62**	**338**	Pn		Pn	22 59 05.7	+3.2
	comp=N,3.1nm,0.9s,SNR=11							
FETA				*e*Sn		Sn	23 00 00.3	+4.0
	comp=N,3.6nm,0.4s							
WTTA	**Wattenberg**	**4.65**	**347**	*e*Pn		Pn	22 59 06.1	+3.2
	comp=N,1.6nm,0.2s							
WTTA				*e*Sn		Sn	23 00 01.7	+4.7
	comp=N,5.4nm,0.4s							
SQTA	**Sankt Quirin**	**4.69**	**343**	Pn		Pn	22 59 05.7	+2.3
	comp=N,0.4nm,0.2s,SNR=11							
SQTA				*e*Sn		Sn	23 00 03.0	+5.0
	comp=N,3.8nm,0.3s							
WATA	**Walderalm**	**4.73**	**346**	*e*Pn		Pn	22 59 07.9	+3.9
	comp=N,0.9nm,0.2s							
WATA				*e*Sn		Sn	23 00 04.2	+5.2
	comp=N,2.2nm,0.2s							
ARSA	**Arzberg**	**4.79**	**19**	*e*Pn		Pn	22 59 04.9	+0.2
	comp=N,1.1nm,0.3s							
ARSA				*e*Sn		Sn	22 59 58.5	-1.8
	comp=N,1.0nm,0.3s							
MOTA	**Moosalm**	**4.83**	**343**	Pn		Pn	22 59 08.7	+3.3
	comp=N,0.7nm,0.3s,SNR=7.8							
MOTA				*e*Sn		Sn	23 00 07.3	+5.9
	comp=N,1.4nm,0.2s							
LMR	**La Mourre**	**4.95**	**279**	*e*P		Pn	22 59 07.9	+1.0
LMR				*e*Sn		Sn	22 59 58.7	-5.4
	comp=N,1.4nm,0.5s							
BIOA	**Bad Ischl, Aus**	**4.95**	**3**	*e*Pn		Pn	22 59 11.8	+4.9
	comp=N,3.8nm,0.3s							
BIOA				*e*Sn		Sn	23 00 09.9	+5.7
	comp=N,5.6nm,0.3s							
RETA	**Reutte**	**5.04**	**341**	Pn		Pn	22 59 11.6	+3.4
	comp=N,1.0nm,0.2s,SNR=6.5							
RETA				*e*Sn		Sn	23 00 11.4	+4.8
	comp=N,2.5nm,0.5s							
MBDF	**Montbardon**	**5.07**	**295**	*e*P		Pn	22 59 10.8	+2.1
MBDF				*e*Sn		Sn	23 00 03.2	-4.1
	comp=N,3.5nm,0.6s							
DAVA	**Damuels**	**5.11**	**334**	Pn		Pn	22 59 12.7	+3.4
	comp=N,0.1nm,0.1s,SNR=4.7							
DAVA				*e*Sn		Sn	23 00 13.5	+5.1
	comp=N,1.7nm,0.3s							
MOA	**Molln**	**5.15**	**8**	*e*Pn		Pn	22 59 13.7	+4.0
	comp=N,0.9nm,0.2s							
MOA				*e*Sn		Sn	23 00 10.3	+1.1
	comp=N,1.8nm,0.2s							
RONA	**Rosalia, Austr**	**5.41**	**23**	*e*Pn		Pn	22 59 15.1	+1.9
	comp=N,0.2nm,0.2s							
RONA				*e*Sn		Sn	23 00 15.7	+0.2
	comp=N,2.1nm,0.4s							
LPL	**La Plagne**	**5.42**	**303**	*e*P		Pn	22 59 16.7	+3.1
LPL				*e*Sn		Sn	23 00 10.6	-5.5
	comp=N,2.8nm,0.4s							
CONA	**Conrad Observa**	**5.50**	**19**	*e*Pn		Pn	22 59 16.1	+1.5
	comp=N,0.6nm,0.2s							
CONA				*e*Sn		Sn	23 00 18.5	+0.5
	comp=N,0.7nm,0.2s							
SMRF	**Simiane la Rot**	**5.70**	**285**	*e*P		Pn	22 59 19.7	+2.4
ORIF	**Oris-en-Rattie**	**5.73**	**295**	*e*P		Pn	22 59 21.4	+3.7
ORIF				*e*Sn		Sn	23 00 18.6	-4.9
	comp=N,1.3nm,0.4s							
CKRC	**Cesky Krumlov**	**6.12**	**7**	*e*SN		Sn	23 00 33.0	0.0
CABF	**La Chapelle**	**6.38**	**310**	*e*P		Pn	22 59 30.3	+3.7
KHC	**Kasperske Hory**	**6.39**	**2**	*e*PN		Pn	22 59 26.7	0.0
KHC				*e*SN		Sn	23 00 40.3	+0.7
VIVF	**Saint-Julien-l**	**6.53**	**292**	*e*P		Pn	22 59 31.5	+2.9
HINF	**Hinteralfeld**	**6.76**	**321**	*e*P		Pn	22 59 32.8	+0.9
HINF				*e*Sn		Sn	23 00 43.2	-5.7
	comp=N,8.3nm,0.5s							
LASF	**Ste Croix**	**6.94**	**284**	*e*P		Pn	22 59 35.6	+1.3
CDF	**Champ du Feu**	**7.03**	**326**	*e*P		Pn	22 59 36.6	+1.1
CDF				*e*Sn		Sn	23 00 50.0	-5.5
	comp=N,2.2nm,0.4s							
HAU	**Haudompre**	**7.14**	**320**	*e*P		Pn	22 59 38.3	+1.3
HAU				*e*Sn		Sn	23 00 51.9	-6.2
	comp=N,6.6nm,0.4s							
LOR	**Lormes**	**8.02**	**307**	*e*P		Pn	22 59 51.4	+2.4
	baz=125							
CAF	**Calviac**	**8.35**	**289**	*e*P		Pn	22 59 56.0	+2.4

WEL **15** *22:58:00, 42˚.34S×173˚.87E, h9km, ML4.1, Mw3.8, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁴ Nm; Mrr5.92; Mθθ-0.09; Mφφ-5.83; Mrθ2.79; Mθφ-0.80; Mφr0.96; Fault plane solution: M◎6.57000×10¹⁴ NP1: φs169.00000°, δ42.00000°, λ59.00000°. NP2:φs28.00000°, δ55.00000°, λ115.00000°. Principal axes: T 70.4800, Plg69.0000°, Azm353.0000°; N -9.4800, Plg20.0000°, Azm193.0000°; P -61.0000, Plg7.0000°, Azm101.0000°;*

IDC **15** *22:58:30.1±2.1, 42˚.20S×173˚.75E, h0km, mb3.8/2, mbtmp3.8/3, ML3.8/1 Error ellipse: s-maj=47.4km s-min=43.2km az=148.0*

WEL **15** *22:58:32.1±0.3, 42˚.S±2˚×17˚4E±˚, h9km±2km, M3.8/25, ML4.1/25, MLv3.8/25, Error ellipse: s-maj=0.0km s-min=0.0km az=128.9*

ISC 15 22:58:31.5±1.2, 42˚.36S±0˚.04×173˚.87E±0˚.04, h11km±8km, n79, σ1s21/90, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**257**	P	**Pg**	**22 58 37.6**	**+1.0**
KHZ				S	**Sg**	**22 58 41.1**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.64**	**0**	P	**Pb**	**22 58 44.2**	**-0.5**
CMWZ	**Cape Campbell**	**0.66**	**23**	P	**Pg**	**22 58 43.2**	**-1.0**
GVZ	**Greta Valley S**	**0.87**	**225**	P	**Pn**	**22 58 50.3**	**+0.7**
GVZ				S	**Sn**	**22 59 03.7**	**+1.3**
TUWZ	**Tuamarina**	**0.93**	**3**	P	**Pb**	**22 58 49.6**	**0.0**
TUWZ				S	**Sb**	**22 59 01.8**	**0.0**
TCW	**Tory Channel**	**1.19**	**15**	P	**Pb**	**22 58 54.0**	**+0.1**
TCW				S	**Sn**	**22 59 09.6**	**-0.5**
NNZ	**Nelson**	**1.20**	**342**	P	**Pb**	**22 58 53.4**	**-0.7**
LTZ	**Lake Taylor**	**1.26**	**250**	P	**Pn**	**22 58 55.4**	**+0.4**
LTZ				S	**Sb**	**22 59 11.4**	**-0.1**
WEL	**Wellington**	**1.26**	**32**	P	**Pn**	**22 58 55.5**	**+0.5**
WEL				S	**Sn**	**22 59 12.3**	**+0.3**
MRNZ	**Matariki Terra**	**1.27**	**319**	P	**Pb**	**22 58 54.9**	**-0.5**
MRNZ				S	**Sn**	**22 59 11.7**	**-0.4**
PLWZ	**Palliser**	**1.30**	**53**	P	**Pn**	**22 58 55.8**	**+0.2**
MSWZ	**Moikau Station**	**1.39**	**48**	P	**Pn**	**22 58 57.1**	**+0.2**
MSWZ				S	**Sb**	**22 59 15.4**	**+0.1**
TKNZ	**Takaka Hill**	**1.49**	**332**	P	**Pn**	**22 58 58.4**	**+0.3**
TKNZ				S	**Sg**	**22 59 17.7**	**-1.6**
OKCZ	**Okains Bay**	**1.49**	**203**	P	**Pn**	**22 58 58.8**	**+0.5**
PAWZ	**Paruwai Farm**	**1.52**	**50**	P	**Pn**	**22 58 58.6**	**+0.1**
PAWZ				S	**Sn**	**22 59 18.4**	**+0.1**
CAW	**Cannon Point**	**1.54**	**36**	P	**Pn**	**22 58 59.1**	**+0.3**
DUWZ	**D'Urville Isla**	**1.55**	**1**	P	**Pn**	**22 58 59.4**	**+0.3**
MQZ	**McQueen's Vall**	**1.62**	**213**	P	**Pn**	**22 58 59.6**	**-0.3**
DSZ	**Denniston Nort**	**1.66**	**291**	P	**Pn**	**22 59 01.1**	**+0.6**
OXZ	**Oxford**	**1.66**	**234**	P	**Pn**	**22 59 00.2**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.67**	**205**	P	**Pn**	**22 59 00.9**	**+0.2**
KIW	**Kapiti Island**	**1.69**	**28**	P	**Pn**	**22 59 01.4**	**+0.5**
MTW	**Mount Morrison**	**1.71**	**46**	P	**Pn**	**22 59 01.1**	**-0.1**
OGWZ	**Otaki Gorge**	**1.82**	**33**	P	**Pn**	**22 59 02.9**	**+0.2**
INZ	**Inchbonnie**	**1.83**	**258**	P	**Pn**	**22 59 03.3**	**+0.4**
QRZ	**Quartz Range**	**1.83**	**326**	P	**Pb**	**22 59 03.8**	**-1.2**
HOWZ	**Holdsworth Sta**	**1.91**	**41**	P	**Pn**	**22 59 03.7**	**-0.2**
TMWZ	**Te Maipa**	**1.96**	**51**	P	**Pn**	**22 59 04.4**	**-0.2**
MHCZ	**Mount Hutt**	**2.06**	**234**	P	**Pn**	**22 59 05.5**	**-0.6**
MRZ	**Mangatainoka R**	**2.12**	**38**	P	**Pn**	**22 59 06.7**	**-0.2**
WVZ	**Waitaha Valley**	**2.42**	**252**	P	**Pn**	**22 59 11.4**	**+0.4**
POWZ	**Post Office Ro**	**2.43**	**37**	P	**Pn**	**22 59 11.0**	**0.0**
RPZ	**Rata Peaks**	**2.47**	**236**	Pn	**Pn**	**22 59 11.5**	**-0.2**
	19nm,0.3s,baz=77,slow=1.9,SNR=22						
RPZ				Sn	**Sn**	**22 59 40.3**	**-1.6**
	27nm,0.3s,baz=318,slow=23,SNR=42						
	46nm,0.4s						
RPZ	**Rata Peaks**	**2.47**	**236**	P	**Pn**	**22 59 11.6**	**-0.1**
ARCZ	**Arundel**	**2.53**	**230**	P	**Pn**	**22 59 12.2**	**-0.3**
WAZ	**Wanganui**	**2.73**	**18**	P	**Pn**	**22 59 17.3**	**+2.0**
GCSZ	**Gaunt Creek Bo**	**2.78**	**249**	P	**Pn**	**22 59 16.6**	**+0.7**
TSZ	**Takapari Road**	**2.78**	**35**	P	**Pn**	**22 59 15.4**	**-0.6**
TMZ	**Timaru**	**2.91**	**225**	P	**Pn**	**22 59 17.6**	**-0.1**
NMEZ	**Namu Road**	**2.94**	**0**	P	**Pb**	**22 59 23.5**	**-0.4**
WPHZ	**Waipukurau**	**3.00**	**41**	P	**Pb**	**22 59 26.2**	**+1.3**
KHEZ	**Kahui Hut**	**3.06**	**2**	P	**Pn**	**22 59 22.9**	**+3.0**
NBEZ	**Newall Road No**	**3.09**	**360**	P	**Pn**	**22 59 22.4**	**+2.3**
NEZ	**North Egmont**	**3.09**	**3**	P	**Pb**	**22 59 23.6**	**-2.8**
PKE	**Pukeiti**	**3.16**	**2**	P	**Pn**	**22 59 23.8**	**+2.6**
FOZ	**Fox Glacier**	**3.20**	**247**	P	**Pn**	**22 59 22.4**	**+0.7**
MTVZ	**Mangateitei**	**3.21**	**23**	P	**Pn**	**22 59 22.8**	**+1.0**
WNVZ	**Wahianoa**	**3.30**	**24**	P	**Pn**	**22 59 24.7**	**+1.5**
VRZ	**Vera Road**	**3.30**	**12**	P	**Pn**	**22 59 24.8**	**+1.8**
TRVZ	**Turoa**	**3.31**	**23**	P	**Pn**	**22 59 25.0**	**+1.6**
BHHZ	**Black Hill Sta**	**3.31**	**31**	P	**Pn**	**22 59 23.1**	**-0.2**
WHVZ	**Whangaehu Hut**	**3.33**	**24**	P	**Pn**	**22 59 25.0**	**+1.2**
FWVZ	**Far West T-bar**	**3.35**	**23**	P	**Pn**	**22 59 25.2**	**+1.2**
LBZ	**Lake Benmore**	**3.37**	**232**	P	**Pn**	**22 59 23.8**	**-0.2**
NGZ	**Ngauruhoe**	**3.44**	**23**	P	**Pn**	**22 59 27.3**	**+2.2**
NNVZ	**North Ngauruho**	**3.48**	**23**	P	**Pn**	**22 59 27.0**	**+1.3**
WTVZ	**West Tongariro**	**3.49**	**22**	P	**Pn**	**22 59 27.0**	**+1.2**
ETVZ	**East Tongariro**	**3.51**	**24**	P	**Pn**	**22 59 27.1**	**+1.0**
TMVZ	**Te Maari**	**3.52**	**24**	P	**Pn**	**22 59 27.3**	**+1.0**
KRVZ	**Karewarewa**	**3.52**	**23**	P	**Pb**	**22 59 30.5**	**-3.4**
ODZ	**Otahua Downs**	**3.56**	**220**	P	**Pn**	**22 59 26.5**	**-0.1**
BKZ	**Black Stump Fm**	**3.76**	**33**	P	**Pn**	**22 59 32.1**	**+2.7**
HIZ	**Hauiti**	**3.91**	**11**	P	**Pn**	**22 59 33.0**	**+1.5**
NMHZ	**Naumai**	**3.95**	**35**	P	**Pn**	**22 59 35.4**	**+3.4**
JCZ	**Jackson Bay**	**4.10**	**244**	P	**Pn**	**22 59 34.5**	**+0.4**
HHSZ	**Highcliff Hill**	**4.24**	**213**	P	**Pn**	**22 59 36.2**	**+0.2**
WKZ	**Wanaka**	**4.30**	**233**	P	**Pn**	**22 59 36.7**	**-0.3**
EAZ	**Earnscleugh**	**4.38**	**227**	P	**Pn**	**22 59 37.4**	**-0.5**
KMRZ	**Kaimai**	**4.78**	**20**	P	**Pn**	**22 59 44.9**	**+1.5**
TOZ	**Tahuroa Road**	**4.79**	**16**	P	**Pn**	**22 59 44.0**	**+0.5**
AWAZ	**Awhitu Peninsu**	**5.32**	**7**	P	**Pn**	**22 59 52.2**	**+1.4**
MKAZ	**Moumakai**	**5.34**	**11**	P	**Pn**	**22 59 51.7**	**+0.6**
WTAZ	**Waiatarua**	**5.44**	**6**	P	**Pn**	**22 59 54.3**	**+1.7**
ETAZ	**East Tamaki Re**	**5.46**	**9**	P	**Pn**	**22 59 54.4**	**+1.6**
KUZ	**Kuaotunu**	**5.78**	**15**	P	**Pn**	**22 59 56.2**	**-0.9**
ASAR	**Alice Springs**	**37.93**	**287**	P	**P**	**23 05 48.0**	**-1.0**
	0.5nm,0.4s,baz=123,slow=6.5,SNR=9.9						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**40.06**	**291**	P	**P**	**23 06 05.9**	**-0.9**
	1.3nm,0.7s,baz=129,slow=8.7,SNR=13						
	1.3nm,0.7s						
ARCES	**ARCESS Array B**	**148.25**	**339**	PKPbc	**PKPdf**	**23 18 15.3**	**+2.3**
	4.9nm,0.9s,baz=29,slow=2.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**150.12**	**195**	PKPbc	**PKPbc**	**23 18 23.4**	**+0.8**
	0.2nm,0.5s,baz=175,slow=2.4,SNR=2.2						

WEL 15 23:00:41.9±0.7, 42˚.S±4˚×17˚4E±˚, h5km±3km, M3.0/10, ML4.5/10, MLv3.0/10, Error ellipse: s-maj=0.0km s-min=0.0km az=156.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.23**	**30**	P	**Pg**	23 00 47.0	+0.6
BSWZ	**Blackbirch Sta**	**0.27**	**329**	P	**Pg**	23 00 47.4	+0.2
BSWZ				S	**Sg**	23 00 52.1	+1.3
TUWZ	**Tuamarina**	**0.53**	**350**	P	**Pg**	23 00 52.2	+0.2
TUWZ				S	**Sg**	23 01 00.1	+1.2
WEL	**Wellington**	**0.85**	**39**	P	**Pg**	23 00 58.6	+0.3
WEL				S	**Sb**	23 01 12.1	+1.2
THZ	**Tophouse**	**0.88**	**282**	P	**Pg**	23 00 59.2	+0.3
THZ				S	**Sb**	23 01 11.7	-0.3
NNZ	**Nelson**	**0.89**	**325**	P	**Pg**	23 00 58.6	-0.5
NNZ				S	**Sb**	23 01 11.4	-0.7
MRNZ	**Matariki Terra**	**1.12**	**299**	P	**Pg**	23 01 03.0	-0.4
MRNZ				S	**Sn**	23 01 19.5	-0.6
CAW	**Cannon Point**	**1.13**	**42**	P	**Pg**	23 01 02.4	-1.2
CAW				S	**Sg**	23 01 18.4	+0.1
DUWZ	**D'Urville Isla**	**1.15**	**355**	P	**Pg**	23 01 02.8	-1.2
DUWZ				S	**Sb**	23 01 19.3	-0.3
TKNZ	**Takaka Hill**	**1.23**	**318**	P	**Pg**	23 01 04.8	-0.8
TKNZ				S	**Sg**	23 01 21.7	+0.1
**OGW

DRZ	Dome Shelter	2.61	21	P		Pn	23 01 52.3	+2.0
WHVZ	Whangaehu Hut	2.61	22	P		Pn	23 01 51.1	+0.9
FWVZ	Far West T-bar	2.63	21	P		Pn	23 01 51.5	+1.0
MHEZ	Mangahewa	2.64	360	P		Pb	23 01 54.0	-1.5
TUVZ	Tukino	2.64	23	P		Pb	23 01 55.6	0.0
NGZ	Ngauruhoe	2.71	21	P		Pn	23 01 52.6	+1.0
SNVZ	South Ngauruho	2.71	22	P		Pb	23 01 56.8	-0.1
KAHZ	Kahuranaki	2.72	46	P		Pn	23 01 49.6	-1.9
MHCZ	Mount Hutt	2.74	228	P		Pn	23 01 39.5	-12
OTVZ	Oturere	2.74	22	P		Pn	23 01 53.0	+1.0
NNVZ	North Ngauruho	2.76	21	P		Pn	23 01 53.3	+1.1
WTVZ	West Tongariro	2.77	20	P		Pb	23 01 57.6	-0.2
TWVZ	Taurewa	2.77	18	P		Pn	23 01 53.4	+1.0
ETVZ	East Tongariro	2.78	22	P		Pn	23 01 53.3	+0.8
TMVZ	Te Maari	2.80	22	P		Pn	23 01 53.2	+0.5
KRVZ	Karewarewa	2.80	21	P		Pb	23 01 58.1	-0.2
NTVZ	North Tongarir	2.81	22	P		Pn	23 01 53.5	+0.6
WACZ	Wakanui South	2.89	219	P		Pn	23 01 41.5	-12
MCHZ	McNeill Hill	2.89	39	P		Pn	23 01 52.6	-1.3
KATZ	Kakaramea	2.93	21	P		Pb	23 02 01.3	+0.8
RITZ	Rihia Road	2.97	23	P		Pb	23 02 01.6	+0.5
WVZ	Waitaha Valley	3.00	242	P		Pn	23 01 45.2	-10
BKZ	Black Stump Fm	3.03	33	P		Pn	23 01 54.4	-1.5
BKZ				P		Pb	23 02 02.9	+0.7
RATZ	Rangitukua	3.05	21	P		Pb	23 02 02.9	+0.4
RPZ	Rata Peaks	3.14	229	Pn		Pn	23 01 45.4	-12
	20nm,0.3s,baz=65,slow=4.0,SNR=7.6							
RPZ				Sn		Sn	23 02 10.1	-24
	20nm,0.3s,baz=272,slow=9.1,SNR=6.2							
	68nm,0.4s							
RPZ	Rata Peaks	3.14	229	P		Pn	23 01 45.3	-12
NMHZ	Naumai	3.22	36	P		Pn	23 01 57.1	-1.4
HIZ	Hauiti	3.22	7	P		Pn	23 02 00.1	+1.6
ARCZ	Arundel	3.23	225	P		Pn	23 01 46.2	-12
TOZ	Tahuroa Road	4.08	13	P		Pn	23 02 12.3	+2.1
TWGZ	Tauwhareparae	4.51	40	P		Pn	23 02 14.2	-1.9
RUGZ	Raukumara Rang	4.54	35	P		Pn	23 02 14.0	-2.7
MKAZ	Moumakai	4.65	8	P		Pn	23 02 18.7	+0.6
AWAZ	Awhitu Peninsu	4.65	3	P		Pn	23 02 20.1	+2.1
HAZ	Te Kaha	4.76	35	P		Pn	23 02 17.4	-2.2
ETAZ	East Tamaki Re	4.78	6	P		Pn	23 02 21.4	+1.6
WTAZ	Waiatarua	4.78	2	P		Pn	23 02 22.5	+2.7
PKGZ	Pakihiroa	4.78	38	P		Pn	23 02 17.9	-2.1
OUZ	Omahuta	6.51	355	P		Pn	23 02 44.7	+1.0
ASAR	Alice Springs	38.09	285	P		P	23 08 25.0	-1.6
	0.3nm,0.4s,baz=120,slow=6.7,SNR=6.1							
	0.3nm,0.4s							
WRA	Warramunga Arr	40.16	290	P		P	23 08 41.9	-2.0
	0.7nm,0.6s,baz=126,slow=8.5,SNR=7.6							
	0.7nm,0.6s							
TORD	Torodi Ar. Bea	150.82	195	PKPbc		PKPbc	23 21 01.1	+0.7
	0.2nm,0.4s,baz=157,slow=2.8,SNR=7.7							

IDC ***15*** *23:06:44.6±4.5, 12.80N×85.84W, h0km, mb3.7/5, mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=162.5km s-min=33.4km az=25.0*

UCR ***15*** *23:06:47.3±2.3, 13.16N×86.00W, h5km, MW4.3, mb3.9(NEIC)*

INET ***15*** *23:06:48.9±0.4, 13.02N×86.12W, h7km±2km, MW4.2*

NEIC ***15*** *23:06:48.6±2.3, 12.99N±0.03×86.09W±0.03, h19km±4km, mb4.3/16, Mwr3.9/19, Error ellipse: s-maj=4.8km s-min=4.0km az=196.0*

NEIC ***15*** *23:06:49.1, 13.02N×86.10W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=2.36; Mθθ=6.18; Mϕϕ8.53; Mrθ=-4.33; Mθϕ=-1.98; Mϕr3.29; Fault plane solution: Mϕ9.58000×10¹⁴ NP1:ϕs34.80000°, δ52.37000°, λ=-12.07000°. NP2:ϕs132.24000°, δ80.47000°, λ=-141.75000°. Principal axes: T 10.0678, Plg18.0000°, Azm258.0000°; N -1.0697, Plg51.0000°, Azm144.0000°; P -8.9982, Plg33.0000°, Azm1.0000°;*

SNET ***15*** *23:06:51.6±6.3, 12.93N×86.10W, h69km, ML4.5*

ISC 15 23:06:48.7±0.9, 13.03N±0.04×86.05W±0.04, h20km±4km, n90, σ0s92/102, mb4.2/13, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATN	Matagalpa	0.15	129	Pg	Pb	23 06 53.4	-0.6
MATN				Sg	Sb	23 06 56.5	-1.3
MATN	Matagalpa	0.15	129	eP	Pb	23 06 53.5	-0.6
MATN				eS	Sb	23 06 57.1	-0.7
BRAN	Las Pilas	0.42	224	eP	Pn	23 07 05.4	+5.8
RCON	San Juan de Ri	0.47	347	eP	Pn	23 07 01.0	+0.6
BOAB	BOACO BROADBAN	0.69	147		Pb	23 07 01.4	-0.6
BOAB				Sg	Sb	23 07 11.7	+0.6
BOAB	BOACO BROADBAN	0.69	147	eP	Pb	23 07 01.8	-0.2
BOAB				eS	Sb	23 07 11.8	+0.8
HUEN		0.70	190	eP	Pb	23 07 02.0	-0.1
MOMN	Momotombo	0.78	218	eP	Pb	23 07 02.9	-0.7
MOMN				eS	Sb	23 07 13.2	-0.6
CNGN	Cerro Negro	0.82	230		Pb	23 07 03.6	-0.7
CNGN				Sg	Sb	23 07 14.5	-0.5
CNGN	Cerro Negro	0.82	230	eP	Pb	23 07 03.6	-0.7
CNGN				eS	Sb	23 07 14.9	-0.1
WILN	Americas 2	0.87	189	eP	Pb	23 07 04.9	-0.2
MGAN	Managua	0.90	192	eP	Pb	23 07 05.2	-0.3
MGAN				eP	Pb	23 07 05.3	-0.3
CRIN	San Cristobal	1.03	252		Pb	23 07 06.5	-1.3
CRIN					Sb	23 07 20.5	-0.4
CRIN	San Cristobal	1.03	252	eP	Pb	23 07 06.6	-1.3
MASN	Masaya	1.04	186	eP	Pb	23 07 07.6	-0.4
ACON	Acoyapa	1.36	141	Pn	Pn	23 07 12.4	0.0
ACON	Acoyapa	1.36	141	eP	Pn	23 07 12.7	+0.2
ACON	Acoyapa	1.36	141	eP	Pn	23 07 12.7	+0.2
CONN	Concepcion	1.51	164	eP	Pb	23 07 15.6	-0.4
TGUH	Tegucigalpa,Un	1.57	311	Pn	Pn	23 07 15.1	-0.4
TGUH	Tegucigalpa,Un	1.57	311	eP	Pn	23 07 15.7	+0.1
TGUH	Tegucigalpa,Un	1.57	311	eP	Pn	23 07 15.7	+0.1
CNCH	Conchagua	1.76	278	eP	Pn	23 07 17.8	-0.3
CNCH				eS	Sb	23 07 43.2	+1.3
CNCH	Conchagua	1.76	278	eP	Pn	23 07 17.8	-0.3
CNCH				eS	Sb	23 07 43.2	+1.3
LCND	La Caada	1.81	279	eP	Pn	23 07 18.7	0.0
LCND	La Caada	1.81	279	eP	Pn	23 07 18.7	0.0
ESPN	Las Esperanzas	1.90	116	Pn	Pn	23 07 20.8	+0.9
ESPN	Las Esperanzas	1.90	116	eP	Pn	23 07 20.8	+0.9
ESPN	Las Esperanzas	1.90	116	eP	Pn	23 07 20.7	+0.9
GB1A	Borinquen Arri	2.29	164	eP	Pb	23 07 29.1	-0.2
VRLE	La Escondida,	2.32	163	eP	Pb	23 07 29.6	-0.4
VERA	Finca Concepci	2.45	152	eP	Pn	23 07 28.2	+0.7
COLC	Colonia	2.49	161	eP	Pb	23 07 31.4	-1.3
CUI	Cuipilapa	2.51	160	eP	Pb	23 07 31.5	-1.6
PQSS	Presa 15 de Se	2.52	284	eP	Pn	23 07 28.3	-0.1
PQSS	Presa 15 de Se	2.52	284	eP	Pn	23 07 28.3	-0.1
PQSS				eS	Sb	23 08 04.9	+1.2
ORTG	Ortega, Santa	2.71	168	Pn	Pn	23 07 30.8	-0.4
P5NO	Presa 5 de nov	2.80	290	eP	Pn	23 07 32.2	-0.2
P5NO				eS	Sb	23 08 13.0	+1.1
COVE	Coope Vega, Sa	2.80	145	Pn	Pn	23 07 32.4	0.0
VACR	Volcan Arenal	2.87	152	eP	Pn	23 07 34.3	+0.9
JTS	Las Juntas de	2.92	158	Pn	Pn	23 07 34.5	+0.4
JTS	Las Juntas de	2.92	158	eP	Pn	23 07 34.9	+0.8
DUNO	Dulce Nombre,	2.98	169	Pn	Pn	23 07 35.0	+0.2
POPE	POPE, Guanacas	3.04	165	eP	Pn	23 07 37.0	+1.3
SNET	Serv Nac Est T	3.17	282	Pn	Pn	23 07 36.5	-0.9
MTO3	Montecristo	3.50	293	Pn	Pn	23 07 41.4	-0.7
ESQI	Esquipulas	3.54	296	Pn	Pn	23 07 43.0	+0.3
HDC	Heredia	3.56	148	Pn	Pn	23 07 41.5	-1.4
JACO	JACO, Garabito	3.61	158	Pn	Pn	23 07 44.2	+0.7
CVTR	Volcan Turrial	3.74	143	Pn	Pn	23 07 44.8	-0.8
LCR2	La Lucha 2	3.83	148	eP	Pn	23 07 47.7	+1.0
RIMA	Rio Macho	3.88	146	Pn	Pn	23 07 48.1	+0.6
RIMA	Rio Macho	3.88	146	eP	Pn	23 07 48.4	+0.9
BATAN	Batan	3.92	138	Pn	Pn	23 07 47.6	-0.1
BATAN	Batan	3.92	138	eP	Pn	23 07 49.5	+1.8
MRVA	Moravia de Chi	4.08	141	eP	Pn	23 07 50.5	+0.3
CDM	Cerro de Muert	4.12	147	eP	Pn	23 07 51.7	+0.9
PEZE	Perez Zeledon,	4.30	147	Pn	Pn	23 07 53.8	+0.7
PRVC	Isla de Provid	4.58	85	Pn	Pn	23 07 55.9	-0.8
SRBA	San Rafael, Bu	4.60	145	Pn	Pn	23 07 58.1	+0.8
SRBA	San Rafael, Bu	4.60	145	eP	Pn	23 07 58.8	+1.6
BRU2	Volcan	5.34	142	Pn	Pn	23 08 08.2	+0.7
HUEH	Huehuetenango	5.76	294	Pn	Pn	23 08 11.0	-2.3
BCIP	Isla Barro Col	7.20	122	Pn	Pn	23 08 32.0	-0.8
CMIG	Matias Romero	9.44	296	Pn	Pn	23 09 04.0	+0.4
	0.2nm,0.3s,baz=119,slow=9.4,SNR=2.4							
	2.3nm,0.9s							
URIC	Uribia, Colomb	13.80	94	Pn	Pn	23 10 02.2	-1.0
BAUV	El Baul	18.14	101		Pn	23 10 59.3	-0.2
W50A	Signal Mountai	22.09	2	P	P	23 11 42.2	-0.3
TX31	Lajitas Ar. Si	23.04	318	P	P	23 11 51.5	-1.3
TX31				IAmb	IAmb	23 11 56.3	
	comp=Z,5.5nm,0.7s						
TX32	Lajitas Array	23.04	318	P	P	23 11 51.5	-1.4
TXAR	Lajitas Array	23.04	318	P	P	23 11 55.6	+2.8
	comp=Z,1.6nm,0.6s,baz=131,slow=11,SNR=22						
	comp=Z,1.6nm,0.6s						
TXAR	Lajitas Array	23.04	318	P	P	23 11 51.6	-1.2
LCAR	Lake Charles	23.40	350	P	P	23 11 55.2	-1.0
LCAR				IAmb	IAmb	23 11 58.5	
	comp=Z,8.1nm,0.9s						
FCAR	Ozark Folk Cen	23.41	348	P	P	23 11 56.5	+0.1
FCAR				IAmb	IAmb	23 11 58.4	
	comp=Z,9.8nm,1.1s						
WMOK	Wichita Mounta	24.50	334	P	P	23 12 07.7	+1.0
WMOK				IAmb	IAmb	23 12 09.3	
	comp=Z,5.4nm,0.9s						
WCI	Wyandotte Cave	25.10	360	P	P	23 12 11.7	-0.4
CCM	Cathedral Cave	25.35	350	P	P	23 12 14.3	0.0
CCM				IAmb	IAmb	23 12 16.2	
	comp=Z,5.2nm,0.8s						
MSTX	Muleshoe	25.81	327	P	P	23 12 17.9	-0.8
MSTX				IAmb	IAmb	23 12 21.2	
	comp=Z,5.1nm,0.7s						
ETMB	Extrema	30.05	138	P	P	23 12 56.6	0.0
ETMB				IAmb	IAmb	23 12 58.4	
	comp=Z,2.6nm,1.1s						
BW06	Boulder Array	35.94	330	P	P	23 13 48.7	+0.6
BW06				IAmb	IAmb	23 13 51.3	
	comp=Z,4.8nm,1.4s						
PDAR	Pinedale Array	35.94	330	P	P	23 13 49.4	+1.3
	comp=Z,0.6nm,0.7s,baz=124,slow=8.1,SNR=2.3						
	comp=Z,0.6nm,0.7s						
NVAR	Mina Array Bea	38.19	317	P	P	23 14 10.1	+2.8
	comp=Z,0.5nm,0.5s,baz=134,slow=7.6,SNR=5.5						
	comp=Z,0.5nm,0.5s						
BCAR	Beaver Creek A	63.30	335	P	P	23 17 14.6	-1.4
I26K	Coal Creek Min	64.81	337	P	P	23 17 26.8	+1.1
ILAR	Eielson Array	66.05	336	P	P	23 17 34.1	+0.3
	comp=Z,0.7nm,0.8s,baz=124,slow=4.1,SNR=6.2						
	comp=Z,0.7nm,0.8s						
BMAR	Burnt Mountain	66.23	339	P	P	23 17 36.0	+1.0
MLY	Manley	67.69	335	P	P	23 17 44.7	+0.4
MLY				IAmb	IAmb	23 17 45.9	
	comp=Z,3.3nm,1.0s						
PPLA	Purkeypile	67.69	333	P	P	23 17 43.6	-0.8
M20K	Styx River	67.85	332	P	P	23 17 45.1	-0.2
TORD	Torodi Ar. Bea	84.95	78	P	P	23 19 21.9	-1.2
	comp=Z,0.6nm,1.0s,baz=298,slow=3.1,SNR=2.1						
	comp=Z,0.6nm,1.0s						

WEL 15 23:14:44.6±0.6, 42°S±4°×17°4E±°, h15km±5km, M3.1/21, ML3.3/11, MLv3.1/21, Error ellipse: s-maj=0.0km s-min=0.0km az=170.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.04	219	P	Pg	23 14 47.6	+0.2
BSWZ	Blackbirch Sta	0.28	270	P	Pb	23 14 51.6	+0.3
BSWZ				S	Sb	23 14 56.7	+0.9
TUWZ	Tuamarina	0.37	321	P	Pb	23 14 53.3	+0.5
TUWZ				S	Sb	23 14 59.7	+1.4
TCW	Tory Channel	0.51	2	P	Pb	23 14 55.3	+0.2
TCW				S	Sb	23 15 02.8	+0.5
WEL	Wellington	0.58	42	P	Pb	23 14 56.7	+0.2
WEL				S	Sb	23 15 05.5	+1.0
PLWZ	Palliser	0.77	79	P	Pb	23 14 60.0	+0.3
PLWZ				S	Sn	23 15 11.6	-0.6
MSWZ	Moikau Station	0.81	68	P	Pg	23 15 00.7	+0.4
MSWZ				S	Sn	23 15 12.7	-0.5
CAW	Cannon Point	0.87	46	P	Pg	23 15 01.5	+0.1
DUWZ	D'Urville Isla	0.95	345	P	Pn	23 15 03.4	+0.1
DUWZ				S	Sn	23 15 16.6	+0.1
KIW	Kapiti Island	0.99	30	P	Pg	23 15 03.6	-0.2
KIW				S	Sn	23 15 17.5	-0.1
MTW	Mount Morrison	1.10	60	P	Pb	23 15 04.7	-0.5
MTW				S	Sg	23 15 19.7	-0.3
OGWZ	Otaki Gorge	1.14	38	P	Pb	23 15 06.0	+0.1
OGWZ				S	Sn	23 15 21.0	-0.2
TMWZ	Te Maipa	1.38	64	P	Pn	23 15 08.4	-0.8
TMWZ				S	Sn	23 15 26.1	-1.1
MRZ	Mangatainoka R	1.46	44	P	Pn	23 15 10.1	-0.2
MRZ				S	Sn	23 15 29.3	+0.2
WAZ	Wanganui	2.04	16	P	Pg	23 15 23.3	-0.5
TSZ	Takapari Road	2.11	39	P	Pb	23 15 23.3	+0.8
MOVZ	Moawhango	2.58	27	P	Pb	23 15 30.3	-0.2
WNVZ	Wahianoa	2.60	24	P	Pb	23 15 31.8	+0.8
VRZ	Vera Road	2.62	9	P	Pb	23 15 30.4	-0.8
BHHZ	Black Hill Sta	2.62	32	P	Pb	23 15 31.6	+0.4
WTVZ	West Tongariro	2.79	22	P	Pb	23 15 35.4	+1.2
ETVZ	East Tongariro	2.81	24	P	Pb	23 15 34.8	+0.3
TMVZ	Te Maari	2.83	24	P	Pb	23 15 35.6	+0.8
BKZ	Black Stump Fm	3.07	35	P	Pb	23 15 40.1	+1.2
HIZ	Hauiti	3.23	8	P	Pb	23 15 38.8	-2.9

IDC ***15*** *23:14:55.3±0.8, 28.97S×178.29W, h196km±10km, mb2.8/2, mbtmp3.8/3, Error ellipse: s-maj=40.1km s-min=34.9km az=133.0*

ISC 15 23:14:54.1±1.1, 28.5S±0.2×178.1W±0.3, h198km, n8, σ0s76/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.73	166	P	Pn	23 15 23.0	+1.0
	489nm,0.2s,baz=85,slow=8.2,SNR=23						
RAO				S	Sn	23 15 42.6	-1.3
	913nm,0.3s,baz=78,slow=21,SNR=7.9						
MSVF	Nonsavu	11.32	341	P	P	23 17 36.3	-0.1
	24nm,0.8s,baz=186,slow=20,SNR=18						
ASAR	Alice Springs	43.13	265	P	P	23 22 35.4	+0.1
	0.2nm,0.3s,baz=110,slow=7.0,SNR=1.9						
	0.2nm,0.3s						
WRA	Warramunga Arr	43.95	270	P	P	23 22 41.8	-0.1
	0.2nm,0.4s,baz=108,slow=7.9,SNR=5.4						
	0.2nm,0.4s						
FINES	FINESS Array B	143.36	341	PKP	PKPdf	23 34 03.4	-0.8
	7.1nm,1.1s,baz=72,slow=4.5,SNR=6.8						
NB2	NORSAR Subarra	146.90	352	PKP	PKPab	23 34 14.7	+0.3
	comp=Z,0.7nm,0.5s,baz=11,slow=2.9						
NOA	NORSAR Array B	146.90	352	PKPbc	PKPab	23 34 14.1	-0.3
	comp=Z,1.0nm,0.6s,baz=12,slow=4.5,SNR=3.8						
AKASG	Malin Array Be	149.74	325	PKPbc	PKiKP	23 34 21.4	+0.4
	comp=Z,0.4nm,0.4s,baz=42,slow=3.3,SNR=3.8						

WEL 15 23:15:26.7±0.6, 42°S±4°×17°4E±°, h7km±4km, M3.0/10, ML3.3/10, MLv3.0/10, Error ellipse: s-maj=0.0km s-min=0.0km az=175.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.08	245	P	Pg	23 15 28.8	+0.2
BSWZ	Blackbirch Sta	0.32	270	P	Pg	23 15 33.2	+0.2
BSWZ				S	Sb	23 15 38.9	-1.4
TUWZ	Tuamarina	0.40	316	P	Pg	23 15 34.7	+0.3
TUWZ				S	Sb	23 15 41.3	-1.1
TCW	Tory Channel	0.51	357	P	Pg	23 15 36.5	+0.1
TCW				S	Sb	23 15 44.4	-1.1
PLWZ	Palliser	0.72	79	P	Pg	23 15 40.9	+0.3
PLWZ				S	Sb	23 15 52.3	+0.4
MSWZ	Moikau Station	0.77	67	P	Pg	23 15 41.2	-0.2
MSWZ				S	Sb	23 15 53.8	+0.7
NNZ	Nelson	0.86	305	P	Pg	23 15 42.8	-0.3
NNZ				S	Sb	23 15 55.4	-0.3
DUWZ	D'Urville Isla	0.96	342	P	Pg	23 15 45.2	+0.1
DUWZ				S	Sb	23 15 59.0	+0.4
KIW	Kapiti Island	0.97	28	P	Pg	23 15 44.4	-0.8
KIW	Kapiti Island	0.97	28	P	Pg	23 15 44.3	-1.0
KIW				S	Sg	23 15 58.1	+0.3
MTW	Mount Morrison	1.06	59	P	Pg	23 15 45.7	-1.2
MTW				S	Sb	23 16 01.6	+0.2
OGWZ	Otaki Gorge	1.11	36	P	Pg	23 15 46.7	-1.2
OGWZ				S	Sb	23 16 03.2	+0.3
MRNZ	Matariki Tera	1.21	285	P	Pg	23 15 49.6	-0.2
MRNZ				S	Sn	23 16 06.9	+0.2

WEL 15 23:27:44.0±0.5, 43°S±3°×17°3E±°, h5km±3km, M3.4/12, ML3.6/12, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=118.5, South Island

IDC ***15*** *23:33:15.8±3.5, 3.48S×143.94E, h112km±36km, mb3.6/8, mbtmp3.9/11, MS3.2/8, Error ellipse: s-maj=34.8km s-min=16.8km az=103.0*

ISC 15 23:33:14.6±0.8, 3.45S±0.10×143.9E±0.1, h100km, n21, σ0s65/11, mb3.7/8, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.75	151	P	Pn	23 34 51.9	+0.6
	6.6nm,0.4s,baz=0.0,slow=8.1,SNR=1.6						
KRVT	Keravat (AS076	9.17	96	P	Pn	23 35 10.5	0.0
	15nm,0.4s,baz=330,slow=20,SNR=5.1						
CTA	Charters Tower	16.70	172	LR	LR	23 44 33.4	
	comp=Z,74nm,20.7s,baz=263,slow=41						
WRA	Warramunga Arr	18.85	209	P	P	23 37 26.1	-0.9
	0.8nm,0.7s,baz=29,slow=12,SNR=5.8						
WRA				LR	LR	23 45 23.7	
	comp=Z,115nm,19.1s,baz=93,slow=39						
DAV	Davao City (W)	21.05	300	LR	LR	23 44 25.3	
	comp=Z,36nm,20.9s,baz=87,slow=32						
ASAR	Alice Springs	22.29	205	P	P	23 38 05.0	+1.0
	1.7nm,0.9s,baz=32,slow=9.7,SNR=9.1						
ASAR				LR	LR	23 47 10.4	
	comp=Z,98nm,20.3s,baz=5.0,slow=37						
	1.7nm,0.9s						
KAPI	Kappang	24.11	265	LR	LR	23 49 47.7	
	comp=Z,36nm,19.2s,baz=242,slow=41						
STKA	Stephens Creek	28.36	184	P	P	23 38 59.0	-0.4
	1.9nm,0.7s,baz=339,slow=9.5,SNR=4.9						
STKA				LR	LR	23 52 01.5	
	comp=Z,108nm,19.2s,baz=24,slow=40						
	1.9nm,0.7s						
H11S3	WAKE ISLAND Hy	31.31	45	T	T	00 12 06.6	
	baz=228						
H11S2	WAKE ISLAND Hy	31.32	45	T	T	00 12 09.2	
	baz=228						
H11S1	WAKE ISLAND Hy	31.32	45	T	T	00 12 07.7	
	baz=228						
H11N1	WAKE ISLAND Hy	32.27	44	T	T	00 13 14.4	
	baz=226,slow=74						
H11N2	WAKE ISLAND Hy	32.28	44	T	T	00 13 14.9	
	baz=226,slow=74						
H11N3	WAKE ISLAND Hy	32.28	44	T	T	00 13 14.6	
	baz=226						
KSRS	Korea Array	43.31	341	P	P	23 41 06.7	0.0
	1.9nm,0.7s,baz=161,slow=8.4,SNR=6.3						
KSRS				LR	LR	23 56 00.3	
	comp=Z,15nm,20.7s,baz=205,slow=32						
	1.9nm,0.7s						
RAR	Rarotonga	57.48	113	LR	LR	00 06 00.3	
	comp=Z,14nm,19.4s,baz=236,slow=34						
PETK	Petropavlovsk-	57.54	10	P	P	23 42 54.1	+0.6
	4.1nm,0.9s,baz=173,slow=5.8,SNR=1.7						
	4.1nm,0.9s						
MKAR	Makanchi Array	73.57	321	P	P	23 44 36.9	0.0
	0.6nm,0.8s,baz=90,slow=8.5,SNR=4.3						
	0.6nm,0.8s						
VNDA	Vanda	74.64	176	P	P	23 44 42.1	-0.5
	0.6nm,0.7s,baz=338,slow=8.9,SNR=3.9						
	0.6nm,0.7s						
ZALV	Zalesovo Beam	75.22	328	P	P	23 44 46.7	+0.4
	0.5nm,0.6s,baz=104,slow=6.1,SNR=2.6						
	0.5nm,0.6s						
ILAR	Eielson Array	84.39	24	P	P	23 45 35.1	-0.5
	1.1nm,0.7s,baz=259,slow=4.9,SNR=9.3						
	1.1nm,0.7s						

NOU 15 23:40:51.1, 16.03S×167.77E, h20km, MLv4.0/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	1.73	167	P	Pn	23 41 20.3	+0.2
RTV	Rentapao	1.86	160	P	Pn	23 41 22.4	+0.5
KOUNC	Koumac, New Ca	5.58	216	P	Pn	23 42 12.9	-0.2
DZM	Mont Dzumac	6.14	192	P	Pn	23 42 20.4	-0.4
OUENC	Ouen Island, N	6.42	188	P	Pn	23 42 25.5	+1.0

GCMT 15 23:47:34.0±0.3, 6.14S±0.04×11.38W±0.02, h14km±1km, MW4.8/83, Moment Tensor Solution. s16,c18; s83,c105; Duration: 0 Moment tensor: Scale 10¹⁶ Nm; Mrr=1.83±.17; Mθθ=0.34±.10; Mϕϕ=1.50±.11; Mrθ=0.91±.29; Mθϕ=-0.53±.06; Mϕr=0.41±.19; Best double couple: M₀1.97400×10¹⁶ NP1:ϕs180.00000°, δ50.00000°, λ=-60.00000°. NP2:ϕs318.00000°, δ48.00000°, λ=-121.00000°. Principal axes: T 1.7030, Plg1.0000°, Azm250.0000°; N 0.5510, Plg23.0000°, Azm340.0000°; P -2.2450, Plg67.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Ascension Island region

WEL ***15*** *23:47:00, 41.84S×174.04E, h8km, ML4.6, Mw4.3, Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁵ Nm; Mrr=0.23; Mθθ 1.11; Mϕϕ-0.88; Mrθ-0.02; Mθϕ-2.72; Mϕ

*NEIC **15** 23:47:51.1±1.3,41.85S±0.02×174.05E±0.04,h18km±3km, mb4.2/4,Mwr4.3/47,ML3.8(WEL),Error ellipse: s-maj=4.2km s-min=3.2km az=121.0*

*NEIC **15** 23:47:51.2,41.84S×174.04E,h17km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.80; $M_{\theta\theta}$=1.05; $M_{\phi\phi}$=0.51; $M_{\theta\phi}$=-3.42; $M_{r\theta}$=1.92; Fault plane solution: M_0=4.07000×10^{15} NP1:$\phi_1$268.10000°, δ61.53000°,λ-165.83000°. NP2:$\phi_2$171.24000°, δ77.58000°,λ-29.22000°. Principal axes: T 4.0424, Plg11.0000°, Azm222.0000°; N 0.0527, Plg58.0000°, Azm330.0000°; P -4.0952, Plg29.0000°, Azm126.0000°;*

*WEL **15** 23:47:51.3±0.4,42.2S×17.4E±,h10km±3km,M4.6/13, ML4.9/13,MLv4.6/13 Error ellipse: s-maj=0.0km s-min=0.0km az=122.1*

ISC 15 23:47:50.9±0.8,41.90S±0.03×174.09E±0.02,h14km±5km, n138,σ1$20/147,mb4.1/7,MS3.4/10,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**32**	Pg	**Pb**	**23 47 55.8**	**-0.2**
CMWZ				Sg	**Sb**	**23 47 59.4**	**+0.1**
CMWZ	**Cape Campbell**	**0.17**	**32**	P	**Pb**	**23 47 55.9**	**0.0**
CMWZ				S	**Sb**	**23 47 59.8**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.24**	**318**	Pg	**Pg**	**23 47 55.4**	**-0.7**
BSWZ				Sg	**Sg**	**23 47 59.0**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.24**	**318**	P	**Pg**	**23 47 55.6**	**-0.5**
BSWZ				S	**Sg**	**23 47 58.8**	**-0.9**
TUWZ	**Tuamarina**	**0.48**	**347**	Pg	**Pg**	**23 47 59.8**	**+0.6**
TUWZ				Sg	**Sg**	**23 48 05.8**	**-1.0**
TUWZ	**Tuamarina**	**0.48**	**347**	P	**Pg**	**23 47 59.8**	**-0.6**
TUWZ				S	**Sg**	**23 48 06.1**	**-0.7**
KHZ	**Kahutara**	**0.66**	**218**	Pg	**Pb**	**23 48 05.0**	**+0.7**
KHZ	**Kahutara**	**0.66**	**218**	P	**Pn**	**23 48 05.6**	**-0.3**
KHZ	**Kahutara**	**0.66**	**218**	P	**Pn**	**23 48 05.4**	**-0.5**
KHZ				S	**Sn**	**23 48 16.7**	**+0.6**
TCW	**Tory Channel**	**0.70**	**12**	Pg	**Pg**	**23 48 03.6**	**-0.9**
TCW				Sg	**Sg**	**23 48 13.0**	**-0.7**
TCW	**Tory Channel**	**0.70**	**12**	P	**Pg**	**23 48 03.7**	**-0.8**
TCW				S	**Sb**	**23 48 13.7**	**-0.7**
SNZO	**South Karori**	**0.74**	**38**	Pg	**Pb**	**23 48 05.5**	**-0.2**
SNZO	**South Karori**	**0.74**	**38**	P	**Pb**	**23 48 05.8**	**+0.2**
WEL	**Wellington**	**0.80**	**40**	P	**Pb**	**23 48 06.7**	**+0.2**
WEL				S	**Sn**	**23 48 19.3**	**-0.1**
NNZ	**Nelson**	**0.86**	**322**	Pg	**Pg**	**23 48 06.3**	**-1.3**
NNZ	**Nelson**	**0.86**	**322**	P	**Pg**	**23 48 06.5**	**-1.1**
NNZ				S	**Sg**	**23 48 17.6**	**-1.4**
THZ	**Tophouse**	**0.90**	**278**	Pg	**Pg**	**23 48 07.6**	**-0.7**
THZ	**Tophouse**	**0.90**	**278**	P	**Pg**	**23 48 07.8**	**-0.4**
THZ				S	**Sb**	**23 48 19.7**	**-0.4**
PLWZ	**Palliser**	**0.93**	**70**	Pg	**Pb**	**23 48 08.4**	**-0.4**
PLWZ	**Palliser**	**0.93**	**70**	P	**Pg**	**23 48 09.0**	**+0.1**
MSWZ	**Moikau Station**	**0.99**	**61**		**Pb**	**23 48 09.6**	**-0.3**
MSWZ	**Moikau Station**	**0.99**	**61**	P	**Pb**	**23 48 09.9**	**0.0**
MSWZ				S	**Sn**	**23 48 24.3**	**0.0**
CAW	**Cannon Point**	**1.08**	**43**	P	**Pb**	**23 48 11.3**	**0.0**
CAW				S	**Sn**	**23 48 26.4**	**+0.1**
DUWZ	**D'Urville Isla**	**1.10**	**353**	P	**Pb**	**23 48 10.7**	**-1.1**
MRNZ	**Matariki Terra**	**1.12**	**296**		**Pb**	**23 48 11.1**	**-0.8**
MRNZ	**Matariki Terra**	**1.12**	**296**	P	**Pb**	**23 48 11.6**	**-0.3**
PAWZ	**Paruwai Farm**	**1.13**	**63**	P	**Pb**	**23 48 11.5**	**-0.7**
KIW	**Kapiti Island**	**1.21**	**31**	P	**Pn**	**23 48 13.1**	**-0.3**
TKNZ	**Takaka Hill**	**1.21**	**315**		**Pn**	**23 48 12.4**	**-1.1**
TKNZ	**Takaka Hill**	**1.21**	**315**	P	**Pn**	**23 48 12.6**	**-0.9**
MTW	**Mount Morrison**	**1.29**	**56**	P	**Pn**	**23 48 13.5**	**-1.1**
TRWZ	**Traveller**	**1.30**	**68**	P	**Pn**	**23 48 13.5**	**-1.1**
GVZ	**Greta Valley S**	**1.32**	**216**		**Pb**	**23 48 15.0**	**0.0**
GVZ	**Greta Valley S**	**1.32**	**216**	P	**Pn**	**23 48 14.9**	**-0.1**
OGWZ	**Otaki Gorge**	**1.35**	**37**	P	**Pn**	**23 48 14.9**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.47**	**48**	P	**Pn**	**23 48 16.4**	**-0.6**
TMWZ	**Te Maipa**	**1.57**	**60**	P	**Pn**	**23 48 17.0**	**-1.3**
QRZ	**Quartz Range**	**1.59**	**312**	Pn	**Pn**	**23 48 18.7**	**+0.1**
QRZ	**Quartz Range**	**1.59**	**312**	P	**Pb**	**23 48 19.3**	**-0.8**
QRZ	**Quartz Range**	**1.59**	**312**	P	**Pn**	**23 48 19.0**	**+0.4**
LTZ	**Lake Taylor**	**1.61**	**236**	Pn	**Pn**	**23 48 18.8**	**-0.3**
LTZ	**Lake Taylor**	**1.61**	**236**	P	**Pn**	**23 48 18.9**	**-0.1**
AMCZ	**Amberley**	**1.66**	**219**	Pn	**Pn**	**23 48 18.8**	**-0.9**
AMCZ	**Amberley**	**1.66**	**219**	P	**Pn**	**23 48 19.1**	**-0.6**
MRZ	**Mangatainoka R**	**1.67**	**43**		**Pn**	**23 48 18.6**	**-1.1**
MRZ	**Mangatainoka R**	**1.67**	**43**	P	**Pn**	**23 48 18.8**	**-0.9**
DSZ	**Denniston Nort**	**1.71**	**274**	Pn	**Pn**	**23 48 21.1**	**+0.7**
DSZ	**Denniston Nort**	**1.71**	**274**	P	**Pn**	**23 48 21.2**	**+0.7**
TIWZ	**Tintock**	**1.75**	**51**	P	**Pn**	**23 48 21.2**	**+0.3**
OHWZ	**Ohakea**	**1.93**	**29**	P	**Pn**	**23 48 24.2**	**+0.9**
PRWZ	**Pori Road**	**1.95**	**47**	P	**Pn**	**23 48 22.5**	**-1.1**
POWZ	**Post Office Ro**	**1.97**	**41**	P	**Pn**	**23 48 22.8**	**-1.0**
OKCZ	**Okains Bay**	**1.98**	**202**	P	**Pn**	**23 48 23.0**	**-1.0**
BFZ	**Birch Farm**	**2.03**	**54**	Pn	**Pn**	**23 48 22.7**	**-1.9**
BFZ	**Birch Farm**	**2.03**	**54**	P	**Pn**	**23 48 23.2**	**-1.5**
OXZ	**Oxford**	**2.08**	**226**	Pn	**Pn**	**23 48 24.3**	**-1.1**
OXZ	**Oxford**	**2.08**	**226**	P	**Pn**	**23 48 24.1**	**-1.3**
MQZ	**McQueen's Vall**	**2.10**	**210**	Pn	**Pn**	**23 48 23.7**	**-1.9**
MQZ	**McQueen's Vall**	**2.10**	**210**	P	**Pn**	**23 48 23.8**	**-1.7**
INZ	**Inchbonnie**	**2.13**	**246**	Pn	**Pn**	**23 48 26.1**	**0.0**
INZ	**Inchbonnie**	**2.13**	**246**	P	**Pn**	**23 48 26.6**	**+0.5**
AKCZ	**Akaroa Harbour**	**2.16**	**203**	P	**Pn**	**23 48 25.2**	**-1.2**
DVHZ	**Dannevirke**	**2.24**	**45**	P	**Pn**	**23 48 25.9**	**-1.6**
WAZ	**Wanganui**	**2.25**	**18**	P	**Pb**	**23 48 29.7**	**-1.6**
ANWZ	**Angora Road**	**2.30**	**52**	P	**Pn**	**23 48 27.6**	**-0.8**
TSZ	**Takapari Road**	**2.32**	**38**	P	**Pn**	**23 48 27.4**	**-1.3**
RACZ	**Rakaia**	**2.33**	**217**	P	**Pn**	**23 48 27.2**	**-1.5**
LREZ	**Lake Rotokare**	**2.44**	**6**	P	**Pb**	**23 48 34.0**	**-0.7**
MHCZ	**Mount Hutt**	**2.48**	**228**	P	**Pn**	**23 48 29.5**	**-1.3**
NMEZ	**Namu Road**	**2.49**	**356**	P	**Pb**	**23 48 34.9**	**-0.4**
PRHZ	**Porangahau**	**2.52**	**51**	P	**Pn**	**23 48 29.7**	**-1.8**
PNHZ	**Pukenui**	**2.55**	**40**	P	**Pn**	**23 48 30.4**	**-1.4**
WPHZ	**Waipukurau**	**2.55**	**45**	P	**Pn**	**23 48 30.4**	**-1.5**
KHEZ	**Kahui Hut**	**2.60**	**359**	P	**Pb**	**23 48 36.4**	**-0.9**
KHEZ	**Kahui Hut**	**2.60**	**359**	P	**Pb**	**23 48 35.4**	**-1.9**
NEZ	**North Egmont**	**2.62**	**0**	P	**Pb**	**23 48 35.8**	**-2.0**
WACZ	**Wakanui South**	**2.63**	**218**	P	**Pn**	**23 48 31.9**	**-1.0**
NBEZ	**Newall Road No**	**2.63**	**356**	P	**Pb**	**23 48 35.6**	**-2.2**
PKE	**Pukeiti**	**2.70**	**358**	P	**Pb**	**23 48 36.7**	**-2.3**
DREZ	**Durham Road**	**2.71**	**2**	P	**Pb**	**23 48 37.5**	**-1.6**
MTVZ	**Mangateitei**	**2.72**	**23**	P	**Pb**	**23 48 38.2**	**-1.2**
WVZ	**Waitaha Valley**	**2.75**	**243**	P	**Pn**	**23 48 34.9**	**+0.4**
MOVZ	**Moawhango**	**2.79**	**27**	P	**Pn**	**23 48 34.6**	**-0.6**
PXZ	**Pawanui**	**2.81**	**49**	P	**Pn**	**23 48 33.3**	**-2.1**
WNVZ	**Wahianoa**	**2.81**	**25**	P	**Pn**	**23 48 36.5**	**+0.8**
VRZ	**Vera Road**	**2.82**	**11**	P	**Pn**	**23 48 36.9**	**+1.5**
TRVZ	**Turoa**	**2.82**	**24**	P	**Pn**	**23 48 37.3**	**+1.5**
BHHZ	**Black Hill Sta**	**2.83**	**33**	P	**Pn**	**23 48 35.3**	**-0.5**
WHVZ	**Whangaehu Hut**	**2.85**	**24**	P	**Pn**	**23 48 37.2**	**+1.0**
FWVZ	**Far West T-bar**	**2.86**	**23**	P	**Pn**	**23 48 37.5**	**+1.2**
RPZ	**Rata Peaks**	**2.88**	**230**	Pn	**Pn**	**23 48 35.3**	**-1.1**
	54nn,0.3s,baz=84,slow=1.6,SNR=72						
RPZ				Sn	**Sn**	**23 49 09.0**	**-1.9**
	145nn,0.3s,baz=345,slow=24,SNR=31						
RPZ				LR	LR	23 49 16.3	
	comp=Z,217nm,19.4s,baz=358,slow=32 123nm,0.3s						
RPZ	**Rata Peaks**	**2.88**	**230**	Pn	**Pn**	**23 48 35.0**	**-1.4**
RPZ	**Rata Peaks**	**2.88**	**230**	P	**Pn**	**23 48 36.1**	**-0.3**
RPZ	**Rata Peaks**	**2.88**	**230**	P	**Pn**	**23 48 35.5**	**-0.9**
ARCZ	**Arundel**	**2.96**	**225**	P	**Pn**	**23 48 36.2**	**-1.3**
KAHZ	**Kahuranaki**	**2.98**	**46**	P	**Pn**	**23 48 36.0**	**-1.8**
OTVZ	**Oturere**	**2.98**	**24**	P	**Pn**	**23 48 38.6**	**+0.7**
NNVZ	**North Ngauruho**	**3.00**	**23**	P	**Pn**	**23 48 39.0**	**+0.8**
WTVZ	**West Tongariro**	**3.00**	**23**	P	**Pn**	**23 48 39.7**	**+1.5**
TMVZ	**Te Maari**	**3.04**	**24**	P	**Pn**	**23 48 39.4**	**+0.7**
KRVZ	**Karewarewa**	**3.04**	**23**	P	**Pb**	**23 48 43.7**	**-1.2**
KWHZ	**Kaweka Forest**	**3.04**	**36**	P	**Pn**	**23 48 37.1**	**-1.6**
BKZ	**Black Stump Fm**	**3.29**	**35**	Pn	**Pn**	**23 48 40.1**	**-1.9**
BKZ	**Black Stump Fm**	**3.29**	**35**	P	**Pn**	**23 48 40.8**	**-1.2**
HIZ	**Hauiti**	**3.43**	**10**	Pn	**Pn**	**23 48 45.1**	**+1.2**
HIZ	**Hauiti**	**3.43**	**10**	P	**Pn**	**23 48 45.5**	**+1.5**
ODZ	**Otahua Downs**	**4.02**	**217**	P	**Pn**	**23 48 51.5**	**-0.6**
URZ	**Urewera**	**4.31**	**34**	P	**Pn**	**23 48 55.2**	**-0.8**
JCZ	**Jackson Bay**	**4.46**	**239**	P	**Pn**	**23 48 58.6**	**+0.4**
WKZ	**Wanaka**	**4.72**	**230**	Pn	**Pn**	**23 49 00.2**	**-1.5**
MLZ	**Mavora Lakes**	**5.55**	**229**	Pn	**Pn**	**23 49 11.1**	**-2.0**
SYZ	**Scrubby Hill**	**5.85**	**216**	P	**Pn**	**23 49 17.1**	**0.0**
OUZ	**Omahuta**	**6.68**	**357**	P	**Pn**	**23 49 32.1**	**+3.5**
CTZ	**Chatham Island**	**7.08**	**108**	P	**Pn**	**23 49 31.7**	**-2.3**
DZM	**Mont Dzumac**	**20.79**	**340**	LR	LR	23 59 41.2	
	comp=Z,96nm,20.5s,baz=200,slow=34						
MSVF	**Nonsavu**	**24.32**	**9**	LR	LR	00 01 18.2	
	comp=Z,113nm,19.1s,baz=218,slow=33						
STKA	**Stephens Creek**	**27.70**	**281**	LR	LR	00 03 45.5	
	comp=Z,101nm,18.3s,baz=154,slow=35						
AFI	**Afiamalu**	**30.46**	**28**	LR	LR	00 04 56.2	
	comp=Z,32nm,18.2s,baz=78,slow=34						
CTA	**Charters Tower**	**32.04**	**304**	LR	LR	00 04 46.0	
	comp=Z,64nm,21.8s,baz=82,slow=32						
HNR	**Honiara**	**34.65**	**335**	LR	LR	00 07 49.4	
	comp=Z,1μm,18.1s,baz=315,slow=35						
VNDA	**Vanda**	**36.09**	**184**	LR	LR	00 08 08.2	
	comp=Z,69nm,20.1s,baz=18,slow=34						
SBA	**Scott Base**	**36.19**	**183**	P	**P**	**23 54 53.7**	**+1.2**
SBA				IAmb	IAmb	23 55 14.4	
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**37.95**	**286**	P	**P**	**23 55 06.2**	**-2.0**
	comp=Z,0.8nm,0.9s,baz=123,slow=6.8,SNR=2.4						
ASAR				PcP	**PcP**	**23 57 25.6**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=124,slow=3.6,SNR=2.4						
ASAR				LR	LR	00 10 21.7	
	comp=Z,96nm,18.4s,baz=150,slow=36 comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**37.95**	**286**	P	**P**	**23 55 06.8**	**-1.4**
WB2	**Warramunga Arr**	**40.03**	**291**	P	**P**	**23 55 24.2**	**-1.4**
WB2				IAmb	IAmb	23 55 32.4	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**40.04**	**291**	P	**P**	**23 55 22.7**	**-3.0**
	comp=Z,0.7nm,0.6s,baz=128,slow=8.3,SNR=2.2						
WRA				PcP	**PcP**	**23 57 31.9**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=127,slow=2.9,SNR=4.0						
WRA				LR	LR	00 11 40.2	
	comp=Z,54nn,19.0s,baz=110,slow=36 comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**40.04**	**291**	P	**P**	**23 55 23.9**	**-1.8**
PMG	**Port Moresby**	**40.11**	**316**	LR	LR	00 13 18.5	
	comp=Z,61nn,18.4s,baz=76,slow=38						
WB0	**Warramunga Arr**	**40.12**	**291**	P	**P**	**23 55 24.6**	**-1.7**
QSPA	**South Pole Qui**	**48.23**	**180**	P	**P**	**23 56 32.6**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=12,slow=3.2,SNR=3.9 comp=Z,1.3nm,0.7s						
KSRS	**Korea Array**	**89.51**	**325**	P	**P**	**00 00 48.7**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=136,slow=5.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**91.59**	**293**	P	**P**	**00 00 58.4**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=154,slow=4.2,SNR=9.3 comp=Z,0.9nm,0.4s						
MKAR	**Makanchi Array**	**119.97**	**308**	PKP	**PKiKP**	**00 06 43.1**	**+2.6**
	comp=Z,0.6nm,1.0s,baz=144,slow=3.4,SNR=2.4						
KBZ	**Khabaz**	**144.56**	**290**	PKP	**PKPdf**	**00 07 27.5**	**+1.0**
	comp=Z,7nm,0.9s,baz=188,slow=9.9,SNR=5.4						
ARCES	**ARCESS Array B**	**147.87**	**340**	PKPbc	**PKPbc**	**00 07 33.1**	**-1.2**
	comp=Z,4.4nm,1.0s,baz=76,slow=3.8,SNR=1.1						
BRTR	**Keskin Array B**	**150.17**	**279**	PKPbc	**PKPbc**	**00 07 41.1**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=154,slow=6.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**150.60**	**195**	PKPbc	**PKPbc**	**00 07 42.3**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=164,slow=3.0,SNR=15						
FINES	**FINESS Array B**	**152.59**	**326**	PKPbc	**PKPbc**	**00 07 44.5**	**-1.4**
	comp=Z,5.4nm,1.1s,baz=42,slow=4.3,SNR=1.6						

WEL 16 00:01:04.0±0.4,41.2S±4.4×17.5E±.,h22km±4km,M3.4/34, ML3.8/18,MLv3.4/34,Error ellipse: s-maj=0.0km s-min=0.0km az=157.8,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEL	**Wellington**	**0.22**	**160**	P	Pb	00 01 11.5	+1.7
KIW	**Kapiti Island**	**0.28**	**40**	P	Pn	00 01 12.2	-0.6
KIW				S	Sn	00 01 17.5	-0.9
CAW	**Cannon Point**	**0.30**	**96**	P	Pn	00 01 12.4	-0.7
CAW				S	Sn	00 01 18.2	-0.7
TCW	**Tory Channel**	**0.33**	**246**	P	Pn	00 01 12.7	-0.7
TCW				S	Sn	00 01 18.2	-1.3
OGWZ	**Otaki Gorge**	**0.46**	**56**	P	Pn	00 01 14.5	-0.7
OGWZ				S	Sn	00 01 21.6	-1.1
MSWZ	**Moikau Station**	**0.55**	**128**	P	Pn	00 01 16.1	-0.5
MSWZ				S	Sn	00 01 25.0	-0.1
DUWZ	**D'Urville Isla**	**0.63**	**296**	P	Pn	00 01 17.3	-0.3
MTW	**Mount Morrison**	**0.63**	**98**	P	Pb	00 01 17.0	+0.6
PAWZ	**Paruwai Farm**	**0.65**	**118**	P	Pn	00 01 17.3	-0.6
TUWZ	**Tuamarina**	**0.65**	**237**	P	Pb	00 01 17.1	+0.4
PLWZ	**Palliser**	**0.66**	**138**	P	Pb	00 01 17.3	+0.5
HOWZ	**Holdsworth Sta**	**0.67**	**75**	P	Pn	00 01 17.7	-0.4
HOWZ				P	Pb	00 01 17.7	+0.8
MRZ	**Mangatainoka R**	**0.81**	**59**	P	Pn	00 01 19.7	-0.3
TRWZ	**Traveller**	**0.83**	**113**	P	Pb	00 01 19.5	-0.2
BSWZ	**Blackbirch Sta**	**0.87**	**223**	P	Pb	00 01 20.6	+0.1
TMWZ	**Te Maipa**	**0.92**	**92**	P	Pb	00 01 20.7	-0.6
TIWZ	**Tintock**	**0.97**	**72**	P	Pb	00 01 21.6	-0.5
NNZ	**Nelson**	**0.98**	**261**	P	Pb	00 01 22.3	0.0
OHWZ	**Ohakea**	**1.00**	**30**	P	Pn	00 01 23.6	+0.9
POWZ	**Post Office Ro**	**1.08**	**51**	P	Pn	00 01 23.5	-0.3
PRWZ	**Pori Road**	**1.12**	**63**	P	Pn	00 01 23.8	-0.4
CPWZ	**Castlepoint**	**1.17**	**82**	P	Pn	00 01 24.8	-0.2
BFZ	**Birch Farm**	**1.26**	**72**	P	Pn	00 01 25.0	-1.2
TKNZ	**Takaka Hill**	**1.29**	**271**	P	Pb	00 01 27.4	-0.2
WAZ	**Wanganui**	**1.34**	**10**	P	Pb	00 01 28.9	+0.5
DVHZ	**Dannevirke**	**1.38**	**56**	P	Pn	00 01 26.8	-1.1
TSZ	**Takapari Road**	**1.42**	**44**	P	Pn	00 01 27.8	-0.6
MRNZ	**Matariki Terra**	**1.48**	**257**	P	Pn	00 01 30.0	+0.7
THZ	**Tophouse**	**1.49**	**242**	P	Pn	00 01 29.7	+0.2
ANWZ	**Angora Road**	**1.50**	**66**	P	Pb	00 01 32.2	+1.0
KHZ	**Kahutara**	**1.58**	**212**	P	Pb	00 01 34.7	+2.2
QRZ	**Quartz Range**	**1.64**	**278**	P	Pn	00 01 32.2	+0.7
WPHZ	**Waipukurau**	**1.69**	**54**	P	Pb	00 01 35.5	+1.2
KHEZ	**Kahui Hut**	**1.85**	**344**	P	Pb	00 01 36.4	-0.8
MOVZ	**Moawhango**	**1.86**	**27**	P	Pn	00 01 34.5	-0.1
WNVZ	**Wahianoa**	**1.89**	**22**	P	Pb	00 01 36.6	-1.2
NBEZ	**Newall Road No**	**1.91**	**341**	P	Pb	00 01 36.7	-1.3
BHHZ	**Black Hill Sta**	**1.91**	**34**	P	Pn	00 01 35.4	+0.1
WHVZ	**Whangaehu Hut**	**1.93**	**22**	P	Pb	00 01 38.1	-0.4
FWVZ	**Far West T-bar**	**1.94**	**21**	P	Pb	00 01 38.3	-0.5
VRZ	**Vera Road**	**1.95**	**2**	P	Pb	00 01 37.4	-1.3
PKE	**Pukeiti**	**1.95**	**344**	P	Pb	00 01 37.9	-0.9
NGZ	**Ngauruhoe**	**2.03**	**21**	P	Pb	00 01 38.7	-1.5
OTVZ	**Oturere**	**2.06**	**22**	P	Pb	00 01 40.9	+0.2
NNVZ	**North Ngauruho**	**2.07**	**21**	P	Pn	00 01 38.6	+1.1
WTVZ	**West Tongariro**	**2.08**	**20**	P	Pn	00 01 39.1	+1.4
ETVZ	**East Tongariro**	**2.10**	**23**	P	Pb	00 01 41.2	-0.2
TMVZ	**Te Maari**	**2.11**	**22**	P	Pb	00 01 41.5	-0.1
KAHZ	**Kahuranaki**	**2.12**	**53**	P	Pn	00 01 36.8	-1.3
DSZ	**Denniston Nort**	**2.26**	**252**	P	Pn	00 01 40.3	+0.3
BKZ	**Black Stump Fm**	**2.37**	**37**	P	Pn	00 01 40.1	+0.2
LTZ	**Lake Taylor**	**2.47**	**226**	P	Pn	00 01 42.6	-0.4
HIZ	**Hauiti**	**2.56**	**3**	P	Pn	00 01 46.5	+2.3
OKCZ	**Okains Bay**	**2.90**	**204**	P	Pn	00 01 47.7	-1.1
ARCZ	**Arundel**	**3.86**	**221**	P	Pn	00 02 01.3	-0.7
FOZ	**Fox Glacier**	**4.36**	**234**	P	Pn	00 02 08.5	-0.3
JCZ	**Jackson Bay**	**5.28**	**233**	P	Pn	00 02 22.8	+1.3

*ATH **16** 00:19:29.0,36.64N×26.43E,h14km±3km,ML2.7/1,Error ellipse: s-maj=3.8km s-min=1.5km az=163.0*

*THE **16** 00:19:29.1,36.66N×26.44E,h16km±1km,ML2.7/6,Error ellipse: s-maj=1.9km s-min=0.6km az=124.0*

ISC 16 00:19:28.5±1.2,36.65N±0.04×26.44E±0.02,h15km±12km, n23,σ0$63/31,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.45**	**77**	P	**Pg**	**00 19 38.0**	**+0.5**
KOSK				S	**Sb**	**00 19 44.6**	**0.0**
	995nn,0.6s						
KOSK	**Kos Island**	**0.45**	**77**	P	**Pg**	**00 19 37.4**	**0.0**
NIS1	**Nisyros Isl.**	**0.60**	**94**	P	**Pg**	**00 19 40.4**	**+0.1**
NIS1				S	**Sb**	**00 19 50.6**	**+1.6**
	930nn,0.7s						
NIS1	**Nisyros Isl.**	**0.60**	**94**	P	**Pg**	**00 19 40.6**	**+0.3**
THR8	**Santorini-Mono**	**0.81**	**253**	P	**Pg**	**00 19 44.0**	**-0.3**
THR8	**Santorini-Mono**	**0.81**	**253**	P	**Pg**	**00 19 43.8**	**-0.4**
BODT	**Bodrum**	**0.81**	**59**	P	**Pg**	**00 19 43.4**	**-0.9**
BODT				S	**Sg**	**00 19 55.1**	**+0.1**
SANT	**Santorini**	**0.84**	**251**	P	**Pg**	**00 19 44.2**	**-0.6**
SANT				S	**Sb**	**00 19 56.7**	**+0.8**
	285nn,0.9s						
SANT	**Santorini**	**0.84**	**251**	P	**Pg**	**00 19 44.8**	**0.0**
APE	**Apeiranthos**	**0.84**	**300**	P	**Pg**	**00 19 45.1**	**+0.3**
APE				S	**Sb**	**00 19 57.1**	**+1.1**
	540nn,0.6s						
APE	**Apeiranthos**	**0.84**	**300**	P	**Pg**	**00 19 44.9**	**+0.1**
APE				S	**Sb**	**00 19 57.2**	**+1.1**
APE				AML	AML	00 19 58.5	
	comp=N,1155μm,0.8s						
APE				AML	AML	00 19 58.7	
	comp=E,1011μm,0.5s						
THR3	**Thira Island,**	**0.87**	**254**	P	**Pb**	**00 19 45.1**	**-0.2**
THR3	**Thira Island,**	**0.87**	**254**	P	**Pb**	**00 19 45.8**	**+0.5**
THR6	**Thira Island,**	**0.89**	**251**	P	**Pb**	**00 19 45.3**	**-0.3**
THR6	**Thira Island,**	**0.89**	**251**	P	**Pb**	**00 19 45.7**	**0.0**
SAP3	**Santorini-Thir**	**0.91**	**257**	P	**Pb**	**00 19 45.3**	**-0.6**
THR5	**Thira Island,**	**0.91**	**255**	P	**Pb**	**00 19 46.1**	**+0.1**
THR5	**Thira Island,**	**0.91**	**255**	P	**Pb**	**00 19 46.1**	**+0.1**
SMG	**Samos**	**1.10**	**17**	P	**Pb**	**00 19 48.9**	**-0.5**
SMG				S	**Sb**	**00 20 03.7**	**+0.1**
	comp=E,250nm,0.6s						
SMG	**Samos**	**1.10**	**17**	P	**Pb**	**00 19 48.9**	**-0.5**
KARP	**Karpathos**	**1.25**	**152**	P	**Pn**	**00 19 50.6**	**-0.9**
KARP				S	**Sb**	**00 20 08.1**	**+0.4**
	comp=E,330nm,0.9s						
ARG	**Arkhangelos**	**1.43**	**107**	P	**Pn**	**00 19 54.5**	**+0.5**
IDI	**Anoyia**	**1.85**	**223**	P	**Pn**	**00 19 59.2**	**-0.7**

*IDC **16** 00:27:50.9±1.6,39.80N×20.68E,h0km,mb3.4/5, mbtmp3.5/5,MS4.3/1,Error ellipse: s-maj=44.8km s-min=27.9km az=122.0*

*THE **16** 00:27:54.8,39.77N×20.71E,h2km±17km,ML2.9/14,Error ellipse: s-maj=17.0km s-min=0.3km az=155.0*

*ATH **16** 00:27:54.5,39.77N×20.72E,h7km±4km,ML3.0/5,Error ellipse: s-maj=4.1km s-min=0.9km az=159.0*

*BEO **16** 00:27:54.7±0.7,39.70N×20.74E,h14km±3km,ML2.7/8*

ISC 16 00:27:53.9±0.8,39.74N±0.02×20.72E±0.02,h15km±5km, n73,σ1$04/103,mb3.5/5,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.13**	**129**	P	**Pg**	**00 27 57.5**	**-0.1**
JAN				S	**Sg**	**00 28 00.6**	**+0.6**
	11μm,0.3s						
JAN	**Janina**	**0.13**	**129**	P	**Pg**	**00 27 57.4**	**-0.1**
JAN				S	**Sg**	**00 28 00.4**	**+0.4**
JAN				AML	AML	00 28 00.9	
	comp=E,28391μm,0.4s						
JAN				AML	AML	00 28 01.3	
	comp=N,14061μm,0.3s						
IGT	**Igoumenitsa**	**0.36**	**236**	P	**Pb**	**00 28 01.8**	**-0.3**
IGT				S	**Sb**	**00 28 07.1**	**-0

FINES FINESS Array B 21.98 7 P **P** **00 32 45.6 -1.4**
comp=N,1.9nm,0.8s,baz=186,slow=11,SNR=3.6
comp=N,1.9nm,0.8s
NOA NORSAR Array B 22.13 348 P **P** **00 32 47.1 -1.5**
comp=N,1.4nm,1.0s,baz=166,slow=11,SNR=2.1
comp=N,1.4nm,1.0s
TORD Torodi Ar. Bea 31.35 218 P **P** **00 34 13.6 -0.3**
comp=N,0.4nm,0.7s,baz=26,slow=9.0,SNR=1.6
comp=N,0.4nm,0.7s
MKAR Makanchi Array 44.37 60 P **P** **00 36 02.8 -0.7**
comp=N,0.3nm,0.5s,baz=279,slow=7.2,SNR=9.2
comp=N,0.3nm,0.5s
ZALV Zalesovo Beam 44.55 49 P **P** **00 36 03.8 -1.0**
comp=N,0.3nm,0.3s,baz=277,slow=9.0,SNR=2.4
comp=N,0.3nm,0.3s
SCHQ Schefferville 57.43 317 LR LR 01 01 43.2
comp=N,258nm,20.3s,baz=353,slow=35

IDC ***16*** *00:30:26.1±0.3,20°.25S×173°.09W,h0km, mb5.6/31, mbtmp5.6/34,ML5.7/3,MS5.2/56,Error ellipse: s-maj=13.6km s-min=12.0km az=113.0*

MOS ***16*** *00:30:28.3±1.1,20°.22S×173°.16W,h18km,mb6.0/63, MS5.4/14,Error ellipse: s-maj=7.8km s-min=6.5km az=78.2*

NEIC ***16*** *00:30:28.4,20°.20S×172°.96W,h20km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.90; Mθθ0.93; Mφφ-3.83; Mrθ1.12; Mθφ-0.40; Mrφ-0.69; Fault plane solution: M₀3.72000×10¹⁷ NP1:ϕs28.15000°, δ45.29000°,λ125.99000°. NP2:ϕs162.24000°,δ54.90000°, λ59.30000°. Principal axes: T 3.4924, Plg65.0000°, Azm15.0000°; N 0.4226, Plg25.0000°, Azm181.0000°; P -3.9150, Plg5.0000°, Azm273.0000°;*

NEIC ***16*** *00:30:29.9±2.3,20°.24S±0°.07×173°.02W±0°.08,h20km±1km, mb5.9/564,Ms_20 5.5/282,Mwb5.6/64,Mwc5.8/31,Mww5.8 Error ellipse: s-maj=13.0km s-min=11.0km az=130.0*

BJI ***16*** *00:30:29.8±0.0,19°.85S×172°.74W,h27km,mb5.5/67, mB5.9/65,Ms5.5/81,Ms7 5.2/78*

NOU ***16*** *00:30:29.0,20°.34S×172°.99W,h16km,ML5.8/147,Tonga Islands Region*

GCMT ***16*** *00:30:33.9±0.1,20°.36S±0°.01×172°.88W,h47km, MW5.8/160,Moment Tensor Solution. s160,c336; s154,c440; Duration: 1s9 Moment tensor: Scale 10¹⁷ Nm; Mrr5.34±.04; Mθθ0.00±.04; Mφφ-5.34±.03; Mrθ1.23±.04; Mθφ-1.61±.03; Mrφ-0.48±.03; Best double couple: M₀5.73100×10¹⁷ NP1:ϕs182.00000°,δ47.00000°, λ71.00000°. NP2:ϕs29.00000°,δ46.00000°,λ110.00000°. Principal axes: T 5.6720, Plg76.0000°, Azm18.0000°; N 0.1210, Plg14.0000°, Azm195.0000°; P -5.7890, Plg1.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *00:30:34,20°.62S×172°.64W,h16km,Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10¹⁷Nm; Mrr5.81; Mθθ-0.67; Mφφ-5.14; Mrθ0.62; Mθφ-1.52; Mφr-4.20; Fault plane solution: M₀7.12000×10¹⁷ NP1:ϕs29.00000°, δ29.00000°,λ113.00000°. NP2:ϕs183.00000°,δ63.00000°, λ78.00000°. Principal axes: T 7.3815, Plg69.0000°, Azm68.0000°; N -0.5630, Plg11.0000°, Azm189.0000°; P -6.8185, Plg17.0000°, Azm282.0000°;*

NEIC ***16*** *00:30:49.5,19°.96S×172°.79W,h48km,Moment Tensor Solution. Duration: 4s6 Moment tensor: Scale 10¹⁷Nm; Mrr7.00; Mθθ-0.69; Mφφ-6.31; Mrθ1.94; Mθφ-1.15; Mφr-0.39; Fault plane solution: M₀7.02000×10¹⁷ NP1: ϕs177.55000°,δ46.71000°,λ70.64000°. NP2:ϕs24.68000°, δ46.63000°,λ109.38000°. Principal axes: T 7.4957, Plg76.0000°, Azm11.0000°; N -0.9559, Plg14.0000°, Azm191.0000°; P -6.5398, Plg0.0000°, Azm281.0000°;*

ISC 16 00:30:29.8±0.3,20°.32S±0°.04×173°.05W±0°.03,h25km±1km, h25km:pP-P,n1832,σ1s47/1517,mb5.8/345,MS5.5/246, 158C-56D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NIUE	**Niue**	**3.19**	**68**	P		**Pn**	**00 31 15.6**	**-2.7**
	baz=3.0							
NIUE				S		**Sn**	**00 31 48.8**	**-6.8**
	baz=3.0							
NIUE	**Niue**	**3.19**	**68**			**Pn**	**00 31 15.6**	**-2.7**
NIUE	**Niue**	**3.19**	**68**	P		**Pn**	**00 31 16.4**	**-1.9**
AFI	**Afiamalu**	**6.49**	**11**	Pn		**Pn**	**00 32 00.1**	**-3.7**
	103nm,0.3s,baz=137,slow=2.3,SNR=39							
AFI				Sn		Sn	00 33 06.2	-11
	361nm,0.3s,baz=200,slow=22,SNR=5.1							
AFI				T		T	00 38 37.6	
	533nm,0.6s,baz=214,slow=23,SNR=4.3							
	317nm,0.4s							
AFI	**Afiamalu**	**6.49**	**11**	Pn		**Pn**	**00 31 59.9**	**-3.8**
AFI	**Afiamalu**	**6.49**	**11**	P		**Pn**	**00 32 02.7**	**-1.1**
AFI	**Afiamalu**	**6.49**	**11**	P		**Pn**	**00 32 02.0**	**-1.8**
AFI				pmax		pmax		
	comp=Z,953nm,1.0s							
FUTU	**Fugatoga**	**7.69**	**320**	P		**Pn**	**00 32 22.6**	**+2.4**
MSVF	**Nonsavu**	**8.80**	**285**	Pn		Pn	00 32 40.7	+5.2
	comp=Z,16nm,0.3s,baz=123,slow=9.2,SNR=159							
MSVF				LR		LR	00 35 44.1	
	comp=Z,44μm,20.6s,baz=92,slow=36							
MSVF	**Nonsavu**	**8.80**	**285**	Pn		**Pn**	**00 32 39.9**	**+4.3**
MSVF	**Nonsavu**	**8.80**	**285**	P		**Pn**	**00 32 39.9**	**+4.3**
RAO	**Raoul Island**	**9.93**	**205**	Pn		**Pn**	**00 32 51.1**	**+0.2**
	comp=Z,348nm,0.3s,baz=88,slow=5.7,SNR=11							
RAO				Sn		**Sn**	**00 34 34.6**	**-7.0**
	comp=Z,359nm,0.3s,baz=268,slow=22,SNR=12							
	comp=Z,766nm,0.4s							
RAO	**Raoul Island**	**9.93**	**205**	Pn		**Pn**	**00 32 50.7**	**-0.2**
RAO	**Raoul Island**	**9.93**	**205**	P		**Pn**	**00 32 52.5**	**+1.7**
RAO	**Raoul Island**	**9.93**	**205**	P		**Pn**	**00 32 52.6**	**+1.7**
RAR	**Rarotonga**	**12.45**	**96**	Pn		**Pn**	**00 33 22.2**	**-3.2**
	comp=Z,74nm,0.3s,baz=252,slow=10,SNR=130							
RAR				Sn		Sn	00 35 29.0	-14
	comp=Z,53nm,0.3s,baz=155,slow=23,SNR=3.1							
RAR				LR		LR	00 37 11.5	
	comp=Z,14μm,20.2s,baz=232,slow=32							
RAR	**Rarotonga**	**12.45**	**96**	Pn		**Pn**	**00 33 22.1**	**-3.3**
RAR	**Rarotonga**	**12.45**	**96**	P		**Pn**	**00 33 23.2**	**-2.2**
FUNA	**Funafuti**	**13.92**	**326**	Pn		**Pn**	**00 33 46.3**	**+0.9**
FUNA	**Funafuti**	**13.92**	**326**	P		**Pn**	**00 33 48.0**	**+2.5**
	comp=Z,496nm,1.2s							
RTV	**Rentapao**	**17.69**	**275**	P		**P**	**00 34 36.3**	**+1.0**
MARNC	**Mare, Loyalty**	**17.72**	**263**			**P**	**00 34 35.4**	**-0.1**
MARNC	**Mare, Loyalty**	**17.72**	**263**	P		**P**	**00 34 35.7**	**+0.2**
	comp=Z,9.5nm,0.7s							
DVP	**Devils Point**	**17.93**	**275**	P		**P**	**00 34 39.7**	**+1.8**
LIFNC	**LIFOU**	**18.47**	**265**	P		**P**	**00 34 43.0**	**-0.7**
LIFNC				IAmb		IAmb	00 34 46.4	
	comp=Z,493nm,0.8s							
LIFNC	**LIFOU**	**18.47**	**265**	P		**Pn**	**00 34 44.0**	**0.0**
MXZ	**Matakaoa Point**	**18.76**	**202**	P		**P**	**00 34 46.8**	**0.0**
YATNC	**Mamie plateau,**	**18.79**	**261**	P		**Pn**	**00 34 48.6**	**+0.7**
OUENC	**Ouen Island, N**	**18.85**	**260**	P		**Pn**	**00 34 49.3**	**+0.7**
OUENC	**Ouen Island, N**	**18.85**	**260**	P		**Pn**	**00 34 49.8**	**+1.2**
OUZ	**Omahuta**	**18.94**	**216**	P		**Pn**	**00 34 50.4**	**+0.7**
KUZ	**Kuaotunu**	**19.09**	**209**	P		**Pn**	**00 34 52.6**	**+1.2**
ONTNC	**Ouen Toro**	**19.20**	**260**	P		**Pn**	**00 34 52.9**	**0.0**
ONTNC	**Ouen Toro**	**19.20**	**260**	P		**Pn**	**00 34 53.4**	**+0.5**
DZM	**Mont Dzumac**	**19.20**	**261**	P		**P**	**00 34 52.1**	**+0.1**
	comp=Z,7.3nm,0.3s,baz=79,slow=19,SNR=137							
DZM				S		**Sn**	**00 38 25.9**	**-1.8**
	comp=Z,26nm,1.1s,baz=311,slow=16,SNR=2.7							
	comp=Z,223nm,0.7s							
DZM	**Mont Dzumac**	**19.20**	**261**	*e*Pn		**Pn**	**00 34 52.6**	**-0.4**
	comp=Z,648nm,0.9s							
DZM				*e*S		**S**	**00 38 28.0**	**-0.2**
	comp=Z,10μm,26.9s							
DZM				*e*LR		LR	00 39 25.0	
	comp=Z,20μm,26.1s							
DZM	**Mont Dzumac**	**19.20**	**261**	P		**Pn**	**00 34 52.8**	**-0.2**
DZM	**Mont Dzumac**	**19.20**	**261**	P		**Pn**	**00 34 52.8**	**-0.2**
NFK	**Norfolk Island**	**19.32**	**240**	P		**Pn**	**00 34 55.6**	**+1.3**
	baz=20							
NFK	**Norfolk Island**	**19.32**	**240**	P		**Pn**	**00 34 54.1**	**-0.2**
NOUC	**Port Laguerre**	**19.33**	**261**	P		**Pn**	**00 34 54.3**	**-0.2**
URZ	**Urewera**	**19.81**	**203**	P		**Pn**	**00 35 01.2**	**+1.2**
BKZ	**Black Stump Fm**	**20.83**	**203**	P		Pn	00 35 11.2	-0.9
BKZ	**Black Stump Fm**	**20.83**	**203**	P		Pn	00 35 12.1	0.0
HIZ	**Hauiti**	**20.93**	**207**	P		Pn	00 35 12.6	-0.6
KOUNC	**Koumac, New Ca**	**21.24**	**265**	P		**P**	**00 35 13.7**	**-0.3**
KOUNC				IAmb		IAmb	00 35 19.7	
	comp=Z,475nm,0.9s							
KOUNC	**Koumac, New Ca**	**21.24**	**265**	P		**P**	**00 35 15.5**	**+1.5**
TBI	**Tubuai**	**22.10**	**102**	*e*P		**P**	**00 35 24.4**	**+1.2**
	comp=Z,599nm,1.2s							
TBI				*e*LR		LR	00 40 40.5	
	comp=Z,377μm,23.0s							
TBI				*e*LR		LR	00 40 41.0	
	comp=Z,63μm,22.8s							
TBI	**Tubuai**	**22.10**	**102**	*e*T		T	01 00 02.5	
	comp=Z,29nm,0.3s							
PAE	**Paea**	**22.34**	**87**	*e*T		T	00 59 57.2	
	comp=Z,15nm,0.3s							
PPT2	**Papeete2**	**22.36**	**87**	*e*P		**P**	**00 35 27.6**	**+1.4**
	comp=Z,247nm,1.2s							
PPT2				*e*LR		LR	00 40 47.1	
	comp=Z,18μm,23.0s							
PPT2				*e*LR		LR	00 40 47.4	
	comp=Z,16μm,24.2s							
PPT2	**Papeete2**	**22.36**	**87**	*e*T		T	01 00 01.8	
	comp=Z,9.6nm,0.3s							
PPT	**Papeete**	**22.36**	**87**	P		**P**	**00 35 25.5**	**-0.7**
	comp=Z,222nm,1.1s,baz=37,slow=4.6,SNR=6.5							
PPT				LR		LR	00 43 37.4	
	comp=Z,8μm,18.1s,baz=238,slow=35							
	comp=Z,222nm,1.1s							
PPTF	**Pamatai, Papee**	**22.37**	**87**	P		**P**	**00 35 24.8**	**-1.5**
PPTF				IAmb		IAmb	00 35 32.5	
	comp=Z,342nm,1.2s							
PPTF	**Pamatai, Papee**	**22.37**	**87**	P		**P**	**00 35 26.1**	**-0.2**
MRZ	**Mangatainoka R**	**22.48**	**203**	P		**P**	**00 35 27.4**	**+0.2**
TIAR	**Tiarei**	**22.58**	**87**	*e*P		**P**	**00 35 29.3**	**+0.8**
MSWZ	**Moikau Station**	**23.26**	**203**	P		**P**	**00 35 36.5**	**+1.1**
PLWZ	**Palliser**	**23.39**	**203**	P		**P**	**00 35 37.2**	**+0.5**
MEH	**Mehetia**	**23.73**	**88**	*e*T		T	01 01 51.0	
	comp=Z,80nm,0.2s							
VAH	**Vaihoa**	**24.72**	**82**	*e*T		T	01 04 23.8	
	comp=Z,9.6nm,0.2s							
TARA	**Tarawa**	**25.55**	**326**	P		**P**	**00 35 57.0**	**+0.3**
TARA				IAmb		IAmb	00 35 59.4	
	comp=Z,162nm,0.8s							
TARA	**Tarawa**	**25.55**	**326**	P		**P**	**00 35 57.8**	**+1.1**
INZ	**Inchbonnie**	**25.87**	**207**	IAmb		IAmb	00 36 09.5	
	comp=Z,243nm,0.9s							
RPZ	**Rata Peaks**	**26.85**	**206**	P		**P**	**00 36 07.8**	**-0.5**
	comp=Z,16nm,0.7s,baz=79,slow=5.2,SNR=2.7							
	comp=Z,16nm,0.7s							
RPZ	**Rata Peaks**	**26.85**	**206**	P		**P**	**00 36 09.4**	**+1.1**
LHI	**Lord Howe Isla**	**27.38**	**240**	P		**P**	**00 36 13.6**	**+0.5**
	baz=28							
LHI	**Lord Howe Isla**	**27.38**	**240**	P		**P**	**00 36 12.9**	**-0.2**
JCZ	**Jackson Bay**	**28.11**	**208**	P		**P**	**00 36 20.2**	**+0.5**
HNR	**Honiara**	**28.21**	**289**	P		**P**	**00 36 19.6**	**-1.1**
	comp=Z,1μm,0.5s,baz=200,slow=17,SNR=4.4							
HNR				LR		LR	00 46 29.9	
	comp=Z,65μm,18.3s,baz=130,slow=34							
WHZ	**Wether Hill Ro**	**29.91**	**207**	P		**P**	**00 36 38.3**	**+2.8**
GC1S	**Gold Coast 1 S**	**31.40**	**249**	P		**P**	**00 36 49.8**	**+0.9**
AUWSH	**Wavell State H**	**31.73**	**251**	P		**P**	**00 36 51.2**	**-0.6**
ARMA	**Armidale**	**33.34**	**245**	P		**P**	**00 37 06.5**	**+0.5**
	baz=34,SNR=20							
ARMA	**Armidale**	**33.34**	**245**	P		**P**	**00 37 05.2**	**-0.9**
ARMA	**Armidale**	**33.34**	**245**	P		**P**	**00 37 06.6**	**+0.5**
EIDS	**Eidsvold**	**33.37**	**255**	P		**P**	**00 37 05.3**	**-0.9**
	baz=34,SNR=24							
EIDS	**Eidsvold**	**33.37**	**255**	P		**P**	**00 37 05.3**	**-0.9**
EIDS	**Eidsvold**	**33.37**	**255**	P		**P**	**00 37 05.4**	**-0.8**
TAOE	**Nuku Hiva Isla**	**33.74**	**75**	*e*S		**S**	**00 42 32.5**	**+0.5**
	comp=Z,2μm,27.1s							
TAOE				*e*LR		LR	00 46 03.0	
	comp=Z,13μm,23.6s							
TAOE	**Nuku Hiva Isla**	**33.74**	**75**	*e*T		T	01 13 50.9	
	comp=Z,70nm,0.3s							
RK1H	**Rockhampton Ha**	**33.92**	**258**	P		**P**	**00 37 10.7**	**-0.3**
AUPHS	**Peel High Scho**	**34.08**	**244**	P		**P**	**00 37 12.9**	**+0.5**
MGCD	**Mangrove Creek**	**34.31**	**241**	P		**P**	**00 37 15.3**	**+1.0**
	baz=34,SNR=11							
MGCD	**Mangrove Creek**	**34.31**	**241**	P		**P**	**00 37 15.6**	**+1.3**
SYDH	**Sydney Hard Ro**	**34.73**	**240**	P		**P**	**00 37 19.7**	**+1.8**
WOLH	**Wollongong Har**	**34.78**	**239**	P		**P**	**00 37 20.0**	**+1.7**
RMQ	**Roma**	**35.49**	**253**	P		**P**	**00 37 24.9**	**+0.3**
	baz=36,SNR=29							
RMQ	**Roma**	**35.49**	**253**	P		**P**	**00 37 25.0**	**+0.4**
AUDCS	**Dubbo College**	**36.17**	**243**	P		**P**	**00 37 31.3**	**+1.0**
CNB	**Canberra Magne**	**36.21**	**238**	P		**P**	**00 37 31.2**	**+0.5**
	baz=36,SNR=20							
CNB	**Canberra Magne**	**36.21**	**238**	P		**P**	**00 37 32.6**	**+1.9**
MILA	**Mila**	**36.83**	**235**	P		**P**	**00 37 36.8**	**+0.8**
	baz=37,SNR=8.7							
RABL	**Rabaul**	**37.46**	**291**	P		**P**	**00 37 40.1**	**-1.4**
KRVT	**Keravat (AS076**	**37.52**	**290**	S		**S**	**00 43 25.2**	**-4.6**
	comp=Z,22nm,0.4s,baz=336,slow=18,SNR=1.8							
KRVT				LR		LR	00 53 22.9	
	comp=Z,3μm,18.3s,baz=241,slow=37							
TV1H	**Townsville Har**	**37.74**	**265**	P		**P**	**00 37 44.0**	**+0.2**
CTA	**Charters Tower**	**38.13**	**263**	S		**S**	**00 43 31.2**	**-7.7**
	comp=Z,2.7nm,0.8s,baz=290,slow=24,SNR=1.3							
CTA				LR		LR	00 53 06.8	
	comp=Z,4μm,18.4s,baz=88,slow=36							
CTA	**Charters Tower**	**38.13**	**263**	P		**P**	**00 37 47.1**	**0.0**
CTA	**Charters Tower**	**38.13**	**263**	P		**P**	**00 37 46.8**	**-0.3**
CTA				pmax		pmax		
	comp=Z,207nm,1.0s							
CTAO	**Charters Tower**	**38.13**	**263**	P		**P**	**00 37 46.5**	**-0.6**
CTAO				IAmb		IAmb	00 37 48.3	
	comp=Z,134nm,0.8s							
CTAO	**Charters Tower**	**38.13**	**263**	P		**P**	**00 37 47.1**	**0.0**
CTAO	**Charters Tower**	**38.13**	**263**	P		**P**	**00 37 46.5**	**-0.6**
CTAO				pmax		pmax		
	comp=Z,134nm,0.8s							
CMSA	**Cobar Meteorol**	**38.55**	**245**	P		**P**	**00 37 50.2**	**-0.3**
	baz=39,SNR=104							
CMSA	**Cobar Meteorol**	**38.55**	**245**	P		**P**	**00 37 50.6**	**+0.1**
QLP	**Quilpie**	**39.55**	**253**	P		**P**	**00 37 58.0**	**-0.9**
	baz=40,SNR=28							
QLP	**Quilpie**	**39.55**	**253**	P		**P**	**00 37 58.2**	**-0.7**
AULHS	**Lilydale High**	**39.56**	**229**	P		**P**	**00 38 00.4**	**+1.6**
CORO	**Coronation Par**	**39.68**	**229**	P		**P**	**00 38 02.8**	**+3.0**
TOO	**Toolangi**	**39.78**	**235**	P		**P**	**00 38 01.6**	**+0.8**
	baz=40,SNR=23							
TOO	**Toolangi**	**39.78**	**235**	P		**P**	**00 38 01.4**	**+0.6**
TOO	**Toolangi**	**39.78**	**235**	P		**P**	**00 38 02.8**	**+2.0**
TOO				pmax		pmax		
	comp=Z,94nm,0.8s							
PMG	**Port Moresby**	**39.86**	**280**	S		**S**	**00 43 58.3**	**-6.8**
	comp=Z,3.8nm,0.3s,baz=125,slow=16,SNR=1.3							
PMG				LR		LR	00 52 10.8	
	comp=Z,4μm,20.6s,baz=158,slow=33							
PMG	**Port Moresby**	**39.86**	**280**	P		**P**	**00 38 01.4**	**-0.2**
PMG	**Port Moresby**	**39.86**	**280**	P		**P**	**00 38 01.4**	**-0.2**
	comp=Z,4μmcomp=Z,3μmcomp=Z,408nm,1.0s							
PMG	**Port Moresby**	**39.86**	**280**	P		**P**	**00 38 02.0**	**+0.4**
PMG	**Port Moresby**	**39.86**	**280**	*d*P		**P**	**00 38 01.2**	**-0.4**
PMG				pmax		pmax		
	comp=Z,341nm,0.9s							
MOO	**Moorlands**	**39.99**	**227**	P		**P**	**00 38 04.0**	**+1.6**
	baz=40,SNR=7.2							
MOO	**Moorlands**	**39.99**	**227**	P		**P**	**00 38 03.7**	**+1.3**
TAU	**Tasmania Unive**	**40.07**	**227**	P		**P**	**00 38 05.7**	**+2.7**
TAU	**Tasmania Unive**	**40.07**	**227**	P		**P**	**00 38 05.7**	**+2.7**
TAU				pmax		pmax		
	comp=Z,44nm,0.7s							
MTSU	**Mount Surprise**	**40.24**	**266**	P		**P**	**00 38 03.8**	**-1.0**
	baz=40,SNR=64							
MTSU	**Mount Surprise**	**40.24**	**266**	P		**P**	**00 38 03.9**	**-0.9**
BRAT	**Ballarat**	**40.99**	**236**	P		**P**	**00 38 12.1**	**+1.4**
STKA	**Stephens Creek**	**42.06**	**245**	P		**P**	**00 38 19.2**	**-0.3**
	comp=Z,45nm,0.7s,baz=88,slow=9.8,SNR=84							
STKA				LR		LR	00 55 12.6	
	comp=Z,3μm,18.1s,baz=76,slow=35							
	comp=Z,45nm,0.7s							
STKA	**Stephens Creek**	**42.06**	**245**	P		**P**	**00 38 19.3**	**-0.3**
	baz=42,SNR=73							
STKA	**Stephens Creek**	**42.06**	**245**	P		**P**	**00 38 19.5**	**-0.1**
STKA	**Stephens Creek**	**42.06**	**245**	P		**P**	**00 38 19.7**	**+0.1**
STKA	**Stephens Creek**	**42.06**	**245**	*d*P		**P**	**00 38 19.4**	**-0.1**
COEN	**Coen**	**42.21**	**271**	P		**P**	**00 38 20.6**	**-0.4**
	baz=42,SNR=32							
COEN	**Coen**	**42.21**	**271**	P		**P**	**00 38 20.6**	**-0.4**
COEN	**Coen**	**42.21**	**271**	P		**P**	**00 38 20.7**	**-0.4**
ARPS	**Mount Arapiles**	**42.48**	**237**	P		**P**	**00 38 24.5**	**+1.6**
	baz=43,SNR=6.1							
ARPS	**Mount Arapiles**	**42.48**	**237**	P		**P**	**00 38 24.0**	**+1.1**
INKA	**Innaminka**	**42.65**	**251**	P		**P**	**00 38 24.8**	**+0.4**
MANU	**Manus Island**	**42.69**	**290**	P		**P**	**00 38 24.8**	**0.0**
MANU	**Manus Island**	**42.69**	**290**	P		**P**	**00 38 25.3**	**+0.4**
HUH	**Hualalai**	**43.18**	**24**	IAmb		IAmb	00 38 31.5	
	comp=Z,363nm,1.2s							
HMH	**Humu'ula Sheep**	**43.24**	**25**	P		**P**	**00 38 29.9**	**+0.3**
POHA	**Pohakuloa**	**43.37**	**24**	P		**P**	**00 38 30.6**	**+0.2**
POHA	**Pohakuloa**	**43.37**	**24**	P		**P**	**00 38 30.7**	**+0.2**
HON	**Honolulu**	**43.92**	**20**	P		**P**	**00 38 33.1**	**-1.5**
HON	**Honolulu**	**43.92**	**20**	P		**P**	**00 38 33.1**	**-1.5**
HON				pmax		pmax		
	comp=Z,282nm,1.0s							
KIP	**Kipapa**	**44.01**	**20**	P		**P**	**00 38 35.8**	**+0.4**
KIP	**Kipapa**	**44.01**	**20**	P		**P**	**00 38 36.8**	**+1.5**
	comp=Z,417nm,1.1s							
KIP	**Kipapa**	**44.01**	**20**	*d*P		**P**	**00 38 36.8**	**+1.5**
KIP				pmax		pmax		
	comp=Z,534nm,1.3s							
KHLH	**Kahului Airpor**	**44.07**	**23**	IAmb		IAmb	00 38 38.2	
	comp=Z,220nm,1.1s							
WAKE	**Wake Island**	**44.10**	**332**	P		**P**	**00 38 37.2**	**+1.2**
QIS	**Mount Isa**	**44.24**	**261**	P		**P**	**00 38 37.2**	**-0.2**
	baz=44,SNR=8.4							
QIS	**Mount Isa**	**44.24**	**261**	P		**P**	**00 38 37.2**	**-0.2**
HTT	**Hallett**	**44.43**	**243**	P		**P**	**00 38 38.4**	**-0.3**
	baz=45,SNR=43							
HTT	**Hallett**	**44.43**	**243**	P		**P**	**00 38 38.9**	**+0.1**
HTT	**Hallett**	**44.43**	**243**	P		**P**	**00 38 38.3**	**-0.5**
LCRK	**Leigh Creek**	**44.88**	**247**	P		**P**	**00 38 42.8**	**+0.5**
WHYH	**Whyalla**	**45.53**	**243**	P		**P**	**00 38 47.6**	**+0.2**
BBOO	**Buckleboo**	**46.79**	**244**	P		**P**	**00 38 57.0**	**-0.4**
	baz=47,SNR=62							
BBOO	**Buckleboo**	**46.79**	**244**	P		**P**	**00 38 56.9**	**-0.6**
BBOO				IAmb		IAmb	00 38 59.1	
	comp=Z,126nm,0.9s							
BBOO	**Buckleboo**	**46.79**	**244**	P		**P**	**00 38 57.2**	**-0.2**
OOD	**Oodnadatta**	**47.13**	**251**	P		**P**	**00 39 00.1**	**0.0**
MULG	**Mulgathing**	**48.47**	**247**	P		**P**	**00 39 10.0**	**-0.5**
GENI	**Genyem**	**48.89**	**285**	P		**P**	**00 39 14.9**	**+1.0**
WR0	**Warramunga Arr**	**49.03**	**261**	P		**P**	**00 39 14.0**	**-0.9**
WR0				IAmb		IAmb	00 39 15.9	
	comp=Z,95nm,1.2s							
AS01	**Alice Springs**	**49.03**	**256**	P		**P**	**00 39 13.8**	**-1.2**
ASAR	**Alice Springs**	**49.07**	**256**	P		**P**	**00 39 13.9**	**-1.3**
	comp=Z,54nm,0.8s,baz=97,slow=7.8,SNR=177							
ASAR				PcP		**PcP**	**00 40 39.7**	**+0.9**
	comp=Z,25nm,0.9s,baz=101,slow=4.4,SNR=5.9							
ASAR				S		**S**	**00 46 13.8**	**-5.2**
	comp=Z,7.4nm,1.0s,baz=95,slow=16,SNR=9.1							
ASAR				LR		LR	00 58 49.8	
	comp=Z,4μm,20.5s,baz=96,slow=35							
	comp=Z,54nm,0.8s							
WB0	**Warramunga Arr**	**49.20**	**261**	IAmb		IAmb	00 39 17.1	
	comp=Z,205nm,1.2s							
WB2	**Warramunga Arr**	**49.21**	**261**	IAmb		IAmb	00 39 17.8	
	comp=Z,138nm,0.9s							
WRAB	**Tennant Creek**	**49.21**	**261**	P		**P**	**00 39 15.6**	**-0.8**
WRAB				IAmb		IAmb	00 39 17.8	
	comp=Z,135nm,0.9s							
WRAB	**Tennant Creek**	**49.21**	**261**	P		**P**	**00 39 15.4**	**-0.9**
WRAB	**Tennant Creek**	**49.21**	**261**	*c*P		**P**	**00 39 16.0**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,149nm,1.0s							
WRA	**Warramunga Arr**	**49.22**	**261**	P		**P**	**00 39 14.8**	**-1.6**
	comp=Z,94nm,0.9s,baz=96,slow=7.7,SNR=181							
WRA				PcP		**PcP**	**00 40 39.9**	**+0.5**
	comp=Z,24nm,0.9s,baz=95,slow=4.1,SNR=4.7							
WRA				S		**S**	**00 46 14.8**	**-6.2**
	comp=Z,15nm,1.1s,baz=100,slow=13,SNR=16							
WRA				LR		LR	01 00 04.3	
	comp=Z,2μm,18.4s,baz=91,slow=36							
	comp=Z,94nm,0.9s							
WRA	**Warramunga Arr**	**49.22**	**261**	P		**P**	**00 39 15.0**	**-1.4**
WRA	**Warramunga Arr**	**49.22**	**261**	P		**P**	**00 39 15.0**	**-1.4**
WRA				pmax		pmax		
	comp=Z,13nm,0.9s							
KDU	**Kakadu**	**52.59**	**269**	P		**P**	**00 39 40.6**	**-1.2**
	baz=53,SNR=33							
KDU	**Kakadu**	**52.59**	**269**	P		**P**	**00 39 41.0**	**-0.8**
GUMO	**Guam**	**53.37**	**306**	P		**P**	**00 39 47.9**	**+0.5**
**GUMO

NWAO Narrogin (SRO) 62.59 243 P P 00 40 53.2 +1.2
NWAO Narrogin (SRO) 62.59 243 P P 00 40 51.7 -0.3
NWAO pmax pmax
comp=Z,81nm,1.1s
RKGY Rocky Gully 62.60 241 P P 00 40 53.7 +1.7
baz=63,SNR=8.2
RKGY Rocky Gully 62.60 241 P P 00 40 53.3 +1.3
BLDU Ballidu 63.36 245 P P 00 40 57.1 -0.1
baz=64,SNR=32
BLDU Ballidu 63.36 245 P P 00 40 58.0 +0.8
MMRI Maumere 63.39 270 P P 00 40 57.0 -0.6
MMRI IAmb IAmb 00 41 12.7
comp=Z,121nm,1.1s
MMRI Maumere 63.39 270 P P 00 41 00.8 +3.2
MUN Mundaring 63.58 244 P P 00 41 00.0 +1.4
baz=64,SNR=21
MUN Mundaring 63.58 244 P P 00 40 59.9 +1.3
MUN Mundaring 63.58 244 P P 00 40 59.1 +0.5
MTKN Mount Kenneth 63.95 244 P P 00 41 05.0 +4.0
MORW Morawa 64.18 247 P P 00 41 03.8 +1.2
baz=64,SNR=11
MORW Morawa 64.18 247 P P 00 41 03.8 +1.2
H01W1 Cape Leeuwin H 64.87 240 P P 00 41 05.8 -0.9
baz=96,slow=8.3,SNR=3.8
H01W2 Cape Leeuwin H 64.88 240 P P 00 41 05.9 -0.9
baz=96,slow=8.3,SNR=2.8
H01W3 Cape Leeuwin H 64.88 240 P P 00 41 05.9 -0.9
baz=96,slow=8.3,SNR=7.3
LUWI Luwuk 65.48 278 P P 00 41 13.4 +2.1
CASY Casey 66.12 205 P P 00 41 15.6 +1.1
CASY IAmb IAmb 00 41 17.4
comp=Z,74nm,0.9s
DAV Davao City (W) 66.17 288 LR LR 01 08 43.5
comp=Z,635nm,19.1s,baz=108,slow=35
KAPI Kappang 66.90 273 LR LR 01 11 18.4
comp=Z,356nm,19.7s,baz=111,slow=37
KAPI Kappang 66.90 273 P P 00 41 20.7 +0.3
KAPI IAmb IAmb 00 41 47.2
comp=Z,66nm,1.1s
KAPI Kappang 66.90 273 P P 00 41 21.6 +1.2
comp=Z,52nm,1.3s
KAPI Kappang 66.90 273 P P 00 41 20.7 +0.3
KAPI pmax pmax
comp=Z,66nm,1.2s
GIRL Giralia 67.06 253 P P 00 41 21.4 +0.1
baz=67,SNR=8.1
PLAI Plampang 67.52 269 P P 00 41 25.2 +0.9
TOLI2 Tolitoli 68.13 280 IAmb IAmb 00 41 30.2
comp=Z,73nm,0.9s
TOLI2 Tolitoli 68.13 280 P P 00 41 28.5 +0.3
JHJ Hachijo jima 2 69.65 319 P P 00 41 36.6 -0.6
comp=Z,455nm,0.9s,baz=131,slow=11,SNR=3.8
JHJ LR LR 01 06 18.0
comp=Z,489nm,21.8s,baz=156,slow=31
comp=Z,455nm,0.9s
QSPA South Pole Qui 69.75 180 P P 00 41 39.1 +1.5
comp=Z,136nm,1.1s,baz=48,slow=2.2,SNR=135
QSPA LR LR 01 08 00.1
comp=Z,1μm,21.1s,baz=48,slow=32
QSPA PKPPKP P'P'df 01 09 40.1 -7.5
comp=Z,1.2nm,0.3s,baz=243,slow=1.2,SNR=3.7
comp=Z,136nm,1.1s
QSPA South Pole Qui 69.75 180 P P 00 41 37.9 +0.4
JAGI Jajag, Banyuwa 71.03 268 IAmb IAmb 00 41 46.7
comp=Z,107nm,0.9s
JAGI Jajag, Banyuwa 71.03 268 P P 00 41 45.6 -0.5
MYLDM Lahad Datu 71.80 283 IAmb IAmb 00 42 15.4
comp=Z,94nm,1.0s
KIWB Kanaga Island 71.95 357 P P 00 41 51.0 +0.2
ADK Adak 71.96 358 P P 00 41 49.4 -1.4
ADK IAmb IAmb 00 41 52.2
comp=Z,129nm,1.2s
ADK Adak 71.96 358 P P 00 41 50.9 +0.1
ADK Adak 71.96 358 P P 00 41 49.4 -1.4
ADK pmax pmax
comp=Z,129nm,1.2s
JMM Marumori 72.33 323 IAmb IAmb 00 41 55.6
comp=Z,72nm,0.9s
JMM Marumori 72.33 323 P P 00 41 54.6 +1.3
JGF Kuroka 72.80 319 P P 00 41 56.9 +0.6
INU Inuyama 72.84 319 P P 00 41 58.2 +1.8
MJAR Matsushiro Arr 72.92 321 P P 00 41 56.8 -0.1
comp=Z,63nm,1.0s,baz=147,slow=5.8,SNR=60
MJAR LR LR 01 09 01.9
comp=Z,1μm,21.9s,baz=120,slow=32
comp=Z,63nm,1.0s
MAJO Matsushiro 72.92 321 P P 00 41 56.8 -0.1
MAJO IAmb IAmb 00 41 59.0
comp=Z,73nm,1.0s
MAJO Matsushiro 72.92 321 P P 00 41 58.0 +1.1
MAJO Matsushiro 72.92 321 *c i*P P 00 41 57.8 +0.9
MAJO pmax pmax
comp=Z,71nm,1.0s
SHEM Shemya Is, Ala 73.59 352 P P 00 42 00.3 -0.2
comp=Z,124nm,0.9s,baz=121,slow=5.9,SNR=4.5
SHEM LR LR 01 08 05.6
comp=Z,3μm,21.9s,baz=190,slow=31
comp=Z,124nm,0.9s
JOW Kunigami 73.68 307 LR LR 01 13 25.6
comp=Z,493nm,18.6s,baz=118,slow=35
JOW Kunigami 73.68 307 IAmb IAmb 00 42 05.6
comp=Z,137nm,1.3s
JOW Kunigami 73.68 307 P P 00 42 03.3 +1.7
SNCC San Nicolas Is 73.79 45 P P 00 42 03.0 +0.9
baz=232
JMN Monobe 73.79 316 IAmb IAmb 00 42 05.2
comp=Z,104nm,1.0s
JMN Monobe 73.79 316 P P 00 42 03.9 +1.8
ERM Erimo 74.06 328 ||*e*P P 00 42 03.7 +0.3
ERM pmax pmax
comp=Z,72nm,1.0s
SCZ2 Santa Cruz Isl 74.18 44 P P 00 42 05.5 +1.1
baz=232,SNR=6.5
KKM Kota Kinabalu 74.23 283 P P 00 42 06.1 +0.9
JTM Tenmabayashi 74.25 326 IAmb IAmb 00 42 07.3
comp=Z,113nm,1.0s
JTM Tenmabayashi 74.25 326 P P 00 42 06.0 +1.4
SCI2 San Clemente I 74.27 45 P P 00 42 05.8 +0.9
baz=232
SBC Santa Barbara 74.41 43 P P 00 42 07.4 +1.8
baz=231
CIS Catalina Islan 74.62 45 P P 00 42 08.3 +1.3
baz=232,SNR=9.6
PKM Mcpherson Peak 74.62 43 P P 00 42 08.5 +1.4
baz=231,SNR=12
SMMC Simmler 74.77 43 P P 00 42 08.9 +1.0
baz=231,SNR=11
SAO San Andreas Ge 74.79 41 IAmb IAmb 00 42 10.9
comp=Z,110nm,1.1s
SAO San Andreas Ge 74.79 41 P P 00 42 08.2 +0.4
PMPB Monarch Peak 74.83 41 IAmb IAmb 00 42 11.6
comp=Z,182nm,1.5s
FMP Fort Macarthur 74.89 45 P P 00 42 09.1 +0.7
baz=232
CCX Cicese 74.89 47 IAmb IAmb 00 42 11.3
comp=Z,74nm,1.0s
BCW Bitter Crk WRg 74.91 43 IAmb IAmb 00 42 12.0
comp=Z,188nm,1.4s
JHS Saijyo 75.07 317 IAmb IAmb 00 42 33.0
comp=Z,76nm,0.9s
JHS Saijyo 75.07 317 P P 00 42 11.1 +1.5
OSI Oshio Audit: C 75.15 44 P P 00 42 11.2 +1.1
baz=232
109C Camp Elliot, M 75.19 46 P P 00 42 11.0 +0.7
baz=233
DECC Green Verdugo 75.19 44 P P 00 42 10.5 +0.3
baz=232
PASC Pasadena Art C 75.23 45 IAMs_20 IAMs_20 01 08 35.3
comp=Z,2μm,19.0s
HOPS Hopland Field 75.28 38 IAmb IAmb 00 42 13.7
comp=Z,85nm,1.1s
FALS False Pass 75.32 6 P P 00 42 12.0 +1.6
baz=189
LPIG La Paz 75.36 57 LR LR 01 08 01.3
comp=Z,4μm,19.7s,baz=228,slow=30
ARVC Arvin 75.40 43 P P 00 42 11.8 +0.4
baz=232,SNR=7.1
JNU Nakatsue 75.41 314 P P 00 42 12.2 +0.6
ELS Elsinore Mount 75.42 45 IAmb IAmb 00 42 14.4
comp=Z,112nm,1.2s
SLBS Sierra La Lagu 75.44 58 P P 00 42 12.9 +0.9
KCPM Cahto Peak 75.46 37 IAmb IAmb 00 42 14.9
comp=Z,135nm,1.3s
ESJX Sierra Juarez 75.46 47 IAmb IAmb 00 42 15.1
comp=Z,98nm,1.2s
SRIG Santa Rosalia 75.54 53 IAmb IAmb 00 42 14.8
comp=Z,97nm,1.0s

MURC Murrieta 75.55 46 P P 00 42 12.7 +0.4
baz=233,SNR=20
BFSC Mount Baldy Ra 75.62 45 P P 00 42 13.9 +1.1
baz=233,SNR=14
KMPM Mount Pierce 75.65 36 IAmb IAmb 00 42 16.0
comp=Z,148nm,1.2s
MONP2 Monument Peak 75.65 46 P P 00 42 14.0 +0.8
baz=234,SNR=40
SFX San Felipe 75.67 49 P P 00 42 12.7 -0.3
VES Vestal, Richgr 75.68 43 P P 00 42 13.4 +0.4
baz=232,SNR=20
IKP In-Ko-Pah, Jac 75.72 47 P P 00 42 14.2 +0.8
baz=234,SNR=39
CHNA Chernabura Isl 75.73 8 P P 00 42 15.1 +2.4
baz=193
VOG Valley Oaks Go 75.79 42 P P 00 42 14.0 +0.5
baz=231
EDW2 Edwards Air Fo 75.79 44 P P 00 42 14.5 +0.7
baz=232,SNR=65
YUH Yuha Desert 75.85 47 IAmb IAmb 00 42 16.8
comp=Z,80nm,1.1s
JKA Kamikawa-asahi 75.88 329 IAmb IAmb 00 42 17.2
comp=Z,85nm,0.8s
ASAJ Asahikawa 75.88 329 LR LR 01 09 54.6
comp=Z,1μm,21.5s,baz=168,slow=31
CCAC Calif City Air 75.94 44 IAmb IAmb 00 42 17.6
comp=Z,85nm,1.1s
ISA Isabella, Lake 75.96 43 IAmb IAmb 00 42 17.7
comp=Z,129nm,1.1s
ISA Isabella, Lake 75.96 43 P P 00 42 15.8 +1.1
baz=232,SNR=60
PFO Pinyon Flats O 76.05 46 P P 00 42 15.6 +0.3
PFO IAmb IAmb 00 42 18.1
comp=Z,116nm,1.2s
PFO Pinyon Flats O 76.05 46 P P 00 42 16.6 +1.3
baz=234,SNR=49
PFO Pinyon Flats O 76.05 46 P P 00 42 15.6 +0.3
PFO pmax pmax
comp=Z,116nm,1.2s
TPFO Pinon Flats 76.05 46 P P 00 42 16.5 +1.1
baz=234,SNR=51
SWSC Sam W. Stewart 76.11 47 P P 00 42 17.0 +1.5
baz=234,SNR=19
BBRC Big Bear Solar 76.13 45 P P 00 42 16.9 +1.0
baz=233
CPBX Cerro Prieto 76.14 47 IAmb IAmb 00 42 20.2
comp=Z,72nm,0.9s
CMB Columbia Colle 76.25 40 IAmb IAmb 00 42 19.0
comp=Z,84nm,1.1s
CMB IAMs_20 IAMs_20 01 09 28.0
comp=Z,2μm,20.0s
CMB Columbia Colle 76.25 40 P P 00 42 16.5 +0.2
LRMC Laurel Mtn Rad 76.36 44 P P 00 42 18.0 +1.0
baz=232,SNR=13
RRX Edison Barstow 76.44 45 P P 00 42 18.2 +0.8
baz=233
BELC Belle Mtn. Jos 76.59 46 P P 00 42 19.4 +1.0
baz=234,SNR=65
CWC Cottonwood Cre 76.69 43 P P 00 42 19.7 +0.8
baz=232
BC3 Big Chuckawall 76.75 46 P P 00 42 20.5 +1.1
baz=234,SNR=58
MDPB Devils Postpil 76.80 41 IAmb IAmb 00 42 22.5
comp=Z,92nm,1.0s
GSC Goldstone, Bar 76.82 44 IAmb IAmb 00 42 22.4
comp=Z,100nm,1.2s
GSC Goldstone, Bar 76.82 44 P P 00 42 20.5 +0.9
baz=233,SNR=45
MPMC Manual Prospec 76.83 43 P P 00 42 20.7 +0.9
baz=233,SNR=132
GLA Glamis 76.84 47 IAmb IAmb 00 42 22.9
comp=Z,129nm,1.2s
GLA Glamis 76.84 47 P P 00 42 21.0 +1.3
baz=235,SNR=22
HEC Hector,Ludlow 76.85 45 P P 00 42 20.5 +0.7
baz=234,SNR=50
MLAC Mammoth, Mammo 76.94 41 P P 00 42 21.5 +1.1
baz=231
TIN Tinemaha, Big 76.97 42 P P 00 42 21.4 +1.0
baz=232
PET Petropavlovsk 77.05 343 *e*P P 00 42 16.1 -4.2
PET *e*S S 00 52 04.4 -2.8
PET *e*SS SS 00 57 00.7 -4.6
PET pmax pmax
comp=Z,500nm,14.8s
PET MLR MLR
comp=Z,700nm,19.0s
WAKR Walker 77.12 40 IAmb IAmb 00 42 24.5
comp=Z,139nm,1.1s
QSM Queen of Sheba 77.18 44 IAmb IAmb 00 42 24.3
comp=Z,113nm,1.2s
TWGBT Beinan 77.24 300 P P 00 42 21.7 -0.4
TWG Pinlang 77.25 300 IAmb IAmb 00 42 22.6
comp=Z,74nm,0.8s
IRM Iron Mountain 77.25 46 P P 00 42 23.0 +1.0
baz=234,SNR=72
CHIR Chirikof Islan 77.27 10 P P 00 42 21.2 -0.3
baz=197
GMRC Granite Mounta 77.27 45 P P 00 42 22.9 +0.7
baz=234,SNR=43
CHGN Chignik 77.31 8 IAmb IAmb 00 42 25.5
comp=Z,105nm,1.0s
CHGN Chignik 77.31 8 P P 00 42 20.8 -0.9
baz=194
YBH Yreka Blue Hor 77.32 36 LR LR 01 10 34.5
comp=Z,2μm,19.7s,baz=230,slow=31
YBH Yreka Blue Hor 77.32 36 IAmb IAmb 00 42 25.4
comp=Z,83nm,1.1s
YULB Yu-li 77.34 301 P P 00 42 22.9 +0.2
comp=Z,68nm,0.8s
PEA0B Petropavlovsk- 77.39 342 ||*e*P P 00 42 23.8 +1.5
PETK Petropavlovsk- 77.39 342 P P 00 42 22.0 -0.3
comp=Z,111nm,0.9s,baz=142,slow=7.3,SNR=40
PETK LR LR 01 10 22.2
comp=Z,687nm,21.7s,baz=160,slow=31
comp=Z,111nm,0.9s
PETK Petropavlovsk- 77.39 342 P P 00 42 22.0 -0.3
PNTR Pine Nut 77.40 40 P P 00 42 23.4 +0.4
BEKR Beckworth 77.44 39 IAmb IAmb 00 42 25.9
comp=Z,102nm,1.2s
BLYC Blythe 77.44 47 IAmb IAmb 00 42 26.0
comp=Z,89nm,1.1s
LCH Last Chance Ra 77.45 42 IAmb IAmb 00 42 26.0
comp=Z,112nm,1.3s
BBJI Bungbulang 77.45 267 P P 00 42 23.5 -0.1
NACB Ninganchiao 77.48 302 P P 00 42 24.3 +0.9
GRAC Grapevine Rang 77.48 43 P P 00 42 24.4 +1.2
baz=232,SNR=67
TUQ Turquoise Moun 77.48 45 P P 00 42 24.2 +0.8
baz=234,SNR=19
FURC Furnace Creek, 77.48 43 P P 00 42 23.8 +0.7
baz=233,SNR=15
VCNR Virginia City 77.50 40 IAmb IAmb 00 42 26.4
comp=Z,134nm,1.2s
SHOC Shoshone, Teco 77.52 44 P P 00 42 24.1 +0.7
baz=233
LHV Little Huntoon 77.54 41 IAmb IAmb 00 42 26.9
comp=Z,169nm,1.1s
214A Organ Pipe Nat 77.63 49 IAmb IAmb 00 42 27.1
comp=Z,92nm,1.2s
214A Organ Pipe Nat 77.63 49 P P 00 42 25.0 +0.8
baz=236,SNR=38
LEM Lembang 77.69 267 LR LR 01 14 16.3
comp=Z,636nm,21.6s,baz=84,slow=34
GMN Gold Mountain 77.73 42 IAmb IAmb 00 42 27.8
comp=Z,114nm,1.2s
RYN Ryan 77.76 41 IAmb IAmb 00 42 27.8
comp=Z,123nm,1.1s
NVAR Mina Array Bea 77.77 41 P P 00 42 25.8 +0.8
comp=Z,122nm,1.0s,baz=225,slow=8.3,SNR=256
NVAR PKPPKP P'P'df 01 09 28.3 +0.9
comp=Z,0.2nm,0.3s,baz=64,slow=2.1,SNR=2.6
NVAR LR LR 01 10 51.5
comp=Z,2μm,19.4s,baz=226,slow=31
comp=Z,122nm,1.0s
SSLB Suanglung 77.80 301 P P 00 42 25.9 +0.6
TPUB Ta-pu 77.83 301 P P 00 42 25.2 -0.3
NV11 Mina Array Sit 77.86 41 P P 00 42 25.2 -0.2
YHNB Yeheng 77.89 302 IAmb IAmb 00 42 40.4
comp=Z,118nm,1.2s
YHNB IAMs_20 IAMs_20 01 11 10.5
comp=Z,2μm,21.0s
YHNB Yeheng 77.89 302 P P 00 42 27.1 +1.3
YSS Yuzh-Sakhalins 77.91 331 P P 00 42 26.3 +1.0
YSS Yuzh-Sakhalins 77.91 331 P P 00 42 27.2 +1.9
YSS Yuzh-Sakhalins 77.91 331 *e*P P 00 42 26.3 +1.0
YSS *e*SP pwP 00 42 43.0 +0.7

YSS *e*S S 00 52 17.3 +0.5
YSS pmax pmax
comp=Z,1μm,3.1s
YSS pmax pmax
comp=Z,290nm,0.9s
YSS MLR MLR
comp=Z,1μm,16.0s
PAHR Pah Rah Range 77.92 39 IAmb IAmb 00 42 28.6
comp=Z,192nm,1.1s
NEE2 Needles Airpor 77.96 46 P P 00 42 26.8 +0.9
baz=235
KSM Kuching 78.00 276 IAmb IAmb 00 42 29.1
comp=Z,122nm,1.2s
KSM Kuching 78.00 276 P P 00 42 28.2 +1.6
PDMCI Parker Dam,Lak 78.02 46 P P 00 42 27.2 +1.0
baz=235,SNR=27
TPNV Topopah Spring 78.16 43 IAmb IAmb 00 42 30.3
comp=Z,94nm,1.2s
TPNV IAMs_20 IAMs_20 01 10 41.8
comp=Z,3μm,20.0s
TPNV Topopah Spring 78.16 43 P P 00 42 28.6 +1.4
baz=233,SNR=26
SII Sitkinak Islan 78.21 11 P P 00 42 27.7 +0.9
SII Sitkinak Islan 78.21 11 P P 00 42 28.1 +1.3
baz=198
KVN Kaiserville 78.28 41 IAmb IAmb 00 42 30.6
comp=Z,116nm,1.1s
XMI Christmas Isla 78.32 263 P P 00 42 30.1 +1.7
PLTX Planet X, Gerl 78.50 39 IAmb IAmb 00 42 31.8
comp=Z,166nm,1.0s
WTNK Soaring Height 78.52 44 IAmb IAmb 00 42 31.9
comp=Z,27nm,1.1s
MOD Modoc Plateau 78.79 37 IAmb IAmb 00 42 33.2
comp=Z,118nm,1.1s
S11A Rachel 78.90 43 IAmb IAmb 00 42 34.1
comp=Z,106nm,1.1s
OHAK Old Harbor 79.00 11 P P 00 42 31.5 +0.5
baz=199
BELA Belgrano 2 79.11 172 P P 00 42 30.9 -0.7
BELA IAmb IAmb 00 42 33.2
comp=Z,80nm,1.0s
PRN Pahroc Range 79.21 43 IAmb IAmb 00 42 36.4
comp=Z,167nm,1.2s
TUC Tucson 79.27 50 P P 00 42 34.0 +0.8
TUC IAmb IAmb 00 42 36.5
comp=Z,94nm,1.1s
TUC Tucson 79.27 50 IAMs_20 IAMs_20 01 10 19.2
comp=Z,2μm,20.0s
TUC Tucson 79.27 50 P P 00 42 34.1 +0.8
baz=238
TUC Tucson 79.27 50 P P 00 42 34.0 +0.8
TUC pmax pmax
comp=Z,94nm,1.2s
R11A Troy Canyon, C 79.42 42 P P 00 42 34.5 +0.5
baz=234,SNR=72
Q17K Contact Creek 79.57 9 P P 00 42 34.4 +0.1
baz=196,SNR=19
PMSA Palmer Station 79.58 156 LR LR 01 10 17.6
comp=Z,1μm,20.9s,baz=239,slow=30
PMSA Palmer Station 79.58 156 P P 00 42 35.0 +0.8
PMSA Palmer Station 79.58 156 *e*P P 00 42 35.8 +1.5
H04A Detroit Lake 79.59 34 IAmb IAmb 00 42 36.9
comp=Z,106nm,1.3s
TJN Taejon 79.65 315 ||*e*P P 00 42 35.6 +0.5
BMN Battle Mountai 79.67 40 IAmb IAmb 00 42 38.1
comp=Z,147nm,1.1s
PINE Pine Mountain 79.67 36 IAmb IAmb 00 42 38.3
comp=Z,166nm,1.1s
Q16K King Salmon 79.86 9 P P 00 42 36.1 +0.4
baz=196,SNR=13
319A Douglas 79.86 51 IAmb IAmb 00 42 39.7
comp=Z,105nm,1.1s
KSRS Korea Array 79.90 316 P P 00 42 38.3 +1.9
comp=Z,22nm,0.6s,baz=141,slow=6.2,SNR=37
KSRS LR LR 01 12 26.2
comp=Z,492nm,21.8s,baz=130,slow=32
comp=Z,22nm,0.6s
KS19 Wonju Array Si 79.97 316 P P 00 42 38.0 +1.2
P16K Nushagak River 80.03 8 P P 00 42 37.2 +0.6
baz=194,SNR=14
Q18K Katmai Hardscr 80.08 9 P P 00 42 37.0 0.0
baz=197,SNR=18
WVOR Wild Horse Val 80.08 38 IAmb IAmb 00 42 40.2
comp=Z,129nm,1.1s
E03A Lebam 80.15 32 P P 00 42 36.8 -0.7
E03A IAmb IAmb 00 42 40.3
comp=Z,95nm,1.2s
QZH Quanzhou 80.25 301 ⇑*i*P P 00 42 37.9 -0.7
QZH S S 00 52 44.6 +2.0
QZH pmax pmax
comp=Z,49nm,0.8s
QZH LR LR
comp=Z,670nm,17.7s
QZH LR LR
comp=Z,650nm,20.3s
CCUT Cedar City 80.39 44 IAmb IAmb 00 42 43.0
comp=Z,94nm,1.2s
P17K Kvichak River 80.39 9 P P 00 42 38.9 +0.4
baz=196,SNR=23
KNB Kanab 80.44 45 IAmb IAmb 00 42 43.2
comp=Z,146nm,1.3s
WISH Wishkah 80.44 32 IAmb IAmb 00 43 52.2
comp=Z,239nm,1.5s
U15A North Rim 80.46 46 IAmb IAmb 00 42 43.5
comp=Z,127nm,1.3s
Q20K Shuyak Island 80.47 11 P P 00 42 39.9 +0.9
baz=200
O16K Kokwok River B 80.56 8 P P 00 42 39.3 -0.2
baz=194
Q19K Cape Douglas, 80.56 10 IAMs_20 IAMs_20 01 10 43.8
comp=Z,3μm,22.0s
Q19K Cape Douglas, 80.56 10 P P 00 42 39.9 +0.4
baz=198,SNR=6.7
WUAZ Wupatki 80.58 47 P P 00 42 42.2 +1.7
baz=237,SNR=29
NLWA Neilton Lookou 80.59 31 IAmb IAmb 00 42 42.8
comp=Z,110nm,1.2s
SZCU Shurtz Canyon 80.59 44 IAmb IAmb 00 42 44.0
comp=Z,109nm,1.3s
SPR3 Spring Creek 3 80.59 42 P P 00 42 40.1 -0.5
SPR3 IAmb IAmb 00 42 43.1
comp=Z,80nm,1.2s
MG05 Puerto Natales 80.61 142 IAmb IAmb 00 42 43.0
comp=Z,113nm,1.0s
J08A Circle Bar Ran 80.75 37 IAmb IAmb 00 42 43.8
comp=Z,125nm,1.1s
P18K Big Mountain, 80.76 9 IAMs_20 IAMs_20 01 10 03.0
comp=Z,2μm,22.0s
P18K Big Mountain, 80.76 9 P P 00 42 40.5 -0.1
baz=197,SNR=16
G06A Carlson Farm, 80.78 35 IAmb IAmb 00 42 43.6
comp=Z,98nm,1.3s
O17K Koliganek Bris 80.86 8 P P 00 42 41.3 +0.3
baz=195
TYV Tymovskoe 80.87 333 *e*P P 00 42 42.5 +1.2
TYV pmax pmax
comp=Z,600nm,3.7s
TYV pmax pmax
comp=Z,115nm,1.1s
MSHR Mys Shultsa 80.97 322 ||*e*P P 00 42 44.6 +2.5
MSHR pmax pmax
comp=Z,24nm,1.0s
HG4B Hotspring 80.97 25 IAmb IAmb 00 42 44.4
comp=Z,134nm,1.0s
ELK Elko 81.06 41 LR LR 01 12 54.1
comp=Z,2μm,19.4s,baz=228,slow=31
ELK Elko 81.06 41 P P 00 42 43.0 0.0
ELK IAMs_20 IAMs_20 01 13 12.3
comp=Z,2μm,19.0s
ELK Elko 81.06 41 P P 00 42 43.0 0.0
ELK pmax pmax
comp=Z,63nm,1.1s
DIB Dawson Inlet, 81.19 23 IAmb IAmb 00 42 46.3
comp=Z,103nm,1.1s
SSE Sheshan 81.19 308 P P 00 42 45.4 +1.9
SSE S S 00 52 53.0 +0.7
SSE pmax pmax
comp=Z,41nm,0.8s
SSE pmax pmax
comp=Z,210nm,6.3s
SSE LR LR
comp=Z,250nm,23.1s
SSE LR LR
comp=Z,390nm,22.9s
O18K Koktuh Hills 81.20 9 IAMs_20 IAMs_20 01 10 04.8
comp=Z,2μm,22.0s
O18K Koktuh Hills 81.20 9 P P 00 42 42.9 -0.1

baz=197,SNR=8.4
P19K Oil Pt 81.32 10 P P 00 42 43.9 +0.4
baz=199
N16K Nishlik Lake 81.33 7 P P 00 42 44.4 +0.8
baz=194
D05A Enumclaw 81.38 32 IAmb IAmb 00 42 47.9
comp=Z,188nm,1.1s
MTPU Mount Pierson 81.43 44 IAmb IAmb 00 42 49.3
comp=Z,156nm,1.3s
W18A Petrified Fore 81.50 48 P P 00 42 46.5 +1.2
baz=238,SNR=7.0
USA0B Ussuriysk Arra 81.50 323 *ce*P P 00 42 46.5 +1.6
USRK Ussuriysk Ar. 81.50 323 P P 00 42 46.7 +1.8
comp=Z,15nm,0.8s,baz=111,slow=3.6,SNR=21
USRK LR LR 01 13 06.9
comp=Z,3μm,21.8s,baz=119,slow=31
comp=Z,15nm,0.8s
USRK Ussuriysk Ar. 81.50 323 P P 00 42 45.9 +1.0
USRK Ussuriysk Ar. 81.50 323 P P 00 42 45.9 +1.0
CNPM China Poot 81.54 11 IAmb IAmb 00 42 46.7
comp=Z,127nm,1.0s
121A Cookes Peak, D 81.55 51 P P 00 42 47.2 +1.6
baz=239
121A Cookes Peak, D 81.55 51 P P 00 42 47.2 +1.6
baz=239
HHU Hamhung 81.58 318 P P 00 42 45.9 +0.6
HHU pP **pwP** 00 42 57.4 -5.0
HHU S **S** 00 52 54.1 -1.8
HHU AmB
comp=Z,412nm,1.4s
HHU AMS AMS
comp=N,77nm,1.9s
HHU AMS AMS
comp=E,100nm,2.5s
HHU AMS AMS
comp=Z,68nm,1.7s
ILSW Iliamna Southw 81.65 10 IAmb IAmb 00 42 46.6
comp=Z,215nm,1.0s
PGC Sidney 81.66 31 IAmb IAmb 00 42 48.0
comp=Z,75nm,1.0s
O19K Port Alsworth 81.66 9 IAMs_20 IAMs_20 01 15 03.4
comp=Z,2μm,20.0s
O19K Port Alsworth 81.66 9 P P 00 42 45.3 0.0
baz=198
HJU Haeju 81.67 316 P P 00 42 45.8 -0.1
HJU pP **sP** 00 42 57.0 +4.0
HJU S **S** 00 52 57.1 +0.2
HJU AmB
comp=Z,916nm,3.7s
HJU AMS AMS
comp=N,190nm,1.9s
HJU AMS AMS
comp=E,326nm,3.2s
HJU AMS AMS
comp=Z,455nm,4.5s
USHA Ushuaia 81.69 146 LR LR 01 11 08.4
comp=Z,888nm,19.3s,baz=258,slow=30
G08A Pilot Rock 81.72 35 IAmb IAmb 00 42 48.8
comp=Z,124nm,1.1s
O20K Slope Mountain 81.82 10 P P 00 42 46.7 +0.4
baz=199
BRLK Bradley Lake 81.83 11 IAmb IAmb 00 42 48.1
comp=Z,129nm,1.0s
BRSE Bradley Lake S 81.83 11 P P 00 42 47.0 +0.7
baz=201
N18K Kilae Creek 81.90 8 IAMs_20 IAMs_20 01 10 50.2
comp=Z,2μm,22.0s
N18K Kilae Creek 81.90 8 P P 00 42 46.3 -0.3
baz=196
EPT El Paso 82.11 52 IAMs_20 IAMs_20 01 12 22.6
comp=Z,2μm,20.0s
KIDD KIDD Seismic O 82.11 52 P P 00 42 49.8 +1.3
baz=240
HAWA Hanford 82.12 34 IAmb IAmb 00 42 50.8
comp=Z,176nm,1.4s
BBB Bella Bella 82.12 26 IAmb IAmb 00 42 50.9
comp=Z,160nm,1.1s
TLIG Tlapa 82.18 68 P P 00 42 49.5 +0.3
PYAG Pyongyang 82.21 316 P P 00 42 48.9 +0.2
N19K Bonanza Creek 82.23 9 IAmb IAmb 00 42 49.6
comp=Z,99nm,1.2s
N19K IAMs_20 IAMs_20 01 12 19.9
comp=Z,2μm,21.0s
N19K Bonanza Creek 82.23 9 P P 00 42 48.4 -0.1
baz=198,SNR=15
DUG Dugway, Tooele 82.24 42 IAMs_20 IAMs_20 01 13 23.7
comp=Z,2μm,19.0s
DUG Dugway, Tooele 82.24 42 P P 00 42 49.8 +0.7
baz=235,SNR=56
MFID Camas Ranch 82.31 38 IAmb IAmb 00 42 52.0
comp=Z,107nm,1.3s
BMO Blue Mountains 82.35 36 IAmb IAmb 00 42 51.9
comp=Z,88nm,1.2s
BMO IAMs_20 IAMs_20 01 13 50.2
comp=Z,2μm,20.0s
SEW Seward 82.41 12 IAmb IAmb 00 42 50.7
comp=Z,92nm,1.0s
SEW Seward 82.41 12 P P 00 42 49.5 +0.3
baz=202,SNR=10
E08A Dider Farm, El 82.43 34 IAmb IAmb 00 42 52.3
comp=Z,103nm,1.2s
GRNB Grenville Isla 82.64 24 IAmb IAmb 00 42 53.3
comp=Z,111nm,1.0s
O22K Cooper Landing 82.71 11 P P 00 42 52.4 +1.6
baz=202
HKPS Hong Kong Po S 82.72 297 P P 00 42 52.9 +1.2
CRAG Craig 82.76 22 IAmb IAmb 00 42 53.9
comp=Z,108nm,0.9s
CRAG Craig 82.76 22 P P 00 42 52.8 +1.6
baz=217,SNR=7.5
Y22A Socorro 82.85 50 P P 00 42 53.6 +1.1
baz=240
D08A Wollman Farm, 82.87 34 P P 00 42 52.2 +0.2
MPU Maple Canyon 82.89 43 IAmb IAmb 00 42 55.7
comp=Z,83nm,1.1s
E09A Wood Farm, Sta 82.93 35 IAmb IAmb 00 42 54.6
comp=Z,122nm,1.2s
Y22D IRIS PASSCAL I 82.95 50 IAMs_20 IAMs_20 01 13 27.7
comp=Z,2μm,19.0s
Y22D IRIS PASSCAL I 82.95 50 P P 00 42 54.6 +1.7
baz=240
Y22F Passcal Instru 82.95 50 P P 00 42 54.9 +2.0
baz=240
N20K Mount Spurr 82.95 10 P P 00 42 51.9 -0.3
baz=200,SNR=8.6
SPCR Spurr Chakacha 82.95 10 P P 00 42 51.8 -0.4
baz=200
TX31 Lajitas Ar. Si 83.09 55 P P 00 42 54.4 +0.7
baz=242
TX32 Lajitas Array 83.09 55 IAmb IAmb 00 42 56.6
comp=Z,69nm,1.1s
TXAR Lajitas Array 83.09 55 P P 00 42 54.2 +0.6
comp=Z,34nm,1.0s,baz=216,slow=5.5,SNR=151
TXAR PKKPbc **PKKPbc** 01 01 14.6 -1.4
comp=Z,0.7nm,1.0s,baz=88,slow=2.2,SNR=3.7
TXAR PKPPKP **P'P'df** 01 09 19.2 0.0
comp=Z,0.5nm,1.0s,baz=22,slow=1.0,SNR=2.6
TXAR LR LR 01 12 35.8
comp=Z,2μm,20.1s,baz=234,slow=30
comp=Z,34nm,1.0s
SPUT South Promonto 83.10 41 IAmb IAmb 00 42 56.5
comp=Z,137nm,1.3s
MDJ Mudanjiang 83.11 323 IAMs_20 IAMs_20 01 13 13.7
comp=Z,2μm,21.0s
MDJ Mudanjiang 83.11 323 P P 00 42 55.5 +2.2
MDJ pP sP 00 42 59.5 -1.0
MDJ sP pwP 00 43 05.4 -5.0
MDJ S **S** 00 53 14.4 +2.9
MDJ SS **SS** 00 58 35.0 -1.5
MDJ pmax pmax
comp=Z,120nm,1.6s
MDJ LR LR
comp=Z,800nm,19.8s
MDJ LR LR
comp=Z,1μm,23.3s
MDJ LR LR
comp=Z,2μm,21.9s
MDJ Mudanjiang 83.11 323 P P 00 42 55.3 +2.0
HVU Hansel Valley 83.17 41 P P 00 42 54.5 +0.7
HVU IAmb IAmb 00 42 56.6
comp=Z,164nm,1.4s
HVU Hansel Valley 83.17 41 P P 00 42 54.6 +0.7
HVU pmax pmax
comp=Z,164nm,1.4s
V35K Ketchikan 83.17 22 P P 00 42 54.6 +1.3
baz=219,SNR=15
CTU Camp Tracy 83.19 42 IAmb IAmb 00 42 58.4
comp=Z,84nm,1.1s
HLID Hailey 83.22 39 P P 00 42 55.0 +0.8
baz=234,SNR=281
PLID Pearl Lake 83.22 37 IAMs_20 IAMs_20 01 14 06.4
comp=Z,2μm,20.0s
MAW Mawson 83.26 199 P P 00 42 54.7 +0.9
comp=Z,52nm,1.0s,baz=120,slow=4.4,SNR=32
MAW LR LR 01 15 52.2
comp=Z,864nm,21.5s,baz=117,slow=33
comp=Z,52nm,1.0s
MAW Mawson 83.26 199 P P 00 42 54.4 +0.6
baz=83,SNR=16
MAW Mawson 83.26 199 P P 00 42 55.5 +1.7
HIN Hinchinbrook I 83.27 13 IAmb IAmb 00 42 55.3
comp=Z,133nm,1.1s
U33K Whale Pass 83.27 21 P P 00 42 55.3 +1.5
baz=217,SNR=11
RC01 Rabbit Creek A 83.27 11 IAmb IAmb 00 42 55.4
comp=Z,104nm,1.0s
RC01 Rabbit Creek A 83.27 11 P P 00 42 54.3 +0.6
baz=202,SNR=15
M19K Big River Lodg 83.29 9 IAMs_20 IAMs_20 01 12 17.7
comp=Z,2μm,22.0s
M19K Big River Lodg 83.29 9 P P 00 42 53.8 0.0
baz=198
KAIM Kayak Island 83.30 14 P P 00 42 54.2 +0.3
baz=207
SIT Sitka 83.31 20 IAmb IAmb 00 42 57.3
comp=Z,68nm,1.1s
SIT Sitka 83.31 20 P P 00 42 54.7 +0.8
baz=215
PWL Port Wells 83.32 12 IAmb IAmb 00 42 55.5
comp=Z,121nm,1.0s
PWL IAMs_20 IAMs_20 01 10 45.8
comp=Z,2μm,22.0s
PWL Port Wells 83.32 12 P P 00 42 54.4 +0.4
baz=203,SNR=15
JLU Jordanelle 83.33 42 IAmb IAmb 00 42 57.7
comp=Z,114nm,1.2s
NJ2 Nanjing 83.40 308 ⇑P P 00 42 56.8 +1.8
NJ2 pP **sP** 00 43 01.5 -0.7
NJ2 sP **pwP** 00 43 06.3 -5.7
NJ2 pmax pmax
comp=Z,32nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,7.4s
NJ2 LR LR
comp=Z,530nm,19.9s
NJ2 LR LR
comp=Z,590nm,21.8s
NJ2 LR LR
comp=Z,1μm,23.2s
SUA Susitna One 83.44 11 IAMs_20 IAMs_20 01 12 48.8
comp=Z,2μm,22.0s
SUA Susitna One 83.44 11 P P 00 42 54.4 -0.4
baz=201
MVCO Mesa Verde 83.45 47 P P 00 42 56.7 +1.2
baz=238,SNR=22
M20K Styx River 83.45 9 IAMs_20 IAMs_20 01 12 47.2
comp=Z,2μm,22.0s
M20K Styx River 83.45 9 P P 00 42 54.1 -0.7
baz=199
L19K White Mountain 83.49 8 P P 00 42 55.3 +0.5
baz=197,SNR=12
B08A Colville Reser 83.50 33 IAmb IAmb 00 42 57.0
comp=Z,92nm,1.0s
DLV T Lat 83.53 285 P P 00 42 58.3 +1.9
GRNR Gornyy 83.56 330 ⇑*i*P P 00 42 56.1 +0.6
GRNR pmax pmax
comp=Z,40nm,1.2s
EYAK Cordova Ski Ar 83.56 13 P P 00 42 55.4 +0.2
baz=206
EYAK Cordova Ski Ar 83.56 13 P P 00 42 55.7 +0.5
SUJ Sinuiju 83.61 317 P P 00 42 55.7 -0.2
SUJ sP **pwP** 00 43 11.7 -1.2
SUJ S **S** 00 53 19.0 +2.4
SUJ AmB
comp=Z,822nm,3.6s
SUJ AMS AMS
comp=N,334nm,3.9s
SUJ AMS AMS
comp=E,556nm,6.5s
SUJ AMS AMS
comp=Z,197nm,2.3s
C09A Chrisman Ranch 83.68 34 IAmb IAmb 00 42 58.5
comp=Z,113nm,1.1s
ANMO Albuquerque 83.72 49 LR LR 01 13 45.8
comp=Z,2μm,19.7s,baz=252,slow=31
ANMO Albuquerque 83.72 49 P P 00 42 57.3 +0.4
ANMO IAmb IAmb 00 43 00.2
comp=Z,94nm,1.3s
ANMO Albuquerque 83.72 49 IAMs_20 IAMs_20 01 13 44.0
comp=Z,2μm,19.0s
ANMO Albuquerque 83.72 49 P P 00 42 57.6 +0.7
baz=240
ANMO Albuquerque 83.72 49 P P 00 42 58.4 +1.5
baz=240
ANMO Albuquerque 83.72 49 *c i*P P 00 42 57.9 +1.0
ANMO pmax pmax
comp=Z,51nm,1.2s
LLLB Lillooet 83.75 30 IAmb IAmb 00 42 58.7
comp=Z,88nm,1.1s
S31K Pelican 83.77 19 P P 00 42 57.5 +1.2
baz=214,SNR=6.0
WRAK Wrangell Islan 83.78 21 P P 00 42 57.4 +1.1
baz=218,SNR=13
SKT Skwentna 83.80 10 IAMs_20 IAMs_20 01 12 25.3
comp=Z,2μm,22.0s
SKT Skwentna 83.80 10 P P 00 42 56.0 -0.5
baz=200,SNR=17
KNK Knik Glacier 83.81 12 IAmb IAmb 00 42 58.2
comp=Z,88nm,0.8s
KNK Knik Glacier 83.81 12 P P 00 42 56.4 -0.2
baz=203,SNR=20
HWUT Hardware Ranch 83.82 42 IAMs_20 IAMs_20 01 14 02.4
comp=Z,2μm,20.0s
GAMB Gambell 83.82 1 P P 00 42 57.9 +1.5
baz=181
M22K Willow 83.82 11 IAMs_20 IAMs_20 01 15 00.0
comp=Z,1μm,20.0s
M22K Willow 83.82 11 P P 00 42 57.0 +0.5
baz=202,SNR=22
PMR Palmer 83.85 11 IAmb IAmb 00 42 58.3
comp=Z,106nm,1.2s
PMR Palmer 83.85 11 P P 00 42 56.6 -0.1
baz=202,SNR=11
PMR Palmer 83.85 11 P P 00 42 56.6 -0.1
BERG Berg Lake 83.88 14 P P 00 42 57.4 +0.5
BERG IAmb IAmb 00 42 59.2
comp=Z,141nm,1.3s
S32K Killisnoo 83.88 20 P P 00 42 57.0 +0.1
baz=216
L20K Farewell, AK 83.91 9 P P 00 42 56.4 -0.6
baz=198
PV07 Paradox Valley 83.99 45 IAmb IAmb 00 43 01.2
comp=Z,113nm,1.2s
PV15 Paradox Valley 84.05 46 IAmb IAmb 00 43 01.4
comp=Z,112nm,1.2s
TTA Tatalina 84.05 8 IAmb IAmb 00 43 01.3
comp=Z,94nm,1.2s
TTA Tatalina 84.05 8 P P 00 42 59.1 +1.3
baz=196,SNR=27
MESA MESA 84.11 15 P P 00 42 56.9 -1.4
baz=209,SNR=16
LL02 Futaleuf 84.14 134 IAmb IAmb 00 43 01.6
comp=Z,86nm,1.1s
BMRM Bremner River 84.19 14 P P 00 42 59.1 +0.5
baz=207,SNR=18
SML Sawmill 84.20 12 P P 00 42 57.7 -0.8
SML Sawmill 84.20 12 P P 00 42 58.9 +0.4
baz=203
SML Sawmill 84.20 12 P P 00 42 57.7 -0.8
SML pmax pmax
comp=Z,45nm,1.0s
R31K City Hall, Gus 84.30 19 P P 00 43 00.3 +1.4
baz=215
M23K Glacier View 84.30 12 P P 00 42 58.5 -0.5
baz=204,SNR=9.9
PNL Peninsula 84.31 16 P P 00 42 60.0 +0.8
baz=211,SNR=12
PNL Peninsula 84.31 16 P P 00 43 00.7 +1.6
KLU Klutina 84.38 13 IAmb IAmb 00 43 01.9
comp=Z,67nm,1.1s
KLU IAMs_20 IAMs_20 01 11 29.8
comp=Z,2μm,21.0s
KLU Klutina 84.38 13 P P 00 43 00.0 +0.5
baz=205,SNR=19
ISLE Juniper Island 84.38 15 IAMs_20 IAMs_20 01 14 24.8
comp=Z,2μm,20.0s
CUT Chulitna 84.41 10 IAMs_20 IAMs_20 01 15 19.5
comp=Z,2μm,20.0s
CUT Chulitna 84.41 10 P P 00 42 59.4 0.0
baz=201,SNR=25
SCM Sheep Creek Mo 84.41 12 P P 00 42 59.4 -0.3
baz=204,SNR=20
PCA Pinnacle 84.46 16 IAmb IAmb 00 43 02.0
comp=Z,98nm,1.0s
PINM Pinnacle 84.46 16 P P 00 43 00.8 +0.9
baz=211,SNR=7.1
LL03 Petrohue 84.53 132 IAmb IAmb 00 43 03.2
comp=Z,107nm,1.0s
R32K Eaglecrest 84.56 19 P P 00 43 01.5 +1.1
baz=216,SNR=6.4
NEW Newport 84.58 34 LR LR 01 15 26.8
comp=Z,3μm,19.0s,baz=220,slow=32
NEW Newport 84.58 34 P P 00 43 00.7 0.0
baz=231,SNR=26
HTMS Hat Mesa 84.58 53 P P 00 43 01.3 0.0
JIS Juneau Island 84.60 19 P P 00 43 02.1 +1.6
LL04 Puerto Octay 84.61 132 IAmb IAmb 00 43 03.6
comp=Z,68nm,1.1s
VRDI Verde Repeater 84.68 14 IAMs_20 IAMs_20 01 14 56.6
comp=Z,2μm,20.0s
BESE Bessie Mountai 84.70 19 IAmb IAmb 00 43 04.2
comp=Z,87nm,1.0s
K20K Telida 84.72 8 P P 00 43 02.1 +1.0
baz=198
P29M Windy Craggy 84.73 17 P P 00 43 02.3 +1.0
baz=213
AHID Auburn Hatcher 84.75 41 IAMs_20 IAMs_20 01 15 10.0
comp=Z,2μm,20.0s
N25K Chitina, Valde 84.77 13 IAmb IAmb 00 43 03.4
comp=Z,91nm,0.9s
N25K IAMs_20 IAMs_20 01 15 39.9
comp=Z,2μm,20.0s
N25K Chitina, Valde 84.77 13 P P 00 43 01.9 +0.5
baz=207,SNR=28
GLB Gilahina Butte 84.79 14 IAmb IAmb 00 43 03.4
comp=Z,94nm,1.0s
KLR Kul'dur 84.81 327 P P 00 43 02.5 +0.7
comp=Z,27nm,1.1s,baz=112,slow=6.4,SNR=26
KLR PKiKP **PKiKP** 00 48 15.1 +0.5
comp=Z,3.5nm,0.9s,baz=124,slow=3.6,SNR=5.7
KLR LR LR 01 16 01.4
comp=Z,594nm,21.9s,baz=138,slow=32
comp=Z,27nm,1.1s
KLR Kul'dur 84.81 327 *ce*P P 00 43 03.4 +1.6
KLR pmax pmax
comp=Z,31nm,1.0s
ANM Nome 84.82 3 IAMs_20 IAMs_20 01 14 17.4
comp=Z,2μm,21.0s
ANM Nome 84.82 3 P P 00 43 01.9 +0.3
baz=187
DL2 Dalian 84.85 315 P P 00 43 03.3 +1.0
DL2 S **S** 00 53 34.0 +4.9
DL2 pmax pmax
comp=Z,61nm,1.2s
DL2 pmax pmax
comp=Z,630nm,5.1s
DL2 LR LR
comp=Z,660nm,25.1s
DL2 LR LR
comp=Z,700nm,25.1s
DL2 LR LR
comp=Z,1μm,24.5s
S22A 4UR Ranch, Cre 84.86 47 IAmb IAmb 00 43 06.1
comp=Z,115nm,1.1s
S22A 4UR Ranch, Cre 84.86 47 P P 00 43 04.0 +1.2
baz=240,SNR=95
M24K Tolsona, Glenn 84.89 12 P P 00 43 02.6 +0.5
baz=205,SNR=25
MCARA McCarthy VSAT 84.91 14 IAmb IAmb 00 43 04.2
comp=Z,110nm,1.1s
MCARA IAMs_20 IAMs_20 01 15 42.8
comp=Z,1μm,20.0s
MCARA McCarthy VSAT 84.91 14 P P 00 43 02.5 +0.4
baz=208,SNR=22
MA2 Magadan 84.93 342 P P 00 43 02.3 +0.1
comp=Z,49nm,1.0s,baz=126,slow=4.6,SNR=7.0
MA2 LR LR 01 14 46.3
comp=Z,970nm,22.0s,baz=144,slow=31
comp=Z,49nm,1.0s
MA2 Magadan 84.93 342 P P 00 43 02.2 0.0
MA2 IAmb IAmb 00 43 04.0
comp=Z,88nm,1.1s
MA2 Magadan 84.93 342 P P 00 43 03.1 +0.9
MA2 Magadan 84.93 342 ||*e*P P 00 43 03.0 +0.9
MA2 pmax pmax
comp=Z,153nm,2.5s
T35M Bob Quinn 84.94 22 P P 00 43 03.6 +1.3
baz=220,SNR=15
PLBC Pleasant Camp 84.97 18 P P 00 43 03.8 +1.4
baz=214,SNR=18
WAT6 Susitna Watana 85.02 11 P P 00 43 03.1 +0.3
baz=204,SNR=48
BNX BinXian 85.03 323 ⇑P P 00 43 04.0 +1.0
BNX pP **sP** 00 43 14.6 +4.4
BNX sP **pwP** 00 43 18.4 -1.7
BNX PP **PP** 00 46 23.3 +2.8
BNX S **S** 00 53 34.3 +3.7
BNX sS **ScS** 00 53 44.0 +2.8
BNX pmax pmax
comp=Z,160nm,1.0s
BNX pmax pmax
comp=Z,760nm,6.4s
BNX LR LR
comp=Z,680nm,21.1s
BNX LR LR
comp=Z,1μm,21.9s
BNX LR LR
comp=Z,2μm,24.2s
QIZ Qiongzhong 85.05 292 P P 00 43 05.4 +1.6
QIZ S **S** 00 53 31.3 -0.7
QIZ SS **SS** 00 59 12.8 +6.7
QIZ pmax pmax
comp=Z,20nm,1.0s
QIZ LR LR
comp=Z,530nm,22.3s
QIZ LR LR
comp=Z,580nm,22.3s
QIZ LR LR
comp=Z,1μm,21.5s
O28M Mount Upton 85.06 16 P P 00 43 03.4 +0.2
baz=211
CN2 Changchun 85.06 320 *e*P P 00 43 04.4 +1.2
CN2 *e*S **S** 00 53 26.4 -4.6
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,600nm,6.0s
CN2 LR LR
comp=Z,400nm,23.0s
CN2 LR LR
comp=Z,600nm,23.0s
CN2 LR LR
comp=Z,800nm,26.1s
CAST Castle Rocks 85.07 9 IAMs_20 IAMs_20 01 17 00.9
comp=Z,2μm,20.0s
CAST Castle Rocks 85.07 9 P P 00 43 01.8 -1.1
baz=200,SNR=30
O29M Mount Kennedy 85.07 16 P P 00 43 03.3 +0.3
baz=212
WAT1 Susitna Watana 85.10 11 P P 00 43 03.2 +0.1
baz=203
SNY Shenyang 85.12 318 ⇑P P 00 43 05.3 +1.7
SNY S **S** 00 53 38.1 +6.4
SNY pmax pmax
comp=Z,45nm,1.4s
SNY pmax pmax
comp=Z,1μm,6.5s
SNY LR LR
comp=Z,690nm,19.4s
SNY LR LR
comp=Z,590nm,19.2s
SNY LR LR
comp=Z,780nm,16.5s
O20A White River Ci 85.14 44 IAmb IAmb 00 43 06.8
comp=Z,67nm,1.1s
O20A White River Ci 85.14 44 P P 00 43 04.6 +0.6
baz=238,SNR=42
CMIG Matias Romero 85.22 70 LR LR 01 12 30.7
comp=Z,2μm,19.9s,baz=242,slow=30
REDW Red Top Meadow 85.23 40 IAmb IAmb 00 43 07.1
comp=Z,122nm,1.1s
REDW IAMs_20 IAMs_20 01 15 44.8

comp=Z,2µm,19.0s
TPAW Teton Pass 85.24 40 IAmb IAmb 00 43 07.3
comp=Z,89nm,1.1s
TPAW IAMs_20 IAMs_20 01 15 16.9
comp=Z,2µm,20.0s
SKAG Skagway 85.28 18 P **P** **00 43 05.1 +1.2**
baz=215,SNR=32
FXWY Fox Creek 85.28 40 IAmb IAmb 00 43 07.5
comp=Z,75nm,1.2s
FXWY IAMs_20 IAMs_20 01 15 48.0
comp=Z,2µm,20.0s
SNOW Snow King Moun 85.35 40 IAMs_20 IAMs_20 01 15 38.7
comp=Z,2µm,19.0s
P30M Million Dollar 85.36 17 P **P** **00 43 05.3 +0.9**
baz=214
HARP HAARP 85.36 13 P **P** **00 43 04.9 +0.6**
baz=206,SNR=10
S34M Telegraph Cree 85.36 21 P **P** **00 43 05.5 +1.1**
baz=219
KTH Kantishna Hill 85.37 10 IAmb IAmb 00 43 05.3
comp=Z,58nm,1.1s
KTH IAMs_20 IAMs_20 01 13 37.0
comp=Z,3µm,22.0s
TRF Thorofare Moun 85.38 10 P **P** **00 43 04.1 -0.5**
TRF IAmb IAmb 00 43 05.9
comp=Z,93nm,0.9s
TRF Thorofare Moun 85.38 10 P **P** **00 43 04.0 -0.6**
baz=201,SNR=40
MSO Missoula 85.42 36 IAmb IAmb 00 43 06.9
comp=Z,73nm,1.3s
MSO Missoula 85.42 36 P **P** **00 43 05.1 0.0**
baz=234,SNR=26
CHUM Lake Minchumin 85.47 9 P **P** **00 43 04.4 -0.4**
baz=199,SNR=36
IMW Indian Meadow 85.48 40 IAmb IAmb 00 43 08.5
comp=Z,82nm,1.1s
J20K Nowinta River 85.49 8 IAMs_20 IAMs_20 01 13 48.2
comp=Z,2µm,22.0s
J20K Nowinta River 85.49 8 P **P** **00 43 05.2 +0.3**
baz=198
MOOW Moose Ponds 85.51 40 IAMs_20 IAMs_20 01 16 04.1
comp=Z,2µm,18.0s
LOHW Long Hollow 85.52 40 IAmb IAmb 00 43 08.5
comp=Z,67nm,1.1s
LOHW IAMs_20 IAMs_20 01 15 55.4
comp=Z,2µm,19.0s
DHY Denali Highway 85.54 11 IAmb IAmb 00 43 07.1
comp=Z,56nm,1.1s
DHY Denali Highway 85.54 11 P **P** **00 43 05.9 +0.5**
baz=204,SNR=18
YUK8 Steele Glacier 85.60 15 P **P** **00 43 06.9 +1.0**
baz=211,SNR=30
YUK6 Outpost Mounta 85.67 16 P **P** **00 43 06.6 +0.5**
baz=212,SNR=11
TNA Tin City 85.70 2 P **P** **00 43 06.7 +0.8**
baz=185
BW06 Boulder Array 85.70 41 IAmb IAmb 00 43 08.9
comp=Z,69nm,1.2s
BW06 IAMs_20 IAMs_20 01 15 24.2
comp=Z,2µm,19.0s
BW06 Boulder Array 85.70 41 P **P** **00 43 06.7 -0.1**
baz=237,SNR=64
PD31 Pinedale Array 85.70 41 IAmb IAmb 00 43 08.9
comp=Z,63nm,1.2s
PDAR Pinedale Array 85.70 41 P **P** **00 43 06.8 +0.1**
comp=Z,43nm,1.0s,baz=209,slow=2.7,SNR=115
PDAR PKKPbc **PKKPbc** **01 01 09.5 -1.2**
comp=Z,1.2nm,0.8s,baz=82,slow=2.7,SNR=7.9
PDAR PKPPKP **P'P'df** **01 09 14.7 +1.6**
comp=Z,0.6nm,0.9s,baz=87,slow=1.9,SNR=3.6
PDAR LR LR 01 15 54.3
comp=Z,1µm,19.4s,baz=242,slow=32
comp=Z,43nm,1.0s
PDAR Pinedale Array 85.70 41 P **P** **00 43 06.1 -0.7**
GCSA Galena City Sc 85.71 7 P **P** **00 43 07.0 +1.1**
baz=195
FLWY Flagg Ranch 85.72 40 IAmb IAmb 00 43 09.9
comp=Z,122nm,1.2s
SDCO Great Sand Dun 85.77 47 P **P** **00 43 07.8 +0.5**
baz=240
SDCO Great Sand Dun 85.77 47 P **P** **00 43 08.1 +0.7**
baz=240,SNR=35
GO06 Curarrehue 85.78 131 IAmb IAmb 00 43 09.9
comp=Z,91nm,1.1s
YHB Horse Butte 85.80 39 IAmb IAmb 00 43 10.5
comp=Z,90nm,1.2s
HYT Haines Junctio 85.80 17 IAmb IAmb 00 43 09.3
comp=Z,102nm,1.2s
HYT Haines Junctio 85.80 17 P **P** **00 43 07.5 +0.8**
baz=213,SNR=26
PAX Paxson 85.81 12 P **P** **00 43 06.5 -0.2**
PAX IAmb IAmb 00 43 08.2
comp=Z,76nm,1.2s
PAX Paxson 85.81 12 P **P** **00 43 06.0 -0.6**
baz=206,SNR=29
PAX Paxson 85.81 12 P **P** **00 43 06.5 -0.2**
PAX pmax pmax
comp=Z,76nm,1.2s
Q32M Nakina River 85.81 20 P **P** **00 43 08.0 +1.1**
baz=218,SNR=16
M26K Nabesna, AK 85.82 14 IAMs_20 IAMs_20 01 16 23.8
comp=Z,2µm,20.0s
M26K Nabesna, AK 85.82 14 P **P** **00 43 07.3 +0.6**
baz=208
YUK3 Moose Creek 85.86 15 P **P** **00 43 07.4 +0.3**
baz=210,SNR=60
P32M Atlin 85.86 19 P **P** **00 43 08.3 +1.4**
baz=217,SNR=12
MCK McKinley 85.87 11 IAMs_20 IAMs_20 01 16 14.1
comp=Z,2µm,20.0s
MCK McKinley 85.87 11 P **P** **00 43 06.9 +0.1**
baz=203,SNR=78
BPAW Bear Paw Mtn. 85.88 10 IAMs_20 IAMs_20 01 13 28.3
comp=Z,2µm,22.0s
BPAW Bear Paw Mtn. 85.88 10 P **P** **00 43 05.6 -1.3**
baz=201,SNR=13
YMR Madison River 85.89 39 IAmb IAmb 00 43 11.0
comp=Z,108nm,1.3s
MSTX Muleshoe 85.91 52 P **P** **00 43 08.3 +0.4**
baz=242
MSTX Muleshoe 85.91 52 P **P** **00 43 08.1 +0.2**
baz=242
YUK4 Talbot Arm 85.94 16 P **P** **00 43 08.1 +0.7**
baz=212,SNR=12
H17A Grant Village 85.97 40 P **P** **00 43 09.4 +1.3**
baz=236,SNR=9.7
PLCA Paso Flores 85.98 132 P **P** **00 43 09.3 +1.0**
comp=Z,37nm,1.1s,baz=251,slow=5.3,SNR=27
PLCA PKKPbc **PKKPbc** **01 01 08.4 -0.3**
comp=Z,3.3nm,0.9s,baz=72,slow=6.4,SNR=4.5
PLCA LR LR 01 16 51.8
comp=Z,2µm,18.2s,baz=240,slow=32
comp=Z,37nm,1.1s
PLCA Paso Flores 85.98 132 P **P** **00 43 09.2 +1.0**
PLCA IAmb IAmb 00 43 11.0
comp=Z,91nm,1.2s
PLCA Paso Flores 85.98 132 *e*P **P** **00 43 10.0 +1.7**
PLCA Paso Flores 85.98 132 P **P** **00 43 09.2 +1.0**
PLCA pmax pmax
comp=Z,91nm,1.2s
833A Chaparral WMA, 85.99 58 IAmb IAmb 00 43 10.3
comp=Z,81nm,1.1s
833A Chaparral WMA, 85.99 58 P **P** **00 43 09.2 +1.0**
baz=244,SNR=13
833A Chaparral WMA, 85.99 58 P **P** **00 43 07.8 -0.4**
baz=244,SNR=13
BOZ Bozeman (W) 86.02 38 IAmb IAmb 00 43 10.8
comp=Z,100nm,1.1s
BOZ IAMs_20 IAMs_20 01 15 47.4
comp=Z,2µm,20.0s
BOZ Bozeman (W) 86.02 38 P **P** **00 43 08.5 +0.3**
baz=236,SNR=110
M27K Edge Creek, AK 86.03 14 P **P** **00 43 08.8 +1.0**
baz=209
WHN Wuhan 86.13 304 ⇓P **P** **00 43 10.3 +1.5**
WHN S **SKSac** **00 53 30.8 -2.7**
WHN LR LR
comp=Z,810nm,12.7s
WHN LR LR
comp=Z,1µm,15.7s
WHN LR LR
comp=Z,2µm,20.3s
DLBC Dease Lake 86.14 21 LR LR 01 17 42.9
comp=Z,520nm,18.1s,baz=236,slow=33
DLBC Dease Lake 86.14 21 IAmb IAmb 00 43 10.9
comp=Z,63nm,0.9s
DLBC Dease Lake 86.14 21 P **P** **00 43 09.1 +0.8**
baz=220,SNR=26

O30N Mendenhall 86.14 17 P **P** **00 43 09.2 +0.9**
baz=214,SNR=50
MENT Mentasta 86.14 13 IAmb IAmb 00 43 10.6
comp=Z,100nm,1.0s
BWN Browne 86.19 10 IAMs_20 IAMs_20 01 17 06.3
comp=Z,2µm,20.0s
CNSH ChangSha 86.22 302 ⇑P **P** **00 43 10.5 +1.1**
CNSH S **S** **00 53 46.3 +3.2**
CNSH pmax pmax
comp=Z,48nm,1.0s
CNSH LR LR
comp=Z,600nm,19.0s
CNSH LR LR
comp=Z,800nm,22.4s
CNSH LR LR
comp=Z,1µm,23.3s
T25A Trinidad 86.23 48 P **P** **00 43 10.3 +0.8**
baz=241
BKNI Bangkinang 86.28 272 P **P** **00 43 11.1 +1.1**
L26K Log Cabin Wild 86.30 13 IAmb IAmb 00 43 11.4
comp=Z,90nm,1.1s
L26K IAMs_20 IAMs_20 01 16 04.4
comp=Z,2µm,20.0s
L26K Log Cabin Wild 86.30 13 P **P** **00 43 09.4 +0.4**
baz=208,SNR=50
BVCY Beaver Creek 86.32 14 P **P** **00 43 09.5 +0.4**
baz=210,SNR=15
WHY Whitehorse 86.39 18 IAmb IAmb 00 43 12.1
comp=Z,50nm,0.9s
WHY Whitehorse 86.39 18 P **P** **00 43 10.9 +1.4**
baz=216,SNR=28
N30M Aishikik Lake 86.44 16 P **P** **00 43 10.6 +0.9**
baz=214
K24K Donnelly Dome 86.51 12 P **P** **00 43 10.7 +0.7**
baz=206,SNR=41
R33M Jennings River 86.57 20 P **P** **00 43 11.9 +1.4**
baz=219
JCT Junction City 86.60 56 IAmb IAmb 00 43 13.0
comp=Z,62nm,1.3s
JCT Junction City 86.60 56 P **P** **00 43 12.1 +0.8**
baz=244,SNR=11
JCT Junction City 86.60 56 P **P** **00 43 11.2 -0.1**
baz=244,SNR=11
Q24A Divide 86.61 46 P **P** **00 43 12.2 +0.7**
baz=240,SNR=6.0
RWWY Rawlins 86.62 43 IAmb IAmb 00 43 12.4
comp=Z,67nm,1.1s
RIDG Independent Ri 86.63 12 IAmb IAmb 00 43 12.6
comp=Z,110nm,1.1s
RIDG Independent Ri 86.63 12 P **P** **00 43 10.9 +0.3**
baz=206,SNR=37
TIA Tai'an 86.63 310 P **P** **00 43 12.3 +1.1**
TIA pP **sP** **00 43 17.8 -0.6**
TIA sP **pwP** **00 43 21.9 -6.4**
TIA SKS **SKSac** **00 53 36.8 +0.3**
TIA S **S** **00 53 49.3 +2.4**
TIA pmax pmax
comp=Z,83nm,1.0s
TIA pmax pmax
comp=Z,680nm,6.6s
TIA LR LR
comp=Z,380nm,23.3s
TIA LR LR
comp=Z,510nm,25.9s
TIA LR LR
comp=Z,890nm,24.2s
P33M Teslin, Yukon 86.64 19 P **P** **00 43 11.2 +0.5**
baz=217,SNR=24
NEA2 Nenana 86.64 10 IAmb IAmb 00 43 12.6
comp=Z,54nm,1.0s
NEA2 IAMs_20 IAMs_20 01 14 25.6
comp=Z,2µm,22.0s
NEA2 Nenana 86.64 10 P **P** **00 43 10.1 -0.5**
baz=202,SNR=25
L27K Beaver Creek, 86.66 14 P **P** **00 43 11.4 +0.6**
baz=209
WRH Wood River Hil 86.70 11 P **P** **00 43 10.4 -0.4**
WRH IAMs_20 IAMs_20 01 13 54.0
comp=Z,2µm,22.0s
I21K Tanana 86.75 9 IAmb IAmb 00 43 12.8
comp=Z,58nm,1.0s
I21K Tanana 86.75 9 P **P** **00 43 11.2 +0.1**
baz=200,SNR=24
WALA Waterton Lakes 86.75 34 IAmb IAmb 00 43 13.8
comp=Z,80nm,1.1s
MLY Manley 86.79 9 IAmb IAmb 00 43 12.6
comp=Z,56nm,1.0s
MLY IAMs_20 IAMs_20 01 18 53.4
comp=Z,1µm,20.0s
MLY Manley 86.79 9 P **P** **00 43 11.3 -0.1**
baz=201,SNR=46
N31M Braeburn, Yuko 86.82 17 P **P** **00 43 12.1 +0.6**
baz=215,SNR=33
HDA Harding Lake 86.84 11 IAmb IAmb 00 43 13.2
comp=Z,86nm,0.9s
HDA Harding Lake 86.84 11 P **P** **00 43 11.4 -0.2**
baz=204,SNR=49
CCB Clear Creek Bu 86.91 11 IAMs_20 IAMs_20 01 16 06.5
comp=Z,2µm,21.0s
M29M Somme Creek 86.92 15 P **P** **00 43 12.4 +0.3**
baz=212
SCRK Sand Creek 87.01 12 IAmb IAmb 00 43 14.7
comp=Z,63nm,1.0s
SCRK Sand Creek 87.01 12 P **P** **00 43 12.8 +0.2**
baz=207,SNR=46
N23A Red Feather La 87.04 44 P **P** **00 43 14.0 +0.5**
baz=240,SNR=18
H21K Melozitna Rive 87.08 8 IAMs_20 IAMs_20 01 15 00.1
comp=Z,1µm,22.0s
H21K Melozitna Rive 87.08 8 P **P** **00 43 13.2 +0.4**
baz=199
TCOL CIGO, UAF Yank 87.11 10 IAMs_20 IAMs_20 01 16 19.8
comp=Z,2µm,21.0s
TCOL CIGO, UAF Yank 87.11 10 P **P** **00 43 13.1 +0.2**
baz=204,SNR=25
COLA College 87.11 10 P **P** **00 43 12.5 -0.3**
COLA College 87.11 10 IAMs_20 IAMs_20 01 16 19.8
comp=Z,2µm,21.0s
COLA College 87.11 10 P **P** **00 43 13.2 +0.4**
baz=204
COLA College 87.11 10 P **P** **00 43 13.2 +0.4**
COLA College 87.11 10*c i*P **P** **00 43 13.1 +0.3**
COLA pmax pmax
comp=Z,148nm,1.0s
I23K Minto, Yukon-K 87.11 10 IAmb IAmb 00 43 14.4
comp=Z,77nm,1.2s
I23K IAMs_20 IAMs_20 01 14 40.0
comp=Z,2µm,22.0s
I23K Minto, Yukon-K 87.11 10 P **P** **00 43 12.4 -0.5**
baz=202,SNR=28
MDM Murphy Dome 87.12 10 IAMs_20 IAMs_20 01 16 43.3
comp=Z,2µm,20.0s
AMTX Amarillo 87.13 51 IAmb IAmb 00 43 16.1
comp=Z,95nm,1.1s
AMTX Amarillo 87.13 51 P **P** **00 43 14.8 +1.0**
baz=243
AMTX Amarillo 87.13 51 P **P** **00 43 14.4 +0.6**
baz=243
RLMT Red Lodge 87.15 39 P **P** **00 43 14.4 +0.6**
baz=237
IL31 87.18 11 IAmb IAmb 00 43 14.8
comp=Z,117nm,1.5s
ILAR Eielson Array 87.18 11 P **P** **00 43 12.8 -0.4**
comp=Z,26nm,0.9s,baz=217,slow=4.6,SNR=130
ILAR PKiKP **PKiKP** **00 48 17.6 -0.3**
comp=Z,1.8nm,1.0s,baz=290,slow=2.7,SNR=5.1
ILAR PKKP **PKKPdf** **01 01 01.3 -0.8**
comp=Z,1.0nm,0.8s,baz=316,slow=3.6,SNR=4.2
ILAR PKKPbc **PKKPbc** **01 01 05.2 -2.6**
comp=Z,0.9nm,0.7s,baz=346,slow=2.7,SNR=7.9
ILAR PKPPKP **P'P'df** **01 09 09.1 +1.2**
comp=Z,0.4nm,1.0s,baz=336,slow=2.0,SNR=2.5
ILAR LR LR 01 16 03.3
comp=Z,767nm,21.1s,baz=212,slow=31
comp=Z,26nm,0.9s
GO05 Huala 87.22 126 IAmb IAmb 00 43 16.4
comp=Z,103nm,1.2s
IMAR Indian Mountai 87.27 8 P **P** **00 43 14.3 +0.7**
N32M Quiet Lake 87.31 18 P **P** **00 43 14.9 +0.9**
baz=217
J25K Salcha River, 87.32 12 IAmb IAmb 00 43 15.9
comp=Z,67nm,0.9s
J25K Salcha River, 87.32 12 P **P** **00 43 14.0 0.0**
baz=206,SNR=46
SEY Seymchan 87.33 345 P **P** **00 43 14.2 +0.3**
comp=Z,176nm,1.0s,baz=146,slow=5.6,SNR=119
comp=Z,176nm,1.0s
SEY Seymchan 87.33 345*c i*P **P** **00 43 14.7 +0.8**

SEY pmax pmax
comp=Z,260nm,1.3s
CCIG Comitan 87.35 72 IAmb IAmb 00 43 18.1
comp=Z,67nm,1.2s
POKR Poker Plat Res 87.40 11 IAmb IAmb 00 43 16.0
comp=Z,94nm,1.1s
POKR IAMs_20 IAMs_20 01 14 37.7
comp=Z,2µm,22.0s
POKR Poker Plat Res 87.40 11 P **P** **00 43 14.1 -0.2**
baz=204,SNR=24
M30M Minto, Yukon 87.45 16 P **P** **00 43 14.7 +0.1**
baz=214
K27K Chicken 87.46 13 IAMs_20 IAMs_20 01 16 39.6
comp=Z,2µm,20.0s
K27K Chicken 87.46 13 P **P** **00 43 15.5 +0.9**
baz=209
735A Kenedy 87.48 58 P **P** **00 43 17.4 +1.9**
baz=245
UBPT Khong Chiam 87.49 287 P **P** **00 43 18.2 +2.4**
H22K Ishtalitna Cre 87.51 9 P **P** **00 43 14.8 0.0**
baz=200,SNR=40
K22A Casper 87.55 43 IAmb IAmb 00 43 18.3
comp=Z,57nm,1.1s
K22A Casper 87.55 43 P **P** **00 43 16.5 +0.8**
baz=239
K22A Casper 87.55 43 P **P** **00 43 14.8 -0.9**
baz=239,SNR=23
L29M L29M 87.56 15 P **P** **00 43 15.6 +0.4**
baz=212
J26L Joseph Creek 87.57 12 P **P** **00 43 15.9 +0.7**
baz=208
ABTX Abilene, Hawle 87.65 54 P **P** **00 43 16.8 +0.5**
baz=244,SNR=52
ABTX Abilene, Hawle 87.65 54 P **P** **00 43 15.8 -0.5**
baz=244,SNR=52
HEH HeiHe 87.66 326 *e*P **P** **00 43 16.1 +0.2**
HEH sP **sP** **00 43 24.9 +1.3**
HEH S **S** **00 54 00.1 +4.0**
HEH sS **sS** **00 54 07.0 +2.1**
HEH SS **SS** **00 59 42.3 -0.9**
HEH pmax pmax
comp=Z,80nm,1.2s
HEH pmax pmax
comp=Z,1µm,4.8s
HEH LR LR
comp=Z,960nm,20.1s
HEH LR LR
comp=Z,1µm,19.1s
HEH LR LR
comp=Z,3µm,24.3s
H23K Yukon River 87.72 9 IAMs_20 IAMs_20 01 19 21.9
comp=Z,2µm,20.0s
H23K Yukon River 87.72 9 P **P** **00 43 15.1 -0.7**
baz=202
IPM Ipoh 87.72 276 P **P** **00 43 18.4 +1.3**
M31M Drury Creek, Y 87.78 17 P **P** **00 43 14.6 -1.6**
M31M Drury Creek, Y 87.78 17 P **P** **00 43 16.2 0.0**
baz=216,SNR=25
G21K Allakaket 87.81 8 P **P** **00 43 16.6 +0.4**
baz=198
WTLY Watson Lake, Y 87.83 20 P **P** **00 43 17.8 +1.3**
baz=221
TROLL Troll, Antarti 87.86 179 P **P** **00 43 16.5 -0.4**
VNA3 Neumayer Olymp 87.95 175 P **P** **00 43 17.7 +0.6**
VA05 Santo Domingo 87.98 125 IAmb IAmb 00 43 19.9
comp=Z,81nm,1.1s
H24K Noodor Dome 87.99 10 IAMs_20 IAMs_20 01 17 40.2
comp=Z,2µm,20.0s
H24K Noodor Dome 87.99 10 P **P** **00 43 16.8 -0.4**
baz=204
SNAA Sanae 88.00 177 P **P** **00 43 16.5 -0.9**
SNAA Sanae 88.00 177 LR LR 01 18 32.2
comp=Z,2µm,20.4s,baz=198,slow=33
SNAA Sanae 88.00 177 P **P** **00 43 16.7 -0.7**
SNAA IAmb IAmb 00 43 19.1
comp=Z,52nm,1.0s
SNAA IAMs_20 IAMs_20 01 18 21.3
comp=Z,2µm,20.0s
SNAA Sanae 88.00 177*ce*P **P** **00 43 17.6 +0.2**
SNAA pmax pmax
comp=Z,48nm,1.0s
DAWY Dawson 88.08 14 P **P** **00 43 18.2 +0.6**
baz=211,SNR=83
FARO Faro, Yukon 88.09 17 P **P** **00 43 18.6 +0.8**
baz=217,SNR=22
BO01 Tunca 88.10 126 IAmb IAmb 00 43 20.6
comp=Z,83nm,1.1s
PRP Porcupine Dome 88.11 11 IAmb IAmb 00 43 22.0
comp=Z,69nm,1.0s
PRP Porcupine Dome 88.11 11 P **P** **00 43 18.1 +0.3**
baz=206,SNR=48
LIRD Liard River Hi 88.22 22 P **P** **00 43 18.8 +0.4**
baz=223,SNR=19
EGAK Eagle 88.31 13 IAmb IAmb 00 43 21.0
comp=Z,86nm,1.1s
EGAK IAMs_20 IAMs_20 01 17 54.5
comp=Z,2µm,20.0s
EGAK Eagle 88.31 13 P **P** **00 43 18.7 +0.1**
baz=210,SNR=46
K29M Barlow Dome 88.33 15 P **P** **00 43 19.7 +0.8**
baz=213
KULM Kulim 88.36 276 IAmb IAmb 00 43 23.1
comp=Z,42nm,1.0s
KSCO Kaye Shedlock' 88.36 47 IAmb IAmb 00 43 23.2
comp=Z,56nm,1.2s
KSCO Kaye Shedlock' 88.36 47 P **P** **00 43 19.9 +0.2**
baz=242
I26K Coal Creek Min 88.36 12 IAmb IAmb 00 43 21.4
comp=Z,96nm,1.4s
I26K Coal Creek Min 88.36 12 P **P** **00 43 19.8 +0.9**
baz=208,SNR=25
RDOG Red Dog Mine 88.43 4 IAMs_20 IAMs_20 01 25 02.7
comp=Z,2µm,21.0s
EGMT Eagleton 88.44 37 P **P** **00 43 19.8 0.0**
EGMT IAmb IAmb 00 43 23.9
comp=Z,65nm,1.3s
EGMT IAMs_20 IAMs_20 01 17 23.3
comp=Z,2µm,19.0s
EGMT Eagleton 88.44 37 P **P** **00 43 20.1 +0.4**
baz=237,SNR=10
VNA2 Neumayer--Watz 88.45 175 P **P** **00 43 19.6 +0.2**
baz=188,slow=3.0
435B Jarrell 88.46 56 IAmb IAmb 00 43 22.3
comp=Z,43nm,1.0s
435B Jarrell 88.46 56 P **P** **00 43 21.1 +1.0**
baz=245
435B Jarrell 88.46 56 P **P** **00 43 20.5 +0.4**
baz=245
G22K Bettles 88.46 8 P **P** **00 43 20.0 +0.8**
baz=200
G23K Bananza Creek 88.47 9 P **P** **00 43 19.6 +0.2**
baz=202
F21K Alatna River 88.49 7 P **P** **00 43 19.5 0.0**
baz=198
MAYO Mayo, Yukon 88.53 16 P **P** **00 43 20.3 +0.6**
baz=214
BO04 La Punta 88.62 126 IAmb IAmb 00 43 23.3
comp=Z,84nm,1.4s
VNA1 Neumayer--Stat 88.65 175 P **P** **00 43 21.3 +0.9**
EFI East Falkland 88.67 146 P **P** **00 43 21.0 +0.2**
EFI East Falkland 88.67 146*de*P **P** **00 43 22.2 +1.4**
EFI pmax pmax
comp=Z,151nm,1.3s
J29M Klondike Camp 88.68 14 P **P** **00 43 21.3 +0.9**
baz=212,SNR=14
G24K Hadweenzic Riv 88.85 10 P **P** **00 43 21.7 +0.6**
baz=204
MT03 Universidad Ad 88.89 125 IAmb IAmb 00 43 35.2
comp=Z,75nm,1.1s
PEL Peldehue 88.90 125 P **P** **00 43 23.1 +0.7**
HNS HongShan 88.90 311 ⇑P **P** **00 43 23.9 +1.9**
HNS SKS **SKSac** **00 53 48.3 -1.8**
HNS S **S** **00 54 07.5 -0.9**
HNS pmax pmax
comp=Z,31nm,1.7s
HNS pmax pmax
comp=Z,600nm,6.0s
HNS LR LR
comp=Z,430nm,19.8s
HNS LR LR
comp=Z,630nm,20.4s
HNS LR LR
comp=Z,1µm,23.9s
F22K John River 88.92 8 P **P** **00 43 22.2 +0.7**
baz=200
COLD Coldfoot 88.93 9 P **P** **00 43 22.3 +0.8**
baz=201,SNR=12

I27K	**Kandik River**	**88.93**	**13**	P	**P**	**00 43 22.2**	**+0.6**
	baz=209								
LMEL	**Las Melosas**	**88.98**	**126**	IAmb	IAmb	00 43 27.6	
	comp=Z,61nm,1.1s								
MMPY	**Sheldon Lake,**	**89.00**	**18**	P	**P**	**00 43 23.1**	**+1.1**
	baz=219,SNR=19								
SKLT	**Songkhla**	**89.04**	**278**	P	**P**	**00 43 26.1**	**+2.9**
WHTX	**Lake Whitney,**	**89.06**	**55**	P	**P**	**00 43 23.8**	**+0.9**
	baz=245								
WHTX	**Lake Whitney,**	**89.06**	**55**	P	**P**	**00 43 23.1**	**+0.2**
	baz=245								
TGTN	**Hyland Airport**	**89.06**	**20**	P	**P**	**00 43 23.1**	**+0.7**
	baz=221,SNR=27								
BJT	**Baijiatuau**	**89.08**	**314**	P	**P**	**00 43 24.9**	**+2.1**
RPSI	**Rantau Prapat**	**89.08**	**273**	IAmb	IAmb	00 43 25.3	
	comp=Z,83nm,1.1s								
BJI	**Beijing**	**89.08**	**314**	P	**P**	**00 43 23.8**	**+1.0**
BJI				SKS	**SKSac**	**00 53 51.3**	**+0.3**
BJI				S	**S**	**00 54 07.3**	**-2.7**
BJI				SS	**SS**	**01 00 06.3**	**+2.0**
BJI				pmax	pmax		
	comp=Z,54nm,1.2s								
BJI				pmax	pmax		
	comp=Z,800nm,4.1s								
BJI				LR	LR		
	comp=Z,94nm,18.1s								
BJI				LR	LR		
	comp=Z,630nm,22.9s								
BJI				LR	LR		
	comp=Z,1µm,24.6s								
FYU	**Fort Yukon**	**89.11**	**11**	IAMs_20	IAMs_20	01 17 09.6	
	comp=Z,1µm,21.0s								
PSI	**Prapat**	**89.11**	**273**	P	**P**	**00 43 24.2**	**+0.4**
CO06	**Fray Jorge**	**89.13**	**122**	IAmb	IAmb	00 43 25.4	
	comp=Z,50nm,1.0s								
G25K	**Bearman Lake**	**89.14**	**10**	P	**P**	**00 43 23.0**	**+0.6**
	baz=205								
VA03	**San Esteban**	**89.15**	**125**	P	**P**	**00 43 23.4**	**-0.3**
VA03				IAmb	IAmb	00 43 27.5	
	comp=Z,61nm,1.1s								
WMOK	**Wichita Mounta**	**89.21**	**52**	IAMs_20	IAMs_20	01 16 40.7	
	comp=Z,1µm,20.0s								
WMOK	**Wichita Mounta**	**89.21**	**52**	P	**P**	**00 43 24.4**	**+0.8**
	baz=245,SNR=12								
WMOK	**Wichita Mounta**	**89.21**	**52**	P	**P**	**00 43 23.4**	**-0.2**
	baz=245,SNR=12								
LYN	**LuoYang**	**89.29**	**307**	⇓ *i* P	**P**	**00 43 26.3**	**+2.3**
LYN				pP	pwP	00 43 36.4	-4.7
LYN				S	**S**	**00 54 07.1**	**-5.1**
LYN				SS	**SS**	**01 00 07.6**	**0.0**
LYN				pmax	pmax		
	comp=Z,40nm,1.0s								
LYN				pmax	pmax		
	comp=Z,530nm,7.4s								
LYN				LR	LR		
	comp=Z,790nm,17.4s								
LYN				LR	LR		
	comp=Z,460nm,19.3s								
LYN				LR	LR		
	comp=Z,850nm,18.4s								
ELIS	**Ellis County**	**89.31**	**51**	IAmb	IAmb	00 43 26.8	
	comp=Z,93nm,1.4s								
BILL	**Bilibino**	**89.40**	**352**	P	**P**	**00 43 24.0**	**+0.3**
BILL				IAmb	IAmb	00 43 25.8	
	comp=Z,68nm,1.1s								
BILL				IAMs_20	IAMs_20	01 16 31.0	
	comp=Z,2µm,22.0s								
BILL	**Bilibino**	**89.40**	**352**	*d i* P	**P**	**00 43 24.3**	**+0.6**
BILL				*e*		00 43 27.0	
BILL				*e*		00 46 50.6	
BILL				*e* PPP	PPP	00 48 51.1	
BILL				*e*S	**SKSac**	**00 53 54.5**	**+2.8**
BILL				*e*SS	**SS**	**01 00 12.5**	**+4.7**
BILL				*e*SSS	SSS	01 03 44.1	
BILL				pmax	pmax		
	comp=Z,79nm,1.3s								
I29M	**Ogilvie Camp,**	**89.43**	**14**	IAmb	IAmb	00 43 51.6	
	comp=Z,37nm,0.5s								
I29M				IAMs_20	IAMs_20	01 17 38.3	
	comp=Z,1µm,21.0s								
I29M	**Ogilvie Camp,**	**89.43**	**14**	P	**P**	**00 43 23.9**	**0.0**
	baz=212,SNR=7.4								
KOTAN	**Kotaneelee Air**	**89.46**	**22**	P	**P**	**00 43 24.9**	**+0.8**
	baz=225,SNR=41								
HKT	**Hockley**	**89.50**	**58**	P	**P**	**00 43 25.4**	**+0.4**
HKT				IAmb	IAmb	00 43 27.8	
	comp=Z,95nm,1.6s								
HKT	**Hockley**	**89.50**	**58**	P	**P**	**00 43 26.7**	**+1.7**
	baz=246								
HKT	**Hockley**	**89.50**	**58**	*ce* P	**P**	**00 43 25.5**	**+0.6**
HKT				pmax	pmax		
	comp=Z,38nm,1.3s								
H27K	**Steamboat Moun**	**89.50**	**12**	P	**P**	**00 43 24.7**	**+0.5**
	baz=209								
F24K	**Squaw Lake**	**89.54**	**9**	P	**P**	**00 43 24.6**	**+0.2**
	baz=204								
E22K	**Anaktuvuk Pass**	**89.56**	**8**	P	**P**	**00 43 25.4**	**+0.9**
	baz=200								
OGNE	**Ogallala**	**89.66**	**46**	IAMs_20	IAMs_20	01 18 37.2	
	comp=Z,1µm,20.0s								
OGNE	**Ogallala**	**89.66**	**46**	P	**P**	**00 43 27.7**	**+2.0**
	baz=242								
OGNE	**Ogallala**	**89.66**	**46**	P	**P**	**00 43 25.6**	**0.0**
	baz=242								
CSTR	**Hydro, Custer**	**89.67**	**52**	IAmb	IAmb	00 43 28.3	
	comp=Z,10nm,1.5s								
G26K	**Porcupine Rive**	**89.71**	**11**	P	**P**	**00 43 26.1**	**+1.0**
	baz=207								
CO05	**La Serena**	**89.74**	**122**	IAmb	IAmb	00 43 28.6	
	comp=Z,64nm,1.1s								
FLDN	**Fort Liard**	**89.74**	**22**	P	**P**	**00 43 26.5**	**+1.1**
	baz=226,SNR=13								
U32A	**Winter Ranch,**	**89.75**	**51**	P	**P**	**00 43 27.0**	**+0.8**
	baz=244,SNR=16								
Z35A	**Perchaven, San**	**89.77**	**54**	IAmb	IAmb	00 43 29.2	
	comp=Z,53nm,0.9s								
Z35A	**Perchaven, San**	**89.77**	**54**	P	**P**	**00 43 28.1**	**+1.9**
	baz=245,SNR=7.0								
LAO	**LASA Array**	**89.78**	**39**	IAmb	IAmb	00 43 29.2	
	comp=Z,109nm,1.2s								
LAO	**LASA Array**	**89.78**	**39**	P	**P**	**00 43 27.5**	**+1.4**
	baz=240,SNR=26								
LAO	**LASA Array**	**89.78**	**39**	P	**P**	**00 43 27.1**	**+1.0**
	baz=240,SNR=26								
E23K	**Chandalar**	**89.78**	**9**	P	**P**	**00 43 26.2**	**+0.6**
	baz=202,SNR=16								
ZEA	**Zeya**	**89.79**	**329**	*e* P	**P**	**00 43 27.6**	**+1.8**
ZEA				*e*		00 54 01.0	
ZEA				*e*S	**S**	**00 54 08.3**	**-7.7**
ZEA				pmax	pmax		
	comp=N,70nm,0.8s								
ZEA				pmax	pmax		
	comp=E,30nm,0.9s								
ZEA				pmax	pmax		
	comp=Z,140nm,0.9s								
ZEA				pmax	pmax		
	comp=E,200nm,3.8s								
ZEA				pmax	pmax		
	comp=N,200nm,3.3s								
ZEA				pmax	pmax		
	comp=Z,400nm,3.5s								
ZEA				smax	smax		
	comp=N,300nm,5.8s								
ZEA				smax	smax		
	comp=E,300nm,13.3s								
CO03	**El Pedregal**	**89.81**	**123**	IAmb	IAmb	00 43 29.1	
	comp=Z,65nm,1.1s								
ENH	**Enshi**	**89.82**	**302**	P	**P**	**00 43 28.6**	**+2.0**
RSSD	**Black Hills**	**89.85**	**42**	P	**P**	**00 43 25.7**	**-0.9**
RSSD				IAmb	IAmb	00 43 29.6	
	comp=Z,93nm,1.2s								
RSSD	**Black Hills**	**89.85**	**42**	IAMs_20	IAMs_20	01 18 33.0	
	comp=Z,2µm,20.0s								
RSSD	**Black Hills**	**89.85**	**42**	P	**P**	**00 43 27.0**	**+0.4**
	baz=241,SNR=56								
RSSD	**Black Hills**	**89.85**	**42**	P	**P**	**00 43 26.6**	**-0.1**
	baz=241								
RSSD	**Black Hills**	**89.85**	**42**	P	**P**	**00 43 25.7**	**-0.9**
RSSD				pmax	pmax		
	comp=Z,93nm,1.2s								
GSI	**Gunungsitoli**	**89.86**	**271**	P	**P**	**00 43 27.4**	**+0.2**
GSI	**Gunungsitoli**	**89.86**	**271**	P	**P**	**00 43 29.7**	**+2.5**
X34A	**Smith Ranch, M**	**89.86**	**53**	IAmb	IAmb	00 43 30.4	
	comp=Z,98nm,1.3s								
E24K	**Your Creek**	**89.96**	**9**	P	**P**	**00 43 27.1**	**+0.7**
	baz=203								
F25K	**Christian Rive**	**89.97**	**10**	P	**P**	**00 43 27.8**	**+1.4**
	baz=206								
G27K	**Doyon Strip**	**89.98**	**12**	P	**P**	**00 43 27.0**	**+0.5**
	baz=209								
OK038	**West end E0370**	**89.98**	**51**	IAmb	IAmb	00 43 29.5	
	comp=Z,73nm,1.2s								
LOOK	**Love County**	**90.10**	**54**	IAmb	IAmb	00 43 30.3	
	comp=Z,61nm,1.6s								
CBKS	**Cedar Bluff**	**90.28**	**48**	IAMs_20	IAMs_20	01 17 23.8	
	comp=Z,1µm,20.0s								
CBKS	**Cedar Bluff**	**90.28**	**48**	P	**P**	**00 43 29.3**	**+0.8**
	baz=244,SNR=5.0								
CBKS	**Cedar Bluff**	**90.28**	**48**	P	**P**	**00 43 28.3**	**-0.3**
	baz=244,SNR=5.0								
F26K	**Sheenjek River**	**90.31**	**11**	P	**P**	**00 43 29.3**	**+1.3**
	baz=207								
TOLK	**Toolik Lake Re**	**90.33**	**8**	IAMs_20	IAMs_20	01 16 54.1	
	comp=Z,1µm,22.0s								
TOLK	**Toolik Lake Re**	**90.33**	**8**	P	**P**	**00 43 28.3**	**+0.2**
	baz=202,SNR=8.4								
237A	**Washetta, Mont**	**90.34**	**56**	IAmb	IAmb	00 43 31.4	
	comp=Z,121nm,1.3s								
237A	**Washetta, Mont**	**90.34**	**56**	P	**P**	**00 43 30.2**	**+1.3**
	baz=246,SNR=8.7								
AVIZ	**Vizcacheras**	**90.42**	**126**	*e* P	**P**	**00 43 31.8**	**+2.2**
E25K	**Arctic Village**	**90.45**	**10**	P	**P**	**00 43 29.6**	**+1.0**
	baz=206,SNR=28								
BCOK	**Bluff Creek, N**	**90.47**	**52**	IAmb	IAmb	00 43 31.6	
	comp=Z,57nm,1.2s								
SRIT	**Nakonsritamara**	**90.48**	**279**	P	**P**	**00 43 32.8**	**+2.8**
D23K	**Nanushuk River**	**90.49**	**8**	P	**P**	**00 43 29.7**	**+0.9**
	baz=201,SNR=16								
RTLS	**Leoncito**	**90.51**	**124**	*e* P	**P**	**00 43 31.4**	**+1.2**
LCO	**Las Campanas**	**90.53**	**121**	P	**P**	**00 43 30.8**	**+0.4**
LCO	**Las Campanas**	**90.53**	**121**	P	**P**	**00 43 30.8**	**+0.4**
LCO				pmax	pmax		
	comp=Z,143nm,1.1s								
ASAL	**Salagasta**	**90.54**	**125**	*e* P	**P**	**00 43 31.2**	**+1.1**
AC04	**Llanos de Chal**	**90.55**	**120**	IAmb	IAmb	00 43 32.9	
	comp=Z,108nm,1.3s								
GYA	**Guiyang**	**90.63**	**298**	⇓ *i* P	**P**	**00 43 32.9**	**+2.3**
GYA				SKS	**SKSac**	**00 53 58.6**	**-2.4**
GYA				S	**S**	**00 54 24.1**	**-1.2**
GYA				SS	**SS**	**01 00 23.4**	**-4.2**
GYA				pmax	pmax		
	comp=Z,40nm,1.2s								
GYA				pmax	pmax		
	comp=Z,580nm,5.8s								
GYA				LR	LR		
	comp=Z,450nm,17.7s								
GYA				LR	LR		
	comp=Z,560nm,21.3s								
GYA				LR	LR		
	comp=Z,1µm,24.0s								
EPYK	**Eagle Plains**	**90.64**	**14**	IAmb	IAmb	00 43 31.9	
	comp=Z,95nm,1.2s								
EPYK	**Eagle Plains**	**90.64**	**14**	P	**P**	**00 43 30.5**	**+1.0**
	baz=214,SNR=28								
OK025	**Westminster Rd**	**90.64**	**52**	IAmb	IAmb	00 43 32.3	
	comp=Z,66nm,1.3s								
OK025				IAMs_20	IAMs_20	01 17 45.5	
	comp=Z,2µm,19.0s								
OK029	**Liberty Lake**	**90.64**	**52**	IAMs_20	IAMs_20	01 18 04.5	
	comp=Z,2µm,20.0s								
SURA	**Surathani**	**90.65**	**279**	P	**P**	**00 43 33.9**	**+3.1**
TIY	**Taiyuan**	**90.66**	**310**	⇑ P	**P**	**00 43 31.9**	**+1.5**
TIY				SKS	**SKSac**	**00 54 02.5**	**+1.9**
TIY				pmax	pmax		
	comp=Z,430nm,4.9s								
TIY				LR	LR		
	comp=Z,450nm,18.1s								
TIY				LR	LR		
	comp=Z,690nm,25.5s								
TIY				LR	LR		
	comp=Z,1µm,25.0s								
R32A	**Long Quarter,**	**90.84**	**49**	P	**P**	**00 43 32.5**	**+1.4**
	baz=245,SNR=14								
KAN08	**Anthony NE Sta**	**90.86**	**50**	IAmb	IAmb	00 43 33.5	
	comp=Z,83nm,1.2s								
KAN05	**Bluff City Nor**	**90.88**	**51**	P	**P**	**00 43 32.3**	**+1.0**
KAN05				IAmb	IAmb	00 43 33.6	
	comp=Z,98nm,1.2s								
NAYO	**Nakonayok**	**90.89**	**285**	P	**P**	**00 43 34.4**	**+2.6**
XLT	**XiLinHaoTe**	**90.93**	**317**	*e* P	**P**	**00 43 32.6**	**+1.1**
XLT				pP	sP	00 43 38.3	-0.4
XLT				SKS	**SKSac**	**00 53 59.8**	**-2.0**
XLT				S	**ScS**	**00 54 32.1**	**+1.7**
XLT				sS	sS	00 54 40.9	+4.8
XLT				SS	**SS**	**01 00 29.3**	**-1.8**
XLT				pmax	pmax		
	comp=Z,32nm,1.1s								
XLT				pmax	pmax		
	comp=Z,360nm,5.4s								
XLT				LR	LR		
	comp=Z,550nm,19.4s								
TGUH	**Tegucigalpa,Un**	**90.93**	**75**	IAMs_20	IAMs_20	01 15 08.3	
	comp=Z,2µm,20.0s								
KAN17	**Caldwell West**	**90.93**	**51**	IAmb	IAmb	00 43 34.4	
	comp=Z,82nm,1.0s								
KAN06	**Argonia West S**	**90.95**	**50**	IAmb	IAmb	00 43 33.9	
	comp=Z,78nm,1.2s								
KAN01	**Argonia South**	**90.98**	**51**	IAmb	IAmb	00 43 34.1	
	comp=Z,89nm,1.2s								
AROD	**Rodeo**	**91.04**	**123**	*e* P	**P**	**00 43 34.4**	**+1.6**
OK033	**Mehan**	**91.12**	**52**	IAmb	IAmb	00 43 34.6	
	comp=Z,45nm,1.0s								
OK033				IAMs_20	IAMs_20	01 17 51.3	
	comp=Z,2µm,20.0s								
NATX	**Nacogdoches**	**91.14**	**57**	IAmb	IAmb	00 43 35.1	
	comp=Z,44nm,1.1s								
NATX	**Nacogdoches**	**91.14**	**57**	P	**P**	**00 43 34.0**	**+1.4**
	baz=247								
NATX	**Nacogdoches**	**91.14**	**57**	P	**P**	**00 43 33.3**	**+0.6**
	baz=247								
OK031	**S. Brethren Rd**	**91.16**	**52**	IAmb	IAmb	00 43 34.7	
	comp=Z,71nm,1.1s								
OK031				IAMs_20	IAMs_20	01 17 56.3	
	comp=Z,2µm,20.0s								
KS20	**Mayfield South**	**91.16**	**51**	P	**P**	**00 43 32.5**	**-0.2**
ACCO	**Cerro Coronel**	**91.19**	**123**	*e* P	**P**	**00 43 35.2**	**+1.7**
OK030	**Cody Creek RV**	**91.19**	**52**	IAmb	IAmb	00 43 34.8	
	comp=Z,88nm,1.2s								
OK030				IAMs_20	IAMs_20	01 17 41.1	
	comp=Z,2µm,21.0s								
E27K	**Coleen River**	**91.20**	**11**	P	**P**	**00 43 33.6**	**+1.5**
	baz=209								
OK052	**Battle Ridge R**	**91.20**	**52**	IAmb	IAmb	00 43 35.5	
	comp=Z,68nm,1.0s								
OK052				IAMs_20	IAMs_20	01 17 51.4	
	comp=Z,2µm,20.0s								
OK053	**SW of W Deep R**	**91.22**	**52**	IAMs_20	IAMs_20	01 18 00.9	
	comp=Z,2µm,20.0s								
OK050	**Pawnee Station**	**91.24**	**52**	IAMs_20	IAMs_20	01 18 22.3	
	comp=Z,2µm,20.0s								
G30M	**tAoh Zraii Nji**	**91.26**	**14**	P	**P**	**00 43 32.5**	**+0.1**
	baz=214								
OK046	**Pawnee Station**	**91.29**	**52**	IAmb	IAmb	00 43 35.4	
	comp=Z,64nm,1.3s								
OK046				IAMs_20	IAMs_20	01 18 14.8	
	comp=Z,2µm,20.0s								
HIA	**Hailar**	**91.30**	**323**	IAMs_20	IAMs_20	01 18 18.3	
	comp=Z,2µm,22.0s								
HIA	**Hailar**	**91.30**	**323**	*c i* P	**P**	**00 43 34.1**	**+1.1**
HIA				pmax	pmax		
	comp=Z,25nm,1.0s								
OK045	**Pawnee Station**	**91.30**	**52**	IAMs_20	IAMs_20	01 18 35.0	
	comp=Z,2µm,20.0s								
C23K	**Itkillik River**	**91.32**	**8**	P	**P**	**00 43 33.0**	**+0.5**
	baz=201								
ACDV	**Cuesta del Vie**	**91.32**	**123**	*e* P	**P**	**00 43 36.1**	**+2.2**
QUOK	**Quay**	**91.35**	**52**	IAmb	IAmb	00 43 36.2	
	comp=Z,61nm,1.1s								
OK044	**Pawnee Station**	**91.36**	**52**	IAmb	IAmb	00 43 35.8	
	comp=Z,54nm,1.3s								
OK044				IAMs_20	IAMs_20	01 18 03.7	
	comp=Z,2µm,20.0s								
DEOK	**Depew**	**91.37**	**52**	P	**P**	**00 43 33.5**	**-0.2**
DEOK				IAmb	IAmb	00 43 35.7	
	comp=Z,81nm,1.2s								
OK051	**E0350 and S346**	**91.39**	**52**	IAMs_20	IAMs_20	01 18 37.3	
	comp=Z,2µm,20.0s								
D25K	**Kavik River**	**91.42**	**9**	P	**P**	**00 43 33.3**	**+0.1**
	baz=205								
C24K	**Franklin Bluff**	**91.45**	**8**	P	**P**	**00 43 34.4**	**+1.2**
	baz=203								
AC06	**Mina Casimiro**	**91.47**	**120**	IAmb	IAmb	00 43 37.7	
	comp=Z,78nm,1.2s								
GO03	**Copiap**	**91.47**	**120**	IAmb	IAmb	00 43 37.5	
	comp=Z,47nm,1.1s								
Z38A	**Mt. Pleasant**	**91.48**	**55**	IAmb	IAmb	00 43 37.8	
	comp=Z,62nm,1.2s								
Z38A	**Mt. Pleasant**	**91.48**	**55**	P	**P**	**00 43 35.8**	**+1.6**
	baz=247,SNR=8.5								
NNA	**Nana**	**91.61**	**103**	LR	LR	01 17 12.1	
	comp=Z,1µm,18.5s,baz=232,slow=31								
NNA	**Nana**	**91.61**	**103**	IAMs_20	IAMs_20	01 14 46.5	
	comp=Z,2µm,19.0s								
NNA	**Nana**	**91.61**	**103**	*ce* P	**P**	**00 43 36.2**	**+0.9**
NNA				pmax	pmax		
	comp=Z,34nm,1.3s								
X37A	**Clayton**	**91.71**	**54**	P	**P**	**00 43 35.3**	**+0.1**
	baz=246,SNR=9.1								
JTS	**Las Juntas de**	**91.75**	**80**	P	**P**	**00 43 37.3**	**+1.4**
JTS	**Las Juntas de**	**91.75**	**80**	IAMs_20	IAMs_20	01 14 56.3	
	comp=Z,2µm,20.0s								
JTS	**Las Juntas de**	**91.75**	**80**	*c i* P	**P**	**00 43 36.9**	**+1.0**
JTS				pmax	pmax		
	comp=Z,145nm,1.1s								
XAN	**Xi'an**	**91.76**	**306**	⇑ P	**P**	**00 43 36.4**	**+0.9**
XAN				pP	sP	00 43 46.8	+4.0
XAN				sP	pwP	00 43 50.9	-1.7
XAN				PP	**PP**	**00 47 16.4**	**+1.6**
XAN				SKS	**SKSac**	**00 54 04.1**	**-2.8**
XAN				S	**S**	**00 54 33.8**	**-1.3**
XAN				SS	**SS**	**01 00 40.4**	**-3.0**
XAN				pmax	pmax		
	comp=Z,52nm,1.2s								
XAN				pmax	pmax		
	comp=Z,650nm,6.4s								
XAN				LR	LR		
	comp=Z,530nm,22.0s								
XAN				LR	LR		
	comp=Z,610nm,22.7s								
XAN				LR	LR		
	comp=Z,930nm,24.7s								
MATN	**Matagalpa**	**91.77**	**77**	IAmb	IAmb	00 43 38.3	
	comp=Z,44nm,1.0s								
T35B	**Sooner Cattle**	**91.80**	**51**	P	**P**	**00 43 36.2**	**+0.6**
	baz=246,SNR=46								
WRGLY	**Wrigley**	**91.85**	**20**	P	**P**	**00 43 35.5**	**+0.3**
	baz=226,SNR=17								
DGMT	**Dagmar**	**91.85**	**38**	IAMs_20	IAMs_20	01 19 14.8	
	comp=Z,1µm,20.0s								
DGMT	**Dagmar**	**91.85**	**38**	P	**P**	**00 43 36.8**	**+1.2**
	baz=241,SNR=52								
DGMT	**Dagmar**	**91.85**	**38**	P	**P**	**00 43 36.4**	**+0.8**
	baz=241,SNR=52								
ATAH	**Atahualpa**	**91.89**	**98**	LR	LR	01 14 50.6	
	comp=Z,2µm,21.8s,baz=256,slow=29								
TUL1	**Leonard**	**91.92**	**52**	IAmb	IAmb	00 43 38.3	
	comp=Z,56nm,1.2s								
TUL1				IAMs_20	IAMs_20	01 18 56.4	
	comp=Z,2µm,20.0s								
TUL1	**Leonard**	**91.92**	**52**	P	**P**	**00 43 36.9**	**+0.7**
	baz=246,SNR=12								
TUL1	**Leonard**	**91.92**	**52**	P	**P**	**00 43 36.5**	**+0.3**
	baz=246,SNR=12								
A21K	**Barrow**	**92.11**	**5**	IAMs_20	IAMs_20	01 18 51.0	
	comp=Z,1µm,22.0s								
A21K	**Barrow**	**92.11**	**5**	P	**P**	**00 43 36.8**	**+0.6**
	baz=195								
C27K	**Jago River**	**92.11**	**10**	P	**P**	**00 43 37.0**	**+0.7**
	baz=207								
C26K	**Camden Bay**	**92.18**	**9**	P	**P**	**00 43 37.5**	**+0.9**
	baz=206								
F31M	**Tsiigehchic**	**92.19**	**14**	P	**P**	**00 43 37.0**	**+0.4**
	baz=216,SNR=42								
TEIG	**Tepich**	**92.20**	**69**	IAMs_20	IAMs_20	01 15 30.7	
	comp=Z,1µm,22.0s								
COVE	**Coope Vega, Sa**	**92.41**	**80**	IAmb	IAmb	00 43 52.2	
	comp=Z,41nm,1.1s								
HDC	**Heredia**	**92.43**	**80**	IAMs_20	IAMs_20	01 13 54.3	
	comp=Z,2µm,22.0s								
HDC	**Heredia**	**92.43**	**80**	*e* P	**P**	**00 43 41.5**	**+2.4**
BGNE	**Belgrade**	**92.49**	**47**	P	**P**	**00 43 39.7**	**+0.9**
BGNE	**Belgrade**	**92.49**	**47**	P	**P**	**00 43 40.1**	**+1.3**
	baz=245,SNR=12								
BGNE	**Belgrade**	**92.49**	**47**	P	**P**	**00 43 39.1**	**+0.3**
	baz=245,SNR=12								
PB14	**IPOC Station P**	**92.52**	**117**	IAmb	IAmb	00 43 42.9	
	comp=Z,47nm,1.0s								
RLO	**Rose Lookout**	**92.59**	**52**	IAmb	IAmb	00 43 41.3	
	comp=Z,56nm,1.2s								
HHC	**Hu-ho-hao-te**	**92.60**	**313**	*e* P	**P**	**00 43 41.3**	**+2.0**
HHC				S	**S**	**00 54 48.1**	**+5.7**
HHC				SS	**SS**	**01 00 57.4**	**+2.1**
HHC				pmax	pmax		
	comp=Z,110nm,1.3s								
HHC				pmax	pmax		
	comp=Z,730nm,5.8s								
HHC				LR	LR		
	comp=Z,830nm,19.0s								
HHC				LR	LR		
	comp=Z,1µm,21.8s								
HHC				LR	LR		
	comp=Z,3µm,23.5s								
K31A	**O'Neill**	**92.60**	**45**	P	**P**	**00 43 40.5**	**+1.3**
	baz=245,SNR=24								
KSU1	**Kansas State U**	**92.61**	**49**	IAMs_20	IAMs_20	01 18 46.6	
	comp=Z,2µm,20.0s								
KSU1	**Kansas State U**	**92.61**	**49**	IAmb	IAmb	00 43 41.5	
	comp=Z,46nm,0.9s								
KSU1	**Kansas State U**	**92.61**	**49**	P	**P**	**00 43 40.6**	**+1.3**
	baz=246,SNR=10.0								
KSU1	**Kansas State U**	**92.61**	**49**	P	**P**	**00 43 39.9**	**+0.6**
	baz=246,SNR=10.0								
AC02	**Maricunga**	**92.68**	**120**	P	**P**	**00 43 41.8**	**+1.1**
AC02				IAmb	IAmb	00 43 44.2	
	comp=Z,61nm,1.1s								
INK	**Inuvik**	**92.94**	**14**	P	**P**	**00 43 40.0**	**-0.1**
	comp=Z,20nm,1.0s,baz=208,slow=5.1,SNR=3.1								
INK				LR	LR	01 20 38.5	
	comp=Z,826nm,19.3s,baz=204,slow=32 comp=Z,20nm,1.0s								
INK	**Inuvik**	**92.94**	**14**	IAmb	IAmb	00 43 42.1	
	comp=Z,51nm,1.2s								
INK	**Inuvik**	**92.94**	**14**	P	**P**	**00 43 40.0**	**-0.1**
	baz=217,SNR=26								
MRA	**San Martin**	**93.00**	**126**	*e* P	**P**	**00 43 42.6**	**+1.1**
MIAR	**Mount Ida**	**93.06**	**54**	P	**P**	**00 43 41.8**	**+0.4**
	baz=248,SNR=12								
MIAR	**Mount Ida**	**93.06**	**54**	P	**P**	**00 43 41.2**	**-0.2**
	baz=248								
E28A	**Huff**	**93.08**	**41**	P

YAK	Yakutsk	93.74	337		P		P	00 43 42.9	-1.0
YAK	Yakutsk	93.74	337		eP		P	00 43 43.6	-0.3
YAK					e*PP		sP	00 43 53.0	+1.4
YAK					e			00 47 30.3	
YAK					eS		SKSac	00 54 15.1	-1.4
YAK					e			00 54 51.3	
YAK					eSSS		SSS	01 04 53.0	
YAK					pmax		pmax		
	comp=Z,70nm,0.9s								
YAK					pmax		pmax		
	comp=N,10.0nm,1.1s								
YAK					pmax		pmax		
	comp=E,10.0nm,1.3s								
YAK					pmax		pmax		
	comp=Z,256nm,2.5s								
YAK					pmax		pmax		
	comp=E,64nm,2.5s								
YAK					pmax		pmax		
	comp=N,221nm,2.5s								
YAK					smax		smax		
	comp=E,232nm,3.5s								
YAK					smax		smax		
	comp=N,164nm,2.7s								
PB15	IPOC Station P	93.87	116		IAmb		IAmb	00 43 49.5	
	comp=Z,63nm,1.2s								
PB06	IPOC Station P	93.98	116		IAmb		IAmb	00 43 49.8	
	comp=Z,88nm,1.3s								
N35A	Tabor	94.00	48		IAmb		IAmb	00 43 48.0	
	comp=Z,55nm,0.9s								
143A	Socs Landing,	94.05	57		IAmb		IAmb	00 43 48.5	
	comp=Z,44nm,1.1s								
PB03	IPOC Station P	94.09	115		IAmb		IAmb	00 43 50.4	
	comp=Z,79nm,1.2s								
PB07	IPOC Station P	94.11	115		P		P	00 43 48.2	+1.3
PB07					IAmb		IAmb	00 43 50.6	
	comp=Z,66nm,1.2s								
344A	Westbrook Farm	94.13	58		IAmb		IAmb	00 43 51.9	
	comp=Z,46nm,1.3s								
PB02	IPOC Station P	94.26	114		IAmb		IAmb	00 43 51.2	
	comp=Z,78nm,1.2s								
MDND	Maddock	94.30	40		P		P	00 43 47.2	+0.3
	baz=244,SNR=36								
MDND	Maddock	94.30	40		P		P	00 43 46.6	-0.3
	baz=244,SNR=36								
TA01	Diego Aracena	94.32	114		IAmb		IAmb	00 43 51.2	
	comp=Z,54nm,1.1s								
S39A	Bolivar	94.44	52		P		P	00 43 48.6	+0.9
	baz=248,SNR=7.7								
CMAR	Chiang Mai Arr	94.45	288		P		P	00 43 49.9	+1.6
	comp=Z,5.0nm,0.3s,baz=116,slow=3.0,SNR=61								
CMAR					PP		PP	00 47 37.5	+1.3
	comp=Z,2.0nm,0.4s,baz=126,slow=6.0,SNR=7.9								
CMAR					PKKPbc		PKKPbc	01 00 48.4	+1.2
	comp=Z,1.9nm,0.3s,baz=289,slow=4.8,SNR=14								
CMAR					LR		LR	01 27 29.1	
	comp=Z,301nm,18.4s,baz=145,slow=36 comp=Z,5.0nm,0.3s								
CMAR	Chiang Mai Arr	94.45	288	ce	P		P	00 43 50.9	+2.6
CMAR					pmax		pmax		
	comp=Z,5.0nm,0.3s								
YKA	Yellowknife Ar	94.45	23		P		P	00 43 47.4	+0.2
	comp=Z,33nm,0.9s,baz=238,slow=4.4,SNR=50								
YKA					LR		LR	01 20 05.5	
	comp=Z,943nm,20.9s,baz=239,slow=32 comp=Z,33nm,0.9s								
ECSD	EROS Data Cent	94.49	45		P		P	00 43 47.6	-0.3
	baz=246,SNR=73								
ECSD	EROS Data Cent	94.49	45		P		P	00 43 47.6	-0.3
	baz=246,SNR=73								
CHTO	Chiang Mai	94.57	288		P		P	00 43 49.6	+0.8
CHTO	Chiang Mai	94.57	288		P		P	00 43 49.6	+0.8
CHTO					pmax		pmax		
	comp=Z,26nm,1.0s								
VBMS	Vicksburg	94.57	57		IAMs_20		IAMs_20	01 20 04.0	
	comp=Z,2µm,20.0s								
VBMS	Vicksburg	94.57	57		P		P	00 43 48.2	-0.2
	baz=249								
LVC	Limon Verde	94.58	116		LR		LR	01 17 14.3	
	comp=Z,3µm,20.7s,baz=278,slow=30								
LVC	Limon Verde	94.58	116		P		P	00 43 50.9	+1.6
LVC					IAmb		IAmb	00 43 53.5	
	comp=Z,63nm,1.2s								
LVC	Limon Verde	94.58	116	eP			P	00 43 51.3	+2.0
LVC	Limon Verde	94.58	116		P		P	00 43 50.9	+1.6
LVC					pmax		pmax		
	comp=Z,63nm,1.3s								
PB09	IPOC Station P	94.63	115		IAmb		IAmb	00 43 53.5	
	comp=Z,74nm,1.2s								
CD2	Chengdu	94.64	301		P		P	00 43 48.3	-0.6
CD2					SKS		SKSac	00 54 18.8	-4.2
CD2					S		ScS	00 55 03.3	+1.5
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,330nm,7.1s								
CD2					LR		LR		
	comp=Z,420nm,6.9s								
CD2					LR		LR		
	comp=Z,390nm,6.9s								
CD2					LR		LR		
	comp=Z,730nm,22.6s								
CYA	Choya	94.67	122	eP			P	00 43 50.4	+1.1
PB01	IPOC Station P	94.72	114		P		P	00 43 51.3	+1.7
PB01					IAmb		IAmb	00 43 53.2	
	comp=Z,65nm,1.2s								
PSGCX	Pisagua	94.75	113		IAmb		IAmb	00 43 53.0	
	comp=Z,61nm,1.3s								
PZH	PanZhiHua	94.76	296		P		P	00 43 51.3	+1.6
PZH					sP		pwP	00 44 01.3	-5.4
PZH					PP		PP	00 47 40.8	+2.2
PZH					SKS		SKSac	00 54 20.3	-3.7
PZH					S		ScS	00 55 06.4	+3.2
PZH					pmax		pmax		
	comp=Z,20nm,1.0s								
PZH					pmax		pmax		
	comp=Z,370nm,6.8s								
PZH					LR		LR		
	comp=Z,510nm,22.9s								
PZH					LR		LR		
	comp=Z,840nm,22.4s								
PZH					LR		LR		
	comp=Z,1µm,21.1s								
P38A	Dawn	95.01	50		P		P	00 43 50.1	-0.2
	baz=248,SNR=16								
MGMO	Mountain Grove	95.02	52		IAmb		IAmb	00 43 52.2	
	comp=Z,51nm,1.2s								
PB11	IPOC Station P	95.09	113		IAmb		IAmb	00 43 54.5	
	comp=Z,62nm,1.0s								
MNMC	Minye Minye	95.39	113		IAmb		IAmb	00 43 56.4	
	comp=Z,37nm,1.0s								
R40A	Maddies Statio	95.43	51		IAmb		IAmb	00 43 53.8	
	comp=Z,45nm,1.1s								
R40A	Maddies Statio	95.43	51		P		P	00 43 52.8	+0.5
	baz=248,SNR=18								
F33A	5 Mile Ranch,	95.54	43		P		P	00 43 52.6	0.0
	baz=247								
FSA	Cafayete	95.54	120	eP			P	00 43 55.4	+2.0
D32A	Dogwood Acres,	95.60	42		IAmb		IAmb	00 43 54.0	
	comp=Z,47nm,0.9s								
N38A	Joes South For	95.66	49		IAmb		IAmb	00 43 54.8	
	comp=Z,61nm,1.1s								
N38A	Joes South For	95.66	49		P		P	00 43 53.7	+0.4
	baz=248,SNR=7.7								
PB16	IPOC Station P	95.78	112		IAmb		IAmb	00 43 59.0	
	comp=Z,37nm,1.2s								
C36M	Paulatuk	95.98	16		IAmb		IAmb	00 43 55.6	
	comp=Z,33nm,1.1s								
C36M	Paulatuk	95.98	16		P		P	00 43 54.5	+0.5
	baz=225,SNR=15								
FFC	Flin Flon	96.00	33		P		P	00 43 54.7	+0.2
FFC	Flin Flon	96.00	33		P		P	00 43 54.7	+0.2
FFC					pmax		pmax		
	comp=Z,35nm,1.4s								
P40A	Paris	96.04	50		P		P	00 43 55.5	+0.4
	baz=249,SNR=6.3								
SCIA	State Center	96.09	48		IAMs_20		IAMs_20	01 20 31.4	
	comp=Z,1µm,20.0s								
SCIA	State Center	96.09	48		P		P	00 43 55.0	-0.2
	baz=248								
CCM	Cathedral Cave	96.10	52		P		P	00 43 54.6	-0.7
CCM	Cathedral Cave	96.10	52		P		P	00 43 55.5	+0.1
	baz=249,SNR=6.3								
CCM	Cathedral Cave	96.10	52		P		P	00 43 54.3	-1.0
	baz=249								
CCM	Cathedral Cave	96.10	52		P		P	00 43 54.6	-0.7
CCM					pmax		pmax		
	comp=Z,13nm,1.2s								
OXF	Oxford	96.25	56		P		P	00 43 55.8	-0.2
	baz=250								
LZH	Lanzhou	96.38	306	⇓	P		P	00 43 58.9	+2.0
LZH					sP		pwP	00 44 09.4	-4.6
LZH					SKS		SKSac	00 54 30.0	-2.3
LZH					S		ScS	00 55 21.8	+5.4
LZH					SS		SS	01 01 43.9	-5.7
LZH					pmax		pmax		
	comp=Z,19nm,1.5s								
LZH					pmax		pmax		
	comp=Z,300nm,5.8s								
LZH					LR		LR		
	comp=Z,350nm,17.9s								
LZH					LR		LR		
	comp=Z,560nm,19.2s								
LZH					LR		LR		
	comp=Z,710nm,16.8s								
K38A	Parkersburg	96.67	47		IAmb		IAmb	00 44 00.1	
	comp=Z,44nm,1.1s								
I37A	Lemond, Waseca	96.74	46		IAmb		IAmb	00 44 00.9	
	comp=Z,52nm,1.3s								
AGMN	Agassiz Nation	96.78	41		P		P	00 43 57.9	-0.2
	baz=247,SNR=26								
AGMN	Agassiz Nation	96.78	41		P		P	00 43 57.0	-1.2
	baz=247,SNR=26								
CZSB	Cruzeiro do Su	96.94	101		IAmb		IAmb	00 44 02.4	
	comp=Z,17nm,1.1s								
CZSB	Cruzeiro do Su	96.94	101	eP			P	00 44 01.3	+1.5
BRAL	Brewton	96.99	59		IAMs_20		IAMs_20	01 23 45.0	
	comp=Z,2µm,20.0s								
TNCH	TengChong	97.00	294		P		Pdif	00 44 03.0	+2.9
TNCH					pmax		pmax		
	comp=Z,42nm,0.4s								
CGM3	Cape Girardeau	97.02	53		IAmb		IAmb	00 44 13.9	
	comp=Z,22nm,1.4s								
N41A	Harden Midland	97.32	49		IAmb		IAmb	00 44 02.9	
	comp=Z,28nm,1.1s								
N41A	Harden Midland	97.32	49		P		Pdif	00 44 01.8	+0.9
	baz=250								
F36A	Milaca	97.33	44		P		Pdif	00 44 01.4	+0.6
	baz=248,SNR=17								
ULM	Lac du Bonnet	97.52	39		P		P	00 44 00.5	-0.9
	comp=Z,37nm,1.0s,baz=254,slow=5.5,SNR=19								
ULM					LR		LR	01 23 10.8	
	comp=Z,2µm,20.1s,baz=246,slow=32 comp=Z,37nm,1.0s								
L40A	Anamosa	97.53	48		IAmb		IAmb	00 44 04.3	
	comp=Z,38nm,1.1s								
L40A	Anamosa	97.53	48		P		Pdif	00 44 02.5	+0.7
	baz=250,SNR=12								
SPMN	Marine on St.	97.58	45		IAmb		IAmb	00 44 05.8	
	comp=Z,44nm,1.2s								
SPMN	Marine on St.	97.58	45		P		Pdif	00 44 03.6	+1.7
	baz=249,SNR=5.7								
SPMN	Marine on St.	97.58	45		P		P	00 44 01.0	-0.9
	baz=249,SNR=5.7								
A36M	Sachs Harbour	97.58	13		IAmb		IAmb	00 44 30.3	
	comp=Z,31nm,0.8s								
A36M					IAMs_20		IAMs_20	01 23 07.6	
	comp=Z,1µm,20.0s								
A36M	Sachs Harbour	97.58	13		P		Pdif	00 44 01.6	+0.3
	baz=224								
LRAL	Lakeview Retre	97.64	58		P		Pdif	00 44 02.8	+0.3
	baz=251								
LPAZ	La Paz	97.81	110		P		Pdif	00 44 05.7	+1.3
	comp=Z,8.2nm,1.1s,baz=278,slow=6.1,SNR=17								
LPAZ					PP		PP	00 48 00.4	-2.2
	comp=Z,4.5nm,1.2s,baz=244,slow=7.8,SNR=4.7								
LPAZ					LR		LR	01 18 58.8	
	comp=Z,2µm,21.4s,baz=270,slow=30 comp=Z,8.2nm,1.1s								
LPAZ	La Paz	97.81	110	eP			Pdif	00 44 06.1	+1.7
WVT	Waverly	98.01	55		P		P	00 44 03.6	-0.4
	baz=251								
B35A	Bob, Littlefor	98.12	41		IAmb		IAmb	00 44 05.5	
	comp=Z,54nm,1.2s								
B35A	Bob, Littlefor	98.12	41		P		Pdif	00 44 04.3	0.0
	baz=249,SNR=13								
ULN	Ulaanbaatar	98.30	318		P		P	00 44 05.2	0.0
ULN	Ulaanbaatar	98.30	318	⇓e	P		Pdif	00 44 06.1	+0.8
ULN					pmax		pmax		
	comp=Z,5.0nm,0.9s								
JFWS	Jewell Farm	98.50	47		Pdiff		P	00 44 05.4	-0.7
	baz=250								
I40A	Norwalk	98.58	46		IAmb		IAmb	00 44 09.1	
	comp=Z,34nm,1.1s								
SONM	Songino Array	98.70	318		P		P	00 44 06.6	-0.4
	comp=Z,2.2nm,0.9s,baz=124,slow=3.4,SNR=8.3								
SONM					PP		PP	00 48 04.0	-4.6
	comp=Z,1.6nm,1.0s,baz=90,slow=5.8,SNR=2.8								
SONM					LR		LR	01 24 57.1	
	comp=Z,646nm,22.0s,baz=112,slow=33 comp=Z,2.2nm,0.9s								
T47A	Sharon Grove	98.84	54		P		Pdif	00 44 07.9	+0.2
	baz=251								
E38A	The Farm, Brul	98.88	44		IAmb		IAmb	00 44 09.5	
	comp=Z,44nm,1.4s								
E38A	The Farm, Brul	98.88	44		P		Pdif	00 44 08.9	+1.2
	baz=250								
G40A	Rib Lake	99.32	45		P		Pdif	00 44 10.5	+0.8
	baz=251,SNR=5.4								
EYMN	Ely	99.37	42		IAMs_20		IAMs_20	01 23 53.0	
	comp=Z,2µm,19.0s								
EYMN	Ely	99.37	42		IAmb		IAmb	00 44 13.2	
	comp=Z,40nm,1.3s								
EYMN	Ely	99.37	42		P		Pdif	00 44 10.7	+0.9
	baz=250,SNR=7.3								
EYMN	Ely	99.37	42		Pdiff		Pdif	00 44 09.9	0.0
	baz=250								
TIXI	Tiksi	99.80	344		P		Pdif	00 44 11.0	-0.2
	comp=Z,12nm,0.9s,baz=126,slow=0.2,SNR=24								
TIXI					LR		LR	01 24 18.8	
	comp=Z,584nm,21.8s,baz=144,slow=32 comp=Z,12nm,0.9s								
TIXI	Tiksi	99.80	344		Pdif		Pdif	00 44 10.7	-0.4
TIXI	Tiksi	99.80	344	ce	P		Pdif	00 44 11.4	+0.2
TIXI					pmax		pmax		
	comp=Z,14nm,1.0s								
X51A	Calhoun	99.82	57		P		Pdif	00 44 11.9	-0.3
	baz=252								
X51A					P		Pdif	00 44 11.9	-0.3
	baz=252								
ROSC	El Rosal	99.84	88		P		Pdif	00 44 15.1	+1.8
	comp=Z,3.3nm,0.3s,baz=280,slow=19,SNR=1.4								
ROSC					LR		LR	01 20 54.8	
	comp=Z,1µm,19.9s,baz=216,slow=30 comp=Z,3.3nm,0.3s								
SFIN	Lafayette	99.91	51		Pdiff		Pdif	00 44 11.8	-0.6
	baz=252								
COWI	Conover	100.29	45		P		Pdif	00 44 14.2	+0.2
	baz=252								
GTA	Gaotai	100.48	308	⇑	P		Pdif	00 44 26.1	+11
GTA					sP		pwP	00 44 38.3	+5.9
GTA					PP		PP	00 48 26.9	+4.6
GOGA	Godfrey	100.57	58		Pdiff		Pdif	00 44 15.5	0.0
	baz=253								
MTDJ	Mount Denham	101.13	75		IAMs_20		IAMs_20	01 20 51.6	
	comp=Z,1µm,20.0s								
P49A	Miami Univ. Ec	101.40	52		IAMs_20		IAMs_20	01 24 58.4	
	comp=Z,2µm,19.0s								
P49A	Miami Univ. Ec	101.40	52		Pdiff		Pdif	00 44 19.0	-0.1
	baz=253								
TZTN	Tazewell	101.42	55		Pdiff		Pdif	00 44 19.8	+0.5
	baz=253								
CPUP	Villa Florida	102.31	124		P		Pdif	00 44 26.4	+2.9
	comp=Z,2.9nm,0.9s,baz=227,slow=7.3,SNR=6.7								
SHL	Shillong	102.89	293		Pdif		Pdif	00 44 26.5	+0.2
SHL	Shillong	102.89	293	i	P		Pdif	00 44 26.5	+0.2
GLMI	Grayling	102.96	47		IAMs_20		IAMs_20	01 25 41.2	
	comp=Z,2µm,20.0s								
NHSC	New Hope	103.13	59		IAMs_20		IAMs_20	01 26 06.6	
	comp=Z,1µm,20.0s								
GOMU	GeErMu	103.37	304		Pdif		Pdif	00 44 32.4	+4.0
GOMU					SS		SS	01 03 23.3	-4.4
GOMU					AMB		AMB		
	comp=Z,120nm,4.6s								
GOMU					LR		LR		
	comp=Z,120nm,20.2s								
GOMU					LR		LR		
	comp=Z,250nm,22.0s								
GOMU					LR		LR		
	comp=Z,390nm,21.4s								
O53A	New Philadelph	104.19	52		IAMs_20		IAMs_20	01 25 47.2	
	comp=Z,2µm,20.0s								
M53A	WI Miller and	104.88	51		IAMs_20		IAMs_20	01 26 36.4	
	comp=Z,2µm,20.0s								
CNNC	Cliffs of the	105.51	58		IAMs_20		IAMs_20	01 29 55.5	
	comp=Z,1µm,19.0s								
TAPN	Taplejung	106.97	293		eP		PKiKP	00 48 55.1	+0.8
RAMN	Ramite	107.83	293		eP		PKiKP	00 48 55.6	-0.2
JIRN	Jiri	108.35	293		eP		PKiKP	00 48 56.6	-0.3
	comp=Z,19nm,0.9s								
GUN	Gumba	108.68	294		eP		PKiKP	00 48 57.1	-0.4
	comp=Z,32nm,1.0s								
PKI	Pulchoki	109.00	293		eP		PKiKP	00 48 57.3	-0.8
	comp=Z,35nm,1.0s								
PKIN	Phulchoki	109.02	293		eP		PKiKP	00 48 57.3	-0.7
	comp=Z,26nm,0.8s								
DMN	Daman	109.27	293		eP		PKiKP	00 48 58.1	-0.4
GKN	Gorkha	109.77	293		eP		PKiKP	00 48 58.4	-0.9
LONY	Lake Ozonia	109.89	49		IAMs_20		IAMs_20	01 27 37.9	
	comp=Z,1µm,21.0s								
DGAR	Diego Garcia	109.98	254		IAMs_20		IAMs_20	01 45 25.4	
	comp=Z,2µm,21.0s								
WMQ	Urumqi	110.33	310	e	PKP		PKiKP	00 49 00.3	+0.5
WMQ					LR		LR		
	comp=Z,290nm,17.5s								
WMQ					LR		LR		
	comp=Z,770nm,19.7s								
WMQ					LR		LR		
	comp=Z,950nm,23.9s								
DANN	Dangsing	110.60	294		eP		PKiKP	00 49 00.3	-0.7
	comp=Z,58nm,0.9s								
DGZ	Jazzator, Alta	111.30	317	c	iPKIKP		PKiKP	00 49 00.5	-1.0
HRV	Adam Dziewonsk	111.75	51		IAMs_20		IAMs_20	01 31 07.3	
	comp=Z,1µm,20.0s								
BCX	Boston College	112.02	52		IAMs_20		IAMs_20	01 29 32.2	
	comp=Z,2µm,20.0s								
NRIK	Noril'sk	112.15	338		PKiKP		PKiKP	00 49 02.0	-0.3
	comp=Z,3.0nm,0.5s,baz=72,slow=7.3,SNR=5.6								
NRIK	Noril'sk	112.15	338	c	iPKIKP		PKiKP	00 49 02.5	+0.2
ZSN	Zaisan	112.76	314	e	PKiKP		PKiKP	00 49 03.4	-0.9
	baz=314								
ZSN	Zaisan	112.76	314	i	PKIKP		PKiKP	00 49 03.3	-0.9
PCHI	Peechi	112.80	273		eP		PKiKP	00 49 04.8	-0.4
PCHI					ex		SP	00 59 23.9	-1.5
ZAA0	Zalesovo Array	113.27	321		PKiKP		PKiKP	00 49 03.2	-1.7
ZALV	Zalesovo Beam	113.27	321		PKiKP		PKiKP	00 49 03.7	-1.2
	comp=Z,12nm,0.6s,baz=152,slow=1.1,SNR=48								
ZALV					PP		PP	00 49 52.2	-3.4
	comp=Z,6.3nm,1.0s,baz=94,slow=6.1,SNR=4.9								
ZALV					PKKPbc		PKKPbc	00 59 51.0	-0.8
	comp=Z,1.4nm,0.7s,baz=254,slow=4.2,SNR=6.2								
ZALV					SKKPbc		SKKPbc	01 03 36.2	-1.0
	comp=Z,4.1nm,1.2s,baz=259,slow=1.5,SNR=5.2								
PKME	Peaks-Kenny Pk	113.70	49		IAMs_20		IAMs_20	01 30 28.7	
	comp=Z,2µm,21.0s								
SMRT	St. Maarten	114.29	79		IAMs_20		IAMs_20	01 29 38.4	
	comp=Z,1µm,22.0s								
MK31	Makanchi Array	114.46	313	d	iPKIKP		PKPdf	00 49 06.2	-1.3
MKAR	Makanchi Array	114.46	313		Pdiff		Pdif	00 45 20.0	+3.0
	comp=Z,0.3nm,0.8s,baz=96,slow=8.9,SNR=2.3								
MKAR					PKP		PKPdf	00 49 06.0	-1.4
	comp=Z,18nm,0.7s,baz=98,slow=0.7,SNR=93								
MKAR					PKKPbc		PKKPbc	00 59 47.2	-0.4
	comp=Z,5.2nm,0.9s,baz=274,slow=3.5,SNR=9.7								
GDHS	Morne Mazeau,	115.04	81		IAMs_20		IAMs_20	01 28 36.5	
	comp=Z,1µm,22.0s								
CBE	Ff, Capester	115.14	81		IAMs_20		IAMs_20	01 31 39.9	
	comp=Z,1µm,21.0s								
BIM	Bigot	115.22	83		IAMs_20		IAMs_20	01 29 52.5	
	comp=Z,996nm,21.0s								
BDFB	Brasilia	115.25	119		PKP		PKiKP	00 49 08.6	-1.5
	comp=Z,3.2nm,0.9s,baz=153,slow=6.8,SNR=4.3								
ABD	La Joyeuse, An	115.35	81		IAMs_20		IAMs_20	01 30 38.7	
	comp=Z,869nm,20.0s								
MPOM	Morne Pois Mar	115.40	83		IAMs_20		IAMs_20	01 35 00.1	
	comp=Z,795nm,18.0s								
SCHQ	Schefferville	115.67	38		PKP		PKiKP	00 49 09.4	-0.2
	comp=Z,7.1nm,1.0s,baz=243,slow=2.3,SNR=4.1								
BBSR	BB Station	115.72	63		IAMs_20		IAMs_20	01 30 01.3	
	comp=Z,972nm,21.0s								
SHLS	Shalkode	116.21	309	e	PKiKP		PKPdf	00 49 09.2	-1.9
	baz=309								
SHLS	Shalkode	116.21	309	i	PKIKP		PKPdf	00 49 09.2	-1.9
NEEM	North Greenlan	116.46	12	i	P		PKiKP	00 49 11.1	+0.2
UZB	Uzynbulak	116.53	309	e	PKP		PKPdf	00 49 10.7	-1.1
	baz=309								
UZB	Uzynbulak	116.53	309	e	PKIKP		PKPdf	00 49 10.6	-1.1
KPKS	Kokpek	116.80	309	e	PKP		PKPdf	00 49 11.1	-1.1
	baz=309								
KPKS	Kokpek	116.80	309	e	PKIKP		PKPdf	00 49 11.0	-1.1
SATY	Saty	116.98	309	e	PKP		PKPdf	00 49 11.5	-1.1
	baz=309								
SATY	Saty	116.98	309	e	PKIKP		PKPdf	00 49 11.4	-1.1
KURK	Kurchatov	117.01	317		PKPdf		PKPdf	00 49 10.1	-2.1
KURK	Kurchatov	117.01	317		IAMs_20		IAMs_20	01 34 52.9	
	comp=Z,1µm,21.0s								
KURK	Kurchatov	117.01	317		P		PKPdf	00 49 11.1	-1.1
KURK	Kurchatov	117.01	317	d	iPKIKP		PKPdf	00 49 10.8	-1.4
KURK					pmax		pmax		
	comp=Z,34nm,0.8s								
TDK	Taldyqorghan	117.07	311	e	PKP		PKPdf	00 49 11.3	-1.2
	baz=311								
TDK	Taldyqorghan	117.07	311	e	PKIKP		PKPdf	00 49 11.3	-1.2
MDOK	Medeo	117.97	309	e	PKP		PKPdf	00 49 12.8	-1.8
	baz=309								
MDOK	Medeo	117.97	309	e	PKIKP		PKPdf	00 49 12.7	-1.8
AAA	Alma-Ata	118.07	309	e	PKP		PKPdf	00 49 14.1	-0.5
	baz=309								
AAA	Alma-Ata	118.07	309	e	PKIKP		PKPdf	00 49 14.1	-0.5
KUU	Kurty	118.51	310	e	PKP		PKPdf	00 49 13.8	-1.6
	baz=310								
KUU	Kurty	118.51	310	e	PKIKP		PKPdf	00 49 13.7	-1.6
ULHL	Ulahol	118.53	308		P		PKPdf	00 49 15.2	-0.5
	SNR=41								
KSH	Kashi	118.60	305		PKP		PKiKP

DZA	Taraz	122.16	308	*e*PKP		PKPdf	00 49 21.5	-0.9
	baz=308							
DZA	Taraz	122.16	308	*e*PKIKP		PKPdf	00 49 21.5	-0.9
VOI	Vohitsoka	122.76	225	P		PKiKP	00 49 24.8	+0.2
GDU01	Guandu, BA	123.11	123	*e*P		PKPdf	00 49 24.0	-1.0
IUG	Iuzhnay	123.15	308	*e*PKP		PKPdf	00 49 23.3	-1.2
	baz=308							
IUG	Iuzhnay	123.15	308	*e*PKIKP		PKPdf	00 49 23.2	-1.2
ICESG	Greenland Ices	123.62	18	*e*P		PKPdf	00 49 21.8	-3.0
TAS	Tashkent	123.72	307	PKPdf		PKPdf	00 49 25.0	-0.4
TAS	Tashkent	123.72	307	PKIKP		PKPdf	00 49 25.0	-0.4
KBL	Kabul	123.88	299	PKPdf		PKPdf	00 49 25.6	-0.6
KBL	Kabul	123.88	299	P		PKiKP	00 49 26.6	+0.1
	SNR=39							
KBL	Kabul	123.88	299	PKIKP		PKPdf	00 49 25.6	-0.6
DBG	Daneborg	124.02	9	*i* P		PKPdf	00 49 24.9	-0.1
ROSB	Rosrio	124.86	109	*e*P		PKPdf	00 49 28.5	+0.1
SUR	Sutherland	125.95	194	PKPdf		PKiKP	00 49 31.0	+0.2
SUR	Sutherland	125.95	194	P		PKiKP	00 49 31.1	+0.4
MSEY	Mahe Island	126.27	248	IAMs_20	IAMs_20		01 44 01.7	
	comp=Z,868nm,19.0s							
MSEY	Mahe Island	126.27	248	P		PKiKP	00 49 31.9	+0.3
MSEY	Mahe Island	126.27	248	PKiKP		PKiKP	00 49 32.0	+0.3
SVE	Sverdlovsk	126.43	327	*d* PKIKP		PKPdf	00 49 30.2	+0.1
SVE				pmax	pmax			
	comp=Z,52nm,1.0s							
POGA	Pongola	126.90	208	PKPdf		PKPdf	00 49 32.1	+0.1
SCO	Scoresbysund	126.96	12	PKPdf		PKiKP	00 49 31.1	-0.1
SCO	Scoresbysund	126.96	12	*i* P		PKiKP	00 49 31.5	+0.3
SCO	Scoresbysund	126.96	12	PKIKP		PKiKP	00 49 31.1	-0.1
ARU	Arti	127.65	327	PKPdf		PKPdf	00 49 31.9	-0.6
ARU	Arti	127.65	327	*i* PKIKP		PKPdf	00 49 32.6	+0.2
ARU							00 51 36.2	
ARU							00 56 43.5	
ARU				SP	SP		01 01 36.5	+0.7
ARU				SS	SS		01 08 45.5	+2.0
ARU				MLR	MLR			
	comp=Z,1μm,21.0s							
BOSA	Boshof	128.24	201	PKP		PKiKP	00 49 35.1	-0.2
	comp=Z,34nm,1.0s,baz=152,slow=2.1,SNR=26							
HAMF	Hammerfest	128.69	353	*e*P		PKiKP	00 49 34.4	-0.3
KEV	Kevo	129.09	351	PKPdf		PKPdf	00 49 34.4	-0.4
KEV	Kevo	129.09	351	PKIKP		PKPdf	00 49 34.4	-0.4
ABKAR	Akbulak array	129.12	318			PKPdf	00 49 35.0	-0.5
LVZ	Lovozero	129.34	347	⇓ *i* PKIKP		PKPdf	00 49 35.5	+0.1
LVZ				pmax	pmax			
	comp=Z,85nm,1.7s							
NGCH	Negor - Chabah	130.09	286	P		PKiKP	00 49 39.7	+0.9
TRO	Tromso	130.15	355	*e*P		PKPdf	00 49 36.7	-0.1
KTK1	Kautokeino	130.28	352	*e*P		PKPdf	00 49 37.4	+0.2
PRGR	Permogore	130.78	337	*e*PKIKP		PKPdf	00 49 36.3	-1.9
PRGR				*e*			00 51 51.5	
PRGR				pmax	pmax			
	comp=Z,36nm,0.8s							
KIRV	Kirov	131.05	332	*d* PKIKP		PKiKP	00 49 39.4	-0.3
WSAR	Wadi Sarin	132.12	283	P		PKiKP	00 49 43.0	0.0
	SNR=5.9							
MHTO	MHTO	132.43	280	P		PKPdf	00 49 43.1	+0.5
	SNR=14							
JMDO	Jabal Madar	132.50	282	P		PKPdf	00 49 42.9	+0.2
	SNR=6.9							
GEYT	Alibeck	132.59	303	PKhKP	PKPpre		00 49 34.7	
	comp=Z,10nm,1.1s,baz=196,slow=1.0,SNR=3.8							
GEYT				PKP		PKiKP	00 49 43.2	-0.3
	comp=Z,37nm,0.8s,baz=343,slow=1.5,SNR=49							
GEYT				pP		PP	00 52 05.0	-1.8
	comp=Z,7.1nm,1.1s,baz=45,slow=0.6,SNR=3.9							
BIDO	Bidbid	132.62	284	P		PKPdf	00 49 43.2	+0.3
	SNR=8.7							
SMDO	Samad	132.63	283	P		PKPdf	00 49 43.1	0.0
	SNR=9.6							
DQM	DQM	132.66	279	P		PKPdf	00 49 43.4	+0.3
JASK	Jask - Hormozg	133.07	287	P		PKPdf	00 49 43.6	-0.1
HOQ	Hoqain	133.37	284	P		PKPdf	00 49 44.4	+0.1
	SNR=6.7							
BSY	Bisya	133.37	282	P		PKPdf	00 49 44.2	-0.2
	SNR=9.9							
KLMR	Klimovskoe	133.49	339	*e*PKPdf		PKPdf	00 49 37.4	-6.0
KLMR				AMP			00 49 44.3	
	comp=Z,39nm,1.1s							
KLMR				*e*PP		PP	00 52 03.8	-7.5
KLMR				LR	LR		01 36 45.2	
KLMR				AMP			01 43 06.0	
	comp=Z,1μm,15.8s							
KLMR	Klimovskoe	133.49	339	*e*PKIKP		PKPdf	00 49 37.4	-6.0
KLMR				pmax	pmax			
	comp=Z,39nm,1.1s							
ARQ	Araqi	134.06	283	P		PKPdf	00 49 45.9	+0.2
MDH	Madha	134.44	286	P		PKPdf	00 49 45.0	-1.2
	SNR=8.1							
MDH	Madha	134.44	286	*i* PKPdf		PKPdf	00 49 45.4	-0.9
	SNR=9.4							
BANOM	Banah	134.48	287	P		PKPdf	00 49 46.6	+0.2
	SNR=5.7							
BANOM	Banah	134.48	287	*i* PKiKP		PKPdf	00 49 47.0	+0.6
	SNR=8.0							
UOSS	Minazif	134.50	285	PKPdf		PKPdf	00 49 45.6	-0.9
UOSS	Minazif	134.50	285	P		PKPdf	00 49 45.8	-0.6
UOSS	Minazif	134.50	285	*i* PKPdf		PKPdf	00 49 45.5	-0.9
	SNR=7.8							
HATD	Hatta, Dubai	134.56	285	P		PKPdf	00 49 46.2	-0.3
	SNR=24							
HATD	Hatta, Dubai	134.56	285	*i* PKPdf		PKPdf	00 49 46.1	-0.4
	SNR=41							
MSFE	Esma-Masafi	134.57	286	*i* PKPdf		PKPdf	00 49 46.1	-0.5
	SNR=29							
MASF	Masafi	134.57	286	P		PKPdf	00 49 46.4	-0.2
	SNR=20							
SHME	Shamm	134.63	287	P		PKPdf	00 49 46.4	-0.2
SHME	Shamm	134.63	287	*i* PKPdf		PKPdf	00 49 46.6	0.0
	SNR=7.0							
DMTO	DMTO	134.67	275	P		PKPdf	00 49 46.6	-0.2
ALNE	Al Ain	134.84	284	P		PKPdf	00 49 47.3	+0.2
	SNR=11							
ALNE	Al Ain	134.84	284	*i* PKPdf		PKPdf	00 49 46.1	-1.0
	SNR=5.5							
NAZ	Nazwa, Dubai	134.99	285	P		PKPdf	00 49 47.5	+0.2
	SNR=12							
NAZ	Nazwa, Dubai	134.99	285	*i* PKPdf		PKPdf	00 49 46.7	-0.6
	SNR=7.2							
UMQ	Umm Al-Quwin	135.03	286	P		PKiKP	00 49 48.4	-0.5
FAQ	Al Faqa, Dubai	135.04	285	P		PKPdf	00 49 46.5	-0.9
FAQ	Al Faqa, Dubai	135.04	285	*i* PKPdf		PKPdf	00 49 46.5	-0.9
	SNR=8.0							
BELG	Belogornoye	135.15	326	*d* PKIKP		PKPdf	00 49 47.0	+0.3
UMZA	Um Al Zommool	135.24	282	P		PKPdf	00 49 47.6	-0.2
ASUD	Al Ashush, Dub	135.27	285	P		PKPdf	00 49 48.4	+0.5
ASUD	Al Ashush, Dub	135.27	285	*i* PKiKP		PKPdf	00 49 48.1	+0.3
	SNR=9.2							
RBK	Rabkut	135.32	275	P		PKPdf	00 49 48.2	0.0
	SNR=6.6							
DOK	Doka	135.60	276	P		PKPdf	00 49 49.0	+0.4
ABTO	Aybut	136.14	274	P		PKPdf	00 49 50.5	+0.8
MZWR	Madinat Zayed	136.51	283	P		PKiKP	00 49 51.3	-0.6
FINES	FINESS Array B	136.79	347	PKhKP	PKPpre		00 49 39.7	
	comp=Z,7.4nm,0.8s,baz=50,slow=5.4,SNR=12							
FINES				PKP		PKPdf	00 49 50.2	+0.7
	comp=Z,19nm,0.8s,baz=46,slow=4.0,SNR=24							
FINES	FINESS Array B	136.79	347		PKPpre		00 49 38.7	
GHWR	Ruwais	137.45	284	P		PKiKP	00 49 53.4	-0.4
MOS	Moscow	137.83	335	*i* PKIKP		PKiKP	00 49 53.2	-0.4
MOS				*e*			00 50 04.1	
MOS				*e*			00 52 41.6	
MOS				pmax	pmax			
	comp=Z,39nm,0.9s							
RAF	Rauma	138.02	349	*e*P		PKPdf	00 49 50.7	-1.1
MEF	Metsahovi	138.25	347	*e*P		PKPdf	00 49 50.3	-1.9
SLWR	Sila	138.53	284	P		PKPdf	00 49 54.4	+0.5
OBN	Obninsk	138.70	335		PKPpre		00 49 43.6	
OBN	Obninsk	138.70	335	*e*PKIKP		PKPdf	00 49 53.4	+0.2
OBN				*e*			00 52 47.8	
OBN				*e*SS	SS		01 11 02.1	+5.3
OBN				pmax	pmax			
	comp=Z,54nm,1.1s							
VRH	Novokhopyorsk	138.88	327	*e*PKHKP	PKPpre		00 49 46.1	
VRH				pmax	pmax			
	comp=Z,30nm,0.7s							
NB2	NORSAR Subarra	139.21	357	PKP	PKPpre		00 49 45.1	
	comp=Z,41nm,2.0s,baz=10,slow=3.2							
NOA	NORSAR Array B	139.21	357	PKhKP	PKPpre		00 49 44.9	
	comp=Z,2.0nm,0.9s,baz=7.7,slow=3.6,SNR=4.2							
NOA				PKP		PKPdf	00 49 54.4	+0.3
	comp=Z,13nm,1.0s,baz=14,slow=4.0,SNR=14							
VSU	Vasula	139.28	344	*e*P		PKPpre	00 49 48.9	
MAK	Makhachkala	139.28	313	*e*P		Pdif	00 47 05.6	-1.8
MAK				*i*			00 49 52.2	
MAK				*e*			00 57 00.7	
MAK				*e*SSS	SSS		01 16 14.3	
MAK				pmax	pmax			
	comp=Z,121nm,1.0s							
SHMA	Al-Shehemyia	139.28	286	P		PKPdf	00 49 56.0	+0.8
SMRA	Abu-Samra	139.36	285	P		PKPdf	00 49 55.3	-0.1
TSUM	Tsumeb	139.37	196			PKPpre	00 49 47.6	
LPSR	Galich'ya Gora	139.39	330	*e*PKHKP		PKPpre	00 49 48.1	
LPSR				pmax	pmax			
	comp=Z,40nm,0.9s							
NC602	NORSAR Array S	139.49	357	*e*		PKPpre	00 49 46.6	
AKT	Akhty	139.62	311	*e*PKIKP		PKPdf	00 49 54.8	-0.7
AKT				*e*			00 52 51.9	
AKT				pmax	pmax			
	comp=Z,47nm,1.0s							
MTSE	Matsula	139.75	346	*e*P		PKPdf	00 49 52.7	-2.3
VORR	Voronezh	139.85	329	*e*PKHKP		PKPpre	00 49 50.0	
VORR				pmax	pmax			
	comp=Z,20nm,0.4s							
VSR	Storozhevoye	140.15	328	*e*PKHKP		PKPpre	00 49 49.5	
VSR				pmax	pmax			
	comp=Z,50nm,1.0s							
GROC	Groznyy	140.35	314	*e*PKHKP		PKPpre	00 49 49.9	
GROC				pmax	pmax			
	comp=Z,119nm,1.0s							
KONO	Kongsberg	140.67	358	⇑PKHKP		PKPpre	00 49 46.9	
KONO	Kongsberg	140.67	358	*e*		PKPpre	00 49 50.3	
GOF	Gofitskoye	141.36	318	⇑*e*PKHKP		PKPpre	00 49 53.8	
GOF				pmax	pmax			
	comp=Z,43nm,0.9s							
ZEI	Tsey	141.79	314	*i* PKHKP		PKPpre	00 49 54.0	
ZEI				pmax	pmax			
	comp=Z,13nm,0.9s							
ISAL	Salakas	141.96	342	*e*P		PKPdf	00 49 56.1	-3.0
KBZ	Khabaz	142.05	316	PKhKP	PKPpre		00 49 54.5	
	comp=Z,10nm,1.0s,baz=171,slow=2.3,SNR=14							
HOMB	Homborsund	142.08	359	*e*P		PKPdf	00 49 54.8	-4.4
HOMB				IAmb	IAmb		00 49 55.8	
	comp=Z,96nm,1.2s							
HOMB	Homborsund	142.08	359	*e*		PKPpre	00 49 54.9	
KIV	Kislovodsk	142.09	317	⇑P		PKPpre	00 49 54.5	
KIV	Kislovodsk	142.09	317	PKPpre	PKPpre		00 49 53.8	
KIV	Kislovodsk	142.09	317	*i* PKPdf	PKPpre		00 49 54.4	
	SNR=8.2							
KIV	Kislovodsk	142.09	317	*i* PKIKP		PKPdf	00 50 00.5	+0.6
KIV				*e*			00 53 03.2	
KIV				*e*SS	SS		01 11 35.8	-2.1
KIV				*e*SSS	SSS		01 16 55.8	
KIV				pmax	pmax			
	comp=Z,28nm,1.1s							
KIBK	Kibwezi	142.09	237	IAMs_20	IAMs_20		01 57 16.0	
	comp=Z,550nm,19.0s							
KIBK	Kibwezi	142.09	237	P		PKPdf	00 49 56.7	-4.1
IIGN	Ignalina	142.12	342	*e*P		PKPdf	00 49 56.4	-3.1
GNI	Garni	142.20	310			PKPpre	00 49 54.7	
GNI	Garni	142.20	310	IAMs_20	IAMs_20		01 54 01.2	
	comp=Z,673nm,21.0s							
GNI	Garni	142.20	310	P		PKPdf	00 49 56.9	-3.4
GNI	Garni	142.20	310	PKPdf		PKPdf	00 49 56.9	-3.4
GNI	Garni	142.20	310	PKHKP	PKPpre		00 49 54.7	
GNI				MLR	MLR			
	comp=Z,700nm,21.0s							
MNK	Minsk	142.34	340	*i* PKP		PKPdf	00 49 56.7	-3.2
	comp=N,28nm,0.8s							
MNK				*i* PKP		PKPdf	00 49 56.7	-3.2
	comp=Z,81nm,0.9s,baz=34							
MNK				*i* PKP		PKiKP	00 49 57.0	-5.9
	comp=E,4.0nm,1.2s							
MNK				*i* PP		PP	00 53 10.9	+4.6
MNK				*i* SKP			00 53 43.3	
MNK				*i* PPP	PPP		00 55 53.7	
MNK				*i* SKS		SKSdf	00 57 03.8	-4.2
MNK				*i* SKKS		SKKSdf	01 06 16.3	-12
MNK				*i* SS	SS		01 11 55.4	+16
MNK				*i* SSS	SSS		01 17 21.4	
MNK				*i* LQ	LQ		01 39 21.1	
MNK				*i* LR	LR		01 43 49.2	
MNK				*i* LRM	MLR		01 46 49.9	
	comp=N,798nm,23.5s							
MNK				*i* LRM	MLR		01 49 07.9	
	comp=Z,1μm,26.1s							
MNK				*i* LRM	MLR		01 49 41.6	
	comp=E,138nm,21.3s							
MNK	Minsk	142.34	340	*i* PKIKP		PKPdf	00 49 56.6	-3.2
MNK				*i*			00 53 10.8	
MNK				*i*			00 57 03.7	
MNK				pmax	pmax			
	comp=Z,81nm,0.9s							
MNK				pmax	pmax			
	comp=N,28nm,0.8s							
MNK				pmax	pmax			
	comp=E,4.0nm,1.2s							
MNK				MLR	MLR			
	comp=E,138nm,21.0s							
NACGM	Naroch	142.34	341	*e*PKP		PKPdf	00 49 55.5	-4.3
	comp=Z,60nm,1.0s,baz=33							
PABE	Paberze	142.60	344	*e*P		PKPdf	00 49 57.1	-3.1
PBUR	Paburge	142.62	346	*e*P		PKPdf	00 49 56.4	-3.9
KMBO	Kilima Mbogo	143.46	238	PKP		PKPbc	00 50 01.9	+1.3
	comp=Z,1.2nm,0.9s,baz=62,slow=22,SNR=15							
KMBO	Kilima Mbogo	143.46	238	PKPdf	PKPbc		00 50 01.5	+0.9
KMBO	Kilima Mbogo	143.46	238	IAMs_20	IAMs_20		01 54 40.4	
	comp=Z,753nm,20.0s							
KMBO	Kilima Mbogo	143.46	238	P		PKPbc	00 50 00.8	+0.2
KMBO	Kilima Mbogo	143.46	238	*i* PKPdf		PKPbc	00 50 01.3	+0.7
	SNR=33							
DEL	Delary	143.53	354	*i* P		PKPbc	00 49 59.0	-0.2
ESY	Stoneypath	143.74	9	*e*P		PKPbc	00 49 59.8	0.0
EBL	Broad Law	143.81	10	*e*P		PKPbc	00 50 00.1	0.0
MUD	Monsted U'grnd	143.88	358	*e*P		PKPbc	00 50 00.9	+0.7
MUD				IAmb	IAmb		00 50 01.4	
	comp=Z,390nm,2.0s							
MUD	Monsted U'grnd	143.88	358	PKIKP		PKPbc	00 50 00.6	+0.4
SOC	Sochi	144.16	318	*c* PKIKP		PKPbc	00 50 01.3	-0.2
SOC				*i*			00 50 05.4	
SOC				*e*			00 53 16.1	
SOC				*e*PPP	PPP		00 56 28.5	
SOC				*e*SS	SS		01 12 00.0	-1.5
SOC				pmax	pmax			
	comp=Z,49nm,0.9s							
SOC				pmax	pmax			
	comp=Z,65nm,0.9s							
SOC				MLR	MLR			
	comp=Z,559nm,20.0s							
RAYN	Ar Rayn	144.16	282	IAMs_20	IAMs_20		01 50 06.6	
	comp=Z,878nm,22.0s							
RAYN	Ar Rayn	144.16	282	P		PKPbc	00 50 02.6	+0.4
RAYN	Ar Rayn	144.16	282	*i* PKPdf		PKPbc	00 50 02.8	+0.6
	SNR=83							
RAYN	Ar Rayn	144.16	282	⇑PKIKP		PKPbc	00 50 02.7	+0.5
ESK	Eskdalemuir	144.22	10	*e*P		PKPab	00 50 00.9	-0.1
ESK	Eskdalemuir	144.22	10	PKPdf		PKPab	00 50 00.9	-0.1
ESK	Eskdalemuir	144.22	10	PKIKP		PKPab	00 50 00.9	-0.1
NEWG	New Galloway	144.24	11	⇑*e*P		PKPbc	00 50 01.3	0.0
PCED	Cedros	144.28	51	*e*PKP		PKPbc	00 50 02.3	+0.2
HOR	Horta	144.37	52	*e*PKP		PKPdf	00 50 03.5	-0.4
GAL1	Galloway	144.39	12	⇑*e*P		PKPbc	00 50 02.0	+0.2
COP	Copenhagen	144.45	355	*e*P		PKPbc	00 50 02.2	+0.2
COP				IAmb	IAmb		00 50 03.2	
	comp=Z,409nm,1.5s							
ATD	Arta Tunnel	144.46	261	IAMs_20	IAMs_20		01 47 27.3	
	comp=Z,572nm,20.0s							
ATD	Arta Tunnel	144.46	261	P		PKPdf	00 50 04.5	-0.3
	SNR=6.6							
PCAN	Candelaria	144.50	52	*e*PKP	PKPbc		00 50 03.3	+0.5
PICO	Pico	144.53	52	*e*PKP	PKPdf		00 50 03.7	-0.6
ROSA	Rosais	144.59	51	PKPdf	PKPdf		00 50 03.7	-0.6
ROSA	Rosais	144.59	51	*e*PKP	PKPbc		00 50 03.6	+0.5
SRBC	Serra Branca	144.62	50	*e*PKP	PKPbc		00 50 03.4	+0.2
PPNO	Prainha do Nor	144.66	51	*e*PKP	PKPdf		00 50 04.2	-0.3
PGRA	Graciosa	144.66	50	*e*PKP	PKPbc		00 50 03.4	+0.1
PMAN	Manadas	144.73	51	*e*PKP	PKPbc		00 50 03.9	+0.4
BSD	Bornholm Skovb	144.74	352	*e*P	PKPbc		00 50 03.4	+0.5
BSD	Bornholm Skovb	144.74	352	*i* P	PKPbc		00 50 03.0	+0.1
BSD				IAmb	IAmb		00 50 04.0	
	comp=Z,184nm,0.9s							
BSD	Bornholm Skovb	144.74	352	PKIKP	PKPbc		00 50 02.9	0.0
PID	Ribeirinha	144.78	51	*e*PKP		PKPdf	00 50 04.8	+0.1
EDMD	Edmundbyers	144.88	9	⇑*e*P		PKPbc	00 50 03.5	0.0
ANN	Anapa	144.91	321	*i* PKIKP		PKPdf	00 50 04.4	-0.2
ANN				pmax	pmax			
	comp=Z,526nm,1.1s							
KESW	Keswick, Cumbr	144.94	10	*e*P		PKPbc	00 50 03.7	+0.1
AKASG	Malin Array Be	144.95	335	PKP		PKPab	00 50 03.0	-0.8
	comp=Z,290nm,1.0s,baz=37,slow=4.2,SNR=293							
AKASG	Malin Array Be	144.95	335	PKIKP		PKPab	00 50 03.0	-0.8
AKBB	Malin Array Si	144.95	335	*c* PKIKP		PKPab	00 50 03.3	-0.5
ASCN	Ascension	144.96	141	PKPdf		PKPbc	00 50 05.7	0.0
WIM	Isle of Man	145.08	12	*e*P		PKPdf	00 50 04.7	0.0
PSBA	Serra de Santa	145.24	51	*e*PKP		PKPdf	00 50 05.8	+0.3
PAGU	Agualva, Azore	145.34	50	*e*PKP		PKPab	00 50 06.3	+0.7
PSCM	Serra do Cume	145.41	51	*e*PKP		PKPab	00 50 06.3	+0.4
GDLE	Glaisdale, N Y	145.44	8	⇑*e*P		PKPab	00 50 05.6	+0.2
HPK	Haverah Park	145.78	9	*e*P		PKPab	00 50 06.7	0.0
WPS	Cemaes, Angles	145.82	12	⇑*e*P		PKPab	00 50 06.7	-0.1
WME	Myndd Eilian	145.86	12	*e*P		PKPdf	00 50 06.1	+0.1
WLF1	Llynfaes	145.94	12	*e*P		PKPdf	00 50 05.6	-0.6
YRC	Rhoscolyn	145.94	12	⇑*e*P		PKPab	00 50 07.1	-0.2
YLL	Llanberis	146.13	12	*e*P		PKPab	00 50 07.8	-0.2
GKP	Gorka Klasztor	146.16	349	*e*PKPc			00 50 07.4	
GKP				*e*L	L		01 50 14.3	
	comp=Z,1μm,24.9s							
GKP	Gorka Klasztor	146.16	349	*e*P		PKPdf	00 50 06.0	-0.6
GKP	Gorka Klasztor	146.16	349	PKP2		PKPdf	00 50 06.9	+0.4
LBWR	Ladybower, Pea	146.31	9	*e*P		PKPbc	00 50 08.0	0.0
LMK	Market Rasen	146.45	8	*e*P		PKPbc	00 50 08.4	+0.1
LLW	Llanuwchllyn	146.50	12	*e*P		PKPbc	00 50 08.3	-0.3
STNC	Stoke	146.53	10	*e*P		PKPab	00 50 09.4	-0.2
FOEL	Foel Wylfa	146.55	11	*e*P		PKPdf	00 50 07.2	-0.1
SIM	Simferopol'	146.72	324	*i* PKP2		PKPdf	00 50 08.3	+0.5
SIM				pmax	pmax			
	comp=Z,531nm,0.9s							
BEL	Belsk	146.74	344	*e*PKPc			00 50 10.5	
BEL				*e*L	L		01 48 33.4	
	comp=Z,1μm,27.6s							
BEL	Belsk	146.74	344	PKIKP		PKPdf	00 50 07.9	+0.4
PSET	Sete Cidades	146.76	51	*e*PKP		PKPbc	00 50 09.8	-0.1
PDA	Ponta Delgada	146.83	51	*e*PKP		PKPbc	00 50 10.4	+0.4
CMLA	Cha da Macela	146.93	51	P		PKPab	00 50 12.0	+0.3
CMLA	Cha da Macela	146.93	51	*e*PKP		PKPab	00 50 11.4	-0.3
PCALD	Caldeiras da R	146.94	51	*e*PKP		PKPab	00 50 11.2	-0.6
HLM1	Long Mynd	146.96	11	*e*P		PKPbc	00 50 09.9	-0.1
CWF	Charnwood Fore	147.01	9	*e*P		PKPdf	00 50 08.2	+0.2
PGRON	Lagoa das Cont	147.04	51	*e*PKP		PKPab	00 50 11.7	-0.5
LPW	Lampeter	147.12	13	*e*P		PKPbc	00 50 10.6	+0.2
RSBS	Rosebush, Pemb	147.13	13	⇑*e*P		PKPbc	00 50 10.5	+0.1
WACR	West Acre	147.28	7	⇑*e*P		PKPbc	00 50 10.7	0.0
SORM	Soroca	147.31	333	⇑P		PKPdf	00 50 08.4	-0.2
SORM	Soroca	147.31	333	⇑PKIKP		PKPdf	00 50 08.4	-0.2
FURI	Furi	147.34	254	IAMs_20	IAMs_20		02 06 59.4	
	comp=Z,801nm,20.0s							
RUE	Ruedersdorf	147.46	352	*e*P		PKPdf	00 50 09.7	+1.0
PSMA	Santa Maria	147.51	52	*e*PKP		PKPbc	00 50 11.3	-0.6
LODK	Lodwar	147.62	242	PKPdf		PKPdf	00 50 10.3	0.0
LODK				IAMs_20	IAMs_20		02 04 37.2	
	comp=Z,883nm,20.0s							
LODK	Lodwar	147.62	242	P		PKPbc	00 50 12.1	-0.9
	SNR=39							
MONM	Monmouth	147.63	11	⇑*e*P		PKPbc	00 50 10.9	-0.8
STRD	Stroud	147.80	11	*e*P		PKPbc	00 50 11.9	-0.3
PURM	Purcari	147.84	330	⇑P		PKPdf	00 50 10.4	+0.9
ELMS	Elmsett, Ipswi	147.95	7	*e*P		PKPbc	00 50 12.5	-0.1
DIKM	Dikmen	147.97	318	⇓P		PKPdf	00 50 11.0	+1.0
KIS	Kishinev	147.98	331	⇑ *i* PKP		PKPdf	00 50 10.0	+0.2
	comp=Z,200nm,1.0s							
KIS				*e*L	L		00 54 41.0	
	comp=Z,500nm,24.0s							
KIS	Kishinev	147.98	331	⇑P		PKPbc	00 50 13.0	+0.1
KIS	Kishinev	147.98	331	*c* PKIKP		PKPdf	00 50 10.0	+0.2
KIS				*e*			00 50 20.0

comp=Z,900nm,24.3s
DPC Dobruska-Polom 149.12 348 *e*PKIKP **PKPdf 00 50 12.3 +0.7**
DPC *e* 00 50 16.7
DPC MLR MLR
comp=Z,900nm,24.3s
UZH Uzhgorod 149.17 340 *e*PKHKP PKPpre 00 50 06.6
UZH *e* 00 50 10.6
UZH *i* 00 50 15.3
UZH *i* 00 50 17.0
VLDR Vladesti 149.18 331 ⇑P **PKPdf 00 50 11.8 +0.1**
CRVS Cervenica-Dubn 149.19 341 *e*PKP **PKPdf 00 50 12.8 +1.1**
CRVS *e* 00 50 18.3
CRVS Cervenica-Dubn 149.19 341 *e*PKIKP **PKPdf 00 50 12.8 +1.1**
CRVS *e* 00 50 18.3
OKC Ostrava-Krasne 149.22 346 AMS AMS 01 56 40.0
comp=Z,900nm,17.8s
PVCC Panska Ves 149.26 350 *e*PKPDF **PKPdf 00 50 12.5 +0.7**
PVCC ⇑*e*PKP **PKiKP 00 50 17.4 +0.2**
PVCC AMS AMS 01 52 50.0
comp=Z,1μm,27.8s
PVCC Panska Ves 149.26 350 *e*PKIKP **PKPdf 00 50 12.5 +0.7**
PVCC *e* 00 50 17.4
KRLC Kraliky 149.30 348 *e*PKPDF **PKPdf 00 50 12.0 +0.1**
KRLC ⇑*e*PKP **PKPbc 00 50 16.6 +0.4**
KRLC ⇑*e*PKP **pPKPdf 00 50 16.9 -0.8**
KRLC Kraliky 149.30 348 *e*PKIKP **PKPdf 00 50 12.0 +0.1**
KRLC *e* 00 50 16.6
KRLC *e* 00 50 16.9
TESR Tescani 149.31 333 ⇑P **PKPdf 00 50 12.0 0.0**
GHRR 149.32 332 ⇓P **PKPdf 00 50 12.4 +0.3**
SCTR Scanteiesti 149.35 330 ⇓P **PKiKP 00 50 18.3 +0.7**
TATR Tatarca 149.38 330 ⇑P **PKiKP 00 50 17.3 -0.4**
MORC Moravsky Berou 149.42 346 ⇑P **PKPdf 00 50 12.7 +0.6**
MORC Moravsky Berou 149.42 346 *e*PKP **PKPdf 00 50 12.6 +0.5**
MORC *e* 00 50 17.7
MORC Moravsky Berou 149.42 346 ⇑PKIKP **PKPdf 00 50 12.7 +0.6**
SLCR Slobozia Conac 149.52 331 ⇑P **PKPdf 00 50 13.7 +1.4**
TRPA Tarpa 149.53 339 ⇑P **PKPdf 00 50 13.1 +0.8**
TRPA Tarpa 149.53 339 PKP **PKPdf 00 50 13.3 +1.0**
IZVR Izvoarele 149.55 330 ⇑P **PKiKP 00 50 18.0 0.0**
SCHL Schela 149.56 330 ⇑P **PKiKP 00 50 18.3 +0.3**
TUDR 149.56 331 ⇑P **PKiKP 00 50 13.6 +1.3**
PANC Panciu 149.58 332 ⇑P **PKiKP 00 50 18.1 +0.1**
BMR Baia Mare 149.59 338 ⇑P **PKiKP 00 50 17.5 -0.5**
BMR Baia Mare 149.59 338 ⇑PKP2 **PKiKP 00 50 17.5 -0.5**
JURR Jurilovca 149.59 328 ⇓P **PKiKP 00 50 18.0 -0.1**
CFR Carcaliu 149.65 330 ⇑P **PKPdf 00 50 13.4 +0.9**
CFR Carcaliu 149.65 330 ⇑PKHKP PKPpre 00 50 13.4
ODBI Odobesti 149.71 332 ⇑P **PKiKP 00 50 19.5 +1.2**
MAUC Maruska 149.74 346 *e*PKPDF **PKPdf 00 50 12.9 +0.3**
MAUC ⇑*e*PKP **PKiKP 00 50 18.9 +0.6**
TPGR Topolog 149.75 329 ⇑P **PKPbc 00 50 17.5 0.0**
MEM Membach 149.76 1 *d*PKPdf **PKPdf 00 50 13.0 +0.5**
MEM *d*PKiKP **pPKPdf 00 50 17.7 -0.6**
ARCR ARCALIA 149.77 336 ⇑P **PKPbc 00 50 17.8 +0.4**
VRI Vrincioaia 149.78 332 ⇑P **PKPdf 00 50 12.9 +0.1**
VRI Vrincioaia 149.78 332 ⇑PKHKP PKPpre 00 50 12.9
BSTI Sart Tilman 149.78 2 *d*PKPdf **PKPdf 00 50 13.5 +0.9**
BSTI *d*PKiKP **pPKPdf 00 50 17.8 -0.6**
PRU Pruhonice 149.78 350 *e*PKPDF **PKPdf 00 50 12.2 -0.4**
PRU ⇑*e*PKP **pPKPdf 00 50 17.9 -0.5**
PRU AMS AMS 01 56 40.0
comp=Z,1μm,19.5s
PRU Pruhonice 149.78 350 *e*PKIKP **PKPdf 00 50 12.2 -0.4**
PRU *e* 00 50 17.9
PRU MLR MLR
comp=Z,1μm,19.5s
BTNL Ternell 149.79 1 *d*PKPdf **PKPdf 00 50 13.0 +0.3**
BTNL *d*PKiKP **pPKPdf 00 50 18.0 -0.5**
SNF Seneffe 149.80 3 *d*PKiKP **PKiKP 00 50 18.5 +0.1**
ABAH Abaujker 149.80 341 PKP **PKPdf 00 50 14.0 +1.3**
GOPC GO Pecny, Ondr 149.82 350 ⇑*e*PKP **PKiKP 00 50 18.7 +0.2**
GOPC AMS AMS 01 53 50.0
comp=Z,1μm,31.0s
GOPC GO Pecny, Ondr 149.82 350 *e*PKP2 **PKiKP 00 50 18.7 +0.2**
PLOR Plostina 149.82 332 ⇑P **PKPdf 00 50 13.4 +0.5**
PLOR Plostina 149.82 332 ⇑PKHKP PKPpre 00 50 13.4
NKC Novy Kostel 149.83 353 ⇑*e*PKP **PKiKP 00 50 18.6 +0.1**
NKC Novy Kostel 149.83 353 *e*PKP2 **PKiKP 00 50 18.6 +0.1**
KECS Kecovo 149.86 342 *e*PKP **PKPbc 00 50 17.8 +0.2**
KECS Kecovo 149.86 342 *e*PKP2 **PKPbc 00 50 17.8 +0.2**
BCLA Clavier 149.93 2 *d*PKPdf **PKPdf 00 50 12.7 -0.2**
BCLA *d*PKiKP **pPKPdf 00 50 18.0 -0.6**
BCLA *d*PKP **sPKPbc 00 50 24.2 -1.3**
CEI Carei 149.94 339 ⇑P **PKiKP 00 50 19.3 +0.6**
CEI Carei 149.94 339 ⇑PKP2 **PKiKP 00 50 19.3 +0.6**
BGES Gesves 149.96 2 *d*PKPdf **PKPdf 00 50 13.5 +0.6**
BGES *d*PKiKP **pPKPdf 00 50 18.1 -0.6**
OZR 150.00 333 ⇑P **PKPdf 00 50 14.6 +1.4**
BHOU Houvegnez 150.02 1 *d*PKPdf **PKPdf 00 50 14.2 +1.2**
BHOU *d*PKiKP **PKiKP 00 50 18.8 -0.1**
COVR Voineasa-Covas 150.02 333 ⇑P **PKPdf 00 50 13.3 +0.1**
BISRR Bisoca 150.03 332 ⇓P **PKPdf 00 50 14.5 +1.2**
BMRD Maredsous 150.03 3 *d*PKPdf **PKPdf 00 50 13.5 +0.5**
BMRD *d*PKiKP **pPKPdf 00 50 18.5 -0.3**
GRER 150.04 331 ⇑P **PKPbc 00 50 18.3 +0.2**
TIRR Tirgusor 150.05 328 ⇑P **PKiKP 00 50 19.2 +0.2**
TIRR Tirgusor 150.05 328 ⇑PKP2 **PKiKP 00 50 19.2 +0.2**
BR131 Keskin Array S 150.05 316 P **PKPdf 00 50 14.0 +0.5**
SNR=35
BRTR Keskin Array B 150.05 316 PKP **PKPdf 00 50 13.7 +0.1**
comp=Z,9.9nm,1.0s,baz=118,slow=2.1,SNR=28
BRTR PKPbc **pPKPdf 00 50 19.1 -0.3**
comp=Z,73nm,0.8s,baz=134,slow=2.4,SNR=97
VRAC Vranov 150.06 347 ⇑P **PKPdf 00 50 14.6 +1.5**
VRAC Vranov 150.06 347 *e*PKP **PKPdf 00 50 13.2 +0.1**
VRAC *e* 00 50 18.1
VRAC Vranov 150.06 347 ⇑PKHKP PKPpre 00 50 14.6
HARR Harsova 150.11 329 ⇑P **PKPdf 00 50 14.2 +0.9**
HARR Harsova 150.11 329 ⇑PKHKP PKPpre 00 50 14.2
TLBR Topalu 150.16 329 ⇑P **PKPdf 00 50 14.5 +1.2**
TGMR Targu Mures 150.16 335 ⇑P **PKPbc 00 50 18.6 +0.2**
RCHB Rochefort 150.19 2 *d*PKPdf **PKPdf 00 50 13.5 +0.3**
RCHB *d*PKiKP **PKiKP 00 50 19.3 +0.1**
DOU Dourbes 150.23 3 *d*PKPdf **PKPdf 00 50 13.7 +0.4**
DOU *d*PKiKP **pPKPdf 00 50 18.7 -0.4**
DOU Dourbes 150.23 3 PKIKP **PKPdf 00 50 13.7 +0.4**
GIVF Givet 150.23 3 *e*PKIKP **PKPdf 00 50 13.5 +0.2**
GIVF pmax pmax
comp=Z,210nm,1.0s
MESR Meseseni 150.23 338 ⇑P **PKPdf 00 50 15.9 +2.5**
BAIF Baives 150.24 4 *e*PKIKP **PKPdf 00 50 13.6 +0.3**
BAIF pmax pmax
comp=Z,237nm,1.1s
MFTR Murfatlar 150.24 328 ⇑P **PKPdf 00 50 14.5 +1.0**
DOPR Dopca 150.27 334 ⇑P **PKPdf 00 50 14.1 +0.5**
JSA Saint Aubin 150.28 12 *e*P **PKPbc 00 50 18.6 +0.1**
TREC Trest 150.29 349 *e*PKPDF **PKPdf 00 50 14.1 +0.6**
TREC ⇑*e*PKP **pPKPdf 00 50 18.9 -0.4**
TREC AMS AMS 02 02 30.0
comp=Z,1μm,19.4s
TREC Trest 150.29 349 *e*PKIKP **PKPdf 00 50 14.1 +0.6**
TREC *e* 00 50 18.9
TREC MLR MLR
comp=Z,1μm,19.4s
VYHS Vyhne 150.30 344 *e*PKP **PKPdf 00 50 13.9 +0.4**
VYHS *e* 00 50 19.6
VYHS Vyhne 150.30 344 *e*PKIKP **PKPdf 00 50 13.9 +0.4**
VYHS *e* 00 50 19.6
NEHR Nehoiu 150.31 332 ⇑P **PKPdf 00 50 14.5 +0.8**
CBBR Cluj-Babes-Bol 150.34 337 ⇑P **PKPdf 00 50 15.3 +1.7**
KRUC Moravsky 150.34 347 *e*PKP **PKPdf 00 50 13.8 +0.3**
CJR Cluj-Napoca 150.37 337 ⇑P **PKiKP 00 50 19.8 +0.1**
CJR Cluj-Napoca 150.37 337 ⇑PKIKP **PKiKP 00 50 19.8 +0.1**
LTVH Ltavrtes, Hu 150.39 339 ⇓P **PKiKP 00 50 19.5 -0.2**
LTVH Ltavrtes, Hu 150.39 339 PKP **PKiKP 00 50 19.8 +0.2**
PGOP Pogoanele 150.39 330 ⇑P **PKiKP 00 50 14.9 +1.2**
MLR Muntele Rosu 150.41 332 ⇑P **PKPdf 00 50 14.7 +0.7**
MLR Muntele Rosu 150.41 332 ⇑PKIKP **PKPdf 00 50 14.7 +0.7**
MANR Mangalia 150.42 327 ⇓P **PKPdf 00 50 15.3 +1.5**
ISR Istrita 150.44 331 ⇑P **PKiKP 00 50 19.8 -0.1**
ISR Istrita 150.44 331 ⇑PKIKP **PKiKP 00 50 19.8 -0.1**
AMRR Amara 150.45 330 ⇑P **PKiKP 00 50 19.6 -0.3**
AMRR Amara 150.45 330 ⇑PKIKP **PKiKP 00 50 19.6 -0.3**
GRA1 Grafenberg Arr 150.49 354 PKPdf **PKPdf 00 50 12.5 -1.3**
GRA1 PKPbc **PKiKP 00 50 20.1 +0.2**
GRA1 PKPab **sPKPbc 00 50 26.8 -0.1**
GRF Grafenberg Arr 150.49 354 PKIKP **PKPdf 00 50 12.5 -1.3**
GRF 00 50 20.1
ANTO Ankara 150.51 317 ⇑P **PKPdf 00 50 15.4 +1.2**
ANTO Ankara 150.51 317 IAMs_20 IAMs_20 02 12 01.4
comp=Z,579nm,21.0s
ANTO Ankara 150.51 317 P **PKPdf 00 50 14.6 +0.4**
ANTO Ankara 150.51 317 ⇑PKIKP **PKPdf 00 50 15.4 +1.2**
MDB Medias 150.54 335 ⇑P **PKiKP 00 50 20.4 +0.4**
PSZ Piszkesteto 150.54 342 ⇑P **PKPdf 00 50 15.3 +1.3**
PSZ Piszkesteto 150.54 342 PKP **PKPdf 00 50 15.2 +1.3**
PSZ Piszkesteto 150.54 342 ⇑PKIKP **PKPdf 00 50 15.3 +1.3**
BORR Bors 150.69 339 ⇑P **PKiKP 00 50 21.0 +0.7**
WLF Walferdange 150.71 1 *d*PKPdf **PKPdf 00 50 15.3 +1.3**
WLF *d*PKiKP **PKPbc 00 50 19.9 +0.3**
SECR 150.71 332 ⇑P **PKPdf 00 50 15.1 +0.8**
KHC Kasperske Hory 150.77 351 *e*PKPDF **PKPdf 00 50 14.7 +0.4**
KHC ⇑*e*PKP **PKiKP 00 50 20.3 -0.2**
KHC AMS AMS 01 57 30.0
comp=Z,1μm,18.5s
KHC Kasperske Hory 150.77 351 *e*PKIKP **PKPdf 00 50 14.7 +0.4**
KHC *e* 00 50 20.3
KHC MLR MLR
comp=Z,1μm,18.5s
MODS Modra-Piesok 150.80 346 *e*PKP **PKPdf 00 50 15.3 +1.0**
MODS *e* 00 50 21.3
MODS *e* 00 50 29.2
MODS Modra-Piesok 150.80 346 *e*PKIKP **PKPdf 00 50 15.3 +1.0**
MODS *e* 00 50 21.3
LEHL Lehliu 150.80 330 ⇑P **PKiKP 00 50 20.7 +0.1**
PLAR PLOIESTI 150.82 332 ⇑P **PKPbc 00 50 20.2 +0.2**
VOIR 150.84 333 ⇑P **PKPdf 00 50 15.7 +1.2**
VOIR 150.84 333 ⇑PKIKP **PKPdf 00 50 15.7 +1.2**
RASA Rasa 150.84 329 ⇑P **PKiKP 00 50 20.9 +0.2**
HWQ Hawqa 150.84 305 *e*P **PKPdf 00 50 14.3 -0.7**
ROSF Rostrenen 150.85 14 *e*PKIKP **PKPdf 00 50 15.2 +0.9**
ROSF pmax pmax
comp=Z,125nm,1.2s
SULR 150.90 331 ⇑P **PKPdf 00 50 15.3 +0.8**
CKRC Cesky Krumlov 150.96 350 *e*PKPDF **PKPdf 00 50 14.7 +0.2**
CKRC ⇑*e*PKP **PKiKP 00 50 20.8 0.0**
CKRC AMS AMS 01 59 30.0
comp=Z,1μm,19.0s
BSZH Besenyszg 150.99 341 ⇑P **PKiKP 00 50 20.7 -0.2**
BSZH Besenyszg 150.99 341 PKP **PKiKP 00 50 21.5 +0.7**
FLN La Foliniere 151.00 10 *e*PKIKP **PKPdf 00 50 14.6 +0.1**
FLN pmax pmax
comp=Z,184nm,1.0s
ZST Bratislava 151.00 346 *e*PKP **PKiKP 00 50 21.8 +0.9**
ZST *e* 00 50 29.5
GERES GERESS Array B 151.03 351 PKP **PKPdf 00 50 15.3 +0.6**
comp=Z,8.1nm,1.0s,baz=27,slow=0.3,SNR=32
GERES PKPbc **PKiKP 00 50 21.2 +0.1**
comp=Z,55nm,0.9s,baz=23,slow=1.3,SNR=74
ARR Arges 151.07 334 ⇑P **PKPdf 00 50 15.9 +1.0**
SRO Srobarova 151.07 344 *e*PKP **PKiKP 00 50 22.0 +1.0**
SRO *e* 00 50 29.6
SGMF Saint Gilles 151.09 13 *e*PKIKP **PKPdf 00 50 15.6 +0.9**
SGMF pmax pmax
comp=Z,109nm,1.1s
BUD Budapest 151.18 343 PKP **PKiKP 00 50 21.4 +0.1**
BHL Bhannes 151.20 304 *e*P **PKPdf 00 50 14.9 -0.5**
LDF La Druitiere 151.22 10 *e*PKIKP **PKPdf 00 50 14.9 0.0**
LDF pmax pmax
comp=Z,151nm,1.0s
QUIF Quistinic 151.28 14 *e*PKIKP **PKPdf 00 50 15.0 0.0**
QUIF pmax pmax
comp=Z,108nm,1.3s
GRR Gorron 151.30 11 *e*PKIKP **PKPdf 00 50 15.1 +0.1**
GRR pmax pmax
comp=Z,157nm,0.9s
DEV Deva 151.32 336 ⇑P **PKPbc 00 50 20.9 -0.2**
SGRR Singureni 151.38 331 ⇑P **PKPdf 00 50 15.2 -0.1**
SIRR Siria 151.44 338 ⇑P **PKPdf 00 50 16.5 +1.1**
CSKK Cskako 151.50 344 PKP **PKPdf 00 50 15.9 +0.6**
CONA Conrad Observa 151.53 347 *i* P **PKPdf 00 50 15.7 +0.2**
comp=Z,128nm,1.1s,SNR=10
STU Stuttgart 151.56 357 IAMs_20 IAMs_20 01 58 57.3
comp=Z,968nm,22.0s
STU Stuttgart 151.56 357 PKIKP **PKPdf 00 50 15.6 +0.2**
HUMR Humele 151.59 332 ⇑P **PKPdf 00 50 16.2 +0.6**
SOP Sopron 151.61 346 PKP **PKPdf 00 50 16.2 +0.7**
RONA Rosalia, Austr 151.65 347 *i* P **PKPdf 00 50 16.0 +0.3**
comp=Z,116nm,0.8s,SNR=12
AMBH Ambrzfalva 151.69 340 ⇑P **PKiKP 00 50 23.4 +1.0**
SURR Surduc 151.72 337 ⇑P **PKPdf 00 50 17.3 +1.6**
GZR Gura Zlata 151.79 336 ⇑P **PKPdf 00 50 16.9 +0.9**
GZR Gura Zlata 151.79 336 ⇑PKIKP **PKPdf 00 50 16.9 +0.9**
COPA Copaceanca 151.80 331 ⇓P **PKPdf 00 50 15.9 0.0**
MPLH Magyarpolny 151.86 345 PKP **PKPdf 00 50 16.3 +0.4**
MOA Molln 151.90 350 *i* P **PKPdf 00 50 16.5 +0.5**
comp=Z,78nm,1.3s,SNR=10
CDF Champ du Feu 151.97 360 *e*PKIKP **PKPdf 00 50 15.9 -0.3**
CDF pmax pmax
comp=Z,132nm,1.0s
TIH Tihany 152.02 344 PKP **PKiKP 00 50 23.6 +0.6**
BZS Buzias 152.02 338 ⇓P **PKPdf 00 50 16.8 +0.6**
BZS Buzias 152.02 338 ⇓PKIKP **PKPdf 00 50 16.8 +0.6**
BFO Black Forest 152.03 358 PKPdf **PKPdf 00 50 15.0 -1.2**
BFO PKPbc **PKPbc 00 50 22.4 -0.3**
BFO PKPab **PKPab 00 50 33.4 +1.3**
BFO Black Forest 152.03 358 PKIKP **PKPdf 00 50 15.0 -1.2**
BFO 00 50 22.4
TIM Timisoara 152.06 338 ⇑P **PKPbc 00 50 20.0 -2.9**
GHAJ Ghor Haditha 152.09 299 IAMs_20 IAMs_20 01 57 56.6
comp=Z,659nm,22.0s
BIOA Bad Ischl, Aus 152.16 350 *i* P **PKPdf 00 50 16.3 -0.1**
comp=Z,46nm,0.9s,SNR=7.3
SRE Strehaia 152.23 335 ⇑P **PKiKP 00 50 24.2 +0.6**
ARSA Arzberg 152.24 347 *i* P **PKPdf 00 50 16.4 -0.1**
comp=Z,40nm,0.9s,SNR=6.0
HERR Herculane 152.35 336 ⇑P **PKiKP 00 50 23.7 -0.1**
HAU Haudompre 152.38 1 *e*PKIKP **PKPdf 00 50 16.7 0.0**
HAU pmax pmax
comp=Z,108nm,0.9s
BANR Banloc 152.40 338 ⇑P **PKPbc 00 50 23.5 0.0**
MORH Mrgy, Hungar 152.45 342 ⇓P **PKPdf 00 50 16.5 -0.3**
MORH Mrgy, Hungar 152.45 342 PKP **PKPdf 00 50 16.7 -0.1**
CSS Mathiatis 152.56 308 IAMs_20 IAMs_20 02 07 20.7
comp=Z,601nm,20.0s
HINF Hinteralfeld 152.57 0 *e*PKIKP **PKPdf 00 50 16.9 -0.1**
HINF pmax pmax
comp=Z,41nm,0.9s
SLE Schleitheim 152.59 358 PKIKP **PKPdf 00 50 16.7 -0.4**
PLVB Pleven 152.65 331 ⇑P **PKPdf 00 50 18.1 +0.9**
PUNG Punghina 152.65 334 ⇑P **PKPbc 00 50 24.1 -0.1**
BEHE Becsehely 152.70 345 PKP **PKPdf 00 50 18.6 +1.4**
MDVR Moldovita 152.70 337 ⇑P **PKPdf 00 50 18.2 +0.9**
KOVH Kovagotottos 152.71 343 PKP **PKPdf 00 50 17.4 +0.2**
RETA Reutte 152.72 354 *i* P **PKPbc 00 50 21.7 -2.7**
comp=Z,75nm,1.2s,SNR=18
WATA Walderalm 152.79 353 *i* P **PKPdf 00 50 17.8 +0.3**
comp=Z,45nm,0.7s,SNR=13
KBA Koelnbreinsper 152.80 350 *i* P **PKPdf 00 50 17.6 0.0**
comp=Z,48nm,1.2s,SNR=6.8
MOTA Moosalm 152.83 354 *i* P **PKPdf 00 50 17.3 -0.2**
comp=Z,132nm,1.0s,SNR=9.0
KOGS Kog 152.85 346 *i* PKPbc **PKPbc 00 50 24.6 0.0**
WTTA Wattenberg 152.85 353 *i* P **PKPdf 00 50 18.1 +0.4**
comp=Z,86nm,0.7s,SNR=8.5
SOKA Soboth 152.89 348 *i* P **PKPdf 00 50 17.3 -0.3**
comp=Z,82nm,1.0s,SNR=14
SQTA Sankt Quirin 152.94 354 *i* P **PKPdf 00 50 17.5 -0.2**
comp=Z,107nm,1.1s,SNR=5.4
DAVA Damuels 152.99 356 *i* P **PKPdf 00 50 18.3 +0.4**
comp=Z,96nm,0.9s,SNR=17
LOR Lormes 153.00 5 *e*PKIKP **PKPdf 00 50 17.9 +0.3**
LOR pmax pmax
comp=Z,142nm,1.2s
FRGS Fruska Gora 153.04 340 *e*P **PKPdf 00 50 17.7 -0.1**
ISP Isparta 153.13 316 IAMs_20 IAMs_20 02 11 20.7
comp=Z,927nm,20.0s
OBKA Obir 153.15 348 *e*P **PKPdf 00 50 17.6 -0.4**
OBKA Obir 153.15 348 *e*P **PKPdf 00 50 18.2 +0.2**
comp=Z,19nm,0.8s
FETA Feichten 153.19 354 *i* P **PKPdf 00 50 17.9 -0.3**
comp=Z,98nm,1.1s,SNR=11
MYKA Terra Mystica 153.19 350 *i* P **PKPdf 00 50 18.0 0.0**
comp=Z,36nm,0.8s,SNR=6.6
ABTA Abfaltersbach 153.25 351 *i* P **PKPdf 00 50 17.9 -0.3**
comp=Z,167nm,1.2s,SNR=11
AVF Avril sur Loir 153.43 6 *e*PKIKP **PKPdf 00 50 18.0 -0.2**
AVF pmax pmax
comp=Z,46nm,1.0s
LJU Ljubljana 153.60 348 *i* PKPdf **PKPdf 00 50 19.0 +0.5**
LJU *i* PKPbc **PKiKP 00 50 26.4 +0.1**
CRNS Crni Vrh 153.61 349 *i* PKPdf **PKPdf 00 50 18.4 -0.2**
CRES Cresnjev 153.61 347 *e*P **PKPdf 00 50 18.3 -0.3**
FUORN Ofenpass-Fuorn 153.62 355 IAMs_20 IAMs_20 01 57 40.2
comp=Z,799nm,22.0s
CABF La Chapelle 153.76 1 *e*PKIKP **PKPdf 00 50 19.5 +0.6**
CABF pmax pmax
comp=Z,68nm,1.0s
TCF Toulx Ste Croi 153.81 7 *e*PKIKP **PKPdf 00 50 18.9 0.0**
TCF pmax pmax
comp=Z,38nm,1.0s
TUE Stuetta 153.84 356 IAMs_20 IAMs_20 01 57 14.7
comp=Z,758nm,20.0s
VTS Vitosha 153.88 332 ⇑P **PKPdf 00 50 17.6 -1.6**
VTS Vitosha 153.88 332 PKPdf **PKPdf 00 50 18.3 -0.9**
VTS Vitosha 153.88 332 ⇑PKIKP **PKPdf 00 50 17.6 -1.6**
CEY Cerknica 153.91 348 *e*P **PKPdf 00 50 19.2 +0.2**
DIVS Divibare 153.91 338 *e*P **PKPdf 00 50 18.9 -0.2**
BOJS Bojanci 153.96 347 *e*P **PKPdf 00 50 19.3 +0.3**
A051A Mrakovica 154.03 344 *e*P **PKPdf 00 50 18.3 -1.0**
ELL Elmali 154.13 314 PKIKP **PKPdf 00 50 19.7 0.0**
BLY Banja Luka 154.20 343 *e*P **PKPdf 00 50 19.8 +0.4**
HAPS Han Pijesak,BI 154.27 340 *e*P **PKPdf 00 50 20.1 +0.4**
MGRS Mrkonjic Grad 154.53 343 *e*P **PKiKP 00 50 29.1 +0.7**
A050A Klekovaca 154.62 344 *e*P **PKPdf 00 50 19.8 -0.3**
RJF Les Rejaudoux 154.68 9 *e*PKIKP **PKPdf 00 50 20.4 +0.3**
RJF pmax pmax
comp=Z,29nm,1.1s
SRKY Kupres RS 154.83 343 *e*P **PKPdf 00 50 20.6 +0.1**
LPL La Plagne 154.87 0 *e*PKIKP **PKPdf 00 50 21.2 +0.6**
LPL pmax pmax
comp=Z,22nm,1.3s
PGAV Gavieira, Arco 154.87 27 *e*PKPdf **PKPdf 00 50 20.6 0.0**
PGAV Gavieira, Arco 154.87 27 *e*PKPab **PKPab 00 50 45.4 +1.0**
PGAV Gavieira, Arco 154.87 27 *e*PP **PP 00 54 20.8 +1.2**
PGAV Gavieira, Arco 154.87 27 *e*LR LR 01 44 49.7
comp=Z,1μm,20.0s
CAF Calviac 155.13 8 *e*PKIKP **PKPdf 00 50 21.2 +0.5**
CAF pmax pmax
comp=Z,25nm,1.3s
PMOZ Porto Moniz, M 155.14 55 *e*PP **PP 00 54 25.9 +3.8**
PMOZ Porto Moniz, M 155.14 55 *e*LR LR 01 43 09.5
comp=Z,526nm,22.0s
PCAB Cabril 155.18 27 *e*PKPdf **PKPdf 00 50 22.2 +1.3**
PCAB Cabril 155.18 27 *e*PKPab **PKPab 00 50 46.8 +1.1**
BNI Bardonecchia 155.33 0 PKIKP **PKPdf 00 50 22.1 +0.9**
PTO Porto 155.39 29 *e*PKPab **PKPab 00 50 47.7 +1.2**
ORIF Oris-en-Rattie 155.45 2 *e*PKIKP **PKPdf 00 50 21.6 +0.3**
ORIF pmax pmax
comp=Z,23nm,1.2s
VIVF Saint-Julien-l 155.46 4 *e*PKIKP **PKPdf 00 50 22.9 +1.7**
VIVF pmax pmax
comp=Z,29nm,1.0s
POLO Lamas de Olo 155.56 28 *e*PKPab **PKPab 00 50 47.6 +0.2**
PBRG Braganca 155.64 25 *e*PKPdf **PKPdf 00 50 22.4 +0.8**
PBRG Braganca 155.64 25 *e*PKPab **PKPab 00 50 48.8 +1.2**
MBDF Montbardon 155.66 0 *e*PKIKP **PKPdf 00 50 22.0 +0.4**
MBDF pmax pmax
comp=Z,23nm,1.1s
PVRL Vila Real 155.67 28 *e*PKPdf **PKPdf 00 50 23.1 +1.5**
PVRL Vila Real 155.67 28 *e*PKPab **PKPab 00 50 48.5 +0.7**
TREB Trebinje 155.69 339 *e*P PKPdf 00 50 30.9 +9.4
STON Ston 155.76 340 *e*P **PKPdf 00 50 17.1 -4.5**
DRME Dracevica, Mon 155.87 337 *e*P PKPdf 00 50 31.9 +10
PVIS Viseu 156.05 29 *e*PKPdf **PKPdf 00 50 23.6 +1.5**
PVIS Viseu 156.05 29 *e*PKPab **PKPab 00 50 50.7 +1.3**
MVO Moncorvo 156.06 27 *e*PKPdf **PKPdf 00 50 23.5 +1.3**
MVO Moncorvo 156.06 27 *e*PKPab **PKPab 00 50 51.0 +1.5**
MVO Moncorvo 156.06 27 *e*PP **PP 00 54 27.4 +1.2**
MVO Moncorvo 156.06 27 *e*LR LR 01 45 36.5
comp=Z,1μm,22.0s
COI Coimbra 156.21 30 *e*PKPdf **PKPdf 00 50 23.5 +1.2**
COI Coimbra 156.21 30 *e*PKPab **PKPab 00 50 51.5 +1.4**
COI Coimbra 156.21 30 IAMs_20 IAMs_20 01 57 20.3
comp=Z,671nm,20.0s
SJPF Ste Jean 156.26 15 *e*PKIKP **PKPdf 00 50 24.0 +1.7**
SJPF pmax pmax
comp=Z,27nm,1.2s
PCAS Casmilo, Conde 156.29 31 *e*PKPdf **PKPdf 00 50 23.6 +1.2**
PCAS Casmilo, Conde 156.29 31 *e*PKPab **PKPab 00 50 51.8 +1.4**
MTE Manteigas 156.46 29 *e*PKPdf **PKPdf 00 50 23.8 +1.1**
MTE Manteigas 156.46 29 *e*PKPab **PKPab 00 50 52.5 +1.3**
MTE Manteigas 156.46 29 *e*PP **PP 00 54 31.9 +3.5**
MTE Manteigas 156.46 29 *e*LR LR 01 43 58.8
comp=Z,864nm,22.0s
MTE Manteigas 156.46 29 PKPdf **PKPdf 00 50 22.5 -0.2**
MTE **PKPab 00 50 51.8 +0.5**
PSBE So Bento 156.57 32 *e*PKPab **PKPab 00 50 52.8 +1.1**
ETSF Etsaut 156.62 14 *e*PKIKP **PKPdf 00 50 23.6 +0.8**
ETSF pmax pmax
comp=Z,30nm,1.0s
MTLF Montolieu 156.70 9 *e*PKIKP **PKPdf 00 50 24.3 +1.5**
MTLF pmax pmax
comp=Z,39nm,1.1s
PMAFR Mafra 156.74 34 *e*PKPab **PKPab 00 50 54.2 +1.8**
PCBR Castelo Branco 156.94 29 *e*PKPdf **PKPdf 00 50 24.0 +0.8**
PCBR Castelo Branco 156.94 29 *e*PKPab **PKPab 00 50 54.4 +1.2**
PMST Lisbon--Monsan 156.96 34 *e*PKPab **PKPab 00 50 54.9 +1.6**
LIS Lisbon 156.99 34 *e*PKPdf **PKPdf 00 50 23.6 +0.3**
LIS IAMs_20 IAMs_20 01 57 36.1
comp=Z,1μm,15.0s
LIS Lisbon 156.99 34 *e*PKIKP **PKPdf 00 50 23.6 +0.3**
LMR La Mourre 157.05 1 *e*PKIKP **PKPdf 00 50 23.3 0.0**
LMR pmax pmax
comp=Z,31nm,1.3s
PMTG Montargil 157.19 32 *e*PKPdf **PKPdf 00 50 24.6 +1.0**
PMTG Montargil 157.19 32 *e*PKPab **PKPab 00 50 55.1 +0.8**
PMRV Marv??o 157.31 30 *e*PKPdf **PKPdf 00 50 25.0 +1.2**
PMRV Marv??o 157.31 30 *e*PKPab **PKPab 00 50 55.7 +0.9**
PMRV Marv??o 157.31 30 *e*PP **PP 00 54 34.3 +1.2**
PMRV Marv??o 157.31 30 *e*LR LR 01 44 20.0
comp=Z,801nm,22.0s
AQU L'Aquila 157.37 348 PKIKP **PKPdf 00 50 22.0 -1.8**
GUD Guadarrama 157.63 23 PKIKP **PKPdf 00 50 24.9 +0.6**
PESTR Estremoz 157.66 31 *e*PKPdf **PKPdf 00 50 25.4 +1.2**
PESTR Estremoz 157.66 31 *e*PKPab **PKPab 00 50 57.2 +0.8**
EVO Evora 157.71 32 PKP **PKPdf 00 50 23.6 -0.7**
EVO Evora 157.71 32 PP PP 00 54 38.0 +2.7
EVO Evora 157.71 32 *e*PKPdf **PKPdf 00 50 25.7 +1.4**
EVO Evora 157.71 32 *e*PKPab **PKPab 00 50 57.8 +1.2**
PNCL Nicolau / Gran 157.76 34 epPKPdf **PKPdf 00 50 25.6 +1.3**
PNCL Nicolau / Gran 157.76 34 *e*PKPab **PKPab 00 50 58.0 +1.2**
PGF Pioggiola 157.77 356 *e*PKIKP **PKPdf 00 50 25.1 +0.8**
PGF pmax pmax
comp=Z,51nm,1.1s
PTEO Sao Teotonio 158.08 35 *e*PKPdf **PKPdf 00 50 26.3 +1.6**
PTEO Sao Teotonio 158.08 35 *e*PKPab **PKPab 00 50 59.3 +1.1**
MESJ Messejana 158.13 34 *e*PKPdf **PKPdf 00 50 25.1 +0.3**
MESJ *e*PP **PP 00 54 38.7 +1.0**
MESJ IAMs_20 IAMs_20 01 58 43.4
comp=Z,975nm,22.2s
MESJ Messejana 158.13 34 *e*PKPdf **PKPdf 00 50 26.5 +1.7**
MESJ Messejana 158.13 34 *e*PKPab **PKPab 00 50 59.6 +1.2**
MESJ Messejana 158.13 34 *e*PKIKP **PKPdf 00 50 25.7 +0.3**
MESJ *e* 00 54 38.7
PBEJ Beja 158.17 33 *e*PKPdf **PKPdf 00 50 26.4 +1.6**
PBEJ Beja 158.17 33 *e*PKPab **PKPab 00 50 59.7 +1.1**
UCM Universidad Co 158.25 21 PKP **PKPdf 00 50 26.6 +1.6**
UCM Universidad Co 158.25 21 PP PP 00 54 39.8 +1.8
MORF Marmelete 158.29 35 *e*PKPdf **PKPdf 00 50 25.6 +0.5**
MORF IAMs_20 IAMs_20 01 56 18.3
comp=Z,1μm,23.3

ARNO	**Arenosillo**	**159.46**	**33**	PP	PP	00 54 47.3	+2.4
MAHO	**Mahon**	**160.35**	**6**	PKP	**PKPdf**	**00 50 29.0**	**+1.7**
EMAL	**Malaga-Limoner**	**160.83**	**29**	PKP	**PKPdf**	**00 50 23.6**	**-4.4**
EMAL	**Malaga-Limoner**	**160.83**	**29**	PP	PP	00 54 52.2	0.0
CEU	**Ceuta**	**161.08**	**32**	PKP	**PKPdf**	**00 50 28.1**	**-0.1**
CEU	**Ceuta**	**161.08**	**32**	PP	PP	00 55 02.0	+8.4
CART	**Cartagena**	**161.45**	**20**	PKP	**PKPdf**	**00 50 30.1**	**+1.6**
CART	**Cartagena**	**161.45**	**20**	PP	PP	00 54 57.8	+2.5
LIC	**Lamto**	**161.79**	**139⇑**	*e*PKIKP	**PKPdf**	**00 50 29.2**	**-0.4**
	comp=Z,141nm,0.9s						
AVE	**Averroes**	**161.82**	**42**	PKP	**PKPdf**	**00 50 29.6**	**+0.5**
AVE	**Averroes**	**161.82**	**42**	PP	PP	00 55 01.4	+3.4
SRHM	**Skhour des Reh**	**162.04**	**45**	P	**PKPdf**	**00 50 32.0**	**+2.5**
KIC	**Kosan Boka**	**162.08**	**139⇑**	*e*PKIKP	**PKPdf**	**00 50 28.7**	**-1.2**
	comp=Z,38nm,1.0s						
TIC	**Toumodi**	**162.12**	**138⇓**	*e*PKIKP	**PKPdf**	**00 50 28.8**	**-1.2**
	comp=Z,95nm,1.0s						
ZHG	**ZHG**	**162.19**	**40**	P	**PKPdf**	**00 50 31.0**	**+1.4**
DBIC	**Dimbokro**	**162.25**	**138**	PKP	**PKPdf**	**00 50 29.5**	**-0.6**
	comp=Z,28nm,1.0s,baz=176,slow=1.4,SNR=19						
DBIC				PKPab	**PKPab**	**00 51 17.5**	**+0.5**
	comp=Z,11nm,0.8s,baz=230,slow=4.4,SNR=6.2						
OUK	**Oukaimeden**	**162.82**	**48**	P	**PKPdf**	**00 50 33.0**	**+2.4**
LCRM	**LCR**	**163.05**	**36**	P	**PKPdf**	**00 50 33.0**	**+2.5**
JBK	**JBK**	**163.69**	**29**	P	**PKPdf**	**00 50 33.0**	**+1.8**
MDT	**Midelt**	**163.84**	**37**	P	**PKPdf**	**00 50 32.9**	**+1.7**
KEST	**Kesra**	**164.50**	**353**	PKP	**PKPdf**	**00 50 32.1**	**+0.4**
	comp=Z,17nm,0.9s,baz=354,slow=5.2,SNR=8.6						
FIGM	**Figuig**	**166.12**	**30**	P	**PKPdf**	**00 50 35.0**	**+1.7**
TOA0	**Torodi Ar. Sit**	**171.27**	**144**	P	**PKPdf**	**00 50 33.6**	**-3.3**
	SNR=8.6						
TORD	**Torodi Ar. Bea**	**171.27**	**144**	PKP	**PKPdf**	**00 50 34.7**	**-2.1**
	comp=Z,19nm,0.9s,baz=302,slow=3.2,SNR=71						
TORD				PKPab	**PKPab**	**00 51 56.6**	**-0.1**
	comp=Z,12nm,0.9s,baz=224,slow=4.3,SNR=11						
TORD				PP	**PP**	**00 55 46.1**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=216,slow=4.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**171.27**	**144**		**PKPdf**	**00 50 35.1**	**-1.7**
TORD				PKPab	**PKPab**	**00 51 56.7**	**0.0**
TAM	**Tamanrasset**	**177.20**	**28**	PKIKP	**PKPdf**	**00 50 39.1**	**+0.3**

HEL ***16*** *00:37:39.8±0.1,67.°82N×20.°27E,h0km,ML1.9, ML1.8(UPP), Explosion*

UPP 16 00:37:39.5±0.0,67.°82N×20.°21E,h0km,ML1.8, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kuravaara**	**0.14**	**21**	P	Pg	00 37 40.8	-1.3
KUA				S	Sg	00 37 42.5	-1.4
KUA	**Kuravaara**	**0.14**	**21**	P	Pg	00 37 42.4	+0.2
KUA				S	Sg	00 37 44.5	+0.6
KUA	**Kuravaara**	**0.14**	**21**	*i* P	Pg	00 37 42.4	+0.2
KUA				*i* S	Sg	00 37 44.5	+0.6
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	00 37 43.0	-1.0
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	00 37 44.1	+0.2
RATU				S	Sg	00 37 47.6	+0.7
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	00 37 44.1	+0.2
RATU				*i* S	Sg	00 37 47.6	+0.7
KOVU	**Salmi**	**0.40**	**358**	P	Pg	00 37 45.7	-1.4
KOVU	**Salmi**	**0.40**	**358**	P	Pg	00 37 47.3	+0.1
KOVU				S	Sg	00 37 53.0	+0.6
KOVU	**Salmi**	**0.40**	**358**	*i* P	Pg	00 37 47.3	+0.1
KOVU				*i* S	Sg	00 37 53.0	+0.6
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	00 37 47.0	-1.1
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	00 37 48.1	+0.1
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	00 37 48.1	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 37 51.6	-1.5
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	00 37 51.3	-1.7
LANU				*e*S	Sg	00 38 00.5	-1.8
DUNU	**Dundret**	**0.72**	**169**	P	Pg	00 37 52.8	-0.4
DUNU	**Dundret**	**0.72**	**169**	P	Pg	00 37 53.0	-0.2
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	00 37 53.0	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 37 53.3	-1.1
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 37 54.3	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	00 37 54.3	-0.1
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 37 53.4	-1.2
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 38 01.7	-0.9
KIF				*e*S	Sg	00 38 16.2	-2.0
KIF				MSG		00 38 16.6	
	comp=Z,16nm,0.2s						
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 38 01.7	-0.9
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 38 03.7	-2.2
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	00 38 03.5	-2.4
	baz=305						
PAJU				*e*SB	Sg	00 38 22.8	-1.0
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 38 04.2	-2.3
	baz=247						
HEF				MSG		00 38 21.0	
	comp=Z,6.4nm,0.2s						
HEF				*e*SB	Sg	00 38 23.3	-1.8
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 38 04.6	-2.0
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	00 38 05.7	-1.8
ERTU				*e*SN	Sg	00 38 27.0	-0.3
KLF	**Kolari**	**1.56**	**111**	*e*P	Pn	00 38 06.9	-1.6
	baz=297						
KLF				*e*SN	Sn	00 38 29.3	0.0
KTK1	**Kautokeino**	**1.64**	**42**	*e*P	Pn	00 38 08.0	-1.5
KTK1				*e*SN	Sb	00 38 31.8	+0.1
TRO	**Tromso**	**1.88**	**346**	*e*P	Pn	00 38 13.1	+0.3
TRO				*e*S	Sn	00 38 36.9	-0.2
KALU	**Kalix**	**2.33**	**146**	*e*P	Pn	00 38 19.1	0.0
KALU				*e*SG	Sb	00 38 50.3	-1.3
TOF	**Tornio**	**2.39**	**135**	*e*P	Pn	00 38 20.2	+0.4
TOF				MSG		00 38 49.3	
	comp=Z,8.0nm,0.2s						
TOF				*e*SG	Sb	00 38 52.6	-0.5
RNF	**Rovaniemi**	**2.57**	**116**	*e*P	Pn	00 38 22.9	+0.7
RNF				*e*SG	Sb	00 38 57.6	-0.8
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*SG	Sb	00 38 58.1	-0.9
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 38 31.2	+1.0
KEV				*e*S	Sn	00 39 09.2	+0.9
KEV				MSG		00 39 10.8	
	comp=Z,3.1nm,0.2s						
VRF	**Varrio**	**3.57**	**87**	*e*SG	Sb	00 39 28.6	+1.3
OUL	**Oulu**	**3.57**	**138**	*e*PG	Pb	00 38 44.5	+1.0
	baz=328						
OLKF	**Oulanka, Finla**	**3.90**	**108**	*e*P	Pn	00 38 41.4	+0.9
KU6	**Riekki**	**4.22**	**111**	*e*P	Pn	00 38 45.9	+1.0

WEL 16 00:45:58.2±0.4,42.°3S×17.°3E±.°,h5km,M2.5/1,ML2.7/1, ML3.0/11,MLv2.5/1,MLv2.6/10,Error ellipse: s-maj=0.0km s-min=0.0km az=85.8,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.07**	**146**	P	Pg	00 45 59.8	0.0
KHZ				S	Sg	00 46 01.4	+0.5
GVZ	**Greta Valley S**	**0.69**	**208**	P	Pb	00 46 12.4	-0.4
BSWZ	**Blackbirch Sta**	**0.70**	**24**	P	Pg	00 46 12.2	+0.5
THZ	**Tophouse**	**0.73**	**324**	P	Pg	00 46 12.0	-0.3
TUWZ	**Tuamarina**	**0.99**	**20**	P	Pb	00 46 17.5	-0.3
LTZ	**Lake Taylor**	**0.99**	**244**	P	Pg	00 46 17.5	+0.3
AMCZ	**Amberley**	**1.02**	**217**	P	Pb	00 46 18.5	+0.2
MRNZ	**Matariki Terra**	**1.10**	**330**	P	Pg	00 46 19.3	0.0
NNZ	**Nelson**	**1.14**	**356**	P	Pg	00 46 19.9	-0.1
TCW	**Tory Channel**	**1.29**	**28**	P	Pn	00 46 22.4	-0.4
DSZ	**Denniston Nort**	**1.39**	**296**	P	Pg	00 46 24.9	0.0
OKCZ	**Okains Bay**	**1.40**	**193**	P	Pn	00 46 22.6	-1.8
MQZ	**McQueen's Vall**	**1.48**	**204**	P	Pn	00 46 23.0	-2.5
AKCZ	**Akaroa Harbour**	**1.57**	**195**	P	Pn	00 46 24.5	-2.2
QRZ	**Quartz Range**	**1.69**	**335**	P	Pb	00 46 29.2	-0.5

IDC ***16*** *00:46:24.9±2.1,42.°42S×173.°64E,h0km,mb3.3/1, mbtmp3.5/2,ML3.8/1,Error ellipse: s-maj=62.7km s-min=36.0km az=141.0*

WEL ***16*** *00:46:27.6±0.5,42.°3S×17.°4E±.°,h5km,M3.8/21, ML4.0/12,MLv3.8/21,Error ellipse: s-maj=0.0km s-min=0.0km az=119.3*

ISC 16 00:46:26.3±1.6,42.°48S±0.°04×173.°79E±0.°04,h5km±11km, n55,σ1§18/60,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.74**	**229**	P	**Pb**	**00 46 42.8**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.77**	**5**	P	**Pg**	**00 46 40.9**	**-0.1**
CMWZ	**Cape Campbell**	**0.80**	**23**	P	**Pg**	**00 46 42.3**	**+0.8**
AMCZ	**Amberley**	**1.09**	**230**	P	**Pg**	**00 46 48.0**	**+0.9**
AMCZ				S	**Sn**	**00 47 04.4**	**+0.8**

LTZ	**Lake Taylor**	**1.16**	**254**	P	**Pg**	**00 46 48.5**	**0.0**
LTZ				S	**Sn**	**00 47 05.0**	**-0.4**
NNZ	**Nelson**	**1.30**	**346**	P	**Pg**	**00 46 50.1**	**-1.0**
TCW	**Tory Channel**	**1.32**	**16**	P	**Pg**	**00 46 50.0**	**-1.6**
MRNZ	**Matariki Terra**	**1.33**	**324**	P	**Pg**	**00 46 50.4**	**-1.3**
OKCZ	**Okains Bay**	**1.35**	**203**	P	**Pn**	**00 46 51.6**	**-0.2**
WEL	**Wellington**	**1.40**	**32**	P	**Pn**	**00 46 51.6**	**-0.8**
PLWZ	**Palliser**	**1.42**	**51**	P	**Pn**	**00 46 51.6**	**-1.2**
MQZ	**McQueen's Vall**	**1.48**	**214**	P	**Pn**	**00 46 52.6**	**-1.0**
MQZ				S	**Sn**	**00 47 12.0**	**-1.2**
MSWZ	**Moikau Station**	**1.52**	**46**	P	**Pn**	**00 46 52.9**	**-1.1**
AKCZ	**Akaroa Harbour**	**1.53**	**205**	P	**Pn**	**00 46 53.8**	**-0.4**
AKCZ				S	**Sn**	**00 47 14.4**	**-0.2**
OXZ	**Oxford**	**1.54**	**236**	P	**Pn**	**00 46 53.1**	**-1.3**
TKNZ	**Takaka Hill**	**1.57**	**336**	P	**Pn**	**00 46 54.5**	**-0.4**
PAWZ	**Paruwai Farm**	**1.64**	**49**	P	**Pn**	**00 46 54.5**	**-1.3**
DSZ	**Dennistion Nort**	**1.65**	**296**	P	**Pn**	**00 46 56.0**	**+0.1**
CAW	**Cannon Point**	**1.67**	**35**	P	**Pn**	**00 46 55.2**	**-1.0**
DUWZ	**D'Urville Isla**	**1.68**	**3**	P	**Pn**	**00 46 56.0**	**-0.2**
RACZ	**Rakaia**	**1.74**	**224**	P	**Pn**	**00 46 56.0**	**-1.0**
INZ	**Inchbonnie**	**1.75**	**261**	P	**Pn**	**00 46 56.9**	**-0.4**
TRWZ	**Traveller**	**1.78**	**53**	P	**Pn**	**00 46 56.5**	**-1.2**
KIW	**Kapiti Island**	**1.82**	**28**	P	**Pn**	**00 46 57.5**	**-0.8**
MTW	**Mount Morrison**	**1.84**	**45**	P	**Pn**	**00 46 57.0**	**-1.4**
QRZ	**Quartz Range**	**1.91**	**330**	P	**Pn**	**00 46 59.5**	**+0.2**
MHCZ	**Mount Hutt**	**1.94**	**236**	P	**Pn**	**00 46 58.5**	**-1.4**
OGWZ	**Otaki Gorge**	**1.96**	**32**	P	**Pn**	**00 46 59.0**	**-1.0**
HOWZ	**Holdsworth Sta**	**2.04**	**40**	P	**Pn**	**00 47 02.7**	**+1.4**
WACZ	**Wakanui South**	**2.04**	**224**	P	**Pn**	**00 47 00.5**	**-0.8**
TMWZ	**Te Maipa**	**2.08**	**50**	P	**Pn**	**00 47 00.2**	**-1.6**
MRZ	**Mangatainoka R**	**2.26**	**37**	P	**Pn**	**00 47 02.8**	**-1.4**
WVZ	**Waitaha Valley**	**2.33**	**254**	P	**Pn**	**00 47 04.9**	**-0.3**
RPZ	**Rata Peaks**	**2.35**	**237**	Pn	**Pn**	**00 47 04.2**	**-1.3**
	25nm,0.3s,baz=50,slow=7.9,SNR=40						
RPZ				Sn	**Sn**	**00 47 33.2**	**-1.6**
	90nm,0.3s,baz=355,slow=22,SNR=40						
	87nm,0.5s						
RPZ	**Rata Peaks**	**2.35**	**237**	P	**Pn**	**00 47 04.4**	**-1.2**
ARCZ	**Arundel**	**2.41**	**232**	P	**Pn**	**00 47 05.0**	**-1.3**
GCSZ	**Gaunt Creek Bo**	**2.68**	**251**	P	**Pn**	**00 47 10.1**	**+0.1**
TMZ	**Timaru**	**2.78**	**226**	P	**Pn**	**00 47 10.6**	**-0.8**
TSZ	**Takapari Road**	**2.92**	**35**	P	**Pn**	**00 47 11.7**	**-1.6**
PRHZ	**Porangahau**	**3.08**	**45**	P	**Pn**	**00 47 18.5**	**+3.0**
FOZ	**Fox Glacier**	**3.10**	**249**	P	**Pn**	**00 47 16.5**	**+0.7**
LBZ	**Lake Benmore**	**3.25**	**233**	P	**Pn**	**00 47 17.3**	**-0.5**
ODZ	**Otahua Downs**	**3.43**	**221**	P	**Pn**	**00 47 19.3**	**-1.0**
VRZ	**Vera Road**	**3.43**	**13**	P	**Pn**	**00 47 21.2**	**+0.9**
WNVZ	**Wahianoa**	**3.43**	**24**	P	**Pn**	**00 47 21.6**	**+1.0**
OTVZ	**Oturere**	**3.60**	**24**	P	**Pn**	**00 47 24.1**	**+1.2**
HIZ	**Hauiti**	**4.04**	**12**	P	**Pn**	**00 47 29.7**	**+0.9**
HHSZ	**Highcliff Hill**	**4.11**	**213**	P	**Pn**	**00 47 28.8**	**-0.9**
EAZ	**Earnscleugh**	**4.25**	**228**	P	**Pn**	**00 47 30.4**	**-1.2**
MLZ	**Mavora Lakes**	**5.01**	**233**	P	**Pn**	**00 47 40.5**	**-1.6**
SYZ	**Scrubby Hill**	**5.25**	**218**	P	**Pn**	**00 47 44.8**	**-0.4**
AWAZ	**Awhitu Peninsu**	**5.45**	**7**	P	**Pn**	**00 47 48.5**	**+0.4**
WRA	**Warramunga Arr**	**40.05**	**292**	P	**P**	**00 54 01.1**	**-1.3**
	0.3nm,0.6s,baz=125,slow=8.9,SNR=2.4						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.98**	**196**	PKPbc	**PKPbc**	**01 06 17.8**	**-0.3**
	0.3nm,0.5s,baz=158,slow=1.5,SNR=3.0						
BRTR	**Keskin Array B**	**150.04**	**278**	PKPbc	**PKPdf**	**01 06 15.8**	**+3.1**
	0.3nm,0.7s,baz=52,slow=2.6,SNR=4.2						

WEL 16 00:46:36.4±0.5,42.°3S×17.°3E±.°,h9km±4km,M3.6/15, ML3.8/7,MLv3.6/15,Error ellipse: s-maj=0.0km s-min=0.0km az=83.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.11**	**156**	P	Pg	00 46 39.7	+0.7
KHZ				S	Sg	00 46 42.0	+1.2
BSWZ	**Blackbirch Sta**	**0.67**	**26**	P	Pb	00 46 50.2	0.0
THZ	**Tophouse**	**0.70**	**322**	P	Pb	00 46 50.8	0.0
THZ				S	Sb	00 47 00.2	-0.2
GVZ	**Greta Valley S**	**0.73**	**206**	P	Pb	00 46 51.5	+0.2
TUWZ	**Tuamarina**	**0.95**	**22**	P	Pb	00 46 55.1	+0.1
NNZ	**Nelson**	**1.10**	**356**	P	Pb	00 46 57.6	+0.1
TCW	**Tory Channel**	**1.25**	**29**	P	Pn	00 46 59.1	-1.0
WEL	**Wellington**	**1.41**	**44**	P	Pn	00 47 01.3	-0.9
PLWZ	**Palliser**	**1.52**	**61**	P	Pn	00 47 01.6	-2.2

ROM 16 00:47:37.0±0.0,42.°809N±0.°002×13.°143E±0.°003, h11km,ML1.4/14,6C-8D,Error ellipse: s-maj=0.2km s-min=0.1km az=264.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**319**	P	Pg	00 47 39.3	+0.2
NRCA				S	Sg	00 47 40.6	0.0
T1245	**Castelsantange**	**0.06**	**35**	P	Pg	00 47 39.7	+0.3
T1245				S	Sg	00 47 41.2	+0.1
T1216	**Preci, Frazion**	**0.12**	**312**	P⇑	Pg	00 47 40.6	+0.5
T1216				S	Sg	00 47 43.0	+0.8
T1218	**Civita (PG)**	**0.14**	**188**	P	Pg	00 47 40.9	+0.5
T1218				S	Sg	00 47 43.5	+0.8
T1218				AML	AML		
	comp=E,546μm,0.4s						
T1218				AML	AML		
	comp=N,842μm,0.8s						
T1218				AML	AML		
	comp=N,840μm,0.8s						
T1218				AML	AML		
	comp=E,512μm,0.5s						
T1218				AML	AML		
	comp=N,896μm,0.8s						
MMO1	**Montemonaco**	**0.16**	**56**	P	Pg	00 47 41.2	+0.5
MMO1				S	Sg	00 47 44.4	+1.1
T1215	**Vallo di Nera,**	**0.20**	**268**	P	Pb	00 47 42.2	-0.6
T1256	**Bolognola (MC)**	**0.21**	**17**	P⇑	Pg	00 47 42.0	+0.5
T1256				S	Sg	00 47 45.7	+1.2
T1256				AML	AML		
	comp=N,154μm,1.4s						
T1256				AML	AML		
	comp=E,172μm,0.9s						
LNSS	**Leonessa**	**0.22**	**200**	P⇓	Pg	00 47 42.3	+0.6
LNSS				S	Sg	00 47 46.2	+1.3
LNSS				AML	AML		
	comp=E,234μm,0.6s						
LNSS				AML	AML		
	comp=N,814μm,0.1s						
LNSS				AML	AML		
	comp=N,813μm,0.1s						
SMA1	**SAN MARTINO**	**0.23**	**142**	P	Pg	00 47 42.3	+0.5
SMA1				S	Sg	00 47 46.0	+1.0
SMA1				AML	AML		
	comp=E,173μm,0.5s						
SMA1				AML	AML		
	comp=N,117μm,1.3s						
SMA1				AML	AML		
	comp=N,117μm,1.3s						
SMA1				AML	AML		
	comp=E,173μm,0.5s						
FDMO	**Fiordimonte**	**0.23**	**350**	P	Pg	00 47 42.4	+0.5
FDMO				S	Sg	00 47 46.2	+1.1
FDMO				AML	AML		
	comp=N,131μm,1.0s						
FDMO				AML	AML		
	comp=N,132μm,1.0s						
FDMO				AML	AML		
	comp=E,198μm,0.4s						
T1243	**Rocca Santa Ma**	**0.25**	**116**	P	Pg	00 47 42.7	+0.4
T1243				S	Sb	00 47 47.0	-1.1
CESI	**CESI - Serrava**	**0.26**	**318**	P	Pg	00 47 43.1	+0.7
CESI				AML	AML		
	comp=N,248μm,0.3s						
CESI				AML	AML		
	comp=N,248μm,0.3s						
CESI				AML	AML		
	comp=E,198μm,0.4s						
T1219	**Muccia, Frazio**	**0.27**	**338**	P	Pg	00 47 43.0	+0.5
T1219				S	Sb	00 47 47.4	-1.1
CSP1	**Cessapalombo**	**0.29**	**9**	P	Pg	00 47 43.4	+0.5
CSP1				S	Sb	00 47 48.1	-1.0
RM33	**Pellescritta (**	**0.30**	**170**	P	Pg	00 47 43.6	+0.4
RM33				AML	AML		
	comp=E,1635μm,1.6s						
RM33				AML	AML		
	comp=N,1385μm,1.6s						
RM33				AML	AML		
	comp=E,67μm,1.2s						
RM33				AML	AML		
	comp=N,83μm,1.6s						
RM33				AML	AML		
	comp=E,1630μm,1.6s						
RM33				AML	AML		
	comp=N,1385μm,1.6s						
RM33				AML	AML		
	comp=E,1630μm,1.6s						
RM33				AML	AML		
	comp=N,1380μm,1.6s						
RM33				AML	AML		
	comp=N,84μm,1.6s						
RM33				AML	AML		
	comp=E,68μm,1.2s						
CAMP	**Campotosto**	**0.34**	**144**	⇑P	Pg	00 47 44.0	+0.2
ARRO	**Arrone**	**0.36**	**231**	⇓P	Pg	00 47 44.7	+0.5
ARRO				AML	AML		
	comp=E,39μm,0.2s						
ARRO				AML	AML		
	comp=N,44μm,1.4s						
ARRO				AML	AML		
	comp=N,44μm,1.4s						
ARRO				AML	AML		
	comp=E,39μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.39**	**163**	⇓P	Pg	00 47 45.0	+0.3
T1247				AML	AML		
	comp=E,70μm,1.5s						
T1247				AML	AML		
	comp=N,87μm,1.1s						
T1247				AML	AML		
	comp=E,70μm,1.5s						
T1247				AML	AML		
	comp=N,87μm,1.1s						
TERO	**Teramo**	**0.39**	**119**	⇑P	Pg	00 47 44.8	+0.1
OFFI	**Offida**	**0.42**	**72**	⇓P	Pb	00 47 46.6	+0.2
ASSB	**Assisi San Ben**	**0.43**	**303**	S	Sb	00 47 53.0	-0.1
SNTG	**Esanatoglia**	**0.47**	**342**	⇓P	Pg	00 47 46.6	+0.4
SNTG				AML	AML		
	comp=E,36μm,0.6s						
SNTG				AML	AML		
	comp=N,30μm,1.3s						
GIGS	**Gran Sasso**	**0.48**	**139**	P	Pg	00 47 46.3	0.0
EL6	**Elcito**	**0.52**	**357**	⇓P	Pg	00 47 47.5	+0.4
EL6				S	Sb	00 47 57.0	+1.1
ATCC	**AVT- Casa Cast**	**0.53**	**316**	⇑P	Pg	00 47 47.7	+0.4
ATCC				AML	AML		
	comp=E,43μm,1.4s						
ATCC				AML	AML		
	comp=N,31μm,1.4s						
FIAM	**Fiamignano**	**0.54**	**182**	P	Pg	00 47 47.5	0.0
FIAM				AML	AML		
	comp=E,30μm,1.6s						
FIAM				AML	AML		
	comp=N,26μm,1.1s						
FIAM				AML	AML		
	comp=N,26μm,1.1s						
CING	**Cingoli**	**0.57**	**4**	P	Pg	00 47 48.3	+0.3
CING				AML	AML		
	comp=N,63μm,0.1s						
CING				AML	AML		
	comp=E,79μm,1.3s						
FAGN	**Fagnano**	**0.63**	**149**	⇑P	Pb	00 47 49.9	-0.2
FAGN				AML	AML		
	comp=E,38μm,1.5s						
FAGN				AML	AML		
	comp=N,29μm,1.2s						
FAGN				AML	AML		
	comp=N,30μm,1.2s						
FAGN				AML	AML		
	comp=E,40μm,1.6s						
ARVD	**Arcevia**	**0.70**	**348**	S	Sb	00 48 02.0	+0.9

IDC ***16*** *00:55:42.9±1.6,39.°80N×20.°71E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=45.1km s-min=27.9km az=121.0*

ATH ***16*** *00:55:45.9,39.°78N×20.°71E,h13km±1km,ML3.1/21,Error ellipse: s-maj=1.6km s-min=0.6km az=313.0*

THE ***16*** *00:55:46.5,39.°76N×20.°74E,h0km,ML3.2/37,Error ellipse: s-maj=0.9km s-min=0.3km az=321.0*

BEO ***16*** *00:55:46.3±0.4,39.°67N×20.°77E,h12km±2km,ML2.9/9*

ISC 16 00:55:46.0±0.8,39.°76N±0.°01×20.°74E±0.°02,h12km±5km, n110,σ1§07/174,mb3.5/5,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.14**	**141**	P	**Pg**	**00 55 49.2**	**-0.2**
JAN				S	**Sg**	**00 55 51.7**	**-0.1**
	26μm,0.4s						
JAN	**Janina**	**0.14**	**141**	P	**Pg**	**00 55 49.1**	**-0.3**
JAN				S	**Sg**	**00 55 52.0**	**+0.1**
JAN				AML	AML	00 55 52.7	
	comp=E,48866μm,0.4s						
JAN				AML	AML	00 55 53.0	
	comp=N,39352μm,0.2s						
IGT	**Igoumenitsa**	**0.39**	**234**	P	**Pg**	**00 55 53.6**	**-0.1**
IGT				S	**Sg**	**00 56 00.1**	**+1.1**
	comp=N,5μm,0.4s						
IGT	**Igoumenitsa**	**0.39**	**234**	*e*Pg	**Pg**	**00 55 53.4**	**-0.4**
IGT				*e*Sg	**Sg**	**00 56 00.0**	**+1.1**
IGT	**Igoumenitsa**	**0.39**	**234**	P	**Pg**	**00 55 53.4**	**-0.4**
IGT				S	**Sg**	**00 55 58.8**	**-0.1**
IGT				AML	AML	00 56 02.5	
	comp=E,9121μm,0.4s						
IGT				AML	AML	00 56 02.9	
	comp=N,11749μm,0.4s						
LSK	**Leskovik**	**0.40**	**345**	P	**Pg**	**00 55 54.5**	**+0.5**
LSK				S	**Sg**	**00 56 00.7**	**+1.3**
	comp=N,8μm,0.5s						
KPRO	**Kipourio**	**0.52**	**68**	P	**Pg**	**00 55 56.4**	**+0.3**
KPRO		

KZN					S		Sn	00 56 19.1	+0.2
	comp=E,825nm,0.5s								
KZN	**Kozani**	**0.96**	**55**	P		Pg		00 56 03.9	-0.6
KZN				S		Sb		00 56 17.5	+0.2
KZN				AML	AML			00 56 23.5	
	comp=N,1384µm,0.5s								
KZN				AML	AML			00 56 23.6	
	comp=E,1939µm,0.4s								
LKD2	**Lefkada island**	**0.98**	**184**	P		Pg		00 56 04.5	-0.3
LKD2				S		Sb		00 56 19.1	+1.5
	comp=E,1µm,0.8s								
LKD2	**Lefkada island**	**0.98**	**184**	P		Pg		00 56 04.4	-0.4
LKD2				S		Sg		00 56 17.3	-0.2
LKD2				AML	AML			00 56 22.7	
	comp=E,1917µm,0.9s								
LKD2				AML	AML			00 56 28.6	
	comp=N,2018µm,0.4s								
THL	**Klokotos Trika**	**1.00**	**101**	P		Pg		00 56 04.4	-0.9
THL				S		Sn		00 56 20.0	+0.1
	comp=N,632nm,0.6s								
THL	**Klokotos Trika**	**1.00**	**101**	P		Pg		00 56 04.3	-1.0
THL				S		Sb		00 56 18.8	+0.4
THL				AML	AML			00 56 22.6	
	comp=N,1468µm,0.6s								
THL				AML	AML			00 56 26.4	
	comp=E,1056µm,0.5s								
NYDR	**Nydri-Lefkada**	**1.05**	**182**	P		Pg		00 56 06.5	+0.3
NYDR				S		Sn		00 56 21.6	+0.6
	comp=E,1µm,0.6s								
FNA	**Florina**	**1.13**	**25**	P		Pg		00 56 07.5	-0.2
FNA				S		Sn		00 56 23.8	+0.7
	comp=E,1µm,0.6s								
FNA	**Florina**	**1.13**	**25**	*e*Pg		Pg		00 56 07.2	-0.5
FNA				*e*Sg		Sn		00 56 23.5	+0.4
FNA	**Florina**	**1.13**	**25**	P		Pg		00 56 07.1	-0.7
FNA				S		Sg		00 56 22.0	-0.5
FNA				AML	AML			00 56 27.1	
	comp=E,2579µm,0.8s								
FNA				AML	AML			00 56 28.5	
	comp=N,1883µm,0.5s								
EVGI	**Lefkada island**	**1.14**	**183**	P		Pg		00 56 08.2	+0.2
EVGI				S		Sn		00 56 24.6	+1.3
	comp=N,2µm,0.5s								
EVGI	**Lefkada island**	**1.14**	**183**	P		Pg		00 56 07.4	-0.5
EVGI				S		Sb		00 56 23.3	+0.9
TYRN	**Tyrnavos**	**1.15**	**92**	P		Pg		00 56 07.0	-1.1
TYRN				AML	AML			00 56 28.7	
	comp=E,2235µm,0.6s								
TYRN				AML	AML			00 56 30.6	
	comp=N,2046µm,0.7s								
EVR	**Evrytania**	**1.19**	**135**	P		Pg		00 56 08.1	-0.7
EVR				S		Sn		00 56 26.2	+1.7
	comp=N,618nm,0.5s								
EVR	**Evrytania**	**1.19**	**135**	P		Pg		00 56 08.1	-0.7
EVR				S		Sb		00 56 24.6	+0.9
EVR				AML	AML			00 56 29.1	
	comp=E,1122µm,0.6s								
EVR				AML	AML			00 56 35.9	
	comp=N,1216µm,0.5s								
VLO	**Vlora**	**1.19**	**307**	P		Pn		00 56 09.4	+1.1
VLO				S		Sn		00 56 26.6	+2.3
	comp=N,2µm,0.5s								
KTI	**Kastanea**	**1.23**	**59**	P		Pb		00 56 09.1	-0.1
LRSO	**Larissa Observ**	**1.28**	**94**	P		Pb		00 56 10.4	+0.5
LRSO				S		Sn		00 56 29.6	+3.0
	comp=N,1µm,1.1s								
LRSO	**Larissa Observ**	**1.28**	**94**	P		Pn		00 56 09.9	+0.3
LRSO				S		Sg		00 56 26.9	-0.3
PVO	**Paravola**	**1.30**	**152**	P		Pg		00 56 11.1	+0.2
PVO				S		Sn		00 56 30.3	+3.2
	comp=N,870nm,0.6s								
PVO	**Paravola**	**1.30**	**152**	P		Pn		00 56 10.5	+0.6
FSK	**Fiskardo**	**1.31**	**186**	P		Pn		00 56 10.3	+0.3
FSK				S		Sn		00 56 30.6	+3.2
	comp=N,790nm,0.7s								
FSK	**Fiskardo**	**1.31**	**186**	P		Pn		00 56 10.1	+0.1
FSK				S		Sb		00 56 27.3	+0.1
FSK				AML	AML			00 56 32.5	
	comp=E,1656µm,0.2s								
FSK				AML	AML			00 56 37.1	
	comp=N,1324µm,0.8s								
MAKR	**Makrakomi, Fth**	**1.31**	**124**	P		Pn		00 56 10.7	+0.6
MAKR				S		Sn		00 56 30.2	+2.6
	comp=N,2µm,0.5s								
OHR	**Ohrid**	**1.35**	**2**	*e*Pg		Pg		00 56 12.7	+0.8
OHR				*e*Sg		Sg		00 56 33.2	+3.8
OHR	**Ohrid**	**1.35**	**2**	*i* Pn		Pg		00 56 12.5	+0.6
AGG	**Agios Georgios**	**1.44**	**120**	P		Pb		00 56 12.9	+0.2
AGG				S		Sg		00 56 34.0	+1.7
	comp=N,712nm,0.3s								
AGG	**Agios Georgios**	**1.44**	**120**	P		Pb		00 56 12.9	+0.2
ANX	**Ano Chora**	**1.49**	**141**	P		Pn		00 56 13.5	+0.9
ANX				S		Sg		00 56 34.9	+1.1
	comp=N,762nm,0.6s								
ANX	**Ano Chora**	**1.49**	**141**	P		Pn		00 56 13.3	+0.7
ANX				AML	AML			00 56 45.6	
	comp=E,1241µm,0.5s								
ANX				AML	AML			00 56 46.0	
	comp=N,1809µm,0.8s								
KEF4	**Livadi, Kephal**	**1.52**	**189**	P		Pb		00 56 14.7	+0.6
KEF4				S		Sg		00 56 35.8	+0.8
	comp=N,4µm,0.6s								
DMLN	**Damoulianata-K**	**1.55**	**191**	P		Pb		00 56 14.7	+0.1
DMLN				S		Sg		00 56 36.1	+0.3
	comp=N,882nm,0.6s								
KEF3	**Kipouria, Keph**	**1.59**	**191**	P		Pn		00 56 14.6	+0.7
KEF3				S		Sg		00 56 37.5	+0.4
	comp=N,2µm,0.6s								
VLS	**Valsamata**	**1.59**	**184**	P		Pb		00 56 15.7	+0.5
VLS				S		Sg		00 56 37.8	+0.7
	comp=N,618nm,0.5s								
VLS	**Valsamata**	**1.59**	**184**	P		Pn		00 56 14.6	+0.7
VLS				S		Sn		00 56 35.2	+0.9
VLS				AML	AML			00 56 43.8	
	comp=N,1302µm,0.4s								
VLS				AML	AML			00 56 44.1	
	comp=E,1314µm,0.6s								
EFP	**Efpalio**	**1.61**	**145**	P		Pb		00 56 15.8	+0.1
EFP				S		Sg		00 56 38.5	+0.6
	comp=E,528nm,0.6s								
SERG	**Sergoula**	**1.69**	**142**	P		Pb		00 56 17.0	-0.1
SERG				S		Sg		00 56 40.0	-0.5
	comp=E,348nm,0.6s								
TIR	**Tirane**	**1.72**	**337**	P		Pn		00 56 17.0	+1.4
TIR				S		Sg		00 56 41.0	-0.2
	comp=E,195nm,0.9s								
TIR	**Tirane**	**1.72**	**337**	*e*Pn		Pb		00 56 17.6	+0.2
TIR				*e*Sn		Sb		00 56 40.6	+1.7
GRG	**Griva**	**1.74**	**46**	P		Pn		00 56 17.1	+1.1
GRG				S		Sg		00 56 41.7	-0.3
	comp=E,362nm,0.8s								
GRG	**Griva**	**1.74**	**46**	P		Pn		00 56 16.6	+0.6
GRG				AML	AML			00 56 49.7	
	comp=N,724µm,1.1s								
GRG				AML	AML			00 56 53.5	
	comp=E,725µm,0.7s								
SCTE	**Santa Cesarea**	**1.77**	**281**	P		Pn		00 56 16.5	+0.1
SCTE				AML	AML			00 56 49.1	
	comp=E,335µm,0.2s								
SCTE				AML	AML			00 56 50.2	
	comp=N,254µm,0.6s								
AXAR	**Agios Charalam**	**1.79**	**123**	P		Pn		00 56 17.9	+1.2
AXAR				S		Sg		00 56 42.6	-1.0
	comp=N,692nm,0.8s								
RLS	**Riolos of Patr**	**1.80**	**161**	P		Pb		00 56 18.4	-0.4
RLS				S		Sb		00 56 42.4	+1.2
	comp=N,288nm,0.8s								
RLS	**Riolos of Patr**	**1.80**	**161**	P		Pn		00 56 18.3	+1.6
RLS				AML	AML			00 56 56.7	
	comp=N,511µm,0.7s								
RLS				AML	AML			00 56 58.5	
	comp=E,643µm,1.0s								
THE	**Thessaloniki**	**1.91**	**62**	P		Pn		00 56 19.7	+1.4
DRO	**Drossia**	**1.96**	**157**	P		Pn		00 56 20.6	+1.6
DRO				S		Sb		00 56 46.6	+0.6
	comp=E,502nm,0.9s								
HORT	**Hortiatis**	**1.99**	**65**	P		Pn		00 56 20.4	+0.9
LTHK	**Lithakia**	**2.05**	**178**	P		Pb		00 56 22.4	-0.8
LTHK				AML	AML			00 57 04.5	
	comp=E,582µm,0.7s								
LTHK				AML	AML			00 57 05.5	
	comp=N,625µm,0.7s								
VAY	**Valandovo**	**2.09**	**41**	*e*Pn		Pn		00 56 22.0	+1.2
VAY				*e*Sn		Sb		00 56 49.3	-0.4
VAY	**Valandovo**	**2.09**	**41**	*i* Pn		Pn		00 56 22.3	+1.5
KNT	**Kendrikon**	**2.16**	**49**	P		Pn		00 56 22.2	+0.4
KNT				S		Sb		00 56 51.7	0.0
	comp=N,95nm,0.9s								
STIP	**Stip**	**2.22**	**29**	*i* Pn		Pb		00 56 26.1	0.0
SOH	**Sokhos**	**2.26**	**61**	P		Pn		00 56 24.7	+1.5
SOH				S		Sb		00 56 54.7	0.0
	comp=N,182nm,0.6s								
SKO	**Skopje**	**2.27**	**13**	*e*Pn		Pn		00 56 24.9	+1.6
SKO				*e*Sn		Sb		00 56 54.4	-0.5
SKO	**Skopje**	**2.27**	**13**	*i* Pn		Pn		00 56 26.2	-0.6
SRS	**Serrai**	**2.56**	**57**	*e*Pn		Pn		00 56 28.2	+0.9
SRS				*e*Sn		Sn		00 56 59.1	+0.7
DRME	**Dracevica, Mon**	**2.69**	**335**	*e*Pn		Pn		00 56 30.1	+1.1
KOKK	**Kokkinochori,**	**2.71**	**66**	P		Pn		00 56 30.4	+1.1
KOKK				S		Sn		00 57 05.1	+3.2
PDG	**Podgorica**	**2.89**	**338**	*e*Pn		Pn		00 56 32.9	+1.1
PDG				*e*Sn		Sn		00 57 09.0	+2.6
BARS	**Barje**	**3.16**	**15**	*e*Pn		Pn		00 56 37.2	+1.8
BARS				*e*Sn		Sn		00 57 14.1	+1.1
HCY	**Herceg Novi**	**3.17**	**328**	*e*Pn		Pn		00 56 34.6	-1.1
TREB	**Trebinje**	**3.46**	**329**	*e*Pn		Pn		00 56 39.3	-0.3
SELS	**Selova**	**3.46**	**5**	*e*Pn		Pn		00 56 41.0	+1.3
SJES	**Sjenica**	**3.54**	**351**	*e*Pn		Pn		00 56 42.6	+1.8
BRY	**Bratogost**	**3.54**	**333**	*e*Pn		Pn		00 56 41.3	+0.4
UPM	**Unac-Piva**	**3.70**	**339**	*e*Pn		Pn		00 56 44.6	+1.5
ZAPS	**Zavoj**	**3.78**	**21**	*e*Pn		Pn		00 56 46.1	+2.0
IVAS	**Ivanjica**	**3.83**	**354**	*e*Pn		Pn		00 56 45.9	+1.1
STON	**Ston**	**3.86**	**325**	*e*Pn		Pn		00 56 43.7	-1.3
GRUS	**Gruza**	**4.12**	**360**	*e*Pn		Pn		00 56 50.1	+1.4
ZAGS	**Zajecar**	**4.20**	**15**	*e*Pn		Pn		00 56 51.5	+1.8
DIVS	**Divibare**	**4.37**	**353**	*e*Pn		Pn		00 56 52.8	+0.6
DIVS	**Divibare**	**4.37**	**353**	*e*Pn		Pn		00 56 52.8	+0.6
DIVS				*e*Sn		Sn		00 57 42.6	-0.4
TRUS	**Trudelj**	**4.46**	**357**	*e*Pn		Pn		00 56 54.9	+1.5
HAPS	**Han Pijesak,Bl**	**4.52**	**343**	*e*Pn		Pn		00 56 55.4	+1.1
SRKY	**Kupres RS**	**5.06**	**329**	*e*Pn		Pn		00 57 01.6	-0.1
MGRS	**Mrkonjic Grad**	**5.39**	**331**	*e*Pn		Pn		00 57 07.0	+0.9
FRGS	**Fruska Gora**	**5.43**	**353**	*e*Pn		Pn		00 57 07.2	+0.5
BLY	**Banja Luka**	**5.64**	**333**	*e*Pn		Pn		00 57 10.0	+0.5
A050A	**Klekovaca**	**5.66**	**328**	*e*Pn		Pn		00 57 10.2	+0.3
A051A	**Mrakovica**	**5.96**	**333**	*e*Pn		Pn		00 57 13.5	-0.5
BOJS	**Bojanci**	**7.02**	**327**	*e*Pn		Pn		00 57 28.4	-0.1
CRES	**Cresnjev**	**7.20**	**329**	*e*Pn		Pn		00 57 29.6	-1.3
CEY	**Cerknica**	**7.56**	**324**	*e*Pn		Pn		00 57 35.4	-0.6
OBKA	**Obir**	**8.12**	**328**	*e*Pn		Pn		00 57 44.6	+1.0
FINES	**FINESS Array B**	**21.95**	**7**	P		P		01 00 37.4	-1.8
	comp=N,2.9nm,0.8s,baz=194,slow=11,SNR=3.9 comp=N,2.9nm,0.8s								
NOA	**NORSAR Array B**	**22.10**	**348**	P		P		01 00 39.2	-1.6
	comp=N,0.7nm,0.8s,baz=166,slow=10,SNR=2.4 comp=N,0.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**31.38**	**218**	P		P		01 02 05.6	-1.1
	comp=N,0.4nm,0.8s,baz=32,slow=9.5,SNR=1.6 comp=N,0.4nm,0.8s								
MKAR	**Makanchi Array**	**44.34**	**60**	P		P		01 03 54.6	-1.2
	comp=N,0.7nm,0.5s,baz=282,slow=7.3,SNR=7.6 comp=N,0.7nm,0.5s								
ZALV	**Zalesovo Beam**	**44.52**	**49**	P		P		01 03 55.5	-1.5
	comp=N,0.3nm,0.4s,baz=296,slow=9.9,SNR=1.8 comp=N,0.3nm,0.4s								

*IDC **16** 01:02:08.3±4.1, 31°.41S×178°.27W, h0km, mb3.9/2, mbtmp4.0/3, ML4.5/1, Error ellipse: s-maj=106.3km s-min=33.7km az=133.0*

ISC 16 01:02:12.7±1.6, 31°.3S±0°.1×178°.4W±0°.3, h35km, n17, σ1§43/17, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
RAO	**Raoul Island**	**2.11**	**10**	Pn		**Pn**	**01**	**02**	**46.2**	**+0.6**
	136nm,0.3s,baz=115,slow=20,SNR=4.5									
RAO				Sn		**Sn**	**01**	**03**	**08.9**	**-1.7**
	433nm,0.3s,baz=33,slow=21,SNR=8.7 220nm,0.3s									
WMGZ	**Waiomatatini S**	**6.99**	**202**	P		**Pn**	**01**	**03**	**52.7**	**+0.1**
HAZ	**Te Kaha**	**7.15**	**205**	P		**Pn**	**01**	**03**	**53.8**	**-1.0**
PKGZ	**Pakihiroa**	**7.17**	**203**	P		**Pn**	**01**	**03**	**52.8**	**-2.2**
RUGZ	**Raukumara Rang**	**7.38**	**205**	P		**Pn**	**01**	**03**	**57.9**	**-0.1**
TWGZ	**Tauwhareparae**	**7.46**	**203**	P		**Pn**	**01**	**03**	**58.9**	**-0.2**
TKGZ	**Te Karaka**	**7.74**	**203**	P		Pn	01	03	54.5	-8.4
MWZ	**Matawai**	**7.76**	**205**	P		**Pn**	**01**	**04**	**02.5**	**-0.7**
URZ	**Urewera**	**7.85**	**207**	P		**Pn**	**01**	**04**	**03.4**	**-0.9**
MTHZ	**Maungataniwha**	**8.47**	**206**	P		**Pn**	**01**	**04**	**11.6**	**-1.3**
BKZ	**Black Stump Fm**	**8.87**	**207**	P		**Pn**	**01**	**04**	**17.0**	**-1.5**
MCHZ	**McNeill Hill**	**9.04**	**205**	P		**Pn**	**01**	**04**	**22.7**	**+2.0**
OTVZ	**Oturere**	**9.21**	**210**	P		**Pn**	**01**	**04**	**21.4**	**-1.8**
TWVZ	**Taurewa**	**9.23**	**212**	P		**Pn**	**01**	**04**	**21.4**	**-2.0**
ASAR	**Alice Springs**	**42.76**	**268**	P		**P**	**01**	**10**	**08.2**	**+1.1**
	0.5nm,0.6s,baz=104,slow=7.0,SNR=5.1 0.5nm,0.6s									
WRA	**Warramunga Arr**	**43.84**	**273**	P		**P**	**01**	**10**	**17.0**	**+1.3**
	0.9nm,0.3s,baz=111,slow=8.0,SNR=27 0.9nm,0.3s									
FINES	**FINESS Array B**	**145.91**	**339**	PKPbc		**PKPab**	**01**	**21**	**48.3**	**+0.1**
	2.3nm,0.9s,baz=64,slow=4.4,SNR=8.1									

WEL 16 01:05:27.9±0.4, 42°S±3°×17°3E±°, h5km, M2.5/1, ML3.7/11, ML2.6/1, MLv3.0/8, MLv2.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=97.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
KHZ	**Kahutara**	**0.13**	**98**	P		Pg	01	05	30.7	+0.2
KHZ				S		Sg	01	05	33.3	+1.1
GVZ	**Greta Valley S**	**0.62**	**203**	P		Pg	01	05	39.9	+0.1
GVZ				S		Sb	01	05	49.5	-0.8
THZ	**Tophouse**	**0.72**	**331**	P		Pg	01	05	41.4	-0.4
BSWZ	**Blackbirch Sta**	**0.78**	**29**	P		Pg	01	05	43.2	+0.4
LTZ	**Lake Taylor**	**0.90**	**244**	P		Pg	01	05	43.8	-1.3
AMCZ	**Amberley**	**0.94**	**214**	P		Pg	01	05	45.9	-0.1
TUWZ	**Tuamarina**	**1.06**	**24**	P		Pg	01	05	48.2	0.0
MRNZ	**Matariki Terra**	**1.10**	**335**	P		Pg	01	05	49.0	0.0
NNZ	**Nelson**	**1.18**	**0**	P		Pg	01	05	50.0	-0.5
DSZ	**Denniston Nort**	**1.33**	**299**	P		Pn	01	05	52.9	-0.4
OKCZ	**Okains Bay**	**1.34**	**190**	P		Pn	01	05	50.7	-2.7
OXZ	**Oxford**	**1.35**	**226**	P		Pn	01	05	50.8	-2.6
TCW	**Tory Channel**	**1.37**	**30**	P		Pn	01	05	53.2	-0.4
TKNZ	**Takaka Hill**	**1.40**	**347**	P		Pn	01	05	53.8	-0.3
MQZ	**McQueen's Vall**	**1.41**	**202**	P		Pn	01	05	51.0	-3.2
AKCZ	**Akaroa Harbour**	**1.51**	**193**	P		Pn	01	05	52.7	-3.0
RACZ	**Rakaia**	**1.61**	**214**	P		Pn	01	05	54.0	-3.0
DUWZ	**D'Urville Isla**	**1.65**	**15**	P		Pn	01	05	58.1	+0.5
QRZ	**Quartz Range**	**1.69**	**338**	P		Pn	01	05	58.7	+0.5
MHCZ	**Mount Hutt**	**1.74**	**229**	P		Pn	01	06	00.1	-2.8
WVZ	**Waitaha Valley**	**2.05**	**250**	P		Pn	01	06	02.1	-1.0
RPZ	**Rata Peaks**	**2.15**	**231**	P		Pn	01	06	02.0	-2.5
ARCZ	**Arundel**	**2.23**	**225**	P		Pn	01	06	02.9	-2.7
TMZ	**Timaru**	**2.63**	**220**	P		Pn	01	06	09.4	-1.6

WEL 16 01:05:53.9±0.4, 42°S±3°×17°4E±°, h14km±3km, M3.4/15, ML3.7/15, MLv3.4/15, Error ellipse: s-maj=0.0km s-min=0.0km az=129.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
CMWZ	**Cape Campbell**	**0.16**	**55**	P		Pb	01	05	59.0	+0.4
BSWZ	**Blackbirch Sta**	**0.18**	**316**	P		Pb	01	05	58.8	-0.1
TUWZ	**Tuamarina**	**0.42**	**350**	P		Pb	01	06	03.1	+0.1
TCW	**Tory Channel**	**0.65**	**16**	P		Pb	01	06	06.9	-0.2
KHZ	**Kahutara**	**0.69**	**213**	P		Pn	01	06	08.5	-0.7
WEL	**Wellington**	**0.78**	**45**	P		Pb	01	06	09.8	+0.6
NNZ	**Nelson**	**0.80**	**321**	P		Pb	01	06	09.5	0.0
THZ	**Tophouse**	**0.85**	**275**	P		Pb	01	06	11.0	+0.4
PLWZ	**Palliser**	**0.95**	**74**	P		Pb	01	06	11.9	-0.2
MSWZ	**Moikau Station**	**1.00**	**65**	P		Pb	01	06	12.9	-0.1
DUWZ	**D'Urville Isla**	**1.04**	**355**	P		Pb	01	06	13.8	+0.1
CAW	**Cannon Point**	**1.06**	**47**	P		Pg	01	06	14.4	0.0
PAWZ	**Paruwai Farm**	**1.14**	**67**	P		Pb	01	06	14.7	-0.7
KIW	**Kapiti Island**	**1.18**	**34**	P		Pb	01	06	16.2	+0.1
MTW	**Mount Morrison**	**1.29**	**59**	P		Pn	01	06	16.6	-1.0
TRWZ	**Traveller**	**1.31**	**71**	P		Pn	01	06	16.7	-1.2
OGWZ	**Otaki Gorge**	**1.33**	**40**	P		Pn	01	06	18.2	+0.1
GVZ	**Greta Valley S**	**1.35**	**213**	P		Pn	01	06	18.3	-0.1
TMWZ	**Te Maipa**	**1.57**	**63**	P		Pn	01	06	20.1	-1.3
BFZ	**Birch Farm**	**2.03**	**56**	P		Pn	01	06	24.1	-3.6
VRZ	**Vera Road**	**2.77**	**12**	P		Pb	01	06	42.2	-0.9
NNVZ	**North Ngauruho**	**2.96**	**24**	P		Pb	01	06	47.0	+0.4
HIZ	**Hauiti**	**3.38**	**11**	P		Pb	01	06	51.5	-2.1

*IDC **16** 01:06:56.6±1.8, 0°.97N×126°.55E, h0km, mb3.8/4, mbtmp3.9/4, Error ellipse: s-maj=173.8km s-min=21.2km az=66.0*

*DJA **16** 01:06:58.2±0.6, 1°N±3°×12°7E±°, h20km±6km, M3.6/7, MLv3.6/7*

ISC 16 01:07:01.1±1.0, 1°.16N±0°.05×127°.07E±0°.07, h35km, n10, σ1§10/13, mb3.9/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
TNTI	**Ternate**	**0.49**	**143**	P		**Pn**	**01**	**07**	**11.4**	**-0.2**
TNTI				S		**Sn**	**01**	**07**	**19.4**	**+0.5**
GAMI	**Galela, Maluku**	**0.98**	**47**	P		**Pn**	**01**	**07**	**17.8**	**-0.6**
GAMI				S		**Sn**	**01**	**07**	**32.3**	**+1.2**
LBMI	**Labuha**	**1.84**	**167**	P		**Pn**	**01**	**07**	**28.5**	**-1.8**
LBMI				S		**Sn**	**01**	**07**	**54.3**	**+1.9**
SANI	**Sanana**	**3.37**	**199**	P		**Pn**	**01**	**07**	**51.3**	**0.0**
GTOI	**Gorontalo**	**4.10**	**263**	P		**Pn**	**01**	**08**	**00.9**	**-0.4**
NLAI	**Namlea**	**4.37**	**180**	P		**Pn**	**01**	**08**	**04.8**	**-0.3**
WRA	**Warramunga Arr**	**22.15**	**162**	P		**P**	**01**	**11**	**52.9**	**-1.3**
	1.4nm,0.3s,baz=338,slow=11,SNR=18 1.4nm,0.3s									
ASAR	**Alice Springs**	**25.56**	**165**	P		**P**	**01**	**12**	**27.9**	**+1.0**
	1.8nm,0.6s,baz=348,slow=14,SNR=23 1.8nm,0.6s									
MKAR	**Makanchi Array**	**59.85**	**326**	P		**P**	**01**	**17**	**03.3**	**0.0**
	0.4nm,0.4s,baz=122,slow=8.0,SNR=9.2 0.4nm,0.4s									
KURBB	**Kurchatov Arra**	**64.08**	**328**	P		**P**	**01**	**17**	**31.4**	**-0.2**
	0.3nm,0.2s,baz=132,slow=5.9,SNR=3.4 0.3nm,0.2s									

*IDC **16** 01:13:50.1±0.7, 38°.90N×101°.46E, h0km, mb3.8/11, mbtmp3.8/14, ML3.5/3, Error ellipse: s-maj=23.7km s-min=15.8km az=47.0*

*BJI **16** 01:13:51.8±0.0, 39°.17N×101°.39E, h8km, mb4.1/3, mB4.7/1, ML4.3/12, Ms3.9/4, Ms7 3.7/4*

*NEIC **16** 01:13:54.5±1.9, 38°.98N±0°.10×101°.5E±0°.2, h25km±5km, mb4.5/39, ML4.3(BJI), Error ellipse: s-maj=19.1km s-min=12.9km az=108.0*

ISC 16 01:13:51.8±0.4, 39°.02N±0°.05×101°.47E±0°.04, h10km, n78, σ1§42/84, mb4.4/25, 2C, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
GTA	**Gaotai**	**1.35**	**287**	⇑Pg		**Pg**	**01**	**14**	**16.4**	**-1.3**
GTA				Sg		**Sn**	**01**	**14**	**34.8**	**0.0**
GTA				smax		smax				
	comp=N,6µm,0.6s									
GTA				smax		smax				
	comp=E,4µm,0.6s									
LZH	**Lanzhou**	**3.48**	**146**	Pn		**Pn**	**01**	**14**	**46.3**	**+0.1**
LZH				Pg		**Pb**	**01**	**14**	**56.5**	**+2.9**
LZH				Sn		**Sn**	**01**	**15**	**29.1**	**+1.6**
LZH				Sg		**Sb**	**01**	**15**	**38.1**	**+2.1**
LZH				smax		smax				
	comp=N,1µm,1.4s									
LZH				smax		smax				
	comp=E,650nm,1.5s									
LZH				LR		LR				
	comp=N,1µm,7.6s									
LZH				LR		LR				
	comp=E,630nm,7.6s									
LZH				LR		LR				
	comp=Z,990nm,8.6s									
GOMU	**GeErMu**	**5.99**	**244**	Pn		**Pn**	**01**	**15**	**21.0**	**+0.2**
GOMU				Pg		**Pb**	**01**	**15**	**35.9**	**-0.6**
GOMU				Sn		**Sn**	**01**	**16**	**27.0**	**-2.6**
GOMU				smax		smax				
	comp=N,32nm,0.8s									
GOMU				smax		smax				
	comp=E,30nm,0.8s									
BTO	**Baotou**	**6.77**	**74**	*e*Pg		**Pn**	**01**	**15**	**26.9**	**-4.4**
BTO				Sg	

GEYT	**Alibeck**	**33.73**	**282**	P	**P**	**01 20 35.7**	**+2.3**
	comp=Z,1.5nm,0.4s,baz=113,slow=3.4,SNR=5.9						
GEYT	**Alibeck**	**33.73**	**282**	P	**P**	**01 20 34.2**	**+0.9**
GEYT				IAmb	IAmb	01 20 36.5	
	comp=Z,5.5nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**33.73**	**282**	P	**P**	**01 20 35.1**	**+1.7**
GYA0B				IAmb	IAmb	01 20 36.4	
	comp=Z,6.0nm,1.1s						
MARD	**Mardin**	**46.96**	**288**	P	**P**	**01 22 23.4**	**+0.4**
ARCES	**ARCESS Array B**	**49.20**	**333**	PcP	**PcP**	**01 24 02.4**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=76,slow=4.2,SNR=5.0						
FINES	**FINESS Array B**	**49.89**	**323**	P	**P**	**01 22 44.3**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=77,slow=6.1,SNR=1.3						
	comp=Z,2.2nm,0.8s						
BR131	**Keskin Array S**	**51.26**	**294**	P	**P**	**01 22 56.3**	**+0.4**
BR131				IAmb	IAmb	01 22 57.6	
	comp=Z,9.7nm,1.4s						
BRTR	**Keskin Array B**	**51.26**	**294**	P	**P**	**01 22 56.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=90,slow=8.6,SNR=5.1						
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**51.26**	**294**	P	**P**	**01 22 56.0**	**+0.1**
BUR08	**Bucovina Ar. S**	**54.06**	**306**	P	**P**	**01 23 15.6**	**-0.9**
BURAR	**Bucovina Array**	**54.06**	**306**	P	**P**	**01 23 15.8**	**-0.7**
VTS	**Vitosha**	**57.30**	**301**	P	**P**	**01 23 40.5**	**+0.7**
VTS				IAmb	IAmb	01 24 01.1	
	comp=Z,6.5nm,1.4s						
MORC	**Moravsky Berou**	**57.94**	**310**	P	**P**	**01 23 44.4**	**+0.2**
MORC				IAmb	IAmb	01 23 45.8	
	comp=Z,7.2nm,1.4s						
DIVS	**Divibare**	**58.80**	**304**	P	**P**	**01 23 50.1**	**-0.2**
DIVS				IAmb	IAmb	01 23 59.2	
	comp=Z,4.6nm,1.3s						
IMAR	**Indian Mountai**	**60.61**	**27**	P	**P**	**01 24 02.6**	**+0.3**
GERES	**GERESS Array B**	**60.61**	**311**	P	**P**	**01 24 02.8**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=2.9,slow=2.7,SNR=3.9						
	comp=Z,0.5nm,0.6s						
GERES	**GERESS Array B**	**60.61**	**311**	P	**P**	**01 24 03.0**	**+0.3**
TOLK	**Toolik Lake Re**	**60.61**	**23**	P	**P**	**01 24 02.8**	**+0.4**
EUNU	**Eureka**	**61.10**	**2**	P	**P**	**01 24 06.9**	**+1.3**
EUNU				IAmb	IAmb	01 24 41.0	
	comp=Z,6.7nm,1.5s						
H21K	**Melozitna Rive**	**61.11**	**27**	P	**P**	**01 24 06.3**	**+0.5**
H21K				IAmb	IAmb	01 24 14.3	
	comp=Z,3.8nm,1.1s						
COLD	**Coldfoot**	**61.17**	**25**	P	**P**	**01 24 05.9**	**-0.2**
COLD				IAmb	IAmb	01 24 19.3	
	comp=Z,3.9nm,1.1s						
J20K	**Nowinta River**	**61.38**	**29**	P	**P**	**01 24 09.0**	**+1.4**
J20K				IAmb	IAmb	01 24 21.5	
	comp=Z,7.2nm,1.2s						
GRA1	**Grafenberg Arr**	**61.67**	**312**	P	**P**	**01 24 11.8**	**+2.0**
CLUD	**Cludinico**	**62.21**	**309**	P	**P**	**01 24 13.0**	**-0.5**
CIMO	**Cimolais**	**62.55**	**309**	P	**P**	**01 24 14.4**	**-1.3**
CIMO				IAmb	IAmb	01 24 26.3	
	comp=Z,8.5nm,1.5s						
BMAR	**Burnt Mountain**	**62.85**	**23**	P	**P**	**01 24 19.0**	**+1.6**
WRH	**Wood River Hil**	**63.44**	**27**	P	**P**	**01 24 21.8**	**+0.5**
WRH				IAmb	IAmb	01 24 47.4	
	comp=Z,3.3nm,1.2s						
ILAR	**Eielson Array**	**63.68**	**26**	P	**P**	**01 24 23.1**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=290,slow=5.4,SNR=7.4						
	comp=Z,0.7nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**63.71**	**310**	P	**P**	**01 24 23.6**	**-0.2**
FUORN				IAmb	IAmb	01 24 24.6	
	comp=Z,2.4nm,0.7s						
A36M	**Sachs Harbour**	**64.55**	**15**	P	**P**	**01 24 29.4**	**+1.0**
A36M				IAmb	IAmb	01 24 40.3	
	comp=Z,3.6nm,0.9s						
WRA	**Warramunga Arr**	**66.24**	**146**	P	**P**	**01 24 38.9**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=348,slow=6.6,SNR=5.6						
	comp=Z,0.8nm,0.6s						
WB2	**Warramunga Arr**	**66.24**	**146**	P	**P**	**01 24 38.7**	**-1.4**
BCAR	**Beaver Creek A**	**66.51**	**26**	P	**P**	**01 24 42.2**	**+0.8**
ASAR	**Alice Springs**	**69.35**	**148**	P	**P**	**01 24 59.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=335,slow=6.2,SNR=8.2						
	comp=Z,0.9nm,0.6s						
FARO	**Faro, Yukon**	**69.89**	**24**	P	**P**	**01 25 03.1**	**+0.5**
FARO				IAmb	IAmb	01 25 10.4	
	comp=Z,5.7nm,1.5s						
STKA	**Stephens Creek**	**79.79**	**146**	P	**P**	**01 25 59.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=350,slow=8.7,SNR=3.0						
	comp=Z,1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**89.26**	**286**	P	**P**	**01 26 48.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=44,slow=4.3,SNR=2.3						
	comp=Z,0.2nm,0.6s						
BDFB	**Brasilia**	**144.55**	**303**	PKP	PKPbc	01 33 27.6	-0.1
	comp=Z,4.2nm,0.7s,baz=95,slow=1.5,SNR=8.1						

WEL 16 01:20:30.9±0.4,**42°S**±3°×**17°4E**±°,**h5**km±3km,**M3.4**/13,
ML3.6/13,**MLv3.4**/13,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=127.8,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.33**	**12**	P	Pg	01 20 37.6	+0.3
BSWZ				S	Sg	01 20 42.8	+1.3
KHZ	**Kahutara**	**0.42**	**206**	P	Pg	01 20 39.2	+0.2
KHZ				S	Sg	01 20 45.9	+1.3
CMWZ	**Cape Campbell**	**0.43**	**48**	P	Pb	01 20 40.2	-0.7
TUWZ	**Tuamarina**	**0.62**	**11**	P	Pg	01 20 43.1	+0.3
THZ	**Tophouse**	**0.71**	**292**	P	Pg	01 20 44.6	0.0
NNZ	**Nelson**	**0.87**	**339**	P	Pg	01 20 47.5	-0.1
TCW	**Tory Channel**	**0.90**	**24**	P	Pg	01 20 47.9	-0.3
MRNZ	**Matariki Terra**	**1.00**	**309**	P	Pg	01 20 50.2	+0.1
WEL	**Wellington**	**1.05**	**45**	P	Pb	01 20 51.4	-0.1
GVZ	**Greta Valley S**	**1.08**	**211**	P	Pg	01 20 51.7	+0.1
TKNZ	**Takaka Hill**	**1.18**	**328**	P	Pg	01 20 53.1	-0.3
PLWZ	**Palliser**	**1.19**	**67**	P	Pg	01 20 52.4	-1.3
DUWZ	**D'Urville Isla**	**1.24**	**5**	P	Pg	01 20 53.8	-0.8
MSWZ	**Moikau Station**	**1.26**	**61**	P	Pg	01 20 52.5	-2.5
CAW	**Cannon Point**	**1.33**	**46**	P	Pn	01 20 55.1	-1.1
LTZ	**Lake Taylor**	**1.35**	**236**	P	Pn	01 20 55.9	-0.5
AMCZ	**Amberley**	**1.42**	**216**	P	Pn	01 20 56.1	-1.1
KIW	**Kapiti Island**	**1.45**	**36**	P	Pn	01 20 57.3	-0.4
DSZ	**Denniston Nort**	**1.51**	**280**	P	Pg	01 20 59.8	0.0
QRZ	**Quartz Range**	**1.54**	**322**	P	Pn	01 20 59.2	+0.2
MTW	**Mount Morrison**	**1.56**	**56**	P	Pn	01 20 57.3	-1.9
TRWZ	**Traveller**	**1.56**	**66**	P	Pn	01 20 57.4	-1.9
OGWZ	**Otaki Gorge**	**1.60**	**41**	P	Pn	01 20 58.8	-1.1
OKCZ	**Okains Bay**	**1.77**	**197**	P	Pn	01 21 00.4	-1.8
OXZ	**Oxford**	**1.82**	**224**	P	Pn	01 21 01.1	-1.8
MQZ	**McQueen's Vall**	**1.86**	**206**	P	Pn	01 21 00.8	-2.6
INZ	**Inchbonnie**	**1.87**	**248**	P	Pn	01 21 04.0	+0.5
MRZ	**Mangatainoka R**	**1.93**	**45**	P	Pn	01 21 02.5	-1.8
AKCZ	**Akaroa Harbour**	**1.94**	**199**	P	Pn	01 21 02.9	-1.7
RACZ	**Rakaia**	**2.08**	**215**	P	Pn	01 21 04.2	-2.2
PRWZ	**Pori Road**	**2.21**	**49**	P	Pb	01 21 10.2	-1.2
MHCZ	**Mount Hutt**	**2.21**	**227**	P	Pn	01 21 06.5	-1.9
POWZ	**Post Office Ro**	**2.22**	**43**	P	Pn	01 21 07.7	-0.6
WACZ	**Wakanui South**	**2.38**	**216**	P	Pn	01 21 08.9	-1.7
WAZ	**Wanganui**	**2.45**	**22**	P	Pb	01 21 14.1	-1.4
WVZ	**Waitaha Valley**	**2.48**	**244**	P	Pn	01 21 12.2	+0.3
TSZ	**Takapari Road**	**2.57**	**40**	P	Pn	01 21 11.6	-1.6
RPZ	**Rata Peaks**	**2.62**	**229**	P	Pn	01 21 12.4	-1.4
ARCZ	**Arundel**	**2.71**	**224**	P	Pn	01 21 13.3	-1.8
KHEZ	**Kahui Hut**	**2.75**	**4**	P	Pb	01 21 20.0	-0.4
PNHZ	**Pukenui**	**2.80**	**42**	P	Pb	01 21 22.2	+0.8
GCSZ	**Gaunt Creek Bo**	**2.85**	**242**	P	Pn	01 21 18.9	+1.9
VRZ	**Vera Road**	**3.00**	**15**	P	Pn	01 21 21.8	+2.7
MOVZ	**Moawhango**	**3.02**	**30**	P	Pb	01 21 22.5	-2.7
WNVZ	**Wahianoa**	**3.04**	**28**	P	Pb	01 21 22.9	-2.6
TRVZ	**Turoa**	**3.04**	**27**	P	Pb	01 21 24.3	-1.4
WHVZ	**Whangaehu Hut**	**3.07**	**27**	P	Pb	01 21 23.6	-2.5
BHHZ	**Black Hill Sta**	**3.08**	**35**	P	Pb	01 21 25.4	-0.7
FWVZ	**Far West T-bar**	**3.09**	**26**	P	Pb	01 21 26.0	-0.4
TMZ	**Timaru**	**3.10**	**220**	P	Pn	01 21 19.0	-1.5
NGZ	**Ngauruhoe**	**3.17**	**26**	P	Pb	01 21 27.0	-0.9
OTVZ	**Oturere**	**3.21**	**27**	P	Pb	01 21 28.4	0.0
NNVZ	**North Ngauruho**	**3.22**	**26**	P	Pb	01 21 26.5	-2.1
WTVZ	**West Tongariro**	**3.23**	**26**	P	Pb	01 21 27.3	-1.4
TMVZ	**Te Maari**	**3.26**	**27**	P	Pb	01 21 27.4	-2.0
HIZ	**Hauiti**	**3.61**	**13**	P	Pn	01 21 31.1	+3.6
ODZ	**Otahua Downs**	**3.78**	**216**	P	Pn	01 21 27.7	-2.1
JCZ	**Jackson Bay**	**4.19**	**239**	P	Pn	01 21 37.8	+2.3

*SOME **16** 01:32:12.2,42°.37N×81°.00E,h15km*
*NNC **16** 01:32:14.2±0.5,42°.58N×81°.06E,h21km±2km,mb3.6,*
mpv2.9,Error ellipse: s-maj=13.8km s-min=3.4km az=33.0
*KRNET **16** 01:32:17.2±0.1,42°.19N×80°.57E,mb2.3*
ISC 16 01:32:13.7±2.4,**42°.46N**±0°.07×**80°.8E**±0°.1,**h10**km,**n15,**
σ2§70/27,8C-3D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.22**	**306**	*eP*	**Pn**	**01 32 32.9**	**-4.0**
	1.8nm,0.4s						
SHLS				*eS*	**Sb**	**01 32 47.9**	**-4.8**
	2.5nm,0.3s						
SHLS	**Shalkode**	**1.22**	**306**	P	**Pn**	**01 32 33.6**	**-3.3**
	3.4nm,0.2s						
SHLS				S	**Sb**	**01 32 47.9**	**-4.8**
	2.3nm,0.3s						
PDGK	**Podgornoye**	**1.31**	**312**	⇓P	**Pn**	**01 32 38.3**	**+0.2**
	0.8nm,0.3s						
UZB	**Uzynbulak**	**1.49**	**298**	*eP*	**Pb**	**01 32 42.3**	**+0.8**
	0.7nm,0.1s						
UZB				*eS*	**Sb**	**01 33 03.8**	**+3.3**
	3.0nm,0.3s						
KPKS	**Kokpek**	**1.86**	**303**	*eP*	**Pb**	**01 32 49.6**	**+1.8**
	2.4nm,0.3s						
KPKS				*eS*	**Sg**	**01 33 16.8**	**+3.3**
	9.0nm,0.9s						
KPKS	**Kokpek**	**1.86**	**303**	Pg	**Pb**	**01 32 49.9**	**+2.1**
	3.3nm,0.2s						
KPKS				Lg	Lg	01 33 16.8	
	6.1nm,0.4s						
SATY	**Saty**	**1.87**	**290**	*eP*	**Pb**	**01 32 49.5**	**+1.5**
	1.2nm,0.6s						
SATY				*eS*	**Sg**	**01 33 16.3**	**+2.4**
	5.7nm,0.4s						
DJR	**Jarkent**	**2.02**	**339**	*eP*	**Pb**	**01 32 52.0**	**+1.5**
	0.6nm,0.1s						
DJR				*eS*	**Sg**	**01 33 20.5**	**+2.0**
	3.5nm,0.5s						
ANVS	**Anan'yevo**	**2.35**	**279**	⇑*iP*	**Pn**	**01 32 54.1**	**+1.6**
	baz=86						
ANVS				⇑*iS*	**Sn**	**01 33 21.3**	**-0.1**
	baz=86						
TARG	**Taragay, Kyrgy**	**2.36**	**253**	⇓*iP*	**Pn**	**01 32 52.8**	**0.0**
	baz=58						
TARG				⇓*iS*	**Sn**	**01 33 18.6**	**-3.4**
	baz=58						
BLB	**Baldybastay**	**2.37**	**315**	*eP*	**Pb**	**01 32 58.5**	**+2.0**
	2.2nm,0.6s						
BLB				*eS*	**Sg**	**01 33 31.8**	**+2.1**
	4.5nm,0.4s						
BLB	**Baldybastay**	**2.37**	**315**	Pg	**Pb**	**01 32 58.6**	**+2.1**
	4.5nm,0.2s						
BLB				Lg	Lg	01 33 31.4	
	3.5nm,0.5s						
ULHL	**Ulahol**	**3.40**	**268**	⇑*iP*	**Pn**	**01 33 08.0**	**+1.1**
	baz=72						
ULHL				⇑*iS*	**Sn**	**01 33 45.1**	**-2.3**
	baz=72						
NRN	**Naryn**	**3.73**	**256**	⇑*eP*	**Pn**	**01 33 12.1**	**+0.4**
	baz=59						
NRN				⇑*iS*	**Sn**	**01 33 52.2**	**-3.7**
	baz=59						
UCH	**Uchtor**	**4.68**	**269**	⇑*eP*	**Pn**	**01 33 25.8**	**+1.1**
	baz=72						
UCH				⇑*eS*	**Sn**	**01 34 16.0**	**-3.3**
	baz=72						

*NOU **16** 01:40:47.6,42°.37S×173°.70E,h0km,MLv4.1/6,South*
Island, New Zealand
*WEL **16** 01:40:48.3±0.5,42°S±4°×17°4E±°,h7km±4km,M3.4/13,*
ML3.7/13,MLv3.4/13,Error ellipse: s-maj=0.0km
s-min=0.0km az=122.9
ISC 16 01:40:48.0±1.1,**42°.33S**±0°.04×**173°.84E**±0°.04,**h21**km,**n62,**
σ1§32/64,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.24**	**248**	P	**Pb**	**01 40 53.4**	**-0.6**
KHZ				S	**Sb**	**01 40 57.0**	**-1.2**
BSWZ	**Blackbirch Sta**	**0.61**	**3**	P	**Pb**	**01 40 59.4**	**-0.8**
BSWZ				S	**Sb**	**01 41 07.6**	**-0.8**
CMWZ	**Cape Campbell**	**0.64**	**26**	P	**Pb**	**01 40 60.0**	**-0.6**
GVZ	**Greta Valley S**	**0.87**	**223**	P	**Pb**	**01 41 06.1**	**+1.6**
THZ	**Tophouse**	**0.90**	**309**	P	**Pb**	**01 41 03.7**	**-1.2**
TUWZ	**Tuamarina**	**0.90**	**5**	P	**Pb**	**01 41 04.8**	**-0.1**
NNZ	**Nelson**	**1.16**	**343**	P	**Pn**	**01 41 08.5**	**-0.5**
TCW	**Tory Channel**	**1.16**	**16**	P	**Pn**	**01 41 09.5**	**+0.4**
AMCZ	**Amberley**	**1.22**	**226**	P	**Pn**	**01 41 10.6**	**+0.8**
MRNZ	**Matariki Terra**	**1.23**	**319**	P	**Pn**	**01 41 10.0**	**0.0**
LTZ	**Lake Taylor**	**1.24**	**248**	P	**Pn**	**01 41 10.8**	**+0.6**
WEL	**Wellington**	**1.25**	**34**	P	**Pn**	**01 41 11.1**	**+0.8**
PLWZ	**Palliser**	**1.30**	**55**	P	**Pn**	**01 41 11.7**	**+0.7**
MSWZ	**Moikau Station**	**1.39**	**50**	P	**Pn**	**01 41 12.7**	**+0.5**
TKNZ	**Takaka Hill**	**1.45**	**333**	P	**Pn**	**01 41 13.7**	**+0.6**
OKCZ	**Okains Bay**	**1.51**	**202**	P	**Pn**	**01 41 14.6**	**+0.8**
CAW	**Cannon Point**	**1.53**	**37**	P	**Pn**	**01 41 14.7**	**+0.6**
DUWZ	**D'Urville Isla**	**1.53**	**2**	P	**Pn**	**01 41 15.0**	**+0.9**
DSZ	**Denniston Nort**	**1.62**	**290**	P	**Pn**	**01 41 16.6**	**+1.1**
MQZ	**McQueen's Vall**	**1.63**	**212**	P	**Pn**	**01 41 15.4**	**0.0**
OXZ	**Oxford**	**1.66**	**232**	P	**Pn**	**01 41 15.9**	**0.0**
TRWZ	**Traveller**	**1.66**	**57**	P	**Pn**	**01 41 15.9**	**0.0**
KIW	**Kapiti Island**	**1.67**	**29**	P	**Pn**	**01 41 17.0**	**+0.9**
AKCZ	**Akaroa Harbour**	**1.69**	**204**	P	**Pn**	**01 41 16.8**	**+0.6**
MTW	**Mount Morrison**	**1.71**	**47**	P	**Pn**	**01 41 16.6**	**+0.1**
QRZ	**Quartz Range**	**1.79**	**326**	P	**Pn**	**01 41 19.2**	**+1.5**
QRZ	**Quartz Range**	**1.79**	**326**	P	**Pn**	**01 41 19.3**	**+1.5**
OGWZ	**Otaki Gorge**	**1.81**	**34**	P	**Pn**	**01 41 18.8**	**+0.5**
INZ	**Inchbonnie**	**1.81**	**257**	P	**Pn**	**01 41 18.9**	**+0.9**
RACZ	**Rakaia**	**1.87**	**221**	P	**Pn**	**01 41 18.8**	**0.0**
MHCZ	**Mount Hutt**	**2.06**	**233**	P	**Pn**	**01 41 21.2**	**-0.2**
MRZ	**Mangatainoka R**	**2.12**	**39**	P	**Pn**	**01 41 22.3**	**+0.1**
WACZ	**Wakanui South**	**2.18**	**222**	P	**Pn**	**01 41 23.2**	**+0.2**
WVZ	**Waitaha Valley**	**2.41**	**251**	P	**Pn**	**01 41 26.9**	**+0.7**
RPZ	**Rata Peaks**	**2.47**	**235**	P	**Pn**	**01 41 27.1**	**+0.1**
RPZ	**Rata Peaks**	**2.47**	**235**	P	**Pn**	**01 41 27.1**	**+0.1**
ARCZ	**Arundel**	**2.53**	**229**	P	**Pn**	**01 41 27.9**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.77**	**248**	P	**Pn**	**01 41 31.9**	**+0.8**
TMZ	**Timaru**	**2.91**	**224**	P	**Pn**	**01 41 33.4**	**+0.2**
NBEZ	**Newall Road No**	**3.06**	**0**	P	**Pb**	**01 41 39.3**	**-2.4**
DREZ	**Durham Road**	**3.15**	**5**	P	**Pn**	**01 41 38.9**	**+2.5**
FOZ	**Fox Glacier**	**3.19**	**246**	P	**Pn**	**01 41 38.0**	**+1.0**
MOVZ	**Moawhango**	**3.26**	**27**	P	**Pn**	**01 41 38.7**	**+0.7**
VRZ	**Vera Road**	**3.28**	**13**	P	**Pn**	**01 41 40.5**	**+2.3**
WNVZ	**Wahianoa**	**3.28**	**25**	P	**Pn**	**01 41 42.3**	**+4.0**
LBZ	**Lake Benmore**	**3.37**	**231**	P	**Pn**	**01 41 39.9**	**+0.6**
OTVZ	**Oturere**	**3.45**	**24**	P	**Pn**	**01 41 43.5**	**+2.8**
NNVZ	**North Ngauruho**	**3.47**	**23**	P	**Pb**	**01 41 48.0**	**-0.8**
ETVZ	**East Tongariro**	**3.49**	**25**	P	**Pn**	**01 41 44.0**	**+2.8**
TMVZ	**Te Maari**	**3.51**	**24**	P	**Pn**	**01 41 45.2**	**+3.8**
ODZ	**Otahua Downs**	**3.57**	**219**	P	**Pn**	**01 41 42.8**	**+0.7**
ODZ	**Otahua Downs**	**3.57**	**219**	P	**Pn**	**01 41 42.0**	**-0.1**
HIZ	**Hauiti**	**3.89**	**12**	P	**Pn**	**01 41 49.2**	**+2.7**
HIZ	**Hauiti**	**3.89**	**12**	P	**Pn**	**01 41 49.2**	**+2.7**
JCZ	**Jackson Bay**	**4.09**	**243**	P	**Pn**	**01 41 49.7**	**+0.3**
JCZ	**Jackson Bay**	**4.09**	**243**	P	**Pn**	**01 41 49.7**	**+0.3**
EAZ	**Earnscleugh**	**4.38**	**227**	P	**Pn**	**01 41 53.1**	**-0.2**
RIGZ	**Rimuhau**	**4.69**	**41**	P	**Pn**	**01 41 57.2**	**-0.5**
MLZ	**Mavora Lakes**	**5.13**	**232**	P	**Pn**	**01 42 03.3**	**-0.3**
AWAZ	**Awhitu Peninsu**	**5.29**	**7**	P	**Pn**	**01 42 07.6**	**+1.8**
SYZ	**Scrubby Hill**	**5.39**	**217**	P	**Pn**	**01 42 07.9**	**+0.8**
	116nm,2.0s						
SYZ	**Scrubby Hill**	**5.39**	**217**	P	**Pn**	**01 42 07.8**	**+0.7**

WEL 16 02:06:44.7±0.3,**42°S**±2°×**17°4E**±°,**h8**km±3km,**M3.2**/26,
ML3.5/18,**MLv3.2**/26,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=57.6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.03**	**171**	P	Pg	02 06 46.6	+0.4
CMWZ				S	Sg	02 06 48.7	+1.4
BSWZ	**Blackbirch Sta**	**0.25**	**270**	P	Pg	02 06 50.1	+0.4
BSWZ				S	Sg	02 06 54.6	+1.6
TUWZ	**Tuamarina**	**0.35**	**325**	P	Pg	02 06 52.3	+0.8
TUWZ				S	Sb	02 06 58.0	-0.8
TCW	**Tory Channel**	**0.51**	**6**	P	Pg	02 06 54.9	+0.4
WEL	**Wellington**	**0.60**	**44**	P	Pb	02 06 57.1	-0.4
NNZ	**Nelson**	**0.80**	**309**	P	Pg	02 07 00.0	+0.1
PLWZ	**Palliser**	**0.80**	**80**	P	Pb	02 07 00.8	0.0
MSWZ	**Moikau Station**	**0.84**	**69**	P	Pb	02 07 01.5	0.0
KHZ	**Kahutara**	**0.86**	**215**	P	Pb	02 07 01.7	-0.1
CAW	**Cannon Point**	**0.89**	**47**	P	Pg	02 07 01.9	+0.2
PAWZ	**Paruwai Farm**	**0.97**	**70**	P	Pg	02 07 03.3	-0.1
THZ	**Tophouse**	**0.98**	**267**	P	Pg	02 07 03.5	+0.1
KIW	**Kapiti Island**	**1.01**	**32**	P	Pg	02 07 03.8	-0.2
MTW	**Mount Morrison**	**1.12**	**61**	P	Pg	02 07 05.5	-0.7
MRNZ	**Matariki Terra**	**1.13**	**286**	P	Pb	02 07 06.6	0.0
OGWZ	**Otaki Gorge**	**1.16**	**39**	P	Pg	02 07 06.4	-0.4
TRWZ	**Traveller**	**1.16**	**74**	P	Pg	02 07 05.6	-1.2
TKNZ	**Takaka Hill**	**1.16**	**306**	P	Pg	02 07 06.4	-0.5
TMWZ	**Te Maipa**	**1.41**	**65**	P	Pn	02 07 09.3	-1.3
MRZ	**Mangatainoka R**	**1.48**	**45**	P	Pn	02 07 10.8	-0.8
GVZ	**Greta Valley S**	**1.52**	**214**	P	Pn	02 07 10.8	-1.4
QRZ	**Quartz Range**	**1.55**	**305**	P	Pb	02 07 13.2	-0.3
PRWZ	**Pori Road**	**1.77**	**49**	P	Pn	02 07 14.1	-1.4
POWZ	**Post Office Ro**	**1.77**	**42**	P	Pn	02 07 15.0	-0.7
LTZ	**Lake Taylor**	**1.79**	**233**	P	Pn	02 07 15.0	-0.9
DSZ	**Denniston Nort**	**1.80**	**268**	P	Pb	02 07 17.2	-0.7
AMCZ	**Amberley**	**1.86**	**218**	P	Pn	02 07 15.0	-1.7
WAZ	**Wanganui**	**2.05**	**17**	P	Pb	02 07 22.6	+0.5
DVHZ	**Dannevirke**	**2.05**	**47**	P	Pg	02 07 24.1	+0.2
TSZ	**Takapari Road**	**2.12**	**39**	P	Pn	02 07 19.6	-0.9
OKCZ	**Okains Bay**	**2.18**	**202**	P	Pn	02 07 18.7	-2.5
OXZ	**Oxford**	**2.27**	**224**	P	Pn	02 07 20.1	-2.3
INZ	**Inchbonnie**	**2.29**	**243**	P	Pn	02 07 23.1	+0.4
MQZ	**McQueen's Vall**	**2.29**	**209**	P	Pn	02 07 19.7	-3.0
PNHZ	**Pukenui**	**2.35**	**41**	P	Pn	02 07 22.2	-1.4
AKCZ	**Akaroa Harbour**	**2.36**	**203**	P	Pn	02 07 21.1	-2.5
KHEZ	**Kahui Hut**	**2.42**	**356**	P	Pb	02 07 28.8	+0.3
NBEZ	**Newall Road No**	**2.46**	**354**	P	Pg	02 07 30.7	-1.1
RACZ	**Rakaia**	**2.52**	**216**	P	Pn	02 07 23.1	-2.8
PKE	**Pukeiti**	**2.53**	**356**	P	Pb	02 07 30.8	+0.5
MOVZ	**Moawhango**	**2.59**	**28**	P	Pb	02 07 31.0	-0.4
WNVZ	**Wahianoa**	**2.61**	**24**	P	Pb	02 07 29.6	-2.2
TRVZ	**Turoa**	**2.62**	**23**	P	Pb	02 07 32.9	+0.9
VRZ	**Vera Road**	**2.62**	**9**	P	Pb	02 07 29.8	-2.1
BHHZ	**Black Hill Sta**	**2.64**	**33**	P	Pb	02 07 32.2	+0.1
WHVZ	**Whangaehu Hut**	**2.65**	**24**	P	Pb	02 07 32.2	-0.3
MHCZ	**Mount Hutt**	**2.66**	**226**	P	Pn	02 07 25.5	-2.4
OTVZ	**Oturere**	**2.78**	**24**	P	Pb	02 07 34.7	0.0
NNVZ	**North Ngauruho**	**2.80**	**23**	P	Pb	02 07 35.1	+0.1
WTVZ	**West Tongariro**	**2.81**	**23**	P	Pb	02 07 35.4	+0.4
ETVZ	**East Tongariro**	**2.82**	**24**	P	Pb	02 07 35.9	+0.5
TMVZ	**Te Maari**	**2.84**	**24**	P	Pb	02 07 35.2	-0.4
WVZ	**Waitaha Valley**	**2.91**	**241**	P	Pb	02 07 34.2	-2.5
RPZ	**Rata Peaks**	**3.06**	**228**	P	Pn	02 07 31.6	-1.8
HIZ	**Hauiti**	**3.24**	**9**	P	Pb	02 07 41.2	-1.2
MUGZ	**Murupara**	**3.79**	**32**	P	Pn	02 07 46.3	+2.9
ODZ	**Otahua Downs**	**4.22**	**217**	P	Pn	02 07 46.4	-2.8

*NOU **16** 02:14:21.3,42°.40S×173°.82E,h0km,MLv4.4/11,South*
Island, New Zealand
*WEL **

MV3.6/20,**2D,EASTERN TOTTORI PREF,Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.08**	**242**	⇓P	Pg	02 24 47.6	0.0
JKR				⇓S	Sg	02 24 49.3	+0.1
JAD	**Aida**	**0.52**	**155**	P	Pg	02 24 55.5	-0.1
JAD				S	Sg	02 25 02.7	+0.3

*IDC **16** 02:40:03.6±1.9, 17°.21S×179°.21W, h547km±18km, mb2.9/7, mbtmp3.8/8, Error ellipse: s-maj=83.4km s-min=17.5km az=150.0*
*NEIC **16** 02:40:03.0±2.4, 17°.4S±0°.1×179°.1W±0°.2, h541km±10km, mb4.1/14, Error ellipse: s-maj=35.6km s-min=10.8km az=116.0*

ISC 16 02:40:02.2±0.9, 17°.5S±0°.2×179°.0W±0°.2, h539km, n33, σ0.72/32, mb3.8/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.81**	**264**	P	**P**	**02 41 16.7**	**+1.4**
	29nm,0.6s,baz=45,slow=7.2,SNR=25						
MSVF	**Nonsavu**	**2.81**	**264**	P	**P**	**02 41 16.6**	**+1.3**
FUNA	**Funafuti**	**9.04**	**349**	P	**P**	**02 42 10.8**	**+0.5**
EIDS	**Eidsvold**	**28.88**	**249**	P	**P**	**02 45 17.8**	**+0.1**
EIDS				IAmb	IAmb	02 45 35.6	
	comp=Z,15nm,1.4s						
ARMA	**Armidale**	**29.68**	**239**	P	**P**	**02 45 25.0**	**+0.4**
ARMA				IAmb	IAmb	02 45 45.3	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**38.35**	**240**	P	**P**	**02 46 37.8**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=81,slow=9.4,SNR=4.6 comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**38.35**	**240**	P	**P**	**02 46 37.1**	**-0.1**
BBOO	**Buckleboo**	**43.12**	**240**	P	**P**	**02 47 14.8**	**-0.4**
BBOO				IAmb	IAmb	02 47 41.6	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**02 47 22.4**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=97,slow=7.1,SNR=5.6 comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**02 47 22.5**	**-0.9**
AS31	**Alice Springs**	**44.36**	**254**	P	**P**	**02 47 24.9**	**-0.2**
AS31				IAmb	IAmb	02 47 25.4	
	comp=Z,1.5nm,0.4s						
ASAR	**Alice Springs**	**44.36**	**254**	P	**P**	**02 47 24.9**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=88,slow=8.2,SNR=42 comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**44.36**	**254**	P	**P**	**02 47 23.9**	**-1.2**
LCH	**Last Change Ra**	**79.31**	**45**	P	**P**	**02 51 12.4**	**+0.1**
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	**02 51 14.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=233,slow=8.9,SNR=3.1 comp=Z,0.4nm,0.6s						
KVN	**Kaiserville**	**79.96**	**44**	P	**P**	**02 51 15.5**	**-0.3**
KVN				IAmb	IAmb	02 51 36.9	
	comp=Z,3.6nm,1.4s						
ILSW	**Iliamna Southw**	**79.97**	**13**	P	**P**	**02 51 14.0**	**-1.2**
ILSW				IAmb	IAmb	02 51 15.3	
	comp=Z,28nm,1.4s						
SCM	**Sheep Creek Mo**	**82.93**	**15**	P	**P**	**02 51 29.3**	**-0.9**
N25K	**Chitina, Valde**	**83.42**	**16**	P	**P**	**02 51 32.3**	**-0.4**
N25K				IAmb	IAmb	02 51 56.7	
	comp=Z,12nm,1.4s						
GLB	**Gilahina Butte**	**83.49**	**16**	P	**P**	**02 51 32.6**	**-0.4**
J20K	**Nowinta River**	**83.60**	**11**	P	**P**	**02 51 33.0**	**-0.5**
J20K				IAmb	IAmb	02 51 51.7	
	comp=Z,3.5nm,1.1s						
TRF	**Thorofare Moun**	**83.69**	**13**	P	**P**	**02 51 33.0**	**-1.1**
TRF				IAmb	IAmb	02 51 34.9	
	comp=Z,4.0nm,1.0s						
ILAR	**Eielson Array**	**85.57**	**13**	P	**P**	**02 51 42.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=225,slow=5.4,SNR=9.6 comp=Z,0.3nm,0.3s						
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**02 51 47.9**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=218,slow=6.8,SNR=8.0 comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.42**	**44**	P	**P**	**02 51 52.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=215,slow=3.6,SNR=5.6 comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**144.05**	**315**	PKPbc	PKPbc	02 58 35.9	-0.5
CLL	**Collm**	**144.89**	**347**	*e*PKPbc	**PKPdf**	**02 58 38.0**	**+0.2**
PSZ	**Piszkesteto**	**145.89**	**337**	PKPdf	**PKPdf**	**02 58 39.9**	**+0.1**
GERES	**GERESS Array B**	**147.02**	**345**	PKPbc	**PKPbc**	**02 58 45.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=46,slow=3.9,SNR=3.8						
GERES	**GERESS Array B**	**147.02**	**345**	PKPbc	**PKPbc**	**02 58 44.3**	**-0.4**
CIMO	**Cimolais**	**149.69**	**344**	PKPbc	**PKPbc**	**02 58 50.5**	**-0.8**
FUORN	**Ofenpass-Fuorn**	**149.91**	**347**	PKPbc	**PKPbc**	**02 58 51.1**	**-1.0**
FNA	**Florina**	**150.85**	**327**	PKPbc	**PKPbc**	**02 58 53.8**	**-0.4**

WEL 16 02:55:07.9±0.4, 42°S±3°×17°3E±°, h5km, M3.2/1, ML4.0/13, ML3.6/1, MLv3.6/24, MLv3.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=130.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.13**	**54**	P	Pg	02 55 10.7	+0.3
KHZ				S	Sg	02 55 13.1	+0.9
GVZ	**Greta Valley S**	**0.55**	**209**	P	Pg	02 55 19.1	+0.7
GVZ				S	Sb	02 55 27.7	-0.5
THZ	**Tophouse**	**0.81**	**333**	P	Pg	02 55 23.7	+0.2
BSWZ	**Blackbirch Sta**	**0.85**	**25**	P	Pg	02 55 24.4	+0.1
AMCZ	**Amberley**	**0.88**	**218**	P	Pg	02 55 24.5	-0.3
LTZ	**Lake Taylor**	**0.88**	**250**	P	Pg	02 55 24.9	0.0
CMWZ	**Cape Campbell**	**0.96**	**40**	P	Pn	02 55 27.5	-0.5
TUWZ	**Tuamarina**	**1.13**	**21**	P	Pg	02 55 29.2	-0.5
MRNZ	**Matariki Terra**	**1.19**	**336**	P	Pg	02 55 30.5	-0.2
OKCZ	**Okains Bay**	**1.26**	**191**	P	Pg	02 55 29.2	-2.8
NNZ	**Nelson**	**1.27**	**359**	P	Pg	02 55 31.3	-0.9
OXZ	**Oxford**	**1.30**	**230**	P	Pn	02 55 30.1	-2.7
MQZ	**McQueen's Vall**	**1.33**	**204**	P	Pn	02 55 29.8	-3.4
DSZ	**Denniston Nort**	**1.40**	**302**	P	Pn	02 55 33.5	-0.7
AKCZ	**Akaroa Harbour**	**1.43**	**194**	P	Pn	02 55 31.4	-3.1
TCW	**Tory Channel**	**1.44**	**27**	P	Pn	02 55 33.1	-1.5
INZ	**Inchbonnie**	**1.46**	**260**	P	Pn	02 55 33.8	-1.2
TKNZ	**Takaka Hill**	**1.49**	**347**	P	Pn	02 55 35.0	-0.4
RACZ	**Rakaia**	**1.54**	**216**	P	Pn	02 55 33.1	-3.0
WEL	**Wellington**	**1.58**	**41**	P	Pn	02 55 35.2	-1.3
PLWZ	**Palliser**	**1.66**	**57**	P	Pn	02 55 34.8	-3.0
MHCZ	**Mount Hutt**	**1.70**	**232**	P	Pn	02 55 35.5	-2.8
DUWZ	**D'Urville Isla**	**1.73**	**13**	P	Pn	02 55 38.3	-0.4
MSWZ	**Moikau Station**	**1.75**	**53**	P	Pn	02 55 36.2	-2.7
QRZ	**Quartz Range**	**1.79**	**338**	P	Pn	02 55 39.7	+0.3
WACZ	**Wakanui South**	**1.85**	**218**	P	Pn	02 55 37.4	-2.8
CAW	**Cannon Point**	**1.86**	**43**	P	Pn	02 55 38.3	-2.2
KIW	**Kapiti Island**	**1.98**	**35**	P	Pn	02 55 40.7	-1.4
WVZ	**Waitaha Valley**	**2.05**	**253**	P	Pn	02 55 41.8	-1.2
MTW	**Mount Morrison**	**2.06**	**50**	P	Pn	02 55 40.2	-3.0
RPZ	**Rata Peaks**	**2.11**	**234**	P	Pn	02 55 41.1	-2.8
OGWZ	**Otaki Gorge**	**2.13**	**39**	P	Pn	02 55 42.1	-2.0
ARCZ	**Arundel**	**2.18**	**227**	P	Pn	02 55 41.9	-3.0
GCSZ	**Gaunt Creek Bo**	**2.41**	**249**	P	Pn	02 55 46.7	-1.2
MRZ	**Mangatainoka R**	**2.45**	**43**	P	Pn	02 55 46.4	-2.2
TMZ	**Timaru**	**2.57**	**222**	P	Pn	02 55 47.3	-3.0
BFZ	**Birch Farm**	**2.80**	**51**	P	Pb	02 55 56.7	-1.7
FOZ	**Fox Glacier**	**2.83**	**247**	P	Pn	02 55 52.6	-1.1
WAZ	**Wanganui**	**2.98**	**24**	P	Pb	02 56 00.0	-1.5
LBZ	**Lake Benmore**	**3.01**	**230**	P	Pn	02 55 53.7	-2.6
TSZ	**Takapari Road**	**3.10**	**39**	P	Pn	02 55 59.0	+1.4
KHEZ	**Kahui Hut**	**3.23**	**9**	P	Pn	02 56 01.0	+1.7
NBEZ	**Newall Road No**	**3.24**	**6**	P	Pb	02 56 02.7	-3.2
ODZ	**Otahua Downs**	**3.24**	**217**	P	Pn	02 55 56.3	-3.1
PKE	**Pukeiti**	**3.32**	**8**	P	Pn	02 56 03.2	+2.6
VRZ	**Vera Road**	**3.52**	**17**	P	Pn	02 56 03.1	-0.1
MOVZ	**Moawhango**	**3.56**	**31**	P	Pn	02 56 04.0	+0.1
WNVZ	**Wahianoa**	**3.57**	**29**	P	Pn	02 56 03.6	-0.5
JCZ	**Jackson Bay**	**3.72**	**243**	P	Pn	02 56 04.1	-2.0
OTVZ	**Oturere**	**3.74**	**28**	P	Pn	02 56 09.3	+2.8
EAZ	**Earnscleugh**	**4.03**	**226**	P	Pn	02 56 07.3	-3.0
HIZ	**Hauiti**	**4.12**	**16**	P	Pn	02 56 11.8	+0.2
MLZ	**Mavora Lakes**	**4.78**	**231**	P	Pn	02 56 16.9	-3.7
AWAZ	**Awhitu Peninsu**	**5.50**	**10**	P	Pn	02 56 30.3	-0.2
MKAZ	**Moumakai**	**5.55**	**15**	P	Pn	02 56 30.6	-0.5

WEL 16 02:56:34.0±0.3, 42°S±2°×17°4E±°, h5km, M3.5/15, ML3.7/9, MLv3.5/15, Error ellipse: s-maj=0.0km s-min=0.0km az=136.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.30**	**28**	P	Pg	02 56 40.3	+0.5
BSWZ				S	Sg	02 56 45.2	+1.5
KHZ	**Kahutara**	**0.45**	**194**	P	Pg	02 56 43.0	+0.2
KHZ				S	Sg	02 56 49.6	+1.0
CMWZ	**Cape Campbell**	**0.45**	**60**	P	Pg	02 56 43.5	+0.7
TUWZ	**Tuamarina**	**0.58**	**19**	P	Pg	02 56 45.6	+0.5
THZ	**Tophouse**	**0.62**	**290**	P	Pb	02 56 46.7	-0.7
NNZ	**Nelson**	**0.80**	**343**	S	Sb	02 57 00.6	-0.7
TCW	**Tory Channel**	**0.89**	**30**	P	Pg	02 56 50.7	-0.2
MRNZ	**Matariki Terra**	**0.91**	**309**	P	Pb	02 56 52.1	-0.1
WEL	**Wellington**	**1.06**	**50**	P	Pb	02 56 54.9	0.0
GVZ	**Greta Valley S**	**1.10**	**206**	P	Pg	02 56 55.1	0.0
PLWZ	**Palliser**	**1.24**	**71**	P	Pg	02 56 56.3	-1.5
LTZ	**Lake Taylor**	**1.32**	**232**	P	Pn	02 56 58.7	-0.5
OGWZ	**Otaki Gorge**	**1.61**	**44**	P	Pb	02 57 04.2	+0.1
OKCZ	**Okains Bay**	**1.80**	**195**	P	Pn	02 57 04.3	-1.5
INZ	**Inchbonnie**	**1.82**	**245**	P	Pn	02 57 06.7	+0.7

*IDC **16** 03:01:01.2±3.2, 25°.27S×179°.61W, h429km±33km, mb3.8/13, mbtmp4.6/15, Error ellipse: s-maj=17.4km s-min=15.5km az=77.0*
*NEIC **16** 03:01:04.4±2.0, 25°.4S±0°.1×179°.6W±0°.2, h468km±11km, mb4.4/28, Error ellipse: s-maj=20.5km s-min=19.1km az=72.0*
*NOU **16** 03:02:26.6, 23°.14S×172°.86E, h344km, MLv4.1/5, Southeast of Loyalty Islands*

ISC 16 03:01:01.2±0.5, 25°.41S±0°.07×179°.47W±0°.09, h432km, n76, σ1s54/75, mb4.3/25, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.98**	**343**	P	**P**	**03 02 58.2**	**+1.7**
	29nm,0.6s,baz=181,slow=8.4,SNR=39						
MSVF				S	**S**	**03 04 32.8**	**+2.1**
	9.4nm,0.8s,baz=46,slow=20,SNR=4.3						
MSVF	**Nonsavu**	**7.98**	**343**	P	**P**	**03 02 58.1**	**+1.6**
NIUE	**Niue**	**10.85**	**56**	P	**P**	03 03 33.6	+5.9
MARNC	**Mare, Loyalty**	**12.12**	**286**	P	**P**	**03 03 43.3**	**+1.7**
MARNC	**Mare, Loyalty**	**12.12**	**286**	P	**P**	**03 03 43.5**	**+1.9**
OUENC	**Ouen Island, N**	**12.87**	**281**	P	**P**	**03 03 52.3**	**+2.5**
OUENC	**Ouen Island, N**	**12.87**	**281**	P	**P**	**03 03 52.6**	**+2.8**
YATNC	**Mamie plateau,**	**12.93**	**282**	P	**P**	**03 03 53.4**	**+2.9**
LIFNC	**LIFOU**	**13.07**	**288**	P	**P**	**03 03 53.0**	**+1.1**
ONTNC	**Ouen Toro**	**13.25**	**281**	P	**P**	**03 03 57.2**	**+3.3**
DZM	**Mont Dzumac**	**13.32**	**282**	P	**P**	**03 03 57.6**	**+2.7**
	32nm,0.6s,baz=79,slow=18,SNR=30						
DZM	**Mont Dzumac**	**13.32**	**282**	P	**P**	**03 03 57.1**	**+2.3**
DZM	**Mont Dzumac**	**13.32**	**282**	P	**P**	**03 03 57.3**	**+2.5**
AFI	**Afiamalu**	**13.53**	**34**	P	**P**	**03 03 56.1**	**-1.0**
	21nm,0.3s,baz=314,slow=2.7,SNR=5.0						
BKZ	**Black Stump Fm**	**14.14**	**193**	P	**P**	**03 04 03.3**	**0.0**
MRZ	**Mangatainoka R**	**15.77**	**194**	P	**P**	**03 04 21.0**	**+0.3**
MRZ				IAmb	IAmb	03 04 22.0	
	comp=Z,19nm,1.1s						
PLWZ	**Palliser**	**16.70**	**194**	P	**P**	**03 04 31.2**	**+0.5**
QRZ	**Quartz Range**	**16.76**	**201**	P	**P**	**03 04 31.8**	**+0.5**
DSZ	**Denniston Nort**	**17.83**	**202**	P	**P**	**03 04 43.5**	**+0.9**
INZ	**Inchbonnie**	**18.82**	**201**	P	**P**	**03 04 51.7**	**-0.9**
WVZ	**Waitaha Valley**	**19.37**	**202**	P	**P**	**03 04 56.8**	**-0.8**
RPZ	**Rata Peaks**	**19.84**	**201**	P	**P**	**03 05 01.4**	**-0.5**
	comp=Z,15nm,0.4s,baz=347,slow=1.5,SNR=8.5						
RPZ	**Rata Peaks**	**19.84**	**201**	P	**P**	**03 05 01.6**	**-0.4**
ARCZ	**Arundel**	**20.01**	**200**	P	**P**	**03 05 04.5**	**+1.0**
FOZ	**Fox Glacier**	**20.09**	**203**	P	**P**	**03 05 03.3**	**-0.9**
LBZ	**Lake Benmore**	**20.72**	**201**	P	**P**	**03 05 08.3**	**-1.7**
ARMA	**Armidale**	**25.99**	**252**	P	**P**	**03 05 58.2**	**+0.6**
ARMA				IAmb	IAmb	03 05 59.6	
	comp=Z,8.5nm,0.7s						
EIDS	**Eidsvold**	**26.59**	**264**	P	**P**	**03 06 03.3**	**+0.4**
EIDS				IAmb	IAmb	03 06 03.8	
	comp=Z,11nm,0.9s						
CAN	**Canberra**	**28.84**	**242**	P	**P**	**03 06 22.4**	**-0.3**
CAN				IAmb	IAmb	03 06 25.0	
	comp=Z,9.5nm,0.8s						
CTA	**Charters Tower**	**32.00**	**272**	P	**P**	**03 06 50.2**	**0.0**
	comp=Z,13nm,0.5s,baz=98,slow=9.7,SNR=22 comp=Z,13nm,0.5s						
CTAO	**Charters Tower**	**32.00**	**272**	P	**P**	**03 06 49.8**	**-0.4**
CTAO				IAmb	IAmb	03 06 50.9	
	comp=Z,13nm,0.6s						
TOO	**Toolangi**	**32.07**	**239**	P	**P**	**03 06 50.8**	**+0.1**
TOO				IAmb	IAmb	03 06 52.5	
	comp=Z,8.0nm,0.7s						
TAU	**Tasmania Unive**	**32.29**	**229**	P	**P**	**03 06 52.5**	**+0.1**
TAU				IAmb	IAmb	03 07 08.2	
	comp=Z,24nm,1.1s						
STKA	**Stephens Creek**	**34.64**	**250**	P	**P**	**03 07 12.3**	**-0.2**
	comp=Z,4.8nm,0.4s,baz=98,slow=13,SNR=27						
STKA				PcP	**PcP**	**03 09 35.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=70,slow=3.2,SNR=3.4 comp=Z,4.8nm,0.4s						
STKA	**Stephens Creek**	**34.64**	**250**	P	**P**	**03 07 12.2**	**-0.4**
BBOO	**Buckleboo**	**39.33**	**249**	P	**P**	**03 07 49.9**	**-1.5**
BBOO				IAmb	IAmb	03 07 50.4	
	comp=Z,7.5nm,0.7s						
AS31	**Alice Springs**	**42.29**	**262**	P	**P**	**03 08 14.6**	**-0.8**
ASAR	**Alice Springs**	**42.29**	**262**	P	**P**	**03 08 14.4**	**-1.0**
	comp=Z,8.4nm,0.6s,baz=91,slow=7.0,SNR=91						
ASAR				S	**S**	**03 14 08.4**	**+4.6**
	comp=Z,0.7nm,1.0s,baz=104,slow=14,SNR=4.9 comp=Z,8.4nm,0.6s						
WR0	**Warramunga Arr**	**42.62**	**268**	P	**P**	**03 08 16.5**	**-1.5**
WR0				IAmb	IAmb	03 08 16.9	
	comp=Z,6.2nm,0.6s						
WB2	**Warramunga Arr**	**42.80**	**268**	P	**P**	**03 08 18.0**	**-1.4**
WB2				IAmb	IAmb	03 08 18.7	
	comp=Z,12nm,0.8s						
WB0	**Warramunga Arr**	**42.81**	**268**	P	**P**	**03 08 17.9**	**-1.6**
WB0				IAmb	IAmb	03 08 18.7	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**42.81**	**268**	P	**P**	**03 08 18.0**	**-1.5**
	comp=Z,10nm,0.7s,baz=104,slow=7.8,SNR=77 comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**42.81**	**268**	P	**P**	**03 08 18.0**	**-1.5**
FORT	**Forrest**	**46.26**	**251**	P	**P**	**03 08 44.3**	**-1.9**
MTN	**Manton Dam**	**48.07**	**275**	P	**P**	**03 08 58.7**	**-1.4**
KNRA	**Kununurra**	**49.18**	**271**	P	**P**	**03 09 07.2**	**-1.2**
VNDA	**Vanda**	**52.93**	**185**	P	**P**	**03 09 37.1**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=2.0,slow=6.3,SNR=5.4 comp=Z,1.3nm,0.7s						
SIJI	**Sorong**	**53.38**	**289**	P	**P**	**03 09 37.7**	**-1.4**
	comp=Z,30nm,0.8s,baz=82,slow=7.7,SNR=16 comp=Z,30nm,0.8s						
PSA00	**Pibara Seismi**	**55.38**	**260**	P	**P**	**03 09 51.2**	**-2.0**
MBWA	**Marble Bar**	**55.60**	**261**	P	**P**	**03 09 52.7**	**-2.1**
MBWA				IAmb	IAmb	03 09 54.6	
	comp=Z,24nm,1.1s						
MORW	**Morawa**	**56.83**	**251**	P	**P**	**03 10 01.9**	**-1.3**
CASY	**Casey**	**58.98**	**206**	P	**P**	**03 10 16.8**	**-0.5**
GIRL	**Giralia**	**60.06**	**257**	P	**P**	**03 10 25.3**	**0.0**
TOLI2	**Tolitoli**	**63.43**	**285**	P	**P**	**03 10 45.4**	**-2.2**
TOLI2				IAmb	IAmb	03 10 47.8	
	comp=Z,9.2nm,0.9s						
QSPA	**South Pole Qui**	**64.68**	**180**	P	**P**	**03 10 56.5**	**+1.7**
QSPA				IAmb	IAmb	03 10 57.6	
	comp=Z,11nm,0.8s						
JAGI	**Jajag, Banyuwa**	**65.11**	**272**	P	**P**	**03 10 56.1**	**-2.2**
MJAR	**Matsushiro Arr**	**73.41**	**326**	P	**P**	**03 11 47.0**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=164,slow=4.6,SNR=4.2 comp=Z,2.8nm,0.7s						
MAW	**Mawson**	**76.51**	**200**	P	**P**	**03 12 06.2**	**+1.3**
	comp=Z,3.2nm,0.5s,baz=134,slow=3.4,SNR=8.6 comp=Z,3.2nm,0.5s						
KSRS	**Korea Array**	**79.71**	**320**	P	**P**	**03 12 21.5**	**-1.2**
	comp=Z,16nm,0.5s,baz=135,slow=5.3,SNR=3.5 comp=Z,16nm,0.5s						
TROLL	**Troll, Antarti**	**82.84**	**181**	P	**P**	**03 12 39.0**	**+0.3**
SNAA	**Sanae**	**83.16**	**179**	P	**P**	**03 12 40.0**	**-0.2**
VNA3	**Neumayer Olymp**	**83.35**	**177**	P	**P**	**03 12 41.3**	**+0.2**
VNA2	**Neumayer--Watz**	**83.77**	**177**	P	**P**	**03 12 43.3**	**+0.1**
	baz=164,slow=5.0						
NVAR	**Mina Array Bea**	**85.50**	**44**	P	**P**	**03 12 53.3**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=236,slow=6.4,SNR=4.2 comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Ar**	**90.50**	**290**	P	**P**	**03 13 17.1**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=139,slow=3.7,SNR=10 comp=Z,1.1nm,0.3s						
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**03 13 19.1**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=208,slow=6.3,SNR=9.7 comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**93.38**	**13**	P	**P**	**03 13 27.3**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=214,slow=4.4,SNR=1.9 comp=Z,0.3nm,0.8s						
ARCES	**ARCESS Array B**	**133.45**	**348**	PKP	**PKPdf**	**03 19 24.3**	**-2.1**
	comp=Z,5.6nm,0.9s,baz=70,slow=1.4,SNR=5.8						
FINES	**FINESS Array B**	**140.02**	**341**	PKhKP	PKPpre	03 19 27.8	
	comp=Z,6.5nm,1.0s,baz=71,slow=6.0,SNR=2.8						
FINES				PKP	**PKPdf**	**03 19 39.5**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=146,slow=3.7,SNR=3.9						
NB2	**NORSAR Subarra**	**143.64**	**351**	PKP	PKPab	03 19 42.9	-0.6
	comp=Z,1.7nm,1.0s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.64**	**351**	PKP	PKPab	03 19 42.9	-0.6
	comp=Z,2.6nm,0.8s,baz=22,slow=3.8,SNR=8.6						
MARD	**Mardin**	**143.89**	**299**		PKPbc	03 19 45.0	-0.3
AKASG	**Malin Array Be**	**146.49**	**326**	PKPbc	**PKPdf**	**03 19 51.0**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=45,slow=4.2,SNR=12						
BRTR	**Keskin Array B**	**148.86**	**305**	PKPbc	**PKPbc**	**03 19 58.2**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=110,slow=2.1,SNR=7.2						
CLL	**Collm**	**152.43**	**343**	*i* PKPbc	**PKPbc**	**03 20 06.7**	**-0.3**
	comp=Z,5.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**167.76**	**185**	PKPab	**PKPab**	**03 21 25.4**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=173,slow=3.2,SNR=5.9						

*NNC **16** 03:04:23.9±0.5, 43°.18N×78°.57E, h1km±3km, mb2.5, mpv3.0, Error ellipse: s-maj=4.8km s-min=2.3km az=167.0*
*KRNET **16** 03:04:24.2±0.1, 43°.19N×78°.53E, h16km, mb2.7*
*SOME **16** 03:04:25.0, 43°.17N×78°.52E, h10km*

ISC 16 03:04:24.8±0.9, 43°.18N±0°.02×78°.53E±0°.02, h4km±7km, n41, σ1s22/79, 9C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.07**	**257**	*e*P	**Pg**	**03 04 26.5**	**+0.1**
	baz=56						
ZHN				*e*S	**Sg**	**03 04 28.0**	**+0.5**
	baz=56						
ZHN	**Zhinishke**	**0.07**	**257**	*e*P	**Pg**	**03 04 26.5**	**+0.1**
	636nm,0.1s						
ZHN				*e*S	**Sg**	**03 04 28.0**	**+0.5**
	2μm,0.1s						
ZHN	**Zhinishke**	**0.07**	**257**	P	**Pg**	**03 04 26.5**	**+0.1**
	93nm,0.0s						
ZHN				S	**Sg**	**03 04 28.0**	**+0.5**
	694nm,0.1s						
SATY	**Saty**	**0.15**	**216**	*e*P	**Pg**	**03 04 27.8**	**-0.1**
	baz=16						
SATY				*e*S	**Sg**	**03 04 30.4**	**+0.5**
	baz=16						
SATY	**Saty**	**0.15**	**216**	*e*P	**Pg**	**03 04 27.8**	**-0.1**
	223nm,0.1s						
SATY				*e*S	**Sg**	**03 04 30.4**	**+0.5**
	1μm,0.1s						
SATY	**Saty**	**0.15**	**216**	P	**Pg**	**03 04 27.7**	**-0.1**
	223nm,0.1s						
SATY				S	**Sg**	**03 04 30.4**	**+0.5**
	1μm,0.1s						
KPKS	**Kokpek**	**0.30**	**22**	*e*P	**Pg**	**03 04 30.4**	**-0.3**
	baz=22						
KPKS				*e*S	**Sg**	**03 04 34.5**	**-0.3**
	baz=22						
KPKS	**Kokpek**	**0.30**	**22**	*e*P	**Pg**	**03 04 30.4**	**-0.3**
	11nm,0.1s						
KPKS				*e*S	**Sg**	**03 04 34.5**	**-0.3**
	120nm,0.2s						
KPKS	**Kokpek**	**0.30**	**22**	P	**Pg**	**03 04 30.3**	**-0.3**
	11nm,0.1s						
KPKS				S	**Sg**	**03 04 34.5**	**-0.3**
	52nm,0.1s						
UZB	**Uzynbulak**	**0.36**	**96**	*e*P	**Pg**	**03 04 31.2**	**-0.6**
	baz=96						
UZB				*e*S	**Sg**	**03 04 35.7**	**-0.9**
	baz=96						
UZB	**Uzynbulak**	**0.36**	**96**	*e*P	**Pg**	**03 04 31.2**	**-0.6**
	37nm,0.0s						
UZB				*e*S	**Sg**	**03 04 35.7**	**-0.9**
	399nm,0.1s						
UZB	**Uzynbulak**	**0.36**	**96**	P	**Pg**	**03 04 31.0**	**-0.8**
	37nm,0.0s						
UZB				S	**Sg**	**03 04 35.6**	**-1.0**
	58nm,0.1s						
SHLS	**Shalkode**	**0.68**	**92**	*e*P	**Pn**	**03 04

	baz=42							
DGS	**Degeres**	**2.02**	**273**	Pg	**Pb**	**03 05 01.3**	**-0.7**
	1.5nm,0.1s							
DGS				Lg	Lg	03 05 27.5		
	5.0nm,0.3s							
BOOM	**Boomskoye usch**	**2.03**	**251**	⇑*iP*	**Pb**	**03 05 01.0**	**-1.3**
	baz=51							
BOOM				⇑*iS*	**Sb**	**03 05 27.3**	**-0.6**
	baz=51							
KRBS	**Karabastau**	**2.14**	**285**	Pg	**Pb**	**03 05 03.0**	**-1.1**
	2.8nm,0.2s							
KRBS				Lg	Lg	03 05 31.3		
	7.6nm,0.2s							
TKM2	**Tokmak 2**	**2.17**	**264**	⇑*iP*	**Pb**	**03 05 03.1**	**-1.5**
	baz=64							
TKM2				⇑*iS*	**Sb**	**03 05 30.6**	**-1.3**
	baz=64							
TKM2	**Tokmak 2**	**2.17**	**264**	⇓Pn	**Pb**	**03 05 04.1**	**-0.6**
	1.5nm,0.6s							
TKM2				⇓Sn	**Sg**	**03 05 33.2**	**-1.1**
	2.2nm,0.4s							
NRN	**Naryn**	**2.56**	**228**	⇓*iP*	**Pb**	**03 05 09.1**	**-2.4**
	baz=28							
NRN				⇓*iS*	**Sb**	**03 05 40.4**	**-3.1**
	baz=28							
MK31	**Makanchi Array**	**4.49**	**35**	Pn	**Pn**	**03 05 35.1**	**+1.5**
	0.3nm,0.5s,baz=208,slow=16,SNR=5.2							
MK31				⇓Lg	Lg	03 06 41.1		
	1.3nm,0.8s							

WEL 16 03:04:35.5±0.7, 43°S±4°×17°3E±°, h9km±5km, M2.5/7, ML2.7/6, MLv2.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=12.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**148**	P	Pb	03 04 43.6	-0.3
GVZ				S	Sb	03 04 49.0	-0.5
LTZ	**Lake Taylor**	**0.39**	**253**	P	Pb	03 04 44.3	-0.3
LTZ				S	Sb	03 04 50.4	-0.3
AMCZ	**Amberley**	**0.51**	**191**	P	Pb	03 04 46.9	+0.3
OXZ	**Oxford**	**0.85**	**220**	P	Pb	03 04 52.5	+0.1
THZ	**Tophouse**	**0.91**	**6**	P	Pg	03 04 53.2	+0.2
INZ	**Inchbonnie**	**0.99**	**266**	P	Pg	03 04 53.5	-0.9
MQZ	**McQueen's Vall**	**1.04**	**185**	P	Pg	03 04 54.7	-0.8
OKCZ	**Okains Bay**	**1.07**	**169**	P	Pg	03 04 55.6	-0.4

WEL 16 03:06:45.2±0.5, 43°S±3°×17°3E±°, h12km, M2.6/6, ML2.7/7, MLv2.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=95.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**65**	P	Pb	03 06 52.1	-0.2
GVZ	**Greta Valley S**	**0.44**	**194**	P	Pb	03 06 55.2	+0.2
GVZ				S	Sb	03 07 02.2	+0.7
LTZ	**Lake Taylor**	**0.71**	**250**	P	Pb	03 07 00.0	+0.4
LTZ				S	Sb	03 07 09.9	+0.5
AMCZ	**Amberley**	**0.75**	**211**	P	Pn	03 07 01.1	-0.5
THZ	**Tophouse**	**0.80**	**345**	P	Pb	03 07 01.8	+0.6
OXZ	**Oxford**	**1.15**	**226**	P	Pb	03 07 06.6	-0.5
MQZ	**McQueen's Vall**	**1.23**	**198**	P	Pn	03 07 06.8	-1.4
DSZ	**Denniston Nort**	**1.29**	**307**	P	Pg	03 07 11.0	+0.9
AKCZ	**Akaroa Harbour**	**1.35**	**188**	P	Pn	03 07 08.8	-1.1
RACZ	**Rakaia**	**1.41**	**212**	P	Pn	03 07 09.9	-0.8
MHCZ	**Mount Hutt**	**1.54**	**229**	P	Pn	03 07 12.0	-0.6
RPZ	**Rata Peaks**	**1.95**	**232**	P	Pn	03 07 17.9	-0.2
ARCZ	**Arundel**	**2.03**	**225**	P	Pn	03 07 18.5	-0.8
TRWZ	**Traveller**	**2.19**	**59**	P	Pg	03 07 26.3	-0.8
TMZ	**Timaru**	**2.43**	**220**	P	Pn	03 07 24.5	-0.3
HIZ	**Hauiti**	**4.22**	**18**	P	Pb	03 07 56.8	-2.5
MSZ	**Milford Sound**	**4.37**	**239**	P	Pn	03 07 51.7	+0.3

*NOU **16** 03:07:14.1, 42°69S×173°36E, h0km, MLv4.3/8, South Island, New Zealand*
*WEL **16** 03:07:15.2±0.3, 43°S±2°×17°3E±°, h8km±3km, M4.0/18, ML4.2/18, MLv4.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=129.1*
ISC 16 03:07:14.8±0.9, 42°55S±0°03×173°27E±0°03, h10km, n77, σ1ᵖ23/81, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**56**	P	**Pb**	**03 07 21.2**	**+1.5**
KHZ				S	**Sg**	**03 07 25.1**	**+2.1**
GVZ	**Greta Valley S**	**0.45**	**203**	P	**Pb**	**03 07 25.4**	**+0.5**
GVZ				S	**Sb**	**03 07 32.9**	**+1.2**
AMCZ	**Amberley**	**0.77**	**216**	P	**Pb**	**03 07 31.2**	**+0.8**
LTZ	**Lake Taylor**	**0.77**	**252**	P	**Pg**	**03 07 29.8**	**+0.1**
LTZ				S	**Sg**	**03 07 39.7**	**-0.1**
THZ	**Tophouse**	**0.83**	**341**	P	**Pb**	**03 07 30.7**	**-0.7**
THZ				S	**Sg**	**03 07 40.7**	**-1.1**
BSWZ	**Blackbirch Sta**	**0.95**	**28**	P	**Pb**	**03 07 33.7**	**+0.3**
OKCZ	**Okains Bay**	**1.18**	**188**	P	**Pn**	**03 07 37.4**	**-0.1**
OXZ	**Oxford**	**1.19**	**229**	P	**Pb**	**03 07 37.3**	**-0.3**
MRNZ	**Matariki Terra**	**1.21**	**341**	P	**Pn**	**03 07 38.0**	**+0.1**
TUWZ	**Tuamarina**	**1.23**	**24**	P	**Pg**	**03 07 38.4**	**0.0**
MQZ	**McQueen's Vall**	**1.24**	**201**	P	**Pn**	**03 07 37.1**	**-1.2**
NNZ	**Nelson**	**1.33**	**3**	P	**Pb**	**03 07 39.7**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.35**	**191**	P	**Pn**	**03 07 39.1**	**-0.6**
DSZ	**Denniston Nort**	**1.36**	**306**	P	**Pb**	**03 07 39.9**	**-0.4**
INZ	**Inchbonnie**	**1.36**	**262**	P	**Pn**	**03 07 39.6**	**-0.3**
RACZ	**Rakaia**	**1.44**	**215**	P	**Pn**	**03 07 39.9**	**-1.1**
TKNZ	**Takaka Hill**	**1.53**	**351**	P	**Pb**	**03 07 42.9**	**-0.5**
TCW	**Tory Channel**	**1.54**	**30**	P	**Pn**	**03 07 41.8**	**-0.4**
MHCZ	**Mount Hutt**	**1.59**	**231**	P	**Pn**	**03 07 42.2**	**-0.9**
SNZO	**South Karori**	**1.64**	**41**	P	**Pn**	**03 07 43.7**	**0.0**
WEL	**Wellington**	**1.69**	**42**	P	**Pn**	**03 07 44.4**	**0.0**
WACZ	**Wakanui South**	**1.74**	**216**	P	**Pn**	**03 07 44.1**	**-1.0**
PLWZ	**Palliser**	**1.77**	**57**	P	**Pn**	**03 07 44.9**	**-0.7**
QRZ	**Quartz Range**	**1.81**	**342**	P	**Pb**	**03 07 47.3**	**-0.8**
QRZ	**Quartz Range**	**1.81**	**342**	P	**Pb**	**03 07 47.1**	**-1.0**
DUWZ	**D'Urville Isla**	**1.81**	**16**	P	**Pb**	**03 07 47.6**	**-0.5**
MSWZ	**Moikau Station**	**1.86**	**53**	P	**Pn**	**03 07 46.1**	**-0.6**
WVZ	**Waitaha Valley**	**1.94**	**253**	P	**Pn**	**03 07 47.8**	**0.0**
CAW	**Cannon Point**	**1.97**	**44**	P	**Pn**	**03 07 48.0**	**-0.3**
RPZ	**Rata Peaks**	**2.00**	**234**	P	**Pn**	**03 07 47.3**	**-1.4**
RPZ	**Rata Peaks**	**2.00**	**234**	P	**Pn**	**03 07 47.9**	**-0.8**
ARCZ	**Arundel**	**2.07**	**227**	P	**Pn**	**03 07 48.8**	**-0.9**
KIW	**Kapiti Island**	**2.09**	**37**	P	**Pn**	**03 07 50.0**	**+0.1**
MTW	**Mount Morrison**	**2.17**	**51**	P	**Pn**	**03 07 50.0**	**-1.0**
OGWZ	**Otaki Gorge**	**2.24**	**40**	P	**Pn**	**03 07 51.7**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.29**	**250**	P	**Pn**	**03 07 53.4**	**+0.7**
TMWZ	**Te Maipa**	**2.43**	**54**	P	**Pn**	**03 07 53.4**	**-1.3**
TMZ	**Timaru**	**2.46**	**221**	P	**Pn**	**03 07 55.1**	**0.0**
MRZ	**Mangatainoka R**	**2.56**	**43**	P	**Pn**	**03 07 55.6**	**-0.8**
FOZ	**Fox Glacier**	**2.72**	**248**	P	**Pn**	**03 07 59.0**	**+0.5**
PRWZ	**Pori Road**	**2.84**	**46**	P	**Pn**	**03 07 59.1**	**-1.1**
POWZ	**Post Office Ro**	**2.86**	**42**	P	**Pn**	**03 08 00.2**	**-0.2**
LBZ	**Lake Benmore**	**2.90**	**230**	P	**Pn**	**03 08 00.5**	**-0.6**
WAZ	**Wanganui**	**3.08**	**25**	P	**Pn**	**03 08 05.7**	**+2.2**
ODZ	**Otahua Downs**	**3.13**	**216**	P	**Pn**	**03 08 03.3**	**-1.0**
ODZ	**Otahua Downs**	**3.13**	**216**	P	**Pn**	**03 08 03.3**	**-1.0**
TSZ	**Takapari Road**	**3.21**	**40**	P	**Pn**	**03 08 04.3**	**-1.1**
KHEZ	**Kahui Hut**	**3.30**	**10**	P	**Pb**	**03 08 10.3**	**-3.2**
KHEZ	**Kahui Hut**	**3.30**	**10**	P	**Pn**	**03 08 09.5**	**+2.9**
NBEZ	**Newall Road No**	**3.31**	**8**	P	**Pn**	**03 08 09.2**	**+2.5**
NEZ	**North Egmont**	**3.34**	**11**	P	**Pb**	**03 08 10.9**	**-3.2**
PKE	**Pukeiti**	**3.40**	**9**	P	**Pn**	**03 08 10.4**	**+2.4**
PNHZ	**Pukenui**	**3.44**	**41**	P	**Pn**	**03 08 07.0**	**-1.4**
JCZ	**Jackson Bay**	**3.61**	**244**	P	**Pn**	**03 08 13.1**	**+2.2**
JCZ	**Jackson Bay**	**3.61**	**244**	P	**Pn**	**03 08 11.1**	**+0.1**
MOVZ	**Moawhango**	**3.66**	**32**	P	**Pn**	**03 08 12.6**	**+1.0**
WNVZ	**Wahianoa**	**3.67**	**29**	P	**Pn**	**03 08 12.7**	**+0.9**
TRVZ	**Turoa**	**3.68**	**29**	P	**Pn**	**03 08 12.5**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.71**	**29**	P	**Pn**	**03 08 13.9**	**+1.5**
BHHZ	**Black Hill Sta**	**3.72**	**36**	P	**Pb**	**03 08 19.2**	**-1.4**
FWVZ	**Far West T-bar**	**3.72**	**28**	P	**Pn**	**03 08 14.0**	**+1.5**
NGZ	**Ngauruhoe**	**3.81**	**28**	P	**Pb**	**03 08 20.5**	**-1.7**
WKZ	**Wanaka**	**3.83**	**232**	P	**Pn**	**03 08 15.0**	**+1.1**
OTVZ	**Oturere**	**3.84**	**29**	P	**Pn**	**03 08 14.9**	**+0.8**
TWVZ	**Taurewa**	**3.84**	**26**	P	**Pn**	**03 08 14.7**	**+0.6**
NNVZ	**North Ngauruho**	**3.85**	**28**	P	**Pn**	**03 08 15.3**	**+1.1**
WTVZ	**West Tongariro**	**3.86**	**28**	P	**Pn**	**03 08 14.8**	**+0.5**
ETVZ	**East Tongariro**	**3.88**	**29**	P	**Pn**	**03 08 15.8**	**+1.1**
EAZ	**Earnscleugh**	**3.92**	**226**	P	**Pn**	**03 08 15.0**	**-0.1**
BKZ	**Black Stump Fm**	**4.17**	**37**	P	**Pn**	**03 08 20.6**	**+2.0**
HIZ	**Hauiti**	**4.21**	**17**	P	**Pn**	**03 08 20.6**	**+1.5**
HIZ	**Hauiti**	**4.21**	**17**	P	**Pn**	**03 08 21.1**	**+2.1**
MLZ	**Mavora Lakes**	**4.67**	**231**	P	**Pn**	**03 08 25.3**	**-0.1**
SYZ	**Scrubby Hill**	**4.96**	**215**	P	**Pn**	**03 08 30.0**	**+0.7**
TOZ	**Tahuroa Road**	**5.11**	**20**	P	**Pn**	**03 08 31.9**	**+0.5**
AWAZ	**Awhitu Peninsu**	**5.58**	**11**	P	**Pn**	**03 08 39.2**	**+1.3**
MKAZ	**Moumakai**	**5.63**	**16**	P	**Pn**	**03 08 36.8**	**-1.7**

*IDC **16** 03:08:11.0±4.7, 19°30S×70°70W, h0km, mb3.7/3, mbtmp3.7/4, ML2.9/1, MS3.1/3, Error ellipse: s-maj=101.7km s-min=69.6km az=110.0*
*VAO **16** 03:08:29.6±1.2, 17°68S×70°50W, h134km±7km, mb4.0*
ISC 16 03:08:25.6±2.6, 17°7S±0°1×70°7W±0°3, h100km, n32, σ1ᵖ40/27, mb3.4/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.87**	**60**	Pn	**Pn**	**03 09 12.4**	**+2.2**
	0.6nm,0.3s,baz=249,slow=8.3,SNR=28						
LPAZ				LR	LR	03 10 48.4	
	comp=Z,46nm,21.9s,baz=243,slow=41						
	5.1nm,0.6s						
LPAZ	**La Paz**	**2.87**	**60**	*eP*	**Pn**	**03 09 12.8**	**+2.6**
ETMB	**Extrema**	**9.01**	**30**	*eP*	**Pn**	**03 10 34.0**	**+1.1**
BBSD	**Sierra de San D**	**9.66**	**88**	*eP*	**Pn**	**03 10 41.9**	**+0.1**
BBRB	**Rebore, Bolivi**	**10.39**	**95**	*eP*	**Pn**	**03 10 53.2**	**+1.5**
VILB	**Vilhena**	**11.21**	**96**	*eP*	**Pn**	**03 11 02.9**	**+0.1**
PTLB	**Pontes e Lacer**	**11.34**	**80**	*eP*	**Pn**	**03 11 04.3**	**-0.1**
SALV	**Santo Antonio**	**14.50**	**85**	*eP*	**Pn**	**03 11 46.3**	**+0.2**
CLDB	**Colider**	**15.99**	**67**	*eP*	**Pn**	**03 12 05.4**	**+0.6**
AZCA	**Azaras, Argent**	**17.02**	**130**	*eP*	**Pn**	**03 12 18.8**	**+1.4**
H03N1	**Juan Fernandez**	**17.28**	**204**	T	T	03 29 48.7	
	baz=27,slow=73,SNR=137						
H03N2	**Juan Fernandez**	**17.28**	**204**	T	T	03 29 41.7	
	baz=27,slow=73,SNR=146						
H03N3	**Juan Fernandez**	**17.30**	**204**	T	T	03 29 47.5	
	baz=27,slow=73,SNR=147						
MACA	**Manacapuru-AM**	**17.52**	**35**	*eP*	**P**	**03 12 22.0**	**-1.3**
ARAG	**Araguaiana, MT**	**18.22**	**86**	*eP*	**P**	**03 12 30.9**	**-0.1**
FRBT	**Francisco Belt**	**18.31**	**120**	*eP*	**P**	**03 12 30.8**	**-1.2**
NPGB	**Novo Progresso**	**18.37**	**57**	*eP*	**P**	**03 12 32.5**	**-0.2**
PTGB	**Pitanga**	**18.71**	**115**	*eP*	**P**	**03 12 36.1**	**-0.3**
SNDB	**Serra Nova Dou**	**19.63**	**76**	*eP*	**P**	**03 12 46.0**	**-0.4**
ITTB	**Itaituba**	**19.80**	**50**	*eP*	**P**	**03 12 47.8**	**-0.4**
IPMB	**Ipameri, GO**	**21.43**	**94**	*eP*	**P**	**03 13 04.7**	**-1.1**
BDFB	**Brasilia**	**21.85**	**88**	P	**P**	**03 13 06.3**	**-4.0**
	1.0nm,0.5s,baz=269,slow=11,SNR=4.4						
	1.0nm,0.5s						
BDFB	**Brasilia**	**21.85**	**88**	*eP*	**P**	**03 13 09.0**	**-1.3**
MALB	**Monte Alegre**	**22.59**	**47**	*eP*	**P**	**03 13 17.3**	**-0.7**
SMTB	**Santa Maria do**	**24.16**	**72**	*eP*	**P**	**03 13 32.1**	**-0.6**
MCPB	**Macapa, AP**	**25.21**	**49**	*eP*	**P**	**03 13 41.1**	**-1.0**
JANB	**Januaria**	**25.47**	**88**	*eP*	**P**	**03 13 43.9**	**-0.7**
NAN01	**Guarapari, ES**	**29.12**	**95**	*eP*	**P**	**03 14 15.4**	**-1.8**
DBIC	**Dimbokro**	**69.38**	**76**	P	**P**	**03 19 24.4**	**+1.2**
	1.1nm,0.5s,baz=256,slow=8.3,SNR=1.9						
	1.1nm,0.5s						
QSPA	**South Pole Qui**	**72.43**	**180**	LR	LR	03 51 35.7	
	comp=Z,24nm,18.3s,baz=323,slow=37						
TORD	**Torodi Ar. Bea**	**77.76**	**72**	P	**P**	**03 20 12.7**	**+0.5**
	0.3nm,0.6s,baz=265,slow=4.9,SNR=5.8						
	0.3nm,0.6s						
TSUM	**Tsumeb**	**82.78**	**108**	LR	LR	03 52 43.9	
	comp=Z,43nm,22.0s,baz=155,slow=32						

IDC 16 03:08:48.5±6.2, 4°85S×153°76E, h112km±45km, mb3.3/2, mbtmp3.6/2, MS3.9/2, Error ellipse: s-maj=64.4km s-min=47.2km az=103.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.81**	**287**	P	Pn	03 09 19.1	-0.1
	59nm,0.3s,baz=297,slow=1.0,SNR=17						
KRVT				S	Sn	03 09 42.9	+0.3
	84nm,0.5s,baz=321,slow=23,SNR=9.7						
WRA	**Warramunga Arr**	**24.14**	**230**	P	P	03 13 54.7	+0.4
	0.6nm,0.5s,baz=55,slow=9.8,SNR=7.5						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.77**	**224**	P	P	03 14 17.6	-0.5
	0.5nm,0.4s,baz=56,slow=8.7,SNR=6.0						
	0.5nm,0.4s						
BATI	**Baumata**	**30.29**	**258**	LR	LR	03 29 11.4	
	comp=Z,262nm,18.4s,baz=179,slow=40						
NWAO	**Narrogin (SRO)**	**44.04**	**226**	LR	LR	03 34 19.6	
	comp=Z,108nm,18.4s,baz=136,slow=35						
TORD	**Torodi Ar. Bea**	**151.23**	**289**	PKPbc	PKPbc	03 28 29.8	-0.1
	0.1nm,0.3s,baz=82,slow=2.8,SNR=1.2						

*KRNET **16** 03:18:43.8±0.1, 39°47N×73°58E, mb2.6*
*NNC **16** 03:18:46.0±5.5, 39°59N×73°63E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=41.7km s-min=21.1km az=174.0*
*SOME **16** 03:18:50.5, 40°00N×72°97E, h0km*
ISC 16 03:18:46.9±1.2, 39°68N±0°06×73°35E±0°04, h10km, n22, σ1ᵖ74/39, 10C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.94**	**333**	⇓*iP*	**Pn**	**03 19 06.6**	**+0.3**
	baz=30						
OHH				⇓*iS*	**Sn**	**03 19 23.3**	**+3.4**
	baz=30						
DRK	**Karamyk**	**1.22**	**261**	⇑*iP*	**Pn**	**03 19 09.5**	**-0.7**
	baz=71						
DRK				⇑*iS*	**Sn**	**03 19 28.6**	**+1.8**
	baz=71						
BTK	**Batken**	**1.98**	**282**	⇑*iP*	**Pb**	**03 19 23.3**	**+0.2**
	baz=86						
BTK				⇑*iS*	**Sg**	**03 19 52.1**	**+1.5**
	baz=86						
ARLS	**Aral**	**2.30**	**18**	⇑*iP*	**Pn**	**03 19 26.2**	**+1.2**
	baz=13						
ARLS				⇑*iS*	**Sb**	**03 19 57.2**	**+0.2**
	baz=13						
GAR	**Garm**	**2.45**	**255**	⇓*iP*	**Pn**	**03 19 28.1**	**+1.1**
	baz=60						
GAR				⇓*iS*	**Sb**	**03 20 00.6**	**-0.7**
	baz=60						
TRKS	**Terek-Say**	**2.50**	**318**	⇓*iP*	**Pn**	**03 19 29.8**	**+2.1**
	baz=18						
TRKS				⇓*iS*	**Sb**	**03 20 03.9**	**+1.2**
	baz=18						
NRN	**Naryn**	**2.67**	**48**	⇑*iP*	**Pn**	**03 19 29.6**	**-0.6**
	baz=42						
NRN				⇑*iS*	**Sn**	**03 20 03.0**	**+0.2**
	baz=42						
UCH	**Uchtor**	**2.69**	**19**	⇓*iP*	**Pn**	**03 19 32.3**	**+1.7**
	baz=14						
UCH				⇓*iS*	**Sb**	**03 20 07.3**	**-1.3**
	baz=14						
MRKS	**Merke**	**3.06**	**358**	*eP*	**Pb**	**03 19 42.4**	**+0.9**
	2.7nm,0.3s						
MRKS				*eS*	**Sb**	**03 20 20.0**	**+1.1**
	7.5nm,0.3s						
MRKS	**Merke**	**3.06**	**358**	Pg	**Pb**	**03 19 40.2**	**-1.2**
	3.1nm,0.2s						
MRKS				Lg	Lg	03 20 20.0	
	6.7nm,0.3s						
IUG	**Iuzhnay**	**3.52**	**315**	*eP*	**Pb**	**03 19 48.4**	**-0.8**
	65nm,0.3s						
IUG				*eS*	**Sb**	**03 20 30.2**	**-1.9**
	15nm,0.4s						
IUG	**Iuzhnay**	**3.52**	**315**	Pg	**Pb**	**03 19 46.4**	**-2.9**
	50nm,0.2s						
IUG				Lg	Lg	03 20 30.6	
	17nm,0.5s						
DZA	**Taraz**	**3.55**	**335**	*eP*	**Pb**	**03 19 48.7**	**-1.0**
	88nm,0.1s						
DZA				*eS*	**Sb**	**03 20 30.4**	**-2.5**
	161nm,0.3s						
CHM	**Chimkent**	**3.87**	**314**	*eP*	**Pb**	**03 19 54.8**	**-0.4**
	107nm,0.2s						
CHM				*eS*	**Sb**	**03 20 41.0**	**-1.1**
	166nm,0.3s						
KST	**Kastek**	**3.89**	**30**	*eP*	**Pg**	**03 20 00.0**	**-1.3**
	1.2nm,0.4s						
KST				*eS*	**Sg**	**03 20 50.2**	**-1.6**
	7.9nm,0.5s						
KST	**Kastek**	**3.89**	**30**	Pg	**Pg**	**03 19 58.0**	**-3.4**
	1.6nm,0.3s						
KST				Lg	Lg	03 20 50.2	
	7.9nm,0.5s						
DGS	**Degeres**	**3.99**	**26**	*eP*	**Pg**	**03 20 02.0**	**-1.3**
	1.9nm,1.0s						
DGS				*eS*	**Sg**	**03 20 53.9**	**-1.2**
	5.6nm,0.6s						
DGS	**Degeres**	**3.99**	**26**	Pg	**Pb**	**03 19 58.9**	**+1.5**
	1.9nm,0.4s						
DGS				Lg	Lg	03 20 52.0	
	5.6nm,0.6s						
KK31	**Karatay Array**	**4.03**	**329**	⇓Pn	**Pn**	**03 19 51.8**	**+3.2**
	0.9nm,0.5s,baz=151,slow=14						
KK31				⇑Sn	**Sb**	**03 20 43.6**	**-3.1**
	1.1nm,0.4s						
KK31				⇑Lg	Lg	03 20 59.6	
	2.4nm,0.5s,baz=153,slow=32						
TNSS	**Tian-Shan**	**4.31**	**38**	*eP*	**Pg**	**03 20 09.0**	**-0.4**
	0.7nm,0.3s						
TNSS				*eS*	**Sg**	**03 21 05.2**	**0.0**
	4.6nm,0.5s						
KRBS	**Karabastau**	**4.37**	**23**	*eP*	**Pg**	**03 20 09.5**	**-1.1**
	1.2nm,0.4s						
KRBS				*eS*	**Sg**	**03 21 06.3**	**-0.9**
	3.8nm,0.6s						
KRBS	**Karabastau**	**4.37**	**23**	Pg	**Pb**	**03 20 06.8**	**+3.0**
	1.2nm,0.5s						
KRBS				Lg	Lg	03 21 05.6	
	3.8nm,0.6s						

*IDC **16** 03:31:00.3±1.1, 42°83S×173°78E, h0km, mb3.8/2, mbtmp3.9/3, ML4.2/1, MS3.3/1, Error ellipse: s-maj=50.5km s-min=32.7km az=175.0*
*NOU **16** 03:31:04.0, 42°96S×173°73E, h18km, MLv4.8/16, South Island, New Zealand*
*WEL **16** 03:31:04.9±0.7, 43°S±4°×17°4E±°, h24km±4km, M4.4/33, ML4.6/19, MLv4.4/33, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9*
ISC 16 03:31:03.7±1.3, 42°99S±0°04×173°73E±0°04, h25km±10km, n146, σ1ᵖ16/153, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.51**	**272**	P	**Pn**	**03 31 16.0**	**+0.5**
GVZ				S	**Sn**	**03 31 22.7**	**-0.8**
KHZ	**Kahutara**	**0.59**	**346**	P	**Pb**	**03 31 15.9**	**+0.4**
KHZ	**Kahutara**	**0.59**	**346**	P	**Pn**	**03 31 16.1**	**-0.4**
KHZ				S	**Sb**	**03 31 23.0**	**-0.4**
AMCZ	**Amberley**	**0.81**	**256**	P	**Pn**	**03 31 20.4**	**+0.8**
AMCZ				S	**Sn**	**03 31 30.4**	**-0.5**
OKCZ	**Okains Bay**	**0.88**	**214**	P	**Pn**	**03 31 22.4**	**+1.8**
MQZ	**McQueen's Vall**	**1.06**	**227**	P	**Pb**	**03 31 23.9**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.07**	**214**	P	**Pb**	**03 31 24.6**	**+1.1**
LTZ	**Lake Taylor**	**1.09**	**280**	P	**Pb**	**03 31 23.9**	**-0.2**
LTZ				S	**Sb**	**03 31 36.3**	**-1.6**
BSWZ	**Blackbirch Sta**	**1.28**	**5**	P	**Pb**	**03 31 26.7**	**-0.5**
OXZ	**Oxford**	**1.28**	**254**	P	**Pn**	**03 31 26.4**	**+0.3**
CMWZ	**Cape Campbell**	**1.29**	**16**	P	**Pb**	**03 31 28.5**	**+1.1**
CMWZ				S	**Sn**	**03 31 42.8**	**+0.1**
THZ	**Tophouse**	**1.37**	**333**	P	**Pb**	**03 31 27.1**	**-0.2**
RACZ	**Rakaia**	**1.38**	**237**	P	**Pb**	**03 31 28.2**	**-0.5**
TUWZ	**Tuamarina**	**1.57**	**6**	P	**Pb**	**03 31 30.2**	**+0.2**
MHCZ	**Mount Hutt**	**1.67**	**250**	P	**Pn**	**03 31 31.8**	**+0.4**
WACZ	**Wakanui South**	**1.68**	**235**	P	**Pb**	**03 31 32.6**	**-1.3**
INZ	**Inchbonnie**	**1.70**	**278**	P	**Pn**	**03 31 32.9**	**+1.0**
MRNZ	**Matariki Terra**	**1.75**	**335**	P	**Pn**	**03 31 33.1**	**+0.6**
NNZ	**Nelson**	**1.79**	**351**	P	**Pn**	**03 31 33.1**	**0.0**
PLWZ	**Palliser**	**1.81**	**39**	P	**Pn**	**03 31 33.6**	**+0.1**
TCW	**Tory Channel**	**1.82**	**13**	P	**Pn**	**03 31 33.6**	**+0.1**
SNZO	**South Karori**	**1.83**	**24**	P	**Pn**	**03 31 34.1**	**+0.6**
WEL	**Wellington**	**1.87**	**25**	P	**Pn**	**03 31 34.6**	**+0.5**
DSZ	**Denniston Nort**	**1.90**	**310**	P	**Pn**	**03 31 34.6**	**+0.1**
MSWZ	**Moikau Station**	**1.94**	**36**	P	**Pn**	**03 31 35.3**	**+0.2**
TKNZ	**Takaka Hill**	**2.04**	**343**	P	**Pn**	**03 31 37.3**	**+0.8**
PAWZ	**Paruwai Farm**	**2.04**	**39**	P	**Pb**	**03 31 41.0**	**+0.8**
RPZ	**Rata Peaks**	**2.08**	**249**	Pn	**Pn**	**03 31 37.7**	**+0.6**
	66nm,0.3s,baz=168,slow=1.2,SNR=146						
RPZ				Sn	**Sn**	**03 31 59.9**	**-2.3**
	243nm,0.3s,baz=49,slow=20,SNR=16						
RPZ				LR	LR	03 32 49.1	
	comp=Z,678nm,18.2s,baz=44,slow=50						
	208nm,0.4s						
**RP

WHZ	**Wether Hill Ro**	**5.06**	**233**	P		**Pn**	**03 32 17.8**	**-0.2**
MUGZ	**Murupara**	**5.06**	**28**	P		**Pn**	**03 32 17.4**	**-0.6**
DCZ	**Deep Cove**	**5.34**	**240**	P		**Pn**	**03 32 22.9**	**+1.2**
URZ	**Urewera**	**5.38**	**30**	P		**Pn**	**03 32 22.8**	**+0.4**
URZ	**Urewera**	**5.38**	**30**	P		**Pn**	**03 32 21.0**	**-1.4**
TOZ	**Tahuroa Road**	**5.42**	**15**	P		**Pn**	**03 32 23.3**	**+0.3**
MWZ	**Matawai**	**5.47**	**33**	P		**Pn**	**03 32 22.0**	**-1.7**
TKGZ	**Te Karaka**	**5.52**	**36**	P		**Pn**	**03 32 22.9**	**-1.4**
APZ	**The Paps**	**5.60**	**225**	P		**Pn**	**03 32 26.3**	**+0.9**
TWGZ	**Tauwhareparae**	**5.79**	**35**	P		**Pn**	**03 32 28.4**	**+0.3**
RUGZ	**Raukumara Rang**	**5.85**	**32**	P		**Pn**	**03 32 27.5**	**-1.5**
AWAZ	**Awhitu Peninsu**	**5.96**	**7**	P		**Pn**	**03 32 31.6**	**+1.2**
MKAZ	**Moumakai**	**5.98**	**11**	P		**Pn**	**03 32 31.1**	**+0.5**
HAZ	**Te Kaha**	**6.07**	**32**	P		**Pn**	**03 32 30.9**	**-1.0**
PKGZ	**Pakihiroa**	**6.08**	**34**	P		**Pn**	**03 32 30.8**	**-1.2**
WTAZ	**Waiatarua**	**6.08**	**6**	P		**Pn**	**03 32 33.6**	**+1.5**
ETAZ	**East Tamaki Re**	**6.10**	**9**	P		**Pn**	**03 32 33.1**	**+0.8**
MBAZ	**Motutapu North**	**6.28**	**9**	P		**Pn**	**03 32 36.3**	**+1.6**
WMGZ	**Waiomatatini S**	**6.28**	**36**	P		**Pn**	**03 32 32.9**	**-1.8**
KUZ	**Kuaotunu**	**6.42**	**14**	P		**Pn**	**03 32 36.8**	**+0.1**
MXZ	**Matakaoa Point** 68nm,1.3s	**6.45**	**34**	P		**Pn**	**03 32 37.5**	**+0.4**
MXZ	**Matakaoa Point**	**6.45**	**34**	P		**Pn**	**03 32 35.7**	**-1.4**
CTZ	**Chatham Island**	**7.07**	**99**	P		**Pn**	**03 32 47.4**	**+1.8**
CTZ	**Chatham Island**	**7.07**	**99**	P		**Pn**	**03 32 46.9**	**+1.3**
OUZ	**Omahuta**	**7.76**	**359**	P		**P**	**03 32 56.4**	**+1.3**
ASAR	**Alice Springs** 0.9nm,0.6s,baz=128,slow=7.2,SNR=14	**38.02**	**288**	P		**P**	**03 38 20.1**	**+0.1**
ASAR				PcP		**PcP**	**03 40 34.9**	**-0.3**
	0.4nm,0.5s,baz=128,slow=4.0,SNR=4.5 0.9nm,0.6s							
WRA	**Warramunga Arr** 1.7nm,1.0s,baz=133,slow=8.1,SNR=5.1 1.7nm,1.0s	**40.20**	**292**	P		**P**	**03 38 38.5**	**+0.3**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=134,slow=4.2,SNR=2.1	**120.42**	**307**	PKP		**PKPdf**	**03 49 52.5**	**+0.1**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=100,slow=1.9,SNR=10	**124.48**	**310**	PKP		**PKPdf**	**03 49 59.7**	**-0.2**
BVAR	**Borovoye Array** 0.9nm,0.7s,baz=66,slow=1.7,SNR=3.4	**130.07**	**310**	PKP		**PKPdf**	**03 50 10.8**	**+0.3**
ARCES	**ARCESS Array B** 6.5nm,0.8s,baz=51,slow=1.9,SNR=13	**148.80**	**339**	PKPbc		**PKPbc**	**03 50 48.2**	**+0.5**
TORD	**Torodi Ar. Bea** 1µm,0.3s,baz=161,slow=1.6	**149.48**	**195**	PKPbc		**PKiKP**	**03 50 52.0**	**-0.1**
BRTR	**Keskin Array B** 1.5nm,0.6s,baz=154,slow=5.0,SNR=11	**150.06**	**277**	PKPbc		**PKiKP**	**03 50 52.6**	**-0.2**
FINES	**FINESS Array B** 3.4nm,0.9s,baz=25,slow=6.3,SNR=5.6	**153.34**	**325**	PKPbc		**PKPbc**	**03 50 58.6**	**+0.1**

*JMA **16** 03:40:28.8±0.3, 43.4°N±0.9 × 14.6°E±°, h64km±1km, MV2.5/24, NEAR KUNASHIRI ISLAND*
*SKHL **16** 03:40:29.6±0.2, 43.40°N × 146.30°E, h46km±4km, mb3.5/3*
ISC 16 03:40:28.1±3.9, 43.43°N±0.09 × 146.3°E±0.2, h64km±18km, n8, σ0.9§48/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.38**	**261**	*eP*		**Pn**	**03 40 39.5**	**+0.4**
NEM2				*eS*		**Sn**	**03 40 47.0**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.39**	**262**	*i P*		**Pn**	**03 40 39.5**	**+0.3**
NMR				AMB		AMB	03 40 40.1	
	20nm,0.2s							
NMR				*i S*		**Sn**	**03 40 47.0**	**-0.4**
NMR				A		A	03 40 50.0	
	50nm,0.2s							
NMR				A		A	03 40 50.0	
	70nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.67**	**335**	*i P*		**Pn**	**03 40 42.3**	**+0.1**
YUK				AMB		AMB	03 40 43.3	
	30nm,0.3s							
YUK				*eS*		**Sn**	**03 40 51.7**	**-0.8**
YUK				A		A	03 40 54.3	
	240nm,0.2s							
YUK				A		A	03 40 54.3	
	160nm,0.2s							
JKHN	**Kushirohamanak**	**0.87**	**247**	*eP*		**Pn**	**03 40 45.0**	**+0.4**
JKHN				*eS*		**Sn**	**03 40 56.7**	**0.0**
JRA	**Rausu**	**0.97**	**302**	*eP*		**Pn**	**03 40 46.3**	**+0.5**
JRA				*eS*		**Sn**	**03 40 59.2**	**+0.2**
JNSB	**Nemuroshibetsu**	**0.97**	**291**	*eP*		**Pn**	**03 40 46.3**	**+0.4**
JNSB				*eS*		**Sn**	**03 40 59.1**	**+0.1**
JNK	**Nakash**	**1.13**	**279**	*eP*		**Pn**	**03 40 47.7**	**-0.2**
JAK	**Akkeshi**	**1.22**	**250**	*eP*		**Pn**	**03 40 49.1**	**+0.1**
JAK				*eS*		**Sn**	**03 41 03.9**	**-0.9**

IDC 16 03:42:11.3±5.6, 4.77°S × 153.59°E, h123km ± 36km, mb3.3/2, mbtmp3.9/3, Error ellipse: s-maj=66.5km s-min=38.3km az=98.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.63**	**287**	P		Pn	03 42 39.6	-0.7
	120nm,0.3s,baz=207,slow=1.5,SNR=18							
KRVT				S		Sn	03 43 02.8	+0.3
	189nm,0.5s,baz=207,slow=6.5,SNR=5.2							
PMG	**Port Moresby**	**7.87**	**234**	P		Pn	03 44 03.8	+0.8
	24nm,0.4s,baz=36,slow=8.3,SNR=8.8							
WRA	**Warramunga Arr**	**24.05**	**230**	P		P	03 47 14.7	-0.7
	1.5nm,0.7s,baz=54,slow=10,SNR=14 1.5nm,0.7s							
ASAR	**Alice Springs**	**26.70**	**223**	P		P	03 47 39.4	+0.1
	0.4nm,0.4s,baz=51,slow=8.8,SNR=5.1 0.4nm,0.4s							
TORD	**Torodi Ar. Bea**	**151.04**	**289**	PKPbc		PKiKP	04 01 51.3	-0.1
	0.4nm,0.7s,baz=47,slow=2.1,SNR=2.0							

WEL 16 03:42:23.6±0.5, 43°S±3° × 17°3E±°, h10km±4km, M2.8/8, ML3.0/8, MLv2.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=124.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**53**	P		Pg	03 42 28.5	+0.9
KHZ				S		Sg	03 42 31.8	+1.5
GVZ	**Greta Valley S**	**0.49**	**207**	P		Pb	03 42 34.4	0.0
AMCZ	**Amberley**	**0.82**	**218**	P		Pb	03 42 40.3	+0.4
LTZ	**Lake Taylor**	**0.82**	**252**	P		Pg	03 42 39.7	+0.2
LTZ				S		Sg	03 42 50.6	+0.4
THZ	**Tophouse**	**0.83**	**337**	P		Pg	03 42 39.9	+0.3
OKCZ	**Okains Bay**	**1.21**	**189**	P		Pb	03 42 45.4	-1.3
MQZ	**McQueen's Vall**	**1.28**	**203**	P		Pn	03 42 45.5	-2.0
AKCZ	**Akaroa Harbour**	**1.38**	**193**	P		Pn	03 42 47.3	-1.7
DSZ	**Denniston Nort**	**1.38**	**304**	P		Pn	03 42 49.1	0.0
TCW	**Tory Channel**	**1.50**	**28**	P		Pg	03 42 56.0	+3.7
TKNZ	**Takaka Hill**	**1.52**	**349**	P		Pb	03 42 52.2	+0.3
DUWZ	**D'Urville Isla**	**1.78**	**15**	P		Pg	03 43 00.6	+2.8
QRZ	**Quartz Range**	**1.81**	**340**	P		Pg	03 43 02.2	+4.0

WEL 16 03:42:46.9±0.4, 42°S±4° × 17°4E±°, h8km±4km, M3.4/1, ML3.2/15, ML3.4/1, MLv3.0/18, MLv3.4/1, Error ellipse: s-maj=0.0km s-min=0.0km az=155.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**215**	P		Pg	03 42 49.7	+0.6
CMWZ				S		Sg	03 42 52.3	+1.6
BSWZ	**Blackbirch Sta**	**0.31**	**262**	P		Pg	03 42 53.4	+0.4
BSWZ				S		Sb	03 42 58.5	-1.3
TUWZ	**Tuamarina**	**0.35**	**314**	P		Pg	03 42 54.6	+0.8
TCW	**Tory Channel**	**0.47**	**359**	P		Pg	03 42 55.4	-0.5
WEL	**Wellington**	**0.53**	**43**	P		Pb	03 42 58.2	-0.2
WEL	**Wellington**	**0.53**	**43**	P		Pb	03 42 58.2	-0.3
PLWZ	**Palliser**	**0.74**	**82**	P		Pb	03 43 02.1	+0.2
MSWZ	**Moikau Station**	**0.77**	**71**	P		Pb	03 43 02.4	-0.1
CAW	**Cannon Point**	**0.82**	**46**	P		Pb	03 43 03.0	-0.3
KHZ	**Kahutara**	**0.93**	**217**	P		Pg	03 43 04.6	-0.1
KIW	**Kapiti Island**	**0.94**	**30**	P		Pb	03 43 05.2	-0.2
THZ	**Tophouse**	**1.03**	**265**	P		Pg	03 43 06.8	+0.1
MTW	**Mount Morrison**	**1.05**	**61**	P		Pg	03 43 06.7	-0.4
OGWZ	**Otaki Gorge**	**1.09**	**38**	P		Pg	03 43 07.8	+0.1
TRWZ	**Traveller**	**1.09**	**76**	P		Pg	03 43 06.7	-1.1
MRNZ	**Matariki Terra**	**1.18**	**283**	P		Pg	03 43 08.8	-0.7
TMWZ	**Te Maipa**	**1.34**	**65**	P		Pn	03 43 10.3	-1.5
MRZ	**Mangatainoka R**	**1.41**	**44**	P		Pn	03 43 12.1	-0.7
QRZ	**Quartz Range**	**1.57**	**302**	P		Pb	03 43 15.7	-0.5
PRWZ	**Pori Road**	**1.70**	**49**	P		Pg	03 43 19.4	0.0
DVHZ	**Dannevirke**	**1.98**	**47**	P		Pg	03 43 24.1	-0.7
TSZ	**Takapari Road**	**2.06**	**39**	P		Pn	03 43 21.6	-0.2
VRZ	**Vera Road**	**2.57**	**8**	P		Pn	03 43 30.8	+2.0

*IDC **16** 03:44:04.5±0.8, 14.98°S × 173.70°W, h0km, mb4.1/9, mbtmp4.1/9, MS4.2/50, Error ellipse: s-maj=45.5km s-min=18.7km az=144.0*
*NEIC **16** 03:44:06.6±1.4, 14.9°S±0.1° × 173.61°W±0.09, h14km±5km, mb4.7/42, Error ellipse: s-maj=17.9km s-min=9.7km az=147.0*
*GCMT **16** 03:44:10.6±0.2, 14.72°S±0.02° × 173.53°W±0.01, h12km, MW5.0/111, Moment Tensor Solution. s32,c47; s111,c151; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.85±.13; Mθθ-0.40±.14; Mϕϕ2.25±.11; Mrθ0.52±.35; Mθϕ3.18±.09; Mϕr2.80±.30; Best double couple: Mo4.53800×10¹⁶ NP1ϕs182.00000°, δ75.00000°, λ-129.00000°. NP2ϕs75.00000°, δ41.00000°, λ-23.00000°. Principal axes: T 5.3450, Plg20.0000°, Azm301.0000°; N -1.6160, Plg37.0000°, Azm194.0000°; P -3.7310, Plg46.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 03:44:05.5±0.5, 15.1°S±0.1 × 173.60°W±0.09, h10km, n131, σ1§04/76, mb4.7/30, MS4.3/52, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.11**	**57**	Pn		Pn	03 44 35.5	-5.5
	17nm,0.3s,baz=78,slow=7.9,SNR=5.2							
AFI				Sn		Sn	03 44 55.1	-12
	209nm,0.3s,baz=26,slow=19,SNR=23							
NIUE	**Niue**	**5.31**	**139**	Pn		**Pn**	**03 45 25.5**	**+0.6**
MSVF	**Nonsavu**	**8.44**	**251**	Pn		Pn	03 46 15.3	+7.4
	0.3nm,0.3s,baz=81,slow=5.5,SNR=5.3							
MSVF	**Nonsavu**	**8.44**	**251**	Pn		**Pn**	**03 46 06.2**	**-1.8**
RAR	**Rarotonga**	**14.49**	**117**	Pn		**Pn**	**03 47 29.3**	**-1.5**
	0.6nm,0.3s,baz=258,slow=11,SNR=4.7							
RAR				LR		LR	03 51 41.1	
	comp=Z,1µm,21.1s,baz=284,slow=31							
DZM	**Mont Dzumac**	**20.14**	**247**	P		**P**	**03 48 41.6**	**+1.5**
	4.0nm,0.9s,baz=65,slow=19,SNR=2.0							
DZM				LR		LR	03 55 20.9	
	comp=Z,493nm,19.2s,baz=80,slow=34 4.0nm,0.9s							
DZM	**Mont Dzumac**	**20.14**	**247**	*e*Pn		Pn	03 48 44.7	+2.7
	70nm,1.4s							
DZM				*e*LR		LR	03 53 27.6	
	comp=Z,524nm,27.1s							
PAE	**Paea**	**23.19**	**100**	*e*T		T	04 12 58.8	
	2.3nm,0.2s							
PPT	**Papeete**	**23.19**	**99**	LR		LR	03 56 56.6	
	comp=Z,322nm,18.9s,baz=271,slow=33							
PPT2	**Papeete2**	**23.19**	**100**	*e*LR		LR	03 54 34.9	
	comp=Z,1µm,28.8s							
PPT2				*e*LR		LR	03 54 35.0	
	comp=Z,2µm,26.5s							
PPT2	**Papeete2**	**23.19**	**100**	*e*T		T	04 12 54.4	
	2.8nm,0.3s							
HNR	**Honiara**	**26.43**	**279**	LR		LR	03 58 12.9	
	comp=Z,6µm,18.6s,baz=122,slow=32							
RPZ	**Rata Peaks**	**31.41**	**202**	LR		LR	04 03 15.0	
	comp=Z,491nm,18.2s,baz=30,slow=37							
TAOE	**Nuku Hiva Isla**	**33.28**	**83**	*e*LR		LR	03 59 23.4	
	comp=Z,807nm,24.3s							
KRVT	**Keravat (AS076**	**35.47**	**284**	LR		LR	04 03 41.1	
	comp=Z,198nm,20.2s,baz=253,slow=33							
CTA	**Charters Tower**	**38.53**	**257**	LR		LR	04 04 27.8	
	comp=Z,378nm,21.6s,baz=84,slow=32							
H11S2	**WAKE ISLAND Hy**	**38.58**	**329**	T		T	04 32 20.8	
	baz=149,slow=76,SNR=26							
H11S3	**WAKE ISLAND Hy**	**38.59**	**329**	T		T	04 32 19.4	
	baz=149,slow=76,SNR=41							
H11S1	**WAKE ISLAND Hy**	**38.60**	**329**	T		T	04 32 18.0	
	baz=149,slow=76,SNR=28							
PMG	**Port Moresby**	**38.72**	**274**	LR		LR	04 05 16.8	
	comp=Z,484nm,19.1s,baz=76,slow=33							
H11N3	**WAKE ISLAND Hy**	**39.53**	**330**	T		T	04 33 26.1	
	baz=150,slow=76,SNR=17							
H11N1	**WAKE ISLAND Hy**	**39.53**	**330**	T		T	04 33 29.4	
	baz=150,slow=76,SNR=21							
H11N2	**WAKE ISLAND Hy**	**39.55**	**330**	T		T	04 33 30.0	
	baz=150,slow=76,SNR=15							
STKA	**Stephens Creek**	**44.03**	**240**	LR		LR	04 08 39.1	
	comp=Z,149nm,20.4s,baz=49,slow=34							
WRA	**Warramunga Arr**	**49.73**	**257**	P		**P**	**03 52 57.7**	**-0.7**
	2.3nm,0.9s,baz=92,slow=7.3,SNR=16							
WRA				LR		LR	04 12 36.8	
	comp=Z,355nm,18.7s,baz=94,slow=34 2.3nm,0.9s							
WRA	**Warramunga Arr**	**49.73**	**257**	P		**P**	**03 52 58.1**	**-0.3**
GUMO	**Guam**	**49.99**	**303**	LR		LR	04 11 57.1	
	comp=Z,164nm,19.0s,baz=102,slow=34							
AS31	**Alice Springs**	**50.02**	**252**			**P**	**03 52 58.6**	**-2.1**
ASAR	**Alice Springs**	**50.03**	**252**	P		**P**	**03 52 59.9**	**-0.8**
	6.1nm,0.7s,baz=85,slow=8.4,SNR=51							
ASAR				LR		LR	04 12 11.1	
	comp=Z,406nm,20.8s,baz=97,slow=34 6.1nm,0.7s							
ASAR	**Alice Springs**	**50.03**	**252**	P		**P**	**03 52 58.6**	**-2.1**
SIJI	**Sorong**	**56.21**	**279**	LR		LR	04 19 02.6	
	comp=Z,262nm,18.0s,baz=336,slow=37							
JCJ	**Chichijima**	**59.99**	**314**	LR		LR	04 14 59.1	
	comp=Z,193nm,20.5s,baz=112,slow=31							
RPN	**Rapa Nui**	**60.59**	**113**	LR		LR	04 13 40.8	
	comp=Z,198nm,21.7s,baz=316,slow=29							
BATI	**Baumata**	**61.24**	**266**	LR		LR	04 19 05.1	
	comp=Z,296nm,20.9s,baz=82,slow=34							
VNDA	**Vanda**	**63.68**	**186**	P		**P**	**03 54 38.1**	**+1.4**
	0.6nm,0.7s,baz=3.4,slow=6.8,SNR=3.6							
VNDA				LR		LR	04 16 30.0	
	comp=Z,111nm,21.8s,baz=14,slow=30 0.6nm,0.7s							
VNDA	**Vanda**	**63.68**	**186**	P		**P**	**03 54 37.8**	**+1.1**
DAV	**Davao City (W)**	**64.16**	**286**	LR		LR	04 21 00.8	
	comp=Z,224nm,18.5s,baz=104,slow=35							
NWAO	**Narrogin (SRO)**	**64.61**	**240**	LR		LR	04 20 29.8	
	comp=Z,174nm,20.1s,baz=279,slow=34							
NWAO	**Narrogin (SRO)**	**64.61**	**240**	P		**P**	**03 54 44.1**	**+0.6**
JHJ	**Hachijo jima 2**	**65.39**	**318**	LR		LR	04 20 36.8	
	comp=Z,45nm,18.5s,baz=149,slow=34							
KAPI	**Kappang**	**66.17**	**271**	LR		LR	04 21 48.8	
	comp=Z,65nm,20.6s,baz=98,slow=34							
JOW	**Kunigami**	**70.13**	**306**	LR		LR	04 19 56.4	
	comp=Z,199nm,21.7s,baz=110,slow=31							
YBH	**Yreka Blue Hor**	**73.46**	**37**	LR		LR	04 20 10.3	
	comp=Z,234nm,20.1s,baz=231,slow=30							
NVAR	**Mina Array Bea**	**74.22**	**42**	P		**P**	**03 55 43.9**	**+0.8**
	1.4nm,0.9s,baz=231,slow=9.9,SNR=7.4 1.4nm,0.9s							
KVN	**Kaiserville**	**74.70**	**42**	P		**P**	**03 55 44.7**	**-1.1**
KVN						IAmb	IAmb	03 55 57.5
	comp=Z,9.1nm,1.2s							
TPH	**Tonopah**	**74.73**	**43**	P		**P**	**03 55 44.8**	**-1.2**
QSPA	**South Pole Qui**	**74.97**	**180**	LR		LR	04 23 36.9	
	comp=Z,119nm,20.7s,baz=48,slow=32							
KSRS	**Korea Array**	**75.79**	**316**	LR		LR	04 23 16.0	
	comp=Z,102nm,21.7s,baz=110,slow=31							
TUC	**Tucson**	**76.33**	**51**	P		**P**	**03 55 53.9**	**-1.3**
TUC						IAmb	IAmb	03 56 07.0
	comp=Z,7.8nm,1.3s							
CCUT	**Cedar City**	**77.04**	**45**	P		**P**	**03 55 58.0**	**-1.3**
CCUT						IAmb	IAmb	03 56 11.5
	comp=Z,8.2nm,1.4s							
KNB	**Kanab**	**77.14**	**46**			**P**	**03 56 01.8**	**+1.9**
KNB						IAmb	IAmb	03 56 11.5
	comp=Z,8.0nm,1.2s							
U15A	**North Rim**	**77.22**	**47**	P		**P**	**03 55 59.5**	**-0.9**
U15A						IAmb	IAmb	03 56 12.9
	comp=Z,9.5nm,1.3s							
WUAZ	**Wupatki**	**77.42**	**48**			**P**	**03 56 01.2**	**-0.2**
WUAZ						IAmb	IAmb	03 56 13.3
	comp=Z,6.1nm,1.1s							
LEM	**Lembang**	**77.46**	**266**	LR		LR	04 31 07.6	
	comp=Z,94nm,18.2s,baz=119,slow=36							
ELK	**Elko**	**77.47**	**42**	LR		LR	04 27 19.2	
	comp=Z,146nm,18.3s,baz=238,slow=34							
ELK	**Elko**	**77.47**	**42**	P		**P**	**03 56 01.2**	**-0.4**
BBB	**Bella Bella**	**77.68**	**27**	LR		LR	04 24 54.8	
	comp=Z,180nm,19.8s,baz=210,slow=32							
DUG	**Dugway, Tooele**	**78.75**	**43**	P		**P**	**03 56 08.0**	**-0.6**
TMUT	**Trail Mountain**	**79.38**	**44**	P		**P**	**03 56 11.7**	**-0.6**
TMUT						IAmb	IAmb	03 56 16.2
	comp=Z,7.7nm,0.9s							
HLID	**Hailey**	**79.50**	**39**	P		**P**	**03 56 12.0**	**-0.7**
HVU	**Hansel Valley**	**79.59**	**42**	P		**P**	**03 56 14.0**	**+0.8**
HVU						IAmb	IAmb	03 56 24.7
	comp=Z,6.4nm,1.0s							
SRU	**San Rafael Swe**	**79.75**	**45**	P		**P**	**03 56 12.9**	**-1.3**
SRU						IAmb	IAmb	03 56 25.9
	comp=Z,8.1nm,1.2s							
P17A	**Butcher Ranch,**	**79.78**	**44**	P		**P**	**03 56 13.5**	**-0.8**
P17A						IAmb	IAmb	03 56 25.8
	comp=Z,8.3nm,1.2s							
MA2	**Magadan**	**79.79**	**342**	LR		LR	04 27 49.7	
	comp=Z,74nm,20.1s,baz=139,slow=33							
TCUT	**Toone Canyon**	**80.14**	**43**	P		**P**	**03 56 15.9**	**-0.4**
PV13	**Radium Mtn., P**	**80.47**	**46**	P		**P**	**03 56 17.4**	**-0.7**
NEW	**Newport**	**80.55**	**34**	LR		LR	04 28 14.3	
	comp=Z,119nm,18.5s,baz=228,slow=33							
TX31	**Lajitas Ar. Si**	**80.59**	**56**	P		**P**	**03 56 18.4**	**-0.5**
TX32	**Lajitas Array**	**80.59**	**56**	P		**P**	**03 56 18.6**	**-0.2**
TX32						IAmb	IAmb	03 56 30.8
	comp=Z,9.7nm,1.2s							
TXAR	**Lajitas Array**	**80.59**	**56**	P		**P**	**03 56 19.4**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=229,slow=5.0,SNR=12							
TXAR						LR	LR	04 26 15.8
	comp=Z,108nm,18.5s,baz=250,slow=31 comp=Z,1.5nm,0.9s							
TXAR	**Lajitas Array**	**80.59**	**56**	P		**P**	**03 56 18.4**	**-0.5**
ANMO	**Albuquerque**	**80.74**	**50**	LR		LR	04 25 38.3	
	comp=Z,182nm,18.4s,baz=250,slow=31							
ANMO	**Albuquerque**	**80.74**	**50**			**P**	**03 56 18.3**	**-1.3**
ANMO						IAmb	IAmb	03 56 34.0
	comp=Z,11nm,1.4s							
GDL2	**Guadalupe Moun**	**81.18**	**53**	P		**P**	**03 56 21.4**	**-0.5**
DLBC	**Dease Lake**	**81.47**	**22**	LR		LR	04 26 49.0	
	comp=Z,160nm,18.6s,baz=243,slow=32							
TPAW	**Teton Pass**	**81.62**	**41**	P		**P**	**03 56 23.7**	**-0.5**
TPAW						IAmb	IAmb	03 56 27.6
	comp=Z,7.8nm,1.1s							
FXWY	**Fox Creek**	**81.64**	**41**	P		**P**	**03 56 22.9**	**-1.4**
FXWY						IAmb	IAmb	03 56 36.2
	comp=Z,11nm,1.4s							
WRH	**Wood River Hil**	**81.67**	**11**	P		**P**	**03 56 23.9**	**+0.3**
WRH						IAmb	IAmb	03 56 25.9
	comp=Z,12nm,1.0s							
S22A	**4UR Ranch, Cre**	**81.69**	**47**	P		**P**	**03 56 23.6**	**-1.2**
SNOW	**Snow King Moun**	**81.73**	**41**	P		**P**	**03 56 24.8**	**0.0**
SNOW						IAmb	IAmb	03 56 36.5
	comp=Z,6.4nm,1.0s							
HDA	**Harding Lake**	**81.82**	**11**	P		**P**	**03 56 24.4**	**-0.1**
HDA						IAmb	IAmb	03 56 26.6
	comp=Z,7.8nm,1.0s							
CCB	**Clear Creek Bu**	**81.88**	**11**	P		**P**	**03 56 23.9**	**-0.9**
TCOL	**CIGO, UAF Yank**	**82.08**	**11**	P		**P**	**03 56 25.8**	**+0.1**
COLA	**College**	**82.08**	**11**	P		**P**	**03 56 25.8**	**+0.1**
PDAR	**Pinedale Array**	**82.15**	**42**	P		**P**	**03 56 27.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=238,slow=5.1,SNR=6.6							
PDAR						LR	LR	04 28 07.4
	comp=Z,134nm,18.2s,baz=247,slow=32 comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**82.15**	**42**	P		**P**	**03 56 26.3**	**-0.7**
IL31		**82.16**	**11**	P		**P**	**03 56 25.4**	**-0.8**
IL31						IAmb	IAmb	03 56 32.3
	comp=Z,8.0nm,1.4s							
ILAR	**Eielson Array**	**82.16**	**11**	P		**P**	**03 56 25.8**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=199,slow=7.4,SNR=7.1							
ILAR						LR	LR	04 25 08.0
	comp=Z,81nm,20.1s,baz=220,slow=30 comp=Z,1.8nm,1.0s							
ILAR	**Eielson Array**	**82.16**	**11**	P		**P**	**03 56 24.0**	**-2.2**
J25K	**Salcha River,**	**82.31**	**12**	P		**P**	**03 56 25.2**	**-1.9**
J25K						IAmb	IAmb	03 56 38.5
	comp=Z,15nm,1.4s							
POKR	**Poker Plat Res**	**82.37**	**11**	P		**P**	**03 56 26.3**	**-1.0**
POKR						IAmb	IAmb	03 56 29.5
	comp=Z,7.8nm,0.9s							
SDCO	**Great Sand Dun**	**82.64**	**48**	P		**P**	**03 56 28.5**	**-1.3**
PRP	**Porcupine Dome**	**83.09**	**11**	P		**P**	**03 56 29.8**	**-1.4**
PRP						IAmb	IAmb	03 56 39.8
	comp=Z,12nm,1.4s							
MSTX	**Muleshoe**	**83.11**	**52**	P		**P**	**03 56 30.5**	**-1.5**
DAWY	**Dawson**	**83.15**	**14**	P		**P**	**03 56 30.3**	**-1.2**
DAWY						IAmb	IAmb	03 56 43.3
	comp=Z,7.6nm,1.2s							
CMIG	**Matias Romero**	**83.96**	**71**	LR		LR	04 27 32.1	

SATY				S	Sg	03 50 05.2	-1.5	
	197nm,0.1s							
ZHN	**Zhinishke**	**0.28**	**2**	*e*P	**Pg**	**03 50 04.9**	**-1.2**	
	82nm,0.2s							
ZHN				*e*S	**Sg**	**03 50 08.8**	**-1.1**	
	164nm,0.2s							
ZHN	**Zhinishke**	**0.28**	**2**	P	**Pg**	**03 50 04.9**	**-1.2**	
	82nm,0.2s							
ZHN				S	**Sg**	**03 50 08.8**	**-1.1**	
	164nm,0.2s							
UZB	**Uzynbulak**	**0.51**	**59**	*e*P	**Pg**	**03 50 09.0**	**-1.3**	
	6.4nm,0.1s							
UZB				*e*S	**Sg**	**03 50 15.8**	**-1.3**	
	37nm,0.2s							
UZB	**Uzynbulak**	**0.51**	**59**	P	**Pg**	**03 50 09.0**	**-1.3**	
	6.4nm,0.1s							
UZB				S	**Sg**	**03 50 15.8**	**-1.3**	
	37nm,0.2s							
KPKS	**Kokpek**	**0.61**	**18**	*e*P	**Pg**	**03 50 10.5**	**-1.6**	
	4.4nm,0.2s							
KPKS				*e*S	**Sg**	**03 50 18.6**	**-1.6**	
	29nm,0.2s							
KPKS	**Kokpek**	**0.61**	**18**	P	**Pg**	**03 50 10.9**	**-1.2**	
	4.9nm,0.1s							
KPKS				S	**Sg**	**03 50 19.2**	**-1.0**	
	29nm,0.2s							
SHLS	**Shalkode**	**0.81**	**70**	*e*P	**Pn**	**03 50 19.8**	**+1.9**	
	2.7nm,0.2s							
SHLS				*e*S	**Sn**	**03 50 34.4**	**+4.4**	
	5.3nm,0.2s							
SHLS	**Shalkode**	**0.81**	**70**	P	**Pn**	**03 50 20.2**	**+2.3**	
	3.7nm,0.2s							
SHLS				S	**Sn**	**03 50 35.1**	**+5.0**	
	4.4nm,0.1s							
PDGK	**Podgornoye**	**0.90**	**60**	P	**Pg**	**03 50 16.0**	**-1.6**	
	1.4nm,0.2s							
PDGK				S	**Sg**	**03 50 27.6**	**-1.7**	
	3.6nm,0.4s							
PDGK	**Podgornoye**	**0.90**	**60**	⇓P	**Pg**	**03 50 15.8**	**-1.8**	
	1.2nm,0.4s							
PDGK				⇓S	**Sg**	**03 50 27.4**	**-1.9**	
	5.4nm,0.5s							
KOTS	**Kotyrbulak**	**1.02**	**290**	*e*P	**Pg**	**03 50 18.7**	**-1.2**	
	2.0nm,0.1s							
KOTS				*e*S	**Sg**	**03 50 32.5**	**-0.7**	
	14nm,0.1s							
KOTS	**Kotyrbulak**	**1.02**	**290**	P	**Pg**	**03 50 18.7**	**-1.2**	
	2.0nm,0.1s							
KOTS				S	**Sg**	**03 50 32.5**	**-0.7**	
	14nm,0.1s							
MDOK	**Medeo**	**1.04**	**286**	*e*P	**Pg**	**03 50 19.4**	**-1.0**	
	1.6nm,0.1s							
MDOK				*e*S	**Sg**	**03 50 33.2**	**-0.7**	
	3.2nm,0.1s							
MDOK	**Medeo**	**1.04**	**286**	Pg	**Pg**	**03 50 19.4**	**-1.0**	
	1.6nm,0.1s							
MDOK				Lg	Lg	03 50 33.2		
	3.2nm,0.1s							
TNSS	**Tian-Shan**	**1.09**	**278**	*e*P	**Pg**	**03 50 20.2**	**-1.2**	
	1.3nm,0.1s							
TNSS				*e*S	**Sg**	**03 50 34.9**	**-0.6**	
	2.4nm,0.1s							
TNSS	**Tian-Shan**	**1.09**	**278**	P	**Pg**	**03 50 20.2**	**-1.2**	
	1.3nm,0.1s							
TNSS				S	**Sg**	**03 50 34.9**	**-0.6**	
	2.4nm,0.1s							
BLB	**Baldybastay**	**1.21**	**2**	*e*P	**Pb**	**03 50 21.8**	**-1.5**	
	3.6nm,0.1s							
BLB				*e*S	**Sb**	**03 50 37.8**	**-1.3**	
	44nm,0.2s							
BLB	**Baldybastay**	**1.21**	**2**	P	**Pb**	**03 50 21.8**	**-1.5**	
	3.6nm,0.1s							
BLB				S	**Sb**	**03 50 37.8**	**-1.3**	
	44nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.24**	**202**	⇑*i*P	**Pb**	**03 50 22.8**	**-1.3**	
	baz=1.0							
TARG				⇑*i*S	**Sb**	**03 50 38.7**	**-1.6**	
	baz=1.0							
ULHL	**Ulahol**	**1.73**	**249**	⇑*i*P	**Pb**	**03 50 31.7**	**-0.6**	
	baz=50							
ULHL				⇑*i*S	**Sg**	**03 50 54.6**	**-1.4**	
	baz=50							
DJR	**Jarkent**	**1.75**	**34**	*e*P	**Pb**	**03 50 31.9**	**-0.7**	
	6.6nm,0.1s							
DJR				*e*S	**Sb**	**03 50 55.0**	**+0.3**	
	22nm,0.3s							
DJR	**Jarkent**	**1.75**	**34**	P	**Pb**	**03 50 31.9**	**-0.7**	
	6.6nm,0.1s							
DJR				S	**Sb**	**03 50 55.0**	**+0.3**	
	22nm,0.3s							
KUU	**Kurty**	**1.82**	**304**	*e*P	**Pb**	**03 50 33.7**	**0.0**	
	1.6nm,0.1s							
KUU				*e*S	**Sg**	**03 50 58.0**	**-0.7**	
	6.6nm,0.1s							
KUU	**Kurty**	**1.82**	**304**	P	**Pb**	**03 50 33.1**	**-0.6**	
	1.6nm,0.1s							
KUU				S	**Sb**	**03 50 56.5**	**-0.1**	
	6.6nm,0.1s							
BOOM	**Boomskoye usch**	**1.87**	**259**	⇑*i*P	**Pb**	**03 50 33.8**	**-0.9**	
	baz=60							
BOOM				⇑*i*S	**Sb**	**03 50 58.3**	**+0.1**	
	baz=60							
TKM2	**Tokmak 2**	**2.08**	**272**	⇑*i*P	**Pb**	**03 50 37.5**	**-0.7**	
	baz=73							
TKM2				⇑*i*S	**Sb**	**03 51 04.3**	**+0.2**	
	baz=73							
TKM2	**Tokmak 2**	**2.08**	**272**	⇓Pn	**Pg**	**03 50 39.3**	**-0.8**	
	1.1nm,0.6s							
TKM2				⇑Sn	**Sg**	**03 51 06.3**	**-0.7**	
	7.1nm,0.6s							
NRN	**Naryn**	**2.31**	**232**	⇓*i*P	**Pb**	**03 50 40.6**	**-1.7**	
	baz=33							
NRN				⇓*i*S	**Sb**	**03 51 10.2**	**-0.8**	
	baz=33							

WEL 16 03:52:01.9±0.6, 42°S±4°×17°4E±°, h6km±4km, M3.0/14, ML3.3/9, MLv3.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=27.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**133**	P	Pg	03 52 04.1	+0.4
CMWZ				S	Sg	03 52 06.7	+1.7
BSWZ	**Blackbirch Sta**	**0.20**	**265**	P	Pg	03 52 05.8	-0.1
BSWZ				S	Sg	03 52 09.4	+0.9
TUWZ	**Tuamarina**	**0.30**	**331**	P	Pg	03 52 08.5	+0.6
TCW	**Tory Channel**	**0.50**	**12**	P	Pg	03 52 11.7	+0.2
NNZ	**Nelson**	**0.75**	**310**	P	Pg	03 52 16.0	-0.3
KHZ	**Kahutara**	**0.85**	**212**	P	Pb	03 52 19.2	+0.4
PLWZ	**Palliser**	**0.85**	**82**	P	Pb	03 52 18.8	-0.3
MSWZ	**Moikau Station**	**0.88**	**72**	P	Pg	03 52 19.2	+0.4
DUWZ	**D'Urville Isla**	**0.91**	**350**	P	Pg	03 52 18.9	-0.5
KIW	**Kapiti Island**	**1.02**	**35**	P	Pg	03 52 21.1	-0.4
MRNZ	**Matariki Terra**	**1.08**	**286**	P	Pg	03 52 22.7	+0.1
MRNZ				S	Sb	03 52 38.1	+0.7
QRZ	**Quartz Range**	**1.49**	**305**	P	Pn	03 52 29.1	-0.2
QRZ				S	Sg	03 52 50.8	+0.9
GVZ	**Greta Valley S**	**1.51**	**212**	P	Pb	03 52 30.6	+0.2
DSZ	**Denniston Nort**	**1.75**	**268**	P	Pb	03 52 34.8	+0.3
KHEZ	**Kahui Hut**	**2.40**	**358**	P	Pb	03 52 45.8	+0.2
NBEZ	**Newall Road No**	**2.44**	**355**	P	Pb	03 52 47.3	+1.1
PKE	**Pukeiti**	**2.50**	**357**	P	Pb	03 52 45.9	-1.4
WNVZ	**Wahianoa**	**2.62**	**26**	P	Pb	03 52 49.7	+0.4
NGZ	**Ngauruhoe**	**2.75**	**24**	P	Pb	03 52 52.0	+0.3
SNVZ	**South Ngauruho**	**2.76**	**25**	P	Pb	03 52 52.4	+0.6
NNVZ	**North Ngauruho**	**2.80**	**24**	P	Pb	03 52 53.4	+0.9
WTVZ	**West Tongariro**	**2.81**	**24**	P	Pb	03 52 52.5	-0.1
ETVZ	**East Tongariro**	**2.83**	**26**	P	Pb	03 52 52.9	0.0
KRVZ	**Karewarewa**	**2.84**	**24**	P	Pb	03 52 53.0	-0.2
TMVZ	**Te Maari**	**2.84**	**25**	P	Pb	03 52 53.0	-0.1
NTVZ	**North Tongarir**	**2.85**	**25**	P	Pb	03 52 53.9	+0.7
HIZ	**Hauiti**	**3.23**	**10**	P	Pn	03 52 55.1	+1.9

WEL 16 03:53:11.6±0.5, 42°S±3°×17°4E±°, h5km, M3.5/13, ML3.7/10, MLv3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=126.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**240**	P	Pg	03 53 15.8	0.0
KHZ				S	Sg	03 53 19.6	+0.9
BSWZ	**Blackbirch Sta**	**0.60**	**6**	P	Pg	03 53 23.2	+0.1
CMWZ	**Cape Campbell**	**0.64**	**30**	P	Pb	03 53 25.3	-0.1
THZ	**Tophouse**	**0.85**	**309**	P	Pg	03 53 28.1	+0.1
GVZ	**Greta Valley S**	**0.86**	**220**	P	Pg	03 53 28.5	+0.3
GVZ				S	Sb	03 53 42.0	+1.0
TUWZ	**Tuamarina**	**0.89**	**8**	P	Pg	03 53 28.6	+0.1
NNZ	**Nelson**	**1.13**	**344**	P	Pg	03 53 32.7	-0.6
TCW	**Tory Channel**	**1.16**	**19**	P	Pg	03 53 32.6	-1.1
AMCZ	**Amberley**	**1.21**	**224**	P	Pg	03 53 33.9	-0.8
LTZ	**Lake Taylor**	**1.22**	**247**	P	Pg	03 53 34.0	-1.0
LTZ				S	Sn	03 53 52.7	+0.4
PLWZ	**Palliser**	**1.32**	**56**	P	Pn	03 53 33.7	-3.1
DUWZ	**D'Urville Isla**	**1.51**	**4**	P	Pn	03 53 38.7	-0.6
OKCZ	**Okains Bay**	**1.51**	**200**	P	Pn	03 53 36.8	-2.6
BFZ	**Birch Farm**	**2.46**	**49**	P	Pn	03 53 48.5	-3.8
WAZ	**Wanganui**	**2.71**	**20**	P	Pn	03 53 55.9	+0.1

*MOS **16** 03:54:15.6±0.0, 42°.91N×46°.48E, h21km, MPVA4.2*
*NORS **16** 03:54:16.1±0.0, 42°.96N×46°.46E, h2km, MPVA4.3*
*DRS **16** 03:54:17.5±0.0, 42°.91N×46°.42E, h13km*

ISC 16 03:54:17.6±0.8, 42°.97N±0°.02×46°.50E±0°.01, h16km±5km, n99, σ1s54/181, 12C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.14**	**42**	*i* Pg	**Pb**	**03 54 21.9**	**+0.1**
DLMR				*e*Sg	**Sg**	**03 54 25.2**	**+1.0**
DLMR	**Dylym**	**0.14**	**42**	*i* PG	**Pb**	**03 54 21.9**	**+0.1**
DLMR				*e*S	**Sg**	**03 54 25.2**	**+1.0**
DBC	**Dubki**	**0.24**	**77**	*i* Pg	**Pb**	**03 54 23.6**	**-0.1**
DBC				*e*Sg	**Sg**	**03 54 28.2**	**+1.3**
DBC	**Dubki**	**0.24**	**77**	⇑*i*PG	**Pb**	**03 54 23.4**	**-0.3**
DBC				*i* S	**Sg**	**03 54 28.8**	**+1.9**
DBC				pmax	pmax		
	comp=Z,330nm,0.3s						
DBC				smax	smax		
	comp=N,1μm,0.2s						
DBC				smax	smax		
	comp=E,1μm,0.4s						
DBC				smax	smax		
	comp=N,1μm,0.4s						
DVE	**Vedeno**	**0.28**	**268**	*e*Pg	**Pg**	**03 54 22.8**	**-0.9**
DVE				*e*Sg	**Sg**	**03 54 26.7**	**-1.1**
DVE	**Vedeno**	**0.28**	**268**	*i* PG	**Pg**	**03 54 23.1**	**-0.6**
DVE				*e*S	**Sg**	**03 54 27.6**	**-0.2**
KRNR	**Karanay**	**0.33**	**115**	*i* Pg	**Pb**	**03 54 24.4**	**-0.8**
KRNR				*e*Sg	**Sb**	**03 54 29.5**	**-0.6**
KRNR	**Karanay**	**0.33**	**115**	*e*PG	**Pb**	**03 54 24.3**	**-0.8**
KRNR				*i* S	**Sb**	**03 54 29.8**	**-0.4**
KRNR				pmax	pmax		
	comp=Z,197nm,0.3s						
KRNR				smax	smax		
	comp=N,863nm,0.4s						
UNCR	**Uncukul**	**0.33**	**140**	*i* Pg	**Pg**	**03 54 24.1**	**-0.5**
UNCR				*e*Sg	**Sg**	**03 54 28.7**	**-0.6**
UNCR	**Uncukul**	**0.33**	**140**	*i* PG	**Pg**	**03 54 24.1**	**-0.5**
UNCR				*e*S	**Sg**	**03 54 28.7**	**-0.6**
BTLR	**Botlikh**	**0.37**	**214**	*i* Pg	**Pg**	**03 54 24.0**	**-1.2**
BTLR				*e*Sg	**Sg**	**03 54 28.9**	**-1.4**
BTLR	**Botlikh**	**0.37**	**214**	*i* PG	**Pg**	**03 54 24.0**	**-1.2**
BUJR	**Buynaksk**	**0.47**	**108**	*e*Pg	**Pb**	**03 54 27.1**	**-0.3**
BUJR				*e*Sg	**Sb**	**03 54 34.1**	**0.0**
BUJR	**Buynaksk**	**0.47**	**108**	*e*PG	**Pb**	**03 54 27.1**	**-0.3**
BUJR				*e*S	**Sb**	**03 54 34.1**	**0.0**
ARKR	**Arakani**	**0.51**	**135**	*e*Pg	**Pb**	**03 54 27.7**	**-0.5**
ARKR				*e*Sg	**Sb**	**03 54 34.8**	**-0.6**
ARKR	**Arakani**	**0.51**	**135**	*e*PG	**Pb**	**03 54 27.7**	**-0.5**
ARKR				*e*S	**Sb**	**03 54 34.8**	**-0.6**
GROC	**Groznyy**	**0.57**	**295**	*e*Pg	**Pb**	**03 54 29.4**	**+0.2**
GROC				*e*Sg	**Sb**	**03 54 37.7**	**+0.7**
GROC	**Groznyy**	**0.57**	**295**	⇑*i*PG	**Pb**	**03 54 29.9**	**+0.8**
GROC				*e*		03 54 38.2	
GROC				pmax	pmax		
	comp=Z,250nm,0.5s						
GROC				smax	smax		
	comp=E,267nm,0.4s						
GROC				smax	smax		
	comp=N,642nm,0.6s						
GROC				smax	smax		
	comp=N,743nm,0.6s						
GNBR	**Gunib**	**0.67**	**149**	*e*Pg	**Pb**	**03 54 30.4**	**-0.5**
GNBR				*e*Sg	**Sb**	**03 54 39.5**	**-0.5**
GNBR	**Gunib**	**0.67**	**149**	*e*PG	**Pb**	**03 54 31.0**	**+0.1**
GNBR				*e*S	**Sn**	**03 54 41.1**	**-1.5**
GNBR				pmax	pmax		
	comp=Z,113nm,0.5s						
GNBR				smax	smax		
	comp=E,1μm,0.6s						
MAK	**Makhachkala**	**0.73**	**90**	*e*Pg	**Pb**	**03 54 32.4**	**+0.4**
MAK				*e*Sg	**Sn**	**03 54 43.2**	**-0.9**
MAK	**Makhachkala**	**0.73**	**90**	*e*PG	**Pn**	**03 54 34.4**	**+1.2**
MAK				*e*S	**Sn**	**03 54 46.4**	**+2.3**
MAK				pmax	pmax		
	comp=Z,448nm,0.4s						
MAK				smax	smax		
	comp=N,958nm,0.6s						
MAK				smax	smax		
	comp=E,900nm,0.4s						
MAK				smax	smax		
	comp=N,718nm,0.6s						
KMKR	**Kumukh**	**0.94**	**152**	*e*Pg	**Pg**	**03 54 35.1**	**-0.9**
KMKR				*e*Sg	**Sb**	**03 54 47.8**	**-0.2**
KMKR	**Kumukh**	**0.94**	**152**	*e*PG	**Pn**	**03 54 36.0**	**-0.3**
KMKR				*e*S	**Sn**	**03 54 50.0**	**+0.4**
KMKR				pmax	pmax		
	comp=Z,128nm,0.1s						
KMKR				smax	smax		
	comp=N,1μm,0.2s						
SHTL	**Shatili**	**1.04**	**253**	P	**Pb**	**03 54 36.6**	**-0.7**
SHTL				S	**Sb**	**03 54 49.8**	**-0.9**
SHTL	**Shatili**	**1.04**	**253**	⇑PG	**Pb**	**03 54 36.6**	**-0.7**
SHTL				S	**Sb**	**03 54 49.8**	**-0.9**
LGD	**Lagodekhi**	**1.15**	**190**	P	**Pb**	**03 54 38.5**	**-0.5**
LGD				S	**Sb**	**03 54 52.5**	**-1.2**
LGD	**Lagodekhi**	**1.15**	**190**	PG	**Pb**	**03 54 38.5**	**-0.5**
LGD				S	**Sb**	**03 54 52.5**	**-1.2**
URKR	**Urkarakh**	**1.16**	**133**	*e*Pg	**Pn**	**03 54 39.0**	**-0.2**
URKR				*e*Sg	**Sn**	**03 54 54.5**	**-0.2**
URKR	**Urkarakh**	**1.16**	**133**	*e*PG	**Pg**	**03 54 40.0**	**0.0**
URKR				*e*S	**Sn**	**03 54 56.9**	**+2.2**
URKR				pmax	pmax		
	comp=Z,65nm,0.2s						
URKR				smax	smax		
	comp=E,221nm,0.6s						
URKR				smax	smax		
	comp=N,276nm,0.6s						
URKR				smax	smax		
	comp=N,222nm,0.6s						
KMGR	**Komgaron**	**1.20**	**275**	*e*Pg	**Pn**	**03 54 39.8**	**0.0**
KMGR				*e*Sg	**Sn**	**03 54 56.3**	**+0.5**
KMGR	**Komgaron**	**1.20**	**275**	*e*PG	**Pn**	**03 54 39.8**	**0.0**
KMGR				*e*S	**Sn**	**03 54 56.3**	**+0.5**
VLKR	**Vladikavkaz**	**1.34**	**274**	*e*PG	**Pg**	**03 54 43.7**	**+0.2**
VLKR				*e*S	**Sg**	**03 55 04.6**	**+3.6**
PNSH	**Pansheti**	**1.43**	**257**	P	**Pb**	**03 54 43.5**	**-0.4**
PNSH				S	**Sg**	**03 55 02.8**	**-0.9**
PNSH	**Pansheti**	**1.43**	**257**	⇑PG	**Pb**	**03 54 43.5**	**-0.4**
PNSH				S	**Sg**	**03 55 02.8**	**-0.9**
BTKR	**Batakoyurt**	**1.49**	**286**	*e*Pg	**Pb**	**03 54 44.5**	**-0.4**
BTKR				*e*Sg	**Sb**	**03 55 04.6**	**+1.0**
BTKR	**Batakoyurt**	**1.49**	**286**	*e*PG	**Pg**	**03 54 47.0**	**+0.7**
BTKR				*e*S	**Sg**	**03 55 09.3**	**+3.6**
TRKR	**Terskaya**	**1.50**	**301**	*e*Pg	**Pb**	**03 54 44.8**	**-0.2**
TRKR				*e*Sg	**Sg**	**03 55 05.1**	**-0.8**
TRKR	**Terskaya**	**1.50**	**301**	*e*PG	**Pb**	**03 54 44.8**	**-0.2**
TRKR				*e*S	**Sg**	**03 55 05.1**	**-0.8**
DDFL	**Dedoflistskaro**	**1.55**	**191**	P	**Pg**	**03 54 48.7**	**+1.4**
DDFL				S	**Sg**	**03 55 13.8**	**+6.3**
DDFL	**Dedoflistskaro**	**1.55**	**191**	PG	**Pg**	**03 54 48.7**	**+1.4**
DDFL				S	**Sg**	**03 55 13.8**	**+6.3**
GUDG	**Gudauri**	**1.57**	**252**	P	**Pb**	**03 54 46.5**	**+0.1**
GUDG				S	**Sn**	**03 55 05.8**	**+0.6**
GUDG	**Gudauri**	**1.57**	**252**	PG	**Pb**	**03 54 46.5**	**+0.1**
GUDG				S	**Sn**	**03 55 05.8**	**+0.6**
LACR	**Lac**	**1.63**	**266**	*e*Pg	**Pn**	**03 54 46.2**	**+0.6**
LACR				*e*Sg	**Sb**	**03 55 07.8**	**+0.2**
LACR	**Lac**	**1.63**	**266**	*e*PN	**Pb**	**03 54 47.4**	**+0.1**
LACR				*e*S	**Sg**	**03 55 09.1**	**-1.0**
ARNR	**Ardon**	**1.64**	**278**	*e*Pg	**Pb**	**03 54 46.6**	**-0.8**
ARNR				*e*Sg	**Sb**	**03 55 08.3**	**+0.5**
ARNR	**Ardon**	**1.64**	**278**	*e*PN	**Pg**	**03 54 49.0**	**-0.1**
ARNR				*e*S	**Sg**	**03 55 14.1**	**+3.7**
DRN	**Derbent**	**1.64**	**124**	*e*Pg	**Pb**	**03 54 46.6**	**-0.8**
DRN				*e*Sg	**Sb**	**03 55 08.5**	**+0.6**
DRN	**Derbent**	**1.64**	**124**	*e*PN	**Pb**	**03 54 46.6**	**-0.8**
DRN				*e*S	**Sb**	**03 55 08.5**	**+0.6**
DGRG	**David-gareji**	**1.73**	**209**	P	**Pb**	**03 54 49.2**	**+0.2**
DGRG				S	**Sg**	**03 55 16.1**	**+2.7**
DGRG	**David-gareji**	**1.73**	**209**	PN	**Pb**	**03 54 49.2**	**+0.2**
DGRG				S	**Sg**	**03 55 16.1**	**+2.7**
SEAG	**Tbilisi Sea**	**1.74**	**227**	P	**Pg**	**03 54 50.9**	**-0.2**
SEAG				S	**Sg**	**03 55 17.3**	**+3.6**
SEAG	**Tbilisi Sea**	**1.74**	**227**	PN	**Pg**	**03 54 50.9**	**-0.2**
SEAG				S	**Sg**	**03 55 17.3**	**+3.6**
AKT	**Akhty**	**1.74**	**148**	*e*Pg	**Pn**	**03 54 47.7**	**+0.5**
AKT				*e*Sg	**Sb**	**03 55 10.4**	**-0.5**
AKT	**Akhty**	**1.74**	**148**	*e*PN	**Pg**	**03 54 49.6**	**-1.5**
AKT				*e*		03 55 13.6	
AKT				pmax	pmax		
	comp=Z,56nm,0.3s						
AKT				smax	smax		
	comp=E,184nm,0.4s						
AKT				smax	smax		
	comp=E,158nm,0.4s						
AKT				smax	smax		
	comp=N,109nm,0.3s						
KORR	**Kora**	**1.79**	**275**	*e*Pg	**Pn**	**03 54 48.7**	**+0.9**
KORR				*e*Sg	**Sb**	**03 55 12.5**	**+0.3**
KORR	**Kora**	**1.79**	**275**	*e*PN	**Pn**	**03 54 48.7**	**+0.9**
PRTR	**Priterechnaya**	**1.80**	**297**	*e*Pg	**Pb**	**03 54 49.1**	**-1.0**
PRTR				*e*Sg	**Sb**	**03 55 13.2**	**+0.8**
PRTR	**Priterechnaya**	**1.80**	**297**	*e*PN	**Pb**	**03 54 49.1**	**-1.0**
KSMR	**Kasumkent**	**1.82**	**138**	*e*Pg	**Pb**	**03 54 49.1**	**-1.4**
KSMR				*e*Sg	**Sb**	**03 55 13.2**	**+0.1**
KSMR	**Kasumkent**	**1.82**	**138**	*e*PN	**Pb**	**03 54 49.1**	**-1.4**
KSMR				*e*S	**Sb**	**03 55 13.2**	**+0.1**
STDR	**Stavd-Durt**	**1.83**	**284**	*e*Pg	**Pn**	**03 54 49.4**	**+1.1**
STDR				*e*Sg	**Sb**	**03 55 13.8**	**+0.6**
STDR	**Stavd-Durt**	**1.83**	**284**	*e*PN	**Pg**	**03 54 52.2**	**-0.5**
STDR				*e*S	**Sg**	**03 55 18.9**	**+2.4**
ZEI	**Tsey**	**1.92**	**266**	*e*Pg	**Pn**	**03 54 50.4**	**+0.7**
ZEI				*e*Sg	**Sb**	**03 55 15.8**	**-0.3**
ZEI	**Tsey**	**1.92**	**266**	*e*PN	**Pb**	**03 54 51.6**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,57nm,0.4s						
LSNR	**Lesken**	**1.98**	**280**	*e*PN	**Pb**	**03 54 54.0**	**+0.7**
LSNR				*e*S	**Sg**	**03 55 21.8**	**+0.3**
LSNR				pmax	pmax		
	comp=Z,34nm,0.5s						
LSNR				smax	smax		
	comp=E,60nm,0.3s						
DIGR	**Digorskoe uzhe**	**2.15**	**269**	*e*Pg	**Pn**	**03 54 53.8**	**+0.9**
DIGR				*e*Sg	**Sb**	**03 55 21.6**	**-1.1**
DIGR	**Digorskoe uzhe**	**2.15**	**269**	*e*PN	**Pb**	**03 54 56.2**	**0.0**
DIGR				*e*S	**Sg**	**03 55 24.9**	**-1.8**
NCK	**Nalchik**	**2.19**	**285**	*e*Pg	**Pn**	**03 54 54.7**	**+1.4**
NCK				*e*Sg	**Sb**	**03 55 23.1**	**-0.5**
NCK	**Nalchik**	**2.19**	**285**	⇓*e*PN	**Pb**	**03 54 56.1**	**-0.7**
ONI	**Oni**	**2.28**	**262**	P	**Pb**	**03 54 57.3**	**-1.0**
ONI				S	**Sg**	**03 55 30.8**	**0.0**
ONI	**Oni**	**2.28**	**262**	PN	**Pb**	**03 54 57.3**	**-1.0**
ONI				S	**Sg**	**03 55 30.8**	**0.0**
ALIG	**Mtskhetisjvari**	**2.28**	**249**	P	**Pb**	**03 54 57.6**	**-0.7**
ALIG				S	**Sg**	**03 55 28.9**	**-2.0**
ALIG	**Mtskhetisjvari**	**2.28**	**249**	PN	**Pb**	**03 54 57.6**	**-0.7**
ALIG				S	**Sg**	**03 55 28.9**	**-2.0**
DMNI	**Dmanisi**	**2.37**	**227**	P	**Pb**	**03 54 59.1**	**-0.9**
DMNI				S	**Sb**	**03 55 30.0**	**+0.9**
DMNI	**Dmanisi**	**2.37**	**227**	PN	**Pb**	**03 54 59.1**	**-0.9**
DMNI				S	**Sb**	**03 55 29.9**	**+0.9**
BRNG	**Burnasheti**	**2.40**	**237**	P	**Pb**	**03 55 00.2**	**-0.2**
BRNG				S	**Sg**	**03 55 33.8**	**-0.8**
BRNG	**Burnasheti**	**2.40**	**237**	PN	**Pb**	**03 55 00.2**	**-0.2**
BRNG				S	**Sg**	**03 55 33.8**	**-0.8**
TKB	**Tkibuli**	**2.66**	**258**	P	**Pb**	**03 55 05.6**	**+0.8**
TKB				S	**Sg**	**03 55 42.2**	**-0.9**
TKB	**Tkibuli**	**2.66**	**258**	PN	**Pb**	**03 55 05.6**	**+0.8**
TKB				S	**Sg**	**03 55 42.2**	**-0.9**
AKH	**Akhalkalaki**	**2.73**	**236**	P	**Pb**	**03 55 06.3**	**+0.3**
AKH				S	**Sg**	**03 55 42.0**	**-3.2**
AKH	**Akhalkalaki**	**2.73**	**236**	PN	**Pb**	**03 55 06.3**	**+0.3**
AKH				S	**Sg**	**03 55 42.0**	**-3.2**
KBZ	**Khabaz**	**2.74**	**287**	⇑*i*PN	**Pn**	**03 55 01.0**	**+0.2**
NEY	**Neytrino**	**2.78**	**277**	*e*Pn	**Pn**	**03 55 02.6**	**+1.0**
NEY				*e*Sn	**Sn**	**03 55 37.5**	**+2.6**
NEY	**Neytrino**	**2.78**	**277**	⇑*e*PN	**Pn**	**03 55 03.9**	**+2.3**
SHA1	**Shidzhatmaz**	**2.91**	**287**	*e*Pn	**Pn**	**03 55 04.2**	**+0.9**
SHA1				*e*Sn	**Sn**	**03 55 40.7**	**+2.6**
SHA1	**Shidzhatmaz**	**2.91**	**287**	*c i*PN	**Pn**	**03 55 04.0**	**+0.6**
KIV	**Kislovodsk**	**2.95**	**291**	*i* PN	**Pn**	**03 55 04.5**	**+0.7**
KIV				*i* S	**Sb**	**03 55 42.7**	**-2.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KIV

*IDC **16** 03:55:15.9±2.6, 42.°81S×173.°18E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=51.8km s-min=48.6km az=44.0*

ISC 16 03:55:15.0±1.1, **41.°81S**±0.°04×**174.°32E**±0.°03, **h11**km±8km, **n74**, σ1°**06**/77, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.10**	**309**	P	**Pg**	**03 55 16.9**	**-0.7**
BSWZ	**Blackbirch Sta**	**0.34**	**286**	P	**Pg**	**03 55 21.9**	**+0.1**
BSWZ				S	**Sg**	**03 55 27.8**	**+1.4**
TUWZ	**Tuamarina**	**0.47**	**324**	P	**Pg**	**03 55 24.0**	**-0.2**
TUWZ				S	**Sg**	**03 55 30.4**	**-0.2**
TCW	**Tory Channel**	**0.60**	**357**	P	**Pg**	**03 55 26.2**	**-0.5**
WEL	**Wellington**	**0.63**	**33**	P	**Pg**	**03 55 27.0**	**-0.1**
PLWZ	**Palliser**	**0.74**	**71**	P	**Pb**	**03 55 30.7**	**+0.7**
PLWZ				S	**Sn**	**03 55 43.9**	**+1.0**
MSWZ	**Moikau Station**	**0.80**	**61**	P	**Pb**	**03 55 31.4**	**+0.4**
MSWZ				S	**Sn**	**03 55 44.6**	**+0.3**
KHZ	**Kahutara**	**0.84**	**223**	P	**Pb**	**03 55 32.7**	**+1.1**
CAW	**Cannon Point**	**0.90**	**39**	P	**Pg**	**03 55 32.2**	**-0.1**
NNZ	**Nelson**	**0.92**	**310**	P	**Pg**	**03 55 32.1**	**-0.7**
PAWZ	**Paruwai Farm**	**0.94**	**63**	P	**Pb**	**03 55 33.5**	**+0.1**
KIW	**Kapiti Island**	**1.05**	**25**	P	**Pg**	**03 55 34.5**	**-0.7**
DUWZ	**D'Urville Isla**	**1.05**	**343**	P	**Pg**	**03 55 34.8**	**-0.5**
THZ	**Tophouse**	**1.06**	**272**	P	**Pg**	**03 55 35.3**	**-0.1**
MTW	**Mount Morrison**	**1.10**	**54**	P	**Pg**	**03 55 35.7**	**-0.5**
TRWZ	**Traveller**	**1.11**	**69**	P	**Pg**	**03 55 35.5**	**-0.9**
OGWZ	**Otaki Gorge**	**1.19**	**33**	P	**Pg**	**03 55 36.8**	**-1.0**
MRNZ	**Matariki Terra**	**1.24**	**289**	P	**Pg**	**03 55 38.7**	**-0.1**
TKNZ	**Takaka Hill**	**1.28**	**307**	P	**Pg**	**03 55 39.1**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.28**	**45**	P	**Pg**	**03 55 38.3**	**-1.4**
TMWZ	**Te Maipa**	**1.38**	**60**	P	**Pn**	**03 55 39.4**	**-0.9**
MRZ	**Mangatainoka R**	**1.49**	**40**	P	**Pn**	**03 55 41.1**	**-0.7**
GVZ	**Greta Valley S**	**1.50**	**219**	P	**Pn**	**03 55 41.8**	**0.0**
QRZ	**Quartz Range**	**1.67**	**306**	P	**Pb**	**03 55 45.5**	**-0.2**
OHWZ	**Ohakea**	**1.77**	**26**	P	**Pb**	**03 55 47.4**	**-0.2**
POWZ	**Post Office Ro**	**1.79**	**38**	P	**Pn**	**03 55 47.2**	**+1.3**
LTZ	**Lake Taylor**	**1.80**	**237**	P	**Pn**	**03 55 46.2**	**+0.2**
AMCZ	**Amberley**	**1.84**	**222**	P	**Pn**	**03 55 46.1**	**-0.4**
BFZ	**Birch Farm**	**1.84**	**53**	P	**Pg**	**03 55 51.0**	**+0.7**
DSZ	**Denniston Nort**	**1.88**	**271**	P	**Pn**	**03 55 48.6**	**+1.4**
DVHZ	**Dannevirke**	**2.06**	**43**	P	**Pn**	**03 55 50.8**	**+1.2**
WAZ	**Wanganui**	**2.12**	**14**	P	**Pb**	**03 55 53.8**	**+0.4**
TSZ	**Takapari Road**	**2.15**	**36**	P	**Pb**	**03 55 52.9**	**-1.1**
INZ	**Inchbonnie**	**2.32**	**246**	P	**Pn**	**03 55 55.9**	**+2.8**
PRHZ	**Porangahau**	**2.34**	**49**	P	**Pg**	**03 56 01.3**	**+1.5**
PNHZ	**Pukenui**	**2.38**	**38**	P	**Pn**	**03 55 53.0**	**-0.9**
WPHZ	**Waipukurau**	**2.38**	**43**	P	**Pg**	**03 56 00.6**	**+0.1**
KHEZ	**Kahui Hut**	**2.52**	**355**	P	**Pg**	**03 56 02.1**	**-1.3**
NBEZ	**Newall Road No**	**2.56**	**352**	P	**Pg**	**03 56 03.6**	**-0.5**
PXZ	**Pawanui**	**2.62**	**48**	P	**Pg**	**03 56 05.3**	**0.0**
PKE	**Pukeiti**	**2.63**	**354**	P	**Pg**	**03 56 04.3**	**-1.1**
MOVZ	**Moawhango**	**2.64**	**25**	P	**Pb**	**03 56 00.7**	**-1.6**
WNVZ	**Wahianoa**	**2.67**	**22**	P	**Pb**	**03 56 00.8**	**-2.1**
BHHZ	**Black Hill Sta**	**2.67**	**30**	P	**Pb**	**03 56 02.6**	**-0.3**
TRVZ	**Turoa**	**2.68**	**21**	P	**Pb**	**03 56 02.7**	**-0.5**
DRZ	**Dome Shelter**	**2.71**	**21**	P	**Pb**	**03 56 04.0**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.71**	**21**	P	**Pb**	**03 56 03.3**	**-0.3**
FWVZ	**Far West T-bar**	**2.72**	**21**	P	**Pb**	**03 56 03.1**	**-0.7**
TUVZ	**Tukino**	**2.74**	**22**	P	**Pn**	**03 56 01.5**	**+2.4**
KAHZ	**Kahuranaki**	**2.80**	**45**	P	**Pb**	**03 56 06.8**	**+1.7**
WACZ	**Wakanui South**	**2.80**	**220**	P	**Pb**	**03 55 59.0**	**-0.7**
NGZ	**Ngauruhoe**	**2.81**	**21**	P	**Pb**	**03 56 05.1**	**-0.2**
SNVZ	**South Ngauruho**	**2.81**	**21**	P	**Pb**	**03 56 05.1**	**-0.2**
OTVZ	**Oturere**	**2.84**	**22**	P	**Pb**	**03 56 05.6**	**-0.3**
NNVZ	**North Ngauruho**	**2.85**	**21**	P	**Pb**	**03 56 04.1**	**-2.0**
WTVZ	**West Tongariro**	**2.86**	**20**	P	**Pb**	**03 56 06.4**	**+0.1**
TWVZ	**Taurewa**	**2.87**	**18**	P	**Pb**	**03 56 06.4**	**+0.1**
KWHZ	**Kaweka Forest**	**2.87**	**35**	P	**Pb**	**03 56 07.8**	**+1.5**
ETVZ	**East Tongariro**	**2.88**	**22**	P	**Pb**	**03 56 06.0**	**-0.4**
TMVZ	**Te Maari**	**2.89**	**22**	P	**Pb**	**03 56 06.3**	**-0.4**
KRVZ	**Karewarewa**	**2.90**	**21**	P	**Pb**	**03 56 06.3**	**-0.4**
NTVZ	**North Tongarir**	**2.90**	**21**	P	**Pb**	**03 56 06.6**	**-0.2**
KATZ	**Kakaramea**	**3.02**	**21**	P	**Pb**	**03 56 09.1**	**+0.1**
RPZ	**Rata Peaks**	**3.06**	**231**	Pn	Pn	03 55 47.2	-16
	9.2nm,0.3s,baz=352,slow=7.8,SNR=6.0						
RPZ	**Rata Peaks**	**3.06**	**231**	P	**Pn**	**03 56 02.8**	**-0.6**
RITZ	**Rihia Road**	**3.07**	**23**	P	**Pb**	**03 56 09.8**	**+0.1**
BKZ	**Black Stump Fm**	**3.12**	**33**	P	**Pb**	**03 56 11.1**	**+0.6**
RATZ	**Rangitukua**	**3.15**	**21**	P	**Pb**	**03 56 11.6**	**+0.6**
HIZ	**Hauiti**	**3.32**	**7**	P	**Pb**	**03 56 12.6**	**-1.3**
MKAZ	**Moumakai**	**4.75**	**8**	P	**Pn**	**03 56 29.1**	**+2.6**
AWAZ	**Awhitu Peninsu**	**4.75**	**3**	P	**Pn**	**03 56 29.5**	**+3.0**
ASAR	**Alice Springs**	**38.09**	**286**	P	**P**	**04 02 33.4**	**-0.6**
	1.3nm,0.9s,baz=120,slow=6.6,SNR=7.4 1.3nm,0.9s						
WRA	**Warramunga Arr**	**40.17**	**290**	P	**P**	**04 02 49.2**	**-2.2**
	0.7nm,0.7s,baz=129,slow=7.5,SNR=6.9 0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.73**	**195**	PKPbc	**PKPbc**	**04 15 07.2**	**-0.5**
	1.1nm,1.0s,baz=188,slow=0.7,SNR=4.6						

*NOU **16** 04:22:04.1, 42.°50S×173.°90E, h1km, MLv4.3/9, South Island, New Zealand*
*WEL **16** 04:22:06.4±0.5, 42.°S±4.°×17.°4E±.°, h5km, M3.9/22, ML4.0/15, MLv3.9/22, Error ellipse: s-maj=0.0km s-min=0.0km az=129.1*

ISC 16 04:22:04.6±1.0, **42.°44S**±0.°04×**173.°90E**±0.°04, **h10**km, **n73**, σ0°**97**/75, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**274**	P	**Pg**	**04 22 09.7**	**-0.4**
KHZ	**Kahutara**	**0.27**	**274**	P	**Pg**	**04 22 09.8**	**-0.3**
KHZ				S	**Sg**	**04 22 13.3**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.72**	**358**	P	**Pg**	**04 22 19.0**	**+0.4**
CMWZ	**Cape Campbell**	**0.73**	**19**	P	**Pb**	**04 22 20.8**	**+1.5**
GVZ	**Greta Valley S**	**0.83**	**230**	P	**Pg**	**04 22 22.4**	**+1.8**
GVZ				S	**Sn**	**04 22 35.4**	**+0.7**
THZ	**Tophouse**	**1.00**	**312**	P	**Pg**	**04 22 23.3**	**-0.6**
TUWZ	**Tuamarina**	**1.01**	**2**	P	**Pb**	**04 22 24.4**	**+0.3**
AMCZ	**Amberley**	**1.18**	**231**	P	**Pb**	**04 22 27.4**	**+0.3**
LTZ	**Lake Taylor**	**1.25**	**254**	P	**Pb**	**04 22 28.3**	**0.0**
TCW	**Tory Channel**	**1.26**	**13**	P	**Pb**	**04 22 27.8**	**-0.6**
SNZO	**South Karori**	**1.28**	**28**	P	**Pn**	**04 22 28.6**	**+0.1**
NNZ	**Nelson**	**1.28**	**342**	P	**Pb**	**04 22 28.4**	**-0.4**
WEL	**Wellington**	**1.32**	**30**	P	**Pb**	**04 22 28.4**	**+0.3**
PLWZ	**Palliser**	**1.33**	**50**	P	**Pb**	**04 22 29.2**	**-0.1**
MRNZ	**Matariki Terra**	**1.34**	**320**	P	**Pg**	**04 22 29.7**	**-0.7**
OKCZ	**Okains Bay**	**1.43**	**205**	P	**Pn**	**04 22 30.8**	**+0.2**
MSWZ	**Moikau Station**	**1.43**	**45**	P	**Pn**	**04 22 30.5**	**-0.1**
MQZ	**McQueen's Vall**	**1.56**	**215**	P	**Pn**	**04 22 31.7**	**-0.8**
TKNZ	**Takaka Hill**	**1.57**	**333**	P	**Pb**	**04 22 33.1**	**-0.6**
CAW	**Cannon Point**	**1.59**	**34**	P	**Pn**	**04 22 32.9**	**0.0**
AKCZ	**Akaroa Harbour**	**1.61**	**207**	P	**Pn**	**04 22 33.1**	**0.0**
OXZ	**Oxford**	**1.63**	**236**	P	**Pn**	**04 22 32.7**	**-0.8**
DUWZ	**D'Urville Isla**	**1.63**	**1**	P	**Pn**	**04 22 34.3**	**+0.9**
TRWZ	**Traveller**	**1.69**	**53**	P	**Pn**	**04 22 32.5**	**-1.7**
DSZ	**Denniston Nort**	**1.71**	**293**	P	**Pb**	**04 22 35.5**	**-0.6**
KIW	**Kapiti Island**	**1.75**	**26**	P	**Pn**	**04 22 35.5**	**+0.5**
MTW	**Mount Morrison**	**1.75**	**44**	P	**Pn**	**04 22 34.6**	**-0.4**
RACZ	**Rakaia**	**1.82**	**224**	P	**Pn**	**04 22 35.5**	**-0.6**
INZ	**Inchbonnie**	**1.84**	**260**	P	**Pn**	**04 22 36.6**	**+0.3**
OGWZ	**Otaki Gorge**	**1.88**	**31**	P	**Pn**	**04 22 36.7**	**0.0**
QRZ	**Quartz Range**	**1.91**	**327**	P	**Pn**	**04 22 38.6**	**-1.0**
QRZ	**Quartz Range**	**1.91**	**327**	P	**Pb**	**04 22 38.6**	**-1.0**
TMWZ	**Te Maipa**	**2.00**	**49**	P	**Pn**	**04 22 37.7**	**-0.7**
MHCZ	**Mount Hutt**	**2.03**	**237**	P	**Pn**	**04 22 38.1**	**-0.9**
WACZ	**Wakanui South**	**2.13**	**224**	P	**Pn**	**04 22 39.8**	**-0.4**
MRZ	**Mangatainoka R**	**2.18**	**36**	P	**Pn**	**04 22 40.4**	**-0.5**
WVZ	**Waitaha Valley**	**2.42**	**254**	P	**Pn**	**04 22 44.6**	**+0.4**
RPZ	**Rata Peaks**	**2.45**	**238**	P	**Pn**	**04 22 43.9**	**-0.7**
RPZ	**Rata Peaks**	**2.45**	**238**	P	**Pn**	**04 22 43.9**	**-0.7**
ARCZ	**Arundel**	**2.50**	**232**	P	**Pn**	**04 22 44.6**	**-0.7**
DVHZ	**Dannevirke**	**2.73**	**39**	P	**Pn**	**04 22 47.8**	**-0.8**
GCSZ	**Gaunt Creek Bo**	**2.77**	**250**	P	**Pn**	**04 22 49.8**	**+0.8**
WAZ	**Wanganui**	**2.80**	**17**	P	**Pn**	**04 22 51.9**	**+2.4**
TSZ	**Takapari Road**	**2.84**	**34**	P	**Pn**	**04 22 49.4**	**-0.7**
TMZ	**Timaru**	**2.87**	**226**	P	**Pn**	**04 22 50.2**	**-0.3**
PNHZ	**Pukenui**	**3.06**	**35**	P	**Pn**	**04 22 52.6**	**-0.5**
KHEZ	**Kahui Hut**	**3.14**	**2**	P	**Pn**	**04 22 54.6**	**+0.4**
KHEZ	**Kahui Hut**	**3.14**	**2**	P	**Pb**	**04 23 01.6**	**+1.0**
NBEZ	**Newall Road No**	**3.17**	**360**	P	**Pb**	**04 23 00.2**	**-0.9**
FOZ	**Fox Glacier**	**3.19**	**249**	P	**Pn**	**04 22 55.5**	**+0.7**
PKE	**Pukeiti**	**3.24**	**1**	P	**Pb**	**04 22 59.8**	**-2.5**
LBZ	**Lake Benmore**	**3.34**	**233**	P	**Pn**	**04 22 56.6**	**-0.2**
MOVZ	**Moawhango**	**3.34**	**25**	P	**Pn**	**04 22 57.8**	**+0.9**
WNVZ	**Wahianoa**	**3.36**	**23**	P	**Pn**	**04 22 58.5**	**+1.1**
VRZ	**Vera Road**	**3.37**	**11**	P	**Pn**	**04 22 59.0**	**+1.7**
TRVZ	**Turoa**	**3.37**	**22**	P	**Pb**	**04 23 03.3**	**-1.4**
ODZ	**Otahua Downs**	**3.52**	**221**	P	**Pn**	**04 22 59.0**	**-0.3**
ODZ	**Otahua Downs**	**3.52**	**221**	P	**Pn**	**04 22 58.7**	**-0.6**
NNVZ	**North Ngauruho**	**3.55**	**22**	P	**Pn**	**04 23 00.2**	**+0.3**
WTVZ	**West Tongariro**	**3.56**	**22**	P	**Pn**	**04 23 01.6**	**+1.6**
ETVZ	**East Tongariro**	**3.57**	**23**	P	**Pn**	**04 23 03.5**	**+3.3**
HIZ	**Hauiti**	**3.99**	**11**	P	**Pn**	**04 23 07.9**	**+2.1**
HIZ	**Hauiti**	**3.99**	**11**	P	**Pn**	**04 23 07.6**	**+1.8**
JCZ	**Jackson Bay**	**4.08**	**245**	P	**Pn**	**04 23 07.3**	**+0.2**
JCZ	**Jackson Bay**	**4.08**	**245**	P	**Pn**	**04 23 07.4**	**+0.2**
HHSZ	**Highcliff Hill**	**4.19**	**213**	P	**Pn**	**04 23 08.2**	**-0.4**
EAZ	**Earnscleugh**	**4.34**	**228**	P	**Pn**	**04 23 10.6**	**-0.1**
MLZ	**Mavora Lakes**	**5.10**	**233**	P	**Pn**	**04 23 20.9**	**-0.2**
SYZ	**Scrubby Hill**	**5.33**	**218**	P	**Pn**	**04 23 24.2**	**0.0**
SYZ	**Scrubby Hill**	**5.33**	**218**	P	**Pn**	**04 23 24.2**	**0.0**
AWAZ	**Awhitu Peninsu**	**5.40**	**6**	P	**Pn**	**04 23 26.5**	**+1.4**
MKAZ	**Moumakai**	**5.41**	**11**	P	**Pn**	**04 23 26.3**	**+1.0**
APZ	**The Paps**	**6.09**	**222**	P	**Pn**	**04 23 34.5**	**-0.2**

*VAO **16** 04:26:22.1±0.3, 21.°34S×68.°58W, h88km, mb3.9*
*GUC **16** 04:26:24.4±0.7, 21.°57S×68.°63W, h109km±4km, ML3.4*

ISC 16 04:26:22.7±0.8, **21.°55S**±0.°04×**68.°60W**±0.°08, **h116**km±11km, **n31**, σ0°**96**/44, **11C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.64**	**247**	↑*i*P	**Pn**	**04 26 42.1**	**+0.7**
PB09				*e*S	**Sn**	**04 26 55.7**	**+0.2**
PB09				IAML		04 26 59.0	
	comp=N,535nm,0.2s						
PB01	**IPOC Station P**	**0.97**	**301**	↑*i*P	**Pn**	**04 26 44.4**	**+0.3**
PB01				*e*S	**Sn**	**04 27 00.1**	**-0.3**
PB01				IAML		04 27 01.9	
	comp=E,2μm,0.2s						
LVC	**Limon Verde**	**1.09**	**195**	↑*i*P	**Pn**	**04 26 46.3**	**+0.6**
LVC				*e*S	**Sn**	**04 27 03.3**	**+0.2**
LVC	**Limon Verde**	**1.09**	**195**	*e*P	**Pn**	**04 26 45.8**	**+0.1**
PB03	**IPOC Station P**	**1.18**	**245**	↑*i*P	**Pn**	**04 26 46.8**	**+0.3**
PB03				*e*S	**Sn**	**04 27 04.3**	**-0.1**
PB03				IAML		04 27 06.0	
	comp=E,616nm,0.2s						
PB07	**IPOC Station P**	**1.21**	**261**	↑*i*P	**Pn**	**04 26 47.1**	**+0.4**
PB07				*e*S	**Sn**	**04 27 05.0**	**+0.1**
PB07				IAML		04 27 06.0	
	comp=E,905nm,0.2s						
PB02	**IPOC Station P**	**1.23**	**280**	↑*i*P	**Pn**	**04 26 47.2**	**+0.3**
PB02				*e*S	**Sn**	**04 27 04.8**	**-0.4**
PB02				IAML		04 27 05.8	
	comp=N,1μm,0.4s						
PB06	**IPOC Station P**	**1.46**	**218**	↑*i*P	**Pn**	**04 26 50.2**	**+0.6**
PB06				*e*S	**Sn**	**04 27 10.5**	**+0.5**
PB06				IAML		04 27 11.3	
	comp=E,642nm,0.2s						
PB08	**IPOC Station P**	**1.49**	**340**	↓*i*P	**Pn**	**04 26 51.7**	**+1.5**
PB08				*e*S	**Sn**	**04 27 12.4**	**+1.4**
PB08				IAML		04 27 14.0	
	comp=E,500nm,0.3s						
PB04	**IPOC Station P**	**1.64**	**241**	↑*i*P	**Pn**	**04 26 51.8**	**+0.1**
PB04				*e*S	**Sn**	**04 27 12.9**	**-0.7**
PB04				IAML		04 27 20.5	
	comp=N,377nm,0.1s						
TA01	**Diego Aracena**	**1.77**	**303**	↑*i*P	**Pn**	**04 26 53.4**	**+0.3**
TA01				*e*S	**Sn**	**04 27 15.9**	**-0.4**
TA01				IAML		04 27 17.6	
	comp=E,638nm,0.3s						
PB15	**IPOC Station P**	**1.84**	**206**	↑*i*P	**Pn**	**04 26 55.0**	**+0.8**
PB15				*e*S	**Sn**	**04 27 19.1**	**+1.0**
GO01	**Chusmiza**	**1.95**	**343**	*i*P	**Pn**	**04 26 57.0**	**+1.1**
GO01				*e*S	**Sn**	**04 27 22.8**	**+1.7**
GO01				IAML		04 27 25.1	
	comp=N,729nm,0.2s						
PB11	**IPOC Station P**	**2.04**	**331**	↑*i*P	**Pn**	**04 26 57.3**	**+0.7**
PB11				*e*S	**Sn**	**04 27 22.7**	**+0.3**
PB11				IAML		04 27 24.2	
	comp=N,480nm,0.3s						
BBSD	**Serra de San D**	**8.70**	**61**	*e*P	**Pn**	**04 28 23.8**	**-2.0**
BBRB	**Robore, Bolivi**	**8.89**	**70**	*e*P	**Pn**	**04 28 25.5**	**-2.8**
MURT	**Porto Murtinho**	**10.23**	**93**	*e*P	**Pn**	**04 28 45.4**	**-1.0**
PTLB	**Pontes e Lacer**	**10.83**	**58**	*e*P	**Pn**	**04 28 53.2**	**-1.3**
VILB	**Vilhena**	**11.72**	**45**	*e*P	**Pn**	**04 29 04.8**	**-1.6**
AQDB	**Aquidauana**	**12.10**	**87**	*e*P	**Pn**	**04 29 11.7**	**+0.3**
SALV	**Santo Antonio**	**13.45**	**68**	*e*P	**Pn**	**04 29 28.4**	**-0.7**
FRTB	**Fartura**	**17.69**	**99**	*e*P	**Pn**	**04 30 22.5**	**+0.5**
SNDB	**Serra Nova Dou**	**19.09**	**63**	*e*P	**P**	**04 30 36.6**	**0.0**
NPGB	**Novo Progresso**	**19.28**	**44**	*e*P	**P**	**04 30 37.7**	**-0.8**
MACA	**Manacapuru-AM**	**19.83**	**24**	*e*P	**P**	**04 30 43.5**	**-1.0**
ITTB	**Itaituba**	**21.16**	**38**	*e*P	**P**	**04 30 58.0**	**-0.8**
SGCB	**São Gabriel d**	**21.35**	**4**	*e*P	**P**	**04 31 00.8**	**-0.1**
PRPB	**Parauapebas**	**23.75**	**53**	*e*P	**P**	**04 31 24.1**	**-0.6**
SMTB	**Santa Maria do**	**23.84**	**61**	*e*P	**P**	**04 31 25.9**	**+0.5**
MALB	**Monte Alegre**	**24.05**	**37**	*e*P	**P**	**04 31 27.8**	**+0.5**
SDBA	**SAO DESIDERIO**	**24.39**	**72**	*e*P	**P**	**04 31 32.1**	**+1.6**

*IDC **16** 04:31:28.8±2.2, 42.°24S×173.°64E, h0km, mb3.5/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=44.8km s-min=36.8km az=122.0*
*WEL **16** 04:31:31.3±0.5, 42.°S±3.°×17.°4E±.°, h5km, M3.2/1, ML4.1/13, ML3.5/1, MLv3.7/21, MLv3.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=127.8*
*NOU **16** 04:31:32.9, 42.°37S×173.°46E, h10km, MLv4.2/9, South Island, New Zealand*

ISC 16 04:31:30.3±0.9, **42.°39S**±0.°04×**173.°92E**±0.°05, **h21**km, **n69**, σ1°**56**/71, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.28**	**265**	P	**Pb**	**04 31 35.9**	**-0.9**
KHZ	**Kahutara**	**0.28**	**265**	P	**Pb**	**04 31 35.7**	**-1.1**
KHZ				S	**Sb**	**04 31 39.4**	**-1.8**
BSWZ	**Blackbirch Sta**	**0.68**	**357**	P	**Pb**	**04 31 42.8**	**-0.6**
CMWZ	**Cape Campbell**	**0.68**	**19**	P	**Pb**	**04 31 45.4**	**+1.9**
GVZ	**Greta Valley S**	**0.87**	**228**	P	**Pb**	**04 31 48.4**	**+1.7**
TUWZ	**Tuamarina**	**0.96**	**1**	P	**Pb**	**04 31 48.2**	**0.0**
THZ	**Tophouse**	**0.98**	**309**	P	**Pb**	**04 31 47.4**	**-1.3**
TCW	**Tory Channel**	**1.21**	**13**	P	**Pn**	**04 31 52.4**	**+0.4**
AMCZ	**Amberley**	**1.22**	**230**	P	**Pn**	**04 31 53.3**	**+1.1**
NNZ	**Nelson**	**1.24**	**341**	P	**Pn**	**04 31 52.2**	**-0.2**
WEL	**Wellington**	**1.27**	**30**	P	**Pn**	**04 31 53.7**	**+0.9**
PLWZ	**Palliser**	**1.29**	**51**	P	**Pn**	**04 31 53.8**	**+0.6**
MRNZ	**Matariki Terra**	**1.32**	**318**	P	**Pn**	**04 31 53.9**	**+0.4**
MSWZ	**Moikau Station**	**1.39**	**46**	P	**Pn**	**04 31 55.1**	**+0.6**
PAWZ	**Paruwai Farm**	**1.51**	**49**	P	**Pn**	**04 31 56.6**	**+0.5**
TKNZ	**Takaka Hill**	**1.53**	**332**	P	**Pn**	**04 31 57.3**	**+0.8**
CAW	**Cannon Point**	**1.54**	**34**	P	**Pn**	**04 31 57.3**	**+0.7**
DUWZ	**D'Urville Isla**	**1.59**	**0**	P	**Pn**	**04 31 58.0**	**+0.8**
TRWZ	**Traveller**	**1.65**	**54**	P	**Pn**	**04 31 58.4**	**+0.3**
KIW	**Kapiti Island**	**1.70**	**26**	P	**Pn**	**04 31 59.5**	**+0.8**
DSZ	**Denniston Nort**	**1.70**	**292**	P	**Pn**	**04 31 59.8**	**+0.9**
MTW	**Mount Morrison**	**1.71**	**44**	P	**Pn**	**04 31 59.2**	**+0.3**
OGWZ	**Otaki Gorge**	**1.83**	**31**	P	**Pn**	**04 32 01.1**	**+0.6**
QRZ	**Quartz Range**	**1.88**	**326**	P	**Pn**	**04 32 02.7**	**+1.5**
QRZ	**Quartz Range**	**1.88**	**326**	P	**Pn**	**04 32 02.4**	**+1.2**
TMWZ	**Te Maipa**	**1.95**	**50**	P	**Pn**	**04 32 02.3**	**0.0**
MRZ	**Mangatainoka R**	**2.13**	**36**	P	**Pn**	**04 32 04.6**	**0.0**
POWZ	**Post Office Ro**	**2.43**	**35**	P	**Pn**	**04 32 10.1**	**+1.3**
RPZ	**Rata Peaks**	**2.48**	**237**	Pn	**Pn**	**04 32 09.6**	**+0.1**
	14nm,0.3s,baz=188,slow=0.9,SNR=45						
RPZ				Sn	**Sn**	**04 32 38.8**	**-0.4**
	21nm,0.3s,baz=325,slow=0.4,SNR=33 57nm,0.6s						
RPZ	**Rata Peaks**	**2.48**	**237**	P	**Pn**	**04 32 09.6**	**+0.1**
WAZ	**Wanganui**	**2.75**	**17**	P	**Pn**	**04 32 15.5**	**+2.3**
TSZ	**Takapari Road**	**2.79**	**34**	P	**Pn**	**04 32 13.6**	**-0.2**
LREZ	**Lake Rotokare**	**2.95**	**7**	P	**Pn**	**04 32 18.7**	**+2.8**
PNHZ	**Pukenui**	**3.01**	**36**	P	**Pn**	**04 32 16.4**	**-0.4**
KHEZ	**Kahui Hut**	**3.09**	**1**	P	**Pn**	**04 32 22.0**	**+4.1**
KHEZ	**Kahui Hut**	**3.09**	**1**	P	**Pn**	**04 32 22.1**	**+4.1**
NBEZ	**Newall Road No**	**3.12**	**359**	P	**Pb**	**04 32 23.4**	**-1.6**
NEZ	**North Egmont**	**3.12**	**2**	P	**Pn**	**04 32 22.1**	**+3.8**
PKE	**Pukeiti**	**3.19**	**1**	P	**Pb**	**04 32 24.0**	**-2.3**
MOVZ	**Moawhango**	**3.29**	**26**	P	**Pn**	**04 32 21.1**	**+0.5**
WNVZ	**Wahianoa**	**3.31**	**23**	P	**Pn**	**04 32 22.3**	**+1.2**
BHHZ	**Black Hill Sta**	**3.32**	**30**	P	**Pn**	**04 32 22.0**	**+0.9**
VRZ	**Vera Road**	**3.32**	**11**	P	**Pn**	**04 32 23.2**	**+2.1**
TRVZ	**Turoa**	**3.33**	**22**	P	**Pn**	**04 32 22.7**	**+1.4**
WHVZ	**Whangaehu Hut**	**3.35**	**23**	P	**Pn**	**04 32 23.2**	**+1.5**
FWVZ	**Far West T-bar**	**3.37**	**22**	P	**Pn**	**04 32 23.5**	**+1.6**
NGZ	**Ngauruhoe**	**3.46**	**22**	P	**Pn**	**04 32 25.8**	**+2.7**
SNVZ	**South Ngauruho**	**3.46**	**23**	P	**Pn**	**04 32 24.4**	**+1.3**
OTVZ	**Oturere**	**3.48**	**23**	P	**Pn**	**04 32 24.9**	**+1.4**
NNVZ	**North Ngauruho**	**3.50**	**22**	P	**Pn**	**04 32 25.2**	**+1.5**
WTVZ	**West Tongariro**	**3.51**	**22**	P	**Pn**	**04 32 25.3**	**+1.6**
TWVZ	**Taurewa**	**3.51**	**20**	P	**Pn**	**04 32 25.1**	**+1.4**
ETVZ	**East Tongariro**	**3.52**	**23**	P	**Pn**	**04 32 25.2**	**+1.3**
TMVZ	**Te Maari**	**3.54**	**23**	P	**Pn**	**04 32 25.2**	**+1.0**
KRVZ	**Karewarewa**	**3.54**	**22**	P	**Pn**	**04 32 26.0**	**+1.8**
ODZ	**Otahua Downs**	**3.56**	**221**	P	**Pn**	**04 32 24.7**	**+0.4**
KATZ	**Kakaramea**	**3.67**	**22**	P	**Pb**	**04 32 33.0**	**-1.5**
BKZ	**Black Stump Fm**	**3.77**	**32**	P	**Pb**	**04 32 34.5**	**-1.6**
HIZ	**Hauiti**	**3.94**	**11**	P	**Pn**	**04 32 32.6**	**+3.1**
HIZ	**Hauiti**	**3.94**	**11**	P	**Pn**	**04 32 31.4**	**+1.9**
JCZ	**Jackson Bay**	**4.11**	**244**	P	**Pn**	**04 32 32.0**	**0.0**
TOZ	**Tahuroa Road**	**4.81**	**15**	P	**Pn**	**04 32 42.3**	**+0.9**
AWAZ	**Awhitu Peninsu**	**5.35**	**6**	P	**Pn**	**04 32 50.6**	**+1.7**
MKAZ	**Moumakai**	**5.37**	**11**	P	**Pn**	**04 32 50.1**	**+1.0**
SYZ	**Scrubby Hill**	**5.38**	**218**	P	**Pn**	**04 32 51.2**	**+2.0**
ETAZ	**East Tamaki Re**	**5

TUWZ	Tuamarina	0.39	305	P		Pg	04 47 37.8	-0.3
TUWZ				S		Sb	04 47 43.9	-0.6
SNZO	South Karori	0.43	36			Pg	04 47 38.6	-0.1
SNZO				Sg		Sb	04 47 44.9	-0.7
SNZO	South Karori	0.43	36	P		Pb	04 47 39.0	-0.3
TCW	Tory Channel	0.45	351			Pg	04 47 38.7	-0.5
TCW				Sg		Sb	04 47 45.0	-1.2
TCW	Tory Channel	0.45	351	P		Pg	04 47 38.7	-0.5
WEL	Wellington	0.48	39	P		Pg	04 47 39.5	-0.1
WEL				S		Sb	04 47 46.7	-0.3
PLWZ	Palliser	0.67	83			Pg	04 47 43.3	0.0
PLWZ				Sg		Sn	04 47 54.9	-0.4
PLWZ	Palliser	0.67	83	P		Pb	04 47 43.7	+0.1
MSWZ	Moikau Station	0.70	70			Pg	04 47 43.8	-0.2
MSWZ				Sg		Sn	04 47 55.9	-0.2
MSWZ	Moikau Station	0.70	70	P		Pg	04 47 43.9	0.0
CAW	Cannon Point	0.76	44	P		Pg	04 47 44.4	-0.6
PAWZ	Paruwai Farm	0.84	71	P		Pb	04 47 46.5	0.0
NNZ	Nelson	0.86	300			Pb	04 47 46.0	-0.8
NNZ				Sg		Sb	04 47 57.1	-0.9
NNZ	Nelson	0.86	300	P		Pb	04 47 46.2	-0.6
KIW	Kapiti Island	0.89	27	P		Pb	04 47 46.6	-0.7
DUWZ	D'Urville Isla	0.92	338	P		Pg	04 47 47.3	-0.7
KHZ	Kahutara	0.98	219	Pn		Pn	04 47 49.4	+0.1
KHZ	Kahutara	0.98	219	P		Pn	04 47 49.5	+0.2
KHZ	Kahutara	0.98	219	P		Pn	04 47 49.4	+0.2
MTW	Mount Morrison	0.99	60	P		Pb	04 47 48.8	-0.1
TRWZ	Traveller	1.02	76	P		Pb	04 47 49.3	-0.2
OGWZ	Otaki Gorge	1.03	36	P		Pb	04 47 49.2	-0.5
THZ	Tophouse	1.10	264	Pn		Pb	04 47 50.7	-0.2
THZ	Tophouse	1.10	264	P		Pg	04 47 51.0	-0.4
HOWZ	Holdsworth Sta	1.15	49	P		Pb	04 47 51.8	+0.1
TKNZ	Takaka Hill	1.23	300			Pb	04 47 52.8	-0.3
TKNZ	Takaka Hill	1.23	300	P		Pb	04 47 52.8	-0.2
MRNZ	Matariki Terra	1.24	281			Pg	04 47 53.4	-0.6
MRNZ	Matariki Terra	1.24	281	P		Pg	04 47 53.5	-0.5
TMWZ	Te Maipa	1.27	65	P		Pn	04 47 52.7	-0.6
MRZ	Mangatainoka R	1.35	43			Pn	04 47 54.3	-0.1
MRZ	Mangatainoka R	1.35	43	P		Pn	04 47 54.4	0.0
TIWZ	Tintock	1.44	53	P		Pn	04 47 55.5	-0.2
CPWZ	Castlepoint	1.57	62	P		Pn	04 47 57.2	-0.2
QRZ	Quartz Range	1.62	300			Pb	04 47 59.5	-0.1
QRZ	Quartz Range	1.62	300	P		Pg	04 48 00.2	-1.0
QRZ	Quartz Range	1.62	300	P		Pb	04 47 59.5	-0.1
OHWZ	Ohakea	1.62	27	P		Pb	04 47 59.8	+0.2
PRWZ	Pori Road	1.64	48	P		Pn	04 47 58.1	-0.2
GVZ	Greta Valley S	1.64	217			Pn	04 47 58.2	-0.3
GVZ	Greta Valley S	1.64	217	P		Pn	04 47 58.3	-0.1
POWZ	Post Office Ro	1.65	40	P		Pn	04 47 58.7	+0.2
BFZ	Birch Farm	1.72	56			Pb	04 47 58.7	-0.8
BFZ	Birch Farm	1.72	56	P		Pn	04 47 58.6	-0.9
DSZ	Denniston Nort	1.92	266			Pn	04 48 02.7	+0.4
DSZ	Denniston Nort	1.92	266	P		Pb	04 48 03.8	-1.1
LTZ	Lake Taylor	1.92	233			Pb	04 48 02.3	0.0
LTZ	Lake Taylor	1.92	233	P		Pn	04 48 02.4	+0.1
DVHZ	Dannevirke	1.92	46	P		Pn	04 48 01.6	-0.7
WAZ	Wanganui	1.96	14	P		Pb	04 48 05.6	+0.1
AMCZ	Amberley	1.98	219	Pn		Pn	04 48 02.4	-0.6
AMCZ	Amberley	1.98	219	P		Pn	04 48 02.6	-0.4
ANWZ	Angora Road	1.99	54	P		Pn	04 48 02.9	-0.3
TSZ	Takapari Road	2.00	38	P		Pn	04 48 03.3	-0.1
LREZ	Lake Rotokare	2.19	1	P		Pb	04 48 09.9	+0.4
PRHZ	Porangahau	2.21	52	P		Pn	04 48 05.1	-1.1
PNHZ	Pukenui	2.23	39	P		Pn	04 48 06.1	-0.4
WPHZ	Waipukurau	2.24	45	P		Pn	04 48 06.1	-0.5
NMEZ	Namu Road	2.27	350	P		Pb	04 48 11.3	+0.5
KHZ	Kahui Hut	2.37	350	P		Pb	04 48 12.3	-0.3
KHEZ	Kahui Hut	2.37	353	P		Pb	04 48 12.5	-0.1
NEZ	North Egmont	2.39	355	P		Pb	04 48 13.2	+0.3
OXZ	Oxford	2.40	225			Pb	04 48 07.4	-1.4
OXZ	Oxford	2.40	225	P		Pn	04 48 07.8	-1.1
MQZ	McQueen's Vall	2.41	211	Pn		Pn	04 48 07.1	-1.8
MQZ	McQueen's Vall	2.41	211	P		Pn	04 48 07.3	-1.6
NBEZ	Newall Road No	2.42	351	P		Pb	04 48 12.3	-1.0
MTVZ	Mangateitei	2.42	21	P		Pb	04 48 14.3	+1.0
INZ	Inchbonnie	2.42	243			Pn	04 48 09.3	+0.3
INZ	Inchbonnie	2.42	243	P		Pn	04 48 09.6	+0.5
AKCZ	Akaroa Harbour	2.46	205	P		Pn	04 48 08.6	-1.1
DREZ	Durham Road	2.47	357	P		Pb	04 48 13.3	-0.9
PKE	Pukeiti	2.48	353	P		Pb	04 48 12.6	-1.7
PKVZ	Pokaka	2.48	18	P		Pb	04 48 14.4	0.0
MOVZ	Moawhango	2.48	26	P		Pn	04 48 11.6	+1.6
WNVZ	Wahianoa	2.51	22	P		Pn	04 48 11.9	+1.4
BHHZ	Black Hill Sta	2.52	31	P		Pn	04 48 10.9	+0.4
TRVZ	Turoa	2.52	21	P		Pn	04 48 12.8	-2.3
VRZ	Vera Road	2.55	7	P		Pb	04 48 13.7	-1.8
DRZ	Dome Shelter	2.55	21	P		Pb	04 48 14.7	-1.0
WHVZ	Whangaehu Hut	2.55	22	P		Pn	04 48 12.8	+1.8
FWVZ	Far West T-bar	2.56	21	P		Pn	04 48 13.0	+1.8
MHEZ	Mangahewa	2.58	359	P		Pb	04 48 15.8	-0.2
TUVZ	Tukino	2.58	23	P		Pb	04 48 13.7	-2.4
RACZ	Rakaia	2.64	218	P		Pn	04 48 10.9	-1.2
NGZ	Ngauruhoe	2.65	21	P		Pn	04 48 14.3	+1.9
SNVZ	South Ngauruho	2.65	22	P		Pn	04 48 13.9	+1.5
KAHZ	Kahuranaki	2.66	47	P		Pn	04 48 11.2	-1.3
OTVZ	Oturere	2.68	22	P		Pn	04 48 14.6	+1.8
NNVZ	North Ngauruho	2.69	21	P		Pn	04 48 14.9	+1.8
WTVZ	West Tongariro	2.70	21	P		Pn	04 48 15.0	+1.9
TWVZ	Taurewa	2.71	18	P		Pb	04 48 17.0	-1.3
ETVZ	East Tongariro	2.72	23	P		Pn	04 48 14.7	+1.4
KWHZ	Kaweka Forest	2.72	36	P		Pn	04 48 13.0	-0.3
TMVZ	Te Maari	2.73	22	P		Pn	04 48 14.8	+1.2
KRVZ	Karewarewa	2.74	21	P		Pn	04 48 15.7	+1.8
NTVZ	North Tongarir	2.74	22	P		Pn	04 48 14.9	+1.3
MHCZ	Mount Hutt	2.79	227	P		Pn	04 48 13.0	-1.3
MCHZ	McNeill Hill	2.83	40	P		Pn	04 48 14.2	-0.6
KATZ	Kakaramea	2.86	21	P		Pb	04 48 19.8	-1.1
RITZ	Rihia Road	2.91	24	P		Pb	04 48 21.7	+0.1
WACZ	Wakanui South	2.95	218	P		Pn	04 48 15.3	-1.0
BKZ	Black Stump Fm	2.97	34			Pn	04 48 15.7	-1.0
BKZ	Black Stump Fm	2.97	34	P		Pn	04 48 18.9	+2.2
BKZ	Black Stump Fm	2.97	34	P		Pn	04 48 15.9	-0.8
RATZ	Rangitukua	2.99	22	P		Pb	04 48 23.7	+0.7
WVZ	Waitaha Valley	3.04	241	P		Pn	04 48 17.9	+0.3
HATZ	Hinemaiaia	3.06	26	P		Pb	04 48 24.5	+0.3
ARHZ	Aropaoanui	3.12	41	P		Pn	04 48 17.6	-1.2
HIZ	Hauiti	3.16	7			Pn	04 48 22.2	+2.9
HIZ	Hauiti	3.16	7	P		Pb	04 48 22.5	-3.5
HIZ	Hauiti	3.16	7	P		Pn	04 48 22.1	+2.8
RPZ	Rata Peaks	3.19	229	Pn		Pn	04 48 19.0	-0.8
	28nm,0.3s,baz=92,slow=2.7,SNR=28							
RPZ				Sn		Sn	04 48 56.4	-1.2
	29nm,0.3s,baz=164,slow=23,SNR=9.0							
RPZ				LR		LR	04 49 13.6	
	comp=Z,149nm,19.2s,baz=24,slow=33							
	58nm,0.3s							
RPZ	Rata Peaks	3.19	229	P		Pn	04 48 19.3	-0.5
RPZ	Rata Peaks	3.19	229	P		Pn	04 48 19.0	-0.7
ARCZ	Arundel	3.28	225	P		Pn	04 48 19.9	-1.0
GCSZ	Gaunt Creek Bo	3.42	240	P		Pn	04 48 21.5	+0.7
ALRZ	Allen Road	3.44	27	P		Pb	04 48 30.7	-0.1
TLZ	Tolley Road	3.44	16	P		Pb	04 48 29.2	-1.6
MUGZ	Murupara	3.67	31	P		Pn	04 48 26.6	+0.3
TMZ	Timaru	3.67	221	P		Pn	04 48 25.4	-0.9
FOZ	Fox Glacier	3.85	239	Pn		Pn	04 48 29.2	+0.5
FOZ	Fox Glacier	3.85	239	P		Pn	04 48 28.9	+0.2
URZ	Urewera	3.99	33	P		Pn	04 48 31.6	+0.9
TOZ	Tahuroa Road	4.02	13	P		Pn	04 48 34.4	+3.4
LBZ	Lake Benmore	4.11	227	Pn		Pn	04 48 32.2	-0.1
LBZ	Lake Benmore	4.11	227	P		Pn	04 48 32.1	-0.2
ODZ	Otahua Downs	4.34	217			Pn	04 48 34.3	-1.2
ODZ	Otahua Downs	4.34	217	P		Pn	04 48 34.6	-0.9
ODZ	Otahua Downs	4.34	217	P		Pn	04 48 34.2	-1.3
MKAZ	Moumakai	4.59	8	P		Pn	04 48 40.7	+1.8
AWAZ	Awhitu Peninsu	4.59	3	P		Pn	04 48 41.7	+2.8
HAZ	Te Kaha	4.70	35	P		Pn	04 48 38.7	-1.7
ETAZ	East Tamaki Re	4.72	5	P		Pn	04 48 43.7	+3.1
WTAZ	Waiatarua	4.72	2	P		Pn	04 48 44.0	+3.3
JCZ	Jackson Bay	4.76	238	P		Pn	04 48 41.3	-0.1
JCZ	Jackson Bay	4.76	238	P		Pn	04 48 40.1	-1.2
MBAZ	Motutapu North	4.90	5	P		Pn	04 48 47.6	+4.5
KUZ	Kuaotunu	5.01	13	P		Pn	04 48 46.4	+1.6
KUZ	Kuaotunu	5.01	13	P		Pn	04 48 48.8	+4.1
HHSZ	Highcliff Hill	5.03	212	P		Pn	04 48 43.9	-1.1
WKZ	Wanaka	5.03	229	P		Pn	04 48 43.8	-1.2
MXZ	Matakaoa Point	5.09	38	Pn		Pn	04 48 47.2	+1.3
MXZ	Matakaoa Point	5.09	38	P		Pn	04 48 44.0	-1.8
EAZ	Earnscleugh	5.13	224	P		Pn	04 48 45.4	-1.0
TUZ	Tuapeka	5.50	217	P		Pn	04 48 50.9	-0.5
MLZ	Mavora Lakes	5.87	229			Pn	04 48 55.7	-0.7
MLZ	Mavora Lakes	5.87	229	P		Pn	04 48 55.1	-1.4
SYZ	Scrubby Hill	6.16	216	P		Pn	04 48 59.4	-1.1
SYZ	Scrubby Hill	6.16	216	P		Pn	04 48 59.8	-0.6
WHZ	Wether Hill Ro	6.29	225	Pn		Pn	04 49 01.5	-0.8
OUZ	Omahuta	6.46	354	Pn		Pn	04 49 05.7	+1.1
OUZ	Omahuta	6.46	354	P		Pn	04 49 07.2	+2.7
OUZ	Omahuta	6.46	354	P		Pn	04 49 09.3	+4.7
DCZ	Deep Cove	6.48	232	Pn		Pn	04 49 03.5	-1.3
APZ	The Paps	6.91	219	P		Pn	04 49 09.8	-1.0
CTZ	Chatham Island	6.96	110	P		Pn	04 49 10.8	-0.6
CTZ	Chatham Island	6.96	110	P		Pn	04 49 10.5	-0.9
DZM	Mont Dzumac	20.64	339	LR		LR	05 00 01.2	
	comp=Z,71nm,18.6s,baz=198,slow=37							
MSVF	Nonsavu	24.05	9	P		P	04 52 43.4	-1.3
	1.1nm,0.4s,baz=61,slow=19,SNR=1.5							
	1.1nm,0.4s							
STKA	Stephens Creek	27.86	280	LR		LR	05 02 30.1	
	comp=Z,51nm,20.0s,baz=188,slow=32							
RAR	Rarotonga	29.84	55	LR		LR	05 04 00.0	
	comp=Z,58nm,19.2s,baz=210,slow=33							
CTA	Charters Tower	32.08	303	LR		LR	05 05 14.0	
	comp=Z,82nm,20.8s,baz=86,slow=33							
VNDA	Vanda	36.35	185	P		P	04 54 34.8	+1.9
	0.9nm,0.9s,baz=12,slow=8.9,SNR=3.8							
	0.9nm,0.9s							
ASAR	Alice Springs	38.09	285	P		P	04 54 46.7	-1.6
	0.8nm,0.4s,baz=122,slow=6.9,SNR=24							
ASAR				LR		LR	05 10 18.7	
	comp=Z,44nm,18.3s,baz=140,slow=36							
	0.8nm,0.4s							
ASAR	Alice Springs	38.09	285	P		P	04 54 49.3	+1.0
WR0	Warramunga Arr	40.00	290	P		P	04 55 03.5	-0.8
WR0				IAmb		IAmb	04 55 15.0	
	comp=Z,12nm,1.4s							
WB2	Warramunga Arr	40.14	290	P		P	04 55 04.8	-0.7
WB2				IAmb		IAmb	04 55 06.0	
	comp=Z,8.1nm,0.8s							
WRA	Warramunga Arr	40.15	290	P		P	04 55 04.7	-0.9
	comp=Z,3.0nm,0.6s,baz=127,slow=8.0,SNR=48							
WRA				LR		LR	05 10 43.9	
	comp=Z,72nm,19.7s,baz=100,slow=35							
	comp=Z,3.0nm,0.6s							
WRA	Warramunga Arr	40.15	290	P		P	04 55 04.7	-0.9
WB0	Warramunga Arr	40.23	290	P		P	04 55 05.4	-0.8
MTN	Manton Dam	47.26	295	P		P	04 56 02.9	+0.1
QSPA	South Pole Qui	48.47	180	P		P	04 56 13.7	+2.0
	comp=Z,4.9nm,0.9s,baz=3.4,slow=2.9,SNR=15							
	comp=Z,4.9nm,0.9s							
QSPA	South Pole Qui	48.47	180	P		P	04 56 13.4	+1.6
BELA	Belgrano 2	59.43	173	P		P	04 57 32.4	+1.0
BELA				IAmb		IAmb	04 57 44.4	
	comp=Z,6.1nm,1.2s							
MAW	Mawson	59.58	204	LR		LR	05 22 50.3	
	comp=Z,121nm,18.2s,baz=116,slow=36							
MAW	Mawson	59.58	204	P		P	04 57 32.7	+0.2
MAW				IAmb		IAmb	04 57 38.8	
	comp=Z,5.1nm,1.5s							
TROLL	Troll, Antarti	66.49	183	P		P	04 58 18.8	+0.1
SNAA	Sanae	66.96	181	P		P	04 58 22.3	+0.7
VNA3	Neumayer Olymp	67.37	179	P		P	04 58 25.3	+1.2
VNA2	Neumayer--Watz	67.72	179	P		P	04 58 27.3	+1.0
	baz=175,slow=6.0							
VNA1	Neumayer--Stat	67.99	179	P		P	04 58 29.2	+1.3
LEM	Lembang	68.17	281	LR		LR	05 30 11.2	
	comp=Z,109nm,18.3s,baz=124,slow=38							
CMAR	Chiang Mai Arr	91.68	293	P		P	05 00 36.6	-0.3
	comp=Z,1.5nm,0.3s,baz=159,slow=2.7,SNR=6.3							
CMAR				LR		LR	05 45 42.9	
	comp=Z,18nm,18.9s,baz=180,slow=38							
	comp=Z,1.5nm,0.3s							
DBIC	Dimbokro	145.15	181	PKPbc		PKPbc	05 07 06.3	-0.5
	comp=Z,3.9nm,0.7s,baz=204,slow=3.4,SNR=4.4							
ARCES	ARCESS Array B	147.72	340	PKPbc		PKPbc	05 07 11.8	-1.1
	comp=Z,3.0nm,0.9s,baz=0.0,slow=2.4,SNR=7.2							
TORD	Torodi Ar. Bea	150.89	195	PKPbc		PKPbc	05 07 21.9	-0.4
	comp=Z,2.9nm,0.9s,baz=148,slow=1.9,SNR=4.4							
FINES	FINESS Array B	152.50	327	PKPbc		PKPbc	05 07 23.4	-1.2
	comp=Z,3.0nm,0.9s,baz=74,slow=3.0,SNR=6.3							

*NOU **16** 05:00:46.1,42˚.89S×173˚.07E,h312km,MLv4.9/7,South Island, New Zealand*
*WEL **16** 05:01:00,41˚.70S×174˚.27E,h19km,ML4.2,Mw3.9, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁴ Nm; M_{rr}-0.61; $M_{\theta\theta}$6.84; $M_{\phi\phi}$-6.24; $M_{r\theta}$-0.25; $M_{\theta\phi}$3.55; $M_{r\theta}$0.98; Fault plane solution: $M_0$7.52000×10¹⁴ NP1: ϕ_s211.00000°,δ84.00000°,λ-174.00000°. NP2: ϕ_s120.00000°,δ84.00000°,λ-6.00000°. Principal axes: T 77.4500, Plg0.0000°, Azm346.0000°; N -72.8900, Plg81.0000°, Azm256.0000°; P -4.5600, Plg9.0000°, Azm76.0000°;*
*IDC **16** 05:01:02.5±2.9,41˚.70S×174˚.46E,h0km,mb3.5/2, mbtmp3.6/3,ML3.4/1 Error ellipse: s-maj=61.9km s-min=50.3km az=56.0*
*WEL **16** 05:01:05.8±0.4,42˚.3±˚.3×17˚.4E±˚,h8km±4km,M4.1/20, ML4.3/16,MLv4.1/20,Error ellipse: s-maj=0.0km s-min=0.0km az=152.1*

ISC 16 05:01:04.0±1.0,41˚.77S±0˚.03×174˚.40E±0˚.03,h20km±5km, n101,σ1ᵎ94/101,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.14	277	P	Pg	05 01 08.8	+0.4
CMWZ				S	Sg	05 01 11.4	+0.1
BSWZ	Blackbirch Sta	0.40	277	P	Pb	05 01 12.5	0.0
BSWZ				S	Sb	05 01 18.0	-0.1
TUWZ	Tuamarina	0.48	314	P	Pb	05 01 14.0	+0.2
TUWZ				S	Sb	05 01 20.0	-0.4
WEL	Wellington	0.56	30	P	Pn	05 01 17.3	+0.5
TCW	Tory Channel	0.56	350	P	Pn	05 01 16.0	-0.9
PLWZ	Palliser	0.67	73	P	Pn	05 01 20.8	+2.3
MSWZ	Moikau Station	0.73	62	P	Pn	05 01 21.5	+2.3
CAW	Cannon Point	0.83	37	P	Pn	05 01 22.3	+1.7
PAWZ	Paruwai Farm	0.86	64	P	Pn	05 01 23.4	+2.3
KHZ	Kahutara	0.91	224	P	Pn	05 01 23.3	+1.5
NNZ	Nelson	0.94	305	P	Pn	05 01 22.0	-0.1
KIW	Kapiti Island	0.98	23	P	Pn	05 01 24.4	+1.6
MTW	Mount Morrison	1.03	54	P	Pn	05 01 25.5	+2.2
DUWZ	D'Urville Isla	1.03	339	P	Pn	05 01 23.9	+0.5
TRWZ	Traveller	1.03	70	P	Pn	05 01 25.5	+2.1
OGWZ	Otaki Gorge	1.11	32	P	Pn	05 01 26.8	+2.3
THZ	Tophouse	1.12	272	P	Pn	05 01 26.0	+1.3
HOWZ	Holdsworth Sta	1.21	44	P	Pn	05 01 28.0	+2.1
MRNZ	Matariki Terra	1.28	286	P	Pg	05 01 28.7	-0.2
TKNZ	Takaka Hill	1.31	304	P	Pg	05 01 28.6	-0.7
MRZ	Mangatainoka R	1.42	39	P	Pg	05 01 30.9	-0.5
TIWZ	Tintock	1.49	49	P	Pg	05 01 31.7	-1.2
GVZ	Greta Valley S	1.57	220	P	Pg	05 01 32.3	-2.0
QRZ	Quartz Range	1.69	303	P	Pg	05 01 35.0	-1.6
QRZ	Quartz Range	1.69	303	P	Pg	05 01 35.1	-1.6
PRWZ	Pori Road	1.69	45	P	Pg	05 01 34.4	-2.2
OHWZ	Ohakea	1.71	24	P	Pg	05 01 36.5	-0.4
POWZ	Post Office Ro	1.72	37	P	Pg	05 01 35.3	-1.9
BFZ	Birch Farm	1.76	53	P	Pb	05 01 34.8	-1.0
LTZ	Lake Taylor	1.88	237	P	Pb	05 01 36.4	-1.2
AMCZ	Amberley	1.91	222	P	Pn	05 01 36.2	+0.7
DSZ	Denniston Nort	1.94	270	P	Pg	05 01 38.9	-2.5
DVHZ	Dannevirke	1.98	43	P	Pb	05 01 37.8	-1.7
WAZ	Wanganui	2.06	13	P	Pg	05 01 42.5	-1.1
TSZ	Takapari Road	2.08	35	P	Pn	05 01 39.6	-1.4
OKCZ	Okains Bay	2.19	206	P	Pn	05 01 39.9	+0.5
PRHZ	Porangahau	2.26	49	P	Pn	05 01 41.4	+1.1
WPHZ	Waipukurau	2.30	43	P	Pb	05 01 42.6	-2.2
PNHZ	Pukenui	2.30	37	P	Pn	05 01 42.4	+1.5
LREZ	Lake Rotokare	2.30	0	P	Pg	05 01 46.3	-1.9
MQZ	McQueen's Vall	2.33	213	P	Pn	05 01 41.0	-0.2
OXZ	Oxford	2.34	227	P	Pn	05 01 41.6	+0.2
AKCZ	Akaroa Harbour	2.37	207	P	Pn	05 01 42.3	+0.4
NMEZ	Namu Road	2.38	350	P	Pg	05 01 47.5	-2.3
INZ	Inchbonnie	2.39	245	P	Pb	05 01 46.2	-0.2
KHEZ	Kahui Hut	2.49	353	P	Pg	05 01 49.4	-2.4
KHEZ	Kahui Hut	2.49	353	P	Pg	05 01 49.3	-2.5
NEZ	North Egmont	2.50	355	P	Pg	05 01 49.4	-2.7
NBEZ	Newall Road No	2.53	351	P	Pg	05 01 49.5	-3.1
RACZ	Rakaia	2.57	220	P	Pn	05 01 44.4	-0.1
MOVZ	Moawhango	2.57	24	P	Pb	05 01 49.9	+0.3
PKVZ	Pokaka	2.58	17	P	Pg	05 01 52.2	-1.3
DREZ	Durham Road	2.58	357	P	Pb	05 01 49.2	-0.5
PKE	Pukeiti	2.59	353	P	Pb	05 01 49.6	-0.2
WNVZ	Wahianoa	2.60	21	P	Pb	05 01 50.4	+0.3
BHHZ	Black Hill Sta	2.60	30	P	Pg	05 01 52.7	-1.2
TRVZ	Turoa	2.62	20	P	Pg	05 01 52.9	-1.4
WHVZ	Whangaehu Hut	2.64	20	P	Pg	05 01 52.5	-2.2
VRZ	Vera Road	2.65	6	P	Pb	05 01 50.3	-0.5
FWVZ	Far West T-bar	2.66	20	P	Pg	05 01 53.2	-1.9
TUVZ	Tukino	2.67	21	P	Pg	05 01 52.8	-2.6
MHEZ	Mangahewa	2.69	359	P	Pb	05 01 51.7	+0.2
KAHZ	Kahuranaki	2.72	44	P	Pn	05 01 47.7	+1.0
MHCZ	Mount Hutt	2.73	229	P	Pn	05 01 47.1	+0.2
NGZ	Ngauruhoe	2.75	20	P	Pg	05 01 54.6	-2.1
SNVZ	South Ngauruho	2.75	21	P	Pg	05 01 55.2	-1.5
OTVZ	Oturere	2.77	21	P	Pb	05 01 50.6	-2.4
NNVZ	North Ngauruho	2.79	20	P	Pg	05 01 55.1	-2.5
TWVZ	Taurewa	2.81	17	P	Pg	05 01 54.8	-3.0
ETVZ	East Tongariro	2.81	21	P	Pg	05 01 54.7	-3.2
TMVZ	Te Maari	2.83	21	P	Pg	05 01 55.6	-2.7
KRVZ	Karewarewa	2.83	20	P	Pg	05 01 55.2	-3.1
WACZ	Wakanui South	2.88	220	P	Pn	05 01 48.9	+0.2
RITZ	Rihia Road	3.00	22	P	Pn	05 01 52.3	+1.7
WVZ	Waitaha Valley	3.01	243	P	Pb	05 01 57.0	0.0
BKZ	Black Stump Fm	3.05	32	P	Pb	05 01 58.6	+0.9
RPZ	Rata Peaks	3.14	231	Pn	Pn	05 01 52.8	+0.3
	4.0nm,0.3s,baz=112,slow=19,SNR=2.4						
RPZ				Sn	Sn	05 02 27.9	-1.5
	10nm,0.3s,baz=346,slow=8.8,SNR=3.6						
	26nm,0.3s						
RPZ	Rata Peaks	3.14	231	P	Pn	05 01 53.1	+0.6
ARCZ	Arundel	3.22	226	P	Pn	05 01 53.8	+0.3
HIZ	Hauiti	3.27	6	P	Pb	05 01 59.2	-2.2
HIZ	Hauiti	3.27	6	P	Pb	05 01 58.8	-2.5
GCSZ	Gaunt Creek Bo	3.38	241	P	Pb	05 02 01.8	-1.6
TMZ	Timaru	3.61	222	P	Pn	05 01 59.1	+0.3
FOZ	Fox Glacier	3.81	241	P	Pn	05 02 03.6	+1.9
LBZ	Lake Benmore	4.05	228	P	Pn	05 02 06.3	+1.4
URZ	Urewera	4.07	32	P	Pb	05 02 10.6	-4.5
URZ	Urewera	4.07	32	P	Pn	05 02 07.7	+2.5
TOZ	Tahuroa Road	4.12	12	P	Pb	05 02 12.0	-3.8
ODZ	Otahua Downs	4.27	219	P	Pn	05 02 07.6	-0.3
CNGZ	Carnagh Statio	4.39	43	P	Pb	05 02 15.0	-5.4
MKAZ	Moumakai	4.69	7	P	Pn	05 02 17.7	+4.0
AWAZ	Awhitu Peninsu	4.70	2	P	Pn	05 02 18.4	+4.6
JCZ	Jackson Bay

comp=E,12nm,0.5s
KOTS Lg Lg 05 05 58.4
comp=E,13nm,0.6s
GEYT Alibeck 11.13 276 P Pn 05 05 42.1 +10
comp=E,1.3nm,0.4s,baz=109,slow=12,SNR=3.9
GEYT S **Sn** **05 07 43.4 +6.5**
comp=E,1.6nm,0.4s,baz=86,slow=23,SNR=3.0
MK31 Makanchi Array 11.87 36 ⇑P Pn 05 05 59.8 +17
comp=E,1.1nm,0.6s,baz=205,slow=10,SNR=9.0
MKAR Makanchi Array 11.87 36 P Pn 05 05 54.0 +12
comp=E,0.6nm,0.7s,baz=225,slow=14,SNR=4.9
KURBB Kurchatov Arra 13.81 17 P **P** **05 06 21.0 +3.7**
comp=E,4.7nm,0.8s,baz=208,slow=10,SNR=20
KURBB Kurchatov Arra 13.81 17 ⇓P **P** **05 06 21.7 +4.4**
comp=E,8.3nm,0.9s,baz=205,slow=9.9
KURK Kurchatov 13.92 17 ⇑P **P** **05 06 22.6 +4.1**
comp=E,8.5nm,1.1s
AB31 Akbulak array 14.65 327 ⇑P **P** **05 06 29.5 +2.9**
comp=E,1.8nm,0.5s,baz=134,slow=13,SNR=56
AB31 ⇓S **Sn** **05 09 02.2 -0.4**
comp=E,1.6nm,0.4s,baz=132,slow=24
BVAR Borovoye Array 15.50 356 P **P** **05 06 39.8 +3.7**
comp=E,1.3nm,0.5s,baz=163,slow=9.1,SNR=7.2
ZALV Zalesovo Beam 18.55 24 P **Pn** **05 07 13.0 +3.1**
comp=E,5.4nm,0.4s,baz=221,slow=9.9,SNR=38
ARU Arti 20.95 339 P Pn 05 07 39.3 +0.9
comp=E,2.5nm,0.3s,baz=162,slow=3.8,SNR=4.2
comp=E,2.5nm,0.3s
NRIK Noril'sk 32.91 10 P **P** **05 09 27.4 +0.3**
comp=E,4.2nm,0.9s,baz=243,slow=4.5,SNR=3.6
comp=E,4.2nm,0.9s
ARCES ARCESS Array B 40.52 337 P **P** **05 10 32.1 +0.2**
comp=E,0.9nm,0.4s,baz=118,slow=8.1,SNR=10
comp=E,0.9nm,0.4s
NB2 NORSAR Subarra 44.09 322 P **P** **05 10 59.9 -1.2**
comp=Z,1.1nm,0.6s,baz=95,slow=7.9
NOA NORSAR Array B 44.09 322 P **P** **05 11 00.4 -0.8**
comp=Z,1.0nm,0.6s,baz=94,slow=7.6,SNR=4.4
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 57.79 298 P **P** **05 12 42.5 -2.0**
comp=Z,0.8nm,0.7s,baz=52,slow=6.9,SNR=6.6
comp=Z,0.8nm,0.7s
TORD Torodi Ar. Bea 66.68 269 P **P** **05 13 40.4 -4.0**
comp=Z,0.4nm,0.4s,baz=45,slow=5.7,SNR=3.8
comp=Z,0.4nm,0.4s
INK Inuvik 72.69 10 P **P** **05 14 18.1 -2.5**
comp=Z,0.8nm,0.4s,baz=357,slow=3.7,SNR=5.8
comp=Z,0.8nm,0.4s
ILAR Eielson Array 73.49 16 P **P** **05 14 22.2 -3.2**
comp=Z,0.7nm,0.8s,baz=323,slow=5.5,SNR=6.6
comp=Z,0.7nm,0.8s

WEL 16 05:05:11.1±0.3, 42°S±3°×17°4E±°, h5km, M3.4/19, ML3.8/15, MLv3.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=156.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**238**	P	Pg	05 05 14.4	+1.1
CMWZ				S	Sg	05 05 16.5	+1.7
BSWZ	**Blackbirch Sta**	**0.34**	**266**	P	Pg	05 05 17.7	0.0
TUWZ	**Tuamarina**	**0.39**	**312**	P	Pb	05 05 19.9	-0.6
TUWZ				S	Sb	05 05 25.8	-1.1
TCW	**Tory Channel**	**0.48**	**355**	P	Pg	05 05 20.8	+0.4
TCW				S	Sg	05 05 27.2	+0.6
WEL	**Wellington**	**0.52**	**39**	P	Pg	05 05 21.6	+0.5
PLWZ	**Palliser**	**0.70**	**80**	P	Pb	05 05 25.8	0.0
MSWZ	**Moikau Station**	**0.74**	**68**	P	Pb	05 05 25.9	-0.5
CAW	**Cannon Point**	**0.80**	**44**	P	Pg	05 05 26.7	+0.2
NNZ	**Nelson**	**0.86**	**303**	P	Pg	05 05 27.9	+0.4
PAWZ	**Paruwai Farm**	**0.88**	**70**	P	Pb	05 05 28.5	-0.3
KHZ	**Kahutara**	**0.94**	**219**	P	Pg	05 05 28.4	-0.6
KIW	**Kapiti Island**	**0.94**	**28**	P	Pg	05 05 28.7	-0.3
DUWZ	**D'Urville Isla**	**0.94**	**341**	P	Pg	05 05 29.0	-0.1
MTW	**Mount Morrison**	**1.03**	**59**	P	Pg	05 05 31.0	+0.2
TRWZ	**Traveller**	**1.06**	**74**	P	Pg	05 05 31.6	+0.2
OGWZ	**Otaki Gorge**	**1.08**	**36**	P	Pg	05 05 31.4	-0.4
HOWZ	**Holdsworth Sta**	**1.19**	**49**	P	Pb	05 05 34.2	+0.1
MRNZ	**Matariki Terra**	**1.22**	**283**	P	Pg	05 05 34.4	-0.1
TKNZ	**Takaka Hill**	**1.23**	**302**	P	Pb	05 05 34.7	0.0

*NEIC **16** 05:06:53.6±1.3, 40°.70N±0°.08×127°.1W±0°.2, h13km±10km, ML3.2/30, ML2.9/5(NCEDC), Error ellipse: s-maj=17.9km s-min=11.8km az=85.0*
*IDC **16** 05:06:53.2±2.9, 40°.95N×127°.32W, h0km, mb3.1/2, mbtmp3.1/6, ML3.4/4, MS3.2/8, Error ellipse: s-maj=50.3km s-min=25.1km az=35.0*
*NCEDC **16** 05:07:03.4±2.4, 40°.67N±0°.03×126°.3W±0°.1, h10km±2km, Error ellipse: s-maj=13.8km s-min=4.2km az=254.0*
ISC 16 05:06:52.6±1.7, 40.74N±0°.07×127.3W±0°.1, h10km, n60, σ1§35/44, MS3.3/4, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**2.25**	**96**		**Pn**	**05 07 29.4**	**-0.5**
KMPM	**Mount Pierce**	**2.42**	**97**		**Pn**	**05 07 31.3**	**-1.0**
KMPM	**Mount Pierce**	**2.42**	**97**	IAML		05 08 02.4	
	comp=E,112nm,1.4s						
KMPM				IAML		05 08 09.1	
	comp=N,136nm,2.3s						
KSMM	**Slide Mountain**	**2.42**	**102**		**Pn**	**05 07 30.9**	**-1.5**
JCC	**Jacoby Creek,**	**2.46**	**87**		**Pn**	**05 07 32.4**	**-0.4**
JCC	**Jacoby Creek,**	**2.46**	**87**	Sn	**Sn**	**05 08 00.5**	**-2.3**
KRPM	**Rodgers**	**2.49**	**79**		**Pn**	**05 07 32.2**	**-1.1**
KRPM	**Rodgers**	**2.49**	**79**	IAML		05 08 17.9	
	comp=E,128nm,4.5s						
KRPM				IAML		05 08 33.2	
	comp=N,128nm,4.0s						
KCRM	**Chalk Rock**	**2.64**	**96**		**Pn**	**05 07 34.6**	**-0.8**
KHMM	**Horse Mountain**	**2.69**	**86**		**Pn**	**05 07 36.0**	**-0.1**
KHMM	**Horse Mountain**	**2.69**	**86**	IAML		05 08 13.5	
	comp=N,101nm,2.2s						
KHMM				IAML		05 08 16.3	
	comp=E,74nm,4.2s						
KBO	**Bosley Butte**	**2.72**	**56**		**Pn**	**05 07 35.6**	**-0.9**
KBO	**Bosley Butte**	**2.72**	**56**	IAML		05 08 25.2	
	comp=E,183nm,1.6s						
KBO				IAML		05 08 50.8	
	comp=N,171nm,2.5s						
KMRM	**Mail Ridge**	**2.76**	**100**		**Pn**	**05 07 37.2**	**+0.1**
KMRM	**Mail Ridge**	**2.76**	**100**	IAML		05 08 12.6	
	comp=N,87nm,1.2s						
KMRM				IAML		05 08 31.1	
	comp=E,78nm,2.2s						
KOMM	**Orleans Mounta**	**2.94**	**78**		**Pn**	**05 07 39.2**	**-0.2**
KIPM	**Iron Peak**	**3.04**	**107**		**Pn**	**05 07 40.8**	**-0.2**
KEBM	**Edson Butte**	**3.06**	**45**		**Pn**	**05 07 41.2**	**+0.2**
KHBM	**Hayfork Bally**	**3.08**	**90**		**Pn**	**05 07 42.1**	**+0.6**
KTRM	**Thompson Ridge**	**3.15**	**67**		**Pn**	**05 07 42.3**	**-0.2**
LGPM	**Granite Peak**	**3.37**	**86**		**Pn**	**05 07 44.7**	**-0.7**
LBKM	**Bonanza King**	**3.50**	**83**		**Pn**	**05 07 47.2**	**-0.1**
YBH	**Yreka Blue Hor**	**3.58**	**72**	Pn	**Pn**	**05 07 49.4**	**+1.2**
	comp=E,3.5nm,0.3s,baz=280,slow=12,SNR=58						
YBH				Sn	**Sn**	**05 08 29.4**	**-1.2**
	comp=E,0.9nm,0.3s,baz=263,slow=16,SNR=1.1						
YBH				LR	LR	05 08 32.9	
	comp=E,55nm,21.1s,baz=262,slow=28						
	comp=E,7.6nm,0.3s						
YBH	**Yreka Blue Hor**	**3.58**	**72**		**Pn**	**05 07 49.2**	**+1.0**
LAMM	**Antelope Mount**	**3.61**	**75**		**Pn**	**05 07 49.6**	**+0.8**
GHLM	**Highland Sprin**	**3.68**	**116**		**Pn**	**05 07 48.5**	**-1.1**
HUMO	**Hull Mountain**	**3.73**	**59**		**Pn**	**05 07 50.0**	**-0.2**
B040	**Montague**	**3.81**	**72**		**Pn**	**05 07 52.4**	**+1.0**
DBO	**Dodson Butte**	**3.83**	**50**		**Pn**	**05 07 51.1**	**-0.6**
DBO	**Dodson Butte**	**3.83**	**50**	IAML		05 08 48.2	
	comp=N,52nm,4.0s						
DBO				IAML		05 09 15.4	
	comp=E,49nm,4.5s						
LHEM	**Herd Peak**	**3.91**	**75**		**Pn**	**05 07 54.2**	**+1.2**
LMPM	**Military Pass**	**3.93**	**77**		**Pn**	**05 07 54.9**	**+1.7**
BBOR	**Butler Butte**	**4.04**	**56**		**Pn**	**05 07 55.3**	**+0.5**
LBFM	**Black Fox Moun**	**4.11**	**80**		**Pn**	**05 07 57.3**	**+1.6**
LGMM	**Garner Mountai**	**4.19**	**76**		**Pn**	**05 07 57.9**	**+1.2**
MCCM	**Marconi Confer**	**4.27**	**126**		**Pn**	**05 07 56.5**	**-1.2**
BUCK	**Buck Mountain**	**4.69**	**41**	Pn	**Pn**	**05 08 03.5**	**+0.1**
K05A	**Summer Lake**	**5.16**	**65**	Pn	**Pn**	**05 08 10.8**	**+0.7**
K05A				IAML		05 10 00.9	
	comp=E,24nm,4.1s						
BEKR	**Beckworth**	**5.35**	**97**	Pn	**Pn**	**05 08 14.8**	**+2.1**
BEKR				IAML		05 09 21.1	
	comp=N,9.5nm,3.1s						
MOD	**Modoc Plateau**	**5.37**	**75**		**Pn**	**05 08 13.2**	**+0.3**
MOD				IAML		05 09 09.8	
	comp=E,14nm,4.7s						
MOD				IAML		05 10 32.9	
	comp=N,13nm,4.3s						
SAO	**San Andreas Ge**	**6.04**	**129**	Pn	**Pn**	**05 08 21.0**	**-0.9**
BBGB	**Big Mountain B**	**6.40**	**128**	Pn	**Pn**	**05 08 27.4**	**+0.3**
PMPB	**Monarch Peak**	**6.79**	**130**	Pn	**Pn**	**05 08 32.0**	**-0.3**
NVAR	**Mina Array Bea**	**7.30**	**106**	Pn	**Pn**	**05 08 43.6**	**+4.2**
	comp=N,0.1nm,0.3s,baz=280,slow=16,SNR=2.4						
	comp=N,0.2nm,0.5s						
ISA	**Isabella, Lake**	**8.58**	**123**		**Pn**	**05 08 58.7**	**+1.8**
ELK	**Elko**	**9.13**	**86**	LR	LR	05 13 03.8	
	comp=N,168nm,18.6s,baz=264,slow=40						
PDAR	**Pinedale Array**	**13.38**	**75**	Pn	**P**	**05 10 10.6**	**-1.8**
	comp=N,0.1nm,0.3s,baz=286,slow=6.5,SNR=1.6						
PDAR				LR	LR	05 15 33.7	
	comp=N,134nm,20.1s,baz=264,slow=39						
	comp=N,0.1nm,0.4s						
ANMO	**Albuquerque**	**17.41**	**103**	P	**P**	**05 10 59.4**	**+2.4**
	comp=N,0.1nm,0.3s,baz=298,slow=12,SNR=1.5						
ANMO				LR	LR	05 18 10.7	
	comp=N,56nm,21.2s,baz=294,slow=39						
	comp=N,0.4nm,0.5s						
TXAR	**Lajitas Array**	**22.35**	**113**	P	**P**	**05 11 53.8**	**+3.0**
	comp=N,0.9nm,0.9s,baz=302,slow=5.7,SNR=9.4						
	comp=N,0.9nm,0.9s						
ULM	**Lac du Bonnet**	**23.82**	**56**	LR	LR	05 21 46.5	
	comp=N,61nm,21.9s,baz=46,slow=38						
ILAR	**Eielson Array**	**26.61**	**341**	P	**P**	**05 12 30.9**	**+0.1**
	comp=N,0.2nm,0.7s,baz=158,slow=7.4,SNR=1.6						
	comp=N,0.2nm,0.7s						
TKL	**Tuckaleechee C**	**34.29**	**84**	LR	LR	05 28 44.0	
	comp=N,58nm,19.0s,baz=305,slow=38						
SADO	**Sadowa**	**35.16**	**67**	LR	LR	05 28 38.9	
	comp=N,45nm,19.4s,baz=192,slow=37						
FRB	**Frobisher Bay**	**40.73**	**36**	LR	LR	05 30 50.6	
	comp=N,57nm,18.3s,baz=266,slow=35						
H11N3	**WAKE ISLAND Hy**	**59.26**	**270**	T	T	06 20 59.9	
	baz=53,slow=75,SNR=46						
H11N2	**WAKE ISLAND Hy**	**59.26**	**270**	T	T	06 20 59.6	
	baz=53,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**59.27**	**270**	T	T	06 21 00.7	
	baz=53,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**60.13**	**269**	T	T	06 22 05.8	
	baz=54,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**60.14**	**269**	T	T	06 22 06.4	
	baz=54,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hy**	**60.15**	**269**	T	T	06 22 02.2	
	baz=54,slow=74,SNR=8.9						

NDI 16 05:07:45.8±3.6, 31°.43N×75°.78E, h10km, ML3.7, 2C, Northern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMLA	**Simla**	**1.22**	**104**	*e*P	Pn	05 08 07.2	-1.7
SMLA				*i* x	x	05 08 07.3	
	baz=278,slow=10						
SMLA				*e*S	Sb	05 08 24.7	-0.1
SMLA				IAML		05 08 28.5	
	comp=N,1μm,0.1s						
SMLA				IAML		05 08 28.8	
	comp=E,824nm,0.2s						
DDI	**Dehra Dun**	**2.24**	**119**	*e*P	Pn	05 08 24.3	+1.2
DDI				*e*S	Sb	05 08 54.0	-0.3
DDI				IAML		05 08 59.7	
	comp=E,754nm,0.3s						
DDI				IAML		05 09 01.2	
	comp=N,815nm,0.3s						
BHPL	**Bhopal**	**8.28**	**169**	*e*S	Sn	05 11 12.3	-7.5
BHPL				*e*S	Sn	05 11 13.3	-6.4
KK31	**Karatay Array**	**12.38**	**342**	⇑P	Pn	05 10 41.4	-0.8
	comp=N,0.7nm,0.3s,baz=145,slow=12,SNR=14						
KK31				⇑S	Sn	05 12 44.3	-16
	comp=N,1.1nm,0.3s,baz=145,slow=22						

WEL 16 05:08:47.4±0.4, 42°S±3°×17°4E±°, h7km±3km, M3.3/21, ML3.6/17, MLv3.3/21, Error ellipse: s-maj=0.0km s-min=0.0km az=151.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**235**	P	Pg	05 08 50.1	+0.7
CMWZ				S	Sg	05 08 52.3	+1.5
BSWZ	**Blackbirch Sta**	**0.32**	**268**	P	Pg	05 08 53.9	+0.3
BSWZ				S	Sb	05 08 59.4	-1.3
TUWZ	**Tuamarina**	**0.38**	**316**	P	Pg	05 08 55.6	+0.7
TUWZ				S	Sb	05 09 01.9	-0.7
TCW	**Tory Channel**	**0.49**	**358**	P	Pg	05 08 57.7	+0.7
WEL	**Wellington**	**0.55**	**40**	P	Pb	05 08 59.1	-0.2
PLWZ	**Palliser**	**0.73**	**80**	P	Pb	05 09 02.6	+0.2
MSWZ	**Moikau Station**	**0.77**	**68**	P	Pb	05 09 03.4	+0.3
CAW	**Cannon Point**	**0.83**	**44**	P	Pb	05 09 03.9	-0.2
NNZ	**Nelson**	**0.84**	**305**	P	Pg	05 09 03.6	0.0
PAWZ	**Paruwai Farm**	**0.91**	**70**	P	Pg	05 09 05.1	+0.3
KHZ	**Kahutara**	**0.91**	**218**	P	Pg	05 09 04.8	-0.1
DUWZ	**D'Urville Isla**	**0.94**	**342**	P	Pb	05 09 06.1	-0.1
KIW	**Kapiti Island**	**0.96**	**29**	P	Pb	05 09 06.1	-0.3
MTW	**Mount Morrison**	**1.06**	**59**	P	Pg	05 09 07.3	-0.4
TRWZ	**Traveller**	**1.09**	**74**	P	Pg	05 09 07.3	-0.9
OGWZ	**Otaki Gorge**	**1.10**	**37**	P	Pg	05 09 08.6	0.0
MRNZ	**Matariki Terra**	**1.20**	**284**	P	Pg	05 09 10.3	-0.1
TKNZ	**Takaka Hill**	**1.21**	**303**	P	Pg	05 09 10.1	-0.5
TMWZ	**Te Maipa**	**1.34**	**64**	P	Pn	05 09 10.9	-1.6
MRZ	**Mangatainoka R**	**1.42**	**43**	P	Pn	05 09 12.7	-0.9
QRZ	**Quartz Range**	**1.60**	**303**	P	Pb	05 09 16.7	-0.5
LTZ	**Lake Taylor**	**1.85**	**234**	P	Pn	05 09 18.0	-1.6
DSZ	**Denniston Nort**	**1.87**	**268**	P	Pb	05 09 21.0	-0.9
DVHZ	**Dannevirke**	**1.99**	**46**	P	Pg	05 09 25.6	0.0
INZ	**Inchbonnie**	**2.35**	**243**	P	Pn	05 09 26.0	-0.5
WVZ	**Waitaha Valley**	**2.97**	**241**	P	Pb	05 09 38.5	-2.1
RPZ	**Rata Peaks**	**3.12**	**229**	P	Pb	05 09 43.0	-0.2
TMZ	**Timaru**	**3.60**	**221**	P	Pn	05 09 40.8	-2.9
JCZ	**Jackson Bay**	**4.59**	**238**	P	Pn	05 10 02.1	+3.4
MSZ	**Milford Sound**	**5.52**	**235**	P	Pn	05 10 14.8	+4.8
MLZ	**Mavora Lakes**	**5.79**	**229**	P	Pn	05 10 15.7	+1.9
APZ	**The Paps**	**6.84**	**219**	P	Pn	05 10 29.6	+1.4

WEL 16 05:09:33.2±0.4, 43°S±2°×17°3E±°, h5km, M3.2/1, ML3.5/7, ML3.7/1, MLv3.2/14, MLv3.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=101.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.36**	**152**	P	Pg	05 09 40.7	+0.6
GVZ				S	Sb	05 09 46.4	-1.6
LTZ	**Lake Taylor**	**0.41**	**252**	P	Pg	05 09 41.5	+0.4
LTZ				S	Sg	05 09 47.7	+1.1
AMCZ	**Amberley**	**0.53**	**192**	P	Pb	05 09 44.3	-0.8
AMCZ				S	Sb	05 09 52.5	-0.5
KHZ	**Kahutara**	**0.59**	**67**	P	Pg	05 09 45.0	+0.4
OXZ	**Oxford**	**0.88**	**220**	P	Pg	05 09 49.9	-0.1
OXZ				S	Sb	05 10 02.4	-0.4
THZ	**Tophouse**	**0.89**	**5**	P	Pg	05 09 50.1	-0.2
MQZ	**McQueen's Vall**	**1.06**	**186**	P	Pg	05 09 51.7	-1.8
OKCZ	**Okains Bay**	**1.08**	**170**	P	Pg	05 09 52.9	-1.1
DSZ	**Denniston Nort**	**1.17**	**320**	P	Pg	05 09 55.6	0.0
RACZ	**Rakaia**	**1.18**	**204**	P	Pg	05 09 53.9	-1.9
AKCZ	**Akaroa Harbour**	**1.22**	**176**	P	Pg	05 09 54.3	-2.2
MHCZ	**Mount Hutt**	**1.26**	**225**	P	Pg	05 09 55.0	-2.4
WACZ	**Wakanui South**	**1.47**	**208**	P	Pg	05 09 57.8	-2.5
ARCZ	**Arundel**	**1.75**	**222**	P	Pn	05 10 02.2	-2.1
ODZ	**Otahua Downs**	**2.85**	**212**	P	Pn	05 10 16.6	-2.8

WEL 16 05:11:15.8±1.0, 38°S±2°×17°6E±°, h191km±8km, M3.0/43, ML3.4/20, MLv3.0/43, Error ellipse: s-maj=0.0km s-min=0.0km az=30.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.02**	**300**	P	Pn	05 11 41.5	+0.6
OPRZ	**Ohinepanea**	**0.24**	**116**	P	Pn	05 11 41.7	+0.6
OPRZ				S	Sn	05 12 02.9	+2.3
KMRZ	**Kaimai**	**0.29**	**248**	P	Pn	05 11 42.1	+0.8
OMRZ	**Omania**	**0.37**	**169**	P	Pn	05 11 41.8	+0.3
MARZ	**Manawahe**	**0.40**	**128**	P	Pn	05 11 42.4	+0.9
EDRZ	**Edgecumbe**	**0.52**	**136**	P	Pn	05 11 42.6	+0.6
TARZ	**Mount Tarawera**	**0.53**	**160**	P	Pn	05 11 42.9	+0.8
HSRZ	**Hossack Road**	**0.57**	**183**	P	Pn	05 11 43.6	+1.5
TOZ	**Tahuroa Road**	**0.62**	**270**	P	Pn	05 11 42.7	+0.4
GRRZ	**Galatos Road**	**0.62**	**193**	P	Pn	05 11 43.5	+1.1
HRRZ	**Handcock Road**	**0.65**	**180**	P	Pn	05 11 43.5	+0.9
WIZ	**White Island**	**0.75**	**74**	P	Pn	05 11 43.8	+0.7
MUGZ	**Murupara**	**0.83**	**153**	P	Pn	05 11 43.6	+0.1
MUGZ				S	Sn	05 12 05.7	+0.6
TLZ	**Tolley Road**	**0.83**	**225**	P	Pn	05 11 44.1	+0.5
URZ	**Urewera**	**0.84**	**129**	P	Pn	05 11 43.4	-0.1
URZ				S	Sn	05 12 05.1	0.0
RTZ	**Ruatahuna**	**1.03**	**148**	P	Pn	05 11 45.0	+0.1
RTZ				S	Sn	05 12 08.1	+0.4
KUZ	**Kuaotunu**	**1.09**	**336**	P	Pn	05 11 45.4	+0.1
MKAZ	**Moumakai**	**1.09**	**305**	P	Pn	05 11 45.8	+0.5
MRHZ	**Matea Rd**	**1.10**	**174**	P	Pn	05 11 45.3	-0.1
RUGZ	**Raukumara Rang**	**1.13**	**102**	P	Pn	05 11 45.0	-0.7
MWZ	**Matawai**	**1.15**	**122**	P	Pn	05 11 45.7	-0.1
RAGZ	**Rawiri**	**1.17**	**131**	P	Pn	05 11 46.3	+0.4
HAZ	**Te Kaha**	**1.19**	**91**	P	Pn	05 11 45.5	-0.5
MTHZ	**Maungataniwha**	**1.20**	**159**	P	Pn	05 11 46.3	+0.2
RATZ	**Rangitukua**	**1.20**	**199**	P	Pn	05 11 46.2	+0.1
KATZ	**Kakaramea**	**1.32**	**200**	P	Pn	05 11 48.0	+0.8
RAHZ	**Arahi**	**1.33**	**152**	P	Pn	05 11 47.8	+0.5
HIZ	**Hauiti**	**1.36**	**235**	P	Pn	05 11 47.5	0.0
TWGZ	**Tauwhareparae**	**1.41**	**109**	P	Pn	05 11 48.4	+0.4
NMHZ	**Naumai**	**1.42**	**163**	P	Pn	05 11 48.7	+0.7
TKGZ	**Te Karaka**	**1.42**	**120**	P	Pn	05 11 48.3	+0.4
PKGZ	**Pakihiroa**	**1.43**	**97**	P	Pn	05 11 48.6	+0.5
BKZ	**Black Stump Fm**	**1.43**	**173**	P	Pn	05 11 47.6	-0.5
NTVZ	**North Tongarir**	**1.44**	**199**	P	Pn	05 11 48.2	-0.1
KRVZ	**Karewarewa**	**1.44**	**200**	P	Pn	05 11 48.2	-0.2
TMVZ	**Te Maari**	**1.45**	**198**	P	Pn	05 11 48.1	-0.2
ETVZ	**East Tongariro**	**1.47**	**198**	P	Pn	05 11 48.3	-0.2
AWAZ	**Awhitu Peninsu**	**1.47**	**297**	P	Pn	05 11 48.3	-0.1
WTVZ	**West Tongariro**	**1.48**	**201**	P	Pn	05 11 48.3	-0.3
NNVZ	**North Ngauruho**	**1.49**	**200**	P	Pn	05 11 48.8	+0.1
TWVZ	**Taurewa**	**1.49**	**206**	P	Pn	05 11 48.4	-0.3
RIGZ	**Rimuhau**	**1.51**	**130**	P	Pn	05 11 49.3	+0.5
NGZ	**Ngauruhoe**	**1.53**	**200**	P	Pn	05 11 49.0	-0.1
SNVZ	**South Ngauruho**	**1.53**	**199**	P	Pn	05 11 49.0	-0.1
WHHZ	**Waihua**	**1.53**	**151**	P	Pn	05 11 49.4	+0.5
PUZ	**Puketiti**	**1.60**	**103**	P	Pn	05 11 49.5	-0.2
TUVZ	**Tukino**	**1.60**	**198**	P	Pn	05 11 49.4	-0.4
MXZ	**Matakaoa Point**	**1.62**	**84**	P	Pn	05 11 49.9	+0.1
FWVZ	**Far West T-bar**	**1.62**	**200**	P	Pn	05 11 49.5	-0.5
ARHZ	**Aropaoanui**	**1.62**	**160**	P	Pn	05 11 50.0	+0.2
WHVZ	**Whangaehu Hut**	**1.64**	**199**	P	Pn	05 11 49.7	-0.5
TRVZ	**Turoa**	**1.66**	**200**	P	Pn	05 11 50.0	-0.5
WNVZ	**Wahianoa**	**1.67**	**198**	P	Pn	05 11 49.8	-0.7
KNZ	**Kokohu**	**1.68**	**140**	P	Pn	05 11 50.4	0.0
KWHZ	**Kaweka Forest**	**1.69**	**176**	P	Pn	05 11 50.3	-0.2
CNGZ	**Carnagh Statio**	**1.69**	**117**	P	Pn	05 11 51.4	+0.9
WMGZ	**Waiomatatini S**	**1.69**	**93**	P	Pn	05 11 50.5	+0.1
MOVZ	**Moawhango**	**1.72**	**194**	P	Pn	05 11 49.7	-1.1
MCHZ	**McNeill Hill**	**1.73**	**169**	P	Pn	05 11 50.9	0.0
BHHZ	**Black Hill Sta**	**1.76**	**186**	P	Pn	05 11 50.1	-1.0
MTVZ	**Mangateitei**	**1.76**	**201**	P	Pn	05 11 50.5	-0.7
VRZ	**Vera Road**	**1.83**	**220**	P	Pn	05 11 51.8	0.0
MHGZ	**Mahia Peninsul**	**1.90**	**138**	P	Pn	05 11 52.7	+0.2
CKHZ	**Cape Kidnapper**	**2.02**	**162**	P	Pn	05 11 53.5	-0.3
KAHZ	**Kahuranaki**	**2.10**	**167**	P	Pn	05 11 54.3	-0.5
PNHZ	**Pukenui**	**2.17**	**182**	P	Pn	05 11 54.1	-1.4
WAZ	**Wanganui**	**2.25**	**206**	P	Pn	05 11 55.0	-1.3
NEZ	**North Egmont**	**2.30**	**228**	P	Pn	05 11 56.9	0.0
WPHZ	**Waipukurau**	**2.33**	**177**	P	Pn	05 11 55.8	-1.3
TSZ	**Takapari Road**	**2.33**	**186**	P	Pn	05 11 55.6	-1.6
PXZ	**Pawanui**	**2.33**	**169**	P	Pn	05 11 56.3	-0.9
PRHZ	**Porangahau**	**2.54**	**174**	P	Pn	05 11 58.1	-1.4
DVHZ	**Dannevirke**	**2.56**	**182**	P	Pn	05 11 57.8	-2.0
OHWZ	**Ohakea**	**2.58**	**197**	P	Pn	05 11 58.4	-1.5
POWZ	**Post Office Ro**	**2.68**	**188**	P	Pn	05 11 58.8	-2.3
ANWZ	**Angora Road**	**2.72**	**177**	P	Pn	05 11 60.0	-1.6
PRWZ	**Pori Road**	**2.82**	**185**	P	Pn	05 12 00.8	-2.0
MRZ	**Mangatainoka R**	**2.97**	**190**	P

IDC ***16*** *05:13:08.4±2.5, 42°.02S×173°.68E, h0km, mb3.8/2, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=48.9km s-min=37.3km az=109.0*
WEL ***16*** *05:13:10.4±0.3, 42°.3S×17°.4E±°, h9km±2km, M3.7/26, ML4.0/20, MLv3.7/26, Error ellipse: s-maj=0.0km s-min=0.0km az=139.2*

ISC 16 05:13:10.7±0.8, 42°.07S±0°.03×173°.83E±0°.04, h17km, n78, σ1§48/81, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**5**	**P**	**Pg**		**05 13 17.3**	**-0.8**
KHZ	**Kahutara**	**0.41**	**212**	**P**	**Pg**		**05 13 19.4**	**+0.4**
KHZ				S	Sg		05 13 25.8	+1.1
CMWZ	**Cape Campbell**	**0.43**	**42**	**P**	**Pg**		**05 13 20.0**	**+0.6**
CMWZ				S	Sb		05 13 27.7	+1.7
TUWZ	**Tuamarina**	**0.65**	**7**	**P**	**Pg**		**05 13 22.8**	**-0.6**
THZ	**Tophouse**	**0.76**	**294**	**P**	**Pg**		**05 13 24.4**	**-1.2**
NNZ	**Nelson**	**0.92**	**338**	**P**	**Pb**		**05 13 27.1**	**-1.0**
TCW	**Tory Channel**	**0.92**	**21**	**P**	**Pb**		**05 13 27.7**	**-0.5**
MRNZ	**Matariki Terra**	**1.05**	**310**	**P**	**Pb**		**05 13 29.9**	**-0.5**
WEL	**Wellington**	**1.05**	**42**	**P**	**Pn**		**05 13 31.1**	**+0.5**
GVZ	**Greta Valley S**	**1.07**	**213**	**P**	**Pb**		**05 13 31.6**	**+0.8**
PLWZ	**Palliser**	**1.18**	**65**	**P**	**Pn**		**05 13 32.3**	**-0.1**
TKNZ	**Takaka Hill**	**1.23**	**327**	**P**	**Pn**		**05 13 32.6**	**-0.4**
MSWZ	**Moikau Station**	**1.25**	**59**	**P**	**Pn**		**05 13 33.2**	**-0.1**
DUWZ	**D'Urville Isla**	**1.27**	**3**	**P**	**Pn**		**05 13 33.7**	**0.0**
CAW	**Cannon Point**	**1.34**	**44**	**P**	**Pn**		**05 13 34.9**	**+0.3**
LTZ	**Lake Taylor**	**1.36**	**238**	**P**	**Pn**		**05 13 35.6**	**+0.7**
PAWZ	**Paruwai Farm**	**1.38**	**61**	**P**	**Pn**		**05 13 34.9**	**-0.2**
AMCZ	**Amberley**	**1.41**	**218**	**P**	**Pb**		**05 13 35.7**	**+0.2**
KIW	**Kapiti Island**	**1.46**	**34**	**P**	**Pn**		**05 13 37.0**	**+0.8**
TRWZ	**Traveller**	**1.54**	**65**	**P**	**Pn**		**05 13 36.7**	**-0.7**
DSZ	**Denniston Nort**	**1.55**	**281**	**P**	**Pb**		**05 13 39.2**	**+0.3**
MTW	**Mount Morrison**	**1.55**	**54**	**P**	**Pn**		**05 13 37.0**	**-0.4**
QRZ	**Quartz Range**	**1.58**	**321**	**P**	**Pb**		**05 13 38.9**	**-0.6**
OGWZ	**Otaki Gorge**	**1.61**	**39**	**P**	**Pn**		**05 13 38.8**	**+0.5**
OKCZ	**Okains Bay**	**1.75**	**199**	**P**	**Pn**		**05 13 40.3**	**+0.1**
TMWZ	**Te Maipa**	**1.82**	**59**	**P**	**Pn**		**05 13 40.4**	**-0.8**
OXZ	**Oxford**	**1.82**	**226**	**P**	**Pn**		**05 13 40.9**	**-0.4**
MQZ	**McQueen's Vall**	**1.85**	**208**	**P**	**Pn**		**05 13 40.8**	**-0.8**
INZ	**Inchbonnie**	**1.89**	**249**	**P**	**Pn**		**05 13 43.2**	**+1.1**
AKCZ	**Akaroa Harbour**	**1.92**	**200**	**P**	**Pn**		**05 13 42.1**	**-0.5**
MRZ	**Mangatainoka R**	**1.93**	**44**	**P**	**Pn**		**05 13 42.4**	**-0.2**
RACZ	**Rakaia**	**2.07**	**216**	**P**	**Pn**		**05 13 44.0**	**-0.6**
MHCZ	**Mount Hutt**	**2.21**	**228**	**P**	**Pn**		**05 13 46.0**	**-0.7**
WACZ	**Wakanui South**	**2.37**	**217**	**P**	**Pn**		**05 13 48.3**	**-0.5**
WAZ	**Wanganui**	**2.47**	**21**	**P**	**Pb**		**05 13 54.1**	**-0.5**
WVZ	**Waitaha Valley**	**2.50**	**245**	**P**	**Pn**		**05 13 51.8**	**+1.3**
TSZ	**Takapari Road**	**2.58**	**39**	**P**	**Pn**		**05 13 51.9**	**+0.3**
RPZ	**Rata Peaks**	**2.62**	**230**	Pn	**Pn**		**05 13 51.6**	**-0.7**
	23nm,0.3s,baz=85,slow=2.7,SNR=5.7							
RPZ				Sn	**Sn**		**05 14 23.2**	**-0.4**
	23nm,0.3s,baz=13,slow=22,SNR=9.6 62nm,0.4s							
RPZ	**Rata Peaks**	**2.62**	**230**	P	**Pn**		**05 13 52.0**	**-0.3**
LREZ	**Lake Rotokare**	**2.64**	**10**	P	**Pb**		**05 13 56.6**	**-1.0**
NMEZ	**Namu Road**	**2.66**	**1**	P	**Pb**		**05 13 58.1**	**+0.3**
ARCZ	**Arundel**	**2.70**	**225**	P	**Pn**		**05 13 52.9**	**-0.4**
KHEZ	**Kahui Hut**	**2.78**	**3**	P	**Pb**		**05 14 00.7**	**+0.8**
NBEZ	**Newall Road No**	**2.80**	**1**	P	**Pb**		**05 13 58.4**	**-1.8**
GCSZ	**Gaunt Creek Bo**	**2.87**	**243**	P	**Pn**		**05 13 57.1**	**+1.5**
PKE	**Pukeiti**	**2.88**	**2**	P	**Pb**		**05 13 59.1**	**-2.5**
PKVZ	**Pokaka**	**3.01**	**23**	P	**Pb**		**05 14 04.6**	**+0.8**
VRZ	**Vera Road**	**3.03**	**14**	P	**Pb**		**05 14 01.6**	**-2.5**
MOVZ	**Moawhango**	**3.04**	**29**	P	**Pn**		**05 14 01.4**	**+3.4**
WNVZ	**Wahianoa**	**3.05**	**27**	P	**Pb**		**05 14 02.2**	**-2.5**
TRVZ	**Turoa**	**3.06**	**26**	P	**Pb**		**05 14 04.7**	**-0.2**
BHHZ	**Black Hill Sta**	**3.09**	**34**	P	**Pb**		**05 14 04.7**	**-0.4**
DRZ	**Dome Shelter**	**3.09**	**26**	P	**Pb**		**05 14 04.7**	**-0.7**
WHVZ	**Whangaehu Hut**	**3.09**	**26**	P	**Pb**		**05 14 03.8**	**-1.5**
FWVZ	**Far West T-bar**	**3.10**	**26**	P	**Pb**		**05 14 04.2**	**-1.4**
TUVZ	**Tukino**	**3.12**	**27**	P	**Pb**		**05 14 05.7**	**-0.1**
NGZ	**Ngauruhoe**	**3.19**	**26**	P	**Pb**		**05 14 06.1**	**-0.8**
SNVZ	**South Ngauruho**	**3.19**	**26**	P	**Pb**		**05 14 05.6**	**-1.5**
OTVZ	**Oturere**	**3.22**	**26**	P	**Pb**		**05 14 07.0**	**-0.5**
NNVZ	**North Ngauruho**	**3.23**	**25**	P	**Pb**		**05 14 05.2**	**-2.6**
TWVZ	**Taurewa**	**3.24**	**25**	P	**Pb**		**05 14 04.7**	**-3.0**
WTVZ	**West Tongariro**	**3.24**	**25**	P	**Pb**		**05 14 06.6**	**-1.2**
ETVZ	**East Tongariro**	**3.26**	**27**	P	**Pb**		**05 14 05.7**	**-2.5**
KRVZ	**Karewarewa**	**3.28**	**25**	P	**Pb**		**05 14 07.6**	**-0.8**
TMVZ	**Te Maari**	**3.28**	**26**	P	**Pn**		**05 14 05.0**	**+3.6**
NTVZ	**North Tongarir**	**3.29**	**26**	P	**Pb**		**05 14 07.3**	**-1.2**
KATZ	**Kakaramea**	**3.40**	**25**	P	**Pb**		**05 14 10.5**	**-0.1**
MCHZ	**McNeill Hill**	**3.41**	**41**	P	**Pb**		**05 14 10.3**	**-0.3**
HIZ	**Hauiti**	**3.64**	**13**	P	**Pb**		**05 14 10.7**	**-3.8**
HHSZ	**Highcliff Hill**	**4.47**	**210**	P	**Pn**		**05 14 17.1**	**-0.5**
TOZ	**Tahuroa Road**	**4.52**	**17**	P	**Pn**		**05 14 22.3**	**+4.0**
AWAZ	**Awhitu Peninsu**	**5.04**	**7**	P	**Pn**		**05 14 28.4**	**+2.9**
MKAZ	**Moumakai**	**5.07**	**12**	P	**Pn**		**05 14 29.0**	**+3.2**
WTAZ	**Waiatarua**	**5.16**	**7**	P	**Pn**		**05 14 30.7**	**+3.5**
SYZ	**Scrubby Hill**	**5.59**	**215**	P	**Pn**		**05 14 31.4**	**-1.6**
ASAR	**Alice Springs**	**37.82**	**286**	P	**P**		**05 20 25.6**	**-0.8**
	0.4nm,0.4s,baz=127,slow=6.4,SNR=7.9 0.4nm,0.4s							
WRA	**Warramunga Arr**	**39.93**	**291**	P	**P**		**05 20 43.2**	**-0.8**
	0.8nm,0.3s,baz=127,slow=8.5,SNR=21 0.8nm,0.3s							
TORD	**Torodi Ar. Bea**	**150.38**	**196**	PKPbc	**PKPbc**		**05 33 01.8**	**+0.3**
	0.5nm,0.7s,baz=139,slow=1.9,SNR=4.1							

WEL 16 05:19:15.6±0.3, 42°.3S±3°×17°.4E±°, h5km, M2.8/1, ML2.9/15, ML2.5/1, MLv2.6/16, MLv2.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=142.2, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.29**	**27**	P	Pg		05 19 21.7	+0.6
BSWZ	**Blackbirch Sta**	**0.29**	**27**	P	Pg		05 19 18.8	-2.3
KHZ	**Kahutara**	**0.46**	**195**	P	Pg		05 19 24.6	+0.2
KHZ				S	Sg		05 19 31.1	+0.7
TUWZ	**Tuamarina**	**0.57**	**18**	P	Pg		05 19 26.5	0.0
THZ	**Tophouse**	**0.63**	**289**	P	Pg		05 19 27.8	+0.2
THZ				S	Sg		05 19 36.6	+0.7
NNZ	**Nelson**	**0.79**	**342**	P	Pg		05 19 30.7	-0.1
TCW	**Tory Channel**	**0.88**	**30**	P	Pg		05 19 32.0	-0.3
MRNZ	**Matariki Terra**	**0.91**	**309**	P	Pg		05 19 32.8	-0.2
WEL	**Wellington**	**1.05**	**50**	P	Pg		05 19 35.9	+0.2
TKNZ	**Takaka Hill**	**1.09**	**329**	P	Pg		05 19 36.3	-0.2
GVZ	**Greta Valley S**	**1.11**	**206**	P	Pg		05 19 36.4	-0.4
DUWZ	**D'Urville Isla**	**1.18**	**8**	P	Pg		05 19 37.6	-0.6
PLWZ	**Palliser**	**1.23**	**71**	P	Pg		05 19 37.6	-1.5
MSWZ	**Moikau Station**	**1.28**	**65**	P	Pn		05 19 38.2	-1.9
LTZ	**Lake Taylor**	**1.33**	**232**	P	Pn		05 19 39.9	-1.0
CAW	**Cannon Point**	**1.34**	**50**	P	Pn		05 19 39.6	-1.3
KIW	**Kapiti Island**	**1.44**	**40**	P	Pn		05 19 41.9	-0.4
DSZ	**Denniston Nort**	**1.44**	**278**	P	Pg		05 19 43.0	-0.1
MTW	**Mount Morrison**	**1.58**	**60**	P	Pn		05 19 42.3	-1.8
OGWZ	**Otaki Gorge**	**1.60**	**44**	P	Pn		05 19 43.3	-1.2
OKCZ	**Okains Bay**	**1.81**	**195**	P	Pn		05 19 45.5	-1.9
OXZ	**Oxford**	**1.83**	**228**	P	Pn		05 19 45.4	-2.2
INZ	**Inchbonnie**	**1.83**	**345**	P	Pn		05 19 48.2	-0.5
MQZ	**McQueen's Vall**	**1.90**	**204**	P	Pn		05 19 45.4	-3.1
MRZ	**Mangatainoka R**	**1.93**	**48**	P	Pb		05 19 50.7	-0.5
PNHZ	**Pukenui**	**2.79**	**43**	P	Pn		05 20 00.9	0.0
MOVZ	**Moawhango**	**3.00**	**32**	P	Pb		05 20 09.1	-0.4
WNVZ	**Wahianoa**	**3.01**	**29**	P	Pb		05 20 09.8	0.0

WEL 16 05:19:50.3±0.3, 43°.3S±2°×17°.1E±°, h5km, M2.5/9, ML2.6/9, MLv2.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=40.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GCSZ	**Gaunt Creek Bo**	**0.31**	**305**	P	Pg		05 19 57.4	+1.0
GCSZ	**Gaunt Creek Bo**	**0.31**	**305**	P	Pg		05 19 57.3	+0.9
GCSZ				S	Sg		05 20 01.4	+0.8
RPZ	**Rata Peaks**	**0.35**	**129**	P	Pg		05 19 57.5	+0.4
RPZ	**Rata Peaks**	**0.35**	**129**	P	Pg		05 19 57.5	+0.3
RPZ				S	Sg		05 20 02.1	+0.4
WVZ	**Waitaha Valley**	**0.42**	**6**	P	Pg		05 19 59.3	+0.8
WVZ	**Waitaha Valley**	**0.42**	**6**	P	Pg		05 19 59.3	+0.8
WVZ				S	Sg		05 20 04.7	+0.7
ARCZ	**Arundel**	**0.58**	**141**	P	Pg		05 20 01.4	0.0
FOZ	**Fox Glacier**	**0.63**	**266**	P	Pg		05 20 03.0	+0.6
MHCZ	**Mount Hutt**	**0.65**	**93**	P	Pg		05 20 03.2	+0.4
CSHS	**Castle Hill**	**0.81**	**71**	P	Pb		05 20 06.5	-0.4
TMZ	**Timaru**	**0.92**	**165**	P	Pg		05 20 07.7	-0.3
TMZ	**Timaru**	**0.92**	**165**	P	Pg		05 20 07.5	-0.5
TMZ				S	Sb		05 20 22.0	+0.7
INZ	**Inchbonnie**	**0.95**	**36**	P	Pg		05 20 08.2	-0.4
LBZ	**Lake Benmore**	**0.96**	**202**	P	Pg		05 20 07.9	-0.8
LBZ	**Lake Benmore**	**0.96**	**202**	P	Pg		05 20 08.3	-0.5
OXZ	**Oxford**	**1.00**	**81**	P	Pg		05 20 08.7	-0.9
OXZ				S	Sb		05 20 23.9	+0.2
LTZ	**Lake Taylor**	**1.37**	**59**	P	Pg		05 20 16.8	+0.2
MQZ	**McQueen's Vall**	**1.45**	**99**	P	Pn		05 20 16.2	-1.0
JCZ	**Jackson Bay**	**1.49**	**247**	P	Pb		05 20 18.3	-0.2
JCZ	**Jackson Bay**	**1.49**	**247**	P	Pb		05 20 18.4	-0.1
ODZ	**Otahua Downs**	**1.55**	**181**	P	Pn		05 20 17.6	-0.9
ODZ	**Otahua Downs**	**1.55**	**181**	P	Pn		05 20 17.6	-1.0
WKZ	**Wanaka**	**1.79**	**221**	P	Pn		05 20 21.3	-0.6
EAZ	**Earnscleugh**	**1.99**	**209**	P	Pn		05 20 23.2	-1.5
MLZ	**Mavora Lakes**	**2.62**	**224**	P	Pn		05 20 32.5	-0.8

WEL 16 05:20:36.5±0.4, 43°S±2°×17°.3E±°, h5km, M2.7/8, ML3.0/6, MLv2.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=79.3, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**152**	P	Pg		05 20 43.7	+0.4
GVZ				S	Sg		05 20 49.4	+1.5
LTZ	**Lake Taylor**	**0.41**	**253**	P	Pg		05 20 45.0	+0.5
LTZ				S	Sg		05 20 51.3	+1.3
AMCZ	**Amberley**	**0.53**	**193**	P	Pb		05 20 47.5	-0.7
KHZ	**Kahutara**	**0.59**	**66**	P	Pg		05 20 47.6	-0.3
KHZ				S	Sg		05 20 51.5	-4.1
OXZ	**Oxford**	**0.87**	**220**	P	Pg		05 20 53.0	-0.2
THZ	**Tophouse**	**0.90**	**5**	P	Pg		05 20 53.3	-0.5
THZ	**Tophouse**	**0.90**	**5**	P	Pg		05 20 53.6	-0.2
THZ				S	Sg		05 21 03.4	-2.1
INZ	**Inchbonnie**	**1.01**	**266**	P	Pb		05 20 56.3	-0.2
MQZ	**McQueen's Vall**	**1.05**	**186**	P	Pg		05 20 55.0	-1.6
RACZ	**Rakaia**	**1.17**	**204**	P	Pg		05 20 57.1	-1.9
DSZ	**Denniston Nort**	**1.18**	**320**	P	Pg		05 20 58.9	-0.2
DSZ	**Denniston Nort**	**1.18**	**320**	P	Pn		05 21 06.5	+6.8
AKCZ	**Akaroa Harbour**	**1.21**	**177**	P	Pg		05 20 57.4	-2.3
BSWZ	**Blackbirch Sta**	**1.23**	**40**	P	Pg		05 20 54.9	-5.3
BSWZ	**Blackbirch Sta**	**1.23**	**40**	P	Pg		05 20 54.8	-5.3
MHCZ	**Mount Hutt**	**1.26**	**226**	P	Pg		05 20 58.5	-2.1
MRNZ	**Matariki Terra**	**1.26**	**358**	P	Pg		05 21 00.7	0.0
MRNZ	**Matariki Terra**	**1.26**	**358**	P	Pg		05 21 00.7	0.0
CMWZ	**Cape Campbell**	**1.39**	**49**	P	Pn		05 20 58.5	-4.0
CMWZ	**Cape Campbell**	**1.39**	**49**	P	Pn		05 20 58.5	-4.0
TUWZ	**Tuamarina**	**1.49**	**35**	P	Pn		05 20 59.5	-4.4
TUWZ	**Tuamarina**	**1.49**	**35**	P	Pn		05 20 59.5	-4.5
NNZ	**Nelson**	**1.50**	**17**	P	Pn		05 21 01.8	-2.4
NNZ	**Nelson**	**1.50**	**17**	P	Pn		05 21 01.6	-2.5
TKNZ	**Takaka Hill**	**1.63**	**4**	P	Pn		05 21 05.6	-0.3
TKNZ	**Takaka Hill**	**1.63**	**4**	P	Pn		05 21 05.5	-0.4
TCW	**Tory Channel**	**1.82**	**38**	P	Pn		05 21 04.2	-4.3
QRZ	**Quartz Range**	**1.85**	**353**	P	Pn		05 21 09.3	+0.4
DUWZ	**D'Urville Isla**	**2.04**	**24**	P	Pn		05 21 09.4	-2.1
CAW	**Cannon Point**	**2.29**	**48**	P	Pn		05 21 09.9	-5.1
OTVZ	**Oturere**	**4.11**	**33**	P	Pn		05 21 36.7	-3.4
MTHZ	**Maungataniwha**	**4.88**	**40**	P	Pn		05 21 54.1	+3.4
GRRZ	**Galatos Road**	**4.99**	**31**	P	Pn		05 21 50.4	-1.7

WEL 16 05:21:10.8±0.5, 42°S±3°×17°.4E±°, h9km±4km, M3.3/1, ML4.0/15, ML3.3/1, MLv3.8/23, MLv3.3/1, Error ellipse: s-maj=0.0km s-min=0.0km az=155.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**217**	P	Pg		05 21 13.8	+0.8
CMWZ				S	Sg		05 21 25.3	+1.7
BSWZ	**Blackbirch Sta**	**0.30**	**264**	P	Pg		05 21 17.4	+0.6
BSWZ				S	Sb		05 21 22.5	-0.9
TUWZ	**Tuamarina**	**0.36**	**316**	P	Pb		05 21 18.9	-0.4
TCW	**Tory Channel**	**0.48**	**0**	P	Pb		05 21 20.8	-0.5
WEL	**Wellington**	**0.55**	**43**	P	Pb		05 21 22.2	-0.3
WEL	**Wellington**	**0.55**	**43**	P	Pb		05 21 22.1	-0.4
PLWZ	**Palliser**	**0.74**	**81**	P	Pb		05 21 25.6	-0.3
PLWZ	**Palliser**	**0.74**	**81**	P	Pb		05 21 25.5	-0.3
MSWZ	**Moikau Station**	**0.78**	**70**	P	Pb		05 21 26.3	-0.2
MSWZ				S	Sn		05 21 38.7	-1.1
MSWZ	**Moikau Station**	**0.78**	**70**	P	Pb		05 21 26.3	-0.2
NNZ	**Nelson**	**0.82**	**305**	P	Pb		05 21 27.0	-0.2
CAW	**Cannon Point**	**0.83**	**46**	P	Pg		05 21 27.0	+0.3
KHZ	**Kahutara**	**0.91**	**217**	P	Pg		05 21 28.2	-0.1
PAWZ	**Paruwai Farm**	**0.92**	**71**	P	Pg		05 21 28.2	-0.2
DUWZ	**D'Urville Isla**	**0.92**	**343**	P	Pb		05 21 28.8	-0.2
DUWZ	**D'Urville Isla**	**0.92**	**343**	P	Pb		05 21 28.7	-0.2
DUWZ				S	Sn		05 21 42.5	-0.8
KIW	**Kapiti Island**	**0.95**	**30**	P	Pg		05 21 29.1	0.0
KIW				S	Sb		05 21 42.5	+0.4
THZ	**Tophouse**	**1.03**	**265**	P	Pb		05 21 31.0	+0.2
MTW	**Mount Morrison**	**1.06**	**61**	P	Pg		05 21 30.2	-0.9
TRWZ	**Traveller**	**1.10**	**75**	P	Pg		05 21 30.4	-1.5
OGWZ	**Otaki Gorge**	**1.10**	**38**	P	Pg		05 21 31.6	-0.2
MRNZ	**Matariki Terra**	**1.18**	**284**	P	Pn		05 21 33.6	+0.2
HOWZ	**Holdsworth Sta**	**1.22**	**50**	P	Pn		05 21 32.8	-1.2
TMWZ	**Te Maipa**	**1.35**	**65**	P	Pn		05 21 33.9	-1.9
MRZ	**Mangatainoka R**	**1.42**	**44**	P	Pn		05 21 35.7	-1.0
TIWZ	**Tintock**	**1.52**	**54**	P	Pn		05 21 36.7	-1.4
QRZ	**Quartz Range**	**1.57**	**303**	P	Pg		05 21 40.6	-0.3
QRZ	**Quartz Range**	**1.57**	**303**	P	Pb		05 21 40.6	-0.3
OHWZ	**Ohakea**	**1.68**	**28**	P	Pb		05 21 41.4	-0.3
PRWZ	**Pori Road**	**1.71**	**49**	P	Pn		05 21 39.3	-1.4
POWZ	**Post Office Ro**	**1.72**	**42**	P	Pn		05 21 39.7	-1.1
BFZ	**Birch Farm**	**1.79**	**57**	P	Pg		05 21 44.8	-0.3
WAZ	**Wanganui**	**2.00**	**16**	P	Pb		05 21 47.6	+0.2
TSZ	**Takapari Road**	**2.07**	**39**	P	Pn		05 21 44.4	-1.3
LREZ	**Lake Rotokare**	**2.23**	**3**	P	Pb		05 21 51.7	+0.6
PRHZ	**Porangahau**	**2.28**	**52**	P	Pn		05 21 46.1	-2.5
NMEZ	**Namu Road**	**2.29**	**352**	P	Pb		05 21 53.4	+1.2
PNHZ	**Pukenui**	**2.30**	**40**	P	Pn		05 21 47.2	-1.6
WPHZ	**Waipukurau**	**2.31**	**46**	P	Pn		05 21 48.0	-1.0
KHEZ	**Kahui Hut**	**2.40**	**355**	P	Pb		05 21 54.4	+0.3
NEZ	**North Egmont**	**2.42**	**357**	P	Pb		05 21 54.3	-0.1
NBEZ	**Newall Road No**	**2.44**	**353**	P	Pb		05 21 53.6	-1.1
PKE	**Pukeiti**	**2.50**	**355**	P	Pb		05 21 54.6	-1.2
PKVZ	**Pokaka**	**2.53**	**19**	P	Pb		05 21 56.0	-0.4
MOVZ	**Moawhango**	**2.54**	**27**	P	Pb		05 21 54.4	-2.1
WNVZ	**Wahianoa**	**2.56**	**24**	P	Pn		05 21 53.9	+1.3
TRVZ	**Turoa**	**2.58**	**23**	P	Pb		05 21 56.7	-0.6
RACZ	**Rakaia**	**2.58**	**217**	P	Pn		05 21 45.6	-7.0
BHHZ	**Black Hill Sta**	**2.58**	**32**	P	Pb		05 21 57.2	0.0
VRZ	**Vera Road**	**2.59**	**8**	P	Pb		05 21 55.6	-1.6
DRZ	**Dome Shelter**	**2.60**	**23**	P	Pb		05 21 58.6	+0.8
WHVZ	**Whangaehu Hut**	**2.60**	**23**	P	Pb		05 21 56.1	-1.6
MHEZ	**Mangahewa**	**2.61**	**1**	P	Pb		05 21 56.8	-0.9
FWVZ	**Far West T-bar**	**2.62**	**22**	P	Pb		05 21 57.3	-0.7
TUVZ	**Tukino**	**2.63**	**24**	P	Pb		05 21 59.4	+1.2
NGZ	**Ngauruhoe**	**2.70**	**22**	P	Pb		05 21 59.5	+0.1
SNVZ	**South Ngauruho**	**2.71**	**23**	P	Pb		05 22 00.0	+0.6
KAHZ	**Kahuranaki**	**2.73**	**47**	P	Pn		05 21 52.8	-2.1
OTVZ	**Oturere**	**2.73**	**23**	P	Pb		05 22 00.1	+0.2
NNVZ	**North Ngauruho**	**2.75**	**22**	P	Pn		05 21 57.0	+1.8
WTVZ	**West Tongariro**	**2.76**	**22**	P	Pb		05 21 59.6	-0.7
ETVZ	**East Tongariro**	**2.77**	**24**	P	Pb		05 22 00.4	-0.2
KWHZ	**Kaweka Forest**	**2.79**	**37**	P	Pg		05 22 02.7	-1.5
TMVZ	**Te Maari**	**2.79**	**23**	P	Pb		05 22 00.4	-0.4
KRVZ	**Karewarewa**	**2.79**	**22**	P	Pb		05 22 00.7	-0.1
NTVZ	**North Tongarir**	**2.80**	**23**	P	Pb		05 22 00.9	-0.1
KATZ	**Kakaramea**	**2.92**	**22**	P	Pb		05 22 03.3	+0.8
RITZ	**Rihia Road**	**2.96**	**25**	P	Pb		05 22 00.7	0.0
WVZ	**Waitaha Valley**	**2.97**	**241**	P	Pb		05 22 03.1	-0.7
BKZ	**Black Stump Fm**	**3.03**	**35**	P	Pb		05 22 05.6	+0.7
RATZ	**Rangitukua**	**3.04**	**23**	P	Pb		05 22 06.1	+1.0
HIZ	**Hauiti**	**3.20**	**8**	P	Pb		05 22 04.6	-3.1
TOZ	**Tahuroa Road**	**4.06**	**14**	P	Pb		05 22 18.1	-4.3
OPRZ	**Ohinepanea**	**4.22**	**25**	P	Pn		05 22 19.6	+4.4
AWAZ	**Awhitu Peninsu**	**4.62**	**4**	P	Pn		05 22 23.5	+2.7
MKAZ	**Moumakai**	**4.63**	**9**	P	Pn		05 22 23.1	+2.2
JCZ	**Jackson Bay**	**4.69**	**238**	P	Pn		05 22 25.5	+3.8

WEL 16 05:24:17.1±0.5, 42°S±3°×17°.4E±°, h9km±3km, M3.5/2, ML3.5/2, ML2.6/5, MLv2.7/7, MLv3.5/2, Error ellipse: s-maj=0.0km s-min=0.0km az=118.5, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**228**	P	Pg		05 24 20.0	+0.4
KHZ				S	Sg		05 24 22.7	+1.3
BSWZ	**Blackbirch Sta**	**0.66**	**16**	P	Pg		05 24 29.7	0.0
GVZ	**Greta Valley S**	**0.76**	**216**	P	Pg		05 24 32.2	+0.3
THZ	**Tophouse**	**0.80**	**317**	P	Pb		05 24 32.9	-0.3
TUWZ	**Tuamarina**	**0.94**	**14**	P	Pg		05 24 35.0	-0.2
LTZ	**Lake Taylor**	**1.10**	**246**	P	Pg		05 24 34.7	-3.5
AMCZ	**Amberley**	**1.10**	**221**	P	Pg		05 24 37.1	-1.1
NNZ	**Nelson**	**1.15**	**350**	P	Pb		05 24 38.4	-0.6
MRNZ	**Matariki Terra**	**1.16**	**325**	P	Pb		05 24 39.2	0.0
TCW	**Tory Channel**	**1.23**	**23**	P	Pn		05 24 38.6	-1.8
OKCZ	**Okains Bay**	**1.44**	**197**	P	Pn		05 24 40.5	-2.8
OKCZ				P	Pb		05 24 40.6	-3.5
DSZ	**Denniston Nort**	**1.50**	**293**	P	Pn		05 24 44.1	0.0
MSWZ	**Moikau Station**	**1.52**	**53**	P	Pn		05 24 41.5	-2.9
OXZ	**Oxford**	**1.53**	**230**	P	Pn		05 24 42.2	-2.5
MQZ	**McQueen's Vall**	**1.54**	**208**	P	Pn		05 24 41.4	-3.3
DUWZ	**D'Urville Isla**	**1.56**	**8**	P	Pn		05 24 44.6	-0.4
AKCZ	**Akaroa Harbour**	**1.61**	**199**	P	Pn		05 24 42.9	-2.9
CAW	**Cannon Point**	**1.64**	**41**	P	Pn		05 24 43.6	-2.4
INZ	**Inchbonnie**	**1.67**	**256**	P	Pn		05 24 45.9	-0.5
QRZ	**Quartz Range**	**1.73**	**331**	P	Pn		05 24 48.1	+0.7
RACZ

s-min=0.0km az=177.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**156**	P	Pg	05 35 41.6	+0.8
CMWZ				S	Sg	05 35 44.3	+1.8
BSWZ	**Blackbirch Sta**	**0.22**	**258**	P	Pg	05 35 43.6	+0.6
BSWZ				S	Sg	05 35 47.6	+1.5
TUWZ	**Tuamarina**	**0.29**	**325**	P	Pb	05 35 45.5	-0.4
TUWZ				S	Sb	05 35 50.6	-0.3
TCW	**Tory Channel**	**0.47**	**10**	P	Pb	05 35 48.4	-0.5
TCW				S	Sb	05 35 55.3	-0.5
WEL	**Wellington**	**0.59**	**50**	P	Pb	05 35 50.9	-0.1
NNZ	**Nelson**	**0.74**	**307**	P	Pb	05 35 53.4	-0.2
PLWZ	**Palliser**	**0.82**	**83**	P	Pb	05 35 55.2	+0.2
MSWZ	**Moikau Station**	**0.85**	**73**	P	Pb	05 35 55.7	+0.3
CAW	**Cannon Point**	**0.88**	**51**	P	Pb	05 35 55.9	0.0
KHZ	**Kahutara**	**0.88**	**212**	P	Pb	05 35 56.0	+0.1
DUWZ	**D'Urville Isla**	**0.89**	**348**	P	Pb	05 35 55.9	-0.2
THZ	**Tophouse**	**0.95**	**264**	P	Pg	05 35 54.4	-2.3
KIW	**Kapiti Island**	**0.98**	**35**	P	Pg	05 35 57.5	+0.1
PAWZ	**Paruwai Farm**	**0.99**	**73**	P	Pg	05 35 57.5	0.0
MRNZ	**Matariki Terra**	**1.09**	**284**	P	Pn	05 35 59.9	0.0
TKNZ	**Takaka Hill**	**1.11**	**305**	P	Pg	05 35 59.8	0.0
MTW	**Mount Morrison**	**1.13**	**63**	P	Pg	05 35 59.4	-0.7
OGWZ	**Otaki Gorge**	**1.14**	**42**	P	Pb	05 36 00.2	-0.1
TRWZ	**Traveller**	**1.17**	**77**	P	Pb	05 35 59.5	-1.5
HOWZ	**Holdsworth Sta**	**1.28**	**53**	P	Pn	05 36 01.8	-0.7
TMWZ	**Te Maipa**	**1.41**	**67**	P	Pn	05 36 03.0	-1.4
MRZ	**Mangatainoka R**	**1.47**	**47**	P	Pn	05 36 04.6	-0.6
QRZ	**Quartz Range**	**1.50**	**304**	P	Pb	05 36 06.6	+0.2
TIWZ	**Tintock**	**1.57**	**56**	P	Pn	05 36 05.6	-1.0
OHWZ	**Ohakea**	**1.70**	**31**	P	Pn	05 36 09.7	-0.2
POWZ	**Post Office Ro**	**1.76**	**44**	P	Pn	05 36 08.5	-0.7
PRWZ	**Pori Road**	**1.76**	**51**	P	Pn	05 36 08.2	-0.9
LTZ	**Lake Taylor**	**1.79**	**231**	P	Pn	05 36 08.5	-1.2
BFZ	**Birch Farm**	**1.85**	**59**	P	Pn	05 36 08.6	-1.8
AMCZ	**Amberley**	**1.88**	**216**	P	Pn	05 36 08.7	-2.0
WAZ	**Wanganui**	**2.01**	**18**	P	Pb	05 36 15.1	-0.1
DVHZ	**Dannevirke**	**2.04**	**49**	P	Pn	05 36 11.5	-1.5
TSZ	**Takapari Road**	**2.11**	**41**	P	Pb	05 36 17.9	+1.0
LREZ	**Lake Rotokare**	**2.21**	**5**	P	Pb	05 36 17.4	-1.3
MQZ	**McQueen's Vall**	**2.32**	**208**	P	Pb	05 36 20.1	-0.4
MQZ				S	Sn	05 36 39.7	-5.8
WPHZ	**Waipukurau**	**2.35**	**48**	P	Pn	05 36 16.5	-0.8
KHEZ	**Kahui Hut**	**2.38**	**357**	P	Pb	05 36 21.0	-0.5
NEZ	**North Egmont**	**2.40**	**359**	P	Pb	05 36 21.3	-0.5
NBEZ	**Newall Road No**	**2.41**	**354**	P	Pb	05 36 21.5	-0.5
PKE	**Pukeiti**	**2.48**	**357**	P	Pb	05 36 22.4	-0.7
MOVZ	**Moawhango**	**2.56**	**29**	P	Pn	05 36 20.3	0.0
WNVZ	**Wahianoa**	**2.58**	**25**	P	Pn	05 36 21.5	+0.9
VRZ	**Vera Road**	**2.58**	**10**	P	Pn	05 36 22.5	+2.1
TRVZ	**Turoa**	**2.59**	**24**	P	Pn	05 36 22.7	+1.9
BHHZ	**Black Hill Sta**	**2.61**	**34**	P	Pb	05 36 25.4	-0.1
DRZ	**Dome Shelter**	**2.62**	**24**	P	Pb	05 36 27.0	+1.2
WHVZ	**Whangaehu Hut**	**2.62**	**25**	P	Pn	05 36 22.8	+1.6
FWVZ	**Far West T-bar**	**2.63**	**24**	P	Pn	05 36 23.6	+2.2
TUVZ	**Tukino**	**2.65**	**26**	P	Pb	05 36 26.5	+0.3
NGZ	**Ngauruhoe**	**2.72**	**24**	P	Pb	05 36 27.9	+0.5
SNVZ	**South Ngauruho**	**2.72**	**25**	P	Pb	05 36 28.8	+1.3
OTVZ	**Oturere**	**2.75**	**25**	P	Pb	05 36 27.7	-0.3
NNVZ	**North Ngauruho**	**2.77**	**24**	P	Pn	05 36 24.4	+1.3
TWVZ	**Taurewa**	**2.77**	**21**	P	Pn	05 36 24.9	+1.7
WTVZ	**West Tongariro**	**2.77**	**24**	P	Pn	05 36 24.1	+0.9
ETVZ	**East Tongariro**	**2.79**	**25**	P	Pn	05 36 24.7	+1.3
KRVZ	**Karewarewa**	**2.81**	**24**	P	Pn	05 36 25.3	+1.7
TMVZ	**Te Maari**	**2.81**	**25**	P	Pn	05 36 26.0	+2.3
NTVZ	**North Tongarir**	**2.81**	**25**	P	Pb	05 36 29.0	0.0
RITZ	**Rihia Road**	**2.98**	**26**	P	Pb	05 36 32.5	+0.7
HIZ	**Hauiti**	**3.20**	**10**	P	Pn	05 36 30.9	+2.0
TOZ	**Tahuroa Road**	**4.07**	**15**	P	Pn	05 36 43.1	+2.2
URZ	**Urewera**	**4.09**	**35**	P	Pn	05 36 39.7	-1.4
AWAZ	**Awhitu Peninsu**	**4.62**	**5**	P	Pn	05 36 50.9	+2.5
MKAZ	**Moumakai**	**4.62**	**10**	P	Pn	05 36 49.5	+1.0
ETAZ	**East Tamaki Re**	**4.75**	**7**	P	Pn	05 36 51.4	+1.2

WEL 16 05:43:35.8±0.7, 42°S±4′×17°4E±°, h5km±3km, M3.1/1, ML3.1/1, ML2.7/5, MLv2.7/8, MLv3.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=127.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**262**	P	Pg	05 43 38.8	0.0
KHZ				S	Sg	05 43 41.9	+1.2
BSWZ	**Blackbirch Sta**	**0.69**	**9**	P	Pg	05 43 48.1	-0.9
GVZ	**Greta Valley S**	**0.77**	**222**	P	Pb	05 43 51.7	0.0
THZ	**Tophouse**	**0.88**	**316**	P	Pg	05 43 52.6	-0.2
TUWZ	**Tuamarina**	**0.98**	**9**	P	Pg	05 43 54.3	-0.3
AMCZ	**Amberley**	**1.11**	**225**	P	Pg	05 43 56.7	-0.5
LTZ	**Lake Taylor**	**1.15**	**250**	P	Pg	05 43 57.4	-0.4
NNZ	**Nelson**	**1.21**	**347**	P	Pg	05 43 57.3	-1.6
MRNZ	**Matariki Terra**	**1.23**	**324**	P	Pg	05 43 58.9	-0.6
TCW	**Tory Channel**	**1.25**	**19**	P	Pg	05 43 58.1	-1.8
OKCZ	**Okains Bay**	**1.42**	**200**	P	Pn	05 44 00.3	-1.9
TKNZ	**Takaka Hill**	**1.48**	**337**	P	Pn	05 44 02.4	-0.7
MQZ	**McQueen's Vall**	**1.53**	**211**	P	Pn	05 44 01.1	-2.7
DSZ	**Denniston Nort**	**1.57**	**294**	P	Pn	05 44 04.4	-0.1
DSZ				S	Sg	05 44 26.9	+0.5
AKCZ	**Akaroa Harbour**	**1.59**	**202**	P	Pn	05 44 02.4	-2.3
AKCZ				S	Sn	05 44 22.9	-2.8
QRZ	**Quartz Range**	**1.81**	**330**	P	Pn	05 44 07.5	-0.2
MHCZ	**Mount Hutt**	**1.95**	**234**	P	Pn	05 44 07.3	-2.4

WEL 16 05:43:56.2±0.5, 42°S±4′×17°4E±°, h5km±2km, M3.0/14, ML3.2/12, MLv3.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=141.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**283**	P	Pg	05 43 57.2	-0.5
CMWZ				S	Sg	05 43 59.3	+0.6
BSWZ	**Blackbirch Sta**	**0.32**	**279**	P	Pg	05 44 02.3	-0.1
BSWZ				S	Sg	05 44 07.7	+1.2
TCW	**Tory Channel**	**0.55**	**359**	P	Pg	05 44 06.6	-0.2
TCW				S	Sb	05 44 15.5	-1.0
PLWZ	**Palliser**	**0.74**	**75**	P	Pg	05 44 11.0	+0.6
MSWZ	**Moikau Station**	**0.80**	**64**	P	Pg	05 44 11.7	+0.3
MSWZ	**Moikau Station**	**0.80**	**64**	P	Pb	05 44 12.0	-0.5
KHZ	**Kahutara**	**0.86**	**221**	P	Pg	05 44 12.9	+0.2
CAW	**Cannon Point**	**0.88**	**42**	P	Pg	05 44 12.5	-0.4
NNZ	**Nelson**	**0.88**	**308**	P	Pg	05 44 13.3	+0.3
DUWZ	**D'Urville Isla**	**1.00**	**344**	P	Pg	05 44 15.5	+0.1
TRWZ	**Traveller**	**1.11**	**71**	P	Pb	05 44 17.9	+0.1
TRWZ	**Traveller**	**1.11**	**71**	P	Pn	05 44 18.0	+0.2
MRNZ	**Matariki Terra**	**1.21**	**287**	P	Pn	05 44 18.6	-0.8
TKNZ	**Takaka Hill**	**1.24**	**306**	P	Pg	05 44 19.6	-0.3
MRZ	**Mangatainoka R**	**1.47**	**42**	P	Pn	05 44 21.6	-1.7
QRZ	**Quartz Range**	**1.63**	**305**	P	Pn	05 44 25.7	+0.2
TWVZ	**Taurewa**	**2.83**	**18**	P	Pn	05 44 37.5	-4.6

*HVO **16** 05:47:22.1±0.8, 18°.89N±0°.08×155°.55W±0°.01, h41km±4km, ML3.1/13, ML3.1/48(NEIC), Error ellipse: s-maj=10.9km s-min=1.8km az=178.0*

NEIC 16 05:47:21.1±0.6, 18°.95N±0°.07×155°.56W±0°.03, h46km±3km, Error ellipse: s-maj=10.6km s-min=3.9km az=177.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.14**	**3**		Pn	05 47 28.8	+0.1
HPO					Sn	05 47 33.8	-0.1
KHU	**Kahuku**	**0.30**	**350**		Pn	05 47 30.2	+0.1
KHU					Sn	05 47 36.2	-0.3
KHU	**Kahuku**	**0.30**	**350**	IAML		05 47 36.4	
	comp=N,1μm,0.4s						
KHU				IAML		05 47 36.5	
	comp=E,751nm,0.2s						
HTC	**Hot Caves**	**0.33**	**28**		Pn	05 47 30.5	+0.3
HLP	**Hilina Pali**	**0.42**	**35**		Pn	05 47 31.6	+0.3
HLP					Sn	05 47 38.3	-0.1
HLP	**Hilina Pali**	**0.42**	**35**	IAML		05 47 38.9	
	comp=N,1μm,0.2s						
HLP				IAML		05 47 39.1	
	comp=E,1μm,0.6s						
AIN	**Ainahou**	**0.43**	**13**		Pn	05 47 31.9	+0.4
AIN					Sn	05 47 38.8	-0.1
AIN	**Ainahou**	**0.43**	**13**	IAML		05 47 39.4	
	comp=N,5μm,0.3s						
AIN				IAML		05 47 39.5	
	comp=E,3μm,0.2s						
SDHHI	**Sand Hill**	**0.51**	**30**		Pn	05 47 32.3	-0.1
SDHHI					Sn	05 47 39.6	-0.8
SDHHI	**Sand Hill**	**0.51**	**30**	IAML		05 47 39.8	
	comp=E,2μm,0.3s						
SDHHI				IAML		05 47 40.7	
	comp=N,3μm,0.2s						
WRMHI	**West Rim**	**0.52**	**28**		Pn	05 47 32.4	-0.1
WRMHI					Sn	05 47 39.7	-0.9
RIM	**Rim**	**0.52**	**31**	IAML		05 47 40.0	
	comp=N,1μm,0.7s						
RIM				IAML		05 47 42.5	
	comp=E,1μm,0.4s						
KKO	**Keanakako`i**	**0.53**	**32**	IAML		05 47 40.0	
	comp=E,1μm,0.9s						
NPH	**North Pit**	**0.53**	**30**		Pn	05 47 32.5	-0.2
NPH					Sn	05 47 39.8	-1.1
NPH	**North Pit**	**0.53**	**30**	IAML		05 47 40.1	
	comp=E,581nm,0.8s						
NPH				IAML		05 47 40.1	
	comp=N,674nm,0.3s						
MWH	**Moku'aweowe**	**0.54**	**356**		Pn	05 47 32.8	-0.3
PUH	**Pauahi**	**0.54**	**38**		Pn	05 47 32.5	-0.2
PUH					Sn	05 47 39.7	-1.3
PUH	**Pauahi**	**0.54**	**38**	IAML		05 47 41.8	
	comp=E,614nm,0.4s						
PUH				IAML		05 47 43.4	
	comp=N,679nm,0.4s						
BYL	**Byron's Ledge**	**0.54**	**32**	IAML		05 47 40.3	
	comp=N,935nm,0.4s						
BYL				IAML		05 47 42.5	
	comp=E,739nm,0.4s						
HATHI	**Halema'uma'u T**	**0.55**	**31**	IAML		05 47 44.5	
	comp=N,1μm,0.5s						
HATHI				IAML		05 47 44.6	
	comp=E,1μm,0.9s						
SBLHI	**Steaming Bluff**	**0.55**	**30**	IAML		05 47 40.4	
	comp=N,1μm,0.3s						
SBLHI				IAML		05 47 40.7	
	comp=E,751nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.57**	**41**		Pn	05 47 32.9	-0.2
MLH	**Mauna Loa**	**0.57**	**17**		Pn	05 47 33.2	0.0
MLH				IAML		05 47 41.5	
	comp=E,756nm,0.3s						
RSD	**Rainshed**	**0.58**	**28**		Pn	05 47 32.9	-0.3
MLOA	**Mauna Loa Obse**	**0.58**	**359**		Pn	05 47 33.5	-0.2
MLOA				IAML		05 47 41.7	
	comp=E,1μm,1.1s						
MLOA				IAML		05 47 41.8	
	comp=N,962nm,0.3s						
JCUZ	**Jacuzzi**	**0.61**	**45**	Pn	Pn	05 47 33.3	-0.4
JCUZ				IAML		05 47 41.7	
	comp=E,815nm,0.2s						
JCUZ				IAML		05 47 41.8	
	comp=N,740nm,1.0s						
HMH	**Humu'ula Sheep**	**0.66**	**6**		Pn	05 47 34.6	+0.2
HMH				IAML		05 47 43.8	
	comp=E,936nm,0.4s						
JOKA	**Jonika Flow**	**0.71**	**47**		Pn	05 47 34.6	-0.4
HUH	**Hualalai**	**0.78**	**341**		Pn	05 47 36.1	+0.1
HUH				IAML		05 47 49.6	
	comp=N,678nm,0.2s						
HUH				IAML		05 47 56.0	
	comp=E,552nm,0.3s						
POHA	**Pohakuloa**	**0.81**	**2**	Pn	Pn	05 47 36.2	-0.2
POHA				IAML		05 47 51.7	
	comp=E,446nm,0.1s						
POHA				IAML		05 47 52.4	
	comp=E,529nm,0.2s						
HPAH	**Hawaii Prepara**	**1.08**	**353**	IAML		05 47 52.9	
	comp=N,469nm,0.2s						

*IDC **16** 05:55:24.0±0.6, 8°.95N×126°.04E, h0km, mb4.1/12, mbtmp4.1/12, MS3.2/3, Error ellipse: s-maj=48.2km s-min=14.1km az=77.0*

*MAN **16** 05:55:33.2, 8°.95N×126°.22E, h30km, mb4.6, ML3.5, MS3.3*

ISC 16 05:55:32.6±0.9, 8°.92N±0°.03×126°.26E±0°.05, h63km±8km, n46, σ2°04/56, mb4.1/12, 17C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.73**	**172**	↓eP	Pn	05 55 47.2	-0.2
BIPH				eS	Sn	05 55 58.4	0.0
GLSP	**General Luna,**	**0.87**	**351**	↑eP	Pn	05 55 48.6	-0.5
GLSP				eS	Sn	05 56 01.2	-0.1
SCPH	**Surigao**	**1.15**	**318**	↓eP	Pn	05 55 52.1	-0.6
SCPH				eS	Sn	05 56 07.6	-0.1
CGP	**Cagayan de Oro**	**1.62**	**254**	↑iP	Pn	05 55 58.9	-0.1
CGP				*i* S	Sn	05 56 18.6	-0.2
MSLP	**Maasin**	**1.84**	**311**	↑eP	Pn	05 56 02.7	+0.8
MSLP				eS	Sn	05 56 28.4	+4.2
DAV	**Davao City (W)**	**1.96**	**200**	Sn	Sn	05 56 22.0	-5.0
	69nm,0.3s,baz=85,slow=22,SNR=3.8						
MATI	**Mati**	**1.96**	**180**	↑eP	Pn	05 56 06.1	+2.5
MATI				eS	Sn	05 56 31.1	+4.0
GHBP	**Garcia Hernand**	**2.04**	**290**	↑iP	Pn	05 56 05.0	+0.3
GHBP				*i* S	Sn	05 56 30.9	+1.7
KCP	**Kidapawan**	**2.22**	**212**	↓eP	Pn	05 56 08.4	+1.2
KCP				*i* S	Sn	05 56 35.1	+1.5
TABP	**Talibon, Bohol**	**2.23**	**302**	↓eP	Pn	05 56 07.2	-0.1
TABP				*i* S	Sn	05 56 33.3	-0.5
TBP	**Tagbilaran**	**2.49**	**288**	*e*P	Pn	05 56 11.3	+0.5
TBP				*i* S	Sn	05 56 44.5	+4.4
LSIP	**Lazi, Siquijor**	**2.61**	**275**	↑eP	Pn	05 56 12.4	0.0
CTBH	**Cotabato--PC H**	**2.61**	**230**	↓iP	Pn	05 56 13.9	+1.4
LLP	**Lapu-Lapu**	**2.66**	**302**	↑eP	Pn	05 56 14.4	+1.3
LLP				eS	Sn	05 56 45.9	+1.7
OCLP	**Ormoc**	**2.67**	**323**	↑eP	Pn	05 56 14.8	+1.5
OCLP				eS	Sn	05 56 44.0	-0.6
BESP	**Borongan**	**2.79**	**343**	↑eP	Pn	05 56 17.4	+2.5
BESP				eS	Sn	05 56 52.9	+5.6
DDMP	**Don Marcelino,**	**2.85**	**191**	↑eP	Pn	05 56 18.4	+2.6
DDMP				eS	Sn	05 56 51.8	+2.9
DCPH	**Dipolog City**	**2.90**	**264**	↓iP	Pn	05 56 16.5	+0.2
SKMP	**Bagumbayan, Su**	**2.93**	**216**	↑eP	Pn	05 56 20.5	+3.7
PAGZ	**Pagadian**	**3.04**	**250**	↑eP	Pn	05 56 20.3	+2.0
CNOP	**Candoni, Negro**	**3.69**	**284**	↑eP	Pn	05 56 28.4	+1.2
CNOP				eS	Sn	05 57 11.5	+2.1
CNP	**Catarman**	**3.90**	**336**	↑eP	Pn	05 56 31.4	+1.4
CNP				eS	Sn	05 57 14.9	+0.2
RCP	**Roxas**	**4.34**	**307**	↑eP	Pn	05 56 37.9	+1.8
PVCP	**Virac**	**5.09**	**336**	↑eP	Pn	05 56 50.6	+4.2
PVCP				eS	Sn	05 57 45.8	+2.0
SIJI	**Sorong**	**10.93**	**153**	LR	LR	06 03 43.1	
	comp=Z,24nm,18.2s,baz=56,slow=45						
BATI	**Baumata**	**19.17**	**188**	LR	LR	06 09 34.9	
	comp=Z,124nm,19.0s,baz=256,slow=44						
WRA	**Warramunga Arr**	**29.76**	**165**	P	P	06 01 32.5	-1.0
	1.0nm,0.6s,baz=345,slow=7.9,SNR=30						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**33.23**	**167**	P	P	06 02 03.7	-0.3
	0.8nm,0.3s,baz=347,slow=7.4,SNR=13						
ASAR				PcP	PcP	06 04 45.1	-0.3
	0.5nm,0.6s,baz=324,slow=2.0,SNR=5.2						
	0.8nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.50**	**7**	P	P	06 02 22.7	-0.6
	4.0nm,0.6s,baz=113,slow=6.0,SNR=8.7						
	4.0nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**40.33**	**72**	T	T	06 46 02.7	
	baz=262,slow=75,SNR=252						
H11S1	**WAKE ISLAND Hy**	**40.34**	**72**	T	T	06 46 03.8	
	baz=262,slow=75,SNR=119						
H11S2	**WAKE ISLAND Hy**	**40.34**	**72**	T	T	06 46 03.3	
	baz=262,slow=75,SNR=132						
KLR	**Kul'dur**	**40.44**	**6**	P	P	06 03 04.5	-0.3
	1.0nm,0.5s,baz=178,slow=8.2,SNR=5.0						
	1.0nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**40.70**	**70**	T	T	06 46 39.7	
	baz=265,slow=74,SNR=47						
H11N2	**WAKE ISLAND Hy**	**40.71**	**70**	T	T	06 46 40.4	
	baz=265,slow=74,SNR=40						
H11N3	**WAKE ISLAND Hy**	**40.72**	**70**	T	T	06 46 41.1	
	baz=265,slow=74,SNR=45						
STKA	**Stephens Creek**	**43.13**	**161**	P	P	06 03 27.7	+0.6
	1.6nm,0.6s,baz=341,slow=10,SNR=6.2						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**53.10**	**323**	P	P	06 04 43.0	-0.8
	1.5nm,0.7s,baz=120,slow=6.8,SNR=12						
MKAR				PcP	PcP	06 05 50.8	-0.6
	0.7nm,0.8s,baz=100,slow=4.4,SNR=2.3						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**57.18**	**326**	P	P	06 05 11.3	-1.8
	0.9nm,0.7s,baz=122,slow=6.6,SNR=5.7						
	0.9nm,0.7s						
TIXI	**Tiksi**	**62.70**	**1**	P	P	06 05 49.8	-0.7
	3.4nm,0.7s,baz=344,slow=0.7,SNR=9.1						
	3.4nm,0.7s						
ILAR	**Eielson Array**	**80.65**	**26**	P	P	06 07 38.1	-0.5
	0.2nm,0.7s,baz=262,slow=5.1,SNR=1.7						
	0.2nm,0.7s						
SPITS	**Spitsbergen Ar**	**85.33**	**349**	LR	LR	06 50 48.7	
	comp=Z,34nm,18.1s,baz=175,slow=39						
ARCES	**ARCESS Array B**	**85.45**	**340**	P	P	06 08 02.2	-1.0
	1.6nm,0.8s,baz=79,slow=6.5,SNR=0.9						
	1.6nm,0.8s						
FINES	**FINESS Array B**	**87.07**	**332**	P	P	06 08 09.4	-1.9
	1.5nm,0.7s,baz=62,slow=4.6,SNR=7.0						
	1.5nm,0.7s						
VNDA	**Vanda**	**88.60**	**173**	P	P	06 08 18.9	+0.7
	1.5nm,0.8s,baz=318,slow=6.7,SNR=14						
	1.5nm,0.8s						
PLCA	**Paso Flores**	**144.97**	**157**	PKPbc	PKPdf	06 15 03.8	+0.5
	4.3nm,1.0s,baz=235,slow=2.9,SNR=7.5						

*WEL **16** 06:09:00, 41°.70S×174°.36E, h14km, ML4.9, Mw4.4, Moment Tensor Solution. s4 Moment tensor: Scale 10^15 Nm; Mrr2.59; Mθθ1.81; Mϕϕ-4.40; Mrθ1.63; Mθϕ-2.57; Mϕr-2.55; Fault plane solution: M0 5.50000×10^15 NP1: ϕs56.00000°, δ48.00000°, λ153.00000°. NP2: ϕs165.00000°, δ70.00000°, λ45.00000°. Principal axes: T 522.4800, Plg46.0000°, Azm30.0000°; N 54.9300, Plg41.0000°, Azm183.0000°; P -577.4000, Plg13.0000°, Azm286.0000°;*

*IDC **16** 06:09:36.5±1.2, 41°.53S×174°.25E, h0km, mb4.3/3, mbtmp4.3/4, ML4.1/1, MS3.7/21 Error ellipse: s-maj=38.6km s-min=27.1km az=55.0*

*NEIC **16** 06:09:38.0±1.4, 41°.86S±0°.04×174°.51E±0°.06, h16km±6km, mb4.6/10, ML4.9(WEL), Error ellipse: s-maj=6.2km s-min=5.2km az=118.0*

*NOU **16** 06:09:37.7, 41°.88S×174°.58E, h7km, MLv5.0/15, Cook Strait, New Zealand*

*WEL **16** 06:09:39.4±0.4, 42°.5S±3′×17°.4E±°, h5km, M4.8/28, ML5.0/22, MLv4.8/28, Error ellipse: s-maj=0.0km s-min=0.0km az=157.4*

ISC 16 06:09:38.2±1.0, 41°.82S±0°.03×174°.47E±0°.03, h17km±6km, n209, σ1°15/196, mb4.5/8, MS3.7/20, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.20**	**289**		Pb	06 09 43.4	-0.2
CMWZ	**Cape Campbell**	**0.20**	**289**	P	Pg	06 09 43.2	+0.1
CMWZ				S	Sg	06 09 47.0	+0.7
BSWZ	**Blackbirch Sta**	**0.46**	**283**		Pg	06 09 47.5	+0.1
BSWZ	**Blackbirch Sta**	**0.46**	**283**	P	Pg	06 09 47.5	+0.1
BSWZ				S	Sg	06 09 53.6	0.0
SNZO	**South Karori**	**0.54**	**19**		Pb	06 09 49.3	+0.1
SNZO	**South Karori**	**0.54**	**19**	P	Pb	06 09 49.3	+0.1
TUWZ	**Tuamarina**	**0.55**	**314**		Pg	06 09 48.7	-0.5
TUWZ	**Tuamarina**	**0.55**	**314**	P	Pg	06 09 48.7	-0.5
TUWZ				S	Sg	06 09 56.3	-0.3
WEL	**Wellington**	**0.58**	**23**	P	Pb	06 09 50.1	+0.2
WEL				S	Sg	06 09 55.8	-1.5
TCW	**Tory Channel**	**0.62**	**346**		Pg	06 09 50.0	-0.5
TCW	**Tory Channel**	**0.62**	**346**	P	Pg	06 09 49.9	-0.5
PLWZ	**Palliser**	**0.64**	**68**	Pn	Pn	06 09 53.5	+1.0
PLWZ	**Palliser**	**0.64**	**68**	P	Pn	06 09 53.4	+0.8
MSWZ	**Moikau Station**	**0.71**	**56**		Pn	06 09 54.1	+0.6
MSWZ	**Moikau Station**	**0.71**	**56**	P	Pn	06 09 54.1	+0.6
CAW	**Cannon Point**	**0.84**	**33**	P	Pg	06 09 54.8	+0.3
PAWZ	**Paruwai Farm**	**0.84**	**59**	P	Pn	06 09 56.1	+0.8
KHZ	**Kahutara**	**0.92**	**229**	P	Pn	06 09 57.6	+1.3
TRWZ	**Traveller**	**1.00**	**66**	P	Pg	06 09 58.2	+0.5
KIW	**Kapiti Island**	**1.01**	**19**	P	Pb	06 09 57.4	+0.1
NNZ	**Nelson**	**1.01**	**306**		Pb	06 09 56.9	-0.5
NNZ	**Nelson**	**1.01**	**306**	P	Pb	06 09 56.9	-0.5
MTW	**Mount Morrison**	**1.02**	**50**	P	Pg	06 09 58.4	+0.5
DUWZ	**D'Urville Isla**	**1.09**	**338**	P	Pn	06 09 59.0	+0.1
OGWZ	**Otaki Gorge**	**1.13**	**28**	P	Pb	06 09 59.6	+0.3
THZ	**Tophouse**	**1.17**	**272**	Pn	Pb	06 10 00.3	+0.2
THZ	**Tophouse**	**1.17**	**272**	P	Pb	06 10 00.5	+0.4
HOWZ	**Holdsworth Sta**	**1.21**	**41**	P	Pb	06 10 01.0	+0.4
TMWZ	**Te Maipa**	**1.28**	**57**	P	Pb	06 10 01.9	0.0
MRNZ	**Matariki Terra**	**1.35**	**287**		Pb	06 10 03.3	+0.2

RATZ	**Rangitukua**	**3.11**	**19**	P	**Pn**	**06 10 28.7**	**+2.1**
RPZ	**Rata Peaks**	**3.15**	**232**	Pn	**Pn**	**06 10 27.5**	**+0.4**
	21nm,0.3s,baz=52,slow=0.8,SNR=31						
RPZ				Sn	**Sn**	**06 11 03.4**	**-1.0**
	57nm,0.3s,baz=155,slow=23,SNR=14						
RPZ				LR	LR	06 11 15.7	
	comp=Z,281nm,21.8s,baz=326,slow=31						
	73nm,0.4s						
RPZ	**Rata Peaks**	**3.15**	**232**	Pn	**Pn**	**06 10 26.8**	**-0.3**
RPZ	**Rata Peaks**	**3.15**	**232**	P	**Pn**	**06 10 27.5**	**+0.4**
RPZ	**Rata Peaks**	**3.15**	**232**	P	**Pn**	**06 10 26.9**	**-0.3**
HATZ	**Hinemaiaia**	**3.17**	**24**	P	**Pb**	**06 10 34.8**	**+0.6**
ARHZ	**Aropaoanui**	**3.19**	**38**	P	**Pn**	**06 10 27.4**	**-0.3**
NMHZ	**Naumai**	**3.25**	**34**	P	**Pn**	**06 10 28.3**	**-0.2**
HIZ	**Hauiti**	**3.31**	**5**	Pn	**Pn**	**06 10 31.1**	**+1.8**
HIZ	**Hauiti**	**3.31**	**5**	P	**Pn**	**06 10 31.6**	**+2.3**
HIZ	**Hauiti**	**3.31**	**5**	P	**Pn**	**06 10 31.3**	**+2.0**
MRHZ	**Matea Rd**	**3.33**	**27**	P	**Pn**	**06 10 29.3**	**-0.3**
WHHZ	**Waihua**	**3.45**	**39**	P	**Pn**	**06 10 30.6**	**-0.7**
RAHZ	**Arahi**	**3.52**	**35**	P	**Pn**	**06 10 31.3**	**-0.9**
ALRZ	**Allen Road**	**3.55**	**24**	P	**Pn**	**06 10 32.2**	**-0.4**
TLZ	**Tolley Road**	**3.58**	**14**	P	**Pn**	**06 10 34.7**	**+1.7**
HRRZ	**Handcock Road**	**3.69**	**23**	P	**Pn**	**06 10 34.6**	**0.0**
MHGZ	**Mahia Peninsul**	**3.73**	**46**	P	**Pn**	**06 10 34.0**	**-1.1**
HSRZ	**Hossack Road**	**3.76**	**22**	P	**Pn**	**06 10 35.7**	**+0.3**
RRRZ	**Republican Roa**	**3.81**	**25**	P	**Pn**	**06 10 35.0**	**-1.2**
FOZ	**Fox Glacier**	**3.84**	**242**	Pn	**Pn**	**06 10 37.9**	**+1.4**
FOZ	**Fox Glacier**	**3.84**	**242**	P	**Pn**	**06 10 38.1**	**+1.7**
HLRZ	**Highlands Stat**	**3.84**	**23**	P	**Pn**	**06 10 37.7**	**+1.1**
TARZ	**Mount Tarawera**	**3.90**	**24**	P	**Pn**	**06 10 37.1**	**-0.4**
OMRZ	**Omania**	**3.98**	**22**	P	**Pn**	**06 10 38.9**	**+0.3**
LBZ	**Lake Benmore**	**4.05**	**229**	Pn	**Pn**	**06 10 40.8**	**+1.3**
LBZ	**Lake Benmore**	**4.05**	**229**	P	**Pn**	**06 10 40.3**	**+0.8**
URZ	**Urewera**	**4.09**	**31**	P	**Pn**	**06 10 39.6**	**-0.4**
URZ	**Urewera**	**4.09**	**31**	P	**Pn**	**06 10 39.4**	**-0.6**
EDRZ	**Edgecumbe**	**4.09**	**26**	P	**Pn**	**06 10 39.5**	**-0.6**
KMRZ	**Kaimai**	**4.12**	**16**	P	**Pn**	**06 10 41.4**	**+0.9**
TOZ	**Tahuroa Road**	**4.16**	**11**	P	**Pn**	**06 10 42.0**	**+1.1**
MARZ	**Manawahe**	**4.18**	**25**	P	**Pn**	**06 10 42.4**	**+1.0**
ODZ	**Otahua Downs**	**4.26**	**220**	Pn	**Pn**	**06 10 41.9**	**-0.5**
ODZ	**Otahua Downs**	**4.26**	**220**	P	**Pn**	**06 10 42.5**	**+0.1**
ODZ	**Otahua Downs**	**4.26**	**220**	P	**Pn**	**06 10 42.4**	**+0.1**
OPRZ	**Ohinepanea**	**4.28**	**23**	P	**Pn**	**06 10 42.9**	**+0.3**
TGRZ	**Tauranga**	**4.31**	**19**	P	**Pn**	**06 10 43.4**	**+0.4**
RUGZ	**Raukumara Rang**	**4.57**	**34**	P	**Pn**	**06 10 45.3**	**-1.4**
MKAZ	**Moumakai**	**4.74**	**7**	P	**Pn**	**06 10 50.0**	**+1.2**
JCZ	**Jackson Bay**	**4.74**	**240**	P	**Pn**	**06 10 50.3**	**+1.3**
JCZ	**Jackson Bay**	**4.74**	**240**	P	**Pn**	**06 10 50.4**	**+1.3**
AWAZ	**Awhitu Peninsu**	**4.75**	**2**	P	**Pn**	**06 10 50.8**	**+1.8**
HAZ	**Te Kaha**	**4.79**	**33**	P	**Pn**	**06 10 49.5**	**-0.1**
PKGZ	**Pakihiroa**	**4.80**	**36**	P	**Pn**	**06 10 48.5**	**-1.4**
ETAZ	**East Tamaki Re**	**4.87**	**4**	P	**Pn**	**06 10 52.6**	**+1.9**
WTAZ	**Waiatarua**	**4.88**	**1**	P	**Pn**	**06 10 53.2**	**+2.4**
WKZ	**Wanaka**	**4.99**	**231**	P	**Pn**	**06 10 52.7**	**+0.4**
RVAZ	**Riverhead Bore**	**5.04**	**1**	P	**Pn**	**06 10 55.4**	**+2.4**
MBAZ	**Motutapu North**	**5.05**	**4**	P	**Pn**	**06 10 54.9**	**+1.7**
EAZ	**Earnscleugh**	**5.07**	**226**	P	**Pn**	**06 10 53.8**	**+0.3**
KUZ	**Kuaotunu**	**5.16**	**11**	P	**Pn**	**06 10 55.5**	**+0.9**
KUZ	**Kuaotunu**	**5.16**	**11**	P	**Pn**	**06 10 55.2**	**+0.6**
MXZ	**Matakaoa Point**	**5.18**	**36**	Pn	**Pn**	**06 10 53.2**	**-1.7**
MXZ	**Matakaoa Point**	**5.18**	**36**	P	**Pn**	**06 10 53.9**	**-1.0**
MLZ	**Mavora Lakes**	**5.82**	**230**	Pn	**Pn**	**06 11 04.4**	**+0.6**
MLZ	**Mavora Lakes**	**5.82**	**230**	P	**Pn**	**06 11 04.4**	**+0.6**
WCZ	**Waipu Caves**	**5.87**	**359**	P	**Pn**	**06 11 06.6**	**+2.1**
SYZ	**Scrubby Hill**	**6.08**	**217**	P	**Pn**	**06 11 08.1**	**+0.8**
WHZ	**Wether Hill Ro**	**6.23**	**227**	Pn	**Pn**	**06 11 08.5**	**-0.9**
OUZ	**Omahuta**	**6.62**	**354**	Pn	**Pn**	**06 11 16.9**	**+2.1**
OUZ	**Omahuta**	**6.62**	**354**	P	**Pn**	**06 11 17.0**	**+2.2**
OUZ	**Omahuta**	**6.62**	**354**	P	**Pn**	**06 11 17.9**	**+3.2**
CTZ	**Chatham Island**	**6.83**	**109**	P	**Pn**	**06 11 18.7**	**+1.1**
CTZ	**Chatham Island**	**6.83**	**109**	P	**Pn**	**06 11 18.5**	**+0.9**
DZM	**Mont Dzumac**	**20.81**	**339**	LR	LR	06 22 21.9	
	comp=Z,176nm,18.0s,baz=202,slow=37						
MSVF	**Nonsavu**	**24.20**	**8**	LR	LR	06 23 19.6	
	comp=Z,218nm,19.1s,baz=159,slow=34						
MSVF	**Nonsavu**	**24.20**	**8**	P	**P**	**06 14 54.6**	**+0.6**
MSVF				IAmb	IAmb	06 14 56.9	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**27.97**	**280**	LR	LR	06 25 31.3	
	comp=Z,102nm,20.1s,baz=130,slow=34						
RAR	**Rarotonga**	**29.87**	**54**	LR	LR	06 27 21.4	
	comp=Z,94nm,19.2s,baz=238,slow=36						
BBOO	**Buckleboo**	**31.63**	**274**	P	**P**	**06 15 59.8**	**-0.6**
BBOO				IAmb	IAmb	06 16 17.8	
	comp=Z,20nm,1.4s						
CTA	**Charters Tower**	**32.23**	**304**	LR	LR	06 29 01.6	
	comp=Z,135nm,18.3s,baz=94,slow=36						
HNR	**Honiara**	**34.70**	**334**	LR	LR	06 29 17.4	
	comp=Z,1μm,18.4s,baz=134,slow=34						
ASAR	**Alice Springs**	**38.21**	**285**	P	**P**	**06 16 56.3**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=122,slow=7.0,SNR=29						
ASAR				LR	LR	06 32 17.1	
	comp=Z,160nm,19.8s,baz=160,slow=36						
	comp=Z,1.6nm,0.4s						
ASAR	**Alice Springs**	**38.21**	**285**	P	**P**	**06 16 56.1**	**-1.1**
PPT	**Papeete**	**39.06**	**63**	LR	LR	06 31 56.0	
	comp=Z,67nm,18.2s,baz=234,slow=34						
WR0	**Warramunga Arr**	**40.13**	**290**	P	**P**	**06 17 12.5**	**-0.8**
PMG	**Port Moresby**	**40.25**	**316**	LR	LR	06 34 10.5	
	comp=Z,64nm,18.0s,baz=150,slow=37						
WB2	**Warramunga Arr**	**40.27**	**290**	P	**P**	**06 17 13.7**	**-0.8**
WB2				IAmb	IAmb	06 17 15.2	
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**40.28**	**290**	P	**P**	**06 17 13.1**	**-1.5**
	comp=Z,3.9nm,0.4s,baz=126,slow=8.5,SNR=19						
WRA				LR	LR	06 34 26.6	
	comp=Z,162nm,18.2s,baz=102,slow=37						
	comp=Z,3.9nm,0.4s						
WB0	**Warramunga Arr**	**40.36**	**291**	P	**P**	**06 17 14.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**45.61**	**262**	LR	LR	06 33 56.8	
	comp=Z,66nm,20.3s,baz=330,slow=32						
MTN	**Manton Dam**	**47.39**	**295**	P	**P**	**06 18 10.8**	**-0.9**
MTN				IAmb	IAmb	06 18 21.8	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**48.31**	**180**	P	**P**	**06 18 22.2**	**+3.7**
	comp=Z,1.4nm,0.7s,baz=88,slow=1.2,SNR=9.3						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**48.31**	**180**	P	**P**	**06 18 21.7**	**+3.3**
QSPA				IAmb	IAmb	06 18 37.6	
	comp=Z,4.4nm,0.9s						
MORW	**Morawa**	**48.42**	**266**	P	**P**	**06 18 18.8**	**-0.8**
PSA00	**Pilbara Seismi**	**49.79**	**276**	P	**P**	**06 18 27.7**	**-2.4**
PSA00				IAmb	IAmb	06 18 57.6	
	comp=Z,12nm,1.5s						
MBWA	**Marble Bar**	**50.12**	**277**	P	**P**	**06 18 31.4**	**-1.3**
BATI	**Baumata**	**54.41**	**290**	LR	LR	06 42 06.9	
	comp=Z,163nm,19.0s,baz=260,slow=36						
KAPI	**Kappang**	**60.80**	**291**	LR	LR	06 47 42.3	
	comp=Z,85nm,18.1s,baz=186,slow=38						
RPN	**Rapa Nui**	**62.60**	**103**	LR	LR	06 43 25.2	
	comp=Z,29nm,18.2s,baz=22,slow=32						
SNAA	**Sanae**	**66.80**	**181**	LR	LR	06 48 33.3	
	comp=Z,44nm,21.1s,baz=187,slow=35						
LEM	**Lembang**	**68.27**	**281**	LR	LR	06 53 57.1	
	comp=Z,112nm,18.1s,baz=157,slow=39						
ASAJ	**Asahikawa**	**90.20**	**338**	LR	LR	06 59 20.8	
	comp=Z,16nm,19.3s,baz=140,slow=33						
NNA	**Nana**	**95.58**	**111**	LR	LR	06 58 15.2	
	comp=Z,37nm,18.4s,baz=209,slow=30						
PALK	**Pallekele**	**97.60**	**273**	LR	LR	07 07 35.8	
	comp=Z,29nm,18.0s,baz=240,slow=36						
BRDH	**Bariadhala**	**99.70**	**292**	LR	LR	07 14 51.1	
	comp=Z,57nm,18.2s,baz=91,slow=39						
DBIC	**Dimbokro**	**145.00**	**181**	PKPbc	**PKPab**	**06 29 14.2**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=90,slow=4.0,SNR=1.7						
ARCES	**ARCESS Array B**	**147.90**	**340**	PKPbc	**PKPbc**	**06 29 21.1**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=64,slow=2.8,SNR=8.4						
BRTR	**Keskin Array B**	**150.43**	**279**	PKPbc	**PKiKP**	**06 29 29.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=90,slow=0.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**150.75**	**195**	PKPbc	**PKiKP**	**06 29 31.4**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=157,slow=2.8,SNR=12						
FINES	**FINESS Array B**	**152.68**	**327**	PKPbc	**PKPbc**	**06 29 32.5**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=43,slow=3.6,SNR=5.9						

*SOME **16** 06:11:29.5,50˚.02N×89˚.83E,h30km*
*ASRS **16** 06:11:43.2±0.2,51˚N±1˚×89˚.4E±0˚.9,h3km,MLh4.5/15,*
Error ellipse: s-maj=2.5km s-min=1.8km az=144.4,
confirmed
*IDC **16** 06:11:45.8±3.3,50˚.88N×89˚.31E,h0km,mb3.8/1,*
mbtmp4.0/5,ML3.4/4,Error ellipse: s-maj=36.7km
s-min=15.5km az=94.0
*MOS **16** 06:11:46.7±2.5,50˚.74N×89˚.04E,h9km,mb3.9/1,Error*

ellipse: s-maj=9.1km s-min=6.1km az=72.2
*BJI **16** 06:11:46.9±0.0,50˚.80N×89˚.18E,h7km,mb3.7/1,mB4.8/2,*
ML4.1/4,Ms3.8/2
*NNC **16** 06:11:48.8±1.8,50˚.85N×88˚.91E,h0km,mb4.3,mpv4.3,*
Error ellipse: s-maj=14.9km s-min=5.9km az=90.0

ISC 16 06:11:44.1±0.9,50.86N±0.02×89.39E±0.02,h1km±8km,
n69,σ2s11/110,13C-11D,Tuva-Buryatia-Mongolia
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULGR	**Ulagan, Altay**	**0.94**	**256**	⇓Pg	**Pn**	**06 12 03.6**	**-0.9**
ULGR				Sg	**Sb**	**06 12 15.4**	**-0.9**
ULGR	**Ulagan, Altay**	**0.94**	**256**	PG	**Pn**	**06 12 03.2**	**-1.4**
ULGR						06 12 15.3	
CUR	**Chagan-Uzun**	**1.01**	**222**	⇓Pg	**Pg**	**06 12 03.5**	**0.0**
CUR				Sg	**Sg**	**06 12 15.3**	**-1.2**
CUR	**Chagan-Uzun**	**1.01**	**222**	PG	**Pg**	**06 12 03.4**	**0.0**
CUR						06 12 15.3	
CHBI	**Chibit, Altay**	**1.32**	**246**	⇑Pg	**Pb**	**06 12 10.1**	**+0.4**
CHBI				Sg	**Sn**	**06 12 27.2**	**-0.9**
ARTR	**Artybash**	**1.63**	**306**	Pg	**Pg**	**06 12 15.6**	**+0.2**
ARTR				Sg	**Sg**	**06 12 37.7**	**+1.3**
ARTR	**Artybash**	**1.63**	**306**	P*	**Pg**	**06 12 15.5**	**+0.2**
ARTR						06 12 37.6	
DGZ	**Jazzator, Alta**	**1.71**	**228**	⇑Pg	**Pb**	**06 12 16.1**	**-0.3**
DGZ				Sg	**Sn**	**06 12 37.6**	**-0.1**
DGZ	**Jazzator, Alta**	**1.71**	**228**	PG	**Pb**	**06 12 16.1**	**-0.3**
DGZ						06 12 39.4	
TASR	**Tashtagol**	**2.13**	**334**	Pg	**Pg**	**06 12 25.0**	**+0.2**
TASR				Sg	**Sg**	**06 12 53.2**	**+0.8**
TASR	**Tashtagol**	**2.13**	**334**	PN	**Pg**	**06 12 24.8**	**-0.1**
TASR						06 12 53.1	
TBTR	**Tabat**	**2.23**	**21**	*i* PN	**Pb**	**06 12 22.7**	**-2.6**
DJO	**Djoy, Khakassi**	**2.24**	**30**	Pg	**Pg**	**06 12 27.3**	**+0.3**
DJO				Sg	**Sg**	**06 12 56.0**	**0.0**
DJO	**Djoy, Khakassi**	**2.24**	**30**	PN	**Pg**	**06 12 27.0**	**0.0**
DJO						06 12 55.9	
DJOS	**Djoyskaya Sosn**	**2.31**	**32**	⇓Pg	**Pg**	**06 12 29.5**	**+1.2**
DJOS				Sg	**Sg**	**06 12 59.4**	**+1.2**
DJOS	**Djoyskaya Sosn**	**2.31**	**32**	PN	**Pg**	**06 12 29.5**	**+1.2**
DJOS						06 12 59.4	
CERR	**Cheremushki**	**2.36**	**31**	Pg	**Pg**	**06 12 30.4**	**+1.0**
CERR				Sg	**Sg**	**06 13 01.3**	**+1.4**
CERR	**Cheremushki**	**2.36**	**31**	PN	**Pg**	**06 12 30.4**	**+1.0**
CERR						06 13 01.3	
GALT	**Gorno-Altaysk,**	**2.42**	**298**	Pg	**Pg**	**06 12 28.4**	**-2.2**
GALT				Sg	**Sg**	**06 13 01.6**	**-0.4**
HVS	**Khovu-Aksy**	**2.74**	**82**	*i* PN	**Pg**	**06 12 35.6**	**-1.0**
HVS				*i* S	**Sg**	**06 13 11.7**	**-0.3**
LUZB	**Luzhba, Kemero**	**2.83**	**354**	Pg	**Pg**	**06 12 36.8**	**-1.5**
LUZB				Sg	**Sg**	**06 13 15.9**	**+1.0**
LUZB	**Luzhba, Kemero**	**2.83**	**354**	PN	**Pg**	**06 12 36.7**	**-1.5**
LUZB						06 13 15.9	
UKR	**Ust'-Kan**	**2.93**	**273**	Pg	**Pg**	**06 12 37.8**	**-2.4**
UKR				Sg	**Sg**	**06 13 16.5**	**-1.6**
UKR	**Ust'-Kan**	**2.93**	**273**	PN	**Pg**	**06 12 37.7**	**-2.4**
UKR						06 13 16.5	
ELT	**Eltsovka**	**3.10**	**322**	Pg	**Pb**	**06 12 38.3**	**-1.8**
ELT				Sg	**Sg**	**06 13 21.5**	**-2.0**
ELT	**Eltsovka**	**3.10**	**322**	PN	**Pb**	**06 12 38.2**	**-1.8**
ELT						06 13 21.5	
ABNR	**Abakan**	**3.14**	**23**	*i* PN	**Pg**	**06 12 42.5**	**-1.7**
ABNR				*i* S	**Sg**	**06 13 22.9**	**-1.9**
KZLR	**Kyzyl**	**3.29**	**73**	Pg	**Pg**	**06 12 44.8**	**-2.3**
KZLR				Sg	**Sg**	**06 13 28.7**	**-1.0**
SHRR	**Shira**	**3.67**	**7**	*i* PN	**Pg**	**06 12 52.2**	**-2.3**
SHRR				*i* S	**Sg**	**06 13 40.1**	**-2.0**
ZAA0	**Zalesovo Array**	**4.18**	**320**	⇓Sn	**Sn**	**06 13 39.9**	**+1.6**
	10.0nm,0.9s						
ZAA0				⇑Lg	Lg	06 13 55.4	
	52nm,1.1s						
ZALV	**Zalesovo Beam**	**4.18**	**320**	Pn	**Pn**	**06 12 51.0**	**+2.1**
	2.4nm,0.3s,baz=141,slow=14,SNR=8.2						
ZALV				Sn	**Sn**	**06 13 38.6**	**+0.3**
	7.2nm,0.3s,baz=134,slow=16,SNR=5.4						
ZALV				Lg	Lg	06 13 55.9	
	20nm,0.3s,baz=139,slow=24,SNR=9.7						
	5.5nm,0.4s						
SALR	**Pechorkino, Sa**	**4.22**	**329**	Pg	**Pb**	**06 12 59.8**	**+0.8**
SALR				Sg	**Sg**	**06 13 59.6**	**+0.1**
ZSN	**Zaisan**	**4.52**	**223**	*e*P	Pb	06 12 58.7	-5.6
	8.1nm,0.3s						
ZSN				*e*S	**Sg**	**06 14 06.9**	**-2.3**
	197nm,0.7s						
KEM	**Kemerovo**	**4.92**	**337**	Sg	**Sg**	**06 14 20.4**	**-1.5**
MINR	**Mina**	**4.99**	**34**	Pg	**Pg**	**06 13 16.6**	**-3.1**
MINR				Sg	**Sg**	**06 14 25.1**	**+0.8**
KNGR	**Kungurtug, Tuv**	**5.17**	**90**	Pg	**Pg**	**06 13 20.8**	**-2.3**
KNGR				Sg	**Sg**	**06 14 33.0**	**+3.0**
NVS	**Novosibirsk**	**5.46**	**319**	Pn	Pn	06 13 00.7	-5.9
NVS				Pg	**Pg**	**06 13 29.1**	**+0.4**
NVS				S	**Sn**	**06 14 10.8**	**+0.8**
NVS				Sg	**Sg**	**06 14 37.8**	**-1.7**
NVSII	**Novosibirsk**	**5.46**	**319**	Pg	**Pg**	**06 13 28.4**	**-0.3**
NVSII				Sg	**Sg**	**06 14 36.0**	**-3.5**
BSTK	**Bystrovka, Nov**	**5.53**	**315**	Pn	**Pn**	**06 13 07.2**	**-0.3**
BSTK				Pg	**Pg**	**06 13 31.2**	**+1.1**
BSTK				S	**Sn**	**06 14 12.0**	**+0.3**
BSTK				Sg	**Sg**	**06 14 46.5**	**+4.8**
SEM	**Semipalatinsk**	**5.84**	**269**	*e*P	**Pb**	**06 13 25.9**	**-0.9**
	54nm,0.2s						
SEM				*e*S	**Sg**	**06 14 56.3**	**+4.8**
	75nm,0.4s						
GZLN	**Zheleznogorsk**	**6.12**	**23**	Pg	Pg	06 13 34.7	-6.6
GZLN				Sg	**Sg**	**06 15 05.1**	**+4.7**
MK31	**Makanchi Array**	**6.21**	**232**	⇑Pn	**Pn**	**06 13 18.8**	**+2.0**
	20nm,0.5s,baz=60,slow=12,SNR=551						
MK31				⇑Sn	**Sn**	**06 14 29.0**	**+0.7**
	11nm,0.4s						
MK31				⇓Lg	Lg	06 14 56.6	
	20nm,0.5s						
MK31	**Makanchi Array**	**6.21**	**232**	PN	**Pn**	**06 13 18.8**	**+2.0**
MK31				S	**Sn**	**06 14 29.4**	**+1.0**
MKAR	**Makanchi Array**	**6.21**	**232**	Pn	**Pn**	**06 13 19.4**	**+2.5**
	7.1nm,0.3s,baz=53,slow=13,SNR=399						
MKAR				Sn	**Sn**	**06 14 30.9**	**+2.5**
	3.5nm,0.3s,baz=64,slow=20,SNR=6.3						
MKAR				Lg	Lg	06 14 59.4	
	5.8nm,0.3s,baz=47,slow=28,SNR=7.9						
	17nm,0.5s						
MKAR	**Makanchi Array**	**6.21**	**232**	Pn	**Pn**	**06 13 19.5**	**+2.7**
MKAR				S	**Sn**	**06 14 30.2**	**+1.8**
MKAR				Sg	**Sg**	**06 15 00.9**	**-2.4**
MAKZ	**Makanchi**	**6.35**	**233**	⇓Pn	**Pn**	**06 13 20.7**	**+1.8**
	10nm,0.6s						
MAKZ				⇑Lg	Lg	06 14 56.8	
	66nm,1.1s						
MAKZ	**Makanchi**	**6.35**	**233**	Pn	**Pn**	**06 13 21.2**	**+2.3**
MAKZ				S	**Sn**	**06 14 33.0**	**+1.0**
MAKZ				Sg	**Sg**	**06 15 05.1**	**-2.9**
MAKZ	**Makanchi**	**6.35**	**233**	PN	**Pn**	**06 13 20.7**	**+1.8**
KURK	**Kurchatov**	**6.83**	**273**	Pn	**Pn**	**06 13 26.7**	**+1.3**
KURK				Sn	**Sn**	**06 14 41.9**	**-1.8**
KURK				Lg	Lg	06 15 20.2	
KURK	**Kurchatov**	**6.83**	**273**	PN	**Pn**	**06 13 27.7**	**+2.3**
KURBB	**Kurchatov Arra**	**6.90**	**272**	Pn	**Pn**	**06 13 27.7**	**+1.4**
	1.3nm,0.3s,baz=85,slow=14,SNR=59						
	11nm,0.4s						
KURBB	**Kurchatov Arra**	**6.90**	**272**	⇓Pn	**Pn**	**06 13 27.5**	**+1.2**
	16nm,0.5s						
KURBB				⇑Sn	**Sn**	**06 14 44.4**	**-1.0**
	45nm,0.6s						
KURBB				⇓Lg	Lg	06 15 21.5	
	226nm,0.7s						
KURBB	**Kurchatov Arra**	**6.90**	**272**	PN	**Pn**	**06 13 27.5**	**+1.2**
KURBB				S	**Sn**	**06 14 44.4**	**-1.0**
MOY	**Mondy**	**7.33**	**79**	Pg	**Pg**	**06 14 02.2**	**-2.2**
MOY				Sg	**Sg**	**06 15 37.8**	**-1.5**
PDGK	**Podgornoye**	**10.11**	**226**	⇑Pn	Pn	06 13 59.3	-11
	4.6nm,1.2s						
PDGK				⇑Lg	Lg	06 17 00.5	
	30nm,1.0s						
PDGK	**Podgornoye**	**10.11**	**226**	P	**Pn**	**06 14 09.0**	**-1.4**
OTUK	**Ortayu**	**11.38**	**263**	⇑Pn	**Pn**	**06 14 26.7**	**-1.2**
	5.0nm,0.5s						
OTUK				⇑Lg	Lg	06 17 38.3	
	25nm,0.9s						
OTUK	**Ortayu**	**11.38**	**263**	P	**Pn**	**06 14 26.6**	**-1.2**
SONM	**Songino Array**	**11.49**	**99**	Lg	Lg	06 17 42.8	
	0.4nm,0.3s,baz=291,slow=30,SNR=7.5						
BVA0	**Borovoye Array**	**11.93**	**288**	⇓P	**Pn**	**06 14 34.2**	**-1.0**
	2.1nm,0.6s						
BVA0				⇑S	**Sn**	**06 16 42.6**	**-6.2**
	7.9nm,0.8s						
BVA0	**Borovoye Array**	**11.93**	**288**	P	**Pn**	**06 14 34.1**	**-1.0**
BVA0				S	**Sn**	**06 16 42.6**	**-6.2**
BVAR	**Borovoye Array**	**11.93**	**288**	Pn	**Pn**	**06 14 34.6**	**-0.6**
	0.1nm,0.3s,baz=96,slow=13,SNR=15						
	3.5nm,0.7s						
BRVK	**Borovoye**	**11.99**	**288**	⇓P	**Pn**	**06 14 35.0**	**-1.1**
	2.0nm,0.5s						
BRVK				⇑S	**Sn**	**06 16 44.7**	**-5.7**
	8.5nm,0.8s						
BRVK	**Borovoye**	**11.99**	**288**	P	**Pn**	**06 14 35.0**	**-1.1**
BRVK				S	**Sn**	**06 16 44.6**	**-5.7**
KK31	**Karatay Array**	**15.01**	**246**	⇓Pn	**Pn**	**06 15 14.6**	**-2.7**
	2.1nm,1.1s,baz=49,slow=12,SNR=6.6						
KK31				Lg	Lg	06 19 37.6	
	6.8nm,0.9s,baz=53,slow=26,SNR=4.7						
KK31	**Karatay Array**	**15.01**	**246**	P	**Pn**	**06 15 14.6**	**-2.7**
TNCH	**TengChong**	**26.73**	**161**	P	**P**	**06 17 28.6**	**+3.4**
TNCH				pmax	pmax		
	comp=Z,230nm,3.6s						
BRTR	**Keskin Array B**	**39.88**	**276**	P	**P**	**06 19 20.1**	**+0.8**
	1.4nm,0.9s,baz=67,slow=8.0,SNR=4.4						
	1.4nm,0.9s						
CLL	**Collm**	**45.91**	**302**	*i* P	**P**	**06 20 09.3**	**+1.3**

*JMA **16** 06:16:45.2±0.2,23˚.4N±0˚.6×12˚.2E±˚,h13km±2km,*
MV3.5/11,TAIWAN REGION
*TAP **16** 06:16:46.5,23˚.37N×121˚.42E,h32km,ML3.7,B*

ISC 16 06:16:45.9±0.9,23.35N±0.02×121.50E±0.02,h32km±4km,
n155,σ0s92/221,30C-15D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ISC	Time	Res
				Op		h m s	ISC
ECBN	**Changbin**	**0.06**	**233**	⇓*e*P	**Pb**	**06 16 51.2**	**-0.1**
	baz=155						
ECBN				*e*S	**Sb**	**06 16 55.5**	**+0.6**
	baz=155						
EYUL	**Yuli**	**0.17**	**269**	⇓P	**Pn**	**06 16 52.4**	**+0.2**
	baz=271						
TWF1	**Yuli**	**0.19**	**271**	⇓*i*P	**Pn**	**06 16 52.2**	**-0.2**
	baz=274						
TWF1				*i* S	**Sb**	**06 16 55.9**	**-0.6**
	baz=274						
YULB	**Yu-li**	**0.19**	**283**	P	**Pb**	**06 16 52.1**	**-0.1**
YULB	**Yu-li**	**0.19**	**283**	⇓*i*P	**Pb**	**06 16 52.2**	**-0.1**
	baz=294						
YULB				S	**Sb**	**06 16 55.9**	**-0.7**
	baz=294						
EHY	**Hungye**	**0.23**	**314**	⇓*i*P	**Pb**	**06 16 52.5**	**-0.2**
	baz=315						
EHY				*i* S	**Sb**	**06 16 56.5**	**-0.8**
	baz=315						
FULB	**Fuli**	**0.24**	**232**	⇑P	**Pn**	**06 16 53.5**	**+0.2**
	baz=228						
FULB				S	**Sb**	**06 16 58.9**	**+1.3**
	baz=228						
CHKT	**Chengkung**	**0.28**	**206**	⇑*i*P	**Pn**	**06 16 54.0**	**+0.2**
	baz=181						

baz=356
NACB Ninganchiao 0.83 6 P Pb 06 17 00.1 -1.7
NACB Ninganchiao 0.83 6 ⇑P Pb 06 17 00.2 -1.7
baz=3.0
WCKO Fanlu 0.83 276 eP Pn 06 17 02.4 +1.1
baz=268
WPL Puli Township 0.83 323 eP Pb 06 17 01.5 -0.3
baz=334
CHN4 Tsaushan 0.83 270 ⇓iP Pb 06 17 01.2 -0.7
baz=269
CHN4 eS Sb 06 17 12.4 -0.4
baz=269
WJS Zhushan 0.85 304 ⇑eP Pn 06 17 02.6 +1.0
baz=305
WJS eS Sn 06 17 13.9 +0.9
baz=305
ETLH Xiulin Townshi 0.85 359 ⇑eP Pb 06 17 00.7 -1.6
baz=4.0
SLGT Liugui 0.86 246 eP Pn 06 17 02.4 +0.6
baz=242
SGST Jiashian 0.88 253 eP Pb 06 17 02.1 -0.6
baz=242
SGST S Sb 06 17 14.1 -0.2
baz=242
WCS Beigang Elemen 0.89 323 ⇑P Pb 06 17 01.6 -1.2
baz=333
ECL Taimali 0.90 214 eP Pb 06 17 01.0 -2.1
baz=199
CHN1 Nanshi 0.91 260 ⇓P Pn 06 17 03.5 +1.1
baz=257
CHN1 eS Sn 06 17 15.3 +0.9
baz=257
WNT Mingjian 0.91 305 P Pn 06 17 03.6 +1.1
baz=307
WNT eS Sn 06 17 15.7 +1.2
baz=307
WGK Gukeng 0.92 291 eP Pn 06 17 03.4 +0.8
baz=292
FUSS Fushou 0.92 345 ⇑P Pb 06 17 02.8 -0.8
baz=355
TWK Hsinying 0.93 265 ⇑eP Pn 06 17 03.7 +0.9
baz=263
TWK S Sn 06 17 16.4 +1.3
baz=263
WNT1 Nantou City 0.93 307 eP Pn 06 17 04.2 +1.4
baz=296
WNT1 eS Sn 06 17 16.4 +1.3
baz=296
WDLH Douliu 0.94 291 eP Pb 06 17 04.5 +0.7
baz=292
TWT Tachien 0.95 342 ⇑P Pn 06 17 03.4 +0.3
baz=336
TDCB Techi 0.95 341 ⇑P Pn 06 17 03.4 +0.2
baz=344
TDCB eS Sb 06 17 13.9 -2.5
baz=344
CHN2 Minshiung 0.96 281 eP Pb 06 17 04.9 +0.9
baz=281
CHY Chiayi 1.00 279 eP Pb 06 17 04.9 +0.3
baz=278
SSD Sandimen 1.00 233 eP Pn 06 17 03.7 0.0
baz=227
WWF Wufeng 1.01 313 P Pb 06 17 04.4 -0.4
baz=315
TSMG Majia 1.01 231 eP Pn 06 17 03.9 +0.1
baz=223
SCST Cishan 1.03 244 eP Pb 06 17 05.9 +0.7
baz=240
WHP Taichung City 1.05 331 eP Pb 06 17 05.4 -0.3
baz=340
WTK Tuku 1.07 289 eP Pb 06 17 06.0 0.0
baz=289
CHN3 Shinhua 1.08 256 eP Pb 06 17 07.4 +1.4
baz=267
NNSB Datong 1.08 354 eP Pn 06 17 04.6 -0.3
baz=10.0
NNSH Datong 1.08 354 eP Pn 06 17 03.6 -1.3
baz=9.0
MASBT Mashibuluo 1.08 228 eP Pn 06 17 04.8 0.0
baz=224
MASBT eS Sn 06 17 19.3 +0.6
baz=224
NNS Nan Shan 1.09 354 eP Pn 06 17 03.9 -1.2
baz=10.0
TCU Taichung 1.10 317 eP Pb 06 17 06.6 +0.3
baz=305
TCU eS Sb 06 17 20.9 +0.7
baz=305
ENA Nanau 1.10 12 eP Pn 06 17 04.5 -0.5
baz=6.0
SHHT Tainan City 1.11 253 eP Pb 06 17 07.0 +0.5
baz=250
ICHU Yijhu 1.12 271 eP Pb 06 17 07.0 +0.3
baz=269
TWM1 Shoushan 1.12 242 eP Pb 06 17 07.3 +0.6
baz=238
WCHH Zhanghua 1.13 310 eP Pb 06 17 07.5 +0.6
baz=312
TAW Tawu 1.13 210 eP Pn 06 17 04.7 -0.8
baz=196
EAST Anshuo 1.13 212 eP Pn 06 17 04.7 -0.9
baz=200
TAWH Dawu Township 1.15 209 eP Pn 06 17 03.8 -1.9
baz=198
WRL Guolierlin Hig 1.17 298 eP Pn 06 17 06.6 +0.6
baz=299
WRL eS Sn 06 17 21.2 +0.5
baz=299
WSL Shuilin Townsh 1.18 279 eP Pn 06 17 06.8 +0.7
baz=278
LATG Datong 1.18 1 eP Pn 06 17 06.0 -0.3
baz=16
CHN8 Yiju 1.18 270 eP Pb 06 17 07.2 -0.5
baz=269
TWQ1 Liyutan 1.20 326 ⇑iP Pb 06 17 08.3 +0.3
baz=328
TWQ1 S Sb 06 17 23.8 +0.7
baz=328
NSY Sanyi 1.26 328 eP Pb 06 17 09.3 +0.2
baz=329
NSY eS Sb 06 17 25.7 +0.8
baz=329
SCZT Fangliau 1.27 220 eP Pn 06 17 07.7 +0.4
baz=206
WDJ Dajia District 1.27 322 eP Pb 06 17 09.2 0.0
baz=336
WDJ eS Sb 06 17 25.4 +0.2
baz=336
ENTT Nioudou 1.29 3 eP Pn 06 17 06.6 -1.0
baz=17
TWC Suao 1.29 14 eP Pn 06 17 08.2 +0.5
baz=8.0
SLIU Shizi 1.30 210 eP Pn 06 17 07.1 -0.7
baz=195
LAY Lan-yu 1.30 178 eP Pn 06 17 07.6 -0.3
baz=173
TSCK Chigu Township 1.31 261 eP Pn 06 17 08.8 +0.9
baz=259
YHNB Yeheng 1.32 355 P Pn 06 17 08.9 +0.8
YHNB Yeheng 1.32 355 ⇑P Pn 06 17 08.6 +0.4
baz=10.0
NFF Wufeng Townshi 1.32 345 eP Pn 06 17 08.9 +0.8
baz=355
NSK Sanguang 1.33 354 eP Pn 06 17 08.0 -0.2
baz=8.0
NSK eS Sn 06 17 23.6 -1.2
baz=8.0
LYUB Lan-yu 1.34 177 eP Pn 06 17 07.4 -1.0
baz=172
NMLH Miaoli 1.35 331 eP Pb 06 17 10.2 -0.4
baz=334
NSTT Nanjuang 1.35 340 ⇑iP Pb 06 17 10.1 -0.6
baz=342
NSTT eS Sb 06 17 26.7 -1.0
baz=342
LIOB Emei 1.36 341 eP Pb 06 17 10.4 -0.5
baz=344
TWE Neicheng 1.38 6 eP Pn 06 17 08.9 +0.1
baz=10.0
FUSB Fushanzhiwuyua 1.41 3 eP Pn 06 17 09.6 +0.3
baz=14
FUSB eS Sn 06 17 26.8 0.0
baz=14
NWLT Wulai 1.42 0 eP Pn 06 17 09.8 +0.3
baz=17
NJN Zhunan 1.45 337 eP Pb 06 17 11.9 -0.3
baz=339
TWP Hsiaoliuchiu 1.45 227 eP Pb 06 17 11.9 -0.3
baz=220
SMST Manzhou Townsh 1.46 205 eP Pn 06 17 10.6 +0.7
baz=187
HEN Hengchun 1.51 208 eP Pb 06 17 13.3 0.0
baz=189
SBCB Hsinchu 1.51 342 eP Pn 06 17 11.0 +0.3
baz=345
TWKBT Hengchun 1.54 204 eP Pn 06 17 11.8 +0.7
baz=188
TSEB Hengchuen, Pin 1.54 201 eP Pn 06 17 12.3 +1.2
baz=186
NHDH Xindian Distri 1.61 1 eP Pn 06 17 12.8 +0.8
baz=12
NHDH eS Sn 06 17 32.8 +1.1
baz=12
TATO Taipei 1.62 360 P Pn 06 17 13.0 +0.8
TATO Taipei 1.62 360 eP Pn 06 17 12.8 +0.7
baz=12
TATO S Sn 06 17 32.6 +0.6
baz=12
TWA Mucha 1.63 3 ⇓P Pn 06 17 13.2 +0.9
baz=14
TWA eS Sn 06 17 32.4 +0.3
baz=14
TIPB Shuangxi 1.64 10 eP Pn 06 17 13.5 +1.0
baz=14
WDGT Dungji 1.69 267 eP Pn 06 17 14.5 +1.3
baz=266
NHW Xinwu Township 1.70 346 eP Pn 06 17 14.6 +1.3
baz=334
TWB1 Santiao Chiao 1.71 15 eP Pn 06 17 14.6 +1.1
baz=8.0
JYNG Yonagunijimaku 1.72 50 P Pn 06 17 14.9 +1.4
JYNG eS Sn 06 17 35.6 +1.2
NWF Wu-fen Shan 1.73 8 P Pn 06 17 14.7 +0.9
baz=10.0
NWF eS Sn 06 17 36.1 +1.2
baz=10.0
WFSB Wu-fen Shan 1.73 8 eP Pn 06 17 14.7 +1.0
baz=10.0
WFSB eS Sn 06 17 36.4 +1.6
baz=10.0
TWS1 Kuangyinshan 1.75 358 eP Pn 06 17 14.9 +1.0
baz=16
SXI1 Grass Mountain 1.77 11 eP Pn 06 17 15.6 +1.3
baz=358
SXI1 eS Sb 06 17 38.5 -1.1
baz=358
YOJ Yonaguni jima 1.77 51 P Pn 06 17 15.8 +1.5
YOJ Yonaguni jima 1.77 51 ⇓P Pn 06 17 15.4 +1.1
baz=52
YOJ eS Sn 06 17 36.9 +1.2
baz=52
YOJ Yonaguni jima 1.77 51 P Pn 06 17 15.6 +1.3
YOJ S Sn 06 17 37.2 +1.5
PHUB P'eng-hu 1.78 276 eP Pn 06 17 15.3 +0.9
baz=275
PHUB S Sn 06 17 36.0 +0.1
baz=275
YM01 YM01 1.79 2 eP Pn 06 17 14.8 +0.2
baz=3.0
YM01 eS Sn 06 17 36.8 +0.6
baz=3.0
PNG Penghu 1.80 277 eP Pn 06 17 15.6 +1.0
baz=276
PNG eS Sn 06 17 37.1 +0.8
baz=276
NTST Danshui 1.81 359 eP Pn 06 17 15.9 +1.2
baz=17
TNOU National Taiwa 1.81 8 eP Pn 06 17 15.3 +0.5
baz=11
ANP Anpu 1.83 1 eP Pn 06 17 14.4 -0.8
baz=19
YM08 YM08 1.83 3 eP Pn 06 17 15.2 +0.1
baz=5.0
VCHM Qimei 1.91 266 eP Pn 06 17 17.5 +1.4
baz=265
TWY Chenhua 1.92 3 eP Pn 06 17 18.1 +1.8
baz=6.0
HATJ Hateruma jima 2.23 71 P Pn 06 17 21.8 +1.2
HATJ S Sn 06 17 47.7 +0.7
IRIF Iriomote-Funau 2.27 64 eP Pn 06 17 22.7 +1.6
IRIF S Sn 06 17 49.7 +1.8
JKRS Kuro-shima 2.46 68 P Pn 06 17 25.3 +1.5
JKRS eS Sn 06 17 54.3 +1.5
VWUC VWUC 2.48 312 eP Pn 06 17 24.5 +0.4
baz=312
VWUC eS Sn 06 17 52.5 -0.8
baz=312
JIJ Ishigaki jima 2.62 67 P Pn 06 17 27.4 +1.4
JIJ eS Sn 06 17 57.0 +0.2
PTMZ Houxiangcun 2.75 308 eP Pn 06 17 28.4 +0.7
baz=310
PTMZ eS Sn 06 17 58.9 -0.9
baz=310
JISG Ishigakijimahi 2.85 64 P Pn 06 17 30.1 +1.0
JISG S Sn 06 18 02.2 -0.2
KNMB Chin-men Tao 3.06 292 eP Pn 06 17 32.2 +0.3
baz=293
MATB Ma-tsu 3.13 333 eP Pn 06 17 33.0 0.0
baz=336
MSUT Lienchiang 3.15 333 eP Pn 06 17 32.5 -0.7
baz=336
JTJ Tarama 3.20 66 P Pn 06 17 35.9 +2.0
MHZQ Yeshan 3.54 321 eP Pn 06 17 39.2 +0.6
baz=325
LYJJ Jianjiangzhen 3.56 334 eP Pn 06 17 39.1 +0.3
baz=337
AXDP Jialang 3.58 296 eP Pn 06 17 38.9 -0.2
baz=298
XPSS Dashiqiu 3.76 342 eP Pn 06 17 41.6 0.0
baz=345
JMJ Miyako jima 2 3.76 66 eP Pn 06 17 42.8 +1.1
baz=66
JMJ eS Sn 06 18 25.0 +0.2
baz=66
SXFK Yanhouchang 4.63 312 eP Pn 06 17 54.0 +0.4
baz=314

*WEL **16** 06:16:00.42˙55S×173˙31E,h13km,ML4.3,Mw4.0, Moment Tensor Solution. s5 Moment tensor: Scale 10¹⁵ Nm; Mrr0.79; Mθθ-0.46; Mϕϕ-0.33; Mrθ-0.14; Mθϕ-0.68; Mϕr0.60; Fault plane solution: M₀1.15000×10¹⁵ NP1: ϕs256.00000°,δ44.00000°,λ137.00000°. NP2: ϕs20.00000°,δ61.00000°,λ55.00000°. Principal axes: T -113.3900, Plg58.0000°, Azm241.0000°; N -2.9100, Plg30.0000°, Azm38.0000°; P 116.3000, Plg10.0000°, Azm135.0000°;*
*IDC **16** 06:16:48.8±1.9, 42˙39S×173˙22E,h0km,mb4.0/4, mbtmp4.1/5,ML5.0/1 Error ellipse: s-maj=48.6km s-min=28.3km az=56.0*
*NEIC **16** 06:16:49.2±1.5, 42˙68S±0˙04×173˙37E±0˙06,h5km±7km, mb4.3/6,ML4.3(WEL), Error ellipse: s-maj=7.5km s-min=3.1km az=126.0*
*NOU **16** 06:16:50.2, 42˙70S×173˙30E,h0km,MLv4.5/11,South Island, New Zealand*
*WEL **16** 06:16:51.6±0.3,43˚S±2˚×17˚3E±˚,h5km,M4.0/1,ML4.3/15, ML4.0/1,MLv4.2/24,MLv4.0/1,Error ellipse: s-maj=0.0km s-min=0.0km az=119.8*

ISC 16 06:16:50.7±1.0, 42˚62S±0˙03×173˚36E±0˙04, h16km±7km, n155,σ1°51/157, mb4.2/7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**34**	Pg	**Pg**	**06 16 56.2**	**+0.2**
KHZ	**Kahutara**	**0.24**	**34**	P	**Pg**	**06 16 56.2**	**+0.2**
KHZ	**Kahutara**	**0.24**	**34**	P	**Pg**	**06 16 56.3**	**+0.2**
KHZ				S	**Sg**	**06 16 59.8**	**+0.1**
GVZ	**Greta Valley S**	**0.42**	**214**	P	**Pn**	**06 17 01.7**	**-0.5**
GVZ				S	**Sn**	**06 17 09.5**	**-0.3**
AMCZ	**Amberley**	**0.76**	**222**		**Pn**	**06 17 07.3**	**+0.5**
AMCZ	**Amberley**	**0.76**	**222**	P	**Pn**	**06 17 07.4**	**+0.5**
LTZ	**Lake Taylor**	**0.82**	**258**		**Pb**	**06 17 06.8**	**+0.3**
LTZ	**Lake Taylor**	**0.82**	**258**	P	**Pb**	**06 17 06.9**	**+0.3**
THZ	**Tophouse**	**0.92**	**338**		**Pb**	**06 17 07.3**	**-1.0**
THZ	**Tophouse**	**0.92**	**338**	P	**Pb**	**06 17 07.2**	**-1.0**
THZ				S	**Sb**	**06 17 17.5**	**-2.7**
BSWZ	**Blackbirch Sta**	**0.98**	**23**		**Pb**	**06 17 09.5**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.98**	**23**	P	**Pb**	**06 17 09.4**	**+0.2**
CMWZ	**Cape Campbell**	**1.08**	**37**	Pg	**Pg**	**06 17 12.5**	**+1.0**
CMWZ	**Cape Campbell**	**1.08**	**37**	P	**Pg**	**06 17 12.1**	**+0.6**
OKCZ	**Okains Bay**	**1.13**	**191**	P	**Pb**	**06 17 12.6**	**+0.7**
OXZ	**Oxford**	**1.20**	**233**	Pg	**Pn**	**06 17 12.6**	**-0.3**
OXZ	**Oxford**	**1.20**	**233**	P	**Pn**	**06 17 12.6**	**-0.3**
OXZ				S	**Sn**	**06 17 29.3**	**+0.5**
MQZ	**McQueen's Vall**	**1.21**	**205**	Pn	**Pn**	**06 17 12.9**	**0.0**
MQZ	**McQueen's Vall**	**1.21**	**205**	P	**Pn**	**06 17 12.9**	**0.0**
TUWZ	**Tuamarina**	**1.26**	**21**		**Pn**	**06 17 14.0**	**+0.3**
TUWZ	**Tuamarina**	**1.26**	**21**	P	**Pb**	**06 17 14.2**	**+0.1**
MRNZ	**Matariki Terra**	**1.29**	**340**		**Pn**	**06 17 13.9**	**-0.3**
MRNZ	**Matariki Terra**	**1.29**	**340**	P	**Pn**	**06 17 13.9**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.30**	**194**	P	**Pn**	**06 17 14.5**	**+0.3**
NNZ	**Nelson**	**1.40**	**1**		**Pn**	**06 17 15.9**	**+0.4**
NNZ	**Nelson**	**1.40**	**1**	P	**Pn**	**06 17 15.7**	**+0.2**
INZ	**Inchbonnie**	**1.41**	**265**		**Pn**	**06 17 15.7**	**-0.1**
INZ	**Inchbonnie**	**1.41**	**265**	P	**Pn**	**06 17 15.9**	**+0.1**
RACZ	**Rakaia**	**1.42**	**218**	P	**Pn**	**06 17 15.8**	**-0.1**
DSZ	**Denniston Nort**	**1.44**	**307**		**Pn**	**06 17 16.2**	**0.0**
DSZ	**Denniston Nort**	**1.44**	**307**	P	**Pn**	**06 17 16.3**	**0.0**
TCW	**Tory Channel**	**1.56**	**26**		**Pn**	**06 17 18.5**	**+0.7**
TCW	**Tory Channel**	**1.56**	**26**	P	**Pn**	**06 17 17.9**	**0.0**
MHCZ	**Mount Hutt**	**1.60**	**234**	P	**Pn**	**06 17 18.1**	**-0.3**
TKNZ	**Takaka Hill**	**1.61**	**349**		**Pn**	**06 17 18.8**	**+0.3**
TKNZ	**Takaka Hill**	**1.61**	**349**	P	**Pn**	**06 17 19.0**	**+0.5**
SNZO	**South Karori**	**1.65**	**38**		**Pn**	**06 17 19.0**	**0.0**
WEL	**Wellington**	**1.70**	**39**	P	**Pn**	**06 17 19.7**	**0.0**
WACZ	**Wakanui South**	**1.73**	**219**	P	**Pn**	**06 17 20.0**	**-0.1**
PLWZ	**Palliser**	**1.76**	**54**		**Pn**	**06 17 20.6**	**0.0**
PLWZ	**Palliser**	**1.76**	**54**	P	**Pn**	**06 17 20.5**	**-0.1**
MSWZ	**Moikau Station**	**1.85**	**50**		**Pn**	**06 17 21.3**	**-0.5**
MSWZ	**Moikau Station**	**1.85**	**50**	P	**Pn**	**06 17 21.3**	**-0.5**
DUWZ	**D'Urville Isla**	**1.86**	**13**	P	**Pn**	**06 17 23.1**	**+1.2**
QRZ	**Quartz Range**	**1.89**	**341**		**Pn**	**06 17 23.2**	**+0.8**
QRZ	**Quartz Range**	**1.89**	**341**	P	**Pn**	**06 17 23.7**	**+1.3**
QRZ	**Quartz Range**	**1.89**	**341**	P	**Pn**	**06 17 23.3**	**+1.0**
CAW	**Cannon Point**	**1.98**	**41**	P	**Pn**	**06 17 23.3**	**-0.3**
PAWZ	**Paruwai Farm**	**1.98**	**52**	P	**Pn**	**06 17 22.9**	**-0.7**
WVZ	**Waitaha Valley**	**1.98**	**256**	P	**Pn**	**06 17 23.9**	**+0.3**
RPZ	**Rata Peaks**	**2.01**	**236**	Pn	**Pn**	**06 17 24.0**	**0.0**
	477nm,0.3s,baz=96,slow=1.7,SNR=541						
RPZ				Sn	**Sn**	**06 17 48.4**	**-0.5**
	76nm,0.3s,baz=31,slow=23,SNR=8.1 1μm,0.3s						
RPZ	**Rata Peaks**	**2.01**	**236**		**Pn**	**06 17 23.7**	**-0.3**
RPZ	**Rata Peaks**	**2.01**	**236**	P	**Pn**	**06 17 23.9**	**-0.1**
RPZ	**Rata Peaks**	**2.01**	**236**	P	**Pn**	**06 17 23.7**	**-0.3**
ARCZ	**Arundel**	**2.07**	**229**	P	**Pn**	**06 17 24.5**	**-0.4**
KIW	**Kapiti Island**	**2.10**	**34**	P	**Pn**	**06 17 25.5**	**+0.2**
MTW	**Mount Morrison**	**2.17**	**48**	P	**Pn**	**06 17 25.3**	**-0.8**
OGWZ	**Otaki Gorge**	**2.25**	**38**	P	**Pn**	**06 17 27.0**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.33**	**251**	P	**Pn**	**06 17 29.1**	**+0.7**
HOWZ	**Holdsworth Sta**	**2.36**	**44**	P	**Pb**	**06 17 32.8**	**0.0**
TMWZ	**Te Maipa**	**2.42**	**52**	P	**Pn**	**06 17 29.6**	**-0.1**
TMZ	**Timaru**	**2.46**	**223**	P	**Pn**	**06 17 30.1**	**-0.1**
MRZ	**Mangatainoka R**	**2.57**	**41**		**Pn**	**06 17 31.2**	**-0.5**
MRZ	**Mangatainoka R**	**2.57**	**41**	P	**Pn**	**06 17 30.9**	**-0.8**
FOZ	**Fox Glacier**	**2.75**	**249**		**Pn**	**06 17 34.7**	**+0.6**
FOZ	**Fox Glacier**	**2.75**	**249**	P	**Pn**	**06 17 34.6**	**+0.4**
OHWZ	**Ohakea**	**2.82**	**32**	P	**Pb**	**06 17 39.8**	**-1.0**
PRWZ	**Pori Road**	**2.84**	**45**	P	**Pb**	**06 17 40.8**	**-0.3**
POWZ	**Post Office Ro**	**2.87**	**40**	P	**Pn**	**06 17 35.4**	**-0.4**
BFZ	**Birch Farm**	**2.90**	**49**		**Pn**	**06 17 33.5**	**-2.8**
LBZ	**Lake Benmore**	**2.91**	**231**		**Pn**	**06 17 36.3**	**0.0**
LBZ	**Lake Benmore**	**2.91**	**231**	P	**Pn**	**06 17 36.1**	**-0.2**
WAZ	**Wanganui**	**3.11**	**24**	P	**Pb**	**06 17 43.0**	**-2.7**
ODZ	**Otahua Downs**	**3.12**	**218**		**Pn**	**06 17 39.0**	**-0.3**
ODZ	**Otahua Downs**	**3.12**	**218**	P	**Pn**	**06 17 39.2**	**-0.1**
ODZ	**Otahua Downs**	**3.12**	**218**	P	**Pn**	**06 17 39.0**	**-0.3**
DVHZ	**Dannevirke**	**3.13**	**43**	P	**Pn**	**06 17 40.8**	**+1.3**
TSZ	**Takapari Road**	**3.22**	**38**	P	**Pn**	**06 17 41.4**	**+0.7**
NMEZ	**Namu Road**	**3.22**	**7**	P	**Pb**	**06 17 45.9**	**-1.6**
KHEZ	**Kahui Hut**	**3.35**	**9**	P	**Pb**	**06 17 47.1**	**-2.8**
KHEZ	**Kahui Hut**	**3.35**	**9**	P	**Pb**	**06 17 46.8**	**-3.0**
NBEZ	**Newall Road No**	**3.37**	**7**	P	**Pn**	**06 17 44.9**	**+2.2**
PNHZ	**Pukenui**	**3.45**	**39**	P	**Pn**	**06 17 45.7**	**+1.9**
PKE	**Pukeiti**	**3.45**	**8**	P	**Pn**	**06 17 47.9**	**+4.1**
JCZ	**Jackson Bay**	**3.64**	**245**	P	**Pn**	**06 17 46.5**	**0.0**
JCZ	**Jackson Bay**	**3.64**	**245**	P	**Pn**	**06 17 46.4**	**0.0**
VRZ	**Vera Road**	**3.65**	**17**	P	**Pn**	**06 17 49.0**	**+2.5**
MOVZ	**Moawhango**	**3.68**	**30**	P	**Pn**	**06 17 50.5**	**+3.4**
WAHZ	**Wahianoa**	**3.70**	**28**	P	**Pn**	**06 17 48.5**	**+1.1**
TRVZ	**Turoa**	**3.71**	**27**	P	**Pn**	**06 17 51.2**	**+3.7**
DRZ	**Dome Shelter**	**3.73**	**27**	P	**Pb**	**06 17 55.3**	**-1.2**
BHHZ	**Black Hill Sta**	**3.73**	**34**	P	**Pn**	**06 17 49.9**	**+2.2**
WHVZ	**Whangaehu Hut**	**3.73**	**28**	P	**Pn**	**06 17 50.4**	**+2.5**
FWVZ	**Far West T-bar**	**3.75**	**27**	P	**Pn**	**06 17 51.4**	**+3.3**
HHSZ	**Highcliff Hill**	**3.82**	**210**	P	**Pn**	**06 17 48.6**	**-0.3**
NGZ	**Ngauruhoe**	**3.83**	**27**	P	**Pn**	**06 17 51.5**	**+2.2**
SNVZ	**South Ngauruho**	**3.84**	**28**	P	**Pn**	**06 17 51.4**	**+2.1**
WKZ	**Wanaka**	**3.84**	**233**	Pn	**Pn**	**06 17 48.0**	**-1.2**
WKZ	**Wanaka**	**3.84**	**233**	P	**Pn**	**06 17 48.3**	**-0.9**
OTVZ	**Oturere**	**3.87**	**28**	P	**Pn**	**06 17 53.4**	**+3.7**
TWVZ	**Taurewa**	**3.88**	**25**	P	**Pn**	**06 17 52.7**	**+2.9**
NNVZ	**North Ngauruho**	**3.88**	**27**	P	**Pn**	**06 17 52.1**	**+2.3**
WTVZ	**West Tongariro**	**3.88**	**27**	P	**Pn**	**06 17 51.5**	**+1.6**
ETVZ	**East Tongariro**	**3.91**	**28**	P	**Pn**	**06 17 52.3**	**+2.1**
KRVZ	**Karewarewa**	**3.92**	**27**	P	**Pn**	**06 17 53.5**	**+3.2**
EAZ	**Earnscleugh**	**3.92**	**227**	P	**Pn**	**06 17 49.5**	**-0.8**
TMVZ	**Te Maari**	**3.92**	**28**	P	**Pn**	**06 17 53.6**	**+3.2**
NTVZ	**North Tongarir**	**3.93**	**27**	P	**Pn**	**06 17 53.5**	**+3.0**
KATZ	**Kakaramea**	**4.05**	**27**	P	Pn	06 17 57.0	+4.9
BKZ	**Black Stump Fm**	**4.19**	**36**	Pn	**Pn**	**06 17 54.9**	**+0.9**
BKZ	**Black Stump Fm**	**4.19**	**36**	P	**Pn**	**06 17 57.7**	**+3.7**
BKZ	**Black Stump Fm**	**4.19**	**36**	P	**Pn**	**06 17 55.7**	**+1.8**
HIZ	**Hauiti**	**4.25**	**16**		**Pn**	**06 17 55.7**	**+0.9**
HIZ	**Hauiti**	**4.25**	**16**	P	**Pn**	**06 17 56.8**	**+1.9**
HIZ	**Hauiti**	**4.25**	**16**	P	**Pn**	**06 17 56.0**	**+1.2**
TUZ	**Tuapeka**	**4.28**	**217**	P	**Pn**	**06 17 55.0**	**-0.1**
MSZ	**Milford Sound**	**4.44**	**241**	P	**Pn**	**06 17 56.5**	**-1.0**
TLZ	**Tolley Road**	**4.59**	**22**	P	**Pn**	**06 18 02.0**	**+2.4**
MLZ	**Mavora Lakes**	**4.67**	**232**	Pn	**Pn**	**06 17 60.0**	**-0.6**
MLZ	**Mavora Lakes**	**4.67**	**232**	P	**Pn**	**06 17 59.6**	**-1.0**
SYZ	**Scrubby Hill**	**4.94**	**216**	P	**Pn**	**06 18 04.5**	**+0.2**
SYZ	**Scrubby Hill**	**4.94**	**216**	P	**Pn**	**06 18 04.2**	**0.0**
WHZ	**Wether Hill Ro**	**5.08**	**228**	Pn	**Pn**	**06 18 04.5**	**-1.7**
WHZ	**Wether Hill Ro**	**5.08**	**228**	P	**Pn**	**06 18 04.6**	**-1.6**
TOZ	**Tahuroa Road**	**5.15**	**19**	P	**Pn**	**06 18 07.3**	**+0.3**
URZ	**Urewera**	**5.21**	**35**	P	**Pn**	**06 18 08.6**	**+0.6**
URZ	**Urewera**	**5.21**	**35**	P	**Pn**	**06 18 08.3**	**+0.3**
DCZ	**Deep Cove**	**5.30**	**235**	Pn	**Pn**	**06 18 07.4**	**-1.8**
DCZ	**Deep Cove**	**5.30**	**235**	P	**Pn**	**06 18 08.2**	**-1.0**
MWZ	**Matawai**	**5.33**	**38**	P	**Pn**	**06 18 11.0**	**+1.3**
AWAZ	**Awhitu Peninsu**	**5.63**	**11**	P	**Pn**	**06 18 14.9**	**+1.1**
TWGZ	**Tauwhareparae**	**5.67**	**40**	P	**Pn**	**06 18 17.7**	**+3.4**
MKAZ	**Moumakai**	**5.68**	**15**	P	**Pn**	**06 18 15.0**	**+0.6**
APZ	**The Paps**	**5.69**	**220**	P	**Pn**	**06 18 13.9**	**-0.7**
WTAZ	**Waiatarua**	**5.75**	**10**	P	**Pn**	**06 18 19.5**	**+4.1**
ETAZ	**East Tamaki Re**	**5.78**	**13**	P	**Pn**	**06 18 16.7**	**+0.9**
RVAZ	**Riverhead Bore**	**5.91**	**10**	P	**Pn**	**06 18 21.6**	**+4.0**
HAZ	**Te Kaha**	**5.92**	**36**	P	**Pn**	**06 18 17.5**	**-0.2**
MBAZ	**Motutapu North**	**5.96**	**12**	P	**Pn**	**06 18 20.2**	**+1.9**
KUZ	**Kuaotunu**	**6.14**	**18**	P	**Pn**	**06 18 23.7**	**+3.0**
KUZ	**Kuaotunu**	**6.14**	**18**	P	**Pn**	**06 18 22.1**	**+1.4**
WNGZ	**Waiomatatini S**	**6.16**	**41**	P	**Pn**	**06 18 21.0**	**+0.0**
OUZ	**Omahuta**	**7.39**	**2**	P	**Pn**	**06 18 42.1**	**+4.2**
KOUNC	**Koumac, New Ca**	**23.29**	**338**	P	**P**	**06 21 59.7**	**+2.0**
KOUNC				IAmb	IAmb	06 22 38.5	
	comp=Z,28nm,1.2s						
ASAR	**Alice Springs**	**37.64**	**287**	P	**P**	**06 24 04.0**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=128,slow=6.9,SNR=14 comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**37.64**	**287**	P	**P**	**06 24 04.4**	**-0.6**
FORT	**Forrest**	**37.78**	**273**	P	**P**	**06 24 05.2**	**-0.8**
WB2	**Warramunga Arr**	**39.79**	**292**	P	**P**	**06 24 22.5**	**-0.6**
WB2				IAmb	IAmb	06 24 50.4	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**39.80**	**292**	P	**P**	**06 24 22.4**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=128,slow=8.4,SNR=17 comp=Z,1.1nm,0.8s						
WRA	**Warramunga Arr**	**39.80**	**292**	P	**P**	**06 24 23.4**	**+0.2**
WB0	**Warramunga Arr**	**39.88**	**293**	P	**P**	**06 24 23.4**	**-0.5**
WB0				IAmb	IAmb	06 24 38.2	
	comp=Z,7.8nm,1.5s						
QSPA	**South Pole Qui**	**47.51**	**180**	P	P	06 25 28.4	+3.5
	comp=Z,1.5nm,0.8s,baz=52,slow=2.2,SNR=6.4 comp=Z,1.5nm,0.8s						
QSPA	**South Pole Qui**	**47.51**	**180**	P	P	06 25 28.4	+3.5
QSPA				IAmb	IAmb	06 25 28.7	
	comp=Z,3.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.38**	**294**	P	**P**	**06 29 57.0**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=142,slow=4.6,SNR=1.7 comp=Z,0.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**149.76**	**196**	PKPbc	**PKPbc**	**06 36 39.5**	**-0.7**

comp=Z,1.7nm,0.8s,baz=170,slow=4.1,SNR=10.0

WEL 16 06:31:48.2±0.4, 42°S±3°×17°4E±°, h9km±4km, M3.5/22, ML3.7/13, MLv3.5/22, Error ellipse: s-maj=0.0km s-min=0.0km az=122.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.27**	**324**	P	Pg	06 31 54.3	+0.7
BSWZ				S	Sb	06 31 59.2	-0.8
TUWZ	**Tuamarina**	**0.52**	**348**	P	Pb	06 31 59.0	-0.4
TUWZ				S	Sb	06 32 07.2	+0.1
KHZ	**Kahutara**	**0.63**	**220**	P	Pb	06 32 01.0	-0.4
KHZ				S	Sb	06 32 11.3	+1.0
TCW	**Tory Channel**	**0.74**	**11**	P	Pb	06 32 03.0	-0.2
TCW				S	Sb	06 32 14.1	+0.7
WEL	**Wellington**	**0.83**	**38**	P	Pb	06 32 05.3	+0.6
NNZ	**Nelson**	**0.90**	**323**	P	Pg	06 32 05.4	0.0
THZ	**Tophouse**	**0.90**	**281**	P	Pg	06 32 05.6	+0.1
PLWZ	**Palliser**	**0.94**	**68**	P	Pg	06 32 06.3	0.0
MSWZ	**Moikau Station**	**1.01**	**59**	P	Pg	06 32 07.4	-0.2
CAW	**Cannon Point**	**1.11**	**42**	P	Pg	06 32 09.3	-0.1
MRNZ	**Matariki Terra**	**1.13**	**298**	P	Pb	06 32 10.1	+0.1
DUWZ	**D'Urville Isla**	**1.14**	**354**	P	Pg	06 32 09.8	-0.3
PAWZ	**Paruwai Farm**	**1.14**	**61**	P	Pg	06 32 09.1	-1.1
KIW	**Kapiti Island**	**1.24**	**30**	P	Pn	06 32 11.4	-0.3
TKNZ	**Takaka Hill**	**1.24**	**316**	P	Pn	06 32 11.5	-0.2
GVZ	**Greta Valley S**	**1.29**	**217**	P	Pn	06 32 11.0	-1.4
TRWZ	**Traveller**	**1.31**	**66**	P	Pn	06 32 11.1	-1.6
TMWZ	**Te Maipa**	**1.58**	**59**	P	Pn	06 32 14.7	-1.8
QRZ	**Quartz Range**	**1.62**	**313**	P	Pb	06 32 17.8	-0.4
AMCZ	**Amberley**	**1.63**	**220**	P	Pn	06 32 15.4	-1.7
DSZ	**Denniston Nort**	**1.72**	**276**	P	Pn	06 32 18.7	+0.3
OKCZ	**Okains Bay**	**1.94**	**203**	P	Pn	06 32 19.1	-2.3
PRWZ	**Pori Road**	**1.98**	**46**	P	Pn	06 32 21.2	-0.6
POWZ	**Post Office Ro**	**2.00**	**40**	P	Pn	06 32 21.3	-0.8
OXZ	**Oxford**	**2.06**	**227**	P	Pn	06 32 20.6	-2.3
MQZ	**McQueen's Vall**	**2.06**	**210**	P	Pn	06 32 20.0	-3.0
INZ	**Inchbonnie**	**2.12**	**247**	P	Pn	06 32 23.1	-0.6
AKCZ	**Akaroa Harbour**	**2.12**	**204**	P	Pn	06 32 21.4	-2.5
WAZ	**Wanganui**	**2.28**	**18**	P	Pn	06 32 27.6	+1.5
RACZ	**Rakaia**	**2.29**	**218**	P	Pn	06 32 23.6	-2.6
TSZ	**Takapari Road**	**2.35**	**38**	P	Pn	06 32 25.8	-1.2
MHCZ	**Mount Hutt**	**2.45**	**229**	P	Pn	06 32 25.9	-2.4
LREZ	**Lake Rotokare**	**2.48**	**6**	P	Pb	06 32 33.5	+0.6
WACZ	**Wakanui South**	**2.60**	**219**	P	Pn	06 32 27.8	-2.6
KHEZ	**Kahui Hut**	**2.64**	**359**	P	Pb	06 32 35.7	0.0
NBEZ	**Newall Road No**	**2.67**	**356**	P	Pb	06 32 35.0	-1.2
WVZ	**Waitaha Valley**	**2.73**	**244**	P	Pn	06 32 31.2	-0.9
MOVZ	**Moawhango**	**2.83**	**27**	P	Pn	06 32 33.0	-0.5
WNVZ	**Wahianoa**	**2.85**	**24**	P	Pn	06 32 35.0	+1.1
RPZ	**Rata Peaks**	**2.85**	**230**	P	Pn	06 32 31.9	-2.0
VRZ	**Vera Road**	**2.85**	**10**	P	Pn	06 32 35.2	+1.4
BHHZ	**Black Hill Sta**	**2.87**	**32**	P	Pn	06 32 33.5	-0.6
WHVZ	**Whangaehu Hut**	**2.89**	**24**	P	Pb	06 32 39.3	-0.6
FWVZ	**Far West T-bar**	**2.90**	**23**	P	Pb	06 32 39.1	-1.1
ARCZ	**Arundel**	**2.94**	**225**	P	Pn	06 32 32.1	-2.2
NGZ	**Ngauruhoe**	**2.99**	**23**	P	Pb	06 32 41.1	-0.6
SNVZ	**South Ngauruho**	**2.99**	**24**	P	Pb	06 32 41.3	-0.4
OTVZ	**Oturere**	**3.02**	**24**	P	Pn	06 32 38.8	+2.5
NNVZ	**North Ngauruho**	**3.03**	**23**	P	Pn	06 32 37.4	+0.9
TWVZ	**Taurewa**	**3.04**	**20**	P	Pb	06 32 40.3	-2.2
WTVZ	**West Tongariro**	**3.04**	**23**	P	Pn	06 32 37.5	+0.9
ETVZ	**East Tongariro**	**3.06**	**24**	P	Pb	06 32 42.2	-0.6
TMVZ	**Te Maari**	**3.07**	**24**	P	Pn	06 32 37.0	0.0
KRVZ	**Karewarewa**	**3.08**	**23**	P	Pn	06 32 38.7	+1.6
NTVZ	**North Tongarir**	**3.08**	**24**	P	Pn	06 32 37.1	0.0
GCSZ	**Gaunt Creek Bo**	**3.10**	**242**	P	Pn	06 32 37.0	-0.3
RITZ	**Rihia Road**	**3.25**	**25**	P	Pb	06 32 45.3	-0.7
TMZ	**Timaru**	**3.33**	**222**	P	Pn	06 32 38.0	-2.5
HIZ	**Hauiti**	**3.47**	**10**	P	Pn	06 32 44.4	+2.0
FOZ	**Fox Glacier**	**3.53**	**242**	P	Pn	06 32 42.6	-0.6
LBZ	**Lake Benmore**	**3.76**	**228**	P	Pn	06 32 44.6	-1.8
GRRZ	**Galatos Road**	**3.90**	**24**	P	Pn	06 32 50.5	+2.2
ODZ	**Otahua Downs**	**3.90**	**218**	P	Pn	06 32 46.8	-2.7
JCZ	**Jackson Bay**	**4.44**	**239**	P	Pn	06 32 55.1	-0.6
HHSZ	**Highcliff Hill**	**4.68**	**211**	P	Pn	06 32 56.7	-2.4
EAZ	**Earnscleugh**	**4.79**	**225**	P	Pn	06 32 58.1	-2.4
MKAZ	**Moumakai**	**4.90**	**10**	P	Pn	06 33 02.9	+1.0
MLZ	**Mavora Lakes**	**5.53**	**230**	P	Pn	06 33 08.1	-2.5

WEL 16 06:33:30.3±0.5, 42°S±3°×17°4E±°, h12km, M3.3/1, ML3.6/15, ML3.5/1, MLv3.4/23, MLv3.3/1, Error ellipse: s-maj=0.0km s-min=0.0km az=128.6, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.37**	**253**	P	Pg	06 33 38.1	+0.3
KHZ				S	Sb	06 33 44.5	-0.1
CMWZ	**Cape Campbell**	**0.58**	**15**	P	Pb	06 33 43.2	+0.8
CMWZ				S	Sn	06 33 53.4	-0.4
BSWZ	**Blackbirch Sta**	**0.60**	**350**	P	Pg	06 33 42.2	+0.2
TUWZ	**Tuamarina**	**0.88**	**356**	P	Pb	06 33 47.5	0.0
TUWZ				S	Sn	06 34 00.5	-0.7
GVZ	**Greta Valley S**	**0.98**	**227**	P	Pb	06 33 49.6	+0.3
THZ	**Tophouse**	**0.99**	**303**	P	Pg	06 33 49.1	-0.4
THZ				S	Sb	06 34 02.5	0.0
TCW	**Tory Channel**	**1.11**	**10**	P	Pb	06 33 50.8	-0.7
WEL	**Wellington**	**1.17**	**29**	P	Pb	06 33 51.6	-0.8
PLWZ	**Palliser**	**1.18**	**52**	P	Pb	06 33 51.5	-1.2
NNZ	**Nelson**	**1.19**	**336**	P	Pn	06 33 52.1	-0.6
MRNZ	**Matariki Terra**	**1.31**	**314**	P	Pn	06 33 54.4	0.0
AMCZ	**Amberley**	**1.33**	**229**	P	Pn	06 33 54.2	-0.5
LTZ	**Lake Taylor**	**1.38**	**249**	P	Pn	06 33 54.9	-0.5
CAW	**Cannon Point**	**1.43**	**34**	P	Pn	06 33 55.2	-0.9
TKNZ	**Takaka Hill**	**1.50**	**328**	P	Pn	06 33 57.1	+0.1
DUWZ	**D'Urville Isla**	**1.51**	**357**	P	Pn	06 33 57.1	-0.1
OKCZ	**Okains Bay**	**1.58**	**206**	P	Pn	06 33 57.4	-0.8
KIW	**Kapiti Island**	**1.59**	**25**	P	Pn	06 33 57.9	-0.5
OGWZ	**Otaki Gorge**	**1.72**	**31**	P	Pn	06 33 59.1	-1.0
DSZ	**Denniston Nort**	**1.74**	**288**	P	Pb	06 34 01.7	-0.6
OXZ	**Oxford**	**1.78**	**234**	P	Pn	06 33 59.5	-1.3
QRZ	**Quartz Range**	**1.85**	**322**	P	Pn	06 34 02.5	+0.6
INZ	**Inchbonnie**	**1.95**	**257**	P	Pn	06 34 03.6	+0.3
MHCZ	**Mount Hutt**	**2.18**	**235**	P	Pn	06 34 05.1	-1.3
WACZ	**Wakanui South**	**2.28**	**224**	P	Pn	06 34 06.6	-1.2
WVZ	**Waitaha Valley**	**2.54**	**251**	P	Pn	06 34 11.2	-0.1
RPZ	**Rata Peaks**	**2.59**	**236**	P	Pn	06 34 11.1	-0.9
ARCZ	**Arundel**	**2.65**	**231**	P	Pn	06 34 11.8	-1.1

*IDC **16** 06:33:31.0±2.7, 35°S 74N×141°E 07E, h0km, mb3.8/4, mbtmp3.7/5, ML2.7/1, MS2.8/2, Error ellipse: s-maj=87.5km s-min=25.6km az=61.0*
*JMA **16** 06:33:38.3±0.2, 35°S 9N±0°S 5×140°E 8±0°S 9, h40km±1km, MV3.1/35, NEAR CHOSHI CITY*

ISC 16 06:33:35.9±1.5, 35°S 89N±0°S 05×141°E 1E±0°S 1, h31km, n13, σ0°S 93/15, mb3.8/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.27**	**226**	*i* P	**Pn**	**06 33 45.4**	**+1.7**
CHOJ				S	**Sn**	**06 33 49.9**	**+1.1**
JIHU	**Itakohorinouch**	**0.47**	**279**	*i* P	**Pn**	**06 33 46.7**	**+0.2**
JSMT	**Sammumatsuo**	**0.58**	**245**	*i* P	**Pn**	**06 33 48.4**	**+0.3**
JSMT				S	**Sb**	**06 33 54.4**	**-1.4**
JHYU	**Hitachinakayam**	**0.61**	**317**	*i* P	**Pn**	**06 33 49.2**	**+0.7**
JHYU				S	**Sb**	**06 33 57.3**	**+0.7**
JYT	**Yasato**	**0.81**	**295**	*i* P	**Pn**	**06 33 50.4**	**-0.7**
JHO	**Hitachi**	**0.83**	**329**	*i* P	**Pb**	**06 33 52.4**	**+0.5**
BSO3	**Boso 3**	**1.19**	**204**	P	**Pb**	**06 33 57.9**	**+0.2**
MJAR	**Matsushiro Arr**	**2.42**	**286**	Pn	**Pn**	**06 34 13.8**	**+0.4**
	1.6nm,0.3s,baz=93,slow=12,SNR=48						
MJAR				LR	LR	06 35 13.9	
	comp=Z,141nm,21.1s,baz=166,slow=42 30nm,0.8s						
USRK	**Ussuriysk Ar.**	**10.84**	**323**	LR	LR	06 39 19.3	
	comp=Z,74nm,21.2s,baz=222,slow=32						
ZALV	**Zalesovo Beam**	**42.50**	**313**	P	**P**	**06 41 28.4**	**+0.2**
	0.5nm,0.5s,baz=104,slow=9.4,SNR=2.7 0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.52**	**303**	P	**P**	**06 41 44.7**	**+0.2**
	1.3nm,0.7s,baz=94,slow=8.8,SNR=12 1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.51**	**309**	P	**P**	**06 41 59.6**	**-0.5**
	0.9nm,0.5s,baz=84,slow=7.6,SNR=11 0.9nm,0.5s						
WRA	**Warramunga Arr**	**55.90**	**188**	P	**P**	**06 43 09.4**	**-1.4**

0.8nm,0.8s,baz=0.1,slow=7.6,SNR=12
0.8nm,0.8s

*IDC **16** 06:36:16.8±3.5, 1°S 32N×128°E 81E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=282.6km s-min=27.6km az=68.0*
*DJA **16** 06:36:27.3±1.5, 2°S±3°×12°1E±°, h14km±12km, M4.0/13, MLv4.0/13*

ISC 16 06:36:30.5±1.1, 2°S 27S±0°S 05×121°06E±0°S 07, h53km, n16, σ1°S 42/17, mb3.6/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.48**	**23**	P	**Pn**	**06 36 54.7**	**-0.1**
APSI				S	**Sn**	**06 37 13.7**	**+0.7**
KKSI	**Kolaka, Sulawe**	**1.98**	**163**	P	**Pn**	**06 37 01.0**	**-0.6**
LUWI	**Luwuk**	**2.10**	**54**	P	**Pn**	**06 37 01.2**	**-2.1**
SPSI	**Sidrap Palu**	**2.12**	**218**	P	**Pn**	**06 37 02.2**	**-1.4**
MMSI	**Mamuju**	**2.19**	**259**	P	**Pn**	**06 37 04.0**	**-0.5**
BNSI	**Bone**	**2.32**	**204**	P	**Pn**	**06 37 04.8**	**-1.5**
PMSI	**Majene**	**2.47**	**240**	P	**Pn**	**06 37 07.2**	**-1.2**
MPSI	**Mapaga**	**2.84**	**336**	P	**Pn**	**06 37 11.4**	**-2.1**
MRSI	**Marisa**	**2.87**	**18**	P	**Pn**	**06 37 12.1**	**-1.7**
MRSI				S	**Sn**	**06 37 48.6**	**+1.4**
KAPI	**Kappang**	**3.02**	**206**	P	**Pn**	**06 37 14.4**	**-1.5**
BKSI	**Bulukumba**	**3.17**	**197**	P	**Pn**	**06 37 16.8**	**-1.2**
GTOI	**Gorontalo**	**3.48**	**34**	P	**Pn**	**06 37 20.9**	**-1.4**
BSSI	**Bau Bau, Buton**	**3.89**	**188**	P	**Pn**	**06 37 27.2**	**-0.6**
WRA	**Warramunga Arr**	**21.83**	**144**	P	P	06 41 09.3	-9.4
	0.5nm,0.6s,baz=347,slow=10,SNR=9.3 0.5nm,0.6s						
ASAR	**Alice Springs**	**24.64**	**151**	P	**P**	**06 41 46.5**	**+0.2**
	1.9nm,0.9s,baz=330,slow=8.9,SNR=16 1.9nm,0.9s						
MKAR	**Makanchi Array**	**59.56**	**330**	P	**P**	**06 46 30.0**	**+1.2**
	0.5nm,0.6s,baz=112,slow=6.5,SNR=3.5 0.5nm,0.6s						

WEL 16 06:45:51.4±0.5, 42°S±3°×17°4E±°, h10km±3km, M1.9/1, ML2.5/9, ML1.9/1, MLv2.4/11, MLv1.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.18**	**325**	P	Pg	06 45 56.0	+0.8
BSWZ				S	Sg	06 45 59.8	+1.9
CMWZ	**Cape Campbell**	**0.19**	**52**	P	Pg	06 45 56.3	+0.9
TUWZ	**Tuamarina**	**0.44**	**353**	P	Pg	06 46 00.5	+0.6
TUWZ				S	Sb	06 46 07.5	-0.3
KHZ	**Kahutara**	**0.66**	**213**	P	Pb	06 46 05.2	+0.2
TCW	**Tory Channel**	**0.68**	**17**	P	Pg	06 46 04.5	0.0
NNZ	**Nelson**	**0.80**	**323**	P	Pb	06 46 07.2	-0.3
WEL	**Wellington**	**0.81**	**44**	P	Pb	06 46 07.4	-0.1
MSWZ	**Moikau Station**	**1.03**	**65**	P	Pg	06 46 10.2	-0.9
MRNZ	**Matariki Terra**	**1.05**	**296**	P	Pn	06 46 12.2	0.0
DUWZ	**D'Urville Isla**	**1.06**	**356**	P	Pg	06 46 11.4	-0.5
CAW	**Cannon Point**	**1.09**	**47**	P	Pg	06 46 11.7	-0.6
KIW	**Kapiti Island**	**1.21**	**34**	P	Pb	06 46 13.9	-0.4
GVZ	**Greta Valley S**	**1.32**	**213**	P	Pn	06 46 15.6	-0.3
OGWZ	**Otaki Gorge**	**1.36**	**40**	P	Pn	06 46 15.5	-0.9
MRZ	**Mangatainoka R**	**1.68**	**45**	P	Pn	06 46 19.4	-1.5

*IDC **16** 06:46:31.5±1.5, 42°S 13S×173°E 80E, h0km, mb3.8/2, mbtmp4.0/3, ML4.3/1, MS3.5/2, Error ellipse: s-maj=44.7km s-min=38.4km az=0.0*
*NEIC **16** 06:46:32.6±1.3, 42°S 34S±0°S 03×174°E 00E±0°S 06, h10km±1km, mb4.0/6, ML4.3(WEL), Error ellipse: s-maj=7.8km s-min=4.8km az=287.0*
*NOU **16** 06:46:33.4, 42°S 41S×174°E 00E, h9km, MLv4.7/14, South Island, New Zealand*
*WEL **16** 06:46:34.3±0.4, 42°S±3°×17°4E±°, h12km, M3.9/1, ML4.7/15, ML4.2/1, MLv4.3/34, MLv3.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=130.0*

ISC 16 06:46:33.9±0.7, 42°S 31S±0°S 03×173°W 94E±0°S 04, h21km, n166, σ1°S 17/168, mb3.9/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.32**	**250**	Pg	**Pb**	**06 46 40.7**	**0.0**
KHZ	**Kahutara**	**0.32**	**250**	P	**Pb**	**06 46 41.0**	**+0.2**
KHZ	**Kahutara**	**0.32**	**250**	P	**Pb**	**06 46 40.8**	**0.0**
KHZ				S	**Sb**	**06 46 45.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.59**	**356**		**Pb**	**06 46 44.6**	**-1.0**
BSWZ	**Blackbirch Sta**	**0.59**	**356**	P	**Pb**	**06 46 44.8**	**-0.9**
BSWZ				S	**Sb**	**06 46 53.8**	**+0.2**
CMWZ	**Cape Campbell**	**0.59**	**20**	Pg	**Pb**	**06 46 46.4**	**+0.8**
CMWZ	**Cape Campbell**	**0.59**	**20**	P	**Pn**	**06 46 46.9**	**-0.2**
TUWZ	**Tuamarina**	**0.88**	**0**		**Pb**	**06 46 50.2**	**-0.2**
TUWZ	**Tuamarina**	**0.88**	**0**	P	**Pb**	**06 46 50.1**	**-0.3**
GVZ	**Greta Valley S**	**0.94**	**225**		**Pn**	**06 46 52.8**	**+0.9**
GVZ	**Greta Valley S**	**0.94**	**225**	P	**Pn**	**06 46 52.8**	**+0.9**
THZ	**Tophouse**	**0.94**	**305**	Pg	**Pb**	**06 46 50.5**	**-1.0**
THZ	**Tophouse**	**0.94**	**305**	P	**Pb**	**06 46 50.5**	**-1.0**
TCW	**Tory Channel**	**1.12**	**13**		**Pn**	**06 46 54.5**	**+0.1**
TCW	**Tory Channel**	**1.12**	**13**	P	**Pn**	**06 46 54.5**	**+0.1**
SNZO	**South Karori**	**1.15**	**30**		**Pb**	**06 46 55.3**	**+0.4**
SNZO	**South Karori**	**1.15**	**30**	P	**Pb**	**06 46 55.4**	**+0.4**
NNZ	**Nelson**	**1.17**	**339**		**Pn**	**06 46 54.5**	**-0.5**
NNZ	**Nelson**	**1.17**	**339**	P	**Pn**	**06 46 54.4**	**-0.5**
WEL	**Wellington**	**1.20**	**32**	P	**Pb**	**06 46 56.0**	**+0.2**
PLWZ	**Palliser**	**1.23**	**54**		**Pn**	**06 46 56.1**	**+0.3**
PLWZ	**Palliser**	**1.23**	**54**	P	**Pn**	**06 46 56.3**	**+0.4**
MRNZ	**Matariki Terra**	**1.27**	**315**		**Pn**	**06 46 56.5**	**+0.1**
MRNZ	**Matariki Terra**	**1.27**	**315**	P	**Pn**	**06 46 56.6**	**+0.3**
AMCZ	**Amberley**	**1.29**	**227**		**Pb**	**06 46 57.4**	**0.0**
AMCZ	**Amberley**	**1.29**	**227**	P	**Pb**	**06 46 57.3**	**-0.1**
LTZ	**Lake Taylor**	**1.32**	**248**		**Pb**	**06 46 57.7**	**-0.3**
LTZ	**Lake Taylor**	**1.32**	**248**	P	**Pb**	**06 46 57.7**	**-0.3**
MSWZ	**Moikau Station**	**1.32**	**48**		**Pn**	**06 46 57.4**	**+0.2**
MSWZ	**Moikau Station**	**1.32**	**48**	P	**Pn**	**06 46 57.5**	**+0.4**
PAWZ	**Paruwai Farm**	**1.45**	**51**	P	**Pn**	**06 46 59.0**	**+0.1**
CAW	**Cannon Point**	**1.47**	**36**	P	**Pn**	**06 46 59.6**	**+0.5**
TKNZ	**Takaka Hill**	**1.47**	**330**		**Pn**	**06 46 59.5**	**+0.3**
TKNZ	**Takaka Hill**	**1.47**	**330**	P	**Pn**	**06 46 59.7**	**+0.6**
DUWZ	**D'Urville Isla**	**1.50**	**360**	P	**Pn**	**06 47 00.1**	**+0.4**
OKCZ	**Okains Bay**	**1.56**	**204**	P	**Pn**	**06 47 01.1**	**+0.7**
TRWZ	**Traveller**	**1.59**	**56**	P	**Pn**	**06 47 01.1**	**+0.3**
KIW	**Kapiti Island**	**1.62**	**27**	P	**Pn**	**06 47 01.9**	**+0.7**
MTW	**Mount Morrison**	**1.64**	**46**	P	**Pn**	**06 47 01.5**	**0.0**
DSZ	**Denniston Nort**	**1.69**	**289**		**Pb**	**06 47 03.3**	**-0.9**
DSZ	**Denniston Nort**	**1.69**	**289**	P	**Pb**	**06 47 03.3**	**-0.9**
MQZ	**McQueen's Vall**	**1.69**	**214**		**Pn**	**06 47 02.0**	**-0.1**
MQZ	**McQueen's Vall**	**1.69**	**214**	P	**Pn**	**06 47 02.0**	**-0.1**
OXZ	**Oxford**	**1.73**	**233**		**Pn**	**06 47 02.7**	**0.0**
OXZ	**Oxford**	**1.73**	**233**	P	**Pn**	**06 47 02.7**	**0.0**
AKCZ	**Akaroa Harbour**	**1.74**	**205**	P	**Pn**	**06 47 03.4**	**+0.6**
OGWZ	**Otaki Gorge**	**1.75**	**32**	P	**Pn**	**06 47 03.4**	**+0.4**
QRZ	**Quartz Range**	**1.82**	**324**		**Pn**	**06 47 05.2**	**+1.2**
QRZ	**Quartz Range**	**1.82**	**324**	P	**Pb**	**06 47 05.6**	**-0.8**
QRZ	**Quartz Range**	**1.82**	**324**	P	**Pn**	**06 47 05.2**	**+1.2**
HOWZ	**Holdsworth Sta**	**1.84**	**41**	P	**Pn**	**06 47 04.3**	**+0.1**
INZ	**Inchbonnie**	**1.89**	**256**		**Pn**	**06 47 05.6**	**+0.6**
INZ	**Inchbonnie**	**1.89**	**256**	P	**Pn**	**06 47 05.5**	**+0.6**
TMWZ	**Te Maipa**	**1.89**	**51**	P	**Pn**	**06 47 04.7**	**-0.3**
RACZ	**Rakaia**	**1.94**	**222**	P	**Pn**	**06 47 05.5**	**0.0**
MRZ	**Mangatainoka R**	**2.06**	**37**		**Pn**	**06 47 07.3**	**+0.1**
MRZ	**Mangatainoka R**	**2.06**	**37**	P	**Pn**	**06 47 07.2**	**0.0**
MHCZ	**Mount Hutt**	**2.13**	**234**	P	**Pn**	**06 47 08.1**	**-0.2**
WACZ	**Wakanui South**	**2.24**	**223**	P	**Pn**	**06 47 09.7**	**0.0**
PRWZ	**Pori Road**	**2.32**	**42**	P	**Pn**	**06 47 10.8**	**-0.1**
OHWZ	**Ohakea**	**2.34**	**27**	P	**Pn**	**06 47 13.1**	**+2.0**
POWZ	**Post Office Ro**	**2.36**	**36**	P	**Pn**	**06 47 11.7**	**+0.4**
BFZ	**Birch Farm**	**2.38**	**48**	Pn	**Pn**	**06 47 11.2**	**-0.4**
BFZ	**Birch Farm**	**2.38**	**48**	P	**Pn**	**06 47 11.2**	**-0.4**
BFZ				P	Pb	06 47 11.3	-4.7
WVZ	**Waitaha Valley**	**2.48**	**251**	P	**Pn**	**06 47 13.7**	**+0.7**
RPZ	**Rata Peaks**	**2.54**	**235**	Pn	**Pn**	**06 47 13.9**	**0.0**
	58nm,0.3s,baz=295,slow=1.1,SNR=152						
RPZ				Sn	**Sn**	**06 47 43.4**	**-0.7**
	221nm,0.3s,baz=194,slow=23,SNR=37 185nm,0.4s						
RPZ	**Rata Peaks**	**2.54**	**235**	P	**Pn**	**06 47 14.1**	**+0.2**
RPZ	**Rata Peaks**	**2.54**	**235**	P	**Pn**	**06 47 13.7**	**-0.1**
ARCZ	**Arundel**	**2.60**	**230**	P	**Pn**	**06 47 14.5**	**-0.2**
DVHZ	**Dannevirke**	**2.62**	**41**	P	**Pn**	**06 47 14.2**	**-0.7**
WAZ	**Wanganui**	**2.67**	**18**	P	**Pn**	**06 47 18.0**	**+2.4**
TSZ	**Takapari Road**	**2.72**	**35**	P	**Pn**	**06 47 16.1**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.84**	**248**	P	**Pn**	**06 47 19.2**	**+1.2**
LREZ	**Lake Rotokare**	**2.87**	**7**	P	**Pb**	**06 47 23.2**	**-1.1**
PRHZ	**Porangahau**	**2.88**	**46**	P	**Pn**	**06 47 17.8**	**-0.7**
NMEZ	**Namu Road**	**2.89**	**359**	P	**Pb**	**06 47 24.7**	**0.0**
WPHZ	**Waipukurau**	**2.93**	**41**	P	**Pn**	**06 47 18.7**	**-0.6**
PNHZ	**Pukenui**	**2.94**	**36**	P	**Pn**	**06 47 19.0**	**-0.4**
TMZ	**Timaru**	**2.98**	**225**	P	**Pn**	**06 47 20.0**	**+0.1**
KHEZ	**Kahui Hut**	**3.01**	**1**	P	**Pb**	**06 47 25.4**	**-1.4**
NBEZ	**Newall Road No**	**3.04**	**359**	P	**Pb**	**06 47 24.1**	**-3.1**
NEZ	**North Egmont**	**3.04**	**2**	P	**Pb**	**06 47 27.5**	**+0.3**
PKE	**Pukeiti**	**3.11**	**1**	P	**Pb**	**06 47 25.9**	**-2.6**
PKVZ	**Pokaka**	**3.20**	**20**	P	**Pn**	**06 47 24.6**	**+1.6**
MOVZ	**Moawhango**	**3.21**	**26**	P	**Pn**	**06 47 23.7**	**+0.6**
WNVZ	**Wahianoa**	**3.23**	**23**	P	**Pn**	**06 47 24.9**	**+1.4**
VRZ	**Vera Road**	**3.24**	**11**	P	**Pn**	**06 47 25.6**	**+2.1**
BHHZ	**Black Hill Sta**	**3.24**	**30**	P	**Pn**	**06 47 23.6**	**0.0**
TRVZ	**Turoa**	**3.24**	**23**	P	**Pn**	**06 47 25.4**	**+1.6**
FOZ	**Fox Glacier**	**3.27**	**247**	Pn	**Pn**	**06 47 24.7**	**+0.9**
FOZ	**Fox Glacier**	**3.27**	**247**	P	**Pn**	**06 47 24.8**	**+1.0**
DRZ	**Dome Shelter**	**3.27**	**23**	P	**Pn**	**06 47 27.8**	**+3.6**
WHVZ	**Whangaehu Hut**	**3.27**	**23**	P	**Pn**	**06 47 25.5**	**+1.4**
FWVZ	**Far West T-bar**	**3.29**	**22**	P	**Pn**	**06 47 25.9**	**+1.6**
TUVZ	**Tukino**	**3.30**	**24**	P	**Pn**	**06 47 27.1**	**+2.6**
NGZ	**Ngauruhoe**	**3.37**	**23**	P	**Pn**	**06 47 26.9**	**+1.5**
SNVZ	**South Ngauruho**	**3.38**	**23**	P	**Pn**	**06 47 26.9**	**+1.4**
OTVZ	**Oturere**	**3.40**	**23**	P	**Pn**	**06 47 27.1**	**+1.2**
NNVZ	**North Ngauruho**	**3.42**	**22**	P	**Pn**	**06 47 27.5**	**+1.5**
WTVZ	**West Tongariro**	**3.43**	**22**	P	**Pn**	**06 47 27.4**	**+1.2**
TWVZ	**Taurewa**	**3.43**	**20**	P	**Pn**	**06 47 27.4**	**+1.2**
LBZ	**Lake Benmore**	**3.44**	**232**	Pn	**Pn**	**06 47 26.6**	**+0.4**
LBZ	**Lake Benmore**	**3.44**	**232**	P	**Pn**	**06 47 26.4**	**+0.2**
ETVZ	**East Tongariro**	**3.44**	**24**	P	**Pn**	**06 47 27.6**	**+1.2**
TMVZ	**Te Maari**	**3.46**	**23**	P	**Pn**	**06 47 28.0**	**+1.4**
KRVZ	**Karewarewa**	**3.46**	**23**	P	**Pn**	**06 47 28.3**	**+1.7**
NTVZ	**North Tongarir**	**3.47**	**23**	P	**Pn**	**06 47 28.1**	**+1.4**
KATZ	**Kakaramea**	**3.59**	**22**	P	**Pn**	**06 47 30.7**	**+2.3**
ODZ	**Otahua Downs**	**3.63**	**220**	Pn	**Pn**	**06 47 28.8**

POWZ	Post Office Ro	2.32	38	P		Pn	07 12 37.8	0.0	
WVZ	Waitaha Valley	2.48	249	P		Pn	07 12 40.7	+0.7	
RPZ	Rata Peaks	2.56	234	P		Pn	07 12 41.2	+0.1	
RPZ	Rata Peaks	2.56	234	P		Pn	07 12 40.9	-0.2	
DVHZ	Dannevirke	2.59	42	P		Pn	07 12 40.8	-0.7	
WAZ	Wanganui	2.62	19	P		Pn	07 12 44.2	+2.3	
ARCZ	Arundel	2.62	229	P		Pn	07 12 41.6	-0.4	
TSZ	Takapari Road	2.68	36	P		Pn	07 12 42.5	-0.3	
LREZ	Lake Rotokare	2.81	8	P		Pb	07 12 48.3	-1.8	
NMEZ	Namu Road	2.83	360	P		Pb	07 12 50.2	-0.2	
GCSZ	Gaunt Creek Bo	2.84	247	P		Pn	07 12 46.0	+1.1	
WPHZ	Waipukurau	2.90	42	P		Pn	07 12 45.1	-0.7	
KHEZ	Kahui Hut	2.95	2	P		Pb	07 12 51.1	-1.4	
KHEZ	Kahui Hut	2.95	2	P		Pb	07 12 51.1	-1.4	
NBEZ	Newall Road No	2.98	359	P		Pn	07 12 49.8	+3.0	
TMZ	Timaru	3.01	224	P		Pn	07 12 47.2	0.0	
PKE	Pukeiti	3.05	1	P		Pn	07 12 50.9	+3.0	
MOVZ	Moawhango	3.16	27	P		Pn	07 12 49.9	+0.4	
VRZ	Vera Road	3.19	12	P		Pn	07 12 51.9	+2.2	
WNVZ	Wahianoa	3.19	24	P		Pn	07 12 51.3	+1.4	
TRVZ	Turoa	3.20	23	P		Pn	07 12 52.2	+2.1	
BHHZ	Black Hill Sta	3.20	31	P		Pn	07 12 50.2	+0.2	
WHVZ	Whangaehu Hut	3.23	24	P		Pn	07 12 51.7	+1.3	
FWVZ	Far West T-bar	3.24	23	P		Pn	07 12 52.2	+1.5	
FOZ	Fox Glacier	3.27	245	P		Pn	07 12 51.9	+1.1	
NGZ	Ngauruhoe	3.33	23	P		Pn	07 12 53.3	+1.5	
SNVZ	South Ngauruho	3.33	24	P		Pn	07 12 53.1	+1.3	
OTVZ	Oturere	3.36	24	P		Pn	07 12 53.5	+1.3	
NNVZ	North Ngauruho	3.37	23	P		Pn	07 12 53.9	+1.5	
TWVZ	Taurewa	3.38	21	P		Pn	07 12 53.7	+1.3	
WTVZ	West Tongariro	3.38	23	P		Pn	07 12 53.7	+1.3	
ETVZ	East Tongariro	3.40	24	P		Pn	07 12 54.0	+1.2	
TMVZ	Te Maari	3.41	24	P		Pn	07 12 54.0	+1.0	
KRVZ	Karewarewa	3.41	23	P		Pn	07 12 54.9	+1.9	
NTVZ	North Tongariro	3.42	24	P		Pn	07 12 54.3	+1.3	
LBZ	Lake Benmore	3.46	231	P		Pn	07 12 53.4	-0.1	
KATZ	Kakaramea	3.54	23	P		Pn	07 12 59.2	+4.5	
BKZ	Black Stump Fm	3.65	33	P		Pn	07 12 55.1	-1.0	
ODZ	Otahua Downs	3.66	219	P		Pn	07 12 56.0	-0.3	
ODZ	Otahua Downs	3.66	219	P		Pn	07 12 55.9	-0.4	
RATZ	Rangitukua	3.66	23	P		Pn	07 13 01.0	+4.6	
HIZ	Hauiti	3.80	11	P		Pn	07 13 00.4	+2.2	
HIZ	Hauiti	3.80	11	P		Pn	07 13 00.4	+2.2	
NMHZ	Naumai	3.84	36	P		Pn	07 12 57.7	-1.1	
TLZ	Tolley Road	4.11	18	P		Pn	07 13 04.0	+1.6	
JCZ	Jackson Bay	4.17	242	P		Pn	07 13 03.4	+0.1	
JCZ	Jackson Bay	4.17	242	P		Pn	07 13 03.2	-0.1	
HHSZ	Highcliff Hill	4.35	212	P		Pn	07 13 05.7	0.0	
WKZ	Wanaka	4.39	232	P		Pn	07 13 05.8	-0.4	
EAZ	Earnscleugh	4.47	227	P		Pn	07 13 06.8	-0.6	
TOZ	Tahuroa Road	4.67	16	P		Pn	07 13 11.1	+0.9	
URZ	Urewera	4.68	33	P		Pn	07 13 10.1	-0.1	
URZ	Urewera	4.68	33	P		Pn	07 13 08.6	-1.5	
TUZ	Tuapeka	4.82	218	P		Pn	07 13 12.2	+0.1	
AWAZ	Awhitu Peninsu	5.21	7	P		Pn	07 13 19.2	+1.7	
MLZ	Mavora Lakes	5.22	231	P		Pn	07 13 16.9	-0.8	
MKAZ	Moumakai	5.23	11	P		Pn	07 13 18.8	+1.1	
ETAZ	East Tamaki Re	5.34	9	P		Pn	07 13 21.1	+1.7	
SYZ	Scrubby Hill	5.48	217	P		Pn	07 13 21.7	+0.5	
SYZ	Scrubby Hill	5.48	217	P		Pn	07 13 21.5	+0.3	
KUZ	Kuaotunu	5.67	15	P		Pn	07 13 24.7	+0.9	
APZ	The Paps	6.24	221	P		Pn	07 13 31.1	-0.5	

*NCEDC **16** 07:21:05.0±1.8, 40°.49N±0°.09×127°.25W±0°.03, h5km±2km, Error ellipse: s-maj=15.8km s-min=4.1km az=189.0*
*NEIC **16** 07:21:05.7±2.0, 40°.64N±0°.09×127°.1W±0°.1, h10km±8km, ML3.1/24, Md3.2/27(NCEDC), Error ellipse: s-maj=16.9km s-min=11.5km az=57.0*
*IDC **16** 07:21:09.3±2.4, 40°.87N×126°.80W, h0km, mb3.4/3, mbtmp3.4/5, ML3.6/2, MS3.3/5, Error ellipse: s-maj=46.5km s-min=20.1km az=10.0*

ISC 16 07:21:09.9±1.5, 40°.71N±0°.07×127°.0W±0°.1, h16km, n55, σ1s95/42, mb3.2/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KCTM	Capetown	2.04	96			Pn	Pn	07 21 42.0	-1.5
KMPM	Mount Pierce	2.21	97			Pn	Pn	07 21 43.3	-2.6
KMPM	Mount Pierce	2.21	97	IAML				07 22 19.2	
	comp=E,77nm,1.8s								
KMPM				IAML				07 22 21.0	
	comp=N,100nm,2.0s								
JCC	Jacoby Creek,	2.25	86			Pn	Pn	07 21 43.8	-2.7
JCC	Jacoby Creek,	2.25	86			Pn	Pn	07 21 44.5	-2.0
JCC				IAML				07 22 03.0	
	comp=N,61nm,1.9s								
JCC				IAML				07 22 53.4	
	comp=E,68nm,3.1s								
KRPM	Rodgers	2.29	78			Pn	Pn	07 21 45.6	-1.6
KRPM	Rodgers	2.29	78	IAML				07 22 29.8	
	comp=N,131nm,2.1s								
KCRM	Chalk Rock	2.43	96			Pn	Pn	07 21 46.7	-2.4
KHMM	Horse Mountain	2.48	85			Pn	Pn	07 21 48.2	-1.6
KHMM	Horse Mountain	2.48	85	IAML				07 22 28.2	
	comp=E,77nm,3.0s								
KMRM	Mail Ridge	2.55	100			Pn	Pn	07 21 48.8	-1.9
KMRM	Mail Ridge	2.55	100	IAML				07 22 05.4	
	comp=N,60nm,2.5s								
KMRM				IAML				07 22 25.5	
	comp=E,59nm,4.2s								
KBO	Bosley Butte	2.56	53			Pn	Pn	07 21 48.3	-2.6
KBSM	Bell Springs	2.71	106			Pn	Pn	07 21 50.5	-2.5
KOMM	Orleans Mounta	2.74	77			Pn	Pn	07 21 51.5	-1.8
KCPM	Cahto Peak	2.80	110	Pn		Pn	Pn	07 21 52.9	-1.4
KCPM				IAML				07 22 42.1	
	comp=E,66nm,2.9s								
KCPM				IAML				07 22 55.9	
	comp=N,62nm,2.9s								
KIPM	Iron Peak	2.83	107			Pn	Pn	07 21 52.6	-2.0
KHBM	Hayfork Bally	2.87	90			Pn	Pn	07 21 53.3	-1.9
KFPM	Farley Peak	2.94	110			Pn	Pn	07 21 53.6	-2.4
KTRM	Thompson Ridge	2.98	65			Pn	Pn	07 21 54.1	-2.5
GNAM	Navarro Ridge	2.99	119			Pn	Pn	07 21 55.3	-1.4
LGPM	Granite Peak	3.17	85			Pn	Pn	07 21 57.2	-2.0
LGPM						Sn	Pn	07 22 36.8	+0.1
LBKM	Bonanza King	3.30	82			Pn	Pn	07 22 00.0	-1.1
YBH	Yreka Blue Hor	3.39	71	Pn		Pn	Pn	07 22 01.5	-0.7
	comp=N,2.3nm,0.3s,baz=264,slow=12,SNR=57								
YBH				Sn		Sn	Sn	07 22 42.0	-0.1
	comp=N,0.4nm,0.3s,baz=192,slow=9.3,SNR=1.0								
	comp=N,15nm,0.6s								
YBH	Yreka Blue Hor	3.39	71			Pn	Pn	07 22 01.9	-0.3
YBH				IAML				07 22 36.7	
	comp=E,23nm,5.0s								
YBH				IAML				07 24 08.0	
	comp=N,19nm,3.0s								
LAMM	Antelope Mount	3.42	73			Pn	Pn	07 22 01.8	-0.9
HOPS	Hopland Field	3.47	118			Pn	Pn	07 22 01.0	-2.3
HOPS	Hopland Field	3.47	118	Pn		Pn	Pn	07 21 59.7	-3.6
HOPS	Hopland Field	3.47	118	IAML				07 23 44.5	
	comp=E,60nm,3.0s								
GHLM	Highland Sprin	3.48	117			Pn	Pn	07 22 01.2	-2.3
HUMO	Hull Mountain	3.57	57			Pn	Pn	07 22 02.3	-2.4
HUMO	Hull Mountain	3.57	57			Pn	Pn	07 22 02.6	-2.1
HUMO				IAML				07 22 48.0	
	comp=N,18nm,4.0s								
HUMO				IAML				07 23 52.8	
	comp=E,22nm,5.0s								
B040	Montague	3.62	70			Pn	Pn	07 22 04.7	-0.7
DBO	Dodson Butte	3.69	48	Pn		Pn	Pn	07 22 04.2	-2.2
DBO				IAML				07 23 27.6	
	comp=E,45nm,4.8s								
DBO				IAML				07 23 28.2	
	comp=N,42nm,3.1s								
LHEM	Herd Peak	3.72	74			Pn	Pn	07 22 07.1	+0.2
LMPM	Military Pass	3.73	76			Pn	Pn	07 22 07.3	+0.2
BBOR	Butler Butte	3.89	55			Pn	Pn	07 22 07.8	-1.4
K05A	Summer Lake	4.99	64			Pn	Pn	07 22 22.6	-1.7
H04A	Detroit Lake	5.32	40	Pn		Pn	Pn	07 22 26.8	-2.0
PINE	Pine Mountain	5.45	54	Pn		Pn	Pn	07 22 28.7	-1.9
LON	Longmire	7.11	30	Pn		Pn	Pn	07 22 50.4	-2.9
ELK	Elko	8.93	86	LR		LR	LR	07 26 06.3	
	comp=N,86nm,19.5s,baz=242,slow=34								
NEW	Newport	10.33	40	LR		LR	LR	07 27 41.9	
	comp=N,118nm,18.7s,baz=223,slow=39								
PDAR	Pinedale Array	13.18	75	Pn		Pn	Pn	07 24 17.9	+1.2
	comp=N,0.1nm,0.3s,baz=272,slow=11,SNR=2.8								
PDAR				LR		LR	LR	07 29 55.0	
	comp=N,116nm,19.0s,baz=278,slow=40								
	comp=N,0.5nm,1.0s								
ANMO	Albuquerque	17.20	103	LR		LR	LR	07 32 01.7	
	comp=N,74nm,18.2s,baz=292,slow=38								
TXAR	Lajitas Array	22.15	114	P		P	P	07 26 06.7	+1.6
	comp=N,0.6nm,1.0s,baz=297,slow=6.0,SNR=4.8								
	comp=N,0.6nm,1.0s								
ILAR	Eielson Array	26.70	341	P		P	P	07 26 48.4	+0.3
	comp=N,0.5nm,0.9s,baz=153,slow=8.1,SNR=4.4								
	comp=N,0.5nm,0.9s								
H11N3	WAKE ISLAND Hy	59.47	270	T		T		08 35 05.9	
	baz=53,slow=75,SNR=17								
H11N2	WAKE ISLAND Hy	59.47	270	T		T		08 35 06.0	
	baz=53,slow=75,SNR=13								
H11N1	WAKE ISLAND Hy	59.48	270	T		T		08 35 07.2	
	baz=53,slow=75,SNR=15								
H11S1	WAKE ISLAND Hy	60.34	269	T		T		08 36 11.8	
	baz=54,slow=76,SNR=4.4								
H11S2	WAKE ISLAND Hy	60.35	269	T		T		08 36 10.0	
	baz=54,slow=76,SNR=5.2								
H11S3	WAKE ISLAND Hy	60.36	269	T		T		08 36 12.8	
	baz=54,slow=76,SNR=3.7								
PCRV	Puerto La Cruz	62.53	101	LR		LR		08 01 25.2	
	comp=N,96nm,19.3s,slow=39								
NOA	NORSAR Array B	73.04	20	P		P		07 32 40.6	+1.9
	comp=N,1.5nm,0.9s,baz=331,slow=5.6,SNR=3.5								
	comp=N,1.5nm,0.9s								

*GCMT **16** 07:33:10.0±0.4, 6°.10S±0°.02×106°.92W±0°.02, h16km±1km, MW4.8/80, Moment Tensor Solution. s18,c20; s80,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.25±.07; $M_{\theta\theta}$0.53±.07; $M_{\phi\phi}$=-0.27±.07; $M_{r\theta}$0.14±.17; $M_{r\phi}$=1.58±.06; $M_{\theta\phi}$=-0.49±.20; Best double couple: $M_0$1.72000×10^{16} NP1:ϕ=9.00000°, δ81.00000°, λ=-163.00000°. NP2: ϕ=276.00000°, δ73.00000°, λ=-9.00000°. Principal axes: T 1.7750, Plg6.0000°, Azm141.0000°; N -0.1090, Plg71.0000°, Azm36.0000°; P -1.6650, Plg19.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 16 07:33:05.4±1.4, 6°.27S×107°.45W, h0km, mb3.6/5, mbtmp3.6/5, MS3.9/33 Error ellipse: s-maj=177.9km s-min=29.2km az=88.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	20.82	185	LR		LR	LR	07 43 49.6	
	comp=Z,316nm,18.9s,baz=18,slow=31								
CMIG	Matias Romero	26.32	28	LR		LR	LR	07 46 36.1	
	comp=Z,232nm,20.4s,baz=204,slow=31								
ATAH	Atahualpa	28.87	93	LR		LR	LR	07 47 19.0	
	comp=Z,96nm,21.8s,baz=242,slow=30								
LPIG	La Paz	30.32	355	LR		LR	LR	07 48 17.8	
	comp=Z,227nm,21.4s,baz=175,slow=30								
NNA	Nana	30.73	103	LR		LR	LR	07 48 00.1	
	comp=Z,170nm,20.1s,baz=273,slow=29								
ROSC	El Rosal	34.87	72	LR		LR	LR	07 51 03.5	
	comp=Z,134nm,19.4s,baz=50,slow=31								
TXAR	Lajitas Array	35.58	6	P		P	P	07 40 05.7	+0.9
	0.3nm,0.9s,baz=184,slow=12,SNR=3.2								
TXAR				LR		LR	LR	07 52 03.5	
	comp=Z,77nm,19.7s,baz=189,slow=32								
	0.3nm,0.9s								
H03N2	Juan Fernandez	37.83	139	T		T		08 20 08.3	
	baz=313,slow=77,SNR=100								
H03N1	Juan Fernandez	37.84	139	T		T		08 20 09.7	
	baz=313,slow=77,SNR=109								
H03N3	Juan Fernandez	37.84	139	T		T		08 20 09.0	
	baz=313,slow=77,SNR=111								
SDV	Santo Domingo	39.67	68	LR		LR	LR	07 55 17.0	
	comp=Z,121nm,20.8s,baz=260,slow=34								
LPAZ	La Paz	39.75	108	LR		LR	LR	07 53 13.4	
	comp=Z,122nm,18.7s,baz=260,slow=30								
LVC	Limon Verde	40.54	118	LR		LR	LR	07 52 54.9	
	comp=Z,205nm,21.3s,baz=246,slow=29								
ANMO	Albuquerque	41.00	1	LR		LR	LR	07 54 32.8	
	comp=Z,123nm,19.1s,baz=187,slow=31								
PPT	Papeete	42.62	251	LR		LR	LR	07 53 57.7	
	comp=Z,176nm,21.6s,baz=78,slow=29								
NVAR	Mina Array Bea	45.60	348	P		P	P	07 41 28.6	+0.9
	0.5nm,0.8s,baz=173,slow=12,SNR=3.0								
	0.5nm,0.8s								
TKL	Tuckaleechee C	47.28	26	LR		LR	LR	08 00 59.5	
	comp=Z,36nm,18.4s,baz=206,slow=35								
ELK	Elko	47.33	352	LR		LR	LR	07 58 03.2	
	comp=Z,175nm,18.9s,baz=176,slow=32								
SJG	San Juan	47.41	58	LR		LR	LR	07 58 20.7	
	comp=Z,92nm,21.0s,baz=242,slow=32								
PLCA	Paso Flores	47.57	142	LR		LR	LR	07 56 32.8	
	comp=Z,310nm,19.5s,baz=256,slow=30								
PDAR	Pinedale Array	48.84	358	P		P	P	07 41 51.1	-1.8
	0.3nm,0.7s,baz=133,slow=5.3,SNR=3.2								
PDAR				LR		LR	LR	07 58 30.6	
	comp=Z,55nm,19.8s,baz=180,slow=31								
	0.3nm,0.7s								
YBH	Yreka Blue Hor	49.77	345	LR		LR	LR	07 58 20.5	
	comp=Z,164nm,20.3s,baz=192,slow=30								
RAR	Rarotonga	52.70	248	LR		LR	LR	07 59 14.5	
	comp=Z,57nm,21.9s,baz=94,slow=30								
NEW	Newport	54.96	352	LR		LR	LR	08 02 13.2	
	comp=Z,147nm,19.2s,baz=192,slow=32								
SADO	Sadowa	56.82	24	LR		LR	LR	08 07 08.0	
	comp=Z,40nm,18.8s,baz=328,slow=36								
AFI	Afiamalu	63.63	258	LR		LR	LR	08 03 34.4	
	comp=Z,79nm,21.6s,baz=182,slow=29								
PMSA	Palmer Station	65.95	161	LR		LR	LR	08 05 31.5	
	comp=Z,294nm,18.5s,baz=327,slow=30								
DLBC	Dease Lake	67.01	347	LR		LR	LR	08 10 27.9	
	comp=Z,75nm,18.0s,baz=152,slow=34								
YKA	Yellowknife Ar	68.78	356	LR		LR	LR	08 12 11.6	
	comp=Z,146nm,18.3s,baz=290,slow=34								
SCHQ	Schefferville	69.63	24	LR		LR	LR	08 14 33.2	
	comp=Z,50nm,20.7s,baz=358,slow=36								
FRB	Frobisher Bay	75.71	17	LR		LR	LR	08 17 17.3	
	comp=Z,68nm,18.4s,baz=190,slow=35								
INK	Inuvik	76.63	350	LR		LR	LR	08 15 59.0	
	comp=Z,127nm,18.0s,baz=142,slow=34								
ILAR	Eielson Array	76.64	344	P		P	P	07 44 57.5	-0.2
	0.9nm,1.0s,baz=177,slow=5.1,SNR=4.8								
ILAR				LR		LR	LR	08 12 25.9	
	comp=Z,63nm,18.2s,baz=111,slow=31								
	0.9nm,1.0s								
RES	Resolute Bay	81.18	3	LR		LR	LR	08 20 00.9	
	comp=Z,66nm,18.6s,baz=2.0,slow=35								
QSPA	South Pole Qui	83.79	180	P		P	P	07 45 36.7	+0.1
	2.0nm,0.8s,baz=147,slow=2.1,SNR=8.6								
QSPA				LR		LR	LR	08 16 28.3	
	comp=Z,110nm,18.1s,baz=100,slow=31								
	2.0nm,0.8s								
SHEM	Shemya Is, Ala	88.00	323	LR		LR	LR	08 17 28.2	
	comp=Z,73nm,19.0s,baz=338,slow=30								
H11N3	WAKE ISLAND Hy	88.01	290	T		T		09 23 45.8	
	baz=98,slow=75,SNR=28								
H11N2	WAKE ISLAND Hy	88.02	290	T		T		09 23 46.3	
	baz=98,slow=75,SNR=30								
H11N1	WAKE ISLAND Hy	88.02	290	T		T		09 23 46.7	
	baz=98,slow=75,SNR=24								
H11S2	WAKE ISLAND Hy	88.04	289	T		T		09 23 48.7	
	baz=97,slow=75,SNR=22								
H11S1	WAKE ISLAND Hy	88.05	289	T		T		09 23 48.7	
	baz=97,slow=75,SNR=16								
H11S3	WAKE ISLAND Hy	88.06	289	T		T		09 23 49.4	
	baz=97,slow=75,SNR=19								
SNAA	Sanae	88.65	162	LR		LR	LR	08 18 02.6	
	comp=Z,110nm,20.2s,baz=186,slow=30								

*SKO **16** 07:38:49.5, 40°.99N×22°.75E, h15km*
*ISK **16** 07:38:49.9, 40°.98N×22°.75E, h7km, ML3.3/8*
*THE **16** 07:38:50.6, 40°.98N×22°.76E, h6km, ML3.0/13, Error ellipse: s-maj=0.9km s-min=0.3km az=346.0*
*SOF **16** 07:38:50.5, 41°.01N×22°.79E, h14km, MD3.6*
*BEO **16** 07:38:50.9±0.4, 41°.03N×22°.76E, h14km±2km, ML2.8/13*
*ATH **16** 07:38:50.6, 40°.98N×22°.76E, h5km±2km, ML3.1/10, Error ellipse: s-maj=2.1km s-min=0.9km az=357.0*

ISC 16 07:38:50.4±0.8, 40°.99N±0°.02×22°.74E±0°.01, h12km±6km, n96, σ0s94/135, 14C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNT	Kendrikon	0.21	33	P		Pg	Pg	07 38 54.8	-0.2
KNT				S		Sg	Sg	07 38 57.2	-0.1
KNT				P	↑	Pg	Pg	07 38 58.0	-0.1
KNT				S		Sg	Sg	07 38 58.0	-0.1
	21μm,0.2s								
KNT	Kendrikon	0.21	33	*i* P	↑	Pg	Pg	07 38 54.8	-0.2
KNT				*i* Sg		Sg	Sg	07 38 57.9	-0.1
KNT	Kendrikon	0.21	33	P		Pg	Pg	07 38 54.8	-0.2
KNT				S		Sg	Sg	07 38 57.4	
	comp=E,41542μm,0.1s								
KNT				AML		AML	AML	07 38 57.5	
	comp=N,41404μm,0.2s								
GRG	Griva	0.26	264	PG		Pg	Pg	07 38 55.9	+0.1
GRG				SG		Sg	Sg	07 38 59.9	+0.5
GRG	Griva	0.26	264	P		Pg	Pg	07 38 55.9	+0.1
GRG				S		Sg	Sg	07 39 00.0	+0.5
	comp=N,5μm,0.6s								
GRG	Griva	0.26	264	*i* Pg	⇓	Pg	Pg	07 38 55.9	+0.1
GRG				*i* Sg		Sg	Sg	07 39 00.3	+0.8
GRG	Griva	0.26	264	P		Pg	Pg	07 38 55.8	+0.1
GRG				S		Sg	Sg	07 39 00.0	+0.5
GRG				AML		AML	AML	07 39 00.3	
	comp=N,10413μm,0.3s								
GRG				AML		AML	AML	07 39 00.4	
	comp=E,8111μm,0.3s								
VAY	Valandovo	0.36	339	*e*Pg		Pg	Pg	07 38 57.8	+0.2
VAY				*e*Sg		Sg	Sg	07 39 03.0	+0.5
VAY	Valandovo	0.36	339	*i* Pg	⇑	Pg	Pg	07 38 58.1	+0.4
VAY				*i* Sg		Sg	Sg	07 39 03.2	+0.8
VAY				*e*Lg		Lg	Lg	07 39 03.5	
	comp=N,2μm,0.7s								
VAY				*e*Lg		Lg	Lg	07 39 03.9	
	comp=E,2μm,0.4s								
THE	Thessaloniki	0.39	155	P		Pg	Pg	07 38 57.9	-0.3
THE				S		Sg	Sg	07 39 02.9	-0.5
	comp=E,3μm,0.3s								
THE	Thessaloniki	0.39	155	*i* Pg	⇑	Pg	Pg	07 38 57.9	-0.3
THE				*i* Sg		Sg	Sg	07 39 03.2	-0.2
THE	Thessaloniki	0.39	155	P		Pg	Pg	07 38 57.8	-0.3
THE				S		Sg	Sg	07 39 02.8	-0.5
THE				AML		AML	AML	07 39 03.2	
	comp=E,6176μm,0.1s								
THE				AML		AML	AML	07 39 04.7	
	comp=N,5949μm,0.3s								
HORT	Hortiatis	0.47	145	PG		Pg	Pg	07 38 59.3	-0.4
HORT				SG		Sg	Sg	07 39 06.5	+0.6
HORT	Hortiatis	0.47	145	P		Pg	Pg	07 38 59.6	-0.1
HORT				S		Sg	Sg	07 39 06.3	+0.4
	comp=N,2μm,0.2s								
HORT	Hortiatis	0.47	145	P		Pg	Pg	07 38 59.6	-0.1
HORT				AML		AML	AML	07 39 08.1	
	comp=E,5104μm,0.2s								
HORT				AML		AML	AML	07 39 08.4	
	comp=N,3360μm,0.3s								
SOH	Sokhos	0.49	109	P		Pg	Pg	07 39 00.2	+0.1
SOH				S		Sg	Sg	07 39 06.9	+0.4
	comp=N,3μm,0.3s								
SOH	Sokhos	0.49	109	*i* Pg	⇓	Pg	Pg	07 39 00.1	+0.1
SOH				*i* Sg		Sg	Sg	07 39 07.0	+0.4
SOH	Sokhos	0.49	109	P		Pg	Pg	07 39 00.1	+0.1
SOH				S		Sg	Sg	07 39 06.8	+0.3
SOH				AML		AML	AML	07 39 07.6	
	comp=E,6393μm,0.3s								
SOH				AML		AML	AML	07 39 07.6	
	comp=N,8406μm,0.3s								
SRS	Serrai	0.66	78	P		Pg	Pg	07 39 02.9	-0.2
SRS				S		Sg	Sg	07 39 11.8	+0.1
	comp=N,1μm,0.2s								
SRS	Serrai	0.66	78	*e*Pg		Pg	Pg	07 39 02.9	-0.2
SRS				*e*Sg		Sg	Sg	07 39 11.6	-0.1
SRS	Serrai	0.66	78	*i* Pg	⇓	Pg	Pg	07 39 02.9	-0.2
SRS				*i* Sg		Sg	Sg	07 39 11.9	+0.1
SRS	Serrai	0.66	78	P		Pg	Pg	07 39 03.0	-0.2
SRS				AML		AML	AML	07 39 12.7	
	comp=E,2895μm,0.1s								
SRS				AML		AML	AML	07 39 16.8	
	comp=N,2466μm,0.2s								
STIP	Stip	0.82	330	*i* Pg		Pg	Pg	07 39 05.5	-0.8
STIP				*i* Sg		Sg	Sg	07 39 16.3	-0.8
KKB	Krupnik	0.92	16	*i* P		Pb	Pb	07 39 07.5	-0.8
NVR	Nevrokopi	0.92	66	P		Pb	Pb	07 39 08.0	-0.3
NVR				S		Sb	Sb	07 39 20.9	+0.4
	comp=N,860nm,0.3s								
NVR	Nevrokopi	0.92	66	P		Pb	Pb	07 39 07

MAKR				AML	AML	07 39 52.7
	comp=N,997μm,0.5s					
RDO	Rodhopi	2.12	85	PN	Pn	07 39 26.9 +1.3
KDZ	Kurdzhali	2.12	71	PN	Pn	07 39 25.8 +0.1
ZAPS	Zavoj	2.29	358	*e*Pn	Pn	07 39 28.9 +0.9
IGT	Igoumenitsa	2.35	233	*i* Pn	Pb	07 39 32.2 -0.5
ANX	Áno Chora	2.47	195	P	Pn	07 39 31.1 +0.5
GADA	Gvkgeada	2.53	107	PN	Pn	07 39 32.7 +1.4
SELS	Selova	2.54	332	*e*Pn	Pn	07 39 30.6 -0.9
ENEZ	Enez	2.60	94	PN	Pn	07 39 33.9 +1.7
PLVB	Pleven	2.78	30	⇑P	Pb	07 39 40.8 +0.9
ZAGS	Zajecar	2.85	353	*e*Pn	Pn	07 39 35.4 -0.3
PDG	Podgorica	2.98	300	⇑P	Pn	07 39 38.6 +1.1
SJES	Sjenica	3.07	319	*e*Pn	Pn	07 39 39.2 +0.4
IVAS	Ivanjica	3.23	324	*e*Pn	Pn	07 39 40.2 -0.7
GRUS	Gruza	3.27	333	*e*Pn	Pn	07 39 40.4 -1.0
TRUS	Trudelj	3.67	333	*e*Pn	Pn	07 39 46.3 -0.7
SRE	Strehaia	3.69	5	⇑P	Pn	07 39 47.3 0.0
DIVS	Divibare	3.72	328	*e*Pn	Pn	07 39 47.2 -0.5
MDVR	Moldovita	3.87	349	⇑P	Pn	07 39 48.1 -1.7
HERR	Herculane	3.90	357	⇑P	Pn	07 39 48.5 -1.7
BZS	Buzias	4.70	350	⇑P	Pn	07 39 58.5 -2.7
VOIR		4.76	20	⇓P	Pn	07 40 04.3 +2.3
MLR	Muntele Rosu	5.07	26	⇑P	Pn	07 40 10.8 +4.4
DOPR	Dopca	5.34	20	⇑P	Pn	07 40 12.4 +2.5
COVR	Voineasa-Covas	5.47	26	⇑P	Pn	07 40 15.4 +3.6
VRI	Vrincioaia	5.67	29	⇑P	Pn	07 40 19.6 +5.1

IDC ***16*** *07:43:19.4±0.5,59°.29S×25°.17W,h0km,mb4.7/14, mbtmp4.6/15,ML3.7/1,MS4.0/25,Error ellipse: s-maj=17.4km s-min=15.2km az=59.0*

NEIC ***16*** *07:43:20.7±1.4,59°.3S±0°.1×25°.0W±0°.2,h10km±1km, mb4.9/51,Error ellipse: s-maj=20.7km s-min=14.2km az=219.0*

ISC 16 07:43:22.9±0.4,**59°.38S**±0°.07×**25°.09W**±0°.08,**h27**km,**n113,** σ1§**20**/84,**mb4.9**/38,**MS4.1**/26,**3C**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	8.06	304	Pn	Pn	07 45 23.1	+5.1
VNA1	Neumayer--Stat	13.29	155	P	Pn	07 46 27.2	-2.2
VNA3	Neumayer Olymp	13.47	158	P	Pn	07 46 29.1	-2.9
VNA2	Neumayer--Watz	13.69	155	P	Pn	07 46 31.6	-3.2
	baz=313,slow=14						
SNAA	Sanae	15.25	153	P	Pn	07 46 52.4	-3.7
SNAA	Sanae	15.25	153	Pn	Pn	07 46 53.4	-2.6
	4.6nm,0.3s,baz=314,slow=14,SNR=145						
SNAA				LR	LR	07 51 57.6	
	comp=Z,460nm,18.3s,baz=8.0,slow=34						
SNAA	Sanae	15.25	153	Pn	Pn	07 46 52.6	-3.5
SNAA				IAmb	IAmb	07 46 57.5	
	comp=Z,124nm,1.5s						
TROLL	Troll, Antarti	16.77	150	P	Pn	07 47 12.9	-2.8
PMSA	Palmer Station	18.78	237	P	Pn	07 47 41.3	+1.1
	comp=Z,0.2nm,0.3s,baz=103,slow=12,SNR=2.3						
PMSA				LR	LR	07 54 18.9	
	comp=Z,688nm,18.5s,baz=73,slow=35						
	comp=Z,8.3nm,0.8s						
PMSA	Palmer Station	18.78	237	P	Pn	07 47 39.9	-0.3
BELA	Belgrano 2	18.86	186	P	P	07 47 40.6	+0.1
EFI	East Falkland	20.02	278	P	Pn	07 47 55.0	-0.1
SMAI	San Martin Ant	20.12	227	P	P	07 47 55.2	+0.9
MG02	Cerro Sombrero	25.10	266	P	P	07 48 44.1	-0.8
GO09	Cerro Castillo	27.54	266	P	P	07 49 05.7	-1.3
QSPA	South Pole Qui	30.86	180	P	P	07 49 38.0	+1.4
	comp=Z,14nm,0.6s,baz=212,slow=2.3,SNR=114						
QSPA				LR	LR	08 01 42.7	
	comp=Z,249nm,19.2s,baz=188,slow=36						
	comp=Z,14nm,0.6s						
QSPA	South Pole Qui	30.86	180	P	P	07 49 37.2	+0.6
TRQA	Tornquist	31.73	296	P	P	07 49 44.7	+0.5
TRQA				IAmb	IAmb	07 49 49.9	
	comp=Z,11nm,0.8s						
PLTB	Pedras Altas	33.57	313	P	P	07 49 59.0	-1.4
PLCA	Paso Flores	33.77	283	P	P	07 50 02.5	+0.3
	comp=Z,4.1nm,0.7s,baz=131,slow=6.5,SNR=14						
	comp=Z,4.1nm,0.7s						
PLCA	Paso Flores	33.77	283	P	P	07 50 01.9	-0.2
PLCA				IAmb	IAmb	07 50 13.2	
	comp=Z,13nm,1.1s						
GO06	Curarrehue	35.10	283	P	P	07 50 13.3	-0.4
GO06				IAmb	IAmb	07 51 21.7	
	comp=Z,37nm,1.9s						
MAW	Mawson	36.83	140	P	P	07 50 29.4	+1.4
	comp=Z,17nm,1.0s,baz=251,slow=11,SNR=12						
MAW				LR	LR	08 03 59.1	
	comp=Z,249nm,19.6s,baz=246,slow=34						
	comp=Z,17nm,1.0s						
MAW	Mawson	36.83	140	P	P	07 50 28.9	+0.8
BO02	Sierra Bellavi	38.53	289	P	P	07 50 44.4	+1.5
GO05	Huala	38.91	288	P	P	07 50 47.8	+1.7
GO05				IAmb	IAmb	07 51 19.4	
	comp=Z,20nm,0.9s						
BO01	Tunca	39.00	289	P	P	07 50 47.4	+0.6
BO01				IAmb	IAmb	07 51 03.2	
	comp=Z,16nm,0.8s						
BO04	La Punta	39.10	290	P	P	07 50 47.6	0.0
MT03	Universidad Ad	39.45	291	P	P	07 50 51.2	+0.5
MT03				IAmb	IAmb	07 51 01.6	
	comp=Z,23nm,0.9s						
MT09	Talagante	39.45	290	P	P	07 50 49.8	-0.9
MT09				IAmb	IAmb	07 50 53.5	
	comp=Z,58nm,1.4s						
MT01	Popeta	39.51	289	P	P	07 50 50.7	-0.3
MT01				IAmb	IAmb	07 51 21.9	
	comp=Z,62nm,1.6s						
PEL	Peldehue	39.83	291	IAmb	IAmb	07 51 23.3	
	comp=Z,29nm,0.9s						
CPUP	Villa Florida	39.86	312	LR	LR	08 07 24.0	
	comp=Z,207nm,19.8s,baz=186,slow=36						
VA03	San Esteban	40.07	291	P	P	07 50 56.6	+0.8
VA03				IAmb	IAmb	07 51 06.9	
	comp=Z,26nm,0.8s						
ROC1	El Roble	40.12	290	P	P	07 50 58.2	+1.8
ROC1				IAmb	IAmb	07 51 19.6	
	comp=Z,22nm,0.8s						
ZON	Zonda	40.20	294	P	P	07 50 57.1	+0.3
ZON				IAmb	IAmb	07 51 08.4	
	comp=Z,42nm,1.6s						
VA06	Catapilco	40.60	290	P	P	07 51 00.6	+0.6
SUR	Sutherland	40.60	69	P	P	07 51 02.1	+1.8
	comp=Z,11nm,0.8s,baz=217,slow=8.8,SNR=6.8						
SUR				LR	LR	08 04 51.2	
	comp=Z,291nm,19.6s,baz=181,slow=32						
	comp=Z,11nm,0.8s						
SUR	Sutherland	40.60	69	P	P	07 51 01.3	+1.0
CO02	Combarbal	41.58	292	P	P	07 51 08.7	+0.5
CO03	El Pedregal	41.73	293	P	P	07 51 09.7	+0.2
CO03				IAmb	IAmb	07 51 15.6	
	comp=Z,25nm,1.1s						
CO01	Juntas del Tor	42.17	294	P	P	07 51 13.3	0.0
CO01				IAmb	IAmb	07 51 27.3	
	comp=Z,17nm,0.8s						
CO06	Fray Jorge	42.32	292	P	P	07 51 14.2	+0.1
GO04	Tololo Observa	42.34	293	P	P	07 51 14.0	-0.7
GO04				IAmb	IAmb	07 51 46.8	
	comp=Z,52nm,1.2s						
SBA	Scott Base	42.83	184	P	P	07 51 18.8	+1.1
AC05	El Transito	43.22	295	P	P	07 51 21.8	+0.1
LCO	Las Campanas	43.27	294	P	P	07 51 21.6	-0.6
LCO				IAmb	IAmb	07 51 34.1	
	comp=Z,52nm,1.6s						
VNDA	Vanda	43.29	182	P	P	07 51 23.5	+2.0
	comp=Z,7.1nm,0.8s,baz=187,slow=6.9,SNR=54						
VNDA				LR	LR	08 07 56.0	
	comp=Z,96nm,21.3s,baz=174,slow=34						
	comp=Z,7.1nm,0.8s						
VNDA	Vanda	43.29	182	P	P	07 51 23.2	+1.7
AC04	Llanos de Chal	44.12	294	P	P	07 51 28.8	0.0
AC04				IAmb	IAmb	07 51 30.6	
	comp=Z,34nm,1.0s						
AC02	Maricunga	44.39	297	P	P	07 51 31.9	+0.4
AC02				IAmb	IAmb	07 51 38.2	
	comp=Z,12nm,1.0s						
BOSA	Boshof	45.85	71	P	P	07 51 43.0	+0.3
	comp=Z,14nm,0.8s,baz=214,slow=7.6,SNR=14						
BOSA				LR	LR	08 07 36.8	
	comp=Z,202nm,18.3s,baz=194,slow=32						
	comp=Z,14nm,0.8s						
BOSA	Boshof	45.85	71	P	P	07 51 42.7	0.0
BOSA				IAmb	IAmb	07 51 44.0	
	comp=Z,17nm,0.9s						

GO02	Mina Guanaco	46.04	298	IAmb	IAmb	07 52 16.5
	comp=Z,34nm,1.4s					
BDFB	Brasilia	46.81	329	P	P	07 51 49.0 -1.2
	comp=Z,2.8nm,0.7s,baz=154,slow=9.8,SNR=2.6					
	comp=Z,2.8nm,0.7s					
LVC	Limon Verde	47.95	301	P	P	07 51 59.1 -0.3
	comp=Z,3.7nm,0.7s,baz=144,slow=8.7,SNR=6.9					
LVC				LR	LR	08 11 07.3
	comp=Z,146nm,21.6s,baz=179,slow=35					
	comp=Z,3.7nm,0.7s					
LBTB	Lobatse	49.04	68	LR	LR	08 08 56.7
	comp=Z,188nm,19.4s,baz=180,slow=31					
LBTB	Lobatse	49.04	68	P	P	07 52 06.1 -1.4
PB01	IPOC Station P	49.58	301	IAmb	IAmb	07 52 13.5
	comp=Z,6.2nm,0.7s					
TSUM	Tsumeb	50.47	56	LR	LR	08 10 39.8
	comp=Z,99nm,18.3s,baz=202,slow=32					
TSUM	Tsumeb	50.47	56	P	P	07 52 17.9 -0.4
TSUM				IAmb	IAmb	07 52 20.5
	comp=Z,7.8nm,0.8s					
SIV	San Ignacio	50.68	313	LR	LR	08 14 04.0
	comp=Z,162nm,19.6s,baz=158,slow=36					
H10S2	ASCENSION HYDR	50.93	13	T	T	08 47 01.8
	baz=187,slow=74,SNR=6.0					
H10S3	ASCENSION HYDR	50.93	13	T	T	08 47 02.2
	baz=33,slow=74,SNR=12					
MNMC	Minye Minye	51.31	302	IAmb	IAmb	07 52 43.1
	comp=Z,20nm,1.2s					
H10N1	ASCENSION HYDR	52.05	13	T	T	08 48 32.3
	baz=194					
H10N3	ASCENSION HYDR	52.05	13	T	T	08 48 29.1
	baz=194,slow=74,SNR=9.0					
H10N2	ASCENSION HYDR	52.06	13	T	T	08 48 31.2
	baz=194,slow=74,SNR=8.9					
LPAZ	La Paz	53.22	305	P	P	07 52 39.0 -0.5
	comp=Z,0.8nm,0.4s,baz=95,slow=5.6,SNR=9.7					
LPAZ				LR	LR	08 18 40.6
	comp=Z,63nm,18.2s,baz=130,slow=40					
	comp=Z,0.8nm,0.4s					
LPAZ	La Paz	53.22	305	P	P	07 52 38.4 -1.0
ETMB	Extrema	58.29	310	IAmb	IAmb	07 53 47.9
	comp=Z,3.3nm,0.9s					
LSZ	Lusaka	58.65	65	LR	LR	08 14 35.4
	comp=Z,150nm,20.8s,baz=184,slow=32					
NNA	Nana	60.83	298	LR	LR	08 18 33.6
	comp=Z,119nm,20.4s,baz=146,slow=35					
PTGA	Pitinga	64.48	321	LR	LR	08 24 35.3
	comp=Z,74nm,18.2s,baz=170,slow=38					
OPO	Ambohidratompo	65.18	85	LR	LR	08 19 27.3
	comp=Z,156nm,18.9s,baz=58,slow=33					
ATAH	Atahualpa	65.82	299	LR	LR	08 23 39.7
	comp=Z,48nm,19.7s,baz=174,slow=37					
LIC	Lamto	67.32	22	*i*P	P	07 54 16.1 +0.9
	comp=Z,35nm,0.8s					
KIC	Kean Boka	67.51	22	*e*P	P	07 54 16.3 -0.1
	comp=Z,6.2nm,0.6s					
TIC	Toumodi	67.73	22	*e*P	P	07 54 18.7 +0.9
	comp=Z,15nm,0.8s					
DBIC	Dimbokro	67.79	22	P	P	07 54 19.2 +1.1
	comp=Z,4.8nm,0.7s,baz=192,slow=4.8,SNR=7.4					
	comp=Z,4.8nm,0.7s					
MDP	Montagnes des	67.90	330	LR	LR	08 23 49.1
	comp=Z,85nm,18.1s,baz=193,slow=36					
MCRA	Macar, Loja	68.97	299	P	P	07 54 25.0 -0.7
MCRA				IAmb	IAmb	07 54 26.6
	comp=Z,5.8nm,0.9s					
COHC	Cochancay	70.36	301	P	P	07 54 34.1 0.0
ROSC	El Rosal	74.86	309	LR	LR	08 30 47.3
	comp=Z,144nm,18.9s,baz=192,slow=38					
TOA0	Torodi Ar. Sit	75.46	27	P	P	07 55 03.5 -0.8
TORD	Torodi Ar. Bea	75.46	27	P	P	07 55 04.3 +0.1
	comp=Z,14nm,0.7s,baz=197,slow=5.6,SNR=73					
	comp=Z,14nm,0.7s					
TORD	Torodi Ar. Bea	75.46	27	P	P	07 55 04.2 -0.1
TORD				IAmb	IAmb	07 55 06.7
	comp=Z,12nm,0.8s					
PCRV	Puerto La Cruz	76.24	320	LR	LR	08 29 18.0
	comp=Z,175nm,20.1s,slow=36					
SDV	Santo Domingo	77.14	314	LR	LR	08 30 24.8
	comp=Z,304nm,19.4s,baz=90,slow=37					
SJG	San Juan	84.16	321	LR	LR	08 33 27.9
	comp=Z,56nm,20.6s,baz=153,slow=36					
STKA	Stephens Creek	88.42	169	P	P	07 56 12.8 +0.5
	comp=Z,5.5nm,0.9s,baz=166,slow=6.0,SNR=11					
	comp=Z,5.5nm,0.9s					
STKA	Stephens Creek	88.42	169	P	P	07 56 12.3 +0.1
PPT2	Papeete2	91.06	232	*e*LR	LR	08 25 32.2
	comp=Z,69nm,20.8s					
TAOE	Nuku Hiva Isla	94.75	244	*e*LR	LR	08 27 14.7
	comp=Z,233nm,23.7s					
ASAR	Alice Springs	95.47	161	P	P	07 56 44.6 -0.5
	comp=Z,1.8nm,0.7s,baz=183,slow=4.0,SNR=16					
ASAR				LR	LR	08 37 25.7
	comp=Z,146nm,19.4s,baz=172,slow=34					
	comp=Z,1.8nm,0.7s					
DZM	Mont Dzumac	98.30	191	*e*LR	LR	08 28 53.4
	comp=Z,213nm,35.9s					
WRA	Warramunga Arr	99.19	160	P	Pdif	07 57 01.0 -0.9
	comp=Z,0.6nm,0.9s,baz=196,slow=4.3,SNR=3.5					
WRA				LR	LR	08 39 59.8
	comp=Z,121nm,19.5s,baz=166,slow=34					
	comp=Z,0.6nm,0.9s					
CMAR	Chiang Mai Arr	122.84	111	PKP	PKiKP	08 02 17.1 +0.8
	comp=Z,2.3nm,0.5s,baz=238,slow=4.1,SNR=10					
PDAR	Pinedale Array	123.01	299	PKP	PKPdf	08 02 15.8 -0.2
	comp=Z,0.2nm,0.4s,baz=122,slow=5.7,SNR=3.9					
ULM	Lac du Bonnet	123.40	313	PKP	PKiKP	08 02 16.5 +0.1
	comp=Z,2.7nm,0.6s,baz=273,slow=2.1,SNR=3.0					
NVAR	Mina Array Bea	123.66	290	PKP	PKiKP	08 02 19.3 +1.7
	comp=Z,0.9nm,0.7s,baz=133,slow=3.3,SNR=7.7					
FINES	FINESS Array B	126.81	28	PKP	PKPdf	08 02 22.6 +0.3
	comp=Z,1.5nm,0.6s,baz=150,slow=4.2,SNR=6.0					
PZH	PanZhiHua	131.02	108	PKP	PKiKP	08 02 32.5 -0.1
ARCES	ARCESS Array B	133.62	22	PKP	PKPdf	08 02 35.2 +0.2
	comp=Z,5.1nm,0.9s,baz=129,slow=1.7,SNR=7.9					
MKAR	Makanchi Array	136.82	73	PKhKP	PKPpre	08 02 33.9
	comp=Z,0.2nm,0.6s,baz=272,slow=5.9,SNR=4.0					
MKAR				PKP	PKPdf	08 02 41.0 -0.8
	comp=Z,2.8nm,1.1s,baz=242,slow=4.0,SNR=5.2					
YKA	Yellowknife Ar	139.36	315	PKP	PKPdf	08 02 46.7 +0.8
	comp=Z,3.1nm,0.7s,baz=140,slow=2.4,SNR=5.6					
ZALV	Zalesovo Beam	142.75	67	PKhKP	PKPpre	08 02 48.1
	comp=Z,2.1nm,0.7s,baz=230,slow=3.8,SNR=6.7					
DLBC	Dease Lake	143.13	302	PKP	PKiKP	08 02 56.0 -0.1
	comp=Z,2.8nm,0.9s,baz=317,slow=3.6,SNR=3.7					
INK	Inuvik	149.05	317	PKPbc	PKPbc	08 03 07.0 +0.3
	comp=Z,9.3nm,0.7s,baz=51,slow=3.0,SNR=53					
SONM	Songino Array	149.69	91	PKPbc	PKPbc	08 03 09.6 +0.5
	comp=Z,13nm,0.9s,baz=225,slow=3.0,SNR=42					
NRIK	Noril'sk	150.82	42	PKPbc	PKPbc	08 03 11.5 +0.6
	comp=Z,1.4nm,0.4s,baz=195,slow=3.5,SNR=4.2					
KSRS	Korea Array	152.03	130	PKPbc	PKiKP	08 03 15.3 +0.3
	comp=Z,3.5nm,0.8s,baz=182,slow=2.4,SNR=5.5					
ILAR	Eielson Array	153.09	306	PKPbc	PKiKP	08 03 17.0 +0.6
	comp=Z,6.0nm,1.0s,baz=323,slow=1.3,SNR=36					

WEL ***16*** *08:08:27.6±0.3,42°.5S±2°×17°.4E±°,h9km±2km,M3.5/24, ML3.8/24,MLv3.5/24,Error ellipse: s-maj=0.0km s-min=0.0km az=135.9*

NOU ***16*** *08:08:29.9,41°.81S×173°.83E,h0km,MLv4.1/7,South Island, New Zealand*

ISC 16 08:08:27.6±1.0,**41°.79S**±0°.03×**174°.18E**±0°.03,**h17**km±7km, **n82,** σ1§**22**/83,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.04	31	P	Pg	08 08 30.8	+0.1
BSWZ	Blackbirch Sta	0.24	287	P	Pg	08 08 32.6	-0.4
BSWZ				S	Sg	08 08 36.1	-0.7
TUWZ	Tuamarina	0.40	333	P	Pb	08 08 35.2	-1.0
TCW	Tory Channel	0.58	7	P	Pb	08 08 38.4	-0.9
WEL	Wellington	0.67	41	P	Pb	08 08 40.8	0.0
KHZ	Kahutara	0.79	217	P	Pb	08 08 44.3	+1.5
NNZ	Nelson	0.83	313	P	Pg	08 08 42.7	-1.0
PLWZ	Palliser	0.83	75	P	Pb	08 08 44.4	+0.8
MSWZ	Moikau Station	0.88	65	P	Pb	08 08 45.2	+0.8
CAW	Cannon Point	0.95	45	P	Pb	08 08 45.7	+0.1
THZ	Tophouse	0.96	271	P	Pg	08 08 45.6	-0.5
DUWZ	D'Urville Isla	1.00	349	P	Pg	08 08 45.6	-1.5
PAWZ	Paruwai Farm	1.02	67	P	Pg	08 08 46.9	-0.4
KIW	Kapiti Island	1.08	31	P	Pg	08 08 47.5	-0.9
MRNZ	Matariki Terra	1.14	289	P	Pb	08 08 48.8	+0.1
MTW	Mount Morrison	1.17	58	P	Pb	08 08 48.9	-0.4
TKNZ	Takaka Hill	1.19	309	P	Pg	08 08 49.1	-1.4
TRWZ	Traveller	1.19	71	P	Pb	08 08 49.0	-0.7
OGWZ	Otaki Gorge	1.22	38	P	Pb	08 08 50.2	0.0

HOWZ	Holdsworth Sta	1.34	49	P	Pn	08 08 51.3 -0.2
TMWZ	Te Maipa	1.45	63	P	Pn	08 08 52.7 -0.3
GVZ	Greta Valley S	1.45	215	P	Pn	08 08 53.5 +0.5
MRZ	Mangatainoka R	1.54	44	P	Pn	08 08 54.2 0.0
QRZ	Quartz Range	1.57	307	P	Pn	08 08 55.2 +0.5
QRZ	Quartz Range	1.57	307	P	Pb	08 08 55.7 -0.5
LTZ	Lake Taylor	1.73	234	P	Pn	08 08 56.6 -0.2
DSZ	Denniston Nort	1.78	271	P	Pb	08 08 59.2 -0.5
AMCZ	Amberley	1.79	219	P	Pn	08 08 58.1 +0.4
OHWZ	Ohakea	1.80	29	P	Pb	08 08 59.1 -0.8
PRWZ	Pori Road	1.83	48	P	Pn	08 08 58.0 -0.1
POWZ	Post Office Ro	1.84	41	P	Pn	08 08 58.7 +0.4
OKCZ	Okains Bay	2.10	203	P	Pn	08 09 01.4 -0.6
DVHZ	Dannevirke	2.11	46	P	Pb	08 09 06.2 +0.9
WAZ	Wanganui	2.12	17	P	Pb	08 09 05.3 -0.2
TSZ	Takaotari Road	2.19	39	P	Pn	08 09 03.4 +0.2
OXZ	Oxford	2.21	225	P	Pn	08 09 02.6 -0.8
MQZ	McQueen's Vall	2.22	210	P	Pn	08 09 02.4 -1.2
INZ	Inchbonnie	2.24	244	P	Pn	08 09 05.1 +1.3
AKCZ	Akaroa Harbour	2.28	204	P	Pn	08 09 03.7 -0.7
LREZ	Lake Rotokare	2.33	4	P	Pb	08 09 08.6 -0.5
WPHZ	Waipukurau	2.43	46	P	Pn	08 09 07.3 +0.9
RACZ	Rakaia	2.45	217	P	Pn	08 09 05.9 -0.8
KHEZ	Kahui Hut	2.49	357	P	Pg	08 09 13.0 -2.4
KHEZ	Kahui Hut	2.49	357	P	Pb	08 09 12.6 +0.7
NBEZ	Newall Road No	2.53	354	P	Pb	08 09 13.3 +0.9
PKE	Pukeiti	2.59	357	P	Pb	08 09 14.4 +0.8
MOVZ	Moawhango	2.66	27	P	Pb	08 09 14.1 -0.7
WNVZ	Wahianoa	2.68	24	P	Pb	08 09 14.5 -0.7
TRVZ	Turoa	2.69	23	P	Pb	08 09 15.6 +0.1
VRZ	Vera Road	2.70	10	P	Pn	08 09 12.3 +2.2
BHHZ	Black Hill Sta	2.71	33	P	Pn	08 09 11.6 +1.3
DRZ	Dome Shelter	2.72	23	P	Pg	08 09 18.1 -1.6
WHVZ	Whangaehu Hut	2.72	24	P	Pb	08 09 15.8 -0.1
FWVZ	Far West T-bar	2.74	23	P	Pb	08 09 16.6 +0.5
WACZ	Wakanui South	2.76	218	P	Pn	08 09 10.4 -0.5
SNVZ	South Ngauruho	2.83	24	P	Pb	08 09 16.3 -1.3
KAHZ	Kahuranaki	2.85	47	P	Pb	08 09 18.6 +0.6
OTVZ	Oturere	2.85	24	P	Pb	08 09 14.8 +2.3
WVZ	Waitaha Valley	2.86	242	P	Pn	08 09 13.6 +1.3
NNVZ	North Ngauruho	2.87	23	P	Pb	08 09 18.9 +0.5
WTVZ	West Tongariro	2.88	22	P	Pb	08 09 17.8 -0.6
ETVZ	East Tongariro	2.89	24	P	Pb	08 09 17.8 -0.9
KRVZ	Karewarewa	2.91	23	P	Pb	08 09 18.5 -0.6
TMVZ	Te Maari	2.91	24	P	Pb	08 09 18.7 -0.4
NTVZ	North Tongarir	2.92	23	P	Pn	08 09 14.7 +1.4
RPZ	Rata Peaks	3.00	229	P	Pn	08 09 14.4 +0.1
RPZ	Rata Peaks	3.00	229	P	Pn	08 09 14.1 -0.2
KATZ	Kakaramea	3.04	23	P	Pn	08 09 22.0 +0.8
ARCZ	Arundel	3.09	225	P	Pn	08 09 15.3 -0.2
BKZ	Black Stump Fm	3.16	35	P	Pb	08 09 24.2 +1.0
GCSZ	Gaunt Creek Bo	3.23	241	P	Pn	08 09 20.9 +3.4
HIZ	Hauiti	3.31	9	P	Pn	08 09 21.8 +3.2
HIZ	Hauiti	3.31	9	P	Pn	08 09 21.7 +3.1
TMZ	Timaru	3.48	221	P	Pn	08 09 20.6 -0.3
FOZ	Fox Glacier	3.66	240	P	Pn	08 09 24.5 +1.2
RTZ	Ruatahuna	3.83	35	P	Pn	08 09 27.2 +1.5
LBZ	Lake Benmore	3.91	227	P	Pn	08 09 26.7 -0.1
ODZ	Otahua Downs	4.15	217	P	Pn	08 09 31.3 +1.2
JCZ	Jackson Bay	4.57	238	P	Pn	08 09 39.1 +3.1
JCZ	Jackson Bay	4.57	238	P	Pn	08 09 38.2 +2.3
RUGZ	Raukumara Rang	4.67	36	P	Pn	08 09 38.5 +1.1
MKAZ	Moumakai	4.74	10	P	Pn	08 09 41.0 +2.8

WEL 16 08:10:22.7±0.3,**43°.5S**±3°×**17°.3E**±°,**h5**km,**M3.4**/1,**ML3.7**/11, **ML3.5**/1,**MLv3.5**/21,**MLv3.4**/1,**Error ellipse: s-maj=0.0km s-min=0.0km az=136.9,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.40	71	P	Pg	08 10 29.8	-0.5
KHZ				S	Sg	08 10 36.4	+0.9
GVZ	Greta Valley S	0.42	180	P	Pg	08 10 31.4	+0.6
LTZ	Lake Taylor	0.61	247	P	Pg	08 10 34.6	+0.3
AMCZ	Amberley	0.69	204	P	Pb	08 10 36.9	-0.3
THZ	Tophouse	0.79	353	P	Pg	08 10 37.3	-0.5
BSWZ	Blackbirch Sta	1.04	37	P	Pg	08 10 42.4	-0.2
OXZ	Oxford	1.07	223	P	Pb	08 10 43.1	-0.

TCW	Tory Channel	1.55	30	P	Pn	08 22 07.1	+0.3
MHCZ	Mount Hutt	1.58	232	P	Pn	08 22 06.6	-0.7
SNZO	South Karori	1.65	41		Pn	08 22 08.2	+0.1
WEL	Wellington	1.70	42	P	Pn	08 22 09.1	+0.2
WACZ	Wakanui South	1.73	217	P	Pn	08 22 08.5	-0.7
PLWZ	Palliser	1.78	57	Pn	Pn	08 22 09.1	-1.0
PLWZ	Palliser	1.78	57	P	Pn	08 22 09.8	-0.2
QRZ	Quartz Range	1.82	342		Pn	08 22 11.2	+0.7
QRZ	Quartz Range	1.82	342	P	Pn	08 22 11.2	+0.7
DUWZ	D'Urville Isla	1.83	16	P	Pb	08 22 12.2	-0.4
MSWZ	Moikau Station	1.87	53		Pn	08 22 10.4	-0.8
MSWZ	Moikau Station	1.87	53	P	Pn	08 22 11.0	-0.2
WVZ	Waitaha Valley	1.93	254	P	Pn	08 22 12.1	+0.1
CAW	Cannon Point	1.98	43	P	Pn	08 22 12.7	-0.1
RPZ	Rata Peaks	1.99	234		Pn	08 22 12.2	-0.6
RPZ	Rata Peaks	1.99	234	P	Pn	08 22 12.4	-0.5
RPZ	Rata Peaks	1.99	234	P	Pn	08 22 12.3	-0.6
PAWZ	Paruwai Farm	2.00	55	P	Pn	08 22 12.4	-0.6
ARCZ	Arundel	2.06	227	P	Pn	08 22 13.1	-0.8
KIW	Kapiti Island	2.10	36	P	Pn	08 22 14.7	+0.3
MTW	Mount Morrison	2.18	51	P	Pn	08 22 14.8	-0.7
OGWZ	Otaki Gorge	2.25	40	P	Pn	08 22 16.4	-0.1
GCSZ	Gaunt Creek Bo	2.29	250	P	Pn	08 22 17.7	+0.8
HOWZ	Holdsworth Sta	2.37	46	P	Pn	08 22 20.0	+1.9
TMZ	Timaru	2.45	221	P	Pn	08 22 18.6	-0.7
MRZ	Mangatainoka R	2.57	43		Pn	08 22 20.2	-0.7
MRZ	Mangatainoka R	2.57	43	P	Pn	08 22 20.3	-0.5
FOZ	Fox Glacier	2.71	248	Pn	Pn	08 22 23.6	+0.9
FOZ	Fox Glacier	2.71	248	P	Pn	08 22 23.5	+0.8
PRWZ	Pori Road	2.85	46	P	Pn	08 22 25.0	+0.2
POWZ	Post Office Ro	2.87	42	P	Pn	08 22 24.3	-0.6
LBZ	Lake Benmore	2.89	230		Pn	08 22 24.6	-0.6
LBZ	Lake Benmore	2.89	230	P	Pn	08 22 24.6	-0.6
BFZ	Birch Farm	2.92	51	Pn	Pn	08 22 25.6	0.0
WAZ	Wanganui	3.09	25	P	Pn	08 22 30.5	+2.5
ODZ	Otahua Downs	3.12	217	Pn	Pn	08 22 27.5	-1.0
ODZ	Otahua Downs	3.12	217	P	Pn	08 22 27.9	-0.6
ODZ	Otahua Downs	3.12	217	P	Pn	08 22 27.5	-1.0
DVHZ	Dannevirke	3.14	45	P	Pn	08 22 27.0	-1.7
NMEZ	Namu Road	3.18	9	P	Pb	08 22 33.0	-2.7
LREZ	Lake Rotokare	3.22	16	P	Pb	08 22 35.9	-0.5
TSZ	Takapari Road	3.22	40	P	Pn	08 22 28.9	-0.9
KHEZ	Kahui Hut	3.31	10	P	Pb	08 22 35.1	-3.0
KHEZ	Kahui Hut	3.31	10	P	Pn	08 22 34.8	+3.7
NBEZ	Newall Road No	3.32	8	P	Pn	08 22 33.4	+2.2
NEZ	North Egmont	3.35	11	P	Pb	08 22 35.9	-2.8
PKE	Pukeiti	3.41	9	P	Pn	08 22 35.2	+2.8
MHEZ	Mangahewa	3.57	13	P	Pn	08 22 37.0	+2.4
JCZ	Jackson Bay	3.60	244	P	Pn	08 22 34.9	-0.2
JCZ	Jackson Bay	3.60	244	P	Pn	08 22 35.1	0.0
VRZ	Vera Road	3.62	19	P	Pn	08 22 37.2	+2.0
MOVZ	Moawhango	3.67	32	P	Pn	08 22 37.5	+1.5
WNVZ	Wahianoa	3.68	29	P	Pn	08 22 37.4	+1.1
TRVZ	Turoa	3.69	29	P	Pn	08 22 37.3	+0.9
WHVZ	Whangaehu Hut	3.72	29	P	Pn	08 22 37.6	+0.8
FWVZ	Far West T-bar	3.73	28	P	Pn	08 22 37.8	+0.8
WKZ	Wanaka	3.82	232	P	Pn	08 22 37.4	-0.7
HHSZ	Highcliff Hill	3.84	209	P	Pn	08 22 37.4	-0.9
OTVZ	Oturere	3.85	29	P	Pn	08 22 39.5	+0.9
NNVZ	North Ngauruho	3.86	28	P	Pn	08 22 40.2	+1.4
WTVZ	West Tongariro	3.87	28	P	Pn	08 22 39.4	+0.6
KAHZ	Kahuranaki	3.88	46	P	Pn	08 22 37.1	-1.8
ETVZ	East Tongariro	3.89	29	P	Pn	08 22 40.4	+1.3
KRVZ	Karewarewa	3.90	28	P	Pb	08 22 45.7	-2.5
TMVZ	Te Maari	3.91	29	P	Pn	08 22 40.2	+0.8
EAZ	Earnscleugh	3.91	226	P	Pn	08 22 38.3	-1.0
NTVZ	North Tongarir	3.91	29	P	Pn	08 22 40.2	+0.8
KWHZ	Kaweka Forest	3.94	38	P	Pn	08 22 44.5	+4.7
BKZ	Black Stump Fm	4.18	37	P	Pn	08 22 43.9	+0.8
HIZ	Hauiti	4.22	17		Pn	08 22 44.0	+0.4
HIZ	Hauiti	4.22	17	P	Pn	08 22 45.5	+2.0
HIZ	Hauiti	4.22	17	P	Pn	08 22 45.2	+1.7
TLZ	Tolley Road	4.57	23	P	Pn	08 22 47.5	-0.8
MTHZ	Maungataniwha	4.59	37	P	Pn	08 22 50.7	+2.0
ALRZ	Allen Road	4.63	31	P	Pn	08 22 48.9	-0.3
MLZ	Mavora Lakes	4.66	231	Pn	Pn	08 22 48.9	-0.7
MLZ	Mavora Lakes	4.66	231	P	Pn	08 22 48.3	-1.3
SYZ	Scrubby Hill	4.95	215	P	Pn	08 22 52.6	-0.9
SYZ	Scrubby Hill	4.95	215	P	Pn	08 22 52.7	-0.7
WHZ	Wether Hill Ro	5.07	227	Pn	Pn	08 22 54.4	-0.8
TOZ	Tahuroa Road	5.12	20	P	Pn	08 22 56.4	+0.5
URZ	Urewera	5.20	36	P	Pn	08 22 56.6	-0.4
URZ	Urewera	5.20	36	P	Pn	08 22 55.8	-1.2
AWAZ	Awhitu Peninsu	5.59	11	P	Pn	08 23 03.9	+1.5
MKAZ	Moumakai	5.64	16	P	Pn	08 23 03.6	+0.6
TWGZ	Tauwhareparae	5.67	41	P	Pn	08 23 03.9	+0.5
APZ	The Paps	5.69	220	P	Pn	08 23 03.3	-0.5
WTAZ	Waiatarua	5.71	11	P	Pn	08 23 05.7	+1.7
ETAZ	East Tamaki Re	5.75	13	P	Pn	08 23 05.8	+1.4
RVAZ	Riverhead Bore	5.87	10	P	Pn	08 23 07.7	+1.5
HAZ	Te Kaha	5.92	37	P	Pn	08 23 05.0	-1.8
MBAZ	Motutapu North	5.92	13	P	Pn	08 23 08.1	+1.2
ABAZ	Army Bay	6.08	12	P	Pn	08 23 08.8	-0.2
KUZ	Kuaotunu	6.11	19	P	Pn	08 23 10.2	+0.7
KUZ	Kuaotunu	6.11	19	P	Pn	08 23 09.0	-0.5
WMGZ	Waiomatatini S	6.16	41	P	Pn	08 23 09.5	-0.7
OUZ	Omahuta	7.34	2	Pn	Pn	08 23 26.7	+0.4
OUZ	Omahuta	7.34	2	P	Pn	08 23 28.8	+2.5
QSPA	South Pole Qui	47.57	180	P	P	08 30 14.1	-0.6

*GII **16** 08:23:20.7±1.0,37°.11N×35°.96E,h32km,MD2.5/2*
*ISK **16** 08:23:25.3,36°.18N×36°.70E,h10km,ML3.3/16*

DDA 16 08:23:24.0±0.0,36°.15N×36°.72E,h7km±6km,ML3.3,
Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAHT	Tahtakopru-Hat	0.49	298	PG	Pb	08 23 35.0	+0.1
TAHT				SG	Sb	08 23 41.4	-0.9
YAYL	Yayladag	0.51	257	PG	Pb	08 23 35.5	+0.1
YAYL				SG	Sb	08 23 43.1	+0.1
KAMA	Osmaniye	1.04	358	P	Pn	08 23 45.0	0.0
KAMA				S	Sb	08 23 58.9	+0.7
GAZ	Gaziantep	1.10	21	PG	Pn	08 23 46.3	+0.5
GAZ				SG	Sn	08 24 01.3	0.0
YURE	YUREGIR	1.11	308	P	Pb	08 23 45.5	0.0
YURE				S	Sn	08 24 01.4	-0.1
KMRS	Kahramanmaras	1.36	6	PN	Pg	08 23 50.8	+0.6
KMRS				SN	Sg	08 24 09.4	+1.5
GZT	Gaziantep	1.38	29	P	Pg	08 23 51.4	+0.9
GZT				S	Sg	08 24 09.7	+1.2
KAHM	Kahramanmaras,	1.38	9	P	Pg	08 23 50.5	-0.1
KAHM				S	Sg	08 24 08.9	+0.4
KOZT	Kozan	1.51	332	PN	Pb	08 23 52.7	+0.3
AKO	Adana	1.66	322	P	Pb	08 23 55.2	+0.2
AKO				S	Sn	08 24 15.4	+0.2
SURC	SANLIURFA_SURC	1.69	64	P	Pb	08 23 55.1	-0.3
SURC				S	Sg	08 24 18.1	-0.2
KARA	Karaisali	1.74	310	PN	Pb	08 23 55.7	-0.6
DED	Mersin	1.75	298	P	Pn	08 23 55.5	+0.8
DED				S	Sn	08 24 17.5	+0.2
SAIM	ADANA	1.90	345	P	Pn	08 23 57.8	+0.9
SAIM				S	Sn	08 24 21.9	+0.9
MERS	Mersin	1.91	293	PN	Pb	08 23 58.5	-0.7
CMRD	Camardi-Nigde	2.05	318	PN	Pn	08 23 59.9	+0.9
SANL	SANLIURFA_Merk	2.09	60	P	Pb	08 24 02.8	+0.5
SANL	comp=N,238nm,0.4s			*i* AML	AML	08 24 41.0	
URFA	Urfa	2.12	52	PN	Pb	08 24 01.5	-1.3
SARI	SarD1z-Kayseri	2.27	354	PN	Pn	08 24 03.6	+1.5
SILI	Silifke-Mersin	2.27	276	PN	Pb	08 24 03.7	-1.6
KEBE	Keben-Mersin	2.45	278	PN	Pn	08 24 06.1	+1.7
IKL	Isikli	2.46	273	PN	Pn	08 24 06.3	+1.8
DARE	Darende-Malaty	2.50	14	PN	Pn	08 24 06.8	+1.7
AKKU	Akkuyu-Mersin	2.57	271	PN	Pn	08 24 07.8	+1.8
TEVE	Tevekalti-Mers	2.67	277	PN	Pn	08 24 09.1	+1.7
LFK	Lefkose	2.74	252	PN	Pb	08 24 10.6	+2.2
BERE	Bereket-Mersin	2.83	275	PN	Pn	08 24 11.6	+1.8
YESY	Yesilyurt	2.89	305	PN	Pn	08 24 12.3	+1.8
NATI	Neve Ativ	2.99	196	Pn	Pb	08 24 17.9	+0.3
NATI				Sn	Sg	08 25 02.3	+2.2
GEM	Giv'at Ha'Em	3.06	197	Pn	Pb	08 24 18.4	-0.3
GEM				Sn	Sg	08 25 02.6	+0.4
KSHT	Keshet	3.25	194	Pn	Pb	08 24 21.2	-0.8
HNTI	Hanita	3.31	203	Pn	Pb	08 24 21.1	-2.0
HNTI				Sn	Sg	08 25 07.1	-3.3
MMLI	Mount Malkishu	3.85	197	Pn	Pb	08 24 29.8	-2.5
HMDT	Nahal Hemdat	4.01	195	Pn	Pb	08 24 31.8	-3.1
HMDT				Sn	Sg	08 25 28.2	-4.6

*HVO **16** 08:23:42.8±0.8,19°.89N±0°.02×155°.71W±0°.03,h36km±4km,*
ML3.3/15,ML3.5/54(NEIC),Error ellipse: s-maj=3.6km
s-min=2.6km az=75.0

NEIC 16 08:23:41.0±0.8,19°.91N±0°.02×155°.70W±0°.03,h40km±4km,
Error ellipse: s-maj=4.4km s-min=2.3km az=73.0,
Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	Hawaii Prepara	0.12	0		Pn	08 23 48.3	+0.4
HPAH					Sn	08 23 52.3	-0.4
HPAH	Hawaii Prepara comp=E,6μm,0.2s	0.12	0	IAML		08 23 52.5	
HPAH	comp=N,8μm,0.2s			IAML		08 23 52.5	
POHA	Pohakuloa	0.22	134		Pn	08 23 48.9	+0.2
POHA	Pohakuloa	0.22	134		Sn	08 23 53.5	-0.6
HUH	Hualalai	0.26	210		Pn	08 23 49.5	+0.3
HUH	Hualalai comp=E,3μm,0.2s	0.26	210	IAML		08 23 55.8	
HUH	comp=N,3μm,0.1s			IAML		08 23 57.5	
KHLU	Kahalu`u	0.36	210		Pn	08 23 50.1	0.0
KHLU					Sn	08 23 56.2	-0.3
KHLU	Kahalu`u comp=E,2μm,0.3s	0.36	210	IAML		08 23 56.4	
KHLU	comp=N,3μm,0.1s			IAML		08 23 56.4	
HMH	Humu'ula Sheep	0.36	146		Pn	08 23 50.6	+0.3
HMH					Sn	08 23 56.5	-0.3
HMH	Humu'ula Sheep comp=E,6μm,0.4s	0.36	146	IAML		08 23 56.8	
HMH	comp=N,4μm,0.1s			IAML		08 23 57.3	
ALEP	Alea Permanent	0.37	172		Pn	08 23 50.8	+0.3
ALEP					Sn	08 23 56.5	-0.5
MLOA	Mauna Loa Obse	0.39	163		Pn	08 23 51.0	+0.2
MLOA					Sn	08 23 56.9	-0.7
MLOA	Mauna Loa Obse comp=E,3μm,0.3s	0.39	163	IAML		08 23 57.1	
MLOA	comp=N,4μm,0.3s			IAML		08 23 57.3	
MWH	Moku'aweowe	0.43	167		Pn	08 23 51.1	-0.3
MWH					Sn	08 23 57.5	-1.1
MWH	Moku'aweowe comp=N,3μm,0.3s	0.43	167	IAML		08 24 09.9	
MWH	comp=E,3μm,0.4s			IAML		08 24 11.2	
CPH	Captain Cook	0.47	206		Pn	08 23 51.3	-0.1
MLH	Mauna Loa	0.51	144		Pn	08 23 52.1	+0.1
MLH					Sn	08 23 59.0	-0.9
MLH	Mauna Loa comp=E,6μm,0.2s	0.51	144	IAML		08 23 59.3	
MLH	comp=N,10μm,0.1s			IAML		08 23 59.5	
AIN	Ainahou	0.58	157		Pn	08 23 53.1	+0.1
AIN					Sn	08 24 00.5	-1.0
AIN	Ainahou comp=E,4μm,0.3s	0.58	157	IAML		08 24 01.0	
AIN	comp=N,6μm,0.2s			IAML		08 24 01.2	
RSD	Rainshed	0.59	138		Pn	08 23 53.2	+0.1
RSD					Sn	08 24 00.9	-0.9
RSD	Rainshed comp=E,14μm,0.1s	0.59	138	IAML		08 24 01.3	
RSD	comp=N,14μm,0.2s			IAML		08 24 01.5	
UWB	Uwekahuna B comp=N,1μm,0.4s	0.62	140	IAML		08 24 01.4	
SBLHI	Steaming Bluff comp=E,4μm,0.2s	0.63	140	IAML		08 24 01.6	
NPH	North Pit comp=N,1μm,0.3s	0.63	141	IAML		08 24 04.1	
HATHI	Halema'uma'u T comp=N,3μm,0.2s	0.64	139	IAML		08 24 01.7	
HATHI	comp=E,2μm,0.3s			IAML		08 24 01.8	
SDHHI	Sand Hill comp=E,2μm,0.4s	0.64	143	IAML		08 24 02.1	
SDHHI	comp=N,2μm,0.5s			IAML		08 24 06.1	
BYL	Byron's Ledge comp=N,2μm,0.2s	0.64	140	IAML		08 24 01.8	
BYL	comp=E,1μm,0.3s			IAML		08 24 01.9	
RIM	Rim comp=N,1μm,1.0s	0.65	142	IAML		08 24 16.7	
KKO	Keanakako`i comp=N,1μm,0.8s	0.65	141	IAML		08 24 11.5	
KHU	Kahuku comp=E,2μm,0.2s	0.66	173	IAML		08 24 02.7	
KHU	comp=N,2μm,0.1s			IAML		08 24 02.8	
PUH	Pauahi	0.70	139		Pn	08 23 53.8	-0.8
HLP	Hilina Pali	0.71	149		Pn	08 23 54.5	-0.2
HLP	comp=N,3μm,0.3s			IAML		08 24 03.8	
NPOC	North of Pu'u comp=E,2μm,0.2s	0.76	133	IAML		08 24 04.5	
NPOC	comp=N,2μm,0.4s			IAML		08 24 04.5	
JCUZ	Jacuzzi comp=N,1μm,0.4s	0.77	133	IAML		08 24 04.5	
JOKA	Jonika Flow	0.81	126		Pn	08 23 55.6	-0.3
HLK	Haleakala	0.99	329		Pn	08 23 58.5	-0.1
HLK					Sn	08 24 10.2	-1.4
KHLH	Kahului Airpor	1.20	325		Pn	08 24 01.9	+0.7
KHLH					Sn	08 24 16.4	+0.1
WMR	Waimanalo Ridg	2.33	307		Pn	08 24 16.6	-0.2
DHH	Diamond Head	2.39	305		Pn	08 24 17.4	-0.2
HON	Honolulu	2.58	304		Pn	08 24 20.0	-0.2
HON					Sn	08 24 49.6	-0.7
OPA	Opana	2.79	310		Pn	08 24 22.8	-0.4

*IDC **16** 08:24:20.0±3.4,7°.43S×129°.34E,h53km±35km,mb3.9/3,*
mbtmp4.2/6,ML4.2/3,Error ellipse: s-maj=61.9km
s-min=18.5km az=68.0
*NEIC **16** 08:24:22.8±1.8,7°.31S±0°.08×129°.45E±0°.08,h80km±17km,*
mb4.3/10,Error ellipse: s-maj=14.3km s-min=8.2km
az=136.0

ISC 16 08:24:22.4±0.6,7°.28S±0°.06×129°.56E±0°.07,h79km,n54,
σ1s99/56,mb4.4/13,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.86	112		Pn	08 24 54.0	+1.6
BNDI	Bandanaira	2.76	7	P	Pn	08 25 07.1	+2.5
FAKI	Fak Fak	5.09	32		Pn	08 25 36.6	+0.3
FAKI	Fak Fak 27nm,0.5s	5.09	32	P	Pn	08 25 37.3	+1.0
MTN	Manton Dam	5.74	165		Pn	08 25 46.0	+0.8
SOEI	Soe	5.79	244	Pn	Pn	08 25 44.6	-1.3
SOEI	Soe 75nm,0.8s	5.79	244	P	Pn	08 25 47.7	+1.8
KDU	Kakadu	6.09	152	P	Pn	08 25 49.1	-0.8
BATI	Baumata 49nm,0.5s,baz=141,slow=0.8,SNR=19	6.52	243	P	Pn	08 25 58.1	+2.3
BATI	64nm,0.4s,baz=58,slow=21,SNR=6.3			S	Sn	08 27 08.4	-0.3
SIJI	Sorong 2.0nm,0.3s,baz=39,slow=24,SNR=10	6.59	15	P	Pn	08 25 57.7	+0.9
SIJI	13nm,0.2s,baz=150,slow=22,SNR=5.5 5.0nm,0.3s			S	Sn	08 27 08.1	-2.5
KNRA	Kununurra	8.38	185		Pn	08 26 20.9	-0.3
KNRA	Kununurra 26nm,0.5s	8.38	185	P	Pn	08 26 21.1	-0.1
PLAI	Plampang 35nm,1.2s	11.77	262	P	Pn	08 27 08.5	+1.0
WB0	Warramunga Arr	13.27	160		Pn	08 27 23.3	-4.4
WRAB	Tennant Creek	13.41	160		Pn	08 27 25.4	-4.1
WRAB	Tennant Creek 14nm,0.8s	13.41	160	P	Pn	08 27 25.2	-4.3
WRA	Warramunga Arr 2.1nm,0.3s,baz=332,slow=10,SNR=96	13.41	160	P	Pn	08 27 25.1	-4.5
WRA	17nm,1.1s,baz=337,slow=22,SNR=11 4.5nm,0.4s			S	Sn	08 29 41.6	-15
WRA	Warramunga Arr	13.41	160		Pn	08 27 25.2	-4.3
WB2	Warramunga Arr	13.42	160		Pn	08 27 25.3	-4.4
WR0	Warramunga Arr	13.50	160		Pn	08 27 26.5	-4.1
COEN	Coen	14.93	118	Pn	Pn	08 27 49.4	+0.1
COEN				IAmb	IAmb	08 27 54.6	
COEN	comp=Z,18nm,0.5s Coen comp=Z,22nm,0.6s	14.93	118	P	Pn	08 27 50.0	+0.7
QIS	Mount Isa	16.39	145	P	Pn	08 28 05.7	-2.1
MBWA	Marble Bar	16.76	214	Pn	Pn	08 28 10.8	-1.5
MBWA	comp=Z,25nm,1.4s			IAmb	IAmb	08 28 34.6	
MBWA	Marble Bar	16.76	214	P	P	08 28 12.7	-0.5
AS31	Alice Springs	16.82	166	Pn	Pn	08 28 12.7	-0.4
ASAR	Alice Springs comp=Z,0.7nm,0.3s,baz=337,slow=8.8,SNR=46	16.82	166	P	Pn	08 28 10.1	-3.0
ASAR	comp=Z,2.7nm,0.5s,baz=349,slow=25,SNR=11 comp=Z,1.6nm,0.5s			S	Sn	08 31 06.5	-13
ASAR	Alice Springs	16.82	166	Pn	Pn	08 28 11.6	-1.5
AS01	Alice Springs comp=Z,8.2nm,0.6s	16.83	166	P	Pn	08 28 11.5	-1.7
PSA00	Pilbara Seismi	17.03	212	Pn	Pn	08 28 13.9	-1.7
PSA00	comp=Z,17nm,1.0s			IAmb	IAmb	08 28 18.3	
PSA00	Pilbara Seismi comp=Z,20nm,0.6s	17.03	212	P	P	08 28 14.8	-1.5
WRKA	Warakurna comp=Z,12nm,2.2s	17.70	184	P	Pn	08 28 23.0	-0.8
CTAO	Charters Tower	20.59	130	P	P	08 28 56.7	+1.5
CTAO	comp=Z,14nm,1.1s			IAmb	IAmb	08 29 12.5	
OOD	Oodnadatta comp=Z,23nm,0.5s	21.21	165	P	P	08 29 02.6	+0.8
MEEK	Meekatharra	21.89	207	P	P	08 29 10.8	+1.7
INKA	Innaminka comp=Z,27nm,1.1s	22.94	154	P	P	08 29 21.2	+1.0
MULG	Mulgathing comp=Z,7.3nm,1.0s	23.27	170	P	P	08 29 23.5	+0.2
FORT	Forrest	23.42	183	P	P	08 29 25.5	+0.8
FORT	Forrest comp=Z,20nm,0.8s	23.42	183	P	P	08 29 25.8	+1.1
LCRK	Leigh Creek comp=Z,55nm,0.9s	24.43	162	P	P	08 29 34.6	+0.8
BBOO	Buckleboo	26.11	168	P	P	08 29 48.4	-0.7
BBOO	comp=Z,7.2nm,0.8s			IAmb	IAmb	08 29 50.2	
BBOO	Buckleboo comp=Z,15nm,1.4s	26.11	168	P	P	08 29 49.0	0.0
STKA	Stephens Creek comp=Z,2.3nm,0.5s,baz=326,slow=9.2,SNR=12 comp=Z,2.3nm,0.5s	26.92	157	P	P	08 29 56.9	+0.6
STKA	Stephens Creek	26.92	157	P	P	08 29 56.7	+0.4
STKA	Stephens Creek	26.92	157	P	P	08 29 56.8	+0.4
HTT	Hallett comp=Z,8.3nm,1.8s	27.43	163	P	P	08 30 01.8	+0.9
CMSA	Cobar Meteorol comp=Z,6.8nm,0.7s	28.45	150	P	P	08 30 10.9	+0.9
ARPS	Mount Arapiles comp=Z,18nm,0.6s	31.41	161	P	P	08 30 37.5	+1.4
CAN	Canberra	33.12	150	P	P	08 30 52.7	+1.5
TOO	Toolangi	33.44	157	P	P	08 30 55.6	+1.6
TOO	comp=Z,9.5nm,1.1s			IAmb	IAmb	08 30 57.8	
TOO	Toolangi comp=Z,6.3nm,0.9s	33.44	157	P	P	08 30 56.2	+2.3
CMAR	Chiang Mai Arr comp=Z,1.8nm,0.3s,baz=127,slow=7.1,SNR=4.4 comp=Z,1.8nm,0.3s	39.58	311	P	P	08 31 46.7	+0.3
MKAR	Makanchi Array comp=Z,0.5nm,0.4s,baz=116,slow=8.0,SNR=15 comp=Z,0.5nm,0.4s	68.22	327	P	P	08 35 14.6	-0.1
LPAZ	La Paz comp=Z,0.7nm,0.4s,baz=297,slow=3.7,SNR=9.5	150.76	143	PKPbc	PKPbc	08 44 07.6	+0.1

WEL 16 08:27:11.4±0.3,43°.5S±2°.7×17°.3E±°,h5km,M3.6/6,ML3.8/8,
MLv3.6/6,Error ellipse: s-maj=0.0km s-min=0.0km
az=107.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.31	155	P	Pg	08 27 17.8	+0.4
GVZ				S	Sb	08 27 23.4	-1.4
LTZ	Lake Taylor	0.44	257	P	Pg	08 27 20.6	+0.6
LTZ				S	Sb	08 27 27.6	-1.1
AMCZ	Amberley	0.51	197	P	Pb	08 27 22.4	-0.5
KHZ	Kahutara	0.57	62	P	Pg	08 27 22.1	-0.2
CACS	Harewood	0.83	197	P	Pg	08 27 26.9	-0.6
OXZ	Oxford	0.88	223	P	Pb	08 27 28.8	-0.4
MQZ	McQueen's Vall	1.03	188	P	Pg	08 27 30.0	-1.2
INZ	Inchbonnie	1.04	267	P	Pg	08 27 31.4	0.0
OKCZ	Okains Bay	1.05	172	P	Pg	08 27 30.9	-0.6
RACZ	Rakaia	1.17	207	P	Pg	08 27 32.4	-1.4
AKCZ	Akaroa Harbour	1.19	178	P	Pg	08 27 32.2	-1.9
DSZ	Denniston Nort	1.22	320	P	Pb	08 27 34.7	-0.2
BSWZ	Blackbirch Sta	1.23	38	P	Pb	08 27 35.1	-0.1
MHCZ	Mount Hutt	1.27	228	P	Pg	08 27 34.8	-0.9
MRNZ	Matariki Terra	1.29	357	P	Pn	08 27 35.2	-0.9
CMWZ	Cape Campbell	1.38	48	P	Pg	08 27 38.3	+0.5
WACZ	Wakanui South	1.46	210	P	Pn	08 27 36.6	-1.8
TUWZ	Tuamarina	1.49	33	P	Pn	08 27 38.7	-0.1
TUWZ				P	Pb	08 27 38.9	-0.7
NNZ	Nelson	1.52	15	P	Pn	08 27 39.1	-0.1
NNZ				P	Pg	08 27 40.5	0.0
WVZ	Waitaha Valley	1.61	255	P	Pn	08 27 40.5	+0.1
TKNZ	Takaka Hill	1.65	3	P	Pn	08 27 41.6	+0.5
RPZ	Rata Peaks	1.67	231	P	Pn	08 27 39.9	-1.5
ARCZ	Arundel	1.76	224	P	Pn	08 27 41.2	-1.4
TCW	Tory Channel	1.81	36	P	Pn	08 27 43.8	+0.5
QRZ	Quartz Range	1.88	352	P	Pn	08 27 44.9	+0.8
GCSZ	Gaunt Creek Bo	1.96	250	P	Pb	08 27 47.1	-0.6
WEL	Wellington	2.00	46	P	Pn	08 27 44.8	-1.0
DUWZ	D'Urville Isla	2.04	23	P	Pb	08 27 48.2	-0.8
PLWZ	Palliser	2.10	59	P	Pn	08 27 45.4	-1.9
PLWZ				P	Pb	08 27 46.8	-3.2
TMZ	Timaru	2.17	218	P	Pn	08 27 46.5	-1.7
MSWZ	Moikau Station	2.19	55	P	Pn	08 27 46.2	-2

LTZ	Lake Taylor	0.98	244	P		Pg	08 27 46.6	-0.3
LTZ				S		Sb	08 28 00.9	+0.5
TUWZ	Tuamarina	0.99	21	P		Pb	08 27 47.4	-0.1
AMCZ	Amberley	1.01	216	P		Pg	08 27 47.7	+0.1
MRNZ	Matariki Terra	1.09	331	P		Pb	08 27 49.4	+0.1
NNZ	Nelson	1.14	357	P		Pg	08 27 49.8	-0.2
TCW	Tory Channel	1.30	28	P		Pn	08 27 51.5	-0.9
TKNZ	Takaka Hill	1.38	344	P		Pb	08 27 54.0	0.0
DSZ	Denniston Nort	1.38	296	P		Pn	08 27 53.5	-0.2
OKCZ	Okains Bay	1.40	192	P		Pn	08 27 51.7	-2.2
WEL	Wellington	1.45	43	P		Pn	08 27 53.5	-1.0
INZ	Inchbonnie	1.54	256	P		Pn	08 27 55.8	0.0
PLWZ	Palliser	1.55	60	P		Pn	08 27 54.0	-2.0
DUWZ	D'Urville Isla	1.59	13	P		Pn	08 27 56.6	0.0
MSWZ	Moikau Station	1.63	55	P		Pn	08 27 55.2	-1.9
QRZ	Quartz Range	1.68	335	P		Pb	08 27 58.7	-0.6
CAW	Cannon Point	1.73	44	P		Pn	08 27 57.1	-1.4
BKZ	Black Stump Fm	3.93	37	P		Pn	08 28 25.2	-3.5
MRHZ	Matea Rd	4.18	34	P		Pn	08 28 29.2	-2.9
TLZ	Tolley Road	4.32	22	P		Pn	08 28 29.3	-4.9
PUZ	Puketiti	5.64	42	P		Pn	08 28 48.0	-4.1

ATH ***16*** *08:27:32.5, 39°.21N × 23°.24E, h8km ± 3km, ML2.5/1, Error ellipse: s-maj=5.2km s-min=1.3km az=308.0*

THE 16 08:27:32.2, 39°.20N × 23°.24E, h9km ± 1km, ML1.8/5, Error ellipse: s-maj=1.1km s-min=0.6km az=341.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.10	351	P	Pg	08 27 34.9	+0.1
NEO				S	Sg	08 27 36.6	-0.1
	4μm,0.2s						
NEO	Neokhori	0.10	351	P	Pg	08 27 34.9	+0.1
NEO				S	Sg	08 27 36.6	-0.1
NEO				AML	AML	08 27 36.6	
	comp=E,6453μm,0.1s						
NEO				AML	AML	08 27 36.8	
	comp=N,10337μm,0.2s						
XOR	Xorichti	0.17	346	P	Pg	08 27 35.5	-0.3
XOR				S	Sg	08 27 38.5	+0.2
XOR	Xorichti	0.17	346	P	Pg	08 27 35.8	0.0
XOR				S	Sg	08 27 38.3	0.0
LKR	Lokris	0.58	199	P	Pg	08 27 42.8	-0.8
AXAR	Agios Charalam	0.63	226	P	Pg	08 27 44.6	+0.2
AXAR				S	Sb	08 27 54.2	-0.1
AGG	Agios Georgios	0.73	256	P	Pg	08 27 45.6	-0.7
AGG				S	Sg	08 27 56.6	+0.7
	comp=N,28nm,0.5s						
AGG	Agios Georgios	0.73	256	P	Pg	08 27 45.8	-0.5
PAIG	Paliouri	0.80	25	P	Pb	08 27 48.1	-0.1
PAIG				S	Sb	08 27 58.8	-0.3
	comp=N,80nm,1.6s						
PAIG	Paliouri	0.80	25	P	Pg	08 27 47.9	+0.3
KYMI	Kymi, Euboea I	0.88	130	P	Pg	08 27 48.8	-0.3
KYMI				S	Sb	08 28 01.4	0.0
	comp=N,150nm,2.5s						
THL	Klokotos Trika	1.02	291	P	Pg	08 27 51.5	-0.3
THL				S	Sn	08 28 06.3	-0.7
	comp=N,15nm,1.1s						
ANX	Ano Chora	1.20	240	P	Pb	08 27 54.5	-0.6
HORT	Hortiatis	1.40	355	P	Pn	08 27 57.4	-0.5
HORT				S	Sb	08 28 16.0	-0.5

NOU 16 08:29:43.9, 23°.33S × 171°.01E, h164km, MLv4.7/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.31	303	P	Pn	08 30 35.5	-0.3
OUENC	Ouen Island, N	3.95	282	P	Pn	08 30 43.7	-0.2
YATNC	Mamie plateau,	4.01	288	P	Pn	08 30 43.1	-1.6
LIFNC	LIFOU	4.32	305	P	Pn	08 30 49.6	+0.9
ONTNC	Ouen Toro	4.33	283	P	Pn	08 30 50.3	+1.6
DZM	Mont Dzumac	4.40	286	P	Pn	08 30 49.8	0.0
RTV	Rentapao	6.02	336	P	Pn	08 31 10.4	-0.6

WEL 16 08:30:00.5±0.5, 42°S±3°×17°4E±°, h5km, M3.7/20, ML4.0/12, MLv3.7/20, Error ellipse: s-maj=0.0km s-min=0.0km az=127.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.27	234	P	Pg	08 30 06.5	+0.7
KHZ				S	Sb	08 30 11.3	-1.6
BSWZ	Blackbirch Sta	0.54	3	P	Pg	08 30 11.2	+0.3
BSWZ				S	Sb	08 30 19.7	-0.8
CMWZ	Cape Campbell	0.58	29	P	Pb	08 30 13.1	-0.1
TUWZ	Tuamarina	0.83	5	P	Pg	08 30 16.5	+0.1
THZ	Tophouse	0.85	305	P	Pg	08 30 16.8	-0.1
GVZ	Greta Valley S	0.93	219	P	Pg	08 30 18.5	+0.1
NNZ	Nelson	1.09	342	P	Pg	08 30 20.9	-0.5
TCW	Tory Channel	1.09	18	P	Pg	08 30 20.5	-1.0
MRNZ	Matariki Terra	1.18	316	P	Pg	08 30 23.0	-0.1
WEL	Wellington	1.19	36	P	Pg	08 30 21.8	-1.6
PLWZ	Palliser	1.26	58	P	Pg	08 30 22.1	-2.6
AMCZ	Amberley	1.27	223	P	Pg	08 30 23.1	-1.7
LTZ	Lake Taylor	1.27	245	P	Pg	08 30 23.6	-1.4
MSWZ	Moikau Station	1.35	52	P	Pn	08 30 23.2	-2.8
TKNZ	Takaka Hill	1.39	331	P	Pn	08 30 26.1	-0.4
DUWZ	D'Urville Isla	1.45	3	P	Pn	08 30 26.7	-0.8
CAW	Cannon Point	1.47	39	P	Pn	08 30 25.4	-2.3
PAWZ	Paruwai Farm	1.47	54	P	Pn	08 30 24.8	-3.0
OKCZ	Okains Bay	1.57	201	P	Pn	08 30 26.8	-2.4
DSZ	Denniston Nort	1.60	288	P	Pn	08 30 29.6	+0.1
KIW	Kapiti Island	1.61	30	P	Pn	08 30 27.9	-1.7
TRWZ	Traveller	1.63	59	P	Pn	08 30 26.8	-3.1
MTW	Mount Morrison	1.66	49	P	Pn	08 30 27.4	-2.9
MQZ	McQueen's Vall	1.69	211	P	Pn	08 30 27.7	-3.1
OXZ	Oxford	1.70	230	P	Pn	08 30 28.4	-2.5
QRZ	Quartz Range	1.73	325	P	Pn	08 30 31.7	+0.4
OGWZ	Otaki Gorge	1.75	35	P	Pn	08 30 29.3	-2.3
AKCZ	Akaroa Harbour	1.75	203	P	Pn	08 30 28.9	-2.7
INZ	Inchbonnie	1.83	254	P	Pn	08 30 29.4	-3.3
HOWZ	Holdsworth Sta	1.85	43	P	Pn	08 30 30.9	-2.0
TMWZ	Te Maipa	1.92	54	P	Pn	08 30 30.8	-3.1
RACZ	Rakaia	1.93	220	P	Pn	08 30 31.3	-2.7
MRZ	Mangatainoka R	2.06	40	P	Pn	08 30 33.3	-2.5
MHCZ	Mount Hutt	2.10	232	P	Pn	08 30 33.8	-2.6
WACZ	Wakanui South	2.23	220	P	Pn	08 30 35.5	-2.7
PRWZ	Pori Road	2.34	44	P	Pn	08 30 41.7	-1.4
BFZ	Birch Farm	2.40	50	P	Pn	08 30 37.2	-3.2
WVZ	Waitaha Valley	2.43	249	P	Pn	08 30 39.7	-1.2
RPZ	Rata Peaks	2.51	234	P	Pn	08 30 39.6	-2.4
ARCZ	Arundel	2.58	228	P	Pn	08 30 40.7	-2.3
TSZ	Takapari Road	2.72	37	P	Pn	08 30 42.5	-2.4
GCSZ	Gaunt Creek Bo	2.79	247	P	Pn	08 30 45.7	-0.2
TMZ	Timaru	2.97	223	P	Pn	08 30 46.0	-2.3
PKE	Pukeiti	3.06	2	P	Pb	08 30 53.7	-1.8
MOVZ	Moawhango	3.19	28	P	Pn	08 30 49.7	-1.7
VRZ	Vera Road	3.20	13	P	Pn	08 30 51.6	0.0
WNVZ	Wahianoa	3.21	25	P	Pn	08 30 51.8	0.0
WTVZ	West Tongariro	3.41	24	P	Pb	08 30 59.2	-2.3
LBZ	Lake Benmore	3.41	230	P	Pn	08 30 52.3	-2.1
ODZ	Otahua Downs	3.62	219	P	Pn	08 30 54.8	-2.6
JCZ	Jackson Bay	4.12	242	P	Pn	08 31 02.6	-1.6
EAZ	Earnscleugh	4.43	226	P	Pn	08 31 05.8	-2.6
AWAZ	Awhitu Peninsu	5.22	7	P	Pn	08 31 19.2	0.0
APZ	The Paps	6.20	220	P	Pn	08 31 30.3	-2.4

WEL 16 08:33:54.6±0.4, 42°S±4°×17°4E±°, h4km±3km, M3.4/26, ML3.6/18, MLv3.4/26, Error ellipse: s-maj=0.0km s-min=0.0km az=146.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.27	28	P	Pb	08 34 00.8	-1.0
BSWZ	Blackbirch Sta	0.30	334	P	Pg	08 34 00.5	+0.2
TUWZ	Tuamarina	0.56	352	P	Pg	08 34 05.7	+0.4
TUWZ				S	Sg	08 34 13.8	+1.2
KHZ	Kahutara	0.57	221	P	Pb	08 34 06.8	-0.4
TCW	Tory Channel	0.79	13	P	Pg	08 34 09.7	0.0
TCW				S	Sb	08 34 21.7	-0.2
THZ	Tophouse	0.88	284	P	Pg	08 34 11.6	+0.1
THZ				S	Sb	08 34 24.0	-0.6
WEL	Wellington	0.88	38	P	Pb	08 34 12.4	-0.1
NNZ	Nelson	0.92	327	P	Pg	08 34 11.8	-0.3
PLWZ	Palliser	0.99	66	P	Pg	08 34 13.8	+0.2
MSWZ	Moikau Station	1.06	58	P	Pg	08 34 14.8	-0.2
MRNZ	Matariki Terra	1.13	301	P	Pg	08 34 16.2	0.0
CAW	Cannon Point	1.16	41	P	Pg	08 34 16.6	-0.2
DUWZ	D'Urville Isla	1.19	355	P	Pg	08 34 16.7	-0.6
PAWZ	Paruwai Farm	1.20	60	P	Pg	08 34 16.4	-1.1
GVZ	Greta Valley S	1.24	217	P	Pg	08 34 17.8	-0.5
TKNZ	Takaka Hill	1.25	319	P	Pg	08 34 18.0	-0.6
KIW	Kapiti Island	1.30	30	P	Pg	08 34 18.9	-0.5
TRWZ	Traveller	1.36	65	P	Pn	08 34 18.3	-2.0
MTW	Mount Morrison	1.37	53	P	Pn	08 34 18.7	-1.7
OGWZ	Otaki Gorge	1.44	36	P	Pn	08 34 20.5	-0.9
LTZ	Lake Taylor	1.54	238	P	Pn	08 34 22.4	-0.4
HOWZ	Holdsworth Sta	1.55	46	P	Pn	08 34 21.5	-1.4
AMCZ	Amberley	1.58	220	P	Pn	08 34 22.3	-1.0
QRZ	Quartz Range	1.63	315	P	Pn	08 34 24.5	+0.6
DSZ	Denniston Nort	1.69	277	P	Pb	08 34 26.0	-0.3
MRZ	Mangatainoka R	1.75	42	P	Pn	08 34 24.4	-1.3
OKCZ	Okains Bay	1.88	202	P	Pn	08 34 25.7	-1.8
OXZ	Oxford	2.00	227	P	Pn	08 34 27.5	-1.6
MQZ	McQueen's Vall	2.00	210	P	Pn	08 34 26.8	-2.3
POWZ	Post Office Ro	2.05	40	P	Pn	08 34 28.8	-1.0
AKCZ	Akaroa Harbour	2.06	204	P	Pn	08 34 28.0	-2.0
INZ	Inchbonnie	2.07	248	P	Pn	08 34 30.3	+0.2
RACZ	Rakaia	2.24	218	P	Pn	08 34 30.5	-1.8
DVHZ	Dannevirke	2.32	44	P	Pn	08 34 31.3	-2.2
WAZ	Wanganui	2.34	18	P	Pn	08 34 35.0	+1.3
TSZ	Takapari Road	2.41	38	P	Pn	08 34 33.1	-1.6
WACZ	Wakanui South	2.54	219	P	Pn	08 34 34.8	-1.8
WVZ	Waitaha Valley	2.68	245	P	Pn	08 34 38.2	-0.2
NBEZ	Newall Road No	2.72	357	P	Pb	08 34 42.1	-1.6
PKE	Pukeiti	2.79	359	P	Pb	08 34 42.8	-2.1
RPZ	Rata Peaks	2.80	231	P	Pn	08 34 38.7	-1.4
ARCZ	Arundel	2.88	226	P	Pn	08 34 39.5	-1.7
MOVZ	Moawhango	2.88	27	P	Pn	08 34 41.7	+0.4
WNVZ	Wahianoa	2.90	24	P	Pb	08 34 46.3	-0.7
VRZ	Vera Road	2.91	11	P	Pn	08 34 42.8	+1.2
WHVZ	Whangaehu Hut	2.94	24	P	Pb	08 34 47.5	-0.2
FWVZ	Far West T-bar	2.96	23	P	Pb	08 34 46.9	-1.0
NGZ	Ngauruhoe	3.04	23	P	Pb	08 34 49.7	+0.4
SNVZ	South Ngauruho	3.05	24	P	Pb	08 34 49.5	0.0
GCSZ	Gaunt Creek Bo	3.05	243	P	Pb	08 34 47.0	-2.4
NNVZ	North Ngauruho	3.09	23	P	Pb	08 34 50.6	+0.5
WTVZ	West Tongariro	3.10	23	P	Pb	08 34 50.1	-0.1
ETVZ	East Tongariro	3.11	25	P	Pb	08 34 48.9	-1.7
TMVZ	Te Maari	3.13	24	P	Pb	08 34 50.7	-0.1
TMZ	Timaru	3.27	222	P	Pn	08 34 44.9	-1.7
FOZ	Fox Glacier	3.48	242	P	Pn	08 34 49.7	+0.3
HIZ	Hauiti	3.52	19	P	Pn	08 34 52.5	+2.5
ODZ	Otahua Downs	3.94	218	P	Pn	08 34 53.6	-2.1
TOZ	Tahuroa Road	4.39	15	P	Pn	08 35 04.5	+2.5

SOME ***16*** *08:58:01.6, 43°.68N × 69°.73E*

NNC 16 08:58:02.9±1.6, 43.70N × 69.84E, h0km, mb3.9, mpv3.4, 1C, Error ellipse: s-maj=8.5km s-min=4.5km az=137.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.77	140	↑P	Pg	08 58 17.1	-0.6
	1.5nm,0.3s,baz=322,slow=18,SNR=89						
KK31				S	Sg	08 58 28.8	+1.1
	35nm,0.6s,baz=321,slow=43,SNR=92						
IUG	Iuzhnay	1.56	175	P	Pn	08 58 31.7	-0.2
	350nm,0.4s						
IUG				S	Sb	08 58 53.4	+0.5
	56nm,0.4s						
MRKS	Merke	2.66	110	Pg	Pb	08 58 52.4	+1.1
	4.5nm,0.5s						
MRKS				Lg	Lg	08 59 29.5	
	9.3nm,0.4s						
BTLS	Baital	3.30	65	Pg	Pg	08 59 05.2	-1.0
	9.5nm,0.5s						
BTLS				Lg	Lg	08 59 52.9	
	3.9nm,0.7s						
KST	Kastek	4.51	96	Pg	Pg	08 59 26.8	-2.6
	3.6nm,0.7s						
KST				Lg	Lg	09 00 29.1	
	6.0nm,0.5s						
KUU	Kurty	4.71	85	Pg	Pg	08 59 30.6	-2.6
KUU				Lg	Lg	09 00 34.7	
TNSS	Tian-Shan	5.23	95	Pg	Pg	08 59 40.2	-2.8
	1.3nm,0.3s						
TNSS				Lg	Lg	09 00 51.0	
	1.8nm,0.6s						

WEL ***16*** *09:15:00, 41°.31S × 175°.68E, h8km, ML4.8, Mw4.5, Moment Tensor Solution. s4 Moment tensor: Scale 10^15 Nm; Mrr2.00; Mθθ0.07; Mϕϕ-2.07; Mrθ0.23; Mϕθ0.12; Mθr6.36; Fault plane solution: Mo6.68000×10^15 NP1: ϕs171.00000°, δ9.00000°, λ80.00000°. NP2: ϕs2.00000°, δ81.00000°, λ92.00000°. Principal axes: T 6.4300, Plg54.0000°, Azm275.0000°; N 665.1800, Plg2.0000°, Azm182.0000°; P -671.6100, Plg36.0000°, Azm91.0000°;*

IDC ***16*** *09:15:12.3±1.0, 41°.15S × 175°.58E, h0km, mb4.6/5, mbtmp4.5/6, ML3.9/1, MS3.8/15 Error ellipse: s-maj=34.5km s-min=22.7km az=51.0*

NEIC ***16*** *09:15:13.6±0.8, 41°.47S±0°.06 × 175°.88E±0°.07, h27km±6km, mb4.6/18, ML4.8(WEL), Error ellipse: s-maj=10.3km s-min=4.9km az=137.0*

WEL ***16*** *09:15:14.9±0.4, 41°.5S±3° × 17°.6E±°, h16km±2km, M4.0/1, ML5.2/21, ML4.4/1, MLv4.8/27, MLv4.0/1, Error ellipse: s-maj=0.0km s-min=0.0km az=131.9*

ISC 16 09:15:14.6±0.8, 41°.40S±0°.03 × 175°.76E±0°.03, h24km±5km, n177, σ1°.21/167, mb4.6/16, MS3.9/15, 2C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRWZ	Traveller	0.05	270	P	Pb	09 15 19.1	+0.2
TRWZ				S	Sb	09 15 22.1	+0.3
PAWZ	Paruwai Farm	0.25	274	P	Pb	09 15 20.8	-0.1
PAWZ				S	Sb	09 15 23.9	-0.2
MTW	Mount Morrison	0.31	321	P	Pb	09 15 20.5	-1.2
MTW				S	Sb	09 15 24.5	-2.0
TMWZ	Te Maipa	0.31	19	P	Pb	09 15 21.8	0.0
TMWZ				S	Sb	09 15 26.8	+0.2
MSWZ	Moikau Station	0.38	267		Pb	09 15 23.0	+0.1
MSWZ				Sg	Sb	09 15 29.0	+0.5
MSWZ	Moikau Station	0.38	267	P	Pb	09 15 23.0	+0.1
PLWZ	Palliser	0.41	245		Pn	09 15 24.5	-0.6
PLWZ	Palliser	0.41	245	P	Pn	09 15 24.4	-0.7
HOWZ	Holdsworth Sta	0.53	340	P	Pb	09 15 24.5	-0.8
CPWZ	Castlepoint	0.59	35	P	Pn	09 15 27.4	-0.1
CAW	Cannon Point	0.59	299	P	Pb	09 15 26.0	-0.4
TIWZ	Tintock	0.63	9	P	Pb	09 15 27.2	+0.2
OGWZ	Otaki Gorge	0.73	323	P	Pb	09 15 28.0	-0.7
MRZ	Mangatainoka R	0.75	350		Pb	09 15 28.3	-0.7
MRZ	Mangatainoka R	0.75	350	P	Pb	09 15 28.3	-0.7
WEL	Wellington	0.75	278	P	Pb	09 15 29.0	-0.0
SNZO	Seismic Karori	0.80	276		Pb	09 15 29.5	-0.3
BFZ	Birch Farm	0.81	28		Pb	09 15 29.7	-0.3
BFZ	Birch Farm	0.81	28	P	Pb	09 15 29.7	-0.3
KIW	Kapiti Island	0.83	310	P	Pb	09 15 29.8	-0.6
PRWZ	Pori Road	0.86	11	P	Pb	09 15 30.7	-0.2
POWZ	Post Office Ro	1.00	1	P	Pn	09 15 32.5	-0.7
TCW	Tory Channel	1.13	279	P	Pn	09 15 34.3	-0.5
DVHZ	Dannevirke	1.14	16	P	Pn	09 15 34.3	-0.8
CMWZ	Cape Campbell	1.21	253	P	Pb	09 15 36.2	-0.6
OHWZ	Ohakea	1.24	344	P	Pn	09 15 36.5	+0.1
PRHZ	Porangahau	1.31	31	P	Pn	09 15 36.4	-1.1
TSZ	Takapari Road	1.35	7	P	Pn	09 15 37.3	-0.6
TUWZ	Tuamarina	1.36	268	P	Pn	09 15 37.2	-0.9
WPHZ	Waipukurau	1.43	22	P	Pn	09 15 38.6	-0.4
BSWZ	Blackbirch Sta	1.45	257	P	Pn	09 15 39.0	-0.2
DUWZ	D'Urville Isla	1.51	293	P	Pn	09 15 40.1	0.0
PNHZ	Pukenui	1.52	13	P	Pn	09 15 40.1	-0.2
PXZ	Pawanui	1.60	32	P	Pn	09 15 40.0	-1.4
WAZ	Wanganui	1.74	340	P	Pb	09 15 45.1	-0.8
NNZ	Nelson	1.80	275		Pn	09 15 43.7	-0.4
NNZ	Nelson	1.80	275	P	Pn	09 15 43.7	-0.4
KAHZ	Kahuranaki	1.81	28	P	Pn	09 15 43.5	-0.9
BHHZ	Black Hill Sta	1.92	7	P	Pn	09 15 45.6	-0.2
KHZ	Kahutara	1.94	238	Pn	Pn	09 15 45.0	-1.0
KHZ	Kahutara	1.94	238	P	Pn	09 15 45.3	-0.8
MOVZ	Moawhango	1.99	360	P	Pn	09 15 46.9	+0.1
CKHZ	Cape Kidnapper	2.01	31	P	Pn	09 15 45.4	-1.5
MTVZ	Mangateitei	2.02	354	P	Pn	09 15 48.4	+1.1
KWHZ	Kaweka Forest	2.04	15	P	Pn	09 15 47.4	0.0
WNVZ	Wahianoa	2.07	357	P	Pn	09 15 48.2	+0.2
MCHZ	McNeill Hill	2.08	21	P	Pn	09 15 47.6	-0.4
TRVZ	Turoa	2.10	356	P	Pn	09 15 48.9	+0.4
WHVZ	Whangaehu Hut	2.12	356	P	Pn	09 15 49.2	+0.5
DRZ	Dome Shelter	2.12	356	P	Pn	09 15 50.0	+1.1
PKVZ	Pokaka	2.13	351	P	Pb	09 15 50.8	-1.7
TUVZ	Tukino	2.13	358	P	Pb	09 15 50.6	-1.9
TKNZ	Takaka Hill	2.14	279		Pn	09 15 48.9	+0.1
TKNZ	Takaka Hill	2.14	279	P	Pn	09 15 48.7	-0.1
FWVZ	Far West T-bar	2.15	356	P	Pn	09 15 49.6	+0.5
THZ	Tophouse	2.17	259	Pn	Pn	09 15 48.3	-1.0
THZ	Tophouse	2.17	259	P	Pn	09 15 48.4	-0.8
LREZ	Lake Rotokare	2.19	331	P	Pb	09 15 52.3	-1.3
SNVZ	South Ngauruho	2.21	358	P	Pn	09 15 50.5	+0.6
NGZ	Ngauruhoe	2.22	357	P	Pn	09 15 51.1	+1.0
OTVZ	Oturere	2.23	358	P	Pn	09 15 50.8	+0.6
MRNZ	Matariki Terra	2.25	269		Pn	09 15 50.0	-0.4
MRNZ	Matariki Terra	2.25	269	P	Pn	09 15 50.1	-0.3
ETVZ	East Tongariro	2.26	359	P	Pn	09 15 51.1	+0.5
NNVZ	North Ngauruho	2.27	357	P	Pn	09 15 51.4	+0.7
TMVZ	Te Maari	2.28	359	P	Pn	09 15 51.3	+0.5
WTVZ	West Tongariro	2.28	357	P	Pn	09 15 51.5	+0.7
NTVZ	North Tongarir	2.30	358	P	Pn	09 15 51.6	+0.5
BKZ	Black Stump Fm	2.30	14		Pn	09 15 50.1	-0.9
BKZ	Black Stump Fm	2.30	14	P	Pn	09 15 50.8	-0.3
KRVZ	Karewarewa	2.30	358	P	Pn	09 15 51.8	+0.6
ARHZ	Aropaoanui	2.33	24	P	Pn	09 15 50.8	-0.6
TWVZ	Taurewa	2.34	354	P	Pn	09 15 52.7	+1.1
VRZ	Vera Road	2.40	341	P	Pb	09 15 55.1	-1.9
KATZ	Kakaramea	2.42	359	P	Pb	09 15 54.3	+1.5
NMHZ	Naumai	2.44	20	P	Pn	09 15 52.9	0.0
NMEZ	Namu Road	2.45	324	P	Pb	09 15 56.0	-1.9
NEZ	North Egmont	2.48	329	P	Pb	09 15 56.6	-1.8
KHEZ	Kahui Hut	2.49	327	P	Pb	09 15 56.7	-2.0
QRZ	Quartz Range	2.50	282	Pn	Pn	09 15 53.8	0.0
QRZ	Quartz Range	2.50	282	P	Pn	09 15 54.1	+0.3
DREZ	Durham Road	2.51	331	P	Pb	09 15 57.4	-1.5
RATZ	Rangitukua	2.53	0	P	Pn	09 15 56.5	+2.3
GVZ	Greta Valley S	2.56	231		Pn	09 15 53.4	-1.2
GVZ	Greta Valley S	2.56	231	P	Pn	09 15 53.7	-0.9
MHEZ	Mangahewa	2.56	334	P	Pb	09 15 58.7	-1.2
NBEZ	Newall Road No	2.57	325	P	Pb	09 15 57.9	-2.1
WHHZ	Waihua	2.58	27	P	Pn	09 15 53.8	-1.0
PKE	Pukeiti	2.58	328	P	Pb	09 15 59.1	-1.1
MRHZ	Matea Rd	2.61	11	P	Pn	09 15 55.0	-0.3
MTHZ	Maungataniwha	2.67	18	P	Pn	09 15 55.9	-0.3
RAHZ	Arahi	2.68	23	P	Pn	09 15 55.7	-0.6
MHGZ	Mahia Peninsul	2.78	37	P	Pn	09 15 55.6	-2.1
KNZ	Kokohu	2.79	32	P	Pn	09 15 55.2	-2.5
ALRZ	Allen Road	2.87	9	P	Pn	09 15 58.8	0.0
AMCZ	Amberley	2.91	231	P	Pn	09 15 58.2	-1.1
LTZ	Lake Taylor	2.94	241	Pn	Pn	09 15 59.0	-0.8
LTZ	Lake Taylor	2.94	241	P	Pn	09 15 58.9	-0.9
HIZ	Hauiti	2.96	346	P	Pn	09 16 00.6	+0.5
DSZ	Denniston Nort	2.98	262	Pn	Pn	09 16 00.1	-0.3
DSZ	Denniston Nort	2.98	262	P	Pn	09 15 59.8	-0.6
MUGZ	Murupara	3.02	15	P	Pn	09 16 00.5	-0.4
HRRZ	Handcock Road	3.03	8	P	Pn	09 16 01.6	+0.5
OKCZ	Okains Bay	3.06	220	P	Pn	09 16 00.2	-1.2
TLZ	Tolley Road	3.07	357	P	Pn	09 16 03.7	+2.1
RIGZ	Rimuhau	3.10	30	P	Pn	09 16 00.5	-1.5
RRRZ	Republican Roa	3.11	11	P	Pn	09 16 01.8	-0.4
TARZ	Mount Tarawera	3.21	11	P	Pn	09 16 03.2	-0.4
AKCZ	Akaroa Harbour	3.24	219	P	Pn	09 16 02.7	-1.3
MQZ	McQueen's Vall	3.25	224	Pn	Pn	09 16 02.7	-1.3
MQZ	McQueen's Vall	3.25	224	P	Pn	09 16 02.2	-1.8
URZ	Urewera	3.30	19	P	Pn	09 16 02.8	-1.9
MWZ	Matawai	3.35	25	P	Pn	09 16 03.4	-2.0
OXZ	Oxford	3.36	234		Pn	09 16 04.6	-0.9
OXZ	Oxford	3.36	234	P	Pn	09 16 03.6	-1.9
TKGZ	Te Kara

comp=Z,4.6nm,1.1s,baz=16,slow=4.0,SNR=7.7
comp=Z,4.6nm,1.1s
BATI Baumata 55.18 289 LR LR 09 48 56.2
comp=Z,204nm,18.3s,baz=220,slow=37
MAW Mawson 60.24 204 LR LR 09 50 10.8
comp=Z,119nm,18.6s,baz=100,slow=35
KAPI Kappang 61.56 290 LR LR 09 53 15.0
comp=Z,89nm,18.1s,baz=222,slow=37
KSM Kuching 72.80 288 P **P** **09 26 39.5 -1.7**
CMAR Chiang Mai Arr 92.55 292 P **P** **09 28 24.9 +0.9**
comp=Z,1.2nm,0.3s,baz=154,slow=3.8,SNR=5.2
comp=Z,1.2nm,0.3s
LPIG La Paz 94.43 62 LR LR 10 03 06.4
comp=Z,52nm,18.6s,baz=305,slow=30
PZH PanZhiHua 96.13 300 P **P** **09 28 40.8 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,50nm,3.7s
KLR Kul'dur 98.21 333 LR LR 10 12 10.7
comp=Z,16nm,18.6s,baz=252,slow=35
PALK Pallekele 98.55 272 LR LR 10 12 55.9
comp=Z,39nm,18.8s,baz=248,slow=35
HHC Hu-ho-hao-te 100.41 316 *e*P **Pdif** **09 29 00.8 +1.5**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,280nm,4.7s
MKAR Makanchi Array 120.66 307 PKP **PKiKP** **09 34 04.0 +0.1**
comp=Z,1.5nm,1.0s,baz=50,slow=1.9,SNR=5.7
LIC Lamto 144.97 179⇑*e*PKP2 **PKPdf** **09 34 51.1 +1.0**
comp=Z,29nm,0.8s
KIC Kosan Boka 145.11 179⇑*e*PKP2 **PKPdf** **09 34 51.6 +1.2**
comp=Z,6.2nm,0.7s
TIC Toumodi 145.39 179⇓*i*PKP2 **PKPab** **09 34 52.7 +1.8**
comp=Z,23nm,0.9s
DBIC Dimbokro 145.41 179 PKPbc **PKPab** **09 34 52.4 +1.4**
comp=Z,13nm,1.0s,baz=157,slow=3.2,SNR=8.8
KBZ Khabaz 145.56 290 PKPbc **PKPab** **09 34 50.5 -0.1**
comp=Z,6.1nm,0.9s,baz=116,slow=3.4,SNR=12
ARCES ARCESS Array B 147.82 341 PKPbc **PKPbc** **09 34 57.0 +0.7**
comp=Z,2.8nm,0.7s,baz=20,slow=3.9,SNR=6.5
BRTR Keskin Array B 151.32 279 PKPbc **PKiKP** **09 35 06.8 +0.4**
comp=Z,5.4nm,0.9s,baz=142,slow=6.1,SNR=20
TORD Torodi Ar. Bea 151.38 192 PKPbc **PKiKP** **09 35 08.4 +1.4**
comp=Z,0.9nm,0.5s,baz=165,slow=2.2,SNR=7.7
FINES FINESS Array B 152.85 328 PKPbc **PKiKP** **09 35 09.4 +0.7**
comp=Z,0.9nm,0.4s,baz=69,slow=7.6,SNR=1.5

SKO **16** *09:15:10.5,41.05N×22.72E,h15km*
IDC **16** *09:15:12.1±0.9,40.84N×22.64E,h0km,mb3.9/11, mbtmp4.0/15,ML3.9/5,MS3.4/18,Error ellipse: s-maj=15.1km s-min=12.8km az=168.0*
ISK **16** *09:15:13.6,40.98N×22.75E,h5km,ML4.3/18*
PDG **16** *09:15:13.8±0.6,41.01N×22.71E,h12km,ML3.9/13,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
MOS **16** *09:15:13.0±1.1,40.99N×22.71E,h11km,mb4.4/12,Error ellipse: s-maj=4.6km s-min=3.1km az=78.1*
PRU **16** *09:15:13.9±0.0,41.01N×22.66E,h0km,M4.2*
THE **16** *09:15:14.1,40.98N×22.76E,h5km±1km,ML4.0/18,Error ellipse: s-maj=1.0km s-min=0.5km az=2.0*
DDA **16** *09:15:14.0±0.0,40.98N×22.61E,h56km,MW4.3*
SOF **16** *09:15:14.1,41.01N×22.73E,h19km,MD4.3*
ATH **16** *09:15:14.2,40.98N×22.75E,h6km,Mw4.0,Moment Tensor Solution. s7 Moment tensor: Mrr=0.78; Mθθ1.22; Mϕϕ-0.44; Mrθ-0.49; Mθϕ-0.39; Mϕr-0.58; Fault plane solution: NP1:ϕs315.00000°,δ47.00000°,λ-35.00000°. NP2:ϕs70.00000°,δ65.00000°,λ-132.00000°.*
NEIC **16** *09:15:15.0±2.0,41.02N±0.05×22.68E±0.05,h10km±2km, mb4.2/8,ML4.1(ATH),ML4.2(SKO) Error ellipse: s-maj=8.5km s-min=6.6km az=167.0*
BEO **16** *09:15:16.6±0.6,41.15N×22.67E,h19km±2km,ML3.9/22*
ISC 16 09:15:14.3±0.8,41°01N±0.01×22°73E±0.01,h11km±5km, n374,σ1°48/447,mb4.2/19,MS3.5/12,34C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KNT	**Kendrikon**	**0.20**	**39**	PG	**Pg**	**09 15 18.4**	**-0.2**
KNT				SG	**Sg**	**09 15 21.7**	**+0.2**
KNT	**Kendrikon**	**0.20**	**39**	P	**Pg**	**09 15 18.3**	**-0.3**
KNT				S	**Sg**	**09 15 21.7**	**+0.2**
	103μm,0.4s						
KNT	**Kendrikon**	**0.20**	**39**	P	**Pg**	**09 15 18.4**	**-0.2**
KNT				S	**Sg**	**09 15 21.6**	**+0.2**
KNT	**Kendrikon**	**0.20**	**39**	*e*P	**Pg**	**09 15 18.3**	**-0.3**
KNT				*e*S	**Sg**	**09 15 21.7**	**+0.2**
GRG	**Griva**	**0.25**	**259**	PG	**Pg**	**09 15 19.5**	**0.0**
GRG				SG	**Sg**	**09 15 23.6**	**+0.6**
GRG	**Griva**	**0.25**	**259**	P	**Pg**	**09 15 19.5**	**0.0**
GRG				S	**Sg**	**09 15 23.6**	**+0.6**
	87μm,0.4s						
GRG	**Griva**	**0.25**	**259**	P	**Pg**	**09 15 19.5**	**0.0**
GRG				S	**Sg**	**09 15 23.3**	**+0.3**
GRG				AML	AML	09 15 24.0	
GRG				AML	AML	09 15 24.4	
GRG	**Griva**	**0.25**	**259**	P	**Pg**	**09 15 19.5**	**0.0**
GRG				S	**Sg**	**09 15 23.6**	**+0.6**
VAY	**Valandovo**	**0.34**	**339**	*e*Pg	**Pb**	**09 15 21.6**	**-0.8**
VAY				*e*Sg	**Sb**	**09 15 26.8**	**-1.0**
VAY	**Valandovo**	**0.34**	**339**	⇑*i*Pg	**Pb**	**09 15 21.7**	**-0.6**
VAY				*i* Sg	**Sb**	**09 15 26.9**	**-0.8**
VAY				*e*Lg	Lg	09 15 27.2	
	comp=N,25μm,0.3s						
VAY				*e*Lg	Lg	09 15 27.6	
	comp=E,23μm,0.4s						
VAY	**Valandovo**	**0.34**	**339**	*e*P	**Pb**	**09 15 21.6**	**-0.8**
VAY				*e*S	**Sb**	**09 15 26.8**	**-1.0**
THE	**Thessaloniki**	**0.41**	**154**	P	**Pg**	**09 15 21.5**	**-0.9**
THE				S	**Sg**	**09 15 26.4**	**-1.5**
	comp=E,38μm,0.4s						
THE	**Thessaloniki**	**0.41**	**154**	P	**Pg**	**09 15 21.5**	**-0.9**
THE				S	**Sg**	**09 15 26.3**	**-1.6**
THE				AML	AML	09 15 28.0	
	comp=E,54288μm,0.4s						
THE				AML	AML	09 15 28.5	
	comp=N,99377μm,0.4s						
THE	**Thessaloniki**	**0.41**	**154**	P	**Pg**	**09 15 21.5**	**-0.9**
THE				S	**Sg**	**09 15 26.4**	**-1.5**
HORT	**Hortiatis**	**0.50**	**145**	PG	**Pg**	**09 15 22.9**	**-1.1**
HORT				SG	**Sg**	**09 15 30.3**	**-0.2**
HORT	**Hortiatis**	**0.50**	**145**	P	**Pg**	**09 15 22.9**	**-1.1**
HORT				S	**Sg**	**09 15 29.8**	**-0.7**
	comp=N,26μm,0.4s						
HORT	**Hortiatis**	**0.50**	**145**	P	**Pg**	**09 15 23.0**	**-1.1**
HORT				S	**Sg**	**09 15 29.6**	**-1.0**
HORT				AML	AML	09 15 32.1	
	comp=N,50018μm,0.4s						
HORT				AML	AML	09 15 32.2	
	comp=E,55245μm,0.3s						
SOH	**Sokhos**	**0.51**	**111**	P	**Pg**	**09 15 23.8**	**-0.4**
SOH				S	**Sg**	**09 15 30.6**	**-0.3**
	comp=E,28μm,0.5s						
SOH	**Sokhos**	**0.51**	**111**	P	**Pg**	**09 15 23.8**	**-0.4**
SOH				S	**Sg**	**09 15 30.3**	**-0.6**
SOH				AML	AML	09 15 31.0	
	comp=E,62206μm,0.5s						
SOH				AML	AML	09 15 33.6	
	comp=N,77008μm,0.5s						
SOH	**Sokhos**	**0.51**	**111**	P	**Pg**	**09 15 23.8**	**-0.4**
SOH				S	**Sg**	**09 15 30.6**	**-0.3**
SRS	**Serrai**	**0.66**	**80**	P	**Pg**	**09 15 26.6**	**-0.5**
SRS				S	**Sg**	**09 15 35.7**	**-0.1**
	comp=N,10μm,0.5s						
SRS	**Serrai**	**0.66**	**80**	P	**Pg**	**09 15 26.6**	**-0.5**
SRS				S	**Sg**	**09 15 35.2**	**-0.6**
SRS	**Serrai**	**0.66**	**80**	P	**Pg**	**09 15 26.6**	**-0.5**
SRS				S	**Sg**	**09 15 35.7**	**-0.1**
KTI	**Kastanea**	**0.77**	**217**	P	**Pg**	**09 15 28.3**	**-0.9**
STIP	**Stip**	**0.80**	**329**	*i* Pg	**Pg**	**09 15 28.8**	**-0.9**
STIP				*i* Sg	**Sb**	**09 15 40.3**	**-0.8**
KKB	**Krupnik**	**0.90**	**17**	*i* P	**Pg**	**09 15 31.4**	**-0.2**
KKB	**Krupnik**	**0.90**	**17**	P	**Pg**	**09 15 31.1**	**-0.6**
NVR	**Nevrokopi**	**0.92**	**68**	P	**Pg**	**09 15 31.6**	**-0.4**
NVR				S	**Sg**	**09 15 44.1**	**0.0**
	comp=N,8μm,0.5s						
NVR	**Nevrokopi**	**0.92**	**68**	P	**Pg**	**09 15 31.6**	**-0.4**
NVR				S	**Sg**	**09 15 43.6**	**-0.4**
MMB	**Musomiste**	**0.95**	**52**	*i* P	**Pg**	**09 15 32.0**	**-0.6**
MMB	**Musomiste**	**0.95**	**52**	P	**Pg**	**09 15 32.0**	**-0.6**
KOKK	**Kokkinochori,**	**0.98**	**101**	P	**Pg**	**09 15 31.0**	**-2.2**
KOKK				S	**Sg**	**09 15 46.0**	**+0.1**
	comp=N,4μm,0.6s						
KOKK	**Kokkinochori,**	**0.98**	**101**	P	**Pg**	**09 15 31.7**	**-1.5**
KZN	**Kozani**	**1.01**	**227**	P	**Pg**	**09 15 32.1**	**-1.6**
KZN				S	**Sn**	**09 15 47.6**	**-1.2**
	comp=N,7μm,0.4s						
KZN	**Kozani**	**1.01**	**227**	P	**Pg**	**09 15 32.7**	**-1.0**
KZN				S	**Sb**	**09 15 46.6**	**-0.6**
KZN	**Kozani**	**1.01**	**227**	P	**Pg**	**09 15 32.1**	**-1.6**
KZN				S	**Sn**	**09 15 47.6**	**-1.2**
FNA	**Florina**	**1.05**	**258**	PG	**Pg**	**09 15 33.9**	**-0.6**
FNA				SG	**Sn**	**09 15 48.9**	**-0.8**
FNA	**Florina**	**1.05**	**258**	Pg	**Pg**	**09 15 33.5**	**-1.0**
FNA	**Florina**	**1.05**	**258**	P	**Pg**	**09 15 33.5**	**-1.0**
FNA				S	**Sn**	**09 15 48.4**	**-1.3**
	comp=N,8μm,0.6s						
FNA	**Florina**	**1.05**	**258**	P	**Pg**	**09 15 33.6**	**-1.0**
FNA				S	**Sb**	**09 15 47.5**	**-0.8**
FNA	**Florina**	**1.05**	**258**	P	**Pg**	**09 15 33.2**	**-1.3**
FNA	**Florina**	**1.05**	**258**	P	**Pg**	**09 15 33.5**	**-1.0**
OUR	**Ouranopolis**	**1.17**	**125**	PN	**Pb**	**09 15 35.7**	**-0.7**
OUR				SN	**Sg**	**09 15 51.9**	**+0.1**
OUR	**Ouranopolis**	**1.17**	**125**	P	**Pb**	**09 15 35.4**	**-1.0**
OUR				S	**Sb**	**09 15 51.4**	**-0.2**
	comp=N,15μm,0.7s						
OUR	**Ouranopolis**	**1.17**	**125**	P	**Pb**	**09 15 35.5**	**-0.9**
OUR	**Ouranopolis**	**1.17**	**125**	P	**Pb**	**09 15 35.4**	**-1.0**
OUR				S	**Sb**	**09 15 51.4**	**-0.2**
PAIG	**Paliouri**	**1.30**	**146**	P	**Pn**	**09 15 37.2**	**-1.2**
PAIG				S	**Sb**	**09 15 54.9**	**-0.5**
PAIG	**Paliouri**	**1.30**	**146**	P	**Pn**	**09 15 37.6**	**-0.8**
PAIG	**Paliouri**	**1.30**	**146**	P	**Pn**	**09 15 37.2**	**-1.2**
PAIG				S	**Sb**	**09 15 54.9**	**-0.5**
TYRN	**Tyrnavos**	**1.35**	**197**	P	**Pn**	**09 15 38.1**	**-1.0**
TYRN				S	**Sg**	**09 15 57.6**	**-0.1**
	comp=N,8μm,0.7s						
TYRN	**Tyrnavos**	**1.35**	**197**	P	**Pn**	**09 15 38.0**	**-1.1**
KAVA	**Kavala**	**1.35**	**90**	P	**Pn**	**09 15 38.7**	**-0.4**
KAVA				S	**Sb**	**09 15 56.6**	**-0.3**
	comp=N,16μm,0.8s						
KAVA	**Kavala**	**1.35**	**90**	P	**Pn**	**09 15 38.8**	**-0.3**
SKO	**Skopje**	**1.37**	**315**	*e*Pg	**Pb**	**09 15 39.3**	**-0.6**
SKO				*e*Sg	**Sb**	**09 15 56.5**	**-0.9**
SKO	**Skopje**	**1.37**	**315**	⇓*i*Pg	**Pb**	**09 15 39.3**	**-0.6**
SKO				*i* Sg	**Sg**	**09 15 58.4**	**0.0**
SKO	**Skopje**	**1.37**	**315**	*e*P	**Pb**	**09 15 39.3**	**-0.6**
SKO				*i* S	**Sg**	**09 15 58.3**	**0.0**
NEST	**Nestorio**	**1.41**	**246**	P	**Pb**	**09 15 39.9**	**-0.8**
NEST				S	**Sg**	**09 15 59.7**	**+0.1**
	comp=N,2μm,0.9s						
PENT	**Pentalofos**	**1.46**	**237**	P	**Pb**	**09 15 40.7**	**-0.8**
OHR	**Ohrid**	**1.46**	**275**	*e*Pg	**Pg**	**09 15 41.4**	**-0.9**
OHR				*e*Sg	**Sg**	**09 15 60.2**	**-0.7**
OHR	**Ohrid**	**1.46**	**275**	⇓*i*Pg	**Pg**	**09 15 41.5**	**-0.9**
OHR				*i* Sg	**Sg**	**09 16 01.8**	**+0.4**
OHR				*e*Lg	Lg	09 16 02.3	
	comp=N,2μm,0.8s						
OHR				*e*Lg	Lg	09 16 03.7	
	comp=E,1μm,0.5s						
OHR	**Ohrid**	**1.46**	**275**	*e*P	**Pg**	**09 15 41.5**	**-0.9**
OHR				*e*S	**Sg**	**09 16 01.8**	**+0.4**
KPRO	**Kipourio**	**1.48**	**225**	P	**Pb**	**09 15 41.3**	**-0.6**
KPRO				S	**Sg**	**09 16 00.8**	**-1.1**
	comp=E,4μm,0.9s						
KPRO	**Kipourio**	**1.48**	**225**	P	**Pb**	**09 15 41.1**	**-0.8**
BOSS	**Bosilegrad**	**1.50**	**353**	*e*Pg	**Pn**	**09 15 41.2**	**0.0**
BOSS				*e*Sg	**Sb**	**09 16 00.6**	**-0.7**
KBN	**Korca**	**1.52**	**256**		**Pb**	**09 15 41.7**	**-0.9**
KBN	**Korca**	**1.52**	**256**	P	**Pb**	**09 15 41.7**	**-0.9**
THL	**Klokotos Trika**	**1.54**	**201**	P	**Pn**	**09 15 40.9**	**-0.8**
THL				S	**Sg**	**09 16 03.6**	**-0.2**
	comp=E,5μm,0.8s						
THL	**Klokotos Trika**	**1.54**	**201**	P	**Pn**	**09 15 40.8**	**-0.8**
THL				AML	AML	09 16 05.8	
	comp=E,11656μm,0.7s						
THL				AML	AML	09 16 08.7	
	comp=N,6675μm,0.8s						
THAS	**Thassos island**	**1.56**	**104**	P	**Pn**	**09 15 41.0**	**-1.0**
THAS				S	**Sn**	**09 16 01.8**	**-0.5**
	comp=N,4μm,0.4s						
RZN	**Rozhen**	**1.64**	**65**	*i* P	**Pb**	**09 15 44.3**	**-0.4**
RZN	**Rozhen**	**1.64**	**65**	P	**Pn**	**09 15 41.7**	**-1.6**
RZN				S	**Sg**	**09 16 07.2**	**0.0**
VTS	**Vitosha**	**1.65**	**13**	⇓P	**Pg**	**09 15 45.3**	**-0.7**
VTS	**Vitosha**	**1.65**	**13**		**Pn**	**09 15 43.5**	**+0.1**
VTS	**Vitosha**	**1.65**	**13**	*e*Pg	**Pb**	**09 15 44.0**	**-0.9**
VTS				*e*Sg	**Sn**	**09 16 03.4**	**-1.4**
VTS	**Vitosha**	**1.65**	**13**	*i* Pn	**Pn**	**09 15 43.1**	**-0.3**
VTS	**Vitosha**	**1.65**	**13**	*i* P	**Pn**	**09 15 43.5**	**+0.1**
VTS	**Vitosha**	**1.65**	**13**	P	**Pn**	**09 15 43.5**	**+0.1**
SOF	**Sofiya**	**1.74**	**15**	P	**Pg**	**09 15 47.8**	**+0.2**
NEO	**Neokhori**	**1.74**	**167**	P	**Pn**	**09 15 43.3**	**-1.2**
NEO				AML	AML	09 16 07.0	
	comp=E,9036μm,0.4s						
NEO				AML	AML	09 16 08.5	
	comp=N,6089μm,0.4s						
PLD	**Plovdiv**	**1.84**	**53**	PN	**Pb**	**09 15 47.3**	**-0.8**
PLD	**Plovdiv**	**1.84**	**53**	*i* Pn	**Pb**	**09 15 47.2**	**-0.8**
PLD	**Plovdiv**	**1.84**	**53**	*i* P	**Pb**	**09 15 47.2**	**-0.8**
PGB	**Panagyurishte**	**1.88**	**34**	*i* P	**Pb**	**09 15 48.9**	**+0.2**
PGB	**Panagyurishte**	**1.88**	**34**	P	**Pb**	**09 15 48.8**	**+0.1**
BARS	**Barje**	**1.93**	**340**	*e*Pn	**Pn**	**09 15 47.2**	**0.0**
BARS	**Barje**	**1.93**	**340**	*i* Pn	**Pn**	**09 15 47.0**	**-0.2**
JAN	**Janina**	**1.97**	**227**	P	**Pn**	**09 15 47.6**	**-0.1**
JAN	**Janina**	**1.97**	**227**	P	**Pn**	**09 15 47.5**	**-0.1**
AGG	**Agios Georgios**	**2.00**	**189**	PN	**Pn**	**09 15 47.5**	**-0.7**
AGG				SN	**Sn**	**09 16 14.2**	**+0.9**
AGG	**Agios Georgios**	**2.00**	**189**	P	**Pn**	**09 15 47.3**	**-0.7**
AGG	**Agios Georgios**	**2.00**	**189**	P	**Pn**	**09 15 47.4**	**-0.7**
AGG	**Agios Georgios**	**2.00**	**189**	P	**Pn**	**09 15 47.4**	**-0.7**
AGG				*i* S	**Sn**	**09 16 12.4**	**-0.9**
KDZ	**Kurdzhali**	**2.12**	**71**	PN	**Pn**	**09 15 49.6**	**-0.2**
KDZ	**Kurdzhali**	**2.12**	**71**	*i* P	**Pn**	**09 15 48.9**	**-0.9**
KDZ	**Kurdzhali**	**2.12**	**71**	P	**Pn**	**09 15 49.6**	**-0.2**
RDO	**Rodhopi**	**2.13**	**85**	PN	**Pn**	**09 15 50.4**	**+0.6**
RDO	**Rodhopi**	**2.13**	**85**	Pn	**Pn**	**09 15 49.8**	**0.0**
RDO	**Rodhopi**	**2.13**	**85**	P	**Pn**	**09 15 49.4**	**-0.4**
RDO				S	**Sb**	**09 16 18.2**	**-1.1**
	comp=N,2μm,0.4s						
RDO	**Rodhopi**	**2.13**	**85**	P	**Pn**	**09 15 49.3**	**-0.5**
RDO				AML	AML	09 16 26.2	
	comp=E,4525μm,0.3s						
RDO				AML	AML	09 16 29.2	
	comp=N,4978μm,0.4s						
TIR	**Tirane**	**2.19**	**280**		**Pn**	**09 15 51.5**	**+0.9**
TIR	**Tirane**	**2.19**	**280**	*e*Pn	**Pb**	**09 15 51.8**	**-2.1**
TIR	**Tirane**	**2.19**	**280**	*i* Pn	**Pb**	**09 15 52.0**	**-1.9**
TIR	**Tirane**	**2.19**	**280**	P	**Pn**	**09 15 51.5**	**+0.9**
EVR	**Evrytania**	**2.20**	**199**	P	**Pn**	**09 15 50.9**	**0.0**
ZAPS	**Zavoj**	**2.27**	**358**	*e*Pn	**Pn**	**09 15 51.8**	**0.0**
DIM	**Dimitrovgrad**	**2.35**	**63**	P	**Pb**	**09 15 55.5**	**-1.1**
MPEP	**Malo Peshtene**	**2.46**	**17**	P	**Pn**	**09 15 55.4**	**+0.9**
SELS	**Selova**	**2.52**	**332**	*e*Pn	**Pn**	**09 15 54.5**	**-0.7**
VLO	**Vlora**	**2.52**	**259**		**Pn**	**09 15 55.3**	**+0.2**
VLO	**Vlora**	**2.52**	**259**	P	**Pn**	**09 15 55.3**	**+0.2**
GADA	**Gvkgeada**	**2.55**	**108**	PN	**Pn**	**09 15 56.6**	**+1.0**
GOKA	**anakkale-Gk**	**2.55**	**108**	P	**Pn**	**09 15 56.8**	**+1.1**
KEK	**Kerkira**	**2.58**	**241**		**Pn**	**09 15 57.2**	**+1.1**
PVY	**Plav**	**2.61**	**308**	⇑*i*Pn	**Pn**	**09 15 56.9**	**+0.3**
PVY				*i* Sn	**Sb**	**09 16 30.3**	**-3.0**
ENEZ	**Enez**	**2.61**	**95**	PN	**Pn**	**09 15 57.5**	**+1.1**
CAVK	**Edirne/Enez-Ca**	**2.63**	**96**	P	**Pb**	**09 16 02.1**	**+0.7**
BOVS	**Bovan**	**2.73**	**344**	*e*Pn	**Pn**	**09 15 56.9**	**-1.3**
BOVS				*e*Sn	**Sn**	**09 16 28.4**	**-2.8**
ULC	**Ulcinj**	**2.79**	**291**	*i* Pn	**Pb**	**09 16 01.3**	**-2.8**
ULC	**Ulcinj**	**2.79**	**291**	⇑*i*Pn	**Pn**	**09 15 59.3**	**+0.4**
ULC				*i* Sn	**Sn**	**09 16 34.6**	**+2.0**
ULC	**Ulcinj**	**2.79**	**291**	*i* P	**Pb**	**09 16 01.3**	**-2.8**
BOZC	**Bozcaada**	**2.79**	**114**	PN	**Pn**	**09 15 59.9**	**+1.0**
BOZC	**Bozcaada**	**2.79**	**114**	P	**Pn**	**09 15 59.6**	**+0.6**
ECEA	**Canakkale, Ece**	**2.80**	**109**	P	**Pn**	**09 16 00.8**	**+1.8**
IVA	**Berane**	**2.82**	**312**	⇑*i*Pn	**Pn**	**09 15 59.8**	**+0.4**
IVA				*i* Sn	**Sn**	**09 16 35.4**	**+1.9**
ZAJS	**Zajecar**	**2.83**	**353**	*e*Pn	**Pn**	**09 15 59.1**	**-0.3**
ERIK	**Erikli-Kesan**	**2.89**	**95**	PN	**Pn**	**09 16 01.3**	**+1.0**
ERIK	**Erikli-Kesan**	**2.89**	**95**	P	**Pn**	**09 16 00.7**	**+0.4**
DRME	**Dracevica, Mon**	**2.91**	**295**	*e*Pn	**Pn**	**09 16 02.5**	**+2.0**
DRME	**Dracevica, Mon**	**2.91**	**295**	⇓*i*Pn	**Pn**	**09 16 01.0**	**+0.5**
DRME				*i* Sn	**Sn**	**09 16 37.5**	**+2.0**
GELI	**Tayfur-Gelibol**	**2.91**	**101**	PN	**Pn**	**09 16 01.8**	**+1.2**
PVL	**Pavlikeni**	**2.94**	**40**	P	**Pn**	**09 16 00.5**	**-0.4**
UKOP	**Uzunkopru-Edir**	**2.95**	**86**	PN	**Pn**	**09 16 02.5**	**+1.4**
PDG	**Podgorica**	**2.96**	**300**	Pn	**Pn**	**09 16 03.0**	**+1.7**
PDG	**Podgorica**	**2.96**	**300**	*e*Pn	**Pn**	**09 16 02.7**	**+1.4**
PDG	**Podgorica**	**2.96**	**300**	*i* Pn	**Pn**	**09 16 03.1**	**+1.8**
TTG	**Podgorica**	**2.96**	**300**	⇓*i*Pn	**Pn**	**09 16 01.8**	**+0.5**
TTG				*i* Sn	**Sn**	**09 16 38.9**	**+2.0**
EZN	**Ezine**	**2.99**	**112**	PN	**Pn**	**09 16 02.7**	**+1.1**
EZN	**Ezine**	**2.99**	**112**	P	**Pn**	**09 16 03.2**	**+1.6**
EZN	**Ezine**	**2.99**	**112**	P	**Pn**	**09 16 02.7**	**+1.1**
SIGR	**SIGRI**	**2.99**	**126**	PN	**Pn**	**09 16 02.7**	**+1.0**
KESN	**Edirne-Kesan**	**3.00**	**92**	P	**Pn**	**09 16 01.2**	**-1.0**
KOCA	**Canakkale, Ayv**	**3.01**	**119**	P	**Pn**	**09 16 02.4**	**+0.5**
KOME	**Kolasin**	**3.02**	**309**	⇓*i*Pn	**Pn**	**09 16 02.6**	**+0.4**
KOME				*i* Sn	**Sn**	**09 16 40.3**	**+1.8**
SJES	**Sjenica**	**3.05**	**319**	*e*Pn	**Pn**	**09 16 03.2**	**+0.7**
SJES				*e*Sn	**Sn**	**09 16 36.1**	**-3.0**
LPK	**Lapseki**	**3.13**	**100**	PN	**Pn**	**09 16 04.9**	**+1.3**
EDRB	**Edirne**	**3.13**	**73**	PN	**Pn**	**09 16 04.9**	**+1.3**
BUM	**Brajici-Budva**	**3.15**	**295**	⇑*i*Pn	**Pn**	**09 16 04.4**	**+0.4**
BUM				*i* Sn	**Sn**	**09 16 43.4**	**+1.8**
BAYC	**CANAKKALE_Bayr**	**3.18**	**112**	P	**Pn**	**09 16 04.6**	**+0.4**
IVAS	**Ivanjica**	**3.20**	**324**	*e*Pn	**Pn**	**09 16 04.4**	**-0.2**
CEME	**Cevo**	**3.24**	**300**	⇑*i*Pn	**Pn**	**09 16 05.6**	**+0.4**
CEME				*i* Sn	**Sn**	**09 16 45.5**	**+1.7**
GRUS	**Gruza**	**3.24**	**333**	*e*Pn	**Pn**	**09 16 04.8**	**-0.3**
GRUS				*e*Sn	**Sn**	**09 16 39.9**	**-3.9**
NKME	**Niksic**	**3.32**	**303**	⇑*i*Pn	**Pn**	**09 16 06.7**	**+0.4**
NKME				*i* Sn	**Sn**	**09 16 47.6**	**+1.8**
SCTE	**Santa Cesarea**	**3.38**	**255**		**Pn**	**09 16 07.5**	**+0.5**
RKY	**Sarkoy-Tekirda**	**3.39**	**94**	PN	**Pn**	**09 16 08.8**	**+1.6**
PLE	**Pljevlja**	**3.40**	**314**	⇑*i*Pn	**Pn**	**09 16 07.8**	**+0.4**
PLE				*i* Sn	**Sn**	**09 16 49.4**	**+1.6**
HCY	**Herceg Novi**	**3.48**	**296**	*e*Pn	**Pn**	**09 16 09.8**	**+1.4**
HCY	**Herceg Novi**	**3.48**	**296**	⇑*i*Pn	**Pn**	**09 16 09.0**	**+0.6**
HCY				*i* Sn	**Sn**	**09 16 51.4**	**+1.7**
KUBS	**Kucevo**	**3.49**	**347**	*e*Pn	**Pn**	**09 16 07.1**	**-1.5**
KRBG	**Karabiga-Canak**	**3.53**	**99**	PN	**Pn**	**09 16 10.6**	**+1.6**
UPM	**Unac-Piva**	**3.59**	**309**	*e*Pn	**Pn**	**09 16 10.9**	**+0.8**
UPM	**Unac-Piva**	**3.59**	**309**	⇓*i*Pn	**Pn**	**09 16 10.5**	**+0.4**
UPM				*i* Sn	**Sn**	**09 16 54.1**	**+1.4**
TRUS	**Trudelj**	**3.64**	**333**	*e*Pn	**Pn**	**09 16 10.3**	**-0.4**
BRY	**Bratogost**	**3.65**	**303**	*e*Pn	**Pn**	**09 16 12.9**	**+2.0**
BRY	**Bratogost**	**3.65**	**303**	*e*Pn	**Pn**	**09 16 11.4**	**+0.5**
BRY				*i* Sn	**Sn**	**09 16 55.6**	**+1.5**
PHSR	**Pinarhisar**	**3.67**	**79**	PN	**Pn**	**09 16 12.7**	**+1.8**
TREB	**Trebinje**	**3.69**	**299**	*e*Pn	**Pn**	**09 16 13.0**	**+1.7**
DIVS	**Divibare**	**3.69**	**328**	Pn	**Pn**	**09 16 11.3**	**-0.2**
DIVS	**Divibare**	**3.69**	**328**	*e*Pn	**Pn**	**09 16 11.3**	**-0.2**
DIVS	**Divibare**	**3.69**	**328**	*e*Pn	**Pn**	**09 16 11.2**	**-0.2**
DIVS				*e*Sn	**Sn**	**09 16 52.2**	**-2.8**
MRMT	**Marmara Adasi**	**3.72**	**95**	PN	**Pn**	**09 16 13.3**	**+1.6**
BBLS	**Lazići**	**3.77**	**320**	*e*Pn	**Pn**	**09 16 12.9**	**+0.4**
RAZG	**Razgrad**	**3.79**	**46**	⇑P	**Pn**	**09 16 16.5**	**+3.7**
MDVR	**Moldovita**	**3.85**	**349**	⇑P	**Pn**	**09 16 12.9**	**-0.6**
ITM	**Ithomi**	**3.87**	**190**		**Pn**	**09 16 15.5**	**+1.7**
HERR	**Herculane**	**3.88**	**357**	⇑P	**Pn**	**09 16 13.6**	**-0.3**
HAPS	**Han Pijesak,BI**	**4.16**	**319**	*e*Pn	**Pn**	**09 16 18.4**	**+0.6**
BALB	**Balikesir**	**4.17**	**107**		**Pn**	**09 16 19.4**	**+1.6**
STON

MILM				*e*S		**Sn**	**09 18 28.0**	**+2.9**
MILM				MLR		MLR			
	comp=Z,1μm,4.7s								
NRCA	**Norcia**	**7.40**	**287**			**Pn**	**09 17 02.3**	**0.0**
UZH	**Uzhgorod**	**7.63**	**358**	*e*P		**Pn**	**09 17 04.3**	**-1.1**
UZH				*e*S		**Sn**	**09 18 30.3**	**-1.5**
UZH				MLR		MLR			
	comp=E,40nm,10.0s								
CEY	**Cerknica**	**7.68**	**311**	*e*Pn		**Pn**	**09 17 06.5**	**+0.4**
MURB	**Monte Urbino**	**7.91**	**290**			**Pn**	**09 17 10.0**	**+0.7**
KOLS	**Kolonicke sedl**	**7.93**	**358**	*e*PN		**Pn**	**09 17 10.5**	**+0.9**
KOLS	**Kolonicke sedl**	**7.93**	**358**	*e*SG		**Sg**	**09 19 27.0**	**-1.7**
KOLS	**Kolonicke sedl**	**7.93**	**358**	*e*P		**Pn**	**09 17 10.5**	**+0.9**
SOKA	**Soboth**	**7.94**	**318**	Pn		**Pn**	**09 17 10.3**	**+0.6**
	comp=E,7.6nm,0.3s,SNR=6.7								
SOKA				*e*Sn		**Sn**	**09 18 38.2**	**-1.3**
	comp=E,1.5nm,0.2s								
SOP	**Sopron**	**8.01**	**329**	P		Pn	09 17 15.9	+5.4	
SOP	**Sopron**	**8.01**	**329**	P		Pn	09 17 15.9	+5.4	
OBKA	**Obir**	**8.08**	**316**	*e*Pn		**Pn**	**09 17 12.8**	**+1.2**
OBKA	**Obir**	**8.08**	**316**	*i* Pn		**Pn**	**09 17 12.8**	**+1.2**
	comp=E,4.4nm,0.3s,SNR=6.6								
OBKA				*e*Sn		**Sn**	**09 18 41.8**	**-1.2**
	comp=E,5.9nm,0.6s								
ARSA	**Arzberg**	**8.11**	**323**	*i* Pn		**Pn**	**09 17 13.2**	**+1.1**
	comp=E,9.2nm,0.3s,SNR=11								
ARSA				*e*Sn		**Sn**	**09 18 40.7**	**-3.0**
RONA	**Rosalia, Austr**	**8.12**	**328**	*e*Pn		**Pn**	**09 17 13.8**	**+1.6**
	comp=E,3.9nm,0.5s								
RONA				*e*Sn		**Sn**	**09 18 48.0**	**+4.0**
	comp=E,3.6nm,0.4s								
ZST	**Bratislava**	**8.23**	**333**	*e*PN		**Pn**	**09 17 14.7**	**+1.1**
ZST	**Bratislava**	**8.23**	**333**	*e*P		**Pn**	**09 17 14.7**	**+1.1**
SABO	**M.te Sabotino**	**8.29**	**310**			**Pn**	**09 17 14.8**	**+0.3**
MODS	**Modra-Piesok**	**8.32**	**334**	*e*PN		**Pn**	**09 17 16.9**	**+2.0**
MODS				*e*SN		**Sn**	**09 18 46.3**	**-2.6**
MODS	**Modra-Piesok**	**8.32**	**334**	*e*P		**Pn**	**09 17 16.9**	**+2.0**
MODS				*e*			09 18 46.3		
BR131	**Keskin Array S**	**8.43**	**95**	*i* P		**Pn**	**09 17 15.8**	**-0.7**
BRTR	**Keskin Array B**	**8.43**	**95**	Pn		**Pn**	**09 17 17.4**	**+0.9**
	comp=E,0.3nm,0.3s,baz=265,slow=12,SNR=6.8								
	comp=E,1.0nm,0.6s								
BRTR	**Keskin Array B**	**8.43**	**95**	*i* P		**Pn**	**09 17 19.1**	**+2.6**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
CONA	**Conrad Observa**	**8.48**	**327**	*e*Pn		**Pn**	**09 17 18.5**	**+1.3**
	comp=Z,1.3nm,0.4s								
CONA				*e*Sn		**Sn**	**09 18 53.6**	**+0.7**
	comp=Z,1.2nm,0.3s								
PRED	**Cave del Predi**	**8.57**	**312**			**Pn**	**09 17 17.7**	**-0.7**
MYKA	**Terra Mystica**	**8.64**	**314**	*e*Pn		**Pn**	**09 17 21.3**	**+2.0**
	comp=Z,7.2nm,0.5s								
MYKA				*e*Sn		**Sn**	**09 19 00.8**	**+4.0**
	comp=Z,0.7nm,0.3s								
SEV	**Sevastopol'**	**8.79**	**63**	*e*P		**Pn**	**09 17 22.6**	**+1.4**
SEV				Pm			09 17 31.4		
	comp=Z,5.0nm,0.3s								
SEV				*e*S		**Sn**	**09 18 57.1**	**-3.1**
SEV				Sm			09 19 04.4		
	comp=N,11nm,0.6s								
SEV				Sm			09 19 04.4		
	comp=E,10.0nm,0.5s								
SEV	**Sevastopol'**	**8.79**	**63**	*e*P		**Pn**	**09 17 22.6**	**+1.4**
SEV				*e*S		**Sn**	**09 18 57.1**	**-3.1**
SEV				pmax		pmax			
	comp=Z,5.0nm,0.3s								
SEV				smax		smax			
	comp=N,11nm,0.6s								
SEV				smax		smax			
	comp=E,10.0nm,0.5s								
STAL	**STALIGIAL**	**8.96**	**309**			**Pn**	**09 17 23.1**	**-0.6**
CLUD	**Cludinico**	**8.97**	**311**			**Pn**	**09 17 23.9**	**+0.1**
KBA	**Koelnbreinsper**	**9.08**	**315**	*e*Pn		**Pn**	**09 17 27.3**	**+1.8**
	comp=E,4.7nm,0.3s								
KBA				*e*Sn		**Sn**	**09 19 07.5**	**-0.2**
	comp=E,1.9nm,0.2s								
KBA	**Koelnbreinsper**	**9.08**	**315**	P		**Pn**	**09 17 27.6**	**+2.2**
KBA				pmax		pmax			
	comp=Z,12nm,1.0s								
CIMO	**Cimolais**	**9.15**	**309**			**Pn**	**09 17 25.2**	**-1.0**
ABTA	**Abfaltersbach**	**9.34**	**311**	*i* Pn		**Pn**	**09 17 29.6**	**+0.6**
	SNR=9.4								
VRAC	**Vranov**	**9.36**	**335**	LR		LR	09 22 16.1		
	comp=Z,94nm,18.4s,baz=164,slow=45								
CTI	**Castel Tesino**	**9.49**	**306**			**Pn**	**09 17 30.2**	**-0.8**
CTI	**Castel Tesino**	**9.49**	**306**	P		Pn	**09 17 30.2**	**-0.8**
VLC	**Villacollemand**	**9.63**	**293**	Pn		**Pn**	**09 17 33.1**	**+0.2**
GERES	**GERESS Array B**	**10.11**	**324**	Pn		**Pn**	**09 17 40.5**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=135,slow=17,SNR=12								
	comp=Z,2.4nm,0.6s								
GERES	**GERESS Array B**	**10.11**	**324**	Pn		**Pn**	**09 17 40.7**	**+1.2**
GERES	**GERESS Array B**	**10.11**	**324**	P		**Pn**	**09 17 40.7**	**+1.2**
WTTA	**Wattenberg**	**10.13**	**312**	*i* Pn		**Pn**	**09 17 40.7**	**+0.9**
	comp=Z,5.6nm,0.5s,SNR=6.8								
WTTA	**Wattenberg**	**10.13**	**312**	P		**Pn**	**09 17 41.6**	**+1.8**
WTTA				pmax		pmax			
	comp=Z,22nm,1.1s								
WATA	**Walderalm**	**10.20**	**312**	*i* Pn		**Pn**	**09 17 42.0**	**+1.2**
	comp=Z,16nm,0.5s,SNR=10								
SQTA	**Sankt Quirin**	**10.35**	**311**	*i* Pn		**Pn**	**09 17 44.1**	**+1.4**
	comp=Z,15nm,0.8s,SNR=6.1								
DPC	**Dobruska-Polom**	**10.36**	**337**	*e*PN		**Pn**	**09 17 45.6**	**+2.8**
DPC	**Dobruska-Polom**	**10.36**	**337**	*e*P		**Pn**	**09 17 45.6**	**+2.8**
KHC	**Kasperske Hory**	**10.38**	**325**			**Pn**	**09 17 44.2**	**+1.1**
KHC	**Kasperske Hory**	**10.38**	**325**	*e*PN		**Pn**	**09 17 44.6**	**+1.5**
KHC				AMS		AMS	09 21 40.0		
	comp=Z,800nm,7.9s								
KHC	**Kasperske Hory**	**10.38**	**325**	*e*P		**Pn**	**09 17 44.6**	**+1.5**
KHC				MLR		MLR			
	comp=Z,800nm,7.9s								
MOTA	**Moosalm**	**10.48**	**311**	*i* Pn		**Pn**	**09 17 45.9**	**+1.3**
	comp=Z,19nm,0.7s,SNR=12								
FETA	**Feichten**	**10.52**	**309**	*e*Pn		**Pn**	**09 17 46.5**	**+1.3**
	comp=Z,2.5nm,0.4s								
AKBB	**Malin Array Si**	**10.70**	**23**	*i* P		Pn	**09 17 47.5**	**+0.1**
AKASG	**Malin Array Be**	**10.70**	**23**	Pn		**Pn**	**09 17 48.8**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=208,slow=13,SNR=2.7								
AKASG				Lg		Lg	09 20 56.5		
	comp=Z,0.7nm,0.3s,baz=209,slow=28,SNR=2.1								
AKASG				LR		LR	09 22 06.9		
	comp=Z,126nm,18.6s,baz=206,slow=38								
	comp=Z,1.0nm,0.6s								
DAVOX	**Davos/Dischmat**	**10.92**	**306**	Pn		**Pn**	**09 17 51.9**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=133,slow=12,SNR=15								
DAVOX				LR		LR	09 22 55.3		
	comp=Z,204nm,18.9s,baz=112,slow=42								
	comp=Z,11nm,0.6s								
DAVA	**Damuels**	**11.16**	**309**	*e*Pn		**Pn**	**09 17 56.2**	**+2.3**
KEST	**Kesra**	**11.75**	**248**	LR		LR	09 22 47.9		
	comp=Z,57nm,18.8s,baz=324,slow=39								
NACGM	**Naroch**	**14.16**	**10**	*e*P		Pn	09 18 29.2	-5.5	
	comp=Z,26nm,0.9s,baz=192								
MEM	**Membach**	**15.07**	**315**	*d*P		**P**	**09 18 52.9**	**+0.4**
KBZ	**Khabaz**	**15.15**	**73**	Pn		**P**	**09 18 55.0**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=191,slow=5.2,SNR=8.3								
VSR	**Storozhevoye**	**15.27**	**43**	*e*P		**Pn**	**09 18 48.4**	**-1.3**
VSR				pmax		pmax			
	comp=Z,6.0nm,0.6s								
VORR	**Voronezh**	**15.56**	**41**	*e*P		**Pn**	**09 18 48.3**	**-5.2**
VORR				pmax		pmax			
	comp=Z,70nm,0.4s								
NCK	**Nalchik**	**15.65**	**74**	*i* P		**Pn**	**09 18 55.7**	**+1.0**
NCK				pmax		pmax			
	comp=Z,65nm,0.6s								
ZEI	**Tsey**	**15.87**	**77**	*e*P		**P**	**09 19 06.1**	**+4.6**
ZEI				pmax		pmax			
	comp=Z,13nm,1.0s								
LPSR	**Galich'ya Gora**	**16.00**	**38**	*e*P		**Pn**	**09 18 58.3**	**-0.9**
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
VRH	**Novokhopyorsk**	**16.61**	**46**	*e*P		**P**	**09 19 08.3**	**-1.1**
VRH				pmax		pmax			
	comp=Z,5.0nm,0.3s								
GNI	**Garni**	**16.74**	**86**	*i* P		**Pn**	**09 19 09.4**	**+0.5**
OBN	**Obninsk**	**16.83**	**28**	*e*P		**Pn**	**09 19 08.4**	**-1.3**
OBN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
OBN				MLR		MLR			
	comp=Z,59nm,17.0s								
HFS	**Hagfors**	**19.96**	**347**	P		**Pn**	**09 19 46.7**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=122,slow=14,SNR=2.4								
HFS				LR		LR	09 29 40.4		
	comp=Z,154nm,18.5s,baz=170,slow=43								
	comp=Z,2.7nm,0.8s								
ESDC	**Sonseca Array**	**20.37**	**275**	P		**P**	**09 19 50.5**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=70,slow=11,SNR=12								
	comp=Z,4.8nm,1.0s								
BELG	**Belogornoye**	**20.41**	**48**	LR		LR	09 28 47.2		
	comp=Z,55nm,18.2s,baz=119,slow=40								
BELG	**Belogornoye**	**20.41**	**48**	*i* P		**P**	**09 19 50.9**	**-0.3**
BELG				pmax		pmax			
	comp=Z,4.0nm,1.4s								
FINES	**FINESS Array B**	**20.57**	**5**	P		Pn	09 19 54.9	-0.2	
	comp=Z,3.4nm,0.9s,baz=179,slow=9.7,SNR=4.0								
FINES				LR		LR	09 29 21.3		
	comp=Z,94nm,18.1s,baz=198,slow=41								
	comp=Z,3.4nm,0.9s								
NB2	**NORSAR Subarra**	**21.26**	**344**	P		**P**	**09 19 59.6**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=153,slow=11								
NOA	**NORSAR Array B**	**21.26**	**344**	P		**P**	**09 19 59.8**	**-0.6**
	comp=Z,4.0nm,1.1s,baz=158,slow=10,SNR=5.2								
NOA				LR		LR	09 30 31.3		
	comp=Z,18nm,20.6s,baz=170,slow=43								
	comp=Z,4.0nm,1.1s								
EKA	**Eskdalemuir Ar**	**22.26**	**319**	P		**P**	**09 20 10.5**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=117,slow=10,SNR=4.0								
	comp=Z,2.0nm,0.7s								
KLMR	**Klimovskoe**	**22.39**	**22**	*e*P		**P**	**09 20 10.5**	**-1.9**
KLMR				AMP			09 20 25.6		
	comp=Z,36nm,1.9s								
KLMR	**Klimovskoe**	**22.39**	**22**	*e*P		**P**	**09 20 10.5**	**-1.9**
KLMR				pmax		pmax			
	comp=Z,36nm,1.9s								
KIRV	**Kirov**	**24.36**	**35**	*i* P		**P**	**09 20 32.7**	**+0.7**
RAYN	**Ar Rayn**	**25.85**	**125**	P		**P**	**09 20 50.0**	**+4.0**
RAYN				pmax		pmax			
	comp=Z,6.0nm,1.3s								
ABKAR	**Akbulak array**	**27.29**	**60**	P		**P**	**09 20 57.9**	**-0.8**
ARCES	**ARCESS Array B**	**28.63**	**2**	LR		LR	09 31 54.3		
	comp=Z,93nm,19.1s,baz=218,slow=35								
TOA0	**Torodi Ar. Sit**	**33.30**	**220**	P		**P**	**09 21 49.8**	**-2.2**
TOA0				IAmb		IAmb	09 21 51.3		
	comp=Z,2.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**33.30**	**220**	P		**P**	**09 21 49.7**	**-2.4**
	comp=Z,2.2nm,0.7s,baz=30,slow=9.2,SNR=13								
	comp=Z,2.2nm,0.7s								
TORD	**Torodi Ar. Bea**	**33.30**	**220**	P		**P**	**09 21 51.8**	**-0.3**
BRVK	**Borovoye**	**33.96**	**53**	P		**P**	**09 21 58.2**	**+0.7**
BRVK	**Borovoye**	**33.96**	**53**	*i* P		**P**	**09 21 57.8**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.3s								
WSAR	**Wadi Sarin**	**34.88**	**109**	LR		LR	09 39 07.3		
	comp=Z,39nm,18.6s,baz=298,slow=41								
KK31	**Karatay Array**	**35.16**	**70**	P		**P**	**09 22 08.4**	**+0.4**
KK31				IAmb		IAmb	09 22 13.3		
	comp=Z,2.9nm,0.8s								
KK31	**Karatay Array**	**35.16**	**70**	P		**P**	**09 22 08.5**	**+0.4**
KK31				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KKAR	**Karatay Array**	**35.16**	**70**	P		**P**	**09 22 08.6**	**+0.5**
KKAR				IAmb		IAmb	09 22 13.3		
	comp=Z,2.9nm,0.8s								
KKAR	**Karatay Array**	**35.16**	**70**	P		**P**	**09 22 08.6**	**+0.5**
KKAR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**38.12**	**70**	*i* P		**P**	**09 22 33.1**	**-0.3**
AAK				pmax		pmax			
	comp=Z,14nm,4.0s								
KURK	**Kurchatov**	**39.25**	**56**	*i* P		**P**	**09 22 43.1**	**+0.5**
KURK				pmax		pmax			
	comp=Z,18nm,4.0s								
MK31	**Makanchi Array**	**42.41**	**61**	P		**P**	**09 23 09.0**	**+0.2**
MK31	**Makanchi Array**	**42.41**	**61**	*i* P		**P**	**09 23 07.8**	**-1.0**
MKAR	**Makanchi Array**	**42.41**	**61**	P		**P**	**09 23 09.2**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=282,slow=6.4,SNR=11								
	comp=Z,1.6nm,0.6s								
MKAR	**Makanchi Array**	**42.41**	**61**	P		**P**	**09 23 07.9**	**-0.9**
ZAA0	**Zalesovo Array**	**42.56**	**51**	P		**P**	**09 23 09.2**	**-0.6**
ZAA0				IAmb		IAmb	09 23 17.7		
	comp=Z,2.6nm,0.7s								
ZALV	**Zalesovo Beam**	**42.56**	**51**	P		**P**	**09 23 09.7**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=272,slow=8.0,SNR=8.6								
	comp=Z,2.1nm,0.6s								
ZALV	**Zalesovo Beam**	**42.56**	**51**	P		**P**	**09 23 09.5**	**-0.3**
ZALV	**Zalesovo Beam**	**42.56**	**51**	*i* P		**P**	**09 23 09.8**	**0.0**
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.6s								
DGZ	**Jazzator, Alta**	**45.00**	**56**	*i* P		**P**	**09 23 29.0**	**-0.8**
DGZ				pmax		pmax			
	comp=Z,8.0nm,2.9s								
WMQ	**Urumqi**	**46.94**	**64**	*e*P		**P**	**09 23 47.4**	**+2.4**
TIXI	**Tiksi**	**56.40**	**21**	LR		LR	09 51 40.2		
	comp=Z,38nm,19.1s,baz=320,slow=39								
TSUM	**Tsumeb**	**60.09**	**186**	LR		LR	09 56 07.4		
	comp=Z,44nm,18.6s,baz=166,slow=41								
YAK	**Yakutsk**	**61.81**	**31**	LR		LR	09 53 09.5		
	comp=Z,28nm,18.1s,baz=87,slow=37								
HHC	**Hu-ho-hao-te**	**64.05**	**58**	*e*P		**P**	**09 25 48.9**	**+0.7**
HHC				pmax		pmax			
	comp=Z,21nm,0.9s								
HHC				pmax		pmax			
	comp=Z,230nm,4.5s								
PZH	**PanZhiHua**	**65.21**	**76**	P		**P**	**09 25 59.0**	**+3.0**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.4s								
PZH				pmax		pmax			
	comp=Z,60nm,4.0s								
LBTB	**Lobatse**	**65.74**	**177**	LR		LR	09 56 12.2		
	comp=Z,71nm,18.8s,baz=6.5,slow=38								
BILL	**Bilibino**	**67.87**	**14**	*e*P		**P**	**09 26 10.4**	**-1.8**
BILL				*e*			09 26 39.9		
BILL				*e*			09 28 40.9		
BILL				pmax		pmax			
	comp=Z,2.0nm,1.0s								
YKA	**Yellowknife Ar**	**71.31**	**341**	P		**P**	**09 26 33.0**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=23,slow=5.7,SNR=4.2								
	comp=Z,2.0nm,0.7s								
YKA	**Yellowknife Ar**	**71.31**	**341**	*i* P		**P**	**09 26 33.2**	**-0.3**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ILAR	**Eielson Array**	**74.25**	**355**	P		**P**	**09 26 52.4**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=342,slow=3.9,SNR=6.8								
	comp=Z,0.6nm,0.8s								
ULM	**Lac du Bonnet**	**74.42**	**324**	P		**P**	**09 26 52.3**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=63,slow=8.6,SNR=4.0								
	comp=Z,3.0nm,0.7s								
PETK	**Petropavlovsk-**	**78.52**	**26**	LR		LR	10 04 58.9		
	comp=Z,41nm,19.5s,baz=146,slow=38								
ELK	**Elko**	**90.12**	**329**	LR		LR	10 10 54.1		
	comp=Z,40nm,18.6s,baz=252,slow=37								
ANMO	**Albuquerque**	**91.15**	**320**	LR		LR	10 12 15.8		
	comp=Z,35nm,19.1s,baz=207,slow=38								

NNC **16** *09:25:51.2±12.0,* **36°.86N×70°.99E, h232km±146km, mb2.6, mpv3.6, 3C-1D, Error ellipse: s-maj=133.1km s-min=68.6km az=22.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KK31	**Karatay Array**	**6.25**	**357**	⇓P		Pn		09 27 22.1	+0.2
	1.8nm,0.6s,baz=172,slow=11,SNR=14								
KK31				⇑S		S		09 28 35.0	+0.7
	3.8nm,0.4s,baz=179,slow=22								
TKM2	**Tokmak 2**	**7.01**	**29**	⇑P		Pn		09 27 31.4	-0.5
	6.0nm,0.8s								
AB31	**Akbulak array**	**14.77**	**330**	P		P		09 29 09.3	0.0
	0.2nm,0.3s,baz=136,slow=12,SNR=16								
AKTO	**Aktyubinsk**	**16.47**	**330**	⇑P		P		09 29 28.0	0.0
	2.9nm,0.7s								

IDC **16** *09:27:17.1±0.9, 28°.52S×178°.27W, h205km±11km, mb3.0/3, mbtmp3.9/4, Error ellipse: s-maj=36.3km s-min=26.0km az=159.0*

ISC 16 09:27:16.8±1.1, 28°.5S±0°.2×178°.3W±0°.2, h200km, n9, σ0s90/8, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RAO	**Raoul Island**	**0.82**	**158**	P		**Pn**		**09 27 46.1**	**+0.7**
	3μm,0.2s,baz=89,slow=8.0,SNR=62								
MSVF	**Nonsavu**	**11.22**	**342**	P		**Pn**		**09 29 52.6**	**+0.7**
	22nm,0.7s,baz=185,slow=22,SNR=13								
ASAR	**Alice Springs**	**43.00**	**265**	P		**P**		**09 34 57.4**	**+0.6**
	0.2nm,0.6s,baz=97,slow=7.6,SNR=1.4								
	0.2nm,0.6s								
WRA	**Warramunga Arr**	**43.82**	**270**	P		**P**		**09 35 02.5**	**-0.7**
	0.2nm,0.3s,baz=108,slow=6.0,SNR=15								
	0.2nm,0.3s								
NVAR	**Mina Array Bea**	**87.00**	**43**	P		**P**		**09 39 39.7**	**-0.1**
	1.0nm,0.8s,baz=224,slow=5.9,SNR=4.3								
	1.0nm,0.8s								
FINES	**FINESS Array B**	**143.27**	**341**	PKhKP		PKPpre		09 46 22.1	
	5.3nm,1.1s,baz=11,slow=3.9,SNR=5.4								
NB2	**NORSAR Subarra**	**146.83**	**352**	PKP		**PKPbc**		**09 46 33.8**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=10,slow=2.9								
NOA	**NORSAR Array B**	**146.83**	**352**	PKPbc		**PKPbc**		**09 46 33.9**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=14,slow=4.5,SNR=3.3								
AKASG	**Malin Array Be**	**149.62**	**325**	PKPbc		**PKPbc**		**09 46 41.7**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=45,slow=3.5,SNR=8.8								

IDC **16** *09:37:02.2±2.0, 27°.20S×178°.24W, h231km±22km, mb3.4/5, mbtmp4.0/5, Error ellipse: s-maj=41.1km s-min=23.1km az=178.0*

ISC 16 09:37:03.5±0.9, 27°.4S±0°.1×178°.2W±0°.2, h250km, n12, σ1s13/12, mb3.4/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RAO	**Raoul Island**	**1.88**	**173**	P		**Pn**		**09 37 45.2**	**+0.3**
	531nm,0.3s,baz=94,slow=2.5,SNR=9.9								
RAO				S		**S**		**09 38 16.2**	**-1.3**
	444nm,0.3s,baz=281,slow=24,SNR=7.3								
CTA	**Charters Tower**	**33.28**	**275**	P		**P**		**09 43 18.8**	**+0.9**
	3.3nm,0.6s,baz=79,slow=10,SNR=1.8								
	3.3nm,0.6s								
ASAR	**Alice Springs**	**43.20**	**264**	P		**P**		**09 44 40.6**	**+0.3**
	0.4nm,0.6s,baz=98,slow=7.4,SNR=9.2								
	0.4nm,0.6s								
WRA	**Warramunga Arr**	**43.91**	**269**	P		**P**		**09 44 45.4**	**-0.6**
	1.3nm,0.7s,baz=111,slow=6.6,SNR=13								
	1.3nm,0.7s								
MJAR	**Matsushiro Arr**	**75.68**	**325**	P		**P**		**09 48 20.8**	**-0.6**
	2.6nm,0.7s,baz=155,slow=5.3,SNR=5.5								
	2.6nm,0.7s								
NVAR	**Mina Array Bea**	**86.14**	**43**	P		**P**		**09 49 17.5**	**+0.8**
	0.4nm,0.6s,baz=187,slow=1.5,SNR=2.3								
	0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**118.87**	**315**	PKP		**PKiKP**		**09 55 20.7**	**-1.1**
	0.2nm,0.5s,baz=117,slow=1.4,SNR=4.3								
ARCES	**ARCESS Array B**	**135.61**	**348**	PKP		**PKiKP**		**09 55 54.7**	**-0.1**
	6.7nm,0.9s,baz=345,slow=3.8,SNR=3.7								
FINES	**FINESS Array B**	**142.25**	**341**	PKhKP		PKPpre		09 56 01.8	
	8.3nm,1.2s,baz=77,slow=4.1,SNR=6.1								
AKASG	**Malin Array Be**	**148.77**	**326**	PKPbc		**PKiKP**		**09 56 20.8**	**-1.4**
	1.8nm,0.5s,baz=45,slow=4.1,SNR=11								
BRTR	**Keskin Array B**	**150.92**	**303**	PKPbc		**PKiKP**		**09 56 27.0**	**-0.3**
	0.8nm,0.7s,baz=155,slow=4.5,SNR=3.6								
TORD	**Torodi Ar. Bea**	**165.84**	**179**	PKPab		**PKPab**		**09 57 41.8**	**+2.0**
	0.5nm,0.7s,baz=150,slow=3.0,SNR=3.1								

IDC **16** *09:53:43.1±2.4, 42°.53S×173°.06E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=47.7km s-min=34.2km az=118.0*
NOU **16** *09:53:43.8, 42°.74S×173°.37E, h5km, MLv4.5/12, South Island, New Zealand*
WEL **16** *09:53:45.8±0.4, 43°.3S±0°.1×17°.3E±0°.1, h6km±4km, M4.2/15, ML4.3/13, MLv4.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=118.5*
NEIC **16** *09:53:45.4±1.5, 42°.62S±0°.02×173°.37E±0°.05, h23km±8km, mb4.2/6, ML4.1 (WEL), Error ellipse: s-maj=4.9km s-min=2.2km az=83.0*

ISC 16 09:53:43.7±0.7, 42°.61S±0°.03×173°.31E±0°.03, h10km, n135, σ1s59/139, mb4.0/5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KHZ	**Kahutara**	**0.26**	**41**	Pg		**Pb**		**09 53 51.0**	**+0.6**
KHZ				Sg		**Sb**		**09 53 55.0**	**+0.2**
KHZ	**Kahutara**	**0.26**	**41**	P		**Pb**		**09 53 51.0**	**+0.6**
KHZ	**Kahutara**	**0.26**	**41**	P		**Pb**		**09 53 51.1**	**+0.8**
GVZ	**Greta Valley S**	**0.41**	**210**			**Pb**		**09 53 55.1**	**+2.1**
GVZ				Sg		**Sb**		**09 54 02.2**	**+2.8**
GVZ	**Greta Valley S**	**0.41**	**210**	P		**Pb**		**09

TWVZ	Taurewa	3.88	25	P		Pn	09 54 44.6	+1.1	
NNVZ	North Ngauruho	3.89	27	P		Pn	09 54 45.6	+1.9	
WTVZ	West Tongariro	3.89	27	P		Pn	09 54 44.8	+1.1	
EAZ	Earnscleugh	3.90	226	P		Pn	09 54 42.9	-0.7	
ETVZ	East Tongariro	3.92	28	P		Pn	09 54 46.9	+2.9	
KRVZ	Karewarewa	3.93	27	P		Pn	09 54 47.8	+3.6	
TMVZ	Te Maari	3.93	28	P		Pn	09 54 45.5	+1.3	
NTVZ	North Tongarir	3.94	28	P		Pn	09 54 47.8	+3.5	
BKZ	Black Stump Fm	4.20	36	P		Pn	09 54 49.9	+2.1	
HIZ	Hauiti	4.26	17			Pn	09 54 50.5	+2.0	
HIZ	Hauiti	4.26	17	P		Pn	09 54 50.8	+2.3	
HIZ	Hauiti	4.26	17	P		Pn	09 54 50.2	+1.7	
TUZ	Tuapeka	4.26	217	P		Pn	09 54 48.4	-0.2	
MSZ	Milford Sound	4.42	240	P		Pn	09 54 50.0	-0.8	
MLZ	Mavora Lakes	4.65	232			Pn	09 54 53.0	-1.0	
MLZ	Mavora Lakes	4.65	232	P		Pn	09 54 53.0	-1.0	
AWAZ	Awhitu Peninsu	5.63	11	P		Pn	09 55 09.1	+1.6	
APZ	The Paps	5.67	220	P		Pn	09 55 07.4	-0.6	
MKAZ	Moumakai	5.68	15	P		Pn	09 55 09.4	+1.3	
TWGZ	Tauwhareparae	5.68	40	P		Pn	09 55 09.5	+1.3	
WTAZ	Waiatarua	5.75	10	P		Pn	09 55 11.3	+2.2	
ETAZ	East Tamaki Re	5.78	13	P		Pn	09 55 10.8	+1.3	
RVAZ	Riverhead Bore	5.91	10	P		Pn	09 55 12.9	+1.6	
HAZ	Te Kaha	5.93	37	P		Pn	09 55 11.3	-0.2	
MBAZ	Motutapu North	5.96	12	P		Pn	09 55 13.8	+1.9	
KUZ	Kuaotunu	6.14	18	P		Pn	09 55 18.2	+3.8	
	33nm,1.0s								
KUZ	Kuaotunu	6.14	18	P		Pn	09 55 15.2	+0.7	
OUZ	Omahuta	7.38	2	Pn		Pn	09 55 31.9	+0.4	
OUZ	Omahuta	7.38	2	P		Pn	09 55 33.7	+2.3	
OUZ	Omahuta	7.38	2	P		Pn	09 55 34.3	+2.8	
CAN	Canberra	20.21	283	P		P	09 58 18.2	-0.5	
CAN				IAmb		IAmb	09 58 22.9		
	comp=Z,38nm,1.5s								
ONTNC	Ouen Toro	21.04	342	P		P	09 58 26.1	-1.6	
SBA	Scott Base	35.45	182	P		P	10 00 39.0	-0.6	
ASAR	Alice Springs	37.60	287	P		P	10 00 57.6	-1.0	
	comp=Z,0.4nm,0.5s,baz=129,slow=6.8,SNR=11								
	comp=Z,0.4nm,0.5s								
ASAR	Alice Springs	37.60	287	P		P	10 00 58.1	-0.5	
WB2	Warramunga Arr	39.76	292	P		P	10 01 16.6	-0.1	
WB2				IAmb		IAmb	10 01 21.6		
	comp=Z,4.3nm,1.1s								
WRA	Warramunga Arr	39.77	292	P		P	10 01 16.1	-0.7	
	comp=Z,0.5nm,0.9s,baz=129,slow=8.4,SNR=5.5								
	comp=Z,0.5nm,0.9s								
WB0	Warramunga Arr	39.85	293	P		P	10 01 17.2	-0.2	
WB0				IAmb		IAmb	10 01 20.8		
	comp=Z,7.2nm,1.2s								
QSPA	South Pole Qui	47.52	180	P		P	10 02 17.1	-1.8	
QSPA				IAmb		IAmb	10 02 22.5		
	comp=Z,1.7nm,0.8s								
TORD	Torodi Ar. Bea	149.76	196	PKPbc		PKPbc	10 13 34.8	+0.6	
	comp=Z,0.5nm,0.4s,baz=164,slow=3.2,SNR=5.1								

IDC **16** *09:54:52.8±3.3,37.74N×141.73E,h66km±31km,mb3.6/7, mbtmp3.9/10,ML3.3/3,MS2.8/2,Error ellipse: s-maj=34.1km s-min=18.5km az=97.0*
NIED **16** *09:54:52.2,37.89N×141.54E,h60km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr7.91; Mθθ-2.35; Mφφ-5.56; Mrθ-1.08; Mθφ3.45; Mφr1.03; Fault plane solution: M₀7.98000×10¹⁴ NP1: φs150.00000°,δ40.00000°,λ94.00000°. NP2: φs325.00000°,δ50.00000°,λ87.00000°.*
JMA **16** *09:54:52.2±0.1,37.9N±0.2×141.5E±0.3,h60km,MD3.9/40, MV4.0/40,SE OFF MIYAGI PREF*
JMA Felt II J1 at SE OFF MIYAGI PREF .

ISC 16 09:54:51.5±1.1,37.81N±0.04×141.70E±0.07,h53km±9km, n50,σt¹s24/48,mb4.0/7,10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	Ishinomakibobu	0.53	339	P	Pn	09 55 03.5	+0.2
JIKH				S	Sn	09 55 11.5	-0.3
JIKH	Ishinomakibobu	0.53	339	A	A	09 55 03.5	
	comp=E,10.0nm,0.2s,comp=E,16nm,0.4s						
JMST	Minamisoumatoc	0.65	262	*i* P	Pn	09 55 04.7	-0.1
JMST				S	Sn	09 55 13.8	-0.6
JMST	Minamisoumatoc	0.65	262	A	A	09 55 04.7	
	comp=E,11nm,0.6s,comp=E,20nm,0.6s						
JIO	Ouri	0.70	337	P	Pn	09 55 05.2	-0.2
JIO				S	Sn	09 55 14.4	-1.1
JMM	Marumori	0.72	274	P	Pn	09 55 05.2	-0.5
JMM	Marumori	0.72	274	*i* P	Pn	09 55 05.2	-0.5
JMM				S	Sn	09 55 14.5	-1.4
JMM	Marumori	0.72	274	A	A	09 55 05.2	
	comp=E,13nm,1.1s,comp=E,8.0nm,0.5s						
JFK	Kawauchi	0.79	236	⇓*i* P	Pn	09 55 06.9	+0.2
JFK				⇓S	Sn	09 55 17.6	-0.1
JFK	Kawauchi	0.79	236	A	A	09 55 06.9	
	comp=E,5.0nm,1.2s,comp=E,4.0nm,1.3s						
JOU	Okura	0.99	304	*i* P	Pn	09 55 08.3	-0.9
JOU				S	Sn	09 55 20.3	-1.9
JOU	Okura	0.99	304	A	A	09 55 08.3	
	comp=E,10.0nm,0.5s,comp=E,6.0nm,1.0s						
JMK	Ichinoseki	1.20	342	*i* P	Pn	09 55 11.7	-0.3
JMK				S	Sn	09 55 26.1	-1.1
JMK	Ichinoseki	1.20	342	A	A	09 55 11.7	
	comp=E,6.0nm,0.4s,comp=E,4.0nm,0.3s						
JYAR	Yonezawaarcadi	1.24	275	A	A	09 55 11.9	
	comp=E,6.0nm,0.6s,comp=E,9.0nm,1.3s						
JYS	Shirataka	1.35	288	⇓*i* P	Pn	09 55 13.5	-0.6
JYS				⇓S	Sn	09 55 29.9	-1.2
JYS	Shirataka	1.35	288	A	A	09 55 13.5	
	comp=E,10.0nm,0.7s,comp=E,8.0nm,1.1s						
JYK	Kaneyama	1.53	317	*i* P	Pn	09 55 15.9	-0.6
JYK				S	Sn	09 55 33.7	-1.5
JFY	Yanaizu	1.64	256	⇓*i* P	Pn	09 55 17.9	-0.1
JFY				⇓S	Sn	09 55 37.1	-0.8
JOM	Ohasama	1.69	349	⇓*i* P	Pn	09 55 18.3	-0.3
JOM				⇓S	Sn	09 55 38.6	-0.6
JYA	Atsumi	1.75	297	P	Pn	09 55 18.5	-0.9
JYA				S	Sn	09 55 39.9	-0.7
JYA	Atsumi	1.75	297	A	A	09 55 18.5	
	comp=E,5.0nm,0.4s,comp=E,4.0nm,0.9s						
JRG	Rokugo	1.79	332	⇓*i* P	Pn	09 55 20.0	0.0
JRG				⇓S	Sn	09 55 41.4	-0.2
JNS	Sasagawa	1.89	271	P	Pn	09 55 20.8	-0.5
JSD	Sado	2.73	276	P	Pn	09 55 32.4	-0.5
JTM	Tenmabayashi	3.01	351	P	Pn	09 55 37.1	+0.4
MJAR	Matsushiro Arr	3.06	247	P	Pn	09 55 38.6	+1.1
	1.6nm,0.3s,baz=57,slow=11,SNR=48						
MJAR				LR	LR	09 57 01.9	
	comp=Z,101nm,21.2s,baz=68,slow=42						
	24nm,0.8s						
MAJO	Matsushiro	3.07	247	P	Pn	09 55 38.6	+1.1
JGF	Kuroka	4.13	239	P	Pn	09 55 54.6	+2.5
ERM	Erimo	4.34	14	P	Pn	09 55 53.9	-1.1
JEM	Erimo	4.34	14	P	Pn	09 55 54.4	-0.6
INU	Inuyama	4.50	238	P	Pn	09 55 59.1	+1.9
JHJ	Hachijo jima 2	4.94	199	P	Pn	09 56 01.9	-1.2
	14nm,0.3s,baz=84,slow=18,SNR=2.3						
JHJ				S	Sn	09 56 55.6	-3.3
	196nm,0.8s,baz=253,slow=19,SNR=1.5						
	192nm,0.8s						
JHS	Saijyo	7.47	251	P	Pn	09 56 40.4	+2.5
JMN	Monobe	7.55	240	P	Pn	09 56 40.4	+1.4
KSRS	Korea Array	10.94	272	P	Pn	09 57 28.4	+3.2
	0.1nm,0.3s,baz=87,slow=14,SNR=4.9						
	2.2nm,0.8s						
YAK	Yakutsk	25.36	347	LR	LR	10 10 12.2	
	comp=Z,32nm,18.4s,baz=16,slow=36						
H11N2	WAKE ISLAND Hy 28.36	122		T	T	10 31 05.2	
	baz=316,slow=76,SNR=59						
H11N1	WAKE ISLAND Hy 28.37	122		T	T	10 30 57.9	
	baz=316,slow=76,SNR=84						
H11N3	WAKE ISLAND Hy 28.38	122		T	T	10 31 06.4	
	baz=316,slow=76,SNR=57						
H11S1	WAKE ISLAND Hy 29.10	124		T	T	10 31 56.4	
	baz=317,slow=76,SNR=36						
H11S3	WAKE ISLAND Hy 29.10	124		T	T	10 31 58.6	
	baz=317,slow=76,SNR=48						
H11S2	WAKE ISLAND Hy 29.11	124		T	T	10 31 60.0	
	baz=317,slow=76,SNR=24						
KURBB	Kurchatov Arra	45.71	307	P	P	10 03 08.1	+1.0
	1.2nm,0.6s,baz=81,slow=7.8,SNR=2.5						
	1.2nm,0.6s						
ILAR	Eielson Array	48.72	33	P	P	10 03 30.4	+0.1
	0.7nm,1.0s,baz=248,slow=5.2,SNR=4.5						
	0.7nm,1.0s						
INK	Inuvik	53.59	27	P	P	10 04 07.2	+0.5
	0.9nm,0.9s,baz=223,slow=3.3,SNR=3.6						
	0.9nm,0.9s						
WRA	Warramunga Arr	57.86	188	P	P	10 04 37.0	-0.9
	2.7nm,0.7s,baz=6.0,slow=7.3,SNR=25						
	2.7nm,0.7s						
ASAR	Alice Springs	61.59	188	P	P	10 05 03.3	-0.2
	1.0nm,0.8s,baz=10,slow=5.7,SNR=9.4						
	1.0nm,0.8s						
FINES	FINESS Array B	68.23	332	P	P	10 05 44.6	-1.6
	4.1nm,1.1s,baz=50,slow=11,SNR=2.0						
	4.1nm,1.1s						
PDAR	Pinedale Array	76.96	46	P	P	10 06 39.4	+0.7
	0.3nm,0.6s,baz=279,slow=2.9,SNR=3.6						
	0.3nm,0.6s						

TRN 16 09:55:04.7,18°56'N×62°68'W,h81km,MD3.6,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMRT	St. Maarten	0.64	216	*eP*	Pn	09 55 21.6	+1.8
SMRT				*eS*	Sn	09 55 32.8	+1.7
ANWB	Willy Bob	1.23	136	*eP*	Pn	09 55 27.5	+0.8
ANWB				*eS*	Sn	09 55 45.4	+2.3
ANBD	Bethesda, Anti	1.74	150	*eP*	Pn	09 55 34.7	+1.5
ANBD				*eS*	Sn	09 55 56.7	+1.8

SOME **16** *09:56:49.3,43°.73N×84°.08E,h15km*
BJI **16** *09:56:50.6±0.0,43°.77N×83°.98E,h10km,ML3.5/8*
NNC **16** *09:56:52.3±1.2,43°.81N×83°.83E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=10.4km s-min=4.1km az=126.0*

ISC 16 09:56:52.1±1.9,43.82N±0.07×83.98E±0.08,h10km,n30, σ2s30/45,14C-11D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	Jarkent	3.06	281	*eP*	Pb	09 57 46.4	-0.4
	20nm,0.4s						
DJR				*eS*	Sb	09 58 27.4	+3.2
	192nm,0.3s						
DJR	Jarkent	3.06	281	Pg	Pb	09 57 47.1	+0.4
	22nm,0.3s						
DJR				Lg	Lg	09 58 27.2	
	198nm,0.3s						
MK31	Makanchi Array	3.21	339	⇓Pn	Pn	09 57 43.3	+0.7
	1.4nm,0.3s,baz=157,slow=14,SNR=237						
MK31				⇑Pg	Pb	09 57 50.0	+0.9
	3.5nm,0.2s,baz=147,slow=15,SNR=62						
MK31				⇑Sn	Sn	09 58 23.8	+2.9
	6.4nm,0.2s						
MK31				⇑Lg	Lg	09 58 32.7	
	40nm,0.5s,baz=151,slow=28						
PDGK	Podgornoye	3.30	263	Pg	Pb	09 57 50.8	0.0
	11nm,0.3s						
PDGK				Lg	Lg	09 58 33.4	
	50nm,0.5s						
PDGK	Podgornoye	3.30	263	⇓Pn	Pn	09 57 45.2	+1.2
	5.3nm,0.3s						
PDGK				⇑Lg	Lg	09 58 30.6	
	54nm,0.4s						
MAKZ	Makanchi	3.31	335	⇑Pn	Pn	09 57 44.4	+0.4
	2.8nm,0.6s						
MAKZ				⇑Pg	Pb	09 57 51.9	+1.0
	12nm,0.4s						
MAKZ				⇑Lg	Lg	09 58 35.7	
	61nm,0.8s						
SHLS	Shalkode	3.35	260	*eP*	Pn	09 57 45.5	+0.8
	39nm,0.3s						
SHLS				*eS*	Sn	09 58 25.4	+0.8
	292nm,0.4s						
SHLS	Shalkode	3.35	260	Pg	Pn	09 57 42.2	-2.5
SHLS				Pg	Pb	09 57 46.0	-5.8
	29nm,0.3s						
SHLS				Lg	Lg	09 58 24.7	
SHLS				Lg	Lg	09 58 24.8	
	212nm,0.4s						
UZB	Uzunbulak	3.67	261	*eP*	Pb	09 57 57.5	+0.4
	13nm,0.3s						
UZB				*eS*	Sb	09 58 46.1	+4.4
	36nm,0.6s						
UZB	Uzunbulak	3.67	261	Pg	Pb	09 57 55.7	-1.4
	9.5nm,0.3s						
UZB				Pg	Pg	09 57 58.2	-4.2
	13nm,0.4s						
UZB				Lg	Lg	09 58 45.7	
	36nm,0.5s						
UZB				Lg	Lg	09 58 46.7	
	36nm,0.6s						
ZSN	Zaisan	3.69	9	*eP*	Pb	09 57 56.7	-0.6
	4.5nm,0.4s						
ZSN				*eS*	Sb	09 58 44.6	+2.5
	72nm,0.4s						
ZSN	Zaisan	3.69	9	Pg	Pb	09 57 59.1	+1.8
	19nm,0.3s						
ZSN				Lg	Lg	09 58 48.4	
	65nm,0.3s						
KPKS	Kokpek	3.86	267	*eP*	Pb	09 58 00.5	+0.1
	15nm,0.2s						
KPKS				*eS*	Sb	09 58 51.4	+4.2
	124nm,0.4s						
KPKS	Kokpek	3.86	267	Pg	Pb	09 57 58.2	-2.2
	8.9nm,0.1s						
KPKS				Pg	Pg	09 58 01.3	-4.7
	16nm,0.2s						
KPKS				Lg	Lg	09 58 51.4	
	124nm,0.4s						
KPKS				Lg	Lg	09 58 51.5	
	121nm,0.3s						
BLB	Baldybastay	3.98	276	*eP*	Pb	09 58 03.4	+0.9
	27nm,0.6s						
BLB				*eS*	Sg	09 58 56.5	-3.5
	215nm,0.4s						
SATY	Saty	4.13	261	*eP*	Pb	09 58 06.3	+1.4
	7.2nm,0.3s						
SATY				*eS*	Sg	09 59 01.4	-3.3
	74nm,0.2s						
SATY	Saty	4.13	261	Pg	Pb	09 58 04.3	-0.7
	10.0nm,0.3s						
SATY				Lg	Lg	09 58 56.5	
	58nm,0.6s						
TDK	Taldyqorghan	4.17	288	Pg	Pb	09 58 08.0	+2.5
	67nm,0.4s						
TDK				Lg	Lg	09 59 02.8	
	392nm,0.8s						
ARXS	Arharly	4.46	277	*eP*	Pb	09 58 11.1	+0.6
	7.1nm,0.3s						
ARXS				*eS*	Sb	09 59 09.6	+5.3
	63nm,0.6s						
ARXS	Arharly	4.46	277	Pg	Pb	09 58 11.6	+1.1
	18nm,0.5s						
KOTS	Kotyrbulak	5.03	266	*eP*	Pb	09 58 23.3	+3.0
	12nm,0.5s						
KOTS				*eS*	Sg	09 59 30.1	-3.4
	93nm,0.6s						
KOTS	Kotyrbulak	5.03	266	Pg	Pb	09 58 20.5	+0.2
	12nm,0.5s						
CHKK	Chushkaly	5.06	273	Pg	Pb	09 58 22.3	+1.6
	5.9nm,0.3s						
CHKK				Lg	Lg	09 59 27.2	
	33nm,0.2s						
MDOK	Medeo	5.09	265	⇓Pn	Pn	09 58 09.1	+0.5
	4.0nm,0.4s						
MDOK				Pg	Pb	09 58 24.4	+3.1
	5.1nm,0.2s						
MDOK				⇓Pg	Pg	09 58 27.1	-2.4
	6.4nm,0.4s						
MDOK				Lg	Lg	09 59 30.7	
	39nm,0.5s						
MDOK				⇓Lg	Lg	09 59 32.5	
	26nm,0.5s						
TKM2	Tokmak 2	6.18	265	⇑Pn	Pn	09 58 25.7	+2.1
	5.8nm,0.6s						
TKM2				⇓Lg	Lg	10 00 07.4	
	14nm,0.7s						
CHMS	Chumysh	6.77	266	⇑Lg	Lg	10 00 26.6	
	15nm,0.7s						
KURBB	Kurchatov Arra	7.75	333	⇓Pn	Pn	09 58 43.8	-1.2
	1.6nm,0.4s,baz=144,slow=12						
KURBB				⇑Sn	Sn	10 00 10.7	-2.0
	13nm,0.6s						
KURBB				⇓Lg	Lg	10 00 56.7	
	45nm,0.8s						
KURK	Kurchatov	7.80	334	⇑Pn	Pn	09 58 44.5	-1.1
	1.2nm,0.6s						
KURK				⇓Sn	Sn	10 00 10.9	-3.1
	6.8nm,0.6s						
KURK				⇑Lg	Lg	10 00 54.5	
	16nm,0.7s						
OTUK	Ortayu	9.23	303	⇓Pn	Pn	09 59 07.2	+2.0
	3.5nm,1.1s						
OTUK				⇑Sn	Sn	10 00 45.4	-3.6
	2.3nm,0.5s						
OTUK				⇓Lg	Lg	10 01 45.6	
	16nm,0.7s						
KK31	Karatay Array	9.82	270	⇑Lg	Lg	10 02 05.4	
	2.4nm,0.6s,baz=72,slow=28,SNR=5.2						

WEL 16 09:59:25.7±0.3,42°S±3°×17°4E±°,h5km,M3.4/34, ML3.6/18,MLv3.4/34,Error ellipse: s-maj=0.0km s-min=0.0km az=142.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	Blackbirch Sta	0.35	11	P	Pg	09 59 32.9	+0.4
KHZ	Kahutara	0.40	208	P	Pg	09 59 33.5	+0.2
CMWZ	Cape Campbell	0.45	46	P	Pb	09 59 35.4	-0.6
TUWZ	Tuamarina	0.64	10	P	Pg	09 59 38.5	+0.5
THZ	Tophouse	0.72	294	P	Pg	09 59 39.5	-0.1
NNZ	Nelson	0.90	340	P	Pg	09 59 42.7	-0.2
TCW	Tory Channel	0.93	23	P	Pg	09 59 43.3	-0.1
MRNZ	Matariki Terra	1.02	310	P	Pg	09 59 45.1	0.0
GVZ	Greta Valley S	1.06	211	P	Pg	09 59 46.2	+0.2
WEL	Wellington	1.07	44	P	Pb	09 59 46.6	0.0
PLWZ	Palliser	1.20	66	P	Pg	09 59 47.8	-0.9
TKNZ	Takaka Hill	1.20	329	P	Pg	09 59 48.2	-0.4
DUWZ	D'Urville Isla	1.26	5	P	Pg	09 59 49.4	-0.4
MSWZ	Moikau Station	1.27	60	P	Pg	09 59 48.7	-1.3
LTZ	Lake Taylor	1.33	237	P	Pn	09 59 50.2	-0.8
CAW	Cannon Point	1.35	46	P	Pn	09 59 50.3	-0.9
AMCZ	Amberley	1.39	217	P	Pn	09 59 50.4	-1.3
PAWZ	Paruwai Farm	1.40	62	P	Pn	09 59 50.3	-1.6
KIW	Kapiti Island	1.47	35	P	Pn	09 59 52.5	-0.3
DSZ	Dennistone Nort	1.51	281	P	Pb	09 59 54.3	0.0
QRZ	Quartz Range	1.56	322	P	Pn	09 59 54.2	+0.2
TRWZ	Traveller	1.57	66	P	Pn	09 59 52.3	-1.9
MTW	Mount Morrison	1.57	55	P	Pn	09 59 52.5	-1.7
OGWZ	Otaki Gorge	1.62	40	P	Pn	09 59 54.0	-0.8
HOWZ	Holdsworth Sta	1.74	49	P	Pb	09 59 58.6	+0.4
OKCZ	Okains Bay	1.74	198	P	Pn	09 59 54.6	-2.0
OXZ	Oxford	1.81	225	P	Pn	09 59 55.5	-1.9
MQZ	McQueen's Vall	1.84	207	P	Pn	09 59 55.3	-2.6
INZ	Inchbonnie	1.86	248	P	Pn	09 59 57.9	-0.2
AKCZ	Akaroa Harbour	1.92	199	P	Pn	09 59 56.9	-2.2
MRZ	Mangatainoka R	1.94	44	P	Pn	09 59 58.3	-1.0
RACZ	Rakaia	2.06	216	P	Pn	09 59 58.6	-2.2
OHWZ	Ohakea	2.19	32	P	Pb	10 00 04.9	-0.8
MHCZ	Mount Hutt	2.20	227	P	Pn	10 00 00.8	-2.0
WACZ	Wakanui South	2.36	217	P	Pn	10 00 02.8	-2.3
WAZ	Wanganui	2.48	22	P	Pb	10 00 09.8	-0.9
TSZ	Takapari Road	2.59	40	P	Pn	10 00 08.3	+0.1
RPZ	Rata Peaks	2.60	230	P	Pn	10 00 06.6	-1.8
LREZ	Lake Rotokare	2.64	10	P	Pb	10 00 12.7	-0.7
ARCZ	Arundel	2.69	225	P	Pn	10 00 07.5	-2.1
KHEZ	Kahui Hut	2.77	4	P	Pb	10 00 16.1	+0.4
NBEZ	Newall Road No	2.79	1	P	Pb	10 00 17.6	+1.6
NEZ	North Egmont	2.80	5	P	Pb	10 00 16.6	+0.5
PNHZ	Pukenui	2.82	41	P	Pb	10 00 17.3	+0.8
GCSZ	Gaunt Creek Bo	2.84	243	P	Pn	10 00 11.7	0.0
PKE	Pukeiti	2.87	3	P	Pb	10 00 16.7	-0.6
MTVZ	Mangateitei	2.96	26	P	Pb	10 00 17.1	-1.9
VRZ	Vera Road	3.03	14	P	Pb	10 00 18.0	-2.0
MOVZ	Moawhango	3.04	30	P	Pb	10 00 19.2	-1.2
WNVZ	Wahianoa	3.06	27	P	Pb	10 00 18.1	-2.6
TRVZ	Turoa	3.07	26	P	Pb	10 00 20.2	-0.7
TMZ	Timaru	3.08	220	P	Pn	10 00 13.1	-1.9
DSZ	Dome Shelter	3.10	26	P	Pb	10 00 20.7	-0.7
BHHZ	Black Hill Sta	3.10	35	P	Pb	10 00 21.4	-0.2
WHVZ	Whangaehu Hut	3.10	27	P	Pb	10 00 20.7	-0.7
FWVZ	Far West T-bar	3.11	26	P	Pb	10 00 21.0	-0.5
NGZ	Ngauruhoe	3.20	26	P	Pb	10 00 22.2	-0.8
OTVZ	Oturere	3.23	27	P	Pb	10 00 22.5	-1.1
NNVZ	North Ngauruho	3.24	26	P	Pb	10 00 22.9	-0.9
ETVZ	East Tongariro	3.27	27	P	Pb	10 00 24.0	-0.2
FOZ	Fox Glacier	3.27	242	P	Pn	10 00 17.5	0.0
TMVZ	Te Maari	3.29	27	P	Pb	10 00 23.3	-1.2
NTVZ	North Tongarir	3.29	27	P	Pb	10 00 23.5	-1.1
LBZ	Lake Benmore	3.51	227	P	Pn	10 00 19.4	-1.5
BKZ	Black Stump Fm	3.55	36	P	Pb	10 00 27.8	-1.2
HIZ	Hauiti	3.64	13	P	Pn	10 00 26.5	+3.9
ODZ	Otahua Downs	3.75	216	P	Pn	10 00 21.7	-2.5
JCZ	Jackson Bay	4.18	240	P	Pn	10 00 29.1	-1.1
HHSZ	Highcliff Hill	4.46	210	P	Pn	10 00 31.8	-2.1
TOZ	Tahuroa Road	4.52	18	P	Pn	10 00 39.1	+4.3
EAZ	Earnscleugh	4.54	224	P	Pn	10 00 32.9	-2.1
MKAZ	Moumakai	5.07	13	P	Pn	10 00 45.4	+3.2
ETAZ	East Tamaki Re	5.18	10	P	Pn	10 00 46.8	+3.1
MLZ	Mavora Lakes	5.27	229	P	Pn	10 00 43.1	-2.0
SYZ	Scrubby Hill	5.58	215	P	Pn	10 00 47.3	-1.9
WHZ	Wether Hill Ro	5.69	226	P	Pn	10 00 48.0	-2.8

WEL 16 10:00:07.0,40°S±50°×17°6E±1°9,h25km±52km,M2.6/8, MLv2.6/8,Error ellipse: s-maj=0.1km s-min=0.0km az=4.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WPHZ	Waipukurau	0.62	88	P	Pb	10 00 19.5	+0.2
PRHZ	Porangahau	0.79	104	P	Pb	10 00 20.8	-1.3
SNVZ	South Ngauruho	0.90	1	P	Pb	10 00 23.5	-0.6
KWHZ	Kaweka Forest	0.90	43	P	Pn	10 00 24.5

RPZ	**Rata Peaks**	**2.52**	**237**	P		Pn	10 12 52.4	-1.9
ARCZ	**Arundel**	**2.58**	**232**	P		Pn	10 12 53.3	-1.7
WAZ	**Wanganui**	**2.73**	**17**	P		Pb	10 13 00.2	-1.7
GCSZ	**Gaunt Creek Bo**	**2.84**	**250**	P		Pn	10 12 57.9	-0.7
TMZ	**Timaru**	**2.95**	**226**	P		Pn	10 12 59.2	-0.9
FOZ	**Fox Glacier**	**3.26**	**248**	P		Pn	10 13 04.2	-0.1
WNVZ	**Wahianoa**	**3.29**	**23**	P		Pb	10 13 09.0	-2.5
VRZ	**Vera Road**	**3.31**	**11**	P		Pn	10 13 05.8	+0.8
LBZ	**Lake Benmore**	**3.41**	**233**	P		Pn	10 13 05.7	-0.8
ODZ	**Otahua Downs**	**3.59**	**221**	P		Pn	10 13 07.5	-1.5
HIZ	**Hauiti**	**3.92**	**10**	P		Pn	10 13 14.7	+1.3
JCZ	**Jackson Bay**	**4.15**	**244**	P		Pn	10 13 15.4	-1.3
RAHZ	**Arahi**	**4.19**	**35**	P		Pn	10 13 14.4	-2.7
TOZ	**Tahuroa Road**	**4.79**	**15**	P		Pn	10 13 25.4	0.0
AWAZ	**Awhitu Peninsu**	**5.33**	**6**	P		Pn	10 13 33.1	+0.2
MKAZ	**Moumakai**	**5.35**	**10**	P		Pn	10 13 32.5	-0.5

WEL 16 10:24:53.6±0.7, 34°S±5°×18°0W±1°, 1, h33km, M4.8/19, mB5.5/2, ML4.8/16, MLv4.8/19, Mw(mB)5.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=107.6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.82**	**201**	P	Pn	10 25 51.7	+1.6
MXZ				S	Sn	10 26 33.5	-0.4
WMGZ	**Waiomatatini S**	**4.03**	**199**	P	Pn	10 25 54.5	+1.5
WMGZ				S	Sn	10 26 38.4	-0.6
HAZ	**Te Kaha**	**4.17**	**206**	P	Pn	10 25 56.2	+1.3
HAZ				S	Sn	10 26 41.2	-1.3
PKGZ	**Pakihiroa**	**4.19**	**202**	P	Pn	10 25 56.1	+0.8
PKGZ				S	Sn	10 26 44.2	+1.0
WIZ	**White Island**	**4.22**	**213**	P	Pn	10 25 58.4	+2.9
PUZ	**Puketiti**	**4.31**	**199**	P	Pn	10 25 57.2	+0.3
PUZ				S	Sn	10 26 44.9	-1.1
GRZ	**Great Barrier**	**4.39**	**238**	P	Pn	10 25 57.0	-0.9
RUGZ	**Raukumara Rang**	**4.40**	**205**	P	Pn	10 25 58.6	+0.5
KUZ	**Kuaotunu**	**4.48**	**231**	P	Pn	10 25 59.1	-0.1
TWGZ	**Tauwhareparae**	**4.49**	**202**	P	Pn	10 26 00.3	+1.0
CNGZ	**Carnagh Station**	**4.71**	**198**	P	Pn	10 26 02.7	+0.4
TKGZ	**Te Karaka**	**4.77**	**201**	P	Pn	10 26 02.6	-0.5
OPRZ	**Ohinepanea**	**4.77**	**216**	P	Pn	10 26 02.9	-0.2
MWZ	**Matawai**	**4.78**	**205**	P	Pn	10 26 02.8	-0.5
TGRZ	**Tauranga**	**4.83**	**219**	P	Pn	10 26 05.3	+1.4
URZ	**Urewera**	**4.87**	**209**	P	Pn	10 26 03.7	-0.8
GLKZ	**Green Lake**	**5.03**	**20**	S	Sn	10 27 03.1	-0.7
RIGZ	**Rimuhau**	**5.04**	**201**	P	Pn	10 26 05.7	-1.2
MKAZ	**Moumakai**	**5.05**	**231**	P	Pn	10 26 06.6	-0.4
WCZ	**Waipu Caves**	**5.08**	**246**	P	Pn	10 26 05.7	-1.7
MUGZ	**Murupara**	**5.19**	**210**	P	Pn	10 26 08.6	-0.4
TOZ	**Tahuroa Road**	**5.25**	**224**	P	Pn	10 26 11.4	+1.7
WTAZ	**Waiatarua**	**5.35**	**235**	P	Pn	10 26 13.7	+2.6
KNZ	**Kokohu**	**5.36**	**200**	P	Pn	10 26 09.2	-2.1
MHGZ	**Mahia Peninsul**	**5.42**	**198**	P	Pn	10 26 10.6	-1.5
ALRZ	**Allen Road**	**5.45**	**212**	P	Pn	10 26 11.2	-1.3
MTHZ	**Maungataniwha**	**5.49**	**207**	P	Pn	10 26 12.5	-0.5
WHHZ	**Waihua**	**5.55**	**203**	P	Pn	10 26 11.8	-2.0
MRHZ	**Matea Rd**	**5.64**	**210**	P	Pn	10 26 14.1	-1.1
ARHZ	**Aropaoanui**	**5.80**	**204**	P	Pn	10 26 14.9	-2.3
BKZ	**Black Stump Fm**	**5.89**	**208**	P	Pn	10 26 16.8	-1.8
MCHZ	**McNeill Hill**	**6.06**	**206**	P	Pn	10 26 18.2	-2.7
CKHZ	**Cape Kidnapper**	**6.13**	**202**	P	Pn	10 26 19.1	-2.6
KAHZ	**Kahuranaki**	**6.31**	**203**	P	Pn	10 26 21.2	-3.2
BHHZ	**Black Hill Sta**	**6.34**	**209**	P	Pn	10 26 21.8	-3.0
PXZ	**Pawanui**	**6.53**	**202**	P	Pn	10 26 22.5	-4.8
PRHZ	**Porangahau**	**6.82**	**203**	P	Pn	10 26 26.5	-4.8
TSZ	**Takapari Road**	**6.87**	**207**	P	Pn	10 26 28.4	-3.6

*NOU **16** 10:47:25.2, 31°.7S×176°.07W, h328km, mb4.3/5, Kermadec Islands Region*
*IDC **16** 10:47:47.0±1.5, 32°.53S×178°.59W, h0km, mb4.6/3, mbtmp4.6/5, ML4.3/2, MS3.2/5, Error ellipse: s-maj=39.1km s-min=29.6km az=137.0*
*NEIC **16** 10:47:55.2±0.8, 32°.34S±0°.06×178°.7W±0°.2, h54km±10km, mb4.5/14, Error ellipse: s-maj=26.8km s-min=2.9km az=108.0*
ISC 16 10:47:52.8±0.9, 32°38S±0°.08×178°.5W±0°.1, h35km, n35, σ1s84/31, mb4.6/11, MS3.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.16**	**9**	Pn	**Pn**	**10 48 42.3**	**+2.2**
	59nm,0.3s,baz=270,slow=20,SNR=1.5						
RAO				Sn	**Sn**	**10 49 16.0**	**-0.6**
	50nm,0.3s,baz=73,slow=20,SNR=3.4 151nm,0.3s						
RAO	**Raoul Island**	**3.16**	**9**	Pn	**Pn**	**10 48 42.2**	**+2.1**
MXZ	**Matakaoa Point**	**5.79**	**206**	Pn	**Pn**	**10 49 18.3**	**+2.1**
MXZ	**Matakaoa Point**	**5.79**	**206**	P	**Pn**	**10 49 18.3**	**+2.1**
KUZ	**Kuaotunu**	**6.45**	**226**	P	**Pn**	**10 49 29.1**	**+3.9**
URZ	**Urewera**	**6.87**	**210**	P	**Pn**	**10 49 31.5**	**+0.5**
OUZ	**Omahuta**	**7.16**	**245**	Pn	**Pn**	**10 49 37.9**	**+2.9**
OUZ	**Omahuta**	**7.16**	**245**	P	**Pn**	**10 49 38.0**	**+3.1**
BKZ	**Black Stump Fm**	**7.89**	**210**	P	**Pn**	**10 49 43.9**	**-1.2**
RPZ	**Rata Peaks**	**13.97**	**215**	Pn	Pn	10 51 02.1	-6.1
	0.8nm,0.3s,baz=158,slow=16,SNR=3.2 11nm,0.8s						
MSVF	**Nonsavu**	**14.92**	**347**	LR	LR	10 55 42.6	
	comp=Z,100nm,19.2s,baz=75,slow=32						
DZM	**Mont Dzumac**	**16.86**	**304**	LR	LR	10 56 43.8	
	comp=Z,98nm,18.3s,baz=29,slow=32						
RAR	**Rarotonga**	**20.05**	**61**	LR	LR	10 58 57.8	
	comp=Z,24nm,20.3s,baz=226,slow=33						
EIDS	**Eidsvold**	**27.47**	**277**	P	**P**	**10 53 35.6**	**-0.1**
EIDS				IAmb	IAmb	10 53 52.5	
	comp=Z,8.4nm,1.2s						
STKA	**Stephens Creek**	**33.66**	**260**	LR	LR	11 07 19.4	
	comp=Z,56nm,18.1s,baz=173,slow=35						
CTA	**Charters Tower**	**33.75**	**283**	P	**P**	**10 54 31.6**	**+0.5**
	comp=Z,5.7nm,0.5s,baz=115,slow=10,SNR=11 comp=Z,5.7nm,0.5s						
CTAO	**Charters Tower**	**33.75**	**283**	P	**P**	**10 54 30.0**	**-1.2**
BBOO	**Buckleboo**	**38.05**	**257**	P	**P**	**10 55 06.3**	**-1.6**
COEN	**Coen**	**39.45**	**289**	P	**P**	**10 55 18.0**	**-1.8**
COEN				IAmb	IAmb	10 55 44.0	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**42.61**	**269**	P	**P**	**10 55 44.2**	**-1.6**
ASAR	**Alice Springs**	**42.61**	**269**	P	**P**	**10 55 44.2**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=105,slow=7.6,SNR=78 comp=Z,3.7nm,0.6s						
WR0	**Warramunga Arr**	**43.60**	**275**	P	**P**	**10 55 52.4**	**-1.4**
WR0				IAmb	IAmb	10 55 52.9	
	comp=Z,4.2nm,0.8s						
WB2	**Warramunga Arr**	**43.77**	**274**	P	**P**	**10 55 53.8**	**-1.4**
WB2				IAmb	IAmb	10 55 53.9	
	comp=Z,7.3nm,0.5s						
WRAB	**Tennant Creek**	**43.78**	**275**	P	**P**	**10 55 53.7**	**-1.5**
WRAB				IAmb	IAmb	10 55 54.2	
	comp=Z,4.2nm,0.7s						
WRA	**Warramunga Arr**	**43.78**	**274**	P	**P**	**10 55 53.5**	**-1.8**
	comp=Z,3.8nm,0.3s,baz=112,slow=8.0,SNR=265						
WRA				LR	LR	11 14 05.3	
	comp=Z,54nm,19.1s,baz=78,slow=36 comp=Z,3.8nm,0.3s						
WRA	**Warramunga Arr**	**43.78**	**274**	P	**P**	**10 55 53.8**	**-1.4**
WB0	**Warramunga Arr**	**43.81**	**275**	P	**P**	**10 55 54.0**	**-1.6**
WB0				IAmb	IAmb	10 55 54.4	
	comp=Z,6.7nm,0.8s						
FORT	**Forrest**	**45.15**	**257**	P	**P**	**10 56 04.0**	**-2.1**
VNDA	**Vanda**	**46.08**	**186**	P	**P**	**10 56 13.0**	**+0.2**
KNRA	**Kununurra**	**50.46**	**276**	P	**P**	**10 56 45.8**	**-1.5**
KNRA				IAmb	IAmb	10 56 55.8	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**	**10 57 42.4**	**+2.6**
QSPA				IAmb	IAmb	10 57 47.8	
	comp=Z,5.6nm,0.6s						
FINES	**FINESS Array B**	**146.84**	**339**	PKPbc	**PKPdf**	**11 07 29.0**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=46,slow=4.0,SNR=17						
NB2	**NORSAR Subarra**	**150.64**	**350**	PKP	**PKPbc**	**11 07 39.5**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**150.64**	**350**	PKPbc	**PKPbc**	**11 07 39.6**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=15,slow=4.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**160.85**	**181**	PKPab	**PKPab**	**11 08 31.9**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=183,slow=4.5,SNR=4.2						

IDC 16 10:53:39.5±5.3, 29°29S×178°29W, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=268.1km s-min=82.1km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.93**	**266**	P	P	11 01 39.6	-0.7
	0.1nm,0.5s,baz=107,slow=7.8,SNR=1.3 0.1nm,0.5s						
WRA	**Warramunga Arr**	**43.81**	**271**	P	P	11 01 47.8	+0.3
	0.3nm,0.4s,baz=111,slow=7.9,SNR=8.8 0.3nm,0.4s						
FINES	**FINESS Array B**	**144.01**	**340**	PKP	PKPdf	11 13 15.6	-0.7
	1.4nm,0.4s,baz=59,slow=4.6,SNR=14						

*AEIC **16** 10:57:14.5±3.7, 51°.8N±0°.2×178°.6E±0°.1, h111km±9km, ML3.0, Error ellipse: s-maj=23.6km s-min=8.8km az=192.0*
*NEIC **16** 10:57:15.7±4.0, 51°.8N±0°.3×178°.6E±0°.1, h105km±21km, Error ellipse: s-maj=37.6km s-min=9.0km az=187.0*
*IDC **16** 10:57:20.3±3.8, 52°.73N×177°.88E, h177km±48km, mb2.7/4, mbtmp3.3/5, Error ellipse: s-maj=109.0km s-min=22.0km az=147.0*
ISC 16 10:57:14.8±0.9, 52°0N±0°.2×178°52E±0°.06, h113km, n13, σ1s69/14, mb3.2/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.77**	**141**		**Pn**	**10 57 32.7**	**-1.3**
KIWB	**Kanaga Island**	**2.68**	**91**		**Sn**	**10 58 29.4**	**+0.6**
SHEM	**Shemya Is, Ala**	**2.81**	**287**	P	**Pn**	**10 58 01.6**	**+3.2**
	25nm,0.3s,baz=235,slow=4.1,SNR=2.7						
SHEM				S	**Sn**	**10 58 31.8**	**-0.1**
	31nm,0.3s,baz=269,slow=18,SNR=8.4						
ADK	**Adak**	**2.97**	**90**	Pn	**Pn**	**10 57 59.8**	**-0.6**
GSTR	**Great Sitkin T**	**3.35**	**86**	Pn	**Pn**	**10 58 05.5**	**+0.1**
NIKH	**Nikolski High**	**7.77**	**78**		**Pn**	**10 59 07.0**	**+2.0**
UNV	**Unalaska Valle**	**9.24**	**72**		**Pn**	**10 59 27.3**	**+2.5**
SDPT	**Sand Point**	**12.89**	**67**	Pn	**Pn**	**11 00 13.1**	**-0.5**
CNBA	**Chernabura Isl**	**13.35**	**69**	Pn	**Pn**	**11 00 17.7**	**-1.9**
ILAR	**Eielson Array**	**21.85**	**41**	P	**P**	**11 01 55.8**	**-2.1**
	0.2nm,0.6s,baz=250,slow=9.1,SNR=1.7 0.2nm,0.6s						
PDAR	**Pinedale Array**	**47.70**	**71**	P	**P**	**11 05 39.5**	**-0.6**
	0.3nm,0.7s,baz=332,slow=7.3,SNR=2.3 0.3nm,0.7s						
TXAR	**Lajitas Array**	**60.20**	**80**	P	**P**	**11 07 11.1**	**+0.3**
	0.2nm,0.7s,baz=327,slow=6.5,SNR=4.8 0.2nm,0.7s						
WRA	**Warramunga Arr**	**81.33**	**222**	P	**P**	**11 09 18.5**	**0.0**
	0.3nm,0.7s,baz=33,slow=5.8,SNR=5.9 0.3nm,0.7s						

WEL 16 11:19:54.5±0.3, 43°S±2°×17°3E±°, h5km, M3.4/25, ML3.6/12, MLv3.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=102.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.34**	**151**	P	Pg	11 20 01.6	+0.5
GVZ				S	Sb	11 20 07.3	-1.5
LTZ	**Lake Taylor**	**0.41**	**254**	P	Pg	11 20 02.8	+0.3
LTZ				S	Sg	11 20 09.2	+1.3
AMCZ	**Amberley**	**0.52**	**193**	P	Pb	11 20 05.4	-0.7
KHZ	**Kahutara**	**0.59**	**65**	P	Pg	11 20 06.2	+0.3
OXZ	**Oxford**	**0.87**	**221**	P	Pb	11 20 11.6	-0.4
THZ	**Tophouse**	**0.91**	**4**	P	Pg	11 20 11.6	-0.3
INZ	**Inchbonnie**	**1.01**	**266**	P	Pg	11 20 13.7	-0.2
MQZ	**McQueen's Vall**	**1.04**	**186**	P	Pg	11 20 13.4	-1.1
OKCZ	**Okains Bay**	**1.07**	**170**	P	Pg	11 20 14.0	-1.0
RACZ	**Rakaia**	**1.17**	**205**	P	Pg	11 20 15.7	-1.2
DSZ	**Denniston Nort**	**1.19**	**321**	P	Pb	11 20 17.6	+0.1
AKCZ	**Akaroa Harbour**	**1.20**	**177**	P	Pg	11 20 15.9	-1.7
BSWZ	**Blackbirch Sta**	**1.24**	**40**	P	Pg	11 20 17.9	-0.4
MHCZ	**Mount Hutt**	**1.25**	**226**	P	Pg	11 20 18.0	-0.5
MRNZ	**Matariki Terra**	**1.27**	**358**	P	Pg	11 20 18.6	-0.3
WACZ	**Wakanui South**	**1.46**	**209**	P	Pn	11 20 19.5	-2.0
TUWZ	**Tuamarina**	**1.50**	**35**	P	Pn	11 20 22.2	+0.2
NNZ	**Nelson**	**1.51**	**16**	P	Pb	11 20 22.8	-0.3
WVZ	**Waitaha Valley**	**1.58**	**254**	P	Pn	11 20 23.3	+0.2
TKNZ	**Takaka Hill**	**1.64**	**4**	P	Pn	11 20 24.0	0.0
RPZ	**Rata Peaks**	**1.66**	**230**	P	Pn	11 20 22.5	-1.8
ARCZ	**Arundel**	**1.75**	**223**	P	Pn	11 20 24.0	-1.6
GCSZ	**Gaunt Creek Bo**	**1.93**	**250**	P	Pn	11 20 28.6	+0.5
DUWZ	**D'Urville Isla**	**2.04**	**24**	P	Pb	11 20 31.5	-0.6
TMZ	**Timaru**	**2.16**	**217**	P	Pn	11 20 31.5	+0.4
MSWZ	**Moikau Station**	**2.21**	**56**	P	Pn	11 20 30.0	-1.7
FOZ	**Fox Glacier**	**2.36**	**248**	P	Pn	11 20 34.5	+0.7
ODZ	**Otahua Downs**	**2.84**	**213**	P	Pn	11 20 38.3	-2.2
JCZ	**Jackson Bay**	**3.25**	**243**	P	Pn	11 20 47.0	+0.7
NMEZ	**Namu Road**	**3.35**	**14**	P	Pn	11 20 50.7	+3.1
NBEZ	**Newall Road No**	**3.49**	**14**	P	Pn	11 20 52.1	+2.6
PKE	**Pukeiti**	**3.58**	**15**	P	Pn	11 20 53.7	+2.9
MOVZ	**Moawhango**	**3.95**	**35**	P	Pb	11 21 01.4	-3.1
BHHZ	**Black Hill Sta**	**4.02**	**39**	P	Pb	11 21 02.6	-3.1
OTVZ	**Oturere**	**4.12**	**33**	P	Pb	11 21 04.7	-2.8
WTVZ	**West Tongariro**	**4.13**	**32**	P	Pb	11 21 04.6	-3.1
HIZ	**Hauiti**	**4.43**	**21**	P	Pn	11 21 04.6	+2.1
TOZ	**Tahuroa Road**	**5.35**	**24**	P	Pn	11 21 16.9	+1.9
AWAZ	**Awhitu Peninsu**	**5.77**	**15**	P	Pn	11 21 23.7	+2.9
MKAZ	**Moumakai**	**5.84**	**19**	P	Pn	11 21 23.5	+1.7

*IDC **16** 11:39:56.1±2.5, 42°.55S×173°.14E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=50.0km s-min=35.1km az=122.0*
*WEL **16** 11:39:58.0±0.4, 43°S±3°×17°3E±°, h5km, M3.5/22, ML3.8/13, MLv3.5/22, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8*
ISC 16 11:39:57.0±0.8, 42°.62S±0°.03×173°.40E±0°.04, h10km, n64, σ1s105/67, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.23**	**27**	P	**Pg**	**11 40 01.8**	**+0.1**
KHZ				S	**Sg**	**11 40 06.0**	**+1.3**
GVZ	**Greta Valley S**	**0.44**	**218**	P	**Pb**	**11 40 08.2**	**+1.3**
GVZ				S	**Sb**	**11 40 16.0**	**+2.5**
AMCZ	**Amberley**	**0.78**	**224**	P	**Pb**	**11 40 14.1**	**+1.4**
LTZ	**Lake Taylor**	**0.85**	**259**	P	**Pg**	**11 40 13.7**	**+0.3**
THZ	**Tophouse**	**0.93**	**337**	P	**Pg**	**11 40 14.0**	**-1.0**
BSWZ	**Blackbirch Sta**	**0.97**	**21**	P	**Pb**	**11 40 15.9**	**0.0**
CMWZ	**Cape Campbell**	**1.06**	**35**	P	**Pb**	**11 40 18.1**	**+0.7**
OKCZ	**Okains Bay**	**1.13**	**193**	P	**Pb**	**11 40 19.4**	**+0.7**
MQZ	**McQueen's Vall**	**1.22**	**206**	P	**Pn**	**11 40 19.7**	**-0.4**
OXZ	**Oxford**	**1.23**	**234**	P	**Pn**	**11 40 19.4**	**-0.8**
TUWZ	**Tuamarina**	**1.25**	**19**	P	**Pb**	**11 40 20.7**	**0.0**
AKCZ	**Akaroa Harbour**	**1.30**	**196**	P	**Pn**	**11 40 21.2**	**-0.1**
MRNZ	**Matariki Terra**	**1.31**	**338**	P	**Pn**	**11 40 20.8**	**-0.5**
NNZ	**Nelson**	**1.40**	**359**	P	**Pn**	**11 40 22.5**	**-0.1**
RACZ	**Rakaia**	**1.44**	**219**	P	**Pn**	**11 40 22.6**	**-0.5**
INZ	**Inchbonnie**	**1.45**	**265**	P	**Pn**	**11 40 21.5**	**-1.7**
DSZ	**Denniston Nort**	**1.47**	**306**	P	**Pn**	**11 40 23.2**	**-0.5**
TCW	**Tory Channel**	**1.55**	**25**	P	**Pn**	**11 40 24.4**	**-0.3**
TKNZ	**Takaka Hill**	**1.62**	**348**	P	**Pb**	**11 40 25.9**	**-1.0**
MHCZ	**Mount Hutt**	**1.62**	**235**	P	**Pn**	**11 40 24.9**	**-0.8**
WEL	**Wellington**	**1.68**	**38**	P	**Pn**	**11 40 26.2**	**-0.2**
PLWZ	**Palliser**	**1.73**	**53**	P	**Pn**	**11 40 26.4**	**-0.8**
WACZ	**Wakanui South**	**1.75**	**220**	P	**Pn**	**11 40 26.8**	**-0.5**
MSWZ	**Moikau Station**	**1.83**	**49**	P	**Pn**	**11 40 27.8**	**-0.7**
DUWZ	**D'Urville Isla**	**1.86**	**12**	P	**Pn**	**11 40 29.9**	**+1.0**
QRZ	**Quartz Range**	**1.91**	**340**	P	**Pn**	**11 40 30.2**	**+0.6**
PAWZ	**Paruwai Farm**	**1.95**	**51**	P	**Pn**	**11 40 29.3**	**-0.9**
CAW	**Cannon Point**	**1.96**	**40**	P	**Pn**	**11 40 29.8**	**-0.4**
WVZ	**Waitaha Valley**	**2.01**	**256**	P	**Pn**	**11 40 30.2**	**-0.8**
RPZ	**Rata Peaks**	**2.04**	**237**	Pn	**Pn**	**11 40 30.6**	**-0.8**
	27nm,0.3s,baz=221,slow=2.0,SNR=82						
RPZ				Sn	**Sn**	**11 40 54.8**	**-2.0**
	37nm,0.3s,baz=345,slow=23,SNR=22						
RPZ	**Rata Peaks**	**2.04**	**237**	P	**Pn**	**11 40 30.5**	**-0.8**
KIW	**Kapiti Island**	**2.09**	**33**	P	**Pn**	**11 40 31.9**	**-0.2**
TRWZ	**Traveller**	**2.10**	**55**	P	**Pn**	**11 40 31.5**	**-0.7**
ARCZ	**Arundel**	**2.10**	**230**	P	**Pn**	**11 40 31.3**	**-0.9**
MTW	**Mount Morrison**	**2.14**	**48**	P	**Pn**	**11 40 31.8**	**-1.0**
OGWZ	**Otaki Gorge**	**2.23**	**37**	P	**Pn**	**11 40 33.4**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.34**	**43**	P	**Pn**	**11 40 34.6**	**-0.8**
GCSZ	**Gaunt Creek Bo**	**2.36**	**252**	P	**Pn**	**11 40 36.1**	**+0.3**
TMZ	**Timaru**	**2.48**	**224**	P	**Pn**	**11 40 37.0**	**-0.4**
MRZ	**Mangatainoka R**	**2.55**	**41**	P	**Pn**	**11 40 37.4**	**-1.0**
FOZ	**Fox Glacier**	**2.78**	**250**	P	**Pn**	**11 40 42.1**	**+0.6**
BFZ	**Birch Farm**	**2.88**	**49**	P	**Pn**	**11 40 42.1**	**-0.8**
LBZ	**Lake Benmore**	**2.93**	**232**	P	**Pn**	**11 40 43.0**	**-0.6**
WAZ	**Wanganui**	**3.10**	**23**	P	**Pn**	**11 40 47.8**	**+1.8**
ODZ	**Otahua Downs**	**3.14**	**219**	P	**Pn**	**11 40 45.9**	**-0.6**
TSZ	**Takapari Road**	**3.20**	**38**	P	**Pn**	**11 40 46.9**	**-0.5**
NBEZ	**Newall Road No**	**3.37**	**6**	P	**Pn**	**11 40 52.9**	**+3.3**
PKE	**Pukeiti**	**3.45**	**8**	P	**Pn**	**11 40 52.7**	**+1.9**
VRZ	**Vera Road**	**3.64**	**17**	P	**Pn**	**11 40 55.2**	**+1.9**
JCZ	**Jackson Bay**	**3.67**	**245**	P	**Pn**	**11 40 53.5**	**-0.3**
WNVZ	**Wahianoa**	**3.69**	**28**	P	**Pn**	**11 40 55.0**	**+0.9**
BHHZ	**Black Hill Sta**	**3.72**	**34**	P	**Pn**	**11 40 54.5**	**0.0**
OTVZ	**Oturere**	**3.85**	**27**	P	**Pn**	**11 40 58.3**	**+1.9**
EAZ	**Earnscleugh**	**3.94**	**227**	P	**Pn**	**11 40 56.9**	**-0.7**
HIZ	**Hauiti**	**4.25**	**16**	P	**Pn**	**11 41 02.6**	**+0.9**
MLZ	**Mavora Lakes**	**4.70**	**232**	P	**Pn**	**11 41 06.6**	**-1.4**
TOZ	**Tahuroa Road**	**5.14**	**19**	P	**Pn**	**11 41 13.8**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.63**	**10**	P	**Pn**	**11 41 21.5**	**+0.8**
MKAZ	**Moumakai**	**5.67**	**14**	P	**Pn**	**11 41 21.7**	**+0.4**
ETAZ	**East Tamaki Re**	**5.78**	**12**	P	**Pn**	**11 41 23.4**	**+0.6**
RVAZ	**Riverhead Bore**	**5.91**	**9**	P	**Pn**	**11 41 25.9**	**+1.3**
ASAR	**Alice Springs**	**37.67**	**287**	P	**P**	**11 47 11.1**	**-1.4**
	0.3nm,0.8s,baz=137,slow=7.0,SNR=5.2 0.3nm,0.8s						
WRA	**Warramunga Arr**	**39.83**	**292**	P	**P**	**11 47 29.6**	**-1.1**
	0.2nm,0.5s,baz=127,slow=8.6,SNR=5.3 0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.77**	**196**	PKPbc	**PKPbc**	**11 59 47.8**	**+0.3**
	0.2nm,0.3s,baz=140,slow=1.5,SNR=4.0						

*IDC **16** 11:41:05.5±1.3, 39°.66N×21°.12E, h0km, mb3.7/6, mbtmp3.7/7, ML4.0/1, MS2.8/3, Error ellipse: s-maj=35.7km s-min=23.0km az=141.0*
*TIR **16** 11:41:07.9, 39°.77N×20°.72E, h6km±3km, Ml3.5*
*ATH **16** 11:41:07.6, 39°.76N×20°.74E, h16km±1km, ML3.8/22, Error ellipse: s-maj=1.4km s-min=0.9km az=305.0*
*THE **16** 11:41:08.1, 39°.76N×20°.73E, h9km±1km, ML3.5/14, Error ellipse: s-maj=1.2km s-min=0.4km az=14.0*
ISC 16 11:41:07.9±0.8, 39°.77N±0°.02×20°.74E±0°.02, h12km±5km, n82, σ0s90/110, mb3.8/6, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.14**	**142**	P	**Pg**	**11 41 10.8**	**-0.5**
JAN				S	**Sg**	**11 41 13.6**	**-0.3**
	139µm,0.3s						
JAN	**Janina**	**0.14**	**142**	P	**Pg**	**11 41 10.8**	**-0.5**
JAN				S	**Sg**	**11 41 13.9**	**0.0**
JAN				AML	AML	11 41 14.1	
JAN				AML	AML	11 41 14.2	
IGT	**Igoumenitsa**	**0.39**	**233**	P	**Pg**	**11 41 15.6**	**-0.1**
IGT				S	**Sg**	**11 41 21.4**	**+0.5**
	10µm,0.4s						
IGT	**Igoumenitsa**	**0.39**	**233**	P	**Pg**	**11 41 15.4**	**-0.3**
	baz=233						
IGT				S	**Sg**	**11 41 21.8**	**+0.8**
	baz=233						
IGT	**Igoumenitsa**	**0.39**	**233**	P	**Pg**	**11 41 15.6**	**-0.1**
IGT				S	**Sg**	**11 41 21.7**	**+0.8**
IGT				AML	AML	11 41 25.6	
	comp=N,15920µm,0.4s						
IGT				AML	AML	11 41 25.9	
	comp=E,23330µm,0.3s						
LSK	**Leskovik**	**0.39**	**345**	P	**Pg**	**11 41 16.2**	**+0.4**
LSK				S	**Sb**

EVR				AML	AML	11 41 51.7	
	comp=N,6057µm,0.6s						
EVR				AML	AML	11 41 52.8	
	comp=E,5886µm,0.5s						
LRSO	**Larissa Observ**	**1.28**	**94**	P	**Pn**	**11 41 31.9**	**+0.4**
LRSO				AML	AML	11 41 55.3	
	comp=E,11629µm,0.6s						
LRSO				AML	AML	11 41 55.8	
	comp=N,13805µm,0.5s						
PVO	**Paravola**	**1.30**	**152**	P	**Pg**	**11 41 32.8**	**-0.1**
FSK	**Fiskardo**	**1.32**	**186**	P	**Pb**	**11 41 32.7**	**+0.3**
FSK				AML	AML	11 41 51.9	
	comp=E,7611µm,0.4s						
FSK				AML	AML	11 41 53.2	
	comp=N,5818µm,0.7s						
MAKR	**Makrakomi, Fth**	**1.32**	**125**	P	**Pn**	**11 41 32.4**	**+0.3**
MAKR				AML	AML	11 41 58.8	
	comp=N,22196µm,0.6s						
MAKR				AML	AML	11 41 59.5	
	comp=E,19955µm,0.4s						
OHR	**Ohrid**	**1.34**	**2**	*i* Pn	**Pg**	**11 41 33.7**	**+0.1**
AGG	**Agios Georgios**	**1.44**	**121**	P	**Pb**	**11 41 34.6**	**-0.1**
AGG				AML	AML	11 41 59.2	
	comp=E,7300µm,0.4s						
AGG				AML	AML	11 42 01.1	
	comp=N,7633µm,0.5s						
ANX	**Ano Chora**	**1.49**	**142**	P	**Pn**	**11 41 35.1**	**+0.5**
ANX				AML	AML	11 42 06.6	
	comp=N,9825µm,0.5s						
ANX				AML	AML	11 42 06.8	
	comp=E,7677µm,0.4s						
VLS	**Valsamata**	**1.59**	**184**	P	**Pb**	**11 41 37.5**	**+0.3**
VLS				AML	AML	11 41 59.6	
	comp=E,5510µm,0.6s						
VLS				AML	AML	11 42 01.6	
	comp=N,4677µm,0.7s						
EFP	**Efpalio**	**1.62**	**145**	P	**Pb**	**11 41 37.6**	**0.0**
EFP				AML	AML	11 42 10.8	
	comp=N,4583µm,0.4s						
EFP				AML	AML	11 42 15.2	
	comp=E,5078µm,0.6s						
SERG	**Sergoula**	**1.70**	**142**	P	**Pb**	**11 41 39.1**	**+0.1**
SERG				AML	AML	11 42 07.8	
	comp=E,5616µm,0.7s						
SERG				AML	AML	11 42 09.3	
	comp=N,4825µm,0.5s						
TIR	**Tirane**	**1.71**	**337**	P	**Pg**	**11 41 40.3**	**-0.4**
	baz=338						
TIR				S	**Sb**	**11 42 01.8**	**+1.2**
	baz=338						
TIR				AMP			
	comp=E,1.2nm,0.8s,baz=338						
SCTE	**Santa Cesarea**	**1.77**	**281**	P	**Pn**	**11 41 38.2**	**-0.1**
	baz=281						
SCTE				S	**Sn**	**11 41 59.1**	**-1.6**
	baz=281						
AXAR	**Agios Charalam**	**1.80**	**123**	P	**Pb**	**11 41 40.3**	**-0.4**
AXAR				AML	AML	11 42 13.6	
	comp=E,6649µm,0.4s						
AXAR				AML	AML	11 42 15.6	
	comp=N,9293µm,1.0s						
RLS	**Riolos of Patr**	**1.80**	**161**	P	**Pb**	**11 41 40.4**	**-0.4**
LAKA	**Lakka**	**1.81**	**147**	P	**Pb**	**11 41 40.7**	**-0.2**
LAKA				AML	AML	11 42 20.6	
	comp=E,1584µm,0.6s						
LAKA				AML	AML	11 42 24.4	
	comp=N,1699µm,0.8s						
DLFA	**Delphi**	**1.88**	**133**	P	**Pb**	**11 41 41.5**	**-0.6**
THE	**Thessaloniki**	**1.91**	**63**	P	**Pb**	**11 41 42.3**	**-0.3**
	baz=62						
THE				S	**Sn**	**11 42 05.6**	**+1.4**
	baz=62						
XOR	**Xorichti**	**1.94**	**101**	P	**Pn**	**11 41 41.6**	**+1.0**
XOR				AML	AML	11 42 16.0	
	comp=N,4852µm,0.6s						
XOR				AML	AML	11 42 18.4	
	comp=E,2418µm,0.5s						
DRO	**Drossia**	**1.97**	**157**	P	**Pn**	**11 41 42.6**	**+1.6**
DRO				AML	AML	11 42 20.2	
	comp=E,4093µm,0.5s						
DRO				AML	AML	11 42 29.4	
	comp=N,4012µm,0.6s						
NEO	**Neokhori**	**1.98**	**103**	P	**Pn**	**11 41 42.5**	**+1.4**
HORT	**Hortiatis**	**1.99**	**65**	P	**Pn**	**11 41 42.4**	**+1.0**
LKR	**Lokris**	**2.08**	**122**	P	**Pn**	**11 41 43.5**	**+1.0**
VAY	**Valandovo**	**2.09**	**41**	*i* Pn	**Pn**	**11 41 43.3**	**+0.7**
KNT	**Kendrikon**	**2.16**	**49**	P	**Pn**	**11 41 44.6**	**+1.0**
STIP	**Stip**	**2.21**	**29**	*i* Pn	**Pb**	**11 41 48.6**	**+0.8**
SKO	**Skopje**	**2.26**	**13**	*i* Pn	**Pb**	**11 41 47.4**	**-1.2**
LOUT	**Loutraki**	**2.49**	**135**	P	**Pn**	**11 41 49.6**	**+1.4**
VIL2	**Platees**	**2.51**	**127**	P	**Pb**	**11 41 51.1**	**-1.8**
VIL2				AML	AML	11 42 38.6	
	comp=E,2706µm,0.8s						
VIL2				AML	AML	11 42 41.0	
	comp=N,1511µm,1.1s						
BCI	**Bajram Curri**	**2.64**	**349**	P	**Pb**	**11 41 53.4**	**-1.7**
	baz=350						
BCI				S	**Sb**	**11 42 28.2**	**+0.7**
	baz=350						
BCI				AMP			
	comp=N,1.6nm,1.0s,baz=350						
KOKK	**Kokkinochori,**	**2.71**	**66**	P	**Pn**	**11 41 52.4**	**+1.2**
ITM	**Ithomi**	**2.75**	**160**	P	**Pn**	**11 41 53.3**	**+1.6**
PYL	**PYLOS**	**2.98**	**164**	P	**Pn**	**11 41 55.7**	**+0.9**
ATHU	**Athens Univers**	**2.98**	**126**	P	**Pn**	**11 41 56.7**	**+1.8**
SGRT	**San Giovanni R**	**4.28**	**299**	P	**Pn**	**11 42 12.9**	**+0.1**
	baz=300						
SGRT				S	Sn	11 42 53.7	-9.0
	baz=300						
IDI	**Anoyia**	**5.56**	**142**	LR	LR	11 45 24.0	
	comp=N,38nm,19.5s,baz=274,slow=49						
BRTR	**Keskin Array B**	**9.94**	**86**	Pn	**Pn**	**11 43 32.4**	**+1.8**
	comp=N,0.1nm,0.3s,baz=264,slow=13,SNR=2.1						
BRTR				LR	LR	11 47 37.1	
	comp=N,74nm,21.3s,baz=282,slow=41						
AKASG	**Malin Array Be**	**12.45**	**26**	LR	LR	11 49 43.9	
	comp=N,80nm,19.5s,baz=200,slow=42						
ESDC	**Sonseca Array**	**18.99**	**278**	P	**Pn**	**11 45 33.6**	**+3.7**
	comp=N,0.1nm,0.3s,baz=74,slow=14,SNR=4.6						
	comp=N,0.9nm,0.9s						
FINES	**FINESS Array B**	**21.95**	**7**	P	**P**	**11 45 59.4**	**-1.6**
	comp=N,0.7nm,0.4s,baz=170,slow=12,SNR=4.4						
	comp=N,0.7nm,0.4s						
NOA	**NORSAR Array B**	**22.10**	**348**	P	**P**	**11 46 04.4**	**+1.7**
	comp=N,0.8nm,0.6s,baz=164,slow=11,SNR=3.8						
	comp=N,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**31.38**	**218**	P	**P**	**11 47 28.1**	**-0.5**
	comp=N,1.5nm,0.9s,baz=27,slow=10.0,SNR=5.0						
	comp=N,1.5nm,0.9s						
MKAR	**Makanchi Array**	**44.34**	**60**	P	**P**	**11 49 16.6**	**-1.1**
	comp=N,2.5nm,0.7s,baz=283,slow=6.5,SNR=8.7						
	comp=N,2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**44.52**	**49**	P	**P**	**11 49 17.2**	**-1.7**
	comp=N,0.4nm,0.3s,baz=279,slow=9.6,SNR=2.5						
	comp=N,0.4nm,0.3s						
SONM	**Songino Array**	**59.33**	**51**	P	**P**	**11 51 07.4**	**-2.2**
	comp=N,0.3nm,0.4s,baz=283,slow=8.6,SNR=2.0						
	comp=N,0.3nm,0.4s						

IDC ***16*** *11:42:36.6±1.8, 6˚.93N×126˚.50E, h0km, mb3.6/4, mbtmp3.6/4, MS3.3/1, Error ellipse: s-maj=39.5km s-min=10.9km az=24.0*

MAN ***16*** *11:42:42.3, 6˚.86N×126˚.14E, h25km, mb4.7, ML3.6, MS3.5*

ISC 16 11:42:42.2±0.9, 6.78N±0˚.04×126˚.06E±0˚.05, h32km±7km, n18, σ1°58/27, mb3.5/4, 10C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.25**	**50**	*eP*	**Pb**	**11 42 48.9**	**-0.4**
MATI				*eS*	**Sb**	**11 42 54.4**	**+0.4**
DAV	**Davao City (W)**	**0.56**	**301**	Pg	**Pn**	**11 42 55.7**	**+1.8**
	309nm,0.3s,baz=265,slow=22,SNR=26						
DAV				Lg	Lg	11 43 06.2	
	242nm,0.3s,baz=330,slow=7.8,SNR=8.4						
DAV				LR	LR	11 43 29.4	
	comp=Z,156nm,21.2s,baz=208,slow=57						
DDMP	**Don Marcelino,**	**0.76**	**207**	*eP*	**Pn**	**11 42 58.2**	**+1.6**
DDMP				*eS*	**Sb**	**11 43 07.1**	**+0.1**
KCP	**Kidapawan**	**0.99**	**283**	*iP*	**Pn**	**11 43 01.2**	**+1.2**
KCP				*i* S	**Sn**	**11 43 16.7**	**+3.8**
GSPH	**General Santos**	**1.30**	**238**	*eP*	**Pn**	**11 43 04.6**	**+0.3**
GSPH				*i* S	**Sb**	**11 43 21.7**	**-1.0**
SKMP	**Bagumbayan, Su**	**1.53**	**260**	*eP*	**Pb**	**11 43 09.4**	**-0.6**
SKMP				*eS*	**Sb**	**11 43 30.4**	**+1.4**
CTBH	**Cotabato--PC H**	**1.86**	**284**	*iP*	**Pb**	**11 43 13.4**	**-2.0**
CGP	**Cagayan de Oro**	**2.15**	**321**	*eP*	**Pb**	**11 43 18.7**	**-1.7**
CGP				*eS*	**Sb**	**11 43 45.2**	**-1.4**
PAGZ	**Pagadian**	**2.86**	**292**	*eP*	**Pn**	**11 43 27.7**	**+2.0**
GLSP	**General Luna,**	**2.98**	**1**	*eP*	**Pn**	**11 43 28.6**	**+1.3**
GLSP				*eS*	**Sn**	**11 44 04.3**	**+2.3**
SCPH	**Surigao**	**3.04**	**349**	*eP*	**Pn**	**11 43 29.2**	**+1.2**
GHBP	**Garcia Hernand**	**3.31**	**329**	*eP*	**Pn**	**11 43 33.1**	**+1.2**
GHBP				*i* S	**Sn**	**11 44 11.8**	**+1.6**
MSLP	**Maasin**	**3.54**	**340**	*eP*	**Pn**	**11 43 36.3**	**+1.4**
TABP	**Talibon, Bohol**	**3.71**	**333**	*eP*	**Pn**	**11 43 37.3**	**0.0**
TABP				*eS*	**Sn**	**11 44 18.3**	**-1.6**
WRA	**Warramunga Arr**	**27.78**	**163**	P	**P**	**11 48 27.1**	**-1.3**
	0.4nm,0.7s,baz=344,slow=9.6,SNR=12						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**31.22**	**166**	P	**P**	**11 48 58.5**	**-0.4**
	0.4nm,0.6s,baz=343,slow=7.1,SNR=13						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**41.20**	**160**	P	**P**	**11 50 23.3**	**-0.8**
	1.1nm,0.6s,baz=336,slow=14,SNR=2.7						
STKA				LR	LR	12 10 35.5	
	comp=Z,40nm,18.1s,baz=25,slow=41						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**54.70**	**324**	P	**P**	**11 52 08.0**	**-0.3**
	0.3nm,0.6s,baz=115,slow=6.5,SNR=2.4						
	0.3nm,0.6s						

WEL 16 11:48:26.3, 42˚.55S±.38˚×17˚.4E±.4˚2, h19km±63km, M2.5/7, ML2.5/7, MLv2.5/7, Error ellipse: s-maj=0.1km s-min=0.1km az=67.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUWZ	**Tuamarina**	**0.34**	**290**	P	**Pb**	**11 48 33.8**	**0.0**
TCW	**Tory Channel**	**0.34**	**348**	P	**Pb**	**11 48 34.4**	**+0.5**
WEL	**Wellington**	**0.40**	**49**	P	**Pb**	**11 48 35.1**	**+0.2**
PLWZ	**Palliser**	**0.67**	**92**	P	**Pb**	**11 48 39.2**	**0.0**
MSWZ	**Moikau Station**	**0.67**	**79**	P	**Pn**	**11 48 40.6**	**-0.2**
CAW	**Cannon Point**	**0.69**	**50**	P	**Pg**	**11 48 40.0**	**+0.1**
KIW	**Kapiti Island**	**0.80**	**31**	P	**Pg**	**11 48 42.0**	**+0.1**
MTW	**Mount Morrison**	**0.94**	**66**	P	**Pg**	**11 48 45.0**	**+0.4**
OGWZ	**Otaki Gorge**	**0.95**	**40**	P	**Pn**	**11 48 44.7**	**+0.1**
KHZ	**Kahutara**	**1.06**	**215**	P	**Pb**	**11 48 36.2**	**-10**
TMWZ	**Te Maipa**	**1.23**	**69**	P	**Pn**	**11 48 40.3**	**-8.2**

NOU ***16*** *11:49:07.3, 42˚.55S×173˚.91E, h0km, MLv4.1/10, South Island, New Zealand*

WEL ***16*** *11:49:10.3±0.5, 42˚.3±.3˚×17˚.4E±.˚, h7km±3km, M3.1/1, ML4.1/14, ML3.4/1, MLv3.7/33, MLv3.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4*

ISC 16 11:49:07.9±1.6, 42˚.48S±0˚.04×173˚.87E±0˚.04, h2km±17km, n82, σ1°23/83, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.25**	**285**	P	**Pg**	**11 49 13.1**	**+0.4**
KHZ	**Kahutara**	**0.25**	**285**	P	**Pg**	**11 49 13.0**	**+0.4**
KHZ				S	**Sg**	**11 49 15.3**	**-0.7**
BSWZ	**Blackbirch Sta**	**0.77**	**0**	P	**Pg**	**11 49 23.4**	**+0.9**
CMWZ	**Cape Campbell**	**0.78**	**20**	P	**Pg**	**11 49 25.8**	**+1.7**
GVZ	**Greta Valley S**	**0.78**	**231**	P	**Pb**	**11 49 25.9**	**+1.7**
THZ	**Tophouse**	**1.01**	**315**	P	**Pg**	**11 49 26.7**	**-0.6**
TUWZ	**Tuamarina**	**1.05**	**3**	P	**Pg**	**11 49 28.8**	**+0.8**
AMCZ	**Amberley**	**1.13**	**232**	P	**Pg**	**11 49 30.9**	**+1.3**
LTZ	**Lake Taylor**	**1.22**	**255**	P	**Pg**	**11 49 31.4**	**+0.3**
TCW	**Tory Channel**	**1.30**	**14**	P	**Pb**	**11 49 32.6**	**-0.5**
NNZ	**Nelson**	**1.31**	**344**	P	**Pg**	**11 49 32.4**	**-0.6**
SNZO	**South Karori**	**1.33**	**28**	P	**Pn**	**11 49 33.4**	**+0.1**
MRNZ	**Matariki Terra**	**1.36**	**322**	P	**Pb**	**11 49 33.2**	**-0.8**
WEL	**Wellington**	**1.37**	**30**	P	**Pn**	**11 49 34.0**	**0.0**
OKCZ	**Okains Bay**	**1.38**	**205**	P	**Pn**	**11 49 34.4**	**+0.3**
PLWZ	**Palliser**	**1.38**	**49**	P	**Pn**	**11 49 34.0**	**-0.1**
MSWZ	**Moikau Station**	**1.48**	**45**	P	**Pn**	**11 49 35.4**	**-0.1**
MQZ	**McQueen's Vall**	**1.51**	**216**	P	**Pn**	**11 49 35.3**	**-0.6**
AKCZ	**Akaroa Harbour**	**1.56**	**206**	P	**Pn**	**11 49 36.6**	**0.0**
OXZ	**Oxford**	**1.59**	**237**	P	**Pn**	**11 49 36.0**	**-1.0**
TKNZ	**Takaka Hill**	**1.60**	**335**	P	**Pn**	**11 49 37.1**	**0.0**
PAWZ	**Paruwai Farm**	**1.60**	**47**	P	**Pn**	**11 49 36.9**	**-0.3**
CAW	**Cannon Point**	**1.64**	**34**	P	**Pn**	**11 49 37.5**	**-0.2**
DUWZ	**D'Urville Isla**	**1.68**	**1**	P	**Pn**	**11 49 38.2**	**0.0**
DSZ	**Dennistion Nort**	**1.70**	**295**	P	**Pn**	**11 49 38.1**	**-0.5**
TRWZ	**Traveller**	**1.74**	**52**	P	**Pn**	**11 49 38.4**	**-0.6**
RACZ	**Rakaia**	**1.78**	**225**	P	**Pn**	**11 49 39.1**	**-0.5**
KIW	**Kapiti Island**	**1.80**	**26**	P	**Pn**	**11 49 39.9**	**0.0**
MTW	**Mount Morrison**	**1.80**	**43**	P	**Pn**	**11 49 39.4**	**-0.5**
INZ	**Inchbonnie**	**1.81**	**261**	P	**Pn**	**11 49 38.7**	**-1.3**
OGWZ	**Otaki Gorge**	**1.93**	**31**	P	**Pn**	**11 49 41.4**	**-0.2**
QRZ	**Quartz Range**	**1.93**	**328**	P	**Pn**	**11 49 42.1**	**+0.4**
QRZ	**Quartz Range**	**1.93**	**328**	P	**Pn**	**11 49 42.1**	**+0.4**
MHCZ	**Mount Hutt**	**1.99**	**237**	P	**Pn**	**11 49 41.5**	**-1.0**
HOWZ	**Holdsworth Sta**	**2.01**	**39**	P	**Pn**	**11 49 42.3**	**-0.4**
WACZ	**Wakanui South**	**2.08**	**225**	P	**Pn**	**11 49 43.2**	**-0.5**
MRZ	**Mangatainoka R**	**2.23**	**36**	P	**Pn**	**11 49 45.1**	**-0.6**
WVZ	**Waitaha Valley**	**2.38**	**255**	P	**Pn**	**11 49 47.7**	**-0.1**
RPZ	**Rata Peaks**	**2.40**	**238**	P	**Pn**	**11 49 47.4**	**-0.8**
RPZ	**Rata Peaks**	**2.40**	**238**	P	**Pn**	**11 49 47.2**	**-1.0**
ARCZ	**Arundel**	**2.45**	**232**	P	**Pn**	**11 49 48.0**	**-0.9**
PRWZ	**Pori Road**	**2.49**	**40**	P	**Pn**	**11 49 48.7**	**-0.7**
POWZ	**Post Office Ro**	**2.53**	**35**	P	**Pn**	**11 49 49.6**	**-0.3**
BFZ	**Birch Farm**	**2.53**	**46**	P	**Pn**	**11 49 49.3**	**-0.6**
BFZ	**Birch Farm**	**2.53**	**46**	P	**Pn**	**11 49 48.9**	**-1.1**
GCSZ	**Gaunt Creek Bo**	**2.73**	**251**	P	**Pn**	**11 49 52.8**	**+0.1**
DVHZ	**Dannevirke**	**2.78**	**39**	P	**Pn**	**11 49 52.0**	**-1.4**
TMZ	**Timaru**	**2.82**	**227**	P	**Pn**	**11 49 53.5**	**-0.5**
WAZ	**Wanganui**	**2.85**	**18**	P	**Pn**	**11 49 55.7**	**+1.4**
TSZ	**Takapari Road**	**2.89**	**34**	P	**Pn**	**11 49 54.0**	**-0.9**
FOZ	**Fox Glacier**	**3.15**	**249**	P	**Pn**	**11 49 58.5**	**+0.1**
KHEZ	**Kahui Hut**	**3.19**	**2**	P	**Pn**	**11 50 02.3**	**+3.3**
NBEZ	**Newall Road No**	**3.21**	**360**	P	**Pn**	**11 50 02.3**	**+3.1**
NEZ	**North Egmont**	**3.21**	**3**	P	**Pb**	**11 50 04.9**	**-0.8**
PKE	**Pukeiti**	**3.28**	**2**	P	**Pb**	**11 50 04.3**	**-2.5**
LBZ	**Lake Benmore**	**3.29**	**233**	P	**Pn**	**11 49 59.8**	**-0.6**
MOVZ	**Moawhango**	**3.39**	**26**	P	**Pn**	**11 50 02.3**	**+0.5**
WNVZ	**Wahiana**	**3.41**	**23**	P	**Pn**	**11 50 03.9**	**+1.7**
BHHZ	**Black Hill Sta**	**3.42**	**30**	P	**Pn**	**11 50 02.0**	**-0.2**
VRZ	**Vera Road**	**3.42**	**12**	P	**Pn**	**11 50 03.5**	**+1.4**
WHVZ	**Whangaehu Hut**	**3.45**	**23**	P	**Pn**	**11 50 05.7**	**+2.9**
FWVZ	**Far West T-bar**	**3.47**	**22**	P	**Pn**	**11 50 07.5**	**+4.5**
ODZ	**Otahua Downs**	**3.47**	**221**	P	**Pn**	**11 50 02.3**	**-0.5**
ODZ	**Otahua Downs**	**3.47**	**221**	P	**Pn**	**11 50 02.2**	**-0.5**
OTVZ	**Oturere**	**3.58**	**23**	P	**Pn**	**11 50 05.0**	**+0.4**
NNVZ	**North Ngauruho**	**3.60**	**22**	P	**Pb**	**11 50 10.3**	**-2.0**
KRVZ	**Karewarewa**	**3.64**	**22**	P	**Pn**	**11 50 09.4**	**+4.1**
BKZ	**Black Stump Fm**	**3.86**	**32**	P	**Pn**	**11 50 07.4**	**-0.9**
RATZ	**Rangitukua**	**3.89**	**22**	P	**Pn**	**11 50 08.0**	**-0.7**
HIZ	**Hauiti**	**4.03**	**11**	P	**Pn**	**11 50 12.2**	**+1.6**
HIZ	**Hauiti**	**4.03**	**11**	P	**Pn**	**11 50 12.2**	**+1.6**
JCZ	**Jackson Bay**	**4.04**	**245**	P	**Pn**	**11 50 10.1**	**-0.6**
JCZ	**Jackson Bay**	**4.04**	**245**	P	**Pn**	**11 50 10.5**	**-0.2**
HHSZ	**Highcliff Hill**	**4.14**	**214**	P	**Pn**	**11 50 11.9**	**-0.1**
EAZ	**Earnscleugh**	**4.29**	**229**	P	**Pn**	**11 50 13.6**	**-0.5**
TOZ	**Tahuroa Road**	**4.91**	**15**	P	**Pn**	**11 50 22.6**	**0.0**
MLZ	**Mavora Lakes**	**5.06**	**233**	P	**Pn**	**11 50 24.0**	**-0.7**
SYZ	**Scrubby Hill**	**5.28**	**218**	P	**Pn**	**11 50 27.2**	**-0.5**
SYZ	**Scrubby Hill**	**5.28**	**218**	P	**Pn**	**11 50 28.0**	**+0.4**
AWAZ	**Awhitu Peninsu**	**5.44**	**7**	P	**Pn**	**11 50 30.9**	**+1.0**
MKAZ	**Moumakai**	**5.46**	**11**	P	**Pn**	**11 50 30.3**	**+0.1**
ETAZ	**East Tamaki Re**	**5.58**	**9**	P	**Pn**	**11 50 32.4**	**+0.6**

NOU ***16*** *11:50:55.5, 15˚.08S×167˚.66E, h122km, mb4.9/51, Vanuatu Islands*

IDC ***16*** *11:50:55.8±2.8, 15˚.18S×167˚.52E, h114km±20km, mb4.3/8, mbtmp4.7/9, MS2.8/2, Error ellipse: s-maj=24.7km s-min=21.3km az=72.0*

NEIC ***16*** *11:50:55.8±1.5, 15˚.23S±0˚.07×167˚.6E±0˚.1, h110km±6km, mb4.6/31, Error ellipse: s-maj=19.6km s-min=9.2km az=109.0*

ISC 16 11:50:57.6±0.6, 15˚.33S±0˚.07×167˚.52E±0˚.09, h124km, n99, σ1°07/103, mb4.7/25, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.47**	**165**	P	**Pn**	**11 51 38.1**	**+0.9**
RTV	**Rentapao**	**2.60**	**161**	P	**Pn**	**11 51 40.0**	**+1.1**
LIFNC	**LIFOU**	**5.43**	**183**		**Pn**	**11 52 15.0**	**-1.4**
LIFNC				Sn	**Sn**	**11 53 15.6**	**-2.2**
LIFNC	**LIFOU**	**5.43**	**183**	P	**Pn**	**11 52 15.0**	**-1.4**
KOUNC	**Koumac, New Ca**	**6.04**	**210**	Pn	**Pn**	**11 52 24.5**	**-0.1**
KOUNC	**Koumac, New Ca**	**6.04**	**210**	P	**Pn**	**11 52 25.3**	**+0.7**
MARNC	**Mare, Loyalty**	**6.14**	**176**		**Pn**	**11 52 24.2**	**-1.7**
MARNC	**Mare, Loyalty**	**6.14**	**176**	P	**Pn**	**11 52 25.3**	**-0.7**
YATNC	**Mamie plateau,**	**6.72**	**185**	P	**Pn**	**11 52 34.8**	**+0.9**
DZM	**Mont Dzumac**	**6.79**	**188**	P	**Pn**	**11 52 35.5**	**+0.8**
	77nm,0.3s,baz=53,slow=11,SNR=141						
DZM				S	**Sn**	**11 53 52.6**	**+1.9**
	118nm,0.4s,baz=70,slow=23,SNR=12						
DZM				LR	LR	11 55 08.0	
	comp=Z,72nm,18.6s,baz=27,slow=36						
DZM	**Mont Dzumac**	**6.79**	**188**		**Pn**	**11 52 33.9**	**-0.9**
DZM	**Mont Dzumac**	**6.79**	**188**	P	**Pn**	**11 52 35.6**	**+0.8**
ONTNC	**Ouen Toro**	**7.02**	**188**		**Pn**	**11 52 37.5**	**-0.3**
ONTNC	**Ouen Toro**	**7.02**	**188**	P	**Pn**	**11 52 41.1**	**+3.3**
OUENC	**Ouen Island, N**	**7.08**	**185**		**Pn**	**11 52 38.8**	**+0.1**
OUENC	**Ouen Island, N**	**7.08**	**185**	P	**Pn**	**11 52 40.9**	**+2.2**
EIDS	**Eidsvold**	**18.35**	**234**	P	**Pn**	**11 55 03.5**	**-0.7**
EIDS				IAmb	IAmb	11 55 05.4	
	comp=Z,62nm,0.7s						
EIDS	**Eidsvold**	**18.35**	**234**	P	**Pn**	**11 55 04.6**	**+0.5**
KRVT	**Keravat (AS076**	**18.77**	**304**	LR	LR	12 02 21.9	
	comp=Z,30nm,18.3s,baz=245,slow=37						
TV1H	**Townsville Har**	**20.17**	**256**	P	**P**	**11 55 23.5**	**+1.1**
RMQ	**Roma**	**20.72**	**235**	P	**P**	**11 55 29.6**	**+1.3**
CTA	**Charters Tower**	**20.80**	**254**	P	**P**	**11 55 28.9**	**-0.3**
	comp=Z,16nm,0.8s,baz=79,slow=12,SNR=17						
	comp=Z,16nm,0.8s						
CTA	**Charters Tower**	**20.80**	**254**	P	**P**	**11 55 30.0**	**+0.8**
CTAO	**Charters Tower**	**20.80**	**254**	P	**P**	**11 55 28.6**	**-0.7**
CTAO				IAmb	IAmb	11 55 32.6	
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	**20.80**	**254**	P	**P**	**11 55 30.0**	**+0.8**
ARMA	**Armidale**	**20.93**	**221**	P	**P**	**11 55 31.2**	**+0.5**
ARMA				IAmb	IAmb	11 55 34.5	
	comp=Z,20nm,1.1s						
ARMA	**Armidale**	**20.93**	**221**	P	**P**	**11 55 32.3**	**+1.6**
MTSU	**Mount Surprise**	**22.39**	**260**	P	**P**	**11 55 46.3**	**+0.3**
COEN	**Coen**	**23.59**	**270**	P	**P**	**11 55 56.9**	**-0.5**
COEN				IAmb	IAmb	11 55 58.9	
	comp=Z,27nm,1.1s						
COEN	**Coen**	**23.59**	**270**	P	**P**	**11 55 57.0**	**-0.4**
QLP	**Quilpie**	**24.41**	**239**	P	**P**	**11 56 05.1**	**+0.4**
BKZ	**Black Stump Fm**	**25.02**	**163**	P	**P**	**11 56 10.5**	**+0.4**
BKZ				IAmb	IAmb	11 56 14.2	
	comp=Z,17nm,0.8s						
BKZ	**Black Stump Fm**	**25.02**	**163**	P	**P**	**11 56 10.9**	**+0.7**
CMSA	**Cobar Meteorol**	**25.64**	**227**	P	**P**	**11 56 15.8**	**0.0**
QRZ	**Quartz Range**	**25.78**	**171**	P	**P**	**11 56 16.8**	**-0.1**
CAN	**Canberra**	**25.93**	**216**	P	**P**	**11 56 18.0**	**-0.4**
CAN				IAmb	IAmb	11 56 37.4	
	comp=Z,22nm,1.3s						
QIS	**Mount Isa**	**27.04**	**255**	P	**P**	**11 56 28.2**	**-0.3**
INKA	**Innaminka**	**27.73**	**239**	P	**P**	**11 56 35.1**	**+0.6**
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**11 56 44.8**	**+0.7**
	comp=Z,10nm,0.5s,baz=47,slow=8.6,SNR=44						
	comp=Z,10nm,0.5s						
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**11 56 44.5**	**+0.5**
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**11 56 44.4**	**+0.4**
TOO	**Toolangi**	**29.52**	**217**	P	**P**	**11 56 50.8**	**+0.4**
TOO				IAmb	IAmb	11 56 51.5	
	comp=Z,7.1nm,0.8s						
TOO	**Toolangi**	**29.52**	**217**	P	**P**	**11 56 50.5**	**+0.1**
GLAD	**Gladstone**	**30.66**	**210**	P	**P**	**11 57 00.8**	**+0.4**
LCRK	**Leigh Creek**	**30.79**	**236**	P	**P**	**11 57 01.7**	**+0.1**
HTT	**

BELA					IAmb	IAmb	12 03 23.6	
	comp=Z,3.1nm,0.8s							
ILAR	**Eielson Array**	**87.02**	**18**	P		**P**	**12 03 26.3**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=236,slow=4.9,SNR=5.9							
	comp=Z,0.3nm,0.5s							
WMQ	**Urumqi**	**93.32**	**314**	*e*P		**P**	**12 03 59.8**	**+1.1**
MKAR	**Makanchi Array**	**97.80**	**316**	P		**P**	**12 04 18.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=86,slow=7.1,SNR=5.0							
	comp=Z,0.3nm,0.4s							
ARCES	**ARCESS Array B**	**120.89**	**345**	PKP		**PKPdf**	**12 09 34.4**	**-0.3**
	comp=Z,5.5nm,1.1s,baz=0.0,slow=0.9,SNR=4.1							

PRU ***16*** *11:52:21.9±0.0, 42.˚83N×13.˚18E, h0km*
LDG ***16*** *11:52:22.7±0.1, 42.˚80N×13.˚12E, h9km, Ml3.4/29, Error ellipse: s-maj=2.3km s-min=1.5km az=39.0*
ROM ***16*** *11:52:22.9±0.0, 42.˚803N±0.˚002×13.˚124E±0.˚003, h11km, ML3.9/118, Mw3.8, Error ellipse: s-maj=0.2km s-min=0.1km az=246.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-1.29; Mθθ2.41; Mφφ-1.13; Mrθ-4.25; Mθφ0.06; Mφr3.55; Fault plane solution: M0 5.91953×10¹⁴ NP1 φs 236.00000°, δ 18.00000°, λ -160.00000°. NP2 φs 127.00000°, δ 84.00000°, λ -73.00000°.*
IDC ***16*** *11:52:22.4±1.0, 42.˚89N×13.˚09E, h0km, mb4.1/10, mbtmp4.0/15, ML3.7/5, MS3.2/7 Error ellipse: s-maj=20.0km s-min=13.0km az=89.0*
PDG ***16*** *11:52:23.6±0.6, 42.˚83N×13.˚17E, h12km, ML4.1/11, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
STR ***16*** *11:52:28.4±1.7, 43.˚N±6.˚×1.˚3E±1.˚4, h10km, MLv3.9/17, Error ellipse: s-maj=0.0km s-min=0.0km az=94.2, preliminary*

ISC 16 11:52:23.7±0.7, **42.˚79N**±0.˚01×**13.˚13E**±0.˚02, **h11**km±3km, **n309**, σ1s**85**/390, **mb4.2**/10, **36C-12D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**347**	⇑P		**Pg**	**11 52 25.2**	**-0.6**
NRCA				S		**Sg**	**11 52 26.5**	**-0.9**
T1213	**Norcia, Frazio**	**0.07**	**181**	⇓P		**Pg**	**11 52 25.7**	**-0.3**
T1213				S		**Sg**	**11 52 27.7**	**-0.1**
T1212	**Cascia, Frazio**	**0.07**	**235**	⇓P		**Pg**	**11 52 25.9**	**-0.2**
T1212				S		**Sg**	**11 52 27.9**	**+0.1**
T1245	**Castelsantange**	**0.08**	**36**	⇑P		**Pg**	**11 52 25.6**	**-0.7**
T1245				S		**Sg**	**11 52 27.3**	**-0.8**
T1245				AML	AML			
T1245				AML	AML			
T1245				AML	AML			
T1245				AML	AML			
T1216	**Preci, Frazion**	**0.12**	**321**	⇑P		**Pg**	**11 52 26.3**	**-0.5**
T1216				S		**Sg**	**11 52 28.6**	**-0.3**
T1216				AML	AML			
T1216				AML	AML			
T1218	**Civita (PG)**	**0.12**	**184**	⇑P		**Pg**	**11 52 26.6**	**-0.1**
T1218				S		**Sg**	**11 52 29.5**	**+0.5**
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1218				AML	AML			
T1244	**Arquata del Tr**	**0.13**	**106**	P		**Pg**	**11 52 26.8**	**0.0**
T1244				S		**Sg**	**11 52 29.7**	**+0.5**
T1201	**Domo (RI)**	**0.17**	**146**	⇑P		**Pg**	**11 52 27.5**	**+0.1**
T1201				S		**Sg**	**11 52 31.0**	**+1.0**
T1217	**Poggiodomo (PG**	**0.17**	**240**	P		**Pg**	**11 52 27.3**	**-0.1**
T1217				S		**Sg**	**11 52 30.8**	**+0.8**
FEMA	**Monte Fema**	**0.18**	**341**	P		**Pg**	**11 52 27.1**	**-0.5**
FEMA				S		**Sg**	**11 52 30.1**	**-0.3**
T1204	**Amatrice, Fraz**	**0.18**	**130**	⇑P		**Pg**	**11 52 27.6**	**-0.1**
T1204				S		**Sg**	**11 52 31.2**	**+0.6**
T1215	**Vallo di Nera,**	**0.19**	**272**	P		**Pg**	**11 52 27.5**	**-0.3**
T1215				S		**Sg**	**11 52 31.0**	**+0.4**
T1215				AML	AML			
	comp=E,21150μm,1.1s							
T1215				AML	AML			
	comp=E,21850μm,1.2s							
T1215				AML	AML			
	comp=N,38200μm,0.5s							
T1215				AML	AML			
	comp=E,21950μm,1.2s							
T1215				AML	AML			
	comp=N,38800μm,0.5s							
T1215				AML	AML			
	comp=E,21100μm,1.1s							
T1215				AML	AML			
	comp=E,21800μm,1.2s							
LNSS	**Leonessa**	**0.20**	**198**	⇑P		**Pg**	**11 52 27.9**	**-0.1**
LNSS				S		**Sg**	**11 52 31.7**	**+0.7**
LNSS				AML	AML			
LNSS				AML	AML			
	comp=E,50950μm,1.0s							
T1221	**Campello sul C**	**0.22**	**288**	⇓P		**Pg**	**11 52 28.0**	**-0.3**
T1221				S		**Sg**	**11 52 31.9**	**+0.5**
T1256	**Bolognola (MC)**	**0.22**	**19**	⇑P		**Pg**	**11 52 27.8**	**-0.7**
T1256				S		**Sg**	**11 52 31.4**	**-0.3**
T1256				AML	AML			
T1256				AML	AML			
T1256				AML	AML			
T1256				AML	AML			
T1256				AML	AML			
SMA1	**SAN MARTINO**	**0.23**	**137**	⇑P		**Pg**	**11 52 28.2**	**-0.2**
SMA1				S		**Sg**	**11 52 32.2**	**+0.6**
SMA1				AML	AML			
	comp=N,73850μm,1.6s							
SMA1				AML	AML			
SMA1				AML	AML			
	comp=N,73900μm,1.6s							
T1241	**Roccafluvione,**	**0.23**	**74**	⇓P		**Pg**	**11 52 28.1**	**-0.4**
T1241				S		**Sg**	**11 52 31.9**	**+0.1**
T1241				AML	AML			
T1241				AML	AML			
T1241				AML	AML			
T1241				AML	AML			
FDMO	**Fiordimonte**	**0.24**	**353**	⇑P		**Pg**	**11 52 28.1**	**-0.6**
FDMO				S		**Sg**	**11 52 31.9**	**-0.2**
FDMO				AML	AML			
	comp=E,81000μm,1.4s							
FDMO				AML	AML			
T1243	**Rocca Santa Ma**	**0.26**	**112**	⇓P		**Pg**	**11 52 28.6**	**-0.4**
T1243				S		**Sg**	**11 52 32.8**	**+0.3**
CESI	**CESI - Serrava**	**0.27**	**322**	⇑P		**Pg**	**11 52 28.7**	**-0.5**
CESI				S		**Sg**	**11 52 33.0**	**+0.2**
CESI				AML	AML			
	comp=E,62700μm,0.5s							
CESI				AML	AML			
T1219	**Muccia, Frazio**	**0.28**	**341**	⇑P		**Pg**	**11 52 28.8**	**-0.5**
T1219				S		**Sg**	**11 52 33.1**	**0.0**
T1219				AML	AML			
T1219				AML	AML			
T1219				AML	AML			
T1219				AML	AML			
T1219				AML	AML			
RM33	**Pellescritta (**	**0.29**	**167**	⇑P		**Pg**	**11 52 29.3**	**-0.3**
RM33				S		**Sg**	**11 52 34.6**	**+1.0**
RM33				AML	AML			
	comp=E,30850μm,1.4s							
RM33				AML	AML			
	comp=E,31700μm,1.4s							
RM33				AML	AML			
	comp=N,25050μm,0.8s							
RM33				AML	AML			
	comp=N,25150μm,0.8s							
RM33				AML	AML			
	comp=E,30800μm,1.4s							
RM33				AML	AML			
	comp=N,25100μm,0.8s							
RM33				AML	AML			
	comp=N,25100μm,0.8s							
CSP1	**Cessapalombo**	**0.30**	**11**	⇑P		**Pg**	**11 52 29.3**	**-0.6**
CSP1				S		**Sb**	**11 52 34.0**	**-2.3**
CSP1				AML	AML			
CSP1				AML	AML			
GUMA	**Gualdo di Mace**	**0.31**	**30**	⇑P		**Pg**	**11 52 29.7**	**-0.2**
GUMA				S		**Sg**	**11 52 34.8**	**+0.7**
GUMA				AML	AML			
GUMA				AML	AML			
GUMA				AML	AML			
GUMA				AML	AML			
GUMA				AML	AML			
T1220	**Camerino, Fraz**	**0.32**	**355**	⇑P		**Pg**	**11 52 29.4**	**-0.7**
T1220				S		**Sb**	**11 52 34.5**	**-2.1**
CAMP	**Campotosto**	**0.33**	**141**	⇑P		**Pg**	**11 52 30.0**	**-0.4**
CAMP				S		**Sg**	**11 52 35.3**	**+0.5**
CAMP				AML	AML			
	comp=E,24100μm,0.6s							
CAMP				AML	AML			
	comp=N,21500μm,0.5s							
ARRO	**Arrone**	**0.34**	**231**	P		**Pg**	**11 52 30.4**	**-0.1**
ARRO				AML	AML			
	comp=E,19750μm,1.5s							
ARRO				AML	AML			
	comp=N,14100μm,0.6s							
ARRO				AML	AML			
	comp=N,14150μm,0.6s							
T1246	**Crognaleto (TE**	**0.34**	**128**	⇑P		**Pg**	**11 52 30.1**	**-0.5**
T1246				S		**Sb**	**11 52 35.5**	**-1.9**
T1247	**Pizzolo (AQ)**	**0.38**	**160**	⇑P		**Pg**	**11 52 30.9**	**-0.3**
T1247				S		**Sg**	**11 52 37.1**	**+1.0**
T1247				AML	AML			
	comp=N,27300μm,0.9s							
T1247				AML	AML			
	comp=E,25550μm,0.7s							
SEF1	**Sefro**	**0.38**	**340**	P		**Pg**	**11 52 30.5**	**-0.7**
SEF1				S		**Sg**	**11 52 36.4**	**+0.2**
SEF1				AML	AML			
	comp=E,84300μm,0.2s							
SEF1				AML	AML			
	comp=N,45100μm,0.3s							
SEF1				AML	AML			
	comp=E,84300μm,0.2s							
TERO	**Teramo**	**0.39**	**116**	P		**Pg**	**11 52 30.9**	**-0.6**
TERO				S		**Sb**	**11 52 36.9**	**-1.9**
TERO				AML	AML			
	comp=E,24350μm,0.7s							
TERO				AML	AML			
	comp=N,39900μm,0.6s							
TERO				AML	AML			
	comp=N,39850μm,0.6s							
TERO				AML	AML			
	comp=N,41150μm,0.6s							
TERO				AML	AML			
	comp=E,24300μm,0.7s							
TERO				AML	AML			
	comp=E,26000μm,0.7s							
MDAR	**Monte D'Aria**	**0.40**	**2**	P		**Pg**	**11 52 30.8**	**-0.8**
MDAR				S		**Sb**	**11 52 37.0**	**-2.0**
MDAR				AML	AML			
	comp=N,65750μm,0.4s							
MDAR				AML	AML			
	comp=E,60800μm,0.3s							
MDAR				AML	AML			
	comp=N,65750μm,0.4s							
PIO1	**Pioraco**	**0.40**	**345**	P		**Pg**	**11 52 30.9**	**-0.7**
FIU1	**Fiuminata**	**0.42**	**340**	P		**Pg**	**11 52 31.3**	**-0.6**
FIU1				S		**Sg**	**11 52 37.8**	**+0.2**
ASSB	**Assisi San Ben**	**0.42**	**306**	AML	AML			
	comp=N,14050μm,1.1s							
ASSB				AML	AML			
	comp=E,13250μm,0.5s							
MNTP	**Montappone**	**0.42**	**36**	P		**Pb**	**11 52 32.1**	**-1.2**
MNTP				S		**Sb**	**11 52 39.5**	**-0.2**
MNTP				AML	AML			
MNTP				AML	AML			
OFFI	**Offida**	**0.43**	**71**	⇓P		**Pb**	**11 52 32.4**	**-1.0**
OFFI				S		**Sb**	**11 52 40.4**	**+0.4**
OFFI				AML	AML			
	comp=N,91800μm,0.5s							
OFFI				AML	AML			
	comp=E,79600μm,0.4s							
SSM1	**San Severino M**	**0.44**	**5**	P		**Pg**	**11 52 31.6**	**-0.7**
SSM1				S		**Sb**	**11 52 38.2**	**-1.8**
CESX	**Cesi**	**0.44**	**246**	P		**Pg**	**11 52 32.0**	**-0.3**
CESX				AML	AML			
	comp=N,11410μm,0.9s							
CESX				AML	AML			
	comp=E,14500μm,1.2s							
GIGS	**Gran Sasso**	**0.47**	**136**	P		**Pg**	**11 52 32.1**	**-0.8**
GIGS				S		**Sg**	**11 52 39.3**	**0.0**
GIGS				AML	AML			
	comp=N,4355μm,1.5s							
GIGS				AML	AML			
	comp=E,5175μm,0.4s							
SNTG	**Esanatoglia**	**0.48**	**344**	⇑P		**Pg**	**11 52 32.2**	**-0.9**
SNTG				S		**Sg**	**11 52 39.7**	**+0.2**
SNTG				AML	AML			
	comp=N,11850μm,0.2s							
SNTG				AML	AML			
	comp=N,12250μm,0.2s							
SNTG				AML	AML			
	comp=E,17850μm,0.4s							
SNTG				AML	AML			
	comp=N,11850μm,0.2s							
SNTG				AML	AML			
	comp=E,18250μm,0.4s							
AQU	**L'Aquila**	**0.48**	**155**	AML	AML			
	comp=E,18150μm,0.8s							
AQU				AML	AML			
	comp=E,18100μm,0.8s							
AQU				AML	AML			
	comp=E,17250μm,0.8s							
AQU				AML	AML			
	comp=N,12300μm,1.0s							
AQU				AML	AML			
	comp=N,12750μm,1.0s							
FIAM	**Fiamignano**	**0.53**	**181**	P		**Pg**	**11 52 33.4**	**-0.6**
FIAM				S		**Sg**	**11 52 41.8**	**+0.9**
FIAM				AML	AML			
	comp=E,11190μm,0.8s							
FIAM				AML	AML			
	comp=N,17500μm,0.8s							
ATCC	**AVT- Casa Cast**	**0.53**	**318**	⇑P		**Pg**	**11 52 33.4**	**-0.6**
ATCC				S		**Sg**	**11 52 41.9**	**+0.9**
ATCC				AML	AML			
	comp=N,20950μm,0.7s							
ATCC				AML	AML			
	comp=E,19300μm,0.9s							
ATCC				AML	AML			
	comp=N,20900μm,0.7s							
EL6	**Elcito**	**0.54**	**358**	⇑P		**Pg**	**11 52 33.2**	**-0.9**
EL6				S		**Sb**	**11 52 41.6**	**-1.4**
EL6				AML	AML			
	comp=E,49950μm,1.0s							
EL6				AML	AML			
	comp=N,41800μm,0.3s							
FOSV	**Fossato di Vic**	**0.57**	**332**	⇑P		**Pg**	**11 52 33.9**	**-0.8**
FOSV				S		**Sg**	**11 52 42.3**	**+0.1**
TRTR	**Tortoreto Alta**	**0.58**	**88**	⇓P		**Pb**	**11 52 35.3**	**-0.5**
TRTR				AML	AML			
	comp=E,68300μm,0.8s							
TRTR				AML	AML			
	comp=N,56000μm,0.5s							
CING	**Cingoli**	**0.58**	**5**	P		**Pg**	**11 52 34.1**	**-1.0**
CING				S		**Sb**	**11 52 43.0**	**-1.3**
CING				AML	AML			
	comp=E,34050μm,0.3s							
CING				AML	AML			
	comp=N,22150μm,0.6s							
CADA	**Capodarco di F**	**0.61**	**49**	P		**Pn**	**11 52 36.2**	**-2.1**
CADA				AML	AML			
CADA				AML	AML			
FAGN	**Fagnano**	**0.63**	**147**	P		**Pg**	**11 52 34.8**	**-1.0**
FAGN				AML	AML			
	comp=N,15550μm,0.7s							
FAGN				AML	AML			
	comp=E,26650μm,0.7s							
MURB	**Monte Urbino**	**0.64**	**317**	P		**Pg**	**11 52 35.4**	**-0.8**
MURB				AML	AML			
	comp=E,29450μm,0.3s							
MURB				AML	AML			
	comp=N,21800μm,0.4s							
MURB				AML	AML			
	comp=E,31700μm,0.3s							
MURB				AML	AML			
	comp=N,23050μm,0.4s							
CIMA	**Civitanova Mar**	**0.65**	**38**	P		**Pb**	**11 52 36.5**	**-0.6**
CIMA				AML	AML			
	comp=N,43550μm,0.7s							
CIMA				AML	AML			
	comp=E,82700μm,0.5s							
MMUR	**Monte Murano**	**0.65**	**352**	P		**Pg**	**11 52 35.4**	**-1.0**
MMUR				S		**Sb**	**11 52 45.5**	**-0.9**
MMUR				AML	AML			
	comp=N,20500μm,0.5s							
MMUR				AML	AML			
	comp=E,33750μm,0.4s							
MMUR				AML	AML			
	comp=N,20450μm,0.5s							
VCEL	**Villa Celiera**	**0.66**	**127**	AML	AML			
	comp=E,19000μm,0.5s							
VCEL				AML	AML			
	comp=E,18950μm,0.5s							
VCEL				AML	AML			
	comp=N,15050μm,1.0s							
PP3	**Marolino**	**0.68**	**31**	P		**Pb**	**11 52 36.9**	**-0.7**
PP3				AML	AML			
PP3				AML	AML			
PP3				AML	AML			
PP3				AML	AML			
SSFR	**Montelago di S**	**0.69**	**339**	P		**Pg**	**11 52 36.0**	**-1.0**
SSFR				AML	AML			
	comp=N,21750μm,0.2s							
SSFR				AML	AML			
	comp=E,18450μm,1.2s							
SSFR				AML	AML			
	comp=N,24000μm,0.2s							
SSFR				AML	AML			
	comp=E,15700μm,0.3s							
ATFO	**Monte Foce - G**	**0.70**	**325**	⇑P		**Pg**	**11 52 36.4**	**-0.9**
ATFO				AML	AML			
	comp=E,8990μm,0.5s							
ATFO				AML	AML			
	comp=N,6785μm,0.4s							
ARVD	**Arcevia**	**0.72**	**349**	⇑P		**Pg**	**11 52 36.5**	**-1.1**
ARVD				S		**Sb**	**11 52 47.2**	**-0.9**
ARVD				AML	AML			
	comp=E,8065μm,0.9s							
ARVD				AML	AML			
	comp=N,7025μm,0.7s							
SRES	**S.Oreste - Sor**	**0.72**	**220**	⇑P		**Pg**	**11 52 36.8**	**-0.8**
SRES				AML	AML			
	comp=E,4285μm,0.7s							
SRES				AML	AML			
	comp=N,3435μm,0.5s							
T0110	**Collepietro**	**0.74**	**139**	P		**Pg**	**11 52 36.9**	**-1.2**
T0110				AML	AML			
	comp=E,13650μm,1.0s							
T0110				AML	AML			
	comp=N,13650μm,0.5s							
MGAB	**Montegabbione**	**0.76**	**279**	P		**Pg**	**11 52 37.7**	**-0.6**
MGAB				AML	AML			
	comp=E,10635μm,0.5s							
MGAB				AML	AML			
	comp=N,12400μm,1.0s							
MGAB				AML	AML			
	comp=E,12700μm,0.5s							
MGAB				AML	AML			
	comp=E,10630μm,0.5s							
MGAB				AML	AML			
	comp=N,11250μm,1.0s							
MGAB				AML	AML			
	comp=N,12450μm,1.0s							
FRON	**Frontone**	**0.78**	**338**	⇑P		**Pg**	**11 52 37.4**	**-1.4**
FRON				S		**Sb**	**11 52 49.5**	**-0.5**
FRON				AML	AML			
	comp=E,6660μm,0.3s							
FRON				AML	AML			
	comp=N,11165μm,1.0s							
FRON				AML	AML			
	comp=N,11155μm,1.0s							
FRON				AML	AML			
	comp=E,6655μm,0.3s							
ATVA	**AVT- Monte Val**	**0.78**	**308**	P		**Pg**	**11 52 38.2**	**-0.6**
ATVO	**AVT- Monte Val**	**0.79**	**318**	⇑P		**Pg**	**11 52 37.8**	**-1.1**
ATVO				AML	AML			
	comp=N,5120μm,0.7s							
ATVO				AML	AML			
	comp=E,4805μm,0.4s							
PTQR	**Pietraquaria**	**0.80**	**165**	P		**Pg**	**11 52 37.7**	**-1.4**
PTQR				AML	AML			
	comp=E,2480μm,0.9s							
PTQR				AML	AML			
	comp=N,2725μm,0.7s							
MTCE	**Montecelio**	**0.82**	**200**	P		**Pg**	**11 52 38.2**	**-1.3**
MTCE				AML	AML			
	comp=E,3130μm,0.9s							
MTCE				AML	AML			
	comp=N,3015μm,1.5s							
ATMI	**Monte Miggiano**	**0.83**	**311**	P		**Pg**	**11 52 39.6**	**-0.1**
ATMI				AML	AML			
	comp=N,15900μm,0.8s							
ATMI				AML	AML			
	comp=E,11650μm,0.8s							
AOI	**Ancona**	**0.83**	**25**	P		**Pb**	**11 52 39.0**	**-1.2**
AOI				AML	AML			
	comp=N,15400μm,0.3s							
AOI				AML	AML			
	comp=E,14850μm,0.3s							
COR1	**Corinaldo**	**0.84**	**354**	P		**Pb**	**11 52 39.5**	**-0.9**
COR1				AML	AML			
	comp=N,24350μm,1.2s							
COR1				AML	AML			
	comp=E,10825μm,0.9s							
COR1				AML	AML			
	comp=E,21600μm,0.7s							
COR1				AML	AML			
	comp=N,24400μm,1.2s							
COR1				AML	AML			
	comp=E,10840μm,0.9s							
COR1				AML	AML			
	comp=N,22100μm,0.5s							
ATPI	**Pietralunga -**	**0.84**	**321**	⇑P		**Pg**	**11 52 38.8**	**-1.1**
ATPI				AML	AML			
	comp=E,7005μm,0.8s							
ATPI				AML	AML			
	comp=N,4575μm,1.6s							
CERT	**Cerreto**	**0.85**	**187**	P		**Pg**	**11 52 38.6**	**-1.5**
CERT				AML	AML			
	comp=E,6195μm,0.8s							
CERT				AML	AML			
	comp=N,4640μm,0.6s							
SACS	**San Casciano d**	**0.90**	**274**	P		**Pg**	**11 52 40.4**	**-0.6**
SACS				AML	AML			
	comp=N,6145μm,0.8s							
SACS				AML	AML			
	comp=N,6185μm,0.8s							
SACS				AML	AML			
	comp=E,4825μm,0.9s							
SACS				AML	AML			
	comp=E,4835μm,0.9s							
NARO	**Abbazia di Nar**	**0.91**	**334**	⇑P		**Pg**	**11 52 39.7**	**-1.5**
NARO				AML	AML			
	comp=E,4730μm,0.4s							
NARO				AML	AML			
	comp=N,3600μm,0.4s							
SENI	**Senigallia**	**0.91**	**5**	P		**Pb**	**11 52 40.8**	**-0.8**
SENI				AML	AML			
	comp=N,4025μm,0.4s							
SENI				AML	AML			
	comp=N,10655μm,0.8s							
SENI				AML	AML			
	comp=E,10420μm,0.9s							
SENI				AML	AML			
	comp=E,57350μm,0.5s							
FSSB	**Fossombrone**	**0.93**	**344**	⇑P		**Pg**	**11 52 40.4**	**-1.3**
FSSB				AML	AML			
	comp=E,23850μm,0.3s							
FSSB				AML	AML			
	comp=N,29200μm,0.4s							
RCAV	**Rocca di Cave**	**0.96**	**188**	P		**Pg**	**11 52 40.5**	**-1.5**
RCAV				AML	AML			
	comp=E,5605μm,1.6s							
RCAV				AML	AML			
	comp=N,6285μm,0.8s							
LATE	**Laterza**	**0.99**	**260**	P		**Pg**	**11 52 42.3**	**-0.5**
VVLD	**Villa Vallelon**	**0.99**	**158**	P		**Pg**	**11 52 41.4**	**-1.4**
CAFI	**Castiglion Fio**	**1.00**	**303**	P		**Pg**	**11 52 42.3**	**-0.7**
CAFI				AML	AML			
	comp=E,2980μm,1.4s							
CAFI				AML	AML			
	comp=N,3800μm,0.8s							
CAFI				AML	AML			
	comp=N,3950μm,0.7s							
CAFI				AML	AML			
	comp=E,2940μm,1.4s							
GUAR	**Guarcino**	**1.01**	**172**	P		**Pg**	**11 52 42.3**	**-0.8**
GUAR				AML	AML			
	comp=N,6530μm,0.7s							
GUAR				AML	AML			
	comp=E,5785μm,0.9s							
PE3	**Peglio**	**1.01**	**333**	P		**Pg**	**11 52 41.9**	**-1.2**

PE3				AML	AML			
	comp=E,34µm,0.3s							
PE3				AML	AML			
	comp=N,34µm,0.3s							
CAFR	**Castel Frentan**	**1.06**	**122**	AML	AML			
	comp=E,4675µm,0.6s							
CAFR				AML	AML			
	comp=N,4775µm,0.5s							
SSP9	**Sansepolcro**	**1.07**	**317**	P	**Pg**	**11**	**52**	**44.1 -0.1**
SSP9				AML	AML			
	comp=N,4080µm,0.9s							
SSP9				AML	AML			
	comp=E,4055µm,1.3s							
MCIV	**Monte Civitell**	**1.07**	**270**	P	**Pg**	**11**	**52**	**43.2 -1.0**
MCIV				AML	AML			
	comp=E,1645µm,0.7s							
MCIV				AML	AML			
	comp=N,2345µm,0.8s							
VIVA	**Pratoni del Vi**	**1.08**	**194**	P	**Pg**	**11**	**52**	**44.2 -0.2**
VIVA				AML	AML			
	comp=E,6475µm,0.8s							
VIVA				AML	AML			
	comp=N,8345µm,0.6s							
RDP	**Rocca di Papa**	**1.08**	**197**	AML	AML			
	comp=E,8720µm,0.9s							
RDP				AML	AML			
	comp=N,13850µm,0.7s							
SF04	**Casetta**	**1.08**	**273**	P	**Pg**	**11**	**52**	**44.3 -0.1**
LPEL	**Lama dei Pelig**	**1.08**	**133**	P	**Pg**	**11**	**52**	**42.6 -1.9**
LPEL				AML	AML			
	comp=E,5405µm,0.7s							
LPEL				AML	AML			
	comp=N,5165µm,0.6s							
TOLF	**Tolfa**	**1.11**	**229**	P	**Pg**	**11**	**52**	**44.4 -0.6**
TOLF				AML	AML			
	comp=E,2080µm,1.0s							
TOLF				AML	AML			
	comp=N,1780µm,0.3s							
SF01	**Poggio Pratacc**	**1.15**	**271**	P	**Pg**	**11**	**52**	**45.1 -0.7**
SF01				AML	AML			
	comp=E,2604µm,0.8s							
SF01				AML	AML			
	comp=N,3650µm,0.9s							
POFI	**Posta Fibreno**	**1.16**	**158**	P	**Pg**	**11**	**52**	**44.5 -1.5**
POFI				AML	AML			
	comp=E,4490µm,1.1s							
POFI				AML	AML			
	comp=N,2085µm,0.8s							
CPGN	**Carpegna, Ital**	**1.17**	**330**	P	**Pg**	**11**	**52**	**45.1 -1.0**
CPGN				AML	AML			
	comp=E,7100µm,0.6s							
CPGN				AML	AML			
	comp=N,7590µm,1.2s							
CPGN				AML	AML			
	comp=E,7685µm,0.7s							
CPGN				AML	AML			
	comp=N,7310µm,0.6s							
CRE	**Caprese Michel**	**1.19**	**314**	P	**Pg**	**11**	**52**	**45.3 -1.3**
CRE				AML	AML			
	comp=N,2460µm,0.8s							
CRE				AML	AML			
	comp=E,3010µm,0.7s							
LRP	**Arpino**	**1.20**	**163**	P	**Pg**	**11**	**52**	**46.5 -0.1**
LRP				AML	AML			
	comp=N,1120µm,1.3s							
LRP				AML	AML			
	comp=E,1845µm,1.2s							
GIUL	**Giuliano Di Ro**	**1.24**	**176**	P	**Pn**	**11**	**52**	**46.8 -0.3**
GIUL				AML	AML			
	comp=E,2745µm,0.8s							
GIUL				AML	AML			
	comp=N,3475µm,0.8s							
LATB	**Latina**	**1.30**	**185**	P	**Pn**	**11**	**52**	**46.1 -1.8**
LATB				AML	AML			
	comp=E,1148µm,1.6s							
LATB				AML	AML			
	comp=N,852µm,1.0s							
CERA	**Filignano**	**1.37**	**151**	P	**Pn**	**11**	**52**	**47.9 -1.0**
CERA				AML	AML			
	comp=E,3625µm,0.6s							
CERA				AML	AML			
	comp=E,3700µm,0.6s							
CERA				AML	AML			
	comp=N,2705µm,1.1s							
CERA				AML	AML			
	comp=N,2600µm,1.1s							
ASQU	**Asqua**	**1.40**	**316**	P	**Pn**	**11**	**52**	**48.8 -0.5**
ASQU				AML	AML			
	comp=E,1950µm,0.7s							
ASQU				AML	AML			
	comp=N,2040µm,0.9s							
FRES	**Fresagrandinar**	**1.41**	**125**	AML	AML			
	comp=N,1660µm,1.3s							
FRES				AML	AML			
	comp=E,2530µm,0.6s							
MIDA	**Miranda**	**1.42**	**144**	P	**Pn**	**11**	**52**	**48.6 -1.1**
MIDA				AML	AML			
	comp=E,2630µm,1.2s							
MIDA				AML	AML			
	comp=N,2255µm,1.4s							
MIDA				AML	AML			
	comp=E,2560µm,1.2s							
MIDA				AML	AML			
	comp=N,2165µm,0.6s							
SFI	**Santa Sofia**	**1.45**	**320**	P	**Pn**	**11**	**52**	**50.3 +0.3**
SFI				AML	AML			
	comp=N,2365µm,0.9s							
SFI				AML	AML			
	comp=E,1680µm,0.7s							
SFI				AML	AML			
	comp=E,1755µm,0.7s							
SFI				AML	AML			
	comp=N,2330µm,0.9s							
TRIV	**Trivento**	**1.47**	**134**	AML	AML			
	comp=N,3720µm,0.6s							
TRIV				AML	AML			
	comp=E,3205µm,1.4s							
FROS	**Frosini**	**1.50**	**287**	P	**Pn**	**11**	**52**	**50.4 -0.3**
MAON	**Monte Argentar**	**1.52**	**257**	P	**Pn**	**11**	**52**	**50.1 -0.7**
MAON				AML	AML			
	comp=N,377µm,0.8s							
MAON				AML	AML			
	comp=E,712µm,0.8s							
OSSC	**Osservatorio P**	**1.56**	**299**	P	**Pn**	**11**	**52**	**51.6 +0.2**
OSSC				AML	AML			
	comp=N,902µm,0.7s							
OSSC				AML	AML			
	comp=E,704µm,0.6s							
RUFI	**Rufina**	**1.58**	**312**	P	**Pn**	**11**	**52**	**51.5 -0.1**
RUFI				AML	AML			
	comp=E,1235µm,0.7s							
RUFI				AML	AML			
	comp=N,1663µm,1.0s							
VAGA	**Valle Agricola**	**1.61**	**149**	P	**Pn**	**11**	**52**	**52.4 +0.3**
BSSO	**Busso**	**1.66**	**138**	P	**Pg**	**11**	**52**	**54.4 -1.0**
BSSO				AML	AML			
	comp=E,1620µm,0.7s							
BSSO				AML	AML			
	comp=E,660µm,0.7s							
BSSO				AML	AML			
	comp=N,1645µm,0.8s							
BSSO				AML	AML			
	comp=N,666µm,0.8s							
TRIF	**Trifonti**	**1.66**	**282**	AML	AML			
	comp=E,694µm,0.6s							
TRIF				AML	AML			
	comp=N,808µm,0.6s							
CASP	**Castiglione de**	**1.67**	**271**	P	**Pn**	**11**	**52**	**52.0 -0.8**
CASP				AML	AML			
	comp=N,249µm,1.1s							
CASP				AML	AML			
	comp=E,294µm,0.7s							
BRIS	**BRISIGHELLA**	**1.79**	**320**	P	**Pb**	**11**	**52**	**56.5 -0.1**
MELA	**Melanico ??? S**	**1.84**	**126**	P	**Pb**	**11**	**52**	**56.3 -1.1**
MELA				AML	AML			
	comp=E,3965µm,0.5s							
MELA				AML	AML			
	comp=N,5625µm,0.5s							
MELA				AML	AML			
	comp=N,5510µm,0.5s							
MELA				AML	AML			
	comp=E,4125µm,0.5s							
MPPT	**Montemurlo**	**1.89**	**309**	P	**Pn**	**11**	**52**	**56.3 +0.3**
TREM	**Isole Tremiti**	**1.89**	**110**	P	**Pb**	**11**	**52**	**56.2 -2.0**
TREM				AML	AML			
	comp=N,5165µm,0.6s							
TREM				AML	AML			
	comp=E,4310µm,0.7s							
MTCR	**Monte La Croce**	**1.98**	**309**	P	**Pn**	**11**	**52**	**57.3 -0.1**
BRJN	**Brijuni**	**2.16**	**12**	P	**Pn**	**11**	**52**	**58.9 -0.7**
SGRT	**San Giovanni R**	**2.20**	**117**	P	**Pn**	**11**	**53**	**01.0 +0.7**
SGRT				AML	AML			
	comp=E,1980µm,0.5s							
SGRT				AML	AML			
	comp=N,1990µm,0.8s							
MSAG	**Monte S. Angel**	**2.33**	**117**	P	**Pn**	**11**	**53**	**02.8 +0.7**
MSAG				AML	AML			
	comp=E,2890µm,0.6s							
MSAG				AML	AML			
	comp=E,3055µm,0.6s							
MSAG				AML	AML			
	comp=N,4845µm,0.6s							
MSAG				AML	AML			
	comp=N,4760µm,0.6s							
SGTA	**Sant Agata di**	**2.35**	**134**	P	**Pb**	**11**	**53**	**04.1 -2.0**
SARO	**Sassorosso**	**2.42**	**306**	AML	AML			
	comp=N,1125µm,0.5s							
SARO				AML	AML			
	comp=E,772µm,0.9s							
EQUI	**Equi**	**2.56**	**303**	P	**Pn**	**11**	**53**	**05.3 +0.1**
EQUI				AML	AML			
	comp=N,295µm,0.6s							
EQUI				AML	AML			
	comp=E,362µm,0.7s							
CAPA	**Cerignola FG**	**2.59**	**128**	P	**Pn**	**11**	**53**	**06.4 +0.9**
CAPA				AML	AML			
	comp=E,1695µm,0.8s							
CAPA				AML	AML			
	comp=N,1600µm,1.0s							
PLMA	**Palmaria, Port**	**2.70**	**299**	AML	AML			
	comp=N,240µm,1.6s							
PLMA				AML	AML			
	comp=E,175µm,0.7s							
MORSI	**Morsiglia**	**2.77**	**275**	P	**Pn**	**11**	**53**	**08.5 +0.4**
PALZ	**Palazzo San Ge**	**2.81**	**130**	P	**Pn**	**11**	**53**	**09.8 +1.2**
PALZ				AML	AML			
	comp=E,1540µm,0.6s							
PALZ				AML	AML			
	comp=N,1615µm,1.6s							
SKDS	**Skadanscina**	**2.83**	**13**	*i* Pn	**Pn**	**11**	**53**	**08.0 -0.8**
SMPL	**Sampolo**	**2.93**	**257**	P	**Pn**	**11**	**53**	**11.0 +0.7**
A050A	**Klekovaca**	**2.99**	**55**	*e*Pn	**Pn**	**11**	**53**	**12.0 +0.8**
PGF	**Pioggiola**	**3.05**	**267**	*e*P	**Pn**	**11**	**53**	**12.4 +0.4**
PGF				*e*Sn	**Sn**	**11**	**53**	**44.0 -4.7**
	comp=N,14nm,0.3s							
PGF	**Pioggiola**	**3.05**	**267**	AML	AML			
	comp=E,54µm,0.8s							
PGF				AML	AML			
	comp=N,63µm,1.6s							
PGF	**Pioggiola**	**3.05**	**267**	P	**Pn**	**11**	**53**	**12.4 +0.4**
CEY	**Cerknica**	**3.09**	**17**	*e*Pn	**Pn**	**11**	**53**	**11.8 -0.7**
BOJS	**Bojanci**	**3.11**	**29**	*e*Pn	**Pn**	**11**	**53**	**12.7 0.0**
BOJS	**Bojanci**	**3.11**	**29**	AML	AML			
	comp=N,1825µm,1.1s							
BOJS				AML	AML			
	comp=E,2400µm,1.1s							
PTRP	**Pietrapertosa**	**3.16**	**135**	P	**Pn**	**11**	**53**	**15.9 +2.4**
PTRP				AML	AML			
	comp=E,600µm,0.9s							
PTRP				AML	AML			
	comp=N,706µm,0.8s							
SABO	**M.te Sabotino**	**3.20**	**6**	P	**Pn**	**11**	**53**	**13.5 -0.6**
SABO				AML	AML			
	comp=N,8260µm,0.8s							
SABO				AML	AML			
	comp=E,1145µm,0.6s							
SABO				AML	AML			
	comp=N,2070µm,0.8s							
SABO				AML	AML			
	comp=E,4670µm,0.6s							
SRKY	**Kupres RS**	**3.21**	**65**	*e*Pn	**Pn**	**11**	**53**	**15.5 +1.4**
ROVR	**Rover Verones**	**3.21**	**333**	P	**Pn**	**11**	**53**	**14.8 +0.6**
ROVR				AML	AML			
	comp=N,302µm,0.8s							
ROVR				AML	AML			
	comp=E,265µm,0.5s							
CGRP	**Cima Grappa**	**3.23**	**343**	P	**Pn**	**11**	**53**	**14.5 0.0**
CGRP				AML	AML			
	comp=E,1140µm,0.9s							
CGRP				AML	AML			
	comp=N,1240µm,0.8s							
VARN	**Col Varnada, M**	**3.28**	**347**	AML	AML			
	comp=E,1216µm,0.7s							
VARN				AML	AML			
	comp=N,937µm,0.7s							
VARN				AML	AML			
	comp=N,930µm,0.7s							
VARN				AML	AML			
	comp=E,1200µm,0.7s							
MGRS	**Mrkonjic Grad**	**3.30**	**59**	*e*Pn	**Pn**	**11**	**53**	**16.7 +1.3**
MIGL	**Miglionico**	**3.31**	**130**	P	**Pn**	**11**	**53**	**17.1 +1.7**
MIGL				AML	AML			
	comp=E,1220µm,0.6s							
MIGL				AML	AML			
	comp=N,1780µm,0.6s							
AJAC	**Base Areonaval**	**3.35**	**256**	AML	AML			
	comp=E,104µm,1.6s							
AJAC				AML	AML			
	comp=N,91µm,1.4s							
AJAC	**Base Areonaval**	**3.35**	**256**	P	**Pn**	**11**	**53**	**16.9 +1.0**
STON	**Ston**	**3.37**	**87**	*e*Pn	**Pn**	**11**	**53**	**15.2 -1.0**
DOSS	**Dosso del Somm**	**3.38**	**336**	P	**Pn**	**11**	**53**	**17.2 +0.6**
DOSS				AML	AML			
	comp=N,707µm,0.6s							
DOSS				AML	AML			
	comp=E,591µm,0.6s							
DOSS				AML	AML			
	comp=N,588µm,0.5s							
DOSS				AML	AML			
	comp=E,675µm,0.6s							
SALO	**Salr**	**3.39**	**327**	P	**Pn**	**11**	**53**	**17.9 +1.4**
SALO				AML	AML			
	comp=E,604µm,0.9s							
SALO				AML	AML			
	comp=N,999µm,0.8s							
SALO				AML	AML			
	comp=E,643µm,0.9s							
SALO				AML	AML			
	comp=N,971µm,0.8s							
LJU	**Ljubljana**	**3.40**	**17**	*i* Pn	**Pn**	**11**	**53**	**16.9 +0.1**
LJU	**Ljubljana**	**3.40**	**17**	AML	AML			
	comp=N,4855µm,0.6s							
LJU				AML	AML			
	comp=E,3850µm,1.4s							
CTI	**Castel Tesino**	**3.42**	**342**	P	**Pn**	**11**	**53**	**17.7 +0.6**
MPRI	**Monte Prat**	**3.45**	**358**	P	**Pn**	**11**	**53**	**17.4 -0.1**
MPRI				AML	AML			
	comp=E,1075µm,0.6s							
MPRI				AML	AML			
	comp=N,1760µm,0.7s							
CADS	**Cadrg**	**3.46**	**7**	*i* Pn	**Pn**	**11**	**53**	**16.9 -0.7**
CRES	**Cresnjev**	**3.46**	**28**	*e*Pn	**Pn**	**11**	**53**	**17.4 -0.2**
STAL	**STALIGIAL**	**3.48**	**355**	P	**Pn**	**11**	**53**	**17.8 0.0**
STAL				AML	AML			
	comp=E,773µm,0.8s							
STAL				AML	AML			
	comp=N,720µm,1.2s							
STAL				AML	AML			
	comp=E,1038µm,0.5s							
STAL				AML	AML			
	comp=N,750µm,1.1s							
A051A	**Mrakovica**	**3.52**	**50**	*e*Pn	**Pn**	**11**	**53**	**18.6 +0.2**
LTRZ	**Laterza**	**3.53**	**127**	P	**Pn**	**11**	**53**	**19.6 +1.2**
BLY	**Banja Luka**	**3.53**	**55**	*e*Pn	**Pn**	**11**	**53**	**18.6 +0.1**
LUSI	**Trento, Gardas**	**3.53**	**334**	P	**Pn**	**11**	**53**	**19.1 +0.6**
LUSI				AML	AML			
	comp=N,519µm,0.9s							
LUSI				AML	AML			
	comp=E,509µm,0.7s							
CIMO	**Cimolais**	**3.55**	**352**	P	**Pn**	**11**	**53**	**18.5 -0.3**
CIMO				AML	AML			
	comp=E,228µm,1.4s							
CIMO				AML	AML			
	comp=N,230µm,0.9s							
CIMO				AML	AML			
	comp=E,234µm,1.4s							
CIMO				AML	AML			
	comp=N,234µm,0.9s							
NOCI	**Noci**	**3.56**	**123**	P	**Pn**	**11**	**53**	**19.9 +1.0**
NOCI				AML	AML			
	comp=E,473µm,0.6s							
NOCI				AML	AML			
	comp=N,509µm,0.5s							
PTCC	**Patocco-Chiusa**	**3.61**	**2**	P	**Pn**	**11**	**53**	**18.9 -0.8**
PTCC				AML	AML			
	comp=E,512µm,0.6s							
PTCC				AML	AML			
	comp=N,479µm,0.9s							
GAGG	**Gaggia**	**3.64**	**335**	P	**Pn**	**11**	**53**	**20.8 +0.7**
GAGG				AML	AML			
	comp=N,506µm,0.9s							
GAGG				AML	AML			
	comp=E,760µm,0.8s							
CLUD	**Cludinico**	**3.67**	**357**	P	**Pn**	**11**	**53**	**20.1 -0.3**
CLUD				AML	AML			
	comp=E,446µm,0.8s							
CLUD				AML	AML			
	comp=N,694µm,0.7s							
ZONE	**Zone**	**3.67**	**325**	AML	AML			
	comp=N,422µm,0.7s							
ZONE				AML	AML			
	comp=E,362µm,0.3s							
SARZ	**Sarezzano**	**3.69**	**306**	AML	AML			
	comp=E,555µm,0.9s							
SARZ				AML	AML			
	comp=N,655µm,1.1s							
MABI	**Malga Bissina**	**3.76**	**331**	P	**Pn**	**11**	**53**	**23.1 +1.3**
MABI				AML	AML			
	comp=E,145µm,0.9s							
MABI				AML	AML			
	comp=N,190µm,1.1s							
ACOM	**Acomizza, Ital**	**3.76**	**4**	P	**Pn**	**11**	**53**	**21.8 -0.1**
ACOM				AML	AML			
	comp=N,994µm,0.5s							
ACOM				AML	AML			
	comp=E,967µm,0.5s							
ACOM				AML	AML			
	comp=N,986µm,0.5s							
ACOM				AML	AML			
	comp=E,970µm,0.5s							
FVI	**Forni Avoltri**	**3.81**	**356**	P	**Pn**	**11**	**53**	**22.3 -0.1**
FVI				AML	AML			
	comp=N,410µm,1.0s							
FVI				AML	AML			
	comp=E,406µm,0.8s							
TREB	**Trebinje**	**3.85**	**89**	*e*Pn	**Pn**	**11**	**53**	**22.6 -0.3**
OBKA	**Obir**	**3.85**	**15**	*e*Pn	**Pn**	**11**	**53**	**22.4 -0.6**
OBKA	**Obir**	**3.85**	**15**	*e*Pn	**Pn**	**11**	**53**	**22.6 -0.4**
	comp=E,6.5nm,0.3s							
OBKA				*e*Sn	**Sn**	**11**	**54**	**08.5 +0.2**
	comp=E,267nm,0.7s							
MYKA	**Terra Mystica**	**3.85**	**5**	*i* Pn	**Pn**	**11**	**53**	**23.3 +0.3**
	comp=E,22nm,0.3s,SNR=15							
MYKA				*e*Sn	**Sn**	**11**	**54**	**08.6 +0.2**
	comp=E,42nm,0.3s							
MDI	**Monti di Nese**	**3.86**	**322**	P	**Pn**	**11**	**53**	**23.9 +0.8**
MDI				AML	AML			
	comp=E,274µm,1.0s							
MDI				AML	AML			
	comp=N,214µm,0.5s							
KOSI	**Kohlern**	**3.88**	**342**	P	**Pn**	**11**	**53**	**24.7 +1.3**
APPI	**Appiano**	**3.92**	**340**	P	**Pn**	**11**	**53**	**24.9 +0.9**
APPI				AML	AML			
	comp=E,413µm,1.1s							
APPI				AML	AML			
	comp=N,416µm,1.0s							
HCY	**Herceg Novi**	**3.98**	**93**	*e*Pn	**Pn**	**11**	**53**	**24.7 +0.1**
HCY	**Herceg Novi**	**3.98**	**93**	⇑*i* Pn	**Pn**	**11**	**53**	**25.3 +0.7**
HCY				*i* Sn	**Sn**	**11**	**54**	**12.4 +1.1**
ABTA	**Abfaltersbach**	**3.98**	**354**	*i* Pn	**Pn**	**11**	**53**	**25.5 +0.8**
	comp=N,157nm,0.5s,SNR=96							
ABTA				*e*Sn	**Sn**	**11**	**54**	**15.0 +3.6**
	comp=N,101nm,0.6s							
BRY	**Bratogost**	**3.98**	**87**	*e*Pn	**Pn**	**11**	**53**	**25.0 +0.2**
BRY	**Bratogost**	**3.98**	**87**	⇓*i* Pn	**Pn**	**11**	**53**	**25.4 +0.6**
BRY				*i* Sn	**Sn**	**11**	**54**	**12.5 +0.9**
SOKA	**Soboth**	**4.11**	**19**	*i* Pn	**Pn**	**11**	**53**	**26.6 0.0**
	comp=N,5.7nm,0.3s,SNR=13							
SOKA				*e*Sn	**Sn**	**11**	**54**	**13.9 -0.9**
	comp=N,23nm,0.4s							
BRMO	**Bormio**	**4.17**	**333**	P	**Pn**	**11**	**53**	**29.2 +1.7**
RISI	**Rein**	**4.22**	**350**	P	**Pn**	**11**	**53**	**29.3 +1.2**
RISI				AML	AML			
	comp=N,1260µm,0.5s							
RISI				AML	AML			
	comp=E,1635µm,0.7s							
SAOF	**Saorge**	**4.23**	**288**	P	**Pn**	**11**	**53**	**29.6 +1.4**
BERNI	**Berninapass**	**4.24**	**330**	P	**Pn**	**11**	**53**	**30.1 +1.5**
UPM	**Unac-Piva**	**4.26**	**83**	*e*Pn	**Pn**	**11**	**53**	**30.1 +1.4**
UPM	**Unac-Piva**	**4.26**	**83**	⇑*i* Pn	**Pn**	**11**	**53**	**29.2 +0.5**
UPM				*i* Sn	**Sn**	**11**	**54**	**19.1 +0.6**
CEME	**Cevo**	**4.28**	**91**	⇓*i* Pn	**Pn**	**11**	**53**	**29.5 +0.7**
CEME				*i* Sn	**Sn**	**11**	**54**	**19.6 +0.8**
MUGIO	**Muggio**	**4.28**	**318**	P	**Pn**	**11**	**53**	**29.7 +0.7**
MUGIO				AML	AML			
	comp=N,148µm,0.5s							
MUGIO				AML	AML			
	comp=E,118µm,0.7s							
KBA	**Koelnbreinsper**	**4.29**	**2**	*i* Pn	**Pn**	**11**	**53**	**29.7 +0.6**
	comp=E,4.4nm,0.2s,SNR=24							
KBA				*e*Sn	**Sn**	**11**	**54**	**18.9 -0.3**
	comp=E,57nm,0.4s							
SBF	**Sospel**	**4.29**	**286**	*e*P	**Pn**	**11**	**53**	**29.6 +0.6**
SBF				*e*Sn	**Sn**	**11**	**54**	**13.3 -5.7**
	comp=E,53nm,0.5s							
BUM	**Brajici-Budva**	**4.29**	**95**	⇑*i* Pn	**Pn**	**11**	**53**	**29.7 +0.7**
BUM				*i* Sn	**Sn**	**11**	**54**	**20.0 +0.9**
NKME	**Niksic**	**4.29**	**88**	⇓*i* Pn	**Pn**	**11**	**53**	**29.6 +0.6**
NKME				*i* Sn	**Sn**	**11**	**54**	**19.9 +0.9**
ROSI	**Rosskopf**	**4.31**	**344**	P	**Pn**	**11**	**53**	**30.4 +1.0**
ROSI				AML	AML			
	comp=E,608µm,0.5s							
ROSI				AML	AML			
	comp=N,724µm,0.9s							
TURF	**col de Turini**	**4.34**	**288**	P	**Pn**	**11**	**53**	**30.5 +0.7**
VARE	**Varese**	**4.38**	**316**	P	**Pn**	**11**	**53**	**31.3 +1.0**
HAPS	**Han Pijesak,BI**	**4.43**	**71**	*e*Pn	**Pn**	**11**	**53**	**31.8 +0.8**
BEHE	**Becsehely**	**4.50**	**34**	P	**Pn**	**11**	**53**	**31.1 -0.8**
DRME	**Dracevica, Mon**	**4.52**	**96**	*e*Pn	**Pn**	**11**	**53**	**32.8 +0.7**
DRME	**Dracevica, Mon**	**4.52**	**96**	⇑*i* Pn	**Pn**	**11**	**53**	**32.9 +0.8**
DRME				*i* Sn	**Sn**	**11**	**54**	**25.6 +0.9**
TTG	**Podgorica**	**4.54**	**93**	⇓*i* Pn	**Pn**	**11**	**53**	**33.1 +0.8**
TTG				*i* Sn	**Sn**	**11**	**54**	**26.0 +0.9**
FETA	**Feichten**	**4.56**	**339**	*i* Pn	**Pn**	**11**	**53**	**34.6 +1.9**
	comp=N,11nm,0.6s,SNR=13							
FETA				*e*Sn	**Sn**	**11**	**54**	**31.7 +5.9**
	comp=N,24nm,0.7s							
WTTA	**Wattenberg**	**4.59**	**347**	*i* Pn	**Pn**	**11**	**53**	**35.0 +1.8**
	comp=N,15nm,0.4s,SNR=12							
WTTA				*e*Sn	**Sn**	**11**	**54**	**30.4 +3.7**
	comp=N,83nm,0.5s							
WTTA	**Wattenberg**	**4.59**	**347**	P	**Pn**	**11**	**53**	**34.8 +1.5**
DAVOX	**Davos/Dischmat**	**4.61**	**331**	Pn	**Pn**	**11**	**53**	**36.2 +2.7**
	comp=N,8.0nm,0.3s,baz=151,slow=15,SNR=37							
DAVOX				Sn	**Sn**	**11**	**54**	**28.2 +1.1**
	comp=N,6.4nm,0.3s,baz=124,slow=20,SNR=4.2							
DAVOX				LR	LR	11	55	50.3
	comp=N,165nm,19.2s,baz=164,slow=46							
ULC	**Ulcinj**	**4.61**	**98**	⇓*i* Pn	**Pn**	**11**	**53**	**34.1 +0.8**
ULC				*i* Sn	**Sn**	**11**	**54**	**27.8 +0.9**
PLE	**Pljevlja**	**4.62**	**81**	⇑*i* Pn	**Pn**	**11**	**53**	**34.2 +0.6**
PLE				*i* Sn	**Sn**	**11**	**54**	**27.8 +0.5**
SQTA	**Sankt Quirin**	**4.63**	**344**	*i* Pn	**Pn**	**11**	**53**	**35.7 +1.9**
	comp=N,9.6nm,0.3s,SNR=16							
SQTA				*e*Sn	**Sn**	**11**	**54**	**31.9 +4.4**
	comp=N,52nm,0.4s							
CALF	**Calern**	**4.63**	**284**	P	**Pn**	**11**	**53**	**34.9 +1.2**
WATA	**Walderalm**	**4.67**	**347**	*i* Pn	**Pn**	**11**	**53**	**36.9 +2.6**
	comp=N,15nm,0.3s,SNR=19							
WATA				*e*Sn	**Sn**	**11**	**54**	**30.8 +2.2**
	comp=N,58nm,0.5s							
KOME	**Kolasin**	**4.70**	**87**	*e*Pn	**Pn**	**11**	**53**	**35.3 +0.6**
KOME				*i* Sn	**Sn**	**11**	**54**	**29.8 +0.6**
ARSA	**Arzberg**	**4.77**	**20**	*i* Pn	**Pn**	**11**	**53**	**35.2 -0.3**
	comp=N,16nm,0.4s,SNR=10							
ARSA				*e*Sn	**Sn**	**11**	**54**	**28.1 -2.7**
	comp=N,9.0nm,0.4s							
ARSA	**Arzberg**	**4.77**	**20**	P	**Pn**	**11**	**53**	**35.0 -0.5**
MOTA	**Moosalm**	**4.77**	**343**	*i* Pn	**Pn**	**11**	**53**	**38.0 +2.3**
	comp=N,14nm,0.5s,SNR=16							
MOTA				*e*Sn	**Sn**	**11**	**54**	**33.1 +2.0**
	comp=N,22nm,0.5s							
KOVH	**Kovagotottos**	**4.85**	**46**	P	**Pn**	**11**	**53**	**35.3 -1.3**
KOVH				S	**Sn**	**11**	**54**	**29.6 -3.2**
LMR	**La Mourre**	**4.88**	**279**	*e*P	**Pn**	**11**	**53**	**37.1 +0.1**
LMR				*e*Sn	**

BIOA	**Bad Ischl, Aus**	**4.91**	**4**	*i* Pn		**Pn**	**11 53 38.1**	**+0.6**
	comp=N,9,9nm,0.3s,SNR=22							
BIOA				*e*Sn		**Sn**	**11 54 36.5**	**+2.2**
	comp=N,50nm,0.4s							
JAUF	**Jausiers**	**4.91**	**292**	P		**Pn**	**11 53 40.5**	**+2.9**
IVA	**Berane**	**4.98**	**87**	*e*Pn		**Pn**	**11 53 39.2**	**+0.7**
IVA				*i* Sn		**Sn**	**11 54 36.5**	**+0.4**
RETA	**Reutte**	**4.98**	**341**	*i* Pn		**Pn**	**11 53 40.7**	**+2.2**
	comp=N,4.1nm,0.3s,SNR=13							
RETA				*e*Sn		**Sn**	**11 54 38.9**	**+2.7**
	comp=N,13nm,0.4s							
MBDF	**Montbardon**	**4.99**	**295**	*e*P		**Pn**	**11 53 39.9**	**+1.2**
MBDF				*e*Sn		**Sn**	**11 54 30.2**	**-6.3**
	comp=N,7.3nm,0.4s							
DAVA	**Damuels**	**5.05**	**334**	*i* Pn		**Pn**	**11 53 41.8**	**+2.3**
	comp=N,4.1nm,0.3s,SNR=23							
DAVA				*e*Sn		**Sn**	**11 54 40.7**	**+2.8**
	comp=N,54nm,0.8s							
EMBD	**Embd, Matterta**	**5.10**	**314**	P		**Pn**	**11 53 42.8**	**+2.6**
MOA	**Molln**	**5.12**	**9**	*i* Pn		**Pn**	**11 53 40.6**	**+0.2**
	comp=N,4.7nm,0.4s,SNR=7.7							
MOA				*e*Sn		**Sn**	**11 54 39.3**	**-0.1**
	comp=N,14nm,0.3s							
DIVS	**Divibare**	**5.17**	**73**	*e*Pn		**Pn**	**11 53 40.9**	**-0.2**
MORH	**Mrgy, Hungar**	**5.22**	**47**	P		**Pn**	**11 53 40.7**	**-1.0**
LPL	**La Plagne**	**5.34**	**303**	*e*P		**Pn**	**11 53 45.0**	**+1.4**
LPL				*e*Sn		**Sn**	**11 54 38.7**	**-6.6**
	comp=N,21nm,0.4s							
FRGS	**Fruska Gora**	**5.37**	**62**	*e*Pn		**Pn**	**11 53 41.8**	**-2.0**
MPLH	**Magyarpolny**	**5.38**	**34**	P		**Pn**	**11 53 43.1**	**-0.8**
RONA	**Rosalia, Austr**	**5.39**	**23**	*i* Pn		**Pn**	**11 53 43.9**	**-0.2**
	comp=N,5.1nm,0.3s,SNR=10							
RONA				*e*Sn		**Sn**	**11 54 45.7**	**-0.5**
	comp=N,13nm,0.5s							
SOP	**Sopron**	**5.46**	**25**	P		**Pn**	**11 53 44.5**	**-0.4**
CONA	**Conrad Observa**	**5.48**	**20**	*i* Pn		**Pn**	**11 53 45.2**	**-0.2**
	comp=N,20nm,0.4s,SNR=15							
CONA				*e*Sn		**Sn**	**11 54 45.7**	**-2.8**
	comp=N,13nm,0.5s							
RSL	**Roselend**	**5.49**	**304**	P		**Pn**	**11 53 48.2**	**+2.6**
SMRF	**Simiane la Rot**	**5.63**	**285**	*e*P		**Pn**	**11 53 48.8**	**+1.4**
SMRF				*e*Sn		**Sn**	**11 54 45.3**	**-6.8**
	comp=N,1.4nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.65**	**295**	*e*P		**Pn**	**11 53 49.5**	**+1.7**
ORIF				*e*Sn		**Sn**	**11 54 45.9**	**-6.8**
	comp=N,3.4nm,0.3s							
AIGLE	**Aigle**	**5.66**	**311**	P		**Pn**	**11 53 50.7**	**+2.9**
SULZ	**Cheisacher**	**5.91**	**325**	P		**Pn**	**11 53 52.9**	**+1.6**
TORNY	**Torny/Romont**	**5.92**	**314**	P		**Pn**	**11 53 53.5**	**+2.0**
SLE	**Schleitheim**	**5.95**	**328**	P		**Pn**	**11 53 52.2**	**+0.5**
SLE	**Schleitheim**	**5.95**	**328**	S		**Sn**	**11 54 58.0**	**-1.9**
BALST	**Balsthal**	**5.95**	**322**	P		**Pn**	**11 53 53.5**	**+1.7**
BALST	**Balsthal**	**5.95**	**322**	S		**Sn**	**11 54 59.9**	**-0.1**
GERES	**GERESS Array B**	**6.07**	**4**	Pn		**Pn**	**11 53 52.9**	**-0.5**
	comp=N,2.4nm,0.3s,baz=171,slow=13,SNR=28							
GERES				Sn		**Sn**	**11 55 00.5**	**-2.4**
	comp=N,5.6nm,0.3s,baz=179,slow=25,SNR=2.9							
	comp=N,3.5nm,0.3s							
ZST	**Bratislava**	**6.08**	**26**	*e*PN		**Pn**	**11 53 53.0**	**-0.5**
ZST				*e*SN		**Sn**	**11 54 58.4**	**-4.7**
CKRC	**Cesky Krumlov**	**6.08**	**7**	*e*PN		**Pn**	**11 53 52.0**	**-1.6**
CKRC				*e*SN		**Sn**	**11 54 59.1**	**-4.1**
SKO	**Skopje**	**6.21**	**95**	*i* Pn		**Pn**	**11 53 56.4**	**+1.0**
BRANT	**Les Verrieres**	**6.29**	**314**	P		**Pn**	**11 53 58.4**	**+1.9**
MODS	**Modra-Piesok**	**6.29**	**26**	*e*PN		**Pn**	**11 53 54.2**	**-2.3**
MODS				*e*SN		**Sn**	**11 55 06.7**	**-1.7**
CABF	**La Chapelle**	**6.30**	**310**	*e*P		**Pn**	**11 53 58.1**	**+1.4**
CABF				*e*Sn		**Sn**	**11 55 01.3**	**-7.4**
	comp=N,7.1nm,0.4s							
KIZ	**Kirchzarten**	**6.33**	**326**	P		**Pn**	**11 53 57.8**	**+0.8**
KIZ	**Kirchzarten**	**6.33**	**326**	S		**Sn**	**11 55 07.6**	**-1.7**
KHC	**Kasperske Hory**	**6.35**	**3**	*e*PN		**Pn**	**11 53 56.1**	**-1.1**
KHC				*e*SN		**Sn**	**11 55 07.4**	**-2.3**
CHMF	**Charmoille**	**6.39**	**316**	P		**Pn**	**11 53 58.8**	**+0.9**
CHMF				S		**Sn**	**11 55 09.3**	**-1.6**
VIVF	**Saint-Julien-l**	**6.45**	**292**	*e*P		**Pn**	**11 54 00.1**	**+1.4**
VIVF				*e*Sn		Sn	11 55 05.0	-7.3
	comp=N,4.7nm,0.5s							
KRUC	**Moravsky**	**6.67**	**19**	*e*PN		**Pn**	**11 54 00.2**	**-1.4**
KRUC				*e*SN		**Sn**	**11 55 12.7**	**-4.9**
HINF	**Hinteralfeld**	**6.69**	**321**	*e*P		**Pn**	**11 54 02.7**	**+0.8**
HINF				*e*Sn		**Sn**	**11 55 10.7**	**-7.5**
	comp=N,62nm,0.6s							
TREC	**Trest**	**6.71**	**13**	*e*PN		**Pn**	**11 54 01.8**	**-0.3**
RONF	**Ronchamp**	**6.71**	**319**	P		**Pn**	**11 54 02.8**	**+0.6**
RONF				S		**Sn**	**11 55 17.8**	**-0.9**
STIP	**Stip**	**6.81**	**96**	*i* Pn		**Pn**	**11 54 06.2**	**+2.6**
STIP				*i* Sn		**Sn**	**11 55 23.1**	**+1.9**
ECH	**Echery**	**6.85**	**324**	P		**Pn**	**11 54 04.5**	**+0.4**
ECH				S		**Sn**	**11 55 19.4**	**-2.8**
LASF	**Ste Croix**	**6.87**	**284**	*e*P		**Pn**	**11 54 06.1**	**+1.7**
LASF				*e*Sn		Sn	11 55 14.9	-7.7
	comp=N,1.1nm,0.5s							
VRAC	**Vranov**	**6.95**	**19**	Pn		**Pn**	**11 54 04.2**	**-1.2**
	comp=N,0.6nm,0.3s,baz=222,slow=12,SNR=4.0							
VRAC				Sn		**Sn**	**11 55 17.7**	**-6.7**
	comp=N,0.9nm,0.3s,baz=273,slow=17,SNR=2.0							
VRAC				LR		LR	11 57 26.3	
	comp=N,153nm,18.5s,baz=216,slow=44							
	comp=N,2.4nm,0.5s							
VRAC	**Vranov**	**6.95**	**19**	*e*PN		**Pn**	**11 54 04.2**	**-1.2**
CDF	**Champ du Feu**	**6.96**	**326**	*e*P		**Pn**	**11 54 05.9**	**+0.3**
CDF				*e*Sn		**Sn**	**11 55 17.0**	**-7.8**
	comp=N,6.6nm,0.2s							
HAU	**Haudompre**	**7.06**	**320**	*e*P		**Pn**	**11 54 07.9**	**+0.9**
HAU				*e*Sn		**Sn**	**11 55 19.5**	**-7.8**
	comp=N,43nm,0.4s							
VAY	**Valandovo**	**7.18**	**99**	*i* Pn		**Pn**	**11 54 09.7**	**+1.1**
VAY				*i* Sn		**Sn**	**11 55 26.6**	**-3.6**
GOPC	**GO Pecny, Ondr**	**7.21**	**9**	*e*PN		**Pn**	**11 54 07.8**	**-1.3**
PRU	**Pruhonice**	**7.26**	**7**	*e*PN		**Pn**	**11 54 08.9**	**-0.8**
PRU				*e*SN		**Sn**	**11 55 27.0**	**-5.2**
NKC	**Novy Kostel**	**7.46**	**357**	*e*SN		**Sn**	**11 55 34.1**	**-2.9**
MORC	**Moravsky Berou**	**7.62**	**22**	*e*PN		**Pn**	**11 54 14.7**	**0.0**
KEST	**Kesra**	**7.64**	**204**	Pn		**Pn**	**11 54 17.2**	**+2.2**
	comp=N,0.3nm,0.3s,baz=301,slow=8.0,SNR=1.7							
	comp=N,9.3nm,1.2s							
SMF	**Signal de Mont**	**7.65**	**303**	*e*P		**Pn**	**11 54 17.2**	**+2.1**
SMF				*e*Sn		Sn	11 55 33.8	-8.0
	comp=N,17nm,0.7s							
KRLC	**Kraliky**	**7.71**	**18**	*e*PN		**Pn**	**11 54 14.8**	**-1.1**
PAGF	**Fort de Pagny**	**7.75**	**321**	*e*P		**Pn**	**11 54 18.4**	**+2.0**
PAGF				*e*Sn		Sn	11 55 35.6	-8.5
	comp=N,17nm,0.4s							
SFTF	**Sexfontaines**	**7.84**	**316**	*e*P		**Pn**	**11 54 19.8**	**+2.1**
SFTF				*e*Sn		Sn	11 55 38.1	-8.4
	comp=N,8.7nm,0.4s							
LOR	**Lormes**	**7.94**	**307**	*e*P		**Pn**	**11 54 21.2**	**+2.1**
	baz=122							
LOR				*e*Sn		Sn	11 55 40.4	-8.5
	comp=N,11nm,0.4s							
MTLF	**Montolieu**	**8.01**	**278**	*e*P		**Pn**	**11 54 22.1**	**+2.1**
MTLF				*e*Sn		Sn	11 55 42.3	-8.3
	comp=N,0.8nm,0.3s							
AVF	**Avril sur Loir**	**8.02**	**303**	*e*P		**Pn**	**11 54 22.2**	**+2.1**
AVF				*e*Sn		Sn	11 55 42.1	-8.6
	comp=N,1.3nm,0.4s							
MEZF	**Maizieres J'vi**	**8.03**	**318**	*e*P		**Pn**	**11 54 22.3**	**+2.0**
MEZF				*e*Sn		Sn	11 55 42.6	-8.5
	comp=N,6.0nm,0.3s							
SSF	**Saint Saulge**	**8.05**	**305**	*e*P		**Pn**	**11 54 22.7**	**+2.2**
SSF				*e*Sn		Sn	11 55 42.9	-8.6
	comp=N,6.9nm,0.4s							
SAVF	**Savonnieres en**	**8.07**	**319**	*e*P		**Pn**	**11 54 22.9**	**+2.0**
BRG	**Berggiesshubel**	**8.10**	**4**	*e*P		**Pn**	**11 54 22.4**	**+1.2**
BRG				Amp			11 54 36.5	
	comp=Z,5.8nm,0.6s							
BRG				*ex*		x	11 55 47.3	
BRG				*ex*		x	11 56 45.9	
BRG				Amp			11 57 01.6	
	comp=Z,21nm,0.9s							
BRG				Amp			11 57 54.0	
	comp=Z,0.5nm,8.9s							
BGF	**Bois d'Agland**	**8.23**	**301**	*e*P		**Pn**	**11 54 24.9**	**+1.8**
BGF				*e*Sn		Sn	11 55 47.2	-8.9
	comp=Z,5.3nm,0.4s							
CAF	**Calviac**	**8.27**	**289**	*e*P		**Pn**	**11 54 25.7**	**+2.0**
CAF				*e*Sn		Sn	11 55 48.4	-8.7
	comp=Z,1.7nm,0.5s							
CLL	**Collm**	**8.52**	**359**	*i* Pn		**Pn**	**11 54 27.4**	**+0.5**
CLL				*i* Sn		**Sn**	**11 56 00.0**	**-3.0**
CLL				*e*Sg		**Sg**	**11 57 04.0**	**+7.2**
	comp=Z,42nm,1.2s							
TCF	**Toulx Ste Croi**	**8.54**	**298**	*e*P		**Pn**	**11 54 29.6**	**+2.3**
TCF				*e*Sn		Sn	11 55 55.0	-8.7
	comp=Z,3.0nm,0.5s							
HYF	**Humbligny**	**8.67**	**305**	*e*P		**Pn**	**11 54 31.6**	**+2.6**
STHS	**Stebnicka Huta**	**8.69**	**38**	*e*PN		**Pn**	**11 54 32.1**	**+2.7**
RJF	**Les Rejaudoux**	**8.73**	**291**	*e*P		**Pn**	**11 54 32.2**	**+2.3**
GIVF	**Givet**	**9.28**	**325**	*e*P		**Pn**	**11 54 39.7**	**+2.3**
GIVF				*e*Sn		Sn	11 56 12.3	-10
	comp=Z,1.5nm,0.2s							
BAIF	**Baives**	**9.52**	**323**	*e*P		**Pn**	**11 54 43.0**	**+2.3**
BAIF				*e*Sn		Sn	11 56 18.1	-9.5
	comp=Z,1.8nm,0.2s							
MLR	**Muntele Rosu**	**9.60**	**69**	Pn		**Pn**	**11 54 43.7**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=2.5							
	comp=Z,2.6nm,0.7s							
AKASG	**Malin Array Be**	**13.56**	**49**	LR		LR	12 00 38.8	
	comp=Z,89nm,18.6s,baz=220,slow=37							
BRTR	**Keskin Array B**	**15.72**	**94**	Pn		**Pn**	**11 56 05.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=297,slow=14,SNR=2.2							
	comp=Z,0.3nm,0.3s							
MDT	**Midelt**	**17.16**	**240**	LR		LR	12 02 08.1	
	comp=Z,65nm,18.8s,baz=31,slow=34							
HFS	**Hagfors**	**17.37**	**1**	LR		LR	12 04 38.4	
	comp=Z,134nm,18.2s,baz=254,slow=43							
NOA	**NORSAR Array B**	**18.31**	**357**	LR		LR	12 04 48.6	
	comp=Z,52nm,18.5s,baz=270,slow=41							
FINES	**FINESS Array B**	**20.23**	**18**	P		**P**	**11 56 57.8**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=189,slow=8.5,SNR=11							
	comp=Z,3.8nm,0.8s							
KBZ	**Khabaz**	**21.65**	**77**	P		**P**	**11 57 15.0**	**+1.0**
	comp=Z,5.2nm,0.9s,baz=288,slow=10,SNR=7.8							
	comp=Z,5.2nm,0.9s							
BELG	**Belogornoye**	**24.95**	**55**	P		**P**	**11 57 47.3**	**+0.4**
	comp=Z,12nm,0.8s,baz=290,slow=3.8,SNR=6.5							
	comp=Z,12nm,0.8s							
TORD	**Torodi Ar. Bea**	**31.15**	**202**	P		**P**	**11 58 43.0**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=14,slow=9.0,SNR=9.7							
TORD				LR		LR	12 12 56.6	
	comp=Z,59nm,19.6s,baz=214,slow=40							
	comp=Z,1.8nm,0.9s							
ARU	**Arti**	**31.81**	**49**	P		**P**	**11 58 48.1**	**0.0**
	comp=Z,4.9nm,0.5s,baz=256,slow=6.4,SNR=7.5							
	comp=Z,4.9nm,0.5s							
ZALV	**Zalesovo Beam**	**46.95**	**50**	P		**P**	**12 00 54.5**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=289,slow=8.7,SNR=3.3							
	comp=Z,0.7nm,0.4s							
MKAR	**Makanchi Array**	**47.80**	**60**	P		**P**	**12 01 01.5**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=290,slow=7.0,SNR=13							
	comp=Z,1.4nm,0.6s							
SONM	**Songino Array**	**61.84**	**50**	P		**P**	**12 02 43.9**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=279,slow=8.3,SNR=8.5							
	comp=Z,2.2nm,0.8s							
INK	**Inuvik**	**66.44**	**347**	P		**P**	**12 03 12.6**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=323,slow=3.0,SNR=3.6							
	comp=Z,0.4nm,0.4s							
CMAR	**Chiang Mai Arr**	**74.69**	**79**	P		**P**	**12 04 03.6**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=310,slow=7.7,SNR=4.7							
	comp=Z,1.4nm,0.3s							
TXAR	**Lajitas Array**	**87.70**	**309**	P		**P**	**12 05 15.7**	**+3.0**
	comp=Z,0.5nm,1.1s,baz=66,slow=4.4,SNR=2.4							

WEL ***16*** *12:15:28.0±0.3, 42°S±2°×17°4E±°, h7km±2km, M3.4/39, ML3.6/19, MLv3.4/39, Error ellipse: s-maj=0.0km s-min=0.0km az=12.0*
NOU ***16*** *12:15:34.4, 41°67S×173°69E, h20km, MLv4.0/5, South Island, New Zealand*

ISC 16 12:15:27.7±1.0, 41°79S±0°03×174°12E±0°03, h13km±7km, n75, σ1s24/75, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**60**	P	**Pg**	**12 15 31.3**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.20**	**292**	P	**Pg**	**12 15 31.7**	**-0.5**
BSWZ				S	**Sg**	**12 15 34.5**	**-0.8**
TUWZ	**Tuamarina**	**0.38**	**340**	P	**Pb**	**12 15 35.4**	**-1.0**
TCW	**Tory Channel**	**0.59**	**12**	P	**Pg**	**12 15 39.3**	**0.0**
WEL	**Wellington**	**0.70**	**44**	P	**Pb**	**12 15 42.2**	**+0.4**
KHZ	**Kahutara**	**0.76**	**214**	P	**Pb**	**12 15 44.2**	**+1.4**
NNZ	**Nelson**	**0.80**	**316**	P	**Pg**	**12 15 42.5**	**-0.7**
PLWZ	**Palliser**	**0.88**	**76**	P	**Pb**	**12 15 45.8**	**+0.9**
THZ	**Tophouse**	**0.91**	**271**	P	**Pg**	**12 15 44.7**	**-0.6**
MSWZ	**Moikau Station**	**0.93**	**67**	P	**Pb**	**12 15 46.7**	**+1.0**
CAW	**Cannon Point**	**0.99**	**47**	P	**Pb**	**12 15 47.4**	**+0.8**
DUWZ	**D'Urville Isla**	**1.00**	**351**	P	**Pg**	**12 15 46.2**	**-0.8**
PAWZ	**Paruwai Farm**	**1.06**	**68**	P	**Pg**	**12 15 48.4**	**+0.1**
MRNZ	**Matariki Terra**	**1.09**	**291**	P	**Pb**	**12 15 48.3**	**-0.2**
KIW	**Kapiti Island**	**1.10**	**33**	P	**Pg**	**12 15 48.6**	**-0.4**
TKNZ	**Takaka Hill**	**1.15**	**311**	P	**Pg**	**12 15 48.9**	**-1.1**
MTW	**Mount Morrison**	**1.22**	**59**	P	**Pb**	**12 15 50.1**	**-0.4**
TRWZ	**Traveller**	**1.24**	**72**	P	**Pn**	**12 15 50.4**	**-0.4**
OGWZ	**Otaki Gorge**	**1.25**	**39**	P	**Pn**	**12 15 51.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.38**	**50**	P	**Pn**	**12 15 52.7**	**0.0**
GVZ	**Greta Valley S**	**1.42**	**214**	P	**Pn**	**12 15 53.8**	**+0.5**
TMWZ	**Te Maipa**	**1.50**	**63**	P	**Pn**	**12 15 53.9**	**-0.4**
QRZ	**Quartz Range**	**1.54**	**308**	P	**Pb**	**12 15 56.1**	**+0.1**
QRZ	**Quartz Range**	**1.54**	**308**	P	**Pb**	**12 15 55.4**	**-0.6**
MRZ	**Mangatainoka R**	**1.58**	**45**	P	**Pn**	**12 15 55.6**	**+0.2**
LTZ	**Lake Taylor**	**1.69**	**234**	P	**Pn**	**12 15 57.5**	**+0.5**
DSZ	**Denniston Nort**	**1.73**	**271**	P	**Pb**	**12 15 58.9**	**-0.5**
AMCZ	**Amberley**	**1.76**	**218**	P	**Pn**	**12 15 57.9**	**0.0**
PRWZ	**Pori Road**	**1.86**	**49**	P	**Pn**	**12 15 59.2**	**-0.1**
POWZ	**Post Office Ro**	**1.87**	**42**	P	**Pn**	**12 15 59.6**	**+0.2**
OKCZ	**Okains Bay**	**2.08**	**202**	P	**Pn**	**12 16 02.1**	**-0.2**
WAZ	**Wanganui**	**2.14**	**18**	P	**Pb**	**12 16 02.6**	**-1.0**
DVHZ	**Dannevirke**	**2.15**	**47**	P	**Pn**	**12 16 02.6**	**-0.7**
OXZ	**Oxford**	**2.17**	**224**	P	**Pn**	**12 16 02.7**	**-0.9**
INZ	**Inchbonnie**	**2.19**	**224**	P	**Pn**	**12 16 05.5**	**+1.6**
MQZ	**McQueen's Vall**	**2.20**	**209**	P	**Pn**	**12 16 02.6**	**-1.2**
TSZ	**Takapari Road**	**2.22**	**39**	P	**Pn**	**12 16 04.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**2.26**	**203**	P	**Pn**	**12 16 04.1**	**-0.7**
RACZ	**Rakaia**	**2.42**	**216**	P	**Pn**	**12 16 06.5**	**-0.5**
PNHZ	**Pukenui**	**2.45**	**41**	P	**Pn**	**12 16 07.1**	**-0.3**
KHEZ	**Kahui Hut**	**2.50**	**358**	P	**Pb**	**12 16 12.5**	**+0.1**
NBEZ	**Newall Road No**	**2.53**	**356**	P	**Pg**	**12 16 15.1**	**-1.1**
MHCZ	**Mount Hutt**	**2.56**	**226**	P	**Pn**	**12 16 08.4**	**-0.6**
PKE	**Pukeiti**	**2.60**	**358**	P	**Pb**	**12 16 14.6**	**+0.5**
MOVZ	**Moawhango**	**2.69**	**28**	P	**Pn**	**12 16 11.2**	**+0.5**
WNVZ	**Wahianoa**	**2.71**	**25**	P	**Pn**	**12 16 12.6**	**+1.6**
VRZ	**Vera Road**	**2.71**	**11**	P	**Pn**	**12 16 13.4**	**+2.5**
TRVZ	**Turoa**	**2.72**	**24**	P	**Pn**	**12 16 13.9**	**+2.6**
WACZ	**Wakanui South**	**2.73**	**217**	P	**Pb**	**12 16 10.5**	**-0.6**
BHHZ	**Black Hill Sta**	**2.73**	**33**	P	**Pn**	**12 16 11.9**	**+0.6**
WHVZ	**Whangaehu Hut**	**2.74**	**25**	P	**Pb**	**12 16 15.0**	**-1.7**
FWVZ	**Far West T-bar**	**2.76**	**24**	P	**Pb**	**12 16 15.1**	**-1.9**
WVZ	**Waitaha Valley**	**2.81**	**242**	P	**Pn**	**12 16 14.6**	**+2.3**
NGZ	**Ngauruhoe**	**2.85**	**24**	P	**Pb**	**12 16 19.6**	**+1.1**
SNVZ	**South Ngauruho**	**2.85**	**25**	P	**Pn**	**12 16 14.8**	**+1.8**
OTVZ	**Oturere**	**2.88**	**25**	P	**Pn**	**12 16 14.8**	**+1.4**
NNVZ	**North Ngauruho**	**2.89**	**24**	P	**Pb**	**12 16 20.0**	**+0.8**
TWVZ	**Taurewa**	**2.90**	**21**	P	**Pb**	**12 16 20.4**	**+1.2**
WTVZ	**West Tongariro**	**2.90**	**23**	P	**Pb**	**12 16 20.4**	**+1.0**
ETVZ	**East Tongariro**	**2.92**	**25**	P	**Pb**	**12 16 20.5**	**+0.9**
TMVZ	**Te Maari**	**2.93**	**25**	P	**Pb**	**12 16 21.1**	**+1.2**
RPZ	**Rata Peaks**	**2.96**	**229**	P	**Pn**	**12 16 14.8**	**+0.3**
ARCZ	**Arundel**	**3.05**	**224**	P	**Pn**	**12 16 15.3**	**-0.4**
BKZ	**Black Stump Fm**	**3.19**	**35**	P	**Pb**	**12 16 24.5**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**3.19**	**240**	P	**Pn**	**12 16 20.8**	**+3.3**
HIZ	**Hauiti**	**3.32**	**10**	P	**Pb**	**12 16 24.6**	**-1.9**
HIZ	**Hauiti**	**3.32**	**10**	P	**Pn**	**12 16 22.2**	**+2.8**
TMZ	**Timaru**	**3.45**	**220**	P	**Pn**	**12 16 20.7**	**-0.5**
FOZ	**Fox Glacier**	**3.62**	**240**	P	**Pn**	**12 16 25.0**	**+1.5**
LBZ	**Lake Benmore**	**3.88**	**227**	P	**Pn**	**12 16 27.1**	**+0.1**
ODZ	**Otahua Downs**	**4.12**	**217**	P	**Pn**	**12 16 29.5**	**-0.8**
URZ	**Urewera**	**4.21**	**34**	P	**Pb**	**12 16 39.2**	**-2.4**
JCZ	**Jackson Bay**	**4.53**	**238**	P	**Pn**	**12 16 39.1**	**+3.0**
JCZ	**Jackson Bay**	**4.53**	**238**	P	**Pn**	**12 16 38.6**	**+2.5**
CNGZ	**Carnagh Statio**	**4.55**	**45**	P	Pn	12 16 42.0	+5.8

BER 16 12:00:25.4±0.5, 67°90N×33°26E, h0km, ML1.4,
Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**2.94**	**312**	*e*P	Pn	12 01 11.2	-2.0
KEV				*e*S	Sn	12 01 45.4	-3.7
ARA0	**ARCESS Array S**	**3.27**	**304**	*e*P	Pn	12 01 16.0	-1.8
ARA0				*e*S	Sn	12 01 53.2	-4.2
ARA0				IAML		12 02 06.5	
	comp=Z,2.1nm,0.5s						
HEF	**Hetta**	**3.63**	**282**	*e*P	Pn	12 01 21.2	-1.5
KTK1	**Kautokeino**	**3.86**	**291**	*e*P	Pn	12 01 23.8	-2.2
KTK1				IAML		12 02 21.8	
	comp=Z,2.6nm,0.5s						
KIF	**Kilpisjarvi**	**4.73**	**289**	*e*P	Pn	12 01 35.6	-2.2

HEL ***16*** *12:00:57.2±0.3, 65°83N×24°38E, h0km, ML1.3, Explosion*

ISC 16 12:00:56.5±0.9, 65°84N±0°03×24°37E±0°04, h0km, n11, σ1s32/16, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.24**	**356**	PG	**Pg**	**12 01 01.8**	**+0.7**
KALU	**Kalix**	**0.41**	**273**	PG	**Pg**	**12 01 05.0**	**+0.6**
KALU				SG	**Sg**	**12 01 10.4**	**+0.6**
OUL	**Oulu**	**0.99**	**139**	PB	**Pb**	**12 01 16.9**	**+0.4**
RNF	**Rovaniemi**	**1.02**	**40**	PB	**Pg**	**12 01 16.1**	**+0.1**
RNF				SN	**Sn**	**12 01 35.8**	**+2.7**
OBF4	**Vikkela, Lumij**	**1.08**	**163**	PN	Pn	**12 01 19.1**	**+0.4**
ERTU	**Ertsjaerv**	**1.14**	**310**	PG	**Pg**	**12 01 18.3**	**+0.1**
ERTU				SG	**Sg**	**12 01 32.7**	**-0.2**
KLF	**Kolari**	**1.41**	**354**	PG	Pn	**12 01 22.4**	**-1.0**
KLF				SG	**Sg**	**12 01 40.8**	**-0.9**
BURU	**Burvik**	**1.78**	**226**	SG	**Sg**	**12 01 54.0**	**+0.3**
HEF	**Hetta**	**2.59**	**354**	PG	**Pb**	**12 01 43.1**	**-0.7**
	baz=174						
HEF				MSG		12 02 13.9	
	comp=Z,0.8nm,0.2s						
HEF				SG	**Sb**	**12 02 15.9**	**-0.2**
KIF	**Kilpisjarvi**	**3.46**	**338**	SB	**Sb**	**12 02 40.7**	**-0.3**
KAF	**Kangasniemi**	**3.84**	**166**	SB	**Sb**	**12 02 48.7**	**-3.3**

HEL 16 12:05:08.3±0.1, 67°66N×33°37E, h0km, ML1.3,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.54**	**63**	PG	Pg	12 05 18.1	-0.6
VRF	**Varrio**	**1.44**	**275**	PG	Pn	12 05 34.0	-1.6
VRF				MSG		12 05 51.6	
	comp=Z,1.6nm,0.2s						
VRF				SG	Sg	12 05 52.9	-1.5
OLKF	**Oulanka, Finla**	**2.06**	**231**	PN	Pn	12 05 43.7	-0.4
OLKF				SG	Sb	12 06 11.9	-0.7
KU6	**Riekki**	**2.14**	**222**	MSG		12 06 11.8	
	comp=Z,0.8nm,0.2s						
KU6				SG	Sb	12 06 14.

IDC **16** *12:19:41.1±1.9, 42°.64S×171°.86E, h0km, mb3.7/2, mbtmp3.7/2, MS3.5/7, Error ellipse: s-maj=43.2km s-min=14.9km az=105.0*

NEIC **16** *12:19:42.9±1.3, 42°.68S±0°.02×171°.73E±0°.06, h11km±6km, mb4.0/7, Mwr4.1/39, ML4.3(WEL), Error ellipse: s-maj=6.3km s-min=3.0km az=90.0*

WEL **16** *12:19:42.8±0.3, 43°.3S×17°.2E±°, h5km, M4.4/33, ML4.6/19, MLv4.4/33, Error ellipse: s-maj=0.0km s-min=0.0km az=179.9*

NEIC **16** *12:19:42.9, 42°.68S×171°.73E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=0.00; Mθθ=0.16; Mϕϕ=-0.16; Mrθ=-0.73; Mrϕ=-1.72; Mθϕ=0.11; Fault plane solution: M0=1.88000×10^15 NP1:ϕs=87.64000°, δ=88.39000°, λ=-157.08000°. NP2:ϕs=356.95000°, δ=67.09000°, λ=-1.75000°. Principal axes: T 1.8541, Plg=15.0000°, Azm=220.0000°; N 0.0548, Plg=67.0000°, Azm=91.0000°; P -1.9089, Plg=17.0000°, Azm=315.0000°;*

NOU **16** *12:19:44.6, 42°.83S×172°.02E, h25km, MLv4.7/10, South Island, New Zealand*

ISC 16 12:19:42.9±0.7, 42°.71S±0°.02×171°.75E±0°.02, h14km±5km, n165, σ1s43/161, mb3.8/4, MS3.2/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
INZ	**Inchbonnie**	**0.23**	**266**			**Pg**	**12 19 47.7**	**-0.3**
INZ				Sg		**Sg**	**12 19 51.2**	**-0.1**
INZ	**Inchbonnie**	**0.23**	**266**	P		**Pg**	**12 19 47.7**	**-0.3**
INZ	**Inchbonnie**	**0.23**	**266**	P		**Pg**	**12 19 47.7**	**-0.3**
INZ				S		**Sg**	**12 19 51.3**	**-0.1**
LTZ	**Lake Taylor**	**0.39**	**101**			**Pg**	**12 19 50.9**	**+0.1**
LTZ				Sg		**Sg**	**12 19 56.1**	**0.0**
LTZ	**Lake Taylor**	**0.39**	**101**	P		**Pg**	**12 19 50.9**	**+0.1**
LTZ				S		**Sg**	**12 19 56.4**	**+0.3**
CSHS	**Castle Hill**	**0.52**	**182**	P		**Pb**	**12 19 54.2**	**+0.3**
OXZ	**Oxford**	**0.65**	**161**			**Pg**	**12 19 56.2**	**+0.6**
OXZ				Sg		**Sg**	**12 20 05.4**	**+1.1**
OXZ	**Oxford**	**0.65**	**161**	P		**Pg**	**12 19 56.4**	**+0.7**
AMCZ	**Amberley**	**0.81**	**126**			**Pg**	**12 19 59.6**	**+0.8**
AMCZ	**Amberley**	**0.81**	**126**	P		**Pb**	**12 19 59.8**	**+1.0**
WVZ	**Waitaha Valley**	**0.83**	**244**	P		**Pg**	**12 19 58.4**	**-0.6**
WVZ	**Waitaha Valley**	**0.83**	**244**	P		**Pg**	**12 19 58.5**	**-0.6**
MHCZ	**Mount Hutt**	**0.83**	**189**	P		**Pg**	**12 19 59.6**	**+0.5**
DSZ	**Denniston Nort**	**0.96**	**2**	Pg		**Pg**	**12 20 00.7**	**-0.9**
DSZ				Sg		**Sg**	**12 20 13.2**	**-1.0**
DSZ	**Denniston Nort**	**0.96**	**2**	P		**Pg**	**12 20 00.8**	**-0.8**
GVZ	**Greta Valley S**	**0.98**	**106**			**Pb**	**12 20 02.8**	**+1.1**
GVZ	**Greta Valley S**	**0.98**	**106**	P		**Pb**	**12 20 02.8**	**+1.1**
RACZ	**Rakaia**	**1.06**	**165**	P		**Pb**	**12 20 04.3**	**+1.3**
RPZ	**Rata Peaks**	**1.13**	**207**	Pg		**Pg**	**12 20 04.7**	**+0.1**
	624nm,0.3s,baz=344,slow=3.4,SNR=1006							
RPZ				Lg		Lg	12 20 20.9	
	401nm,0.3s,baz=33,slow=19,SNR=12							
RPZ				LR		LR	12 20 51.9	
	comp=Z,1μm,19.9s,baz=86,slow=58							
RPZ	**Rata Peaks**	**1.13**	**207**	P		**Pg**	**12 20 04.8**	**+0.1**
RPZ	**Rata Peaks**	**1.13**	**207**	P		**Pg**	**12 20 04.7**	**+0.1**
MQZ	**McQueen's Vall**	**1.20**	**147**			**Pg**	**12 20 05.5**	**-0.4**
MQZ	**McQueen's Vall**	**1.20**	**147**	P		**Pg**	**12 20 05.1**	**-0.8**
WACZ	**Wakanui South**	**1.23**	**177**	P		**Pg**	**12 20 05.9**	**-0.8**
THZ	**Tophouse**	**1.28**	**43**			**Pg**	**12 20 05.4**	**-2.1**
THZ	**Tophouse**	**1.28**	**43**	P		**Pg**	**12 20 05.4**	**-2.1**
ARCZ	**Arundel**	**1.31**	**199**	P		**Pg**	**12 20 08.4**	**+0.3**
KHZ	**Kahutara**	**1.35**	**78**			**Pn**	**12 20 08.0**	**+0.6**
KHZ	**Kahutara**	**1.35**	**78**	P		**Pn**	**12 20 08.4**	**+1.1**
OKCZ	**Okains Bay**	**1.39**	**137**	P		**Pn**	**12 20 08.4**	**+0.5**
AKCZ	**Akaroa Harbour**	**1.44**	**144**	P		**Pn**	**12 20 08.8**	**+0.3**
MRNZ	**Matariki Terra**	**1.51**	**30**			**Pn**	**12 20 10.5**	**+1.0**
MRNZ	**Matariki Terra**	**1.51**	**30**	P		**Pb**	**12 20 10.8**	**+0.1**
FOZ	**Fox Glacier**	**1.64**	**239**	Pn		**Pn**	**12 20 11.8**	**+0.5**
TMZ	**Timaru**	**1.76**	**198**	P		**Pn**	**12 20 13.0**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.86**	**59**			**Pn**	**12 20 15.7**	**+1.3**
BSWZ	**Blackbirch Sta**	**1.86**	**59**	P		**Pn**	**12 20 16.4**	**+2.0**
TKNZ	**Takaka Hill**	**1.90**	**29**			**Pn**	**12 20 15.4**	**+0.4**
TKNZ	**Takaka Hill**	**1.90**	**29**	P		**Pn**	**12 20 16.0**	**+1.1**
NNZ	**Nelson**	**1.92**	**40**			**Pn**	**12 20 15.7**	**+0.5**
NNZ	**Nelson**	**1.92**	**40**	P		**Pn**	**12 20 16.4**	**+1.2**
QRZ	**Quartz Range**	**1.97**	**17**			**Pn**	**12 20 16.3**	**+0.4**
QRZ	**Quartz Range**	**1.97**	**17**	P		**Pn**	**12 20 17.0**	**+1.1**
LBZ	**Lake Benmore**	**2.03**	**214**	Pn		**Pn**	**12 20 17.1**	**+0.5**
LBZ	**Lake Benmore**	**2.03**	**214**	P		**Pn**	**12 20 17.2**	**+0.5**
CMWZ	**Cape Campbell**	**2.07**	**63**	P		**Pn**	**12 20 18.5**	**+1.4**
TUWZ	**Tuamarina**	**2.07**	**53**	P		**Pn**	**12 20 18.9**	**+1.6**
TCW	**Tory Channel**	**2.41**	**52**			**Pn**	**12 20 22.3**	**+0.5**
TCW	**Tory Channel**	**2.41**	**52**	P		**Pn**	**12 20 23.0**	**+1.2**
ODZ	**Otahua Downs**	**2.47**	**199**	Pn		**Pn**	**12 20 22.5**	**-0.2**
ODZ	**Otahua Downs**	**2.47**	**199**	P		**Pn**	**12 20 24.1**	**+1.4**
ODZ	**Otahua Downs**	**2.47**	**199**	P		**Pn**	**12 20 22.5**	**-0.2**
DUWZ	**D'Urville Isla**	**2.50**	**41**	P		**Pn**	**12 20 24.9**	**+1.7**
JCZ	**Jackson Bay**	**2.56**	**237**	P		**Pn**	**12 20 24.8**	**+0.8**
JCZ	**Jackson Bay**	**2.56**	**237**	P		**Pn**	**12 20 24.7**	**+0.8**
SNZO	**South Karori**	**2.61**	**59**			**Pn**	**12 20 24.2**	**-0.4**
WEL	**Wellington**	**2.66**	**59**	P		**Pn**	**12 20 26.1**	**+0.8**
PLWZ	**Palliser**	**2.84**	**68**			**Pn**	**12 20 27.1**	**-0.8**
PLWZ	**Palliser**	**2.84**	**68**	P		**Pn**	**12 20 27.6**	**-0.3**
WKZ	**Wanaka**	**2.90**	**222**			**Pn**	**12 20 29.0**	**+0.3**
WKZ	**Wanaka**	**2.90**	**222**	P		**Pn**	**12 20 28.6**	**-0.1**
MSWZ	**Moikau Station**	**2.91**	**65**			**Pn**	**12 20 28.1**	**-0.6**
MSWZ	**Moikau Station**	**2.91**	**65**	P		**Pn**	**12 20 28.4**	**-0.3**
CAW	**Cannon Point**	**2.95**	**58**	P		**Pn**	**12 20 29.5**	**+0.2**
KIW	**Kapiti Island**	**3.00**	**53**	P		**Pn**	**12 20 30.8**	**+0.8**
PAWZ	**Paruwai Farm**	**3.04**	**65**	P		**Pn**	**12 20 30.5**	**-0.2**
EAZ	**Earnscleugh**	**3.08**	**214**	P		**Pn**	**12 20 30.6**	**-0.4**
OGWZ	**Otaki Gorge**	**3.18**	**55**	P		**Pn**	**12 20 32.7**	**+0.3**
MTW	**Mount Morrison**	**3.20**	**62**	P		**Pn**	**12 20 32.0**	**-0.7**
TRWZ	**Traveller**	**3.21**	**67**	P		**Pn**	**12 20 32.9**	**0.0**
HOWZ	**Holdsworth Sta**	**3.35**	**59**	P		**Pn**	**12 20 34.6**	**-0.1**
MSZ	**Milford Sound**	**3.40**	**233**	P		**Pn**	**12 20 35.7**	**+0.3**
TMWZ	**Te Maipa**	**3.48**	**64**	P		**Pn**	**12 20 35.8**	**-0.8**
MRZ	**Mangatainoka R**	**3.52**	**56**			**Pn**	**12 20 36.2**	**-1.0**
MRZ	**Mangatainoka R**	**3.52**	**56**	P		**Pn**	**12 20 36.8**	**-0.4**
TUZ	**Tuapeka**	**3.58**	**204**	P		**Pn**	**12 20 38.0**	**0.0**
NMEZ	**Namu Road**	**3.67**	**27**	P		**Pn**	**12 20 41.6**	**+2.5**
OHWZ	**Ohakea**	**3.67**	**48**	P		**Pn**	**12 20 43.4**	**+4.3**
MLZ	**Mavora Lakes**	**3.73**	**223**			**Pn**	**12 20 40.1**	**+0.1**
MLZ	**Mavora Lakes**	**3.73**	**223**	P		**Pn**	**12 20 39.8**	**-0.3**
NBEZ	**Newall Road No**	**3.79**	**26**	P		**Pn**	**12 20 43.4**	**+2.5**
POWZ	**Post Office Ro**	**3.80**	**54**	P		Pn	12 20 45.8	+4.8
LREZ	**Lake Rotokare**	**3.81**	**33**	P		**Pn**	**12 20 42.8**	**+1.6**
KHEZ	**Kahui Hut**	**3.82**	**27**	P		**Pn**	**12 20 43.7**	**+2.4**
KHEZ	**Kahui Hut**	**3.82**	**27**	P		**Pn**	**12 20 43.8**	**+2.4**
PRWZ	**Pori Road**	**3.83**	**57**	P		**Pn**	**12 20 40.9**	**-0.4**
WAZ	**Wanganui**	**3.83**	**41**	P		**Pn**	**12 20 44.4**	**+3.0**
NEZ	**North Egmont**	**3.87**	**28**	P		**Pn**	**12 20 45.6**	**+3.6**
PKE	**Pukeiti**	**3.90**	**26**	P		**Pn**	**12 20 44.6**	**+2.2**
BFZ	**Birch Farm**	**3.93**	**60**	P		**Pn**	**12 20 41.6**	**-1.2**
BFZ	**Birch Farm**	**3.93**	**60**	P		**Pn**	**12 20 41.3**	**-1.5**
DREZ	**Durham Road**	**3.98**	**29**	P		**Pn**	**12 20 46.8**	**+3.4**
DVHZ	**Dannevirke**	**4.10**	**55**	P		**Pn**	**12 20 43.9**	**-1.2**
MHEZ	**Mangahewa**	**4.12**	**29**	P		**Pn**	**12 20 49.7**	**+4.3**
TSZ	**Takapari Road**	**4.13**	**52**	P		**Pn**	**12 20 45.0**	**-0.6**
WHZ	**Wether Hill Ro**	**4.19**	**219**	P		**Pn**	**12 20 45.7**	**-0.7**
ANWZ	**Angora Road**	**4.20**	**59**	P		**Pn**	**12 20 45.1**	**-1.4**
VRZ	**Vera Road**	**4.25**	**33**	P		**Pn**	**12 20 48.8**	**+1.7**
SYZ	**Scrubby Hill**	**4.26**	**205**	P		**Pn**	**12 20 47.1**	**-0.1**
SYZ	**Scrubby Hill**	**4.26**	**205**	P		**Pn**	**12 20 46.5**	**-0.7**
DCZ	**Deep Cove**	**4.31**	**229**			**Pn**	**12 20 47.4**	**-0.6**
DCZ	**Deep Cove**	**4.31**	**229**	P		**Pn**	**12 20 47.4**	**-0.6**
PKVZ	**Pokaka**	**4.37**	**40**	P		**Pn**	**12 20 53.3**	**+4.5**
PRHZ	**Porangahau**	**4.41**	**58**	P		**Pn**	**12 20 47.9**	**-1.4**
TRVZ	**Turoa**	**4.46**	**41**	P		**Pn**	**12 20 51.7**	**+1.4**
WNVZ	**Wahianoa**	**4.46**	**42**	P		**Pn**	**12 20 51.5**	**+1.3**
MOVZ	**Moawhango**	**4.48**	**44**	P		**Pn**	**12 20 51.2**	**+0.8**
WHVZ	**Whangaehu Hut**	**4.49**	**42**	P		**Pn**	**12 20 51.8**	**+1.1**
FWVZ	**Far West T-bar**	**4.49**	**41**	P		**Pn**	**12 20 53.4**	**+2.6**
BHHZ	**Black Hill Sta**	**4.58**	**47**	P		**Pn**	**12 20 51.9**	**+0.1**
NGZ	**Ngauruhoe**	**4.58**	**41**	P		Pn	12 20 56.5	+4.7
TWVZ	**Taurewa**	**4.58**	**39**	P		Pn	12 20 56.7	+4.8
OTVZ	**Oturere**	**4.62**	**41**	P		**Pn**	**12 20 53.9**	**+1.5**
NNVZ	**North Ngauruho**	**4.62**	**41**	P		**Pn**	**12 20 54.3**	**+1.9**
WTVZ	**West Tongariro**	**4.62**	**40**	P		**Pn**	**12 20 55.7**	**+3.3**
KRVZ	**Karewarewa**	**4.66**	**41**	P		**Pn**	**12 20 54.7**	**+1.8**
ETVZ	**East Tongariro**	**4.66**	**41**	P		**Pn**	**12 20 54.3**	**+1.3**
TMVZ	**Te Maari**	**4.67**	**41**	P		**Pn**	**12 20 54.5**	**+1.4**
PXZ	**Pawanui**	**4.69**	**57**	P		**Pn**	**12 20 52.5**	**-0.6**
HIZ	**Hauiti**	**4.81**	**30**	P		**Pn**	**12 20 56.0**	**+1.1**
HIZ	**Hauiti**	**4.81**	**30**	P		**Pn**	**12 20 55.9**	**+1.0**
KWHZ	**Kaweka Forest**	**4.82**	**49**	P		**Pn**	**12 20 56.9**	**+1.8**
KAHZ	**Kahuranaki**	**4.84**	**55**	P		**Pn**	**12 20 54.1**	**-1.2**
RATZ	**Rangitukua**	**4.90**	**40**	P		**Pn**	**12 21 00.8**	**+4.6**
APZ	**The Paps**	**4.92**	**212**	P		**Pn**	**12 20 55.9**	**-0.4**
MCHZ	**McNeill Hill**	**4.96**	**51**	P		**Pn**	**12 20 59.8**	**+2.9**
BKZ	**Black Stump Fm**	**5.04**	**47**			**Pn**	**12 20 57.3**	**-0.8**
BKZ	**Black Stump Fm**	**5.04**	**47**	P		Pb	12 21 05.4	-5.5
TLZ	**Tolley Road**	**5.24**	**35**	P		**Pn**	**12 21 02.4**	**+1.5**
TOZ	**Tahuroa Road**	**5.74**	**31**	P		**Pn**	**12 21 08.1**	**+0.4**
MHGZ	**Mahia Peninsul**	**5.86**	**55**	P		**Pn**	**12 21 07.3**	**-2.0**
URZ	**Urewera**	**6.04**	**44**	P		**Pn**	**12 21 09.8**	**-1.9**
TGRZ	**Tauranga**	**6.05**	**36**	P		**Pn**	**12 21 12.7**	**+0.8**
AWAZ	**Awhitu Peninsu**	**6.06**	**22**	P		**Pn**	**12 21 14.3**	**+2.3**
WTAZ	**Waiatarua**	**6.17**	**22**	P		**Pn**	**12 21 16.4**	**+2.9**
MKAZ	**Moumakai**	**6.18**	**26**	P		**Pn**	**12 21 15.2**	**+1.5**
MWZ	**Matawai**	**6.20**	**47**	P		**Pn**	**12 21 14.5**	**+0.5**
ETAZ	**East Tamaki Re**	**6.25**	**24**	P		**Pn**	**12 21 16.6**	**+2.0**
RVAZ	**Riverhead Bore**	**6.32**	**21**	P		**Pn**	**12 21 18.4**	**+2.8**
MBAZ	**Motutapu North**	**6.41**	**23**	P		**Pn**	**12 21 18.6**	**+1.7**
RUGZ	**Raukumara Rang**	**6.55**	**46**	P		**Pn**	**12 21 19.5**	**+0.6**
KUZ	**Kuaotunu**	**6.70**	**28**	P		**Pn**	**12 21 21.1**	**+0.3**
HAZ	**Te Kaha**	**6.76**	**45**	P		**Pn**	**12 21 21.3**	**-0.4**
PUZ	**Puketiti**	**6.79**	**49**	P		**Pn**	**12 21 20.8**	**-1.3**
OUZ	**Omahuta**	**7.62**	**11**	Pn		**Pn**	**12 21 34.8**	**+1.4**
OUZ	**Omahuta**	**7.62**	**11**	P		**Pn**	**12 21 35.2**	**+1.8**
OUZ	**Omahuta**	**7.62**	**11**	P		**Pn**	**12 21 35.1**	**+1.8**
MCQ	**Macquarie Isla**	**14.49**	**211**	Pn		**Pn**	**12 23 07.1**	**-0.2**
RAO	**Raoul Island**	**15.80**	**35**	LR		LR	12 29 05.9	
	comp=Z,172nnm,18.6s,baz=352,slow=36							
TAU	**Tasmania Unive**	**17.92**	**261**	P		**Pn**	**12 23 50.4**	**-1.1**
TAU				IAmb		IAmb	12 24 03.5	
	comp=Z,25nnm,1.1s							
CAN	**Canberra**	**19.12**	**285**	P		**P**	**12 24 03.9**	**-1.5**
CAN				IAmb		IAmb	12 24 31.5	
	comp=Z,7.3nm,1.0s							
OUENC	**Ouen Island, N**	**20.64**	**347**	P		**P**	**12 24 21.3**	**-0.8**
DZM	**Mont Dzumac**	**21.05**	**346**	LR		LR	12 31 41.4	
	comp=Z,104nm,18.6s,baz=210,slow=34							
MSVF	**Nonsavu**	**25.47**	**14**	LR		LR	12 33 50.1	
	comp=Z,51nm,18.7s,baz=85,slow=34							
STKA	**Stephens Creek**	**26.18**	**284**	P		**P**	**12 25 16.9**	**-0.1**
CTA	**Charters Tower**	**31.12**	**308**	LR		LR	12 37 36.1	
	comp=Z,47nm,18.3s,baz=86,slow=34							
RAR	**Rarotonga**	**32.05**	**57**	LR		LR	12 37 52.8	
	comp=Z,23nm,18.7s,baz=173,slow=34							
ASAR	**Alice Springs**	**36.54**	**289**	P		**P**	**12 26 48.6**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=127,slow=7.3,SNR=9.9							
	comp=Z,0.6nm,0.6s							
WRAB	**Tennant Creek**	**38.75**	**294**	P		**P**	**12 27 05.8**	**-1.0**
WRAB				IAmb		IAmb	12 27 18.3	
	comp=Z,3.0nm,1.1s							
WRA	**Warramunga Arr**	**38.75**	**294**	P		**P**	**12 27 07.9**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=138,slow=7.5,SNR=26							
WRA				LR		LR	12 43 49.6	
	comp=Z,51nm,18.1s,baz=352,slow=37							
	comp=Z,0.6nm,0.5s							
WRA	**Warramunga Arr**	**38.75**	**294**	P		**P**	**12 27 06.8**	**0.0**
WB0	**Warramunga Arr**	**38.83**	**294**	P		**P**	**12 27 07.5**	**0.0**
WB0				IAmb		IAmb	12 27 12.3	
	comp=Z,3.5nm,1.0s							
BRDH	**Bariadhala**	**98.17**	**293**	LR		LR	13 20 46.5	
	comp=Z,139nm,19.3s,baz=94,slow=37							
TORD	**Torodi Ar. Bea**	**149.31**	**199**	PKPbc		**PKPbc**	**12 39 32.1**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=175,slow=3.3,SNR=6.5							
FINES	**FINESS Array B**	**152.27**	**324**	PKPbc		**PKPbc**	**12 39 37.3**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=54,slow=2.4,SNR=4.2							

IDC **16** *12:24:20.6±3.8, 8°.32S×122°.98E, h130km±42km, mb3.4/2, mbtmp3.8/4, Error ellipse: s-maj=167.0km s-min=26.4km az=55.0*

DJA **16** *12:24:21.5±0.6, 8°.5S±6°×12°.3E±°, h116km±6km, M3.9/6, mb4.6/2, mB5.0/1, MLv3.5/6, Mw(mB)4.3/1*

ISC 16 12:24:20.3±0.8, 8°.42S±0°.08×122°.72E±0°.07, h150km, n26, σ2s50/30, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMRI	**Maumere**	**0.52**	**245**	P		**Pn**	**12 24 40.1**	**-1.6**
MMRI				S		**Sn**	**12 24 54.2**	**-3.9**
MMRI	**Maumere**	**0.52**	**245**	P		**Pn**	**12 24 40.6**	**-1.1**
BATI	**Baumata**	**2.01**	**152**	P		**Pn**	**12 24 55.3**	**-0.3**
	57nm,0.3s,baz=80,slow=2.1,SNR=22							
BATI				S		**Sn**	**12 25 20.9**	**-1.8**
	68nm,0.2s,baz=337,slow=22,SNR=12							
BATI	**Baumata**	**2.01**	**152**	P		**Pn**	**12 24 54.9**	**-0.7**
BATI				S		**Sn**	**12 25 20.0**	**-2.7**
SOEI	**Soe**	**2.03**	**131**	P		**Pn**	**12 24 58.0**	**+2.1**
SOEI				S		**Sn**	**12 25 27.9**	**+4.7**
SOEI	**Soe**	**2.03**	**131**	P		**Pn**	**12 24 58.6**	**+2.7**
PLAI	**Plampang**	**4.90**	**265**	P		**Pn**	**12 25 32.9**	**+0.5**
PLAI	**Plampang**	**4.90**	**265**	P		**Pn**	**12 25 33.6**	**+1.2**
TWSI	**Taliwang, Sumb**	**5.78**	**266**	P		**Pn**	**12 25 44.9**	**+0.8**
	0.3nm2μm38nm,0.6s							
LUWI	**Luwuk**	**7.33**	**0**	P		**Pn**	**12 26 00.2**	**-4.6**
	26nm,0.8s							
JAGI	**Jajag, Banyuwa**	**8.47**	**269**	P		**Pn**	**12 26 18.9**	**-1.2**
MTN	**Manton Dam**	**9.37**	**119**	P		**Pn**	**12 26 31.8**	**-0.2**
KDU	**Kakadu**	**10.49**	**115**	P		**Pn**	**12 26 46.6**	**-0.2**
FAKI	**Fak Fak**	**10.94**	**61**	P		**Pn**	**12 26 51.3**	**-1.5**
WRA	**Warramunga Arr**	**16.06**	**137**	P		**Pn**	**12 27 57.4**	**-0.5**
	0.9nm,0.4s,baz=311,slow=13,SNR=20							
WRA				S		S	12 30 44.8	-12
	1.0nm,0.6s,baz=313,slow=24,SNR=8.1							
WRAB	**Tennant Creek**	**16.06**	**137**	P		**P**	**12 27 58.8**	**+0.5**
WRKA	**Warakurna**	**17.36**	**163**	P		**Pn**	**12 28 14.1**	**+0.5**
ASAR	**Alice Springs**	**18.57**	**146**	P		**Pn**	**12 28 27.6**	**-0.3**
	1.6nm,0.6s,baz=329,slow=13,SNR=27							
ASAR				S		**S**	**12 31 42.6**	**-7.2**
	0.5nm,0.5s,baz=311,slow=20,SNR=5.0							
QIS	**Mount Isa**	**20.30**	**128**	P		Pn	12 28 47.3	-0.9
BLDU	**Ballidu**	**22.79**	**193**	P		**P**	**12 29 10.5**	**+0.4**
FORT	**Forrest**	**22.80**	**168**	P		**P**	**12 29 11.9**	**+1.7**
OOD	**Oodnadatta**	**22.84**	**149**	P		**P**	**12 29 12.0**	**+1.4**
MULG	**Mulgathing**	**24.21**	**155**	P		**P**	**12 29 25.7**	**+2.6**
BBOO	**Buckleboo**	**27.24**	**155**	P		**P**	**12 29 52.5**	**+2.1**
STKA	**Stephens Creek**	**29.21**	**146**	P		**P**	**12 30 09.4**	**+1.6**
	1.1nm,0.5s,baz=330,slow=14,SNR=3.1							
	1.1nm,0.5s							
MKAR	**Makanchi Array**	**65.68**	**331**	P		**P**	**12 34 51.2**	**+2.6**
	0.3nm,0.5s,baz=125,slow=6.8,SNR=4.9							
	0.3nm,0.5s							

IDC **16** *12:37:48.5±2.4, 42°.26S×173°.95E, h0km, mb3.6/2, mbtmp3.8/3, ML4.6/1, MS2.7/1, Error ellipse: s-maj=51.5km s-min=48.3km az=41.0*

WEL **16** *12:37:51.6±0.4, 42°.3S×17°.4E±°, h12km, M3.9/35, ML4.2/19, MLv3.9/35, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9*

NOU **16** *12:37:55.0, 42°.44S×173°.29E, h0km, MLv4.3/10, South Island, New Zealand*

ISC 16 12:37:51.1±0.8, 42°.41S±0°.03×173°.99E±0°.03, h21km, n88, σ1s23/90, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHZ	**Kahutara**	**0.34**	**268**	P		**Pb**	**12 37 58.3**	**0.0**
KHZ	**Kahutara**	**0.34**	**268**	P		**Pb**	**12 37 58.2**	**0.0**
KHZ				S		**Sb**	**12 38 02.7**	**-0.5**
CMWZ	**Cape Campbell**	**0.68**	**14**	P		**Pn**	**12 38 06.4**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.70**	**353**	P		**Pb**	**12 38 04.6**	**0.0**
BSWZ				S		**Sb**	**12 38 13.8**	**+0.1**
GVZ	**Greta Valley S**	**0.90**	**231**	P		**Pb**	**12 38 09.7**	**+1.2**
TUWZ	**Tuamarina**	**0.98**	**358**	P		**Pn**	**12 38 09.9**	**+0.3**
THZ	**Tophouse**	**1.03**	**308**	P		**Pb**	**12 38 09.6**	**-0.8**
TCW	**Tory Channel**	**1.21**	**10**	P		**Pb**	**12 38 13.3**	**0.0**
AMCZ	**Amberley**	**1.25**	**232**	P		**Pb**	**12 38 14.3**	**+0.3**
PLWZ	**Palliser**	**1.26**	**49**	P		**Pb**	**12 38 14.7**	**+0.6**
WEL	**Wellington**	**1.26**	**28**	P		**Pb**	**12 38 14.7**	**+0.5**
NNZ	**Nelson**	**1.27**	**339**	P		**Pb**	**12 38 13.9**	**-0.4**
LTZ	**Lake Taylor**	**1.33**	**253**	P		**Pb**	**12 38 15.0**	**-0.3**
MSWZ	**Moikau Station**	**1.36**	**44**	P		**Pb**	**12 38 16.0**	**+0.1**
MRNZ	**Matariki Terra**	**1.37**	**317**	P		**Pb**	**12 38 15.5**	**-0.4**
PAWZ	**Paruwai Farm**	**1.48**	**47**	P		**Pb**	**12 38 17.5**	**-0.5**
OKCZ	**Okains Bay**	**1.48**	**207**	P		**Pb**	**12 38 17.9**	**0.0**
CAW	**Cannon Point**	**1.53**	**32**	P		**Pb**	**12 38 18.1**	**-0.5**
TKNZ	**Takaka Hill**	**1.57**	**330**	P		**Pb**	**12 38 18.7**	**-0.8**
DUWZ	**D'Urville Isla**	**1.60**	**358**	P		**Pb**	**12 38 19.1**	**-0.9**
TRWZ	**Traveller**	**1.62**	**52**	P		**Pb**	**12 38 19.5**	**-0.7**
MOZ	**McQueen's Vall**	**1.63**	**217**	P		**Pb**	**12 38 19.0**	**-1.4**
AKCZ	**Akaroa Harbour**	**1.67**	**208**	P		**Pb**	**12 38 20.3**	**-0.7**
MTW	**Mount Morrison**	**1.68**	**43**	P		**Pb**	**12 38 20.0**	**-1.3**
KIW	**Kapiti Island**	**1.69**	**24**	P		**Pb**	**12 38 20.6**	**-0.9**
OXZ	**Oxford**	**1.71**	**237**	P		**Pb**	**12 38 19.8**	**+0.2**
DSZ	**Denniston Nort**	**1.76**	**291**	P		**Pb**	**12 38 22.2**	**-0.4**
OGWZ	**Otaki Gorge**	**1.82**	**29**	P		**Pb**	**12 38 22.1**	**-1.6**
HOWZ	**Holdsworth Sta**	**1.89**	**38**	P		**Pb**	**12 38 23.1**	**-1.8**
RACZ	**Rakaia**	**1.89**	**225**	P		**Pn**	**12 38 22.6**	**+0.4**
INZ	**Inchbonnie**	**1.91**	**260**	P		**Pn**	**12 38 23.1**	**+0.7**
QRZ	**Quartz Range**	**1.92**	**325**	P		**Pb**	**12 38 24.6**	**-0.8**
QRZ	**Quartz Range**	**1.92**	**325**	P		**Pb**	**12 38 24.0**	**-1.4**
TMWZ	**Te Maipa**	**1.92**	**48**	P		**Pn**	**12 38 23.4**	**+0.8**
MHCZ	**Mount Hutt**	**2.11**	**237**	P		**Pn**	**12 38 25.2**	**0.0**
MRZ	**Mangatainoka R**	**2.11**	**35**	P		**Pn**	**12 38 25.8**	**+0.6**
WACZ	**Wakanui South**	**2.20**	**225**	P		**Pn**	**12 38 27.0**	**+0.6**
PRWZ	**Pori Road**	**2.37**	**39**	P		**Pb**	**12 38 32.6**	**-0.5**
BFZ	**Birch Farm**	**2.41**	**45**	P		**Pn**	**12 38 29.6**	**+0.3**
WVZ	**Waitaha Valley**	**2.49**	**253**	P		**Pn**	**12 38 31.1**	**+0.8**
RPZ	**Rata Peaks**	**2.52**	**238**	Pn		**Pn**	**12 38 31.1**	**+0.3**
	114nm,0.3s,baz=87,slow=2.2,SNR=259							
RPZ

TKM2				⇓S		Sb	12 41 21.3	-0.1
	1.4nm,0.1s							
EKS2	**Erkin-Say**	**0.98**	**222**	⇓P		**Pb**	**12 41 12.6**	**-0.4**
	0.6nm,0.1s,SNR=6.6							
EKS2				⇑S		**Sb**	**12 41 26.1**	**+0.3**
	3.4nm,0.1s							
EKS2	**Erkin-Say**	**0.98**	**222**	⇓*iP*		**Pb**	**12 41 12.4**	**-0.7**
	baz=22							
EKS2				⇓*iS*		**Sg**	**12 41 26.2**	**-0.3**
	baz=22							
KST	**Kastek**	**1.01**	**110**	*e*P		**Pg**	**12 41 14.4**	**+0.4**
	baz=9.0							
KST				*e*S		**Sn**	**12 41 28.0**	**+0.3**
	baz=9.0							
KST	**Kastek**	**1.01**	**110**	*e*P		**Pg**	**12 41 14.4**	**+0.4**
	0.8nm,0.2s							
KST				*e*S		**Sn**	**12 41 28.0**	**+0.3**
	6.1nm,0.2s							
KST	**Kastek**	**1.01**	**110**	P		**Pn**	**12 41 14.0**	**+0.1**
	1.1nm,0.4s							
KST				S		**Sg**	**12 41 27.5**	**+0.2**
	6.1nm,0.2s							
UCH	**Uchtor**	**1.17**	**186**	⇑P		**Pn**	**12 41 16.4**	**-0.1**
	1.1nm,0.1s,SNR=7.3							
UCH				⇓S		**Sn**	**12 41 32.3**	**+0.1**
	2.9nm,0.2s							
UCH	**Uchtor**	**1.17**	**186**	⇑*iP*		**Pn**	**12 41 16.3**	**-0.1**
	baz=85							
UCH				⇑*iS*		**Sb**	**12 41 31.9**	**+0.4**
	baz=85							
MRKS	**Merke**	**1.24**	**239**	*e*P		**Pb**	**12 41 17.8**	**+0.3**
	baz=39							
MRKS				*e*S		**Sg**	**12 41 34.2**	**-0.5**
	baz=39							
BOOM	**Boomskoye usch**	**1.30**	**134**	⇑*iP*		**Pb**	**12 41 18.6**	**+0.1**
	baz=33							
BOOM				⇑*iS*		**Sg**	**12 41 36.5**	**0.0**
	baz=33							
KUU	**Kurty**	**1.31**	**67**	*e*P		**Pb**	**12 41 18.5**	**-0.1**
	4.3nm,0.2s							
KUU				*e*S		**Sb**	**12 41 35.4**	**+0.4**
	4.0nm,0.4s							
KUU	**Kurty**	**1.31**	**67**	P		**Pn**	**12 41 18.4**	**+0.5**
	4.3nm,0.2s							
KUU				S		**Sn**	**12 41 35.0**	**0.0**
	4.0nm,0.4s							
MTBS	**Maitube**	**1.31**	**101**	*e*P		**Pg**	**12 41 19.7**	**-0.1**
	baz=0.0							
MTBS				*e*S		**Sg**	**12 41 37.2**	**+0.3**
	baz=0.0							
MTBS	**Maitube**	**1.31**	**101**	*e*P		**Pg**	**12 41 19.7**	**-0.1**
	1.4nm,0.2s							
MTBS				*e*S		**Sg**	**12 41 37.2**	**+0.3**
	8.5nm,0.3s							
MTBS	**Maitube**	**1.31**	**101**	P		**Pg**	**12 41 20.8**	**+1.0**
	1.4nm,0.1s							
MTBS				S		**Sg**	**12 41 39.0**	**+2.1**
	8.5nm,0.3s							
TNSS	**Tian-Shan**	**1.70**	**101**	*e*P		**Pb**	**12 41 26.6**	**+1.1**
	baz=1.0							
TNSS				*e*S		**Sg**	**12 41 48.9**	**-0.6**
	baz=1.0							
TNSS	**Tian-Shan**	**1.70**	**101**	*e*P		**Pb**	**12 41 26.6**	**+1.1**
	0.4nm,0.1s							
TNSS				*e*S		**Sg**	**12 41 48.9**	**-0.6**
	1.9nm,0.5s							
TNSS	**Tian-Shan**	**1.70**	**101**	P		**Pb**	**12 41 26.6**	**+1.1**
	0.4nm,0.1s							
TNSS				S		**Sg**	**12 41 48.9**	**-0.6**
	1.9nm,0.5s							
BTLS	**Baital**	**1.71**	**345**	*e*P		**Pb**	**12 41 25.4**	**+0.1**
	1.0nm,0.3s							
BTLS				*e*S		**Sb**	**12 41 47.2**	**+0.8**
	2.2nm,0.4s							
BTLS	**Baital**	**1.71**	**345**	P		**Pb**	**12 41 24.5**	**-0.8**
	2.1nm,0.4s							
BTLS				S		**Sb**	**12 41 45.7**	**-0.7**
	2.2nm,0.3s							
MDOK	**Medeo**	**1.75**	**97**	*e*P		**Pg**	**12 41 27.6**	**-0.5**
	baz=96							
MDOK				*e*S		**Sg**	**12 41 50.7**	**-0.2**
	baz=96							
MDOK	**Medeo**	**1.75**	**97**	*e*P		**Pg**	**12 41 27.6**	**-0.5**
	1.5nm,0.3s							
MDOK				*e*S		**Sg**	**12 41 50.7**	**-0.2**
	4.9nm,0.3s							
MDOK	**Medeo**	**1.75**	**97**	⇓Pn		**Pn**	**12 41 20.8**	**-3.4**
	1.0nm,0.4s							
MDOK				Pg		**Pg**	**12 41 27.6**	**-0.5**
	1.5nm,0.3s							
MDOK				Lg		Lg	12 41 50.7	
	4.9nm,0.3s							
MDOK				⇑Sn		**Sg**	**12 41 52.1**	**+1.2**
	2.5nm,0.4s							
KK31	**Karatay Array**	**3.05**	**266**	⇑Sn		**Sb**	**12 42 28.4**	**+3.2**
	0.5nm,0.5s							

IDC 16 12:45:15.4±1.6, 5°62′S×150°39′E, h0km, mb3.2/2, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=97.7km s-min=23.8km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.08**	**51**	Pn	Pn	12 45 51.8	+0.2
	42nm,0.3s,baz=206,slow=1.8,SNR=18						
KRVT				Sn	Sg	12 46 22.7	+0.2
	33nm,0.3s,baz=310,slow=16,SNR=5.3						
	115nm,0.5s						
WRA	**Warramunga Arr**	**21.13**	**226**	P	P	12 50 02.4	+0.3
	0.7nm,0.7s,baz=52,slow=10,SNR=7.9						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**23.96**	**220**	P	P	12 50 31.2	-0.4
	0.7nm,0.7s,baz=53,slow=8.9,SNR=16						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.25**	**286**	PKPbc	PKPbc	13 05 04.1	-0.6
	0.4nm,0.6s,baz=59,slow=2.7,SNR=2.4						

*NIED **16** 12:49:40.8,34°.39N×141°.74E,h27km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.06; $M_{\theta\theta}$0.53; $M_{\phi\phi}$-2.59; $M_{r\theta}$1.38; $M_{\theta\phi}$-0.06; $M_{r\phi}$1.53; Fault plane solution: $M_0$3.14000×10^{15} NP1: ϕ_s156.00000°,δ33.00000°,λ45.00000°. NP2:ϕ_s27.00000°, δ67.00000°,λ115.00000°.*

*IDC **16** 12:49:40.5±0.7,34°.37N×141°.57E,h0km,mb3.9/14, mbtmp3.9/16,ML4.1/2,MS3.7/16 Error ellipse: s-maj=16.9km s-min=14.5km az=109.0*

*JMA **16** 12:49:40.8±0.4,34°.N±1°×14°.2E±°,h27km±1km,MV3.8/37, FAR SE OFF BOSO PEN*

ISC 16 12:49:41.7±1.9, 34°38′N±0°.04×141°66′E±0°.06, h11km±11km, n55,σ1°54/46, mb3.9/14, MS3.8/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.62**	**296**	*i*P	**Pg**	**12 49 53.8**	**+0.1**
BSO3	**Boso 3**	**1.04**	**294**	P	**Pg**	**12 50 00.6**	**-1.1**
BSO4	**Boso 4**	**1.25**	**300**	P	**Pn**	**12 50 04.6**	**-0.4**
KTR	**Katsuura**	**1.34**	**305**	*e*P	**Pn**	**12 50 05.6**	**-0.8**
KTR				*e*S	**Sb**	**12 50 23.5**	**-0.6**
JKUC	**kamogawauchiur**	**1.43**	**303**	P	**Pn**	**12 50 06.7**	**-0.9**
JKUC				*e*S	**Sn**	**12 50 25.6**	**-0.8**
CHOJ	**Chosi**	**1.48**	**334**	P	**Pn**	**12 50 06.7**	**-1.5**
CHOJ				*e*S	**Sn**	**12 50 24.5**	**-3.0**
JMYK	**Miyake Tsubota**	**1.78**	**260**	P	**Pn**	**12 50 11.6**	**-0.7**
JMYK				*e*S	**Sn**	**12 50 34.5**	**-0.4**
JMKN	**Mikurajimanish**	**1.78**	**255**	P	**Pn**	**12 50 11.7**	**-0.7**
JMKN				*e*S	**Sn**	**12 50 33.6**	**-1.4**
JIM2	**Oshima 3**	**1.87**	**281**	P	**Pn**	**12 50 12.2**	**-1.4**
JHJ2	**Mitsune**	**1.99**	**231**	P	**Pn**	**12 50 15.8**	**+0.6**
JHJ2				*e*S	**Sn**	**12 50 40.0**	**0.0**
JHJ	**Hachijo jima 2**	**2.00**	**232**	Pn	**Pn**	**12 50 15.5**	**0.0**
	74nm,0.3s,baz=92,slow=13,SNR=18						
JHJ				Sn	**Sn**	**12 50 40.0**	**-0.5**
	197nm,0.3s,baz=122,slow=23,SNR=11						
JOD2	**Odawara 2**	**2.29**	**293**	P	**Pn**	**12 50 17.6**	**-1.8**
MJAR	**Matsushiro Arr**	**3.55**	**308**	Pn	**Pn**	**12 50 36.7**	**0.0**
	3.9nm,0.3s,baz=155,slow=12,SNR=130						
MJAR				Sn	**Sn**	**12 51 19.9**	**+1.3**
	3.2nm,0.3s,baz=13,slow=28,SNR=4.2						
	18nm,0.3s						
JCJ	**Chichijima**	**7.27**	**176**	Pn	**Pn**	**12 51 27.5**	**-0.4**
	12nm,0.3s,baz=80,slow=20,SNR=12						
JCJ				Sn	**Sn**	**12 52 43.9**	**-6.6**
	8.3nm,0.3s,baz=277,slow=22,SNR=1.5						
	28nm,0.3s						
KSRS	**Korea Array**	**11.55**	**289**	Pn	**Pn**	**12 52 29.6**	**+3.1**
	0.1nm,0.3s,baz=105,slow=14,SNR=9.9						
KSRS				LR	LR	12 57 20.3	
	comp=Z,275nm,18.8s,baz=95,slow=40						
JOW	**Kunigami**	**13.75**	**240**	LR	LR	12 58 26.8	
	comp=Z,149nm,19.2s,baz=71,slow=38						
KLR	**Kul'dur**	**16.55**	**337**	LR	LR	13 00 46.1	
	comp=Z,95nm,18.1s,baz=145,slow=40						
GUMO	**Guam**	**20.90**	**171**	LR	LR	13 00 47.8	
	comp=Z,106nm,21.4s,baz=5.5,slow=32						
PETK	**Petropavlovsk-**	**21.93**	**26**	LR	LR	13 06 28.8	
	comp=Z,54nm,18.2s,baz=215,slow=46						
H11N2	**WAKE ISLAND Hy**	**26.70**	**117**	T	T	13 23 25.9	
	baz=309,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**26.71**	**117**	T	T	13 23 22.0	
	baz=309,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**26.72**	**117**	T	T	13 23 29.5	
	baz=309,slow=75,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	13 24 18.8	
	baz=312,slow=76,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	13 24 25.4	
	baz=312,slow=76,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**27.34**	**119**	T	T	13 24 31.1	
	baz=312,slow=76,SNR=6.0						
YAK	**Yakutsk**	**28.70**	**348**	LR	LR	13 07 50.9	
	comp=Z,197nm,18.4s,baz=122,slow=38						
SONM	**Songino Array**	**29.50**	**308**	P	**P**	**12 55 47.1**	**+1.1**
	1.5nm,0.8s,baz=116,slow=10,SNR=6.1						
SONM				LR	LR	13 08 50.1	
	comp=Z,261nm,19.1s,baz=104,slow=39						
	1.5nm,0.8s						
SIJI	**Sorong**	**36.39**	**198**	LR	LR	13 09 15.5	
	comp=Z,108nm,18.7s,baz=313,slow=32						
CMAR	**Chiang Mai Arr**	**41.05**	**258**	P	**P**	**12 57 24.4**	**-1.3**
	1.5nm,0.7s,baz=50,slow=7.2,SNR=11						
CMAR				LR	LR	13 14 31.1	
	comp=Z,45nm,20.2s,baz=190,slow=36						
	1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**43.88**	**314**	P	**P**	**12 57 47.4**	**-0.5**
	1.2nm,0.6s,baz=90,slow=6.9,SNR=7.3						
	1.2nm,0.6s						
KAPI	**Kappang**	**44.30**	**212**	LR	LR	13 17 10.0	
	comp=Z,42nm,18.8s,baz=345,slow=37						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**12 58 03.6**	**+0.7**
	2.1nm,0.7s,baz=92,slow=10.0,SNR=16						
MKAR				LR	LR	13 18 43.8	
	comp=Z,85nm,19.3s,baz=75,slow=38						
	2.1nm,0.7s						
NRIK	**Noril'sk**	**45.77**	**336**	LR	LR	13 19 26.3	
	comp=Z,118nm,18.5s,baz=101,slow=39						
RAMN	**Ramite**	**47.45**	**277**	*e*P	**P**	**12 58 15.6**	**-1.3**
JIRN	**Jiri**	**47.51**	**278**	*e*P	**P**	**12 58 16.8**	**-0.7**
	7.1nm,0.3s						
GUN	**Gumba**	**47.67**	**278**	*e*P	**P**	**12 58 17.7**	**-1.0**
	29nm,1.0s						
PKI	**Pulchoki**	**48.19**	**278**	*e*P	**P**	**12 58 21.2**	**-1.5**
PKIN	**Phulchoki**	**48.19**	**278**	*e*P	**P**	**12 58 21.6**	**-1.1**
GKN	**Gorkha**	**48.65**	**279**	*e*P	**P**	**12 58 25.1**	**-1.0**
DANN	**Dangsing**	**49.24**	**280**	*e*P	**P**	**12 58 29.6**	**-1.1**
	45nm,0.9s						
ILAR	**Eielson Array**	**51.64**	**31**	P	**P**	**12 58 48.0**	**0.0**
	0.9nm,0.8s,baz=264,slow=6.2,SNR=8.1						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**52.53**	**314**	P	**P**	**12 58 54.9**	**+0.1**
	1.9nm,0.7s,baz=102,slow=5.0,SNR=8.5						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**54.47**	**188**	P	**P**	**12 59 09.4**	**+0.1**
	0.7nm,0.4s,baz=2.0,slow=7.6,SNR=37						
	0.7nm,0.4s						
INK	**Inuvik**	**56.66**	**26**	P	**P**	**12 59 25.1**	**+0.6**
	1.6nm,0.9s,baz=316,slow=7.3,SNR=6.4						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**58.19**	**188**	P	**P**	**12 59 36.6**	**+0.8**
	0.8nm,0.8s,baz=17,slow=11,SNR=12						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**71.26**	**333**	P	**P**	**13 01 00.3**	**-0.3**
	2.3nm,0.8s,baz=142,slow=5.3,SNR=1.6						
	2.3nm,0.8s						
WSAR	**Wadi Sarin**	**71.77**	**286**	LR	LR	13 37 12.8	
	comp=Z,56nm,18.3s,baz=168,slow=40						
NVAR	**Mina Array Bea**	**76.43**	**53**	P	**P**	**13 01 33.9**	**+2.1**
	0.7nm,0.7s,baz=288,slow=7.4,SNR=4.9						
	0.7nm,0.7s						
AKASG	**Malin Array Be**	**76.52**	**323**	P	**P**	**13 01 31.4**	**-0.3**
	0.3nm,0.3s,baz=41,slow=4.6,SNR=5.2						
	0.3nm,0.3s						
HFS	**Hagfors**	**76.59**	**336**	LR	LR	13 39 17.9	
	comp=Z,146nm,18.7s,baz=5.0,slow=39						
NOA	**NORSAR Array B**	**76.71**	**338**	LR	LR	13 40 01.9	
	comp=Z,82nm,18.4s,baz=300,slow=39						
PDAR	**Pinedale Array**	**79.39**	**45**	P	**P**	**13 01 49.3**	**+1.2**
	0.3nm,0.7s,baz=8.6,slow=3.0,SNR=2.2						
	0.3nm,0.7s						
VRAC	**Vranov**	**83.46**	**327**	LR	LR	13 46 23.7	
	comp=Z,76nm,18.9s,baz=352,slow=41						
TXAR	**Lajitas Array**	**91.58**	**53**	P	**P**	**13 02 50.2**	**+1.1**
	0.2nm,0.8s,baz=242,slow=1.9,SNR=2.2						
	0.2nm,0.8s						
LPAZ	**La Paz**	**147.78**	**63**	PKPbc	**PKPbc**	**13 09 28.2**	**+0.3**
	1.0nm,0.6s,baz=260,slow=3.8,SNR=5.1						

*NOU **16** 12:54:19.8,41°.89S×174°.45E,h0km,MLv4.1/8,Cook Strait, New Zealand*

*WEL **16** 12:54:21.2±0.3,42°.S±4°×17°.4E±°,h5km,M3.7/36, ML4.0/21,MLv3.7/36, Error ellipse: s-maj=0.0km s-min=0.0km az=153.4*

ISC 16 12:54:20.5±1.1, 41°.79S±0°.03×174°.44E±0°.03, h15km±10km, n101,σ1°54/102, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**284**	P	**Pg**	**12 54 24.7**	**0.0**
BSWZ	**Blackbirch Sta**	**0.43**	**280**	P	**Pg**	**12 54 29.0**	**-0.1**
BSWZ				S	**Sg**	**12 54 35.4**	**+0.5**
TUWZ	**Tuamarina**	**0.52**	**314**	P	**Pg**	**12 54 30.0**	**-0.7**
SNZO	**South Karori**	**0.52**	**23**	P	**Pb**	**12 54 30.8**	**-0.5**
WEL	**Wellington**	**0.56**	**26**	P	**Pb**	**12 54 31.5**	**-0.5**
TCW	**Tory Channel**	**0.59**	**348**	P	**Pg**	**12 54 31.1**	**-1.0**
PLWZ	**Palliser**	**0.65**	**70**	P	**Pb**	**12 54 35.2**	**+1.6**
MSWZ	**Moikau Station**	**0.71**	**59**	P	**Pb**	**12 54 35.5**	**+0.9**
CAW	**Cannon Point**	**0.83**	**35**	P	**Pb**	**12 54 36.6**	**0.0**
PAWZ	**Paruwai Farm**	**0.85**	**61**	P	**Pb**	**12 54 37.9**	**+1.0**
KHZ	**Kahutara**	**0.92**	**227**	P	**Pg**	**12 54 39.2**	**+1.0**
NNZ	**Nelson**	**0.98**	**305**	P	**Pg**	**12 54 38.2**	**-1.2**
KIW	**Kapiti Island**	**0.99**	**21**	P	**Pg**	**12 54 38.8**	**-0.9**
TRWZ	**Traveller**	**1.01**	**68**	P	**Pg**	**12 54 40.0**	**-0.1**
MTW	**Mount Morrison**	**1.02**	**52**	P	**Pg**	**12 54 40.1**	**0.0**
DUWZ	**D'Urville Isla**	**1.06**	**338**	P	**Pg**	**12 54 39.4**	**-1.6**
OGWZ	**Otaki Gorge**	**1.12**	**30**	P	**Pg**	**12 54 41.0**	**-1.0**
THZ	**Tophouse**	**1.15**	**271**	P	**Pg**	**12 54 42.0**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.21**	**43**	P	**Pg**	**12 54 42.8**	**-0.9**
TMWZ	**Te Maipa**	**1.29**	**58**	P	**Pg**	**12 54 43.6**	**-1.6**
MRNZ	**Matariki Terra**	**1.32**	**287**	P	**Pg**	**12 54 44.8**	**-1.1**
TKNZ	**Takaka Hill**	**1.34**	**304**	P	**Pg**	**12 54 44.7**	**-1.6**
MRZ	**Mangatainoka R**	**1.42**	**38**	P	**Pn**	**12 54 45.7**	**0.0**
TIWZ	**Tintock**	**1.49**	**48**	P	**Pn**	**12 54 47.1**	**+0.3**
GVZ	**Greta Valley S**	**1.57**	**221**	P	**Pn**	**12 54 48.2**	**+0.3**
PRWZ	**Pari Road**	**1.69**	**44**	P	**Pn**	**12 54 49.3**	**-0.1**
OHWZ	**Ohakune**	**1.72**	**23**	P	**Pb**	**12 54 51.2**	**-0.4**
POWZ	**Post Office Ro**	**1.72**	**36**	P	**Pn**	**12 54 49.8**	**0.0**
QRZ	**Quartz Range**	**1.73**	**303**	P	**Pn**	**12 54 51.1**	**+1.0**
QRZ	**Quartz Range**	**1.73**	**303**	P	**Pn**	**12 54 51.1**	**+1.0**
BFZ	**Birch Farm**	**1.76**	**52**	P	**Pn**	**12 54 50.9**	**+0.5**
BFZ	**Birch Farm**	**1.76**	**52**	P	**Pn**	**12 54 49.5**	**-0.8**
LTZ	**Lake Taylor**	**1.89**	**238**	P	**Pn**	**12 54 52.6**	**+0.3**
DSZ	**Denniston Nort**	**1.97**	**270**	P	**Pn**	**12 54 54.6**	**+1.2**
DVHZ	**Dannevirke**	**1.98**	**42**	P	**Pn**	**12 54 52.6**	**-0.9**
ANWZ	**Angora Road**	**2.03**	**50**	P	**Pn**	**12 54 54.1**	**-0.1**
WAZ	**Wanganui**	**2.08**	**12**	P	**Pb**	**12 54 57.0**	**-0.9**
TSZ	**Takapari Road**	**2.08**	**34**	P	**Pn**	**12 54 54.7**	**-0.2**
OKCZ	**Okains Bay**	**2.18**	**207**	P	**Pn**	**12 54 55.7**	**-0.6**
WPHZ	**Waipukurau**	**2.30**	**42**	P	**Pn**	**12 54 58.7**	**+0.9**
MQZ	**McQueen's Vall**	**2.32**	**214**	P	**Pn**	**12 54 56.9**	**-1.2**
LREZ	**Lake Rotokare**	**2.33**	**359**	P	**Pn**	**12 55 01.6**	**-0.5**
OXZ	**Oxford**	**2.35**	**228**	P	**Pn**	**12 55 02.4**	**+3.9**
AKCZ	**Akaroa Harbour**	**2.37**	**208**	P	**Pn**	**12 54 58.1**	**-0.7**
INZ	**Inchbonnie**	**2.41**	**246**	P	**Pb**	**12 55 03.7**	**+0.1**
NMEZ	**Namu Road**	**2.41**	**350**	P	**Pb**	**12 55 02.8**	**-0.8**
KHEZ	**Kahui Hut**	**2.51**	**352**	P	**Pb**	**12 55 03.8**	**-1.5**
KHEZ	**Kahui Hut**	**2.51**	**352**	P	**Pb**	**12 55 03.8**	**-1.5**
MTVZ	**Mangateitei**	**2.53**	**18**	P	**Pb**	**12 55 05.8**	**+0.2**
NEZ	**North Egmont**	**2.53**	**354**	P	**Pb**	**12 55 04.7**	**-0.9**
PXZ	**Pawanui**	**2.54**	**47**	P	**Pg**	**12 55 08.2**	**-0.9**
NBEZ	**Newall Road No**	**2.56**	**350**	P	**Pb**	**12 55 04.1**	**-2.0**
RACZ	**Rakaia**	**2.57**	**220**	P	**Pn**	**12 55 01.2**	**-0.3**
MOVZ	**Moawhango**	**2.58**	**23**	P	**Pn**	**12 55 02.7**	**+0.9**
PKVZ	**Pokaka**	**2.59**	**16**	P	**Pb**	**12 55 05.9**	**-0.7**
DREZ	**Durham Road**	**2.60**	**356**	P	**Pb**	**12 55 05.1**	**-1.8**
BHHZ	**Black Hill Sta**	**2.61**	**29**	P	**Pn**	**12 55 03.2**	**+1.0**
WNVZ	**Wahianoa**	**2.61**	**20**	P	**Pn**	**12 55 03.1**	**+0.8**
PKE	**Pukeiti**	**2.62**	**352**	P	**Pn**	**12 55 04.6**	**+2.4**
TRVZ	**Turoa**	**2.63**	**19**	P	**Pb**	**12 55 07.2**	**-0.2**
WHVZ	**Whangaehu Hut**	**2.65**	**20**	P	**Pb**	**12 55 06.4**	**-1.5**
DRZ	**Dome Shelter**	**2.65**	**19**	P	**Pb**	**12 55 08.3**	**+0.4**
FWVZ	**Far West T-bar**	**2.67**	**19**	P	**Pb**	**12 55 07.1**	**-1.0**
VRZ	**Vera Road**	**2.67**	**5**	P	**Pn**	**12 55 05.2**	**+2.2**
TUVZ	**Tukino**	**2.68**	**21**	P	**Pn**	**12 55 05.8**	**+2.5**
MHEZ	**Mangahewa**	**2.71**	**358**	P	**Pb**	**12 55 07.4**	**-1.3**
MHCZ	**Mount Hutt**	**2.74**	**230**	P	**Pn**	**12 55 03.2**	**-0.7**
SNVZ	**South Ngauruho**	**2.76**	**20**	P	**Pb**	**12 55 09.3**	**-0.3**
NGZ	**Ngauruhoe**	**2.76**	**19**	P	**Pb**	**12 55 09.8**	**+0.3**
OTVZ	**Oturere**	**2.79**	**20**	P	**Pn**	**12 55 06.2**	**+1.5**
NNVZ	**North Ngauruho**	**2.80**	**19**	P	**Pn**	**12 55 06.7**	**+1.7**
KWHZ	**Kaweka Forest**	**2.80**	**33**	P	**Pg**	**12 55 12.1**	**-2.1**
WTVZ	**West Tongariro**	**2.81**	**19**	P	**Pb**	**12 55 09.0**	**-1.5**
TWVZ	**Taurewa**	**2.82**	**16**	P	**Pb**	**12 55 09.9**	**-0.7**
ETVZ	**East Tongariro**	**2.82**	**21**	P	**Pb**	**12 55 09.5**	**-1.1**
TMVZ	**Te Maari**	**2.84**	**20**	P	**Pb**	**12 55 09.7**	**-1.3**
KRVZ	**Karewarewa**	**2.84**	**19**	P	**Pb**	**12 55 10.5**	**-0.5**
NTVZ	**North Tongarir**	**2.85**	**20**	P	**Pb**	**12 55 10.5**	**-0.6**
WACZ	**Wakanui South**	**2.88**	**221**	P	**Pn**	**12 55 04.9**	**-0.9**
KATZ	**Kakaramea**	**2.97**	**19**	P	**Pb**	**12 55 13.2**	**+0.1**
WVZ	**Waitaha Valley**	**3.03**	**244**	P	**Pn**	**12 55 09.4**	**+1.6**
BKZ	**Black Stump Fm**	**3.05**	**32**	P	**Pn**	**12 55 11.2**	**+2.9**
BKZ	**Black Stump Fm**	**3.05**	**32**	P	**Pn**	**12 55 14.9**	**+0.4**
RATZ	**Rangitukua**	**3.09**	**20**	P	**Pb**	**12 55 13.9**	**+0.7**
RPZ	**Rata Peaks**	**3.15**	**231**	P	**Pn**	**12 55 09.5**	**-0.1**
ARCZ	**Arundel**	**3.23**	**227**	P	**Pn**	**12 55 09.9**	**-0.7**
HIZ	**Hauiti**	**3.29**	**6**	P	**Pn**	**12 55 14.8**	**+3.4**
HIZ	**Hauiti**	**3.29**	**6**	P	**Pn**	**12 55 15.1**	**+3.6**
GCSZ	**Gaunt Creek Bo**	**3.40**	**242**	P	**Pb**	**12 55 18.8**	**-1.6**
ALRZ	**Allen Road**	**3.54**	**25**	P	**Pb**	**12 55 21.1**	**-1.7**
TLZ	**Tolley Road**	**3.56**	**14**	P	**Pb**	**12 55 22.4**	**-0.7**
TMZ	**Timaru**	**3.61**	**223**	P	**Pn**	**12 55 15.3**	**-0.6**
URZ	**Urewera**	**4.08**	**31**	P	**Pn**	**12 55 25.1**	**+2.8**
URZ	**Urewera**	**4.08**	**31**	P	**Pb**	**12 55 28.6**	**-3.4**
TOZ	**Tahuroa Road**	**4.14**	**12**	P	**Pn**	**12 55 27.5**	**+4.4**
MKAZ	**Moumakai**	**4.71**	**7**	P	**Pn**	**12 55 33.6**	**+2.6**
AWAZ	**Awhitu Peninsu**	**4.72**	**2**	P	**Pn**	**12 55 33.7**	**+2.6**
JCZ	**Jackson Bay**	**4.74**	**239**	P	**Pn**	**12 55 36.0**	**+4.5**
ETAZ	**East Tamaki Re**	**4.84**	**5**	P	**Pn**	**12 55 35.2**	**+2.3**
RVAZ	**Riverhead Bore**	**5.01**	**1**	P	**Pn**	**12 55 37.3**	**+2.2**
OUZ	**Omahuta**	**6.59**	**354**	P	**Pn**	**12 55 58.7**	**+1.9**

*NNC **16** 12:54:42.0±0.4,43°.41N×74°.64E,h0km±2km,mb3.0, mpv2.9,Error ellipse: s-maj=3.3km s-min=2.4km az=172.0*

*SOME **16** 12:54:42.6,43°.42N×74°.62E,h15km*

*KRNET **16** 12:54:42.6±0.1,43°.40N×74°.65E,h20km,mb2.8*

*KNET **16** 12:54:43.1±0.5,43°.36N×74°.63E,h20km±2km,ml1.7,Error ellipse: s-maj=3.6km s-min=2.6km az=4.0*

ISC 16 12:54:42.9±0.8, 43°40′N±0°.02×74°65′E±0°.02, h17km±5km, n49,σ0°69/98, 23C-21D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGDS	**Sogindy**	**0.06**	**345**	*e*P	**Pg**	**12 54 46.3**	**0.0**
	38nm,0.1s						
SGDS				*e*S	**Sg**	**12

UCH				⇓*i*S		Sn	12 55 20.8	+0.1	
	baz=85								
MRKS	**Merke**	**1.23**	**239**	*e*P		**Pn**	**12 55 04.7**	**-0.7**	
	3.9nm,0.1s								
MRKS				*e*S		**Sb**	**12 55 21.1**	**-0.3**	
	14nm,0.2s								
MRKS	**Merke**	**1.23**	**239**	P		**Pn**	**12 55 04.9**	**-0.5**	
	3.9nm,0.1s								
MRKS				S		**Sb**	**12 55 21.3**	**0.0**	
	13nm,0.1s								
BOOM	**Boomskoye usch**	**1.31**	**133**	⇑*i*P		**Pn**	**12 55 06.7**	**+0.2**	
	baz=33								
BOOM				⇑*i*S		**Sn**	**12 55 24.0**	**+0.3**	
	baz=33								
KUU	**Kurty**	**1.32**	**67**	*e*P		**Pn**	**12 55 06.8**	**+0.2**	
	baz=68								
KUU				*e*S		**Sb**	**12 55 24.6**	**+0.7**	
	baz=68								
KUU	**Kurty**	**1.32**	**67**	*e*P		**Pn**	**12 55 06.8**	**+0.2**	
	17nm,0.2s								
KUU				*e*S		**Sb**	**12 55 24.6**	**+0.7**	
	6.8nm,0.3s								
KUU	**Kurty**	**1.32**	**67**	P		**Pn**	**12 55 06.8**	**+0.2**	
	17nm,0.2s								
KUU				S		**Sb**	**12 55 24.6**	**+0.7**	
	6.8nm,0.3s								
MTBS	**Maitube**	**1.33**	**101**	*e*P		**Pb**	**12 55 07.1**	**-0.2**	
	baz=1.0								
MTBS				*e*S		**Sg**	**12 55 25.1**	**-0.7**	
	baz=1.0								
MTBS	**Maitube**	**1.33**	**101**	*e*P		**Pb**	**12 55 07.1**	**-0.2**	
	6.8nm,0.2s								
MTBS				*e*S		**Sg**	**12 55 25.1**	**-0.7**	
	31nm,0.3s								
MTBS	**Maitube**	**1.33**	**101**	P		**Pb**	**12 55 07.1**	**-0.2**	
	6.8nm,0.2s								
MTBS				S		**Sg**	**12 55 25.1**	**-0.7**	
	31nm,0.3s								
ARLS	**Aral**	**1.55**	**189**	⇓*i*P		**Pb**	**12 55 11.2**	**-0.1**	
	baz=89								
ARLS				⇓*i*S		**Sb**	**12 55 31.6**	**+0.9**	
	baz=89								
ULHL	**Ulahol**	**1.64**	**134**	⇓*i*P		**Pb**	**12 55 12.4**	**-0.4**	
	baz=34								
ULHL				⇓*i*S		**Sb**	**12 55 33.6**	**+0.3**	
	baz=34								
BTLS	**Baital**	**1.70**	**345**	*e*P		**Pb**	**12 55 12.9**	**-0.8**	
	5.3nm,0.3s								
BTLS				*e*S		**Sb**	**12 55 34.9**	**+0.1**	
	2.4nm,0.2s								
BTLS	**Baital**	**1.70**	**345**	P		**Pb**	**12 55 12.9**	**-0.8**	
	5.3nm,0.3s								
BTLS				S		**Sb**	**12 55 34.9**	**+0.1**	
	2.4nm,0.2s								
TNSS	**Tian-Shan**	**1.72**	**101**	*e*P		**Pb**	**12 55 13.6**	**-0.6**	
	baz=1.0								
TNSS				*e*S		**Sg**	**12 55 37.2**	**-1.1**	
	baz=1.0								
TNSS	**Tian-Shan**	**1.72**	**101**	*e*P		**Pb**	**12 55 13.6**	**-0.6**	
	4.7nm,0.3s								
TNSS				*e*S		**Sg**	**12 55 37.2**	**-1.1**	
	14nm,0.4s								
TNSS	**Tian-Shan**	**1.72**	**101**	P		**Pb**	**12 55 13.6**	**-0.6**	
	4.7nm,0.3s								
TNSS				S		**Sg**	**12 55 37.2**	**-1.1**	
	14nm,0.4s								
MDOK	**Medeo**	**1.77**	**97**	*e*P		**Pb**	**12 55 14.6**	**-0.3**	
	baz=97								
MDOK				*e*S		**Sb**	**12 55 38.0**	**+1.2**	
	baz=97								
MDOK	**Medeo**	**1.77**	**97**	*e*P		**Pb**	**12 55 14.6**	**-0.3**	
	3.5nm,0.5s								
MDOK				*e*S		**Sb**	**12 55 38.0**	**+1.2**	
	20nm,0.4s								
MDOK	**Medeo**	**1.77**	**97**	Pg		**Pb**	**12 55 14.6**	**-0.3**	
	3.5nm,0.5s								
MDOK				⇑Pn		**Pb**	**12 55 14.6**	**-0.3**	
	2.2nm,0.6s								
MDOK				Lg		Lg	12 55 38.2		
	20nm,0.4s								
MDOK				⇑Sn		**Sg**	**12 55 38.8**	**-1.1**	
	8.5nm,0.4s								
ANVS	**Anan'yevo**	**2.29**	**104**	⇓*i*P		**Pn**	**12 55 21.8**	**+1.7**	
	baz=5.0								
ANVS				⇓*i*S		**Sb**	**12 55 50.7**	**-1.3**	
	baz=5.0								
KPKS	**Kokpek**	**2.94**	**87**	*e*P		**Pb**	**12 55 35.6**	**+0.8**	
	1.8nm,0.2s								
KPKS				*e*S		**Sb**	**12 56 13.9**	**+3.4**	
	6.8nm,0.3s								
KPKS	**Kokpek**	**2.94**	**87**	Pg		**Pb**	**12 55 35.1**	**+0.2**	
	1.8nm,0.3s								
KPKS				Lg		Lg	12 56 13.1		
	6.6nm,0.6s								
KK31	**Karatay Array**	**3.04**	**266**	⇓Pn		**Pb**	**12 55 37.3**	**+0.8**	
	0.2nm,0.3s,baz=84,slow=15,SNR=10								
KK31				⇑Sn		**Sb**	**12 56 14.6**	**+1.3**	
	1.8nm,0.5s,baz=86,slow=27								

BUC 16 12:59:33.5±0.2, 45°98N×22°71E, h5km, ml1.1/2, 9C-6D, Error ellipse: s-maj=1.6km s-min=1.4km az=114.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEV	**Deva**	**0.17**	**125**	⇓P	Pg	12 59 36.3	-0.5
DEV				⇓S	Sg	12 59 38.9	-0.1
DEV	**Deva**	**0.17**	**125**	⇓P	Pg	12 59 36.3	-0.5
SURR	**Surduc**	**0.47**	**241**	⇑P	Pg	12 59 43.1	+0.7
SURR				⇑S	Sg	12 59 48.6	+0.1
SURR	**Surduc**	**0.47**	**241**	⇑P	Pg	12 59 43.1	+0.7
GZR	**Gura Zlata**	**0.59**	**175**	⇑P	Pg	12 59 44.6	-0.2
GZR				⇑S	Sg	12 59 53.1	+0.7
GZR	**Gura Zlata**	**0.59**	**175**	⇑P	Pg	12 59 44.6	-0.2
MARR	**Marisel-Cluj**	**0.75**	**22**	⇓P	Pg	12 59 48.2	+0.2
MARR				⇑S	Sg	12 59 58.5	+0.7
MARR	**Marisel-Cluj**	**0.75**	**22**	⇓P	Pg	12 59 48.2	+0.2
LOT	**Lotru**	**0.91**	**125**	⇑P	Pb	12 59 51.5	-0.3
LOT				⇓S	Sb	13 00 04.2	-0.2
LOT	**Lotru**	**0.91**	**125**	⇑P	Pb	12 59 51.5	-0.3

BUC 16 13:00:01.7±0.1, 45°97N×22°72E, h6km±1km, ml1.4/10, 23C-14D, Error ellipse: s-maj=1.2km s-min=1.0km az=1.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEV	**Deva**	**0.15**	**124**	⇑P	Pg	13 00 04.5	-0.3
DEV				⇓S	Sg	13 00 07.7	+0.7
DEV	**Deva**	**0.15**	**124**	⇓S	Sg	13 00 07.7	+0.7
SURR	**Surduc**	**0.47**	**243**	⇑P	Pg	13 00 10.4	-0.4
SURR				⇓S	Sg	13 00 17.3	+0.4
SURR	**Surduc**	**0.47**	**243**	⇓S	Sg	13 00 17.3	+0.4
GZR	**Gura Zlata**	**0.58**	**176**	⇑P	Pg	13 00 12.8	-0.1
GZR				⇑S	Sg	13 00 20.7	+0.3
GZR	**Gura Zlata**	**0.58**	**176**	⇑S	Sg	13 00 20.7	+0.3
MARR	**Marisel-Cluj**	**0.76**	**21**	⇓P	Pg	13 00 16.0	-0.3
MARR				⇓S	Sg	13 00 26.8	+0.6
MARR	**Marisel-Cluj**	**0.76**	**21**	⇓S	Sg	13 00 26.8	+0.6
SIRR	**Siria**	**0.80**	**292**	⇑P	Pg	13 00 17.1	+0.1
SIRR				⇑S	Sb	13 00 28.7	-0.3
SIRR	**Siria**	**0.80**	**292**	⇑P	Pg	13 00 17.1	+0.1
SIRR				⇑S	Sb	13 00 28.7	-0.3
BZS	**Buzias**	**0.85**	**246**	⇑P	Pg	13 00 17.8	-0.2
BZS				⇑S	Sg	13 00 29.3	+0.3
BZS	**Buzias**	**0.85**	**246**	⇑P	Pg	13 00 17.8	-0.2
BZS				⇑S	Sg	13 00 29.3	+0.3
LOT	**Lotru**	**0.90**	**125**	⇓P	Pg	13 00 19.2	+0.2
LOT				⇓S	Sb	13 00 32.3	+0.2
LOT	**Lotru**	**0.90**	**125**	⇓S	Sb	13 00 32.3	+0.2
HERR	**Herculane**	**1.11**	**191**	⇑P	Pg	13 00 23.0	0.0
HERR				⇓S	Sb	13 00 38.3	+0.3
HERR	**Herculane**	**1.11**	**191**	⇑P	Pg	13 00 23.0	0.0
HERR				⇓S	Sb	13 00 38.3	+0.3
MDVR	**Moldovita**	**1.39**	**211**	⇑P	Pg	13 00 28.1	-0.1
MDVR				⇑S	Sn	13 00 47.1	+0.9
MDVR	**Moldovita**	**1.39**	**211**	⇑P	Pg	13 00 28.1	-0.1
MDVR				⇑S	Sn	13 00 47.1	+0.9
ARR	**Arges**	**1.47**	**114**	⇑S	Sg	13 00 49.3	+0.3
ARR	**Arges**	**1.47**	**114**	⇑S	Sg	13 00 49.3	+0.3
VOIR		**1.72**	**107**	⇑P	Pn	13 00 31.8	-0.3
VOIR				⇓S	Sb	13 00 55.4	-0.1
VOIR		**1.72**	**107**	⇑P	Pn	13 00 31.8	-0.3
VOIR				⇓S	Sb	13 00 55.4	-0.1

IDC 16 13:02:39.9±5.3, 6°61S×151°83E, h53km±42km, mb3.4/3, mbtmp3.8/4, ML4.1/1, MS3.0/1, Error ellipse: s-maj=91.2km s-min=18.7km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.30**	**5**	P	Pn	13 03 13.7	-1.7
	49nm,0.3s,baz=204,slow=2.9,SNR=29						
KRVT				S	Sn	13 03 43.9	+1.4
	158nm,0.3s,baz=340,slow=16,SNR=4.3						
	198nm,0.5s						
CTA	**Charters Tower**	**14.45**	**201**	LR	LR	13 11 24.0	
	comp=Z,49nm,18.0s,baz=90,slow=36						
WRA	**Warramunga Arr**	**21.54**	**230**	P	P	13 07 24.2	-0.6
	1.5nm,0.7s,baz=54,slow=11,SNR=19						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**24.17**	**224**	P	P	13 07 52.5	+1.1
	2.0nm,0.7s,baz=54,slow=9.0,SNR=43						
	2.0nm,0.7s						
ILAR	**Eielson Array**	**84.19**	**22**	P	P	13 15 05.0	-0.3
	0.3nm,0.6s,baz=229,slow=5.4,SNR=4.2						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.89**	**285**	PKPbc	PKPbc	13 22 24.4	-0.9
	0.7nm,0.6s,baz=65,slow=3.3,SNR=4.5						

*LVSN **16** 13:04:57.8±6.5, 57°94N×23°63E, h0km±486km, ML1.9*
HEL 16 13:04:52.8±0.6, 60°71N×28°96E, h0km, ML1.6, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.71**	**256**	PG	Pg	13 05 05.9	-0.6
	baz=68						
VJF				SG	Sg	13 05 15.2	-0.5
PVF	**Pernaja**	**1.54**	**265**	PG	Pn	13 05 19.8	-1.6
PVF				MSG		13 05 38.9	
	comp=Z,5.3nm,0.2s						
PVF				SN	Sg	13 05 43.0	+0.9
FIA0	**FINESS Array S**	**1.58**	**299**	PG	Pn	13 05 20.7	-1.3
	baz=122						
KAF	**Kangasniemi**	**1.90**	**319**	PG	Pn	13 05 27.0	+0.6
	baz=134						
KAF				MSG		13 05 49.3	
	comp=Z,4.2nm,0.2s						
KAF				SG	Sn	13 05 50.8	-0.2
ARBE	**Arbavere**	**1.97**	**231**	*e*P	Pg	13 05 30.5	0.0
ARBE				*e*S	Sb	13 05 54.4	0.0
ARBE				AML	AML	13 05 56.6	
	comp=E,61nm,0.2s						
ARBE				AML	AML	13 05 57.9	
	comp=Z,38nm,0.5s						
ARBE				AML	AML	13 06 00.1	
	comp=N,62nm,0.2s						
MEF	**Metsahovi**	**2.31**	**260**	*e*P	Pn	13 05 32.6	+0.5
MEF				*e*S	Sn	13 06 02.7	+1.5
MEF				AML	AML	13 06 19.2	
	comp=Z,7.2nm,0.8s						
MEF				AML	AML	13 06 19.4	
	comp=E,5.8nm,0.6s						
MEF				AML	AML	13 06 19.4	
	comp=N,6.7nm,0.8s						
MEF	**Metsahovi**	**2.31**	**260**	MSG		13 06 01.2	
	comp=Z,2.4nm,0.2s						
MEF				SG	Sb	13 06 04.2	-0.3
KEF	**Keuruu**	**2.45**	**308**	PG	Pn	13 05 35.5	+1.5
KEF				MSG		13 06 05.1	
	comp=Z,1.5nm,0.2s						
KEF				SB	Sn	13 06 06.3	+1.8
JOF	**Joensuu**	**2.48**	**26**	PG	Pb	13 05 37.4	-0.8
	baz=194						
JOF				SG	Sb	13 06 09.2	0.0
VSU	**Vasula**	**2.53**	**208**	AML	AML	13 05 13.0	
	comp=E,43nm,0.1s						
VSU				AML	AML	13 05 14.6	
	comp=Z,22nm,0.2s						
VSU				AML	AML	13 05 19.1	
	comp=N,24nm,0.5s						
MTSE	**Matsula**	**3.29**	**235**	SG	Sg	13 06 36.0	-2.3
RAF	**Rauma**	**3.53**	**278**	*e*P	Pn	13 05 49.5	+0.7
RAF				AML	AML	13 06 33.2	
	comp=N,5.0nm,0.6s						
RAF				AML	AML	13 06 33.2	
	comp=Z,4.2nm,0.4s						
RAF				AML	AML	13 06 50.5	
	comp=E,2.6nm,0.8s						
VAF	**Ylistaro**	**3.79**	**311**	SG	Sg	13 06 51.3	-2.9
OUL	**Oulu**	**4.61**	**344**	SG	Sg	13 07 16.0	-4.6

WEL 16 13:05:21.1±0.3, 43°S±2°×17°3E±°, h6km±2km, M3.2/2, ML3.7/19, ML3.6/2, MLv3.2/14, MLv3.2/2, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.32**	**150**	P	Pg	13 05 28.4	+0.9
GVZ				S	Sb	13 05 34.2	-0.6
LTZ	**Lake Taylor**	**0.41**	**257**	P	Pg	13 05 29.7	+0.6
LTZ				S	Sg	13 05 35.9	+1.4
AMCZ	**Amberley**	**0.50**	**194**	P	Pb	13 05 32.2	-0.1
KHZ	**Kahutara**	**0.60**	**63**	P	Pg	13 05 32.9	+0.2
KHZ	**Kahutara**	**0.60**	**63**	S	Sg	13 05 41.1	+0.7
OXZ	**Oxford**	**0.86**	**221**	P	Pb	13 05 38.4	0.0
THZ	**Tophouse**	**0.93**	**4**	P	Pg	13 05 38.3	-0.6
INZ	**Inchbonnie**	**1.01**	**267**	P	Pg	13 05 40.5	0.0
MQZ	**McQueen's Vall**	**1.02**	**187**	P	Pg	13 05 40.1	-0.7
OKCZ	**Okains Bay**	**1.05**	**170**	P	Pg	13 05 40.7	-0.6
RACZ	**Rakaia**	**1.15**	**205**	P	Pg	13 05 42.3	-0.9
RACZ				S	Sg	13 05 58.2	0.0
AKCZ	**Akaroa Harbour**	**1.19**	**177**	P	Pg	13 05 42.3	-1.6
DSZ	**Denniston Nort**	**1.20**	**321**	P	Pb	13 05 44.4	0.0
MHCZ	**Mount Hutt**	**1.24**	**227**	P	Pg	13 05 43.6	-1.4
WACZ	**Wakanui South**	**1.44**	**209**	P	Pn	13 05 46.2	-1.5
NNZ	**Nelson**	**1.53**	**16**	P	Pn	13 05 49.1	+0.2
WVZ	**Waitaha Valley**	**1.58**	**255**	P	Pn	13 05 50.1	+0.5
RPZ	**Rata Peaks**	**1.65**	**231**	P	Pn	13 05 49.9	-0.7
TKNZ	**Takaka Hill**	**1.66**	**4**	P	Pn	13 05 50.8	+0.1
ARCZ	**Arundel**	**1.74**	**223**	P	Pn	13 05 50.8	-1.1
QRZ	**Quartz Range**	**1.87**	**353**	P	Pb	13 05 54.8	-0.9
GCSZ	**Gaunt Creek Bo**	**1.93**	**250**	P	Pn	13 05 55.2	+0.7
TMZ	**Timaru**	**2.15**	**217**	P	Pn	13 05 56.0	-1.4
FOZ	**Fox Glacier**	**2.35**	**248**	P	Pn	13 06 01.1	+0.8
LBZ	**Lake Benmore**	**2.56**	**228**	P	Pn	13 06 02.5	-0.6
ODZ	**Otahua Downs**	**2.83**	**213**	P	Pn	13 06 05.1	-1.7
JCZ	**Jackson Bay**	**3.25**	**243**	P	Pn	13 06 13.2	+0.6
WAZ	**Wanganui**	**3.36**	**30**	P	Pn	13 06 15.4	+1.3
VRZ	**Vera Road**	**3.85**	**23**	P	Pn	13 06 22.4	+1.5
MTVZ	**Mangateitei**	**3.86**	**32**	P	Pn	13 06 22.8	+1.7
PKVZ	**Pokaka**	**3.90**	**30**	P	Pn	13 06 23.9	+2.3
TRVZ	**Turoa**	**3.97**	**32**	P	Pn	13 06 22.5	-0.2
DRZ	**Dome Shelter**	**3.99**	**32**	P	Pn	13 06 26.6	+3.4
FWVZ	**Far West T-bar**	**4.01**	**32**	P	Pn	13 06 22.1	-1.1
TUVZ	**Tukino**	**4.04**	**33**	P	Pn	13 06 25.5	+2.0
NGZ	**Ngauruhoe**	**4.09**	**32**	P	Pn	13 06 26.9	+2.5
SNVZ	**South Ngauruho**	**4.10**	**32**	P	Pn	13 06 26.8	+2.3
TWVZ	**Taurewa**	**4.12**	**30**	P	Pn	13 06 26.9	+2.2
NNVZ	**North Ngauruho**	**4.14**	**32**	P	Pn	13 06 26.8	+1.8
WTVZ	**West Tongariro**	**4.14**	**31**	P	Pn	13 06 28.7	+3.7
ETVZ	**East Tongariro**	**4.17**	**33**	P	Pn	13 06 27.7	+2.3
KRVZ	**Karewarewa**	**4.18**	**32**	P	Pn	13 06 24.6	-0.9
NTVZ	**North Tongarir**	**4.19**	**32**	P	Pn	13 06 24.5	-1.2
KWHZ	**Kaweka Forest**	**4.25**	**41**	P	Pn	13 06 29.5	+3.1
HIZ	**Hauiti**	**4.45**	**21**	P	Pn	13 06 30.5	+1.4
TLZ	**Tolley Road**	**4.82**	**26**	P	Pn	13 06 36.7	+2.4
TOZ	**Tahuroa Road**	**5.36**	**23**	P	Pn	13 06 42.0	+0.4

*IDC **16** 13:05:35.4±2.5, 41°58S×174°23E, h0km, mb3.8/2, mbtmp3.8/3, ML3.7/1, MS2.4/1, Error ellipse: s-maj=59.4km s-min=43.1km az=48.0*
*WEL **16** 13:05:38.8±0.4, 42°S±3°×17°4E±°, h9km±4km, M4.0/24, ML4.4/13, MLv4.0/24, Error ellipse: s-maj=0.0km s-min=0.0km az=142.2*
ISC 16 13:05:37.7±1.0, 41°78S±0°04×174°39E±0°03, h20km±5km, n61, σ1°21/65, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**281**	P	**Pg**	**13 05 42.0**	**+0.1**
CMWZ				S	**Sg**	**13 05 44.9**	**0.0**
BSWZ	**Blackbirch Sta**	**0.39**	**279**	P	**Pg**	**13 05 45.6**	**-0.2**
BSWZ				S	**Sg**	**13 05 51.1**	**-0.3**
TUWZ	**Tuamarina**	**0.48**	**316**	P	**Pb**	**13 05 46.9**	**-0.6**
TUWZ				S	**Sg**	**13 05 53.0**	**-1.1**
WEL	**Wellington**	**0.57**	**30**	P	**Pg**	**13 05 49.9**	**+0.9**
TCW	**Tory Channel**	**0.57**	**351**	P	**Pb**	**13 05 48.7**	**-0.2**
PLWZ	**Palliser**	**0.68**	**73**	P	**Pn**	**13 05 53.5**	**+1.3**
MSWZ	**Moikau Station**	**0.74**	**61**	P	**Pn**	**13 05 54.2**	**+1.2**
CAW	**Cannon Point**	**0.84**	**38**	P	**Pn**	**13 05 54.8**	**+0.4**
PAWZ	**Paruwai Farm**	**0.87**	**64**	P	**Pn**	**13 05 56.0**	**+1.2**
KHZ	**Kahutara**	**0.90**	**224**	P	**Pg**	**13 05 56.6**	**+1.3**
KIW	**Kapiti Island**	**0.99**	**23**	P	**Pg**	**13 05 56.9**	**-0.1**
MTW	**Mount Morrison**	**1.04**	**54**	P	**Pg**	**13 05 58.1**	**+0.3**
TRWZ	**Traveller**	**1.04**	**69**	P	**Pg**	**13 05 58.1**	**+0.2**
OGWZ	**Otaki Gorge**	**1.12**	**32**	P	**Pg**	**13 05 59.3**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.22**	**44**	P	**Pb**	**13 06 00.6**	**+0.6**
TKNZ	**Takaka Hill**	**1.31**	**304**	P	**Pb**	**13 06 01.7**	**+0.1**
TMWZ	**Te Maipa**	**1.31**	**60**	P	**Pb**	**13 06 01.7**	**+0.1**
MRZ	**Mangatainoka R**	**1.43**	**39**	P	**Pb**	**13 06 03.6**	**0.0**
TIWZ	**Tintock**	**1.50**	**49**	P	**Pb**	**13 06 04.5**	**-0.4**
CPWZ	**Castlepoint**	**1.61**	**58**	P	**Pb**	**13 06 06.6**	**-0.1**
PRWZ	**Pori Road**	**1.71**	**45**	P	**Pn**	**13 06 07.2**	**+0.9**
OHWZ	**Ohakea**	**1.72**	**24**	P	**Pb**	**13 06 09.0**	**+0.5**
POWZ	**Post Office Ro**	**1.73**	**37**	P	**Pn**	**13 06 07.6**	**+1.0**
BFZ	**Birch Farm**	**1.77**	**53**	P	**Pn**	**13 06 07.5**	**+0.3**
DVHZ	**Dannevirke**	**2.00**	**43**	P	**Pn**	**13 06 10.5**	**+0.3**
ANWZ	**Angora Road**	**2.05**	**51**	P	**Pn**	**13 06 11.2**	**+0.2**
TSZ	**Takapari Road**	**2.09**	**35**	P	**Pn**	**13 06 12.3**	**+0.8**
WPHZ	**Waipukurau**	**2.31**	**43**	P	**Pn**	**13 06 15.2**	**+0.6**
PNHZ	**Pukenui**	**2.31**	**37**	P	**Pn**	**13 06 15.2**	**+0.5**
LREZ	**Lake Rotokare**	**2.31**	**0**	P	**Pb**	**13 06 19.0**	**+0.3**
NMEZ	**Nama Road**	**2.39**	**350**	P	**Pb**	**13 06 18.3**	**-1.7**
KHEZ	**Kahui Hut**	**2.50**	**353**	P	**Pb**	**13 06 19.9**	**-1.9**
NEZ	**North Egmont**	**2.51**	**355**	P	**Pb**	**13 06 21.3**	**-0.9**
NBEZ	**Newall Road No**	**2.54**	**351**	P	**Pn**	**13 06 19.4**	**+1.7**
PXZ	**Pawanui**	**2.56**	**48**	P	**Pn**	**13 06 17.3**	**-0.7**
MOVZ	**Moawhango**	**2.58**	**24**	P	**Pn**	**13 06 20.0**	**+1.6**
DREZ	**Durham Road**	**2.59**	**357**	P	**Pb**	**13 06 21.8**	**-1.6**
PKE	**Pukeiti**	**2.60**	**353**	P	**Pn**	**13 06 20.5**	**+1.9**
WNVZ	**Wahianoa**	**2.61**	**21**	P	**Pn**	**13 06 21.0**	**+2.1**
BHHZ	**Black Hill Sta**	**2.61**	**30**	P	**Pn**	**13 06 20.3**	**+1.4**
WHVZ	**Whangaehu Hut**	**2.65**	**21**	P	**Pn**	**13 06 21.8**	**+2.3**
MHEZ	**Mangahewa**	**2.70**	**359**	P	**Pb**	**13 06 24.3**	**-0.9**
KAHZ	**Kahuranaki**	**2.73**	**44**	P	**Pn**	**13 06 20.2**	**-0.3**
OTVZ	**Oturere**	**2.78**	**21**	P	**Pn**	**13 06 23.0**	**+1.7**
TMVZ	**Te Maari**	**2.84**	**21**	P	**Pn**	**13 06 23.8**	**+1.8**
MCHZ	**McNeill Hill**	**2.92**	**38**	P	**Pn**	**13 06 23.0**	**0.0**
BKZ	**Black Stump Fm**	**3.06**	**32**	P	**Pn**	**13 06 25.0**	**0.0**
RPZ	**Rata Peaks**	**3.13**	**231**	Pn		**13 06 26.4**	**+0.5**
	8.5nm,0.3s,baz=346,slow=22,SNR=4.1						
RPZ				Sn	**Sn**	**13 07 01.7**	**-1.0**
	6.3nm,0.3s,baz=156,slow=13,SNR=3.2						
RPZ				LR	LR	13 07 47.0	
	comp=Z,61nm,20.3s,baz=1.5,slow=42						
	52nm,0.7s						
URZ	**Urewera**	**4.08**	**32**	P	**Pn**	**13 06 38.8**	**-0.2**
KMRZ	**Kaimai**	**4.10**	**17**	P	**Pn**	**13 06 40.9**	**+1.7**
RUGZ	**Raukumara Rang**	**4.57**	**35**	P	**Pn**	**13 06 45.8**	**0.0**
MKAZ	**Moumakai**	**4.70**	**8**	P	**Pg**	**13 06 49.2**	**+1.7**
AWAZ	**Awhitu Peninsu**	**4.71**	**2**	P	**Pn**	**13 06 49.8**	**+2.2**
HAZ	**Te Kaha**	**4.79**	**34**	P	**Pn**	**13 06 48.4**	**-0.2**
ETAZ	**East Tamaki Re**	**4.83**	**5**	P	**Pn**	**13 06 51.9**	**+2.6**
WTAZ	**Waiatarua**	**4.84**	**2**	P	**Pn**	**13 06 52.5**	**+3.1**
RVAZ	**Riverhead Bore**	**5.00**	**2**	P	**Pn**	**13 06 54.2**	**+2.7**
OUZ	**Omahuta**	**6.58**	**354**	P	**Pn**	**13 07 14.3**	**+1.1**
ASAR	**Alice Springs**	**38.14**	**285**	P	**P**	**13 12 54.9**	**-0.8**
	0.4nm,0.4s,baz=127,slow=7.0,SNR=28						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**40.21**	**290**	P	**P**	**13 13 12.1**	**-0.9**
	0.8nm,0.4s,baz=128,slow=8.1,SNR=24						
	0.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.78**	**195**	PKPbc	**PKiKP**	**13 25 30.1**	**+0.5**
	0.5nm,0.4s,baz=154,slow=2.2,SNR=7.9						

WEL 16 13:32:06.5±0.4, 43°S±3°×17°2E±°, h5km, M2.8/16, ML2.9/14, MLv2.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=176.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.19**	**255**	P	Pg	13 32 11.4	+1.1
INZ				S	Sg	13 32 14.4	+1.5
LTZ	**Lake Taylor**	**0.44**	**104**	P	Pg	13 32 14.8	-0.1
LTZ				S	Sg	13 32 20.2	-0.4
CSHS	**Castle Hill**	**0.55**	**178**	P	Pg	13 32 17.6	+0.5

GELI	**Tayfur-Gelibol**	**0.87**	**255**	PG	Pb	13 34 13.4	-0.2
BALY	**Balya**	**0.89**	**178**	P	Pg	13 34 13.4	+0.4
BALY				S	Sn	13 34 27.9	-0.7
BALY				*i* AML	AML	13 34 29.0	
	comp=N,18nm,0.3s						
VIZE	**Kirklareli, Vi**	**0.96**	**12**	P	Pg	13 34 14.7	+0.3
VIZE				S	Sb	13 34 28.3	0.0
VIZE				*i* AML	AML	13 34 46.0	
	comp=N,13nm,0.9s						
VIZE				*i* AML	AML	13 34 46.0	
	comp=E,11nm,0.8s						
BAYC	**CANAKKALE_Bayr**	**1.19**	**222**	P	Pg	13 34 18.7	0.0
BAYC				S	Sn	13 34 35.5	-0.4
BAYC				*i* AML	AML	13 34 39.0	
	comp=E,10nm,0.6s						
BUHA	**Balikesir, Bur**	**1.19**	**199**	P	Pg	13 34 17.8	-1.0
BUHA				S	Sn	13 34 36.0	+0.1
BUHA				*i* AML	AML	13 34 50.0	
	comp=N,7.7nm,0.9s						
BUHA				*i* AML	AML	13 34 55.0	
	comp=E,16nm,2.1s						
KIRK	**Kirklareli**	**1.20**	**343**	P	Pg	13 34 18.9	0.0
KIRK				S	Sg	13 34 34.1	-0.5
KIRK				*i* AML	AML	13 34 47.0	
	comp=E,5.5nm,1.4s						
ARMN	**Kirklareli, Me**	**1.23**	**355**	P	Pg	13 34 19.1	-0.5
ARMN				S	Sg	13 34 34.6	-1.0
ARMN				*i* AML	AML	13 34 57.0	
	comp=E,4.6nm,0.0s						
DURS	**Dursunbey**	**1.24**	**146**	P	Pn	13 34 20.8	+0.8
DURS				S	Sn	13 34 37.8	+0.6
DURS				*i* AML	AML	13 34 39.0	
	comp=N,19nm,0.9s						
DURS				*i* AML	AML	13 35 09.0	
	comp=E,15nm,1.5s						
EDRB	**Edirne**	**1.37**	**333**	PN	Pg	13 34 22.2	+0.1
BOZC	**Bozcaada**	**1.41**	**236**	P	Pn	13 34 21.8	-0.4
BOZC				S	Sb	13 34 40.8	-0.2

WEL 16 13:39:22.1±0.7, 43°S±4°×17°3E±°, h5km, M2.4/7, ML2.6/7, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=13.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**149**	P	Pg	13 39 29.5	+0.7
GVZ				S	Sb	13 39 35.4	-1.2
LTZ	**Lake Taylor**	**0.40**	**254**	P	Pg	13 39 30.2	+0.3
LTZ				S	Sg	13 39 36.3	+1.2
AMCZ	**Amberley**	**0.52**	**192**	P	Pb	13 39 33.1	-0.6
OXZ	**Oxford**	**0.86**	**220**	P	Pb	13 39 39.2	-0.3
OXZ				S	Sb	13 39 51.4	0.0
INZ	**Inchbonnie**	**1.00**	**266**	P	Pn	13 39 43.4	+0.7
MQZ	**McQueen's Vall**	**1.04**	**186**	P	Pg	13 39 41.3	-0.8
RACZ	**Rakaia**	**1.16**	**204**	P	Pg	13 39 44.1	-0.3
RACZ	**Rakaia**	**1.16**	**204**	P	Pg	13 39 43.4	-1.0
DSZ	**Denniston Nort**	**1.18**	**321**	P	Pn	13 39 45.5	+0.2
MHCZ	**Mount Hutt**	**1.25**	**226**	P	Pg	13 39 45.0	-0.9
PRWZ	**Pori Road**	**3.18**	**49**	P	Pn	13 40 13.3	+0.5
WAZ	**Wanganui**	**3.35**	**30**	P	Pn	13 40 17.1	+2.0
DVHZ	**Dannevirke**	**3.47**	**48**	P	Pn	13 40 19.8	+3.1
TSZ	**Takapari Road**	**3.53**	**43**	P	Pn	13 40 18.4	+0.8
VRZ	**Vera Road**	**3.84**	**23**	P	Pn	13 40 25.9	+4.1
MOVZ	**Moawhango**	**3.95**	**35**	P	Pn	13 40 26.9	+3.5
WNVZ	**Wahianoa**	**3.96**	**33**	P	Pn	13 40 26.3	+2.7
TRVZ	**Turoa**	**3.96**	**33**	P	Pn	13 40 27.4	+3.7
HIZ	**Hauiti**	**4.44**	**21**	P	Pn	13 40 34.1	+4.0
CNGZ	**Carnagh Statio**	**5.87**	**46**	P	Pn	13 40 52.7	+3.0

WEL 16 13:39:34.6±0.4, 42°S±4°×17°4E±°, h9km±4km, M2.9/1, ML3.5/10, ML2.8/1, MLv3.1/13, MLv2.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=143.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.27**	**16**	P	Pg	13 39 40.5	+0.5
BSWZ				S	Sb	13 39 45.4	-0.8
CMWZ	**Cape Campbell**	**0.40**	**56**	P	Pb	13 39 43.6	-0.2
KHZ	**Kahutara**	**0.48**	**202**	P	Pg	13 39 44.5	+0.6
TUWZ	**Tuamarina**	**0.56**	**13**	P	Pb	13 39 46.0	-0.5
THZ	**Tophouse**	**0.69**	**288**	P	Pb	13 39 48.4	-0.4
NNZ	**Nelson**	**0.81**	**338**	P	Pg	13 39 50.3	0.0
TCW	**Tory Channel**	**0.85**	**26**	P	Pg	13 39 50.8	-0.2
TKNZ	**Takaka Hill**	**1.12**	**327**	P	Pg	13 39 56.1	-0.1
GVZ	**Greta Valley S**	**1.14**	**209**	P	Pb	13 39 56.1	-0.4
PLWZ	**Palliser**	**1.18**	**70**	P	Pb	13 39 55.9	-1.2
MSWZ	**Moikau Station**	**1.23**	**64**	P	Pn	13 39 56.7	-1.4
CAW	**Cannon Point**	**1.30**	**49**	P	Pn	13 39 58.2	-0.7
PAWZ	**Paruwai Farm**	**1.37**	**65**	P	Pn	13 39 58.4	-1.5
KIW	**Kapiti Island**	**1.40**	**38**	P	Pn	13 40 00.3	0.0
MTW	**Mount Morrison**	**1.53**	**58**	P	Pn	13 40 01.0	-1.1
TRWZ	**Traveller**	**1.54**	**69**	P	Pn	13 40 00.4	-1.8
OGWZ	**Otaki Gorge**	**1.56**	**43**	P	Pn	13 40 01.9	-0.6
HOWZ	**Holdsworth Sta**	**1.69**	**51**	P	Pn	13 40 03.5	-0.8
TMWZ	**Te Maipa**	**1.81**	**62**	P	Pn	13 40 04.0	-1.9
MRZ	**Mangatainoka R**	**1.89**	**47**	P	Pn	13 40 06.5	-0.5

WEL 16 13:42:19.4±0.3, 43°S±2°×17°3E±°, h5km, M3.5/4, ML3.5/19, ML3.7/4, MLv3.4/23, MLv3.5/4, Error ellipse: s-maj=0.0km s-min=0.0km az=110.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.21**	**143**	P	Pg	13 42 24.2	+0.7
AMCZ	**Amberley**	**0.41**	**202**	P	Pb	13 42 28.5	-0.6
AMCZ				S	Sb	13 42 35.6	0.0
LTZ	**Lake Taylor**	**0.44**	**272**	P	Pg	13 42 28.2	+0.4
LTZ				S	Sg	13 42 35.0	+1.4
KHZ	**Kahutara**	**0.63**	**53**	P	Pb	13 42 32.3	-0.5
OXZ	**Oxford**	**0.80**	**229**	P	Pb	13 42 35.6	-0.3
MQZ	**McQueen's Vall**	**0.92**	**189**	P	Pg	13 42 36.6	-0.4
OKCZ	**Okains Bay**	**0.93**	**171**	P	Pg	13 42 37.2	-0.1
THZ	**Tophouse**	**1.04**	**2**	P	Pg	13 42 38.9	-0.4
INZ	**Inchbonnie**	**1.05**	**274**	P	Pg	13 42 39.6	+0.1
RACZ	**Rakaia**	**1.07**	**209**	P	Pg	13 42 39.2	-0.7
AKCZ	**Akaroa Harbour**	**1.07**	**178**	P	Pg	13 42 39.0	-1.0
MHCZ	**Mount Hutt**	**1.20**	**232**	P	Pg	13 42 41.2	-1.2
DSZ	**Denniston Nort**	**1.31**	**323**	P	Pn	13 42 44.2	-0.3
BSWZ	**Blackbirch Sta**	**1.32**	**35**	P	Pn	13 42 44.4	-0.1
WACZ	**Wakanui South**	**1.36**	**213**	P	Pn	13 42 43.4	-1.7
WVZ	**Waitaha Valley**	**1.58**	**259**	P	Pn	13 42 48.1	0.0
RPZ	**Rata Peaks**	**1.61**	**235**	P	Pn	13 42 47.2	-1.3
NNZ	**Nelson**	**1.63**	**14**	P	Pn	13 42 49.2	+0.5
ARCZ	**Arundel**	**1.68**	**226**	P	Pn	13 42 48.0	-1.5
TKNZ	**Takaka Hill**	**1.77**	**2**	P	Pn	13 42 50.8	+0.2
TCW	**Tory Channel**	**1.91**	**34**	P	Pn	13 42 51.5	-1.1
GCSZ	**Gaunt Creek Bo**	**1.93**	**254**	P	Pn	13 42 53.1	+0.2
QRZ	**Quartz Range**	**1.99**	**353**	P	Pn	13 42 53.8	+0.1
TMZ	**Timaru**	**2.08**	**220**	P	Pn	13 42 53.3	-1.7
FOZ	**Fox Glacier**	**2.35**	**251**	P	Pn	13 42 59.1	+0.5
LBZ	**Lake Benmore**	**2.51**	**230**	P	Pn	13 42 59.5	-1.3
ODZ	**Otahua Downs**	**2.76**	**215**	P	Pn	13 43 02.5	-1.8
JCZ	**Jackson Bay**	**3.23**	**245**	P	Pn	13 43 10.8	-0.1
WKZ	**Wanaka**	**3.44**	**233**	P	Pn	13 43 12.8	-0.9
HHSZ	**Highcliff Hill**	**3.48**	**207**	P	Pn	13 43 12.2	-2.0
EAZ	**Earnscleugh**	**3.53**	**225**	P	Pn	13 43 13.4	-1.5
MLZ	**Mavora Lakes**	**4.27**	**231**	P	Pn	13 43 23.6	-1.6
SYZ	**Scrubby Hill**	**4.58**	**214**	P	Pn	13 43 27.6	-1.7

IDC 16 13:43:03.6±6.7, 6°33N×94°23E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=335.4km s-min=31.5km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.60**	**348**	P	P	13 50 53.3	-0.1
	0.4nm,0.7s,baz=178,slow=10,SNR=2.5 0.4nm,0.7s						
WRA	**Warramunga Arr**	**47.31**	**124**	P	P	13 51 39.0	-0.4
	0.2nm,0.6s,baz=299,slow=10,SNR=8.6 0.2nm,0.6s						
ASAR	**Alice Springs**	**48.87**	**129**	P	P	13 51 51.8	+0.2
	0.2nm,0.3s,baz=300,slow=7.2,SNR=5.2 0.2nm,0.3s						

WEL 16 13:46:21.2±0.5, 42°S±3°×17°3E±°, h5km, M2.5/6, ML2.7/6, MLv2.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=118.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**80**	P	Pg	13 46 26.7	-0.4
GVZ	**Greta Valley S**	**0.50**	**188**	P	Pg	13 46 31.0	+0.1
GVZ				S	Sb	13 46 39.5	-0.8
LTZ	**Lake Taylor**	**0.71**	**244**	P	Pg	13 46 34.9	0.0
LTZ				S	Sg	13 46 44.4	+0.3
THZ	**Tophouse**	**0.73**	**346**	P	Pb	13 46 36.1	-0.3
AMCZ	**Amberley**	**0.79**	**207**	P	Pg	13 46 36.6	+0.2
AMCZ				S	Sb	13 46 49.0	+0.6
OXZ	**Oxford**	**1.18**	**223**	P	Pg	13 46 42.6	-1.2
DSZ	**Denniston Nort**	**1.23**	**306**	P	Pn	13 46 46.0	+0.9
MQZ	**McQueen's Vall**	**1.29**	**196**	P	Pn	13 46 43.2	-2.6
MHCZ	**Mount Hutt**	**1.56**	**227**	P	Pn	13 46 47.9	-1.8
RPZ	**Rata Peaks**	**1.97**	**230**	P	Pn	13 46 53.8	-1.4

WEL 16 13:48:40.3±0.9, 42°S±4°×17°4E±°, h5km, M3.2/15, ML3.5/8, MLv3.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**248**	P	Pg	13 48 43.0	+0.7
BSWZ	**Blackbirch Sta**	**0.69**	**14**	S	Sb	13 49 03.9	-0.5
GVZ	**Greta Valley S**	**0.75**	**218**	P	Pg	13 48 54.7	+0.1
GVZ				S	Sb	13 49 06.9	+0.6
THZ	**Tophouse**	**0.83**	**317**	P	Pg	13 48 56.2	0.0
AMCZ	**Amberley**	**1.09**	**223**	P	Pg	13 49 00.2	-1.0
LTZ	**Lake Taylor**	**1.10**	**248**	P	Pg	13 49 00.5	-0.9
LTZ				S	Sg	13 49 15.1	-0.6
MRNZ	**Matariki Terra**	**1.19**	**325**	P	Pg	13 49 02.6	-0.5
OKCZ	**Okains Bay**	**1.41**	**198**	P	Pn	13 49 03.5	-3.2
TKNZ	**Takaka Hill**	**1.44**	**339**	P	Pn	13 49 06.3	-0.8
MQZ	**McQueen's Vall**	**1.52**	**209**	P	Pn	13 49 04.4	-3.6
DSZ	**Denniston Nort**	**1.52**	**294**	P	Pn	13 49 08.2	0.0
OXZ	**Oxford**	**1.52**	**231**	P	Pn	13 49 05.3	-2.8
AKCZ	**Akaroa Harbour**	**1.59**	**200**	P	Pn	13 49 05.8	-3.2
INZ	**Inchbonnie**	**1.67**	**257**	P	Pn	13 49 09.8	-0.4
RACZ	**Rakaia**	**1.75**	**219**	P	Pn	13 49 08.2	-3.0
QRZ	**Quartz Range**	**1.77**	**331**	P	Pn	13 49 11.5	-0.1
MHCZ	**Mount Hutt**	**1.92**	**232**	P	Pn	13 49 10.7	-2.9
WACZ	**Wakanui South**	**2.05**	**220**	P	Pn	13 49 12.4	-3.0
WVZ	**Waitaha Valley**	**2.26**	**251**	P	Pn	13 49 17.2	-1.1
RPZ	**Rata Peaks**	**2.33**	**234**	P	Pn	13 49 16.6	-2.7
ARCZ	**Arundel**	**2.40**	**228**	P	Pn	13 49 17.3	-2.9
TMZ	**Timaru**	**2.78**	**223**	P	Pn	13 49 22.9	-2.6
LBZ	**Lake Benmore**	**3.23**	**230**	P	Pn	13 49 29.1	-2.5
ODZ	**Otahua Downs**	**3.44**	**218**	P	Pn	13 49 31.6	-3.0

*IDC **16** 13:51:53.4±0.7, 29°.26N×130°.55E, h0km, mb4.0/15, mbtmp4.0/19, ML3.4/3, MS3.6/11, Error ellipse: s-maj=20.7km s-min=15.0km az=82.0*

*NEIC **16** 13:51:56.6±1.6, 29°.13N±0°.05×130°.55E±0°.09, h20km±5km, mb4.6/24, Error ellipse: s-maj=11.3km s-min=7.3km az=103.0*

*NIED **16** 13:51:57.4, 29°.17N×130°.60E, h69km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.69; $M_{\theta\theta}$0.33; $M_{\phi\phi}$-2.02; $M_{r\theta}$0.90; $M_{\theta\phi}$-1.85; $M_{\phi r}$1.41; Fault plane solution: $M_0$2.90000×10^{15} NP1: ϕ_s199.00000°, δ28.00000°, λ76.00000°. NP2:ϕ_s34.00000°, δ63.00000°, λ97.00000°.*

*JMA **16** 13:51:57.4±0.1, 29°.2N±0°.2×130°.6E±0°.5, h69km±1km, MV3.9/43, NEAR AMAMI-OSHIMA ISLAND*

ISC 16 13:51:56.3±1.5, 29°11N±0°.03×130°.64E±0°.04, h23km±10km, n115, σ1$32/128, mb4.5/33, MS3.8/17, 4C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.98**	**217**	P	**Pn**	**13 52 16.3**	**+1.6**
JZK				S	**Sn**	**13 52 29.8**	**+1.9**
JNN	**Nakanoshima**	**0.99**	**318**	P	**Pn**	**13 52 15.1**	**+0.3**
JNN				S	**Sn**	**13 52 28.4**	**+0.3**
JYAK	**Yakushimahirau**	**1.13**	**354**	*i* P	**Pb**	**13 52 16.9**	**-0.3**
JYAK				S	**Sn**	**13 52 31.8**	**+0.2**
JAM	**Amami Oshima**	**1.14**	**233**	*i* P	**Pb**	**13 52 17.8**	**+0.4**
JTAJ	**Takarajima**	**1.26**	**272**	*i* P	**Pb**	**13 52 19.0**	**-0.3**
JMTN	**Minamitane**	**1.30**	**10**	*i* P	**Pn**	**13 52 19.2**	**+0.1**
JMTN				S	**Sn**	**13 52 35.6**	**-0.3**
JKC	**Kuchinoerabu**	**1.40**	**344**	P	**Pn**	**13 52 20.6**	**+0.1**
JKC				S	**Sn**	**13 52 38.1**	**-0.2**
JAMN	**Amaminishikomi**	**1.55**	**237**	*i* P	**Pb**	**13 52 23.5**	**-0.7**
JTN	**Tanegashima 3**	**1.57**	**11**	P	**Pn**	**13 52 22.9**	**+0.1**
JTN				S	**Sn**	**13 52 41.5**	**-0.9**
JTK	**Tokunoshima**	**1.99**	**229**	P	**Pn**	**13 52 29.8**	**+1.3**
JTSR	**Tashiro 2**	**2.07**	**7**	P	**Pn**	**13 52 30.1**	**+0.5**
JTSR				S	**Sn**	**13 52 54.2**	**-0.5**
JSU	**Suzuyama**	**2.40**	**356**	Pn	**Pn**	**13 52 33.7**	**-0.5**
JSU	**Suzuyama**	**2.40**	**356**	P	**Pn**	**13 52 34.1**	**-0.1**
JSU				S	**Sn**	**13 53 01.5**	**-1.4**
JNAR	**Kushima--Naru**	**2.47**	**13**	P	**Pn**	**13 52 35.9**	**+0.7**
JNAR				S	**Sn**	**13 53 04.8**	**+0.1**
JOKE	**Okinoerabujima**	**2.52**	**227**	P	**Pn**	**13 52 37.2**	**+1.3**
JNKG	**Nichinankitago**	**2.62**	**14**	*i* P	**Pn**	**13 52 38.1**	**+0.8**
JNKG				S	**Sn**	**13 53 08.9**	**+0.5**
JSJ	**Shimokoshiki**	**2.68**	**343**	P	**Pn**	**13 52 37.6**	**-0.5**
JYRO	**Yoronjima**	**2.84**	**224**	P	**Pn**	**13 52 41.0**	**+0.8**
JOW	**Kunigami**	**3.08**	**223**	Pn	**Pn**	**13 52 44.6**	**+1.0**
	6.1nm,0.3s,baz=128,slow=21,SNR=32						
JOW				S	**Sn**	**13 53 20.4**	**+0.6**
	16nm,0.3s,baz=54,slow=24,SNR=5.6 12nm,0.3s						
JOW	**Kunigami**	**3.08**	**223**		**Pn**	**13 52 42.8**	**-0.9**
JOW	**Kunigami**	**3.08**	**223**	P	**Pn**	**13 52 45.1**	**+1.4**
JOW				S	**Sn**	**13 53 20.4**	**+0.5**
JIH	**Iheya**	**3.14**	**229**	P	**Pn**	**13 52 44.9**	**+0.6**
JKDJ	**Kitadaitoujima**	**3.20**	**169**	P	**Pn**	**13 52 44.7**	**-0.5**
JKDJ				S	**Sn**	**13 53 20.9**	**-1.7**
JMZ	**Minamidaito 2**	**3.32**	**171**	*eP*	**Pn**	**13 52 46.3**	**-0.5**
JMZ				S	**Sn**	**13 53 23.0**	**-2.5**
JNTH	**Nagotoyohara**	**3.47**	**223**	P	**Pn**	**13 52 49.6**	**+0.7**
JNU	**Nakatsue**	**4.01**	**3**		**Pn**	**13 52 56.8**	**+0.5**
JKE	**Kume jima 2**	**4.40**	**232**	P	**Pn**	**13 53 02.3**	**+0.6**
JMN	**Monobe**	**5.37**	**30**	Pn	**Pn**	**13 53 16.2**	**+1.1**
JTU	**Tsushima**	**5.50**	**349**	Pn	**Pn**	**13 53 15.8**	**-1.0**
JHS	**Saijyo**	**6.24**	**19**		**Pn**	**13 53 26.3**	**-0.7**
INU	**Inuyama**	**8.24**	**39**		**Pn**	**13 53 55.9**	**+1.5**
JGF	**Kuroka**	**8.61**	**40**		**Pn**	**13 54 00.5**	**+0.9**
KSRS	**Korea Array**	**8.63**	**345**	Pn	**Pn**	**13 53 59.0**	**-0.8**
	0.1nm,0.3s,baz=166,slow=13,SNR=10 1.1nm,0.6s						
JCJ	**Chichijima**	**10.39**	**98**	Pn	**Pn**	**13 54 24.0**	**0.0**
	28nm,0.3s,baz=281,slow=19,SNR=7.7						
JCJ	**Chichijima**	**10.39**	**98**	Pn	**Pn**	**13 54 23.9**	**0.0**
TPUB	**Ta-pu**	**10.69**	**240**	Pn	**Pn**	**13 54 26.9**	**-1.1**
USRK	**Ussuriysk Ar.**	**15.10**	**4**	Pn	**P**	**13 55 32.6**	**-0.6**
	0.3nm,0.3s,baz=188,slow=9.6,SNR=5.3						
CN2	**Changchun**	**15.24**	**346**	*eP*	**P**	**13 55 36.3**	**+1.5**
CN2				*eS*	**Sn**	**13 58 25.9**	**+7.8**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,12.0s						
CN2				LR	LR		
	comp=E,300nm,12.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
HNS	**HongShan**	**15.67**	**306**	⇑P	**P**	**13 55 40.8**	**+1.3**
HNS				*eS*	**S**	**13 58 39.5**	**-3.8**
HNS				pmax	pmax		
	comp=Z,13nm,0.6s						
HNS				LR	LR		
	comp=N,360nm,13.3s						
HNS				LR	LR		
	comp=E,360nm,15.2s						
HNS				LR	LR		
	comp=Z,470nm,13.6s						
ENH	**Enshi**	**18.42**	**279**	P	**Pn**	**13 56 10.4**	**+0.2**
XLT	**XiLinHaoTe**	**18.80**	**326**	*eP*	**P**	**13 56 10.9**	**-3.3**
XLT				pP	Pn	13 56 14.3	-0.4
XLT				sP	pP	13 56 19.3	-0.4
XLT				S	**Sn**	**13 59 41.6**	**-2.8**
XLT				sS	S	13 59 43.3	-3.3
XLT				PcP	**PcP**	**14 00 37.8**	**-3.0**
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
XLT				pmax	pmax		
	comp=Z,280nm,4.5s						
XLT				LR	LR		
	comp=N,32nm,13.5s						
XLT				LR	LR		
	comp=E,380nm,9.7s						
XLT				LR	LR		
	comp=Z,350nm,14.7s						
XAN	**Xi'an**	**19.14**	**290**	⇑P	**P**	**13 56 17.5**	**-0.5**
XAN				sP	sP	13 56 24.6	-1.4
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
XAN				LR	LR		
	comp=Z,320nm,12.4s						
XAN				LR	LR		
	comp=Z,350nm,11.0s						
HHC	**Hu-ho-hao-te**	**19.49**	**312**	*eP*	**Pn**	**13 56 24.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,320nm,5.2s						
HHC				LR	LR		
	comp=Z,460nm,10.8s						
HHC				LR	LR		
	comp=Z,620nm,14.4s						
HHC				LR	LR		
	comp=Z,730nm,14.6s						
KLR	**Kul'dur**	**20.11**	**2**	P	**P**	**13 56 27.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=188,slow=4.9,SNR=20 comp=Z,6.7nm,0.7s						
GUMO	**Guam**	**20.32**	**136**	LR	LR	14 04 07.5	
	comp=Z,56nm,18.2s,baz=25,slow=36						
GYA	**Guiyang**	**21.37**	**269**	⇑P	**P**	**13 56 44.4**	**+2.1**
GYA				pmax	pmax		
	comp=Z,24nm,0.8s						
QIZ	**Qiongzhong**	**21.45**	**247**	P	**P**	**13 56 42.8**	**-0.3**
QIZ				S	Sn	14 00 46.4	-2.0
QIZ				LR	LR		
	comp=Z,320nm,18.3s						
QIZ				LR	LR		
	comp=Z,260nm,26.3s						
QIZ				LR	LR		
	comp=Z,300nm,16.7s						
LZH	**Lanzhou**	**23.58**	**294**	*eP*	**P**	**13 57 05.3**	**-0.2**
LZH				sP	sP	13 57 12.9	-0.9
LZH				pmax	pmax		
	comp=Z,9.0nm,1.5s						
LZH				LR	LR		
	comp=Z,240nm,10.6s						
LZH				LR	LR		
	comp=Z,370nm,11.3s						
LZH				LR	LR		
	comp=Z,400nm,13.1s						
KMI	**Kunming**	**25.12**	**268**	⇑P	**P**	**13 57 21.0**	**+1.1**
KMI				pP	sP	13 57 26.8	-1.5
KMI				sP	pwP	13 57 30.8	+1.3
KMI				pmax	pmax		
	comp=Z,19nm,0.7s						
KMI				LR	LR		
	comp=Z,160nm,11.9s						
KMI				LR	LR		
	comp=Z,300nm,12.5s						
KMI				LR	LR		
	comp=Z,300nm,12.9s						
PZH	**PanZhiHua**	**25.67**	**271**	P	**P**	**13 57 23.8**	**-0.9**
PZH				S	**S**	**14 01 53.8**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,5.5s						
PZH				LR	LR		
	comp=Z,430nm,17.0s						
PZH				LR	LR		
	comp=Z,460nm,19.0s						
PZH				LR	LR		
	comp=Z,670nm,17.6s						
SONM	**Songino Array**	**26.46**	**322**	P	**P**	**13 57 30.1**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=136,slow=9.8,SNR=5.1						
SONM				LR	LR	14 09 20.5	
	comp=Z,201nm,18.8s,baz=132,slow=40 comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**26.46**	**322**	P	**P**	**13 57 30.2**	**-1.5**
GTA	**Gaotai**	**27.35**	**300**	*eP*	**P**	**13 57 42.8**	**+2.9**
GTA				pP	pwP	13 57 48.8	-0.7
GTA				sP	sP	13 57 52.9	+4.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,120nm,4.8s						
GTA				LR	LR		
	comp=Z,200nm,17.9s						
GTA				LR	LR		
	comp=Z,310nm,13.1s						
GTA				LR	LR		
	comp=Z,270nm,13.1s						
TNCH	**TengChong**	**28.84**	**270**	P	**P**	**13 57 52.9**	**-0.4**
TNCH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,100nm,4.0s						
SIJI	**Sorong**	**29.81**	**179**	LR	LR	14 08 41.2	
	comp=Z,26nm,20.7s,baz=95,slow=34						
CHTO	**Chiang Mai**	**30.64**	**258**	P	**P**	**13 58 08.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**30.79**	**257**	P	**P**	**13 58 10.4**	**0.0**
	comp=Z,0.8nm,0.6s,baz=59,slow=6.7,SNR=6.8						
CMAR				PcP	**PcP**	**14 01 09.7**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=60,slow=2.2,SNR=1.9						
CMAR				LR	LR	14 11 29.2	
	comp=Z,105nm,20.6s,baz=185,slow=38 comp=Z,0.8nm,0.6s						
YAK	**Yakutsk**	**32.93**	**359**	LR	LR	14 11 17.8	
	comp=Z,68nm,18.2s,baz=90,slow=36						
MA2	**Magadan**	**33.41**	**19**	LR	LR	14 12 59.8	
	comp=Z,29nm,18.7s,baz=282,slow=38						
SHL	**Shillong**	**34.51**	**274**	P	**P**	**13 58 41.7**	**-1.4**
WMQ	**Urumqi**	**37.10**	**305**	*eP*	**P**	**13 59 06.5**	**+1.5**
WMQ				LR	LR		
	com

	comp=Z,0.8nm,0.7s,baz=354,slow=8.4,SNR=6.4						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**48.89**	**175**	P	**P**	**14 00 41.1**	**+0.6**
KK31	**Karatay Array**	**49.55**	**303**	P	**P**	**14 00 45.5**	**+0.1**
KK31				IAmb	IAmb	14 00 47.1	
	comp=Z,4.9nm,0.8s						
KKAR	**Karatay Array**	**49.55**	**303**	P	**P**	**14 00 45.8**	**+0.3**
BRVK	**Borovoye**	**49.68**	**317**	P	**P**	**14 00 46.4**	**+0.2**
ASAR	**Alice Springs**	**52.56**	**176**	P	**P**	**14 01 10.2**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=9.4,slow=13,SNR=19						
	comp=Z,0.4nm,0.6s						
ABKAR	**Akbulak array**	**56.28**	**312**	P	**P**	**14 01 34.8**	**-0.2**
ARU	**Arti**	**56.50**	**321**	LR	LR	14 28 30.8	
	comp=Z,112nm,21.2s,baz=76,slow=39						
ARU	**Arti**	**56.50**	**321**	P	**P**	**14 01 35.4**	**-1.0**
ARU				IAmb	IAmb	14 01 37.3	
	comp=Z,7.6nm,1.0s						
HRA	**Herat**	**57.42**	**294**	P	**P**	**14 01 42.2**	**-1.3**
HRA				IAmb	IAmb	14 01 45.4	
	comp=Z,4.0nm,0.8s						
IMAR	**Indian Mountai**	**57.96**	**28**	P	**P**	**14 01 47.4**	**+0.8**
PPLA	**Purkeypile**	**58.72**	**32**	P	**P**	**14 01 52.7**	**+0.6**
MDM	**Murphy Dome**	**60.31**	**29**	P	**P**	**14 02 04.4**	**+1.5**
MDM				IAmb	IAmb	14 02 18.4	
	comp=Z,6.1nm,1.0s						
ILAR	**Eielson Array**	**60.90**	**29**	P	**P**	**14 02 07.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=274,slow=5.9,SNR=4.4						
	comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**61.50**	**26**	P	**P**	**14 02 13.0**	**+2.1**
SCRK	**Sand Creek**	**62.26**	**30**	P	**P**	**14 02 16.4**	**+0.1**
SCRK				IAmb	IAmb	14 02 28.6	
	comp=Z,6.3nm,1.4s						
BCAR	**Beaver Creek A**	**63.40**	**31**	P	**P**	**14 02 24.9**	**+1.1**
BELG	**Belogornoye**	**63.41**	**317**	LR	LR	14 32 19.1	
	comp=Z,90nm,19.3s,baz=152,slow=38						
INK	**Inuvik**	**65.41**	**24**	LR	LR	14 31 29.5	
	comp=Z,218nm,20.7s,baz=220,slow=36						
INK	**Inuvik**	**65.41**	**24**	P	**P**	**14 02 37.2**	**+0.5**
INK				IAmb	IAmb	14 02 59.2	
	comp=Z,4.9nm,1.4s						
A36M	**Sachs Harbour**	**66.82**	**19**	P	**P**	**14 02 46.5**	**+0.7**
A36M				IAmb	IAmb	14 03 21.2	
	comp=Z,8.1nm,1.2s						
FARO	**Faro, Yukon**	**67.38**	**30**	P	**P**	**14 02 50.5**	**+1.0**
FARO				IAmb	IAmb	14 03 03.3	
	comp=Z,3.9nm,0.9s						
KBZ	**Khabaz**	**69.00**	**309**	P	**P**	**14 03 00.9**	**+1.0**
	comp=Z,12nm,0.8s,baz=76,slow=3.0,SNR=24						
FINES	**FINESS Array B**	**71.42**	**331**	P	**P**	**14 03 12.8**	**-1.6**
	comp=Z,1.8nm,0.5s,baz=68,slow=5.8,SNR=18						
	comp=Z,1.8nm,0.5s						
AKASG	**Malin Array Be**	**74.73**	**320**	P	**P**	**14 03 33.3**	**-0.9**
	comp=Z,3.2nm,0.4s,baz=58,slow=6.6,SNR=15						
	comp=Z,3.2nm,0.4s						
BRTR	**Keskin Array B**	**76.95**	**308**	P	**P**	**14 03 47.9**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=98,slow=6.1,SNR=14						
	comp=Z,3.5nm,0.8s						
BRTR	**Keskin Array B**	**76.95**	**308**	P	**P**	**14 03 47.2**	**-0.1**
NOA	**NORSAR Array B**	**77.67**	**334**	P	**P**	**14 03 49.7**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=50,slow=5.5,SNR=3.7						
	comp=Z,0.9nm,0.6s						
MLR	**Muntele Rosu**	**79.17**	**316**	LR	LR	14 42 17.1	
	comp=Z,120nm,19.6s,baz=17,slow=38						
PLWZ	**Palliser**	**81.52**	**148**	P	**P**	**14 04 11.6**	**-0.3**
NVAR	**Mina Array Bea**	**86.98**	**47**	P	**P**	**14 04 41.2**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=294,slow=2.9,SNR=2.1						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**89.59**	**40**	P	**P**	**14 04 54.0**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=329,slow=1.1,SNR=2.8						
	comp=Z,0.3nm,0.8s						

WEL 16 13:52:36.9,42.°S±4.′×17.°4E±.′, h13km±5km, M2.8/16, ML2.9/19, MLv2.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=126.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.11**	**211**	P	Pb	13 52 40.6	-0.3
BSWZ	**Blackbirch Sta**	**0.32**	**259**	P	Pg	13 52 43.6	+0.3
TUWZ	**Tuamarina**	**0.34**	**311**	P	Pb	13 52 44.5	-0.3
TCW	**Tory Channel**	**0.44**	**359**	P	Pb	13 52 46.2	-0.3
WEL	**Wellington**	**0.52**	**44**	P	Pb	13 52 47.7	-0.1
PLWZ	**Palliser**	**0.73**	**84**	P	Pb	13 52 51.8	+0.4
MSWZ	**Moikau Station**	**0.76**	**72**	P	Pb	13 52 52.3	+0.4
CAW	**Cannon Point**	**0.80**	**47**	P	Pb	13 52 52.6	0.0
NNZ	**Nelson**	**0.81**	**302**	P	Pg	13 52 52.6	0.0
PAWZ	**Paruwai Farm**	**0.90**	**73**	P	Pb	13 52 54.4	+0.1
KIW	**Kapiti Island**	**0.92**	**31**	P	Pg	13 52 54.6	0.0
KHZ	**Kahutara**	**0.94**	**216**	P	Pb	13 52 54.8	-0.2
MTW	**Mount Morrison**	**1.04**	**62**	P	Pb	13 52 56.4	-0.3
OGWZ	**Otaki Gorge**	**1.07**	**39**	P	Pb	13 52 57.1	-0.1
TKNZ	**Takaka Hill**	**1.18**	**301**	P	Pg	13 52 59.4	-0.1
MRNZ	**Matariki Terra**	**1.18**	**282**	P	Pg	13 52 59.4	-0.1
HOWZ	**Holdsworth Sta**	**1.19**	**51**	P	Pn	13 52 59.2	-0.1
TMWZ	**Te Maipa**	**1.32**	**66**	P	Pn	13 53 00.0	-1.0
MRZ	**Mangatainoka R**	**1.39**	**45**	P	Pn	13 53 01.7	-0.2
QRZ	**Quartz Range**	**1.56**	**301**	P	Pb	13 53 05.6	-0.1
PRWZ	**Pori Road**	**1.68**	**50**	P	Pg	13 53 08.9	-0.2
WAZ	**Wanganui**	**1.97**	**16**	P	Pg	13 53 13.9	-0.7
TSZ	**Takapari Road**	**2.04**	**39**	P	Pb	13 53 14.4	+0.7
MOVZ	**Moawhango**	**2.51**	**27**	P	Pb	13 53 22.0	+0.2
BHHZ	**Black Hill Sta**	**2.55**	**33**	P	Pb	13 53 22.7	+0.2
NTVZ	**North Tongarir**	**2.76**	**23**	P	Pb	13 53 26.9	+0.8
BKZ	**Black Stump Fm**	**3.00**	**35**	P	Pb	13 53 31.0	+0.8

*JMA **16** 13:53:13.8±0.2, 35.°3N±0.′3×141.′2E±0.′9, h37km±2km, MV3.4/37, E OFF BOSO PENINSULA*
*IDC **16** 13:53:16.2±7.4, 35.°17N×141.′15E, h33km±50km, mb3.6/4, mbtmp3.9/7, ML2.9/2, MS3.3/6, Error ellipse: s-maj=66.5km s-min=18.8km az=70.0*
ISC 16 13:53:15.0±1.1, 35.°28N±0.′05×141.′11E±0.′08, h33km, n26, σ1s16/20, mb3.7/4, MS3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.47**	**334**	P	**Pb**	**13 53 24.5**	**-0.6**
CHOJ				S	**Sb**	**13 53 31.9**	**-0.2**
BSO1	**Boso 1**	**0.63**	**190**	*i* P	**Pn**	**13 53 26.3**	**-0.8**
JSMT	**Sammumatsuo**	**0.65**	**304**	P	**Pb**	**13 53 28.1**	**+0.1**
KTR	**Katsuura**	**0.67**	**259**	*e*P	**Pn**	**13 53 28.1**	**+0.1**
KTR				*e*S	**Sb**	**13 53 38.1**	**+0.8**
BSO3	**Boso 3**	**0.69**	**226**	P	**Pn**	**13 53 28.1**	**0.0**
BSO4	**Boso 4**	**0.70**	**246**	*e*P	**Pb**	**13 53 28.8**	**+0.1**
JKUC	**kamogawauchiur**	**0.76**	**261**	P	**Pn**	**13 53 29.4**	**0.0**
JYT	**Yasato**	**1.21**	**322**	*e*P	**Pn**	**13 53 34.9**	**-0.7**
JIM2	**Oshima 3**	**1.49**	**248**	P	**Pn**	**13 53 38.6**	**-0.8**
JOD2	**Odawara 2**	**1.66**	**270**	*e*P	**Pn**	**13 53 41.6**	**-0.1**
JHJ	**Hachijo jima 2**	**2.42**	**207**	Pn	**Pn**	**13 53 51.9**	**-0.4**
	16nm,0.3s,baz=130,slow=22,SNR=13						
JHJ				Sn	**Sn**	**13 54 19.3**	**-1.4**
	41nm,0.3s,baz=259,slow=23,SNR=6.5						
	230nm,1.0s						
MJAR	**Matsushiro Arr**	**2.67**	**299**	Pn	**Pb**	**13 53 59.1**	**-3.1**
	0.8nm,0.3s,baz=98,slow=14,SNR=32						
MJAR				LR	LR	13 55 03.8	
	comp=Z,179nm,20.5s,baz=194,slow=39						
	10nm,0.8s						
JCJ	**Chichijima**	**8.21**	**173**	Pn	**Pn**	**13 55 10.2**	**-1.5**
	43nm,0.7s,baz=12,slow=22,SNR=6.1						
JCJ				LR	LR	13 58 48.6	
	comp=Z,198nm,18.4s,baz=16,slow=41						
KSRS	**Korea Array**	**10.86**	**285**	LR	LR	13 59 54.1	
	comp=Z,165nm,21.7s,baz=135,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.51**	**117**	T	T	14 27 48.9	
	baz=310,slow=76,SNR=79						
H11N1	**WAKE ISLAND Hy**	**27.51**	**118**	T	T	14 28 02.0	
	baz=310,slow=76,SNR=84						
H11N3	**WAKE ISLAND Hy**	**27.52**	**117**	T	T	14 27 50.2	
	baz=310,slow=76,SNR=79						
H11S1	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	14 28 43.8	
	baz=312,slow=76,SNR=442						
H11S3	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	14 28 43.7	
	baz=312,slow=76,SNR=326						
H11S2	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	14 28 45.0	
	baz=312,slow=76,SNR=339						
ZALV	**Zalesovo Beam**	**42.94**	**314**	P	**P**	**14 01 11.8**	**+1.4**
	0.9nm,0.5s,baz=84,slow=7.5,SNR=4.8						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**44.87**	**304**	P	**P**	**14 01 27.2**	**+1.1**
	0.8nm,0.8s,baz=81,slow=8.9,SNR=4.8						
MKAR				LR	LR	14 20 46.1	
	comp=Z,56nm,18.6s,baz=75,slow=37						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**55.29**	**188**	P	**P**	**14 02 45.5**	**+0.2**
	2.0nm,0.8s,baz=6.0,slow=7.5,SNR=11						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**59.02**	**188**	P	**P**	**14 03 13.2**	**+1.6**
	0.5nm,0.7s,baz=13,slow=12,SNR=5.6						
	0.5nm,0.7s						
NOA	**NORSAR Array B**	**75.71**	**337**	LR	LR	14 41 05.4	
	comp=Z,34nm,18.4s,baz=315,slow=38						
MMAI	**Mount Meron Ar**	**82.78**	**305**	LR	LR	14 45 05.8	
	comp=Z,28nm,19.4s,baz=173,slow=38						

*WEL **16** 13:53:34.5±0.3, 42.°S±3.′×17.′4E±.′, h13km±2km, M3.0/25, ML3.1/19, MLv3.0/25, Error ellipse: s-maj=0.0km s-min=0.0km az=136.9*
*NOU **16** 13:53:36.1, 42.°08S×173.′53E, h0km, MLv3.8/6, South Island, New Zealand*
ISC 16 13:53:34.1±0.9, 41.°96S±0.′03×174.′01E±0.′03, h17km, n52, σ0s94/54, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.26**	**36**	P	**Pb**	**13 53 40.4**	**+0.1**
CMWZ				S	**Sb**	**13 53 45.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.26**	**337**	P	**Pg**	**13 53 39.7**	**-0.2**
BSWZ				S	**Sg**	**13 53 43.2**	**-0.7**
TUWZ	**Tuamarina**	**0.53**	**354**	P	**Pg**	**13 53 44.4**	**-0.2**
KHZ	**Kahutara**	**0.58**	**217**	P	**Pg**	**13 53 42.6**	**-2.9**
KHZ	**Kahutara**	**0.58**	**217**	P	**Pb**	**13 53 48.0**	**+2.3**
TCW	**Tory Channel**	**0.77**	**15**	P	**Pb**	**13 53 48.4**	**-0.7**
THZ	**Tophouse**	**0.85**	**283**	P	**Pb**	**13 53 51.0**	**+0.5**
NNZ	**Nelson**	**0.88**	**327**	P	**Pb**	**13 53 50.6**	**-0.2**
WEL	**Wellington**	**0.88**	**40**	P	**Pn**	**13 53 51.4**	**-0.2**
PLWZ	**Palliser**	**1.01**	**68**	P	**Pb**	**13 53 52.9**	**-0.2**
MSWZ	**Moikau Station**	**1.07**	**60**	P	**Pb**	**13 53 53.9**	**-0.3**
MRNZ	**Matariki Terra**	**1.09**	**300**	P	**Pg**	**13 53 56.2**	**+0.6**
CAW	**Cannon Point**	**1.16**	**43**	P	**Pb**	**13 53 55.4**	**-0.3**
TKNZ	**Takaka Hill**	**1.22**	**319**	P	**Pn**	**13 53 56.5**	**+0.2**
KIW	**Kapiti Island**	**1.29**	**32**	P	**Pn**	**13 53 57.4**	**+0.1**
MTW	**Mount Morrison**	**1.37**	**55**	P	**Pn**	**13 53 57.7**	**-0.8**
OGWZ	**Otaki Gorge**	**1.44**	**38**	P	**Pn**	**13 53 59.1**	**-0.1**
LTZ	**Lake Taylor**	**1.53**	**237**	P	**Pn**	**13 54 01.7**	**+1.1**
HOWZ	**Holdsworth Sta**	**1.55**	**47**	P	**Pn**	**13 54 00.0**	**-0.9**
AMCZ	**Amberley**	**1.58**	**219**	P	**Pn**	**13 54 01.8**	**+0.5**
QRZ	**Quartz Range**	**1.59**	**315**	P	**Pb**	**13 54 02.9**	**-0.1**
QRZ	**Quartz Range**	**1.59**	**315**	P	**Pb**	**13 54 02.9**	**-0.1**
TMWZ	**Te Maipa**	**1.65**	**59**	P	**Pn**	**13 54 01.3**	**-1.0**
DSZ	**Denniston Nort**	**1.66**	**277**	P	**Pb**	**13 54 04.6**	**+0.4**
MRZ	**Mangatainoka R**	**1.75**	**43**	P	**Pn**	**13 54 03.1**	**-0.5**
OKCZ	**Okains Bay**	**1.90**	**201**	P	**Pn**	**13 54 05.7**	**0.0**
OXZ	**Oxford**	**2.00**	**226**	P	**Pn**	**13 54 06.9**	**-0.1**
MQZ	**McQueen's Vall**	**2.01**	**209**	P	**Pn**	**13 54 06.5**	**-0.7**
PRWZ	**Pori Road**	**2.04**	**47**	P	**Pn**	**13 54 08.3**	**+0.1**
AKCZ	**Akaroa Harbour**	**2.08**	**203**	P	**Pn**	**13 54 08.3**	**+0.1**
BFZ	**Birch Farm**	**2.11**	**54**	P	**Pg**	**13 54 18.0**	**+3.4**
RACZ	**Rakaia**	**2.24**	**217**	P	**Pn**	**13 54 09.9**	**-0.4**
MHCZ	**Mount Hutt**	**2.39**	**228**	P	**Pn**	**13 54 12.2**	**-0.3**
TSZ	**Takapari Road**	**2.40**	**38**	P	**Pn**	**13 54 11.9**	**-0.8**
WACZ	**Wakanui South**	**2.54**	**218**	P	**Pn**	**13 54 14.3**	**-0.2**
KHEZ	**Kahui Hut**	**2.66**	**0**	P	**Pb**	**13 54 22.6**	**+1.3**
RPZ	**Rata Peaks**	**2.80**	**230**	P	**Pn**	**13 54 18.3**	**+0.3**
MOVZ	**Moawhango**	**2.87**	**28**	P	**Pb**	**13 54 23.4**	**-1.5**
ARCZ	**Arundel**	**2.88**	**225**	P	**Pn**	**13 54 19.3**	**+0.2**
WNVZ	**Wahianoa**	**2.89**	**25**	P	**Pb**	**13 54 24.2**	**-1.1**
BHHZ	**Black Hill Sta**	**2.92**	**33**	P	**Pb**	**13 54 25.7**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.93**	**25**	P	**Pb**	**13 54 25.3**	**-0.7**
FWVZ	**Far West T-bar**	**2.94**	**24**	P	**Pb**	**13 54 25.5**	**-0.7**
OTVZ	**Oturere**	**3.06**	**25**	P	**Pb**	**13 54 27.8**	**-0.4**
ETVZ	**East Tongariro**	**3.10**	**25**	P	**Pb**	**13 54 28.9**	**+0.1**
KRVZ	**Karewarewa**	**3.12**	**24**	P	**Pb**	**13 54 29.2**	**+0.1**
TMVZ	**Te Maari**	**3.12**	**25**	P	**Pb**	**13 54 28.2**	**-0.9**
NTVZ	**North Tongarir**	**3.13**	**24**	P	**Pb**	**13 54 29.0**	**-0.2**
TMZ	**Timaru**	**3.27**	**221**	P	**Pn**	**13 54 24.3**	**-0.3**
BKZ	**Black Stump Fm**	**3.37**	**35**	P	**Pb**	**13 54 33.9**	**+0.6**
HIZ	**Hauiti**	**3.50**	**11**	P	**Pb**	**13 54 34.1**	**-1.5**
ODZ	**Otahua Downs**	**3.94**	**217**	P	**Pn**	**13 54 33.0**	**-0.7**

*WEL **16** 13:55:33.0±0.4, 42.°S±2.′×17.′4E±.′, h3km±2km, M3.7/35, ML4.0/12, MLv3.7/35, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6*
*NOU **16** 13:55:32.2, 42.°54S×173.′54E, h0km, MLv4.3/10, South Island, New Zealand*
ISC 16 13:55:31.7±1.1, 42.°45S±0.′03×173.′63E±0.′04, h8km±7km, n92, σ1s45/94, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.07**	**293**	P	**Pg**	**13 55 34.0**	**+0.3**
KHZ	**Kahutara**	**0.07**	**293**	P	**Pg**	**13 55 33.8**	**+0.1**
KHZ				S	**Sg**	**13 55 34.9**	**-0.3**
GVZ	**Greta Valley S**	**0.68**	**220**	P	**Pb**	**13 55 47.1**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.75**	**14**	P	**Pg**	**13 55 46.6**	**+0.4**
CMWZ	**Cape Campbell**	**0.82**	**32**	P	**Pb**	**13 55 49.7**	**+1.5**
THZ	**Tophouse**	**0.87**	**321**	P	**Pg**	**13 55 47.5**	**-0.9**
THZ				S	**Sg**	**13 55 58.7**	**-1.1**
AMCZ	**Amberley**	**1.03**	**224**	P	**Pg**	**13 55 52.4**	**+0.9**
TUWZ	**Tuamarina**	**1.04**	**13**	P	**Pg**	**13 55 51.8**	**+0.1**
LTZ	**Lake Taylor**	**1.06**	**251**	P	**Pg**	**13 55 52.3**	**+0.3**
MRNZ	**Matariki Terra**	**1.23**	**328**	P	**Pg**	**13 55 54.6**	**-0.8**
NNZ	**Nelson**	**1.24**	**351**	P	**Pg**	**13 55 54.6**	**-0.9**
TCW	**Tory Channel**	**1.32**	**22**	P	**Pg**	**13 55 56.5**	**-0.7**
OKCZ	**Okains Bay**	**1.34**	**198**	P	**Pn**	**13 55 57.1**	**+0.3**
WEL	**Wellington**	**1.44**	**37**	P	**Pn**	**13 55 58.3**	**+0.2**
OXZ	**Oxford**	**1.47**	**233**	P	**Pn**	**13 55 57.8**	**-0.7**
PLWZ	**Palliser**	**1.49**	**55**	P	**Pn**	**13 55 58.6**	**-1.0**
TKNZ	**Takaka Hill**	**1.50**	**340**	P	**Pn**	**13 55 59.0**	**+0.2**
DSZ	**Denniston Nort**	**1.53**	**297**	P	**Pn**	**13 55 59.5**	**+0.2**
MSWZ	**Moikau Station**	**1.59**	**50**	P	**Pn**	**13 55 59.9**	**-0.2**
INZ	**Inchbonnie**	**1.64**	**259**	P	**Pn**	**13 56 01.0**	**+0.2**
RACZ	**Rakaia**	**1.68**	**220**	P	**Pn**	**13 56 00.8**	**-0.6**
PAWZ	**Paruwai Farm**	**1.71**	**52**	P	**Pn**	**13 56 01.4**	**-0.5**
CAW	**Cannon Point**	**1.71**	**39**	P	**Pn**	**13 56 01.8**	**-0.1**
QRZ	**Quartz Range**	**1.82**	**333**	P	**Pb**	**13 56 04.6**	**-0.6**
QRZ	**Quartz Range**	**1.82**	**333**	P	**Pn**	**13 56 04.3**	**+1.0**
KIW	**Kapiti Island**	**1.85**	**32**	P	**Pn**	**13 56 04.0**	**+0.3**
TRWZ	**Traveller**	**1.86**	**56**	P	**Pn**	**13 56 03.2**	**-0.6**
MTW	**Mount Morrison**	**1.90**	**48**	P	**Pn**	**13 56 03.8**	**-0.6**
WACZ	**Wakanui South**	**1.99**	**221**	P	**Pn**	**13 56 05.0**	**-0.6**
OGWZ	**Otaki Gorge**	**2.00**	**36**	P	**Pn**	**13 56 05.6**	**-0.1**
HOWZ	**Holdsworth Sta**	**2.09**	**43**	P	**Pn**	**13 56 06.7**	**-0.4**
TMWZ	**Te Maipa**	**2.15**	**52**	P	**Pn**	**13 56 07.2**	**-0.7**
WVZ	**Waitaha Valley**	**2.22**	**253**	P	**Pn**	**13 56 09.0**	**+0.2**
RPZ	**Rata Peaks**	**2.27**	**235**	P	**Pn**	**13 56 09.0**	**-0.6**
RPZ	**Rata Peaks**	**2.27**	**235**	P	**Pn**	**13 56 08.8**	**+0.6**
MRZ	**Mangatainoka R**	**2.31**	**40**	P	**Pn**	**13 56 09.5**	**-0.5**
ARCZ	**Arundel**	**2.34**	**229**	P	**Pn**	**13 56 09.6**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.58**	**249**	P	**Pn**	**13 56 14.5**	**+0.8**
PRWZ	**Pori Road**	**2.58**	**44**	P	**Pn**	**13 56 13.1**	**-0.6**
POWZ	**Post Office Ro**	**2.61**	**39**	P	**Pn**	**13 56 14.2**	**+0.1**
BFZ	**Birch Farm**	**2.64**	**49**	P	**Pn**	**13 56 16.2**	**+1.7**
BFZ	**Birch Farm**	**2.64**	**49**	P	**Pn**	**13 56 13.5**	**-1.0**
TMZ	**Timaru**	**2.72**	**224**	P	**Pn**	**13 56 15.1**	**-0.6**
DVHZ	**Dannevirke**	**2.87**	**43**	P	**Pn**	**13 56 16.3**	**-1.4**
WAZ	**Wanganui**	**2.88**	**21**	P	**Pn**	**13 56 19.9**	**+2.1**
TSZ	**Takapari Road**	**2.96**	**37**	P	**Pn**	**13 56 18.2**	**-0.8**
FOZ	**Fox Glacier**	**3.00**	**247**	P	**Pn**	**13 56 20.1**	**+0.6**
LREZ	**Lake Rotokare**	**3.04**	**11**	P	**Pb**	**13 56 26.1**	**+0.1**
KHEZ	**Kahui Hut**	**3.16**	**5**	P	**Pb**	**13 56 26.6**	**-1.6**
KHEZ	**Kahui Hut**	**3.16**	**5**	P	**Pb**	**13 56 26.5**	**-1.7**
LBZ	**Lake Benmore**	**3.17**	**231**	P	**Pn**	**13 56 21.5**	**-0.4**
NBZ	**Newall Road No**	**3.18**	**3**	P	**Pn**	**13 56 26.6**	**-1.8**
PNHZ	**Pukenui**	**3.19**	**38**	P	**Pn**	**13 56 21.1**	**-1.1**
PKE	**Pukeiti**	**3.26**	**5**	P	**Pn**	**13 56 27.0**	**+3.9**
DREZ	**Durham Road**	**3.28**	**8**	P	**Pb**	**13 56 29.6**	**-0.5**
ODZ	**Otahua Downs**	**3.38**	**219**	P	**Pn**	**13 56 24.2**	**-0.6**
ODZ	**Otahua Downs**	**3.38**	**219**	P	**Pn**	**13 56 24.0**	**-0.7**
VRZ	**Vera Road**	**3.43**	**15**	P	**Pn**	**13 56 27.9**	**+2.5**
MOVZ	**Moawhango**	**3.44**	**29**	P	**Pn**	**13 56 25.6**	**0.0**
WNVZ	**Wahianoa**	**3.45**	**26**	P	**Pn**	**13 56 27.4**	**+1.5**
TRVZ	**Turoa**	**3.46**	**25**	P	**Pn**	**13 56 29.0**	**+2.9**
BHHZ	**Black Hill Sta**	**3.48**	**33**	P	**Pn**	**13 56 27.7**	**+1.6**
WHVZ	**Whangaehu Hut**	**3.49**	**26**	P	**Pn**	**13 56 28.3**	**+1.8**
FWVZ	**Far West T-bar**	**3.50**	**25**	P	**Pn**	**13 56 29.1**	**+2.4**
OTVZ	**Oturere**	**3.62**	**26**	P	**Pn**	**13 56 28.9**	**+0.7**
NNVZ	**North Ngauruho**	**3.64**	**25**	P	**Pn**	**13 56 31.1**	**+2.7**
ETVZ	**East Tongariro**	**3.66**	**26**	P	**Pn**	**13 56 31.0**	**+2.3**
KRVZ	**Karewarewa**	**3.68**	**25**	P	**Pn**	**13 56 32.5**	**+3.6**
TMVZ	**Te Maari**	**3.68**	**26**	P	**Pn**	**13 56 32.4**	**+3.5**
KWHZ	**Kaweka Forest**	**3.69**	**36**	P	**Pn**	**13 56 31.8**	**+2.8**
NTVZ	**North Tongarir**	**3.69**	**26**	P	**Pn**	**13 56 32.5**	**+3.4**
JCZ	**Jackson Bay**	**3.90**	**244**	P	**Pn**	**13 56 31.9**	**0.0**
JCZ	**Jackson Bay**	**3.90**	**244**	P	**Pn**	**13 56 32.0**	**+0.1**
BKZ	**Black Stump Fm**	**3.93**	**34**	P	**Pn**	**13 56 36.0**	**+3.6**
BKZ	**Black Stump Fm**	**3.93**	**34**	P	**Pn**	**13 56 30.8**	**-1.6**
HIZ	**Hauiti**	**4.04**	**14**	P	**Pn**	**13 56 36.3**	**+2.5**
HIZ	**Hauiti**	**4.04**	**14**	P	**Pn**	**13 56 35.8**	**+2.0**
HHSZ	**Highcliff Hill**	**4.07**	**211**	P	**Pn**	**13 56 33.6**	**-0.7**
WKZ	**Wanaka**	**4.11**	**233**	P	**Pn**	**13 56 34.2**	**-0.6**
EAZ	**Earnscleugh**	**4.19**	**227**	P	**Pn**	**13 56 35.0**	**-0.8**
TUZ	**Tuapeka**	**4.54**	**218**	P	**Pn**	**13 56 40.0**	**-0.6**
MUGZ	**Murupara**	**4.63**	**32**	P	**Pn**	**13 56 45.2**	**+3.2**
TOZ	**Tahuroa Road**	**4.92**	**18**	P	**Pn**	**13 56 46.4**	**+0.4**
MLZ	**Mavora Lakes**	**4.94**	**232**	P	**Pn**	**13 56 45.0**	**-1.2**
SYZ	**Scrubby Hill**	**5.20**	**217**	P	**Pn**	**13 56 49.8**	**+0.1**
SYZ	**Scrubby Hill**	**5.20**	**217**	P	**Pn**	**13 56 49.8**	**+0.1**
WHZ	**Wether Hill Ro**	**5.35**	**228**	P	**Pn**	**13 56 50.6**	**-1.2**
AWAZ	**Awhitu Peninsu**	**5.43**	**9**	P	**Pn**	**13 56 54.4**	**+1.5**
MKAZ	**Moumakai**	**5.46**	**13**	P	**Pn**	**13 56 53.9**	**+0.6**
ETAZ	**East Tamaki Re**	**5.58**	**11**	P	**Pn**	**13 56 56.3**	**+1.4**
RVAZ	**Riverhead Bore**	**5.71**	**8**	P	**Pn**	**13 56 58.6**	**+1.8**
APZ	**The Paps**	**5.95**	**221**	P	**Pn**	**13 56 59.4**	**-0.8**

*IDC **16** 14:03:53.0±2.7, 41.°70S×174.′09E, h0km, mb3.3/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=52.1km s-min=39.1km az=110.0*
*WEL **16** 14:03:55.3±0.3, 42.°5S±3.′×17.′4E±.′, h5km±3km, M3.1/1, ML3.6/21, ML3.5/1, MLv3.4/36, MLv3.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=140.1*
ISC 16 14:03:54.7±1.1, 41.°83S±0.′03×174.′23E±0.′03, h11km±7km, n80, σ1s11/83, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**351**	P	**Pg**	**14 03 56.7**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.29**	**294**	P	**Pg**	**14 04 00.6**	**

JTN S Sn 14 10 04.0 -1.0
JAMN Amaninishikomi 1.59 237 P Pb 14 09 46.1 -0.2
JTK Tokunoshima 2.02 230 P Pn 14 09 52.2 +1.1
JTSR Tashiro 2 2.06 5 P Pn 14 09 52.7 +1.1
JSU Suzuyama 2.40 355 Pn Pn 14 09 55.9 -0.4
JSU Suzuyama 2.40 355 P Pn 14 09 56.4 +0.1
JNAR Kushima--Naru 2.46 12 *i* P Pn 14 09 58.5 +1.5
JOKE Okinoerabujima 2.56 228 P Pn 14 09 59.9 +1.5
JNKG Nichinankitago 2.61 13 P Pn 14 10 00.4 +1.2
JNKG S Sn 14 10 31.3 +0.4
JSJ Shimokoshiki 2.69 342 P Pn 14 10 00.4 +0.1
JYRO Yoronjima 2.87 224 P Pn 14 10 03.5 +0.8
JOW Kunigami 3.12 224 Pn Pn 14 10 07.5 +1.4
7.3nm,0.3s,baz=102,slow=23,SNR=15
JOW Sn Sn 14 10 43.7 +0.2
20nm,0.3s,baz=296,slow=22,SNR=3.6
22nm,0.3s
JOW Kunigami 3.12 224 Pn Pn 14 10 06.8 +0.7
JOW Kunigami 3.12 224 P Pn 14 10 06.7 +0.5
JOW S Sn 14 10 42.8 -0.7
JIH Iheya 3.17 230 P Pn 14 10 07.3 +0.4
JIH S Sn 14 10 43.5 -1.3
JKDJ Kitadaitoujima 3.19 170 P Pn 14 10 07.0 -0.2
JKDJ S Sn 14 10 42.4 -2.9
JMZ Minamidaito 2 3.31 172 P Pn 14 10 08.8 0.0
JMZ S Sn 14 10 44.9 -3.3
JNTH Nagotoyohara 3.50 223 P Pn 14 10 12.2 +0.8
JNTH S Sn 14 10 51.1 -1.8
JJT3 Tamagusuku3 3.92 222 P Pn 14 10 19.1 +1.9
JJT3 S Sn 14 11 02.6 -0.7
JNU Nakatsue 4.00 2 Pn 14 10 19.0 +0.7
JKE Kume jima 2 4.44 232 P Pn 14 10 24.6 +0.4
JKE S Sn 14 11 13.8 -2.2
JMN Monobe 5.35 30 Pn Pn 14 10 37.8 +1.0
JHS Saijyo 6.22 19 Pn 14 10 49.3 +0.5
INU Inuyama 8.21 39 Pn Pn 14 11 17.7 +1.7
JGF Kuroka 8.58 39 Pn Pn 14 11 21.9 +0.7
KSRS Korea Array 8.64 345 Pn Pn 14 11 25.2 +3.3
0.2nm,0.3s,baz=167,slow=14,SNR=10
KSRS LR LR 14 14 48.3
comp=Z,85nm,21.2s,baz=165,slow=39
JCJ Chichijima 10.34 98 Pn Pn 14 11 46.4 +1.0
29nm,0.4s,baz=280,slow=22,SNR=7.4
JCJ LR LR 14 15 11.7
comp=Z,75nm,20.5s,baz=6.0,slow=34
JCJ Chichijima 10.34 98 Pn 14 11 47.1 +1.7
CN2 Changchun 15.25 345 *e*P Pn 14 12 52.8 +0.6
CN2 *e*S Sn 14 15 42.0 +0.8
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,400nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,300nm,15.1s
HNS HongShan 15.71 306 ⇑P P 14 13 02.9 +0.6
HNS pmax pmax
comp=Z,13nm,0.6s
HNS LR LR
comp=N,190nm,13.9s
HNS LR LR
comp=E,270nm,12.4s
HNS LR LR
comp=Z,330nm,13.3s
XAN Xi'an 19.18 290 ⇑P P 14 13 40.1 -0.7
XAN sP pwP 14 13 47.0 +0.2
XAN pmax pmax
comp=Z,11nm,0.8s
XAN LR LR
comp=E,220nm,11.7s
XAN LR LR
comp=Z,280nm,11.7s
HHC Hu-ho-hao-te 19.52 312 *e*P Pn 14 13 46.3 +0.6
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,270nm,4.5s
KLR Kul'dur 20.11 2 P P 14 13 50.3 -0.4
0.2nm,0.3s,baz=182,slow=5.8,SNR=15
KLR LR LR 14 21 22.4
comp=Z,73nm,21.8s,baz=180,slow=36
4.1nm,0.7s
GUMO Guam 20.29 137 LR LR 14 21 22.8
comp=Z,39nm,18.0s,baz=343,slow=36
GYA Guiyang 21.41 269 ⇑P P 14 14 07.5 +2.3
GYA pmax pmax
comp=Z,16nm,0.7s
LZH Lanzhou 23.62 294 *e*P P 14 14 31.0 +2.7
LZH sP pwP 14 14 38.8 +4.4
LZH pmax pmax
comp=Z,10.0nm,1.4s
LZH LR LR
comp=N,170nm,11.3s
LZH LR LR
comp=E,230nm,12.0s
LZH LR LR
comp=Z,140nm,10.7s
SONM Songino Array 26.49 322 P P 14 14 51.6 -2.9
0.4nm,0.4s,baz=134,slow=8.3,SNR=2.9
SONM LR LR 14 26 22.2
comp=Z,126nm,18.4s,baz=125,slow=39
0.4nm,0.4s
SONM Songino Array 26.49 322 P P 14 14 53.4 -1.0
TNCH TengChong 28.89 270 P P 14 15 16.1 -0.1
TNCH pmax pmax
comp=Z,5.0nm,0.7s
TNCH pmax pmax
comp=Z,97nm,4.1s
CHTO Chiang Mai 30.68 258 P P 14 15 31.1 -0.8
CMAR Chiang Mai Arr 30.84 257 P P 14 15 33.2 -0.1
0.5nm,0.3s,baz=63,slow=6.6,SNR=5.4
CMAR LR LR 14 29 12.7
comp=Z,74nm,19.0s,baz=355,slow=39
0.5nm,0.3s
FAKI Fak Fak 31.88 177 P P 14 15 43.6 +1.1
FAKI IAmb IAmb 14 16 20.2
comp=Z,7.6nm,1.0s
SHL Shillong 34.55 274 P P 14 16 04.2 -1.8
KAPI Kappang 35.52 199 LR LR 14 31 34.0
comp=Z,50nm,18.1s,baz=289,slow=38
KAPI Kappang 35.52 199 P P 14 16 15.3 +1.2
KAPI IAmb IAmb 14 16 52.7
comp=Z,15nm,1.3s
KULM Kulim 37.00 236 P P 14 16 27.8 +1.0
KULM IAmb IAmb 14 17 09.5
comp=Z,11nm,1.2s
WMQ Urumqi 37.13 305 *e*P P 14 16 29.5 +1.7
WMQ LR LR
comp=Z,66nm,18.5s
ODAN Odare 38.15 277 *e*P P 14 16 36.3 -0.5
comp=Z,3.8nm,0.7s
RAMN Ramite 38.81 278 *e*P P 14 16 41.4 -1.0
comp=Z,6.5nm,0.5s
JIRN Jiri 39.01 279 *e*P P 14 16 43.2 -0.9
comp=Z,14nm,0.7s
GUN Gumba 39.22 279 *e*P P 14 16 45.5 -0.4
comp=Z,39nm,0.5s
PKI Pulchoki 39.70 279 *e*P P 14 16 48.9 -1.0
comp=Z,17nm,0.5s
PKIN Phulchoki 39.71 279 *e*P P 14 16 49.0 -0.9
comp=Z,20nm,0.5s
KKN Kakani 39.76 279 *e*P P 14 16 49.4 -0.9
comp=Z,3.3nm,0.6s
DMN Daman 39.95 279 *e*P P 14 16 51.5 -0.4
comp=Z,16nm,0.4s
GKN Gorkha 40.27 280 *e*P P 14 16 53.6 -0.8
comp=Z,18nm,0.5s
DANN Dangsing 40.95 281 *e*P P 14 16 59.7 -0.5
comp=Z,47nm,0.8s
MK31 Makanchi Array 41.34 309 P P 14 17 01.5 -1.4
MKAR Makanchi Array 41.34 309 P P 14 17 01.4 -1.4
comp=Z,1.3nm,0.6s,baz=91,slow=10,SNR=25
comp=Z,1.3nm,0.6s
MKAR Makanchi Array 41.34 309 P P 14 17 01.8 -1.1
ZALV Zalesovo Beam 41.36 320 P P 14 17 01.9 -1.0
comp=Z,0.9nm,0.4s,baz=109,slow=9.0,SNR=5.3
comp=Z,0.9nm,0.4s
MAKZ Makanchi 41.55 309 P P 14 17 04.2 -0.4
MTN Manton Dam 41.71 179 P P 14 17 06.4 +0.3
MTN IAmb IAmb 14 17 38.9
comp=Z,17nm,1.2s
TIXI Tiksi 42.60 359 P P 14 17 12.3 -0.4
comp=Z,1.3nm,0.7s,baz=278,slow=0.3,SNR=5.1
comp=Z,1.3nm,0.7s
KURK Kurchatov 44.31 314 P P 14 17 25.3 -1.5
KURK IAmb IAmb 14 17 27.0
comp=Z,8.1nm,0.8s
KURBB Kurchatov Arra 44.35 314 LR LR 14 37 32.9
comp=Z,118nm,18.6s,baz=273,slow=38
KNRA Kununurra 44.56 183 P P 14 17 30.1 +0.9
NRIK Noril'sk 47.22 341 P P 14 17 48.5 -1.1
comp=Z,7.2nm,0.8s,baz=118,slow=9.0,SNR=7.5
comp=Z,7.2nm,0.8s
NRIK Noril'sk 47.22 341 P P 14 17 48.4 -1.2
NRIK IAmb IAmb 14 17 48.7
comp=Z,5.3nm,0.8s
WRA Warramunga Arr 48.89 175 P P 14 18 03.9 +0.8
comp=Z,0.4nm,0.6s,baz=351,slow=8.5,SNR=3.4
comp=Z,0.4nm,0.6s
KK31 Karatay Array 49.59 303 P P 14 18 07.8 -0.5
KK31 IAmb IAmb 14 18 09.5
comp=Z,2.7nm,0.8s
KKAR Karatay Array 49.59 303 P P 14 18 08.0 -0.3
BRVK Borovoye 49.71 317 P P 14 18 07.7 -1.3
BRVK IAmb IAmb 14 18 09.2
comp=Z,8.6nm,0.7s
ASAR Alice Springs 52.56 176 P P 14 18 33.1 +2.4
comp=Z,0.6nm,0.7s,baz=9.8,slow=13,SNR=7.3
comp=Z,0.6nm,0.7s
ABKAR Akbulak array 56.31 312 P P 14 18 57.0 -0.8
O18K Koktuh Hills 57.40 35 P P 14 19 06.5 +1.1
PPLA Purkeypile 58.69 32 P P 14 19 15.8 +1.3
ILAR Eielson Array 60.87 29 P P 14 19 29.0 -0.3
comp=Z,0.3nm,0.7s,baz=280,slow=5.4,SNR=2.4
comp=Z,0.3nm,0.7s
BMAR Burnt Mountain 61.48 26 P P 14 19 34.4 +0.9
SCRK Sand Creek 62.23 30 P P 14 19 38.5 -0.1
BCAR Beaver Creek A 63.38 31 P P 14 19 47.0 +0.8
YAH Yahtse 63.99 34 P P 14 19 49.7 -0.9
INK Inuvik 65.38 24 P P 14 19 59.6 +0.5
INK IAmb IAmb 14 20 30.0
comp=Z,4.5nm,1.4s
A36M Sachs Harbour 66.81 19 P P 14 20 08.4 +0.2
A36M IAmb IAmb 14 20 14.0
comp=Z,3.5nm,0.8s
FARO Faro, Yukon 67.35 30 P P 14 20 13.0 +1.1
FARO IAmb IAmb 14 20 14.1
comp=Z,9.5nm,1.5s
KBZ Khabaz 69.03 309 P P 14 20 23.2 +0.4
comp=Z,9.2nm,0.8s,baz=83,slow=3.9,SNR=20
EUNU Eureka 69.19 6 P P 14 20 22.8 -0.4
FINES FINESS Array B 71.44 331 P P 14 20 35.6 -1.5
comp=Z,1.3nm,0.5s,baz=67,slow=6.6,SNR=11
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 74.76 320 P P 14 20 55.7 -1.3
comp=Z,2.4nm,0.4s,baz=58,slow=6.6,SNR=11
comp=Z,2.4nm,0.4s
BRTR Keskin Array B 76.98 308 P P 14 21 09.8 -0.4
comp=Z,2.5nm,0.7s,baz=96,slow=5.4,SNR=10
comp=Z,2.5nm,0.7s
BRTR Keskin Array B 76.98 308 P P 14 21 10.0 -0.2
NOA NORSAR Array B 77.69 334 P P 14 21 11.9 -1.6
comp=Z,0.9nm,0.7s,baz=50,slow=5.7,SNR=2.4
comp=Z,0.9nm,0.7s
BORG Borgarnes 83.93 348 LR LR 14 59 18.0
comp=Z,52nm,19.5s,baz=215,slow=36
NVAR Mina Array Bea 86.95 47 P P 14 22 03.8 +1.2
comp=Z,0.6nm,0.7s,baz=309,slow=4.3,SNR=2.2
comp=Z,0.6nm,0.7s

IDC ***16*** *14:10:26.4±1.6, 15°.48S×178°.82W, h426km±27km, mb3.2/4, mbtmp4.1/6, Error ellipse: s-maj=90.2km s-min=19.8km az=150.0*

ISC 16 14:10:27.1±1.0, 15°.9S±0°.4×178°.6W±0°.2, h450km, n6, σ1§52/6, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.72**	**240**	P	**P**	**P**	**14 11 38.3**	**-1.6**
	34nm,0.5s,baz=260,slow=22,SNR=69							
AFI	**Afiamalu**	**6.86**	**74**	P	**P**		**14 12 10.3**	**-0.2**
	35nm,0.7s,baz=113,slow=0.5,SNR=11							
STKA	**Stephens Creek**	**39.50**	**239**	P	**P**		**14 17 19.3**	**+1.9**
	2.2nm,0.7s,baz=50,slow=4.1,SNR=5.4							
	2.2nm,0.7s							
WRA	**Warramunga Arr**	**44.87**	**258**	P	**P**		**14 17 59.4**	**-0.9**
	0.4nm,0.3s,baz=96,slow=7.1,SNR=18							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**45.22**	**252**	P	**P**		**14 18 03.1**	**+0.3**
	5.6nm,0.4s,baz=85,slow=8.6,SNR=285							
	5.6nm,0.4s							
ILAR	**Eielson Array**	**83.95**	**13**	P	**P**		**14 22 08.6**	**+0.3**
	0.2nm,0.5s,baz=204,slow=5.9,SNR=5.5							
	0.2nm,0.5s							

WEL 16 14:20:09.9±0.3, 42°.5S±2°.1×17°.3E±°.1, h5km, M3.0/12, ML3.0/8, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=122.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.39**	**100**	P	Pg		14 20 17.8	+0.4
KHZ				S	Sg		14 20 23.3	+0.7
THZ	**Tophouse**	**0.59**	**352**	P	Pg		14 20 21.8	+0.6
THZ				S	Sg		14 20 29.2	+0.3
GVZ	**Greta Valley S**	**0.62**	**179**	P	Pg		14 20 22.5	+0.7
LTZ	**Lake Taylor**	**0.70**	**232**	P	Pg		14 20 23.0	-0.3
AMCZ	**Amberley**	**0.87**	**198**	P	Pb		14 20 27.1	-0.3
BSWZ	**Blackbirch Sta**	**0.90**	**46**	P	Pg		14 20 27.2	+0.1
MRNZ	**Matariki Terra**	**0.97**	**348**	P	Pb		14 20 28.8	-0.3
DSZ	**Denniston Nort**	**1.09**	**303**	P	Pb		14 20 31.2	+0.1
TUWZ	**Tuamarina**	**1.15**	**37**	P	Pg		14 20 31.3	-0.6
NNZ	**Nelson**	**1.16**	**14**	P	Pg		14 20 31.5	-0.6
OXZ	**Oxford**	**1.21**	**216**	P	Pg		14 20 31.6	-1.5
TKNZ	**Takaka Hill**	**1.31**	**358**	P	Pn		14 20 34.5	-0.4
OKCZ	**Okains Bay**	**1.37**	**179**	P	Pn		14 20 33.7	-2.0
MQZ	**McQueen's Vall**	**1.38**	**191**	P	Pn		14 20 33.2	-2.6
TCW	**Tory Channel**	**1.48**	**40**	P	Pn		14 20 36.5	-0.6
RACZ	**Rakaia**	**1.52**	**205**	P	Pn		14 20 35.4	-2.3
AKCZ	**Akaroa Harbour**	**1.52**	**183**	P	Pn		14 20 35.3	-2.5
QRZ	**Quartz Range**	**1.56**	**346**	P	Pn		14 20 38.8	+0.4
MHCZ	**Mount Hutt**	**1.59**	**221**	P	Pn		14 20 36.7	-2.1
WACZ	**Wakanui South**	**1.81**	**208**	P	Pn		14 20 39.6	-2.1
WVZ	**Waitaha Valley**	**1.83**	**246**	P	Pn		14 20 41.3	-0.6
PLWZ	**Palliser**	**1.84**	**66**	P	Pn		14 20 40.3	-1.9
MSWZ	**Moikau Station**	**1.91**	**62**	P	Pn		14 20 41.2	-1.9
CAW	**Cannon Point**	**1.97**	**52**	P	Pn		14 20 42.7	-1.9
RPZ	**Rata Peaks**	**1.98**	**226**	P	Pn		14 20 42.1	-2.0
KIW	**Kapiti Island**	**2.06**	**44**	P	Pb		14 20 46.9	-0.8
ARCZ	**Arundel**	**2.09**	**220**	P	Pn		14 20 43.5	-2.0
OGWZ	**Otaki Gorge**	**2.23**	**47**	P	Pn		14 20 46.3	-1.1
TMZ	**Timaru**	**2.51**	**215**	P	Pn		14 20 49.2	-2.1
LBZ	**Lake Benmore**	**2.90**	**224**	P	Pn		14 20 55.2	-1.6
TSZ	**Takapari Road**	**3.19**	**45**	P	Pb		14 21 06.4	-0.6
ODZ	**Otahua Downs**	**3.20**	**212**	P	Pn		14 20 58.1	-2.7
PKE	**Pukeiti**	**3.24**	**13**	P	Pn		14 21 04.1	+2.8
WNVZ	**Wahianoa**	**3.60**	**34**	P	Pn		14 21 09.9	+3.5
BHHZ	**Black Hill Sta**	**3.67**	**40**	P	Pb		14 21 13.6	-1.7
NMHZ	**Naumai**	**4.34**	**43**	P	Pn		14 21 18.2	+1.6

IDC ***16*** *14:20:45.7±2.3, 42°.22S×173°.30E, h0km, mb3.4/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=45.2km s-min=34.9km az=109.0*

WEL ***16*** *14:20:46.8±0.4, 42°.5S±3°.1×17°.4E±°.1, h5km, M3.7/32, ML4.1/13, MLv3.7/32, Error ellipse: s-maj=0.0km s-min=0.0km az=123.2*

ISC 16 14:20:46.4±0.9, 42°.35S±0°.04×173°.70E±0°.04, h20km±6km, n101, σ1§24/100, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**239**	P	**Pg**		**14 20 50.7**	**-0.1**
KHZ				S	**Sg**		**14 20 53.8**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.65**	**12**	P	**Pg**		**14 20 58.2**	**-1.1**
CMWZ	**Cape Campbell**	**0.71**	**33**	P	**Pg**		**14 21 00.8**	**+0.3**
GVZ	**Greta Valley S**	**0.79**	**218**	P	**Pn**		**14 21 03.2**	**+0.7**
THZ	**Tophouse**	**0.83**	**315**	P	**Pb**		**14 21 01.1**	**-1.1**
TUWZ	**Tuamarina**	**0.94**	**11**	P	**Pb**		**14 21 03.4**	**-0.5**
AMCZ	**Amberley**	**1.13**	**223**	P	**Pn**		**14 21 07.6**	**+0.5**
LTZ	**Lake Taylor**	**1.14**	**247**	P	**Pn**		**14 21 07.6**	**+0.3**
NNZ	**Nelson**	**1.15**	**348**	P	**Pn**		**14 21 06.6**	**-0.8**
MRNZ	**Matariki Terra**	**1.18**	**323**	P	**Pn**		**14 21 07.6**	**-0.2**
TCW	**Tory Channel**	**1.22**	**21**	P	**Pn**		**14 21 07.8**	**-0.5**
WEL	**Wellington**	**1.33**	**37**	P	**Pn**		**14 21 09.4**	**-0.5**
PLWZ	**Palliser**	**1.40**	**57**	P	**Pn**		**14 21 10.0**	**-0.9**
TKNZ	**Takaka Hill**	**1.42**	**337**	P	**Pn**		**14 21 11.3**	**+0.1**
OKCZ	**Okains Bay**	**1.45**	**199**	P	**Pn**		**14 21 11.8**	**+0.2**
MSWZ	**Moikau Station**	**1.49**	**52**	P	**Pn**		**14 21 11.0**	**-1.1**
DSZ	**Denniston Nort**	**1.53**	**293**	P	**Pn**		**14 21 13.3**	**+0.6**
MQZ	**McQueen's Vall**	**1.56**	**209**	P	**Pn**		**14 21 12.6**	**-0.4**
OXZ	**Oxford**	**1.56**	**231**	P	**Pn**		**14 21 12.6**	**-0.5**
CAW	**Cannon Point**	**1.61**	**40**	P	**Pn**		**14 21 13.2**	**-0.5**
PAWZ	**Paruwai Farm**	**1.61**	**54**	P	**Pn**		**14 21 12.8**	**-1.0**
INZ	**Inchbonnie**	**1.71**	**256**	P	**Pn**		**14 21 15.4**	**+0.4**
KIW	**Kapiti Island**	**1.74**	**32**	P	**Pn**		**14 21 15.5**	**-0.1**
QRZ	**Quartz Range**	**1.75**	**330**	P	**Pn**		**14 21 16.8**	**+1.1**
TRWZ	**Traveller**	**1.77**	**58**	P	**Pn**		**14 21 14.6**	**-1.3**
RACZ	**Rakaia**	**1.79**	**219**	P	**Pn**		**14 21 15.9**	**-0.2**
OGWZ	**Otaki Gorge**	**1.89**	**36**	P	**Pn**		**14 21 17.1**	**-0.4**
MHCZ	**Mount Hutt**	**1.96**	**232**	P	**Pn**		**14 21 18.2**	**-0.3**
TMWZ	**Te Maipa**	**2.06**	**54**	P	**Pn**		**14 21 18.5**	**-1.5**
WACZ	**Wakanui South**	**2.09**	**220**	P	**Pn**		**14 21 20.3**	**0.0**
MRZ	**Mangatainoka R**	**2.20**	**41**	P	**Pn**		**14 21 21.5**	**-0.3**
WVZ	**Waitaha Valley**	**2.30**	**251**	P	**Pn**		**14 21 23.9**	**+0.8**
CPWZ	**Castlepoint**	**2.37**	**53**	P	Pg		14 21 34.5	+2.6
RPZ	**Rata Peaks**	**2.37**	**234**	Pn	**Pn**		**14 21 24.1**	**0.0**
	14nm,0.3s,baz=179,slow=2.2,SNR=13							
RPZ				Sn	**Sn**		**14 21 51.7**	**-1.0**
	14nm,0.3s,baz=174,slow=22,SNR=18							
	32nm,0.3s							
RPZ	**Rata Peaks**	**2.37**	**234**	P	**Pn**		**14 21 24.2**	**0.0**
ARCZ	**Arundel**	**2.44**	**228**	P	**Pn**		**14 21 25.0**	**-0.1**
OHWZ	**Ohakea**	**2.46**	**30**	P	**Pn**		**14 21 26.5**	**+1.0**
POWZ	**Post Office Ro**	**2.50**	**39**	P	**Pn**		**14 21 25.1**	**-0.9**
BFZ	**Birch Farm**	**2.54**	**50**	P	**Pn**		**14 21 24.9**	**-1.6**
GCSZ	**Gaunt Creek Bo**	**2.66**	**248**	P	**Pn**		**14 21 28.9**	**+0.8**
DVHZ	**Dannevirke**	**2.77**	**43**	P	**Pb**		**14 21 36.4**	**+1.2**
DVHZ	**Dannevirke**	**2.77**	**43**	P	**Pb**		**14 21 36.4**	**+1.2**
WAZ	**Wanganui**	**2.77**	**21**	P	**Pn**		**14 21 31.3**	**+1.6**
ANWZ	**Angora Road**	**2.82**	**49**	P	**Pn**		**14 21 31.9**	**+1.6**
TMZ	**Timaru**	**2.83**	**223**	P	**Pn**		**14 21 31.5**	**+1.1**
TSZ	**Takapari Road**	**2.85**	**38**	P	**Pn**		**14 21 30.3**	**-0.6**
LREZ	**Lake Rotokare**	**2.93**	**11**	P	**Pb**		**14 21 35.5**	**-2.5**
NMEZ	**Namu Road**	**2.94**	**3**	P	**Pb**		**14 21 35.5**	**-2.5**
PRHZ	**Porangahau**	**3.04**	**48**	P	Pg		14 21 44.3	-0.3
KHEZ	**Kahui Hut**	**3.06**	**5**	P	**Pb**		**14 21 38.0**	**-2.3**
NBEZ	**Newall Road No**	**3.08**	**2**	P	**Pn**		**14 21 35.6**	**+1.7**
PNHZ	**Pukenui**	**3.08**	**39**	P	**Pb**		**14 21 42.0**	**+1.5**
WPHZ	**Waipukurau**	**3.08**	**43**	P	**Pb**		**14 21 42.2**	**+1.6**
FOZ	**Fox Glacier**	**3.08**	**246**	P	**Pn**		**14 21 35.3**	**+1.3**
NEZ	**North Egmont**	**3.09**	**6**	P	**Pn**		**14 21 36.8**	**+2.7**
PKE	**Pukeiti**	**3.16**	**4**	P	**Pn**		**14 21 37.1**	**+2.1**
MTVZ	**Mangateitei**	**3.25**	**25**	P	**Pb**		**14 21 44.4**	**+0.9**
PKVZ	**Pokaka**	**3.30**	**23**	P	**Pb**		**14 21 47.0**	**+2.7**
VRZ	**Vera Road**	**3.32**	**14**	P	**Pn**		**14 21 38.6**	**+1.4**
MOVZ	**Moawhango**	**3.33**	**29**	P	**Pn**		**14 21 38.1**	**+0.7**
PXZ	**Pawanui**	**3.33**	**47**	P	Pg		14 21 49.1	-1.1
WNVZ	**Wahianoa**	**3.34**	**26**	P	**Pn**		**14 21 38.3**	**+0.6**
TRVZ	**Turoa**	**3.35**	**25**	P	**Pn**		**14 21 40.2**	**+2.3**
BHHZ	**Black Hill Sta**	**3.37**	**33**	P	**Pb**		**14 21 43.0**	**-2.6**
DRZ	**Dome Shelter**	**3.38**	**25**	P	**Pb**		**14 21 42.9**	**-2.9**
WHVZ	**Whangaehu Hut**	**3.38**	**26**	P	**Pn**		**14 21 39.3**	**+1.0**
FWVZ	**Far West T-bar**	**3.40**	**25**	P	**Pb**		**14 21 45.0**	**-1.1**
NGZ	**Ngauruhoe**	**3.48**	**25**	P	**Pb**		**14 21 48.4**	**+0.9**
SNVZ	**South Ngauruho**	**3.49**	**26**	P	**Pb**		**14 21 48.8**	**+1.2**
ODZ	**Otahua Downs**	**3.49**	**218**	P	**Pn**		**14 21 39.4**	**-0.1**
KAHZ	**Kahuranaki**	**3.51**	**44**	P	**Pb**		**14 21 47.7**	**-0.1**
OTVZ	**Oturere**	**3.52**	**26**	P	**Pn**		**14 21 40.5**	**+0.4**
NNVZ	**North Ngauruho**	**3.53**	**25**	P	**Pb**		**14 21 47.2**	**-1.1**
TWVZ	**Taurewa**	**3.53**	**23**	P	**Pn**		**14 21 41.0**	**+0.7**
WTVZ	**West Tongariro**	**3.54**	**25**	P	**Pb**		**14 21 49.3**	**+0.9**
ETVZ	**East Tongariro**	**3.56**	**26**	P	**Pb**		**14 21 47.5**	**-1.2**
KRVZ	**Karewarewa**	**3.57**	**25**	P	**Pb**		**14 21 48.7**	**-0.3**
TMVZ	**Te Maari**	**3.57**	**26**	P	**Pn**		**14 21 42.4**	**+1.6**
KWHZ	**Kaweka Forest**	**3.58**	**36**	P	**Pb**		**14 21 49.2**	**+0.2**
NTVZ	**North Tongarir**	**3.58**	**26**	P	**Pb**		**14 21 49.8**	**+0.7**
MCHZ	**McNeill Hill**	**3.69**	**39**	P	**Pb**		**14 21 52.9**	**+2.0**
KATZ	**Kakaramea**	**3.70**	**25**	P	**Pb**		**14 21 49.3**	**-1.8**
RATZ	**Rangitukua**	**3.82**	**25**	P	**Pb**		**14 21 54.6**	**+1.4**
HIZ	**Hauiti**	**3.93**	**13**	P	**Pn**		**14 21 47.3**	**+1.6**
JCZ	**Jackson Bay**	**3.98**	**243**	P	**Pn**		**14 21 48.2**	**+1.8**
HHSZ	**Highcliff Hill**	**4.18**	**211**	P	**Pn**		**14 21 49.0**	**0.0**
EAZ	**Earnscleugh**	**4.29**	**226**	P	**Pn**		**14 21 50.4**	**-0.1**
HLRZ	**Highlands Stat**	**4.57**	**27**	P	**Pn**		**14 21 55.7**	**+1.3**
TUZ	**Tuapeka**	**4.64**	**218**	P	**Pn**		**14 21 55.7**	**+0.3**
TOZ	**Tahuroa Road**	**4.81**	**17**	P	**Pn**		**14 21 57.7**	**-0.1**
SYZ	**Scrubby Hill**	**5.31**	**216**	P	**Pn**		**14 22 05.2**	**+0.7**
AWAZ	**Awhitu Peninsu**	**5.33**	**8**	P	**Pn**		**14 22 05.7**	**+0.8**
MKAZ	**Moumakai**	**5.36**	**13**	P	**Pn**		**14 22 05.2**	**0.0**
ETAZ	**East Tamaki Re**	**5.47**	**10**	P	**Pn**		**14 22 07.6**	**+0.8**
RVAZ	**Riverhead Bore**	**5.61**	**7**	P	**Pn**		**14 22 10.0**	**+1.2**
MBAZ	**Motutapu North**	**5.65**	**10**	P	**Pn**		**14 22 12.5**	**+2.9**
OUZ	**Omahuta**	**7.12**	**359**	P	**Pn**		**14 22 31.1**	**+1.7**
CTZ	**Chatham Island**	**7.23**	**104**	P	**Pn**		**14 22 29.6**	**-1.3**
ASAR	**Alice Springs**	**37.80**	**287**	P	**P**		**14 28 01.4**	**0.0**
	0.2nm,0.5s,baz=123,slow=6.6,SNR=12							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**39.93**	**292**	P	**P**		**14 28 18.6**	**-0.7**
	0.6nm,0.8s,baz=127,slow=8.7,SNR=11							
	0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**150.09**	**196**	PKPbc	**PKiKP**		**14 40 38.4**	**+1.5**
	0.2nm,0.4s,baz=147,slow=1.8,SNR=3.0							

IDC ***16*** *14:23:31.1±2.1, 4°.36N×123°.79E, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=312.6km s-min=22.1km az=63.0*

DJA ***16*** *14:24:22.5±0.4, 3°.1N±5°×12°.3E±°, h528km±4km, M4.0/12, mb3.9/7, mB4.9/1, MLv4.1/12, Mw(mB)4.2/1*

ISC 16 14:24:22.0±1.1, 3°.3N±0°.1×122°.8E±0°.1, h550km, n13, σ1§29/14, mb3.9/4, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MRSI	**Marisa**	**2.91**	**197**	P	**P**	**P**	**14 25 36.5**	**0.0**
MRSI				S	**S**		**14 26 35.5**	**-1.6**
MPSI	**Mapaga**	**4.11**	**225**	P	**P**		**14 25 44.1**	**-0.6**
MYLDM	**Lahad Datu**	**4.68**	**294**	P	**P**		**14 25 49.8**	**+0.6**
GAMI	**Galela, Maluku**	**5.20**	**106**	P	**P**		**14 25 52.3**	**-1.2**
	0.5nm3µm34nm,0.5s							
TNTI	**Ternate**	**5.21**	**118**	P	**P**		**14 25 51.2**	**-2.4**
	0.4nm16nm,0.7s							
LBMI	**Labuha**	**6.11**	**129**	P	**P**		**14 26 01.7**	**0.0**
	0.2nm22nm,0.6s							
SANI	**Sanana**	**6.18**	**149**	P	**P**		**14 26 00.7**	**-1.7**
	0.1nm10.0nm,0.5s							
MMSI	**Mamuju**	**7.08**	**213**	P	**P**		**14 26 11.5**	**+0.6**
	0.0nm7.7nm,0.6s							
KKM	**Kota Kinabalu**	**7.11**	**293**	P	**P**	

*NEIC **16** 14:25:36.5,59.61N×137.65W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^9Nm; M_r=0.73; $M_{\theta\theta}$-0.85; $M_{\phi\phi}$-0.20; $M_{r\theta}$-0.09; $M_{\theta\phi}$0.35; $M_{r\phi}$0.48; Fault plane solution: $M_0$1.00000×10^9 NP1:ϕ_s315.00000°, δ58.00000°, λ115.00000°. NP2:ϕ_s94.00000°, δ40.00000°, λ56.00000°. Principal axes: T 1.0411, Plg67.0000°, Azm275.0000°; N -0.0953, Plg21.0000°, Azm121.0000°; P -0.9458, Plg9.0000°, Azm27.0000°;*

ISC 16 14:25:35.2±0.6,59.65N±0.02×137.58W±0.02,h8km±3km, n650,σ1^{9}32/726,mb4.8/81,MS3.7/20,22C-8D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
P29M	**Windy Craggy**	**0.08**	**254**			**Pg**	**14 25 37.4**	**+0.1**
P29M	**Windy Craggy** baz=111	**0.08**	**254**	P		**Pg**	**14 25 37.4**	**+0.1**
P29M				S		**Sg**	**14 25 38.8**	**0.0**
P30M	**Million Dollar**	**0.57**	**33**	P		**Pg**	**14 25 46.6**	**+0.5**
P30M				S		**Sg**	**14 25 54.9**	**+1.4**
P30M	**Million Dollar** baz=214	**0.57**	**33**	P		**Pg**	**14 25 46.6**	**+0.5**
P30M				S		**Sg**	**14 25 54.7**	**+1.1**
PLBC	**Pleasant Camp**	**0.65**	**107**	P		**Pg**	**14 25 47.5**	**-0.2**
PLBC				S		**Sg**	**14 25 56.3**	**+0.1**
PLBC	**Pleasant Camp** baz=284,SNR=1000	**0.65**	**107**	P		**Pg**	**14 25 47.5**	**-0.2**
PLBC				S		**Sg**	**14 25 56.0**	**-0.2**
O29M	**Mount Kennedy**	**0.82**	**323**	P		**Pg**	**14 25 49.5**	**-1.4**
O29M				S		**Sg**	**14 26 00.8**	**-0.8**
O29M	**Mount Kennedy** baz=146	**0.82**	**323**	P		**Pg**	**14 25 49.6**	**-1.4**
O29M				S		**Sg**	**14 26 01.1**	**-0.6**
PNL	**Peninsula**	**0.92**	**272**			**Pg**	**14 25 51.4**	**-1.4**
PNL						**Sg**	**14 26 02.6**	**-2.3**
PNL	**Peninsula**	**0.92**	**272**	P		**Pg**	**14 25 51.5**	**-1.4**
PNL				S		**Sg**	**14 26 02.9**	**-1.9**
PNL	**Peninsula** baz=93,SNR=1000	**0.92**	**272**	P		**Pg**	**14 25 51.5**	**-1.4**
PNL				S		**Sg**	**14 26 02.9**	**-1.9**
YUK7	**Dusty Glacier**	**0.92**	**343**	P		**Pg**	**14 25 52.1**	**-0.9**
YUK7				S		**Sg**	**14 26 04.2**	**-0.8**
YKU2	**Yakutat**	**1.07**	**263**			**Pg**	**14 25 54.8**	**-0.9**
YKU2						**Sb**	**14 26 10.3**	**+0.2**
BCPM	**Bancas Point**	**1.08**	**287**			**Pg**	**14 25 54.0**	**-1.9**
BCPM						**Sg**	**14 26 07.9**	**-2.0**
SKAG	**Skagway**	**1.16**	**99**			**Pg**	**14 25 56.3**	**-1.2**
SKAG	**Skagway** baz=278,SNR=1000	**1.16**	**99**	P		**Pg**	**14 25 56.6**	**-0.9**
SKAG				S		**Sg**	**14 26 12.0**	**-0.6**
HYT	**Haines Junctio** baz=278	**1.18**	**2**	Pg		**Pg**	**14 25 56.4**	**-1.4**
HYT				Sg		**Sg**	**14 26 13.0**	**-0.1**
HYT	comp=N,18μm,0.8s			IAML			14 26 16.4	
HYT	**Haines Junctio**	**1.18**	**2**	P		**Pg**	**14 25 56.9**	**-0.9**
HYT				S		**Sg**	**14 26 12.8**	**-0.2**
HYT	**Haines Junctio** baz=183,SNR=1000	**1.18**	**2**	P		**Pg**	**14 25 56.9**	**-0.9**
HYT				S		**Sg**	**14 26 12.8**	**-0.2**
O30N	**Mendenhall** baz=183	**1.35**	**33**	P		**Pn**	**14 26 00.3**	**-0.1**
O30N	baz=214,SNR=1000			S		**Sn**	**14 26 19.6**	**+1.1**
YUK6	**Outpost Mounta**	**1.35**	**344**	Pn		**Pg**	**14 25 59.4**	**-1.7**
YUK6				Sg		**Sg**	**14 26 18.2**	**-0.5**
YUK6	**Outpost Mounta** baz=165,SNR=1000	**1.35**	**344**	P		**Pg**	**14 25 59.4**	**-1.7**
YUK6				S		**Sg**	**14 26 18.1**	**-0.6**
PINM	**Pinnacle** baz=109,SNR=1000	**1.42**	**289**	P		**Pn**	**14 26 00.4**	**-1.0**
PINM				S		**Sg**	**14 26 19.7**	**-1.1**
PCA	**Pinnacle**	**1.42**	**289**			**Pn**	**14 25 60.0**	**-1.4**
PCA	**Pinnacle**	**1.42**	**289**			**Sg**	**14 26 20.1**	**-0.7**
PCA	**Pinnacle**	**1.42**	**289**	Pn		**Pn**	**14 26 00.3**	**-1.1**
PCA				Sg		**Sg**	**14 26 19.3**	**-1.6**
YUK5	**Granite Creek**	**1.49**	**355**	Pn		**Pn**	**14 26 02.3**	**-0.2**
YUK5				Sg		**Sg**	**14 26 22.9**	**-0.2**
R31K	**City Hall, Gus** baz=322,SNR=910	**1.57**	**142**	P		**Pn**	**14 26 02.6**	**-0.6**
R31K				S		**Sg**	**14 26 24.5**	**-1.0**
SAMH	**Samovar Hills**	**1.68**	**288**			**Pn**	**14 26 05.1**	**0.0**
SAMH	baz=322					**Sb**	**14 26 27.9**	**0.0**
SAMH	**Samovar Hills**	**1.68**	**288**	Pn		**Pn**	**14 26 05.1**	**0.0**
SAMH				Sg		**Sn**	**14 26 27.3**	**+0.4**
WHY	**Whitehorse**	**1.69**	**52**			**Pn**	**14 26 05.4**	**+0.3**
WHY	**Whitehorse**	**1.69**	**52**	Pn		**Pn**	**14 26 05.8**	**+0.7**
WHY				Sg		**Sg**	**14 26 29.8**	**+0.4**
WHY	**Whitehorse** baz=234,SNR=1000	**1.69**	**52**	P		**Pn**	**14 26 05.8**	**+0.7**
WHY	baz=234			S		**Sb**	**14 26 29.2**	**+1.2**
O28M	**Mount Upton**	**1.72**	**312**	Pn		**Pn**	**14 26 05.4**	**-0.3**
O28M				Sg		**Sn**	**14 26 27.8**	**-0.3**
O28M	**Mount Upton** baz=131	**1.72**	**312**	P		**Pn**	**14 26 05.6**	**-0.1**
BESE	**Bessie Mountai**	**1.77**	**126**			**Pn**	**14 26 05.5**	**-0.7**
BESE	**Bessie Mountai**	**1.77**	**126**			**Sn**	**14 26 29.8**	**+0.8**
BESE	**Bessie Mountai**	**1.77**	**126**	Pn		**Pn**	**14 26 05.7**	**-0.5**
BESE				Sg		**Sb**	**14 26 30.3**	**0.0**
YUK4	**Talbot Arm**	**1.78**	**343**	Pn		**Pb**	**14 26 08.3**	**+0.1**
YUK4	**Talbot Arm** baz=166,SNR=1000	**1.78**	**343**	P		**Pb**	**14 26 08.3**	**+0.1**
N30M	**Aishikik Lake**	**1.83**	**7**	Pn		**Pn**	**14 26 07.7**	**+0.6**
N30M				Sg		**Sg**	**14 26 33.7**	**-0.3**
N30M	**Aishikik Lake** baz=189,SNR=1000	**1.83**	**7**	P		**Pn**	**14 26 07.5**	**+0.5**
N30M	baz=189			S		**Sb**	**14 26 33.4**	**+1.4**
S31K	**Pelican** baz=337,SNR=699	**1.84**	**157**	P		**Pn**	**14 26 06.0**	**-0.9**
S31K	baz=337			S		**Sn**	**14 26 31.2**	**+0.8**
TABL	**Table Mountain**	**1.95**	**295**			**Pn**	**14 26 08.3**	**-0.6**
TABL	**Table Mountain**	**1.95**	**295**			**Sn**	**14 26 34.1**	**+0.4**
TABL	**Table Mountain**	**1.95**	**295**	Pn		**Pn**	**14 26 08.5**	**-0.4**
TABL				Sg		**Sn**	**14 26 34.6**	**+0.9**
YUK8	**Steele Glacier**	**1.96**	**328**	Pn		**Pn**	**14 26 09.6**	**+0.6**
YUK8				Sg		**Sb**	**14 26 36.0**	**0.0**
YUK8	**Steele Glacier** baz=147,SNR=1000	**1.96**	**328**	P		**Pn**	**14 26 09.6**	**+0.6**
YUK8	baz=147			Sb		**Sg**	**14 26 38.0**	**-0.2**
P32M	**Atlin**	**1.97**	**90**	Pn		**Pn**	**14 26 08.7**	**-0.2**
P32M				Sg		**Sb**	**14 26 36.7**	**+0.7**
P32M	**Atlin** baz=272,SNR=1000	**1.97**	**90**	P		**Pn**	**14 26 08.6**	**-0.2**
P32M	baz=272			Sb		**Sg**	**14 26 37.6**	**-0.7**
N31M	**Braeburn, Yuko**	**2.04**	**25**			**Pn**	**14 26 10.8**	**+0.8**
N31M	comp=E,13μm,0.8s			IAML			14 26 44.6	
N31M	comp=N,13μm,0.9s			IAML			14 26 45.2	
N31M	**Braeburn, Yuko**	**2.04**	**25**	Pn		**Pn**	**14 26 11.0**	**+1.0**
N31M				Sg		**Sg**	**14 26 40.6**	**-0.2**
N31M	**Braeburn, Yuko** baz=207,SNR=1000	**2.04**	**25**	P		**Pn**	**14 26 10.9**	**+1.0**
N31M	baz=207			Sb		**Sg**	**14 26 40.9**	**+0.1**
R32K	**Eaglecrest** baz=311,SNR=1000	**2.10**	**130**	P		**Pn**	**14 26 09.8**	**-0.9**
R32K	baz=311			Sb		**Sg**	**14 26 41.2**	**-1.6**
JIS	**Juneau Island**	**2.16**	**128**			**Pn**	**14 26 10.6**	**-0.8**
JIS	**Juneau Island**	**2.16**	**128**			**Sn**	**14 26 39.0**	**+0.7**
YAH	**Yahtse**	**2.21**	**291**			**Pn**	**14 26 12.2**	**-0.2**
YAH	comp=E,11μm,1.3s			IAML			14 26 47.3	
MESA	**MESA**	**2.26**	**285**			**Pn**	**14 26 12.7**	**-0.4**
MESA	comp=E,11μm,0.9s			IAML			14 26 50.3	
MESA	**MESA**	**2.26**	**285**			**Sn**	**14 26 41.5**	**+0.2**
MESA	**MESA**	**2.26**	**285**	Pn		**Pn**	**14 26 12.8**	**-0.2**
MESA				Sn		**Sn**	**14 26 40.4**	**-0.9**
MESA	**MESA** baz=103,SNR=1000	**2.26**	**285**	P		**Pn**	**14 26 12.9**	**-0.2**
MESA	baz=103			S		**Sn**	**14 26 42.0**	**+0.8**
BAGL	**Bagley Icefiel**	**2.41**	**292**			**Pn**	**14 26 15.1**	**+0.2**
P33M	**Teslin, Yukon**	**2.46**	**75**	Pn		**Pn**	**14 26 15.3**	**-0.5**
P33M	comp=N,5μm,0.7s			IAML			14 26 53.5	
P33M	**Teslin, Yukon**	**2.46**	**75**	Pn		**Pn**	**14 26 15.2**	**-0.5**
P33M				Sg		**Sb**	**14 26 52.4**	**+2.1**
P33M	**Teslin, Yukon** baz=258,SNR=245	**2.46**	**75**	P		**Pn**	**14 26 15.3**	**-0.5**
P33M	baz=258			Sb		**Sb**	**14 26 52.3**	**+2.0**
BARN	**Barnard Glacie**	**2.47**	**307**			**Pn**	**14 26 14.7**	**-1.3**
BARN	comp=N,4μm,0.4s			IAML			14 26 53.1	
BARN	comp=E,9μm,0.6s			IAML			14 26 54.2	
CYK	**Cape Yakataga**	**2.51**	**282**			**Pn**	**14 26 16.2**	**-0.1**
CYK						**Sn**	**14 26 48.0**	**+0.9**
YUK3	**Moose Creek**	**2.56**	**328**	Pn		**Pn**	**14 26 17.5**	**+0.4**
YUK3				Sg		**Sg**	**14 26 56.0**	**-1.3**
YUK3	**Moose Creek** baz=146,SNR=593	**2.56**	**328**	P		**Pn**	**14 26 17.5**	**+0.4**
ISLE	**Juniper Island**	**2.56**	**294**			**Pn**	**14 26 17.3**	**+0.1**
ISLE	comp=N,7μm,1.2s			IAML			14 26 55.7	
BARK	**Barkley Ridge**	**2.58**	**289**			**Pn**	**14 26 17.3**	**0.0**
YUK2	**White River**	**2.67**	**325**	Pn		**Pn**	**14 26 19.2**	**+0.5**
YUK2				Sg		**Sg**	**14 26 59.5**	**-1.5**
N32M	**Quiet Lake**	**2.69**	**54**	Pn		**Pn**	**14 26 19.4**	**+0.5**
N32M				Pg		**Pb**	**14 26 24.7**	**+1.0**
N32M				Sg		**Sg**	**14 27 00.6**	**-0.9**
N32M	**Quiet Lake** baz=238	**2.69**	**54**	P		**Pn**	**14 26 19.3**	**+0.5**
S32K	**Killisnoo** baz=324,SNR=196	**2.70**	**143**	P		**Pn**	**14 26 18.3**	**-0.6**
KIAG	**Kiagna River**	**2.70**	**300**			**Pn**	**14 26 18.6**	**-0.5**
KIAG	**Kiagna River**	**2.70**	**300**	Pn		**Pn**	**14 26 18.4**	**-0.7**
KIAG				Sn		**Sn**	**14 26 51.4**	**-0.6**
SNH	**Sunshine Point**	**2.70**	**284**			**Pn**	**14 26 18.9**	**-0.1**
SNH	comp=N,6μm,0.6s			IAML			14 27 00.1	
SNH	comp=E,5μm,0.9s			IAML			14 27 19.4	
SNH	**Sunshine Point**	**2.70**	**284**			**Sn**	**14 26 53.1**	**+1.3**
BALM	**Baldy**	**2.75**	**302**			**Pn**	**14 26 19.2**	**-0.4**
BALM	**Baldy**	**2.75**	**302**	Pn		**Pn**	**14 26 19.3**	**-0.3**
BALM				Sn		**Sn**	**14 26 53.0**	**0.0**
WAX	**Waxell Ridge**	**2.76**	**289**			**Pn**	**14 26 19.3**	**-0.5**
Q32M	**Nakina River** baz=286	**2.81**	**102**	P		**Pn**	**14 26 20.3**	**-0.3**
M29M	**Somme Creek**	**2.83**	**352**	Pn		**Pn**	**14 26 21.7**	**+0.8**
M29M				Sg		**Sb**	**14 27 03.8**	**+2.8**
M29M	**Somme Creek** baz=172	**2.83**	**352**	P		**Pn**	**14 26 21.7**	**+0.8**
SIT	**Sitka** baz=336	**2.86**	**154**	P		**Pn**	**14 26 21.5**	**+0.4**
BGLC	**Bering Glacier**	**2.91**	**282**			**Pn**	**14 26 22.1**	**+0.3**
BGLC	**Bering Glacier** baz=98,SNR=25	**2.91**	**282**	P		**Pn**	**14 26 22.4**	**+0.6**
BGLC	baz=98			S		**Sn**	**14 26 58.7**	**+1.7**
KHIT	**Khitrov Hills**	**2.95**	**288**			**Pn**	**14 26 22.2**	**-0.2**
GRIN	**Grindle Hills**	**2.95**	**285**			**Pn**	**14 26 22.4**	**0.0**
M30M	**Minto, Yukon**	**2.96**	**7**			**Pn**	**14 26 23.4**	**+0.9**
M30M	comp=N,4μm,1.0s			IAML			14 27 13.6	
M30M	comp=E,4μm,1.1s			IAML			14 27 13.8	
M30M	**Minto, Yukon**	**2.96**	**7**	Pn		**Pn**	**14 26 23.2**	**+0.6**
M30M				Sg		**Sb**	**14 27 07.2**	**+2.7**
M30M	**Minto, Yukon** baz=188	**2.96**	**7**	P		**Pn**	**14 26 23.1**	**+0.6**
M31M	**Drury Creek, Y**	**3.00**	**30**	Pn		**Pn**	**14 26 23.5**	**+0.5**
M31M	comp=E,3μm,1.1s			IAML			14 27 15.5	
M31M	**Drury Creek, Y**	**3.00**	**30**	Pn		**Pn**	**14 26 24.3**	**+1.3**
M31M				Sg		**Sg**	**14 27 09.3**	**-2.0**
M31M	**Drury Creek, Y** baz=213,SNR=300	**3.00**	**30**	P		**Pn**	**14 26 24.1**	**+1.1**
SUCK	**Suckling Hills**	**3.15**	**280**			**Pn**	**14 26 25.8**	**+0.6**
SUCK	comp=N,3μm,0.6s			IAML			14 27 10.7	
SUCK	comp=E,3μm,0.8s			IAML			14 27 27.9	
BERG	**Berg Lake**	**3.16**	**286**			**Pn**	**14 26 24.9**	**-0.3**
BVCY	**Beaver Creek**	**3.20**	**331**	Pn		**Pn**	**14 26 25.7**	**-0.1**
BVCY				Sg		**Sg**	**14 27 15.3**	**-2.4**
BVCY	**Beaver Creek** baz=150,SNR=173	**3.20**	**331**	P		**Pn**	**14 26 25.7**	**-0.1**
MCARA	**McCarthy VSAT**	**3.20**	**305**	Pn		**Pn**	**14 26 25.7**	**-0.1**
MCARA	comp=N,5μm,0.8s			IAML			14 27 17.8	
MCARA	**McCarthy VSAT** baz=121,SNR=515	**3.20**	**305**	P		**Pn**	**14 26 25.9**	**+0.1**
NICHA	**Nichawak Mount**	**3.27**	**283**			**Pn**	**14 26 26.5**	**-0.2**
FARO	**Faro, Yukon**	**3.31**	**37**			**Pn**	**14 26 28.1**	**+0.8**
FARO	**Faro, Yukon**	**3.31**	**37**	Pn		**Pn**	**14 26 28.6**	**+1.3**
FARO				Sg		**Sg**	**14 27 19.2**	**-2.2**
FARO	**Faro, Yukon** baz=220,SNR=48	**3.31**	**37**	P		**Pn**	**14 26 28.5**	**+1.2**
VRDI	**Verde Repeater**	**3.31**	**301**			**Pn**	**14 26 27.8**	**+0.3**
VRDI	comp=N,3μm,0.8s			IAML			14 27 24.9	
R33M	**Jennings River**	**3.38**	**92**	Pn		**Pn**	**14 26 28.1**	**-0.3**
R33M				Sg		**Sb**	**14 27 20.3**	**+3.7**
R33M	**Jennings River** baz=277	**3.38**	**92**	P		**Pn**	**14 26 28.1**	**-0.3**
HMT	**Hamilton**	**3.42**	**284**			**Pn**	**14 26 28.7**	**-0.2**
M27K	**Edge Creek, AK**	**3.43**	**324**			**Pn**	**14 26 29.3**	**+0.2**
M27K	comp=E,2μm,1.1s			IAML			14 27 32.8	
M27K	comp=N,2μm,1.0s			IAML			14 27 33.1	
M27K	**Edge Creek, AK**	**3.43**	**324**	Pn		**Pn**	**14 26 29.6**	**+0.5**
M27K				Sg		**Sg**	**14 27 22.8**	**-2.4**
M27K	**Edge Creek, AK** baz=141	**3.43**	**324**	P		**Pn**	**14 26 29.4**	**+0.4**
KAIM	**Kayak Island**	**3.47**	**277**	Pn		**Pn**	**14 26 29.3**	**-0.2**
KAIM	comp=E,3μm,1.0s			IAML			14 27 48.8	
KAIM	comp=N,2μm,1.3s			IAML			14 27 55.0	
KAIM	**Kayak Island** baz=92	**3.47**	**277**	P		**Pn**	**14 26 29.0**	**-0.5**
L29M	**L29M**	**3.48**	**356**	Pn		**Pn**	**14 26 30.6**	**+0.8**
L29M				Sg		**Sg**	**14 27 23.9**	**-2.9**
L29M	**L29M** baz=176	**3.48**	**356**	P		**Pn**	**14 26 30.5**	**+0.8**
GLB	**Gilahina Butte**	**3.56**	**303**			**Pn**	**14 26 30.7**	**-0.1**
GLB	**Gilahina Butte** comp=N,1μm,1.2s	**3.56**	**303**	IAML			14 27 27.8	
RAGM	**Ragged Mountai**	**3.64**	**285**			**Pn**	**14 26 33.1**	**+1.3**
GOAT	**Goat Mountain**	**3.69**	**288**			**Pn**	**14 26 32.3**	**-0.3**
BMRM	**Bremner River** baz=108,SNR=90	**3.73**	**294**	P		**Pn**	**14 26 33.1**	**-0.1**
T33K	**Petersburg** baz=320	**3.75**	**137**	P		**Pn**	**14 26 33.8**	**+0.5**
S34M	**Telegraph Cree**	**3.78**	**115**	Pn		**Pn**	**14 26 33.7**	**0.0**
S34M				Sg		**Sg**	**14 27 33.6**	**-2.9**
S34M	**Telegraph Cree** baz=300,SNR=70	**3.78**	**115**	P		**Pn**	**14 26 33.5**	**-0.3**
M26K	**Nabesna, AK**	**3.81**	**319**			**Pn**	**14 26 34.9**	**+0.7**
M26K	comp=N,1μm,1.3s			IAML			14 27 41.6	
M26K	**Nabesna, AK** baz=135	**3.81**	**319**	P		**Pn**	**14 26 34.6**	**+0.3**
N25K	**Chitina, Valde**	**3.97**	**303**			**Pn**	**14 26 36.5**	**+0.1**
N25K	**Chitina, Valde** baz=117,SNR=226	**3.97**	**303**	P		**Pn**	**14 26 36.6**	**+0.1**
BCAR	**Beaver Creek A**	**3.98**	**331**	Pn		**Pn**	**14 26 36.1**	**-0.4**
L27K	**Beaver Creek,**	**3.98**	**331**			**Pn**	**14 26 37.0**	**+0.4**
L27K	**Beaver Creek,**	**3.98**	**331**	Pn		**Pn**	**14 26 36.0**	**-0.6**
L27K				Sg		**Sg**	**14 27 39.7**	**-3.4**
L27K	**Beaver Creek,** baz=148	**3.98**	**331**	P		**Pn**	**14 26 36.2**	**-0.4**
MAYO	**Mayo, Yukon**	**4.04**	**11**			**Pn**	**14 26 38.4**	**+1.1**
MAYO	**Mayo, Yukon**	**4.04**	**11**	Pn		**Pn**	**14 26 38.6**	**+1.3**
MAYO				Sg		**Sg**	**14 27 41.0**	**-3.8**
MAYO	**Mayo, Yukon** baz=193,SNR=9.1	**4.04**	**11**	P		**Pn**	**14 26 38.7**	**+1.4**
DLBC	**Dease Lake**	**4.09**	**104**	Pn		**Pn**	**14 26 38.0**	**-0.1**
DLBC	comp=N,5.1nm,0.3s,baz=311,slow=10,SNR=77			Lg		Lg	14 27 41.9	
DLBC	comp=N,118nm,0.3s,baz=170,slow=10,SNR=8.3			LR		LR	14 28 33.1	
DLBC	**Dease Lake**	**4.09**	**104**	Pn		**Pn**	**14 26 37.6**	**-0.4**
DLBC	comp=N,24nm,0.4s			IAML			14 27 53.7	
DLBC	comp=N,1μm,1.3s			IAML			14 27 53.9	
DLBC	**Dease Lake**	**4.09**	**104**	Pn		**Pn**	**14 26 37.6**	**-0.4**
DLBC	comp=E,1μm,1.3s			Sg		**Sg**	**14 27 41.8**	**-4.5**
DLBC	**Dease Lake** baz=290,SNR=197	**4.09**	**104**	P		**Pn**	**14 26 37.4**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.19**	**286**	Pn		**Pn**	**14 26 38.8**	**-0.5**
EYAK	**Cordova Ski Ar** baz=100	**4.19**	**286**	P		**Pn**	**14 26 39.4**	**+0.1**
K29M	**Barlow Dome**	**4.21**	**0**	Pn		**Pn**	**14 26 40.8**	**+1.1**
K29M				Sg		**Sg**	**14 27 47.7**	**-2.4**
K29M	**Barlow Dome** baz=181	**4.21**	**0**	P		**Pn**	**14 26 40.7**	**+0.9**
MMPY	**Sheldon Lake,**	**4.27**	**43**	Pn		**Pn**	**14 26 41.7**	**+1.2**
MMPY				Sg		**Sg**	**14 27 48.5**	**-3.7**
MMPY	**Sheldon Lake,** baz=229,SNR=348	**4.27**	**43**	P		**Pn**	**14 26 41.5**	**+1.0**
U33K	**Whale Pass** baz=327,SNR=155	**4.27**	**144**	P		**Pn**	**14 26 40.0**	**-0.5**
WRAK	**Wrangell Islan**	**4.27**	**137**			**Pn**	**14 26 40.5**	**0.0**
WRAK	comp=E,1μm,0.9s			IAML			14 27 50.8	
WRAK	**Wrangell Islan** baz=321,SNR=499	**4.27**	**137**	P		**Pn**	**14 26 40.0**	**-0.5**
DIV	**Divide**	**4.33**	**294**			**Pn**	**14 26 41.3**	**0.0**
DIV	**Divide**	**4.33**	**294**	Pn		**Pn**	**14 26 41.4**	**+0.1**
DIV				Sn		**Sn**	**14 27 31.0**	**-0.9**
L26K	**Log Cabin Wild**	**4.38**	**323**			**Pn**	**14 26 42.3**	**+0.3**
L26K	comp=E,1μm,0.7s			IAML			14 27 56.4	
L26K	comp=N,1μm,1.1s			IAML			14 27 58.2	
L26K	**Log Cabin Wild** baz=139,SNR=63	**4.38**	**323**	P		**Pn**	**14 26 42.2**	**+0.3**
MENT	**Mentasta**	**4.43**	**321**			**Pn**	**14 26 42.9**	**+0.2**
MENT	comp=E,977nm,1.1s			IAML			14 27 58.4	
MENT	comp=N,1μm,1.0s			IAML			14 28 11.3	
WTLY	**Watson Lake, Y**	**4.45**	**80**	Pn		**Pn**	**14 26 44.2**	**+1.2**
WTLY				Sg		**Sg**	**14 27 53.5**	**-4.5**
Q23K	**Middleton Isla**	**4.47**	**271**	Pn		**Pn**	**14 26 43.5**	**+0.4**
KLU	**Klutina**	**4.51**	**298**			**Pn**	**14 26 43.7**	**-0.2**
KLU	comp=N,2μm,0.7s			IAML			14 27 51.8	
KLU	comp=E,1μm,0.7s			IAML			14 28 00.6	
KLU	**Klutina** baz=111	**4.51**	**298**	P		**Pn**	**14 26 44.3**	**+0.5**
DAWY	**Dawson**	**4.51**	**350**	Pn		**Pn**	**14 26 44.7**	**+0.9**
DAWY	comp=N,2μm,0.7s			IAML			14 28 07.2	
DAWY	comp=E,1μm,0.9s			IAML			14 28 09.0	
DAWY	**Dawson**	**4.51**	**350**	Pn		**Pn**	**14 26 44.7**	**+0.9**
DAWY				Sg		**Sg**	**14 27 56.8**	**-3.1**
DAWY	**Dawson** baz=169,SNR=835	**4.51**	**350**	P		**Pn**	**14 26 44.7**	**+0.9**
HIN	**Hinchinbrook I**	**4.54**	**283**			**Pn**	**14 26 43.8**	**-0.4**
HIN	**Hinchinbrook I** comp=N,1μm,1.0s	**4.54**	**283**	IAML			14 28 10.2	
HIN	comp=E,1μm,1.1s			IAML			14 28 12.4	
HARP	**HAARP** baz=124,SNR=21	**4.60**	**310**	P		**Pn**	**14 26 46.0**	**+1.0**
T35M	**Bob Quinn**	**4.70**	**122**	Pn		**Pn**	**14 26 46.5**	**0.0**
T35M	**Bob Quinn** baz=307,SNR=66	**4.70**	**122**	P		**Pn**	**14 26 46.5**	**0.0**
J29M	**Klondike Camp**	**4.83**	**357**	Pn		**Pn**	**14 26 49.6**	**+1.4**
J29M				Sg		**Sg**	**14 28 06.5**	**-3.5**
J29M	**Klondike Camp** baz=177	**4.83**	**357**	P		**Pn**	**14 26 49.6**	**+1.4**
CRAG	**Craig**	**4.83**	**148**			**Pn**	**14 26 48.3**	**+0.1**
CRAG	comp=N,581nm,1.5s			IAML			14 28 16.9	
CRAG	comp=E,659nm,1.3s			IAML			14 28 20.6	
CRAG	**Craig** baz=332	**4.83**	**148**	P		**Pn**	**14 26 48.2**	**0.0**
M24K	**Tolsona, Glenn**	**4.87**	**304**			**Pn**	**14 26 49.0**	**+0.3**
M24K	comp=N,1μm,1.3s			IAML			14 28 16.5	
M24K	**Tolsona, Glenn** baz=117	**4.87**	**304**	P		**Pn**	**14 26 49.3**	**+0.6**
K27K	**Chicken**	**4.88**	**336**			**Pn**	**14 26 49.5**	**+0.7**
K27K	comp=N,689nm,1.3s			IAML			14 28 16.8	
K27K	comp=E,708nm,1.2s			IAML			14 28 20.8	
K27K	**Chicken** baz=153	**4.88**	**336**	P		**Pn**	**14 26 49.1**	**+0.3**
TGTN	**Hyland Airport**	**4.96**	**64**	Pn		**Pn**	**14 26 51.0**	**+1.0**
TGTN				Sg		**Sg**	**14 28 10.4**	**-3.8**
TGTN	**Hyland Airport** baz=252,SNR=35	**4.96**	**64**	P		**Pn**	**14 26 50.8**	**+0.8**
P23K	**Montague Islan** baz=90	**4.97**	**278**	P		**Pn**	**14 26 49.9**	**-0.1**
PAX	**Paxson**	**5.05**	**315**			**Pn**	**14 26 51.4**	**+0.2**
PAX	**Paxson** baz=128,SNR=9.5	**5.05**	**315**	P		**Pn**	**14 26 51.5**	**+0.2**
DOT	**Dot Lake**	**5.06**	**325**			**Pn**	**14 26 51.2**	**-0.2**
DOT	**Dot Lake**	**5.06**	**325**	Pn		**Pn**	**14 26 51.1**	**-0.2**
DOT				Sg		**Sg**	**14 28 11.9**	**-5.6**
SCM	**Sheep Creek Mo**	**5.26**	**299**			**Pn**	**14 26 54.0**	**-0.1**
SCM	**Sheep Creek Mo** baz=111	**5.26**	**299**	P		**Pn**	**14 26 54.0**	**-0.1**
SCRK	**Sand Creek**	**5.29**	**328**			**Pn**	**14 26 54.2**	**-0.4**
SCRK	**Sand Creek** baz=143,SNR=87	**5.29**	**328**	P		**Pn**	**14 26 54.6**	**0.0**
RIDG	**Independent Ri**	**5.36**	**323**			**Pn**	**14 26 55.5**	**0.0**
RIDG	**Independent Ri** baz=137,SNR=14	**5.36**	**323**	P		**Pn**	**14 26 55.5**	**0.0**
V35K	**Ketchikan** baz=325	**5.40**	**141**	P		**Pn**	**14 26 56.2**	**+0.3**
EGAK	**Eagle**	**5.41**	**344**			**Pn**	**14 26 56.8**	**+0.7**
EGAK	**Eagle** baz=161,SNR=356	**5.41**	**344**	P		**Pn**	**14 26 57.1**	**+1.0**
M23K	**Glacier View** baz=109	**5.42**	**298**	P		**Pn**	**14 26 56.3**	**0.0**
PWL	**Port Wells**	**5.49**	**287**			**Pn**	**14 26 57.2**	**-0.1**
**P

J25K Salcha River, 6.17 327 P Pn 14 27 06.4 -0.2
baz=141
WAT1 Susitna Watana 6.18 306 Pn 14 27 06.5 -0.2
WAT1 Susitna Watana 6.18 306 P Pn 14 27 06.7 0.0
baz=117
RC01 Rabbit Creek A 6.20 289 Pn 14 27 06.9 0.0
RC01 Rabbit Creek A 6.20 289 P Pn 14 27 07.1 +0.2
baz=98
I26K Coal Creek Min 6.23 338 Pn 14 27 08.8 +1.4
I26K Coal Creek Min 6.23 338 P Pn 14 27 08.2 +0.9
baz=153
I27K Kandik River 6.25 344 Pn Pn 14 27 08.6 +0.8
I27K Sg Sg 14 28 49.1 -6.7
I27K Kandik River 6.25 344 P Pn 14 27 08.6 +0.8
baz=161,SNR=62
WAT7 Susitna Watana 6.30 305 Pn 14 27 08.2 -0.3
SLKM Skilak Lake 6.38 283 Pn 14 27 08.6 -0.9
HDA Harding Lake 6.49 321 Pn 14 27 09.8 -1.2
HDA Harding Lake 6.49 321 P Pn 14 27 10.5 -0.4
baz=134
M22K Willow 6.50 294 Pn 14 27 12.2 +1.1
M22K Willow 6.50 294 P Pn 14 27 12.3 +1.2
baz=104
RND Reindeer 6.57 310 Pn 14 27 12.7 +0.6
BRSE Bradley Lake S 6.66 276 Pn 14 27 13.1 -0.2
BRSE Bradley Lake S 6.66 276 P Pn 14 27 13.4 +0.1
baz=86
RUBB Prince Rupert 6.67 140 Pn Pn 14 27 13.4 +0.1
IL31 6.73 324 Pn 14 27 12.8 -1.4
ILAR Eielson Array 6.73 324 Pn Pn 14 27 12.8 -1.3
comp=E,0.8nm,0.3s,baz=144,slow=12,SNR=72
ILAR Lg Lg 14 29 04.9
comp=E,4.5nm,0.3s,baz=129,slow=28,SNR=9.4
ILAR LR LR 14 30 13.7
comp=E,693nm,19.2s,baz=136,slow=42
comp=E,6.3nm,0.8s
BRLK Bradley Lake 6.73 277 Pn 14 27 13.9 -0.4
SUA Susitna One 6.74 291 Pn 14 27 14.4 -0.1
SUA Susitna One 6.74 291 P Pn 14 27 15.1 +0.7
baz=100
CUT Chulitna 6.75 300 Pn 14 27 15.8 +1.3
CUT Chulitna 6.75 300 P Pn 14 27 15.5 +1.1
baz=109
EPYK Eagle Plains 6.75 3 Pn 14 27 15.0 +0.4
EPYK Eagle Plains 6.75 3 Pn Pn 14 27 15.4 +0.8
EPYK Eagle Plains 6.75 3 P Pn 14 27 15.4 +0.8
baz=184
MCK McKinley 6.77 312 Pn 14 27 16.0 +1.2
MCK McKinley 6.77 312 P Pn 14 27 15.9 +1.2
baz=122
KOTAN Kotaneelee Air 6.83 80 P Pn 14 27 16.3 +0.8
baz=272,SNR=77
H27K Steamboat Moun 6.84 346 Pn Pn 14 27 17.0 +1.2
H27K Sg Sg 14 29 07.9 -6.7
H27K Steamboat Moun 6.84 346 P Pn 14 27 16.6 +0.8
baz=163
WRH Wood River Hil 6.90 319 Pn 14 27 17.7 +1.1
CCB Clear Creek Bu 6.92 321 Pn 14 27 16.9 +0.1
PRP Porcupine Dome 6.93 331 Pn Pn 14 27 17.6 +0.5
PRP Porcupine Dome 6.93 331 P Pn 14 27 17.6 +0.5
baz=145,SNR=14
CNPM China Poot 6.94 275 Pn 14 27 17.2 +0.1
NBC1 NorthernBC 1 6.97 84 Sg Sg 14 29 13.3 -5.5
DIB Dawson Inlet, 7.06 154 Pn Pn 14 27 18.7 0.0
COLA College 7.09 322 Pn 14 27 19.2 +0.1
COLA College 7.09 322 P Pn 14 27 19.6 +0.5
baz=133
TCOL CIGO, UAF Yank 7.10 322 Pn 14 27 19.1 -0.1
TCOL CIGO, UAF Yank 7.10 322 P Pn 14 27 19.8 +0.6
baz=133
FLDN Fort Liard 7.11 79 Pn 14 27 20.6 +1.2
FLDN Fort Liard 7.11 79 P Pn 14 27 20.4 +1.0
baz=271
HOM Homer 7.13 276 Pn 14 27 19.9 +0.2
HOM Homer 7.13 276 P Pn 14 27 19.7 0.0
baz=84
POKR Poker Flat Res 7.14 324 P Pn 14 27 19.3 -0.5
baz=136
TRF Thorofare Moun 7.16 308 Pn 14 27 21.2 +0.9
TRF Thorofare Moun 7.16 308 P Pn 14 27 21.8 +1.5
baz=117
GRNB Grenville Isla 7.17 141 Pn Pn 14 27 20.4 +0.1
GRNB Grenville Isla 7.17 141 Pn Pn 14 27 20.4 +0.1
GRNB Sg Sg 14 29 17.4 -7.7
BWN Browne 7.21 314 Pn 14 27 20.5 -0.2
SKT Skwentna 7.21 295 Pn 14 27 21.2 +0.4
SKT Skwentna 7.21 295 P Pn 14 27 21.4 +0.6
baz=103
MOBC Moresby Island 7.23 152 Pn Pn 14 27 21.9 +0.8
BNAB Bonilla 7.26 145 Pn Pn 14 27 21.8 +0.3
MDM Murphy Dome 7.27 322 Pn 14 27 21.4 -0.2
NEA2 Nenana 7.31 318 Pn 14 27 23.0 +0.8
NEA2 Nenana 7.31 318 P Pn 14 27 23.2 +1.0
baz=128
G30M tAoh Zraii Nji 7.38 4 P Pn 14 27 24.1 +0.9
baz=186,SNR=32
N20K Mount Spurr 7.40 288 P Pn 14 27 23.5 0.0
baz=96
SPCR Spurr Chakacha 7.40 288 P Pn 14 27 23.5 0.0
baz=96
G27K Doyon Strip 7.41 347 Pn Pn 14 27 24.7 +1.0
G27K Sg Sg 14 29 27.8 -5.0
G27K Doyon Strip 7.41 347 P Pn 14 27 24.7 +1.0
baz=164,SNR=22
KITB Kitimat 7.43 135 Pn Pn 14 27 24.7 +0.9
KITB Sg Sg 14 29 23.7 -10
KTH Kantishna Hill 7.46 307 Pn 14 27 25.0 +0.7
MBLB Minette Bay Lo 7.47 135 Pn Pn 14 27 24.9 +0.6
FNBB Fort Nelson 7.51 90 Pn Pn 14 27 25.8 +0.9
FNBB Sg Sg 14 29 29.4 -6.5
O20K Slope Mountain 7.58 280 P Pn 14 27 26.5 +0.5
baz=87
H25L Birch Creek 7.62 334 P Pn 14 27 27.3 +1.0
baz=147
BNKB Banks Island 7.62 143 Pn Pn 14 27 26.7 +0.2
NBC2 NorthernBC 2 7.63 83 Pn Pn 14 27 27.2 +0.6
NBC2 Sg Sg 14 29 33.1 -6.9
RSO Redoubt South 7.64 283 Pn 14 27 26.2 -0.7
HWKB Hawksbury Isla 7.64 139 Pn Pn 14 27 26.4 -0.3
RDJH Redoubt Jeurge 7.66 284 Pn 14 27 26.6 -0.5
Q20K Shuyak Island 7.69 269 P Pn 14 27 27.2 -0.2
baz=76
BPAW Bear Paw Mtn. 7.74 311 P Pn 14 27 28.7 +0.6
baz=120
PPLA Purkeypile 7.75 301 Pn 14 27 28.8 +0.5
PPLA Purkeypile 7.75 301 P Pn 14 27 29.2 +0.9
baz=109
FYU Fort Yukon 7.75 337 Pn 14 27 28.7 +0.5
I23K Minto, Yukon-K 7.76 320 P Pn 14 27 28.9 +0.6
baz=130
H24K Noodor Dome 7.79 327 Pn 14 27 29.4 +0.6
H24K Noodor Dome 7.79 327 P Pn 14 27 29.4 +0.6
baz=138
G26K Porcupine Rive 7.83 342 P Pn 14 27 30.0 +0.6
baz=157
ILSW Iliamna Southw 7.85 279 Pn 14 27 29.4 -0.4
CAST Castle Rocks 7.88 305 Pn Pn 14 27 30.3 +0.2
CAST Castle Rocks 7.88 305 P Pn 14 27 30.6 +0.5
baz=112
P19K Oil Pt 7.93 277 Pn 14 27 30.9 +0.3
P19K Oil Pt 7.93 277 P Pn 14 27 30.9 +0.3
baz=84
M20K Styx River 7.93 293 P Pn 14 27 31.2 +0.4
baz=100
F31M Tsiigehtchic 8.00 11 P Pn 14 27 32.3 +0.7
baz=194,SNR=12
NBC5 NorthernBC 5 8.07 99 Pn Pn 14 27 32.6 -0.2
NBC5 Sg Sg 14 29 51.0 -3.1
G25K Bearman Lake 8.10 335 P Pn 14 27 33.9 +0.9
baz=148,SNR=22
MLY Manley 8.15 317 Pn 14 27 33.8 +0.1
MLY Manley 8.15 317 P Pn 14 27 34.6 +0.9
baz=126
CHUM Lake Minchumin 8.16 308 P Pn 14 27 34.7 +0.9
baz=115
HG4B Hotspring 8.20 151 Pn Pn 14 27 34.9 +0.6
Q19K Cape Douglas, 8.26 272 Pn 14 27 35.2 +0.1
Q19K Cape Douglas, 8.26 272 P Pn 14 27 35.9 +0.8
baz=78
H23K Yukon River 8.26 324 Pn 14 27 35.5 +0.3
H23K Yukon River 8.26 324 P Pn 14 27 35.6 +0.3
baz=133
G24K Hadweenzic Riv 8.36 332 P Pn 14 27 37.0 +0.5
baz=144,SNR=7.1
L20K Farewell, AK 8.39 297 P Pn 14 27 37.0 -0.1
baz=103
BMAR Burnt Mountain 8.40 341 Pn Pn 14 27 38.3 +1.2
O19K Port Alsworth 8.43 281 Pn 14 27 36.7 -0.7
O19K Port Alsworth 8.43 281 P Pn 14 27 37.1 -0.3
baz=87
NBC6 NorthernBC 6 8.43 90 Pn Pn 14 27 38.0 +0.5
NBC6 Sg Sg 14 29 59.6 -5.8
N19K Bonanza Creek 8.49 285 Pn 14 27 38.3 -0.1
N19K Bonanza Creek 8.49 285 P Pn 14 27 37.9 -0.5
baz=91
M19K Big River Lodg 8.53 293 Pn 14 27 39.0 +0.2
M19K Big River Lodg 8.53 293 P Pn 14 27 38.7 -0.2
baz=98
F26K Sheenjek River 8.58 343 P Pn 14 27 40.2 +0.7
baz=157
OHAK Old Harbor 8.59 260 Pn Pn 14 27 38.2 -1.5
OHAK Old Harbor 8.59 260 P Pn 14 27 38.8 -0.9
baz=67
I21K Tanana 8.67 316 P Pn 14 27 41.8 +1.1
baz=123
K20K Telida 8.71 302 Pn 14 27 40.8 -0.5
K20K Telida 8.71 302 P Pn 14 27 41.5 +0.2
baz=108
F25K Christian Rive 8.73 339 P Pn 14 27 42.4 +0.7
baz=152
E27K Coleen River 8.75 350 P Pn 14 27 42.4 +0.5
baz=167
L19K White Mountain 8.78 294 Pn Pn 14 27 42.0 -0.4
L19K White Mountain 8.78 294 P Pn 14 27 42.4 +0.1
baz=99
INK Inuvik 8.87 10 Pn Pn 14 27 42.9 -0.5
comp=E,0.5nm,0.3s,baz=190,slow=11,SNR=22
INK Lg Lg 14 30 11.7
comp=E,3.1nm,0.3s,baz=203,slow=8.5,SNR=4.7
comp=E,4.7nm,0.7s
INK Inuvik 8.87 10 Pn Pn 14 27 43.3 -0.2
INK Inuvik 8.87 10 Pn Pn 14 27 43.9 +0.4
INK Inuvik 8.87 10 P Pn 14 27 43.6 +0.2
baz=194,SNR=7.3
H22K Ishtalitna Cre 8.88 321 P Pn 14 27 44.1 +0.4
baz=129
FSB Fort Saint Jam 8.88 120 Pn Pn 14 27 43.2 -0.6
O18K Koktuh Hills 8.90 279 Pn Pn 14 27 43.6 -0.4
O18K Koktuh Hills 8.90 279 P Pn 14 27 43.5 -0.4
baz=84
FSJB Fort St James 8.91 120 Pn Pn 14 27 45.1 +0.9
FSJB Sg Sg 14 30 12.3 -8.5
P18K Big Mountain, 8.97 276 P Pn 14 27 45.0 0.0
baz=81
Q18K Katmai Hardscr 9.01 271 P Pn 14 27 45.7 +0.1
baz=76
J20K Nowinta River 9.02 307 Pn Pn 14 27 45.0 -0.6
J20K Nowinta River 9.02 307 P Pn 14 27 45.4 -0.2
baz=113
G23K Bananza Creek 9.03 327 P Pn 14 27 46.4 +0.7
baz=136
F24K Squaw Lake 9.12 334 P Pn 14 27 48.1 +1.1
baz=145
BBB Bella Bella 9.17 141 Pn Pn 14 27 49.0 +1.4
comp=E,1.4nm,0.3s,baz=322,slow=8.3,SNR=24
BBB LR LR 14 30 53.1
comp=E,350nm,21.6s,baz=327,slow=34
comp=E,42nm,0.8s
BBB Bella Bella 9.17 141 Pn Pn 14 27 48.6 +1.0
N18K Kilae Creek 9.18 284 Pn 14 27 47.4 -0.5
N18K Kilae Creek 9.18 284 P Pn 14 27 47.8 0.0
baz=89
E25K Arctic Village 9.19 341 P Pn 14 27 49.2 +1.3
baz=154,SNR=18
H21K Melozitna Rive 9.22 317 Pn 14 27 49.7 +1.4
H21K Melozitna Rive 9.22 317 P Pn 14 27 49.7 +1.4
baz=124
SII Sitkinak Islan 9.31 258 P Pn 14 27 48.8 -0.8
baz=64
TTA Tatalina 9.45 298 Pn Pn 14 27 50.5 -1.1
TTA Tatalina 9.45 298 P Pn 14 27 50.8 -0.7
baz=102
COLD Coldfoot 9.45 329 Pn 14 27 52.0 +0.6
COLD Coldfoot 9.45 329 Pn Pn 14 27 52.2 +0.8
COLD Sg Sn 14 30 31.8 +54
COLD Coldfoot 9.45 329 P Pn 14 27 52.3 +0.8
baz=198
Q17K Contact Creek 9.56 270 P Pn 14 27 53.3 +0.3
baz=74
G22K Bettles 9.59 325 P Pn 14 27 54.3 +0.9
baz=133
P17K Kvichak River 9.62 275 P Pn 14 27 54.2 +0.4
baz=79
E24K Your Creek 9.71 335 P Pn 14 27 56.4 +1.3
baz=146
IMAR Indian Mountai 9.72 318 Pn Pn 14 27 56.6 +1.4
Q16K King Salmon 9.84 273 P Pn 14 27 57.6 +0.8
baz=76
O17K Koliganek Bris 9.86 279 P Pn 14 27 57.1 +0.1
baz=82
NBC4 NorthernBC 4 9.89 106 Pn Pn 14 27 57.6 0.0
NBC4 Sg Sn 14 30 44.5 +56
E23K Chandalar 9.94 333 P Pn 14 27 59.6 +1.3
baz=142
G21K Allakaket 9.95 320 P Pn 14 27 58.9 +0.6
baz=127
F22K John River 10.19 327 P Pn 14 28 02.5 +0.9
baz=134
GCSA Galena City Sc 10.33 308 P Pn 14 28 03.8 +0.3
baz=111
C27K Jago River 10.35 348 P Pn 14 28 05.7 +2.0
baz=163
F21K Alatna River 10.38 324 P Pn 14 28 04.9 +0.8
baz=130
O16K Kokwok River B 10.38 279 P Pn 14 28 04.0 -0.3
baz=81
TOLK Toolik Lake Re 10.40 335 Pn Pn 14 28 06.8 +2.3
TOLK Toolik Lake Re 10.40 335 P Pn 14 28 07.2 +2.6
baz=144,SNR=22
D25K Kavik River 10.41 343 P Pn 14 28 06.8 +2.2
baz=155
E22K Anaktuvuk Pass 10.54 330 P Pn 14 28 07.9 +1.5
baz=137
WTMTA White Mountain 10.58 104 Pn Pn 14 28 06.9 -0.2
N16K Nishlik Lake 10.61 284 P Pn 14 28 07.0 -0.5
baz=85
D24K Happy Valley 10.68 338 P Pn 14 28 10.7 +2.5
baz=148
C26K Camden Bay 10.76 346 P Pn 14 28 11.6 +2.3
baz=160
D23K Nanushuk River 10.91 334 P Pn 14 28 14.0 +2.6
baz=143
C24K Franklin Bluff 11.14 340 P Pn 14 28 15.9 +1.3
baz=150
BDMTA Bald Mountain 11.20 107 Pn Pn 14 28 15.5 -0.1
C36M Paulatuk 11.30 25 Pn Pn 14 28 16.2 -0.5
C36M Sn Sn 14 30 15.6 -7.4
C36M Paulatuk 11.30 25 P Pn 14 28 16.7 0.0
baz=217
YKA Yellowknife Ar 11.46 66 Pn Pn 14 28 18.3 -0.7
comp=E,0.7nm,0.3s,baz=268,slow=13,SNR=13
YKA Lg Lg 14 31 30.6
comp=E,0.3nm,0.3s,baz=267,slow=22,SNR=1.6
YKA LR LR 14 33 24.3
comp=E,310nm,19.7s,baz=276,slow=41
YKA Yellowknife Ar 11.46 66 Pn Pn 14 28 19.8 +0.9
C23K Itkillik River 11.60 337 P Pn 14 28 22.8 +2.0
baz=146
SWHSA Sweathouse Loo 12.21 104 Pn Pn 14 28 28.0 -1.4
STPRA Salt Prairie L 12.29 99 Pn Pn 14 28 30.1 -0.3
STPRA Sg 14 31 60.0
BRLDA Berland Lookou 12.34 108 Pn 14 28 31.8 +0.7
BRLDA Berland Lookou 12.34 108 Pn Pn 14 28 31.2 +0.1
LLLB Lillooet 12.72 128 Pn 14 28 38.3 +2.0
LLLB Lillooet 12.72 128 Pn Pn 14 28 34.8 -1.5
LLLB Sg 14 32 11.2
KUKN Kugluktuk,NWT 12.81 41 Pn Pn 14 28 37.7 +0.3
CHNA Chernabura Isl 12.83 258 P Pn 14 28 37.9 +0.2
baz=59
CNBA Chernabura Isl 12.84 257 Pn 14 28 37.2 -0.5
SDPT Sand Point 13.01 261 P Pn 14 28 40.0 -0.2
baz=61
MNB Mounoet Dainar 13.06 116 Pn Pn 14 28 40.3 -0.9
A36M Sachs Harbour 13.33 17 Pn Pn 14 28 43.8 -0.6
A36M Sachs Harbour 13.33 17 Pn Pn 14 28 43.3 -1.1
A36M Sachs Harbour 13.33 17 P Pn 14 28 44.2 -0.2
baz=208
A05A Maple Falls 13.94 133 Pn Pn 14 28 53.6 +0.7
NEW Newport 16.50 125 Pn P 14 29 31.6 +2.1
comp=E,0.4nm,0.3s,baz=335,slow=9.2,SNR=7.0
NEW Lg Lg 14 34 17.1
comp=E,0.2nm,0.3s,baz=10,slow=13,SNR=3.3
NEW LR LR 14 35 18.0
comp=E,200nm,19.9s,baz=318,slow=35
NEW Newport 16.50 125 P P 14 29 29.5 -0.1
baz=321
GAMB Gambell 16.55 299 P P 14 29 29.1 -0.9
baz=89
UNV Unalaska Valle 16.80 262 P P 14 29 32.1 -0.7
UNV IAmb IAmb 14 29 39.3
comp=Z,62nm,0.8s
UNV Unalaska Valle 16.80 262 P Pn 14 29 30.5 0.0
baz=58
HSPGA Hill Springs, 17.20 116 Pn Pn 14 29 35.7 0.0
WALA Waterton Lakes 17.30 117 Pn P 14 29 38.3 -0.1
NIKH Nikolski High 18.46 263 P P 14 29 51.6 +0.6
baz=56
MSO Missoula 18.97 122 P P 14 29 57.2 +0.3
baz=321
BMO Blue Mountains 19.21 131 P P 14 29 59.4 0.0
EGMT Eagleton 19.95 113 P P 14 30 07.7 +0.1
baz=316
HRY Holter Researc 19.98 119 P Pn 14 30 09.3 -0.3
YBH Yreka Blue Hor 20.18 146 LR LR 14 37 18.8
comp=Z,309nm,18.8s,baz=336,slow=35
LRM Limekiln Ridge 20.40 122 P Pn 14 30 14.4 -0.2
WVOR Wild Horse Val 20.82 137 P Pn 14 30 19.5 0.0
BOZ Bozeman (W) 20.93 121 P Pn 14 30 20.6 -0.2
BOZ Bozeman (W) 20.93 121 P P 14 30 18.8 +0.5
baz=322
BCYI Bear Canyon 21.21 126 P P 14 30 23.2 +1.9
HLID Hailey 21.42 128 P P 14 30 25.3 +1.8
HLID Hailey 21.42 128 P P 14 30 22.9 -0.7
baz=327
RES Resolute Bay 21.61 29 P P 14 30 25.8 +0.6
comp=Z,13nm,1.1s,baz=261,slow=10,SNR=9.5
RES LR LR 14 39 20.2
comp=Z,430nm,19.4s,baz=222,slow=38
comp=Z,13nm,1.1s
RES Resolute Bay 21.61 29 P P 14 30 27.1 +1.9
RES IAmb IAmb 14 30 35.4
comp=Z,23nm,0.8s
RES Resolute Bay 21.61 29 Pn P 14 30 25.7 +0.6
GCMT Greycliff 21.65 117 P P 14 30 26.0 0.0
YMR Madison River 21.95 121 P P 14 30 28.2 -1.2
YMR IAmb IAmb 14 30 38.4
comp=Z,25nm,1.1s
YNR Norris Junctio 22.04 121 P P 14 30 28.6 -1.7
DGMT Dagmar 22.30 105 P P 14 30 33.0 +0.1
DGMT IAmb IAmb 14 30 44.3
comp=Z,63nm,1.2s
DGMT Dagmar 22.30 105 P P 14 30 32.4 -0.5
baz=313
RLMT Red Lodge 22.35 118 P P 14 30 34.9 +1.4
baz=321
LAO LASA Array 22.58 111 P P 14 30 37.0 +1.1
baz=316
MOOW Moose Ponds 22.78 122 P P 14 30 38.7 +0.5
MOOW IAmb IAmb 14 30 47.2
comp=Z,44nm,1.4s
LOHW Long Hollow 22.95 122 P P 14 30 41.3 +1.3
AHID Auburn Hatcher 23.43 124 P P 14 30 45.5 +0.6
AHID IAmb IAmb 14 30 53.3
comp=Z,19nm,1.4s
ELK Elko 23.52 134 P P 14 30 47.7 +2.0
comp=Z,3.4nm,1.1s,baz=349,slow=6.4,SNR=8.9
ELK LR LR 14 39 06.7
comp=Z,200nm,19.8s,baz=331,slow=34
comp=Z,3.4nm,1.1s
ELK Elko 23.52 134 P P 14 30 45.5 -0.2
BW06 Boulder Array 24.09 122 P P 14 30 49.9 -1.3
baz=324
PD31 Pinedale Array 24.09 122 P P 14 30 50.6 -0.6
PDAR Pinedale Array 24.09 122 P P 14 30 53.2 +2.0
comp=Z,1.3nm,0.8s,baz=351,slow=6.6,SNR=6.2
PDAR LR LR 14 40 15.6
comp=Z,67nm,20.1s,baz=338,slow=36
comp=Z,1.3nm,0.8s
HWUT Hardware Ranch 24.20 127 P P 14 30 53.6 +1.3
HWUT IAmb IAmb 14 30 59.6
comp=Z,16nm,1.1s
NVAR Mina Array Bea 24.54 141 P P 14 30 57.1 +1.8
comp=Z,1.6nm,0.7s,baz=316,slow=7.2,SNR=8.3
comp=Z,1.6nm,0.7s
NVAR Mina Array Bea 24.54 141 P P 14 30 56.1 +0.7
CTU Camp Tracy 24.90 128 P P 14 30 58.5 0.0
DUG Dugway, Tooele 24.91 130 P P 14 30 57.3 -1.3
baz=330
MDND Maddock 25.00 101 P P 14 30 59.5 +0.3
baz=312
TPH Tonopah 25.21 140 P P 14 31 00.8 -0.5
BILL Bilibino 25.23 313 P P 14 31 00.8 -0.3
BILL IAmb IAmb 14 31 03.8
comp=Z,18nm,1.1s
ULM Lac du Bonnet 25.33 93 P P 14 31 02.7 +0.6
comp=Z,13nm,1.1s,baz=324,slow=11,SNR=3.5
ULM LR LR 14 41 47.4
comp=Z,182nm,19.7s,baz=348,slow=38
comp=Z,13nm,1.1s
ULM Lac du Bonnet 25.33 93 Pn P 14 31 02.5 +0.4
EUNU Eureka 25.35 18 P P 14 31 03.9 +1.7
EUNU Eureka 25.35 18 Pn P 14 31 02.9 +0.8
R11A Troy Canyon, C 25.51 137 P P 14 31 04.5 +0.4
R11A IAmb IAmb 14 31 10.7
comp=Z,11nm,1.2s
R11A Troy Canyon, C 25.51 137 P P 14 31 04.5 +0.4
baz=334
K22A Casper 25.52 118 P P 14 31 04.9 +0.8
K22A IAmb IAmb 14 31 10.9
comp=Z,20nm,1.1s
K22A Casper 25.52 118 P P 14 31 05.8 +1.7
baz=322
RSSD Black Hills 25.52 112 P P 14 31 06.3 +2.2
baz=319
AGMN Agassiz Nation 26.57 97 P P 14 31 14.6 +1.2
baz=311
SRU San Rafael Swe 26.74 128 P P 14 31 15.6 +0.4
SRU IAmb IAmb 14 31 24.5
comp=Z,11nm,1.1s
O20A White River Ci 26.81 124 P P 14 31 18.0 +2.0
baz=326
EYMN Ely 29.01 93 P P 14 31 36.0 +0.7
baz=311
ECSD EROS Data Cent 29.38 104 P P 14 31 38.5 -0.1
baz=317
S22A 4UR Ranch, Cre 29.42 124 P P 14 31 40.0 +0.8
baz=328
FRB Frobisher Bay 31.53 53 LR LR 14 45 03.6
comp=Z,278nm,18.2s,baz=228,slow=37
ANMO Albuquerque 31.97 127 LR LR 14 45 22.5
comp=Z,228nm,18.6s,baz=328,slow=37
ANMO Albuquerque 31.97 127 P P 14 32 04.2 +2.5
baz=330
214A Organ Pipe Nat 32.26 138 P P 14 32 06.9 +2.9
baz=336
SEY Seymchan 32.29 306 P P 14 32 04.4 +0.4
comp=Z,3.0nm,0.7s,baz=60,slow=9.0,SNR=6.5
comp=Z,3.0nm,0.7s
TUC Tucson 32.64 135 P P 14 32 06.4 -1.1
baz=335
KSU1 Kansas State U 32.92 110 P P 14 32 08.9 -0.8
baz=322
JFWS Jewell Farm 33.15 99 P P 14 32 11.4 -0.3
baz=317
121A Cookes Peak, D 33.56 131 P P 14 32 15.8 +0.2
baz=333
AMTX Amarillo 34.04 121 P P 14 32 19.4 -0.3
baz=328
MSTX Muleshoe 34.35 123 P P 14 32 21.3 -1.1
baz=329
MA2 Magadan 34.62 302 LR LR 14 49 24.5
comp=Z,130nm,18.8s,baz=64,slow=41
PETK Petropavlovsk- 35.11 289 LR LR 14 48 40.7
comp=Z,118nm,18.1s,baz=61,slow=40
WMOK Wichita Mounta 35.45 117 P P 14 32 31.4 -0.4
baz=327
TIXI Tiksi 36.18 328 P P 14 32 37.4 -0.2
comp=Z,4.3nm,0.8s,baz=246,slow=0.2,SNR=13
TIXI LR LR 14 48 48.5
comp=Z,84nm,20.8s,baz=232,slow=39
comp=Z,4.3nm,0.8s
CCM Cathedral Cave 36.33 105 P P 14 32 40.4 +1.1
baz=322
ABTX Abilene, Hawle 36.85 120 P P 14 32 45.0 +1.2
baz=329
SCHQ Schefferville 36.91 65 LR LR 14 48 09.9
comp=Z,151nm,18.4s,baz=242,slow=37
SUMG Summit 37.14 30 i P P 14 32 47.0 +0.8

TXAR	**Lajitas Array**	**38.02**	**128**	P		**P**	**14 32 55.4**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=343,slow=3.9,SNR=7.3							
TXAR				LR		LR	14 49 45.5	
	comp=Z,313nm,19.4s,baz=334,slow=38							
	comp=Z,0.5nm,0.8s							
MIAR	**Mount Ida**	**38.02**	**111**	P		**P**	**14 32 52.8**	**-0.8**
	baz=325							
DAG	**Danmarks Havn**	**38.58**	**19**	*i* P		**P**	**14 32 58.0**	**+0.2**
WVT	**Waverly**	**39.53**	**104**	P		**P**	**14 33 05.7**	**-0.5**
	baz=322							
OXF	**Oxford**	**40.05**	**107**	P		**P**	**14 33 12.3**	**+1.7**
	baz=324							
BINY	**Binghamton**	**40.89**	**87**	P		**P**	**14 33 18.4**	**+0.9**
	baz=317							
SSPA	**Standing Stone**	**41.07**	**90**	P		**P**	**14 33 20.8**	**+1.8**
	baz=318							
TZTN	**Tazewell**	**41.33**	**99**	P		**P**	**14 33 20.9**	**-0.3**
	baz=322							
YAK	**Yakutsk**	**41.56**	**315**	P		**P**	**14 33 22.5**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=74,slow=1.9,SNR=5.0							
YAK				LR		LR	14 52 16.1	
	comp=Z,27nm,20.8s,baz=88,slow=39							
	comp=Z,4.2nm,0.7s							
TKL	**Tuckaleechee C**	**41.91**	**100**	LR		LR	14 51 34.1	
	comp=Z,441nm,19.8s,baz=330,slow=37							
HRV	**Adam Dziewonsk**	**42.90**	**83**	P		**P**	**14 33 32.2**	**-1.7**
	baz=317							
YSS	**Yuzh-Sakhalins**	**46.37**	**291**	P		**P**	**14 34 02.1**	**+0.6**
NRIK	**Noril'sk**	**47.29**	**340**	P		**P**	**14 34 08.2**	**-0.2**
	comp=Z,12nm,0.8s,baz=48,slow=6.1,SNR=13							
	comp=Z,12nm,0.8s							
NRIK	**Noril'sk**	**47.29**	**340**	P		**P**	**14 34 08.3**	**-0.2**
NRIK				IAmb		IAmb	14 34 09.4	
	comp=Z,16nm,0.9s							
ASAJ	**Asahikawa**	**48.53**	**289**	LR		LR	14 56 57.1	
	comp=Z,63nm,18.6s,baz=9.5,slow=39							
KLR	**Kul'dur**	**49.71**	**301**	P		**P**	**14 34 27.7**	**+0.3**
	comp=Z,6.4nm,0.9s,baz=41,slow=7.5,SNR=12							
KLR				LR		LR	14 56 12.4	
	comp=Z,64nm,20.2s,baz=52,slow=37							
	comp=Z,6.4nm,0.9s							
ARCES	**ARCESS Array B**	**50.54**	**8**	P		**P**	**14 34 32.5**	**-0.9**
ARCES				LR		LR	14 58 35.9	
	comp=Z,3.7nm,0.7s,baz=336,slow=4.0,SNR=7.5							
	comp=Z,48nm,18.0s,baz=26,slow=39							
	comp=Z,3.7nm,0.7s							
HEH	**HeiHe**	**50.79**	**304**	*e*P		**P**	**14 34 33.4**	**-2.1**
HEH				pmax		pmax		
	comp=Z,13nm,0.8s							
USRK	**Ussuriysk Ar.**	**53.43**	**296**	P		**P**	**14 34 56.0**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=62,slow=9.1,SNR=4.2							
	comp=Z,3.6nm,0.8s							
MJAR	**Matsushiro Arr**	**56.50**	**286**	P		**P**	**14 35 18.5**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=31,slow=7.4,SNR=5.0							
	comp=Z,2.7nm,0.9s							
MAJO	**Matsushiro**	**56.50**	**286**	P		**P**	**14 35 17.8**	**+0.2**
MAJO				IAmb		IAmb	14 35 25.1	
	comp=Z,13nm,0.9s							
CN2	**Changchun**	**56.66**	**301**	*e*P		**P**	**14 35 18.5**	**-0.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
NC303	**NORSAR Array S**	**57.08**	**17**	P		**P**	**14 35 21.4**	**+0.1**
NB2	**NORSAR Subarra**	**57.23**	**17**	P		**P**	**14 35 22.3**	**-0.2**
	baz=342,slow=7.4							
NB2	**NORSAR Subarra**	**57.23**	**17**	P		**P**	**14 35 22.3**	**-0.2**
	comp=Z,41nm,1.4s,baz=342,slow=7.4							
NOA	**NORSAR Array B**	**57.23**	**17**	P		**P**	**14 35 22.2**	**-0.2**
	comp=Z,9.0nm,0.8s,baz=345,slow=7.0,SNR=19							
	comp=Z,9.0nm,0.8s							
FINES	**FINESS Array B**	**58.57**	**9**	P		**P**	**14 35 30.9**	**-0.9**
	comp=Z,9.7nm,0.8s,baz=2.9,slow=7.6,SNR=14							
FINES				LR		LR	15 04 47.0	
	comp=Z,46nm,18.1s,baz=328,slow=40							
	comp=Z,9.7nm,0.8s							
MEF	**Metsahovi**	**59.64**	**10**	*e*P		**P**	**14 35 39.2**	**0.0**
KLMR	**Klimovskoe**	**59.80**	**2**	*e*P		**P**	**14 35 37.5**	**-2.8**
KLMR				AMP			14 35 41.5	
	comp=Z,47nm,1.5s							
KSRS	**Korea Array**	**60.66**	**294**	P		**P**	**14 35 47.8**	**+1.3**
	comp=Z,5.2nm,0.7s,baz=31,slow=7.0,SNR=19							
	comp=Z,5.2nm,0.7s							
KSAR	**Wonju Array Be**	**60.69**	**294**	P		**P**	**14 35 46.8**	**+0.1**
SONM	**Songino Array**	**60.89**	**316**	P		**P**	**14 35 48.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=22,slow=8.5,SNR=4.2							
	comp=Z,0.5nm,0.4s							
MTSE	**Matsula**	**61.07**	**11**	*e*P		**P**	**14 35 49.2**	**+0.3**
VSU	**Vasula**	**61.58**	**9**	*e*P		**P**	**14 35 52.3**	**-0.1**
ZALV	**Zalesovo Beam**	**61.76**	**333**	P		**P**	**14 35 52.5**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=7.8,slow=6.9,SNR=14							
	comp=Z,2.9nm,0.8s							
SLIT	**Siltere, Latvi**	**61.98**	**12**	*e*P		**P**	**14 35 54.4**	**-0.8**
ARU	**Arti**	**63.55**	**350**	P		**P**	**14 36 04.8**	**-0.8**
PABE	**Paberze**	**64.25**	**12**	*e*P		**P**	**14 36 10.8**	**+0.6**
HHC	**Hu-ho-hao-te**	**64.90**	**308**	*e*P		**P**	**14 36 13.9**	**-1.0**
HHC				pmax		pmax		
	comp=Z,36nm,1.0s							
HHC				pmax		pmax		
	comp=Z,260nm,4.9s							
NACGM	**Naroch**	**65.11**	**10**	*e*P		**P**	**14 36 12.5**	**-3.3**
	comp=Z,28nm,0.9s,baz=351							
SJG	**San Juan**	**65.17**	**97**	LR		LR	15 05 08.6	
	comp=Z,50nm,20.8s,baz=274,slow=36							
BRVK	**Borovoye**	**65.42**	**342**	P		**P**	**14 36 16.8**	**-1.1**
BRVK				IAmb		IAmb	14 36 17.9	
	comp=Z,3.9nm,0.8s							
MNK	**Minsk**	**65.60**	**9**	*i* P		**P**	**14 36 19.7**	**+0.7**
	comp=E,4.0nm,0.8s							
MNK				*i* P		**P**	**14 36 19.7**	**+0.7**
	comp=N,42nm,0.9s							
MNK				*i* P		**P**	**14 36 19.7**	**+0.7**
	comp=Z,55nm,0.8s,baz=352							
MNK				*i* PP		**PP**	**14 38 41.9**	**-0.7**
MNK				*i* PPP		PPP	14 40 14.4	
MNK				*i* S		**S**	**14 45 05.6**	**+1.4**
MNK				*i* SS		**SS**	**14 49 16.4**	**-0.4**
MNK				*i* SSS		SSS	14 52 20.8	
HNS	**HongShan**	**66.55**	**304**	⇑P		**P**	**14 36 26.3**	**+0.9**
HNS				pmax		pmax		
	comp=Z,24nm,0.9s							
CLL	**Collm**	**66.86**	**20**	*i* P		**P**	**14 36 27.6**	**+0.5**
	comp=Z,10.0nm,0.9s							
BRG	**Berggiesshubel**	**67.44**	**19**	*e*P		**P**	**14 36 31.4**	**+0.6**
BRG				Amp			14 36 32.5	
	comp=Z,15nm,1.0s							
NKC	**Novy Kostel**	**67.80**	**20**	*e*P		**P**	**14 36 33.9**	**+0.7**
KSP	**Ksiaz**	**67.84**	**18**	*e*P		**P**	**14 36 34.2**	**+0.8**
OSTC	**Ostas**	**68.11**	**18**	*e*P		**P**	**14 36 36.0**	**+0.9**
DPC	**Dobruska-Polom**	**68.32**	**18**	*e*P		**P**	**14 36 37.4**	**+0.9**
DPC				*e*pP		**sP**	**14 36 41.1**	**+0.8**
PRU	**Pruhonice**	**68.39**	**19**	*e*P		**P**	**14 36 38.0**	**+1.2**
KRLC	**Kraliky**	**68.66**	**17**	*e*P		**P**	**14 36 39.3**	**+0.7**
KRLC				*e*pP		**sP**	**14 36 43.2**	**+0.7**
BFO	**Black Forest**	**68.84**	**24**	P		**P**	**14 36 40.4**	**+0.6**
BFO				IAmb		IAmb	14 36 41.5	
	comp=Z,8.4nm,0.9s							
OJC	**Ojcow**	**68.95**	**15**	*e*P		**P**	**14 36 38.2**	**-2.2**
MKAR	**Makanchi Array**	**69.01**	**332**	P		**P**	**14 36 39.0**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=48,slow=7.1,SNR=8.2							
	comp=Z,1.0nm,0.7s							
KHC	**Kasperske Hory**	**69.06**	**20**	P		**P**	**14 36 42.3**	**+1.2**
KHC				IAmb		IAmb	14 36 43.3	
	comp=Z,12nm,0.9s							
KHC	**Kasperske Hory**	**69.06**	**20**	*e*P		**P**	**14 36 42.1**	**+1.0**
MORC	**Moravsky Berou**	**69.07**	**17**	⇑P		**P**	**14 36 41.7**	**+0.6**
MORC	**Moravsky Berou**	**69.07**	**17**	*e*P		**P**	**14 36 41.5**	**+0.4**
NJ2	**Nanjing**	**69.28**	**298**	⇓P		**P**	**14 36 43.3**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
GEC2	**GERESS Array S**	**69.36**	**20**	P		**P**	**14 36 43.1**	**+0.1**
GEC2				IAmb		IAmb	14 36 44.7	
	comp=Z,7.3nm,0.9s							
GERES	**GERESS Array B**	**69.36**	**20**	P		**P**	**14 36 43.4**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=343,slow=4.2,SNR=22							
	comp=Z,4.3nm,0.8s							
GERES	**GERESS Array B**	**69.36**	**20**	P		**P**	**14 36 43.5**	**+0.6**
VRAC	**Vranov**	**69.38**	**18**	⇑P		**P**	**14 36 42.5**	**-0.5**
VRAC	**Vranov**	**69.38**	**18**	*e*P		**P**	**14 36 43.7**	**+0.7**
AKASG	**Malin Array Be**	**69.48**	**9**	P		**P**	**14 36 43.1**	**-0.5**
	comp=Z,21nm,0.7s,baz=354,slow=6.1,SNR=122							
	comp=Z,21nm,0.7s							
AKBB	**Malin Array Si**	**69.48**	**9**	P		**P**	**14 36 42.8**	**-0.8**
CKRC	**Cesky Krumlov**	**69.48**	**19**	*e*P		**P**	**14 36 43.9**	**+0.2**
MAUC	**Maruska**	**69.51**	**17**	*e*P		**P**	**14 36 44.3**	**+0.4**
KRUC	**Moravsky**	**69.59**	**18**	*e*P		**P**	**14 36 44.7**	**+0.4**
LYN	**LuoYang**	**69.92**	**304**	⇓*i*P		**P**	**14 36 47.6**	**+1.0**
LYN				pmax		pmax		
	comp=Z,30nm,0.6s							

STHS	**Stebnicka Huta**	**69.93**	**15**	*e*P		**P**	**14 36 46.4**	**0.0**
MOTA	**Moosalm**	**70.33**	**22**	*e*P		**P**	**14 36 50.2**	**+1.1**
	comp=Z,1.2nm,0.3s							
WMQ	**Urumqi**	**70.38**	**327**	*e*P		**P**	**14 36 51.3**	**+1.9**
MODS	**Modra-Piesok**	**70.39**	**18**	*e*P		**P**	**14 36 50.3**	**+1.0**
WATA	**Walderalm**	**70.43**	**22**	*e*P		**P**	**14 36 50.9**	**+1.2**
	comp=Z,2.8nm,0.2s							
CRVS	**Cervenica-Dubn**	**70.46**	**15**	*e*P		**P**	**14 36 51.1**	**+1.4**
PGAV	**Gavieira, Arco**	**70.49**	**38**	*e*P		**P**	**14 36 50.8**	**+0.7**
	comp=Z,19nm,1.8s							
VYHS	**Vyhne**	**70.51**	**16**	*e*P		**P**	**14 36 50.5**	**+0.5**
WTTA	**Wattenberg**	**70.51**	**22**	*i* P		**P**	**14 36 51.3**	**+1.1**
	comp=Z,12nm,0.8s,SNR=6.8							
ABKAR	**Akbulak array**	**70.52**	**348**	P		**P**	**14 36 49.7**	**-0.3**
KOLS	**Kolonicke sedl**	**70.53**	**14**	*e*P		**P**	**14 36 50.7**	**+0.6**
GTA	**Gaotai**	**70.56**	**316**	*e*P		**P**	**14 36 50.4**	**-0.2**
GTA					pP	sP	14 36 54.6	+0.1
GTA					sP	pP	14 36 58.0	+4.4
GTA					pmax	pmax		
	comp=Z,3.0nm,1.2s							
FETA	**Feichten**	**70.57**	**22**	*e*P		**P**	**14 36 52.2**	**+1.7**
	comp=Z,6.3nm,0.8s							
CONA	**Conrad Observa**	**70.60**	**19**	*i* P		**P**	**14 36 51.7**	**+1.0**
	comp=Z,14nm,0.8s,SNR=9.2							
SDV	**Santo Domingo**	**70.81**	**106**	LR		LR	15 09 37.8	
	comp=Z,105nm,18.6s,baz=4.5,slow=37							
RONA	**Rosalia, Austr**	**70.90**	**18**	*e*P		**P**	**14 36 53.6**	**+1.2**
	comp=Z,1.5nm,0.3s							
KBA	**Koelnbreinsper**	**71.00**	**21**	*i* P		**P**	**14 36 54.1**	**+0.9**
	comp=Z,20nm,0.7s,SNR=13							
ABAH	**Abaujker**	**71.03**	**15**	P		**P**	**14 36 54.5**	**+1.4**
PBRG	**Braganca**	**71.10**	**37**	*e*P		**P**	**14 36 54.6**	**+0.8**
	comp=Z,11nm,1.6s							
POLO	**Lamas de Olo**	**71.17**	**38**	*e*P		**P**	**14 36 55.2**	**+1.0**
	comp=Z,10nm,1.7s							
ARSA	**Arzberg**	**71.21**	**19**	*i* P		**P**	**14 36 55.3**	**+1.1**
	comp=Z,7.5nm,0.8s,SNR=5.6							
PSZ	**Piszkesteto**	**71.22**	**16**	⇑P		**P**	**14 36 55.3**	**+0.9**
PSZ	**Piszkesteto**	**71.22**	**16**	P		**P**	**14 36 55.3**	**+0.9**
TRPA	**Tarpa**	**71.36**	**14**	⇑P		**P**	**14 36 55.9**	**+0.9**
TRPA	**Tarpa**	**71.36**	**14**	P		**P**	**14 36 54.8**	**-0.3**
MYKA	**Terra Mystica**	**71.48**	**20**	*e*P		**P**	**14 36 56.4**	**+0.4**
	comp=Z,2.4nm,0.3s							
MVO	**Mcorvo**	**71.60**	**37**	*e*P		**P**	**14 36 57.5**	**+0.7**
	comp=Z,16nm,1.8s							
MPLH	**Magyarpolny**	**71.61**	**18**	P		**P**	**14 36 57.9**	**+1.3**
CTI	**Castel Tesino**	**71.68**	**22**	P		**P**	**14 36 57.6**	**+0.4**
CTI				IAmb		IAmb	14 36 58.6	
	comp=Z,9.1nm,0.9s							
SOKA	**Soboth**	**71.68**	**19**	*i* P		**P**	**14 36 57.9**	**+0.7**
	comp=Z,9.1nm,0.8s,SNR=8.2							
PERS	**Pernice**	**71.73**	**19**	*i* P		**P**	**14 36 58.1**	**+0.6**
PVIS	**Viseu**	**71.74**	**38**	*e*P		**P**	**14 36 58.4**	**+0.8**
	comp=Z,10nm,1.4s							
OBKA	**Obir**	**71.76**	**20**	*i* P		**P**	**14 36 58.4**	**+0.7**
	comp=Z,25nm,0.7s,SNR=16							
SORM	**Soroca**	**71.96**	**10**	⇓P		**P**	**14 36 58.2**	**-0.5**
GROS	**Grobnik**	**71.97**	**19**	*i* P		**P**	**14 36 59.2**	**+0.2**
LZH	**Lanzhou**	**72.03**	**312**	*e*P		**P**	**14 37 00.1**	**+0.5**
LZH					pP	sP	14 37 05.9	+2.4
LZH					sP	PcP	14 37 10.5	-7.6
LZH					pmax	pmax		
	comp=Z,17nm,1.4s							
CRNS	**Crni Vrh**	**72.13**	**20**	*e*P		**P**	**14 36 59.6**	**-0.2**
MTE	**Manteigas**	**72.14**	**38**	*e*P		**P**	**14 37 00.9**	**+0.9**
	comp=Z,21nm,1.9s							
PCAS	**Casmilo, Conde**	**72.15**	**39**	*e*P		**P**	**14 37 01.0**	**+0.9**
	comp=Z,37nm,2.0s							
BURAR	**Bucovina Array**	**72.17**	**12**	⇑P		**P**	**14 36 59.6**	**-0.6**
BURAR	**Bucovina Array**	**72.17**	**12**	P		**P**	**14 37 00.2**	**+0.1**
BURAR				IAmb		IAmb	14 37 01.9	
	comp=Z,8.5nm,0.8s							
ARCR	**ARCALIA**	**72.60**	**13**	⇑P		**P**	**14 37 01.9**	**-0.7**
PCBR	**Castelo Branco**	**72.67**	**38**	*e*P		**P**	**14 37 07.3**	**+4.2**
	comp=Z,16nm,1.4s							
MORH	**Mrgy, Hungar**	**72.71**	**17**	⇑P		**P**	**14 37 03.1**	**-0.1**
MORH	**Mrgy, Hungar**	**72.71**	**17**	P		**P**	**14 37 03.8**	**+0.6**
KOVH	**Kovagotottos**	**72.75**	**17**	P		**P**	**14 37 04.5**	**+1.0**
PMTG	**Montargil**	**73.14**	**39**	*e*P		**P**	**14 37 06.1**	**+0.2**
	comp=Z,15nm,1.4s							
VLC	**Villacollemand**	**73.25**	**23**	P		**P**	**14 37 07.1**	**+0.6**
SURR	**Surduc**	**73.64**	**15**	⇑P		**P**	**14 37 09.3**	**+0.5**
BZS	**Buzias**	**73.71**	**15**	⇓P		**P**	**14 37 09.0**	**-0.2**
OZUR		**73.73**	**12**	⇑P		**P**	**14 37 10.0**	**+0.6**
ESDC	**Sonseca Array**	**73.89**	**36**	P		**P**	**14 37 11.6**	**+1.2**
	comp=Z,8.9nm,0.8s,baz=332,slow=5.9,SNR=50							
	comp=Z,8.9nm,0.8s							
ESDC	**Sonseca Array**	**73.89**	**36**	P		**P**	**14 37 11.2**	**+0.8**
ESDC				IAmb		IAmb	14 37 12.4	
	comp=Z,8.6nm,0.9s							
PNCL	**Nicolau / Gran**	**73.91**	**40**	*e*P		**P**	**14 37 10.4**	**-0.1**
	comp=Z,29nm,1.7s							
GHRR		**73.93**	**11**	⇑P		**P**	**14 37 10.4**	**-0.1**
COVR	**Voineasa-Covas**	**74.02**	**12**	⇑P		**P**	**14 37 11.9**	**+0.8**
VRI	**Vrincioaia**	**74.06**	**11**	⇓P		**P**	**14 37 11.8**	**+0.6**
PLOR	**Plostina**	**74.06**	**11**	⇓P		**P**	**14 37 11.3**	**0.0**
MLR	**Muntele Rosu**	**74.35**	**12**	⇑P		**P**	**14 37 13.7**	**+0.6**
BISRR	**Bisoca**	**74.37**	**11**	⇑P		**P**	**14 37 12.7**	**-0.4**
HERR	**Herculane**	**74.54**	**15**	⇑P		**P**	**14 37 14.6**	**+0.6**
MDVR	**Moldovita**	**74.54**	**15**	⇑P		**P**	**14 37 13.6**	**-0.5**
IMBA	**Imbabura, San**	**74.77**	**117**	P		**P**	**14 37 15.6**	**-0.6**
PVAQ	**Vaqueiros**	**74.82**	**39**	*e*P		**P**	**14 37 16.9**	**+1.1**
	comp=Z,48nm,1.4s							
CFR	**Carcaliu**	**74.87**	**10**	⇑P		**P**	**14 37 15.1**	**-0.8**
DIVS	**Divibare**	**74.97**	**17**	P		**P**	**14 37 17.0**	**+0.3**
DIVS				IAmb		IAmb	14 37 17.9	
	comp=Z,12nm,0.9s							
KK31	**Karatay Array**	**75.02**	**339**	P		**P**	**14 37 16.3**	**-0.6**
NRCA	**Norcia**	**75.06**	**22**	P		**P**	**14 37 18.2**	**+1.0**
GOMU	**GeErMu**	**75.17**	**318**	P		**P**	**14 37 18.3**	**0.0**
GOMU				pP		sP	14 37 21.9	-0.3
GOMU				sP		pP	14 37 22.6	+1.3
GOMU				pmax		pmax		
	comp=Z,6.0nm,0.9s							
GOMU				pmax		pmax		
	comp=Z,88nm,4.4s							
TPGR	**Topolog**	**75.22**	**10**	⇑P		**P**	**14 37 17.5**	**-0.5**
HARR	**Harsova**	**75.34**	**11**	⇑P		**P**	**14 37 19.0**	**+0.4**
PLVB	**Pleven**	**76.28**	**13**	⇑P		**P**	**14 37 24.3**	**+0.2**
PDG	**Podgorica**	**76.50**	**17**	⇓P		**P**	**14 37 25.0**	**-0.2**
VTS	**Vitosha**	**76.87**	**14**	⇑P		**P**	**14 37 27.0**	**-0.6**
KBZ	**Khabaz**	**76.98**	**360**	P		**P**	**14 37 27.8**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=357,slow=6.2,SNR=8.4							
	comp=Z,4.3nm,0.9s							
KSH	**Kashi**	**77.37**	**334**	P		**P**	**14 37 32.0**	**+1.6**
KSH				pmax		pmax		
	comp=Z,7.0nm,1.1s							
MATE	**Matera**	**77.82**	**20**	⇑P		**P**	**14 37 33.2**	**+0.4**
FNA	**Florina**	**78.42**	**16**	P		**P**	**14 37 36.1**	**-0.1**
FNA				IAmb		IAmb	14 37 40.4	
	comp=Z,9.1nm,0.9s							
TIP	**Timpagrande**	**79.26**	**20**	⇓P		**P**	**14 37 40.6**	**-0.3**
BRTR	**Keskin Array B**	**80.71**	**7**	P		**P**	**14 37 48.7**	**-0.1**
	comp=Z,4.8nm,1.2s,baz=33,slow=4.7,SNR=6.8							
	comp=Z,4.8nm,1.2s							
KEST	**Kesra**	**81.10**	**27**	P		**P**	**14 37 51.0**	**+0.2**
	comp=Z,16nm,1.0s,baz=275,slow=1.9,SNR=5.9							
	comp=Z,16nm,1.0s							
PZH	**PanZhiHua**	**81.36**	**309**	P		**P**	**14 37 52.0**	**-0.4**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							
GEYT	**Alibeck**	**81.91**	**348**	P		**P**	**14 37 54.8**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=282,slow=7.0,SNR=8.9							
	comp=Z,4.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**89.70**	**308**	P		**P**	**14 38 34.0**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=3.0,slow=5.5,SNR=53							
	comp=Z,6.6nm,0.8s							
BOSA	**Boshof**	**146.82**	**28**	PKPbc		**PKPdf**	**14 45 16.3**	**+0.5**
	comp=Z,6.5nm,1.1s,baz=327,slow=5.3,SNR=2.9							

WEL 16 14:28:16.3±0.5, 42°S±3°×17°3E±°, h5km, M3.2/3, ML3.3/6, ML3.5/3, MLv3.1/14, MLv3.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=123.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.07**	**34**	P	Pg	14 28 17.1	-0.7
KHZ				S	Sg	14 28 18.7	-0.2
GVZ	**Greta Valley S**	**0.60**	**214**	P	Pg	14 28 28.1	+0.3
GVZ				S	Sb	14 28 37.4	-0.5
BSWZ	**Blackbirch Sta**	**0.81**	**21**	P	Pb	14 28 32.9	+0.1
THZ	**Tophouse**	**0.83**	**328**	P	Pg	14 28 32.1	-0.1
AMCZ	**Amberley**	**0.94**	**221**	P	Pg	14 28 34.2	0.0
LTZ	**Lake Taylor**	**0.95**	**251**	P	Pg	14 28 34.3	-0.2
LTZ				S	Sg	14 28 47.4	+0.6
MRNZ	**Matariki Terra**	**1.20**	**333**	P	Pb	14 28 39.6	+0.1
NNZ	**Nelson**	**1.26**	**356**	P	Pn	14 28 40.7	+0.3
OKCZ	**Okains Bay**	**1.29**	**194**	P	Pn	14 28 38.6	-2.4
OXZ	**Oxford**	**1.36**	**231**	P	Pn	14 28 39.6	-2.4
MQZ	**McQueen's Vall**	**1.38**	**206**	P	Pn	14 28 39.0	-3.1
DSZ	**Denniston Nort**	**1.45**	**300**	P	Pn	14 28 43.3	+0.1
AKCZ	**Akaroa Harbour**	**1.46**	**197**	P	Pn	14 28 40.5	-2.8
INZ	**Inchbonnie**	**1.53**	**260**	P	Pn	14 28 44.2	-0.1
RACZ	**Rakaia**	**1.60**	**218**	P	Pn	14 28 42.5	-2.6
MHCZ	**Mount Hutt**	**1.76**	**232**	P	Pn	14 28 45.0	-2.5
WACZ	**Wakanui South**	**1.90**	**219**	P	Pn	14 28 47.0	-2.3
WVZ	**Waitaha Valley**	**2.11**	**253**	P	Pn	14 28 51.5	-0.8
RPZ	**Rata Peaks**	**2.17**	**234**	P	Pn	14 28 50.9	-2.2
ARCZ	**Arundel**	**2.24**	**228**	P	Pn	14 28 51.7	-2.4
TMZ	**Timaru**	**2.63**	**223**	P	Pn	14 28 57.2	-2.2
KHEZ	**Kahui Hut**	**3.20**	**7**	P	Pn	14 28 55.6	-12
ODZ	**Otahua Downs**	**3.29**	**218**	P	Pn	14 29 06.0	-2.5
VRZ	**Vera Road**	**3.48**	**17**	P	Pn	14 29 00.3	-11
WNVZ	**Wahianoa**	**3.52**	**28**	P	Pn	14 29 03.0	-8.8

IDC 16 14:35:39.5±7.8, 31°08S×179°23W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=326.5km s-min=62.5km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.02**	**268**	P	P	14 43 32.5	-0.4
	0.2nm,0.6s,baz=111,slow=7.6,SNR=1.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**43.07**	**274**	P	P	14 43 41.5	0.0
	0.6nm,0.9s,baz=111,slow=8.1,SNR=6.4						
	0.6nm,0.9s						
FINES	**FINESS Array B**	**145.40**	**339**	PKPbc	PKPbc	14 55 17.8	-0.8
	6.2nm,1.2s,baz=73,slow=6.6,SNR=4.3						

WEL 16 14:37:32.0±1.5, 37°S±18°×17°7E±1°8, h213km±13km, M2.5/9, ML2.8/6, MLv2.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=34.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.96**	**153**	P	Pn	14 38 02.8	+0.1
HAZ				S	S	14 38 26.9	+0.1
RUGZ	**Raukumara Rang**	**1.12**	**162**	P	Pn	14 38 03.4	-0.6
PKGZ	**Pakihiroa**	**1.19**	**146**	P	Pn	14 38 04.7	+0.2
PKGZ				S	S	14 38 30.3	+0.6
WMGZ	**Waiomatatini S**	**1.31**	**135**	P	Pn	14 38 04.6	-0.7
WMGZ				S	S	14 38 32.8	+1.7
URZ	**Urewera**	**1.36**	**184**	P	Pn	14 38 09.2	+3.6
URZ	**Urewera**	**1.36**	**184**	P	Pn	14 38 04.6	-1.1
KMRZ	**Kaimai**	**1.40**	**227**	P	Pn	14 38 25.7	+20
PUZ	**Puketiti**	**1.43**	**146**	P	Pn	14 38 06.0	-0

WPHZ	Waipukurau	2.62	47	P		Pn	14 42 15.0	-0.7
WVZ	Waitaha Valley	2.65	242	P		Pn	14 42 16.6	+0.6
PKE	Pukeiti	2.68	1	P		Pb	14 42 19.4	-2.1
DREZ	Durham Road	2.69	4	P		Pb	14 42 20.2	-1.5
MTVZ	Mangateitei	2.75	26	P		Pn	14 42 19.1	+1.6
PKVZ	Pokaka	2.80	23	P		Pn	14 42 19.7	+1.5
RPZ	Rata Peaks	2.81	228	P		Pn	14 42 17.0	-1.1
MHEZ	Mangahewa	2.82	6	P		Pb	14 42 22.4	-1.4
VRZ	Vera Road	2.82	13	P		Pn	14 42 20.6	+2.3
MOVZ	Moawhango	2.83	30	P		Pn	14 42 18.5	-0.1
WNVZ	Wahianoa	2.85	27	P		Pn	14 42 19.8	+0.9
TRVZ	Turoa	2.85	26	P		Pn	14 42 20.3	+1.3
DRZ	Dome Shelter	2.88	26	P		Pb	14 42 22.6	-2.4
BHHZ	Black Hill Sta	2.88	35	P		Pn	14 42 18.9	-0.4
WHVZ	Whangaehu Hut	2.88	26	P		Pn	14 42 20.9	+1.5
ARCZ	Arundel	2.90	224	P		Pn	14 42 17.8	-1.6
FWVZ	Far West T-bar	2.90	26	P		Pn	14 42 20.9	+1.3
TUVZ	Tukino	2.92	27	P		Pn	14 42 20.9	+1.1
NGZ	Ngauruhoe	2.98	26	P		Pn	14 42 21.9	+1.1
SNVZ	South Ngauruho	2.99	26	P		Pn	14 42 23.3	+2.5
OTVZ	Oturere	3.02	26	P		Pn	14 42 22.0	+0.8
GCSZ	Gaunt Creek Bo	3.03	240	P		Pn	14 42 22.2	+1.0
NNVZ	North Ngauruho	3.03	26	P		Pn	14 42 22.5	+1.2
TWVZ	Taurewa	3.03	23	P		Pb	14 42 25.0	-2.4
WTVZ	West Tongariro	3.04	25	P		Pn	14 42 22.8	+1.4
KAHZ	Kahuranaki	3.05	48	P		Pn	14 42 19.5	-2.1
ETVZ	East Tongariro	3.06	27	P		Pn	14 42 22.7	+1.0
KRVZ	Karewarewa	3.07	26	P		Pn	14 42 23.1	+1.2
TMVZ	Te Maari	3.07	27	P		Pn	14 42 22.9	+1.0
NTVZ	North Tongarir	3.08	26	P		Pn	14 42 23.2	+1.2
KWHZ	Kaweka Forest	3.10	38	P		Pb	14 42 28.9	+0.4
KATZ	Kakaramea	3.20	25	P		Pn	14 42 29.7	-0.5
TMZ	Timaru	3.30	220	P		Pn	14 42 23.2	-1.7
RATZ	Rangitukua	3.32	26	P		Pb	14 42 30.8	-1.5
BKZ	Black Stump Fm	3.34	37	P		Pn	14 42 24.2	-1.3
HIZ	Hauiti	3.44	12	P		Pn	14 42 29.1	+2.3
FOZ	Fox Glacier	3.46	240	P		Pn	14 42 27.8	+0.7
LBZ	Lake Benmore	3.72	226	P		Pn	14 42 29.8	-0.9
TLZ	Tolley Road	3.75	20	P		Pn	14 42 35.4	+4.2
ODZ	Otahua Downs	3.97	216	P		Pn	14 42 32.0	-2.1
LIRZ	Lichensteins R	4.30	27	P		Pn	14 42 39.0	+0.2
TOZ	Tahuroa Road	4.32	17	P		Pn	14 42 39.8	+0.9
EAZ	Earnscleugh	4.75	224	P		Pn	14 42 43.3	-1.5
AWAZ	Awhitu Peninsu	4.84	7	P		Pn	14 42 49.1	+3.0
MKAZ	Moumakai	4.86	12	P		Pn	14 42 48.0	+1.6
ETAZ	East Tamaki Re	4.98	9	P		Pn	14 42 50.6	+2.5
RVAZ	Riverhead Bore	5.13	6	P		Pn	14 42 52.4	+2.3
MBAZ	Motutapu North	5.16	9	P		Pn	14 42 53.8	+3.3
SYZ	Scrubby Hill	5.79	215	P		Pn	14 42 58.0	-1.2
APZ	The Paps	6.53	219	P		Pn	14 43 08.1	-1.2
OUZ	Omahuta	6.66	358	P		Pn	14 43 14.3	+3.3
CTZ	Chatham Island	7.19	108	P		Pn	14 43 15.1	-3.2

IDC ***16*** *14:47:17.4±1.2,29˚.22N×130˚.69E, h0km, mb3.9/9, mbtmp3.9/10, ML3.1/1, MS3.7/1, Error ellipse: s-maj=45.5km s-min=18.5km az=77.0*

NEIC ***16*** *14:47:19.9±0.8,29˚.16N±0˚.04×130˚.6E±0˚.1, h11km±5km, mb4.4/10, Error ellipse: s-maj=14.5km s-min=5.5km az=98.0*

NIED ***16*** *14:47:21.8,29˚.15N×130˚.64E, h63km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.58; Mθθ0.09; Mθφ -0.66; Mrθ0.38; Mφφ -0.68; Mrφ0.49; Fault plane solution: M0 1.04000×10^15 NP1: φs192.00000°, δ29.00000°, λ64.00000°. NP2:φs41.00000°, δ65.00000°, λ103.00000°.*

JMA ***16*** *14:47:21.8±0.1,29˚.2N±0˚.2×130˚.6E±0˚.6, h63km±2km, MV3.5/39, NEAR AMAMI-OSHIMA ISLAND*

ISC 16 14:47:22.7±0.6, 29˚.08N±0˚.04×130˚.67E±0˚.06, h40km, n68, σ1s09/75, mb4.1/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JZK	Kikaishima	0.98	219	P		Pn	14 47 40.2	+0.2
JNN	Nakanoshima	1.03	318	P		Pn	14 47 39.6	-1.1
JAM	Amami Oshima	1.15	235	P		Pn	14 47 42.3	-0.1
JYAK	Yakushimahirau	1.16	353	*i* P		Pn	14 47 41.3	-1.2
JYAK				S		Sn	14 47 56.4	-0.8
JTAJ	Takarajima	1.29	274	P		Pn	14 47 43.6	-0.6
JMTN	Minamitane	1.33	9	*i* P		Pn	14 47 43.7	-1.1
JMTN				S		Sn	14 48 00.2	-1.0
JKC	Kuchinoerabu	1.44	343	P		Pn	14 47 45.1	-1.2
JAMN	Amaminishikomi	1.56	238	P		Pn	14 47 48.2	+0.3
JTN	Tanegashima 3	1.59	15	P		Pn	14 47 47.5	+0.5
JTK	Tokunoshima	1.99	230	P		Pn	14 47 54.2	+0.3
JTSR	Tashiro 2	2.09	6	P		Pn	14 47 54.7	-0.6
JSU	Suzuyama	2.42	356			Pn	14 47 57.8	-2.1
JSU	Suzuyama	2.42	356	P		Pn	14 47 59.1	-0.8
JSU	Suzuyama	2.42	356	P		Pn	14 47 58.6	-1.3
JSU				S		Sn	14 48 26.1	-2.2
JNAR	Kushima--Naru	2.49	12	*e*P		Pn	14 48 00.5	-0.3
JOKE	Okinoerabujima	2.52	228	*e*P		Pn	14 48 01.6	+0.4
JNKG	Nichinankitago	2.64	13	P		Pn	14 48 02.5	-0.3
JNKG				S		Sn	14 48 33.3	-0.4
JYRO	Yoronjima	2.84	224	*e*P		Pn	14 48 05.5	-0.1
JOW	Kunigami	3.08	224	Pn		Pn	14 48 09.0	+0.1
	4.2nm,0.3s,baz=91,slow=20,SNR=16							
JOW				Sn		Sn	14 48 44.9	+0.2
	5.6nm,0.3s,baz=179,slow=28,SNR=5.6							
	8.5nm,0.3s							
JOW	Kunigami	3.08	224			Pn	14 48 08.4	-0.5
JOW	Kunigami	3.08	224	P		Pn	14 48 09.6	+0.6
JOW	Kunigami	3.08	224	*e*P		Pn	14 48 09.1	+0.1
JIH	Iheya	3.14	230	*e*P		Pn	14 48 09.8	0.0
JKDJ	Kitadaitoujima	3.17	170	*e*P		Pn	14 48 09.2	-0.9
JKDJ				*e*S		Sn	14 48 45.1	-1.6
JMZ	Minamidaito 2	3.29	171	P		Pn	14 48 10.7	-1.0
JMZ				S		Sn	14 48 46.6	-3.0
JNTH	Nagotoyohara	3.47	223	P		Pn	14 48 14.3	+0.1
JNTH				S		Sn	14 48 52.8	-1.3
JNU	Nakatsue	4.03	2			Pn	14 48 20.8	-1.2
JNU	Nakatsue	4.03	2	P		Pn	14 48 22.4	+0.4
JKE	Kume jima 2	4.41	232	*e*P		Pn	14 48 26.8	-0.3
JMN	Monobe	5.38	30	Pn		Pn	14 48 38.6	-2.0
JMN	Monobe	5.38	30	P		Pn	14 48 39.7	-0.9
JTU	Tsushima	5.53	349	Pn		Pn	14 48 40.6	-1.9
JTU	Tsushima	5.53	349	P		Pn	14 48 41.8	-0.8
JHS	Saijyo	6.25	19	Pn		Pn	14 48 51.4	-1.2
JHS	Saijyo	6.25	19	P		Pn	14 48 52.1	-0.4
INU	Inuyama	8.24	39	Pn		Pn	14 49 20.4	+0.6
INU	Inuyama	8.24	39	P		Pn	14 49 22.4	+2.7
JGF	Kuroka	8.61	39	Pn		Pn	14 49 24.2	-0.6
JGF	Kuroka	8.61	39	P		Pn	14 49 27.6	+2.7
YULB	Yu-li	10.14	238	Pn		Pn	14 49 45.1	-0.8
KLR	Kul'dur	20.14	2	P		P	14 51 52.4	-1.0
	1.6nm,0.6s,baz=197,slow=8.0,SNR=5.7							
	1.6nm,0.6s							
SONM	Songino Array	26.50	322	LR		LR	15 04 28.3	
	comp=Z,148nm,18.3s,baz=34,slow=39							
JIRN	Jiri	38.99	279	*e*P		P	14 54 45.6	-0.2
GUN	Gumba	39.21	279	*e*P		P	14 54 48.1	+0.5
	18nm,0.4s							
PKI	Pulchoki	39.69	279	*e*P		P	14 54 51.1	-0.5
	9.9nm,0.5s							
PKIN	Phulchoki	39.70	279	*e*P		P	14 54 51.1	-0.5
	9.2nm,0.4s							
DANN	Dangsing	40.94	281	*e*P		P	14 55 01.7	-0.2
	17nm,0.7s							
MK31	Makanchi Array	41.34	309	P		P	14 55 03.9	-0.7
MK31				IAmb		IAmb	14 55 29.5	
	comp=Z,3.7nm,1.5s							
MKAR	Makanchi Array	41.34	309	P		P	14 55 04.5	-0.2
	comp=Z,0.6nm,0.6s,baz=92,slow=9.3,SNR=7.8							
	comp=Z,0.6nm,0.6s							
MTN	Manton Dam	41.68	179	P		P	14 55 08.2	+0.6
MTN				IAmb		IAmb	14 55 49.6	
	comp=Z,15nm,1.2s							
KURK	Kurchatov	44.32	314	P		P	14 55 28.1	-0.6
KURK				IAmb		IAmb	14 55 29.5	
	comp=Z,3.7nm,0.9s							
KURBB	Kurchatov Arra	44.36	314	P		P	14 55 28.2	-0.8
	comp=Z,2.3nm,0.7s,baz=102,slow=9.0,SNR=13							
	comp=Z,2.3nm,0.7s							
KNRA	Kununurra	44.53	183	P		P	14 55 31.6	+1.0
WB0	Warramunga Arr	48.70	175	P		P	14 56 04.3	+1.0
WB0				IAmb		IAmb	14 56 17.7	
	comp=Z,6.1nm,1.2s							
WRA	Warramunga Arr	48.87	175	P		P	14 56 05.8	+1.3
	comp=Z,0.4nm,0.8s,baz=354,slow=8.0,SNR=5.4							
	comp=Z,0.4nm,0.8s							
WRA	Warramunga Arr	48.87	175			P	14 56 05.2	+0.6
KKAR	Karatay Array	49.59	303	P		P	14 56 10.7	+0.7
BRVK	Borovoye	49.72	317	P		P	14 56 10.8	+0.1
BRVK				IAmb		IAmb	14 56 11.3	
	comp=Z,4.1nm,0.7s							
AS31	Alice Springs	52.53	176	P		P	14 56 34.8	+2.6
ASAR	Alice Springs	52.53	176	P		P	14 56 33.5	+1.3
	comp=Z,0.3nm,0.6s,baz=11,slow=13,SNR=10							
	comp=Z,0.3nm,0.6s							
ABKAR	Akbulak array	56.32	312	P		P	14 56 59.1	-0.3
GHO	Glory Hole Cre	60.34	33	P		P	14 57 27.8	+0.3
BMAR	Burnt Mountain	61.51	26	P		P	14 57 36.5	+1.2
A36M	Sachs Harbour	66.84	19	P		P	14 58 11.0	+1.0
A36M				IAmb		IAmb	14 58 16.9	
	comp=Z,6.4nm,1.3s							
KBZ	Khabaz	69.04	309	P		P	14 58 25.3	+1.0
	comp=Z,3.8nm,0.8s,baz=69,slow=3.1,SNR=7.6							
	comp=Z,3.8nm,0.8s							
FINES	FINESS Array B	71.45	331	P		P	14 58 38.5	-0.3
	comp=Z,1.7nm,0.8s,baz=90,slow=3.8,SNR=5.9							
	comp=Z,1.7nm,0.8s							
AKASG	Malin Array Be	74.77	320	P		P	14 58 57.8	-0.7
	comp=Z,1.0nm,0.4s,baz=57,slow=6.3,SNR=5.2							
	comp=Z,1.0nm,0.4s							
BRTR	Keskin Array B	76.99	308	P		P	14 59 12.1	+0.5
	comp=Z,1.5nm,0.8s,baz=130,slow=6.7,SNR=6.6							
	comp=Z,1.5nm,0.8s							

VAO ***16*** *14:51:19.3±0.5,20˚.20S×68˚.68W, h106km, mb4.1*

GUC ***16*** *14:51:20.5±0.9,20˚.29S×68˚.70W, h116km±5km, ML4.2*

NEIC ***16*** *14:51:20.8±1.4,20˚.30S±0˚.03×68˚.82W±0˚.09, h113km±9km, mb4.2/3, ML4.2(GUC), Error ellipse: s-maj=13.1km s-min=2.8km az=76.0*

IDC ***16*** *14:51:21.1±1.5,20˚.40S×68˚.28W, h121km±16km, mb3.8/3, mbtmp4.2/7, Error ellipse: s-maj=38.7km s-min=15.0km az=108.0*

ISC 16 14:51:19.4±0.6, 20˚.27S±0˚.03×68˚.76W±0˚.06, h120km±7km, n90, σ1s15/104, mb4.1/3, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB08	IPOC Station P	0.39	290			Pn	14 51 37.4	+0.1
PB08	IPOC Station P	0.39	290	⇑ *i*P		Pn	14 51 37.8	+0.5
PB08				*e*S		Sn	14 51 50.9	+0.3
PB08				IAML			14 51 51.5	
	comp=E,6μm,0.2s							
GO01	Chusmiza	0.73	326			Pn	14 51 39.7	+0.1
GO01	Chusmiza	0.73	326	⇑ *i*P		Pn	14 51 40.0	+0.5
GO01				*e*S		Sn	14 51 56.2	+1.5
GO01				IAML			14 52 02.8	
	comp=E,9μm,0.1s							
PB11	IPOC Station P	0.98	301	Pn		Pn	14 51 41.9	+0.5
PB11	IPOC Station P	0.98	301	⇑ *i*P		Pn	14 51 42.0	+0.6
PB11				*e*S		Sn	14 51 59.3	+1.2
PB11				IAML			14 52 00.2	
	comp=N,7μm,0.2s							
PB01	IPOC Station P	1.02	221			Pn	14 51 42.1	+0.3
PB01	IPOC Station P	1.02	221	⇑ *i*P		Pn	14 51 42.4	+0.6
PB01				*e*S		Sn	14 51 59.2	+0.5
PB01				IAML			14 52 00.1	
	comp=N,12μm,0.3s							
TA02	Huaiquique	1.29	270			Pn	14 51 44.4	0.0
TA02	Huaiquique	1.29	270	*e*P		Pn	14 51 44.9	+0.4
TA02				*e*S		Sn	14 52 04.5	+1.2
TA01	Diego Aracena	1.36	257			Pn	14 51 45.1	-0.2
TA01	Diego Aracena	1.36	257	⇑ *i*P		Pn	14 51 45.6	+0.3
TA01				*e*S		Sn	14 52 05.2	+0.3
TA01				*i* S		Sn	14 52 05.2	+0.3
MNMC	Minye Minye	1.38	325			Pn	14 51 46.9	+1.1
MNMC	Minye Minye	1.38	325	⇑ *i*P		Pn	14 51 47.0	+1.1
MNMC				*e*S		Sn	14 52 07.8	+1.9
MNMC				IAML			14 52 10.6	
	comp=E,10μm,0.4s							
PSGC	Pisagua	1.45	297	⇑ *i*P		Pn	14 51 46.8	+0.5
PSGC				*e*S		Sn	14 52 07.2	+0.4
PSGCX	Pisagua	1.45	297			Pn	14 51 46.4	0.0
PB02	IPOC Station P	1.49	225			Pn	14 51 46.9	+0.1
PB02	IPOC Station P	1.49	225	⇑ *i*P		Pn	14 51 47.5	+0.7
PB02				*e*S		Sn	14 52 08.1	+0.5
PB02				IAML			14 52 10.9	
	comp=E,6μm,0.5s							
PB09	IPOC Station P	1.58	196			Pn	14 51 48.9	+0.9
PB09	IPOC Station P	1.58	196	*e*P		Pn	14 51 49.0	+1.1
PB09				*e*S		Sn	14 52 10.8	+1.1
PB09				IAML			14 52 15.1	
	comp=E,1μm,0.5s							
PB07	IPOC Station P	1.79	216			Pn	14 51 50.8	+0.3
PB07	IPOC Station P	1.79	216	*e*P		Pn	14 51 51.1	+0.7
PB07				*e*S		Sn	14 52 13.9	-0.2
PB07				IAML			14 52 17.8	
	comp=E,2μm,0.6s							
PB03	IPOC Station P	1.99	207			Pn	14 51 53.3	+0.3
PB03	IPOC Station P	1.99	207	*e*P		Pn	14 51 53.2	+0.3
PB03				*e*S		Sn	14 52 18.4	-0.2
PB03				IAML			14 52 27.9	
	comp=E,1μm,0.2s							
PB16	IPOC Station P	2.05	340			Pn	14 51 55.6	+1.5
PB16	IPOC Station P	2.05	340	*e*P		Pn	14 51 55.9	+1.8
PB16				*e*S		Sn	14 52 22.8	+2.3
PB12	IPOC Station P	2.22	318	Pn		Pn	14 51 56.0	+0.2
PB12	IPOC Station P	2.22	318	*e*P		Pn	14 51 56.0	+0.2
PB12				IAML			14 52 34.4	
	comp=N,3μm,0.4s							
LVC	Limon Verde	2.33	183	P		Pn	14 51 59.0	+1.6
	comp=N,88nm,0.4s,baz=31,slow=11,SNR=176							
LVC				S		Sn	14 52 27.2	+0.7
	comp=N,63nm,0.4s,baz=294,slow=20,SNR=4.1							
LVC	Limon Verde	2.33	183	*e*P		Pn	14 51 58.8	+1.4
LVC	Limon Verde	2.33	183	*e*P		Pn	14 51 58.9	+1.4
AP01	Chacalluta	2.41	321			Pn	14 51 58.5	+0.4
AP01	Chacalluta	2.41	321	*e*P		Pn	14 51 58.7	+0.6
PB04	IPOC Station P	2.42	212			Pn	14 51 59.3	+0.8
PB04	IPOC Station P	2.42	212	*e*P		Pn	14 51 59.1	+0.7
PB04				IAML			14 52 41.7	
	comp=N,1μm,0.3s							
PB06	IPOC Station P	2.54	197			Pn	14 52 01.6	+1.7
PB06	IPOC Station P	2.54	197	*e*P		Pn	14 52 00.9	+1.0
PB06				IAML			14 52 38.4	
	comp=N,1μm,0.1s							
AF01	San Pedro de A	2.72	169			Pn	14 52 05.0	+2.7
PB15	IPOC Station P	2.99	193			Pn	14 52 07.8	+1.9
PB15	IPOC Station P	2.99	193	*e*P		Pn	14 52 06.9	+1.0
PB10	IPOC Station P	3.63	207	Pn		Pn	14 52 15.8	+1.8
PB10	IPOC Station P	3.63	207	*e*P		Pn	14 52 13.4	-0.6
LPAZ	La Paz	4.01	9	P		Pn	14 52 22.5	+2.8
	comp=N,33nm,0.3s,baz=194,slow=3.7,SNR=149							
LPAZ	La Paz	4.01	9			Pn	14 52 22.3	+2.5
GO02	Mina Guanaco	4.93	189	Pn		Pn	14 52 31.3	-0.4
AC02	Maricunga	6.54	183	Pn		Pn	14 52 53.1	-0.5
BBSD	Serra de San D	8.31	70	*e*P		Pn	14 53 15.6	-1.6
SIV	San Ignacio	8.46	61	P		Pn	14 53 16.4	-2.8
	comp=N,4.9nm,0.5s,baz=252,slow=11,SNR=22							
PTLB	Pontes e Lacer	10.34	64	*e*P		Pn	14 53 42.5	-2.1
ETMB	Extrema	10.68	14	*e*P		Pn	14 53 49.1	-0.1
VILB	Vilhena	10.97	50	*e*P		Pn	14 53 52.5	-0.6
ANTJ	Antonio Joao (	12.03	100	*e*P		Pn	14 54 06.2	-0.9
CPUP	Villa Florida	12.11	122	P		Pn	14 54 05.0	-3.0
	comp=N,5.3nm,0.7s,baz=301,slow=12,SNR=12							
CPUP	Villa Florida	12.11	122	*e*P		Pn	14 54 06.7	-1.4
AQDB	Aquidauana	12.25	93	*e*P		Pn	14 54 10.4	+0.4
SALV	Santo Antonio	13.16	76	*e*P		Pn	14 54 21.5	-0.4
AZCA	Azaras, Argent	14.01	126	*e*P		Pn	14 54 33.9	+1.2
ITQB	Itaqui	14.44	133	*e*P		Pn	14 54 37.6	-0.5
BO02	Sierra Bellavi	14.57	187			P	14 54 44.8	+1.7
UNIS	Unistalda (Bra	15.20	128	*e*P		Pn	14 54 46.6	-1.2
RODS	Rosario do Sul	15.83	132	*e*P		P	14 54 58.0	+1.1
PTGB	Pitanga	16.05	109	*e*P		P	14 55 00.4	+0.9
PCMB	Pacaembu	16.40	98	*e*P		P	14 55 03.7	+0.3
ALGR	Alto Alegre (B	16.63	124	*e*P		P	14 55 06.5	+0.6
ITAB	Concordia	16.72	118	P		P	14 55 07.6	+0.8
ITAB				IAmb		IAmb	14 55 08.1	
	comp=Z,21nm,0.7s							
ITAB	Concordia	16.72	118	*e*P		P	14 55 07.4	+0.6
ARAG	Araguaiana, MT	16.75	77	*e*P		P	14 55 07.2	-0.1
CPSB	Cacapava Do Su	17.12	129	*e*P		P	14 55 10.1	-1.1
ITRB	Iturama	17.31	91	*e*P		Pn	14 55 14.3	+0.5
PLTB	Pedras Altas	17.77	133	*e*P		P	14 55 18.3	-0.1
FRTB	Fartura	18.09	103	*e*P		P	14 55 21.6	-0.3
CNLB	Canela	18.57	122	*e*P		Pn	14 55 27.6	-1.3
TRQA	Tornquist	18.67	163	P		P	14 55 28.9	+0.7
TRQA				IAmb		IAmb	14 55 30.9	
	comp=Z,7.9nm,0.6s							
SNDB	Serra Nova Dou	18.69	66	*e*P		P	14 55 28.4	-0.2
TIJ01	Guaruva-PR	18.89	109	*e*P		Pn	14 55 31.3	-1.5
BB19B	Bebedouro	18.95	96	*e*P		P	14 55 30.9	-0.6
IPMB	Ipameri, GO	19.55	87	*e*P		P	14 55 37.2	-0.7
TER01	Tubaro-SC	19.66	119	*e*P		P	14 55 37.4	-1.7
SGCB	S£o Gabriel d	20.10	5	*e*P		P	14 55 43.3	-0.5
ITTB	Itaituba	20.27	40	*e*P		P	14 55 44.5	-1.2
PET01	Itanhaem-SP	20.28	105	*e*P		Pn	14 55 46.6	-2.2
VAO	Valinhos	20.44	102	*e*P		P	14 55 45.8	-1.7
PLCA	Paso Flores	20.45	184	P		P	14 55 48.9	+1.4
	comp=Z,2.6nm,1.0s,baz=10,slow=12,SNR=3.1							
	comp=Z,2.6nm,1.0s							
PLCA	Paso Flores	20.45	184	*e*P		P	14 55 49.0	+1.5
PMNB	Patos De Minas	21.13	89	*e*P		P	14 55 54.0	-0.9
SMTB	Santa Maria do	23.39	64	*e*P		P	14 56 17.5	-0.3
SDBA	SAO DESIDERIO	24.17	75	*e*P		P	14 56 24.1	-0.8
DBIC	Dimbokro	68.26	74	P		P	15 02 07.0	-0.8
	comp=Z,1.6nm,0.4s,baz=238,slow=8.2,SNR=5.6							
	comp=Z,1.6nm,0.4s							
QSPA	South Pole Qui	69.91	180	P		P	15 02 19.2	+1.8
QSPA				IAmb		IAmb	15 02 49.5	
	comp=Z,3.1nm,1.2s							
TORD	Torodi Ar. Bea	76.82	71	P		P	15 02 57.8	-0.8
	comp=Z,1.4nm,0.4s,baz=255,slow=5.7,SNR=24							
	comp=Z,1.4nm,0.4s							

WEL ***16*** *15:03:00,42˚.51S×173˚.47E, h13km, ML4.9, Mw4.6, Moment Tensor Solution. s10 Moment tensor: Scale 10^16Nm; Mrr0.32; Mθθ0.87; Mθφ -1.19; Mrθ-0.22; Mφφ -0.01; Mrφ0.22; Fault plane solution: M0 1.09000×10^16 NP1: φs224.00000°, δ70.00000°, λ171.00000°. NP2: φs317.00000°, δ82.00000°, λ20.00000°. Principal axes: T 952.8400, Plg20.0000°, Azm183.0000°; N 272.5000, Plg68.0000°, Azm337.0000°; P -1225.3400, Plg8.0000°, Azm89.0000°;*

IDC ***16*** *15:03:47.2±0.7,42˚.36S×173˚.46E, h0km, mb4.2/12, mbtmp4.2/12, ML5.5/1, MS4.0/3 Error ellipse: s-maj=23.5km s-min=15.9km az=68.0*

NOU ***16*** *15:03:48.3,42˚.61S×173˚.55E, h8km, mb4.9/27, South Island, New Zealand*

WEL ***16*** *15:03:49.9±0.3,42˚.S±3˚.×17˚.3E±˚, h5km, M4.8/2, ML5.2/9, ML5.1/2, MLv4.9/32, MLv4.8/2, Error ellipse: s-maj=0.0km s-min=0.0km az=125.3*

NEIC ***16*** *15:03:49.3,42˚.50S×173˚.46E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.45; Mθθ0.69; Mθφ -1.13; Mrθ-0.10; Mφφ -0.13; Mrφ0.25; Fault plane solution: M0 1.03000×10^16 NP1:φs322.35000°, δ79.54000°, λ23.25000°. NP2:φs227.89000°, δ67.16000°, λ168.64000°. Principal axes: T 0.7511, Plg24.0000°, Azm187.0000°; N 0.4266, Plg65.0000°, Azm345.0000°; P -1.1777, Plg8.0000°, Azm93.0000°;*

NEIC ***16*** *15:03:49.0±2.2,42˚.53S±0˚.04×173˚.47E±0˚.06, h13km±3km, mb4.6/19, Mwr4.6/31, ML4.9(WEL) Error ellipse: s-maj=7.4km s-min=5.3km az=124.0*

ISC 16 15:03:48.7±0.7, 42˚.57S±0˚.03×173˚.51E±0˚.03, h12km±4km, n249, σ1s28/248, mb4.5/20, MS3.9/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	Kahutara	0.15	8			Pg	15 03 52.5	+0.3
KHZ				Sg		Sg	15 03 54.6	-0.2
KHZ	Kahutara	0.15	8	P		Pg	15 03 52.5	+0.3
KHZ	Kahutara	0.15	8	P		Pg	15 03 52.5	+0.3
KHZ				S		Sg	15 03 54.9	+0.2
GVZ	Greta Valley S	0.53	221			Pn	15 04 01.4	-0.7
GVZ				Sg		Sb	15 04 08.4	+0.8
GVZ	Greta Valley S	0.53	221	P

VRZ	Vera Road	3.57	16	P	Pn	15 04 45.6	+1.7
PXZ	Pawanui	3.58	46	P	Pn	15 04 43.7	-0.4
MOVZ	Moawhango	3.59	29	P	Pn	15 04 44.1	-0.2
WNVZ	Wahianoa	3.60	27	P	Pn	15 04 45.5	+0.9
TRVZ	Turoa	3.61	26	P	Pn	15 04 45.6	+0.8
BHHZ	Black Hill Sta	3.63	33	P	Pn	15 04 44.9	0.0
DRZ	Dome Shelter	3.64	26	P	Pn	15 04 46.5	+1.3
WHVZ	Whangaehu Hut	3.64	26	P	Pn	15 04 46.1	+0.9
FWVZ	Far West T-bar	3.66	26	P	Pn	15 04 46.1	+0.8
TUVZ	Tukino	3.68	27	P	Pn	15 04 46.7	+1.1
NGZ	Ngauruhoe	3.74	26	P	Pn	15 04 47.4	+0.9
SNVZ	South Ngauruho	3.75	26	P	Pn	15 04 47.5	+1.0
KAHZ	Kahuranaki	3.76	44	P	Pn	15 04 45.0	-1.6
JCZ	Jackson Bay	3.76	245	P	Pn	15 04 47.0	+0.4
JCZ	Jackson Bay	3.76	245	P	Pn	15 04 46.3	-0.4
OTVZ	Oturere	3.77	26	P	Pn	15 04 47.6	+0.7
NNVZ	North Ngauruho	3.79	26	P	Pn	15 04 48.2	+1.1
TWVZ	Taurewa	3.79	23	P	Pn	15 04 47.7	+0.6
WTVZ	West Tongariro	3.79	25	P	Pn	15 04 47.7	+0.6
ETVZ	East Tongariro	3.81	27	P	Pn	15 04 48.1	+0.6
KRVZ	Karewarewa	3.83	26	P	Pn	15 04 48.4	+0.8
TMVZ	Te Maari	3.83	26	P	Pn	15 04 48.3	+0.7
NTVZ	North Tongarir	3.84	26	P	Pn	15 04 48.5	+0.8
KWHZ	Kaweka Forest	3.84	36	P	Pn	15 04 47.1	-0.6
HHSZ	Highcliff Hill	3.92	211	P	Pn	15 04 48.2	-0.5
MCHZ	McNeill Hill	3.94	39	P	Pn	15 04 48.2	-0.9
KATZ	Kakaramea	3.96	26	P	Pn	15 04 52.4	+3.0
WKZ	Wanaka	3.96	234	Pn	Pn	15 04 48.0	-1.4
WKZ	Wanaka	3.96	234	P	Pn	15 04 48.4	-1.0
CKHZ	Cape Kidnapper	3.96	44	P	Pn	15 04 50.7	+1.3
EAZ	Earnscleugh	4.04	227	P	Pn	15 04 49.4	-0.9
RATZ	Rangitukua	4.08	26	P	Pn	15 04 53.7	+2.8
BKZ	Black Stump Fm	4.08	35	Pn	Pn	15 04 50.7	-0.3
BKZ	Black Stump Fm	4.08	35	P	Pn	15 04 49.8	-1.3
HIZ	Hauiti	4.18	15	Pn	Pn	15 04 53.7	+1.4
HIZ	Hauiti	4.18	15	P	Pn	15 04 54.5	+2.2
HIZ	Hauiti	4.18	15	P	Pn	15 04 53.8	+1.5
ARHZ	Aropaoanui	4.23	40	P	Pn	15 04 54.6	+1.6
NMHZ	Naumai	4.28	37	P	Pn	15 04 54.9	+1.2
MRHZ	Matea Rd	4.34	32	P	Pn	15 04 53.1	-1.4
TUZ	Tuapeka	4.38	218	P	Pn	15 04 54.6	-0.5
WHHZ	Waihua	4.49	40	P	Pn	15 04 56.9	+0.4
MTHZ	Maungataniwha	4.49	35	P	Pn	15 04 56.0	-0.6
TLZ	Tolley Road	4.51	21	P	Pn	15 04 58.7	+1.8
ALRZ	Allen Road	4.55	29	P	Pn	15 04 58.0	+0.6
RAHZ	Arahi	4.55	38	P	Pn	15 04 58.2	+0.8
MSZ	Milford Sound	4.57	241	P	Pn	15 04 56.4	-1.1
HRRZ	Handcock Road	4.68	28	P	Pn	15 04 59.7	+0.5
KNZ	Kokohu	4.75	43	P	Pn	15 04 58.7	-1.4
RTZ	Ruatahuna	4.77	35	P	Pn	15 05 00.7	+0.4
MHGZ	Mahia Peninsul	4.77	46	P	Pn	15 05 00.0	-0.4
MUGZ	Murupara	4.78	32	P	Pn	15 05 00.9	+0.3
MLZ	Mavora Lakes	4.79	232	Pn	Pn	15 04 58.9	-1.8
MLZ	Mavora Lakes	4.79	232	P	Pn	15 04 59.5	-1.3
RRRZ	Republican Roa	4.81	29	P	Pn	15 05 03.5	+2.5
HLRZ	Highlands Stat	4.83	28	P	Pb	15 05 08.3	-5.0
TARZ	Mount Tarawera	4.90	29	P	Pb	15 05 08.5	-5.9
RIGZ	Rimuhau	5.04	41	P	Pn	15 05 02.2	-1.9
SYZ	Scrubby Hill	5.05	217	P	Pn	15 05 04.4	+0.2
SYZ	Scrubby Hill	5.05	217	P	Pn	15 05 03.8	-0.4
TOZ	Tahuroa Road	5.07	18	P	Pn	15 05 04.8	+0.3
URZ	Urewera	5.11	34	P	Pn	15 05 04.5	-0.5
URZ	Urewera	5.11	34	P	Pn	15 05 03.1	-1.9
WHZ	Wether Hill Ro	5.20	228	Pn	Pn	15 05 04.8	-1.4
WHZ	Wether Hill Ro	5.20	228	P	Pn	15 05 04.3	-2.0
MWZ	Matawai	5.22	37	P	Pn	15 05 04.4	-2.2
OPRZ	Ohinepanea	5.23	27	P	Pn	15 05 06.8	-0.4
TGRZ	Tauranga	5.27	24	P	Pn	15 05 07.1	-0.3
TKGZ	Te Karaka	5.29	40	P	Pn	15 05 06.6	-0.9
DCZ	Deep Cove	5.42	236	Pn	Pn	15 05 07.6	-1.8
DCZ	Deep Cove	5.42	236	P	Pn	15 05 07.9	-1.4
CNGZ	Carnagh Statio	5.43	43	P	Pn	15 05 10.2	+0.8
TWGZ	Tauwhareparae	5.56	39	P	Pn	15 05 13.7	+2.4
AWAZ	Awhitu Peninsu	5.57	9	P	Pn	15 05 12.6	+1.3
MKAZ	Moumakai	5.61	14	P	Pn	15 05 12.2	+0.4
WTAZ	Waiatarua	5.69	9	P	Pn	15 05 14.7	+1.6
ETAZ	East Tamaki Re	5.71	11	P	Pn	15 05 14.5	+1.1
EPAZ	Eden Park BICE	5.77	10	P	Pn	15 05 15.4	+1.3
PUZ	Puketiti	5.77	40	P	Pn	15 05 14.2	-0.1
HBAZ	Herne Bay Bore	5.79	10	P	Pn	15 05 15.7	+1.4
APZ	The Paps	5.80	221	P	Pn	15 05 13.6	-1.0
HAZ	Te Kaha	5.81	36	P	Pn	15 05 13.8	-0.9
PKGZ	Pakihiroa	5.84	38	P	Pn	15 05 14.6	-0.5
RVAZ	Riverhead Bore	5.85	8	P	Pn	15 05 16.4	+1.2
MBAZ	Motutapu North	5.88	11	P	Pn	15 05 17.1	+1.3
WIAZ	Waiheke Island	5.90	13	P	Pn	15 05 17.4	+1.4
ABAZ	Army Bay	6.05	10	P	Pn	15 05 19.3	+1.3
WMGZ	Waiomatatini S	6.05	40	P	Pn	15 05 19.7	+1.7
KUZ	Kuaotunu	6.06	17	P	Pn	15 05 18.5	+0.4
KUZ	Kuaotunu	6.06	17	P	Pn	15 05 18.0	-0.1
PYZ	Puysegur Point	6.07	231	P	Pn	15 05 20.2	+1.9
MXZ	Matakaoa Point	6.21	38	Pn	Pn	15 05 19.2	-1.0
MXZ	Matakaoa Point	6.21	38	P	Pn	15 05 20.5	+0.3
MXZ	Matakaoa Point	6.21	38	P	Pn	15 05 20.4	+0.3
WCZ	Waipu Caves	6.65	6	P	Pn	15 05 28.2	+1.9
CTZ	Chatham Island 134nm,1.5s	7.31	103	P	Pn	15 05 34.9	-0.4
CTZ	Chatham Island	7.31	103	P	Pn	15 05 34.9	-0.4
OUZ	Omahuta	7.34	1	P	Pn	15 05 38.1	+2.4
OUZ	Omahuta	7.34	1	P	Pn	15 05 37.7	+2.0
CNB	Canberra Magne	20.09	283	P	Pn	15 08 24.0	0.0
DZM	Mont Dzumac 7.8nm,0.9s,baz=95,slow=17,SNR=2.0 7.8nm,0.9s	21.28	342	P	P	15 08 33.2	-1.9
DZM	Mont Dzumac 66nm,1.0s	21.28	342	ePn	P	15 08 40.9	+5.8
DZM	comp=Z,248nm,22.4s			eLR	LR	15 13 47.0	
DZM	Mont Dzumac	21.28	342	P	P	15 08 32.8	-2.4
DZM	comp=Z,27nm,0.9s			IAmb	IAmb	15 08 42.7	
TOO	Toolangi	21.97	274	P	P	15 08 41.0	-1.4
TOO	comp=Z,26nm,1.4s			IAmb	IAmb	15 09 02.3	
KOUNC	Koumac, New Ca	23.29	338	P	P	15 08 54.2	-2.2
KOUNC	Koumac, New Ca	23.29	338	P	P	15 08 57.4	+1.1
MSVF	Nonsavu comp=Z,1.5nm,0.4s,baz=270,slow=18,SNR=2.1	25.06	10	P	P	15 09 11.4	-1.6
MSVF	comp=Z,369nm,18.9s,baz=193,slow=35 comp=Z,1.5nm,0.4s			LR	LR	15 18 17.9	
MSVF	Nonsavu	25.06	10	P	P	15 09 12.9	-0.1
EIDS	Eidsvold	25.18	306	P	P	15 09 09.9	-4.2
EIDS	comp=Z,20nm,1.4s			IAmb	IAmb	15 09 19.5	
STKA	Stephens Creek comp=Z,2.6nm,0.8s,baz=103,slow=9.0,SNR=5.1 comp=Z,2.6nm,0.8s	27.41	282	P	P	15 09 34.9	+0.6
STKA	Stephens Creek	27.41	282	P	P	15 09 32.7	-1.6
LCRK	Leigh Creek	30.62	282	P	P	15 10 03.1	+0.4
RAR	Rarotonga comp=Z,204nm,20.3s,baz=241,slow=34	30.89	55	LR	LR	15 21 02.2	
BBOO	Buckleboo	30.98	276	P	P	15 10 05.3	-0.6
BBOO	comp=Z,30nm,1.5s			IAmb	IAmb	15 10 08.0	
BBOO	Buckleboo	30.98	276	P	P	15 10 05.8	-0.1
CTA	Charters Tower comp=Z,2.0nm,0.7s,baz=140,slow=16,SNR=2.0 comp=Z,2.0nm,0.7s	32.07	306	P	P	15 10 15.6	0.0
OOD	Oodnadatta	33.94	283	P	P	15 10 32.0	+0.1
VNDA	Vanda comp=Z,1.0nm,1.0s,baz=19,slow=9.4,SNR=5.1	35.39	184	P	P	15 10 46.1	+2.3
VNDA	comp=Z,245nm,21.6s,baz=34,slow=32 comp=Z,1.0nm,1.0s			LR	LR	15 22 29.8	
SBA	Scott Base	35.50	182	P	P	15 10 45.1	+0.4
SBA	comp=Z,15nm,1.4s			IAmb	IAmb	15 10 50.2	
AS01	Alice Springs	37.70	287	P	P	15 11 03.7	-0.5
AS31	Alice Springs	37.73	287	P	P	15 11 03.0	-1.4
ASAR	Alice Springs comp=Z,1.8nm,0.5s,baz=127,slow=7.1,SNR=82	37.73	287	P	P	15 11 03.4	-1.1
ASAR	comp=Z,1.0nm,0.7s,baz=124,slow=3.9,SNR=6.3 comp=Z,1.8nm,0.5s			PcP	PcP	15 13 20.1	-1.3
ASAR	Alice Springs	37.73	287	P	P	15 11 02.5	-2.0
WR0	Warramunga Arr	39.74	292	P	P	15 11 20.6	-0.7
WR0	comp=Z,9.4nm,1.2s			IAmb	IAmb	15 11 39.3	
WB2	Warramunga Arr	39.88	292	P	P	15 11 20.2	-2.3
WB2	comp=Z,9.0nm,1.1s			IAmb	IAmb	15 11 59.6	
WRAB	Tennant Creek	39.89	292	P	P	15 11 20.1	-2.5
WRAB	comp=Z,16nm,1.4s			IAmb	IAmb	15 11 59.1	
WRAB	Tennant Creek	39.89	292	P	P	15 11 21.9	-0.6
WRA	Warramunga Arr comp=Z,2.3nm,0.6s,baz=131,slow=7.7,SNR=34 comp=Z,2.3nm,0.6s	39.89	292	P	P	15 11 21.6	-0.9
WRA	Warramunga Arr	39.89	292	P	P	15 11 20.5	-2.0
PAE	Paea comp=Z,2.9nm,0.2s	39.97	63	eT	T	15 53 20.6	
WB0	Warramunga Arr	39.97	292	P	P	15 11 20.8	-2.4
PPT2	Papeete2 comp=Z,238nm,25.8s	40.02	63	eLR	LR	15 22 26.7	
PPT2	Papeete2 comp=Z,5.0nm,0.3s	40.02	63	eT	T	15 53 37.5	
WRKA	Warakurna	40.91	281	P	P	15 11 29.7	-1.3
CASY	Casey	41.22	213	P	P	15 11 34.0	+1.0
CASY	comp=Z,8.6nm,0.8s			IAmb	IAmb	15 11 35.2	
MUN	Mundaring	46.02	264	P	P	15 12 13.1	+1.0
KNRA	Kununurra	46.66	291	P	P	15 12 17.0	-0.2
MEEK	Meekatharra	47.09	271	P	P	15 12 20.2	-0.4
QSPA	South Pole Qui comp=Z,4.6nm,0.6s,baz=28,slow=1.0,SNR=32	47.56	180	P	PcP	15 12 26.8	+3.0
QSPA	comp=Z,2.8nm,0.9s,baz=95,slow=1.4,SNR=1.0 comp=Z,4.6nm,0.6s			PcP	PcP	15 13 53.9	+0.4
QSPA	South Pole Qui	47.56	180	P	P	15 12 25.6	+1.7
QSPA	comp=Z,13nm,1.1s			IAmb	IAmb	15 12 42.2	
TAOE	Nuku Hiva Isla comp=Z,175nm,24.2s	52.62	64	eLR	LR	15 28 16.8	
SIJI	Sorong comp=Z,5.2nm,0.7s,baz=136,slow=5.8,SNR=5.2 comp=Z,5.2nm,0.7s	56.16	306	P	P	15 13 28.0	-0.4
MAW	Mawson comp=Z,5.2nm,0.9s,baz=110,slow=6.0,SNR=5.1 comp=Z,5.2nm,0.9s	58.48	205	P	P	15 13 46.4	+2.3
SMAI	San Martin Ant	60.72	158	P	P	15 14 02.1	+2.6
SNAA	Sanae	66.04	181	P	P	15 14 35.4	+0.6
PLCA	Paso Flores comp=Z,3.1nm,0.9s,baz=210,slow=4.3,SNR=4.8 comp=Z,3.1nm,0.9s	78.90	136	P	P	15 15 53.9	+1.9
PLCA	Paso Flores	78.90	136	P	P	15 15 52.4	+0.4
PLCA	comp=Z,12nm,1.4s			IAmb	IAmb	15 16 28.6	
BO02	Sierra Bellavi	83.16	132	P	P	15 16 14.8	0.0
KSRS	Korea Array comp=Z,1.2nm,0.7s,baz=152,slow=4.6,SNR=5.4 comp=Z,1.2nm,0.7s	89.81	325	P	P	15 16 47.0	+0.1
INK	Inuvik	117.41	20	PKPdf	PKPdf	15 22 32.8	-0.1
EYMN	Ely	122.83	53	PKPdf	PKiKP	15 22 44.2	0.0
COWI	Conover	123.36	56	PKPdf	PKiKP	15 22 45.6	+0.3
DBIC	Dimbokro	144.22	183	PKP	PKPbc	15 23 23.4	+0.4
SFJD	Kangerlussuaq comp=Z,11nm,0.9s,baz=239,slow=5.9,SNR=4.7	145.91	29	PKPbc	PKPbc	15 23 26.7	-0.1
ARCES	ARCESS Array B	148.35	339	PKPbc	PKPbc	15 23 32.1	-1.6
ARCES	comp=Z,6.0nm,0.8s,baz=46,slow=2.6,SNR=14 ARCESS Array B	148.35	339	PKPdf	PKPdf	15 23 28.4	-1.9
ARCES	ARCESS Array B	148.35	339	P	PKPbc	15 23 32.1	-1.6
TORD	Torodi Ar. Bea comp=Z,20nm,1.2s,baz=192,slow=0.5,SNR=34	149.84	196	PKPbc	PKPbc	15 23 37.9	-1.1
TORD	Torodi Ar. Bea	149.84	196	PKPdf	PKPdf	15 23 33.9	-0.4
TORD				PKPbc	sPKPdf	15 23 39.3	-0.2

IDC ***16*** *15:04:52.9±2.3, 35°.21N×141°.36E, h0km, mb3.8/6, mbtmp3.9/9, ML3.4/3, MS3.2/1, Error ellipse: s-maj=64.2km s-min=19.8km az=72.0*

JMA ***16*** *15:04:56.8±0.2, 35°.3N±0°.3×141°.2E±0°.9, h40km±1km, MV3.1/38, E OFF BOSO PENINSULA*

ISC 16 15:04:57.7±1.2, 35°.23N±0°.05×141°.2E±0°.1, h35km, n28, σ1s19/21, mb3.8/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.56	327	P	Pn	15 05 07.7	-1.5
CHOJ				eS	Sn	15 05 15.7	-1.5
BSO1	Boso 1	0.61	200	P	Pn	15 05 09.6	+0.1
BSO1				eX		15 05 19.0	
BSO3	Boso 3	0.73	234	P	Pn	15 05 11.2	-0.1
BSO3				eX		15 05 22.1	
KTR	Katsuura	0.76	264	P	Pn	15 05 11.3	-0.6
JSMT	Sammumatsuo	0.76	303	P	Pn	15 05 11.1	-0.8
BSO4	Boso 4	0.77	252	P	Pn	15 05 12.0	0.0
JKUC	kamogawauchiur	0.85	265	P	Pn	15 05 12.5	-0.6
JKUC				eS	Sn	15 05 23.6	-0.7
JYT	Yasato	1.30	320	P	Pn	15 05 18.6	-0.8
JIM2	Oshima 3	1.56	251	P	Pn	15 05 21.8	-1.3
JHJ	Hachijo jima 2 15nm,0.3s,baz=138,slow=22,SNR=20	2.43	210	Pn	Pn	15 05 34.2	-0.6
JHJ	66nm,0.3s,baz=253,slow=23,SNR=7.2 124nm,1.0s			Sn	Sn	15 06 00.3	-3.0
MJAR	Matsushiro Arr 0.9nm,0.3s,baz=100,slow=14,SNR=34 7.2nm,0.5s	2.78	299	Pn	Pn	15 05 41.0	+1.3
JCJ	Chichijima 4.2nm,0.3s,baz=298,slow=20,SNR=1.5 20nm,0.5s	8.15	174	Pn	Pn	15 06 52.5	-1.0
KSRS	Korea Array comp=Z,112nm,18.4s,baz=160,slow=39	10.96	286	LR	LR	15 12 03.9	
H11N2	WAKE ISLAND Hy baz=310,slow=76,SNR=67	27.40	118	T	T	15 39 40.4	
H11N1	WAKE ISLAND Hy baz=310,slow=76,SNR=71	27.41	118	T	T	15 39 39.4	
H11N3	WAKE ISLAND Hy baz=310,slow=76,SNR=66	27.42	118	T	T	15 39 42.6	
H11S3	WAKE ISLAND Hy baz=312,slow=76,SNR=289	28.05	120	T	T	15 40 29.3	
H11S1	WAKE ISLAND Hy baz=312,slow=76,SNR=285	28.05	120	T	T	15 40 30.3	
H11S2	WAKE ISLAND Hy baz=312,slow=76,SNR=269	28.07	120	T	T	15 40 31.5	
SONM	Songino Array 0.2nm,0.4s,baz=98,slow=8.9,SNR=3.6 0.2nm,0.4s	28.70	307	P	P	15 10 52.4	+0.8
ZALV	Zalesovo Beam 1.0nm,0.6s,baz=96,slow=7.0,SNR=5.9 1.0nm,0.6s	43.03	314	P	P	15 12 55.1	+1.4
MKAR	Makanchi Array 0.6nm,0.7s,baz=95,slow=8.8,SNR=6.2 0.6nm,0.7s	44.97	304	P	P	15 13 10.3	+0.9
KURBB	Kurchatov Arra 1.3nm,0.5s,baz=83,slow=7.9,SNR=9.5 1.3nm,0.5s	47.01	309	P	P	15 13 26.4	+1.1
BVAR	Borovoye Array 0.6nm,0.6s,baz=50,slow=4.5,SNR=3.3 0.6nm,0.6s	51.69	313	P	P	15 14 01.4	+0.3
WRA	Warramunga Arr 2.3nm,1.0s,baz=1.0,slow=7.5,SNR=6.4 2.3nm,1.0s	55.26	188	P	P	15 14 27.7	+0.2
H03N2	Juan Fernandez baz=290,slow=76,SNR=17	146.94	99	T	T	18 08 57.7	
H03N3	Juan Fernandez baz=290,slow=76,SNR=16	146.95	99	T	T	18 09 00.6	
H03N1	Juan Fernandez baz=290,slow=76,SNR=15	146.96	99	T	T	18 08 59.1	

NEIC ***16*** *15:08:45.7±1.6, 6°.0S±0°.2×151°.1E±0°.3, h49km±12km, mb4.2/17, Error ellipse: s-maj=45.0km s-min=3.2km az=121.0*

IDC ***16*** *15:08:47.2±2.3, 5°.82S×150°.81E, h59km±27km, mb3.7/4, mbtmp4.0/4, Error ellipse: s-maj=77.8km s-min=15.9km az=124.0*

ISC 16 15:08:45.1±0.8, 6°.1S±0°.2×151°.1E±0°.2, h43km, n27, σ1s23/28, mb4.2/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076 859nm,0.4s,baz=298,slow=1.4,SNR=97	1.97	27	P	Pn	15 09 16.1	+0.1
KRVT	363nm,0.5s,baz=99,slow=12,SNR=6.4			S	Sn	15 09 41.8	+2.3
RABL	Rabaul	2.13	29	Pn	Pn	15 09 17.9	-0.4
PMG	Port Moresby	5.15	230	Pn	Pn	15 10 00.6	+0.8
EIDS	Eidsvold	19.18	180	P	P	15 13 04.6	-0.6
WB0	Warramunga Arr	21.22	229	P	P	15 13 26.9	-0.5
WB0	comp=Z,20nm,1.4s			IAmb	IAmb	15 13 37.6	
WR0	Warramunga Arr	21.23	228	P	P	15 13 26.8	-0.8
WR0	comp=Z,14nm,1.3s			IAmb	IAmb	15 13 32.8	
WRAB	Tennant Creek	21.35	228	P	P	15 13 28.8	-0.1
WRAB	comp=Z,7.4nm,0.8s			IAmb	IAmb	15 13 44.2	
WB2	Warramunga Arr comp=Z,4.8nm,0.8s	21.36	228	P	P	15 13 26.4	-2.6
WB2				IAmb	IAmb	15 13 31.3	
WRA	Warramunga Arr comp=Z,2.1nm,0.5s,baz=53,slow=11,SNR=18 comp=Z,2.1nm,0.5s	21.37	228	P	P	15 13 29.3	+0.2
WRA	Warramunga Arr	21.37	228	P	P	15 13 26.9	-2.2
AS31	Alice Springs	24.10	222	P	P	15 13 56.8	-0.1
ASAR	Alice Springs comp=Z,2.9nm,0.8s,baz=55,slow=9.0,SNR=24 comp=Z,2.9nm,0.8s	24.10	222	P	P	15 13 58.0	+1.0
ASAR	Alice Springs	24.10	222	P	P	15 13 56.8	-0.2
STKA	Stephens Creek comp=Z,3.1nm,1.0s,baz=23,slow=11,SNR=3.1 comp=Z,3.1nm,1.0s	27.18	198	P	P	15 14 26.6	+1.9
K20K	Telida	80.52	22	P	P	15 20 53.5	+1.0
SML	Sawmill	81.96	25	P	P	15 21 00.1	-0.1
IMAR	Indian Mountai	82.13	20	P	P	15 20 59.0	-1.9
SCM	Sheep Creek Mo	82.39	25	P	P	15 21 02.0	-0.5
MLY	Manley	82.66	21	P	P	15 21 03.6	-0.2
MLY	comp=Z,4.2nm,1.3s			IAmb	IAmb	15 21 12.3	
I23K	Minto, Yukon-K	83.22	22	P	P	15 21 06.2	-0.5
I23K	comp=Z,4.1nm,1.4s			IAmb	IAmb	15 21 07.0	
H23K	Yukon River	83.50	21	P	P	15 21 08.7	+0.5
CCB	Clear Creek Bu	83.55	22	P	P	15 21 07.2	-1.1
CCB	comp=Z,2.9nm,1.3s			IAmb	IAmb	15 21 13.6	
IL31		83.96	22	P	P	15 21 08.7	-1.6
IL31	comp=Z,4.3nm,1.4s			IAmb	IAmb	15 21 26.2	
ILAR	Eielson Array comp=Z,0.9nm,0.6s,baz=250,slow=5.2,SNR=12 comp=Z,0.9nm,0.6s	83.96	22	P	P	15 21 09.2	-1.3
J25K	Salcha River,	84.47	23	P	P	15 21 11.7	-1.4
J25K	comp=Z,5.6nm,1.4s			IAmb	IAmb	15 21 14.8	
M27K	Edge Creek, AK	84.93	26	P	P	15 21 15.0	-0.6
TORD	Torodi Ar. Bea comp=Z,1.3nm,0.7s,baz=65,slow=3.1,SNR=5.2	149.09	285	PKPbc	PKPbc	15 28 28.7	-1.1

KLM ***16*** *15:10:07, 9°.92S×113°.01E, h116km, mb5.9*

BJI ***16*** *15:10:10.0±0.0, 9°.20S×113°.10E, h100km, mb6.2/90, mB6.0/64*

NEIC ***16*** *15:10:11.9, 8°.96S×113°.19E, h87km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.23; Mθθ2.19; Mφφ-2.42; Mrθ2.26; Mrφ-1.23; Mθφ-1.19; Fault plane solution: Mo3.66000×10¹⁷ NP1:φs52.21000°, δ54.06000°, λ167.11000°. NP2:φs149.86000°, δ79.59000°, λ36.64000°. Principal axes: T 4.1080, Plg33.0000°, Azm17.0000°; N -1.1935, Plg52.0000°, Azm164.0000°; P -2.9145, Plg17.0000°, Azm276.0000°;*

NEIC ***16*** *15:10:11.0±2.2, 9.00S±0.07°×113.25E±0.05, h85km±1km, mb5.9/170, Mwb5.6/33, Mww5.7 Error ellipse: s-maj=11.6km s-min=9.0km az=183.0*

MOS ***16*** *15:10:12.2±1.1, 8°.89S×113°.18E, h112km, mb6.0/70, MS4.6/4, Error ellipse: s-maj=5.9km s-min=3.8km az=119.6*

DJA ***16*** *15:10:12.4±0.1, 9°.5±1°×11°.3E±°, h102km±1km, M5.6/121, mb5.8/121, mB6.1/108, MLv6.3/24, Mw5.6/124, Mw(mB)5.7/108, MwbMwp5.3/62, Mwp5.5/62*

IDC ***16*** *15:10:12.3±0.6, 8°.84S×113°.25E, h92km±4km, mb5.3/48, mbtmp5.6/50, MS4.4/56, Error ellipse: s-maj=8.5km s-min=6.5km az=41.0*

GCMT ***16*** *15:10:13.0±0.1, 9°.14S±0°.01×113°.18E±0°.01, h106km, MW5.7/150, Moment Tensor Solution. s146,c272; s150,c298; Duration: 1s8 Moment tensor: Scale 10¹⁷ Nm; Mrr0.61±.04; Mθθ3.23±.05; Mφφ-3.83±.05; Mrθ2.24±.03; Mθφ-1.79±.04; Mrφ-0.96±.04; Best double couple: Mo4.64000×10¹⁷ NP1:φs152.00000°, δ74.00000°, λ25.00000°. NP2:φs54.00000°, δ66.00000°, λ163.00000°. Principal axes: T 4.9820, Plg29.0000°, Azm15.0000°; N -0.6760, Plg60.0000°, Azm182.0000°; P -4.2980, Plg6.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *15:10:13, 9°.06S×113°.19E, h100km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.61; Mθθ2.42; Mφφ-3.03; Mrθ2.52; Mrφ-1.03; Mθφ-0.68; Fault plane solution: Mo3.94000×10¹⁷ NP1:φs49.00000°, δ63.00000°, λ157.00000°. NP2:φs150.00000°, δ70.00000°, λ29.00000°. Principal axes: T 4.3940, Plg34.0000°, Azm11.0000°; N -1.1602, Plg55.0000°, Azm182.0000°; P -3.2338, Plg5.0000°, Azm278.0000°;*

ISC 16 15:10:12.4±0.2, 8°.95S±0°.03×113°.19E±0°.03, h102km±1km, h103km:pP-P, n1539, σ1s58/1768, mb5.9/291, 124C-22D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	Gumukmas	0.72	21	P	Pn	15 10 30.7	+0.5
JAGI	Jajag, Banyuwa	1.07	63	Pn	Pn	15 10 33.9	+0.2
JAGI				Sn	Sn	15 10 50.3	+0.5
JAGI	Jajag, Banyuwa	1.07	63	P	Pn	15 10 34.6	+0.9
JAGI	Jajag, Banyuwa	1.07	63	P	Pn	15 10 35.4	+1.7
KRKI	Karangkates	1.07	317	P	Pn	15 10 34.7	+0.9
BYJI	Banyuwangi	1.37	58	P	Pn	15 10 39.0	+1.8
ABJI	Asem Bagus	1.55	42	P	Pn	15 10 41.9	+2.5
RTBI	Rangdo, Negare	1.80	74	P	Pn	15 10 43.8	+1.2
IGBI	Denpasar	1.94	86	P	Pn	15

2.7nm11µm6µm417nm,1.3s
KAPI Kappang 7.60 59 P Pn 15 12 03.2 +2.7
481nm,1.3s
KAPI Kappang 7.60 59 *i* P Pn 15 12 01.8 +1.3
BSSI Bau Bau, Buton 7.76 69 P Pn 15 12 04.0 +1.3
7.9nm11µm20µm2µm,0.8s
BKSI Bulukumba 7.77 63 P Pn 15 12 04.5 +1.7
3.3nm12µm10µm997nm,0.8s
PMSI Majene 7.86 47 P Pn 15 12 06.6 +2.6
10µm25µm3µm,0.8s
MTKI Muara Teweh, K 8.14 12 P Pn 15 12 11.0 +3.2
18µm57µm5µm,1.4s
SPSI Sidrap Palu 8.20 53 P Pn 15 12 10.8 +2.1
9µm8µm401nm,1.0s
BNSI Bone 8.23 57 P Pn 15 12 13.0 +4.0
9µm11µm499nm,1.9s
TPI Tanjungpandan 8.26 318 P Pn 15 12 09.7 +0.3
MMSI Mamuju 8.43 43 P Pn 15 12 17.1 +5.3
5µm8µm492nm,1.0s
BKB Balikpapan 8.49 26 Pn Pn 15 12 20.0 +7.5
BKB Balikpapan 8.49 26 P Pn 15 12 19.3 +6.7
26µm33µm3µm,1.1s
BLSI Bandar Lampung 8.65 294 P Pn 15 12 14.0 -0.8
20µm2µm,0.9s
MMRI Maumere 8.95 89 Pn Pn 15 12 16.4 -2.5
MMRI Maumere 8.95 89 P Pn 15 12 15.7 -3.2
13µm31µm3µm,0.8s
MMRI Maumere 8.95 89 P Pn 15 12 16.9 -2.0
2µm,0.8s
KLI Kotabumi 9.21 296 P Pn 15 12 21.9 -0.5
13µm14µm2µm,1.0s
KLI Kotabumi 9.21 296 P Pn 15 12 22.5 +0.1
KLI pmax pmax
comp=Z,2µm,1.1s
KASI Kota Agung 9.27 291 P Pn 15 12 21.6 -1.6
comp=Z,12µmcomp=Z,32µmcomp=Z,3µm,1.0s
SMKI Samarinda 9.35 26 P Pn 15 12 29.2 +4.9
comp=Z,18µmcomp=Z,35µmcomp=Z,2µm,1.0s
KKSI Kolaka, Sulawe 9.65 61 P Pn 15 12 32.6 +4.1
comp=Z,8µmcomp=Z,540nm,1.0s
PPBI Pangkal Pinang 9.73 313 P Pn 15 12 30.6 +1.1
comp=Z,7µmcomp=Z,12µmcomp=Z,1µm,1.1s
LWLI Liwa 9.87 293 P Pn 15 12 30.0 -1.4
comp=Z,12µmcomp=Z,67µmcomp=Z,5µm,0.7s
BBSI Bau Bau 9.92 70 P Pn 15 12 34.5 +2.4
comp=Z,7µmcomp=Z,400nm,0.8s
PMBI Palembang 10.29 305 Pn Pn 15 12 38.4 +1.1
PMBI Palembang 10.29 305 P Pn 15 12 38.4 +1.3
comp=Z,8µmcomp=Z,11µmcomp=Z,1µm,0.9s
PMBI Palembang 10.29 305 P Pn 15 12 39.4 +2.3
comp=Z,1µm,1.0s
BATI Baumata 10.40 98 P Pn 15 12 38.0 -0.7
comp=Z,4µm,0.5s,baz=302,slow=1.9,SNR=184
BATI S Sn 15 14 26.9 -6.5
comp=Z,931nm,0.5s,baz=343,slow=22,SNR=5.7
BATI Baumata 10.40 98 P Pn 15 12 35.3 -3.4
comp=Z,10µmcomp=Z,51µmcomp=Z,5µm,0.5s
KSM Kuching 10.75 344 Pn 15 12 43.9 +0.6
KSM Kuching 10.75 344 P Pn 15 12 44.2 +0.9
comp=Z,9µmcomp=Z,3µmcomp=Z,208nm,0.9s
KSM Kuching 10.75 344 P Pn 15 12 48.5 +5.2
comp=Z,208nm,0.9s
SOEI Soe 10.96 95 Pn 15 12 42.7 -3.6
SOEI Soe 10.96 95 P Pn 15 12 42.3 -4.0
comp=Z,13µmcomp=Z,26µmcomp=Z,2µm,0.7s
SOEI Soe 10.96 95 P Pn 15 12 46.3 0.0
comp=Z,2µm,0.7s
MNAI Manna 11.14 294 Pn Pn 15 12 47.5 -1.1
MNAI Manna 11.14 294 P Pn 15 12 46.8 -1.8
comp=Z,10µmcomp=Z,115µmcomp=Z,11µm,1.2s
MNAI Manna 11.14 294 P Pn 15 12 47.6 -1.0
comp=Z,11µm,1.2s
SBUM Sibu 11.37 355 Pn 15 12 54.5 +2.8
SBUM Sibu 11.37 355 P Pn 15 12 54.7 +3.0
comp=Z,5µmcomp=Z,4µmcomp=Z,168nm,2.6s
MPSI Mapaga 11.40 36 P Pn 15 12 56.1 +4.1
comp=Z,11µmcomp=Z,10µmcomp=Z,470nm,1.8s
EGSI Enggano, Bengk 11.40 288 P Pn 15 12 48.8 -3.3
comp=Z,135µmcomp=Z,5µm,1.2s
APSI Ampana 11.61 47 P Pn 15 12 57.8 +2.9
comp=Z,9µmcomp=Z,15µmcomp=Z,1µm,1.2s
KSI Kapahiang 11.77 296 P Pn 15 12 55.4 -1.7
comp=Z,44µmcomp=Z,4µm,0.6s
KSI Kapahiang 11.77 296 P Pn 15 12 56.6 -0.5
KSI pmax pmax
comp=Z,4µm,0.6s
JMBI JAMBI 11.96 307 P Pn 15 13 00.5 +0.9
comp=Z,6µmcomp=Z,358nm,1.4s
UBSI University, Be 12.01 295 P Pn 15 12 57.9 -2.3
comp=Z,8µmcomp=Z,27µmcomp=Z,1µm,1.1s
DSRI Dabo 12.02 314 P Pn 15 12 59.8 -0.5
comp=Z,5µmcomp=Z,5µmcomp=Z,394nm,0.9s
MASI Maura Aman, Be 12.32 297 P Pn 15 13 02.3 -2.1
comp=Z,4µmcomp=Z,20µmcomp=Z,2µm,0.9s
LUWI Luwuk 12.36 51 Pn 15 13 05.6 +0.7
LUWI Luwuk 12.36 51 P Pn 15 13 07.7 +2.8
comp=Z,8µmcomp=Z,11µmcomp=Z,806nm,1.5s
LUWI Luwuk 12.36 51 P P 15 13 10.6 -2.1
comp=Z,808nm,1.5s
TOLI2 Tolitoli 12.54 37 Pn 15 13 10.2 +3.0
TOLI2 Tolitoli 12.54 37 P P 15 13 12.1 -2.6
comp=Z,1µm,1.3s
MRSI Marisa 12.80 43 P Pn 15 13 12.3 +1.7
comp=Z,8µmcomp=Z,7µmcomp=Z,805nm,1.0s
TPRI Tanjung Pinang 13.06 318 P Pn 15 13 15.4 +1.3
comp=Z,5µmcomp=Z,4µmcomp=Z,488nm,1.0s
GIRL Giralia 13.65 176 P Pn 15 13 17.2 -4.5
baz=14,SNR=373
GIRL Giralia 13.65 176 Pn 15 13 16.7 -5.0
GIRL Giralia 13.65 176 P Pn 15 13 18.6 -3.1
comp=Z,2µm,0.6s
GTOI Gorontalo 13.66 46 P Pn 15 13 24.2 +2.3
comp=Z,9µmcomp=Z,398nm,1.1s
MBWA Marble Bar 13.68 153 Pn 15 13 16.3 -5.8
BTDF Bukit Timah Da 13.89 317 P Pn 15 13 24.4 -0.5
comp=Z,2µmcomp=Z,134nm,1.2s
SPMM Sapulut 13.96 14 P P 15 13 35.0 +4.5
PSA00 Pilbara Seismi 14.09 154 Pn 15 13 22.1 -5.4
MYKOM Kota Tinggi 14.16 318 Pn 15 13 27.0 -1.4
MYKOM Kota Tinggi 14.16 318 P Pn 15 13 28.4 0.0
comp=Z,5µmcomp=Z,2µmcomp=Z,204nm,1.2s
SDSI Sungai Dareh 14.16 304 P Pn 15 13 26.2 -2.2
comp=Z,7µmcomp=Z,10µmcomp=Z,952nm,1.2s
SANI Sanana 14.46 62 P P 15 13 34.6 -1.5
comp=Z,7µmcomp=Z,7µmcomp=Z,598nm,1.4s
SANI Sanana 14.46 62 P P 15 13 35.0 -1.1
comp=Z,598nm,1.4s
PPSI Pulau Pagai 14.47 294 P Pn 15 13 28.4 -4.0
comp=Z,7µmcomp=Z,27µmcomp=Z,2µm,1.5s
NLAI Namlea 14.95 69 P P 15 13 41.9 +0.4
comp=Z,163nm,1.1s
PDSI Padang 14.98 302 P Pn 15 13 34.0 -4.9
comp=Z,6µmcomp=Z,10µmcomp=Z,248nm,0.5s
MYLDM Lahad Datu 15.01 21 P P 15 13 43.1 +1.1
MYLDM Lahad Datu 15.01 21 P P 15 13 43.2 +1.1
comp=Z,12µmcomp=Z,15µmcomp=Z,634nm,1.6s
KKM Kota Kinabalu 15.20 12 P Pn 15 13 41.9 +0.1
KKM Kota Kinabalu 15.20 12 P P 15 13 43.1 -1.3
comp=Z,10µmcomp=Z,7µmcomp=Z,360nm,1.5s
KKM Kota Kinabalu 15.20 12 P P 15 13 43.2 -1.2
comp=Z,359nm,1.5s
BKNI Bangkinang 15.21 307 Pn 15 13 41.0 -0.8
BKNI Bangkinang 15.21 307 P Pn 15 13 40.2 -1.6
comp=Z,5µmcomp=Z,7µmcomp=Z,370nm,1.1s
BKNI Bangkinang 15.21 307 P Pn 15 13 41.9 +0.1
comp=Z,376nm,1.1s
PPI Padang Panjang 15.28 303 P Pn 15 13 40.0 -2.6
comp=Z,4µmcomp=Z,193nm,1.3s
AAI Ambon 15.80 72 P P 15 13 51.3 +0.3
comp=Z,10µmcomp=Z,8µmcomp=Z,384nm,1.2s
AAI Ambon 15.80 72 P P 15 13 51.6 +0.6
AAI pmax pmax
comp=Z,420nm,1.2s
SISI Saibi 15.95 298 P Pn 15 13 46.5 -4.5
comp=Z,22µmcomp=Z,3µm,0.9s
KRAI Karang Ratu 16.12 71 P P 15 13 54.3 -0.2
comp=Z,5µmcomp=Z,202nm,1.0s
COCO West Island 16.39 257 P Pn 15 13 56.5 +0.1
COCO West Island 16.39 257 P Pn 15 13 56.6 +0.1
LBMI Labuha 16.47 61 P P 15 13 59.2 +0.8
comp=Z,11µmcomp=Z,1µm,1.1s
MSAI Masohi 16.61 71 P P 15 14 00.3 +0.4
comp=Z,870nmcomp=Z,57nm,0.6s
KNRA Kununurra 16.61 115 P Pn 15 13 58.3 -0.9
baz=17,SNR=356
KNRA Kununurra 16.61 115 P Pn 15 13 59.0 -0.3
KNRA Kununurra 16.61 115 P P 15 14 00.0 +0.1
comp=Z,1µm,0.7s
JRMM Jerantut 16.64 320 P P 15 14 01.0 +0.8
MNSI Mandailing Nat 16.66 305 P Pn 15 13 56.2 -3.6
comp=Z,3µmcomp=Z,164nm,0.9s
TNTI Ternate 17.11 56 P P 15 14 05.8 +0.3
TNTI Ternate 17.11 56 P P 15 14 07.1 +1.6
comp=Z,5µmcomp=Z,14µmcomp=Z,727nm,2.1s
TNTI Ternate 17.11 56 P P 15 14 08.1 +2.6
comp=Z,727nm,2.1s
BNDI Bandanaira 17.17 76 P Pn 15 14 05.5 -0.6
comp=Z,10µmcomp=Z,27µmcomp=Z,3µm,1.1s
BNDI Bandanaira 17.17 76 P P 15 14 07.5 +1.4
comp=Z,3µm,1.1s
PBSI Pulau Batu 17.28 300 P P 15 14 03.0 -4.3
comp=Z,7µmcomp=Z,480nm,1.1s
SGSI Sangihe 17.58 45 P Pn 15 14 12.1 +1.1
comp=Z,11µmcomp=Z,666nm,1.0s
TRSI Tarutung 17.89 307 P Pn 15 14 15.1 +0.2
comp=Z,5µmcomp=Z,208nm,1.4s
SAUI Saumlaki 17.94 88 P P 15 14 13.1 -1.5
SAUI Saumlaki 17.94 88 P P 15 14 13.8 -0.8
comp=Z,8µmcomp=Z,14µmcomp=Z,986nm,0.8s
SAUI Saumlaki 17.94 88 P Pn 15 14 15.0 -0.4
comp=Z,997nm,1.1s
IPM Ipoh 18.03 317 P P 15 14 15.8 +0.2
IPM Ipoh 18.03 317 P Pn 15 14 16.7 +0.2
comp=Z,5µmcomp=Z,2µmcomp=Z,184nm,1.1s
IPM Ipoh 18.03 317 P Pn 15 14 17.1 +0.6
comp=Z,184nm,1.1s
MTN Manton Dam 18.04 104 P Pn 15 14 16.5 -0.1
baz=18,SNR=37
MTN Manton Dam 18.04 104 P P 15 14 15.0 -0.7
MTN Manton Dam 18.04 104 P Pn 15 14 16.8 +0.2
comp=Z,615nm,0.5s
GAMI Galela, Maluku 18.07 54 P Pn 15 14 17.6 +0.6
comp=Z,32µmcomp=Z,3µm,1.5s
MEEK Meekatharra 18.33 164 P Pn 15 14 19.6 -0.3
baz=18,SNR=611
MEEK Meekatharra 18.33 164 P Pn 15 14 19.9 0.0
comp=Z,649nm,0.7s
RPSI Rantau Prapat 18.33 309 P P 15 14 17.2 -1.6
PSI Prapat 18.40 309 P P 15 14 17.2 -2.5
comp=Z,7µmcomp=Z,3µmcomp=Z,123nm,1.1s
PSI P P 15 14 17.1 -2.6
comp=Z,7µmcomp=Z,3µmcomp=Z,123nm,1.1s
PSI Prapat 18.40 309 P Pn 15 14 20.8 -0.2
comp=Z,123nm,1.1s
PSI Prapat 18.40 309 P P 15 14 17.2 -2.5
GSI Gunungsitoli 18.60 302 P P 15 14 18.4 -3.4
GSI Gunungsitoli 18.60 302 P P 15 14 18.8 -3.0
comp=Z,3µmcomp=Z,131nm,0.5s
GSI Gunungsitoli 18.60 302 P P 15 14 19.4 -2.4
comp=Z,125nm,0.5s
KULM Kulim 18.88 318 P P 15 14 23.4 -1.5
KULM Kulim 18.88 318 P P 15 14 24.6 -0.3
comp=Z,2µmcomp=Z,180nm,1.5s
KULM Kulim 18.88 318 P Pn 15 14 26.0 -0.6
KULM Kulim 18.88 318 P Sn 15 18 08.0 +10
GSPH General Santos 18.99 39⇓ *eP* Pn 15 14 30.0 +2.0
TSI Tuntungan 19.12 310 P P 15 14 28.4 +0.9
comp=Z,7µmcomp=Z,8µmcomp=Z,380nm,1.0s
KDU Kakadu 19.30 103 P P 15 14 29.1 -0.4
baz=19,SNR=82
KDU Kakadu 19.30 103 P P 15 14 29.6 +0.2
comp=Z,443nm,1.0s
CTBH Cotabato--PC H 19.48 35⇓ *iP* Pn 15 14 33.6 -0.1
SIJI Sorong 19.71 67 P P 15 14 33.5 -0.4
comp=Z,133nm,0.8s,baz=257,slow=12,SNR=38
SIJI S S 15 18 02.6 -8.2
comp=Z,18nm,0.7s,baz=106,slow=23,SNR=7.9
SIJI ScP ScP 15 22 16.6 +0.6
comp=Z,3.1nm,0.5s,baz=221,slow=19,SNR=2.2
SIJI Sorong 19.71 67 P P 15 14 32.7 -1.2
comp=Z,5µmcomp=Z,6µmcomp=Z,673nm,1.2s
KCSI Kotacane, Aceh 19.74 308 P Pn 15 14 35.7 -1.0
comp=Z,2µmcomp=Z,99nm,0.9s
FAKI Fak Fak 19.88 74 P P 15 14 33.2 -2.5
FAKI Fak Fak 19.88 74 P P 15 14 32.2 -3.5
comp=Z,6µmcomp=Z,7µmcomp=Z,714nm,0.8s
FAKI Fak Fak 19.88 74 P P 15 14 34.2 -1.5
comp=Z,702nm,0.8s
DAV Davao City (W) 20.15 38 P P 15 14 39.3 +0.7
comp=Z,309nm,0.4s,baz=159,slow=4.3,SNR=6.2
comp=Z,309nm,0.4s
DAV Davao City (W) 20.15 38 P P 15 14 39.7 +1.1
DCPH Dipolog City 20.15 30⇑ *iP* Pn 15 14 40.2 -1.2
MORW Morawa 20.19 173 P P 15 14 39.2 +0.2
baz=20,SNR=17
MORW Morawa 20.19 173 P P 15 14 38.3 -0.7
MORW Morawa 20.19 173 P Pn 15 14 43.6 +1.8
comp=Z,274nm,0.7s
SKLT Songkhla 20.33 322 P P 15 14 41.9 +1.3
comp=Z,1µmcomp=Z,69nm,0.5s
SKLT Songkhla 20.33 322 P P 15 14 42.0 +1.3
comp=Z,73nm,0.5s
CGP Cagayan de Oro 20.75 34⇓ *eP* Pn 15 14 47.0 -1.4
SNPH Sibulan 20.75 29 *eP* Pn 15 14 47.7 -0.8
LSIP Lazi, Siquijor 20.76 30⇓ *eP* P 15 14 46.5 +1.3
MLSI Meulaboh, Aceh 21.27 307 P P 15 14 50.0 -0.7
comp=Z,119nm,0.6s
DLV T Lat 21.28 347 P P 15 14 51.9 +0.9
comp=Z,146nm,1.7s
TBP Tagbilaran 21.35 30⇑ *iP* P 15 14 51.8 +0.2
LHMI Lhok Sumawe 21.46 310 P P 15 14 52.9 +0.2
LHMI Lhok Sumawe 21.46 310 P P 15 14 53.3 +0.6
comp=Z,6µmcomp=Z,4µmcomp=Z,366nm,0.9s
LHMI Lhok Sumawe 21.46 310 P P 15 14 54.8 +2.1
comp=Z,363nm,0.9s
BIPH Bislig 21.50 38⇓ *eP* P 15 14 54.8 +1.7
BIPH Bislig 21.50 38 *eS* S 15 14 48.3 +2.5
WRKA Warakurna 21.52 140 P P 15 14 53.4 +0.1
baz=22,SNR=138
WRKA Warakurna 21.52 140 P P 15 14 54.0 +0.7
comp=Z,305nm,1.4s
GHBP Garcia Hernand 21.53 31⇓ *iP* P 15 14 54.4 +0.9
BLDU Ballidu 21.80 172 P P 15 14 56.3 +0.1
baz=22,SNR=56
BLDU Ballidu 21.80 172 P P 15 14 56.8 +0.6
comp=Z,169nm,1.0s
TABP Talibon, Bohol 21.93 31⇓ *iP* P 15 14 58.0 +0.3
SRIT Nakonsritamara 22.07 322 P P 15 14 58.9 -0.3
SRIT Nakonsritamara 22.07 322 P P 15 15 01.2 +2.0
comp=Z,156nm,0.5s
RKPI Ransiki, Papua 22.16 72 P P 15 15 01.0 +0.9
comp=Z,6µmcomp=Z,6µmcomp=Z,375nm,0.8s
RCP Roxas 22.49 25⇓ *eP* P 15 15 05.0 +1.5
SURA Surathani 22.50 323 P P 15 15 05.5 +1.8
comp=Z,171nm,1.2s
KLBR Kellerberrin 22.92 170 P P 15 15 08.0 +0.3
baz=23,SNR=50
KLBR Kellerberrin 22.92 170 P P 15 15 08.3 +0.5
comp=Z,484nm,0.5s
MUN Mundaring 23.08 173 P P 15 15 09.6 +0.3
baz=23,SNR=6.1
MUN Mundaring 23.08 173 P P 15 15 09.8 +0.5
comp=Z,213nm,0.6s
MUN Mundaring 23.08 173 P P 15 15 08.2 -1.1
WB0 Warramunga Arr 23.16 120 P P 15 15 09.4 -0.7
WRA Warramunga Arr 23.18 120 P P 15 15 10.0 -0.4
comp=Z,96nm,0.6s,baz=298,slow=11,SNR=534
WRA S S 15 19 11.6 -2.7
comp=Z,9.8nm,0.6s,baz=294,slow=14,SNR=2.1
WRA LR LR 15 25 36.5
comp=Z,332nm,21.0s,baz=289,slow=40
WRA P3KPbc 15 48 36.8
comp=Z,1.7nm,0.9s,baz=119,slow=4.7,SNR=8.1
comp=Z,96nm,0.6s
WRA Warramunga Arr 23.18 120 P P 15 15 09.4 -0.9
WRA Warramunga Arr 23.18 120 P P 15 15 09.5 -0.9
WRAB Tennant Creek 23.19 120 P P 15 15 09.7 -0.7
WRAB Tennant Creek 23.19 120 P P 15 15 10.4 0.0
comp=Z,283nm,0.9s
WRAB Tennant Creek 23.19 120 *ce* P P 15 15 10.1 -0.3
WRAB pmax pmax
comp=Z,192nm,0.8s
WB2 Warramunga Arr 23.19 120 P P 15 15 09.7 -0.8
WR0 Warramunga Arr 23.36 120 P P 15 15 11.6 -0.5
LUBP Lubang 23.60 17⇓ *iP* P 15 15 16.3 +2.1
KMBL Kambalda 23.73 161 P P 15 15 15.2 0.0
baz=24,SNR=76
KMBL Kambalda 23.73 161 P P 15 15 15.8 +0.6
comp=Z,321nm,0.7s
SRPI Serui, Papua 23.99 74 P P 15 15 17.1 -0.6
comp=Z,3µmcomp=Z,5µmcomp=Z,190nm,0.7s
NWAO Narrogin (SRO) 24.15 172 P P 15 15 19.4 +0.5
comp=Z,29nm,0.5s,baz=208,slow=8.4,SNR=61
NWAO S S 15 19 30.5 +0.8
comp=Z,23nm,0.4s,baz=5.4,slow=15,SNR=1.7
NWAO LR LR 15 25 16.0
comp=Z,1µm,19.2s,baz=210,slow=37
comp=Z,29nm,0.5s
NWAO Narrogin (SRO) 24.15 172 P P 15 15 19.4 +0.5
baz=24,SNR=48
NWAO P P 15 15 19.4 +0.5
baz=24,SNR=48
NWAO Narrogin (SRO) 24.15 172 P P 15 15 17.8 -1.2
NWAO Narrogin (SRO) 24.15 172 P P 15 15 19.5 +0.6
NWAO Narrogin (SRO) 24.15 172 P P 15 15 19.5 +0.5
comp=Z,179nm,1.0s
NWAO Narrogin (SRO) 24.15 172 P P 15 15 19.3 +0.3
comp=Z,179nm,1.0s
NWAO Narrogin (SRO) 24.15 172 P P 15 15 17.8 -1.2
LQP Lukban 24.37 20⇓ *eP* P 15 15 21.0 -0.3
AS31 Alice Springs 24.63 129 P P 15 15 23.5 -0.1
ASAR Alice Springs 24.63 129 P P 15 15 24.1 +0.5
comp=Z,183nm,0.6s,baz=304,slow=8.8,SNR=828
ASAR pP pP 15 15 46.1 +1.0
comp=Z,147nm,0.9s,baz=304,slow=10.0,SNR=5.0
ASAR PcP PcP 15 19 00.2 +1.5
comp=Z,17nm,0.5s,baz=301,slow=1.0,SNR=5.1
ASAR S S 15 19 45.0 +7.3
comp=Z,8.2nm,0.7s,baz=303,slow=19,SNR=1.6
comp=Z,183nm,0.6s
ASAR Alice Springs 24.63 129 P P 15 15 23.5 0.0
ASAR Alice Springs 24.63 129 P P 15 15 23.5 0.0
AS01 Alice Springs 24.67 129 P P 15 15 24.9 +1.0
comp=Z,351nm,1.1s
UBPT Khong Chiam 25.26 342 P P 15 15 28.0 -1.2
UBPT Khong Chiam 25.26 342 P P 15 15 30.6 +1.4
comp=Z,54nm,1.2s
UBPT Khong Chiam 25.26 342 P P 15 15 30.8 +1.6
comp=Z,57nm,1.3s
PCPH Palayan 25.59 18⇓ *eP* P 15 15 31.9 -0.2
FORT Forrest 25.77 149 P P 15 15 34.6 +0.9
baz=26,SNR=207
FORT Forrest 25.77 149 P P 15 15 33.7 0.0
FORT IAmb IAmb 15 16 06.6
comp=Z,432nm,1.1s
FORT Forrest 25.77 149 P P 15 15 34.7 +1.0
comp=Z,414nm,0.8s
RKGY Rocky Gully 25.77 173 P P 15 15 34.9 +1.2
baz=26,SNR=33
RKGY Rocky Gully 25.77 173 P P 15 15 34.8 +1.1
comp=Z,204nm,0.6s
WAMI Wamena 25.85 80 P P 15 15 35.7 +1.1
NAYO Nakonayok 25.94 333 P P 15 15 37.3 +1.9
comp=Z,1µm,1.2s
SMPI Sarmi 26.32 76 P P 15 15 38.3 -0.5
comp=Z,4µmcomp=Z,3µmcomp=Z,177nm,1.2s
QIS Mount Isa 27.98 117 P P 15 15 54.5 +0.8
baz=28,SNR=144
QIS Mount Isa 27.98 117 P P 15 15 55.0 +1.3
comp=Z,157nm,0.6s
QIZ Qiongzhong 28.00 353 P P 15 15 54.5 +0.7
QIZ IAmb IAmb 15 15 58.0
comp=Z,304nm,1.8s
QIZ Qiongzhong 28.00 353⇑ *iP* P 15 15 54.4 +1.6
QIZ S S 15 20 32.3 +1.5
QIZ SS SnSn 15 22 05.3 +8.2
QIZ pmax pmax
comp=Z,640nm,10.8s
QIZ LR LR
comp=Z,1µm,18.3s
QIZ LR LR
comp=Z,720nm,18.3s
QIZ LR LR
comp=Z,2µm,28.7s
QIZ Qiongzhong 28.00 353 P P 15 15 56.3 +2.5
comp=Z,88nm,1.7s
OOD Oodnadatta 28.32 134 P P 15 15 57.4 +0.8
comp=Z,687nm,0.6s
PACPP Pamplona Cagay 28.41 16⇑ *eP* P 15 15 57.2 -0.2
NONG Nongkai 28.62 340 P P 15 16 00.9 +1.6
comp=Z,371nm,1.2s
MULG Mulgathing 28.82 140 P P 15 16 01.9 +0.9
comp=Z,119nm,2.1s
COEN Coen 29.79 102 P P 15 16 11.0 +1.2
baz=30,SNR=22
COEN Coen 29.79 102 P P 15 16 10.0 +0.2
COEN IAmb IAmb 15 16 34.0
comp=Z,445nm,1.7s
COEN Coen 29.79 102 P P 15 16 11.1 +1.2
comp=Z,180nm,1.4s
DGPR DIGLIPUR 29.80 317 *eP* P 15 16 09.2 -0.6
PHRA Phrae 30.13 335 P P 15 16 13.9 +1.3
CM31 Chiang Mai Arr 30.65 333 P P 15 16 18.6 +1.3
CM31 IAmb IAmb 15 16 20.4
comp=Z,194nm,0.9s
CM31 Chiang Mai Arr 30.65 333 P P 15 16 19.1 +1.9
SNR=87
CMAR Chiang Mai Arr 30.65 333 P P 15 16 18.6 +1.3
comp=Z,99nm,0.9s,baz=167,slow=8.1,SNR=495
CMAR PcP PcP 15 19 15.6 +2.2
comp=Z,6.9nm,0.6s,baz=188,slow=2.8,SNR=4.2
CMAR S S 15 21 13.3 +0.8
comp=Z,3.2nm,1.0s,baz=165,slow=3.7,SNR=1.1
CMAR ScP ScP 15 22 48.7 +1.9
comp=Z,7.1nm,0.9s,baz=183,slow=3.3,SNR=7.2
comp=Z,99nm,0.9s
CMAR Chiang Mai Arr 30.65 333 P P 15 16 19.0 +1.7
CHTO Chiang Mai 30.96 333 P P 15 16 20.6 +0.6
CHTO IAmb IAmb 15 16 23.0
comp=Z,194nm,1.4s
CHTO Chiang Mai 30.96 333 P P 15 16 20.6 +0.6
CHTO pmax pmax
comp=Z,195nm,1.4s
HKPS Hong Kong Po S 31.05 2 P P 15 16 21.7 +0.9
HKPS IAmb IAmb 15 16 23.6
comp=Z,540nm,2.0s
MTSU Mount Surprise 31.56 110 P P 15 16 27.4 +2.0
baz=32,SNR=126
MTSU Mount Surprise 31.56 110 P P 15 16 27.5 +2.1
comp=Z,78nm,0.9s
LCRK Leigh Creek 31.68 136 P P 15 16 27.2 +1.0
comp=Z,171nm,0.6s
BBOO Buckleboo 31.79 142 P P 15 16 27.7 +0.4
baz=32,SNR=9.0
BBOO Buckleboo 31.79 142 P P 15 16 26.1 -1.1
BBOO IAmb IAmb 15 16 29.0
comp=Z,96nm,0.5s
BBOO Buckleboo 31.79 142 P P 15 16 27.8 +0.6
comp=Z,135nm,0.5s
INKA Innaminka 32.01 129 P P 15 16 30.8 +1.6
comp=Z,93nm,0.7s
TWGBT Beinan 32.51 14 P P 15 16 34.2 +0.7
comp=Z,58nm,0.6s
TWG Pinlang 32.51 14 P P 15 16 33.1 -0.4
TWG IAmb IAmb 15 16 39.4
comp=Z,218nm,1.6s
TPUB Ta-pu 32.87 13 P P 15 16 36.7 -0.1
TPUB Ta-pu 32.87 13 P P 15 16 37.9 +1.2
comp=Z,497nm,1.1s
WHYH Whyalla 32.88 140 P P 15 16 37.9 +1.2
comp=Z,79nm,0.7s
YULB Yu-li 33.11 14 P P 15 16 37.5 -1.3
YULB IAmb IAmb 15 16 44.8
comp=Z,124nm,1.1s
YULB Yu-li 33.11 14 P P 15 16 39.3 +0.5
comp=Z,111nm,1.1s
PTPS Port Pirie 33.24 140 P P 15 16 41.8 +1.9
comp=Z,257nm,1.0s
SSLB Suanglung 33.41 13 P P 15 16 40.9 -0.5
SSLB IAmb IAmb 15 16 47.9
comp=Z,164nm,0.9s
SSLB Suanglung 33.41 13 P P 15 16 42.7 +1.2
comp=Z,200nm,1.0s
PMG Port Moresby 33.53 94 P P 15 16 43.7 +1.0
comp=Z,14nm,0.4s,baz=357,slow=3.9,SNR=14
PMG S S 15 21 56.5 -1.0
comp=Z,20nm,1.1s,baz=263,slow=13,SNR=1.8
comp=Z,14nm,0.4s
PMG Port Moresby 33.53 94 P P 15 16 42.3 -0.4
PMG Port Moresby 33.53 94 P P 15 16 43.4 +0.8
comp=Z,855nmcomp=Z,56nm,1.1s
KNMB Chin-men Tao 33.60 9 P P 15 16 42.9 -0.1
KNMB IAmb IAmb 15 16 45.1
comp=Z,211nm,1.2s
CTA Charters Tower 33.80 113 P P 15 16 46.7 +1.8
comp=Z,19nm,0.6s,baz=282,slow=9.0,SNR=56
CTA pP pP 15 17 06.4 -0.9
comp=Z,66nm,0.6s,baz=272,slow=15,SNR=10
CTA LR LR 15 31 23.9
comp=Z,875nm,20.1s,baz=284,slow=38

comp=Z,19nm,0.6s
CTA Charters Tower 33.80 113 P P 15 16 46.9 +2.0
comp=Z,158nm,1.0s
CTAO Charters Tower 33.80 113 P P 15 16 44.0 -0.9
CTAO IAmb IAmb 15 17 11.8
comp=Z,124nm,1.0s
CTAO Charters Tower 33.80 113 P P 15 16 47.0 +2.0
comp=Z,135nm,1.0s
CTAO Charters Tower 33.80 113 P P 15 16 44.0 -0.9
CTAO pmax pmax
comp=Z,124nm,1.0s
CTAO Charters Tower 33.80 113 P P 15 16 46.3 +1.4
NACB Ninganchiao 33.93 14 P P 15 16 45.2 -0.7
NACB IAmb IAmb 15 16 48.1
comp=Z,512nm,1.5s
NACB Ninganchiao 33.93 14 P P 15 16 45.9 0.0
comp=Z,190nm,0.8s
HTT Hallett 34.00 140 P P 15 16 47.6 +1.1
baz=34,SNR=46
HTT Hallett 34.00 140 P P 15 16 47.9 +1.4
comp=Z,94nm,1.0s
QZH Quanzhou 34.10 9⇑*i*P P 15 16 47.8 +0.5
QZH S S **15 22 07.5 +1.7**
QZH pmax pmax
comp=Z,70nm,1.4s
QZH pmax pmax
comp=Z,660nm,4.5s
QZH LR LR
comp=Z,590nm,18.9s
QZH LR LR
comp=Z,590nm,15.1s
QZH LR LR
comp=Z,880nm,17.1s
TV1H Townsville Har 34.10 111 P P 15 16 49.7 +2.2
comp=Z,112nm,1.1s
QLP Quilpie 34.23 125 P P 15 16 50.6 +2.1
baz=34,SNR=84
QLP Quilpie 34.23 125 P P 15 16 50.4 +1.9
comp=Z,259nm,0.6s
YHNB Yeheng 34.36 13 P P 15 16 49.2 -0.5
YHNB Yeheng 34.36 13 P P 15 16 51.2 +1.5
comp=Z,268nm,1.1s
YOJ Yonaguni jima 34.57 16 P P 15 16 51.5 +0.1
YOJ Yonaguni jima 34.57 16 P P 15 16 52.3 +0.9
comp=Z,458nm,1.4s
YOJ Yonaguni jima 34.57 16 P P 15 16 51.5 +0.1
YOJ pmax pmax
comp=Z,475nm,1.1s
TATO Taipei 34.68 13 P P 15 16 51.5 -0.9
TATO Taipei 34.68 13 P P 15 16 53.2 +0.9
TATO Taipei 34.68 13 P P 15 16 54.0 +1.7
comp=Z,711nm,1.5s
TATO Taipei 34.68 13 P P 15 16 52.6 +0.3
MANU Manus Island 34.68 81 P P 15 16 52.7 +0.1
MANU IAmb IAmb 15 16 54.4
comp=Z,306nm,1.7s
MANU Manus Island 34.68 81 P P 15 16 53.3 +0.7
comp=Z,94nm,1.6s
STKA Stephens Creek 34.86 135 P P 15 16 55.2 +1.3
comp=Z,184nm,0.5s,baz=310,slow=9.1,SNR=793
STKA S **S 15 22 16.5 -1.1**
comp=Z,5.4nm,0.6s,baz=197,slow=22,SNR=1.2
STKA LR LR 15 31 19.0
comp=Z,2μm,21.5s,baz=297,slow=36
comp=Z,184nm,0.5s
STKA Stephens Creek 34.86 135 P P 15 16 55.2 +1.3
baz=35,SNR=962
STKA Stephens Creek 34.86 135 P P 15 16 54.2 +0.3
STKA Stephens Creek 34.86 135 P P 15 16 55.5 +1.6
comp=Z,65nm,1.2s
STKA Stephens Creek 34.86 135⇓*i*P P 15 16 55.3 +1.4
MND Mandalay 35.04 332 P P 15 16 56.7 +1.2
comp=Z,218nm,1.2s
KMI Kunming 35.37 344 ⇑P P 15 17 01.3 +2.8
KMI pP pP 15 17 18.8 -3.1
KMI PP **PP 15 18 22.4 +1.5**
KMI S **S 15 22 30.1 +4.3**
KMI sS ScP 15 23 03.6 +0.3
KMI pmax pmax
comp=Z,310nm,1.2s
KMI pmax pmax
comp=Z,1μm,6.5s
KMI LR LR
comp=Z,1μm,13.1s
KMI LR LR
comp=Z,790nm,18.9s
KMI LR LR
comp=Z,1μm,13.9s
KMI Kunming 35.37 344 P P 15 17 01.3 +2.8
GYA Guiyang 35.77 350⇓*i*P P 15 17 03.9 +2.1
GYA sP sP 15 17 36.6 -0.3
GYA PcP **PcP 15 19 29.8 +2.1**
GYA S **S 15 22 34.3 +2.6**
GYA ScS **ScS 15 27 10.5 +0.4**
GYA pmax pmax
comp=Z,210nm,1.5s
GYA pmax pmax
comp=Z,1μm,3.9s
GYA LR LR
comp=Z,490nm,14.1s
GYA LR LR
comp=Z,550nm,11.7s
GYA LR LR
comp=Z,620nm,27.2s
PALK Pallekele 36.16 295 P P 15 17 06.1 +0.8
comp=Z,38nm,0.9s,baz=222,slow=6.7,SNR=23
PALK PcP **PcP 15 19 31.0 +1.9**
comp=Z,21nm,0.7s,baz=307,slow=2.3,SNR=5.0
PALK LR LR 15 32 26.4
comp=Z,483nm,18.9s,baz=217,slow=37
comp=Z,38nm,0.9s
PALK Pallekele 36.16 295 P P 15 17 05.6 +0.3
PALK Pallekele 36.16 295 P P 15 17 06.0 +0.6
PALK Pallekele 36.16 295 P P 15 17 06.1 +0.8
comp=Z,693nmcomp=Z,45nm,1.0s
PALK pP **pP 15 17 28.6 +0.2**
comp=Z,693nmcomp=Z,45nm,1.0s
PALK Pallekele 36.16 295⇓P P 15 17 06.2 +0.9
TNCH TengChong 36.68 337 ⇑P P 15 17 11.3 +1.6
TNCH pP pP 15 17 31.8 -1.1
TNCH S **S 15 22 47.9 +2.1**
TNCH ScP **ScP 15 23 08.5 +0.4**
TNCH sS sS 15 23 28.8 +3.8
TNCH ScS **ScS 15 27 15.8 +0.5**
TNCH pmax pmax
comp=Z,690nm,1.0s
TNCH pmax pmax
comp=Z,2μm,2.9s
CNSH ChangSha 36.92 360 ⇑P P 15 17 12.8 +1.4
CNSH S **S 15 22 50.9 +2.0**
CNSH pmax pmax
comp=Z,1μm,2.7s
CNSH LR LR
comp=Z,630nm,14.7s
CNSH LR LR
comp=Z,660nm,13.7s
PZH PanZhiHua 36.96 343 P P 15 17 13.4 +1.5
PZH sP **sP 15 17 46.0 -1.2**
PZH PP **PnPn 15 18 43.5 +3.8**
PZH S **S 15 22 54.8 +5.0**
PZH PcS **PcS 15 23 18.8 -0.9**
PZH sS **sS 15 23 32.8 +3.6**
PZH SS **SS 15 25 29.6 -5.7**
PZH ScS **ScS 15 27 14.9 -1.8**
PZH pmax pmax
comp=Z,190nm,1.0s
PZH pmax pmax
comp=Z,1μm,3.7s
PZH LR LR
comp=Z,2μm,20.6s
PZH LR LR
comp=Z,4μm,21.6s
PZH LR LR
comp=Z,6μm,24.8s
SAIH SAIHA 36.99 328 *e*P P 15 17 13.4 +1.1
SAIH IAmb IAmb 15 17 15.7
comp=Z,1μm,1.4s
SAIH *e*S **S 15 22 51.1 +0.6**
CMSA Cobar Meteorol 37.63 131 P P 15 17 19.3 +1.8
baz=38,SNR=208
CMSA Cobar Meteorol 37.63 131 P P 15 17 19.9 +2.4
BRDH Bariadhala 37.86 326 P P 15 17 20.8 +1.3
comp=Z,107nm,0.3s,baz=85,slow=6.2,SNR=31
BRDH S **S 15 23 04.8 +1.4**
comp=Z,123nm,0.3s,baz=0.5,slow=23,SNR=6.2
comp=Z,107nm,0.3s

RMQ Roma 37.92 122 P P 15 17 22.5 +2.5
baz=38,SNR=118
RMQ Roma 37.92 122 P P 15 17 22.9 +2.8
comp=Z,95nm,0.5s
ARPS Mount Arapiles 37.97 141 P P 15 17 21.8 +1.6
baz=38,SNR=44
ARPS Mount Arapiles 37.97 141 P P 15 17 21.9 +1.6
comp=Z,150nm,0.7s
IMP Imphal 38.47 331 *e*P P 15 17 25.0 +0.4
IMP IAmb IAmb 15 17 27.6
comp=Z,127nm,0.7s
IMP *e*S **S 15 23 10.2 -2.4**
JOW Kunigami 38.47 22 P P 15 17 24.7 +0.2
comp=Z,128nm,0.9s,baz=218,slow=7.6,SNR=18
JOW PcP **PcP 15 19 36.5 +0.7**
comp=Z,26nm,0.9s,baz=180,slow=28,SNR=3.7
JOW LR LR 15 34 10.2
comp=Z,517nm,21.7s,baz=199,slow=38
comp=Z,128nm,0.9s
JOW Kunigami 38.47 22 P P 15 17 24.0 -0.5
JOW IAmb IAmb 15 17 27.7
comp=Z,183nm,1.1s
JOW Kunigami 38.47 22 P P 15 17 25.3 +0.8
comp=Z,186nm,1.0s
GUMO Guam 38.61 55 P P 15 17 24.7 -1.1
comp=Z,93nm,0.5s,baz=54,slow=2.6,SNR=12
comp=Z,93nm,0.5s
GUMO Guam 38.61 55 P P 15 17 22.8 -3.1
GUMO Guam 38.61 55 P P 15 17 25.7 -0.2
comp=Z,333nm,1.6s
GUMO Guam 38.61 55 P P 15 17 22.5 -3.3
KRVT Keravat (AS076 38.84 86 P P 15 17 27.6 -0.3
comp=Z,74nm,1.1s,baz=262,slow=8.6,SNR=5.9
KRVT LR LR 15 36 56.7
comp=Z,245nm,18.4s,baz=41,slow=41
comp=Z,74nm,1.1s
RABL Rabaul 38.99 86 P P 15 17 27.6 -1.6
RABL IAmb IAmb 15 17 30.8
comp=Z,108nm,1.1s
RABL Rabaul 38.99 86 P P 15 17 30.9 +1.7
comp=Z,106nm,1.1s
KOHI KOHIMA 39.15 332 *e*P P 15 17 30.9 +0.5
KOHI IAmb IAmb 15 17 32.8
comp=Z,884nm,1.1s
KOHI *e*S **S 15 23 20.1 -3.0**
ENH Enshi 39.16 355 P P 15 17 30.8 +0.5
ENH Enshi 39.16 355 P P 15 17 31.5 +1.2
comp=Z,307nm,1.9s
ENH Enshi 39.16 355 P P 15 17 31.0 +0.7
WHN Wuhan 39.29 2 ⇑P P 15 17 32.8 +1.5
WHN S **S 15 23 20.9 -3.7**
WHN pmax pmax
comp=Z,530nm,1.1s
WHN LR LR
comp=Z,690nm,13.5s
WHN LR LR
comp=Z,2μm,13.3s
WHN LR LR
comp=Z,3μm,21.2s
MOKO MOKOCHONG 39.48 333 *e*P P 15 17 34.1 +1.0
MOKO IAmb IAmb 15 17 36.4
comp=Z,895nm,0.8s
MOKO *e*S **S 15 23 26.6 -1.4**
EIDS Eidsvold 39.54 119 P P 15 17 35.5 +2.0
baz=40,SNR=15
EIDS Eidsvold 39.54 119 P P 15 17 35.0 +1.5
EIDS Eidsvold 39.54 119 P P 15 17 35.9 +2.3
comp=Z,65nm,1.6s
VIS Vishakhapatnam 39.66 312 *e*P P 15 17 34.7 +0.1
BRAT Ballarat 39.76 141 P P 15 17 38.0 +2.8
LKP Lekhapani 39.80 336 *e*P P 15 17 36.6 +1.0
LKP *e*S **S 15 23 32.5 +0.1**
JORH JORHAT 39.96 333 *e*P P 15 17 37.7 +0.7
SHL Shillong 40.09 329 P P 15 17 38.4 +0.1
SHL Shillong 40.09 329 P P 15 17 39.0 +0.7
SNR=270
SHL Shillong 40.09 329 *e*P P 15 17 39.3 +1.0
SHL IAmb IAmb 15 17 40.0
comp=Z,620nm,1.0s
SHL Shillong 40.09 329 P P 15 17 38.4 +0.1
SHL pmax pmax
comp=Z,1μm,1.2s
H08S2 Diego Garcia H 40.28 269 P P 15 17 42.0 +2.5
baz=55,slow=9.8,SNR=4.4
H08S2 T T 16 00 41.6
baz=95,slow=76
H08S3 Diego Garcia H 40.29 269 P P 15 17 41.7 +2.1
baz=55,slow=9.8,SNR=4.1
H08S3 T T 16 00 41.6
baz=95,SNR=11
H08S1 Diego Carcia H 40.29 269 P P 15 17 40.5 +0.8
baz=55,slow=9.8,SNR=3.5
H08S1 T T 16 00 41.6
baz=95,slow=76
DIBR DIBRUGARH 40.30 334 *e*P P 15 17 40.7 +0.9
DIBR *e*S **S 15 23 38.2 -1.7**
DGAR Diego Garcia 40.34 269 P P 15 17 39.6 -0.7
DGAR IAmb IAmb 15 17 44.1
comp=Z,167nm,0.9s
DGAR Diego Garcia 40.34 269 P P 15 17 40.4 +0.1
DGAR Diego Garcia 40.34 269 P P 15 17 39.6 -0.7
DGAR pmax pmax
comp=Z,167nm,0.9s
GEXS Deakin Univers 40.38 141 P P 15 17 43.5 +3.1
comp=Z,138nm,0.6s
TEZP TEZPUR 40.52 331 *e*P P 15 17 42.2 +0.6
TEZP *e*S **S 15 23 41.2 -2.0**
MLBS Spotswood, Mel 40.54 140 P P 15 17 44.7 +3.1
comp=Z,139nm,0.6s
ITAN ITANAGAR 40.55 333 *e*P P 15 17 43.0 +1.2
ITAN IAmb IAmb 15 17 44.5
comp=Z,1μm,0.5s
ITAN *e*S **S 15 23 43.0 -0.5**
SSE Sheshan 40.55 11 P P 15 17 43.3 +1.6
SSE PP **PP 15 19 22.6 +5.3**
SSE S **S 15 23 45.9 +2.4**
SSE pmax pmax
comp=Z,280nm,1.0s
SSE pmax pmax
comp=Z,1μm,4.3s
SSE LR LR
comp=Z,190nm,24.7s
CD2 Chengdu 40.66 348 P P 15 17 44.4 +1.7
CD2 S **S 15 23 44.0 -1.2**
CD2 sS sS 15 24 32.5 +7.6
CD2 pmax pmax
comp=Z,890nm,1.0s
CD2 pmax pmax
comp=Z,1μm,3.9s
CD2 LR LR
comp=Z,580nm,13.7s
CD2 LR LR
comp=Z,780nm,8.8s
CD2 LR LR
comp=Z,1μm,14.2s
GUWA GUWAHATI 40.71 330 *e*P P 15 17 43.8 +0.7
GUWA IAmb IAmb 15 17 46.0
comp=Z,514nm,1.1s
TOO Toolangi 40.77 139 P P 15 17 46.2 +2.6
baz=41,SNR=172
TOO Toolangi 40.77 139 P P 15 17 44.1 +0.5
TOO Toolangi 40.77 139 P P 15 17 46.3 +2.7
comp=Z,68nm,0.8s
TOO Toolangi 40.77 139 P P 15 17 44.1 +0.5
TOO pmax pmax
comp=Z,69nm,1.0s
ZIRO ZIRO 40.82 333 *e*P P 15 17 45.1 +0.8
ZIRO IAmb IAmb 15 17 45.9
comp=Z,535nm,0.9s
NJ2 Nanjing 41.13 7⇑*i*P P 15 17 48.5 +2.0
NJ2 PP **PnPn 15 19 31.8 +3.0**
NJ2 PcP **PcP 15 19 46.0 +1.9**
NJ2 ScP **ScP 15 23 26.6 +1.8**
NJ2 S **S 15 23 56.8 +4.7**
NJ2 SS **SS 15 26 56.1 -2.9**
NJ2 ScS **ScS 15 27 42.1 +1.5**
NJ2 pmax pmax
comp=Z,440nm,0.7s
NJ2 pmax pmax
comp=Z,3μm,3.9s
NJ2 LR LR
comp=Z,410nm,15.2s
NJ2 LR LR
comp=Z,610nm,13.3s
NJ2 LR LR
comp=Z,1μm,23.5s

DHUB DHUBRI 41.44 328 *e*P P 15 17 49.8 +0.7
DHUB IAmb IAmb 15 17 51.1
comp=Z,473nm,0.9s
DHUB *e*S **S 15 23 54.3 -2.5**
PCHI Peechi 41.46 297 *e*P P 15 17 49.9 +0.4
PCHI *e*S **S 15 23 54.3 -3.1**
ARMA Armidale 41.73 126 P P 15 17 54.7 +3.1
baz=42,SNR=50
ARMA Armidale 41.73 126 P P 15 17 53.0 +1.4
ARMA IAmb IAmb 15 18 28.7
comp=Z,244nm,1.7s
ARMA Armidale 41.73 126 P P 15 17 54.8 +3.1
comp=Z,42nm,1.3s
AUWSH Wavell State H 41.83 121 P P 15 17 55.2 +2.8
comp=Z,342nm,0.9s
CAN Canberra 41.91 134 P P 15 17 54.1 +1.1
CAN Canberra 41.91 134 P P 15 17 55.0 +2.0
comp=Z,102nm,0.6s
CAN Canberra 41.91 134 P P 15 17 54.1 +1.1
CAN pmax pmax
comp=Z,79nm,1.1s
CAN Canberra 41.91 134 P P 15 17 54.5 +1.5
CAN pP **pwP 15 18 18.2 -1.4**
CAN sP **sP 15 18 28.9 +1.6**
BOK Bokaro 42.09 321 *e*P P 15 17 55.1 +0.6
CNB Canberra Magne 42.17 134 P P 15 17 56.9 +1.8
baz=42,SNR=24
CNB Canberra Magne 42.17 134 P P 15 17 56.9 +1.8
comp=Z,57nm,1.1s
RIV Riverview 42.78 131 P P 15 18 02.9 +2.9
baz=43,SNR=5.2
XAN Xi'an 42.95 355 ⇑P P 15 18 01.8 +0.5
XAN PP **PP 15 19 42.3 -0.8**
XAN S **S 15 24 16.8 -2.1**
XAN SS **SS 15 27 31.3 -3.4**
XAN pmax pmax
comp=Z,460nm,1.5s
XAN pmax pmax
comp=Z,2μm,4.8s
XAN LR LR
comp=Z,330nm,19.2s
XAN LR LR
comp=Z,980nm,20.6s
XAN LR LR
comp=Z,2μm,19.9s
XAN Xi'an 42.95 355 P P 15 18 01.8 +0.5
XAN sP **sP 15 18 36.4 -0.3**
HYB Hyderabad 43.11 307 *e*P P 15 18 02.5 -0.4
HYB IAmb IAmb 15 18 03.7
comp=Z,122nm,1.1s
HYBB Hyderabad (bro 43.11 307⇑*e*P P 15 18 02.6 -0.2
HYBB *e* 15 24 17.6
GTK Tadong 43.22 327 *e*P P 15 18 04.8 +1.1
GTK IAmb IAmb 15 18 06.0
comp=Z,254nm,1.0s
GTK *e*S **S 15 24 21.4 -1.9**
LYN LuoYang 43.27 359⇑*i*P P 15 18 04.9 +1.1
LYN sP sP 15 18 39.3 0.0
LYN PP **PcP 15 19 53.4 +2.2**
LYN S **S 15 24 22.9 -0.6**
LYN sS sS 15 25 07.5 +3.9
LYN ScS **ScS 15 27 48.8 -4.9**
LYN pmax pmax
comp=Z,270nm,1.6s
LYN LR LR
comp=Z,580nm,14.8s
LYN LR LR
comp=Z,670nm,23.0s
MNCI Minicoy 43.49 292 P P 15 18 06.2 +0.3
MNCI IAmb IAmb 15 19 04.6
comp=Z,197nm,1.2s
JSU Suzuyama 43.49 22 P P 15 18 04.2 -1.5
JSU IAmb IAmb 15 18 06.8
comp=Z,270nm,1.0s
JSU Suzuyama 43.49 22 P P 15 18 05.7 0.0
comp=Z,304nm,1.3s
MNCY Minicoy 43.51 292 *e*P P 15 18 07.9 +1.8
ODAN Odare 43.52 326 *e*P P 15 18 07.0 +0.7
comp=Z,82nm,1.2s
ODAN Odare 43.52 326 *e*P P 15 18 07.0 +0.7
TAPN Taplejung 43.73 326 *e*P P 15 18 08.9 +0.9
LSA Lhasa 43.90 332 P P 15 18 10.9 +1.4
LSA IAmb IAmb 15 18 12.6
comp=Z,378nm,1.0s
LSA Lhasa 43.90 332 P P 15 18 11.4 +1.9
LSA pmax pmax
comp=Z,480nm,1.1s
LSA Lhasa 43.90 332 *i*P P 15 18 11.2 +1.7
SNR=69
LSA Lhasa 43.90 332 P P 15 18 10.9 +1.4
LSA pmax pmax
comp=Z,379nm,1.0s
LSA Lhasa 43.90 332 P P 15 18 11.2 +1.7
RAMN Ramite 44.03 325 *e*P P 15 18 11.0 +0.6
MOO Moorlands 44.75 144 P P 15 18 18.6 +3.0
baz=45,SNR=5.5
JIRN Jiri 44.81 325 *e*P P 15 18 17.3 +0.6
comp=Z,302nm,0.5s
TIA Tai'an 45.08 4 P P 15 18 18.6 +0.4
TIA S **S 15 24 46.5 -3.2**
TIA SS **ScS 15 28 06.1 +1.0**
TIA pmax pmax
comp=Z,330nm,1.0s
TIA pmax pmax
comp=Z,1μm,3.7s
TIA LR LR
comp=Z,670nm,15.4s
TIA LR LR
comp=Z,350nm,9.4s
TIA LR LR
comp=Z,820nm,17.3s
JNU Nakatsue 45.10 21 P P 15 18 17.2 -1.4
JNU IAmb IAmb 15 18 19.5
comp=Z,266nm,1.1s
JNU Nakatsue 45.10 21 P P 15 18 18.4 -0.2
comp=Z,286nm,1.3s
TAU Tasmania Unive 45.11 144 P P 15 18 18.2 -0.3
TAU Tasmania Unive 45.11 144 P P 15 18 18.2 -0.3
TAU pmax pmax
comp=Z,165nm,1.9s
GUN Gumba 45.18 325 *e*P P 15 18 20.2 +0.6
PKI Pulchoki 45.19 324 *e*P P 15 18 19.6 -0.1
PKIN Phulchoki 45.20 324 *e*P P 15 18 19.4 -0.3
DMN Daman 45.39 324 *e*P P 15 18 21.4 +0.2
comp=Z,599nm,0.9s
KKN Kakani 45.43 324 *e*P P 15 18 21.6 +0.2
KKN Kakani 45.43 324 *e*P P 15 18 21.7 +0.3
comp=Z,86nm,1.6s
JCJ Chichijima 45.55 37 P P 15 18 20.3 -1.8
comp=Z,622nm,0.8s,baz=199,slow=14,SNR=25
JCJ LR LR 15 38 02.1
comp=Z,179nm,20.7s,baz=248,slow=37
comp=Z,622nm,0.8s
JCJ Chichijima 45.55 37 P P 15 18 20.1 -2.0
JCJ Chichijima 45.55 37 P P 15 18 20.9 -1.2
comp=Z,1μm,0.9s
LZH Lanzhou 45.66 349 ⇑P P 15 18 24.9 +1.9
LZH pP pP 15 18 47.8 +0.8
LZH sP sP 15 18 59.3 +0.7
LZH PcP **PcP 15 20 01.6 +2.0**
LZH PP **PP 15 20 15.3 +3.3**
LZH ScP **ScP 15 23 45.0 +1.7**
LZH PcS **PcS 15 23 56.0 +2.0**
LZH S **S 15 24 59.1 +0.7**
LZH sS sS 15 25 40.3 +1.6
LZH ScS **ScS 15 28 10.0 +0.8**
LZH pmax pmax
comp=Z,860nm,1.5s
LZH pmax pmax
comp=Z,740nm,4.5s
LZH LR LR
comp=Z,820nm,13.4s
LZH LR LR
comp=Z,630nm,14.1s
LZH LR LR
comp=Z,750nm,13.1s
JTU Tsushima 45.89 19 P P 15 18 22.9 -1.8
JTU IAmb IAmb 15 18 26.2
comp=Z,262nm,1.0s
JTU Tsushima 45.89 19 P P 15 18 24.8 +0.2
comp=Z,307nm,1.2s
GOA Goa 45.94 302 *e*P P 15 18 25.7 +0.4
GKN Gorkha 45.96 324 *e*P P 15 18 25.8 +0.2
HNS HongShan 46.13 2 ⇑P P 15 18 27.1 +0.6
HNS sP **sP 15 19 01.3 -0.8**

HNS PcP **PcP** **15 20 03.3 +2.4**
HNS S **S** **15 25 01.9 -2.8**
HNS ScS **ScS** **15 28 12.6 +0.8**
HNS pmax pmax
comp=Z,360nm,1.1s
HNS pmax pmax
comp=Z,1μm,3.8s
HNS LR LR
comp=Z,540nm,13.7s
HNS LR LR
comp=Z,730nm,13.1s
HNS LR LR
comp=Z,850nm,18.2s
HNR Honiara 46.13 94 P **P** **15 18 27.6 +0.6**
comp=Z,4μm,0.9s,baz=190,slow=3.8,SNR=14
HNR pP **pP** **15 18 49.4 -1.1**
comp=Z,5μm,0.8s,baz=201,slow=4.4,SNR=6.4
HNR S **S** **15 25 04.4 -1.2**
comp=Z,290nm,0.4s,baz=48,slow=21,SNR=12
HNR LR LR 15 40 25.5
comp=Z,4μm,19.8s,baz=250,slow=39
HNR Honiara 46.13 94 P **P** **15 18 26.2 -0.8**
HNR Honiara 46.13 94 P **P** **15 18 28.1 +1.1**
comp=Z,551nm,1.0s
HNR Honiara 46.13 94 P **P** **15 18 27.9 +0.9**
HNR pP **pP** **15 18 50.7 +0.3**
HNR sP **sP** **15 19 00.8 -0.9**
TIY Taiyuan 46.43 359⇑*i*P **P** **15 18 29.5 +0.6**
TIY S **S** **15 25 07.8 -1.4**
TIY pmax pmax
comp=Z,200nm,0.9s
TIY pmax pmax
comp=Z,1μm,3.7s
DANN Dangsing 46.73 324 *e*P **P** **15 18 31.8 0.0**
comp=Z,648nm,1.0s
JMN Monobe 46.78 24 P **P** **15 18 31.4 -0.4**
JMN Monobe 46.78 24 P **P** **15 18 32.0 +0.3**
comp=Z,571nm,1.2s
TJN Taejon 47.02 16 P **P** **15 18 33.2 -0.2**
TJN PcP **PcP** **15 20 05.9 +1.8**
TJN Taejon 47.02 16 P **P** **15 18 34.5 +1.0**
comp=Z,1μm,1.4s
TJN Taejon 47.02 16*ce*P **P** **15 18 33.8 +0.3**
BHPL Bhopal 47.41 313 *e*P **P** **15 18 35.1 -1.7**
BHPL IAmb IAmb 15 18 36.4
comp=Z,129nm,0.5s
JHS Saijyo 47.60 22 P **P** **15 18 37.4 -0.7**
JHS Saijyo 47.60 22 P **P** **15 18 38.6 +0.5**
comp=Z,497nm,1.4s
INCN Inchon 47.88 14 P **P** **15 18 39.9 -0.2**
INCN IAmb IAmb 15 18 42.8
comp=Z,92nm,0.8s
INCN Inchon 47.88 14 P **P** **15 18 40.9 +0.8**
INCN Inchon 47.88 14 P **P** **15 18 41.0 +0.9**
comp=Z,119nm,1.0s
INCN Inchon 47.88 14 P **P** **15 18 39.9 -0.2**
INCN pmax pmax
comp=Z,92nm,0.9s
INCN Inchon 47.88 14 P **P** **15 18 40.5 +0.3**
GOMU GeErMu 48.13 340 P **P** **15 18 44.0 +1.5**
GOMU S **S** **15 25 30.0 -4.0**
GOMU pmax pmax
comp=Z,100nm,1.3s
GOMU pmax pmax
comp=Z,240nm,4.4s
GOMU LR LR
comp=Z,370nm,15.2s
GOMU LR LR
comp=Z,570nm,15.0s
GOMU LR LR
comp=Z,500nm,17.9s
KSAR Wonju Array Be 48.16 16 P **P** **15 18 43.0 +0.7**
KSAR PcP **PcP** **15 20 10.2 +2.0**
KSR Wonju Array Be 48.16 16 P **P** **15 18 43.0 +0.7**
KSRS Korea Array 48.18 16 P **P** **15 18 43.3 +0.9**
comp=Z,296nm,1.0s,baz=196,slow=7.0,SNR=339
KSRS PcP **PcP** **15 20 09.3 +1.1**
comp=Z,22nm,0.8s,baz=185,slow=3.1,SNR=6.8
KSRS LR LR 15 40 23.7
comp=Z,217nm,20.2s,baz=205,slow=38
comp=Z,296nm,1.0s
HJU Haeju 48.20 13 P **P** **15 18 43.4 +0.8**
HJU pP PcP 15 19 51.9 -16
HJU S **S** **15 25 28.0 -6.1**
HJU AmB
comp=Z,2μm,2.2s
HJU AMS AMS
comp=N,110nm,3.3s
HJU AMS AMS
comp=E,103nm,3.1s
HJU AMS AMS
comp=Z,51nm,1.5s
KS19 Wonju Array Si 48.21 16 P **P** **15 18 42.7 0.0**
KS19 PcP **PcP** **15 20 09.1 +0.7**
DL2 Dalian 48.26 9 P **P** **15 18 43.3 +0.3**
DL2 pP **pP** **15 19 06.1 -1.2**
DL2 sP **sP** **15 19 18.5 -0.3**
DL2 S **S** **15 25 33.9 -1.0**
DL2 pmax pmax
comp=Z,400nm,1.0s
DL2 pmax pmax
comp=Z,700nm,5.3s
DL2 LR LR
comp=Z,940nm,24.0s
BJT Baijiatuau 48.80 3 P **P** **15 18 47.6 +0.5**
BJT Baijiatuau 48.80 3 P **P** **15 18 48.1 +0.9**
comp=Z,393nm,1.2s
BJT Baijiatuau 48.80 3 P **P** **15 18 47.6 +0.5**
BJT pmax pmax
comp=Z,635nm,1.3s
BJT Baijiatuau 48.80 3⇑P **P** **15 18 48.0 +0.9**
BJT sP **sP** **15 19 20.7 -2.3**
BJI Beijing 48.82 3 P **P** **15 18 48.0 +0.7**
BJI PcP **PcP** **15 20 12.8 +2.3**
BJI PP **PP** **15 20 40.4 -1.2**
BJI ScP **ScP** **15 23 58.3 +2.0**
BJI S **S** **15 25 41.0 -1.8**
BJI ScS **ScS** **15 28 30.5 +1.0**
BJI pmax pmax
comp=Z,360nm,1.1s
BJI LR LR
comp=Z,140nm,19.1s
BJI LR LR
comp=Z,490nm,16.4s
BJI LR LR
comp=Z,720nm,18.8s
JHJ Hachijo jima 2 48.91 30 LR LR 15 40 52.9
comp=Z,144nm,19.2s,baz=246,slow=38
PYAG Pyongyang 49.17 13 P **P** **15 18 50.6 +0.7**
PYAG pP PcP 15 19 54.5 -17
PYAG S **S** **15 25 45.7 -2.0**
PYAG AmB
comp=Z,1μm,1.8s
PYAG AMS AMS
comp=N,309nm,2.7s
PYAG AMS AMS
comp=E,618nm,5.3s
PYAG AMS AMS
comp=Z,423nm,3.6s
BTO Baotou 49.40 357 *e*P **P** **15 18 53.9 +2.1**
BTO S **S** **15 25 51.3 +0.2**
BTO LR LR
comp=Z,2μm,13.1s
BTO LR LR
comp=Z,3μm,20.6s
INU Inuyama 49.48 26 P **P** **15 18 51.3 -1.1**
INU Inuyama 49.48 26 P **P** **15 18 52.1 -0.3**
comp=Z,610nm,1.0s
INU Inuyama 49.48 26 P **P** **15 18 51.7 -0.7**
HHC Hu-ho-hao-te 49.58 358⇑*i*P **P** **15 18 54.3 +1.1**
HHC pP pP 15 19 22.8 +5.2
HHC S **S** **15 25 54.6 +1.0**
HHC ScS **ScS** **15 28 34.9 0.0**
HHC pmax pmax
comp=Z,600nm,1.0s
HHC pmax pmax
comp=Z,760nm,4.2s
HHC LR LR
comp=Z,2μm,13.1s
GTA Gaotai 49.69 346⇑P **P** **15 18 55.9 +1.8**
GTA pP pP 15 19 17.8 -0.7
GTA sP sP 15 19 33.8 +3.8
GTA PcP **PcP** **15 20 15.8 +1.9**
GTA ScP **ScP** **15 24 01.8 +1.6**
GTA S **S** **15 25 55.5 +0.1**

GTA ScS **ScS** **15 28 34.4 -1.4**
GTA pmax pmax
comp=Z,190nm,1.3s
GTA pmax pmax
comp=Z,1μm,6.8s
GTA LR LR
comp=Z,380nm,16.7s
GTA LR LR
comp=Z,830nm,18.3s
GTA LR LR
comp=Z,780nm,24.7s
JGF Kuroka 49.84 26 P **P** **15 18 54.5 -0.7**
JGF Kuroka 49.84 26 P **P** **15 18 54.6 -0.6**
comp=Z,633nm,0.8s
SUJ Sinuiju 49.92 11 P **P** **15 18 55.1 -0.5**
SUJ pP sP 15 19 52.1 +21
SUJ S **S** **15 25 57.3 -0.8**
SUJ AmB
comp=Z,2μm,2.4s
SUJ AMS AMS
comp=N,498nm,2.8s
SUJ AMS AMS
comp=E,501nm,2.8s
SUJ AMS AMS
comp=Z,636nm,3.6s
HHU Hamhung 50.41 14 P **P** **15 19 00.2 +0.8**
HHU pP PcP 15 20 02.2 -14
HHU S **S** **15 26 03.8 -1.2**
HHU AmB
comp=Z,1μm,1.3s
HHU AMS AMS
comp=N,155nm,2.7s
HHU AMS AMS
comp=E,175nm,3.1s
HHU AMS AMS
comp=Z,121nm,2.1s
KOUNC Koumac, New Ca 50.55 109 P **P** **15 19 02.9 +2.1**
KOUNC Koumac, New Ca 50.55 109 P **P** **15 19 03.5 +2.7**
comp=Z,135nm,1.4s
MAJO Matsushiro 51.00 26 P **P** **15 19 02.3 -1.6**
MAJO Matsushiro 51.00 26 P **P** **15 19 02.9 -1.0**
comp=Z,529nm,1.3s
MAJO Matsushiro 51.00 26⇑*i*P **P** **15 19 03.1 -0.8**
MAJO pmax pmax
comp=Z,607nm,1.3s
MAJO Matsushiro 51.00 26⇑P **P** **15 19 02.8 -1.0**
MJAR Matsushiro Arr 51.00 26 P **P** **15 19 02.9 -1.0**
comp=Z,384nm,0.9s,baz=198,slow=7.6,SNR=552
MJAR ScP **ScP** **15 24 06.0 +0.2**
comp=Z,2.8nm,0.8s,baz=183,slow=4.2,SNR=3.8
comp=Z,384nm,0.9s
MJB9 Matsu-Tunnel 51.00 26 P **P** **15 19 02.2 -1.7**
MJB9 PcP **PcP** **15 20 20.6 +2.0**
NDI New Delhi 51.04 318 *e*P **P** **15 19 02.5 -1.9**
SNY Shenyang 51.42 10⇑P **P** **15 19 06.8 -0.1**
SNY sP **sP** **15 19 45.8 +2.9**
SNY S **S** **15 26 14.8 -4.1**
SNY pmax pmax
comp=Z,500nm,1.0s
SNY pmax pmax
comp=Z,450nm,3.6s
SNY LR LR
comp=Z,420nm,11.1s
SNY LR LR
comp=Z,690nm,14.7s
SNY LR LR
comp=Z,850nm,22.8s
DDI Dehra Dun 51.61 321 *e*P **P** **15 19 07.5 -1.1**
DDI IAmb IAmb 15 19 08.5
comp=Z,176nm,1.0s
JSD Sado 52.28 25 P **P** **15 19 12.7 -0.7**
JSD Sado 52.28 25 P **P** **15 19 13.2 -0.2**
comp=Z,793nm,1.2s
NOUC Port Laguerre 52.57 111 P **P** **15 19 18.4 +2.5**
NOUC pP **pwP** **15 19 42.1 -0.6**
XLT XiLinHaoTe 52.67 3⇑*i*P **P** **15 19 16.8 +0.6**
XLT pP pP 15 19 41.6 +0.7
XLT sP sP 15 19 51.6 -0.7
XLT PcP **PcP** **15 20 24.3 -0.5**
XLT PP **PP** **15 21 18.4 +1.8**
XLT ScP **ScP** **15 24 13.8 +0.9**
XLT S **S** **15 26 34.3 -1.8**
XLT ScS **ScS** **15 28 53.6 -2.4**
XLT pmax pmax
comp=Z,560nm,1.1s
XLT pmax pmax
comp=Z,2μm,3.6s
XLT LR LR
comp=Z,68nm,14.7s
XLT LR LR
comp=Z,430nm,14.7s
XLT LR LR
comp=Z,900nm,16.8s
DZM Mont Dzumac 52.70 111 P **P** **15 19 18.4 +1.4**
comp=Z,21nm,1.0s,baz=239,slow=1.4,SNR=18
DZM LR LR 15 42 15.6
comp=Z,428nm,21.0s,baz=264,slow=36
comp=Z,21nm,1.0s
DZM Mont Dzumac 52.70 111 *e*P **P** **15 19 17.6 +0.7**
comp=Z,73nm,1.2s
DZM *e*pP **pP** **15 19 37.5 -3.4**
comp=Z,202nm,1.5s
DZM Mont Dzumac 52.70 111 *e*LR LR 15 34 35.6
comp=Z,2μm,35.9s
DZM Mont Dzumac 52.70 111 P **P** **15 19 17.0 +0.1**
DZM Mont Dzumac 52.70 111 P **P** **15 19 20.0 +3.1**
comp=Z,63nm,1.5s
DZM Mont Dzumac 52.70 111 P **P** **15 19 19.0 +2.0**
SMLA Simla 52.72 321 *e*P **P** **15 19 15.9 -0.9**
ONTNC Ouen Toro 52.73 111 P **P** **15 19 15.8 -1.2**
ONTNC IAmb IAmb 15 19 45.2
comp=Z,62nm,0.9s
OUENC Ouen Island, N 53.10 111 P **P** **15 19 19.1 -0.6**
OUENC IAmb IAmb 15 19 50.8
comp=Z,258nm,1.7s
YATNC Mamie plateau, 53.11 111 P **P** **15 19 23.2 +3.3**
comp=Z,138nm,1.4s
JMM Marumori 53.24 27 P **P** **15 19 19.3 -1.2**
JMM Marumori 53.24 27 P **P** **15 19 20.2 -0.3**
comp=Z,639nm,1.2s
LIFNC LIFOU 53.33 109 P **P** **15 19 20.0 -1.4**
LIFNC IAmb IAmb 15 19 52.0
comp=Z,234nm,1.1s
CN2 Changchun 53.67 11 *e*P **P** **15 19 22.8 -0.7**
CN2 *e*S **S** **15 26 47.8 -1.7**
CN2 SS **SS** **15 30 31.9 +0.1**
CN2 pmax pmax
comp=Z,200nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,400nm,17.1s
MSHR Mys Shultsa 53.85 16*ce*P **P** **15 19 25.3 +0.5**
MSHR pmax pmax
comp=Z,270nm,1.0s
MARNC Mare, Loyalty 54.12 110 P **P** **15 19 25.3 -1.9**
MARNC Mare, Loyalty 54.12 110 P **P** **15 19 30.2 +3.0**
comp=Z,2.8nm,1.1s
MDJ Mudanjiang 55.34 14 P **P** **15 19 35.6 0.0**
MDJ Mudanjiang 55.34 14 P **P** **15 19 36.0 +0.4**
MDJ S **S** **15 27 08.4 -3.5**
MDJ pmax pmax
comp=Z,520nm,1.3s
MDJ pmax pmax
comp=Z,2μm,3.6s
MDJ Mudanjiang 55.34 14 P **P** **15 19 36.0 +0.4**
comp=Z,517nm,1.1s
MDJ Mudanjiang 55.34 14⇑P **P** **15 19 35.9 +0.3**
USA0B Ussuriysk Arra 55.58 16 P **P** **15 19 37.6 +0.3**
USA0B Ussuriysk Arra 55.58 16*c i*P **P** **15 19 37.9 +0.7**
USRK Ussuriysk Ar. 55.58 16 P **P** **15 19 37.7 +0.4**
comp=Z,496nm,0.9s,baz=199,slow=5.7,SNR=389
USRK LR LR 15 46 25.4
comp=Z,120nm,18.1s,baz=197,slow=39
comp=Z,496nm,0.9s
USRK Ussuriysk Ar. 55.58 16 P **P** **15 19 37.5 +0.2**
JTM Tenmabayashi 55.77 25 P **P** **15 19 37.8 -0.9**
JTM Tenmabayashi 55.77 25 P **P** **15 19 38.5 -0.2**
comp=Z,1μm,1.1s
BNX BinXian 55.92 12⇑P **P** **15 19 39.6 -0.1**
BNX pP **pP** **15 20 03.4 -1.2**
BNX sP **sP** **15 20 16.0 +0.1**

BNX S **S** **15 27 19.6 +0.1**
BNX sS **sS** **15 28 02.0 -0.2**
BNX pmax pmax
comp=Z,350nm,1.0s
BNX pmax pmax
comp=Z,980nm,4.5s
BNX LR LR
comp=Z,320nm,12.5s
BNX LR LR
comp=Z,640nm,24.4s
BNX LR LR
comp=Z,280nm,14.1s
ULN Ulaanbaatar 56.83 355 P **P** **15 19 46.7 +0.4**
ULN Ulaanbaatar 56.83 355 P **P** **15 19 47.2 +0.9**
ULN Ulaanbaatar 56.83 355 P **P** **15 19 47.2 +0.9**
comp=Z,20μmcomp=Z,2μm,1.0s
ULN Ulaanbaatar 56.83 355*ce*P **P** **15 19 47.2 +0.9**
ULN pmax pmax
comp=Z,438nm,1.0s
ULN Ulaanbaatar 56.83 355⇑P **P** **15 19 47.2 +0.9**
ULN pP **pP** **15 20 10.8 -0.4**
SONM Songino Array 56.86 355 P **P** **15 19 47.0 +0.5**
comp=Z,216nm,0.8s,baz=175,slow=8.0,SNR=500
SONM PcP **PcP** **15 20 42.0 +1.0**
comp=Z,45nm,0.8s,baz=191,slow=3.7,SNR=12
SONM S **S** **15 27 30.8 -1.4**
comp=Z,0.6nm,0.9s,baz=177,slow=7.2,SNR=1.1
comp=Z,216nm,0.8s
SONM Songino Array 56.86 355 P **P** **15 19 46.9 +0.5**
NIL Nilore 56.86 320 P **P** **15 19 45.3 -1.4**
NIL IAmb IAmb 15 20 32.1
comp=Z,179nm,1.2s
NIL Nilore 56.86 320 P **P** **15 19 45.3 -1.4**
NIL pmax pmax
comp=Z,179nm,1.2s
NIL Nilore 56.86 320 P **P** **15 19 45.6 -1.1**
CASY Casey 57.27 181 P **P** **15 19 48.6 -0.3**
CASY IAmb IAmb 15 20 16.4
comp=Z,66nm,1.1s
CASY Casey 57.27 181 P **P** **15 19 48.4 -0.5**
CASY pP **pP** **15 20 10.2 -2.8**
WMQ Urumqi 57.40 338⇑P **P** **15 19 51.3 +1.1**
WMQ PP PP 15 22 07.0 +8.1
WMQ S **S** **15 27 38.4 -0.9**
WMQ ScS **ScS** **15 29 28.3 -1.6**
WMQ pmax pmax
comp=Z,220nm,0.9s
WMQ pmax pmax
comp=Z,2μm,4.5s
WMQ LR LR
comp=Z,700nm,18.7s
WMQ LR LR
comp=Z,500nm,18.7s
WMQ LR LR
comp=Z,540nm,21.5s
WMQ Urumqi 57.40 338 P **P** **15 19 51.4 +1.1**
MSEY Mahe Island 57.41 270 P **P** **15 19 51.1 +0.2**
MSEY Mahe Island 57.41 270 P **P** **15 19 51.1 +0.2**
MSEY pmax pmax
comp=Z,24nm,0.9s
MSEY Mahe Island 57.41 270 P **P** **15 19 52.5 +1.6**
MSEY sP **sP** **15 20 27.3 +0.9**
ERM Erimo 57.68 26 P **P** **15 19 52.0 -0.1**
ERM Erimo 57.68 26 P **P** **15 19 52.5 +0.4**
comp=Z,591nm,1.1s
ERM Erimo 57.68 26*ce*P **P** **15 19 52.6 +0.4**
ERM pmax pmax
comp=Z,448nm,1.0s
ERM Erimo 57.68 26 P **P** **15 19 52.1 -0.1**
ERM pP **pP** **15 20 16.3 -0.9**
JEM Erimo 57.68 26 P **P** **15 19 52.6 +0.5**
comp=Z,239nm,1.0s
TEY Ternei 57.74 19⇑*i*P **P** **15 19 52.8 +0.3**
TEY pmax pmax
comp=E,200nm,2.1s
TEY pmax pmax
comp=N,3μm,2.0s
TEY pmax pmax
comp=Z,900nm,2.0s
TEY pmax pmax
comp=N,170nm,1.1s
TEY pmax pmax
comp=E,50nm,1.1s
TEY pmax pmax
comp=Z,360nm,1.1s
HIA Hailar 58.26 5 P **P** **15 19 55.8 -0.3**
HIA IAmb IAmb 15 19 57.4
comp=Z,134nm,1.1s
HIA Hailar 58.26 5 P **P** **15 19 57.1 +1.0**
comp=Z,138nm,1.4s
HIA Hailar 58.26 5 P **P** **15 19 55.8 -0.3**
HIA pmax pmax
comp=Z,134nm,1.1s
HIA Hailar 58.26 5 P **P** **15 19 55.9 -0.2**
ASAJ Asahikawa 59.16 24 LR LR 15 46 50.9
comp=Z,93nm,21.7s,baz=203,slow=37
ASAJ Asahikawa 59.16 24 P **P** **15 20 02.1 -0.3**
ASAJ pmax pmax
comp=Z,589nm,1.1s
JKA Kamikawa-asahi 59.16 24 P **P** **15 20 02.1 -0.3**
KSH Kashi 59.29 327 P **P** **15 20 02.5 -1.1**
KSH S **S** **15 27 57.8 -6.4**
KSH pmax pmax
comp=Z,71nm,1.2s
KSH pmax pmax
comp=Z,390nm,5.1s
MLZ Mavora Lakes 59.35 138 P **P** **15 20 03.1 -0.8**
MLZ IAmb IAmb 15 20 40.1
comp=Z,55nm,1.0s
JCZ Jackson Bay 59.37 136 P **P** **15 20 06.7 +2.6**
comp=Z,140nm,1.1s
ZAK Zakamensk 59.72 353 *e*P **P** **15 20 06.7 +0.4**
ZAK *e* 15 20 53.0
ZAK pmax pmax
comp=Z,153nm,1.4s
ZAK pmax pmax
comp=Z,76nm,1.1s
KBL Kabul 60.13 318 P **P** **15 20 08.1 -1.5**
KBL IAmb IAmb 15 20 10.1
comp=Z,138nm,1.4s
KBL Kabul 60.13 318 P **P** **15 20 08.7 -0.9**
SNR=36
KBL Kabul 60.13 318 P **P** **15 20 08.1 -1.5**
KBL pmax pmax
comp=Z,138nm,1.5s
KLR Kul'dur 60.19 14 LR LR 15 47 35.1
comp=Z,223nm,18.4s,baz=214,slow=37
KLR Kul'dur 60.19 14*ce*P **P** **15 20 07.5 -1.9**
KLR pmax pmax
comp=Z,259nm,1.1s
HEH HeiHe 60.25 10⇑P **P** **15 20 10.1 +0.3**
HEH S **S** **15 28 10.9 -4.9**
HEH ScS SKKSac 15 29 46.3 -4.1
HEH pmax pmax
comp=Z,760nm,1.0s
HEH pmax pmax
comp=Z,2μm,5.4s
SHLS Shalkode 60.27 332⇑*i*P **P** **15 20 09.9 -0.4**
comp=Z,196nm,1.3s,baz=333
SHLS *i* S **S** **15 28 13.0 -3.6**
comp=Z,156nm,2.2s,baz=333
SHLS Shalkode 60.27 332*c i*P **P** **15 20 09.8 -0.4**
SHLS *i* S **S** **15 28 13.0 -3.6**
SHLS pmax pmax
comp=Z,196nm,1.3s
SHLS smax smax
comp=E,156nm,2.2s
PDGK Podgornoye 60.39 332 P **P** **15 20 11.1 0.0**
DRV Dumont d'Urvil 60.46 168 P **P** **15 20 10.9 -0.1**
DRV pP **pP** **15 20 35.4 +0.1**
DRV sP **sP** **15 20 46.2 0.0**
UZB Uzynbulak 60.47 332 *i* P **P** **15 20 12.1 +0.4**
baz=332
UZB *i* S **S** **15 28 17.8 -1.4**
baz=332
UZB Uzynbulak 60.47 332 *i* P **P** **15 20 12.0 +0.4**
UZB *i* S **S** **15 28 17.8 -1.4**
YUK Yuzh-Kuril'sk 60.48 27 *i* P **P** **15 20 09.2 -2.2**
NRN Naryn 60.67 329 P **P** **15 20 12.6 -0.6**
NRN IAmb IAmb 15 20 14.7
comp=Z,137nm,1.2s
NRN Naryn 60.67 329 P **P** **15 20 12.6 -0.6**
NRN pmax pmax
comp=Z,137nm,1.2s
SATY Saty 60.69 331 *e*P **P** **15 20 12.8 -0.4**

SATY comp=Z,178nm,1.6s,baz=332 *i* S **S** **15 28 20.5 -1.5**
SATY baz=332 *e*ScS **ScS** **15 29 55.0 +0.5**
SATY Saty **60.69 331** *e*P **P** **15 20 12.7 -0.4**
SATY *i* S **S** **15 28 20.4 -1.5**
SATY *e* 15 29 54.9
SATY pmax pmax
comp=Z,179nm,1.6s
CIT Chita **60.73 0** *e*P **P** **15 20 14.4 +1.3**
CIT *e* 15 20 49.6
CIT pmax pmax
comp=Z,995nm,2.3s
ZHN Zhinishke **60.76 331**⇑ *i*P **P** **15 20 13.8 +0.2**
ZHN baz=332 *i* S **S** **15 28 21.1 -1.7**
ZHN baz=332
ZHN Zhinishke **60.76 331** *c i*P **P** **15 20 13.7 +0.2**
ZHN *i* S **S** **15 28 21.1 -1.7**
RPZ Rata Peaks **60.82 135** P **P** **15 20 15.8 +1.9**
comp=Z,35nm,0.7s,baz=326,slow=1.6,SNR=15
RPZ LR LR 15 46 05.5
comp=Z,840nm,20.0s,baz=284,slow=35
comp=Z,35nm,0.7s
RPZ Rata Peaks **60.82 135** P **P** **15 20 13.3 -0.6**
RPZ IAmb IAmb 15 20 50.5
comp=Z,175nm,0.9s
NGCH Negor - Chabah **61.06 305** P **P** **15 20 16.7 +0.9**
SNR=6.6
ULHL Ulahol **61.14 329** P **P** **15 20 16.6 +0.3**
SNR=20
MOY Mondy **61.28 351** *e*P **P** **15 20 17.8 +0.9**
MOY pmax pmax
comp=Z,474nm,2.6s
TNSS Tian-Shan **61.37 330** *e*P **P** **15 20 18.0 -0.1**
baz=331
TNSS Tian-Shan **61.37 330** *e*P **P** **15 20 17.9 -0.1**
MDOK Medeo **61.42 331** *i* P **P** **15 20 18.5 +0.4**
baz=331
MDOK *i* S **S** **15 28 29.5 -1.8**
baz=331
MDOK *e*ScS **SKKSac** **15 29 58.7 -1.3**
baz=331
MDOK Medeo **61.42 331** *i* P **P** **15 20 18.4 +0.4**
MDOK *i* S **S** **15 28 29.5 -1.8**
MDOK *e* 15 29 58.7
IRK Irkutsk **61.43 354** *e*P **P** **15 20 17.8 0.0**
IRK *e*S **S** **15 28 32.2 +1.4**
IRK pmax pmax
comp=Z,539nm,1.8s
BOOM Boomskoye usch **61.47 329** P **P** **15 20 17.8 -0.6**
BOOM IAmb IAmb 15 20 20.4
comp=Z,167nm,1.1s
BOOM Boomskoye usch **61.47 329** P **P** **15 20 17.8 -0.6**
BOOM pmax pmax
comp=Z,167nm,1.1s
AAA Alma-Ata **61.52 331** *e*P **P** **15 20 17.2 -1.4**
baz=331
AAA *e*S **S** **15 28 31.1 -1.3**
baz=331
AAA *e*ScS **SKKSac** **15 29 59.4 -1.1**
baz=331
AAA Alma-Ata **61.52 331** *e*P **P** **15 20 17.2 -1.4**
AAA *e*S **S** **15 28 31.0 -1.3**
AAA *e* 15 29 59.4
ZSN Zaisan **61.53 339** *e*P **P** **15 20 18.9 +0.3**
comp=Z,119nm,1.1s,baz=339
ZSN *i* S **S** **15 28 31.3 -1.0**
baz=339
ZSN Zaisan **61.53 339** *e*P **P** **15 20 18.8 +0.3**
ZSN *i* S **S** **15 28 31.2 -1.0**
ZSN pmax pmax
comp=Z,119nm,1.1s
YSS Yuzh-Sakhalins **61.57 23** P **P** **15 20 19.0 +0.2**
YSS Yuzh-Sakhalins **61.57 23** P **P** **15 20 19.3 +0.5**
comp=Z,925nm,1.3s
YSS Yuzh-Sakhalins **61.57 23** *αe*P **P** **15 20 19.3 +0.5**
YSS *e**SP **sP** **15 20 53.5 -1.6**
YSS *e* 15 22 33.8
YSS *e*S **S** **15 28 32.3 -0.4**
YSS *e*SS **SS** **15 32 36.1 +0.2**
YSS pmax pmax
comp=Z,800nm,1.0s
YSS pmax pmax
comp=Z,2μm,3.3s
YSS Yuzh-Sakhalins **61.57 23**⇑ P **P** **15 20 19.3 +0.5**
DRK Karamyk **61.59 324** IAmb IAmb 15 21 02.1
comp=Z,120nm,1.4s
WBK Wadi Bani Khal **61.66 302** P **P** **15 20 20.2 +0.2**
SNR=16
DQM DQM **61.83 298** P **P** **15 20 21.5 +0.5**
DQM P **P** **15 20 21.6 +0.5**
MHTO MHTO **61.86 299** P **P** **15 20 21.2 0.0**
SNR=19
TKM2 Tokmak 2 **61.96 329** P **P** **15 20 22.1 +0.3**
SNR=123
TKM2 Tokmak 2 **61.96 329** *i* P **P** **15 20 21.8 0.0**
TKM2 pmax pmax
comp=Z,297nm,1.2s
MK31 Makanchi Array **61.96 336** P **P** **15 20 21.4 0.0**
MK31 IAmb IAmb 15 20 23.2
comp=Z,132nm,0.9s
MK31 Makanchi Array **61.96 336** *i* P **P** **15 20 21.4 0.0**
MK31 pmax pmax
comp=Z,51nm,0.4s
MKAR Makanchi Array **61.96 336** P **P** **15 20 21.8 +0.4**
comp=Z,76nm,0.6s,baz=148,slow=7.3,SNR=384
MKAR S **S** **15 28 34.5 -3.2**
comp=Z,3.4nm,1.1s,baz=130,slow=11,SNR=3.7
MKAR PKP2bc 15 49 37.9
comp=Z,1.2nm,1.0s,baz=310,slow=4.1,SNR=4.3
MKAR LR LR 15 49 42.1
comp=Z,374nm,21.9s,baz=154,slow=38
comp=Z,76nm,0.6s
MKAR Makanchi Array **61.96 336** P **P** **15 20 21.1 -0.3**
CHKK Chushkaly **61.97 331** *e*P **P** **15 20 20.4 -1.1**
baz=332
CHKK Chushkaly **61.97 331** *e*P **P** **15 20 20.4 -1.1**
UCH Uchtor **62.01 328** P **P** **15 20 22.9 +0.5**
SNR=63
KBK Karagaybulak **62.09 329** P **P** **15 20 23.7 +1.1**
SNR=106
MAKZ Makanchi **62.09 336** P **P** **15 20 22.6 +0.3**
MAKZ IAmb IAmb 15 20 24.0
comp=Z,128nm,1.1s
MAKZ Makanchi **62.09 336** P **P** **15 20 22.6 +0.3**
MAKZ pmax pmax
comp=Z,128nm,1.1s
MAKZ Makanchi **62.09 336** P **P** **15 20 22.4 0.0**
TDK Taldyqorghan **62.18 333**⇑ *i*P **P** **15 20 23.2 +0.3**
comp=Z,246nm,0.7s,baz=333
TDK *i* S **S** **15 28 39.1 -1.5**
comp=Z,184nm,1.5s,baz=333
TDK *e*ScS **SKSac** **15 30 03.8 -1.6**
baz=333
TDK Taldyqorghan **62.18 333** *c i*P **P** **15 20 23.2 +0.3**
TDK *i* S **S** **15 28 39.0 -1.5**
TDK *e* 15 30 03.7
TDK pmax pmax
comp=Z,246nm,0.7s
TDK smax smax
comp=N,184nm,1.5s
WSAR Wadi Sarin **62.20 302** LR LR 15 46 33.1
comp=N,463nm,20.5s,baz=132,slow=35
WSAR Wadi Sarin **62.20 302** P **P** **15 20 24.2 +0.6**
SNR=16
JMDO Jabal Madar **62.29 301** P **P** **15 20 24.4 +0.3**
SNR=13
KUU Kurty **62.31 331**⇑ *i*P **P** **15 20 23.9 +0.1**
comp=N,363nm,1.4s,baz=331
KUU *i* S **S** **15 28 39.6 -2.6**
comp=N,255nm,2.5s,baz=331
KUU *e*ScS **SKSac** **15 30 06.0 -0.4**
baz=331
KUU Kurty **62.31 331** *c i*P **P** **15 20 23.9 +0.1**
KUU *i* S **S** **15 28 39.5 -2.6**
KUU *e* 15 30 05.9
KUU pmax pmax
comp=Z,363nm,1.4s
KUU smax smax
comp=E,255nm,2.5s
KUR Kuril'sk **62.31 27** *i* P **P** **15 20 23.7 0.0**
AAK Ala-Archa **62.31 329** P **P** **15 20 24.9 +0.8**
SNR=50
AAK Ala-Archa **62.31 329** P **P** **15 20 24.8 +0.6**
comp=E,101nm,1.1s,baz=150,slow=5.3,SNR=104
comp=E,101nm,1.1s
AAK Ala-Archa **62.31 329** P **P** **15 20 24.2 +0.1**
AAK IAmb IAmb 15 20 26.4
comp=Z,172nm,1.1s
AAK Ala-Archa **62.31 329** P **P** **15 20 24.9 +0.8**
AAK Ala-Archa **62.31 329** *i* P **P** **15 20 24.7 +0.6**
SNR=27
AAK Ala-Archa **62.31 329** *ce*P **P** **15 20 24.7 +0.6**
AAK pmax pmax
comp=Z,192nm,1.2s
AAK Ala-Archa **62.31 329** P **P** **15 20 24.3 +0.2**
AML Almayashu **62.37 328** P **P** **15 20 25.3 +0.5**
SNR=74
CHMS Chumysh **62.44 329** P **P** **15 20 24.9 +0.1**
SNR=18
CHMS Chumysh **62.44 329** *i* P **P** **15 20 23.9 -0.9**
CHMS pmax pmax
comp=Z,44nm,1.3s
DGZ Jazzator, Alta **62.60 341**⇑ *i*P **P** **15 20 27.1 +1.3**
DGZ pmax pmax
comp=Z,780nm,1.1s
SMDO Samad **62.62 302** P **P** **15 20 26.8 +0.3**
SNR=12
EKS2 Erkin-Say **62.70 328** P **P** **15 20 27.6 +0.9**
SNR=168
SIMJ Simiganj **62.71 322** P **P** **15 20 25.0 -1.7**
BIDO Bidbid **62.74 302** P **P** **15 20 27.8 +0.7**
SNR=19
USP Ospenovka **62.76 329** P **P** **15 20 27.3 +0.4**
SNR=81
GRNR Gornyy **62.80 16**⇑ *i*P **P** **15 20 27.8 +0.8**
GRNR *e*S **S** **15 28 51.8 +3.7**
GRNR pmax pmax
comp=E,10.0nm,1.3s
GRNR pmax pmax
comp=N,50nm,1.0s
GRNR pmax pmax
comp=Z,90nm,1.0s
GRNR smax smax
comp=N,3.0nm,1.0s
SGDS Sogindy **62.83 329**⇑ *i*P **P** **15 20 27.3 -0.1**
comp=N,102nm,1.4s,baz=330
SGDS *i* S **S** **15 28 46.5 -2.4**
baz=330
SGDS Sogindy **62.83 329** *c i*P **P** **15 20 27.2 -0.1**
SGDS *i* S **S** **15 28 46.4 -2.4**
SGDS pmax pmax
comp=Z,102nm,1.4s
UGL Uglegorsk **63.10 21** *e*P **P** **15 20 29.1 +0.2**
UGL pmax pmax
comp=Z,570nm,1.3s
UGL pmax pmax
comp=Z,3μm,2.0s
BSY Bisya **63.21 301** P **P** **15 20 30.6 +0.4**
SNR=11
DMTO DMTO **63.33 295** P **P** **15 20 31.5 +0.4**
HOQ Hoqain **63.45 302** P **P** **15 20 32.3 +0.4**
SNR=11
MSVF Nonsavu **63.46 105** P **P** **15 20 34.6 +2.6**
comp=Z,27nm,0.9s,baz=252,slow=2.1,SNR=11
MSVF LR LR 15 48 35.8
comp=Z,327nm,20.4s,baz=260,slow=36
comp=Z,27nm,0.9s
MSVF Nonsavu **63.46 105** P **P** **15 20 32.7 +0.6**
MSVF Nonsavu **63.46 105** P **P** **15 20 35.0 +2.9**
comp=Z,62nm,1.2s
MSVF Nonsavu **63.46 105** P **P** **15 20 32.7 +0.6**
MSVF pmax pmax
comp=Z,53nm,1.0s
MSVF Nonsavu **63.46 105** P **P** **15 20 34.7 +2.6**
MSVF pP **pwP** **15 20 58.8 -0.6**
ZEA Zeya **63.58 9** *e*P **P** **15 20 32.7 +0.7**
ZEA *e*S **S** **15 29 01.4 +3.8**
ZEA pmax pmax
comp=Z,1μm,4.3s
ZEA pmax pmax
comp=E,60nm,1.0s
ZEA pmax pmax
comp=N,180nm,1.2s
ZEA pmax pmax
comp=Z,330nm,1.1s
JASK Jask - Hormozg **63.94 304** P **P** **15 20 36.3 +1.3**
SNR=16
ARQ Araqi **64.02 301** P **P** **15 20 35.6 0.0**
SNR=8.1
DZA Taraz **64.16 327** *e*P **P** **15 20 34.5 -1.6**
baz=327
DZA *i* S **S** **15 29 02.3 -3.0**
baz=327
DZA *e*ScS **SKSac** **15 30 19.3 -1.2**
baz=327
DZA Taraz **64.16 327** *e*P **P** **15 20 34.5 -1.6**
DZA *i* S **S** **15 29 02.2 -3.0**
DZA *e* 15 30 19.3
TAS Tashkent **64.25 325** P **P** **15 20 36.6 -0.1**
TAS IAmb IAmb 15 20 38.3
comp=Z,308nm,1.5s
TAS Tashkent **64.25 325** P **P** **15 20 36.6 -0.1**
TAS pmax pmax
comp=Z,308nm,1.5s
BTLS Baital **64.26 330**⇑ *i*P **P** **15 20 36.1 -0.6**
baz=331
BTLS *e*S **S** **15 29 01.5 -4.9**
baz=331
BTLS *e*ScS **SKSac** **15 30 17.7 -3.5**
baz=331
BTLS Baital **64.26 330** *c i*P **P** **15 20 36.1 -0.6**
BTLS *e*S **S** **15 29 01.5 -4.9**
BTLS *e* 15 30 17.7
DOK Doka **64.36 296** P **P** **15 20 37.7 -0.2**
SNR=6.6
IUG Iuzhnay **64.37 326**⇑ *i*P **P** **15 20 37.9 +0.3**
baz=326
IUG *e*S **S** **15 29 05.3 -2.8**
baz=326
IUG *e*ScS **SKSac** **15 30 20.5 -1.8**
baz=326
IUG Iuzhnay **64.37 326** *c i*P **P** **15 20 37.9 +0.3**
IUG *e*S **S** **15 29 05.2 -2.8**
IUG *e* 15 30 20.5
ABPO Ambohimpanom **64.48 253** P **P** **15 20 39.9 +1.1**
ABPO pP **pP** **15 21 03.4 -0.4**
OPO Ambohidratompo **64.53 254** P **P** **15 20 41.1 +1.9**
comp=Z,11nm,0.6s,baz=87,slow=7.8,SNR=15
comp=Z,11nm,0.6s
HRA Herat **64.67 315** P **P** **15 20 38.3 -1.5**
ABTO Aybut **64.69 294** P **P** **15 20 40.5 +0.4**
KK31 Karatay Array **64.74 327** P **P** **15 20 39.2 -0.6**
KK31 Karatay Array **64.74 327** *i* P **P** **15 20 39.1 -0.8**
KKAR Karatay Array **64.74 327** P **P** **15 20 39.2 -0.7**
KKAR Karatay Array **64.74 327** P **P** **15 20 39.2 -0.7**
KKAR pmax pmax
comp=Z,78nm,1.3s
TYV Tymovskoe **64.82 20** *e*P **P** **15 20 41.1 +1.0**
TYV *e*S **S** **15 29 12.5 -0.5**
TYV pmax pmax
comp=Z,1μm,2.4s
TYV pmax pmax
comp=Z,147nm,1.4s
TYV smax smax
comp=N,2μm,4.1s
TYV smax smax
comp=E,3μm,4.1s
VOI Vohitsoka **64.86 250** P **P** **15 20 42.6 +1.3**
VOI Vohitsoka **64.86 250** P **P** **15 20 45.0 +3.8**
UOSS Minazif **64.92 303** P **P** **15 20 41.1 -0.3**
UOSS IAmb IAmb 15 20 42.5
comp=Z,184nm,1.4s
UOSS Minazif **64.92 303** P **P** **15 20 41.2 -0.2**
UOSS Minazif **64.92 303** *i* P **P** **15 20 41.0 -0.3**
SNR=15
UOSS Minazif **64.92 303** P **P** **15 20 41.1 -0.3**
UMZA Um Al Zommool **64.93 300** P **P** **15 20 41.3 -0.2**
HATD Hatta, Dubai **64.94 303** P **P** **15 20 41.8 +0.3**
SNR=22
HATD Hatta, Dubai **64.94 303** *i* P **P** **15 20 42.0 +0.5**
SNR=42
ASHO Ashiyiah **64.94 302** P **P** **15 20 41.9 +0.4**
SNR=23
ASHO Ashiyiah **64.94 302** *i* P **P** **15 20 42.0 +0.4**
SNR=66
ALNE Al Ain **64.95 302** P **P** **15 20 41.9 +0.3**
SNR=23
ALNE Al Ain **64.95 302** *i* P **P** **15 20 41.7 +0.1**
SNR=11
MDH Madha **64.99 303** P **P** **15 20 41.1 -0.8**
SNR=6.5
MDH Madha **64.99 303** *i* P **P** **15 20 40.8 -1.0**
SNR=16
MSFE Esma-Masafi **65.13 303** *i* P **P** **15 20 43.2 +0.4**
SNR=15
MASF Masafi **65.13 303** P **P** **15 20 43.2 +0.4**
SNR=14
FUNA Funafuti **65.16 95** P **P** **15 20 43.0 -0.1**
FUNA IAmb IAmb 15 20 46.7
comp=Z,172nm,1.1s
FUNA Funafuti **65.16 95** P **P** **15 20 46.0 +2.9**
comp=Z,136nm,1.0s
FUNA Funafuti **65.16 95** P **P** **15 20 44.1 +1.0**
FUNA pP **pP** **15 21 07.9 -0.2**
FUNA sP **sP** **15 21 18.2 -0.9**
BANOM Banah **65.24 304** P **P** **15 20 43.4 -0.1**
SNR=12
BANOM Banah **65.24 304** *i* P **P** **15 20 43.4 -0.1**
SNR=44
FAQ Al Faqa, Dubai **65.35 302** P **P** **15 20 44.5 +0.4**
SNR=39
FAQ Al Faqa, Dubai **65.35 302** *i* P **P** **15 20 44.7 +0.5**
SNR=222
NAZ Nazwa, Dubai **65.39 303** P **P** **15 20 44.5 0.0**
SNR=14
NAZ Nazwa, Dubai **65.39 303** *i* P **P** **15 20 44.6 +0.2**
SNR=30
SHME Shamm **65.42 304** P **P** **15 20 45.0 +0.4**
SNR=9.1
SHME Shamm **65.42 304** *i* P **P** **15 20 45.0 +0.4**
SNR=28
ASUD Al Ashush, Dub **65.53 302** P **P** **15 20 46.0 +0.7**
SNR=22
ASUD Al Ashush, Dub **65.53 302** *i* P **P** **15 20 46.1 +0.7**
SNR=104
UMQ Umm Al-Quwin **65.61 303** P **P** **15 20 46.9 +1.1**
CCD Concordia, Ant **66.36 177** P **P** **15 20 51.3 +1.0**
CCD pP **pP** **15 21 16.7 +1.7**
MZWR Madinat Zayed **66.42 301** P **P** **15 20 51.2 +0.2**
KURBB Kurchatov Arra **66.52 337** LR LR 15 52 39.9
comp=Z,192nm,21.4s,baz=122,slow=38
BOD Bodaibo **66.54 0** *e*P **P** **15 20 51.1 0.0**
BOD pmax pmax
comp=Z,5μm,1.3s
KURK Kurchatov **66.56 337** P **P** **15 20 51.3 0.0**
KURK IAmb IAmb 15 20 53.0
comp=Z,189nm,1.2s
KURK Kurchatov **66.56 337** P **P** **15 20 51.4 +0.1**
KURK Kurchatov **66.56 337** *i* P **P** **15 20 50.7 -0.6**
KURK pmax pmax
comp=Z,149nm,1.1s
KURK Kurchatov **66.56 337** P **P** **15 20 51.3 0.0**
ZAA0 Zalesovo Array **67.10 342** P **P** **15 20 54.1 -0.6**
ZAA0 IAmb IAmb 15 20 55.9
comp=Z,208nm,1.1s
ZALV Zalesovo Beam **67.10 342** P **P** **15 20 54.4 -0.3**
comp=Z,45nm,0.4s,baz=134,slow=4.3,SNR=288
ZALV S **S** **15 29 36.3 -4.2**
comp=Z,5.3nm,0.8s,baz=142,slow=7.5,SNR=9.3
ZALV PKP2bc 15 49 24.0
comp=Z,0.4nm,0.6s,baz=316,slow=6.0,SNR=1.5
ZALV LR LR 15 51 31.3
comp=Z,231nm,18.6s,baz=160,slow=37
comp=Z,45nm,0.4s
ZALV Zalesovo Beam **67.10 342** P **P** **15 20 54.1 -0.6**
RAO Raoul Island **67.29 118** LR LR 15 49 58.9
comp=Z,426nm,21.4s,baz=262,slow=36
GHWR Ruwais **67.34 301** P **P** **15 20 57.2 +0.3**
MAW Mawson **67.38 199** P **P** **15 20 57.7 +1.4**
comp=Z,9.2nm,0.8s,baz=66,slow=5.4,SNR=13
MAW LR LR 15 47 56.8
comp=Z,496nm,18.6s,baz=58,slow=34
MAW PKP2bc 15 49 20.2
comp=Z,4.8nm,0.9s,baz=276,slow=16,SNR=4.4
comp=Z,9.2nm,0.8s
MAW Mawson **67.38 199** P **P** **15 20 58.1 +1.7**
baz=68,SNR=13
MAW Mawson **67.38 199** P **P** **15 20 56.6 +0.2**
OTUK Ortayu **67.38 332** P **P** **15 20 56.4 -0.3**
JRN Qarnain Island **67.73 302** P **P** **15 20 59.2 -0.1**
SNR=7.9
SLWR Sila **68.39 300** P **P** **15 21 03.6 +0.1**
BRZS Berezniki **68.48 333**⇑ *i*P **P** **15 21 03.6 +0.1**
comp=Z,132nm,1.7s,baz=334
BRZS *e*S **S** **15 29 55.9 -1.4**
baz=334
BRZS *e*ScS **SKSac** **15 30 50.8 -2.1**
baz=334
BRZS Berezniki **68.48 333** *c i*P **P** **15 21 03.6 +0.1**
BRZS *e*S **S** **15 29 55.8 -1.4**
BRZS *e* 15 30 50.8
BRZS pmax pmax
comp=Z,132nm,1.7s
GEYT Alibeck **69.35 316** P **P** **15 21 09.7 +0.5**
comp=Z,43nm,0.9s,baz=152,slow=6.7,SNR=93
GEYT S **S** **15 30 05.5 -2.6**
comp=Z,1.1nm,0.7s,baz=55,slow=18,SNR=1.8
GEYT PKP2bc 15 49 18.7
comp=Z,0.6nm,0.4s,baz=256,slow=17,SNR=4.0
comp=Z,43nm,0.9s
GEYT Alibeck **69.35 316** P **P** **15 21 09.1 -0.1**
GEYT IAmb IAmb 15 21 11.4
comp=Z,107nm,1.1s
GYA0 ALIBECK ARRAY **69.35 316** P **P** **15 21 09.2 0.0**
GYA0B ALIBECK ARRAY **69.35 316** P **P** **15 21 09.5 +0.3**
GYA0B IAmb IAmb 15 21 11.4
comp=Z,107nm,1.1s
SMRA Abu-Samra **69.37 301** P **P** **15 21 09.7 +0.2**
SHMA Al-Shehemyia **69.65 302** P **P** **15 21 11.3 +0.1**
SAKB Bahrain **70.05 302** P **P** **15 21 13.7 +0.1**
SKR Severo-Kuril's **70.07 27** *ce*P **P** **15 21 14.4 +1.2**
BVA0 Borovoye Array **71.66 334** P **P** **15 21 22.3 -0.6**
BVAR Borovoye Array **71.66 334** P **P** **15 21 22.9 0.0**
comp=Z,28nm,0.8s,baz=134,slow=6.4,SNR=79
BVAR LR LR 15 57 27.1
comp=Z,244nm,19.1s,baz=131,slow=40
comp=Z,28nm,0.8s
BRVK Borovoye **71.73 334** P **P** **15 21 22.9 -0.4**
BRVK IAmb IAmb 15 21 25.0
comp=Z,171nm,1.5s
BRVK Borovoye **71.73 334** P **P** **15 21 23.5 +0.3**
BRVK Borovoye **71.73 334** P **P** **15 21 22.9 -0.4**
BRVK pmax pmax
comp=Z,171nm,1.5s
BRVK Borovoye **71.73 334**⇑ P **P** **15 21 23.2 -0.1**
YAK Yakutsk **71.92 8** P **P** **15 21 24.1 -0.1**
comp=Z,35nm,0.4s,baz=187,slow=2.5,SNR=88
YAK LR LR 15 56 20.2
comp=Z,232nm,18.1s,baz=251,slow=38
comp=Z,35nm,0.4s
YAK Yakutsk **71.92 8** P **P** **15 21 23.5 -0.7**
YAK Yakutsk **71.92 8** *c i*P **P** **15 21 24.2 0.0**
YAK *e* 15 21 43.3
YAK *e**PP **pP** **15 21 48.6 -1.5**
YAK *e* 15 24 07.2
YAK *e*S **S** **15 30 39.0 +2.1**
YAK *e* 15 31 22.1
YAK *e**SS **sS** **15 31 26.4 +5.0**
YAK *e*SS **SS** **15 35 21.3 +5.6**
YAK pmax pmax
comp=Z,422nm,1.2s
YAK pmax pmax
comp=N,222nm,1.3s
YAK pmax pmax
comp=E,118nm,1.3s
YAK pmax pmax
comp=Z,386nm,4.1s
YAK pmax pmax
comp=E,176nm,4.0s
YAK pmax pmax
comp=N,312nm,2.9s
YAK smax smax
comp=E,830nm,3.8s
YAK smax smax
comp=N,434nm,4.2s
YAK Yakutsk **71.92 8** P **P** **15 21 24.2 0.0**
PEA0B Petropavlovsk- **72.46 26** P **P** **15 21 27.1 -0.5**
PEA0B IAmb IAmb 15 21 30.2
comp=Z,257nm,1.1s
PEA0B Petropavlovsk- **72.46 26** *ce*P **P** **15 21 28.0 +0.4**
PETK Petropavlovsk- **72.46 26** P **P** **15 21 27.6 -0.1**
comp=Z,130nm,1.0s,baz=87,slow=20,SNR=64
PETK LR LR 15 53 19.2
comp=Z,187nm,21.9s,baz=230,slow=36
comp=Z,130nm,1.0s

PETK Petropavlovsk- 72.46 26 P **P** **15 21 26.4 -1.2**
PET Petropavlovsk 72.82 27 P **P** **15 21 30.0 +0.3**
PET IAmb IAmb 15 21 31.7
comp=Z,307nm,1.3s
PET Petropavlovsk 72.82 27 P **P** **15 21 32.1 +2.4**
comp=Z,963nm,1.6s
PET Petropavlovsk 72.82 27 *e*P **P** **15 21 30.4 +0.7**
PET *e**PP **pP** **15 21 53.6 -1.7**
PET *e*S **S** **15 30 49.2 +1.8**
PET *e* 15 31 19.0
PET *e**SS **ScS** **15 31 30.1 +2.2**
PET pmax pmax
comp=Z,72nm,0.9s
PET pmax pmax
comp=Z,300nm,12.8s
PET MLR MLR
comp=Z,300nm,16.0s
ATD Arta Tunnel 72.84 285 LR LR 15 48 55.8
comp=Z,114nm,21.6s,baz=73,slow=32
VNDA Vanda 72.97 170 P **P** **15 21 31.2 +0.8**
comp=Z,6.4nm,0.5s,baz=307,slow=8.0,SNR=40
VNDA PKPPKP **P'P'df** **15 49 12.8 +2.0**
comp=Z,0.9nm,1.0s,baz=138,slow=3.4,SNR=3.9
VNDA LR LR 15 51 02.0
comp=Z,471nm,20.1s,baz=323,slow=34
comp=Z,6.4nm,0.5s
VNDA Vanda 72.97 170 P **P** **15 21 30.9 +0.6**
VNDA Vanda 72.97 170 P **P** **15 21 30.9 +0.6**
VNDA pmax pmax
comp=Z,27nm,1.0s
AFI Afiamalu 73.46 102 LR LR 15 54 48.3
comp=Z,134nm,19.1s,baz=267,slow=36
AFI Afiamalu 73.46 102 P **P** **15 21 34.2 -0.2**
AFI IAmb IAmb 15 21 38.5
comp=Z,140nm,1.4s
AFI Afiamalu 73.46 102 P **P** **15 21 37.8 +3.4**
comp=Z,76nm,1.2s
AFI Afiamalu 73.46 102 P **P** **15 21 34.3 -0.2**
AFI pmax pmax
comp=Z,139nm,1.4s
RAYN Ar Rayn 73.56 298 P **P** **15 21 34.4 -0.5**
RAYN Ar Rayn 73.56 298 P **P** **15 21 35.0 +0.2**
RAYN Ar Rayn 73.56 298 *i* P **P** **15 21 35.1 +0.2**
SNR=54
RAYN Ar Rayn 73.56 298 P **P** **15 21 34.4 -0.5**
RAYN pmax pmax
comp=Z,57nm,1.1s
SBA Scott Base 74.02 170 P **P** **15 21 36.4 0.0**
SBA Scott Base 74.02 170 P **P** **15 21 36.4 0.0**
SBA pmax pmax
comp=Z,55nm,1.3s
AB31 Akbulak array 74.30 327 *i* P **P** **15 21 38.2 -0.3**
ABKAR Akbulak array 74.30 327 P **P** **15 21 38.6 +0.1**
ABKAR Akbulak array 74.30 327 P **P** **15 21 38.1 -0.5**
ABKAR IAmb IAmb 15 21 40.1
comp=Z,252nm,1.1s
MA2 Magadan 74.61 19 P **P** **15 21 40.3 +0.3**
comp=Z,84nm,1.0s,baz=213,slow=5.1,SNR=12
MA2 LR LR 15 58 37.4
comp=Z,83nm,18.4s,baz=226,slow=39
comp=Z,84nm,1.0s
MA2 Magadan 74.61 19 P **P** **15 21 40.5 +0.4**
MA2 IAmb IAmb 15 21 41.6
comp=Z,159nm,1.1s
MA2 Magadan 74.61 19 P **P** **15 21 40.9 +0.8**
comp=Z,190nm,1.2s
MA2 Magadan 74.61 19 *ce*P **P** **15 21 41.2 +1.1**
MA2 pmax pmax
comp=Z,397nm,2.5s
KIBK Kibwezi 74.97 270 P **P** **15 21 43.3 0.0**
KIBK Kibwezi 74.97 270 P **P** **15 21 44.9 +1.6**
SNR=5.6
KMBO Kilima Mbogo 75.93 271 P **P** **15 21 50.9 +1.8**
comp=Z,17nm,0.8s,baz=65,slow=8.3,SNR=36
KMBO LR LR 15 49 58.9
comp=Z,438nm,21.7s,baz=94,slow=31
comp=Z,17nm,0.8s
KMBO Kilima Mbogo 75.93 271 P **P** **15 21 49.1 +0.1**
KMBO Kilima Mbogo 75.93 271 ⇓ *i* P **P** **15 21 50.8 +1.8**
KMBO IAmb IAmb 15 22 18.1
comp=Z,65nm,2.0s
KMBO Kilima Mbogo 75.93 271 P **P** **15 21 50.6 +1.6**
KMBO Kilima Mbogo 75.93 271 *i* P **P** **15 21 50.8 +1.8**
SNR=14
KMBO Kilima Mbogo 75.93 271 P **P** **15 21 49.1 +0.1**
KMBO pmax pmax
comp=Z,32nm,1.2s
AKTO Aktyubinsk 76.00 327 P **P** **15 21 48.3 +0.1**
SEY Seymchan 77.71 17 P **P** **15 21 58.4 +0.8**
comp=Z,91nm,1.1s,baz=216,slow=6.3,SNR=47
comp=Z,91nm,1.1s
SEY Seymchan 77.71 17 *ce*P **P** **15 21 58.7 +1.1**
SEY pmax pmax
comp=Z,336nm,1.7s
AKT Akhty 78.09 316 *e*P **P** **15 22 01.1 +0.8**
AKT *e* 15 22 08.7
AKT *e*S **S** **15 31 42.6 -3.8**
AKT pmax pmax
comp=Z,143nm,1.2s
SVE Sverdlovsk 78.40 334 *d i* P **P** **15 22 02.3 +0.8**
SVE *e*S **S** **15 31 45.7 -3.1**
SVE pmax pmax
comp=Z,162nm,1.0s
POGA Pongola 78.41 244 *e*P **P** **15 22 05.0 +2.6**
POGA IAmb IAmb 15 22 35.4
comp=Z,56nm,1.2s
LODK Lodwar 78.53 275 P **P** **15 22 05.0 +1.7**
MAK Makhachkala 78.83 317 *e*P **P** **15 22 02.2 -2.0**
MAK *e**PP **pP** **15 22 28.0 -2.2**
MAK *e**SP **sP** **15 22 39.7 -1.4**
MAK *e* 15 25 03.3
MAK *e*PPP PPP 15 26 51.0
MAK *e*S **S** **15 31 50.3 -3.7**
MAK *e**SS **sS** **15 32 37.9 -1.5**
MAK *e*SS **SS** **15 37 03.7 +2.5**
MAK *e*SSS SSS 15 40 26.7
MAK pmax pmax
comp=Z,292nm,1.2s
MOPA Mopani 79.00 248 *e*P **P** **15 22 08.0 +2.4**
MOPA IAmb IAmb 15 22 42.0
comp=Z,45nm,1.1s
ARU Arti 79.09 333 P **P** **15 22 05.6 +0.3**
comp=Z,81nm,0.9s,baz=122,slow=4.5,SNR=77
ARU LR LR 16 00 11.3
comp=Z,336nm,20.4s,baz=122,slow=38
comp=Z,81nm,0.9s
ARU Arti 79.09 333 P **P** **15 22 05.4 +0.1**
ARU IAmb IAmb 15 22 06.9
comp=Z,131nm,1.0s
ARU Arti 79.09 333 *c i* P **P** **15 22 05.5 +0.2**
ARU *e**PP **pP** **15 22 32.6 +1.1**
ARU 15 25 01.5
ARU S **S** **15 31 59.5 +3.3**
ARU pmax pmax
comp=Z,174nm,1.1s
ARU MLR MLR
comp=Z,373nm,18.0s
GNI Garni 79.69 314 P **P** **15 22 10.3 +1.1**
comp=Z,35nm,0.8s,baz=179,slow=3.5,SNR=18
GNI S **S** **15 31 58.4 -5.2**
comp=Z,2.7nm,0.5s,baz=228,slow=20,SNR=1.2
GNI LR LR 16 01 38.2
comp=Z,64nm,18.7s,baz=100,slow=39
comp=Z,35nm,0.8s
GNI Garni 79.69 314 P **P** **15 22 09.7 +0.5**
GNI Garni 79.69 314 P **P** **15 22 09.3 +0.1**
GNI Garni 79.69 314 P **P** **15 22 10.1 +0.9**
GNI Garni 79.69 314 *ce*P **P** **15 22 10.8 +1.6**
GNI pmax pmax
comp=Z,107nm,1.3s
NWCL Newcastle 79.99 243 *e*P **P** **15 22 12.3 +1.3**
NWCL IAmb IAmb 15 22 44.4
comp=Z,41nm,1.1s
GROC Groznyy 80.08 317 *e*P **P** **15 22 09.6 -1.4**
GROC *e**PP **pP** **15 22 37.8 +0.7**
GROC *e**SP **sP** **15 22 49.4 +1.5**
GROC *e*S **S** **15 32 04.3 -2.9**
GROC *e**SS **sS** **15 32 52.4 -0.4**
GROC pmax pmax
comp=Z,285nm,0.8s
NRIK Noril'sk 80.12 351 P **P** **15 22 10.9 +0.2**
comp=Z,23nm,0.3s,baz=149,slow=4.8,SNR=54
NRIK PP **PP** **15 25 13.3 -1.0**
comp=Z,18nm,1.0s,baz=150,slow=7.6,SNR=4.6
NRIK S **S** **15 32 01.2 -5.3**
comp=Z,1.1nm,0.4s,baz=20,slow=22,SNR=1.5
comp=Z,23nm,0.3s
NRIK Noril'sk 80.12 351 IAmb IAmb 15 22 12.4
comp=Z,495nm,1.7s
NRIK Noril'sk 80.12 351 ⇑ *i* P **P** **15 22 10.8 +0.2**
NRIK pmax pmax
comp=Z,252nm,1.4s
KSTD Kokstad 80.26 240 *e*P **P** **15 22 14.7 +2.2**
KSTD IAmb IAmb 15 22 53.7
comp=Z,3μm,4.9s
GEVA Gevas 80.29 311 IAmb IAmb 15 22 14.8
comp=Z,104nm,1.2s
MUSN Musina, Limpop 80.53 249 *e*P **P** **15 22 14.8 +0.9**
MUSN IAmb IAmb 15 22 43.9
comp=Z,40nm,1.1s
QSPA South Pole Qui 81.04 180 P **P** **15 22 16.6 +0.7**
comp=Z,9.5nm,0.9s,baz=310,slow=0.9,SNR=21
QSPA S **S** **15 32 15.2 -1.5**
comp=Z,0.7nm,0.9s,baz=85,slow=14,SNR=1.3
QSPA PKKPbc **PKKPbc** **15 40 51.3 -4.3**
comp=Z,1.5nm,0.6s,baz=217,slow=0.9,SNR=10.0
comp=Z,9.5nm,0.9s
QSPA South Pole Qui 81.04 180 P **P** **15 22 15.5 -0.4**
TIXI Tiksi 81.10 5 P **P** **15 22 15.5 -0.4**
baz=134,slow=0.0
TIXI LR LR 16 00 53.5
comp=Z,344nm,20.0s,baz=244,slow=38
TIXI Tiksi 81.10 5 P **P** **15 22 15.2 -0.6**
TIXI IAmb IAmb 15 22 16.7
comp=Z,223nm,1.0s
TIXI Tiksi 81.10 5 ⇑ *i* P **P** **15 22 15.4 -0.4**
TIXI pmax pmax
comp=Z,261nm,1.1s
ZEI Tsey 81.22 316 *e*P **P** **15 22 15.9 -1.5**
ZEI pmax pmax
comp=Z,147nm,1.3s
SLR Silverton 81.61 245 *e*P **P** **15 22 20.5 +0.7**
SLR IAmb IAmb 15 22 34.1
comp=Z,27nm,0.9s
MARD Mardin 81.68 310 IAmb IAmb 15 22 22.2
comp=Z,59nm,0.6s
NCK Nalchik 81.68 316 *i* P **P** **15 22 20.9 +1.4**
NCK pmax pmax
comp=Z,121nm,0.8s
NEY Neytrino 82.19 316 ⇑ *i* P **P** **15 22 24.3 +1.9**
NEY pmax pmax
comp=Z,31nm,0.9s
KBZ Khabaz 82.24 316 P **P** **15 22 23.6 +1.3**
comp=Z,84nm,0.9s,baz=107,slow=4.0,SNR=94
KBZ S **S** **15 32 27.0 -2.5**
comp=Z,6.2nm,1.2s,baz=236,slow=24,SNR=16
KBZ PKKPbc **PKKPbc** **15 40 51.7 0.0**
comp=Z,3.3nm,0.7s,baz=15,slow=2.9,SNR=8.2
KBZ LR LR 16 05 16.6
comp=Z,68nm,18.7s,baz=100,slow=40
comp=Z,84nm,0.9s
KBZ Khabaz 82.24 316 *ce*P **P** **15 22 23.6 +1.3**
KBZ pmax pmax
comp=Z,138nm,1.0s
LEPH Lephalale, Lim 82.25 247 ⇓ *i* P **P** **15 22 24.3 +1.2**
LEPH IAmb IAmb 15 22 53.0
comp=Z,41nm,0.9s
PRYS Parys 82.31 244 *e*P **P** **15 22 24.9 +1.5**
PRYS IAmb IAmb 15 22 48.1
comp=Z,34nm,0.9s
SHA1 Shidzhatmaz 82.41 316 *c i* P **P** **15 22 25.0 +1.4**
MBAR Mbarara 82.45 271 P **P** **15 22 26.4 +2.0**
comp=Z,21nm,0.6s,baz=83,slow=7.6,SNR=34
MBAR LR LR 15 55 46.0
comp=Z,241nm,19.3s,baz=90,slow=33
comp=Z,21nm,0.6s
MBAR Mbarara 82.45 271 P **P** **15 22 24.8 +0.4**
MBAR Mbarara 82.45 271 P **P** **15 22 23.3 -1.1**
MBAR Mbarara 82.45 271 *ce*P **P** **15 22 26.7 +2.3**
MBAR pmax pmax
comp=Z,45nm,1.3s
KIV Kislovodsk 82.46 317 P **P** **15 22 23.9 +0.3**
KIV Kislovodsk 82.46 317 P **P** **15 22 24.1 +0.4**
KIV Kislovodsk 82.46 317 *i* P **P** **15 22 24.7 +1.0**
SNR=16
KIV Kislovodsk 82.46 317 *e*P **P** **15 22 24.7 +1.0**
KIV *e*S **S** **15 32 30.9 -1.1**
KIV *e*SS **SS** **15 37 57.8 +2.3**
KIV *e*SSS SSS 15 41 26.8
KIV pmax pmax
comp=Z,101nm,3.5s
KIV pmax pmax
comp=Z,71nm,1.1s
GRHM Grahamstown, E 82.50 238 *e*P **P** **15 22 26.6 +2.4**
GRHM IAML 15 22 27.9
comp=Z,15nm,0.7s
GOF Gofitskoye 82.60 318 ⇑ *e*P **P** **15 22 25.5 +1.2**
BELG Belogornoye 82.63 326 P **P** **15 22 24.6 +0.4**
comp=Z,144nm,0.9s,baz=296,slow=0.9,SNR=37
BELG LR LR 16 04 33.2
comp=Z,179nm,18.3s,baz=135,slow=40
comp=Z,144nm,0.9s
KOPT Kop Dagi 82.72 312 IAmb IAmb 15 22 29.6
comp=Z,282nm,1.4s
LSZ Lusaka 82.90 256 LR LR 15 54 02.3
comp=Z,225nm,21.9s,baz=104,slow=32
ASF Jabal al Asfar 83.30 304 LR LR 16 02 46.3
comp=Z,175nm,20.0s,baz=115,slow=38
BOSA Boshof 83.97 242 P **P** **15 22 33.2 +1.3**
comp=Z,9.3nm,0.5s,baz=112,slow=4.3,SNR=36
BOSA PKKPbc **PKKPbc** **15 40 47.0 +0.3**
comp=Z,2.4nm,0.8s,baz=337,slow=1.8,SNR=4.8
BOSA LR LR 15 53 56.0
comp=Z,342nm,20.5s,baz=120,slow=31
comp=Z,9.3nm,0.5s
BOSA Boshof 83.97 242 IAmb IAmb 15 23 03.5
comp=Z,164nm,1.9s
BOSA Boshof 83.97 242 *e*P **P** **15 22 33.5 +1.6**
BOSA IAmb IAmb 15 22 46.0
comp=Z,21nm,0.9s
RAR Rarotonga 84.08 110 LR LR 15 57 29.7
comp=Z,127nm,21.9s,baz=262,slow=34
LBTB Lobatse 84.11 246 PKKPbc PKKPbc 15 40 48.4 +2.1
comp=Z,2.5nm,0.6s,baz=278,slow=14,SNR=2.2
LBTB LR LR 15 53 24.2
comp=Z,204nm,21.8s,baz=166,slow=31
LBTB Lobatse 84.11 246 *e*P **P** **15 22 35.4 +2.8**
LBTB IAmb IAmb 15 23 07.8
comp=Z,33nm,1.1s
GHAJ Ghor Haditha 84.18 303 IAmb IAmb 15 22 35.8
comp=Z,137nm,0.7s
GRAF Camdeboo Natio 84.19 238 *e*P **P** **15 22 35.3 +2.4**
GRAF IAmb IAmb 15 23 08.2
comp=Z,80nm,1.2s
GAZ Gaziantep 84.36 309 IAmb IAmb 15 22 36.6
comp=Z,117nm,1.0s
SOC Sochi 84.37 316 *e*P **P** **15 22 32.0 -1.4**
SOC *e**PP **pP** **15 22 59.7 0.0**
SOC *e**SP **sP** **15 23 10.5 0.0**
SOC *e* 15 25 47.8
SOC *e*S **S** **15 32 45.2 -5.9**
SOC *e*SS **SS** **15 38 19.4 -4.2**
SOC *e*SSS SSS 15 41 52.8
SOC pmax pmax
comp=Z,124nm,1.0s
KIRV Kirov 84.43 332 P **P** **15 22 34.0 +0.7**
comp=Z,108nm,0.7s,baz=94,slow=0.3,SNR=42
KIRV LR LR 16 05 21.3
comp=Z,225nm,19.5s,baz=120,slow=39
comp=Z,108nm,0.7s
MMAI Mount Meron Ar 84.73 304 LR LR 16 04 15.6
comp=Z,231nm,19.4s,baz=329,slow=38
BFON Badsfontein, M 84.93 239 *e*P **P** **15 22 39.4 +2.7**
BFON IAmb IAmb 15 22 54.8
comp=Z,678nm,3.0s
ROOI Rooidraai Farm 84.95 238 *e*P **P** **15 22 38.6 +1.8**
ROOI IAmb IAmb 15 23 08.8
comp=Z,178nm,1.7s
ADK Adak 85.02 36 P **P** **15 22 35.9 -0.5**
ADK IAmb IAmb 15 22 37.9
comp=Z,290nm,1.5s
ADK Adak 85.02 36 P **P** **15 22 35.9 -0.5**
ADK pmax pmax
comp=Z,290nm,1.5s
BILL Bilibino 85.41 18 P **P** **15 22 37.4 -0.6**
BILL Bilibino 85.41 18 *d i* P **P** **15 22 37.9 -0.1**
BILL *e**SP **sP** **15 23 11.8 -3.6**
BILL *e* 15 25 56.2
BILL *e*S **S** **15 32 52.2 -8.2**
BILL *e*SS **SS** **15 38 35.9 -2.0**
BILL pmax pmax
comp=Z,88nm,2.3s
BILL MLR MLR
comp=Z,139nm,18.0s
VRH Novokhopyorsk 85.56 323 *e*P **P** **15 22 39.0 -0.1**
VRH *e*S **S** **15 32 58.2 -4.2**
VRH pmax pmax
comp=Z,420nm,1.3s
VRH pmax pmax
comp=Z,200nm,0.6s
VRH smax smax
comp=E,400nm,1.5s
TOKA Tokat 85.76 312 IAmb IAmb 15 22 43.5
comp=Z,150nm,1.1s
GRAN Grantham 86.14 238 *e*P **P** **15 22 44.2 +1.6**
GRAN IAmb IAmb 15 23 12.0
comp=Z,119nm,2.8s
ANN Anapa 86.30 316 *e*P **P** **15 22 41.4 -1.5**
ANN *e**PP **pP** **15 23 08.3 -1.0**
ANN *e*S S 15 32 57.8 -12
ANN pmax pmax
comp=Z,159nm,1.1s
CSS Mathiatis 86.86 306 IAmb IAmb 15 22 48.6
comp=Z,141nm,1.1s
DIKM Dikmen 86.99 313 ⇑ P **P** **15 22 47.7 +1.3**
VSR Storozhevoye 87.08 323 *e*P **P** **15 22 46.3 -0.3**
VSR *e*S **S** **15 33 12.5 -4.8**
VSR pmax pmax
comp=Z,430nm,0.5s
VSR pmax pmax
comp=Z,430nm,0.5s
VSR smax smax
comp=N,1μm,3.2s
VORR Voronezh 87.20 323 *e*P **P** **15 22 47.6 +0.5**
VORR pmax pmax
comp=Z,698nm,2.3s
SUR Sutherland 87.26 238 P **P** **15 22 50.4 +2.2**
comp=Z,9.2nm,0.8s,baz=138,slow=4.2,SNR=9.6
SUR PKKPbc **PKKPbc** **15 40 41.0 +1.8**
comp=Z,7.8nm,1.1s,baz=157,slow=4.8,SNR=6.0
SUR LR LR 15 56 26.4
comp=Z,250nm,19.6s,baz=106,slow=32
comp=Z,9.2nm,0.8s
PRGR Permogore 87.46 334 *e*P **P** **15 22 45.5 -2.6**
PRGR *e*S **S** **15 33 13.8 -6.6**
PRGR pmax pmax
comp=Z,139nm,1.0s
LPSR Galich'ya Gora 87.65 324 *e*P **P** **15 22 49.8 +0.5**
LPSR *e*S **S** **15 33 18.2 -4.4**
LPSR pmax pmax
comp=Z,400nm,0.8s
LPSR pmax pmax
comp=Z,530nm,1.2s
LPSR smax smax
comp=N,150nm,1.8s
BR131 Keskin Array S 87.72 311 IAmb IAmb 15 22 52.5
comp=Z,159nm,0.9s
BR131 Keskin Array S 87.72 311 P **P** **15 22 50.7 +0.6**
SNR=40
BR131 Keskin Array S 87.72 311 ⇑ *i* P **P** **15 22 50.7 +0.6**
BRTR Keskin Array B 87.72 311 P **P** **15 22 50.8 +0.6**
comp=Z,80nm,0.8s,baz=130,slow=5.7,SNR=210
BRTR pP **pP** **15 23 15.5 -1.1**
comp=Z,40nm,1.0s,baz=129,slow=7.3,SNR=5.0
BRTR LR LR 16 04 43.5
comp=Z,190nm,20.2s,baz=112,slow=37
comp=Z,80nm,0.8s
BRTR Keskin Array B 87.72 311 *i* P **P** **15 22 50.7 +0.6**
BRTR pmax pmax
comp=Z,81nm,0.9s
TROLL Troll, Antarti 87.78 197 P **P** **15 22 51.1 +1.3**
ILGA Ilgaz 87.97 312 IAmb IAmb 15 22 53.8
comp=Z,169nm,1.2s
BZK Bozkurt 87.98 313 ⇑ P **P** **15 22 51.0 -0.1**
ANTO Ankara 88.39 311 P **P** **15 22 53.5 +0.3**
ANTO IAmb IAmb 15 22 55.4
comp=Z,88nm,1.1s
ANTO Ankara 88.39 311 P **P** **15 22 54.1 +1.0**
ANTO Ankara 88.39 311 P **P** **15 22 53.5 +0.3**
ANTO pmax pmax
comp=Z,88nm,1.1s
SIM Simferopol' 88.62 316 *e*P **P** **15 22 55.2 +1.2**
SIM *e*S **SKSac** **15 33 17.3 +3.3**
SIM pmax pmax
comp=Z,53nm,0.9s
MOS Moscow 89.32 327 *e*P **P** **15 22 55.8 -1.3**
MOS *e**PP **pP** **15 23 23.6 -0.1**
MOS *e* 15 26 31.9
MOS *e* 15 33 33.9
MOS pmax pmax
comp=Z,500nm,1.8s
MOS pmax pmax
comp=Z,264nm,1.4s
SNAA Sanae 89.45 197 P **P** **15 22 59.2 +1.6**
SNAA Sanae 89.45 197 LR LR 16 00 54.8
comp=Z,338nm,18.1s,baz=125,slow=34
SNAA Sanae 89.45 197 IAmb IAmb 15 23 28.9
comp=Z,104nm,1.2s
SNAA Sanae 89.45 197 *i* P **P** **15 22 59.3 +1.6**
SNAA pmax pmax
comp=Z,16nm,0.7s
OBN Obninsk 89.72 326 P **P** **15 22 59.0 0.0**
comp=Z,20nm,0.5s,baz=103,slow=1.9,SNR=35
OBN LR LR 16 07 44.2
comp=Z,63nm,19.6s,baz=102,slow=38
comp=Z,20nm,0.5s
OBN Obninsk 89.72 326 P **P** **15 22 59.2 +0.3**
OBN Obninsk 89.72 326 ⇑ *i* P **P** **15 22 59.7 +0.8**
OBN *e**PP **pP** **15 23 25.8 +0.3**
OBN *e**SP **sP** **15 23 36.6 +0.3**
OBN *e* 15 26 33.5
OBN *e*PPP PPP 15 28 29.8
OBN *e*S **SKSac** **15 33 19.4 -0.6**
OBN *e*SS **SS** **15 39 38.9 -2.2**
OBN pmax pmax
comp=Z,204nm,0.9s
OBN MLR MLR
comp=Z,314nm,22.0s
KLMR Klimovskoe 89.93 332 ⇑ *i* P **P** **15 22 59.9 +0.1**
KLMR ⇓ *i* P **P** **15 22 59.9 +0.1**
KLMR ⇓ *i* P **P** **15 22 59.9 +0.1**
KLMR AMP 15 23 01.5
comp=Z,181nm,1.6s
KLMR *e*pP **pP** **15 23 20.9 -5.5**
KLMR *e*PP **PP** **15 26 32.0 -2.0**
KLMR Klimovskoe 89.93 332 *c i* P **P** **15 22 59.8 0.0**
KLMR *e* 15 26 32.0
KLMR pmax pmax
comp=Z,181nm,1.6s
SPIA Saint Paul Isl 90.27 32 P **P** **15 23 01.1 -0.3**
baz=254
VNA2 Neumayer--Watz 91.10 196 P **P** **15 23 06.8 +1.6**
baz=107,slow=5.0
BELA Belgrano 2 91.47 186 IAmb IAmb 15 23 37.3
comp=Z,82nm,1.4s
GAMB Gambell 91.47 25 P **P** **15 23 06.4 -0.4**
baz=253
UNV Unalaska Valle 91.49 36 IAmb IAmb 15 23 08.4
comp=Z,105nm,1.4s
UNV Unalaska Valle 91.49 36 P **P** **15 23 06.7 -0.5**
baz=257
VNA1 Neumayer--Stat 91.49 197 P **P** **15 23 08.8 +1.9**
VNA3 Neumayer Olymp 91.55 196 P **P** **15 23 08.3 +1.0**
PURM Purcari 91.86 317 ⇑ P **P** **15 23 09.2 +0.1**
BALB Balikesir 92.05 310 IAmb IAmb 15 23 12.0
comp=Z,40nm,0.8s
JURR Jurilovca 92.22 315 ⇑ P **P** **15 23 10.9 +0.1**
MANR Mangalia 92.26 314 ⇑ P **P** **15 23 11.7 +0.8**
TSUM Tsumeb 92.33 250 LR LR 16 00 15.5
comp=Z,150nm,18.2s,baz=100,slow=32
MFTR Murfatlar 92.44 314 ⇑ P **P** **15 23 12.2 +0.4**
TIRR Tirgusor 92.49 314 ⇑ P **P** **15 23 12.3 +0.2**
TIRR Tirgusor 92.49 314 IAmb IAmb 15 23 14.0
comp=Z,62nm,0.7s
TPGR Topolog 92.56 315 ⇑ P **P** **15 23 12.6 +0.2**
MILM Milestii Mici 92.65 317 ⇑ P **P** **15 23 12.9 +0.1**
TLBR Topalu 92.77 314 ⇑ P **P** **15 23 14.0 +0.7**
CFR Carcaliu 92.81 315 ⇑ P **P** **15 23 13.9 +0.4**
ICOR Ion Corvin 92.87 314 ⇑ P **P** **15 23 14.2 +0.4**
HARR Harsova 92.87 315 ⇑ P **P** **15 23 13.5 -0.3**
VLDR Vladesti 92.96 316 ⇑ P **P** **15 23 15.2 +1.0**
AKASG Malin Array Be 93.05 321 P **P** **15 23 14.2 -0.3**
comp=Z,20nm,0.6s,baz=82,slow=4.8,SNR=106
AKASG pP **pP** **15 23 39.2 -1.9**
comp=Z,2.5nm,0.5s,baz=66,slow=11,SNR=5.3
AKASG PP **PP** **15 26 53.3 -5.6**

comp=Z,1.0nm,0.5s,baz=84,slow=6.9,SNR=3.4
AKASG PKKPbc **PKKPdf** **15 40 24.1 +0.5**
comp=Z,0.4nm,0.4s,baz=288,slow=3.2,SNR=4.3
AKASG LR LR 16 13 17.3
comp=Z,157nm,18.1s,baz=88,slow=41
comp=Z,20nm,0.6s
AKASG Malin Array Be 93.05 321 IAmb IAmb 15 23 15.5
comp=Z,80nm,1.1s
AKASG Malin Array Be 93.05 321 *i* P **P** **15 23 14.3 -0.2**
AKASG pmax pmax
comp=Z,25nm,0.6s
AKBB Malin Array Si 93.05 321 P **P** **15 23 13.6 -0.9**
AKBB IAmb IAmb 15 23 15.5
comp=Z,91nm,1.2s
AKBB Malin Array Si 93.05 321 *c i* P **P** **15 23 14.2 -0.3**
AKBB pmax pmax
comp=Z,78nm,1.1s
VARL Varlezi 93.13 316 ⇑P **P** **15 23 15.3 +0.4**
SORM Soroca 93.17 318 ⇑P **P** **15 23 14.8 -0.3**
VASR Vaslui 93.29 317 ⇑P **P** **15 23 16.1 +0.4**
GHRR 93.46 316 ⇑P **P** **15 23 16.1 -0.4**
FALS False Pass 93.47 35 P **P** **15 23 16.0 -0.3**
baz=259
PANC Panciu 93.61 316 ⇑P **P** **15 23 17.1 -0.1**
IDI Anoyia 93.72 305 LR LR 16 11 10.0
comp=Z,76nm,20.6s,baz=82,slow=39
VRI Vrincioaia 93.90 316 ⇑P **P** **15 23 18.1 -0.4**
ISR Istrita 93.91 315 ⇑P **P** **15 23 19.6 +0.9**
PLOR Plostina 93.95 316 ⇑P **P** **15 23 18.8 -0.1**
SULR 94.05 314 ⇑P **P** **15 23 19.6 +0.3**
TESR Tescani 94.05 316 ⇑P **P** **15 23 19.8 +0.6**
PUL Pulkovo 94.09 330 *ce* P **P** **15 23 20.2 +1.2**
PUL pmax pmax
comp=Z,102nm,1.0s
PPT2 Papeete2 94.14 108 *e* LR LR 15 53 48.2
comp=Z,1μm,33.8s
PPT2 *e* LR LR 15 53 48.3
comp=Z,568nm,36.0s
PPT Papeete 94.15 108 LR LR 16 05 09.9
comp=Z,122nm,21.4s,baz=246,slow=35
COVR Voineasa-Covas 94.26 316 ⇑P **P** **15 23 20.5 +0.3**
APA Apatity 94.33 338 ⇓ *i* P **P** **15 23 19.0 -1.0**
APA pmax pmax
comp=Z,9.0nm,1.1s
MLR Muntele Rosu 94.39 315 ⇑P **P** **15 23 20.7 -0.3**
MLR Muntele Rosu 94.39 315 IAmb IAmb 15 23 22.7
comp=Z,36nm,1.1s
MNK Minsk 94.50 324 *i* P **P** **15 23 22.1 +1.0**
comp=E,100nm,43.5s
MNK *i* P **P** **15 23 22.1 +1.0**
comp=Z,190nm,17.9s,baz=98
MNK *i* P **PcP** **15 23 22.2 +0.8**
comp=N,220nm,16.6s
MNK *i* pP **pP** **15 23 50.3 +2.5**
MNK *i* PP **PP** **15 27 11.2 +1.1**
MNK *i* PPP PPP 15 29 13.1
MNK *i* S **SKSac** **15 33 48.2 +1.4**
MNK *i* sS **ScS** **15 34 35.6 +10**
MNK *i* SS SS 15 41 18.0 +28
MNK *i* SSS SSS 15 45 00.3
MNK Minsk 94.50 324 *i* P **P** **15 23 22.0 +1.0**
MNK *i* *PP **pP** **15 23 50.2 +2.5**
MNK *i* 15 27 11.1
MNK *i* PPP PPP 15 29 13.0
MNK *i* S **SKSac** **15 33 48.2 +1.4**
MTUR Matau 94.97 315 ⇑P **P** **15 23 23.4 -0.1**
VOIR 95.00 315 ⇑P **P** **15 23 23.4 -0.3**
PLVB Pleven 95.04 313 ⇑P **P** **15 23 24.4 +0.6**
BURAR Bucovina Array 95.17 317 ⇑P **P** **15 23 24.2 -0.3**
NACGM Naroch 95.19 325 *eP* **P** **15 23 25.3 +1.1**
comp=Z,82nm,1.0s,baz=99
SDPT Sand Point 95.21 35 P **P** **15 23 24.1 -0.2**
baz=262,SNR=7.7
CHNA Chernabura Isl 95.65 36 P **P** **15 23 26.0 -0.3**
baz=262
CNBA Chernabura Isl 95.65 36 IAmb IAmb 15 23 26.8
comp=Z,43nm,1.0s
ISAL Salakas 95.65 325 *eP* **P** **15 23 27.6 +1.3**
ARCR ARCALIA 95.69 317 ⇑P **P** **15 23 26.6 -0.1**
VSU Vasula 95.70 328 *eP* **P** **15 23 27.4 +1.0**
VSU Vasula 95.70 328 ⇓ *i* P **P** **15 23 26.6 +0.1**
LOT Lotru 95.90 315 ⇑P **P** **15 23 27.8 0.0**
VTS Vitosha 95.95 312 IAmb IAmb 15 23 29.5
comp=Z,18nm,1.0s
LVV L'vov 96.22 319 *eP* **P** **15 23 29.0 -0.1**
LVV *e* 15 27 24.1
LVV *eS* **S** **15 34 39.5 -0.4**
LVV *eSS* **SS** **15 41 09.5 -4.9**
LVV pmax pmax
comp=Z,90nm,1.5s
BMR Baia Mare 96.34 317 ⇑P **P** **15 23 29.8 +0.1**
FIA1 FINESS Array S 96.41 331 IAmb IAmb 15 23 30.7
comp=Z,34nm,0.9s
FINES FINESS Array B 96.41 331 P **P** **15 23 30.0 +0.4**
comp=Z,15nm,0.6s,baz=117,slow=6.6,SNR=76
FINES PKiKP **PKiKP** **15 28 07.2 +0.5**
comp=Z,1.4nm,0.5s,baz=115,slow=4.7,SNR=4.4
FINES PKKPbc **PKKPbc** **15 40 15.5 -1.6**
comp=Z,2.4nm,0.9s,baz=278,slow=5.4,SNR=9.9
FINES LR LR 16 13 52.9
comp=Z,131nm,19.5s,baz=96,slow=40
comp=Z,15nm,0.6s
CHGN Chignik 96.49 34 P **P** **15 23 29.9 -0.2**
baz=264
GZR Gura Zlata 96.59 315 ⇑P **P** **15 23 31.2 +0.3**
N16K Nishlik Lake 96.75 30 P **P** **15 23 31.3 0.0**
baz=264,SNR=9.3
HERR Herculane 96.79 314 ⇑P **P** **15 23 31.3 -0.5**
PABE Paberze 96.86 325 *eP* **P** **15 23 32.6 +0.8**
VSVD Vaisvydziai 96.93 326 *eP* **P** **15 23 32.7 +0.6**
P16K Nushagak River 97.00 31 P **P** **15 23 32.7 +0.4**
baz=264
O16K Kokwok River B 97.00 31 P **P** **15 23 32.3 -0.1**
baz=264
R16K Pilot Point 97.08 33 P Pdif 15 23 32.8 +0.1
baz=264
SURR Surduc 97.08 315 ⇑P **P** **15 23 32.8 -0.2**
MEF Metsahovi 97.10 330 *eP* Pdif 15 23 33.9 +1.1
UZH Uzhgorod 97.23 318 ⇑ *i* P Pdif 15 23 45.0 +11
MTSE Matsula 97.25 328 *eP* Pdif 15 23 34.0 +0.5
KOLS Kolonicke sedl 97.28 318 *e* PDIFF Pdif 15 23 35.5 +1.6
KOLS Kolonicke sedl 97.28 318 *eP* Pdif 15 23 35.5 +1.6
MDVR Moldovita 97.28 314 ⇑P **P** **15 23 32.8 -1.2**
SIRR Siria 97.45 316 ⇑P **P** **15 23 34.7 0.0**
ARCES ARCESS Array B 97.51 339 PKiKP **PKiKP** **15 28 09.6 +1.1**
comp=Z,2.0nm,0.6s,baz=79,slow=6.5,SNR=4.0
ARCES LR LR 16 14 55.5
comp=Z,294nm,18.8s,baz=102,slow=40
O17K Koliganek Bris 97.52 31 P Pdif 15 23 34.9 +0.2
baz=265
SLIT Slitere, Latvi 97.97 327 *eP* Pdif 15 23 37.1 +0.4
STHS Stebnicka Huta 97.99 319 *e* PDIFF Pdif 15 23 37.4 +0.3
STHS Stebnicka Huta 97.99 319 *eP* Pdif 15 23 37.4 +0.3
GCSA Galena City Sc 98.00 26 P Pdif 15 23 37.2 +0.5
baz=266,SNR=6.2
CHIR Chirikof Islan 98.00 35 P **P** **15 23 36.7 -0.2**
baz=266
Q17K Contact Creek 98.03 32 P Pdif 15 23 37.6 +0.5
baz=266
PBUR Paburge 98.06 325 *eP* Pdif 15 23 37.8 +0.7
N18K Kilae Creek 98.19 30 Pdiff Pdif 15 23 38.4 +0.7
baz=266
HAMF Hammerfest 98.22 340 *eP* **P** **15 23 35.6 -1.9**
TTA Tatalina 98.27 28 IAmb IAmb 15 23 39.6
comp=Z,30nm,1.2s
TTA Tatalina 98.27 28 Pdiff Pdif 15 23 38.7 +0.6
baz=266
KTK1 Kautokeino 98.28 339 *eP* **P** **15 23 35.3 -2.6**
KTK1 IAmb IAmb 15 23 39.8
comp=Z,340nm,2.5s
P18K Big Mountain, 98.44 31 Pdiff Pdif 15 23 39.0 +0.1
baz=267
RAF Rauma 98.45 331 *eP* Pdif 15 23 39.6 +0.8
O18K Koktuh Hills 98.48 31 Pdiff Pdif 15 23 39.0 0.0
baz=267
Q18K Katmai Hardscr 98.51 32 Pdiff Pdif 15 23 39.5 +0.2
baz=267
L19K White Mountain 98.77 28 IAmb IAmb 15 23 41.9
comp=Z,32nm,1.1s
L19K White Mountain 98.77 28 Pdiff Pdif 15 23 41.3 +1.1
baz=267
PSZ Piszkesteto 98.78 317 ⇑P **P** **15 23 39.6 -1.1**
SII Sitkinak Islan 98.85 34 Pdiff Pdif 15 23 41.8 +1.1
baz=267
PDG Podgorica 98.86 312 ⇑P Pdif 15 23 41.1 0.0
PDG Podgorica 98.86 312 IAmb IAmb 15 23 42.1
comp=Z,24nm,1.1s
N19K Bonanza Creek 98.88 30 IAmb IAmb 15 23 44.1
comp=Z,26nm,0.8s
N19K Bonanza Creek 98.88 30 Pdiff Pdif 15 23 41.7 +0.8
baz=268
M19K Big River Lodg 98.97 29 Pdiff Pdif 15 23 42.5 +1.3
baz=268
J20K Nowinta River 99.16 26 IAmb IAmb 15 23 44.5
comp=Z,31nm,1.2s
J20K Nowinta River 99.16 26 Pdiff **Pdif** **15 23 42.8 +0.9**
baz=268
K20K Telida 99.17 27 IAmb IAmb 15 23 43.9
comp=Z,24nm,1.1s
K20K Telida 99.17 27 Pdiff **Pdif** **15 23 42.5 +0.5**
baz=268
L20K Farewell, AK 99.23 28 Pdiff **Pdif** **15 23 43.0 +0.7**
baz=268
Q19K Cape Douglas, 99.24 32 Pdiff **Pdif** **15 23 42.5 +0.1**
baz=268
JETT Jettan, Norway 99.30 339 *eP* **Pdif** **15 23 43.1 +0.6**
JETT IAmb IAmb 15 23 47.4
comp=Z,34nm,0.9s
OHAK Old Harbor 99.37 33 Pdiff **Pdif** **15 23 43.4 +0.5**
baz=268
G21K Allakaket 99.47 24 Pdiff **Pdif** **15 23 44.2 +0.9**
baz=269
P19K Oil Pt 99.47 31 Pdiff **Pdif** **15 23 44.2 +0.8**
baz=268
F21K Alatna River 99.48 23 Pdiff **Pdif** **15 23 44.2 +0.8**
baz=270
VYHS Vyhne 99.52 318 *e* PDIFF **Pdif** **15 23 43.2 -0.7**
VYHS Vyhne 99.52 318 *eP* **Pdif** **15 23 43.3 -0.7**
MORH Mrgy, Hungar 99.53 315 ⇓P **Pdif** **15 23 43.0 -1.0**
MORH Mrgy, Hungar 99.53 315 P **Pdif** **15 23 43.5 -0.5**
M20K Styx River 99.57 29 Pdiff **Pdif** **15 23 44.3 +0.4**
baz=269
H21K Melozitna Rive 99.75 25 Pdiff **Pdif** **15 23 45.5 +0.9**
baz=270
Q20K Shuyak Island 99.88 32 Pdiff **Pdif** **15 23 45.9 +0.7**
baz=269
KOVH Kovagototos 99.90 315 P **Pdif** **15 23 44.9 -0.7**
F22K John River 99.99 23 Pdiff **Pdif** **15 23 47.0 +1.4**
baz=271
N20K Mount Spurr 100.00 29 Pdiff **Pdif** **15 23 46.7 +0.8**
baz=270
PPLA Purkeypile 100.02 28 Pdiff **Pdif** **15 23 46.9 +0.9**
baz=270
CAST Castle Rocks 100.06 27 Pdif **Pdif** **15 23 46.1 +0.1**
CAST Castle Rocks 100.06 27 Pdiff **Pdif** **15 23 47.2 +1.2**
baz=270
I21K Tanana 100.09 25 Pdiff **Pdif** **15 23 47.4 +1.4**
baz=270
SPA0 Spitsbergen Ar 100.11 348 *eP* **Pdif** **15 23 47.0 +1.1**
SPA0 IAmb IAmb 15 23 47.3
comp=Z,155nm,1.3s
E22K Anaktuvuk Pass 100.11 22 Pdiff **Pdif** **15 23 47.2 +1.0**
baz=271
SKT Skwentna 100.32 29 Pdiff **Pdif** **15 23 47.2 0.0**
baz=270
H22K Ishtalitna Cre 100.33 25 Pdiff **Pdif** **15 23 48.6 +1.4**
baz=271
MORC Moravsky Berou 100.41 319 *eP* **PP** **15 27 52.5 -3.1**
C23K Itkillik River 100.49 21 Pdiff **Pdif** **15 23 49.2 +1.5**
baz=273
D23K Nanushuk River 100.50 21 Pdiff **Pdif** **15 23 49.2 +1.4**
baz=272
CAPN Captain Cook N 100.52 30 Pdiff **Pdif** **15 23 49.1 +1.1**
baz=270
BPAW Bear Paw Mtn. 100.54 26 Pdiff **Pdif** **15 23 49.0 +0.8**
baz=271
MLY Manley 100.62 25 Pdiff **Pdif** **15 23 49.3 +0.8**
baz=272
SUA Susitna One 100.70 29 Pdiff **Pdif** **15 23 49.9 +0.9**
baz=271
BRSE Bradley Lake S 100.73 31 Pdiff **Pdif** **15 23 50.3 +1.2**
baz=271
COLD Coldfoot 100.76 23 Pdiff **Pdif** **15 23 50.2 +1.2**
baz=272
G23K Bananza Creek 100.85 24 Pdiff **Pdif** **15 23 50.8 +1.3**
baz=273
TRF Thorofare Moun 100.87 27 Pdiff **Pdif** **15 23 49.9 +0.2**
baz=272
CUT Chulitna 100.91 28 Pdiff **Pdif** **15 23 49.9 +0.2**
baz=272
TOLK Tolik Lake Re 100.92 22 Pdiff **Pdif** **15 23 50.9 +1.1**
baz=273
E23K Chandalar 100.94 22 Pdiff **Pdif** **15 23 51.2 +1.3**
baz=273
M22K Willow 101.00 29 Pdiff **Pdif** **15 23 49.9 -0.2**
baz=272
VRAC Vranov 101.02 319 *eP* **PP** **15 27 59.2 -1.0**
H23K Yukon River 101.09 25 Pdiff **Pdif** **15 23 51.8 +1.3**
baz=273
KRUC Moravsky 101.15 318 *eP* **PP** **15 28 01.7 +0.6**
C24K Franklin Bluff 101.16 21 Pdiff **Pdif** **15 23 51.7 +1.0**
baz=274
D24K Happy Valley 101.16 21 Pdiff **Pdif** **15 23 51.8 +1.1**
baz=274
I23K Minto, Yukon-K 101.20 25 Pdiff **Pdif** **15 23 51.9 +0.9**
baz=273
RC01 Rabbit Creek A 101.20 29 Pdiff **Pdif** **15 23 52.1 +1.0**
baz=272
O22K Cooper Landing 101.23 30 Pdiff **Pdif** **15 23 51.8 +0.6**
baz=272
STEI Steigen 101.23 338 *eP* **Pdif** **15 23 51.1 +0.1**
STEI IAmb IAmb 15 23 54.4
comp=Z,76nm,1.3s
NEA2 Nenana 101.36 26 Pdiff **Pdif** **15 23 52.2 +0.5**
baz=273
E24K Your Creek 101.36 22 Pdiff **Pdif** **15 23 52.7 +0.9**
baz=274
SEW Seward 101.37 30 Pdiff **Pdif** **15 23 52.2 +0.3**
baz=272
MCK McKinley 101.46 27 Pdiff **Pdif** **15 23 52.2 0.0**
baz=273
PMR Palmer 101.47 29 Pdiff **Pdif** **15 23 52.6 +0.4**
baz=272
F24K Squaw Lake 101.63 23 Pdiff **Pdif** **15 23 53.5 +0.6**
baz=275
WAT1 Susitna Watana 101.69 28 Pdiff **Pdif** **15 23 53.2 -0.1**
baz=273
H24K Noodor Dome 101.78 25 Pdiff **Pdif** **15 23 54.3 +0.7**
baz=274
KNK Knik Glacier 101.81 29 Pdiff **Pdif** **15 23 54.3 +0.5**
baz=273
SML Sawmill 101.84 29 Pdiff **Pdif** **15 23 54.4 +0.3**
baz=273
G24K Hadweenzic Riv 101.86 24 Pdiff **Pdif** **15 23 55.0 +1.1**
baz=275
PWL Port Wells 101.89 30 Pdiff **Pdif** **15 23 54.6 +0.4**
baz=273
D25K Kavik River 102.01 21 Pdiff **Pdif** **15 23 55.8 +1.2**
baz=276
WAT6 Susitna Watana 102.07 28 Pdiff **Pdif** **15 23 55.8 +0.7**
baz=274
M23K Glacier View 102.13 29 Pdiff **Pdif** **15 23 55.5 +0.3**
baz=274
DHY Denali Highway 102.20 27 Pdiff **Pdif** **15 23 56.0 +0.2**
baz=274
ILAR Eielson Array 102.28 26 P **Pdif** **15 23 55.2 -0.6**
comp=Z,1.1nm,1.0s,baz=267,slow=4.5,SNR=7.0
ILAR PP PP 15 27 60.0 -9.2
comp=Z,6.4nm,1.2s,baz=277,slow=7.0,SNR=9.5
ILAR PKKPbc **PKKPbc** **15 39 59.0 -1.5**
comp=Z,0.8nm,0.5s,baz=108,slow=1.8,SNR=16
HDA Harding Lake 102.28 26 Pdiff **Pdif** **15 23 56.5 +0.7**
baz=275
SCM Sheep Creek Mo 102.32 29 Pdiff **Pdif** **15 23 57.1 +1.0**
baz=274
G25K Bearman Lake 102.40 24 Pdiff **Pdif** **15 23 57.5 +1.2**
baz=276
P23K Montague Islan 102.41 31 Pdiff **Pdif** **15 23 56.8 +0.4**
baz=274
C26K Camden Bay 102.44 20 Pdiff **Pdif** **15 23 58.0 +1.6**
baz=278
E25K Arctic Village 102.45 22 Pdiff **Pdif** **15 23 57.8 +1.3**
baz=277
F25K Christian River 102.48 23 Pdiff **Pdif** **15 23 58.1 +1.3**
baz=277
H25L Birch Creek 102.57 24 Pdiff **Pdif** **15 23 58.6 +1.6**
baz=276
PRP Porcupine Dome 102.78 25 Pdiff **Pdif** **15 23 59.6 +1.4**
baz=276
M24K Tolsona, Glenn 102.84 28 Pdiff **Pdif** **15 23 59.6 +1.1**
baz=275
K24K Donnelly Dome 102.85 27 Pdiff **Pdif** **15 23 59.4 +0.9**
baz=276
C27K Jago River 102.90 20 Pdiff **Pdif** **15 23 59.9 +1.4**
baz=279
GERES GERESS Array B 102.92 318 P **Pdif** **15 23 59.1 0.0**
comp=Z,0.7nm,0.7s,baz=75,slow=1.5,SNR=7.9
GERES PP **PP** **15 28 06.8 -7.8**
comp=Z,0.3nm,0.4s,baz=113,slow=3.5,SNR=4.5
J25K Salcha River, 102.94 26 Pdiff **Pdif** **15 23 59.2 +0.3**
baz=276
KLU Klutina 103.02 29 Pdiff **Pdif** **15 24 00.1 +0.8**
baz=275
F26K Sheenjek River 103.04 22 Pdiff **Pdif** **15 23 60.0 +0.8**
baz=278
PAX Paxson 103.08 27 Pdiff **Pdif** **15 24 00.3 +0.7**
baz=276
EYAK Cordova Ski Ar 103.19 30 Pdiff **Pdif** **15 24 00.9 +1.0**
baz=275
RIDG Independent Ri 103.27 27 Pdiff **Pdif** **15 24 01.0 +0.7**
baz=277
HARP HAARP 103.28 28 Pdiff **Pdif** **15 24 01.3 +0.9**
baz=276
G26K Porcupine Rive 103.29 23 Pdiff **Pdif** **15 24 01.4 +1.2**
baz=278
NB2 NORSAR Subarra1 103.58 331 P **Pdif** **15 24 01.7 0.0**
baz=81,slow=4.6
NB2 NORSAR Subarra1 103.58 331 P **Pdif** **15 24 01.7 0.0**
comp=Z,23nm,1.2s,baz=81,slow=4.6
NB2 PP **PP** **15 28 19.1 +0.1**
comp=Z,65nm,2.0s,baz=86,slow=7.9
NOA NORSAR Array B 103.58 331 Pdiff **Pdif** **15 24 00.5 -1.2**
comp=Z,4.6nm,0.9s,baz=80,slow=4.5,SNR=5.2
NOA PKiKP **PP** **15 28 19.1 +0.1**
comp=Z,5.6nm,0.9s,baz=85,slow=7.6,SNR=7.4
SCRK Sand Creek 103.62 26 Pdif **Pdif** **15 24 02.2 +0.2**
SCRK Sand Creek 103.62 26 Pdiff **Pdif** **15 24 02.7 +0.7**
baz=278
N25K Chitina, Valde 103.63 29 Pdiff **Pdif** **15 24 02.8 +0.8**
baz=276
BMRM Bremner River 103.70 29 Pdiff **Pdif** **15 24 03.1 +0.8**
baz=276
J26L Joseph Creek 103.73 26 Pdiff **Pdif** **15 24 02.9 +0.5**
baz=278
I26K Coal Creek Min 103.79 25 Pdiff **Pdif** **15 24 02.9 +0.4**
baz=279
E27K Coleen River 103.91 22 Pdiff **Pdif** **15 24 04.0 +1.0**
baz=281
KAIM Kayak Island 103.91 30 Pdiff **Pdif** **15 24 04.2 +1.0**
baz=276
L26K Log Cabin Wild 104.03 27 Pdiff **Pdif** **15 24 04.4 +0.7**
baz=278
G27K Doyon Strip 104.14 23 Pdiff **Pdif** **15 24 04.9 +0.8**
baz=280
M26K Nabesna, AK 104.28 28 Pdiff **Pdif** **15 24 05.9 +1.1**
baz=278
H27K Steamboat Moun 104.30 24 Pdiff **Pdif** **15 24 05.6 +0.8**
baz=280
I27K Kandik River 104.37 24 Pdiff **Pdif** **15 24 06.3 +1.1**
baz=280
MCARA McCarthy VSAT 104.41 29 Pdiff **Pdif** **15 24 06.4 +1.0**
baz=278
K27K Chicken 104.45 26 Pdiff **Pdif** **15 24 06.8 +1.3**
baz=279
EGAK Eagle 104.71 25 Pdiff **Pdif** **15 24 07.9 +1.3**
baz=280
L27K Beaver Creek, 104.71 27 Pdiff **Pdif** **15 24 08.1 +1.3**
baz=279
M27K Edge Creek, AK 104.80 28 Pdiff **Pdif** **15 24 08.2 +0.9**
baz=279
TAOE Nuku Hiva Isla 104.85 102 *e* LR LR 15 58 45.7
comp=Z,300nm,27.0s
BVCY Beaver Creek 105.26 28 Pdiff **Pdif** **15 24 11.4 +2.2**
baz=280
YUK3 Moose Creek 105.56 28 Pdiff **Pdif** **15 24 12.7 +1.9**
baz=280
DAWY Dawson 105.60 26 Pdiff **Pdif** **15 24 12.7 +2.1**
baz=282
I29M Ogilvie Camp, 105.77 24 Pdiff **Pdif** **15 24 13.4 +2.0**
baz=283
O28M Mount Upton 105.87 29 Pdiff **Pdif** **15 24 14.7 +2.4**
baz=280
PINM Pinnacle 105.96 30 Pdiff **Pdif** **15 24 13.1 +0.7**
baz=280
EPYK Eagle Plains 106.16 23 Pdiff **Pdif** **15 24 13.8 +0.7**
baz=285
G30M tAoh Zraii Nji 106.19 23 Pdiff **Pdif** **15 24 13.1 -0.1**
baz=286
M29M Somme Creek 106.35 27 Pdiff **Pdif** **15 24 15.2 +1.1**
baz=282
L29M L29M 106.36 27 Pdiff **Pdif** **15 24 15.9 +1.9**
baz=283
K29M Barlow Dome 106.45 26 Pdiff **Pdif** **15 24 16.8 +2.2**
baz=283
YUK4 Talbot Arm 106.50 29 Pdiff **Pdif** **15 24 15.1 +0.2**
baz=282
YUK6 Outpost Mounta 106.71 29 Pdiff **Pdif** **15 24 15.7 -0.2**
baz=282
INK Inuvik 106.78 21 Pdiff **Pdif** **15 24 16.4 +0.7**
comp=Z,2.2nm,0.8s,baz=234,slow=5.2,SNR=5.0
INK PKiKP **PKiKP** **15 28 25.5 +0.2**
comp=Z,1.5nm,0.6s,baz=350,slow=5.6,SNR=6.8
INK Inuvik 106.78 21 Pdiff **Pdif** **15 24 15.6 -0.1**
baz=288
M30M Minto, Yukon 107.08 27 Pdiff **Pdif** **15 24 18.3 +1.1**
baz=284
HYT Haines Junctio 107.15 29 Pdiff **Pdif** **15 24 19.2 +1.4**
baz=283
N30M Aishikik Lake 107.20 28 Pdiff **Pdif** **15 24 20.0 +2.1**
baz=283
P29M Windy Craggy 107.29 30 Pdiff **Pdif** **15 24 19.6 +1.3**
baz=282
N31M Braeburn, Yuko 107.81 28 Pdiff **Pdif** **15 24 22.9 +2.3**
baz=284
M31M Drury Creek, Y 108.25 27 Pdiff **Pdif** **15 24 24.1 +1.6**
baz=286
WHY Whitehorse 108.44 29 Pdiff **Pdif** **15 24 24.8 +1.3**
baz=285
FARO Faro, Yukon 108.72 27 Pdiff **Pdif** **15 24 25.6 +1.1**
baz=287
C36M Paulatuk 109.52 18 Pdiff **Pdif** **15 24 28.2 +0.3**
baz=298
TORD Torodi Ar. Bea 112.80 281 PKiKP **PKiKP** **15 28 38.2 0.0**
comp=Z,4.9nm,0.5s,baz=67,slow=1.8,SNR=21
YKA Yellowknife Ar 116.43 23 PKP **PKiKP** **15 28 44.5 +0.8**
comp=Z,4.1nm,0.5s,baz=316,slow=1.9,SNR=18
YKA PP **PP** **15 29 52.6 +1.3**
comp=Z,12nm,1.0s,baz=304,slow=6.3,SNR=6.7
ESDC Sonseca Array 116.50 310 PKP **PKiKP** **15 28 45.6 +0.8**
comp=Z,0.7nm,0.5s,baz=43,slow=2.4,SNR=13
HILA High Level 117.59 27 PKPdf **PKiKP** **15 28 46.4 +0.2**
MDT Midelt 118.12 302 PKP **PKiKP** **15 28 48.8 +0.7**
comp=Z,3.9nm,0.6s,baz=145,slow=1.5,SNR=7.3
KIC Kosan Boka 118.49 272 ⇑ *e* PKP1 **PKiKP** **15 28 49.7 +0.5**
comp=Z,6.6nm,0.4s
DBIC Dimbokro 118.64 273 PKP **PKiKP** **15 28 50.4 +0.9**
comp=Z,9.2nm,0.5s,baz=107,slow=1.9,SNR=18
DBIC PKKPbc **PKKPbc** **15 39 06.3 +0.7**
comp=Z,2.2nm,0.6s,baz=260,slow=7.1,SNR=3.6
LIC Lamto 118.75 272 ⇓ *i* PKP1 **PKiKP** **15 28 50.5 +0.8**
comp=Z,38nm,0.5s
TIC Toumodi 118.79 273 ⇑ *i* PKP1 **PKPdf** **15 28 49.5 -0.3**
comp=Z,6.5nm,0.3s
POLO Lamas de Olo 118.98 312 *e* PKPdf **PKiKP** **15 28 50.1 +0.6**
PCAB Cabril 119.07 313 *e* PKPdf **PKiKP** **15 28 52.0 +2.4**
PCBR Castelo Branco 119.12 311 *e* PKPdf **PKiKP** **15 28 51.4 +1.7**
PMRV Marv??o 119.15 310 *e* PKPdf **PKiKP** **15 28 50.5 +0.7**
PBAR Barrancos 119.15 309 *e* PKPdf **PKiKP** **15 28 51.2 +1.4**
PGAV Gavieira, Arco 119.18 313 *e* PKPdf **PKiKP** **15 28 51.0 +1.1**
PVIS Viseu 119.22 312 *e* PKPdf **PKiKP** **15 28 50.5 +0.5**
PBEJ Beja 119.82 309 *e* PKPdf **PKiKP** **15 28 51.9 +0.7**
PVAQ Vaqueiros 119.84 308 *e* PKPdf **PKiKP** **15 28 52.0 +0.8**
PMTG Montargil 119.86 310 *e* PKPdf **PKiKP** **15 28 52.7 +1.5**
PCVE Castro Verde 120.04 308 *e* PKPdf **PKiKP** **15 28 52.6 +1.0**
MESJ Messejana 120.14 309 *e* PKPdf **PKiKP** **15 28 52.3 +0.5**
PNCL Nicolau / Gran 120.31 309 *e* PKPdf **PKiKP** **15 28 53.7 +1.6**
B08A Colville Reser 121.07 38 PKPdf **PKiKP** **15 28 53.9 +0.5**
NEW Newport 122.45 38 PKiKP **PKiKP** **15 28 57.1 +1.0**
baz=296
BMO Blue Mountains 123.76 41 PKPdf **PKiKP** **15 28 59.3 +0.5**
BMO Blue Mountains 123.76 41 PKiKP **PKiKP** **15 28 59.3 +0.5**
SMMC Simmler 124.97 53 PKiKP **PKiKP** **15 29 01.9 +0.4**
baz=285
MSO Missoula 125.03 38 PKiKP **PKiKP** **15 29 01.8 +0.5**
baz=298
PKM Mcpherson Peak 125.23 53 PKiKP **PKiKP** **15 29 02.6 +0.4**
baz=285
NVAR Mina Array Bea 125.37 49 PKP **PKiKP** **15 29 04.5 +2.1**
comp=Z,14nm,0.9s,baz=263,slow=2.5,SNR=49
NVAR PP **PP** **15 30 50.9 -2.7**

comp=Z,3.5nm,0.9s,baz=274,slow=7.0,SNR=2.7
NVAR PKKPbc **PKKPbc** 15 38 41.1 +0.2
comp=Z,0.1nm,0.4s,baz=111,slow=6.5,SNR=4.0
SCZ2 **Santa Cruz Isl** 125.59 54 PKiKP **PKiKP** 15 29 03.3 +0.6
baz=284
TIN **Tinemaha, Big** 125.85 50 PKiKP **PKiKP** 15 29 04.3 +1.1
baz=288
ISA **Isabella, Lake** 126.07 52 PKiKP **PKiKP** 15 29 04.3 +0.6
baz=286
CWC **Cottonwood Cre** 126.15 51 PKiKP **PKiKP** 15 29 04.9 +0.9
baz=287
OSI **Osito Audit: C** 126.16 54 PKiKP **PKiKP** 15 29 05.0 +1.2
baz=286
HLID **Hailey** 126.19 42 PKiKP **PKiKP** 15 29 05.0 +1.2
baz=295
FFC **Flin Flon** 126.47 25 PKPdf **PKiKP** 15 29 03.6 -0.2
FFC **Flin Flon** 126.47 25 PKiKP **PKiKP** 15 29 03.6 -0.2
GRAC **Grapevine Rang** 126.53 50 PKiKP **PKiKP** 15 29 05.6 +1.1
baz=288
EDW2 **Edwards Air Fo** 126.67 53 PKiKP **PKiKP** 15 29 06.1 +1.2
baz=286
MPMC **Manual Prospec** 126.72 51 PKiKP **PKiKP** 15 29 06.5 +1.4
baz=288
CIS **Catalina Islan** 126.73 55 PKiKP **PKiKP** 15 29 06.1 +1.1
baz=285
LRMC **Laurel Mtn Rad** 126.74 52 PKiKP **PKiKP** 15 29 06.3 +1.2
baz=287
EGMT **Eagleton** 126.88 35 PKiKP **PKiKP** 15 29 05.7 +0.8
baz=303
BOZ **Bozeman (W)** 127.02 38 PKiKP **PKiKP** 15 29 06.4 +1.1
baz=299
FURC **Furnace Creek,** 127.08 51 PKiKP **PKiKP** 15 29 07.0 +1.5
baz=288
BFSC **Mount Baldy Ra** 127.11 54 PKiKP **PKiKP** 15 29 06.4 +0.5
baz=286
TPNV **Topopah Spring** 127.39 50 PKiKP **PKiKP** 15 29 06.5 +0.1
baz=289
R11A **Troy Canyon, C** 127.41 48 PKiKP **PKiKP** 15 29 07.3 +0.8
baz=291
GSC **Goldstone, Bar** 127.48 52 PKiKP **PKiKP** 15 29 07.9 +1.3
baz=288
MURC **Murrieta** 127.66 54 PKiKP **PKiKP** 15 29 07.9 +1.0
baz=286
PMPS **Porto Santo** 127.73 305 *e*PKPdf **PKiKP** 15 29 08.2 +1.3
HEC **Hector,Ludlow** 127.99 53 PKiKP **PKiKP** 15 29 08.4 +0.8
baz=288
PFO **Pinyon Flats O** 128.25 54 PKiKP **PKiKP** 15 29 09.4 +1.3
baz=286
TPFO **Pinon Flats** 128.25 54 PKiKP **PKiKP** 15 29 09.7 +1.5
baz=286
H17A **Grant Village** 128.26 39 PKiKP **PKiKP** 15 29 09.5 +1.4
baz=300
MONP2 **Monument Peak** 128.48 55 PKiKP **PKiKP** 15 29 10.2 +1.5
baz=286
BELC **Belle Mtn. Jos** 128.50 53 PKiKP **PKiKP** 15 29 10.4 +1.7
baz=287
GMRC **Granite Mounta** 128.53 52 PKiKP **PKiKP** 15 29 10.3 +1.6
baz=288
DUG **Dugway, Tooele** 128.69 45 PKiKP **PKiKP** 15 29 10.2 +1.3
baz=294
RLMT **Red Lodge** 128.70 38 PKiKP **PKiKP** 15 29 10.2 +1.4
baz=301
IKP **In-Ko-Pah, Jac** 128.80 55 PKiKP **PKiKP** 15 29 10.4 +1.1
baz=286
SWSC **Sam W. Stewart** 128.96 55 PKiKP **PKiKP** 15 29 10.7 +1.2
baz=286
BC3 **Big Chuckawall** 129.04 54 PKiKP **PKiKP** 15 29 11.4 +1.6
baz=287
IRM **Iron Mountain** 129.13 53 PKiKP **PKiKP** 15 29 11.2 +1.4
baz=288
LAO **LASA Array** 129.61 35 P **PKiKP** 15 29 13.0 +2.6
baz=306
LAO **LASA Array** 129.61 35 PKiKP **PKiKP** 15 29 11.7 +1.2
baz=306
DGMT **Dagmar** 129.63 32 PKiKP **PKiKP** 15 29 10.9 +0.6
baz=309
BW06 **Boulder Array** 129.71 41 PKiKP **PKiKP** 15 29 11.4 +0.5
baz=299
PDAR **Pinedale Array** 129.71 41 PKP **PKPdf** 15 29 10.5 +0.3
comp=Z,5.5nm,1.0s,baz=102,slow=2.1,SNR=3.9
PDAR PP **PP** 15 31 16.0 -5.7
comp=Z,2.1nm,0.9s,baz=297,slow=6.0,SNR=2.3
PDAR SKPbc SKPbc 15 32 23.7 +0.4
comp=Z,1.2nm,0.6s,baz=300,slow=3.6,SNR=3.1
PDAR SKKPbc **SKKPbc** 15 42 08.1 -0.3
comp=Z,0.5nm,0.9s,baz=116,slow=8.1,SNR=2.5
GLA **Glamis** 129.72 54 PKiKP **PKiKP** 15 29 11.9 +0.8
baz=287
PDMCI **Parker Dam,Lak** 129.87 52 PKiKP **PKiKP** 15 29 12.3 +1.0
baz=289
PLCA **Paso Flores** 130.44 176 PKP **PKiKP** 15 29 13.5 +1.1
comp=Z,2.0nm,0.9s,baz=105,slow=2.3,SNR=3.8
PLCA SKPbc **SKPbc** 15 32 28.1 +2.2
comp=Z,8.8nm,0.8s,baz=213,slow=5.4,SNR=10
WUAZ **Wupatki** 131.58 50 PKiKP **PKiKP** 15 29 15.8 +0.9
baz=292
214A **Organ Pipe Nat** 131.67 55 PKiKP **PKiKP** 15 29 15.0 0.0
baz=288
K22A **Casper** 131.69 39 PKiKP **PKiKP** 15 29 14.9 0.0
baz=302
RWWY **Rawlins** 131.76 41 PKPdf **PKPdf** 15 29 12.4 -1.8
O20A **White River Ci** 131.85 43 PKiKP **PKiKP** 15 29 15.8 +0.5
baz=299
ULM **Lac du Bonnet** 132.29 25 PKP **PKiKP** 15 29 15.8 +0.2
comp=Z,6.6nm,0.6s,baz=343,slow=5.2,SNR=5.8
ULM PP **PP** 15 31 35.0 -2.5
comp=Z,6.8nm,1.0s,baz=339,slow=4.4,SNR=3.6
ULM SKPbc **SKPab** 15 32 32.7 -0.5
comp=Z,13nm,0.6s,baz=312,slow=3.3,SNR=7.6
MDND **Maddock** 132.35 30 PKiKP **PKiKP** 15 29 15.8 -0.1
baz=314
PV13 **Radium Mtn., P** 132.36 46 PKPdf **PKPdf** 15 29 14.5 -0.9
RSSD **Black Hills** 132.37 36 PKPdf **PKPdf** 15 29 14.6 -0.6
RSSD **Black Hills** 132.37 36 P **PKiKP** 15 29 16.0 -0.3
baz=306
RSSD **Black Hills** 132.37 36 PKiKP **PKiKP** 15 29 15.9 -0.3
baz=306
RSSD **Black Hills** 132.37 36 PKIKP **PKPdf** 15 29 14.6 -0.6
W18A **Petrified Fore** 132.97 50 PKiKP **PKiKP** 15 29 18.5 +0.8
baz=293
N23A **Red Feather La** 132.99 41 PKiKP **PKiKP** 15 29 18.0 +0.3
baz=302
MVCO **Mesa Verde** 133.01 47 PKiKP **PKiKP** 15 29 18.8 +1.0
baz=296
TUC **Tucson** 133.18 54 PKiKP **PKiKP** 15 29 19.1 +1.1
baz=290
S22A **4UR Ranch, Cre** 133.95 45 PKiKP **PKiKP** 15 29 20.3 +0.5
baz=298
SCHQ **Schefferville** 134.24 0 PKP **PKiKP** 15 29 19.1 -0.4
comp=Z,8.0nm,0.6s,baz=22,slow=2.2,SNR=7.8
SCHQ SKPbc **SKPbc** 15 32 39.0 +0.5
comp=Z,18nm,1.3s,baz=18,slow=2.2,SNR=3.6
Q24A **Divide** 134.50 43 PKiKP **PKiKP** 15 29 20.9 0.0
baz=301
SDCO **Great Sand Dun** 134.88 44 PKiKP **PKiKP** 15 29 21.7 0.0
baz=299
121A **Cookes Peak, D** 135.47 52 PKiKP **PKiKP** 15 29 23.5 +0.6
baz=292
ANMO **Albuquerque** 135.49 48 PKiKP **PKiKP** 15 29 23.4 +0.5
baz=296
BNM **Barren Site** 135.70 49 PKPpre PKPpre 15 29 10.5
EYMN **Ely** 135.89 24 PKiKP **PKiKP** 15 29 23.2 +0.2
baz=324
T25A **Trinidad** 135.93 45 PKiKP **PKiKP** 15 29 23.9 +0.2
baz=300
ECSD **EROS Data Cent** 136.72 32 PKiKP **PKiKP** 15 29 24.6 -0.3
baz=314
BGNE **Belgrade** 137.44 35 PKiKP **PKiKP** 15 29 25.5 -0.9
baz=310
SPMN **Marine on St.** 137.47 27 **PKPdf** 15 29 21.7 -2.7
SPMN **Marine on St.** 137.47 27 PKiKP **PKiKP** 15 29 25.6 -0.7
baz=320
GDL2 **Guadalupe Moun** 138.25 51 PKPpre PKPpre 15 29 15.6
G40A **Rib Lake** 138.57 25 PKPpre PKPpre 15 29 16.6
MSTX **Muleshoe** 138.64 48 PKiKP **PKiKP** 15 29 28.3 -0.9
baz=299
HTMS **Hat Mesa** 138.69 50 PKPpre PKPpre 15 29 16.4
ELIS **Ellis County** 139.90 43 PKPpre PKPpre 15 29 20.1
TX31 **Lajitas Ar. Si** 139.96 55 P PKPpre 15 29 22.7
baz=293,SNR=35
TXAR **Lajitas Array** 139.96 55 PKhKP PKPpre 15 29 21.9
comp=Z,8.9nm,0.7s,baz=238,slow=2.0,SNR=91
TXAR SKKPbc SKKPbc 15 41 29.4 0.0
comp=Z,0.4nm,0.8s,baz=110,slow=4.1,SNR=2.1
ITQB **Itaqui** 140.37 194 *e*P **PKPdf** 15 29 30.1 0.0
JFWS **Jewell Farm** 140.43 27 PKiKP **PKiKP** 15 29 32.1 -0.3
baz=322
CAM01 **Campos-RJ** 140.70 219 *e*P **PKPdf** 15 29 31.0 +0.1
DUB01 **Friburgo-RJ** 140.94 218 *e*P **PKPdf** 15 29 31.6 +0.1
WMOK **Wichita Mounta** 141.07 44 P PKPpre 15 29 25.0
baz=304,SNR=16
P38A **Dawn** 141.24 34 P PKPpre 15 29 26.2
baz=315,SNR=16
MAN01 **Angra dos Reis** 141.26 215 *e*P **PKPdf** 15 29 32.0 0.0
T35B **Sooner Cattle** 141.28 39 P PKPpre 15 29 26.3
baz=308
ITAB **Concordia** 141.31 201 *e*P **PKPdf** 15 29 32.0 0.0
L42A **Oliver, Polo** 141.41 28 P PKPpre 15 29 26.0
baz=322
VAS01 **Vassouras-RJ** 141.42 216 *e*P **PKPdf** 15 29 32.4 +0.1
ABTX **Abilene, Hawle** 141.58 47 PKPdf **PKPdf** 15 29 29.2 -3.1
ABTX **Abilene, Hawle** 141.58 47 P **PKPdf** 15 29 29.2 -3.1
baz=300,SNR=6.3
ABTX **Abilene, Hawle** 141.58 47 PKiKP **PKiKP** 15 29 34.0 -1.1
baz=300
RIB01 **Linhares ES** 141.70 223 *e*P **PKPdf** 15 29 33.0 +0.2
TIJ01 **Guaruva-PR** 141.77 207 *e*P **PKPdf** 15 29 33.1 +0.2
N41A **Harden Midland** 141.85 30 P **PKPdf** 15 29 27.9 -4.6
baz=319
PET01 **Itanhaem-SP** 141.85 210 *e*P **PKPdf** 15 29 33.4 +0.5
LCO **Las Campanas** 142.07 174 PKPdf **PKPdf** 15 29 31.5 -2.1
LCO **Las Campanas** 142.07 174 PKIKP **PKPdf** 15 29 31.5 -2.1
P40A **Paris** 142.11 32 P **PKPdf** 15 29 28.8 -4.1
baz=317,SNR=11
TUL1 **Leonard** 142.36 40 P **PKPdf** 15 29 30.0 -3.6
baz=308,SNR=6.5
TUL1 **Leonard** 142.36 40 PKiKP **PKPdf** 15 29 34.8 +1.3
baz=308
E62A **Clayton Lake** 142.40 3 P **PKPdf** 15 29 29.8 -3.4
baz=356
E62A P **PKPdf** 15 29 29.8 -3.4
baz=356
JCT **Junction City** 142.51 51 PKPpre 15 29 29.5
JCT **Junction City** 142.51 51 P **PKPdf** 15 29 31.3 -2.7
baz=298
JCT **Junction City** 142.51 51 PKiKP **PKPdf** 15 29 35.5 +1.5
baz=298
JCT **Junction City** 142.51 51 PKIKP PKPpre 15 29 29.5
SJMB **Sao Joao De Ma** 142.66 223 *e*P **PKPdf** 15 29 34.4 -0.1
S39A **Bolivar** 142.70 36 P **PKPdf** 15 29 30.7 -3.4
baz=313,SNR=15
VAO **Valinhos** 142.77 211 *e*P **PKPdf** 15 29 34.6 -0.1
R40A **Maddies Statio** 142.88 34 P **PKPdf** 15 29 30.9 -3.5
baz=315,SNR=51
U38A **Gravette** 142.91 38 P **PKPdf** 15 29 31.3 -3.2
baz=311,SNR=25
Z35A **Perchaven, San** 142.91 45 **PKPdf** 15 29 31.4 -3.2
Z35A **Perchaven, San** 142.91 45 P **PKPdf** 15 29 32.3 -2.3
baz=304,SNR=5.3
F62A **Pittston Farm,** 143.09 4 P PKPbc 15 29 32.4 +0.8
baz=355
F62A P PKPbc 15 29 32.4 +0.8
baz=355
GUA01 **Guaratinga, BA** 143.15 227 *e*P **PKPdf** 15 29 34.6 -0.8
BSCB **Bom Sucesso** 143.19 216 *e*P **PKPdf** 15 29 35.0 -0.6
F64A **Sherman** 143.20 2 P PKPbc 15 29 32.8 +1.0
baz=357,SNR=5.5
F64A P PKPbc 15 29 32.8 +1.0
baz=357,SNR=5.5
HHAR **Hobbs** 143.28 38 P PKPbc 15 29 32.4 0.0
baz=311
P43A **Skaggs, Pawnee** 143.32 30 P PKPbc 15 29 33.0 +0.6
baz=320,SNR=8.9
GBN **Guysborough** 143.39 354 PKPdf PKPbc 15 29 33.2 +0.8
O44A **Mansfield** 143.43 28 P PKPbc 15 29 33.5 +0.8
baz=322
X37A **Clayton** 143.45 41 P PKPbc 15 29 33.7 +0.8
baz=308
WHTX **Lake Whitney,** 143.49 47 P **PKPdf** 15 29 35.0 -0.7
baz=302,SNR=20
RCLB **Rio Claro- Sao** 143.54 211 *e*P **PKPdf** 15 29 36.1 0.0
PTGB **Pitanga** 143.57 203 *e*P **PKPdf** 15 29 36.0 -0.1
CCM **Cathedral Cave** 143.61 33 PKPdf PKPbc 15 29 33.3 0.0
CCM **Cathedral Cave** 143.61 33 P PKPbc 15 29 34.1 +0.8
baz=316,SNR=53
CCM **Cathedral Cave** 143.61 33 PKIKP PKPbc 15 29 33.3 0.0
BMNY **Brushton-Moira** 143.63 9 P **PKPdf** 15 29 34.3 -1.2
baz=347,SNR=13
L48A **N Adams** 143.65 22 P PKPbc 15 29 34.4 +1.1
baz=330,SNR=18
L48A P PKPbc 15 29 34.4 +1.1
baz=330,SNR=18
SLM **Saint Louis** 143.72 32 P PKPbc 15 29 34.2 +0.6
baz=318
G62A **West of Eustis** 143.72 4 P **PKPdf** 15 29 35.0 -0.6
baz=354,SNR=6.1
G62A P **PKPdf** 15 29 35.0 -0.6
baz=354,SNR=6.1
FRTB **Fartura** 143.74 207 *e*P **PKPdf** 15 29 36.9 +0.5
CPUP **Villa Florida** 143.74 194 PKP **PKPdf** 15 29 35.7 -0.6
comp=Z,23nm,0.8s,baz=160,slow=2.5,SNR=45
CPUP SKKPbc SKKPbc 15 41 11.3 -2.1
comp=Z,5.2nm,1.1s,baz=17,slow=3.4,SNR=3.9
CPUP **Villa Florida** 143.74 194 *e*P **PKPdf** 15 29 36.3 0.0
CMC01 **Camacan, BA** 143.74 228 *e*P **PKPdf** 15 29 37.1 +0.6
PKME **Peaks-Kenny Pk** 143.76 3 P **PKPdf** 15 29 34.8 -0.8
baz=356,SNR=9.7
833A **Chaparral WMA,** 143.79 53 P **PKPdf** 15 29 36.2 -0.1
baz=296,SNR=19
SFIN **Lafayette** 143.87 27 PKPdf PKPbc 15 29 34.2 +0.2
SFIN **Lafayette** 143.87 27 P **PKPdf** 15 29 35.2 -0.9
baz=324,SNR=7.8
G65A **Princeton** 143.88 1 P **PKPdf** 15 29 35.1 -0.8
baz=359,SNR=14
G65A P **PKPdf** 15 29 35.1 -0.8
baz=359,SNR=14
N47A **Urbana** 144.06 25 P PKPbc 15 29 35.2 +0.7
baz=327,SNR=38
N47A P PKPbc 15 29 35.2 +0.7
baz=327,SNR=38
FVM **French Village** 144.10 33 P PKPbc 15 29 35.4 +0.6
baz=318,SNR=31
Q44A **Meyer Farm, Va** 144.14 30 P PKPbc 15 29 35.6 +0.8
baz=320,SNR=15
WCNY **West Carthage** 144.26 11 P **PKPdf** 15 29 36.1 -0.5
baz=345,SNR=18
J54A **Appleton** 144.28 15 P **PKPdf** 15 29 36.4 -0.3
baz=340,SNR=19
J54A P **PKPdf** 15 29 36.4 -0.3
baz=340,SNR=19
H62A **Milan** 144.31 5 P **PKPdf** 15 29 36.6 -0.1
baz=353,SNR=16
H62A P **PKPdf** 15 29 36.6 -0.1
baz=353,SNR=16
EMMW **East Machias** 144.38 1 PKPdf PKPbc 15 29 35.9 +0.5
EMMW **East Machias** 144.38 1 P **PKPdf** 15 29 36.7 0.0
baz=359,SNR=18
VT1 **Waterbury** 144.38 7 P **PKPdf** 15 29 36.9 +0.1
baz=350,SNR=10
P46A **Rosedale** 144.44 28 P **PKPdf** 15 29 36.8 -0.3
baz=324,SNR=42
J55A **Hilton** 144.49 14 P **PKPdf** 15 29 36.9 -0.2
baz=341,SNR=34
J55A P **PKPdf** 15 29 36.9 -0.2
baz=341,SNR=34
Z38A **Mt. Pleasant** 144.50 43 P **PKPdf** 15 29 38.0 +0.7
baz=306,SNR=9.9
NCB **Newcomb** 144.52 9 P **PKPdf** 15 29 37.3 +0.2
baz=347,SNR=56
LBNH **Lisbon** 144.57 6 P **PKPdf** 15 29 37.6 +0.5
baz=351,SNR=24
LBNH **Lisbon** 144.57 6 PKiKP **PKPdf** 15 29 37.5 +0.3
baz=351
DIAM **Diamantina, MG** 144.58 220 *e*P **PKPab** 15 29 35.8 -1.0
N49A **Columbus Grove** 144.63 23 P **PKPdf** 15 29 37.2 -0.2
baz=329,SNR=86
N49A P **PKPdf** 15 29 37.2 -0.2
baz=329,SNR=86
MIAR **Mount Ida** 144.63 40 PKPdf **PKPdf** 15 29 37.7 +0.1
MIAR **Mount Ida** 144.63 40 P **PKPdf** 15 29 37.9 +0.3
baz=310,SNR=224
MIAR **Mount Ida** 144.63 40 PKiKP **PKPdf** 15 29 37.9 +0.3
baz=310
MIAR **Mount Ida** 144.63 40 PKIKP **PKPdf** 15 29 37.7 +0.1
M50A **Fremont** 144.63 21 P **PKPdf** 15 29 37.2 -0.1
baz=332,SNR=10
M50A P **PKPdf** 15 29 37.2 -0.1
baz=332,SNR=10
237A **Washetta, Mont** 144.66 45 P **PKPdf** 15 29 38.9 +1.3
baz=304
J56A **Wolcott** 144.70 13 P **PKPdf** 15 29 37.4 0.0
baz=343,SNR=17
J56A P **PKPdf** 15 29 37.4 0.0
baz=343,SNR=17
MCVT **Middlebury Col** 144.72 8 P **PKPdf** 15 29 38.2 +0.7
baz=349,SNR=56
OLIL **Olney** 144.72 29 P **PKPdf** 15 29 37.8 +0.2
baz=322,SNR=57
J57A **Williamstown** 144.75 12 P **PKPdf** 15 29 37.9 +0.4
baz=344,SNR=67
J57A P **PKPdf** 15 29 37.9 +0.4
baz=344,SNR=67
735A **Kenedy** 144.80 52 P **PKiKP** 15 29 40.0 -1.8
baz=298
O48B **Farmland** 144.80 25 P **PKPdf** 15 29 37.8 +0.1
baz=327,SNR=126
O48B **Farmland** 144.80 25 PKiKP **PKPdf** 15 29 37.8 +0.1
baz=327
GDU01 **Guandu, BA** 144.81 231 *e*P **PKPab** 15 29 36.4 -1.1
I63A **Otisfield** 144.88 5 P **PKPdf** 15 29 38.8 +1.1
baz=353,SNR=26
I63A P **PKPdf** 15 29 38.8 +1.1
baz=353,SNR=26
J58A **Remsen** 144.93 11 P **PKPdf** 15 29 38.5 +0.7
baz=345,SNR=56
J58A P **PKPdf** 15 29 38.5 +0.7
baz=345,SNR=56
S44A **Carbondale** 144.94 32 P **PKPdf** 15 29 38.4 +0.4
baz=319,SNR=49
J59A **Piesco** 144.97 10 P **PKPdf** 15 29 38.7 +0.8
baz=347,SNR=81
J59A P **PKPdf** 15 29 38.7 +0.8
baz=347,SNR=81
PBMO **Poplar Bluff** 144.98 34 P **PKPdf** 15 29 38.4 +0.3
baz=316,SNR=15
ERPA **Erie** 144.99 17 P **PKPdf** 15 29 38.9 +0.9
baz=337
ERPA **Erie** 144.99 17 PKiKP **PKPdf** 15 29 38.8 +0.9
baz=337
I62A **Tamworth** 144.99 6 P **PKPdf** 15 29 39.0 +1.1
baz=352
I62A P **PKPdf** 15 29 39.0 +1.1
baz=352
HNH **Hanover** 145.05 7 P **PKPdf** 15 29 39.4 +1.4
baz=350
LCAR **Lake Charles** 145.08 36 P **PKPdf** 15 29 38.8 +0.5
baz=315,SNR=269
M52A **Chesterland** 145.09 19 P **PKPdf** 15 29 38.8 +0.7
baz=334,SNR=25
M52A P **PKPdf** 15 29 38.8 +0.7
baz=334,SNR=25
WVNY **West Valley, N** 145.10 15 P **PKPdf** 15 29 39.0 +0.9
baz=339
BB19B **Bebedouro** 145.18 211 *e*P **PKPbc** 15 29 38.1 -0.6
ACCN **Adirondack Com** 145.18 9 P **PKPdf** 15 29 39.3 +1.0
baz=348
O49A **Covington** 145.20 24 P **PKPdf** 15 29 39.3 +0.9
baz=329
O49A P **PKPdf** 15 29 39.3 +0.9
baz=329
K57A **Scipio Center** 145.29 13 P **PKPab** 15 29 39.4 +0.9
baz=343
N51A **Ashland** 145.30 21 P **PKPab** 15 29 39.3 +0.7
baz=332
N51A P **PKPab** 15 29 39.3 +0.7
baz=332
KVTX **Kingsville** 145.33 54 P **PKiKP** 15 29 42.1 -0.8
baz=296
P48A **Milroy** 145.36 26 P **PKPab** 15 29 39.4 +0.5
baz=326
P48A P **PKPab** 15 29 39.4 +0.5
baz=326
FFD **Franklin Falls** 145.36 6 P **PKPab** 15 29 40.2 +1.4
baz=352
ALLY **Alegheny Colle** 145.37 18 P **PKPab** 15 29 39.6 +0.7
baz=336
J61A **Chester** 145.37 7 P **PKPab** 15 29 40.4 +1.6
baz=350
J61A P **PKPab** 15 29 40.4 +1.6
baz=350
M53A **WI Miller and** 145.40 18 PKiKP **PKPab** 15 29 39.8 +0.8
baz=335
TRCB **Terra Rica** 145.53 204 *e*P **PKPbc** 15 29 39.7 0.0
P49A **Miami Univ. Ec** 145.59 25 P **PKPab** 15 29 40.4 +0.5
baz=327
P49A **Miami Univ. Ec** 145.59 25 PKiKP **PKPab** 15 29 40.3 +0.5
baz=327
NATX **Nacogdoches** 145.60 45 P **PKPab** 15 29 41.4 +1.3
baz=305
NATX **Nacogdoches** 145.60 45 PKiKP **PKPab** 15 29 41.4 +1.3
baz=305
L56A **Greenwood** 145.62 14 P **PKPab** 15 29 40.5 +0.7
baz=341
L56A P **PKPab** 15 29 40.5 +0.7
baz=341
ACSO **Alum Creek Sta** 145.68 22 P **PKPab** 15 29 40.8 +0.7
baz=331
ACSO **Alum Creek Sta** 145.68 22 PKiKP **PKPab** 15 29 40.8 +0.7
baz=331
HBAR **Harrisburg** 145.72 36 P **PKPab** 15 29 41.2 +0.8
baz=315
HCNY **Howe Caverns** 145.74 10 P **PKPab** 15 29 40.8 +0.6
baz=346
HKT **Hockley** 145.75 48 P **PKiKP** 15 29 42.1 -1.5
baz=302
T45B **Paducah** 145.76 32 P **PKPab** 15 29 41.0 +0.5
baz=319
UNH **University of** 145.81 5 P **PKPab** 15 29 40.8 +0.4
baz=353
TRY **Troy** 145.82 9 P **PKPab** 15 29 41.5 +1.1
baz=348
RCBR **Riachuelo** 145.87 246 *e*P **PKPdf** 15 29 40.5 +0.2
MC01 **Montes Claros** 145.91 222 *e*P **PKPdf** 15 29 40.2 -0.1
BINY **Binghamton** 145.91 12 P **PKPab** 15 29 41.5 +0.5
baz=344
BINY **Binghamton** 145.91 12 PKiKP **PKPab** 15 29 41.5 +0.5
baz=344
N53A **Lisbon** 145.92 19 P **PKPab** 15 29 41.6 +0.6
baz=335
N53A P **PKPab** 15 29 41.6 +0.6
baz=335
M55A **Ridgway** 145.93 16 P **PKPab** 15 29 41.4 +0.4
baz=338
M55A P **PKPab** 15 29 41.4 +0.4
baz=338
WCI **Wyandotte Cave** 145.98 28 P **PKPab** 15 29 41.7 +0.5
baz=324
WCI **Wyandotte Cave** 145.98 28 PKiKP **PKPab** 15 29 41.8 +0.5
baz=324
LNXT **Lenox** 145.99 34 P **PKPab** 15 29 41.8 +0.5
baz=317
PCMB **Pacaembu** 146.01 207 *e*P **PKPdf** 15 29 40.2 -0.1
PMNB **Patos De Minas** 146.08 216 *e*P **PKPab** 15 29 42.7 +0.3
K62A **Royalston** 146.09 7 P **PKPab** 15 29 42.4 +0.9
baz=350
K62A P **PKPab** 15 29 42.4 +0.9
baz=350
L59A **Walton** 146.11 11 P **PKPab** 15 29 42.2 +0.5
baz=345
L59A P **PKPab** 15 29 42.2 +0.5
baz=345
CCAR **Cane Creek** 146.17 39 P **PKPab** 15 29 43.2 +1.1
baz=312
O52A **Adamsville** 146.20 21 P **PKPbc** 15 29 41.5 +0.3
baz=332
O52A P **PKPbc** 15 29 41.5 +0.3
baz=332
L61B **Northampton** 146.24 8 PKiKP **PKPab** 15 29 42.4 +0.3
baz=349
PSDB **Penn State Uni** 146.25 16 P **PKPab** 15 29 42.6 +0.4
baz=338
O53A **New Philadelph** 146.30 20 PKiKP **PKPab** 15 29 42.7 +0.3
baz=334
P51A **Williamsport** 146.30 23 P **PKPab** 15 29 42.1 -0.4
baz=330
P51A P **PKPab** 15 29 42.1 -0.4
baz=330
HRV **Adam Dziewonsk** 146.32 6 P **PKPab** 15 29 42.9 +0.4
baz=351
HRV **Adam Dziewonsk** 146.32 6 PKiKP **PKPab** 15 29 42.8 +0.4
baz=351
R49A **Shelbyville** 146.44 27 P **PKPab** 15 29 43.0 0.0
baz=326
R49A P **PKPab** 15 29 43.0 0.0
baz=326
QUA2 **Belchertown** 146.45 7 P **PKPab** 15 29 42.9 0.0
baz=350
UPAO **U. Pittsburgh** 146.47 18 P **PKPab** 15 29 43.4 +0.3
baz=336
M57A **Sunshine Farm,** 146.48 14 P **PKPab** 15 29 43.3 +0.2
baz=341
M57A P **PKPab** 15 29 43.3 +0.2
baz=341

P52A	**Corning** baz=332	**146.52**	**22**	PKiKP	**PKPab**	**15 29 43.0**	**-0.3**
T47A	**Sharon Grove** baz=322	**146.57**	**30**	P	**PKPab**	**15 29 43.4**	**-0.2**
KSPA	**Keystone Colle** baz=344	**146.58**	**12**	P	**PKPab**	**15 29 43.5**	**0.0**
Q51A	**Peebles** baz=329	**146.58**	**24**	P	**PKPab**	**15 29 43.0**	**-0.6**
Q51A	baz=329			P	**PKPab**	**15 29 43.0**	**-0.6**
O54A	**Avella** baz=335	**146.63**	**19**	P	**PKPab**	**15 29 43.6**	**-0.1**
O54A	baz=335			P	**PKPab**	**15 29 43.6**	**-0.1**
NPNY	**Mohonk Preserv** baz=347	**146.69**	**10**	P	**PKPab**	**15 29 43.6**	**-0.3**
PSWB	**Penn State Wil** baz=343	**146.76**	**13**	P	**PKPab**	**15 29 44.2**	**0.0**
R50A	**Paris** baz=327	**146.81**	**26**	P	**PKPbc**	**15 29 43.7**	**+0.7**
R50A	baz=327			P	**PKPbc**	**15 29 43.7**	**+0.7**
W45A	**Hickory Valley** baz=316	**146.85**	**35**	P	**PKPab**	**15 29 44.3**	**-0.5**
WVT	**Waverly**	**146.86**	**32**		**PKPbc**	**15 29 42.4**	**-0.9**
WVT	**Waverly** baz=320	**146.86**	**32**	P	**PKPab**	**15 29 44.4**	**-0.3**
WVT	**Waverly** baz=320	**146.86**	**32**	PKiKP	**PKPab**	**15 29 44.5**	**-0.3**
WVT	**Waverly**	**146.86**	**32**	PKP2	**PKPbc**	**15 29 42.4**	**-0.9**
P53A	**Whipple** baz=333	**146.92**	**21**	P	**PKPab**	**15 29 44.4**	**-0.4**
P53A	baz=333			P	**PKPab**	**15 29 44.4**	**-0.4**
SSPA	**Standing Stone**	**146.95**	**16**		**PKPbc**	**15 29 42.3**	**-1.0**
SSPA	**Standing Stone** baz=340	**146.95**	**16**	P	**PKPab**	**15 29 44.6**	**-0.3**
SSPA	**Standing Stone** baz=340	**146.95**	**16**	PKiKP	**PKPab**	**15 29 44.6**	**-0.3**
L64A	**Middleborough** baz=353	**146.96**	**6**	P	**PKPab**	**15 29 44.6**	**-0.3**
L64A	baz=353			P	**PKPab**	**15 29 44.6**	**-0.3**
BRNY	**Black Rk. Fore** baz=347	**147.05**	**10**	P	**PKPab**	**15 29 44.8**	**-0.5**
N58A	**Sunbury** baz=342	**147.05**	**14**	P	**PKPab**	**15 29 44.7**	**-0.6**
N58A	baz=342			P	**PKPab**	**15 29 44.7**	**-0.6**
Q52A	**Bidwell** baz=331	**147.06**	**22**	P	**PKPbc**	**15 29 43.4**	**-0.4**
Q52A	baz=331			P	**PKPbc**	**15 29 43.4**	**-0.4**
OXF	**Oxford** baz=316	**147.18**	**36**	P	**PKPab**	**15 29 45.2**	**-0.8**
OXF	**Oxford** baz=316	**147.18**	**36**	PKiKP	**PKPab**	**15 29 45.3**	**-0.8**
441A	**DeRidder** baz=306	**147.21**	**45**	P	**PKiKP**	**15 29 47.2**	**+0.5**
ITRB	**Iturama**	**147.24**	**210**	*e*P	**PKPdf**	**15 29 42.3**	**-0.2**
ODNJ	**Ogdensburg** baz=346	**147.26**	**11**	P	**PKPab**	**15 29 45.4**	**-0.7**
MCWV	**Mont Chateau** baz=336	**147.28**	**19**	P	**PKPab**	**15 29 45.6**	**-0.7**
MCWV	**Mont Chateau** baz=336	**147.28**	**19**	PKiKP	**PKPab**	**15 29 45.8**	**-0.5**
JANB	**Januaria**	**147.34**	**223**	*e*P	**PKPbc**	**15 29 44.3**	**-0.9**
M63A	**Gales Ferry** baz=350	**147.35**	**7**	P	**PKPbc**	**15 29 44.0**	**-0.5**
M63A	baz=350			P	**PKPbc**	**15 29 44.0**	**-0.5**
342B	**Flagon Creek P** baz=308	**147.43**	**43**	P	**PKPab**	**15 29 47.5**	**+0.4**
PAL	**Palisades** baz=347	**147.46**	**10**	P	**PKiKP**	**15 29 46.1**	**-0.8**
PAL	**Palisades** baz=347	**147.46**	**10**	PKiKP	**PKiKP**	**15 29 46.1**	**-0.8**
IPMB	**Ipameri, GO**	**147.54**	**214**	*e*P	**PKPdf**	**15 29 43.6**	**+0.6**
Q54A	**Coxs Mills** baz=333	**147.56**	**21**	P	**PKiKP**	**15 29 46.2**	**-1.0**
Q54A	baz=333			P	**PKiKP**	**15 29 46.2**	**-1.0**
Y45A	**Yeager Farm, C** baz=315	**147.56**	**37**	P	**PKiKP**	**15 29 46.8**	**-0.5**
U49A	**Red Boiling Sp** baz=323	**147.60**	**29**	P	**PKPbc**	**15 29 44.2**	**-1.1**
FOR	**Fordham** baz=347	**147.61**	**10**	P	**PKPbc**	**15 29 45.9**	**+0.8**
T50A	**Nancy** baz=325	**147.63**	**28**	P	**PKPbc**	**15 29 44.6**	**-0.8**
T50A	baz=325			P	**PKPbc**	**15 29 44.6**	**-0.8**
BRNJ	**Basking Ridge** baz=346	**147.66**	**11**	P	**PKiKP**	**15 29 46.7**	**-0.6**
CLTN	**Cedars of Leba**	**147.66**	**30**		**PKPdf**	**15 29 43.8**	**+1.1**
S51A	**Beattyville** baz=328	**147.66**	**25**	P	**PKPbc**	**15 29 44.4**	**-1.1**
S51A	baz=328			P	**PKPbc**	**15 29 44.4**	**-1.1**
V48A	**Smith Brothers** baz=321	**147.69**	**31**	P	**PKPdf**	**15 29 43.8**	**+1.1**
R53A	**Hurricane** baz=331	**147.73**	**23**	P	**PKPbc**	**15 29 44.8**	**-0.8**
R53A	baz=331			P	**PKPbc**	**15 29 44.8**	**-0.8**
PANJ	**Princeton** baz=345	**147.93**	**11**	P	**PKPbc**	**15 29 45.4**	**-0.7**
P57A	**Homestead Farm** baz=339	**147.99**	**16**	P	**PKPbc**	**15 29 45.4**	**-0.8**
P57A	baz=339			P	**PKPbc**	**15 29 45.4**	**-0.8**
TUPA	**Temple Univers** baz=344	**148.03**	**12**	P	**PKPbc**	**15 29 45.7**	**-0.7**
Q56A	**Snyder Ridge,** baz=336	**148.05**	**18**	P	**PKiKP**	**15 29 47.4**	**-0.8**
Q56A	baz=336			P	**PKiKP**	**15 29 47.4**	**-0.8**
VBMS	**Vicksburg** baz=311	**148.08**	**40**	P	**PKiKP**	**15 29 48.5**	**+0.1**
VBMS	**Vicksburg** baz=311	**148.08**	**40**	PKiKP	**PKiKP**	**15 29 48.3**	**-0.1**
PSUB	**Penn St. - Bra** baz=344	**148.21**	**13**	P	**PKiKP**	**15 29 47.8**	**-0.7**
GEDE	**Greenville** baz=343	**148.28**	**13**	P	**PKiKP**	**15 29 48.0**	**-0.6**
SDMD	**Soldier's Deli** baz=341	**148.37**	**15**	P	**PKPbc**	**15 29 48.0**	**+0.7**
R55A	**Marlinton** baz=334	**148.43**	**20**	P	**PKiKP**	**15 29 48.6**	**-0.5**
R55A	baz=334			P	**PKiKP**	**15 29 48.6**	**-0.5**
S54A	**Dingess, Beckl** baz=332	**148.44**	**22**	P	**PKiKP**	**15 29 48.6**	**-0.5**
S54A	baz=332			P	**PKiKP**	**15 29 48.6**	**-0.5**
344A	**Westbrook Farm** baz=310	**148.44**	**41**	P	**PKiKP**	**15 29 49.9**	**+0.7**
X48A	**Hartselle** baz=319	**148.55**	**33**	P	**PKPdf**	**15 29 45.1**	**+0.9**
LVC	**Limon Verde**	**148.56**	**176**		**PKPbc**	**15 29 47.0**	**-1.6**
LVC	**Limon Verde**	**148.56**	**176**	*e*P	**PKPdf**	**15 29 45.0**	**-0.1**
LVC	**Limon Verde**	**148.56**	**176**	PKP2	**PKPbc**	**15 29 47.1**	**-1.6**
TZTN	**Tazewell** baz=327	**148.60**	**26**	P	**PKPdf**	**15 29 46.0**	**+1.8**
TZTN	**Tazewell** baz=327	**148.60**	**26**	PKiKP	**PKiKP**	**15 29 49.4**	**0.0**
146A	**Union** baz=314	**148.71**	**38**	P	**PKPbc**	**15 29 47.4**	**-0.9**
AQDB	**Aquidauana**	**148.78**	**200**	*e*P	**PKPdf**	**15 29 45.1**	**+0.2**
V51A	**Loudon** baz=325	**148.85**	**28**	P	**PKPbc**	**15 29 46.7**	**-1.9**
W50A	**Signal Mountai** baz=323	**148.87**	**30**	P	**PKPdf**	**15 29 46.3**	**+1.6**
Z47A	**Carrollton** baz=316	**148.90**	**36**	P	**PKPbc**	**15 29 47.4**	**-1.4**
V52A	**Sevierville** baz=326	**149.17**	**27**	P	**PKPdf**	**15 29 47.2**	**+2.1**
C2SB	**Chapadao do Su**	**149.20**	**207**	*e*P	**PKPdf**	**15 29 45.6**	**0.0**
TKL	**Tuckaleechee C** baz=326	**149.24**	**28**	P	**PKPdf**	**15 29 47.2**	**+1.9**
BDFB	**Brasilia** comp=Z,43nm,0.9s,baz=144,slow=8.7,SNR=9.4	**149.28**	**217**	PKP	**PKPdf**	**15 29 48.1**	**+2.1**
BDFB	comp=Z,36nm,0.7s,baz=141,slow=5.4,SNR=16			PKPbc	**PKiKP**	**15 29 52.0**	**+0.5**
BDFB	**Brasilia**	**149.28**	**217**		**PKPbc**	**15 29 48.6**	**-1.8**
BDFB	**Brasilia**	**149.28**	**217**	*e*P	**PKPdf**	**15 29 45.9**	**-0.1**
BLA	**Blacksburg** baz=333	**149.28**	**22**	P	**PKPdf**	**15 29 47.3**	**+2.0**
BLA	**Blacksburg** baz=333	**149.28**	**22**	PKiKP	**PKiKP**	**15 29 50.6**	**-0.2**
S57A	**Dark Hollow, R** baz=336	**149.29**	**19**	P	**PKPdf**	**15 29 47.2**	**+2.0**
S57A	baz=336			P	**PKPdf**	**15 29 47.2**	**+2.0**
Y49A	**Blount Mountai** baz=319	**149.34**	**33**	P	**PKPdf**	**15 29 47.6**	**+2.1**
U54A	**Nelsons Funny** baz=330	**149.35**	**24**	P	**PKPbc**	**15 29 48.0**	**-2.0**
U54A	baz=330			P	**PKPbc**	**15 29 48.0**	**-2.0**
CBN	**Corbin Frederi** baz=339	**149.36**	**16**	PKiKP	**PKiKP**	**15 29 51.1**	**+0.2**
R58B	**Mineral** baz=338	**149.44**	**17**	P	**PKPdf**	**15 29 46.9**	**+1.5**
R58B	baz=338			P	**PKPdf**	**15 29 46.9**	**+1.5**
SDBA	**SAO DESIDERIO**	**149.60**	**226**	*e*P	**PKPdf**	**15 29 46.3**	**-0.2**
X51A	**Calhoun** baz=323	**149.60**	**30**	P	**PKPbc**	**15 29 48.2**	**-2.3**
X51A	baz=323			P	**PKPbc**	**15 29 48.2**	**-2.3**
W52A	**Murphy** baz=325	**149.63**	**29**	P	**PKPdf**	**15 29 47.9**	**+2.0**
LRAL	**Lakeview Retre**	**149.63**	**35**	PKPdf	**PKPdf**	**15 29 46.3**	**+0.3**
LRAL	**Lakeview Retre** baz=318	**149.63**	**35**	P	**PKPdf**	**15 29 47.6**	**+1.7**
LRAL	**Lakeview Retre** baz=318	**149.63**	**35**	PKiKP	**PKiKP**	**15 29 51.9**	**+0.3**
V53A	**Saluda** baz=327	**149.66**	**26**	P	**PKPbc**	**15 29 48.5**	**-2.2**
V53A	baz=327			P	**PKPbc**	**15 29 48.5**	**-2.2**
T57A	**Hurt** baz=335	**149.89**	**20**	P	**PKPdf**	**15 29 48.2**	**+2.0**
T57A	baz=335			P	**PKPdf**	**15 29 48.2**	**+2.0**
U56A	**King** baz=332	**150.06**	**22**	P	**PKiKP**	**15 29 52.7**	**+0.2**
U56A	baz=332			P	**PKiKP**	**15 29 52.7**	**+0.2**
CASEE	**Lake Jocassee** baz=326	**150.17**	**27**	P	**PKPdf**	**15 29 49.2**	**+2.4**
V55A	**Taylorsville** baz=330	**150.18**	**24**	P	**PKPdf**	**15 29 48.7**	**+2.0**
V55A	baz=330			P	**PKPdf**	**15 29 48.7**	**+2.0**
Z51A	**Franklin** baz=321	**150.42**	**32**	P	**PKPdf**	**15 29 49.4**	**+2.2**
T59A	**Double "B" Far** baz=338	**150.45**	**18**	P	**PKPdf**	**15 29 49.2**	**+2.1**
T59A	baz=338			P	**PKPdf**	**15 29 49.2**	**+2.1**
T60A	**Surry** baz=340	**150.53**	**16**	P	**PKPdf**	**15 29 49.5**	**+2.3**
T60A	baz=340			P	**PKPdf**	**15 29 49.5**	**+2.3**
Y52A	**Lilburn** baz=323	**150.56**	**30**	P	**PKPdf**	**15 29 49.6**	**+2.2**
Y52A	baz=323			P	**PKPdf**	**15 29 49.6**	**+2.2**
KMSC	**Kings Mountain** baz=330	**150.74**	**25**	P	**PKPdf**	**15 29 49.4**	**+1.8**
KMSC	**Kings Mountain** baz=330	**150.74**	**25**	PKiKP	**PKiKP**	**15 29 54.4**	**+0.5**
PAULI	**Pauline** baz=328	**150.81**	**26**	P	**PKPdf**	**15 29 50.0**	**+2.2**
250A	**Grady** baz=318	**150.83**	**36**	P	**PKPdf**	**15 29 50.1**	**+2.2**
BRAL	**Brewton** baz=315	**150.95**	**38**	PKiKP	**PKiKP**	**15 29 55.8**	**+1.4**
V58A	**Windy Hill, Pi** baz=334	**151.02**	**21**	P	**PKPdf**	**15 29 49.9**	**+1.9**
V58A	baz=334			P	**PKPdf**	**15 29 49.9**	**+1.9**
HODGE	**Hodges** baz=327	**151.11**	**27**	P	**PKPdf**	**15 29 50.0**	**+1.8**
152A	**Waverly Hall** baz=321	**151.16**	**33**	P	**PKPdf**	**15 29 50.3**	**+2.0**
GOGA	**Godfrey** baz=324	**151.22**	**30**	P	**PKPdf**	**15 29 50.5**	**+2.1**
GOGA	**Godfrey** baz=324	**151.22**	**30**	PKiKP	**PKiKP**	**15 29 55.7**	**+0.8**
W57A	**Gilead** baz=332	**151.27**	**23**	P	**PKPdf**	**15 29 50.2**	**+1.8**
W57A	baz=332			P	**PKPdf**	**15 29 50.2**	**+1.8**
JSC	**Jenkinsville** baz=329	**151.51**	**26**	P	**PKPdf**	**15 29 50.6**	**+1.8**
BIRD	**Birdtown, Kers** baz=331	**151.53**	**24**	P	**PKPdf**	**15 29 50.9**	**+2.1**
352A	**Blakely** baz=319	**151.96**	**34**	P	**PKPdf**	**15 29 51.8**	**+2.3**
MNMC	**Minye Minye**	**151.96**	**174**		**PKPdf**	**15 29 47.7**	**-2.6**
MNMC				PKPbc	**PKiKP**	**15 29 57.4**	**+0.2**
HAW	**Hawthorne Fire** baz=327	**152.14**	**27**	P	**PKPdf**	**15 29 52.2**	**+2.4**
TIGA	**Tifton** baz=322	**152.72**	**33**	P	**PKPdf**	**15 29 53.9**	**+3.2**
SALV	**Santo Antonio**	**152.96**	**204**	*e*P	**PKPdf**	**15 29 51.4**	**0.0**
SMTB	**Santa Maria do**	**153.93**	**228**	*e*P	**PKPdf**	**15 29 52.9**	**0.0**
SNDB	**Serra Nova Dou**	**154.11**	**217**	*e*P	**PKPdf**	**15 29 53.1**	**-0.1**
PTLB	**Pontes e Lacer**	**154.59**	**197**	*e*P	**PKPdf**	**15 29 54.0**	**+0.3**
LPAZ	**La Paz** comp=Z,4.6nm,0.9s,baz=90,slow=3.0,SNR=12	**154.89**	**177**	PKP	**PKPdf**	**15 29 57.0**	**+2.1**
LPAZ	comp=Z,8.1nm,0.8s,baz=156,slow=5.1,SNR=8.0			PKPab	**PKPab**	**15 30 20.5**	**+1.5**
LPAZ	**La Paz**	**154.89**	**177**	*e*P	**PKPdf**	**15 29 54.0**	**-0.9**
PDRB	**Porto dos Gac**	**157.24**	**206**	*e*P	**PKPdf**	**15 29 57.1**	**-0.3**
VILB	**Vilhena**	**157.27**	**197**	*e*P	**PKPdf**	**15 29 57.1**	**-0.3**
CLDB	**Colider**	**157.46**	**209**	*e*P	**PKPdf**	**15 29 57.5**	**-0.2**
NPGB	**Novo Progresso**	**160.43**	**216**	*e*P	**PKPdf**	**15 30 01.0**	**-0.2**
ETMB	**Extrema**	**161.34**	**182**	*e*P	**PKPdf**	**15 30 02.0**	**-0.1**
CZSB	**Cruzeiro do Su**	**162.42**	**160**	*e*P	**PKPdf**	**15 30 03.1**	**-0.1**
ITTP	**Itatiuba**	**162.76**	**220**	*e*P	**PKPdf**	**15 30 03.8**	**+0.2**
HDC	**Heredia**	**162.90**	**85**	*e*P	**PKPdf**	**15 30 03.5**	**-0.3**
MALB	**Monte Alegre**	**163.52**	**230**	*e*P	**PKPdf**	**15 30 03.6**	**-0.7**
MACA	**Manacapuru-AM**	**166.50**	**207**	*e*P	**PKPdf**	**15 30 07.0**	**+0.1**
TBTG	**Tabatinga, AM**	**166.59**	**167**	*e*P	**PKPdf**	**15 30 07.0**	**+0.1**
CBYP	**Canovanas**	**170.69**	**354**		**PKPab**	**15 31 26.9**	**-0.4**
BOAV	**Boa Vista**	**170.97**	**224**	*e*P	**PKPdf**	**15 30 10.1**	**+0.4**
CDVI	**St. Croix**	**171.03**	**347**	PKPdf	**PKPdf**	**15 30 09.4**	**-0.1**
CDVI				PKPab	**PKPab**	**15 31 28.4**	**-0.4**
GDHS	**Morne Mazeau,**	**171.22**	**326**	PKPab	**PKPab**	**15 31 29.3**	**-0.5**
ROSC	**El Rosal** comp=Z,7.0nm,0.4s,baz=316,slow=8.5,SNR=4.5	**171.50**	**118**	PKP	**PKPdf**	**15 30 11.5**	**+1.1**
SDV	**Santo Domingo**	**176.22**	**91**	*e*P	**PKPdf**	**15 30 10.4**	**-1.4**

*DJA **16** 15:25:24.5±0.3,9°S±4°×11°3E±°, h94km±6km, M4.2/18, mb4.4/12, MLv4.1/18*
*IDC **16** 15:25:29.1±2.7,8.87S×113.49E, h133km±26km, mb3.6/10, mbtmp4.1/12, Error ellipse: s-maj=25.2km s-min=14.2km az=56.0*
ISC 16 15:25:24.7±0.7,**9.08S**±0.10×**113.14E**±0.07,**h100**km,**n41,** σ1§**13**/41,**mb4.0**/10,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.86**	**20**	P	**Pn**	**15 25 43.6**	**-0.1**
KRKI	**Karangkates**	**1.14**	**323**	P	**Pn**	**15 25 47.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.17**	**59**	P	**Pn**	**15 25 47.2**	**+0.1**
BYJI	**Banyuwangi**	**1.48**	**54**	P	**Pn**	**15 25 51.5**	**+0.8**
ABJI	**Asem Bagus**	**1.67**	**40**	P	**Pn**	**15 25 54.9**	**+1.7**
PWJI	**Pagerwojo**	**1.69**	**308**	P	**Pn**	**15 25 53.5**	**+0.1**
RTBI	**Rangdo, Negare**	**1.88**	**71**	P	**Pn**	**15 25 56.6**	**+0.8**
IGBI	**Denpasar**	**2.00**	**83**	P	**Pn**	**15 25 57.4**	**+0.1**
DNP	**Denpasar**	**2.08**	**79**	P	**Pn**	**15 25 58.4**	**0.0**
PCJI	**Pacitan**	**2.13**	**294**	P	**Pn**	**15 25 59.1**	**+0.1**
KMMI	**Kalianget**	**2.18**	**22**	P	**Pn**	**15 25 58.5**	**-1.1**
GRJI	**Gresik**	**2.25**	**343**	P	**Pn**	**15 26 01.8**	**+1.2**
SRBI	**Singaraja**	**2.27**	**64**	P	**Pn**	**15 26 01.3**	**+0.4**
NGJI	**Ngawi**	**2.38**	**316**	P	**Pn**	**15 26 04.7**	**+2.4**
UGM	**Wanagama**	**2.84**	**294**	P	**Pn**	**15 26 08.8**	**+0.4**
KLNI	**Mataram**	**2.99**	**78**	P	**Pn**	**15 26 10.2**	**-0.2**
SMRI	**Semarang**	**3.35**	**307**	P	**Pn**	**15 26 15.5**	**+0.3**
TWSI	**Taliwang, Sumb**	**3.71**	**85**	P	**Pn**	**15 26 20.9**	**+0.9**
SCJI	**Gunung Srandil**	**4.17**	**289**	P	**Pn**	**15 26 26.7**	**+0.5**
CTJI	**Waduk Cacaban**	**4.43**	**297**	P	**Pn**	**15 26 30.9**	**+1.2**
PLAI	**Plampang**	**4.59**	**87**	P	**Pn**	**15 26 32.3**	**+0.4**
BBKI	**Banjar Baru** 0.4nm94nm,1.0s	**5.83**	**17**	P	**Pn**	**15 26 51.3**	**+2.5**
LEM	**Lembang** 13nm,0.3s,baz=211,slow=21,SNR=2.9	**5.91**	**292**	P	Pn	15 26 59.2	+9.2
CNJI	**Cibinong** 0.2nm18nm,0.7s	**6.21**	**286**	P	**Pn**	**15 26 53.9**	**0.0**
BSSI	**Bau Bau, Buton** 0.1nm24nm,1.3s	**7.85**	**69**	P	**Pn**	**15 27 17.3**	**+1.1**
BKSI	**Bulukumba** 0.1nm7.8nm,0.8s	**7.87**	**62**	P	**Pn**	**15 27 17.9**	**+1.4**
KASI	**Kota Agung** 31nm,1.0s	**9.28**	**292**	P	**Pn**	**15 27 36.2**	**+0.6**
BATI	**Baumata** 32nm,0.4s,baz=297,slow=5.0,SNR=12	**10.43**	**97**	P	**Pn**	**15 27 49.9**	**-1.5**
BATI	5.1nm,0.3s,baz=355,slow=23,SNR=1.4			S	Sn	15 29 37.3	-9.2
BATI	**Baumata** 33nm,0.5s	**10.43**	**97**	P	**Pn**	**15 27 50.8**	**-0.6**
SOEI	**Soe** 41nm,1.3s	**11.00**	**94**	P	**Pn**	**15 27 58.8**	**-0.4**
EGSI	**Enggano, Bengk** 81nm,0.5s	**11.40**	**288**	P	**Pn**	**15 28 01.9**	**-2.6**
WRA	**Warramunga Arr** 1.3nm,0.9s,baz=296,slow=11,SNR=4.0 1.3nm,0.9s	**23.16**	**120**	P	**P**	**15 30 22.1**	**-0.6**
ASAR	**Alice Springs** 0.6nm,0.4s,baz=306,slow=9.3,SNR=5.0	**24.59**	**129**	P	**P**	**15 30 36.4**	**+0.7**
ASAR	0.3nm,0.6s,baz=257,slow=1.6,SNR=1.8 0.6nm,0.4s			PcP	**PcP**	**15 34 12.4**	**+1.2**
STKA	**Stephens Creek** 1.3nm,0.4s,baz=322,slow=8.0,SNR=4.8 1.3nm,0.4s	**34.80**	**135**	P	**P**	**15 32 06.4**	**+0.4**
KSRS	**Korea Array** 2.0nm,0.9s,baz=198,slow=8.4,SNR=4.4 2.0nm,0.9s	**48.32**	**16**	P	**P**	**15 33 55.0**	**-1.0**
MJAR	**Matsushiro Arr** 2.0nm,0.7s,baz=194,slow=8.1,SNR=5.8 2.0nm,0.7s	**51.14**	**26**	P	**P**	**15 34 15.3**	**-2.2**
USRK	**Ussuriysk Ar.** 1.4nm,0.7s,baz=191,slow=5.3,SNR=3.7 1.4nm,0.7s	**55.72**	**16**	P	**P**	**15 34 49.9**	**-0.9**
SONM	**Songino Array** 1.9nm,0.6s,baz=176,slow=8.0,SNR=12 1.9nm,0.6s	**56.98**	**355**	P	**P**	**15 34 59.9**	**0.0**
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=145,slow=7.3,SNR=13 0.5nm,0.4s	**62.06**	**336**	P	**P**	**15 35 34.7**	**0.0**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=158,slow=3.9,SNR=2.9 0.5nm,0.3s	**67.21**	**342**	P	**P**	**15 36 07.2**	**-0.8**
MAW	**Mawson** 1.9nm,0.6s,baz=5.4,slow=5.3,SNR=2.8 1.9nm,0.6s	**67.25**	**199**	P	**P**	**15 36 09.9**	**+1.8**

*WEL **16** 15:29:00,42.22S×173.55E,h21km,ML4.1,Mw4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.19; Mθθ0.71; Mφφ-0.90; Mrθ0.21; Mθφ-0.79; Mφr0.01; Fault plane solution: M0 1.15000×10^15 NP1: φs158.00000°,δ79.00000°,λ6.00000°. NP2:φs66.00000°, δ84.00000°,λ169.00000°. Principal axes: T -122.9000, Plg12.0000°, Azm22.0000°; N 107.1400, Plg77.0000°, Azm218.0000°; P 15.7600, Plg3.0000°, Azm112.0000°;*
*IDC **16** 15:29:46.3±2.7,42.21S×173.41E,h0km,mb3.2/2, mbtmp3.4/3,ML3.6/1 Error ellipse: s-maj=54.1km s-min=36.8km az=117.0*
*NOU **16** 15:29:47.9,42.43S×173.77E,h11km,MLv4.6/13,South Island, New Zealand*
*WEL **16** 15:29:48.8±0.3,42°S±2°×17°4E±°, h5km,M4.0/32, ML4.3/12,MLv4.0/32,Error ellipse: s-maj=0.0km s-min=0.0km az=104.6*
ISC 16 15:29:47.3±0.8,**42.26S**±0.03×**173.63E**±0.03,**h10**km,**n117,** σ1§**48**/121,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**203**	P	**Pg**	**15 29 52.9**	**+1.9**
KHZ	**Kahutara**	**0.17**	**203**	P	**Pg**	**15 29 53.7**	**+2.7**
KHZ				S	**Sg**	**15 29 57.2**	**+3.7**
BSWZ	**Blackbirch Sta**	**0.57**	**19**	P	**Pg**	**15 29 59.7**	**+1.2**
CMWZ	**Cape Campbell**	**0.67**	**41**	P	**Pb**	**15 30 02.8**	**+1.6**
THZ	**Tophouse**	**0.73**	**312**	P	**Pg**	**15 30 01.5**	**0.0**
THZ				S	**Sb**	**15 30 10.7**	**-1.7**
GVZ	**Greta Valley S**	**0.83**	**212**	P	**Pb**	**15 30 05.4**	**+1.5**
TUWZ	**Tuamarina**	**0.86**	**16**	P	**Pg**	**15 30 04.8**	**+0.9**
NNZ	**Nelson**	**1.06**	**350**	P	**Pg**	**15 30 07.4**	**-0.2**
MRNZ	**Matariki Terra**	**1.08**	**323**	P	**Pg**	**15 30 07.9**	**-0.2**
MRNZ				S	**Sn**	**15 30 22.1**	**-1.4**
LTZ	**Lake Taylor**	**1.13**	**242**	P	**Pg**	**15 30 08.9**	**-0.2**
TCW	**Tory Channel**	**1.16**	**25**	P	**Pb**	**15 30 09.7**	**+0.4**
AMCZ	**Amberley**	**1.17**	**218**	P	**Pb**	**15 30 09.7**	**+0.1**
SNZO	**South Karori**	**1.24**	**41**	P	**Pn**	**15 30 10.6**	**-0.1**
WEL	**Wellington**	**1.29**	**42**	P	**Pn**	**15 30 12.1**	**+0.7**
TKNZ	**Takaka Hill**	**1.32**	**338**	P	**Pn**	**15 30 12.2**	**+0.3**
PLWZ	**Palliser**	**1.40**	**61**	P	**Pn**	**15 30 12.9**	**0.0**
DSZ	**Denniston Nort**	**1.45**	**290**	P	**Pb**	**15 30 14.6**	**+0.1**
MSWZ	**Moikau Station**	**1.48**	**56**	P	**Pn**	**15 30 14.0**	**0.0**
OKCZ	**Okains Bay**	**1.52**	**196**	P	**Pn**	**15 30 14.5**	**-0.1**
CAW	**Cannon Point**	**1.58**	**44**	P	**Pn**	**15 30 15.5**	**+0.2**
OXZ	**Oxford**	**1.58**	**227**	P	**Pn**	**15 30 14.5**	**-1.0**
PAWZ	**Paruwai Farm**	**1.60**	**57**	P	**Pn**	**15 30 15.6**	**-0.2**
MQZ	**McQueen's Vall**	**1.61**	**206**	P	**Pn**	**15 30 14.7**	**-1.1**
QRZ	**Quartz Range**	**1.65**	**330**	P	**Pg**	**15 30 18.8**	**-0.2**
QRZ	**Quartz Range**	**1.65**	**330**	P	**Pb**	**15 30 17.6**	**-0.3**
INZ	**Inchbonnie**	**1.68**	**253**	P	**Pn**	**15 30 17.1**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.69**	**198**	P	**Pn**	**15 30 16.6**	**-0.4**
KIW	**Kapiti Island**	**1.70**	**35**	P	**Pn**	**15 30 17.6**	**+0.6**
TRWZ	**Traveller**	**1.76**	**61**	P	**Pn**	**15 30 17.5**	**-0.4**
MTW	**Mount Morrison**	**1.78**	**52**	P	**Pn**	**15 30 17.8**	**-0.4**
RACZ	**Rakaia**	**1.83**	**216**	P	**Pn**	**15 30 17.8**	**-1.0**
OGWZ	**Otaki Gorge**	**1.85**	**39**	P	**Pn**	**15 30 19.3**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.96**	**47**	P	**Pn**	**15 30 20.3**	**-0.4**
MHCZ	**Mount Hutt**	**1.98**	**229**	P	**Pn**	**15 30 20.2**	**-0.7**
TMWZ	**Te Maipa**	**2.05**	**57**	P	**Pn**	**15 30 21.3**	**-0.6**
WACZ	**Wakanui South**	**2.13**	**217**	P	**Pn**	**15 30 22.0**	**-0.9**
MRZ	**Mangatainoka R**	**2.17**	**43**	P	**Pn**	**15 30 23.2**	**-0.3**
TIWZ	**Tintock**	**2.25**	**50**	P	**Pn**	**15 30 24.0**	**-0.7**
WVZ	**Waitaha Valley**	**2.28**	**248**	P	**Pn**	**15 30 25.3**	**+0.2**
RPZ	**Rata Peaks** 18nm,0.3s,baz=70,slow=2.4,SNR=58	**2.38**	**232**	Pn	**Pn**	**15 30 25.7**	**-0.8**
RPZ	19nm,0.3s,baz=331,slow=23,SNR=19 89nm,0.4s			Sn	**Sn**	**15 30 53.8**	**-2.0**
RPZ	**Rata Peaks**	**2.38**	**232**	P	**Pn**	**15 30 26.2**	**-0.3**
RPZ	**Rata Peaks**	**2.38**	**232**	P	**Pn**	**15 30 25.7**	**-0.8**
OHWZ	**Ohakea**	**2.41**	**32**	P	**Pn**	**15 30 28.6**	**+1.7**
PRWZ	**Pori Road**	**2.45**	**47**	P	**Pn**	**15 30 26.8**	**-0.6**
ARCZ	**Arundel**	**2.46**	**226**	P	**Pn**	**15 30 26.7**	**-0.9**
POWZ	**Post Office Ro**	**2.47**	**42**	P	**Pn**	**15 30 27.3

ODZ	Otahua Downs	3.53	217	P	Pn	15 30 41.2	-0.9
ODZ	Otahua Downs	3.53	217	P	Pn	15 30 40.9	-1.2
KWHZ	Kaweka Forest	3.54	38	P	Pn	15 30 41.5	-0.9
MCHZ	McNeill Hill	3.65	41	P	Pn	15 30 42.8	-1.1
BKZ	Black Stump Fm	3.78	36	P	Pn	15 30 44.6	-1.1
HIZ	Hauiti	3.86	14	P	Pn	15 30 49.1	+2.4
HIZ	Hauiti	3.86	14	P	Pn	15 30 48.8	+2.1
JCZ	Jackson Bay	3.98	241	P	Pn	15 30 48.7	+0.2
JCZ	Jackson Bay	3.98	241	P	Pn	15 30 48.3	-0.1
TLZ	Tolley Road	4.19	21	P	Pn	15 30 54.5	+3.2
MTHZ	Maungataniwha	4.19	37	P	Pn	15 30 50.2	-1.2
HHSZ	Highcliff Hill	4.23	210	P	Pn	15 30 51.1	-0.8
EAZ	Earnscleugh	4.32	225	P	Pn	15 30 52.0	-0.9
TUZ	Tuapeka	4.68	217	P	Pn	15 30 57.2	-0.8
TOZ	Tahuroa Road	4.75	18	P	Pn	15 30 59.7	+0.8
URZ	Urewera	4.80	35	P	Pn	15 30 58.8	-0.9
URZ	Urewera	4.80	35	P	Pn	15 30 58.8	-0.9
MLZ	Mavora Lakes	5.05	230	P	Pn	15 31 02.6	-0.6
AWAZ	Awhitu Peninsu	5.25	9	P	Pn	15 31 07.6	+1.8
MKAZ	Moumakai	5.28	13	P	Pn	15 31 07.1	+0.9
SYZ	Scrubby Hill	5.35	215	P	Pn	15 31 07.2	0.0
SYZ	Scrubby Hill	5.35	215	P	Pn	15 31 06.6	-0.6
WTAZ	Waiatarua	5.37	8	P	Pn	15 31 09.5	+2.0
ETAZ	East Tamaki Re	5.39	11	P	Pn	15 31 09.5	+1.7
RVAZ	Riverhead Bore	5.53	8	P	Pn	15 31 11.8	+2.1
MBAZ	Motutapu North	5.57	11	P	Pn	15 31 12.2	+2.0
ABAZ	Army Bay	5.73	10	P	Pn	15 31 16.2	+3.8
KUZ	Kuaotunu 56nm,1.2s	5.74	17	P	Pn	15 31 16.5	+3.9
OUZ	Omahuta 54nm,2.1s	7.03	360	P	Pn	15 31 33.1	+2.8
OUZ	Omahuta	7.03	360	P	Pn	15 31 33.6	+3.3
CTZ	Chatham Island 115nm,2.2s	7.30	105	P	Pn	15 31 33.2	-0.8
CTZ	Chatham Island	7.30	105	P	Pn	15 31 33.2	-0.8
ASAR	Alice Springs 0.3nm,0.8s,baz=116,slow=6.6,SNR=1.9 0.3nm,0.8s	37.73	287	P	P	15 37 02.8	-0.5
WRA	Warramunga Arr 0.3nm,0.7s,baz=127,slow=8.5,SNR=1.9 0.3nm,0.7s	39.85	292	P	P	15 37 19.7	-1.5
TORD	Torodi Ar. Bea 0.2nm,0.4s,baz=187,slow=1.0,SNR=1.6	150.16	196	PKPbc	PKPbc	15 49 39.0	+0.3

*VAO **16** 15:51:49.7±0.7,23˚.71S×68˚.15W,h321km,mb3.9*
*NEIC **16** 15:51:52.9±1.1,24˚.11S±0˚.08×67˚.2W±0˚.1,h227km±12km, mb3.8/3,Md3.8(SJA),ML4.3(GUC),Error ellipse: s-maj=19.2km s-min=10.3km az=102.0*
*IDC **16** 15:51:53.9±1.4,23˚.90S×66˚.88W,h185km±12km,mb2.9/3, mbtmp3.7/9,Error ellipse: s-maj=22.3km s-min=16.5km az=17.0.*
*GUC **16** 15:51:54.2±0.7,23˚.90S×67˚.37W,h220km±5km,ML4.3*
ISC 16 15:51:53.3±0.6,24˚.08S±0˚.05×67˚.13W±0˚.06,h206km±8km, n89,σ1§27/101,mb3.0/4,12C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.48	319	P		Pn		15 52 28.1	+0.4
AF01	San Pedro de A	1.48	319	⇑*i*P		Pn		15 52 28.4	+0.7
AF01				*i* S		S		15 52 55.3	+1.3
LVC	Limon Verde	2.19	311	P		Pn		15 52 35.3	+0.6
	104nm,0.4s,baz=150,slow=6.7,SNR=254								
LVC				S		S		15 53 06.2	-0.1
	71nm,0.3s,baz=60,slow=20,SNR=26								
LVC	Limon Verde	2.19	311	⇑*i*P		Pn		15 52 35.2	+0.6
LVC				*i* S		S		15 53 06.2	-0.1
LVC	Limon Verde	2.19	311	*e*P		Pn		15 52 35.1	+0.5
PB15	IPOC Station P	2.31	291			Pn		15 52 36.6	+0.9
PB15	IPOC Station P	2.31	291	⇑*i*P		Pn		15 52 36.7	+0.9
PB15				*i* S		S		15 53 08.6	+0.3
PB15				IAML				15 53 13.2	
	comp=E,4μm,0.2s								
GO02	Mina Guanaco	2.49	244	Pn		Pn		15 52 38.4	+0.7
PB06	IPOC Station P	2.62	301	Pn		Pn		15 52 39.8	+0.7
PB06	IPOC Station P	2.62	301	⇑*i*P		Pn		15 52 39.7	+0.5
PB06				*i* S		S		15 53 14.2	-0.2
PB06				IAML				15 53 16.8	
	comp=E,612nm,0.4s								
PB09	IPOC Station P	2.99	319	Pn		Pn		15 52 43.8	+0.4
PB09	IPOC Station P	2.99	319	⇑*i*P		Pn		15 52 44.3	+1.0
PB09				*i* S		S		15 53 21.9	0.0
PB09				IAML				15 53 23.9	
	comp=N,218nm,0.4s								
PB14	IPOC Station P	3.04	259	Pn		Pn		15 52 44.1	+0.1
PB14	IPOC Station P	3.04	259	⇑*i*P		Pn		15 52 44.4	+0.4
PB14				*i* S		S		15 53 21.8	-1.2
PB14				IAML				15 53 23.5	
	comp=E,202nm,0.5s								
PB03	IPOC Station P	3.15	309	Pn		Pn		15 52 45.4	+0.3
PB03	IPOC Station P	3.15	309	⇑*i*P		Pn		15 52 45.5	+0.3
PB03				*i* S		S		15 53 24.2	-0.9
PB03				IAML				15 53 26.2	
	comp=E,363nm,0.4s								
PB10	IPOC Station P	3.19	279	Pn		Pn		15 52 46.2	+0.7
PB10	IPOC Station P	3.19	279	⇑*i*P		Pn		15 52 46.3	+0.9
PB10				*i* S		S		15 53 25.4	-0.3
PB10				IAML				15 53 28.0	
	comp=N,292nm,0.6s								
PB04	IPOC Station P	3.27	301	Pn		Pn		15 52 46.6	-0.1
PB04	IPOC Station P	3.27	301	⇑*i*P		Pn		15 52 47.0	+0.3
PB04				*i* S		S		15 53 26.8	-1.1
PB04				IAML				15 53 33.8	
	comp=N,315nm,0.5s								
AC02	Maricunga	3.29	213	Pn		Pn		15 52 47.1	0.0
PB07	IPOC Station P	3.45	312	Pn		Pn		15 52 49.0	+0.2
PB07	IPOC Station P	3.45	312	⇑*i*P		Pn		15 52 49.1	+0.2
PB07				*i* S		S		15 53 30.3	-1.5
PB07				IAML				15 53 31.5	
	comp=E,430nm,0.4s								
PB01	IPOC Station P	3.72	324	Pn		Pn		15 52 51.9	-0.1
PB01	IPOC Station P	3.72	324	⇑*i*P		Pn		15 52 51.9	-0.1
PB01				*i* S		S		15 53 35.5	-2.1
PB01				IAML				15 53 37.3	
	comp=N,208nm,0.7s								
PB02	IPOC Station P	3.75	317	Pn		Pn		15 52 51.9	-0.4
PB02	IPOC Station P	3.75	317	*e*P		Pn		15 52 52.5	+0.2
PB02				*i* S		S		15 53 35.9	-2.3
PB02				IAML				15 53 44.5	
	comp=E,292nm,0.3s								
AC01	Pan de Azucar	3.76	236	Pn		Pn		15 52 51.9	-0.4
PB08	IPOC Station P	4.34	334	Pn		Pn		15 53 00.2	+0.3
PB08	IPOC Station P	4.34	334	⇑*i*P		Pn		15 53 00.5	+0.5
PB08				*i* S		S		15 53 50.7	-1.3
PB08				IAML				15 53 55.9	
	comp=E,138nm,0.4s								
AC06	Mina Casimiro	4.37	221	Pn		Pn		15 52 59.1	-0.8
GO03	Copiap	4.48	218	Pn		Pn		15 53 00.4	-0.9
TA01	Diego Aracena	4.49	320	Pn		Pn		15 53 00.7	-0.7
GO01	Chusmiza	4.79	336	Pn		Pn		15 53 05.6	-0.1
PB11	IPOC Station P	4.89	331	Pn		Pn		15 53 05.5	-1.2
PSGCX	Pisagua	5.25	327	Pn		Pn		15 53 09.3	-1.9
AC04	Llanos de Chal	5.43	220	Pn		Pn		15 53 11.0	-2.2
MNMC	Minye Minye	5.43	335	Pn		Pn		15 53 13.0	-0.6
AC05	El Transito	5.51	210	Pn		Pn		15 53 13.6	-0.9
LCO	Las Campanas	5.86	212	Pn		Pn		15 53 17.6	-1.4
PB16	IPOC Station P	6.13	338	Pn		Pn		15 53 22.4	-0.5
PB12	IPOC Station P	6.20	331	Pn		Pn		15 53 21.4	-1.9
CO01	Juntas del Tor	6.44	204	Pn		Pn		15 53 26.6	+0.1
GO04	Tololo Observa	6.89	207	Pn		Pn		15 53 29.7	-2.6
CO03	El Pedregal	7.44	204	Pn		Pn		15 53 37.4	-1.9
CO06	Fray Jorge	7.69	210	Pn		Pn		15 53 41.0	-1.5
LPAZ	La Paz	7.80	353	P		Pn		15 53 45.0	+0.3
	comp=E,3.3nm,0.3s,baz=144,slow=4.8,SNR=19								
LPAZ				S		S		15 55 09.2	-4.1
	comp=E,2.3nm,0.6s,baz=77,slow=24,SNR=2.4								
LPAZ	La Paz	7.80	353	Pn		Pn		15 53 44.5	-0.1
CO02	Combarbal	7.88	205	Pn		Pn		15 53 42.5	-2.6
BBRB	Robore, Bolivi	8.94	51	*e*P		Pn		15 54 00.0	+1.2
CPUP	Villa Florida	9.16	106	P		Pn		15 53 58.2	-3.3
	comp=E,1.3nm,0.5s,baz=302,slow=14,SNR=3.1								
CPUP	Villa Florida	9.16	106	*e*P		P		15 54 09.5	-1.1
SIV	San Ignacio	9.85	36	P		Pn		15 54 08.0	-2.6
	comp=E,5.6nm,0.5s,baz=214,slow=12,SNR=28								
BO02	Sierra Bellavi	11.14	196	Pn		Pn		15 54 24.7	-2.4
PTLB	Pontes e Lacer	11.41	43	P		Pn		15 54 33.2	+2.6
PTLB	Pontes e Lacer	11.41	43	*e*P		Pn		15 54 30.0	-0.6
CRSM	Crissiumal (Br	12.27	109	*e*P		P		15 54 46.4	+0.8
RODS	Rosario do Sul	12.32	123	*e*P		P		15 54 46.6	+0.7
VILB	Vilhena	12.86	32	*e*P		Pn		15 54 44.1	-4.9
TRCB	Terra Rica	13.37	87	P		Pn		15 54 56.4	+1.1
TRCB	Terra Rica	13.37	87	*e*P		P		15 54 58.3	+0.5
ALGR	Alto Alegre (B	13.48	113	*e*P		P		15 54 59.1	+0.1
BI05	Punta Hualpn	13.66	201			Pn		15 54 57.2	-1.5
CPSB	Cacapava Do Su	13.71	120	*e*P		P		15 55 01.2	-0.2
PTGB	Pitanga	13.74	96	*e*P		P		15 55 02.9	+0.9
ITAB	Concordia	13.89	106	P		Pn		15 55 01.8	+0.2
ITAB	Concordia	13.89	106	*e*P		P		15 55 03.3	-0.2
PLTB	Pedras Altas	14.19	126	P		Pn		15 55 05.5	+0.2
PLTB	Pedras Altas	14.19	126	*e*P		P		15 55 06.7	-0.1
ETMB	Extrema	14.21	4	P		Pn		15 55 05.3	-0.3
ETMB	Extrema	14.21	4	*e*P		Pn		15 54 53.2	-12
TRQA	Tornquist	14.61	164	P		Pn		15 55 10.0	-0.4
CNLB	Canela	15.45	113	*e*P		P		15 55 21.7	+0.8
SAML	Samuel	15.51	15	P		P		15 55 21.1	-0.4
SAML					IAmb	IAmb		15 55 22.4	
	comp=E,3.8nm,0.7s								
FRTB	Fartura	16.11	91	*e*P		Pn		15 55 29.2	+0.5
TER01	Tubaro-SC	16.74	109	*e*P		P		15 55 35.3	+0.3
PLCA	Paso Flores	16.86	189	P		Pn		15 55 41.3	+3.8
	comp=E,1.7nm,0.8s,baz=15,slow=9.2,SNR=3.3								
BB19B	Bebedouro	17.44	84	*e*P		P		15 55 43.5	+0.8
PET01	Itanhaem-SP	18.12	95	*e*P		P		15 55 50.2	+0.1
VAO	Valinhos	18.52	91	*e*P		P		15 55 54.0	-0.5
PARB	Paraibuna	19.71	92	*e*P		P		15 56 07.3	0.0
BDFB	Brasilia	19.82	68	P		P		15 56 08.6	-0.1
	comp=Z,5.4nm,0.7s,baz=232,slow=13,SNR=6.0								
BDFB	Brasilia	19.82	68	P		P		15 56 08.4	-0.2
BDFB					IAmb	IAmb		15 56 26.5	
	comp=Z,9.6nm,1.3s								
AY02	Valle Explorad	22.89	191	P		P		15 56 36.2	-2.6
AY02					IAmb	IAmb		15 57 02.2	
	comp=Z,0.2nm,0.7s								
MALB	Monte Alegre	25.36	31	*e*P		P		15 56 49.8	-12
TXAR	Lajitas Array	63.67	325	P		P		16 02 04.9	+2.0
	comp=Z,0.2nm,0.7s,baz=134,slow=8.9,SNR=1.8 comp=Z,0.2nm,0.7s								
TORD	Torodi Ar. Bea	76.71	69	P		P		16 03 22.8	+0.7
	comp=Z,0.3nm,0.5s,baz=255,slow=6.5,SNR=2.6 comp=Z,0.3nm,0.5s								
PDAR	Pinedale Array	77.15	329	P		P		16 03 27.0	+2.7
	comp=Z,0.2nm,0.6s,baz=151,slow=8.1,SNR=2.0 comp=Z,0.2nm,0.6s								
MKAR	Makanchi Array	146.66	39	PKPbc		PKiKP		16 11 13.1	-0.1
	comp=Z,0.5nm,0.4s,baz=318,slow=1.9,SNR=1.5								

*IDC **16** 16:00:16.4±49.0,36˚.14N×22˚.23E,h0km,mb3.8/3, mbtmp3.8/3,MS3.6/1,Error ellipse: s-maj=968.3km s-min=58.1km az=36.0*
*ATH **16** 16:00:20.8,36˚.00N×22˚.01E,h28km±1km,ML3.0/9,Error ellipse: s-maj=4.8km s-min=1.3km az=37.0*
*THE **16** 16:00:21.7,36˚.04N×22˚.00E,h13km±1km,ML2.9/6,Error ellipse: s-maj=1.8km s-min=0.7km az=203.0*
ISC 16 16:00:18.3±1.5,35˚.98N±0˚.08×21˚.95E±0˚.08,h11km,n27, σ1§41/35,mb3.9/3,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTHR	Kythira	0.90	72	P		Pn		16 00 37.4	+0.5
KTHR				S		Sn		16 00 50.0	+0.2
	922nm,0.4s								
KTHR	Kythira	0.90	72	P		Pn		16 00 37.4	+0.5
KTHR				S		Sn		16 00 49.4	-0.5
KTHR					AML	AML		16 00 52.6	
	comp=N,6517μm,0.4s								
KTHR					AML	AML		16 00 56.7	
	comp=E,4351μm,0.4s								
PYL	PYLOS	0.93	350	P		Pn		16 00 38.3	+1.0
PYL				S		Sn		16 00 51.9	+1.3
	comp=E,1μm,0.6s								
PYL	PYLOS	0.93	350	P		Pn		16 00 38.4	+1.1
PYL				S		Sn		16 00 51.7	+1.1
PYL					AML	AML		16 00 59.6	
	comp=N,1371μm,0.4s								
PYL					AML	AML		16 01 00.5	
	comp=E,2894μm,0.7s								
KTHA	Kythira Island	0.94	73	P		Pn		16 00 38.3	+0.9
KTHA				S		Sn		16 00 51.9	+1.0
	comp=E,552nm,0.6s								
KTHA	Kythira Island	0.94	73	P		Pn		16 00 38.3	+0.9
KTHA					AML	AML		16 00 53.5	
	comp=N,888μm,0.7s								
KTHA					AML	AML		16 00 53.5	
	comp=E,1317μm,0.4s								
VLI	Velíai	1.08	47	P		Pn		16 00 40.2	+0.8
VLI				S		Sn		16 00 54.7	+0.3
	comp=E,680nm,0.7s								
VLI	Velíai	1.08	47	P		Pn		16 00 40.5	+1.1
VLI					AML	AML		16 00 59.4	
	comp=E,1352μm,0.8s								
VLI					AML	AML		16 00 59.5	
	comp=N,1364μm,0.6s								
ANKY	Antikythira Is	1.10	96	P		Pn		16 00 41.6	+2.0
ANKY				S		Sn		16 00 57.0	+2.2
	comp=N,508nm,0.6s								
ANKY	Antikythira Is	1.10	96	P		Pn		16 00 41.6	+2.0
ANKY				S		Sn		16 00 56.0	+1.1
ANKY					AML	AML		16 01 04.3	
	comp=N,814μm,0.5s								
ANKY					AML	AML		16 01 08.8	
	comp=E,1158μm,0.7s								
MNVA	Monemvasia	1.12	51	P		Pn		16 00 41.3	+1.3
ITM	Ithomi	1.20	359	P		Pg		16 00 42.2	+0.9
ITM				S		Sn		16 00 58.9	+1.6
	comp=E,568nm,0.4s								
ITM	Ithomi	1.20	359	P		Pg		16 00 42.6	+1.3
ITM					AML	AML		16 01 04.1	
	comp=N,1324μm,0.3s								
ITM					AML	AML		16 01 04.8	
	comp=E,888μm,0.3s								
IMMV	Iera Moni Meta	1.73	107	P		Pb		16 00 50.1	0.0
DRO	Drossia	1.98	354	P		Pb		16 00 54.6	+0.3
DRO					AML	AML		16 01 35.5	
	comp=N,528μm,0.4s								
DRO					AML	AML		16 01 37.6	
	comp=E,858μm,0.5s								
RLS	Riolos of Patr	2.11	350	P		Pb		16 00 56.4	-0.1
SERG	Sergoula	2.43	2	P		Pb		16 01 00.8	-1.2
EFP	Efpalio	2.44	359	P		Pb		16 01 01.4	-0.8
VIL2	Platees	2.46	25	P		Pn		16 00 60.0	+1.5
VIL2					AML	AML		16 01 43.6	
	comp=N,233μm,0.5s								
VIL2					AML	AML		16 01 48.6	
	comp=E,393μm,0.9s								
IDI	Anoyia	2.49	105	P		Pn		16 01 00.5	+1.7
ANX	Ano Chora	2.61	359	P		Pb		16 01 03.8	-1.3
ANX					AML	AML		16 01 54.5	
	comp=E,218μm,0.8s								
ANX					AML	AML		16 01 59.9	
	comp=N,240μm,0.7s								
DION	Dionisos Attik	2.62	37	P		Pn		16 01 03.0	+2.3
AGG	Agios Georgios	3.05	6	P		Pn		16 01 09.2	+2.7
DAVOX	Davos/Dischmat	14.07	324	LR		LR		16 11 44.6	
	comp=N,221nm,18.8s,baz=58,slow=49								
FINES	FINESS Array B	25.62	5	P		P		16 05 45.7	-1.7
	comp=N,2.9nm,0.9s,baz=165,slow=12,SNR=1.1 comp=N,2.9nm,0.9s								
ARCES	ARCESS Array B	33.67	2	P		P		16 06 57.0	-1.8
	comp=N,1.6nm,1.0s,baz=185,slow=10.0,SNR=0.7 comp=N,1.6nm,1.0s								
MKAR	Makanchi Array	45.51	57	P		P		16 08 35.3	-2.4
	comp=N,0.5nm,0.5s,baz=266,slow=8.3,SNR=8.7 comp=N,0.5nm,0.5s								

*MOS **16** 16:01:53.5±1.2,35˚.54N×140˚.23E,h55km,mb4.8/26,Error ellipse: s-maj=10.0km s-min=5.8km az=103.3*
*BJI **16** 16:01:54.5±0.0,35˚.74N×140˚.30E,h65km,mb4.5/32, mB4.9/16,Ms3.8/1,Ms7 3.6/1*
*JMA **16** 16:01:56.4±0.2,35˚.7N±0˚.5×140˚.2E±0˚.7,h66km±1km, MD4.2/40,MW4.3/40,CENTRAL CHIBA PREF*
JMA Felt II J1 at CENTRAL CHIBA PREF .
*NIED **16** 16:01:56.4,35˚.65N×140˚.16E,h66km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.17; Mθθ-0.34; Mφφ-1.82; Mrθ0.70; Mrφ0.27; Mθφ1.96; Fault plane solution: Mo2.88000×10¹⁵ NP1: φs160.00000°,δ25.00000°,λ63.00000°. NP2:φs10.00000°, δ68.00000°,λ102.00000°.*
*IDC **16** 16:01:57.5±1.1,35˚.52N×140˚.06E,h74km±10km,mb4.0/28, mbtmp4.3/30,MS3.0/3 Error ellipse: s-maj=13.8km s-min=6.3km az=71.0*

*NEIC **16** 16:01:57.3,35˚.58N×140˚.17E,h67km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.61; Mθθ0.28; Mφφ-1.88; Mrθ0.86; Mrφ0.07; Mθφ2.02; Fault plane solution: Mo2.82000×10¹⁵ NP1:φs157.76000°, δ23.27000°,λ52.64000°. NP2:φs17.49000°,δ71.70000°, λ104.63000°. Principal axes: T 2.7956, Plg61.0000°, Azm309.0000°; N 0.0430, Plg14.0000°, Azm193.0000°; P -2.8386, Plg25.0000°, Azm96.0000°;*
*NEIC **16** 16:01:57±2.2,35˚.60N±0˚.05×140˚.17E±0˚.08,h63km±6km, mb4.6/80,Mwr4.2/13 Error ellipse: s-maj=10.1km s-min=7.8km az=100.0*
ISC 16 16:01:55.5±0.8,35˚.58N±0˚.04×140˚.26E±0˚.04,h56km±7km, n270,σ1§49/252,mb4.5/85,9C-15D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.17	195	*i* P		Pn		16 02 07.3	+3.0
JCN	Nagara	0.17	195	A		A		16 02 07.3	
	comp=E,189nm,0.4s,comp=E,55nm,1.2s								
JSMT	Sammumatsuo	0.17	69	*i* P		Pn		16 02 07.1	+2.8
JSMT	Sammumatsuo	0.17	69	A		A		16 02 07.1	
	comp=E,69nm,2.0s,comp=E,61nm,0.6s								
TOK	Tokyo	0.42	285	⇓*i*P		Pn		16 02 08.3	+2.1
TOK	Tokyo	0.42	285	A		A		16 02 08.3	
	comp=E,87nm,2.7s,comp=E,60nm,1.1s								
JKUC	kamogawauchiur	0.42	186	A		A		16 02 08.8	
	comp=E,40nm,2.0s,comp=E,28nm,0.6s								
JIHU	Itakohorinouch	0.44	30	P		Pn		16 02 08.8	+2.2
JIHU	Itakohorinouch	0.44	30	A		A		16 02 08.8	
	comp=E,36nm,0.7s,comp=E,54nm,4.2s								
CHOJ	Inosi	0.51	76	A		A		16 02 09.6	
	comp=E,11nm,7.4s,comp=E,10.0nm,1.2s								
JYO	Yokosk	0.60	234	A		A		16 02 09.8	
	comp=E,62nm,0.3s,comp=E,64nm,0.6s								
TATJ	Tateyama 2	0.62	209	A		A		16 02 10.5	
	comp=E,30nm,0.8s,comp=E,28nm,1.5s								
JYT	Yasato	0.65	356	A		A		16 02 09.7	
	comp=E,25nm,0.3s,comp=E,19nm,0.3s								
JHYU	Hitachinakayam	0.80	19	A		A		16 02 11.9	
	comp=E,11nm,2.6s,comp=E,9.0nm,3.6s								
BSO3	Boso 3	0.81	165	*i* P		Pn		16 02 12.9	+2.3
JHU	Hanno	0.84	289	A		A		16 02 11.7	
	comp=E,7.0nm,0.9s,comp=E,8.0nm,0.6s								
JSGW	Sagamiharawaka	0.85	272	A		A		16 02 12.0	
	comp=E,12nm,0.7s,comp=E,12nm,0.6s								
JOD2	Odawara 2	1.00	252	⇓*i*P		Pn		16 02 14.2	+0.7
JOD2				⇓S		Sn		16 02 27.0	+0.2
JOD2	Odawara 2	1.00	252	A		A		16 02 14.2	
	comp=E,15nm,0.3s,comp=E,11nm,0.4s								
JAG	Ashikaga	1.06	323	⇓*i*P		Pn		16 02 14.6	+0.4
JAG				⇓S		Sn		16 02 28.2	+0.1
JAG	Ashikaga	1.06	323	A		A		16 02 14.6	
	comp=E,5.0nm,0.4s,comp=E,6.0nm,0.4s								
JIM2	Oshima 3	1.09	218	*i* P		Pn		16 02 15.1	+0.5
JIM2				S		Sn		16 02 29.4	+0.5
JIM2	Oshima 3	1.09	218	A		A		16 02 15.1	
	comp=E,23nm,1.1s,comp=E,19nm,0.9s								
BSO1	Boso 1	1.10	147	P		Pn		16 02 16.0	+1.8
BSO1				S		Sn		16 02 32.6	+4.5
JRY	Ryogami san	1.18	292	⇓*i*P		Pn		16 02 16.8	+1.0
JHTM	Izuhatsuma	1.19	239	A		A		16 02 17.1	
	comp=E,25nm,0.3s,comp=E,29nm,0.3s								
JTHY	Toshimahigashi	1.22	217	A		A		16 02 19.3	
	comp=E,9.0nm,2.6s,comp=E,16nm,1.0s								
JFNN	Fujinakano	1.34	254	⇓*i*P		Pn		16 02 18.8	+0.9
JFNN				⇓S		Sn		16 02 35.3	+0.6
JFNN	Fujinakano	1.34	254	A		A		16 02 18.8	
	comp=E,6.0nm,0.8s,comp=E,6.0nm,0.6s								
JYN	Shimob	1.40	267	⇓*i*P		Pn		16 02 19.4	+0.6
JYN				⇓*e*S		Sn		16 02 36.4	+0.2
JSB	Shiboa	1.41	349	A		A		16 02 19.4	
	comp=E,8.0nm,2.1s,comp=E,6.0nm,3.5s								
JIZS	Izushimoda	1.42	233	⇓*i*P		Pn		16 02 19.7	+0.7
JIZS				⇓S		Sn		16 02 36.7	+0.1
JIZS	Izushimoda	1.42	233	A		A		16 02 19.7	
	comp=E,6.0nm,1.0s,comp=E,5.0nm,0.3s								
JKT	Katashina	1.44	326	⇓*i*P		Pn		16 02 19.6	+0.3
JNIO	Niijimaoohara	1.46	214	A		A		16 02 21.4	
	comp=E,13nm,0.9s,comp=E,10.0nm,1.2s								
SHZ3	Shizuoka 3	1.75	254	A		A		16 02 24.4	
	comp=E,7.0nm,0.6s,comp=E,11nm,0.9s								
MJAR	Matsushiro Arr	1.92	301	P		Pn		16 02 26.6	+0.9
	138nm,0.4s,baz=100,slow=14,SNR=367						

	comp=Z,150nm,4.1s								
ZEA	**Zeya**		**20.32**	**337**	*e*P		**P**	**16 06 23.7**	**-2.9**
ZEA					pmax		pmax		
	comp=Z,20nm,0.6s								
SSLB	**Suanglung**		**20.44**	**240**	P		**P**	**16 06 26.7**	**-1.5**
SSLB					lAmb		lAmb	16 06 40.7	
	comp=Z,42nm,1.5s								
TPUB	**Ta-pu**		**20.98**	**240**	P		**P**	**16 06 33.9**	**-0.1**
TPUB					lAmb		lAmb	16 06 59.1	
	comp=Z,37nm,1.3s								
PETK	**Petropavlovsk-**		**21.41**	**30**	P		**P**	**16 06 39.8**	**+1.3**
	comp=Z,5.6nm,1.1s,baz=240,slow=8.0,SNR=1.7								
PETK	**Petropavlovsk-**		**21.41**	**30**	P		**P**	**16 06 39.3**	**+0.9**
HHC	**Hu-ho-hao-te**		**23.09**	**292**	*e*P		**P**	**16 06 57.1**	**+0.6**
HHC					pmax		pmax		
	comp=Z,32nm,0.9s								
HHC					pmax		pmax		
	comp=Z,210nm,5.7s								
MA2	**Magadan**		**24.97**	**13**	P		**P**	**16 07 14.4**	**+1.0**
	comp=Z,9.8nm,0.7s,baz=217,slow=9.3,SNR=4.5								
	comp=Z,9.8nm,0.7s								
MA2	**Magadan**		**24.97**	**13**	P		**P**	**16 07 13.6**	**+0.1**
ENH	**Enshi**		**26.30**	**267**	P		**P**	**16 07 22.9**	**-2.9**
ENH					lAmb		lAmb	16 07 25.8	
	comp=Z,7.8nm,0.7s								
YAK	**Yakutsk**		**27.30**	**349**	P		**P**	**16 07 33.8**	**-0.6**
	comp=Z,4.3nm,0.5s,baz=198,slow=20,SNR=5.0								
	comp=Z,4.3nm,0.5s								
YAK	**Yakutsk**		**27.30**	**349**	P		**P**	**16 07 33.9**	**-0.6**
YAK					lAmb		lAmb	16 07 37.1	
	comp=Z,8.5nm,0.7s								
YAK	**Yakutsk**		**27.30**	**349**	*ce*P		**P**	**16 07 35.5**	**+1.1**
YAK					pmax		pmax		
	comp=Z,36nm,2.5s								
SONM	**Songino Array**		**27.86**	**307**	P		**P**	**16 07 38.8**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=109,slow=9.0,SNR=10								
	comp=Z,1.5nm,0.6s								
SONM	**Songino Array**		**27.86**	**307**	P		**P**	**16 07 38.6**	**-1.1**
H11N2	**WAKE ISLAND Hy**		**28.27**	**117**	T		T	16 37 14.7	
	SNR=53								
H11N1	**WAKE ISLAND Hy**		**28.27**	**117**	T		T	16 37 09.6	
	baz=308,slow=74,SNR=53								
H11N3	**WAKE ISLAND Hy**		**28.29**	**117**	T		T	16 37 13.5	
	baz=205,slow=74,SNR=38								
SEY	**Seymchan**		**28.40**	**12**	P		**P**	**16 07 45.4**	**+1.1**
	comp=Z,9nm,0.8s,baz=180,slow=20,SNR=1.8								
	comp=Z,2.9nm,0.8s								
H11S1	**WAKE ISLAND Hy**		**28.91**	**119**	T		T	16 37 58.1	
	baz=312,slow=76,SNR=44								
H11S3	**WAKE ISLAND Hy**		**28.91**	**119**	T		T	16 37 53.7	
	baz=312,slow=76,SNR=31								
H11S2	**WAKE ISLAND Hy**		**28.93**	**119**	T		T	16 37 55.5	
	baz=312,slow=76,SNR=38								
GTA	**Gaotai**		**32.12**	**289**	*e*P		**P**	**16 08 18.4**	**+0.8**
GTA					pmax		pmax		
	comp=Z,3.0nm,0.6s								
PZH	**PanZhiHua**		**34.04**	**265**	P		**P**	**16 08 36.3**	**+1.9**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,110nm,4.9s								
BILL	**Bilibino**		**35.68**	**16**	*e*P		**P**	**16 08 48.1**	**+0.2**
BILL					*e*			16 11 11.0	
BILL					pmax		pmax		
	comp=Z,3.0nm,1.0s								
TIXI	**Tiksi**		**36.63**	**354**	P		**P**	**16 08 55.9**	**0.0**
	comp=Z,2.8nm,0.5s,baz=96,slow=0.1,SNR=26								
	comp=Z,2.8nm,0.5s								
TIXI	**Tiksi**		**36.63**	**354**	P		**P**	**16 08 56.0**	**+0.1**
TIXI					lAmb		lAmb	16 08 59.4	
	comp=Z,6.7nm,1.2s								
TIXI	**Tiksi**		**36.63**	**354**	*ce*P		**P**	**16 08 55.7**	**-0.2**
TIXI					pmax		pmax		
	comp=Z,2.0nm,0.6s								
SIJI	**Sorong**		**37.22**	**195**	LR		LR	16 22 57.9	
	comp=Z,37nm,18.1s,baz=226,slow=34								
TNCH	**TengChong**		**37.29**	**265**	P		**P**	**16 09 03.8**	**+1.4**
TNCH					pP		pP	16 09 19.4	+2.7
TNCH					pmax		pmax		
	comp=Z,6.0nm,0.7s								
CMAR	**Chiang Mai Arr**		**40.23**	**256**	P		**P**	**16 09 24.8**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=50,slow=7.6,SNR=4.1								
CMAR					PcP		**PcP**	**16 11 28.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=28,slow=2.1,SNR=3.4								
	comp=Z,0.5nm,0.3s								
DGZ	**Jazzator, Alta**		**40.50**	**307**	⇑*i*P		**P**	**16 09 29.9**	**+1.0**
DGZ					pmax		pmax		
	comp=Z,13nm,0.7s								
WMQ	**Urumqi**		**40.68**	**298**	*e*P		**P**	**16 09 31.9**	**+1.6**
WMQ					sP		sP	16 09 54.5	+3.1
WMQ					pmax		pmax		
	comp=Z,19nm,0.7s								
ZAA0	**Zalesovo Array**		**42.22**	**314**	P		**P**	**16 09 41.4**	**-1.3**
ZAA0					lAmb		lAmb	16 09 44.0	
	comp=Z,6.6nm,0.8s								
ZALV	**Zalesovo Beam**		**42.22**	**314**	P		**P**	**16 09 42.8**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=95,slow=7.4,SNR=21								
ZALV					PcP		**PcP**	**16 11 35.9**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=97,slow=1.8,SNR=7.0								
	comp=Z,4.3nm,0.6s								
ZALV	**Zalesovo Beam**		**42.22**	**314**	P		**P**	**16 09 42.4**	**-0.3**
ZALV	**Zalesovo Beam**		**42.22**	**314**	*i* P		**P**	**16 09 42.7**	**0.0**
ZALV					pmax		pmax		
	comp=Z,5.0nm,0.7s								
MK31	**Makanchi Array**		**44.11**	**303**	P		**P**	**16 09 58.3**	**+0.1**
MK31					lAmb		lAmb	16 09 59.2	
	comp=Z,7.9nm,1.1s								
MK31	**Makanchi Array**		**44.11**	**303**	P		**P**	**16 09 58.3**	**+0.1**
MK31					pmax		pmax		
	comp=Z,8.0nm,1.1s								
MKAR	**Makanchi Array**		**44.11**	**303**	P		**P**	**16 09 58.1**	**0.0**
	comp=Z,4.8nm,0.6s,baz=86,slow=9.8,SNR=24								
MKAR					PcP		**PcP**	**16 11 42.4**	**0.0**
	comp=Z,0.8nm,0.9s,baz=63,slow=1.0,SNR=2.0								
	comp=Z,4.8nm,0.6s								
MKAR	**Makanchi Array**		**44.11**	**303**	P		**P**	**16 09 58.0**	**-0.2**
NRIK	**Noril'sk**		**44.20**	**336**	P		**P**	**16 09 59.6**	**+1.2**
	comp=Z,4.4nm,0.5s,baz=92,slow=8.2,SNR=6.7								
	comp=Z,4.4nm,0.5s								
NRIK	**Noril'sk**		**44.20**	**336**	P		**P**	**16 09 59.8**	**+1.2**
NRIK					lAmb		lAmb	16 10 00.9	
	comp=Z,4.9nm,0.6s								
NRIK	**Noril'sk**		**44.20**	**336**	*ce*P		**P**	**16 09 58.4**	**-0.1**
NRIK					pmax		pmax		
	comp=Z,11nm,1.4s								
KURK	**Kurchatov**		**46.10**	**309**	P		**P**	**16 10 13.4**	**-0.4**
KURK	**Kurchatov**		**46.10**	**309**	*ce*P		**P**	**16 10 13.3**	**-0.5**
KURK					pmax		pmax		
	comp=Z,11nm,0.8s								
KURBB	**Kurchatov Arra**		**46.17**	**309**	PcP		**PcP**	**16 11 48.9**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=88,slow=2.6,SNR=3.8								
RAMN	**Ramite**		**46.18**	**275**	*e*P		**P**	**16 10 14.3**	**-0.8**
	comp=Z,25nm,0.7s								
JIRN	**Jiri**		**46.23**	**276**	*e*P		**P**	**16 10 15.6**	**0.0**
	comp=Z,26nm,0.9s								
GUN	**Gumba**		**46.38**	**276**	*e*P		**P**	**16 10 16.5**	**-0.2**
PKI	**Pulchoki**		**46.90**	**276**	*e*P		**P**	**16 10 20.2**	**-0.6**
	comp=Z,7.5nm,0.8s								
GKN	**Gorkha**		**47.35**	**277**	*e*P		**P**	**16 10 23.7**	**-0.4**
L19K	**White Mountain**		**47.64**	**35**	P		**P**	**16 10 25.5**	**-0.2**
L19K					lAmb		lAmb	16 10 58.0	
	comp=Z,11nm,1.4s								
DANN	**Dangsing**		**47.91**	**278**	*e*P		**P**	**16 10 28.8**	**+0.2**
	comp=Z,20nm,0.5s								
K20K	**Telida**		**48.05**	**34**	P		**P**	**16 10 31.3**	**+2.4**
J20K	**Nowinta River**		**48.07**	**32**	P		**P**	**16 10 29.7**	**+0.8**
J20K					lAmb		lAmb	16 11 11.4	
	comp=Z,8.9nm,1.4s								
IMAR	**Indian Mountai**		**48.38**	**30**	P		**P**	**16 10 31.1**	**-0.2**
M20K	**Styx River**		**48.44**	**36**	P		**P**	**16 10 34.0**	**+2.1**
M20K					lAmb		lAmb	16 11 18.1	
	comp=Z,7.0nm,1.1s								
H21K	**Melozitna Rive**		**48.74**	**30**	P		**P**	**16 10 36.2**	**+2.1**
H21K					lAmb		lAmb	16 10 41.1	
	comp=Z,7.4nm,1.4s								
PPLA	**Purkeypile**		**48.89**	**34**	P		**P**	**16 10 37.7**	**+2.2**
MTN	**Manton Dam**		**48.93**	**192**	P		**P**	**16 10 34.6**	**-1.4**
CAST	**Castle Rocks**		**48.95**	**33**	P		**P**	**16 10 38.0**	**+2.3**
BPAW	**Bear Paw Mtn.**		**49.45**	**33**	P		**P**	**16 10 41.4**	**+1.8**
MLY	**Manley**		**49.58**	**31**	P		**P**	**16 10 42.6**	**+2.1**
MLY					lAmb		lAmb	16 10 43.5	
	comp=Z,4.7nm,1.2s								
H23K	**Yukon River**		**50.09**	**30**	P		**P**	**16 10 46.5**	**+2.0**
H23K					lAmb		lAmb	16 11 11.1	
	comp=Z,7.7nm,1.3s								
I23K	**Minto, Yukon-K**		**50.16**	**31**	P		**P**	**16 10 46.4**	**+1.5**
TOLK	**Toolik Lake Re**		**50.19**	**27**	P		**P**	**16 10 44.9**	**-0.2**
TOLK					lAmb		lAmb	16 10 54.2	
	comp=Z,8.4nm,1.5s								
NEA2	**Nenana**		**50.29**	**32**	P		**P**	**16 10 46.5**	**+0.6**
NEA2					lAmb		lAmb	16 11 06.8	
	comp=Z,6.9nm,1.3s								
AAK	**Ala-Archa**		**50.37**	**299**	P		**P**	**16 10 46.3**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=57,slow=18,SNR=1.9								
	comp=Z,1.8nm,0.5s								
AAK	**Ala-Archa**		**50.37**	**299**	*ce*P		**P**	**16 10 47.7**	**+0.7**
AAK					pmax		pmax		
	comp=Z,4.0nm,1.2s								
MDM	**Murphy Dome**		**50.64**	**31**	P		**P**	**16 10 50.4**	**+1.8**
MDM					lAmb		lAmb	16 10 54.5	
	comp=Z,5.2nm,1.0s								
WRH	**Wood River Hil**		**50.71**	**32**	P		**P**	**16 10 50.7**	**+1.6**
WRH					lAmb		lAmb	16 11 19.7	
	comp=Z,6.7nm,1.2s								
SML	**Sawmill**		**50.72**	**36**	P		**P**	**16 10 50.6**	**+1.4**
SML	**Sawmill**		**50.72**	**36**	P		**P**	**16 10 50.6**	**+1.4**
SML					pmax		pmax		
	comp=Z,16nm,1.3s								
H24K	**Noodor Dome**		**50.78**	**30**	P		**P**	**16 10 51.8**	**+2.1**
H24K					lAmb		lAmb	16 11 11.2	
	comp=Z,9.5nm,1.4s								
PWL	**Port Wells**		**50.78**	**37**	P		**P**	**16 10 50.7**	**+1.0**
CCB	**Clear Creek Bu**		**50.83**	**32**	P		**P**	**16 10 52.0**	**+2.1**
BRVK	**Borovoye**		**50.92**	**313**	*i* P		**P**	**16 10 50.9**	**+0.1**
BRVK					pmax		pmax		
	comp=Z,3.0nm,0.9s								
POKR	**Poker Plat Res**		**50.98**	**31**	P		**P**	**16 10 50.9**	**-0.2**
POKR					lAmb		lAmb	16 11 18.3	
	comp=Z,11nm,1.3s								
DHY	**Denali Highway**		**51.09**	**34**	P		**P**	**16 10 53.4**	**+1.3**
DHY					lAmb		lAmb	16 11 23.5	
	comp=Z,11nm,1.4s								
SCM	**Sheep Creek Mo**		**51.19**	**35**	P		**P**	**16 10 53.7**	**+0.9**
SCM					lAmb		lAmb	16 11 33.5	
	comp=Z,9.9nm,1.1s								
SCM	**Sheep Creek Mo**		**51.19**	**35**	P		**P**	**16 10 53.7**	**+0.9**
SCM					pmax		pmax		
	comp=Z,10.0nm,1.1s								
IL31			**51.22**	**32**	P		**P**	**16 10 54.6**	**+1.8**
IL31					lAmb		lAmb	16 11 17.2	
	comp=Z,4.7nm,1.1s								
ILAR	**Eielson Array**		**51.22**	**32**	P		**P**	**16 10 53.9**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=271,slow=6.0,SNR=24								
ILAR					PcP		**PcP**	**16 12 06.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=282,slow=5.2,SNR=1.1								
	comp=Z,1.6nm,0.7s								
ILAR	**Eielson Array**		**51.22**	**32**	P		**P**	**16 10 52.6**	**-0.3**
PRP	**Porcupine Dome**		**51.76**	**31**	P		**P**	**16 10 58.9**	**+1.8**
PRP					lAmb		lAmb	16 11 20.9	
	comp=Z,8.5nm,1.4s								
KLU	**Klutina**		**51.89**	**36**	P		**P**	**16 10 58.4**	**+0.4**
BMAR	**Burnt Mountain**		**52.05**	**28**	P		**P**	**16 11 00.4**	**+1.3**
KNRA	**Kununurra**		**52.13**	**194**	P		**P**	**16 11 00.1**	**-0.1**
N25K	**Chitina, Valde**		**52.51**	**36**	P		**P**	**16 11 02.5**	**-0.2**
N25K					lAmb		lAmb	16 11 26.9	
	comp=Z,7.8nm,1.2s								
SCRK	**Sand Creek**		**52.53**	**33**	P		**P**	**16 11 03.5**	**+0.6**
SCRK					lAmb		lAmb	16 11 29.1	
	comp=Z,6.5nm,1.2s								
J26L	**Joseph Creek**		**52.67**	**32**	P		**P**	**16 11 05.6**	**+1.8**
J26L					lAmb		lAmb	16 11 11.5	
	comp=Z,6.7nm,1.4s								
L26K	**Log Cabin Wild**		**52.92**	**34**	P		**P**	**16 11 06.6**	**+1.0**
L26K					lAmb		lAmb	16 11 20.7	
	comp=Z,4.2nm,1.1s								
BERG	**Berg Lake**		**53.10**	**37**	P		**P**	**16 11 07.8**	**+0.9**
MCARA	**McCarthy VSAT**		**53.28**	**36**	P		**P**	**16 11 10.2**	**+1.9**
L27K	**Beaver Creek,**		**53.60**	**34**	P		**P**	**16 11 13.1**	**+2.5**
BCAR	**Beaver Creek A**		**53.62**	**34**	P		**P**	**16 11 12.4**	**+1.7**
M27K	**Edge Creek, AK**		**53.68**	**34**	P		**P**	**16 11 13.7**	**+2.4**
M27K					lAmb		lAmb	16 11 53.1	
	comp=Z,8.9nm,1.3s								
EPYK	**Eagle Plains**		**55.25**	**29**	P		**P**	**16 11 24.5**	**+2.0**
EPYK					lAmb		lAmb	16 11 49.5	
	comp=Z,8.2nm,1.1s								
WB0	**Warramunga Arr**		**55.32**	**187**	P		**P**	**16 11 22.9**	**-0.6**
WRAB	**Tennant Creek**		**55.49**	**187**	P		**P**	**16 11 24.6**	**-0.1**
WRAB					lAmb		lAmb	16 11 42.8	
	comp=Z,7.8nm,0.8s								
WRAB	**Tennant Creek**		**55.49**	**187**	P		**P**	**16 11 24.6**	**-0.1**
WRAB					pmax		pmax		
	comp=Z,8.0nm,0.8s								
WR0	**Warramunga Arr**		**55.50**	**187**	P		**P**	**16 11 24.1**	**-0.7**
WR0					lAmb		lAmb	16 11 48.0	
	comp=Z,8.9nm,0.9s								
WB2	**Warramunga Arr**		**55.50**	**187**	P		**P**	**16 11 24.4**	**-0.3**
WRA	**Warramunga Arr**		**55.50**	**187**	P		**P**	**16 11 24.4**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=0.6,slow=7.5,SNR=77								
	comp=Z,1.7nm,0.3s								
WRA	**Warramunga Arr**		**55.50**	**187**	P		**P**	**16 11 23.8**	**-0.9**
M30M	**Minto, Yukon**		**55.96**	**34**	P		**P**	**16 11 30.2**	**+2.6**
M30M					lAmb		lAmb	16 11 39.1	
	comp=Z,5.6nm,1.4s								
HYT	**Haines Junctio**		**56.02**	**36**	P		**P**	**16 11 30.5**	**+2.2**
HYT					lAmb		lAmb	16 12 10.5	
	comp=Z,4.1nm,0.8s								
INK	**Inuvik**		**56.10**	**27**	P		**P**	**16 11 29.9**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=1.5,slow=3.1,SNR=7.1								
	comp=Z,1.1nm,0.6s								
INK	**Inuvik**		**56.10**	**27**	P		**P**	**16 11 29.7**	**+1.2**
ARU	**Arti**		**56.83**	**319**	P		**P**	**16 11 33.9**	**0.0**
ARU	**Arti**		**56.83**	**319**	*di* P		**P**	**16 11 33.7**	**-0.2**
ARU					S		**S**	**16 19 25.5**	**+2.6**
ARU					pmax		pmax		
	comp=Z,9.0nm,0.6s								
FARO	**Faro, Yukon**		**57.60**	**34**	P		**P**	**16 11 41.1**	**+1.8**
A36M	**Sachs Harbour**		**57.95**	**21**	P		**P**	**16 11 43.5**	**+2.0**
A36M					lAmb		lAmb	16 11 44.2	
	comp=Z,4.7nm,0.7s								
ABKAR	**Akbulak array**		**58.16**	**311**	P		**P**	**16 11 43.2**	**-0.1**
ABKAR					lAmb		lAmb	16 11 44.2	
	comp=Z,6.3nm,1.0s								
AS31	**Alice Springs**		**59.23**	**187**	P		**P**	**16 11 50.2**	**-0.8**
ASAR	**Alice Springs**		**59.23**	**187**	P		**P**	**16 11 50.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=21,slow=10.0,SNR=28								
	comp=Z,0.9nm,0.5s								
ASAR	**Alice Springs**		**59.23**	**187**	P		**P**	**16 11 51.1**	**+0.1**
ASAR	**Alice Springs**		**59.23**	**187**	P		**P**	**16 11 51.1**	**+0.1**
MBWA	**Marble Bar**		**59.69**	**202**	P		**P**	**16 11 53.8**	**-0.3**
PSA00	**Pilbara Seismi**		**60.04**	**202**	P		**P**	**16 11 55.9**	**-0.7**
KIRV	**Kirov**		**60.84**	**323**	P		**P**	**16 12 01.9**	**+0.3**
	comp=Z,15nm,0.5s,baz=214,slow=4.9,SNR=4.5								
	comp=Z,15nm,0.5s								
KIRV	**Kirov**		**60.84**	**323**	*ce*P		**P**	**16 12 01.5**	**-0.1**
EUNU	**Eureka**		**61.76**	**8**	P		**P**	**16 12 07.2**	**-0.4**
EUNU					lAmb		lAmb	16 12 19.9	
	comp=Z,4.7nm,1.4s								
BELG	**Belogornoye**		**64.23**	**317**	P		**P**	**16 12 24.1**	**-0.1**
	comp=Z,20nm,0.9s,baz=0.7,slow=3.7,SNR=5.3								
	comp=Z,20nm,0.9s								
RES	**Resolute Bay**		**64.24**	**14**	P		**P**	**16 12 24.3**	**+0.3**
RES	**Resolute Bay**		**64.24**	**14**	P		**P**	**16 12 24.3**	**+0.3**
RES					pmax		pmax		
	comp=Z,4.0nm,1.1s								
ARCES	**ARCESS Array B**		**65.02**	**339**	P		**P**	**16 12 29.2**	**-0.1**
	comp=Z,9.6nm,1.1s,baz=54,slow=6.2,SNR=5.9								
	comp=Z,9.6nm,1.1s								
FORT	**Forrest**		**67.00**	**191**	P		**P**	**16 12 43.3**	**+1.1**
STKA	**Stephens Creek**		**67.12**	**179**	P		**P**	**16 12 41.4**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=343,slow=17,SNR=1.5								
	comp=Z,0.6nm,0.6s								
VRH	**Novokhopyorsk**		**68.03**	**318**	*e*P		**P**	**16 12 47.6**	**-1.1**
VRH					pmax		pmax		
	comp=Z,10.0nm,0.6s								
OBN	**Obninsk**		**68.70**	**323**	*e*P		**P**	**16 12 51.8**	**-1.0**
OBN					*e*			16 13 14.2	
OBN					*e*			16 15 24.4	
OBN					*e*PPP		PPP	16 17 06.8	
OBN					pmax		pmax		
	comp=Z,4.0nm,0.9s								
LPSR	**Galich'ya Gora**		**68.81**	**320**	*e*P		**P**	**16 12 51.4**	**-2.2**
LPSR					pmax		pmax		
	comp=Z,10.0nm,0.7s								
VORR	**Voronezh**		**69.15**	**319**	*e*P		**P**	**16 12 58.8**	**+3.1**
VORR					pmax		pmax		
	comp=Z,50nm,0.5s								
AKT	**Akhty**		**69.19**	**307**	*e*P		**P**	**16 12 55.8**	**-0.5**
AKT					*e*			16 13 19.4	
AKT					pmax		pmax		
	comp=Z,11nm,0.9s								
VSR	**Storozhevoye**		**69.41**	**319**	*e*P		**P**	**16 12 56.4**	**-0.9**
VSR					pmax		pmax		
	comp=Z,9.0nm,0.6s								
FIA1	**FINESS Array S**		**69.66**	**332**	P		**P**	**16 12 58.8**	**+0.2**
FINES	**FINESS Array B**		**69.66**	**332**	P		**P**	**16 12 58.5**	**-0.1**
	comp=Z,7.7nm,0.9s,baz=76,slow=5.4,SNR=10								
	comp=Z,7.7nm,0.9s								
FINES	**FINESS Array B**		**69.66**	**332**	P		**P**	**16 12 58.4**	**-0.3**
FINES	**FINESS Array B**		**69.66**	**332**	*i* P		**P**	**16 12 58.7**	**+0.1**
FINES					pmax		pmax		
	comp=Z,7.0nm,0.9s								
KBZ	**Khabaz**		**71.14**	**311**	P		**P**	**16 13 08.2**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=76,slow=2.3,SNR=7.4								
	comp=Z,5.0nm,0.9s								
KBZ	**Khabaz**		**71.14**	**311**	*ce*P		**P**	**16 13 08.6**	**+0.6**
KBZ					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KIV	**Kislovodsk**		**71.15**	**311**	*e*P		**P**	**16 13 09.3**	**+1.1**
KIV					pmax		pmax		
	comp=Z,15nm,1.1s								
AKASG	**Malin Array Be**		**74.87**	**322**	P		**P**	**16 13 29.6**	**-0.3**
	comp=Z,3.3nm,0.5s,baz=48,slow=5.9,SNR=29								
	comp=Z,3.3nm,0.5s								
AKASG	**Malin Array Be**		**74.87**	**322**	P		**P**	**16 13 29.4**	**-0.5**
AKBB	**Malin Array Si**		**74.87**	**322**	P		**P**	**16 13 29.3**	**-0.7**
AKBB					lAmb		lAmb	16 13 30.6	
	comp=Z,8.9nm,0.9s								
AKBB	**Malin Array Si**		**74.87**	**322**	*ce*P		**P**	**16 13 29.2**	**-0.7**
AKBB					pmax		pmax		
	comp=Z,6.0nm,0.5s								
NC204	**NORSAR Array S**		**75.12**	**337**	P		**P**	**16 13 31.2**	**-0.1**
NB201	**NORSAR Array S**		**75.13**	**337**	P		**P**	**16 13 31.3**	**0.0**
NB2	**NORSAR Subarra**		**75.16**	**337**	P		**P**	**16 13 31.6**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=40,slow=6.2								
NOA	**NORSAR Array B**		**75.16**	**337**	P		**P**	**16 13 31.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=52,slow=8.2,SNR=5.5								
	comp=Z,0.7nm,0.4s								
LRM	**Limekiln Ridge**		**75.84**	**44**	P		**P**	**16 13 37.9**	**+1.9**
BOZ	**Bozeman (W)**		**76.44**	**43**	P		**P**	**16 13 41.2**	**+2.0**
BOZ	**Bozeman (W)**		**76.44**	**43**	P		**P**	**16 13 41.2**	**+2.0**
BOZ					pmax		pmax		
	comp=Z,3.0nm,0.9s								
NVAR	**Mina Array Bea**		**76.61**	**52**	P		**P**	**16 13 41.6**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=295,slow=6.0,SNR=5.2								
	comp=Z,0.7nm,0.7s								
BUR08	**Bucovina Ar. S**		**78.85**	**321**	P		**P**	**16 13 53.5**	**+0.9**
BURAR	**Bucovina Array**		**78.86**	**321**	P		**P**	**16 13 53.3**	**+0.7**
BURAR	**Bucovina Array**		**78.86**	**321**	P		**P**	**16 13 53.3**	**+0.7**
BURAR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
BW06	**Boulder Array**		**79.35**	**45**	P		**P**	**16 13 56.6**	**+1.1**
PD31	**Pinedale Array**		**79.35**	**45**	P		**P**	**16 13 56.7**	**+1.2**
PDAR	**Pinedale Array**		**79.35**	**45**	P		**P**	**16 13 57.0**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=253,slow=1.1,SNR=14								
	comp=Z,1.1nm,0.6s								
PDAR	**Pinedale Array**		**79.35**	**45**	P		**P**	**16 13 57.3**	**+1.8**
KOLS	**Kolonicke sedl**		**79.44**	**324**	*e*P		**P**	**16 13 56.4**	**+0.8**
KOLS	**Kolonicke sedl**		**79.44**	**324**	*e*P		**P**	**16 13 56.4**	**+0.8**
STHS	**Stebnicka Huta**		**79.60**	**325**	*e*P		**P**	**16 13 58.5**	**+2.1**
STHS	**Stebnicka Huta**		**79.60**	**325**	*e*P		**P**	**16 13 58.6**	**+2.1**
CRVS	**Cervenica-Dubn**		**79.85**	**324**	*e*P		**P**	**16 13 59.2**	**+1.3**
CRVS	**Cervenica-Dubn**		**79.85**	**324**	*e*P		**P**	**16 13 59.2**	**+1.3**
RAYN	**Ar Rayn**		**80.33**	**292**	P		**P**	**16 14 01.2**	**+0.2**
RAYN					lAmb		lAmb	16 14 01.9	

KUZ	Kuaotunu	6.31	22	P	Pn	16 04 07.9	+1.1

IDC 16 16:05:36.4±7.4, 8°52N×138°48E, h0km, mb3.6/4, mbtmp3.8/5, ML4.4/1, MS3.0/2, Error ellipse: s-maj=204.9km s-min=32.0km az=167.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	8.04	51	Pn	Pn	16 07 35.2	+0.7
	5.6nm,0.3s,baz=254,slow=22,SNR=2.1 38nm,0.6s						
SIJI	Sorong	11.78	218	LR	LR	16 11 59.5	
	comp=Z,67nm,19.9s,baz=290,slow=32						
DAV	Davao City (W)	12.86	264	LR	LR	16 13 13.0	
	comp=Z,65nm,18.4s,baz=76,slow=36						
HNR	Honiara	27.84	129	LR	LR	16 20 41.8	
	comp=Z,1µm,19.4s,baz=171,slow=32						
H11S3	WAKE ISLAND Hy	29.12	67	T	T	16 41 59.4	
	baz=253,slow=74,SNR=12						
H11S1	WAKE ISLAND Hy	29.14	67	T	T	16 41 57.8	
	baz=253						
H11S2	WAKE ISLAND Hy	29.14	67	T	T	16 41 58.7	
	baz=253,slow=74,SNR=14						
CMAR	Chiang Mai Arr	39.61	289	P	P	16 13 10.1	+0.1
	0.7nm,0.8s,baz=93,slow=7.6,SNR=6.9 0.7nm,0.8s						
MKAR	Makanchi Array	60.98	319	P	P	16 15 51.7	0.0
	0.6nm,0.7s,baz=108,slow=7.8,SNR=4.6 0.6nm,0.7s						
KURBB	Kurchatov Arra	64.60	322	P	P	16 16 15.4	-0.2
	0.4nm,0.9s,baz=99,slow=5.8,SNR=2.5 0.4nm,0.9s						
ILAR	Eielson Array	75.80	25	P	P	16 17 23.9	-0.1
	0.5nm,0.8s,baz=242,slow=5.8,SNR=7.1 0.5nm,0.8s						

IDC ***16*** *16:12:22.6±2.0, 37°.40N×56°.59E, h0km, mb3.2/5, mbtmp3.4/7, ML3.2/2, Error ellipse: s-maj=39.2km s-min=14.4km az=178.0*

TEH ***16*** *16:12:24.3, 37°.38N×56°.88E, h8km, ML3.5*

ISC 16 16:12:24.3±0.7, 37°.43N±0°.04×56°.89E±0°.03, h10km, n58, σ2°63/58, mb3.5/3, 2C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	Bojnurd	0.49	57	ePg	Pb	16 12 36.1	+0.9
MRVT	Maraveh tapeh	0.68	290	ePg	Pb	16 12 38.9	+0.6
ISFR	Sfrayin	0.96	112	ePg	Pb	16 12 43.5	+0.2
ISFR				e		16 13 22.4	
	comp=Z,11µm,0.5s						
GEYT	Alibeck	1.10	62	Pg	Pn	16 12 47.1	+1.3
	comp=Z,33nm,0.3s,baz=251,slow=15,SNR=197						
GEYT				Lg	Lg	16 13 04.1	
	comp=Z,78nm,0.3s,baz=232,slow=35,SNR=11						
IMND	Minoodasht	1.19	262	ePg	Pg	16 12 48.5	+1.3
IMND				e		16 13 11.0	
	comp=Z,12µm,0.3s						
IEMG	Emamgholi	1.41	90	ePg	Pg	16 12 51.7	+0.4
IEMG				e		16 13 18.7	
	comp=Z,7µm,0.4s						
SHRO	Shahrood	1.60	206	ePn	Pb	16 12 53.5	-0.5
IAKL	Akhelmad	1.71	118	ePn	Pg	16 12 56.7	-0.4
IAKL				e		16 13 05.3	
	comp=Z,4µm,0.2s						
IPAY	Payeh	1.95	119	ePn	Pg	16 13 01.0	-0.8
IPAY				e		16 13 41.7	
	comp=Z,3µm,0.5s						
IKRD	Kardeh	2.20	106	e		16 13 40.0	
	comp=Z,4µm,1.0s						
IKRD				ePn	Pb	16 13 04.7	+0.3
IMOG	Moghan	2.37	123	e		16 13 44.9	
	comp=Z,2µm,0.7s						
IMOG				ePn	Pb	16 13 06.7	-0.6
IGLO	Ghaloghah	2.62	250	ePn	Pb	16 13 09.9	-1.5
TBHD	Torbat heydari	2.76	136	ePn	Pb	16 13 11.6	-2.3
TBHD				e		16 14 06.1	
	comp=Z,1µm,0.9s						
IMYA	Miami	2.80	112	ePn	Pb	16 13 12.6	-1.9
IANJ	Anjilo	3.09	232	ePn	Pb	16 13 16.0	-3.6
JRKH	Jarkhoshk	3.17	118	ePn	Pb	16 13 17.0	+2.6
ISHM	Shahmirzad	3.31	242	ePn	Pb	16 13 19.7	-3.7
ISHM				e		16 14 17.6	
	comp=Z,2µm,0.4s						
TNSJ	Nastanj	3.46	184	ePn	Pn	16 13 20.6	+2.2
TNSJ				e		16 14 35.9	
	comp=Z,1µm,0.7s						
TBJM	Torbat-e-JAM	3.52	127	ePn	Pn	16 13 22.5	+3.3
TBJM				e		16 13 36.9	
	comp=Z,1µm,0.4s						
ILAS	Lasjerd	3.77	238	ePn	Pn	16 13 25.5	+2.8
ILAS				e		16 13 40.6	
	comp=Z,880nm,0.5s						
TABS	Tabas	3.77	177	ePn	Pn	16 13 25.8	+3.1
IFIR	Firoozkooh	3.78	243	ePn	Pn	16 13 26.0	+3.1
IFIR				e		16 13 42.7	
	comp=Z,759nm,0.4s						
TKDS	Koohdasht(Taba	3.81	177	ePn	Pn	16 13 25.7	+2.5
TKDS				e		16 14 33.8	
	comp=Z,765nm,0.8s						
IPRN	Peran	3.84	253	ePn	Pn	16 13 26.6	+3.0
IDMV	Damavand	4.33	246	ePn	Pn	16 13 33.0	+2.6
IDMV				e		16 14 56.7	
	comp=Z,577nm,0.8s						
AFRZ	Afriz	4.36	156	ePn	Pn	16 13 33.9	+3.2
TPRV	Parvadeh(Tabas	4.39	182	ePn	Pn	16 13 33.9	+2.7
TPRV				e		16 15 11.1	
	comp=Z,486nm,0.6s						
SHRT	Shahrakht	4.68	143	ePn	Pn	16 13 37.2	+2.0
KLST	Kelardasht - M	4.75	261	ePn	Pn	16 13 39.0	+2.7
ITEG	Tejag	4.77	161	ePn	Pn	16 13 39.5	+3.0
IMON	Monand	4.80	151	ePn	Pn	16 13 40.3	+3.4
IVRN	Varamin	4.83	241	ePn	Pn	16 13 40.5	+3.4
ISFB	Sefidab	4.86	232	ePn	Pn	16 13 39.7	+2.1
ISFB				e		16 14 05.3	
	comp=Z,228nm,0.6s						
CHTH	Charan	4.87	254	ePn	Pn	16 13 41.1	+3.2
ANAR	Anarak	4.95	212	ePn	Pn	16 13 41.3	+2.4
QALM	Alamut, Qazvin	5.10	261	ePn	Pn	16 13 43.6	+2.6
KRSH	Karshahi	5.18	230	ePn	Pn	16 13 44.5	+2.4
YZKH	Yazd	5.37	201	ePn	Pn	16 13 47.1	+2.5
GHVR	GHOM	5.41	239	ePn	Pn	16 13 48.8	+3.7
ICHK	Chekchek	5.56	202	ePn	Pn	16 13 49.6	+2.3
GIDE	GILAN DEYLAMAN	5.59	267	ePn	Pn	16 13 50.2	+2.4
NASN	Na'in	5.70	217	ePn	Pn	16 13 51.5	+2.1
BSRN	Basiran	5.75	161	ePn	Pn	16 13 52.6	+2.7
IZEF	Zefreh	5.86	221	ePn	Pn	16 13 54.5	+3.0
IKLH	Kolahrood	5.97	228	ePn	Pn	16 13 55.8	+2.8
QSDN	Sirdan	6.24	264	ePn	Pn	16 14 00.3	+3.6
NHDN	Nehbandan	6.56	156	ePn	Pn	16 14 04.0	+3.0
ZNJK	Zanjan	6.60	266	ePn	Pn	16 14 05.0	+3.3
IRAM	Ramesheh	6.72	215	ePn	Pn	16 14 06.1	+2.8
AB31	Akbulak array	12.03	10	⇑P	Pn	16 15 17.2	+1.4
	comp=Z,0.3nm,0.4s,baz=185,slow=12,SNR=11						
AB31				⇓S	Sn	16 17 24.6	-5.3
	comp=Z,9.2nm,1.0s,baz=189,slow=23						
KBZ	Khabaz	12.35	305	Pn	Pn	16 15 16.8	-3.4
	comp=Z,0.2nm,0.3s,baz=86,slow=12,SNR=1.3 comp=Z,0.4nm,0.3s						
AKTO	Aktyubinsk	13.03	3	⇓P	Pn	16 15 31.0	+1.6
	comp=Z,3.1nm,1.4s						
AKTO				⇑S	Sn	16 17 49.6	-4.7
	comp=Z,3.3nm,1.1s						
BVAR	Borovoye Array	18.22	27	P	P	16 16 38.3	+1.0
	comp=Z,0.1nm,0.3s,baz=209,slow=9.4,SNR=13 comp=Z,2.7nm,0.7s						
KURBB	Kurchatov Arra	20.30	43	P	Pn	16 17 03.6	+1.4
	comp=Z,0.5nm,0.7s,baz=242,slow=11,SNR=2.7 comp=Z,0.5nm,0.7s						
MKAR	Makanchi Array	20.96	55	P	Pn	16 17 10.8	+0.8
	comp=Z,1.0nm,0.7s,baz=239,slow=8.6,SNR=7.7 comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	23.73	313	P	P	16 17 35.2	-1.3
	comp=Z,0.1nm,0.3s,baz=111,slow=12,SNR=1.1 comp=Z,0.1nm,0.3s						
ZALV	Zalesovo Beam	25.33	40	P	P	16 17 52.6	+1.5
	comp=Z,0.5nm,0.5s,baz=253,slow=8.9,SNR=2.4 comp=Z,0.5nm,0.5s						
CMAR	Chiang Mai Arr	41.28	105	P	P	16 20 11.1	+1.1
	comp=Z,0.3nm,0.3s,baz=305,slow=8.7,SNR=1.0 comp=Z,0.3nm,0.3s						

MAN 16 16:28:38.9, 13°.55N×120°.74E, h110km, mb3.9, ML2.7, MS2.3, 7C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.51	291	⇑eP	Pn	16 28 57.4	+1.6
TGY	Tagaytay City	0.58	20	⇑iP	Pn	16 28 58.1	+1.6
TGY				eS	Sn	16 29 14.1	+4.5
MACP	Maragondon, Ca	0.71	359	⇑eP	Pn	16 28 58.7	+1.3
MACP				eS	Sn	16 29 13.8	+2.5
LQP	Lukban	0.96	54	⇑eP	Pn	16 29 01.7	+1.8
BUSP	Coron	1.62	199	⇑eP	Pn	16 29 08.3	+1.0
BUSP				eS	Sn	16 29 30.0	+1.2
OTRP	Odiongan	1.72	133	⇑eP	Pn	16 29 09.2	+0.7
OTRP				eS	Sn	16 29 31.7	+0.8
SMPP	San Manuel, Pa	2.58	359	⇑eP	Pn	16 29 19.9	+0.4

ISC 16 16:31:53.7±1.3, 41°.15S±0°.05×174°.03E±0°.04, h48km±10km, n35, σ1°916/34, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	Tory Channel	0.20	107	P	Pn	16 32 01.7	0.0
TUWZ	Tuamarina	0.28	193	P	Pn	16 32 02.3	-0.1
DUWZ	D'Urville Isla	0.36	347	P	Pn	16 32 02.4	-0.8
NNZ	Nelson	0.46	262	P	Pn	16 32 04.1	-0.6
BSWZ	Blackbirch Sta	0.57	191	P	Pn	16 32 06.0	+0.3
WEL	Wellington	0.57	104	P	Pn	16 32 05.7	-0.1
CMWZ	Cape Campbell	0.61	167	P	Pn	16 32 07.3	+1.0
KIW	Kapiti Island	0.73	67	P	Pn	16 32 07.5	-0.2
CAW	Cannon Point	0.79	87	P	Pn	16 32 07.9	-0.5
TKNZ	Takaka Hill	0.81	278	P	Pn	16 32 08.2	-0.6
OGWZ	Otaki Gorge	0.93	69	P	Pn	16 32 09.9	-0.5
MSWZ	Moikau Station	0.96	106	P	Pn	16 32 10.1	-0.7
MRNZ	Matariki Terra	0.99	255	P	Pn	16 32 11.0	-0.2
PLWZ	Palliser	1.01	115	P	Pn	16 32 10.6	-1.0
THZ	Tophouse	1.04	234	P	Pn	16 32 10.6	-1.3
PAWZ	Paruwai Farm	1.08	103	P	Pn	16 32 13.5	+1.0
MTW	Mount Morrison	1.11	91	P	Pn	16 32 11.6	-1.3
HOWZ	Holdsworth Sta	1.16	78	P	Pn	16 32 12.3	-1.2
QRZ	Quartz Range	1.26	88	P	Pn	16 32 13.2	-0.5
MRZ	Mangatainoka R	1.27	68	P	Pn	16 32 13.9	-1.2
TRWZ	Traveller	1.28	102	P	Pn	16 32 14.1	-1.0
TMWZ	Te Maipa	1.41	89	P	Pn	16 32 15.9	-1.0
TIWZ	Tintock	1.46	76	P	Pn	16 32 15.9	-1.7
POWZ	Post Office Ro	1.52	61	P	Pn	16 32 20.4	+1.9
PRWZ	Pori Road	1.59	69	P	Pn	16 32 17.9	-1.5
BFZ	Birch Farm	1.75	75	P	Pn	16 32 19.4	-2.1
DSZ	Dennistion Nort	1.77	250	P	Pn	16 32 21.3	-0.6
TSZ	Takapari Road	1.83	54	P	Pn	16 32 24.4	+1.6
DVHZ	Dannevirke	1.84	63	P	Pn	16 32 20.7	-2.1
NMHZ	Naumai	2.96	47	P	Pn	16 32 40.5	+2.2
MUGZ	Murupara	3.41	39	P	Pn	16 32 44.7	+0.4
FOZ	Fox Glacier	3.92	231	P	Pn	16 32 51.9	+0.6
JCZ	Jackson Bay	4.84	231	P	Pn	16 33 03.7	-0.4
ASAR	Alice Springs	37.71	285	P	P	16 39 11.8	+7.0
	0.5nm,0.7s,baz=112,slow=7.2,SNR=9.1 0.5nm,0.7s						
WRA	Warramunga Arr	39.74	290	P	P	16 39 22.1	+0.3
	0.3nm,0.3s,baz=115,slow=8.1,SNR=16 0.3nm,0.3s						

IDC ***16*** *16:36:01.1±4.7, 33°.48S×178°.85W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=199.1km s-min=55.1km az=161.0*

WEL ***16*** *16:36:43.3, 36°S×71°×17°E±99°, h142km±35km, M3.2/6, MLv3.2/6, Error ellipse: s-maj=7.1km s-min=0.9km az=97.4*

ISC 16 16:36:02.5±2.6, 33°.9S±0°.2×178°.3W±0°.3, h35km, n18, σ1°15/18, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	Pakihiroa	4.94	216	P	Pn	16 37 13.9	-0.4
HAZ	Te Kaha	4.98	219	P	Pn	16 37 15.9	+1.2
PUZ	Puketiti	5.00	213	P	Pn	16 37 16.5	+1.4
RUGZ	Raukumara Rang	5.20	218	P	Pn	16 37 14.9	-2.9
TWGZ	Tauwhareparae	5.21	214	P	Pn	16 37 19.5	+1.5
CNGZ	Carnagh Statio	5.36	211	P	Pn	16 37 19.0	-1.1
MWZ	Matawai	5.56	216	P	Pn	16 37 22.6	-0.1
URZ	Urewera	5.71	219	P	Pn	16 37 25.0	+0.2
OPRZ	Ohinepanea	5.73	225	P	Pn	16 37 26.5	+1.4
RAGZ	Rawiri	5.74	216	P	Pn	16 37 25.8	+0.6
RIGZ	Rimuhau	5.74	213	P	Pn	16 37 25.8	+0.5
KNZ	Kokohu	6.04	211	P	Pn	16 37 28.6	-0.7
RTZ	Ruatahuna	6.05	218	P	Pn	16 37 29.6	+0.1
MUGZ	Murupara	6.05	220	P	Pn	16 37 28.7	-0.8
MHGZ	Mahia Peninsul	6.05	209	P	Pn	16 37 29.9	+0.4
ASAR	Alice Springs	42.80	271	P	P	16 43 56.7	-0.3
	1.0nm,0.7s,baz=114,slow=7.6,SNR=22 1.0nm,0.7s						
WRA	Warramunga Arr	44.10	276	P	P	16 44 07.1	-0.5
	0.7nm,0.3s,baz=117,slow=8.0,SNR=33 0.7nm,0.3s						
FINES	FINESS Array B	148.33	338	PKPbc	PKiKP	16 55 46.4	+0.5
	2.0nm,0.7s,baz=27,slow=2.1,SNR=7.4						

NOU ***16*** *16:51:30.1, 42°.53S×173°.89E, h2km, MLv4.3/10, South Island, New Zealand*

WEL ***16*** *16:51:33.0±0.5, 42°S±3°×17°4E±°, h8km±3km, M3.6/27, ML3.9/12, MLv3.6/27, Error ellipse: s-maj=0.0km s-min=0.0km az=125.6*

ISC 16 16:51:31.0±1.2, 42°.45S±0°.04×173°.83E±0°.05, h12km±10km, n62, σ0°99/61, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.22	278	P	Pg	16 51 35.9	+0.2
KHZ	Kahutara	0.22	278	P	Pg	16 51 35.9	+0.2
KHZ				S	Sg	16 51 38.6	-0.3
BSWZ	Blackbirch Sta	0.73	3	P	Pg	16 51 45.6	+0.4
CMWZ	Cape Campbell	0.75	22	P	Pb	16 51 48.7	+2.7
GVZ	Greta Valley S	0.79	228	P	Pb	16 51 48.3	+1.8
THZ	Tophouse	0.97	314	P	Pg	16 51 48.9	-0.8
TUWZ	Tuamarina	1.02	5	P	Pg	16 51 50.9	+0.3
AMCZ	Amberley	1.13	230	P	Pg	16 51 53.0	+0.2
LTZ	Lake Taylor	1.20	253	P	Pg	16 51 53.7	-0.4
NNZ	Nelson	1.27	344	P	Pg	16 51 54.4	-1.0
MRNZ	Matariki Terra	1.32	322	P	Pb	16 51 55.3	-0.3
PLWZ	Palliser	1.38	51	P	Pn	16 51 56.2	+0.2
OKCZ	Okains Bay	1.40	204	P	Pn	16 51 56.8	+0.6
MSWZ	Moikau Station	1.48	46	P	Pn	16 51 57.4	0.0
MQZ	McQueen's Vall	1.53	214	P	Pn	16 51 57.6	-0.4
TKNZ	Takaka Hill	1.56	335	P	Pn	16 51 59.0	+0.6
AKCZ	Akaroa Harbour	1.58	205	P	Pn	16 51 59.0	+0.2
OXZ	Oxford	1.58	236	P	Pn	16 51 58.2	-0.6
PAWZ	Paruwai Farm	1.60	49	P	Pn	16 51 58.8	-0.2
DSZ	Dennistion Nort	1.66	294	P	Pn	16 52 00.2	+0.2
TRWZ	Traveller	1.74	54	P	Pn	16 52 00.6	-0.4
RAKZ	Rakaia	1.78	224	P	Pn	16 52 01.2	-0.4
INZ	Inchbonnie	1.79	260	P	Pn	16 52 01.9	+0.3
QRZ	Quartz Range	1.89	328	P	Pn	16 52 04.1	+1.0
QRZ	Quartz Range	1.89	328	P	Pn	16 52 04.1	+1.0
MHCZ	Mount Hutt	1.98	236	P	Pn	16 52 03.6	-0.7
WACZ	Wakanui South	2.09	224	P	Pn	16 52 05.6	-0.1
WVZ	Waitaha Valley	2.36	254	P	Pn	16 52 09.9	+0.4
RPZ	Rata Peaks	2.40	237	P	Pn	16 52 09.7	-0.3
RPZ	Rata Peaks	2.40	237	P	Pn	16 52 09.4	-0.6
ARCZ	Arundel	2.45	231	P	Pn	16 52 10.3	-0.5
BFZ	Birch Farm	2.53	47	P	Pn	16 52 11.3	-0.5
GCSZ	Gaunt Creek Bo	2.72	250	P	Pn	16 52 15.0	+0.6
TMZ	Timaru	2.83	226	P	Pn	16 52 15.7	-0.2
FOZ	Fox Glacier	3.14	248	P	Pn	16 52 21.0	+0.8
KHEZ	Kahui Hut	3.15	3	P	Pn	16 52 22.5	+2.0
KHEZ	Kahui Hut	3.15	3	P	Pb	16 52 25.1	-1.9
NBEZ	Newall Road No	3.18	1	P	Pb	16 52 25.6	-1.7
NEZ	North Egmont	3.18	4	P	Pb	16 52 27.1	-0.3
PKE	Pukeiti	3.25	2	P	Pb	16 52 26.7	-1.9
LBZ	Lake Benmore	3.29	233	P	Pn	16 52 22.2	-0.1
MOVZ	Moawhango	3.37	26	P	Pb	16 52 29.9	-0.8
WNVZ	Wahianoa	3.39	24	P	Pb	16 52 30.8	-0.3
VRZ	Vera Road	3.39	12	P	Pn	16 52 25.5	+1.8
TRVZ	Turoa	3.40	23	P	Pn	16 52 29.5	+5.5
FWVZ	Far West T-bar	3.44	23	P	Pb	16 52 30.5	-1.5
ODZ	Otahua Downs	3.47	221	P	Pn	16 52 24.7	-0.1
ODZ	Otahua Downs	3.47	221	P	Pn	16 52 24.5	-0.3
TWVZ	Taurewa	3.59	20	P	Pn	16 52 26.9	+0.4
TMVZ	Te Maari	3.62	24	P	Pb	16 52 33.9	-1.1
HIZ	Hauiti	4.01	12	P	Pn	16 52 34.2	+2.1
HIZ	Hauiti	4.01	12	P	Pn	16 52 34.4	+2.3
JCZ	Jackson Bay	4.03	244	P	Pn	16 52 32.8	+0.3
JCZ	Jackson Bay	4.03	244	P	Pn	16 52 32.6	0.0
EAZ	Earnscleugh	4.29	228	P	Pn	16 52 35.5	-0.6
TUZ	Tuapeka	4.63	219	P	Pn	16 52 40.6	0.0
MLZ	Mavora Lakes	5.05	233	P	Pn	16 52 45.5	-1.1
SYZ	Scrubby Hill	5.29	218	P	Pn	16 52 50.0	+0.3
SYZ	Scrubby Hill	5.29	218	P	Pn	16 52 48.5	-1.3
AWAZ	Awhitu Peninsu	5.41	7	P	Pn	16 52 52.8	+1.3
MKAZ	Moumakai	5.43	11	P	Pn	16 52 52.2	+0.5
CTZ	Chatham Island	7.11	104	P	Pn	16 53 14.4	-0.3

WEL 16 17:05:46.1, 42°S±7°×17°4E±°, h12km±8km, M2.7/14, ML2.5/14, MLv2.7/14, Error ellipse: s-maj=0.0km s-min=0.0km az=140.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.13	241	P	Pg	17 05 49.9	+0.5
TUWZ	Tuamarina	0.41	308	P	Pb	17 05 55.1	-0.1
TCW	Tory Channel	0.48	352	P	Pb	17 05 56.9	+0.5
WEL	Wellington	0.50	37	P	Pg	17 05 55.9	0.0
PLWZ	Palliser	0.68	80	P	Pn	17 06 00.8	-0.7
MSWZ	Moikau Station	0.71	68	P	Pn	17 06 01.7	-0.3
CAW	Cannon Point	0.78	43	P	Pn	17 06 02.4	-0.5
PAWZ	Paruwai Farm	0.85	70	P	Pn	17 06 03.4	-0.5
NNZ	Nelson	0.88	302	P	Pb	17 06 03.3	0.0
KIW	Kapiti Island	0.92	27	P	Pn	17 06 04.8	0.0
DUWZ	D'Urville Isla	0.94	339	P	Pn	17 06 05.5	+0.3
MTW	Mount Morrison	1.00	59	P	Pg	17 06 05.6	+0.2
OGWZ	Otaki Gorge	1.06	35	P	Pn	17 06 07.1	+0.4
THZ	Tophouse	1.10	265	P	Pb	17 06 07.1	0.0
HOWZ	Holdsworth Sta	1.17	48	P	Pb	17 06 08.1	-0.1
MRNZ	Matariki Terra	1.24	283	P	Pb	17 06 09.6	+0.1
TMWZ	Te Maipa	1.28	64	P	Pn	17 06 09.0	-0.8
MRZ	Mangatainoka R	1.37	42	P	Pn	17 06 11.1	0.0
QRZ	Quartz Range	1.63	301	P	Pb	17 06 16.0	-0.1
RATZ	Rangitukua	3.01	21	P	Pb	17 06 41.5	+1.9

IDC 16 17:05:49.7±2.0, 1°.48S×126°.83E, h0km, mb3.3/3, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=181.3km s-min=27.6km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.77	159	P	P	17 10 20.3	-1.2
	baz=338,slow=11,SNR=6.5 0.4nm,0.8s						
ASAR	Alice Springs	23.10	163	P	P	17 10 57.5	+0.2
	0.1nm,0.3s,baz=343,slow=11,SNR=1.6 0.1nm,0.3s						
STKA	Stephens Creek	33.29	157	P	P	17 12 29.9	+0.7
	1.0nm,0.7s,baz=331,slow=19,SNR=1.4 1.0nm,0.7s						
MKAR	Makanchi Array	61.91	327	P	P	17 16 11.0	-0.1
	0.3nm,0.8s,baz=116,slow=6.6,SNR=2.0 0.3nm,0.8s						

WEL ***16*** *17:06:29.5±0.3, 43°S±3°×17°3E±°, h7km±3km, M3.6/23, ML3.9/19, MLv3.6/23, Error ellipse: s-maj=0.0km s-min=0.0km az=119.9*

NEIC ***16*** *17:06:30.1±1.4, 42°.70S±0°.01×172°.76E±0°.02, h10km±2km, mb4.1/3, Error ellipse: s-maj=3.0km s-min=2.5km az=97.0*

ISC 16 17:06:29.7±1.0, 42°.71S±0°.02×172°.75E±0°.02, h14km±9km, n107, σ1°942/109, mb4.1/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.33	141		Pg	17 06 36.8	+0.4
GVZ				Sg	Sg	17 06 41.5	+0.5
GVZ	Greta Valley S	0.33	141	P	Pg	17 06 36.9	+0.4
GVZ				S	Sb	17 06 42.8	+0.2
LTZ	Lake Taylor	0.36	259	Pg	Pg	17 06 36.7	-0.3
LTZ				Sg	Sb	17 06 42.7	-0.7
LTZ	Lake Taylor	0.36	259	P	Pg	17 06 36.9	-0.1
LTZ				S	Sb	17 06 42.4	-1.0
AMCZ	Amberley	0.47	189		Pb	17 06 39.9	+0.2
AMCZ				Sg	Sb	17 06 46.3	-0.3
AMCZ	Amberley	0.47	189	P	Pb	17 06 40.0	+0.2
KHZ	Kahutara	0.66	63	Pg	Pg	17 06 42.3	-0.1
KHZ	Kahutara	0.66	63	P	Pg	17 06 42.4	-0.1
OXZ	Oxford	0.81	220		Pb	17 06 45.9	+0.4
OXZ	Oxford	0.81	220	P	Pb	17 06 45.9	+0.4
THZ	Tophouse	0.96	7	Pg	Pg	17 06 46.8	-1.3
THZ	Tophouse	0.96	7	P	Pg	17 06 46.9	-1.3
INZ	Inchbonnie	0.96	269		Pg	17 06 47.6	-0.7
INZ	Inchbonnie	0.96	269	P	Pg	17 06 47.8	-0.4
MQZ	McQueen's Vall	1.00	184	Pg	Pg	17 06 48.0	-0.9
MQZ	McQueen's Vall	1.00	184	P	Pg	17 06 48.2	-0.7
OKCZ	Okains Bay	1.04	167	P	Pg	17 06 48.9	-0.7
RACZ	Rakaia	1.11	203	P	Pg	17 06 49.9	-1.1
AKCZ	Akaroa Harbour	1.17	174	P	Pg	17 06 50.7	-1.4
MHCZ	Mount Hutt	1.19	226	P	Pg	17 06 51.3	-1.3
DSZ	Dennistion Nort	1.19	324		Pg	17 06 51.4	-1.2
DSZ	Dennistion Nort	1.19	324	P	Pg	17 06 51.8	-0.9
BSWZ	Blackbirch Sta	1.30	40		Pn	17 06 53.6	+0.2
BSWZ	Blackbir

WNVZ	Wahianoa	4.01	33	P	Pn	17 07 33.1	+2.2
TRVZ	Turoa	4.01	33	P	Pn	17 07 33.6	+2.7
WHVZ	Whangaehu Hut	4.04	33	P	Pn	17 07 36.2	+4.8
NGZ	Ngauruhoe	4.14	32	P	Pb	17 07 39.1	-3.3
OTVZ	Oturere	4.18	33	P	Pn	17 07 38.2	+5.1
NNVZ	North Ngauruho	4.18	32	P	Pb	17 07 39.1	-4.1
MLZ	Mavora Lakes	4.26	230		Pn	17 07 32.9	-1.4
MLZ	Mavora Lakes	4.26	230	P	Pn	17 07 33.7	-0.5
HIZ	Hauiti	4.49	22	Pn	Pn	17 07 36.6	-0.7
HIZ	Hauiti	4.49	22	P	Pn	17 07 40.0	+2.7
BKZ	Black Stump Fm	4.54	40		Pn	17 07 37.5	-0.5
SYZ	Scrubby Hill	4.61	213	P	Pn	17 07 38.1	-0.8
WHZ	Wether Hill Ro	4.69	226	Pn	Pn	17 07 38.5	-1.5
NMHZ	Naumai	4.74	42	P	Pb	17 07 48.0	-4.6
TLZ	Tolley Road	4.87	27	P	Pn	17 07 48.1	+5.6
DCZ	Deep Cove	4.88	234	Pn	Pn	17 07 40.5	-2.1
TOZ	Tahuroa Road	5.40	24	P	Pn	17 07 52.6	+2.7
MKAZ	Moumakai	5.90	19	P	Pn	17 07 59.4	+2.7
OUZ	Omahuta	7.51	5	Pn	Pn	17 08 17.2	-1.6
ASAR	Alice Springs	37.24	288	P	P	17 13 42.2	+1.2
WR0	Warramunga Arr	39.27	293	P	P	17 13 59.0	+0.9
WR0	comp=Z,5.0nm,1.1s			IAmb	IAmb	17 14 02.6	
WB2	Warramunga Arr	39.41	293	P	P	17 14 00.1	+0.8
WB2	comp=Z,4.6nm,1.1s			IAmb	IAmb	17 14 17.2	
WB0	Warramunga Arr	39.51	293	P	P	17 14 00.1	0.0
WB0	comp=Z,8.1nm,1.4s			IAmb	IAmb	17 14 39.2	

WEL **16** *17:08:00,41.°89S×173.°92E,h18km,ML4.3,Mw3.9, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; Mrr0.17; Mθθ5.90; Mφφ-6.08; Mrθ3.60; Mrφ-4.26; Mθφ-0.90; Fault plane solution: Mo8.14000×10^{14} NP1: φs155.00000°, δ72.00000°, λ15.00000°. NP2:φs60.00000°, δ75.00000°, λ162.00000°. Principal axes: T 88.4300, Plg24.0000°, Azm17.0000°; N -13.9700, Plg66.0000°, Azm202.0000°; P -74.4600, Plg2.0000°, Azm108.0000°;*

IDC **16** *17:08:21.3±8.2,41.°83S×173.°77E,h0km,mb3.4/2, mbtmp3.4/2 Error ellipse: s-maj=473.4km s-min=51.4km az=35.0*

NEIC **16** *17:08:22.6±1.7,41.°97S±0.°02×174.°07E±0.°05,h10km±1km, mb4.4/9,Error ellipse: s-maj=6.2km s-min=3.0km az=290.0*

WEL **16** *17:08:24.0±0.3,42.°S±2.°×17.°4E±.°,h13km±2km,M4.2/41, ML4.4/20,MLv4.2/41,Error ellipse: s-maj=0.0km s-min=0.0km az=123.1*

NOU **16** *17:08:24.3,42.°01S×174.°19E,h12km,MLv4.5/11,Off E. Coast of S. Island, N.Z.*

ISC 16 17:08:22.1±0.7,41.°94S±0.°02×173.°99E±0.°02,h17km,n162, σ1868/163,mb4.3/7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.24	340		Pb	17 08 29.0	+1.0
BSWZ				Sg	Sb	17 08 32.3	+0.3
BSWZ	Blackbirch Sta	0.24	340	P	Pb	17 08 29.0	+1.0
BSWZ				S	Sb	17 08 32.5	+0.5
CMWZ	Cape Campbell	0.26	42		Pn	17 08 30.5	-0.6
CMWZ	Cape Campbell	0.26	42	P	Pn	17 08 30.6	-0.6
CMWZ				S	Sn	17 08 35.8	-0.9
TUWZ	Tuamarina	0.51	356		Pn	17 08 33.9	-0.8
TUWZ	Tuamarina	0.51	356	P	Pn	17 08 34.0	-0.7
KHZ	Kahutara	0.58	215		Pn	17 08 36.4	+0.8
KHZ	Kahutara	0.58	215	P	Pn	17 08 36.6	+1.0
KHZ	Kahutara	0.58	215	P	Pn	17 08 36.6	+0.9
TCW	Tory Channel	0.76	17		Pn	17 08 38.3	+0.2
TCW	Tory Channel	0.76	17	P	Pn	17 08 38.3	+0.2
THZ	Tophouse	0.83	282		Pn	17 08 39.6	+0.6
THZ	Tophouse	0.83	282	P	Pn	17 08 39.8	+0.7
SNZO	South Karori	0.83	41		Pn	17 08 40.5	+1.5
SNZO	South Karori	0.83	41	P	Pn	17 08 40.8	+1.8
NNZ	Nelson	0.85	328		Pn	17 08 39.6	+0.3
NNZ	Nelson	0.85	328	P	Pn	17 08 39.7	+0.4
WEL	Wellington	0.88	42	P	Pn	17 08 41.5	+1.8
PLWZ	Palliser	1.02	69		Pg	17 08 43.5	+1.6
PLWZ	Palliser	1.02	69	P	Pg	17 08 43.1	+1.3
MRNZ	Matariki Terra	1.07	300		Pg	17 08 43.7	+0.9
MRNZ	Matariki Terra	1.07	300	P	Pg	17 08 44.0	+1.1
MSWZ	Moikau Station	1.08	61		Pg	17 08 44.0	+1.0
MSWZ	Moikau Station	1.08	61	P	Pg	17 08 44.0	+1.0
DUWZ	D'Urville Isla	1.14	357	P	Pg	17 08 44.7	+0.6
DUWZ				S	Sg	17 09 00.3	+1.3
CAW	Cannon Point	1.16	45	P	Pg	17 08 45.5	+0.9
TKNZ	Takaka Hill	1.19	319		Pg	17 08 45.4	+0.3
TKNZ	Takaka Hill	1.19	319	P	Pg	17 08 45.7	+0.6
PAWZ	Paruwai Farm	1.21	63	P	Pb	17 08 45.6	+0.9
GVZ	Greta Valley S	1.25	214		Pg	17 08 47.2	+1.0
GVZ	Greta Valley S	1.25	214	P	Pg	17 08 47.1	+0.9
KIW	Kapiti Island	1.28	33	P	Pg	17 08 47.4	+0.5
MTW	Mount Morrison	1.38	56	P	Pb	17 08 47.8	+0.4
TRWZ	Traveller	1.38	68	P	Pb	17 08 47.6	+0.1
OGWZ	Otaki Gorge	1.43	39	P	Pg	17 08 49.2	-0.5
LTZ	Lake Taylor	1.52	236		Pg	17 08 51.2	-0.3
LTZ	Lake Taylor	1.52	236	P	Pg	17 08 51.2	-0.3
HOWZ	Holdsworth Sta	1.55	48	P	Pb	17 08 50.3	-0.2
QRZ	Quartz Range	1.56	315	Pn	Pg	17 08 52.1	-0.1
QRZ	Quartz Range	1.56	315	P	Pg	17 08 52.3	+0.1
QRZ	Quartz Range	1.56	315	P	Pg	17 08 52.1	-0.2
AMCZ	Amberley	1.58	218		Pb	17 08 51.3	+0.4
AMCZ	Amberley	1.58	218	P	Pb	17 08 51.3	+0.3
DSZ	Denniston Nort	1.64	276		Pg	17 08 53.5	-0.2
DSZ	Denniston Nort	1.64	276	P	Pg	17 08 53.5	-0.2
TMWZ	Te Maipa	1.65	66	P	Pn	17 08 53.4	+0.9
MRZ	Mangatainoka R	1.75	44		Pb	17 08 53.2	+0.6
MRZ	Mangatainoka R	1.75	44	P	Pb	17 08 53.1	-0.7
TIWZ	Tintock	1.84	52	P	Pn	17 08 54.4	+1.3
OKCZ	Okains Bay	1.91	201	P	Pn	17 08 55.3	+1.3
OXZ	Oxford	2.00	225	Pn	Pb	17 08 56.9	-1.1
OXZ	Oxford	2.00	225	P	Pn	17 08 56.6	+1.5
OHWZ	Ohakea	2.00	31	P	Pb	17 08 58.4	+0.3
MQZ	McQueen's Vall	2.02	209		Pn	17 08 56.0	+0.6
MQZ	McQueen's Vall	2.02	209	P	Pn	17 08 56.0	+0.6
PRWZ	Pori Road	2.04	48	P	Pn	17 08 56.7	+1.0
INZ	Inchbonnie	2.04	247		Pb	17 08 58.2	-0.6
INZ	Inchbonnie	2.04	247	P	Pb	17 08 58.8	0.0
POWZ	Post Office Ro	2.05	42	P	Pn	17 08 57.1	+1.3
AKCZ	Akaroa Harbour	2.09	202	P	Pn	17 08 57.6	+1.3
BFZ	Birch Farm	2.12	54		Pn	17 08 57.0	+0.3
BFZ	Birch Farm	2.12	54	P	Pn	17 08 58.5	+1.8
BFZ	Birch Farm	2.12	54	P	Pn	17 08 57.2	+0.5
RACZ	Rakaia	2.25	217	P	Pn	17 08 59.3	+0.8
WAZ	Wanganui	2.31	19	P	Pb	17 09 03.2	-0.1
DVHZ	Dannevirke	2.32	46	P	Pn	17 09 00.1	+0.4
ANWZ	Angora Road	2.39	53	P	Pn	17 09 01.2	+0.7
MHCZ	Mount Hutt	2.39	227	P	Pn	17 09 02.1	+1.6
TSZ	Takapari Road	2.40	39	P	Pn	17 09 01.8	+1.1
LREZ	Lake Rotokare	2.50	7	P	Pb	17 09 06.9	+0.4
NMEZ	Namu Road	2.52	358	P	Pg	17 09 08.7	-1.8
WACZ	Wakanui South	2.55	218	P	Pn	17 09 03.9	+1.3
PRHZ	Porangahau	2.61	51	P	Pn	17 09 03.5	0.0
PNHZ	Pukenui	2.63	40	P	Pn	17 09 04.6	+0.8
WPHZ	Waipukurau	2.64	46	P	Pn	17 09 05.4	+1.5
KHEZ	Kahui Hut	2.64	0	P	Pb	17 09 09.0	0.0
WVZ	Waitaha Valley	2.66	244	P	Pb	17 09 07.5	-1.7
NEZ	North Egmont	2.67	2	P	Pb	17 09 10.8	+1.3
NBEZ	Newall Road No	2.67	358	P	Pb	17 09 09.1	-0.4
PKE	Pukeiti	2.74	360	P	Pb	17 09 09.8	-0.9
DREZ	Durham Road	2.75	3	P	Pb	17 09 10.5	-0.4
MTVZ	Mangateitei	2.79	24	P	Pb	17 09 09.6	-2.0
RPZ	Rata Peaks	2.79	230		Pn	17 09 07.7	+1.6
RPZ	Rata Peaks	2.79	230	P	Pn	17 09 07.9	+1.8
PKVZ	Pokaka	2.84	22	P	Pb	17 09 10.1	-2.4
MOVZ	Moawhango	2.86	29	P	Pn	17 09 08.9	+1.7
MHEZ	Mangahewa	2.87	5	P	Pb	17 09 13.5	+0.6
VRZ	Vera Road	2.87	12	P	Pb	17 09 10.9	-2.0
ARCZ	Arundel	2.88	225	P	Pn	17 09 08.7	+1.4
WNVZ	Wahianoa	2.88	26	P	Pn	17 09 10.3	+2.9
TRVZ	Turoa	2.89	25	P	Pn	17 09 10.5	+2.9
BHHZ	Black Hill Sta	2.91	33	P	Pn	17 09 09.3	+1.5
DRZ	Dome Shelter	2.92	25	P	Pb	17 09 14.3	+0.4
WHVZ	Whangaehu Hut	2.92	25	P	Pn	17 09 11.0	+3.0
FWVZ	Far West T-bar	2.94	24	P	Pb	17 09 11.3	-2.8
TUVZ	Tukino	2.96	26	P	Pn	17 09 11.1	+2.7
NGZ	Ngauruhoe	3.02	25	P	Pn	17 09 12.3	+2.9
SNVZ	South Ngauruho	3.02	25	P	Pn	17 09 12.1	+2.7
GCSZ	Gaunt Creek Bo	3.03	242	P	Pb	17 09 15.0	-0.6
OTVZ	Oturere	3.05	25	P	Pn	17 09 12.5	+2.7
KAHZ	Kahuranaki	3.06	47	P	Pn	17 09 09.9	0.0
NNVZ	North Ngauruho	3.07	24	P	Pn	17 09 12.9	+3.0
TWVZ	Taurewa	3.07	22	P	Pn	17 09 12.7	+2.7
WTVZ	West Tongariro	3.07	24	P	Pn	17 09 12.7	+2.7
ETVZ	East Tongariro	3.09	26	P	Pn	17 09 12.9	+2.6
KRVZ	Karewarewa	3.11	24	P	Pn	17 09 13.5	+3.0
TMVZ	Te Maari	3.11	25	P	Pn	17 09 13.2	+2.7
NTVZ	North Tongarir	3.12	25	P	Pn	17 09 13.3	+2.6
KWHZ	Kaweka Forest	3.12	37	P	Pn	17 09 11.3	+0.7
KWHZ				P	Pb	17 09 11.5	-5.8
KATZ	Kakaramea	3.23	24	P	Pb	17 09 20.2	+1.0
TMZ	Timaru	3.27	221	P	Pn	17 09 14.1	+1.5
RATZ	Rangitukua	3.36	25	P	Pb	17 09 21.3	0.0
BKZ	Black Stump Fm	3.36	35		Pn	17 09 14.9	+0.9
BKZ	Black Stump Fm	3.36	35	P	Pn	17 09 16.0	+2.0
BKZ	Black Stump Fm	3.36	35	P	Pn	17 09 14.6	+0.7
FOZ	Fox Glacier	3.46	241	Pn	Pn	17 09 16.9	+1.7
FOZ	Fox Glacier	3.46	241	P	Pn	17 09 18.9	+3.7
HIZ	Hauiti	3.49	11	Pn	Pn	17 09 17.6	+2.0
HIZ	Hauiti	3.49	11	P	Pb	17 09 19.5	-3.9
HIZ	Hauiti	3.49	11	P	Pb	17 09 20.0	-3.4
NMHZ	Naumai	3.56	38	P	Pb	17 09 22.7	-2.0
MRHZ	Matea Rd	3.62	32	P	Pn	17 09 17.8	+0.3
LBZ	Lake Benmore	3.70	227		Pn	17 09 20.6	+2.0
LBZ	Lake Benmore	3.70	227	P	Pn	17 09 20.6	+2.0
MTHZ	Maungataniwha	3.78	36	P	Pn	17 09 20.4	+0.8
TLZ	Tolley Road	3.80	19	P	Pn	17 09 22.8	+2.9
ALRZ	Allen Road	3.83	29	P	Pb	17 09 28.7	-0.5
ODZ	Otahua Downs	3.94	217	Pn	Pn	17 09 22.9	+1.0
TOZ	Tahuroa Road	4.36	16	P	Pn	17 09 30.1	+2.5
JCZ	Jackson Bay	4.37	239	P	Pn	17 09 33.1	+5.3
JCZ	Jackson Bay	4.37	239	P	Pn	17 09 32.5	+4.7
URZ	Urewera	4.39	34	P	Pn	17 09 29.3	+1.3
URZ	Urewera	4.39	34	P	Pn	17 09 27.6	-0.3
WKZ	Wanaka	4.63	230	Pn	Pn	17 09 32.8	+1.4
TWGZ	Tauwhareparae	4.85	40	P	Pn	17 09 34.9	+0.5
AWAZ	Awhitu Peninsu	4.90	6	P	Pn	17 09 39.3	+4.4
MKAZ	Moumakai	4.91	11	P	Pn	17 09 38.4	+3.2
WTAZ	Waiatarua	5.02	5	P	Pn	17 09 41.1	+4.5
ETAZ	East Tamaki Re	5.03	9	P	Pn	17 09 42.0	+5.2
MBAZ	Motutapu North	5.21	8	P	Pn	17 09 43.6	+4.3
KUZ	Kuaotunu	5.36	15	P	Pn	17 09 45.1	+3.8
MLZ	Mavora Lakes	5.46	229	Pn	Pn	17 09 44.1	+1.4
MXZ	Matakaoa Point	5.49	39	Pn	Pn	17 09 43.5	+0.3
WHZ	Wether Hill Ro	5.88	226	Pn	Pn	17 09 49.1	+0.6
DCZ	Deep Cove	6.08	232	Pn	Pn	17 09 51.5	+0.3
OUZ	Omahuta	6.72	357	Pn	Pn	17 10 00.9	+1.0
OUZ	Omahuta	6.72	357	P	Pn	17 10 04.5	+4.5
OUZ	Omahuta	6.72	357	P	Pn	17 10 04.7	+4.7
CTZ	Chatham Island	7.14	108	P	Pn	17 10 05.8	+0.1
CTZ	Chatham Island	7.14	108	P	Pn	17 10 06.0	+0.3
AS31	Alice Springs	37.89	286	P	P	17 15 38.4	-0.1
ASAR	Alice Springs	37.89	286	P	P	17 15 38.5	+0.1
WB2	Warramunga Arr	39.98	291	P	P	17 15 55.7	-0.2
WB2	comp=Z,11nm,1.5s			IAmb	IAmb	17 16 29.6	
WRAB	Tennant Creek	39.98	291	P	P	17 15 56.7	+0.7
WRAB	comp=Z,12nm,1.5s			IAmb	IAmb	17 16 28.5	
WRA	Warramunga Arr	39.99	291	P	P	17 15 56.1	+0.1
WRA	comp=Z,0.4nm,0.7s,baz=132,slow=7.7,SNR=9.2 comp=Z,0.4nm,0.7s						
WRA	Warramunga Arr	39.99	291	P	P	17 15 55.6	-0.4
WB0	Warramunga Arr	40.07	291	P	P	17 15 55.8	-0.8
WB0	comp=Z,11nm,1.5s			IAmb	IAmb	17 16 14.3	
KNRA	Kununurra	46.77	290	P	P	17 16 51.5	+0.8
MTN	Manton Dam	47.12	295	P	P	17 16 54.8	+1.3
QSPA	South Pole Qui	48.19	180	P	P	17 17 01.5	+0.1
QSPA	comp=Z,2.2nm,1.0s			IAmb	IAmb	17 17 35.2	
SNAA	Sanae	66.67	181	P	P	17 19 07.7	-3.8
SNAA	comp=Z,7.3nm,1.5s			IAmb	IAmb	17 19 48.7	
TORD	Torodi Ar. Bea comp=Z,0.1nm,0.3s,baz=160,slow=2.9,SNR=1.0	150.54	195	PKPbc	PKiKP	17 28 15.2	+1.1

WEL 16 17:17:58.1±0.3,43.°S±2.°×17.°3E±.°,h5km,M3.5/1,ML3.2/7, ML3.5/1,MLv3.1/13,MLv3.5/1,Error ellipse: s-maj=0.0km s-min=0.0km az=118.5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.27	65	P	Pg	17 18 03.2	0.0
KHZ				S	Sg	17 18 07.6	+0.8
GVZ	Greta Valley S	0.46	197	P	Pg	17 18 07.6	+0.7
GVZ				S	Sb	17 18 14.4	-1.4
LTZ	Lake Taylor	0.74	250	P	Pg	17 18 12.7	+0.4
LTZ				S	Sg	17 18 22.5	+0.6
AMCZ	Amberley	0.77	212	P	Pg	17 18 12.7	-0.1
AMCZ				S	Sb	17 18 21.0	-0.7
THZ	Tophouse	0.80	343	P	Pg	17 18 13.8	+0.4
THZ				S	Sg	17 18 24.1	+0.3
MRNZ	Matariki Terra	1.18	343	P	Pg	17 18 20.4	-0.3
TUWZ	Tuamarina	1.23	27	P	Pg	17 18 20.8	-0.8
NNZ	Nelson	1.32	5	P	Pn	17 18 22.7	-0.4
INZ	Inchbonnie	1.32	261	P	Pn	17 18 22.1	-1.1

WEL 16 17:21:34.1±0.4,43.°S±3.°×17.°3E±.°,h5km,M3.3/10, ML3.6/10,MLv3.3/10,Error ellipse: s-maj=0.0km s-min=0.0km az=125.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.22	56	P	Pg	17 21 38.1	-0.2
KHZ				S	Sg	17 21 41.8	+0.6
GVZ	Greta Valley S	0.47	204	P	Pg	17 21 43.4	+0.2
AMCZ	Amberley	0.80	217	P	Pg	17 21 49.7	+0.3
AMCZ				S	Sb	17 22 01.9	+0.4
LTZ	Lake Taylor	0.80	252	P	Pg	17 21 49.1	-0.2
LTZ				S	Sg	17 22 00.5	+0.8
THZ	Tophouse	0.83	339	P	Pg	17 21 49.9	-0.1
THZ				S	Sg	17 22 00.9	+0.2
BSWZ	Blackbirch Sta	0.93	28	P	Pb	17 21 52.8	+0.1
OKCZ	Okains Bay	1.20	188	P	Pg	17 21 55.1	-1.9
MRNZ	Matariki Terra	1.21	340	P	Pg	17 21 57.1	-0.1
TUWZ	Tuamarina	1.21	24	P	Pg	17 21 57.1	-0.1
OXZ	Oxford	1.21	229	P	Pg	17 21 55.3	-2.0
MQZ	McQueen's Vall	1.26	202	P	Pg	17 21 55.0	-3.1
NNZ	Nelson	1.32	3	P	Pb	17 21 59.3	0.0
AKCZ	Akaroa Harbour	1.36	192	P	Pn	17 21 56.7	-3.1
DSZ	Denniston Nort	1.36	305	P	Pn	17 21 59.3	-0.5
INZ	Inchbonnie	1.38	262	P	Pn	17 21 59.1	-0.9
RACZ	Rakaia	1.46	215	P	Pn	17 21 58.2	-2.9
TKNZ	Takaka Hill	1.52	350	P	Pn	17 22 02.3	+0.3
MHCZ	Mount Hutt	1.61	231	P	Pn	17 22 00.7	-2.5
WACZ	Wakanui South	1.76	217	P	Pn	17 22 02.5	-2.7
DUWZ	D'Urville Isla	1.80	15	P	Pb	17 22 06.8	-0.7
QRZ	Quartz Range	1.81	341	P	Pb	17 22 06.8	-0.8
MSWZ	Moikau Station	1.84	53	P	Pn	17 22 04.1	-2.2
CAW	Cannon Point	1.95	43	P	Pn	17 22 06.2	-1.6
WVZ	Waitaha Valley	1.96	253	P	Pn	17 22 06.9	-1.0
PAWZ	Paruwai Farm	1.96	55	P	Pn	17 22 05.5	-2.5
RPZ	Rata Peaks	2.02	234	P	Pn	17 22 06.6	-2.2
ARCZ	Arundel	2.09	227	P	Pn	17 22 07.3	-2.5
GCSZ	Gaunt Creek Bo	2.32	249	P	Pn	17 22 12.3	-0.5
TMZ	Timaru	2.49	221	P	Pn	17 22 12.6	-2.6
FOZ	Fox Glacier	2.74	248	P	Pn	17 22 18.2	-0.4
LBZ	Lake Benmore	2.92	230	P	Pn	17 22 19.8	-1.4
ODZ	Otahua Downs	3.16	217	P	Pn	17 22 21.5	-2.9
PKE	Pukeiti	3.38	9	P	Pb	17 22 31.8	-2.7
JCZ	Jackson Bay	3.63	244	P	Pn	17 22 29.3	-1.8
OTVZ	Oturere	3.82	29	P	Pn	17 22 36.5	+2.8
EAZ	Earnscleugh	3.94	226	P	Pn	17 22 32.7	-2.5
KNZ	Kokohu	4.83	45	P	Pn	17 22 49.3	+1.8
EDRZ	Edgecumbe	5.15	32	P	Pn	17 22 52.6	+0.7
AWAZ	Awhitu Peninsu	5.56	11	P	Pn	17 23 00.1	+2.6
MKAZ	Moumakai	5.61	15	P	Pn	17 22 58.1	0.0

IDC 16 17:31:15.2±2.3,6.°89S×128.°68E,h0km,mb3.5/1, mbtmp3.3/3,ML2.9/2,Error ellipse: s-maj=137.1km s-min=33.4km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.09	158	Pn	Pn	17 34 35.6	-0.7
WRA	baz=336,slow=13,SNR=2.4			Sn	Sn	17 37 00.6	-13
ASAR	0.1nm,0.3s,baz=329,slow=22,SNR=6.9 0.4nm,0.7s Alice Springs	17.42	164	P	Pn	17 35 20.4	+0.5
MKAR	0.1nm,0.3s,baz=340,slow=10.0,SNR=24 0.3nm,0.4s Makanchi Array	67.42	327	P	P	17 42 12.7	0.0
	0.7nm,1.1s,baz=111,slow=7.9,SNR=1.6 0.7nm,1.1s						

WEL 16 17:36:03.3±1.0,42.°S±6.°×17.°3E±.°,h5km±6km,M3.9/4, ML4.1/4,MLv3.9/4,Error ellipse: s-maj=0.0km s-min=0.0km az=137.9,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.36	79	P	Pg	17 36 10.6	+0.5
KHZ				S	Sg	17 36 15.9	+1.1
GVZ	Greta Valley S	0.49	183	P	Pg	17 36 13.3	+0.7
GVZ				S	Sg	17 36 20.0	+1.1
LTZ	Lake Taylor	0.66	243	P	Pg	17 36 16.5	+0.5
THZ	Tophouse	0.73	350	P	Pb	17 36 18.6	+0.1
AMCZ	Amberley	0.76	204	P	Pb	17 36 18.4	-0.6
BSWZ	Blackbirch Sta	0.97	38	P	Pb	17 36 23.0	+0.4
MRNZ	Matariki Terra	1.11	348	P	Pn	17 36 25.7	+0.3
CMWZ	Cape Campbell	1.12	50	P	Pg	17 36 20.8	-4.0
OXZ	Oxford	1.13	222	P	Pg	17 36 24.2	-0.8
DSZ	Denniston Nort	1.19	308	P	Pn	17 36 27.3	+0.6
TUWZ	Tuamarina	1.24	32	P	Pn	17 36 27.4	+0.1
OKCZ	Okains Bay	1.24	180	P	Pg	17 36 25.4	-1.7
MQZ	McQueen's Vall	1.26	194	P	Pg	17 36 25.0	-2.4
NNZ	Nelson	1.28	11	P	Pb	17 36 28.2	+0.3
AKCZ	Akaroa Harbour	1.39	185	P	Pn	17 36 26.9	-2.5
RACZ	Rakaia	1.42	208	P	Pn	17 36 27.9	-1.9
TKNZ	Takaka Hill	1.45	357	P	Pg	17 36 31.2	+0.2
MHCZ	Mount Hutt	1.52	226	P	Pn	17 36 29.7	-1.5
TCW	Tory Channel	1.56	36	P	Pn	17 36 31.8	+0.1
QRZ	Quartz Range	1.70	346	P	Pb	17 36 35.4	+0.3
WACZ	Wakanui South	1.71	211	P	Pn	17 36 32.2	-1.6
DUWZ	D'Urville Isla	1.80	21	P	Pb	17 36 36.1	-0.6
WVZ	Waitaha Valley	1.81	250	P	Pn	17 36 35.0	-0.1
RPZ	Rata Peaks	1.92	229	P	Pn	17 36 35.3	-1.4
MSWZ	Moikau Station	1.95	58	P	Pn	17 36 35.7	-1.3
ARCZ	Arundel	2.01	223	P	Pn	17 36 36.4	-1.6
CAW	Cannon Point	2.03	48	P	Pn	17 36 37.4	-0.8
PAWZ	Paruwai Farm	2.08	59	P	Pn	17 36 37.1	-1.7
OGWZ	Otaki Gorge	2.29	44	P	Pn	17 36 41.2	-0.6
PKE	Pukeiti	3.36	12	P	Pn	17 36 59.3	+2.9
TOZ	Tahuroa Road	5.10	22	P	Pn	17 37 26.3	+6.0

WEL 16 17:36:38.5±0.3,43.°S±2.°×17.°3E±.°,h5km,M3.6/27, ML3.8/17,MLv3.6/27,Error ellipse: s-maj=0.0km s-min=0.0km az=117.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.26	50	P	Pg	17 36 43.5	0.0
KHZ				S	Sg	17 36 47.4	+0.6
GVZ	Greta Valley S	0.42	205	P	Pg	17 36 47.5	+0.8
GVZ				S	Sb	17 36 54.5	-0.7
AMCZ	Amberley	0.75	217	P	Pb	17 36 53.9	-0.1
LTZ	Lake Taylor	0.77	255	P	Pg	17 36 53.4	+0.2
THZ	Tophouse	0.86	341	P	Pg	17 36 55.0	0.0
BSWZ	Blackbirch Sta	0.97	27	P	Pb	17 36 58.2	+0.4
OKCZ	Okains Bay	1.15	188	P	Pg	17 36 59.2	-1.3
OXZ	Oxford	1.17	230	P	Pg	17 36 59.9	-1.1
MQZ	McQueen's Vall	1.21	202	P	Pg	17 36 59.0	-2.7
MRNZ	Matariki Terra	1.24	342	P	Pg	17 37 02.0	-0.3
TUWZ	Tuamarina	1.25	24	P	Pg	17 37 02.1	-0.4
AKCZ	Akaroa Harbour	1.32	192	P	Pn	17 37 00.6	-3.0
INZ	Inchbonnie	1.36	263	P	Pn	17 37 03.2

TORD	**Torodi Ar. Bea**	**149.22**	**284**	PKPbc	**PKPbc**		**18 00 17.0**	**-1.6**
	1.0nm,0.6s,baz=65,slow=2.8,SNR=1.2							

IDC ***16*** *17:45:22.4±2.3,6.˚19S×147.˚60E,h67km±21km,mb3.5/6, mbtmp3.9/9,MS4.0/1,Error ellipse: s-maj=37.4km s-min=15.9km az=110.0*

ISC 16 17:45:23.4±0.8,6.˚22S±0.˚10×147.˚6E±0.˚2,h77km,n11, σ1s01/12,mb3.8/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.19**	**187**	P		**Pn**		**17 46 10.6**	**-0.7**
	129nm,0.4s,baz=319,slow=5.1,SNR=38								
PMG				S		**Sn**		**17 46 47.8**	**-0.4**
	39nm,0.3s,baz=9.7,slow=17,SNR=2.0								
KRVT	**Keravat (AS076**	**4.84**	**67**	P		**Pn**		**17 46 34.0**	**+0.2**
	22nm,0.5s,baz=243,slow=2.3,SNR=6.2								
HNR	**Honiara**	**12.68**	**105**	LR		LR		17 52 43.8	
	comp=Z,748nm,20.3s,baz=164,slow=35								
WRA	**Warramunga Arr**	**18.73**	**222**	P		**P**		**17 49 35.9**	**-0.3**
	0.8nm,0.5s,baz=44,slow=11,SNR=14								
ASAR	**Alice Springs**	**21.75**	**216**	P		**P**		**17 50 10.1**	**+1.2**
	2.2nm,0.5s,baz=53,slow=8.8,SNR=90								
ASAR				ScP		**ScP**		**17 57 38.7**	**+1.3**
	0.4nm,0.8s,baz=46,slow=4.0,SNR=2.5								
	2.2nm,0.5s								
STKA	**Stephens Creek**	**26.13**	**192**	P		**P**		**17 50 51.4**	**+1.1**
	2.2nm,0.7s,baz=347,slow=11,SNR=5.4								
	2.2nm,0.7s								
MKAR	**Makanchi Array**	**78.02**	**320**	P		**P**		**17 57 14.3**	**+0.6**
	0.2nm,0.5s,baz=98,slow=8.3,SNR=5.1								
	0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**79.49**	**328**	P		**P**		**17 57 21.3**	**-0.2**
	0.8nm,0.5s,baz=109,slow=8.3,SNR=3.8								
	0.8nm,0.5s								
QSPA	**South Pole Qui**	**83.75**	**180**	P		**P**		**17 57 44.1**	**+0.2**
	1.4nm,1.1s,baz=344,slow=7.8,SNR=2.4								
	1.4nm,1.1s								
ILAR	**Eielson Array**	**85.47**	**23**	P		**P**		**17 57 50.5**	**-1.9**
	0.4nm,0.8s,baz=250,slow=5.7,SNR=4.1								
	0.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**145.68**	**284**	PKPbc		**PKPab**		**18 04 55.0**	**+0.1**
	1.2nm,0.7s,baz=79,slow=4.2,SNR=6.8								

IDC ***16*** *17:47:58.0±0.7, 13.˚89N×93.˚09W,h0km, mb4.4/17, mbtmp4.3/19,ML3.8/2,MS3.7/16,Error ellipse: s-maj=29.6km s-min=12.3km az=54.0*

MEX ***16*** *17:48:01.5±0.5, 13.˚85N×93.˚41W,h12km±28km,MD4.5*

NEIC ***16*** *17:48:01.4±2.3, 13.˚98N±0.˚05×93.˚21W±0.˚05,h10km±1km, mb4.6/196,Md4.5/51(MEX),Error ellipse: s-maj=9.5km s-min=7.9km az=209.0*

UCR ***16*** *17:48:03.8±0.8, 13.˚88N×92.˚94W,h7km±60km,ML4.3, mb4.6(NEIC)*

SNET ***16*** *17:48:03.4±1.1, 13.˚90N×93.˚06W,h114km±55km,ML4.8*

GCG ***16*** *17:48:04.2±2.7, 13.˚69N×93.˚09W,h72km±118km,MD4.2*

INET ***16*** *17:48:08.1±0.6, 13.˚81N×92.˚78W,h15km±5km,MW3.3*

ISC 16 17:48:02.0±2.0, 13.˚92N±0.˚05×93.˚27W±0.˚04,h23km±14km, n359,σ1s57/382,mb4.6/99,MS3.7/15,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**1.38**	**45**			**Pn**		**17 48 25.2**	**-0.7**
THIG						**Sn**		**17 48 43.4**	**-0.1**
THIG		**1.38**	**45**	*e*P		**Pn**		**17 48 25.2**	**-0.7**
THIG				*e*S		**Sn**		**17 48 43.4**	**-0.1**
PATR	**El Naranjo**	**1.56**	**40**	*e*P		**Pn**		**17 48 27.5**	**-1.0**
PATR				*i* S		**Sn**		**17 48 48.7**	**+0.6**
CHUJ	**Union Juarez**	**1.62**	**44**	*e*P		**Pn**		**17 48 28.4**	**-1.0**
CHUJ				*e*S		**Sn**		**17 48 50.2**	**+0.4**
RTAL	**Retalhuleu**	**1.64**	**68**			**Pn**		**17 48 28.9**	**-0.6**
PAVE	**Pavencul**	**1.65**	**40**	*e*P		**Pn**		**17 48 29.1**	**-0.7**
PAVE				*i* S		**Sn**		**17 48 50.5**	**+0.1**
SULM	**Suchitepequez,**	**1.70**	**77**	*e*P		**Pn**		**17 48 30.9**	**+0.6**
SULM				*e*S		**Sn**		**17 48 51.1**	**-0.3**
PCIG		**1.77**	**2**			**Pn**		**17 48 30.0**	**-1.2**
PCIG						**Sn**		**17 48 51.3**	**-1.9**
PCIG		**1.77**	**2**	*e*P		**Pn**		**17 48 30.0**	**-1.2**
PCIG				*e*S		**Sn**		**17 48 51.3**	**-1.9**
STG3	**Santiaguito 3,**	**1.83**	**64**	*e*P		**Pn**		**17 48 31.9**	**-0.3**
STG3				*e*S		**Sb**		**17 48 56.3**	**-1.1**
HUEH	**Huehuetenango**	**2.20**	**51**			**Pn**		**17 48 38.2**	**+0.8**
HUEH	**Huehuetenango**	**2.20**	**51**	*e*P		**Pn**		**17 48 38.3**	**+0.8**
HUEH	**Huehuetenango**	**2.20**	**51**	*e*P		**Pn**		**17 48 38.3**	**+0.8**
FUG	**Fuego 3**	**2.41**	**77**	*e*P		**Pn**		**17 48 39.7**	**-0.6**
CCIG	**Comitan**	**2.59**	**25**			**Pn**		**17 48 44.2**	**+1.4**
CCIG	**Comitan**	**2.59**	**25**	*e*P		**Pn**		**17 48 44.1**	**+1.4**
CCIG				*e*S		**Sb**		**17 49 18.0**	**-1.4**
PCG	**Pacaya**	**2.63**	**79**	*e*P		**Pn**		**17 48 43.0**	**-0.3**
PCG				*e*S		**Sn**		**17 49 14.1**	**-0.6**
TGIG		**2.84**	**3**			**Pn**		**17 48 46.9**	**+0.8**
TGIG						**Sn**		**17 49 20.5**	**+0.9**
TGIG		**2.84**	**3**	*e*P		**Pn**		**17 48 46.9**	**+0.8**
TGIG				*e*S		**Sn**		**17 49 20.5**	**+0.9**
NBG	**Las Nubes**	**2.91**	**77**	*e*P		**Pn**		**17 48 48.7**	**+1.4**
NBG				*e*S		**Sb**		**17 49 25.4**	**-3.4**
NILT	**Santiago Nilte**	**2.93**	**334**	*e*P		**Pn**		**17 48 45.5**	**-1.7**
NILT				*i* S		**Sn**		**17 49 19.5**	**-2.2**
HUIG	**Huatulco**	**3.30**	**304**			Pn		17 48 49.0	-3.3
HUIG						Sn		17 49 22.6	-8.3
HUIG	**Huatulco**	**3.30**	**304**	*e*P		Pn		17 48 49.0	-3.3
HUIG				*e*S		Sn		17 49 22.6	-8.3
LOAL	**Lomas de Alarc**	**3.39**	**88**	*e*P		**Pn**		**17 48 53.1**	**-0.6**
LOAL				*e*S		**Sn**		**17 49 32.1**	**-1.1**
LOAL	**Lomas de Alarc**	**3.39**	**88**	*e*P		**Pn**		**17 48 53.1**	**-0.6**
LOAL				*e*S		**Sn**		**17 49 32.1**	**-1.1**
NUBE	**Las Nubes**	**3.39**	**90**	*e*P		**Pn**		**17 48 52.1**	**-1.6**
NUBE				*e*S		**Sn**		**17 49 30.5**	**-2.9**
NUBE	**Las Nubes**	**3.39**	**90**	*e*P		**Pn**		**17 48 52.1**	**-1.6**
NUBE				*e*S		**Sn**		**17 49 30.5**	**-2.9**
UXUV	**UXUV**	**3.48**	**346**	*e*P		**Pn**		**17 48 55.9**	**+1.1**
UXUV				*e*S		**Sn**		**17 49 35.0**	**-0.3**
CMIG	**Matias Romero**	**3.51**	**334**	Pn		**Pn**		**17 48 54.5**	**-0.7**
	5.4nm,0.3s,baz=170,slow=16,SNR=51								
CMIG				Sn		**Sn**		**17 49 33.0**	**-3.1**
	27nm,0.3s,baz=98,slow=14,SNR=15								
CMIG				LR		LR		17 50 20.1	
	comp=Z,376nm,20.5s,baz=174,slow=39								
	15nm,0.3s								
CMIG	**Matias Romero**	**3.51**	**334**			**Pn**		**17 48 54.4**	**-0.9**
CMIG						**Sn**		**17 49 32.5**	**-3.6**
CMIG	**Matias Romero**	**3.51**	**334**	*e*P		**Pn**		**17 48 54.4**	**-0.9**
CMIG				*e*S		**Sn**		**17 49 32.5**	**-3.6**
CEVE	**Cerro Verde**	**3.54**	**91**	*e*P		**Pn**		**17 48 54.8**	**-1.1**
CEVE	**Cerro Verde**	**3.54**	**91**	*e*P		**Pn**		**17 48 54.8**	**-1.1**
MRL	**Marmol**	**3.66**	**71**	*e*P		**Pn**		**17 48 58.2**	**+0.7**
JAYA	**Jayaque - finc**	**3.73**	**94**	*e*P		**Pn**		**17 48 57.2**	**-1.1**
JAYA				*e*S		**Sn**		**17 49 38.1**	**-3.5**
JAYA				IAML				17 49 39.4	
	comp=Z,1μm,0.4s								
JAYA	**Jayaque - finc**	**3.73**	**94**	*e*P		**Pn**		**17 48 57.2**	**-1.1**
JAYA				*e*S		**Sn**		**17 49 38.1**	**-3.5**
JAYA				IAML				17 49 39.4	
	comp=Z,1μm,0.4s								
MTO3	**Montecristo**	**3.82**	**82**			**Pn**		**17 48 58.6**	**-1.2**
MTO3	**Montecristo**	**3.82**	**82**	*e*P		**Pn**		**17 48 58.6**	**-1.2**
MTO3	**Montecristo**	**3.82**	**82**	*e*P		**Pn**		**17 48 58.6**	**-1.2**
PMON	**Piamonte**	**3.85**	**93**	*e*P		**Pn**		**17 48 59.2**	**-0.8**
PMON	**Piamonte**	**3.85**	**93**	*e*P		**Pn**		**17 48 59.2**	**-0.8**
ESQI	**Esquipulas**	**3.86**	**80**			**Pn**		**17 48 59.6**	**-0.6**
ESQI	**Esquipulas**	**3.86**	**80**	*e*P		**Pn**		**17 48 59.7**	**-0.5**
VHSA	**Villahermosa**	**4.05**	**5**	*e*P		**Pn**		**17 49 02.4**	**-0.2**
VHSA				*e*S		**Sn**		**17 49 49.2**	**-0.1**
LFRS	**El Faro**	**4.10**	**94**	*e*P		**Pn**		**17 49 02.6**	**-0.9**
LFRS	**El Faro**	**4.10**	**94**	*e*P		**Pn**		**17 49 02.6**	**-0.9**
LLGN	**La Laguna**	**4.21**	**86**	*e*P		**Pn**		**17 49 04.2**	**-0.8**
LLGN	**La Laguna**	**4.21**	**86**	*e*P		**Pn**		**17 49 04.2**	**-0.8**
PAVA	**Las Pavas**	**4.22**	**92**	*e*P		**Pn**		**17 49 04.0**	**-1.1**
PAVA	**Las Pavas**	**4.22**	**92**	*e*P		**Pn**		**17 49 04.0**	**-1.1**
PEIG	**Puerto Escondi**	**4.28**	**299**			**Pn**		**17 49 02.9**	**-2.9**
PEIG						Sn		17 49 45.5	-10
PEIG	**Puerto Escondi**	**4.28**	**299**	*e*P		**Pn**		**17 49 02.9**	**-2.9**
PEIG				*e*S		Sn		17 49 45.5	-10
COEG	**Centro de Oper**	**4.28**	**94**	*e*P		**Pn**		**17 49 05.2**	**-0.6**
COEG				*e*S		**Sn**		**17 49 53.1**	**-2.1**
COEG	**Centro de Oper**	**4.28**	**94**	*e*P		**Pn**		**17 49 05.2**	**-0.6**
COEG				*e*S		**Sn**		**17 49 53.1**	**-2.1**
P5NO	**Presa 5 de nov**	**4.38**	**89**	*e*P		**Pn**		**17 49 05.3**	**-1.9**
P5NO				*e*S		**Sn**		**17 49 55.2**	**-2.5**
PETF	**Flores**	**4.43**	**47**			**Pn**		**17 49 08.6**	**+0.7**
NEUV	**Arroyo Zacate**	**4.49**	**327**	*e*P		**Pn**		**17 49 06.6**	**-2.1**
NEUV				*i* S		**Sn**		**17 49 54.2**	**-5.9**
OXIG	**Oaxaca**	**4.57**	**314**			**Pn**		**17 49 09.9**	**-0.2**
OXIG						**Sn**		**17 49 56.7**	**-5.9**
VHO	**Vista Hermosa**	**4.57**	**314**	*e*P		**Pn**		**17 49 09.9**	**-0.2**
VHO				*e*S		**Sn**		**17 49 56.7**	**-5.9**
COEB	**Comit de Eme**	**4.63**	**95**	*e*P		**Pn**		**17 49 09.9**	**-0.9**
COEB				*e*S		**Sn**		**17 50 01.0**	**-2.8**
COEB	**Comit de Eme**	**4.63**	**95**	*e*P		**Pn**		**17 49 09.9**	**-0.9**
COEB				*e*S		**Sn**		**17 50 01.0**	**-2.8**
YOIG	**Yosondua**	**5.05**	**306**			**Pn**		**17 49 16.3**	**-0.3**
YOIG						Sn		17 50 06.8	-7.7
YOIG	**Yosondua**	**5.05**	**306**	*e*P		**Pn**		**17 49 16.3**	**-0.3**
YOIG				*e*S		Sn		17 50 06.8	-7.7
LCND	**La Caada**	**5.27**	**96**	*e*P		**Pn**		**17 49 18.6**	**-0.9**
LCND	**La Caada**	**5.27**	**96**	*e*P		**Pn**		**17 49 18.6**	**-0.9**
PNIG	**Pinotepa**	**5.29**	**298**			**Pn**		**17 49 17.6**	**-2.1**
PNIG						Sn		17 50 07.6	-12
PNIG	**Pinotepa**	**5.29**	**298**	*e*P		**Pn**		**17 49 17.6**	**-2.1**
PNIG				*e*S		Sn		17 50 09.7	-10
CNCH	**Conchagua**	**5.33**	**96**	*e*P		**Pn**		**17 49 19.5**	**-0.8**
CNCH				*e*S		**Sn**		**17 50 18.0**	**-3.1**
CNCH	**Conchagua**	**5.33**	**96**	*e*P		**Pn**		**17 49 19.5**	**-0.8**
CNCH				*e*S		**Sn**		**17 50 18.0**	**-3.1**
SCIG	**Sabancuy**	**5.40**	**21**	*e*P		**Pn**		**17 49 20.9**	**-0.3**
SCIG				*e*S		**Sn**		**17 50 18.7**	**-4.0**
TXIG	**Tlaxiaco**	**5.45**	**308**			**Pn**		**17 49 22.2**	**0.0**
TXIG						Sn		17 50 14.5	-10
TXIG	**Tlaxiaco**	**5.45**	**308**	*e*P		**Pn**		**17 49 22.2**	**0.0**
TXIG				*e*S		Sn		17 50 17.1	-7.3
TOIG	**Toxpalan**	**5.52**	**319**			**Pn**		**17 49 21.1**	**-1.9**
TOIG						**Sn**		**17 50 19.6**	**-6.4**
TOIG	**Toxpalan**	**5.52**	**319**	*e*P		**Pn**		**17 49 21.1**	**-1.9**
TOIG				*e*S		**Sn**		**17 50 19.6**	**-6.4**
TGUH	**Tegucigalpa,Un**	**5.83**	**88**	Pn		**Pn**		**17 49 25.8**	**-1.4**
MGIG	**Malinaltepec**	**6.12**	**303**			**Pn**		**17 49 31.1**	**-0.2**
MGIG						Sn		17 50 33.0	-7.9
MGIG	**Malinaltepec**	**6.12**	**303**	*e*P		**Pn**		**17 49 31.1**	**-0.2**
MGIG				*e*S		Sn		17 50 33.0	-7.9
FTIG	**Fresnillo de T**	**6.13**	**311**			**Pn**		**17 49 31.6**	**+0.2**
FTIG						Sn		17 50 33.2	-7.7
FTIG	**Fresnillo de T**	**6.13**	**311**	*e*P		**Pn**		**17 49 31.6**	**+0.2**
FTIG				*e*S		Sn		17 50 33.2	-7.7
CRIN	**San Cristobal**	**6.18**	**101**			**Pn**		**17 49 30.8**	**-1.2**
CRIN	**San Cristobal**	**6.18**	**101**	*e*P		**Pn**		**17 49 31.2**	**-0.8**
CRIN				*e*S		**Sn**		**17 50 35.5**	**-6.5**
TLIG	**Tlapa**	**6.25**	**306**			**Pn**		**17 49 33.4**	**+0.4**
TLIG	**Tlapa**	**6.25**	**306**	*e*P		**Pn**		**17 49 33.5**	**+0.4**
TLIG				*e*S		Sn		17 50 35.5	-8.4
CRIG	**Cruz Grande**	**6.31**	**297**			**Pn**		**17 49 32.5**	**-1.2**
CRIG						Sn		17 50 33.7	-11
CRIG	**Cruz Grande**	**6.31**	**297**	*i* P		**Pn**		**17 49 32.5**	**-1.2**
CRIG				*e*S		Sn		17 50 33.7	-11
CNGN	**Cerro Negro**	**6.56**	**102**			**Pn**		**17 49 36.1**	**-1.0**
MOMN	**Momotombo**	**6.73**	**102**	*e*P		**Pn**		**17 49 38.4**	**-1.1**
MATN	**Matagalpa**	**7.22**	**97**			**Pn**		**17 49 44.6**	**-1.7**
YAIG	**Yautepec**	**7.42**	**312**			**Pn**		**17 49 51.0**	**+1.9**
YAIG	**Yautepec**	**7.42**	**312**	*e*P		**Pn**		**17 49 51.0**	**+1.9**
PLIG	**Platanillo**	**7.45**	**307**			**Pn**		**17 49 51.1**	**+1.6**
PLIG						Sn		17 51 04.9	-8.6
PLIG	**Platanillo**	**7.45**	**307**	*e*P		**Pn**		**17 49 51.1**	**+1.6**
PLIG				*e*S		Sn		17 51 04.9	-8.6
BOAB	**BOACO BROADBAN**	**7.55**	**100**			**Pn**		**17 49 48.7**	**-2.1**
TEIG	**Tepich**	**7.88**	**37**	Pn		**Pn**		**17 49 53.8**	**-1.5**
ACON	**Acoyapa**	**8.13**	**103**	Pn		**Pn**		**17 49 57.4**	**-1.3**
ORTG	**Ortega, Santa**	**8.42**	**114**	Pn		**Pn**		**17 50 03.0**	**+0.2**
JTS	**Las Juntas de**	**8.90**	**113**	Pn		**Pn**		**17 50 11.1**	**+1.7**
MOIG	**Morelia**	**9.50**	**308**			**Pn**		**17 50 20.3**	**+2.6**
RIMA	**Rio Macho**	**10.09**	**113**			**Pn**		**17 50 27.7**	**+1.8**
SRBA	**San Rafael, Bu**	**10.77**	**115**	Pn		**Pn**		**17 50 36.9**	**+1.8**
ZAIG	**Zacatecas**	**12.45**	**316**	Pn		**Pn**		**17 51 00.5**	**+2.3**
833A	**Chaparral WMA,**	**15.42**	**339**	Pn		**Pn**		**17 51 38.9**	**+0.7**
833A				IAmb		IAmb		17 52 11.8	
	comp=Z,29nm,1.5s								
MTDJ	**Mount Denham**	**15.72**	**72**			**Pn**		**17 51 43.0**	**+0.8**
MTDJ				IAmb		IAmb		17 51 47.5	
	comp=Z,28nm,0.8s								
HKT	**Hockley**	**16.12**	**352**	Pn		**Pn**		**17 51 46.4**	**-0.8**
HPIG		**17.37**	**320**	Pn		**Pn**		**17 52 03.1**	**-0.2**
JCT	**Junction City**	**17.54**	**341**	P		**P**		**17 52 07.6**	**+1.4**
TX31	**Lajitas Ar. Si**	**18.11**	**330**	P		**Pn**		**17 52 13.3**	**+1.0**
TX32	**Lajitas Array**	**18.11**	**330**	P		**Pn**		**17 52 13.0**	**+0.8**
TXAR	**Lajitas Array**	**18.11**	**330**	P		**P**		**17 52 14.2**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=15								
	comp=Z,2.6nm,0.9s								
TXAR	**Lajitas Array**	**18.11**	**330**	P		**P**		**17 52 14.8**	**+2.3**
GTBY	**Guantanamo Bay**	**18.37**	**69**	P		**P**		**17 52 14.4**	**-0.9**
SLBS	**Sierra La Lagu**	**18.51**	**304**	P		**Pn**		**17 52 19.7**	**+2.5**
352A	**Blakely**	**19.08**	**22**	P		**P**		**17 52 21.5**	**-1.5**
352A				IAmb		IAmb		17 52 24.3	
	comp=Z,21nm,0.8s								
ABTX	**Abilene, Hawle**	**19.50**	**344**			**P**		**17 52 27.9**	**+0.2**
TIGA	**Tifton**	**19.57**	**25**	P		**P**		**17 52 27.5**	**-0.9**
TIGA				IAmb		IAmb		17 52 29.2	
	comp=Z,27nm,0.7s								
LRAL	**Lakeview Retre**	**19.87**	**16**	P		**P**		**17 52 32.3**	**+0.7**
PULU	**Pululahua**	**20.12**	**132**	P		**P**		**17 52 35.1**	**+0.1**
Y45A	**Yeager Farm, C**	**20.14**	**9**	P		**P**		**17 52 34.6**	**0.0**
Y45A				IAmb		IAmb		17 52 38.9	
	comp=Z,24nm,0.8s								
IMBA	**Imbabura, San**	**20.16**	**131**	P		Pn		17 52 37.2	-0.2
152A	**Waverly Hall**	**20.23**	**21**	P		**P**		**17 52 36.0**	**+0.4**
152A				IAmb		IAmb		17 52 40.8	
	comp=Z,20nm,0.6s								
MIAR	**Mount Ida**	**20.53**	**359**	P		**P**		**17 52 38.1**	**-0.8**
CLNB	**Carlsbad**	**20.67**	**334**	P		**P**		**17 52 42.7**	**+2.2**
ROSC	**El Rosal**	**20.75**	**114**	P		**P**		**17 52 39.6**	**-2.2**
	comp=Z,6.0nm,0.4s,baz=233,slow=20,SNR=1.9								
	comp=Z,6.0nm,0.4s								
HTMS	**Hat Mesa**	**20.75**	**335**	P		**P**		**17 52 40.4**	**-1.0**
CLN7	**Carlsbad 7**	**20.77**	**334**	P		**P**		**17 52 42.6**	**+1.0**
UALR	**University of**	**20.78**	**2**			**P**		**17 52 41.6**	**+0.1**
154A	**Montrose**	**20.79**	**25**	P		**P**		**17 52 40.4**	**-1.3**
Y49A	**Blount Mountai**	**20.80**	**16**	P		**P**		**17 52 38.3**	**-3.5**
GDL2	**Guadalupe Moun**	**20.83**	**333**	P		**P**		**17 52 43.7**	**+1.4**
URIC	**Uribia, Colomb**	**20.87**	**94**	P		**P**		**17 52 41.5**	**-1.1**
PORT	**Chimborazo Vol**	**20.98**	**136**	P		Pn		17 52 47.0	-0.1
PORT				IAmb		IAmb		17 52 51.9	
	comp=Z,16nm,1.1s								
X34A	**Smith Ranch, M**	**21.00**	**349**	Pn		**P**		**17 52 46.0**	**+2.1**
X34A				IAmb		IAmb		17 52 52.6	
	comp=Z,17nm,0.7s								
X48A	**Hartselle**	**21.20**	**14**	P		**P**		**17 52 45.3**	**-0.8**
WMOK	**Wichita Mounta**	**21.31**	**347**	P		**P**		**17 52 47.4**	**+0.1**
CPRX	**Cap Rock**	**21.33**	**335**	P		**P**		**17 52 48.9**	**+1.2**
GOGA	**Godfrey**	**21.35**	**23**	P		**P**		**17 52 46.9**	**-0.8**
GOGA				IAmb		IAmb		17 52 50.1	
	comp=Z,18nm,0.5s								
Y52A	**Lilburn**	**21.54**	**21**	P		**P**		**17 52 49.8**	**0.0**
Y52A				IAmb		IAmb		17 52 50.3	
	comp=Z,14nm,0.6s								
FPAL	**Fort Paine**	**21.67**	**17**	P		**P**		**17 52 51.0**	**-0.2**
SDDR	**Presa de Saban**	**21.67**	**74**	P		**P**		**17 52 51.6**	**+0.3**
SDDR				IAmb		IAmb		17 52 53.2	
	comp=Z,22nm,1.4s								
MSTX	**Muleshoe**	**21.74**	**338**	P		**P**		**17 52 52.6**	**+0.6**
OK025	**Westminster Rd**	**21.87**	**351**			**P**		**17 52 53.1**	**-0.3**
FCAR	**Ozark Folk Cen**	**21.90**	**3**	P		**P**		**17 52 53.6**	**+0.1**
FCAR				IAmb		IAmb		17 52 57.1	
	comp=Z,11nm,0.6s								
BCOK	**Bluff Creek, N**	**21.99**	**351**			**P**		**17 52 53.9**	**-0.7**
BCOK				IAmb		IAmb		17 52 59.3	
	comp=Z,34nm,0.6s								
TUL1	**Leonard**	**22.01**	**355**	P		**P**		**17 52 56.3**	**+1.5**
TUL1				IAmb		IAmb		17 52 59.8	
	comp=Z,20nm,0.6s								
DEOK	**Depew**	**22.02**	**353**	P		**P**		**17 52 55.3**	**+0.4**
DEOK				IAmb		IAmb		17 52 59.3	
	comp=Z,21nm,0.6s								
OK029	**Liberty Lake**	**22.10**	**351**	P		**P**		**17 52 55.1**	**-0.7**
LCAR	**Lake Charles**	**22.13**	**5**	P		**P**		**17 52 55.1**	**-0.9**
OK030	**Cody Creek RV**	**22.14**	**352**	P		**P**		**17 52 57.8**	**+1.7**
SRIG	**Santa Rosalia**	**22.16**	**310**	P		**P**		**17 52 57.1**	**+0.7**
SRIG				IAmb		IAmb		17 53 00.5	
	comp=Z,32nm,1.3s								
OK031	**S. Brethren Rd**	**22.17**	**352**			**P**		**17 52 57.0**	**+0.6**
OK031				IAmb		IAmb		17 53 00.3	
	comp=Z,25nm,0.6s								
RLO	**Rose Lookout**	**22.20**	**356**	P		**P**		**17 52 57.1**	**+0.2**
RLO				IAmb		IAmb		17 53 00.6	
	comp=Z,15nm,0.9s								
OK052	**Battle Ridge R**	**22.20**	**352**			**P**		**17 52 56.1**	**-0.7**
AMTX	**Amarillo**	**22.21**	**341**	P		**P**		**17 52 58.2**	**+1.1**
AMTX				IAmb		IAmb		17 53 03.5	
	comp=Z,24nm,0.6s								
OK034	**N. Norfolk Rd.**	**22.21**	**353**			**P**		**17 52 57.5**	**+0.6**
SWET	**Sewanee**	**22.21**	**16**	P		**P**		**17 52 56.1**	**-0.9**
OK053	**SW of W Deep R**	**22.22**	**352**			**P**		**17 52 57.9**	**+0.8**
HHAR	**Hobbs**	**22.27**	**359**	P		**P**		**17 52 58.2**	**+0.6**
HHAR				IAmb		IAmb		17 53 08.0	
	comp=Z,14nm,0.8s								
QUOK	**Quay**	**22.37**	**353**	P		**P**		**17 52 59.1**	**+0.5**
QUOK				IAmb		IAmb		17 53 00.5	
	comp=Z,49nm,0.5s								
W50A	**Signal Mountai**	**22.37**	**17**	P		**P**		**17 52 59.0**	**+0.4**
BOSC	**San Juan Bosco**	**22.42**	**138**	P		**P**		**17 53 00.9**	**+1.4**
BOSC				IAmb		IAmb		17 53 11.7	
	comp=Z,12nm,0.9s								
U38A	**Gravette**	**22.44**	**358**	P		**P**		**17 53 00.0**	**+0.6**
U38A				IAmb		IAmb		17 53 04.6	
	comp=Z,21nm,0.8s								
V48A	**Smith Brothers**	**22.48**	**14**	P		**P**		**17 52 59.9**	**0.0**
NHSC	**New Hope**	**22.52**	**30**	P		**P**		**17 52 60.0**	**-0.2**
HODGE	**Hodges**	**22.55**	**24**	P		**P**		**17 52 59.1**	**-1.5**
HODGE				IAmb		IAmb		17 53 00.1	
	comp=Z,21nm,1.2s								
OK044	**Pawnee Station**	**22.58**	**353**			**P**		**17 53 01.6**	**+0.8**
OK046	**Pawnee Station**	**22.61**	**352**	P		**P**		**17 53 01.9**	**+0.7**
OK050	**Pawnee Station**	**22.62**	**352**	P		**P**		**17 53 01.6**	**+0.2**
OK050				IAmb		IAmb		17 53 03.5	
	comp=Z,21nm,0.9s								
OK048	**Pawnee Station**	**22.64**	**352**			**P**		**17 53 02.6**	**+1.1**
WVT	**Waverly**	**22.65**	**12**	P		**P**		**17 53 00.5**	**-1.1**
OK045	**Pawnee Station**	**22.67**	**352**			**P**		**17 53 03.2**	**+1.4**
OK051	**E0350 and S346**	**22.71**	**353**			**P**		**17 53 03.5**	**+1.2**
ELIS	**Ellis County**	**22.73**	**347**	P		**P**		**17 53 04.7**	**+2.2**

JSRW	J. Sargeant Re	27.35	27	P		P	17 53 43.7	-1.7
T60A	Surry	27.43	30	P		P	17 53 44.7	-1.4
PV02	Paradox Valley	27.81	333	P		P	17 53 49.1	-0.7
Q56A	Snyder Ridge,	27.94	24	P		P	17 53 50.6	-0.1
Q56A				IAmb		IAmb	17 53 52.0	
	comp=Z,11nm,0.9s							
PV22	Blue Mesa, Par	28.10	334	P		P	17 53 53.3	+0.9
W13A	Hualapai Mount	28.11	322	P		P	17 53 53.8	+1.3
U15A	North Rim	28.15	326	P		P	17 53 52.9	-0.1
KNB	Kanab	28.87	326	P		P	17 54 01.3	+2.0
KNB				IAmb		IAmb	17 54 39.7	
	comp=Z,8.0nm,1.3s							
V12A	Nelson	29.11	322	P		P	17 54 01.9	+0.6
V12A				IAmb		IAmb	17 54 04.0	
	comp=Z,11nm,1.2s							
SMRT	St. Maarten	29.30	78	P		P	17 54 01.7	-1.4
TBTG	Tabatinga, AM	29.34	126	*e*P		P	17 54 04.0	+0.6
SGCB	S£o Gabriel d	29.49	116	*e*P		P	17 54 06.8	+2.1
P17A	Butcher Ranch,	29.74	332	P		P	17 54 07.9	+1.0
P17A				IAmb		IAmb	17 54 09.5	
	comp=Z,4.3nm,0.8s							
TMUT	Trail Mountain	29.81	331	P		P	17 54 07.7	0.0
ECSD	EROS Data Cent	29.84	355	P		P	17 54 06.7	-0.9
SPR3	Spring Creek 3	31.14	327	P		P	17 54 20.7	+1.3
SPR3				IAmb		IAmb	17 54 21.7	
	comp=Z,3.9nm,1.0s							
SPMN	Marine on St.	31.20	1	P		P	17 54 19.4	-0.1
DUG	Dugway, Tooele	31.28	330	P		P	17 54 21.1	+0.6
R11A	Troy Canyon, C	31.35	325	P		P	17 54 20.5	-0.6
TCUT	Toone Canyon	31.37	333	P		P	17 54 23.5	+2.1
TCUT				IAmb		IAmb	17 54 24.5	
	comp=Z,10nm,0.9s							
GRAC	Grapevine Rang	31.47	321	P		P	17 54 24.6	+2.5
GRAC				IAmb		IAmb	17 54 25.4	
	comp=Z,17nm,1.1s							
RSSD	Black Hills	31.47	345	P		P	17 54 23.2	+1.0
RSSD				IAmb		IAmb	17 54 26.6	
	comp=Z,3.6nm,0.8s							
GMN	Gold Mountain	31.60	322	P		P	17 54 25.5	+2.0
MZP	Montezuma Peak	31.94	322	P		P	17 54 28.0	+1.5
PD31	Pinedale Array	31.99	337	P		P	17 54 25.6	-1.2
PDAR	Pinedale Array	31.99	337	P		P	17 54 27.9	+1.1
	comp=Z,0.8nm,0.9s,baz=147,slow=8.3,SNR=6.1							
PDAR				PcP		PcP	17 57 14.9	-1.6
	comp=Z,0.2nm,0.5s,baz=145,slow=6.5,SNR=1.9							
	comp=Z,0.8nm,0.9s							
TPH	Tonopah	32.09	323	P		P	17 54 29.2	+1.5
TPH				IAmb		IAmb	17 54 30.5	
	comp=Z,14nm,0.9s							
HVU	Hansel Valley	32.51	332	P		P	17 54 32.0	+0.7
HVU				IAmb		IAmb	17 54 34.1	
	comp=Z,8.1nm,1.1s							
NV11	Mina Array Sit	32.88	323	P		P	17 54 37.1	+2.5
NV11				IAmb		IAmb	17 54 37.8	
	comp=Z,11nm,1.0s							
ELK	Elko	32.90	328	P		P	17 54 36.3	+1.5
ELK				IAmb		IAmb	17 54 37.7	
	comp=Z,5.1nm,1.1s							
NVAR	Mina Array Bea	32.97	322	P		P	17 54 36.7	+1.3
	comp=Z,6.6nm,0.8s,baz=142,slow=8.7,SNR=21							
NVAR				PcP		PcP	17 57 19.9	+0.6
	comp=Z,0.3nm,0.3s,baz=128,slow=5.8,SNR=2.7							
	comp=Z,6.6nm,0.8s							
NVAR	Mina Array Bea	32.97	322	P		P	17 54 37.0	+1.6
REDW	Red Top Meadow	33.00	336	P		P	17 54 35.8	+0.2
REDW				IAmb		IAmb	17 54 38.3	
	comp=Z,9.1nm,1.1s							
SADO	Sadowa	33.01	19	LR		LR	18 07 57.1	
	comp=Z,89nm,20.5s,baz=195,slow=36							
SNOW	Snow King Moun	33.05	336	P		P	17 54 37.7	+1.6
SNOW				IAmb		IAmb	17 54 38.8	
	comp=Z,12nm,0.9s							
LOHW	Long Hollow	33.11	337	P		P	17 54 38.0	+1.4
LOHW				IAmb		IAmb	17 54 39.1	
	comp=Z,5.7nm,1.1s							
TPAW	Teton Pass	33.14	336	P		P	17 54 38.8	+1.8
TPAW				IAmb		IAmb	17 54 39.7	
	comp=Z,6.3nm,1.1s							
KVN	Kaiserville	33.26	323	P		P	17 54 37.0	-0.9
KVN				IAmb		IAmb	17 54 56.0	
	comp=Z,5.7nm,1.1s							
MOOW	Moose Ponds	33.28	337	P		P	17 54 39.4	+1.3
BMN	Battle Mountai	33.71	326	P		P	17 54 43.9	+2.0
BMN				IAmb		IAmb	17 54 44.7	
	comp=Z,3.4nm,0.8s							
BOAV	Boa Vista	34.32	107	P		P	17 54 47.3	+0.1
BOAV				IAmb		IAmb	17 55 00.4	
	comp=Z,9.5nm,1.2s							
AGMN	Agassiz Nation	34.34	357	P		P	17 54 46.6	-0.3
AGMN				IAmb		IAmb	17 54 49.9	
	comp=Z,7.6nm,0.7s							
QLMT	Earthquake Lak	34.46	337	P		P	17 54 47.5	-0.8
HLID	Hailey	34.66	333	P		P	17 54 48.9	-1.1
BCYI	Bear Canyon	34.82	334	P		P	17 54 53.6	+2.2
MCMT	McKenzie Canyo	35.01	335	P		P	17 54 55.4	+2.3
BEKR	Beckworth	35.11	322	P		P	17 54 55.9	+1.9
BEKR				IAmb		IAmb	17 54 56.3	
	comp=Z,11nm,1.4s							
BOZ	Bozeman (W)	35.18	337	P		P	17 54 54.8	+0.3
ETMB	Extrema	35.74	130	P		P	17 54 58.0	-1.3
ETMB				IAmb		IAmb	17 55 06.9	
	comp=Z,3.4nm,0.7s							
ETMB	Extrema	35.74	130	*e*P		P	17 54 59.4	0.0
WVOR	Wild Horse Val	35.88	327	P		P	17 55 01.7	+1.3
WVOR				IAmb		IAmb	17 55 02.9	
	comp=Z,6.9nm,1.1s							
ULM	Lac du Bonnet	36.29	357	P		P	17 55 02.5	-1.1
	comp=Z,6.8nm,0.6s,baz=161,slow=9.7,SNR=6.9							
	comp=Z,6.8nm,0.6s							
ULM	Lac du Bonnet	36.29	357	P		P	17 55 03.0	-0.7
ULM				IAmb		IAmb	17 55 05.0	
	comp=Z,6.8nm,0.7s							
J08A	Circle Bar Ran	36.45	328	P		P	17 55 05.3	0.0
J08A				IAmb		IAmb	17 55 07.7	
	comp=Z,13nm,1.2s							
MACA	Manacapuru-AM	36.51	115	*e*P		P	17 55 08.0	+2.0
F10A	Beach Ranch, E	37.80	332	P		P	17 55 17.0	+0.3
F10A				IAmb		IAmb	17 55 18.5	
	comp=Z,11nm,1.1s							
LPAZ	La Paz	38.97	140	P		P	17 55 25.7	-1.7
	comp=Z,1.7nm,0.7s,baz=348,slow=11,SNR=6.7							
	comp=Z,1.7nm,0.7s							
LPAZ	La Paz	38.97	140	*e*P		P	17 55 26.4	-1.0
HOOD	Mount Hood Mea	39.45	328	P		P	17 55 31.6	+1.0
HOOD				IAmb		IAmb	17 55 37.1	
	comp=Z,15nm,0.8s							
PB16	IPOC Station P	39.71	143	P		P	17 55 33.2	-0.3
MNMC	Minye Minye	40.28	144	P		P	17 55 38.4	+0.4
MNMC				IAmb		IAmb	17 55 40.1	
	comp=Z,8.3nm,1.0s							
MDP	Montagnes des	40.96	98	LR		LR	18 15 32.8	
	comp=Z,38nm,18.2s,baz=167,slow=41							
ITTB	Itaituba	41.44	113	*e*P		P	17 55 49.5	+2.1
EDM	Edmonton	42.32	342	P		P	17 55 54.5	+0.4
EDM				IAmb		IAmb	17 55 55.6	
	comp=Z,25nm,1.5s							
NPGB	Novo Progresso	43.01	117	*e*P		P	17 56 02.1	+1.9
SIV	San Ignacio	43.55	132	P		P	17 56 02.7	-1.8
	comp=Z,2.8nm,0.8s,baz=310,slow=7.9,SNR=10							
	comp=Z,2.8nm,0.8s							
CLDB	Colider	44.59	122	*e*P		P	17 56 16.7	+3.8
PTLB	Pontes e Lacer	44.62	130	P		P	17 56 12.2	-0.8
PTLB				IAmb		IAmb	17 56 13.7	
	comp=Z,9.2nm,1.3s							
PTLB	Pontes e Lacer	44.62	130	*e*P		P	17 56 12.2	-0.8
SCHQ	Schefferville	45.73	21	LR		LR	18 17 41.1	
	comp=Z,134nm,18.1s,baz=202,slow=39							
PRPB	Parauapebas	47.53	112	*e*P		P	17 56 38.9	+2.8
SMTB	Santa Maria do	50.67	114	*e*P		P	17 57 03.5	+3.4
YKA	Yellowknife Ar	50.82	347	P		P	17 57 01.2	+0.7
	comp=Z,2.9nm,0.5s,baz=153,slow=7.3,SNR=14							
	comp=Z,2.9nm,0.5s							
DLBC	Dease Lake	52.23	337	P		P	17 57 13.7	+2.5
DLBC				IAmb		IAmb	17 57 14.0	
	comp=Z,12nm,1.1s							
FRB	Frobisher Bay	52.67	14	LR		LR	18 19 22.1	
	comp=Z,63nm,20.7s,baz=182,slow=36							
WTLY	Watson Lake, Y	52.93	339	P		P	17 57 18.2	+1.8
WTLY				IAmb		IAmb	17 57 18.7	
	comp=Z,11nm,1.2s							
CPUP	Villa Florida	53.13	139	P		P	17 57 15.2	-3.0
	comp=Z,2.3nm,0.7s,baz=326,slow=7.3,SNR=5.2							
	comp=Z,2.3nm,0.7s							
N31M	Braeburn, Yuko	56.41	337	P		P	17 57 42.8	+1.3
N31M				IAmb		IAmb	17 57 43.8	
	comp=Z,8.6nm,0.9s							
M30M	Minto, Yukon	57.46	338	P		P	17 57 50.1	+1.1
M30M				IAmb		IAmb	17 57 50.8	
	comp=Z,9.5nm,1.4s							
MCARA	McCarthy VSAT	59.23	335	P		P	17 58 01.7	+0.4
BCAR	Beaver Creek A	59.62	337	P		P	17 58 04.9	+0.9
L27K	Beaver Creek,	59.63	337	P		P	17 58 05.3	+1.2
L27K				IAmb		IAmb	17 58 06.0	
	comp=Z,9.6nm,1.2s							
M26K	Nabesna, AK	59.74	336	P		P	17 58 05.2	+0.3
M26K				IAmb		IAmb	17 58 07.1	
	comp=Z,10nm,1.3s							
GDU01	Guandu, BA	59.85	115	*e*P		P	17 58 10.4	+4.1
INK	Inuvik	60.17	344	P		P	17 58 08.0	+0.4
K27K	Chicken	60.25	338	P		P	17 58 07.7	-0.6
K27K				IAmb		IAmb	17 58 11.2	
	comp=Z,5.1nm,1.1s							
CMC01	Camacan, BA	60.60	117	*e*P		P	17 58 15.7	+4.3
RES	Resolute Bay	60.76	360	LR		LR	18 29 38.0	
	comp=Z,54nm,19.1s,baz=2.0,slow=41							
RES	Resolute Bay	60.76	360	P		P	17 58 11.0	-0.6
RES				IAmb		IAmb	17 58 17.4	
	comp=Z,4.8nm,1.1s							
AY01	Puyuhuapi	61.03	163	P		P	17 58 12.6	-1.1
J26L	Joseph Creek	61.05	338	P		P	17 58 13.3	-0.6
J26L				IAmb		IAmb	17 58 15.5	
	comp=Z,3.1nm,0.8s							
A36M	Sachs Harbour	61.09	349	P		P	17 58 08.5	-5.3
A36M				IAmb		IAmb	17 58 19.7	
	comp=Z,8.5nm,0.8s							
RIB01	Linhares ES	61.65	121	*e*P		P	17 58 24.4	+5.9
HDA	Harding Lake	62.28	337	P		P	17 58 22.4	+0.4
HDA				IAmb		IAmb	17 58 38.4	
	comp=Z,6.9nm,1.3s							
PRP	Porcupine Dome	62.28	338	P		P	17 58 22.9	+0.6
PRP				IAmb		IAmb	17 58 27.9	
	comp=Z,6.9nm,0.9s							
IL31		62.42	337	P		P	17 58 23.1	+0.2
ILAR	Eielson Array	62.42	337	P		P	17 58 23.1	0.0
	comp=Z,3.3nm,0.9s,baz=145,slow=4.0,SNR=26							
	comp=Z,3.3nm,0.9s							
ILAR	Eielson Array	62.42	337	P		P	17 58 23.5	+0.5
RND	Reindeer	62.58	335	P		P	17 58 24.7	+0.6
MCK	McKinley	62.75	336	P		P	17 58 25.7	+0.5
BMAR	Burnt Mountain	62.94	340	P		P	17 58 26.8	+0.3
BWN	Browne	63.15	336	P		P	17 58 28.2	+0.4
KTH	Kantishna Hill	63.48	335	P		P	17 58 30.6	+0.4
I23K	Minto, Yukon-K	63.53	337	P		P	17 58 31.1	+0.7
BPAW	Bear Paw Mtn.	63.73	336	P		P	17 58 32.2	+0.5
BPAW				IAmb		IAmb	17 58 32.5	
	comp=Z,5.4nm,0.9s							
CAST	Castle Rocks	63.91	335	P		P	17 58 32.9	-0.1
CAST				IAmb		IAmb	17 58 33.6	
	comp=Z,9.1nm,1.1s							
MLY	Manley	64.01	337	P		P	17 58 33.9	+0.3
MLY				IAmb		IAmb	17 58 34.8	
	comp=Z,7.1nm,1.1s							
K20K	Telida	64.72	334	P		P	17 58 37.6	-0.6
K20K				IAmb		IAmb	17 58 43.7	
	comp=Z,4.8nm,0.8s							
BORG	Borgarnes	69.81	26	LR		LR	18 32 15.4	
	comp=Z,102nm,18.1s,baz=162,slow=38							
BBTS	Babate	74.00	79	LR		LR	18 29 29.3	
	comp=Z,63nm,19.5s,baz=324,slow=34							
SPITS	Spitsbergen Ar	80.41	11	LR		LR	18 39 32.0	
	comp=Z,80nm,18.2s,baz=203,slow=38							
ESDC	Sonseca Array	80.73	51	P		P	18 00 12.8	-1.1
	comp=Z,2.1nm,0.9s,baz=292,slow=5.9,SNR=10							
	comp=Z,2.1nm,0.9s							
ESDC	Sonseca Array	80.73	51	P		P	18 00 12.2	-1.7
MDT	Midelt	81.49	58	LR		LR	18 31 52.0	
	comp=Z,34nm,18.9s,baz=356,slow=32							
NB2	NORSAR Subarra	84.80	28	P		P	18 00 35.7	+1.2
	comp=Z,0.8nm,0.7s,baz=290,slow=5.1							
NOA	NORSAR Array B	84.80	28	P		P	18 00 33.8	-0.7
	comp=Z,2.6nm,0.9s,baz=323,slow=1.7,SNR=4.4							
	comp=Z,2.6nm,0.9s							
ARCES	ARCESS Array B	86.59	18	P		P	18 00 43.5	+0.2
	comp=Z,4.0nm,0.9s,baz=312,slow=7.0,SNR=2.2							
ARCES				LR		LR	18 41 17.3	
	comp=Z,70nm,18.1s,baz=302,slow=37							
	comp=Z,4.0nm,0.9s							
TIXI	Tiksi	90.07	348	P		P	18 00 59.2	-0.5
	comp=Z,2.5nm,0.7s,baz=330,slow=0.3,SNR=10							
	comp=Z,2.5nm,0.7s							
FINES	FINESS Array B	91.09	25	P		P	18 01 03.9	-0.7
	comp=Z,5.3nm,1.1s,baz=225,slow=0.3,SNR=7.5							
	comp=Z,5.3nm,1.1s							
RAO	Raoul Island	92.12	241	LR		LR	18 33 37.9	
	comp=Z,106nm,20.5s,baz=282,slow=30							
AKASG	Malin Array Be	98.47	33	LR		LR	18 48 00.1	
	comp=Z,62nm,18.4s,baz=310,slow=37							
MKAR	Malanchi Array	119.43	3	PKP		PKPdf	18 06 48.6	-1.4
	comp=Z,0.5nm,0.8s,baz=349,slow=4.4,SNR=2.9							
WRA	Warramunga Arr	134.18	256	PKP		PKPdf	18 07 17.4	-1.3
	comp=Z,1.0nm,0.7s,baz=87,slow=2.1,SNR=14							
ASAR	Alice Springs	134.48	250	PKP		PKPdf	18 07 17.6	-1.6
	comp=Z,0.6nm,0.9s,baz=95,slow=1.6,SNR=5.4							
CMAR	Chiang Mai Arr	145.64	339	PKPbc		PKPdf	18 07 39.3	-0.3
	comp=Z,7.8nm,0.9s,baz=344,slow=4.2,SNR=50							
KAPI	Kappang	146.28	282	PKPbc		PKPbc	18 07 42.4	+0.5
	comp=Z,4.7nm,0.3s,baz=311,slow=3.8,SNR=4.3							

ISK ***16*** *17:48:51.3,37.˚94N×26.˚92E,h5km,ML2.7/20*
DDA ***16*** *17:48:51.5±0.0,37.˚92N×26.˚92E,h8km±1km,ML2.2*

ISC 16 17:48:51.9±0.9,37.˚93N±0.˚02×26.˚92E±0.˚03,h12km±7km, n34,σ0.˚57/51,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGB	zmir	0.12	345	P	Pg	17 48 55.1	+0.1
DGB				*i* AML	AML	17 48 57.0	
	comp=N,1µm,0.1s						
DGB				*i* AML	AML	17 48 57.0	
	comp=E,1µm,0.4s						
DGB				S	Sg	17 48 57.1	-0.2
GCAM	G?zelcaml?	0.34	133	PG	Pg	17 48 58.7	0.0
GCAM				SG	Sg	17 49 03.4	+0.2
GCAM	G?zelcaml?	0.34	133	P	Pg	17 48 58.6	-0.1
GCAM				*i* AML	AML	17 49 03.0	
	comp=N,550nm,0.4s						
GCAM				*i* AML	AML	17 49 03.0	
	comp=E,423nm,0.6s						
GCAM				S	Sg	17 49 03.5	+0.2
ZEYE	Izmir, Urla-Ze	0.45	313	P	Pg	17 49 00.8	0.0
ZEYE				S	Sb	17 49 07.9	-0.6
BLCB	Balcova	0.46	12	PG	Pg	17 49 00.5	-0.5
BLCB				SG	Sg	17 49 07.1	0.0
URLA	Izmir	0.50	329	PG	Pg	17 49 01.1	-0.6
URLA				SG	Sg	17 49 08.7	+0.4
URLA	Izmir	0.50	329	P	Pg	17 49 00.7	-1.0
URLA				S	Sg	17 49 08.3	0.0
URLA				*i* AML	AML	17 49 11.0	
	comp=E,124nm,0.2s						
DDIM	Aydin, Didim	0.54	152	P	Pb	17 49 02.8	-0.5
DDIM				S	Sg	17 49 09.6	0.0
DDIM				*i* AML	AML	17 49 11.0	
	comp=N,125nm,0.7s						
DDIM				*i* AML	AML	17 49 13.0	
	comp=E,133nm,0.7s						
AYDB	Zeytinkoy-Aydi	0.77	89	PG	Pb	17 49 06.8	-0.4
FOCM	Foa	0.79	349	PG	Pg	17 49 06.8	-0.4
FOCM				SG	Sb	17 49 17.9	-0.4
AYDN	Tasoluk	0.81	109	P	Pg	17 49 07.3	-0.2
AYDN				S	Sg	17 49 17.3	-0.7
AYDN				*i* AML	AML	17 49 20.0	
	comp=N,59nm,0.5s						
AYDN				*i* AML	AML	17 49 22.0	
	comp=E,63nm,0.3s						
BODT	Bodrum	0.92	160	PG	Pg	17 49 09.4	-0.3
BODT				SG	Sb	17 49 22.7	+0.6
MLSB	Milas	0.93	133	PG	Pb	17 49 10.1	+0.1
BDRM	Kayabasi	0.96	154	P	Pg	17 49 09.8	-0.6
BDRM				S	Sg	17 49 22.5	-0.4
BDRM				*i* AML	AML	17 49 24.0	
	comp=E,59nm,0.6s						
ZEDA	zmir-Bergama	1.04	7	P	Pg	17 49 11.5	-0.4
ZEDA				S	Sb	17 49 25.6	+0.2
ZEDA				*i* AML	AML	17 49 29.0	
	comp=N,54nm,0.8s						
GOMA	Golmarmara-Man	1.10	45	PN	Pb	17 49 12.9	0.0
DKL	Dikili	1.14	359	PN	Pb	17 49 13.4	-0.1
AKHS	Akhisar	1.18	36	P	Pg	17 49 13.6	-0.9
AKHS				S	Sn	17 49 30.4	+0.2
AKHS				*i* AML	AML	17 49 32.0	
	comp=E,63nm,0.4s						
AKS	Akhisar	1.18	36	PN	Pn	17 49 14.3	+0.1
KOSK	Kos Island	1.18	178	PN	Pn	17 49 14.6	+0.4
DAT	Datca	1.31	156	PN	Pg	17 49 17.1	0.0
YER	Yerkesik	1.34	126	PN	Pg	17 49 17.6	-0.1
MANT	Manisa	1.40	66	P	Pg	17 49 18.7	-0.2
MANT				S	Sb	17 49 34.3	-1.8
MANT				*i* AML	AML	17 49 38.0	
	comp=N,47nm,0.3s						
MANT				*i* AML	AML	17 49 38.0	
	comp=E,49nm,0.3s						
APE	Apeiranthos	1.40	232	PN	Pg	17 49 18.4	-0.5
KULA	Kula-Manisa	1.49	67	PN	Pb	17 49 19.4	-0.1
SIGR	SIGRI	1.53	327	PN	Pb	17 49 19.9	-0.2
TURN	Turunc	1.56	137	PN	Pb	17 49 20.9	+0.1
BUHA	Balikesir, Bur	1.57	4	P	Pb	17 49 21.0	+0.1
BUHA				S	Sg	17 49 42.3	-0.1
BUHA				*i* AML	AML	17 49 44.0	
	comp=E,31nm,0.4s						
BUHA				*i* AML	AML	17 49 48.0	
	comp=N,34nm,0.8s						
STEP	BALIKESIR_Sava	1.57	23	P	Pb	17 49 21.1	+0.2
STEP				S	Sn	17 49 40.1	+0.2
STEP				*i* AML	AML	17 49 45.0	
	comp=E,22nm,0.3s						
STEP				*i* AML	AML	17 49 46.0	
	comp=N,32nm,0.7s						
DALY	Dalyan (Mula)	1.77	128	PN	Pb	17 49 23.9	-0.4
ARG	Arkhangelos	1.97	150	PN	Pb	17 49 26.6	-1.0
SIMA	Simav-Kutahya	1.98	54	PN	Pn	17 49 26.5	+1.1
BOZC	Bozcaada	2.02	341	PN	Pn	17 49 26.9	+1.1
BASM	Basmaki-Afyon	2.47	89	PN	Pn	17 49 33.6	+1.5

WEL 16 17:58:35.8±0.3,42.˚5S±3.˚×17.˚4E±.˚,h9km±2km,M3.2/2, ML3.5/23,ML3.1/2,MLv3.3/32,MLv3.2/2,Error ellipse: s-maj=0.0km s-min=0.0km az=152.1,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.06	211	P	Pg	17 58 38.3	+0.6
CMWZ				S	Sg	17 58 40.9	+1.7
BSWZ	Blackbirch Sta	0.29	266	P	Pg	17 58 41.9	+0.4
BSWZ				S	Sb	17 58 46.9	-1.2
TUWZ	Tuamarina	0.35	318	P	Pg	17 58 43.5	+0.7
TCW	Tory Channel	0.48	2	P	Pg	17 58 45.7	+0.5
WEL	Wellington	0.56	43	P	Pb	17 58 47.7	-0.2
PLWZ	Palliser	0.76	81	P	Pb	17 58 51.6	+0.4
MSWZ	Moikau Station	0.80	70	P	Pb	17 58 52.0	+0.1
NNZ	Nelson	0.81	306	P	Pg	17 58 51.5	0.0
CAW	Cannon Point	0.85	46	P	Pb	17 58 52.5	-0.2
DUWZ	D'Urville Isla	0.93	344	P	Pg	17 58 53.5	-0.1
PAWZ	Paruwai Farm	0.93	71	P	Pb	17 58 54.0	-0.2
KIW	Kapiti Island	0.97	31	P	Pg	17 58 54.4	0.0
THZ	Tophouse	1.01	266	P	Pg	17 58 55.1	-0.2
MTW	Mount Morrison	1.08	61	P	Pg	17 58 56.0	-0.5
TRWZ	Traveller	1.11	75	P	Pg	17 58 56.2	-1.0
OGWZ	Otaki Gorge	1.11	38	P	Pg	17 58 56.9	-0.3
MRNZ	Matariki Terra	1.16	284	P	Pb	17 58 58.1	0.0
TKNZ	Takaka Hill	1.18	304	P	Pb	17 58 58.0	-0.4
HOWZ	Holdsworth Sta	1.24	50	P	Pn	17 58 58.7	-0.6
TMWZ	Te Maipa	1.36	65	P	Pn	17 58 59.7	-1.4
MRZ	Mangatainoka R	1.44	44	P	Pn	17 59 01.6	-0.5
TIWZ	Tintock	1.53	54	P	Pn	17 59 02.6	-0.8
GVZ	Greta Valley S	1.56	215	P	Pn	17 59 02.4	-1.4
QRZ	Quartz Range	1.56	303	P	Pb	17 59 04.5	-0.4
CPWZ	Castlepoint	1.66	62	P	Pg	17 59 09.5	+1.8
PRWZ	Pori Road	1.73	49	P	Pn	17 59 05.9	-0.1
POWZ	Post Office Ro	1.73	42	P	Pn	17 59 06.0	-0.2
BFZ	Birch Farm	1.81	57	P	Pn	17 59 06.2	-1.0
LTZ	Lake Taylor	1.83	233	P	Pn	17 59 06.6	-1.0
DSZ	Denniston Nort	1.84	268	P	Pn	17 59 08.6	+1.0
DVHZ	Dannevirke	2.01	47	P	Pn	17 59 09.0	-0.9
WAZ	Wanganui	2.02	16	P	Pg	17 59 13.6	-0.9
ANWZ	Angora Road	2.08	54	P	Pg	17 59 16.6	+0.9
TSZ	Takapari Road	2.08	39	P	Pn	17 59 10.7	-0.3
OKCZ	Okains Bay	2.21	203	P	Pn	17 59 10.3	-2.5
PNHZ	Pukenui	2.31	40	P	Pn	17 59 13.2	-0.9
OXZ	Oxford	2.31	224	P	Pn	17 59 11.8	-2.3
INZ	Inchbonnie	2.33	243	P	Pb	17 59 17.4	-0.6
MQZ	McQueen's Vall	2.33	210	P	Pn	17 59 11.3	-3.0
KHEZ	Kahui Hut	2.41	356	P	Pb	17 59 18.7	-0.6
NEZ	North Egmont	2.42	357	P	Pb	17 59 20.9	+1.2
NBEZ	Newall Road No	2.44	353	P	Pb	17 59 21.1	+1.2
PKE	Pukeiti	2.51	355	P	Pb	17 59 21.9	+0.8
PKVZ	Pokaka	2.54	19	P	Pb	17 59 22.

baz=291
KSU1 S **Sg** **17 59 39.4 +1.8**
baz=291
BGNE Belgrade 1.80 10 Pn **Pb** **17 59 20.0 +0.1**
BGNE **Sb** **17 59 43.0 0.0**
BGNE Belgrade 1.80 10 P **Pb** **17 59 20.7 +0.8**
baz=188
BGNE S **Sg** **17 59 44.8 +0.8**
baz=188
BGNE Belgrade 1.80 10 P **Pb** **17 59 20.3 +0.4**
baz=188
BGNE S **Sg** **17 59 44.6 +0.7**
baz=188
KAN12 Harper NE Stat 2.37 169 **Pn** **17 59 27.4 +1.1**
KAN06 Argonia West S 2.44 167 **Pn** **17 59 27.3 +0.1**
KS21 Milan North St 2.45 163 **Pn** **17 59 27.3 +0.1**
KAN08 Anthony NE Sta 2.45 169 **Pn** **17 59 26.5 -0.7**
KAN08 **Sn** **17 59 58.2 +0.5**
KAN08 IAmb_Lg 18 00 07.0
comp=Z,92nm,0.8s
KS20 Mayfield South 2.53 161 **Pn** **17 59 27.9 -0.3**
KS20 IAmb_Lg 18 00 08.1
comp=Z,99nm,0.7s
N35A Tabor 2.55 60 Pn **Pn** **17 59 29.5 +0.9**
N35A Tabor 2.55 60 P **Pb** **17 59 31.2 -1.4**
baz=242
KAN01 Argonia South 2.56 166 IAmb_Lg 18 00 11.8
comp=Z,126nm,0.9s
KAN05 Bluff City Nor 2.58 168 **Pn** **17 59 27.3 -1.7**
KAN17 Caldwell West 2.66 166 **Pn** **17 59 29.4 -0.8**
KAN14 Manchester OK 2.71 170 Pn **Pn** **17 59 31.7 +0.9**
KAN13 South Haven SW 2.75 162 **Pn** **17 59 33.0 +1.6**
KAN13 IAmb_Lg 18 00 15.8
comp=Z,116nm,0.8s
GC02 Grant County # 2.83 169 **Pn** **17 59 33.2 +0.7**
OK032 Salt Plains WL 2.84 174 Pn **Pn** **17 59 33.0 +0.5**
L34A Svendsen Farm, 2.86 35 Pn **Pn** **17 59 34.5 +1.7**
OK035 E0210 Rd and N 2.92 182 **Pn** **17 59 35.0 +1.2**
OGNE Ogallala 2.96 297 Pn **Pn** **17 59 36.0 +1.6**
OGNE IAmb_Lg 18 00 20.9
comp=Z,140nm,0.7s
OGNE Ogallala 2.96 297 P **Pn** **17 59 36.3 +1.9**
baz=114
OGNE S **Sn** **18 00 13.2 +2.6**
baz=114
OGNE Ogallala 2.96 297 P **Pn** **17 59 36.3 +1.9**
baz=114
OGNE S **Sn** **18 00 13.3 +2.6**
baz=114
K31A O'Neill 2.99 357 Pn **Pn** **17 59 34.2 -0.5**
NOKA Waynoka 3.01 186 **Pn** **17 59 36.6 +1.7**
BLOK Blackwell 3.06 159 **Pn** **17 59 36.7 +1.1**
BLOK IAmb_Lg 18 00 30.6
comp=Z,80nm,0.8s
OK038 West end E0370 3.15 183 Pn **Pn** **17 59 37.9 +1.0**
T35A Sooner Cattle 3.16 149 **Pn** **17 59 38.1 +1.2**
T35B Sooner Cattle 3.16 149 P **Pn** **17 59 38.8 +1.8**
baz=331
CROK Carrier 3.16 172 Pn **Pn** **17 59 39.4 +2.4**
KSCO Kaye Shedlock' 3.22 260 Pn **Pn** **17 59 39.2 +1.3**
KSCO IAmb_Lg 18 00 31.0
comp=Z,145nm,0.8s
KSCO Kaye Shedlock' 3.22 260 P **Pn** **17 59 40.0 +2.1**
baz=78
KSCO Kaye Shedlock' 3.22 260 P **Pn** **17 59 40.0 +2.1**
baz=78
KSCO Sb **Sb** **18 00 26.6 +2.8**
baz=78
OK051 E0350 and S346 3.41 156 Pn **Pn** **17 59 40.2 -0.2**
OK045 Pawnee Station 3.43 157 Pn **Pn** **17 59 42.4 +1.6**
OK048 Pawnee Station 3.46 158 Pn **Pn** **17 59 41.6 +0.6**
OK048 IAmb_Lg 18 00 43.8
comp=Z,78nm,0.8s
OK050 Pawnee Station 3.47 158 **Pn** **17 59 41.9 +0.7**
OK046 Pawnee Station 3.48 158 **Pn** **17 59 42.2 +0.7**
OK044 Pawnee Station 3.54 156 Pn **Pn** **17 59 42.5 +0.3**
ELIS Ellis County 3.63 191 Pn **Pn** **17 59 43.7 +0.3**
QUOK Quay 3.75 156 **Pn** **17 59 45.9 +0.7**
QUOK IAmb_Lg 18 00 55.7
comp=Z,37nm,0.9s
OK033 Mehan 3.81 160 **Pn** **17 59 46.2 +0.4**
OK053 SW of W Deep R 3.88 158 Pn **Pn** **17 59 47.1 +0.2**
P38A Dawn 3.88 89 Pn **Pn** **17 59 46.4 -0.5**
P38A IAmb_Lg 18 00 57.6
comp=Z,125nm,0.8s
OK052 Battle Ridge R 3.89 159 Pn **Pn** **17 59 47.2 +0.2**
OK034 N. Norfolk Rd. 3.90 157 Pn **Pn** **17 59 47.3 +0.1**
OK034 IAmb_Lg 18 00 57.0
comp=Z,64nm,0.8s
OK031 S. Brethren Rd 3.92 159 Pn **Pn** **17 59 46.4 -1.1**
CSTR Hydro, Custer 3.98 182 Pn **Pn** **17 59 49.1 +0.8**
CSTR IAmb_Lg 18 00 59.6
comp=Z,9.1nm,0.7s
BCOK Bluff Creek, N 4.04 169 Pn **Pn** **17 59 48.4 -0.7**
BCOK IAmb_Lg 18 00 53.5
comp=Z,16nm,0.7s
DEOK Depew 4.12 156 Pn **Pn** **17 59 48.8 -1.5**
DEOK IAmb_Lg 18 01 06.9
comp=Z,22nm,0.7s
OK025 Westminster Rd 4.16 166 **Pn** **17 59 50.7 0.0**
N38A Joes South For 4.24 72 **Pn** **17 59 50.6 -1.2**
N38A Joes South For 4.24 72 P **Pn** **17 59 53.5 +1.6**
baz=256
TUL1 Leonard 4.32 149 Pn **Pn** **17 59 52.5 -0.3**
TUL1 IAmb_Lg 18 01 11.5
comp=Z,99nm,0.8s
TUL1 Leonard 4.32 149 S **Sn** **18 00 44.3 +0.5**
baz=331
ECSD EROS Data Cent 4.35 19 Pn **Pn** **17 59 52.4 -1.0**
ECSD EROS Data Cent 4.35 19 P **Pn** **17 59 56.2 +2.9**
baz=199
ECSD Sb **Sg** **18 01 02.4 -3.3**
baz=199
RLO Rose Lookout 4.45 140 Pn **Pn** **17 59 54.2 -0.6**
RLO IAmb_Lg 18 01 17.2
comp=Z,51nm,0.8s
FNO Franklin 4.46 168 Pn **Pn** **17 59 56.0 +1.1**
FNO IAmb_Lg 18 01 18.2
comp=Z,46nm,0.7s
BRIGG Briggsdale 4.52 284 **Pn** **17 59 54.2 -1.6**
S39A Bolivar 4.54 114 **Pn** **17 59 55.2 -0.7**
U38A Gravette 4.58 133 **Pn** **17 59 56.0 -0.7**
U38A IAmb_Lg 18 01 14.1
comp=Z,90nm,0.9s
SCIA State Center 4.65 59 **Pn** **17 59 56.6 -0.9**
SUSD Miller 4.81 357 IAmb_Lg 18 01 22.6
comp=Z,105nm,0.7s
SUSD Miller 4.81 357 S **Sn** **18 00 57.0 +0.9**
baz=176
WMOK Wichita Mounta 4.89 182 **Pn** **18 00 02.1 +1.3**
WMOK Wichita Mounta 4.89 182 P **Pn** **18 00 02.7 +1.9**
baz=2.8
WMOK S **Sn** **18 00 58.4 +0.3**
baz=2.8
HHAR Hobbs 4.95 131 **Pn** **18 00 00.7 -0.9**
HHAR IAmb_Lg 18 01 29.0
comp=Z,51nm,0.9s
P40A Paris 5.03 89 **Pn** **18 00 00.7 -2.0**
X34A Smith Ranch, M 5.06 173 Pn **Pn** **18 00 02.5 -0.6**
X34A IAmb_Lg 18 01 34.7
comp=Z,61nm,0.8s
R40A Maddies Statio 5.08 103 **Pn** **18 00 02.9 -0.6**
R40A IAmb_Lg 18 01 33.1
comp=Z,68nm,0.8s
Q24A Divide 5.16 265 **Pn** **18 00 04.4 -0.3**
Q24A IAmb_Lg 18 01 45.2
comp=Z,73nm,0.7s
Q24A Divide 5.16 265 S **Sn** **18 01 06.7 +1.7**
baz=80
T25A Trinidad 5.23 243 Pn **Pn** **18 00 05.7 0.0**
K38A Parkersburg 5.31 54 IAmb_Lg 18 01 45.9
comp=Z,72nm,0.7s
AMTX Amarillo 5.36 209 Pn **Pn** **18 00 07.9 +0.7**
AMTX Amarillo 5.36 209 P **Pn** **18 00 09.4 +2.1**
baz=27
ISCO Idaho Springs 5.44 274 S **Sn** **18 01 13.7 +1.6**
baz=89
PHWY Pilot Hill 5.52 290 IAmb_Lg 18 01 41.2
comp=Z,49nm,0.8s
MGMO Mountain Grove 5.53 115 **Pn** **18 00 08.5 -1.1**
MGMO IAmb_Lg 18 01 52.9
comp=Z,60nm,0.9s
X37A Clayton 5.64 152 IAmb_Lg 18 01 57.5
comp=Z,51nm,0.8s
LOOK Love County 5.74 168 IAmb_Lg 18 02 02.5
comp=Z,64nm,0.9s
SDCO Great Sand Dun 5.75 253 **Pn** **18 00 12.7 -0.2**
SDCO IAmb_Lg 18 01 51.4
comp=Z,41nm,0.8s
SDCO Great Sand Dun 5.75 253 P **Pg** **18 00 33.8 -2.5**
baz=69
SDCO S **Sn** **18 01 22.0 +2.4**
baz=69
N23A Red Feather La 5.79 285 **Pn** **18 00 12.9 -0.4**
N23A IAmb_Lg 18 01 49.9
comp=Z,74nm,0.7s
N23A Red Feather La 5.79 285 P **Pg** **18 00 36.5 -0.5**
baz=100
I37A Lemond, Waseca 5.83 40 **Pn** **18 00 12.2 -1.5**
CCM Cathedral Cave 5.92 103 **Pn** **18 00 15.2 +0.3**
CCM IAmb_Lg 18 01 59.9
comp=Z,62nm,0.8s
N41A Harden Midland 6.00 77 **Pn** **18 00 15.0 -1.0**
RSSD Black Hills 6.07 319 **Pb** **18 00 32.4 -0.3**
RSSD IAmb_Lg 18 02 10.2
comp=Z,44nm,0.9s
L40A Anamosa 6.07 64 **Pn** **18 00 16.7 -0.2**
L40A IAmb_Lg 18 02 14.5
comp=Z,52nm,0.8s
FCAR Ozark Folk Cen 6.32 124 **Pn** **18 00 17.6 -2.8**
FCAR IAmb_Lg 18 02 15.3
comp=Z,33nm,0.7s
Z35A Perchaven, San 6.38 170 IAmb_Lg 18 02 26.0
comp=Z,30nm,0.9s
F33A 5 Mile Ranch, 6.42 14 Pn **Pn** **18 00 19.8 -2.0**
F33A IAmb_Lg 18 02 15.0
comp=Z,36nm,0.8s
MIAR Mount Ida 6.45 140 **Pn** **18 00 21.2 -1.1**
FVM French Village 6.56 102 Pn **Pn** **18 00 22.7 -1.0**
FVM IAmb_Lg 18 02 15.7
comp=Z,50nm,0.8s
MSTX Muleshoe 6.59 212 **Pn** **18 00 23.4 -0.7**
MSTX IAmb_Lg 18 02 23.3
comp=Z,46nm,0.9s
WHAR Wooly Hollow 6.61 129 **Pn** **18 00 23.6 -0.8**
K22A Casper 6.72 299 Pn **Pn** **18 00 26.1 0.0**
K22A IAmb_Lg 18 02 35.2
comp=Z,57nm,0.9s
S22A 4UR Ranch, Cre 6.74 256 Pn **Pn** **18 00 27.4 +1.0**
LCAR Lake Charles 6.85 119 Pn **Pn** **18 00 26.7 -1.0**
LCAR IAmb_Lg 18 02 28.4
comp=Z,29nm,0.8s
UALR University of 6.94 132 IAmb_Lg 18 02 45.0
comp=Z,40nm,0.9s
Z38A Mt. Pleasant 6.98 155 IAmb_Lg 18 02 45.5
comp=Z,40nm,0.8s
PBMO Poplar Bluff 7.01 111 IAmb_Lg 18 02 40.2
comp=Z,31nm,0.8s
SPMN Marine on St. 7.02 35 Pn **Pn** **18 00 28.4 -1.6**
SPMN IAmb_Lg 18 02 32.5
comp=Z,36nm,0.8s
ABTX Abilene, Hawle 7.05 187 Pn **Pn** **18 00 28.5 -2.0**
JFWS Jewell Farm 7.07 60 Pn **Pn** **18 00 28.9 -1.8**
JFWS IAmb_Lg 18 02 48.4
comp=Z,51nm,0.8s
E28A Huff 7.11 348 IAmb_Lg 18 02 44.0
comp=Z,55nm,1.1s
L42A Oliver, Polo 7.15 68 **Pn** **18 00 29.4 -2.3**
L42A IAmb_Lg 18 02 30.9
comp=Z,46nm,0.7s
F36A Milaca 7.24 29 Pn **Pn** **18 00 32.7 -0.3**
I40A Norwalk 7.30 52 IAmb_Lg 18 02 57.4
comp=Z,30nm,0.7s
CGM3 Cape Girardeau 7.36 106 **Pn** **18 00 31.9 -2.8**
CGM3 IAmb_Lg 18 02 43.7
comp=Z,51nm,1.0s
WLAR White Oak Lake 7.37 142 IAmb_Lg 18 02 43.8
comp=Z,40nm,0.9s
O20A White River Ci 7.46 277 IAmb_Lg 18 02 60.0
comp=Z,36nm,1.0s
ANMO Albuquerque 7.84 236 Pn **Pn** **18 00 44.2 +2.7**
comp=Z,0.9nm,0.5s,baz=55,slow=14,SNR=1.8
ANMO Pg Pg 18 01 11.2 -5.1
comp=Z,2.0nm,0.3s,baz=54,slow=16,SNR=19
ANMO Lg Lg 18 02 48.6
comp=Z,1.6nm,0.3s,baz=136,slow=21,SNR=2.9
CCAR Cane Creek 7.88 134 IAmb_Lg 18 03 04.6
comp=Z,47nm,0.8s
I42A Draeger Farm, 8.37 56 IAmb_Lg 18 03 14.3
comp=Z,35nm,1.0s
NATX Nacogdoches 8.47 157 IAmb_Lg 18 03 32.6
comp=Z,23nm,0.9s
E38A The Farm, Brul 8.64 34 IAmb_Lg 18 03 24.5
comp=Z,39nm,1.0s
W45A Hickory Valley 8.69 118 IAmb_Lg 18 03 30.1
comp=Z,37nm,0.8s
PDAR Pinedale Array 8.86 294 Pn **Pn** **18 00 54.9 -0.6**
comp=Z,0.5nm,0.3s,baz=106,slow=15,SNR=15
PDAR Pg Pg 18 01 17.1 -19
comp=Z,0.6nm,0.3s,baz=108,slow=16,SNR=8.0
PDAR Lg Lg 18 03 12.6
comp=Z,0.6nm,0.3s,baz=110,slow=16,SNR=2.2
comp=Z,1.2nm,0.5s
435B Jarrell 8.87 175 IAmb_Lg 18 03 38.8
comp=Z,38nm,0.8s
OXF Oxford 8.92 122 IAmb_Lg 18 03 30.1
comp=Z,35nm,0.9s
Y45A Yeager Farm, C 9.24 126 IAmb_Lg 18 03 53.0
comp=Z,37nm,0.8s
B35A Bob, Littlefor 9.39 20 IAmb_Lg 18 03 52.2
comp=Z,30nm,1.1s
COWI Conover 9.46 44 IAmb_Lg 18 04 04.9
comp=Z,18nm,1.0s
EYMN Ely 9.75 29 IAmb_Lg 18 03 55.5
comp=Z,18nm,0.8s
ULM Lac du Bonnet 10.78 9 Pn Pn 18 01 15.1 -6.5
comp=Z,1.0nm,0.3s,baz=268,slow=12,SNR=2.1
ULM Sn Sn 18 03 07.9 -15
comp=Z,0.5nm,0.3s,baz=72,slow=20,SNR=2.0
ULM Lg Lg 18 04 05.6
comp=Z,1.1nm,0.3s,baz=266,slow=7.3,SNR=3.0
TXAR Lajitas Array 11.10 204 Pn **Pn** **18 01 26.0 -0.1**
comp=Z,0.8nm,0.3s,baz=32,slow=10,SNR=36
TXAR Pg 18 02 11.1
comp=Z,0.3nm,0.3s,baz=21,slow=16,SNR=2.5
TXAR Lg Lg 18 04 35.1
comp=Z,0.8nm,0.3s,baz=24,slow=27,SNR=4.7
comp=Z,1.7nm,0.4s
TKL Tuckaleechee C 12.37 104 Pn **Pn** **18 01 44.5 +1.1**
comp=Z,0.3nm,0.3s,baz=229,slow=11,SNR=5.0
TKL Lg Lg 18 05 10.6
comp=Z,0.6nm,0.3s,baz=13,slow=22,SNR=2.0
comp=Z,2.0nm,0.5s
ILAR Eielson Array 37.43 328 P **P** **18 05 58.8 -1.7**
comp=Z,0.4nm,0.6s,baz=111,slow=7.2,SNR=4.4
comp=Z,0.4nm,0.6s
FINES FINESS Array B 69.74 25 P **P** **18 09 56.5 -0.9**
comp=Z,1.8nm,0.8s,baz=309,slow=6.8,SNR=1.7
comp=Z,1.8nm,0.8s

WEL 16 18:09:03.0±0.4,**42°S**±3°×**17°4E**±°,**h8**km±4km,**M3.6**/32,
ML3.9/18,**MLv3.6**/32,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=149.7,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**243**	P	Pg	18 09 05.9	+0.8
CMWZ				S	Sg	18 09 08.4	+1.9
BSWZ	**Blackbirch Sta**	**0.32**	**270**	P	Pg	18 09 09.7	+0.3
BSWZ				S	Sg	18 09 14.8	+1.2
TUWZ	**Tuamarina**	**0.39**	**317**	P	Pg	18 09 11.4	+0.7
TUWZ				S	Sb	18 09 17.8	-0.6
TCW	**Tory Channel**	**0.51**	**358**	P	Pb	18 09 13.5	-0.6
TCW				S	Sb	18 09 21.4	-0.2
WEL	**Wellington**	**0.56**	**39**	P	Pb	18 09 14.9	-0.1
PLWZ	**Palliser**	**0.73**	**79**	P	Pb	18 09 18.3	+0.3
MSWZ	**Moikau Station**	**0.77**	**67**	P	Pb	18 09 19.0	+0.3
CAW	**Cannon Point**	**0.84**	**44**	P	Pb	18 09 19.8	-0.1
NNZ	**Nelson**	**0.85**	**305**	P	Pg	18 09 19.4	-0.1
PAWZ	**Paruwai Farm**	**0.91**	**69**	P	Pb	18 09 20.8	-0.2
DUWZ	**D'Urville Isla**	**0.96**	**342**	P	Pg	18 09 21.4	0.0
KIW	**Kapiti Island**	**0.97**	**28**	P	Pb	18 09 22.0	-0.1
THZ	**Tophouse**	**1.05**	**267**	P	Pg	18 09 23.2	+0.1
MTW	**Mount Morrison**	**1.06**	**59**	P	Pg	18 09 23.0	-0.4
TRWZ	**Traveller**	**1.09**	**74**	P	Pg	18 09 22.9	-1.0
OGWZ	**Otaki Gorge**	**1.11**	**36**	P	Pg	18 09 24.4	0.0
MRNZ	**Matariki Terra**	**1.20**	**285**	P	Pg	18 09 26.1	0.0
TKNZ	**Takaka Hill**	**1.22**	**304**	P	Pb	18 09 26.1	-0.2
HOWZ	**Holdsworth Sta**	**1.23**	**49**	P	Pb	18 09 25.5	-1.0
TMWZ	**Te Maipa**	**1.34**	**64**	P	Pn	18 09 26.6	-1.5
MRZ	**Mangatainoka R**	**1.43**	**43**	P	Pn	18 09 28.4	-0.9
TIWZ	**Tintock**	**1.52**	**52**	P	Pn	18 09 29.4	-1.1
QRZ	**Quartz Range**	**1.60**	**303**	P	Pb	18 09 32.4	-0.5
OHWZ	**Ohakea**	**1.69**	**27**	P	Pg	18 09 35.0	-0.5
PRWZ	**Pori Road**	**1.71**	**48**	P	Pn	18 09 31.8	-1.4
POWZ	**Post Office Ro**	**1.73**	**40**	P	Pn	18 09 32.6	-0.7
BFZ	**Birch Farm**	**1.79**	**56**	P	Pn	18 09 32.6	-1.7
AMCZ	**Amberley**	**1.90**	**219**	P	Pg	18 09 40.4	+0.9
DVHZ	**Dannevirke**	**2.00**	**46**	P	Pn	18 09 35.5	-1.6
WAZ	**Wanganui**	**2.03**	**15**	P	Pb	18 09 40.9	+0.8
ANWZ	**Angora Road**	**2.07**	**53**	P	Pn	18 09 36.2	-1.8
TSZ	**Takapari Road**	**2.08**	**38**	P	Pn	18 09 37.2	-1.0
LREZ	**Lake Rotokare**	**2.25**	**2**	P	Pg	18 09 45.9	-0.3
PRHZ	**Porangahau**	**2.28**	**51**	P	Pb	18 09 38.8	-2.2
PNHZ	**Pukenui**	**2.31**	**39**	P	Pn	18 09 40.0	-1.4
WPHZ	**Waipukurau**	**2.31**	**45**	P	Pn	18 09 40.0	-1.4
NMEZ	**Namu Road**	**2.32**	**352**	P	Pg	18 09 47.0	-0.5
INZ	**Inchbonnie**	**2.35**	**244**	P	Pb	18 09 43.8	-1.8
KHEZ	**Kahui Hut**	**2.43**	**355**	P	Pb	18 09 46.6	-0.4
NEZ	**North Egmont**	**2.45**	**356**	P	Pb	18 09 47.0	-0.3
NBEZ	**Newall Road No**	**2.47**	**352**	P	Pb	18 09 47.2	-0.4
DREZ	**Durham Road**	**2.52**	**358**	P	Pg	18 09 50.3	-1.1
PKE	**Pukeiti**	**2.53**	**354**	P	Pb	18 09 46.9	-1.8
PKVZ	**Pokaka**	**2.55**	**19**	P	Pb	18 09 50.0	+0.9
MOVZ	**Moawhango**	**2.56**	**26**	P	Pn	18 09 45.1	+0.3
WNVZ	**Wahianoa**	**2.58**	**23**	P	Pn	18 09 47.0	+1.7
TRVZ	**Turoa**	**2.59**	**22**	P	Pn	18 09 47.1	+1.6
BHHZ	**Black Hill Sta**	**2.60**	**32**	P	Pb	18 09 50.3	+0.4
VRZ	**Vera Road**	**2.61**	**8**	P	Pb	18 09 48.3	-1.7
DRZ	**Dome Shelter**	**2.62**	**22**	P	Pg	18 09 52.1	-1.2
WHVZ	**Whangaehu Hut**	**2.62**	**22**	P	Pb	18 09 49.3	-1.1
FWVZ	**Far West T-bar**	**2.64**	**22**	P	Pb	18 09 50.6	0.0
MHEZ	**Mangahewa**	**2.64**	**0**	P	Pb	18 09 49.9	-0.6
TUVZ	**Tukino**	**2.65**	**23**	P	Pb	18 09 51.1	+0.2
NGZ	**Ngauruhoe**	**2.72**	**22**	P	Pb	18 09 50.7	-1.4
SNVZ	**South Ngauruho**	**2.73**	**22**	P	Pb	18 09 52.6	+0.5
KAHZ	**Kahuranaki**	**2.74**	**46**	P	Pn	18 09 44.9	-2.5
OTVZ	**Oturere**	**2.75**	**23**	P	Pb	18 09 53.4	+0.8
NNVZ	**North Ngauruho**	**2.77**	**22**	P	Pn	18 09 49.7	+1.9
WTVZ	**West Tongariro**	**2.78**	**21**	P	Pb	18 09 53.6	+0.6
TWVZ	**Taurewa**	**2.78**	**19**	P	Pb	18 09 52.8	-0.2
ETVZ	**East Tongariro**	**2.79**	**23**	P	Pb	18 09 53.6	+0.4
KWHZ	**Kaweka Forest**	**2.80**	**36**	P	Pn	18 09 46.9	-1.3
TMVZ	**Te Maari**	**2.81**	**23**	P	Pb	18 09 53.2	-0.3
KRVZ	**Karewarewa**	**2.81**	**22**	P	Pb	18 09 54.4	+0.8
NTVZ	**North Tongarir**	**2.82**	**22**	P	Pb	18 09 53.5	-0.2
WVZ	**Waitaha Valley**	**2.97**	**242**	P	Pn	18 09 54.0	-2.1
RPZ	**Rata Peaks**	**3.12**	**229**	P	Pn	18 09 52.2	-0.3
ARCZ	**Arundel**	**3.20**	**225**	P	Pn	18 09 52.0	-1.7
HIZ	**Hauiti**	**3.23**	**8**	P	Pn	18 09 56.4	+2.4
GCSZ	**Gaunt Creek Bo**	**3.35**	**240**	P	Pb	18 09 59.3	-3.3
TLZ	**Tolley Road**	**3.51**	**16**	P	Pb	18 10 04.4	-1.1
TMZ	**Timaru**	**3.60**	**221**	P	Pn	18 09 57.8	-1.4
FOZ	**Fox Glacier**	**3.78**	**240**	P	Pn	18 10 03.3	+1.8
TOZ	**Tahuroa Road**	**4.08**	**13**	P	Pb	18 10 12.0	-3.2
JCZ	**Jackson Bay**	**4.69**	**238**	P	Pn	18 10 17.3	+3.2

*NEIC **16** 18:09:33.6±1.6,9.26S±0.10×110.37E±0.07,h48km±11km,*
mb4.2/9,Error ellipse: s-maj=15.5km s-min=8.2km
az=207.0
*DJA **16** 18:09:33.0±0.3,9.3°S×11.0°E±°,h10km,M4.5/16,mb4.8/6,*
mB5.0/1,MLv4.3/16,Mw(mB)4.4/1
*IDC **16** 18:09:38.0±2.1,8.62S×110.75E,h64km±22km,mb3.5/5,*
mbtmp3.9/7,Error ellipse: s-maj=42.0km s-min=12.6km
az=35.0

ISC 16 18:09:33.2±0.7,**9.36S**±0.10×**110.36E**±0.07,**h50**km,**n48,**
σ2S17/49,mb4.1/9,South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.42**	**35**	P	**Pn**	**18 09 54.5**	**-2.1**
UGM	**Wanagama**	**1.45**	**7**	Pn	**Pn**	**18 09 55.4**	**-1.7**
UGM	**Wanagama**	**1.45**	**7**	P	**Pn**	**18 09 55.3**	**-1.8**
YOGI	**Yogyakarta**	**1.54**	**358**	P	**Pn**	**18 09 56.5**	**-1.7**
NGJI	**Ngawi**	**2.26**	**29**	P	**Pn**	**18 10 11.3**	**+3.1**
SMRI	**Semarang**	**2.30**	**2**	Pn	**Pn**	**18 10 09.5**	**+0.8**
SMRI	**Semarang**	**2.30**	**2**	P	**Pn**	**18 10 09.7**	**+1.0**
KRKI	**Karangkates**	**2.39**	**60**	P	**Pn**	**18 10 12.4**	**+2.5**
CTJI	**Waduk Cacaban**	**2.61**	**334**	P	**Pn**	**18 10 13.4**	**+0.5**
GMJI	**Gumukmas**	**3.24**	**71**	P	**Pn**	**18 10 22.3**	**+0.8**
LEM	**Lembang**	**3.70**	**313**	P	**Pn**	**18 10 30.0**	**+2.0**
	22nm,0.4s,baz=68,slow=8.3,SNR=6.2						
LEM				S	**Sn**	**18 11 13.6**	**+3.1**
	88nm,0.7s,baz=308,slow=11,SNR=5.0						
LEM	**Lembang**	**3.70**	**313**	P	**Pn**	**18 10 29.4**	**+1.4**
JAGI	**Jajag, Banyuwa**	**3.85**	**77**	Pn	**Pn**	**18 10 31.2**	**+1.2**
JAGI	**Jajag, Banyuwa**	**3.85**	**77**	P	**Pn**	**18 10 33.0**	**+3.0**
BYJI	**Banyuwangi**	**4.12**	**74**	P	**Pn**	**18 10 38.0**	**+4.4**
BWJI	**Bawean**	**4.17**	**33**	P	**Pn**	**18 10 35.4**	**+1.1**
RTBI	**Rangdo, Negare**	**4.62**	**79**	P	**Pn**	**18 10 44.0**	**+3.5**
SRBI	**Singaraja**	**4.97**	**76**	P	**Pn**	**18 10 48.3**	**+3.0**
KLNI	**Mataram**	**5.75**	**81**	P	**Pn**	**18 10 58.0**	**+2.0**
	0.2nm24nm,0.5s						
TWSI	**Taliwang, Sumb**	**6.48**	**85**	P	**Pn**	**18 11 09.0**	**+3.0**
	0.2nm1μm21nm,0.6s						
KASI	**Kota Agung**	**6.95**	**303**	P	**Pn**	**18 11 13.1**	**+0.6**
	0.2nm11nm,1.2s						
PLAI	**Plampang**	**7.35**	**86**	P	**Pn**	**18 11 20.5**	**+2.5**
	0.3nm67nm,0.8s						
MNAI	**Manna**	**8.87**	**304**	Pn	**Pn**	**18 11 35.7**	**-3.1**
MNAI	**Manna**	**8.87**	**304**	P	**Pn**	**18 11 38.8**	**0.0**
	269nm,1.2s						
EGSI	**Enggano, Bengk**	**8.95**	**296**	P	**Pn**	**18 11 39.4**	**-0.5**
	89nm,2.1s						
BSSI	**Bau Bau, Buton**	**10.54**	**73**	P	**Pn**	**18 12 04.6**	**+2.9**
	39nm,1.4s						
BATI	**Baumata**	**13.14**	**95**	P	**Pn**	**18 12 37.2**	**-0.1**
	8.6nm,0.5s,baz=80,slow=3.2,SNR=4.4						
BATI				S	**Sn**	**18 15 00.1**	**-2.0**
	11nm,0.6s,baz=72,slow=20,SNR=1.9						
GIRL	**Giralia**	**13.72**	**165**	Pn	**Pn**	**18 12 44.4**	**-0.7**
SOEI	**Soe**	**13.73**	**93**	Pn	**Pn**	**18 12 45.6**	**+0.2**
KNRA	**Kununurra**	**19.03**	**111**		**P**	**18 13 49.8**	**-1.4**
KNRA				IAmb	IAmb	18 14 03.7	
	comp=Z,29nm,1.2s						
MTN	**Manton Dam**	**20.68**	**102**	P	**P**	**18 14 08.7**	**-0.5**
WB0	**Warramunga Arr**	**25.43**	**117**	P	**P**	**18 14 56.8**	**+0.3**
WB0				IAmb	IAmb	18 15 04.9	
	comp=Z,7.6nm,1.1s						
WRA	**Warramunga Arr**	**25.44**	**117**	P	**P**	**18 14 59.9**	**+3.3**
	comp=Z,1.1nm,0.9s,baz=291,slow=11,SNR=18						
WRA				PcP	**PcP**	**18 18 30.5**	**+2.6**
	comp=Z,0.2nm,0.7s,baz=311,slow=1.4,SNR=1.3						
	comp=Z,1.1nm,0.9s						
WRA	**Warramunga Arr**	**25.44**	**117**	P	**P**	**18 14 56.6**	**0.0**
WRAB	**Tennant Creek**	**25.45**	**117**	IAmb	IAmb	18 14 55.2	
	comp=Z,16nm,1.5s						
WRAB				P	**P**	**18 14 56.0**	**-0.6**
WB2	**Warramunga Arr**	**25.45**	**117**	P	**P**	**18 14 57.2**	**+0.5**
ASAR	**Alice Springs**	**26.62**	**125**	P	**P**	**18 15 12.3**	**+5.0**
	comp=Z,0.8nm,0.6s,baz=299,slow=8.9,SNR=21						
ASAR				PcP	**PcP**	**18 18 33.7**	**+3.2**
	comp=Z,0.5nm,0.6s,baz=304,slow=1.9,SNR=7.3						
	comp=Z,0.8nm,0.6s						
H08S2	**Diego Garcia H**	**37.47**	**270**	T	T	18 56 38.7	
	baz=96,slow=74,SNR=3.7						
H08S3	**Diego Garcia H**	**37.48**	**270**	T	T	18 56 35.8	
	baz=96,slow=74,SNR=5.9						
H08S1	**Diego Garcia H**	**37.49**	**270**	T	T	18 56 37.5	
	baz=96						
EIDS	**Eidsvold**	**41.80**	**118**	P	**P**	**18 17 14.5**	**-3.8**
SONM	**Songino Array**	**57.05**	**357**	P	**P**	**18 19 12.9**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=173,slow=7.7,SNR=4.6						
	comp=Z,0.4nm,0.5s						
MK31	**Makanchi Array**	**61.26**	**338**	P	**P**	**18 19 42.3**	**-0.9**
MK

ML3.6/19, **MLv3.3**/31, **Error ellipse: s-maj=0.0km s-min=0.0km az=149.2, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.06**	**254**	P	Pg	18 11 28.6	+0.5
CMWZ				S	Sg	18 11 31.2	+1.5
BSWZ	**Blackbirch Sta**	**0.31**	**273**	P	Pg	18 11 32.5	+0.5
BSWZ				S	Sb	18 11 37.8	-0.4
TUWZ	**Tuamarina**	**0.40**	**320**	P	Pb	18 11 34.2	-0.5
TCW	**Tory Channel**	**0.52**	**359**	P	Pg	18 11 36.4	+0.4
WEL	**Wellington**	**0.58**	**39**	P	Pb	18 11 37.7	0.0
WEL				S	Sb	18 11 46.6	+0.7
PLWZ	**Palliser**	**0.74**	**78**	P	Pb	18 11 41.1	+0.4
MSWZ	**Moikau Station**	**0.79**	**67**	P	Pb	18 11 41.8	+0.4
NNZ	**Nelson**	**0.85**	**307**	P	Pg	18 11 42.2	0.0
CAW	**Cannon Point**	**0.86**	**43**	P	Pb	18 11 42.6	0.0
PAWZ	**Paruwai Farm**	**0.93**	**68**	P	Pg	18 11 43.6	0.0
DUWZ	**D'Urville Isla**	**0.97**	**343**	P	Pg	18 11 44.2	-0.2
KIW	**Kapiti Island**	**0.99**	**29**	P	Pg	18 11 44.8	0.0
THZ	**Tophouse**	**1.03**	**268**	P	Pn	18 11 46.0	-0.2
MTW	**Mount Morrison**	**1.08**	**58**	P	Pb	18 11 45.8	-0.5
TRWZ	**Traveller**	**1.10**	**73**	P	Pb	18 11 45.7	-1.1
OGWZ	**Otaki Gorge**	**1.13**	**36**	P	Pb	18 11 47.1	-0.1
MRNZ	**Matariki Terra**	**1.20**	**286**	P	Pg	18 11 48.8	+0.2
TKNZ	**Takaka Hill**	**1.22**	**305**	P	Pn	18 11 48.7	0.0
HOWZ	**Holdsworth Sta**	**1.25**	**48**	P	Pn	18 11 48.2	-0.8
TMWZ	**Te Maipa**	**1.36**	**63**	P	Pn	18 11 49.4	-1.1
MRZ	**Mangatainoka R**	**1.45**	**43**	P	Pn	18 11 51.2	-0.6
TIWZ	**Tintock**	**1.54**	**52**	P	Pn	18 11 52.2	-0.8
GVZ	**Greta Valley S**	**1.54**	**217**	P	Pn	18 11 51.9	-1.2
QRZ	**Quartz Range**	**1.60**	**304**	P	Pb	18 11 55.3	0.0
CPWZ	**Castlepoint**	**1.66**	**61**	P	Pn	18 11 54.2	-0.5
PRWZ	**Pori Road**	**1.73**	**48**	P	Pn	18 11 54.7	-1.0
POWZ	**Post Office Ro**	**1.75**	**40**	P	Pn	18 11 55.4	-0.4
BFZ	**Birch Farm**	**1.81**	**55**	P	Pn	18 11 55.4	-1.4
LTZ	**Lake Taylor**	**1.83**	**234**	P	Pn	18 11 55.2	-1.9
DSZ	**Denniston Nort**	**1.86**	**269**	P	Pb	18 11 58.7	-0.9
DVHZ	**Dannevirke**	**2.02**	**45**	P	Pn	18 11 58.1	-1.5
WAZ	**Wanganui**	**2.05**	**15**	P	Pb	18 12 03.3	+0.4
ANWZ	**Angora Road**	**2.09**	**53**	P	Pg	18 12 07.1	+1.4
TSZ	**Takapari Road**	**2.10**	**38**	P	Pn	18 11 60.0	-0.8
OKCZ	**Okains Bay**	**2.19**	**204**	P	Pn	18 11 60.0	-2.0
OXZ	**Oxford**	**2.30**	**225**	P	Pn	18 12 03.4	-0.1
PRHZ	**Porangahau**	**2.30**	**51**	P	Pn	18 12 01.6	-1.9
MQZ	**McQueen's Vall**	**2.31**	**211**	P	Pn	18 12 01.2	-2.4
PNHZ	**Pukenui**	**2.33**	**39**	P	Pn	18 12 02.8	-1.1
INZ	**Inchbonnie**	**2.33**	**244**	P	Pb	18 12 06.7	-1.0
WPHZ	**Waipukurau**	**2.33**	**45**	P	Pb	18 12 10.8	+0.4
NMEZ	**Namu Road**	**2.34**	**352**	P	Pg	18 12 09.8	-0.7
KHEZ	**Kahui Hut**	**2.44**	**355**	P	Pb	18 12 09.9	+0.2
NEZ	**North Egmont**	**2.46**	**357**	P	Pg	18 12 11.7	-1.2
NBEZ	**Newall Road No**	**2.48**	**352**	P	Pb	18 12 10.7	+0.4
DRHZ	**Durham Road**	**2.54**	**359**	P	Pb	18 12 12.9	+1.6
PKE	**Pukeiti**	**2.55**	**355**	P	Pb	18 12 09.7	-1.7
MOVZ	**Moawhango**	**2.58**	**26**	P	Pb	18 12 11.8	-0.2
WNVZ	**Wahianoa**	**2.60**	**23**	P	Pb	18 12 13.7	+1.3
TRVZ	**Turoa**	**2.62**	**22**	P	Pb	18 12 12.1	-0.6
BHHZ	**Black Hill Sta**	**2.62**	**32**	P	Pb	18 12 13.0	+0.4
VRZ	**Vera Road**	**2.63**	**8**	P	Pn	18 12 10.1	+2.1
WHVZ	**Whangaehu Hut**	**2.64**	**22**	P	Pb	18 12 14.6	+1.5
FWVZ	**Far West T-bar**	**2.66**	**22**	P	Pb	18 12 13.9	+0.5
TUVZ	**Tukino**	**2.67**	**23**	P	Pb	18 12 14.7	+1.1
NGZ	**Ngauruhoe**	**2.75**	**22**	P	Pb	18 12 15.0	+0.1
SNVZ	**South Ngauruho**	**2.75**	**23**	P	Pb	18 12 15.7	+0.8
KAHZ	**Kahuranaki**	**2.76**	**46**	P	Pn	18 12 07.7	-2.2
OTVZ	**Oturere**	**2.77**	**23**	P	Pb	18 12 16.3	+1.0
NNVZ	**North Ngauruho**	**2.79**	**22**	P	Pb	18 12 13.2	-2.4
WTVZ	**West Tongariro**	**2.80**	**21**	P	Pb	18 12 16.5	+0.8
TWVZ	**Taurewa**	**2.80**	**19**	P	Pb	18 12 16.5	+0.8
ETVZ	**East Tongariro**	**2.81**	**23**	P	Pb	18 12 16.5	+0.5
KWKZ	**Kaweka Forest**	**2.82**	**36**	P	Pb	18 12 17.7	+1.6
TMVZ	**Te Maari**	**2.83**	**23**	P	Pb	18 12 16.7	+0.4
KRVZ	**Karewarewa**	**2.83**	**22**	P	Pb	18 12 17.4	+1.1
WVZ	**Waitaha Valley**	**2.95**	**242**	P	Pb	18 12 17.6	-0.6
KATZ	**Kakaramea**	**2.96**	**22**	P	Pb	18 12 19.8	+1.4
RPZ	**Rata Peaks**	**3.10**	**229**	P	Pn	18 12 16.4	+1.9
HIZ	**Hauiti**	**3.25**	**8**	P	Pn	18 12 19.7	+3.2

*DJA **16** 18:14:38.8±0.3, 9.7°S±4.1°×11.7°E±0.6°, h10km, M4.7/20, mB5.4/4, mb4.7/10, MLv4.7/20, Mw(mB)4.8/4*
*IDC **16** 18:14:45.4±1.7, 8.7°S±3.5°×110.6°E±2.6°, h71km±16km, mb3.7/12, mbtmp4.1/15, MS3.4/17, Error ellipse: s-maj=22.4km s-min=10.3km az=36.0*
*NEIC **16** 18:14:46.6±1.6, 8.8°S±0.1°×110.6°E±0.7°, h83km±8km, mb4.2/15, Error ellipse: s-maj=16.9km s-min=5.4km az=209.0*

ISC 16 18:14:42.0±0.5, **9.16S**±0.07°×**110.39E**±0.06°, **h51**km, **n102**, σ1s**84**/90, **mb4.1**/19, **MS3.3**/15, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.23**	**39**	P	**Pn**	**18 15 01.6**	**-1.3**
UGM	**Wanagama**	**1.25**	**6**		**Pn**	**18 15 02.4**	**-0.7**
UGM	**Wanagama**	**1.25**	**6**	P	**Pn**	**18 15 02.0**	**-1.1**
UGM	**Wanagama**	**1.25**	**6**	P	**Pn**	**18 15 02.9**	**-0.2**
YOGI	**Yogyakarta**	**1.34**	**356**	P	**Pn**	**18 15 03.3**	**-1.1**
NGJI	**Ngawi**	**2.07**	**31**	P	**Pn**	**18 15 17.9**	**+3.6**
SMRI	**Semarang**	**2.10**	**1**		**Pn**	**18 15 16.7**	**+1.9**
SMRI	**Semarang**	**2.10**	**1**	P	**Pn**	**18 15 16.5**	**+1.8**
SMRI	**Semarang**	**2.10**	**1**	P	**Pn**	**18 15 17.5**	**+2.8**
KRKI	**Karangkates**	**2.27**	**64**	P	**Pn**	**18 15 18.0**	**+1.0**
CTJI	**Waduk Cacaban**	**2.45**	**331**	P	**Pn**	**18 15 20.6**	**+1.0**
GRJI	**Gresik**	**3.04**	**43**	P	**Pn**	**18 15 29.4**	**+1.8**
GMJI	**Gumukmas**	**3.14**	**74**	P	**Pn**	**18 15 30.3**	**+1.3**
BBJI	**Bungbulang**	**3.20**	**302**	P	**Pn**	**18 15 28.8**	**-1.0**
LEM	**Lembang**	**3.60**	**310**	P	Pn	18 15 39.8	+4.4
	38nm,0.4s,baz=86,slow=13,SNR=5.6						
LEM				S	**Sn**	**18 16 20.3**	**+3.6**
	298nm,1.0s,baz=143,slow=23,SNR=12						
LEM				LR	LR	18 17 12.8	
	comp=Z,460nm,19.0s,baz=115,slow=41						
LEM	**Lembang**	**3.60**	**310**	P	**Pn**	**18 15 36.5**	**+1.1**
CNJI	**Cibinong**	**3.72**	**299**	P	**Pn**	**18 15 35.2**	**-1.7**
JAGI	**Jajag, Banyuwa**	**3.78**	**80**		**Pn**	**18 15 38.7**	**+1.0**
JAGI	**Jajag, Banyuwa**	**3.78**	**80**	P	**Pn**	**18 15 38.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**3.78**	**80**	P	**Pn**	**18 15 39.1**	**+1.4**
BWJI	**Bawean**	**3.98**	**34**	P	**Pn**	**18 15 42.2**	**+1.7**
BYJI	**Banyuwangi**	**4.03**	**77**	P	**Pn**	**18 15 44.7**	**+3.6**
ABJI	**Asem Bagus**	**4.03**	**71**	P	**Pn**	**18 15 45.1**	**+3.9**
RTBI	**Rangdo, Negare**	**4.55**	**82**	P	**Pn**	**18 15 51.3**	**+3.0**
IGBI	**Denpasar**	**4.71**	**86**	P	**Pn**	**18 15 52.9**	**+2.4**
DNP	**Denpasar**	**4.78**	**85**	P	**Pn**	**18 15 54.0**	**+2.5**
XMI	**Christmas Isla**	**4.81**	**254**	P	**Pn**	**18 15 50.2**	**-1.7**
SRBI	**Singaraja**	**4.88**	**78**	P	**Pn**	**18 15 56.0**	**+3.1**
	0.9nm60nm,0.8s						
KLNI	**Mataram**	**5.68**	**83**	P	**Pn**	**18 16 05.6**	**+1.7**
	0.3nm2µm34nm,0.4s						
TWSI	**Taliwang, Sumb**	**6.42**	**87**	P	**Pn**	**18 16 15.7**	**+1.7**
	0.4nm2µm58nm,0.5s						
PBKI	**Pangkalan Bun**	**6.54**	**11**	P	**Pn**	**18 16 16.6**	**+1.0**
	0.4nm11µm33nm,0.5s						
KASI	**Kota Agung**	**6.88**	**301**	P	**Pn**	**18 16 20.2**	**0.0**
	0.2nm32nm,0.9s						
PLAI	**Plampang**	**7.30**	**88**	P	**Pn**	**18 16 28.1**	**+2.0**
	0.4nm1µm76nm,0.5s						
PLAI	**Plampang**	**7.30**	**88**	P	**Pn**	**18 16 27.9**	**+1.8**
MNAI	**Manna**	**8.79**	**302**	P	**Pn**	**18 16 46.3**	**-0.2**
KAPI	**Kappang**	**10.16**	**67**	P	**Pn**	**18 17 05.2**	**0.0**
	5.5nm,0.8s,baz=137,slow=9.3,SNR=2.1						
KAPI				LR	LR	18 21 34.2	
	comp=Z,212nm,18.2s,baz=262,slow=42						
KAPI	**Kappang**	**10.16**	**67**	Pn	**Pn**	**18 17 03.0**	**-2.2**
BSSI	**Bau Bau, Buton**	**10.45**	**74**	P	**Pn**	**18 17 11.5**	**+2.3**
	38nm,1.4s						
MMRI	**Maumere**	**11.71**	**88**		**Pn**	18 17 22.5	-4.0
MMRI	**Maumere**	**11.71**	**88**	P	**Pn**	**18 17 27.0**	**+0.5**
BATI	**Baumata**	**13.12**	**96**	P	**Pn**	**18 17 45.2**	**-0.6**
	15nm,0.5s,baz=79,slow=1.8,SNR=9.4						
BATI				S	**Sn**	**18 20 08.2**	**-2.1**
	12nm,0.3s,baz=301,slow=22,SNR=5.3						
BATI	**Baumata**	**13.12**	**96**	P	**Pn**	**18 17 44.9**	**-0.9**
	24nm,1.1s						
SOEI	**Soe**	**13.70**	**94**		**Pn**	**18 17 52.8**	**-0.9**
SOEI	**Soe**	**13.70**	**94**	P	**Pn**	**18 17 52.6**	**-1.1**
	22nm,0.8s						
SOEI	**Soe**	**13.70**	**94**	P	**Pn**	**18 17 52.7**	**-1.0**
GIRL	**Giralia**	**13.90**	**165**	Pn	**Pn**	**18 17 54.4**	**-1.9**
GIRL	**Giralia**	**13.90**	**165**	P	**Pn**	**18 17 55.9**	**-0.4**
MBWA	**Marble Bar**	**14.94**	**144**	Pn	**Pn**	**18 18 06.7**	**-3.4**
MBWA					lAmb	lAmb	18 18 12.3
	comp=Z,25nm,1.3s						
AAI	**Ambon**	**18.50**	**74**	P	**Pn**	**18 18 56.1**	**+1.4**
KNRA	**Kununurra**	**19.06**	**112**	Pn	**P**	**18 19 02.4**	**+2.1**
KNRA					lAmb	lAmb	18 19 23.5
	comp=Z,30nm,1.4s						
KNRA	**Kununurra**	**19.06**	**112**	P	**Pn**	**18 19 03.1**	**+1.6**
TNTI	**Ternate**	**19.58**	**61**	P	**P**	**18 19 02.9**	**-3.0**
TNTI					lAmb	lAmb	18 19 17.5
	comp=Z,11nm,1.0s						
MTN	**Manton Dam**	**20.68**	**102**	P	**P**	**18 19 19.3**	**+1.4**
MTN	**Manton Dam**	**20.68**	**102**	P	**P**	**18 19 20.1**	**+2.2**
KDU	**Kakadu**	**21.96**	**101**	P	**P**	**18 19 32.6**	**+1.0**
DAV	**Davao City (W)**	**22.11**	**44**	LR	LR	18 29 01.8	
	comp=Z,56nm,20.0s,baz=214,slow=39						
SIJI	**Sorong**	**22.35**	**70**	P	**P**	**18 19 34.8**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=280,slow=19,SNR=2.8						
SIJI					LR	LR	18 28 33.1
	comp=Z,57nm,19.8s,baz=274,slow=38						
	comp=Z,2.0nm,0.5s						
FAKI	**Fak Fak**	**22.59**	**75**	P	**P**	**18 19 33.7**	**-4.8**
FAKI					lAmb	lAmb	18 19 49.8
	comp=Z,10nm,0.9s						
WRKA	**Warakurna**	**23.23**	**135**	P	**P**	**18 19 46.3**	**+1.4**
NWAO	**Narrogin (SRO)**	**24.48**	**166**	LR	LR	18 29 11.0	
	comp=Z,42nm,19.0s,baz=242,slow=35						
WB0	**Warramunga Arr**	**25.48**	**117**	P	**P**	**18 20 07.2**	**+1.6**
WB0					lAmb	lAmb	18 20 45.6
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**25.50**	**118**	P	**P**	**18 20 07.2**	**+1.5**
	comp=Z,3.2nm,1.0s,baz=290,slow=11,SNR=24						
WRA					PcP	**PcP**	**18 23 38.0**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=316,slow=1.7,SNR=2.3						
WRA					LR	LR	18 32 01.0
	comp=Z,64nm,19.2s,baz=5.5,slow=41						
	comp=Z,3.2nm,1.0s						
WRA	**Warramunga Arr**	**25.50**	**118**	P	**P**	**18 20 06.9**	**+1.1**
WRAB	**Tennant Creek**	**25.50**	**117**	P	**P**	**18 20 07.2**	**+1.4**
WRAB					lAmb	lAmb	18 20 48.8
	comp=Z,6.8nm,1.1s						
WRAB	**Tennant Creek**	**25.50**	**117**	P	**P**	**18 20 07.7**	**+1.9**
WB2	**Warramunga Arr**	**25.51**	**117**	P	**P**	**18 20 07.4**	**+1.5**
WB2					lAmb	lAmb	18 20 08.1
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**26.70**	**126**	P	**P**	**18 20 17.9**	**+1.2**
ASAR	**Alice Springs**	**26.70**	**126**	P	**P**	**18 20 18.0**	**+1.3**
ASAR					PcP	**PcP**	**18 23 41.2**	**+1.9**
	comp=Z,1.0nm,0.5s,baz=304,slow=9.1,SNR=27						
	comp=Z,0.5nm,0.4s,baz=304,slow=2.0,SNR=10						
ASAR					LR	LR	18 31 17.2
	comp=Z,54nm,20.7s,baz=314,slow=37						
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**26.70**	**126**	P	**P**	**18 20 18.4**	**+1.7**
AS01	**Alice Springs**	**26.74**	**125**	P	**P**	**18 20 18.8**	**+1.8**
FORT	**Forrest**	**27.09**	**145**	P	**P**	**18 20 22.0**	**+2.0**
FORT	**Forrest**	**27.09**	**145**	P	**P**	**18 20 22.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**29.68**	**338**	P	**P**	**18 20 43.7**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=174,slow=7.8,SNR=2.0						
CMAR					LR	LR	18 33 45.1
	comp=Z,78nm,18.7s,baz=185,slow=39						
	comp=Z,0.1nm,0.4s						
PALK	**Pallekele**	**33.79**	**298**	LR	LR	18 34 20.4	
	comp=Z,93nm,18.3s,baz=227,slow=35						
CTA	**Charters Tower**	**36.28**	**111**	LR	LR	18 36 40.3	
	comp=Z,47nm,19.3s,baz=274,slow=36						
STKA	**Stephens Creek**	**36.71**	**132**	P	**P**	**18 21 46.0**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=308,slow=8.5,SNR=7.5						
	comp=Z,1.2nm,0.5s						
STKA	**Stephens Creek**	**36.71**	**132**	P	**P**	**18 21 46.1**	**+1.8**
H08S2	**Diego Garcia H**	**37.51**	**269**	T	T	19 01 56.3	
	baz=94,slow=75,SNR=8.4						
H08S3	**Diego Garcia H**	**37.52**	**269**	T	T	19 01 59.5	
	baz=94,slow=75,SNR=6.6						
H08S1	**Diego Garcia H**	**37.53**	**269**	T	T	19 01 56.4	
	baz=94,slow=75,SNR=5.0						
JOW	**Kunigami**	**39.77**	**25**	LR	LR	18 41 51.4	
	comp=Z,41nm,18.1s,baz=108,slow=41						
GUMO	**Guam**	**41.01**	**57**	LR	LR	18 40 46.5	
	comp=Z,20nm,18.1s,baz=166,slow=38						
KSRS	**Korea Array**	**49.19**	**18**	LR	LR	18 48 17.4	
	comp=Z,9.9nm,19.0s,baz=225,slow=41						
MJAR	**Matsushiro Arr**	**52.45**	**28**	P	**P**	**18 23 47.4**	**-2.2**
	comp=Z,4.4nm,0.9s,baz=205,slow=8.0,SNR=7.6						
	comp=Z,4.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**56.60**	**18**	P	**P**	**18 24 17.8**	**-1.8**
	comp=Z,6.2nm,0.9s,baz=197,slow=6.8,SNR=6.2						
	comp=Z,6.2nm,0.9s						
SONM	**Songino Array**	**56.86**	**357**	P	**P**	**18 24 20.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=160,slow=4.7,SNR=3.7						
	comp=Z,0.3nm,0.3s						
WSAR	**Wadi Sarin**	**60.00**	**303**	LR	LR	18 48 21.5	
	comp=Z,37nm,21.1s,baz=152,slow=34						
HEH	**HeiHe**	**61.00**	**12**	*e*P	**P**	**18 24 49.1**	**-0.9**
HEH					pmax	pmax	
	comp=Z,13nm,0.9s						
HEH					pmax	pmax	
	comp=Z,540nm,4.8s						
MK31	**Makanchi Array**	**61.09**	**338**	P	**P**	**18 24 50.0**	**-0.7**
MK31					lAmb	lAmb	18 24 58.9	
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**61.09**	**338**	P	**P**	**18 24 49.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=151,slow=7.1,SNR=19						
	comp=Z,0.9nm,0.3s						
MKAR	**Makanchi Array**	**61.09**	**338**	P	**P**	**18 24 49.3**	**-1.5**
RPZ	**Rata Peaks**	**62.63**	**135**	LR	LR	18 52 43.3	
	comp=Z,82nm,18.9s,baz=269,slow=36						
ZAA0	**Zalesovo Array**	**66.49**	**344**	P	**P**	**18 25 25.0**	**-1.1**
ZAA0					lAmb	lAmb	18 25 25.6	
	comp=Z,2.4nm,0.9s						
ZALV	**Zalesovo Beam**	**66.49**	**344**	P	**P**	**18 25 24.8**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=155,slow=5.6,SNR=9.3						
	comp=Z,1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**66.49**	**344**	P	**P**	**18 25 24.3**	**-1.8**
ABKAR	**Akbulak array**	**73.00**	**328**	P	**P**	**18 26 05.2**	**-1.0**
ABKAR	**Akbulak array**	**73.00**	**328**	P	**P**	**18 26 05.0**	**-1.2**
ABKAR					lAmb	lAmb	18 26 06.5	
	comp=Z,4.6nm,0.9s						
KMBO	**Kilima Mbogo**	**73.18**	**272**	LR	LR	18 53 43.1	
	comp=Z,36nm,20.5s,baz=92,slow=32						
VNDA	**Vanda**	**73.25**	**170**	P	**P**	**18 26 09.1**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=303,slow=6.0,SNR=2.0						
	comp=Z,0.2nm,0.4s						
LSZ	**Lusaka**	**80.17**	**256**	LR	LR	19 00 40.7	
	comp=Z,56nm,18.1s,baz=153,slow=34						
FINES	**FINESS Array B**	**95.27**	**331**	P	**P**	**18 28 01.1**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=119,slow=6.7,SNR=4.6						
	comp=Z,1.3nm,0.7s						
WVT	**Waverly**	**148.44**	**29**		**PKPbc**	**18 34 24.0**	**+0.6**

*SOME **16** 18:20:59.4, 39.°28N×73.°52E, h15km*
*KRNET **16** 18:20:59.0±0.1, 39.°09N×73.°47E, mb3.7*
*NNC **16** 18:21:03.7±2.0, 39.°41N×73.°67E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=17.0km s-min=10.7km az=168.0*

ISC 16 18:20:59.1±1.6, **39.27N**±0.06×**73.39E**±0.03, **h3**km±12km, **n43**, σ2s**63**/66, **19C-13D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**1.25**	**280**	⇓*i*P	**Pg**	**18 21 23.9**	**+0.9**
	baz=88						
DRK				⇓*i*S	**Sn**	**18 21 42.1**	**+0.9**
	baz=88						
OHH	**Osh**	**1.33**	**340**	⇑*i*P	**Pg**	**18 21 26.9**	**+2.2**
	baz=40						
OHH				⇑*i*S	**Sg**	**18 21 47.5**	**+5.5**
	baz=40						
BTK	**Batken**	**2.13**	**292**	⇓*i*P	**Pb**	**18 21 37.8**	**-0.7**
	baz=96						
BTK				⇓*i*S	**Sg**	**18 22 06.0**	**-1.6**
	baz=96						
GAR	**Garm**	**2.40**	**264**	⇑*i*P	**Pn**	**18 21 40.4**	**+0.9**
	baz=69						
GAR				⇑*i*S	**Sb**	**18 22 10.6**	**-2.6**
	baz=69						
ARLS	**Aral**	**2.68**	**15**	⇑*i*P	**Pn**	**18 21 45.5**	**+2.1**
	baz=13						
ARLS				⇑*i*S	**Sb**	**18 22 19.5**	**-1.8**
	baz=13						
ARK	**Arkit**	**2.75**	**337**	⇑*i*P	**Pb**	**18 21 46.7**	**-2.3**
	baz=38						
ARK				⇑*i*S	**Sb**	**18 22 21.7**	**-1.4**
	baz=38						
TRKS	**Terek-Say**	**2.83**	**323**	⇑*i*P	**Pn**	**18 21 46.8**	**+1.3**
	baz=24						
TRKS				⇑*i*S	**Sb**	**18 22 22.2**	**-3.4**
	baz=24						
AML	**Almayashu**	**2.87**	**5**	P	**Pb**	**18 21 48.8**	**-2.3**
	SNR=18						
NRN	**Naryn**	**2.94**	**42**	⇑*i*P	**Pn**	**18 21 48.0**	**+0.9**
	baz=39						
NRN				⇑*i*S	**Sn**	**18 22 24.0**	**+0.9**
	baz=39						
UCH	**Uchtor**	**3.07**	**16**	P	**Pb**	**18 21 51.9**	**-2.9**
	SNR=58						
UCH	**Uchtor**	**3.07**	**16**	⇓*i*P	**Pn**	**18 21 51.3**	**+2.3**
	baz=14						
UCH				⇓*i*S	**Sb**	**18 22 29.4**	**-3.4**
	baz=14						
EKS2	**Erkin-Say**	**3.40**	**5**	P	**Pb**	**18 21 57.0**	**-3.1**
	SNR=11						
EKS2	**Erkin-Say**	**3.40**	**5**	⇓*i*P	**Pn**	**18 21 56.1**	**+2.9**
	baz=4.0						
EKS2				⇓*i*S	**Sb**	**18 22 37.5**	**-4.4**
	baz=4.0						
AAK	**Ala-Archa**	**3.46**	**14**	P	**Pb**	**18 21 57.7**	**-3.5**
	SNR=24						
MRKS	**Merke**	**3.47**	**358**	*e*P	**Pb**	**18 22 00.5**	**-0.8**
	6.8nm,0.3s						
MRKS				*e*S	**Sb**	**18 22 45.1**	**+1.2**
	69nm,0.8s						
MRKS	**Merke**	**3.47**	**358**	Pg	**Pn**	**18 21 57.4**	**+3.3**
	6.9nm,0.4s						
MRKS				Lg	Lg	18 22 42.3	
	48nm,0.4s						
KBK	**Karagaybulak**	**3.58**	**19**	P	**Pb**	**18 21 59.5**	**-3.8**
	SNR=9.8						
ULHL	**Ulahol**	**3.68**	**35**	P	**Pb**	**18 22 05.5**	**+0.6**
	SNR=8.5						
IUG	**Iuzhnay**	**3.84**	**319**	Pg	**Pn**	**18 22 01.7**	**+2.4**
	26nm,0.4s						
IUG				Lg	Lg	18 22 49.6	
	77nm,0.8s						
CHMS	**Chumysh**	**3.86**	**15**	P	**Pn**	**18 22 02.7**	**+3.2**
	SNR=8.1						
CHMS	**Chumysh**	**3.86**	**15**	⇑Pn	**Pn**	**18 22 02.1**	**+2.6**
	9.6nm,0.6s						
CHMS				⇑Lg	Lg	18 23 02.2	
	42nm,0.8s						
TKM2	**Tokmak 2**	**4.01**	**24**	P	**Pn**	**18 22 05.6**	**+3.9**
	SNR=6.7						
TKM2	**Tokmak 2**	**4.01**	**24**	⇑Pn	**Pn**	**18 22 05.3**	**+3.6**
	14nm,1.3s						
TKM2				⇓Pg	**Pg**	**18 22 19.4**	**+3.5**
	9.1nm,0.7s						
TKM2				⇓Lg	Lg	18 23 05.6	
	22nm,0.7s						
USP	**Ospenovka**	**4.08**	**12**	P	**Pn**	**18 22 05.4**	**+2.9**
	SNR=13						
KST	**Kastek**	**4.24**	**26**	*e*P	**Pb**	**18 22 15.4**	**+1.0**
	7.2nm,0.7s						
KST				*e*S	**Sg**	**18 23 12.8**	**-2.5**
	28nm,0.7s						
KST	**Kastek**	**4.24**	**26**	Pg	**Pb**	**18 22 15.2**	**+0.8**
	7.5nm,0.7s						
KST				Lg	Lg	18 23 12.5	
	28nm,0.7s						
DGS	**Degeres**	**4.36**	**24**	*e*P	**Pb**	**18 22 18.1**	**+1.7**
	8.8nm,0.6s						
DGS				*e*S	**Sg**	**18 23 18.7**	**-0.3**
	28nm,0.5s						
DGS	**Degeres**	**4.36**	**24**	Pg	**Pb**	**18 22 19.2**	**+2.9**
	6.2nm,0.6s						
KK31	**Karatay Array**	**4.40**	**331**	⇑Pn	**Pn**	**18 22 10.0**	**+3.1**
	4.3nm,0.5s,baz=146,slow=14,SNR=54						
KK31				⇓Sn	**Sb**	**18 23 04.7**	**-5.8**
	21nm,

ROM 16 18:32:10.8±0.0,42°.912N±0°.002×13°.192E±0°.004, h9km,ML2.4/34,14C-15D,Error ellipse: s-maj=0.2km s-min=0.2km az=68.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.06**	**183**	⇑P		Pg	18 32 13.1	+0.1
T1245				S		Sg	18 32 14.5	0.0
T1245					AML	AML		
	comp=E,25600μm,0.7s							
T1245					AML	AML		
	comp=E,23200μm,0.7s							
T1245					AML	AML		
	comp=N,36850μm,0.3s							
T1245					AML	AML		
	comp=E,25600μm,0.7s							
T1245					AML	AML		
	comp=E,23200μm,1.3s							
T1245					AML	AML		
	comp=N,34400μm,0.3s							
NRCA	**Norcia**	**0.10**	**216**	⇑P		Pg	18 32 13.8	+0.4
NRCA				S		Sg	18 32 15.7	+0.5
NRCA					AML	AML		
	comp=N,10750μm,0.2s							
NRCA					AML	AML		
	comp=E,16300μm,0.1s							
NRCA					AML	AML		
	comp=N,11400μm,0.7s							
NRCA					AML	AML		
	comp=N,10800μm,0.2s							
NRCA					AML	AML		
	comp=E,15650μm,0.1s							
NRCA					AML	AML		
	comp=N,11400μm,1.3s							
NRCA					AML	AML		
	comp=N,10790μm,0.2s							
T1256	**Bolognola (MC)**	**0.10**	**15**	P		Pg	18 32 13.6	+0.1
T1256				S		Sg	18 32 15.5	+0.2
T1256					AML	AML		
	comp=E,8295μm,0.3s							
T1256					AML	AML		
	comp=N,7720μm,0.2s							
T1256					AML	AML		
	comp=E,7980μm,0.3s							
T1256					AML	AML		
	comp=N,7320μm,0.3s							
FEMA	**Monte Fema**	**0.12**	**295**	⇑P		Pg	18 32 14.3	+0.6
FEMA				S		Sg	18 32 16.4	+0.7
FEMA					AML	AML		
	comp=E,5245μm,0.9s							
FEMA					AML	AML		
	comp=N,4935μm,1.4s							
FEMA					AML	AML		
	comp=E,5245μm,0.9s							
FEMA					AML	AML		
	comp=N,4935μm,0.6s							
T1216	**Preci, Frazion**	**0.13**	**260**	⇑P		Pg	18 32 14.3	+0.6
T1216				S		Sg	18 32 16.9	+1.0
T1216					AML	AML		
	comp=E,10365μm,0.4s							
T1216					AML	AML		
	comp=N,5520μm,1.1s							
T1216					AML	AML		
	comp=E,10350μm,0.4s							
T1216					AML	AML		
	comp=E,10360μm,0.4s							
T1216					AML	AML		
	comp=N,5515μm,1.1s							
T1216					AML	AML		
	comp=E,10360μm,1.6s							
T1216					AML	AML		
	comp=N,5515μm,0.9s							
FDMO	**Fiordimonte**	**0.15**	**328**	P		Pg	18 32 14.4	+0.4
FDMO				S		Sg	18 32 17.0	+0.6
FDMO					AML	AML		
	comp=E,2330μm,0.3s							
FDMO					AML	AML		
	comp=N,1690μm,1.1s							
CSP1	**Cessapalombo**	**0.18**	**3**	P		Pg	18 32 15.0	+0.3
CSP1				S		Sg	18 32 18.3	+1.0
CSP1					AML	AML		
	comp=E,2180μm,1.0s							
CSP1					AML	AML		
	comp=N,3645μm,0.4s							
CSP1					AML	AML		
	comp=E,2182μm,1.0s							
CSP1					AML	AML		
	comp=N,3640μm,0.4s							
CSP1					AML	AML		
	comp=E,2175μm,1.0s							
CSP1					AML	AML		
	comp=E,2175μm,1.0s							
CSP1					AML	AML		
	comp=N,3645μm,1.6s							
GUMA	**Gualdo di Mace**	**0.18**	**35**	⇑P		Pg	18 32 15.6	+0.9
GUMA				S		Sg	18 32 19.1	+1.7
GUMA					AML	AML		
	comp=N,8065μm,0.5s							
GUMA					AML	AML		
	comp=E,5375μm,0.3s							
GUMA					AML	AML		
	comp=N,7730μm,1.6s							
GUMA					AML	AML		
	comp=E,7680μm,0.2s							
GUMA					AML	AML		
	comp=N,7730μm,0.4s							
T1241	**Roccafluvione,**	**0.18**	**108**	⇓P		Pg	18 32 15.4	+0.7
T1241				S		Sg	18 32 18.6	+1.2
T1241					AML	AML		
	comp=E,1600μm,0.4s							
T1241					AML	AML		
	comp=E,1615μm,0.4s							
T1241					AML	AML		
	comp=N,2285μm,0.7s							
T1241					AML	AML		
	comp=E,1605μm,0.4s							
T1241					AML	AML		
	comp=E,1601μm,0.4s							
T1241					AML	AML		
	comp=E,1620μm,0.4s							
T1241					AML	AML		
	comp=N,2200μm,0.7s							
T1219	**Muccia, Frazio**	**0.20**	**317**		AML	AML		
	comp=E,1305μm,0.3s							
T1219					AML	AML		
	comp=N,1675μm,0.3s							
T1219					AML	AML		
	comp=E,1276μm,0.3s							
T1219					AML	AML		
	comp=N,1635μm,0.3s							
CESI	**CESI - Serrava**	**0.23**	**294**	⇑P		Pg	18 32 16.2	+0.7
CESI				S		Sg	18 32 20.3	+1.5
CESI					AML	AML		
	comp=E,1990μm,0.4s							
CESI					AML	AML		
	comp=N,2825μm,0.4s							
T1218	**Civita (PG)**	**0.25**	**193**	⇑P		Pg	18 32 16.6	+0.7
T1218					AML	AML		
	comp=E,1160μm,0.8s							
T1218					AML	AML		
	comp=E,1155μm,0.8s							
T1218					AML	AML		
	comp=N,1741μm,1.5s							
T1218					AML	AML		
	comp=E,1148μm,0.8s							
T1218					AML	AML		
	comp=N,1640μm,1.5s							
T1218					AML	AML		
	comp=E,1148μm,1.2s							
T1218					AML	AML		
	comp=E,1155μm,1.2s							
T1218					AML	AML		
	comp=N,1741μm,0.5s							
T1218					AML	AML		
	comp=N,1640μm,0.5s							
T1215	**Vallo di Nera,**	**0.26**	**245**	⇑P		Pg	18 32 16.9	+0.7
T1215				S		Sb	18 32 21.4	-1.0
T1215					AML	AML		
	comp=E,949μm,0.4s							
T1215					AML	AML		
	comp=N,527μm,1.6s							
T1215					AML	AML		
	comp=E,950μm,0.4s							
T1215					AML	AML		
	comp=N,515μm,0.7s							
T1215					AML	AML		
	comp=N,526μm,1.6s							
T1215					AML	AML		
	comp=E,962μm,0.4s							
T1215					AML	AML		
	comp=E,948μm,0.4s							
T1215					AML	AML		
	comp=N,526μm,0.4s							
T1243	**Rocca Santa Ma**	**0.29**	**139**	⇓P		Pg	18 32 17.0	+0.4
T1243				S		Sb	18 32 22.1	-1.0
LNSS	**Leonessa**	**0.33**	**200**	⇑P		Pb	18 32 18.2	-0.7
LNSS				S		Sb	18 32 23.7	-0.6
LNSS					AML	AML		
	comp=N,2805μm,0.4s							
LNSS					AML	AML		
	comp=E,963μm,0.3s							
LNSS					AML	AML		
	comp=E,963μm,1.7s							
OFFI	**Offida**	**0.36**	**86**		AML	AML		
	comp=N,1011μm,0.6s							
OFFI					AML	AML		
	comp=E,984μm,0.8s							
OFFI					AML	AML		
	comp=N,1011μm,1.4s							
OFFI					AML	AML		
	comp=E,984μm,1.2s							
SNTG	**Esanatoglia**	**0.39**	**332**	⇑P		Pg	18 32 18.9	+0.4
SNTG				S		Sb	18 32 25.4	-0.7
SNTG					AML	AML		
	comp=N,486μm,1.1s							
SNTG					AML	AML		
	comp=E,327μm,1.1s							
SNTG					AML	AML		
	comp=E,326μm,1.1s							
SNTG					AML	AML		
	comp=E,371μm,1.1s							
SNTG					AML	AML		
	comp=E,326μm,0.9s							
SNTG					AML	AML		
	comp=E,371μm,0.9s							
SNTG					AML	AML		
	comp=N,507μm,0.2s							
SNTG					AML	AML		
	comp=N,486μm,1.1s							
RM33	**Pellescritta (**	**0.40**	**178**		AML	AML		
	comp=E,548μm,1.5s							
RM33					AML	AML		
	comp=E,549μm,1.5s							
RM33					AML	AML		
	comp=N,809μm,0.2s							
RM33					AML	AML		
	comp=N,806μm,0.2s							
RM33					AML	AML		
	comp=N,812μm,0.2s							
RM33					AML	AML		
	comp=E,494μm,1.5s							
RM33					AML	AML		
	comp=E,494μm,1.5s							
RM33					AML	AML		
	comp=N,810μm,0.2s							
CAMP	**Campotosto**	**0.41**	**157**	⇓P		Pg	18 32 19.2	+0.3
CAMP				S		Sb	18 32 25.9	-0.8
CAMP					AML	AML		
	comp=E,309μm,0.2s							
CAMP					AML	AML		
	comp=N,433μm,0.3s							
CAMP					AML	AML		
	comp=E,308μm,0.2s							
ASSB	**Assisi San Ben**	**0.41**	**289**	⇑P		Pg	18 32 19.4	+0.4
ASSB					AML	AML		
	comp=E,520μm,0.5s							
ASSB					AML	AML		
	comp=E,520μm,1.5s							
ASSB					AML	AML		
	comp=N,534μm,1.0s							
TERO	**Teramo**	**0.42**	**134**		AML	AML		
	comp=N,1755μm,0.4s							
TERO					AML	AML		
	comp=E,1024μm,1.3s							
TERO					AML	AML		
	comp=E,1024μm,1.3s							
TERO					AML	AML		
	comp=E,1024μm,0.7s							
EL6	**Elcito**	**0.42**	**351**	⇓P		Pg	18 32 19.5	+0.4
CING	**Cingoli**	**0.46**	**0**	⇓P		Pg	18 32 20.5	+0.6
CING					AML	AML		
	comp=E,480μm,0.5s							
CING					AML	AML		
	comp=N,488μm,0.2s							
T1247	**Pizzolo (AQ)**	**0.48**	**171**		AML	AML		
	comp=E,475μm,0.5s							
T1247					AML	AML		
	comp=N,512μm,0.6s							
T1247					AML	AML		
	comp=N,512μm,1.4s							
ATCC	**AVT- Casa Cast**	**0.49**	**304**	⇑P		Pg	18 32 20.9	+0.5
ATCC				S		Sb	18 32 30.0	+1.1
ATCC					AML	AML		
	comp=N,584μm,0.7s							
ATCC					AML	AML		
	comp=E,516μm,0.6s							
ATCC					AML	AML		
	comp=N,584μm,1.3s							
FOSV	**Fossato di Vic**	**0.50**	**321**	P		Pb	18 32 21.1	-0.6
FOSV				S		Sb	18 32 30.0	+0.9
FOSV					AML	AML		
	comp=E,254μm,0.6s							
FOSV					AML	AML		
	comp=N,430μm,0.3s							
FOSV					AML	AML		
	comp=N,430μm,0.3s							
GIGS	**Gran Sasso**	**0.54**	**149**		AML	AML		
	comp=E,134μm,0.2s							
GIGS					AML	AML		
	comp=N,120μm,0.5s							
TRTR	**Tortoreto Alta**	**0.54**	**101**	⇓P		Pb	18 32 23.2	+0.7
TRTR					AML	AML		
	comp=E,1175μm,0.9s							
TRTR					AML	AML		
	comp=N,1630μm,0.3s							
TRTR					AML	AML		
	comp=E,1170μm,0.9s							
TRTR					AML	AML		
	comp=E,1170μm,1.1s							
CESX	**Cesi**	**0.54**	**236**	⇑P		Pg	18 32 21.6	+0.3
CESX				S		Sb	18 32 31.0	+0.6
CESX					AML	AML		
	comp=N,406μm,0.4s							
CESX					AML	AML		
	comp=E,324μm,0.3s							
CESX					AML	AML		
	comp=N,406μm,0.4s							
MMUR	**Monte Murano**	**0.55**	**345**	⇓P		Pb	18 32 22.1	-0.5
MURB	**Monte Urbino**	**0.60**	**306**	P		Pg	18 32 23.0	+0.5
MURB				S		Sn	18 32 34.0	-1.5
MURB					AML	AML		
	comp=E,877μm,0.3s							
MURB					AML	AML		
	comp=N,792μm,0.2s							
MURB					AML	AML		
	comp=E,922μm,0.3s							
MURB					AML	AML		
	comp=N,779μm,0.3s							
MURB					AML	AML		
	comp=E,878μm,0.3s							
MURB					AML	AML		
	comp=N,793μm,0.3s							
SSFR	**Montelago di S**	**0.60**	**330**	⇓P		Pg	18 32 22.9	+0.4
SSFR					AML	AML		
	comp=E,456μm,0.2s							
SSFR					AML	AML		
	comp=N,382μm,0.8s							
SSFR					AML	AML		
	comp=N,382μm,1.2s							
ARVD	**Arcevia**	**0.61**	**343**	⇑P		Pg	18 32 21.4	-1.3
ARVD				S		Sb	18 32 34.0	+1.5
ATFO	**Monte Foce - G**	**0.64**	**315**	⇓P		Pb	18 32 24.3	0.0
ATFO					AML	AML		
	comp=E,155μm,0.6s							
ATFO					AML	AML		
	comp=N,112μm,1.0s							
ATFO					AML	AML		
	comp=E,156μm,0.6s							
ATFO					AML	AML		
	comp=E,156μm,1.4s							
FIAM	**Fiamignano**	**0.65**	**185**	⇓P		Pg	18 32 23.3	0.0
FIAM				S		Sb	18 32 34.0	+0.5
FIAM					AML	AML		
	comp=E,148μm,0.8s							
FIAM					AML	AML		
	comp=N,160μm,1.0s							
FIAM					AML	AML		
	comp=N,160μm,1.0s							
FIAM					AML	AML		
	comp=E,148μm,0.8s							
FRON	**Frontone**	**0.69**	**331**	⇓P		Pg	18 32 24.5	+0.2
FRON					AML	AML		
	comp=N,258μm,1.0s							
FRON					AML	AML		
	comp=E,174μm,1.5s							
VCEL	**Villa Celiera**	**0.70**	**137**	P		Pb	18 32 24.9	-0.4
VCEL				S		Sn	18 32 37.0	-1.1
VCEL					AML	AML		
	comp=N,304μm,1.0s							
VCEL					AML	AML		
	comp=E,278μm,0.3s							
VCEL					AML	AML		
	comp=N,304μm,1.0s							
ATVO	**AVT- Monte Val**	**0.74**	**310**	⇓P		Pg	18 32 25.3	+0.1
ATVO					AML	AML		
	comp=E,106μm,0.6s							
ATVO					AML	AML		
	comp=E,106μm,0.6s							
ATVO					AML	AML		
	comp=N,114μm,0.4s							
ATVO					AML	AML		
	comp=E,106μm,1.4s							
PIEI	**Pieia**	**0.79**	**323**	⇓P		Pg	18 32 26.4	+0.3
PIEI					AML	AML		
	comp=E,100μm,1.2s							
PIEI					AML	AML		
	comp=E,100μm,1.2s							
PIEI					AML	AML		
	comp=N,80μm,0.9s							
PIEI					AML	AML		
	comp=E,100μm,0.8s							
T0110	**Collepietro**	**0.81**	**147**	⇓P		Pg	18 32 26.2	-0.3
T0110					AML	AML		
	comp=N,364μm,1.2s							
T0110					AML	AML		
	comp=N,364μm,0.8s							
T0110					AML	AML		
	comp=E,289μm,0.7s							
NARO	**Abbazia di Nar**	**0.83**	**328**	⇓P		Pg	18 32 27.0	+0.2
NARO				S		Sn	18 32 40.0	-1.0
NARO					AML	AML		
	comp=E,78μm,0.6s							
NARO					AML	AML		
	comp=N,71μm,1.0s							

GUC ***16*** *18:33:20.9±0.6,20°.78S×69°.17W,h109km±2km,ML4.2*
NEIC ***16*** *18:33:20.2±1.1,20°.81S±0°.05×69°.23W×0°.06,h110km±8km, Error ellipse: s-maj=9.3km s-min=6.1km az=59.0*
VAO ***16*** *18:33:24.3±0.5,20°.65S×68°.66W,h102km,mb4.2*
IDC ***16*** *18:33:38.0±13.0,17°.57S×65°.07W,h0km,mb4.4/2, mbtmp4.0/3,ML2.8/1,Error ellipse: s-maj=622.3km s-min=27.0km az=12.0*

ISC 16 18:33:19.7±0.7,20°.78S±0°.03×69°.19W±0°.06,h111km±7km, n74,σ1s04/86,11C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.38**	**226**			**Pn**	**18 33 35.7**	**-0.4**
PB01	**IPOC Station P**	**0.38**	**226**	⇑*i*P		**Pn**	**18 33 36.5**	**+0.4**
PB01				*e*S		**Sn**	**18 33 48.7**	**+0.2**
PB08	**IPOC Station P**	**0.64**	**3**			**Pn**	**18 33 38.0**	**-0.1**
PB08	**IPOC Station P**	**0.64**	**3**	⇑*i*P		**Pn**	**18 33 38.7**	**+0.5**
PB08				*e*S		**Sn**	**18 33 52.4**	**+0.5**
PB08					IAML		18 33 53.2	
	comp=E,19μm,0.3s							
PB02	**IPOC Station P**	**0.85**	**231**			**Pn**	**18 33 39.7**	**+0.1**
PB02	**IPOC Station P**	**0.85**	**231**	⇑*i*P		**Pn**	**18 33 40.4**	**+0.8**
PB02				*i* S		**Sn**	**18 33 55.2**	**+0.6**
PB02					IAML		18 33 57.1	
	comp=E,8μm,0.1s							
TA01	**Diego Aracena**	**0.95**	**283**			**Pn**	**18 33 40.8**	**+0.3**
TA01	**Diego Aracena**	**0.95**	**283**	⇑*i*P		**Pn**	**18 33 40.9**	**+0.3**
TA01				*e*S		**Sn**	**18 33 56.2**	**0.0**
PB09	**IPOC Station P**	**1.01**	**183**			**Pn**	**18 33 41.4**	**+0.1**
PB09	**IPOC Station P**	**1.01**	**183**	*e*P		**Pn**	**18 33 42.4**	**+1.0**
PB09				*e*S		**Sn**	**18 33 59.0**	**+1.3**
TA02	**Huaiquique**	**1.02**	**300**			**Pn**	**18 33 41.5**	**+0.4**
TA02	**Huaiquique**	**1.02**	**300**	*e*P		**Pn**	**18 33 41.6**	**+0.4**
PB11	**IPOC Station P**	**1.10**	**337**			**Pn**	**18 33 42.7**	**+0.4**
PB11	**IPOC Station P**	**1.10**	**337**	⇑*i*P		**Pn**	**18 33 42.8**	**+0.4**
PB11				*e*S		**Sn**	**18 33 60.0**	**+0.6**
PB11					IAML		18 34 01.1	
	comp=N,15μm,0.5s							
GO01	**Chusmiza**	**1.11**	**360**			**Pn**	**18 33 43.4**	**+0.8**
GO01	**Chusmiza**	**1.11**	**360**	⇑*i*P		**Pn**	**18 33 43.5**	**+0.8**
GO01				*e*S		**Sn**	**18 34 00.8**	**+0.8**
PB07	**IPOC Station P**	**1.14**	**214**			**Pn**	**18 33 43.0**	**+0.2**
PB07	**IPOC Station P**	**1.14**	**214**	⇑*i*P		**Pn**	**18 33 43.4**	**+0.6**
PB07				*e*S		**Sn**	**18 34 00.3**	**+0.2**
PB07					IAML		18 34 00.8	
	comp=N,3μm,0.2s							
PB03	**IPOC Station P**	**1.37**	**202**			**Pn**	**18 33 45.8**	**+0.6**
PB03	**IPOC Station P**	**1.37**	**202**	⇑*i*P		**Pn**	**18 33 45.8**	**+0.6**
PB03				*e*S		**Sn**	**18 34 04.4**	**-0.1**
PSGC	**Pisagua**	**1.47**	**323**	⇑*i*P		**Pn**	**18 33 46.3**	**0.0**
PSGC				*e*S		**Sn**	**18 34 06.2**	**-0.3**
PSGC					IAML		18 34 07.4	
	comp=N,2μm,0.4s							
PSGCX	**Pisagua**	**1.47**	**323**			**Pn**	**18 33 45.7**	**-0.6**
MNMC	**Minye Minye**	**1.68**	**347**			**Pn**	**18 33 49.2**	**+0.1**
MNMC	**Minye Minye**	**1.68**	**347**	⇑*i*P		**Pn**	**18 33 49.8**	**+0.7**
MNMC				*e*S		**Sn**	**18 34 12.6**	**+1.1**
MNMC					IAML		18 34 15.2	
	comp=N,6μm,0.3s							
PB04	**IPOC Station P**	**1.78**	**210**			**Pn**	**18 33 50.1**	**-0.1**
PB04	**IPOC Station P**	**1.78**	**210**	*e*P		**Pn**	**18 33 51.1**	**+0.8**
PB04				*e*S		**Sn**	**18 34 12.7**	**-0.8**
LVC	**Limon Verde**	**1.84**	**172**			**Pn**	**18 33 51.2**	**+0.1**
LVC	**Limon Verde**	**1.84**	**172**	*e*P		**Pn**	**18 33 52.3**	**+1.1**
LVC				*e*S		**Sn**	**18 34 16.3**	**+1.3**
LVC	**Limon Verde**	**1.84**	**172**	*e*P		Pn	18 33 56.0	+4.8
PB06	**IPOC Station P**	**1.95**	**190**			**Pn**	**18 33 52.6**	**+0.3**
PB06	**IPOC Station P**	**1.95**	**190**	*e*P		**Pn**	**18 33 52.9**	**+0.6**
PB06				*e*S		**Sn**	**18 34 16.1**	**-1.0**
AF01	**San Pedro de A**	**2.36**	**157**			**Pn**	**18 33 57.7**	**+0.1**
PB12	**IPOC Station P**	**2.41**	**333**			**Pn**	**18 33 57.6**	**-0.5**
PB12	**IPOC Station P**	**2.41**	**333**	⇑*i*P		**Pn**	**18 33 57.6**	**-0.5**
PB12					IAML		18 34 27.6	
	comp=E,944nm,0.1s							
PB15	**IPOC Station P**	**2.43**	**186**			**Pn**	**18 33 59.2**	**+0.7**
PB15	**IPOC Station P**	**2.43**	**186**	*e*P		**Pn**	**18 33 59.2**	**+0.7**
PB16	**IPOC Station P**	**2.45**	**353**			**Pn**	**18 34 00.1**	**+1.0**
PB16	**IPOC Station P**	**2.45**	**353**	*e*P		**Pn**	**18 34 00.1**	**+1.0**
AP01	**Chacalluta**	**2.63**	**335**	Pn		**Pn**	**18 34 00.4**	**-0.5**
AP01	**Chacalluta**	**2.63**	**335**	*e*P		**Pn**	**18 34 00.5**	**-0.4**
PB10	**IPOC Station P**	**3.00**	**205**			**Pn**	**18 34 05.2**	**-0.6**
PB10	**IPOC Station P**	**3.00**	**205**	*e*P		**Pn**	**18 34 05.0**	**-0.7**
GO02	**Mina Guanaco**	**4.38**	**185**			**Pn**	**18 34 23.8**	**-0.7**
LPAZ	**La Paz**	**4.58**	**13**	Pn		**Pn**	**18 34 30.1**	**+2.6**
	comp=E,0.8nm,0.3s,baz=186,slow=6.4,SNR=11							
LPAZ					Sn	Sn	18 35 10.3	-10
	comp=E,1.6nm,0.3s,baz=207,slow=14,SNR=4.2							
	comp=E,2.6nm,0.4s							
LPAZ	**La Paz**	**4.58**	**13**			**Pn**	**18 34 29.2**	**+1.7**
LPAZ	**La Paz**	**4.58**	**13**	*e*P		**Pn**	**18 34 29.2**	**+1.7**
AC01	**Pan de Azucar**	**5.50**	**193**	Pn		**Pn**	**18 34 36.8**	**-2.5**
AC02	**Maricunga**	**6.03**	**179**	Pn		**Pn**	**18 34 46.7**	**-0.2**
BBSD	**Serra de San D**	**8.87**	**68**	*e*P		**Pn**	**18 35 21.9**	**-3.2**
MURT	**Porto Murtinho**	**10.84**	**97**	*e*P		**Pn**	**18 35 48.6**	**-3.1**
PTLB	**Pontes e Lacer**	**10.93**	**63**	*e*P		**Pn**	**18 35 51.8**	**-1.2**
TRCB	**Terra Rica**	**15.51**	**100**	P		**P**	**18 36 54.4**	**-0.1**
TRCB					IAmb	IAmb	18 36 55.5	
	comp=Z,40nm,0.6s							
FRBT	**Francisco Belt**	**15.68**	**112**	*e*P		**P**	**18 36 56.5**	**+0.2**
CLDB	**Colider**	**16.21**	**55**	*e*P		**Pn**	**18 36 58.9**	**-2.2**
PTGB	**Pitanga**	**16.28**	**107**	*e*P		**P**	**18 37 03.6**	**+0.7**
ALGR	**Alto Alegre (B**	**16.70**	**122**	*e*P		**P**	**18 37 07.4**	**-0.1**
PCMB	**Pacaembu**	**16.74**	**96**	*e*P		**Pn**	**18 37 06.9**	**-0.8**
ITAB	**Concordia**	**16.85**	**116**	P		**Pn**	**18 37 08.2**	**-0.8**
ITAB					IAmb	IAmb	18 37 10.1	
	comp=Z,17nm,0.8s							
ITAB	**Concordia**	**16.85**	**116**	*e*P		**P**	**18 37 09.2**	**0.0**
CPSB	**Cacapava Do Su**	**17.12**	**127**	*e*P		**Pn**	**18 37 12.1**	**-0.2**
ITRB	**Iturama**	**17.71**	**90**	*e*P		**P**	**18 37 18.7**	**0.0**
TRQA	**Tornquist**	**18.32**	**162**	P		**P**	**18 37 25.4**	**+0.2**
TRQA					IAmb	IAmb	18 37 38.0	

	comp=Z,17nm,1.4s								
TRQA	**Tornquist**	**18.32**	**162**	*e*P		**Pn**	18 37 30.2	**+3.7**
FRTB	**Fartura**	**18.37**	**102**	*e*P		**P**	18 37 25.6	**-0.4**
CNLB	**Canela**	**18.65**	**121**	*e*P		**Pn**	18 37 29.7	**-0.9**
NPGB	**Novo Progresso**	**19.13**	**46**	*e*P		**P**	18 37 34.6	**+0.3**
SNDB	**Serra Nova Dou**	**19.26**	**66**	*e*P		**P**	18 37 34.6	**-1.1**
BB19B	**Bebedouro**	**19.31**	**95**	*e*P		**P**	18 37 36.8	**+0.6**
IPMB	**Ipameri, GO**	**19.99**	**86**	*e*P		**P**	18 37 42.9	**-0.7**
RCLB	**Rio Claro- Sao**	**20.21**	**99**	*e*P		**P**	18 37 45.2	**-0.7**
JANB	**Januaria**	**24.33**	**81**	*e*P		**P**	18 38 27.9	**+0.5**
NAN01	**Guarapari, ES**	**27.57**	**89**	*e*P		**P**	18 38 56.7	**+0.2**
DBIC	**Dimbokro**	**68.74**		P	P	**P**	18 44 13.9	**+1.5**
	comp=Z,2.8nm,0.8s,baz=252,slow=6.4,SNR=2.7 comp=Z,2.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**77.36**	**71**	P	P		18 45 08.7	+5.8	
	comp=Z,1.6nm,0.4s,baz=254,slow=5.6,SNR=4.5 comp=Z,1.6nm,0.4s								

WEL 16 18:41:35.0±0.4, 42°S±3°×17°4E±°, h5km, M3.7/3, ML3.8/13, ML3.6/3, MLv3.6/25, MLv3.7/3, Error ellipse: s-maj=0.0km s-min=0.0km az=120.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.56**	**30**	P	Pg	18 41 46.1	+0.3
THZ	**Tophouse**	**0.62**	**315**	P	Pg	18 41 47.6	+0.6
CMWZ	**Cape Campbell**	**0.70**	**50**	P	Pb	18 41 49.2	-0.5
CMWZ				S	Sb	18 42 01.0	+1.5
GVZ	**Greta Valley S**	**0.84**	**204**	P	Pg	18 41 51.5	+0.4
GVZ				S	Sb	18 42 04.0	+0.4
TUWZ	**Tuamarina**	**0.84**	**23**	P	Pg	18 41 51.2	+0.1
TUWZ				S	Sb	18 42 03.6	0.0
MRNZ	**Matariki Terra**	**0.98**	**325**	P	Pg	18 41 54.0	+0.3
NNZ	**Nelson**	**0.99**	**355**	P	Pg	18 41 53.8	-0.2
LTZ	**Lake Taylor**	**1.08**	**237**	P	Pg	18 41 54.9	-0.8
TCW	**Tory Channel**	**1.15**	**31**	P	Pg	18 41 56.1	-0.9
AMCZ	**Amberley**	**1.16**	**212**	P	Pg	18 41 55.9	-1.3
TKNZ	**Takaka Hill**	**1.24**	**341**	P	Pg	18 41 58.4	-0.3
WEL	**Wellington**	**1.32**	**46**	P	Pn	18 41 57.9	-2.2
DSZ	**Denniston Nort**	**1.34**	**289**	P	Pb	18 42 00.6	-0.1
DUWZ	**D'Urville Isla**	**1.44**	**13**	P	Pn	18 42 00.8	-0.9
PLWZ	**Palliser**	**1.45**	**65**	P	Pn	18 41 59.1	-2.8
MSWZ	**Moikau Station**	**1.52**	**60**	P	Pn	18 42 00.2	-2.8
OKCZ	**Okains Bay**	**1.55**	**192**	P	Pn	18 42 00.5	-2.8
OXZ	**Oxford**	**1.56**	**223**	P	Pn	18 42 00.6	-2.8
QRZ	**Quartz Range**	**1.56**	**332**	P	Pn	18 42 03.5	+0.2
CAW	**Cannon Point**	**1.60**	**48**	P	Pn	18 42 01.8	-2.2
INZ	**Inchbonnie**	**1.61**	**250**	P	Pn	18 42 03.4	-0.7
MQZ	**McQueen's Vall**	**1.63**	**202**	P	Pn	18 42 00.8	-3.5
PAWZ	**Paruwai Farm**	**1.66**	**61**	P	Pn	18 42 01.7	-3.0
KIW	**Kapiti Island**	**1.71**	**39**	P	Pn	18 42 03.8	-1.6
AKCZ	**Akaroa Harbour**	**1.72**	**194**	P	Pn	18 42 02.7	-3.0
RACZ	**Rakaia**	**1.82**	**213**	P	Pn	18 42 03.8	-3.1
TRWZ	**Traveller**	**1.82**	**65**	P	Pn	18 42 03.6	-3.4
MTW	**Mount Morrison**	**1.83**	**56**	P	Pn	18 42 04.0	-3.0
OGWZ	**Otaki Gorge**	**1.87**	**43**	P	Pn	18 42 05.5	-2.1
MHCZ	**Mount Hutt**	**1.94**	**226**	P	Pn	18 42 05.5	-3.2
HOWZ	**Holdsworth Sta**	**2.00**	**50**	P	Pn	18 42 06.7	-2.7
TMWZ	**Te Maipa**	**2.10**	**59**	P	Pn	18 42 07.3	-3.5
WACZ	**Wakanui South**	**2.12**	**214**	P	Pn	18 42 08.0	-3.1
MRZ	**Mangatainoka R**	**2.19**	**46**	P	Pn	18 42 09.4	-2.7
WVZ	**Waitaha Valley**	**2.22**	**246**	P	Pn	18 42 11.4	-1.0
RPZ	**Rata Peaks**	**2.35**	**229**	P	Pn	18 42 11.7	-2.5
ARCZ	**Arundel**	**2.44**	**224**	P	Pn	18 42 12.9	-2.6
PRWZ	**Pori Road**	**2.48**	**49**	P	Pn	18 42 15.3	-0.8
POWZ	**Post Office Ro**	**2.49**	**44**	P	Pn	18 42 13.9	-2.3
BFZ	**Birch Farm**	**2.55**	**55**	P	Pn	18 42 13.6	-3.6
GCSZ	**Gaunt Creek Bo**	**2.59**	**243**	P	Pn	18 42 16.9	-0.6
WAZ	**Wanganui**	**2.69**	**25**	P	Pn	18 42 19.5	+0.6
DVHZ	**Dannevirke**	**2.77**	**47**	P	Pn	18 42 16.3	-3.7
TSZ	**Takapari Road**	**2.84**	**42**	P	Pn	18 42 18.1	-2.9
TMZ	**Timaru**	**2.84**	**219**	P	Pn	18 42 18.4	-2.7
KHEZ	**Kahui Hut**	**2.93**	**8**	P	Pn	18 42 24.8	+2.5
NBEZ	**Newall Road No**	**2.94**	**6**	P	Pb	18 42 28.3	+0.4
NEZ	**North Egmont**	**2.96**	**9**	P	Pb	18 42 27.9	-0.4
FOZ	**Fox Glacier**	**3.02**	**243**	P	Pn	18 42 23.0	-0.4
PKE	**Pukeiti**	**3.03**	**7**	P	Pn	18 42 26.0	+2.4
PNHZ	**Pukenui**	**3.06**	**43**	P	Pn	18 42 20.9	-3.3
VRZ	**Vera Road**	**3.22**	**18**	P	Pn	18 42 28.6	+2.4
LBZ	**Lake Benmore**	**3.26**	**227**	P	Pn	18 42 24.7	-2.1
MOVZ	**Moawhango**	**3.27**	**32**	P	Pn	18 42 27.4	+0.4
WNVZ	**Wahianoa**	**3.28**	**30**	P	Pn	18 42 26.6	-0.7
TUVZ	**Tukino**	**3.36**	**30**	P	Pn	18 42 27.7	-0.5
NNVZ	**North Ngauruho**	**3.46**	**28**	P	Pn	18 42 28.7	-1.0
KRVZ	**Karewarewa**	**3.51**	**28**	P	Pn	18 42 35.3	-2.3
ODZ	**Otahua Downs**	**3.52**	**215**	P	Pn	18 42 26.9	-3.3
HIZ	**Hauiti**	**3.83**	**16**	P	Pn	18 42 37.3	+2.7
JCZ	**Jackson Bay**	**3.92**	**240**	P	Pn	18 42 34.8	-1.2
URZ	**Urewera**	**4.81**	**36**	P	Pn	18 42 52.9	+4.9
AWAZ	**Awhitu Peninsu**	**5.21**	**10**	P	Pn	18 42 53.7	+0.2
MKAZ	**Moumakai**	**5.25**	**15**	P	Pn	18 42 54.3	+0.2

*IDC **16** 18:57:20.5±3.9, 11°.58S×166°.14E, h65km±32km, mb3.4/6, mbtmp3.7/7, ML3.6/1, MS3.3/4, Error ellipse: s-maj=34.7km s-min=22.1km az=72.0*

ISC 16 18:57:17.1±1.1, 11°.47S±0°.10×166°.3E±0°.2, h35km, n9, σ1§51/10, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.57**	**287**	P	**Pn**	**18 58 52.8**	**+1.4**
	1μm,0.6s,baz=90,slow=4.0,SNR=5.4						
HNR				LR	LR	19 01 33.5	
	comp=Z,2μm,20.0s,baz=102,slow=39						
DZM	**Mont Dzumac**	**10.54**	**179**	P	**Pn**	**18 59 48.4**	**+2.5**
	0.4nm,0.3s,baz=151,slow=2.9,SNR=7.1						
DZM				S	**Sn**	**19 01 41.3**	**-1.5**
	4.1nm,0.8s,baz=311,slow=19,SNR=1.5						
DZM				LR	LR	19 02 39.4	
	comp=Z,28nm,18.3s,baz=34,slow=31 4.8nm,0.8s						
WRA	**Warramunga Arr**	**31.85**	**251**	P	**P**	**19 03 38.4**	**-0.8**
	0.7nm,0.8s,baz=84,slow=9.3,SNR=4.9 0.7nm,0.8s						
ASAR	**Alice Springs**	**33.09**	**244**	P	**P**	**19 03 48.7**	**-1.3**
	1.3nm,0.8s,baz=70,slow=10.0,SNR=20						
ASAR				PcP	**PcP**	**19 06 31.9**	**-1.1**
	0.7nm,0.8s,baz=79,slow=2.2,SNR=4.4						
ASAR				LR	LR	19 16 06.9	
	comp=Z,44nm,18.7s,baz=60,slow=34 1.3nm,0.8s						
MJAR	**Matsushiro Arr**	**54.60**	**332**	LR	LR	19 31 40.4	
	comp=Z,18nm,18.4s,baz=26,slow=38						
VNDA	**Vanda**	**66.08**	**181**	P	**P**	**19 07 59.7**	**-0.5**
	0.6nm,0.8s,baz=339,slow=6.9,SNR=6.1 0.6nm,0.8s						
SONM	**Songino Array**	**79.33**	**324**	P	**P**	**19 09 19.0**	**-0.4**
	0.2nm,0.5s,baz=144,slow=4.4,SNR=1.7 0.2nm,0.5s						
ILAR	**Eielson Array**	**83.74**	**18**	P	**P**	**19 09 43.0**	**+0.8**
	0.3nm,0.6s,baz=251,slow=5.5,SNR=4.3 0.3nm,0.6s						
MKAR	**Makanchi Array**	**94.20**	**317**	P	**P**	**19 10 31.7**	**-0.9**
	0.4nm,0.5s,baz=78,slow=6.4,SNR=7.7 0.4nm,0.5s						

*NORS **16** 18:58:58.0±0.0, 42°.78N×42°.79E, h4km, MPVA3.6*
*TIF **16** 18:58:58.0, 42°.78N×42°.77E, h13km±1km*
*MOS **16** 18:58:58.4±0.0, 42°.78N×42°.75E, h7km, MPVA3.5*

ISC 16 18:58:58.2±1.0, 42°.77N±0°.02×42°.78E±0°.02, h9km±9km, n31, σ0§73/62, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.45**	**159**	P	**Pb**	**18 59 07.9**	**-0.4**
TKB				S	**Sb**	**18 59 14.7**	**-0.4**
NEY	**Neytrino**	**0.48**	**355**	*i* Pg	**Pg**	**18 59 07.7**	**0.0**
NEY				*e*Sg	**Sg**	**18 59 14.1**	**+0.1**
ONI	**Oni**	**0.53**	**110**	P	**Pg**	**18 59 08.9**	**+0.4**
ONI				S	**Sb**	**18 59 16.6**	**-0.8**
DIGR	**Digorskoe uzhe**	**0.60**	**77**	*e*Pg	**Pg**	**18 59 09.8**	**-0.1**
DIGR				*e*Sg	**Sg**	**18 59 17.5**	**-0.5**
ZEI	**Tsey**	**0.83**	**88**	*e*Pg	**Pg**	**18 59 13.9**	**-0.3**
ZEI				*e*Sg	**Sb**	**18 59 25.8**	**-0.4**
LSNR	**Lesken**	**0.92**	**56**	*i* Pg	**Pb**	**18 59 16.4**	**0.0**
LSNR				*e*Sg	**Sb**	**18 59 29.1**	**+0.3**
ALIG	**Mtskhetisjvari**	**0.93**	**136**	P	**Pg**	**18 59 15.9**	**-0.2**
ALIG				S	**Sg**	**18 59 28.4**	**+0.3**
NCK	**Nalchik**	**0.94**	**39**	*e*Pg	**Pn**	**18 59 17.2**	**-0.4**
NCK				*e*Sg	**Sn**	**18 59 30.3**	**-0.9**
KBZ	**Khabaz**	**0.96**	**5**	*i* Pg	**Pg**	**18 59 16.7**	**0.0**
KBZ				*e*Sg	**Sg**	**18 59 28.7**	**-0.5**
SHA1	**Shidzhatmaz**	**0.97**	**355**	*i* Pg	**Pg**	**18 59 16.9**	**0.0**
SHA1				*i* Pg	**Pg**	**18 59 16.9**	**0.0**
SHA1				*e*Sg	**Sg**	**18 59 30.1**	**+0.4**
SHA1				*i* Sg	**Sb**	**18 59 30.2**	**-0.2**
DOMR	**Dombai**	**0.99**	**302**	*e*Pg	**Pb**	**18 59 17.9**	**+0.2**
DOMR				*e*Sg	**Sg**	**18 59 30.3**	**-0.1**
KORR	**Kora**	**1.00**	**71**	*e*Pg	**Pb**	**18 59 17.9**	**+0.1**
KORR				*e*Sg	**Sn**	**18 59 31.9**	**-0.7**
ABS	**Abastumani**	**1.01**	**179**	P	**Pb**	**18 59 17.9**	**-0.1**
ABS				S	**Sn**	**18 59 32.7**	**-0.6**
STDR	**Stavd-Durt**	**1.11**	**57**	*e*Pg	**Pn**	**18 59 21.2**	**+1.1**
STDR				*e*Sg	**Sn**	**18 59 37.1**	**+1.6**
LACR	**Lac**	**1.12**	**87**	*e*Pg	**Pg**	**18 59 19.6**	**-0.2**
LACR				*e*Sg	**Sn**	**18 59 35.3**	**-0.5**
KBTC	**Kuba-Taba**	**1.14**	**23**	*e*Pg	**Pn**	**18 59 21.0**	**+0.5**
KBTC				*e*Sg	**Sn**	**18 59 37.1**	**+0.8**
ARNR	**Ardon**	**1.18**	**69**	*e*Pg	**Pg**	**18 59 21.8**	**+0.9**
ARNR				*e*Sg	**Sn**	**18 59 38.8**	**+1.7**
KIV	**Kislovodsk**	**1.19**	**357**	*e*Pg	**Pg**	**18 59 21.2**	**+0.1**
KIV				*e*Sg	**Sg**	**18 59 36.6**	**+0.1**
KIV0	**Kislovodsk Arr**	**1.19**	**357**	*i* Pg	**Pn**	**18 59 21.2**	**+0.1**
KIV0				*i* Sg	**Sn**	**18 59 37.0**	**-0.4**
BEYR	**Belyy Ugol+**	**1.24**	**1**	*i* Pg	**Pg**	**18 59 22.3**	**+0.2**
BEYR				*i* Sg	**Sn**	**18 59 39.0**	**+0.3**
ARXR	**Arkhyz**	**1.36**	**306**	*e*Pg	**Pg**	**18 59 24.5**	**+0.3**
ARXR				*e*Sg	**Sg**	**18 59 42.8**	**+0.9**
PNSH	**Pansheti**	**1.36**	**95**	P	**Pb**	**18 59 23.9**	**-0.1**
BRNG	**Burnasheti**	**1.39**	**145**	P	**Pg**	**18 59 24.9**	**+0.1**
BRNG				S	**Sg**	**18 59 44.6**	**+1.8**
BATM	**Batumi**	**1.42**	**215**	P	**Pb**	**18 59 24.5**	**-0.3**
BATM				S	**Sg**	**18 59 44.3**	**+0.5**
AKH	**Akhalkalaki**	**1.46**	**158**	P	**Pb**	**18 59 25.8**	**+0.1**
AKH				S	**Sg**	**18 59 45.9**	**+0.7**
SHTL	**Shatili**	**1.75**	**93**	P	**Pg**	**18 59 31.2**	**-0.6**
DMNI	**Dmanisi**	**1.78**	**143**	P	**Pb**	**18 59 30.8**	**-0.3**
DMNI				S	**Sg**	**18 59 54.9**	**-0.6**
RPOR	**Krasnaya Polya**	**2.06**	**298**	*e*Pg	**Pb**	**18 59 34.7**	**-1.1**
RPOR				*e*Sg	**Sb**	**19 00 02.0**	**+0.6**
VSLR	**Vesyoloye**	**2.13**	**290**	*i* Pg	**Pn**	**18 59 34.6**	**+0.7**
VSLR				*e*Sg	**Sb**	**19 00 03.0**	**-0.4**
GUZR	**Guzeripl'**	**2.29**	**303**	*e*Pn	**Pb**	**18 59 38.4**	**-1.4**
GUZR				*e*Sn	**Sb**	**19 00 07.1**	**-1.2**
LGD	**Lagodekhi**	**2.73**	**109**	P	**Pb**	**18 59 47.4**	**+0.1**
LGD				S	**Sg**	**19 00 23.6**	**-2.5**

*ISK **16** 19:07:29.2, 37°.22N×28°.17E, h0km, ML1.9/6, Suspected Mining explosion.*

DDA 16 19:07:29.1±0.0, 37°.24N×28°.22E, h4km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.08**	**80**	P		19 07 31.2	
MULA				S		19 07 32.6	
MULA				*i* AML		19 07 33.0	
	comp=N,218nm,0.3s						
MULA				*i* AML		19 07 33.0	
	comp=E,320nm,0.2s						
YER	**Yerkesik**	**0.12**	**155**	PG		19 07 32.4	
YER				SG		19 07 34.5	
MLSB	**Milas**	**0.36**	**279**	PG		19 07 36.0	
MLSB				SG		19 07 42.4	
TURN	**Turunc**	**0.47**	**178**	PG		19 07 38.6	
TURN				SG		19 07 45.5	
TURN	**Turunc**	**0.47**	**178**	P		19 07 38.8	
TURN				S		19 07 45.8	
TURN				*i* AML		19 07 46.0	
	comp=E,13nm,0.3s						
TURN				*i* AML		19 07 49.0	
	comp=N,15nm,0.5s						
AYDN	**Tasoluk**	**0.50**	**327**	P		19 07 39.0	
AYDN				S		19 07 46.1	
AYDN				*i* AML		19 07 47.0	
	comp=N,16nm,0.4s						
AYDN				*i* AML		19 07 47.0	
	comp=E,27nm,0.4s						
DALY	**Dalyan (Mula)**	**0.55**	**141**	PG		19 07 40.7	
DALY				SG		19 07 48.9	
TAVA	**DENIZLI_Tavas**	**0.59**	**68**	P		19 07 41.4	
TAVA				S		19 07 49.3	
BODT	**Bodrum**	**0.75**	**256**	PG		19 07 43.3	
AYDB	**Zeytinkoy-Aydi**	**0.75**	**340**	PG		19 07 44.4	
KORT	**Korkueli**	**1.72**	**97**	PN		19 08 01.7	

*NOU **16** 19:13:40.1, 42°.95S×173°.47E, h0km, MLv4.3/8, South Island, New Zealand*
*WEL **16** 19:13:41.9±0.4, 43°.3S±2°.5×17°.3E±°, h5km, M3.6/24, ML3.9/13, MLv3.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=113.9*
*NEIC **16** 19:13:41.5±1.8, 42°.62S±0°.06×173°.34E±0°.08, h10km±2km, mb4.0/5, Error ellipse: s-maj=12.9km s-min=6.1km az=133.0*

ISC 16 19:13:40.4±0.8, 42°.62S±0°.02×173°.19E±0°.03, h15km, n122, σ1§55/122, mb4.1/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.36**	**198**		**Pb**	**19 13 50.1**	**+1.5**
GVZ	**Greta Valley S**	**0.36**	**198**	P	**Pb**	**19 13 50.1**	**+1.5**
GVZ				S	**Sn**	**19 13 57.0**	**-1.1**
AMCZ	**Amberley**	**0.68**	**215**	Pg	**Pn**	**19 13 55.9**	**+0.3**
AMCZ				Sg	**Sn**	**19 14 06.0**	**+0.1**
AMCZ	**Amberley**	**0.68**	**215**	P	**Pn**	**19 13 56.0**	**+0.4**
LTZ	**Lake Taylor**	**0.70**	**255**		**Pb**	**19 13 54.5**	**+0.2**
LTZ	**Lake Taylor**	**0.70**	**256**	P	**Pb**	**19 13 54.8**	**+0.5**
THZ	**Tophouse**	**0.88**	**346**		**Pb**	**19 13 57.7**	**+0.2**
THZ	**Tophouse**	**0.88**	**346**	P	**Pb**	**19 13 57.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**1.04**	**30**		**Pg**	**19 14 01.3**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.04**	**30**	P	**Pg**	**19 14 01.7**	**+1.2**
OXZ	**Oxford**	**1.10**	**230**	Pn	**Pn**	**19 14 01.5**	**+0.2**
OXZ	**Oxford**	**1.10**	**230**	P	**Pg**	**19 14 01.8**	**+0.2**
OKCZ	**Okains Bay**	**1.11**	**185**	P	**Pg**	**19 14 02.7**	**+0.9**
MQZ	**McQueen's Vall**	**1.15**	**200**	Pn	**Pn**	**19 14 01.8**	**-0.2**
MQZ	**McQueen's Vall**	**1.15**	**200**	P	**Pn**	**19 14 02.1**	**+0.1**
CMWZ	**Cape Campbell**	**1.16**	**41**		**Pg**	**19 14 02.7**	**0.0**
CMWZ	**Cape Campbell**	**1.16**	**41**	P	**Pg**	**19 14 04.5**	**+1.8**
MRNZ	**Matariki Terra**	**1.26**	**345**		**Pb**	**19 14 04.4**	**+0.5**
MRNZ	**Matariki Terra**	**1.26**	**345**	P	**Pg**	**19 14 04.5**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.27**	**189**	P	**Pb**	**19 14 04.2**	**+0.2**
INZ	**Inchbonnie**	**1.29**	**265**		**Pb**	**19 14 04.8**	**+0.3**
INZ	**Inchbonnie**	**1.29**	**265**	P	**Pg**	**19 14 05.2**	**-0.1**
TUWZ	**Tuamarina**	**1.32**	**25**		**Pg**	**19 14 05.8**	**+0.3**
TUWZ	**Tuamarina**	**1.32**	**25**	P	**Pg**	**19 14 06.2**	**+0.3**
RACZ	**Rakaia**	**1.35**	**214**	P	**Pb**	**19 14 05.3**	**0.0**
DSZ	**Denniston Nort**	**1.35**	**310**		**Pg**	**19 14 06.1**	**-0.4**
DSZ	**Denniston Nort**	**1.35**	**310**	P	**Pg**	**19 14 06.5**	**0.0**
NNZ	**Nelson**	**1.41**	**6**		**Pb**	**19 14 06.9**	**+0.5**
NNZ	**Nelson**	**1.41**	**6**	P	**Pb**	**19 14 06.9**	**+0.5**
MHCZ	**Mount Hutt**	**1.50**	**232**	P	**Pn**	**19 14 07.4**	**+0.6**
TKNZ	**Takaka Hill**	**1.59**	**354**		**Pb**	**19 14 09.8**	**+0.2**
TKNZ	**Takaka Hill**	**1.59**	**354**	P	**Pb**	**19 14 10.0**	**+0.4**
TCW	**Tory Channel**	**1.62**	**30**		**Pb**	**19 14 10.1**	**0.0**
TCW	**Tory Channel**	**1.62**	**30**	P	**Pb**	**19 14 10.1**	**0.0**
WACZ	**Wakanui South**	**1.65**	**216**	P	**Pn**	**19 14 09.6**	**+0.8**
SNZO	**South Karori**	**1.73**	**41**		**Pb**	**19 14 11.2**	**-0.7**
WEL	**Wellington**	**1.78**	**42**	P	**Pb**	**19 14 12.2**	**-0.5**
PLWZ	**Palliser**	**1.86**	**56**	Pn	**Pn**	**19 14 12.4**	**+0.6**
PLWZ	**Palliser**	**1.86**	**56**	P	**Pn**	**19 14 12.5**	**+0.7**
QRZ	**Quartz Range**	**1.86**	**344**	Pn	**Pb**	**19 14 14.0**	**-0.1**
QRZ	**Quartz Range**	**1.86**	**344**	P	**Pb**	**19 14 14.3**	**+0.2**
WVZ	**Waitaha Valley**	**1.86**	**255**	P	**Pb**	**19 14 13.3**	**+0.3**
DUWZ	**D'Urville Isla**	**1.90**	**17**	P	**Pb**	**19 14 15.2**	**+0.4**
RPZ	**Rata Peaks**	**1.91**	**234**	Pn	**Pn**	**19 14 12.9**	**+0.4**
RPZ	**Rata Peaks**	**1.91**	**234**	P	**Pn**	**19 14 13.3**	**+0.9**
RPZ	**Rata Peaks**	**1.91**	**234**	P	**Pn**	**19 14 13.1**	**+0.6**
MSWZ	**Moikau Station**	**1.95**	**53**		**Pn**	**19 14 13.7**	**+0.7**
MSWZ	**Moikau Station**	**1.95**	**53**	P	**Pn**	**19 14 13.9**	**+0.9**
ARCZ	**Arundel**	**1.98**	**227**	P	**Pn**	**19 14 14.0**	**+0.5**
CAW	**Cannon Point**	**2.06**	**43**	P	**Pn**	**19 14 15.7**	**+1.2**
PAWZ	**Paruwai Farm**	**2.08**	**54**	P	**Pn**	**19 14 15.3**	**+0.6**
KIW	**Kapiti Island**	**2.18**	**37**	P	**Pn**	**19 14 17.7**	**+1.6**
GCSZ	**Gaunt Creek Bo**	**2.21**	**251**	P	**Pb**	**19 14 18.5**	**-1.6**
TRWZ	**Traveller**	**2.23**	**58**	P	**Pn**	**19 14 17.2**	**+0.4**
MTW	**Mount Morrison**	**2.26**	**51**	P	**Pn**	**19 14 17.8**	**+0.5**
OGWZ	**Otaki Gorge**	**2.33**	**40**	P	**Pn**	**19 14 19.4**	**+1.2**
TMZ	**Timaru**	**2.37**	**221**	P	**Pn**	**19 14 19.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**2.45**	**46**	P	**Pn**	**19 14 20.6**	**+0.8**
TMWZ	**Te Maipa**	**2.52**	**54**	P	**Pn**	**19 14 21.1**	**+0.3**
FOZ	**Fox Glacier**	**2.63**	**249**	Pn	**Pn**	**19 14 24.0**	**+1.7**
FOZ	**Fox Glacier**	**2.63**	**249**	P	**Pn**	**19 14 24.4**	**+2.0**
MRZ	**Mangatainoka R**	**2.65**	**43**	Pn	**Pn**	**19 14 23.1**	**+0.5**
MRZ	**Mangatainoka R**	**2.65**	**43**	P	**Pn**	**19 14 23.3**	**+0.7**
LBZ	**Lake Benmore**	**2.81**	**230**		**Pn**	**19 14 25.5**	**+0.7**
LBZ	**Lake Benmore**	**2.81**	**230**	P	**Pn**	**19 14 25.7**	**+0.8**
BFZ	**Birch Farm**	**3.00**	**51**	Pn	**Pn**	**19 14 27.3**	**-0.1**
BFZ	**Birch Farm**	**3.00**	**51**	P	**Pn**	**19 14 27.8**	**+0.4**
BFZ	**Birch Farm**	**3.00**	**51**	P	**Pn**	**19 14 27.5**	**+0.1**
ODZ	**Otahua Downs**	**3.04**	**216**	Pn	**Pn**	**19 14 28.4**	**+0.3**
ODZ	**Otahua Downs**	**3.04**	**216**	P	**Pn**	**19 14 28.3**	**+0.3**
ODZ	**Otahua Downs**	**3.04**	**216**	P	**Pn**	**19 14 28.5**	**+0.5**
WAZ	**Wanganui**	**3.17**	**26**	P	**Pn**	**19 14 36.3**	**-0.1**
DVHZ	**Dannevirke**	**3.22**	**45**	P	**Pn**	**19 14 30.4**	**-0.1**
TSZ	**Takapari Road**	**3.30**	**40**	P	**Pn**	**19 14 32.0**	**+0.4**
KHEZ	**Kahui Hut**	**3.38**	**11**	P	**Pb**	**19 14 38.9**	**-1.2**
KHEZ	**Kahui Hut**	**3.38**	**11**	P	**Pb**	**19 14 38.2**	**-1.9**
NBEZ	**Newall Road No**	**3.39**	**9**	P	**Pb**	**19 14 37.8**	**-2.3**
NEZ	**North Egmont**	**3.42**	**12**	P	**Pb**	**19 14 41.0**	**+0.3**
PKE	**Pukeiti**	**3.48**	**10**	P	**Pb**	**19 14 38.5**	**-3.1**
PRHZ	**Porangahau**	**3.50**	**49**	P	**Pn**	**19 14 35.7**	**+1.5**
JCZ	**Jackson Bay**	**3.53**	**244**	P	**Pn**	**19 14 35.5**	**+0.8**
JCZ	**Jackson Bay**	**3.53**	**244**	P	**Pn**	**19 14 35.5**	**+0.8**
VRZ	**Vera Road**	**3.69**	**19**	P	**Pn**	**19 14 41.2**	**+4.3**
WKZ	**Wanaka**	**3.74**	**232**		**Pn**	**19 14 38.3**	**+0.6**
WKZ	**Wanaka**	**3.74**	**232**	P	**Pn**	**19 14 38.2**	**+0.5**
MOVZ	**Moawhango**	**3.75**	**32**	P	**Pn**	**19 14 42.2**	**+4.4**
HHSZ	**Highcliff Hill**	**3.76**	**209**	P	**Pn**	**19 14 38.2**	**+0.4**
WNVZ	**Wahianoa**	**3.76**	**30**	P	**Pn**	**19 14 40.6**	**+2.6**
TRVZ	**Turoa**	**3.77**	**29**	P	**Pn**	**19 14 42.8**	**-3.9**
DRZ	**Dome Shelter**	**3.79**	**29**	P	**Pn**	**19 14 45.2**	**-1.6**
FWVZ	**Far West T-bar**	**3.81**	**29**	P	**Pn**	**19 14 44.5**	**-3.0**
EAZ	**Earnscleugh**	**3.83**	**226**	P	**Pn**	**19 14 39.0**	**+0.2**
NGZ	**Ngauruhoe**	**3.90**	**29**	P	**Pn**	**19 14 44.3**	**+4.5**
OTVZ	**Oturere**	**3.93**	**29**	P	**Pn**	**19 14 44.3**	**+3.9**
NNVZ	**North Ngauruho**	**3.94**	**29**	P	**Pn**	**19 14 44.8**	**+4.3**
WTVZ	**West Tongariro**	**3.95**	**28**	P	**Pb**	**19 14 48.1**	**-1.6**
ETVZ	**East Tongariro**	**3.97**	**30**	P	**Pn**	**19 14 44.0**	**+3.1**
NTVZ	**North Tongarir**	**3.99**	**29**	P	**Pb**	**19 14 46.3**	**-4.2**
TUZ	**Tuapeka**	**4.20**	**216**	P	**Pn**	**19 14 44.6**	**+0.7**
BKZ	**Black Stump Fm**	**4.26**	**37**		**Pn**	**19 14 45.5**	**

WEL ***16*** *19:26:11.8±0.4,43°S±2°×17°3E±°, h6km±3km, M3.3/25, ML3.6/12, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8*

NOU ***16*** *19:26:14.2, 42°.75S×172°.65E, h73km, MLv4.1/8, South Island, New Zealand*

ISC 16 19:26:12.3±0.9, 42°.72S±0°.03×172°.80E±0°.03, h15km, n67, σ1s57/69, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.30**	**146**	P		Pg	19 26 19.2	+0.6
GVZ				S		Sg	19 26 24.8	+1.8
LTZ	**Lake Taylor**	**0.40**	**261**	P		Pg	19 26 20.2	-0.1
LTZ				S		Sg	19 26 26.5	+0.7
AMCZ	**Amberley**	**0.47**	**194**	P		Pg	19 26 22.8	+1.2
OXZ	**Oxford**	**0.83**	**222**	P		Pb	19 26 28.4	+0.1
THZ	**Tophouse**	**0.96**	**5**	P		Pb	19 26 28.9	-1.7
MQZ	**McQueen's Vall**	**0.99**	**186**	P		Pb	19 26 30.7	-0.4
INZ	**Inchbonnie**	**1.00**	**269**	P		Pb	19 26 31.3	0.0
OKCZ	**Okains Bay**	**1.02**	**169**	P		Pb	19 26 31.4	-0.3
RACZ	**Rakaia**	**1.12**	**205**	P		Pn	19 26 32.5	-0.9
AKCZ	**Akaroa Harbour**	**1.16**	**176**	P		Pn	19 26 32.9	-1.0
MHCZ	**Mount Hutt**	**1.22**	**228**	P		Pn	19 26 33.5	-1.3
DSZ	**Denniston Nort**	**1.22**	**322**	P		Pn	19 26 34.4	-0.5
BSWZ	**Blackbirch Sta**	**1.28**	**39**	P		Pn	19 26 35.1	-0.5
MRNZ	**Matariki Terra**	**1.32**	**359**	P		Pn	19 26 35.2	-0.9
WACZ	**Wakanui South**	**1.41**	**210**	P		Pn	19 26 36.4	-1.0
CMWZ	**Cape Campbell**	**1.43**	**48**	P		Pn	19 26 38.4	-0.1
TUWZ	**Tuamarina**	**1.54**	**34**	P		Pn	19 26 38.7	-0.5
WVZ	**Waitaha Valley**	**1.56**	**256**	P		Pn	19 26 39.6	+0.2
NNZ	**Nelson**	**1.56**	**16**	P		Pn	19 26 39.2	-0.2
RPZ	**Rata Peaks**	**1.62**	**231**	P		Pn	19 26 39.5	-0.8
RPZ	**Rata Peaks**	**1.62**	**231**	P		Pn	19 26 39.5	-0.8
TKNZ	**Takaka Hill**	**1.69**	**4**	P		Pn	19 26 40.8	-0.4
ARCZ	**Arundel**	**1.71**	**223**	P		Pn	19 26 40.5	-1.0
TCW	**Tory Channel**	**1.86**	**37**	P		Pn	19 26 42.7	-0.9
QRZ	**Quartz Range**	**1.90**	**354**	P		Pb	19 26 44.9	-1.8
QRZ	**Quartz Range**	**1.90**	**354**	P		Pn	19 26 43.8	-0.3
GCSZ	**Gaunt Creek Bo**	**1.91**	**251**	P		Pn	19 26 44.5	+0.2
DUWZ	**D'Urville Isla**	**2.09**	**24**	P		Pn	19 26 47.1	+0.4
TMZ	**Timaru**	**2.12**	**217**	P		Pn	19 26 46.1	-1.0
PLWZ	**Palliser**	**2.15**	**59**	P		Pn	19 26 45.7	-2.0
MSWZ	**Moikau Station**	**2.24**	**55**	P		Pn	19 26 46.9	-1.9
FOZ	**Fox Glacier**	**2.33**	**249**	P		Pn	19 26 50.4	+0.3
CAW	**Cannon Point**	**2.33**	**47**	P		Pn	19 26 48.5	-1.6
PAWZ	**Paruwai Farm**	**2.37**	**57**	P		Pn	19 26 48.0	-2.6
KIW	**Kapiti Island**	**2.44**	**41**	P		Pn	19 26 50.6	-0.9
LBZ	**Lake Benmore**	**2.53**	**228**	P		Pn	19 26 52.0	-0.8
HOWZ	**Holdsworth Sta**	**2.72**	**49**	P		Pb	19 27 01.1	+0.5
ODZ	**Otahua Downs**	**2.80**	**213**	P		Pn	19 26 55.3	-1.2
ODZ	**Otahua Downs**	**2.80**	**213**	P		Pn	19 26 55.3	-1.2
MRZ	**Mangatainoka R**	**2.92**	**46**	P		Pn	19 26 57.8	-0.4
JCZ	**Jackson Bay**	**3.23**	**244**	P		Pn	19 27 00.9	-1.5
JCZ	**Jackson Bay**	**3.23**	**244**	P		Pn	19 27 01.8	-0.6
WAZ	**Wanganui**	**3.39**	**30**	P		Pn	19 27 07.4	+2.8
NMEZ	**Namu Road**	**3.40**	**14**	P		Pn	19 27 07.1	+2.4
HHSZ	**Highcliff Hill**	**3.54**	**206**	P		Pn	19 27 05.3	-1.4
NBEZ	**Newall Road No**	**3.54**	**14**	P		Pn	19 27 08.2	+1.6
KHEZ	**Kahui Hut**	**3.54**	**15**	P		Pn	19 27 08.4	+1.6
KHEZ	**Kahui Hut**	**3.54**	**15**	P		Pn	19 27 08.3	+1.5
EAZ	**Earnscleugh**	**3.56**	**224**	P		Pn	19 27 05.7	-1.3
NEZ	**North Egmont**	**3.58**	**16**	P		Pn	19 27 09.9	+2.6
PKE	**Pukeiti**	**3.63**	**15**	P		Pn	19 27 09.8	+1.8
VRZ	**Vera Road**	**3.88**	**23**	P		Pn	19 27 12.5	+1.1
TUZ	**Tuapeka**	**3.96**	**214**	P		Pn	19 27 11.1	-1.2
MOVZ	**Moawhango**	**3.99**	**35**	P		Pn	19 27 17.1	+4.1
WNVZ	**Wahianoa**	**3.99**	**33**	P		Pn	19 27 11.8	-1.2
TRVZ	**Turoa**	**4.00**	**32**	P		Pn	19 27 12.5	-0.7
NGZ	**Ngauruhoe**	**4.12**	**32**	P		Pn	19 27 19.0	+4.2
TWVZ	**Taurewa**	**4.16**	**30**	P		Pb	19 27 20.9	-4.2
NNVZ	**North Ngauruho**	**4.17**	**32**	P		Pn	19 27 19.4	+4.0
HIZ	**Hauiti**	**4.48**	**21**	P		Pn	19 27 19.9	+0.3
HIZ	**Hauiti**	**4.48**	**21**	P		Pn	19 27 19.5	-0.1
BKZ	**Black Stump Fm**	**4.52**	**39**	P		Pn	19 27 21.6	+1.4
SYZ	**Scrubby Hill**	**4.63**	**213**	P		Pn	19 27 20.5	-1.1
SYZ	**Scrubby Hill**	**4.63**	**213**	P		Pn	19 27 20.4	-1.1
TLZ	**Tolley Road**	**4.85**	**26**	P		Pn	19 27 26.0	+1.2
TOZ	**Tahuroa Road**	**5.39**	**23**	P		Pn	19 27 33.4	+1.3
MKAZ	**Moumakai**	**5.89**	**19**	P		Pn	19 27 39.9	+0.9

IDC ***16*** *19:30:57.2±0.8, 55°.09S×30°.47W, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=39.3km s-min=20.0km az=70.0*

NEIC ***16*** *19:30:59.7±0.8, 55°.2S±0°.2×30°.9W±0°.2, h10km±2km, mb4.4/9, Error ellipse: s-maj=30.2km s-min=12.2km az=29.0*

ISC 16 19:30:59.2±0.8, 55°.0S±0°.1×30°.8W±0°.1, h10km, n28, σ1s89/22, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**3.41**	**280**	Pn		**Pn**	**19 31 51.5**	**-0.9**
VNA1	**Neumayer--Stat**	**18.57**	**156**	P		**Pn**	**19 35 19.2**	**+3.2**
VNA3	**Neumayer Olymp**	**18.70**	**159**	P		**P**	**19 35 16.2**	**-1.1**
PMSA	**Palmer Station** 8.7nm,0.8s,baz=75,slow=8.7,SNR=4.6	**19.13**	**226**	P		**Pn**	**19 35 26.5**	**+3.6**
PMSA	**Palmer Station**	**19.13**	**226**	P		**P**	**19 35 19.9**	**-2.2**
PMSA	comp=Z,23nm,1.2s			IAmb		IAmb	19 35 40.8	
SNAA	**Sanae**	**20.55**	**155**	P		Pn	19 35 39.8	-0.1
SNAA	**Sanae** comp=Z,0.6nm,0.3s,baz=308,slow=10,SNR=1.7 comp=Z,0.6nm,0.3s	**20.55**	**155**	P		**P**	**19 35 35.0**	**-2.6**
SNAA	**Sanae**	**20.55**	**155**			**P**	**19 35 37.5**	**-0.1**
TROLL	**Troll, Antarti**	**22.11**	**153**	P		**P**	**19 35 58.5**	**+4.1**
CPUP	**Villa Florida** comp=Z,1.6nm,0.6s,baz=147,slow=7.5,SNR=5.0 comp=Z,1.6nm,0.6s	**34.60**	**315**	P		**P**	**19 37 49.1**	**+0.9**
CPUP	**Villa Florida**	**34.60**	**315**	P		**P**	**19 37 49.1**	**+0.9**
QSPA	**South Pole Qui** comp=Z,2.2nm,0.5s,baz=198,slow=5.7,SNR=7.0 comp=Z,2.2nm,0.5s	**35.27**	**180**	P		**P**	**19 37 52.6**	**-1.2**
QSPA	**South Pole Qui**	**35.27**	**180**	P		**P**	**19 37 52.0**	**-1.8**
QSPA	comp=Z,4.9nm,1.1s			IAmb		IAmb	19 38 08.7	
GO02	**Mina Guanaco**	**41.20**	**300**	P		**P**	**19 38 44.9**	**+0.6**
GO02	comp=Z,9.8nm,1.1s			IAmb		IAmb	19 39 26.9	
MNMC	**Minye Minye**	**46.32**	**305**	P		**P**	**19 39 26.1**	**+0.7**
VNDA	**Vanda** comp=Z,2.1nm,0.8s,baz=196,slow=6.1,SNR=16 comp=Z,2.1nm,0.8s	**47.53**	**184**	P		**P**	**19 39 32.6**	**-1.3**
VNDA	**Vanda**	**47.53**	**184**	P		**P**	**19 39 33.2**	**-0.7**
VNDA	comp=Z,2.1nm,0.8s			IAmb		IAmb	19 39 35.4	
H10S2	**ASCENSION HYDR** baz=167,slow=74,SNR=18	**47.66**	**22**	T		T	20 30 36.1	
H10S3	**ASCENSION HYDR** baz=33,slow=74,SNR=35	**47.66**	**22**	T		T	20 30 36.2	
LPAZ	**La Paz** comp=Z,3.3nm,0.9s,baz=156,slow=8.7,SNR=11 comp=Z,3.3nm,0.9s	**48.12**	**308**	P		**P**	**19 39 41.0**	**+1.1**
LPAZ	**La Paz**	**48.12**	**308**	P		**P**	**19 39 40.9**	**+1.1**
LPAZ	comp=Z,4.3nm,1.0s			IAmb		IAmb	19 39 54.1	
H10N1	**ASCENSION HYDR** baz=201,slow=72,SNR=14	**48.77**	**22**	T		T	20 32 00.5	
H10N3	**ASCENSION HYDR** baz=201,slow=72,SNR=40	**48.77**	**22**	T		T	20 32 00.5	
H10N2	**ASCENSION HYDR** baz=201,slow=72,SNR=26	**48.79**	**22**	T		T	20 32 01.9	
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.8s,baz=183,slow=5.5,SNR=4.8 comp=Z,0.8nm,0.8s	**73.19**	**33**	P		**P**	**19 42 29.9**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.7s,baz=247,slow=4.6,SNR=4.6	**127.34**	**113**	PKP		**PKPdf**	**19 50 02.9**	**-1.1**
ILAR	**Eielson Array** comp=Z,1.9nm,0.7s,baz=122,slow=1.7,SNR=22	**147.90**	**314**	PKPbc		**PKPbc**	**19 50 42.2**	**-0.9**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=230,slow=3.7,SNR=3.5	**152.69**	**87**	PKPbc		**PKPbc**	**19 50 54.5**	**-0.8**

TEH 16 19:43:42.4, 35°.24N×57°.15E, h11km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHRO	**Shahrood**	**1.20**	**309**	*e*Pn		Pb	19 44 05.0	-0.2
TNSJ	**Nastanj** comp=Z,17μm,0.3s	**1.35**	**200**	*e*			19 44 35.5	
TNSJ				*e*Pg		Pg	19 44 08.3	0.0
TABS	**Tabas**	**1.58**	**181**	*e*Pn		Pg	19 44 12.6	-0.2
TKDS	**Koohdasht(Taba**	**1.62**	**181**	*e*Pn		Pg	19 44 13.0	-0.5
TKDS	comp=Z,12μm,0.4s			*e*			19 44 41.5	
TBHD	**Torbat heydari**	**1.71**	**84**	*e*Pn		Pb	19 44 13.3	-0.7
TBHD	comp=Z,8μm,0.6s			*e*			19 44 45.5	
IAKL	**Akhelmad**	**1.88**	**43**	*e*Pn		Pb	19 44 16.6	-0.4
IPAY	**Payeh**	**1.93**	**51**	*e*Pn		Pb	19 44 17.7	0.0
IPAY	comp=Z,4μm,0.6s			*e*			19 44 50.7	
ISFR	**Sfrayin**	**1.94**	**20**	*e*Pn		Pb	19 44 17.7	-0.2
ISFR	comp=Z,5μm,0.6s			*e*			19 44 45.8	
IMOG	**Moghan**	**1.98**	**63**	*e*Pn		Pb	19 44 18.3	-0.4
TPRV	**Parvadeh(Tabas**	**2.24**	**190**	*e*Pn		Pb	19 44 21.4	-1.5
TPRV	comp=Z,6μm,0.4s			*e*			19 45 04.0	
AFRZ	**Afriz**	**2.38**	**139**	*e*Pn		Pb	19 44 23.5	-1.8
AFRZ	comp=Z,3μm,0.8s			*e*			19 45 00.3	
BJRD	**Bojnurd**	**2.47**	**5**	*e*Pn		Pn	19 44 24.7	+2.0
MRVT	**Maraveh tapeh**	**2.56**	**341**	*e*Pn		Pb	19 44 26.3	-2.2
MRVT				*e*Pn		Pn	19 44 26.6	+2.6
TBJM	**Torbat-e-JAM**	**2.60**	**88**	*e*Pn		Pn	19 44 25.6	+1.0
TBJM	comp=Z,4μm,0.4s			*e*			19 45 16.4	
IMYA	**Miami**	**2.64**	**64**	*e*Pn		Pn	19 44 27.4	+2.3
IANJ	**Anjilo**	**2.66**	**276**	*e*Pn		Pn	19 44 27.6	+2.2
IANJ	comp=Z,2μm,0.4s			*e*			19 45 09.8	
ITEG	**Tejag**	**2.69**	**150**	*e*Pn		Pn	19 44 28.1	+2.3
ITEG	comp=Z,4μm,0.5s			*e*			19 45 17.3	
IMON	**Monand**	**2.92**	**134**	*e*Pn		Pn	19 44 31.2	+2.2
IMON	comp=Z,3μm,0.3s			*e*			19 44 43.8	
SHRT	**Shahrakht**	**3.04**	**121**	*e*Pn		Pn	19 44 32.6	+2.1
ISHM	**Shahmirzad**	**3.20**	**281**	*e*Pn		Pn	19 44 34.5	+1.6
ISHM	comp=Z,2μm,0.5s			*e*			19 45 34.4	
IDAH	**Dahanechah**	**3.36**	**137**	*e*Pn		Pn	19 44 36.5	+1.4
ANAR	**Anarak**	**3.50**	**235**	*e*Pn		Pn	19 44 38.3	+1.4
ANAR	comp=Z,1μm,0.6s			*e*			19 45 45.8	
YZKH	**Yazd**	**3.55**	**218**	*e*Pn		Pn	19 44 41.0	+3.4
IFIR	**Firoozkooh**	**3.62**	**278**	*e*Pn		Pn	19 44 40.6	+2.0
IFIR	comp=Z,664nm,0.5s			*e*			19 45 45.1	
BSRN	**Basiran**	**3.66**	**153**	*e*Pn		Pn	19 44 41.3	+2.2
ICHK	**Chekchek**	**3.76**	**218**	*e*Pn		Pn	19 44 42.8	+2.2
ICHK	comp=Z,2μm,0.4s			*e*			19 45 52.9	
IPRN	**Peran**	**4.04**	**286**	*e*Pn		Pn	19 44 46.6	+2.2
ISFB	**Sefidab**	**4.14**	**259**	*e*Pn		Pn	19 44 47.5	+1.9
ISFB	comp=Z,612nm,0.6s			*e*			19 46 09.1	
NASN	**Na'in**	**4.35**	**237**	*e*Pn		Pn	19 44 51.9	+3.1
ISAD	**Sadrabad**	**4.40**	**222**	*e*Pn		Pn	19 44 50.5	+1.1
IVRN	**Varamin**	**4.45**	**268**	*e*Pn		Pn	19 44 51.9	+1.9
IVRN	comp=Z,493nm,0.4s			*e*			19 46 21.3	
NHDN	**Nehbandan**	**4.54**	**147**	*e*Pn		Pn	19 44 53.7	+2.5
IZEF	**Zefreh**	**4.63**	**241**	*e*Pn		Pn	19 44 54.3	+1.6
GHVR	**GHOM**	**4.88**	**263**	*e*Pn		Pn	19 44 59.6	+3.8
CHTH	**Charan**	**4.96**	**279**	*e*Pn		Pn	19 45 00.9	+3.8
QAMS	**Qamsar**	**4.99**	**254**	*e*Pn		Pn	19 44 59.5	+2.1
QAMS	comp=Z,525nm,0.4s			*e*			19 46 31.4	
IQOM	**Qom**	**5.01**	**267**	*e*Pn		Pn	19 44 59.9	+2.2
IRAM	**Ramesheh**	**5.25**	**231**	*e*Pn		Pn	19 45 03.3	+2.2
KRBR	**Kerman**	**5.25**	**184**	*e*Pn		Pn	19 45 04.1	+2.9
QALM	**Alamut, Qazvin**	**5.42**	**285**	*e*Pn		Pn	19 45 06.3	+2.9
IPIR	**Pirpir**	**5.79**	**246**	*e*Pn		Pn	19 45 10.2	+1.6
ASAO	**Ashtian**	**5.90**	**265**	*e*Pn		Pn	19 45 13.2	+3.2
IRAZ	**Razeghan**	**5.91**	**274**	*e*Pn		Pn	19 45 12.7	+2.6
KHMZ	**Khomeyn**	**6.13**	**258**	*e*Pn		Pn	19 45 15.0	+1.9
ZHSF	**Zahedan**	**6.39**	**150**	*e*Pn		Pn	19 45 19.0	+2.3

KRSC 16 19:57:48.5±0.9, 54°.76N×161°.02E, h118km±17km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TUMR	**Tumrok**	**0.73**	**317**	*e*P		Pn	19 58 09.8	+1.9
KMNR	**Kamenistaya**	**1.10**	**336**	*e*P		Pn	19 58 12.7	+1.3
BZGR	**Bezymyannyi-Gr**	**1.20**	**351**	*e*P		Pn	19 58 14.0	+1.6
BZMR	**Bezymyannaya**	**1.22**	**346**	*e*P		Pn	19 58 14.0	+1.3
BZWR	**Bezymyannyi-We**	**1.25**	**346**	*e*P		Pn	19 58 13.9	+0.9
KIRR	**Kirishev**	**1.26**	**342**	*e*P		Pn	19 58 14.3	+1.2
KPT	**Kopyto**	**1.30**	**340**	*e*P		Pn	19 58 14.1	+0.6
KOZ	**Kozyrevsk**	**1.46**	**334**	*e*P		Pn	19 58 16.3	+1.1
KRSR	**Krestovskiy**	**1.49**	**350**	*e*P		Pn	19 58 16.9	+1.3
KLY	**Klyuchi**	**1.57**	**352**	*e*P		Pn	19 58 18.0	+1.5
KLY				*e*S		Sn	19 58 39.7	+1.7
SRDR	**Sredinnyy**	**1.73**	**335**	*e*P		Pn	19 58 19.1	+0.6
SRDR				*e*S		Sn	19 58 42.0	+0.6
SPN	**Mys Shipunski**	**1.76**	**200**	*e*P		Pn	19 58 19.7	+0.9
SPN				*e*S		Sn	19 58 42.6	+0.6
ESO	**Esso**	**1.77**	**312**	*e*P		Pn	19 58 19.7	+0.8
ESO				*e*S		Sn	19 58 42.8	+0.6
KBTR	**Krutoberegovo**	**1.78**	**34**	*e*P		Pn	19 58 21.0	+2.0
KBTR				*e*S		Sn	19 58 43.9	+1.6
KBG	**Krutoberegovo**	**1.78**	**32**	*e*S		Sn	19 58 44.0	+1.7
BDR	**Baidarnaya**	**1.82**	**3**	*e*P		Pn	19 58 20.6	+1.0
BDR				*e*S		Sn	19 58 43.7	+0.3
SMKR	**Semkarok**	**1.85**	**8**	*e*P		Pn	19 58 21.3	+1.4
SMKR				*e*S		Sn	19 58 45.4	+1.4
NLC	**Nalytchevo**	**1.87**	**213**	*e*P		Pn	19 58 21.7	+1.6
NLC				*e*S		Sn	19 58 45.8	+1.5
SRKR	**Sorokina**	**1.90**	**2**	*e*P		Pn	19 58 22.0	+1.4
SRKR				*e*S		Sn	19 58 46.6	+1.4
SDLR	**Sedlovina**	**1.95**	**221**	*e*P		Pn	19 58 23.0	+1.8
KRER	**Koryakskii**	**1.98**	**224**	*e*P		Pn	19 58 24.0	+2.3
UGLR	**Uglovaya**	**2.02**	**221**	*e*P		Pn	19 58 24.2	+2.0
KOK	**Koryaka**	**2.03**	**225**	*e*P		Pn	19 58 24.4	+2.1
GNL	**Ganaly**	**2.10**	**241**	*e*P		Pn	19 58 24.6	+1.5
DALK	**Dalny**	**2.19**	**219**	*e*P		Pn	19 58 25.8	+1.7
DALK				*e*S		Sn	19 58 52.9	+1.5
PET	**Petropavlovsk**	**2.23**	**220**	*e*P		Pn	19 58 26.5	+1.8
PET				*e*S		Sn	19 58 53.8	+1.4
KRMR	**Karymshinskiy**	**2.58**	**223**	*e*P		Pn	19 58 30.8	+1.6
RUS	**Russkaya**	**2.77**	**214**	*e*P		Pn	19 58 32.6	+1.1
RUS				*e*S		Sn	19 59 04.6	-0.1
GRL	**Gorelyy**	**2.82**	**220**	*e*P		Pn	19 58 34.5	+2.1
MTVR	**Mutnovka**	**2.84**	**218**	*e*P		Pn	19 58 34.5	+1.9
MTVR				*e*S		Sn	19 59 07.5	+0.9
BKI	**Bering**	**2.89**	**79**	*e*S		Sn	19 59 07.5	0.0
APC	**Apacha**	**2.93**	**233**	*e*P		Pn	19 58 35.6	+1.9
ASAK	**Asacha**	**3.02**	**219**	*e*P		Pn	19 58 36.5	+1.5

WEL 16 20:01:43.7±0.3, 43°S±2°×17°3E±°, h5km, M3.2/3, ML3.3/14, ML3.6/3, MLv3.1/19, MLv3.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.34**	**171**	P		Pg	20 01 50.9	+0.6
GVZ				S		Sb	20 01 56.7	-1.3
LTZ	**Lake Taylor**	**0.53**	**253**	P		Pg	20 01 54.6	+0.7
AMCZ	**Amberley**	**0.59**	**203**	P		Pb	20 01 56.2	-0.3
THZ	**Tophouse**	**0.87**	**357**	P		Pg	20 01 59.8	-0.5
OXZ	**Oxford**	**0.97**	**224**	P		Pg	20 02 02.1	-0.3
OKCZ	**Okains Bay**	**1.09**	**176**	P		Pg	20 02 03.8	-0.9
MQZ	**McQueen's Vall**	**1.10**	**192**	P		Pg	20 02 03.1	-1.7
DSZ	**Denniston Nort**	**1.23**	**315**	P		Pg	20 02 07.3	-0.1
MRNZ	**Matariki Terra**	**1.24**	**353**	P		Pg	20 02 07.0	-0.5
AKCZ	**Akaroa Harbour**	**1.24**	**182**	P		Pg	20 02 05.2	-2.3
RACZ	**Rakaia**	**1.25**	**208**	P		Pg	20 02 05.9	-1.8
MHCZ	**Mount Hutt**	**1.36**	**228**	P		Pn	20 02 07.5	-1.9
TUWZ	**Tuamarina**	**1.41**	**32**	P		Pn	20 02 09.1	-0.9
NNZ	**Nelson**	**1.45**	**13**	P		Pn	20 02 10.0	-0.5
WACZ	**Wakanui South**	**1.55**	**212**	P		Pn	20 02 09.8	-2.1
TKNZ	**Takaka Hill**	**1.59**	**360**	P		Pn	20 02 12.8	+0.2
WVZ	**Waitaha Valley**	**1.70**	**254**	P		Pn	20 02 13.4	-0.5
TCW	**Tory Channel**	**1.72**	**35**	P		Pn	20 02 14.3	0.0
RPZ	**Rata Peaks**	**1.77**	**232**	P		Pn	20 02 13.2	-1.7
QRZ	**Quartz Range**	**1.83**	**350**	P		Pn	20 02 15.9	+0.1
ARCZ	**Arundel**	**1.85**	**224**	P		Pn	20 02 14.2	-2.0
DUWZ	**D'Urville Isla**	**1.96**	**22**	P		Pn	20 02 17.7	0.0
GCSZ	**Gaunt Creek Bo**	**2.05**	**250**	P		Pn	20 02 18.3	-0.5
MSWZ	**Moikau Station**	**2.09**	**55**	P		Pn	20 02 17.0	-2.4
TMZ	**Timaru**	**2.26**	**218**	P		Pn	20 02 19.9	-1.8
FOZ	**Fox Glacier**	**2.48**	**248**	P		Pn	20 02 24.1	-0.5
LBZ	**Lake Benmore**	**2.68**	**228**	P		Pn	20 02 25.8	-1.6
ODZ	**Otahua Downs**	**2.94**	**214**	P		Pn	20 02 28.7	-2.4
PKE	**Pukeiti**	**3.52**	**13**	P		Pn	20 02 40.5	+1.5
HIZ	**Hauiti**	**4.36**	**20**	P		Pn	20 02 50.8	+0.2

WEL ***16*** *20:14:28.2±0.4, 42°S±4°×17°4E±°, h8km±4km, M2.9/24, ML3.1/18, MLv2.9/24, Error ellipse: s-maj=0.0km s-min=0.0km az=157.7*

ISC 16 20:14:27.9±1.3, 41°.69S±0°.05×174°.47E±0°.03, h11km±11km, n63, σ0s97/63, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.20**	**252**	P		**Pg**	**20 14 32.1**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.45**	**266**	P		**Pg**	**20 14 36.2**	**-0.5**
WEL	**Wellington**	**0.46**	**29**	P		**Pb**	**20 14 38.9**	**+0.9**
TUWZ	**Tuamarina**	**0.47**	**303**	P		**Pg**	**20 14 37.5**	**+0.4**
TUWZ				S		**Sb**	**20 14 44.7**	**-0.5**
TCW	**Tory Channel**	**0.50**	**343**	P		**Pb**	**20 14 38.7**	**0.0**
PLWZ	**Palliser**	**0.60**	**79**	P		**Pn**	**20 14 42.3**	**-0.1**
MSWZ	**Moikau Station**	**0.65**	**65**	P		**Pn**	**20 14 42.8**	**-0.2**
CAW	**Cannon Point**	**0.73**	**38**	P		**Pb**	**20 14 43.6**	**+0.9**
PAWZ	**Paruwai Farm**	**0.78**	**67**	P		**Pn**	**20 14 44.9**	**0.0**
KIW	**Kapiti Island**	**0.89**	**22**	P		**Pn**	**20 14 46.2**	**+0.9**
MTW	**Mount Morrison**	**0.94**	**56**	P		**Pn**	**20 14 47.2**	**+0.2**
NNZ	**Nelson**	**0.94**	**299**	P		**Pg**	**20 14 45.7**	**-0.4**
TRWZ	**Traveller**	**0.96**	**73**	P		**Pg**	**20 14 47.0**	**+0.6**
DUWZ	**D'Urville Isla**	**0.98**	**335**	P		**Pb**	**20 14 47.3**	**+0.4**
OGWZ	**Otaki Gorge**	**1.02**	**31**	P		**Pn**	**20 14 48.4**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.12**	**45**	P		**Pb**	**20 14 49.8**	**+0.6**
THZ	**Tophouse**	**1.17**	**266**	P		**Pb**	**20 14 49.8**	**-0.4**
TMWZ	**Te Maipa**	**1.22**	**62**	P		**Pn**	**20 14 50.7**	**-0.2**
TKNZ	**Takaka Hill**	**1.31**	**299**	P		**Pn**	**20 14 52.3**	**+0.1**
MRNZ	**Matariki Terra**	**1.32**	**282**	P		**Pn**	**20 14 52.2**	**-0.1**
MRZ	**Mangatainoka R**	**1.32**	**40**	P		**Pn**	**20 14 52.8**	**+0.4**
TIWZ	**Tintock**	**1.40**	**50**	P		**Pn**	**20 14 53.8**	**+0.3**
PRWZ	**Pori Road**	**1.60**	**46**	P		**Pn**	**20 14 56.3**	**+0.2**
POWZ	**Post Office Ro**	**1.62**	**38**	P		**Pn**	**20 14 57.3**	**+0.8**
BFZ	**Birch Farm**	**1.68**	**54**	P		**Pn**	**20 14 56.7**	**-0.5**
QRZ	**Quartz Range**	**1.70**	**300**	P		**Pb**	**20 14 58.6**	**-0.5**
DVHZ	**Dannevirke**	**1.89**	**43**	P		**Pn**	**20 14 59.7**	**-0.5**
LTZ	**Lake Taylor**	**1.96**	**235**	P		**Pn**	**20 14 58.8**	**-1.4**
WAZ	**Wanganui**	**1.97**	**12**	P		**Pn**	**20 15 05.2**	**-0.4**
DSZ	**Denniston Nort**	**2.00**	**267**	P		**Pn**	**20 15 02.0**	**+0.4**
WPHZ	**Waipukurau**	**2.21**	**43**	P		**Pg**	**20 15 09.6**	**-0.6**
PNHZ	**Pukenui**	**2.21**	**37**	P

NFK Norfolk Island 14.82 239 P Pn 20 29 30.5 +0.8
baz=15,SNR=5.8
ONTNC Ouen Toro 14.85 266 P Pn 20 29 30.7 +0.6
DZM Mont Dzumac 14.87 267 P Pn 20 29 32.5 +2.1
comp=Z,169nm,0.8s,baz=84,slow=17,SNR=60
DZM S S 20 32 11.9 -0.2
comp=Z,15nm,0.9s,baz=57,slow=19,SNR=1.5
DZM Mont Dzumac 14.87 267 ePn Pn 20 29 31.6 +1.2
comp=Z,546nm,1.0s
DZM eSn S 20 32 15.6 +3.5
comp=Z,139nm,1.4s
DZM Mont Dzumac 14.87 267 P P 20 29 29.5 +0.2
DZM Mont Dzumac 14.87 267 P Pn 20 29 33.0 +2.6
NOUC Port Laguerre 15.00 267 P Pn 20 29 34.3 +2.4
OUZ Omahuta 15.19 209 P Pn 20 29 34.5 +0.6
OUZ Omahuta 15.19 209 P Pn 20 29 34.5 +0.6
OUZ Omahuta 15.19 209 P Pn 20 29 34.5 +0.6
GRZ Great Barrier 15.35 202 P P 20 29 34.7 +0.4
WCZ Waipu Caves 15.48 205 P Pn 20 29 38.2 +0.8
KUZ Kuaotunu 15.71 200 P Pn 20 29 39.5 -0.5
KUZ Kuaotunu 15.71 200 P P 20 29 38.2 0.0
MXZ Matakaoa Point 15.80 192 P P 20 29 38.7 -0.5
MXZ Matakaoa Point 15.80 192 P P 20 29 37.8 -1.4
MXZ Matakaoa Point 15.80 192 P P 20 29 39.7 +0.5
HAZ Te Kaha 16.10 194 P P 20 29 42.0 -0.4
PKGZ Pakihiroa 16.16 193 P P 20 29 41.3 -2.0
PUZ Puketiti 16.30 192 P P 20 29 45.3 +0.6
RUGZ Raukumara Rang 16.32 194 P P 20 29 44.1 -0.9
TWGZ Tauwhareparae 16.46 193 P P 20 29 46.2 -0.2
RAR Rarotonga 16.52 90 P P 20 29 48.3 +1.2
comp=Z,52nm,0.8s,baz=244,slow=6.4,SNR=6.5
RAR S S 20 32 57.4 +12
comp=Z,26nm,0.6s,baz=93,slow=20,SNR=2.5
RAR Rarotonga 16.52 90 P P 20 29 48.0 +0.8
MARZ Manawahe 16.58 196 P P 20 29 48.7 +1.0
KMRZ Kaimai 16.65 198 P Pn 20 29 50.1 -1.0
LIRZ Lichensteins R 16.67 197 P P 20 29 47.0 -1.8
EDRZ Edgecumbe 16.68 196 P P 20 29 48.3 -0.5
MWZ Matawai 16.71 194 P P 20 29 46.6 -2.5
CNGZ Carnagh Statio 16.71 192 P P 20 29 46.9 -2.3
KARZ Kaharoa 16.73 197 P P 20 29 50.3 +1.0
URZ Urewera 16.73 195 P P 20 29 46.9 -2.4
URZ Urewera 16.73 195 P P 20 29 46.6 -2.7
TKGZ Te Karaka 16.74 193 P P 20 29 46.7 -2.7
NGRZ Ngongotaha 16.82 197 P Pn 20 29 51.9 -1.1
TARZ Mount Tarawera 16.86 196 P P 20 29 51.6 +0.8
RAGZ Rawiri 16.89 194 P P 20 29 49.1 -2.0
UTU Utuhina 16.89 197 P Pn 20 29 53.1 -0.6
HLRZ Highlands Stat 16.92 197 P P 20 29 52.4 +1.0
RRRZ Republican Roa 16.95 196 P P 20 29 52.5 +0.7
RIGZ Rimuhau 17.02 193 P P 20 29 50.3 -2.1
MUGZ Murupara 17.02 195 P P 20 29 50.1 -2.3
KOUNC Koumac, New Ca 17.03 272 P P 20 29 53.2 +0.5
HRRZ Handcock Road 17.06 197 P P 20 29 53.6 +0.6
RTZ Ruatahuna 17.10 195 P P 20 29 51.5 -2.0
ALRZ Allen Road 17.21 196 P P 20 29 54.6 +0.1
TLZ Tolley Road 17.22 199 P P 20 29 55.0 +0.4
KNZ Kokohu 17.34 193 P P 20 29 53.9 -2.0
RAHZ Arahi 17.36 194 P P 20 29 54.3 -1.9
WHTZ Whakaora 17.41 197 P P 20 29 57.9 +1.2
MHGZ Mahia Peninsul 17.42 192 P P 20 29 54.6 -2.1
MRHZ Matea Rd 17.45 196 P P 20 29 54.9 -2.2
WHHZ Waihua 17.48 194 P P 20 29 57.6 +0.1
HIZ Hauiti 17.60 200 P P 20 29 59.3 +0.6
HIZ Hauiti 17.60 200 P P 20 29 59.9 +1.2
HIZ Hauiti 17.60 200 P P 20 29 60.0 +1.2
NMHZ Naumai 17.60 195 P P 20 29 58.0 -0.8
RATZ Rangitukua 17.65 198 P P 20 29 57.2 -2.1
ARHZ Aropaoanui 17.71 194 P P 20 29 58.0 -1.9
BKZ Black Stump Fm 17.74 195 P 20 29 56.7 -3.6
BKZ Black Stump Fm 17.74 195 P P 20 29 56.8 -3.5
BKZ Black Stump Fm 17.74 195 P P 20 29 55.1 -5.2
KATZ Kakaramea 17.77 198 P P 20 29 59.7 -1.0
NTVZ North Tongarir 17.89 197 P P 20 30 02.1 +0.1
KRVZ Karewarewa 17.90 198 P P 20 29 60.0 -2.1
TMVZ Te Maari 17.90 197 P P 20 30 00.3 -1.8
ETVZ East Tongariro 17.92 197 P P 20 29 59.8 -2.5
WTVZ West Tongariro 17.93 198 P P 20 30 00.5 -1.9
TWVZ Taurewa 17.93 198 P P 20 30 00.2 -2.2
NNVZ North Ngauruho 17.94 198 P P 20 30 00.6 -2.0
MCHZ McNeill Hill 17.96 195 P P 20 29 59.7 -2.9
OTVZ Oturere 17.96 197 P P 20 30 01.6 -1.2
SNVZ South Ngauruho 17.98 197 P P 20 30 01.0 -2.1
NGZ Ngauruhoe 17.99 198 P P 20 30 01.8 -1.2
TUVZ Tukino 18.06 197 P P 20 30 01.3 -2.5
FWVZ Far West T-bar 18.07 198 P P 20 30 02.0 -2.0
CKHZ Cape Kidnapper 18.07 194 P P 20 30 02.9 -0.9
DRZ Dome Shelter 18.09 198 P P 20 30 02.1 -2.2
WHVZ Whangaehu Hut 18.09 197 P P 20 30 02.3 -2.0
TRVZ Turoa 18.12 198 P P 20 30 02.2 -2.4
WNVZ Wahianoa 18.13 197 P P 20 30 01.9 -2.7
BHHZ Black Hill Sta 18.16 196 P P 20 30 00.7 -4.1
MOVZ Moawhango 18.16 197 P P 20 30 01.1 -3.8
PKVZ Pokaka 18.16 198 P P 20 30 02.7 -2.1
VRZ Vera Road 18.19 200 P P 20 30 05.3 +0.3
KAHZ Kahuranaki 18.25 194 P P 20 30 03.2 -2.6
PXZ Pawanui 18.48 194 P P 20 30 06.3 -1.9
PNHZ Pukenui 18.52 195 P P 20 30 04.3 -4.3
KHEZ Kahui Hut 18.58 201 P P 20 30 11.1 +1.8
KHEZ Kahui Hut 18.58 201 P P 20 30 11.2 +1.8
WPHZ Waipukurau 18.61 195 P P 20 30 07.2 -2.3
WAZ Wanganui 18.70 198 P P 20 30 08.4 -2.1
TSZ Takapari Road 18.72 196 P P 20 30 07.8 -2.9
PRHZ Porangahau 18.75 194 P P 20 30 08.7 -2.4
DVHZ Dannevirke 18.89 195 P P 20 30 09.8 -2.8
ANWZ Angora Road 18.98 194 P P 20 30 11.4 -2.0
POWZ Post Office Ro 19.08 196 P P 20 30 12.4 -2.2
PRWZ Pori Road 19.18 195 P P 20 30 14.0 -1.7
BFZ Birch Farm 19.24 195 P 20 30 13.8 -2.4
BFZ Birch Farm 19.24 195 P P 20 30 13.9 -2.4
BFZ Birch Farm 19.24 195 P P 20 30 13.6 -2.7
MRZ Mangatainoka R 19.38 196 P 20 30 14.4 -3.4
MRZ Mangatainoka R 19.38 196 P P 20 30 14.7 -3.1
TIWZ Tintock 19.41 195 P P 20 30 09.9 -8.2
QRZ Quartz Range 20.46 202 P P 20 30 28.8 -0.2
QRZ Quartz Range 20.46 202 P P 20 30 25.0 -4.0
QRZ Quartz Range 20.46 202 P P 20 30 24.7 -4.3
THZ Tophouse 21.17 200 P P 20 30 34.6 -1.4
DSZ Denniston Nort 21.52 202 P P 20 30 37.9 -1.3
CTZ Chatham Island 21.56 178 P P 20 30 37.7 -1.8
GVZ Greta Valley S 22.23 199 P P 20 30 44.4 -1.1
LTZ Lake Taylor 22.29 200 P P 20 30 44.0 -2.1
INZ Inchbonnie 22.52 202 P P 20 30 46.6 -1.5
INZ Inchbonnie 22.52 202 P P 20 30 47.3 -0.8
AMCZ Amberley 22.53 199 P P 20 30 46.5 -1.7
OXZ Oxford 22.86 200 P P 20 30 49.3 -2.0
LHI Lord Howe Isla 22.86 241 P P 20 30 53.6 +2.1
baz=23,SNR=11
LHI Lord Howe Isla 22.86 241 P P 20 30 53.3 +1.9
LHI Lord Howe Isla 22.86 241 P P 20 30 53.5 +2.1
MQZ McQueen's Vall 23.02 198 P P 20 30 50.8 -1.8
WVZ Waitaha Valley 23.07 202 P P 20 30 52.0 -1.2
RACZ Rakaia 23.19 199 P P 20 30 50.4 -3.8
GCSZ Gaunt Creek Bo 23.43 203 P P 20 30 55.9 -0.5
RPZ Rata Peaks 23.52 201 P P 20 30 56.1 -1.3
comp=Z,158nm,0.6s,baz=335,slow=2.2,SNR=30
RPZ Rata Peaks 23.52 201 P P 20 30 55.7 -1.6
RPZ Rata Peaks 23.52 201 P P 20 30 56.2 -1.1
RPZ Rata Peaks 23.52 201 P P 20 30 56.2 -1.1
ARCZ Arundel 23.69 201 P P 20 30 57.5 -1.3
FOZ Fox Glacier 23.80 203 P P 20 30 58.1 -1.6
FOZ Fox Glacier 23.80 203 P P 20 30 58.3 -1.4
TMZ Timaru 24.14 200 P P 20 31 01.6 -1.3
LBZ Lake Benmore 24.41 202 P P 20 31 02.1 -3.2
LBZ Lake Benmore 24.41 202 P P 20 31 03.2 -2.2
JCZ Jackson Bay 24.65 204 P P 20 31 06.0 -1.5
ODZ Otahua Downs 24.84 200 P P 20 31 08.2 -0.9
ODZ Otahua Downs 24.84 200 P P 20 31 08.1 -1.1
ODZ Otahua Downs 24.84 200 P P 20 31 08.0 -1.1
HNR Honiara 25.05 297 P P 20 31 11.7 +0.3
HNR IAmb IAmb 20 32 08.1
comp=Z,132nm,0.9s
HNR Honiara 25.05 297 P P 20 31 11.7 +0.3
HNR pmax pmax
comp=Z,132nm,1.0s
TARA Tarawa 25.14 337 P P 20 31 11.6 -0.5
WKZ Wanaka 25.21 203 P P 20 31 10.2 -2.3
WKZ IAmb IAmb 20 31 23.4
comp=Z,107nm,0.9s
MLZ Mavora Lakes 26.00 204 P P 20 31 18.0 -1.5
MLZ IAmb IAmb 20 31 23.6
comp=Z,420nm,1.6s
DCZ Deep Cove 26.45 205 P P 20 31 23.3 -0.2
DCZ IAmb IAmb 20 31 25.3
comp=Z,107nm,0.6s
WHZ Wether Hill Ro 26.51 203 P P 20 31 22.6 -1.5
WHZ IAmb IAmb 20 31 25.0
comp=Z,142nm,0.7s
PAE Paea 26.62 85 eT T 20 57 13.3
comp=Z,11nm,0.3s
PPT2 Papeete2 26.64 85 eS S 20 35 41.2 +2.5
comp=Z,86nm,25.8s
PPT2 Papeete2 26.64 85 eT T 20 57 13.3
comp=Z,16nm,0.3s
PPT Papeete 26.65 85 P P 20 31 27.0 +1.3
comp=Z,59nm,0.6s,baz=101,slow=3.0,SNR=7.3
comp=Z,59nm,0.6s
PPT Papeete 26.65 85 P P 20 31 27.0 +1.3
SYZ Scrubby Hill 26.65 201 P P 20 31 25.1 -0.2
TIAR Tiarei 26.86 85 eP P 20 31 28.3 +0.7
comp=Z,20nm,0.9s
MEH Mehetia 27.97 87 eP P 20 31 37.4 0.0
comp=Z,71nm,1.1s
ARMA Armidale 28.81 247 P P 20 31 46.3 +1.5
baz=29,SNR=54
ARMA Armidale 28.81 247 P P 20 31 46.4 +1.7
ARMA IAmb IAmb 20 31 47.2
comp=Z,111nm,0.8s
ARMA Armidale 28.81 247 P P 20 31 46.3 +1.5
EIDS Eidsvold 28.89 257 P P 20 31 46.2 +0.7
baz=29,SNR=24
EIDS Eidsvold 28.89 257 P P 20 31 46.1 +0.7
EIDS Eidsvold 28.89 257 P P 20 31 46.3 +0.9
VAH Vaihoa 29.09 82 eP P 20 31 47.2 -0.1
comp=Z,92nm,1.1s
WOLH Wollongong Har 30.29 239 P P 20 31 58.7 +1.2
RMQ Roma 30.99 255 P P 20 32 05.6 +1.7
baz=31,SNR=97
RMQ Roma 30.99 255 P P 20 32 05.5 +1.7
XMAS Kiritimati 31.01 42 ⇓P P 20 32 04.7 +0.7
CNB Canberra Magne 31.72 238 P P 20 32 11.3 +1.0
baz=32,SNR=38
CNB Canberra Magne 31.72 238 P P 20 32 11.2 +1.0
CAN Canberra 32.01 238 P P 20 32 12.9 +0.2
CAN IAmb IAmb 20 32 14.5
comp=Z,122nm,0.7s
CAN Canberra 32.01 238 P P 20 32 13.7 +1.0
CAN Canberra 32.01 238 P P 20 32 12.9 +0.2
CAN pmax pmax
comp=Z,123nm,0.7s
CAN Canberra 32.01 238 ⇑P P 20 32 13.3 +0.6
CAN pP pwP 20 33 14.6 +2.4
CAN ScP ScP 20 38 12.8 +2.9
MILA Mila 32.39 235 P P 20 32 16.4 +0.5
baz=32,SNR=8.9
MILA Mila 32.39 235 P P 20 32 16.5 +0.5
TV1H Townsville Har 33.46 268 P P 20 32 26.7 +1.4
CTA Charters Tower 33.81 267 P P 20 32 29.4 +1.0
comp=Z,104nm,0.6s,baz=96,slow=10,SNR=136
comp=Z,104nm,0.6s
CTA Charters Tower 33.81 267 P P 20 32 29.5 +1.2
CTAO Charters Tower 33.81 267 P P 20 32 28.8 +0.4
CTAO IAmb IAmb 20 32 30.3
comp=Z,127nm,0.8s
CTAO Charters Tower 33.81 267 P P 20 32 29.6 +1.2
CTAO Charters Tower 33.81 267 P P 20 32 28.8 +0.4
CTAO pmax pmax
comp=Z,127nm,0.8s
CTAO Charters Tower 33.81 267 P P 20 32 29.4 +1.0
CTAO ScP ScP 20 38 18.1 +1.8
CMSA Cobar Meteorol 34.01 246 P P 20 32 30.2 +0.3
baz=34,SNR=208
CMSA Cobar Meteorol 34.01 246 P P 20 32 30.3 +0.4
KRVT Keravat (AS076 34.41 297 P P 20 32 34.5 +0.9
comp=Z,71nm,0.6s,baz=301,slow=6.0,SNR=8.5
comp=Z,71nm,0.6s
GLAD Gladstone 34.58 229 P P 20 32 34.7 +0.1
QLP Quilpie 35.04 255 P P 20 32 39.1 +0.4
baz=35,SNR=54
QLP Quilpie 35.04 255 P P 20 32 39.5 +0.7
TOO Toolangi 35.33 236 P P 20 32 41.6 +0.5
baz=35,SNR=30
TOO Toolangi 35.33 236 P P 20 32 41.1 0.0
TOO IAmb IAmb 20 32 42.4
comp=Z,155nm,1.6s
TOO Toolangi 35.33 236 P P 20 32 41.6 +0.5
TOO Toolangi 35.33 236 P P 20 32 41.1 0.0
TOO pmax pmax
comp=Z,155nm,1.6s
MOO Moorlands 35.71 227 P P 20 32 44.5 +0.3
baz=36,SNR=7.3
MOO Moorlands 35.71 227 P P 20 32 44.5 +0.3
TAU Tasmania Unive 35.81 226 P P 20 32 44.5 -0.5
TAU Tasmania Unive 35.81 226 P P 20 32 45.0 0.0
TAU Tasmania Unive 35.81 226 P P 20 32 44.5 -0.5
TAU pmax pmax
comp=Z,57nm,0.7s
TAU Tasmania Unive 35.81 226 P P 20 32 44.9 -0.1
TAU ScP ScP 20 38 26.0 +2.9
MTSU Mount Surprise 35.99 269 P P 20 32 48.1 +1.2
baz=36,SNR=34
MTSU Mount Surprise 35.99 269 P P 20 32 48.3 +1.4
PMG Port Moresby 36.17 285 P P 20 32 48.7 +0.3
comp=Z,55nm,0.8s,baz=57,slow=4.8,SNR=13
comp=Z,55nm,0.8s
PMG Port Moresby 36.17 285 P P 20 32 49.0 +0.6
PMG Port Moresby 36.17 285 P P 20 32 49.1 +0.6
comp=Z,87nm,1.1s
PMG Port Moresby 36.17 285 P P 20 32 49.6 +1.1
PMG Port Moresby 36.17 285 ceP P 20 32 49.5 +1.1
PMG pmax pmax
comp=Z,52nm,0.8s
PMG Port Moresby 36.17 285 P P 20 32 49.0 +0.6
PMG pP pwP 20 33 48.5 -0.7
PMG sP sP 20 34 22.2 +2.8
PMG ScP ScP 20 38 25.9 +1.0
BRAT Ballarat 36.53 236 P P 20 32 52.4 +1.3
PATS Pohnpei 37.28 318 P P 20 32 58.5 +0.8
PATS Pohnpei 37.28 318 P P 20 32 58.8 +1.1
STKA Stephens Creek 37.52 246 P P 20 33 00.0 +0.5
comp=Z,44nm,0.6s,baz=92,slow=9.8,SNR=124
STKA S S 20 38 23.5 -2.7
comp=Z,5.0nm,0.9s,baz=317,slow=19,SNR=4.4
STKA ScP ScP 20 38 32.1 +2.4
comp=Z,20nm,0.9s,baz=42,slow=8.6,SNR=10
comp=Z,44nm,0.6s
STKA Stephens Creek 37.52 246 P P 20 33 00.1 +0.5
baz=38,SNR=73
STKA Stephens Creek 37.52 246 P P 20 32 59.7 +0.2
STKA Stephens Creek 37.52 246 P P 20 32 59.8 +0.2
ARPS Mount Arapiles 37.99 238 P P 20 33 03.6 +0.1
baz=38,SNR=44
ARPS Mount Arapiles 37.99 238 P P 20 33 03.5 +0.1
COEN Coen 38.16 275 P P 20 33 04.8 -0.3
baz=38,SNR=6.4
TAOE Nuku Hiva Isla 38.23 76 eP P 20 33 05.0 -0.7
comp=Z,397nm,1.1s
TAOE Nuku Hiva Isla 38.23 76 P P 20 33 06.4 +0.7
TAOE IAmb IAmb 20 33 07.4
comp=Z,201nm,1.1s
QIS Mount Isa 39.88 264 P P 20 33 19.0 -0.1
baz=40,SNR=9.9
QIS Mount Isa 39.88 264 P P 20 33 19.1 -0.1
HTT Hallett 39.90 244 P P 20 33 19.1 -0.1
baz=40,SNR=39
HTT Hallett 39.90 244 P P 20 33 19.0 -0.2
LCRK Leigh Creek 40.34 249 P P 20 33 23.1 +0.3
WHYH Whyalla 40.99 245 P P 20 33 28.8 +0.7
BBOO Buckleboo 42.25 245 P P 20 33 37.5 -0.8
baz=42,SNR=42
BBOO Buckleboo 42.25 245 P P 20 33 37.3 -0.9
BBOO Buckleboo 42.25 245 P P 20 33 37.6 -0.7
OOD Oodnadatta 42.60 253 P P 20 33 41.9 +0.8
MULG Mulgathing 43.94 249 P P 20 33 51.2 -0.5
WAKE Wake Island 43.97 338 P P 20 33 51.5 -0.4
WAKE IAmb IAmb 20 33 52.9
comp=Z,292nm,0.9s
WAKE Wake Island 43.97 338 P P 20 33 52.2 +0.3
AS01 Alice Springs 44.57 258 P P 20 33 57.0 +0.2
AS31 Alice Springs 44.61 258 P P 20 33 57.1 0.0
ASAR Alice Springs 44.61 258 P P 20 33 57.4 +0.3
comp=Z,72nm,0.8s,baz=98,slow=7.6,SNR=465
ASAR PcP PcP 20 35 35.4 +1.0
comp=Z,9.3nm,0.6s,baz=113,slow=3.5,SNR=7.4
ASAR ScP ScP 20 38 57.5 -0.6
comp=Z,4.1nm,0.7s,baz=107,slow=3.9,SNR=7.0
ASAR S S 20 40 07.4 -3.1
comp=Z,8.2nm,0.9s,baz=94,slow=15,SNR=18
ASAR PKiKP PKiKP 20 42 32.2 -1.0
comp=Z,0.8nm,0.6s,baz=72,slow=1.3,SNR=5.4
comp=Z,72nm,0.8s
ASAR Alice Springs 44.61 258 P P 20 33 56.5 -0.6
WR0 Warramunga Arr 44.66 264 P P 20 33 56.6 -0.9
WB0 Warramunga Arr 44.83 264 P P 20 33 58.1 -0.8
WB2 Warramunga Arr 44.84 264 P P 20 33 58.3 -0.6
WRAB Tennant Creek 44.84 264 P P 20 33 58.1 -0.8
WRAB Tennant Creek 44.84 264 P P 20 33 58.5 -0.4
WRAB Tennant Creek 44.84 264 ceP P 20 33 58.6 -0.4
WRAB pmax pmax
comp=Z,69nm,0.8s
WRAB Tennant Creek 44.84 264 P P 20 33 58.5 -0.4
WRAB pP pwP 20 35 01.9 -0.3
WRAB ScP ScP 20 39 01.4 +2.4
WRA Warramunga Arr 44.85 264 P P 20 33 58.6 -0.4
comp=Z,56nm,0.8s,baz=96,slow=8.3,SNR=762
WRA ScP ScP 20 38 58.6 -0.4
comp=Z,5.8nm,1.0s,baz=101,slow=3.9,SNR=8.1
WRA S S 20 40 08.1 -5.9
comp=Z,5.0nm,0.9s,baz=99,slow=14,SNR=8.4
WRA PKiKP PKiKP 20 42 32.5 -1.0
comp=Z,0.8nm,0.7s,baz=87,slow=0.6,SNR=2.9
comp=Z,56nm,0.8s
WRA Warramunga Arr 44.85 264 P P 20 33 57.6 -1.4
KHU Kahuku 46.36 29 P P 20 34 10.5 -0.4
KHU Kahuku 46.36 29 P P 20 34 10.5 -0.4
KHU pmax pmax
comp=Z,665nm,1.8s
AIN Ainahou 46.54 29 P P 20 34 11.8 -0.4
HUH Hualalai 46.64 29 P P 20 34 13.5 +0.3
HUH IAmb IAmb 20 34 14.9
comp=Z,260nm,1.0s
MLH Mauna Loa 46.68 29 P P 20 34 13.1 -0.2
MLH IAmb IAmb 20 34 16.8
comp=Z,306nm,1.1s
HMH Humu'ula Sheep 46.73 29 P P 20 34 14.4 +0.6
POHA Pohakuloa 46.84 29 P P 20 34 15.4 +0.8
POHA IAmb IAmb 20 34 25.1
comp=Z,159nm,0.9s
POHA Pohakuloa 46.84 29 P P 20 34 15.3 +0.7
POHA Pohakuloa 46.84 29 P P 20 34 15.2 +0.5
SMPI Sarmi 47.00 289 P P 20 34 15.7 0.0
comp=Z,47nm,1.0s
HPAH Hawaii Prepara 47.01 29 P P 20 34 15.1 -0.6
KEKH Kekaha 47.15 23 P P 20 34 17.1 +0.4
KEKH IAmb IAmb 20 34 18.3
comp=Z,285nm,0.9s
HON Honolulu 47.20 25 P P 20 34 17.7 +0.7
HON Honolulu 47.20 25 P P 20 34 17.7 +0.7
HON pmax pmax
comp=Z,429nm,0.8s
KIP Kipapa 47.28 25 P P 20 34 18.5 +0.9
KIP IAmb IAmb 20 34 20.0
comp=Z,242nm,0.8s
KIP Kipapa 47.28 25 ceP P 20 34 18.8 +1.1
KIP pmax pmax
comp=Z,383nm,1.3s
KIP Kipapa 47.28 25 P P 20 34 18.1 +0.4
HLK Haleakala 47.41 27 P P 20 34 19.8 +0.8
KHLH Kahului Airpor 47.46 27 P P 20 34 20.0 +1.0
KDU Kakadu 48.45 272 P P 20 34 26.7 -0.1
baz=48,SNR=27
KDU Kakadu 48.45 272 P P 20 34 26.9 +0.1
FORT Forrest 49.09 248 P P 20 34 30.7 -0.7
baz=49,SNR=127
FORT Forrest 49.09 248 P P 20 34 30.5 -0.9
FORT IAmb IAmb 20 34 32.3
comp=Z,232nm,0.7s
FORT Forrest 49.09 248 P P 20 34 30.7 -0.7
WRKA Warakurna 49.48 255 P P 20 34 34.1 -0.4
baz=50,SNR=186
WRKA Warakurna 49.48 255 P P 20 34 34.1 -0.4
MTN Manton Dam 49.65 272 P P 20 34 35.5 -0.4
baz=50,SNR=20
MTN Manton Dam 49.65 272 P P 20 34 35.6 -0.2
KNRA Kununurra 51.02 267 P P 20 34 46.0 0.0
baz=51,SNR=61
KNRA Kununurra 51.02 267 P P 20 34 46.3 +0.3
KNRA Kununurra 51.02 267 P P 20 34 46.1 0.0
GUMO Guam 51.19 310 P P 20 34 47.8 +0.6
comp=Z,260nm,0.8s,baz=170,slow=8.7,SNR=13
comp=Z,260nm,0.8s
GUMO Guam 51.19 310 P P 20 34 47.5 +0.3
GUMO Guam 51.19 310 P P 20 34 48.5 +1.3
GUMO Guam 51.19 310 P P 20 34 46.8 -0.4
DRV Dumont d'Urvil 51.98 200 ⇑P P 20 34 53.1 +0.8
DRV pP pwP 20 35 56.4 -1.2
FAKI Fak Fak 52.32 284 P P 20 34 55.5 -0.1
FAKI Fak Fak 52.32 284 P P 20 34 55.4 -0.2
comp=Z,36nm,1.1s
FAKI Fak Fak 52.32 284 P P 20 34 55.5 -0.1
BNDI Bandanaira 53.77 281 P P 20 35 06.3 +0.1
comp=Z,3μmcomp=Z,178nm,0.8s
SIJI Sorong 54.10 286 P P 20 35 08.7 +0.1
comp=Z,2μmcomp=Z,208nm,0.9s
KMBL Kambalda 54.32 247 P P 20 35 11.0 +1.1
comp=Z,44nm,1.1s
KRAI Karang Ratu 55.64 282 P P 20 35 20.0 +0.5
comp=Z,61nm,0.9s
AAI Ambon 55.67 281 P P 20 35 19.6 -0.1
comp=Z,70nm,0.8s
AAI Ambon 55.67 281 P P 20 35 19.9 +0.2
SBA Scott Base 56.29 184 P P 20 35 26.5 +3.5
SBA Scott Base 56.29 184 P P 20 35 26.5 +3.5
SBA pmax pmax
comp=Z,95nm,0.9s
SBA Scott Base 56.29 184 P P 20 35 26.5 +3.5
VNDA Vanda 56.34 185 P P 20 35 26.1 +2.6
comp=Z,30nm,1.0s,baz=1.4,slow=7.7,SNR=155
comp=Z,30nm,1.0s
VNDA Vanda 56.34 185 P P 20 35 26.1 +2.6
VNDA Vanda 56.34 185 P P 20 35 26.1 +2.6
VNDA pmax pmax
comp=Z,42nm,1.1s
VNDA Vanda 56.34 185 ⇑P P 20 35 26.0 +2.6
NLAI Namlea 56.85 281 P P 20 35 28.4 +0.4
comp=Z,8μmcomp=Z,41nm,1.3s
SOEI Soe 57.02 273 P P 20 35 30.9 +1.6
SOEI IAmb IAmb 20 36 51.6
comp=Z,178nm,1.3s
PSA00 Pilbara Seismi 57.76 258 P P 20 35 33.9 -0.4
PSA00 Pilbara Seismi 57.76 258 P P 20 35 34.2 0.0
KLBR Kellerberrin 57.79 246 P P 20 35 33.6 -0.7
baz=58,SNR=22
MEEK Meekatharra 57.83 252 P P 20 35 33.7 -1.0
baz=58,SNR=12
MEEK Meekatharra 57.83 252 P P 20 35 33.9 -0.8
MBWA Marble Bar 57.95 258 P P 20 35 34.7 -0.9
MBWA Marble Bar 57.95 258 P P 20 35 35.1 -0.5
MBWA Marble Bar 57.95 258 P P 20 35 34.9 -0.7
NWAO Narrogin (SRO) 58.06 244 P P 20 35 36.0 -0.1
baz=58,SNR=5.9
NWAO P P 20 35 36.0 -0.1
baz=58,SNR=5.9
NWAO Narrogin (SRO) 58.06 244 P P 20 35 36.0 -0.1
NWAO Narrogin (SRO) 58.06 244 P P 20 35 36.0 -0.1
NWAO IAmb IAmb 20 36 42.7
comp=Z,58nm,1.4s
NWAO Narrogin (SRO) 58.06 244 P P 20 35 36.3 +0.1
NWAO Narrogin (SRO) 58.06 244 P P 20 35 36.2 +0.1
NWAO Narrogin (SRO) 58.06 244 P P 20 35 36.0 -0.1
NWAO pmax pmax
comp=Z,58nm,1.5s
TNTI Ternate 58.32 285 P P 20 35 38.1 0.0
BLDU Ballidu 58.82 247 P P 20 35 40.6 -0.8
baz=59,SNR=14
BLDU Ballidu 58.82 247 P P 20 35 40.7 -0.8
MUN Mundaring 59.04 245 P P 20 35 42.3 -0.7
baz=59,SNR=4.3
MUN Mundaring 59.04 245 P P 20 35 42.6 -0.3
MMRI Maumere 59.28 273 P P 20 35 44.4 -0.4
MORW Morawa 59.64 248 P P 20 35 46.6 -0.5
baz=60,SNR=6.9
MORW Morawa 59.64 248 P P 20 35 46.1 -0.9
MORW Morawa 59.64 248 P P 20 35 46.7 -0.4
CCD Concordia, Ant 61.01 195 ⇑P P 20 35 57.4 +1.4
CCD pP pwP 20 37 04.2 +0.7
LUWI Luwuk 61.69 281 P P 20 35 59.7 -1.2
BKSI Bulukumba 62.43 276 P P 20 36 05.7 -0.2
comp=Z,13nm,1.4s
GIRL Giralia 62.56 255 P P 20 36 06.8 +0.1

GIRL Giralia 62.56 255 P **P** **20 36 07.9 +1.2**
CASY Casey 62.70 206 P **P** **20 36 07.3 +0.6**
CASY IAmb IAmb 20 36 08.5
comp=Z,127nm,0.9s
CASY Casey 62.70 206 P **P** **20 36 07.4 +0.6**
CASY pP **pwP** **20 37 13.8 -0.5**
BIPH Bislig 62.70 292⇑ *e*P **P** **20 36 06.6 -1.0**
APSI Ampana 62.76 281 P **P** **20 36 08.5 +0.4**
comp=Z,40nm,1.1s
KCP Kidapawan 63.22 291⇑ *e*P **P** **20 36 11.2 +0.1**
PLAI Plampang 63.35 271 P **P** **20 36 12.0 +0.1**
TOLI2 Tolitoli 64.39 283 P **P** **20 36 18.2 -0.5**
TOLI2 Tolitoli 64.39 283 P **P** **20 36 18.4 -0.3**
JAGI Jajag, Banyuwa 66.83 270 P **P** **20 36 33.2 -1.1**
JAGI Jajag, Banyuwa 66.83 270 P **P** **20 36 33.3 -0.9**
QSPA South Pole Qui 67.95 180 P **P** **20 36 42.4 +2.0**
comp=Z,109nm,0.9s,baz=24,slow=1.3,SNR=229
comp=Z,109nm,0.9s
QSPA South Pole Qui 67.95 180 P **P** **20 36 42.1 +1.7**
QSPA IAmb IAmb 20 36 43.4
comp=Z,101nm,0.8s
QSPA South Pole Qui 67.95 180 P **P** **20 36 42.2 +1.8**
QSPA pP **pP** **20 37 47.2 +0.9**
MYLDM Lahad Datu 68.19 285 P **P** **20 36 44.5 +1.9**
MYLDM Lahad Datu 68.19 285 P **P** **20 36 44.4 +1.7**
comp=Z,22nm,1.3s
JHJ2 Mitsune 68.37 322 P **P** **20 36 43.4 0.0**
JHJ2 Mitsune 68.37 322 P **P** **20 36 43.3 0.0**
PCJI Pacitan 69.69 269 P **P** **20 36 51.9 +0.1**
comp=Z,84nm,0.7s
KKM Kota Kinabalu 70.61 285 P **P** **20 36 57.9 +0.4**
KKM Kota Kinabalu 70.61 285 P **P** **20 36 58.0 +0.4**
JMM Marumori 71.39 326 P **P** **20 37 01.7 +0.3**
JMM IAmb IAmb 20 37 03.1
comp=Z,51nm,0.9s
JMM Marumori 71.39 326 P **P** **20 37 01.8 +0.3**
JOW Kunigami 71.56 310 P **P** **20 37 03.2 +0.4**
JOW Kunigami 71.56 310 P **P** **20 37 04.1 +1.4**
JGF Kuroka 71.57 323 P **P** **20 37 03.0 +0.3**
JGF Kuroka 71.57 323 P **P** **20 37 03.1 +0.4**
INU Inuyama 71.59 322 P **P** **20 37 02.2 -0.6**
MJAR Matsushiro Arr 71.78 324 P **P** **20 37 03.7 -0.2**
comp=Z,26nm,0.6s,baz=154,slow=6.0,SNR=71
MJAR PP **PP** **20 39 51.6 +3.6**
comp=Z,3.6nm,1.1s,baz=136,slow=8.0,SNR=4.6
comp=Z,26nm,0.6s
MAJO Matsushiro 71.78 324 P **P** **20 37 03.8 -0.1**
MAJO IAmb IAmb 20 37 05.1
comp=Z,44nm,0.7s
MAJO Matsushiro 71.78 324 P **P** **20 37 04.5 +0.6**
MAJO Matsushiro 71.78 324 *d i*P **P** **20 37 03.3 -0.6**
MAJO pmax pmax
comp=Z,44nm,0.7s
MAJO Matsushiro 71.78 324 P **P** **20 37 03.4 -0.6**
MJB9 Matsu-Tunnel 71.79 324 P **P** **20 37 03.6 -0.3**
MJB9 IAmb IAmb 20 37 05.1
comp=Z,44nm,0.7s
JMN Monobe 72.30 319 P **P** **20 37 07.2 +0.1**
JSD Sado 72.85 325 P **P** **20 37 11.3 +1.2**
JSD IAmb IAmb 20 37 11.9
comp=Z,97nm,1.2s
JSD Sado 72.85 325 P **P** **20 37 10.5 +0.4**
JSU Suzuyama 72.99 315 P **P** **20 37 11.2 +0.1**
JTM Tenmabayashi 73.48 328 P **P** **20 37 14.5 +0.7**
JHS Saijyo 73.63 320 P **P** **20 37 15.3 +0.6**
JHS IAmb IAmb 20 37 16.9
comp=Z,50nm,0.7s
JHS Saijyo 73.63 320 P **P** **20 37 15.4 +0.6**
ADK Adak 73.69 1 P **P** **20 37 14.1 -0.5**
ADK IAmb IAmb 20 37 14.6
comp=Z,68nm,0.6s
ADK Adak 73.69 1 P **P** **20 37 14.1 -0.5**
ADK pmax pmax
comp=Z,68nm,0.6s
JNU Nakatsue 73.76 317 P **P** **20 37 15.2 -0.4**
JNU IAmb IAmb 20 37 17.8
comp=Z,48nm,0.8s
JNU Nakatsue 73.76 317 P **P** **20 37 15.8 +0.2**
KSM Kuching 74.09 278 P **P** **20 37 17.9 0.0**
KSM Kuching 74.09 278 P **P** **20 37 18.1 +0.2**
comp=Z,30nm,0.6s
KSM Kuching 74.09 278 P **P** **20 37 18.1 +0.2**
comp=Z,30nm,0.6s
TWG Pinlang 74.64 303 P **P** **20 37 19.2 -1.5**
TWG IAmb IAmb 20 37 20.5
comp=Z,44nm,0.6s
YULB Yu-li 74.77 303 P **P** **20 37 20.2 -1.4**
YULB Yu-li 74.77 303 P **P** **20 37 20.7 -0.8**
NACB Ninganchiao 74.96 304 P **P** **20 37 22.1 -0.5**
NACB Ninganchiao 74.96 304 P **P** **20 37 22.2 -0.4**
NIKH Nikolski High 75.16 5 P **P** **20 37 22.5 -0.5**
NIKH Nikolski High 75.16 5 P **P** **20 37 23.2 +0.1**
baz=188
NIKH Nikolski High 75.16 5 P **P** **20 37 22.8 -0.2**
comp=Z,214nm,0.9s
TPUB Ta-pu 75.24 303 P **P** **20 37 22.8 -1.4**
TPUB Ta-pu 75.24 303 P **P** **20 37 23.1 -1.1**
SSLB Suanglung 75.25 304 P **P** **20 37 23.0 -1.2**
SSLB IAmb IAmb 20 37 24.7
comp=Z,47nm,0.8s
SSLB Suanglung 75.25 304 P **P** **20 37 23.7 -0.6**
JKA Kamikawa-asahi 75.36 331 P **P** **20 37 26.1 +1.6**
JKA IAmb IAmb 20 37 27.7
comp=Z,87nm,1.0s
ASAJ Asahikawa 75.36 331 P **P** **20 37 26.1 +1.7**
ASAJ pmax pmax
comp=Z,87nm,1.0s
YHNB Yeheng 75.40 305 P **P** **20 37 24.9 -0.3**
YHNB Yeheng 75.40 305 P **P** **20 37 25.4 +0.2**
TATO Taipei 75.48 305 P **P** **20 37 25.0 -0.5**
TATO IAmb IAmb 20 37 26.3
comp=Z,63nm,0.7s
JTU Tsushima 75.61 317 P **P** **20 37 26.2 +0.2**
JTU IAmb IAmb 20 37 27.6
comp=Z,120nm,1.7s
UNV Unalaska Valle 76.25 7 P **P** **20 37 28.2 -0.9**
UNV IAmb IAmb 20 37 28.7
comp=Z,42nm,0.7s
UNV Unalaska Valle 76.25 7 P **P** **20 37 28.1 -1.1**
baz=190
KASI Kota Agung 76.83 269 P **P** **20 37 33.9 +0.5**
comp=Z,36nm,1.0s
SMAI San Martin Ant 76.94 159 P **P** **20 37 35.2 +2.3**
YSS Yuzh-Sakhalins 77.55 333 P **P** **20 37 37.1 +0.6**
YSS IAmb IAmb 20 37 39.2
comp=Z,72nm,0.9s
YSS Yuzh-Sakhalins 77.55 333 *e*P **P** **20 37 37.1 +0.6**
YSS pmax pmax
comp=Z,80nm,1.0s
FALS False Pass 77.62 8 P **P** **20 37 36.1 -0.6**
FALS IAmb IAmb 20 39 10.0
comp=Z,125nm,1.3s
BELA Belgrano 2 77.89 173 P **P** **20 37 38.2 +0.1**
PEA0B Petropavlovsk- 77.95 345 P **P** **20 37 37.8 -0.8**
PEA0B IAmb IAmb 20 38 07.4
comp=Z,202nm,1.9s
PEA0B Petropavlovsk- 77.95 345 P **P** **20 37 37.8 -0.8**
PEA0B pmax pmax
comp=Z,202nm,1.9s
PETK Petropavlovsk- 77.95 345 P **P** **20 37 38.5 -0.2**
comp=Z,17nm,0.7s,baz=134,slow=6.3,SNR=31
PETK PP **PP** **20 40 42.7 +3.1**
comp=Z,14nm,1.1s,baz=161,slow=9.4,SNR=4.0
comp=Z,17nm,0.7s
PETK Petropavlovsk- 77.95 345 P **P** **20 37 37.3 -1.4**
TJN Taejon 78.07 317 *i* P **P** **20 37 40.1 +0.5**
CNBA Chernabura Isl 78.16 10 P **P** **20 37 38.6 -1.1**
CNBA IAmb IAmb 20 38 13.0
comp=Z,132nm,1.9s
CHNA Chernabura Isl 78.17 10 P **P** **20 37 39.3 -0.5**
baz=197
SCZ2 Santa Cruz Isl 78.39 46 P **P** **20 37 43.5 +1.9**
baz=233
KSRS Korea Array 78.40 319 P **P** **20 37 42.2 +0.8**
comp=Z,10.0nm,0.8s,baz=130,slow=6.0,SNR=38
comp=Z,10.0nm,0.8s
KSAR Wonju Array Be 78.42 319 P **P** **20 37 41.6 +0.1**
KSAR Wonju Array Be 78.42 319 P **P** **20 37 41.6 +0.1**
KS19 Wonju Array Si 78.47 319 P **P** **20 37 41.7 -0.1**
SDPT Sand Point 78.52 10 P **P** **20 37 41.4 -0.3**
SDPT IAmb IAmb 20 38 02.1
comp=Z,78nm,0.9s
SDPT Sand Point 78.52 10 P **P** **20 37 42.3 +0.6**
baz=196

SCI2 San Clemente I 78.53 47 P **P** **20 37 44.2 +1.9**
baz=234
PKM Mcpherson Peak 78.81 45 P **P** **20 37 46.1 +2.1**
baz=233,SNR=15
CIS Catalina Islan 78.86 47 P **P** **20 37 45.7 +1.6**
baz=234,SNR=5.2
SAO San Andreas Ge 78.90 43 P **P** **20 37 45.8 +1.6**
SAO IAmb IAmb 20 37 47.4
comp=Z,95nm,0.9s
SAO San Andreas Ge 78.90 43 P **P** **20 37 45.8 +1.6**
SAO pmax pmax
comp=Z,95nm,1.0s
SMMC Simmler 78.95 45 P **P** **20 37 46.8 +2.2**
baz=233,SNR=8.6
PMPB Monarch Peak 78.97 44 P **P** **20 37 46.3 +1.6**
BBGB Big Mountain B 79.05 43 P **P** **20 37 47.5 +2.4**
BBGB IAmb IAmb 20 37 48.9
comp=Z,134nm,1.2s
BCW Bitter Crk WRg 79.10 45 P **P** **20 37 47.6 +2.1**
FMP Fort Macarthur 79.13 47 P **P** **20 37 47.5 +2.0**
baz=234
CCX Cicese 79.19 49 P **P** **20 37 45.6 -0.2**
INCN Inchon 79.22 318 P **P** **20 37 45.2 -0.7**
INCN Inchon 79.22 318 P **P** **20 37 45.2 -0.7**
INCN pmax pmax
comp=Z,41nm,1.2s
SPIA Saint Paul Isl 79.23 4 P **P** **20 37 49.0 +3.5**
baz=187
HOPS Hopland Field 79.31 40 P **P** **20 37 47.8 +1.4**
HOPS IAmb IAmb 20 37 49.5
comp=Z,102nm,0.9s
GDXM Geysers 79.36 40 P **P** **20 37 49.3 +2.6**
GDXM IAmb IAmb 20 37 50.2
comp=Z,63nm,1.1s
OSI Osito Audit: C 79.37 46 P **P** **20 37 48.6 +1.7**
baz=234
DECC Green Verdugo 79.42 46 P **P** **20 37 48.4 +1.4**
baz=234
CBX Cerro Bola 79.44 49 P **P** **20 37 49.1 +1.7**
KCPM Cahto Peak 79.45 39 P **P** **20 37 49.2 +2.0**
109C Camp Elliot, M 79.46 48 P **P** **20 37 48.8 +1.5**
109C IAmb IAmb 20 37 50.2
comp=Z,72nm,1.3s
109C Camp Elliot, M 79.46 48 P **P** **20 37 48.6 +1.3**
baz=235
PASC Pasadena Art C 79.47 46 P **P** **20 37 48.2 +0.9**
PASC IAmb IAmb 20 37 49.9
comp=Z,72nm,0.8s
ARVC Arvin 79.60 45 P **P** **20 37 50.0 +2.0**
baz=234,SNR=6.6
KMPM Mount Pierce 79.61 39 P **P** **20 37 50.8 +2.8**
TKX Tecate 79.63 49 P **P** **20 37 49.2 +1.0**
TKX IAmb IAmb 20 37 51.2
comp=Z,95nm,1.5s
BAR Barrett 79.64 48 P **P** **20 37 49.6 +1.3**
BAR IAmb IAmb 20 37 51.4
comp=Z,127nm,1.8s
ELS Elsinore Mount 79.68 47 P **P** **20 37 49.9 +1.4**
ELS IAmb IAmb 20 37 51.5
comp=Z,65nm,0.9s
KMRM Mail Ridge 79.72 39 P **P** **20 37 50.9 +2.3**
ESJX Sierra Juarez 79.77 49 P **P** **20 37 51.0 +1.8**
ESJX IAmb IAmb 20 37 52.5
comp=Z,47nm,1.0s
CHGN Chignik 79.78 11 P **P** **20 37 48.0 -0.4**
baz=198
MURC Murrieta 79.81 47 P **P** **20 37 50.8 +1.6**
baz=235,SNR=15
CHIR Chirikof Islan 79.84 12 P **P** **20 37 48.9 +0.1**
baz=201
VES Vestal, Richgr 79.86 45 P **P** **20 37 51.1 +1.7**
baz=233,SNR=12
BFSC Mount Baldy Ra 79.86 47 P **P** **20 37 51.0 +1.4**
baz=234,SNR=17
MSHR Mys Shultsa 79.89 324 *ce*P **P** **20 37 50.4 +1.0**
MSHR pmax pmax
comp=Z,49nm,1.0s
JCC Jacoby Creek, 79.93 38 P **P** **20 37 51.8 +2.2**
SLBS Sierra La Lagu 79.94 59 P **P** **20 37 51.4 +1.2**
SLBS IAmb IAmb 20 37 53.1
comp=Z,54nm,0.9s
MONP2 Monument Peak 79.94 48 P **P** **20 37 52.1 +2.0**
baz=235,SNR=25
SRIG Santa Rosalia 79.97 55 P **P** **20 37 51.4 +1.2**
SRIG IAmb IAmb 20 37 52.8
comp=Z,88nm,0.9s
EDW2 Edwards Air Fo 80.01 46 P **P** **20 37 52.0 +1.8**
baz=234,SNR=44
IKP In-Ko-Pah, Jac 80.02 49 P **P** **20 37 52.2 +1.8**
baz=236,SNR=16
KHMM Horse Mountain 80.14 38 P **P** **20 37 53.2 +2.2**
KHMM IAmb IAmb 20 37 54.4
comp=Z,98nm,0.9s
YUH Yuha Desert 80.15 49 P **P** **20 37 52.3 +1.3**
YUH IAmb IAmb 20 37 54.1
comp=Z,70nm,1.2s
ISA Isabella, Lake 80.15 45 P **P** **20 37 52.6 +1.6**
ISA IAmb IAmb 20 37 54.2
comp=Z,93nm,1.0s
ISA Isabella, Lake 80.15 45 P **P** **20 37 53.0 +1.9**
baz=234,SNR=28
ISA Isabella, Lake 80.15 45 P **P** **20 37 52.6 +1.6**
ISA pmax pmax
comp=Z,93nm,1.0s
CCAC Calif City Air 80.15 46 P **P** **20 37 52.6 +1.6**
CCAC IAmb IAmb 20 37 54.1
comp=Z,89nm,1.2s
MAW Mawson 80.19 200 P **P** **20 37 52.6 +1.9**
comp=Z,13nm,0.7s,baz=124,slow=6.5,SNR=22
comp=Z,13nm,0.7s
MAW Mawson 80.19 200 P **P** **20 37 52.4 +1.7**
baz=80,SNR=16
MAW Mawson 80.19 200 P **P** **20 37 52.4 +1.7**
MAW Mawson 80.19 200 P **P** **20 37 52.4 +1.7**
MAW pmax pmax
comp=Z,11nm,1.2s
PFO Pinyon Flats O 80.32 48 P **P** **20 37 53.4 +1.3**
PFO IAmb IAmb 20 37 55.0
comp=Z,59nm,1.1s
PFO Pinyon Flats O 80.32 48 P **P** **20 37 53.8 +1.7**
baz=235,SNR=6.0
PFO Pinyon Flats O 80.32 48 P **P** **20 37 53.4 +1.3**
PFO pmax pmax
comp=Z,59nm,1.1s
TPFO Pinon Flats 80.32 48 P **P** **20 37 53.6 +1.6**
baz=235,SNR=17
CMB Columbia Colle 80.35 42 P **P** **20 37 53.4 +1.4**
CMB IAmb IAmb 20 37 54.8
comp=Z,77nm,1.2s
CMB Columbia Colle 80.35 42 P **P** **20 37 53.4 +1.4**
CMB pmax pmax
comp=Z,77nm,1.2s
BBRC Big Bear Solar 80.37 47 P **P** **20 37 54.2 +1.8**
baz=235
SWSC Sam W. Stewart 80.40 49 P **P** **20 37 53.9 +1.6**
baz=236,SNR=10
AFDM Forest Hills D 80.55 41 P **P** **20 37 54.7 +1.7**
AFDM IAmb IAmb 20 37 55.8
comp=Z,58nm,1.0s
USA0B Ussuriysk Arra 80.56 326 P **P** **20 37 53.9 +1.0**
USA0B Ussuriysk Arra 80.56 326 *i* P **P** **20 37 53.4 +0.6**
USRK Ussuriysk Ar. 80.56 326 P **P** **20 37 53.9 +1.1**
comp=Z,36nm,0.8s,baz=132,slow=3.7,SNR=46
comp=Z,36nm,0.8s
USRK Ussuriysk Ar. 80.56 326 P **P** **20 37 53.6 +0.8**
USRK Ussuriysk Ar. 80.56 326 P **P** **20 37 53.6 +0.8**
LRMC Laurel Mtn Rad 80.56 46 P **P** **20 37 54.9 +1.6**
baz=234
ORV Oroville 80.61 41 P **P** **20 37 54.7 +1.4**
ORV IAmb IAmb 20 37 56.1
comp=Z,50nm,0.9s
ORV Oroville 80.61 41 P **P** **20 37 54.7 +1.4**
ORV pmax pmax
comp=Z,50nm,0.9s
RRX Edison Barstow 80.67 46 P **P** **20 37 55.5 +1.7**
baz=235
TYV Tymovskoe 80.70 336 *e*P **P** **20 37 54.1 +0.7**
TYV pmax pmax
comp=Z,37nm,1.3s
TYV pmax pmax
comp=Z,400nm,3.7s
SII Sitkinak Islan 80.82 13 P **P** **20 37 54.1 +0.1**
SII Sitkinak Islan 80.82 13 P **P** **20 37 55.1 +1.1**
baz=202
SII Sitkinak Islan 80.82 13 P **P** **20 37 54.6 +0.6**
BELC Belle Mtn. Jos 80.86 48 P **P** **20 37 56.8 +1.9**

baz=236,SNR=17
CWC Cottonwood Cre 80.86 45 P **P** **20 37 56.7 +1.8**
baz=234
MDPB Devils Postpil 80.93 43 P **P** **20 37 56.7 +1.4**
MDPB IAmb IAmb 20 37 58.3
comp=Z,107nm,1.3s
OMMB Old Mammoth Mi 80.97 43 P **P** **20 37 57.2 +1.6**
OMMB IAmb IAmb 20 37 58.7
comp=Z,60nm,1.3s
MPMC Manual Prospec 81.03 45 P **P** **20 37 57.6 +1.8**
baz=234,SNR=42
BC3 Big Chuckawall 81.04 48 P **P** **20 37 57.8 +2.0**
baz=236,SNR=27
GSC Goldstone, Bar 81.05 46 P **P** **20 37 57.0 +1.2**
GSC IAmb IAmb 20 37 58.7
comp=Z,88nm,1.2s
GSC Goldstone, Bar 81.05 46 P **P** **20 37 57.4 +1.7**
baz=235,SNR=24
GSC Goldstone, Bar 81.05 46 P **P** **20 37 57.0 +1.2**
GSC pmax pmax
comp=Z,88nm,1.3s
MLAC Mammoth, Mammo 81.08 43 P **P** **20 37 57.6 +1.5**
baz=233
HEC Hector,Ludlow 81.09 47 P **P** **20 37 57.8 +1.7**
baz=235,SNR=41
KEBM Edson Butte 81.10 37 P **P** **20 37 55.8 -0.1**
TIN Tinemaha, Big 81.13 44 P **P** **20 37 58.1 +1.9**
baz=234
GLA Glamis 81.14 49 P **P** **20 37 58.5 +2.2**
GLA Glamis 81.14 49 P **P** **20 37 58.5 +2.2**
baz=236,SNR=20
GLA Glamis 81.14 49 P **P** **20 37 58.5 +2.2**
GLA pmax pmax
comp=Z,118nm,1.0s
WAKR Walker 81.23 42 P **P** **20 37 58.4 +1.6**
WAKR IAmb IAmb 20 38 00.0
comp=Z,103nm,1.0s
NJ2 Nanjing 81.26 310 ⇓P **P** **20 37 57.6 +0.8**
NJ2 pmax pmax
comp=Z,32nm,1.0s
YBH Yreka Blue Hor 81.28 38 P **P** **20 37 58.8 +1.9**
YBH Yreka Blue Hor 81.28 38 P **P** **20 37 58.8 +1.9**
YBH pmax pmax
comp=Z,100nm,0.9s
PIX Pinacate 81.30 51 P **P** **20 37 58.5 +1.5**
PIX IAmb IAmb 20 37 59.8
comp=Z,49nm,0.9s
MPK Martis Peak 81.34 41 P **P** **20 37 58.2 +0.8**
PNTR Pine Nut 81.48 42 P **P** **20 37 59.7 +1.6**
BEKR Beckworth 81.49 41 P **P** **20 37 59.3 +1.2**
BEKR IAmb IAmb 20 38 01.0
comp=Z,89nm,1.2s
GMRC Granite Mounta 81.53 47 P **P** **20 38 00.3 +1.9**
baz=236,SNR=26
IRM Iron Mountain 81.53 48 P **P** **20 38 00.3 +2.1**
baz=236,SNR=72
VCNR Virginia City 81.58 42 P **P** **20 38 00.1 +1.5**
VCNR IAmb IAmb 20 38 01.6
comp=Z,70nm,0.9s
LCH Last Change Ra 81.61 44 P **P** **20 37 60.0 +1.2**
LCH IAmb IAmb 20 38 01.6
comp=Z,120nm,1.6s
OHAK Old Harbor 81.62 13 P **P** **20 37 59.0 +0.9**
OHAK IAmb IAmb 20 37 59.1
comp=Z,41nm,0.8s
OHAK Old Harbor 81.62 13 P **P** **20 37 58.6 +0.5**
baz=203,SNR=6.2
YERR Yerington 81.64 42 P **P** **20 38 00.3 +1.3**
YERR IAmb IAmb 20 38 01.7
comp=Z,96nm,0.9s
GWY Greenwater Val 81.64 46 P **P** **20 38 00.1 +1.2**
GRAC Grapevine Rang 81.66 45 P **P** **20 38 00.3 +1.5**
GRAC Grapevine Rang 81.66 45 P **P** **20 38 00.9 +2.0**
baz=234,SNR=15
LHV Little Huntoon 81.66 43 P **P** **20 38 00.7 +1.9**
LHV IAmb IAmb 20 38 02.2
comp=Z,116nm,1.2s
FURC Furnace Creek, 81.68 45 P **P** **20 38 00.7 +1.8**
baz=235,SNR=11
HUMO Hull Mountain 81.70 37 P **P** **20 38 01.2 +2.3**
TUQ Turquoise Moun 81.72 47 P **P** **20 38 01.2 +1.9**
baz=235
113A Mohawk Valley, 81.73 50 P **P** **20 38 00.8 +1.5**
113A IAmb IAmb 20 38 02.5
comp=Z,64nm,1.0s
BLYC Blythe 81.73 49 P **P** **20 38 00.6 +1.3**
BLYC IAmb IAmb 20 38 02.6
comp=Z,76nm,0.9s
SHOC Shoshone, Teco 81.74 46 P **P** **20 38 00.8 +1.5**
baz=235
HSIG 81.82 54 P **P** **20 38 01.1 +1.2**
HSIG IAmb IAmb 20 38 01.9
comp=Z,43nm,0.8s
DBO Dodson Butte 81.87 37 P **P** **20 38 01.3 +1.4**
DBO IAmb IAmb 20 38 03.2
comp=Z,91nm,1.1s
RYN Ryan 81.88 43 P **P** **20 38 01.8 +1.6**
RYN IAmb IAmb 20 38 03.1
comp=Z,103nm,1.5s
NVAR Mina Array Bea 81.89 43 P **P** **20 38 02.0 +1.7**
comp=Z,50nm,0.9s,baz=224,slow=8.2,SNR=132
comp=Z,50nm,0.9s
NVAR Mina Array Bea 81.89 43 P **P** **20 38 01.4 +1.1**
GMN Gold Mountain 81.90 44 P **P** **20 38 01.1 +0.7**
GMN IAmb IAmb 20 38 03.2
comp=Z,65nm,1.4s
214A Organ Pipe Nat 81.98 51 P **P** **20 38 02.3 +1.7**
214A IAmb IAmb 20 38 04.0
comp=Z,66nm,1.2s
214A Organ Pipe Nat 81.98 51 P **P** **20 38 03.0 +2.4**
baz=238,SNR=28
PAHR Pah Rah Range 81.99 41 P **P** **20 38 01.9 +1.3**
PAHR IAmb IAmb 20 38 03.5
comp=Z,89nm,1.0s
NV11 Mina Array Sit 81.99 43 P **P** **20 38 02.1 +1.4**
NV11 IAmb IAmb 20 38 03.6
comp=Z,106nm,1.1s
WCT Wildcat Mounta 82.02 45 P **P** **20 38 02.2 +1.4**
WCT IAmb IAmb 20 38 03.9
comp=Z,106nm,1.7s
MZP Montezuma Peak 82.05 44 P **P** **20 38 01.0 -0.2**
Q17K Contact Creek 82.08 11 P **P** **20 38 00.7 0.0**
baz=200,SNR=24
MDJ Mudanjiang 82.10 325 P **P** **20 38 00.7 -0.2**
MDJ IAmb IAmb 20 38 03.7
comp=Z,43nm,0.8s
MDJ Mudanjiang 82.10 325 P **P** **20 38 01.3 +0.4**
MDJ pmax pmax
comp=Z,25nm,1.4s
MDJ pmax pmax
comp=Z,270nm,4.6s
NEE2 Needles Airpor 82.23 48 P **P** **20 38 04.1 +2.2**
baz=236,SNR=7.1
PDMCI Parker Dam,Lak 82.30 48 P **P** **20 38 04.0 +1.8**
baz=237,SNR=26
Q16K King Salmon 82.34 11 P **P** **20 38 01.9 +0.2**
baz=200,SNR=12
TPNV Topopah Spring 82.36 45 P **P** **20 38 03.9 +1.2**
TPNV IAmb IAmb 20 38 05.7
comp=Z,85nm,1.2s
TPNV Topopah Spring 82.36 45 P **P** **20 38 04.4 +1.7**
baz=235,SNR=16
TPNV Topopah Spring 82.36 45 P **P** **20 38 03.9 +1.2**
TPNV pmax pmax
comp=Z,85nm,1.3s
TPH Tonopah 82.38 44 P **P** **20 38 03.9 +1.1**
TPH Tonopah 82.38 44 P **P** **20 38 03.9 +1.1**
TPH pmax pmax
comp=Z,485nm,1.2s
KVN Kaiserville 82.39 43 P **P** **20 38 03.6 +0.8**
KVN IAmb IAmb 20 38 05.5
comp=Z,97nm,1.1s
KVN Kaiserville 82.39 43 P **P** **20 38 03.6 +0.8**
KVN pmax pmax
comp=Z,97nm,1.1s
P16K Nushagak River 82.45 10 P **P** **20 38 02.2 -0.1**
baz=198,SNR=5.5
PPI Padang Panjang 82.50 273 P **P** **20 38 03.2 -0.5**
comp=Z,4µmcomp=Z,177nm,1.2s
PLTX Planet X, Gerl 82.54 41 P **P** **20 38 04.4 +0.9**
PLTX IAmb IAmb 20 38 06.3
comp=Z,115nm,0.8s
V12A Nelson 82.60 47 P **P** **20 38 05.1 +1.2**
V12A IAmb IAmb 20 38 07.1
comp=Z,98nm,1.5s
Q18K Katmai Hardscr 82.61 12 P **P** **20 38 03.1 -0.2**

baz=201,SNR=26
BUCK Buck Mountain 82.71 36 P **P** **20 38 06.0 +1.9**
MOD Modoc Plateau 82.78 39 P **P** **20 38 06.0 +1.3**
MOD IAmb IAmb 20 38 07.5
comp=Z,84nm,0.8s
COR Corvallis 82.79 36 P **P** **20 38 07.0 +2.6**
COR Corvallis 82.79 36 P **P** **20 38 07.0 +2.6**
COR pmax pmax
comp=Z,156nm,1.0s
SHPR Sheep Range 82.83 46 P **P** **20 38 06.8 +1.7**
Q09A Carvers 82.84 43 P **P** **20 38 06.6 +1.5**
P17K Kvichak River 82.86 11 P **P** **20 38 04.7 +0.2**
baz=200
Y14A Wickenburg 82.90 49 P **P** **20 38 07.3 +2.0**
W13A Hualapai Mount 82.91 48 P **P** **20 38 07.1 +1.5**
W13A IAmb IAmb 20 38 08.8
comp=Z,48nm,1.0s
K05A Summer Lake 82.95 38 P **P** **20 38 07.5 +2.0**
HEBO Mount Hebo 82.96 35 P **P** **20 38 07.9 +2.5**
O16K Kokwok River B 82.97 10 P **P** **20 38 04.7 -0.2**
baz=198
S11A Rachel 83.08 45 P **P** **20 38 08.0 +1.6**
S11A IAmb IAmb 20 38 09.0
comp=Z,78nm,0.9s
Q20K Shuyak Island 83.09 13 P **P** **20 38 05.9 +0.3**
baz=203
Q19K Cape Douglas, 83.13 12 P **P** **20 38 06.2 +0.3**
Q19K Cape Douglas, 83.13 12 P **P** **20 38 06.5 +0.6**
baz=202
P18K Big Mountain, 83.27 11 P **P** **20 38 06.0 -0.6**
P18K IAmb IAmb 20 38 07.2
comp=Z,114nm,1.3s
P18K Big Mountain, 83.27 11 P **P** **20 38 06.2 -0.4**
baz=201,SNR=9.7
O17K Koliganek Bris 83.30 10 P **P** **20 38 06.5 -0.1**
baz=199,SNR=7.6
PRN Pahroc Range 83.41 45 P **P** **20 38 09.8 +1.8**
PRN IAmb IAmb 20 38 11.3
comp=Z,122nm,1.1s
H04A Detroit Lake 83.46 36 P **P** **20 38 09.2 +1.2**
F03A Seaside 83.53 35 P **P** **20 38 10.1 +1.9**
R11A Troy Canyon, C 83.59 44 P **P** **20 38 10.0 +1.0**
R11A Troy Canyon, C 83.59 44 P **P** **20 38 10.3 +1.3**
baz=235,SNR=39
PINE Pine Mountain 83.59 37 P **P** **20 38 10.8 +2.0**
TUC Tucson 83.63 52 P **P** **20 38 11.7 +2.5**
baz=239
O18K Koktuh Hills 83.70 11 P **P** **20 38 08.8 0.0**
O18K Koktuh Hills 83.70 11 P **P** **20 38 08.4 -0.4**
baz=201,SNR=13
N16K Nishlik Lake 83.71 9 P **P** **20 38 09.9 +1.1**
baz=198
RADR Rader Ridge 83.73 34 P **P** **20 38 11.7 +2.4**
RADR IAmb IAmb 20 38 12.8
comp=Z,706nm,1.8s
SNY Shenyang 83.74 320 ⇑P **P** **20 38 09.8 +0.5**
SNY pP **pP** **20 39 15.3 -3.0**
SNY S **S** **20 48 01.6 -5.1**
SNY pmax pmax
comp=Z,29nm,0.7s
SNY pmax pmax
comp=Z,240nm,4.3s
BMN Battle Mountai 83.75 42 P **P** **20 38 11.1 +1.4**
BMN Battle Mountai 83.75 42 P **P** **20 38 11.1 +1.4**
BMN pmax pmax
comp=Z,110nm,0.9s
WHN Wuhan 83.77 306 ⇑P **P** **20 38 10.8 +1.1**
IPM Ipoh 83.79 277 P **P** **20 38 10.2 -0.1**
IPM Ipoh 83.79 277 P **P** **20 38 10.4 +0.1**
comp=Z,36nm,0.8s
IPM Ipoh 83.79 277 P **P** **20 38 11.3 +1.0**
CN2 Changchun 83.86 322 *e*P **P** **20 38 09.6 -0.3**
CN2 pmax pmax
comp=Z,20nm,1.2s
P19K Oil Pt 83.88 12 P **P** **20 38 10.0 +0.3**
baz=203
E03A Lebam 83.94 34 P **P** **20 38 11.8 +1.6**
BNX BinXian 84.01 325 ⇑P **P** **20 38 10.8 +0.2**
BNX pmax pmax
comp=Z,56nm,0.7s
BNX pmax pmax
comp=Z,88nm,4.5s
WVOR Wild Horse Val 84.08 40 P **P** **20 38 12.6 +1.3**
WVOR IAmb IAmb 20 38 14.1
comp=Z,108nm,1.0s
WVOR Wild Horse Val 84.08 40 P **P** **20 38 12.6 +1.3**
WVOR pmax pmax
comp=Z,108nm,1.0s
KLR Kul'dur 84.15 329 *ce*P **P** **20 38 10.7 -0.5**
KLR pmax pmax
comp=Z,21nm,1.4s
HOOD Mount Hood Mea 84.16 36 P **P** **20 38 12.7 +1.1**
CNPM China Poot 84.17 13 P **P** **20 38 11.7 +0.6**
CNPM IAmb IAmb 20 38 12.5
comp=Z,70nm,0.9s
O19K Port Alsworth 84.18 11 P **P** **20 38 10.5 -0.6**
O19K Port Alsworth 84.18 11 P **P** **20 38 11.1 0.0**
baz=202,SNR=35
WISH Wishkah 84.20 34 P **P** **20 38 13.5 +1.9**
HOM Homer 84.21 13 P **P** **20 38 12.1 +0.8**
baz=204
ILSW Iliamna Southw 84.21 12 P **P** **20 38 10.6 -0.8**
ILSW IAmb IAmb 20 38 12.1
comp=Z,136nm,0.8s
319A Douglas 84.26 53 P **P** **20 38 14.5 +2.1**
NLWA Neilton Lookou 84.34 33 P **P** **20 38 14.0 +1.7**
NLWA IAmb IAmb 20 38 15.6
comp=Z,123nm,1.1s
C03A Quillayute Air 84.35 33 P **P** **20 38 12.4 +0.1**
N18K Kilae Creek 84.36 11 P **P** **20 38 11.7 -0.4**
N18K Kilae Creek 84.36 11 P **P** **20 38 12.0 0.0**
baz=200,SNR=5.5
HG4B Hotspring 84.39 27 P **P** **20 38 14.1 +1.7**
HG4B IAmb IAmb 20 38 15.1
comp=Z,72nm,0.8s
LCMT Little Creek M 84.39 46 P **P** **20 38 14.2 +1.2**
LCMT IAmb IAmb 20 38 16.0
comp=Z,62nm,1.0s
O20K Slope Mountain 84.40 12 P **P** **20 38 12.5 +0.1**
baz=203
KULM Kulim 84.44 278 P **P** **20 38 13.7 +0.1**
comp=Z,17nm,0.8s
BRLK Bradley Lake 84.46 13 P **P** **20 38 12.5 -0.1**
BRLK IAmb IAmb 20 38 13.8
comp=Z,81nm,0.8s
BRSE Bradley Lake S 84.47 13 P **P** **20 38 12.7 +0.1**
baz=205,SNR=14
DIB Dawson Inlet, 84.55 25 P **P** **20 38 14.3 +1.2**
DIB IAmb IAmb 20 38 15.4
comp=Z,85nm,1.0s
I07A Izee 84.58 38 P **P** **20 38 15.2 +1.5**
I07A IAmb IAmb 20 38 16.8
comp=Z,70nm,1.2s
CCUT Cedar City 84.60 46 P **P** **20 38 15.8 +1.7**
CCUT IAmb IAmb 20 38 17.4
comp=Z,60nm,1.0s
G06A Carlson Farm, 84.66 36 P **P** **20 38 15.3 +1.4**
G06A IAmb IAmb 20 38 16.8
comp=Z,89nm,1.1s
KNB Kanab 84.68 47 P **P** **20 38 16.3 +1.9**
KNB IAmb IAmb 20 38 17.7
comp=Z,92nm,1.1s
KNB Kanab 84.68 47 P **P** **20 38 16.3 +1.9**
KNB pmax pmax
comp=Z,92nm,1.1s
TIA Tai'an 84.70 312 P **P** **20 38 14.8 +0.5**
TIA pmax pmax
comp=Z,25nm,0.9s
H03S2 Juan Fernandez 84.70 124 T T 22 11 23.3
baz=247,slow=74,SNR=54
H03S1 Juan Fernandez 84.72 124 T T 22 11 15.5
baz=247,slow=74,SNR=24
H03S3 Juan Fernandez 84.72 124 T T 22 11 22.5
baz=247,slow=74,SNR=32
U15A North Rim 84.72 47 P **P** **20 38 16.5 +1.7**
RSO Redoubt South 84.72 12 P **P** **20 38 13.5 -0.6**
N19K Bonanza Creek 84.73 11 P **P** **20 38 13.4 -0.6**
N19K IAmb IAmb 20 38 14.5
comp=Z,43nm,0.8s
N19K Bonanza Creek 84.73 11 P **P** **20 38 13.5 -0.5**
baz=201,SNR=12
J08A Circle Bar Ran 84.74 39 P **P** **20 38 15.6 +1.1**
J08A IAmb IAmb 20 38 17.4
comp=Z,101nm,1.3s
SPR3 Spring Creek 3 84.76 44 P **P** **20 38 15.4 +0.5**
SPR3 IAmb IAmb 20 38 17.2
comp=Z,53nm,1.3s
SZCU Shurtz Canyon 84.81 46 P **P** **20 38 16.9 +1.8**
SZCU IAmb IAmb 20 38 18.3
comp=Z,66nm,1.1s
PSUT Pine Spring 84.82 45 P **P** **20 38 16.3 +1.1**
WUAZ Wupatki 84.87 49 P **P** **20 38 17.1 +1.7**
WUAZ IAmb IAmb 20 38 18.6
comp=Z,60nm,1.2s
WUAZ Wupatki 84.87 49 P **P** **20 38 17.2 +1.8**
baz=238,SNR=8.2
HPIG 84.89 58 P **P** **20 38 16.2 +0.5**
B04A Port Angeles 84.96 33 P **P** **20 38 17.1 +1.8**
B04A IAmb IAmb 20 38 18.6
comp=Z,158nm,1.4s
LON Longmire 84.99 35 P **P** **20 38 16.8 +1.2**
LON IAmb IAmb 20 38 18.1
comp=Z,164nm,1.9s
LON Longmire 84.99 35 P **P** **20 38 16.8 +1.2**
LON pmax pmax
comp=Z,165nm,1.9s
RPSI Rantau Prapat 85.05 275 P **P** **20 38 16.1 -0.4**
SEW Seward 85.08 14 P **P** **20 38 15.5 0.0**
SEW IAmb IAmb 20 38 16.6
comp=Z,53nm,0.9s
SEW Seward 85.08 14 P **P** **20 38 15.5 0.0**
baz=206,SNR=5.9
PSI Prapat 85.08 275 P **P** **20 38 16.1 -0.8**
PSI pmax pmax
comp=Z,18nm,1.2s
ELK Elko 85.17 42 P **P** **20 38 17.6 +0.8**
ELK Elko 85.17 42 P **P** **20 38 17.6 +0.8**
ELK pmax pmax
comp=Z,34nm,1.1s
D05A Enumclaw 85.17 34 P **P** **20 38 18.6 +2.2**
PKCU Pink Cliffs 85.25 46 P **P** **20 38 19.7 +2.2**
O22K Cooper Landing 85.36 13 P **P** **20 38 16.8 -0.2**
O22K IAmb IAmb 20 38 17.9
comp=Z,64nm,0.6s
O22K Cooper Landing 85.36 13 P **P** **20 38 16.9 -0.1**
baz=206,SNR=5.4
X18A Snowflake 85.36 50 P **P** **20 38 19.0 +1.1**
PGC Sidney 85.38 33 P **P** **20 38 18.7 +1.4**
PGC IAmb IAmb 20 38 20.1
comp=Z,112nm,1.1s
P23K Montague Islan 85.45 15 P **P** **20 38 17.5 +0.1**
baz=208
F07A Phinny Hill Vi 85.46 36 P **P** **20 38 19.7 +1.9**
F07A IAmb IAmb 20 38 20.8
comp=Z,59nm,1.0s
N20K Mount Spurr 85.51 12 P **P** **20 38 16.9 -0.9**
baz=203,SNR=12
SPCR Spurr Chakacha 85.51 12 P **P** **20 38 16.7 -1.1**
baz=203
ZAIG Zacatecas 85.52 63 P **P** **20 38 20.8 +1.8**
SPU Mount Spurr 85.52 12 P **P** **20 38 17.0 -0.8**
BBB Bella Bella 85.62 28 P **P** **20 38 20.4 +2.1**
G08A Pilot Rock 85.63 37 P **P** **20 38 20.2 +1.4**
G08A IAmb IAmb 20 38 21.7
comp=Z,76nm,1.0s
MTPU Mount Pierson 85.65 46 P **P** **20 38 21.5 +2.1**
MTPU IAmb IAmb 20 38 23.0
comp=Z,58nm,0.8s
GAMB Gambell 85.74 3 P **P** **20 38 19.6 +0.9**
baz=185
M19K Big River Lodg 85.77 11 P **P** **20 38 19.0 +0.1**
M19K Big River Lodg 85.77 11 P **P** **20 38 19.1 +0.2**
baz=201
GSI Gunungsitoli 85.77 273 P **P** **20 38 21.1 +0.9**
GSI Gunungsitoli 85.77 273 P **P** **20 38 20.9 +0.8**
comp=Z,37nm,1.0s
GSI Gunungsitoli 85.77 273 P **P** **20 38 21.5 +1.4**
TCRU Three Creeks R 85.78 45 P **P** **20 38 21.7 +1.8**
W18A Petrified Fore 85.81 50 P **P** **20 38 21.4 +1.3**
baz=239
LL02 Futaleuf 85.86 135 P **P** **20 38 21.9 +1.9**
RC01 Rabbit Creek A 85.91 13 P **P** **20 38 19.3 -0.3**
RC01 IAmb IAmb 20 38 20.9
comp=Z,66nm,1.0s
RC01 Rabbit Creek A 85.91 13 P **P** **20 38 19.5 -0.1**
baz=206,SNR=6.3
MSU Marysvale 85.91 46 P **P** **20 38 22.6 +2.1**
MSU Marysvale 85.91 46 P **P** **20 38 22.6 +2.1**
LTY Liberty 85.91 35 P **P** **20 38 20.9 +0.8**
LTY IAmb IAmb 20 38 22.6
comp=Z,56nm,0.9s
121A Cookes Peak, D 85.93 53 P **P** **20 38 21.8 +1.1**
121A IAmb IAmb 20 38 24.3
comp=Z,86nm,1.0s
121A Cookes Peak, D 85.93 53 P **P** **20 38 23.1 +2.4**
baz=241
121A Cookes Peak, D 85.93 53 P **P** **20 38 23.2 +2.4**
baz=241,SNR=49
L19K White Mountain 85.95 10 P **P** **20 38 19.8 -0.1**
L19K IAmb IAmb 20 38 21.6
comp=Z,48nm,1.0s
L19K White Mountain 85.95 10 P **P** **20 38 20.3 +0.5**
baz=201
M20K Styx River 85.97 11 P **P** **20 38 19.2 -0.9**
M20K IAmb IAmb 20 38 20.8
comp=Z,123nm,2.0s
M20K Styx River 85.97 11 P **P** **20 38 20.0 -0.1**
baz=203
HAWA Hanford 85.99 36 P **P** **20 38 22.0 +1.6**
HAWA IAmb IAmb 20 38 23.4
comp=Z,130nm,1.1s
PWL Port Wells 86.00 14 P **P** **20 38 20.2 0.0**
PWL IAmb IAmb 20 38 21.2
comp=Z,68nm,0.8s
PWL Port Wells 86.00 14 P **P** **20 38 20.1 -0.1**
baz=207,SNR=8.4
HIN Hinchinbrook I 86.01 15 P **P** **20 38 20.2 0.0**
CRAG Craig 86.02 24 P **P** **20 38 21.8 +1.6**
baz=221
GRNB Grenville Isla 86.04 26 P **P** **20 38 21.8 +1.3**
GRNB IAmb IAmb 20 38 23.3
comp=Z,78nm,1.0s
SUA Susitna One 86.04 13 P **P** **20 38 20.5 +0.1**
SUA IAmb IAmb 20 38 21.3
comp=Z,79nm,0.8s
SUA Susitna One 86.04 13 P **P** **20 38 20.1 -0.3**
baz=205,SNR=9.0
TROLL Troll, Antarti 86.11 180 P **P** **20 38 21.4 +0.5**
TROLL Troll, Antarti 86.11 180 pP pP 20 39 29.5 -0.4
KAIM Kayak Island 86.12 16 P **P** **20 38 21.9 +1.2**
KAIM IAmb IAmb 20 38 22.9
comp=Z,111nm,1.0s
KAIM Kayak Island 86.12 16 P **P** **20 38 21.6 +0.9**
baz=210,SNR=5.3
B06A Marblemount 86.29 34 P **P** **20 38 23.0 +1.3**
B06A IAmb IAmb 20 38 24.1
comp=Z,46nm,0.9s
BMO Blue Mountains 86.30 38 P **P** **20 38 23.0 +0.9**
BMO Blue Mountains 86.30 38 P **P** **20 38 23.0 +0.9**
BMO pmax pmax
comp=Z,26nm,0.9s
E08A Dider Farm, El 86.31 36 P **P** **20 38 23.3 +1.3**
E08A IAmb IAmb 20 38 24.8
comp=Z,70nm,1.0s
EYAK Cordova Ski Ar 86.33 15 P **P** **20 38 22.1 +0.4**
EYAK IAmb IAmb 20 38 23.1
comp=Z,96nm,1.4s
EYAK Cordova Ski Ar 86.33 15 P **P** **20 38 21.9 +0.2**
baz=209,SNR=6.3
EYAK Cordova Ski Ar 86.33 15 P **P** **20 38 21.8 +0.2**
MFID Camas Ranch 86.33 40 P **P** **20 38 23.1 +0.8**
SKT Skwentna 86.36 12 P **P** **20 38 21.2 -0.6**
SKT Skwentna 86.36 12 P **P** **20 38 20.5 -1.3**
baz=204,SNR=7.7
SNAA Sanae 86.38 178 P **P** **20 38 22.0 -0.1**
SNAA Sanae 86.38 178 P **P** **20 38 22.2 +0.2**
SNAA pP **pP** **20 39 29.6 -1.5**
SNAA Sanae 86.38 178 *ce*P **P** **20 38 22.3 +0.2**
SNAA pmax pmax
comp=Z,12nm,1.7s
L20K Farewell, AK 86.39 11 P **P** **20 38 22.2 +0.2**
baz=202
DUG Dugway, Tooele 86.40 44 P **P** **20 38 23.5 +0.7**
DUG Dugway, Tooele 86.40 44 P **P** **20 38 23.7 +1.0**
baz=237
DUG Dugway, Tooele 86.40 44 P **P** **20 38 23.5 +0.7**
DUG pmax pmax
comp=Z,8.0nm,0.7s
M22K Willow 86.43 13 P **P** **20 38 21.8 -0.3**
M22K Willow 86.43 13 P **P** **20 38 22.2 +0.1**
baz=205,SNR=18
RAGM Ragged Mountai 86.45 16 P **P** **20 38 25.0 +2.7**
RAGM IAmb IAmb 20 38 25.9
comp=Z,68nm,1.1s
SIT Sitka 86.46 22 P **P** **20 38 23.5 +1.2**
baz=219
TTA Tatalina 86.46 10 P **P** **20 38 22.6 +0.2**
TTA Tatalina 86.46 10 P **P** **20 38 22.9 +0.5**
baz=200,SNR=12
TTA Tatalina 86.46 10 P **P** **20 38 22.6 +0.2**
TTA pmax pmax
comp=Z,37nm,1.0s
KNK Knik Glacier 86.47 14 P **P** **20 38 22.8 +0.4**
baz=207,SNR=11
V35K Ketchikan 86.48 24 P **P** **20 38 24.1 +1.6**
baz=222
PMR Palmer 86.49 13 P **P** **20 38 22.0 -0.4**
PMR Palmer 86.49 13 P **P** **20 38 22.5 +0.1**
baz=206,SNR=9.9
PMR Palmer 86.49 13 P **P** **20 38 22.0 -0.4**
PMR pmax pmax
comp=Z,178nm,1.6s
VNA3 Neumayer Olymp 86.50 176 P **P** **20 38 23.2 +0.6**
VNA3 Neumayer Olymp 86.50 176 pP pP 20 39 31.9 +0.2
U33K Whale Pass 86.51 23 P **P** **20 38 24.4 +1.8**
baz=220
HMT Hamilton 86.51 16 P **P** **20 38 22.9 +0.3**
HMT IAmb IAmb 20 38 24.3
comp=Z,41nm,0.9s
KIDD KIDD Seismic O 86.51 54 P **P** **20 38 25.9 +2.4**
baz=241
BGLC Bering Glacier 86.58 16 P **P** **20 38 23.7 +0.8**
baz=212
SRIT Nakonsritamara 86.68 281 P **P** **20 38 24.6 +0.1**
SRIT IAmb IAmb 20 38 27.2
comp=Z,26nm,0.6s
GHO Glory Hole Cre 86.69 13 P **P** **20 38 23.2 -0.3**
BERG Berg Lake 86.70 16 P **P** **20 38 24.0 +0.5**
TLIG Tlapa 86.72 70 P **P** **20 38 26.1 +1.3**
TLIG IAmb IAmb 20 38 27.9
comp=Z,50nm,1.0s
D08A Wollman Farm, 86.73 36 P **P** **20 38 25.1 +1.2**
SNH Sunshine Point 86.75 17 P **P** **20 38 25.2 +1.4**
NLU North Lily Min 86.75 44 P **P** **20 38 26.1 +1.6**
Q16A Castle Valley 86.79 46 P **P** **20 38 26.3 +1.6**
E09A Wood Farm, Sta 86.82 37 P **P** **20 38 25.3 +0.9**
DIV Divide 86.83 15 P **P** **20 38 24.1 -0.1**
SML Sawmill 86.85 13 P **P** **20 38 24.6 +0.3**
SML IAmb IAmb 20 38 26.5
comp=Z,96nm,1.6s
SML Sawmill 86.85 13 P **P** **20 38 24.3 0.0**
baz=207,SNR=8.2
S31K Pelican 86.87 21 P **P** **20 38 25.6 +1.3**
baz=218,SNR=11
HEH HeiHe 86.92 328 *e*P **P** **20 38 23.3 -1.5**
HEH pmax pmax
comp=Z,28nm,0.9s
VNA2 Neumayer--Watz 86.94 177 P **P** **20 38 25.6 +0.8**
baz=178,slow=5.0
VNA2 Neumayer--Watz 86.94 177 pP pP 20 39 33.8 -0.2
baz=190,slow=3.0
TMUT Trail Mountain 86.97 45 P **P** **20 38 27.2 +1.5**
M23K Glacier View 86.97 14 P **P** **20 38 24.5 -0.3**
baz=208,SNR=10
BMRM Bremner River 86.97 15 P **P** **20 38 24.9 0.0**
BMRM Bremner River 86.97 15 P **P** **20 38 25.3 +0.4**
baz=210,SNR=22
WAX Waxell Ridge 86.97 16 P **P** **20 38 25.7 +0.8**
HNS HongShan 86.97 312 ⇓P **P** **20 38 26.0 +0.7**
HNS pmax pmax
comp=Z,32nm,0.9s
MESA MESA 86.98 17 P **P** **20 38 26.6 +1.5**
MESA MESA 86.98 17 P **P** **20 38 26.0 +0.9**
baz=213,SNR=10
CUT Chulitna 86.99 12 P **P** **20 38 24.7 -0.1**
CUT Chulitna 86.99 12 P **P** **20 38 24.7 -0.1**
baz=205,SNR=21
F10A Beach Ranch, E 87.01 37 P **P** **20 38 25.8 +0.3**
WRAK Wrangell Islan 87.02 23 P **P** **20 38 26.4 +1.3**
WRAK Wrangell Islan 87.02 23 P **P** **20 38 26.8 +1.7**
baz=221
S32K Killisnoo 87.04 22 P **P** **20 38 26.2 +1.1**
baz=219,SNR=6.4
SBM South Baldy 87.08 52 P **P** **20 38 28.0 +1.5**
PPLA Purkeypile 87.08 11 P **P** **20 38 24.1 -1.4**
PPLA Purkeypile 87.08 11 P **P** **20 38 24.0 -1.4**
baz=203
SCM Sheep Creek Mo 87.09 14 P **P** **20 38 25.6 +0.1**
SCM Sheep Creek Mo 87.09 14 P **P** **20 38 25.9 +0.5**
baz=208,SNR=25
SCM Sheep Creek Mo 87.09 14 P **P** **20 38 25.6 +0.1**
SCM pmax pmax
comp=Z,118nm,0.9s
KLU Klutina 87.11 15 P **P** **20 38 25.7 +0.1**
KLU IAmb IAmb 20 38 27.1
comp=Z,44nm,1.0s
KLU Klutina 87.11 15 P **P** **20 38 26.0 +0.4**
baz=209,SNR=12
LYN LuoYang 87.13 309 ⇑*i*P **P** **20 38 27.5 +1.3**
LYN S **S** **20 48 35.3 -4.7**
LYN pmax pmax
comp=Z,20nm,0.6s
LYN pmax pmax
comp=Z,70nm,9.8s
NVL N'lazarevskaya 87.13 183 ⇓*i*P **P** **20 38 25.2 -0.4**
NVL *e**PP **pP** **20 39 33.0 -1.8**
NVL *eS* **SKSac** **20 48 26.9 +3.1**
NVL pmax pmax
comp=Z,22nm,1.0s
VNA1 Neumayer--Stat 87.17 176 P **P** **20 38 26.2 +0.4**
VNA1 Neumayer--Stat 87.17 176 pP pP 20 39 35.1 +0.1
K20K Telida 87.18 10 P **P** **20 38 25.4 -0.3**
K20K IAmb IAmb 20 38 27.1
comp=Z,85nm,1.2s
K20K Telida 87.18 10 P **P** **20 38 26.0 +0.3**
baz=202
YAH Yahtse 87.19 17 P **P** **20 38 26.7 +0.6**
Y22A Socorro 87.21 52 P **P** **20 38 28.5 +1.7**
baz=241
ISLE Juniper Island 87.24 17 P **P** **20 38 26.5 +0.3**
HLID Hailey 87.26 40 P **P** **20 38 28.3 +1.4**
HLID IAmb IAmb 20 38 29.6
comp=Z,35nm,0.9s
HLID Hailey 87.26 40 P **P** **20 38 28.6 +1.8**
baz=236,SNR=37
PNL Peninsula 87.27 18 P **P** **20 38 27.2 +1.0**
baz=215,SNR=14
PNL Peninsula 87.27 18 P **P** **20 38 27.3 +1.0**
HVU Hansel Valley 87.28 43 P **P** **20 38 27.7 +0.7**
HVU Hansel Valley 87.28 43 P **P** **20 38 27.7 +0.7**
HVU pmax pmax
comp=Z,16nm,0.8s
B08A Colville Reser 87.30 35 P **P** **20 38 27.6 +0.9**
Y22D IRIS PASSCAL I 87.31 52 P **P** **20 38 29.3 +2.0**
baz=241
Y22F Passcal Instru 87.31 52 P **P** **20 38 29.2 +1.9**
baz=241
LENM Lemitar 87.32 52 P **P** **20 38 28.1 +0.8**
ENH Enshi 87.32 304 P **P** **20 38 27.5 +0.2**
ENH IAmb IAmb 20 38 29.0
comp=Z,46nm,0.9s
ENH Enshi 87.32 304 P **P** **20 38 28.5 +1.3**
SRU San Rafael Swe 87.32 46 P **P** **20 38 28.2 +0.9**
SRU San Rafael Swe 87.32 46 P **P** **20 38 28.2 +0.9**
SRU pmax pmax
comp=Z,87nm,0.8s
CTU Camp Tracy 87.35 44 P **P** **20 38 27.4 +0.1**
BJT Baijiatuau 87.35 315 P **P** **20 38 27.5 +0.4**
BJT Baijiatuau 87.35 315 P **P** **20 38 27.5 +0.4**
BJT pmax pmax
comp=Z,44nm,1.7s
BJI Beijing 87.36 315 P **P** **20 38 27.8 +0.7**
BJI pmax pmax
comp=Z,12nm,1.2s
P17A Butcher Ranch, 87.37 45 P **P** **20 38 28.1 +0.6**
P17A IAmb IAmb 20 38 30.3
comp=Z,48nm,1.0s
PCA Pinnacle 87.38 18 P **P** **20 38 27.4 +0.5**
PCA IAmb IAmb 20 38 28.7
comp=Z,66nm,0.9s
PINM Pinnacle 87.38 18 P **P** **20 38 27.6 +0.7**
baz=214,SNR=9.2
CRNM Carthage 87.39 52 P **P** **20 38 29.2 +1.5**
TABL Table Mountain 87.42 17 P **P** **20 38 27.6 +0.4**
LLLB Lillooet 87.43 32 P **P** **20 38 28.3 +1.1**

LLLB IAmb IAmb 20 38 29.8
comp=Z,81nm,1.1s
BCPM Bancas Point 87.44 18 P P 20 38 27.2 +0.2
BCPM IAmb IAmb 20 40 17.9
comp=Z,59nm,0.7s
VRDI Verde Repeater 87.48 16 P P 20 38 27.4 0.0
VRDI IAmb IAmb 20 38 29.1
comp=Z,78nm,1.1s
JLU Jordanelle 87.50 44 P P 20 38 28.5 +0.4
C09A Chrisman Ranch 87.53 35 P P 20 38 28.4 +0.6
N25K Chitina, Valde 87.53 15 P P 20 38 27.4 -0.2
N25K IAmb IAmb 20 38 29.2
comp=Z,67nm,0.8s
N25K Chitina, Valde 87.53 15 P P 20 38 28.1 +0.6
baz=210,SNR=31
BNM Barren Site 87.56 52 P P 20 38 29.8 +1.3
CAST Castle Rocks 87.58 11 P P 20 38 26.1 -1.6
CAST IAmb IAmb 20 38 27.6
comp=Z,61nm,0.8s
CAST Castle Rocks 87.58 11 P P 20 38 26.5 -1.2
baz=204,SNR=48
GLB Gilahina Butte 87.58 15 P P 20 38 28.0 +0.3
GLB IAmb IAmb 20 38 29.3
comp=Z,51nm,0.8s
M24K Tolsona, Glenn 87.59 14 P P 20 38 28.2 +0.4
M24K Tolsona, Glenn 87.59 14 P P 20 38 28.7 +0.9
baz=209,SNR=12
WAT6 Susitna Watana 87.67 13 P P 20 38 28.3 +0.1
baz=208,SNR=36
R32K Eaglecrest 87.68 21 P P 20 38 29.6 +1.4
baz=219,SNR=5.5
TNA Tin City 87.72 4 P P 20 38 27.8 -0.3
baz=189
WAT1 Susitna Watana 87.72 13 P P 20 38 28.2 -0.1
baz=207
MCARA McCarthy VSAT 87.72 16 P P 20 38 29.3 +0.9
MCARA IAmb IAmb 20 38 30.3
comp=Z,84nm,1.1s
MCARA McCarthy VSAT 87.72 16 P P 20 38 29.1 +0.8
baz=212,SNR=17
GO06 Curarrie 87.73 132 P P 20 38 30.6 +1.4
JIS Juneau Island 87.73 21 P P 20 38 29.6 +1.2
JIS IAmb IAmb 20 38 30.8
comp=Z,84nm,1.2s
MVCO Mesa Verde 87.73 48 P P 20 38 29.9 +0.6
MVCO Mesa Verde 87.73 48 P P 20 38 30.3 +1.1
baz=240,SNR=5.1
P29M Windy Craggy 87.73 19 P P 20 38 29.6 +1.1
P29M IAmb IAmb 20 38 31.1
comp=Z,78nm,0.9s
P29M Windy Craggy 87.73 19 P P 20 38 30.1 +1.7
baz=216
P18A Preston Nutter 87.78 45 P P 20 38 30.1 +0.6
TCUT Toone Canyon 87.80 44 P P 20 38 30.6 +1.1
TCUT IAmb IAmb 20 38 33.1
comp=Z,47nm,0.8s
BARN Barnard Glacie 87.80 17 P P 20 38 29.1 +0.1
BESE Bessie Mountai 87.81 21 P P 20 38 29.2 +0.4
BESE IAmb IAmb 20 38 31.5
comp=Z,86nm,1.0s
PLCA Paso Flores 87.83 133 P P 20 38 31.3 +1.6
comp=Z,2.8nm,0.9s,baz=231,slow=5.5,SNR=9.8
comp=Z,2.8nm,0.9s
GYA Guiyang 87.84 300 ⇑*i*P P 20 38 30.8 +0.9
GYA pP pP 20 39 42.4 +2.7
GYA SKS **SKSac 20 48 24.8 -5.0**
GYA S **S 20 48 46.3 -1.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.4s
KTH Kantishna Hill 87.91 12 P P 20 38 28.1 -1.2
KTH IAmb IAmb 20 38 29.5
comp=Z,57nm,0.9s
J20K Nowinta River 87.93 10 P P 20 38 29.1 -0.1
J20K IAmb IAmb 20 38 30.7
comp=Z,105nm,1.6s
J20K Nowinta River 87.93 10 P P 20 38 29.7 +0.5
baz=202
TRF Thorofare Moun 87.94 12 P P 20 38 28.7 -0.8
TRF Thorofare Moun 87.94 12 P P 20 38 29.2 -0.3
baz=205,SNR=55
HWUT Hardware Ranch 87.96 43 P P 20 38 30.4 +0.2
O28M Mount Upton 87.96 17 P P 20 38 31.2 +1.4
baz=214
CHUM Lake Minchumin 87.96 11 P P 20 38 28.9 -0.5
baz=203,SNR=13
PV13 Radium Mtn., P 87.98 47 P P 20 38 31.5 +1.1
PV23 Carpenter Ridg 88.00 47 P P 20 38 31.6 +1.0
PLBC Pleasant Camp 88.02 20 P P 20 38 31.1 +1.4
baz=218,SNR=21
PV11 David Mesa, Pa 88.02 47 P P 20 38 30.9 +0.3
O29M Mount Kennedy 88.03 18 P P 20 38 31.8 +1.8
baz=216
GCSA Galena City Sc 88.05 9 P P 20 38 30.6 +0.8
baz=199
SEY Seymchan 88.05 347 *ce*P P 20 38 28.7 -1.1
SEY pmax pmax
comp=Z,43nm,0.9s
ANMO Albuquerque 88.07 51 P P 20 38 31.6 +0.8
ANMO IAmb IAmb 20 38 33.6
comp=Z,45nm,0.9s
ANMO Albuquerque 88.07 51 P P 20 38 32.4 +1.6
baz=241
ANMO Albuquerque 88.07 51 P P 20 38 32.4 +1.6
baz=241
ANMO Albuquerque 88.07 51 *ce*P P 20 38 32.4 +1.6
ANMO pmax pmax
comp=Z,66nm,1.3s
HARP HAARP 88.08 14 P P 20 38 30.5 +0.5
baz=210,SNR=8.1
RND Reindeer 88.18 12 P P 20 38 30.6 +0.1
RND Reindeer 88.18 12 P P 20 38 30.6 +0.1
RND pmax pmax
comp=Z,95nm,0.8s
DHY Denali Highway 88.19 13 P P 20 38 30.6 0.0
DHY IAmb IAmb 20 38 32.0
comp=Z,118nm,1.7s
DHY Denali Highway 88.19 13 P P 20 38 30.7 0.0
baz=208,SNR=11
T35M Bob Quinn 88.22 24 P P 20 38 32.4 +1.6
baz=223
PV07 Paradox Valley 88.24 47 P P 20 38 32.2 +0.6
PV15 Paradox Valley 88.31 47 P P 20 38 32.8 +0.8
PV15 IAmb IAmb 20 38 34.0
comp=Z,33nm,0.9s
SKAG Skagway 88.34 20 P P 20 38 32.8 +1.5
SKAG IAmb IAmb 20 38 34.4
comp=Z,116nm,1.3s
SKAG Skagway 88.34 20 P P 20 38 33.1 +1.9
baz=218,SNR=20
P30M Million Dollar 88.36 19 P P 20 38 33.6 +2.2
baz=217
BPAW Bear Paw Mtn. 88.40 11 P P 20 38 30.3 -1.1
BPAW IAmb IAmb 20 38 31.5
comp=Z,88nm,1.9s
BPAW Bear Paw Mtn. 88.40 11 P P 20 38 30.5 -1.0
baz=204,SNR=9.4
NEW Newport 88.42 36 P P 20 38 31.9 -0.1
NEW IAmb IAmb 20 38 34.2
comp=Z,38nm,1.0s
NEW Newport 88.42 36 P P 20 38 33.1 +1.1
baz=234,SNR=19
NEW Newport 88.42 36 P P 20 38 31.9 -0.1
NEW pmax pmax
comp=Z,38nm,1.0s
MCK McKinley 88.46 12 P P 20 38 31.0 -0.7
MCK IAmb IAmb 20 38 33.3
comp=Z,76nm,0.8s
MCK McKinley 88.46 12 P P 20 38 31.7 -0.1
baz=206,SNR=50
MCK McKinley 88.46 12 P P 20 38 31.0 -0.7
MCK pmax pmax
comp=Z,76nm,0.8s
YUK8 Steele Glacier 88.50 17 P P 20 38 33.5 +1.2
baz=215,SNR=57
PAX Paxson 88.51 14 P P 20 38 31.4 -0.7
PAX IAmb IAmb 20 38 33.2
comp=Z,112nm,1.8s
PAX Paxson 88.51 14 P P 20 38 31.9 -0.2
baz=210,SNR=16
PAX Paxson 88.51 14 P P 20 38 31.4 -0.7
PAX pmax pmax
comp=Z,112nm,1.8s
S34M Telegraph Cree 88.58 23 P P 20 38 34.4 +2.0
baz=222,SNR=39

M26K Nabesna, AK 88.60 15 P P 20 38 32.8 +0.3
M26K IAmb IAmb 20 38 34.5
comp=Z,83nm,1.1s
M26K Nabesna, AK 88.60 15 P P 20 38 33.7 +1.2
baz=212
YUK6 Outpost Mounta 88.61 18 P P 20 38 33.8 +1.0
baz=216,SNR=12
RDMU Red Mountain 88.70 45 P P 20 38 34.2 +0.5
RDMU IAmb IAmb 20 38 36.0
comp=Z,146nm,1.9s
YUK3 Moose Creek 88.72 17 P P 20 38 34.4 +1.1
baz=214,SNR=112
BWN Browne 88.75 12 P P 20 38 32.7 -0.4
HYT Haines Junctio 88.77 18 P P 20 38 34.4 +1.0
HYT IAmb IAmb 20 38 35.7
comp=Z,43nm,0.9s
HYT Haines Junctio 88.77 18 P P 20 38 34.7 +1.3
baz=217,SNR=18
M27K Edge Creek, AK 88.84 16 P P 20 38 34.5 +0.8
M27K Edge Creek, AK 88.84 16 P P 20 38 35.1 +1.3
baz=213
ECR Eagle Creek 88.84 42 P P 20 38 34.9 +0.5
YUK4 Talbot Arm 88.86 18 P P 20 38 35.4 +1.5
baz=216,SNR=14
AHID Auburn Hatcher 88.86 42 P P 20 38 35.1 +0.7
AHID IAmb IAmb 20 38 37.1
comp=Z,50nm,1.2s
MENT Mentasta 88.89 15 P P 20 38 34.4 +0.6
MENT IAmb IAmb 20 38 35.7
comp=Z,60nm,1.0s
MCMT McKenzie Canyo 88.90 40 P P 20 38 35.8 +1.2
P32M Atlin 88.97 21 P P 20 38 35.7 +1.5
baz=220,SNR=15
Q32M Nakina River 88.97 22 P P 20 38 36.0 +1.5
baz=221
L26K Log Cabin Wild 89.05 15 P P 20 38 34.9 +0.4
L26K IAmb IAmb 20 38 36.5
comp=Z,58nm,1.1s
L26K Log Cabin Wild 89.05 15 P P 20 38 35.4 +0.8
baz=211,SNR=24
O30N Mendenhall 89.14 19 P P 20 38 36.3 +1.3
baz=218,SNR=28
BVCY Beaver Creek 89.15 16 P P 20 38 36.2 +1.2
baz=214,SNR=110
S22A 4UR Ranch, Cre 89.15 48 P P 20 38 36.7 +0.7
S22A 4UR Ranch, Cre 89.15 48 P P 20 38 37.5 +1.5
baz=241,SNR=33
K24K Donnelly Dome 89.17 14 P P 20 38 35.8 +0.7
baz=209,SNR=37
NEA2 Nenana 89.20 12 P P 20 38 34.1 -1.1
NEA2 Nenana 89.20 12 P P 20 38 34.5 -0.7
baz=206,SNR=28
I21K Tanana 89.22 10 P P 20 38 35.2 0.0
baz=204
ZEA Zeya 89.26 331 *i* P P 20 38 35.8 +0.1
WRH Wood River Hil 89.28 12 P P 20 38 35.2 -0.4
MLY Manley 89.30 11 P P 20 38 34.5 -1.2
MLY IAmb IAmb 20 38 36.0
comp=Z,39nm,1.0s
MLY Manley 89.30 11 P P 20 38 35.0 -0.6
baz=205,SNR=32
RIDG Independent Ri 89.32 14 P P 20 38 35.2 -0.6
RIDG IAmb IAmb 20 38 37.3
comp=Z,67nm,1.1s
RIDG Independent Ri 89.32 14 P P 20 38 36.2 +0.3
baz=210,SNR=29
REDW Red Top Meadow 89.33 42 P P 20 38 37.5 +0.9
REDW IAmb IAmb 20 38 39.3
comp=Z,90nm,1.1s
TPAW Teton Pass 89.34 42 P P 20 38 37.1 +0.4
TPAW IAmb IAmb 20 38 39.4
comp=Z,55nm,1.1s
O20A White River Ci 89.36 46 P P 20 38 37.4 +0.6
O20A White River Ci 89.36 46 P P 20 38 38.0 +1.2
baz=240,SNR=6.4
DLBC Dease Lake 89.36 23 P P 20 38 37.5 +1.3
DLBC IAmb IAmb 20 38 38.9
comp=Z,58nm,0.9s
DLBC Dease Lake 89.36 23 P P 20 38 37.9 +1.7
baz=223,SNR=24
MSO Missoula 89.36 38 P P 20 38 36.6 +0.1
MSO IAmb IAmb 20 38 38.3
comp=Z,77nm,1.7s
MSO Missoula 89.36 38 P P 20 38 37.1 +0.6
baz=236,SNR=15
FXWY Fox Creek 89.37 42 P P 20 38 37.4 +0.6
FXWY IAmb IAmb 20 38 39.6
comp=Z,44nm,1.2s
N30M Aishikik Lake 89.40 18 P P 20 38 37.2 +0.9
baz=217
DOT Dot Lake 89.42 14 P P 20 38 36.4 +0.1
DOT IAmb IAmb 20 38 37.8
comp=Z,65nm,1.0s
WHY Whitehorse 89.42 19 P P 20 38 37.2 +0.8
WHY IAmb IAmb 20 38 38.8
comp=Z,54nm,0.9s
WHY Whitehorse 89.42 19 P P 20 38 37.8 +1.3
baz=219,SNR=29
SNOW Snow King Moun 89.44 42 P P 20 38 38.5 +1.3
SNOW IAmb IAmb 20 38 40.0
comp=Z,83nm,1.1s
L27K Beaver Creek, 89.45 15 P P 20 38 36.8 +0.4
L27K IAmb IAmb 20 38 38.2
comp=Z,43nm,0.8s
L27K Beaver Creek, 89.45 15 P P 20 38 37.1 +0.7
baz=213
XLT XiLinHaoTe 89.45 319 *e*P P 20 38 37.3 +0.3
XLT pP pP 20 39 45.5 -1.3
XLT SKS **SKSac 20 48 34.8 -3.7**
XLT pmax pmax
comp=Z,10.0nm,1.2s
XLT pmax pmax
comp=Z,260nm,5.1s
HDA Harding Lake 89.46 13 P P 20 38 36.0 -0.4
HDA Harding Lake 89.46 13 P P 20 38 36.4 0.0
baz=208,SNR=52
BCAR Beaver Creek A 89.46 15 P P 20 38 36.9 +0.3
XAN Xi'an 89.47 307 ⇑P P 20 38 37.8 +0.5
XAN pP pP 20 39 50.8 +3.6
XAN pmax pmax
comp=Z,58nm,0.9s
CCB Clear Creek Bu 89.50 12 P P 20 38 35.9 -0.6
H21K Melozitna Rive 89.52 10 P P 20 38 36.8 +0.2
H21K Melozitna Rive 89.52 10 P P 20 38 37.2 +0.5
baz=203,SNR=24
IMW Indian Meadow 89.56 42 P P 20 38 38.9 +1.1
IMW IAmb IAmb 20 38 40.5
comp=Z,76nm,1.0s
MOOW Moose Ponds 89.60 42 P P 20 38 37.7 -0.2
LOHW Long Hollow 89.61 42 P P 20 38 38.9 +1.0
LOHW IAmb IAmb 20 38 40.5
comp=Z,60nm,1.2s
I23K Minto, Yukon-K 89.65 12 P P 20 38 36.3 -0.9
I23K Minto, Yukon-K 89.65 12 P P 20 38 36.4 -0.8
baz=206,SNR=18
LRM Limekiln Ridge 89.67 39 P P 20 38 38.9 +0.7
IMAR Indian Mountai 89.68 9 P P 20 38 37.3 -0.1
TCOL CIGO, UAF Yank 89.69 12 P P 20 38 36.8 -0.6
TCOL CIGO, UAF Yank 89.69 12 P P 20 38 37.3 -0.1
baz=207,SNR=8.5
COLA College 89.69 12 P P 20 38 36.6 -0.8
COLA College 89.69 12 P P 20 38 37.2 -0.1
baz=207
COLA College 89.69 12 P P 20 38 37.3 -0.1
COLA College 89.69 12 ⇑P P 20 38 37.1 -0.3
MDM Murphy Dome 89.69 12 P P 20 38 36.7 -0.8
MDM IAmb IAmb 20 38 38.1
comp=Z,76nm,0.9s
SCRK Sand Creek 89.72 14 P P 20 38 37.6 -0.2
SCRK IAmb IAmb 20 38 39.4
comp=Z,41nm,1.0s
SCRK Sand Creek 89.72 14 P P 20 38 38.3 +0.5
baz=211,SNR=28
P33M Teslin, Yukon 89.73 21 P P 20 38 38.7 +0.8
P33M IAmb IAmb 20 38 40.4
comp=Z,41nm,0.8s
P33M Teslin, Yukon 89.73 21 P P 20 38 39.0 +1.1
baz=221,SNR=9.6
R33M Jennings River 89.74 22 P P 20 38 39.5 +1.5
baz=222
QLMT Earthquake Lak 89.75 41 P P 20 38 40.3 +1.8
IL31 89.79 13 P P 20 38 37.3 -0.6
IL31 IAmb IAmb 20 38 38.7
comp=Z,91nm,1.4s
ILAR Eielson Array 89.79 13 P P 20 38 37.7 -0.2
comp=Z,32nm,1.0s,baz=220,slow=5.5,SNR=205

ILAR PP **PP 20 42 18.0 +2.7**
comp=Z,2.5nm,0.9s,baz=226,slow=7.1,SNR=4.3
ILAR PKiKP **PKiKP 20 43 32.5 -0.3**
comp=Z,0.9nm,0.7s,baz=270,slow=2.7,SNR=7.0
comp=Z,32nm,1.0s
ILAR Eielson Array 89.79 13 P P 20 38 37.3 -0.7
FLWY Flagg Ranch 89.80 41 P P 20 38 40.3 +1.5
N31M Braeburn, Yuko 89.80 19 P P 20 38 39.0 +0.9
N31M Braeburn, Yuko 89.80 19 P P 20 38 39.0 +0.9
baz=218,SNR=36
M29M Somme Creek 89.81 17 P P 20 38 39.1 +0.9
baz=216
BW06 Boulder Array 89.83 43 P P 20 38 39.3 +0.3
BW06 IAmb IAmb 20 38 41.0
comp=Z,42nm,0.9s
BW06 Boulder Array 89.83 43 P P 20 38 39.7 +0.8
baz=239,SNR=60
PD31 Pinedale Array 89.83 43 P P 20 38 39.5 +0.5
PD31 IAmb IAmb 20 38 40.9
comp=Z,38nm,0.9s
PDAR Pinedale Array 89.83 43 P P 20 38 39.9 +0.9
comp=Z,26nm,0.8s,baz=213,slow=2.9,SNR=189
PDAR PP **PP 20 42 13.4 -3.0**
comp=Z,3.5nm,1.0s,baz=238,slow=8.4,SNR=6.3
comp=Z,26nm,0.8s
PDAR Pinedale Array 89.83 43 P P 20 38 39.3 +0.4
YPP Pitchstone Pla 89.83 41 P P 20 38 40.5 +1.4
YHL Hebgen Lake 89.91 41 P P 20 38 41.5 +2.1
YMR Madison River 89.95 41 P P 20 38 40.8 +1.4
YMR IAmb IAmb 20 38 42.7
comp=Z,76nm,0.8s
J25K Salcha River, 89.97 13 P P 20 38 38.8 -0.1
J25K IAmb IAmb 20 38 40.1
comp=Z,43nm,0.8s
J25K Salcha River, 89.97 13 P P 20 38 39.1 +0.3
baz=210
H22K Ishtalitna Cre 89.97 10 P P 20 38 39.0 +0.2
baz=204,SNR=45
PHRA Phrae 89.97 290 P P 20 38 40.9 +1.0
POKR Poker Plat Res 89.99 12 P P 20 38 38.2 -0.7
POKR IAmb IAmb 20 38 39.4
comp=Z,40nm,0.8s
POKR Poker Plat Res 89.99 12 P P 20 38 38.5 -0.4
baz=208,SNR=35
BOZ Bozeman (W) 90.04 40 P P 20 38 40.7 +0.9
BOZ Bozeman (W) 90.04 40 P P 20 38 41.5 +1.7
baz=238,SNR=98
BOZ Bozeman (W) 90.04 40 P P 20 38 40.7 +0.9
BOZ pmax pmax
comp=Z,91nm,0.9s
H17A Grant Village 90.04 41 P P 20 38 42.7 +2.7
H17A IAmb IAmb 20 38 43.7
comp=Z,50nm,0.8s
H17A Grant Village 90.04 41 P P 20 38 42.6 +2.6
baz=238,SNR=22
SDCO Great Sand Dun 90.07 49 P P 20 38 41.0 +0.7
SDCO Great Sand Dun 90.07 49 P P 20 38 41.5 +1.2
baz=242
SDCO Great Sand Dun 90.07 49 P P 20 38 41.3 +1.0
baz=242,SNR=21
YNR Norris Junctio 90.14 41 P P 20 38 42.6 +2.2
YNR IAmb IAmb 20 38 44.9
comp=Z,48nm,1.2s
K27K Chicken 90.21 15 P P 20 38 40.9 +1.0
K27K IAmb IAmb 20 38 42.1
comp=Z,67nm,0.8s
K27K Chicken 90.21 15 P P 20 38 40.8 +1.0
baz=212
G21K Allakaket 90.21 9 P P 20 38 39.9 0.0
baz=202
H23K Yukon River 90.23 11 P P 20 38 39.6 -0.4
H23K Yukon River 90.23 11 P P 20 38 39.9 -0.1
baz=206
LKWY Lake 90.24 41 P P 20 38 43.1 +2.3
LKWY IAmb IAmb 20 38 44.8
comp=Z,64nm,0.8s
LKWY Lake 90.24 41 P P 20 38 43.2 +2.3
LKWY pmax pmax
comp=Z,64nm,0.9s
YUF Upper Falls 90.25 41 P P 20 38 43.0 +2.2
J26L Joseph Creek 90.27 14 P P 20 38 40.7 +0.5
J26L Joseph Creek 90.27 14 P P 20 38 41.2 +0.9
baz=211
HIA Hailar 90.27 324 P P 20 38 40.5 -0.1
HIA Hailar 90.27 324 P P 20 38 40.5 -0.1
HIA pmax pmax
comp=Z,10.0nm,0.8s
MSTX Muleshoe 90.31 53 P P 20 38 42.7 +1.5
baz=243
MSTX Muleshoe 90.31 53 P P 20 38 42.3 +1.1
baz=243
N32M Quiet Lake 90.36 20 P P 20 38 42.2 +1.5
baz=220
M30M Minto, Yukon 90.38 18 P P 20 38 41.1 +0.3
M30M Minto, Yukon 90.38 18 P P 20 38 41.7 +1.0
baz=217
L29M L29M 90.44 17 P P 20 38 42.1 +1.1
baz=216
YMP Mirror Lake Pl 90.48 41 P P 20 38 43.8 +1.8
833A Chaparral WMA, 90.48 60 P P 20 38 42.7 +0.6
833A IAmb IAmb 20 38 44.4
comp=Z,50nm,0.9s
833A Chaparral WMA, 90.48 60 P P 20 38 43.7 +1.7
baz=245
833A Chaparral WMA, 90.48 60 P P 20 38 43.3 +1.2
baz=245
KMI Kunming 90.49 297 ⇓P P 20 38 43.8 +1.4
KMI pmax pmax
comp=Z,18nm,0.8s
HRY Holter Researc 90.52 39 P P 20 38 43.6 +1.7
H24K Noodor Dome 90.55 12 P P 20 38 40.3 -1.1
H24K Noodor Dome 90.55 12 P P 20 38 40.5 -0.9
baz=207
T25A Trinidad 90.56 50 P P 20 38 43.7 +1.2
T25A Trinidad 90.56 50 P P 20 38 43.3 +0.9
baz=242,SNR=14
WALA Waterton Lakes 90.62 36 P P 20 38 43.0 +0.6
WALA IAmb IAmb 20 38 44.6
comp=Z,117nm,1.6s
BILL Bilibino 90.69 354 P P 20 38 41.9 -0.1
BILL Bilibino 90.69 354 *e*P P 20 38 41.9 -0.1
BILL *e* 20 42 20.6
BILL pmax pmax
comp=Z,19nm,1.0s
PRP Porcupine Dome 90.73 13 P P 20 38 41.7 -0.7
PRP IAmb IAmb 20 38 44.7
comp=Z,50nm,1.0s
PRP Porcupine Dome 90.73 13 P P 20 38 42.3 -0.1
baz=209,SNR=46
M31M Drury Creek, Y 90.77 19 P P 20 38 42.5 -0.1
M31M Drury Creek, Y 90.77 19 P P 20 38 43.2 +0.6
baz=219,SNR=28
RWWY Rawlins 90.81 45 P P 20 38 43.0 -0.6
RWWY IAmb IAmb 20 38 44.6
comp=Z,93nm,1.3s
HHC Hu-ho-hao-te 90.81 314 *e*P P 20 38 44.5 +1.1
HHC pmax pmax
comp=Z,40nm,0.8s
HHC pmax pmax
comp=Z,320nm,5.0s
F21K Alatna River 90.87 9 P P 20 38 42.7 -0.2
baz=202
Q24A Divide 90.89 48 P P 20 38 44.5 +0.4
Q24A Divide 90.89 48 P P 20 38 45.3 +1.2
baz=242,SNR=15
DAWY Dawson 90.89 16 P P 20 38 43.6 +0.5
DAWY Dawson 90.89 16 P P 20 38 44.0 +0.8
baz=215,SNR=78
G22K Bettles 90.89 10 P P 20 38 43.5 +0.5
baz=204,SNR=20
G23K Bananza Creek 90.95 11 P P 20 38 43.5 +0.2
baz=205,SNR=19
WTLY Watson Lake, Y 91.02 22 P P 20 38 44.8 +1.0
WTLY IAmb IAmb 20 38 46.2
comp=Z,58nm,1.0s
WTLY Watson Lake, Y 91.02 22 P P 20 38 45.1 +1.3
baz=224,SNR=22
I26K Coal Creek Min 91.05 14 P P 20 38 44.2 +0.5
I26K IAmb IAmb 20 38 45.5
comp=Z,53nm,0.8s
I26K Coal Creek Min 91.05 14 P P 20 38 44.3 +0.6
baz=212
EGAK Eagle 91.05 15 P P 20 38 44.2 +0.5
EGAK Eagle 91.05 15 P P 20 38 44.5 +0.7
baz=213,SNR=70
JCT Junction City 91.07 58 P P 20 38 45.1 +0.3

baz=245
CM31 Chiang Mai Arr 91.08 289 P **P** **20 38 46.2 +1.2**
CMAR Chiang Mai Arr 91.08 289 P **P** **20 38 46.5 +1.4**
comp=Z,15nm,1.0s,baz=122,slow=3.0,SNR=67
CMAR PP **PP** **20 42 27.9 +1.5**
comp=Z,0.9nm,0.8s,baz=129,slow=7.1,SNR=3.3
CMAR PKKPbc **PKKPbc** **20 56 08.4 +1.6**
comp=Z,1.1nm,0.7s,baz=274,slow=4.4,SNR=8.0
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 91.08 289 P **P** **20 38 45.9 +0.9**
FARO Faro, Yukon 91.11 19 P **P** **20 38 44.8 +0.6**
FARO Faro, Yukon 91.11 19 P **P** **20 38 44.9 +0.7**
baz=220,SNR=21
K29M Barlow Dome 91.19 17 P **P** **20 38 45.6 +1.0**
baz=217
RLMT Red Lodge 91.21 41 P **P** **20 38 46.7 +1.4**
RLMT IAmb IAmb 20 38 48.1
comp=Z,48nm,0.9s
RLMT Red Lodge 91.21 41 P **P** **20 38 46.9 +1.6**
baz=239,SNR=36
CHTO Chiang Mai 91.22 290 P **P** **20 38 46.5 +0.9**
CHTO Chiang Mai 91.22 290 P **P** **20 38 46.5 +0.9**
N23A Red Feather La 91.26 46 P **P** **20 38 47.2 +1.5**
N23A Red Feather La 91.26 46 P **P** **20 38 46.7 +1.0**
baz=242,SNR=11
GCMT Greycliff 91.31 40 P **P** **20 38 47.6 +1.9**
F22K John River 91.33 9 P **P** **20 38 45.4 +0.3**
baz=203
COLD Coldfoot 91.39 10 P **P** **20 38 45.9 +0.6**
COLD IAmb IAmb 20 38 47.2
comp=Z,34nm,0.9s
COLD Coldfoot 91.39 10 P **P** **20 38 46.1 +0.9**
baz=205,SNR=30
G24K Hadweenzic Riv 91.39 11 P **P** **20 38 45.7 +0.3**
baz=208
MAYO Mayo, Yukon 91.44 17 P **P** **20 38 46.8 +1.3**
MAYO Mayo, Yukon 91.44 17 P **P** **20 38 46.9 +1.3**
baz=218,SNR=10.0
LIRD Liard River Hi 91.49 24 P **P** **20 38 47.1 +1.1**
baz=226,SNR=24
J29M Klondike Camp 91.51 16 P **P** **20 38 47.3 +1.3**
J29M Klondike Camp 91.51 16 P **P** **20 38 47.1 +1.2**
baz=216,SNR=6.0
AMTX Amarillo 91.53 53 P **P** **20 38 47.8 +0.9**
baz=244
WAPA Wapiti River 91.55 29 P **P** **20 38 47.1 +0.7**
WAPA IAmb IAmb 20 38 48.5
comp=Z,68nm,0.9s
I27K Kandik River 91.64 14 P **P** **20 38 46.8 +0.3**
baz=213
FYU Fort Yukon 91.70 12 P **P** **20 38 47.2 +0.5**
G25K Bearman Lake 91.71 12 P **P** **20 38 48.2 +1.5**
baz=209
K22A Casper 91.72 44 P **P** **20 38 48.2 +0.6**
K22A IAmb IAmb 20 38 49.8
comp=Z,40nm,0.9s
K22A Casper 91.72 44 P **P** **20 38 48.6 +1.0**
baz=241
K22A Casper 91.72 44 P **P** **20 38 48.6 +1.0**
baz=241,SNR=15
BTO Baotou 91.72 313 *eP* **P** **20 38 48.1 +0.5**
BRLDA Berland Lookou 91.74 31 P **P** **20 38 48.6 +1.2**
BRLDA IAmb IAmb 20 38 50.1
comp=Z,82nm,0.9s
PZH PanZhiHua 91.87 298 P **P** **20 38 49.3 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,50nm,3.5s
E22K Anaktuvuk Pass 91.96 9 P **P** **20 38 48.5 +0.5**
baz=204
735A Kenedy 91.97 60 P **P** **20 38 50.2 +1.4**
MMPY Sheldon Lake, 92.04 20 P **P** **20 38 49.3 +0.9**
baz=222,SNR=26
CD2 Chengdu 92.04 302 P **P** **20 38 49.8 +0.6**
CD2 pP pP 20 40 02.4 +3.1
CD2 PP **PP** **20 42 34.1 +0.3**
CD2 SKS **SKSac** **20 48 52.4 -1.3**
CD2 S **S** **20 49 24.9 -0.5**
CD2 SS **SS** **20 55 43.8 +0.9**
F24K Squaw Lake 92.05 11 P **P** **20 38 48.9 +0.5**
baz=207
ABTX Abilene, Hawle 92.09 56 P **P** **20 38 50.4 +1.0**
baz=245
ABTX Abilene, Hawle 92.09 56 P **P** **20 38 50.6 +1.2**
baz=245
H27K Steamboat Moun 92.19 14 P **P** **20 38 49.9 +0.8**
baz=213
TGTN Hyland Airport 92.21 21 P **P** **20 38 50.7 +1.4**
baz=225,SNR=34
I29M Ogilvie Camp, 92.22 15 P **P** **20 38 48.4 -0.8**
I29M IAmb IAmb 20 38 50.6
comp=Z,45nm,1.1s
I29M Ogilvie Camp, 92.22 15 P **P** **20 38 49.3 +0.1**
baz=216,SNR=28
E23K Chandalar 92.24 10 P **P** **20 38 49.6 +0.3**
baz=206,SNR=12
G26K Porcupine Rive 92.33 13 P **P** **20 38 50.4 +0.8**
baz=211
EGMT Eagleton 92.41 38 P **P** **20 38 51.1 +0.5**
EGMT Eagleton 92.41 38 P **P** **20 38 51.6 +1.0**
baz=239,SNR=5.9
E24K Your Creek 92.44 11 P **P** **20 38 51.0 +0.8**
baz=207
F25K Christian Rive 92.52 12 P **P** **20 38 51.2 +0.6**
baz=209
BMAR Burnt Mountain 92.58 12 P **P** **20 38 51.0 +0.1**
G27K Doyon Strip 92.65 13 P **P** **20 38 52.6 +1.4**
baz=213
KSCO Kaye Shedlock' 92.66 49 P **P** **20 38 53.2 +1.2**
KSCO Kaye Shedlock' 92.66 49 P **P** **20 38 53.2 +1.2**
baz=244
KSCO Kaye Shedlock' 92.66 49 P **P** **20 38 53.3 +1.2**
baz=244,SNR=5.8
KOTAN Kotaneelee Air 92.74 24 P **P** **20 38 52.6 +0.9**
baz=228,SNR=12
TOLK Toolik Lake Re 92.77 10 P **P** **20 38 52.1 +0.4**
TOLK Toolik Lake Re 92.77 10 P **P** **20 38 52.0 +0.3**
baz=206,SNR=6.8
D23K Nanushuk River 92.89 9 P **P** **20 38 52.8 +0.5**
baz=205,SNR=17
F26K Sheenjek River 92.90 12 P **P** **20 38 53.2 +0.9**
baz=211
435B Jarrell 92.93 58 P **P** **20 38 54.5 +1.2**
435B IAmb IAmb 20 38 55.5
comp=Z,60nm,0.8s
435B Jarrell 92.93 58 P **P** **20 38 54.7 +1.4**
baz=246
435B Jarrell 92.93 58 P **P** **20 38 54.2 +1.0**
baz=246
E25K Arctic Village 93.00 11 P **P** **20 38 53.3 +0.6**
baz=210
D24K Happy Valley 93.35 10 P **P** **20 38 55.1 +0.8**
baz=206
EPYK Eagle Plains 93.43 15 P **P** **20 38 55.6 +0.8**
EPYK IAmb IAmb 20 38 56.2
comp=Z,42nm,0.9s
EPYK Eagle Plains 93.43 15 P **P** **20 38 55.1 +0.3**
baz=217,SNR=22
WHTX Lake Whitney, 93.52 57 P **P** **20 38 56.5 +0.6**
WHTX Lake Whitney, 93.52 57 P **P** **20 38 57.2 +1.3**
baz=246
WHTX Lake Whitney, 93.52 57 P **P** **20 38 56.6 +0.6**
baz=246
WMOK Wichita Mounta 93.62 54 P **P** **20 38 56.6 +0.2**
baz=246
C23K Itkillik River 93.70 9 P **P** **20 38 56.2 +0.3**
baz=205
YAK Yakutsk 93.78 338 P **P** **20 38 55.8 -0.6**
YAK IAmb IAmb 20 38 56.4
comp=Z,19nm,0.7s
YAK Yakutsk 93.78 338 *eP* **P** **20 38 55.7 -0.6**
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.4s
E27K Coleen River 93.82 13 P **P** **20 38 57.5 +1.0**
baz=213
LAO LASA Array 93.83 41 P **P** **20 38 58.6 +1.5**
LAO LASA Array 93.83 41 P **P** **20 38 59.3 +2.2**
baz=242
LAO LASA Array 93.83 41 P **P** **20 38 58.6 +1.5**
baz=242,SNR=14
C24K Franklin Bluff 93.88 10 P **P** **20 38 57.4 +0.7**
baz=207,SNR=12

D25K Kavik River 93.91 11 P **P** **20 38 57.0 +0.1**
baz=209
OGNE Ogallala 93.92 47 P **P** **20 38 58.1 +0.4**
baz=244
TNCH TengChong 93.97 295 P **P** **20 38 59.0 +0.6**
TNCH pP pP 20 40 10.3 +1.7
TNCH pmax pmax
comp=E,120nm,5.0s
HKT Hockley 93.99 59 P **P** **20 38 59.7 +1.6**
HKT IAmb IAmb 20 39 01.7
comp=Z,65nm,1.8s
HKT Hockley 93.99 59 P **P** **20 38 59.9 +1.8**
baz=247
HKT Hockley 93.99 59 *i* P **P** **20 38 59.1 +1.0**
HKT pmax pmax
comp=Z,36nm,1.7s
RSSD Black Hills 94.01 44 P **P** **20 38 58.7 +0.5**
RSSD Black Hills 94.01 44 P **P** **20 38 58.8 +0.5**
baz=243
RSSD Black Hills 94.01 44 P **P** **20 38 58.7 +0.5**
baz=243
RSSD Black Hills 94.01 44 P **P** **20 38 58.7 +0.5**
RSSD pmax pmax
comp=Z,49nm,0.9s
G30M tAoh Zraii Nji 94.03 15 P **P** **20 38 57.2 -0.3**
baz=218
LZH Lanzhou 94.11 307 *eP* **P** **20 38 59.3 +0.5**
LZH pP pP 20 40 12.9 +3.9
LZH sP sP 20 40 36.5 -3.0
LZH pmax pmax
comp=Z,34nm,1.4s
U32A Winter Ranch, 94.14 52 P **P** **20 39 00.2 +1.4**
baz=246
Z35A Perchaven, San 94.21 56 **P** **20 38 59.5 +0.4**
Z35A IAmb IAmb 20 40 42.5
comp=Z,38nm,0.9s
Z35A Perchaven, San 94.21 56 P **P** **20 39 00.4 +1.3**
baz=246
X34A Smith Ranch, M 94.28 54 P **P** **20 38 58.8 -0.7**
X34A IAmb IAmb 20 39 02.1
comp=Z,41nm,0.9s
A21K Barrow 94.33 7 P **P** **20 38 58.2 -0.5**
baz=199
HILA High Level 94.56 27 P **P** **20 39 00.9 +0.9**
CBKS Cedar Bluff 94.61 50 P **P** **20 39 01.7 +0.9**
baz=245
C27K Jago River 94.64 11 P **P** **20 39 00.7 +0.5**
baz=211
C26K Camden Bay 94.68 11 P **P** **20 39 01.6 +1.3**
baz=210
FNO Franklin 94.87 54 **P** **20 39 02.4 +0.3**
FNO IAmb IAmb 20 39 04.4
comp=Z,65nm,1.1s
F31M Tsiigehtchic 95.00 16 P **P** **20 39 02.0 +0.2**
baz=220,SNR=13
WRGLY Wrigley 95.01 22 P **P** **20 39 02.8 +0.8**
baz=229
R32A Long Quarter, 95.18 51 P **P** **20 39 04.6 +1.2**
baz=246
OK033 Mehan 95.53 53 **P** **20 39 05.8 +0.8**
OK033 IAmb IAmb 20 39 07.6
comp=Z,38nm,1.2s
OK030 Cody Creek RV 95.60 54 **P** **20 39 05.4 +0.1**
OK030 IAmb IAmb 20 41 08.2
comp=Z,74nm,1.6s
OK052 Battle Ridge R 95.61 54 **P** **20 39 04.4 -1.0**
OK052 IAmb IAmb 20 39 07.9
comp=Z,59nm,1.4s
OK053 SW of W Deep R 95.63 54 **P** **20 39 04.7 -0.8**
OK053 IAmb IAmb 20 42 50.4
comp=Z,20nm,0.6s
OK034 N. Norfolk Rd. 95.68 54 **P** **20 39 05.7 -0.1**
INK Inuvik 95.72 15 P **P** **20 39 05.0 -0.1**
comp=Z,19nm,0.9s,baz=194,slow=6.8,SNR=33
comp=Z,19nm,0.9s
INK Inuvik 95.72 15 P **P** **20 39 04.9 -0.1**
INK IAmb IAmb 20 39 06.1
comp=Z,29nm,1.1s
INK Inuvik 95.72 15 P **P** **20 39 05.1 0.0**
baz=220
INK Inuvik 95.72 15 P **P** **20 39 05.0 -0.1**
DEOK Depew 95.78 54 **P** **20 39 06.5 +0.3**
DEOK IAmb IAmb 20 39 08.8
comp=Z,49nm,1.4s
DGMT Dagmar 95.88 40 P **P** **20 39 07.1 +0.7**
DGMT Dagmar 95.88 40 P **P** **20 39 07.6 +1.3**
baz=243
DGMT Dagmar 95.88 40 P **P** **20 39 07.3 +1.0**
baz=243,SNR=8.1
T35A Sooner Cattle 96.19 53 P **P** **20 39 07.8 -0.2**
T35A IAmb IAmb 20 39 10.7
comp=Z,20nm,0.9s
TUL1 Leonard 96.33 54 P **P** **20 39 09.4 +0.7**
baz=247
BGNE Belgrade 96.78 48 P **P** **20 39 11.5 +0.9**
baz=247
K31A O'Neill 96.85 47 P **P** **20 39 12.1 +1.2**
ULN Ulaanbaatar 96.88 319 P **P** **20 39 11.1 0.0**
ULN Ulaanbaatar 96.88 319 *ceP* **P** **20 39 10.9 -0.2**
ULN pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 97.27 319 P Pdif 20 39 13.6 +0.7
comp=Z,0.9nm,0.6s,baz=162,slow=0.9,SNR=5.2
SONM PP **PP** **20 43 09.9 -4.1**
comp=Z,1.0nm,0.6s,baz=95,slow=7.2,SNR=2.8
comp=Z,0.9nm,0.6s
YKA Yellowknife Ar 97.79 25 P Pdif 20 39 15.0 +0.4
comp=Z,6.6nm,0.7s,baz=243,slow=4.8,SNR=9.1
comp=Z,6.6nm,0.7s
YKA Yellowknife Ar 97.79 25 P Pdif 20 39 15.0 +0.4
GTA Gaotai 98.35 309 *eP* Pdif 20 39 17.8 0.0
GTA pP pwP 20 40 32.5 +2.1
GTA pmax pmax
comp=Z,2.0nm,0.9s
MDND Maddock 98.39 42 P **P** **20 39 18.3 +0.6**
baz=246
ECSD EROS Data Cent 98.72 46 Pdif **P** **20 39 19.9 +0.7**
ECSD IAmb IAmb 20 39 22.1
comp=Z,18nm,1.0s
ECSD EROS Data Cent 98.72 46 P **P** **20 39 19.9 +0.7**
baz=248
C36M Paulatuk 98.87 17 P Pdif 20 39 18.9 -0.3
baz=229
A36M Sachs Harbour 100.33 14 P **Pdif** **20 39 26.1 +0.4**
baz=228
CCM Cathedral Cave 100.50 53 P **Pdif** **20 39 28.4 +1.2**
baz=250
AGMN Agassiz Nation 100.89 42 P **Pdif** **20 39 30.5 +1.8**
baz=249
GOMU GeErMu 100.94 305 P **Pdif** **20 39 33.8 +4.1**
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU pmax pmax
comp=Z,65nm,4.6s
LPAZ La Paz 101.02 113 P **Pdif** **20 39 34.0 +3.1**
comp=Z,1.5nm,0.7s,baz=224,slow=1.9,SNR=4.7
ULM Lac du Bonnet 101.57 40 PP **PP** **20 43 44.1 -2.1**
comp=Z,6.8nm,1.0s,baz=250,slow=9.3,SNR=4.1
EYMN Ely 103.53 44 P **Pdif** **20 39 41.8 +1.3**
baz=252
SIV San Ignacio 107.13 116 PP **PP** **20 44 26.7 -0.8**
comp=Z,0.3nm,0.3s,baz=204,slow=9.5,SNR=3.5
ZALV Zalesovo Beam 112.03 321 PKiKP **PKiKP** **20 44 11.9 -1.2**
comp=Z,3.9nm,0.6s,baz=151,slow=1.2,SNR=21
ZALV PP **PP** **20 44 58.6 -3.7**
comp=Z,1.2nm,0.5s,baz=102,slow=6.2,SNR=3.8
MKAR Makanchi Array 112.64 313 PKiKP **PKiKP** **20 44 13.7 -0.8**
comp=Z,3.0nm,0.6s,baz=66,slow=1.1,SNR=3.2
MKAR PKKPbc **PKKPbc** **20 55 05.1 -0.2**
comp=Z,0.8nm,0.7s,baz=289,slow=4.0,SNR=6.4
KURK Kurchatov 115.49 317 *i* PKiKP **PKPdf** **20 44 18.6 -1.2**
KURBB Kurchatov Arra 115.54 317 PKP **PKPdf** **20 44 19.2 -0.8**
comp=Z,3.8nm,0.7s,baz=97,slow=1.9,SNR=6.0
KURBB PP **PP** **20 45 24.0 -3.1**
comp=Z,1.7nm,0.7s,baz=92,slow=6.6,SNR=5.2
TULEG Thule 115.70 14 PKPdf **PKPdf** **20 44 18.5 -1.1**
HUMP Col San Antoni 116.19 80 PKPdf **PKPdf** **20 44 21.3 -0.9**
NRN Naryn 116.41 306 PKPdf **PKPdf** **20 44 21.9 -0.4**
NRN Naryn 116.41 306 PKiKP **PKPdf** **20 44 21.9 -0.4**
DRK Karamyk 119.38 304 **PKPdf** **20 44 25.4 -2.7**
KK31 Karatay Array 120.60 308 PKPdf **PKPdf** **20 44 29.1 -0.9**
KK31 Karatay Array 120.60 308 PKiKP **PKPdf** **20 44 29.1 -0.9**
KKAR Karatay Array 120.60 308 PKPdf **PKPdf** **20 44 28.6 -1.4**
KKAR Karatay Array 120.60 308 **PKPdf** **20 44 29.3 -0.7**
KKAR Karatay Array 120.60 308 PKiKP **PKPdf** **20 44 28.6 -1.4**
BVAR Borovoye Array 120.61 319 PKP **PKPdf** **20 44 29.1 -0.6**

comp=Z,8.9nm,0.5s,baz=101,slow=1.3,SNR=54
BRVK Borovoye 120.67 319 PKPdf **PKPdf** **20 44 28.7 -1.1**
BRVK Borovoye 120.67 319 PKiKP **PKPdf** **20 44 28.7 -1.1**
KBL Kabul 121.06 298 PKPdf **PKPdf** **20 44 31.3 -0.1**
KBL Kabul 121.06 298 PKiKP **PKPdf** **20 44 31.3 -0.1**
CHGR Chuyangaron 121.36 303 **PKPdf** **20 44 31.3 -0.4**
CHGR Chuyangaron 121.36 303 PKiKP **PKPdf** **20 44 31.3 -0.4**
KBS Kingsbay 122.97 358 **PKiKP** **20 44 34.0 +0.2**
KBS Kingsbay 122.97 358 PKiKP **PKiKP** **20 44 34.0 +0.2**
KBS Kingsbay 122.97 358 *e*PKPdf **PKiKP** **20 44 34.2 +0.4**
KBS IAmb IAmb 20 44 34.6
comp=Z,48nm,0.9s
SPA0 Spitsbergen Ar 123.51 357 *e*PKPdf **PKiKP** **20 44 35.1 +0.2**
SPA0 IAmb IAmb 20 44 35.3
comp=Z,133nm,0.9s
SPITS Spitsbergen Ar 123.51 357 PKiKP **PKPdf** **20 44 34.7 +0.1**
SPB2 Spitsbergen Ar 123.51 357 **PKPdf** **20 44 34.6 0.0**
SFJD Kangerlussuaq 124.27 22 *e*P **PKiKP** **20 44 36.4 -0.1**
DAG Danmarks Havn 124.30 6 *i* P **PKPdf** **20 44 35.0 -1.1**
SUMG Summit 124.62 14 *i* P **PKPdf** **20 44 36.0 -1.3**
BOSA Boshof 124.98 205 PKP **PKiKP** **20 44 40.2 +0.7**
comp=Z,2.0nm,0.5s,baz=139,slow=1.5,SNR=9.6
BOSA PKKPbc **PKKPbc** **20 54 20.1 -0.5**
comp=Z,4.8nm,0.9s,baz=352,slow=4.6,SNR=6.6
SVE Sverdlovsk 125.58 325 *e*PKiKP **PKPdf** **20 44 38.9 -0.1**
SVE pmax pmax
comp=Z,26nm,0.9s
HRA Herat 126.64 297 **PKPdf** **20 44 41.8 -0.3**
ARU Arti 126.79 325 PKP **PKPdf** **20 44 41.6 +0.2**
comp=Z,18nm,0.5s,baz=66,slow=1.3,SNR=42
ARU Arti 126.79 325 PKPdf **PKPdf** **20 44 40.8 -0.5**
ARU Arti 126.79 325 *i* PKiKP **PKPdf** **20 44 41.4 0.0**
ARU 20 46 42.4
ARU 20 51 23.0
ABKAR Akbulak array 127.57 316 PKPdf **PKPdf** **20 44 42.5 -0.6**
ABKAR Akbulak array 127.57 316 PKPdf **PKPdf** **20 44 42.8 -0.3**
NRS Narsarsuaq 128.97 28 PKPpre 20 44 33.1
NRS Narsarsuaq 128.97 28 PKHKP PKPpre 20 44 33.1
SCO Scoresbysund 129.52 10 *eP* **PKPdf** **20 44 46.4 +0.2**
HAMF Hammerfest 129.89 351 *e*PKPdf **PKPdf** **20 44 46.6 -0.2**
GEYT Alibeck 130.03 302 PKP **PKiKP** **20 44 48.6 -0.4**
comp=Z,5.5nm,0.8s,baz=215,slow=1.8,SNR=13
GEYT PP **PP** **20 47 03.3 -1.5**
comp=Z,4.7nm,1.1s,baz=119,slow=1.9,SNR=6.8
GEYT SKPbc **SKPab** **20 47 43.0 +0.2**
comp=Z,3.7nm,0.8s,baz=101,slow=1.5,SNR=6.9
GEYT Alibeck 130.03 302 PKPdf **PKPdf** **20 44 48.1 -0.1**
GYA0B ALIBECK ARRAY 130.03 302 PKPdf **PKPdf** **20 44 47.7 -0.5**
KIRV Kirov 130.59 330 PKP **PKPdf** **20 44 48.7 +0.2**
comp=Z,24nm,0.6s,baz=305,slow=0.5,SNR=12
KIRV SKPbc **SKPab** **20 47 44.3 -0.1**
comp=Z,26nm,0.7s,baz=77,slow=1.2,SNR=12
KIRV Kirov 130.59 330 *i* PKiKP **PKiKP** **20 44 49.0 -0.4**
ARA0 ARCESS Array S 130.59 350 *e*PKPdf **PKPdf** **20 44 48.5 +0.2**
ARCES ARCESS Array B 130.59 350 PKP **PKPdf** **20 44 48.5 +0.2**
comp=Z,34nm,0.7s,baz=21,slow=1.5,SNR=79
ARCES SKPbc **SKPab** **20 47 44.8 +0.7**
comp=Z,18nm,0.9s,baz=3.8,slow=3.6,SNR=8.8
ARCES ARCESS Array B 130.59 350 PKPdf **PKPdf** **20 44 48.0 -0.3**
APA Apatity 130.62 345 *ij* PKiKP **PKPdf** **20 44 46.9 -1.5**
APA *i* 20 47 07.0
PRGR Permogore 130.70 334 *e*PKiKP **PKPdf** **20 44 46.9 -1.7**
PRGR *e* 20 47 11.7
PRGR pmax pmax
comp=Z,16nm,0.8s
KTK1 Kautokeino 131.43 350 *e*PKPdf **PKPdf** **20 44 49.5 -0.4**
TRO Tromso 131.46 352 *e*PKPdf **PKPdf** **20 44 49.6 -0.3**
STEI Steigen 133.51 353 *e*PKPdf **PKiKP** **20 44 54.5 -0.6**
KLMR Klimovskoe 133.54 336 *e*PKPdf **PKPdf** **20 44 53.7 -0.3**
KLMR AMP 20 44 55.8
comp=Z,33nm,1.4s
KLMR *e*SKPbc **SKPbc** **20 47 52.5 -1.9**
KLMR Klimovskoe 133.54 336 *e*PKiKP **PKPdf** **20 44 53.6 -0.4**
KLMR pmax pmax
comp=Z,33nm,1.4s
FAUS Fauske 134.03 353 *e*PKPdf **PKPdf** **20 44 54.5 -0.3**
BELG Belogornoye 134.17 323 PKP **PKPdf** **20 44 55.1 -0.3**
comp=Z,46nm,0.8s,baz=348,slow=1.5,SNR=13
BELG SKPbc **SKPbc** **20 47 56.4 -0.2**
comp=Z,13nm,0.8s,baz=0.0,slow=4.0,SNR=2.9
BELG Belogornoye 134.17 323 *i* PKiKP **PKPdf** **20 44 54.6 -0.8**
KONS Konsvik 135.11 354 *e*PKPdf **PKiKP** **20 44 58.0 -0.4**
STOK Stokkvaagen 135.28 354 *e*PKPdf **PKiKP** **20 44 58.4 -0.3**
MOR8 Moi Rana 135.29 353 *e*PKPdf **PKPdf** **20 44 57.8 +0.5**
FIA1 FINESS Array S 137.45 343 PKPpre 20 44 49.3
FINES FINESS Array B 137.45 343 PKhKP PKPpre 20 44 52.5
comp=Z,2.5nm,0.5s,baz=20,slow=4.4,SNR=12
FINES PKP **PKPdf** **20 45 01.6 +0.3**
comp=Z,13nm,0.6s,baz=72,slow=3.4,SNR=19
FINES SKPbc **SKPbc** **20 48 07.7 +1.2**
comp=Z,6.3nm,0.8s,baz=20,slow=6.1,SNR=6.3
FINES FINESS Array B 137.45 343 PKPdf **PKPdf** **20 45 00.2 -1.1**
VRH Novokhopyorsk 137.98 324 *e*PKiKP **PKPdf** **20 45 00.0 -2.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 138.39 331 SKPbc **SKPbc** **20 48 09.8 +0.5**
comp=Z,1.8nm,0.4s,baz=324,slow=6.1,SNR=3.2
OBN Obninsk 138.39 331 **PKPdf** **20 45 02.6 -0.5**
OBN Obninsk 138.39 331 *e*PKiKP **PKPdf** **20 45 03.7 +0.5**
OBN *e* 20 47 53.0
OBN *e*PPP PPP 20 50 57.9
OBN pmax pmax
comp=Z,17nm,1.2s
LPSR Galich'ya Gora 138.74 327 *e*PKiKP **PKPdf** **20 45 03.2 -0.7**
LPSR pmax pmax
comp=Z,30nm,1.6s
RAF Rauma 138.88 346 *e*P **PKPdf** **20 45 04.7 +0.8**
MEF Metsahovi 138.93 344 *e*P **PKiKP** **20 45 06.4 +0.1**
KMBO Kilima Mbogo 138.96 240 PKP **PKPdf** **20 45 06.2 +0.3**
comp=Z,3.5nm,0.7s,baz=63,slow=3.2,SNR=10
KMBO SKPbc **SKPbc** **20 48 14.2 +1.5**
comp=Z,14nm,1.1s,baz=76,slow=2.0,SNR=18
KMBO Kilima Mbogo 138.96 240 PKPdf **PKPdf** **20 45 04.0 -1.9**
VORR Voronezh 139.10 325 *e*PKiKP **PKPdf** **20 45 05.1 +0.5**
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 139.36 325 *e*PKiKP **PKPdf** **20 45 04.4 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
AKN Aaknes 139.85 357 *e*PKPdf **PKPdf** **20 45 05.9 +0.2**
DOMB Dombas 139.85 355 *e* PKPdf 20 44 56.8 -8.9
ZEI Tsey 139.94 311 *i* PKiKP **PKPdf** **20 45 07.8 +1.1**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 140.33 313 PKP **PKPdf** **20 45 06.0 -1.0**
comp=Z,2.6nm,0.8s,baz=63,slow=4.2,SNR=5.0
KIV Kislovodsk 140.40 313 *e*PKiKP **PKiKP** **20 45 09.1 -0.9**
KIV pmax pmax
comp=Z,7.0nm,1.1s
NC303 NORSAR Array S 140.44 353 PKPpre 20 44 57.1
NB201 NORSAR Array S 140.62 353 PKPpre 20 44 58.2
NB2 NORSAR Subarra 140.64 353 PKP **PKPdf** **20 45 00.1 -7.1**
comp=Z,8.7nm,0.8s,baz=16,slow=3.2
NB2 SKPa 20 48 17.7
comp=Z,3.9nm,0.8s,baz=12,slow=2.9
NOA NORSAR Array B 140.64 353 PKhKP PKPpre 20 45 00.1
comp=Z,4.7nm,0.6s,baz=12,slow=2.4,SNR=20
NOA PKP **PKPdf** **20 45 07.9 +0.7**
comp=Z,14nm,0.8s,baz=13,slow=4.1,SNR=14
NOA SKPbc **SKPbc** **20 48 16.2 +0.9**
comp=Z,6.1nm,0.8s,baz=15,slow=4.4,SNR=12
NAO01 NORSAR Array S 140.87 353 PKPpre 20 45 00.6
NC602 NORSAR Array S 140.90 353 PKPpre 20 44 59.2
NC602 NORSAR Array S 140.90 353 *e* **PKPdf** **20 45 00.5 -7.1**
NC602 *e*PKPdf **PKiKP** **20 45 08.9 -1.5**
NORES NORESS Array B 140.90 353 PKHKP PKPpre 20 45 03.4
SUE Sulen 141.07 358 *e* **PKPdf** **20 45 02.3 -5.5**
SKAR Skarslia 141.26 355 *e*PKPdf **PKiKP** **20 45 10.7 -0.5**
ODD1 Odda 142.13 357 *e*PKPdf **PKPdf** **20 45 05.7 -4.2**
KONO Kongsberg 142.17 354 PKPpre 20 45 05.3
KONO Kongsberg 142.17 354 PKHKP PKPpre 20 45 05.3
KONO Kongsberg 142.17 354 *e* **PKPdf** **20 45 05.5 -4.4**
ISAL Salakas 142.25 338 *eP* **PKPdf** **20 45 08.2 -1.9**
IIGN Ignalina 142.39 338 *eP* **PKPdf** **20 45 07.6 -2.8**
MNK Minsk 142.44 336 *i* PKP **PKPdf** **20 45 07.7 -2.9**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKPdf** **20 45 07.7 -2.9**
comp=N,30nm,1.1s
MNK *i* PKP **PKPdf** **20 45 07.7 -2.9**
comp=Z,39nm,0.8s,baz=40
MNK *i* pPKP **pPKPdf** **20 46 18.5 -5.5**
MNK *i* PP **PP** **20 48 13.8 -7.1**
MNK *i* PPP PPP 20 51 30.1
MNK *i* SKS **SKSdf** **20 51 48.1 -3.5**

MNK i SKKS **SKKSdf 21 01 06.0 -6.1**
MNK i SS **SS 21 06 31.8 +0.4**
MNK i SSS SSS 21 11 56.4
MNK Minsk 142.44 336 i PKIKP **PKPdf 20 45 07.7 -2.9**
MNK i 20 46 18.4
MNK i PPP PPP 20 51 30.1
MNK i 20 51 48.1
MNK i SS SS 21 06 31.8 +0.4
MNK i SSS SSS 21 11 56.3
MNK pmax pmax
comp=N,30nm,1.1s
MNK pmax pmax
comp=Z,39nm,0.8s
MNK pmax pmax
comp=E,2.0nm,1.0s
SOC Sochi 142.54 314 ePKIKP **PKPdf 20 45 09.7 -1.4**
SOC e 20 48 21.2
SOC ePPP PPP 20 51 43.3
SOC eSS SS 21 06 32.5 -1.4
NACGM Naroch 142.54 337 ePKP **PKPdf 20 45 06.7 -4.0**
comp=Z,46nm,0.9s,baz=38
VSVD Vaisvydziai 142.64 340 eP **PKPdf 20 45 07.9 -3.0**
PABE Paberze 143.02 340 PKPpre 20 45 08.0
LODK Lodwar 143.09 244 PKPpre 20 45 05.5
ANN Anapa 143.52 317 i PKIKP PKPab 20 45 10.2 +0.2
ANN pmax pmax
comp=Z,51nm,0.9s
MLA1 Latheron 143.61 5||eP PKPab 20 45 10.1 +0.2
HOMB Homborsund 143.63 355 ePKPdf PKPbc 20 45 11.0 +0.1
MARD Mardin 143.73 303 PKPdf PKPab 20 45 11.4 +0.1
KAC Achnashellach 144.21 7 eP PKPbc 20 45 12.5 -0.1
KPL Plockton 144.33 8||eP **PKPab 20 45 12.6 -0.1**
MCD Coleburn Disti 144.34 5||eP **PKPab 20 45 12.4 -0.4**
MDO Dochfour 144.37 6 eP **PKPab 20 45 12.8 -0.1**
MBAR Mbarara 144.37 234 **PKPdf 20 45 15.2 -0.3**
MBAR Mbarara 144.37 234 PKIKP **PKPdf 20 45 15.2 -0.3**
OVD Ostervraa, Den 144.40 353 i P **PKPab 20 45 11.3 -1.7**
AKASG Malin Array Be 144.65 330 PKP PKPbc 20 45 13.1 -1.1
comp=Z,63nm,0.6s,baz=43,slow=4.4,SNR=387
AKASG SKPbc **SKPbc 20 48 24.4 -0.9**
comp=Z,1.8nm,0.6s,baz=49,slow=2.8,SNR=4.5
AKASG Malin Array Be 144.65 330 PKPbc 20 45 12.9 -1.2
AKASG Malin Array Be 144.65 330 PKIKP PKPbc 20 45 12.9 -1.2
AKBB Malin Array Si 144.65 330 PKPbc 20 45 13.0 -1.1
AKBB Malin Array Si 144.65 330 PKIKP PKPbc 20 45 13.0 -1.1
GOET G??ttrup 144.78 354 i P **PKPdf 20 45 14.9 +0.4**
MUD Monsted U'grnd 145.36 353 i P **PKPab 20 45 17.3 +0.6**
EDU Dundee 145.38 5||eP **PKPbc 20 45 16.2 0.0**
INVG Invergeldie, C 145.40 6||eP **PKPbc 20 45 16.3 0.0**
LAWE Loch Awe, Argy 145.41 8 eP **PKPbc 20 45 16.2 0.0**
SIM Simferopol' 145.52 319 i PKP2 **PKPbc 20 45 17.3 +0.3**
SIM pmax pmax
comp=Z,179nm,0.7s
BSD Bornholm Skovb 145.77 347 eP **PKPdf 20 45 16.3 0.0**
PGBU Glenifferbraes 145.96 7 eP **PKPbc 20 45 17.6 -0.3**
EDI Edinburgh 145.99 6 eP **PKPbc 20 45 17.9 -0.1**
TOKA Tokat 146.01 310 **PKPdf 20 45 16.0 -1.3**
ESY Stoneypath 146.04 5 eP **PKPbc 20 45 18.1 0.0**
EBL Broad Law 146.15 6 eP **PKPbc 20 45 18.3 -0.1**
GAZ Gaziantep 146.51 304 **PKPbc 20 45 20.4 +0.1**
H07N1 FLORES T-PHASB 146.52 51 ePKP **PKPbc 20 45 20.6 +0.5**
H07S1 FLORES T-PHASB 146.57 51 ePKP **PKPbc 20 45 20.6 +0.3**
ESK Eskdalemuir 146.58 6 eP **PKPbc 20 45 19.2 -0.5**
ESK Eskdalemuir 146.58 6 PKPdf **PKPbc 20 45 18.9 -0.8**
ESK Eskdalemuir 146.58 6 PKIKP **PKPbc 20 45 18.9 -0.8**
NEWG New Galloway 146.67 7||eP **PKPbc 20 45 19.7 -0.2**
SORM Soroca 146.82 328 ⇑P **PKPbc 20 45 20.0 -0.6**
SORM Soroca 146.82 328 ⇑PKIKP **PKPbc 20 45 20.0 -0.6**
GAL1 Galloway 146.86 8 eP **PKPbc 20 45 20.3 -0.2**
GKG Gorka Klasztor 146.93 344 ePKPdf **PKPbc 20 45 20.9 +0.2**
BNN Bunyan 147.00 308 PKPdf **PKPdf 20 45 18.1 -1.0**
BZK Bozkurt 147.03 314 ⇑P **PKPdf 20 45 19.2 +0.3**
PURM Purcari 147.07 324 ⇑P **PKPdf 20 45 19.6 +0.8**
BEL Belsk 147.13 339 ePKPdf **PKPbc 20 45 22.0 +0.6**
EDMD Edmundbyers 147.17 5||eP **PKPbc 20 45 21.4 0.0**
KIS Kishinev 147.33 326⇓i PKP **PKPbc 20 45 21.6 -0.4**
comp=Z,55nm,0.6s
KIS Kishinev 147.33 326d i PKP2 **PKPbc 20 45 21.6 -0.4**
KIS pmax pmax
comp=Z,55nm,0.6s
MILM Milestii Mici 147.39 326⇓i PKP **PKPbc 20 45 21.7 -0.5**
comp=Z,90nm,0.5s
MILM Milestii Mici 147.39 326 ⇑P **PKPbc 20 45 21.1 -1.1**
MILM Milestii Mici 147.39 326 ⇑PKIKP **PKPbc 20 45 21.1 -1.1**
IOMK Kirk Michael 147.47 8||eP **PKPbc 20 45 22.5 +0.3**
LVV L'vov 147.56 334 i PKP2 **PKPbc 20 45 22.0 -0.6**
WIM Isle of Man 147.57 8||eP **PKPbc 20 45 22.8 +0.4**
ILGA Ilgaz 147.63 313 **PKPbc 20 45 24.2 +0.8**
GDLE Glaisdale, N Y 147.66 4 eP **PKPbc 20 45 23.1 +0.4**
IAS Iasi 147.85 327 ⇑P **PKPbc 20 45 23.1 -0.3**
IAS Iasi 147.85 327 ⇑PKP2 **PKPbc 20 45 23.1 -0.3**
HPK Haverah Park 148.06 5 eP **PKPbc 20 45 23.9 +0.1**
VASR Vaslui 148.10 326 ⇑P **PKPbc 20 45 24.0 -0.1**
DSB Dublin 148.20 10 PKPdf **PKPdf 20 45 19.2 -1.2**
KWP Kalwaria Pacla 148.24 335 ePKPdf **PKPdf 20 45 21.8 +1.1**
BR131 Keskin Array S 148.25 311 **PKPdf 20 45 21.7 +0.5**
BR131 Keskin Array S 148.25 311 PKIKP **PKPdf 20 45 21.7 +0.5**
BRTR Keskin Array B 148.25 311 PKP **PKPdf 20 45 21.0 -0.2**
comp=Z,15nm,0.8s,baz=169,slow=1.5,SNR=25
BRTR PKPbc **PKPbc 20 45 24.4 -0.5**
comp=Z,22nm,0.7s,baz=139,slow=3.8,SNR=28
BRTR Keskin Array B 148.25 311 PKPdf **PKPdf 20 45 20.6 -0.6**
BRTR Keskin Array B 148.25 311 PKIKP **PKPdf 20 45 21.0 -0.2**
WME Myndd Eilian 148.35 8||eP **PKPbc 20 45 24.6 +0.1**
BIR Birlad 148.43 326 ⇑P **PKPbc 20 45 24.8 -0.1**
BIR Birlad 148.43 326 ⇑PKP2 **PKPbc 20 45 24.8 -0.1**
WLF1 Llynfaes 148.44 8||eP **PKPbc 20 45 24.6 -0.1**
YRC Rhoscolyn 148.46 8||eP **PKPbc 20 45 24.6 -0.2**
VLDR Vladesti 148.47 325 ⇑P **PKPbc 20 45 24.9 -0.1**
VARL Varlezi 148.56 325 ⇓P **PKPbc 20 45 25.7 +0.4**
LBWR Ladybower, Pea 148.61 5 eP **PKPbc 20 45 25.2 0.0**
YLL Llanberis 148.62 8||eP **PKPbc 20 45 25.0 -0.2**
SCTR Scanteiesti 148.62 325 ⇑P **PKPbc 20 45 24.9 -0.6**
TATR Tatarca 148.64 324 ⇑P **PKPbc 20 45 25.2 -0.3**
LMK Market Rasen 148.65 3 eP **PKPbc 20 45 25.6 +0.4**
PCED Cedros 148.66 51 ePKP **PKPbc 20 45 26.4 +0.6**
BUR08 Bucovina Ar. S 148.68 330 **PKPdf 20 45 22.5 +1.0**
CALA Caldeira 148.68 51 ePKP **PKiKP 20 45 26.9 -0.3**
GHRR 148.68 326 ⇑P **PKPbc 20 45 25.8 +0.2**
BURAR Bucovina Array 148.69 330 ⇑P **PKiKP 20 45 26.6 -0.3**
BURAR Bucovina Array 148.69 330 PKPdf **PKPdf 20 45 21.6 0.0**
BURAR Bucovina Array 148.69 330 ⇑PKP2 **PKiKP 20 45 26.6 -0.3**
JURR Jurilovca 148.70 322 ⇑P **PKPbc 20 45 25.5 -0.1**
HOR Horta 148.75 51 ePKP **PKPbc 20 45 26.4 +0.4**
TESR Tescani 148.77 327 ⇑P **PKPbc 20 45 24.4 -1.4**
ANTO Ankara 148.78 311 ⇑P **PKPbc 20 45 24.4 -1.7**
ANTO Ankara 148.78 311 **PKPbc 20 45 25.8 -0.4**
ANTO Ankara 148.78 311 ⇑PKHKP **PKPbc 20 45 24.4 -1.7**
BR231 Keskin MP Arra 148.81 311 **PKPbc 20 45 26.2 0.0**
IZVR Izvoarele 148.83 325 ⇑P **PKPbc 20 45 24.3 -1.6**
OJC Ojcow 148.83 338 ePKPdf **PKPdf 20 45 23.5 +1.9**
OJC Ojcow 148.83 338 PKPdf **PKPdf 20 45 18.9 -2.7**
OJC PKPbc **PKPbc 20 45 23.1 -2.8**
OJC Ojcow 148.83 338 PKIKP **PKPdf 20 45 18.9 -2.7**
OJC 20 45 23.1
CFR Carcaliu 148.86 324 ⇑P **PKPbc 20 45 25.1 -0.9**
CFR Carcaliu 148.86 324 ⇑PKHKP **PKPbc 20 45 25.1 -0.9**
PCAN Candelaria 148.88 51 ePKP **PKiKP 20 45 27.0 -0.5**
TPGR Topolog 148.91 323 ⇑P **PKPbc 20 45 25.5 -0.7**
PICO Pico 148.91 51 ePKP **PKiKP 20 45 27.5 -0.2**
PANC Panciu 148.94 326 ⇑P **PKPbc 20 45 26.3 +0.1**
ROSA Rosais 148.96 51 ePKP **PKPbc 20 45 26.6 +0.1**
KOLS Kolonicke sedl 148.97 334 ePKP **PKPdf 20 45 22.6 +0.7**
KOLS e 20 45 27.4
KOLS Kolonicke sedl 148.97 334 ePKHKP **PKPdf 20 45 22.6 +0.7**
LLW Llanuwychllyn 148.97 7 eP **PKPbc 20 45 26.0 -0.1**
SRBC Serra Branca 148.97 50 ePKP **PKiKP 20 45 27.8 +0.1**
FOEL Foel Wylfa 148.98 7 eP **PKPbc 20 45 25.4 -0.7**
STHS Stebnicka Huta 148.98 336 ePKP **PKPbc 20 45 26.2 -0.1**
STHS Stebnicka Huta 148.98 336 ePKP2 **PKPbc 20 45 26.2 -0.1**
PGRA Graciosa 149.02 50 ePKP **PKiKP 20 45 27.5 -0.3**
PPNO Prainha do Nor 149.04 51 ePKP **PKiKP 20 45 28.0 +0.1**
ODBI Odobesti 149.06 326 ⇑P **PKiKP 20 45 27.4 -0.2**
PMAN Manadas 149.10 51 ePKP **PKiKP 20 45 28.4 +0.5**
PID Ribeirinha 149.16 51 ePKP **PKiKP 20 45 28.1 0.0**
TIRR Tirgusor 149.16 322 ⇑P **PKPdf 20 45 23.3 +1.0**
TIRR Tirgusor 149.16 322 **PKPbc 20 45 26.6 -0.2**
TIRR Tirgusor 149.16 322 ⇑PKHKP **PKPdf 20 45 23.3 +1.0**
GHAJ Ghor Haditha 149.16 294 **PKPbc 20 45 27.4 +0.2**
VRI Vrincioaia 149.17 326 ⇑P **PKPbc 20 45 25.6 -1.2**
VRI Vrincioaia 149.17 326 ⇑PKHKP **PKPbc 20 45 25.6 -1.2**
UZH Uzhgorod 149.20 334 ePKHKP **PKPdf 20 45 22.7 +0.5**
PLOR Plostina 149.22 326 ⇑P **PKPbc 20 45 25.2 -1.8**
PLOR Plostina 149.22 326 ⇑PKHKP **PKPbc 20 45 25.2 -1.8**
EFOR EFORIE 149.26 322 ⇑P **PKPbc 20 45 27.2 +0.2**
HARR Harsova 149.28 323 ⇑P **PKPbc 20 45 27.2 +0.1**
HARR Harsova 149.28 323 ⇑PKP2 **PKPbc 20 45 27.2 +0.1**
TLBR Topalu 149.31 323 ⇑P **PKPdf 20 45 23.7 +1.2**
CRVS Cervenica-Dubn 149.31 335 ePKP **PKPdf 20 45 23.0 +0.6**
CRVS e 20 45 27.6
CRVS Cervenica-Dubn 149.31 335 ePKHKP **PKPdf 20 45 23.0 +0.6**
MFTR Murfatlar 149.32 322 ⇑P **PKPbc 20 45 27.5 +0.3**
KSP Ksiaz 149.37 343 ePKPdf **PKiKP 20 45 28.0 -0.1**
BISRR Bisoca 149.39 326 ⇑P **PKPbc 20 45 27.4 -0.1**
WACR West Acre 149.42 2 eP **PKPbc 20 45 27.1 0.0**
BMR Baia Mare 149.43 332 ⇑P **PKPbc 20 45 27.0 -0.4**
BMR Baia Mare 149.43 332 ⇑PKHKP **PKPbc 20 45 27.0 -0.4**
MANR Mangalia 149.44 321 ⇑P **PKPbc 20 45 26.5 -1.0**
CVDA Cernavoda 149.44 322 ⇑P **PKPbc 20 45 27.2 -0.3**
COVR Voineasa-Covas 149.45 326 ⇑P **PKPbc 20 45 26.8 -0.7**
ARCR ARCALIA 149.48 330 ⇑P **PKPbc 20 45 27.0 -0.5**
TRPA Tarpa 149.49 333 ⇑P **PKPbc 20 45 26.8 -0.6**
TRPA Tarpa 149.49 333 PKP **PKPdf 20 45 22.8 +0.2**
OZUR 149.49 327 ⇑P **PKPbc 20 45 27.1 -0.6**
PSBA Serra de Santa 149.59 50 ePKP **PKiKP 20 45 30.3 +1.3**
MDUB Mudurnu 149.60 314 **PKPbc 20 45 27.1 -1.1**
OSTC Ostas 149.65 343 ePKPDF **PKPdf 20 45 24.1 +1.2**
OSTC ⇑ePKP **PKiKP 20 45 28.7 0.0**
AMRR Amara 149.66 324 ⇑P **PKPbc 20 45 27.9 -0.1**
AMRR Amara 149.66 324 ⇑PKHKP **PKPbc 20 45 27.9 -0.1**
CHVC Chvalec 149.67 343⇑ePKP **PKiKP 20 45 28.9 +0.1**
NEHR Nehoiu 149.69 326 ⇑P **PKPbc 20 45 27.0 -1.1**
PAGU Aguaviva, Azore 149.69 50 ePKP **PKiKP 20 45 29.2 0.0**
RSBS Rosebush, Pembs 149.70 9 eP **PKPbc 20 45 27.9 0.0**
OKC Ostrava-Krasne 149.71 340⇑ePKP **PKPbc 20 45 28.2 +0.2**
OKC Ostrava-Krasne 149.71 340 ePKHKP **PKPbc 20 45 28.2 +0.2**
ICOR Ion Corvin 149.71 322 ⇑P **PKPdf 20 45 24.5 +1.3**
CLL Collm 149.74 347 PKPdf **PKPdf 20 45 23.2 +0.3**
CLL PKPbc **PKPbc 20 45 28.3 +0.3**
CLL Collm 149.74 347 ePKPdf **PKPdf 20 45 23.0 0.0**
comp=Z,22nm,1.4s
CLL i PKPbc **PKiKP 20 45 28.7 -0.1**
comp=Z,197nm,1.1s
CLL i PKPab **PKPab 20 45 34.2 -0.2**
comp=Z,51nm,0.7s
CLL epPKPbc **pPKPbc 20 46 42.0 +1.1**
CLL Collm 149.74 347 PKIKP **PKPdf 20 45 23.2 +0.3**
UPC Upice 149.75 343⇑ePKP **PKiKP 20 45 28.8 -0.1**
UPC Upice 149.75 343 ePKP2 **PKiKP 20 45 28.8 -0.1**
PSN Preselentsi 149.76 321 i P **PKiKP 20 45 28.9 -0.2**
ISR Istrita 149.76 325 ⇑P **PKPdf 20 45 25.6 +2.3**
ISR Istrita 149.76 325 ⇑PKHKP **PKPdf 20 45 25.6 +2.3**
PSCM Serra do Cume 149.77 50 ePKP **PKiKP 20 45 29.7 +0.4**
DOPR Dopca 149.78 327 ⇑P **PKPbc 20 45 27.7 -0.6**
KALB Balgarevo 149.79 321 ⇓P **PKPbc 20 45 28.1 -0.2**
DPC Dobruska-Polom 149.81 342 ePKPDF **PKPdf 20 45 24.0 +0.8**
DPC ⇑ePKP **PKiKP 20 45 29.2 +0.1**
DPC Dobruska-Polom 149.81 342 ePKHKP **PKPdf 20 45 24.0 +0.8**
MLR Muntele Rosu 149.82 326 ⇑P **PKPbc 20 45 26.9 -1.7**
MLR Muntele Rosu 149.82 326 PKPdf **PKPdf 20 45 23.8 +0.3**
MLR Muntele Rosu 149.82 326 PKHKP **PKPdf 20 45 23.8 +0.3**
ABAH Abaujker 149.89 335 PKP **PKPdf 20 45 24.6 +1.3**
EIL Elat 149.92 291 PKP **PKPdf 20 45 23.8 -0.2**
comp=Z,5.6nm,0.8s,baz=135,slow=2.9,SNR=2.8
EIL PKPbc **PKiKP 20 45 29.8 -0.1**
comp=Z,30nm,0.7s,baz=79,slow=1.5,SNR=13
KRLC Kraliky 149.92 341 ePKPDF **PKPdf 20 45 24.4 +1.0**
KRLC ⇑ePKP **PKiKP 20 45 29.1 -0.2**
KRLC Kraliky 149.92 341 ePKHKP **PKPdf 20 45 24.4 +1.0**
BRG Berggiesshubel 149.94 345⇓i PKPf **PKPdf 20 45 24.0 +0.7**
BRG Amp 20 45 25.7
comp=Z,28nm,1.5s
BRG ⇑i PKP **PKiKP 20 45 29.2 0.0**
BRG Amp 20 45 30.4
comp=Z,137nm,1.2s
BRG i PKPab **PKPab 20 45 35.6 +0.4**
BRG Amp 20 45 36.4
comp=Z,52nm,0.9s
BRG Berggiesshubel 149.94 345 i PKHKP **PKPdf 20 45 24.0 +0.7**
BRG pmax pmax
comp=Z,28nm,1.5s
MORC Moravsky Berou 149.95 340 ⇑P **PKPbc 20 45 27.4 -1.2**
MORC Moravsky Berou 149.95 340 PKPdf **PKPdf 20 45 23.7 +0.3**
MORC Moravsky Berou 149.95 340 ePKP **PKPdf 20 45 23.9 +0.5**
MORC e 20 45 29.2
MORC Moravsky Berou 149.95 340 PKIKP **PKPdf 20 45 23.7 +0.3**
KECS Kecovo 150.03 336 ePKP **PKiKP 20 45 30.0 +0.4**
KECS e 20 45 37.8
KECS Kecovo 150.03 336 ePKP2 **PKiKP 20 45 30.0 +0.4**
MONM Monmouth 150.06 7||eP **PKPbc 20 45 28.9 +0.2**
MESR Meseseni 150.07 331 ⇑P **PKPbc 20 45 28.3 -0.6**
CBBR Cluj-Babes-Bol 150.08 330 ⇑P **PKPbc 20 45 29.2 +0.2**
CJR Cluj-Napoca 150.10 330 ⇑P **PKPbc 20 45 29.3 +0.2**
CJR Cluj-Napoca 150.10 330 ⇑PKHKP **PKPbc 20 45 29.3 +0.2**
PVCC Panska Ves 150.11 344⇑ePKP **PKiKP 20 45 29.8 +0.2**
PVCC Panska Ves 150.11 344 ePKP2 **PKiKP 20 45 29.8 +0.2**
MDB Medias 150.15 329 ⇑P **PKiKP 20 45 29.7 -0.2**
MDB Medias 150.15 329 ⇑PKHKP **PKiKP 20 45 29.7 -0.2**
CSS Mathiatis 150.17 302 **PKPbc 20 45 29.5 -0.1**
SULR 150.21 325 ⇑P **PKPbc 20 45 27.9 -1.4**
MAUC Maruska 150.22 340 ePKPDF **PKPdf 20 45 25.6 +1.7**
MAUC ⇑ePKP **PKiKP 20 45 30.4 +0.4**
VOIR 150.32 327 ⇑P **PKPbc 20 45 29.7 0.0**
VOIR 150.32 327 ⇑PKIKP **PKPbc 20 45 29.7 0.0**
BORA Eskisehir 150.38 313 PKPdf **PKPdf 20 45 24.0 -0.5**
SWN1 Swindon 150.48 5||eP **PKiKP 20 45 30.1 -0.3**
PRD Provadia 150.50 321 i P **PKiKP 20 45 30.7 0.0**
ARR Arges 150.58 327 ⇑P **PKiKP 20 45 31.3 +0.5**
PRU Pruhonice 150.61 344⇑ePKP **PKiKP 20 45 30.7 0.0**
PRU Pruhonice 150.61 344 ePKIKP **PKiKP 20 45 30.7 0.0**
GOPC GO Pecny, Ondr 150.62 344⇑ePKP **PKiKP 20 45 30.8 +0.1**
GOPC GO Pecny, Ondr 150.62 344 ePKIKP **PKiKP 20 45 30.8 +0.1**
BORR Bors 150.62 333 ⇑P **PKiKP 20 45 31.0 +0.2**
VYHS Vyhne 150.63 338 ePKP **PKiKP 20 45 30.8 0.0**
VYHS e 20 45 38.7
VYHS Vyhne 150.63 338 ePKIKP **PKiKP 20 45 30.8 0.0**
VYHS e 20 45 38.7
VRAC Vranov 150.66 341 ⇑P **PKPbc 20 45 29.6 -0.7**
VRAC Vranov 150.66 341 ePKP **PKPdf 20 45 24.9 +0.4**
VRAC e 20 45 30.8
VRAC Vranov 150.66 341 ⇑PKIKP **PKPbc 20 45 29.6 -0.7**
PSZ Piszkesteto 150.72 336 ⇑P **PKPbc 20 45 24.3 -0.5**
PSZ Piszkesteto 150.72 336 PKPdf **PKPdf 20 45 24.3 -0.4**
PSZ Piszkesteto 150.72 336 PKIKP **PKPdf 20 45 24.3 -0.4**
WOL Wolverton 150.72 5 eP **PKPbc 20 45 30.5 +0.2**
RAZG Razgrad 150.78 323 ⇑P **PKPbc 20 45 29.7 -1.1**
NKC Novy Kostel 150.87 347⇑ePKP **PKiKP 20 45 31.4 +0.1**
NKC ePKPAB **PKPab 20 45 39.5 +0.4**
NKC Novy Kostel 150.87 347 ePKIKP **PKiKP 20 45 31.4 +0.1**
NKC e 20 45 39.5
KRUC Moravsky 150.94 341 ePKP **PKPdf 20 45 25.3 +0.4**
KRUC e 20 45 31.3
LOT Lotru 150.95 328 ⇑P **PKPbc 20 45 29.6 -1.6**
HUMR Humele 150.98 326 ⇑P **PKPbc 20 45 29.8 -1.3**
TREC Trest 150.99 342⇑ePKP **PKiKP 20 45 31.4 -0.1**
TREC Trest 150.99 342 ePKIKP **PKiKP 20 45 31.4 -0.1**
DEV Deva 151.04 330 ⇑P **PKPbc 20 45 30.8 -0.5**
DEV Deva 151.04 330 ⇑PKIKP **PKPbc 20 45 30.8 -0.5**
BSZH Besenyszg 151.08 335 ⇑P **PKiKP 20 45 32.0 +0.3**
SMOL Smolenice 151.09 339 ePKIKP **PKPbc 20 45 30.8 -1.0**
COPA Copaceanca 151.12 325 ⇑P **PKPbc 20 45 30.5 -1.0**
MODS Modra-Piesok 151.26 339 ePKP **PKiKP 20 45 32.3 +0.2**
MODS Modra-Piesok 151.26 339 ePKIKP **PKiKP 20 45 32.3 +0.2**
BEBN Eben Emael 151.28 356 dPKP **PKiKP 20 45 32.1 +0.1**
BEBN dPKPab **PKPab 20 45 40.4 -0.3**
SZH Strazhica 151.30 323 i P **PKPbc 20 45 32.0 +0.1**
SIRR Siria 151.31 332 ⇑P **PKPbc 20 45 31.2 -0.7**
SRO Srobarova 151.39 337 ePKP **PKiKP 20 45 32.5 +0.2**
SRO Srobarova 151.39 337 ePKIKP **PKiKP 20 45 32.5 +0.2**
MEM Membach 151.44 355 dPKPdf **PKPdf 20 45 25.9 +0.3**
MEM dPKP **PKiKP 20 45 32.3 0.0**
MEM dPKPab **PKPab 20 45 40.2 -1.2**
BTNL Ternell 151.45 355 dPKPdf **PKPdf 20 45 25.9 +0.2**
BTNL dPKP **PKiKP 20 45 32.5 0.0**
GZR Gura Zlata 151.47 329 ⇑P **PKPbc 20 45 31.6 -0.7**
GZR Gura Zlata 151.47 329 ⇑PKIKP **PKPbc 20 45 31.6 -0.7**
ZST Bratislava 151.48 339 ePKP **PKiKP 20 45 32.9 +0.4**
ZST e 20 45 44.3
ZST Bratislava 151.48 339 ePKIKP **PKiKP 20 45 32.9 +0.4**
BSTI Sart Tilman 151.50 356 dPKP **PKiKP 20 45 32.5 0.0**
BSTI dPKPab **PKPab 20 45 41.6 -0.1**
SURR Surduc 151.50 330 ⇑P **PKPbc 20 45 31.7 -0.6**
BART Pico Bartolome 151.55 51 ePKP **PKPdf 20 45 29.0 +2.7**
GRA1 Grafenberg Arr 151.64 348 **PKPbc 20 45 32.3 -0.2**
GRF Grafenberg Arr 151.64 348 PKIKP **PKPbc 20 45 32.3 -0.2**
GRFO Grafenberg 151.64 348 **PKiKP 20 45 33.0 +0.2**
GRFO Grafenberg 151.64 348 PKIKP **PKiKP 20 45 33.0 +0.2**
SNF Seneffe 151.64 358 dPKP **PKiKP 20 45 32.9 +0.2**
SNF dPKPab **PKPab 20 45 41.8 -0.4**
VLAD Vladila 151.65 325 ⇑P **PKiKP 20 45 32.9 -0.1**
KHC Kasperske Hory 151.65 345 **PKPdf 20 45 26.3 +0.3**
KHC PKPbc **PKiKP 20 45 33.2 +0.3**
KHC Kasperske Hory 151.65 345 ePKPDF **PKPdf 20 45 26.5 +0.5**
KHC ⇑ePKP **PKiKP 20 45 33.2 +0.3**
KHC ePKPAB **PKPab 20 45 42.1 -0.3**
KHC Kasperske Hory 151.65 345 PKIKP **PKPdf 20 45 26.3 +0.3**
AMBH Ambrzfalva 151.65 333 ⇑P **PKPbc 20 45 31.3 -1.3**
PVL Pavlikeni 151.67 323 i P **PKiKP 20 45 33.4 +0.3**
BCLA Clavier 151.68 356 dPKP **PKiKP 20 45 32.7 -0.2**
BCLA dPKPab **PKPab 20 45 41.7 -0.7**
BGES Gesves 151.72 356 dPKP **PKPbc 20 45 32.5 -0.1**
BGES dPKPab **PKPab 20 45 42.1 -0.5**
CKRC Cesky Krumlov 151.75 343 ePKPDF **PKPdf 20 45 26.8 +0.6**
CKRC ⇑ePKP **PKiKP 20 45 33.4 +0.3**
SRE Strehaia 151.79 328 ⇑P **PKPbc 20 45 32.6 -0.4**
SRE Strehaia 151.79 328 ⇑PKIKP **PKPbc 20 45 32.6 -0.4**
CSKK Cskako 151.79 337 PKP **PKPdf 20 45 28.9 +2.6**
BMRD Maredsous 151.82 357 dPKP **PKiKP 20 45 33.3 +0.1**
BMRD dPKPab **PKPab 20 45 42.4 -0.6**
BZS Buzias 151.84 331 ⇓P **PKPbc 20 45 31.7 -1.3**
BZS Buzias 151.84 331 ⇓PKIKP **PKPbc 20 45 31.7 -1.3**
GEC2 GERESS Array S 151.88 344 **PKPdf 20 45 26.2 -0.2**
GEC2 PKPbc **PKPbc 20 45 33.2 0.0**
GERES GERESS Array B 151.88 344 PKP **PKPdf 20 45 26.6 +0.2**
comp=Z,3.4nm,0.8s,baz=90,slow=1.3,SNR=19
GERES PKPbc **PKiKP 20 45 33.5 0.0**
comp=Z,34nm,0.8s,baz=28,slow=2.3,SNR=93
GERES **PKPab 20 45 43.4 -0.1**
comp=Z,6.0nm,0.8s,baz=318,slow=1.8,SNR=7.3
GERES GERESS Array B 151.88 344 PKPdf **PKPdf 20 45 26.4 -0.1**
GERES **PKPbc 20 45 33.2 0.0**
PSMA Santa Maria 151.91 52 ePKP **PKiKP 20 45 34.0 +0.2**
RCHB Rochefort 151.94 356 dPKP **PKiKP 20 45 33.3 -0.1**
PLVB Pleven 151.94 324 ⇑P **PKiKP 20 45 33.5 -0.1**
HERR Herculane 152.02 329 ⇑P **PKiKP 20 45 32.4 -1.1**
DOU Dourbes 152.04 357 dPKP **PKiKP 20 45 34.0 +0.4**
DOU dPKPab **PKPab 20 45 43.7 -0.2**
SOP Sopron 152.10 339 PKP **PKiKP 20 45 33.9 +0.1**
CONA Conrad Observa 152.11 341 eP **PKPdf 20 45 26.9 +0.1**
comp=Z,7.8nm,1.0s
CONA i P **PKiKP 20 45 34.3 +0.3**
comp=Z,94nm,1.3s,SNR=17
CONA eP **PKPab 20 45 45.3 +0.8**
comp=Z,30nm,1.0s
ELL Elmali 152.15 308 **PKPbc 20 45 33.8 -0.4**
ELL Elmali 152.15 308 PKIKP **PKPbc 20 45 33.8 -0.4**
RONA Rosalia, Austr 152.17 340 eP **PKPdf 20 45 27.1 +0.2**
comp=Z,9.4nm,1.5s
RONA i P **PKiKP 20 45 34.4 +0.3**
comp=Z,72nm,1.0s,SNR=19
BAIL Bailesti 152.18 327 ⇑P **PKPbc 20 45 33.5 -0.4**
MPLH Magyarpolny 152.22 338 PKP **PKPdf 20 45 28.1 +1.3**
BANR Banloc 152.23 331 ⇑P **PKiKP 20 45 34.2 +0.1**
MANT Manisa 152.34 312 **PKPbc 20 45 33.8 -1.0**
WLF Walferdange 152.37 355 PKPbc **PKiKP 20 45 35.1 +0.7**
WLF Walferdange 152.37 355 dPKPdf **PKPdf 20 45 27.8 +0.8**
WLF dPKP **PKiKP 20 45 35.0 +0.7**
WLF dPKPab **PKPab 20 45 44.3 -1.1**
WLF Walferdange 152.37 355 PKIKP **PKiKP 20 45 35.1 +0.7**
MDVR Moldovita 152.42 330 ⇑P **PKPbc 20 45 33.1 -1.4**
MPEP Malo Peshtene 152.44 325 i P **PKiKP 20 45 34.9 +0.2**
AKAS Kas 152.58 307 **PKPdf 20 45 24.9 -2.1**
MORH Mrgy, Hungar 152.61 335 ⇑P **PKPbc 20 45 33.3 -1.4**
MORH Mrgy, Hungar 152.61 335 PKP **PKPdf 20 45 27.2 -0.2**
MOA Molln 152.65 343 eP **PKPdf 20 45 27.4 -0.1**
comp=Z,3.8nm,0.8s
MOA i P **PKiKP 20 45 34.9 -0.1**
comp=Z,33nm,1.1s,SNR=8.1
JVM Valle D.L. Mar 152.71 7 eP **PKiKP 20 45 35.4 +0.4**
JSA Saint Aubin 152.74 7 eP **PKiKP 20 45 35.1 0.0**
ARSA Arzberg 152.81 340 eP **PKPdf 20 45 28.1 +0.3**
comp=Z,3.9nm,1.0s
ARSA eP **PKPbc 20 45 34.4 -0.9**
comp=Z,14nm,1.1s
RDO Rodhopi 152.85 320 PKPdf **PKPdf 20 45 27.1 -0.9**
STU Stuttgart 152.88 350 **PKPdf 20 45 26.7 -1.1**
STU Stuttgart 152.88 350 PKIKP **PKPdf 20 45 26.7 -1.1**
KOVH Kovagotottos 152.93 336 PKP **PKPdf 20 45 28.0 +0.1**
BIOA Bad Ischl, Aus 152.96 343 eP **PKPdf 20 45 27.9 -0.1**
comp=Z,2.1nm,0.5s
BIOA i P **PKPbc 20 45 35.0 -0.5**
comp=Z,42nm,1.1s,SNR=9.2
BIOA eP **PKPab 20 45 48.9 +0.9**
comp=Z,43nm,1.2s
FRGS Fruska Gora 152.99 332 eP **PKPdf 20 45 27.9 -0.2**
BEHE Becsehely 153.09 338 PKP **PKiKP 20 45 36.4 +0.5**
VTS Vitosha 153.21 325 ⇑P **PKPbc 20 45 34.9 -1.5**
VTS Vitosha 153.21 325 PKPdf **PKPdf 20 45 27.6 -1.1**
VTS Vitosha 153.21 325 i P **PKPbc 20 45 36.4 0.0**
VTS Vitosha 153.21 325 PKIKP **PKPdf 20 45 27.6 -1.1**
BFO Black Forest 153.44 351 **PKPbc 20 45 36.5 -0.1**
BFO Black Forest 153.44 351 PKIKP **PKPbc 20 45 36.5 -0.1**
SOKA Soboth 153.48 340 i P **PKPdf 20 45 28.7 -0.1**
comp=Z,9.3nm,1.1s,SNR=8.2
SOKA eP **PKiKP 20 45 36.8 0.0**
comp=Z,38nm,1.0s
GROS Grobnik 153.52 340 ePKPdf **PKPdf 20 45 28.1 -0.8**
GROS i PKPbc **PKPbc 20 45 36.4 -0.5**
KBA Koelnbreinsper 153.60 343 eP **PKPdf 20 45 28.7 -0.4**
comp=Z,7.5nm,1.1s
KBA i P **PKPbc 20 45 37.1 -0.1**
comp=Z

HAPS	Han Pijesak,BI	154.21	332	*e*P		PKPdf	20 45 30.1	+0.1
A051A	Mrakovica	154.28	336	*e*P		PKPdf	20 45 29.8	-0.2
FETA	Feichten	154.28	347	*i* P		PKPdf	20 45 30.3	+0.2
	comp=Z,28nm,1.0s,SNR=12							
FETA				*e*P		PKiKP	20 45 39.0	+0.4
	comp=Z,33nm,1.0s							
FETA				*e*P		PKPab	20 45 53.8	0.0
	comp=Z,15nm,1.0s							
CLUD	Cludinico	154.30	343	PKPdf		PKPdf	20 45 29.0	-0.9
BLY	Banja Luka	154.40	335	*e*P		PKPdf	20 45 30.9	+0.8
VOJS	Vojsko	154.41	341	*e*PKPdf		PKPdf	20 45 29.7	-0.5
VOJS				*i* PKPbc		PKPbc	20 45 38.3	-0.5
STIP	Stip	154.41	324	*i* P		PKPbc	20 45 38.4	-0.5
BOJS	Bojanci	154.45	339	*e*P		PKPdf	20 45 30.6	+0.5
VAY	Valandovo	154.46	323	*i* P		PKPab	20 45 54.6	0.0
CEY	Cerknica	154.51	340	*e*P		PKPdf	20 45 29.8	-0.5
STAL	STALIGIAL	154.53	343			PKPdf	20 45 29.9	-0.4
SABO	M.te Sabotino	154.54	342	PKPdf		PKPdf	20 45 30.0	-0.3
CIMO	Cimolais	154.55	344	PKPdf		PKPdf	20 45 29.6	-0.7
SKO	Skopje	154.62	326	*i* P		PKPdf	20 45 30.4	-0.1
FUORN	Ofenpass-Fuorn	154.76	347	PKPdf		PKPdf	20 45 30.9	0.0
SKDS	Skadanscina	154.81	341	*e*P		PKPdf	20 45 21.1	-10
A050A	Klekovaca	154.88	336	*e*P		PKPdf	20 45 29.9	-1.0
CTI	Castel Tesino	155.00	345			PKPdf	20 45 30.5	-0.5
CTI	Castel Tesino	155.00	345	PKIKP		PKPdf	20 45 30.5	-0.5
BRY	Bratogost	155.34	331	*e*P		PKPdf	20 45 28.9	-2.7
PDG	Podgorica	155.37	329	PKPdf		PKPdf	20 45 31.1	-0.4
FNA	Florina	155.48	324			PKPdf	20 45 30.8	-1.0
FNA	Florina	155.48	324	PKIKP		PKPdf	20 45 30.8	-1.0
SENIN	Lac Senin/Sane	155.51	352	PKPdf		PKPdf	20 45 30.8	-1.0
OHR	Ohrid	155.57	325	*i* P		PKPdf	20 45 32.0	+0.1
TEOL	Teolo	155.63	344			PKPdf	20 45 29.9	-1.9
KBN	Korca	155.92	324	PKPdf		PKPdf	20 45 31.1	-1.3
KBN	Korca	155.92	324	PKIKP		PKPdf	20 45 31.1	-1.3
ZCCA	Zocca	156.75	344			PKPdf	20 45 34.0	+0.7
SSB	Saint Sauveur	156.84	356	PKPdf		PKPdf	20 45 33.3	-0.1
SSB	Saint Sauveur	156.84	356	PKIKP		PKPdf	20 45 33.3	-0.1
BNI	Bardonecchia	156.87	352	PKPdf		PKPdf	20 45 34.4	+0.8
BNI	Bardonecchia	156.87	352	PKIKP		PKPdf	20 45 34.4	+0.8
FDMO	Fiordimonte	157.35	339	PKPdf		PKPdf	20 45 33.5	-0.6
OSSC	Osservatorio P	157.45	343	PKPdf		PKPdf	20 45 32.6	-1.6
SGRT	San Giovanni R	157.48	333	PKPdf		PKPdf	20 45 33.5	-0.9
PGAV	Gavieira, Arco	158.25	22	*e*PKPdf		PKPab	20 45 36.3	+1.0
PGAV	Gavieira, Arco	158.25	22	*e*PKPab		PKPab	20 46 11.3	+0.3
PCAB	Cabril	158.56	22	*e*PKPdf		PKPdf	20 45 36.7	+1.1
PCAB	Cabril	158.56	22	*e*PKPab		PKPab	20 46 12.8	+0.5
PTO	Porto	158.86	24	*e*PKPab		PKPab	20 46 14.1	+0.6
PBRG	Braganca	158.90	19	*e*PKPdf		PKPdf	20 45 36.7	+0.7
PBRG	Braganca	158.90	19	*e*PKPab		PKPab	20 46 14.3	+0.6
POLO	Lamas de Olo	158.94	22	*e*PKPdf		PKPdf	20 45 37.4	+1.2
POLO	Lamas de Olo	158.94	22	*e*PKPab		PKPab	20 46 14.4	+0.4
PVRL	Vila Real	159.06	22	*e*PKPdf		PKPdf	20 45 36.7	+0.5
PVRL	Vila Real	159.06	22	*e*PKPab		PKPab	20 46 15.1	+0.7
TIP	Timpagrande	159.08	328	⇑P		PKPdf	20 45 35.9	-0.4
TIP	Timpagrande	159.08	328	PKPdf		PKPdf	20 45 36.2	-0.1
MVO	Moncorvo	159.39	21	*e*PKPdf		PKPdf	20 45 37.7	+1.1
MVO	Moncorvo	159.39	21	*e*PKPab		PKPab	20 46 16.7	+0.8
PVIS	Viseu	159.49	23	*e*PKPdf		PKPdf	20 45 37.0	+0.3
PVIS	Viseu	159.49	23	*e*PKPab		PKPab	20 46 16.9	+0.6
COI	Coimbra	159.74	25	*e*PKPab		PKPab	20 46 18.2	+0.9
COI	Coimbra	159.74	25	PKPdf		PKPdf	20 45 37.0	+0.1
COI				PKPab		PKPab	20 46 17.6	+0.2
COI	Coimbra	159.74	25	PKIKP		PKPdf	20 45 37.0	+0.1
COI							20 46 17.6	
PCAS	Casmilo, Conde	159.84	25	*e*PKPdf		PKPdf	20 45 38.1	+1.0
PCAS	Casmilo, Conde	159.84	25	*e*PKPab		PKPab	20 46 18.2	+0.4
MTE	Manteigas	159.89	23	*e*PKPdf		PKPdf	20 45 38.3	+1.1
MTE	Manteigas	159.89	23	PKPdf		PKPdf	20 45 38.2	+0.9
MTE				PKPab		PKPab	20 46 18.2	0.0
PSBE	So Bento	160.17	26	*e*PKPdf		PKPdf	20 45 37.0	-0.5
PSBE	So Bento	160.17	26	*e*PKPab		PKPab	20 46 19.9	+0.6
PCBR	Castelo Branco	160.41	23	*e*PKPdf		PKPdf	20 45 38.9	+1.2
PCBR	Castelo Branco	160.41	23	*e*PKPab		PKPab	20 46 20.7	+0.4
PMAFR	Mafra	160.43	28	*e*PKPab		PKPab	20 46 21.8	+1.3
PACT	Alcochete	160.78	28	*e*PKPdf		PKPdf	20 45 39.9	+1.8
PMTG	Montargil	160.79	26	*e*PKPdf		PKPdf	20 45 39.0	+0.9
PMTG	Montargil	160.79	26	*e*PKPab		PKPab	20 46 22.4	+0.4
PMRV	Marv??o	160.80	24	*e*PKPdf		PKPdf	20 45 39.2	+1.0
PMRV	Marv??o	160.80	24	*e*PKPab		PKPab	20 46 22.5	+0.4
PESTR	Estremoz	161.20	25	*e*PKPdf		PKPdf	20 45 39.8	+1.2
PESTR	Estremoz	161.21	25	*e*PKPab		PKPab	20 46 24.3	+0.4
PESTR	Estremoz	161.21	25	PKPdf		PKPdf	20 45 38.9	+0.3
PESTR				PKPab		PKPab	20 46 23.1	-0.8
EVO	Evora	161.33	27	*e*PKPdf		PKPdf	20 45 40.2	+1.5
EVO	Evora	161.33	27	*e*PKPab		PKPab	20 46 24.8	+0.4
PNCL	Nicolau / Gran	161.46	28	*e*PKPdf		PKPdf	20 45 39.9	+1.0
PNCL	Nicolau / Gran	161.46	28	*e*PKPab		PKPab	20 46 25.6	+0.6
ESDC	Sonseca Array	161.66	16	PKP		PKPdf	20 45 39.9	+0.7
	comp=Z,5.0nm,1.0s,baz=349,slow=3.0,SNR=22							
ESDC				PKPab		PKPab	20 46 26.1	+0.2
	comp=Z,6.8nm,0.7s,baz=328,slow=3.9,SNR=24							
ESDC				PP		PP	20 50 05.4	-4.1
	comp=Z,2.6nm,1.1s,baz=354,slow=5.7,SNR=5.9							
ESDC	Sonseca Array	161.66	16	PKPdf		PKPdf	20 45 39.2	+0.1
ESDC				PKPab		PKPab	20 46 26.2	+0.4
PAB	San Pablo	161.68	17	PKPdf		PKPdf	20 45 38.7	-0.5
PAB				PKPab		PKPab	20 46 26.2	+0.3
PAB	San Pablo	161.68	17	PKIKP		PKPdf	20 45 38.7	-0.5
PAB							20 46 26.3	
PBEJ	Beja	161.82	27	*e*PKPdf		PKPdf	20 45 40.5	+1.2
PBEJ	Beja	161.82	27	*e*PKPab		PKPab	20 46 27.0	+0.5
MESJ	Messejana	161.82	28	*e*PKPdf		PKPdf	20 45 40.3	+1.0
MESJ	Messejana	161.82	28	*e*PKPdf		PKPdf	20 45 40.8	+1.5
MESJ	Messejana	161.82	28	*e*PKPab		PKPab	20 46 27.0	+0.4
PTEO	Sao Teotonio	161.84	30	*e*PKPdf		PKPdf	20 45 41.6	+2.3
PTEO	Sao Teotonio	161.84	30	*e*PKPab		PKPab	20 46 27.9	+1.3
PBAR	Barrancos	162.03	25	*e*PKPdf		PKPdf	20 45 40.5	+1.0
PBAR	Barrancos	162.03	25	*e*PKPab		PKPab	20 46 28.0	+0.6
MORF	Marmelete	162.07	30	*e*PKPdf		PKPdf	20 45 40.6	+1.7
MORF	Marmelete	162.07	30	*e*PKPdf		PKPdf	20 45 41.3	+1.7
MORF	Marmelete	162.07	30	*e*PKPab		PKPab	20 46 28.9	+1.2
PCVE	Castro Verde	162.07	28	*e*PKPdf		PKPdf	20 45 39.6	+0.1
PCVE	Castro Verde	162.07	28	*e*PKPab		PKPab	20 46 28.4	+0.7
PFVI	Vila Bisbo	162.12	31	*e*PKPdf		PKPdf	20 45 41.4	+1.8
PVAQ	Vaqueiros	162.41	28	*e*PKPdf		PKPdf	20 45 41.2	+1.3
PVAQ	Vaqueiros	162.41	28	*e*PKPab		PKPab	20 46 29.9	+0.8
PVAQ	Vaqueiros	162.41	28			PKPdf	20 45 41.2	+1.3
LIC	Lamto	162.60	154	⇓ *i* PKIKP		PKPdf	20 45 40.7	-0.1
	comp=Z,15nm,0.5s							
KIC	Kosan Boka	162.84	155	⇑ *i* PKIKP		PKPdf	20 45 41.2	+0.2
	comp=Z,4.0nm,0.5s							
TIC	Toumodi	162.99	154	⇓ *i* PKIKP		PKPdf	20 45 41.1	-0.1
	comp=Z,5.5nm,0.3s							
DBIC	Dimbokro	163.08	154	PKP		PKPdf	20 45 41.1	-0.1
	comp=Z,11nm,0.9s,baz=322,slow=1.3,SNR=9.5							
KEST	Kesra	165.18	338	PKPab		PKPab	20 46 41.4	-0.1
	comp=Z,6.0nm,0.8s,baz=39,slow=3.5,SNR=4.1							
TOA0	Torodi Ar. Sit	171.04	175			PKPdf	20 45 44.8	-2.2
TORD	Torodi Ar. Bea	171.04	175	PKP		PKPdf	20 45 45.1	-1.9
	comp=Z,8.1nm,0.9s,baz=322,slow=0.5,SNR=36							
TORD				PKPab		PKPab	20 47 07.2	-0.5
	comp=Z,4.7nm,1.0s,baz=176,slow=3.1,SNR=8.9							
TORD				PP		PP	20 50 58.5	+1.3
	comp=Z,2.5nm,1.1s,baz=164,slow=5.6,SNR=4.7							

*WEL **16** 20:29:57.2±0.3,41°S±4′×17°5E±′,**h23**km±3km,**M3.2**/2, **ML3.6**/18,**ML3.6**/2,**MLv3.4**/18,**MLv3.2**/2,**Error ellipse: s-maj=0.0km s-min=0.0km az=1.3,Cook Strait***

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
WEL	Wellington	0.17	96	P		Pn	20 30 04.4		0.0
WEL				S		Sb	20 30 09.3		+3.5
TCW	Tory Channel	0.21	285	P		Pn	20 30 04.4		-0.5
TCW				S		Sb	20 30 09.1		+2.5
CAW	Cannon Point	0.42	68	P		Pn	20 30 07.6		-0.3
CAW				S		Sn	20 30 14.8		-0.2
TUWZ	Tuamarina	0.48	250	P		Pb	20 30 07.4		+0.4
TUWZ				S		Sb	20 30 14.0		+0.3
KIW	Kapiti Island	0.49	35	P		Pn	20 30 08.5		-0.3
CMWZ	Cape Campbell	0.54	207	P		Pn	20 30 09.6		0.0
MSWZ	Moikau Station	0.55	106	P		Pn	20 30 09.4		-0.3
MSWZ				S		Sn	20 30 18.3		+0.1
PLWZ	Palliser	0.61	120	P		Pn	20 30 10.1		-0.5
PLWZ				S		Sn	20 30 19.8		0.0
OGWZ	Otaki Gorge	0.65	47	P		Pn	20 30 11.1		+0.1
OGWZ				S		Sn	20 30 20.6		0.0
DUWZ	D'Urville Isla	0.66	314	P		Pn	20 30 11.0		-0.2
DUWZ				S		Sn	20 30 20.4		-0.5
BSWZ	Blackbirch Sta	0.67	228	P		Pb	20 30 10.4		+0.1
PAWZ	Paruwai Farm	0.68	100	P		Pn	20 30 10.9		-0.5
PAWZ				S		Sn	20 30 20.8		-0.5
MTW	Mount Morrison	0.73	82	P		Pn	20 30 11.8		-0.3
MTW				S		Sn	20 30 22.4		-0.2
HOWZ	Holdsworth Sta	0.82	64	P		Pb	20 30 13.1		+0.3
TRWZ	Traveller	0.87	99	P		Pb	20 30 13.5		-0.2
NNZ	Nelson	0.88	273	P		Pb	20 30 13.7		-0.1
MRZ	Mangatainoka R	0.99	53	P		Pb	20 30 15.6		-0.1
TMWZ	Te Maipa	1.03	82	P		Pn	20 30 15.7		-0.5
TIWZ	Tintock	1.13	65	P		Pn	20 30 17.1		-0.5
OHWZ	Ohakea	1.21	29	P		Pb	20 30 19.7		+0.2
TKNZ	Takaka Hill	1.22	280	P		Pn	20 30 18.8		0.0
CPWZ	Castlepoint	1.30	75	P		Pn	20 30 18.7		-1.3
MRNZ	Matariki Terra	1.35	264	P		Pn	20 30 21.1		+0.5

*ASRS **16** 20:41:14.6±0.2,47°N±1°×8°0E±°,h5km,MLh3.6/7,Error ellipse: s-maj=4.0km s-min=2.5km az=127.8,confirmed*
*NNC **16** 20:41:19.1±0.8,47°46N×79°77E,h12km±7km, mb3.4, mpv3.1,Error ellipse: s-maj=6.6km s-min=4.8km az=55.0*
*SOME **16** 20:41:20.4,47°60N×79°62E,h25km*
ISC 16 20:41:18.2±0.7,47°47N±0°03×79°84E±0°03,h10km,n33, σ2$45/66,13C-7D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
MAKZ	Makanchi	1.60	113	⇓P		Pg	20 41 47.8		-1.1
	7.9nm,0.5s								
MAKZ				⇑S		Sg	20 42 08.0		-1.7
	54nm,0.4s								
MAKZ	Makanchi	1.60	113	Pg		Pg	20 41 48.1		-0.9
MAKZ				Sg		Sg	20 42 08.2		-1.5
MK31	Makanchi Array	1.81	111	⇓P		Pg	20 41 51.4		-1.5
	3.5nm,0.2s,baz=295,slow=16,SNR=614								
MK31				⇑Pg		Pb	20 41 55.3		+3.9
	2.1nm,0.2s,baz=289,slow=12,SNR=8.9								
MK31				⇑S		Sg	20 42 14.4		-1.8
	8.9nm,0.2s,baz=294,slow=27								
MKAR	Makanchi Array	1.81	111	Pg		Pg	20 41 51.7		-1.1
MKAR				Sg		Sg	20 42 14.6		-1.6
TDK	Taldyqorghan	2.66	202	*e*P		Pg	20 42 08.6		-0.6
	9.9nm,0.3s								
TDK				*e*S		Sg	20 42 42.7		-0.8
	128nm,0.3s								
TDK	Taldyqorghan	2.66	202	Pg		Pb	20 42 04.7		-1.2
	9.2nm,0.2s								
TDK				Lg		Lg	20 42 38.5		
	128nm,0.3s								
DJR	Jarkent	3.13	181	*e*P		Pg	20 42 17.8		-0.5
	1.5nm,0.1s								
DJR				*e*S		Sg	20 42 58.5		-0.4
	21nm,0.3s								
KURBB	Kurchatov Arra	3.27	345	⇑Pn		Pn	20 42 11.1		+1.5
	1.2nm,0.7s								
KURBB				⇑Pg		Pb	20 42 17.5		+1.1
	3.3nm,0.4s								
KURBB				⇑Sn		Sn	20 42 50.4		+1.9
	3.4nm,0.3s								
KURBB				⇓Lg		Lg	20 43 01.5		
	65nm,0.7s								
KURK	Kurchatov	3.35	347	⇑Pn		Pn	20 42 12.0		+1.4
	0.5nm,0.4s								
KURK				⇑Pg		Pb	20 42 18.6		+1.0
	5.9nm,0.9s								
KURK				⇑Lg		Lg	20 43 02.4		
	31nm,0.7s								
KURK	Kurchatov	3.35	347	Pn		Pn	20 42 11.6		+1.0
KURK				Pg		Pb	20 42 18.8		+1.2
KURK				Sg		Sg	20 43 02.7		-3.0
ZSN	Zaisan	3.41	88	*e*P		Pb	20 42 19.9		+1.2
	0.9nm,0.1s								
ZSN				*e*S		Sb	20 43 02.7		+2.4
	28nm,0.5s								
ZSN	Zaisan	3.41	88	Pg		Pg	20 42 20.2		-3.4
	3.2nm,0.5s								
ZSN				Lg		Lg	20 43 05.4		
	12nm,0.5s								
KPKS	Kokpek	4.08	192	*e*P		Pg	20 42 35.9		-0.4
	3.6nm,0.2s								
KPKS				*e*S		Sg	20 43 29.8		+0.5
	36nm,0.5s								
KPKS	Kokpek	4.08	192	Pg		Pg	20 42 34.0		-2.4
	1.6nm,0.2s								
KPKS				Lg		Lg	20 43 28.3		
	36nm,0.5s								
CHKK	Chushkaly	4.13	210	*e*P		Pg	20 42 35.2		-2.1
	1.9nm,0.2s								
CHKK				*e*S		Sg	20 43 29.0		-1.7
	21nm,0.4s								
CHKK	Chushkaly	4.13	210	Pg		Pg	20 42 34.0		-3.3
	1.6nm,0.1s								
PDGK	Podgornoye	4.14	184	Pg		Pg	20 42 34.1		-3.4
	0.5nm,0.1s								
PDGK				Lg		Lg	20 43 29.1		
	6.3nm,0.3s								
PDGK	Podgornoye	4.14	184	⇓Pn		Pn	20 42 21.4		-0.2
	0.5nm,0.3s								
PDGK				⇓Lg		Lg	20 43 29.4		
	24nm,0.9s								
SHLS	Shalkode	4.32	184	*e*P		Pg	20 42 39.9		-1.0
	1.0nm,0.1s								
SHLS				*e*S		Sg	20 43 36.6		-0.2
	16nm,0.5s								
SHLS	Shalkode	4.32	184	Pg		Pg	20 42 37.0		-3.9
	1.2nm,0.3s								
SHLS				Lg		Lg	20 43 33.7		
	6.5nm,0.3s								
UZB	Uzynbulak	4.36	188	*e*P		Pg	20 42 40.5		-1.1
	0.8nm,0.3s								
UZB				*e*S		Sg	20 43 37.5		-0.6
	11nm,0.8s								
SATY	Saty	4.52	193	*e*P		Pg	20 42 44.0		-0.8
	1.8nm,0.4s								
SATY				*e*S		Sg	20 43 43.8		+0.5
	20nm,0.3s								
SATY	Saty	4.52	193	Pg		Pg	20 42 42.7		-2.1
	2.7nm,0.2s								
MDOK	Medeo	4.73	206	Pn		Pn	20 42 33.2		+3.5
	3.6nm,0.8s								
MDOK				Lg		Lg	20 43 49.1		
	15nm,0.6s								
UKR	Ust'-Kan	4.75	41	Pn		Pn	20 42 32.4		+2.6
UKR				Pg		Pb	20 42 43.3		+1.8
UKR				S		Sn	20 43 27.1		+2.2
UKR				Sg		Sg	20 43 45.6		-5.0
ANVS	Anan'yevo	4.93	199	Pg		Pg	20 42 48.9		-3.7
ANVS				Sg		Sg	20 43 54.0		-2.4
OTUK	Ortayu	5.11	282	⇑Pn		Pn	20 42 36.7		+1.9
	0.5nm,0.4s								
OTUK				⇑Pg		Pb	20 42 50.0		+2.4
	2.2nm,0.8s								
OTUK				⇑Lg		Lg	20 43 58.3		
	32nm,1.1s								
TKM2	Tokmak 2	5.44	215	⇓Pn		Pn	20 42 42.8		+3.2
	1.2nm,0.5s								
TKM2				⇓Sn		Sn	20 43 44.9		+2.6
	0.8nm,0.3s								
TKM2				⇑Lg		Lg	20 44 09.3		
	7.6nm,0.8s								
DGZ	Jazzator, Alta	5.51	63	Pn		Pn	20 42 43.8		+3.4
DGZ				Pg		Pb	20 42 57.5		+2.9
DGZ				Sg		Sg	20 44 09.2		-5.9
CHBI	Chibit, Altay	5.80	58	Pn		Pn	20 42 48.7		+4.3
CHBI				Pg		Pg	20 43 05.1		-4.2
CHBI				S		Sn	20 43 52.8		+1.8
CHBI				Sg		Sg	20 44 22.2		-2.2
AAK	Ala-Archa	6.13	220	Pg		Pg	20 43 13.0		-2.7
AAK				S		Sn	20 43 57.7		-1.5
AAK				Sg		Sg	20 44 31.3		-3.7
ULGR	Ulagan, Altay	6.20	56	Pn		Pn	20 42 54.7		+4.8
ULGR				Pg		Pg	20 43 14.0		-3.0
ULGR				S		Sn	20 44 03.5		+2.6
ULGR				Sg		Sg	20 44 33.0		-4.3
ARTR	Artybash	6.49	45	Pg		Pg	20 43 18.3		-4.1
ARTR				S		Sn	20 44 07.8		-0.1
ARTR				Sg		Sg	20 44 43.6		-2.8

*VAO **16** 20:44:27.1±0.3,24°00S×66°81W,h197km, mb4.4*
*IDC **16** 20:44:27.1±1.0,23°91S×66°63W,h192km±9km,mb3.8/9, mbtmp4.4/15,MS3.6/1,Error ellipse: s-maj=14.6km s-min=12.7km az=9.0*
*NEIC **16** 20:44:27.4±2.0,24°10S±0°03×66°77W±0°09,h198km±8km, mb4.5/20,Md3.9(SJA),ML4.6(GUC),Error ellipse: s-maj=11.9km s-min=4.1km az=95.0*
*GUC **16** 20:44:27.8±0.7,24°00S×67°15W,h241km±6km,ML4.6*
ISC 16 20:44:27.2±0.6,24°00S±0°04×66°82W±0°05,h199km±6km, n162,σ1$13/178,mb4.3/15,12C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
AF01	San Pedro de A	1.63	310			Pn	20 45 04.1		+1.7
AF01	San Pedro de A	1.63	310	⇑ *i*P		Pn	20 45 04.2		+1.7
AF01				*i* S		Sn	20 45 32.4		+2.7
LVC	Limon Verde	2.37	305	P		Pn	20 45 11.0		+1.0
	410nm,0.3s,baz=107,slow=7.8,SNR=943								
LVC				S		Sn	20 45 43.9		+0.6
	191nm,0.3s,baz=306,slow=17,SNR=16								
LVC	Limon Verde	2.37	305	⇑ *i*P		Pn	20 45 11.1		+1.0
LVC				*i* S		Sn	20 45 44.3		+1.0
LVC	Limon Verde	2.37	305	*e*P		Pn	20 45 10.9		+0.8
PB15	IPOC Station P	2.56	287			Pn	20 45 12.8		+0.8
PB15				Sn		Sn	20 45 46.2		-0.6
GO02	Mina Guanaco	2.78	245			Pn	20 45 15.1		+0.5
GO02				Sn		Sn	20 45 50.1		-1.3
GO02	Mina Guanaco	2.78	245	⇑ *i*P		Pn	20 45 15.1		+0.5
GO02				*i* S		Sn	20 45 51.3		-0.2
PB06	IPOC Station P	2.84	296			Pn	20 45 15.4		+0.2
PB06	IPOC Station P	2.84	296	⇑ *i*P		Pn	20 45 15.9		+0.7
PB06				*i* S		Sn	20 45 51.4		-1.1
PB06				IAML			20 45 53.0		
	comp=E,1μm,0.2s								
PB09	IPOC Station P	3.13	314			Pn	20 45 19.6		+1.0
PB09	IPOC Station P	3.13	314	⇑ *i*P		Pn	20 45 19.6		+1.0
PB09				*e*S		Sn	20 45 58.5		-0.2
PB03	IPOC Station P	3.33	305			Pn	20 45 21.1		+0.1
PB03	IPOC Station P	3.33	305	⇑ *i*P		Pn	20 45 21.3		+0.3
PB03				*i* S		Sn	20 46 01.0		-2.0
PB14	IPOC Station P	3.33	259			Pn	20 45 20.9		-0.3
PB14	IPOC Station P	3.33	259	⇓ *i*P		Pn	20 45 21.6		+0.4
PB14				*i* S		Sn	20 46 01.5		-1.8
PB10	IPOC Station P	3.46	277			Pn	20 45 22.7		+0.3
PB10	IPOC Station P	3.46	277	⇑ *i*P		Pn	20 45 22.7		+0.3
PB10				*i* S		Sn	20 46 03.8		-1.7
PB04	IPOC Station P	3.49	298			Pn	20 45 22.8		-0.1
PB04	IPOC Station P	3.49	298	*e*P		Pn	20 45 22.6		-0.2
PB04				*i* S		Sn	20 46 04.0		-2.4
AC02	Maricunga	3.51	216	Pn		Pn	20 45 23.2		-0.2
PB07	IPOC Station P	3.62	308			Pn	20 45 24.0		-0.6
PB07	IPOC Station P	3.62	308	⇑ *i*P		Pn	20 45 24.6		0.0
PB07				*i* S		Sn	20 46 05.9		-3.6
PB01	IPOC Station P	3.84	319			Pn	20 45 26.9		-0.3
PB01	IPOC Station P	3.84	319	⇑ *i*P		Pn	20 45 27.0		-0.2
PB01				*i* S		Sn	20 46 11.6		-2.5
PB02	IPOC Station P	3.90	313			Pn	20 45 27.5		-0.4
PB02	IPOC Station P	3.90	313	⇑ *i*P		Pn	20 45 27.5		-0.4
PB02				*i* S		Sn	20 46 12.3		-3.2
AC01	Pan de Azucar	4.04	237			Pn	20 45 28.4		-1.0
AC01	Pan de Azucar	4.04	237	⇑ *i*P		Pn	20 45 28.5		-1.0
AC01				*i* S		Sn	20 46 15.0		-3.4
PB08	IPOC Station P	4.41	330			Pn	20 45 35.1		+0.5
PB08	IPOC Station P	4.41	330

MCRA					IAmb	IAmb	20 49 21.2		
	comp=Z,12nm,1.0s								
SGCB	**SEo Gabriel d**	**23.74**	**359**	*eP*	**P**	**P**	**20 49 21.2**	**-0.3**	
SDBA	**SAO DESIDERIO**	**23.76**	**65**	*eP*	**P**	**P**	**20 49 20.9**	**-0.9**	
SMTB	**Santa Maria do**	**23.76**	**54**	*eP*	**P**	**P**	**20 49 21.8**	**+0.1**	
PRPB	**Parauapebas**	**24.11**	**45**	*eP*	**P**	**P**	**20 49 24.1**	**-0.8**	
ALF01	**Guarapari-ES**	**24.36**	**87**	*eP*	**P**	**P**	**20 49 26.7**	**-0.4**	
SJMB	**Sao Joao De Ma**	**24.43**	**82**	*eP*	**P**	**P**	**20 49 26.9**	**-0.9**	
COHC	**Cochancay**	**24.56**	**329**	P	**P**	**P**	**20 49 30.5**	**+1.5**	
RIB01	**Linhares ES**	**24.98**	**84**	*eP*	**P**	**P**	**20 49 31.8**	**-1.0**	
GUA01	**Guaratinga, BA**	**26.36**	**79**	*eP*	**P**	**P**	**20 49 44.4**	**-0.8**	
BOAV	**Boa Vista**	**26.94**	**14**	*eP*	**P**	**P**	**20 49 51.9**	**+1.5**	
CMC01	**Camacan, BA**	**27.06**	**77**	*eP*	**P**	**P**	**20 49 50.5**	**-0.9**	
GDU01	**Guandu, BA**	**27.68**	**73**	*eP*	**P**	**P**	**20 49 56.2**	**-0.8**	
RCBR	**Riachuelo**	**34.77**	**64**	*eP*	**P**	**P**	**20 50 59.4**	**+0.4**	
MTO3	**Montecristo**	**44.07**	**328**		**P**	**P**	**20 52 17.5**	**+1.5**	
CMIG	**Matias Romero**	**49.18**	**324**	LR	LR	LR	21 12 18.0		
	comp=Z,71nm,21.1s,baz=127,slow=34								
833A	**Chaparral WMA,**	**60.76**	**327**	P	**P**	**P**	**20 54 18.8**	**+0.7**	
JCT	**Junction City**	**62.73**	**328**	P	**P**	**P**	**20 54 32.0**	**+0.7**	
JCT					IAmb	IAmb	20 54 32.8		
	comp=Z,6.4nm,0.7s								
WVT	**Waverly**	**63.02**	**341**	P	**P**	**P**	**20 54 32.5**	**-0.4**	
CCM	**Cathedral Cave**	**65.86**	**339**	P	**P**	**P**	**20 54 51.4**	**0.0**	
QSPA	**South Pole Qui**	**66.20**	**180**			**P**	**20 54 54.8**	**+1.3**	
QSPA					IAmb	IAmb	20 54 55.7		
	comp=Z,7.7nm,0.6s								
S39A	**Bolivar**	**66.23**	**337**	P	**P**	**P**	**20 54 54.1**	**+0.3**	
S39A					IAmb	IAmb	20 54 55.0		
	comp=Z,9.0nm,0.7s								
DBIC	**Dimbokro**	**67.64**	**71**	P	**P**	**P**	**20 55 02.2**	**-1.0**	
	comp=Z,2.0nm,0.5s,baz=303,slow=2.8,SNR=8.7								
	comp=Z,2.0nm,0.5s								
ECSD	**EROS Data Cent**	**72.74**	**338**			**P**	**20 55 34.0**	**+0.5**	
ECSD					IAmb	IAmb	20 55 35.2		
	comp=Z,7.8nm,1.1s								
VNDA	**Vanda**	**74.73**	**190**	P	**P**	**P**	**20 55 46.1**	**+1.4**	
	comp=Z,1.1nm,0.9s,baz=144,slow=3.5,SNR=8.1								
	comp=Z,1.1nm,0.9s								
TOA0	**Torodi Ar. Sit**	**76.41**	**69**	P	**P**	**P**	**20 55 52.5**	**-2.7**	
TOA0					IAmb	IAmb	20 55 53.4		
	comp=Z,18nm,1.5s								
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	**P**	**P**	**20 55 53.3**	**-1.9**	
	comp=Z,2.4nm,0.5s,baz=253,slow=5.7,SNR=27								
	comp=Z,2.4nm,0.5s								
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	**P**	**P**	**20 55 52.9**	**-2.3**	
TORD					IAmb	IAmb	20 55 55.3		
	comp=Z,7.6nm,1.5s								
PDAR	**Pinedale Array**	**77.23**	**329**	P	**P**	**P**	**20 56 00.8**	**+1.2**	
	comp=Z,0.5nm,0.5s,baz=133,slow=7.9,SNR=8.8								
	comp=Z,0.5nm,0.5s								
ULM	**Lac du Bonnet**	**78.28**	**341**	P	**P**	**P**	**20 56 05.0**	**+0.2**	
	comp=Z,4.6nm,0.6s,baz=150,slow=6.9,SNR=5.3								
	comp=Z,4.6nm,0.6s								
NVAR	**Mina Array Bea**	**78.64**	**321**	P	**P**	**P**	**20 56 09.1**	**+1.8**	
	comp=Z,0.4nm,0.5s,baz=146,slow=6.6,SNR=2.3								
	comp=Z,0.4nm,0.5s								
IMW	**Indian Meadow**	**78.75**	**329**	P	**P**	**P**	**20 56 09.3**	**+1.5**	
HLID	**Hailey**	**80.18**	**327**		**P**	**P**	**20 56 17.3**	**+1.8**	
MCMT	**McKenzie Canyo**	**80.35**	**329**	P	**P**	**P**	**20 56 18.0**	**+1.6**	
BOSA	**Boshof**	**80.58**	**117**	P	**P**	**P**	**20 56 17.9**	**-0.2**	
	comp=Z,2.9nm,0.9s,baz=209,slow=6.7,SNR=3.5								
	comp=Z,2.9nm,0.9s								
MAW	**Mawson**	**81.39**	**163**	P	**P**	**P**	**20 56 23.4**	**+2.0**	
	comp=Z,1.6nm,0.3s,baz=198,slow=3.2,SNR=2.5								
	comp=Z,1.6nm,0.3s								
YKA	**Yellowknife Ar**	**94.18**	**340**	P	**P**	**P**	**20 57 23.6**	**+0.7**	
	comp=Z,1.8nm,0.6s,baz=136,slow=4.3,SNR=6.9								
	comp=Z,1.8nm,0.6s								
ASAR	**Alice Springs**	**128.53**	**204**	PKP		**PKPdf**	**21 03 11.6**	**+0.4**	
	comp=Z,1.7nm,0.7s,baz=134,slow=1.9,SNR=18								
WRA	**Warramunga Arr**	**131.70**	**207**	PKP		**PKiKP**	**21 03 17.8**	**-0.4**	
	comp=Z,1.2nm,0.5s,baz=154,slow=2.1,SNR=37								
ZALV	**Zalesovo Beam**	**143.31**	**28**	PKP	PKPbc		21 03 35.7	+0.6	
	comp=Z,2.1nm,0.6s,baz=309,slow=5.6,SNR=11								
MKAR	**Makanchi Array**	**146.42**	**40**	PKPbc		**PKPbc**	**21 03 44.3**	**-0.4**	
	comp=Z,2.7nm,0.6s,baz=324,slow=2.1,SNR=38								
SIJI	**Sorong**	**149.68**	**218**	PKPbc		**PKiKP**	**21 03 55.2**	**0.0**	
	comp=Z,10nm,0.8s,baz=18,slow=4.1,SNR=6.5								
PZH	**PanZhiHua**	**169.35**	**74**	PKP		**PKPdf**	**21 04 11.0**	**-0.3**	

IDC **16** *20:47:28.6±1.2,* 7.64S×102.20E, *h0km, mb3.7/8, mbtmp3.8/9, ML4.2/1, Error ellipse: s-maj=40.0km s-min=18.8km az=55.0*

NEIC **16** *20:47:34.3±2.1,* 7.05S±0.1×102.8E±0.1, *h10km±1km, mb4.4/11, Error ellipse: s-maj=25.8km s-min=17.3km az=245.0*

ISC 16 20:47:32.9±1.3, 7.1S±0.2×102.6E±0.2, h10km, n27, σ1s22/25, mb4.1/13, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.76**	**7**	Pn	**Pn**	**20 48 15.9**	**-1.3**
LEM	**Lembang**	**4.99**	**87**	Pn	**Pn**	**20 48 49.3**	**+1.2**
	7.9nm,0.3s,baz=111,slow=19,SNR=6.5						
	25nm,0.4s						
UGM	**Wanagama**	**7.89**	**96**	Pn	Pn	20 49 24.2	-3.7
MYLDM	**Lahad Datu**	**20.02**	**53**	P	**P**	**20 52 06.7**	**+0.6**
MYLDM				IAmb	IAmb	20 52 28.5	
	comp=Z,17nm,1.1s						
BATI	**Baumata**	**21.05**	**100**	P	**P**	**20 52 18.0**	**+0.7**
	comp=Z,4.7nm,0.3s,baz=282,slow=9.3,SNR=1.4						
	comp=Z,4.7nm,0.3s						
SOEI	**Soe**	**21.59**	**98**	P	**P**	**20 52 20.5**	**-2.7**
SOEI				IAmb	IAmb	20 52 37.3	
	comp=Z,22nm,0.7s						
PHRA	**Phrae**	**25.56**	**355**	P	**P**	**20 53 02.3**	**+0.2**
CM31	**Chiang Mai Arr**	**25.66**	**352**	P	**P**	**20 53 02.3**	**-0.8**
CM31				IAmb	IAmb	20 53 15.3	
	comp=Z,12nm,1.3s						
CMAR	**Chiang Mai Arr**	**25.66**	**352**	P	**P**	**20 53 04.0**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=183,slow=8.6,SNR=17						
	comp=Z,2.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.66**	**352**	P	**P**	**20 53 03.7**	**+0.6**
CHTO	**Chiang Mai**	**26.01**	**352**	P	**P**	**20 53 07.3**	**+1.0**
WB0	**Warramunga Arr**	**33.30**	**115**	P	**P**	**20 54 10.0**	**-1.2**
WB0				IAmb	IAmb	20 54 50.6	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**33.31**	**116**	P	**P**	**20 54 10.1**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=286,slow=12,SNR=3.0						
	comp=Z,0.2nm,0.7s						
WB2	**Warramunga Arr**	**33.32**	**116**	P	**P**	**20 54 09.5**	**-1.8**
WB2				IAmb	IAmb	20 54 11.5	
	comp=Z,6.2nm,1.2s						
ASAR	**Alice Springs**	**34.25**	**122**	P	**P**	**20 54 17.9**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=300,slow=7.8,SNR=4.9						
	comp=Z,0.2nm,0.4s						
KSAR	**Wonju Array Be**	**50.23**	**26**	P	**P**	**20 56 28.2**	**-1.0**
KS19	**Wonju Array Si**	**50.27**	**26**	P	**P**	**20 56 29.8**	**+0.2**
SONM	**Songino Array**	**54.81**	**3**	P	**P**	**20 57 03.9**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=185,slow=8.2,SNR=2.4						
	comp=Z,0.5nm,0.4s						
SONM	**Songino Array**	**54.81**	**3**	P	**P**	**20 57 04.7**	**+1.5**
SONM				IAmb	IAmb	20 57 33.0	
	comp=Z,3.0nm,1.2s						
MK31	**Makanchi Array**	**56.63**	**343**	P	**P**	**20 57 17.1**	**+1.0**
MK31				IAmb	IAmb	20 57 27.2	
	comp=Z,2.5nm,1.2s						
MKAR	**Makanchi Array**	**56.63**	**343**	P	**P**	**20 57 16.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=149,slow=8.6,SNR=7.7						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**56.63**	**343**	P	**P**	**20 57 16.3**	**+0.1**
ZALV	**Zalesovo Beam**	**62.65**	**348**	P	**P**	**20 57 57.7**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=158,slow=4.2,SNR=3.0						
	comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**67.34**	**331**	P	**P**	**20 58 28.7**	**+0.6**
VNDA	**Vanda**	**76.68**	**169**	P	P	20 59 17.8	-5.9
	comp=Z,0.5nm,0.6s,baz=308,slow=5.0,SNR=5.6						
	comp=Z,0.5nm,0.6s						
KVN	**Kaiserville**	**131.53**	**43**		**PKPdf**	**21 06 45.2**	**-1.3**
TXAR	**Lajitas Array**	**146.83**	**45**	PKPbc	**PKPdf**	**21 07 16.1**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=328,slow=1.2,SNR=1.9						

IDC 16 21:03:47.9±6.5, 17.84S×177.17W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=315.4km s-min=46.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.80**	**259**	P	P	21 12 11.5	-0.3
	0.3nm,0.6s,baz=95,slow=7.0,SNR=11						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**45.94**	**254**	P	P	21 12 13.1	+0.1
	2.4nm,0.5s,baz=89,slow=8.1,SNR=51						
	2.4nm,0.5s						
BRTR	**Keskin Array B**	**145.56**	**316**	PKPbc	PKPdf	21 23 26.9	-1.7
	0.4nm,0.5s,baz=42,slow=2.3,SNR=2.4						
GERES	**GERESS Array B**	**147.83**	**346**	PKPbc	PKPbc	21 23 35.0	0.0
	0.5nm,0.5s,baz=20,slow=4.3,SNR=4.4						

IDC **16** *21:04:58.8±0.9, 41.52S×174.01E, h0km, mb4.2/7, mbtmp4.2/8, ML4.3/1, MS3.8/16, Error ellipse: s-maj=33.1km s-min=20.5km az=58.0*

WEL **16** *21:05:00.9±0.3, 42.5S±2.1×174.4E±0.1, h11km±2km, M5.0/43, ML5.2/18, MLv5.0/43, Error ellipse: s-maj=0.0km s-min=0.0km az=127.1*

NEIC **16** *21:05:00.9±1.5, 41.73S±0.04×174.17E±0.04, h17km±4km, mb4.4/11, Mwr4.6/29, Error ellipse: s-maj=5.6km s-min=4.0km az=168.0*

NOU **16** *21:05:00.4, 41.86S×174.35E, h14km, MLv5.3/15, Cook Strait, New Zealand*

WEL **16** *21:05:00, 41.72S×174.17E, h21km, ML5.0, Mw4.7, Moment Tensor Solution. s7 Moment tensor: Scale 10^16 Nm; Mrr0.00; Mθθ1.35; Mφφ-1.35; Mrθ-0.16; Mθφ0.18; Mφr-0.18; Fault plane solution: M0 1.38000×10^16 NP1: φs221.00000°, δ90.00000°, λ170.00000°. Principal axes: T 1380.0100, Plg7.0000°, Azm176.0000°; N 1.2900, Plg80.0000°, Azm41.0000°; P -1381.3000, Plg7.0000°, Azm266.0000°;*

NEIC **16** *21:05:00.8, 41.76S×174.21E, h20km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.30; Mθθ0.90; Mφφ-1.20; Mrθ-0.30; Mθφ0.21; Mφr-0.10; Fault plane solution: M0 1.15000×10^16 NP1: φs311.26000°, δ72.68000°, λ14.20000°. NP2: φs216.95000°, δ76.45000°, λ162.17000°. Principal axes: T 1.0499, Plg22.0000°, Azm174.0000°; N 0.1757, Plg68.0000°, Azm1.0000°; P -1.2256, Plg3.0000°, Azm265.0000°;*

ISC 16 21:05:01.0±0.7, 41.75S±0.03×174.21E±0.02, h17km±4km, n237, σ1s25/230, mb4.2/14, MS3.7/17, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.01**	**33**		**Pg**	**21 05 04.1**	**+0.1**
CMWZ				Sg	**Sg**	**21 05 06.2**	**+0.1**
CMWZ	**Cape Campbell**	**0.01**	**33**	P	**Pg**	**21 05 04.3**	**+0.3**
CMWZ				S	**Sg**	**21 05 07.3**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.25**	**279**		**Pg**	**21 05 06.0**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.25**	**279**	P	**Pg**	**21 05 06.1**	**-0.6**
BSWZ				S	**Sg**	**21 05 10.0**	**-0.5**
TUWZ	**Tuamarina**	**0.38**	**328**		**Pg**	**21 05 08.0**	**-0.8**
TUWZ				Sg	**Sg**	**21 05 13.0**	**-1.1**
TUWZ	**Tuamarina**	**0.38**	**328**	P	**Pg**	**21 05 08.1**	**-0.8**
TUWZ				S	**Sg**	**21 05 13.3**	**-0.8**
TCW	**Tory Channel**	**0.55**	**5**		**Pg**	**21 05 11.0**	**-0.9**
TCW				Sg	**Sg**	**21 05 18.5**	**-0.6**
TCW	**Tory Channel**	**0.55**	**5**	P	**Pg**	**21 05 11.0**	**-0.9**
TCW				S	**Sg**	**21 05 18.6**	**-0.6**
SNZO	**South Karori**	**0.58**	**40**		**Pg**	**21 05 12.5**	**0.0**
SNZO	**South Karori**	**0.58**	**40**	P	**Pb**	**21 05 13.0**	**+0.4**
WEL	**Wellington**	**0.63**	**42**	P	**Pb**	**21 05 13.6**	**+0.1**
PLWZ	**Palliser**	**0.81**	**77**		**Pg**	**21 05 17.2**	**+0.5**
PLWZ	**Palliser**	**0.81**	**77**	P	**Pn**	**21 05 17.4**	**-0.1**
NNZ	**Nelson**	**0.82**	**310**		**Pb**	**21 05 15.7**	**-1.0**
NNZ	**Nelson**	**0.82**	**310**	P	**Pb**	**21 05 15.8**	**-1.0**
MSWZ	**Moikau Station**	**0.85**	**67**		**Pn**	**21 05 18.1**	**-0.1**
MSWZ	**Moikau Station**	**0.85**	**67**	P	**Pn**	**21 05 18.2**	**0.0**
CAW	**Cannon Point**	**0.91**	**45**	P	**Pb**	**21 05 18.4**	**+0.1**
DUWZ	**D'Urville Isla**	**0.98**	**347**	P	**Pb**	**21 05 18.3**	**-1.1**
THZ	**Tophouse**	**0.98**	**269**		**Pb**	**21 05 19.0**	**-0.4**
THZ	**Tophouse**	**0.98**	**269**	P	**Pb**	**21 05 19.1**	**-0.4**
PAWZ	**Paruwai Farm**	**0.99**	**68**	P	**Pb**	**21 05 19.9**	**+0.3**
KIW	**Kapiti Island**	**1.04**	**31**	P	**Pb**	**21 05 20.0**	**-0.4**
MTW	**Mount Morrison**	**1.14**	**59**	P	**Pn**	**21 05 21.8**	**-0.3**
MRNZ	**Matariki Terra**	**1.15**	**288**		**Pb**	**21 05 22.0**	**-0.3**
MRNZ	**Matariki Terra**	**1.15**	**288**	P	**Pb**	**21 05 22.2**	**-0.1**
TRWZ	**Traveller**	**1.17**	**73**	P	**Pn**	**21 05 22.1**	**-0.4**
OGWZ	**Otaki Gorge**	**1.18**	**38**	P	**Pb**	**21 05 22.9**	**0.0**
TKNZ	**Takaka Hill**	**1.18**	**307**		**Pn**	**21 05 22.1**	**-0.6**
TKNZ	**Takaka Hill**	**1.18**	**307**	P	**Pn**	**21 05 22.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.30**	**49**	P	**Pn**	**21 05 24.1**	**-0.2**
TMWZ	**Te Maipa**	**1.42**	**63**	P	**Pn**	**21 05 25.4**	**-0.5**
GVZ	**Greta Valley S**	**1.49**	**215**	Pn	**Pn**	**21 05 26.9**	**-0.1**
GVZ	**Greta Valley S**	**1.49**	**215**	P	**Pn**	**21 05 27.1**	**+0.1**
MRZ	**Mangatainoka R**	**1.50**	**44**		**Pn**	**21 05 27.0**	**-0.1**
MRZ	**Mangatainoka R**	**1.50**	**44**	P	**Pn**	**21 05 27.0**	**-0.1**
QRZ	**Quartz Range**	**1.57**	**306**		**Pb**	**21 05 28.7**	**-0.7**
QRZ	**Quartz Range**	**1.57**	**306**	P	**Pb**	**21 05 29.3**	**-0.2**
QRZ	**Quartz Range**	**1.57**	**306**	P	**Pb**	**21 05 28.8**	**-0.7**
TIWZ	**Tiroti**	**1.60**	**53**	P	**Pn**	**21 05 27.9**	**-1.5**
CPWZ	**Castlepoint**	**1.72**	**61**	P	**Pn**	**21 05 29.9**	**-0.2**
OHWZ	**Ohakea**	**1.76**	**29**	P	**Pb**	**21 05 32.2**	**-0.5**
LTZ	**Lake Taylor**	**1.77**	**234**	Pn	**Pn**	**21 05 30.9**	**+0.2**
LTZ	**Lake Taylor**	**1.77**	**234**	P	**Pn**	**21 05 31.1**	**+0.3**
PRWZ	**Pori Road**	**1.79**	**49**	P	**Pn**	**21 05 30.7**	**-0.4**
DSZ	**Denniston Nort**	**1.80**	**270**		**Pn**	**21 05 32.1**	**+0.9**
DSZ	**Denniston Nort**	**1.80**	**270**	P	**Pb**	**21 05 32.4**	**-1.1**
POWZ	**Post Office Ro**	**1.80**	**41**	P	**Pn**	**21 05 31.1**	**-0.1**
AMCZ	**Amberley**	**1.83**	**219**		**Pn**	**21 05 31.2**	**-0.4**
AMCZ	**Amberley**	**1.83**	**219**	P	**Pn**	**21 05 31.4**	**-0.2**
BFZ	**Birch Farm**	**1.87**	**56**	Pn	**Pn**	**21 05 31.1**	**-1.1**
BFZ	**Birch Farm**	**1.87**	**56**	P	**Pn**	**21 05 31.5**	**-0.7**
BFZ	**Birch Farm**	**1.87**	**56**	P	**Pn**	**21 05 31.1**	**-1.1**
DVHZ	**Dannevirke**	**2.08**	**46**	P	**Pn**	**21 05 34.1**	**-0.9**
WAZ	**Wanganui**	**2.08**	**17**	P	**Pn**	**21 05 37.0**	**-1.3**
OKCZ	**Okains Bay**	**2.14**	**203**	P	**Pn**	**21 05 35.2**	**-0.7**
TSZ	**Takapari Road**	**2.15**	**39**	P	**Pn**	**21 05 35.8**	**-0.3**
OXZ	**Oxford**	**2.25**	**225**	Pn	**Pn**	**21 05 36.3**	**-1.0**
OXZ	**Oxford**	**2.25**	**225**	P	**Pn**	**21 05 36.4**	**-1.0**
MQZ	**McQueen's Vall**	**2.26**	**210**	Pn	**Pn**	**21 05 36.0**	**-1.5**
MQZ	**McQueen's Vall**	**2.26**	**210**	P	**Pn**	**21 05 36.1**	**-1.5**
INZ	**Inchbonnie**	**2.27**	**244**		**Pn**	**21 05 37.9**	**+0.3**
INZ	**Inchbonnie**	**2.27**	**244**	P	**Pn**	**21 05 38.3**	**+0.6**
LREZ	**Lake Rotokare**	**2.30**	**4**	P	**Pb**	**21 05 39.9**	**-2.0**
AKCZ	**Akaroa Harbour**	**2.32**	**204**	P	**Pn**	**21 05 37.5**	**-0.9**
NMEZ	**Namu Road**	**2.35**	**354**	P	**Pn**	**21 05 40.3**	**+1.6**
PRHZ	**Porangahau**	**2.36**	**52**	P	**Pn**	**21 05 37.4**	**-1.5**
PNHZ	**Pukenui**	**2.38**	**40**	P	**Pn**	**21 05 38.5**	**-0.7**
WPHZ	**Waipukurau**	**2.39**	**46**	P	**Pn**	**21 05 38.8**	**-0.5**
KHEZ	**Kahui Hut**	**2.46**	**356**	P	**Pn**	**21 05 42.5**	**-2.3**
KHEZ	**Kahui Hut**	**2.46**	**356**	P	**Pn**	**21 05 42.0**	**+1.7**
NEZ	**North Egmont**	**2.48**	**358**	P	**Pn**	**21 05 42.5**	**+1.8**
RACZ	**Rakaia**	**2.49**	**217**	P	**Pn**	**21 05 39.6**	**-1.1**
NBEZ	**Newall Road No**	**2.50**	**354**	P	**Pn**	**21 05 42.4**	**+1.6**
MTVZ	**Mangateitei**	**2.56**	**23**	P	**Pn**	**21 05 43.9**	**+2.2**
DREZ	**Durham Road**	**2.56**	**360**	P	**Pn**	**21 05 43.4**	**+1.8**
PKE	**Pukeiti**	**2.56**	**356**	P	**Pn**	**21 05 43.3**	**+1.6**
PKVZ	**Pokaka**	**2.61**	**20**	P	**Pn**	**21 05 44.1**	**+1.7**
MOVZ	**Moawhango**	**2.62**	**27**	P	**Pn**	**21 05 42.9**	**+0.3**
MHCZ	**Mount Hutt**	**2.64**	**227**	P	**Pn**	**21 05 41.7**	**-1.0**
WNVZ	**Wahianoa**	**2.65**	**24**	P	**Pn**	**21 05 44.3**	**+1.3**
PXZ	**Pawanui**	**2.65**	**50**	P	**Pn**	**21 05 41.0**	**-1.8**
TRVZ	**Turoa**	**2.66**	**23**	P	**Pn**	**21 05 44.5**	**+1.4**
VRZ	**Vera Road**	**2.66**	**9**	P	**Pn**	**21 05 44.6**	**+1.6**
BHHZ	**Black Hill Sta**	**2.67**	**33**	P	**Pn**	**21 05 43.2**	**0.0**
MHEZ	**Mangahewa**	**2.68**	**2**	P	**Pn**	**21 05 45.6**	**+2.3**
DRZ	**Dome Shelter**	**2.68**	**23**	P	**Pn**	**21 05 45.4**	**+1.8**
WHVZ	**Whangaehu Hut**	**2.68**	**24**	P	**Pn**	**21 05 44.8**	**+1.2**
FWVZ	**Far West T-bar**	**2.70**	**23**	P	**Pn**	**21 05 45.0**	**+1.3**
TUVZ	**Tukino**	**2.72**	**24**	P	**Pn**	**21 05 45.0**	**+1.1**
NGZ	**Ngauruhoe**	**2.79**	**23**	P	**Pn**	**21 05 46.2**	**+1.3**
SNVZ	**South Ngauruho**	**2.79**	**24**	P	**Pn**	**21 05 46.2**	**+1.3**
WACZ	**Wakanui South**	**2.80**	**218**	P	**Pn**	**21 05 43.9**	**-1.0**
KAHZ	**Kahuranaki**	**2.82**	**47**	P	**Pn**	**21 05 43.8**	**-1.4**
OTVZ	**Oturere**	**2.82**	**24**	P	**Pn**	**21 05 46.7**	**+1.4**
NNVZ	**North Ngauruho**	**2.83**	**23**	P	**Pn**	**21 05 46.9**	**+1.4**
WTVZ	**West Tongariro**	**2.84**	**22**	P	**Pn**	**21 05 46.7**	**+1.1**
TWVZ	**Taurewa**	**2.84**	**20**	P	**Pn**	**21 05 46.6**	**+1.1**
ETVZ	**East Tongariro**	**2.86**	**24**	P	**Pn**	**21 05 47.0**	**+1.1**
TMVZ	**Te Maari**	**2.87**	**24**	P	**Pn**	**21 05 46.9**	**+0.9**
KRVZ	**Karewarewa**	**2.87**	**23**	P	**Pn**	**21 05 47.4**	**+1.3**
KWHZ	**Kaweka Forest**	**2.87**	**37**	P	**Pn**	**21 05 45.3**	**-0.7**
NTVZ	**North Tongarir**	**2.88**	**23**	P	**Pn**	**21 05 47.4**	**+1.2**
WVZ	**Waitaha Valley**	**2.89**	**242**	P	**Pn**	**21 05 46.5**	**+0.4**
MCHZ	**McNeill Hill**	**2.98**	**40**	P	**Pn**	**21 05 46.4**	**-1.1**
KATZ	**Kakaramea**	**3.00**	**23**	P	**Pn**	**21 05 48.9**	**+1.1**
CKHZ	**Cape Kidnapper**	**3.02**	**47**	P	**Pn**	**21 05 46.4**	**-1.6**
RPZ	**Rata Peaks**	**3.04**	**229**	Pn	**Pn**	**21 05 47.6**	**-0.7**
	41nm,0.3s,baz=97,slow=1.3,SNR=61						
RPZ				Sn	**Sn**	**21 06 23.2**	**-1.0**
	161nm,0.3s,baz=314,slow=12,SNR=3.6						
	223nm,0.4s						
RPZ	**Rata Peaks**	**3.04**	**229**	Pn	**Pn**	**21 05 47.3**	**-0.9**
RPZ	**Rata Peaks**	**3.04**	**229**	P	**Pn**	**21 05 48.1**	**-0.1**
RPZ	**Rata Peaks**	**3.04**	**229**	P	**Pn**	**21 05 47.4**	**-0.8**
RITZ	**Rihia Road**	**3.05**	**25**	P	**Pn**	**21 05 49.1**	**+0.7**
BKZ	**Black Stump Fm**	**3.12**	**35**	Pn	**Pn**	**21 05 48.1**	**-1.3**
BKZ	**Black Stump Fm**	**3.12**	**35**	P	**Pn**	**21 05 49.0**	**-0.4**
BKZ	**Black Stump Fm**	**3.12**	**35**	P	**Pn**	**21 05 48.3**	**-1.1**
RATZ	**Rangitukua**	**3.12**	**23**	P	**Pn**	**21 05 51.0**	**+1.6**
ARCZ	**Arundel**	**3.13**	**224**	P	**Pn**	**21 05 48.6**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**3.27**	**240**	P	**Pn**	**21 05 52.1**	**+0.8**
ARHZ	**Aropaoanui**	**3.27**	**41**	P	**Pn**	**21 05 50.1**	**-1.3**
HIZ	**Hauiti**	**3.27**	**9**	Pn	**Pn**	**21 05 52.3**	**+0.8**
HIZ	**Hauiti**	**3.27**	**9**	P	**Pn**	**21 05 53.7**	**+2.2**
HIZ	**Hauiti**	**3.27**	**9**	P	**Pn**	**21 05 52.9**	**+1.4**
NMHZ	**Naumai**	**3.31**	**38**	P	**Pn**	**21 05 51.0**	**-1.0**
WHTZ	**Whakaora**	**3.36**	**24**	P	**Pb**	**21 05 57.8**	**-2.4**
MRHZ	**Matea Rd**	**3.37**	**31**	P	**Pn**	**21 05 52.0**	**-0.9**
TMZ	**Timaru**	**3.52**	**221**	P	**Pn**	**21 05 53.9**	**-1.0**
MTHZ	**Maungataniwha**	**3.53**	**36**	P	**Pn**	**21 05 53.5**	**-1.5**
TLZ	**Tolley Road**	**3.57**	**17**	P	**Pn**	**21 05 56.9**	**+1.3**
ALRZ	**Allen Road**	**3.58**	**28**	P	**Pn**	**21 05 54.9**	**-0.8**
RAHZ	**Arahi**	**3.59**	**39**	P	**Pn**	**21 05 54.5**	**-1.3**
FOZ	**Fox Glacier**	**3.70**	**240**	Pn	**Pn**	**21 05 57.1**	**-0.1**
FOZ	**Fox Glacier**	**3.70**	**240**	P	**Pn**	**21 05 57.7**	**+0.4**
HRRZ	**Handcock Road**	**3.72**	**26**	P	**Pn**	**21 05 57.4**	**-0.2**
RTZ	**Ruatahuna**	**3.79**	**35**	P	**Pn**	**21 05 57.5**	**-1.1**
MUGZ	**Murupara**	**3.82**	**32**	P	**Pn**	**21 05 57.3**	**-1.6**
MHGZ	**Mahia Peninsul**	**3.84**	**49**	P	**Pn**	**21 05 56.8**	**-2.4**
TARZ	**Mount Tarawera**	**3.93**	**

KSRS					LR	LR	21 55 37.7			
	comp=Z,11nm,20.1s,baz=325,slow=34									
	comp=Z,0.6nm,0.4s									
CMAR	**Chiang Mai Arr**		**91.61**	**293**	P	**P**	**21 18 06.9**	**-0.2**		
	comp=Z,1.0nm,0.3s,baz=143,slow=3.0,SNR=7.0									
CMAR					LR	LR	22 03 50.7			
	comp=Z,22nm,18.3s,baz=115,slow=39									
	comp=Z,1.0nm,0.3s									
PZH	**PanZhiHua**		**95.31**	**301**	P	**P**	**21 18 24.6**	**+0.5**		
PZH					pmax	pmax				
	comp=Z,10.0nm,0.5s									
PZH					pmax	pmax				
	comp=Z,130nm,4.9s									
LPIG	**La Paz**		**95.62**	**63**	LR	LR	21 54 29.3			
	comp=Z,43nm,18.6s,baz=222,slow=31									
BRDH	**Bariadhala**		**99.49**	**292**	LR	LR	22 09 43.3			
	comp=Z,81nm,18.1s,baz=240,slow=39									
HHC	**Hu-ho-hao-te**		**99.87**	**317**	*e*P	**Pdif**	**21 18 45.6**	**+1.3**		
HHC					pmax	pmax				
	comp=Z,17nm,0.9s									
HHC					pmax	pmax				
	comp=Z,230nm,4.5s									
WMQ	**Urumqi**		**115.14**	**307**	*e*P	**PKPdf**	**21 23 40.6**	**-0.2**		
KURBB	**Kurchatov Arra**		**123.96**	**310**	PKP	**PKiKP**	**21 23 58.0**	**+0.3**		
	comp=Z,0.3nm,0.7s,baz=121,slow=1.7,SNR=4.0									
DBIC	**Dimbokro**		**145.05**	**182**	PKPbc	**PKPdf**	**21 24 39.3**	**+1.5**		
	comp=Z,2.8nm,0.7s,baz=150,slow=3.4,SNR=2.6									
ARCES	**ARCESS Array B**		**147.77**	**340**	PKPbc	**PKPbc**	**21 24 43.1**	**-0.5**		
	comp=Z,4.9nm,0.9s,baz=35,slow=3.0,SNR=8.1									
BRTR	**Keskin Array B**		**150.23**	**279**	PKPbc	**PKPbc**	**21 24 50.3**	**-0.6**		
	comp=Z,0.9nm,0.6s,baz=134,slow=5.3,SNR=4.3									
TORD	**Torodi Ar. Bea**		**150.76**	**195**	PKPbc	**PKPbc**	**21 24 52.8**	**+0.2**		
	comp=Z,4.4nm,0.7s,baz=161,slow=2.2,SNR=25									
FINES	**FINESS Array B**		**152.52**	**327**	PKPbc	**PKPbc**	**21 24 53.3**	**-1.9**		
	comp=Z,1.0nm,0.5s,baz=292,slow=1.0,SNR=3.9									

IDC ***16*** *21:06:01.6±2.0, 11°.42N×86°.31W, h0km, mb3.5/2, mbtmp3.5/2, MS2.9/3, Error ellipse: s-maj=164.0km s-min=19.4km az=45.0*
UCR ***16*** *21:06:04.1±2.2, 11°.03N×86°.47W, h2km±12km, MW4.2*
INET ***16*** *21:06:04.2±0.6, 11°.03N×86°.52W, h15km±999km, MW4.0*
ISC 16 21:06:04.3±1.2, 11°.09N±0°.05×86°.55W±0°.09, h22km±9km, n56, σ1s00/74, 4C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.97**	**23**	*e*P	**Pn**	**21 06 22.8**	**+0.1**
CONN	**Concepcion**	**1.02**	**62**	*e*P	**Pn**	**21 06 22.4**	**-0.9**
MGAN	**Managua**	**1.09**	**16**	*e*P	**Pn**	**21 06 24.5**	**+0.2**
GBS3	**Finca Las Img**	**1.11**	**106**	*e*P	**Pn**	**21 06 23.7**	**-1.0**
GBS3				*e*S	**Sb**	**21 06 39.0**	**-0.1**
WILN	**Americas 2**	**1.12**	**18**	*e*P	**Pn**	**21 06 24.4**	**-0.3**
LAPC	**Finca la Perla**	**1.14**	**106**	*e*P	**Pn**	**21 06 24.0**	**-1.0**
LAPC				*e*S	**Sb**	**21 06 39.5**	**-0.3**
BUEV	**Buena Vista**	**1.16**	**105**	⇑*i*P	**Pn**	**21 06 24.9**	**-0.4**
BUEV				*e*S	**Sb**	**21 06 40.3**	**0.0**
GB1A	**Borinquen Arri**	**1.16**	**103**	*e*P	**Pn**	**21 06 24.8**	**-0.6**
GB1A				*e*S	**Sb**	**21 06 40.9**	**+0.5**
VRLE	**La Escondida,**	**1.20**	**104**	*e*P	**Pn**	**21 06 25.7**	**-0.2**
VRLE				*e*S	**Sb**	**21 06 41.4**	**-0.2**
GPS3	**Bodega del ICE**	**1.21**	**106**	*e*P	**Pn**	**21 06 23.9**	**-2.1**
GPS3				*e*S	**Sb**	**21 06 41.3**	**-0.4**
BUAI	**Buenos Aires**	**1.21**	**100**	*e*P	**Pn**	**21 06 26.1**	**+0.1**
BUAI				*e*S	**Sb**	**21 06 44.5**	**+2.6**
GPS1	**Guardaparques**	**1.22**	**105**	*e*P	**Pn**	**21 06 25.5**	**-0.6**
GPS1				*e*S	**Sb**	**21 06 41.3**	**-0.8**
GPS2	**Hotel Rincn d**	**1.22**	**106**	⇑*e*P	**Pn**	**21 06 25.7**	**-0.4**
GPS2				*e*S	**Sb**	**21 06 41.7**	**-0.5**
HUEN		**1.29**	**16**	*e*P	**Pn**	**21 06 26.8**	**-0.2**
ORTG	**Ortega, Santa**	**1.29**	**124**	⇓*e*P	**Pn**	**21 06 25.5**	**-1.6**
ORTG				*e*S	**Sb**	**21 06 45.9**	**+1.7**
ORTG	**Ortega, Santa**	**1.29**	**124**	*e*P	**Pn**	**21 06 25.8**	**-1.3**
MOMN	**Momotombo**	**1.31**	**0**	*e*P	**Pn**	**21 06 27.2**	**-0.2**
SAJU	**San Juanillo,**	**1.31**	**141**	*e*P	**Pn**	**21 06 25.3**	**-2.0**
LIM1	**Limonal**	**1.33**	**107**	*e*P	**Pn**	**21 06 27.4**	**-0.2**
LIM1				*e*S	**Sb**	**21 06 44.5**	**-0.8**
GUAB	**Guayabo de Bag**	**1.35**	**106**	*e*P	**Pn**	**21 06 27.7**	**-0.2**
GUAB				*e*S	**Sb**	**21 06 46.4**	**+0.5**
MESS	**Mesas**	**1.37**	**105**	⇑*e*P	**Pn**	**21 06 28.4**	**+0.1**
MESS				*e*S	**Sb**	**21 06 46.9**	**+0.4**
COLC	**Colonia**	**1.39**	**108**	*e*P	**Pn**	**21 06 28.4**	**0.0**
COLC				*e*S	**Sb**	**21 06 46.6**	**-0.2**
HORNC	**Hornillas**	**1.40**	**106**	*e*P	**Pn**	**21 06 28.4**	**-0.2**
HORNC				*e*S	**Sb**	**21 06 46.1**	**-1.1**
CUI	**Cuipilapa**	**1.43**	**108**	*e*P	**Pn**	**21 06 28.7**	**-0.3**
CUI				*e*S	**Sb**	**21 06 47.1**	**-0.9**
VMAR	**Armenia, Volca**	**1.43**	**101**	⇓*e*P	**Pn**	**21 06 28.9**	**-0.1**
VMAR				*e*S	**Sb**	**21 06 47.8**	**-0.3**
NICO	**Nicoya**	**1.44**	**131**	*e*P	**Pn**	**21 06 25.5**	**-1.7**
DUNO	**Dulce Nombre,**	**1.44**	**134**	*e*P	**Pn**	**21 06 27.5**	**-1.7**
ACAL	**Aguas Claras**	**1.55**	**107**	*e*P	**Pn**	**21 06 30.8**	**+0.1**
ACAL				*e*S	**Sb**	**21 06 51.2**	**-0.5**
BOAB	**BOACO BROADBAN**	**1.60**	**32**	*e*P	**Pn**	**21 06 30.8**	**-0.5**
ACON	**Acoyapa**	**1.60**	**57**	*e*P	**Pn**	**21 06 30.2**	**-1.1**
POPE	**POPE, Guanacas**	**1.62**	**129**	*e*P	**Pn**	**21 06 30.3**	**-1.3**
VERA	**Finca Concepci**	**1.66**	**98**	*e*P	**Pn**	**21 06 32.4**	**+0.2**
VERA				*e*S	**Sb**	**21 06 54.6**	**-0.2**
CRIN	**San Cristobal**	**1.67**	**343**	*e*P	**Pn**	**21 06 32.9**	**+0.5**
JTS	**Las Juntas de**	**1.76**	**117**	Pn	**Pn**	**21 06 33.1**	**-0.4**
	60nm,0.3s,baz=339,slow=13,SNR=106						
JTS				Sn	**Sb**	**21 06 57.4**	**-0.1**
	76nm,0.3s,baz=160,slow=20,SNR=18						
JTS	**Las Juntas de**	**1.76**	**117**	*e*P	**Pn**	**21 06 33.1**	**-0.4**
JTS				*e*S	**Sb**	**21 06 57.7**	**+0.2**
JTS	**Las Juntas de**	**1.76**	**117**	*e*P	**Pn**	**21 06 33.2**	**-0.3**
CASO	**Castillo**	**1.90**	**110**	*e*P	**Pn**	**21 06 36.5**	**+1.1**
CEDE	**Laguna Cedeo**	**1.91**	**108**	*e*P	**Pn**	**21 06 36.8**	**+1.2**
VACR	**Volcan Arenal**	**1.94**	**108**	*e*P	**Pn**	**21 06 37.1**	**+1.1**
FORC	**Fortuna**	**1.95**	**108**	*e*P	**Pn**	**21 06 37.7**	**+1.6**
COVE	**Coope Vega, Sa**	**2.14**	**100**	*e*P	**Pn**	**21 06 38.9**	**+0.1**
JACO	**JACO, Garabito**	**2.34**	**127**	*e*P	**Pn**	**21 06 44.1**	**+2.6**
ESPN	**Las Esperanzas**	**2.46**	**63**	*e*P	**Pn**	**21 06 42.7**	**-0.4**
ESPN	**Las Esperanzas**	**2.46**	**63**	*e*P	**Pn**	**21 06 42.9**	**-0.2**
HAYA	**Volcan Irazu**	**2.88**	**112**	*e*P	**Pn**	**21 06 51.0**	**+1.7**
RIMA	**Rio Macho**	**2.95**	**116**	*e*P	**Pn**	**21 06 52.0**	**+1.9**
CDM	**Cerro de Muert**	**3.14**	**119**	*e*P	**Pn**	**21 06 54.3**	**+1.4**
SRBA	**San Rafael, Bu**	**3.64**	**120**	*e*P	**Pn**	**21 07 00.0**	**+0.5**
POTG	**Potrero Grande**	**3.94**	**121**	*e*P	**Pn**	**21 07 05.2**	**+1.7**
SDV	**Santo Domingo**	**15.82**	**97**	LR	LR	21 18 03.9	
	comp=Z,47nm,18.1s,baz=276,slow=46						
ATAH	**Atahualpa**	**19.84**	**156**	LR	LR	21 16 05.7	
	comp=Z,35nm,20.3s,baz=345,slow=30						
SJG	**San Juan**	**20.92**	**68**	LR	LR	21 18 13.1	
	comp=Z,38nm,18.4s,baz=49,slow=36						
TXAR	**Lajitas Array**	**24.18**	**321**	P	**P**	**21 11 19.4**	**0.0**
	0.9nm,0.6s,baz=135,slow=10,SNR=13						
	0.9nm,0.6s						
PDAR	**Pinedale Array**	**37.38**	**332**	P	**P**	**21 13 14.7**	**-1.1**
	0.4nm,0.6s,baz=134,slow=11,SNR=4.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**139.57**	**247**	PKP	**PKPdf**	**21 25 31.9**	**+0.8**
	0.1nm,0.3s,baz=113,slow=2.1,SNR=1.8						
WRA	**Warramunga Arr**	**139.72**	**252**	PKP	**PKPdf**	**21 25 32.4**	**+0.9**
	0.5nm,1.0s,baz=99,slow=2.7,SNR=2.7						

LDG ***16*** *21:07:25.5±0.1, 44°.16N×15°.14E, h10km, Ml3.5/22, Error ellipse: s-maj=3.1km s-min=2.2km az=162.0*
PDG ***16*** *21:07:26.4±0.4, 44°.23N×15°.17E, h13km±1km, ML3.6/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
RHSSO ***16*** *21:07:27.5±0.5, 44°.25N×15°.20E, h12km±2km, ML3.4/16*
PRU ***16*** *21:07:28.1±0.0, 44°.38N×15°.29E, h0km*
ISC 16 21:07:27.8±0.8, 44°.28N±0°.02×15°.16E±0°.02, h22km±6km, n132, σ2s00/215, 19C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRC	**Vir**	**0.08**	**279**	*i* Pg	**Pb**	**21 07 31.8**	**-0.1**
VIRC				Sg	**Sb**	**21 07 35.0**	**+0.4**
DUGI	**Dugi Otok**	**0.30**	**195**	*e*Pg	**Pb**	**21 07 33.8**	**-0.8**
DUGI				Sg	**Sb**	**21 07 38.1**	**-1.1**
NVLJ	**Novalja**	**0.35**	**323**	*e*Pg	**Pb**	**21 07 35.5**	**+0.2**
NVLJ				Sg	**Sb**	**21 07 40.5**	**-0.1**
UDBI	**Udbina**	**0.50**	**60**	*i* Pg	**Pb**	**21 07 37.4**	**-0.4**
UDBI				Sg	**Sb**	**21 07 44.5**	**-0.2**
RABC	**Rab**	**0.54**	**330**	*i* Pg	**Pb**	**21 07 38.9**	**+0.3**
RABC				Sg	**Sb**	**21 07 46.8**	**+0.7**
MORI	**Morici**	**0.57**	**136**	*i* Pg	**Pb**	**21 07 37.8**	**-1.3**
MORI				Sg	**Sb**	**21 07 45.5**	**-1.2**
PLIT	**Plitvice**	**0.68**	**29**	*i* Pg	**Pb**	**21 07 40.9**	**-0.1**
PLIT				Sg	**Sb**	**21 07 50.3**	**+0.3**
KIJV	**Kijevo**	**0.94**	**107**	*e*Pg	**Pb**	**21 07 44.1**	**-1.2**
KIJV				Sg	**Sb**	**21 07 56.3**	**-1.0**
A050A	**Klekovaca**	**1.00**	**78**	*e*Pg	**Pb**	**21 07 45.3**	**-1.1**
A050A				*e*Sg	**Sb**	**21 07 58.7**	**-0.5**
SMRN	**Sveta Marina**	**1.04**	**317**	*e*Pg	**Pb**	**21 07 47.7**	**+0.6**
SMRN				Sg	**Sn**	**21 08 01.9**	**+1.0**
RIY	**Rijeka**	**1.15**	**335**	*e*Pg	**Pb**	**21 07 49.9**	**+1.0**
RIY				Sg	**Sn**	**21 08 06.2**	**+2.6**
BRJN	**Brijuni**	**1.19**	**302**	*e*Pg	**Pb**	**21 07 50.2**	**+0.6**
BRJN				Sg	**Sb**	**21 08 06.5**	**+2.0**
BOJS	**Bojanci**	**1.23**	**3**	*e*Pg	**Pb**	**21 07 50.3**	**+0.1**
BOJS				*e*Sg	**Sb**	**21 08 06.6**	**+1.0**
PRIJ	**Prijedor**	**1.31**	**57**	*e*Pg	**Pn**	**21 07 51.0**	**+0.3**
PRIJ				*e*Sg	**Sb**	**21 08 08.6**	**+0.6**
OZLJ	**Ozalj**	**1.35**	**9**	*e*Pg	**Pb**	**21 07 53.1**	**+0.8**
OZLJ				Sg	**Sb**	**21 08 10.3**	**+1.0**
MGRS	**Mrkonjic Grad**	**1.38**	**84**	⇑*i*Pg	**Pn**	**21 07 51.7**	**-0.1**
MGRS				*e*Sg	**Sb**	**21 08 10.8**	**+0.6**
A051A	**Mrakovica**	**1.44**	**59**	*e*Pg	**Pn**	**21 07 53.4**	**+0.8**
A051A				*e*Sg	**Sb**	**21 08 12.7**	**+0.8**
HVAR	**Hvar**	**1.44**	**139**	*e*Pg	**Pn**	**21 07 52.8**	**+0.3**
HVAR				Sg	**Sn**	**21 08 11.4**	**+0.7**
SRKY	**Kupres RS**	**1.46**	**98**	⇑*i*Pg	**Pn**	**21 07 53.1**	**+0.3**
SRKY				*e*Sg	**Sb**	**21 08 13.1**	**+0.8**
BLY	**Banja Luka**	**1.52**	**71**	⇑*i*Pg	**Pn**	**21 07 54.7**	**+1.1**
BLY				*e*Sg	**Sb**	**21 08 15.1**	**+1.1**
CEY	**Cerknica**	**1.55**	**341**	⇑*i*Pn	**Pb**	**21 07 55.3**	**-0.5**
CEY				*e*Sn	**Sb**	**21 08 16.4**	**+1.4**
CRES	**Cresnjev**	**1.56**	**8**	*e*Pn	**Pb**	**21 07 55.8**	**-0.1**
CRES				*e*Sn	**Sb**	**21 08 15.9**	**+0.7**
RICI	**Ricice**	**1.63**	**118**	*i* Pn	**Pn**	**21 07 55.8**	**+0.8**
RICI				Sg	**Sb**	**21 08 16.8**	**+0.3**
ZAG	**Zagreb**	**1.65**	**20**	*e*Pn	**Pb**	**21 07 58.0**	**+0.5**
ZAG				Sg	**Sb**	**21 08 17.3**	**-0.6**
MAKA	**Makarska**	**1.67**	**126**	*i* Pn	**Pn**	**21 07 56.0**	**+0.4**
MAKA				Sn	**Sn**	**21 08 17.1**	**+0.8**
PTJ	**Puntijarka**	**1.72**	**19**	*e*Pn	**Pb**	**21 07 58.0**	**-0.8**
MOSL	**Moslavina**	**1.75**	**40**	*i* Pn	**Pn**	**21 07 57.2**	**+0.4**
MOSL				Sn	**Sn**	**21 08 18.8**	**+0.4**
LSTV	**Lastovo**	**1.97**	**140**	*i* Pn	**Pn**	**21 08 00.5**	**+0.8**
LSTV				Sn	**Sn**	**21 08 25.2**	**+1.5**
LOBO	**Lobor**	**1.98**	**19**	*e*Pn	**Pn**	**21 08 01.2**	**+1.2**
KALN	**Kalnik**	**2.06**	**26**	*e*Pn	**Pn**	**21 08 01.8**	**+0.7**
DOB	**Doboj**	**2.15**	**77**	*e*Pn	**Pn**	**21 08 02.9**	**+0.7**
DOB				*e*Sn	**Sn**	**21 08 29.0**	**+0.8**
OBKA	**Obir**	**2.27**	**349**	*e*Pn	**Pn**	**21 08 05.4**	**+1.4**
OBKA				*e*Sn	**Sb**	**21 08 33.9**	**-1.9**
OBKA	**Obir**	**2.27**	**349**	*e*Pn	**Pn**	**21 08 06.0**	**+2.0**
	28nm,0.3s,SNR=31						
STON	**Ston**	**2.32**	**127**	*e*Pn	**Pn**	**21 08 04.2**	**-0.4**
STON				*e*Sn	**Sn**	**21 08 32.7**	**+0.3**
SOKA	**Soboth**	**2.40**	**358**	*e*Pn	**Pn**	**21 08 05.8**	**0.0**
	2.2nm,0.2s						
BEHE	**Becsehely**	**2.47**	**27**	*e*Pn	**Pn**	**21 08 07.5**	**+0.9**
BEHE				*e*Sn	**Sn**	**21 08 38.3**	**+2.2**
BEHE	**Becsehely**	**2.47**	**27**	P	**Pn**	**21 08 07.7**	**+1.0**
BEHE				S	**Sn**	**21 08 37.9**	**+1.9**
MYKA	**Terra Mystica**	**2.58**	**336**	Pn	**Pn**	**21 08 10.2**	**+1.9**
	9.2nm,0.2s						
HAPS	**Han Pijesak,Bl**	**2.73**	**93**	*e*Pn	**Pn**	**21 08 11.4**	**+1.0**
HAPS				*e*Sn	**Sn**	**21 08 43.8**	**+1.1**
KOVH	**Kovagotottos**	**2.75**	**48**	P	**Pn**	**21 08 10.5**	**-0.1**
KOVH				S	**Sn**	**21 08 42.5**	**-0.6**
TREB	**Trebinje**	**2.80**	**123**	*e*Pn	**Pn**	**21 08 11.4**	**+0.3**
TREB				*e*Sn	**Sn**	**21 08 44.9**	**+0.7**
BRY	**Bratogost**	**2.81**	**118**	*e*Pn	**Pn**	**21 08 12.3**	**+0.8**
BRY				*e*Sn	**Sn**	**21 08 45.8**	**+1.0**
BRY	**Bratogost**	**2.81**	**118**	*e*Pn	**Pn**	**21 08 12.0**	**+0.5**
BRY				*i* Sn	**Sn**	**21 08 46.9**	**+2.1**
UPM	**Unac-Piva**	**2.92**	**110**	*e*Pn	**Pn**	**21 08 14.1**	**+1.1**
UPM				*e*Sn	**Sn**	**21 08 48.0**	**+0.6**
UPM	**Unac-Piva**	**2.92**	**110**	⇑*i*Pn	**Pn**	**21 08 13.5**	**+0.5**
UPM				*i* Sn	**Sn**	**21 08 49.7**	**+2.3**
BLJ	**Bijeljina**	**2.98**	**79**	*e*Sn	**Sn**	**21 08 48.0**	**-0.6**
ARSA	**Arzberg**	**2.98**	**5**	*e*Pn	**Pn**	**21 08 15.1**	**+1.4**
ARSA				*e*Sn	**Sn**	**21 08 50.5**	**+1.7**
ARSA	**Arzberg**	**2.98**	**5**	*e*Pn	**Pn**	**21 08 15.6**	**+1.9**
	1.7nm,0.2s						
HCY	**Herceg Novi**	**3.04**	**126**	*e*Pn	**Pn**	**21 08 14.5**	**0.0**
HCY				*e*Sn	**Sn**	**21 08 50.2**	**0.0**
HCY	**Herceg Novi**	**3.04**	**126**	*e*Pn	**Pn**	**21 08 15.1**	**+0.6**
HCY				*i* Sn	**Sn**	**21 08 52.4**	**+2.2**
KBA	**Koelnbreinsper**	**3.08**	**336**	*e*Pn	**Pn**	**21 08 17.1**	**+1.9**
	0.3nm,0.1s						
ABTA	**Abfaltersbach**	**3.09**	**324**	*e*Pn	**Pn**	**21 08 16.6**	**+1.3**
	1.6nm,0.2s						
MORH	**Mrgy, Hungar**	**3.13**	**51**	⇑P	**Pn**	**21 08 15.8**	**0.0**
MORH	**Mrgy, Hungar**	**3.13**	**51**	P	**Pn**	**21 08 15.7**	**0.0**
MORH				S	**Sn**	**21 08 50.7**	**-1.6**
TEKS	**Tekeris**	**3.14**	**84**	*e*Pn	**Pn**	**21 08 15.9**	**+1.0**
NKME	**Niksic**	**3.14**	**117**	⇑*i*Pn	**Pn**	**21 08 16.5**	**+0.5**
NKME				*i* Sn	**Sn**	**21 08 55.0**	**+2.2**
PLE	**Pljevlja**	**3.20**	**106**	⇑*i*Pn	**Pn**	**21 08 17.5**	**+0.7**
PLE				*i* Sn	**Sn**	**21 08 56.6**	**+2.2**
CEME	**Cevo**	**3.24**	**121**	⇓*i*Pn	**Pn**	**21 08 17.8**	**+0.5**
CEME				*i* Sn	**Sn**	**21 08 57.2**	**+2.0**
TIH	**Tihany**	**3.25**	**35**	P	**Pn**	**21 08 17.6**	**+0.3**
TIH				S	**Sn**	**21 08 55.0**	**-0.3**
MPLH	**Magyarpolny**	**3.33**	**29**	P	**Pn**	**21 08 19.4**	**+0.9**
MPLH				S	**Sn**	**21 08 58.6**	**+1.1**
BUM	**Brajici-Budva**	**3.37**	**125**	⇓*i*Pn	**Pn**	**21 08 19.6**	**+0.6**
BUM				*i* Sn	**Sn**	**21 09 00.3**	**+2.0**
FRGS	**Fruska Gora**	**3.43**	**74**	*e*Pn	**Pn**	**21 08 20.5**	**+0.7**
FRGS				*e*Sn	**Sn**	**21 08 59.6**	**-0.1**
KOME	**Kolasin**	**3.47**	**113**	*e*Pn	**Pn**	**21 08 21.1**	**+0.6**
KOME				*i* Sn	**Sn**	**21 09 03.1**	**+2.2**
DIVS	**Divibare**	**3.48**	**91**	*e*Pn	**Pn**	**21 08 20.6**	**0.0**
DIVS				*e*Sn	**Sn**	**21 09 01.4**	**+0.3**
PDG	**Podgorica**	**3.51**	**120**	⇑P	**Pn**	**21 08 20.8**	**-0.2**
PDG				⇓S	**Sn**	**21 09 02.7**	**+0.9**
RONA	**Rosalia, Austr**	**3.51**	**13**	*i* Pn	**Pn**	**21 08 22.6**	**+1.6**
	2.4nm,0.1s,SNR=8.2						
TTG	**Podgorica**	**3.51**	**120**	⇑*i*Pn	**Pn**	**21 08 21.6**	**+0.7**
TTG				*i* Sn	**Sn**	**21 09 03.9**	**+2.1**
SOP	**Sopron**	**3.54**	**15**	P	**Pn**	**21 08 22.6**	**+1.3**
SOP				S	**Sn**	**21 09 02.0**	**-0.5**
BIOA	**Bad Ischl, Aus**	**3.57**	**343**	*e*Pn	**Pn**	**21 08 25.0**	**+3.1**
	1.5nm,0.2s						
DRME	**Dracevica, Mon**	**3.61**	**124**	*e*Pn	**Pn**	**21 08 22.7**	**+0.4**
DRME				*e*Sn	**Sn**	**21 09 04.3**	**+0.1**
DRME	**Dracevica, Mon**	**3.61**	**124**	⇓*i*Pn	**Pn**	**21 08 22.9**	**+0.6**
DRME				*i* Sn	**Sn**	**21 09 06.2**	**+2.0**
MOA	**Molln**	**3.62**	**350**	*i* Pn	**Pn**	**21 08 24.6**	**+2.1**
	2.4nm,0.1s,SNR=9.7						
SJES	**Sjenica**	**3.63**	**105**	*e*Pn	**Pn**	**21 08 23.1**	**+0.4**
SJES				*e*Sn	**Sn**	**21 09 05.2**	**+0.3**
CONA	**Conrad Observa**	**3.68**	**7**	*i* Pn	**Pn**	**21 08 25.1**	**+1.7**
	2.4nm,0.2s,SNR=10						
IVA	**Berane**	**3.71**	**111**	*e*Pn	**Pn**	**21 08 24.6**	**+0.8**
IVA				*i* Sn	**Sn**	**21 09 09.0**	**+2.1**
CSKK	**Cskako**	**3.77**	**34**	S	**Sn**	**21 09 08.2**	**+0.1**
ULC	**Ulcinj**	**3.78**	**126**	*e*Pn	**Pn**	**21 08 25.3**	**+0.6**
ULC				*i* Sn	**Sn**	**21 09 10.3**	**+1.8**
MATE	**Matera**	**3.80**	**162**	⇑P	**Pn**	**21 08 24.4**	**-0.6**
WTTA	**Wattenberg**	**3.87**	**322**	Pn	**Pn**	**21 08 29.1**	**+3.0**
	1.9nm,0.2s,SNR=6.8						
WATA	**Walderalm**	**3.95**	**322**	Pn	**Pn**	**21 08 30.0**	**+2.8**
	2.4nm,0.2s,SNR=8.5						
SQTA	**Sankt Quirin**	**4.04**	**318**	Pn	**Pn**	**21 08 31.0**	**+2.6**
	0.8nm,0.1s,SNR=6.5						
ZST	**Bratislava**	**4.14**	**18**	*e*PN	**Pn**	**21 08 30.7**	**+1.1**
ZST				*e*SN	**Sn**	**21 09 16.7**	**-0.6**
FETA	**Feichten**	**4.14**	**313**	*e*Pn	**Pn**	**21 08 32.0**	**+2.2**
	2.4nm,0.3s						
SRO	**Srobarova**	**4.16**	**31**	*e*SN	**Sn**	**21 09 18.0**	**+0.3**
MOTA	**Moosalm**	**4.18**	**319**	*i* Pn	**Pn**	**21 08 32.7**	**+2.4**
	2.8nm,0.4s,SNR=6.1						
MODS	**Modra-Piesok**	**4.35**	**19**	*e*PN	**Pn**	**21 08 33.6**	**+1.1**
MODS				*e*SN	**Sn**	**21 09 20.2**	**-2.3**
RETA	**Reutte**	**4.44**	**318**	*e*Pn	**Pn**	**21 08 37.4**	**+3.6**
	0.8nm,0.2s						
CKRC	**Cesky Krumlov**	**4.58**	**353**	*e*PN	**Pn**	**21 08 36.6**	**+0.9**
CKRC				*e*SN	**Sn**	**21 09 28.3**	**+0.1**
BSZH	**Besenyszg**	**4.67**	**48**	S	**Sn**	**21 09 30.8**	**+0.4**
MDVR	**Moldovita**	**4.71**	**82**	⇑P	**Pn**	**21 08 36.4**	**-1.1**
MDVR				⇑S	**Sn**	**21 09 31.7**	**+0.2**
DAVA	**Damuels**	**4.76**	**311**	*i* Pn	**Pn**	**21 08 41.4**	**+3.0**
	1.6nm,0.2s,SNR=4.7						
BZS	**Buzias**	**4.77**	**71**	⇑P	**Pn**	**21 08 37.0**	**-1.2**
PGF	**Pioggiola**	**4.81**	**251**	*e*P	**Pn**	**21 08 39.3**	**+0.3**
PGF				*e*Sn	**Sn**	**21 09 27.9**	**-6.2**
	9.5nm,0.8s						
KRUC	**Moravsky**	**4.86**	**10**	*e*PN	**Pn**	**21 08 40.6**	**+1.1**
KRUC				*e*SN	**Sn**	**21 09 34.3**	**-0.7**
PSZ	**Piszkesteto**	**4.91**	**40**	⇑P	**Pn**	**21 08 40.2**	**+0.1**
PSZ	**Piszkesteto**	**4.91**	**40**	P	**Pn**	**21 08 40.3**	**+0.1**
PSZ				S	**Sn**	**21 09 34.7**	**-1.6**
VYHS	**Vyhne**	**4.92**	**30**	*e*PN	**Pn**	**21 08 40.9**	**+0.6**
VYHS				*e*SN	**Sn**	**21 09 35.0**	**-1.6**
KHC	**Kasperske Hory**	**4.97**	**348**	*e*PN	**Pn**	**21 08 42.1**	**+1.0**
KHC				*e*SN	**Sn**	**21 09 38.6**	**+0.7**
VRAC	**Vranov**	**5.12**	**11**	*e*PN	**Pn**	**21 08 44.5**	**+1.4**
HERR	**Herculane**	**5.21**	**81**	⇑P	**Pn**	**21 08 43.0**	**-1.4**
HERR				⇓S	**Sn**	**21 09 42.9**	**-0.9**
TIP	**Timpagrande**	**5.24**	**166**	⇑P	**Pn**	**21 08 45.5**	**+0.7**
GZR	**Gura Zlata**	**5.53**	**76**	⇑P	**Pn**	**21 08 48.6**	**-0.1**
GZR				⇑S	**Sn**	**21 09 50.2**	**-1.4**
SBF	**Sospel**	**5.58**	**268**	*e*P	**Pn**	**21 08 50.7**	**+1.2**
SBF				*e*Sn	**Sn**	**21 09 47.9**	**-5.1**
	17nm,0.4s						
KECS	**Kecovo**	**5.59**	**39**	*e*SN	**Sn**	**21 09 51.5**	**-1.4**
MORC	**Moravsky Berou**	**5.73**	**16**	*e*PN	**Pn**	**21 08 52.5**	**+1.0**
MORC				*e*SN	**Sn**	**21 09 55.9**	**-0.7**
ABAH	**Abaujker**	**5.82**	**44**	S	**Sn**	**21 09 56.4**	**-2.2**
MBDF	**Montbardon**	**6.02**	**277**	*e*P	**Pn**	**21 08 55.1**	**-0.5**
MBDF				*e*Sn	**Sn**	**21 09 58

HIZ	**Hauiti**	**4.29 19**	P	Pn	21 24 43.6	+2.3
MLZ	**Mavora Lakes**	**4.54 231**	P	Pn	21 24 42.6	-2.1
TLZ	**Tolley Road**	**4.64 24**	P	Pn	21 24 48.9	+2.6
SYZ	**Scrubby Hill**	**4.85 214**	P	Pn	21 24 46.9	-2.1
WHZ	**Wether Hill Ro**	**4.96 226**	P	Pn	21 24 47.6	-2.9
TOZ	**Tahuroa Road**	**5.19 22**	P	Pn	21 24 54.4	+0.7
APZ	**The Paps**	**5.59 219**	P	Pn	21 24 56.7	-2.5
AWAZ	**Awhitu Peninsu**	**5.65 13**	P	Pn	21 25 03.1	+3.1
MKAZ	**Moumakai**	**5.70 17**	P	Pn	21 25 00.9	+0.1

*TAP **16** 21:31:44.9, 24°.82N × 122°.13E, h100km, ML3.5, B*
*JMA **16** 21:31:45.0 ± 0.2, 24°.8N ± 0°.7 × 122°.1E ± 0°.4, h98km ± 2km, MV2.8/15, TAIWAN REGION*
ISC 16 21:31:44.9 ± 1.2, **24°.83N** ± 0°.03 × **122°.11E** ± 0°.02, **h102**km ± 5km, **n128**, σ **0.87**/245, **10C-1D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
EGS		**0.16**	**277**	*i* P		**Pn**	**21 31 59.5**	**+0.4**
	baz=277							
EGS				S		**Sn**	**21 32 09.1**	**-0.8**
	baz=277							
TWB1	**Santiao Chiao**	**0.21**	**330**	⇑ *i* P		**Pn**	**21 31 59.4**	**+0.1**
	baz=327							
TWB1				*i* S		**Sn**	**21 32 09.5**	**-0.7**
	baz=327							
TIPB	**Shuangxi**	**0.29**	**300**	*i* P		**Pn**	**21 31 59.8**	**0.0**
	baz=298							
TIPB				*i* S		**Sn**	**21 32 10.1**	**-0.7**
	baz=298							
TWC	**Suao**	**0.32**	**228**	*i* P		**Pn**	**21 31 59.8**	**0.0**
	baz=229							
TWC				*i* S		**Sn**	**21 32 10.0**	**-0.9**
	baz=229							
ILA	**Ilan**	**0.33**	**260**	*i* P		**Pn**	**21 32 00.1**	**+0.2**
	baz=260							
ILA				*i* S		**Sn**	**21 32 11.1**	**+0.1**
	baz=260							
SXI1	**Grass Mountain**	**0.34**	**322**	P		**Pn**	**21 31 60.0**	**-0.1**
	baz=320							
SXI1				S		**Sn**	**21 32 10.9**	**-0.4**
	baz=320							
NWF	**Wu-fen Shan**	**0.38**	**310**	⇑ *i* P		**Pn**	**21 32 00.3**	**0.0**
	baz=308							
NWF				*i* S		**Sn**	**21 32 11.6**	**-0.2**
	baz=308							
WFSB	**Wu-fen Shan**	**0.38**	**310**	P		**Pn**	**21 32 00.2**	**+0.1**
	baz=308							
WFSB				S		**Sn**	**21 32 11.4**	**-0.1**
	baz=308							
TWE	**Neicheng**	**0.41**	**256**	*i* P		**Pn**	**21 32 00.6**	**+0.3**
	baz=255							
TWE				*i* S		**Sn**	**21 32 11.6**	**-0.3**
	baz=255							
TNOU	**National Taiwa**	**0.44**	**317**	P		**Pn**	**21 32 00.6**	**+0.1**
	baz=315							
TNOU				S		**Sn**	**21 32 12.2**	**0.0**
	baz=315							
FUSB	**Fushanzhiwuyua**	**0.48**	**262**	P		**Pn**	**21 32 00.9**	**+0.1**
	baz=263							
FUSB				S		**Sn**	**21 32 14.5**	**+1.8**
	baz=263							
TWA	**Mucha**	**0.50**	**288**	⇑ *i* P		**Pn**	**21 32 00.8**	**-0.1**
	baz=287							
TWA				*i* S		**Sn**	**21 32 12.0**	**-0.9**
	baz=287							
ENA	**Nanau**	**0.52**	**220**	*i* P		**Pn**	**21 32 01.5**	**+0.4**
	baz=221							
ENA				*i* S		**Sn**	**21 32 13.8**	**+0.7**
	baz=221							
ENTT	**Nioudou**	**0.53**	**250**	*i* P		**Pn**	**21 32 00.6**	**-0.5**
	baz=250							
ENTT				S		**Sn**	**21 32 13.3**	**+0.1**
	baz=250							
NHDH	**Xindian Distri**	**0.55**	**285**	*i* P		**Pn**	**21 32 01.3**	**+0.1**
	baz=284							
NHDH				*e*S		**Sn**	**21 32 12.3**	**-1.1**
	baz=284							
NWLT	**Wulai**	**0.55**	**265**	*i* P		**Pn**	**21 32 00.3**	**-1.0**
	baz=265							
NWLT				S		**Sn**	**21 32 13.6**	**0.0**
	baz=265							
YM01	**YM01**	**0.58**	**303**	P		**Pn**	**21 32 01.6**	**0.0**
	baz=302							
YM01				S		**Sn**	**21 32 13.2**	**-0.8**
	baz=302							
NDT	**Datong Townshi**	**0.58**	**248**	*e*P		**Pn**	**21 32 00.6**	**-1.0**
	baz=248							
NDT				*e*S		**Sn**	**21 32 13.0**	**-1.0**
	baz=248							
LATG	**Datong**	**0.60**	**241**	P		**Pn**	**21 32 02.4**	**+0.6**
	baz=242							
LATG				S		**Sn**	**21 32 15.2**	**+0.8**
	baz=242							
ANP	**Anpu**	**0.64**	**304**	*i* P		**Pn**	**21 32 02.2**	**+0.1**
	baz=303							
ANP				S		**Sn**	**21 32 14.7**	**-0.3**
	baz=303							
TWY	**Chenhua**	**0.64**	**314**	*i* P		**Pn**	**21 32 02.1**	**+0.1**
	baz=313							
TWY				*i* S		**Sn**	**21 32 15.1**	**+0.2**
	baz=313							
YHNB	**Yeheng**	**0.68**	**257**	⇑ P		**Pn**	**21 32 02.8**	**+0.3**
	baz=257							
YHNB				S		**Sn**	**21 32 15.4**	**-0.2**
	baz=257							
TWS1	**Kuangyinshan**	**0.68**	**294**	*i* P		**Pn**	**21 32 02.6**	**+0.3**
	baz=293							
TWS1				*i* S		**Sn**	**21 32 17.2**	**+1.8**
	baz=293							
NTST	**Danshui**	**0.69**	**300**	*i* P		**Pn**	**21 32 02.5**	**+0.2**
	baz=299							
NSK	**Sanguang**	**0.70**	**258**	⇑ *i* P		**Pn**	**21 32 01.7**	**-0.9**
	baz=258							
NSK				*i* S		**Sn**	**21 32 14.7**	**-1.1**
	baz=258							
NNSB	**Datong**	**0.77**	**239**	⇑ P		**Pn**	**21 32 03.7**	**+0.5**
	baz=240							
NNSB				S		**Sn**	**21 32 17.1**	**+0.1**
	baz=240							
NNS	**Nan Shan**	**0.77**	**240**	*i* P		**Pn**	**21 32 02.9**	**-0.4**
	baz=240							
NNS				*i* S		**Sn**	**21 32 16.8**	**-0.3**
	baz=240							
NACB	**Ninganchiao**	**0.80**	**216**	P		**Pn**	**21 32 03.1**	**-0.3**
	baz=217							
NACB				S		**Sn**	**21 32 17.0**	**-0.3**
	baz=217							
PCYT	**Pengchaiyu**	**0.80**	**358**	*i* P		**Pn**	**21 32 04.0**	**+0.5**
	baz=356							
PCYT				*i* S		**Sn**	**21 32 18.6**	**+1.3**
	baz=356							
ETLH	**Xiulin Townshi**	**0.84**	**223**	P		**Pn**	**21 32 04.0**	**+0.1**
	baz=223							
ETLH				S		**Sn**	**21 32 18.1**	**0.0**
	baz=223							
NCU	**National Centr**	**0.85**	**280**	*i* P		**Pn**	**21 32 04.7**	**+0.8**
	baz=279							
NCU				*i* S		**Sn**	**21 32 19.8**	**+1.6**
	baz=279							
JYNG	**Yonagunijimaku**	**0.85**	**116**	P		**Pn**	**21 32 03.9**	**0.0**
JYNG				*e*S		**Sn**	**21 32 17.8**	**-0.4**
NCUH	**Zhongli**	**0.85**	**280**	*i* P		**Pn**	**21 32 04.7**	**+0.8**
	baz=279							
NCUH				*i* S		**Sn**	**21 32 19.6**	**+1.4**
	baz=279							
TWD	**Chiawan**	**0.88**	**212**	*i* P		**Pn**	**21 32 04.2**	**0.0**
	baz=212							
TWD				*i* S		**Sn**	**21 32 18.1**	**-0.6**
	baz=212							
YOJ	**Yonaguni jima**	**0.90**	**114**	⇓ P		**Pn**	**21 32 04.5**	**0.0**
	baz=113							
YOJ				S		**Sn**	**21 32 18.9**	**-0.1**
	baz=113							
YOJ	**Yonaguni jima**	**0.90**	**114**	P		**Pn**	**21 32 04.4**	**0.0**
YOJ				*e*S		**Sn**	**21 32 18.4**	**-0.6**
NFF	**Wufeng Townshi**	**0.92**	**258**	P		**Pn**	**21 32 03.9**	**-0.8**
	baz=258							
NFF				S		**Sn**	**21 32 18.9**	**-0.7**
	baz=258							
HWA	**Hwalien**	**0.96**	**209**	*i* P		**Pn**	**21 32 05.5**	**+0.5**
	baz=209							
HWA				S		**Sn**	**21 32 21.1**	**+0.9**
	baz=209							
FUSS	**Fushou**	**0.97**	**234**	*i* P		**Pn**	**21 32 06.2**	**+0.7**
	baz=234							
FUSS				*i* S		**Sn**	**21 32 21.3**	**+0.4**
	baz=234							
LIOB	**Emei**	**1.01**	**260**	*i* P		**Pn**	**21 32 06.0**	**+0.4**
	baz=260							
LIOB				S		**Sn**	**21 32 21.7**	**+0.5**
	baz=260							
SBCB	**Hsinchu**	**1.02**	**268**	P		**Pn**	**21 32 06.2**	**+0.5**
	baz=268							
SBCB				S		**Sn**	**21 32 21.9**	**+0.6**
	baz=268							
TWT	**Tachien**	**1.02**	**236**	*i* P		**Pn**	**21 32 07.0**	**+1.1**
	baz=237							
TWT				*i* S		**Sn**	**21 32 22.6**	**+1.0**
	baz=237							
WHF	**Hehuan Shan**	**1.02**	**229**	*i* P		**Pn**	**21 32 06.3**	**+0.2**
	baz=229							
WHF				*i* S		**Sn**	**21 32 22.3**	**+0.1**
	baz=229							
NSTT	**Nanjuang**	**1.02**	**259**	*i* P		**Pn**	**21 32 06.1**	**+0.3**
	baz=259							
NSTT				*i* S		**Sn**	**21 32 21.4**	**0.0**
	baz=259							
HSN	**Hsinchu**	**1.03**	**269**	*i* P		**Pn**	**21 32 06.0**	**+0.2**
	baz=270							
HSN				*i* S		**Sn**	**21 32 21.3**	**-0.3**
	baz=270							
TDCB	**Techi**	**1.03**	**237**	⇑ P		**Pn**	**21 32 06.9**	**+0.9**
	baz=237							
TDCB				S		**Sn**	**21 32 22.1**	**+0.2**
	baz=237							
CHGB	**Renai**	**1.14**	**228**	⇑ P		**Pn**	**21 32 07.9**	**+0.7**
	baz=228							
CHGB				S		**Sn**	**21 32 24.7**	**+0.6**
	baz=228							
ESL	**Shilin**	**1.18**	**212**	*i* P		**Pn**	**21 32 06.7**	**-0.8**
	baz=211							
ESL				S		**Sn**	**21 32 22.8**	**-1.7**
	baz=211							
WHP	**Taichung City**	**1.19**	**243**	*i* P		**Pn**	**21 32 08.7**	**+1.0**
	baz=243							
WHP				*i* S		**Sn**	**21 32 25.4**	**+0.5**
	baz=243							
WUSB	**Renai**	**1.23**	**228**	⇑ P		**Pn**	**21 32 08.8**	**+0.6**
	baz=228							
WUSB				S		**Sn**	**21 32 26.0**	**+0.3**
	baz=228							
NMLH	**Miaoli**	**1.23**	**257**	*e*P		**Pn**	**21 32 08.5**	**+0.4**
	baz=256							
NMLH				*e*S		**Sn**	**21 32 25.4**	**-0.2**
	baz=256							
NSY	**Sanyi**	**1.29**	**252**	*i* P		**Pn**	**21 32 09.6**	**+0.8**
	baz=251							
NSY				*i* S		**Sn**	**21 32 27.9**	**+1.1**
	baz=251							
TWQ1	**Liyutan**	**1.30**	**249**	*i* P		**Pn**	**21 32 09.1**	**+0.2**
	baz=249							
TWQ1				*i* S		**Sn**	**21 32 27.4**	**+0.3**
	baz=249							
EGFH	**Guangfu**	**1.31**	**208**	P		**Pn**	**21 32 08.6**	**-0.4**
	baz=209							
EGFH				S		**Sn**	**21 32 26.4**	**-0.7**
	baz=209							
WCS	**Beigang Elemen**	**1.33**	**235**	P		**Pn**	**21 32 09.0**	**-0.2**
	baz=235							
WCS				*i* S		**Sn**	**21 32 27.7**	**0.0**
	baz=235							
VWDT	**VWDT**	**1.38**	**220**	⇑ P		**Pn**	**21 32 10.5**	**+0.6**
	baz=220							
VWDT				S		**Sn**	**21 32 28.9**	**+0.2**
	baz=220							
WDJ	**Dajia District**	**1.42**	**251**	*i* P		**Pn**	**21 32 11.0**	**+0.8**
	baz=250							
WDJ				S		**Sn**	**21 32 30.0**	**+0.5**
	baz=250							
SMLT	**Sun Moon Lake**	**1.45**	**230**	*i* P		**Pn**	**21 32 11.5**	**+0.8**
	baz=229							
SMLT				*i* S		**Sn**	**21 32 31.7**	**+1.4**
	baz=229							
TYC	**Yuchr**	**1.46**	**231**	*i* P		**Pn**	**21 32 11.4**	**+0.7**
	baz=231							
TYC				S		**Sn**	**21 32 31.6**	**+1.2**
	baz=231							
HGSD	**Ruisui**	**1.47**	**205**	P		**Pn**	**21 32 10.5**	**-0.4**
	baz=205							
HGSD				S		**Sn**	**21 32 30.6**	**+0.1**
	baz=205							
TCU	**Taichung**	**1.47**	**243**	*i* P		**Pn**	**21 32 11.4**	**+0.6**
	baz=242							
TCU				S		**Sn**	**21 32 31.1**	**+0.6**
	baz=242							
SSLB	**Suanglung**	**1.47**	**226**	P		**Pn**	**21 32 12.0**	**+1.0**
	baz=226							
SSLB				S		**Sn**	**21 32 32.4**	**+1.6**
	baz=226							
EHY	**Hungye**	**1.50**	**209**	P		**Pn**	**21 32 10.5**	**-0.8**
	baz=209							
EHY				S		**Sn**	**21 32 30.2**	**-1.0**
	baz=209							
IRIF	**Iriomote-Funau**	**1.56**	**108**	P		**Pn**	**21 32 11.7**	**-0.3**
IRIF				S		**Sn**	**21 32 32.2**	**-0.2**
WCHH	**Zhanghua**	**1.59**	**243**	*i* P		**Pn**	**21 32 12.7**	**+0.3**
	baz=242							
WCHH				*i* S		**Sn**	**21 32 33.7**	**+0.4**
	baz=242							
WHYT	**Xinyi Township**	**1.60**	**226**	*i* P		**Pn**	**21 32 13.9**	**+1.3**
	baz=226							
WHYT				S		**Sn**	**21 32 35.9**	**+2.3**
	baz=226							
WNT	**Mingjian**	**1.60**	**234**	P		**Pn**	**21 32 13.6**	**+1.1**
	baz=234							
WNT				S		**Sn**	**21 32 34.7**	**+1.1**
	baz=234							
WJS	**Zhushan**	**1.61**	**232**	*e*P		**Pn**	**21 32 13.8**	**+1.2**
	baz=232							
WJS				S		**Sn**	**21 32 35.5**	**+1.9**
	baz=232							
YULB	**Yu-li**	**1.61**	**208**	P		**Pn**	**21 32 11.6**	**-1.0**
	baz=208							
YULB				S		**Sn**	**21 32 32.8**	**-0.9**
	baz=208							
EYUL	**Yuli**	**1.64**	**206**	*e*P		**Pn**	**21 32 13.8**	**+0.8**
	baz=206							
EYUL				*e*S		**Sn**	**21 32 36.3**	**+2.0**
	baz=206							
YUS	**Yu-Shan**	**1.70**	**219**	P		**Pn**	**21 32 15.0**	**+0.8**
	baz=218							
YUS				S		**Sn**	**21 32 37.4**	**+1.0**
	baz=218							
HATJ	**Hateruma jima**	**1.73**	**116**	P		**Pn**	**21 32 14.4**	**+0.3**
ALS	**Alishan**	**1.77**	**223**	P		**Pn**	**21 32 16.1**	**+1.2**
	baz=222							
FULB	**Fuli**	**1.78**	**205**	P		**Pn**	**21 32 15.1**	**+0.3**
	baz=205							
FULB				S		**Sn**	**21 32 37.3**	**-0.3**
	baz=205							
CHN5	**Tsauling**	**1.79**	**227**	P		**Pn**	**21 32 15.0**	**+0.1**
	baz=227							
CHN5				S		**Sn**	**21 32 38.1**	**+0.3**
	baz=227							
WDLH	**Douliu**	**1.82**	**232**	P		**Pn**	**21 32 16.5**	**+1.2**
	baz=232							
WDLH				*e*S		**Sn**	**21 32 40.3**	**+1.8**
	baz=232							
WRL	**Guolierlin Hig**	**1.83**	**240**	*e*P		**Pn**	**21 32 14.3**	**-1.0**
	baz=240							
WRL				*e*S		**Sn**	**21 32 37.3**	**-1.2**
	baz=240							
JKRS	**Kuro-shima**	**1.83**	**108**	P		**Pn**	**21 32 15.6**	**+0.2**
JKRS				S		**Sn**	**21 32 38.2**	**-0.4**
CHKT	**Chengkung**	**1.85**	**202**	P		**Pn**	**21 32 15.1**	**-0.5**
	baz=201							
CHKT				*i* S		**Sn**	**21 32 37.9**	**-1.1**
	baz=201							
ELDTW	**Lidau**	**1.91**	**212**	P		**Pn**	**21 32 16.6**	**+0.1**
	baz=211							
ELDTW				S		**Sn**	**21 32 40.0**	**-0.6**
	baz=211							
JIJ	**Ishigaki jima**	**1.91**	**103**	P		**Pn**	**21 32 16.5**	**+0.1**
JIJ				S		**Sn**	**21 32 39.2**	**-1.2**
WCKO	**Fanlu**	**1.95**	**225**	*e*P		**Pn**	**21 32 17.2**	**+0.3**
	baz=225							
WCKO				*e*S		**Sn**	**21 32 42.4**	**+1.1**
	baz=225							
CHN2	**Minshiung**	**1.97**	**230**	*e*P		**Pn**	**21 32 19.2**	**+2.1**
	baz=229							
CHN2				S		**Sn**	**21 32 43.9**	**+2.1**
	baz=229							
EDH	**Donghe**	**1.98**	**202**	P		**Pn**	**21 32 16.8**	**-0.6**
	baz=202							
EDH				S		**Sn**	**21 32 41.1**	**-1.0**
	baz=202							
CHN4	**Tsaushan**	**2.02**	**224**	*i* P		**Pn**	**21 32 18.4**	**+0.6**
	baz=223							
CHN4				S		**Sn**	**21 32 44.0**	**+1.1**
	baz=223							
JISG	**Ishigakijimahi**	**2.02**	**96**	P		**Pn**	**21 32 18.2**	**+0.4**
JISG				*e*S		**Sn**	**21 32 42.3**	**-0.6**
CHY	**Chiayi**	**2.03**	**230**	*e*P		**Pn**	**21 32 18.4**	**+0.5**
	baz=229							
CHY				*e*S		**Sn**	**21 32 43.9**	**+0.8**
	baz=229							
TPUB	**Ta-pu**	**2.03**	**222**	P		**Pn**	**21 32 19.1**	**+1.1**
	baz=222							
TPUB				*e*S		**Sn**	**21 32 44.7**	**+1.4**
	baz=222							
STYH	**Taoyuan**	**2.05**	**217**	*e*P		**Pn**	**21 32 18.4**	**+0.2**
	baz=217							
STYH				*e*S		**Sn**	**21 32 44.1**	**+0.6**
	baz=217							
WTP	**Ta-pu**	**2.08**	**221**	*i* P		**Pn**	**21 32 19.5**	**+0.8**
	baz=221							
WTP				S		**Sn**	**21 32 44.3**	**-0.2**
	baz=221							
WSF	**Szhu**	**2.09**	**236**	*e*P		**Pn**	**21 32 19.1**	**+0.4**
	baz=235							
WSF				S		**Sn**	**21 32 44.7**	**+0.2**
	baz=235							
LONT	**Longtian**	**2.11**	**205**	*e*P		**Pn**	**21 32 18.3**	**-0.7**
	baz=205							
LONT				*e*S		**Sn**	**21 32 44.1**	**-0.9**
	baz=205							
TWK	**Hsinying**	**2.14**	**224**	P		**Pn**	**21 32 20.5**	**+1.0**
	baz=223							
TWK				S		**Sn**	**21 32 46.9**	**+1.0**
	baz=223							
WSL	**Shuilin Townsh**	**2.15**	**233**	*e*P		**Pn**	**21 32 19.4**	**-0.1**
	baz=233							
WSL				*e*S		**Sn**	**21 32 46.2**	**+0.2**
	baz=233							
CHN1	**Nanshi**	**2.18**	**222**	P		**Pn**	**21 32 21.2**	**+1.2**
	baz=221							
CHN1				S		**Sn**	**21 32 46.9**	**+0.2**
	baz=221							
TWGBT	**Beinan**	**2.21**	**205**	*e*P		**Pn**	**21 32 20.7**	**+0.4**
	baz=205							
TWGBT				*e*S		**Sn**	**21 32 47.0**	**-0.3**
	baz=205							
TWG	**Pinlang**	**2.21**	**206**	P		**Pn**	**21 32 19.5**	**-0.8**
	baz=205							
TWG				S		**Sn**	**21 32 45.6**	**-1.7**
	baz=205							
LDUT	**Ludao**	**2.22**	**195**	*e*P		**Pn**	**21 32 19.4**	**-1.0**
	baz=195							
LDUT				S		**Sn**	**21 32 45.9**	**-1.7**
	baz=195							
SGST	**Jiashian**	**2.23**	**219**	*i* P		**Pn**	**21 32 20.8**	**+0.2**
	baz=219							
SGST				*i* S		**Sn**	**21 32 48.5**	**+0.8**
	baz=219							
MATB	**Ma-tsu**	**2.36**	**305**	P		**Pn**	**21 32 22.0**	**-0.2**
	baz=303							
MATB				S		**Sn**	**21 32 50.4**	**-0.4**
	baz=303							
JTJ	**Tarama**	**2.37**	**94**	*e*S		**Sn**	**21 32 51.0**	**+0.1**
VWUC	**VWUC**	**2.42**	**274**	P		**Pn**	**21 32 22.5**	**-0.4**
	baz=274							
VWUC				S		**Sn**	**21 32 50.7**	**-1.5**
	baz=274							
ECL	**Taimali**	**2.46**	**206**	*e*P		**Pn**	**21 32 23.9**	**+0.4**
	baz=205							
ECL				S		**Sn**	**21 32 52.1**	**-1.0**
	baz=205							
SSD	**Sandimen**	**2.47**	**213**	P		**Pn**	**21 32 25.3**	**+1.5**
	baz=213							
TSCK	**Chigu Township**	**2.49**	**228**	*e*P		**Pn**	**21 32 23.3**	**-0.6**
	baz=228							
TSCK				*e*S		**Sn**	**21 32 54.1**	**+0.2**
	baz=228							
TSMG	**Majia**	**2.50**	**213**	*e*P		**Pn**	**21 32 25.4**	**+1.3**
	baz=212							
MASBT	**Mashibuluo**	**2.58**	**212**	*e*P		**Pn**	**21 32 26.4**	**+1.2**
	baz=211							
MASBT				*e*S		**Sn**	**21 32 57.0**	**+0.9**
	baz=211							
PNG	**Penghu**	**2.65**	**242**	P		**Pn**	**21 32 25.5**	**-0.4**
	baz=241							
PNG				S		**Sn**	**21 32 56.6**	**-1.0**
	baz=241							
PHUB	**P'eng-hu**	**2.66**	**241**	*e*P		**Pn**	**21 32 25.9**	**-0.2**
	baz=240							
PHUB				*e*S		**Sn**	**21 32 56.4**	**-1.4**
	baz=240							
EAST	**Anshuo**	**2.69**	**206**	*e*P		**Pn**	**21 32 26.9**	**+0.2**
	baz=205							
EAST				*e*S		**Sn**	**21 32 57.1**	**-1.6**
	baz=205							
TAWH	**Dawu Township**	**2.71**	**205**	*e*P		**Pn**	**21 32 27.7**	**+0.8**
	baz=204							
TAWH				*e*S		**Sn**	**21 32 58.8**	**-0.5**
	baz=204							
XPSS	**Dashiqiu**	**2.72**	**321**	*e*P		**Pn**	**21 32 26.1**	**-0.8**
	baz=320							
XPSS				*e*S		**Sn**	**21 32 59.0**	**-0.2**
	baz=320							
PTMZ	**Houxiangcun**	**2.72**	**275**	P		**Pn**	**21 32 26.6**	**-0.3**
	baz=274							
PTMZ				S		**Sn**	**21 32 57.8**	**-1.5**
	baz=274							
WDGT	**Dungji**	**2.73**	**236**	*e*P		**Pn**	**21 32 26.4**	**-0.7**
	baz=235							
WDGT				*e*S		**Sn**	**21 32 58.5**	**-1.0**
	baz=235							
LYJJ	**Jianjiangzhen**	**2.73**	**310**	*e*P		**Pn**	**21 32 26.5**	**-0.5**
	baz=308							
JIRB	**Irabujima**	**2.79**	**89**	S		**Sn**	**21 33 02.1**	**+1.2**
SCZT	**Fangliau**	**2.80**	**209**	*e*P		**Pn**	**21 32 30.6**	**+2.6**
	baz=209							
SCZT				*e*S		**Sn**	**21 33 01.5**	**+0.3**
	baz=209							
LAY	**Lan-yu**	**2.82**	**191**	*e*P		**Pn**	**21 32 27.9**	**-0.5**
	baz=190							
LAY				*e*S		**Sn**	**21 33 00.9**	**-0.8**
	baz=190							
JIKM	**Ikemajima**	**2.85**	**87**	S		**Sn**	**21 33 03.7**	**+1.2**
JMJ2	**Miyako jima3**	**2.93**	**91**	S		**Sn**	**21 33 05.4**	**+1.1**
VCHM	**Qimei**	**2.93**	**237**	*e*P		**Pn**	**21 32 29.4**	**-0.4**
	baz=236							
VCHM				*e*S		**Sn**	**21 33 02.6**	**-1.7**
	baz=236							
JOGS	**Gusukube**	**3.00**	**91**	S		**Sn**	**21 33 08.0**	**+2.0**
SMST	**Manzhou Townsh**	**3.02**	**203**	*e*P		**Pn**	**21 32 31.4**	**+0.4**
	baz=203							
SMST				*e*S		**Sn**	**21 33 05.2**	**-1.4**
	baz=203							
MHZQ	**Yeshan**	**3.06**	**295**	*e*P		**Pn**	**21 32 31.6**	**+0.1**
	baz=294							
MHZQ				*e*S		**Sn**	**21 33 06.8**	**-0.5**
	baz=294							
TWKBT	**Hengchun**	**3.11**	**203**	*e*P		**Pn**	**21 32 32.4**	**+0.2**
	baz=202							
TWKBT				*e*S		**Sn**	**21 33 09.7**	**+1.1**
	baz=202							
KNM	**Kinmen**	**3.37**	**264**	*e*P		**Pn**	**21 32 36.6**	**+1.0**
	baz=263							
KNM				*e*S		**Sn**	**21 33 17.1**	**+2.3**
	baz=263							
KNMB	**Chin-men Tao**	**3.40**	**265**	*e*P		**Pn**	**21 32 35.5**	**-0.5**
	baz=264							
KNMB				*e*S		**Sn**	**21 33 15.0**	**-0.6**
	baz=264							
AXDP	**Jialang**	**3.76**	**272**	*e*P		**Pn**	**21 32 41.0**	**+0.1**
	baz=271							
AXDP				*e*S		**Sn**	**21 33 21.7**	**-2.4**
	baz=271							

*NOU **16** 21:43:13.5, 41°.89S × 174°.50E, h6km, MLv4.4/10, Cook Strait, New Zealand*
*WEL **16** 21:43:15.7 ± 0.4, 42°.S ± 4° × 17°.4E ± °, h14km ± 3km, M3.9/33, ML4.2/18, MLv3.9/33, Error ellipse

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**282**	P	**Pb**	**21 43 19.7**	**+0.7**
CMWZ				S	**Sb**	**21 43 23.4**	**+1.6**
BSWZ	**Blackbirch Sta**	**0.39**	**279**	P	**Pb**	**21 43 23.4**	**0.0**
BSWZ				S	**Sb**	**21 43 29.4**	**+0.2**
TUWZ	**Tuamarina**	**0.48**	**316**	P	**Pb**	**21 43 24.8**	**-0.2**
TUWZ				S	**Sb**	**21 43 31.3**	**-0.6**
SNZO	**South Karori**	**0.53**	**28**	P	**Pg**	**21 43 25.5**	**+0.3**
WEL	**Wellington**	**0.57**	**31**	P	**Pb**	**21 43 27.2**	**+0.7**
TCW	**Tory Channel**	**0.57**	**352**	P	**Pb**	**21 43 26.4**	**-0.2**
PLWZ	**Palliser**	**0.69**	**73**	P	**Pb**	**21 43 30.2**	**+1.6**
MSWZ	**Moikau Station**	**0.74**	**61**	P	**Pb**	**21 43 31.1**	**+1.6**
CAW	**Cannon Point**	**0.84**	**38**	P	**Pb**	**21 43 31.8**	**+0.6**
PAWZ	**Paruwai Farm**	**0.88**	**64**	P	**Pb**	**21 43 32.8**	**+1.0**
NNZ	**Nelson**	**0.94**	**306**	P	**Pb**	**21 43 32.8**	**0.0**
KIW	**Kapiti Island**	**1.00**	**24**	P	**Pg**	**21 43 34.2**	**+0.1**
DUWZ	**D'Urville Isla**	**1.03**	**340**	P	**Pg**	**21 43 34.4**	**-0.4**
MTW	**Mount Morrison**	**1.04**	**54**	P	**Pb**	**21 43 35.1**	**+0.5**
TRWZ	**Traveller**	**1.05**	**69**	P	**Pb**	**21 43 35.0**	**+0.2**
THZ	**Tophouse**	**1.10**	**270**	P	**Pb**	**21 43 36.1**	**+0.3**
OGWZ	**Otaki Gorge**	**1.13**	**32**	P	**Pn**	**21 43 36.5**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.22**	**45**	P	**Pn**	**21 43 37.5**	**0.0**
MRNZ	**Matariki Terra**	**1.28**	**287**	P	**Pb**	**21 43 38.9**	**+0.3**
TKNZ	**Takaka Hill**	**1.30**	**304**	P	**Pb**	**21 43 39.0**	**0.0**
TMWZ	**Te Maipa**	**1.32**	**60**	P	**Pn**	**21 43 38.6**	**-0.2**
MRZ	**Mangatainoka R**	**1.43**	**39**	P	**Pn**	**21 43 40.5**	**+0.2**
TIWZ	**Tintock**	**1.51**	**49**	P	**Pn**	**21 43 41.2**	**-0.2**
GVZ	**Greta Valley S**	**1.55**	**220**	P	**Pn**	**21 43 42.3**	**+0.3**
CPWZ	**Castlepoint**	**1.62**	**58**	P	**Pn**	**21 43 42.9**	**0.0**
QRZ	**Quartz Range**	**1.69**	**304**	P	**Pn**	**21 43 44.5**	**+0.6**
QRZ	**Quartz Range**	**1.69**	**304**	P	**Pb**	**21 43 45.3**	**-0.4**
PRWZ	**Pori Road**	**1.71**	**45**	P	**Pn**	**21 43 44.0**	**-0.2**
OHWZ	**Ohakea**	**1.72**	**25**	P	**Pn**	**21 43 46.0**	**-0.2**
POWZ	**Post Office Ro**	**1.73**	**38**	P	**Pn**	**21 43 44.5**	**0.0**
BFZ	**Birch Farm**	**1.78**	**53**	P	**Pn**	**21 43 43.7**	**-1.4**
BFZ	**Birch Farm**	**1.78**	**53**	P	**Pn**	**21 43 44.3**	**-0.8**
LTZ	**Lake Taylor**	**1.86**	**237**	P	**Pn**	**21 43 46.5**	**+0.3**
AMCZ	**Amberley**	**1.90**	**222**	P	**Pn**	**21 43 46.7**	**0.0**
DSZ	**Denniston Nort**	**1.93**	**270**	P	**Pn**	**21 43 48.2**	**+1.0**
DVHZ	**Dannevirke**	**2.00**	**43**	P	**Pn**	**21 43 47.4**	**-0.8**
ANWZ	**Angora Road**	**2.06**	**51**	P	**Pn**	**21 43 48.2**	**-0.7**
WAZ	**Wanganui**	**2.07**	**13**	P	**Pb**	**21 43 51.4**	**-0.8**
TSZ	**Takapari Road**	**2.09**	**35**	P	**Pn**	**21 43 49.2**	**-0.2**
OKCZ	**Okains Bay**	**2.18**	**206**	P	**Pn**	**21 43 50.0**	**-0.6**
PRHZ	**Porangahau**	**2.28**	**49**	P	**Pn**	**21 43 50.9**	**-1.1**
MQZ	**McQueen's Vall**	**2.31**	**213**	P	**Pn**	**21 43 51.3**	**-1.0**
LREZ	**Lake Rotokare**	**2.31**	**0**	P	**Pb**	**21 43 55.5**	**-0.8**
WPHZ	**Waipukurau**	**2.31**	**43**	P	**Pn**	**21 43 51.9**	**-0.5**
PNHZ	**Pukenui**	**2.32**	**37**	P	**Pn**	**21 43 52.0**	**-0.5**
OXZ	**Oxford**	**2.32**	**227**	P	**Pn**	**21 43 51.8**	**-0.7**
AKCZ	**Akaroa Harbour**	**2.36**	**207**	P	**Pn**	**21 43 52.5**	**-0.5**
INZ	**Inchbonnie**	**2.38**	**246**	P	**Pn**	**21 43 55.2**	**+1.9**
NMEZ	**Namu Road**	**2.39**	**351**	P	**Pb**	**21 43 56.9**	**-0.7**
KHEZ	**Kahui Hut**	**2.50**	**353**	P	**Pb**	**21 43 57.7**	**-1.7**
KHEZ	**Kahui Hut**	**2.50**	**353**	P	**Pb**	**21 43 58.4**	**-1.1**
NEZ	**North Egmont**	**2.51**	**355**	P	**Pb**	**21 43 58.2**	**-1.5**
NBEZ	**Newall Road No**	**2.54**	**351**	P	**Pb**	**21 43 58.0**	**-2.1**
RACZ	**Rakaia**	**2.56**	**220**	P	**Pn**	**21 43 54.8**	**-0.9**
PXZ	**Pawanui**	**2.56**	**48**	P	**Pn**	**21 43 54.5**	**-1.4**
MOVZ	**Moawhango**	**2.59**	**24**	P	**Pn**	**21 43 56.6**	**+0.4**
DREZ	**Durham Road**	**2.59**	**357**	P	**Pb**	**21 43 60.0**	**-1.0**
PKVZ	**Pokaka**	**2.59**	**17**	P	**Pn**	**21 43 58.1**	**+1.8**
PKE	**Pukeiti**	**2.60**	**353**	P	**Pb**	**21 43 59.3**	**-1.9**
WNVZ	**Wahianoa**	**2.62**	**21**	P	**Pn**	**21 43 57.7**	**+0.9**
BHHZ	**Black Hill Sta**	**2.62**	**30**	P	**Pn**	**21 43 56.9**	**+0.2**
TRVZ	**Turoa**	**2.63**	**20**	P	**Pn**	**21 43 58.3**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.66**	**21**	P	**Pn**	**21 43 58.4**	**+1.0**
TUVZ	**Tukino**	**2.69**	**22**	P	**Pn**	**21 43 58.8**	**+1.1**
KAHZ	**Kahuranaki**	**2.74**	**45**	P	**Pn**	**21 43 57.0**	**-1.3**
NGZ	**Ngauruhoe**	**2.76**	**20**	P	**Pn**	**21 43 59.9**	**+1.2**
OTVZ	**Oturere**	**2.79**	**21**	P	**Pn**	**21 44 00.3**	**+1.2**
NNVZ	**North Ngauruho**	**2.80**	**20**	P	**Pn**	**21 44 00.7**	**+1.4**
KWHZ	**Kaweka Forest**	**2.82**	**34**	P	**Pn**	**21 43 58.8**	**-0.6**
ETVZ	**East Tongariro**	**2.83**	**21**	P	**Pn**	**21 44 00.4**	**+0.8**
TMVZ	**Te Maari**	**2.84**	**21**	P	**Pn**	**21 44 00.6**	**+0.8**
KRVZ	**Karewarewa**	**2.85**	**20**	P	**Pn**	**21 44 01.2**	**+1.3**
NTVZ	**North Tongarir**	**2.85**	**21**	P	**Pn**	**21 44 00.9**	**+0.9**
WACZ	**Wakanui South**	**2.86**	**220**	P	**Pn**	**21 43 59.2**	**-0.8**
BKZ	**Black Stump Fm**	**3.06**	**32**	P	**Pn**	**21 44 02.5**	**-0.3**
RPZ	**Rata Peaks**	**3.12**	**231**	P	**Pn**	**21 44 03.0**	**-0.6**
HIZ	**Hauiti**	**3.28**	**6**	P	**Pn**	**21 44 07.6**	**+1.9**
URZ	**Urewera**	**4.09**	**32**	P	**Pn**	**21 44 16.4**	**-0.4**
ODZ	**Otahua Downs**	**4.25**	**219**	P	**Pn**	**21 44 18.4**	**-0.7**
CTZ	**Chatham Island**	**6.91**	**109**	P	**Pn**	**21 44 54.2**	**-1.3**

NEIC 16 21:45:11.8±1.6, 39°65N±0°03×98°59W±0°05, h5km±1km, mb_Lg2.7/55, Error ellipse: s-maj=7.2km s-min=5.3km az=234.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKS	**Cedar Bluff**	**1.22**	**227**		Pg	21 45 34.2	-0.9
CBKS					Sg	21 45 49.8	-1.2
R32A	**Long Quarter,**	**1.23**	**184**		Pg	21 45 34.5	-0.9
R32A					Sg	21 45 50.1	-1.2
N33A	**J Bar K, Exete**	**1.40**	**39**		Pn	21 45 36.2	-1.8
KSU1	**Kansas State U**	**1.63**	**109**		Pn	21 45 39.8	-1.5
KSU1	**Kansas State U** comp=Z,36nm,0.7s	**1.63**	**109**	IAmb_Lg		21 46 07.4	
BGNE	**Belgrade**	**1.79**	**11**	Pn	Pn	21 45 41.6	-1.8
KAN08	**Anthony NE Sta** comp=Z,28nm,0.8s	**2.47**	**168**	IAmb_Lg		21 46 32.9	
KS21	**Milan North St**	**2.47**	**163**	Pn	Pn	21 45 50.6	-2.1
N35A	**Tabor**	**2.56**	**61**	Pn	Pn	21 45 52.8	-1.3
OK032	**Salt Plains WL** comp=Z,38nm,1.2s	**2.86**	**174**	IAmb_Lg		21 46 43.4	
L34A	**Svendsen Farm,**	**2.86**	**35**	Pn	Pn	21 45 58.2	+0.1
OGNE	**Ogallala**	**2.93**	**297**	Pn	Pn	21 45 59.3	+0.1
OGNE	comp=Z,38nm,0.8s			IAmb_Lg		21 46 45.9	
NOKA	**Waynoka**	**3.02**	**185**	Pn	Pn	21 45 59.0	-1.4
BLOK	**Blackwell**	**3.08**	**159**	Pn	Pn	21 46 00.4	-0.8
BLOK	comp=Z,20nm,0.7s			IAmb_Lg		21 46 56.9	
T35A	**Sooner Cattle**	**3.18**	**148**	Pn	Pn	21 46 01.7	-0.9
T35A	comp=Z,18nm,1.1s			IAmb_Lg		21 46 56.4	
KSCO	**Kaye Shedlock'**	**3.19**	**260**	Pn	Pn	21 46 02.8	0.0
OK045	**Pawnee Station**	**3.46**	**157**	Pn	Pn	21 46 06.2	-0.1
OK046	**Pawnee Station**	**3.51**	**157**	Pn	Pn	21 46 07.0	-0.1
OK046	comp=Z,18nm,0.8s			IAmb_Lg		21 47 11.7	
OK044	**Pawnee Station**	**3.57**	**156**	Pn	Pn	21 46 06.2	-1.6
ELIS	**Ellis County** comp=Z,22nm,0.8s	**3.64**	**191**	IAmb_Lg		21 47 16.2	
QUOK	**Quay** comp=Z,8.0nm,0.8s	**3.78**	**156**	IAmb_Lg		21 47 10.3	
P38A	**Dawn**	**3.91**	**89**	Pn	Pn	21 46 12.1	-0.4
P38A	comp=Z,18nm,0.8s			IAmb_Lg		21 47 14.5	
OK031	**S. Brethren Rd** comp=Z,21nm,0.9s	**3.94**	**159**	IAmb_Lg		21 47 23.4	
ECSD	**EROS Data Cent**	**4.34**	**19**	Pn	Pn	21 46 19.1	+0.6
ECSD	comp=Z,15nm,0.8s			IAmb_Lg		21 47 29.1	
TUL1	**Leonard** comp=Z,22nm,0.8s	**4.34**	**148**	IAmb_Lg		21 47 38.9	
BRIGG	**Briggsdale** comp=Z,16nm,1.1s	**4.49**	**284**	IAmb_Lg		21 47 31.2	
S39A	**Bolivar**	**4.57**	**114**	Pn	Pn	21 46 20.2	-1.4
U38A	**Gravette** comp=Z,22nm,0.9s	**4.62**	**133**	IAmb_Lg		21 47 37.0	
SCIA	**State Center** comp=Z,18nm,0.9s	**4.66**	**59**	IAmb_Lg		21 47 45.0	
WMOK	**Wichita Mounta**	**4.91**	**182**	Pn	Pn	21 46 25.2	-1.0
HHAR	**Hobbs** comp=Z,11nm,0.9s	**4.98**	**131**	IAmb_Lg		21 47 53.6	
P40A	**Paris**	**5.06**	**89**	Pn	Pn	21 46 27.4	-0.9
R40A	**Maddies Statio**	**5.11**	**103**	Pn	Pn	21 46 28.3	-0.8
Q24A	**Divide**	**5.13**	**264**	Pn	Pn	21 46 28.2	-1.4
Q24A	comp=Z,13nm,0.8s			IAmb_Lg		21 47 50.9	
K38A	**Parkersburg** comp=Z,17nm,0.8s	**5.32**	**54**	IAmb_Lg		21 48 08.8	
MGMO	**Mountain Grove** comp=Z,13nm,0.7s	**5.56**	**115**	IAmb_Lg		21 48 11.2	
SDCO	**Great Sand Dun** comp=Z,9.5nm,0.7s	**5.73**	**253**	IAmb_Lg		21 48 19.3	
N23A	**Red Feather La** comp=Z,19nm,0.8s	**5.76**	**285**	IAmb_Lg		21 48 12.6	
CCM	**Cathedral Cave**	**5.95**	**103**	Pn	Pn	21 46 39.5	-1.1
CCM	comp=Z,11nm,0.8s			IAmb_Lg		21 48 27.3	
RSSD	**Black Hills** comp=Z,11nm,0.7s	**6.04**	**319**	IAmb_Lg		21 48 32.3	
L40A	**Anamosa** comp=Z,11nm,0.8s	**6.09**	**64**	IAmb_Lg		21 48 37.9	
FVM	**French Village**	**6.59**	**102**	Pn	Pn	21 46 48.1	-1.3
WHAR	**Wooly Hollow**	**6.64**	**129**	Pn	Pn	21 46 49.3	-0.7
WHAR	comp=Z,11nm,0.8s			IAmb_Lg		21 48 46.7	
UALR	**University of** comp=Z,7.3nm,0.8s	**6.97**	**132**	IAmb_Lg		21 48 58.2	
SPMN	**Marine on St.** comp=Z,6.9nm,0.8s	**7.03**	**36**	IAmb_Lg		21 49 01.7	
ABTX	**Abilene, Hawle** comp=Z,11nm,1.0s	**7.06**	**187**	IAmb_Lg		21 49 05.5	
JFWS	**Jewell Farm** comp=Z,7.6nm,0.8s	**7.08**	**60**	IAmb_Lg		21 49 14.9	

*JMA **16** 22:05:01.6±0.2, 33°N±2°×13°8E±°, h368km, MV3.4/34, FAR S OFF TOKAI DISTRICT*
*IDC **16** 22:05:08.1±0.6, 33.21N×137.91E, h332km±8km, mb3.2/12, mbtmp3.9/16, Error ellipse: s-maj=19.5km s-min=11.0km az=68.0*
ISC 16 22:05:07.2±0.6, 33°17N±0°06×138°06E±0°06, h341km, n47, σ2s45/53, mb3.4/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.82**	**342**	P	**Pn**	**22 05 49.7**	**-1.2**
TTO3	**TONANKAI O.B.S**	**0.89**	**322**	P	**Pn**	**22 05 50.1**	**-1.1**
TTO4	**TONANKAI O.B.S**	**0.95**	**333**	P	**Pn**	**22 05 50.0**	**-1.4**
TK03	**Tokai 3**	**1.00**	**356**	P	**Pn**	**22 05 50.7**	**-1.0**
TTO2	**TONANKAI O.B.S**	**1.03**	**304**	P	**Pn**	**22 05 50.5**	**-1.1**
TTO5	**TONANKAI O.B.S**	**1.12**	**345**	P	**Pn**	**22 05 50.9**	**-1.3**
TTO1	**TONANKAI O.B.S**	**1.16**	**293**	P	**Pn**	**22 05 50.9**	**-1.3**
JHJ	**Hachijo jima 2** 128nm,0.8s,baz=84,slow=13,SNR=1.7	**1.45**	**91**	P	**Pn**	**22 05 54.3**	**+0.2**
JHJ	73nm,0.3s,baz=87,slow=22,SNR=6.1			S	**S**	**22 06 33.1**	**+1.5**
JIE	**Ise**	**1.66**	**318**	P	**Pn**	**22 05 53.4**	**-1.9**
JTNC	**Tanabenakahech**	**2.15**	**288**	P	**Pn**	**22 05 56.6**	**-2.1**
JOD2	**Odawara 2**	**2.26**	**22**	*e*S	**S**	**22 06 39.5**	**-2.1**
JWY	**Kouya**	**2.31**	**298**	P	**Pn**	**22 05 58.4**	**-1.6**
INU	**Inuyama**	**2.34**	**339**	P	**Pn**	**22 05 58.4**	**-1.7**
JYN	**Shimob**	**2.36**	**10**	P	**Pn**	**22 05 59.1**	**-1.2**
JGF	**Kuroka**	**2.50**	**347**	P	**Pn**	**22 05 59.5**	**-1.9**
JYTA	**Yamagatataniai**	**2.66**	**336**	P	**Pn**	**22 06 00.9**	**-1.8**
BSO1	**Boso 1**	**2.84**	**58**	*e*P	**Pn**	**22 06 00.9**	**-2.9**
BSO1				*e*S	**S**	**22 06 45.0**	**-4.3**
JRY	**Ryogami san**	**2.93**	**14**	P	**Pn**	**22 06 04.0**	**-1.1**
JWT	**Wachi**	**3.05**	**315**	P	**Pn**	**22 06 04.3**	**-1.9**
JWT				*e*S	**S**	**22 06 48.9**	**-4.8**
JAI	**Aioi**	**3.08**	**283**	P	**Pn**	**22 06 04.7**	**-1.8**
MJAR	**Matsushiro Arr** 15nm,0.8s,baz=184,slow=10,SNR=26	**3.37**	**2**	P	**Pn**	**22 06 07.3**	**-2.0**
MJAR	1.5nm,0.3s,baz=74,slow=30,SNR=1.9			S	**S**	**22 06 54.0**	**-5.3**
MAJO	**Matsushiro**	**3.37**	**2**	P	**Pn**	**22 06 07.6**	**-1.7**
MAT	**Matsushiro**	**3.37**	**2**	P	**Pn**	**22 06 07.4**	**-1.9**
MAT				*e*S	**S**	**22 06 54.1**	**-5.2**
JKG	**Kaga**	**3.41**	**336**	*e*P	**Pn**	**22 06 07.8**	**-1.8**
JAG	**Ashikaga**	**3.45**	**19**	P	**Pn**	**22 06 07.4**	**-2.5**
JMN	**Monobe**	**3.54**	**280**	P	**Pn**	**22 06 09.5**	**-1.5**
JTO	**Tosashimizu**	**4.43**	**267**	P	**Pn**	**22 06 18.7**	**-1.4**
JHS	**Saijyo**	**4.49**	**295**	P	**Pn**	**22 06 19.5**	**-1.3**
JHS	**Saijyo**	**4.49**	**295**	*e*P	**Pn**	**22 06 19.4**	**-1.3**
JSD	**Sado**	**4.86**	**2**	P	**Pn**	**22 06 23.5**	**-1.2**
JMM	**Marumori**	**5.19**	**25**	P	**Pn**	**22 06 27.1**	**-1.3**
JCJ	**Chichijima** 26nm,0.5s,baz=259,slow=18,SNR=1.6	**7.03**	**148**	P	**Pn**	**22 06 46.9**	**-2.9**
JCJ	44nm,0.4s,baz=287,slow=19,SNR=2.3			S	**S**	**22 08 04.3**	**-8.7**
KSRS	**Korea Array** 6.0nm,0.7s,baz=113,slow=12,SNR=18	**9.32**	**300**	P	**P**	**22 07 16.8**	**-2.6**
USRK	**Ussuriysk Ar.** 2.0nm,0.5s,baz=148,slow=8.8,SNR=7.8	**11.99**	**339**	P	**P**	**22 07 49.1**	**+0.3**
KLR	**Kul'dur** 2.2nm,0.6s,baz=163,slow=9.5,SNR=6.8	**16.73**	**346**	P	**P**	**22 08 40.0**	**-0.6**
SONM	**Songino Array** 2.3nm,0.7s,baz=124,slow=8.5,SNR=9.3 2.3nm,0.7s	**27.95**	**311**	P	**P**	**22 10 28.3**	**+1.0**
CMAR	**Chiang Mai Arr** 0.5nm,0.5s,baz=55,slow=7.1,SNR=5.3 0.5nm,0.5s	**37.90**	**257**	P	**P**	**22 11 53.6**	**+0.7**
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=99,slow=8.0,SNR=4.1 0.7nm,0.5s	**42.62**	**316**	P	**P**	**22 12 31.6**	**+0.9**
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=86,slow=9.9,SNR=19 0.5nm,0.3s	**43.96**	**305**	P	**P**	**22 12 42.4**	**+0.8**
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=0.2,slow=7.6,SNR=30 0.8nm,0.4s	**52.93**	**184**	P	**P**	**22 13 51.0**	**+1.5**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=268,slow=5.9,SNR=2.5 0.4nm,0.8s	**54.22**	**31**	P	**P**	**22 14 00.6**	**+2.3**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=18,slow=11,SNR=12 0.5nm,0.5s	**56.65**	**185**	P	**P**	**22 14 18.1**	**+2.1**
ARU	**Arti** 1.4nm,0.4s 1.4nm,0.4s	**57.48**	**320**	P	**P**	**22 14 21.9**	**+0.7**
ARCES	**ARCESS Array B** 4.3nm,0.9s,baz=58,slow=8.6,SNR=1.6 4.3nm,0.9s	**66.64**	**339**	P	**P**	**22 15 25.5**	**+1.1**
FINES	**FINESS Array B** 3.5nm,1.1s,baz=77,slow=7.3,SNR=5.5 3.5nm,1.1s	**70.93**	**332**	P	**P**	**22 15 48.6**	**+0.9**
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=40,slow=5.6,SNR=1.6 0.4nm,0.6s	**79.31**	**311**	P	**P**	**22 16 37.4**	**+1.5**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=258,slow=4.5,SNR=2.6 0.3nm,0.6s	**82.35**	**43**	P	**P**	**22 16 54.3**	**+2.5**

WEL 16 22:12:14.9±0.4, 42°S±3°×17°4E±°, h5km, M3.3/34, ML3.5/16, MLv3.3/34, Error ellipse: s-maj=0.0km s-min=0.0km az=137.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.47**	**18**	P	Pg	22 12 24.5	+0.5
BSWZ				S	Sg	22 12 31.4	+1.2
CMWZ	**Cape Campbell**	**0.57**	**44**	P	Pb	22 12 27.3	-0.1
THZ	**Tophouse**	**0.71**	**304**	P	Pg	22 12 28.6	+0.1
TUWZ	**Tuamarina**	**0.76**	**15**	P	Pg	22 12 29.8	+0.3
GVZ	**Greta Valley S**	**0.93**	**211**	P	Pb	22 12 33.5	-0.1
NNZ	**Nelson**	**0.98**	**346**	P	Pg	22 12 33.3	-0.4
MRNZ	**Matariki Terra**	**1.03**	**318**	P	Pg	22 12 34.9	+0.2
TCW	**Tory Channel**	**1.05**	**25**	P	Pg	22 12 34.7	-0.4
WEL	**Wellington**	**1.20**	**43**	P	Pg	22 12 37.1	-0.8
LTZ	**Lake Taylor**	**1.21**	**239**	P	Pg	22 12 37.5	-0.7
TKNZ	**Takaka Hill**	**1.26**	**334**	P	Pg	22 12 38.3	-0.7
AMCZ	**Amberley**	**1.27**	**217**	P	Pg	22 12 37.7	-1.4
PLWZ	**Palliser**	**1.31**	**64**	P	Pn	22 12 38.0	-2.0
DUWZ	**D'Urville Isla**	**1.38**	**7**	P	Pn	22 12 40.2	-0.5
MSWZ	**Moikau Station**	**1.39**	**58**	P	Pn	22 12 39.0	-2.0
DSZ	**Denniston Nort**	**1.47**	**286**	P	Pb	22 12 42.5	-0.2
CAW	**Cannon Point**	**1.48**	**45**	P	Pn	22 12 40.7	-1.5
PAWZ	**Paruwai Farm**	**1.52**	**60**	P	Pn	22 12 40.1	-2.7
KIW	**Kapiti Island**	**1.60**	**36**	P	Pn	22 12 42.9	-0.9
QRZ	**Quartz Range**	**1.60**	**327**	P	Pn	22 12 44.2	+0.4
OKCZ	**Okains Bay**	**1.62**	**196**	P	Pn	22 12 42.1	-2.1
OXZ	**Oxford**	**1.68**	**226**	P	Pn	22 12 42.7	-2.2
TRWZ	**Traveller**	**1.68**	**64**	P	Pn	22 12 42.5	-2.6
MTW	**Mount Morrison**	**1.69**	**54**	P	Pn	22 12 42.9	-2.3
MQZ	**McQueen's Vall**	**1.71**	**206**	P	Pn	22 12 42.6	-2.8
OGWZ	**Otaki Gorge**	**1.75**	**40**	P	Pn	22 12 44.5	-1.4
AKCZ	**Akaroa Harbour**	**1.80**	**198**	P	Pn	22 12 44.4	-2.2
HOWZ	**Holdsworth Sta**	**1.87**	**48**	P	Pn	22 12 45.7	-1.9
RACZ	**Rakaia**	**1.93**	**216**	P	Pn	22 12 45.8	-2.6
TMWZ	**Te Maipa**	**1.96**	**58**	P	Pn	22 12 46.3	-2.6
MHCZ	**Mount Hutt**	**2.07**	**228**	P	Pn	22 12 48.0	-2.4
MRZ	**Mangatainoka R**	**2.07**	**44**	P	Pn	22 12 48.4	-2.0
WACZ	**Wakanui South**	**2.23**	**217**	P	Pn	22 12 50.3	-2.3
WVZ	**Waitaha Valley**	**2.36**	**246**	P	Pn	22 12 53.3	-0.9
RPZ	**Rata Peaks**	**2.48**	**230**	P	Pn	22 12 53.8	-2.1
ARCZ	**Arundel**	**2.56**	**225**	P	Pn	22 12 54.8	-2.3
WAZ	**Wanganui**	**2.60**	**23**	P	Pn	22 12 59.0	+1.4
GCSZ	**Gaunt Creek Bo**	**2.73**	**244**	P	Pn	22 12 58.4	-1.0
TMZ	**Timaru**	**2.96**	**221**	P	Pn	22 13 00.1	-2.4
FOZ	**Fox Glacier**	**3.16**	**243**	P	Pn	22 13 04.5	-0.7
LBZ	**Lake Benmore**	**3.38**	**228**	P	Pn	22 13 06.2	-2.2
KWHZ	**Kaweka Forest**	**3.44**	**38**	P	Pb	22 13 14.3	-2.0
ODZ	**Otahua Downs**	**3.63**	**216**	P	Pn	22 13 09.0	-2.8
GRRZ	**Galatos Road**	**4.24**	**27**	P	Pn	22 13 24.3	+4.1
HHSZ	**Highcliff Hill**	**4.33**	**210**	P	Pn	22 13 19.1	-2.3
EAZ	**Earnscleugh**	**4.41**	**225**	P	Pn	22 13 20.0	-2.5
SYZ	**Scrubby Hill**	**5.45**	**215**	P	Pn	22 13 34.7	-2.0

*WEL **16** 22:18:06.6±0.3, 42°S±2°×17°4E±°, h9km±2km, M3.8/37, ML4.1/21, MLv3.8/37, Error ellipse: s-maj=0.0km s-min=0.0km az=129.1*
*IDC **16** 22:18:07.9±2.8, 41°62S×173°64E, h0km, mb3.3/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=55.8km s-min=37.2km az=105.0*
ISC 16 22:18:06.5±0.9, 41°74S±0°03×174°27E±0°03, h16km±5km, n97, σ1s37/102, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**256**	P	**Pg**	**22 18 09.4**	**0.0**
CMWZ				S	**Sg**	**22 18 11.5**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.30**	**274**	P	**Pg**	**22 18 12.6**	**-0.1**
BSWZ				S	**Sb**	**22 18 17.4**	**-0.7**
TUWZ	**Tuamarina**	**0.40**	**321**	P	**Pb**	**22 18 14.3**	**-0.8**
TUWZ				S	**Sb**	**22 18 19.8**	**-1.2**
TCW	**Tory Channel**	**0.53**	**1**	P	**Pb**	**22 18 16.7**	**-0.7**
TCW				S	**Sb**	**22 18 24.2**	**-0.6**
WEL	**Wellington**	**0.59**	**40**	P	**Pb**	**22 18 18.7**	**+0.3**
PLWZ	**Palliser**	**0.76**	**77**	P	**Pb**	**22 18 22.7**	**+1.4**
MSWZ	**Moikau Station**	**0.80**	**67**	P	**Pb**	**22 18 23.2**	**+1.1**
NNZ	**Nelson**	**0.85**	**308**	P	**Pb**	**22 18 22.2**	**-0.6**
CAW	**Cannon Point**	**0.87**	**44**	P	**Pb**	**22 18 23.7**	**+0.4**
PAWZ	**Paruwai Farm**	**0.94**	**68**	P	**Pb**	**22 18 25.1**	**+0.7**
DUWZ	**D'Urville Isla**	**0.97**	**344**	P	**Pg**	**22 18 24.4**	**-0.9**
KIW	**Kapiti Island**	**1.00**	**29**	P	**Pb**	**22 18 25.5**	**0.0**
THZ	**Tophouse**	**1.02**	**268**	P	**Pb**	**22 18 25.9**	**0.0**
MTW	**Mount Morrison**	**1.09**	**58**	P	**Pg**	**22 18 27.3**	**-0.3**
TRWZ	**Traveller**	**1.12**	**73**	P	**Pb**	**22 18 27.4**	**-0.1**
OGWZ	**Otaki Gorge**	**1.14**	**37**	P	**Pb**	**22 18 28.1**	**+0.2**
MRNZ	**Matariki Terra**	**1.18**	**286**	P	**Pn**	**22 18 28.8**	**+0.3**
TKNZ	**Takaka Hill**	**1.21**	**305**	P	**Pb**	**22 18 28.6**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.26**	**49**	P	**Pn**	**22 18 29.6**	**+0.1**
TMWZ	**Te Maipa**	**1.37**	**63**	P	**Pn**	**22 18 30.8**	**-0.3**
MRZ	**Mangatainoka R**	**1.46**	**43**	P	**Pn**	**22 18 32.6**	**+0.3**
GVZ	**Greta Valley S**	**1.53**	**216**	P	**Pn**	**22 18 33.5**	**+0.2**
TIWZ	**Tintock**	**1.55**	**52**	P	**Pn**	**22 18 33.2**	**-0.4**
QRZ	**Quartz Range**	**1.60**	**304**	P	**Pb**	**22 18 35.3**	**-0.4**
CPWZ	**Castlepoint**	**1.67**	**61**	P	**Pn**	**22 18 36.0**	**-0.2**
OHWZ	**Ohakea**	**1.72**	**28**	P	**Pn**	**22 18 38.1**	**+0.3**
PRWZ	**Pori Road**	**1.75**	**48**	P	**Pn**	**22 18 36.1**	**0.0**
POWZ	**Post Office Ro**	**1.76**	**41**	P	**Pn**

HJA				IAML			22 34 38.0	
	comp=Z,3µm,0.6s							
FSA	**Cafayete**	**2.27**	**223**	*eP*		**Pn**	**22 34 22.0**	**+0.4**
FSA				*eS*		**Sn**	**22 34 51.6**	**+2.2**
YJA	**Yavi**	**2.54**	**333**	*eP*		**Pn**	**22 34 28.2**	**+2.6**
YJA				*eS*		**Sn**	**22 35 00.6**	**+4.1**
YJA				IAML			22 35 07.3	
	comp=Z,691nm,0.5s							
CYA	**Choya**	**4.21**	**199**	*eP*		**Pn**	**22 34 49.3**	**+1.3**
CYA				*eS*		**Sb**	**22 35 49.9**	**+1.0**
CYA				IAML			22 35 59.0	
	comp=Z,193nm,0.7s							
LVC	**Limon Verde**	**4.65**	**292**	Pn		**Pn**	**22 34 56.4**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=94,slow=11,SNR=9.0							
	comp=Z,4.1nm,0.4s							
LVC	**Limon Verde**	**4.65**	**292**	Pn		**Pn**	**22 34 56.1**	**+1.7**
GO02	**Mina Guanaco**	**4.90**	**261**	Pn		**Pn**	**22 34 60.0**	**+2.1**
GO02	**Mina Guanaco**	**4.90**	**261**	*eP*		**Pn**	**22 35 00.6**	**+2.8**
PB15	**IPOC Station P**	**4.94**	**283**			**Pn**	**22 35 00.2**	**+2.0**
AC02	**Maricunga**	**5.00**	**241**	Pn		**Pn**	**22 35 02.1**	**+2.7**
PB06	**IPOC Station P**	**5.18**	**289**			**Pn**	**22 35 03.7**	**+2.2**
PB09	**IPOC Station P**	**5.30**	**299**	Pn		**Pn**	**22 35 06.4**	**+3.2**
PB03	**IPOC Station P**	**5.59**	**294**			**Pn**	**22 35 09.0**	**+1.7**
PB04	**IPOC Station P**	**5.81**	**290**	Pn		**Pn**	**22 35 12.2**	**+2.0**
PB07	**IPOC Station P**	**5.85**	**297**			**Pn**	**22 35 12.0**	**+1.2**
PB01	**IPOC Station P**	**5.90**	**304**			**Pn**	**22 35 13.7**	**+2.3**
AC01	**Pan de Azucar**	**5.99**	**252**	Pn		**Pn**	**22 35 12.8**	**+0.3**
PB02	**IPOC Station P**	**6.07**	**300**			**Pn**	**22 35 15.2**	**+1.5**
AC06	**Mina Casimiro**	**6.21**	**241**	Pn		**Pn**	**22 35 16.5**	**+0.9**
GO03	**Copiap**	**6.22**	**239**	Pn		**Pn**	**22 35 16.6**	**+0.8**
PB08	**IPOC Station P**	**6.24**	**312**			**Pn**	**22 35 19.2**	**+2.9**
CPUP	**Villa Florida**	**6.54**	**108**	Pn		**Pn**	**22 35 21.4**	**+1.3**
	comp=Z,2.8nm,0.3s,baz=288,slow=12,SNR=30							
CPUP				Lg		Lg	22 37 13.2	
	comp=Z,6.7nm,0.3s,baz=260,slow=6.9,SNR=3.0							
CPUP				LR		LR	22 38 20.3	
	comp=Z,174nm,19.1s,baz=220,slow=43							
CPUP	**Villa Florida**	**6.54**	**108**			**Pn**	**22 35 21.9**	**+1.8**
GO01	**Chusmiza**	**6.61**	**315**			**Pn**	**22 35 24.0**	**+2.6**
TA01	**Diego Aracena**	**6.71**	**304**	Pn		**Pn**	**22 35 23.7**	**+1.3**
PB11	**IPOC Station P**	**6.85**	**312**	Pn		**Pn**	**22 35 26.5**	**+2.0**
AC05	**El Transito**	**6.93**	**230**	Pn		**Pn**	**22 35 27.5**	**+1.9**
MNMC	**Minye Minye**	**7.26**	**316**			**Pn**	**22 35 32.4**	**+2.2**
PB16	**IPOC Station P**	**7.81**	**320**			**Pn**	**22 35 39.3**	**+1.2**
GO04	**Tololo Observa**	**8.14**	**224**	Pn		**Pn**	**22 35 42.6**	**+0.3**
CO03	**El Pedregal**	**8.54**	**220**	Pn		**Pn**	**22 35 49.2**	**+1.5**
AQDB	**Aquidauana**	**8.85**	**65**	Pn		**Pn**	**22 35 51.9**	**+0.2**
AQDB	**Aquidauana**	**8.85**	**65**	*eP*		**Pn**	**22 35 52.4**	**+0.6**
AQDB				*eS*		**Sn**	**22 37 32.4**	**+1.2**
LPAZ	**La Paz**	**8.90**	**335**	Pn		**Pn**	**22 35 54.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=164,slow=6.6,SNR=3.1							
LPAZ				Sn		**Sn**	**22 37 31.4**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=175,slow=12,SNR=2.3							
	comp=Z,1.1nm,0.4s							
SIV	**San Ignacio**	**8.93**	**20**	Pn		**Pn**	**22 35 53.2**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=202,slow=10,SNR=69							
SIV				Sn		**Sn**	**22 37 28.4**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=184,slow=20,SNR=1.8							
SIV				Lg		Lg	22 38 24.6	
	comp=Z,0.2nm,0.3s,baz=135,slow=14,SNR=1.6							
	comp=Z,12nm,0.4s							
PTLB	**Pontes e Lacer**	**10.17**	**29**			**Pn**	**22 36 09.9**	**0.0**
PTLB	**Pontes e Lacer**	**10.17**	**29**	*eP*		**Pn**	**22 36 11.0**	**+1.1**
PTLB				*eS*		**Sn**	**22 38 03.9**	**+0.2**
TRCB	**Terra Rica**	**10.78**	**84**	*eP*		**Pn**	**22 36 18.3**	**-0.1**
TRCB				*eS*		**Sn**	**22 38 19.4**	**+0.5**
PTGB	**Pitanga**	**11.10**	**94**	*eP*		**Pn**	**22 36 23.4**	**+0.7**
PTGB				*eS*		**Sn**	**22 38 28.3**	**+1.7**
ITAB	**Concordia**	**11.27**	**107**	Pn		**Pn**	**22 36 26.2**	**+1.4**
ITAB	**Concordia**	**11.27**	**107**	*eP*		**Pn**	**22 36 24.7**	**-0.2**
ITAB				*eS*		**Sn**	**22 38 31.2**	**+0.6**
SALV	**Santo Antonio**	**11.70**	**45**	*eP*		**Pn**	**22 36 31.5**	**+0.6**
SALV				*eS*		**Sn**	**22 38 42.3**	**+0.9**
PLTB	**Pedras Altas**	**11.89**	**130**	Pn		**Pn**	**22 36 33.4**	**0.0**
VILB	**Vilhena**	**12.06**	**19**			**Pn**	**22 36 39.5**	**+0.6**
TRQA	**Tornquist**	**13.70**	**172**	Pn		**Pn**	**22 36 56.9**	**-1.3**
ETMB	**Extrema**	**14.68**	**352**			**Pn**	**22 37 09.8**	**-1.8**
PET01	**Itanhaem-SP**	**15.47**	**93**	*eP*		**Pn**	**22 37 22.6**	**+0.4**
GO06	**Curarrehue**	**16.27**	**200**	Pn		**Pn**	**22 37 31.9**	**-0.5**
AY01	**Puyuhuapi**	**21.07**	**197**	P		**P**	**22 38 27.6**	**-0.3**
AY01				IAmb		IAmb	22 38 32.6	
	comp=Z,11nm,1.0s							
ATAH	**Atahualpa**	**21.91**	**319**	LR		LR	22 48 39.7	
	comp=Z,70nm,20.1s,baz=88,slow=41							
BOSC	**San Juan Bosco**	**25.24**	**325**	P		**P**	**22 39 09.7**	**-0.5**
BOSC				IAmb		IAmb	22 39 17.4	
	comp=Z,7.4nm,0.8s							
SDV	**Santo Domingo**	**33.72**	**349**	P		**P**	**22 40 25.0**	**-0.5**
	comp=Z,2.4nm,0.4s,baz=26,slow=11,SNR=1.9							
	comp=Z,2.4nm,0.4s							
CELP	**Cerrillos**	**42.33**	**357**	P		**P**	**22 41 36.2**	**-1.6**
TXAR	**Lajitas Array**	**65.53**	**322**	P		**P**	**22 44 26.5**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=157,slow=5.6,SNR=2.9							
	comp=Z,0.2nm,0.6s							
TXAR	**Lajitas Array**	**65.53**	**322**	P		**P**	**22 44 26.4**	**-1.2**
FCAR	**Ozark Folk Cen**	**65.55**	**335**	P		**P**	**22 44 26.6**	**-0.8**
QSPA	**South Pole Qui**	**65.75**	**180**	P		**P**	**22 44 29.0**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=246,slow=1.9,SNR=8.4							
	comp=Z,2.1nm,0.6s							
QSPA	**South Pole Qui**	**65.75**	**180**	P		**P**	**22 44 29.5**	**+1.0**
QSPA				IAmb		IAmb	22 44 38.0	
	comp=Z,5.4nm,1.3s							
TOA0	**Torodi Ar. Sit**	**74.41**	**67**	P		**P**	**22 45 20.7**	**-1.6**
TOA0				IAmb		IAmb	22 45 30.6	
	comp=Z,1.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**74.41**	**67**	P		**P**	**22 45 21.3**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=259,slow=7.0,SNR=10.0							
	comp=Z,0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**74.41**	**67**	P		**P**	**22 45 22.1**	**-0.2**
PDAR	**Pinedale Array**	**78.84**	**328**	P		**P**	**22 45 46.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=116,slow=7.5,SNR=2.2							
	comp=Z,0.2nm,0.5s							
ESDC	**Sonseca Array**	**85.02**	**42**	P		**P**	**22 46 19.9**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=235,slow=6.0,SNR=3.0							
	comp=Z,0.7nm,1.0s							
WRA	**Warrumunga Arr**	**132.30**	**204**	PKP		**PKPdf**	**22 52 58.8**	**0.0**
	comp=Z,0.6nm,0.9s,baz=146,slow=2.2,SNR=5.0							
MKAR	**Makanchi Array**	**145.24**	**42**	PKPbc		**PKPbc**	**22 53 20.8**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=316,slow=3.3,SNR=8.9							
PZH	**PanZhiHua**	**167.19**	**78**	PKP		**PKPdf**	**22 53 51.0**	**+0.6**

UPA ***16*** *22:44:05.1±0.5, 8°.63N×82°.72W, h27km±6km, MW4.0*
UCR ***16*** *22:44:05.3±1.1, 8°.66N×82°.71W, h28km±3km, MW3.7*

ISC 16 22:44:05.1±1.1, 8°.63N±0°.05×82°.71W±0°.04, h32km±7km, n12, σ0.51/19, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.16**	**7**	*eP*	**Pb**	**22 44 11.2**	**-0.1**
BRU2				*eS*	**Sb**	**22 44 15.9**	**+0.3**
CDITO	**Canoas**	**0.17**	**251**	*eP*	**Pb**	**22 44 10.6**	**-0.6**
BCO2	**Palmira**	**0.20**	**64**	*eP*	**Pn**	**22 44 12.1**	**0.0**
BCO2				*eS*	**Sb**	**22 44 16.4**	**+0.1**
CTCR	**Cotoan**	**0.27**	**350**	*eP*	**Pb**	**22 44 12.2**	**-0.3**
CTCR				*eS*	**Sb**	**22 44 17.0**	**-0.6**
EDSV	**San Vito**	**0.32**	**306**	*eP*	**Pb**	**22 44 13.1**	**0.0**
EDSV				*eS*	**Sn**	**22 44 19.3**	**0.0**
DVD	**David**	**0.32**	**127**	*eP*	**Pb**	**22 44 12.6**	**-0.4**
DVD				*eS*	**Sb**	**22 44 18.8**	**+0.5**
CCOL	**Caracol de Cor**	**0.34**	**230**	*eP*	**Pb**	**22 44 13.1**	**-0.1**
CCOL				*eS*	**Sb**	**22 44 19.4**	**+0.5**
CHIR3	**Chiriqui UPA,**	**0.44**	**122**	*eP*	**Pb**	**22 44 14.3**	**-0.4**
PIRO	**Carate, Puerto**	**0.66**	**250**	*eP*	**Pb**	**22 44 17.4**	**-0.8**
SRBA	**San Rafael, Bu**	**0.88**	**313**	*eP*	**Pn**	**22 44 21.2**	**-0.1**
SRBA				*eS*	**Sb**	**22 44 33.0**	**-0.4**
CDM	**Cerro de Muert**	**1.39**	**312**	*eP*	**Pn**	**22 44 29.1**	**+0.5**
RIMA	**Rio Macho**	**1.60**	**315**	*eP*	**Pn**	**22 44 32.5**	**+1.0**

WEL 16 22:44:28.5±0.3, 43°S±2°×17°3E±°, h7km±2km, M3.5/3, ML3.9/15, ML3.7/3, MLv3.5/11, MLv3.5/3, Error ellipse: s-maj=0.0km s-min=0.0km az=101.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.34**	**154**	P	Pg	22 44 35.9	+0.8
GVZ				S	Sb	22 44 41.7	-0.8
LTZ	**Lake Taylor**	**0.43**	**254**	P	Pb	22 44 37.7	-0.8
LTZ				S	Sb	22 44 44.2	-1.0
AMCZ	**Amberley**	**0.53**	**195**	P	Pb	22 44 40.0	-0.1
OXZ	**Oxford**	**0.88**	**221**	P	Pg	22 44 45.8	+0.3
THZ	**Tophouse**	**0.90**	**3**	P	Pg	22 44 45.5	-0.3
MQZ	**McQueen's Vall**	**1.05**	**187**	P	Pg	22 44 47.7	-1.0
OKCZ	**Okains Bay**	**1.07**	**171**	P	Pg	22 44 48.5	-0.5
RACZ	**Rakaia**	**1.18**	**205**	P	Pg	22 44 49.7	-1.4
DSZ	**Denniston Nort**	**1.20**	**320**	P	Pb	22 44 51.5	0.0
AKCZ	**Akaroa Harbour**	**1.21**	**177**	P	Pg	22 44 49.9	-1.8
BSWZ	**Blackbirch Sta**	**1.22**	**40**	P	Pg	22 44 51.5	-0.4
MRNZ	**Matariki Terra**	**1.26**	**357**	P	Pn	22 44 52.2	-0.4
WACZ	**Wakanui South**	**1.47**	**209**	P	Pn	22 44 53.6	-1.8
TUWZ	**Tuamarina**	**1.48**	**34**	P	Pn	22 44 55.2	-0.3
NNZ	**Nelson**	**1.50**	**16**	P	Pn	22 44 55.8	0.0
WVZ	**Waitaha Valley**	**1.60**	**254**	P	Pn	22 44 57.0	-0.1
TKNZ	**Takaka Hill**	**1.63**	**3**	P	Pn	22 44 57.8	+0.2
RPZ	**Rata Peaks**	**1.68**	**231**	P	Pn	22 44 57.1	-1.2
ARCZ	**Arundel**	**1.77**	**223**	P	Pn	22 44 58.1	-1.4
TCW	**Tory Channel**	**1.81**	**37**	P	Pn	22 44 59.3	-0.7
QRZ	**Quartz Range**	**1.85**	**353**	P	Pn	22 45 00.1	-0.5
GCSZ	**Gaunt Creek Bo**	**1.95**	**250**	P	Pn	22 45 02.2	+0.1
DUWZ	**D'Urville Isla**	**2.03**	**24**	P	Pb	22 45 05.0	-0.7
TMZ	**Timaru**	**2.17**	**217**	P	Pn	22 45 03.5	-1.6
MSWZ	**Moikau Station**	**2.19**	**56**	P	Pn	22 45 03.4	-1.8
CAW	**Cannon Point**	**2.28**	**48**	P	Pn	22 45 05.3	-1.2
KIW	**Kapiti Island**	**2.38**	**41**	P	Pn	22 45 06.8	-1.0
FOZ	**Fox Glacier**	**2.38**	**248**	P	Pn	22 45 08.0	+0.2
OGWZ	**Otaki Gorge**	**2.54**	**44**	P	Pn	22 45 08.7	-1.4
LBZ	**Lake Benmore**	**2.59**	**227**	P	Pn	22 45 09.9	-0.9
HOWZ	**Holdsworth Sta**	**2.67**	**50**	P	Pb	22 45 16.4	-0.2
ODZ	**Otahua Downs**	**2.86**	**213**	P	Pn	22 45 12.6	-1.9
MRZ	**Mangatainoka R**	**2.87**	**47**	P	Pn	22 45 12.7	-2.0
JCZ	**Jackson Bay**	**3.27**	**243**	P	Pn	22 45 22.1	+1.8
NBEZ	**Newall Road No**	**3.48**	**13**	P	Pn	22 45 25.8	+2.7
KHEZ	**Kahui Hut**	**3.48**	**15**	P	Pn	22 45 25.3	+2.1
PKE	**Pukeiti**	**3.57**	**14**	P	Pn	22 45 26.1	+1.7
VRZ	**Vera Road**	**3.82**	**23**	P	Pn	22 45 29.5	+1.7
WNVZ	**Wahianoa**	**3.93**	**33**	P	Pn	22 45 29.0	-0.4
NGZ	**Ngauruhoe**	**4.07**	**32**	P	Pn	22 45 31.0	-0.3
NNVZ	**North Ngauruho**	**4.11**	**32**	P	Pb	22 45 36.5	-4.7
WTVZ	**West Tongariro**	**4.11**	**31**	P	Pb	22 45 36.7	-4.6
ETVZ	**East Tongariro**	**4.14**	**33**	P	Pb	22 45 37.4	-4.4
HIZ	**Hauiti**	**4.42**	**21**	P	Pn	22 45 38.2	+2.2
BKZ	**Black Stump Fm**	**4.46**	**40**	P	Pb	22 45 42.2	-5.0
SYZ	**Scrubby Hill**	**4.69**	**213**	P	Pn	22 45 37.8	-1.8
TLZ	**Tolley Road**	**4.79**	**26**	P	Pn	22 45 43.9	+2.8
TOZ	**Tahuroa Road**	**5.33**	**23**	P	Pn	22 45 50.4	+1.9
MKAZ	**Moumakai**	**5.83**	**19**	P	Pn	22 45 57.5	+2.1

IDC ***16*** *22:44:59.0±2.6, 42°.50S×173°.21E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=51.7km s-min=36.2km az=120.0*
WEL ***16*** *22:45:01.4±0.4, 42°S±3°×17°3E±°, h5km, M3.9/13, ML4.1/6, MLv3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6*

ISC 16 22:45:00.1±0.9, 42°.54S±0°.04×173°.44E±0°.06, h10km, n17, σ1.0/19, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.53**	**215**	P	**Pg**	**22 45 12.1**	**+1.8**
GVZ				S	**Sb**	**22 45 20.7**	**+1.6**
AMCZ	**Amberley**	**0.86**	**222**	P	**Pb**	**22 45 18.2**	**+1.0**
THZ	**Tophouse**	**0.87**	**332**	P	**Pb**	**22 45 17.3**	**0.0**
BSWZ	**Blackbirch Sta**	**0.88**	**22**	P	**Pg**	**22 45 18.1**	**+1.1**
LTZ	**Lake Taylor**	**0.90**	**254**	P	**Pg**	**22 45 18.0**	**+0.6**
TUWZ	**Tuamarina**	**1.17**	**19**	P	**Pb**	**22 45 22.8**	**+0.4**
NNZ	**Nelson**	**1.32**	**358**	P	**Pn**	**22 45 25.0**	**+0.5**
AKCZ	**Akaroa Harbour**	**1.39**	**196**	P	**Pn**	**22 45 24.7**	**-0.9**
DSZ	**Denniston Nort**	**1.45**	**302**	P	**Pn**	**22 45 26.8**	**+0.3**
TKNZ	**Takaka Hill**	**1.54**	**346**	P	**Pb**	**22 45 28.8**	**0.0**
WEL	**Wellington**	**1.59**	**39**	P	**Pn**	**22 45 28.1**	**-0.3**
PLWZ	**Palliser**	**1.66**	**55**	P	**Pn**	**22 45 28.2**	**-1.1**
DUWZ	**D'Urville Isla**	**1.77**	**12**	P	**Pn**	**22 45 31.5**	**+0.7**
RPZ	**Rata Peaks**	**2.11**	**235**	Pn	**Pn**	**22 45 34.4**	**-1.0**
	29nm,0.3s,baz=21,slow=22,SNR=6.4						
RPZ				Sn	**Sn**	**22 45 59.6**	**-2.1**
	45nm,0.3s,baz=360,slow=22,SNR=20						
ASAR	**Alice Springs**	**37.67**	**287**	P	**P**	**22 52 14.5**	**-1.1**
	0.4nm,0.5s,baz=129,slow=6.6,SNR=4.8						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**39.83**	**292**	P	**P**	**22 52 32.6**	**-1.1**
	0.3nm,0.5s,baz=126,slow=8.7,SNR=7.5						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.86**	**196**	PKPbc	**PKPbc**	**23 04 50.9**	**+0.1**
	0.2nm,0.3s,baz=164,slow=2.9,SNR=2.1						

NOU ***16*** *22:52:29.0, 42°.25S×174°.13E, h0km, MLv4.1/8, Off E. Coast of S. Island, N.Z.*
WEL ***16*** *22:52:30.7±0.4, 42°S±4°×17°4E±°, h14km±3km, M3.7/31, ML3.8/12, MLv3.7/31, Error ellipse: s-maj=0.0km s-min=0.0km az=149.3*

ISC 16 22:52:29.3±1.1, 42°.13S±0°.05×174°.03E±0°.05, h17km, n69, σ1.96/69, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.40**	**21**	P	**Pg**	**22 52 38.4**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.42**	**345**	P	**Pb**	**22 52 37.9**	**-0.5**
BSWZ				S	**Sb**	**22 52 42.3**	**-2.1**
TUWZ	**Tuamarina**	**0.70**	**355**	P	**Pb**	**22 52 43.2**	**+0.2**
THZ	**Tophouse**	**0.91**	**293**	P	**Pg**	**22 52 45.9**	**-1.2**
TCW	**Tory Channel**	**0.93**	**12**	P	**Pb**	**22 52 46.5**	**-0.6**
NNZ	**Nelson**	**1.03**	**332**	P	**Pg**	**22 52 47.9**	**-1.3**
PLWZ	**Palliser**	**1.07**	**59**	P	**Pn**	**22 52 51.6**	**+2.0**
GVZ	**Greta Valley S**	**1.12**	**221**	P	**Pn**	**22 52 52.2**	**+2.0**
MSWZ	**Moikau Station**	**1.16**	**53**	P	**Pn**	**22 52 52.0**	**+1.3**
CAW	**Cannon Point**	**1.28**	**38**	P	**Pn**	**22 52 52.7**	**+0.2**
PAWZ	**Paruwai Farm**	**1.28**	**55**	P	**Pn**	**22 52 54.3**	**+1.8**
DUWZ	**D'Urville Isla**	**1.32**	**357**	P	**Pg**	**22 52 53.8**	**-1.0**
KIW	**Kapiti Island**	**1.43**	**28**	P	**Pn**	**22 52 55.0**	**+0.5**
TRWZ	**Traveller**	**1.44**	**60**	P	**Pn**	**22 52 55.4**	**+1.7**
LTZ	**Lake Taylor**	**1.46**	**243**	P	**Pb**	**22 52 56.6**	**+0.6**
MTW	**Mount Morrison**	**1.47**	**49**	P	**Pn**	**22 52 56.6**	**+1.5**
OGWZ	**Otaki Gorge**	**1.56**	**34**	P	**Pn**	**22 52 57.4**	**+1.1**
HOWZ	**Holdsworth Sta**	**1.66**	**43**	P	**Pn**	**22 52 59.1**	**+1.4**
DSZ	**Denniston Nort**	**1.70**	**282**	P	**Pb**	**22 53 00.0**	**-0.1**
QRZ	**Quartz Range**	**1.72**	**319**	P	**Pg**	**22 53 00.4**	**-1.9**
QRZ	**Quartz Range**	**1.72**	**319**	P	**Pb**	**22 52 59.7**	**-0.7**
TMWZ	**Te Maipa**	**1.73**	**55**	P	**Pn**	**22 53 00.0**	**+1.4**
MRZ	**Mangatainoka R**	**1.87**	**39**	P	**Pn**	**22 53 02.0**	**+1.5**
MQZ	**McQueen's Vall**	**1.87**	**212**	P	**Pn**	**22 53 01.3**	**+0.7**
OXZ	**Oxford**	**1.89**	**230**	P	**Pn**	**22 53 01.9**	**+1.0**
TIWZ	**Tintock**	**1.94**	**47**	P	**Pn**	**22 53 02.8**	**+1.3**
CPWZ	**Castlepoint**	**2.04**	**54**	P	**Pn**	**22 53 04.3**	**+1.5**
PRWZ	**Pori Road**	**2.15**	**44**	P	**Pn**	**22 53 05.6**	**+1.2**
OHWZ	**Ohakea**	**2.15**	**27**	P	**Pb**	**22 53 07.8**	**0.0**
POWZ	**Post Office Ro**	**2.17**	**38**	P	**Pn**	**22 53 06.2**	**+1.4**
BFZ	**Birch Farm**	**2.21**	**50**	P	**Pn**	**22 53 06.3**	**+0.8**
BFZ	**Birch Farm**	**2.21**	**50**	P	**Pn**	**22 53 06.9**	**+0.7**
DVHZ	**Dannevirke**	**2.44**	**42**	P	**Pn**	**22 53 09.0**	**+0.6**
WAZ	**Wanganui**	**2.48**	**17**	P	**Pb**	**22 53 12.6**	**-0.7**
ANWZ	**Angora Road**	**2.48**	**49**	P	**Pn**	**22 53 10.0**	**+1.0**
TSZ	**Takapari Road**	**2.53**	**36**	P	**Pn**	**22 53 10.8**	**+1.1**
RPZ	**Rata Peaks**	**2.70**	**233**	P	**Pn**	**22 53 13.5**	**+1.5**
PRHZ	**Porangahau**	**2.71**	**48**	P	**Pn**	**22 53 12.8**	**+0.8**
WPHZ	**Waipukurau**	**2.75**	**42**	P	**Pn**	**22 53 16.3**	**+3.7**
PNHZ	**Pukenui**	**2.75**	**37**	P	**Pn**	**22 53 13.6**	**+0.9**
KHEZ	**Kahui Hut**	**2.83**	**360**	P	**Pb**	**22 53 18.5**	**-0.9**
PKVZ	**Pokaka**	**3.00**	**20**	P	**Pb**	**22 53 22.1**	**-0.3**
MOVZ	**Moawhango**	**3.02**	**26**	P	**Pn**	**22 53 18.4**	**+2.1**
WNVZ	**Wahianoa**	**3.04**	**24**	P	**Pn**	**22 53 20.5**	**+3.8**
VRZ	**Vera Road**	**3.05**	**11**	P	**Pb**	**22 53 21.7**	**-1.4**
BHHZ	**Black Hill Sta**	**3.05**	**31**	P	**Pn**	**22 53 18.7**	**+1.8**
WHVZ	**Whangaehu Hut**	**3.08**	**23**	P	**Pb**	**22 53 22.6**	**-1.1**
FWVZ	**Far West T-bar**	**3.09**	**23**	P	**Pb**	**22 53 23.1**	**-0.9**
TUVZ	**Tukino**	**3.11**	**24**	P	**Pn**	**22 53 21.2**	**+3.5**
KAHZ	**Kahuranaki**	**3.17**	**44**	P	**Pn**	**22 53 18.6**	**+0.1**
NGZ	**Ngauruhoe**	**3.18**	**23**	P	**Pb**	**22 53 23.8**	**-1.7**
SNVZ	**South Ngauruho**	**3.18**	**23**	P	**Pn**	**22 53 21.4**	**+2.7**
NNVZ	**North Ngauruho**	**3.23**	**23**	P	**Pn**	**22 53 22.2**	**+2.9**
WTVZ	**West Tongariro**	**3.23**	**22**	P	**Pb**	**22 53 24.2**	**-2.1**
TWVZ	**Taurewa**	**3.23**	**20**	P	**Pb**	**22 53 23.8**	**-2.6**
ETVZ	**East Tongariro**	**3.25**	**24**	P	**Pb**	**22 53 23.4**	**+3.7**
TMVZ	**Te Maari**	**3.27**	**24**	P	**Pb**	**22 53 25.3**	**-1.6**
BKZ	**Black Stump Fm**	**3.50**	**33**	P	**Pn**	**22 53 25.6**	**+2.6**
BKZ	**Black Stump Fm**	**3.50**	**33**	P	**Pn**	**22 53 24.1**	**+1.1**
HIZ	**Hauiti**	**3.66**	**10**	P	**Pn**	**22 53 28.9**	**+3.7**
HIZ	**Hauiti**	**3.66**	**10**	P	**Pn**	**22 53 29.4**	**+4.2**
ODZ	**Otahua Downs**	**3.81**	**219**	P	**Pn**	**22 53 28.0**	**+0.7**
MTHZ	**Maungataniwha**	**3.91**	**34**	P	**Pn**	**22 53 33.0**	**+4.3**
JCZ	**Jackson Bay**	**4.30**	**241**	P	**Pn**	**22 53 36.1**	**+2.0**
URZ	**Urewera**	**4.53**	**32**	P	**Pn**	**22 53 38.5**	**+1.4**
TOZ	**Tahuroa Road**	**4.53**	**15**	P	**Pn**	**22 53 42.0**	**+4.9**
MKAZ	**Moumakai**	**5.09**	**10**	P	**Pn**	**22 53 48.1**	**+3.3**
WTAZ	**Waiatarua**	**5.20**	**5**	P	**Pn**	**22 53 49.0**	**+2.6**
MBAZ	**Motutapu North**	**5.39**	**7**	P	**Pn**	**22 53 52.9**	**+4.0**

ISK ***16*** *22:58:13.1, 38°.29N×29°.39E, h4km, ML1.8/3*

DDA 16 22:58:15.7±0.0, 39°.23N×27°.90E, h7km±1km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.21**	**316**	P	Pg	22 58 20.0	+0.2
STEP				*i* AML	AML	22 58 23.0	
	comp=N,64nm,0.6s						
STEP				*i* AML	AML	22 58 23.0	
	comp=E,53nm,0.3s						
STEP				S	Sg	22 58 23.6	+0.9
DURS	**Dursunbey**	**0.58**	**50**	P	Pg	22 58 27.1	+0.2
DURS				S	Sb	22 58 35.6	-1.0
DEMI	**Demirci**	**0.66**	**106**	P	Pg	22 58 28.9	+0.5
DEMI				S	Sg	22 58 37.9	+0.9
DEMI				*i* AML	AML	22 58 38.0	
	comp=N,20nm,0.2s						
DEMI				*i* AML	AML	22 58 39.0	
	comp=E,25nm,0.1s						
ZEDA	**zmir-Bergama**	**0.69**	**248**	P	Pg	22 58 29.6	+0.5
ZEDA				*i* AML	AML	22 58 38.0	
	comp=E,13nm,0.8s						
ZEDA				S	Sg	22 58 38.7	+0.6
ZEDA				*i* AML	AML	22 58 40.0	
	comp=N,16nm,1.6s						
SIMA	**Simav-Kutahya**	**0.85**	**99**	PG	Pg	22 58 30.0	-2.0
SIMA				SG	Sg	22 58 42.7	-0.4
TVSB	**Tavsanli**	**1.23**

PALK	**Pallekele**	**20.74**	**168**	P		Pn	23 04 09.5	+3.0
	comp=Z,2.8nm,0.6s,baz=149,slow=6.0,SNR=1.6							
PALK				S		**S**	**23 07 50.7**	**-4.6**
	comp=Z,5.2nm,0.8s,baz=197,slow=23,SNR=1.9							
CHTO	**Chiang Mai**	**22.33**	**109**	P		**P**	**23 04 23.1**	**+1.8**
CHTO				IAmb		IAmb	23 04 31.7	
	comp=Z,15nm,1.3s							
PZH	**PanZhiHua**	**22.39**	**87**	P		**P**	**23 04 23.5**	**+1.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,110nm,4.8s							
GTA	**Gaotai**	**22.49**	**53**	⇓P		**P**	**23 04 25.0**	**+2.1**
GTA				pP		pP	23 04 28.4	+0.8
GTA				sP		sP	23 04 31.5	+1.8
GTA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
CM31	**Chiang Mai Arr**	**22.50**	**110**	P		**P**	**23 04 24.2**	**+1.1**
CM31				IAmb		IAmb	23 04 55.5	
	comp=Z,8.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**22.50**	**110**	P		**P**	**23 04 25.7**	**+2.7**
	comp=Z,3.4nm,0.7s,baz=290,slow=9.9,SNR=17							
CMAR				LR		LR	23 15 58.3	
	comp=Z,31nm,18.5s,baz=145,slow=44							
	comp=Z,3.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**22.50**	**110**	P		**P**	**23 04 24.0**	**+1.0**
KURBB	**Kurchatov Arra**	**22.88**	**3**	P		**P**	**23 04 26.6**	**-0.2**
	comp=Z,10nm,0.7s,baz=192,slow=10,SNR=67							
	comp=Z,10nm,0.7s							
KURK	**Kurchatov**	**22.98**	**3**	P		**P**	**23 04 26.5**	**-1.2**
KURK				IAmb		IAmb	23 04 28.2	
	comp=Z,18nm,0.6s							
PHRA	**Phrae**	**23.56**	**108**	P		**P**	**23 04 36.0**	**+2.1**
ABKAR	**Akbulak array**	**25.01**	**334**	P		**P**	**23 04 47.1**	**0.0**
ABKAR	**Akbulak array**	**25.01**	**334**	P		**P**	**23 04 47.1**	**0.0**
BVAR	**Borovoye Array**	**25.66**	**351**	P		**P**	**23 04 53.5**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=170,slow=11,SNR=20							
	comp=Z,3.8nm,0.6s							
BRVK	**Borovoye**	**25.71**	**351**	P		**P**	**23 04 52.5**	**-0.8**
BRVK				IAmb		IAmb	23 05 22.3	
	comp=Z,7.7nm,1.1s							
ZAA0	**Zalesovo Array**	**26.85**	**11**	P		**P**	**23 05 03.0**	**-0.8**
ZAA0				IAmb		IAmb	23 05 19.0	
	comp=Z,3.6nm,0.8s							
ZALV	**Zalesovo Beam**	**26.85**	**11**	P		**P**	**23 05 03.8**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=205,slow=8.7,SNR=7.6							
	comp=Z,1.1nm,0.4s							
ZALV	**Zalesovo Beam**	**26.85**	**11**	P		**P**	**23 05 02.2**	**-1.5**
SONM	**Songino Array**	**30.62**	**41**	P		**P**	**23 05 38.7**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=242,slow=8.0,SNR=1.5							
	comp=Z,0.3nm,0.6s							
ARU	**Arti**	**31.43**	**341**	P		**P**	**23 05 45.1**	**+0.8**
	comp=Z,3.9nm,0.5s,baz=129,slow=8.5,SNR=11							
	comp=Z,3.9nm,0.5s							
ARU	**Arti**	**31.43**	**341**	P		**P**	**23 05 44.4**	**+0.1**
ARU				IAmb		IAmb	23 05 45.6	
	comp=Z,4.7nm,0.6s							
HHC	**Hu-ho-hao-te**	**31.47**	**56**	eP		**P**	**23 05 45.5**	**+0.4**
HHC				pmax		pmax		
	comp=Z,32nm,0.9s							
HHC				pmax		pmax		
	comp=Z,300nm,5.6s							
BELG	**Belogornoye**	**32.74**	**327**	P		**P**	**23 05 56.7**	**+0.9**
	comp=Z,4.0nm,0.7s,baz=252,slow=13,SNR=2.7							
	comp=Z,4.0nm,0.7s							
EIL	**Elat**	**36.45**	**283**	P		**P**	**23 06 28.3**	**0.0**
	comp=Z,3.4nm,0.7s,baz=198,slow=20,SNR=2.0							
	comp=Z,3.4nm,0.7s							
NJ2	**Nanjing**	**36.70**	**73**	eP		P	23 06 37.1	+6.7
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.6s							
BR131	**Keskin Array S**	**37.34**	**300**	P		**P**	**23 06 36.7**	**+0.8**
BR131				IAmb		IAmb	23 07 02.7	
	comp=Z,8.9nm,1.1s							
BRTR	**Keskin Array B**	**37.34**	**300**	P		**P**	**23 06 37.5**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=128,slow=9.1,SNR=6.6							
	comp=Z,1.2nm,0.7s							
BRTR	**Keskin Array B**	**37.34**	**300**	P		**P**	**23 06 36.4**	**+0.5**
ELL	**Elmali**	**40.17**	**295**	P		**P**	**23 07 00.0**	**+0.3**
NRIK	**Noril'sk**	**42.10**	**6**	P		**P**	**23 07 16.3**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=21,slow=15,SNR=1.7							
	comp=Z,0.9nm,0.4s							
AKASG	**Malin Array Be**	**42.34**	**316**	P		**P**	**23 07 17.6**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=91,slow=6.4,SNR=1.7							
	comp=Z,0.4nm,0.4s							
PLOR	**Plostina**	**43.13**	**308**	⇓P		**P**	**23 07 25.9**	**+2.2**
MLR	**Muntele Rosu**	**43.58**	**308**	⇑P		**P**	**23 07 29.7**	**+2.3**
MLR	**Muntele Rosu**	**43.58**	**308**	P		**P**	**23 07 27.5**	**0.0**
MLR				IAmb		IAmb	23 07 46.3	
	comp=Z,3.0nm,0.7s							
KSRS	**Korea Array**	**43.83**	**64**	P		**P**	**23 07 32.0**	**+2.6**
	comp=Z,0.6nm,0.5s,baz=286,slow=6.6,SNR=2.1							
	comp=Z,0.6nm,0.5s							
IDI	**Anoyia**	**44.31**	**293**	P		**P**	**23 07 34.2**	**+0.8**
	comp=Z,7.9nm,1.0s,baz=307,slow=14,SNR=1.2							
	comp=Z,7.9nm,1.0s							
IDI	**Anoyia**	**44.31**	**293**	P		**P**	**23 07 34.8**	**+1.4**
BURAR	**Bucovina Array**	**44.33**	**311**	P		**P**	**23 07 33.8**	**+0.3**
BUR08	**Bucovina Ar. S**	**44.35**	**311**	P		**P**	**23 07 34.1**	**+0.5**
BUR08				IAmb		IAmb	23 07 57.2	
	comp=Z,3.9nm,1.2s							
VTS	**Vitosha**	**45.35**	**304**	P		**P**	**23 07 43.0**	**+1.3**
ITM	**Ithomi**	**46.53**	**296**	P		**P**	**23 07 51.6**	**+0.6**
FNA	**Florina**	**46.75**	**301**	P		**P**	**23 07 52.9**	**+0.3**
KLR	**Kul'dur**	**47.01**	**47**	P		**P**	**23 07 54.7**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=300,slow=14,SNR=1.5							
	comp=Z,0.7nm,0.4s							
FINES	**FINESS Array B**	**47.39**	**330**	P		**P**	**23 07 57.4**	**+0.2**
	comp=Z,4.9nm,1.1s,baz=119,slow=7.0,SNR=4.7							
	comp=Z,4.9nm,1.1s							
FINES	**FINESS Array B**	**47.39**	**330**	P		**P**	**23 07 57.1**	**-0.2**
TIP	**Timpagrande**	**50.40**	**299**	P		**P**	**23 08 21.1**	**+0.3**
TIP				IAmb		IAmb	23 09 00.6	
	comp=Z,5.9nm,1.2s							
SGRT	**San Giovanni R**	**50.94**	**303**	P		**P**	**23 08 25.1**	**+0.3**
ARCES	**ARCESS Array B**	**50.99**	**339**	P		**P**	**23 08 25.6**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=104,slow=5.1,SNR=9.4							
	comp=Z,2.2nm,0.6s							
ARCES	**ARCESS Array B**	**50.99**	**339**	P		**P**	**23 08 24.4**	**-0.3**
TIXI	**Tiksi**	**52.32**	**18**	P		**P**	**23 08 34.0**	**-0.5**
TIXI				IAmb		IAmb	23 08 52.8	
	comp=Z,7.2nm,1.4s							
JHJ	**Hachijo jima 2**	**54.01**	**68**	LR		LR	23 33 20.2	
	comp=Z,35nm,19.1s,baz=126,slow=38							
NB2	**NORSAR Subarra**	**54.25**	**327**	P		P	23 08 55.4	+6.4
	comp=Z,2.1nm,0.8s,baz=99,slow=7.4							
NOA	**NORSAR Array B**	**54.25**	**327**	P		**P**	**23 08 49.3**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=100,slow=6.9,SNR=2.5							
	comp=Z,1.0nm,1.0s							
KEST	**Kesra**	**56.77**	**296**	P		**P**	**23 09 07.6**	**0.0**
	comp=Z,3.0nm,0.7s,baz=39,slow=2.0,SNR=8.6							
	comp=Z,3.0nm,0.7s							
KEST	**Kesra**	**56.77**	**296**	P		**P**	**23 09 08.4**	**+0.9**
MA2	**Magadan**	**58.54**	**35**	LR		LR	23 38 28.6	
	comp=Z,73nm,19.1s,baz=80,slow=40							
ESDC	**Sonseca Array**	**66.01**	**304**	P		**P**	**23 10 10.0**	**0.0**
	comp=Z,0.6nm,1.0s,baz=347,slow=38,SNR=2.6							
	comp=Z,0.6nm,1.0s							
TOA0	**Torodi Ar. Sit**	**70.77**	**275**	P		**P**	**23 10 40.3**	**+0.2**
TOA0				IAmb		IAmb	23 11 17.6	
	comp=Z,4.8nm,1.4s							
TORD	**Torodi Ar. Bea**	**70.77**	**275**	P		**P**	**23 10 41.2**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=61,slow=3.5,SNR=4.5							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**70.77**	**275**	P		**P**	**23 10 41.6**	**+1.5**
TORD				IAmb		IAmb	23 11 19.5	
	comp=Z,2.8nm,1.4s							
WB0	**Warramunga Arr**	**73.19**	**124**	P		**P**	**23 10 55.1**	**+0.7**
WB0				IAmb		IAmb	23 11 29.5	
	comp=Z,9.4nm,1.4s							
WRA	**Warramunga Arr**	**73.26**	**124**	P		**P**	**23 10 55.4**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=322,slow=5.9,SNR=48							
	comp=Z,0.8nm,0.6s							
WRA	**Warramunga Arr**	**73.26**	**124**	P		**P**	**23 10 55.5**	**+0.6**
BOSA	**Boshof**	**74.58**	**225**	P		**P**	**23 11 04.1**	**+1.5**
	comp=Z,2.7nm,0.9s,baz=60,slow=11,SNR=1.1							
	comp=Z,2.7nm,0.9s							
BOSA	**Boshof**	**74.58**	**225**	P		**P**	**23 11 04.9**	**+2.3**
ASAR	**Alice Springs**	**75.28**	**127**	P		**P**	**23 11 07.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=309,slow=6.3,SNR=9.9							
	comp=Z,0.5nm,0.3s							
ASAR	**Alice Springs**	**75.28**	**127**	P		**P**	**23 11 07.4**	**+0.9**
TOLK	**Toolik Lake Re**	**78.09**	**16**	P		**P**	**23 11 21.6**	**-0.3**
IMAR	**Indian Mountai**	**78.97**	**19**	P		**P**	**23 11 26.1**	**-0.6**
A36M	**Sachs Harbour**	**79.37**	**7**	P		**P**	**23 11 28.4**	**-0.4**
A36M				IAmb		IAmb	23 12 07.9	
	comp=Z,3.5nm,0.9s							

BMAR	**Burnt Mountain**	**80.22**	**15**	P		**P**	**23 11 34.5**	**+1.1**
MDM	**Murphy Dome**	**81.27**	**18**	P		**P**	**23 11 39.2**	**+0.1**
MDM				IAmb		IAmb	23 11 40.9	
	comp=Z,5.6nm,1.4s							
ILAR	**Eielson Array**	**81.77**	**17**	P		**P**	**23 11 41.9**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=285,slow=5.2,SNR=4.2							
	comp=Z,0.4nm,0.8s							
TXAR	**Lajitas Array**	**123.23**	**0**	PKP		**PKiKP**	**23 18 22.2**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=29,slow=2.1,SNR=1.5							
LPAZ	**La Paz**	**145.50**	**282**	PKPbc		**PKPab**	**23 19 04.8**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=61,slow=5.8,SNR=5.1							

*DSN **16** 23:01:50.4±2.3,27.˚52N×55.˚54E, h10km, ML3.6/8, Error ellipse: s-maj=33.3km s-min=11.9km az=39.0*
*TEH **16** 23:01:50.2,27.˚53N×55.˚70E, h20km, ML3.8*
*OMAN **16** 23:01:51.8±1.2,27.˚57N×55.˚66E, h33km, mb4.9/3, ml3.6/15, Error ellipse: s-maj=11.1km s-min=6.9km az=2.0*

ISC 16 23:01:51.7±1.7, 27.˚55N±0.˚04×55.˚70E±0.˚03, h19km±5km, n84, σ0˚98/93, mb3.9/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENO	**Geno**	**0.45**	**109**	*e*Pg	Pg	23 01 58.7	-2.2
GENO				*e*Sg	**Sg**	**23 02 07.2**	**0.0**
IBND	**Bandar-abas**	**0.75**	**97**	*e*Sg	**Sb**	**23 02 16.0**	**0.0**
IBND				*e*Pg	**Pb**	**23 02 05.0**	**-1.1**
IBND				*e*		23 02 44.5	
	comp=Z,59μm,0.7s						
LAR1	**LAR**	**1.18**	**276**	*e*Pg	**Pn**	**23 02 12.1**	**-1.1**
LAR1				*e*Sg	**Sb**	**23 02 30.2**	**+1.7**
LAR1				*e*		23 02 36.3	
	comp=Z,44μm,0.3s						
SHME	**Shamm**	**1.55**	**165**	*e*Pn	**Pn**	**23 02 17.7**	**-0.5**
SHME	**Shamm**	**1.55**	**165**	P	**Pn**	**23 02 17.5**	**-0.6**
	SNR=7.7						
SHME				S	**Sn**	**23 02 38.0**	**+0.3**
SHME	**Shamm**	**1.55**	**165**	P	**Pn**	**23 02 17.6**	**-0.6**
SHME				S	**Sn**	**23 02 38.5**	**+0.8**
BANOM	**Banah**	**1.71**	**162**	*e*Pn	**Pn**	**23 02 20.0**	**-0.4**
BANOM	**Banah**	**1.71**	**162**	P	**Pn**	**23 02 21.9**	**+1.5**
	SNR=11						
BANOM				S	**Sn**	**23 02 42.4**	**+0.6**
BANOM	**Banah**	**1.71**	**162**	P	**Pn**	**23 02 19.9**	**-0.5**
KHNJ	**Kahnooj**	**1.82**	**77**	*e*Pn	**Pn**	**23 02 21.2**	**-0.8**
KHNJ				*e*		23 02 57.1	
	comp=Z,7μm,0.6s						
UMQ	**Umm Al-Quwin**	**2.02**	**181**	*e*Pn	**Pn**	**23 02 25.5**	**+0.9**
UMQ	**Umm Al-Quwin**	**2.02**	**181**	P	**Pn**	**23 02 24.1**	**-0.6**
UMQ				S	**Sn**	**23 02 50.9**	**+1.6**
MASF	**Masafi**	**2.21**	**169**	P	**Pn**	**23 02 27.9**	**+0.6**
	SNR=22						
MASF				S	**Sn**	**23 02 55.0**	**+0.8**
MSFE	**Esma-Masafi**	**2.22**	**169**	*e*Pn	**Pn**	**23 02 27.8**	**+0.3**
MSFE	**Esma-Masafi**	**2.22**	**169**	P	**Pn**	**23 02 27.9**	**+0.3**
LMD1	**Lamerd**	**2.26**	**265**	*e*Pn	**Pn**	**23 02 27.6**	**-0.5**
LMD1				*e*		23 03 29.3	
	comp=Z,8μm,0.6s						
NGRK	**Negar Kerman**	**2.27**	**23**	*e*Pn	**Pn**	**23 02 28.2**	**-0.4**
NGRK				*e*		23 02 58.8	
	comp=Z,4μm,0.2s						
MDH	**Madha**	**2.31**	**166**	*e*Pn	**Pn**	**23 02 28.6**	**0.0**
MDH	**Madha**	**2.31**	**166**	P	**Pn**	**23 02 28.7**	**0.0**
	SNR=7.1						
MDH				S	**Sn**	**23 02 56.8**	**+0.3**
MDH	**Madha**	**2.31**	**166**	P	**Pn**	**23 02 28.3**	**-0.3**
NAZ	**Nazwa, Dubai**	**2.55**	**181**	*e*Pn	**Pn**	**23 02 32.0**	**0.0**
NAZ	**Nazwa, Dubai**	**2.55**	**181**	P	**Pn**	**23 02 32.8**	**+0.8**
JASK	**Jask - Hormozg**	**2.56**	**130**	*e*Pn	**Pn**	**23 02 31.1**	**-1.1**
JASK				*e*		23 03 37.8	
	comp=Z,4μm,0.6s						
JASK	**Jask - Hormozg**	**2.56**	**130**	P	**Pn**	**23 02 31.1**	**-1.1**
	SNR=7.6						
TVBK	**TV Kerman**	**2.60**	**21**	*e*Pn	**Pn**	**23 02 33.1**	**+0.1**
TVBK				*e*		23 03 10.7	
	comp=Z,6μm,0.4s						
UOSS	**Minazif**	**2.63**	**170**	*e*Pn	**Pn**	**23 02 33.2**	**0.0**
UOSS	**Minazif**	**2.63**	**170**	P	**Pn**	**23 02 33.3**	**+0.2**
UOSS	**Minazif**	**2.63**	**170**	P	**Pn**	**23 02 33.0**	**-0.1**
ESRB	**Sir Abu**	**2.67**	**210**	*e*Pn	**Pn**	**23 02 33.4**	**-0.2**
HATD	**Hatta, Dubai**	**2.74**	**172**	*e*Pn	**Pn**	**23 02 35.0**	**+0.4**
HATD	**Hatta, Dubai**	**2.74**	**172**	P	**Pn**	**23 02 35.2**	**+0.6**
HATD	**Hatta, Dubai**	**2.74**	**172**	P	**Pn**	**23 02 35.2**	**+0.6**
FAQ	**Al Faqa, Dubai**	**2.79**	**182**	*e*Pn	**Pn**	**23 02 36.1**	**+0.8**
FAQ	**Al Faqa, Dubai**	**2.79**	**182**	P	**Pn**	**23 02 36.6**	**+1.2**
FAQ	**Al Faqa, Dubai**	**2.79**	**182**	P	**Pn**	**23 02 36.2**	**+0.8**
CHMN	**Cheshme madani**	**2.81**	**35**	*e*Pn	**Pn**	**23 02 36.2**	**+0.3**
CHMN				*e*		23 03 16.4	
	comp=Z,2μm,0.7s						
ASHO	**Ashiyiah**	**2.87**	**173**	*e*Pn	**Pn**	**23 02 37.2**	**+0.7**
ASHO	**Ashiyiah**	**2.87**	**173**	P	**Pn**	**23 02 37.1**	**+0.7**
	SNR=16						
ASHO	**Ashiyiah**	**2.87**	**173**	P	**Pn**	**23 02 37.0**	**+0.6**
KBAM	**BAM**	**2.90**	**56**	*e*Pn	**Pn**	**23 02 37.1**	**+0.3**
KBAM				*e*		23 03 21.0	
	comp=Z,2μm,0.6s						
KHGB	**Koh Gabri**	**2.90**	**13**	*e*Pn	**Pn**	**23 02 37.1**	**+0.1**
ASUD	**Al Ashush, Dub**	**2.93**	**187**	*e*Pn	**Pn**	**23 02 37.7**	**+0.5**
ASUD	**Al Ashush, Dub**	**2.93**	**187**	P	**Pn**	**23 02 39.3**	**+2.1**
ALNE	**Al Ain**	**3.48**	**179**	*e*Pn	**Pn**	**23 02 45.5**	**+0.7**
ZRDN	**Zarand Kerman**	**3.48**	**12**	*e*Pn	**Pn**	**23 02 44.8**	**-0.2**
ZRDN				*e*		23 03 08.1	
	comp=Z,1μm,0.4s						
JRN	**Qarnain Island**	**3.65**	**225**	*e*Pn	**Pn**	**23 02 46.1**	**-1.0**
JRN	**Qarnain Island**	**3.65**	**225**	P	**Pn**	**23 02 46.0**	**-1.1**
JRN				S	**Sn**	**23 03 26.7**	**-2.8**
IMEH	**Mehriz**	**3.94**	**346**	*e*Pn	**Pn**	**23 02 51.9**	**+0.5**
IBAF	**Bafgh**	**4.03**	**358**	*e*Pn	**Pn**	**23 02 51.8**	**-0.7**
MZWR	**Madinat Zayed**	**4.12**	**204**	*e*Pn	**Pn**	**23 02 53.0**	**-0.5**
MZWR	**Madinat Zayed**	**4.12**	**204**	P	**Pn**	**23 02 53.1**	**-0.4**
MZWR				S	**Sn**	**23 03 41.0**	**-0.1**
HOQ	**Hoqain**	**4.21**	**159**	P	Pn	23 02 52.3	-2.5
HOQ				S	**Sn**	**23 03 40.5**	**-3.0**
ARQ	**Araqi**	**4.26**	**170**	P	**Pn**	**23 02 55.4**	**-0.2**
ARQ				S	**Sn**	**23 03 45.8**	**+1.0**
GHWR	**Ruwais**	**4.39**	**216**	*e*Pn	**Pn**	**23 02 56.5**	**-0.7**
BIDO	**Bidbid**	**4.57**	**151**	*e*Pn	**Pn**	**23 02 58.0**	**0.0**
BIDO	**Bidbid**	**4.57**	**151**	P	Pn	23 02 57.7	-2.1
ISAD	**Sadrabad**	**4.69**	**339**	*e*Pn	**Pn**	**23 03 02.5**	**+0.8**
CHBR	**Chabahar**	**4.70**	**113**	*e*Pn	**Pn**	**23 03 01.1**	**-0.5**
ICHK	**Chekchek**	**4.81**	**347**	*e*Pn	**Pn**	**23 03 03.1**	**-0.2**
UMZA	**Um Al Zommool**	**4.84**	**186**	*e*Pn	**Pn**	**23 03 03.4**	**-0.1**
SMDO	**Samad**	**4.95**	**154**	P	**Pn**	**23 03 04.2**	**-0.9**
KLNJ	**Kolanjah**	**4.97**	**315**	*e*Pn	**Pn**	**23 03 05.5**	**-0.2**
KLNJ				*e*		23 04 10.1	
	comp=Z,468nm,0.3s						
SLWR	**Sila**	**5.01**	**227**	*e*Pn	Pn	23 03 03.9	-1.9
IRAM	**Rameseh**	**5.13**	**327**	*e*Pn	**Pn**	**23 03 08.2**	**+0.5**
SMRA	**Abu-Samra**	**5.20**	**239**	P	**Pn**	**23 03 07.9**	**-0.5**
SMRA				S	**Sn**	**23 04 05.0**	**-2.8**
NGCH	**Negor - Chabah**	**5.34**	**113**	*e*Pn	**Pn**	**23 03 09.6**	**-0.7**
NGCH	**Negor - Chabah**	**5.34**	**113**	P	**Pn**	**23 03 09.7**	**-0.7**
TPRV	**Parvadeh(Tabas**	**5.53**	**9**	*e*Pn	**Pn**	**23 03 13.4**	**+0.4**
JMDO	**Jabal Madar**	**5.60**	**157**	P	**Pn**	**23 03 13.8**	**-0.1**
WBK	**Wadi Bani Khal**	**5.74**	**148**	P	**Pn**	**23 03 14.7**	**-1.3**
IGAR	**Gharneh**	**5.79**	**328**	*e*Pn	**Pn**	**23 03 15.7**	**-1.0**
ITEG	**Tejag**	**5.95**	**26**	*e*Pn	**Pn**	**23 03 18.8**	**-0.1**
SHK1	**Shahrekord**	**6.33**	**320**	*e*Pn	**Pn**	**23 03 24.3**	**+0.1**
IKLH	**Kolahrood**	**6.76**	**329**	*e*Pn	**Pn**	**23 03 30.5**	**+0.4**
MHTO	**MHTO**	**6.85**	**162**	P	**Pn**	**23 03 30.1**	**-1.1**
KRSH	**Karshahi**	**7.09**	**335**	*e*Pn	**Pn**	**23 03 34.4**	**-0.2**
ISFB	**Sefidab**	**7.40**	**337**	*e*Pn	**Pn**	**23 03 40.5**	**+1.8**
RAYN	**Ar Rayn**	**10.04**	**249**	*i* P	Pn	23 04 10.6	-4.4
	SNR=22						
WTTA	**Wattenberg**	**39.52**	**312**	*e*P	**P**	**23 09 23.4**	**+2.1**
	comp=Z,0.9nm,0.3s						
SQTA	**Sankt Quirin**	**39.79**	**312**	*e*P	**P**	**23 09 25.4**	**+1.8**
	comp=Z,2.4nm,0.4s						
MOTA	**Moosalm**	**39.89**	**312**	*e*P	**P**	**23 09 25.9**	**+1.5**
	comp=Z,0.4nm,0.2s						
FETA	**Feichten**	**40.06**	**311**	*e*P	**P**	**23 09 25.3**	**-0.6**
	comp=Z,1.1nm,0.6s						
RETA	**Reutte**	**40.15**	**312**	*e*P	**P**	**23 09 25.3**	**-1.1**
	comp=Z,0.2nm,0.1s						
DAVA	**Damuels**	**40.69**	**312**	*e*P	**P**	**23 09 33.0**	**+2.0**
	comp=Z,4.0nm,0.4s						

WEL 16 23:07:37.7±0.4, 39˚S±3˚×17˚8E±˚, h15km±3km, M3.1/1, ML3.6/16, ML3.3/1, MLv3.2/32, MLv3.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=127.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIGZ	**Rimuhau**	**0.13**	**226**	P	Pb	23 07 42.2	+0.3
RIGZ				S	Sb	23 07 46.4	+1.6
TKGZ	**Te Karaka**	**0.18**	**350**	P	Pb	23 07 43.0	+0.4
TKGZ				S	Sb	23 07 47.8	+1.9
CNGZ	**Carnagh Statio**	**0.28**	**63**	P	Pb	23 07 45.7	+1.3
RAGZ	**Rawiri**	**0.39**	**288**	P	Pb	23 07 46.3	0.0
RAGZ				S	Sb	23 07 53.1	+1.0
MWZ	**Matawai**	**0.40**	**315**	P	Pb	23 07 46.4	0.0
MWZ				S	Sb	23 07 53.2	+0.9
KNZ	**Kokohu**	**0.44**	**202**	P	Pb	23 07 47.3	+0.1
KNZ				S	Sn	23 07 56.3	-0.8
TWGZ	**Tauwhareparae**	**0.44**	**10**	P	Pb	23 07 48.1	+0.9
TWGZ				S	Sn	23 07 57.6	+0.3
MHGZ	**Mahia Peninsul**	**0.54**	**178**	P	Pb	23 07 49.1	+0.3
PUZ	**Puketiti**	**0.61**	**28**	P	Pb	23 07 50.4	+0.3
RUGZ	**Raukumara Rang**	**0.67**	**346**	P	Pb	23 07 51.2	+0.1
WHHZ	**Waihua**	**0.69**	**228**	P	Pb	23 07 52.1	+0.7
RAHZ	**Arahi**	**0.69**	**244**	P	Pb	23 07 51.8	+0.3
URZ	**Urewera**	**0.70**	**300**	P	Pb	23 07 51.7	+0.1
RTZ	**Ruatahuna**	**0.71**	**270**	P	Pb	23 07 51.9	+0.1
PKGZ	**Pakihiroa**	**0.74**	**12**	P	Pb	23 07 52.7	+0.4
MTHZ	**Maungataniwha**	**0.85**	**253**	P	Pb	23 07 53.9	-0.2
HAZ	**Te Kaha**	**0.86**	**355**	P	Pb	23 07 54.1	-0.1
MUGZ	**Murupara**	**0.89**	**279**	P	Pg	23 07 54.8	0.0
WMGZ	**Waiomatatini S**	**0.90**	**28**	P	Pb	23 07 54.8	-0.1
ARHZ	**Aropaoanui**	**0.95**	**227**	P	Pn	23 07 56.3	-0.1
NMHZ	**Naumai**	**0.97**	**240**	P	Pg	23 07 56.6	+0.1
EDRZ	**Edgecumbe**	**1.03**	**299**	P	Pg	23 07 58.2	+0.5
WHRZ	**Whale Island**	**1.04**	**316**	P	Pg	23 07 59.0	+1.2
RRRZ	**Republican Roa**	**1.11**	**284**	P	Pg	23 07 59.2	0.0
MARZ	**Manawahe**	**1.14**	**303**	P	Pg	23 08 00.3	+0.6
TARZ	**Mount Tarawera**	**1.15**	**289**	P	Pn	23 07 59.5	+0.2
MRHZ	**Matea Rd**	**1.17**	**259**	P	Pn	23 07 59.4	-0.1
ALRZ	**Allen Road**	**1.21**	**272**	P	Pg	23 08 01.0	0.0
MKRZ	**Makatiti**	**1.21**	**293**	P	Pg	23 08 02.2	+1.1
WIZ	**White Island**	**1.22**	**333**	P	Pg	23 08 01.3	+0.2
CKHZ	**Cape Kidnapper**	**1.22**	**211**	P	Pn	23 07 59.0	-1.1
BKZ	**Black Stump Fm**	**1.22**	**243**	P	Pn	23 07 59.3	-0.9
MCHZ	**McNeill Hill**	**1.24**	**228**	P	Pn	23 07 59.5	-1.0
HLRZ	**Highlands Stat**	**1.26**	**286**	P	Pg	23 08 02.0	+0.1
HRRZ	**Handcock Road**	**1.28**	**280**	P	Pg	23 08 02.6	+0.3
OMRZ	**Omania**	**1.29**	**293**	P	Pg	23 08 03.7	+1.1
**OP

IDC ***16*** *23:13:34.2±0.7,42.˙14S×173.˙83E,h0km,mb4.6/12, mbtmp4.7/13,ML5.4/1,MS3.7/13 Error ellipse: s-maj=23.6km s-min=19.2km az=57.0*

BJI ***16*** *23:13:35.5±0.0,42.˙63S×173.˙48E,h17km,mb5.2/5, mB5.5/3,Ms5.4/2*

NEIC ***16*** *23:13:36.8,42.˙33S×173.˙87E,h17km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr5.76; Mθθ-2.09; Mφφ-3.68; Mrθ-1.47; Mrφ-3.00; Mθφ-0.36; Fault plane solution: M₀6.07000×10¹⁵ NP1:φ226.66000°, δ51.42000°,λ101.60000°. NP2:φ28.44000°,δ40.03000°, λ75.86000°. Principal axes: T 6.0321, Plg79.0000°, Azm186.0000°; N 0.0768, Plg9.0000°, Azm39.0000°; P -6.1089, Plg6.0000°, Azm308.0000°;*

NEIC ***16*** *23:13:36.6±1.4,42.˙34S±0.˙03×173.˙87E±0.˙05,h16km±3km, mb4.9/35,Mwr4.5/30 Error ellipse: s-maj=6.3km s-min=3.5km az=116.0*

WEL ***16*** *23:13:38.0±0.4,42.˚S±3.˚×17.˚4E±.˚,h12km,M4.8/3, ML5.1/14,ML4.9/3,MLv4.7/38,MLv4.8/3,Error ellipse: s-maj=0.0km s-min=0.0km az=125.6*

NOU ***16*** *23:13:37.1,42.˙37S×173.˙96E,h16km,MLv5.0/13,South Island, New Zealand*

ISC 16 23:13:36.4±2.6,42.˙30S±0.˙03×173.˙87E±0.˙03,h16km±15km, n271,σ1§22/271,mb4.9/33,MS3.7/16,4C,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.59**	**0**		**Pb**	**23 13 48.6**	**+0.4**
BSWZ				Sg	**Sb**	**23 13 56.3**	**0.0**
BSWZ	**Blackbirch Sta**	**0.59**	**0**	P	**Pb**	**23 13 48.7**	**+0.4**
BSWZ				S	**Sb**	**23 13 56.5**	**+0.2**
CMWZ	**Cape Campbell**	**0.61**	**25**		**Pn**	**23 13 50.2**	**-0.2**
CMWZ				Sg	**Sn**	**23 14 00.3**	**+0.4**
CMWZ	**Cape Campbell**	**0.61**	**25**	P	**Pn**	**23 13 51.0**	**+0.6**
TUWZ	**Tuamarina**	**0.87**	**4**		**Pb**	**23 13 54.0**	**+0.8**
TUWZ				Sg	**Sn**	**23 14 05.8**	**-0.7**
TUWZ	**Tuamarina**	**0.87**	**4**	P	**Pb**	**23 13 54.0**	**+0.8**
TUWZ				S	**Sn**	**23 14 06.1**	**-0.3**
THZ	**Tophouse**	**0.90**	**307**		**Pb**	**23 13 53.4**	**-0.2**
THZ	**Tophouse**	**0.90**	**307**	P	**Pb**	**23 13 53.5**	**-0.2**
THZ				S	**Sb**	**23 14 04.7**	**-0.7**
GVZ	**Greta Valley S**	**0.91**	**223**		**Pb**	**23 13 55.5**	**+0.9**
GVZ	**Greta Valley S**	**0.91**	**223**	P	**Pn**	**23 13 55.6**	**+1.1**
GVZ				S	**Sn**	**23 14 09.2**	**+1.9**
TCW	**Tory Channel**	**1.13**	**16**		**Pb**	**23 13 58.1**	**+0.5**
TCW	**Tory Channel**	**1.13**	**16**	P	**Pb**	**23 13 58.2**	**+0.5**
NNZ	**Nelson**	**1.15**	**341**		**Pb**	**23 13 57.8**	**+0.1**
NNZ	**Nelson**	**1.15**	**341**	P	**Pn**	**23 13 57.9**	**+0.1**
NNZ				S	**Sn**	**23 14 13.2**	**+0.1**
SNZO	**South Karori**	**1.17**	**32**		**Pb**	**23 13 59.0**	**+0.8**
SNZO	**South Karori**	**1.17**	**32**	P	**Pb**	**23 13 59.0**	**+0.8**
WEL	**Wellington**	**1.22**	**34**	P	**Pb**	**23 13 59.8**	**+0.7**
MRNZ	**Matariki Terra**	**1.23**	**317**		**Pb**	**23 13 59.5**	**+0.3**
MRNZ	**Matariki Terra**	**1.23**	**317**	P	**Pb**	**23 13 59.5**	**+0.3**
AMCZ	**Amberley**	**1.25**	**225**		**Pb**	**23 13 59.8**	**+0.2**
AMCZ	**Amberley**	**1.25**	**225**	P	**Pb**	**23 13 59.9**	**+0.3**
PLWZ	**Palliser**	**1.27**	**55**	Pn	**Pn**	**23 13 59.9**	**+0.4**
PLWZ	**Palliser**	**1.27**	**55**	P	**Pb**	**23 14 00.1**	**+0.2**
LTZ	**Lake Taylor**	**1.27**	**247**	Pn	**Pb**	**23 14 00.3**	**+0.2**
LTZ	**Lake Taylor**	**1.27**	**247**	P	**Pb**	**23 14 00.3**	**+0.2**
MSWZ	**Moikau Station**	**1.36**	**50**		**Pn**	**23 14 01.0**	**+0.3**
MSWZ	**Moikau Station**	**1.36**	**50**	P	**Pn**	**23 14 01.4**	**+0.7**
TKNZ	**Takaka Hill**	**1.44**	**331**		**Pn**	**23 14 02.3**	**+0.5**
TKNZ	**Takaka Hill**	**1.44**	**331**	P	**Pb**	**23 14 02.7**	**-0.1**
PAWZ	**Paruwai Farm**	**1.48**	**52**	P	**Pn**	**23 14 02.9**	**+0.4**
CAW	**Cannon Point**	**1.49**	**37**	P	**Pn**	**23 14 03.3**	**+0.8**
DUWZ	**D'Urville Isla**	**1.50**	**2**	P	**Pn**	**23 14 03.3**	**+0.6**
OKCZ	**Okains Bay**	**1.54**	**202**	P	**Pn**	**23 14 04.0**	**+0.7**
TRWZ	**Traveller**	**1.63**	**57**	P	**Pn**	**23 14 04.7**	**+0.3**
DSZ	**Denniston Nort**	**1.64**	**289**		**Pn**	**23 14 05.5**	**+1.0**
DSZ	**Denniston Nort**	**1.64**	**289**	P	**Pn**	**23 14 05.5**	**+1.0**
KIW	**Kapiti Island**	**1.64**	**29**	P	**Pn**	**23 14 05.5**	**+0.9**
MQZ	**McQueen's Vall**	**1.66**	**212**	Pn	**Pn**	**23 14 04.7**	**-0.2**
MQZ	**McQueen's Vall**	**1.66**	**212**	P	**Pn**	**23 14 04.7**	**-0.2**
MTW	**Mount Morrison**	**1.67**	**47**	P	**Pn**	**23 14 05.3**	**+0.3**
OXZ	**Oxford**	**1.69**	**232**	Pn	**Pn**	**23 14 05.2**	**-0.1**
OXZ	**Oxford**	**1.69**	**232**	P	**Pn**	**23 14 05.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.72**	**204**	P	**Pn**	**23 14 06.1**	**+0.4**
OGWZ	**Otaki Gorge**	**1.78**	**34**	P	**Pn**	**23 14 07.1**	**+0.7**
QRZ	**Quartz Range**	**1.79**	**325**		**Pn**	**23 14 07.8**	**+1.2**
QRZ	**Quartz Range**	**1.79**	**325**	P	**Pb**	**23 14 08.3**	**-0.4**
QRZ	**Quartz Range**	**1.79**	**325**	P	**Pb**	**23 14 08.0**	**-0.7**
INZ	**Inchbonnie**	**1.84**	**256**		**Pn**	**23 14 07.8**	**+0.4**
INZ	**Inchbonnie**	**1.84**	**256**	P	**Pn**	**23 14 08.0**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.87**	**42**	P	**Pn**	**23 14 07.9**	**+0.1**
RACZ	**Rakaia**	**1.91**	**221**	P	**Pn**	**23 14 08.1**	**-0.1**
TMWZ	**Te Maipa**	**1.93**	**52**	P	**Pn**	**23 14 08.7**	**+0.1**
MRZ	**Mangatainoka R**	**2.08**	**39**		**Pn**	**23 14 10.8**	**+0.1**
MRZ	**Mangatainoka R**	**2.08**	**39**	P	**Pn**	**23 14 10.9**	**+0.3**
MHCZ	**Mount Hutt**	**2.09**	**233**	P	**Pn**	**23 14 10.5**	**-0.3**
WACZ	**Wakanui South**	**2.21**	**222**	P	**Pn**	**23 14 12.3**	**-0.1**
CPWZ	**Castlepoint**	**2.23**	**52**	P	**Pn**	**23 14 13.1**	**+0.4**
PRWZ	**Pori Road**	**2.35**	**43**	P	**Pn**	**23 14 14.4**	**0.0**
OHWZ	**Ohakea**	**2.36**	**29**	P	**Pn**	**23 14 15.4**	**+1.9**
POWZ	**Post Office Ro**	**2.38**	**37**	P	**Pn**	**23 14 15.0**	**+0.1**
BFZ	**Birch Farm**	**2.41**	**49**	Pn	**Pn**	**23 14 14.5**	**-0.7**
BFZ	**Birch Farm**	**2.41**	**49**	P	**Pn**	**23 14 15.5**	**+0.3**
BFZ	**Birch Farm**	**2.41**	**49**	P	**Pn**	**23 14 14.7**	**-0.5**
WVZ	**Waitaha Valley**	**2.44**	**250**	P	**Pn**	**23 14 16.1**	**+0.6**
RPZ	**Rata Peaks**	**2.50**	**235**	Pn	**Pn**	**23 14 16.1**	**-0.4**
RPZ	662nm,0.3s,baz=74,slow=3.0,SNR=975			Sn	**Sn**	**23 14 45.6**	**-1.1**
	232nm,0.3s,baz=153,slow=24,SNR=262µm,0.4s						
RPZ	**Rata Peaks**	**2.50**	**235**	P	**Pn**	**23 14 17.1**	**+0.6**
RPZ	**Rata Peaks**	**2.50**	**235**	P	**Pn**	**23 14 17.2**	**-0.2**
ARCZ	**Arundel**	**2.57**	**229**	P	**Pn**	**23 14 17.0**	**-0.3**
DVHZ	**Dannevirke**	**2.65**	**42**	P	**Pn**	**23 14 17.8**	**-0.7**
WAZ	**Wanganui**	**2.68**	**19**	P	**Pn**	**23 14 21.1**	**+2.1**
ANWZ	**Angora Road**	**2.69**	**48**	P	**Pn**	**23 14 19.0**	**0.0**
TSZ	**Takapari Road**	**2.74**	**36**	P	**Pn**	**23 14 19.7**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.80**	**248**	P	**Pn**	**23 14 21.2**	**+0.7**
LREZ	**Lake Rotokare**	**2.87**	**8**	P	**Pb**	**23 14 27.9**	**+0.7**
NMEZ	**Namu Road**	**2.89**	**0**	P	**Pb**	**23 14 25.8**	**-1.7**
PRHZ	**Porangahau**	**2.91**	**47**	P	**Pn**	**23 14 21.9**	**-0.2**
TMZ	**Timaru**	**2.95**	**224**	P	**Pn**	**23 14 22.6**	**+0.1**
WPHZ	**Waipukurau**	**2.96**	**42**	P	**Pn**	**23 14 23.4**	**+0.6**
PNHZ	**Pukenui**	**2.97**	**37**	P	**Pn**	**23 14 22.5**	**-0.4**
KHEZ	**Kahui Hut**	**3.01**	**2**	P	**Pn**	**23 14 26.3**	**+2.9**
KHEZ	**Kahui Hut**	**3.01**	**2**	P	**Pn**	**23 14 26.4**	**+2.9**
NBEZ	**Newall Road No**	**3.03**	**360**	P	**Pn**	**23 14 26.6**	**+2.9**
NEZ	**North Egmont**	**3.03**	**3**	P	**Pn**	**23 14 26.7**	**+2.8**
PKE	**Pukeiti**	**3.11**	**2**	P	**Pn**	**23 14 27.6**	**+2.8**
DREZ	**Durham Road**	**3.12**	**5**	P	**Pn**	**23 14 27.9**	**+3.0**
MTVZ	**Mangateitei**	**3.16**	**23**	P	**Pn**	**23 14 27.2**	**+1.7**
PXZ	**Pawanui**	**3.20**	**46**	P	**Pn**	**23 14 25.7**	**-0.3**
PKVZ	**Pokaka**	**3.21**	**21**	P	**Pn**	**23 14 28.1**	**+1.8**
FOZ	**Fox Glacier**	**3.22**	**246**		**Pn**	**23 14 26.7**	**+0.4**
FOZ	**Fox Glacier**	**3.22**	**246**	P	**Pn**	**23 14 27.1**	**+0.8**
MOVZ	**Moawhango**	**3.23**	**27**	P	**Pn**	**23 14 27.0**	**+0.5**
MHEZ	**Mangahewa**	**3.24**	**6**	P	**Pn**	**23 14 29.7**	**+3.1**
VRZ	**Vera Road**	**3.25**	**12**	P	**Pn**	**23 14 28.9**	**+2.2**
WNVZ	**Wahianoa**	**3.25**	**24**	P	**Pn**	**23 14 28.2**	**+1.3**
TRVZ	**Turoa**	**3.26**	**24**	P	**Pn**	**23 14 28.7**	**+1.6**
BHHZ	**Black Hill Sta**	**3.27**	**31**	P	**Pn**	**23 14 27.4**	**+0.4**
DRZ	**Dome Shelter**	**3.29**	**24**	P	**Pn**	**23 14 29.4**	**+1.9**
WHVZ	**Whangaehu Hut**	**3.29**	**24**	P	**Pn**	**23 14 28.8**	**+1.4**
FWVZ	**Far West T-bar**	**3.30**	**23**	P	**Pn**	**23 14 29.3**	**+1.7**
TUVZ	**Tukino**	**3.32**	**25**	P	**Pn**	**23 14 29.1**	**+1.3**
KAHZ	**Kahuranaki**	**3.38**	**43**	P	**Pn**	**23 14 27.6**	**-1.0**
NGZ	**Ngauruhoe**	**3.39**	**23**	P	**Pn**	**23 14 30.3**	**+1.5**
SNVZ	**South Ngauruho**	**3.39**	**24**	P	**Pn**	**23 14 30.1**	**+1.3**
LBZ	**Lake Benmore**	**3.40**	**231**		**Pn**	**23 14 28.6**	**-0.2**
LBZ	**Lake Benmore**	**3.40**	**231**	P	**Pn**	**23 14 28.7**	**-0.1**
OTVZ	**Oturere**	**3.42**	**24**	P	**Pn**	**23 14 30.7**	**+1.4**
NNVZ	**North Ngauruho**	**3.43**	**23**	P	**Pn**	**23 14 31.0**	**+1.6**
TWVZ	**Taurewa**	**3.44**	**21**	P	**Pn**	**23 14 30.8**	**+1.3**
WTVZ	**West Tongariro**	**3.44**	**23**	P	**Pn**	**23 14 30.8**	**+1.3**
ETVZ	**East Tongariro**	**3.46**	**24**	P	**Pn**	**23 14 31.1**	**+1.4**
KWHZ	**Kaweka Forest**	**3.47**	**35**	P	**Pn**	**23 14 29.1**	**-0.7**
TMVZ	**Te Maari**	**3.48**	**24**	P	**Pn**	**23 14 31.1**	**+1.2**
KRVZ	**Karewarewa**	**3.48**	**23**	P	**Pn**	**23 14 30.3**	**+0.4**
NTVZ	**North Tongariro**	**3.48**	**24**	P	**Pn**	**23 14 31.3**	**+1.2**
MCHZ	**McNeill Hill**	**3.57**	**38**	P	**Pn**	**23 14 31.6**	**+0.4**
KATZ	**Kakaramea**	**3.60**	**23**	P	**Pn**	**23 14 34.4**	**+2.7**
ODZ	**Otahua Downs**	**3.60**	**219**		**Pn**	**23 14 31.0**	**-0.6**
ODZ	**Otahua Downs**	**3.60**	**219**	P	**Pn**	**23 14 31.3**	**-0.3**
RITZ	**Rihia Road**	**3.65**	**25**	P	**Pn**	**23 14 34.1**	**+1.9**
BKZ	**Black Stump Fm**	**3.71**	**33**		**Pn**	**23 14 32.2**	**-0.9**
BKZ	**Black Stump Fm**	**3.71**	**33**	P	**Pn**	**23 14 32.8**	**-0.3**
BKZ	**Black Stump Fm**	**3.71**	**33**	P	**Pn**	**23 14 32.3**	**-0.9**
RATZ	**Rangitukua**	**3.73**	**24**	P	**Pb**	**23 14 38.2**	**-3.6**
ARHZ	**Aropaoanui**	**3.85**	**39**	P	**Pn**	**23 14 36.8**	**+1.8**
HIZ	**Hauiti**	**3.86**	**12**		**Pn**	**23 14 36.9**	**+1.8**
HIZ	**Hauiti**	**3.86**	**12**	P	**Pn**	**23 14 37.7**	**+2.6**
HIZ	**Hauiti**	**3.86**	**12**	P	**Pn**	**23 14 37.0**	**+1.8**
NMHZ	**Naumai**	**3.90**	**36**	P	**Pn**	**23 14 35.5**	**-0.2**
MRHZ	**Matea Rd**	**3.97**	**30**	P	**Pn**	**23 14 36.0**	**-0.7**
JCZ	**Jackson Bay**	**4.12**	**243**	P	**Pn**	**23 14 39.5**	**+0.8**
JCZ	**Jackson Bay**	**4.12**	**243**	P	**Pn**	**23 14 37.0**	**-1.7**
MTHZ	**Maungataniwha**	**4.12**	**34**	P	**Pn**	**23 14 38.2**	**-0.5**
TLZ	**Tolley Road**	**4.17**	**18**	P	**Pn**	**23 14 40.6**	**+1.2**
RAHZ	**Arahi**	**4.17**	**37**	P	**Pn**	**23 14 41.2**	**+1.7**
ALRZ	**Allen Road**	**4.19**	**28**	P	**Pn**	**23 14 43.3**	**+3.7**
HHSZ	**Highcliff Hill**	**4.29**	**212**	P	**Pn**	**23 14 40.8**	**-0.2**
WKZ	**Wanaka**	**4.34**	**233**		**Pn**	**23 14 40.7**	**-1.0**
WKZ	**Wanaka**	**4.34**	**233**	P	**Pn**	**23 14 41.2**	**-0.5**
KNZ	**Kokohu**	**4.37**	**43**	P	**Pn**	**23 14 41.5**	**-0.6**
RTZ	**Ruatahuna**	**4.38**	**34**	P	**Pn**	**23 14 44.3**	**+2.0**
MHGZ	**Mahia Peninsul**	**4.39**	**46**	P	**Pn**	**23 14 43.1**	**+0.7**
EAZ	**Earnscleugh**	**4.41**	**227**	P	**Pn**	**23 14 42.3**	**-0.4**
MUGZ	**Murupara**	**4.42**	**31**	P	**Pn**	**23 14 43.5**	**+0.8**
TARZ	**Mount Tarawera**	**4.54**	**27**	P	**Pn**	**23 14 47.9**	**+3.4**
RIGZ	**Rimuhau**	**4.66**	**41**	P	**Pn**	**23 14 48.2**	**+2.0**
TOZ	**Tahuroa Road**	**4.74**	**16**	P	**Pn**	**23 14 48.1**	**+1.0**
URZ	**Urewera**	**4.74**	**33**	P	**Pn**	**23 14 47.0**	**-0.2**
URZ	**Urewera**	**4.74**	**33**	P	**Pn**	**23 14 45.7**	**-1.5**
TUZ	**Tuapeka**	**4.76**	**218**	P	**Pn**	**23 14 47.4**	**0.0**
TGRZ	**Tauranga**	**4.92**	**23**	P	**Pn**	**23 14 50.6**	**+0.9**
MSZ	**Milford Sound**	**4.93**	**239**	P	**Pn**	**23 14 48.9**	**-0.9**
MLZ	**Mavora Lakes**	**5.17**	**232**	Pn	**Pn**	**23 14 52.0**	**-1.1**
MLZ	**Mavora Lakes**	**5.17**	**232**	P	**Pn**	**23 14 52.4**	**-0.7**
TWGZ	**Tauwhareparae**	**5.18**	**39**	P	**Pn**	**23 14 54.3**	**+1.0**
RUGZ	**Raukumara Rang**	**5.22**	**35**	P	**Pn**	**23 14 53.2**	**-0.8**
AWAZ	**Awhitu Peninsu**	**5.27**	**7**	P	**Pn**	**23 14 56.3**	**+1.9**
MKAZ	**Moumakai**	**5.29**	**11**	P	**Pn**	**23 14 55.7**	**+1.0**
WTAZ	**Waiatarua**	**5.39**	**6**	P	**Pn**	**23 14 58.3**	**+2.2**
ETAZ	**East Tamaki Re**	**5.40**	**9**	P	**Pn**	**23 14 58.0**	**+1.7**
SYZ	**Scrubby Hill**	**5.42**	**217**	P	**Pn**	**23 14 57.2**	**+0.7**
SYZ	**Scrubby Hill**	**5.42**	**217**	P	**Pn**	**23 14 56.7**	**+0.2**
RVAZ	**Riverhead Bore**	**5.55**	**6**	P	**Pn**	**23 15 00.9**	**+2.5**
WHZ	**Wether Hill Ro**	**5.57**	**228**	Pn	**Pn**	**23 14 57.3**	**-1.3**
WHZ	**Wether Hill Ro**	**5.57**	**228**	P	**Pn**	**23 14 57.3**	**-1.3**
MBAZ	**Motutapu North**	**5.58**	**9**	P	**Pn**	**23 15 00.2**	**+1.5**
WIAZ	**Waiheke Island**	**5.59**	**10**	P	**Pn**	**23 15 00.2**	**+1.4**
WMGZ	**Waiomatatini S**	**5.67**	**39**	P	**Pn**	**23 15 00.5**	**+0.5**
KUZ	**Kuaotunu**	**5.73**	**15**	P	**Pn**	**23 15 01.4**	**+0.6**
KUZ	**Kuaotunu**	**5.73**	**15**	P	**Pn**	**23 15 01.2**	**+0.4**
DCZ	**Deep Cove**	**5.79**	**235**	Pn	**Pn**	**23 14 59.9**	**-1.7**
DCZ	**Deep Cove**	**5.79**	**235**	P	**Pn**	**23 15 01.0**	**-0.6**
GRZ	**Great Barrier**	**6.17**	**12**	P	**Pn**	**23 15 10.2**	**+3.4**
APZ	**The Paps**	**6.17**	**221**	P	**Pn**	**23 15 06.5**	**-0.4**
WCZ	**Waipu Caves**	**6.37**	**3**	P	**Pn**	**23 15 11.7**	**+2.2**
OUZ	**Omahuta**	**7.08**	**358**	Pn	**Pn**	**23 15 20.6**	**+1.3**
OUZ	**Omahuta**	**7.08**	**358**	P	**Pn**	**23 15 22.1**	**+2.8**
OUZ	**Omahuta**	**7.08**	**358**	P	**Pn**	**23 15 21.7**	**+2.4**
CTZ	**Chatham Island**	**7.12**	**105**	P	**Pn**	**23 15 20.3**	**+0.5**
CTZ	**Chatham Island**	**7.12**	**105**	P	**Pn**	**23 15 20.0**	**+0.2**
DZM	**Mont Dzumac**	**21.11**	**341**	P	**P**	**23 18 19.3**	**-1.1**
DZM	7.9nm,0.9s,baz=56,slow=17,SNR=2.8			LR	LR	23 26 09.6	
	comp=Z,319nm,18.1s,baz=220,slow=367.9nm,0.9s						
DZM	**Mont Dzumac**	**21.11**	**341**	*e*LR	LR	23 23 23.9	
	comp=Z,219nm,21.5s						
DZM	**Mont Dzumac**	**21.11**	**341**	P	**P**	**23 18 19.8**	**-0.7**
ARMA	**Armidale**	**21.41**	**296**	P	**P**	**23 18 24.5**	**+0.9**
TOO	**Toolangi**	**22.22**	**273**	P	**P**	**23 18 32.1**	**-0.1**
MSVF	**Nonsavu**	**24.75**	**10**	P	**P**	**23 18 57.4**	**+0.1**
	3.6nm,0.6s,baz=137,slow=22,SNR=1.53.6nm,0.6s						
EIDS	**Eidsvold**	**25.25**	**305**	P	**P**	**23 19 01.3**	**-0.5**
EIDS				IAmb	IAmb	23 19 18.9	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**27.62**	**282**	P	**P**	**23 19 24.1**	**+1.0**
	comp=Z,4.3nm,0.7s,baz=120,slow=8.7,SNR=7.8						
STKA				LR	LR	23 29 11.9	
	comp=Z,143nm,19.4s,baz=171,slow=34comp=Z,4.3nm,0.7s						
STKA	**Stephens Creek**	**27.62**	**282**	P	**P**	**23 19 23.3**	**+0.1**
RAR	**Rarotonga**	**30.52**	**55**	LR	LR	23 30 28.5	
	comp=Z,71nm,20.1s,baz=357,slow=33						
BBOO	**Buckleboo**	**31.22**	**275**	P	**P**	**23 19 54.7**	**-0.3**
BBOO				IAmb	IAmb	23 20 19.8	
	comp=Z,33nm,1.4s						
CTA	**Charters Tower**	**32.14**	**305**	P	**P**	**23 20 01.7**	**-1.5**
	comp=Z,9.5nm,1.0s,baz=137,slow=14,SNR=2.6						
CTA				LR	LR	23 32 52.8	
	comp=Z,158nm,18.1s,baz=82,slow=36comp=Z,9.5nm,1.0s						
AS31	**Alice Springs**	**37.91**	**287**	P	**P**	**23 20 52.1**	**-0.9**
ASAR	**Alice Springs**	**37.91**	**287**	P	**P**	**23 20 52.2**	**-0.8**
	comp=Z,5.1nm,0.5s,baz=126,slow=6.8,SNR=40						
ASAR				PcP	**PcP**	**23 23 08.0**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=130,slow=3.9,SNR=5.3						
ASAR				LR	LR	23 36 45.6	
	comp=Z,252nm,18.2s,baz=152,slow=37comp=Z,5.1nm,0.5s						
FORT	**Forrest**	**38.14**	**272**	P	**P**	**23 20 54.2**	**-0.7**
COEN	**Coen**	**38.73**	**308**	P	**P**	**23 20 59.7**	**-0.3**
COEN				IAmb	IAmb	23 21 00.6	
	comp=Z,18nm,1.0s						
PAE	**Paea**	**39.61**	**63**	*e*T	T	00 03 28.2	
	comp=Z,3.9nm,0.3s						
PPT2	**Papeete2**	**39.66**	**63**	*e*LR	LR	23 32 00.1	
	comp=Z,116nm,21.8s						
PPT	**Papeete**	**39.68**	**63**	LR	LR	23 33 54.4	
	comp=Z,140nm,19.0s,baz=235,slow=31						
WR0	**Warramunga Arr**	**39.88**	**292**	P	**P**	**23 21 08.9**	**-0.6**
WR0				IAmb	IAmb	23 21 09.9	
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**40.03**	**291**	P	**P**	**23 21 10.0**	**-0.7**
WB2				IAmb	IAmb	23 21 12.8	
	comp=Z,22nm,0.7s						
WRAB	**Tennant Creek**	**40.03**	**291**	P	**P**	**23 21 09.9**	**-0.9**
WRAB				IAmb	IAmb	23 21 12.9	
	comp=Z,31nm,0.7s						
WRA	**Warramunga Arr**	**40.03**	**291**	P	**P**	**23 21 10.2**	**-0.6**
	comp=Z,14nm,0.7s,baz=130,slow=7.5,SNR=124						
WRA				PcP	**PcP**	**23 23 14.3**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=122,slow=3.2,SNR=6.3						
WRA				LR	LR	23 37 43.3	
	comp=Z,182nm,18.5s,baz=110,slow=36comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**40.03**	**291**	P	**P**	**23 21 09.6**	**-1.2**
WB0	**Warramunga Arr**	**40.12**	**292**	P	**P**	**23 21 10.8**	**-0.7**
WB0				IAmb	IAmb	23 21 11.7	
	comp=Z,14nm,0.7s						
PMG	**Port Moresby**	**40.29**	**317**	P	**P**	**23 21 13.3**	**+0.4**
	comp=Z,10nm,0.4s,baz=163,slow=9.5,SNR=3.9						
	comp=Z,10nm,0.4s						
KRVT	**Keravat (AS076**	**42.55**	**327**	LR	LR	23 39 28.0	
	comp=Z,78nm,18.1s,baz=271,slow=37						
KNRA	**Kununurra**	**46.81**	**291**	P	**P**	**23 22 05.2**	**-0.3**
MTN	**Manton Dam**	**47.19**	**296**	P	**P**	**23 22 08.0**	**-0.5**
QSPA	**South Pole Qui**	**47.83**	**180**	P	**P**	**23 22 16.0**	**+3.0**
	comp=Z,4.2nm,0.8s,baz=345,slow=1.0,SNR=11						
QSPA				LR	LR	23 40 58.3	
	comp=Z,53nm,18.2s,baz=124,slow=34comp=Z,4.2nm,0.8s						
MORW	**Morawa**	**47.94**	**266**	P	**P**	**23 22 13.5**	**-0.7**
MORW				IAmb	IAmb	23 22 14.9	
	comp=Z,21nm,1.1s						
PSA00	**Pilbara Seismi**	**49.40**	**277**	P	**P**	**23 22 23.9**	**-1.6**
PSA00	**Pilbara Seismi**	**49.40**	**277**	P	**P**	**23 22 23.7**	**-1.7**
PSA00				IAmb	IAmb	23 22 24.0	
	comp=Z,42nm,1.5s						
MBWA	**Marble Bar**	**49.74**	**278**	P	**P**	**23 22 27.0**	**-1.0**
MBWA				IAmb	IAmb	23 22 31.3	
	comp=Z,15nm,1.1s						
TAOE	**Nuku Hiva Isla**	**52.27**	**64**	*e*LR	LR	23 37 50.8	
	comp=Z,199nm,23.8s						
GIRL	**Giralia**	**52.91**	**272**	P	**P**	**23 22 51.9**	**+0.2**
FAKI	**Fak Fak**	**54.00**	**305**	P	**P**	**23 22 58.4**	**-1.5**
FAKI				IAmb	IAmb	23 22 59.6	
	comp=Z,13nm,0.9s						
BATI	**Baumata**	**54.17**	**291**	P	**P**	**23 23 01.7**	**+0.6**
	comp=Z,21nm,0.6s,baz=213,slow=3.7,SNR=4.3comp=Z,21nm,0.6s						
SIJI	**Sorong**	**56.22**	**305**	P	**P**	**23 23 15.4**	**-0.5**
	comp=Z,3.9nm,0.2s,baz=197,slow=22,SNR=1.8						
SIJI				LR	LR	23 48 58.4	
	comp=Z,86nm,18.2s,baz=182,slow=38						
	comp=Z,3.9nm,0.2s						
BELA	**Belgrano 2**	**58.83**	**173**	P	**P**	**23 23 34.4**	**+0.9**
BELA				IAmb	IAmb	23 23 57.4	
	comp=Z,9.4nm,1.5s						
KAPI	**Kappang**	**60.57**	**292**	LR	LR	23 49 38.8	
	comp=Z,54nm,20.7s,baz=112,slow=36						
LUWI	**Luwuk**	**61.45**	**298**	P	**P**	**23 23 51.3**	**-1.0**
TROLL	**Troll, Antarti**	**65.83**	**183**	P	**P**	**23 24 22.5**	**+1.9**
SNAA	**Sanae**	**66.31**	**181**	P	**P**	**23 24 25.4**	**+1.8**
SNAA	**Sanae**	**66.31**	**181**	LR	LR	23 53 10.7	
	comp=Z,47nm,18.5s,baz=190,slow=36						
SNAA	**Sanae**	**66.31**	**181**	P	**P**	**23 24 24.1**	**+0.5**
VNA2	**Neumayer--Watz**	**67.08**	**180**	P	**P**	**23 24 30.6**	**+2.1**
	baz=160,slow=7.0						
ESPZ	**Base Esperanza**	**67.17**	**158**	P	**P**	**23 24 30.1**	**+1.1**
MYLDM	**Lahad Datu**	**68.92**	**299**	P	**P**	**23 24 41.0**	**+0.3**
MYLDM				IAmb	IAmb	23 24 48.9	
	comp=Z,9.2nm,0.8s						
KKM	**Kota Kinabalu**	**71.06**	**297**	P	**P**	**23 24 53.6**	**-0.4**
KKM				IAmb	IAmb	23 24 59.1	
	comp=Z,11nm,0.8s						
KSM	**Kuching**	**71.76**	**290**	P	**P**	**23 24 57.8**	**-0.3**
KSM				IAmb	IAmb	23 24 59.3	
	comp=Z,13nm,1.0s						
PLCA	**Paso Flores**	**78.90**	**136**	P	**P**	**23 25 39.4**	**+0.4**
PLCA				IAmb	IAmb	23 25 59.3	
	comp=Z,26nm,1.7s						
H03S2	**Juan Fernandez**	**79.10**	**126**	T	T	00 50 50.0	
	baz=224,slow=74,SNR=3.8						
H03S1	**Juan Fernandez**	**79.11**	**126

MEIG				eS		Sn	23 37 38.8	-0.2
ACP2	**Acapulco**	**2.33**	**119**	eP		Pn	23 37 12.4	0.0
ACP2				eS		Sn	23 37 39.9	-0.3
ACAM	**Acambaro**	**2.35**	**31**	eP		Pn	23 37 11.1	-1.8
ACAM				eS		Sn	23 37 35.0	-5.9
PLIG	**Platanillo**	**2.42**	**81**	eP		Pn	23 37 14.0	+0.3
PLIG				eS		Sn	23 37 46.1	+3.8
DAIG	**Los Arroyos**	**2.47**	**113**	eP		Pn	23 37 13.8	-0.5
DAIG				eS		Sn	23 37 47.3	+3.8
TOVM	**TOLUCA**	**2.55**	**60**	eP		Pn	23 37 16.2	+0.6
TOVM				eS		Sn	23 37 46.3	+0.4
MAVM	**Malinalco, Edo**	**2.57**	**68**	eP		Pn	23 37 14.9	-1.0
MAVM				eS		Sn	23 37 48.1	+1.9
IGIG	**Irapuato, Guan**	**2.79**	**13**	eP		Pn	23 37 16.6	-2.3
INVM	**La Marquesa**	**2.80**	**63**	eP		Pn	23 37 19.9	+0.7
INVM				eS		Sn	23 37 55.7	+3.6
ACIG	**Acambay**	**2.81**	**46**	eP		Pn	23 37 20.6	+1.4
ACIG				eS		Sn	23 37 51.6	-0.4
AOVM	**Tlapan**	**2.84**	**64**	eP		Pn	23 37 20.2	+0.3
AOVM				eS		Sn	23 37 53.1	-0.1
CIHU	**Emiliano Zapat**	**2.85**	**296**	eP		Pn	23 37 20.1	+0.4
CIHU				eS		Sn	23 37 54.2	+1.2
CJVM	**Cuajimalpa**	**2.91**	**62**	eP		Pn	23 37 19.4	-1.3
CJVM				eS		Sn	23 37 54.3	-0.4
YAIG	**Yautepec**	**2.92**	**73**	eP		Pn	23 37 20.6	0.0
YAIG				eS		Sn	23 37 54.7	-0.1
TLVM	**San Miguel Top**	**2.96**	**66**	eP		Pn	23 37 21.3	-0.1
TLVM				eS		Sn	23 37 55.6	-0.5
UNM	**Universidad Na**	**2.99**	**64**	eP		Pn	23 37 22.1	+0.4
UNM				eS		Sn	23 37 56.7	+0.1
MHVM	**Bosque de Chap**	**3.00**	**62**	eS		Sn	23 37 55.7	-1.2
XCVM	**Xochimilco**	**3.01**	**66**	eP		Pn	23 37 21.4	-0.6
XCVM				eS		Sn	23 37 56.8	-0.3
AZVM	**Cuida Lopez Ma**	**3.02**	**59**	eP		Pn	23 37 22.9	+0.7
AZVM				eS		Sn	23 37 55.2	-2.2
CRIG	**Cruz Grande**	**3.04**	**114**	eP		Pn	23 37 21.6	-0.5
CRIG				eS		Sn	23 37 54.7	-2.9
GMVM	**Gustavo A Made**	**3.12**	**62**	eP		Pn	23 37 21.6	-1.9
GMVM				eS		Sn	23 38 00.3	+0.4
AMVM	**AMECAMECA**	**3.26**	**70**	eP		Pn	23 37 26.8	+1.4
AMVM				eS		Sn	23 38 02.7	-0.6
ZUVM	**ZUMPANGO**	**3.31**	**57**	eP		Pn	23 37 25.6	-0.5
ZUVM				eS		Sn	23 38 04.1	-0.5
TLIG	**Tlapa**	**3.32**	**97**	eP		Pn	23 37 26.4	+0.3
TLIG				eS		Sn	23 38 03.8	-0.8
MGIG	**Malinaltepec**	**3.32**	**103**	eP		Pn	23 37 26.8	+0.6
MGIG				eS		Sn	23 38 03.5	-1.2
PPM	**Popocatepetl**	**3.38**	**72**	eP		Pn	23 37 27.5	+0.2
PPM				eS		Sn	23 38 07.1	+0.5
VTVM	**Tizayuca**	**3.53**	**60**	eP		Pn	23 37 29.0	-0.2
VTVM				eS		Sn	23 38 11.0	+1.0
ESTA	**Talpa de Allen**	**3.56**	**312**	eP		Pn	23 37 32.2	+2.7
ESTA				eS		Sn	23 38 09.1	-1.5
FTIG	**Fresnillo de T**	**3.70**	**91**	eP		Pn	23 37 31.4	+0.1
FTIG				eS		Sn	23 38 11.6	-2.4
PNIG	**Pinotepa**	**4.06**	**113**	eP		Pn	23 37 35.1	-1.1
PNIG				eS		Sn	23 38 23.9	+1.2
CMIG	**Matias Romero**	**6.87**	**97**	LR		LR	23 41 04.5	
	comp=Z,82nm,18.4s,baz=16,slow=36							
TXAR	**Lajitas Array**	**11.36**	**353**	Pn		**Pn**	**23 39 20.1**	**+3.6**
	baz=175,slow=12,SNR=4.0							
TXAR				Lg		Lg	23 42 30.5	
	baz=179,slow=25,SNR=3.0 0.3nm,0.6s							
NVAR	**Mina Array Bea**	**24.81**	**328**	P		**P**	**23 41 57.5**	**+1.8**
	0.3nm,0.3s,baz=152,slow=10,SNR=2.4 0.3nm,0.3s							
PDAR	**Pinedale Array**	**25.48**	**347**	P		**P**	**23 42 02.7**	**+0.8**
	0.3nm,0.6s,baz=166,slow=12,SNR=2.4 0.3nm,0.6s							
H03N2	**Juan Fernandez**	**55.72**	**157**	T		T	00 46 19.6	
	baz=334,slow=77,SNR=34							
H03N1	**Juan Fernandez**	**55.73**	**157**	T		T	00 46 06.1	
	baz=334,slow=77,SNR=17							
H03N3	**Juan Fernandez**	**55.74**	**157**	T		T	00 46 19.4	
	baz=334,slow=77,SNR=37							

WEL ***16*** *23:39:00,41.69S×174.26E,h15km,ML4.5,Mw4.3, Moment Tensor Solution. s6 Moment tensor: Scale 10^15 Nm; Mrr-0.57; Mθθ 1.80; Mϕϕ-1.23; Mrθ-0.09; Mθϕ-2.28; Mϕr2.83; Fault plane solution: Mo3.93000×10^15 NP1: ϕs259.00000°,δ46.00000°,λ-169.00000°. NP2: ϕs162.00000°,δ82.00000°,λ-44.00000°. Principal axes: T -422.3500, Plg23.0000°, Azm218.0000°; N 364.2400, Plg45.0000°, Azm333.0000°; P 58.1100, Plg36.0000°, Azm110.0000°;*

IDC ***16*** *23:39:37.8±1.2,41.48S×174.28E,h0km,mb4.1/4, mbtmp4.1/5,ML4.0/1,MS3.6/8 Error ellipse: s-maj=39.4km s-min=28.6km az=58.0*

NOU ***16*** *23:39:39.9,41.92S×174.52E,h9km,MLv4.9/13,Cook Strait, New Zealand*

NEIC ***16*** *23:39:40.5,41.84S×174.40E,h18km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr1.32; Mθθ-0.00; Mϕϕ-1.32; Mrθ-0.96; Mθϕ-2.64; Mϕr1.51; Fault plane solution: Mo3.46000×10^15 NP1:ϕs256.05000°, δ56.95000°,λ155.47000°. NP2:ϕs0.03000°,δ69.63000°, λ35.57000°. Principal axes: T 3.4414, Plg39.0000°, Azm222.0000°; N 0.0291, Plg50.0000°, Azm26.0000°; P -3.4706, Plg8.0000°, Azm126.0000°;*

NEIC ***16*** *23:39:41±1.9,41.81S±0.04×174.34E±0.04,h17km±1km, mb4.7/9,Mwr4.3/33 Error ellipse: s-maj=6.0km s-min=3.9km az=180.0*

WEL ***16*** *23:39:41.5±0.3,42.2S±3.3×17.4E±.,h13km±2km,M4.7/48, ML5.0/21,MLv4.7/48,Error ellipse: s-maj=0.0km s-min=0.0km az=141.8*

ISC 16 23:39:41.2±0.9,41.83S±0.03×174.37E±0.03,h18km±5km, n197,σ1s34/199,mb4.5/8,MS3.4/8,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**304**	Pg	**Pg**	**23 39 45.2**	**-0.1**
CMWZ				Sg	**Sg**	**23 39 48.3**	**+0.3**
CMWZ	**Cape Campbell**	**0.14**	**304**	P	**Pg**	**23 39 45.3**	**0.0**
CMWZ				S	**Sg**	**23 39 48.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.39**	**287**		**Pg**	**23 39 48.6**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.39**	**287**	P	**Pg**	**23 39 48.7**	**-0.6**
BSWZ				S	**Sg**	**23 39 54.5**	**-0.1**
TUWZ	**Tuamarina**	**0.51**	**321**	Pg	**Pg**	**23 39 50.1**	**-1.3**
TUWZ				Sg	**Sg**	**23 39 56.1**	**-2.2**
TUWZ	**Tuamarina**	**0.51**	**321**	P	**Pg**	**23 39 50.1**	**-1.3**
TUWZ				S	**Sg**	**23 39 56.3**	**-2.0**
SNZO	**South Karori**	**0.57**	**26**		**Pg**	**23 39 52.3**	**-0.2**
SNZO	**South Karori**	**0.57**	**26**	P	**Pg**	**23 39 52.5**	**-0.1**
WEL	**Wellington**	**0.62**	**29**	P	**Pg**	**23 39 53.3**	**-0.1**
WEL				S	**Sg**	**23 40 01.9**	**+0.2**
TCW	**Tory Channel**	**0.62**	**353**		**Pg**	**23 39 51.9**	**-1.5**
TCW	**Tory Channel**	**0.62**	**353**	P	**Pg**	**23 39 52.1**	**-1.4**
TCW				S	**Sg**	**23 39 59.6**	**-2.2**
PLWZ	**Palliser**	**0.71**	**69**		**Pb**	**23 39 56.4**	**+1.4**
PLWZ	**Palliser**	**0.71**	**69**	P	**Pb**	**23 39 56.5**	**+1.4**
MSWZ	**Moikau Station**	**0.78**	**58**		**Pb**	**23 39 57.4**	**+1.2**
MSWZ	**Moikau Station**	**0.78**	**58**	P	**Pb**	**23 39 57.5**	**+1.3**
CAW	**Cannon Point**	**0.89**	**36**	P	**Pg**	**23 39 58.1**	**-0.4**
PAWZ	**Paruwai Farm**	**0.91**	**61**	P	**Pg**	**23 39 59.0**	**+0.2**
NNZ	**Nelson**	**0.96**	**309**		**Pg**	**23 39 58.1**	**-1.8**
NNZ	**Nelson**	**0.96**	**309**	P	**Pg**	**23 39 58.1**	**-1.8**
KIW	**Kapiti Island**	**1.05**	**23**	P	**Pg**	**23 40 00.3**	**-1.2**
TRWZ	**Traveller**	**1.08**	**67**	P	**Pg**	**23 40 01.1**	**-0.9**
DUWZ	**D'Urville Isla**	**1.08**	**342**	P	**Pg**	**23 40 00.1**	**-2.0**
MTW	**Mount Morrison**	**1.08**	**52**	P	**Pg**	**23 40 01.2**	**-0.9**
THZ	**Tophouse**	**1.10**	**273**		**Pg**	**23 40 01.3**	**-1.2**
THZ	**Tophouse**	**1.10**	**273**	P	**Pg**	**23 40 01.6**	**-0.8**
OGWZ	**Otaki Gorge**	**1.18**	**31**	P	**Pb**	**23 40 02.7**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.27**	**43**	P	**Pn**	**23 40 03.7**	**-0.4**
MRNZ	**Matariki Terra**	**1.28**	**289**		**Pn**	**23 40 04.3**	**+0.1**
MRNZ	**Matariki Terra**	**1.28**	**289**	P	**Pn**	**23 40 04.4**	**+0.2**
TKNZ	**Takaka Hill**	**1.32**	**306**		**Pn**	**23 40 04.3**	**-0.5**
TKNZ	**Takaka Hill**	**1.32**	**306**	P	**Pn**	**23 40 04.6**	**-0.2**
TMWZ	**Te Maipa**	**1.35**	**58**	P	**Pn**	**23 40 04.7**	**-0.5**
MRZ	**Mangatainoka R**	**1.48**	**38**		**Pn**	**23 40 06.5**	**-0.4**
MRZ	**Mangatainoka R**	**1.48**	**38**	P	**Pn**	**23 40 06.6**	**-0.4**
GVZ	**Greta Valley S**	**1.51**	**221**	Pn	**Pn**	**23 40 08.0**	**+0.6**
GVZ	**Greta Valley S**	**1.51**	**221**	P	**Pn**	**23 40 07.9**	**+0.6**
TIWZ	**Tintock**	**1.55**	**48**	P	**Pn**	**23 40 07.2**	**-0.7**
CPWZ	**Castlepoint**	**1.66**	**57**	P	**Pn**	**23 40 09.0**	**-0.4**
QRZ	**Quartz Range**	**1.71**	**305**	Pn	**Pn**	**23 40 10.5**	**+0.3**
QRZ	**Quartz Range**	**1.71**	**305**	P	**Pn**	**23 40 10.9**	**+0.8**
PRWZ	**Pori Road**	**1.75**	**44**	P	**Pn**	**23 40 10.1**	**-0.6**
OHWZ	**Ohakea**	**1.77**	**24**	P	**Pn**	**23 40 12.0**	**+1.1**
POWZ	**Post Office Ro**	**1.78**	**37**	P	**Pn**	**23 40 10.5**	**-0.6**
BFZ	**Birch Farm**	**1.82**	**52**		**Pn**	**23 40 10.4**	**-1.2**
BFZ	**Birch Farm**	**1.82**	**52**	P	**Pn**	**23 40 10.6**	**-1.0**
BFZ	**Birch Farm**	**1.82**	**52**	P	**Pn**	**23 40 10.4**	**-1.2**
LTZ	**Lake Taylor**	**1.83**	**238**	Pn	**Pn**	**23 40 12.1**	**+0.3**
AMCZ	**Amberley**	**1.85**	**223**		**Pn**	**23 40 12.1**	**0.0**
DSZ	**Denniston Nort**	**1.92**	**272**		**Pn**	**23 40 13.4**	**+0.3**
DSZ	**Denniston Nort**	**1.92**	**272**	P	**Pn**	**23 40 13.6**	**+0.6**
DVHZ	**Dannevirke**	**2.04**	**42**	P	**Pn**	**23 40 13.5**	**-1.2**
ANWZ	**Angora Road**	**2.10**	**50**	P	**Pn**	**23 40 14.1**	**-1.3**
WAZ	**Wanganui**	**2.12**	**13**	P	**Pn**	**23 40 17.3**	**+1.5**
OKCZ	**Okains Bay**	**2.13**	**207**	P	**Pn**	**23 40 15.7**	**-0.1**
TSZ	**Takapari Road**	**2.14**	**35**	P	**Pn**	**23 40 15.3**	**-0.8**
MQZ	**McQueen's Vall**	**2.26**	**213**		**Pn**	**23 40 16.8**	**-0.9**
MQZ	**McQueen's Vall**	**2.26**	**213**	P	**Pn**	**23 40 16.4**	**-1.3**
OXZ	**Oxford**	**2.28**	**228**		**Pn**	**23 40 17.0**	**-1.0**
AKCZ	**Akaroa Harbour**	**2.31**	**207**	P	**Pn**	**23 40 18.0**	**-0.4**
PRHZ	**Porangahau**	**2.32**	**48**	P	**Pn**	**23 40 16.8**	**-1.6**
INZ	**Inchbonnie**	**2.35**	**247**		**Pn**	**23 40 19.1**	**+0.2**
INZ	**Inchbonnie**	**2.35**	**247**	P	**Pn**	**23 40 19.3**	**+0.4**
WPHZ	**Waipukurau**	**2.36**	**42**	P	**Pn**	**23 40 17.9**	**-1.1**
PNHZ	**Pukenui**	**2.36**	**37**	P	**Pn**	**23 40 18.0**	**-1.1**
LREZ	**Lake Rotokare**	**2.37**	**1**	P	**Pn**	**23 40 19.8**	**+0.7**
NMEZ	**Namu Road**	**2.44**	**351**	P	**Pn**	**23 40 22.9**	**+2.7**
RACZ	**Rakaia**	**2.51**	**220**	P	**Pn**	**23 40 20.3**	**-0.8**
KHEZ	**Kahui Hut**	**2.55**	**354**	P	**Pn**	**23 40 24.0**	**+2.3**
KHEZ	**Kahui Hut**	**2.55**	**354**	P	**Pn**	**23 40 23.6**	**+1.9**
NEZ	**North Egmont**	**2.56**	**355**	P	**Pn**	**23 40 23.8**	**+1.9**
MTVZ	**Mangateitei**	**2.58**	**19**	P	**Pn**	**23 40 22.6**	**+0.4**
NBEZ	**Newall Road No**	**2.59**	**351**	P	**Pn**	**23 40 23.8**	**+1.7**
PXZ	**Pawanui**	**2.60**	**47**	P	**Pn**	**23 40 20.4**	**-2.0**
MOVZ	**Moawhango**	**2.64**	**24**	P	**Pn**	**23 40 22.6**	**-0.3**
DREZ	**Durham Road**	**2.64**	**357**	P	**Pn**	**23 40 24.5**	**+1.6**
PKVZ	**Pokaka**	**2.64**	**17**	P	**Pn**	**23 40 23.9**	**+0.9**
PKE	**Pukeiti**	**2.65**	**354**	P	**Pn**	**23 40 25.2**	**+2.2**
BHHZ	**Black Hill Sta**	**2.67**	**29**	P	**Pn**	**23 40 22.9**	**-0.4**
MHCZ	**Mount Hutt**	**2.68**	**230**	P	**Pn**	**23 40 23.1**	**-0.3**
TRVZ	**Turoa**	**2.68**	**20**	P	**Pn**	**23 40 24.0**	**+0.3**
DRZ	**Dome Shelter**	**2.71**	**20**	P	**Pn**	**23 40 24.8**	**+0.7**
WHVZ	**Whangaehu Hut**	**2.71**	**20**	P	**Pn**	**23 40 24.4**	**+0.3**
VRZ	**Vera Road**	**2.72**	**6**	P	**Pn**	**23 40 25.2**	**+1.3**
FWVZ	**Far West T-bar**	**2.72**	**20**	P	**Pn**	**23 40 24.9**	**+0.6**
TUVZ	**Tukino**	**2.74**	**21**	P	**Pn**	**23 40 24.8**	**+0.4**
MHEZ	**Mangahewa**	**2.75**	**359**	P	**Pn**	**23 40 26.4**	**+2.0**
KAHZ	**Kahuranaki**	**2.78**	**44**	P	**Pn**	**23 40 23.1**	**-1.8**
NGZ	**Ngauruhoe**	**2.81**	**20**	P	**Pn**	**23 40 25.9**	**+0.5**
SNVZ	**South Ngauruho**	**2.81**	**21**	P	**Pn**	**23 40 25.8**	**+0.4**
WAVZ	**Wakanui South**	**2.82**	**221**	P	**Pn**	**23 40 25.0**	**-0.3**
OTVZ	**Oturere**	**2.84**	**21**	P	**Pn**	**23 40 26.2**	**+0.4**
NNVZ	**North Ngauruho**	**2.86**	**20**	P	**Pn**	**23 40 26.7**	**+0.7**
KWHZ	**Kaweka Forest**	**2.86**	**34**	P	**Pn**	**23 40 24.7**	**-1.4**
WTVZ	**West Tongariro**	**2.87**	**19**	P	**Pn**	**23 40 26.5**	**+0.4**
TWVZ	**Taurewa**	**2.87**	**17**	P	**Pn**	**23 40 26.4**	**+0.2**
ETVZ	**East Tongariro**	**2.88**	**21**	P	**Pn**	**23 40 26.3**	**+0.1**
TMVZ	**Te Maari**	**2.89**	**21**	P	**Pn**	**23 40 26.6**	**+0.1**
KRVZ	**Karewarewa**	**2.90**	**20**	P	**Pn**	**23 40 27.2**	**+0.6**
NTVZ	**North Tongarir**	**2.90**	**20**	P	**Pn**	**23 40 26.8**	**+0.2**
WVZ	**Waitaha Valley**	**2.96**	**244**	P	**Pn**	**23 40 27.8**	**+0.5**
MCHZ	**McNeill Hill**	**2.97**	**37**	P	**Pn**	**23 40 25.9**	**-1.5**
CKHZ	**Cape Kidnapper**	**2.99**	**44**	P	**Pn**	**23 40 25.2**	**-2.5**
KATZ	**Kakaramea**	**3.02**	**20**	P	**Pn**	**23 40 29.4**	**+1.1**
RITZ	**Rihia Road**	**3.07**	**22**	P	**Pn**	**23 40 28.8**	**0.0**
RPZ	**Rata Peaks**	**3.08**	**231**	Pn	**Pn**	**23 40 28.8**	**-0.2**
	16nm,0.3s,baz=168,slow=2.1,SNR=8						
RPZ				Sn	**Sn**	**23 41 03.5**	**-2.0**
	29nm,0.3s,baz=331,slow=21,SNR=7.8 44nm,0.4s						
RPZ	**Rata Peaks**	**3.08**	**231**		**Pn**	**23 40 28.4**	**-0.7**
RPZ	**Rata Peaks**	**3.08**	**231**	P	**Pn**	**23 40 28.7**	**-0.4**
RPZ	**Rata Peaks**	**3.08**	**231**	P	**Pn**	**23 40 28.6**	**-0.4**
BKZ	**Black Stump Fm**	**3.11**	**32**		**Pn**	**23 40 27.7**	**-1.7**
BKZ	**Black Stump Fm**	**3.11**	**32**	P	**Pn**	**23 40 28.8**	**-0.7**
BKZ	**Black Stump Fm**	**3.11**	**32**	P	**Pn**	**23 40 27.9**	**-1.6**
RATZ	**Rangitukua**	**3.15**	**20**	P	**Pn**	**23 40 31.9**	**+2.0**
ARCZ	**Arundel**	**3.16**	**227**	P	**Pn**	**23 40 29.6**	**-0.5**
ARHZ	**Aropaoanui**	**3.25**	**39**	P	**Pn**	**23 40 29.5**	**-1.8**
NMHZ	**Naumai**	**3.30**	**35**	P	**Pn**	**23 40 30.5**	**-1.6**
HIZ	**Hauiti**	**3.33**	**7**		**Pn**	**23 40 33.0**	**+0.6**
HIZ	**Hauiti**	**3.33**	**7**	P	**Pn**	**23 40 33.4**	**+1.0**
HIZ	**Hauiti**	**3.33**	**7**	P	**Pn**	**23 40 33.5**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**3.34**	**242**	P	**Pn**	**23 40 33.1**	**+0.6**
MRHZ	**Matea Rd**	**3.38**	**28**	P	**Pn**	**23 40 31.5**	**-1.6**
MTHZ	**Maungataniwha**	**3.52**	**33**	P	**Pn**	**23 40 33.0**	**-2.1**
TMZ	**Timaru**	**3.55**	**223**	P	**Pn**	**23 40 34.9**	**-0.6**
RAHZ	**Arahi**	**3.57**	**36**	P	**Pn**	**23 40 33.4**	**-2.3**
ALRZ	**Allen Road**	**3.59**	**25**	P	**Pn**	**23 40 34.8**	**-1.3**
TLZ	**Tolley Road**	**3.61**	**15**	P	**Pn**	**23 40 36.5**	**+0.2**
FOZ	**Fox Glacier**	**3.77**	**242**		**Pn**	**23 40 38.2**	**-0.1**
FOZ	**Fox Glacier**	**3.77**	**242**	P	**Pn**	**23 40 38.7**	**+0.3**
KNZ	**Kokohu**	**3.77**	**43**	P	**Pn**	**23 40 35.5**	**-3.0**
RTZ	**Ruatahuna**	**3.78**	**33**	P	**Pn**	**23 40 36.8**	**-1.8**
MHGZ	**Mahia Peninsul**	**3.80**	**46**	P	**Pn**	**23 40 36.1**	**-2.7**
MUGZ	**Murupara**	**3.82**	**30**	P	**Pn**	**23 40 38.5**	**-0.6**
TARZ	**Mount Tarawera**	**3.94**	**25**	P	**Pn**	**23 40 39.4**	**-1.5**
LBZ	**Lake Benmore**	**3.99**	**229**		**Pn**	**23 40 41.2**	**-0.3**
LBZ	**Lake Benmore**	**3.99**	**229**	P	**Pn**	**23 40 41.5**	**0.0**
RIGZ	**Rimuhau**	**4.06**	**41**	P	**Pn**	**23 40 39.4**	**-3.0**
RAGZ	**Rawiri**	**4.06**	**36**	P	**Pn**	**23 40 39.8**	**-2.8**
URZ	**Urewera**	**4.14**	**31**	P	**Pn**	**23 40 42.7**	**-0.8**
URZ	**Urewera**	**4.14**	**31**	P	**Pn**	**23 40 41.0**	**-2.5**
TOZ	**Tahuroa Road**	**4.18**	**12**	P	**Pn**	**23 40 44.3**	**+0.2**
ODZ	**Otahua Downs**	**4.21**	**219**	Pn	**Pn**	**23 40 43.2**	**-1.2**
ODZ	**Otahua Downs**	**4.21**	**219**	P	**Pn**	**23 40 43.8**	**-0.6**
ODZ	**Otahua Downs**	**4.21**	**219**	P	**Pn**	**23 40 43.6**	**-0.8**
OPRZ	**Ohinepanea**	**4.32**	**24**	P	**Pn**	**23 40 45.0**	**-1.0**
CNGZ	**Carnagh Statio**	**4.45**	**43**	P	**Pn**	**23 40 44.8**	**-3.0**
TWGZ	**Tauwhareparae**	**4.58**	**38**	P	**Pn**	**23 40 47.8**	**-1.8**
RUGZ	**Raukumara Rang**	**4.62**	**34**	P	**Pn**	**23 40 47.4**	**-2.8**
JCZ	**Jackson Bay**	**4.67**	**239**	P	**Pn**	**23 40 51.5**	**+0.6**
JCZ	**Jackson Bay**	**4.67**	**239**	P	**Pn**	**23 40 51.5**	**+0.6**
MKAZ	**Moumakai**	**4.76**	**8**	P	**Pn**	**23 40 52.2**	**+0.3**
AWAZ	**Awhitu Peninsu**	**4.76**	**3**	P	**Pn**	**23 40 52.8**	**+0.7**
HAZ	**Te Kaha**	**4.84**	**34**	P	**Pn**	**23 40 50.9**	**-2.3**
ETAZ	**East Tamaki Re**	**4.89**	**5**	P	**Pn**	**23 40 54.6**	**+0.8**
HHSZ	**Highcliff Hill**	**4.89**	**213**	P	**Pn**	**23 40 53.5**	**-0.3**
WTAZ	**Waiatarua**	**4.89**	**2**	P	**Pn**	**23 40 55.5**	**+1.6**
WKZ	**Wanaka**	**4.92**	**231**		**Pn**	**23 40 53.5**	**-0.8**
WKZ	**Wanaka**	**4.92**	**231**	P	**Pn**	**23 40 54.0**	**-0.3**
EAZ	**Earnscleugh**	**5.01**	**226**	P	**Pn**	**23 40 55.3**	**-0.2**
MBAZ	**Motutapu North**	**5.07**	**5**	P	**Pn**	**23 40 57.3**	**+1.0**
KUZ	**Kuaotunu**	**5.18**	**12**	P	**Pn**	**23 40 58.2**	**+0.4**
KUZ	**Kuaotunu**	**5.18**	**12**	P	**Pn**	**23 40 58.0**	**+0.2**
TUZ	**Tuapeka**	**5.36**	**218**	P	**Pn**	**23 41 00.3**	**0.0**
MLZ	**Mavora Lakes**	**5.75**	**230**		**Pn**	**23 41 05.1**	**-0.6**
WCZ	**Waipu Caves**	**5.88**	**360**	P	**Pn**	**23 41 09.4**	**+2.0**
SYZ	**Scrubby Hill**	**6.03**	**217**	P	**Pn**	**23 41 09.0**	**-0.4**
SYZ	**Scrubby Hill**	**6.03**	**217**	P	**Pn**	**23 41 09.0**	**-0.4**
WHZ	**Wether Hill Ro**	**6.17**	**227**	Pn	**Pn**	**23 41 11.1**	**-0.3**
WHZ	**Wether Hill Ro**	**6.17**	**227**	P	**Pn**	**23 41 11.7**	**+0.3**
OUZ	**Omahuta**	**6.63**	**354**	Pn	**Pn**	**23 41 19.7**	**+1.0**
OUZ	**Omahuta**	**6.63**	**354**	P	**Pn**	**23 41 19.5**	**+1.9**
OUZ	**Omahuta**	**6.63**	**354**	P	**Pn**	**23 41 19.6**	**+1.9**
APZ	**The Paps**	**6.78**	**220**	P	**Pn**	**23 41 19.1**	**-0.7**
CTZ	**Chatham Island**	**6.90**	**109**	P	**Pn**	**23 41 20.3**	**-1.1**
CTZ	**Chatham Island**	**6.90**	**109**	P	**Pn**	**23 41 21.5**	**+0.1**
DZM	**Mont Dzumac**	**20.80**	**339**	LR	LR	23 51 08.7	
	comp=Z,126nm,19.4s,baz=205,slow=34						
STKA	**Stephens Creek**	**27.90**	**280**	LR	LR	23 56 00.4	
	comp=Z,74nm,18.6s,baz=31,slow=35						
AFI	**Afiamalu**	**30.31**	**27**	LR	LR	23 56 55.3	
	comp=Z,71nm,18.2s,baz=322,slow=35						
CTA	**Charters Tower**	**32.18**	**304**	LR	LR	23 58 43.3	
	comp=Z,65nm,18.1s,baz=80,slow=36						
HNR	**Honiara**	**34.68**	**334**	LR	LR	00 00 23.3	
	comp=Z,900nm,18.1s,baz=152,slow=36						
ASAR	**Alice Springs**	**38.14**	**286**	P	**P**	**23 46 57.5**	**-2.0**
	0.7nm,0.4s,baz=122,slow=6.9,SNR=11 0.7nm,0.4s						
ASAR	**Alice Springs**	**38.14**	**286**	P	**P**	**23 46 58.0**	**-1.4**
WB2	**Warramunga Arr**	**40.21**	**290**	P	**P**	**23 47 14.8**	**-2.0**
WRA	**Warramunga Arr**	**40.22**	**290**	P	**P**	**23 47 14.9**	**-2.0**
	1.1nm,0.5s,baz=127,slow=8.5,SNR=24						
WRA				LR	LR	00 03 21.5	
	comp=Z,70nm,18.2s,baz=88,slow=36 1.1nm,0.5s						
WRA	**Warramunga Arr**	**40.22**	**290**	P	**P**	**23 47 15.0**	**-1.8**
NWAO	**Narrogin (SRO)**	**45.53**	**262**	LR	LR	00 04 15.4	
	comp=Z,107nm,21.6s,baz=76,slow=32						
KNRA	**Kununurra**	**47.00**	**290**	P	**P**	**23 48 10.5**	**-0.9**
KNRA				IAmb	IAmb	23 48 20.4	
	comp=Z,14nm,1.2s						
MTN	**Manton Dam**	**47.33**	**295**	P	**P**	**23 48 13.1**	**-0.9**
QSPA	**South Pole Qui**	**48.30**	**180**	P	**P**	**23 48 24.2**	**+3.0**
	comp=Z,2.4nm,0.7s,baz=9.6,slow=0.1,SNR=6.5 comp=Z,2.4nm,0.7s						
QSPA	**South Pole Qui**	**48.30**	**180**	P	**P**	**23 48 23.4**	**+2.3**
QSPA				IAmb	IAmb	23 48 25.8	
	comp=Z,12nm,1.4s						
PSA00	**Pilbara Seismi**	**49.72**	**276**	P	**P**	**23 48 30.4**	**-2.0**
PSA00				IAmb	IAmb	23 48 38.1	
	comp=Z,8.2nm,1.5s						
PSA00	**Pilbara Seismi**	**49.72**	**276**	P	**P**	**23 48 30.4**	**-2.0**
PSA00				IAmb	IAmb	23 48 32.6	
	comp=Z,44nm,1.5s						
SOEI	**Soe**	**54.24**	**291**	P	**P**	**23 49 05.0**	**-1.3**
SOEI				IAmb	IAmb	23 49 15.4	
	comp=Z,15nm,1.0s						
SNAA	**Sanae**	**66.79**	**181**	P	**P**	**23 50 32.5**	**+1.4**
SNAA				IAmb	IAmb	23 50 36.6	
	comp=Z,6.1nm,1.3s						
CMAR	**Chiang Mai Arr**	**91.75**	**293**	P	**P**	**23 52 47.1**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=156,slow=4.6,SNR=1.4						
CMAR				LR	LR	00 38 27.8	
	comp=Z,17nm,18.3s,baz=275,slow=39 comp=Z,0.8nm,0.3s						
ARCES	**ARCESS Array B**	**147.88**	**340**	PKPbc	**PKPdf**	**23 59 22.6**	**+1.6**
	comp=Z,2.9nm,1.0s,baz=72,slow=2.9,SNR=5.4						
BRTR	**

MAN 17 00:00:02.2, 10.14N×124.73E, h34km, mb4.0, ML2.8, MS2.4, 3C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.12**	**92**	⇑*e*P	Pb	00 00 09.1	+0.9
MSLP				*i* S	Sb	00 00 14.4	+2.0
TABP	**Talibon, Bohol**	**0.40**	**263**	⇓*i*P	Pn	00 00 12.6	+0.9
TABP				*e*S	Sn	00 00 19.8	+2.1
GHBP	**Garcia Hernand**	**0.65**	**219**	⇑*e*P	Pb	00 00 19.8	+4.6
GHBP				*e*S	Sb	00 00 28.3	+4.1
LLP	**Lapu-Lapu**	**0.78**	**283**	⇑*i*P	Pb	00 00 17.7	+0.4
LLP				*i* S	Sb	00 00 28.6	+0.9

WEL 17 00:13:15.5±0.4, 42.7°S±3°×174.7°E±°, h12km, M3.4/27, ML3.6/21, MLv3.4/27, Error ellipse: s-maj=0.0km s-min=0.0km az=125.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.62**	**357**	P	Pg	00 13 27.7	+0.2
BSWZ				S	Sb	00 13 36.4	-0.5
CMWZ	**Cape Campbell**	**0.62**	**21**	P	Pn	00 13 30.0	-0.2
TUWZ	**Tuamarina**	**0.90**	**1**	P	Pb	00 13 33.1	+0.1
GVZ	**Greta Valley S**	**0.91**	**225**	P	Pb	00 13 33.5	+0.3
GVZ				S	Sn	00 13 46.7	-0.4
THZ	**Tophouse**	**0.94**	**307**	P	Pg	00 13 32.6	-1.1
TCW	**Tory Channel**	**1.15**	**14**	P	Pb	00 13 37.0	-0.3
NNZ	**Nelson**	**1.19**	**340**	P	Pn	00 13 37.2	-0.7
WEL	**Wellington**	**1.23**	**32**	P	Pn	00 13 38.3	-0.1
AMCZ	**Amberley**	**1.26**	**227**	P	Pb	00 13 39.0	0.0
PLWZ	**Palliser**	**1.26**	**53**	P	Pn	00 13 38.4	-0.5
MRNZ	**Matariki Terra**	**1.27**	**317**	P	Pn	00 13 38.8	-0.3
LTZ	**Lake Taylor**	**1.30**	**249**	P	Pn	00 13 38.7	-0.7
MSWZ	**Moikau Station**	**1.35**	**48**	P	Pn	00 13 39.8	-0.4
PAWZ	**Paruwai Farm**	**1.48**	**50**	P	Pn	00 13 41.2	-0.7
TKNZ	**Takaka Hill**	**1.48**	**331**	P	Pn	00 13 42.0	0.0
CAW	**Cannon Point**	**1.50**	**35**	P	Pn	00 13 42.0	-0.2
OKCZ	**Okains Bay**	**1.52**	**204**	P	Pn	00 13 41.7	-0.9
DUWZ	**D'Urville Isla**	**1.53**	**0**	P	Pn	00 13 42.7	+0.1
TRWZ	**Traveller**	**1.62**	**55**	P	Pn	00 13 43.0	-0.8
KIW	**Kapiti Island**	**1.65**	**27**	P	Pn	00 13 44.4	+0.1
MQZ	**McQueen's Vall**	**1.66**	**214**	P	Pn	00 13 42.7	-1.6
MTW	**Mount Morrison**	**1.67**	**46**	P	Pn	00 13 43.8	-0.7
DSZ	**Denniston Nort**	**1.68**	**290**	P	Pn	00 13 44.7	0.0
OXZ	**Oxford**	**1.70**	**234**	P	Pn	00 13 43.4	-1.5
AKCZ	**Akaroa Harbour**	**1.71**	**205**	P	Pn	00 13 44.2	-0.8
OGWZ	**Otaki Gorge**	**1.78**	**32**	P	Pn	00 13 45.8	-0.3
QRZ	**Quartz Range**	**1.83**	**325**	P	Pn	00 13 47.2	+0.5
INZ	**Inchbonnie**	**1.87**	**257**	P	Pn	00 13 46.6	-0.7
HOWZ	**Holdsworth Sta**	**1.87**	**40**	P	Pn	00 13 46.7	-0.6
RACZ	**Rakaia**	**1.91**	**222**	P	Pn	00 13 46.4	-1.4
TMWZ	**Te Maipa**	**1.92**	**51**	P	Pn	00 13 47.0	-1.0
MRZ	**Mangatainoka R**	**2.09**	**37**	P	Pn	00 13 49.6	-0.6
MHCZ	**Mount Hutt**	**2.10**	**234**	P	Pn	00 13 48.9	-1.6
WACZ	**Wakanui South**	**2.21**	**223**	P	Pn	00 13 50.7	-1.3
PRWZ	**Pori Road**	**2.35**	**42**	P	Pg	00 14 00.9	+0.3
BFZ	**Birch Farm**	**2.41**	**47**	P	Pn	00 13 53.2	-1.4
WVZ	**Waitaha Valley**	**2.46**	**251**	P	Pn	00 13 54.9	-0.4
RPZ	**Rata Peaks**	**2.51**	**236**	P	Pn	00 13 54.8	-1.3
ARCZ	**Arundel**	**2.57**	**230**	P	Pn	00 13 55.3	-1.7
WAZ	**Wanganui**	**2.70**	**18**	P	Pb	00 14 01.5	-2.3
TSZ	**Takapari Road**	**2.75**	**35**	P	Pn	00 14 01.6	+2.2
GCSZ	**Gaunt Creek Bo**	**2.82**	**248**	P	Pn	00 14 00.1	-0.3
TMZ	**Timaru**	**2.95**	**225**	P	Pn	00 14 00.8	-1.3
KHEZ	**Kahui Hut**	**3.04**	**1**	P	Pb	00 14 07.3	-2.2
NBEZ	**Newall Road No**	**3.06**	**359**	P	Pb	00 14 08.0	-1.9
PKE	**Pukeiti**	**3.14**	**1**	P	Pb	00 14 09.1	-2.1
MOVZ	**Moawhango**	**3.24**	**26**	P	Pn	00 14 07.8	+1.6
FOZ	**Fox Glacier**	**3.24**	**247**	P	Pn	00 14 06.3	+0.2
WNVZ	**Wahianoa**	**3.26**	**24**	P	Pn	00 14 08.4	+1.8
VRZ	**Vera Road**	**3.27**	**12**	P	Pn	00 14 07.9	+1.4
TRVZ	**Turoa**	**3.27**	**23**	P	Pn	00 14 09.7	+2.9
FWVZ	**Far West T-bar**	**3.32**	**23**	P	Pb	00 14 13.4	-0.9
TUVZ	**Tukino**	**3.33**	**24**	P	Pn	00 14 08.8	+1.2
SNVZ	**South Ngauruho**	**3.41**	**23**	P	Pb	00 14 12.8	-3.1
LBZ	**Lake Benmore**	**3.41**	**232**	P	Pn	00 14 07.4	-1.0
NNVZ	**North Ngauruho**	**3.45**	**23**	P	Pn	00 14 12.8	+3.6
WTVZ	**West Tongariro**	**3.46**	**22**	P	Pb	00 14 15.9	-0.8
ODZ	**Otahua Downs**	**3.60**	**220**	P	Pn	00 14 09.7	-1.3
BKZ	**Black Stump Fm**	**3.72**	**33**	P	Pb	00 14 17.3	-3.8
HIZ	**Hauiti**	**3.88**	**11**	P	Pn	00 14 16.3	+1.3
AWAZ	**Awhitu Peninsu**	**5.29**	**6**	P	Pn	00 14 35.5	+1.1
MKAZ	**Moumakai**	**5.31**	**11**	P	Pn	00 14 34.8	+0.2
PKGZ	**Pakihiroa**	**5.47**	**37**	P	Pn	00 14 43.5	+6.7

MEX 17 00:18:12.9±0.7, 32.32N×115.04W, h42km±8km, MD3.6
ECX 17 00:18:14.0±0.6, 32.20N×115.24W, h6km±6km, MD2.0, ML2.2, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RHX	**Rix Hardy**	**0.07**	**209**	*e*P	Pg	00 18 15.4	-0.3
RHX				*e*S	Sg	00 18 17.2	+0.4
MBIG	**Mexicali**	**0.21**	**10**	*e*P	Pg	00 18 18.4	+0.1
MBIG	**Mexicali**	**0.21**	**10**	*e*P	Pg	00 18 18.0	-0.2
MBIG				*e*P		00 18 18.3	
MBIG				*e*S	Sg	00 18 23.0	+1.9
MBIG				*e*S		00 18 23.2	
CPBX	**Cerro Prieto**	**0.23**	**347**	*e*P	Pg	00 18 18.1	-0.4
CPBX				IAML		00 18 26.2	
	comp=N,924nm,0.2s						
CPBX				⇑*e*		00 18 26.2	
CPBX				IAML		00 18 27.4	
	comp=E,774nm,0.3s						
CPBX				*e*		00 18 27.4	
YUH2	**Yuha Desert**	**0.73**	**308**	⇓*e*P	Pg	00 18 26.6	-1.4
YUH2				*e*S	Sg	00 18 36.6	-0.9
ECBX	**El Chinero**	**0.74**	**167**	*e*P	Pg	00 18 27.3	-0.9
ECBX				*e*S	Sg	00 18 36.7	-1.1
ECBX				IAML		00 18 38.0	
	comp=E,97nm,0.3s						
ECBX				⇓*e*		00 18 38.0	
SJX	**San Joaquin**	**0.74**	**235**	⇑*i*P	Pg	00 18 25.4	-2.9
SJX				*e*S	Sg	00 18 34.0	-4.0
SJX				⇓*e*		00 18 35.3	
SJX				IAML		00 18 35.3	
	comp=E,154nm,0.1s						
SJX				IAML		00 18 36.4	
	comp=N,191nm,0.1s						
SJX				⇑*e*		00 18 36.4	
IKP	**In-Ko-Pah, Jac**	**0.86**	**302**	*e*P	Pg	00 18 29.1	-1.4
SPIG	**San Pedro Mart**	**1.16**	**189**	*e*P	Pg	00 18 34.3	-2.0
SPIG				*e*S	Sg	00 18 49.1	-2.3
CBX	**Cerro Bola**	**1.21**	**276**	*e*P	Pg	00 18 35.4	-1.8
CBX	**Cerro Bola**	**1.21**	**276**	*e*P	Pg	00 18 34.4	-2.8
CBX				*e*S	Sg	00 18 50.9	-2.0
TJIG	**Tijuana**	**1.23**	**281**	*e*P	Pg	00 18 33.4	-4.3
TJIG				*e*S	Sg	00 18 50.4	-3.3
BAR	**Barrett**	**1.30**	**292**	*e*P	Pn	00 18 36.6	-2.1
BAR				*e*S	Sg	00 18 53.6	-2.3
BAR				IAML		00 18 55.1	
	comp=N,30nm,0.2s						
BAR				⇑*e*		00 18 55.1	

IDC 17 00:24:00.6±1.4, 32.80S×69.15W, h0km, mb3.4/2, mbtmp3.6/7, ML3.5/5, MS2.9/1, Error ellipse: s-maj=35.8km s-min=24.1km az=105.0
SJA 17 00:24:02.8±0.5, 32.90S×69.08W, h15km, ML4.1, MW3.7
NEIC 17 00:24:04.5±2.3, 32.87S±0.04×69.17W±0.05, h10km±1km, mb3.9/4, Md4.0(SJA), Error ellipse: s-maj=8.4km s-min=5.4km az=124.0
ISC 17 00:24:03.6±0.9, 32.86S±0.02×69.16W±0.02, h18km±4km, n77, σ1s51/107, mb3.6/4, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCO	**CERRO ARCO**	**0.20**	**86**	*e*P	**Pg**	**00 24 07.2**	**-1.5**
ARCO				*e*S	**Sg**	**00 24 14.8**	**+2.8**
ARCO				IAML		00 24 16.2	
	comp=Z,37μm,0.3s						
AAGR	**Agrelo**	**0.36**	**129**	*e*P	**Pn**	**00 24 13.2**	**-0.9**
ASAL	**Salagasta**	**0.38**	**46**	*e*P	**Pb**	**00 24 12.4**	**+0.4**
ASAL				*e*S	**Sb**	**00 24 16.8**	**-0.8**
RTLS	**Leoncito**	**1.06**	**354**	*e*P	**Pg**	**00 24 23.2**	**-1.0**
RTLS				*e*S	**Sn**	**00 24 38.6**	**+0.3**
RTLS				IAML		00 24 40.1	
	comp=Z,2μm,0.3s						
RTCV	**Cerro Valdivia**	**1.12**	**28**	*e*P	**Pn**	**00 24 25.1**	**+0.6**
VA03	**San Esteban**	**1.17**	**274**		**Pb**	**00 24 25.2**	**-0.2**
VA03				Sg	**Sg**	**00 24 41.3**	**-0.4**
VA03	**San Esteban**	**1.17**	**274**	*e*P	**Pb**	**00 24 25.4**	**0.0**
VA03				IAML	**Sg**	**00 24 41.3**	**-0.4**
	comp=Z,3μm,0.5s						
VA03				*e*S	**Sg**	**00 24 41.3**	**-0.4**
MT03	**Universidad Ad**	**1.30**	**240**		**Pg**	**00 24 28.0**	**-0.7**
MT03	**Universidad Ad**	**1.30**	**240**	*e*P	**Pg**	**00 24 28.0**	**-0.7**
MT03				*e*S	**Sg**	**00 24 47.1**	**+1.4**
PEL	**Peldehue**	**1.31**	**257**	*e*P	**Pb**	**00 24 27.6**	**-0.2**
PEL				*e*P	**Pn**	**00 24 27.7**	**+0.6**
PEL				*e*S	**Sg**	**00 24 45.4**	**-0.7**
LMEL	**Las Melosas**	**1.32**	**221**		**Pg**	**00 24 28.9**	**-0.3**
ZON	**Zonda**	**1.37**	**18**		**Pb**	**00 24 28.9**	**+0.2**
ZON	**Zonda**	**1.37**	**18**	*e*P	**Pb**	**00 24 28.9**	**+0.2**
ZON				*e*S	**Sg**	**00 24 49.0**	**+1.0**
MT05	**Renca**	**1.43**	**248**		**Pg**	**00 24 30.4**	**-0.8**
MT05	**Renca**	**1.43**	**248**	*e*P	**Pg**	**00 24 30.4**	**-0.8**
MT05				*e*S	**Sg**	**00 24 51.2**	**+1.4**
ROC1	**El Roble**	**1.56**	**265**		**Pb**	**00 24 31.9**	**-0.3**
ROC1	**El Roble**	**1.56**	**265**	*e*P	**Pb**	**00 24 32.2**	**0.0**
ROC1				*e*S	**Sg**	**00 24 53.4**	**-0.8**
RTLL	**Cerro Villicun**	**1.63**	**21**	*e*P	**Pb**	**00 24 33.3**	**+0.1**
RTLL				*e*S	**Sg**	**00 24 57.4**	**+1.1**
BO04	**La Punta**	**1.66**	**227**		**Pg**	**00 24 34.5**	**-1.0**
MT02	**Curacav**	**1.71**	**256**		**Pb**	**00 24 34.4**	**-0.1**
MT02	**Curacav**	**1.71**	**256**	*e*P	**Pb**	**00 24 34.6**	**+0.1**
MT02				*e*S	**Sg**	**00 24 57.4**	**-1.3**
MT02				IAML		00 25 00.8	
	comp=Z,846nm,0.7s						
MT09	**Talagante**	**1.78**	**239**	Pn	**Pb**	**00 24 36.0**	**+0.1**
VA06	**Catapilco**	**1.82**	**279**		**Pb**	**00 24 36.0**	**-0.5**
MT01	**Popeta**	**2.02**	**240**		**Pb**	**00 24 39.5**	**-0.3**
MT01	**Popeta**	**2.02**	**240**	*e*P	**Pb**	**00 24 39.6**	**-0.2**
MT01				*e*S	**Sg**	**00 25 08.0**	**-0.6**
VA01	**Torpederas**	**2.10**	**265**		**Pb**	**00 24 39.9**	**-1.2**
VA01	**Torpederas**	**2.10**	**265**	*e*P	**Pb**	**00 24 41.0**	**-0.1**
VA01				*e*S	**Sg**	**00 25 09.0**	**-2.1**
VA05	**Santo Domingo**	**2.20**	**248**		**Pb**	**00 24 41.8**	**-1.1**
BO01	**Tunca**	**2.22**	**226**	Pn	**Pb**	**00 24 42.5**	**-0.7**
BO01	**Tunca**	**2.22**	**226**	*e*P	**Pb**	**00 24 42.7**	**-0.5**
BO01				*e*S	**Sg**	**00 25 16.1**	**+1.1**
ACCO	**Cerro Coronel**	**2.26**	**2**	*e*P	**Pb**	**00 24 43.7**	**-0.5**
ACCO				*e*S	**Sg**	**00 25 15.7**	**-0.8**
CO02	**Combarbal**	**2.27**	**316**		**Pb**	**00 24 44.1**	**0.0**
CO02	**Combarbal**	**2.27**	**316**	*e*P	**Pb**	**00 24 42.4**	**+2.0**
CO02				*e*S	**Sb**	**00 25 14.3**	**+2.4**
CO02				IAML		00 25 14.5	
	comp=Z,2μm,0.5s						
BO02	**Sierra Bellavi**	**2.35**	**214**		**Pb**	**00 24 44.5**	**-1.1**
BO02	**Sierra Bellavi**	**2.35**	**214**	*e*P	**Pb**	**00 24 44.7**	**-0.8**
BO02				*e*S	**Sg**	**00 25 21.8**	**+2.4**
CO03	**El Pedregal**	**2.39**	**327**	Pn	**Pb**	**00 24 45.9**	**-0.4**
CO03	**El Pedregal**	**2.39**	**327**	*e*P	**Pb**	**00 24 46.0**	**-0.2**
CO03				*e*S	**Sb**	**00 25 17.8**	**+2.3**
CO03				IAML		00 25 22.6	
	comp=Z,501nm,0.5s						
MRA	**San Martin**	**2.94**	**82**	*e*P	**Pn**	**00 24 51.1**	**+1.6**
MRA				*e*S	**Sg**	**00 25 37.1**	**-1.0**
MRA				IAML		00 25 38.8	
	comp=Z,2μm,0.7s						
CO01	**Juntas del Tor**	**2.98**	**344**		**Pb**	**00 24 54.5**	**-1.8**
GO04	**Tololo Observa**	**3.02**	**332**		**Pn**	**00 24 53.6**	**+2.9**
GO04	**Tololo Observa**	**3.02**	**332**	*e*P	**Pn**	**00 24 54.0**	**+3.3**
GO04				*e*S	**Sb**	**00 25 33.2**	**-0.4**
CO06	**Fray Jorge**	**3.03**	**315**		**Pn**	**00 24 52.7**	**+2.0**
GO05	**Huala**	**3.15**	**226**	Pn	**Pn**	**00 24 54.4**	**+2.1**
GO05	**Huala**	**3.15**	**226**	*e*P	**Pn**	**00 24 54.8**	**+2.4**
GO05				*e*S	**Sg**	**00 25 41.9**	**-2.9**
APLL	**PUNTA DE LOS L**	**3.33**	**43**	*e*P	**Pn**	**00 24 57.2**	**+2.3**
APLL				*e*S	**Sg**	**00 25 52.2**	**+1.6**
CO05	**La Serena**	**3.42**	**328**		**Pn**	**00 24 58.0**	**+1.9**
ML02	**Panimavida**	**3.45**	**212**	Pn	**Pn**	**00 24 57.6**	**+1.1**
LCO	**Las Campanas**	**4.05**	**341**		**Pn**	**00 25 07.3**	**+2.3**
LCO	**Las Campanas**	**4.05**	**341**	*e*P	**Pn**	**00 25 07.3**	**+2.3**
AC05	**El Transito**	**4.12**	**346**		**Pn**	**00 25 09.2**	**+3.4**
AC05	**El Transito**	**4.12**	**346**	*e*P	**Pn**	**00 25 09.2**	**+3.4**
AC05				*e*S	**Sb**	**00 26 06.2**	**+1.0**
AC05				IAML		00 26 15.3	
	comp=Z,199nm,0.5s						
AC04	**Llanos de Chal**	**4.92**	**340**		**Pn**	**00 25 18.0**	**+1.3**
AC04	**Llanos de Chal**	**4.92**	**340**	*e*P	**Pn**	**00 25 18.7**	**+2.0**
AC04				*e*S	**Sb**	**00 26 30.7**	**+2.5**
AC04				IAML		00 26 40.4	
	comp=Z,141nm,0.6s						
BI05	**Punta Hualpn**	**5.10**	**219**	Pn	**Pn**	**00 25 19.6**	**+0.5**
CYA	**Choya**	**5.27**	**34**	*e*P	**Pn**	**00 25 23.1**	**+1.6**
CYA				*e*S	**Sb**	**00 26 36.7**	**-1.5**
CYA				IAML		00 26 59.7	
	comp=Z,127nm,0.8s						
GO03	**Copiap**	**5.33**	**350**		**Pn**	**00 25 23.5**	**+1.2**
GO03	**Copiap**	**5.33**	**350**	*e*P	**Pn**	**00 25 24.7**	**+2.4**
AC06	**Mina Casimiro**	**5.58**	**349**		**Pn**	**00 25 26.8**	**+1.1**
AC02	**Maricunga**	**6.00**	**0**		**Pn**	**00 25 35.0**	**+3.0**
AC01	**Pan de Azucar**	**6.80**	**349**	Pn	**Pn**	**00 25 43.0**	**+0.4**
GO02	**Mina Guanaco**	**7.67**	**357**		**Pn**	**00 25 56.2**	**+1.4**
TRQA	**Tornquist**	**7.83**	**134**	Pn	**Pn**	**00 25 56.5**	**-0.1**
PLCA	**Paso Flores**	**7.94**	**188**	Pn	**Pn**	**00 25 59.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=56,slow=4.0,SNR=3.0						
PLCA				Lg	Lg	00 28 10.6	
	comp=Z,0.7nm,0.3s,baz=53,slow=7.6,SNR=3.5						
PLCA				LR	LR	00 29 23.5	
	comp=Z,92nm,20.4s,baz=286,slow=40						
	comp=Z,3.1nm,1.0s						
LVC	**Limon Verde**	**10.21**	**1**	Pn	**Pn**	**00 26 28.4**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=170,slow=10,SNR=2.0						
LVC				Sn	**Sn**	**00 28 20.2**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=221,slow=21,SNR=1.4						
LVC				Lg	Lg	00 29 23.0	
	comp=Z,0.8nm,0.3s,baz=144,slow=5.0,SNR=4.1						
	comp=Z,1.7nm,0.3s						
PB03	**IPOC Station P**	**10.78**	**357**	Pn	**Pn**	**00 26 38.6**	**+1.4**
PB09	**IPOC Station P**	**11.02**	**360**	Pn	**Pn**	**00 26 40.1**	**-0.4**
CPUP	**Villa Florida**	**12.17**	**61**	Pn	**Pn**	**00 26 53.8**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=29,slow=18,SNR=1.8						
CPUP				Lg	Lg	00 30 28.5	
	comp=Z,0.4nm,0.3s,baz=171,slow=18,SNR=1.4						
	comp=Z,0.5nm,0.3s						
PB16	**IPOC Station P**	**14.46**	**359**	Pn	**Pn**	**00 27 30.1**	**+2.1**
LPAZ	**La Paz**	**16.52**	**3**	Pn	**Pn**	**00 27 54.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=184,slow=7.9,SNR=12						
	comp=Z,2.8nm,0.8s						
LPAZ	**La Paz**	**16.52**	**3**		**Pn**	**00 27 55.8**	**+0.7**
SIV	**San Ignacio**	**18.32**	**26**	P	**Pn**	**00 28 16.7**	**-0.2**
	baz=199,slow=11,SNR=5.5						
	comp=Z,0.7nm,0.5s						
ETMB	**Extrema**	**23.09**	**7**	P	**P**	**00 29 08.0**	**-0.4**
ETMB				IAmb	IAmb	00 29 15.3	
	comp=Z,3.2nm,1.2s						
MCRA	**Macar, Loja**	**30.08**	**338**	P	**P**	**00 30 12.0**	**-0.1**
MCRA				IAmb	IAmb	00 30 25.0	
	comp=Z,3.7nm,1.1s						
SNAA	**Sanae**	**51.75**	**158**	P	**P**	**00 33 12.3**	**+2.8**
TXAR	**Lajitas Array**	**69.97**	**328**	P	**P**	**00 35 13.9**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=148,slow=8.6,SNR=2.5						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**81.56**	**68**	P	**P**	**00 36 20.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=245,slow=6.2,SNR=3.4						
	comp=Z,0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**151.96**	**33**	PKPbc	**PKPbc**	**00 43 56.0**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=321,slow=3.8,SNR=4.1						
ZALV				PKPab	**PKPab**	**00 44 05.4**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=312,slow=3.1,SNR=7.7						

IDC 17 00:29:22.1±6.5, 33.03S×179.01W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=294.0km s-min=61.7km az=162.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.19**	**270**	P	P	00 37 15.9	-1.0
	0.3nm,0.5s,baz=113,slow=8.2,SNR=2.2						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.42**	**275**	P	P	00 37 27.4	+0.5
	0.3nm,0.4s,baz=117,slow=8.0,SNR=6.7						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**147.28**	**338**	PKPbc	PKPbc	00 49 06.0	-0.7
	4.2nm,1.1s,baz=58,slow=3.6,SNR=4.8						

WEL 17 00:33:41.4±0.5, 42.7°S±4°×174°E±°, h5km, M3.3/21,
ML3.6/11, MLv3.3/21, Error ellipse: s-maj=0.0km s-min=0.0km az=130.3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.64**	**14**	P	Pg	00 33 53.6	-0.1
BSWZ				S	Sb	00 34 03.4	-0.8
CMWZ	**Cape Campbell**	**0.71**	**35**	P	Pg	00 33 55.0	0.0
GVZ	**Greta Valley S**	**0.79**	**216**	P	Pb	00 33 57.0	-0.5
THZ	**Tophouse**	**0.81**	**315**	P	Pg	00 33 57.1	+0.2
TUWZ	**Tuamarina**	**0.93**	**13**	P	Pg	00 33 59.0	-0.2
LTZ	**Lake Taylor**	**1.12**	**246**	P	Pg	00 34 02.4	-0.6
AMCZ	**Amberley**	**1.13**	**221**	P	Pg	00 34 02.0	-1.0
NNZ	**Nelson**	**1.14**	**349**	P	Pg	00 34 02.6	-0.6
MRNZ	**Matariki Terra**	**1.16**	**324**	P	Pg	00 34 03.7	+0.1
TKNZ	**Takaka Hill**	**1.40**	**338**	P	Pn	00 34 07.3	-0.3
OKCZ	**Okains Bay**	**1.46**	**198**	P	Pn	00 34 05.5	-3.0
DSZ	**Denniston Nort**	**1.51**	**292**	P	Pn	00 34 08.6	-0.5
DUWZ	**D'Urville Isla**	**1.54**	**7**	P	Pn	00 34 09.0	-0.6
OXZ	**Oxford**	**1.56**	**230**	P	Pn	00 34 07.1	-2.7
MQZ	**McQueen's Vall**	**1.56**	**208**	P	Pn	00 34 06.3	-3.4
AKCZ	**Akaroa Harbour**	**1.64**	**200**	P	Pn	00 34 07.7	-3.1
INZ	**Inchbonnie**	**1.69**	**256**	P	Pn	00 34 10.7	-0.8
QRZ	**Quartz Range**	**1.73**	**330**	P	Pn	00 34 12.6	+0.5
RACZ	**Rakaia**	**1.79**	**218**	P	Pn	00 34 10.0	-2.9
MHCZ	**Mount Hutt**	**1.95**	**231**	P	Pn	00 34 12.4	-2.8
WACZ	**Wakanui South**	**2.09**	**219**	P	Pn	00 34 14.2	-2.8
RPZ	**Rata Peaks**	**2.36**	**233**	P	Pn	00 34 18.4	-2.5
ARCZ	**Arundel**	**2.43**	**228**	P	Pn	00 34 19.1	-2.8

ROM 17 00:36:32.9±0.0, 42.956N±0.002×13.156E±0.003, h12km, ML2.8/54, Error ellipse: s-maj=0.2km s-min=0.0km az=9.0
PRU 17 00:36:35.3±0.0, 43.10N×14.67E, h10km
ISC 17 00:36:33.4±0.8, 42.95N±0.01×13.16E±0.02, h12km±3km, n83, σ1s04/103, 25C-22D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1256	**Bolognola (MC)**	**0.07**	**41**	⇓P	**Pg**	**00 36 35.8**	**-0.3**
T1256				S	**Sg**	**00 36 37.8**	**-0.3**
T1256				AML	AML		
	comp=N,6475μm,0.3s						
T1256				AML	AML		
	comp=N,6470μm,0.3s						
T1256				AML	AML		
	comp=E,11450μm,0.3s						
T1256				AML	AML		
	comp=N,7060μm,1.5s						
T1256				AML	AML		
	comp=E,11400μm,0.2s						
T1256				AML	AML		
	comp=E,11600μm,0.3s						
FEMA	**Monte Fema**	**0.08**	**276**	⇑P	**Pg**	**00 36 36.0**	**-0.2**
FEMA				S	**Sg**	**00 36 38.0**	**-0.2**
FEMA				AML	AML		
	comp=E,13250μm,0.4s						
FEMA				AML	AML		
	comp=E,13300μm,0.4s						
FEMA				AML	AML		
	comp=N,15850μm,0.9s						
T1245	**Castelsantange**	**0.10**	**169**	P	**Pb**	**00 36 36.2**	**-0.1**
T1245				S	**Sb**	**00 36 38.5**	**0.0**
T1245				AML	AML		
	comp=E,33900μm,0.5s						
T1245				AML	AML		
	comp=N,35850μm,0.7s						
T1245				AML	AML		
	comp=N,35850μm,0.7s						
T1245				AML	AML		
	comp=E,33850μm,0.5s						
T1245				AML	AML		
	comp=E,31900μm,0.5s						
FDMO	**Fiordimonte**	**0.10**	**326**	P	**Pg**	**00 36 36.0**	**-0.3**
FDMO				S	**Sg**	**00 36 38.1**	**-0.3**
FDMO				AML	AML		
	comp=E,10760μm,1.0s						
FDMO				AML	AML		
	comp=N,20750μm,0.2s						
FDMO				AML	AML		
	comp=E,10765μm,1.0s				

MDAR	**Monte D'Aria**	**0.24**	**357**	P	**Pb**	**00 36 38.3**	**-1.5**
MDAR				S	**Sb**	**00 36 42.2**	**+0.2**
MDAR				AML	AML		
	comp=E,2360µm,1.0s						
MDAR				AML	AML		
	comp=E,2365µm,1.0s						
MDAR				AML	AML		
	comp=N,4795µm,0.5s						
SEF1	**Sefro**	**0.25**	**321**	P	**Pb**	**00 36 38.4**	**-1.5**
SEF1				AML	AML		
	comp=E,3600µm,0.7s						
SEF1				AML	AML		
	comp=N,3040µm,0.6s						
T1215	**Vallo di Nera,**	**0.26**	**235**	⇑P	**Pg**	**00 36 38.8**	**-0.1**
T1215				S	**Sb**	**00 36 43.0**	**-1.6**
T1215				AML	AML		
	comp=E,3465µm,0.4s						
T1215				AML	AML		
	comp=N,3500µm,0.4s						
T1215				AML	AML		
	comp=E,3675µm,0.4s						
T1215				AML	AML		
	comp=N,3390µm,0.4s						
T1215				AML	AML		
	comp=E,3675µm,0.4s						
T1215				AML	AML		
	comp=N,3395µm,0.4s						
T1215				AML	AML		
	comp=E,3465µm,0.4s						
SSM1	**San Severino M**	**0.28**	**2**	P	**Pg**	**00 36 38.9**	**-0.1**
T1218	**Civita (PG)**	**0.28**	**187**	⇑P	**Pg**	**00 36 39.1**	**-0.2**
T1218				AML	AML		
	comp=E,8805µm,0.8s						
T1218				AML	AML		
	comp=N,9445µm,0.2s						
T1218				AML	AML		
	comp=E,8265µm,0.8s						
T1218				AML	AML		
	comp=N,9595µm,0.2s						
T1218				AML	AML		
	comp=N,9600µm,0.2s						
T1218				AML	AML		
	comp=E,8800µm,0.8s						
T1218				AML	AML		
	comp=E,8270µm,0.8s						
T1243	**Rocca Santa Ma**	**0.33**	**141**	P	**Pg**	**00 36 39.8**	**-0.3**
SNTG	**Esanatoglia**	**0.34**	**332**	⇓P	**Pg**	**00 36 40.0**	**-0.3**
SNTG				AML	AML		
	comp=E,764µm,0.6s						
SNTG				AML	AML		
	comp=E,724µm,0.6s						
SNTG				AML	AML		
	comp=N,912µm,1.3s						
SNTG				AML	AML		
	comp=N,924µm,1.3s						
LNSS	**Leonessa**	**0.36**	**194**	⇑P	**Pg**	**00 36 40.4**	**-0.2**
LNSS				AML	AML		
	comp=E,2960µm,0.1s						
LNSS				AML	AML		
	comp=N,11050µm,0.1s						
EL6	**Elcito**	**0.38**	**353**	⇓P	**Pg**	**00 36 40.7**	**-0.3**
EL6				AML	AML		
	comp=E,1930µm,0.3s						
EL6				AML	AML		
	comp=N,2305µm,0.6s						
EL6				AML	AML		
	comp=E,1931µm,0.3s						
EL6				AML	AML		
	comp=N,2300µm,0.6s						
ASSB	**Assisi San Ben**	**0.38**	**284**	⇑P	**Pg**	**00 36 40.6**	**-0.4**
ASSB				AML	AML		
	comp=E,2300µm,1.1s						
ASSB				AML	AML		
	comp=N,1980µm,0.3s						
OFFI	**Offida**	**0.39**	**93**	⇑P	**Pg**	**00 36 41.8**	**+0.7**
OFFI				AML	AML		
	comp=E,2435µm,0.6s						
OFFI				AML	AML		
	comp=N,3140µm,0.4s						
CING	**Cingoli**	**0.42**	**3**	⇑P	**Pg**	**00 36 41.4**	**-0.4**
CING				AML	AML		
	comp=E,958µm,0.9s						
CING				AML	AML		
	comp=N,998µm,0.9s						
RM33	**Pellescritta (**	**0.45**	**175**	P	**Pg**	**00 36 41.8**	**-0.4**
RM33				AML	AML		
	comp=E,1575µm,0.9s						
RM33				AML	AML		
	comp=N,1920µm,0.2s						
RM33				AML	AML		
	comp=N,1935µm,0.2s						
RM33				AML	AML		
	comp=E,1570µm,0.9s						
ATCC	**AVT- Casa Cast**	**0.45**	**301**	P	**Pg**	**00 36 42.0**	**-0.3**
ATCC				AML	AML		
	comp=E,902µm,1.6s						
ATCC				AML	AML		
	comp=N,832µm,0.9s						
ATCC				AML	AML		
	comp=N,833µm,0.9s						
ATCC				AML	AML		
	comp=E,902µm,1.6s						
FOSV	**Fossato di Vic**	**0.45**	**319**	⇓P	**Pg**	**00 36 42.0**	**-0.3**
FOSV				AML	AML		
	comp=E,520µm,0.3s						
FOSV				AML	AML		
	comp=E,520µm,0.3s						
FOSV				AML	AML		
	comp=N,773µm,1.4s						
CAMP	**Campotosto**	**0.46**	**156**	⇑P	**Pg**	**00 36 41.9**	**-0.5**
CAMP				AML	AML		
	comp=E,590µm,1.2s						
CAMP				AML	AML		
	comp=N,610µm,0.2s						
TERO	**Teramo**	**0.46**	**135**	⇑P	**Pg**	**00 36 42.1**	**-0.4**
TERO				AML	AML		
	comp=E,1525µm,0.3s						
TERO				AML	AML		
	comp=N,1425µm,0.9s						
ARRO	**Arrone**	**0.47**	**218**	⇑P	**Pg**	**00 36 42.4**	**-0.3**
ARRO				AML	AML		
	comp=E,1990µm,0.2s						
ARRO				AML	AML		
	comp=N,1710µm,0.2s						
ARRO				AML	AML		
	comp=E,1995µm,0.2s						
ARRO				AML	AML		
	comp=N,1715µm,0.2s						
MMUR	**Monte Murano**	**0.50**	**346**	S	**Sb**	**00 36 52.0**	**+0.4**
T1247	**Pizzolo (AQ)**	**0.52**	**169**	P	**Pg**	**00 36 43.2**	**-0.4**
T1247				S	**Sb**	**00 36 53.0**	**+1.0**
T1247				AML	AML		
	comp=E,2105µm,0.9s						
T1247				AML	AML		
	comp=N,1805µm,1.4s						
PP3	**Marolino**	**0.54**	**37**	⇑P	**Pb**	**00 36 44.4**	**-0.3**
PP3				AML	AML		
	comp=E,3120µm,0.9s						
PP3				AML	AML		
	comp=N,4005µm,0.8s						
PP3				AML	AML		
	comp=E,3120µm,0.9s						
PP3				AML	AML		
	comp=N,4000µm,0.8s						
PP3				AML	AML		
	comp=N,3935µm,0.8s						
PP3				AML	AML		
	comp=E,3180µm,0.9s						
CESX	**Cesi**	**0.55**	**232**	⇑P	**Pg**	**00 36 43.5**	**-0.6**
CESX				S	**Sb**	**00 36 53.0**	**+0.2**
CESX				AML	AML		
	comp=E,1245µm,0.3s						
CESX				AML	AML		
	comp=N,1570µm,0.8s						
SSFR	**Montelago di S**	**0.56**	**330**	⇑P	**Pg**	**00 36 43.9**	**-0.4**
SSFR				AML	AML		
	comp=E,1470µm,0.2s						
SSFR				AML	AML		
	comp=N,1350µm,0.2s						
SSFR				AML	AML		
	comp=N,1330µm,0.2s						
SSFR				AML	AML		
	comp=E,1330µm,0.2s						
MURB	**Monte Urbino**	**0.56**	**304**	⇑P	**Pg**	**00 36 44.1**	**-0.2**
MURB				AML	AML		
	comp=E,1590µm,0.4s						
MURB				AML	AML		
	comp=N,1160µm,0.3s						
MURB				AML	AML		
	comp=N,1100µm,0.2s						
MURB				AML	AML		
	comp=N,1164µm,0.3s						
MURB				AML	AML		
	comp=E,1580µm,0.9s						
MURB				AML	AML		
	comp=E,1595µm,0.4s						
ARVD	**Arcevia**	**0.57**	**344**	⇓P	**Pb**	**00 36 44.0**	**-1.3**
ARVD				S	**Sb**	**00 36 54.0**	**+0.6**
ARVD				AML	AML		
	comp=N,274µm,0.6s						
ARVD				AML	AML		
	comp=E,547µm,0.3s						
TRTR	**Tortoreto Alta**	**0.57**	**104**	P	**Pb**	**00 36 45.2**	**-0.1**
TRTR				AML	AML		
	comp=E,1335µm,1.2s						
TRTR				AML	AML		
	comp=N,1625µm,0.4s						
GIGS	**Gran Sasso**	**0.58**	**149**	P	**Pb**	**00 36 44.2**	**-1.5**
GIGS				AML	AML		
	comp=N,294µm,1.4s						
GIGS				AML	AML		
	comp=N,294µm,1.4s						
GIGS				AML	AML		
	comp=E,358µm,1.2s						
ATFO	**Monte Foce - G**	**0.60**	**314**	⇑P	**Pb**	**00 36 44.7**	**-1.2**
ATFO				AML	AML		
	comp=E,280µm,1.6s						
ATFO				AML	AML		
	comp=N,310µm,0.6s						
ATFO				AML	AML		
	comp=E,281µm,1.6s						
ATFO				AML	AML		
	comp=N,310µm,0.6s						
AQU	**L'Aquila**	**0.62**	**163**	P	**Pb**	**00 36 45.0**	**-1.3**
AQU				AML	AML		
	comp=E,484µm,0.2s						
AQU				AML	AML		
	comp=E,488µm,0.2s						
AQU				AML	AML		
	comp=E,484µm,0.2s						
AQU				AML	AML		
	comp=N,591µm,0.6s						
AQU				AML	AML		
	comp=N,602µm,0.6s						
FRON	**Frontone**	**0.65**	**331**	⇓P	**Pb**	**00 36 45.4**	**-1.3**
FRON				AML	AML		
	comp=N,423µm,0.5s						
FRON				AML	AML		
	comp=E,362µm,0.3s						
AOI	**Ancona**	**0.68**	**28**	P	**Pb**	**00 36 46.6**	**-0.6**
AOI				AML	AML		
	comp=N,711µm,0.3s						
AOI				AML	AML		
	comp=E,770µm,0.3s						
FIAM	**Fiamignano**	**0.69**	**183**	⇑P	**Pb**	**00 36 45.8**	**-1.5**
FIAM				S	**Sg**	**00 36 57.0**	**+1.3**
FIAM				AML	AML		
	comp=E,500µm,0.3s						
FIAM				AML	AML		
	comp=N,487µm,0.3s						
COR1	**Corinaldo**	**0.69**	**350**	⇓P	**Pb**	**00 36 47.2**	**-0.2**
COR1				AML	AML		
	comp=E,397µm,1.1s						
COR1				AML	AML		
	comp=N,886µm,1.1s						
COR1				AML	AML		
	comp=N,888µm,1.1s						
COR1				AML	AML		
	comp=E,395µm,1.1s						
ATVO	**AVT- Monte Val**	**0.70**	**308**	⇑P	**Pb**	**00 36 46.4**	**-1.2**
ATVO				AML	AML		
	comp=E,191µm,0.3s						
ATVO				AML	AML		
	comp=N,155µm,1.4s						
MPAG	**Monte Paganucc**	**0.74**	**337**	⇓P	**Pb**	**00 36 47.3**	**-0.9**
MPAG				AML	AML		
	comp=E,1470µm,1.2s						
MPAG				AML	AML		
	comp=N,1740µm,1.2s						
MPAG				AML	AML		
	comp=N,321µm,0.3s						
MPAG				AML	AML		
	comp=E,2015µm,0.9s						
MPAG				AML	AML		
	comp=N,322µm,0.3s						
MPAG				AML	AML		
	comp=E,314µm,0.3s						
MPAG				AML	AML		
	comp=N,2130µm,0.9s						
PIEI	**Pieia**	**0.74**	**322**	⇓P	**Pb**	**00 36 47.0**	**-1.3**
PIEI				AML	AML		
	comp=N,224µm,1.6s						
PIEI				AML	AML		
	comp=E,212µm,0.3s						
ATPI	**Pietralunga -**	**0.75**	**312**	⇓P	**Pb**	**00 36 47.6**	**-0.8**
ATPI				AML	AML		
	comp=N,162µm,0.4s						
ATPI				AML	AML		
	comp=E,246µm,0.4s						
VCEL	**Villa Celiera**	**0.75**	**138**	⇑P	**Pb**	**00 36 47.5**	**-1.0**
VCEL				AML	AML		
	comp=N,614µm,0.8s						
VCEL				AML	AML		
	comp=E,694µm,0.4s						
FAGN	**Fagnano**	**0.75**	**155**	⇑P	**Pb**	**00 36 47.1**	**-1.4**
FAGN				S	**Sg**	**00 36 60.0**	**+2.1**
FAGN				AML	AML		
	comp=N,716µm,1.1s						
FAGN				AML	AML		
	comp=E,832µm,0.3s						
FAGN				AML	AML		
	comp=N,716µm,1.1s						
ATMI	**Monte Miggiano**	**0.76**	**300**	⇓P	**Pn**	**00 36 50.1**	**+0.1**
MGAB	**Montegabbione**	**0.77**	**267**	⇓P	**Pb**	**00 36 47.9**	**-0.9**
MGAB				AML	AML		
	comp=E,359µm,0.8s						
MGAB				AML	AML		
	comp=N,734µm,0.3s						
FSSB	**Fossombrone**	**0.79**	**339**	P	**Pb**	**00 36 48.2**	**-0.9**
FSSB				AML	AML		
	comp=E,810µm,0.4s						
FSSB				AML	AML		
	comp=N,1415µm,1.1s						
T0110	**Collepietro**	**0.86**	**148**	⇓P	**Pb**	**00 36 49.1**	**-1.2**
T0110				AML	AML		
	comp=E,537µm,0.4s						
T0110				AML	AML		
	comp=N,510µm,0.6s						
T0110				AML	AML		
	comp=E,538µm,0.4s						
T0110				AML	AML		
	comp=N,510µm,0.6s						
SRES	**S.Oreste - Sor**	**0.86**	**214**	⇑P	**Pb**	**00 36 50.0**	**-0.3**
SRES				S	**Sn**	**00 37 04.0**	**+0.1**
SRES				AML	AML		
	comp=E,368µm,0.3s						
SRES				AML	AML		
	comp=N,436µm,0.3s						
BADI	**Badiali**	**0.87**	**310**	P	**Pb**	**00 36 50.1**	**-0.4**
PE3	**Peglio**	**0.89**	**327**	⇓P	**Pg**	**00 36 50.7**	**+0.2**
PE3				AML	AML		
	comp=E,4µm,1.5s						
PE3				AML	AML		
	comp=N,6µm,0.8s						
PE3				AML	AML		
	comp=N,6µm,0.8s						
PE3				AML	AML		
	comp=E,4µm,1.5s						
SACS	**San Casciano d**	**0.93**	**264**	P	**Pb**	**00 36 50.9**	**-0.6**
SACS				AML	AML		
	comp=N,200µm,0.6s						
SACS				AML	AML		
	comp=E,290µm,1.1s						
SACS				AML	AML		
	comp=E,280µm,1.0s						
SACS				AML	AML		
	comp=N,204µm,0.8s						
CAFI	**Castiglion Fio**	**0.95**	**294**	⇓P	**Pb**	**00 36 51.6**	**-0.3**
CAFI				AML	AML		
	comp=E,99µm,1.5s						
CAFI				AML	AML		
	comp=N,142µm,0.6s						
MTCE	**Montecelio**	**0.98**	**199**	⇑P	**Pn**	**00 36 52.8**	**-0.2**
CERT	**Cerreto**	**1.01**	**188**	⇑P	**Pb**	**00 36 52.0**	**-0.9**
CERT				AML	AML		
	comp=E,414µm,0.7s						
CERT				AML	AML		
	comp=N,298µm,1.6s						
CPGN	**Carpegna, Ital**	**1.05**	**324**	P	**Pb**	**00 36 53.4**	**-0.2**
LATE	**Laterza**	**1.06**	**252**	⇓P	**Pg**	**00 36 54.3**	**+0.6**
CRE	**Caprese Michel**	**1.11**	**307**	⇑P	**Pg**	**00 36 56.4**	**+1.7**
LPEL	**Lama dei Pelig**	**1.18**	**140**	⇓P	**Pn**	**00 36 55.8**	**0.0**
LAV9	**Lanuvio**	**1.32**	**195**	⇑P	**Pb**	**00 36 58.3**	**+0.2**
GIUL	**Giuliano Di Ro**	**1.40**	**177**	⇓P	**Pg**	**00 37 00.4**	**+0.2**
OBKA	**Obir**	**3.69**	**15**	*e*Pn	**Pn**	**00 37 30.6**	**+0.3**
	comp=N,0.7nm,0.2s						
MYKA	**Terra Mystica**	**3.69**	**5**	*e*Pn	**Pn**	**00 37 30.8**	**+0.5**
	comp=N,1.0nm,0.2s						
ABTA	**Abfaltersbach**	**3.82**	**353**	*e*Pn	**Pn**	**00 37 33.0**	**+0.8**
	comp=N,1.2nm,0.2s						
KBA	**Koelnbreinsper**	**4.13**	**2**	*e*Pn	**Pn**	**00 37 37.1**	**+0.7**
	comp=N,1.0nm,0.2s						
FETA	**Feichten**	**4.42**	**338**	*e*Pn	Pn	00 37 44.7	+4.3
	comp=N,0.2nm,0.2s						
WTTA	**Wattenberg**	**4.44**	**346**	*e*Pn	**Pn**	**00 37 42.6**	**+1.8**
SQTA	**Sankt Quirin**	**4.49**	**343**	*e*Pn	**Pn**	**00 37 43.4**	**+2.1**
	comp=N,0.3nm,0.1s						
WATA	**Walderalm**	**4.52**	**346**	*e*Pn	**Pn**	**00 37 44.4**	**+2.5**
	comp=N,0.8nm,0.4s						
MOTA	**Moosalm**	**4.63**	**342**	*e*Pn	**Pn**	**00 37 45.7**	**+2.4**
	comp=N,0.2nm,0.2s						
BIOA	**Bad Ischl, Aus**	**4.75**	**4**	*e*Pn	**Pn**	**00 37 45.6**	**+0.8**
	comp=N,2.4nm,0.4s						
RETA	**Reutte**	**4.84**	**340**	*e*Pn	**Pn**	**00 37 48.3**	**+2.2**
	comp=N,0.5nm,0.2s						
DAVA	**Damuels**	**4.92**	**333**	*e*Pn	**Pn**	**00 37 50.9**	**+3.7**
	comp=N,1.6nm,0.5s						
MOA	**Molln**	**4.96**	**9**	*e*Pn	**Pn**	**00 37 48.2**	**+0.5**
	comp=N,0.3nm,0.1s						
CONA	**Conrad Observa**	**5.33**	**20**	*e*Pn	**Pn**	**00 37 52.9**	**+0.1**
	comp=N,0.6nm,0.2s						
KHC	**Kasperske Hory**	**6.19**	**3**	*e*PN	**Pn**	**00 38 03.8**	**-0.7**
KHC				*e*SN	**Sn**	**00 39 12.7**	**-2.5**

WEL 17 00:42:17.2±0.4, 42°S±3°×17°3E±°, h12km, M3.3/11, ML3.7/13, MLv3.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=116.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.55**	**208**	P	Pb	00 42 28.8	0.0
GVZ				S	Sb	00 42 37.4	+0.7
THZ	**Tophouse**	**0.81**	**333**	P	Pb	00 42 33.2	0.0
BSWZ	**Blackbirch Sta**	**0.85**	**25**	P	Pg	00 42 33.7	+0.1
AMCZ	**Amberley**	**0.88**	**218**	P	Pb	00 42 34.9	+0.5
TUWZ	**Tuamarina**	**1.13**	**22**	P	Pn	00 42 38.9	0.0
MRNZ	**Matariki Terra**	**1.18**	**336**	P	Pg	00 42 40.1	+0.1
OKCZ	**Okains Bay**	**1.26**	**191**	P	Pn	00 42 39.2	-1.5
NNZ	**Nelson**	**1.27**	**360**	P	Pb	00 42 41.0	0.0
OXZ	**Oxford**	**1.30**	**229**	P	Pn	00 42 40.0	-1.2
MQZ	**McQueen's Vall**	**1.33**	**204**	P	Pn	00 42 39.6	-2.0
DSZ	**Denniston Nort**	**1.39**	**302**	P	Pb	00 42 43.2	+0.1
AKCZ	**Akaroa Harbour**	**1.43**	**194**	P	Pn	00 42 41.3	-1.7
TCW	**Tory Channel**	**1.44**	**28**	P	Pn	00 42 42.9	-0.1
TKNZ	**Takaka Hill**	**1.48**	**347**	P	Pb	00 42 45.0	+0.3
RACZ	**Rakaia**	**1.54**	**216**	P	Pn	00 42 43.0	-1.5
PLWZ	**Palliser**	**1.66**	**57**	P	Pn	00 42 44.5	-1.7
MHCZ	**Mount Hutt**	**1.70**	**231**	P	Pn	00 42 45.5	-1.2
DUWZ	**D'Urville Isla**	**1.73**	**14**	P	Pn	00 42 47.9	+0.8
MSWZ	**Moikau Station**	**1.75**	**53**	P	Pn	00 42 45.7	-1.7
QRZ	**Quartz Range**	**1.78**	**338**	P	Pb	00 42 49.2	-0.5
WACZ	**Wakanui South**	**1.85**	**217**	P	Pn	00 42 47.2	-1.5
CAW	**Cannon Point**	**1.86**	**43**	P	Pn	00 42 47.7	-1.2
KIW	**Kapiti Island**	**1.98**	**36**	P	Pn	00 42 50.3	-0.2
WVZ	**Waitaha Valley**	**2.04**	**252**	P	Pn	00 42 51.7	+0.4
RPZ	**Rata Peaks**	**2.11**	**233**	P	Pn	00 42 51.1	-1.2
OGWZ	**Otaki Gorge**	**2.13**	**39**	P	Pn	00 42 52.0	-0.7
ARCZ	**Arundel**	**2.18**	**227**	P	Pn	00 42 51.9	-1.5
HOWZ	**Holdsworth Sta**	**2.25**	**46**	P	Pb	00 42 59.0	+1.2
GCSZ	**Gaunt Creek Bo**	**2.40**	**249**	P	Pn	00 42 56.8	+0.5
MRZ	**Mangatainoka R**	**2.45**	**43**	P	Pn	00 42 56.0	-1.1
TMZ	**Timaru**	**2.57**	**222**	P	Pn	00 42 57.2	-1.5
BFZ	**Birch Farm**	**2.80**	**51**	P	Pb	00 43 06.1	-1.1
FOZ	**Fox Glacier**	**2.82**	**247**	P	Pn	00 43 02.8	+0.7
LBZ	**Lake Benmore**	**3.01**	**230**	P	Pn	00 43 03.5	-1.2
ODZ	**Otahua Downs**	**3.24**	**217**	P	Pn	00 43 06.1	-1.7
WNVZ	**Wahianoa**	**3.57**	**29**	P	Pb	00 43 16.6	-3.8
TUVZ	**Tukino**	**3.64**	**29**	P	Pn	00 43 17.9	-3.7
EAZ	**Earnsceugh**	**4.03**	**226**	P	Pn	00 43 16.9	-1.8
HIZ	**Hauiti**	**4.12**	**16**	P	Pn	00 43 24.7	+4.7
HAZ	**Te Kaha**	**5.80**	**37**	P	Pn	00 43 41.5	-1.5

NEIC ***17*** *00:42:25.4±2.5, 31°.10S±0°.05×67°.53W±0°.04, h10km±1km, mb4.3/4, Md3.5(SJA), Error ellipse: s-maj=10.5km s-min=3.1km az=28.0*

IDC ***17*** *00:42:53.2±3.1, 29°.87S×66°.06W, h149km±27km, mb3.0/1, mbtmp3.6/4, MS3.0/1, Error ellipse: s-maj=47.9km s-min=29.2km az=120.0*

ISC 17 00:42:27.6±0.7, 31°.12S±0°.07×67°.56W±0°.06, h31km, n46, σ1°36/48, mb4.3/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**1.05**	**246**		Pn	00 42 40.6	-5.7
ZON					Pb	00 42 52.2	+5.0
CO01	**Juntas del Tor**	**2.46**	**297**		**Pn**	**00 43 06.5**	**+0.6**
CO01				Sn	**Sn**	**00 43 35.3**	**+0.3**
CO03	**El Pedregal**	**2.70**	**275**		**Pn**	**00 43 09.2**	**+0.1**
CO03				Sn	**Sn**	**00 43 41.0**	**+0.2**
GO04	**Tololo Observa**	**2.94**	**288**		**Pn**	**00 43 13.2**	**+0.6**
CO02	**Combarbal**	**2.95**	**267**		**Pn**	**00 43 13.1**	**+0.6**
CO02				Sn	**Sn**	**00 43 48.5**	**+1.6**
VA03	**San Esteban**	**3.02**	**236**		**Pn**	**00 43 14.6**	**+1.1**
AC05	**El Transito**	**3.27**	**313**	Pn	**Pn**	**00 43 19.1**	**+2.2**
CO05	**La Serena**	**3.39**	**290**		**Pn**	**00 43 19.1**	**+0.7**
LCO	**Las Campanas**	**3.44**	**307**	Pn	**Pn**	**00 43 20.5**	**+1.1**
MT03	**Universidad Ad**	**3.44**	**226**	Pn	**Pn**	**00 43 20.4**	**+1.2**
ROC1	**El Roble**	**3.47**	**237**		**Pn**	**00 43 19.2**	**-0.5**
VA06	**Catapilco**	**3.49**	**245**		**Pn**	**00 43 19.0**	**-0.8**
MT05	**Renca**	**3.52**	**229**		**Pn**	**00 43 21.6**	**+1.4**
LMEL	**Las Melosas**	**3.52**	**219**		**Pn**	**00 43 22.5**	**+2.1**
CO06	**Fray Jorge**	**3.53**	**276**		**Pn**	**00 43 19.1**	**-1.3**
MT02	**Curacav**	**3.71**	**234**		**Pn**	**00 43 22.8**	**0.0**
BO04	**La Punta**	**3.85**	**221**		**Pn**	**00 43 26.5**	**+1.7**
MT09	**Talagante**	**3.93**	**227**	Pn	**Pn**	**00 43 26.2**	**+0.3**
VA01	**Torpederas**	**3.95**	**240**		**Pn**	**00 43 25.9**	**-0.2**
MT01	**Popeta**	**4.15**	**228**		**Pn**	**00 43 28.4**	**-0.4**
VA05	**Santo Domingo**	**4.26**	**233**		**Pn**	**00 43 30.4**	**+0.1**
BO01	**Tunca**	**4.41**	**221**	Pn	**Pn**	**00 43 32.6**	**+0.2**
AC06	**Mina Casimiro**	**4.47**	**326**	Pn	**Pn**	**00 43 34.0**	**+0.7**
AC02	**Maricunga**	**4.48**	**342**	Pn	**Pn**	**00 43 36.1**	**+2.2**
BO02	**Sierra Bellavi**	**4.55**	**216**		**Pn**	**00 43 36.1**	**+1.6**
TRQA	**Tornquist**	**8.31**	**148**	Pn	**Pn**	**00 44 26.4**	**+0.4**
LVC	**Limon Verde**	**8.56**	**352**	Pn	**Pn**	**00 44 29.2**	**-0.6**
GO06	**Curarrehue**	**9.03**	**200**	Pn	**Pn**	**00 44 35.5**	**-0.4**
PB04	**IPOC Station P**	**9.05**	**345**	Pn	**Pn**	**00 44 36.0**	**-0.4**
PB03	**IPOC Station P**	**9.24**	**347**	Pn	**Pn**	**00 44 37.8**	**-1.2**
PB09	**IPOC Station P**	**9.41**	**350**	Pn	**Pn**	**00 44 41.1**	**-0.2**
ITQB	**Itaqui**	**9.56**	**84**		**Pn**	**00 44 42.5**	**-0.6**
PB02	**IPOC Station P**	**9.98**	**347**	Pn	**Pn**	**00 44 47.1**	**-1.9**
CPUP	**Villa Florida**	**10.17**	**65**	P	**Pn**	**00 44 53.4**	**+1.9**
	1.6nm,0.3s,baz=245,slow=12,SNR=9.7						
CPUP	**Villa Florida**	**10.17**	**65**	Pn	**Pn**	**00 44 52.8**	**+1.3**
PB01	**IPOC Station P**	**10.18**	**350**	Pn	**Pn**	**00 44 49.7**	**-2.1**
LL04	**Puerto Octay**	**10.53**	**201**	Pn	**Pn**	**00 44 54.5**	**-1.8**
ITAB	**Concordia**	**14.02**	**78**	Pn	**Pn**	**00 45 42.0**	**-2.2**
LPAZ	**La Paz**	**14.77**	**358**	P	**P**	**00 46 01.0**	**+0.2**
	1.0nm,0.6s,baz=167,slow=8.2,SNR=4.4						
LPAZ				LR	LR	00 52 21.8	
	comp=Z,72nm,21.7s,baz=78,slow=42						
BELA	**Belgrano 2**	**49.09**	**171**	P	**P**	**00 51 12.9**	**+1.3**
SNAA	**Sanae**	**52.86**	**159**	P	**P**	**00 51 40.6**	**+0.5**
SNAA				IAmb	IAmb	00 51 44.0	
	comp=Z,5.4nm,1.3s						
TOA0	**Torodi Ar. Sit**	**79.65**	**68**	P	**P**	**00 54 31.7**	**-0.8**
TOA0				IAmb	IAmb	00 54 44.8	
	comp=Z,4.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**79.65**	**68**	P	**P**	**00 54 35.0**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=224,slow=4.0,SNR=4.2						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.65**	**68**	P	**P**	**00 54 31.5**	**-1.0**
ZALV	**Zalesovo Beam**	**149.77**	**33**	PKPbc	**PKPab**	**01 02 21.2**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=318,slow=6.0,SNR=2.2						
MKAR	**Makanchi Array**	**152.03**	**47**	PKPbc	**PKPab**	**01 02 25.5**	**-3.

comp=Z,0.1nm,0.5s,baz=314,slow=1.5,SNR=1.6

WEL 17 00:43:45.7±0.5, 42°S ±3° × 17°3E ±°, h12km, M3.1/12, ML3.3/11, MLv3.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=105.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.50**	**188**	P		Pb 00 43 56.4	0.0
GVZ				S		Sb 00 44 04.3	+0.6
LTZ	**Lake Taylor**	**0.70**	**244**	P		Pb 00 44 00.0	+0.1
LTZ				S		Sb 00 44 09.8	+0.3
THZ	**Tophouse**	**0.73**	**347**	P		Pb 00 44 00.8	+0.4
AMCZ	**Amberley**	**0.78**	**206**	P		Pn 00 44 02.0	-0.5
OXZ	**Oxford**	**1.17**	**223**	P		Pg 00 44 08.2	0.0
DSZ	**Denniston Nort**	**1.22**	**306**	P		Pg 00 44 10.3	+1.1
MQZ	**McQueen's Vall**	**1.28**	**195**	P		Pn 00 44 08.5	-0.9
AKCZ	**Akaroa Harbour**	**1.41**	**186**	P		Pn 00 44 10.3	-0.9
RACZ	**Rakaia**	**1.44**	**210**	P		Pn 00 44 11.2	-0.5
MHCZ	**Mount Hutt**	**1.56**	**227**	P		Pn 00 44 12.9	-0.3
MHCZ	**Mount Hutt**	**1.56**	**227**	P		Pn 00 44 13.3	+0.1
WACZ	**Wakanui South**	**1.74**	**212**	P		Pn 00 44 15.4	-0.3
WVZ	**Waitaha Valley**	**1.86**	**250**	P		Pb 00 44 18.7	-0.8
RPZ	**Rata Peaks**	**1.96**	**230**	P		Pn 00 44 19.1	+0.3
ARCZ	**Arundel**	**2.05**	**223**	P		Pn 00 44 19.7	-0.3
ARCZ	**Arundel**	**2.05**	**223**	P		Pn 00 44 19.9	-0.1

WEL 17 00:43:52.6±0.7, 42°S ±3° × 17°4E ±°, h12km, M2.2/5, ML2.5/5, MLv2.2/5, Error ellipse: s-maj=0.0km s-min=0.0km az=114.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.12**	**223**	P		Pg 00 43 56.0	+0.3
CMWZ				S		Sg 00 43 59.9	+1.9
BSWZ	**Blackbirch Sta**	**0.34**	**261**	P		Pb 00 44 00.2	-0.4
BSWZ				S		Sb 00 44 06.4	+0.5
TUWZ	**Tuamarina**	**0.37**	**310**	P		Pb 00 44 00.9	-0.1
TUWZ				S		Sb 00 44 07.2	+0.5
TCW	**Tory Channel**	**0.45**	**356**	P		Pb 00 44 02.6	+0.1
TCW				S		Sb 00 44 09.1	-0.2
PLWZ	**Palliser**	**0.71**	**83**	P		Pb 00 44 07.2	+0.3
RTZ	**Ruatahuna**	**3.67**	**35**	P		Pg 00 45 01.3	-1.5

BJI 17 00:58:09.9±0.0, 8.°82N × 126.°45E, h73km, mb4.9/36, mB5.0/20, Ms4.1/2, Ms7 3.9/4
MAN 17 00:58:10.3, 8.°87N × 126.°35E, h20km, mb5.5, ML4.5, MS4.8
MAN INTENSITY III - CAGWAIT SURIGAO DEL SUR; INTENSITY II - BISLIG CITY.
IDC 17 00:58:11.7±1.6, 8.°94N × 126.°37E, h66km±15km, mb4.3/26, mbtmp4.6/30, MS3.5/26, Error ellipse: s-maj=17.1km s-min=9.6km az=87.0
NEIC 17 00:58:12.2±1.5, 8.°95N±0.°07 × 126.°4E±0.°1, h66km±6km, mb4.9/92, Error ellipse: s-maj=14.4km s-min=10.1km az=92.0
DJA 17 00:58:13.2±0.9, 9.°N±5° × 12.°7E±°, h39km±12km, M4.9/14, mB5.2/4, mb4.7/14, MLv5.2/4, Mw(mB)4.5/4
ISC 17 00:58:11.6±0.7, 8.°93N±0.°03 × 126.°42E±0.°05, h65km±6km, n228, σ1°33/232, mb4.8/82, 9C-10D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.74**	**185**	↑*iP*	**Pn**	**00 58 23.2**	**-3.4**
BIPH				*eS*	**Sn**	**00 58 32.5**	**-5.0**
SCPH	**Surigao**	**1.25**	**313**	↓*iP*	**Pn**	**00 58 31.8**	**-1.3**
SCPH				*i* S	**Sn**	**00 58 48.6**	**-0.7**
CGP	**Cagayan de Oro**	**1.77**	**255**	↑*iP*	**Pn**	**00 58 39.0**	**-1.0**
CGP				*i* S	**Sn**	**00 59 01.2**	**-0.4**
MSLP	**Maasin**	**1.95**	**308**	↓*eP*	**Pn**	**00 58 42.8**	**+0.3**
MSLP				*eS*	**Sn**	**00 59 07.3**	**+1.3**
DAV	**Davao City (W)**	**2.02**	**204**	P	**Pn**	**00 58 43.4**	**-0.1**
	172nm,0.3s,baz=47,slow=4.9,SNR=9.5						
DAV				S	**Sn**	**00 59 08.1**	**+0.4**
	2µm,0.6s,baz=241,slow=20,SNR=11						
DAV				LR	LR	00 59 29.2	
	comp=Z,850nm,19.6s,baz=346,slow=38						
DAV	**Davao City (W)**	**2.02**	**204**		**Pn**	**00 58 42.8**	**-0.7**
DAV				Sn	**Sn**	**00 59 10.1**	**+2.4**
DAV	**Davao City (W)**	**2.02**	**204**	P	**Pn**	**00 58 45.3**	**+1.8**
GHBP	**Garcia Hernand**	**2.19**	**289**	↓*eP*	**Pn**	**00 58 45.3**	**-0.4**
GHBP				*eS*	**Sn**	**00 59 05.1**	**-6.6**
KCP	**Kidapawan**	**2.31**	**215**	↑*iP*	**Pn**	**00 58 47.1**	**-0.3**
KCP				*i* S	**Sn**	**00 59 14.7**	**-0.2**
TABP	**Talibon, Bohol**	**2.36**	**300**	↓*eP*	**Pn**	**00 58 48.6**	**+0.6**
TABP				*eS*	Sn	00 59 03.1	-13
TBP	**Tagbilaran**	**2.64**	**287**	↓*iP*	**Pn**	**00 58 52.0**	**+0.3**
TBP				*i* S	**Sn**	**00 59 22.5**	**-0.2**
CTBH	**Cotabato--PC H**	**2.74**	**232**	↑*eP*	**Pn**	**00 58 52.9**	**-0.2**
LSIP	**Lazi, Siquijor**	**2.76**	**274**	↑*eP*	**Pn**	**00 58 53.1**	**-0.4**
LSIP				*eS*	Sn	00 59 11.7	-14
LLP	**Lapu-Lapu**	**2.79**	**300**	↑*eP*	**Pn**	**00 58 54.5**	**+0.6**
LLP				*i* S	**Sn**	**00 59 29.5**	**+3.2**
DCPH	**Dipolog City**	**3.05**	**264**	↓*iP*	**Pn**	**00 58 56.9**	**-0.6**
SNPH	**Sibulan**	**3.17**	**278**	↓*iP*	**Pn**	**00 58 59.0**	**-0.2**
SNPH				*i* S	**Sn**	**00 59 34.6**	**-1.2**
GSPH	**General Santos**	**3.17**	**207**	↑*eP*	**Pn**	**00 59 01.1**	**+1.9**
GSPH				*i* S	**Sn**	**00 59 39.6**	**+3.6**
PAGZ	**Pagadian**	**3.19**	**251**	↓*eP*	**Pn**	**00 59 00.5**	**+1.2**
CNOP	**Candoni, Negro**	**3.84**	**284**	↓*iP*	**Pn**	**00 59 08.8**	**+0.7**
CNOP				*eS*	**Sn**	**00 59 54.0**	**+1.9**
RCP	**Roxas**	**4.47**	**306**	↑*eP*	**Pn**	**00 59 18.3**	**+1.5**
SGSI	**Sangihe**	**5.28**	**190**	P	**Pn**	**00 59 31.1**	**+3.1**
	2.5nm225nm,0.7s						
JCNP	**Jose Panganiba**	**6.46**	**326**	↑*iP*	**Pn**	**00 59 43.8**	**-0.3**
LQP	**Lukban**	**7.03**	**318**	↓*eP*	**Pn**	**00 59 54.2**	**+2.1**
TNTI	**Ternate**	**8.15**	**173**	Pn	**Pn**	**01 00 06.7**	**-0.6**
TNTI	**Ternate**	**8.15**	**173**	P	**Pn**	**01 00 11.2**	**+3.9**
	42nm,0.6s						
I39PW	**PALAU INFRASON**	**8.16**	**99**	I	I	01 56 20.0	
	baz=277,slow=311,SNR=0.7						
MYLDM	**Lahad Datu**	**8.70**	**245**		**Pn**	**01 00 15.6**	**+0.9**
MYLDM	**Lahad Datu**	**8.70**	**245**	P	**Pn**	**01 00 18.9**	**+4.2**
	25nm,1.2s						
GTOI	**Gorontalo**	**8.91**	**203**	P	**Pn**	**01 00 16.0**	**-1.6**
	23nm,0.7s						
TOLI2	**Tolitoli**	**9.58**	**216**	Pn	**Pn**	**01 00 26.4**	**-0.4**
LUWI	**Luwuk**	**10.55**	**200**	Pn	**Pn**	**01 00 39.5**	**-0.5**
LUWI	**Luwuk**	**10.55**	**200**	P	Pn	01 00 45.4	+5.4
	58nm,1.1s						
SWI	**Sorong**	**10.85**	**153**	P	**Pn**	**01 00 45.0**	**+0.8**
	3µm23nm,0.6s						
SIJI	**Sorong**	**10.86**	**153**	P	**Pn**	**01 00 45.2**	**+0.8**
	10nm,0.4s,baz=29,slow=3.8,SNR=6.7						
SIJI	**Sorong**	**10.86**	**153**	P	**Pn**	**01 00 45.3**	**+1.0**
	789nm19nm,0.8s						
APSI	**Ampana**	**10.87**	**206**	P	Pn	01 00 49.3	+4.9
	49nm,1.2s						
SANI	**Sanana**	**10.91**	**182**	P	**Pn**	**01 00 47.9**	**+2.9**
	881nm36nm,0.8s						
MSAI	**Masohi**	**12.44**	**168**	P	**Pn**	**01 01 07.4**	**+1.5**
BNSI	**Bone**	**14.66**	**206**	P	**P**	**01 01 38.7**	**-1.5**
	20nm,1.0s						
TWG	**Pinlang**	**14.74**	**340**	Pn	**Pn**	**01 01 33.6**	**-2.9**
KAPI	**Kappang**	**15.36**	**206**	P	**Pn**	**01 01 45.8**	**+1.3**
	3.9nm,0.6s,baz=24,slow=18,SNR=1.4						
KAPI				LR	LR	01 08 12.6	
	comp=Z,119nm,20.2s,baz=29,slow=39						
SBUM	**Sibu**	**15.52**	**246**		**Pn**	**01 01 45.9**	**-0.7**
SBUM	**Sibu**	**15.52**	**246**	P	**P**	**01 01 52.0**	**+2.2**
	24nm,1.1s						
KSM	**Kuching**	**17.66**	**246**	P	**P**	**01 02 13.6**	**+0.1**
JOW	**Kunigami**	**17.90**	**5**	P	**Pn**	**01 02 19.9**	**+3.8**
	22nm,0.6s,baz=192,slow=11,SNR=10						
JOW				LR	LR	01 09 04.8	
	comp=Z,87nm,19.7s,baz=93,slow=36						
JOW	**Kunigami**	**17.90**	**5**	P	**P**	**01 02 15.2**	**-0.7**
GUMO	**Guam**	**18.67**	**74**	LR	LR	01 07 36.9	
	comp=Z,114nm,21.6s,baz=360,slow=30						
SOEI	**Soe**	**18.68**	**187**	P	**P**	**01 02 24.9**	**+0.1**
QIZ	**Qiongzhong**	**18.95**	**304**	P	**Pn**	**01 02 28.5**	**-0.4**
QIZ				S	**S**	**01 05 56.3**	**-3.2**
QIZ				LR	LR		
	comp=N,250nm,18.3s						
QIZ				LR	LR		
	comp=E,310nm,19.9s						
BATI	**Baumata**	**19.20**	**188**	P	**Pn**	**01 02 31.6**	**-0.3**
	26nm,0.6s,baz=333,slow=6.8,SNR=1.9						
BATI				LR	LR	01 10 09.0	
	comp=Z,165nm,20.9s,baz=292,slow=37						
KLNI	**Mataram**	**20.07**	**211**	P	Pn	01 02 45.3	+3.2
	51nm,0.8s						
MTN	**Manton Dam**	**22.13**	**168**	P	**P**	**01 03 01.9**	**0.0**
MTN				IAmb	IAmb	01 03 14.2	
	comp=Z,17nm,0.5s						
JCJ	**Chichijima**	**23.43**	**38**	LR	LR	01 10 47.6	
	comp=Z,32nm,21.6s,baz=266,slow=32						
NJ2	**Nanjing**	**24.06**	**344**	*eP*	**P**	**01 03 21.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
LEM	**Lembang**	**24.41**	**231**	P	**P**	**01 03 26.1**	**+1.7**
	comp=Z,48nm,0.6s,baz=262,slow=10,SNR=6.6						
	comp=Z,48nm,0.6s						
KNRA	**Kununurra**	**24.55**	**175**	P	**P**	**01 03 24.7**	**-0.7**
KNRA				IAmb	IAmb	01 03 38.5	
	comp=Z,28nm,0.8s						
JMN	**Monobe**	**25.62**	**14**	P	**P**	**01 03 34.6**	**-0.5**
JMN				IAmb	IAmb	01 03 38.6	
	comp=Z,30nm,0.8s						
JHS	**Saijyo**	**26.67**	**12**	P	**P**	**01 03 44.8**	**+0.3**
JHJ	**Hachijo jima 2**	**27.06**	**25**	LR	LR	01 12 40.2	
	comp=Z,39nm,21.3s,baz=98,slow=32						
PHRA	**Phrae**	**27.13**	**293**	P	**P**	**01 03 48.9**	**+0.1**
RPSI	**Rantau Prapat**	**28.03**	**259**	P	**P**	**01 03 56.7**	**-0.3**
CM31	**Chiang Mai Arr**	**28.29**	**292**	P	**P**	**01 03 59.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**28.29**	**292**	P	**P**	**01 03 59.7**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=107,slow=7.1,SNR=18						
CMAR				PcP	**PcP**	**01 07 11.9**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=48,slow=1.3,SNR=4.9						
CMAR				LR	LR	01 14 35.0	
	comp=Z,67nm,21.8s,baz=110,slow=35						
	comp=Z,3.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.29**	**292**	P	**P**	**01 03 59.2**	**0.0**
JGF	**Kuroka**	**28.37**	**19**	P	**P**	**01 03 59.1**	**-0.6**
JGF				IAmb	IAmb	01 04 03.0	
	comp=Z,25nm,1.3s						
CHTO	**Chiang Mai**	**28.39**	**293**	P	**P**	**01 03 59.5**	**-0.6**
KSRS	**Korea Array**	**28.43**	**3**	P	**P**	**01 04 00.5**	**+0.3**
	comp=Z,11nm,0.3s,baz=178,slow=10,SNR=10						
KSRS				LR	LR	01 17 35.4	
	comp=Z,41nm,18.4s,baz=185,slow=41						
	comp=Z,11nm,0.3s						
TIA	**Tai'an**	**28.45**	**344**	*eP*	**P**	**01 04 00.6**	**+0.2**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PZH	**PanZhiHua**	**29.20**	**310**	P	**P**	**01 04 09.5**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,4.1s						
MJAR	**Matsushiro Arr**	**29.51**	**20**	P	**P**	**01 04 09.3**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=190,slow=10,SNR=6.8						
MJAR				LR	LR	01 16 15.0	
	comp=Z,34nm,18.9s,baz=193,slow=37						
	comp=Z,1.5nm,0.4s						
WB0	**Warramunga Arr**	**29.57**	**165**	P	**P**	**01 04 09.3**	**-1.3**
WRA	**Warramunga Arr**	**29.73**	**165**	P	**P**	**01 04 10.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=331,slow=9.8,SNR=23						
WRA				PcP	**PcP**	**01 07 15.2**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=340,slow=3.0,SNR=4.9						
WRA				LR	LR	01 19 06.5	
	comp=Z,75nm,18.1s,baz=68,slow=42						
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**29.73**	**165**	P	**P**	**01 04 10.9**	**-0.9**
CD2	**Chengdu**	**30.41**	**319**	*eP*	**P**	**01 04 18.0**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MBWA	**Marble Bar**	**30.61**	**192**	P	**P**	**01 04 20.1**	**+0.4**
MBWA				IAmb	IAmb	01 04 26.8	
	comp=Z,38nm,1.6s						
PSA00	**Pilbara Seismi**	**30.99**	**192**	P	**P**	**01 04 23.1**	**+0.1**
PSA00				IAmb	IAmb	01 05 17.1	
	comp=Z,69nm,1.7s						
TNCH	**TengChong**	**31.02**	**305**	P	**P**	**01 04 24.8**	**+1.3**
TNCH				pP	pP	01 04 37.8	-1.5
TNCH				pmax	pmax		
	comp=Z,140nm,3.8s						
JMM	**Marumori**	**31.60**	**22**	P	**P**	**01 04 28.1**	**-0.2**
JMM				IAmb	IAmb	01 04 31.8	
	comp=Z,27nm,1.0s						
BJI	**Beijing**	**32.31**	**345**	P	**P**	**01 04 34.3**	**-0.1**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,160nm,5.4s						
AS31	**Alice Springs**	**33.21**	**167**	P	**P**	**01 04 41.5**	**-1.0**
ASAR	**Alice Springs**	**33.21**	**167**	P	**P**	**01 04 41.8**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=355,slow=7.5,SNR=21						
ASAR				PcP	**PcP**	**01 07 24.4**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=351,slow=2.6,SNR=10.0						
	comp=Z,1.1nm,0.3s						
ASAR	**Alice Springs**	**33.21**	**167**	P	**P**	**01 04 42.4**	**-0.1**
LZH	**Lanzhou**	**33.97**	**326**	*eP*	**P**	**01 04 47.5**	**-1.6**
LZH				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC	**Hu-ho-hao-te**	**34.42**	**340**	*eP*	**P**	**01 04 56.8**	**+3.8**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,6.2s						
CTA	**Charters Tower**	**34.82**	**146**	LR	LR	01 21 07.3	
	comp=Z,48nm,19.3s,baz=263,slow=40						
USA0B	**Ussuriysk Arra**	**35.47**	**7**	P	**P**	**01 05 01.9**	**+0.1**
USA0B				IAmb	IAmb	01 05 03.8	
	comp=Z,22nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.47**	**7**	P	**P**	**01 05 02.9**	**+1.0**
	comp=Z,23nm,0.8s,baz=194,slow=7.8,SNR=45						
	comp=Z,23nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.47**	**7**	P	**P**	**01 05 02.3**	**+0.5**
MDJ	**Mudanjiang**	**35.66**	**4**	P	**P**	**01 05 03.6**	**+0.1**
MDJ				IAmb	IAmb	01 05 05.7	
	comp=Z,24nm,1.0s						
MDJ	**Mudanjiang**	**35.66**	**4**	P	**P**	**01 05 04.8**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,340nm,5.3s						
XLT	**XiLinHaoTe**	**35.99**	**347**	*eP*	**P**	**01 05 05.8**	**-0.6**
XLT				pmax	pmax		
	comp=Z,17nm,0.8s						
XLT				pmax	pmax		
	comp=Z,200nm,3.7s						
BRDH	**Bariadhala**	**36.04**	**296**	LR	LR	01 20 09.2	
	comp=Z,105nm,18.6s,baz=86,slow=37						
SHL	**Shillong**	**36.75**	**301**	P	**P**	**01 05 12.0**	**-1.2**
SHL				IAmb	IAmb	01 05 13.7	
	comp=Z,22nm,0.9s						
ASAJ	**Asahikawa**	**37.78**	**19**	LR	LR	01 22 08.7	
	comp=Z,30nm,18.0s,baz=118,slow=38						
JKA	**Kamikawa-asahi**	**37.78**	**19**	P	**P**	**01 05 21.7**	**+0.3**
HNR	**Honiara**	**38.04**	**118**	LR	LR	01 19 57.2	
	comp=Z,568nm,19.8s,baz=312,slow=34						
LSA	**Lhasa**	**38.94**	**307**	P	**P**	**01 05 30.7**	**-1.2**
LSA				IAmb	IAmb	01 05 36.9	
	comp=Z,7.9nm,0.7s						
MORW	**Morawa**	**39.08**	**194**	P	**P**	**01 05 32.5**	**0.0**
FORT	**Forrest**	**39.51**	**178**	P	**P**	**01 05 36.0**	**-0.1**
GOMU	**GeErMu**	**39.53**	**318**	P	**P**	**01 05 40.3**	**+3.6**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,80nm,4.2s						
KLR	**Kul'dur**	**40.42**	**5**	LR	LR	01 22 37.0	
	comp=Z,28nm,20.3s,baz=96,slow=36						
TAPN	**Taplejung**	**40.87**	**302**	*eP*	**P**	**01 05 47.5**	**-0.3**
ODAN	**Odare**	**40.98**	**301**	*eP*	**P**	**01 05 48.7**	**+0.1**
ODAN	**Odare**	**40.98**	**301**	*eP*	**P**	**01 05 48.8**	**+0.1**
HEH	**HeiHe**	**41.21**	**1**	*eP*	**P**	**01 05 50.1**	**+0.2**
HEH				pmax	pmax		
	comp=Z,16nm,0.8s						
RAMN	**Ramite**	**41.68**	**301**	*eP*	**P**	**01 05 54.5**	**+0.1**
ULN	**Ulaanbaatar**	**42.13**	**341**	P	**P**	**01 05 56.8**	**-0.9**
ULN	**Ulaanbaatar**	**42.13**	**341**	P	**P**	**01 05 56.7**	**-0.9**
JIRN	**Jiri**	**42.25**	**302**	*eP*	**P**	**01 05 58.9**	**-0.3**
SONM	**Songino Array**	**42.33**	**340**	P	**P**	**01 05 58.2**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=139,slow=8.0,SNR=3.6						
	comp=Z,0.8nm,0.5s						
BBOO	**Buckleboo**	**42.51**	**168**	P	**P**	**01 06 01.0**	**+0.3**
BBOO				IAmb	IAmb	01 06 02.6	
	comp=Z,17nm,0.8s						
NWAO	**Narrogin (SRO)**	**42.53**	**191**	P	**P**	**01 06 00.4**	**-0.5**
	comp=Z,5.8nm,0.8s,baz=73,slow=12,SNR=1.7						
	comp=Z,5.8nm,0.8s						
NWAO	**Narrogin (SRO)**	**42.53**	**191**	P	**P**	**01 06 00.3**	**-0.6**
GUN	**Gumba**	**42.59**	**302**	*eP*	**P**	**01 06 01.7**	**-0.2**
PKI	**Pulchoki**	**42.88**	**301**	*eP*	**P**	**01 06 03.3**	**-1.0**
PKIN	**Phulchoki**	**42.89**	**301**	*eP*	**P**	**01 06 03.5**	**-0.8**
STKA	**Stephens Creek**	**43.09**	**161**	P	**P**	**01 06 05.0**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=348,slow=11,SNR=6.0						
STKA				LR	LR	01 27 46.2	
	comp=Z,32nm,18.5s,baz=23,slow=41						
	comp=Z,2.5nm,0.5s						
STKA	**Stephens Creek**	**43.09**	**161**	P	**P**	**01 06 05.0**	**-0.4**
DANN	**Dangsing**	**44.50**	**302**	*eP*	**P**	**01 06 16.4**	**-0.9**
PALK	**Pallekele**	**45.27**	**271**	LR	LR	01 26 41.6	
	comp=Z,42nm,18.2s,baz=206,slow=38						
WMQ	**Urumqi**	**48.37**	**323**	*eP*	**P**	**01 06 47.1**	**0.0**
WMQ				pP	pP	01 07 03.3	-0.3
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
WMQ				LR	LR		
	comp=Z,64nm,16.5s						
TOO	**Toolangi**	**49.58**	**160**	P	**P**	**01 06 57.2**	**+0.9**
TOO				IAmb	IAmb	01 07 17.0	
	comp=Z,36nm,1.8s						
DZM	**Mont Dzumac**	**49.89**	**129**	LR	LR	01 29 31.7	
	comp=Z,58nm,18.1s,baz=328,slow=38						
PEA0B	**Petropavlovsk-**	**50.80**	**24**	P	**P**	**01 07 06.4**	**+1.1**
PETK	**Petropavlovsk-**	**50.80**	**24**	P	**P**	**01 07 06.3**	**+1.1**
	comp=Z,7.3nm,0.8s,baz=210,slow=5.2,SNR=11						
	comp=Z,7.3nm,0.8s						
PETK	**Petropavlovsk-**	**50.80**	**24**	P	**P**	**01 07 05.9**	**+0.7**
MK31	**Makanchi Array**	**53.19**	**323**	P	**P**	**01 07 22.4**	**-0.8**
MK31				IAmb	IAmb	01 07 23.5	
	comp=Z,12nm,0.7s						
MKAR	**Makanchi Array**	**53.19**	**323**	P	**P**	**01 07 23.0**	**-0.2**
	comp=Z,15nm,0.6s,baz=124,slow=8.1,SNR=144						
MKAR				PcP	**PcP**	**01 08 30.1**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=110,slow=4.6,SNR=7.0						
MKAR				LR	LR	01 31 54.4	
	comp=Z,108nm,18.4s,baz=130,slow=38						
	comp=Z,15nm,0.6s						
MKAR	**Makanchi Array**	**53.19**	**323**	P	**P**	**01 07 22.6**	**-0.6**
MAKZ	**Makanchi**	**53.38**	**323**	P	**P**	**01 07 23.9**	**-0.7**
MAKZ	**Makanchi**	**53.38**	**323**	P	**P**	**01 07 23.9**	**-0.7**
MAKZ				pP	**pP**	**01 07 43.2**	**+1.8**
TARG	**Taragay, Kyrgy**	**53.76**	**316**	P	**P**	**01 07 27.5**	**-0.5**
NIL	**Nilore**	**54.62**	**305**	P	**P**	**01 07 33.4**	**-0.5**
NIL	**Nilore**	**54.62**	**305**	P	**P**	**01 07 33.8**	**0.0**
NRN	**Naryn**	**54.90**	**315**	P	**P**	**01 07 35.4**	**-0.8**
NRN				IAmb	IAmb	01 07 36.1	
	comp=Z,4.0nm,0.5s						
ZAA0	**Zalesovo Array**	**55.87**	**332**	P	**P**	**01 07 41.1**	**-1.4**
ZAA0				IAmb	IAmb	01 07 41.8	
	comp=Z,6.3nm,0.9s						
ZALV	**Zalesovo Beam**	**55.87**	**332**	P	**P**	**01 07 41.0**	**-1.4**
	comp=Z,5.0nm,0.4s,baz=118,slow=6.7,SNR=32						
ZALV				PcP	**PcP**	**01 08 39.3**	**-1.3**
	comp=Z,2.5nm,0.5s,baz=114,slow=2.9,SNR=5.9						
ZALV				LR	LR	01 35 37.1	
	comp=Z,55nm,18.1s,baz=280,slow=40						
	comp=Z,5.0nm,0.4s						
AAK	**Ala-Archa**	**56.38**	**316**	LR	LR	01 34 03.7	
	comp=Z,168nm,18.8s,baz=80,slow=38						
KURK	**Kurchatov**	**57.26**	**326**	P	**P**	**01 07 51.4**	**-0.9**
KURK	**Kurchatov**	**57.26**	**326**	P	**P**	**01 07 51.6**	**-0.7**
MSVF	**Nonsavu**	**57.46**	**118**	LR	LR	01 30 56.5	
	comp=Z,51nm,19.4s,baz=179,slow=34						
KBL	**Kabul**	**58.22**	**305**	P	**P**	**01 07 59.0**	**-0.7**
KBL				IAmb	IAmb	01 08 00.2	
	comp=Z,4.5nm,0.6s						
GAR	**Garm**	**58.27**	**310**	P	**P**	**01 07 58.7**	**-1.2**
GAR				IAmb	IAmb	01 07 60.0	
	comp=Z,12nm,0.7s						
CHGR	**Chuyangaron**	**59.05**	**310**	P	**P**	**01 08 04.5**	**-0.8**
SIMJ	**Simiganj**	**59.17**	**310**	P	**P**	**01 08 05.6**	**-0.5**
KK31	**Karatay Array**	**59.30**	**315**	P	**P**	**01 08 06.0**	**-0.8**
KK31				IAmb	IAmb	01 08 06.7	
	comp=Z,3.6nm,0.5s						
KKAR	**Karatay Array**	**59.30**	**315**	P	**P**	**01 08 06.3**	**-0.6**
KKAR				IAmb	IAmb	01 08 06.7	
	comp=Z,3.6nm,0.5s						
KKAR	**Karatay Array**	**59.30**	**315**	P	**P**	**01 08 05.8**	**-1.0**
TIXI	**Tiksi**	**62.69**	**1**	P	**P**	**01 08 29.6**	**+0.4**
	comp=Z,7.2nm,0.5s,baz=222,slow=0.1,SNR=13						
	comp=Z,7.2nm,0.5s						
TIXI	**Tiksi**	**62.69**	**1**	P	**P**	**01 08 29.3**	**+0.1**
TIXI				IAmb	IAmb	01 08 30.5	
	comp=Z,20nm,1.2s						
TIXI	**Tiksi**	**62.69**	**1**	P	**P**	**01 08 29.4**	**+0.1**
BRVK	**Borovoye**	**62.92**	**326**	P	**P**	**

comp=Z,1.8nm,0.7s
ILAR Eielson Array 80.58 26 P P 01 10 16.4 -0.4
KLMR Klimovskoe 80.76 330 *eP* **P 01 10 15.9 -1.9**
KLMR AMP 01 10 17.8
comp=Z,12nm,0.6s
J25K Salcha River, 81.23 26 P P 01 10 20.5 0.0
BMAR Burnt Mountain 81.44 23 P P 01 10 23.0 +1.6
RIDG Independent Ri 81.50 27 P P 01 10 22.7 +0.9
RIDG IAmb IAmb 01 10 24.4
comp=Z,25nm,1.1s
BCAR Beaver Creek A 82.93 27 P P 01 10 31.0 +1.7
EGAK Eagle 83.03 26 P P 01 10 31.4 +1.7
EGAK IAmb IAmb 01 10 51.1
comp=Z,14nm,1.5s
BARN Barnard Glacie 83.19 29 P P 01 10 32.0 +1.2
BARN IAmb IAmb 01 10 34.2
comp=Z,19nm,1.4s
DAWY Dawson 83.88 26 P P 01 10 35.2 +1.1
DAWY IAmb IAmb 01 10 37.2
comp=Z,12nm,1.1s
HYT Haines Junctio 85.23 29 P P 01 10 42.0 +0.8
HYT IAmb IAmb 01 12 40.9
comp=Z,20nm,1.8s
SPA0 Spitsbergen Ar 85.36 349 *eP* **P 01 10 41.2 -0.1**
INK Inuvik 85.47 22 P P 01 10 42.9 +0.9
ARA0 ARCESS Array S 85.50 340 *eP* **P 01 10 42.0 -0.1**
ARCES ARCESS Array B 85.50 340 P P 01 10 41.9 -0.2
comp=Z,5.4nm,0.6s,baz=81,slow=6.4,SNR=24
comp=Z,5.4nm,0.6s
ARCES ARCESS Array B 85.50 340 P P 01 10 41.7 -0.5
KTK1 Kautokeino 86.41 339 *eP* **P 01 10 47.2 +0.6**
BRTR Keskin Array B 86.50 309 P P 01 10 46.5 -1.3
comp=Z,0.7nm,0.6s,baz=113,slow=4.4,SNR=7.5
comp=Z,0.7nm,0.6s
FARO Faro, Yukon 86.91 27 P P 01 10 50.4 +1.1
FARO IAmb IAmb 01 10 53.4
comp=Z,6.4nm,1.1s
FIA1 FINESS Array S 87.14 332 P P 01 10 49.4 -0.9
FINES FINESS Array B 87.14 332 P P 01 10 49.4 -0.9
comp=Z,2.8nm,0.4s,baz=75,slow=4.9,SNR=42
comp=Z,2.8nm,0.4s
A36M Sachs Harbour 87.15 17 P P 01 10 50.5 +0.3
A36M IAmb IAmb 01 10 53.6
comp=Z,11nm,0.8s
AKASG Malin Array Be 87.69 321 P P 01 10 51.7 -1.5
comp=Z,1.3nm,0.5s,baz=66,slow=5.1,SNR=8.1
comp=Z,1.3nm,0.5s
C36M Paulatuk 88.45 20 P P 01 10 56.9 +0.5
C36M IAmb IAmb 01 10 57.6
comp=Z,5.9nm,0.6s
MAW Mawson 88.49 200 P P 01 10 57.3 +0.8
comp=Z,4.8nm,1.0s,baz=63,slow=13,SNR=5.9
comp=Z,4.8nm,1.0s
MAW Mawson 88.49 200 P P 01 10 57.2 +0.7
VNDA Vanda 88.58 173 P P 01 10 57.4 +0.6
comp=Z,2.5nm,0.8s,baz=310,slow=7.6,SNR=11
comp=Z,2.5nm,0.8s
VNDA Vanda 88.58 173 P P 01 10 57.1 +0.3
STEI Steigen 89.55 339 *eP* **P 01 11 00.3 -1.3**
EUNU Eureka 89.57 5 P P 01 11 01.7 +0.1
EUNU IAmb IAmb 01 11 14.9
comp=Z,23nm,1.9s
FAUS Fauske 89.75 339 *eP* **P 01 10 59.6 -3.0**
ELL Elmali 89.90 307 P P 01 11 03.0 -1.1
BUR08 Bucovina Ar. S 90.94 318 P P 01 11 08.1 -0.6
BUR08 IAmb IAmb 01 11 41.6
comp=Z,20nm,1.9s
NSS Namsos 92.17 337 *eP* **P 01 11 12.1 -1.7**
NOA NORSAR Array B 94.02 334 P P 01 11 20.6 -1.9
comp=Z,0.8nm,0.8s,baz=73,slow=6.4,SNR=4.6
NOA LR LR 01 57 58.6
comp=Z,41nm,20.6s,baz=280,slow=38
comp=Z,0.8nm,0.8s
GERES GERESS Array B 97.84 322 P P 01 11 39.4 -0.9
comp=Z,0.2nm,0.4s,baz=81,slow=4.2,SNR=4.5
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 118.58 50 PKP PKiKP 01 16 54.0 +1.0
comp=Z,0.4nm,0.6s,baz=136,slow=0.4,SNR=6.3
TORD Torodi Ar. Bea 120.89 291 PKP PKPdf 01 16 57.1 -0.5
comp=Z,1.0nm,0.7s,baz=53,slow=2.4,SNR=8.1
PLCA Paso Flores 144.92 157 PKP PKPdf 01 17 42.3 +0.5
comp=Z,4.4nm,0.8s,baz=178,slow=4.1,SNR=10

*IDC **17** 01:01:38.8±1.4, 41°.63S×174°.22E, h0km, mb3.9/2, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=41.9km s-min=32.8km az=140.0*
*NOU **17** 01:01:39.7, 41°.88S×174°.60E, h3km, MLv4.4/10, Cook Strait, New Zealand*
*WEL **17** 01:01:41.9±0.4, 42°.3S±3°×17°.4E±°, h5km, M4.2/30, ML4.4/15, MLv4.2/30, Error ellipse: s-maj=0.0km s-min=0.0km az=163.5*
ISC 17 01:01:41.7±1.0, 41°.72S±0°.03×174°.39E±0°.03, h17km±6km, n64, σ1s62/68, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**259**	**P**	**P**	**Pg**	**01 01 45.1**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.39**	**271**	**P**	**P**	**Pg**	**01 01 49.3**	**-0.4**
BSWZ				S		**Sg**	**01 01 55.5**	**+0.4**
TUWZ	**Tuamarina**	**0.45**	**311**	**P**	**P**	**Pg**	**01 01 50.0**	**-0.8**
TUWZ				S		**Sg**	**01 01 56.5**	**-0.3**
SNZO	**South Karori**	**0.47**	**30**	**P**	**P**	**Pg**	**01 01 51.0**	**-0.2**
TCW	**Tory Channel**	**0.52**	**350**	**P**	**P**	**Pg**	**01 01 51.2**	**-0.9**
WEL	**Wellington**	**0.52**	**33**	**P**	**P**	**Pg**	**01 01 52.0**	**-0.1**
PLWZ	**Palliser**	**0.66**	**77**	**P**	**P**	**Pb**	**01 01 55.7**	**+0.8**
MSWZ	**Moikau Station**	**0.71**	**65**	**P**	**P**	**Pb**	**01 01 56.0**	**+0.3**
PAWZ	**Paruwai Farm**	**0.85**	**67**	**P**	**P**	**Pb**	**01 01 58.7**	**+0.7**
NNZ	**Nelson**	**0.92**	**303**	**P**	**P**	**Pg**	**01 01 58.2**	**-1.3**
DUWZ	**D'Urville Isla**	**0.99**	**339**	**P**	**P**	**Pg**	**01 02 00.1**	**-0.7**
TRWZ	**Traveller**	**1.02**	**72**	**P**	**P**	**Pg**	**01 02 00.9**	**-0.7**
OGWZ	**Otaki Gorge**	**1.08**	**33**	**P**	**P**	**Pg**	**01 02 01.5**	**-1.0**
THZ	**Tophouse**	**1.11**	**267**	**P**	**P**	**Pb**	**01 02 02.4**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.18**	**46**	**P**	**P**	**Pb**	**01 02 03.4**	**-0.3**
MRNZ	**Matariki Terra**	**1.27**	**284**	**P**	**P**	**Pn**	**01 02 05.3**	**+0.5**
TKNZ	**Takaka Hill**	**1.28**	**302**	**P**	**P**	**Pn**	**01 02 04.8**	**-0.1**
TKNZ				S		**Sb**	**01 02 22.4**	**+0.8**
MRZ	**Mangatainoka R**	**1.39**	**41**	**P**	**P**	**Pn**	**01 02 06.3**	**-0.1**
QRZ	**Quartz Range**	**1.67**	**302**	**P**	**P**	**Pn**	**01 02 11.7**	**+1.5**
QRZ	**Quartz Range**	**1.67**	**302**	**P**	**P**	**Pn**	**01 02 11.3**	**+1.1**
BFZ	**Birch Farm**	**1.74**	**54**	**P**	**P**	**Pn**	**01 02 10.2**	**-1.0**
DSZ	**Dennistone Nort**	**1.94**	**268**	**P**	**P**	**Pn**	**01 02 15.0**	**+1.0**
AMCZ	**Amberley**	**1.94**	**221**	**P**	**P**	**Pg**	**01 02 20.7**	**+1.7**
LREZ	**Lake Rotokare**	**2.26**	**0**	**P**	**P**	**Pb**	**01 02 22.1**	**0.0**
NMEZ	**Namu Road**	**2.34**	**350**	**P**	**P**	**Pb**	**01 02 23.2**	**-0.2**
INZ	**Inchbonnie**	**2.41**	**244**	**P**	**P**	**Pb**	**01 02 26.1**	**+1.5**
KHEZ	**Kahui Hut**	**2.44**	**353**	**P**	**P**	**Pn**	**01 02 23.7**	**+2.7**
KHEZ	**Kahui Hut**	**2.44**	**353**	**P**	**P**	**Pn**	**01 02 23.6**	**+2.7**
NEZ	**North Egmont**	**2.46**	**355**	**P**	**P**	**Pb**	**01 02 24.3**	**-1.3**
MTVZ	**Mangateitei**	**2.48**	**20**	**P**	**P**	**Pg**	**01 02 27.9**	**-1.3**
NBEZ	**Newall Road No**	**2.48**	**351**	**P**	**P**	**Pn**	**01 02 24.0**	**+2.5**
PKE	**Pukeiti**	**2.54**	**353**	**P**	**P**	**Pn**	**01 02 25.3**	**+3.0**
DRZ	**Dome Shelter**	**2.60**	**20**	**P**	**P**	**Pb**	**01 02 28.3**	**+0.2**
MHEZ	**Mangahewa**	**2.64**	**359**	**P**	**P**	**Pg**	**01 02 31.9**	**-0.5**
CKHZ	**Cape Kidnapper**	**2.90**	**46**	**P**	**P**	**Pb**	**01 02 34.3**	**+1.2**
KATZ	**Kakaramea**	**2.92**	**20**	**P**	**P**	**Pb**	**01 02 34.1**	**+0.6**
RITZ	**Rihia Road**	**2.96**	**23**	**P**	**P**	**Pb**	**01 02 34.1**	**0.0**
RATZ	**Rangitukua**	**3.04**	**21**	**P**	**P**	**Pb**	**01 02 36.4**	**+0.9**
ARHZ	**Aropaoanui**	**3.16**	**40**	**P**	**P**	**Pg**	**01 02 44.5**	**+2.2**
RPZ	**Rata Peaks**	**3.17**	**230**	Pn	**Pn**	**Pn**	**01 02 29.4**	**-1.4**
	6.5nm,0.3s,baz=66,slow=2.2,SNR=15							
RPZ				Sn	**Sn**	**Sn**	**01 03 07.0**	**-1.3**
	9.2nm,0.3s,baz=350,slow=12,SNR=1.7							
	22nm,0.4s							
RPZ	**Rata Peaks**	**3.17**	**230**	P	**Pn**	**Pn**	**01 02 30.7**	**-0.1**
HIZ	**Hauiti**	**3.23**	**6**	P	**Pn**	**Pn**	**01 02 33.4**	**+1.8**
GCSZ	**Gaunt Creek Bo**	**3.40**	**241**	P	**Pn**	**Pn**	**01 02 35.4**	**+1.3**
RAHZ	**Arahi**	**3.48**	**37**	P	**Pg**	**Pn**	**01 02 48.8**	**+0.5**
ALRZ	**Allen Road**	**3.49**	**26**	P	**Pb**	**Pn**	**01 02 42.7**	**-0.4**
RTZ	**Ruatahuna**	**3.68**	**33**	P	**Pb**	**Pn**	**01 02 49.5**	**+3.1**
MUGZ	**Murupara**	**3.72**	**30**	P	**Pb**	**Pn**	**01 02 45.9**	**-1.1**
RAGZ	**Rawiri**	**3.97**	**37**	P	**Pg**	**Pn**	**01 02 54.8**	**-3.0**
URZ	**Urewera**	**4.04**	**32**	P	**Pb**	**Pn**	**01 02 42.7**	**-0.1**
ODZ	**Otahua Downs**	**4.30**	**218**	P	**Pn**	**Pn**	**01 02 45.6**	**-0.8**
RUGZ	**Raukumara Rang**	**4.52**	**35**	P	**Pb**	**Pn**	**01 03 00.5**	**-0.3**
AWAZ	**Awhitu Peninsu**	**4.66**	**2**	P	**Pn**	**Pn**	**01 02 53.2**	**+1.9**
JCZ	**Jackson Bay**	**4.74**	**238**	P	**Pn**	**Pn**	**01 02 53.3**	**+0.7**
JCZ	**Jackson Bay**	**4.74**	**238**	P	**Pn**	**Pn**	**01 02 56.7**	**+4.2**
ETAZ	**East Tamaki Re**	**4.78**	**5**	P	**Pn**	**Pn**	**01 02 57.4**	**+4.4**
MBAZ	**Motutapu North**	**4.96**	**5**	P	**Pn**	**Pn**	**01 02 59.8**	**+4.3**
OUZ	**Omahuta**	**6.52**	**354**	P	**Pn**	**Pn**	**01 03 19.0**	**+2.0**
OUZ	**Omahuta**	**6.52**	**354**	P	**Pn**	**Pn**	**01 03 18.9**	**+2.0**
ASAR	**Alice Springs**	**38.13**	**285**	P	**P**	**P**	**01 08 58.5**	**-1.6**

0.5nm,0.4s,baz=121,slow=6.7,SNR=6.8
0.5nm,0.4s
WRA Warramunga Arr 40.20 290 P **P 01 09 15.6 -1.7**
1.1nm,0.5s,baz=128,slow=8.0,SNR=9.9
1.1nm,0.5s
ARCES ARCESS Array B 147.79 340 PKPbc **PKPdf 01 21 23.2 +1.6**
2.1nm,0.8s,baz=45,slow=1.9,SNR=4.3
BRTR Keskin Array B 150.36 279 PKPbc **PKPbc 01 21 31.9 -0.2**
0.8nm,0.7s,baz=112,slow=5.7,SNR=4.1
TORD Torodi Ar. Bea 150.83 195 PKPbc **PKPbc 01 21 33.7 0.0**
1.2nm,0.7s,baz=146,slow=2.2,SNR=11
FINES FINESS Array B 152.57 327 PKPbc **PKPbc 01 21 34.6 -1.6**
1.5nm,0.6s,baz=48,slow=2.8,SNR=4.1

*JMA **17** 01:24:00.8±0.2, 43°.0N±0°.6×145°.5E±0°.8, h90km±1km, MV3.1/39, OFF NEMURO PENINSULA*
*SKHL **17** 01:24:01.6±0.4, 42°.90N×145°.50E, h79km±3km, mb4.6/6*
ISC 17 01:24:01.6±2.0, 43°.00N±0°.08×145°.44E±0°.06, h85km±10km, n14, σ0s41/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.22**	**293**	P	P	**Pn**	**01 24 14.3**	**+0.3**
JKHN				S	S	**Sn**	**01 24 24.4**	**+1.2**
NMR	**Nemuro--Hokkai**	**0.43**	**30**	*i* P	P	**Pn**	**01 24 14.8**	**-0.4**
NMR				AMB	AMB		01 24 15.1	
	220nm,0.2s							
NMR				*i* S	S	**Sn**	**01 24 24.8**	**-0.5**
NMR				A	A		01 24 25.3	
	340nm,0.2s							
NMR				A	A		01 24 25.3	
	530nm,0.2s							
NEM2	**Nemuro 2**	**0.43**	**31**	P	**Pn**	**Pn**	**01 24 14.8**	**-0.4**
NEM2				S	S	**Sn**	**01 24 25.1**	**-0.3**
AKK	**Akkeshi**	**0.44**	**273**	*i* P	**Pn**	**Pn**	**01 24 15.2**	**-0.1**
AKK				AMB	AMB		01 24 15.4	
	220nm,0.2s							
AKK				*i* S	S	**Sn**	**01 24 25.8**	**+0.4**
AKK				A	A		01 24 26.3	
	1μm,0.3s							
AKK				A	A		01 24 26.3	
	820nm,0.3s							
JAK	**Akkeshi**	**0.54**	**270**	P	**Pn**	**Pn**	**01 24 16.0**	**-0.1**
JAK				eS	S	**Sn**	**01 24 27.4**	**+0.4**
JNK	**Nakash**	**0.79**	**319**	*eP*	**Pn**	**Pn**	**01 24 18.0**	**-0.6**
JNK				eS	S	**Sn**	**01 24 30.8**	**-0.4**
JRA	**Rausu**	**0.97**	**346**	*eP*	**Pn**	**Pn**	**01 24 20.4**	**-0.2**
JRA				eS	S	**Sn**	**01 24 35.1**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.08**	**16**	*eP*	**Pn**	**Pn**	**01 24 22.0**	**+0.1**
YUK				AMB	AMB		01 24 22.7	
	120nm,0.2s							
YUK				eS	S	**Sn**	**01 24 37.0**	**-0.1**
YUK				A	A		01 24 40.3	
	810nm,0.4s							
YUK				A	A		01 24 40.3	
	1μm,0.4s							
JOB	**Onbets**	**1.18**	**266**	*eP*	**Pn**	**Pn**	**01 24 22.9**	**-0.2**
JOB				eS	S	**Sn**	**01 24 39.3**	**+0.1**
JAR	**Ashorobuto**	**1.26**	**284**	*eP*	**Pn**	**Pn**	**01 24 23.9**	**-0.1**
JAR				eS	S	**Sn**	**01 24 41.1**	**+0.2**
JTKR	**Abashiri--Toko**	**1.48**	**312**	*eP*	**Pn**	**Pn**	**01 24 26.9**	**+0.1**
JTKR				eS	S	**Sn**	**01 24 46.0**	**+0.2**
JCH	**Churui**	**1.57**	**257**	*eP*	**Pn**	**Pn**	**01 24 27.8**	**-0.2**
JCH				eS	S	**Sn**	**01 24 47.5**	**-0.5**
JMP	**Maruseppu**	**1.82**	**304**	*eP*	**Pn**	**Pn**	**01 24 31.3**	**+0.1**
JMP				eS	S	**Sn**	**01 24 53.7**	**0.0**
KUR	**Kuril'sk**	**2.84**	**37**	*eP*	**Pn**	**Pn**	**01 24 45.3**	**+0.5**
KUR				AMB	AMB		01 24 47.8	
	50nm,0.3s							
KUR				eS	S	**Sn**	**01 25 17.9**	**-0.1**
KUR				A	A		01 25 20.6	
	70nm,0.3s							
KUR				A	A		01 25 20.6	
	50nm,0.3s							

*IDC **17** 01:33:37.2±0.9, 33°.81N×24°.74E, h0km, mb4.1/12, mbtmp4.0/21, ML3.8/9, MS3.8/1, Error ellipse: s-maj=14.7km s-min=13.9km az=130.0*
*ISK **17** 01:33:41.2, 33°.86N×24°.69E, h73km, ML3.7/13*
*THE **17** 01:33:41.9, 33°.90N×24°.73E, h2km±1km, ML3.1/3, Error ellipse: s-maj=2.6km s-min=1.0km az=172.0*
*GII **17** 01:33:46.6±0.0, 33°.65N×25°.45E, h10km, Mm3.7/2*
ISC 17 01:33:38.5±1.9, 33°.73N±0°.06×24°.83E±0°.05, h15km±12km, n80, σ2s07/94, mb4.0/12, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.27**	**331**	PN	**Pb**	**Pn**	**01 34 01.9**	**-0.1**
GVD				SN	**Sb**	**Sn**	**01 34 17.0**	**-1.1**
GVD	**Gavdhos**	**1.27**	**331**	P	**Pn**	**Pn**	**01 34 01.8**	**+0.2**
GVD				S	**Sb**	**Sn**	**01 34 17.9**	**-0.2**
	1μm,0.6s							
GVDS	**Gavdos**	**1.27**	**332**	PN	**Pn**	**Pn**	**01 34 01.7**	**+0.1**
GVDS				SN	**Sb**	**Sn**	**01 34 17.2**	**-1.0**
SIVA	**Sivas**	**1.29**	**359**	P	**Pg**	**Pn**	**01 34 02.8**	**-0.5**
SIVA				S	**Sn**	**Sn**	**01 34 18.7**	**-0.2**
IDI	**Anoyia**	**1.56**	**2**	Pg	**Pn**	**Pn**	**01 34 06.2**	**+0.5**
	17nm,0.3s,baz=190,slow=12,SNR=102							
IDI				Lg	Lg		01 34 24.4	
	19nm,0.3s,baz=300,slow=19,SNR=8.1							
IDI				LR	LR		01 35 03.6	
	comp=Z,289nm,19.4s,baz=152,slow=59							
IDI	**Anoyia**	**1.56**	**2**	PN	**Pn**	**Pn**	**01 34 06.4**	**+0.7**
IDI				SN	**Sn**	**Sn**	**01 34 24.8**	**-0.9**
IDI	**Anoyia**	**1.56**	**2**	P	**Pb**	**Pn**	**01 34 06.9**	**-0.1**
IDI				S	**Sb**	**Sn**	**01 34 26.2**	**-0.4**
	330nm,0.5s							
HRKL	**Herakleio**	**1.60**	**8**	PN	**Pb**	**Pn**	**01 34 07.2**	**-0.4**
KNDR	**Palaiochora Ch**	**1.77**	**328**	PN	**Pn**	**Pn**	**01 34 09.1**	**+0.5**
ZKR	**Zakros**	**1.80**	**39**	PN	**Pb**	**Pn**	**01 34 11.1**	**0.0**
IMMV	**Iera Moni Meta**	**1.86**	**338**	PN	**Pn**	**Pn**	**01 34 10.3**	**+0.5**
IMMV	**Iera Moni Meta**	**1.86**	**338**	P	**Pn**	**Pn**	**01 34 10.5**	**+0.7**
IMMV				S	**Sn**	**Sn**	**01 34 33.4**	**+0.3**
	498nm,1.0s							
ANKY	**Antikythira Is**	**2.48**	**330**	P	**Pn**	**Pn**	**01 34 19.4**	**+1.2**
KARP	**Karpathos**	**2.65**	**46**	PN	**Pn**	**Pn**	**01 34 23.3**	**+2.7**
SANT	**Santorini**	**2.69**	**11**	PN	**Pn**	**Pn**	**01 34 22.2**	**+1.0**
KTHA	**Kythira Island**	**2.91**	**331**	PN	**Pn**	**Pn**	**01 34 24.6**	**+0.4**
KTHA	**Kythira Island**	**2.91**	**331**	P	**Pn**	**Pn**	**01 34 25.8**	**+1.6**
ARG	**Arkhangelos**	**3.67**	**47**	PN	**Pn**	**Pn**	**01 34 37.7**	**+3.0**
TURN	**Turunc**	**4.13**	**42**	PN	**Pn**	**Pn**	**01 34 43.6**	**+2.6**
ITM	**Ithomi**	**4.18**	**326**	PN	**Pn**	**Pn**	**01 34 42.4**	**+0.7**
DALY	**Dalyan (Mula)**	**4.39**	**44**	PN	**Pn**	**Pn**	**01 34 47.5**	**+2.9**
YER	**Yerkesik**	**4.42**	**39**	PN	**Pn**	**Pn**	**01 34 47.4**	**+2.4**
AKAS	**Kas**	**4.65**	**56**	PN	**Pn**	**Pn**	**01 34 50.8**	**+2.5**
CAME	**Cameli-Denizli**	**4.87**	**47**	PN	**Pn**	**Pn**	**01 34 53.8**	**+2.6**
ELL	**Elmali**	**5.14**	**53**	PN	**Pn**	**Pn**	**01 34 57.8**	**+2.9**
APMY	**Acipayam-Deniz**	**5.22**	**43**	PN	**Pn**	**Pn**	**01 34 58.4**	**+2.4**
OHR	**Ohrid**	**8.04**	**338**	*i* Pn	**Pn**	**Pn**	**01 35 34.8**	**+0.1**
STIP	**Stip**	**8.22**	**346**	*i* Pn	**Pn**	**Pn**	**01 35 38.9**	**+1.7**
KZIT	**Kziot**	**8.57**	**107**	Pn	**Pn**	**Pn**	**01 35 43.7**	**+1.7**
OFRI	**`Ofer**	**8.59**	**95**	Pn	**Pn**	**Pn**	**01 35 44.4**	**+2.2**
AMAZ	**Amatzia**	**8.79**	**102**	Pn	**Pn**	**Pn**	**01 35 46.5**	**+1.6**
AMAZ				Sn	**Sn**	**Sn**	**01 37 20.2**	**-3.5**
MMA0B	**Mount Meron ar**	**8.88**	**92**	Pn	**Pn**	**Pn**	**01 35 48.3**	**+2.1**
MMA0B				Sn	**Sn**	**Sn**	**01 37 23.7**	**-2.3**
MMAI	**Mount Meron Ar**	**8.88**	**92**	Pn	**Pn**	**Pn**	**01 35 47.4**	**+1.2**
	4.0nm,0.3s,baz=265,slow=12,SNR=19							
MMAI				Sn	**Sn**	**Sn**	**01 37 24.9**	**-1.1**
	6.1nm,0.3s,baz=239,slow=17,SNR=3.0							
	2.4nm,0.3s							
MMLI	**Mount Malkishu**	**8.98**	**95**	Pn	**Pn**	**Pn**	**01 35 49.0**	**+1.3**
MMLI				Sn	**Sn**	**Sn**	**01 37 24.7**	**-3.9**
YTIR	**Yattir**	**9.00**	**102**	Pn	**Pn**	**Pn**	**01 35 49.4**	**+1.5**
YTIR				Sn	**Sn**	**Sn**	**01 37 26.4**	**-2.7**
HMDT	**Nahal Hemdat**	**9.11**	**96**	Pn	**Pn**	**Pn**	**01 35 51.3**	**+2.0**
KRMI	**Paran Flat**	**9.15**	**110**	Pn	**Pn**	**Pn**	**01 35 51.9**	**+2.0**
BRTR	**Keskin Array B**	**9.26**	**47**	Pn	**Pn**	**Pn**	**01 35 53.3**	**+1.7**
	0.1nm,0.3s,baz=224,slow=14,SNR=6.8							
BRTR				Sn	**Sn**	**Sn**	**01 37 34.5**	**-1.1**
	0.1nm,0.3s,baz=360,slow=12,SNR=2.3							
	2.0nm,0.7s							
VAE	**Valguarnera**	**9.27**	**297**	Pn	**Pn**	**Pn**	**01 35 51.5**	**-0.1**
	1.0nm,0.3s,baz=105,slow=12,SNR=8.2							
VAE				Sn	Sn		01 37 23.8	-12
	0.6nm,0.3s,baz=193,slow=22,SNR=1.4							
	11nm,0.7s							
PRNI	**Paran**	**9.27**	**109**	Pn	**Pn**	**Pn**	**01 35 54.6**	**+3.0**
PRNI				Sn	**Sn**	**Sn**	**01 37 32.2**	**-3.4**
HRFI	**Mount Harif**	**9.43**	**110**	Pn	**Pn**	**Pn**	**01 35 56.2**	**+2.4**
HRFI				Sn	**Sn**	**Sn**	**01 37 36.4**	**-3.1**

MBRI Mt Berech 9.44 112 Pn Pn 01 35 55.9 +1.9
EIL Elat 9.53 112 Pn Pn 01 35 57.1 +2.0
0.7nm,0.3s,baz=336,slow=12,SNR=16
EIL Sn **Sn 01 37 38.1 -3.7**
1.4nm,0.3s,baz=48,slow=15,SNR=7.0
3.8nm,0.6s
EIL Elat 9.53 112 Pn Pn 01 35 56.9 +1.8
EIL Sn **Sn 01 37 38.9 -3.0**
DRME Dracevica, Mon 9.54 334 *eP* **Pn 01 35 52.4 -2.9**
HCY Herceg Novi 10.03 332 *eP* **Pn 01 35 58.6 -3.4**
ASF Jabal al Asfar 10.26 95 Pn Pn 01 36 07.2 +1.9
0.5nm,0.3s,baz=262,slow=19,SNR=1.7
ASF Sn **Sn 01 37 58.2 -1.8**
0.4nm,0.3s,baz=129,slow=17,SNR=2.3
1.0nm,0.3s
TREB Trebinje 10.32 332 *eP* **Pn 01 36 01.7 -4.2**
BRY Bratogost 10.40 334 *eP* **Pn 01 36 02.7 -4.5**
UPM Unac-Piva 10.54 336 *eP* Pn 01 36 03.9 -5.1
DIVS Divibare 11.02 341 *eP* **Pn 01 36 11.6 -3.9**
SRKY Kupres RS 11.92 332 *eP* **Pn 01 36 24.0 -3.9**
MGRS Mrkonjic Grad 12.24 333 *eP* **Pn 01 36 28.5 -3.8**
BLY Banja Luka 12.49 334 *eP* Pn 01 36 30.7 -4.9
A050A Klekovaca 12.51 332 *eP* **Pn 01 36 32.8 -3.2**
A051A Mrakovica 12.82 334 *eP* **Pn 01 36 37.0 -3.1**
BOJS Bojanci 13.87 331 *eP* **Pn 01 36 50.4 -4.0**
CEY Cerknica 14.40 329 *eP* Pn 01 36 54.9 -6.8
VRAC Vranov 16.73 341 Pn **Pn 01 37 33.4 +1.3**
0.3nm,0.3s,baz=157,slow=10,SNR=13
8.5nm,0.9s
CKRC Cesky Krumlov 17.00 336 *eP* **Pn 01 37 36.6 +1.0**
TREC Trest 17.03 339 *eP* **P 01 37 38.2 +0.4**
GERES GERESS Array B 17.23 335 P **Pn 01 37 37.6 -0.9**
0.2nm,0.3s,baz=146,slow=14,SNR=9.4
8.8nm,0.6s
AKASG Malin Array Be 17.27 9 P Pn 01 37 39.3 +0.5
1.9nm,0.3s,baz=201,slow=10,SNR=9.5
0.2nm,0.2s
DAVOX Davos/Dischmat 17.29 323 P P 01 37 40.4 -0.4
0.2nm,0.3s,baz=125,slow=12,SNR=5.5
2.6nm,0.9s
KHC Kasperske Hory 17.52 335 *eP* **P 01 37 43.4 +0.3**
KHC *ex* x 01 37 51.6
PRU Pruhonice 17.93 338 *eP* **Pn 01 37 47.4 +0.2**
ESDC Sonseca Array 23.77 293 P **P 01 38 50.6 +0.2**
1.0nm,0.7s,baz=82,slow=8.9,SNR=10
1.0nm,0.7s
MDT Midelt 24.59 276 P P 01 38 58.2 +0.1
2.1nm,0.9s,baz=61,slow=15,SNR=4.8
2.1nm,0.9s
BELG Belogornoye 24.83 34 P P 01 38 59.9 0.0
10nm,0.7s,baz=204,slow=12,SNR=2.8
10nm,0.7s
HFS Hagfors 27.41 348 P P 01 39 22.5 -0.7
1.9nm,0.3s,baz=160,slow=11,SNR=17
1.9nm,0.3s
FINES FINESS Array B 27.74 1 P P 01 39 24.8 -1.3
2.8nm,0.9s,baz=169,slow=10,SNR=5.2
2.8nm,0.9s
NB2 NORSAR Subarra 28.72 346 P P 01 39 33.8 -1.0
comp=Z,0.5nm,0.4s,baz=146,slow=9.3
NOA NORSAR Array B 28.72 346 P P 01 39 33.9 -1.0
comp=Z,0.4nm,0.3s,baz=153,slow=8.5,SNR=5.5
comp=Z,0.4nm,0.3s
EKA Eskdalemuir Ar 29.07 327 P P 01 39 39.4 +1.4
comp=Z,1.2nm,0.7s,baz=114,slow=8.3,SNR=3.5
comp=Z,1.2nm,0.7s
TORD Torodi Ar. Bea 29.37 231 P P 01 39 42.3 +1.3
comp=Z,1.2nm,0.6s,baz=37,slow=9.1,SNR=11
comp=Z,1.2nm,0.6s
ARCES ARCESS Array B 35.86 0 P P 01 40 37.7 +0.4
comp=Z,2.1nm,0.9s,baz=192,slow=8.7,SNR=5.6
comp=Z,2.1nm,0.9s
MKAR Makanchi Array 44.80 55 P P 01 41 53.5 +1.9
comp=Z,4.1nm,0.5s,baz=271,slow=7.6,SNR=76
comp=Z,4.1nm,0.5s
ZALV Zalesovo Beam 46.20 45 P P 01 42 03.4 +0.9
comp=Z,4.6nm,0.4s,baz=269,slow=8.5,SNR=18
comp=Z,4.6nm,0.4s
SONM Songino Array 60.61 50 P P 01 43 50.3 +1.7
comp=Z,1.2nm,0.7s,baz=271,slow=8.1,SNR=5.6
comp=Z,1.2nm,0.7s
SUR Sutherland 65.86 184 LR LR 02 16 25.8
comp=Z,60nm,18.0s,baz=234,slow=39

WEL 17 01:41:09.4±0.4, 43°S±2°×17°3E±°, h9km±3km, M3.4/17, ML3.6/13, MLv3.4/17, Error ellipse: s-maj=0.0km s-min=0.0km az=95.8, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.34**	**150**	P	P	**Pg**	01 41 17.2	-0.3
GVZ				S	S	**Sg**	01 41 22.9	-0.1
LTZ	**Lake Ta

GRTK	**Grand Turk**	**2.53**	**347**	*i* P		**Pn**	**02 05 01.8**	**+1.3**
GRTK				*e*S		**Sn**	**02 05 31.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**3.40**	**107**	*i* P		**Pn**	**02 05 13.6**	**+1.7**
CRPR				*e*S		**Sn**	**02 05 49.1**	**-2.6**
CRPR				IAML			02 05 54.3	
	comp=Z,16nm,0.6s							
MASC	**Masc**	**3.67**	**289**	*e*P		**Pn**	**02 05 15.7**	**+0.2**
MASC				*e*S		**Sn**	**02 05 57.6**	**-0.6**
MASC				*e*Sg			02 05 58.4	
MASC				IAML			02 05 58.6	
	comp=E,2.8nm,0.1s							
MASC				IAML			02 05 58.9	
	comp=N,2.3nm,0.1s							
MASC	**Masc**	**3.67**	**289**	*e*P		**Pn**	**02 05 16.4**	**+0.9**
MASC				*e*S		**Sn**	**02 05 57.6**	**-0.6**
MASC				IAML			02 05 58.6	
	comp=E,2.8nm,0.1s							
MASC				IAML			02 05 58.9	
	comp=N,2.3nm,0.1s							
MASC	**Masc**	**3.67**	**289**	*i* P		**Pn**	**02 05 16.6**	**+1.0**
MASC				*e*S		**Sn**	**02 05 57.7**	**-0.6**
MASC				IAML			02 06 04.0	
	comp=Z,3.9nm,0.7s							
GTBY	**Guantanamo Bay**	**4.42**	**282**	*e*P		**Pn**	**02 05 25.8**	**+0.3**
GTBY				*e*S		**Sn**	**02 06 14.8**	**-1.3**
GTBY	**Guantanamo Bay**	**4.42**	**282**	*e*P		**Pn**	**02 05 25.8**	**+0.3**
GTBY				*e*S		**Sn**	**02 06 14.8**	**-1.3**
RCC	**Rio Carpintero**	**4.97**	**282**	*e*P		**Pn**	**02 05 33.2**	**+0.3**
RCC				*e*S		**Sn**	**02 06 27.1**	**-2.2**
RCC				IAML			02 06 29.0	
	comp=E,0.9nm,0.3s							
RCC				*e*S			02 06 29.2	
RCC	**Rio Carpintero**	**4.97**	**282**	*e*P		**Pn**	**02 05 33.5**	**+0.5**
RCC				*e*S		**Sn**	**02 06 27.9**	**-1.5**
RCC				IAML			02 06 29.0	
	comp=E,0.9nm,0.3s							
RCC				*e*Sg			02 06 29.1	
RCC				IAML			02 06 29.4	
	comp=N,1.3nm,0.4s							

*IDC **17** 02:08:54.3±4.7,20.˚63S×179.˚22W,h650km±31km,mb3.1/3, mbtmp4.2/4,Error ellipse: s-maj=124.9km s-min=30.4km az=143.0*

ISC 17 02:08:50.4±3.0,**20.˚8S**±1.˚0×**178.˚9W**±0.˚7,**h619**km,**n6, σ0§84/6,mb3.8/3,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.19**	**316**	P	P	02 10 22.8	+4.0
	31nm,0.5s,baz=154,slow=3.9,SNR=48						
STKA	**Stephens Creek**	**36.90**	**244**	P	**P**	**02 15 08.2**	**-0.6**
	1.4nm,0.5s,baz=96,slow=9.3,SNR=2.9						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**43.62**	**257**	P	**P**	**02 16 02.6**	**+0.3**
	3.4nm,0.6s,baz=99,slow=7.6,SNR=30						
ASAR				PcP	**PcP**	**02 17 36.6**	**+1.2**
	0.2nm,0.4s,baz=94,slow=4.7,SNR=1.6						
	3.4nm,0.6s						
WRA	**Warramunga Arr**	**43.72**	**263**	P	**P**	**02 16 03.1**	**+0.1**
	1.0nm,0.3s,baz=97,slow=7.7,SNR=69						
	1.0nm,0.3s						
AKASG	**Malin Array Be**	**142.85**	**330**	PKP	**PKPdf**	**02 27 14.3**	**-0.2**
	1.2nm,0.4s,baz=43,slow=3.8,SNR=7.9						
GERES	**GERESS Array B**	**150.25**	**343**	PKPbc	**PKPbc**	**02 27 32.4**	**-0.5**
	0.2nm,0.5s,baz=20,slow=3.2,SNR=3.6						

*IDC **17** 02:13:51.6±1.4,48.˚87N×86.˚56E,h0km,mb3.7/7, mbtmp3.8/12,ML3.6/5,Error ellipse: s-maj=17.7km s-min=11.3km az=104.0*

*SOME **17** 02:13:56.3,48.˚73N×86.˚23E,h10km*

*NNC **17** 02:13:56.1±1.3,48.˚94N×86.˚11E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=11.3km s-min=7.2km az=86.0*

*BJI **17** 02:13:57.3±0.0,48.˚46N×86.˚34E,h21km,ML3.8/8*

*MOS **17** 02:13:58.4±1.9,48.˚86N×85.˚44E,h9km,mb4.3/3,Error ellipse: s-maj=9.3km s-min=6.5km az=67.9*

*NEIC **17** 02:13:59.2±1.8,48.˚98N±0.˚09×85.˚8E±0.˚1,h15km±7km, mb4.1/6,Error ellipse: s-maj=17.0km s-min=7.5km az=129.0*

*ASRS **17** 02:13:59.7±0.6,49˚N±3˚×8˚6E±˚,h9km,MLh4.2/13,Error ellipse: s-maj=5.7km s-min=3.7km az=10.2,confirmed*

ISC 17 02:13:54.1±1.2,**48.˚88N**±0.˚03×**86.˚28E**±0.˚03,**h3**km±8km, **n96,σ1§87/133,mb3.8/8,17C-14D,Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**1.12**	**42**	Pg	**Pn**	**02 14 15.7**	**-1.2**
DGZ				Sg	**Sb**	**02 14 30.2**	**-1.0**
DGZ	**Jazzator, Alta**	**1.12**	**42**	PN	Pn	02 14 30.1	+13
CHBI	**Chibit, Altay**	**1.65**	**28**	Pg	**Pg**	**02 14 27.0**	**+1.4**
CHBI				Sg	**Sg**	**02 14 48.7**	**+1.7**
ZSN	**Zaisan**	**1.71**	**214**	*e*P	**Pb**	**02 14 26.2**	**0.0**
	229nm,0.2s						
ZSN				*e*S	**Sb**	**02 14 48.8**	**+0.7**
	797nm,0.3s						
CUR	**Chagan-Uzun**	**1.82**	**47**	Pg	**Pg**	**02 14 28.7**	**-0.4**
CUR				Sg	**Sg**	**02 14 52.3**	**-0.5**
ULGR	**Ulagan, Altay**	**2.06**	**31**	Pg	**Pg**	**02 14 34.6**	**+0.9**
ULGR				Sg	**Sg**	**02 15 00.9**	**+0.6**
ULGR	**Ulagan, Altay**	**2.06**	**31**	PN	**Pg**	**02 14 34.5**	**+0.9**
UKR	**Ust'-Kan**	**2.28**	**335**	Pg	**Pb**	**02 14 36.3**	**+0.4**
UKR				Sg	**Sg**	**02 15 09.0**	**+1.5**
UKR	**Ust'-Kan**	**2.28**	**335**	PN	**Pb**	**02 14 36.0**	**0.0**
UKR						02 15 08.9	
ARTR	**Artybash**	**3.00**	**12**	Pg	**Pg**	**02 14 50.6**	**-0.9**
ARTR				Sg	**Sg**	**02 15 28.8**	**-1.6**
ARTR	**Artybash**	**3.00**	**12**	PN	**Pg**	**02 14 50.6**	**-0.9**
ARTR						02 15 28.7	
GALT	**Gorno-Altaysk,**	**3.10**	**356**	Pg	**Pg**	**02 14 52.9**	**-0.6**
GALT				Sg	**Sg**	**02 15 32.1**	**-1.4**
GALT	**Gorno-Altaysk,**	**3.10**	**356**	PN	**Pg**	**02 14 52.8**	**-0.6**
GALT						02 15 32.0	
MK31	**Makanchi Array**	**3.40**	**234**		**Pn**	**02 14 49.9**	**+1.8**
MK31				Sn	**Sn**	**02 15 27.8**	**-1.0**
MK31	**Makanchi Array**	**3.40**	**234**	⇑Pn	**Pn**	**02 14 49.8**	**+1.8**
	29nm,0.4s,baz=51,slow=14,SNR=1185						
MK31				⇑Pg	**Pg**	**02 14 59.2**	**0.0**
	22nm,0.4s,baz=58,slow=16,SNR=15						
MK31				⇓Lg	Lg	02 15 39.5	
	47nm,0.4s,baz=49,slow=30,SNR=5.6						
MK31	**Makanchi Array**	**3.40**	**234**	*c* PN	**Pn**	**02 14 49.8**	**+1.8**
MKAR	**Makanchi Array**	**3.40**	**234**	Pn	**Pn**	**02 14 49.4**	**+1.4**
	20nm,0.3s,baz=45,slow=15,SNR=878						
MKAR				Pg	**Pg**	**02 14 59.5**	**+0.3**
	23nm,0.3s,baz=50,slow=16,SNR=23						
MKAR				Sn	**Sn**	**02 15 31.7**	**+2.9**
	14nm,0.3s,baz=48,slow=22,SNR=4.3						
MKAR				Lg	Lg	02 15 41.3	
	31nm,0.3s,baz=60,slow=33,SNR=6.6						
	31nm,0.3s						
MKAR	**Makanchi Array**	**3.40**	**234**		**Pn**	**02 14 49.6**	**+1.6**
MKAR	**Makanchi Array**	**3.40**	**234**	*i* PN	**Pn**	**02 14 49.7**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,28nm,0.3s						
MAKZ	**Makanchi**	**3.56**	**236**		**Pn**	**02 14 52.1**	**+1.9**
MAKZ	**Makanchi**	**3.56**	**236**	⇑Pn	**Pn**	**02 14 52.5**	**+2.3**
	comp=Z,15nm,0.4s						
MAKZ				⇓Pg	**Pg**	**02 15 01.5**	**-0.8**
	comp=Z,15nm,0.3s						
MAKZ				⇑Lg	Lg	02 15 45.7	
	comp=Z,40nm,0.3s						
MAKZ	**Makanchi**	**3.56**	**236**	PN	**Pn**	**02 14 52.2**	**+1.9**
MAKZ						02 15 01.5	
MAKZ						02 15 45.7	
TASR	**Tashtagol**	**4.02**	**14**	Pg	**Pg**	**02 15 07.8**	**-3.3**
TASR				Sg	**Sg**	**02 16 02.1**	**-1.1**
TASR	**Tashtagol**	**4.02**	**14**	PN	**Pg**	**02 15 07.8**	**-3.3**
TASR						02 16 02.1	
SEM	**Semipalatinsk**	**4.21**	**294**	*e*P	**Pn**	**02 15 01.8**	**+2.5**
	comp=Z,29nm,0.1s						
SEM				*e*S	**Sn**	**02 15 51.6**	**+2.5**
	comp=Z,104nm,0.1s						
ELT	**Eltsovka**	**4.39**	**360**	Pn	**Pn**	**02 15 04.5**	**+2.8**
ELT				Pg	**Pg**	**02 15 15.2**	**-3.1**
ELT				Sg	**Sg**	**02 16 13.2**	**-1.9**
ELT	**Eltsovka**	**4.39**	**360**	PN	**Pg**	**02 15 15.1**	**-3.1**
ELT						02 16 13.2	
LUZB	**Luzhba, Kemero**	**5.07**	**18**	Pn	**Pn**	**02 15 13.3**	**+2.4**
LUZB				Pg	**Pg**	**02 15 31.5**	**+0.4**
LUZB				Sg	**Sg**	**02 16 34.5**	**-2.3**
DJOS	**Djoyskaya Sosn**	**5.09**	**38**	Pg	**Pg**	**02 15 32.7**	**+1.1**
DJOS				Sg	**Sg**	**02 16 37.2**	**-0.4**
CERR	**Cheremushki**	**5.14**	**37**	Pg	**Pg**	**02 15 32.1**	**-0.5**
CERR				Sg	**Sg**	**02 16 38.4**	**-0.8**
WMQ	**Urumqi**	**5.15**	**169**	*e*Pn	**Pn**	**02 15 11.3**	**-0.8**
WMQ				Sn	**Sn**	**02 16 08.8**	**-3.3**
WMQ				smax	smax		
	comp=Z,46nm,1.3s						
WMQ				smax	smax		
	comp=Z,52nm,1.1s						
ZAA0	**Zalesovo Array**	**5.16**	**350**	Pn	**Pn**	**02 15 13.5**	**+1.3**
ZAA0	**Zalesovo Array**	**5.16**	**350**	⇓Pn	**Pn**	**02 15 13.5**	**+1.3**
	comp=Z,1.0nm,0.3s						
ZAA0				⇓Lg	Lg	02 16 39.2	
	comp=Z,9.0nm,0.5s						
ZALV	**Zalesovo Beam**	**5.16**	**350**	Pn	**Pn**	**02 15 12.8**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=173,slow=14,SNR=19						
ZALV				Sn	**Sn**	**02 16 11.1**	**-1.1**
	comp=Z,7.2nm,0.3s,baz=166,slow=26,SNR=8.7						
ZALV				Lg	Lg	02 16 36.6	
	comp=Z,7.6nm,0.3s,baz=173,slow=27,SNR=6.7						
	comp=Z,3.9nm,0.3s						
ZALV	**Zalesovo Beam**	**5.16**	**350**	Pn	**Pn**	**02 15 13.5**	**+1.4**
ZALV	**Zalesovo Beam**	**5.16**	**350**	*i* PN	**Pn**	**02 15 13.6**	**+1.4**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KURK	**Kurchatov**	**5.29**	**293**	Pn	**Pn**	**02 15 14.4**	**+0.5**
KURK	**Kurchatov**	**5.29**	**293**	⇑Pn	**Pn**	**02 15 14.5**	**+0.5**
	comp=Z,5.2nm,0.4s						
KURK				⇑Sn	**Sn**	**02 16 16.7**	**+1.3**
	comp=Z,21nm,0.5s						
KURK				⇓Lg	Lg	02 16 40.3	
	comp=Z,156nm,0.9s						
KURK	**Kurchatov**	**5.29**	**293**	*i* PN	**Pn**	**02 15 14.5**	**+0.5**
HVS	**Khovu-Aksy**	**5.29**	**62**	*i* PN	**Pb**	**02 15 28.0**	**+0.7**
HVS				*i* S	**Sg**	**02 16 38.1**	**-6.0**
KURBB	**Kurchatov Arra**	**5.32**	**292**	Pn	**Pn**	**02 15 15.3**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=103,slow=14,SNR=46						
KURBB				Sn	**Sn**	**02 16 17.9**	**+1.9**
	comp=Z,2.3nm,0.3s,baz=96,slow=28,SNR=4.4						
KURBB				Lg	Lg	02 16 43.0	
	comp=Z,4.8nm,0.3s,baz=100,slow=32,SNR=3.7						
	comp=Z,5.3nm,0.3s						
KURBB	**Kurchatov Arra**	**5.32**	**292**	⇓Pn	**Pn**	**02 15 15.3**	**+0.9**
	comp=Z,7.1nm,0.4s						
KURBB				⇑Sn	**Sn**	**02 16 17.4**	**+1.3**
	comp=Z,106nm,0.8s						
KURBB				⇑Lg	Lg	02 16 43.4	
	comp=Z,271nm,0.6s						
KURBB	**Kurchatov Arra**	**5.32**	**292**	PN	**Pn**	**02 15 15.2**	**+0.8**
KURBB						02 16 17.8	
KURBB						02 16 43.2	
SALR	**Pechorkino, Sa**	**5.56**	**357**	Pn	**Pn**	**02 15 19.6**	**+1.9**
SALR				Sg	**Sg**	**02 16 51.9**	**-0.7**
SHRR	**Shira**	**6.12**	**22**	*i* PN	**Pb**	**02 15 44.8**	**+3.5**
SHRR				*i* S	**Sg**	**02 17 06.7**	**-3.9**
BSTK	**Bystrovka, Nov**	**6.13**	**340**	Pn	**Pn**	**02 15 26.3**	**+0.8**
BSTK				Sg	**Sg**	**02 17 11.8**	**+1.0**
NVS	**Novosibirsk**	**6.26**	**344**	Pn	**Pn**	**02 15 28.0**	**+0.7**
NVS				Pg	**Pg**	**02 15 53.3**	**-0.7**
NVS				Sg	**Sg**	**02 17 17.1**	**+1.9**
DJR	**Jarkent**	**6.37**	**227**	*e*P	**Pn**	**02 15 29.9**	**+1.0**
	comp=Z,64nm,0.3s						
DJR				*e*S	**Sn**	**02 16 41.6**	**-0.6**
	comp=Z,17nm,0.4s						
TDK	**Taldyqorghan**	**6.64**	**237**	*e*P	**Pn**	**02 15 33.3**	**+0.8**
	comp=Z,108nm,0.4s						
TDK				*e*S	**Sn**	**02 16 48.3**	**-0.3**
	comp=Z,33nm,0.2s						
MDOK	**Medeo**	**8.59**	**232**	⇑Pn	**Pn**	**02 15 59.0**	**-0.5**
	comp=Z,1.8nm,0.3s						
MDOK				⇑Lg	Lg	02 18 28.9	
	comp=Z,16nm,0.9s						
MDOK	**Medeo**	**8.59**	**232**	P	**Pn**	**02 15 58.7**	**-0.8**
OTUK	**Ortayu**	**9.27**	**271**	⇑Pn	**Pn**	**02 16 08.2**	**-0.4**
	comp=Z,1.3nm,0.3s						
OTUK				⇓Sn	**Sn**	**02 17 52.6**	**-0.8**
	comp=Z,1.9nm,0.3s						
OTUK				⇑Lg	Lg	02 18 47.6	
	comp=Z,33nm,0.8s						
OTUK	**Ortayu**	**9.27**	**271**	P	**Pn**	**02 16 08.2**	**-0.4**
TARG	**Taragay, Kyrgy**	**9.31**	**223**		**Pn**	**02 16 11.1**	**+1.6**
TARG	**Taragay, Kyrgy**	**9.31**	**223**	P	**Pn**	**02 16 11.1**	**+1.6**
TKM2	**Tokmak 2**	**9.53**	**235**	P	**Pn**	**02 16 12.5**	**+0.2**
	SNR=5.4						
TKM2	**Tokmak 2**	**9.53**	**235**	⇓Pn	**Pn**	**02 16 12.1**	**-0.2**
	comp=Z,3.8nm,0.6s						
TKM2				⇑Lg	Lg	02 18 59.6	
	comp=Z,14nm,1.2s						
TKM2	**Tokmak 2**	**9.53**	**235**	*i* P	**Pn**	**02 16 11.9**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ULHL	**Ulahol**	**9.66**	**230**	P	**Pn**	**02 16 16.4**	**+2.2**
	SNR=8.7						
USP	**Ospenovka**	**9.92**	**240**	P	**Pn**	**02 16 19.1**	**+1.6**
	SNR=6.8						
KBK	**Karagaybulak**	**10.06**	**236**	P	**Pn**	**02 16 21.3**	**+1.7**
	SNR=6.0						
AAK	**Ala-Archa**	**10.32**	**237**	P	**Pn**	**02 16 25.0**	**+1.9**
	SNR=7.8						
AAK	**Ala-Archa**	**10.32**	**237**	Pn	**Pn**	**02 16 24.4**	**+1.3**
	comp=Z,3.3nm,0.3s,baz=102,slow=6.0,SNR=31						
	comp=Z,7.9nm,0.3s						
AAK	**Ala-Archa**	**10.32**	**237**	Pn	**Pn**	**02 16 24.9**	**+1.7**
AAK	**Ala-Archa**	**10.32**	**237**	*i* P	**Pn**	**02 16 24.3**	**+1.1**
EKS2	**Erkin-Say**	**10.71**	**239**	P	**Pn**	**02 16 31.1**	**+2.6**
	SNR=6.1						
BVA0	**Borovoye Array**	**10.85**	**299**	⇓Pn	**Pn**	**02 16 29.2**	**-1.0**
	comp=Z,1.4nm,0.6s						
BVA0				⇓Sn	**Sn**	**02 18 30.3**	**-1.6**
	comp=Z,2.8nm,0.5s						
BVA0				⇑Lg	Lg	02 19 38.8	
	comp=Z,20nm,0.9s						
BVA0	**Borovoye Array**	**10.85**	**299**	P	**Pn**	**02 16 29.1**	**-1.0**
BVA0						02 18 26.2	
BVAR	**Borovoye Array**	**10.85**	**299**	Pn	**Pn**	**02 16 29.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=12						
BVAR				Sn	**Sn**	**02 18 28.7**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=104,slow=23,SNR=8.1						
BVAR				Lg	Lg	02 19 39.6	
	baz=100,slow=22						
	comp=Z,1.4nm,0.3s						
BRVK	**Borovoye**	**10.92**	**299**	Pn	**Pn**	**02 16 30.7**	**-0.4**
BRVK	**Borovoye**	**10.92**	**299**	⇓Pn	**Pn**	**02 16 30.9**	**-0.2**
	comp=Z,0.9nm,0.4s						
BRVK				⇑Sn	**Sn**	**02 18 32.6**	**-1.0**
	comp=Z,4.0nm,0.6s						
BRVK				⇑Lg	Lg	02 19 38.6	
	comp=Z,19nm,1.4s						
BRVK	**Borovoye**	**10.92**	**299**	*i* P	**Pn**	**02 16 30.6**	**-0.5**
KK31	**Karatay Array**	**12.38**	**248**		**Pn**	**02 16 49.0**	**-2.2**
KK31	**Karatay Array**	**12.38**	**248**	⇓Pn	**Pn**	**02 16 49.5**	**-1.7**
	comp=Z,0.7nm,0.2s,baz=55,slow=14,SNR=86						
KK31				⇓Sn	**Sn**	**02 19 13.6**	**+4.0**
	comp=Z,0.8nm,0.5s						
KK31				⇓Lg	Lg	02 20 24.5	
	comp=Z,3.6nm,0.6s						
KK31	**Karatay Array**	**12.38**	**248**	*e*P	**Pn**	**02 16 48.7**	**-2.5**
KKAR	**Karatay Array**	**12.38**	**248**		**Pn**	**02 16 49.0**	**-2.2**
KKAR	**Karatay Array**	**12.38**	**248**		**Pn**	**02 16 49.1**	**-2.1**
KKAR	**Karatay Array**	**12.38**	**248**	P	**Pn**	**02 16 49.0**	**-2.2**
SONM	**Songino Array**	**13.42**	**87**	Lg	Lg	02 20 42.1	
	comp=Z,0.1nm,0.3s,baz=274,slow=20,SNR=2.4						
GAR	**Garm**	**15.12**	**235**		**Pn**	**02 17 30.5**	**+1.8**
ABKAR	**Akbulak array**	**17.24**	**281**	Pn	**Pn**	**02 17 54.5**	**-1.1**
ARU	**Arti**	**18.34**	**305**	S	**Sn**	**02 21 32.9**	**-1.4**
	comp=Z,1.6nm,0.3s,baz=134,slow=20,SNR=8.7						
BJT	**Baijiatuau**	**22.98**	**101**	P	**P**	**02 19 06.0**	**+6.3**
BJT				IAmb	IAmb	02 19 38.5	
	comp=Z,7.6nm,1.2s						
BJT	**Baijiatuau**	**22.98**	**101**	P	**P**	**02 19 06.0**	**+6.3**
BJT				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KIRV	**Kirov**	**23.58**	**308**	*i* P	**P**	**02 19 07.9**	**+2.3**
FINES	**FINESS Array B**	**35.28**	**314**	P	**P**	**02 20 48.8**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=64,slow=8.3,SNR=1.3						
	comp=Z,1.6nm,0.9s						
BR131	**Keskin Array S**	**38.09**	**276**	P	**P**	**02 21 14.6**	**+0.5**
BR131				IAmb	IAmb	02 21 49.4	
	comp=Z,9.9nm,1.4s						
BR131	**Keskin Array S**	**38.09**	**276**	P	**P**	**02 21 14.6**	**+0.5**
BR131				pmax	pmax		
	comp=Z,10.0nm,1.5s						
BRTR	**Keskin Array B**	**38.09**	**276**	P	**P**	**02 21 14.2**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=66,slow=5.1,SNR=8.5						
	comp=Z,0.8nm,0.5s						
BRTR	**Keskin Array B**	**38.09**	**276**	P	**P**	**02 21 13.9**	**-0.1**
HFS	**Hagfors**	**41.48**	**314**	P	**P**	**02 21 40.0**	**-1.9**
	comp=Z,4.9nm,1.0s,baz=83,slow=9.8,SNR=2.1						
	comp=Z,4.9nm,1.0s						
HFS	**Hagfors**	**41.48**	**314**	P	**P**	**02 21 40.0**	**-1.9**
NOA	**NORSAR Array B**	**42.36**	**316**	P	**P**	**02 21 47.1**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=78,slow=9.1,SNR=1.4						
	comp=Z,0.5nm,0.8s						
GERES	**GERESS Array B**	**46.02**	**299**	P	**P**	**02 22 17.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=51,slow=8.0,SNR=2.4						
	comp=Z,0.2nm,0.4s						
ESDC	**Sonseca Array**	**61.61**	**299**	P	**P**	**02 24 11.6**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=41,slow=6.3,SNR=5.3						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.68**	**275**	P	**P**	**02 25 44.8**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=36,slow=5.6,SNR=6.8						
	comp=Z,0.2nm,0.4s						

*WEL **17** 02:20:45.6±1.1,45˚S±6˚×16˚7E±˚,h102km±7km,M4.5/27, MLv4.5/27,Error ellipse: s-maj=0.0km s-min=0.0km az=119.1*

*NEIC **17** 02:20:45.6±1.2,44˚.9S±0˚.1×167˚.6E±0˚.1,h120km±9km, mb4.5/13,Error ellipse: s-maj=17.9km s-min=9.1km az=138.0*

*IDC **17** 02:20:46.0±2.4,44˚.86S×167˚.70E,h132km±22km,mb3.9/6, mbtmp4.2/7,Error ellipse: s-maj=30.0km s-min=18.5km az=23.0*

ISC 17 02:20:45.2±0.7,**44˚.95S**±0˚.06×**167˚.58E**±0˚.06,**h124**km±6km, **n119,σ1§03/120,mb4.4/12,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.37**	**43**	P	**Pn**	**02 21 03.3**	**+0.5**
MSZ				S	**Sn**	**02 21 16.2**	**+0.1**
MLZ	**Mavora Lakes**	**0.57**	**138**	Pn	**Pn**	**02 21 04.3**	**+0.3**
MLZ				Sn	**Sn**	**02 21 18.4**	**+0.2**
MLZ	**Mavora Lakes**	**0.57**	**138**	P	**Pn**	**02 21 04.3**	**+0.3**
MLZ				S	**Sn**	**02 21 18.6**	**+0.3**
DCZ	**Deep Cove**	**0.60**	**210**	P	**Pn**	**02 21 03.3**	**-0.8**
DCZ				S	**Sn**	**02 21 16.7**	**-1.7**
WHZ	**Wether Hill Ro**	**0.98**	**165**	Pn	**Pn**	**02 21 07.4**	**+0.1**
WHZ	**Wether Hill Ro**	**0.98**	**165**	P	**Pn**	**02 21 07.4**	**+0.1**
WHZ				S	**Sn**	**02 21 23.4**	**-0.7**
WKZ	**Wanaka**	**1.03**	**84**	Pn	**Pn**	**02 21 09.0**	**+1.2**
WKZ				Sn	**Sn**	**02 21 25.4**	**+0.4**
WKZ	**Wanaka**	**1.03**	**84**	P	**Pn**	**02 21 09.0**	**+1.2**
JCZ	**Jackson Bay**	**1.23**	**45**	P	**Pn**	**02 21 10.3**	**+0.4**
EAZ	**Earnscleugh**	**1.26**	**104**	P	**Pn**	**02 21 11.2**	**+1.0**
PYZ	**Puysegur Point**	**1.37**	**207**	P	**Pn**	**02 21 10.5**	**-0.8**
TUZ	**Tuapeka**	**1.76**	**126**	P	**Pn**	**02 21 16.9**	**+1.0**
APZ	**The Paps**	**1.91**	**171**	P	**Pn**	**02 21 17.4**	**-0.3**
LBZ	**Lake Benmore**	**1.94**	**74**	Pn	**Pn**	**02 21 18.2**	**+0.1**
LBZ	**Lake Benmore**	**1.94**	**74**	P	**Pn**	**02 21 18.2**	**+0.1**
FOZ	**Fox Glacier**	**2.14**	**49**	Pn	**Pn**	**02 21 20.3**	**-0.2**
FOZ	**Fox Glacier**	**2.14**	**49**	P	**Pn**	**02 21 20.3**	**-0.2**
ODZ	**Otahua Downs**	**2.18**	**94**	Pn	**Pn**	**02 21 21.5**	**+0.5**
ODZ	**Otahua Downs**	**2.18**	**94**	P	**Pn**	**02 21 21.5**	**+0.5**
HHSZ	**Highcliff Hill**	**2.33**	**115**	P	**Pn**	**02 21 23.8**	**+1.0**
TMZ	**Timaru**	**2.51**	**78**	P	**Pn**	**02 21 25.2**	**0.0**
GCSZ	**Gaunt Creek Bo**	**2.56**	**52**	P	**Pn**	**02 21 25.3**	**-0.6**
ARCZ	**Arundel**	**2.77**	**70**	P	**Pn**	**02 21 28.1**	**-0.4**
RPZ	**Rata Peaks**	**2.78**	**65**	P	**Pn**	**02 21 28.2**	**-0.5**
	61nm,0.3s,baz=290,slow=6.5,SNR=26						
RPZ				S	**Sn**	**02 22 01.6**	**-0.7**
	326nm,0.3s,baz=182,slow=17,SNR=31						
RPZ	**Rata Peaks**	**2.78**	**65**	P	**Pn**	**02 21 28.3**	**-0.5**
WVZ	**Waitaha Valley**	**2.95**	**52**	P	**Pn**	**02 21 30.2**	**-0.7**
MHCZ	**Mount Hutt**	**3.20**	**65**	P	**Pn**	**02 21 34.0**	**-0.2**
WAKZ	**Wakanui South**	**3.21**	**73**	P	**Pn**	**02 21 34.7**	**+0.4**
RACZ	**Rakaia**	**3.49**	**71**	P	**Pn**	**02 21 38.9**	**+0.9**
INZ	**Inchbonnie**	**3.57**	**53**	Pn	**Pn**	**02 21 38.7**	**-0.4**
INZ	**Inchbonnie**	**3.57**	**53**	P	**Pn**	**02 21 39.7**	**+0.6**
OXZ	**Oxford**	**3.60**	**65**	Pn	**Pn**	**02 21 39.1**	**-0.3**
OXZ	**Oxford**	**3.60**	**65**	P	**Pn**	**02 21 38.9**	**-0.5**
MQZ	**McQueen's Vall**	**3.85**	**73**	Pn	**Pn**	**02 21 43.3**	**+0.6**
MQZ	**McQueen's Vall**	**3.85**	**73**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	Warramunga Arr	37.11	301	P	P	02 27 43.2	-0.5
WB0	Warramunga Arr	37.21	302	P	P	02 27 44.0	-0.5
WB0				IAmb	IAmb	02 27 44.9	
	comp=Z,13nm,1.2s						
H01W1	Cape Leeuwin H	41.51	265	T	T	03 12 08.4	
	baz=121,slow=76						
H01W2	Cape Leeuwin H	41.53	265	T	T	03 12 09.4	
	baz=121,slow=76						
H01W3	Cape Leeuwin H	41.53	265	T	T	03 12 09.5	
	baz=121,slow=76						
KNRA	Kununurra	43.77	299	P	P	02 28 38.4	-0.1
MTN	Manton Dam	44.55	304	P	P	02 28 44.8	+0.1
PSA00	Pilbara Seismi	45.41	285	P	P	02 28 51.8	+0.2
PSA00				IAmb	IAmb	02 28 52.4	
	comp=Z,5.2nm,0.9s						
MBWA	Marble Bar	45.77	285	P	P	02 28 54.7	+0.4
SNAA	Sanae	63.49	183	P	P	02 31 01.8	+0.3
	comp=Z,2.2nm,1.1s,baz=185,slow=11,SNR=1.8						
	comp=Z,2.2nm,1.1s						
SNAA	Sanae	63.49	183	P	P	02 31 01.8	+0.3
SNAA				IAmb	IAmb	02 31 12.0	
	comp=Z,5.5nm,1.4s						
CMAR	Chiang Mai Arr	88.62	298	P	P	02 33 25.0	+0.7
	comp=Z,1.3nm,0.3s,baz=160,slow=3.0,SNR=10						
	comp=Z,1.3nm,0.3s						
ILAR	Eielson Array	115.02	20	PKP	PKPdf	02 39 09.5	-0.7
	comp=Z,0.6nm,0.7s,baz=260,slow=2.3,SNR=5.5						
MKAR	Makanchi Array	118.13	309	PKP	PKPdf	02 39 15.9	-0.9
	comp=Z,0.6nm,0.8s,baz=40,slow=2.5,SNR=3.3						
BRTR	Keskin Array B	145.91	278	PKPbc	PKPdf	02 40 09.8	+0.8
	comp=Z,2.4nm,0.7s,baz=136,slow=4.8,SNR=14						
TORD	Torodi Ar. Bea	146.10	205	PKPbc	PKPdf	02 40 10.8	+0.9
	comp=Z,2.9nm,0.7s,baz=162,slow=2.1,SNR=22						
ARCES	ARCESS Array B	148.88	335	PKPbc	PKPbc	02 40 16.1	-0.9
	comp=Z,4.7nm,0.9s,baz=48,slow=1.9,SNR=8.4						
AKASG	Malin Array Be	151.74	297	PKPbc	PKPbc	02 40 24.1	-0.2
	comp=Z,4.1nm,0.7s,baz=76,slow=2.5,SNR=12						
FINES	FINESS Array B	152.19	320	PKPbc	PKPbc	02 40 24.1	-0.9
	comp=Z,5.0nm,0.8s,baz=117,slow=3.7,SNR=9.0						

*NAO **17** 02:21:44.6±2.0, 79°.71N×3°.56E, ML3.4*
*IDC **17** 02:21:45.7±1.2, 79°.70N×3°.15E, h0km, mb3.4/4, mbtmp3.6/9, ML3.5/5, MS3.8/2, Error ellipse: s-maj=34.8km s-min=16.9km az=26.0*
*BER **17** 02:21:46.6±2.2, 79°.66N×3°.81E, h10km, ML2.8, ML3.4(NAO), Confirmed Earthquake*
*DNK **17** 02:21:46.2±2.3, 79°.58N×3°.72E, h18km±18km, ML2.2*
*IEPN **17** 02:21:50.0, 79°.56N×4°.57E, h10km*
ISC 17 02:21:45.1±0.7**, 79°.57N**±0°.06×**3°.49E**±0°.04**, h10km, n47, σ3s.13**/73**, mb3.3**/4**, 2C, Greenland Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KBS	Kingsbay	1.71	108	Pn	Pn	02 22 14.6	-0.3
KBS				Sn	Sn	02 22 33.3	-3.5
KBS	Kingsbay	1.71	108⇑	iP	Pn	02 22 14.6	-0.3
KBS				iS	Sn	02 22 35.2	-1.6
KBS	Kingsbay	1.71	108	eP	Pn	02 22 14.5	-0.3
KBS				eS	Sn	02 22 33.7	-3.1
KBS				IAML		02 22 38.5	
	comp=Z,184nm,0.3s						
BRBB	Barentsburg B	2.56	120	Pn	Pn	02 22 27.6	+1.1
BRBB				Sn	Sn	02 22 55.2	-2.4
BRBB	Barentsburg B	2.56	120	eP	Pn	02 22 27.7	+1.2
BRBB				eS	Sn	02 22 55.1	-2.5
BRBA	Barentsburg A	2.58	121	Pn	Pn	02 22 28.0	+1.2
BRBA				Sn	Sn	02 22 55.9	-2.3
BRBA	Barentsburg A	2.58	121	eP	Pn	02 22 28.1	+1.2
BRBA				eS	Sn	02 22 55.5	-2.7
BRBA				IAML		02 23 00.2	
	comp=Z,93nm,0.4s						
SPA0	Spitsbergen Ar	2.86	113	Pn	Pn	02 22 31.2	+0.5
	baz=314,slow=11						
SPA0				Sn	Sn	02 23 02.4	-2.7
	baz=327,slow=14						
SPA0	Spitsbergen Ar	2.86	113⇑	iP	Pn	02 22 31.1	+0.5
SPA0				iS	Sn	02 23 02.0	-3.1
SPA0	Spitsbergen Ar	2.86	113	eP	Pn	02 22 31.2	+0.5
SPA0				eS	Sn	02 23 01.9	-3.1
SPA0				IAML		02 23 08.0	
	comp=Z,83nm,0.4s						
SPITS	Spitsbergen Ar	2.86	113	Pn	Pn	02 22 31.2	+0.5
	baz=312,slow=7.8						
SPITS				Sn	Sn	02 23 01.6	-3.4
	baz=327,slow=8.9						
	comp=Z,24nm,0.3s						
HSPB	Hornsund (broa	3.56	130	Pn	Pn	02 22 40.7	+0.5
HSPB				Sn	Sn	02 23 18.1	-4.1
HSPB	Hornsund (broa	3.56	130	eP	Pn	02 22 40.3	+0.1
HSPB				eS	Sn	02 23 17.6	-4.6
HSPB	Hornsund (broa	3.56	130	eP	Pn	02 22 40.5	+0.3
HSPB				eS	Sn	02 23 18.4	-3.7
HSPB				IAML		02 23 22.1	
	comp=Z,44nm,0.3s						
NOR	Nord	3.87	311	Pn	Pn	02 22 45.0	+0.5
NOR				Sn	Sn	02 23 25.7	-4.1
NOR	Nord	3.87	311	iP	Pn	02 22 45.3	+0.9
NOR				eS	Sn	02 23 27.5	-2.3
NOR				IAML		02 23 44.3	
	comp=Z,7.9nm,0.3s						
NOR	Nord	3.87	311	eP	Pn	02 22 44.8	+0.4
NOR				eS	Sn	02 23 25.0	-4.8
DAG	Danmarks Havn	5.32	249	e	Pn	02 23 03.1	-1.3
	baz=52,slow=16						
DAG				iP	Pb	02 23 04.5	-13
DAG				iS	Sn	02 24 00.8	-4.8
DAG				IAML		02 24 05.2	
	comp=Z,12nm,0.3s						
DAG	Danmarks Havn	5.32	249	eP	Pn	02 23 04.4	+0.1
DAG				e		02 23 59.5	
HOPEN	Hopen	5.39	114	eP	Pn	02 23 05.4	0.0
HOPEN				eS	Sn	02 24 02.2	-5.2
HOPEN	Hopen	5.39	114	eP	Pn	02 23 05.4	0.0
HOPEN				eS	Sn	02 24 02.3	-5.1
HOPEN				IAML		02 24 09.2	
	comp=Z,41nm,0.4s						
BJO1	Bjornoya	6.14	138	Pn	Pn	02 23 17.1	+1.4
BJO1				Sn	Sn	02 24 23.3	-2.6
BJO1	Bjornoya	6.14	138	eP	Pn	02 23 16.8	+1.1
BJO1				S	Sn	02 24 22.0	-3.8
DBG	Daneborg	7.46	237	Pn	Pn	02 23 33.7	0.0
DBG				Sn	Sn	02 24 52.1	-5.9
DBG	Daneborg	7.46	237	iP	Pn	02 23 34.1	+0.4
DBG				iS	Sn	02 24 52.2	-5.9
DBG				IAML		02 24 56.8	
	comp=Z,5.3nm,0.4s						
DBG	Daneborg	7.46	237	eP	Pn	02 23 34.2	+0.6
DBG				eS	Sn	02 24 52.0	-6.1
ZFI	Zemlya Franca-	7.48	59	eP	Pn	02 23 33.9	-0.1
ZFI				eS	Sn	02 24 50.3	-8.4
	comp=Z,79nm,2.4s						
HAMF	Hammerfest	10.26	140	Pn	Pn	02 24 13.6	+1.5
HAMF	Hammerfest	10.26	140	e	Pn	02 24 13.7	+1.6
NEEM	North Greenlan	10.72	287	iP	Pn	02 24 15.6	-2.9
NEEM				i		02 24 18.0	
NEEM				eS	Sn	02 26 06.9	-12
NEEM				IAML		02 26 13.1	
	comp=Z,7.3nm,0.3s						
ARA0	ARCESS Array S	11.52	139	Pn	Pn	02 24 29.8	+0.4
	baz=354,slow=14						
ARA0				Sn	Sn	02 26 31.6	-6.2
	baz=357,slow=22						
ARA0	ARCESS Array S	11.52	139	Pn	Pn	02 24 29.8	+0.4
	baz=354,slow=14						
ARA0				Sn	Sn	02 26 31.6	-6.2
	baz=357,slow=22						
ARCES	ARCESS Array B	11.52	139	Pn	Pn	02 24 31.0	+1.7
	comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=11						
ARCES				Sn	Sn	02 26 30.9	-6.9
	comp=Z,0.1nm,0.3s,baz=354,slow=23,SNR=1.4						
	comp=Z,3.4nm,0.9s						
SUMG	Summit	11.93	257	iP	Pn	02 24 35.2	0.0
KULLO	Kullorsuaq	13.77	281	iP	Pn	02 24 57.2	-2.7
TULEG	Thule	14.33	296	iP	Pn	02 25 03.8	-3.8
UPNV	Upernavik	14.96	276	iP	Pn	02 25 11.5	-4.7
SFJD	Kangerlussuaq	18.89	259	P	P	02 26 05.1	-0.1
	comp=Z,0.9nm,0.3s,baz=17,slow=13,SNR=6.3						
	comp=Z,7.6nm,0.7s						
FIA0	FINESS Array S	19.42	146	P	Pn	02 26 15.0	+3.0
	baz=343,slow=12						
FINES	FINESS Array B	19.42	146	P	Pn	02 26 15.1	+3.0
	comp=Z,0.2nm,0.3s,baz=347,slow=7.8,SNR=9.0						
	comp=Z,2.8nm,0.8s						
RES	Resolute Bay	19.80	309	P	P	02 26 15.9	+0.9
	comp=Z,0.1nm,0.3s,baz=49,slow=12,SNR=1.3						
	comp=Z,0.7nm,0.5s						
ESDC	Sonseca Array	40.12	189	P	P	02 29 23.8	+3.2
	comp=Z,0.6nm,1.0s,baz=1.6,slow=9.0,SNR=2.4						
	comp=Z,0.6nm,1.0s						
MKAR	Makanchi Array	42.38	90	P	P	02 29 41.8	+2.8
	comp=Z,0.4nm,0.6s,baz=353,slow=6.8,SNR=3.6						
	comp=Z,0.4nm,0.6s						
NEW	Newport	47.97	309	LR	LR	02 51 46.8	
	comp=Z,133nm,19.1s,baz=44,slow=38						
YBH	Yreka Blue Hor	55.14	313	LR	LR	02 56 50.4	
	comp=Z,63nm,20.4s,baz=3.5,slow=38						
TXAR	Lajitas Array	64.39	292	P	P	02 32 22.9	+2.1
	comp=Z,0.1nm,0.5s,baz=38,slow=4.6,SNR=2.6						
	comp=Z,0.1nm,0.5s						
TORD	Torodi Ar. Bea	66.45	182	P	P	02 32 37.1	+2.9
	comp=Z,0.4nm,0.8s,baz=348,slow=6.6,SNR=2.2						
	comp=Z,0.4nm,0.8s						

WEL 17 02:22:20.4±0.5**, 42°S**±3°×**17°4E**±°**, h12km, M3.4**/10**, ML3.5**/8**, MLv3.4**/10**, Error ellipse: s-maj=0.0km s-min=0.0km az=121.9, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
BSWZ	Blackbirch Sta	0.66	14	P	Pg	02 22 33.0	-0.2
BSWZ				S	Sb	02 22 43.4	+0.5
GVZ	Greta Valley S	0.76	217	P	Pb	02 22 35.5	-0.1
GVZ				S	Sn	02 22 47.3	-1.2
THZ	Tophouse	0.82	316	P	Pb	02 22 36.6	+0.1
TUWZ	Tuamarina	0.95	13	P	Pg	02 22 38.6	-0.1
TUWZ				S	Sn	02 22 52.3	-0.7
LTZ	Lake Taylor	1.11	247	P	Pb	02 22 41.3	-0.3
NNZ	Nelson	1.16	350	P	Pb	02 22 41.9	-0.4
MRNZ	Matariki Terra	1.17	325	P	Pg	02 22 42.8	0.0
TCW	Tory Channel	1.23	22	P	Pn	02 22 41.8	-1.6
TKNZ	Takaka Hill	1.42	338	P	Pn	02 22 46.4	+0.4
PLWZ	Palliser	1.43	57	P	Pn	02 22 43.2	-3.0
MSWZ	Moikau Station	1.52	52	P	Pn	02 22 44.5	-2.8
DUWZ	D'Urville Isla	1.57	7	P	Pn	02 22 48.5	+0.5
CAW	Cannon Point	1.63	41	P	Pn	02 22 46.7	-2.2
PAWZ	Paruwai Farm	1.64	54	P	Pn	02 22 46.0	-3.1

*IDC **17** 02:25:05.7±0.6, 52°.15S×139°.47E, h0km, mb4.3/9, mbtmp4.4/9, MS3.8/23, Error ellipse: s-maj=32.2km s-min=15.3km az=90.0*
*NEIC **17** 02:25:07.2±0.8, 52°.17S±0°.04×139°.2E±0°.4, h10km±1km, mb4.6/15, Error ellipse: s-maj=46.0km s-min=7.1km az=90.0*
ISC 17 02:25:08.3±0.5**, 52°.16S**±0°.08×**139°.4E**±0°.2**, h19km, n78, σ2s.02**/55**, mb4.5**/11**, MS3.8**/23**, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
TOO	Toolangi	15.20	19	Pn	Pn	02 28 41.6	-0.3
TOO				IAmb	IAmb	02 28 53.7	
	comp=Z,49nm,1.2s						
CAN	Canberra	18.18	26		P	02 29 21.2	+1.5
CAN				IAmb	IAmb	02 29 22.8	
	comp=Z,29nm,1.2s						
BBOO	Buckleboo	19.49	352	P	P	02 29 33.4	-0.7
BBOO				IAmb	IAmb	02 29 42.5	
	comp=Z,19nm,0.9s						
STKA	Stephens Creek	20.33	5	P	P	02 29 43.2	0.0
	comp=Z,3.0nm,0.6s,baz=157,slow=11,SNR=8.3						
STKA				LR	LR	02 36 20.2	
	comp=Z,73nm,21.3s,baz=204,slow=33						
	comp=Z,3.0nm,0.6s						
STKA	Stephens Creek	20.33	5	P	Pn	02 29 44.0	-1.3
RPZ	Rata Peaks	22.68	81	P	P	02 30 07.6	-0.9
	comp=Z,15nm,0.8s,baz=245,slow=9.7,SNR=2.1						
RPZ				LR	LR	02 36 58.2	
	comp=Z,205nm,20.9s,baz=242,slow=32						
	comp=Z,15nm,0.8s						
H01W1	Cape Leeuwin H	24.96	304	T	T	02 56 31.9	
	baz=141,slow=75,SNR=196						
H01W2	Cape Leeuwin H	24.97	304	T	T	02 56 32.1	
	baz=141,slow=75,SNR=187						
H01W3	Cape Leeuwin H	24.98	304	T	T	02 56 33.2	
	baz=141,slow=75,SNR=212						
NWAO	Narrogin (SRO)	25.05	311	LR	LR	02 38 03.1	
	comp=Z,191nm,20.2s,baz=304,slow=31						
VNDA	Vanda	26.79	169	P	P	02 30 46.1	-0.4
	comp=Z,2.1nm,0.9s,baz=327,slow=9.3,SNR=8.3						
VNDA				LR	LR	02 39 15.4	
	comp=Z,98nm,18.5s,baz=1.0,slow=32						
	comp=Z,2.1nm,0.9s						
VNDA	Vanda	26.79	169	P	P	02 30 46.9	+0.3
VNDA				IAmb	IAmb	02 30 53.5	
	comp=Z,5.8nm,0.9s						
SBA	Scott Base	27.66	168	P	P	02 30 55.6	+1.3
SBA				IAmb	IAmb	02 31 10.6	
	comp=Z,19nm,1.5s						
ASAR	Alice Springs	28.76	349	P	P	02 31 04.2	-0.5
	comp=Z,4.1nm,0.8s,baz=166,slow=10,SNR=31						
ASAR				PcP	PcP	02 34 14.0	-0.5
	comp=Z,0.3nm,0.5s,baz=147,slow=2.5,SNR=2.0						
	comp=Z,4.1nm,0.8s						
ASAR	Alice Springs	28.76	349	P	P	02 31 05.6	+0.9
AS31	Alice Springs	28.76	349	P	P	02 31 05.0	+0.3
WR0	Warramunga Arr	32.36	351	P	P	02 31 35.9	-0.6
WB2	Warramunga Arr	32.40	351	P	P	02 31 36.2	-0.6
WRA	Warramunga Arr	32.40	351	P	P	02 31 36.1	-0.7
	comp=Z,14nm,0.8s,baz=173,slow=6.8,SNR=84						
WRA				PcP	PcP	02 34 23.2	-0.8
	comp=Z,0.4nm,0.6s,baz=188,slow=2.2,SNR=2.4						
WRA				LR	LR	02 43 19.3	
	comp=Z,85nm,20.1s,baz=126,slow=34						
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	32.40	351	P	P	02 31 36.0	-0.8
WRAB	Tennant Creek	32.40	351	P	P	02 31 36.2	-0.6
CTA	Charters Tower	32.45	12	LR	LR	02 44 48.3	
	comp=Z,113nm,18.2s,baz=242,slow=36						
WB0	Warramunga Arr	32.56	351	P	P	02 31 37.6	-0.7
WB0				IAmb	IAmb	02 31 44.5	
	comp=Z,19nm,0.9s						
DZM	Mont Dzumac	36.56	45	LR	LR	02 45 30.8	
	comp=Z,320nm,19.1s,baz=216,slow=34						
QSPA	South Pole Qui	37.95	180	P	P	02 32 24.7	+0.3
	comp=Z,5.6nm,0.9s,baz=2.4,slow=3.8,SNR=9.6						
QSPA				LR	LR	02 47 05.8	
	comp=Z,123nm,21.3s,baz=12,slow=35						
	comp=Z,5.6nm,0.9s						
QSPA	South Pole Qui	37.95	180	P	P	02 32 24.7	+0.3
QSPA				IAmb	IAmb	02 32 25.3	
	comp=Z,6.2nm,0.9s						
MAW	Mawson	38.50	217	P	P	02 32 29.3	+0.6
	comp=Z,3.7nm,1.0s,baz=142,slow=7.3,SNR=3.8						
MAW				LR	LR	02 46 12.6	
	comp=Z,253nm,20.8s,baz=87,slow=33						
	comp=Z,3.7nm,1.0s						
MAW	Mawson	38.50	217	P	P	02 32 27.7	-1.0
PMG	Port Moresby	43.10	11	LR	LR	02 49 53.7	
	comp=Z,108nm,19.0s,baz=170,slow=34						
BATI	Baumata	43.75	337	LR	LR	02 51 07.6	
	comp=Z,319nm,18.1s,baz=200,slow=36						
MSVF	Nonsavu	45.81	56	LR	LR	02 49 00.5	
	comp=Z,119nm,19.1s,baz=169,slow=31						
KAPI	Kappang	49.73	334	LR	LR	02 54 41.9	
	comp=Z,68nm,19.8s,baz=150,slow=36						
LEM	Lembang	52.19	319	LR	LR	02 54 41.2	
	comp=Z,117nm,18.5s,baz=180,slow=34						
TROLL	Troll, Antarti	52.48	196	P	P	02 34 18.0	-1.5
SNAA	Sanae	53.62	194	P	P	02 34 26.4	-1.4
SNAA	Sanae	53.62	194	P	P	02 34 27.2	-0.5
	comp=Z,7.6nm,1.1s,baz=166,slow=8.9,SNR=7.5						
SNAA				LR	LR	02 56 43.8	
	comp=Z,176nm,19.5s,baz=190,slow=35						
	comp=Z,7.6nm,1.1s						
SNAA	Sanae	53.62	194	P	P	02 34 28.0	+0.2
SNAA				IAmb	IAmb	02 34 30.3	
	comp=Z,15nm,1.4s						
AFI	Afiamalu	54.41	64	LR	LR	02 52 56.6	
	comp=Z,76nm,19.9s,baz=106,slow=31						
VNA1	Neumayer--Stat	55.31	193	P	P	02 34 39.5	-0.4
TOLI2	Tolitoli	55.35	337	P	P	02 34 40.3	-0.5
TOLI2				IAmb	IAmb	02 34 47.6	
	comp=Z,12nm,0.9s						
H08S2	Diego Garcia H	69.90	284	T	T	03 52 38.6	
	baz=143,slow=76,SNR=14						
H08S1	Diego Carcia H	69.91	284	T	T	03 52 36.6	
	baz=143,slow=76,SNR=12						
H08S3	Diego Garcia H	69.92	284	T	T	03 52 35.9	
	baz=143,slow=76,SNR=13						
PALK	Pallekele	77.38	300	LR	LR	03 04 22.5	
	comp=Z,62nm,20.1s,baz=251,slow=30						
CMAR	Chiang Mai Arr	78.64	321	P	P	02 37 10.1	+1.3
	comp=Z,1.1nm,0.3s,baz=146,slow=5.0,SNR=2.3						
CMAR				LR	LR	03 10 59.8	
	comp=Z,38nm,19.7s,baz=165,slow=35						
	comp=Z,1.1nm,0.3s						
JCJ	Chichijima	78.95	3	LR	LR	03 12 19.6	
	comp=Z,19nm,18.0s,baz=8.5,slow=36						
BOSA	Boshof	81.16	234	LR	LR	03 06 01.1	
	comp=Z,72nm,18.2s,baz=174,slow=30						
LBTB	Lobatse	83.93	237	LR	LR	03 10 01.9	
	comp=Z,91nm,18.3s,baz=140,slow=32						
H03S1	Juan Fernandez	88.03	149	T	T	04 16 06.8	
	baz=200,slow=74,SNR=13						
H03S2	Juan Fernandez	88.03	149	T	T	04 16 03.0	
	baz=200,slow=74,SNR=12						
H03S3	Juan Fernandez	88.05	149	T	T	04 16 06.5	
	baz=200,slow=74,SNR=14						
LSZ	Lusaka	90.51	244	LR	LR	03 12 36.3	
	comp=Z,85nm,19.4s,baz=148,slow=32						
TSUM	Tsumeb	92.83	234	LR	LR	03 12 41.4	
	comp=Z,74nm,21.4s,baz=152,slow=31						
TORD	Torodi Ar. Bea	128.46	237	PKP	PKiKP	02 44 14.1	-0.4
	comp=Z,0.3nm,0.8s,baz=164,slow=1.7,SNR=1.7						
TXAR	Lajitas Array	128.87	91	PKP	PKiKP	02 44 16.2	+1.1
	comp=Z,0.4nm,0.8s,baz=190,slow=2.7,SNR=4.3						
ILAR	Eielson Array	129.62	32	PKP	PKiKP	02 44 16.0	+0.7
	comp=Z,0.7nm,1.1s,baz=227,slow=3.6,SNR=2.3						
FINES	FINESS Array B	143.90	312	PKP	PKiKP	02 44 43.2	-1.2
	comp=Z,3.3nm,1.0s,baz=111,slow=6.2,SNR=6.0						
CONA	Conrad Observa	144.28	286	eP	PKiKP	02 44 51.1	+5.4
	comp=Z,7.0nm,1.7s						
OBKA	Obir	144.37	283	eP	PKiKP	02 44 46.3	+0.3
	comp=Z,1.3nm,0.6s						
MYKA	Terra Mystica	144.97	283	eP	PKiKP	02 44 49.5	+2.3
	comp=Z,4.1nm,0.9s						
DPC	Dobruska-Polom	145.11	290	ePKP	PKPdf	02 44 44.3	+0.8
MOA	Molln	145.19	285	eP	PKiKP	02 44 48.7	+1.1
	comp=Z,1.6nm,0.6s						
KBA	Koelnbreinsper	145.37	284	eP	PKiKP	02 44 49.4	+1.3
	comp=Z,5.2nm,1.2s						
BIOA	Bad Ischl, Aus	145.49	285	eP	PKiKP	02 44 53.1	+4.9
	comp=Z,4.8nm,0.9s						
ARCES	ARCESS Array B	145.60	325	PKPbc	PKPab	02 44 44.0	-0.3
	comp=Z,4.2nm,0.9s,baz=90,slow=2.4,SNR=9.4						
CKRC	Cesky Krumlov	145.61	287	ePKP	PKPdf	02 44 38.6	-5.7
ABTA	Abfaltersbach	145.71	283	eP	PKiKP	02 44 54.2	+5.4
	comp=Z,1.7nm,0.7s						
GERES	GERESS Array B	145.98	286	PKPbc	PKPab	02 44 45.6	-0.8
	comp=Z,0.7nm,0.5s,baz=194,slow=3.4,SNR=5.2						
KHC	Kasperske Hory	146.18	287	ePKP	PKPdf	02 44 40.5	-4.8
WTTA	Wattenberg	146.48	283	eP	PKiKP	02 44 52.6	+2.1
	comp=Z,5.6nm,1.3s						
WATA	Walderalm	146.55	283	eP	PKiKP	02 44 54.8	+4.2
	comp=Z,6.2nm,1.4s						
SQTA	Sankt Quirin	146.72	282	eP	PKiKP	02 44 50.1	-0.8
	comp=Z,2.5nm,0.5s						
MOTA	Moosalm	146.84	283	eP	PKiKP	02 44 53.6	+2.5
	comp=Z,7.9nm,1.1s						
FETA	Feichten	146.91	282	eP	PKiKP	02 44 50.8	-0.5
	comp=Z,0.9nm,0.6s						
RETA	Reutte	147.11	283	eP	PKiKP	02 44 54.6	+3.0
	comp=Z,1.6nm,0.5s						
SPITS	Spitsbergen Ar	147.14	341	PKPbc	PKPbc	02 44 48.5	+0.1
	comp=Z,14nm,0.8s,baz=85,slow=4.6,SNR=2.6						
DAVA	Damuels	147.55	282	eP	PKPab	02 44 54.6	+1.9
	comp=Z,11nm,1.5s						
ESDC	Sonseca Array	151.93	258	PKPbc	PKiKP	02 45 02.4	+0.6
	comp=Z,1.3nm,0.9s,baz=97,slow=1.3,SNR=7.8						

*WEL **17** 02:31:00, 42°.29S×173°.69E, h16km, ML4.2, Mw4.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; Mrr0.25; Mθθ1.07; Mφφ-1.32; Mrθ-0.10; Mθφ-0.14; Mφr-0.23; Fault plane solution: M0 1.22000×10^{15} NP1: φs318.00000°, δ80.00000°, λ-2.00000°. NP2: φs48.00000°, δ88.00000°, λ-170.00000°. Principal axes: T -136.4400, Plg6.0000°, Azm183.0000°; N 108.5100, Plg80.0000°, Azm59.0000°; P 27.9300, Plg8.0000°, Azm274.0000°;*
*NOU **17** 02:31:57.6, 42°.48S×173°.83E, h1km, MLv4.5/12, South Island, New Zealand*
*IDC **17** 02:31:58.2±2.3, 42°.34S×173°.46E, h0km, mb3.4/2, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=46.6km s-min=36.5km az=125.0*
*WEL **17** 02:32:00.1±0.4, 42°S±3°×17°4E±°, h12km, M4.2/37, ML4.5/13, MLv4.2/37, Error ellipse: s-maj=0.0km s-min=0.0km az=132.4*
ISC 17 02:31:59.4±0.9**, 42°.41S**±0°.03×**173°.76E**±0°.04**, h21km, n118, σ1s.37**/118**, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
BSWZ	Blackbirch Sta	0.70	7	P	Pb	02 32 11.6	-1.3
CMWZ	Cape Campbell	0.74	27	P	Pb	02 32 14.4	+0.8
GVZ	Greta Valley S	0.77	223	P	Pn	02 32 15.9	+0.8
GVZ				S	Sn	02 32 28.7	+2.5
THZ	Tophouse	0.91	315	P	Pb	02 32 14.6	-1.8
THZ				S	Sb	02 32 24.7	-3.4
TUWZ	Tuamarina	0.99	8	P	Pn	02 32 16.9	-1.1
AMCZ	Amberley	1.12	226	P	Pb	02 32 20.8	+0.7
LTZ	Lake Taylor	1.16	251	P	Pn	02 32 20.3	-0.1
NNZ	Nelson	1.22	346	P	Pn	02 32 20.1	-1.1
MRNZ	Matariki Terra	1.25	323	P	Pn	02 32 21.0	-0.7
TCW	Tory Channel	1.26	18	P	Pn	02 32 21.2	-0.5
SNZO	South Karori	1.30	33	P	Pn	02 32 22.4	0.0
WEL	Wellington	1.35	34	P	Pn	02 32 23.0	0.0
PLWZ	Palliser	1.39	54	P	Pn	02 32 23.3	-0.3
OKCZ	Okains Bay	1.41	201	P	Pb	02 32 24.5	-0.5
MSWZ	Moikau Station	1.49	49	P	Pn	02 32 24.6	-0.4
TKNZ	Takaka Hill	1.50	336	P	Pn	02 32 25.0	0.0
MQZ	McQueen's Vall	1.53	212	P	Pn	02 32 25.2	-0.2
OXZ	Oxford	1.56	233	P	Pn	02 32 25.7	-0.2
AKCZ	Akaroa Harbour	1.59	203	P	Pb	02 32 26.8	-1.3
DSZ	Denniston Nort	1.60	294	P	Pn	02 32 26.5	0.0
DUWZ	D'Urville Isla	1.61	4	P	Pn	02 32 26.4	-0.2
PAWZ	Paruwai Farm	1.61	51	P	Pn	02 32 26.1	-0.6
CAW	Cannon Point	1.63	37	P	Pn	02 32 26.5	-0.3
INZ	Inchbonnie	1.74	259	P	Pn	02 32 28.6	+0.2
TRWZ	Traveller	1.76	56	P	Pn	02 32 27.9	-0.8
KIW	Kapiti Island	1.77	30	P	Pn	02 32 28.7	-0.1
RACZ	Rakaia	1.77	221	P	Pn	02 32 28.8	-0.1
MTW	Mount Morrison	1.80	47	P	Pn	02 32 28.5	-0.7
QRZ	Quartz Range	1.83	329	P	Pn	02 32 31.1	+1.5
QRZ	Quartz Range	1.83	329	P	Pn	02 32 30.2	+0.6
OGWZ	Otaki Gorge	1.91	34	P	Pn	02 32 30.3	-0.4
MHCZ	Mount Hutt	1.96	234	P	Pn	02 32 31.1	-0.4
HOWZ	Holdsworth Sta	2.00	42	P	Pn	02 32 31.2	-0.8
TMWZ	Te Maipa	2.06	52	P	Pn	02 32 31.9	-0.9
WACZ	Wakanui South	2.08	222	P	Pn	02 32 33.2	+0.1
MRZ	Mangatainoka R	2.22	39	P	Pn	02 32 34.1	-0.8
TIWZ	Tintock	2.28	45	P	Pn	02 32 36.6	+0.7
WVZ	Waitaha Valley	2.33	252	P	Pn	02 32 36.8	+0.4
CPWZ	Castlepoint	2.36	52	P	Pn	02 32 36.4	-0.6
RPZ	Rata Peaks	2.38	236	Pn	Pn	02 32 36.8	-0.3
	38nm,0.3s,baz=47,slow=14,SNR=95						
RPZ				Sn	Sn	02 33 05.1	-0.6
	134nm,0.3s,baz=337,slow=23,SNR=56						
	110nm,0.3s						
RPZ	Rata Peaks	2.38	236	P	Pn	02 32 37.3	+0.2
RPZ	Rata Peaks	2.38	236	P	Pn	02 32 36.9	-0.3
ARCZ	Arundel	2.44	230	P	Pn	02 32 37.6	-0.4
PRWZ	Pori Road	2.49	43	P	Pn	02 32 40.4	+1.7
OHWZ	Ohakea	2.49	29	P	Pb	02 32 44.0	+0.6
POWZ	Post Office Ro	2.52	38	P	Pn	02 32 39.3	+0.2
BFZ	Birch Farm	2.54	48	P	Pn	02 32 38.4	-1.0
BFZ	Birch Farm	2.54	48	P	Pn	02 32 38.1	-1.3
GCSZ	Gaunt Creek Bo	2.68	249	P	Pn	02 32 42.0	+0.6
DVHZ	Dannevirke	2.78	41	P	Pn	02 32 41.0	-1.7
WAZ	Wanganui	2.81	20	P	Pn	02 32 44.8	+1.7
TMZ	Timaru	2.82	225	P	Pn	02 32 43.1	-0.1
ANWZ	Angora Road	2.82	47	P	Pn	02 32 42.8	-0.4
TSZ	Takapari Road	2.87	36	P	Pn	02 32 43.0	-1.0
NMEZ	Namu Road	2.99	2	P	Pb	02 32 52.3	+0.3
PNHZ	Pukenui	3.10	37	P	Pn	02 32 45.7	-1.4
FOZ	Fox Glacier	3.10	247	P	Pn	02 32 48.2	+1.0
KHEZ	Kahui Hut	3.12	4	P	Pn	02 32 51.7	+4.3
NBEZ	Newall Road No	3.14	2	P	Pn	02 32 51.4	+3.8
NEZ	North Egmont	3.15	5	P	Pb	02 32 52.8	-1.9
PKE	Pukeiti	3.21	3	P	Pn	02 32 52.1	+3.4
DREZ	Durham Road	3.23	6	P	Pb	02 32 55.9	-0.2

LBZ	Lake Benmore	3.27	232	P		Pn	02 32 49.4	-0.1
PKVZ	Pokaka	3.34	22	P		Pn	02 32 51.2	+0.8
MHEZ	Mangahewa	3.35	8	P		Pb	02 32 57.5	-0.7
MOVZ	Moawhango	3.36	27	P		Pn	02 32 51.0	+0.3
VRZ	Vera Road	3.37	13	P		Pn	02 32 52.2	+1.5
WNVZ	Wahianoa	3.38	25	P		Pn	02 32 51.1	0.0
TRVZ	Turoa	3.39	24	P		Pn	02 32 52.2	+0.9
BHHZ	Black Hill Sta	3.40	32	P		Pn	02 32 48.8	-2.5
BHHZ				P		Pb	02 32 52.8	-6.1
WHVZ	Whangaehu Hut	3.42	25	P		Pn	02 32 53.3	+1.7
FWVZ	Far West T-bar	3.43	24	P		Pn	02 32 52.7	+0.9
TUVZ	Tukino	3.45	25	P		Pn	02 32 52.5	+0.5
ODZ	Otahua Downs	3.47	220	P		Pn	02 32 52.2	0.0
ODZ	Otahua Downs	3.47	220	P		Pn	02 32 51.8	-0.4
KAHZ	Kahuranaki	3.52	43	P		Pn	02 32 52.0	-0.8
NGZ	Ngauruhoe	3.52	24	P		Pn	02 32 53.4	+0.4
SNVZ	South Ngauruho	3.52	25	P		Pn	02 32 54.3	+1.3
OTVZ	Oturere	3.55	25	P		Pn	02 32 53.9	+0.5
NNVZ	North Ngauruho	3.56	24	P		Pn	02 32 54.1	+0.5
TWVZ	Taurewa	3.57	21	P		Pn	02 32 53.9	+0.2
WTVZ	West Tongariro	3.57	24	P		Pn	02 32 55.4	+1.7
ETVZ	East Tongariro	3.59	25	P		Pn	02 32 54.2	+0.3
KRVZ	Karewarewa	3.60	24	P		Pn	02 32 58.5	+4.3
TMVZ	Te Maari	3.60	25	P		Pn	02 32 55.5	+1.4
BKZ	Black Stump Fm	3.85	34	P		Pn	02 32 59.9	+2.5
BKZ	Black Stump Fm	3.85	34	P		Pn	02 33 00.4	+3.0
HIZ	Hauiti	3.98	12	P		Pn	02 33 00.7	+1.5
HIZ	Hauiti	3.98	12	P		Pn	02 33 00.8	+1.6
JCZ	Jackson Bay	4.00	244	P		Pn	02 33 00.0	+0.5
JCZ	Jackson Bay	4.00	244	P		Pn	02 32 58.5	-1.0
HHSZ	Highcliff Hill	4.15	212	P		Pn	02 33 01.7	+0.1
WKZ	Wanaka	4.21	233	P		Pn	02 33 02.1	-0.2
MTHZ	Maungataniwha	4.25	34	P		Pn	02 33 06.2	+3.1
EAZ	Earnscleugh	4.28	227	P		Pn	02 33 02.9	-0.4
TUZ	Tuapeka	4.62	219	P		Pn	02 33 08.1	+0.1
TOZ	Tahuroa Road	4.86	17	P		Pn	02 33 11.5	+0.2
URZ	Urewera	4.87	33	P		Pn	02 33 11.7	+0.3
URZ	Urewera	4.87	33	P		Pn	02 33 10.7	-0.7
MLZ	Mavora Lakes	5.04	232	P		Pn	02 33 13.9	+0.2
SYZ	Scrubby Hill	5.29	217	P		Pn	02 33 17.5	+0.4
SYZ	Scrubby Hill	5.29	217	P		Pn	02 33 17.4	+0.3
RUGZ	Raukumara Rang	5.36	35	P		Pn	02 33 22.4	+4.2
AWAZ	Awhitu Peninsu	5.38	8	P		Pn	02 33 19.4	+1.0
MKAZ	Moumakai	5.41	12	P		Pn	02 33 19.7	+1.0
WHZ	Wether Hill Ro	5.44	228	P		Pn	02 33 19.1	-0.2
WTAZ	Waiatarua	5.50	7	P		Pn	02 33 25.4	+5.3
ETAZ	East Tamaki Re	5.52	10	P		Pn	02 33 27.3	+6.9
PUZ	Puketiti	5.53	40	P		Pn	02 33 23.6	+3.1
HAZ	Te Kaha	5.58	35	P		Pn	02 33 23.7	+2.6
KUZ	Kuaotunu	5.85	16	P		Pn	02 33 26.6	+1.7
APZ	The Paps	6.04	221	P		Pn	02 33 27.1	-0.4
CTZ	Chatham Island	7.17	104	P		Pn	02 33 42.9	-0.1
CTZ	Chatham Island	7.17	104	P		Pn	02 33 42.8	-0.1
OUZ	Omahuta	7.18	359	P		Pn	02 33 48.7	+5.6
ASAR	**Alice Springs**	**37.86**	**287**	P		**P**	**02 39 15.2**	**+0.4**
	0.1nm,0.4s,baz=123,slow=6.9,SNR=1.5 0.1nm,0.4s							
WRA	**Warramunga Arr**	**40.00**	**292**	P		**P**	**02 39 32.4**	**-0.3**
	0.5nm,0.7s,baz=129,slow=8.0,SNR=7.9 0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**150.04**	**196**	PKPbc		**PKiKP**	**02 51 50.6**	**+1.0**
	0.3nm,0.4s,baz=171,slow=2.7,SNR=7.6							

*NOU **17** 02:43:54.0,20°.44S×168°.34E,h0km,MLv4.0/10, Loyalty Islands*
*NEIC **17** 02:43:56.3±1.3,20°.50S±0°.02×168°.19E±0°.03,h6km±8km, mb4.5/6, Error ellipse: s-maj=4.9km s-min=1.5km az=119.0*
*IDC **17** 02:43:58.2±10.0,20°.29S×167°.66E,h0km,mb4.0/3, mbtmp3.9/4,ML3.2/1,MS3.4/3,Error ellipse: s-maj=183.8km s-min=39.4km az=93.0*

ISC 17 02:43:55.7±1.1,20°.48S±0°.05×168°.24E±0°.07,h10km,n27, σ1°.91/28,mb4.3/7,MS3.5/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**0.98**	**252**		**Pg**	**02 44 14.1**	**-0.5**
LIFNC				Sg	**Sg**	**02 44 26.1**	**-1.3**
MARNC	**Mare, Loyalty**	**1.01**	**191**	Pg	**Pg**	**02 44 15.1**	**-0.2**
MARNC				Sg	**Sg**	**02 44 27.9**	**-0.3**
MARNC	**Mare, Loyalty**	**1.01**	**191**	P	**Pg**	**02 44 15.0**	**-0.3**
YATNC	**Mamie plateau,**	**2.01**	**218**	P	**Pn**	**02 44 28.6**	**-1.2**
DZM	**Mont Dzumac**	**2.30**	**226**	Pn	**Pn**	**02 44 34.0**	**+0.2**
	7.6nm,0.3s,baz=102,slow=9.4,SNR=271						
DZM				Sn	**Sn**	**02 45 02.5**	**+0.2**
	37nm,0.3s,baz=128,slow=23,SNR=7.2 28nm,0.2s						
DZM	**Mont Dzumac**	**2.30**	**226**		**Pn**	**02 44 33.9**	**0.0**
DZM	**Mont Dzumac**	**2.30**	**226**	P	**Pn**	**02 44 34.3**	**+0.4**
OUENC	**Ouen Island, N**	**2.33**	**214**		**Pn**	**02 44 34.8**	**+0.7**
OUENC	**Ouen Island, N**	**2.33**	**214**	P	**Pn**	**02 44 35.1**	**+1.0**
ONTNC	**Ouen Toro**	**2.46**	**222**		**Pn**	**02 44 36.4**	**+0.5**
ONTNC	**Ouen Toro**	**2.46**	**222**	P	**Pn**	**02 44 36.8**	**+0.8**
RTV	**Rentapao**	**2.68**	**4**	P	**Pn**	**02 44 37.5**	**-1.4**
DVP	**Devils Point**	**2.74**	**359**	P	**Pn**	**02 44 41.5**	**+1.7**
KOUNC	**Koumac, New Ca**	**3.70**	**268**	Pn	**Pn**	**02 44 54.1**	**+1.1**
KOUNC	**Koumac, New Ca**	**3.70**	**268**	P	**Pn**	**02 44 54.4**	**+1.4**
COEN	**Coen**	**24.78**	**281**	P	**P**	**02 49 16.9**	**-1.1**
COEN				IAmb	IAmb	02 49 30.1	
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**26.39**	**239**	P	**P**	**02 49 34.0**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=38,slow=12,SNR=2.9						
STKA				LR	LR	02 59 06.2	
	comp=Z,41nm,18.4s,baz=304,slow=35 comp=Z,1.6nm,0.5s						
WB0	**Warramunga Arr**	**31.75**	**265**	P	**P**	**02 50 19.9**	**-0.5**
WB0				IAmb	IAmb	02 50 23.1	
	comp=Z,8.6nm,1.4s						
WB2	**Warramunga Arr**	**31.77**	**265**	P	**P**	**02 50 19.4**	**-1.1**
WB2				IAmb	IAmb	02 50 54.6	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**31.78**	**265**	P	**P**	**02 50 19.5**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=92,slow=8.5,SNR=15 comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**31.78**	**265**	P	**P**	**02 50 19.7**	**-0.9**
AS31	**Alice Springs**	**31.93**	**258**	P	**P**	**02 50 22.1**	**+0.2**
AS31				IAmb	IAmb	02 50 22.4	
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**31.93**	**258**	P	**P**	**02 50 22.0**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=90,slow=9.7,SNR=30 comp=Z,2.8nm,0.7s						
ASAR	**Alice Springs**	**31.93**	**258**	P	**P**	**02 50 22.2**	**+0.3**
FORT	**Forrest**	**37.47**	**246**	P	**P**	**02 51 11.7**	**+2.1**
DAV	**Davao City (W)**	**50.07**	**299**	LR	LR	03 10 41.4	
	comp=Z,52nm,21.6s,baz=113,slow=32						
ILAR	**Eielson Array**	**91.69**	**18**	LR	LR	03 32 35.8	
	comp=Z,25nm,20.4s,baz=301,slow=32						

IDC 17 03:15:49.5±2.3,6°.46N×124°.76E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=210.3km s-min=25.8km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.88**	**160**	P	P	03 21 41.3	0.0
	0.4nm,0.3s,baz=341,slow=9.2,SNR=22 0.4nm,0.3s						
ASAR	**Alice Springs**	**31.25**	**164**	P	P	03 22 11.1	-0.1
	0.6nm,0.5s,baz=341,slow=7.0,SNR=14 0.6nm,0.5s						
MKAR	**Makanchi Array**	**54.21**	**325**	P	P	03 25 17.0	0.0
	0.5nm,0.6s,baz=116,slow=6.4,SNR=6.1 0.5nm,0.6s						

*IDC **17** 03:24:52.0±9.1,42°.10S×173°.78E,h0km,mb3.5/2, mbtmp3.5/2,Error ellipse: s-maj=533.0km s-min=52.1km az=36.0*
*WEL **17** 03:24:55.4±0.5,42°.5±3°.1×17°.4E±°,h12km,M3.6/27, ML3.9/12,MLv3.6/27,Error ellipse: s-maj=0.0km s-min=0.0km az=123.6*

ISC 17 03:24:54.5±1.0,42°.39S±0°.04×173°.91E±0°.05,h21km,n66, σ0°.98/67,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.67**	**358**	P	**Pb**	**03 25 06.8**	**-0.8**
CMWZ	**Cape Campbell**	**0.68**	**20**	P	**Pn**	**03 25 09.9**	**+1.1**
GVZ	**Greta Valley S**	**0.87**	**228**	P	**Pb**	**03 25 11.9**	**+1.0**
GVZ				S	**Sn**	**03 25 25.1**	**+1.6**
TUWZ	**Tuamarina**	**0.96**	**1**	P	**Pb**	**03 25 12.2**	**-0.2**
THZ	**Tophouse**	**0.97**	**310**	P	**Pb**	**03 25 11.1**	**-1.6**
TCW	**Tory Channel**	**1.21**	**13**	P	**Pn**	**03 25 16.3**	**+0.2**
AMCZ	**Amberley**	**1.22**	**229**	P	**Pn**	**03 25 16.8**	**+0.5**
NNZ	**Nelson**	**1.24**	**341**	P	**Pn**	**03 25 16.1**	**-0.4**
LTZ	**Lake Taylor**	**1.27**	**251**	P	**Pn**	**03 25 17.0**	**-0.1**
WEL	**Wellington**	**1.28**	**30**	P	**Pn**	**03 25 17.7**	**+0.6**
PLWZ	**Palliser**	**1.29**	**51**	P	**Pn**	**03 25 17.8**	**+0.4**
MRNZ	**Matariki Terra**	**1.31**	**319**	P	**Pb**	**03 25 17.7**	**-0.7**
MSWZ	**Moikau Station**	**1.39**	**46**	P	**Pn**	**03 25 19.1**	**+0.4**
OKCZ	**Okains Bay**	**1.47**	**205**	P	**Pn**	**03 25 20.2**	**+0.4**
PAWZ	**Paruwai Farm**	**1.52**	**49**	P	**Pn**	**03 25 20.6**	**+0.2**
TKNZ	**Takaka Hill**	**1.53**	**332**	P	**Pb**	**03 25 21.2**	**-0.9**
CAW	**Cannon Point**	**1.54**	**34**	P	**Pn**	**03 25 21.3**	**+0.5**
DUWZ	**D'Urville Isla**	**1.58**	**0**	P	**Pn**	**03 25 22.0**	**+0.6**
MQZ	**McQueen's Vall**	**1.61**	**215**	P	**Pn**	**03 25 21.2**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.65**	**206**	P	**Pn**	**03 25 22.6**	**+0.2**
TRWZ	**Traveller**	**1.66**	**54**	P	**Pn**	**03 25 22.3**	**0.0**
OXZ	**Oxford**	**1.67**	**235**	P	**Pn**	**03 25 22.0**	**-0.5**
DSZ	**Denniston Nort**	**1.69**	**292**	P	**Pn**	**03 25 23.5**	**+0.6**
KIW	**Kapiti Island**	**1.70**	**26**	P	**Pn**	**03 25 23.6**	**+0.6**
MTW	**Mount Morrison**	**1.71**	**45**	P	**Pn**	**03 25 22.8**	**-0.3**
OGWZ	**Otaki Gorge**	**1.83**	**31**	P	**Pn**	**03 25 25.1**	**+0.3**
INZ	**Inchbonnie**	**1.85**	**259**	P	**Pn**	**03 25 25.3**	**+0.3**
RACZ	**Rakaia**	**1.86**	**224**	P	**Pn**	**03 25 24.8**	**-0.4**
QRZ	**Quartz Range**	**1.87**	**326**	P	**Pb**	**03 25 26.7**	**-1.4**
TMWZ	**Te Maipa**	**1.96**	**50**	P	**Pn**	**03 25 26.2**	**-0.3**
MHCZ	**Mount Hutt**	**2.06**	**236**	P	**Pn**	**03 25 27.4**	**-0.7**
MRZ	**Mangatainoka R**	**2.13**	**37**	P	**Pn**	**03 25 28.9**	**0.0**
WACZ	**Wakanui South**	**2.17**	**224**	P	**Pn**	**03 25 29.2**	**-0.2**
WVZ	**Waitaha Valley**	**2.44**	**253**	P	**Pn**	**03 25 33.6**	**+0.5**
RPZ	**Rata Peaks**	**2.48**	**237**	P	**Pn**	**03 25 33.2**	**-0.4**
ARCZ	**Arundel**	**2.54**	**231**	P	**Pn**	**03 25 33.8**	**-0.6**
DVHZ	**Dannevirke**	**2.69**	**40**	P	**Pn**	**03 25 35.7**	**-0.9**
WAZ	**Wanganui**	**2.75**	**18**	P	**Pn**	**03 25 39.5**	**+2.1**
GCSZ	**Gaunt Creek Bo**	**2.79**	**249**	P	**Pn**	**03 25 38.6**	**+0.6**
TSZ	**Takapari Road**	**2.79**	**34**	P	**Pn**	**03 25 37.9**	**-0.1**
TMZ	**Timaru**	**2.91**	**226**	P	**Pn**	**03 25 39.5**	**-0.1**
PNHZ	**Pukenui**	**3.02**	**36**	P	**Pn**	**03 25 40.5**	**-0.6**
KHEZ	**Kahui Hut**	**3.09**	**2**	P	**Pb**	**03 25 47.3**	**-1.5**
NEZ	**North Egmont**	**3.12**	**3**	P	**Pb**	**03 25 48.4**	**-0.9**
FOZ	**Fox Glacier**	**3.22**	**248**	P	**Pn**	**03 25 44.7**	**+0.9**
MTVZ	**Mangateitei**	**3.23**	**22**	P	**Pn**	**03 25 42.9**	**-1.1**
MOVZ	**Moawhango**	**3.29**	**26**	P	**Pn**	**03 25 45.2**	**+0.3**
WNVZ	**Wahianoa**	**3.31**	**23**	P	**Pn**	**03 25 46.2**	**+0.9**
BHHZ	**Black Hill Sta**	**3.32**	**30**	P	**Pn**	**03 25 45.4**	**+0.1**
VRZ	**Vera Road**	**3.32**	**11**	P	**Pn**	**03 25 47.1**	**+1.9**
TRVZ	**Turoa**	**3.33**	**22**	P	**Pn**	**03 25 46.9**	**+1.4**
LBZ	**Lake Benmore**	**3.37**	**232**	P	**Pn**	**03 25 45.8**	**-0.1**
TUVZ	**Tukino**	**3.39**	**24**	P	**Pn**	**03 25 47.5**	**+1.2**
NGZ	**Ngauruhoe**	**3.46**	**22**	P	**Pb**	**03 25 54.1**	**-1.0**
NNVZ	**North Ngauruho**	**3.50**	**22**	P	**Pn**	**03 25 49.1**	**+1.3**
WTVZ	**West Tongariro**	**3.51**	**22**	P	**Pn**	**03 25 50.3**	**+2.4**
ETVZ	**East Tongariro**	**3.52**	**23**	P	**Pn**	**03 25 49.2**	**+1.1**
TMVZ	**Te Maari**	**3.54**	**23**	P	**Pn**	**03 25 49.6**	**+1.2**
ODZ	**Otahua Downs**	**3.56**	**221**	P	**Pn**	**03 25 48.3**	**-0.2**
HIZ	**Hauiti**	**3.94**	**11**	P	**Pn**	**03 25 55.6**	**+1.9**
TLZ	**Tolley Road**	**4.24**	**18**	P	**Pn**	**03 26 00.2**	**+2.3**
EAZ	**Earnscleugh**	**4.38**	**228**	P	**Pn**	**03 25 59.1**	**-0.6**
AWAZ	**Awhitu Peninsu**	**5.35**	**6**	P	**Pn**	**03 26 14.7**	**+1.6**
ASAR	**Alice Springs**	**37.96**	**287**	P	**P**	**03 32 09.9**	**-0.9**
	0.2nm,0.3s,baz=130,slow=6.9,SNR=1.6 0.2nm,0.3s						
WRA	**Warramunga Arr**	**40.09**	**291**	P	**P**	**03 32 27.7**	**-1.0**
	0.5nm,0.8s,baz=131,slow=8.1,SNR=16 0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.09**	**195**	PKPbc	**PKPbc**	**03 44 45.3**	**+1.3**
	0.3nm,0.8s,baz=188,slow=2.4,SNR=2.3						

*IDC **17** 03:29:30.7±0.7,4°.31S×152°.01E,h179km±6km,mb3.6/5, mbtmp4.1/6,Error ellipse: s-maj=29.1km s-min=18.7km az=117.0*

ISC 17 03:29:30.6±1.1,4°.3S±0°.2×152°.0E±0°.2,h181km±8km,n8, σ0°.75/12,mb3.9/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.05**	**178**	P	**Pn**	**03 29 54.8**	**+0.2**
	205nm,0.3s,baz=319,slow=1.4,SNR=25						
KRVT				S	**Sn**	**03 30 12.5**	**-0.6**
	174nm,0.7s,baz=153,slow=22,SNR=8.7						
CTA	**Charters Tower**	**16.71**	**199**	P	**Pn**	**03 33 14.8**	**+0.2**
	6.1nm,0.7s,baz=3.6,slow=13,SNR=5.4						
DZM	**Mont Dzumac**	**22.56**	**143**	P	**P**	**03 34 16.3**	**+0.4**
	7.1nm,0.7s,baz=330,slow=20,SNR=5.4 7.1nm,0.7s						
WRA	**Warramunga Arr**	**23.24**	**226**	P	**P**	**03 34 23.4**	**+1.4**
	8.2nm,0.5s,baz=51,slow=9.5,SNR=192						
WRA				PcP	**PcP**	**03 38 03.4**	**-1.0**
	0.2nm,0.5s,baz=58,slow=3.3,SNR=1.3						
WRA				S	**S**	**03 38 20.1**	**-0.4**
	0.7nm,0.8s,baz=55,slow=19,SNR=4.1 8.2nm,0.5s						
ASAR	**Alice Springs**	**26.04**	**221**	P	**P**	**03 34 47.5**	**+0.2**
	0.6nm,0.3s,baz=54,slow=9.2,SNR=14						
ASAR				S	**S**	**03 39 04.5**	**-0.5**
	0.2nm,0.5s,baz=42,slow=14,SNR=1.9 0.6nm,0.3s						
STKA	**Stephens Creek**	**29.17**	**198**	P	**P**	**03 35 14.7**	**-0.3**
	1.3nm,0.6s,baz=1.0,slow=14,SNR=2.9 1.3nm,0.6s						
MKAR	**Makanchi Array**	**79.41**	**319**	P	**P**	**03 41 17.1**	**+0.4**
	0.2nm,0.5s,baz=97,slow=3.2,SNR=2.7 0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.40**	**289**	PKPbc	**PKPbc**	**03 48 58.8**	**-0.5**
	0.4nm,0.4s,baz=76,slow=2.7,SNR=14						

WEL 17 03:30:05.1±0.3,43°.5S±2°.2×17°.3E±°,h6km±2km,M3.2/23, ML3.5/18,MLv3.2/23,Error ellipse: s-maj=0.0km s-min=0.0km az=101.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.32**	**158**	P	Pg	03 30 12.2	+0.9
GVZ				S	Sb	03 30 17.8	-0.8
LTZ	**Lake Taylor**	**0.45**	**256**	P	Pb	03 30 14.7	-0.8
LTZ				S	Sb	03 30 21.7	-0.7
AMCZ	**Amberley**	**0.53**	**197**	P	Pb	03 30 16.7	0.0
AMCZ				S	Sb	03 30 24.7	+0.1
OXZ	**Oxford**	**0.89**	**223**	P	Pb	03 30 22.7	-0.3
THZ	**Tophouse**	**0.91**	**2**	P	Pg	03 30 22.0	-0.5
MQZ	**McQueen's Vall**	**1.05**	**189**	P	Pg	03 30 23.9	-1.2
INZ	**Inchbonnie**	**1.05**	**267**	P	Pb	03 30 25.5	-0.1
OKCZ	**Okains Bay**	**1.06**	**172**	P	Pg	03 30 24.6	-0.8
RACZ	**Rakaia**	**1.18**	**207**	P	Pg	03 30 26.4	-1.4
AKCZ	**Akaroa Harbour**	**1.20**	**179**	P	Pg	03 30 26.3	-1.8
BSWZ	**Blackbirch Sta**	**1.21**	**38**	P	Pg	03 30 27.8	-0.5
DSZ	**Denniston Nort**	**1.22**	**319**	P	Pg	03 30 28.4	0.0
MRNZ	**Matariki Terra**	**1.27**	**356**	P	Pn	03 30 28.7	-0.7
WACZ	**Wakanui South**	**1.48**	**210**	P	Pn	03 30 30.6	-1.5
TUWZ	**Tuamarina**	**1.48**	**33**	P	Pn	03 30 31.8	-0.3
NNZ	**Nelson**	**1.50**	**15**	P	Pb	03 30 32.9	-0.4
WVZ	**Waitaha Valley**	**1.62**	**255**	P	Pn	03 30 33.9	-0.1
TKNZ	**Takaka Hill**	**1.64**	**2**	P	Pb	03 30 35.2	-0.4
RPZ	**Rata Peaks**	**1.69**	**231**	P	Pn	03 30 33.9	-1.2
ARCZ	**Arundel**	**1.77**	**224**	P	Pn	03 30 34.8	-1.5
TCW	**Tory Channel**	**1.80**	**36**	P	Pn	03 30 36.2	-0.4
QRZ	**Quartz Range**	**1.86**	**352**	P	Pn	03 30 37.6	+0.2
GCSZ	**Gaunt Creek Bo**	**1.97**	**250**	P	Pn	03 30 39.1	+0.2
DUWZ	**D'Urville Isla**	**2.03**	**23**	P	Pn	03 30 40.4	+0.6
TMZ	**Timaru**	**2.18**	**218**	P	Pn	03 30 40.3	-1.6
CAW	**Cannon Point**	**2.27**	**47**	P	Pn	03 30 41.4	-1.5
FOZ	**Fox Glacier**	**2.40**	**248**	P	Pn	03 30 45.4	+0.6
LBZ	**Lake Benmore**	**2.60**	**228**	P	Pn	03 30 46.4	-1.1
MRZ	**Mangatainoka R**	**2.86**	**46**	P	Pn	03 30 49.2	-1.9
ODZ	**Otahua Downs**	**2.87**	**213**	P	Pn	03 30 49.5	-1.8
TSZ	**Takapari Road**	**3.50**	**43**	P	Pn	03 30 57.5	-2.5
EAZ	**Earnscleugh**	**3.63**	**224**	P	Pn	03 31 00.1	-1.6
WNVZ	**Wahianoa**	**3.93**	**33**	P	Pn	03 31 05.4	-0.6
TRVZ	**Turoa**	**3.93**	**32**	P	Pn	03 31 05.6	-0.5
PXZ	**Pawanui**	**4.00**	**50**	P	Pb	03 31 12.3	-3.6
TUVZ	**Tukino**	**4.00**	**33**	P	Pn	03 31 06.2	-0.8
NGZ	**Ngauruhoe**	**4.06**	**32**	P	Pn	03 31 07.4	-0.4
TMVZ	**Te Maari**	**4.15**	**32**	P	Pn	03 31 08.4	-0.6
HIZ	**Hauiti**	**4.42**	**21**	P	Pn	03 31 12.8	+0.2
SYZ	**Scrubby Hill**	**4.69**	**213**	P	Pn	03 31 14.7	-1.6

WEL 17 03:31:05.5±0.3,43°.5S±2°.1×17°.3E±°,h8km±2km,M3.4/29, ML3.6/16,MLv3.4/29,Error ellipse: s-maj=0.0km s-min=0.0km az=96.2,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.30**	**165**	P	Pg	03 31 12.2	+0.6
GVZ				S	Sb	03 31 17.5	-0.8
LTZ	**Lake Taylor**	**0.49**	**257**	P	Pg	03 31 15.8	+0.6
LTZ				S	Sb	03 31 23.4	-0.5
AMCZ	**Amberley**	**0.54**	**202**	P	Pb	03 31 17.2	-0.1
AMCZ				S	Sb	03 31 25.9	+0.7
THZ	**Tophouse**	**0.91**	**359**	P	Pg	03 31 22.9	-0.1
OXZ	**Oxford**	**0.92**	**225**	P	Pb	03 31 23.6	-0.1
MQZ	**McQueen's Vall**	**1.05**	**191**	P	Pg	03 31 24.6	-1.1
OKCZ	**Okains Bay**	**1.05**	**175**	P	Pg	03 31 25.6	-0.1
INZ	**Inchbonnie**	**1.09**	**267**	P	Pn	03 31 26.9	-0.2
BSWZ	**Blackbirch Sta**	**1.19**	**37**	P	Pn	03 31 28.5	+0.1
AKCZ	**Akaroa Harbour**	**1.20**	**181**	P	Pb	03 31 27.0	-1.5
RACZ	**Rakaia**	**1.20**	**208**	P	Pb	03 31 27.1	-1.3
DSZ	**Denniston Nort**	**1.25**	**318**	P	Pg	03 31 29.6	+0.2
MRNZ	**Matariki Terra**	**1.28**	**354**	P	Pn	03 31 29.4	-0.3
MHCZ	**Mount Hutt**	**1.31**	**229**	P	Pn	03 31 28.7	-1.5
TUWZ	**Tuamarina**	**1.46**	**32**	P	Pb	03 31 32.5	-0.3
NNZ	**Nelson**	**1.49**	**13**	P	Pg	03 31 34.0	-0.2
WACZ	**Wakanui South**	**1.50**	**212**	P	Pn	03 31 31.3	-1.3
TKNZ	**Takaka Hill**	**1.64**	**1**	P	Pb	03 31 36.1	+0.2
WVZ	**Waitaha Valley**	**1.66**	**255**	P	Pn	03 31 35.2	+0.3
RPZ	**Rata Peaks**	**1.72**	**232**	P	Pn	03 31 34.8	-0.9
TCW	**Tory Channel**	**1.78**	**35**	P	Pn	03 31 36.5	0.0
ARCZ	**Arundel**	**1.80**	**224**	P	Pn	03 31 35.7	-1.1
QRZ	**Quartz Range**	**1.87**	**351**	P	Pb	03 31 39.3	-0.5
GCSZ	**Gaunt Creek Bo**	**2.01**	**251**	P	Pn	03 31 40.2	+0.5
DUWZ	**D'Urville Isla**	**2.01**	**22**	P	Pb	03 31 41.3	-1.0
MSWZ	**Moikau Station**	**2.14**	**55**	P	Pn	03 31 40.3	-1.2
TMZ	**Timaru**	**2.21**	**219**	P	Pn	03 31 41.3	-1.1
CAW	**Cannon Point**	**2.24**	**46**	P	Pn	03 31 42.0	-0.8
KIW	**Kapiti Island**	**2.34**	**40**	P	Pn	03 31 43.9	-0.3
FOZ	**Fox Glacier**	**2.43**	**248**	P	Pn	03 31 46.4	+0.9
OGWZ	**Otaki Gorge**	**2.50**	**43**	P	Pn	03 31 45.7	-0.8
MRZ	**Mangatainoka R**	**2.83**	**46**	P	Pn	03 31 49.6	-1.3
ODZ	**Otahua Downs**	**2.89**	**214**	P	Pn	03 31 50.4	-1.3
WAZ	**Wanganui**	**3.30**	**29**	P	Pn	03 31 59.3	+1.8
JCZ	**Jackson Bay**	**3.33**	**244**	P	Pn	03 31 57.7	-0.1
TSZ	**Takapari Road**	**3.47**	**42**	P	Pn	03 31 58.3	-1.5
NBEZ	**Newall Road No**	**3.48**	**12**	P	Pb	03 32 03.7	-3.5
HHSZ	**Highcliff Hill**	**3.62**	**207**	P	Pn	03 32 00.2	-1.6
EAZ	**Earnscleugh**	**3.66**	**224**	P	Pn	03 32 00.9	-1.4
VRZ	**Vera Road**	**3.81**	**22**	P	Pn	03 32 06.6	+2.2
MOVZ	**Moawhango**	**3.90**	**34**	P	Pn	03 32 05.5	-0.3
WNVZ	**Wahianoa**	**3.91**	**

*DSN **17** 03:43:25.8±1.0,32°.19N×48°.16E,h10km,ML4.0/1,Error ellipse: s-maj=20.5km s-min=7.4km az=27.0*
*OMAN **17** 03:43:32.1±1.4,31°.98N×48°.05E,h116km±15km,Error ellipse: s-maj=20.6km s-min=7.0km az=298.0*
ISC 17 03:43:20.5±0.9,32°.64N±0°.03×47°.71E±0°.02,h20km±4km, n275,σ1ᵍ90/282,mb4.3/63,MS3.2/3,28C-8D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.36**	**277**	*e*Pg		**Pg**	**03 43 27.4**	**-0.8**
DHL1				*e*Sg		**Sb**	**03 43 34.0**	**+0.3**
IKFM	**Kafar-mosalman**	**0.89**	**7**	*e*Pg		**Pb**	**03 43 35.8**	**-1.5**
IKMR	**Kamar-syah**	**1.04**	**32**	*e*Pg		**Pb**	**03 43 38.7**	**-1.2**
IKMR				*e*			03 44 02.7	
	comp=Z,57μm,0.8s							
IDOB	**Doab**	**1.21**	**19**	*e*Pg		**Pn**	**03 43 41.4**	**-1.2**
AHWZ	**Ahwaz**	**1.52**	**148**	*e*Pg		**Pg**	**03 43 50.3**	**+0.4**
AHWZ				*e*Sg		**Sg**	**03 44 11.7**	**+1.9**
AHWZ				*e*			03 44 14.0	
	comp=Z,35μm,0.6s							
IKOM	**Komasi**	**1.54**	**354**	*e*Pg		**Pb**	**03 43 48.3**	**-0.2**
IKOM				*e*Sg		**Sg**	**03 44 09.3**	**-1.1**
IKOM				*e*			03 44 14.6	
	comp=Z,32μm,0.6s							
IBDR	**Badra**	**1.57**	**288**	*e*Pg		**Pb**	**03 43 49.0**	**+0.1**
IBDR				*e*Sg		**Sg**	**03 44 11.1**	**-0.1**
IBDR				AML		AML	03 44 22.7	
	comp=N,1μm,0.5s							
ILBA	**Ilam Banvizeh**	**1.60**	**308**	*e*Pn		**Pb**	**03 43 49.6**	**+0.2**
RAFI	**Al-Rafai**	**1.63**	**236**	*e*Pg		**Pb**	**03 43 50.0**	**+0.1**
RAFI				*e*Sg		**Sg**	**03 44 14.0**	**+0.9**
RAFI				AML		AML	03 44 16.0	
	comp=E,2μm,0.2s							
AMIS	**Naft Sefid**	**1.65**	**125**	*e*Pg		**Pb**	**03 43 50.4**	**+0.1**
AMIS				*e*Sg		**Sg**	**03 44 14.8**	**+1.0**
AMIS				*e*			03 44 27.1	
	comp=Z,36μm,0.7s							
KCHF	**Cheshme Sefid,**	**1.73**	**341**	*e*Pn		**Pb**	**03 43 51.0**	**-0.7**
KCHF				*e*			03 44 19.5	
	comp=Z,31μm,0.5s							
HSAM	**Samen**	**1.74**	**25**	*e*Pn		**Pb**	**03 43 51.1**	**-0.8**
HSAM				*e*			03 44 19.7	
	comp=Z,24μm,1.2s							
KER	**Kermanshah**	**1.81**	**345**	*e*Pn		**Pb**	**03 43 52.5**	**-0.6**
KER	**Kermanshah**	**1.81**	**345**	P		**Pb**	**03 43 52.4**	**-0.6**
IGHG	**Ghaleghazi**	**1.94**	**331**	*e*Pn		**Pb**	**03 43 54.7**	**-0.6**
IGHG				*e*			03 44 30.6	
	comp=Z,23μm,0.7s							
KHMZ	**Khomeyn**	**2.18**	**59**	*e*Pn		**Pb**	**03 43 58.7**	**-0.8**
IDHR	**Dehrash**	**2.33**	**332**	*e*Pn		**Pn**	**03 43 59.6**	**+1.6**
IDHR				*e*			03 45 24.7	
	comp=Z,9μm,1.9s							
SNGE	**Sanandaj**	**2.47**	**353**	*e*Pn		**Pb**	**03 44 02.0**	**-2.3**
HAGD	**Aghdareh**	**2.48**	**28**	*e*Pn		**Pn**	**03 44 02.0**	**+1.9**
HAGD				*e*			03 44 46.3	
	comp=Z,18μm,0.9s							
IPIR	**Pirpir**	**2.69**	**88**	*e*			03 44 46.1	
	comp=Z,15μm,0.4s							
IPIR				*e*Pn		**Pn**	**03 44 05.2**	**+2.3**
SHK1	**Shahrekord**	**2.70**	**96**	*e*Pn		**Pn**	**03 44 04.8**	**+1.7**
SHK1				*e*			03 44 47.0	
	comp=Z,11μm,0.5s							
ASAO	**Ashtian**	**2.71**	**45**	*e*Pn		**Pb**	**03 44 06.0**	**-2.6**
ABEH	**Behbahan**	**2.97**	**132**	*e*Pn		**Pn**	**03 44 08.5**	**+1.9**
IBRJ	**Brojen**	**3.09**	**103**	*e*Pn		**Pn**	**03 44 10.1**	**+1.6**
QAMS	**Qamsar**	**3.28**	**69**	*e*Pn		**Pn**	**03 44 12.5**	**+1.5**
IRAZ	**Razeghan**	**3.32**	**33**	*e*Pn		**Pn**	**03 44 14.1**	**+2.5**
IRAZ				*e*			03 45 15.0	
	comp=Z,8μm,0.9s							
IKLH	**Kolahrood**	**3.32**	**77**	*e*Pn		**Pn**	**03 44 13.8**	**+2.2**
IKLH				*e*			03 45 24.2	
	comp=Z,12μm,0.8s							
GHVR	**GHOM**	**3.51**	**57**	*e*Pn		**Pn**	**03 44 16.9**	**+2.8**
IQOM	**Qom**	**3.56**	**51**	*e*Pn		**Pn**	**03 44 16.9**	**+2.0**
IQOM				*e*			03 44 31.2	
	comp=Z,6μm,0.6s							
IGAR	**Gharneh**	**3.67**	**92**	*e*Pn		**Pn**	**03 44 18.0**	**+1.7**
IGAR				*e*			03 45 24.1	
	comp=Z,4μm,0.7s							
KLNJ	**Kolanjah**	**3.68**	**115**	*e*Pn		**Pn**	**03 44 18.0**	**+1.3**
KLNJ				*e*			03 45 31.9	
	comp=Z,7μm,0.6s							
IZEF	**Zefreh**	**3.90**	**85**	*e*Pn		**Pn**	**03 44 21.2**	**+1.6**
IZEF				*e*			03 44 33.6	
	comp=Z,3μm,0.6s							
IMHD	**Mahdasht**	**3.91**	**38**	*e*Pn		**Pn**	**03 44 21.8**	**+2.3**
IMHD				*e*			03 45 28.6	
	comp=Z,3μm,0.8s							
IKRK	**Kirkuk**	**3.93**	**316**	*e*Pn		**Pn**	**03 44 21.0**	**+1.3**
IKRK				*e*Sn		**Sn**	**03 45 07.0**	**+1.8**
IKRK				AML		AML	03 45 43.0	
	comp=N,376nm,0.5s							
KRSH	**Karshahi**	**3.94**	**69**	*e*Pn		**Pn**	**03 44 21.8**	**+1.8**
KRSH				*e*			03 44 36.9	
	comp=Z,7μm,0.8s							
QSDN	**Sirdan**	**4.04**	**17**	*e*Pn		**Pn**	**03 44 24.1**	**+2.6**
IRAM	**Ramesheh**	**4.04**	**101**	*e*Pn		**Pn**	**03 44 22.7**	**+1.2**
IRAM				*e*			03 45 38.2	
	comp=Z,2μm,0.6s							
IHSB	**Hasanabad**	**4.07**	**46**	*e*Pn		**Pn**	**03 44 23.7**	**+1.9**
IVRN	**Varamin**	**4.09**	**54**	*e*Pn		**Pn**	**03 44 23.9**	**+1.9**
IVRN				*e*			03 44 35.3	
	comp=Z,5μm,0.8s							
ZNJK	**Zanjan**	**4.10**	**11**	*e*Pn		**Pn**	**03 44 24.8**	**+2.4**
ISFB	**Sefidab**	**4.16**	**64**	*e*Pn		**Pn**	**03 44 24.3**	**+1.4**
ISFB				*e*			03 45 36.2	
	comp=Z,2μm,0.6s							
IGZV	**Ghazvin**	**4.28**	**28**	*e*Pn		**Pn**	**03 44 26.1**	**+1.4**
NASN	**Na'in**	**4.30**	**86**	*e*Pn		**Pn**	**03 44 26.6**	**+1.5**
CHTH	**Charan**	**4.32**	**40**	*e*Pn		**Pn**	**03 44 27.8**	**+2.5**
JIR1	**Jirandeh**	**4.41**	**22**	*e*Pn		**Pn**	**03 44 28.3**	**+1.8**
MAHB	**Mahabad**	**4.44**	**339**	*e*Pn		**Pn**	**03 44 28.6**	**+1.7**
SRFHA	**Rafha**	**4.47**	**217**	P		**Pn**	**03 44 29.3**	**+2.0**
SRFHA	**Rafha**	**4.47**	**217**	S		**Sn**	**03 45 23.6**	**+4.8**
QALM	**Alamut, Qazvin**	**4.50**	**32**	*e*Pn		**Pn**	**03 44 29.4**	**+1.7**
IDMV	**Damavand**	**4.63**	**50**	*e*Pn		**Pn**	**03 44 31.2**	**+1.5**
GIDE	**GILAN DEYLAMAN**	**4.64**	**22**	*e*Pn		**Pn**	**03 44 32.3**	**+2.6**
KLST	**Kelardasht - M**	**4.76**	**35**	*e*Pn		**Pn**	**03 44 33.4**	**+2.0**
QYSM	**Um Kedad**	**4.82**	**189**	P		**Pn**	**03 44 34.1**	**+2.1**
AHBU	**AHRAM**	**4.86**	**140**	*e*Pn		**Pn**	**03 44 34.7**	**+2.1**
ANAR	**Anarak**	**5.09**	**82**	*e*Pn		**Pn**	**03 44 37.7**	**+1.9**
ISAD	**Sadrabad**	**5.11**	**97**	*e*Pn		**Pn**	**03 44 37.6**	**+1.3**
ISAD				*e*			03 44 40.0	
	comp=Z,946nm,0.4s							
IFIR	**Firoozkooh**	**5.15**	**53**	*e*Pn		**Pn**	**03 44 38.4**	**+1.7**
ILAS	**Lasjerd**	**5.15**	**56**	*e*Pn		**Pn**	**03 44 38.2**	**+1.5**
ISRB	**Sarab**	**5.18**	**360**	*e*Pn		**Pn**	**03 44 38.0**	**+0.9**
IAZR	**Azarshahr**	**5.23**	**345**	*e*			13 10 02.0	
	comp=Z,356nm,0.2s							
IPRN	**Peran**	**5.25**	**45**	*e*Pn		**Pn**	**03 44 39.7**	**+1.7**
SARAR	**Arar**	**5.42**	**247**	S		**Sn**	**03 45 41.6**	**-0.5**
SARAR	**Arar**	**5.42**	**247**	P		**Pn**	**03 44 40.6**	**+0.4**
RQBS	**RQBS**	**5.49**	**196**	P		**Pn**	**03 44 42.6**	**+1.3**
ISHM	**Shahmirzad**	**5.60**	**54**	*e*Pn		**Pn**	**03 44 44.8**	**+1.8**
ICHK	**Chekchek**	**5.68**	**92**	*e*Pn		**Pn**	**03 44 44.8**	**+0.8**
ICHK				*e*			03 46 37.2	
	comp=Z,2μm,0.8s							
GAS1	**Astara - Iran**	**5.81**	**9**	*e*Pn		**Pn**	**03 44 47.5**	**+2.0**
IANJ	**Anjilo**	**5.87**	**60**	*e*Pn		**Pn**	**03 44 47.8**	**+1.1**
IMEH	**Mehriz**	**5.99**	**100**	*e*Pn		**Pn**	**03 44 49.1**	**+0.8**
IGLO	**Ghaloghah**	**6.35**	**51**	*e*Pn		**Pn**	**03 44 55.4**	**+2.2**
SMAN	**Sihmah**	**6.44**	**177**	P		**Pn**	**03 44 55.3**	**+0.9**
NSKAK	**NSKAK**	**6.64**	**253**	P		**Pn**	**03 44 56.2**	**-0.8**
IBAF	**Bafgh**	**6.75**	**97**	*e*Pn		**Pn**	**03 44 59.7**	**+1.1**
NAX	**Nakhchivan**	**6.77**	**345**	P		Pn	03 45 04.9	+6.1
GEVA	**Gevas**	**6.81**	**327**	Pn		**Pn**	**03 44 59.9**	**+0.4**
GEVA				Sn		**Sn**	**03 46 20.7**	**+4.1**
TRAF	**Turaif**	**7.23**	**261**	P		**Pn**	**03 45 05.0**	**-0.2**
RMAH	**Rumah**	**7.30**	**186**	P		**Pn**	**03 45 07.3**	**+1.2**
MARD	**Mardin**	**7.36**	**311**	Pn		**Pn**	**03 45 06.7**	**-0.2**
TPRV	**Parvadeh(Tabas**	**7.57**	**85**	*e*Pn		**Pn**	**03 45 11.5**	**+1.7**
TNSJ	**Nastanj**	**7.57**	**78**	*e*Pn		**Pn**	**03 45 10.8**	**+1.0**
WSKAK	**WSKAK**	**7.71**	**255**	P		**Pn**	**03 45 10.7**	**-1.0**
KHGB	**Koh Gabri**	**7.82**	**104**	*e*Pn		**Pn**	**03 45 14.7**	**+1.3**
GNI	**Garni**	**7.87**	**343**	Pn		**Pn**	**03 45 16.7**	**+2.7**
	comp=Z,5.2nm,0.7s,baz=334,slow=22,SNR=1.6							
GNI				LR		LR	03 48 34.6	
	comp=Z,149nm,18.9s,baz=36,slow=40							
TABS	**Tabas**	**7.96**	**80**	*e*Pn		**Pn**	**03 45 18.5**	**+3.4**
NHRD	**Haradh**	**7.97**	**171**	P		**Pn**	**03 45 15.5**	**+0.3**
NGRK	**Negar Kerman**	**8.29**	**109**	*e*Pn		**Pn**	**03 45 20.5**	**+0.6**
MRVT	**Maraveh tapeh**	**8.50**	**52**	*e*Pn		**Pn**	**03 45 25.7**	**+3.2**
AKT	**Akhty**	**8.83**	**0**	*e*P		**Pn**	**03 45 30.7**	**+3.6**
AKT				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ASF	**Jabal al Asfar**	**9.15**	**270**	Pn		**Pn**	**03 45 29.5**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=79,slow=1.9,SNR=10							
ASF				Sn		**Sn**	**03 47 11.3**	**-2.8**
	comp=Z,1.7nm,0.3s,baz=60,slow=23,SNR=2.1							
ASF				Lg		Lg	03 48 06.2	
	comp=Z,1.1nm,0.3s,baz=112,slow=22,SNR=1.4							
	comp=Z,2.2nm,0.3s							
AFRZ	**Afriz**	**9.53**	**82**	*e*Pn		**Pn**	**03 45 38.0**	**+1.3**
IKOO	**Kooshah**	**9.54**	**88**	*e*Pn		**Pn**	**03 45 37.8**	**+0.8**
KHNJ	**Kahnooj**	**9.82**	**116**	*e*Pn		**Pn**	**03 45 42.7**	**+2.0**
SHME	**Shamm**	**9.86**	**130**	P		**Pn**	**03 45 39.2**	**-1.9**
SHME				S		**Sn**	**03 47 25.5**	**-5.7**
GEYT	**Alibeck**	**10.01**	**55**	Pn		**Pn**	**03 45 42.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=254,slow=10,SNR=1.5							
GEYT				Sn		**Sn**	**03 47 42.0**	**+7.0**
	comp=Z,0.5nm,0.3s,baz=227,slow=35,SNR=1.6							
GEYT				LR		LR	03 50 05.2	
	comp=Z,203nm,19.1s,baz=266,slow=41							
	comp=Z,0.8nm,0.4s							
BANOM	**Banah**	**10.05**	**130**	P		**Pn**	**03 45 45.0**	**+1.2**
	SNR=8.3							
BANOM	**Banah**	**10.05**	**130**	P		**Pn**	**03 45 42.1**	**-1.6**
BANOM				S		**Sn**	**03 47 30.4**	**-5.6**
MAK	**Makhachkala**	**10.31**	**359**	*e*P		Pn	03 45 40.0	-7.2
MAK				pmax	pmax			
	comp=Z,444nm,1.1s							
MAK				MLR		MLR		
	comp=Z,127nm,11.0s							
NAZ	**Nazwa, Dubai**	**10.33**	**136**	P		**Pn**	**03 45 48.0**	**+0.4**
	SNR=10							
NAZ	**Nazwa, Dubai**	**10.33**	**136**	P		**Pn**	**03 45 46.3**	**-1.3**
MSFE	**Esma-Masafi**	**10.35**	**132**	P		**Pn**	**03 45 47.1**	**-0.9**
MMAI	**Mount Meron Ar**	**10.36**	**275**	Pn		**Pn**	**03 45 47.7**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=83,slow=16,SNR=1.6							
MMAI				Sn		**Sn**	**03 47 43.1**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=86,slow=21,SNR=1.2							
MMAI				Lg		Lg	03 48 46.4	
	comp=Z,0.7nm,0.3s,baz=101,slow=30,SNR=1.8							
	comp=Z,2.6nm,0.7s							
FAQ	**Al Faqa, Dubai**	**10.47**	**137**	P		**Pn**	**03 45 49.2**	**-0.3**
IKRD	**Kardeh**	**10.56**	**64**	*e*Pn		**Pn**	**03 45 52.5**	**+1.6**
SHRT	**Shahrakht**	**10.60**	**81**	*e*Pn		**Pn**	**03 45 54.4**	**+3.1**
UOSS	**Minazif**	**10.68**	**134**	Pn		**Pn**	**03 45 52.7**	**+0.3**
UOSS	**Minazif**	**10.68**	**134**	P		**Pn**	**03 45 50.8**	**-1.7**
HATD	**Hatta, Dubai**	**10.73**	**134**	P		**Pn**	**03 45 52.3**	**-0.8**
ASHO	**Ashiyiah**	**10.79**	**135**	P		**Pn**	**03 45 55.0**	**+1.0**
	SNR=19							
ASHO	**Ashiyiah**	**10.79**	**135**	P		**Pn**	**03 45 52.9**	**-1.1**
TBJM	**Torbat-e-JAM**	**10.80**	**72**	*e*Pn		**Pn**	**03 45 55.3**	**+1.0**
IMYA	**Miami**	**10.87**	**67**	*e*Pn		**Pn**	**03 45 57.2**	**+2.0**
JRKH	**Jarkhoshk**	**10.96**	**69**	*e*Pn		**Pn**	**03 45 58.2**	**+1.9**
ALNE	**Al Ain**	**11.10**	**138**	P		**Pn**	**03 45 58.2**	**+0.1**
	SNR=6.6							
EIL	**Elat**	**11.32**	**258**	Pn		**Pn**	**03 46 00.9**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=118,slow=2.9,SNR=4.8							
EIL				Lg		Lg	03 49 14.3	
	comp=Z,0.3nm,0.3s,baz=97,slow=11,SNR=1.6							
	comp=Z,3.0nm,0.6s							
SOHO	**SOHO**	**11.49**	**135**	P		**Pn**	**03 46 01.6**	**-1.8**
KBZ	**Khabaz**	**11.70**	**343**	LR		LR	03 50 32.1	
	comp=Z,64nm,19.9s,baz=311,slow=37							
ARQ	**Araqi**	**12.10**	**138**	P		**Pn**	**03 46 12.0**	**+0.2**
	SNR=7.7							
SOC	**Sochi**	**12.60**	**332**	*e*P		**Pn**	**03 46 15.8**	**-2.8**
SOC				*e*SS		Sn	03 48 49.5	+11
SOC				MLR		MLR		
	comp=Z,160nm,18.0s							
BSY	**Bisya**	**12.95**	**137**	P		**Pn**	**03 46 23.0**	**-0.5**
	SNR=9.1							
SMDO	**Samad**	**13.21**	**134**	P		**Pn**	**03 46 28.0**	**+0.9**
	SNR=5.6							
BRTR	**Keskin Array B**	**13.38**	**306**	Pn		**Pn**	**03 46 31.1**	**+1.7**
	comp=Z,1.2nm,1.0s,baz=128,slow=12,SNR=2.8							
WSAR	**Wadi Sarin**	**13.44**	**131**	Pn		**Pn**	**03 46 27.7**	**-2.4**
	comp=Z,2.2nm,0.3s,baz=311,slow=9.9,SNR=15							
WSAR				Sn		Sn	03 48 45.6	-13
	comp=Z,0.6nm,0.3s,baz=97,slow=8.6,SNR=1.6							
	comp=Z,5.5nm,0.4s							
ANN	**Anapa**	**14.54**	**330**	*e*P		**Pn**	**03 46 41.7**	**-3.3**
ANN				pmax	pmax			
	comp=Z,38nm,1.3s							
DOK	**Doka**	**15.11**	**156**	P		**Pn**	**03 46 50.0**	**-2.9**
	SNR=8.8							
ABTO	**Aybut**	**16.03**	**160**	P		**Pn**	**03 47 03.0**	**-2.0**
	SNR=6.9							
DMTO	**DMTO**	**16.23**	**155**	P		**Pn**	**03 47 05.0**	**-2.4**
	SNR=8.3							
DMTO				S		**Sn**	**03 49 58.0**	**-9.0**
	SNR=6.9							
KBL	**Kabul**	**17.88**	**78**	P		**Pn**	**03 47 27.2**	**-1.0**
KBL	**Kabul**	**17.88**	**78**	P		**P**	**03 47 30.5**	**+1.7**
	SNR=6.8							
KBL	**Kabul**	**17.88**	**78**	P		**Pn**	**03 47 27.2**	**-1.0**
KBL				pmax	pmax			
	comp=Z,15nm,1.1s							
CHGR	**Chuyangaron**	**18.42**	**65**	P		**P**	**03 47 33.8**	**-0.9**
CHGR				IAmb	IAmb		03 47 38.8	
	comp=Z,16nm,0.6s							
CHGR	**Chuyangaron**	**18.42**	**65**	P		**P**	**03 47 33.8**	**-0.9**
CHGR				pmax	pmax			
	comp=Z,16nm,0.6s							
ABKAR	**Akbulak array**	**18.96**	**25**	P		**P**	**03 47 39.3**	**-1.1**
ABKAR	**Akbulak array**	**18.96**	**25**	P		**P**	**03 47 39.2**	**-1.1**
VRH	**Novokhopyorsk**	**19.07**	**348**	*e*P		**P**	**03 47 39.5**	**-2.0**
VRH				pmax	pmax			
	comp=Z,7.0nm,0.5s							
IDI	**Anoyia**	**19.11**	**284**	P		**P**	**03 47 41.4**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=28,slow=3.6,SNR=13							
	comp=Z,6.8nm,0.7s							
JMB	**Yambol**	**19.37**	**306**	P		**Pn**	**03 47 50.7**	**+4.6**
GAR	**Garm**	**19.38**	**65**	P		**P**	**03 47 42.1**	**-3.1**
GAR				IAmb	IAmb		03 47 50.5	
	comp=Z,24nm,0.8s							
VSR	**Storozhevoye**	**19.60**	**344**	*e*P		**P**	**03 47 46.6**	**-0.7**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.5s							
RDO	**Rodhopi**	**19.62**	**302**	P		**P**	**03 47 48.2**	**+0.5**
BELG	**Belogornoye**	**19.75**	**360**	P		**P**	**03 47 48.3**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=344,slow=12,SNR=3.6							
	comp=Z,17nm,0.8s							
VORR	**Voronezh**	**20.01**	**344**	*e*P		Pn	03 47 54.8	+1.2
VORR				pmax	pmax			
	comp=Z,40nm,0.3s							
KK31	**Karatay Array**	**20.75**	**53**	P		**P**	**03 47 57.1**	**-2.9**
KK31				IAmb	IAmb		03 48 07.2	
	comp=Z,8.7nm,0.9s							
KK31	**Karatay Array**	**20.75**	**53**	P		**P**	**03 47 57.1**	**-2.9**
KK31				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KKAR	**Karatay Array**	**20.75**	**53**	P		**P**	**03 47 59.7**	**-0.3**
KKAR				IAmb	IAmb		03 48 07.2	
	comp=Z,8.7nm,0.9s							
KKAR	**Karatay Array**	**20.75**	**53**			**P**	**03 47 59.8**	**-0.3**
KKAR	**Karatay Array**	**20.75**	**53**	P		**P**	**03 47 59.8**	**-0.2**
VRI	**Vrincioaia**	**20.86**	**315**	⇑P		Pn	03 48 04.1	+0.4
VRI	**Vrincioaia**	**20.86**	**315**	⇑P		Pn	03 48 04.1	+0.4
PLOR	**Plostina**	**20.90**	**315**	⇑P		Pn	03 48 04.9	+0.8
PLOR	**Plostina**	**20.90**	**315**	⇑P		Pn	03 48 04.9	+0.7
LPSR	**Galich'ya Gora**	**20.94**	**345**	*e*P		**P**	**03 48 00.2**	**-1.7**
LPSR				pmax	pmax			
	comp=Z,50nm,1.0s							
MLR	**Muntele Rosu**	**21.14**	**314**	⇓P		**P**	**03 48 09.8**	**+5.5**
MLR	**Muntele Rosu**	**21.14**	**314**	P		**P**	**03 48 04.6**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=133,slow=17,SNR=1.2							
	comp=Z,1.0nm,0.5s							
MLR	**Muntele Rosu**	**21.14**	**314**	P		**P**	**03 48 04.5**	**+0.3**
MLR				IAmb	IAmb		03 48 11.8	
	comp=Z,11nm,0.9s							
MLR	**Muntele Rosu**	**21.14**	**314**	⇓P		**P**	**03 48 09.8**	**+5.5**
COVR	**Voineasa-Covas**	**21.16**	**315**	⇑P		**P**	**03 48 09.8**	**+5.4**
TESR	**Tescani**	**21.26**	**317**	⇑P		**P**	**03 48 06.4**	**+1.0**
SORM	**Soroca**	**21.29**	**322**	⇑P		**P**	**03 48 05.0**	**-0.7**
SORM	**Soroca**	**21.29**	**322**	⇑P		**P**	**03 48 05.0**	**-0.7**
NIL	**Nilore**	**21.40**	**80**	P		**P**	**03 48 08.2**	**+1.1**
NIL	**Nilore**	**21.40**	**80**	P		**P**	**03 48 08.2**	**+1.1**
NIL				pmax	pmax			
	comp=Z,60nm,1.3s							
ATD	**Arta Tunnel**	**21.48**	**193**	LR		LR	03 56 56.0	
	comp=Z,53nm,18.9s,baz=351,slow=38							
OZUR		**21.54**	**315**	⇑P		**P**	**03 48 09.6**	**+1.1**
VOIR		**21.66**	**313**	⇑P		**P**	**03 48 12.1**	**+2.2**
VOIR		**21.66**	**313**	⇑P		**P**	**03 48 12.1**	**+2.2**
DOPR	**Dopca**	**21.72**	**314**	⇑P		**P**	**03 48 12.0**	**+1.7**
ARR	**Arges**	**21.89**	**312**	⇑P		**P**	**03 48 16.4**	**+4.1**
FNA	**Florina**	**22.56**	**299**	P		**P**	**03 48 18.1**	**-1.4**
FNA	**Florina**	**22.56**	**299**	P		**P**	**03 48 18.1**	**-1.4**
FNA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**22.62**	**328**	P		**P**	**03 48 18.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=130,slow=7.6,SNR=7.1							
	comp=Z,0.7nm,0.5s							
AKASG	**Malin Array Be**	**22.62**	**328**	*ce*P		**P**	**03 48 21.5**	**+1.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKBB	**Malin Array Si**	**22.62**	**328**	P		**P**	**03 48 19.6**	**-0.3**
AKBB				IAmb	IAmb		03 48 24.5	
	comp=Z,6.8nm,0.8s							
AKBB	**Malin Array Si**	**22.62**	**328**	P		**P**	**03 48 19.6**	**-0.3**
AKBB				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BURAR	**Bucovina Array**	**22.68**	**318**	⇑P		**P**	**03 48 17.3**	**-3.4**
BURAR	**Bucovina Array**	**22.68**	**318**	⇑P		**P**	**03 48 17.3**	**-3.4**
BUR08	**Bucovina Ar. S**	**22.70**	**318**	P		**P**	**03 48 21.3**	**+0.3**
BUR08				IAmb	IAmb		03 48 58.4	
	comp=Z,12nm,1.5s							
KBN	**Korca**	**22.97**	**298**	P		**P**	**03 48 25.0**	**+1.2**
KBN				IAmb	IAmb		03 48 31.5	
	comp=Z,11nm,0.9s							
KBN	**Korca**	**22.97**	**298**	P		**P**	**03 48 25.0**	**+1.2**
KBN				pmax	pmax			
	comp=Z,11nm,0.9s							
GZR	**Gura Zlata**	**23.08**	**311**	⇑P		**P**	**03 48 24.9**	**0.0**
AAK	**Ala-Archa**	**23.36**	**57**	P		**P**	**03 48 27.7**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=49,slow=21,SNR=1.7							
	comp=Z,2.3nm,0.8s							
AAK	**Ala-Archa**	**23.36**	**57**	*i* P		**P**	**03 48 29.2**	**+1.4**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MDVR	**Moldovita**	**23.52**	**309**	⇑P		**P**	**03 48 29.7**	**+0.3**
KSH	**Kashi**	**23.79**	**65**	P		**P**	**03 48 33.3**	**+1.2**
KSH				sP		sP	03 48 38.3	-2.3
KSH				pmax	pmax			
	comp=Z,13nm,0.8s							
OBN	**Obninsk**	**23.80**	**344**	P		**P**	**03 48 31.9**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=16,slow=22,SNR=1.7							
	comp=Z,2.0nm,0.4s							
OBN	**Obninsk**	**23.80**	**344**	⇓*e*P		**P**	**03 48 31.9**	**+0.1**
OBN				*e*S		S	03 52 20.6	-26
OBN				pmax	pmax			
	comp=Z,18nm,1.3s							
BZS	**Buzias**	**23.91**	**310**	⇓P		**P**	**03 48 32.7**	**-0.3**
BZS	**Buzias**	**23.91**	**310**	⇓P		**P**	**03 48 32.7**	**-0.3**
SIRR	**Siria**	**24.15**	**312**	⇑P		**P**	**03 48 33.4**	**-1.8**
DIVS	**Divibare**	**24.44**	**306**	P		**P**

MOTA	**Moosalm**		**31.34**	**309**	*eP*		**P**	**03 49 39.9**	**+0.2**
	comp=Z,6.4nm,0.9s								
FETA	**Feichten**		**31.50**	**308**	*eP*		**P**	**03 49 41.3**	**+0.1**
	comp=Z,4.7nm,0.9s								
RETA	**Reutte**		**31.60**	**309**	*eP*		**P**	**03 49 44.1**	**+2.2**
	comp=Z,3.6nm,0.9s								
FINES	**FINESS Array B**		**32.05**	**341**	P		**P**	**03 49 44.9**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=143,slow=9.3,SNR=16								
	comp=Z,1.7nm,0.5s								
FINES	**FINESS Array B**		**32.05**	**341**	*i* P		**P**	**03 49 45.4**	**-0.2**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.5s								
DAVA	**Damuels**		**32.13**	**308**	*eP*		**P**	**03 49 47.4**	**+0.8**
	comp=Z,5.6nm,0.7s								
SENIN	**Lac Senin/Sane**		**33.68**	**306**	P		**P**	**03 50 00.8**	**+0.4**
ZAA0	**Zalesovo Array**		**33.83**	**40**	P		**P**	**03 50 01.2**	**-0.1**
ZAA0					IAmb	IAmb		03 50 02.1	
	comp=Z,7.2nm,1.1s								
ZALV	**Zalesovo Beam**		**33.83**	**40**	P		**P**	**03 50 01.3**	**0.0**
	comp=Z,2.9nm,0.6s,baz=249,slow=9.1,SNR=15								
	comp=Z,2.9nm,0.6s								
ZALV	**Zalesovo Beam**		**33.83**	**40**	P		**P**	**03 50 01.0**	**-0.3**
ZALV	**Zalesovo Beam**		**33.83**	**40**	*i* P		**P**	**03 50 01.5**	**+0.2**
ZALV					pmax	pmax			
	comp=Z,3.0nm,0.6s								
BNI	**Bardonecchia**		**33.92**	**304**	P		**P**	**03 50 02.7**	**+0.3**
BNI	**Bardonecchia**		**33.92**	**304**	P		**P**	**03 50 02.7**	**+0.3**
BNI					pmax	pmax			
	comp=Z,15nm,0.8s								
DGZ	**Jazzator, Alta**		**33.94**	**48**	*i* P		**P**	**03 50 03.7**	**+1.2**
DGZ					pmax	pmax			
	comp=Z,9.0nm,1.8s								
NOA	**NORSAR Array B**		**36.97**	**331**	P		**P**	**03 50 26.8**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=135,slow=8.9,SNR=2.3								
	comp=Z,0.5nm,0.6s								
GOMU	**GeErMu**		**38.73**	**71**	P		**P**	**03 50 45.4**	**+1.6**
GOMU					pP	sP		03 50 50.1	-2.3
GOMU					sP	pP		03 50 51.8	+1.9
GOMU					pmax	pmax			
	comp=Z,3.0nm,0.7s								
GOMU					pmax	pmax			
	comp=Z,110nm,5.3s								
ARCES	**ARCESS Array B**		**39.00**	**348**	P		**P**	**03 50 45.4**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=157,slow=9.0,SNR=12								
	comp=Z,1.1nm,0.4s								
KNGR	**Kungurtug, Tuv**		**40.48**	**49**	*i* P		**P**	**03 50 59.3**	**+1.4**
KNGR					pmax	pmax			
	comp=Z,6.0nm,0.4s								
ESDC	**Sonseca Array**		**41.83**	**295**	P		**P**	**03 51 09.5**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=76,slow=8.8,SNR=9.5								
	comp=Z,1.4nm,0.8s								
NRIK	**Noril'sk**		**42.97**	**19**	P		**P**	**03 51 18.3**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=270,slow=1.0,SNR=1.8								
	comp=Z,1.4nm,0.3s								
TORD	**Torodi Ar. Bea**		**46.20**	**256**	P		**P**	**03 51 44.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=52,slow=7.6,SNR=11								
	comp=Z,0.9nm,0.5s								
SONM	**Songino Array**		**46.20**	**53**	P		**P**	**03 51 44.1**	**0.0**
	comp=Z,1.1nm,0.9s,baz=264,slow=5.5,SNR=3.7								
	comp=Z,1.1nm,0.9s								
ULN	**Ulaanbaatar**		**46.65**	**53**	*ceP*		**P**	**03 51 48.0**	**+0.3**
ULN					pmax	pmax			
	comp=Z,4.0nm,0.8s								
CMAR	**Chiang Mai Arr**		**47.90**	**94**	P		**P**	**03 51 56.4**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=308,slow=9.1,SNR=7.0								
	comp=Z,1.0nm,0.3s								
XAN	**Xi'an**		**50.47**	**71**	||P		**P**	**03 52 21.0**	**+3.8**
XAN					pP	sP		03 52 25.3	-0.6
XAN					pmax	pmax			
	comp=Z,8.0nm,1.1s								
DBIC	**Dimbokro**		**55.15**	**254**	P		**P**	**03 52 52.2**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=351,slow=2.7,SNR=2.1								
	comp=Z,2.3nm,0.7s								
HEH	**HeiHe**		**59.45**	**47**	*eP*		**P**	**03 53 21.6**	**-0.2**
HEH					pmax	pmax			
	comp=Z,11nm,0.7s								
KLR	**Kul'dur**		**62.44**	**47**	P		**P**	**03 53 41.1**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=250,slow=9.9,SNR=3.8								
	comp=Z,1.7nm,0.7s								
KSRS	**Korea Array**		**63.95**	**61**	P		**P**	**03 53 51.5**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=278,slow=7.1,SNR=6.8								
	comp=Z,1.2nm,0.6s								
BOSA	**Boshof**		**64.54**	**202**	P		**P**	**03 53 56.2**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=26,slow=6.5,SNR=3.8								
	comp=Z,3.1nm,0.8s								
SEY	**Seymchan**		**67.70**	**29**	P		**P**	**03 54 15.8**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=252,slow=11,SNR=5.4								
	comp=Z,5.2nm,0.8s								
INK	**Inuvik**		**79.36**	**0**	P		**P**	**03 55 23.6**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=191,slow=14,SNR=1.9								
	comp=Z,0.5nm,0.6s								
ILAR	**Eielson Array**		**82.24**	**6**	P		**P**	**03 55 39.4**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=358,slow=2.1,SNR=1.6								
	comp=Z,0.4nm,1.0s								
WRA	**Warramunga Arr**		**97.78**	**109**	P		**P**	**03 56 53.5**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=318,slow=4.1,SNR=2.1								
	comp=Z,0.3nm,0.9s								
ASAR	**Alice Springs**		**99.38**	**112**	P		**Pdif**	**03 57 00.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=308,slow=4.6,SNR=1.4								
	comp=Z,0.2nm,0.3s								

WEL ***17*** *03:46:24.1±0.4,42°S×17°4E, h12km, 3km, M3.5/33, ML3.7/19, MLv3.5/33, Error ellipse: s-maj=0.0km s-min=0.0km az=49.6*
NOU ***17*** *03:46:28.9,41.89S×173.74E, h76km, MLv4.1/5, South Island, New Zealand*
ISC 17 03:46:23.5±1.0, 41.80S±0.03×174.25E±0.03, h20km±5km, n85, σ1§10/88, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**330**	P	**Pg**	**03 46 27.2**	**0.0**
CMWZ				S	**Sg**	**03 46 29.6**	**0.0**
BSWZ	**Blackbirch Sta**	**0.29**	**287**	P	**Pg**	**03 46 29.9**	**-0.2**
BSWZ				S	**Sg**	**03 46 34.4**	**-0.2**
TUWZ	**Tuamarina**	**0.44**	**328**	P	**Pg**	**03 46 31.9**	**-0.6**
TCW	**Tory Channel**	**0.59**	**2**	P	**Pb**	**03 46 34.6**	**-0.6**
TCW				S	**Sb**	**03 46 41.8**	**-1.3**
WEL	**Wellington**	**0.64**	**37**	P	**Pg**	**03 46 36.7**	**+0.4**
PLWZ	**Palliser**	**0.79**	**73**	P	**Pn**	**03 46 40.3**	**+0.8**
MSWZ	**Moikau Station**	**0.84**	**63**	P	**Pn**	**03 46 41.1**	**+0.8**
NNZ	**Nelson**	**0.88**	**311**	P	**Pb**	**03 46 39.7**	**-0.4**
CAW	**Cannon Point**	**0.92**	**42**	P	**Pn**	**03 46 41.5**	**+0.2**
PAWZ	**Paruwai Farm**	**0.97**	**65**	P	**Pg**	**03 46 42.9**	**+0.4**
THZ	**Tophouse**	**1.01**	**272**	P	**Pn**	**03 46 43.0**	**+0.3**
DUWZ	**D'Urville Isla**	**1.03**	**346**	P	**Pb**	**03 46 42.2**	**-0.5**
KIW	**Kapiti Island**	**1.06**	**28**	P	**Pb**	**03 46 43.4**	**+0.2**
MTW	**Mount Morrison**	**1.14**	**56**	P	**Pb**	**03 46 44.9**	**+0.4**
TRWZ	**Traveller**	**1.15**	**70**	P	**Pb**	**03 46 45.0**	**+0.3**
MRNZ	**Matariki Terra**	**1.19**	**289**	P	**Pb**	**03 46 46.0**	**+0.6**
OGWZ	**Otaki Gorge**	**1.20**	**35**	P	**Pb**	**03 46 46.1**	**+0.5**
TKNZ	**Takaka Hill**	**1.24**	**308**	P	**Pn**	**03 46 46.1**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.31**	**47**	P	**Pn**	**03 46 47.2**	**+0.5**
TMWZ	**Te Maipa**	**1.41**	**61**	P	**Pn**	**03 46 48.5**	**+0.4**
GVZ	**Greta Valley S**	**1.48**	**217**	P	**Pb**	**03 46 50.5**	**+0.2**
MRZ	**Mangatainoka R**	**1.52**	**42**	P	**Pn**	**03 46 50.1**	**+0.6**
TIWZ	**Tintock**	**1.60**	**51**	P	**Pn**	**03 46 51.2**	**+0.4**
QRZ	**Quartz Range**	**1.62**	**306**	P	**Pb**	**03 46 52.9**	**+0.1**
QRZ	**Quartz Range**	**1.62**	**306**	P	**Pb**	**03 46 52.8**	**+0.1**
CPWZ	**Castlepoint**	**1.71**	**59**	P	**Pn**	**03 46 52.6**	**+0.3**
LTZ	**Lake Taylor**	**1.77**	**236**	P	**Pn**	**03 46 54.3**	**+1.3**
OHWZ	**Ohakea**	**1.78**	**27**	P	**Pb**	**03 46 55.6**	**+0.1**
PRWZ	**Pori Road**	**1.80**	**47**	P	**Pn**	**03 46 53.8**	**+0.4**
POWZ	**Post Office Ro**	**1.81**	**40**	P	**Pn**	**03 46 54.2**	**+0.5**
AMCZ	**Amberley**	**1.82**	**220**	P	**Pg**	**03 46 59.9**	**+1.4**
DSZ	**Denniston Nort**	**1.83**	**271**	P	**Pb**	**03 46 56.3**	**-0.1**
BFZ	**Birch Farm**	**1.87**	**54**	P	**Pn**	**03 46 54.2**	**-0.3**
DVHZ	**Dannevirke**	**2.08**	**45**	P	**Pn**	**03 46 57.1**	**-0.3**
OKCZ	**Okains Bay**	**2.11**	**204**	P	**Pn**	**03 46 58.2**	**+0.4**
WAZ	**Wanganui**	**2.12**	**15**	P	**Pb**	**03 47 01.8**	**+0.6**
ANWZ	**Angora Road**	**2.15**	**52**	P	**Pn**	**03 46 58.1**	**-0.1**
TSZ	**Takapari Road**	**2.17**	**37**	P	**Pn**	**03 46 58.9**	**+0.3**
OXZ	**Oxford**	**2.24**	**226**	P	**Pn**	**03 46 59.7**	**+0.2**
MQZ	**McQueen's Vall**	**2.24**	**211**	P	**Pn**	**03 46 59.2**	**-0.3**
INZ	**Inchbonnie**	**2.28**	**245**	P	**Pn**	**03 47 01.6**	**+1.6**
PRHZ	**Porangahau**	**2.37**	**50**	P	**Pn**	**03 47 00.7**	**-0.5**
PNHZ	**Pukenui**	**2.39**	**39**	P	**Pn**	**03 47 01.7**	**0.0**
RACZ	**Rakaia**	**2.48**	**218**	P	**Pn**	**03 47 02.6**	**-0.2**
KHEZ	**Kahui Hut**	**2.51**	**356**	P	**Pb**	**03 47 08.5**	**+0.5**
KHEZ	**Kahui Hut**	**2.51**	**356**	P	**Pb**	**03 47 08.2**	**+0.2**
NEZ	**North Egmont**	**2.53**	**357**	P	**Pb**	**03 47 08.3**	**0.0**
NBEZ	**Newall Road No**	**2.55**	**353**	P	**Pb**	**03 47 09.5**	**+1.0**
DREZ	**Durham Road**	**2.61**	**359**	P	**Pb**	**03 47 11.6**	**+2.0**
PKE	**Pukeiti**	**2.61**	**355**	P	**Pg**	**03 47 12.2**	**-1.4**
MHCZ	**Mount Hutt**	**2.63**	**228**	P	**Pn**	**03 47 05.3**	**+0.4**
PKVZ	**Pokaka**	**2.64**	**19**	P	**Pb**	**03 47 10.7**	**+0.5**
MOVZ	**Moawhango**	**2.65**	**26**	P	**Pn**	**03 47 06.1**	**+0.9**
WNVZ	**Wahianoa**	**2.67**	**23**	P	**Pn**	**03 47 07.4**	**+1.8**
TRVZ	**Turoa**	**2.69**	**22**	P	**Pn**	**03 47 08.5**	**+2.6**
BHHZ	**Black Hill Sta**	**2.69**	**31**	P	**Pn**	**03 47 06.6**	**+0.9**
VRZ	**Vera Road**	**2.70**	**8**	P	**Pn**	**03 47 08.6**	**+2.8**
DRZ	**Dome Shelter**	**2.71**	**22**	P	**Pb**	**03 47 13.0**	**+1.4**
WHVZ	**Whangaehu Hut**	**2.71**	**22**	P	**Pn**	**03 47 08.9**	**+2.6**
FWVZ	**Far West T-bar**	**2.73**	**22**	P	**Pb**	**03 47 11.6**	**-0.1**
TUVZ	**Tukino**	**2.75**	**23**	P	**Pn**	**03 47 08.2**	**+1.6**
WACZ	**Wakanui South**	**2.78**	**219**	P	**Pn**	**03 47 07.0**	**+0.1**
NGZ	**Ngauruhoe**	**2.82**	**22**	P	**Pb**	**03 47 10.8**	**-2.4**
SNVZ	**South Ngauruho**	**2.82**	**23**	P	**Pn**	**03 47 09.6**	**+2.0**
KAHZ	**Kahuranaki**	**2.83**	**46**	P	**Pn**	**03 47 06.7**	**-0.8**
OTVZ	**Oturere**	**2.84**	**23**	P	**Pb**	**03 47 13.0**	**-0.7**
NNVZ	**North Ngauruho**	**2.86**	**22**	P	**Pn**	**03 47 10.6**	**+2.4**
WTVZ	**West Tongariro**	**2.87**	**21**	P	**Pb**	**03 47 14.5**	**+0.4**
TWVZ	**Taurewa**	**2.87**	**19**	P	**Pb**	**03 47 14.2**	**+0.1**
ETVZ	**East Tongariro**	**2.88**	**23**	P	**Pb**	**03 47 14.2**	**-0.2**
WVZ	**Waitaha Valley**	**2.90**	**243**	P	**Pn**	**03 47 11.1**	**+2.6**
TMVZ	**Te Maari**	**2.90**	**23**	P	**Pb**	**03 47 14.9**	**+0.3**
KRVZ	**Karewarewa**	**2.90**	**22**	P	**Pb**	**03 47 15.0**	**+0.3**
RPZ	**Rata Peaks**	**3.04**	**230**	P	**Pn**	**03 47 10.9**	**+0.5**
RITZ	**Rihia Road**	**3.07**	**24**	P	**Pb**	**03 47 17.5**	**-0.1**
ARCZ	**Arundel**	**3.12**	**225**	P	**Pn**	**03 47 11.9**	**+0.3**
BKZ	**Black Stump Fm**	**3.14**	**34**	P	**Pb**	**03 47 20.3**	**+1.7**
GCSZ	**Gaunt Creek Bo**	**3.27**	**241**	P	**Pb**	**03 47 19.0**	**-1.9**
HIZ	**Hauiti**	**3.31**	**8**	P	**Pb**	**03 47 21.2**	**-0.4**
HIZ	**Hauiti**	**3.31**	**8**	P	**Pb**	**03 47 18.4**	**-3.2**
TMZ	**Timaru**	**3.51**	**222**	P	**Pn**	**03 47 17.3**	**+0.3**
TLZ	**Tolley Road**	**3.60**	**16**	P	**Pb**	**03 47 26.1**	**-0.5**
URZ	**Urewera**	**4.16**	**33**	P	**Pb**	**03 47 33.7**	**-2.4**
ODZ	**Otahua Downs**	**4.17**	**218**	P	**Pn**	**03 47 25.9**	**-0.1**
CTZ	**Chatham Island**	**6.99**	**109**	P	**Pn**	**03 48 05.4**	**+0.7**

IDC 17 03:48:11.6±11.0, 6.98S×10.62W, h0km, mb3.8/3, mbtmp3.8/3, MS3.6/5, Error ellipse: s-maj=424.6km s-min=129.6km az=140.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**3.92**	**257**	T	T	03 52 45.1	
	baz=63,slow=74,SNR=107						
H10N2	**ASCENSION HYDR**	**3.93**	**257**	T	T	03 52 45.0	
	baz=63,slow=74,SNR=80						
H10N3	**ASCENSION HYDR**	**3.94**	**257**	T	T	03 52 46.5	
	baz=63,slow=74,SNR=87						
H10S2	**ASCENSION HYDR**	**4.45**	**243**	T	T	03 54 11.4	
	baz=170,slow=74,SNR=19						
H10S3	**ASCENSION HYDR**	**4.46**	**244**	T	T	03 54 12.8	
	baz=50,slow=74,SNR=25						
BBTS	**Babate**	**22.28**	**345**	LR	LR	03 59 36.1	
	comp=Z,80nm,21.1s,baz=24,slow=31						
TORD	**Torodi Ar. Bea**	**23.44**	**31**	P	P	03 53 22.8	+0.1
	1.5nm,1.0s,baz=214,slow=11,SNR=5.3						
	1.5nm,1.0s						
LBTB	**Lobatse**	**38.98**	**122**	LR	LR	04 11 22.4	
	comp=Z,46nm,18.2s,baz=19,slow=36						
MDP	**Montagnes des**	**43.62**	**285**	LR	LR	04 12 56.9	
	comp=Z,46nm,18.5s,baz=230,slow=34						
ESDC	**Sonseca Array**	**46.82**	**7**	LR	LR	04 17 23.0	
	comp=Z,91nm,18.5s,baz=350,slow=37						
GERES	**GERESS Array B**	**59.54**	**18**	P	P	03 58 16.9	0.0
	1.8nm,1.0s,baz=205,slow=7.3,SNR=9.1						
	1.8nm,1.0s						
AKASG	**Malin Array Be**	**66.95**	**26**	P	P	03 59 05.8	-0.1
	0.6nm,0.5s,baz=225,slow=6.5,SNR=2.3						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**90.14**	**37**	LR	LR	04 46 30.7	
	comp=Z,83nm,18.2s,baz=126,slow=39						

IDC ***17*** *03:53:47.5±0.5,21.11N×120.27E, h0km, mb4.1/24, mbtmp4.1/25, ML3.6/1, MS3.3/11, Error ellipse: s-maj=19.7km s-min=12.0km az=71.0*
BJI ***17*** *03:53:48.5±0.0,21.30N×120.03E, h9km, mb4.4/25, mB4.6/21, ML4.0/3, Ms4.0/17, Ms7.3/16*
TAP ***17*** *03:53:50.9,21.28N×120.04E, h58km±1km, ML4.4, D*
JMA ***17*** *03:53:51.6±0.9,21°N×12°0E±°, h22km, MV4.6/13, TAIWAN REGION*
NEIC ***17*** *03:53:51.7±1.0,21.22N±0.08×120.15E±0.08, h30km±6km, mb4.6/22, Error ellipse: s-maj=11.8km s-min=10.8km az=135.0*
MAN ***17*** *03:53:52.9,20.95N×120.41E, h112km, mb4.0, ML2.8, MS2.4*
ISC 17 03:53:51.6±1.8, 21.16N±0.04×120.12E±0.04, h24km±13km, n239, σ1§76/315, mb4.4/41, MS3.2/10, 1C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNW	**Nanwan**	**0.99**	**36**	P	**Pn**	**03 54 09.4**	**-0.6**
	baz=44						
SNW				S	**Sn**	**03 54 23.5**	**+0.4**
	baz=44						
TWKBT	**Hengchun**	**1.01**	**40**	*i* P	**Pn**	**03 54 09.2**	**-1.0**
TWKBT				*i* S	**Sb**	**03 54 22.7**	**-0.6**
	baz=47						
HEN	**Hengchun**	**1.02**	**34**	*i* P	**Pn**	**03 54 09.6**	**-0.8**
	baz=42						
HEN				S	**Sb**	**03 54 24.1**	**+0.5**
	baz=42						
TSEB	**Hengchuen, Pin**	**1.03**	**45**	*i* P	**Pn**	**03 54 09.5**	**-1.0**
	baz=50						
TSEB				*i* S	**Sb**	**03 54 23.1**	**-0.9**
	baz=50						
SMST	**Manzhou Townsh**	**1.08**	**38**	*i* P	**Pn**	**03 54 10.3**	**-1.0**
	baz=44						
SMST				*i* S	**Sn**	**03 54 24.3**	**-1.2**
	baz=44						
TWP	**Hsiaoliuchiu**	**1.20**	**11**	P	**Pn**	**03 54 11.8**	**-1.1**
	baz=15						
TWP				*e*S	**Sb**	**03 54 29.2**	**+0.5**
	baz=15						
SLIU	**Shizi**	**1.23**	**31**	*i* P	**Pn**	**03 54 12.2**	**-1.0**
	baz=36						
SLIU				S	**Sn**	**03 54 27.3**	**-1.7**
	baz=36						
SCZT	**Fangliau**	**1.29**	**21**	*i* P	**Pn**	**03 54 12.8**	**-1.4**
	baz=26						
SCZT				S	**Sn**	**03 54 28.9**	**-1.8**
	baz=26						
TAWH	**Dawu Township**	**1.37**	**31**	*e*P	**Pn**	**03 54 13.2**	**-2.0**
	baz=36						
TAWH				*e*S	**Sn**	**03 54 29.7**	**-2.9**
	baz=36						
EAST	**Anshuo**	**1.39**	**29**	P	**Pn**	**03 54 14.4**	**-1.2**
	baz=34						
EAST				*e*S	**Sn**	**03 54 31.3**	**-1.9**
	baz=34						
TAW	**Tawu**	**1.39**	**31**	*i* P	**Pn**	**03 54 14.5**	**-1.0**
	baz=36						
TAW				*e*S	**Sn**	**03 54 31.2**	**-1.9**
	baz=36						
KAU	**Kaohsiung**	**1.41**	**7**	*e*P	**Pn**	**03 54 15.1**	**-0.7**
	baz=11						
KAU				*e*S	**Sn**	**03 54 33.7**	**+0.1**
	baz=11						
MASBT	**Mashibuluo**	**1.52**	**18**	P	**Pn**	**03 54 15.8**	**-1.4**
	baz=22						
MASBT				S	**Sn**	**03 54 34.0**	**-2.4**
	baz=22						
TSPT	**Pingtung City**	**1.55**	**13**	*i* P	**Pn**	**03 54 17.1**	**-0.6**
	baz=16						
TSPT				*i* S	**Sn**	**03 54 37.6**	**+0.6**
	baz=16						
LAY	**Lan-yu**	**1.59**	**56**	*e*P	**Pn**	**03 54 16.8**	**-1.5**
	baz=61						
TSMG	**Majia**	**1.61**	**18**	P	**Pn**	**03 54 17.4**	**-1.2**
	baz=21						
TSMG				S	**Sn**	**03 54 36.0**	**-2.6**
	baz=21						
ECL	**Taimali**	**1.63**	**28**	P	**Pn**	**03 54 17.5**	**-1.2**
	baz=33						
ECL				*e*S	**Sn**	**03 54 37.3**	**-1.6**
	baz=33						
SSD	**Sandimen**	**1.65**	**17**	*i* P	**Pn**	**03 54 17.7**	**-1.3**
	baz=20						
SSD				S	**Sn**	**03 54 36.9**	**-2.5**
	baz=20						
TWM1	**Shoushan**	**1.68**	**10**	P	**Pn**	**03 54 19.3**	**-0.1**
	baz=13						
SCST	**Cishan**	**1.75**	**11**	*e*P	**Pn**	**03 54 19.7**	**-0.7**
	baz=14						
TTN	**Taitung**	**1.85**	**31**	*e*P	**Pn**	**03 54 21.7**	**-0.1**
	baz=35						
TTN				*e*S	**Sn**	**03 54 42.2**	**-2.2**
	baz=35						
SHHT	**Tainan City**	**1.86**	**6**	*e*P	**Pn**	**03 54 20.4**	**-1.6**
	baz=9.0						
TWG	**Pinlang**	**1.87**	**28**		**Pn**	**03 54 20.7**	**-1.5**
TWG				Sn	**Sn**	**03 54 42.9**	**-2.1**
TWG	**Pinlang**	**1.87**	**28**	*i* P	**Pn**	**03 54 21.1**	**-1.0**
	baz=32						
TWG				S	**Sn**	**03 54 43.2**	**-1.8**
	baz=32						
TWGBT	**Beinan**	**1.87**	**28**	P	**Pn**	**03 54 21.4**	**-0.8**
TWGBT	**Beinan**	**1.87**	**28**	*i* P	**Pn**	**03 54 20.9**	**-1.3**
	baz=32						
TWGBT				S	**Sn**	**03 54 43.2**	**-1.9**
	baz=32						
LDUT	**Ludao**	**1.96**	**40**	*e*P	**Pn**	**03 54 21.3**	**-2.0**
	baz=43						
LDUT				S	**Sn**	**03 54 44.7**	**-2.4**
	baz=43						
SGST	**Jiashian**	**1.96**	**13**	*e*P	**Pn**	**03 54 21.4**	**-1.9**
	baz=15						
SGST				*e*S	**Sn**	**03 54 45.1**	**-2.0**
	baz=15						
LONT	**Longtian**	**1.97**	**28**	P	**Pn**	**03 54 22.6**	**-1.0**
	baz=31						
LONT				*e*S	**Sn**	**03 54 46.2**	**-1.3**
	baz=31						
TSCK	**Chigu Township**	**1.98**	**359**	P	**Pn**	**03 54 21.4**	**-2.2**
	baz=1.0						
TSCK				*e*S	**Sn**	**03 54 44.4**	**-3.2**
	baz=1.0						
CHN1	**Nanshi**	**2.05**	**11**	P	**Pn**	**03 54 23.4**	**-1.2**
	baz=13						
STYT	**Tauyuan**	**2.08**	**16**	*i* P	**Pn**	**03 54 23.9**	**-1.1**
	baz=19						
STYT				*i* S	**Sn**	**03 54 48.0**	**-2.2**
	baz=19						
SNST	**Tainan City**	**2.08**	**10**	*e*P	**Pn**	**03 54 25.9**	**+0.9**
	baz=12						
STYH	**Taoyuan**	**2.09**	**17**	*e*P	**Pn**	**03 54 22.3**	**-2.8**
	baz=19						
EDH	**Donghe**	**2.11**	**31**	P	**Pn**	**03 54 24.5**	**-0.9**
	baz=34						
EDH				*e*S	**Sn**	**03 54 49.8**	**-1.1**
	baz=34						
TWK	**Hsinying**	**2.12**	**9**	P	**Pn**	**03 54 24.4**	**-1.2**
	baz=12						
TWK				*e*S	**Sn**	**03 54 48.6**	**-2.7**
	baz=12						
WTP	**Ta-pu**	**2.12**	**12**	*e*P	**Pn**	**03 54 24.3**	**-1.3**
	baz=15						
WTP				*e*S	**Sn**	**03 54 49.7**	**-1.6**
	baz=15						
WDGT	**Dungji**	**2.13**	**349**	*e*P	**Pn**	**03 54 23.5**	**-2.2**
	baz=349						
WDGT				*e*S	**Sn**	**03 54 47.3**	**-4.1**
	baz=349						
VCHM	**Qimei**	**2.14**	**343**	*e*P	**Pn**	**03 54 23.0**	**-2.8**
	baz=343						
VCHM				*e*S	**Sn**	**03 54 47.3**	**-4.2**
	baz=343						
ECS	**Chishang**	**2.18**	**28**	*e*P	**Pn**	**03 54 25.7**	**-0.6**
	baz=31						
ECS				*e*S	**Sn**	**03 54 52.4**	**-0.2**
	baz=31						
TPUB	**Ta-pu**	**2.18**	**12**	Pn	**Pn**	**03 54 24.9**	**-1.6**
TPUB				Sn	**Sn**	**03 54 50.5**	**-2.2**
TPUB	**Ta-pu**	**2.18**	**12**	P	**Pn**	**03 54 25.1**	**-1.3**
TPUB	**Ta-pu**	**2.18**	**12**	P	**Pn**	**03 54 24.8**	**-1.6**
	baz=15						
TPUB				*e*S	**Sn**	**03 54 50.4**	**-2.3**
	baz=15						
ELDTW	**Lidau**	**2.18**	**22**	*i* P	**Pn**	**03 54 25.6**	**-0.9**
	baz=25						
CHN4	**Tsaushan**	**2.22**	**11**	*e*P	**Pn**	**03 54 24.5**	**-2.5**
	baz=13						
CHN4				*e*S	**Sn**	**03 54 50.9**	**-2.8**
	baz=13						
CHKT	**Chengkung**	**2.25**	**31**	P	**Pn**	**03 54 26.4**	**-0.9**
	baz=34						
CHKT				*e*S	**Sn**	**03 54 52.3**	**-1.9**
	baz=34						
FULB	**Fuli**	**2.30**	**28**	*e*P	**Pn**	**03 54 27.6**	**-0.5**
	baz=31						
FULB				*e*S	**Sn**	**03 54 55.9**	**+0.2**
	baz=31						
WCKO	**Fanlu**	**2.31**	**11**	*e*P	**Pn**	**03 54 25.5**	**-2.6**
	baz=13						

	baz=22								
WNT	**Mingjian**	**2.75**	**11**	*e*P	**Pn**	**03 54 32.8**	**-1.4**		
	baz=13								
EGFH	**Guangfu**	**2.77**	**26**	*e*P	**Pn**	**03 54 33.3**	**-1.2**		
	baz=28								
EGFH				*e*S	**Sn**	**03 55 06.8**	**-0.5**		
	baz=28								
WNT1	**Nantou City**	**2.78**	**11**	*e*P	**Pn**	**03 54 33.4**	**-1.2**		
	baz=12								
WNT1				*e*S	**Sn**	**03 55 05.1**	**-2.4**		
	baz=12								
SMLT	**Sun Moon Lake**	**2.80**	**15**	*e*P	**Pn**	**03 54 34.2**	**-0.8**		
	baz=17								
SMLT				*e*S	**Sn**	**03 55 06.7**	**-1.4**		
	baz=17								
TYC	**Yuchr**	**2.81**	**14**	*e*P	**Pn**	**03 54 34.0**	**-1.0**		
	baz=16								
TEGC	**Jichi Village**	**2.86**	**27**	P	**Pn**	**03 54 35.6**	**0.0**		
	baz=29								
ESL	**Shilin**	**2.91**	**24**	*e*P	**Pn**	**03 54 35.5**	**-0.9**		
	baz=27								
ESL				*e*S	**Sn**	**03 55 07.5**	**-3.0**		
	baz=27								
WWF	**Wufeng**	**2.92**	**10**	P	**Pn**	**03 54 34.5**	**-2.0**		
	baz=12								
WWF				S	**Sn**	**03 55 08.0**	**-2.8**		
	baz=12								
WCHH	**Zhanghua**	**2.93**	**8**	*e*P	**Pn**	**03 54 35.3**	**-1.4**		
	baz=9.0								
WCHH				*e*S	**Sn**	**03 55 10.2**	**-0.9**		
	baz=9.0								
WPL	**Puli Township**	**2.94**	**15**	P	**Pn**	**03 54 35.5**	**-1.3**		
	baz=17								
WUSB	**Renai**	**2.96**	**18**	*e*P	**Pn**	**03 54 36.4**	**-0.9**		
	baz=20								
WUSB				*e*S	**Sn**	**03 55 10.1**	**-2.1**		
	baz=20								
WCS	**Beigang Elemen**	**2.97**	**14**	*e*P	**Pn**	**03 54 35.1**	**-2.1**		
	baz=16								
WCS				*e*S	**Sn**	**03 55 08.9**	**-3.3**		
	baz=16								
TCU	**Taichung**	**3.02**	**10**	*e*P	**Pn**	**03 54 36.8**	**-1.1**		
	baz=11								
TCU				*e*S	**Sn**	**03 55 11.5**	**-1.8**		
	baz=11								
CHGB	**Renai**	**3.05**	**18**	*e*P	**Pn**	**03 54 38.1**	**-0.3**		
	baz=20								
CHGB				*e*S	**Sn**	**03 55 13.0**	**-1.3**		
	baz=20								
ETM	**Tongmen**	**3.07**	**24**	*e*P	**Pn**	**03 54 38.7**	**+0.2**		
	baz=26								
ETM				*e*S	**Sn**	**03 55 12.4**	**-2.1**		
	baz=26								
WHF	**Hehuan Shan**	**3.15**	**19**	*e*P	**Pn**	**03 54 39.5**	**-0.6**		
	baz=21								
WHP	**Taichung City**	**3.19**	**14**	*e*P	**Pn**	**03 54 40.3**	**-0.1**		
	baz=15								
WHP				*e*S	**Sn**	**03 55 16.5**	**-1.3**		
	baz=15								
TWD	**Chiawan**	**3.21**	**25**	*e*P	**Pn**	**03 54 38.9**	**-1.6**		
	baz=27								
TWD				*e*S	**Sn**	**03 55 17.1**	**-0.9**		
	baz=27								
TDCB	**Techi**	**3.22**	**17**	*e*P	**Pn**	**03 54 40.0**	**-0.9**		
	baz=19								
TDCB				*e*S	**Sn**	**03 55 17.0**	**-1.6**		
	baz=19								
TWQ1	**Liyutan**	**3.23**	**11**	*e*P	**Pn**	**03 54 40.2**	**-0.6**		
	baz=12								
TWQ1				*e*S	**Sn**	**03 55 16.9**	**-1.7**		
	baz=12								
TWT	**Tachien**	**3.23**	**17**	*e*P	**Pn**	**03 54 40.2**	**-0.8**		
	baz=19								
TWT				*e*S	**Sn**	**03 55 17.9**	**-0.9**		
	baz=19								
FUSS	**Fushou**	**3.24**	**18**	*e*P	**Pn**	**03 54 40.6**	**-0.6**		
	baz=20								
ETLH	**Xiulin Townshi**	**3.28**	**22**	*e*P	**Pn**	**03 54 41.3**	**-0.3**		
	baz=24								
ETLH				*e*S	**Sn**	**03 55 18.8**	**-1.2**		
	baz=24								
NSY	**Sanyi**	**3.29**	**10**	*e*P	**Pn**	**03 54 41.0**	**-0.6**		
	baz=12								
NACB	**Ninganchiao**	**3.29**	**24**		**Pn**	**03 54 40.1**	**-1.6**		
NACB	**Ninganchiao**	**3.29**	**24**	P	**Pn**	**03 54 40.7**	**-1.0**		
NACB	**Ninganchiao**	**3.29**	**24**	*e*P	**Pn**	**03 54 40.1**	**-1.6**		
	baz=26								
SGCP	**Gonzaga**	**3.42**	**148**	*e*P	**Pn**	**03 54 41.5**	**-2.0**		
SGCP				*e*S	**Sn**	**03 55 20.0**	**-3.4**		
NNSB	**Datong**	**3.46**	**19**	P	**Pn**	**03 54 43.8**	**-0.2**		
	baz=21								
NNSB				*e*S	**Sn**	**03 55 22.9**	**-1.4**		
	baz=21								
NNS	**Nan Shan**	**3.46**	**19**	*e*P	**Pn**	**03 54 43.2**	**-0.9**		
	baz=21								
NNS				*e*S	**Sn**	**03 55 22.5**	**-1.9**		
	baz=21								
ZPLA	**Ao Xicun**	**3.52**	**322**	*e*P	**Pn**	**03 54 41.9**	**-2.9**		
	baz=321								
NSTT	**Nanjuang**	**3.55**	**13**	*e*P	**Pn**	**03 54 44.5**	**-0.7**		
	baz=14								
NSTT				*e*S	**Sn**	**03 55 25.0**	**-1.4**		
	baz=14								
DSXP	**Dongshan**	**3.56**	**316**	*e*P	**Pn**	**03 54 43.5**	**-1.7**		
	baz=314								
LIOB	**Emei**	**3.56**	**13**	*e*P	**Pn**	**03 54 44.7**	**-0.7**		
	baz=14								
LIOB				*e*S	**Sn**	**03 55 24.7**	**-2.1**		
	baz=14								
NFF	**Wufeng Townshi**	**3.58**	**15**	*e*P	**Pn**	**03 54 43.9**	**-1.7**		
	baz=16								
ENA	**Nanau**	**3.58**	**24**	*e*P	**Pn**	**03 54 44.3**	**-1.3**		
	baz=26								
KNM	**Kinmen**	**3.59**	**335**	*e*P	**Pn**	**03 54 44.2**	**-1.5**		
	baz=332								
LATG	**Datong**	**3.60**	**21**	*e*P	**Pn**	**03 54 45.8**	**-0.2**		
	baz=22								
KNMB	**Chin-men Tao**	**3.66**	**334**		**Pn**	**03 54 43.4**	**-3.3**		
KNMB	**Chin-men Tao**	**3.66**	**334**	*e*P	**Pn**	**03 54 43.7**	**-2.9**		
	baz=334								
NDT	**Datong Townshi**	**3.66**	**20**	*e*P	**Pn**	**03 54 45.0**	**-1.7**		
	baz=22								
YHNB	**Yeheng**	**3.68**	**18**		**Pn**	**03 54 45.6**	**-1.5**		
YHNB	**Yeheng**	**3.68**	**18**	P	**Pn**	**03 54 46.7**	**-0.4**		
YHNB	**Yeheng**	**3.68**	**18**	*e*P	**Pn**	**03 54 46.7**	**-0.4**		
	baz=19								
NSK	**Sanguang**	**3.68**	**18**	*e*P	**Pn**	**03 54 45.8**	**-1.2**		
	baz=19								
ENTT	**Nioudou**	**3.71**	**21**	*e*P	**Pn**	**03 54 46.9**	**-0.5**		
	baz=22								
TWC	**Suao**	**3.78**	**25**	*e*P	**Pn**	**03 54 49.0**	**+0.6**		
	baz=26								
TWE	**Neicheng**	**3.82**	**22**	*e*P	**Pn**	**03 54 49.3**	**+0.4**		
	baz=23								
FUSB	**Fushanzhiwuyua**	**3.83**	**20**	*e*P	**Pn**	**03 54 49.3**	**+0.2**		
	baz=22								
FUSB				*e*S	**Sn**	**03 55 33.1**	**-0.3**		
	baz=22								
VWUC	**VWUC**	**3.86**	**351**	*e*P	**Pn**	**03 54 47.1**	**-2.4**		
	baz=351								
PTMZ	**Houxiangcun**	**3.97**	**347**	*e*P	**Pn**	**03 54 49.6**	**-1.3**		
	baz=347								
TATO	**Taipei**	**4.00**	**18**	Pn	**Pn**	**03 54 50.4**	**-1.0**		
EGS		**4.03**	**24**	*e*P	**Pn**	**03 54 53.0**	**+1.3**		
	baz=26								
TIPB	**Shuangxi**	**4.11**	**22**	*e*P	**Pn**	**03 54 53.0**	**+0.2**		
	baz=24								
NWF	**Wu-fen Shan**	**4.18**	**21**	*e*P	**Pn**	**03 54 54.0**	**+0.1**		
	baz=22								
YM01	**YM01**	**4.18**	**18**	*e*P	**Pn**	**03 54 53.0**	**-0.9**		
	baz=20								
JYNG	**Yonagunijimaku**	**4.19**	**38**	P	**Pn**	**03 54 54.6**	**+0.6**		
JYNG				*e*S	**Sn**	**03 55 40.1**	**-2.0**		
TWB1	**Santiao Chiao**	**4.20**	**24**	*e*P	**Pn**	**03 54 54.3**	**+0.2**		
	baz=25								
AXDP	**Jialang**	**4.22**	**332**	*e*P	**Pn**	**03 54 52.3**	**-2.0**		
	baz=332								
YOJ	**Yonaguni jima**	**4.23**	**39**		**Pn**	**03 54 53.1**	**-1.4**		
YOJ	**Yonaguni jima**	**4.23**	**39**	P	**Pn**	**03 54 54.6**	**+0.1**		
YOJ	**Yonaguni jima**	**4.23**	**39**	*e*P	**Pn**	**03 54 54.5**	**-0.1**		
	baz=40								
YOJ	**Yonaguni jima**	**4.23**	**39**	P	**Pn**	**03 54 54.7**	**+0.1**		
YOJ				*e*S	**Sn**	**03 55 41.5**	**-1.8**		
SXI1	**Grass Mountain**	**4.24**	**22**	*e*P	**Pn**	**03 54 54.1**	**-0.6**		
	baz=23								
HATJ	**Hateruma jima**	**4.46**	**49**	P	**Pn**	**03 54 56.9**	**-0.8**		
HATJ				S	**Sn**	**03 55 44.8**	**-4.1**		
IRIF	**Iriomote-Funau**	**4.59**	**46**	P	**Pn**	**03 54 58.9**	**-0.6**		
IRIF				*e*S	**Sn**	**03 55 49.6**	**-2.5**		
JKRS	**Kuro-shima**	**4.72**	**49**	P	**Pn**	**03 55 00.7**	**-0.6**		
JKRS				*e*S	**Sn**	**03 55 51.8**	**-3.4**		
JIJ	**Ishigaki jima**	**4.89**	**49**	P	**Pn**	**03 55 02.8**	**-0.9**		
JIJ				*e*S	**Sn**	**03 55 53.8**	**-5.8**		
MATB	**Ma-tsu**	**4.97**	**358**	*e*P	**Pn**	**03 55 03.1**	**-1.6**		
	baz=358								
MHZQ	**Yeshan**	**5.02**	**349**	*e*P	**Pn**	**03 55 04.0**	**-1.4**		
	baz=349								
JISG	**Ishigakijimahi**	**5.15**	**48**	*e*P	**Pn**	**03 55 06.0**	**-1.2**		
JISG				*e*S	**Sn**	**03 56 02.0**	**-4.0**		
LYJJ	**Jianjiangzhen**	**5.38**	**357**	*e*P	**Pn**	**03 55 09.0**	**-1.2**		
	baz=357								
JTJ	**Tarama**	**5.46**	**50**	P	**Pn**	**03 55 10.8**	**-0.7**		
JTJ				*e*S	**Sn**	**03 56 10.7**	**-2.9**		
SXFK	**Yanhouchang**	**5.69**	**337**	*e*P	**Pn**	**03 55 11.9**	**-2.7**		
	baz=336								
XPSS	**Dashiqiu**	**5.74**	**1**	*e*P	**Pn**	**03 55 13.3**	**-2.0**		
	baz=1.0								
JMJ2	**Miyako jima3**	**5.98**	**52**	P	**Pn**	**03 55 18.2**	**-0.3**		
JMJ2				S	**Sn**	**03 56 23.7**	**-2.6**		
CNSH	**ChangSha**	**9.57**	**318**	ǁP	**Pn**	**03 56 04.4**	**-3.4**		
CNSH				S	**Sn**	**03 57 50.1**	**-4.5**		
CNSH				smax	smax				
	comp=N,36nm,0.9s								
CNSH				smax	smax				
	comp=E,26nm,1.3s								
QIZ	**Qiongzhong**	**9.89**	**259**	P	**Pn**	**03 56 11.1**	**-1.2**		
QIZ				S	**Sn**	**03 58 04.5**	**+2.0**		
QIZ				LR	LR				
	comp=E,500nm,14.3s								
QIZ				LR	LR				
	comp=E,570nm,13.1s								
QIZ				LR	LR				
	comp=E,490nm,13.1s								
SSE	**Sheshan**	**9.94**	**5**	P	**Pn**	**03 56 12.3**	**-0.6**		
SSE				S	**Sn**	**03 58 05.6**	**+1.9**		
SSE				pmax	pmax				
	comp=E,15nm,0.7s								
SSE				pmax	pmax				
	comp=E,40nm,4.6s								
SSE				LR	LR				
	comp=E,120nm,17.0s								
SSE				LR	LR				
	comp=E,150nm,17.1s								
NJ2	**Nanjing**	**10.91**	**354**	*e*P	**Pn**	**03 56 26.4**	**+0.2**		
NJ2				pmax	pmax				
	comp=E,13nm,0.5s								
NJ2				LR	LR				
	comp=E,370nm,14.7s								
NJ2				LR	LR				
	comp=E,390nm,14.3s								
NJ2				LR	LR				
	comp=E,390nm,15.2s								
GYA	**Guiyang**	**13.39**	**296**	ǁP	**Pn**	**03 57 01.0**	**+0.7**		
GYA				S	**Sn**	**03 59 30.0**	**+1.4**		
GYA				pmax	pmax				
	comp=E,12nm,0.5s								
GYA				pmax	pmax				
	comp=E,230nm,3.5s								
GYA				LR	LR				
	comp=E,190nm,9.3s								
GYA				LR	LR				
	comp=E,280nm,11.0s								
GYA				LR	LR				
	comp=E,440nm,13.6s								
LYN	**LuoYang**	**14.95**	**335**	ǁ*e*P	**P**	**03 57 28.9**	**+2.2**		
DAV	**Davao City (W)**	**14.97**	**159**	LR	LR	04 03 28.1			
	comp=E,115nm,18.5s,baz=11,slow=39								
TIA	**Tai'an**	**15.22**	**351**	P	**P**	**03 57 31.0**	**+1.2**		
TIA				S	**Sn**	**04 00 11.3**	**-1.6**		
TIA				pmax	pmax				
	comp=Z,13nm,0.6s								
TIA				pmax	pmax				
	comp=Z,64nm,4.1s								
TIA				LR	LR				
	comp=N,230nm,5.9s								
TIA				LR	LR				
	comp=E,250nm,9.3s								
TIA				LR	LR				
	comp=Z,260nm,9.3s								
XAN	**Xi'an**	**16.20**	**325**	P	**Pn**	**03 57 38.8**	**+1.1**		
XAN				sP	pP	03 57 45.9	-0.6		
XAN				LR	LR				
	comp=Z,460nm,9.6s								
XAN				LR	LR				
	comp=Z,280nm,10.3s								
XAN				LR	LR				
	comp=Z,380nm,12.4s								
HNS	**HongShan**	**16.85**	**345**	ǁP	**P**	**03 57 48.3**	**+0.5**		
HNS				pmax	pmax				
	comp=Z,38nm,0.8s								
KSRS	**Korea Array**	**17.59**	**21**	P	**Pn**	**03 57 53.6**	**-1.5**		
	comp=Z,0.2nm,0.3s,baz=196,slow=11,SNR=4.4								
KSRS				LR	LR	04 03 59.3			
	comp=Z,46nm,21.1s,baz=210,slow=35								
	comp=Z,2.2nm,0.5s								
PZH	**PanZhiHua**	**17.63**	**291**	P	**Pn**	**03 57 55.3**	**-0.5**		
PZH				S	Sn	04 01 04.3	-7.3		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
PZH				pmax	pmax				
	comp=Z,90nm,4.1s								
PZH				LR	LR				
	comp=Z,180nm,7.4s								
PZH				LR	LR				
	comp=Z,170nm,9.4s								
PZH				LR	LR				
	comp=Z,270nm,10.6s								
PHRA	**Phrae**	**18.90**	**265**	P	**Pn**	**03 58 12.1**	**+0.8**		
BJT	**Baijiatuau**	**19.10**	**351**	P	**P**	**03 58 11.1**	**-1.4**		
BJT				IAmb	IAmb	03 58 15.9			
	comp=Z,29nm,1.2s								
BJI	**Beijing**	**19.12**	**351**	P	**Pn**	**03 58 15.3**	**+1.6**		
BJI				pmax	pmax				
	comp=Z,52nm,3.5s								
TOLI2	**Tolitoli**	**19.94**	**178**		**P**	**03 58 21.1**	**-0.8**		
CMAR	**Chiang Mai Arr**	**20.10**	**266**	P	**P**	**03 58 24.3**	**+0.6**		
	comp=Z,0.7nm,0.3s,baz=66,slow=9.6,SNR=8.4								
	comp=Z,0.7nm,0.3s								
SBUM	**Sibu**	**20.13**	**204**		**P**	**03 58 22.8**	**-1.1**		
SBUM	**Sibu**	**20.13**	**204**	P	**P**	**03 58 24.4**	**+0.4**		
	comp=Z,14nm,1.0s								
TNCH	**TengChong**	**20.23**	**285**	P	**P**	**03 58 26.3**	**+1.0**		
TNCH				pP	sP	03 58 33.3	-0.4		
TNCH				PP	**PnPn**	**03 58 46.3**	**+4.1**		
TNCH				pmax	pmax				
	comp=Z,190nm,4.0s								
INU	**Inuyama**	**20.48**	**43**		**P**	**03 58 25.8**	**-1.9**		
LZH	**Lanzhou**	**20.58**	**320**	*e*P	Pn	03 58 32.8	+1.6		
LZH				sP	pwP	03 58 43.1	+4.5		
LZH				pmax	pmax				
	comp=Z,16nm,0.9s								
MRSI	**Marisa**	**20.64**	**175**	P	Pn	03 58 32.3	+0.5		
	comp=Z,37nm,1.1s								
JGF	**Kuroka**	**20.86**	**43**	P	**P**	**03 58 28.3**	**-3.5**		
JGF				IAmb	IAmb	03 58 36.1			
	comp=Z,36nm,0.9s								
HHC	**Hu-ho-hao-te**	**20.93**	**342**	*e*P	Pn	03 58 35.0	-0.2		
HHC				pmax	pmax				
	comp=Z,17nm,0.8s								
HHC				pmax	pmax				
	comp=Z,290nm,6.2s								
JHJ	**Hachijo jima 2**	**21.13**	**52**	LR	LR	04 05 51.8			
	comp=Z,59nm,21.5s,baz=157,slow=34								
KSM	**Kuching**	**21.78**	**207**	P	**P**	**03 58 41.3**	**-0.5**		
	comp=Z,21nm,1.0s								
MJAR	**Matsushiro Arr**	**21.98**	**42**	P	**P**	**03 58 43.3**	**-0.6**		
	comp=Z,10nm,0.7s,baz=228,slow=7.0,SNR=22								
MJAR				LR	LR	04 07 36.2			
	comp=Z,78nm,18.8s,baz=202,slow=38								
	comp=Z,10nm,0.7s								
LUWI	**Luwuk**	**22.22**	**173**	P	**P**	**03 58 47.7**	**+1.2**		
	comp=Z,10µmcomp=Z,60nm,1.1s								
LBMI	**Labuha**	**22.84**	**161**	P	**P**	**03 58 57.3**	**+4.2**		
	comp=Z,68nm,1.0s								
MMSI	**Mamuju**	**23.73**	**183**	P	**P**	**03 59 04.7**	**+2.6**		
	comp=Z,16nm,1.0s								
SANI	**Sanana**	**23.77**	**165**	P	**P**	**03 59 04.7**	**+2.3**		
	comp=Z,20nm,0.9s								
JMM	**Marumori**	**24.42**	**43**	P	**P**	**03 59 05.2**	**-3.1**		
SIJI	**Sorong**	**24.46**	**152**	P	**P**	**03 59 07.8**	**-1.0**		
	comp=Z,10nm,0.6s,baz=338,slow=7.3,SNR=1.9								
	comp=Z,10nm,0.6s								
MDJ	**Mudanjiang**	**24.67**	**16**	P	**P**	**03 59 07.2**	**-3.3**		
MDJ				IAmb	IAmb	03 59 15.7			
	comp=Z,11nm,0.9s								
MDJ	**Mudanjiang**	**24.67**	**16**	P	**P**	**03 59 11.3**	**+0.8**		
MDJ				sP	pwP	03 59 20.9	+0.2		
MDJ				pmax	pmax				
	comp=Z,12nm,0.8s								
MDJ				pmax	pmax				
	comp=Z,140nm,9.0s								
GUMO	**Guam**	**24.77**	**104**	LR	LR	04 07 45.8			
	comp=Z,29nm,21.7s,baz=128,slow=34								
IPM	**Ipoh**	**24.88**	**231**	P	**P**	**03 59 12.3**	**-0.3**		
IPM				IAmb	IAmb	03 59 12.9			
	comp=Z,15nm,0.9s								
SPSI	**Sidrap Palu**	**24.97**	**181**	P	**P**	**03 59 16.0**	**+2.6**		
	comp=Z,4µmcomp=Z,13nm,1.2s								
USA0B	**Ussuriysk Arra**	**25.00**	**20**	P	**P**	**03 59 11.0**	**-2.5**		
USA0B				IAmb	IAmb	03 59 18.2			
	comp=Z,11nm,0.8s								
USRK	**Ussuriysk Ar.**	**25.00**	**20**	P	**P**	**03 59 13.3**	**-0.1**		
	comp=Z,11nm,0.7s,baz=204,slow=8.2,SNR=18								
	comp=Z,11nm,0.7s								
USRK	**Ussuriysk Ar.**	**25.00**	**20**	P	**P**	**03 59 11.5**	**-1.9**		
GTA	**Gaotai**	**25.16**	**321**	*e*P	**P**	**03 59 20.8**	**+5.6**		
GTA				pP	pwP	03 59 27.3	+2.0		
GTA				sP	sP	03 59 31.8	+7.8		
GTA				pmax	pmax				
	comp=Z,4.0nm,0.6s								
GTA				pmax	pmax				
	comp=Z,100nm,6.4s								
GTA				LR	LR				
	comp=N,410nm,11.2s								
GTA				LR	LR				
	comp=E,370nm,13.1s								
GTA				LR	LR				
	comp=Z,380nm,10.0s								
NLAI	**Namlea**	**25.20**	**163**	P	**P**	**03 59 16.3**	**+0.9**		
	comp=Z,5µmcomp=Z,18nm,0.7s								
KRAI	**Karang Ratu**	**25.64**	**161**	P	**P**	**03 59 20.5**	**+1.0**		
MSAI	**Masohi**	**25.84**	**159**	P	**P**	**03 59 22.6**	**+1.3**		
KAPI	**Kappang**	**26.02**	**181**	P	**P**	**03 59 22.3**	**-0.6**		
	comp=Z,5.6nm,0.3s,baz=159,slow=14,SNR=1.0								
KAPI				LR	LR	04 13 27.7			
	comp=Z,45nm,18.5s,baz=275,slow=45								
	comp=Z,5.6nm,0.3s								
MKS	**Makassar**	**26.22**	**181**	P	**P**	**03 59 26.9**	**+2.1**		
SONM	**Songino Array**	**28.82**	**341**	P	**P**	**03 59 47.9**	**-0.1**		
	comp=Z,1.2nm,0.7s,baz=158,slow=9.3,SNR=6.7								
	comp=Z,1.2nm,0.7s								
KLR	**Kul'dur**	**29.50**	**16**	LR	LR	04 13 15.7			
	comp=Z,50nm,21.2s,baz=179,slow=40								
ASAJ	**Asahikawa**	**29.52**	**34**	LR	LR	04 12 25.0			
	comp=Z,82nm,18.2s,baz=135,slow=38								
WMQ	**Urumqi**	**35.12**	**318**	*e*P	**P**	**04 00 44.3**	**+1.0**		
MK31	**Makanchi Array**	**39.89**	**319**	P	**P**	**04 01 22.4**	**-1.1**		
MKAR	**Makanchi Array**	**39.89**	**319**	P	**P**	**04 01 24.9**	**+1.4**		
	comp=Z,1.5nm,0.7s,baz=113,slow=9.0,SNR=12								
	comp=Z,1.5nm,0.7s								
YAK	**Yakutsk**	**41.37**	**7**	LR	LR	04 19 37.4			
	comp=Z,44nm,18.7s,baz=84,slow=37								
ZALV	**Zalesovo Beam**	**42.29**	**329**	P	**P**	**04 01 42.9**	**-0.2**		
	comp=Z,1.6nm,0.7s,baz=114,slow=8.5,SNR=7.8								
	comp=Z,1.6nm,0.7s								
WB0	**Warramunga Arr**	**43.01**	**160**	P	**P**	**04 01 47.8**	**-1.5**		
WB0				IAmb	IAmb	04 01 57.8			
	comp=Z,19nm,1.4s								
WRA	**Warramunga Arr**	**43.16**	**160**	P	**P**	**04 01 48.9**	**-1.6**		
	comp=Z,6.2nm,0.9s,baz=343,slow=8.8,SNR=25								
WRA				PcP	**PcP**	**04 03 39.1**	**-0.8**		
	comp=Z,1.0nm,0.5s,baz=344,slow=3.4,SNR=4.7								
	comp=Z,6.2nm,0.9s								
WRA	**Warramunga Arr**	**43.16**	**160**	P	**P**	**04 01 49.4**	**-1.1**		
WB2	**Warramunga Arr**	**43.16**	**160**	P	**P**	**04 01 49.3**	**-1.2**		
WR0	**Warramunga Arr**	**43.23**	**160**	P	**P**	**04 01 49.8**	**-1.3**		
WR0				IAmb	IAmb	04 02 07.8			
	comp=Z,10nm,0.8s								
H11N1	**WAKE ISLAND Hy**	**43.73**	**83**	T	T	04 48 42.3			
	baz=282								
H11N2	**WAKE ISLAND Hy**	**43.73**	**83**	T	T	04 48 44.4			
	baz=282								
H11N3	**WAKE ISLAND Hy**	**43.75**	**83**	T	T	04 48 39.6			
	baz=282								
H11S3	**WAKE ISLAND Hy**	**43.77**	**85**	T	T	04 48 45.3			
	baz=281								
H11S1	**WAKE ISLAND Hy**	**43.78**	**85**	T	T	04 48 44.9			
	baz=281								
H11S2	**WAKE ISLAND Hy**	**43.79**	**85**	T	T	04 48 48.4			
	baz=281								
KURBB	**Kurchatov Arra**	**43.84**	**322**	P	**P**	**04 01 56.1**	**+0.5**		
	comp=Z,1.2nm,0.6s,baz=126,slow=7.0,SNR=6.8								
	comp=Z,1.2nm,0.6s								
MA2	**Magadan**	**44.14**	**22**	LR	LR	04 23 51.9			
	comp=Z,35nm,18.7s,baz=341,slow=41								
AS31	**Alice Springs**	**46.53**	**162**	P	**P**	**04 02 16.2**	**-1.2**		
ASAR	**Alice Springs**	**46.53**	**162**	P	**P**	**04 02 16.4**	**-1.0**		
	comp=Z,2.5nm,0.6s,baz=341,slow=6.7,SNR=24								
ASAR				PcP	**PcP**	**04 03 50.5**	**-1.0**		
	comp=Z,0.8nm,0.6s,baz=341,slow=2.0,SNR=2.5								
	comp=Z,2.5nm,0.6s								
BVAR	**Borovoye Array**	**49.42**	**323**	P	**P**	**04 02 40.8**	**+1.3**		
	comp=Z,0.5nm,0.6s,baz=97,slow=8.0,SNR=2.0								
	comp=Z,0.5nm,0.6s								
NRIK	**Noril'sk**	**52.07**	**346**	P	**P**	**04 02 58.4**	**-0.7**		
	comp=Z,2.1nm,0.6s,baz=102,slow=6.5,SNR=2.1								
	comp=Z,2.1nm,0.6s								
NWAO	**Narrogin (SRO)**	**53.85**	**183**	LR	LR	04 28 52.8			
	comp=Z,60nm,18.7s,baz=121,slow=39								
GEYT	**Alibeck**	**55.52**	**302**	P	**P**	**04 03 25.5**	**+0.6**		
	comp=Z,1.2nm,0.4s,baz=47,slow=8.5,SNR=2.2								

mbtmp4.3/9,ML4.0/1,MS3.7/11 Error ellipse: s-maj=25.2km s-min=19.6km az=75.0

NEIC ***17*** *04:04:04.8,41.855S×174.47E,h14km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=3.72; $M_{\theta\theta}$=-0.15; $M_{\phi\phi}$=-3.56; $M_{r\theta}$=1.37; $M_{r\phi}$=-2.55; $M_{\theta\phi}$=-2.22; Fault plane solution: M_0=5.15000×10^{15} NP1:ϕ_s=181.57000°, δ=60.19000°, λ=56.61000°. NP2:ϕ_s=54.55000°, δ=43.58000°, λ=133.85000°. Principal axes: T 5.1669, Plg60.0000°, Azm41.0000°; N -0.0321, Plg29.0000°, Azm200.0000°; P -5.1348, Plg9.0000°, Azm295.0000°;*

NEIC ***17*** *04:04:04.9±1.6,41.84S±0.04×174.46E±0.03,h10km±1km, mb4.5/5,Mwr4.4/40 Error ellipse: s-maj=6.9km s-min=3.8km az=355.0*

NOU ***17*** *04:04:04.7,41.88S×174.50E,h5km,MLv4.9/12,Cook Strait, New Zealand*

WEL ***17*** *04:04:05.9±0.4,42°S±4°×17°4E±°,h10km±3km,M4.6/39, ML4.9/24,MLv4.6/39,Error ellipse: s-maj=0.0km s-min=0.0km az=156.1*

ISC 17 04:04:05.2±0.7,41.81S±0.03×174.41E±0.03,h16km±4km, n206,σ1ᵽ28/209,mb4.4/8,MS3.6/10,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.16**	**292**		**Pg**	**04 04 09.2**	**-0.1**
CMWZ				Sg	**Sg**	**04 04 12.7**	**+0.7**
CMWZ	**Cape Campbell**	**0.16**	**292**	P	**Pg**	**04 04 09.2**	**-0.1**
CMWZ				S	**Sg**	**04 04 13.3**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.41**	**283**		**Pb**	**04 04 13.8**	**-0.2**
BSWZ				Sg	**Sb**	**04 04 19.7**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.41**	**283**	P	**Pb**	**04 04 13.8**	**-0.2**
BSWZ				S	**Sb**	**04 04 20.3**	**+0.3**
TUWZ	**Tuamarina**	**0.51**	**317**		**Pb**	**04 04 15.4**	**-0.5**
TUWZ	**Tuamarina**	**0.51**	**317**	P	**Pb**	**04 04 15.4**	**-0.4**
TUWZ				S	**Sb**	**04 04 22.6**	**-0.4**
SNZO	**South Karori**	**0.55**	**24**		**Pb**	**04 04 16.4**	**0.0**
SNZO	**South Karori**	**0.55**	**24**	P	**Pb**	**04 04 16.4**	**0.0**
WEL	**Wellington**	**0.59**	**28**	P	**Pb**	**04 04 17.3**	**+0.2**
TCW	**Tory Channel**	**0.60**	**351**		**Pb**	**04 04 16.9**	**-0.5**
TCW	**Tory Channel**	**0.60**	**351**	P	**Pb**	**04 04 16.9**	**-0.5**
PLWZ	**Palliser**	**0.68**	**70**		**Pn**	**04 04 20.5**	**+0.3**
PLWZ	**Palliser**	**0.68**	**70**	P	**Pn**	**04 04 20.5**	**+0.3**
MSWZ	**Moikau Station**	**0.74**	**58**		**Pn**	**04 04 21.4**	**+0.4**
MSWZ	**Moikau Station**	**0.74**	**58**	P	**Pn**	**04 04 21.3**	**+0.2**
MSWZ				S	**Sn**	**04 04 34.0**	**+1.9**
CAW	**Cannon Point**	**0.86**	**36**	P	**Pb**	**04 04 22.0**	**+0.3**
PAWZ	**Paruwai Farm**	**0.88**	**61**	P	**Pn**	**04 04 23.2**	**+0.3**
PAWZ				S	**Sn**	**04 04 37.0**	**+1.7**
NNZ	**Nelson**	**0.97**	**307**		**Pb**	**04 04 23.2**	**-0.4**
NNZ	**Nelson**	**0.97**	**307**	P	**Pb**	**04 04 23.5**	**-0.1**
KIW	**Kapiti Island**	**1.02**	**22**	P	**Pn**	**04 04 24.7**	**-0.1**
TRWZ	**Traveller**	**1.04**	**67**	P	**Pb**	**04 04 25.2**	**+0.3**
MTW	**Mount Morrison**	**1.05**	**52**	P	**Pn**	**04 04 25.4**	**+0.2**
DUWZ	**D'Urville Isla**	**1.07**	**340**	P	**Pn**	**04 04 25.2**	**+0.4**
THZ	**Tophouse**	**1.12**	**272**	Pn	**Pn**	**04 04 26.9**	**+0.6**
THZ	**Tophouse**	**1.12**	**272**	P	**Pn**	**04 04 27.0**	**+0.7**
OGWZ	**Otaki Gorge**	**1.15**	**30**	P	**Pn**	**04 04 26.8**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.23**	**43**	P	**Pn**	**04 04 28.0**	**+0.2**
MRNZ	**Matariki Terra**	**1.30**	**288**		**Pg**	**04 04 29.9**	**-0.4**
MRNZ	**Matariki Terra**	**1.30**	**288**	P	**Pg**	**04 04 29.8**	**-0.5**
TMWZ	**Te Maipa**	**1.32**	**58**	P	**Pn**	**04 04 28.7**	**-0.3**
TKNZ	**Takaka Hill**	**1.33**	**305**		**Pg**	**04 04 30.0**	**-0.9**
TKNZ	**Takaka Hill**	**1.33**	**305**	P	**Pg**	**04 04 30.0**	**-0.9**
MRZ	**Mangatainoka R**	**1.45**	**38**		**Pn**	**04 04 30.8**	**+0.1**
MRZ	**Mangatainoka R**	**1.45**	**38**	P	**Pn**	**04 04 31.1**	**+0.4**
TIWZ	**Tintock**	**1.52**	**48**	P	**Pn**	**04 04 31.7**	**0.0**
GVZ	**Greta Valley S**	**1.54**	**221**		**Pn**	**04 04 32.8**	**+0.8**
GVZ	**Greta Valley S**	**1.54**	**221**	P	**Pn**	**04 04 32.8**	**+0.8**
CPWZ	**Castlepoint**	**1.62**	**57**	P	**Pn**	**04 04 33.2**	**+0.1**
PRWZ	**Pori Road**	**1.72**	**44**	P	**Pn**	**04 04 34.5**	**0.0**
QRZ	**Quartz Range**	**1.72**	**304**		**Pb**	**04 04 36.1**	**-0.4**
QRZ	**Quartz Range**	**1.72**	**304**	P	**Pb**	**04 04 36.3**	**-0.1**
QRZ	**Quartz Range**	**1.72**	**304**	P	**Pg**	**04 04 36.3**	**-2.0**
OHWZ	**Ohakea**	**1.74**	**24**	P	**Pb**	**04 04 36.7**	**-0.1**
POWZ	**Post Office Ro**	**1.75**	**36**	P	**Pn**	**04 04 35.1**	**+0.2**
BFZ	**Birch Farm**	**1.79**	**52**		**Pn**	**04 04 34.5**	**-0.8**
BFZ	**Birch Farm**	**1.79**	**52**	P	**Pn**	**04 04 35.3**	**-0.1**
BFZ	**Birch Farm**	**1.79**	**52**	P	**Pn**	**04 04 34.7**	**-0.6**
LTZ	**Lake Taylor**	**1.86**	**238**		**Pn**	**04 04 37.0**	**+0.5**
LTZ	**Lake Taylor**	**1.86**	**238**	P	**Pn**	**04 04 37.2**	**+0.8**
AMCZ	**Amberley**	**1.89**	**223**		**Pn**	**04 04 37.4**	**+0.7**
AMCZ	**Amberley**	**1.89**	**223**	P	**Pn**	**04 04 37.1**	**+0.4**
DSZ	**Denniston Nort**	**1.95**	**271**		**Pn**	**04 04 38.7**	**+1.1**
DSZ	**Denniston Nort**	**1.95**	**271**	P	**Pb**	**04 04 39.2**	**-1.1**
DVHZ	**Dannevirke**	**2.01**	**42**	P	**Pn**	**04 04 37.9**	**-0.5**
ANWZ	**Angora Road**	**2.06**	**50**	P	**Pn**	**04 04 38.5**	**-0.7**
WAZ	**Wanganui**	**2.10**	**12**	P	**Pb**	**04 04 42.3**	**+0.6**
TSZ	**Takapari Road**	**2.11**	**34**	P	**Pn**	**04 04 39.9**	**0.0**
OKZ	**Okains Bay**	**2.16**	**207**	P	**Pn**	**04 04 40.4**	**-0.1**
PRHZ	**Porangahau**	**2.28**	**48**	P	**Pn**	**04 04 41.3**	**-1.0**
MQZ	**McQueen's Vall**	**2.29**	**214**	Pn	**Pn**	**04 04 41.5**	**-0.8**
MQZ	**McQueen's Vall**	**2.29**	**214**	P	**Pn**	**04 04 41.5**	**-0.8**
OXZ	**Oxford**	**2.31**	**228**	Pn	**Pn**	**04 04 42.9**	**+0.2**
OXZ	**Oxford**	**2.31**	**228**	P	**Pn**	**04 04 42.2**	**-0.5**
WPHZ	**Waipukurau**	**2.33**	**42**	P	**Pn**	**04 04 42.4**	**-0.4**
PNHZ	**Pukenui**	**2.33**	**36**	P	**Pn**	**04 04 42.6**	**-0.3**
AKCZ	**Akaroa Harbour**	**2.34**	**208**	P	**Pn**	**04 04 42.9**	**-0.1**
LREZ	**Lake Rotokare**	**2.35**	**360**	P	**Pb**	**04 04 47.2**	**+0.1**
INZ	**Inchbonnie**	**2.38**	**246**		**Pn**	**04 04 43.9**	**+0.3**
INZ	**Inchbonnie**	**2.38**	**246**	P	**Pn**	**04 04 44.4**	**+0.9**
NMEZ	**Namu Road**	**2.43**	**350**	P	**Pb**	**04 04 48.3**	**-0.2**
KHEZ	**Kahui Hut**	**2.53**	**353**	P	**Pb**	**04 04 48.8**	**-1.5**
KHEZ	**Kahui Hut**	**2.53**	**353**	P	**Pb**	**04 04 48.7**	**-1.5**
RACZ	**Rakaia**	**2.54**	**220**	P	**Pn**	**04 04 45.3**	**-0.5**
NEZ	**North Egmont**	**2.55**	**355**	P	**Pb**	**04 04 49.2**	**-1.4**
MTVZ	**Mangateitei**	**2.55**	**19**	P	**Pb**	**04 04 48.2**	**-2.5**
NBEZ	**Newall Road No**	**2.57**	**351**	P	**Pb**	**04 04 49.3**	**-1.6**
PXZ	**Pawanui**	**2.57**	**47**	P	**Pn**	**04 04 44.9**	**-1.3**
MOVZ	**Moawhango**	**2.61**	**24**	P	**Pn**	**04 04 47.4**	**+0.7**
PKVZ	**Pokaka**	**2.62**	**16**	P	**Pn**	**04 04 48.6**	**+1.8**
DREZ	**Durham Road**	**2.62**	**357**	P	**Pb**	**04 04 50.1**	**-1.6**
PKE	**Pukeiti**	**2.63**	**353**	P	**Pb**	**04 04 50.3**	**-1.7**
BHHZ	**Black Hill Sta**	**2.64**	**29**	P	**Pn**	**04 04 47.4**	**+0.3**
WNVZ	**Wahianoa**	**2.64**	**21**	P	**Pn**	**04 04 48.4**	**+1.1**
TRVZ	**Turoa**	**2.65**	**20**	P	**Pn**	**04 04 48.9**	**+1.4**
WHVZ	**Whangaehu Hut**	**2.68**	**20**	P	**Pn**	**04 04 49.2**	**+1.3**
DRZ	**Dome Shelter**	**2.68**	**20**	P	**Pn**	**04 04 49.6**	**+1.6**
VRZ	**Vera Road**	**2.69**	**6**	P	**Pb**	**04 04 50.1**	**-2.9**
FWVZ	**Far West T-bar**	**2.70**	**19**	P	**Pn**	**04 04 49.4**	**+1.3**
TUVZ	**Tukino**	**2.71**	**21**	P	**Pn**	**04 04 49.5**	**+1.3**
MHCZ	**Mount Hutt**	**2.71**	**230**	P	**Pn**	**04 04 48.0**	**-0.1**
MHEZ	**Mangahewa**	**2.73**	**359**	P	**Pb**	**04 04 53.2**	**-0.4**
KAHZ	**Kahuranaki**	**2.75**	**44**	P	**Pn**	**04 04 47.5**	**-1.1**
NGZ	**Ngauruhoe**	**2.78**	**19**	P	**Pn**	**04 04 50.7**	**+1.5**
SNVZ	**South Ngauruho**	**2.78**	**20**	P	**Pn**	**04 04 50.6**	**+1.3**
OTVZ	**Oturere**	**2.81**	**20**	P	**Pn**	**04 04 51.0**	**+1.4**
NNVZ	**North Ngauruho**	**2.83**	**19**	P	**Pn**	**04 04 51.3**	**+1.4**
KWHZ	**Kaweka Forest**	**2.83**	**33**	P	**Pn**	**04 04 49.7**	**-0.1**
WTVZ	**West Tongariro**	**2.84**	**19**	P	**Pn**	**04 04 51.5**	**+1.6**
TWVZ	**Taurewa**	**2.85**	**16**	P	**Pn**	**04 04 51.3**	**+1.3**
WACZ	**Wakanui South**	**2.85**	**221**	P	**Pn**	**04 04 49.8**	**-0.1**
ETVZ	**East Tongariro**	**2.85**	**21**	P	**Pn**	**04 04 51.4**	**+1.3**
TMVZ	**Te Maari**	**2.87**	**21**	P	**Pn**	**04 04 51.7**	**+1.4**
KRVZ	**Karewarewa**	**2.87**	**20**	P	**Pn**	**04 04 52.0**	**+1.6**
NTVZ	**North Tongarir**	**2.88**	**20**	P	**Pn**	**04 04 52.0**	**+1.5**
MCHZ	**McNeill Hill**	**2.94**	**37**	P	**Pn**	**04 04 50.8**	**-0.4**
KATZ	**Kakaramea**	**3.00**	**20**	P	**Pb**	**04 04 59.3**	**+1.0**
WVZ	**Waitaha Valley**	**3.00**	**244**	P	**Pn**	**04 04 53.2**	**+1.2**
RITZ	**Rihia Road**	**3.04**	**22**	P	**Pn**	**04 04 54.5**	**+1.9**
BKZ	**Black Stump Fm**	**3.08**	**32**		**Pn**	**04 04 52.8**	**-0.5**
BKZ	**Black Stump Fm**	**3.08**	**32**	P	**Pn**	**04 04 52.6**	**-0.7**
RATZ	**Rangitukua**	**3.12**	**20**	P	**Pn**	**04 04 56.0**	**+2.3**
RPZ	**Rata Peaks**	**3.12**	**231**	Pn	**Pn**	**04 04 53.8**	**+0.1**
	16nm,0.3s,baz=100,slow=2.3,SNR=19						
RPZ				Sn	**Sn**	**04 05 28.6**	**-2.0**
	25nm,0.3s,baz=306,slow=7.2,SNR=5.1 34nm,0.3s						
RPZ	**Rata Peaks**	**3.12**	**231**	Pn	**Pn**	**04 04 53.6**	**-0.1**
RPZ	**Rata Peaks**	**3.12**	**231**	P	**Pn**	**04 04 54.1**	**+0.4**
RPZ	**Rata Peaks**	**3.12**	**231**	P	**Pn**	**04 04 53.8**	**+0.1**
ARCZ	**Arundel**	**3.19**	**227**	P	**Pn**	**04 04 54.5**	**-0.3**
ARHZ	**Aropaoanui**	**3.22**	**39**	P	**Pn**	**04 04 54.5**	**-0.5**
NMHZ	**Naumai**	**3.27**	**35**	P	**Pn**	**04 04 55.3**	**-0.5**
HIZ	**Hauiti**	**3.31**	**6**		**Pn**	**04 04 58.2**	**+1.8**
HIZ	**Hauiti**	**3.31**	**6**	P	**Pn**	**04 04 58.5**	**+2.2**
HIZ	**Hauiti**	**3.31**	**6**	P	**Pn**	**04 04 58.4**	**+2.0**
MRHZ	**Matea Rd**	**3.34**	**28**	P	**Pb**	**04 05 02.9**	**-1.2**
WHTZ	**Whakaora**	**3.36**	**21**	P	**Pb**	**04 05 04.7**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**3.37**	**242**	P	**Pn**	**04 04 58.7**	**+1.6**
WHHZ	**Waihua**	**3.48**	**39**	P	**Pn**	**04 04 57.8**	**-0.9**
MTHZ	**Maungataniwha**	**3.49**	**33**	P	**Pn**	**04 04 58.3**	**-0.6**
RAHZ	**Arahi**	**3.54**	**36**	P	**Pn**	**04 04 58.4**	**-1.2**
TMZ	**Timaru**	**3.58**	**223**	P	**Pn**	**04 04 59.7**	**-0.4**
TLZ	**Tolley Road**	**3.58**	**14**	P	**Pn**	**04 05 01.7**	**+1.6**
KNZ	**Kokohu**	**3.74**	**43**	P	**Pn**	**04 05 00.7**	**-1.5**
MHGZ	**Mahia Peninsul**	**3.76**	**46**	P	**Pn**	**04 05 01.7**	**-0.9**
FOZ	**Fox Glacier**	**3.80**	**241**	Pn	**Pn**	**04 05 04.5**	**+1.5**
FOZ	**Fox Glacier**	**3.80**	**241**	P	**Pn**	**04 05 05.0**	**+2.0**
LBZ	**Lake Benmore**	**4.02**	**229**	Pn	**Pn**	**04 05 07.1**	**+1.0**
LBZ	**Lake Benmore**	**4.02**	**229**	P	**Pn**	**04 05 07.0**	**+0.8**
RIGZ	**Rimuhau**	**4.02**	**41**	P	**Pn**	**04 05 05.6**	**-0.6**
URZ	**Urewera**	**4.11**	**31**	P	**Pn**	**04 05 06.6**	**-0.7**
URZ	**Urewera**	**4.11**	**31**	P	**Pn**	**04 05 06.2**	**-1.0**
TOZ	**Tahurora Road**	**4.16**	**12**	P	**Pn**	**04 05 09.1**	**+1.1**
ODZ	**Otahua Downs**	**4.24**	**219**	Pn	**Pn**	**04 05 08.7**	**-0.3**
ODZ	**Otahua Downs**	**4.24**	**219**	P	**Pn**	**04 05 09.4**	**+0.3**
ODZ	**Otahua Downs**	**4.24**	**219**	P	**Pn**	**04 05 08.3**	**-0.8**
OPRZ	**Ohinepanea**	**4.29**	**23**	P	**Pn**	**04 05 10.0**	**+0.2**
TGRZ	**Tauranga**	**4.32**	**20**	P	**Pn**	**04 05 10.7**	**+0.5**
RUGZ	**Raukumara Rang**	**4.59**	**34**	P	**Pn**	**04 05 12.7**	**-1.3**
JCZ	**Jackson Bay**	**4.71**	**239**	P	Pn	04 05 20.4	+4.8
MKAZ	**Moumakai**	**4.73**	**7**	P	**Pn**	**04 05 17.1**	**+1.2**
AWAZ	**Awhitu Peninsu**	**4.74**	**2**	P	**Pn**	**04 05 18.1**	**+2.1**
HAZ	**Te Kaha**	**4.81**	**34**	P	**Pn**	**04 05 16.9**	**-0.1**
ETAZ	**East Tamaki Re**	**4.87**	**5**	P	**Pn**	**04 05 20.0**	**+2.3**
WTAZ	**Waiatarua**	**4.87**	**2**	P	**Pn**	**04 05 21.3**	**+3.5**
HHSZ	**Highcliff Hill**	**4.92**	**213**	P	**Pn**	**04 05 18.3**	**-0.1**
WKZ	**Wanaka**	**4.96**	**231**	Pn	**Pn**	**04 05 19.7**	**+0.7**
WKZ	**Wanaka**	**4.96**	**231**	P	**Pn**	**04 05 20.1**	**+1.1**
WIAZ	**Waiheke Island**	**5.04**	**7**	P	**Pn**	**04 05 22.1**	**+2.0**
EAZ	**Earnscleugh**	**5.04**	**226**	P	**Pn**	**04 05 19.9**	**-0.2**
MBAZ	**Motutaua North**	**5.05**	**4**	P	Pn	04 05 26.0	+5.8
KUZ	**Kuaotunu**	**5.16**	**12**	P	**Pn**	**04 05 22.0**	**+0.3**
KUZ	**Kuaotunu**	**5.16**	**12**	P	**Pn**	**04 05 22.5**	**+0.8**
MXZ	**Matakaoa Point**	**5.20**	**37**	Pn	**Pn**	**04 05 20.0**	**-2.3**
MLZ	**Mavora Lakes**	**5.79**	**230**	Pn	**Pn**	**04 05 31.9**	**+1.5**
WCZ	**Waipu Caves**	**5.86**	**360**	P	**Pn**	**04 05 35.0**	**+3.6**
SYZ	**Scrubby Hill**	**6.06**	**217**	P	**Pn**	**04 05 34.6**	**+0.6**
SYZ	**Scrubby Hill**	**6.06**	**217**	P	**Pn**	**04 05 34.7**	**+0.7**
WHZ	**Wether Hill Ro**	**6.20**	**227**	Pn	**Pn**	**04 05 37.2**	**+1.2**
DCZ	**Deep Cove**	**6.41**	**233**	Pn	**Pn**	**04 05 40.4**	**+1.6**
OUZ	**Omahuta**	**6.61**	**354**	P	**Pn**	**04 05 44.5**	**+2.8**
OUZ	**Omahuta**	**6.61**	**354**	P	**Pn**	**04 05 44.4**	**+2.8**
APZ	**The Paps**	**6.81**	**220**	P	**Pn**	**04 05 44.7**	**+0.3**
CTZ	**Chatham Island**	**6.88**	**109**	P	**Pn**	**04 05 46.1**	**+0.8**
CTZ	**Chatham Island**	**6.88**	**109**	P	**Pn**	**04 05 45.5**	**+0.2**
RAO	**Raoul Island**	**13.99**	**29**	LR	LR	04 12 27.3	
	comp=Z,278nm,18.7s,baz=222,slow=36						
DZM	**Mont Dzumac**	**20.79**	**339**	P	**P**	**04 08 44.1**	**-1.6**
	13nm,0.9s,baz=73,slow=8.4,SNR=4.4						
DZM				LR	LR	04 16 40.4	
	comp=Z,242nm,18.0s,baz=178,slow=37 13nm,0.9s						
MSVF	**Nonsavu**	**24.20**	**8**	P	**P**	**04 09 20.0**	**-1.1**
	3.4nm,0.3s,baz=133,slow=15,SNR=9.3						
MSVF				LR	LR	04 17 05.0	
	comp=Z,207nm,21.1s,baz=358,slow=33 3.4nm,0.3s						
STKA	**Stephens Creek**	**27.92**	**280**	P	**P**	**04 09 53.5**	**-1.1**
	0.4nm,0.4s,baz=157,slow=7.7,SNR=1.0						
STKA				LR	LR	04 20 38.6	
	comp=Z,104nm,18.1s,baz=141,slow=36 0.4nm,0.4s						
RAR	**Rarotonga**	**29.91**	**55**	LR	LR	04 21 57.4	
	comp=Z,65nm,19.4s,baz=208,slow=36						
HNR	**Honiara**	**34.68**	**334**	LR	LR	04 23 54.4	
	comp=Z,568nm,18.4s,baz=132,slow=35						
SBA	**Scott Base**	**36.29**	**183**	P	**P**	**04 11 09.0**	**+1.7**
ASAR	**Alice Springs**	**38.16**	**285**	P	**P**	**04 11 21.7**	**-2.2**
	3.6nm,0.9s,baz=128,slow=7.2,SNR=15						
ASAR				PcP	**PcP**	**04 13 37.1**	**-1.3**
	0.4nm,0.7s,baz=123,slow=4.3,SNR=4.0						
ASAR				LR	LR	04 27 23.2	
	comp=Z,121nm,18.0s,baz=164,slow=37 3.6nm,0.9s						
ASAR	**Alice Springs**	**38.16**	**285**	P	**P**	**04 11 23.7**	**-0.2**
PMG	**Port Moresby**	**40.21**	**316**	LR	LR	04 29 05.1	
	comp=Z,85nm,18.2s,baz=98,slow=38						
WB2	**Warramunga Arr**	**40.22**	**290**	P	**P**	**04 11 40.4**	**-0.8**
WB2				IAmb	IAmb	04 11 42.1	
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**40.23**	**290**	P	**P**	**04 11 40.2**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=127,slow=8.5,SNR=43						
WRA				PcP	**PcP**	**04 13 43.7**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=124,slow=2.8,SNR=3.2						
WRA				LR	LR	04 28 19.4	
	comp=Z,82nm,18.2s,baz=108,slow=36 comp=Z,3.7nm,0.7s						
WB0	**Warramunga Arr**	**40.31**	**291**	P	**P**	**04 11 41.2**	**-0.7**
WB0				IAmb	IAmb	04 11 42.4	
	comp=Z,6.8nm,1.0s						
MTN	**Manton Dam**	**47.35**	**295**	P	**P**	**04 12 38.7**	**+0.3**
QSPA	**South Pole Qui**	**48.32**	**180**	P	**P**	**04 12 48.6**	**+3.0**
	comp=Z,2nm,0.8s,baz=351,slow=0.8,SNR=9.8 comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**48.32**	**180**	P	**P**	**04 12 48.8**	**+3.2**
QSPA				IAmb	IAmb	04 12 55.5	
	comp=Z,8.0nm,0.9s						
TROLL	**Troll, Antarti**	**66.34**	**183**	P	**P**	**04 14 54.5**	**+1.9**
VNA3	**Neumayer Olymp**	**67.22**	**179**	P	**P**	**04 14 59.8**	**+1.7**
VNA2	**Neumayer--Watz**	**67.57**	**179**	P	**P**	**04 15 02.4**	**+2.1**
	baz=169,slow=7.0						
LEM	**Lembang**	**68.22**	**281**	LR	LR	04 44 36.8	
	comp=Z,68nm,19.5s,baz=282,slow=36						
KSRS	**Korea Array**	**89.57**	**325**	P	**P**	**04 17 01.7**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=144,slow=3.3,SNR=5.3 comp=Z,2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.77**	**293**	LR	LR	05 01 37.2	
	comp=Z,24nm,18.0s,baz=205,slow=38						
CPUP	**Villa Florida**	**97.04**	**135**	P	Pdif	04 17 38.4	+1.8
	comp=Z,2.1nm,0.9s,baz=227,slow=4.4,SNR=3.2 comp=Z,2.1nm,0.9s						
HEH	**HeiHe**	**100.48**	**331**	*e*P	**Pdif**	**04 17 43.9**	**-7.1**
YKA	**Yellowknife Ar**	**118.37**	**30**	PKP	**PKPdf**	**04 22 50.0**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=268,slow=1.6,SNR=5.2						
MKAR	**Makanchi Array**	**120.10**	**307**	PKP	**PKPdf**	**04 22 52.9**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=102,slow=1.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**124.11**	**310**	PKP	**PKPdf**	**04 23 01.0**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=107,slow=1.9,SNR=2.1						
KBZ	**Khabaz**	**144.75**	**290**	PKP	**PKPab**	**04 23 39.3**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=111,slow=4.2,SNR=3.7						
SFJD	**Kangerlussuaq**	**144.92**	**29**	PKP	**PKPab**	**04 23 39.3**	**-0.2**
	comp=Z,9.6nm,0.8s,baz=260,slow=1.7,SNR=4.5						
DBIC	**Dimbokro**	**145.00**	**181**	PKPbc	**PKPbc**	**04 23 42.0**	**+0.7**
	comp=Z,4.4nm,0.9s,baz=170,slow=3.7,SNR=4.1						
ARCES	**ARCESS Array B**	**147.87**	**340**	PKPbc	**PKPdf**	**04 23 47.2**	**+2.0**
	comp=Z,3.9nm,0.7s,baz=70,slow=4.3,SNR=9.6						
BRTR	**Keskin Array B**	**150.39**	**279**	PKPbc	**PKPbc**	**04 23 55.3**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=142,slow=6.4,SNR=13						
TORD	**Torodi Ar. Bea**	**150.75**	**195**	PKP	**PKPdf**	**04 23 52.0**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=53,slow=1.0,SNR=4.9						
TORD				PKPbc	**PKPbc**	**04 23 57.6**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=141,slow=1.5,SNR=15						
TORD				PKPab	**sPKPbc**	**04 24 03.3**	**-1.1**
	comp=Z,2.3nm,0.9s,baz=158,slow=2.5,SNR=7.8						
FINES	**FINESS Array B**	**152.65**	**327**	PKPbc	**PKPbc**	**04 23 59.0**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=50,slow=6.0,SNR=8.8						
AKASG	**Malin Array Be**	**154.54**	**302**	PKPbc	**PKPbc**	**04 24 03.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=63,slow=2.3,SNR=1.6						

IDC ***17*** *04:10:12.5±1.7,1.44N×121.36E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=200.3km s-min=28.7km az=60.0*

DJA ***17*** *04:10:15.4±0.9,1.1N±7.2×12.1E±°,h10km,M3.6/7,MLv3.6/7*

ISC 17 04:10:17.9±1.4,1.4N±0.1×120.94E±0.07,h37km,n7, σ1ᵽ41/9,mb3.4/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.34**	**132**	P	**Pn**	**04 10 38.8**	**-1.3**
MRSI				S	**Sn**	**04 10 57.3**	**+0.6**
MPSI	**Mapaga**	**1.47**	**225**	P	**Pn**	**04 10 40.7**	**-1.1**
MPSI				S	**Sn**	**04 11 00.8**	**+1.1**
APSI	**Ampana**	**2.38**	**163**	P	**Pn**	**04 10 55.1**	**+0.7**
LUWI	**Luwuk**	**3.02**	**143**	P	**Pn**	**04 11 04.0**	**+0.8**
WRA	**Warramunga Arr**	**24.93**	**149**	P	**P**	**04 15 35.7**	**-2.1**
	0.5nm,0.3s,baz=326,slow=11,SNR=30 0.5nm,0.3s						
ASAR	**Alice Springs**	**27.90**	**154**	P	**P**	**04 16 04.0**	**-0.7**
	0.4nm,0.5s,baz=344,slow=15,SNR=4.5 0.4nm,0.5s						
MKAR	**Makanchi Array**	**56.37**	**329**	P	**P**	**04 19 56.6**	**+1.1**
	0.2nm,0.6s,baz=127,slow=7.1,SNR=2.1						
	0.2nm,0.6s						

IDC ***17*** *04:10:29.8±0.8,25.75N×99.94E,h0km,mb3.8/12, mbtmp3.8/13,ML4.7/1,MS3.5/9,Error ellipse: s-maj=32.5km s-min=15.0km az=71.0*

BJI ***17*** *04:10:30.4±0.0,25.74N×99.86E,h10km,mb4.3/14, mB4.7/8,ML4.1/8,Ms4.4/23,Ms7 4.2/18*

NEIC ***17*** *04:10:35.1±1.6,25.6N±0.1×99.9E±0.2,h32km±8km, mb4.1/4,Error ellipse: s-maj=24.2km s-min=17.2km az=77.0*

ISC 17 04:10:31.9±0.5,25.63N±0.04×99.89E±0.03,h10km,n49, σ1ᵽ79/55,mb3.8/14,MS3.3/9,2C-2D,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNCH	**TengChong**	**1.38**	**245**	Pn	**Pn**	**04 10 57.3**	**-0.1**
TNCH				Pg	**Pb**	**04 10 58.8**	**+0.9**
TNCH				Sn	**Sb**	**04 11 15.5**	**-0.2**
TNCH				Sg	**Sn**	**04 11 17.5**	**+1.7**
PZH	**PanZhiHua**	**1.88**	**62**	Pg	**Pn**	**04 11 03.3**	**-0.9**
PZH				Sg	**Sn**	**04 11 26.8**	**-1.3**
PZH				smax	smax		
	comp=N,6μm,0.7s						
PZH				smax	smax		
	comp=E,4μm,0.7s						
KMI	**Kunming**	**2.62**	**100**	⇓Pn	**Pn**	**04 11 16.9**	**+2.3**
KMI				Pg	**Pb**	**04 11

WMQ	**Urumqi**	**20.69**	**334**	*e*P		**P**	**04 15 10.6**	**-1.6**
WMQ				pmax	pmax			
	comp=E,13nm,0.9s							
SONM	**Songino Array**	**22.75**	**11**	P		**P**	**04 15 32.0**	**-2.4**
	comp=E,1.9nm,0.8s,baz=192,slow=11,SNR=9.7							
SONM				LR	LR		04 25 22.1	
	comp=E,288nm,20.7s,baz=188,slow=39							
	comp=E,1.9nm,0.8s							
MK31	**Makanchi Array**	**25.34**	**331**	P		**P**	**04 15 58.4**	**-0.5**
MKAR	**Makanchi Array**	**25.34**	**331**	P		**P**	**04 15 58.1**	**-0.9**
	comp=E,1.8nm,0.5s,baz=134,slow=11,SNR=23							
MKAR				LR	LR		04 27 33.9	
	comp=E,69nm,19.9s,baz=301,slow=40							
	comp=E,1.8nm,0.5s							
MKAR	**Makanchi Array**	**25.34**	**331**	P		**P**	**04 15 58.6**	**-0.4**
JOW	**Kunigami**	**25.47**	**81**	LR	LR		04 26 57.3	
	comp=E,294nm,19.3s,baz=298,slow=39							
PALK	**Pallekele**	**25.86**	**228**	LR	LR		04 26 10.5	
	comp=E,87nm,21.2s,baz=156,slow=36							
KSRS	**Korea Array**	**26.54**	**57**	LR	LR		04 26 19.7	
	comp=E,51nm,18.9s,baz=215,slow=36							
KURBB	**Kurchatov Arra**	**29.87**	**332**	P		**P**	**04 16 37.6**	**-1.9**
	comp=E,0.7nm,0.2s,baz=152,slow=9.9,SNR=4.2							
	comp=E,0.7nm,0.2s							
ZAA0	**Zalesovo Array**	**30.43**	**342**	P		**P**	**04 16 43.8**	**-0.6**
ZAA0				IAmb	IAmb		04 16 51.9	
	comp=Z,2.5nm,0.9s							
ZALV	**Zalesovo Beam**	**30.43**	**342**	P		**P**	**04 16 43.3**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=145,slow=11,SNR=6.0							
ZALV				LR	LR		04 30 27.6	
	comp=Z,55nm,18.3s,baz=304,slow=40							
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**30.43**	**342**	P		**P**	**04 16 44.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**31.90**	**46**	LR	LR		04 31 31.4	
	comp=Z,120nm,20.2s,baz=235,slow=40							
KLR	**Kul'dur**	**34.16**	**38**	LR	LR		04 31 11.5	
	comp=Z,61nm,19.8s,baz=228,slow=36							
MJAR	**Matsushiro Arr**	**34.37**	**62**	LR	LR		04 32 26.1	
	comp=Z,86nm,19.3s,baz=254,slow=38							
BVAR	**Borovoye Array**	**35.17**	**329**	P		**P**	**04 17 25.3**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=123,slow=8.4,SNR=7.5							
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**35.24**	**329**	P		**P**	**04 17 26.3**	**-0.2**
BRVK				IAmb	IAmb		04 17 27.4	
	comp=Z,1.8nm,0.7s							
ABKAR	**Akbulak array**	**38.88**	**318**	P		**P**	**04 17 57.6**	**+0.2**
ABKAR	**Akbulak array**	**38.88**	**318**	P		**P**	**04 17 57.6**	**+0.2**
WRA	**Warramunga Arr**	**56.33**	**140**	P		**P**	**04 20 12.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=331,slow=7.6,SNR=11							
	comp=Z,0.7nm,0.7s							
BRTR	**Keskin Array B**	**56.34**	**302**	P		**P**	**04 20 12.4**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=72,slow=9.3,SNR=2.0							
	comp=Z,0.5nm,0.7s							
AKASG	**Malin Array Be**	**58.53**	**315**	P		**P**	**04 20 27.0**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=358,slow=4.5,SNR=1.6							
	comp=Z,0.3nm,0.4s							
ASAR	**Alice Springs**	**59.04**	**143**	P		**P**	**04 20 32.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=327,slow=6.6,SNR=1.5							
	comp=Z,0.2nm,0.5s							
NOA	**NORSAR Array B**	**67.30**	**328**	P		**P**	**04 21 25.0**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=76,slow=6.5,SNR=1.5							
	comp=Z,0.7nm,0.7s							
GERES	**GERESS Array B**	**68.74**	**315**	P		**P**	**04 21 35.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=48,slow=5.8,SNR=1.9							
	comp=Z,0.3nm,0.5s							
ILAR	**Eielson Array**	**76.34**	**24**	P		**P**	**04 22 20.0**	**-1.0**
	comp=Z,0.9nm,1.1s,baz=308,slow=3.7,SNR=2.8							
	comp=Z,0.9nm,1.1s							

IDC ***17*** *04:22:46.8±0.7,25°.80N×100°.14E, h0km, mb4.0/16, mbtmp4.1/17, ML4.6/1, MS3.7/16, Error ellipse: s-maj=24.4km s-min=13.3km az=63.0*

MOS ***17*** *04:22:46.3±1.4,25°.72N×100°.06E, h10km, mb4.6/20, Error ellipse: s-maj=11.6km s-min=6.0km az=113.3*

NEIC ***17*** *04:22:47.7±2.0,25°.8N±0°.1×99°.98E±0°.07, h10km±1km, mb4.5/13, Error ellipse: s-maj=18.7km s-min=11.3km az=348.0*

BJI ***17*** *04:22:48.3±0.0,25°.71N×99°.86E, h10km, mb4.4/26, mB4.6/13, ML4.4/12, Ms4.5/28, Ms7 4.1/23*

ISC 17 04:22:49.2±0.4**,25°.67N**±0°.05×**99°.85E**±0°.03**, h10**km**, n113,** σ**2°30**/105**, mb4.4**/37**, MS3.7**/17**, 9C-2D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNCH	**TengChong**	**1.36**	**242**	Pn	Pn	04 23 13.0	-1.5
TNCH				Pg	**Pb**	**04 23 15.6**	**+0.7**
TNCH				Sn	**Sb**	**04 23 31.1**	**-1.3**
TNCH				Sg	**Sn**	**04 23 34.0**	**+1.3**
PZH	**PanZhiHua**	**1.90**	**64**	Pg	**Pn**	**04 23 21.1**	**-0.7**
PZH				Sg	**Sn**	**04 23 46.0**	**+0.2**
PZH				smax	smax		
	comp=N,9μm,0.9s						
PZH				smax	smax		
	comp=E,8μm,0.9s						
KMI	**Kunming**	**2.67**	**101**	⇑Pn	**Pn**	**04 23 32.3**	**-0.2**
KMI				Pg	**Pb**	**04 23 35.9**	**-1.4**
KMI				Sg	**Sb**	**04 24 12.3**	**+2.1**
KMI				smax	smax		
	comp=N,2μm,0.9s						
KMI				smax	smax		
	comp=E,2μm,1.0s						
MND	**Mandalay**	**4.99**	**224**	Pn	**Pn**	**04 24 04.9**	**+0.7**
GYA	**Guiyang**	**6.18**	**81**	⇓Pn	**Pn**	**04 24 20.9**	**+0.2**
GYA				Sn	**Sn**	**04 25 32.9**	**+1.4**
GYA				Sg	**Sg**	**04 26 11.1**	**+3.4**
GYA				smax	smax		
	comp=N,85nm,0.8s						
GYA				smax	smax		
	comp=E,120nm,1.0s						
GYA				LR	LR		
	comp=N,2μm,5.8s						
GYA				LR	LR		
	comp=E,2μm,10.0s						
GYA				LR	LR		
	comp=Z,2μm,10.4s						
CHTO	**Chiang Mai**	**6.87**	**187**	Pn	**Pn**	**04 24 29.9**	**-0.2**
CHTO	**Chiang Mai**	**6.87**	**187**	P	**Pn**	**04 24 29.9**	**-0.2**
PHRA	**Phrae**	**7.14**	**177**	Pn	**Pn**	**04 24 33.7**	**-0.2**
SHL	**Shillong**	**7.19**	**271**	P	**Pn**	**04 24 34.5**	**-0.1**
SHL				pmax	pmax		
	comp=Z,34nm,0.8s						
CM31	**Chiang Mai Arr**	**7.22**	**187**	Pn	**Pn**	**04 24 35.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**7.22**	**187**	Pn	**Pn**	**04 24 35.5**	**+0.5**
	comp=Z,2.6nm,0.3s,baz=2.5,slow=12,SNR=22						
CMAR				Pg	Pg	04 25 04.7	-2.9
	comp=Z,16nm,0.3s,baz=0.6,slow=18,SNR=88						
CMAR				Lg	Lg	04 26 41.5	
	comp=Z,4.9nm,0.3s,baz=17,slow=32,SNR=5.7						
	comp=Z,5.2nm,0.4s						
LSA	**Lhasa**	**8.69**	**299**	P	**Pn**	**04 24 55.8**	**+0.3**
LSA				pmax	pmax		
	comp=Z,13nm,0.5s						
LSA	**Lhasa**	**8.69**	**299**	P	**Pn**	**04 24 56.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
LZH	**Lanzhou**	**10.94**	**17**	*e*P	**Pn**	**04 25 26.9**	**+0.9**
LZH				pP		04 25 29.8	
LZH				S	**Sn**	**04 27 36.8**	**+8.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,48nm,4.9s						
LZH				LR	LR		
	comp=Z,1μm,10.9s						
LZH				LR	LR		
	comp=Z,2μm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,10.8s						
GOMU	**GeErMu**	**11.35**	**339**	P	**Pn**	**04 25 30.4**	**-1.4**
GOMU				pP		04 25 34.5	
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GOMU				LR	LR		
	comp=Z,1μm,11.7s						
GOMU				LR	LR		
	comp=Z,2μm,13.8s						
GOMU				LR	LR		
	comp=Z,410nm,11.5s						
QIZ	**Qiongzhong**	**11.36**	**124**	P	**Pn**	**04 25 31.6**	**-0.1**
QIZ				S	**Sn**	**04 27 41.0**	**+2.2**
QIZ				LR	LR		
	comp=Z,900nm,13.4s						
QIZ				LR	LR		
	comp=Z,840nm,15.9s						
QIZ				LR	LR		
	comp=Z,350nm,10.8s						
XAN	**Xi'an**	**11.47**	**41**	P	**Pn**	**04 25 34.9**	**+1.8**
XAN				pP		04 25 39.1	
XAN				S	**Sn**	**04 27 44.3**	**+3.0**
XAN				LR	LR		
	comp=Z,2μm,16.5s						
XAN				LR	LR		
	comp=Z,2μm,15.1s						
XAN				LR	LR		
	comp=Z,940nm,12.4s						
CNSH	**ChangSha**	**11.94**	**75**	⇑P	Pn	04 25 33.0	-6.5
CNSH				S	Sn	04 27 44.6	-8.2
CNSH				smax	smax		
	comp=N,84nm,0.9s						
CNSH				smax	smax		
	comp=E,100nm,0.9s						
WHN	**Wuhan**	**13.69**	**66**	⇑P	**Pn**	**04 26 03.5**	**+0.1**
WHN				S	**Sn**	**04 28 35.8**	**+0.3**
WHN				LR	LR		
	comp=E,2μm,8.0s						
WHN				LR	LR		
	comp=E,2μm,12.1s						
WHN				LR	LR		
	comp=E,2μm,9.6s						
LYN	**LuoYang**	**14.05**	**48**	⇓*e*P	Pn	04 26 03.9	-4.5
LYN				pP	P	04 26 07.3	-8.9
LYN				sP		04 26 10.9	
LYN				S	**Sn**	**04 28 50.8**	**+6.4**
LYN				LR	LR		
	comp=N,1μm,13.0s						
LYN				LR	LR		
	comp=E,980nm,11.9s						
LYN				LR	LR		
	comp=Z,550nm,11.7s						
BTO	**Baotou**	**17.14**	**27**	*e*P	**Pn**	**04 26 46.8**	**-2.2**
BTO				S	**Sn**	**04 29 57.9**	**-1.8**
BTO				LR	LR		
	comp=Z,2μm,11.1s						
BTO				LR	LR		
	comp=Z,3μm,13.2s						
HNS	**HongShan**	**17.21**	**44**	⇑P	**P**	**04 26 53.3**	**+2.0**
HNS				S	**Sn**	**04 29 58.6**	**-2.7**
HNS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HNS				LR	LR		
	comp=Z,960nm,11.4s						
HNS				LR	LR		
	comp=Z,590nm,11.4s						
HNS				LR	LR		
	comp=Z,390nm,12.9s						
LGTI	**Lohaghat**	**17.78**	**287**	*e*P	**Pn**	**04 26 55.8**	**-1.1**
NJ2	**Nanjing**	**17.81**	**65**	*e*P	**Pn**	**04 26 57.4**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,780nm,11.2s						
NJ2				LR	LR		
	comp=Z,540nm,13.2s						
PTH	**Pithoragarh**	**17.82**	**287**	*e*P	**Pn**	**04 26 54.9**	**-2.7**
HHC	**Hu-ho-hao-te**	**18.01**	**30**	*e*P	**Pn**	**04 26 59.3**	**-0.4**
HHC				pmax	pmax		
	comp=Z,32nm,1.2s						
HHC				pmax	pmax		
	comp=Z,130nm,4.8s						
HHC				LR	LR		
	comp=Z,1μm,9.8s						
HHC				LR	LR		
	comp=Z,790nm,11.3s						
TIA	**Tai'an**	**18.14**	**50**	*e*P	**Pn**	**04 26 58.3**	**-3.0**
TIA				S	**Sn**	**04 30 16.4**	**-7.4**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIA				pmax	pmax		
	comp=Z,100nm,3.9s						
TIA				LR	LR		
	comp=Z,200nm,7.8s						
TIA				LR	LR		
	comp=Z,500nm,10.0s						
TIA				LR	LR		
	comp=Z,700nm,12.1s						
SSE	**Sheshan**	**19.53**	**69**	P	**P**	**04 27 14.9**	**-2.0**
SSE				S	**Sn**	**04 30 52.5**	**-4.9**
SSE				pmax	pmax		
	comp=Z,21nm,0.7s						
SSE				pmax	pmax		
	comp=Z,51nm,3.7s						
SSE				LR	LR		
	comp=Z,390nm,12.0s						
SSE				LR	LR		
	comp=Z,180nm,12.1s						
WMQ	**Urumqi**	**20.64**	**334**	*e*P	**P**	**04 27 28.4**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,13nm,0.8s						
AJM	**Ajmer**	**22.65**	**278**	*e*P	**P**	**04 27 52.6**	**+1.9**
SONM	**Songino Array**	**22.72**	**11**	P	**P**	**04 27 48.6**	**-2.8**
	comp=Z,5.3nm,1.0s,baz=199,slow=10,SNR=4.3						
SONM				LR	LR	04 38 11.5	
	comp=Z,137nm,19.2s,baz=204,slow=41						
	comp=Z,5.3nm,1.0s						
PSI	**Prapat**	**22.75**	**182**	P	**P**	**04 27 51.5**	**-0.4**
PSI				pmax	pmax		
	comp=Z,61nm,0.9s						
ULN	**Ulaanbaatar**	**22.87**	**13**	*ce*P	P	04 27 47.9	-5.1
ULN				pmax	pmax		
	comp=Z,13nm,1.3s						
KSH	**Kashi**	**24.31**	**310**	P	**P**	**04 28 07.4**	**+0.3**
KSH				pP	pP	04 28 11.9	+1.0
KSH				sP	sP	04 28 16.8	+4.3
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NIL	**Nilore**	**24.40**	**295**	P	**P**	**04 28 06.2**	**-1.7**
NIL				pmax	pmax		
	comp=Z,25nm,1.1s						
ZAK	**Zakamensk**	**24.82**	**5**	*e*P	**P**	**04 28 09.3**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KNGR	**Kungurtug, Tuv**	**24.96**	**356**	*i*P	**P**	**04 28 11.8**	**-1.1**
KNGR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MK31	**Makanchi Array**	**25.29**	**331**	P	**P**	**04 28 14.5**	**-1.3**
MK31				IAmb	IAmb	04 28 21.5	
	comp=Z,11nm,0.9s						
MK31	**Makanchi Array**	**25.29**	**331**	*i*P	**P**	**04 28 15.2**	**-0.6**
MKAR	**Makanchi Array**	**25.29**	**331**	P	**P**	**04 28 15.4**	**-0.4**
	comp=Z,6.2nm,0.8s,baz=141,slow=9.7,SNR=45						
MKAR				LR	LR	04 38 31.3	
	comp=Z,203nm,18.3s,baz=192,slow=37						
	comp=Z,6.2nm,0.8s						
MKAR	**Makanchi Array**	**25.29**	**331**	P	**P**	**04 28 15.1**	**-0.8**
MAKZ	**Makanchi**	**25.44**	**331**	P	**P**	**04 28 14.6**	**-2.6**
MAKZ	**Makanchi**	**25.44**	**331**	P	**P**	**04 28 14.8**	**-2.3**
JOW	**Kunigami**	**25.50**	**81**	LR	LR	04 39 06.1	
	comp=Z,147nm,19.0s,baz=322,slow=39						
DGZ	**Jazzator, Alta**	**25.86**	**341**	*e*P	**P**	**04 28 20.4**	**-0.7**
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TKM2	**Tokmak 2**	**26.27**	**317**	P	**P**	**04 28 25.9**	**+0.9**
	SNR=7.7						
TKM2	**Tokmak 2**	**26.27**	**317**	P	**P**	**04 28 28.4**	**+3.4**
KBK	**Karagaybulak**	**26.53**	**316**	P	**P**	**04 28 28.5**	**+1.2**
	SNR=6.8						
KSRS	**Korea Array**	**26.55**	**57**	P	**P**	**04 28 23.5**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=254,slow=9.0,SNR=1.8						
KSRS				LR	LR	04 38 28.5	
	comp=Z,135nm,18.1s,baz=240,slow=36						
	comp=Z,0.4nm,0.3s						
AAK	**Ala-Archa**	**26.81**	**316**	P	**P**	**04 28 29.5**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=135,slow=5.5,SNR=1.4						
	comp=Z,1.9nm,0.4s						
AAK	**Ala-Archa**	**26.81**	**316**	P	**P**	**04 28 26.7**	**-3.1**
AAK				IAmb	IAmb	04 28 35.7	
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**26.81**	**316**	*i*P	**P**	**04 28 29.2**	**-0.6**
AAK				pmax	pmax		
	comp=Z,13nm,1.0s						
AML	**Almayashu**	**27.07**	**314**	P	**P**	**04 28 33.3**	**+0.9**
	SNR=5.9						
USP	**Ospenovka**	**27.13**	**317**	P	**P**	**04 28 36.9**	**+4.3**
	SNR=8.1						
EKS2	**Erkin-Say**	**27.28**	**315**	P	**P**	**04 28 39.2**	**+5.2**
	SNR=5.1						
KURBB	**Kurchatov Arra**	**29.82**	**332**	P	**P**	**04 28 55.3**	**-1.1**
	comp=Z,1.4nm,0.2s,baz=149,slow=9.6,SNR=6.2						
	comp=Z,1.4nm,0.2s						
KURK	**Kurchatov**	**29.85**	**332**	P	P	04 28 53.3	-3.3
KURK				IAmb	IAmb	04 29 01.4	
	comp=Z,4.8nm,0.8s						
KURK	**Kurchatov**	**29.85**	**332**	*ce*P	**P**	**04 28 54.8**	**-1.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZAA0	**Zalesovo Array**	**30.38**	**342**	P	P	04 28 58.2	-3.0
ZAA0				IAmb	IAmb	04 29 05.9	
	comp=Z,6.3nm,0.9s						
ZALV	**Zalesovo Beam**	**30.38**	**342**	P	**P**	**04 28 59.6**	**-1.7**
	comp=Z,3.6nm,0.8s,baz=148,slow=8.7,SNR=14						
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**30.38**	**342**	P	P	04 28 57.4	-3.9
ZALV	**Zalesovo Beam**	**30.38**	**342**	*e*P	**P**	**04 29 00.4**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**31.91**	**46**	LR	LR	04 43 23.8	
	comp=Z,136nm,18.4s,baz=232,slow=39						
KLR	**Kul'dur**	**34.15**	**38**	LR	LR	04 43 45.1	
	comp=Z,86nm,19.4s,baz=219,slow=37						
MJAR	**Matsushiro Arr**	**34.38**	**62**	LR	LR	04 44 01.1	
	comp=Z,89nm,18.1s,baz=254,slow=37						
ZEA	**Zeya**	**34.66**	**29**	*i*P	P	04 29 35.0	-3.8
BVA0	**Borovoye Array**	**35.12**	**329**	P	**P**	**04 29 43.7**	**+1.0**
BRVK	**Borovoye**	**35.19**	**329**	P	P	04 29 40.9	-2.4
BRVK				IAmb	IAmb	04 29 48.8	
	comp=Z,6.7nm,0.8s						
BRVK	**Borovoye**	**35.19**	**329**	*ce*P	**P**	**04 29 42.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GEYT	**Ailbeck**	**37.23**	**300**	P	**P**	**04 30 00.6**	**-0.4**
	comp=Z,7.0nm,1.0s,baz=120,slow=5.7,SNR=2.0						
	comp=Z,7.0nm,1.0s						
JCJ	**Chichijima**	**37.83**	**78**	LR	LR	04 45 56.9	
	comp=Z,55nm,18.1s,baz=339,slow=37						
AB31	**Akbulak array**	**38.83**	**318**	*i*P	**P**	**04 30 14.1**	**-0.2**
ABKAR	**Akbulak array**	**38.83**	**318**	P	**P**	**04 30 13.2**	**-1.1**
ABKAR	**Akbulak array**	**38.83**	**318**	P	**P**	**04 30 12.8**	**-1.6**
ABKAR				IAmb	IAmb	04 30 19.5	
	comp=Z,12nm,0.8s						
AKTO	**Aktyubinsk**	**40.43**	**319**	P	**P**	**04 30 27.3**	**-0.4**
ARU	**Arti**	**42.70**	**327**	LR	LR	04 47 59.0	
	comp=Z,129nm,21.6s,baz=332,slow=35						
ARU	**Arti**	**42.70**	**327**	*c*P	**P**	**04 30 48.1**	**+1.9**
ARU						04 32 22.7	
ARU				S	**S**	**04 37 14.9**	**+5.5**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GUMO	**Guam**	**43.88**	**97**	LR	LR	04 48 00.3	
	comp=Z,34nm,21.8s,baz=124,slow=35						
NRIK	**Noril'sk**	**44.30**	**354**	*ce*P	P	04 30 55.3	-3.6
NRIK				pmax	pmax		
	comp=Z,12nm,1.5s						
BELG	**Belogornoye**	**47.22**	**319**	LR	LR	04 53 19.6	
	comp=Z,103nm,19.4s,baz=170,slow=39						
BELG	**Belogornoye**	**47.22**	**319**	*i*P	**P**	**04 31 22.9**	**+0.7**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SOC	**Sochi**	**51.50**	**306**	*e*P	P	04 31 52.2	-2.8
SOC				*e*PPP	PPP	04 34 51.5	
SOC				*e*S	**S**	**04 39 11.4**	**-3.9**
SOC				*e*SS	**SS**	**04 42 46.0**	**-5.1**
SOC				*e*SSS	SSS	04 44 21.9	
SOC				MLR	MLR		
	comp=Z,114nm,16.0s						
VORR	**Voronezh**	**52.22**	**317**	*e*P	**P**	**04 32 04.3**	**+4.0**
KLMR	**Klimovskoe**	**53.54**	**328**	*e*P	**P**	**04 32 11.3**	**+1.5**
KLMR				AMP		04 32 16.7	
	comp=Z,31nm,2.0s						
KLMR	**Klimovskoe**	**53.54**	**328**	*e*P	**P**	**04 32 11.3**	**+1.5**
KLMR				pmax	pmax		
	comp=Z,31nm,2.0s						
WB0	**Warramunga Arr**	**56.27**	**140**	P	P	04 32 27.0	-3.2
WB0				IAmb	IAmb	04 32 34.4	
	comp=Z,3.5nm,0.8s						
BRTR	**Keskin Array B**	**56.29**	**302**	P	**P**	**04 32 31.1**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=101,slow=8.4,SNR=3.0						
	comp=Z,0.8nm,0.6s						
WRAB	**Tennant Creek**	**56.38**	**140**	P	**P**	**04 32 31.9**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,7.0nm,2.0s						
WRA	**Warramunga Arr**	**56.38**	**140**	P	**P**	**04 32 29.0**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=330,slow=7.7,SNR=18						
	comp=Z,1.7nm,0.8s						
WRA	**Warramunga Arr**	**56.38**	**140**	P	**P**	**04 32 31.2**	**+0.3**
WRA	**Warramunga Arr**	**56.38**	**140**	*i*P	P	04 32 28.3	-2.6
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WB2	**Warramunga Arr**	**56.39**	**140**	P	P	04 32 27.9	-3.1
EIL	**Elat**	**56.95**	**290**	LR	LR	04 59 51.8	
	comp=Z,64nm,18.6s,baz=55,slow=39						
AKASG	**Malin Array Be**	**58.48**	**315**	P	**P**	**04 32 44.4**	**-1.0**
	comp=Z,3.0nm,1.0s,baz=77,slow=7.1,SNR=5.5						
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**58.48**	**315**	*e*P	**P**	**04 32 47.4**	**+2.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKBB	**Malin Array Si**	**58.48**	**315**	*i*P	**P**	**04 32 46.2**	**+0.8**
AKBB				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ASAR	**Alice Springs**	**59.10**	**143**	P	**P**	**04 32 49.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=323,slow=6.4,SNR=5.4						
	comp=Z,0.5nm,0.6s						
CFR	**Carcaliu**	**59.68**	**309**	P	**P**	**04 32 54.9**	**+1.1**
FINES	**FINESS Array B**	**60.07**	**328**	P	**P**	**04 32 56.0**	**-0.2**
	comp=Z,6.1nm,1.1s,baz=148,slow=33,SNR=1.8						
	comp=Z,6.1nm,1.1s						
FINES	**FINESS Array B**	**60.07**	**328**	P	**P**	**04 32 56.0**	**-0.2**
VRI	**Vrincioaia**	**60.58**	**310**	P	**P**	**04 33 03.0**	**+3.0**
VRI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MLR	**Muntele Rosu**	**61.17**	**310**	P	**P**	**04 33 06.4**	**+2.2**
MLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VTS	**Vitosha**	**63.59**	**307**	P	**P**	**04 33 19.5**	**-1.0**
VTS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SPITS	**Spitsbergen Ar**	**63.73**	**347**	LR	LR	05 02 57.7	
	comp=Z,76nm,18.0s,baz=167,slow=38						
NOA	**NORSAR Array B**	**67.25**	**328**	P	**P**	**04 33 44.0**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=77,slow=6.5,SNR=2.1						
	comp=Z,0.6nm,0.8s						
GERES	**GERESS Array B**	**68.69**	**315**	P	**P**	**04 33 53.8**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=70,slow=5.8,SNR=6.7						
	comp=Z,0.7nm,0.7s						
STKA	**Stephens Creek**	**69.73**	**143**	P	**P**	**04 33 59.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=315,slow=17,SNR=3.8						
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**76.32**	**24**	P	P	04 34 35.7	-2.5
	comp=Z,0.3nm,0.8s,baz=296,slow=4.9,SNR=2.3						
	comp=Z,0.3nm,0.8s						
INK	**Inuvik**	**78.48**	**18**	P	**P**	**04 34 51.6**	**+1.5**
INK				pmax	pmax		
	comp=Z,6.0nm,2.8s						
SFJD	**Kangerlussuaq**	**84.98**	**349**

MG01					*e*S		**Sn**	**04 44 11.2**	**-2.9**
USHA	**Ushuaia**	**4.86**	**317**		Pn		**Pn**	**04 43 27.3**	**+0.6**
	comp=N,19nm,0.3s,baz=326,slow=1.3,SNR=96								
USHA					Sn		**Sn**	**04 44 20.3**	**-2.6**
	comp=N,83nm,0.3s,baz=278,slow=16,SNR=13								
	comp=N,34nm,0.3s								
USHA	**Ushuaia**	**4.86**	**317**		*e*P		**Pn**	**04 43 26.2**	**-0.4**
USHA					*e*S		**Sn**	**04 44 19.8**	**-3.1**
USHA					IVMs_BB	IVMs_BB		04 44 38.8	
	comp=E,2µm,4.3s								
USHA	**Ushuaia**	**4.86**	**317**		*i* P		**Pn**	**04 43 27.2**	**+0.6**
USHA					*i* S		**Sn**	**04 44 23.4**	**+0.4**
USHA					IAML			04 44 29.1	
	comp=Z,260nm,0.3s								
PMSA	**Palmer Station**	**6.32**	**185**		Pn		**Pn**	**04 43 46.8**	**+0.2**
	comp=Z,15nm,0.3s,baz=139,slow=7.5,SNR=56								
PMSA					Sn		**Sn**	**04 44 54.5**	**-4.3**
	comp=Z,0.7nm,0.3s,baz=286,slow=14,SNR=1.1								
PMSA					LR		LR	04 45 43.2	
	comp=Z,259nm,19.1s,baz=194,slow=33								
	comp=Z,73nm,0.6s								
PMSA	**Palmer Station**	**6.32**	**185**		Pn		**Pn**	**04 43 46.6**	**-0.1**
PMSA	**Palmer Station**	**6.32**	**185**		*i* P		**Pn**	**04 43 46.7**	**0.0**
PMSA					IAML			04 45 12.1	
	comp=Z,16nm,2.3s								
PMSA	**Palmer Station**	**6.32**	**185**		*e*P		**Pn**	**04 43 47.7**	**+1.0**
MG02	**Cerro Sombrero**	**6.83**	**324**		Pn		**Pn**	**04 43 54.4**	**+0.7**
MG02	**Cerro Sombrero**	**6.83**	**324**		*e*P		**Pn**	**04 43 54.2**	**+0.5**
MG02					*e*S		**Sn**	**04 45 04.7**	**-6.6**
MG02	**Cerro Sombrero**	**6.83**	**324**		*i* P		**Pn**	**04 43 54.2**	**+0.5**
MG02					*e*S		**Sn**	**04 45 04.8**	**-6.6**
GO10	**Punta Arenas**	**7.14**	**315**				**Pn**	**04 43 59.5**	**+1.5**
GO10	**Punta Arenas**	**7.14**	**315**		*e*P		**Pn**	**04 43 59.0**	**+1.0**
GO10					*e*S		**Sn**	**04 45 16.1**	**-3.0**
EFI	**East Falkland**	**7.34**	**23**		Pn		**Pn**	**04 44 00.5**	**-0.3**
EFI	**East Falkland**	**7.34**	**23**		*i* P		**Pn**	**04 44 00.3**	**-0.5**
EFI					*i* S		**Sn**	**04 45 17.7**	**-6.4**
MG04	**Isla Riesco**	**7.56**	**315**		Pn		**Pn**	**04 44 03.4**	**-0.4**
MG04	**Isla Riesco**	**7.56**	**315**		*e*P		**Pn**	**04 44 03.6**	**-0.2**
MG04					*e*S		**Sn**	**04 45 24.6**	**-4.9**
MG05	**Puerto Natales**	**8.85**	**316**				**Pn**	**04 44 19.7**	**-1.8**
MG05	**Puerto Natales**	**8.85**	**316**		*i* P		**Pn**	**04 44 19.7**	**-1.8**
MG05					*e*S		**Sn**	**04 45 54.7**	**-6.5**
MG05	**Puerto Natales**	**8.85**	**316**		*i* P		**Pn**	**04 44 19.7**	**-1.8**
MG05					*e*S		**Sn**	**04 45 54.7**	**-6.5**
GO09	**Cerro Castillo**	**9.13**	**318**				**Pn**	**04 44 23.0**	**-2.3**
GO09	**Cerro Castillo**	**9.13**	**318**		*e*P		**Pn**	**04 44 22.7**	**-2.6**
SMAI	**San Martin Ant**	**9.86**	**190**		Pn		**Pn**	**04 44 35.9**	**+0.7**
SMAI	**San Martin Ant**	**9.86**	**190**		*i* P		**Pn**	**04 44 39.1**	**+4.0**
COYC	**Coyhaique**	**14.17**	**332**				**Pn**	**04 45 33.3**	**-0.8**
HOPE	**Hope Point**	**15.06**	**85**		Pn		**Pn**	**04 45 46.6**	**+0.3**
AY01	**Puyuhuapi**	**15.38**	**332**		P		**Pn**	**04 45 52.1**	**+1.6**
AY01					IAmb		IAmb	04 46 04.1	
	comp=Z,42nm,1.2s								
LL02	**Futaleuf**	**16.37**	**336**		Pn		**P**	**04 46 05.7**	**-0.4**
PLCA	**Paso Flores**	**18.49**	**341**		P		**Pn**	**04 46 31.4**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=178,slow=11,SNR=12								
PLCA					LR		LR	04 53 58.5	
	comp=Z,298nm,18.0s,baz=186,slow=38								
	comp=Z,10.0nm,1.0s								
PLCA	**Paso Flores**	**18.49**	**341**		P		**Pn**	**04 46 32.4**	**+2.6**
PLCA	**Paso Flores**	**18.49**	**341**		*e*P		**Pn**	**04 46 34.1**	**+4.3**
LL04	**Puerto Octay**	**18.67**	**336**				**Pn**	**04 46 34.0**	**+2.1**
GO06	**Curarrehue**	**19.77**	**340**				**Pn**	**04 46 45.4**	**+0.2**
GO06					IAmb		IAmb	04 46 51.7	
	comp=Z,39nm,1.1s								
TRQA	**Tornquist**	**20.47**	**2**		P		Pn	04 46 53.4	0.0
TRQA					IAmb		IAmb	04 47 02.7	
	comp=Z,39nm,0.9s								
TRQA	**Tornquist**	**20.47**	**2**		*e*P		Pn	04 46 59.5	+6.1
BELA	**Belgrano 2**	**21.59**	**164**		P		**P**	**04 47 04.1**	**+1.1**
ML02	**Panimavida**	**23.48**	**342**		P		**P**	**04 47 25.3**	**+2.1**
ML02					IAmb		IAmb	04 47 43.9	
	comp=Z,40nm,1.1s								
VNA3	**Neumayer Olymp**	**24.83**	**142**		P		**P**	**04 47 36.4**	**+0.8**
VNA1	**Neumayer--Stat**	**25.27**	**141**		P		**P**	**04 47 40.8**	**+1.2**
VNA2	**Neumayer--Watz**	**25.57**	**141**		P		**P**	**04 47 43.1**	**+0.9**
	baz=272,slow=11								
SNAA	**Sanae**	**27.02**	**143**		P		**P**	**04 47 56.1**	**+0.7**
SNAA	**Sanae**	**27.02**	**143**		P		**P**	**04 47 55.2**	**-0.2**
	comp=Z,17nm,0.9s,baz=274,slow=7.0,SNR=36								
SNAA					LR		LR	04 57 11.6	
	comp=Z,149nm,18.5s,baz=214,slow=33								
	comp=Z,17nm,0.9s								
SNAA	**Sanae**	**27.02**	**143**		P		**P**	**04 47 55.0**	**-0.4**
SNAA					IAmb		IAmb	04 47 57.2	
	comp=Z,22nm,0.9s								
PLTB	**Pedras Altas**	**27.45**	**17**		*e*P		P	04 48 07.9	+8.4
RODS	**Rosario do Sul**	**28.62**	**14**		*e*P		P	04 48 19.3	+9.3
TROLL	**Troll, Antarti**	**28.67**	**144**		P		**P**	**04 48 10.6**	**+0.3**
CPSB	**Cacapava Do Su**	**28.81**	**17**		*e*P		P	04 48 20.7	+9.0
ITQB	**Itaqui**	**29.14**	**11**		P		**P**	**04 48 16.1**	**+1.6**
UNIS	**Unistalda (Bra**	**29.90**	**13**		*e*P		P	04 48 29.5	+8.1
CRSM	**Crissiumal (Br**	**31.59**	**15**		*e*P		P	04 48 44.9	+8.7
QSPA	**South Pole Qui**	**31.73**	**180**		P		**P**	**04 48 37.5**	**+0.2**
QSPA					IAmb		IAmb	04 48 39.1	
	comp=Z,12nm,0.9s								
CPUP	**Villa Florida**	**32.38**	**9**		P		**P**	**04 48 43.5**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=178,slow=7.7,SNR=8.6								
CPUP					LR		LR	05 03 28.6	
	comp=Z,85nm,18.8s,baz=192,slow=40								
	comp=Z,2.7nm,0.6s								
CPUP	**Villa Florida**	**32.38**	**9**		P		**P**	**04 48 43.9**	**+0.7**
CPUP					IAmb		IAmb	04 48 50.4	
	comp=Z,4.5nm,0.8s								
LVC	**Limon Verde**	**36.14**	**350**		LR		LR	05 04 46.6	
	comp=Z,232nm,18.6s,baz=190,slow=37								
MURT	**Porto Murtinho**	**36.99**	**8**		*e*P		P	04 49 30.7	+7.7
VAO	**Valinhos**	**37.22**	**24**		*e*P		P	04 49 35.0	+10
PCMB	**Pacaembu**	**37.78**	**18**		*e*P		P	04 49 38.9	+9.2
AQDB	**Aquidauana**	**38.33**	**11**		*e*P		P	04 49 42.4	+8.1
DUB01	**Friburgo-RJ**	**39.22**	**31**		*e*P		P	04 49 52.5	+11
MNMC	**Minye Minye**	**39.65**	**350**		P		**P**	**04 49 48.1**	**+2.3**
MNMC					IAmb		IAmb	04 50 30.4	
	comp=Z,16nm,1.2s								
BBRB	**Robore, Bolivi**	**40.23**	**4**		*e*P		P	04 49 58.5	+8.2
PB16	**IPOC Station P**	**40.43**	**350**		P		**P**	**04 49 54.9**	**+2.2**
PB16					IAmb		IAmb	04 50 03.1	
	comp=Z,5.9nm,0.8s								
SBA	**Scott Base**	**40.58**	**194**		P		**P**	**04 49 53.3**	**+0.8**
BBSD	**Serra de San D**	**41.29**	**3**		*e*P		P	04 50 06.9	+7.8
VNDA	**Vanda**	**41.46**	**193**		P		**P**	**04 50 02.7**	**+2.8**
	comp=Z,0.6nm,1.0s,baz=103,slow=15,SNR=2.3								
	comp=Z,0.6nm,1.0s								
VNDA	**Vanda**	**41.46**	**193**		P		**P**	**04 49 59.7**	**-0.1**
PMNB	**Patos De Minas**	**41.66**	**24**		*e*P		P	04 50 12.0	+10
LPAZ	**La Paz**	**42.35**	**352**		P		**P**	**04 50 10.1**	**+1.7**
	comp=Z,1.8nm,0.6s,baz=160,slow=6.5,SNR=9.3								
LPAZ					LR		LR	05 10 32.1	
	comp=Z,65nm,18.8s,baz=136,slow=40								
	comp=Z,1.8nm,0.6s								
LPAZ	**La Paz**	**42.35**	**352**		P		**P**	**04 50 10.0**	**+1.6**
LPAZ					IAmb		IAmb	04 50 24.1	
	comp=Z,4.1nm,0.8s								
LPAZ	**La Paz**	**42.35**	**352**		*e*P		**P**	**04 50 12.8**	**+4.5**
SIV	**San Ignacio**	**42.47**	**2**		LR		LR	05 09 54.3	
	comp=Z,88nm,18.3s,baz=187,slow=39								
SALV	**Santo Antonio**	**42.86**	**10**		*e*P		P	04 50 20.2	+8.4
PTLB	**Pontes e Lacer**	**43.07**	**5**		P		**P**	**04 50 15.1**	**+1.6**
PTLB					IAmb		IAmb	04 50 23.2	
	comp=Z,4.2nm,0.9s								
PTLB	**Pontes e Lacer**	**43.07**	**5**		*e*P		P	04 50 21.4	+7.9
BDFB	**Brasilia**	**44.17**	**21**		P		**P**	**04 50 21.6**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=216,slow=1.6,SNR=7.3								
	comp=Z,3.9nm,0.8s								
BDFB	**Brasilia**	**44.17**	**21**		P		**P**	**04 50 23.0**	**+0.4**
BDFB					IAmb		IAmb	04 50 32.3	
	comp=Z,6.0nm,0.8s								
RPN	**Rapa Nui**	**44.99**	**294**		LR		LR	05 06 08.8	
	comp=Z,97nm,18.4s,baz=70,slow=32								
VILB	**Vilhena**	**45.51**	**3**		P		**P**	**04 50 34.3**	**+1.2**
VILB					IAmb		IAmb	04 50 43.0	
	comp=Z,21nm,0.8s								
SNDB	**Serra Nova Dou**	**47.24**	**15**		*e*P		P	04 50 55.5	+8.8
NNA	**Nana**	**47.65**	**341**		LR		LR	05 09 25.7	
	comp=Z,62nm,18.1s,baz=152,slow=34								
CLDB	**Colider**	**47.83**	**9**		*e*P		P	04 50 59.3	+8.1
MAW	**Mawson**	**47.99**	**155**		P		**P**	**04 50 52.1**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=159,slow=8.0,SNR=4.3								
MAW					LR		LR	05 10 24.5	
	comp=Z,212nm,19.6s,baz=219,slow=35								
	comp=Z,3.7nm,0.9s								
MAW	**Mawson**	**47.99**	**155**		P		**P**	**04 50 52.1**	**+0.2**
ETMB	**Extrema**	**48.66**	**355**		*e*P		P	04 51 04.5	+6.8
CZSB	**Cruzeiro do Su**	**51.24**	**347**		P		**P**	**04 51 18.9**	**+1.6**
CZSB					IAmb		IAmb	04 51 22.6	
	comp=Z,15nm,0.7s								
ATAH	**Atahualpa**	**52.66**	**340**		LR		LR	05 11 03.1	
	comp=Z,74nm,21.0s,baz=172,slow=33								
ITTB	**Itaituba**	**54.27**	**9**		*e*P		P	04 51 47.9	+8.1
MACA	**Manacapuru-AM**	**55.22**	**2**		P		**P**	**04 51 49.5**	**+2.9**
MACA					IAmb		IAmb	04 51 56.3	
	comp=Z,13nm,0.8s								
MACA	**Manacapuru-AM**	**55.22**	**2**		*e*P		P	04 51 54.1	+7.5
RCBR	**Riachuelo**	**56.49**	**33**		LR		LR	05 15 37.6	
	comp=Z,32nm,19.3s,baz=320,slow=36								
SUR	**Sutherland**	**59.74**	**103**		P		**P**	**04 52 17.7**	**-0.9**
	comp=Z,6.7nm,0.8s,baz=212,slow=22,SNR=1.8								
SUR					LR		LR	05 11 21.0	
	comp=Z,122nm,21.3s,baz=200,slow=29								
	comp=Z,6.7nm,0.8s								
SUR	**Sutherland**	**59.74**	**103**		P		**P**	**04 52 18.2**	**-0.4**
H10S3	**ASCENSION HYDR**	**61.42**	**57**		T		T	05 59 52.6	
	baz=14								
H10S2	**ASCENSION HYDR**	**61.42**	**57**		T		T	05 59 53.1	
	baz=206								
H10N3	**ASCENSION HYDR**	**62.48**	**56**		T		T	06 01 15.5	
	baz=206,slow=74,SNR=13								
H10N1	**ASCENSION HYDR**	**62.48**	**56**		T		T	06 01 15.9	
	baz=206,slow=74,SNR=33								
H10N2	**ASCENSION HYDR**	**62.50**	**56**		T		T	06 01 16.8	
	baz=206,slow=74,SNR=20								
MDP	**Montagnes des**	**63.92**	**11**		LR		LR	05 25 10.5	
	comp=Z,85nm,18.1s,baz=187,slow=40								
BOSA	**Boshof**	**65.03**	**104**		LR		LR	05 16 48.8	
	comp=Z,94nm,18.3s,baz=200,slow=32								
SDV	**Santo Domingo**	**67.47**	**351**		LR		LR	05 25 14.2	
	comp=Z,40nm,20.3s,baz=64,slow=38								
LBTB	**Lobatse**	**68.15**	**102**		P		**P**	**04 53 13.0**	**-0.9**
LBTB					IAmb		IAmb	04 53 53.3	
	comp=Z,12nm,1.3s								
JTS	**Las Juntas de**	**70.91**	**337**		LR		LR	05 19 56.0	
	comp=Z,36nm,18.8s,baz=172,slow=32								
DBIC	**Dimbokro**	**79.67**	**59**		P		**P**	**04 54 21.0**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=23,slow=22,SNR=2.1								
	comp=Z,2.0nm,0.7s								
DBIC	**Dimbokro**	**79.67**	**59**		P		**P**	**04 54 19.4**	**-1.8**
DBIC					IAmb		IAmb	04 54 58.3	
	comp=Z,12nm,1.2s								
CMIG	**Matias Romero**	**79.85**	**329**		LR		LR	05 23 55.3	
	comp=Z,68nm,18.1s,baz=20,slow=31								
TOA0	**Torodi Ar. Sit**	**88.36**	**61**		P		**P**	**04 55 04.2**	**-1.2**
TOA0					IAmb		IAmb	04 55 13.5	
	comp=Z,2.8nm,1.0s								
TORD	**Torodi Ar. Bea**	**88.36**	**61**		P		**P**	**04 55 04.2**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=222,slow=4.4,SNR=4.6								
TORD					LR		LR	05 29 14.3	
	comp=Z,65nm,18.6s,baz=224,slow=32								
	comp=Z,0.9nm,0.9s								
LPIG	**La Paz**	**91.28**	**318**		LR		LR	05 28 24.2	
	comp=Z,85nm,18.7s,baz=42,slow=30								
MBAR	**Mbarara**	**91.29**	**93**		LR		LR	05 32 39.0	
	comp=Z,72nm,19.8s,baz=222,slow=33								
TXAR	**Lajitas Array**	**93.95**	**325**		P		**P**	**04 55 32.6**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=145,slow=3.3,SNR=3.0								
TXAR					LR		LR	05 31 36.2	
	comp=Z,75nm,18.3s,baz=68,slow=32								
	comp=Z,0.2nm,0.7s								
KMBO	**Kilima Mbogo**	**94.24**	**99**		LR		LR	05 34 17.2	
	comp=Z,84nm,18.1s,baz=92,slow=33								
WMOK	**Wichita Mounta**	**97.67**	**331**		P		**P**	**04 55 47.8**	**-0.1**
WRA	**Warramunga Arr**	**100.58**	**196**		P		**Pdif**	**04 56 01.2**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=180,slow=4.2,SNR=1.8								
GERES	**GERESS Array B**	**123.88**	**51**		PKP		**PKPdf**	**05 01 09.7**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=194,slow=2.0,SNR=2.0								
BRTR	**Keskin Array B**	**125.91**	**71**		PKP		**PKPdf**	**05 01 15.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=219,slow=3.7,SNR=2.2								
H11N3	**WAKE ISLAND Hy**	**127.30**	**244**		T		T	07 21 49.1	
	baz=148,slow=76,SNR=6.7								
H11N1	**WAKE ISLAND Hy**	**127.30**	**244**		T		T	07 21 41.7	
	baz=148,slow=76,SNR=6.6								
H11N2	**WAKE ISLAND Hy**	**127.32**	**244**		T		T	07 21 43.5	
	baz=148,slow=76,SNR=7.6								
ILAR	**Eielson Array**	**138.27**	**320**		PKP		**PKPdf**	**05 01 36.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=167,slow=2.1,SNR=2.4								
ARCES	**ARCESS Array B**	**142.28**	**35**		PKP		**PKiKP**	**05 01 46.1**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=253,slow=0.9,SNR=1.6								
MKAR	**Makanchi Array**	**156.04**	**104**		PKPab		**PKPab**	**05 02 32.5**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=222,slow=1.6,SNR=4.9								
SONM	**Songino Array**	**167.48**	**144**		PKPab		**PKPab**	**05 03 24.0**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=183,slow=3.0,SNR=4.2								

DJA ***17*** *04:48:51.8±1.5, 4.7°N±18.7°×13.2°E±0.7°, h246km±22km, M4.7/6, mB4.8/5, mb4.6/6, MLv5.0/2, Mw(mB)4.1/5*
NEIC ***17*** *04:49:42.6±1.9, 2.74°N±0.10°×128.56°E±0.07, h30km±8km, mb4.6/11, Error ellipse: s-maj=14.7km s-min=9.1km az=162.0*
IDC ***17*** *04:49:45.2±4.5, 2.64°N×128.52°E, h56km±41km, mb3.6/6, mbtmp3.9/7, ML3.8/1, MS2.6/1, Error ellipse: s-maj=59.5km s-min=22.2km az=71.0*

ISC 17 04:49:42.8±0.7, 2.68N±0.09×128.52E±0.08, h35km, n31, σt$39/29, mb4.2/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**2.22**	**211**			**Pn**	**04 50 18.6**	**+1.5**
TNTI				Sn		**Sn**	**04 50 45.0**	**+1.7**
TNTI	**Ternate**	**2.22**	**211**	P		**Pn**	**04 50 18.2**	**+1.1**
	0.7nm2µm147nm,0.7s							
SIJI	**Sorong**	**4.47**	**142**	P		**Pn**	**04 50 50.6**	**+2.5**
	4.4nm,0.3s,baz=244,slow=23,SNR=17							
SIJI				S		**Sn**	**04 51 40.5**	**+1.5**
	15nm,0.5s,baz=231,slow=23,SNR=5.6							
SIJI				LR		LR	04 52 25.7	
	comp=Z,62nm,18.5s,baz=291,slow=36							
	11nm,0.3s							
SANI	**Sanae**	**5.34**	**208**	P		**Pn**	**04 50 56.3**	**-3.7**
	11nm,0.9s							
GTOI	**Gorontalo**	**5.87**	**250**	P		**Pn**	**04 51 08.8**	**+1.5**
	194nm11nm,0.4s							
MRSI	**Marisa**	**6.93**	**252**	P		**Pn**	**04 51 22.5**	**+0.6**
TOLI2	**Tolitoli**	**7.89**	**259**	Pn		**Pn**	**04 51 35.2**	**+0.2**
MANU	**Manus Island**	**19.42**	**104**	P		**P**	**04 54 05.0**	**-1.3**
MANU					IAmb	IAmb	04 54 30.6	
	comp=Z,31nm,1.3s							
WB0	**Warramunga Arr**	**23.04**	**166**	P		**P**	**04 54 46.2**	**+1.1**
WB0					IAmb	IAmb	04 54 46.9	
	comp=Z,6.2nm,0.5s							
WRA	**Warramunga Arr**	**23.20**	**166**	P		**P**	**04 54 47.5**	**+0.7**
	comp=Z,2.9nm,0.4s,baz=345,slow=10,SNR=52							
WRA					PcP	**PcP**	**04 58 33.3**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=354,slow=2.3,SNR=1.2							
	comp=Z,2.9nm,0.4s							
WRA	**Warramunga Arr**	**23.20**	**166**	P		**P**	**04 54 45.2**	**-1.6**
WB2	**Warramunga Arr**	**23.20**	**166**	P		**P**	**04 54 47.7**	**+0.9**
WB2					IAmb	IAmb	04 54 48.5	
	comp=Z,5.3nm,0.6s							
WR0	**Warramunga Arr**	**23.26**	**166**	P		**P**	**04 54 46.7**	**-0.6**
ASAR	**Alice Springs**	**26.71**	**169**	P		**P**	**04 55 19.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=356,slow=8.2,SNR=12							
ASAR					PcP	**PcP**	**04 58 41.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=356,slow=2.1,SNR=4.5							
	comp=Z,0.6nm,0.6s							
MORW	**Morawa**	**33.76**	**200**	P		**P**	**04 56 19.9**	**-1.4**
EIDS	**Eidsvold**	**35.44**	**143**	P		**P**	**04 56 34.6**	**-1.3**
EIDS					IAmb	IAmb	04 57 10.7	
	comp=Z,22nm,1.4s							
BBOO	**Buckleboo**	**36.01**	**169**	P		**P**	**04 56 41.1**	**+0.5**
BBOO					IAmb	IAmb	04 57 07.7	
	comp=Z,25nm,1.4s							
STKA	**Stephens Creek**	**36.54**	**161**	P		**P**	**04 56 45.6**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=337,slow=7.4,SNR=3.4							
	comp=Z,1.0nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**40.54**	**64**	T		T	05 40 37.0	
	baz=252,slow=75,SNR=18							
H11S2	**WAKE ISLAND Hy**	**40.56**	**64**	T		T	05 40 40.1	
	baz=252,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**40.56**	**64**	T		T	05 40 39.0	
	baz=252,slow=75,SNR=6.6							
H11N1	**WAKE ISLAND Hy**	**41.12**	**63**	T		T	05 41 13.8	
	baz=250,slow=75,SNR=36							
H11N2	**WAKE ISLAND Hy**	**41.13**	**63**	T		T	05 41 13.8	
	baz=250,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**41.13**	**63**	T		T	05 41 17.1	
	baz=250,slow=75,SNR=33							
MSVF	**Nonsavu**	**52.85**	**115**	P		**P**	**04 58 57.7**	**+2.1**
MSVF					IAmb	IAmb	04 59 16.8	
	comp=Z,21nm,1.4s							
KAAM	**Kaadhehdhoo**	**55.54**	**269**	P		**P**	**04 59 15.0**	**-0.2**
MK31	**Makanchi Array**	**59.43**	**325**	P		**P**	**04 59 42.1**	**+0.1**
MK31					IAmb	IAmb	04 59 49.7	
	comp=Z,3.5nm,1.4s							
MKAR	**Makanchi Array**	**59.43**	**325**	P		**P**	**04 59 42.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=116,slow=8.4,SNR=8.5							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**59.43**	**325**	P		**P**	**04 59 41.5**	**-0.5**
VNDA	**Vanda**	**82.17**	**173**	P		**P**	**05 01 58.6**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=318,slow=4.6,SNR=3.9							
	comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**85.28**	**25**	P		**P**	**05 02 16.3**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=266,slow=5.1,SNR=1.5							
	comp=Z,0.2nm,0.6s							

WEL 17 05:05:49.7±0.5, 42°S±3°×174°E±°, h8km±3km, M3.3/23, ML3.6/14, MLv3.3/23, Error ellipse: s-maj=0.0km s-min=0.0km az=139.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.19**	**26**	P		Pg	05 05 54.9	+1.3
CMWZ				S		Sg	05 05 58.8	+2.6
BSWZ	**Blackbirch Sta**	**0.27**	**320**	P		Pg	05 05 55.5	+0.5
BSWZ				S		Sb	05 06 00.9	-0.5
TUWZ	**Tuamarina**	**0.50**	**346**	P		Pg	05 06 00.1	+0.6
TUWZ				S		Sb	05 06 07.7	-0.5
TCW	**Tory Channel**	**0.72**	**10**	P		Pg	05 06 03.8	+0.2
WEL	**Wellington**	**0.81**	**38**	P		Pb	05 06 06.2	+0.2
NNZ	**Nelson**	**0.89**	**322**	P		Pb	05 06 06.8	0.0
THZ	**Tophouse**	**0.91**	**280**	P		Pb	05 06 07.6	-0.1
PLWZ	**Palliser**	**0.93**	**68**	P		Pg	05 06 07.6	0.0
CAW	**Cannon Point**	**1.09**	**42**	P		Pg	05 06 10.2	-0.4
DUWZ	**D'Urville Isla**	**1.12**	**353**	P		Pg	05 06 11.0	-0.3
PAWZ	**Paruwai Farm**	**1.13**	**62**	P		Pg	05 06 10.2	-1.2
MRNZ	**Matariki Terra**	**1.14**	**297**	P		Pn	05 06 11.9	0.0
KIW	**Kapiti Island**	**1.22**	**30**	P		Pb	05 06 12.4	-0.5
TKNZ	**Takaka Hill**	**1.23**	**315**	P		Pn	05 06 13.1	-0.1
GVZ	**Greta Valley S**	**1.31**	**217**	P		Pn	05 06 13.1	-1.2
HOWZ	**Holdsworth Sta**	**1.47**	**47**	P		Pn	05 06 15.5	-1.0
LTZ	**Lake Taylor**	**1.61**	**237**	P		Pn	05 06 18.3	-0.1
QRZ	**Quartz Range**	**1.61**	**312**	P		Pb	05 06 19.6	-0.1
MRZ	**Mangatainoka R**	**1.68**	**42**	P		Pn	05 06 18.0	-1.3
PRWZ	**Pori Road**	**1.96**	**47**	P		Pn	05 06 22.6	-0.6
POWZ	**Post Office Ro**	**1.98**	**40**	P		Pn	05 06 22.0	-1.4
OXZ	**Oxford**	**2.07**	**227**	P		Pn	05 06 23.4	-1.4
DVHZ	**Dannevirke**	**2.25**	**45**	P	

TAP 17 05:31:41.3,24°.46N×121°.96E,h18km,ML3.5,B
JMA 17 05:31:41.1±0.1,24°.4N±0°.7×122°.0E±0°.7,h32km±4km,
MV2.8/9,TAIWAN REGION
ISC 17 05:31:40.4±0.9,24°.44N±0°.02×122°.00E±0°.02,h15km±7km,
n114,σ0s.72/154,8C-14D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.20**	**273**	⇓*e*P	**Pg**	**05 31 44.5**	**-0.5**
	baz=265						
TWC	**Suao**	**0.22**	**322**	⇑*i*P	**Pg**	**05 31 45.9**	**+0.5**
	baz=328						
TWC				*i* S	**Sg**	**05 31 48.6**	**-0.1**
	baz=328						
ENA	**Nanau**	**0.23**	**268**	⇓*i*P	**Pg**	**05 31 46.2**	**+0.5**
	baz=260						
ENA				*i* S	**Sg**	**05 31 49.5**	**+0.4**
	baz=260						
EHP	**Heping Village**	**0.27**	**242**	P	**Pb**	**05 31 47.0**	**0.0**
	baz=232						
EHP				*i* S	**Sb**	**05 31 51.1**	**-0.3**
	baz=232						
ILA	**Ilan**	**0.40**	**325**	*e*P	**Pb**	**05 31 49.5**	**+0.2**
	baz=329						
ILA				S	**Sb**	**05 31 54.6**	**-0.6**
	baz=329						
EGS		**0.41**	**352**	⇑*i*P	**Pb**	**05 31 49.5**	**0.0**
	baz=358						
EGS				S	**Sb**	**05 31 55.1**	**-0.4**
	baz=358						
TWE	**Neicheng**	**0.41**	**313**	⇓*i*P	**Pb**	**05 31 49.3**	**-0.2**
	baz=316						
TWE				*i* S	**Sg**	**05 31 54.4**	**0.0**
	baz=316						
LATG	**Datong**	**0.44**	**283**	⇓*i*P	**Pb**	**05 31 49.8**	**-0.3**
	baz=281						
LATG				*i* S	**Sb**	**05 31 55.7**	**-0.8**
	baz=281						
ENTT	**Nioudou**	**0.44**	**297**	⇓*i*P	**Pg**	**05 31 48.9**	**-0.5**
	baz=297						
NTC	**Toucheng**	**0.44**	**340**	*e*P	**Pb**	**05 31 50.0**	**-0.1**
	baz=343						
NTC				*e*S	**Sb**	**05 31 56.5**	**0.0**
	baz=343						
NACB	**Ninganchiao**	**0.45**	**235**	⇓P	**Pb**	**05 31 49.6**	**-0.5**
	baz=229						
NACB				*i* S	**Sb**	**05 31 56.1**	**-0.6**
	baz=229						
FUSB	**Fushanzhiwuyua**	**0.49**	**311**	⇓*i*P	**Pb**	**05 31 51.0**	**0.0**
	baz=311						
TWD	**Chiawan**	**0.51**	**226**	P	**Pb**	**05 31 51.0**	**-0.1**
	baz=221						
TWD				*e*S	**Sb**	**05 31 57.9**	**-0.5**
	baz=221						
ETLH	**Xiulin Townshi**	**0.52**	**244**	*e*P	**Pb**	**05 31 50.8**	**-0.6**
	baz=240						
ETLH				*e*S	**Sb**	**05 31 58.6**	**-0.2**
	baz=240						
TIPB	**Shuangxi**	**0.56**	**344**	⇑*i*P	**Pb**	**05 31 52.0**	**0.0**
	baz=347						
TIPB				*e*S	**Sb**	**05 31 58.9**	**-0.9**
	baz=347						
NNSB	**Datong**	**0.56**	**269**	⇓*i*P	**Pb**	**05 31 51.9**	**-0.2**
	baz=267						
NNSH	**Datong**	**0.56**	**269**	⇓*i*P	**Pg**	**05 31 50.9**	**-0.7**
	baz=267						
NNSH				*e*S	**Sg**	**05 31 57.9**	**-1.2**
	baz=267						
NWLT	**Wulai**	**0.56**	**307**	*e*P	**Pb**	**05 31 51.3**	**-0.8**
	baz=307						
NNS	**Nan Shan**	**0.57**	**271**	⇓*e*P	**Pg**	**05 31 51.0**	**-0.7**
	baz=268						
NNS				*e*S	**Sg**	**05 31 58.2**	**-1.2**
	baz=268						
TWB1	**Santiao Chiao**	**0.57**	**359**	⇑*i*P	**Pb**	**05 31 52.2**	**+0.1**
	baz=4.0						
TWB1				*e*S	**Sb**	**05 31 59.5**	**-0.6**
	baz=4.0						
HWA	**Hwalien**	**0.58**	**218**	*e*P	**Pn**	**05 31 54.0**	**-0.2**
	baz=213						
YHNB	**Yeheng**	**0.61**	**292**	⇓*i*P	**Pb**	**05 31 53.0**	**+0.1**
	baz=291						
YHNB				*e*S	**Sb**	**05 32 01.0**	**-0.5**
	baz=291						
NSK	**Sanguang**	**0.63**	**292**	⇓*i*P	**Pg**	**05 31 52.2**	**-0.6**
	baz=292						
NSK				*e*S	**Sg**	**05 32 00.3**	**-0.9**
	baz=292						
ETM	**Tongmen**	**0.66**	**225**	*i* P	**Pb**	**05 31 53.8**	**+0.2**
	baz=221						
TWA	**Mucha**	**0.66**	**325**	⇑*i*P	**Pb**	**05 31 54.3**	**+0.6**
	baz=327						
TWA				*e*S	**Sb**	**05 32 02.3**	**-0.5**
	baz=327						
NWF	**Wu-fen Shan**	**0.66**	**343**	⇑*i*P	**Pb**	**05 31 54.4**	**+0.5**
	baz=345						
NWF				*i* S	**Sb**	**05 32 02.7**	**-0.2**
	baz=345						
WFSB	**Wu-fen Shan**	**0.66**	**343**	⇑*i*P	**Pb**	**05 31 54.3**	**+0.6**
	baz=345						
WFSB				S	**Sb**	**05 32 02.7**	**-0.1**
	baz=345						
SXI1	**Grass Mountain**	**0.67**	**350**	⇑*i*P	**Pb**	**05 31 54.2**	**+0.4**
	baz=353						
SXI1				*e*S	**Sb**	**05 32 02.6**	**-0.3**
	baz=353						
TEYL	**Yanliau Villag**	**0.67**	**213**	*e*P	**Pn**	**05 31 55.2**	**-0.3**
	baz=211						
NHDH	**Xindian Distri**	**0.68**	**321**	*e*P	**Pb**	**05 31 54.8**	**+0.8**
	baz=322						
NHDH				S	**Sb**	**05 32 03.0**	**-0.2**
	baz=322						
FUSS	**Fushou**	**0.71**	**255**	⇓*i*P	**Pb**	**05 31 54.5**	**-0.2**
	baz=252						
FUSS				*e*S	**Sb**	**05 32 04.0**	**-0.5**
	baz=252						
NHY	**Taipei**	**0.72**	**327**	*e*P	**Pb**	**05 31 54.8**	**+0.2**
	baz=328						
WHF	**Hehuan Shan**	**0.73**	**247**	*e*P	**Pb**	**05 31 54.7**	**-0.4**
	baz=243						
WHF				*e*S	**Sg**	**05 32 04.5**	**+0.1**
	baz=243						
TNOU	**National Taiwa**	**0.74**	**344**	*e*P	**Pb**	**05 31 55.7**	**+0.6**
	baz=346						
TNOU				*e*S	**Sb**	**05 32 04.7**	**-0.4**
	baz=346						
TAP	**Taipei**	**0.75**	**323**	*e*P	**Pn**	**05 31 56.0**	**-0.5**
	baz=325						
TWT	**Tachien**	**0.77**	**257**	*e*P	**Pb**	**05 31 55.9**	**+0.2**
	baz=254						
TWT				*e*S	**Sb**	**05 32 06.6**	**+0.5**
	baz=254						
TDCB	**Techi**	**0.79**	**257**	*e*P	**Pb**	**05 31 56.0**	**0.0**
	baz=254						
TDCB				*e*S	**Sb**	**05 32 06.2**	**-0.3**
	baz=254						
ESL	**Shilin**	**0.81**	**220**	*e*P	**Pb**	**05 31 56.9**	**+0.7**
	baz=216						
YM01	**YM01**	**0.81**	**331**	*e*P	**Pn**	**05 31 57.3**	**-0.1**
	baz=333						
YM01				*e*S	**Sb**	**05 32 07.1**	**0.0**
	baz=333						
NFF	**Wufeng Townshi**	**0.83**	**284**	*e*P	**Pb**	**05 31 56.1**	**-0.5**
	baz=283						
NFF				*e*S	**Sg**	**05 32 06.1**	**-1.3**
	baz=283						
YM08	**YM08**	**0.84**	**334**	*e*P	**Pn**	**05 31 57.5**	**-0.3**
	baz=335						
CHGB	**Renai**	**0.84**	**244**	*e*P	**Pb**	**05 31 56.9**	**0.0**
	baz=241						
CHGB				*e*S	**Sb**	**05 32 08.8**	**+0.7**
	baz=241						
TWS1	**Kuangyinshan**	**0.85**	**322**	*e*P	**Pn**	**05 31 58.3**	**+0.4**
	baz=323						
JYNG	**Yonagunijimaku**	**0.86**	**89**	P	**Pn**	**05 31 57.7**	**-0.4**
JYNG				*e*S	**Sb**	**05 32 09.8**	**+1.2**
ANP	**Anpu**	**0.86**	**330**	*e*P	**Pn**	**05 31 58.5**	**+0.3**
	baz=331						
NTST	**Danshui**	**0.88**	**326**	*e*P	**Pn**	**05 31 59.2**	**+0.8**
	baz=327						
NCUH	**Zhongli**	**0.91**	**306**	*e*P	**Pn**	**05 31 58.8**	**+0.1**
	baz=306						
TWY	**Chenhua**	**0.91**	**337**	*e*P	**Pn**	**05 31 59.2**	**+0.4**
	baz=338						
WUSB	**Renai**	**0.92**	**241**	*e*P	**Pb**	**05 31 58.4**	**+0.2**
	baz=239						
WUSB				*e*S	**Sb**	**05 32 10.8**	**+0.6**
	baz=239						
LIOB	**Emei**	**0.92**	**283**	*e*P	**Pn**	**05 31 59.6**	**+0.7**
	baz=282						
YOJ	**Yonaguni jima**	**0.92**	**88**	⇓*i*P	**Pn**	**05 31 58.5**	**-0.4**
	baz=89						
YOJ				S	**Sb**	**05 32 11.2**	**+0.9**
	baz=89						
YOJ	**Yonaguni jima**	**0.92**	**88**	P	**Pn**	**05 31 58.5**	**-0.4**
YOJ				*e*S	**Sb**	**05 32 11.5**	**+1.2**
EGFH	**Guangfu**	**0.93**	**214**	*e*P	**Pn**	**05 31 59.2**	**+0.2**
	baz=212						
NSTT	**Nanjuang**	**0.93**	**282**	*e*P	**Pn**	**05 31 59.0**	**0.0**
	baz=281						
NSTT				*e*S	**Sb**	**05 32 11.0**	**+0.5**
	baz=281						
WHP	**Taichung City**	**0.97**	**261**	*e*P	**Pb**	**05 31 59.6**	**+0.5**
	baz=259						
SBCB	**Hsinchu**	**0.99**	**291**	*e*P	**Pn**	**05 32 01.1**	**+1.2**
	baz=290						
YWDT	**YWDT**	**1.04**	**229**	*e*P	**Pn**	**05 32 00.9**	**+0.4**
	baz=227						
WPL	**Puli Township**	**1.04**	**246**	*e*P	**Pn**	**05 32 01.6**	**+1.0**
	baz=244						
WCS	**Beigang Elemen**	**1.06**	**249**	*e*P	**Pb**	**05 32 00.7**	**+0.1**
	baz=247						
HGSD	**Ruisui**	**1.08**	**209**	*e*P	**Pn**	**05 32 01.9**	**+0.9**
	baz=207						
NMLH	**Miaoli**	**1.10**	**275**	*e*P	**Pn**	**05 32 03.5**	**+2.0**
	baz=274						
EHY	**Hungye**	**1.11**	**214**	*e*P	**Pn**	**05 32 02.0**	**+0.5**
	baz=211						
TWQ1	**Liyutan**	**1.12**	**266**	*e*P	**Pn**	**05 32 02.9**	**+1.2**
	baz=264						
NSY	**Sanyi**	**1.13**	**269**	*e*P	**Pn**	**05 32 03.0**	**+1.2**
	baz=268						
SMLT	**Sun Moon Lake**	**1.15**	**241**	*e*P	**Pn**	**05 32 02.7**	**+0.6**
	baz=239						
SSLB	**Suanglung**	**1.15**	**236**	*e*P	**Pn**	**05 32 02.5**	**+0.4**
	baz=234						
TYC	**Yuchr**	**1.17**	**243**	*e*P	**Pn**	**05 32 03.3**	**+1.0**
	baz=241						
PCYT	**Pengchaiyu**	**1.19**	**3**	*e*P	**Pn**	**05 32 03.3**	**+0.7**
	baz=5.0						
YULB	**Yu-li**	**1.22**	**212**	*e*P	**Pn**	**05 32 04.6**	**+1.6**
	baz=210						
EYUL	**Yuli**	**1.25**	**210**	*e*P	**Pn**	**05 32 05.7**	**+2.2**
	baz=208						
TWF1	**Yuli**	**1.25**	**211**	*e*P	**Pn**	**05 32 04.0**	**+0.5**
	baz=208						
WHYT	**Xinyi Township**	**1.28**	**235**	*e*P	**Pb**	**05 32 05.3**	**+0.9**
	baz=233						
WJS	**Zhushan**	**1.31**	**243**	*e*P	**Pg**	**05 32 05.6**	**-0.2**
	baz=241						
WNT	**Mingjian**	**1.32**	**245**	*e*P	**Pg**	**05 32 06.1**	**+0.2**
	baz=243						
YUS	**Yu-Shan**	**1.34**	**226**	*e*P	**Pb**	**05 32 06.3**	**+0.6**
	baz=223						
FULB	**Fuli**	**1.39**	**208**	*e*P	**Pg**	**05 32 06.5**	**-0.8**
	baz=206						
ALS	**Alishan**	**1.43**	**230**	*e*P	**Pg**	**05 32 07.9**	**-0.1**
	baz=228						
CHKT	**Chengkung**	**1.45**	**204**	*e*P	**Pg**	**05 32 07.8**	**-0.6**
	baz=202						
WDLH	**Douliu**	**1.53**	**241**	*e*P	**Pg**	**05 32 09.3**	**-0.5**
	baz=239						
ELDTW	**Lidau**	**1.53**	**216**	*e*P	**Pb**	**05 32 08.4**	**-0.3**
	baz=214						
WRL	**Guolierlin Hig**	**1.57**	**251**	*e*P	**Pn**	**05 32 08.3**	**+0.4**
	baz=249						
IRIF	**Iriomote-Funau**	**1.58**	**93**	P	**Pn**	**05 32 07.9**	**-0.1**
IRIF				S	**Sn**	**05 32 28.3**	**+0.1**
EDH	**Donghe**	**1.59**	**204**	*e*P	**Pn**	**05 32 08.5**	**+0.4**
	baz=202						
WCKO	**Fanlu**	**1.62**	**232**	*e*P	**Pb**	**05 32 10.3**	**+0.3**
	baz=231						
CHN4	**Tsaushan**	**1.68**	**230**	*e*P	**Pb**	**05 32 11.0**	**-0.1**
	baz=229						
STYH	**Taoyuan**	**1.69**	**222**	*e*P	**Pn**	**05 32 10.1**	**+0.7**
	baz=220						
TPUB	**Ta-pu**	**1.69**	**228**	*e*P	**Pg**	**05 32 12.0**	**-0.9**
	baz=227						
HATJ	**Hateruma jima**	**1.69**	**103**	P	**Pb**	**05 32 10.4**	**-0.9**
HATJ				*e*S	**Sn**	**05 32 31.4**	**+0.5**
STYT	**Tauyuan**	**1.70**	**222**	*e*P	**Pb**	**05 32 11.8**	**+0.3**
	baz=220						
WTP	**Ta-pu**	**1.73**	**227**	*e*P	**Pb**	**05 32 12.5**	**+0.4**
	baz=225						
TWK	**Hsinying**	**1.81**	**230**	*e*P	**Pb**	**05 32 12.6**	**-0.7**
	baz=228						
TWG	**Pinlang**	**1.82**	**208**	*e*P	**Pn**	**05 32 12.4**	**+1.2**
	baz=206						
TWGBT	**Beinan**	**1.82**	**208**	*e*P	**Pn**	**05 32 12.1**	**+0.9**
	baz=206						
CHN1	**Nanshi**	**1.83**	**228**	*e*P	**Pb**	**05 32 14.3**	**+0.6**
	baz=226						
JKRS	**Kuro-shima**	**1.84**	**96**	P	**Pn**	**05 32 12.4**	**+0.8**
JKRS				S	**Sn**	**05 32 35.0**	**+0.4**
WSL	**Shuilin Townsh**	**1.86**	**241**	*e*P	**Pb**	**05 32 13.4**	**-0.7**
	baz=239						
JIJ	**Ishigaki jima**	**1.96**	**92**	*e*P	**Pn**	**05 32 13.4**	**+0.2**
JIJ				S	**Sn**	**05 32 37.1**	**-0.3**
SSD	**Sandimen**	**2.10**	**217**	*e*P	**Pb**	**05 32 17.5**	**-0.7**
	baz=215						
JISG	**Ishigakijimahi**	**2.11**	**85**	P	**Pn**	**05 32 15.3**	**0.0**
JISG				S	**Sn**	**05 32 41.8**	**+0.5**
TSMG	**Majia**	**2.12**	**216**	*e*P	**Pb**	**05 32 18.3**	**-0.4**
	baz=215						
TSCK	**Chigu Township**	**2.17**	**234**	*e*P	**Pn**	**05 32 17.1**	**+1.0**
	baz=233						
MASBT	**Mashibuluo**	**2.21**	**215**	*e*P	**Pb**	**05 32 19.1**	**-1.0**
	baz=213						
EAST	**Anshuo**	**2.30**	**208**	*e*P	**Pn**	**05 32 19.8**	**+1.8**
	baz=206						
VWUC	**VWUC**	**2.38**	**284**	*e*P	**Pn**	**05 32 19.5**	**+0.4**
	baz=283						
PNG	**Penghu**	**2.40**	**249**	*e*P	**Pn**	**05 32 20.4**	**+1.2**
	baz=248						
PHUB	**P'eng-hu**	**2.40**	**248**	*e*P	**Pn**	**05 32 20.0**	**+0.7**
	baz=247						
SCZT	**Fangliau**	**2.41**	**212**	*e*P	**Pb**	**05 32 22.2**	**-1.4**
	baz=210						
WDGT	**Dungji**	**2.44**	**242**	*e*P	**Pn**	**05 32 21.2**	**+1.4**
	baz=240						
SLIU	**Shizi**	**2.47**	**207**	*e*P	**Pn**	**05 32 22.2**	**+2.0**
	baz=206						
MATB	**Ma-tsu**	**2.52**	**313**	*e*P	**Pn**	**05 32 22.4**	**+1.5**
	baz=312						
PTMZ	**Houxiangcun**	**2.69**	**284**	*e*P	**Pn**	**05 32 24.2**	**+1.0**
	baz=283						
LYJJ	**Jianjiangzhen**	**2.92**	**317**	*e*P	**Pn**	**05 32 27.5**	**+1.1**
	baz=316						
XPSS	**Dashiqiu**	**2.97**	**327**	*e*P	**Pn**	**05 32 27.6**	**+0.5**
	baz=327						
MHZQ	**Yeshan**	**3.16**	**302**	*e*P	**Pn**	**05 32 30.7**	**+1.0**
	baz=302						

IDC 17 05:34:22.5±6.1,31°.87S×178°.87W,h0km,mb3.5/2,
mbtmp3.5/2,Error ellipse: s-maj=250.9km
s-min=61.0km az=158.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.31**	**269**	P	P	05 42 17.9	-0.4
	0.3nm,0.5s,baz=106,slow=7.7,SNR=4.5						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.44**	**274**	P	P	05 42 27.5	+0.1
	0.3nm,0.3s,baz=115,slow=7.8,SNR=13						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**146.26**	**339**	PKPbc	PKPdf	05 54 03.3	+0.2
	4.1nm,1.0s,baz=40,slow=2.4,SNR=4.2						

MDD 17 05:38:38.0±0.9,40°.01N×12°.75W,h0km,Mb3.9/13,
M_mb3.3/13,Error ellipse: s-maj=7.3km s-min=4.4km
az=82.0
INMG 17 05:38:41.4±2.1,40°.00N×13°.09W,h10km,ML2.2,Error
ellipse: s-maj=7.8km s-min=4.8km az=88.0
CNRM 17 05:38:45.0,39°.59N×12°.05W,h193km,ml2.8
ISC 17 05:38:34.4±2.6,39°.98N±0°.04×12°.9W±0°.1,h10km,n49,
σ2s45/91,13C,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**3.01**	**109**	*e*Pn	**Pn**	**05 39 25.1**	**+3.0**
PMAFR				*e*Sn	**Sn**	**05 39 57.3**	**-0.9**
PMAFR				A	A	05 40 03.3	
	15nm,0.7s						
PSBE	**So Bento**	**3.23**	**97**	*e*Pn	**Pn**	**05 39 28.3**	**+3.2**
PSBE				*e*Sn	**Sn**	**05 40 03.0**	**-0.6**
PSBE				A	A	05 40 05.0	
	4.7nm,0.7s						
PACT	**Alcochete**	**3.40**	**110**	*e*Pn	**Pn**	**05 39 31.3**	**+3.8**
PACT				*e*Sn	**Sn**	**05 40 09.0**	**+1.1**
PCAS	**Casmilo, Conde**	**3.41**	**87**	*e*Pn	**Pn**	**05 39 30.8**	**+3.2**
PCAS				*e*Sn	**Sn**	**05 40 06.6**	**-1.5**
PCAS				A	A	05 40 14.1	
	4.2nm,0.4s						
COI	**Coimbra**	**3.48**	**85**	*e*Pn	**Pb**	**05 39 36.5**	**+0.5**
COI				*e*Sn	**Sn**	**05 40 09.2**	**-0.5**
PTO	**Porto**	**3.50**	**69**	*e*Sn	**Sn**	**05 40 08.9**	**-1.4**
PMTG	**Montargil**	**3.75**	**102**	*e*Pn	**Pn**	**05 39 35.0**	**+2.7**
PMTG				*e*Sn	**Sn**	**05 40 14.6**	**-2.0**
PMTG				A	A	05 40 22.8	
	2.1nm,0.5s						
PNCL	**Nicolau / Gran**	**3.91**	**117**	*e*Pn	**Pn**	**05 39 37.6**	**+3.2**
PNCL				*e*Sn	**Sn**	**05 40 19.5**	**-0.8**
PNCL				A	A	05 40 23.3	
	1.9nm,0.4s						
PVIS	**Viseu**	**3.92**	**78**	*e*Pn	**Pn**	**05 39 37.5**	**+2.8**
PVIS				*e*Sn	**Sn**	**05 40 18.5**	**-2.3**
PVIS				A	A	05 40 24.5	
	4.2nm,0.2s						
PGAV	**Gavieira, Arco**	**4.05**	**59**	*e*Pn	**Pn**	**05 39 38.7**	**+2.2**
PGAV				*e*Sn	**Sn**	**05 40 21.9**	**-2.2**
PGAV				A	A	05 40 28.9	
	3.4nm,0.3s						
EVO	**Evora**	**4.09**	**109**	P	**Pn**	**05 39 39.1**	**+2.2**
EVO				S	**Sn**	**05 40 23.4**	**-1.4**
EVO	**Evora**	**4.09**	**109**	*e*Pn	**Pn**	**05 39 39.5**	**+2.6**
EVO				*e*Sn	**Sn**	**05 40 23.1**	**-1.7**
EVO				A	A	05 40 27.0	
	2.7nm,0.4s						
PTEO	**Sao Teotonio**	**4.09**	**125**	*e*Pn	**Pn**	**05 39 38.9**	**+1.9**
PTEO				*e*Sn	**Sn**	**05 40 24.8**	**-0.1**
PTEO				A	A	05 40 28.4	
	3.4nm,0.8s						
PCAB	**Cabril**	**4.11**	**64**	*e*Pn	**Pn**	**05 39 38.7**	**+1.5**
PCAB				*e*Sn	**Sn**	**05 40 23.9**	**-1.4**
PCAB				A	A	05 40 30.0	
	6.6nm,0.3s						
ELOB	**Lobios**	**4.15**	**61**	P	**Pn**	**05 39 39.7**	**+1.8**
ELOB				⇑*i*Vmb_V		05 39 41.2	
	220nm,SNR=3.1						
ELOB				S	**Sn**	**05 40 24.5**	**-1.9**
POLO	**Lamas de Olo**	**4.15**	**69**	*e*Pn	**Pn**	**05 39 40.6**	**+2.7**
POLO				*e*Sn	**Sn**	**05 40 24.7**	**-1.8**
POLO				A	A	05 40 31.4	
	1.3nm,0.2s						
MTE	**Manteigas**	**4.15**	**82**	*e*Pn	**Pn**	**05 39 40.9**	**+3.0**
MTE				*e*Sn	**Sn**	**05 40 24.5**	**-2.0**
MTE				A	A	05 40 42.9	
	2.5nm,0.7s						
PCBR	**Castelo Branco**	**4.20**	**90**	*e*Pn	**Pn**	**05 39 40.9**	**+2.4**
PCBR				*e*Sn	**Sn**	**05 40 25.4**	**-2.2**
PCBR				A	A	05 40 31.2	
	1.9nm,0.1s						
EMAZ	**Mazaricos**	**4.20**	**44**	P	**Pn**	**05 39 39.5**	**+1.0**
EMAZ				⇑*i*Vmb_V		05 39 41.9	
	119nm,SNR=1.3						
EMAZ				S	**Sn**	**05 40 23.4**	**-4.3**
MESJ	**Messejana**	**4.25**	**119**	*e*S	**Sn**	**05 40 26.9**	**-2.0**
MESJ				IAML		05 40 29.0	
	comp=E,1.6nm,0.2s						
MESJ	**Messejana**	**4.25**	**119**	*e*Pn	**Pn**	**05 39 41.9**	**+2.7**
MESJ				*e*Sn	**Sn**	**05 40 28.9**	**0.0**
MESJ				A	A	05 40 33.3	
	comp=E,2.3nm,0.4s						
MORF	**Marmelete**	**4.29**	**127**	*e*P	**Pn**	**05 39 40.8**	**+1.1**
MORF				*e*S	**Sn**	**05 40 27.9**	**-1.9**
MORF				IAML		05 40 30.4	
	comp=N,6.9nm,0.2s						
MORF	**Marmelete**	**4.29**	**127**	*e*Pn	**Pn**	**05 39 40.9**	**+1.2**
MORF				*e*Sn	**Sn**	**05 40 27.9**	**-1.9**
MORF				A	A	05 40 32.1	
	comp=N,3.0nm,0.1s						
PESTR	**Estremoz**	**4.29**	**103**	*e*Pn	**Pn**	**05 39 41.9**	**+2.2**
PESTR				*e*Sn	**Sn**	**05 40 27.2**	**-2.5**
PESTR				A	A	05 40 33.6	
	comp=N,2.0nm,0.4s						
PESTR	**Estremoz**	**4.29**	**103**	P	**Pn**	**05 39 38.4**	**-1.3**
PESTR				S	**Sn**	**05 40 24.3**	**-5.5**
PFVI	**Vila Bisbo**	**4.29**	**130**	*e*Pn	**Pn**	**05 39 40.5**	**+0.7**
PFVI				*e*Sn	**Sn**	**05 40 27.3**	**-2.6**
PFVI				A	A	05 40 29.9	
	comp=N,4.4nm,0.8s						
PFVI	**Vila Bisbo**	**4.29**	**130**	P	**Pn**	**05 39 39.1**	**-0.7**
PFVI				S	**Sn**	**05 40 24.0**	**-5.9**
PMRV	**Marv??o**	**4.31**	**96**	*e*Pn	**Pn**	**05 39 42.2**	**+2.2**
PMRV				*e*Sn	**Sn**	**05 40 28.2**	**-2.2**
PMRV				A	A	05 40 34.7	
	comp=N,2.5nm,0.3s						
PBEJ	**Beja**	**4.40**	**115**	*e*Sn	**Sn**	**05 40 32.8**	**+0.2**
PBEJ				A	A	05 40 36.6	
	comp=N,2.1nm,0.3s						
PCVE	**Castro Verde**	**4.49**	**120**	*e*Pn	**Pn**	**05 39 45.8**	**+3.4**
PCVE				*e*Sn	**Sn**	**05 40 33.6**	**-1.0**
PCVE				A	A	05 40 37.0	
	comp=N,1.7nm,0.7s						
EAGO	**Agolada(Pontev**	**4.61**	**51**	P	**Pn**	**05 39 45.5**	**+1.4**
EAGO				⇑*i*Vmb_V		05 39 47.9	
	comp=N,265nm,SNR=4.2						
EAGO				S	**Sn**	**05 40 33.7**	**-4.0**
MVO	**Moncorvo**	**4.65**	**73**	*e*Pn	**Pn**	**05 39 47.2**	**+2.4**
MVO				*e*Sn	**Sn**	**05 40 36.4**	**-2.4**
MVO				A	A	05 40 42.5	
	comp=N,4.6nm,0.6s						
EBAD	**Badajoz**	**4.75**	**103**	P	**Pn**	**05 39 47.8**	**+1.7**
EBAD				⇑*i*Vmb_V		05 39 48.9	
	comp=N,110nm,SNR=1.9						
EBAD				S	**Sn**	**05 40 38.2**	**-2.9**
PVAQ	**Vaqueiros**	**4.83**	**121**	*e*Pn	**Pn**	**05 39 49.6**	**+2.5**
PVAQ				*e*Sn	**Sn**	**05 40 42.9**	**-0.1**
PVAQ				A	A	05 40 44.1	
	comp=N,2.2nm,0.9s						
PVAQ	**Vaqueiros**	**4.83**	**121**	P	**Pn**	**05 39 48.7**	**+1.6**
PVAQ				S	**Sn**	**05 40 39.1**	**-3.9**
EGRO	**El Granado**	**4.91**	**118**	P	**Pn**	**05 39 50.7**	**+2.5**
EGRO				⇑*i*Vmb_V		05 39 52.5	
	comp=N,129nm,SNR=1.0						
EGRO				S	**Sn**	**05 40 44.0**	**-1.1**
PBAR	**Barrancos**	**4.93**	**110**	*e*Pn	**Pn**	**05 39 51.4**	**+2.9**
PBAR				*e*Sn	**Sn**	**05 40 43.0**	**-2.6**
PBAR				A	A	05 40 43.8	
	comp=N,3.9nm,0.6s						
PBRG	**Braganca**	**5.04**	**67**	*e*Sn	**Sn**	**05 40 49.2**	**+0

MDT	**Midelt**	**9.80**	**134**	P	**Pn**	05 40 52.2	-3.3
MDT				S	Sn	05 42 31.8	-14

WEL 17 05:38:57.8±0.5, 43°S±3°×17°3E±°, h5km, M3.4/12, ML3.5/10, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=38.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**148**	P	Pg	05 39 05.0	+0.4
GVZ				S	Sb	05 39 10.9	-1.5
LTZ	**Lake Taylor**	**0.39**	**253**	P	Pg	05 39 05.8	+0.4
LTZ				S	Sg	05 39 12.0	+1.5
AMCZ	**Amberley**	**0.51**	**191**	P	Pb	05 39 08.7	-0.6
OXZ	**Oxford**	**0.85**	**220**	P	Pb	05 39 14.9	-0.2
INZ	**Inchbonnie**	**0.99**	**266**	P	Pg	05 39 16.0	-0.8
MQZ	**McQueen's Vall**	**1.04**	**185**	P	Pg	05 39 17.1	-0.6
RACZ	**Rakaia**	**1.16**	**204**	P	Pg	05 39 19.1	-0.9
DSZ	**Denniston Nort**	**1.18**	**322**	P	Pb	05 39 20.7	0.0
AKCZ	**Akaroa Harbour**	**1.20**	**176**	P	Pg	05 39 20.4	-0.5
MHCZ	**Mount Hutt**	**1.24**	**226**	P	Pg	05 39 21.2	-0.3
WACZ	**Wakanui South**	**1.45**	**208**	P	Pn	05 39 23.9	-0.7
WVZ	**Waitaha Valley**	**1.56**	**254**	P	Pn	05 39 26.2	+0.1
GCSZ	**Gaunt Creek Bo**	**1.91**	**249**	P	Pn	05 39 31.2	+0.1
TMZ	**Timaru**	**2.14**	**216**	P	Pn	05 39 34.2	0.0
FOZ	**Fox Glacier**	**2.34**	**247**	P	Pn	05 39 37.5	+0.7
ODZ	**Otahua Downs**	**2.83**	**212**	P	Pn	05 39 41.6	-2.1
JCZ	**Jackson Bay**	**3.23**	**243**	P	Pn	05 39 49.1	-0.2
CNGZ	**Carnagh Statio**	**5.88**	**46**	P	Pn	05 40 19.3	-6.2

WEL 17 05:44:31.3±0.4, 42°S±3°×17°4E±°, h5km, M3.3/25, ML3.5/13, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=132.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.50**	**27**	P	Pg	05 44 41.2	+0.3
BSWZ				S	Sg	05 44 48.5	+1.2
CMWZ	**Cape Campbell**	**0.63**	**49**	P	Pb	05 44 44.2	-0.5
THZ	**Tophouse**	**0.64**	**308**	P	Pg	05 44 44.0	+0.5
THZ				S	Sb	05 44 53.2	-1.0
TUWZ	**Tuamarina**	**0.78**	**21**	P	Pg	05 44 46.4	+0.2
GVZ	**Greta Valley S**	**0.90**	**206**	P	Pb	05 44 49.2	-0.2
NNZ	**Nelson**	**0.95**	**351**	P	Pg	05 44 49.2	-0.3
MRNZ	**Matariki Terra**	**0.98**	**321**	P	Pb	05 44 50.4	-0.3
TCW	**Tory Channel**	**1.08**	**29**	P	Pg	05 44 51.3	-0.8
LTZ	**Lake Taylor**	**1.15**	**237**	P	Pg	05 44 52.7	-0.6
TKNZ	**Takaka Hill**	**1.22**	**337**	P	Pg	05 44 54.0	-0.6
AMCZ	**Amberley**	**1.22**	**214**	P	Pg	05 44 53.3	-1.5
WEL	**Wellington**	**1.25**	**46**	P	Pg	05 44 53.9	-1.3
DUWZ	**D'Urville Isla**	**1.38**	**11**	P	Pn	05 44 56.7	-0.5
PLWZ	**Palliser**	**1.38**	**65**	P	Pn	05 44 54.9	-2.4
DSZ	**Denniston Nort**	**1.39**	**287**	P	Pb	05 44 57.8	+0.1
MSWZ	**Moikau Station**	**1.45**	**60**	P	Pn	05 44 55.8	-2.4
CAW	**Cannon Point**	**1.53**	**47**	P	Pn	05 44 57.4	-1.9
QRZ	**Quartz Range**	**1.55**	**329**	P	Pn	05 44 59.8	+0.3
PAWZ	**Paruwai Farm**	**1.59**	**61**	P	Pn	05 44 57.4	-2.6
OKCZ	**Okains Bay**	**1.61**	**194**	P	Pn	05 44 58.1	-2.2
OXZ	**Oxford**	**1.63**	**224**	P	Pn	05 44 58.4	-2.2
KIW	**Kapiti Island**	**1.64**	**38**	P	Pn	05 44 59.3	-1.4
INZ	**Inchbonnie**	**1.68**	**250**	P	Pn	05 45 00.9	-0.4
MQZ	**McQueen's Vall**	**1.69**	**203**	P	Pn	05 44 58.6	-2.8
MTW	**Mount Morrison**	**1.75**	**56**	P	Pn	05 44 59.3	-3.0
AKCZ	**Akaroa Harbour**	**1.78**	**196**	P	Pn	05 45 00.4	-2.3
OGWZ	**Otaki Gorge**	**1.80**	**42**	P	Pn	05 45 01.1	-1.8
RACZ	**Rakaia**	**1.89**	**214**	P	Pn	05 45 01.8	-2.3
HOWZ	**Holdsworth Sta**	**1.93**	**50**	P	Pb	05 45 07.4	+0.5
MRZ	**Mangatainoka R**	**2.12**	**46**	P	Pn	05 45 05.0	-2.4
WACZ	**Wakanui South**	**2.19**	**215**	P	Pn	05 45 05.8	-2.5
WVZ	**Waitaha Valley**	**2.29**	**246**	P	Pn	05 45 09.0	-0.6
RPZ	**Rata Peaks**	**2.42**	**229**	P	Pn	05 45 09.7	-1.8
GCSZ	**Gaunt Creek Bo**	**2.66**	**243**	P	Pn	05 45 14.0	-0.7
WNVZ	**Wahianoa**	**3.22**	**29**	P	Pn	05 45 22.1	-0.5
NNVZ	**North Ngauruho**	**3.40**	**28**	P	Pn	05 45 28.3	+3.2

IDC 17 05:47:36.0±2.2, 6°86S×129°30E, h0km, mb3.4/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=119.8km s-min=33.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.89**	**160**	Pn	Pn	05 50 54.4	-0.1
	0.3nm,0.3s,baz=339,slow=13,SNR=22						
WRA				Sn	Sn	05 53 18.0	-12
	0.5nm,0.3s,baz=336,slow=22,SNR=7.2						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**17.29**	**166**	P	Pn	05 51 39.1	+0.1
	0.1nm,0.3s,baz=343,slow=9.2,SNR=2.6						
ASAR				S	Sn	05 54 41.7	-10
	0.3nm,0.6s,baz=354,slow=27,SNR=1.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.73**	**327**	P	P	05 58 35.5	0.0
	0.2nm,0.5s,baz=128,slow=5.9,SNR=4.3						
	0.2nm,0.5s						

JMA 17 05:53:54.1±0.2, 25°N±1°×122°4E±0°.4, h77km±2km, MV2.2/10, NW OFF ISHIGAKIJIMA IS
TAP 17 05:53:54.2, 24°.63N×122°.45E, h74km, ML3.3, C
ISC 17 05:53:54.6±1.2, 24°56N±0°.03×122°43E±0°.02, h19km±3km, n99, σ0°78/129, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**103**	P	**Pn**	**05 54 07.7**	**+1.2**
JYNG				*e*S	**Sn**	**05 54 17.2**	**+2.9**
TWC	**Suao**	**0.53**	**276**	*i* P	**Pn**	**05 54 07.7**	**+0.4**
	baz=267						
TWC				*e*S	**Sn**	**05 54 17.5**	**+1.7**
	baz=267						
YOJ	**Yonaguni jima**	**0.54**	**100**	*i* P	**Pn**	**05 54 08.0**	**+0.7**
	baz=113						
YOJ				*i* S	**Sn**	**05 54 18.0**	**+2.2**
	baz=113						
YOJ	**Yonaguni jima**	**0.54**	**100**	P	**Pn**	**05 54 08.1**	**+0.8**
YOJ				*e*S	**Sn**	**05 54 17.8**	**+2.0**
EGS		**0.54**	**302**	*i* P	**Pn**	**05 54 07.9**	**+0.6**
	baz=294						
TWB1	**Santiao Chiao**	**0.60**	**318**	*i* P	**Pn**	**05 54 08.0**	**-0.2**
	baz=307						
ENA	**Nanau**	**0.64**	**259**	P	**Pn**	**05 54 09.6**	**+0.8**
	baz=250						
ENA				*i* S	**Sn**	**05 54 20.5**	**+2.0**
	baz=250						
ILA	**Ilan**	**0.66**	**288**	*e*P	**Pn**	**05 54 09.6**	**+0.6**
	baz=285						
ILA				*i* S	**Sn**	**05 54 20.1**	**+1.4**
	baz=285						
TIPB	**Shuangxi**	**0.69**	**307**	P	**Pn**	**05 54 09.1**	**-0.4**
	baz=300						
TIPB				*e*S	**Sn**	**05 54 19.2**	**-0.4**
	baz=300						
TWE	**Neicheng**	**0.72**	**283**	*i* P	**Pn**	**05 54 10.0**	**+0.2**
	baz=276						
TWE				S	**Sn**	**05 54 20.9**	**+0.6**
	baz=276						
SXI1	**Grass Mountain**	**0.74**	**317**	*e*P	**Pg**	**05 54 09.6**	**+0.4**
	baz=310						
SXI1				*e*S	**Sn**	**05 54 20.7**	**-0.2**
	baz=310						
NWF	**Wu-fen Shan**	**0.78**	**311**	*i* P	**Pn**	**05 54 10.5**	**-0.3**
	baz=298						
NWF				*e*S	**Sn**	**05 54 21.7**	**-0.4**
	baz=298						
WFSB	**Wu-fen Shan**	**0.78**	**311**	P	**Pn**	**05 54 10.4**	**-0.2**
	baz=299						
WFSB				*e*S	**Sn**	**05 54 21.4**	**-0.5**
	baz=299						
ENTT	**Nioudou**	**0.79**	**276**	*e*P	**Pg**	**05 54 10.2**	**0.0**
	baz=270						
FUSB	**Fushanzhiwuyua**	**0.80**	**285**	*e*P	**Pn**	**05 54 11.0**	**0.0**
	baz=285						
FUSB				S	**Sn**	**05 54 23.2**	**+0.9**
	baz=285						
LATG	**Datong**	**0.83**	**269**	P	**Pn**	**05 54 11.7**	**+0.3**
	baz=266						
LATG				S	**Sn**	**05 54 24.4**	**+1.3**
	baz=266						
TNOU	**National Taiwa**	**0.84**	**315**	*e*P	**Pg**	**05 54 11.2**	**+0.1**
	baz=304						
TNOU				*e*S	**Sn**	**05 54 23.4**	**0.0**
	baz=304						
NACB	**Ninganchiao**	**0.85**	**244**	P	**Pn**	**05 54 11.8**	**+0.1**
NACB	**Ninganchiao**	**0.85**	**244**	P	**Pg**	**05 54 11.3**	**-0.1**
	baz=232						
NWLT	**Wulai**	**0.87**	**285**	*e*P	**Pb**	**05 54 11.1**	**-0.1**
	baz=285						
TWA	**Mucha**	**0.88**	**299**	*i* P	**Pg**	**05 54 11.7**	**-0.1**
	baz=286						
TWD	**Chiawan**	**0.90**	**238**	*e*P	**Pg**	**05 54 12.0**	**-0.2**
	baz=226						
NHDH	**Xindian Distri**	**0.92**	**296**	P	**Pg**	**05 54 12.3**	**-0.2**
	baz=291						
NHY	**Taipei**	**0.92**	**302**	*e*P	**Pg**	**05 54 12.4**	**-0.1**
	baz=296						
ETLH	**Xiulin Townshi**	**0.94**	**248**	*e*P	**Pb**	**05 54 12.5**	**+0.2**
	baz=244						
HWA	**Hwalien**	**0.95**	**233**	*e*P	**Pn**	**05 54 13.1**	**+0.1**
	baz=229						
TATO	**Taipei**	**0.95**	**296**	P	**Pb**	**05 54 12.5**	**-0.1**
TATO	**Taipei**	**0.95**	**296**	*e*P	**Pb**	**05 54 12.5**	**-0.1**
	baz=282						
TATO				*e*S	**Sg**	**05 54 25.8**	**0.0**
	baz=282						
NNSB	**Datong**	**0.96**	**263**	*i* P	**Pb**	**05 54 13.1**	**+0.3**
	baz=250						
NNSH	**Datong**	**0.96**	**263**	*e*P	**Pb**	**05 54 12.2**	**-0.6**
	baz=251						
TAP	**Taipei**	**0.97**	**300**	*e*P	**Pb**	**05 54 12.9**	**0.0**
	baz=285						
YHNB	**Yeheng**	**0.97**	**277**	P	**Pg**	**05 54 13.9**	**+0.4**
YHNB	**Yeheng**	**0.97**	**277**	*e*P	**Pg**	**05 54 13.4**	**-0.1**
	baz=278						
YHNB				*e*S	**Sn**	**05 54 27.1**	**+0.4**
	baz=278						
NNS	**Nan Shan**	**0.97**	**263**	*e*P	**Pb**	**05 54 12.3**	**-0.7**
	baz=251						
YM01	**YM01**	**0.98**	**307**	P	**Pb**	**05 54 12.9**	**-0.2**
	baz=296						
YM01				*e*S	**Sg**	**05 54 26.5**	**-0.1**
	baz=296						
NSK	**Sanguang**	**0.99**	**277**	*e*P	**Pb**	**05 54 12.5**	**-0.7**
	baz=278						
NSK				*e*S	**Sn**	**05 54 26.9**	**-0.1**
	baz=278						
YM08	**YM08**	**0.99**	**309**	P	**Pb**	**05 54 12.8**	**-0.4**
	baz=298						
TEYL	**Yanliau Villag**	**1.03**	**228**	*e*P	**Pb**	**05 54 13.7**	**-0.1**
	baz=220						
TEYL				*e*S	**Sg**	**05 54 28.7**	**+0.7**
	baz=220						
ETM	**Tongmen**	**1.04**	**236**	*e*P	**Pb**	**05 54 13.7**	**-0.3**
	baz=225						
TWY	**Chenhua**	**1.04**	**314**	P	**Pb**	**05 54 13.7**	**-0.3**
	baz=303						
TWS1	**Kuangyinshan**	**1.07**	**301**	P	**Pb**	**05 54 14.1**	**-0.5**
	baz=295						
TWS1				*e*S	**Sn**	**05 54 28.7**	**-0.3**
	baz=295						
NTST	**Danshui**	**1.08**	**304**	*e*P	**Pb**	**05 54 14.2**	**-0.4**
	baz=300						
FUSS	**Fushou**	**1.13**	**254**	*e*P	**Pn**	**05 54 15.2**	**-0.4**
	baz=244						
WHF	**Hehuan Shan**	**1.14**	**249**	*e*P	**Pb**	**05 54 15.6**	**-0.4**
	baz=245						
WHF				*e*S	**Sb**	**05 54 30.7**	**0.0**
	baz=245						
TEGC	**Jichi Village**	**1.18**	**224**	*e*P	**Pn**	**05 54 15.9**	**-0.2**
	baz=222						
ESL	**Shilin**	**1.18**	**231**	*e*P	**Pn**	**05 54 15.2**	**-0.9**
	baz=222						
TWT	**Tachien**	**1.19**	**255**	*e*P	**Pb**	**05 54 16.7**	**0.0**
	baz=247						
NFF	**Wufeng Townshi**	**1.20**	**274**	*e*P	**Pn**	**05 54 15.1**	**-1.4**
	baz=269						
TDCB	**Techi**	**1.20**	**256**	*e*P	**Pb**	**05 54 16.8**	**-0.1**
	baz=247						
IRIF	**Iriomote-Funau**	**1.20**	**100**	P	**Pn**	**05 54 15.6**	**-0.8**
IRIF				*e*S	**Sb**	**05 54 31.7**	**-0.3**
CHGB	**Renai**	**1.25**	**247**	*e*P	**Pn**	**05 54 17.1**	**-0.2**
	baz=236						
CHGB				*e*S	**Sb**	**05 54 33.8**	**+0.2**
	baz=236						
EGFH	**Guangfu**	**1.28**	**226**	*e*P	**Pn**	**05 54 16.5**	**-0.9**
	baz=219						
LIOB	**Emei**	**1.29**	**274**	*e*P	**Pn**	**05 54 17.4**	**-0.3**
	baz=269						
LIOB				*e*S	**Sb**	**05 54 34.7**	**+0.1**
	baz=269						
NSTT	**Nanjuang**	**1.31**	**273**	*e*P	**Pn**	**05 54 17.8**	**-0.1**
	baz=269						
NSTT				*e*S	**Sn**	**05 54 34.7**	**-0.2**
	baz=269						
WUSB	**Renai**	**1.33**	**245**	*e*P	**Pn**	**05 54 18.1**	**-0.2**
	baz=236						
WUSB				*e*S	**Sb**	**05 54 35.9**	**+0.2**
	baz=236						
HATJ	**Hateruma jima**	**1.35**	**111**	S	**Sn**	**05 54 36.0**	**+0.1**
WHP	**Taichung City**	**1.38**	**259**	*e*P	**Pn**	**05 54 18.7**	**-0.3**
	baz=251						
HGSD	**Ruisui**	**1.41**	**221**	*e*P	**Pn**	**05 54 18.6**	**-0.7**
	baz=217						
VWDT	**VWDT**	**1.43**	**236**	*e*P	**Pn**	**05 54 19.3**	**-0.3**
	baz=230						
WPL	**Puli Township**	**1.45**	**248**	*e*P	**Pn**	**05 54 20.0**	**+0.1**
	baz=241						
EHY	**Hungye**	**1.46**	**224**	*e*P	**Pn**	**05 54 18.6**	**-1.4**
	baz=223						
JKRS	**Kuro-shima**	**1.47**	**102**	*e*S	**Sn**	**05 54 38.3**	**-0.6**
WCS	**Beigang Elemen**	**1.48**	**251**	*e*P	**Pn**	**05 54 19.7**	**-0.5**
	baz=244						
NMLH	**Miaoli**	**1.50**	**270**	*e*P	**Pn**	**05 54 20.4**	**-0.1**
	baz=266						
ECBN	**Changbin**	**1.53**	**216**	*e*P	**Pn**	**05 54 19.2**	**-1.8**
	baz=209						
SMLT	**Sun Moon Lake**	**1.55**	**245**	*e*P	**Pn**	**05 54 21.5**	**+0.1**
	baz=236						
SSLB	**Suanglung**	**1.55**	**241**	P	**Pn**	**05 54 21.2**	**-0.1**
SSLB	**Suanglung**	**1.55**	**241**	*e*P	**Pn**	**05 54 21.2**	**-0.1**
	baz=232						
YULB	**Yu-li**	**1.56**	**222**	P	**Pn**	**05 54 20.0**	**-1.4**
YULB	**Yu-li**	**1.56**	**222**	*e*P	**Pn**	**05 54 20.0**	**-1.4**
	baz=230						
JIJ	**Ishigaki jima**	**1.57**	**97**	P	**Pn**	**05 54 20.4**	**-1.1**
JIJ				S	**Sn**	**05 54 39.4**	**-1.9**
EYUL	**Yuli**	**1.58**	**220**	*e*P	**Pn**	**05 54 21.3**	**-0.3**
	baz=228						
TWF1	**Yuli**	**1.59**	**221**	*e*P	**Pn**	**05 54 20.5**	**-1.3**
	baz=229						
WHYT	**Xinyi Township**	**1.68**	**240**	*e*P	**Pn**	**05 54 23.3**	**+0.3**
	baz=233						
FULB	**Fuli**	**1.71**	**218**	*e*P	**Pn**	**05 54 22.5**	**-0.9**
	baz=210						
JISG	**Ishigakijimahi**	**1.71**	**89**	P	**Pn**	**05 54 22.8**	**-0.6**
JISG				S	**Sn**	**05 54 44.2**	**-0.6**
WJS	**Zhushan**	**1.72**	**245**	*e*P	**Pn**	**05 54 24.2**	**+0.6**
	baz=253						
ALS	**Alishan**	**1.82**	**235**	*e*P	**Pn**	**05 54 25.4**	**+0.2**
	baz=226						
ECS	**Chishang**	**1.83**	**218**	*e*P	**Pn**	**05 54 25.5**	**+0.4**
	baz=225						
ELDTW	**Lidau**	**1.88**	**224**	*e*P	**Pn**	**05 54 24.7**	**-1.2**
	baz=222						
EDH	**Donghe**	**1.89**	**213**	*e*P	**Pn**	**05 54 24.5**	**-1.4**
	baz=207						
WDLH	**Douliu**	**1.94**	**244**	*e*P	**Pn**	**05 54 27.0**	**+0.5**
	baz=252						
WRL	**Guolierlin Hig**	**1.99**	**251**	*e*P	**Pn**	**05 54 25.5**	**-1.7**
	baz=257						
WCKO	**Fanlu**	**2.01**	**237**	*e*P	**Pn**	**05 54 27.4**	**-0.2**
	baz=235						
WCKO				*e*S	**Sn**	**05 54 52.4**	**+0.2**
	baz=235						
CHN4	**Tsaushan**	**2.07**	**235**	*e*P	**Pn**	**05 54 28.1**	**-0.2**
	baz=233						
CHN4				*e*S	**Sn**	**05 54 53.5**	**-0.1**
	baz=233						
STYT	**Tauyuan**	**2.07**	**228**	*e*P	**Pn**	**05 54 28.6**	**+0.1**
	baz=220						
TPUB	**Ta-pu**	**2.07**	**233**	P	**Pn**	**05 54 29.2**	**+0.8**
TPUB	**Ta-pu**	**2.07**	**233**	*e*P	**Pn**	**05 54 28.7**	**+0.2**
	baz=224						
LDUT	**Ludao**	**2.07**	**205**	*e*P	**Pn**	**05 54 27.6**	**-0.8**
	baz=210						
WTP	**Ta-pu**	**2.12**	**232**	*e*P	**Pn**	**05 54 29.4**	**+0.3**
	baz=230						
TWGBT	**Beinan**	**2.13**	**216**	P	**Pn**	**05 54 28.3**	**-0.9**
TWGBT	**Beinan**	**2.13**	**216**	*e*P	**Pn**	**05 54 28.8**	**-0.5**
	baz=215						
TWK	**Hsinying**	**2.20**	**235**	*e*P	**Pn**	**05 54 30.4**	**+0.2**
	baz=232						
CHN1	**Nanshi**	**2.22**	**232**	*e*P	**Pn**	**05 54 30.6**	**+0.2**
	baz=231						
SSD	**Sandimen**	**2.44**	**223**	*e*P	**Pn**	**05 54 33.8**	**+0.2**
	baz=222						
TSMG	**Majia**	**2.47**	**222**	*e*P	**Pn**	**05 54 34.5**	**+0.7**
	baz=215						
MASBT	**Mashibuluo**	**2.55**	**221**	*e*P	**Pn**	**05 54 35.1**	**+0.2**
	baz=220						
EAST	**Anshuo**	**2.61**	**214**	*e*P	**Pn**	**05 54 36.2**	**+0.3**
	baz=214						
LYUB	**Lan-yu**	**2.66**	**197**	*e*P	**Pn**	**05 54 34.2**	**-2.3**
	baz=198						

IDC 17 05:54:53.6±1.8, 40°.02S×175°.23E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=98.7km s-min=42.3km az=12.0
NEIC 17 05:55:10.0±2.2, 39°.58S±0°.03×174°.74E±0°.09, h123km±10km, mb4.0/6, ML4.1(WEL), Error ellipse: s-maj=10.1km s-min=2.0km az=72.0
NOU 17 05:55:09.2, 39°.56S×174°.67E, h132km, MLv4.3/14, North Island, New Zealand
WEL 17 05:55:11.1±0.7, 40°S±3°×17°5E±°, h110km±6km, M4.0/102, ML4.2/36, MLv4.0/102, Error ellipse: s-maj=0.0km s-min=0.0km az=95.4
ISC 17 05:55:08.9±0.8, 39°57S±0°.04×174°72E±0°.04, h136km±6km, n206, σ0°83/206, mb4.1/6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.27**	**294**	P	**Pn**	**05 55 28.2**	**+0.6**
LREZ				S	**Sn**	**05 55 41.3**	**-0.5**
WAZ	**Wanganui**	**0.28**	**132**	P	**Pn**	**05 55 28.2**	**+0.5**
WAZ				S	**Sn**	**05 55 41.2**	**-0.8**
VRZ	**Vera Road**	**0.45**	**4**	P	**Pn**	**05 55 28.4**	**+0.1**
VRZ				S	**Sn**	**05 55 41.6**	**-1.4**
PREZ	**Palmer Road**	**0.49**	**297**	P	**Pn**	**05 55 28.9**	**+0.3**
DREZ	**Durham Road**	**0.55**	**313**	P	**Pn**	**05 55 29.3**	**+0.4**
PKVZ	**Pokaka**	**0.56**	**60**	P	**Pn**	**05 55 29.0**	**0.0**
NEZ	**North Egmont**	**0.57**	**301**	P	**Pn**	**05 55 29.6**	**+0.4**
MHEZ	**Mangahewa**	**0.58**	**328**	P	**Pn**	**05 55 29.5**	**+0.4**
MTVZ	**Mangateitei**	**0.61**	**73**	P	**Pn**	**05 55 29.5**	**+0.1**
KHEZ	**Kahui Hut**	**0.61**	**296**	P	**Pn**	**05 55 29.9**	**+0.5**
KHEZ	**Kahui Hut**	**0.61**	**296**	P	**Pn**	**05 55 29.8**	**+0.4**
NMEZ	**Namu Road**	**0.67**	**283**	P	**Pn**	**05 55 30.0**	**+0.4**
PKE	**Pukeiti**	**0.68**	**303**	P	**Pn**	**05 55 30.0**	**+0.2**
TRVZ	**Turoa**	**0.69**	**67**	P	**Pn**	**05 55 30.2**	**0.0**
DRZ	**Dome Shelter**	**0.72**	**66**	P	**Pn**	**05 55 30.4**	**+0.0**
FWVZ	**Far West T-bar**	**0.72**	**64**	P	**Pn**	**05 55 30.3**	**0.0**
WNVZ	**Wahianoa**	**0.72**	**71**	P	**Pn**	**05 55 30.4**	**+0.2**
NBEZ	**Newall Road No**	**0.73**	**294**	P	**Pn**	**05 55 30.6**	**+0.5**
WHVZ	**Whangaehu Hut**	**0.73**	**67**	P	**Pn**	**05 55 30.4**	**0.0**
TWVZ	**Taurewa**	**0.75**	**48**	P	**Pn**	**05 55 30.3**	**-0.1**
OHWZ	**Ohakea**	**0.78**	**144**	P	**Pn**	**05 55 31.8**	**+1.3**
TUVZ	**Tukino**	**0.78**	**68**	P	**Pn**	**05 55 31.1**	**+0.4**
NGZ	**Ngauruhoe**	**0.79**	**60**	P	**Pn**	**05 55 30.9**	**+0.1**
SNVZ	**South Ngauruho**	**0.81**	**62**	P	**Pn**	**05 55 31.2**	**+0.3**
WTVZ	**West Tongariro**	**0.81**	**56**	P	**Pn**	**05 55 31.1**	**+0.2**
MOVZ	**Moawhango**	**0.81**	**79**	P	**Pn**	**05 55 30.9**	**0.0**
NNVZ	**North Ngauruho**	**0.82**	**58**	P	**Pn**	**05 55 31.2**	**+0.2**
OTVZ	**Oturere**	**0.84**	**61**	P	**Pn**	**05 55 31.5**	**+0.4**
KRVZ	**Karewarewa**	**0.86**	**57**	P	**Pn**	**05 55 31.4**	**+0.2**
NTVZ	**North Tongarir**	**0.88**	**58**	P	**Pn**	**05 55 31.7**	**+0.3**
ETVZ	**East Tongariro**	**0.88**	**61**	P	**Pn**	**05 55 31.9**	**+0.5**
TMVZ	**Te Maari**	**0.89**	**60**	P	**Pn**	**05 55 32.0**	**+0.5**
KATZ	**Kakaramea**	**0.96**	**52**	P	**Pn**	**05 55 32.6**	**+0.5**
BHHZ	**Black Hill Sta**	**1.04**	**86**	P	**Pn**	**05 55 32.5**	**-0.2**
HIZ	**Hauiti**	**1.06**	**6**	P	**Pn**	**05 55 32.9**	**0.0**
HIZ				S	**Sn**	**05 55 49.3**	**-1.8**
HIZ	**Hauiti**	**1.06**	**6**	P	**Pn**	**05 55 32.9**	**0.0**
HIZ	**Hauiti**	**1.06**	**6**	P	**Pn**	**05 55 33.0**	**0.0**
TSZ	**Takapari Road**	**1.07**	**117**	P	**Pn**	**05 55 33.6**	**+0.5**
RATZ	**Rangitukua**	**1.08**	**50**	P	**Pn**	**05 55 33.5**	**+0.4**
POWZ	**Post Office Ro**	**1.15**	**136**	P	**Pn**	**05 55 34.4**	**+0.7**
PNHZ	**Pukenui**	**1.19**	**107**	P	**Pn**	**05 55 34.7**	**+0.5**
HATZ	**Hinemaiaia**	**1.26**	**58**	P	**Pn**	**05 55 35.0**	**+0.1**
MRZ	**Mangatainoka R**	**1.27**	**149**			**05 55 35.6**	**+0.7**
MRZ				Sn	**Sn**	**05 55 52.8**	**-2.1**
MRZ	**Mangatainoka R**	**1.27**	**149**	P	**Pn**	**05 55 35.8**	**+0.8**
OGWZ	**Otaki Gorge**	**1.29**	**165**	P	**Pn**	**05 55 36.2**	**+1.1**
KIW	**Kapiti Island**	**1.30**	**174**	P	**Pn**	**05 55 36.0**	**+0.8**
WHTZ	**Whakaora**	**1.32**	**47**	P	**Pn**	**05 55 36.5**	**+1.0**
KWHZ	**Kaweka Forest**	**1.32**	**84**	P	**Pn**	**05 55 36.3**	**+0.7**
DVHZ	**Dannevirke**	**1.33**	**124**	P	**Pn**	**05 55 36.0**	**+0.4**
PRWZ	**Pori Road**	**1.37**	**136**	P	**Pn**	**05 55 37.2**	**+1.2**
DUWZ	**D'Urville Isla**	**1.38**	**206**	P	**Pn**	**05 55 36.9**	**+0.8**
TLZ	**Tolley Road**	**1.39**	**27**	P	**Pn**	**05 55 36.7**	**+0.4**
WPHZ	**Waipukurau**	**1.41**	**111**	P	**Pn**	**05 55 37.3**	**+0.9**
BKZ	**Black Stump Fm**	**1.43**	**74**			**05 55 36.6**	**-0.1**
BKZ	**Black Stump Fm**	**1.43**	**74**	P	**Pn**	**05 55 36.8**	**+0.1**
BKZ	**Black Stump Fm**	**1.43**	**74**	P	**Pn**	**05 55 36.8**	**+0.1

RAGZ	Rawiri	2.36	64	P	Pn	05 55 47.7	+0.1
MRNZ	Matariki Terra	2.36	219		Pn	05 55 48.1	+0.5
MRNZ	Matariki Terra	2.36	219	P	Pn	05 55 48.3	+0.7
MKAZ	Moumakai	2.49	8	P	Pn	05 55 49.4	+0.3
AWAZ	Awhitu Peninsu	2.50	359	P	Pn	05 55 50.2	+0.8
MHGZ	Mahia Peninsul	2.50	81	P	Pn	05 55 49.7	+0.3
MWZ	Matawai	2.51	61	P	Pn	05 55 49.2	-0.3
RIGZ	Rimuhau	2.52	71	P	Pn	05 55 49.7	+0.1
THZ	Tophouse	2.59	212		Pn	05 55 50.8	+0.3
THZ	Tophouse	2.59	212	P	Pn	05 55 51.0	+0.5
ETAZ	East Tamaki Re	2.62	4	P	Pn	05 55 51.7	+0.9
WTAZ	Waiatarua	2.63	357	P	Pn	05 55 52.9	+1.8
TKGZ	Te Karaka	2.69	66	P	Pn	05 55 51.6	0.0
WIAZ	Waiheke Island	2.79	7	P	Pn	05 55 54.0	+1.0
RVAZ	Riverhead Bore	2.80	358	P	Pn	05 55 54.4	+1.3
MBAZ	Motutapu North	2.80	3	P	Pn	05 55 54.1	+1.0
RUGZ	Raukumara Rang	2.81	56	P	Pn	05 55 52.6	-0.8
TWGZ	Tauwhareparae	2.90	62	P	Pn	05 55 54.5	0.0
KUZ	Kuaotunu	2.93	16	P	Pn	05 55 55.0	+0.2
KUZ	Kuaotunu	2.93	16	P	Pn	05 55 54.9	+0.1
HAZ	Te Kaha	3.00	54	P	Pn	05 55 54.7	-1.0
DSZ	Denniston Nort	3.10	225	Pn	Pn	05 55 57.1	0.0
DSZ	Denniston Nort	3.10	225	P	Pn	05 55 57.3	+0.2
PKGZ	Pakihiroa	3.12	58	P	Pn	05 55 57.0	-0.3
PUZ	Puketiti	3.14	63	P	Pn	05 55 56.8	-0.7
WMGZ	Waiomatatini S	3.38	60	P	Pn	05 55 59.8	-0.8
MXZ	Matakaoa Point	3.45	56	Pn	Pn	05 56 01.2	-0.3
MXZ	Matakaoa Point	3.45	56	P	Pn	05 56 01.4	-0.1
MXZ	Matakaoa Point	3.45	56	P	Pn	05 56 01.4	-0.1
GVZ	Greta Valley S	3.62	200	Pn	Pn	05 56 03.7	-0.1
GVZ	Greta Valley S	3.62	200	P	Pn	05 56 03.7	-0.1
WCZ	Waipu Caves	3.64	355	P	Pn	05 56 05.4	+1.4
LTZ	Lake Taylor	3.70	209	Pn	Pn	05 56 04.8	0.0
LTZ	Lake Taylor	3.70	209	P	Pn	05 56 05.1	+0.2
AMCZ	Amberley	3.93	203	Pn	Pn	05 56 07.0	-0.7
AMCZ	Amberley	3.93	203	P	Pn	05 56 07.2	-0.5
INZ	Inchbonnie	4.01	217	Pn	Pn	05 56 08.5	-0.3
INZ	Inchbonnie	4.01	217	P	Pn	05 56 08.6	-0.2
OXZ	Oxford	4.26	207		Pn	05 56 11.3	-0.8
OXZ	Oxford	4.26	207	P	Pn	05 56 11.2	-0.9
OKCZ	Okains Bay	4.33	196	P	Pn	05 56 12.3	-0.8
MQZ	McQueen's Vall	4.41	200	Pn	Pn	05 56 12.7	-1.5
OUZ	Omahuta	4.43	348	Pn	Pn	05 56 15.6	+1.1
OUZ	Omahuta	4.43	348	P	Pn	05 56 15.4	+0.9
OUZ	Omahuta	4.43	348	P	Pn	05 56 16.0	+1.5
AKCZ	Akaroa Harbour	4.51	197	P	Pn	05 56 14.3	-1.1
RACZ	Rakaia	4.58	204	P	Pn	05 56 15.0	-1.4
MHCZ	Mount Hutt	4.61	210	P	Pn	05 56 16.6	-0.3
WACZ	Wakanui South	4.87	205	P	Pn	05 56 18.9	-1.3
RPZ	Rata Peaks	4.97	212	Pn	Pn	05 56 21.5	0.0
RPZ	Rata Peaks	4.97	212	P	Pn	05 56 21.6	0.0
RPZ	Rata Peaks	4.97	212	P	Pn	05 56 21.5	-0.1
GCSZ	Gaunt Creek Bo	4.99	220	P	Pn	05 56 21.6	-0.2
ARCZ	Arundel	5.11	210	P	Pn	05 56 22.8	-0.7
FOZ	Fox Glacier	5.41	221	Pn	Pn	05 56 26.2	-1.2
FOZ	Fox Glacier	5.41	221	P	Pn	05 56 26.2	-1.2
TMZ	Timaru	5.55	209	P	Pn	05 56 28.7	-0.7
LBZ	Lake Benmore	5.88	214	Pn	Pn	05 56 32.5	-1.3
LBZ	Lake Benmore	5.88	214	P	Pn	05 56 33.1	-0.6
ODZ	Otahua Downs	6.25	208	Pn	Pn	05 56 37.8	-0.9
ODZ	Otahua Downs	6.25	208	P	Pn	05 56 37.8	-0.9
ODZ	Otahua Downs	6.25	208	P	Pn	05 56 37.9	-0.9
JCZ	Jackson Bay 92nm,1.5s	6.32	223	P	Pn	05 56 39.3	-0.4
JCZ	Jackson Bay	6.32	223	P	Pn	05 56 38.9	-0.8
EAZ	Earnscleugh	6.93	214	P	Pn	05 56 46.6	-1.2
HHSZ	Highcliff Hill	7.00	204	P	Pn	05 56 48.2	-0.6
TUZ	Tuapeka	7.40	209	P	Pn	05 56 54.1	0.0
CTZ	Chatham Island 80nm,0.4s	7.71	125	P	Pn	05 56 59.6	+1.4
CTZ	Chatham Island	7.71	125	P	Pn	05 56 59.5	+1.2
WHZ	Wether Hill Ro	8.05	216	Pn	Pn	05 57 02.2	-0.6
SYZ	Scrubby Hill	8.07	209	P	Pn	05 57 03.8	+0.7
SYZ	Scrubby Hill	8.07	209	P	Pn	05 57 03.5	+0.4
EIDS	Eidsvold	24.36	298	P	P	06 00 16.4	+2.1
EIDS	comp=Z,9.3nm,1.1s			IAmb	IAmb	06 00 42.2	
ASAR	Alice Springs comp=Z,1.5nm,0.4s,baz=126,slow=7.4,SNR=23 comp=Z,1.5nm,0.4s	37.85	282	P	P	06 02 16.3	+3.8
VNDA	Vanda	38.45	184	P	P	06 02 18.4	+1.6
VNDA	comp=Z,1.3nm,1.1s			IAmb	IAmb	06 02 36.3	
SBA	Scott Base	38.54	183	P	P	06 02 18.2	+0.7
SBA	comp=Z,4.8nm,1.4s			IAmb	IAmb	06 02 45.1	
WB2	Warramunga Arr	39.72	288	P	P	06 02 31.8	+3.7
WB2	comp=Z,3.6nm,1.1s			IAmb	IAmb	06 02 37.8	
WRA	Warramunga Arr comp=Z,0.5nm,0.3s,baz=126,slow=8.3,SNR=28 comp=Z,0.5nm,0.3s	39.73	288	P	P	06 02 31.9	+3.6
WRA	Warramunga Arr	39.73	288	P	P	06 02 31.9	+3.7
WB0	Warramunga Arr	39.80	288	P	P	06 02 32.2	+3.4
ARCES	ARCESS Array B comp=Z,4.9nm,0.9s,baz=64,slow=4.1,SNR=7.7	145.84	341	PKPbc	PKiKP	06 14 34.5	+0.2
FINES	FINESS Array B comp=Z,5.2nm,1.0s,baz=75,slow=2.2,SNR=3.4	150.88	329	PKPbc	PKPab	06 14 48.0	-4.2
TORD	Torodi Ar. Bea comp=Z,0.4nm,0.8s,baz=183,slow=3.5,SNR=2.2	152.97	195	PKPbc	PKiKP	06 14 52.4	+1.7

DJA ***17*** *06:00:56.2±1.6,8˚S±19˚×12˚0E±1˚6, h10km, M3.5/3, MLv3.5/3*
IDC ***17*** *06:01:05.3±3.3,7˚.76S×120˚.58E, h294km±27km, mb3.1/4, mbtmp3.6/6, Error ellipse: s-maj=201.0km s-min=15.4km az=57.0*
ISC 17 06:00:41.5±1.2,**7˚.3S**±0˚.1×**120˚.53E**±0˚.09,**h35**km,**n8,**
σ3**6**7/10,**mb3.9/3,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	3.13	240	P	Pn	06 01 32.9	+4.5
PLAI				S	Sn	06 02 00.8	-3.8
TWSI	Taliwang, Sumb	3.89	248	P	Pn	06 01 43.2	+4.3
TWSI				S	Sn	06 02 19.2	-4.2
KLNI	Mataram	4.54	255	P	Pn	06 01 51.3	+3.5
WRA	Warramunga Arr 0.4nm,0.4s,baz=303,slow=12,SNR=6.4	18.39	135	P	Pn	06 04 55.4	+1.5
ASAR	Alice Springs 0.5nm,0.4s,baz=319,slow=8.4,SNR=7.3 0.5nm,0.4s	20.75	143	P	P	06 05 19.6	0.0
STKA	Stephens Creek 0.9nm,0.3s,baz=315,slow=8.6,SNR=3.7 0.9nm,0.3s	31.39	144	P	P	06 06 57.0	-2.2
MKAR	Makanchi Array 0.5nm,0.6s,baz=138,slow=6.2,SNR=3.8 0.5nm,0.6s	63.64	332	P	P	06 11 09.1	-0.1
ZALV	Zalesovo Beam 0.5nm,0.5s,baz=140,slow=7.5,SNR=2.7 0.5nm,0.5s	67.99	338	P	P	06 11 35.0	-2.0

IDC ***17*** *06:01:06.7±2.4, 42˚.28S×173˚.60E, h0km, mb3.7/2, mbtmp3.9/3, ML4.5/1, MS4.2/2, Error ellipse: s-maj=47.8km s-min=37.2km az=123.0*
NOU ***17*** *06:01:07.0, 42˚.41S×173˚.82E, h0km, MLv4.5/11, South Island, New Zealand*
NEIC ***17*** *06:01:09.8±1.1, 42˚.33S±0˚.04×173˚.79E±0˚.02, h22km±11km, mb4.2/3, ML4.2(WEL), Error ellipse: s-maj=5.7km s-min=2.0km az=182.0*
WEL ***17*** *06:01:10.4±0.3, 42˚S±3˚×17˚4E±˚, h15km±3km, M4.3/51, ML4.6/14, MLv4.3/51, Error ellipse: s-maj=0.0km s-min=0.0km az=131.4*
ISC 17 06:01:08.1±0.8,**42˚.37S**±0˚.03×**173˚.78E**±0˚.04,**h10**km,**n165,**
σ1**9**23/165,**mb4.1/5,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.66	6		Pg	06 01 21.7	+0.9
BSWZ	Blackbirch Sta	0.66	6	P	Pg	06 01 21.7	+0.9
BSWZ				S	Sg	06 01 30.3	+0.9
CMWZ	Cape Campbell	0.70	28		Pb	06 01 24.1	+1.7
CMWZ	Cape Campbell	0.70	28	P	Pb	06 01 24.5	+2.1
GVZ	Greta Valley S	0.81	222		Pb	06 01 26.9	+2.6
GVZ	Greta Valley S	0.81	222	P	Pb	06 01 26.9	+2.6
THZ	Tophouse	0.89	313		Pg	06 01 24.6	-0.5
THZ	Tophouse	0.89	313	P	Pg	06 01 24.7	-0.5
TUWZ	Tuamarina	0.95	8		Pg	06 01 26.8	+0.5
TUWZ	Tuamarina	0.95	8	P	Pg	06 01 26.9	+0.5
AMCZ	Amberley	1.16	225		Pb	06 01 31.2	+1.0
AMCZ	Amberley	1.16	225	P	Pb	06 01 31.3	+1.1
LTZ	Lake Taylor	1.19	249		Pb	06 01 31.3	+0.5
LTZ	Lake Taylor	1.19	249	P	Pb	06 01 31.2	+0.5
NNZ	Nelson	1.19	345		Pb	06 01 29.9	-0.8
NNZ	Nelson	1.19	345	P	Pb	06 01 30.1	-0.7
TCW	Tory Channel	1.22	18		Pb	06 01 31.1	0.0
TCW	Tory Channel	1.22	18	P	Pb	06 01 31.2	0.0
MRNZ	Matariki Terra	1.23	321		Pb	06 01 30.5	-1.0
MRNZ	Matariki Terra	1.23	321	P	Pb	06 01 30.8	-0.6
SNZO	South Karori	1.26	34		Pn	06 01 32.3	+0.5
SNZO	South Karori	1.26	34	P	Pn	06 01 32.0	+0.2
WEL	Wellington	1.31	35	P	Pn	06 01 33.1	+0.6
PLWZ	Palliser	1.36	55		Pn	06 01 33.8	+0.6
PLWZ	Palliser	1.36	55	P	Pn	06 01 33.5	+0.3
MSWZ	Moikau Station	1.45	50		Pn	06 01 34.9	+0.5
MSWZ	Moikau Station	1.45	50	P	Pn	06 01 34.8	+0.4
OKCZ	Okains Bay	1.45	201	P	Pn	06 01 35.6	+1.2
TKNZ	Takaka Hill	1.47	335		Pn	06 01 34.8	+0.1
TKNZ	Takaka Hill	1.47	335	P	Pn	06 01 34.8	+0.1
DUWZ	D'Urville Isla	1.57	4	P	Pn	06 01 36.1	+0.1
MQZ	McQueen's Vall	1.57	211	Pn	Pn	06 01 36.5	+0.4
MQZ	McQueen's Vall	1.57	211	P	Pn	06 01 36.2	+0.1
PAWZ	Paruwai Farm	1.58	52	P	Pn	06 01 36.3	+0.1
CAW	Cannon Point	1.59	38	P	Pn	06 01 36.6	+0.3
DSZ	Denniston Nort	1.60	292		Pn	06 01 36.8	+0.4
DSZ	Denniston Nort	1.60	292	P	Pn	06 01 36.7	+0.2
OXZ	Oxford	1.60	233	Pn	Pn	06 01 36.5	+0.1
OXZ	Oxford	1.60	233	P	Pn	06 01 36.3	-0.1
AKCZ	Akaroa Harbour	1.63	203	P	Pn	06 01 37.6	+0.7
TRWZ	Traveller	1.72	56	P	Pn	06 01 38.1	-0.1
KIW	Kapiti Island	1.73	30	P	Pn	06 01 38.7	+0.5
INZ	Inchbonnie	1.76	258		Pn	06 01 39.1	+0.4
INZ	Inchbonnie	1.76	258	P	Pn	06 01 38.8	+0.2
MTW	Mount Morrison	1.77	47	P	Pn	06 01 38.7	-0.1
QRZ	Quartz Range	1.80	328	P	Pn	06 01 40.1	+0.8
QRZ	Quartz Range	1.80	328	P	Pn	06 01 40.1	+0.8
RACZ	Rakaia	1.81	221	P	Pn	06 01 39.4	0.0
OGWZ	Otaki Gorge	1.87	34	P	Pn	06 01 40.4	+0.2
HOWZ	Holdsworth Sta	1.96	42	P	Pn	06 01 41.3	-0.2
MHCZ	Mount Hutt	2.00	234	P	Pn	06 01 41.7	-0.3
TMWZ	Te Maipa	2.02	52	P	Pn	06 01 42.0	-0.3
WACZ	Wakanui South	2.12	221	P	Pn	06 01 43.7	+0.1
MRZ	Mangatainoka R	2.18	39		Pn	06 01 44.4	0.0
MRZ	Mangatainoka R	2.18	39	P	Pn	06 01 44.2	-0.2
TIWZ	Tintock	2.24	46	P	Pn	06 01 45.1	-0.2
CPWZ	Castlepoint	2.33	52	P	Pn	06 01 46.3	-0.2
WVZ	Waitaha Valley	2.35	251	P	Pn	06 01 47.1	+0.4
RPZ	Rata Peaks 124nm,0.3s,baz=73,slow=1.9,SNR=167	2.41	235	Pn	Pn	06 01 47.4	-0.2
RPZ	66nm,0.3s,baz=268,slow=21,SNR=12			Sn	Sn	06 02 15.9	-1.2
RPZ	comp=Z,108nm,20.7s,baz=38,slow=32 442nm,0.4s			LR	LR	06 02 22.1	
RPZ	Rata Peaks	2.41	235	Pn	Pn	06 01 47.7	+0.1
RPZ	Rata Peaks	2.41	235	P	Pn	06 01 47.5	-0.2
RPZ	Rata Peaks	2.41	235	P	Pn	06 01 47.4	-0.2
PRWZ	Pori Road	2.45	43	P	Pn	06 01 47.6	-0.5
OHWZ	Ohakea	2.45	29	P	Pn	06 01 49.6	+1.4
ARCZ	Arundel	2.47	229	P	Pn	06 01 48.1	-0.4
POWZ	Post Office Ro	2.48	38	P	Pn	06 01 48.2	-0.3
BFZ	Birch Farm	2.50	49		Pn	06 01 48.4	-0.5
BFZ	Birch Farm	2.50	49	P	Pn	06 01 48.0	-0.9
BFZ	Birch Farm	2.50	49	P	Pn	06 01 48.0	-0.9
GCSZ	Gaunt Creek Bo	2.71	248	P	Pn	06 01 52.2	+0.5
DVHZ	Dannevirke	2.74	42	P	Pn	06 01 51.1	-1.1
WAZ	Wanganui	2.77	20	P	Pn	06 01 54.6	+2.1
ANWZ	Angora Road	2.78	48	P	Pn	06 01 52.0	-0.7
TSZ	Takapari Road	2.83	36	P	Pn	06 01 52.9	-0.6
TMZ	Timaru	2.85	224	P	Pn	06 01 53.6	-0.1
NMEZ	Namu Road	2.95	1	P	Pb	06 02 01.0	+0.2
PRHZ	Porangahau	3.01	47	P	Pn	06 01 54.7	-1.1
WPHZ	Waipukurau	3.05	42	P	Pn	06 01 55.5	-1.0
PNHZ	Pukenui	3.06	38	P	Pn	06 01 55.7	-0.9
KHEZ	Kahui Hut	3.08	3	P	Pb	06 02 02.4	-0.6
NBEZ	Newall Road No	3.10	1	P	Pn	06 02 00.7	+3.6
NEZ	North Egmont	3.10	5	P	Pb	06 02 02.1	-1.3
FOZ	Fox Glacier	3.13	247	Pn	Pn	06 01 58.0	+0.5
FOZ	Fox Glacier	3.13	247	P	Pn	06 01 58.1	+0.5
PKEZ	Pukeiti	3.17	3	P	Pn	06 02 00.7	+2.6
DREZ	Durham Road	3.19	6	P	Pn	06 02 02.0	+3.6
PKVZ	Pokaka	3.30	22	P	Pn	06 02 01.2	+1.4
LBZ	Lake Benmore	3.31	231		Pn	06 02 00.1	+0.1
LBZ	Lake Benmore	3.31	231	P	Pn	06 02 00.0	+0.1
MHEZ	Mangahewa	3.31	7	P	Pn	06 02 04.4	+4.4
MOVZ	Moawhango	3.31	27	P	Pn	06 02 00.1	0.0
VRZ	Vera Road	3.33	13	P	Pn	06 02 02.1	+1.9
WNVZ	Wahianoa	3.34	25	P	Pn	06 02 01.3	+0.8
TRVZ	Turoa	3.35	24	P	Pn	06 02 01.7	+1.0
BHHZ	Black Hill Sta	3.36	32	P	Pn	06 02 00.5	-0.2
DRZ	Dome Shelter	3.37	24	P	Pn	06 02 04.9	+3.7
WHVZ	Whangaehu Hut	3.37	25	P	Pn	06 02 02.2	+1.2
FWVZ	Far West T-bar	3.39	24	P	Pn	06 02 02.5	+1.2
TUVZ	Tukino	3.41	25	P	Pn	06 02 02.3	+0.9
NGZ	Ngauruhoe	3.48	24	P	Pn	06 02 03.0	+0.8
KAHZ	Kahuranaki	3.48	43	P	Pn	06 02 00.7	-1.6
SNVZ	South Ngauruho	3.48	25	P	Pn	06 02 03.2	+0.7
OTVZ	Oturere	3.51	25	P	Pn	06 02 03.4	+0.6
ODZ	Otahua Downs	3.51	219	Pn	Pn	06 02 02.7	0.0
ODZ	Otahua Downs	3.51	219	P	Pn	06 02 02.3	-0.4
ODZ	Otahua Downs	3.51	219	P	Pn	06 02 02.5	-0.2
NNVZ	North Ngauruho	3.52	24	P	Pn	06 02 03.9	+0.9
WTVZ	West Tongariro	3.53	24	P	Pn	06 02 03.8	+0.7
KWHZ	Kaweka Forest	3.56	35	P	Pn	06 02 02.2	-1.2
KRVZ	Karewarewa	3.56	24	P	Pn	06 02 05.1	+1.5
TMVZ	Te Maari	3.56	25	P	Pn	06 02 04.5	+1.0
NTVZ	North Tongarir	3.57	24	P	Pn	06 02 04.3	+0.6
MCHZ	McNeill Hill	3.66	38	P	Pn	06 02 03.6	-1.2
BKZ	Black Stump Fm	3.81	34		Pn	06 02 06.0	-0.8
BKZ	Black Stump Fm	3.81	34	P	Pn	06 02 05.0	-1.8
BKZ	Black Stump Fm	3.81	34	P	Pn	06 02 05.3	-1.5
HIZ	Hauiti	3.94	12		Pn	06 02 10.5	+1.9
HIZ	Hauiti	3.94	12	P	Pn	06 02 03.8	+2.0
HIZ	Hauiti	3.94	12	P	Pn	06 02 10.7	+2.1
ARHZ	Aropaoanui	3.95	39	P	Pn	06 02 07.2	-1.6
NMHZ	Naumai	4.00	36	P	Pn	06 02 08.0	-1.4
JCZ	Jackson Bay	4.03	243	P	Pn	06 02 09.4	-0.5
JCZ	Jackson Bay	4.03	243	P	Pn	06 02 09.5	-0.5
MRHZ	Matea Rd	4.06	31	P	Pn	06 02 09.0	-1.3
HHSZ	Highcliff Hill	4.20	212	P	Pn	06 02 12.2	+0.1
MTHZ	Maungataniwha	4.21	35	P	Pn	06 02 11.2	-1.2
WKZ	Wanaka	4.24	233		Pn	06 02 12.4	-0.3
WKZ	Wanaka	4.24	233	P	Pn	06 02 12.5	-0.3
TLZ	Tolley Road	4.25	19	P	Pn	06 02 14.1	+1.2
EAZ	Earnscleugh	4.32	227	P	Pn	06 02 13.2	-0.7
KNZ	Kokohu	4.46	43	P	Pn	06 02 14.2	-1.6
MHGZ	Mahia Peninsul	4.49	46	P	Pn	06 02 15.3	-0.8
MUGZ	Murupara	4.51	31	P	Pn	06 02 16.0	-0.5
TUZ	Tuapeka	4.66	218	P	Pn	06 02 18.6	0.0
TOZ	Tahuroa Road	4.82	16	P	Pn	06 02 20.2	+0.6
URZ	Urewera	4.83	33	P	Pn	06 02 20.0	-0.8
URZ	Urewera	4.83	33	P	Pn	06 02 18.8	-2.0
MSZ	Milford Sound	4.84	240	P	Pn	06 02 19.9	-1.0
MLZ	Mavora Lakes	5.07	232		Pn	06 02 23.9	-0.3
MLZ	Mavora Lakes	5.07	232	P	Pn	06 02 23.8	-0.4
TWGZ	Tauwhareparae	5.28	39	P	Pn	06 02 25.8	-1.3
RUGZ	Raukumara Rang	5.32	35	P	Pn	06 02 25.1	-2.5
SYZ	Scrubby Hill	5.33	217	P	Pn	06 02 28.0	+0.4
SYZ	Scrubby Hill	5.33	217	P	Pn	06 02 28.0	+0.4
AWAZ	Awhitu Peninsu	5.34	7	P	Pn	06 02 29.2	+1.4
MKAZ	Moumakai	5.36	12	P	Pn	06 02 28.8	+0.6
WTAZ	Waiatarua	5.46	7	P	Pn	06 02 32.1	+2.5
WHZ	Wether Hill Ro	5.48	228	Pn	Pn	06 02 28.5	-1.3
WHZ	Wether Hill Ro	5.48	228	P	Pn	06 02 28.4	-1.3
ETAZ	East Tamaki Re	5.48	10	P	Pn	06 02 30.9	+1.1
HAZ	Te Kaha	5.54	35	P	Pn	06 02 28.5	-2.0
MBAZ	Motutapu North	5.66	9	P	Pn	06 02 35.1	+2.9
DCZ	Deep Cove	5.70	235	Pn	Pn	06 02 31.3	-1.4
APZ	The Paps	6.08	221	P	Pn	06 02 37.5	-0.6
OUZ	Omahuta	7.14	359	P	Pn	06 02 57.3	+4.8
CTZ	Chatham Island	7.17	104	P	Pn	06 02 53.3	+0.4
CTZ	Chatham Island	7.17	104	P	Pn	06 02 53.4	+0.4
ASAR	Alice Springs 0.4nm,0.5s,baz=133,slow=7.7,SNR=6.2 0.4nm,0.5s	37.86	287	P	P	06 08 24.1	-1.1
WB2	Warramunga Arr	39.99	292	P	P	06 08 42.3	-0.7
WB2	comp=Z,6.5nm,1.1s			IAmb	IAmb	06 08 52.8	
WRAB	Tennant Creek	40.00	292	P	P	06 08 42.2	-0.9
WRAB				IAmb	IAmb	06 08 43.3	
WRA	comp=Z,4.2nm,0.9s Warramunga Arr comp=Z,1.2nm,0.7s,baz=128,slow=8.4,SNR=5.7 comp=Z,1.2nm,0.7s	40.00	292	P	P	06 08 41.6	-1.5
WB0	Warramunga Arr comp=Z,4.2nm,0.9s	40.08	292	P IAmb	P IAmb	06 08 42.8 06 08 43.2	-1.0
WB0							
BATI	Baumata comp=Z,351nm,18.6s,baz=109,slow=37	54.13	291	LR	LR	06 34 38.6	
LEM	Lembang comp=Z,76nm,18.1s,baz=164,slow=37	67.87	281	LR	LR	06 42 54.9	
TORD	Torodi Ar. Bea comp=Z,0.7nm,0.7s,baz=166,slow=2.2,SNR=5.4	150.09	196	PKPbc	PKPbc	06 20 59.3	0.0

KOLA ***17*** *06:03:03.8, 67˚.70N×20˚.31E, h0km, ML2.3*
HEL ***17*** *06:03:03.6±0.0, 67˚.83N×20˚.21E, h0km, ML2.2, ML2.4(UPP), Explosion*
IDC ***17*** *06:03:04.2±1.1, 67˚.82N×20˚.72E, h0km, mbtmp3.1/3, ML2.3/3, Error ellipse: s-maj=17.4km s-min=7.0km az=120.0*
BER ***17*** *06:03:04.4±1.9, 67˚.82N×20˚.23E, h0km, ML2.3, ML2.9(NAO), Suspected explosion*
NAO ***17*** *06:03:04.0±0.8, 67˚.81N×20˚.44E, ML2.9*
ISC 17 06:03:03.1±0.7,**67˚.81N**±0˚.02×**20˚.24E**±0˚.02,**h0**km,**n66,**
σ0**8**6/94,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	15	*i* P	Pg	06 03 06.0	+0.1
KUA				*i* S	Sg	06 03 08.1	+0.4
KUA	Kurravaara	0.15	15	P	Pg	06 03 06.0	+0.1
KUA				S	Sg	06 03 08.1	+0.4
RATU	Laukkuluspa	0.24	273	*i* P	Pg	06 03 07.8	0.0
RATU	Laukkuluspa	0.24	273	P	Pg	06 03 07.8	0.0
KOVU	Salmi	0.41	356	*i* P	Pg	06 03 10.8	-0.1
KOVU	Salmi	0.41	356	P	Pg	06 03 10.8	-0.1
LANU	Lannavaara	0.70	70	*i* P	Pg	06 03 16.5	0.0
LANU	Lannavaara	0.70	70	P	Pg	06 03 16.5	0.0
DUNU	Dundret	0.71	169	*i* P	Pg	06 03 16.5	-0.1
DUNU	Dundret	0.71	169	P	Pg	06 03 16.5	-0.1
MASU	Masugnsbyn	0.76	117	*i* P	Pg	06 03 17.8	+0.1
MASU	Masugnsbyn	0.76	117	P	Pg	06 03 17.8	+0.1
SALU	Saltoluokta	0.79	238	*i* P	Pg	06 03 18.0	-0.2
SALU	Saltoluokta	0.79	238	P	Pg	06 03 18.0	-0.2
KIF	Kilpisjarvi	1.22	10	Pg	Pb	06 03 26.7	-0.2
KIF				Lg	Lg	06 03 43.4	
KIF	Kilpisjarvi	1.22	10	*e*P	Pg	06 03 26.0	-0.3
KIF	comp=Z,35nm,0.2s			MSG		06 03 42.0	
KIF				*e*SB	Sb	06 03 42.7	-0.3
KIF	Kilpisjarvi	1.22	10	*e*P	Pb	06 03 26.7	-0.2
KIF	Kilpisjarvi	1.22	10	Pg	Pb	06 03 26.7	-0.2
KIF				Sg	Sb	06 03 43.4	+0.3
PAJU	Pajala	1.36	124	*e*P	Pg	06 03 28.4	-0.7
PAJU	Pajala	1.36	124	P	Pg	06 03 28.4	-0.7
HEF	Hetta	1.42	63	Pg	Pn	06 03 29.4	-0.6
HEF				Lg	Lg	06 03 47.7	
HEF	Hetta baz=247	1.42	63	*e*P	Pn	06 03 29.0	-1.0
HEF	comp=Z,16nm,0.2s			MSG		06 03 47.1	
HEF				*e*SN	Sn	06 03 49.8	+0.4
HEF	Hetta	1.42	63	*e*P	Pn	06 03 29.2	-0.8
HEF	Hetta

comp=Z,0.9nm,1.0s
NRA0 NORESS Array S 8.04 212 Pn **Pn** 06 05 01.9 +0.9
baz=33,slow=16
NRA0 Sn **Sn** 06 06 29.9 -2.5
baz=16,slow=22
NRA0 Lg Lg 06 07 15.6
baz=24,slow=28
NRA0 NORESS Array S 8.04 212 Pn **Pn** 06 05 01.9 +0.9
baz=33,slow=16
HFS Hagfors 8.22 203 Pn **Pn** 06 05 03.3 -0.2
baz=27,slow=14
HFS Hagfors 8.22 203 Pn **Pn** 06 05 03.3 -0.2
baz=27,slow=14
SPA0 Spitsbergen Ar 10.48 356 Pn **Pn** 06 05 35.2 +1.0
baz=161,slow=12
SPA0 Spitsbergen Ar 10.48 356 Pn **Pn** 06 05 35.2 +1.0
baz=161,slow=12

IDC ***17*** *06:15:30.2±0.9,3˚.31S×146˚.66E,h0km,mb4.2/13, mbtmp4.3/14,ML2.1/1,MS4.0/42,Error ellipse: s-maj=32.7km s-min=13.2km az=93.0*
NEIC ***17*** *06:15:31.6±1.5,3˚.28S±0˚.06×146˚.58E±0˚.04,h11km±5km, mb4.7/30,Error ellipse: s-maj=8.9km s-min=4.5km az=201.0*
DJA ***17*** *06:15:36.2±0.6,3˚S±6˚×14˚7E±˚,h56km±9km,M4.6/13, mB5.2/7,mb4.7/13,MLv4.4/1,Mw(mB)4.6/7*
GCMT ***17*** *06:15:37.6±0.3,3˚.26S±0˚.01×146˚.64E±0˚.02,h22km±1km, MW5.0/103,Moment Tensor Solution. s23,c25; s103,c142; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.79±.18; Mθθ=0.73±.12; Mϕϕ1.51±.14; Mrθ=1.97±.26; Mθϕ2.88±.10; Mϕr0.35±.19; Best double couple: Ms3.74100×1016 NP1:ϕs76.00000°,δ77.00000°, λ=-32.00000°. NP2:ϕs174.00000°,δ59.00000°, λ=-165.00000°. Principal axes: T 3.6540, Plg12.0000°, Azm128.0000°; N 0.1690, Plg56.0000°, Azm236.0000°; P =3.8280, Plg32.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 06:15:35.3±0.4,3˚32S±0˚.05×146˚61E±0˚.06,h35km,n140, σ1s62/105,mb4.6/37,MS4.1/50,1D,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.48**	**31**			**Pn**		**06 15 56.2**	**-3.2**
MANU	**Manus Island**	**1.48**	**31**	P		**Pn**		**06 15 57.5**	**-2.0**
KRVT	**Keravat (AS076**	**5.49**	**100**	LR		LR		06 18 35.3	
comp=Z,2μm,18.0s,baz=48,slow=34									
RABL	**Rabaul**	**5.61**	**99**	Pn		**Pn**		**06 16 55.2**	**-1.1**
PMG	**Port Moresby**	**6.07**	**175**	Pn		**Pn**		**06 17 03.2**	**+0.6**
2.6nm,0.3s,baz=4.8,slow=19,SNR=3.4									
PMG				Sn		**Sn**		**06 18 12.2**	**+1.3**
0.8nm,0.3s,baz=3.4,slow=19,SNR=1.7									
13nm,0.4s									
PMG	**Port Moresby**	**6.07**	**175**	Pn		**Pn**		**06 17 01.9**	**-0.7**
PMG	**Port Moresby**	**6.07**	**175**	P		Pn		06 17 17.8	+15
PMG	**Port Moresby**	**6.07**	**175**	P		Pn		06 17 07.9	+5.3
SMPI	**Sarmi**	**8.00**	**279**	P		**Pn**		**06 17 30.3**	**+1.1**
110nm,1.1s									
COEN	**Coen**	**11.10**	**198**	P		**Pn**		**06 18 11.9**	**+0.2**
baz=11,SNR=5.8									
COEN	**Coen**	**11.10**	**198**	Pn		**Pn**		**06 18 09.5**	**-2.1**
FAKI	**Fak Fak**	**14.34**	**271**	Pn		**Pn**		**06 18 53.2**	**-2.9**
HNR	**Honiara**	**14.57**	**115**	LR		LR		06 23 46.3	
comp=Z,7μm,21.4s,baz=283,slow=34									
MTSU	**Mount Surprise**	**14.89**	**189**	P		**P**		**06 19 09.3**	**+0.6**
baz=15,SNR=5.8									
MTSU	**Mount Surprise**	**14.89**	**189**	P		**P**		**06 19 07.9**	**-0.8**
PATS	**Pohnpei**	**15.44**	**49**	Pn		**Pn**		**06 19 09.3**	**-1.3**
SIJI	**Sorong**	**15.52**	**279**	Pn		**Pn**		**06 19 09.1**	**-2.7**
0.9nm,0.3s,baz=114,slow=8.7,SNR=4.0									
SIJI	**Sorong**	**15.52**	**279**	P		**P**		**06 19 14.4**	**-1.4**
19nm,1.1s									
CTA	**Charters Tower**	**16.67**	**181**	Pn		**P**		**06 19 29.9**	**+1.4**
0.6nm,0.3s,baz=10,slow=11,SNR=5.9									
CTA				LR		LR		06 25 48.8	
comp=Z,454nm,20.1s,baz=9.0,slow=37									
CTAO	**Charters Tower**	**16.67**	**181**	Pn		**Pn**		**06 19 24.0**	**-2.4**
KDU	**Kakadu**	**16.80**	**236**	P		**Pn**		**06 19 25.1**	**-2.9**
baz=16,SNR=6.8									
KDU	**Kakadu**	**16.80**	**236**	P		**Pn**		**06 19 26.7**	**-1.3**
GUMO	**Guam**	**16.89**	**354**	LR		LR		06 25 21.9	
comp=Z,152nm,18.9s,baz=153,slow=35									
GUMO	**Guam**	**16.89**	**354**	Pn		**Pn**		**06 19 25.5**	**-3.7**
GUMO				IAmb		IAmb		06 19 41.6	
comp=Z,126nm,1.1s									
MTN	**Manton Dam**	**17.99**	**237**	P		**Pn**		**06 19 40.3**	**-2.5**
baz=18,SNR=5.8									
MTN	**Manton Dam**	**17.99**	**237**	P		**Pn**		**06 19 40.3**	**-2.5**
MTN				IAmb		IAmb		06 19 44.4	
comp=Z,32nm,0.9s									
MTN	**Manton Dam**	**17.99**	**237**	P		**Pn**		**06 19 42.2**	**-0.7**
KRAI	**Karang Ratu**	**18.18**	**269**	P		**Pn**		**06 19 48.8**	**+3.6**
comp=Z,26nm,1.0s									
QIS	**Mount Isa**	**18.44**	**201**	P		**P**		**06 19 48.3**	**+0.2**
baz=18,SNR=3.7									
QIS	**Mount Isa**	**18.44**	**201**	P		**P**		**06 19 48.1**	**+0.1**
comp=Z,15nm,0.9s									
WB0	**Warramunga Arr**	**20.23**	**215**	P		**P**		**06 20 06.5**	**-1.1**
WB0				IAmb		IAmb		06 20 09.3	
comp=Z,47nm,1.1s									
WR0	**Warramunga Arr**	**20.30**	**215**	P		**P**		**06 20 07.6**	**-0.8**
WR0				IAmb		IAmb		06 20 10.1	
comp=Z,56nm,1.0s									
WRAB	**Tennant Creek**	**20.39**	**215**	P		**P**		**06 20 08.3**	**-1.0**
WRAB				IAmb		IAmb		06 20 11.0	
comp=Z,55nm,0.9s									
WB2	**Warramunga Arr**	**20.39**	**215**	P		**P**		**06 20 08.4**	**-1.0**
WB2				IAmb		IAmb		06 20 11.2	
comp=Z,50nm,0.9s									
WC3	**Warramunga Arr**	**20.40**	**215**	P		**P**		**06 20 08.4**	**-1.0**
baz=20									
WRA	**Warramunga Arr**	**20.40**	**215**	P		**P**		**06 20 08.4**	**-1.0**
comp=Z,32nm,0.8s,baz=39,slow=12,SNR=59									
WRA				LR		LR		06 29 03.0	
comp=Z,640nm,19.4s,baz=38,slow=40									
comp=Z,32nm,0.8s									
WRA	**Warramunga Arr**	**20.40**	**215**	P		**P**		**06 20 07.6**	**-1.9**
SANI	**Sanana**	**20.64**	**273**	P		**P**		**06 20 11.4**	**-0.7**
comp=Z,28nm,0.8s									
KNRA	**Kununurra**	**21.43**	**234**	P		**P**		**06 20 20.4**	**-0.2**
baz=21,SNR=14									
KNRA	**Kununurra**	**21.43**	**234**	P		**P**		**06 20 18.7**	**-1.9**
SOEI	**Soe**	**23.09**	**253**	P		**P**		**06 20 39.6**	**+1.2**
SOEI	**Soe**	**23.09**	**253**	P		**P**		**06 20 39.8**	**+1.4**
comp=Z,5μmcomp=Z,115nm,1.0s									
RMQ	**Roma**	**23.12**	**175**	P		**P**		**06 20 40.3**	**+1.8**
baz=23,SNR=7.2									
QLP	**Quilpie**	**23.24**	**185**	P		**P**		**06 20 42.2**	**+2.6**
baz=23,SNR=7.7									
DAV	**Davao City (W)**	**23.39**	**296**	LR		LR		06 29 40.2	
comp=Z,381nm,18.6s,baz=108,slow=36									
AS31	**Alice Springs**	**23.66**	**210**	P		**P**		**06 20 43.2**	**-0.6**
ASAR	**Alice Springs**	**23.66**	**210**	P		**P**		**06 20 43.2**	**-0.6**
comp=Z,21nm,0.9s,baz=42,slow=8.3,SNR=69									
ASAR				S		**S**		**06 25 01.3**	**+4.9**
comp=Z,1.8nm,1.0s,baz=31,slow=24,SNR=4.2									
ASAR				LR		LR		06 30 32.1	
comp=Z,571nm,19.1s,baz=46,slow=38									
comp=Z,21nm,0.9s									
ASAR	**Alice Springs**	**23.66**	**210**	P		**P**		**06 20 42.8**	**-1.0**
GTOI	**Gorontalo**	**23.91**	**279**	P		**P**		**06 20 46.9**	**+0.7**
comp=Z,398nmcomp=Z,38nm,1.2s									
LUWI	**Luwuk**	**23.93**	**275**	P		**P**		**06 20 44.9**	**-1.4**
LUWI	**Luwuk**	**23.93**	**275**	P		**P**		**06 20 46.6**	**+0.2**
comp=Z,3μmcomp=Z,111nm,1.5s									
MRSI	**Marisa**	**24.94**	**278**	P		**P**		**06 20 55.3**	**-0.4**
comp=Z,38nm,0.9s									
TOLI2	**Tolitoli**	**26.19**	**279**	P		**P**		**06 21 04.7**	**-2.3**
TOLI2				IAmb		IAmb		06 21 24.2	
comp=Z,15nm,0.9s									
DZM	**Mont Dzumac**	**26.80**	**136**	LR		LR		06 30 35.1	
comp=Z,662nm,19.5s,baz=330,slow=34									
DZM	**Mont Dzumac**	**26.80**	**136**	eS		**S**		**06 25 48.4**	**+1.9**
comp=Z,236nm,25.4s									
DZM				eLR		LR		06 27 59.6	
comp=Z,1μm,26.8s									
KAPI	**Kappang**	**26.84**	**265**	LR		LR		06 34 30.8	
comp=Z,122nm,19.4s,baz=96,slow=42									
MPSI	**Mapaga**	**26.94**	**277**	P		**P**		**06 21 12.3**	**-1.5**
WRKA	**Warakurna**	**27.87**	**218**	P		**P**		**06 21 23.2**	**+1.1**
baz=28,SNR=4.8									
STKA	**Stephens Creek**	**28.79**	**189**	P		**P**		**06 21 31.9**	**+1.8**
comp=Z,5.8nm,0.9s,baz=0.4,slow=9.3,SNR=3.5									
STKA				LR		LR		06 34 02.5	
comp=Z,522nm,18.6s,baz=6.2,slow=39									
comp=Z,5.8nm,0.9s									
STKA	**Stephens Creek**	**28.79**	**189**	P		**P**		**06 21 31.9**	**+1.8**
baz=29,SNR=5.4									
STKA	**Stephens Creek**	**28.79**	**189**			**P**		**06 21 28.8**	**-1.3**
MYLDM	**Lahad Datu**	**29.32**	**287**	P		**P**		**06 21 33.4**	**-1.6**
MYLDM				IAmb		IAmb		06 21 47.7	
comp=Z,24nm,1.2s									
H11S3	**WAKE ISLAND Hy**	**29.34**	**42**	T		T		06 52 46.3	
baz=222,slow=74									
H11S2	**WAKE ISLAND Hy**	**29.35**	**42**	T		T		06 52 39.7	
baz=222,slow=74									
H11S1	**WAKE ISLAND Hy**	**29.36**	**42**	T		T		06 52 33.2	
baz=222									
FORT	**Forrest**	**32.45**	**211**	P		**P**		**06 22 03.9**	**+1.5**
baz=32									
FORT	**Forrest**	**32.45**	**211**	P		**P**		**06 22 01.1**	**-1.3**
MSVF	**Nonsavu**	**33.98**	**117**	LR		LR		06 34 51.9	
comp=Z,185nm,21.1s,baz=327,slow=34									
JOW	**Kunigami**	**34.82**	**331**	LR		LR		06 33 30.5	
comp=Z,382nm,21.6s,baz=92,slow=31									
SBUM	**Sibu**	**34.85**	**279**	P		**P**		**06 22 21.4**	**-2.1**
SBUM				IAmb		IAmb		06 22 24.1	
comp=Z,11nm,1.5s									
MEEK	**Meekatharra**	**35.44**	**226**	P		**P**		**06 22 29.2**	**+0.7**
baz=35									
NWAO	**Narrogin (SRO)**	**40.29**	**220**	LR		LR		06 40 25.3	
comp=Z,388nm,18.3s,baz=264,slow=37									
SSE	**Sheshan**	**41.94**	**327**	P		**P**		**06 23 22.3**	**-0.5**
SSE				S		**S**		**06 29 42.6**	**+3.6**
SSE				pmax		pmax			
comp=Z,21nm,0.7s									
SSE				pmax		pmax			
comp=Z,55nm,4.9s									
SSE				LR		LR			
comp=N,140nm,19.9s									
SSE				LR		LR			
comp=E,120nm,19.9s									
AFI	**Afiamalu**	**42.39**	**107**	LR		LR		06 39 11.9	
comp=E,150nm,18.1s,baz=280,slow=34									
QIZ	**Qiongzhong**	**42.44**	**303**	P		**P**		**06 23 25.8**	**-1.4**
QIZ				S		**S**		**06 29 47.8**	**+0.8**
QIZ				LR		LR			
comp=N,280nm,22.7s									
QIZ				LR		LR			
comp=E,300nm,21.9s									
QIZ				LR		LR			
comp=Z,410nm,22.3s									
NJ2	**Nanjing**	**43.96**	**325**	eP		P		06 23 46.5	+7.3
NJ2				pmax		pmax			
comp=Z,12nm,0.5s									
KSRS	**Korea Array**	**44.13**	**339**	P		**P**		**06 23 40.6**	**+0.2**
comp=Z,1.6nm,0.6s,baz=160,slow=10.0,SNR=5.8									
KSRS				LR		LR		06 40 48.6	
comp=Z,138nm,19.2s,baz=155,slow=34									
comp=Z,1.6nm,0.6s									
RPZ	**Rata Peaks**	**45.68**	**155**	LR		LR		06 40 46.2	
comp=Z,177nm,19.9s,baz=326,slow=33									
TIA	**Tai'an**	**48.01**	**328**	eP		**P**		**06 24 11.3**	**+0.2**
TIA				S		S		06 30 47.6	-19
TIA				pmax		pmax			
comp=Z,3.0nm,0.8s									
TIA				pmax		pmax			
comp=Z,81nm,4.9s									
TIA				LR		LR			
comp=N,260nm,18.5s									
TIA				LR		LR			
comp=E,170nm,14.9s									
TIA				LR		LR			
comp=Z,320nm,19.9s									
RPSI	**Rantau Prapat**	**48.04**	**277**	P		**P**		**06 24 10.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**49.09**	**346**	P		**P**		**06 24 19.0**	**-0.3**
PHRA	**Phrae**	**50.55**	**297**	P		**P**		**06 24 31.0**	**+0.2**
XAN	**Xi'an**	**51.39**	**319**	⇓P		**P**		**06 24 37.0**	**0.0**
XAN				pP		pP		06 24 43.8	-3.2
XAN				pmax		pmax			
comp=Z,9.0nm,1.3s									
XAN				LR		LR			
comp=N,250nm,15.1s									
XAN				LR		LR			
comp=E,230nm,17.2s									
XAN				LR		LR			
comp=Z,330nm,15.8s									
BJI	**Beijing**	**51.40**	**330**	P		**P**		**06 24 39.3**	**+2.5**
BJI				S		**S**		**06 31 58.0**	**+3.9**
BJI				pmax		pmax			
comp=Z,3.0nm,0.8s									
BJI				pmax		pmax			
comp=Z,64nm,4.1s									
CMAR	**Chiang Mai Arr**	**51.68**	**297**	P		**P**		**06 24 39.9**	**+0.6**
comp=Z,2.3nm,0.3s,baz=112,slow=5.3,SNR=17									
CMAR				LR		LR		06 47 58.6	
comp=Z,51nm,18.4s,baz=110,slow=38									
comp=Z,2.3nm,0.3s									
CMAR	**Chiang Mai Arr**	**51.68**	**297**	P		**P**		**06 24 38.6**	**-0.7**
CHTO	**Chiang Mai**	**51.80**	**297**	P		**P**		**06 24 39.7**	**-0.5**
PZH	**PanZhiHua**	**52.52**	**307**	P		**P**		**06 24 45.8**	**+0.2**
PZH				S		**S**		**06 32 11.4**	**+1.1**
PZH				pmax		pmax			
comp=Z,10.0nm,0.7s									
PZH				pmax		pmax			
comp=Z,110nm,6.7s									
PZH				LR		LR			
comp=N,310nm,16.7s									
PZH				LR		LR			
comp=E,450nm,19.6s									
PZH				LR		LR			
comp=Z,760nm,21.6s									
HHC	**Hu-ho-hao-te**	**54.37**	**328**	eP		**P**		**06 25 00.8**	**+1.9**
HHC				pmax		pmax			
comp=Z,34nm,1.0s									
HHC				pmax		pmax			
comp=Z,290nm,6.9s									
RAR	**Rarotonga**	**55.02**	**114**	LR		LR		06 45 05.9	
comp=Z,44nm,20.6s,baz=258,slow=32									
HEH	**HeiHe**	**55.87**	**345**	eP		P		06 25 14.8	+5.4
HEH				pmax		pmax			
comp=Z,8.0nm,0.5s									
LZH	**Lanzhou**	**55.95**	**318**	eP		P		06 25 14.5	+4.0
LZH				pP		pP		06 25 18.5	-2.1
LZH				pmax		pmax			
comp=Z,11nm,1.0s									
LZH				LR		LR			
comp=N,270nm,13.6s									
LZH				LR		LR			
comp=E,370nm,14.6s									
LZH				LR		LR			
comp=Z,380nm,15.6s									
BRDH	**Bariadhala**	**59.52**	**299**	LR		LR		06 49 35.9	
comp=Z,90nm,21.9s,baz=92,slow=34									
SHEM	**Shemya Is, Ala**	**60.47**	**19**	LR		LR		06 47 30.1	
comp=Z,111nm,20.4s,baz=264,slow=32									
SONM	**Songino Array**	**61.89**	**330**	P		**P**		**06 25 52.5**	**+1.0**
comp=Z,0.7nm,0.7s,baz=138,slow=6.7,SNR=4.8									
SONM				LR		LR		06 52 18.8	
comp=Z,186nm,19.8s,baz=148,slow=36									
comp=Z,0.7nm,0.7s									
GOMU	**GeErMu**	**62.25**	**314**	P		**P**		**06 25 57.0**	**+2.6**
GOMU				pP		pP		06 26 00.4	-4.3
GOMU				sP		sP		06 26 01.9	-6.7
GOMU				PP		**PP**		**06 28 13.8**	**+2.1**
GOMU				S		**S**		**06 34 17.8**	**-0.6**
GOMU				sS		pS		06 34 28.9	-2.0
GOMU	**GeErMu**	**62.25**	**314**	SS		SS		06 38 15.0	-7.3
GOMU				pmax		pmax			
comp=Z,3.0nm,0.6s									
GOMU				pmax		pmax			
comp=Z,96nm,4.9s									
GOMU				LR		LR			
comp=N,130nm,14.0s									
GOMU				LR		LR			
comp=E,220nm,17.6s									
GOMU				LR		LR			
comp=Z,300nm,18.4s									
MA2	**Magadan**	**62.79**	**2**	LR		LR		06 48 24.6	
comp=Z,61nm,21.9s,baz=170,slow=32									
PPT	**Papeete**	**64.05**	**108**	LR		LR		06 51 54.6	
comp=Z,60nm,18.4s,baz=239,slow=34									
PPT2	**Papeete2**	**64.06**	**108**	eS		**S**		**06 34 42.7**	**+1.7**
comp=Z,58nm,28.2s									
PPT2	**Papeete2**	**64.06**	**108**	eLR		LR		06 45 14.3	
comp=Z,120nm,24.5s									
TBI	**Tubuai**	**64.79**	**114**	eLR		LR		06 45 34.4	
comp=Z,2μm,35.5s									
YAK	**Yakutsk**	**66.45**	**351**	LR		LR		06 53 01.4	
comp=Z,52nm,21.9s,baz=98,slow=34									
PALK	**Pallekele**	**66.61**	**279**	LR		LR		06 56 52.6	
comp=Z,56nm,18.2s,baz=199,slow=37									
WMQ	**Urumqi**	**70.53**	**319**	eP		**P**		**06 26 46.8**	**0.0**
WMQ				sP		pP		06 26 53.5	-3.8
WMQ				pmax		pmax			
comp=Z,11nm,0.7s									
WMQ				LR		LR			
comp=Z,69nm,18.7s									
TAOE	**Nuku Hiva Isla**	**72.95**	**98**	eS		**S**		**06 36 27.7**	**+0.7**
comp=Z,47nm,25.4s									
TAOE	**Nuku Hiva Isla**	**72.95**	**98**	eLR		LR		06 49 21.7	
comp=Z,173nm,23.5s									
VNDA	**Vanda**	**74.59**	**177**	P		**P**		**06 27 10.3**	**-0.1**
comp=Z,2.3nm,1.0s,baz=344,slow=5.7,SNR=8.0									
VNDA				LR		LR		07 00 48.4	
comp=Z,97nm,18.1s,baz=350,slow=36									
comp=Z,2.3nm,1.0s									
VNDA	**Vanda**	**74.59**	**177**	P		**P**		**06 27 10.6**	**+0.3**
MK31	**Makanchi Array**	**75.20**	**320**	P		**P**		**06 27 12.6**	**-1.9**
MK31				IAmb		IAmb		06 27 37.5	
comp=Z,7.7nm,1.1s									
MKAR	**Makanchi Array**	**75.20**	**320**	P		**P**		**06 27 14.9**	**+0.4**
comp=Z,1.9nm,0.9s,baz=99,slow=6.5,SNR=7.5									
MKAR				LR		LR		06 58 41.3	
comp=Z,78nm,21.4s,baz=80,slow=34									
comp=Z,1.9nm,0.9s									
MKAR	**Makanchi Array**	**75.20**	**320**	P		**P**		**06 27 12.3**	**-2.1**
MAKZ	**Makanchi**	**75.41**	**320**	P		**P**		**06 27 14.2**	**-1.5**
MAKZ				IAmb		IAmb		06 27 22.9	
comp=Z,7.3nm,0.9s									
TIXI	**Tiksi**	**75.72**	**354**	LR		LR		07 00 43.0	
comp=Z,39nm,21.8s,baz=98,slow=36									
TIXI	**Tiksi**	**75.72**	**354**	P		**P**		**06 27 16.2**	**-0.6**
TIXI				IAmb		IAmb		06 27 35.2	
comp=Z,5.2nm,1.1s									
ZAA0	**Zalesovo Array**	**76.55**	**328**	P		**P**		**06 27 21.3**	**-0.7**
ZALV	**Zalesovo Beam**	**76.55**	**328**	P		**P**		**06 27 21.6**	**-0.4**
comp=Z,0.5nm,0.3s,baz=110,slow=8.4,SNR=2.5									
ZALV				LR		LR		06 59 35.8	
comp=Z,154nm,21.9s,baz=126,slow=35									
comp=Z,0.5nm,0.3s									
ZALV	**Zalesovo Beam**	**76.55**	**328**	P		**P**		**06 27 21.4**	**-0.6**
L19K	**White Mountain**	**78.84**	**24**	P		**P**		**06 27 34.7**	**+0.2**
L19K				IAmb		IAmb		06 27 46.1	
comp=Z,14nm,1.1s									
KURK	**Kurchatov**	**78.85**	**323**	P		**P**		**06 27 34.6**	**-0.2**
KURK				IAmb		IAmb		06 27 41.7	
comp=Z,11nm,1.1s									
KURBB	**Kurchatov Arra**	**78.87**	**323**	LR		LR		07 01 19.8	
comp=Z,134nm,20.6s,baz=163,slow=35									
AAK	**Ala-Archa**	**79.20**	**314**	LR		LR		07 02 16.3	
comp=Z,185nm,21.3s,baz=94,slow=35									
NRIK	**Noril'sk**	**82.62**	**342**	P		**P**		**06 27 55.1**	**+0.5**
comp=Z,1.0nm,0.3s,baz=124,slow=7.3,SNR=1.2									
comp=Z,1.0nm,0.3s									
IL31		**83.19**	**23**	P		**P**		**06 27 56.4**	**-1.3**
IL31				IAmb		IAmb		06 28 15.8	
comp=Z,7.8nm,1.4s									
ILAR	**Eielson Array**	**83.19**	**23**	P		**P**		**06 27 57.2**	**-0.5**
comp=Z,0.9nm,0.8s,baz=245,slow=5.0,SNR=9.2									
comp=Z,0.9nm,0.8s									
BVAR	**Borovoye Array**	**84.39**	**324**	LR		LR		07 05 59.0	
comp=Z,60nm,19.9s,baz=0.7,slow=36									
MAW	**Mawson**	**84.56**	**202**	P		**P**		**06 28 05.9**	**+1.3**
comp=Z,2.5nm,1.0s,baz=96,slow=18,SNR=2.6									
MAW				LR		LR		07 02 45.7	
comp=Z,89nm,21.2s,baz=75,slow=34									
comp=Z,2.5nm,1.0s									
DAWY	**Dawson**	**86.03**	**25**	P		**P**		**06 28 11.9**	**-0.2**
DAWY				IAmb		IAmb		06 28 21.2	
comp=Z,5.1nm,1.1s									
QSPA	**South Pole Qui**	**86.63**	**180**	P		**P**		**06 28 15.6**	**+0.5**
comp=Z,0.6nm,0.7s,baz=14,slow=4.5,SNR=1.6									
QSPA				LR		LR		07 05 11.0	
comp=Z,79nm,21.3s,baz=16,slow=34									
comp=Z,0.6nm,0.7s									
DLBC	**Dease Lake**	**89.33**	**32**	LR		LR		06 59 31.5	
comp=Z,114nm,21.7s,baz=278,slow=30									
BBB	**Bella Bella**	**89.70**	**38**	LR		LR		06 59 39.4	
comp=Z,81nm,20.5s,baz=273,slow=30									
GEYT	**Alibeck**	**90.83**	**308**	LR		LR		07 11 25.4	
comp=Z,152nm,20.4s,baz=101,slow=37									
ARU	**Arti**	**91.66**	**326**	LR		LR		07 11 59.5	
comp=Z,84nm,18.1s,baz=88,slow=37									
YBH	**Yreka Blue Hor**	**92.70**	**49**	LR		LR		07 02 40.3	
comp=Z,111nm,21.0s,baz=288,slow=30									
KIRV	**Kirov**	**96.58**	**328**	LR		LR		07 13 18.6	
comp=Z,301nm,20.3s,baz=91,slow=36									
NEW	**Newport**	**96.64**	**42**	LR		LR		07 05 03.0	
comp=Z,52nm,19.6s,baz=324,slow=31									
YKA	**Yellowknife Ar**	**97.00**	**28**	LR		LR		07 07 20.1	
comp=Z,86nm,21.6s,baz=299,slow=32									
BELG	**Belogornoye**	**98.11**	**322**	LR		LR		07 15 56.8	
comp=Z,118nm,18.6s,baz=117,slow=37									
TORD	**Torodi Ar. Bea**	**143.98**	**288**	PKP		**PKPdf**		**06 35 08.5**	**+0.3**
comp=Z,1.4nm,1.1s,baz=72,slow=4.7,SNR=6.3									
DBIC	**Dimbokro**	**151.38**	**278**	PKPbc		**PKiKP**		**06 35 28.4**	**+1.3**
comp=Z,1.7nm,0.6s,baz=77,slow=1.3,SNR=2.1									

ISU ***17*** *06:20:21,41˚.12N×72˚.81E,h15km*
KRNET ***17*** *06:20:24.0±0.1,41˚.05N×72˚.47E,h17km,mb2.5*
SOME ***17*** *06:20:24.0,41˚.12N×72˚.18E,h15km*
NNC ***17*** *06:20:25.2±2.9,41˚.13N×72˚.48E,h0km,mb3.2,mpv2.8,

	4.9nm,0.3s							
KST	**Kastek**	**3.22**	**52**	Pg	**Pg**	**06 21 25.7**	**+0.4**
	7.1nm,1.8s							
KST				Lg	Lg	06 22 09.1		
	4.9nm,0.3s							
DGS	**Degeres**	**3.24**	**47**	*e*P	**Pg**	**06 21 24.9**	**-0.7**
	2.6nm,0.3s							
DGS				*e*S	**Sg**	**06 22 07.8**	**+0.3**
	3.5nm,0.5s							
DGS	**Degeres**	**3.24**	**47**	Pg	**Pg**	**06 21 24.9**	**-0.7**
	2.6nm,0.3s							
DGS				Lg	Lg	06 22 07.8		
	3.5nm,0.5s							
KRBS	**Karabastau**	**3.50**	**41**	*e*P	**Pg**	**06 21 29.1**	**-1.5**
	1.1nm,0.4s							
KRBS				*e*S	**Sg**	**06 22 15.5**	**-0.4**
	2.5nm,0.5s							
KRBS	**Karabastau**	**3.50**	**41**	Pg	**Pg**	**06 21 29.1**	**-1.5**
	1.1nm,0.4s							
KRBS				Lg	Lg	06 22 15.5		
	2.5nm,0.5s							

WEL 17 06:22:29.9±0.3, 42°S±3′×17°4E±′, h5km, M3.4/33, ML3.6/16, MLv3.4/33, Error ellipse: s-maj=0.0km s-min=0.0km az=131.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.37**	**14**	P	Pg	06 22 37.5	+0.4
BSWZ				S	Sg	06 22 43.5	+1.5
CMWZ	**Cape Campbell**	**0.47**	**46**	P	Pb	06 22 40.0	-0.7
TUWZ	**Tuamarina**	**0.66**	**12**	P	Pg	06 22 42.9	+0.3
TUWZ				S	Sb	06 22 53.0	-0.4
THZ	**Tophouse**	**0.71**	**296**	P	Pg	06 22 43.6	+0.1
NNZ	**Nelson**	**0.90**	**342**	P	Pg	06 22 47.0	-0.2
TCW	**Tory Channel**	**0.95**	**24**	P	Pg	06 22 47.7	-0.4
MRNZ	**Matariki Terra**	**1.01**	**312**	P	Pg	06 22 49.3	+0.1
GVZ	**Greta Valley S**	**1.04**	**211**	P	Pg	06 22 49.9	+0.1
WEL	**Wellington**	**1.10**	**44**	P	Pg	06 22 51.0	+0.1
TKNZ	**Takaka Hill**	**1.20**	**330**	P	Pg	06 22 52.6	-0.3
PLWZ	**Palliser**	**1.23**	**66**	P	Pg	06 22 52.0	-1.5
DUWZ	**D'Urville Isla**	**1.28**	**6**	P	Pg	06 22 53.6	-0.9
MSWZ	**Moikau Station**	**1.30**	**60**	P	Pn	06 22 52.9	-1.8
LTZ	**Lake Taylor**	**1.30**	**237**	P	Pn	06 22 53.9	-0.9
AMCZ	**Amberley**	**1.37**	**216**	P	Pn	06 22 54.2	-1.4
PAWZ	**Paruwai Farm**	**1.43**	**62**	P	Pn	06 22 54.4	-2.1
DSZ	**Denniston Nort**	**1.49**	**282**	P	Pb	06 22 58.2	+0.1
KIW	**Kapiti Island**	**1.49**	**36**	P	Pn	06 22 56.8	-0.6
QRZ	**Quartz Range**	**1.55**	**323**	P	Pb	06 22 58.7	-0.4
TRWZ	**Traveller**	**1.60**	**66**	P	Pn	06 22 56.4	-2.5
MTW	**Mount Morrison**	**1.60**	**56**	P	Pn	06 22 56.7	-2.1
OGWZ	**Otaki Gorge**	**1.65**	**41**	P	Pn	06 22 58.4	-1.1
OKCZ	**Okains Bay**	**1.72**	**197**	P	Pn	06 22 58.4	-2.1
HOWZ	**Holdsworth Sta**	**1.77**	**49**	P	Pn	06 22 59.3	-1.9
OXZ	**Oxford**	**1.78**	**225**	P	Pn	06 22 59.2	-2.1
MQZ	**McQueen's Vall**	**1.82**	**206**	P	Pn	06 22 59.1	-2.7
INZ	**Inchbonnie**	**1.83**	**249**	P	Pn	06 23 01.7	-0.3
AKCZ	**Akaroa Harbour**	**1.90**	**199**	P	Pn	06 23 00.6	-2.3
MRZ	**Mangatainoka R**	**1.97**	**45**	P	Pn	06 23 02.2	-1.8
RACZ	**Rakaia**	**2.03**	**215**	P	Pn	06 23 02.3	-2.4
TIWZ	**Tintock**	**2.06**	**52**	P	Pn	06 23 03.3	-1.9
MHCZ	**Mount Hutt**	**2.17**	**227**	P	Pn	06 23 04.6	-2.1
PRWZ	**Pori Road**	**2.26**	**48**	P	Pn	06 23 05.7	-2.2
POWZ	**Post Office Ro**	**2.27**	**43**	P	Pn	06 23 06.1	-1.9
WACZ	**Wakanui South**	**2.33**	**216**	P	Pn	06 23 06.8	-2.1
BFZ	**Birch Farm**	**2.34**	**54**	P	Pn	06 23 06.1	-2.8
WVZ	**Waitaha Valley**	**2.44**	**245**	P	Pn	06 23 09.9	-0.5
WAZ	**Wanganui**	**2.50**	**22**	P	Pn	06 23 12.8	+1.6
DVHZ	**Dannevirke**	**2.54**	**46**	P	Pn	06 23 09.1	-2.7
RPZ	**Rata Peaks**	**2.57**	**230**	P	Pn	06 23 10.5	-1.7
ARCZ	**Arundel**	**2.66**	**224**	P	Pn	06 23 11.2	-2.2
LREZ	**Lake Rotokare**	**2.66**	**11**	P	Pb	06 23 19.4	+1.4
NMEZ	**Namu Road**	**2.66**	**2**	P	Pb	06 23 19.4	+1.4
GCSZ	**Gaunt Creek Bo**	**2.81**	**243**	P	Pn	06 23 14.9	-0.7
PNHZ	**Pukenui**	**2.85**	**41**	P	Pn	06 23 13.8	-2.2
PKE	**Pukeiti**	**2.89**	**4**	P	Pb	06 23 19.3	-2.5
PKVZ	**Pokaka**	**3.04**	**24**	P	Pb	06 23 24.1	-0.3
VRZ	**Vera Road**	**3.05**	**15**	P	Pb	06 23 22.3	-2.2
TMZ	**Timaru**	**3.06**	**220**	P	Pn	06 23 16.7	-2.2
MOVZ	**Moawhango**	**3.07**	**30**	P	Pn	06 23 18.5	-0.6
WNVZ	**Wahianoa**	**3.08**	**28**	P	Pn	06 23 21.7	+2.3
TRVZ	**Turoa**	**3.09**	**27**	P	Pb	06 23 23.6	-1.9
WHVZ	**Whangaehu Hut**	**3.12**	**27**	P	Pn	06 23 21.1	+1.1
BHHZ	**Black Hill Sta**	**3.12**	**35**	P	Pn	06 23 18.4	-1.4
FWVZ	**Far West T-bar**	**3.13**	**26**	P	Pb	06 23 23.2	-3.0
NGZ	**Ngauruhoe**	**3.22**	**26**	P	Pn	06 23 24.3	+3.1
SNVZ	**South Ngauruho**	**3.23**	**27**	P	Pn	06 23 21.5	+0.2
FOZ	**Fox Glacier**	**3.24**	**242**	P	Pn	06 23 21.0	-0.4
OTVZ	**Oturere**	**3.25**	**27**	P	Pb	06 23 26.2	-2.0
NNVZ	**North Ngauruho**	**3.27**	**26**	P	Pn	06 23 24.2	+2.3
WTVZ	**West Tongariro**	**3.27**	**26**	P	Pb	06 23 27.2	-1.3
TMVZ	**Te Maari**	**3.31**	**27**	P	Pb	06 23 27.6	-1.6
LBZ	**Lake Benmore**	**3.48**	**227**	P	Pn	06 23 22.9	-1.9
HIZ	**Hauiti**	**3.66**	**14**	P	Pn	06 23 30.7	+3.6
ODZ	**Otahua Downs**	**3.73**	**216**	P	Pn	06 23 25.4	-2.7
JCZ	**Jackson Bay**	**4.15**	**240**	P	Pn	06 23 33.2	-0.8
EAZ	**Earnscleugh**	**4.51**	**224**	P	Pn	06 23 36.5	-2.3
MKAZ	**Moumakai**	**5.08**	**13**	P	Pn	06 23 48.9	+2.2
SYZ	**Scrubby Hill**	**5.55**	**215**	P	Pn	06 23 51.2	-1.9
APZ	**The Paps**	**6.29**	**219**	P	Pn	06 24 00.7	-2.6

IDC 17 06:25:55.3±1.9, 42°.48S×172°.91E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=37.5km s-min=30.8km az=82.0
WEL 17 06:25:56.7±0.3, 43°S±2′×17°3E±′, h5km, M3.7/36, ML4.0/12, MLv3.7/36, Error ellipse: s-maj=0.0km s-min=0.0km az=113.3
NOU 17 06:25:58.3, 42°.60S×172°.85E, h13km, MLv4.5/10, South Island, New Zealand

ISC 17 06:25:56.1±0.7, 42°62S±0°03×173°23E±0°04, h15km, n105, σ1§64/103, mb3.5/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.38**	**202**	P	**Pb**	**06 26 05.4**	**+0.8**
GVZ				S	**Sn**	**06 26 12.6**	**-1.5**
AMCZ	**Amberley**	**0.70**	**217**	P	**Pn**	**06 26 11.2**	**-0.4**
LTZ	**Lake Taylor**	**0.73**	**257**	P	**Pg**	**06 26 09.6**	**-0.7**
THZ	**Tophouse**	**0.89**	**344**	P	**Pb**	**06 26 11.6**	**-1.7**
BSWZ	**Blackbirch Sta**	**1.02**	**28**	P	**Pg**	**06 26 15.7**	**-0.1**
OKCZ	**Okains Bay**	**1.11**	**186**	P	**Pg**	**06 26 17.7**	**+0.1**
OXZ	**Oxford**	**1.13**	**231**	P	**Pb**	**06 26 16.9**	**-0.4**
CMWZ	**Cape Campbell**	**1.14**	**40**	P	**Pg**	**06 26 19.2**	**+1.2**
MQZ	**McQueen's Vall**	**1.17**	**201**	P	**Pn**	**06 26 17.2**	**-0.7**
MRNZ	**Matariki Terra**	**1.27**	**344**	P	**Pn**	**06 26 18.7**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.27**	**191**	P	**Pn**	**06 26 19.6**	**+0.2**
TUWZ	**Tuamarina**	**1.30**	**24**	P	**Pb**	**06 26 20.1**	**-0.1**
INZ	**Inchbonnie**	**1.32**	**265**	P	**Pn**	**06 26 19.8**	**-0.2**
RACZ	**Rakaia**	**1.37**	**215**	P	**Pn**	**06 26 20.5**	**-0.2**
DSZ	**Denniston Nort**	**1.37**	**309**	P	**Pn**	**06 26 20.6**	**-0.2**
NNZ	**Nelson**	**1.41**	**5**	P	**Pn**	**06 26 21.3**	**+0.1**
MHCZ	**Mount Hutt**	**1.52**	**233**	P	**Pn**	**06 26 22.4**	**-0.5**
TKNZ	**Takaka Hill**	**1.60**	**353**	P	**Pn**	**06 26 24.0**	**+0.1**
TCW	**Tory Channel**	**1.61**	**29**	P	**Pn**	**06 26 24.5**	**+0.5**
WACZ	**Wakanui South**	**1.67**	**217**	P	**Pn**	**06 26 24.6**	**-0.2**
PLWZ	**Palliser**	**1.83**	**56**	P	**Pn**	**06 26 27.1**	**-0.1**
QRZ	**Quartz Range**	**1.87**	**343**	P	**Pn**	**06 26 28.1**	**+0.5**
QRZ	**Quartz Range**	**1.87**	**343**	P	**Pn**	**06 26 28.1**	**+0.5**
DUWZ	**D'Urville Isla**	**1.89**	**16**	P	**Pn**	**06 26 28.6**	**+0.8**
WVZ	**Waitaha Valley**	**1.89**	**255**	P	**Pn**	**06 26 28.1**	**+0.3**
MSWZ	**Moikau Station**	**1.93**	**52**	P	**Pn**	**06 26 28.3**	**-0.1**
RPZ	**Rata Peaks**	**1.93**	**235**	Pn	**Pn**	**06 26 28.1**	**-0.3**
	141nm,0.3s,baz=81,slow=2.4,SNR=181						
RPZ				S	**Sn**	**06 26 52.2**	**-0.3**
	58nm,0.3s,baz=320,slow=23,SNR=21						
RPZ	**Rata Peaks**	**1.93**	**235**	P	**Pn**	**06 26 28.2**	**-0.3**
RPZ	**Rata Peaks**	**1.93**	**235**	P	**Pn**	**06 26 28.2**	**-0.3**
ARCZ	**Arundel**	**2.00**	**228**	P	**Pn**	**06 26 29.0**	**-0.4**
CAW	**Cannon Point**	**2.04**	**43**	P	**Pn**	**06 26 30.0**	**+0.1**
PAWZ	**Paruwai Farm**	**2.05**	**54**	P	**Pn**	**06 26 29.5**	**-0.6**
KIW	**Kapiti Island**	**2.16**	**36**	P	**Pn**	**06 26 32.2**	**+0.6**
TRWZ	**Traveller**	**2.20**	**57**	P	**Pn**	**06 26 32.4**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**2.24**	**251**	P	**Pn**	**06 26 33.3**	**+0.6**
OGWZ	**Otaki Gorge**	**2.31**	**40**	P	**Pn**	**06 26 33.9**	**+0.2**
TMZ	**Timaru**	**2.39**	**222**	P	**Pn**	**06 26 34.4**	**-0.4**
MRZ	**Mangatainoka R**	**2.63**	**43**	P	**Pn**	**06 26 37.6**	**-0.4**
FOZ	**Fox Glacier**	**2.66**	**249**	P	**Pn**	**06 26 39.2**	**+0.8**
LBZ	**Lake Benmore**	**2.83**	**230**	P	**Pn**	**06 26 40.5**	**-0.3**
PRWZ	**Pori Road**	**2.91**	**46**	P	**Pb**	**06 26 47.2**	**-0.5**
POWZ	**Post Office Ro**	**2.93**	**41**	P	**Pn**	**06 26 43.9**	**+1.7**
BFZ	**Birch Farm**	**2.98**	**50**	P	**Pn**	**06 26 41.7**	**-1.1**
ODZ	**Otahua Downs**	**3.06**	**217**	P	**Pn**	**06 26 43.4**	**-0.6**
ODZ	**Otahua Downs**	**3.06**	**217**	P	**Pn**	**06 26 43.4**	**-0.6**
WAZ	**Wanganui**	**3.15**	**25**	P	**Pn**	**06 26 47.8**	**+2.6**
DVHZ	**Dannevirke**	**3.20**	**45**	P	**Pn**	**06 26 45.1**	**-0.8**
NMEZ	**Namu Road**	**3.24**	**9**	P	**Pn**	**06 26 49.5**	**+3.1**
LREZ	**Lake Rotokare**	**3.28**	**16**	P	**Pb**	**06 26 52.9**	**-1.1**
TSZ	**Takapari Road**	**3.28**	**40**	P	**Pn**	**06 26 48.0**	**+1.0**
KHEZ	**Kahui Hut**	**3.37**	**10**	P	**Pn**	**06 26 51.8**	**+3.5**
KHEZ	**Kahui Hut**	**3.37**	**10**	P	**Pn**	**06 26 51.6**	**+3.3**
NBEZ	**Newall Road No**	**3.38**	**8**	P	**Pn**	**06 26 51.0**	**+2.7**
NEZ	**North Egmont**	**3.41**	**11**	P	**Pb**	**06 26 52.5**	**-3.8**
PKE	**Pukeiti**	**3.47**	**10**	P	**Pb**	**06 26 52.0**	**+2.4**
DREZ	**Durham Road**	**3.50**	**12**	P	**Pn**	**06 26 53.1**	**+3.0**
PNHZ	**Pukenui**	**3.51**	**41**	P	**Pn**	**06 26 49.1**	**-1.0**
JCZ	**Jackson Bay**	**3.55**	**244**	P	**Pn**	**06 26 51.3**	**+0.5**
JCZ	**Jackson Bay**	**3.55**	**244**	P	**Pn**	**06 26 51.0**	**+0.2**
VRZ	**Vera Road**	**3.68**	**19**	P	**Pn**	**06 26 54.6**	**+2.2**
MOVZ	**Moawhango**	**3.73**	**32**	P	**Pn**	**06 26 53.6**	**+0.4**
WNVZ	**Wahianoa**	**3.74**	**29**	P	**Pn**	**06 26 54.7**	**+1.2**
TRVZ	**Turoa**	**3.75**	**29**	P	**Pn**	**06 26 54.6**	**+1.0**
PXZ	**Pawanui**	**3.76**	**48**	P	**Pb**	**06 26 59.1**	**-3.2**
WKZ	**Wanaka**	**3.77**	**233**	P	**Pn**	**06 26 52.8**	**-0.9**
BHHZ	**Black Hill Sta**	**3.79**	**35**	P	**Pb**	**06 27 00.2**	**-2.5**
FWVZ	**Far West T-bar**	**3.79**	**28**	P	**Pn**	**06 26 58.4**	**+4.2**
EAZ	**Earnscleugh**	**3.85**	**226**	P	**Pn**	**06 26 53.8**	**-1.1**
NGZ	**Ngauruhoe**	**3.88**	**28**	P	**Pn**	**06 26 56.4**	**+1.0**
SNVZ	**South Ngauruho**	**3.88**	**29**	P	**Pn**	**06 26 56.9**	**+1.4**
OTVZ	**Oturere**	**3.91**	**29**	P	**Pn**	**06 26 56.8**	**+1.0**
TWVZ	**Taurewa**	**3.92**	**26**	P	**Pb**	**06 27 01.9**	**-3.1**
NNVZ	**North Ngauruho**	**3.92**	**28**	P	**Pn**	**06 26 57.1**	**+1.1**
WTVZ	**West Tongariro**	**3.93**	**28**	P	**Pn**	**06 26 57.1**	**+1.1**
KRVZ	**Karewarewa**	**3.97**	**28**	P	**Pb**	**06 27 03.5**	**-2.3**
TMVZ	**Te Maari**	**3.97**	**29**	P	**Pn**	**06 26 57.7**	**+1.2**
NTVZ	**North Tongarir**	**3.98**	**29**	P	**Pn**	**06 26 57.6**	**+0.9**
KWHZ	**Kaweka Forest**	**4.00**	**38**	P	**Pn**	**06 27 01.1**	**+4.2**
KATZ	**Kakaramea**	**4.09**	**28**	P	**Pb**	**06 27 05.2**	**-2.7**
TUZ	**Tuapeka**	**4.22**	**217**	P	**Pn**	**06 26 59.6**	**-0.2**
BKZ	**Black Stump Fm**	**4.24**	**37**	P	**Pb**	**06 27 06.8**	**-3.6**
HIZ	**Hauiti**	**4.28**	**17**	P	**Pn**	**06 27 02.2**	**+1.5**
HIZ	**Hauiti**	**4.28**	**17**	P	**Pn**	**06 27 02.3**	**+1.5**
NMHZ	**Naumai**	**4.44**	**39**	P	Pb	06 27 08.8	-5.1
MLZ	**Mavora Lakes**	**4.60**	**232**	P	**Pn**	**06 27 04.4**	**-0.7**
TLZ	**Tolley Road**	**4.63**	**23**	P	**Pn**	**06 27 08.1**	**+2.5**
MTHZ	**Maungataniwha**	**4.66**	**37**	P	Pb	06 27 11.7	-5.8
SYZ	**Scrubby Hill**	**4.89**	**215**	P	**Pn**	**06 27 08.7**	**-0.3**
SYZ	**Scrubby Hill**	**4.89**	**215**	P	**Pn**	**06 27 08.8**	**-0.2**
RRRZ	**Republican Roa**	**4.95**	**31**	P	Pb	06 27 16.8	-5.7
TOZ	**Tahuroa Road**	**5.18**	**20**	P	**Pn**	**06 27 13.9**	**+0.8**
URZ	**Urewera**	**5.26**	**35**	P	Pb	06 27 21.2	-6.6
APZ	**The Paps**	**5.63**	**220**	P	**Pn**	**06 27 18.3**	**-1.0**
AWAZ	**Awhitu Peninsu**	**5.65**	**12**	P	**Pn**	**06 27 21.1**	**+1.5**
MKAZ	**Moumakai**	**5.70**	**16**	P	**Pn**	**06 27 21.0**	**+0.7**
WTAZ	**Waiatarua**	**5.77**	**11**	P	**Pn**	**06 27 24.8**	**+3.6**
ETAZ	**East Tamaki Re**	**5.81**	**14**	P	**Pn**	**06 27 23.3**	**+1.6**
MBAZ	**Motutapu North**	**5.98**	**13**	P	**Pn**	**06 27 25.8**	**+1.7**
KUZ	**Kuaotunu**	**6.17**	**19**	P	**Pn**	**06 27 29.0**	**+2.3**
OUZ	**Omahuta**	**7.39**	**2**	P	**Pn**	**06 27 46.1**	**+2.6**
OUZ	**Omahuta**	**7.39**	**2**	P	**Pn**	**06 27 46.0**	**+2.5**
ASAR	**Alice Springs**	**37.55**	**288**	P	**P**	**06 33 09.2**	**-0.6**
	0.5nm,0.6s,baz=124,slow=6.9,SNR=10						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**39.72**	**292**	P	**P**	**06 33 27.1**	**-0.9**
	0.5nm,0.8s,baz=130,slow=7.7,SNR=2.8						
	0.5nm,0.8s						
QSPA	**South Pole Qui**	**47.51**	**180**	P	**P**	**06 34 33.6**	**+3.2**
	0.8nm,0.7s,baz=27,slow=6.8,SNR=2.3						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.73**	**197**	PKPbc	**PKiKP**	**06 45 46.5**	**-0.2**
	0.6nm,0.7s,baz=165,slow=2.0,SNR=4.7						

JMA 17 06:26:25.3±0.2, 35°.3N±0°.3×141°.2E±0°.9, h38km±2km, MV2.8/30, E OFF BOSO PENINSULA
IDC 17 06:26:35.9±5.4, 34°.94N×140°.13E, h81km±28km, mb3.3/3, mbtmp3.5/4, Error ellipse: s-maj=107.6km s-min=14.6km az=75.0

ISC 17 06:26:27.6±1.3, 35°24N±0°.05×141°11E±0°.10, h50km, n18, σ2§19/15, mb3.9/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.51**	**336**	*i* P	**Pn**	**06 26 36.1**	**-2.8**
CHOJ				*e*S	**Sn**	**06 26 44.0**	**-3.0**
BSO1	**Boso 1**	**0.60**	**191**	P	**Pn**	**06 26 37.6**	**-1.9**
KTR	**Katsuura**	**0.66**	**262**	*e*S	**Sn**	**06 26 49.5**	**-0.8**
BSO3	**Boso 3**	**0.66**	**229**	*i* P	**Pn**	**06 26 39.4**	**-1.2**
BSO4	**Boso 4**	**0.68**	**249**	P	**Pn**	**06 26 40.0**	**-1.0**
JKUC	**kamogawauchiur**	**0.75**	**264**	P	**Pn**	**06 26 40.7**	**-1.8**
JIM2	**Oshima 3**	**1.48**	**250**	P	**Pn**	**06 26 50.0**	**-1.8**
JIM2				*e*S	**Sn**	**06 27 07.5**	**-2.4**
JHJ	**Hachijo jima 2**	**2.39**	**208**	P	**Pn**	**06 27 05.1**	**+0.9**
	61nm,0.7s,baz=73,slow=13,SNR=1.4						
JHJ				S	**Sn**	**06 27 28.9**	**-3.3**
	45nm,0.3s,baz=43,slow=17,SNR=2.1						
MJAR	**Matsushiro Arr**	**2.69**	**300**	P	**Pn**	**06 27 10.3**	**+1.9**
	2.9nm,0.5s,baz=97,slow=15,SNR=12						
H11N2	**WAKE ISLAND Hy**	**27.49**	**117**	T	T	07 01 01.1	
	baz=310,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**27.50**	**117**	T	T	07 00 56.8	
	baz=310,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**27.51**	**117**	T	T	07 01 01.9	
	baz=310,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	07 01 56.0	
	baz=312,slow=76,SNR=112						
H11S1	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	07 01 59.1	
	baz=312,slow=76,SNR=134						
H11S2	**WAKE ISLAND Hy**	**28.15**	**120**	T	T	07 02 00.3	
	baz=312,slow=76,SNR=109						
MKAR	**Makanchi Array**	**44.88**	**304**	P	**P**	**06 34 38.6**	**+1.5**
	0.3nm,0.6s,baz=90,slow=7.7,SNR=2.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.93**	**309**	P	**P**	**06 34 54.7**	**+1.7**
	0.7nm,0.4s,baz=84,slow=8.4,SNR=6.6						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**55.26**	**188**	P	**P**	**06 35 57.5**	**+1.8**
	0.9nm,0.8s,baz=1.4,slow=7.5,SNR=7.9						
	0.9nm,0.8s						

IDC 17 06:29:10.0±2.8, 6°32S×151°28E, h0km, mb3.8/2, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=133.2km s-min=20.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.13**	**21**	Pn	Pn	06 29 47.0	+0.1
	66nm,0.3s,baz=293,slow=0.8,SNR=11						
KRVT				Sn	Sb	06 30 16.6	+0.1
	123nm,0.3s,baz=212,slow=22,SNR=10						
	282nm,0.5s						
WRA	**Warramunga Arr**	**21.31**	**229**	P	P	06 33 58.5	-0.1
	1.6nm,0.6s,baz=54,slow=11,SNR=17						
	1.6nm,0.6s						
ASAR	**Alice Torings**	**24.02**	**222**	P	P	06 34 27.4	+0.5
	3.3nm,0.7s,baz=56,slow=9.0,SNR=36						
	3.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc	PKPbc	06 49 00.4	-1.4
	0.3nm,0.7s,baz=87,slow=4.1,SNR=2.5						

NNC 17 06:31:56.0±2.5, 53°.77N×88°.16E, h0km, mb3.6, mpv3.2, 2C-7D, Error ellipse: s-maj=19.7km s-min=11.7km az=53.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.99**	**276**	⇓Pg	Pn	06 32 31.8	+0.9
	2.1nm,0.7s						
ZAA0				⇓Lg	Lg	06 33 00.1	
	2.7nm,0.5s						
KURK	**Kurchatov**	**6.61**	**246**	⇓Lg	Lg	06 35 25.2	
	5.7nm,1.1s						
KURBB	**Kurchatov Arra**	**6.71**	**246**	⇓Pn	Pn	06 33 37.1	+1.4
	3.4nm,0.7s						
KURBB				⇓Sn	Sn	06 34 53.6	+0.8
	4.4nm,0.6s						
KURBB				⇑Lg	Lg	06 35 26.3	
	5.1nm,0.7s						
MK31	**Makanchi Array**	**7.93**	**211**	⇓Pn	Pn	06 33 53.3	+0.8
	5.5nm,1.3s,baz=33,slow=13,SNR=7.7						
MK31				⇑Sn	Sn	06 35 24.2	+1.2
	4.0nm,1.4s						
MK31				⇓Lg	Lg	06 36 08.1	
	0.7nm,0.5s,baz=28,slow=26,SNR=3.0						

IDC 17 06:50:07.5±1.0, 40°.79N×142°.27E, h0km, mb3.7/9, mbtmp3.7/11, ML2.9/2, MS2.8/3, Error ellipse: s-maj=26.7km s-min=20.5km az=105.0
NIED 17 06:50:09.4, 40°.26N×142°.48E, h34km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.25; Mθθ0.12; Mϕϕ-4.37; Mrθ2.82; Mθϕ-0.97; Mϕr3.68; Fault plane solution: M₀6.41000×10¹⁴ NP1: ϕs175.00000°, δ25.00000°, λ58.00000°. NP2: ϕs30.00000°, δ69.00000°, λ104.00000°.
JMA 17 06:50:09.4±0.1, 40°.3N±0°.3×142°.5E±0°.6, h34km±1km, MV3.9/40, NE OFF IWATE PREF .
JMA Felt I J1 at NE OFF IWATE PREF .

ISC 17 06:50:05.0±2.2, 40°29N±0°.05×142°59E±0°.08, h3km±12km, n30, σ0§92/31, mb3.7/9, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.66**	**238**	⇓P	**Pn**	**06 50 20.8**	**-0.4**
JTH				⇓S	**Sb**	**06 50 29.2**	**+0.5**
JKEN	**Kujiedanarisaw**	**0.68**	**263**	⇓P	**Pn**	**06 50 21.0**	**-0.5**
JKEN				⇓S	**Sb**	**06 50 29.2**	**-0.1**
JANG	**Nango**	**0.83**	**276**	⇓P	**Pn**	**06 50 23.4**	**-0.2**
JANG				⇓S	**Sb**	**06 50 33.4**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.93**	**220**	*i* P	**Pn**	**06 50 24.7**	**-0.3**
MIYJ				S	**Sb**	**06 50 35.9**	**-0.6**
JKZ	**Kuzumaki**	**1.02**	**253**	⇓*i*P	**Pn**	**06 50 26.3**	**+0.1**
JKZ				⇓S	**Sg**	**06 50 37.9**	**+0.2**
JARK	**Aomorirokkasho**	**1.18**	**308**	⇓*i*P	**Pn**	**06 50 28.8**	**+0.4**
JARK				⇓*e*S	**Sg**	**06 50 42.8**	**+0.1**
JTM	**Tenmabayashi**	**1.26**	**294**	⇓*i*P	**Pn**	**06 50 30.2**	**+0.7**
JTM				⇓S	**Sg**	**06 50 45.3**	**-0.2**
JOM	**Ohasama**	**1.29**	**231**	⇓*i*P	**Pn**	**06 50 30.6**	**+0.7**
JAH	**Hinai**	**1.50**	**267**	⇓*i*P	**Pg**	**06 50 33.9**	**+0.1**
JAH				⇓S	**Sg**	**06 50 52.0**	**-1.2**
JOT	**Ohata**	**1.60**	**313**	*i* P	**Pb**	**06 50 35.2**	**0.0**
JMK	**Ichinoseki**	**1.71**	**219**	P	**Pg**	**06 50 37.3**	**-0.4**
JMK				*e*S	**Sn**	**06 50 58.2**	**+0.3**
JRG	**Rokugo**	**1.75**	**240**	P	**Pg**	**06 50 38.3**	**-0.3**
JRG				*e*S	**Sb**	**06 51 00.2**	**0.0**
MJAR	**Matsushiro Arr**	**5.09**	**224**	Pn	**Pn**	**06 51 25.7**	**+3.6**
	0.2nm,0.3s,baz=30,slow=12,SNR=6.4						
MJAR				LR	LR	06 53 26.5	
	comp=Z,60nm,18.2s,baz=59,slow=38						
	3.5nm,0.5s						
USRK	**Ussuriysk Ar.**	**8.78**	**300**

HATD	**Hatta, Dubai**	**6.36**	**308**	P	**Pn**	07 05 37.1	**+0.6**
UOSS	**Minazif**	**6.37**	**309**	P	**Pn**	07 05 37.2	**+0.4**
MDH	**Madha**	**6.52**	**312**	P	**Pn**	07 05 38.9	**+0.1**
MASF	**Masafi**	**6.67**	**312**	P	**Pn**	07 05 40.9	**+0.1**
BANOM	**Banah**	**6.94**	**316**	P	**Pn**	07 05 45.5	**+1.0**
SHME	**Shamm**	**7.13**	**316**	P	**Pn**	07 05 47.4	**+0.4**
SHME				S	**Sn**	07 07 06.9	**-1.2**
DMTO	**DMTO**	**7.13**	**244**	P	**Pn**	07 05 47.9	**+0.7**
DOK	**Doka**	**7.48**	**253**	P	**Pn**	07 05 52.2	**+0.3**
DOK				S	**Sn**	07 07 17.5	**+0.7**
PALK	**Pallekele**	**22.93**	**124**	LR	LR	07 16 31.0	
	comp=Z,76nm,18.4s,baz=124,slow=34						
MKAR	**Makanchi Array**	**30.71**	**28**	P	**P**	**07 10 18.9**	**+1.1**
	0.7nm,0.8s,baz=218,slow=10,SNR=3.8 0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**37.32**	**23**	P	**P**	**07 11 17.6**	**+2.6**
	0.3nm,0.4s,baz=216,slow=9.6,SNR=2.4 0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**57.58**	**273**	P	**P**	**07 13 54.2**	**+1.0**
	0.3nm,0.7s,baz=73,slow=6.7,SNR=2.4 0.3nm,0.7s						
TSUM	**Tsumeb**	**58.81**	**230**	LR	LR	07 39 17.0	
	comp=Z,64nm,18.0s,baz=122,slow=36						
DBIC	**Dimbokro**	**65.73**	**268**	LR	LR	07 46 47.1	
	comp=Z,75nm,18.3s,baz=130,slow=39						
ASAR	**Alice Springs**	**83.17**	**118**	P	**P**	**07 16 26.3**	**-3.2**
	0.4nm,0.7s,baz=300,slow=5.0,SNR=6.7 0.4nm,0.7s						

ROM 17 07:05:13.5±0.0, 42°.998N±0°.002×13°.143E±0°.004, h9km, ML1.5/12, 5C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=234.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.06**	**313**	P	Pg	07 05 15.5	0.0
FDMO				S	Sg	07 05 16.7	-0.2
FDMO				AML	AML		
	comp=E,2210μm,0.7s						
FDMO				AML	AML		
	comp=N,2135μm,0.4s						
T1256	**Bolognola (MC)**	**0.06**	**82**	P	Pg	07 05 15.8	+0.2
T1256				S	Sg	07 05 17.3	+0.1
T1256				AML	AML		
	comp=E,67μm,0.2s						
T1256				AML	AML		
	comp=N,65μm,0.1s						
T1256				AML	AML		
	comp=E,796μm,1.5s						
T1256				AML	AML		
	comp=N,970μm,1.0s						
T1256				AML	AML		
	comp=E,796μm,1.5s						
T1256				AML	AML		
	comp=N,970μm,1.0s						
T1256	**Bolognola (MC)**	**0.06**	**82**	⇑P	Pg	07 05 15.8	+0.1
T1256				S	Sg	07 05 17.3	0.0
T1256				AML	AML		
	comp=E,796μm,1.5s						
T1256				AML	AML		
	comp=N,970μm,1.0s						
CSP1	**Cessapalombo**	**0.10**	**26**	P	Pg	07 05 16.7	+0.5
CSP1				S	Sg	07 05 18.6	+0.6
CSP1				AML	AML		
	comp=E,804μm,0.6s						
CSP1				AML	AML		
	comp=N,1259μm,0.4s						
CSP1				AML	AML		
	comp=E,804μm,0.6s						
CSP1				AML	AML		
	comp=N,1259μm,0.4s						
CSP1	**Cessapalombo**	**0.10**	**26**	⇑P	Pg	07 05 16.6	+0.5
CSP1				S	Sg	07 05 18.7	+0.6
T1219	**Muccia, Frazio**	**0.12**	**300**	⇑P	Pg	07 05 16.7	+0.4
T1219				S	Sg	07 05 18.9	+0.6
T1219				AML	AML		
	comp=E,639μm,0.3s						
T1219				AML	AML		
	comp=N,802μm,0.1s						
T1219				AML	AML		
	comp=N,802μm,0.1s						
T1219				AML	AML		
	comp=E,640μm,0.3s						
T1216	**Preci, Frazion**	**0.14**	**220**	P	Pg	07 05 17.2	+0.5
T1216				S	Sg	07 05 19.9	+1.1
T1216				AML	AML		
	comp=E,783μm,0.3s						
T1216				AML	AML		
	comp=N,1130μm,0.2s						
T1216				AML	AML		
	comp=N,1130μm,0.2s						
T1216				AML	AML		
	comp=E,783μm,0.3s						
T1216	**Preci, Frazion**	**0.14**	**220**	⇑P	Pg	07 05 17.2	+0.6
T1216				S	Sg	07 05 19.8	+1.0
T1245	**Castelsantange**	**0.14**	**167**	P	Pg	07 05 17.4	+0.6
T1245				S	Sg	07 05 20.1	+1.0
T1245				AML	AML		
	comp=E,73μm,0.1s						
T1245				AML	AML		
	comp=N,65μm,1.6s						
T1245				AML	AML		
	comp=E,1320μm,0.3s						
T1245				AML	AML		
	comp=N,920μm,0.2s						
T1245				AML	AML		
	comp=E,1240μm,0.3s						
T1245				AML	AML		
	comp=N,989μm,0.2s						
T1245				AML	AML		
	comp=N,990μm,0.2s						
T1245				AML	AML		
	comp=N,920μm,0.2s						
T1245				AML	AML		
	comp=E,1320μm,0.3s						
T1245				AML	AML		
	comp=E,1240μm,0.3s						
T1245	**Castelsantange**	**0.14**	**167**	⇓P	Pg	07 05 17.3	+0.5
T1245				S	Sg	07 05 20.1	+1.1
T1245				AML	AML		
	comp=N,920μm,0.2s						
T1245				AML	AML		
	comp=E,1240μm,0.3s						
T1245				AML	AML		
	comp=N,989μm,0.2s						
T1245				AML	AML		
	comp=N,990μm,0.2s						
T1245				AML	AML		
	comp=E,1320μm,0.3s						
NRCA	**Norcia**	**0.17**	**187**	P	Pg	07 05 17.6	+0.6
NRCA				AML	AML		
	comp=E,780μm,1.6s						
NRCA				AML	AML		
	comp=N,496μm,1.2s						
MMO1	**Montemonaco**	**0.17**	**126**	P	Pg	07 05 17.8	+0.7
MMO1				S	Sg	07 05 20.8	+1.2
MMO1	**Montemonaco**	**0.17**	**126**	P	Pg	07 05 17.7	+0.6
MMO1				S	Sg	07 05 20.7	+1.1
CESI	**CESI - Serrava**	**0.17**	**272**	⇑P	Pg	07 05 18.0	+0.7
CESI				S	Sg	07 05 21.1	+1.3
CESI				AML	AML		
	comp=E,450μm,0.2s						
CESI				AML	AML		
	comp=E,450μm,0.2s						
CESI				AML	AML		
	comp=N,502μm,0.3s						
T1215	**Vallo di Nera,**	**0.28**	**226**	P	Pb	07 05 20.0	-0.7
T1215				AML	AML		
	comp=E,80μm,0.4s						
T1215				AML	AML		
	comp=N,80μm,0.8s						
SNTG	**Esanatoglia**	**0.30**	**330**	P	Pg	07 05 20.1	+0.7
SNTG				S	Sb	07 05 25.4	-0.7
SNTG				AML	AML		
	comp=E,81μm,1.3s						
SNTG				AML	AML		
	comp=E,81μm,1.3s						
SNTG				AML	AML		
	comp=N,108μm,0.1s						
T1218	**Civita (PG)**	**0.33**	**184**	P	Pg	07 05 20.6	+0.6
ASSB	**Assisi San Ben**	**0.36**	**277**	P	Pg	07 05 21.2	+0.6
ASSB				AML	AML		
	comp=E,208μm,1.5s						
ASSB				AML	AML		
	comp=N,174μm,0.3s						

T1243	**Rocca Santa Ma**	**0.38**	**143**	P	Pg	07 05 21.5	+0.5
CING	**Cingoli**	**0.38**	**6**	P	Pg	07 05 21.7	+0.7
CING				AML	AML		
	comp=E,122μm,0.3s						
CING				AML	AML		
	comp=N,134μm,0.2s						
SMA1	**SAN MARTINO**	**0.39**	**159**	P	Pg	07 05 21.5	+0.3
SMA1				AML	AML		
	comp=E,89μm,1.2s						
SMA1				AML	AML		
	comp=N,107μm,1.6s						
RM33	**Pellescritta (**	**0.49**	**174**	P	Pg	07 05 23.5	+0.4
RM33				AML	AML		
	comp=N,52μm,1.3s						
RM33				AML	AML		
	comp=E,49μm,1.5s						
CAMP	**Campotosto**	**0.50**	**157**	P	Pg	07 05 23.5	+0.2
CAMP				AML	AML		
	comp=E,79μm,0.2s						
CAMP				AML	AML		
	comp=N,51μm,0.2s						
TERO	**Teramo**	**0.51**	**138**	P	Pg	07 05 23.9	+0.6
TERO				AML	AML		
	comp=E,64μm,0.1s						
TERO				AML	AML		
	comp=N,75μm,0.5s						
ARVD	**Arcevia**	**0.52**	**344**	P	Pg	07 05 24.2	+0.6
ARVD				AML	AML		
	comp=E,110μm,0.5s						
ARVD				AML	AML		
	comp=N,53μm,0.1s						
FRON	**Frontone**	**0.60**	**330**	P	Pg	07 05 25.4	+0.2
GIGS	**Gran Sasso**	**0.63**	**150**	P	Pg	07 05 25.9	+0.2
GIGS				AML	AML		
	comp=N,17μm,1.2s						
GIGS				AML	AML		
	comp=E,13μm,1.3s						
MPAG	**Monte Paganucc**	**0.69**	**336**	P	Pg	07 05 27.2	+0.4
PIEI	**Pieia**	**0.70**	**321**	P	Pg	07 05 27.3	+0.3
BRSN	**Barisano**	**1.50**	**329**	AML	AML		
	comp=N,1002μm,1.5s						
BRSN				AML	AML		
	comp=E,1485μm,1.2s						

NNC 17 07:24:59.9±2.2, 54°.12N×86°.69E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=23.1km s-min=10.5km az=8.0, Suspected Mining explosion.

IDC 17 07:25:03.1±2.5, 54°.13N×86°.45E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=19.9km s-min=12.2km az=61.0

ISC 17 07:24:56.4±2.0, 52°.86N±0°.04×86°.0E±0°.1, h0km, n8, σ1s99/10, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**327**	I		07 30 53.0	
	baz=79,slow=356,SNR=1.4						
ZAA0	**Zalesovo Array**	**1.31**	**327**	⇑P	**Pg**	**07 25 20.8**	**-0.7**
	0.2nm,0.3s						
ZAA0				⇓S	**Sg**	**07 25 36.7**	**-1.7**
	5.8nm,0.9s						
ZALV	**Zalesovo Beam**	**1.31**	**327**	Pg	**Pg**	**07 25 20.6**	**-0.8**
	0.9nm,0.3s,baz=77,slow=17,SNR=13						
ZALV				Lg	Lg	07 25 36.7	
	1.9nm,0.3s,baz=75,slow=29,SNR=31						
KURK	**Kurchatov**	**5.07**	**248**	⇓Pn	**Pg**	**07 26 33.0**	**-0.6**
	3.2nm,1.3s						
KURK				⇑Lg	Lg	07 28 11.1	
	4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**5.17**	**247**	Pn	**Pg**	**07 26 33.8**	**-1.5**
	0.1nm,0.3s,baz=53,slow=13,SNR=9.7						
KURBB				Lg	Lg	07 28 10.7	
	baz=58,slow=33,SNR=1.6 0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**5.17**	**247**	⇑Pn	**Pg**	**07 26 33.9**	**-1.5**
	1.4nm,0.7s						
KURBB				⇑Sn	**Sg**	**07 27 42.8**	**+0.6**
	2.5nm,0.7s						
KURBB				⇑Lg	Lg	07 28 13.9	
	4.3nm,1.1s						
MK31	**Makanchi Array**	**6.53**	**203**	⇑Pn	**Pb**	**07 26 54.1**	**+3.2**
	2.3nm,1.1s,baz=27,slow=14,SNR=7.8						
MK31				⇓Sn	**Sg**	**07 28 24.7**	**-1.4**
	1.9nm,1.1s						
MK31				⇓Lg	Lg	07 29 08.9	
	6.2nm,1.2s,baz=24,slow=32,SNR=4.1						
MKAR	**Makanchi Array**	**6.53**	**203**	Pn	**Pg**	**07 26 59.0**	**-2.5**
	0.1nm,0.3s,baz=14,slow=13,SNR=7.3						
MKAR				Lg	Lg	07 29 07.9	
	baz=11,slow=37,SNR=4.5 0.2nm,0.3s						

ARE 17 07:26:09±3.7, 14°.70S±0°.10×75°.56W±0°.05, h40km±9km, Error ellipse: s-maj=0.0km s-min=0.0km az=116.0

NEIC 17 07:26:10.1±1.6, 14°.86S±0°.07×75°.66W±0°.06, h62km±29km, mb4.3/2, ML4.2(ARE), Error ellipse: s-maj=12.8km s-min=5.4km az=140.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.08**	**338**		Pn	07 26 56.6	+0.2
PB12	**IPOC Station P**	**6.32**	**127**	Pn	Pn	07 27 39.5	-1.4
PB16	**IPOC Station P**	**6.83**	**121**	Pn	Pn	07 27 48.5	+0.2
PSGCX	**Pisagua**	**7.08**	**132**	Pn	Pn	07 27 51.6	+0.4
MNMC	**Minye Minye**	**7.18**	**127**	Pn	Pn	07 27 53.0	+0.2
LPAZ	**La Paz**	**7.39**	**102**	Pn	Pn	07 27 57.4	+1.4
PB11	**IPOC Station P**	**7.52**	**131**	Pn	Pn	07 27 56.9	-0.4
TA02	**Huaiquique**	**7.53**	**136**	Pn	Pn	07 27 57.6	+0.3
CZSB	**Cruzeiro do Su**	**7.66**	**23**	Pn	Pn	07 27 58.9	-0.1
GO01	**Chusmiza**	**7.81**	**129**	Pn	Pn	07 28 02.4	+0.9
PB08	**IPOC Station P**	**8.13**	**131**	Pn	Pn	07 28 04.8	-1.0
PB02	**IPOC Station P**	**8.44**	**140**	Pn	Pn	07 28 09.5	-0.4
PB06	**IPOC Station P**	**9.70**	**144**	Pn	Pn	07 28 26.5	-0.6
ETMB	**Extrema**	**10.50**	**63**	Pn	Pn	07 28 35.9	-2.0
AF01	**San Pedro de A**	**10.71**	**140**	Pn	Pn	07 28 38.9	-2.1
MCRA	**Macar, Loja**	**11.25**	**337**	Pn	Pn	07 28 46.4	-1.8
BOSC	**San Juan Bosco**	**11.97**	**346**		Pn	07 28 57.3	-0.9
ARNL	**Arenillas**	**12.05**	**338**	Pn	Pn	07 28 58.5	-0.7
CO06	**Fray Jorge**	**16.17**	**167**	P	P	07 29 54.9	-0.6
CO06				IAmb	IAmb	07 30 38.2	
	comp=Z,40nm,1.3s						
CO03	**El Pedregal**	**16.54**	**165**	P	P	07 29 59.7	-0.1
CO03				IAmb	IAmb	07 30 36.2	
	comp=Z,12nm,0.7s						

IDC 17 07:26:21.5±1.5, 63°.72N×149°.06W, h109km±10km, mb3.9/22, mbtmp4.2/25, MS3.6/1, Error ellipse: s-maj=17.7km s-min=12.3km az=21.0

NEIC 17 07:26:23.8±1.1, 63°.87N±0°.03×148°.97W±0°.08, h115km±4km, Error ellipse: s-maj=5.1km s-min=4.8km az=115.0

AEIC 17 07:26:24.6±1.0, 63°.85N±0°.03×148°.92W±0°.08, h112km±3km, ML3.8, mb4.4/11(NEIC), ML4.1/166(NEIC), Error ellipse: s-maj=5.1km s-min=4.8km az=135.0

ANF 17 07:26:24.5±0.1, 63°.87N×148°.92W, h107km±1km, ML4.1/106, ML4.1/107, Error ellipse: s-maj=1.0km s-min=0.8km az=103.0

ISC 17 07:26:23.5±0.5, 63°.87N±0°.02×148°.94W±0°.02, h118km±4km, n371, σ0s79/418, mb4.2/28, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCK	**McKinley**	**0.14**	**178**		**Pn**	**07 26 40.0**	**+0.2**
MCK				IAML		07 26 52.2	
	comp=E,8μm,0.7s						
MCK				IAML		07 26 52.5	
	comp=N,6μm,0.6s						
MCK	**McKinley**	**0.14**	**178**		**Sn**	**07 26 52.0**	**0.0**
MCK	**McKinley**	**0.14**	**178**	P	**Pn**	**07 26 40.1**	**+0.2**
	baz=2.1,SNR=271						
MCK				S	**Sn**	**07 26 51.8**	**-0.2**
	baz=2.1						
BWN	**Browne**	**0.38**	**323**		**Pn**	**07 26 40.3**	**-0.2**
BWN				IAML		07 26 53.7	
	comp=E,3μm,1.1s						
BWN	**Browne**	**0.38**	**323**		**Sn**	**07 26 53.3**	**-0.2**
RND	**Reindeer**	**0.47**	**175**		**Pn**	**07 26 40.9**	**-0.3**
RND				IAML		07 26 54.1	
	comp=E,5μm,0.8s						
RND				IAML		07 26 54.9	
	comp=N,3μm,0.5s						
RND	**Reindeer**	**0.47**	**175**		**Sn**	**07 26 53.8**	**-0.6**
WRH	**Wood River Hil**	**0.71**	**32**	Pn	**Pn**	**07 26 43.0**	**+0.3**
WRH	**Wood River Hil**	**0.71**	**32**		**Sn**	**07 26 57.2**	**0.0**
WRH	**Wood River Hil**	**0.71**	**32**	IAML		07 26 57.9	
	comp=N,1μm,1.1s						
WRH				IAML		07 26 58.4	
	comp=E,875nm,0.8s						
NEA2	**Nenana**	**0.72**	**356**		**Pn**	**07 26 43.0**	**+0.1**
NEA2	**Nenana**	**0.72**	**356**		**Sn**	**07 26 57.2**	**-0.3**
NEA2	**Nenana**	**0.72**	**356**	IAML		07 26 57.8	
	comp=N,915nm,0.7s						
NEA2				IAML		07 26 57.8	
	comp=E,2μm,0.7s						
NEA2	**Nenana**	**0.72**	**356**	P	**Pn**	**07 26 43.3**	**+0.4**
	baz=175,SNR=149						
NEA2				S	**Sn**	**07 26 57.1**	**-0.3**
	baz=175						
TRF	**Thorofare Moun**	**0.74**	**235**		**Pn**	**07 26 43.3**	**+0.1**
TRF	**Thorofare Moun**	**0.74**	**235**		**Sn**	**07 26 57.9**	**0.0**
TRF	**Thorofare Moun**	**0.74**	**235**	IAML		07 26 59.3	
	comp=N,3μm,0.8s						
TRF				IAML		07 26 59.7	
	comp=E,3μm,0.7s						
TRF	**Thorofare Moun**	**0.74**	**235**	P	**Pn**	**07 26 43.7**	**+0.5**
	baz=56,SNR=940						
TRF				S	**Sn**	**07 26 57.9**	**0.0**
	baz=56						
CCB	**Clear Creek Bu**	**0.92**	**32**		**Pn**	**07 26 44.6**	**+0.1**
CCB	**Clear Creek Bu**	**0.92**	**32**		**Sn**	**07 27 00.6**	**+0.1**
CCB	**Clear Creek Bu**	**0.92**	**32**	IAML		07 27 00.7	
	comp=E,693nm,0.5s						
CCB				IAML		07 27 01.0	
	comp=N,2μm,0.7s						
BPAW	**Bear Paw Mtn.**	**0.93**	**285**		**Pn**	**07 26 45.2**	**+0.6**
BPAW	**Bear Paw Mtn.**	**0.93**	**285**		**Sn**	**07 27 00.3**	**-0.5**
BPAW	**Bear Paw Mtn.**	**0.93**	**285**	IAML		07 27 00.8	
	comp=N,3μm,0.5s						
BPAW				IAML		07 27 01.0	
	comp=E,4μm,0.6s						
BPAW	**Bear Paw Mtn.**	**0.93**	**285**	P	**Pn**	**07 26 45.1**	**+0.5**
	baz=105,SNR=489						
BPAW				S	**Sn**	**07 27 00.2**	**-0.5**
	baz=105						
KTH	**Kantishna Hill**	**0.94**	**251**		**Sn**	**07 27 01.0**	**+0.1**
KTH	**Kantishna Hill**	**0.94**	**251**		**Pn**	**07 26 45.0**	**+0.1**
KTH	**Kantishna Hill**	**0.94**	**251**	IAML		07 27 01.4	
	comp=E,3μm,0.9s						
KTH				IAML		07 27 01.5	
	comp=N,3μm,1.0s						
HDA	**Harding Lake**	**1.03**	**58**		**Pn**	**07 26 45.9**	**+0.3**
HDA	**Harding Lake**	**1.03**	**58**		**Sn**	**07 27 02.2**	**-0.1**
HDA	**Harding Lake**	**1.03**	**58**	IAML		07 27 02.7	
	comp=N,3μm,1.0s						
HDA				IAML		07 27 10.6	
	comp=E,1μm,0.5s						
HDA	**Harding Lake**	**1.03**	**58**	P	**Pn**	**07 26 46.1**	**+0.5**
	baz=238,SNR=738						
HDA				S	**Sn**	**07 27 01.9**	**-0.4**
	baz=238						
HDA				S	**Sn**	**07 27 01.9**	**-0.4**
	baz=238						
WAT7	**Susitna Watana**	**1.05**	**178**		**Pn**	**07 26 45.8**	**-0.2**
WAT1	**Susitna Watana**	**1.06**	**170**		**Pn**	**07 26 46.0**	**0.0**
WAT1	**Susitna Watana**	**1.06**	**170**	P	**Pn**	**07 26 46.0**	**0.0**
	baz=351						
WAT1				S	**Sn**	**07 27 02.1**	**-1.0**
	baz=351						
DHY	**Denali Highway**	**1.07**	**138**		**Pn**	**07 26 46.0**	**-0.2**
DHY				IAML		07 27 03.8	
	comp=E,3μm,0.8s						
DHY				IAML		07 27 04.8	
	comp=N,4μm,0.6s						
DHY	**Denali Highway**	**1.07**	**138**	P	**Pn**	**07 26 46.5**	**+0.2**
	baz=319,SNR=468						
DHY				S	**Sn**	**07 27 03.1**	**-0.2**
	baz=319						
TCOL	**CIGO, UAF Yank**	**1.11**	**25**		**Pn**	**07 26 46.8**	**+0.4**
TCOL				IAML		07 27 04.8	
	comp=N,4μm,0.7s						
TCOL				IAML		07 27 04.8	
	comp=E,3μm,0.6s						
TCOL	**CIGO, UAF Yank**	**1.11**	**25**	P	**Pn**	**07 26 47.0**	**+0.6**
	baz=205,SNR=132						
TCOL				S	**Sn**	**07 27 03.7**	**0.0**
	baz=205						
COLA	**College**	**1.11**	**25**		**Pn**	**07 26 46.9**	**+0.6**
COLA				IAML		07 27 04.8	
	comp=E,5μm,0.7s						
COLA				IAML		07 27 04.8	
	comp=E,3μm,0.6s						
COLA	**College**	**1.11**	**25**	P	**Pn**	**07 26 47.1**	**+0.6**
	baz=205						
COLA				S	**Sn**	**07 27 03.8**	**+0.1**
	baz=205						
COLA	**College**	**1.11**	**25**	P	**Pn**	**07 26 47.0**	**+0.6**
MDM	**Murphy Dome**	**1.13**	**16**		**Pn**	**07 26 47.2**	**+0.5**
IL31		**1.27**	**44**		**Pn**	**07 26 48.6**	**+0.5**
ILAR	**Eielson Array**	**1.27**	**44**	P	**Pn**	**07 26 48.3**	**+0.1**
	comp=E,92nm,0.4s,baz=227,slow=11,SNR=2800						
ILAR				S	**Sn**	**07 27 06.6**	**-0.3**
	comp=E,448nm,0.6s,baz=233,slow=19,SNR=51						
ILAR	**Eielson Array**	**1.27**	**44**		**Pn**	**07 26 48.5**	**+0.3**
I23K	**Minto, Yukon-K**	**1.29**	**352**		**Pn**	**07 26 48.9**	**+0.6**
I23K	**Minto, Yukon-K**	**1.29**	**352**	P	**Pn**	**07 26 49.3**	**+0.9**
	baz=172,SNR=168						
I23K				S	**Sn**	**07 27 07.5**	**+0.2**
	baz=172						
MLY	**Manley**	**1.40**	**327**		**Pn**	**07 26 50.4**	**+0.8**
MLY	**Manley**	**1.40**	**327**	P	**Pn**	**07 26 50.4**	**+0.8**
	baz=146,SNR=409						
MLY				S	**Sn**	**07 27 09.2**	**-0.4**
	baz=146						
K24K	**Donnelly Dome**	**1.41**	**91**	P	**Pn**	**07 26 50.3**	**+0.6**
	baz=273,SNR=776						
WAT6	**Susitna Watana**	**1.41**	**157**		**Pn**	**07 26 50.1**	**+0.1**
WAT6	**Susitna Watana**	**1.41**	**157**	P	**Pn**	**07 26 50.0**	**+0.1**
	baz=338,SNR=388						
POKR	**Poker Plat Res**	**1.41**	**27**		**Pn**	**07 26 50.3**	**+0.5**
POKR	**Poker Plat Res**	**1.41**	**27**	P	**Pn**	**07 26 50.5**	**+0.8**
	baz=208,SNR=215						
POKR				S	**Sn**	**07 27 09.1**	**-0.6**
	baz=208						
CAST	**Castle Rocks**	**1.47**	**253**		**Pn**	**07 26 50.4**	**-0.2**
CAST				IAML		07 27 11.2	
	comp=N,2μm,0.7s						
CAST	**Castle Rocks**	**1.47**	**253**	P	**Pn**	**07 26 50.7**	**+0.2**
	baz=72,SNR=464						
CAST				S	**Sn**	**07 27 10.4**	**-0.7**
	baz=72						
CHUM	**Lake Minchumin**	**1.49**	**272**		**Pn**	**07 26 51.3**	**+0.6**
CHUM	**Lake Minchumin**	**1.49**	**272**	P	**Pn**	**07 26 51.3**	**+0.6**
	baz=90,SNR=28						
CHUM				S	**Sn**	**07 27 11.3**	**0.0**
	baz=90						
CUT	**Chulitna**	**1.59**	**203**		**Pn**	**07 26 51.8**	**-0.1**
CUT				IAML		07 27 16.0	
	comp=N,3μm,0.5s						
CUT	**Chulitna**	**1.59**	**203**	P	**Pn**	**07 26 52.1**	**+0.2**
	baz=22,SNR=288						
J25K	**Salcha River,**	**1.73**	**63**		**Pn**	**07 26 53.6**	**+0.1**
J25K				IAML		07 27 16.9	
	comp=E,1μm,0.5s						
J25K				IAML		07 27 19.1	
	comp=N,1μm,0.5s						
J25K	**Salcha River,**	**1.73**	**63**	P	**Pn**	**07 26 54.0**	**+0.5**
	baz=245,SNR=284						
J25K				S	**Sn**	**07 27 15.3**	**-1.1**
	baz=245						
PPLA	**Purkeypile**	**1.76**	**238**		**Pn**	**07 26 54.3**	**+0.3**
PPLA	**Purkeypile**	**1.76**	**238**	P	**Pn**	**07 26 54.6**	**+0.6**
	baz=56,SNR=280						
PPLA				S	**Sn**	**07 27 18.0**	**+0.7**
	baz=56						
PAX	**Paxson**	**1.81**	**119**	Pn	**Pn**	**07 26 54.8**	**+0.2**
PAX	**Paxson**	**1.81**	**119**	P	**Pn**	**07 26 55.1**	**+0.5**
	baz=301,SNR=1000						
PAX				S	**Sn**	**07 27 18.4**	**+0.2**
	baz=301						
RIDG	**Independent Ri**	**1.82**	**92**		**Pn**	**07 26 54.9**	**+0.2**
RIDG	**Independent Ri**	**1.82**	**92**	P	**Pn**	**07 26 55.0**	**+0.3**
	baz=275,SNR=1000						
RIDG				S	**Sn**	**07 27 18.7**	**+0.2**
	baz=275						
I21K	**Tanana**	**1.86**	**316**		**Pn**	**07 26 55.1**	**0.0**
I21K				IAML		07 27 20.0	

I21K IAML 07 27 20.4
comp=E,835nm,0.8s

I21K Tanana 1.86 316 P **Pn** **07 26 55.9 +0.8**
baz=134
I21K S **Sn** **07 27 19.1 0.0**
baz=134

H23K Yukon River 1.98 353 **Pn** **07 26 56.9 +0.3**
H23K IAML 07 27 22.8
comp=E,695nm,1.9s
H23K IAML 07 27 23.1
comp=N,703nm,1.1s

H23K Yukon River 1.98 353 P **Pn** **07 26 57.6 +1.1**
baz=172
H23K S **Sn** **07 27 22.2 +0.4**
baz=172

H24K Noodor Dome 2.02 13 **Pn** **07 26 57.9 +0.7**
H24K Noodor Dome 2.02 13 P **Pn** **07 26 58.1 +1.0**
baz=193,SNR=249
H24K S **Sn** **07 27 22.3 -0.6**
baz=193

SML Sawmill 2.09 172 Pn **Pn** **07 26 58.2 +0.1**
SML Sawmill 2.09 172 P **Pn** **07 26 58.4 +0.3**
baz=353,SNR=168
SML S **Sn** **07 27 24.7 +0.2**
baz=353

GHO Glory Hole Cre 2.11 180 **Pn** **07 26 58.9 +0.6**
GHO IAML 07 27 31.5
comp=E,2µm,0.5s

M23K Glacier View 2.16 164 P **Pn** **07 26 59.3 +0.4**
baz=346,SNR=275
M23K S **Sn** **07 27 26.6 +0.6**
baz=346

M24K Tolsona, Glenn 2.18 143 **Pn** **07 26 59.0 -0.1**
M24K IAML 07 27 39.0
comp=E,2µm,0.8s
M24K IAML 07 27 39.2
comp=N,2µm,0.7s

M24K Tolsona, Glenn 2.18 143 P **Pn** **07 26 59.9 +0.7**
baz=326,SNR=258
M24K S **Sn** **07 27 27.6 +1.2**
baz=326

SCM Sheep Creek Mo 2.18 159 **Pn** **07 26 59.2 +0.1**
SCM Sheep Creek Mo 2.18 159 P **Pn** **07 26 59.7 +0.5**
baz=341,SNR=234
SCM S **Sn** **07 27 26.6 +0.2**
baz=341

DOT Dot Lake 2.18 94 **Pn** **07 26 58.9 -0.2**
SCRK Sand Creek 2.19 85 Pn **Pn** **07 26 59.6 +0.3**
SCRK IAML 07 27 27.9
comp=E,1µm,0.8s

SCRK Sand Creek 2.19 85 P **Pn** **07 26 59.7 +0.3**
baz=269,SNR=1000
SCRK S **Sn** **07 27 26.4 -0.4**
baz=269

M22K Willow 2.20 195 **Pn** **07 26 58.9 -0.4**
M22K Willow 2.20 195 P **Pn** **07 26 59.4 +0.2**
baz=14,SNR=207

PRP Porcupine Dome 2.21 40 Pn **Pn** **07 26 59.7 +0.1**
PRP IAML 07 27 28.3
comp=E,686nm,0.7s
PRP IAML 07 27 30.5
comp=N,1µm,0.6s

PRP Porcupine Dome 2.21 40 **Sn** **07 27 26.7 -0.5**
PRP Porcupine Dome 2.21 40 P **Pn** **07 27 00.1 +0.5**
baz=223,SNR=481
PRP S **Sn** **07 27 25.8 -1.4**
baz=223

SKT Skwentna 2.24 213 **Pn** **07 26 59.4 -0.5**
SKT IAML 07 27 36.0
comp=E,1µm,0.4s
SKT IAML 07 27 36.2
comp=N,2µm,0.5s

SKT Skwentna 2.24 213 P **Pn** **07 26 59.8 -0.1**
baz=31,SNR=151

HARP HAARP 2.27 129 P **Pn** **07 27 00.7 +0.4**
baz=312,SNR=276

H22K Ishtalitna Cre 2.28 334 P **Pn** **07 27 01.4 +1.0**
baz=152,SNR=146
H22K S **Sn** **07 27 28.4 -0.2**
baz=152

PMR Palmer 2.29 182 **Pn** **07 27 00.4 -0.1**
PMR IAML 07 27 36.4
comp=N,2µm,0.6s
PMR IAML 07 27 38.9
comp=E,1µm,0.6s

PMR Palmer 2.29 182 P **Pn** **07 27 00.7 +0.2**
baz=2.3,SNR=284

J20K Nowinta River 2.31 280 Pn **Pn** **07 27 01.0 +0.2**
J20K IAML 07 27 30.3
comp=N,690nm,0.7s
J20K IAML 07 27 30.8
comp=E,638nm,0.8s

J20K Nowinta River 2.31 280 P **Pn** **07 27 01.3 +0.6**
baz=96,SNR=132
J20K S **Sn** **07 27 28.6 -0.6**
baz=96

K20K Telida 2.35 260 **Pn** **07 27 01.1 -0.2**
K20K Telida 2.35 260 P **Pn** **07 27 01.6 +0.3**
baz=76
K20K S **Sn** **07 27 29.6 -0.5**
baz=76

J26L Joseph Creek 2.44 73 **Pn** **07 27 02.6 +0.1**
J26L Joseph Creek 2.44 73 P **Pn** **07 27 03.0 +0.5**
baz=257,SNR=477
J26L S **Sn** **07 27 32.1 -0.2**
baz=257

H21K Melozitna Rive 2.44 319 **Pn** **07 27 02.4 0.0**
H21K Melozitna Rive 2.44 319 P **Pn** **07 27 03.0 +0.7**
baz=136,SNR=349
H21K S **Sn** **07 27 31.1 -1.1**
baz=136

KNK Knik Glacier 2.48 175 **Pn** **07 27 03.4 +0.4**
KNK Knik Glacier 2.48 175 P **Pn** **07 27 03.4 +0.4**
baz=355

MENT Mentasta 2.53 109 **Pn** **07 27 03.4 -0.2**
MENT IAML 07 27 55.3
comp=E,762nm,0.6s
MENT IAML 07 27 56.9
comp=N,1µm,0.5s

SUA Susitna One 2.56 200 Pn **Pn** **07 27 04.9 +0.8**
SUA IAML 07 27 48.2
comp=N,1µm,0.7s

SUA Susitna One 2.56 200 P **Pn** **07 27 05.0 +0.9**
baz=18,SNR=232

L20K Farewell, AK 2.64 240 P **Pn** **07 27 05.4 +0.4**
baz=56
L20K S **Sn** **07 27 37.4 +0.5**
baz=56

L26K Log Cabin Wild 2.65 106 **Pn** **07 27 04.9 -0.3**
L26K IAML 07 27 42.2
comp=N,1µm,0.4s
L26K IAML 07 27 58.9
comp=E,1µm,0.5s

L26K Log Cabin Wild 2.65 106 P **Pn** **07 27 05.5 +0.3**
baz=291,SNR=308

H25L Birch Creek 2.74 27 P **Pn** **07 27 07.4 +1.1**
baz=210
H25L S **Sn** **07 27 39.8 +0.6**
baz=210

KLU Klutina 2.77 148 **Pn** **07 27 06.4 -0.4**
KLU IAML 07 27 49.2
comp=E,705nm,0.7s
KLU IAML 07 27 56.7
comp=N,847nm,0.7s

KLU Klutina 2.77 148 **Sn** **07 27 39.9 -0.1**
KLU Klutina 2.77 148 P **Pn** **07 27 06.7 0.0**
baz=331,SNR=70
KLU S **Sn** **07 27 40.0 0.0**
baz=331

M20K Styx River 2.77 226 **Pn** **07 27 06.5 -0.3**
M20K IAML 07 27 48.4
comp=N,408nm,0.6s
M20K IAML 07 27 50.9
comp=E,494nm,0.8s

M20K Styx River 2.77 226 P **Pn** **07 27 06.8 0.0**
baz=42,SNR=252
M20K S **Sn** **07 27 41.2 +1.2**
baz=42

RC01 Rabbit Creek A 2.82 188 **Pn** **07 27 07.5 +0.2**
RC01 Rabbit Creek A 2.82 188 P **Pn** **07 27 08.2 +0.9**
baz=7.4

I26K Coal Creek Min 2.88 57 **Pn** **07 27 08.0 -0.1**
I26K IAML 07 27 44.3
comp=N,809nm,0.8s
I26K IAML 07 27 45.4
comp=E,920nm,0.6s

I26K Coal Creek Min 2.88 57 P **Pn** **07 27 08.7 +0.6**
baz=242
I26K S **Sn** **07 27 41.2 -1.2**
baz=242

G23K Bananza Creek 2.88 351 P **Pn** **07 27 09.1 +0.9**
baz=170,SNR=42
G23K S **Sn** **07 27 41.6 -1.0**
baz=170

G24K Hadweenzic Riv 2.91 12 P **Pn** **07 27 09.3 +0.9**
baz=193
G24K S **Sn** **07 27 42.5 -0.6**
baz=193

IMAR Indian Mountai 2.94 318 Pn **Pn** **07 27 09.1 +0.2**
N25K Chitina, Valde 3.03 137 **Pn** **07 27 10.3 +0.1**
N25K IAML 07 28 04.5
comp=N,316nm,0.6s

N25K Chitina, Valde 3.03 137 P **Pn** **07 27 10.7 +0.5**
baz=320,SNR=133
N25K S **Sn** **07 27 45.2 -0.9**
baz=320

K27K Chicken 3.04 84 **Pn** **07 27 10.5 +0.3**
K27K IAML 07 27 48.7
comp=E,517nm,0.8s

K27K Chicken 3.04 84 P **Pn** **07 27 10.6 +0.5**
baz=270
K27K S **Sn** **07 27 45.6 -0.5**
baz=270

PWL Port Wells 3.04 174 **Pn** **07 27 10.5 +0.2**
PWL Port Wells 3.04 174 P **Pn** **07 27 10.4 +0.2**
baz=355,SNR=35

SPU Mount Spurr 3.06 209 **Pn** **07 27 10.7 +0.1**
M26K Nabesna, AK 3.08 116 **Pn** **07 27 11.3 +0.5**
M26K IAML 07 28 06.9
comp=E,303nm,0.5s
M26K IAML 07 28 14.0
comp=N,292nm,0.6s

M26K Nabesna, AK 3.08 116 P **Pn** **07 27 11.0 +0.3**
baz=301

N20K Mount Spurr 3.08 211 P **Pn** **07 27 10.7 -0.2**
baz=28,SNR=65

SPCR Spurr Chakacha 3.08 211 P **Pn** **07 27 11.0 +0.1**
baz=28,SNR=22

FYU Fort Yukon 3.12 28 **Pn** **07 27 12.0 +0.7**
DIV Divide 3.12 150 **Pn** **07 27 10.4 -1.0**
G25K Bearman Lake 3.14 21 P **Pn** **07 27 12.4 +1.0**
baz=203,SNR=91
G25K S **Sn** **07 27 48.8 +0.4**
baz=203

M19K Big River Lodg 3.18 234 **Pn** **07 27 11.7 -0.4**
M19K IAML 07 27 53.7
comp=N,329nm,0.9s
M19K IAML 07 27 54.3
comp=E,270nm,0.9s

M19K Big River Lodg 3.18 234 P **Pn** **07 27 12.0 -0.1**
baz=50,SNR=194
M19K S **Sn** **07 27 50.0 +0.4**
baz=50

L19K White Mountain 3.18 240 Pn **Pn** **07 27 11.5 -0.7**
L19K IAML 07 27 51.5
comp=E,316nm,1.0s
L19K IAML 07 27 54.6
comp=N,279nm,0.6s

L19K White Mountain 3.18 240 P **Pn** **07 27 12.3 +0.2**
baz=56
L19K S **Sn** **07 27 49.6 -0.1**
baz=56

G22K Bettles 3.24 342 P **Pn** **07 27 13.6 +0.8**
baz=160
G22K S **Sn** **07 27 50.4 -0.5**
baz=160

G21K Allakaket 3.28 326 P **Pn** **07 27 14.1 +0.8**
baz=142
G21K S **Sn** **07 27 51.6 -0.2**
baz=142

CAPN Captain Cook N 3.28 199 **Pn** **07 27 15.7 +2.3**
L27K Beaver Creek, 3.30 101 **Pn** **07 27 13.3 -0.4**
L27K Beaver Creek, 3.30 101 P **Pn** **07 27 13.7 +0.1**
baz=287
L27K S **Sn** **07 27 51.1 -1.2**
baz=287

BCAR Beaver Creek A 3.31 101 Pn **Pn** **07 27 13.5 -0.4**
TTA Tatalina 3.32 257 Pn **Pn** **07 27 13.6 -0.3**
TTA Tatalina 3.32 257 P **Pn** **07 27 14.0 +0.1**
baz=71,SNR=28
TTA S **Sn** **07 27 52.0 -0.9**
baz=71

GLB Gilahina Butte 3.40 134 **Pn** **07 27 15.5 +0.5**
GLB IAML 07 28 14.7
comp=N,219nm,0.7s

COLD Coldfoot 3.41 352 Pn **Pn** **07 27 15.3 +0.3**
COLD Coldfoot 3.41 352 P **Pn** **07 27 15.9 +0.9**
baz=170,SNR=24
COLD S **Sn** **07 27 54.4 -0.5**
baz=170

O22K Cooper Landing 3.42 186 **Pn** **07 27 15.2 0.0**
O22K Cooper Landing 3.42 186 P **Pn** **07 27 16.0 +0.7**
baz=6.0,SNR=48

SLKM Skilak Lake 3.43 191 **Pn** **07 27 16.1 +0.7**
EGAK Eagle 3.51 72 **Pn** **07 27 16.4 +0.1**
EGAK IAML 07 28 11.6
comp=N,678nm,0.6s

EGAK Eagle 3.51 72 P **Pn** **07 27 16.8 +0.4**
baz=258,SNR=153
EGAK S **Sn** **07 27 56.7 -0.5**
baz=258

BMRM Bremner River 3.55 143 **Pn** **07 27 17.0 0.0**
BMRM Bremner River 3.55 143 P **Pn** **07 27 16.5 -0.5**
baz=327,SNR=23
BMRM S **Sn** **07 27 57.1 -1.2**
baz=327

M27K Edge Creek, AK 3.55 112 P **Pn** **07 27 17.6 +0.4**
baz=298

GCSA Galena City Sc 3.56 288 **Pn** **07 27 18.0 +0.9**
GCSA Galena City Sc 3.56 288 P **Pn** **07 27 18.0 +0.9**
baz=101,SNR=54
GCSA S **Sn** **07 27 58.0 -0.5**
baz=101

I27K Kandik River 3.59 58 P **Pn** **07 27 17.9 +0.4**
baz=244
I27K S **Sn** **07 27 59.1 -0.2**
baz=244

EYAK Cordova Ski Ar 3.66 154 **Pn** **07 27 18.2 -0.1**
EYAK Cordova Ski Ar 3.66 154 P **Pn** **07 27 18.2 -0.1**
baz=337,SNR=12

EYAK Cordova Ski Ar 3.66 154 P **Pn** **07 27 18.3 -0.1**
HIN Hinchinbrook I 3.67 161 **Pn** **07 27 18.3 -0.3**
VRDI Verde Repeater 3.68 134 Pn **Pn** **07 27 18.2 -0.6**
F24K Squaw Lake 3.69 6 P **Pn** **07 27 19.7 +0.9**
baz=187
F24K S **Sn** **07 28 01.5 0.0**
baz=187

MCARA McCarthy VSAT 3.70 130 Pn **Pn** **07 27 20.0 +1.0**
MCARA IAML 07 28 31.6
comp=E,275nm,0.9s
MCARA IAML 07 28 50.7
comp=N,357nm,0.8s

MCARA McCarthy VSAT 3.70 130 P **Pn** **07 27 20.1 +1.1**
baz=315,SNR=45

RDJH Redoubt Jeurge 3.76 210 **Pn** **07 27 21.4 +1.5**
G26K Porcupine Rive 3.77 33 P **Pn** **07 27 20.1 +0.3**
baz=217
G26K S **Sn** **07 28 03.5 +0.2**
baz=217

SEW Seward 3.79 184 **Pn** **07 27 20.1 -0.1**
SEW Seward 3.79 184 P **Pn** **07 27 20.6 +0.4**
baz=3.5,SNR=16

GOAT Goat Mountain 3.85 147 **Pn** **07 27 20.8 -0.2**
F21K Alatna River 3.85 333 P **Pn** **07 27 21.9 +0.9**
baz=149,SNR=17

RSO Redoubt South 3.86 209 **Pn** **07 27 22.2 +0.9**
F22K John River 3.89 341 P **Pn** **07 27 22.3 +0.9**
baz=158
F22K S **Sn** **07 28 05.6 -0.6**
baz=158

H27K Steamboat Moun 3.93 50 P **Pn** **07 27 22.3 +0.2**
baz=236
H27K S **Sn** **07 28 06.7 -0.7**
baz=236

BVCY Beaver Creek 3.95 108 P **Pn** **07 27 22.2 0.0**
baz=295,SNR=91

P23K Montague Islan 3.96 169 P **Pn** **07 27 22.9 +0.6**
baz=350

F25K Christian Rive 3.98 19 P **Pn** **07 27 23.2 +0.6**
baz=201
F25K S **Sn** **07 28 07.8 -0.6**
baz=201

BMAR Burnt Mountain 4.00 25 Pn **Pn** **07 27 23.6 +0.6**

N19K Bonanza Creek 4.01 223 Pn **Pn** **07 27 22.3 -0.9**
N19K IAML 07 28 29.5
comp=N,140nm,0.8s

N19K Bonanza Creek 4.01 223 P **Pn** **07 27 23.5 +0.3**
baz=38
N19K S **Sn** **07 28 09.8 +0.4**
baz=38

BALM Baldy 4.18 130 **Pn** **07 27 25.6 +0.1**
O20K Slope Mountain 4.18 206 P **Pn** **07 27 26.7 +1.2**
baz=23,SNR=16

E23K Chandalar 4.21 357 P **Pn** **07 27 26.9 +1.0**
baz=176

DAWY Dawson 4.21 83 P **Pn** **07 27 26.1 +0.2**
baz=271,SNR=60

E24K Your Creek 4.22 2 P **Pn** **07 27 26.9 +0.9**
baz=183

BRLK Bradley Lake 4.23 193 **Pn** **07 27 26.5 +0.5**
BRLK IAML 07 28 30.9
comp=E,430nm,0.7s
BRLK IAML 07 28 33.7
comp=N,425nm,0.7s

BRSE Bradley Lake S 4.23 192 **Pn** **07 27 26.5 +0.3**
BRSE Bradley Lake S 4.23 192 P **Pn** **07 27 26.4 +0.3**
baz=11,SNR=12

G27K Doyon Strip 4.24 43 P **Pn** **07 27 26.3 +0.1**
baz=229

KIAG Kiagna River 4.26 131 **Pn** **07 27 26.2 -0.3**
BERG Berg Lake 4.27 142 **Pn** **07 27 26.3 -0.3**
F26K Sheenjek River 4.32 25 P **Pn** **07 27 27.7 +0.5**
baz=205

NICHA Nichawak Mount 4.34 145 **Pn** **07 27 27.6 +0.1**
KHIT Khitrov Hills 4.36 140 **Pn** **07 27 27.5 -0.3**
ILSW Iliamna Southw 4.38 209 **Pn** **07 27 28.3 +0.1**
ILSW IAML 07 28 52.0
comp=N,186nm,1.0s
ILSW IAML 07 29 00.4
comp=E,122nm,0.9s

BARN Barnard Glacie 4.40 127 **Pn** **07 27 29.2 +0.7**
HOM Homer 4.42 198 **Pn** **07 27 29.5 +1.0**
HOM Homer 4.42 198 P **Pn** **07 27 29.4 +0.8**
baz=16

YUK3 Moose Creek 4.42 115 P **Pn** **07 27 29.7 +0.9**
baz=302,SNR=71

WAX Waxell Ridge 4.47 138 **Pn** **07 27 28.9 -0.3**
WAX Waxell Ridge 4.47 138 IAML 07 28 56.8
comp=E,313nm,1.1s

GRIN Grindle Hills 4.47 141 **Pn** **07 27 29.0 -0.2**
O19K Port Alsworth 4.47 217 Pn **Pn** **07 27 29.4 +0.2**
O19K IAML 07 28 20.8
comp=E,260nm,0.5s
O19K IAML 07 28 25.3
comp=N,267nm,0.5s

O19K Port Alsworth 4.47 217 P **Pn** **07 27 30.1 +0.9**
baz=32,SNR=32

E25K Arctic Village 4.48 16 P **Pn** **07 27 30.2 +0.8**
baz=199,SNR=146

CNPM China Poot 4.50 195 Pn **Pn** **07 27 29.2 -0.4**
KAIM Kayak Island 4.50 150 **Pn** **07 27 29.0 -0.6**
KAIM Kayak Island 4.50 150 IAML 07 29 00.7
comp=E,337nm,0.9s
KAIM IAML 07 29 04.0
comp=N,268nm,1.4s

KAIM Kayak Island 4.50 150 P **Pn** **07 27 29.2 -0.4**
baz=334

ISLE Juniper Island 4.51 134 **Pn** **07 27 28.9 -1.0**
ISLE Juniper Island 4.51 134 IAML 07 28 52.9
comp=E,193nm,0.7s
ISLE IAML 07 28 56.6
comp=N,227nm,1.0s

SUCK Suckling Hills 4.53 145 **Pn** **07 27 29.7 -0.3**
SUCK Suckling Hills 4.53 145 IAML 07 28 52.3
comp=E,333nm,1.2s

N18K Kilae Creek 4.56 228 **Pn** **07 27 30.5 +0.1**
N18K Kilae Creek 4.56 228 P **Pn** **07 27 30.9 +0.5**
baz=43

BARK Barkley Ridge 4.61 136 **Pn** **07 27 30.9 -0.3**
BGLC Bering Glacier 4.62 142 P **Pn** **07 27 31.7 +0.6**
baz=327

BAGL Bagley Icefiel 4.67 134 **Pn** **07 27 31.3 -0.6**
SNH Sunshine Point 4.69 139 **Pn** **07 27 31.9 -0.4**
SNH Sunshine Point 4.69 139 IAML 07 29 11.8
comp=N,153nm,1.0s

P19K Oil Pt 4.70 208 **Pn** **07 27 33.0 +0.6**
P19K Oil Pt 4.70 208 P **Pn** **07 27 33.2 +0.8**
baz=24

J29M Klondike Camp 4.73 78 **Pn** **07 27 33.5 +0.7**
J29M Klondike Camp 4.73 78 P **Pn** **07 27 33.6 +0.8**
baz=267,SNR=20

TOLK Toolik Lake Re 4.79 357 Pn **Pn** **07 27 35.0 +1.5**
TOLK Toolik Lake Re 4.79 357 P **Pn** **07 27 35.4 +1.8**
baz=177,SNR=13

I29M Ogilvie Camp, 4.81 67 P **Pn** **07 27 34.1 +0.3**
baz=256

YAH Yahtse 4.88 133 **Pn** **07 27 34.6 -0.4**
YAH Yahtse 4.88 133 IAML 07 29 06.3
comp=N,148nm,1.1s
YAH IAML 07 29 17.3
comp=E,90nm,1.1s

L29M L29M 4.91 94 P **Pn** **07 27 35.0 -0.1**
baz=284

MESA MESA 4.96 135 **Pn** **07 27 35.4 -0.6**
MESA IAML 07 29 00.4
comp=E,167nm,0.8s
MESA IAML 07 29 08.8
comp=N,215nm,0.9s

MESA MESA 4.96 135 P **Pn** **07 27 35.8 -0.1**
baz=321,SNR=6.4

M29M Somme Creek 4.96 102 P **Pn** **07 27 36.4 +0.5**
baz=291

YUK8 Steele Glacier 4.97 117 P **Pn** **07 27 37.4 +1.1**
baz=305,SNR=123

O18K Koktuh Hills 5.00 219 Pn **Pn** **07 27 37.0 +0.6**
O18K IAML 07 29 22.3
comp=N,114nm,0.8s

O18K Koktuh Hills 5.00 219 P **Pn** **07 27 37.4 +0.9**
baz=34,SNR=25

TABL Table Mountain 5.02 130 **Pn** **07 27 36.5 -0.4**
TABL Table Mountain 5.02 130 IAML 07 29 12.8
comp=E,73nm,1.1s
TABL IAML 07 29 14.2
comp=N,81nm,0.8s

K29M Barlow Dome 5.05 85 P **Pn** **07 27 37.2 +0.1**
baz=275

O28M Mount Upton 5.13 123 P **Pn** **07 27 39.7 +1.4**
baz=311

D23K Nanushuk River 5.16 353 P **Pn** **07 27 40.9 +2.5**
baz=171,SNR=9.6

E27K Coleen River 5.26 31 P **Pn** **07 27 40.3 +0.4**
baz=218

D24K Happy Valley 5.30 0 P **Pn** **07 27 42.2 +1.9**
baz=180

SAMH Samovar Hills 5.37 131 **Pn** **07 27 41.7 +0.2**
YUK4 Talbot Arm 5.39 113 P **Pn** **07 27 41.9 +0.2**
baz=301,SNR=11

P18K Big Mountain, 5.40 217 Pn **Pn** **07 27 42.4 +0.6**
P18K IAML 07 28 47.2
comp=N,63nm,1.2s
P18K IAML 07 29 29.0
comp=E,59nm,2.1s

P18K Big Mountain, 5.40 217 P **Pn** **07 27 42.5 +0.7**
baz=31,SNR=37

Q19K Cape Douglas, 5.45 207 Pn **Pn** **07 27 42.4 0.0**
Q19K Cape Douglas, 5.45 207 P **Pn** **07 27 43.0 +0.6**
baz=23,SNR=11

Q20K Shuyak Island 5.54 199 P **Pn** **07 27 43.9 +0.3**
baz=16,SNR=10

D25K Kavik River 5.57 9 P **Pn** **07 27 45.6 +1.7**
baz=192

PCA Pinnacle 5.58 129 **Pn** **07 27 43.8 -0.4**
PINM Pinnacle 5.58 129 P **Pn** **07 27 44.5 +0.3**
baz=316,SNR=8.6

O17K Koliganek Bris 5.64 227 P **Pn** **07 27 45.3 +0.4**
baz=40,SNR=17

M30M Minto, Yukon 5.65 98 **Pn** **07 27 45.3 +0.2**
M30M Minto, Yukon 5.65 98 P **Pn** **07 27 45.2 +0.1**
baz=288

N16K Nishlik Lake 5.73 238 P **Pn** **07 27 46.6 +0.5**
baz=50,SNR=12

YUK6 Outpost Mounta 5.73 116 P **Pn** **07 27 47.1 +0.7**
baz=305,SNR=16

EPYK Eagle Plains 5.73 59 **Pn** **07 27 46.7 +0.5**
EPYK Eagle Plains 5.73 59 P **Pn** **07 27 46.7 +0.5**
baz=250,SNR=72

MAYO Mayo, Yukon 5.80 87 P **Pn** **07 27 47.7 +0.5**
baz=278,SNR=6.2

C24K Franklin Bluff 5.87 1 P **Pn** **07 27 49.7 +1.7**

baz=181
N30M **Aishikik Lake** 5.97 109 P Pn 07 27 49.6 +0.1
baz=299
Q18K **Katmai Hardscr** 6.00 212 P Pn 07 27 50.4 +0.5
baz=27,SNR=51
C23K **Itkillik River** 6.03 354 P Pn 07 27 51.8 +1.7
baz=173,SNR=10
O29M **Mount Kennedy** 6.04 122 P Pn 07 27 51.2 +0.6
baz=311
O16K **Kokwok River B** 6.11 229 P Pn 07 27 51.3 +0.1
baz=42
C27K **Jago River** 6.13 17 P Pn 07 27 53.2 +1.7
baz=202
HYT **Haines Junctio** 6.14 115 Pn Pn 07 27 51.8 -0.1
HYT **Haines Junctio** 6.14 115 P Pn 07 27 52.9 +1.1
baz=305,SNR=29
G30M **tAoh Zraii Nji** 6.15 54 P Pn 07 27 51.9 +0.1
baz=245
PNL **Peninsula** 6.19 129 P Pn 07 27 52.6 +0.3
baz=317
PNL **Peninsula** 6.19 129 P Pn 07 27 53.0 +0.6
C26K **Camden Bay** 6.27 13 P Pn 07 27 54.8 +1.4
baz=196
Q16K **King Salmon** 6.40 219 P Pn 07 27 56.3 +1.1
baz=32,SNR=9.5
P16K **Nushagak River** 6.51 226 P Pn 07 27 57.6 +0.9
baz=38
N31M **Braeburn, Yuko** 6.51 106 Pn 07 27 57.5 +0.7
N31M **Braeburn, Yuko** 6.51 106 P Pn 07 27 57.3 +0.5
baz=297,SNR=34
Q17K **Contact Creek** 6.56 214 P Pn 07 27 57.9 +0.5
baz=28,SNR=14
O30N **Mendenhall** 6.75 112 P Pn 07 28 00.3 +0.4
baz=303,SNR=18
P30M **Million Dollar** 6.78 118 P Pn 07 28 01.6 +1.2
baz=309,SNR=39
P29M **Windy Craggy** 6.81 124 Pn 07 28 01.1 +0.3
P29M **Windy Craggy** 6.81 124 P Pn 07 28 01.3 +0.6
baz=313
M31M **Drury Creek, Y** 6.83 98 Pn Pn 07 28 01.3 +0.3
M31M **Drury Creek, Y** 6.83 98 P Pn 07 28 01.5 +0.5
baz=290,SNR=14
OHAK **Old Harbor** 7.01 200 Pn Pn 07 28 03.0 -0.4
OHAK **Old Harbor** 7.01 200 P Pn 07 28 02.6 -0.8
baz=16
F31M **Tsiigehtchic** 7.22 54 P Pn 07 28 05.9 -0.3
baz=247,SNR=17
FARO **Faro, Yukon** 7.28 96 Pn 07 28 08.4 +1.3
FARO **Faro, Yukon** 7.28 96 P Pn 07 28 08.2 +1.1
baz=290,SNR=16
WHY **Whitehorse** 7.31 110 Pn Pn 07 28 07.5 -0.1
WHY **Whitehorse** 7.31 110 P Pn 07 28 08.1 +0.5
baz=302,SNR=8.7
PLBC **Pleasant Camp** 7.44 121 P Pn 07 28 09.8 +0.5
baz=312,SNR=11
INK **Inuvik** 7.67 48 P Pn 07 28 12.1 -0.2
comp=E,79nm,0.9s,baz=243,slow=16,SNR=277
INK S Sn 07 29 35.5 -1.8
comp=E,10nm,0.7s,baz=210,slow=1.2,SNR=2.4
INK **Inuvik** 7.67 48 P Pn 07 28 13.2 +0.9
baz=242,SNR=98
SII **Sitkinak Islan** 7.79 202 P Pn 07 28 13.7 -0.3
baz=18
SII **Sitkinak Islan** 7.79 202 P Pn 07 28 13.7 -0.3
N32M **Quiet Lake** 7.83 103 P Pn 07 28 14.9 +0.4
baz=297
SKAG **Skagway** 7.84 118 Pn 07 28 14.4 -0.2
SKAG **Skagway** 7.84 118 P Pn 07 28 14.7 +0.1
baz=310
MMPY **Sheldon Lake,** 8.07 91 P Pn 07 28 18.9 +1.0
baz=287
P32M **Atlin** 8.40 114 P Pn 07 28 21.7 -0.5
baz=307
CHGN **Chignik** 8.94 216 P Pn 07 28 28.8 -0.7
baz=28
R32K **Eaglecrest** 8.95 122 P Pn 07 28 29.6 -0.1
baz=315
Q32M **Nakina River** 9.37 114 P Pn 07 28 36.3 +0.7
baz=309
SIT **Sitka** 9.57 129 Pn Pn 07 28 38.1 +0.1
SIT **Sitka** 9.57 129 P Pn 07 28 38.3 +0.3
baz=321
R33M **Jennings River** 9.64 110 P Pn 07 28 40.7 +1.5
baz=305
GAMB **Gambell** 10.04 280 Pn Pn 07 28 46.7 +2.4
DLBC **Dease Lake** 10.61 112 P Pn 07 28 50.5 -1.6
comp=E,1.9nm,0.7s,baz=166,slow=27,SNR=2.1
DLBC S Sn 07 30 39.1 -10
comp=E,1.0nm,0.6s,baz=222,slow=16,SNR=0.8
WRAK **Wrangell Islan** 11.12 125 P Pn 07 28 58.7 -0.1
baz=319
C36M **Paulatuk** 11.24 50 Pn 07 28 57.9 -2.4
C36M **Paulatuk** 11.24 50 P Pn 07 28 58.8 -1.5
baz=253,SNR=25
LIRD **Liard River Hi** 11.71 102 P Pn 07 29 07.5 +0.8
baz=302
A36M **Sachs Harbour** 11.96 37 Pn Pn 07 29 08.5 -1.4
A36M **Sachs Harbour** 11.96 37 P Pn 07 29 08.4 -1.4
baz=239,SNR=27
YKA **Yellowknife Ar** 15.45 80 P Pn 07 29 54.4 -0.2
comp=E,6.1nm,0.6s,baz=300,slow=10,SNR=20
WAPA **Wapiti River** 17.23 106 P P 07 30 17.0 +0.6
RES **Resolute Bay** 21.01 37 P P 07 30 56.0 -1.1
comp=E,1.7nm,0.3s,baz=237,slow=13,SNR=17
comp=E,1.7nm,0.3s
RES **Resolute Bay** 21.01 37 P P 07 30 57.5 +0.4
RES IAmb IAmb 07 31 16.1
comp=Z,6.2nm,0.7s
EUNU **Eureka** 23.29 23 P P 07 31 22.3 +2.0
SEY **Seymchan** 25.49 295 P P 07 31 39.9 -0.4
comp=Z,5.8nm,0.5s,baz=90,slow=6.6,SNR=15
comp=Z,5.8nm,0.5s
TULEG **Thule** 27.19 30 P P 07 31 59.5 +4.1
TULEG IAmb IAmb 07 32 18.8
comp=Z,11nm,1.2s
PDAR **Pinedale Array** 30.84 114 P P 07 32 27.2 -1.1
comp=Z,0.3nm,0.7s,baz=304,slow=6.4,SNR=1.6
comp=Z,0.3nm,0.7s
PDAR **Pinedale Array** 30.84 114 P P 07 32 30.4 +2.1
NVAR **Mina Array Bea** 31.33 130 P P 07 32 31.9 -0.8
comp=Z,0.3nm,0.5s,baz=334,slow=6.0,SNR=2.3
EYMN **Ely** 34.52 90 P P 07 33 01.2 +1.2
EYMN **Ely** 34.52 90 P P 07 33 01.4 +1.3
baz=319
E38A **The Farm, Brul** 35.51 91 P P 07 33 10.3 +1.8
E38A IAmb IAmb 07 33 13.3
comp=Z,4.0nm,0.8s
ECSD **EROS Data Cent** 35.53 99 P P 07 33 10.2 +1.4
ECSD **EROS Data Cent** 35.53 99 P P 07 33 09.9 +1.1
baz=323
SUMG **Summit** 36.07 29 *i* P P 07 33 14.0 +0.5
G40A **Rib Lake** 37.15 91 P P 07 33 24.2 +1.7
G40A IAmb IAmb 07 33 24.7
comp=Z,5.1nm,0.7s
L40A **Anamosa** 39.24 96 P P 07 33 41.2 +1.2
KSU1 **Kansas State U** 39.31 104 P P 07 33 41.6 +0.9
baz=326
SCHQ **Schefferville** 39.96 63 P P 07 33 44.2 -1.7
comp=Z,5.2nm,0.7s,baz=307,slow=6.0,SNR=6.9
comp=Z,5.2nm,0.7s
SCHQ **Schefferville** 39.96 63 P P 07 33 47.1 +1.2
SCHQ IAmb IAmb 07 34 03.1
comp=Z,10.0nm,1.0s
NRIK **Noril'sk** 41.27 333 P P 07 33 55.0 -1.4
comp=Z,3.0nm,0.6s,baz=29,slow=3.4,SNR=4.3
comp=Z,3.0nm,0.6s
KLR **Kul'dur** 43.03 289 P P 07 34 08.7 -2.3
comp=Z,2.1nm,0.6s,baz=58,slow=10,SNR=4.9
comp=Z,2.1nm,0.6s
TXAR **Lajitas Array** 44.84 118 P P 07 34 23.2 -2.5
baz=71,slow=16,SNR=2.9
TXAR **Lajitas Array** 44.84 118 P P 07 34 27.8 +2.1
ARCES **ARCESS Array B** 46.81 3 P P 07 34 39.2 -1.4
comp=Z,1.2nm,0.5s,baz=10,slow=7.5,SNR=7.7
comp=Z,1.2nm,0.5s
USRK **Ussuriysk Ar.** 46.89 285 P P 07 34 39.0 -2.5
comp=Z,1.7nm,0.5s,baz=149,slow=41,SNR=2.3
comp=Z,1.7nm,0.5s
TZTN **Tazewell** 47.15 93 P P 07 34 44.5 +0.9
baz=327
TKL **Tuckaleechee C** 47.80 94 LR LR 07 55 13.1
comp=Z,60nm,18.3s,baz=26,slow=36
SONM **Songino Array** 54.05 306 P P 07 35 34.4 -1.0
comp=Z,2.5nm,0.6s,baz=38,slow=7.5,SNR=6.6
comp=Z,2.5nm,0.6s
KSRS **Korea Array** 54.19 283 P P 07 35 34.6 -1.7
comp=Z,1.2nm,0.4s,baz=26,slow=6.5,SNR=5.3
comp=Z,1.2nm,0.4s
NOA **NORSAR Array B** 54.51 12 P P 07 35 38.3 -0.1
comp=Z,0.7nm,0.8s,baz=328,slow=4.9,SNR=1.9
comp=Z,0.7nm,0.8s
FINES **FINESS Array B** 54.94 3 P P 07 35 41.4 -0.1
comp=Z,1.7nm,0.6s,baz=357,slow=7.4,SNR=10.0
comp=Z,1.7nm,0.6s
ZALV **Zalesovo Beam** 55.35 325 P P 07 35 43.9 -0.6
comp=Z,3.1nm,0.3s,baz=22,slow=7.3,SNR=9.1
comp=Z,3.1nm,0.3s
ARU **Arti** 58.17 342 P P 07 36 04.7 +0.3
comp=Z,4.2nm,0.4s,baz=119,slow=19,SNR=7.8
comp=Z,4.2nm,0.4s
EKA **Eskdalemuir Ar** 58.22 22 P P 07 36 06.0 +1.2
comp=Z,1.3nm,0.4s,baz=338,slow=5.3,SNR=12
comp=Z,1.3nm,0.4s
KURK **Kurchatov** 59.85 327 P P 07 36 16.2 +0.2
KURK IAmb IAmb 07 36 16.5
comp=Z,3.5nm,0.9s
KURBB **Kurchatov Arra** 59.96 327 P P 07 36 16.2 -0.5
comp=Z,2.0nm,0.6s,baz=30,slow=7.3,SNR=23
comp=Z,2.0nm,0.6s
MKAR **Makanchi Array** 62.55 323 P P 07 36 33.5 -0.8
comp=Z,2.1nm,0.5s,baz=38,slow=6.7,SNR=29
comp=Z,2.1nm,0.5s
ABKAR **Akbulak array** 64.95 340 P P 07 36 50.7 +0.7
ABKAR IAmb IAmb 07 36 51.1
comp=Z,2.2nm,0.6s
AKASG **Malin Array Be** 65.76 1 P P 07 36 55.5 +0.3
comp=Z,1.4nm,0.4s,baz=3.0,slow=6.3,SNR=13
comp=Z,1.4nm,0.4s
AAK **Ala-Archa** 68.41 327 P P 07 37 12.8 +0.5
comp=Z,2.2nm,0.7s,baz=358,slow=4.5,SNR=4.2
comp=Z,2.2nm,0.7s
GEYT **Alibeck** 76.28 338 P P 07 38 00.4 +1.5
comp=Z,1.6nm,0.5s,baz=236,slow=21,SNR=2.0
comp=Z,1.6nm,0.5s
BRTR **Keskin Array B** 76.72 358 P P 07 38 02.9 +1.5
comp=Z,1.4nm,0.8s,baz=312,slow=37,SNR=2.6
comp=Z,1.4nm,0.8s
CMAR **Chiang Mai Arr** 82.88 298 P P 07 38 34.7 -0.1
comp=Z,1.3nm,0.5s,baz=350,slow=7.1,SNR=4.6
comp=Z,1.3nm,0.5s
BOSA **Boshof** 144.53 9 PKP PKPab 07 45 43.4 -0.8
comp=Z,5.1nm,1.1s,baz=10,slow=4.9,SNR=5.1

WEL 17 07:30:19.0±0.4,42°S±3°×17°4E±°,h5km,M3.8/39, ML3.9/15,MLv3.8/39,Error ellipse: s-maj=0.0km s-min=0.0km az=138.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.41**	**19**	P	Pg	07 30 27.5	+0.7
BSWZ				S	Sb	07 30 33.8	-1.4
CMWZ	**Cape Campbell**	**0.52**	**48**	P	Pb	07 30 30.1	-0.5
THZ	**Tophouse**	**0.68**	**299**	P	Pg	07 30 32.6	+0.6
THZ				S	Sb	07 30 42.0	-1.0
TUWZ	**Tuamarina**	**0.69**	**15**	P	Pg	07 30 32.7	+0.4
NNZ	**Nelson**	**0.91**	**345**	P	Pg	07 30 36.5	0.0
TCW	**Tory Channel**	**0.99**	**26**	P	Pg	07 30 37.5	-0.5
MRNZ	**Matariki Terra**	**0.99**	**315**	P	Pb	07 30 38.4	-0.3
GVZ	**Greta Valley S**	**1.00**	**209**	P	Pg	07 30 38.2	+0.1
WEL	**Wellington**	**1.14**	**45**	P	Pg	07 30 40.2	-0.6
TKNZ	**Takaka Hill**	**1.20**	**332**	P	Pg	07 30 41.7	-0.2
LTZ	**Lake Taylor**	**1.26**	**237**	P	Pg	07 30 42.3	-0.8
PLWZ	**Palliser**	**1.28**	**66**	P	Pg	07 30 41.1	-2.4
DUWZ	**D'Urville Isla**	**1.31**	**8**	P	Pn	07 30 42.9	-1.0
AMCZ	**Amberley**	**1.32**	**215**	P	Pn	07 30 42.5	-1.6
MSWZ	**Moikau Station**	**1.35**	**60**	P	Pn	07 30 42.2	-2.3
CAW	**Cannon Point**	**1.43**	**46**	P	Pn	07 30 43.8	-1.8
DSZ	**Denniston Nort**	**1.46**	**283**	P	Pb	07 30 46.6	0.0
PAWZ	**Paruwai Farm**	**1.48**	**62**	P	Pn	07 30 43.7	-2.6
KIW	**Kapiti Island**	**1.54**	**37**	P	Pn	07 30 45.9	-1.2
QRZ	**Quartz Range**	**1.55**	**325**	P	Pn	07 30 47.5	+0.3
TRWZ	**Traveller**	**1.65**	**65**	P	Pn	07 30 45.6	-2.9
MTW	**Mount Morrison**	**1.65**	**56**	P	Pn	07 30 46.0	-2.6
OKCZ	**Okains Bay**	**1.69**	**196**	P	Pn	07 30 46.8	-2.4
OGWZ	**Otaki Gorge**	**1.69**	**41**	P	Pn	07 30 47.5	-1.7
OXZ	**Oxford**	**1.73**	**224**	P	Pn	07 30 47.5	-2.3
MQZ	**McQueen's Vall**	**1.78**	**205**	P	Pn	07 30 47.3	-3.0
INZ	**Inchbonnie**	**1.78**	**249**	P	Pn	07 30 49.7	-0.7
HOWZ	**Holdsworth Sta**	**1.82**	**49**	P	Pn	07 30 48.5	-2.4
AKCZ	**Akaroa Harbour**	**1.86**	**198**	P	Pn	07 30 49.4	-2.2
TMWZ	**Te Maipa**	**1.92**	**60**	P	Pn	07 30 49.5	-2.9
RACZ	**Rakaia**	**1.99**	**215**	P	Pn	07 30 50.6	-2.6
MRZ	**Mangatainoka R**	**2.02**	**45**	P	Pn	07 30 51.4	-2.3
TIWZ	**Tintock**	**2.11**	**52**	P	Pn	07 30 52.4	-2.5
MHCZ	**Mount Hutt**	**2.12**	**227**	P	Pn	07 30 52.8	-2.3
WACZ	**Wakanui South**	**2.29**	**216**	P	Pn	07 30 54.8	-2.7
PRWZ	**Pori Road**	**2.31**	**49**	P	Pn	07 30 54.9	-2.8
POWZ	**Post Office Ro**	**2.31**	**43**	P	Pn	07 30 55.4	-2.4
BFZ	**Birch Farm**	**2.38**	**54**	P	Pn	07 30 55.4	-3.3
WVZ	**Waitaha Valley**	**2.39**	**245**	P	Pn	07 30 58.1	-0.7
RPZ	**Rata Peaks**	**2.52**	**229**	P	Pn	07 30 58.4	-2.3
WAZ	**Wanganui**	**2.54**	**23**	P	Pn	07 31 01.7	+0.9
DVHZ	**Dannevirke**	**2.59**	**47**	P	Pn	07 30 58.3	-3.2
ARCZ	**Arundel**	**2.61**	**224**	P	Pn	07 30 59.5	-2.3
ANWZ	**Angora Road**	**2.66**	**53**	P	Pn	07 30 59.5	-3.0
TSZ	**Tasapari Road**	**2.66**	**41**	P	Pn	07 31 00.1	-2.4
GCSZ	**Gaunt Creek Bo**	**2.77**	**243**	P	Pn	07 31 03.6	-0.3
KHEZ	**Kahui Hut**	**2.81**	**5**	P	Pb	07 31 10.5	+0.7
NBEZ	**Newall Road No**	**2.83**	**3**	P	Pb	07 31 08.7	-1.3
NEZ	**North Egmont**	**2.84**	**6**	P	Pb	07 31 09.7	-0.5
PNHZ	**Pukenui**	**2.89**	**42**	P	Pn	07 31 02.8	-2.9
PKE	**Pukeiti**	**2.91**	**4**	P	Pb	07 31 08.9	-2.5
TMZ	**Timaru**	**3.01**	**220**	P	Pn	07 31 04.7	-2.7
VRZ	**Vera Road**	**3.08**	**16**	P	Pn	07 31 09.2	+1.0
MOVZ	**Moawhango**	**3.11**	**31**	P	Pn	07 31 07.2	-1.6
WNVZ	**Wahianoa**	**3.12**	**28**	P	Pn	07 31 08.4	-0.6
TRVZ	**Turoa**	**3.13**	**27**	P	Pn	07 31 09.0	-0.2
WHVZ	**Whangaehu Hut**	**3.16**	**28**	P	Pn	07 31 09.3	-0.2
FOZ	**Fox Glacier**	**3.19**	**242**	P	Pn	07 31 09.1	-0.7
ETVZ	**East Tongariro**	**3.33**	**28**	P	Pb	07 31 16.6	-2.1
KWHZ	**Kaweka Forest**	**3.38**	**39**	P	Pn	07 31 09.5	-3.0
LBZ	**Lake Benmore**	**3.44**	**227**	P	Pn	07 31 10.9	-2.3
BKZ	**Black Stump Fm**	**3.62**	**37**	P	Pn	07 31 12.6	-3.2
ODZ	**Otaha Downs**	**3.69**	**216**	P	Pn	07 31 13.7	-2.9
HIZ	**Hauiti**	**3.69**	**14**	P	Pn	07 31 18.3	+1.7
MRHZ	**Matea Rd**	**3.87**	**33**	P	Pn	07 31 15.6	-3.5
JCZ	**Jackson Bay**	**4.10**	**240**	P	Pn	07 31 20.6	-1.8
HHSZ	**Highcliff Hill**	**4.39**	**210**	P	Pn	07 31 24.2	-2.1
EAZ	**Earnscleugh**	**4.46**	**224**	P	Pn	07 31 24.3	-3.0
LIRZ	**Lichensteins R**	**4.58**	**28**	P	Pn	07 31 33.0	+4.1
TUZ	**Tuapeka**	**4.84**	**216**	P	Pn	07 31 30.2	-2.3
AWAZ	**Awhitu Peninsu**	**5.08**	**9**	P	Pn	07 31 36.4	+0.7
MKAZ	**Moumakai**	**5.12**	**13**	P	Pn	07 31 36.6	+0.4
SYZ	**Scrubby Hill**	**5.51**	**215**	P	Pn	07 31 39.4	-2.3
APZ	**The Paps**	**6.25**	**219**	P	Pn	07 31 48.7	-3.1

IDC 17 07:53:41.3±2.1,3°49S×147°06E,h0km,mb3.7/3, mbtmp3.8/3,MS3.3/8,Error ellipse: s-maj=220.2km s-min=30.6km az=120.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**5.02**	**99**	LR	LR	07 56 55.3	
	comp=Z,289nm,19.7s,baz=39,slow=39						
HNR	**Honiara**	**14.10**	**115**	LR	LR	08 02 29.2	
	comp=Z,924nm,18.7s,baz=306,slow=38						
CTA	**Charters Tower**	**16.52**	**183**	LR	LR	08 02 52.6	
	comp=Z,56nm,21.0s,baz=77,slow=33						
WRA	**Warramunga Arr**	**20.53**	**216**	P	P	07 58 19.7	-1.8
	3.3nm,0.7s,baz=40,slow=11,SNR=26						
WRA				LR	LR	08 05 26.1	
	comp=Z,72nm,20.7s,baz=58,slow=34						
	3.3nm,0.7s						
ASAR	**Alice Springs**	**23.75**	**211**	P	P	07 58 57.0	+1.4
	2.0nm,0.7s,baz=42,slow=8.7,SNR=20						
ASAR				LR	LR	08 08 52.8	
	comp=Z,82nm,20.2s,baz=98,slow=38						
	2.0nm,0.7s						
STKA	**Stephens Creek**	**28.70**	**190**	LR	LR	08 12 32.6	
	comp=Z,60nm,19.1s,baz=23,slow=39						
CMAR	**Chiang Mai Arr**	**52.16**	**297**	LR	LR	08 24 49.9	
	comp=Z,12nm,18.1s,baz=210,slow=36						
YAK	**Yakutsk**	**66.68**	**351**	LR	LR	08 33 23.5	
	comp=Z,28nm,18.1s,baz=93,slow=36						
ILAR	**Eielson Array**	**83.16**	**23**	P	P	08 06 08.8	-0.3
	0.4nm,0.9s,baz=255,slow=5.8,SNR=2.0						
	0.4nm,0.9s						

WEL 17 08:16:12.5±0.5,42°S±3°×17°4E±°,h5km,M3.2/24,

ML3.5/11,MLv3.2/24,Error ellipse: s-maj=0.0km s-min=0.0km az=128.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.61**	**18**	P	Pg	08 16 24.1	0.0
BSWZ				S	Sb	08 16 33.4	-1.0
THZ	**Tophouse**	**0.75**	**314**	P	Pg	08 16 27.2	+0.3
THZ				S	Sg	08 16 37.6	+1.0
GVZ	**Greta Valley S**	**0.80**	**213**	P	Pb	08 16 28.5	-0.4
TUWZ	**Tuamarina**	**0.90**	**16**	P	Pg	08 16 29.5	-0.1
NNZ	**Nelson**	**1.09**	**350**	P	Pg	08 16 32.8	-0.6
MRNZ	**Matariki Terra**	**1.10**	**324**	P	Pg	08 16 33.6	+0.1
LTZ	**Lake Taylor**	**1.11**	**243**	P	Pg	08 16 33.1	-0.7
AMCZ	**Amberley**	**1.14**	**219**	P	Pg	08 16 33.8	-0.5
TCW	**Tory Channel**	**1.19**	**25**	P	Pg	08 16 33.8	-1.4
TKNZ	**Takaka Hill**	**1.35**	**338**	P	Pn	08 16 37.6	-0.4
PLWZ	**Palliser**	**1.42**	**60**	P	Pn	08 16 35.9	-3.0
DSZ	**Denniston Nort**	**1.46**	**291**	P	Pn	08 16 39.3	-0.3
OKCZ	**Okains Bay**	**1.49**	**196**	P	Pn	08 16 37.0	-2.9
MSWZ	**Moikau Station**	**1.50**	**55**	P	Pn	08 16 37.0	-3.0
DUWZ	**D'Urville Isla**	**1.51**	**9**	P	Pn	08 16 39.1	-1.0
OXZ	**Oxford**	**1.56**	**228**	P	Pn	08 16 38.2	-2.7
MQZ	**McQueen's Vall**	**1.58**	**206**	P	Pn	08 16 37.8	-3.3
CAW	**Cannon Point**	**1.60**	**43**	P	Pn	08 16 38.5	-2.9
AKCZ	**Akaroa Harbour**	**1.66**	**198**	P	Pn	08 16 38.9	-3.3
QRZ	**Quartz Range**	**1.68**	**330**	P	Pn	08 16 42.9	+0.4
RACZ	**Rakaia**	**1.80**	**217**	P	Pn	08 16 41.2	-2.9
OGWZ	**Otaki Gorge**	**1.88**	**39**	P	Pn	08 16 42.5	-2.7
MHCZ	**Mount Hutt**	**1.95**	**230**	P	Pn	08 16 43.2	-3.1
HOWZ	**Holdsworth Sta**	**1.99**	**46**	P	Pn	08 16 44.2	-2.5
WACZ	**Wakanui South**	**2.10**	**218**	P	Pn	08 16 45.6	-2.7
MRZ	**Mangatainoka R**	**2.19**	**43**	P	Pn	08 16 47.2	-2.4
RPZ	**Rata Peaks**	**2.36**	**232**	P	Pn	08 16 49.3	-2.6
ARCZ	**Arundel**	**2.44**	**226**	P	Pn	08 16 50.2	-2.7
GCSZ	**Gaunt Creek Bo**	**2.63**	**246**	P	Pn	08 16 54.6	-1.0
WNVZ	**Wahianoa**	**3.32**	**27**	P	Pb	08 17 08.5	-3.3
ODZ	**Otaha Downs**	**3.50**	**217**	P	Pn	08 17 04.3	-3.2
JCZ	**Jackson Bay**	**3.96**	**242**	P	Pn	08 17 13.4	-0.6
EAZ	**Earnscleugh**	**4.29**	**225**	P	Pn	08 17 15.9	-2.5
RTZ	**Ruatahuna**	**4.48**	**36**	P	Pn	08 17 17.5	-3.5
TWGZ	**Tauwhareparae**	**5.29**	**40**	P	Pn	08 17 26.4	-5.8

TRN 17 08:17:55.8, 10.40N×62.91W, h70km, MD4.0
FUNV 17 08:17:57.1, 10.42N×62.88W, h19km, MW3.6
ISC 17 08:17:55.8±1.2,10°45N±0.05×62°93W±0.03,h21km±4km, n37,σ1°8/49,1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.38**	**306**	*iP*	**Pb**	**08 18 03.7**	**0.0**
CRUV				*eS*	**Sb**	**08 18 10.4**	**+1.3**
TPP	**Pointe-a-Pierr**	**1.46**	**95**	*eP*	**Pb**	**08 18 22.3**	**0.0**
TRN	**Trinidad (W)**	**1.51**	**82**	*eP*	**Pn**	**08 18 21.7**	**0.0**
TRN				*eS*	**Sn**	**08 18 40.8**	**0.0**
PCRV	**Puerto La Cruz**	**1.71**	**261**	*eP*	**Pb**	**08 18 25.6**	**-0.9**
PCRV				*eS*	**Sn**	**08 18 46.5**	**+0.9**
TBH	**Brigand Hill**	**1.83**	**89**	*eP*	**Pb**	**08 18 27.8**	**-0.8**
GRFF	**Grenada Fort F**	**1.97**	**36**	*eP*	**Pn**	**08 18 28.9**	**+0.9**
GRFF				*eS*	**Sn**	**08 18 53.6**	**+1.5**
GRGR	**Grenville**	**2.08**	**37**	*eP*	**Pn**	**08 18 30.2**	**+0.5**
GRGR				*eS*	**Sb**	**08 18 56.9**	**-1.6**
PRGV	**PARIAGUAN**	**2.39**	**225**	*eP*	**Pn**	**08 18 35.1**	**+1.3**
PRGV				*eS*	**Sn**	**08 19 03.1**	**+0.7**
TOSP	**Speyside**	**2.49**	**70**	*eP*	**Pn**	**08 18 36.1**	**+0.8**
GCMP	**Grenada, Carri**	**2.50**	**36**	*eP*	**Pn**	**08 18 36.2**	**+0.9**
GCMP				*eS*	**Sn**	**08 19 05.7**	**+0.5**
SVB	**Belmont**	**3.25**	**30**	*eP*	**Pn**	**08 18 47.5**	**+1.8**
SVB				*eS*	**Sn**	**08 19 23.4**	**-0.3**
MERV	**Las Mercedes**	**3.53**	**251**	*eP*	**Pn**	**08 18 50.1**	**+0.6**
MERV				*eS*	**Sn**	**08 19 29.2**	**-1.5**
MCLT	**Moule a Chique**	**3.78**	**31**	*eP*	**Pn**	**08 18 53.3**	**+0.4**
MCLT				*eS*	**Sn**	**08 19 38.1**	**+1.4**
FUNV	**FUNVISIS**	**3.82**	**271**	*eP*	**Pn**	**08 18 54.7**	**+1.1**
FUNV				*eS*	**Sn**	**08 19 37.2**	**-0.8**
SLBI	**Saint Lucia, B**	**4.03**	**28**	*eP*	**Pn**	**08 18 56.8**	**+0.4**
SLBI				*eS*	**Sn**	**08 19 41.3**	**-1.7**
TACV	**Tcata**	**4.05**	**266**	*eP*	**Pn**	**08 18 57.6**	**+0.9**
BIM	**Bigot**	**4.43**	**24**	*eP*	**Pn**	**08 19 02.2**	**+0.3**
BIM	**Bigot**	**4.43**	**24**	*eS*	**Sn**	**08 19 52.4**	**-0.5**
MPOM	**Morne Pois Mar**	**4.45**	**27**	*eP*	**Pn**	**08 19 03.9**	**+1.7**
MPOM	**Morne Pois Mar**	**4.45**	**27**	*eS*	**Sn**	**08 19 53.3**	**-0.1**
CACV	**CAICARA DEL OR**	**4.58**	**232**	*eP*	**Pn**	**08 18 59.3**	**-4.7**
FDF	**Fort de France**	**4.60**	**22**	*eP*	**Pn**	**08 19 05.0**	**+0.8**
BENV	**Beln**	**4.63**	**264**	*eP*	**Pn**	**08 19 05.2**	**+0.5**
BENV				*eS*	**Sn**	**08 19 55.2**	**-2.6**
TURV	**Turiamo**	**4.83**	**270**	*eP*	**Pn**	**08 19 08.1**	**+0.7**
DSLB	**Salisbury**	**5.17**	**16**	*eP*	**Pn**	**08 19 13.1**	**+1.1**
BAUV	**El Baul**	**5.26**	**254**	*eP*	**Pn**	**08 19 14.2**	**+0.8**
BAUV	**El Baul**	**5.26**	**254**	*eP*	**Pn**	**08 19 13.8**	**+0.4**
MAPV	**Macapo**	**5.48**	**264**	*eP*	**Pn**	**08 19 17.1**	**+0.8**
MAGL	**Barre de l'ile**	**5.70**	**16**	*eP*	**Pn**	**08 19 20.4**	**+1.1**
CBE	**Ff, Capester**	**5.73**	**13**	*eP*	**Pn**	**08 19 20.8**	**+1.0**
CBE	**Ff, Capester**	**5.73**	**13**	*eS*	**Sn**	**08 20 23.3**	**-1.7**
JACV	**Jacura**	**5.84**	**277**	*eP*	**Pn**	**08 19 22.2**	**+1.0**
ABD	**La Joyeuse, An**	**6.15**	**13**	*eP*	**Pn**	**08 19 25.5**	**0.0**
ABD	**La Joyeuse, An**	**6.15**	**13**	*eS*	**Sn**	**08 20 33.5**	**-1.8**
ANBD	**Bethesda, Anti**	**6.66**	**10**	*eP*	**Pn**	**08 19 33.4**	**+1.0**
SIQV	**Siquisique**	**6.77**	**272**	*eP*	**Pn**	**08 19 34.3**	**+0.2**
ANWB	**Willy Bob**	**7.26**	**9**	*eP*	**Pn**	**08 19 41.4**	**+0.6**

IDC 17 08:18:56.9±0.9,50°26N×19°06E, h0km, mb3.5/2, mbtmp3.5/8, ML2.9/7, Error ellipse: s-maj=17.1km s-min=7.5km az=145.0
IPEC 17 08:18:57.1±0.2,50°19N×19°12E, h1km, ML2.8/3, Error ellipse: s-maj=2.6km s-min=1.0km az=168.0
VIE 17 08:18:57.7±1.1,50°17N×19°06E, h0km, mb2.8/9, ml2.8/7, ms3.8/2, Error ellipse: s-maj=17.9km s-min=5.1km az=157.0 11 km SSE of Katowice Suspected Mining induced.
PRU 17 08:18:57.4±0.0,50°27N×19°08E, h0km
MCSM 17 08:18:57.1±0.5,50°N±7°×1°9E±°,h4km±4km, ML3.3
ISC 17 08:18:56.9±0.6,50°29N±0.03×19°07E±0.02,h0km,n67, σ1°23/101,Poland

| Code |

VRAC					*e*Sg		**Sb**	**08 19 55.5**	**-0.6**
	50nm,0.3s,baz=61									
CHVC	**Chvalec**		**1.95**	**280**	*e*PG		**Pn**	**08 19 32.0**	**+0.7**
CHVC					*e*SG		**Sg**	**08 20 00.2**	**+0.6**
	comp=Z,60nm,0.7s									
UPC	**Upice**		**1.97**	**278**	*e*PG		**Pn**	**08 19 32.6**	**+1.1**
UPC					*e*SG		**Sg**	**08 20 00.8**	**+0.7**
	comp=Z,44nm,0.5s									
KECS	**Kecovo**		**2.03**	**152**	*e*PN		**Pn**	**08 19 32.1**	**-0.2**
KECS					eLG		Lg	08 20 08.9		
CRVS	**Cervenica-Dubn**		**2.08**	**131**	*e*PN		**Pb**	**08 19 34.5**	**-1.0**
CRVS					*e*SN		**Sg**	**08 20 04.8**	**+1.1**
KRUC	**Moravsky**		**2.13**	**236**	*e*PN		**Pn**	**08 19 33.5**	**-0.1**
KRUC					*e*SG		**Sb**	**08 20 02.8**	**-0.4**
KRUC	**Moravsky**		**2.13**	**236**	*e*Pn		**Pn**	**08 19 33.5**	**-0.1**
	baz=56									
KRUC					*e*Sg		**Sb**	**08 20 02.8**	**-0.4**
	44nm,0.7s,baz=56									
MODS	**Modra-Piesok**		**2.25**	**212**	*e*PN		**Pn**	**08 19 35.3**	**0.0**
MODS					*e*SN		**Sb**	**08 20 07.2**	**+0.6**
PSZ	**Piszkesteto**		**2.43**	**167**	P		**Pn**	**08 19 38.2**	**+0.3**
ZST	**Bratislava**		**2.46**	**212**	*e*PN		**Pn**	**08 19 37.8**	**-0.4**
ZST					*e*SN		**Sn**	**08 20 08.0**	**-0.9**
KOLS	**Kolonicke sedl**		**2.48**	**122**	*e*PN		**Pn**	**08 19 39.2**	**+0.6**
KOLS					*e*SN		**Sn**	**08 20 09.8**	**+0.2**
GOPC	**GO Pecny, Ondr**		**2.78**	**264**	*e*PN		**Pn**	**08 19 42.8**	**+0.1**
GOPC					*e*SG		**Sg**	**08 20 25.0**	**-1.2**
	comp=Z,34nm,0.6s									
PVCC	**Panska Ves**		**2.89**	**277**	*e*SG		**Sg**	**08 20 29.7**	**0.0**
	comp=Z,55nm,0.8s									
PRU	**Pruhonice**		**2.93**	**266**	*e*PN		**Pn**	**08 19 44.5**	**-0.2**
PRU					*e*SG		**Sg**	**08 20 30.3**	**-0.6**
	comp=Z,22nm,0.5s									
PRU	**Pruhonice**		**2.93**	**266**	Pn		**Pn**	**08 19 44.5**	**-0.2**
TRPA	**Tarpa**		**3.13**	**132**	P		**Pn**	**08 19 48.8**	**+1.3**
CONA	**Conrad Observa**		**3.17**	**223**	*e*Pn		**Pn**	**08 19 47.6**	**-0.4**
	0.3nm,0.1s									
CONA					*e*Sn		**Sn**	**08 20 25.9**	**-0.5**
	5.7nm,0.3s									
RONA	**Rosalia, Austr**		**3.17**	**216**	*e*Pn		**Pn**	**08 19 48.4**	**+0.4**
	2.7nm,0.2s									
RONA					*e*Sn		**Sn**	**08 20 23.1**	**-3.4**
	12nm,0.5s									
MPLH	**Magyarpolny**		**3.28**	**199**	P		**Pn**	**08 19 50.0**	**+0.5**
BRG	**Berggiesshubel**		**3.32**	**282**	Pg		**Pg**	**08 20 00.7**	**+0.2**
BRG					Sg		**Sg**	**08 20 44.8**	**+1.3**
BRG					Amp			08 20 46.0		
	comp=Z,18nm,0.6s									
CKRC	**Cesky Krumlov**		**3.43**	**246**	*e*PN		**Pn**	**08 19 52.6**	**+1.0**
CKRC					*e*SG		**Sg**	**08 20 45.3**	**-1.7**
KHC	**Kasperske Hory**		**3.75**	**254**	*e*PN		**Pn**	**08 19 56.0**	**0.0**
KHC					*e*SG		**Sg**	**08 20 55.9**	**-1.3**
	comp=Z,31nm,0.6s									
GERES	**GERESS Array B**		**3.78**	**250**	Pn		**Pn**	**08 19 56.9**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=69,slow=14,SNR=17									
GERES					Pg		**Pb**	**08 20 04.8**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=64,slow=15,SNR=13									
GERES					Lg		Lg	08 20 56.4		
	comp=Z,7.3nm,0.3s,baz=61,slow=28,SNR=13									
	comp=Z,1.8nm,0.4s									
ARSA	**Arzberg**		**3.84**	**219**	*e*Pn		**Pn**	**08 19 57.3**	**+0.1**
	comp=Z,1.2nm,0.2s									
ARSA					*e*Sg		**Sg**	**08 21 03.9**	**+3.8**
	comp=Z,3.8nm,0.3s									
CLL	**Collm**		**3.98**	**287**	*i* Pg		**Pg**	**08 20 14.1**	**+0.9**
CLL					*i* Sg		**Sg**	**08 21 05.9**	**+1.1**
	comp=Z,20nm,0.5s									
MOA	**Molln**		**3.99**	**234**	*e*Pn		**Pn**	**08 19 59.7**	**+0.4**
	comp=Z,0.7nm,0.1s									
MOA					*e*Sn		**Sn**	**08 20 46.9**	**+0.1**
	comp=Z,12nm,0.5s									
NKC	**Novy Kostel**		**4.25**	**272**	*e*PN		**Pn**	**08 20 03.0**	**+0.2**
NKC					*e*SG		**Sg**	**08 21 11.8**	**-1.5**
	comp=Z,23nm,0.6s									
RNPP1	**Kostyukhnivka**		**4.38**	**73**	Pg		**Pg**	**08 20 19.8**	**-0.9**
SIRR	**Siria**		**4.38**	**156**	Pn		**Pn**	**08 20 05.2**	**+0.6**
OBKA	**Obir**		**4.83**	**220**	*e*Pn		**Pn**	**08 20 12.5**	**+1.6**
	comp=Z,2.0nm,0.3s									
KBA	**Koelnbreinsper**		**4.97**	**232**	*e*Pn		**Pn**	**08 20 13.4**	**+0.6**
	comp=Z,1.1nm,0.3s									
KBA					*e*Sn		**Sn**	**08 21 10.3**	**-0.8**
	comp=Z,4.7nm,0.5s									
KMPD	**K-Podol'skiy**		**5.12**	**107**	Pn		**Pn**	**08 20 14.8**	**+0.1**
KMPD					pP		Pb	08 20 16.4	-11	
BSD	**Bornholm Skovb**		**5.46**	**334**	*e*P		**Pn**	**08 20 20.4**	**+1.1**
MI28	**MI28,Pidlybu**		**5.51**	**80**	Pn		**Pn**	**08 20 20.5**	**+0.4**
LUBAR	**Lubar, Ukraine**		**5.60**	**90**	Pn		**Pn**	**08 20 20.8**	**-0.6**
LUBAR					pP		Pb	08 20 22.2	-13	
ABTA	**Abfaltersbach**		**5.61**	**233**	*e*Sg		**Sg**	**08 21 55.4**	**-1.7**
	comp=Z,3.5nm,0.4s									
WTTA	**Wattenberg**		**5.77**	**241**	*e*Sg		**Sg**	**08 22 04.5**	**+2.4**
	comp=Z,12nm,0.5s									
LUNU	**Lund**		**6.34**	**330**	*i* P		**Pn**	**08 20 33.0**	**+1.5**
FETA	**Feichten**		**6.42**	**243**	*e*Sg		**Sg**	**08 22 26.9**	**+4.0**
	comp=Z,1.4nm,0.3s									
AKASG	**Malin Array Be**		**6.49**	**82**	Pn		**Pn**	**08 20 30.4**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=216,slow=16,SNR=1.7									
AKASG					Lg		Lg	08 22 20.6		
	comp=Z,1.5nm,0.3s,baz=262,slow=25,SNR=5.2									
AKBB	**Malin Array Si**		**6.49**	**82**	Pg		**Pg**	**08 21 00.7**	**-0.5**
AKBB					Pn		**Pn**	**08 20 33.4**	**-0.2**
AKBB					pP		Pb	08 20 34.6	-16	
NACGM	**Naroch**		**6.59**	**42**	*e*P		Pn	08 20 21.8	-13	
	comp=Z,29nm,0.9s,baz=226									
BJUU	**Bjuv**		**6.84**	**330**	*e*P		**Pn**	**08 20 40.8**	**+2.5**
BJUU					*e*S		**Sn**	**08 21 53.3**	**-3.5**
DEL	**Delary**		**6.93**	**335**	*i* P		**Pn**	**08 20 40.0**	**+0.4**
DEL					*e*S		**Sn**	**08 21 56.9**	**-2.1**
DAVOX	**Davos/Dischmat**		**7.04**	**244**	Pn		**Pn**	**08 20 42.9**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=36,slow=9.4,SNR=3.3									
DAVOX					Lg		Lg	08 22 42.8		
	comp=Z,0.9nm,0.3s,baz=339,slow=20,SNR=4.2									
	comp=Z,2.1nm,0.4s									
HFS	**Hagfors**		**10.33**	**345**	Pn		Pn	08 21 21.2	-4.9	
	comp=Z,0.1nm,0.3s,baz=79,slow=16,SNR=1.3									
	comp=Z,2.9nm,1.0s									
NOA	**NORSAR Array B**		**11.64**	**341**	Pn		Pn	08 21 38.9	-5.2	
	baz=257,slow=16,SNR=1.1									
	comp=Z,0.4nm,0.6s									
FINES	**FINESS Array B**		**11.85**	**17**	Pn		Pn	08 21 40.4	-6.5	
	comp=Z,0.1nm,0.3s,baz=219,slow=20,SNR=1.3									
	comp=Z,2.0nm,0.8s									
VAE	**Valguarnera**		**13.23**	**196**	Pn		**Pn**	**08 22 06.1**	**+0.1**
	comp=Z,18nm,0.3s,baz=343,slow=11,SNR=9.8									
ARCES	**ARCESS Array B**		**19.56**	**7**	P		**P**	**08 23 24.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=9.7									
	comp=Z,1.1nm,0.7s									
TORD	**Torodi Ar. Bea**		**39.67**	**207**	P		**P**	**08 26 31.0**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=3.8,slow=8.7,SNR=2.2									
	comp=Z,0.2nm,0.4s									
SONM	**Songino Array**		**54.05**	**56**	P		**P**	**08 28 24.9**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=304,slow=10,SNR=3.2									
	comp=Z,0.7nm,0.6s									

ISK ***17*** *08:19:47.8,38˚.40N×28˚.51E,h6km,ML2.5/11*
DDA ***17*** *08:19:48.5±0.0,38˚.40N×28˚.48E,h4km±1km,ML2.1*
ISC 17 08:19:48.4±0.9,**38˚.41N**±0˚.03×**28˚.49E**±0˚.03,**h9**km±7km,
n24, σ0**61**/34,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MANT	**Manisa**	**0.10**	**33**	P		**Pg**	**08 19 51.0**	**0.0**
MANT				S		**Sg**	**08 19 52.6**	**-0.3**
MANT				*i* AML		AML	08 19 53.0	
	comp=N,2μm,0.1s							
MANT				*i* AML		AML	08 19 53.0	
	comp=E,1μm,0.1s							
KULA	**Kula-Manisa**	**0.17**	**51**	PG		**Pg**	**08 19 52.4**	**+0.4**
KULA				SG		**Sg**	**08 19 54.6**	**+0.1**
USAK	**Uak-Merkez**	**0.52**	**53**	P		**Pg**	**08 19 58.4**	**+0.1**
USAK				S		**Sb**	**08 20 06.8**	**-0.5**
USAK				*i* AML		AML	08 20 08.0	
	comp=N,157nm,0.2s							
USAK				*i* AML		AML	08 20 08.0	
	comp=E,272nm,0.2s							
GOMA	**Golmarmara-Man**	**0.54**	**304**	PG		**Pg**	**08 19 58.9**	**+0.1**
GOMA				SG		**Sb**	**08 20 07.2**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.66**	**226**	PG		**Pg**	**08 20 00.9**	**-0.2**
AYDB				SG		**Sg**	**08 20 10.1**	**+0.4**
DEMI	**Demirci**	**0.66**	**16**	P		**Pg**	**08 20 01.3**	**+0.1**
DEMI				S		**Sg**	**08 20 08.9**	**-0.8**
DEMI				*i* AML		AML	08 20 11.0	
	comp=N,131nm,0.1s							
DEMI				*i* AML		AML	08 20 12.0	
	comp=E,155nm,0.3s							

AKHS	**Akhisar**		**0.71**	**312**	P		**Pb**	**08 20 02.8**	**-0.1**
AKHS					S		**Sb**	**08 20 12.7**	**-0.1**
AKHS					*i* AML		AML	08 20 13.0	
	comp=E,59nm,0.4s									
SIMA	**Simav-Kutahya**		**0.78**	**30**	PG		**Pg**	**08 20 02.3**	**-1.1**
PASA	**Karahalli, USA**		**0.79**	**94**	P		**Pb**	**08 20 04.1**	**-0.2**
PASA					S		**Sg**	**08 20 13.4**	**-0.3**
PASA					*i* AML		AML	08 20 18.0	
	comp=N,44nm,0.6s									
SMAA	**Simav-Kutahya**		**0.79**	**29**	PG		**Pg**	**08 20 03.5**	**-0.1**
GEDZ	**Gediz**		**0.96**	**48**	PG		**Pg**	**08 20 06.8**	**-0.1**
TAVA	**DENIZLI_Tavas**		**1.00**	**160**	P		**Pb**	**08 20 07.5**	**-0.4**
TAVA					S		**Sb**	**08 20 22.1**	**+0.9**
GDZ	**Gediz**		**1.03**	**48**	P		**Pg**	**08 20 07.3**	**-0.9**
GDZ					S		**Sb**	**08 20 22.7**	**+0.5**
APMY	**Acipayam-Deniz**		**1.13**	**145**	PN		**Pg**	**08 20 09.7**	**-0.4**
BLCB	**Balcova**		**1.14**	**269**	PN		**Pn**	**08 20 10.7**	**+0.2**
MLSB	**Milas**		**1.25**	**207**	PN		**Pg**	**08 20 11.9**	**-0.4**
YER	**Yerkesik**		**1.28**	**187**	PN		**Pg**	**08 20 12.6**	**-0.3**
TVSB	**Tavsanli**		**1.29**	**36**	PN		**Pg**	**08 20 11.9**	**-1.2**
URLA	**Izmir**		**1.49**	**269**	PN		**Pb**	**08 20 16.2**	**0.0**
TURN	**Turunc**		**1.64**	**187**	PN		**Pb**	**08 20 18.2**	**-0.6**
EDC	**Edincik**		**2.00**	**346**	PN		**Pn**	**08 20 23.1**	**+0.7**
CAVI	**Cavuskoy**		**2.08**	**30**	PN		**Pn**	**08 20 24.7**	**+1.2**
BORA	**Eskisehir**		**2.12**	**45**	PN		**Pn**	**08 20 25.1**	**+1.0**
YLV	**Yalova**		**2.26**	**17**	PN		**Pn**	**08 20 26.9**	**+0.8**

IDC ***17*** *08:21:04.7±0.9,56˚.12S×26˚.59W,h0km,mb3.8/4,*
mbtmp3.8/5,ML3.5/1, Error ellipse: s-maj=35.2km
s-min=27.8km az=64.0
NEIC ***17*** *08:21:10.1±1.3,56˚.4S±0˚.1×27˚.0W±0˚.2,h26km±6km,*
mb4.4/21, Error ellipse: s-maj=17.4km s-min=14.1km
az=213.0
ISC 17 08:21:10.2±0.6,**56˚.31S**±0˚.09×**26˚.84W**±0˚.09,**h35**km,**n45,**
σ0**89**/40,**mb4.1**/12,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.87**	**286**	Pn		**Pn**	**08 22 35.0**	**+0.4**
VNA1	**Neumayer--Stat**	**16.48**	**158**	P		**Pn**	**08 24 58.3**	**0.0**
ESPZ	**Base Esperanza**	**16.60**	**232**	Pn		**Pn**	**08 24 58.9**	**-0.8**
VNA3	**Neumayer Olymp**	**16.68**	**161**	P		**P**	**08 25 02.6**	**-0.3**
VNA2	**Neumayer--Watz**	**16.88**	**158**	P		**Pn**	**08 25 02.9**	**-0.4**
	baz=321,slow=14							
SNAA	**Sanae**	**18.43**	**156**	P		**P**	**08 25 20.6**	**-1.6**
SNAA	**Sanae**	**18.43**	**156**	P		**Pn**	**08 25 22.1**	**-0.3**
	0.2nm,0.3s,baz=321,slow=13,SNR=8.5							
	1.4nm,0.8s							
SNAA	**Sanae**	**18.43**	**156**	P		**Pn**	**08 25 21.7**	**-0.8**
PMSA	**Palmer Station**	**19.88**	**230**	P		**P**	**08 25 36.1**	**-1.9**
PMSA				IAmb		IAmb	08 25 58.1	
	comp=Z,21nm,1.3s							
TROLL	**Troll, Antarti**	**19.93**	**153**	P		**Pn**	**08 25 40.0**	**-0.5**
SMAI	**San Martin Ant**	**21.70**	**221**	P		**P**	**08 25 57.8**	**+0.2**
BELA	**Belgrano 2**	**21.84**	**184**	P		**P**	**08 25 59.2**	**+0.2**
BELA				IAmb		IAmb	08 26 10.6	
	comp=Z,5.5nm,0.6s							
PLCA	**Paso Flores**	**32.24**	**280**	P		**P**	**08 27 35.2**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=111,slow=5.6,SNR=2.8							
	comp=Z,1.4nm,0.9s							
QSPA	**South Pole Qui**	**33.94**	**180**	P		**P**	**08 27 50.1**	**+0.3**
QSPA				IAmb		IAmb	08 28 01.4	
	comp=Z,4.3nm,0.6s							
MT03	**Universidad Ad**	**37.54**	**289**	P		**P**	**08 28 21.0**	**+0.2**
VA03	**San Esteban**	**38.13**	**289**	P		**P**	**08 28 25.9**	**+0.1**
VA03				IAmb		IAmb	08 28 47.4	
	comp=Z,13nm,1.1s							
ROC1	**El Roble**	**38.21**	**289**	P		**P**	**08 28 27.7**	**+1.0**
MAW	**Mawson**	**39.83**	**143**	P		**P**	**08 28 40.1**	**+0.7**
SUR	**Sutherland**	**40.52**	**74**	P		**P**	**08 28 47.0**	**+1.1**
GO02	**Mina Guanaco**	**43.78**	**297**	P		**P**	**08 29 13.1**	**+0.4**
GO02				IAmb		IAmb	08 29 39.0	
	comp=Z,16nm,1.2s							
LVC	**Limon Verde**	**45.60**	**300**	P		**P**	**08 29 27.4**	**+0.2**
LVC				IAmb		IAmb	08 29 29.8	
	comp=Z,5.3nm,1.1s							
SBA	**Scott Base**	**45.84**	**184**	P		**P**	**08 29 29.4**	**+1.4**
SBA				IAmb		IAmb	08 29 44.3	
	comp=Z,3.5nm,1.3s							
VNDA	**Vanda**	**46.33**	**183**	P		**P**	**08 29 33.9**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=194,slow=6.4,SNR=1.6							
	comp=Z,0.3nm,0.5s							
VNDA	**Vanda**	**46.33**	**183**	P		**P**	**08 29 33.3**	**+1.5**
PB03	**IPOC Station P**	**46.48**	**299**	P		**P**	**08 29 35.4**	**+1.5**
H10S2	**ASCENSION HYDR**	**48.19**	**16**	T		T	09 21 20.2	
	baz=32,slow=74,SNR=3.8							
H10S3	**ASCENSION HYDR**	**48.20**	**16**	T		T	09 21 19.4	
	baz=188,slow=74,SNR=6.7							
GO01	**Chusmiza**	**48.25**	**302**	P		**P**	**08 29 48.6**	**+0.6**
GO01				IAmb		IAmb	08 29 56.5	
	comp=Z,6.2nm,1.2s							
H10N1	**ASCENSION HYDR**	**49.31**	**16**	T		T	09 22 43.0	
	baz=188							
H10N3	**ASCENSION HYDR**	**49.31**	**16**	T		T	09 22 45.6	
	baz=188,slow=74							
H10N2	**ASCENSION HYDR**	**49.33**	**16**	T		T	09 22 47.2	
	baz=188,slow=74							
LPAZ	**La Paz**	**50.68**	**305**	P		**P**	**08 30 07.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=76,slow=0.2,SNR=1.7							
	comp=Z,0.5nm,0.3s							
LPAZ	**La Paz**	**50.68**	**305**	P		**P**	**08 30 07.3**	**+0.6**
LPAZ				IAmb		IAmb	08 30 16.9	
	comp=Z,3.5nm,1.4s							
TOA0	**Torodi Ar. Sit**	**73.18**	**29**	P		**P**	**08 32 36.4**	**-0.8**
TOA0				IAmb		IAmb	08 32 44.4	
	comp=Z,1.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**73.18**	**29**	P		**P**	**08 32 36.2**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=200,slow=7.1,SNR=8.7							
	comp=Z,1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**73.18**	**29**	P		**P**	**08 32 36.6**	**-0.6**
PDAR	**Pinedale Array**	**120.64**	**302**	PKP		**PKPdf**	**08 39 56.6**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=133,slow=6.3,SNR=1.4							
FINES	**FINESS Array B**	**124.52**	**28**	PKP		**PKPdf**	**08 40 03.1**	**-1.0**
	comp=Z,7.6nm,1.1s,baz=253,slow=4.2,SNR=1.8							
INK	**Inuvik**	**146.13**	**320**	PKPdf		**PKPbc**	**08 40 44.4**	**-0.5**
EPYK	**Eagle Plains**	**146.75**	**316**	PKPdf		**PKPbc**	**08 40 46.0**	**-0.8**
DAWY	**Dawson**	**147.11**	**312**	PKPdf		**PKPbc**	**08 40 47.2**	**-0.7**
BCAR	**Beaver Creek A**	**147.81**	**309**	PKPdf		**PKPbc**	**08 40 49.5**	**-0.4**
L27K	**Beaver Creek,**	**147.82**	**309**	PKPdf		**PKPbc**	**08 40 49.1**	**-0.8**
ILAR	**Eielson Array**	**150.43**	**311**	PKPbc		**PKPbc**	**08 40 55.9**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=142,slow=3.7,SNR=16							
SONM	**Songino Array**	**150.55**	**87**	PKPbc		**PKPbc**	**08 40 56.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=182,slow=3.8,SNR=3.6							

IDC ***17*** *08:22:42.5±0.5,7˚.78N×82˚.04W,h0km,mb4.1/14,*
mbtmp4.1/18,ML3.5/4,MS3.7/23, Error ellipse:
s-maj=28.1km s-min=11.8km az=55.0
UPA ***17*** *08:22:43.7±1.0,7˚.69N×82˚.32W,h0km±3km,MW4.4*
UCR ***17*** *08:22:44.1±1.9,7˚.59N×82˚.49W,h2km±12km,MW4.9,*
mb4.6(NEIC)
NEIC ***17*** *08:22:45.0±1.3,7˚.69N±0˚.04×82˚.39W±0˚.07,h10km±1km,*
mb4.6/20, Error ellipse: s-maj=13.6km s-min=3.0km
az=60.0
ISC 17 08:22:43.6±1.4,**7˚.63N**±0˚.04×**82˚.36W**±0˚.03,**h8**km±9km,
n206, σ0**97**/213,**mb4.4**/22,**MS3.6**/18,**9C-5D,South of**
Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
REME3	**Remedios, Chir**	**0.79**	**41**	*e*P		**Pg**	**08 22 58.3**	**-0.6**
REME3				*e*S		**Sb**	**08 23 10.3**	**-0.3**
DVD	**David**	**0.81**	**353**	*e*P		**Pg**	**08 22 59.0**	**-0.2**
DVD				*e*S		**Sb**	**08 23 10.8**	**-0.2**
GUAL3	**Gualaca, Chiri**	**0.90**	**4**	*e*P		**Pg**	**08 23 00.6**	**-0.4**
GUAL3				*e*S		**Sb**	**08 23 14.0**	**+0.2**
CCOL	**Caracol de Cor**	**0.99**	**322**	⇑*e*P		**Pg**	**08 23 01.9**	**-0.7**
CCOL				*e*S		**Sn**	**08 23 17.7**	**-0.3**
PTAR3	**Potrerillos Ar**	**1.07**	**353**	⇓*e*P		**Pg**	**08 23 03.6**	**-0.6**
PTAR3				*e*S		**Sn**	**08 23 19.5**	**-0.7**
CDITO	**Canoas**	**1.07**	**332**			**Pb**	**08 23 03.0**	**-1.4**
CDITO	**Canoas**	**1.07**	**332**	*e*P		**Pb**	**08 23 03.9**	**-0.5**
CDITO				⇓*e*S		**Sn**	**08 23 19.5**	**-0.5**
BCO2	**Palmira**	**1.10**	**351**	⇓*e*P		**Pg**	**08 23 04.2**	**-0.6**
BCO2				*e*S		**Sn**	**08 23 21.1**	**+0.1**
BRU2	**Volcan**	**1.21**	**344**			**Pb**	**08 23 05.6**	**-1.2**
PTJ1	**Puerto Jimnez**	**1.30**	**314**	*e*P		**Pn**	**08 23 07.0**	**-1.2**
EDSV	**San Vito**	**1.33**	**333**	⇑*e*P		**Pn**	**08 23 07.8**	**-0.8**
EDSV				*e*S		**Sg**	**08 23 27.8**	**+1.2**
POTG	**Potrero Grande**	**1.60**	**332**	⇑*e*P		**Pn**	**08 23 11.9**	**-0.5**
EDPN	**Palmar Norte**	**1.72**	**321**	⇑*e*P		**Pn**	**08 23 13.0**	**-0.9**
EDPN				*e*S		**Sn**	**08 23 36.0**	**0.0**
PESE3	**Pese, Herrera**	**1.75**	**81**	*e*P		**Pn**	**08 23 13.8**	**-0.5**
PESE3				*e*S		**Sn**	**08 23 37.0**	**+0.1**
EDBA	**Buenos Aires**	**1.78**	**329**	*e*P		**Pn**	**08 23 15.1**	**+0.4**
CNI2	**El Empalme, Bo**	**1.79**	**356**	*e*P		**Pn**	**08 23 14.4**	**-0.4**
CNI2				*e*S		**Sn**	**08 23 38.3**	**+0.5**
SRBA	**San Rafael, Bu**	**1.88**	**328**			**Pn**	**08 23 15.4**	**-0.8**
CHIT3	**Chitre**	**1.95**	**80**	*e*P		**Pn**	**08 23 16.5**	**-0.6**
CHIT3				*e*S		**Sn**	**08 23 41.8**	**0.0**
RGM0	**Gandoca**	**1.97**	**353**	⇓*e*P		**Pb**	**08 23 19.5**	**-0.2**
PEZE	**Perez Zeledon,**	**2.18**	**323**			**Pn**	**08 23 20.1**	**-0.2**
PEZE	**Perez Zeledon,**	**2.18**	**323**	*e*P		**Pn**	**08 23 19.7**	**-0.6**
EDDO	**Dominical**	**2.20**	**317**	*e*P		**Pn**	**08 23 20.1**	**-0.4**
CDM	**Cerro de Muert**	**2.37**	**324**	⇑*e*P		**Pn**	**08 23 23.0**	**-0.2**
VTON	**El Valle, Cocl**	**2.43**	**66**	*e*P		**Pn**	**08 23 24.8**	**+1.0**
VTON				*e*S		**Sn**	**08 23 54.5**	**+0.8**
MRVA	**Moravia de Chi**	**2.43**	**334**	⇑*e*P		**Pn**	**08 23 24.4**	**+0.5**
RIMA	**Rio Macho**	**2.60**	**325**			**Pn**	**08 23 26.1**	**0.0**
RIMA	**Rio Macho**	**2.60**	**325**	⇑*e*P		**Pn**	**08 23 25.4**	**-0.7**
RIMA				*e*S		**Sn**	**08 23 59.5**	**+1.5**
BATAN	**Batan**	**2.65**	**338**			**Pn**	**08 23 28.4**	**+1.6**
BATAN	**Batan**	**2.65**	**338**	*e*P		**Pn**	**08 23 28.7**	**+1.9**
BATAN	**Batan**	**2.65**	**338**	*e*P		**Pn**	**08 23 27.9**	**+1.1**
BATAN				*e*S		**Sn**	**08 23 60.0**	**+0.8**
LCR2	**La Lucha 2**	**2.66**	**322**	*e*P		**Pn**	**08 23 26.6**	**-0.4**
OCM	**Ochomogo**	**2.76**	**325**	⇑*e*P		**Pn**	**08 23 28.1**	**-0.2**
HAYA	**Volcan Irazu**	**2.76**	**328**	*e*P		**Pn**	**08 23 29.0**	**+0.4**
SJS	**Escuela Geolog**	**2.84**	**324**	*e*P		**Pn**	**08 23 30.4**	**+0.9**
BCIP	**Isla Barro Col**	**2.92**	**58**	Pn		**Pn**	**08 23 31.0**	**+0.5**
BCIP	**Isla Barro Col**	**2.92**	**58**	*e*P		**Pn**	**08 23 31.0**	**+0.5**
BCIP				*e*S		**Sn**	**08 24 06.2**	**+0.4**
HDC3	**Heredia 3**	**2.93**	**324**	*e*P		**Pn**	**08 23 31.3**	**+0.6**
HDC	**Heredia**	**2.93**	**324**			**Pn**	**08 23 31.4**	**+0.7**
HDC	**Heredia**	**2.93**	**324**	*e*P		**Pn**	**08 23 31.1**	**+0.4**
HDC	**Heredia**	**2.93**	**324**	*e*P		**Pn**	**08 23 31.3**	**+0.7**
JACO	**JACO, Garabito**	**3.05**	**312**			**Pn**	**08 23 31.2**	**-0.9**
JACO	**JACO, Garabito**	**3.05**	**312**	*e*P		**Pn**	**08 23 30.6**	**-1.5**
RIFO	**Rio Frio, Sara**	**3.09

LCAR	Lake Charles	29.43	345	P		P	08 28 46.7	-1.1
TXAR	Lajitas Array	29.47	320	P		P	08 28 49.5	+1.2
	comp=Z,0.5nm,0.9s,baz=125,slow=11,SNR=4.1							
TXAR				PcP		PcP	08 31 55.7	+1.6
	comp=Z,0.4nm,0.6s,baz=151,slow=5.5,SNR=5.0							
TXAR				LR		LR	08 42 01.1	
	comp=Z,92nm,18.8s,baz=118,slow=39							
	comp=Z,0.5nm,0.9s							
MALB	Monte Alegre	29.56	107	*e*P		P	08 28 50.8	+1.6
MDP	Montagnes des	29.63	93	LR		LR	08 40 53.8	
	comp=Z,221nm,21.5s,baz=268,slow=37							
VILB	Vilhena	30.04	133	*e*P		P	08 28 53.9	+0.4
GO01	Chusmiza	30.06	155	P		P	08 28 55.0	+0.9
GO01				IAmb		IAmb	08 28 59.0	
	comp=Z,14nm,1.1s							
NPGB	Novo Progresso	30.62	118	*e*P		P	08 28 58.3	-0.3
MCPB	Macapa, AP	31.24	103	*e*P		P	08 29 04.4	+0.3
SIV	San Ignacio	31.54	138	P		P	08 29 06.5	-0.2
	comp=Z,7.1nm,0.9s,baz=310,slow=8.7,SNR=31							
SIV				LR		LR	08 42 09.9	
	comp=Z,106nm,18.3s,baz=1.5,slow=37							
	comp=Z,7.1nm,0.9s							
PDRB	Porto dos Gac	31.86	127	*e*P		P	08 29 08.4	-1.1
CLDB	Colider	32.20	124	*e*P		P	08 29 11.6	-0.9
PTLB	Pontes e Lacer	32.48	135	*e*P		P	08 29 15.0	+0.1
BBSD	Serra de San D	32.71	139	*e*P		P	08 29 16.9	-0.1
LVC	Limon Verde	32.81	157	P		P	08 29 19.1	+1.0
	comp=Z,5.3nm,0.9s,baz=55,slow=3.7,SNR=4.3							
LVC				LR		LR	08 42 31.0	
	comp=Z,78nm,20.8s,baz=281,slow=36							
	comp=Z,5.3nm,0.9s							
LVC	Limon Verde	32.81	157	*e*P		P	08 29 18.4	+0.2
BBRB	Robore, Bolivi	34.03	139	*e*P		P	08 29 28.0	-0.5
ANMO	Albuquerque	35.06	324	LR		LR	08 48 02.4	
	comp=Z,74nm,18.6s,baz=126,slow=43							
SALV	Santo Antonio	35.27	132	*e*P		P	08 29 39.5	+0.3
SNDB	Serra Nova Dou	36.51	122	*e*P		P	08 29 50.0	0.0
SADO	Sadowa	37.11	4	LR		LR	08 45 25.7	
	comp=Z,94nm,19.0s,baz=196,slow=37							
MURT	Porto Murtinho	37.90	141	*e*P		P	08 30 01.0	-0.6
ARAG	Araguaiana, MT	38.10	128	*e*P		P	08 30 02.7	-0.8
SMTB	Santa Maria do	38.32	115	*e*P		P	08 30 05.5	+0.2
ANTJ	Antonio Joao (	39.17	139	*e*P		P	08 30 12.1	-0.2
ROSB	Rosrio	39.55	104	*e*P		P	08 30 15.6	0.0
BDFB	Brasilia	41.13	124	P		P	08 30 27.3	-1.5
	comp=Z,2.4nm,0.6s,baz=246,slow=9.7,SNR=3.9							
	comp=Z,2.4nm,0.6s							
BDFB	Brasilia	41.13	124	*e*P		P	08 30 29.1	+0.4
CPUP	Villa Florida	41.59	145	P		P	08 30 31.2	-1.1
	comp=Z,1.6nm,0.9s,baz=358,slow=12,SNR=3.0							
	comp=Z,1.6nm,0.9s							
CPUP	Villa Florida	41.59	145	*e*P		P	08 30 31.6	-0.7
PCMB	Pacaembu	42.13	134	*e*P		P	08 30 38.2	+1.4
MCR1	Marechal Candi	42.19	140	*e*P		P	08 30 37.5	+0.3
SDBA	SAO DESIDERIO	42.22	118	*e*P		P	08 30 36.9	-0.7
IPMB	Ipameri, GO	42.24	127	*e*P		P	08 30 36.7	-1.1
PDAR	Pinedale Array	42.40	330	P		P	08 30 39.6	+0.6
	comp=Z,0.2nm,0.5s,baz=143,slow=11,SNR=2.1							
PDAR				PcP		PcP	08 32 32.9	+0.6
	comp=Z,0.6nm,0.8s,baz=147,slow=3.5,SNR=5.4							
PDAR				LR		LR	08 50 30.8	
	comp=Z,86nm,18.0s,baz=108,slow=39							
	comp=Z,0.2nm,0.5s							
PTGB	Pitanga	43.65	138	*e*P		P	08 30 48.4	-0.7
AZCA	Azaras, Argent	43.70	145	*e*P		P	08 30 50.1	+0.7
BB19B	Bebedouro	43.78	131	*e*P		P	08 30 50.3	0.0
JANB	Januaria	43.93	121	*e*P		P	08 30 51.1	-0.5
PMNB	Patos De Minas	43.95	127	*e*P		P	08 30 51.7	0.0
ULM	Lac du Bonnet	43.96	348	P		P	08 30 49.0	-2.1
	comp=Z,2.9nm,0.6s,baz=127,slow=6.6,SNR=2.9							
	comp=Z,2.9nm,0.6s							
CRSM	Crissiumal (Br	44.38	143	*e*P		P	08 30 54.4	-0.6
ITQB	Itaqui	44.58	147	*e*P		P	08 30 57.4	+1.0
NVAR	Mina Array Bea	44.61	319	P		P	08 30 58.1	+1.2
	comp=Z,2.0nm,0.8s,baz=131,slow=7.0,SNR=16							
NVAR				PcP		PP	08 32 41.7	+0.7
	comp=Z,0.5nm,0.8s,baz=124,slow=4.2,SNR=3.8							
	comp=Z,2.0nm,0.8s							
NVAR	Mina Array Bea	44.61	319	P		P	08 30 57.7	+0.8
UNIS	Unistalda (Bra	44.97	145	*e*P		P	08 30 59.5	-0.1
MC01	Montes Claros	45.04	123	*e*P		P	08 31 00.1	-0.3
BMN	Battle Mountai	45.09	322	P		P	08 31 00.5	-0.1
BMN				IAmb		IAmb	08 31 03.7	
	comp=Z,5.4nm,0.9s							
ALGR	Alto Alegre (B	45.95	143	*e*P		P	08 31 06.9	-0.5
DIAM	Diamantina, MG	46.05	124	*e*P		P	08 31 08.3	-0.2
VAO	Valinhos	46.10	132	*e*P		P	08 31 07.7	-1.0
CPSB	Cacapava Do Su	46.90	145	*e*P		P	08 31 15.3	+0.5
WVOR	Wild Horse Val	47.14	323	P		P	08 31 16.8	+0.1
RCBR	Riachuelo	48.23	105	LR		LR	08 52 14.2	
	comp=Z,138nm,18.3s,baz=94,slow=37							
SJMB	Sao Joao De Ma	48.30	123	*e*P		P	08 31 26.1	+0.3
YBH	Yreka Blue Hor	49.24	320	LR		LR	08 57 07.8	
	comp=Z,109nm,19.2s,baz=134,slow=42							
RIB01	Linhares ES	49.25	124	*e*P		P	08 31 32.9	-0.2
PLCA	Paso Flores	49.33	168	P		P	08 31 34.0	+0.5
	comp=Z,5.8nm,0.8s,baz=333,slow=8.3,SNR=18							
PLCA				PcP		PcP	08 32 56.6	+0.5
	comp=Z,2.4nm,0.9s,baz=334,slow=9.5,SNR=3.7							
	comp=Z,5.8nm,0.8s							
PLCA	Paso Flores	49.33	168	*e*P		P	08 31 34.8	+1.2
NEW	Newport	50.04	330	LR		LR	08 54 45.8	
	comp=Z,80nm,19.5s,baz=130,slow=38							
BBB	Bella Bella	58.01	329	LR		LR	09 01 03.0	
	comp=Z,62nm,18.1s,baz=206,slow=40							
DLBC	Dease Lake	62.40	334	LR		LR	09 03 08.3	
	comp=Z,49nm,18.1s,baz=106,slow=39							
RES	Resolute Bay	67.40	356	LR		LR	09 04 09.4	
	comp=Z,68nm,19.6s,baz=1.5,slow=37							
J26L	Joseph Creek	71.00	336	P		P	08 34 02.9	+1.1
J26L				IAmb		IAmb	08 34 07.8	
	comp=Z,4.5nm,1.0s							
J25K	Salcha River,	71.77	336	P		P	08 34 07.0	+0.6
HDA	Harding Lake	72.33	336	P		P	08 34 10.0	+0.2
HDA				IAmb		IAmb	08 34 11.0	
	comp=Z,6.0nm,0.9s							
IL31		72.43	336	P		P	08 34 11.1	+0.9
ILAR	Eielson Array	72.43	336	P		P	08 34 10.4	+0.1
	comp=Z,1.4nm,0.6s,baz=104,slow=4.7,SNR=29							
ILAR				LR		LR	09 11 22.1	
	comp=Z,24nm,19.2s,baz=106,slow=40							
	comp=Z,1.4nm,0.6s							
ESDC	Sonseca Array	76.25	51	P		P	08 34 34.0	+0.8
	comp=Z,2.7nm,0.7s,baz=275,slow=5.5,SNR=18							
SMAI	San Martin Ant	76.34	174	P		P	08 34 33.9	+1.0
SMAI				IAmb		IAmb	08 34 35.2	
	comp=Z,5.3nm,0.8s							
DBIC	Dimbokro	76.80	85	LR		LR	09 06 08.4	
	comp=Z,50nm,20.8s,baz=14,slow=34							
TORD	Torodi Ar. Bea	82.54	78	P		P	08 35 06.9	-1.0
	comp=Z,1.2nm,0.8s,baz=257,slow=3.5,SNR=7.3							
	comp=Z,1.2nm,0.8s							
TORD	Torodi Ar. Bea	82.54	78	P		P	08 35 07.7	-0.1
GERES	GERESS Array B	88.29	41	P		P	08 35 32.9	-3.1
	comp=Z,0.6nm,0.8s,baz=292,slow=3.7,SNR=2.1							
	comp=Z,0.6nm,0.8s							
ZALV	Zalesovo Beam	117.71	9	PKP		PKiKP	08 41 31.2	+0.7
	comp=Z,0.3nm,0.3s,baz=291,slow=4.5,SNR=1.9							
MKAR	Makanchi Array	124.12	13	PKP		PKPdf	08 41 42.3	-0.8
	comp=Z,0.6nm,1.0s,baz=303,slow=6.7,SNR=2.2							
SONM	Songino Array	124.24	353	PKP		PKPdf	08 41 42.9	-0.6
	comp=Z,0.6nm,0.7s,baz=343,slow=4.5,SNR=2.7							
KSRS	Korea Array	126.97	330	PKP		PKPdf	08 41 48.0	-0.8
	comp=Z,1.4nm,0.6s,baz=102,slow=1.5,SNR=7.2							
ASAR	Alice Springs	141.76	241	PKiKP		PKPpre	08 42 10.5	
	comp=Z,0.8nm,0.8s,baz=110,slow=3.4,SNR=7.4							
ASAR				PKP		PKPdf	08 42 16.6	-0.2
	comp=Z,0.9nm,0.6s,baz=113,slow=2.4,SNR=13							
WRA	Warramunga Arr	142.41	247	PKhKP		PKPpre	08 42 12.9	
	comp=Z,1.4nm,0.8s,baz=89,slow=2.8,SNR=9.5							
WRA				PKP		PKPdf	08 42 18.1	+0.1
	comp=Z,0.8nm,0.6s,baz=94,slow=2.7,SNR=5.9							
PZH	PanZhiHua	145.84	353	PKPbc		PKPdf	08 42 23.9	-0.2
H01W1	Cape Leeuwin H	148.91	207	T		T	11 29 33.3	
	baz=144,slow=76,SNR=23							
H01W2	Cape Leeuwin H	148.91	207	T		T	11 29 33.6	
	baz=144,slow=76,SNR=26							
H01W3	Cape Leeuwin H	148.92	207	T		T	11 29 34.5	
	baz=144,slow=76,SNR=24							
CMAR	Chiang Mai Arr	154.05	357	PKP		PKPdf	08 42 36.6	-0.4
	comp=Z,1.1nm,0.3s,baz=284,slow=1.2,SNR=5.1							
CMAR				PKPbc		PKPbc	08 42 44.7	-0.3
	comp=Z,1.4nm,0.3s,baz=0.5,slow=2.1,SNR=6.3							

*KNET **17** 08:24:17.6±0.5, 43.°11N×75.°13E, h20km±4km, ml1.6, Error ellipse: s-maj=3.9km s-min=1.9km az=10.0*

*KRNET **17** 08:24:18.5±0.1, 43.°13N×75.°12E, h18km, mb2.4*

*SOME **17** 08:24:18.5, 43.°12N×75.°13E, h15km*

*NNC **17** 08:24:18.5±0.2, 43.°15N×75.°14E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=1.6km s-min=0.6km az=177.0*

ISC 17 08:24:18.3±0.9, 43.°13N±0.°02×75.°13E±0.°02, h18km±6km, n42, σ0.943/83, 25C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHMS	Chumysh	0.30	246	⇑P	Pg	08 24 25.0	0.0
CHMS	13nm,0.1s,SNR=6.0			⇑S	Sg	08 24 29.4	0.0
	143nm,0.1s						
CHMS	Chumysh	0.30	246	⇑*i*P	Pg	08 24 24.9	0.0
CHMS	baz=44			⇑*i*S	Sg	08 24 29.4	0.0
CHMS	Chumysh	0.30	246	⇑P	Pg	08 24 24.8	0.0
CHMS	4.3nm,0.2s			⇑S	Sg	08 24 29.4	0.0
	15nm,0.2s						
TKM2	Tokmak 2	0.40	120	⇑P	Pg	08 24 26.6	-0.1
TKM2	4.4nm,0.1s,SNR=26			⇑S	Sg	08 24 32.1	-0.2
	62nm,0.1s						
TKM2	Tokmak 2	0.40	120	⇑*i*P	Pg	08 24 26.6	-0.1
TKM2	baz=20			⇑*i*S	Sg	08 24 32.3	0.0
	baz=20						
TKM2	Tokmak 2	0.40	120	⇓P	Pg	08 24 26.6	-0.1
TKM2	0.9nm,0.2s			⇓S	Sg	08 24 32.2	-0.2
	15nm,0.4s						
USP	Ospenovka	0.48	287	⇑P	Pg	08 24 27.9	-0.2
USP	5.5nm,0.1s,SNR=28			⇑S	Sg	08 24 34.7	+0.1
	16nm,0.1s						
USP	Ospenovka	0.48	287	⇑*i*P	Pg	08 24 27.8	-0.2
USP	baz=87			⇑*i*S	Sg	08 24 34.4	-0.2
	baz=87						
DGS	Degeres	0.49	76	*e*P	Pb	08 24 28.5	0.0
DGS	baz=76			*e*S	Sb	08 24 35.3	0.0
	baz=76						
DGS	Degeres	0.49	76	*e*P	Pb	08 24 28.5	0.0
DGS	5.9nm,0.1s			*e*S	Sb	08 24 35.3	0.0
	41nm,0.2s						
DGS	Degeres	0.49	76	P	Pb	08 24 28.5	0.0
DGS	5.9nm,0.1s			S	Sb	08 24 35.3	0.0
	41nm,0.2s						
KBK	Karagaybulak	0.49	196	⇓P	Pg	08 24 28.4	+0.2
KBK	14nm,0.1s,SNR=6.3			⇑S	Sb	08 24 35.5	+0.2
	28nm,0.2s						
KBK	Karagaybulak	0.49	196	⇑*i*P	Pg	08 24 28.2	0.0
KBK	baz=95			⇑*i*S	Sg	08 24 35.1	+0.3
	baz=95						
SGDS	Sogindy	0.49	312	*e*P	Pg	08 24 28.3	+0.1
SGDS	12nm,0.1s			*e*S	Sg	08 24 34.9	0.0
	64nm,0.1s						
SGDS	Sogindy	0.49	312	P	Pg	08 24 28.3	+0.1
SGDS	12nm,0.1s			S	Sg	08 24 34.9	0.0
	64nm,0.1s						
KST	Kastek	0.62	97	*e*P	Pg	08 24 30.5	-0.1
KST	baz=97			*e*S	Sb	08 24 39.5	+0.4
	baz=97						
KST	Kastek	0.62	97	*e*P	Pg	08 24 30.5	-0.1
KST	5.1nm,0.3s			*e*S	Sb	08 24 39.5	+0.4
	13nm,0.3s						
KST	Kastek	0.62	97	P	Pg	08 24 30.5	-0.1
KST	5.1nm,0.3s			S	Sb	08 24 39.5	+0.4
	13nm,0.3s						
AAK	Ala-Archa	0.67	224	⇑P	Pb	08 24 31.2	-0.4
AAK	2.9nm,0.2s,SNR=8.0			⇑S	Sb	08 24 40.6	-0.1
	14nm,0.2s						
AAK	Ala-Archa	0.67	224	⇑*i*P	Pb	08 24 31.3	-0.4
AAK	baz=23			⇑*i*S	Sb	08 24 40.6	-0.1
	baz=23						
KRBS	Karabastau	0.70	35	*e*P	Pb	08 24 31.9	-0.1
KRBS	baz=35			*e*S	Sg	08 24 41.4	+0.1
	baz=35						
KRBS	Karabastau	0.70	35	*e*P	Pb	08 24 31.9	-0.1
KRBS	2.5nm,0.1s			*e*S	Sg	08 24 41.5	+0.1
	14nm,0.1s						
KRBS	Karabastau	0.70	35	P	Pb	08 24 31.9	-0.1
KRBS	2.5nm,0.1s			S	Sg	08 24 41.4	+0.1
	14nm,0.1s						
MTBS	Maitube	0.95	89	*e*P	Pb	08 24 36.4	0.0
MTBS	baz=89			*e*S	Sg	08 24 49.2	-0.2
	baz=89						
MTBS	Maitube	0.95	89	*e*P	Pb	08 24 36.4	0.0
MTBS	2.4nm,0.1s			*e*S	Sg	08 24 49.2	-0.2
	4.2nm,0.1s						
MTBS	Maitube	0.95	89	P	Pb	08 24 36.4	0.0
MTBS	2.4nm,0.1s			S	Sg	08 24 49.2	-0.2
	4.2nm,0.1s						
UCH	Uchtor	1.00	207	⇑P	Pb	08 24 37.2	-0.2
UCH	0.7nm,0.1s,SNR=8.6			⇓S	Sb	08 24 50.7	+0.2
	2.7nm,0.1s						
UCH	Uchtor	1.00	207	⇑*i*P	Pb	08 24 37.1	-0.4
UCH	baz=7.0			⇑*i*S	Sb	08 24 50.8	+0.3
	baz=7.0						
IZV	Izvestkoviy	1.09	94	*e*P	Pn	08 24 39.0	+0.1
IZV	baz=94			*e*S	Sg	08 24 54.0	+0.2
	baz=94						
IZV	Izvestkoviy	1.09	94	*e*P	Pn	08 24 39.0	+0.1
IZV	2.9nm,0.1s			*e*S	Sg	08 24 54.0	+0.2
	12nm,0.2s						
IZV	Izvestkoviy	1.09	94	P	Pn	08 24 39.0	+0.1
IZV	2.9nm,0.1s			S	Sg	08 24 54.0	+0.2
	12nm,0.2s						
EKS2	Erkin-Say	1.09	245	⇓*i*P	Pb	08 24 38.8	0.0
EKS2	baz=45			⇓*i*S	Sb	08 24 53.5	+0.7
	baz=45						
KUU	Kurty	1.17	49	*e*P	Pb	08 24 40.2	+0.2
KUU	baz=49			*e*S	Sg	08 24 56.0	-0.3
	baz=49						
KUU	Kurty	1.17	49	*e*P	Pb	08 24 40.2	+0.2
KUU	2.1nm,0.1s			*e*S	Sg	08 24 56.0	-0.3
	5.1nm,0.1s						
KUU	Kurty	1.17	49	P	Pb	08 24 40.2	+0.2
KUU	2.1nm,0.1s			S	Sg	08 24 56.0	-0.3
	5.1nm,0.1s						
KTBS	Karatobe	1.28	62	*e*P	Pb	08 24 42.4	+0.5
KTBS	baz=62			*e*S	Sg	08 24 59.1	-0.6
	baz=62						
KTBS	Karatobe	1.28	62	*e*P	Pb	08 24 42.4	+0.5
KTBS	1.2nm,0.1s			*e*S	Sg	08 24 59.1	-0.6
	14nm,0.2s						
KTBS	Karatobe	1.28	62	P	Pb	08 24 42.4	+0.5
KTBS	1.2nm,0.1s			S	Sg	08 24 59.1	-0.6
	14nm,0.2s						
MRKS	Merke	1.45	255	*e*P	Pb	08 24 45.2	+0.4
MRKS	baz=55			*e*S	Sb	08 25 04.2	+1.3
	baz=55						
MRKS	Merke	1.45	255	*e*P	Pb	08 24 45.2	+0.4
	1.0nm,0.0s						
MRKS				*e*S	Sb	08 25 04.2	+1.3
	5.4nm,0.1s						
MRKS	Merke	1.45	255	P	Pb	08 24 45.2	+0.4
	1.0nm,0.0s						
MRKS				S	Sb	08 25 04.2	+1.3
	5.4nm,0.1s						
KK31	Karatay Array	3.38	271	⇑Pg	Pg	08 25 20.8	-2.3
	1.4nm,0.9s,baz=84,slow=16						
KK31				⇓Lg	Lg	08 26 03.0	
	0.2nm,0.3s,baz=87,slow=26,SNR=3.8						

MAN 17 08:25:53.3, 9.°77N×124.°27E, h3km, mb4.0, ML2.8, MS2.4, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHBP	Garcia Hernand	0.15	160	⇑*e*P	Pg	08 26 00.8	+4.6
GHBP				*i* S	Sg	08 26 05.7	+7.6
TABP	Talibon, Bohol	0.33	11	⇑*e*P	Pg	08 25 58.5	-1.1
TABP				*i* S	Sg	08 26 01.3	-2.5
TBP	Tagbilaran	0.41	259	*e*P	Pb	08 26 04.2	+1.0
TBP				*i* S	Sb	08 26 11.2	+1.4
MSLP	Maasin	0.68	58	⇑*e*P	Pg	08 26 07.0	+0.6
MSLP				*i* S	Sb	08 26 17.3	-0.4

WEL 17 08:31:09.1±0.5, 43.°S±3.°×17.°3E±.°, h5km, M2.8/5, ML2.9/7, MLv2.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=108.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	Greta Valley S	0.38	184	P	Pg	08 31 16.8	+0.4
GVZ				S	Sb	08 31 23.1	-1.3
LTZ	Lake Taylor	0.62	252	P	Pg	08 31 21.2	+0.2
LTZ				S	Sg	08 31 30.1	+1.0
AMCZ	Amberley	0.66	208	P	Pb	08 31 22.5	-0.6
THZ	Tophouse	0.84	351	P	Pg	08 31 25.1	-0.1
OXZ	Oxford	1.06	226	P	Pg	08 31 28.4	-1.0
MQZ	McQueen's Vall	1.16	195	P	Pg	08 31 28.9	-2.4
DSZ	Denniston Nort	1.27	311	P	Pg	08 31 33.4	0.0
RACZ	Rakaia	1.32	211	P	Pn	08 31 31.7	-2.5
TUWZ	Tuamarina	1.33	29	P	Pn	08 31 33.8	-0.5
MHCZ	Mount Hutt	1.45	229	P	Pn	08 31 33.9	-2.1
TKNZ	Takaka Hill	1.56	357	P	Pn	08 31 37.3	-0.1

*NOU **17** 08:31:28.8, 42.°83S×173.°78E, h12km, MLv4.5/11, South Island, New Zealand*

*WEL **17** 08:31:30.3±0.3, 42.°S±3.°×17.°3E±.°, h12km, M3.9/38, ML4.1/15, MLv3.9/38, Error ellipse: s-maj=0.0km s-min=0.0km az=116.6*

ISC 17 08:31:30.8±1.1, 42.°56S±0.°04×173.°47E±0.°04, h33km, n96, σ1.972/96, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	Greta Valley S	0.52	218	P	Pb	08 31 41.5	-0.2
GVZ				S	Sn	08 31 50.1	+0.5
AMCZ	Amberley	0.86	224	P	Pb	08 31 47.5	+0.2
BSWZ	Blackbirch Sta	0.89	20	P	Pn	08 31 47.4	+0.4
THZ	Tophouse	0.90	332	P	Pn	08 31 45.4	-1.8
LTZ	Lake Taylor	0.91	255	P	Pn	08 31 46.1	-1.2
TUWZ	Tuamarina	1.18	18	P	Pn	08 31 52.5	+1.5
OKCZ	Okains Bay	1.20	194	P	Pb	08 31 52.8	-0.4
MRNZ	Matariki Terra	1.27	335	P	Pn	08 31 52.3	0.0
MQZ	McQueen's Vall	1.29	207	P	Pn	08 31 53.0	+0.4
OXZ	Oxford	1.30	233	P	Pn	08 31 52.8	+0.1
NNZ	Nelson	1.34	357	P	Pn	08 31 54.0	+0.8
AKCZ	Akaroa Harbour	1.38	197	P	Pn	08 31 54.6	+0.8
TCW	Tory Channel	1.47	24	P	Pn	08 31 56.4	+1.4
DSZ	Denniston Nort	1.48	303	P	Pn	08 31 55.6	+0.4
INZ	Inchbonnie	1.50	263	P	Pn	08 31 55.7	+0.3
RACZ	Rakaia	1.52	219	P	Pn	08 31 55.9	+0.2
SNZO	South Karori	1.55	37	P	Pn	08 31 57.6	+1.5
TKNZ	Takaka Hill	1.57	346	P	Pn	08 31 57.8	+1.4
WEL	Wellington	1.60	38	P	Pn	08 31 58.6	+1.8
PLWZ	Palliser	1.66	54	P	Pn	08 31 59.0	+1.4
MHCZ	Mount Hutt	1.70	234	P	Pn	08 31 58.1	-0.1
MSWZ	Moikau Station	1.75	50	P	Pn	08 32 00.0	+1.1
DUWZ	D'Urville Isla	1.79	11	P	Pn	08 32 01.7	+2.3
WACZ	Wakanui South	1.83	220	P	Pn	08 32 00.2	+0.3
QRZ	Quartz Range	1.87	338	P	Pn	08 32 01.9	+1.5
PAWZ	Paruwai Farm	1.88	52	P	Pn	08 32 01.5	+0.9
CAW	Cannon Point	1.88	40	P	Pn	08 32 01.9	+1.3
KIW	Kapiti Island	2.01	33	P	Pn	08 32 04.0	+1.6
TRWZ	Traveller	2.02	56	P	Pn	08 32 04.0	+1.4
MTW	Mount Morrison	2.06	48	P	Pn	08 32 04.0	+0.8
WVZ	Waitaha Valley	2.07	255	P	Pn	08 32 03.8	+0.5
RPZ	Rata Peaks	2.11	236	P	Pn	08 32 03.9	+0.1
RPZ	Rata Peaks	2.11	236	P	Pn	08 32 03.9	+0.1
OGWZ	Otaki Gorge	2.16	37	P	Pn	08 32 05.7	+1.2
ARCZ	Arundel	2.17	229	P	Pn	08 32 04.9	-0.2
HOWZ	Holdsworth Sta	2.26	43	P	Pn	08 32 06.7	+0.9
GCSZ	Gaunt Creek Bo	2.43	251	P	Pn	08 32 09.1	+1.0
MRZ	Mangatainoka R	2.47	41	P	Pn	08 32 09.5	+0.8
TMZ	Timaru	2.56	224	P	Pn	08 32 10.6	+0.6
PRWZ	Pori Road	2.74	44	P	Pb	08 32 16.8	-2.4
POWZ	Post Office Ro	2.77	39	P	Pn	08 32 13.8	+1.0
BFZ	Birch Farm	2.80	49	P	Pn	08 32 13.9	+0.6
BFZ	Birch Farm	2.80	49	P	Pn	08 32 13.8	+0.5
FOZ	Fox Glacier	2.85	249	P	Pn	08 32 14.8	+0.8
LBZ	Lake Benmore	3.01	231	P	Pn	08 32 16.4	+0.2
WAZ	Wanganui	3.02	23	P	Pn	08 32 19.6	+3.2
DVHZ	Dannevirke	3.03	43	P	Pn	08 32 16.6	0.0
TSZ	Takapari Road	3.12	38	P	Pn	08 32 18.3	+0.5
LREZ	Lake Rotokare	3.17	13	P	Pn	08 32 22.1	+3.7
ODZ	Otahua Downs	3.22	218	P	Pn	08 32 19.1	+0.1
ODZ	Otahua Downs	3.22	218	P	Pn	08 32 18.9	-0.1
KHEZ	Kahui Hut	3.29	7	P	Pn	08 32 25.1	+5.1

NEIC ***17*** *08:43:08.9±1.4, 43.98°S±0.09°×78.2°W±0.2, h10km±2km, mb4.3/9, Error ellipse: s-maj=24.1km s-min=15.5km az=268.0*

ISC 17 08:43:08.3±1.9, **44.0°S**±0.1°×**78.2°W**±0.2, **h10**km, **n46,** σ**0.90**/37, **mb4.3/6, MS3.3/6, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**3.43**	**77**			**Pn**	**Pn**	**08 44 00.1**	**-1.6**
LL06	**Loncomilla**	**3.80**	**64**			**Pn**	**Pn**	**08 44 06.8**	**0.0**
AY01	**Puyuhuapi**	**4.05**	**99**			**Pn**	**Pn**	**08 44 09.2**	**-1.0**
LL05	**Los Muermos**	**4.34**	**56**			**Pn**	**Pn**	**08 44 15.0**	**+0.7**
COYC	**Coyhaique**	**4.67**	**112**	Pn		**Pn**	**Pn**	**08 44 19.1**	**+0.2**
LL02	**Futaleuf**	**4.71**	**83**	Pn		**Pn**	**Pn**	**08 44 18.9**	**-0.5**
LL03	**Petrohue**	**5.15**	**59**	Pn		**Pn**	**Pn**	**08 44 26.2**	**+0.8**
LL04	**Puerto Octay**	**5.28**	**57**	Pn		**Pn**	**Pn**	**08 44 27.3**	**+0.1**
LR04	**Corral**	**5.43**	**43**	Pn		**Pn**	**Pn**	**08 44 29.9**	**+0.7**
LR03	**Panguipulli**	**6.17**	**48**			**Pn**	**Pn**	**08 44 40.2**	**+0.8**
PLCA	**Paso Flores**	**6.54**	**63**	Pn		**Pn**	**Pn**	**08 44 46.1**	**+1.5**
	1.5nm,0.3s,baz=236,slow=9.0,SNR=83								
PLCA				LR		LR		08 47 26.3	
	comp=Z,244nm,18.4s,baz=212,slow=38								
	3.6nm,0.3s								
PLCA	**Paso Flores**	**6.54**	**63**	Pn		**Pn**	**Pn**	**08 44 45.7**	**+1.0**
GO06	**Curarrehue**	**6.69**	**51**	Pn		**Pn**	**Pn**	**08 44 47.9**	**+1.3**
ML02	**Panimavida**	**9.72**	**35**				**Pn**	**08 45 29.0**	**+0.9**
H03S1	**Juan Fernandez**	**10.11**	**357**	T		T		08 56 38.0	
	baz=178,slow=73								
H03S2	**Juan Fernandez**	**10.12**	**357**	T		T		08 56 38.0	
	baz=178,slow=73,SNR=220								
H03S3	**Juan Fernandez**	**10.13**	**357**	T		T		08 56 40.5	
	baz=178,slow=73,SNR=216								
GO05	**Huala**	**10.18**	**31**	Pn		**Pn**	**Pn**	**08 45 34.8**	**+0.4**
BO02	**Sierra Bellavi**	**10.81**	**35**				**Pn**	**08 45 42.5**	**-0.7**
BO01	**Tunca**	**11.04**	**33**	Pn		**Pn**	**Pn**	**08 45 46.1**	**-0.2**
MT01	**Popeta**	**11.45**	**31**	Pn		**Pn**	**Pn**	**08 45 50.6**	**-1.2**
MT09	**Talagante**	**11.63**	**31**	Pn		**Pn**	**Pn**	**08 45 54.7**	**+0.4**
LMEL	**Las Melosas**	**11.87**	**34**				**Pn**	**08 46 00.0**	**+2.3**
MT02	**Curacav**	**12.03**	**30**	Pn		**Pn**	**Pn**	**08 45 59.5**	**-0.3**
ROC1	**El Roble**	**12.33**	**30**	Pn		**Pn**	**Pn**	**08 46 04.2**	**+0.1**
TRQA	**Tornquist**	**13.61**	**70**	Pn		**Pn**	**Pn**	**08 46 20.9**	**-0.4**
CO02	**Combarbal**	**13.96**	**27**				**Pn**	**08 46 26.1**	**0.0**
CO03	**El Pedregal**	**14.39**	**27**				**Pn**	**08 46 32.3**	**+0.1**
GO04	**Tololo Observa**	**14.98**	**26**	Pn		**Pn**	**Pn**	**08 46 40.4**	**+0.2**
LCO	**Las Campanas**	**16.09**	**25**	Pn		**Pn**	**Pn**	**08 46 54.7**	**-0.1**
LCO				IAmb		IAmb		08 47 34.7	
	comp=Z,20nm,1.2s								
AC05	**El Transito**	**16.38**	**26**	P		**Pn**	**Pn**	**08 46 59.5**	**+1.0**
AC02	**Maricunga**	**18.61**	**26**				**P**	**08 47 27.2**	**+1.0**
PMSA	**Palmer Station**	**22.33**	**164**	P		**P**	**P**	**08 48 06.0**	**+0.2**
LVC	**Limon Verde**	**22.64**	**23**	LR		LR	LR	08 55 51.9	
	comp=Z,55nm,19.4s,baz=209,slow=33								
PB03	**IPOC Station P**	**22.95**	**21**	P		**P**	**P**	**08 48 13.1**	**+0.2**
PB03				IAmb		IAmb		08 48 15.5	
	comp=Z,14nm,1.0s								
PB07	**IPOC Station P**	**23.23**	**20**	P		**P**	**P**	**08 48 15.9**	**+0.2**
CPUP	**Villa Florida**	**24.42**	**51**	P		**P**	**P**	**08 48 25.9**	**-1.0**
	comp=Z,12nm,0.9s,baz=228,slow=10,SNR=23								
CPUP				LR		LR	LR	08 58 44.3	
	comp=Z,82nm,18.2s,baz=212,slow=38								
	comp=Z,12nm,0.9s								
CPUP	**Villa Florida**	**24.42**	**51**	P		**P**	**P**	**08 48 26.2**	**-0.7**
CPUP				IAmb		IAmb		08 48 28.1	
	comp=Z,11nm,0.8s								
PB12	**IPOC Station P**	**26.13**	**17**	P		**P**	**P**	**08 48 44.1**	**+1.6**
PB12				IAmb		IAmb		08 48 55.5	
	comp=Z,12nm,1.0s								
LPAZ	**La Paz**	**28.89**	**20**	P		**P**	**P**	**08 49 08.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=191,slow=10,SNR=2.2								
	comp=Z,0.6nm,0.7s								
RPN	**Rapa Nui**	**30.13**	**294**	LR		LR		08 57 32.8	
	comp=Z,80nm,18.2s,baz=44,slow=29								
NNA	**Nana**	**31.88**	**3**	LR		LR		08 58 57.2	
	comp=Z,57nm,18.8s,baz=224,slow=29								
ETMB	**Extrema**	**35.58**	**21**	P		**P**	**P**	**08 50 04.7**	**-1.1**
ETMB				IAmb		IAmb		08 50 13.2	
	comp=Z,2.3nm,0.9s								
ATAH	**Atahualpa**	**36.68**	**360**	LR		LR		09 01 35.2	
	comp=Z,52nm,18.4s,baz=263,slow=30								
RCBR	**Riachuelo**	**53.07**	**57**	LR		LR		09 17 33.7	
	comp=Z,51nm,19.1s,baz=310,slow=39								
TXAR	**Lajitas Array**	**76.56**	**337**	P		P		08 54 56.5	-2.2
	comp=Z,0.1nm,0.5s,baz=166,slow=12,SNR=2.6								
	comp=Z,0.1nm,0.5s								

NEIC ***17*** *08:54:00.8±0.9, 4.66°S±0.03°×147.8°E±0.1°, h120km±10km, mb4.3/14, Error ellipse: s-maj=15.1km s-min=4.1km az=98.0*

IDC ***17*** *08:54:16.9±5.3, 5.60°S×147.42°E, h216km±58km, mb3.4/2, mbtmp4.0/4, Error ellipse: s-maj=106.7km s-min=25.8km az=131.0*

ISC 17 08:53:59.1±0.7, **4.65°S**±0.05°×**147.79°E**±0.08, **h100**km, **n34,** σ**1°22/36, mb4.2/8, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.62**	**351**			Pn	**Pn**	**08 54 39.6**	**-0.3**
MANU						Sn	**Sn**	**08 55 13.9**	**+2.8**
RABL	**Rabaul**	**4.38**	**84**			Pn	**Pn**	**08 55 04.5**	**+0.9**
PMG	**Port Moresby**	**4.77**	**188**			P	Pn	08 55 18.0	+9.3
	16nm,0.7s,baz=330,slow=20,SNR=1.3								
PMG						S	**Sn**	**08 56 04.1**	**+1.3**
	38nm,0.5s,baz=324,slow=19,SNR=12								
PMG	**Port Moresby**	**4.77**	**188**			Pn	**Pn**	**08 55 10.0**	**+1.3**
PMG						Sn	**Sn**	**08 56 04.7**	**+1.9**
COEN	**Coen**	**10.31**	**206**			Pn	**Pn**	**08 56 25.3**	**+1.3**
FAKI	**Fak Fak**	**15.60**	**276**			P	**Pn**	**08 57 33.9**	**+0.4**
KDU	**Kakadu**	**17.11**	**241**			P	**Pn**	**08 57 52.2**	**+0.1**
QIS	**Mount Isa**	**17.70**	**206**			P	**P**	**08 57 59.5**	**+0.7**
MTN	**Manton Dam**	**18.35**	**243**			P	**P**	**08 58 06.7**	**+0.7**
MTN						IAmb	IAmb	08 58 08.0	
	comp=Z,10nm,0.4s								
WB0	**Warramunga Arr**	**19.90**	**220**			P	**P**	**08 58 21.7**	**-1.2**
WB0						IAmb	IAmb	08 58 26.3	
	comp=Z,8.4nm,0.9s								
WRAB	**Tennant Creek**	**20.05**	**220**			P	**P**	**08 58 24.1**	**-0.4**
WRA	**Warramunga Arr**	**20.07**	**220**			P	**P**	**08 58 23.6**	**-1.1**
	comp=Z,4.3nm,0.3s,baz=40,slow=11,SNR=71								
WRA	**Warramunga Arr**	**20.07**	**220**			P	**P**	**08 58 23.1**	**-1.5**
WB1	**Warramunga Ar.**	**20.07**	**220**			P	**P**	**08 58 24.3**	**-0.4**
KNRA	**Kununurra**	**21.67**	**238**			P	**P**	**08 58 41.6**	**-0.3**
KNRA						IAmb	IAmb	08 58 43.4	
	comp=Z,8.6nm,0.5s								
KNRA	**Kununurra**	**21.67**	**238**			P	**P**	**08 58 41.8**	**-0.1**
AS01	**Alice Springs**	**23.14**	**214**			P	**P**	**08 58 56.8**	**-0.1**
AS31	**Alice Springs**	**23.17**	**214**			P	**P**	**08 58 56.5**	**-0.7**
AS31						IAmb	IAmb	08 59 06.3	
	comp=Z,4.3nm,0.3s								
ASAR	**Alice Springs**	**23.17**	**214**			P	**P**	**08 58 55.9**	**-1.3**
	comp=Z,4.5nm,0.8s,baz=47,slow=7.6,SNR=47								
	comp=Z,4.5nm,0.8s								
ASAR	**Alice Springs**	**23.17**	**214**			P	**P**	**08 58 56.5**	**-0.7**
INKA	**Innaminka**	**23.92**	**196**			P	**P**	**08 59 04.4**	**+0.5**
DZM	**Mont Dzumac**	**25.03**	**135**			P	**P**	**08 59 12.8**	**-1.3**
DZM						IAmb	IAmb	08 59 44.2	
	comp=Z,16nm,1.2s								
LCRK	**Leigh Creek**	**27.20**	**198**			P	**P**	**08 59 33.3**	**-0.2**
TOLI2	**Tolitoli**	**27.58**	**281**			P	**P**	**08 59 36.6**	**-0.6**
WRKA	**Warakurna**	**27.60**	**221**			P	**P**	**08 59 35.9**	**-1.3**
KAPI	**Kappang**	**27.94**	**268**			P	**P**	**08 59 39.7**	**-0.6**
KAPI						IAmb	IAmb	09 00 19.5	
	comp=Z,16nm,1.1s								
LHI	**Lord Howe Isla**	**28.75**	**160**			P	**P**	**08 59 47.2**	**-0.1**
PSA00	**Pilbara Seismi**	**31.89**	**236**			P	**P**	**09 00 14.4**	**-0.8**
CASY	**Casey**	**66.76**	**195**			P	**P**	**09 04 37.9**	**-1.5**
CASY				PcP			**pP**	**09 05 06.0**	**+2.1**
VNDA	**Vanda**	**73.21**	**177**			P	**P**	**09 05 17.0**	**-1.7**
SBA	**Scott Base**	**73.84**	**176**			P	**P**	**09 05 22.2**	**-0.2**
SBA						IAmb	IAmb	09 06 01.9	
	comp=Z,4.7nm,1.4s								
ILAR	**Eielson Array**	**83.94**	**23**	P		P	P	09 06 27.1	+9.4
	comp=Z,0.5nm,0.7s,baz=250,slow=5.4,SNR=6.3								
	comp=Z,0.5nm,0.7s								
QSPA	**South Pole Qui**	**85.31**	**180**			P	**P**	**09 06 23.4**	**-1.5**
QSPA						IAmb	IAmb	09 07 05.3	
	comp=Z,2.5nm,1.1s								
TORD	**Torodi Ar. Bea**	**145.49**	**286**	PKPbc			**PKPab**	**09 13 29.6**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=67,slow=3.0,SNR=5.6								

NNC ***17*** *08:56:59.1±2.6, 53.56N×87.93E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=20.3km s-min=10.2km az=65.0,*

Suspected Mining explosion.

IDC ***17*** *08:57:00.8±2.2, 53.54N×87.94E, h0km, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=20.1km s-min=15.0km az=55.0*

ISC 17 08:56:58.7±1.5, **53.7N**±0.1°×**87.94E**±0.07, **h0**km, **n10,** σ**1°50/16, 7C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.87**	**280**	⇓Pg		**Pn**	**Pb**	**08 57 33.6**	**-0.1**
	0.8nm,0.4s								
ZAA0				⇓Lg		Lg		08 58 00.1	
	8.9nm,0.6s								
ZALV	**Zalesovo Beam**	**1.87**	**280**	Pg		**Pn**	**Pb**	**08 57 33.7**	**0.0**
	4.3nm,0.3s,baz=105,slow=12,SNR=20								
ZALV				Sn		**Sg**		**08 57 59.6**	**+0.8**
	9.9nm,0.3s,baz=99,slow=28,SNR=16								
KURK	**Kurchatov**	**6.44**	**247**	⇓Pn		**Pn**	**Pn**	**08 58 33.0**	**-1.7**
	3.8nm,1.0s								
KURK				⇑Lg		Lg		09 00 21.3	
	12nm,1.0s								
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn		**Pn**	**Pn**	**08 58 37.5**	**+1.5**
	0.4nm,0.3s,baz=61,slow=14,SNR=5.2								
KURBB				Sn		**Sn**	**Sn**	**08 59 49.8**	**-1.5**
	baz=56,slow=45,SNR=1.2								
KURBB				Lg		Lg	Lg	09 00 25.3	
	0.1nm,0.3s,baz=67,slow=30,SNR=2.7								
	2.3nm,0.2s								
KURBB	**Kurchatov Arra**	**6.54**	**246**	⇓Pn		**Pn**	**Pn**	**08 58 34.6**	**-1.4**
	3.7nm,0.8s								
KURBB				⇑Sn		**Sn**	**Sn**	**08 59 50.3**	**-0.9**
	9.1nm,0.7s								
KURBB				⇑Lg		Lg		09 00 26.3	
	9.3nm,0.6s								
MK31	**Makanchi Array**	**7.77**	**210**	⇑Pn		**Pn**	**Pn**	**08 58 54.5**	**+1.6**
	0.2nm,0.3s,baz=28,slow=13,SNR=36								
MK31				⇑Sn		**Sn**	**Sn**	**09 00 20.4**	**-1.2**
	0.7nm,0.5s,baz=26,slow=22,SNR=5.1								
MK31				⇑Lg		Lg		09 01 05.0	
	3.5nm,0.8s,baz=40,slow=27,SNR=4.4								
MKAR	**Makanchi Array**	**7.77**	**210**	Pn		**Pn**	**Pn**	**08 58 54.9**	**+1.9**
	0.5nm,0.3s,baz=26,slow=13,SNR=24								
MKAR				Sn		**Sn**	**Sn**	**09 00 21.9**	**+0.4**
	0.3nm,0.3s,baz=29,slow=18,SNR=5.3								
MKAR				Lg		Lg	Lg	09 01 06.3	
	0.3nm,0.3s,baz=29,slow=27,SNR=6.7								
	0.6nm,0.2s								
MAKZ	**Makanchi**	**7.85**	**211**	⇑Sn		**Sn**	**Sn**	**09 00 24.0**	**+0.4**
	1.8nm,0.8s								
MAKZ				⇓Lg		Lg		09 01 07.3	
	3.5nm,0.9s								
BVAR	**Borovoye Array**	**10.51**	**274**	Pn		**Pn**	**Pn**	**08 59 33.4**	**+2.9**
	baz=77,slow=12,SNR=3.0								
BVAR				Sn		**Sn**	**Sn**	**09 01 27.6**	**-1.3**
	0.1nm,0.3s,baz=73,slow=24,SNR=5.1								
	0.3nm,0.3s								
SONM	**Songino Array**	**13.05**	**109**	Pn		**Pn**	**Pn**	**09 00 05.0**	**-0.2**
	0.4nm,0.4s,baz=296,slow=42,SNR=1.5								

IDC ***17*** *09:12:36.3±2.4, 42.48S×173.25E, h0km, mb3.4/2, mbtmp3.6/3, ML4.4/1, Error ellipse: s-maj=47.7km s-min=35.9km az=125.0*

NOU ***17*** *09:12:36.9, 42.61S×173.46E, h0km, MLv4.3/10, South Island, New Zealand*

WEL ***17*** *09:12:39.3±0.3, 42°S±2°×17°3E±1°, h5km, M3.8/38, ML4.0/14, MLv3.8/38, Error ellipse: s-maj=0.0km s-min=0.0km az=117.2*

ISC 17 09:12:39.8±0.9, **42.53S**±0.03°×**173.38E**±0.04, **h33**km, **n116,** σ**1°69/115, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.51**	**210**			P	**Pb**	**09 12 50.3**	**-0.3**
GVZ						S	**Sn**	**09 12 59.2**	**+0.7**
THZ	**Tophouse**	**0.84**	**335**			P	**Pn**	**09 12 52.8**	**-2.5**
THZ						S	**Sn**	**09 13 02.2**	**-4.4**
AMCZ	**Amberley**	**0.84**	**219**			P	**Pb**	**09 12 56.1**	**+0.1**
LTZ	**Lake Taylor**	**0.86**	**252**			P	**Pn**	**09 12 53.8**	**-1.8**
BSWZ	**Blackbirch Sta**	**0.89**	**25**			P	**Pn**	**09 12 55.9**	**-0.1**
CMWZ	**Cape Campbell**	**0.99**	**39**			P	**Pb**	**09 12 59.1**	**+0.6**
TUWZ	**Tuamarina**	**1.17**	**21**			P	**Pn**	**09 13 00.6**	**+0.7**
MRNZ	**Matariki Terra**	**1.22**	**337**			P	**Pn**	**09 12 59.7**	**-0.8**
OKCZ	**Okains Bay**	**1.22**	**191**			P	**Pb**	**09 13 02.0**	**-0.4**
OXZ	**Oxford**	**1.27**	**230**			P	**Pn**	**09 13 01.4**	**+0.2**
MQZ	**McQueen's Vall**	**1.30**	**204**			P	**Pn**	**09 13 01.7**	**+0.2**
NNZ	**Nelson**	**1.31**	**360**			P	**Pn**	**09 13 01.4**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.39**	**194**			P	**Pb**	**09 13 03.8**	**-1.4**
DSZ	**Denniston Nort**	**1.41**	**303**			P	**Pn**	**09 13 03.1**	**-0.1**
INZ	**Inchbonnie**	**1.44**	**261**			P	**Pn**	**09 13 03.7**	**+0.1**
TCW	**Tory Channel**	**1.47**	**27**			P	**Pn**	**09 13 05.1**	**+1.1**
RACZ	**Rakaia**	**1.51**	**217**			P	**Pn**	**09 13 04.7**	**+0.3**
TKNZ	**Takaka Hill**	**1.52**	**348**			P	**Pn**	**09 13 05.2**	**+0.5**
SNZO	**South Karori**	**1.56**	**40**			P	**Pn**	**09 13 06.6**	**+1.4**
MHCZ	**Mount Hutt**	**1.67**	**232**			P	**Pn**	**09 13 06.8**	**+0.1**
PLWZ	**Palliser**	**1.69**	**56**			P	**Pn**	**09 13 08.3**	**+1.2**
DUWZ	**D'Urville Isla**	**1.77**	**13**			P	**Pn**	**09 13 09.4**	**+1.3**
MSWZ	**Moikau Station**	**1.78**	**52**			P	**Pn**	**09 13 09.2**	**+0.9**
WACZ	**Wakanui South**	**1.81**	**218**			P	**Pn**	**09 13 09.0**	**+0.4**
QRZ	**Quartz Range**	**1.81**	**339**			P	**Pn**	**09 13 09.8**	**+1.1**
QRZ	**Quartz Range**	**1.81**	**339**			P	**Pn**	**09 13 09.6**	**+0.9**
CAW	**Cannon Point**	**1.90**	**42**			P	**Pn**	**09 13 10.9**	**+1.0**
PAWZ	**Paruwai Farm**	**1.91**	**54**			P	**Pn**	**09 13 10.6**	**+0.6**
KIW	**Kapiti Island**	**2.02**	**35**			P	**Pn**	**09 13 12.8**	**+1.3**
WVZ	**Waitaha Valley**	**2.02**	**253**			P	**Pn**	**09 13 12.5**	**+0.9**
TRWZ	**Traveller**	**2.06**	**58**			P	**Pn**	**09 13 12.9**	**+0.8**
RPZ	**Rata Peaks**	**2.08**	**234**	Pn		P	**Pn**	**09 13 12.6**	**+0.2**
	126nm,0.3s,baz=56,slow=3.4,SNR=73								
RPZ				Sn			**Sn**	**09 13 37.4**	**+0.3**
	30nm,0.3s,baz=138,slow=22,SNR=18								
	281nm,0.4s								
RPZ	**Rata Peaks**	**2.08**	**234**			P	**Pn**	**09 13 12.6**	**+0.2**
RPZ	**Rata Peaks**	**2.08**	**234**			P	**Pn**	**09 13 12.6**	**+0.2**
MTW	**Mount Morrison**	**2.09**	**50**			P	**Pn**	**09 13 12.2**	**-0.3**
ARCZ	**Arundel**	**2.15**	**228**			P	**Pn**	**09 13 13.6**	**+0.3**
OGWZ	**Otaki Gorge**	**2.17**	**39**			P	**Pn**	**09 13 14.5**	**+0.9**
HOWZ	**Holdsworth Sta**	**2.28**	**45**			P	**Pn**	**09 13 15.5**	**+0.4**
TMWZ	**Te Maipa**	**2.35**	**54**			P	**Pn**	**09 13 16.4**	**+0.3**
GDCZ	**Gaunt Creek Bo**	**2.38**	**250**			P	**Pn**	**09 13 17.7**	**+1.2**
MRZ	**Mangatainoka R**	**2.49**	**42**			P	**Pn**	**09 13 18.4**	**+0.4**
TMZ	**Timaru**	**2.54**	**222**			P	**Pn**	**09 13 18.9**	**+0.2**
OHWZ	**Ohakea**	**2.74**	**33**			P	**Pn**	**09 13 23.6**	**+2.3**
PRWZ	**Pori Road**	**2.77**	**46**			P	**Pn**	**09 13 22.0**	**+0.2**
POWZ	**Post Office Ro**	**2.79**	**41**			P	**Pn**	**09 13 22.5**	**+0.4**
FOZ	**Fox Glacier**	**2.80**	**248**			P	**Pn**	**09 13 23.9**	**+1.6**
BFZ	**Birch Farm**	**2.83**	**50**			P	**Pn**	**09 13 22.4**	**-0.3**
BFZ	**Birch Farm**	**2.83**	**50**			P	**Pn**	**09 13 22.5**	**-0.1**
LBZ	**Lake Benmore**	**2.98**	**230**			P	**Pn**	**09 13 25.2**	**+0.5**
WAZ	**Wanganui**	**3.02**	**24**			P	**Pn**	**09 13 28.8**	**+3.5**
DVHZ	**Dannevirke**	**3.06**	**44**			P	**Pn**	**09 13 25.3**	**-0.4**
ANWZ	**Angora Road**	**3.11**	**49**			P	**Pn**	**09 13 26.4**	**0.0**
NMEZ	**Namu Road**	**3.13**	**7**			P	**Pn**	**09 13 31.1**	**+4.3**
TSZ	**Takapari Road**	**3.14**	**39**			P	**Pn**	**09 13 27.0**	**+0.1**
LREZ	**Lake Rotokare**	**3.16**	**15**			P	**Pn**	**09 13 30.5**	**+3.3**
ODZ	**Otahua Downs**	**3.21**	**217**			P	**Pn**	**09 13 28.0**	**+0.2**
ODZ	**Otahua Downs**	**3.21**	**217**			P	**Pn**	**09 13 27.8**	**-0.1**
KHEZ	**Kahui Hut**	**3.26**	**9**			P	**Pn**	**09 13 31.9**	**+3.2**
NBEZ	**Newall Road No**	**3.27**	**7**			P	**Pn**	**09 13 31.9**	**+3.1**
NEZ	**North Egmont**	**3.30**	**10**			P	**Pn**	**09 13 33.2**	**+4.0**
PKE	**Pukeiti**	**3.36**	**8**			P	**Pn**	**09 13 32.8**	**+2.8**
PNHZ	**Pukenui**	**3.37**	**40**			P	**Pn**	**09 13 30.0**	**-0.1**
DREZ	**Durham Road**	**3.39**	**11**			P	**Pn**	**09 13 34.0**	**+3.6**
MHEZ	**Mangahewa**	**3.52**	**12**			P	**Pn**	**09 13 36.9**	**+4.7**
VRZ	**Vera Road**	**3.55**	**18**			P	**Pn**	**09 13 35.3**	**+2.7**
MOVZ	**Moawhango**	**3.59**	**31**			P	**Pn**	**09 13 34.3**	**+1.0**
WNVZ	**Wahianoa**	**3.61**	**28**			P	**Pn**	**09 13 35.4**	**+1.9**
TRVZ	**Turoa**	**3.62**	**28**			P	**Pn**	**09 13 35.4**	**+1.7**
WHVZ	**Whangaehu Hut**	**3.65**	**28**			P	**Pn**	**09 13 36.2**	**+2.1**
BHHZ	**Black Hill Sta**	**3.65**	**35**			P	**Pn**	**09 13 35.1**	**+1.1**
FWVZ	**Far West T-bar**	**3.66**	**27**			P	**Pn**	**09 13 38.8**	**+4.5**
JCZ	**Jackson Bay**	**3.69**	**244**			P	**Pn**	**09 13 35.6**	**+0.9**
JCZ	**Jackson Bay**	**3.69**	**244**			P	**Pn**	**09 13 37.8**	**+3.1**
NGZ	**Ngauruhoe**	**3.75**	**27**			P	**Pn**	**09 13 37.1**	**+1.7**
OTVZ	**Oturere**	**3.78**	**28**			P	**Pn**	**09 13 41.2**	**+5.3**
TMVZ	**Te Maari**	**3.83**	**28**			P	**Pn**	**09 13 41.6**	**+5.0**
HHSZ	**Highcliff Hill**	**3.91**	**210**			P	**Pn**	**09 13 38.4**	**+0.9**
KATZ	**Kakaramea**	**3.96**	**27**			P	**Pb**	**09 13 45.6**	**-3.3**
EAZ	**Earnscleugh**	**4.00**	**226**			P	**Pn**	**09 13 38.5**	**-0.2**
BKZ	**Black Stump Fm**	**4.10**	**36**			P	**Pn**	**09 13 39.6**	**-0.6**
HIZ	**Hauiti**	**4.16**	**16**			P	**Pn**	**09 13 43.6**	**+2.6**
HIZ	**Hauiti**	**4.16**	**16**			P	**Pn**	**09 13 43.6**	**+2.6**
MRHZ	**Matea Rd**	**4.35**	**33**			P	**Pn**	**09 13 43.0**	**-0.6**
TLZ	**Tolley Road**	**4.50**	**22**			P	**Pn**	**09 13 48.9**	**+3.2**
MTHZ	**Maungataniwha**	**4.51**	**37**			P	**Pn**	**09 13 46.9**	**+1.1**
MLZ	**Mavora Lakes**	**4.75**	**231**			P	**Pn**	**09 13 49.1**	**+0.1**
RTZ	**Ruatahuna**	**4.77**	**36**			P	**Pn**	**09 13 50.0**	**+0.5**
MUGZ	**Murupara**	**4.80**	**34**			P	**Pn**	**09 13 50.0**	**+0.3**
RRRZ	**Republican Roa**	**4.82**	**31**			P	Pn	09 13 56.9	+6.9
SYZ	**Scrubby Hill**	**5.03**	**216**			P	**Pn**	**09 13 53.1**	**+0.3**
SYZ	**Scrubby Hill**	**5.03**	**216**			P	**Pn**	**09 13 53.6**	**+0.8**
TOZ	**Tahuroa Road**	**5.06**	**19**			P	**Pn**	**09 13 54.5**	**+1.3**
RAGZ	**Rawiri**	**5.06**	**39**			P	**Pn**	**09 13 53.6**	**+0.1**
URZ	**Urewera**	**5.12**	**35**			P	**Pn**	**09 13 54.7**	**+0.5**
URZ	**Urewera**	**5.12**	**35**			P	**Pn**	**09 13 54.1**	**0.0**
TGRZ	**Tauranga**	**5.27**	**26**			P	**Pn**	**09 13 57.2**	**+0.9**
TKGZ	**Te Karaka**	**5.32**	**41**			P	**Pn**	**09 13 57.2**	**+0.4**
AWAZ	**Awhitu Peninsu**	**5.54**	**11**			P	**Pn**	**09 14 02.0**	**+2.1**
MKAZ	**Moumakai**	**5.58**	**15**			P	**Pn**	**09 14 01.9**	**+1.3**
TWGZ	**Tauwhareparae**	**5.58**	**40**			P	**Pn**	**09 14 02.3**	**+1.7**
RUGZ	**Raukumara Rang**	**5.62**	**37**			P	**Pn**	**09 14 01.4**	**+0.3**
ETAZ	**East Tamaki Re**	**5.69**	**13**			P	**Pn**	**09 14 04.0**	**+2.0**
APZ	**The Paps**	**5.77**	**220**			P	**Pn**	**09 14 03.5**	**+0.3**
PUZ	**Puketiti**	**5.80**	**42**			P	Pn	09 14 10.1	+6.5
RVAZ	**Riverhead Bore**	**5.82**	**10**			P	**Pn**	**09 14 05.9**	**+2.1**
HAZ	**Te Kaha**	**5.83**	**37**			P	**Pn**	**09 14 03.7**	**-0.2**
MBAZ	**Motutapu North**	**5.87**	**12**			P	**Pn**	**09 14 06.4**	**+2.0**
WIAZ	**Waiheke Island**	**5.88**	**14**			P	**Pn**	**09 14 06.8**	**+2.1**
ABAZ	**Army Bay**	**6.02**	**11**			P	**Pn**	**09 14 08.7**	**+2.2**
KUZ	**Kuaotunu**	**6.05**	**18**			P	**Pn**	**09 14 08.4**	**+1.5**
**KUZ

OKCZ	Okains Bay	1.96	204	P	Pn	09 22 31.3	+0.3
POWZ	Post Office Ro	1.97	39	P	Pn	09 22 31.3	+0.2
BFZ	Birch Farm	2.02	53	Pn	Pn	09 22 31.3	-0.5
BFZ	Birch Farm	2.02	53	P	Pn	09 22 33.2	+1.4
BFZ	Birch Farm	2.02	53	P	Pn	09 22 31.2	-0.6
MQZ	McQueen's Vall	2.08	211	Pn	Pn	09 22 32.0	-0.6
MQZ	McQueen's Vall	2.08	211	P	Pn	09 22 32.1	-0.6
OXZ	Oxford	2.08	227	Pn	Pn	09 22 32.4	-0.3
OXZ	Oxford	2.08	227	P	Pn	09 22 32.4	-0.3
AKCZ	Akaroa Harbour	2.14	205	P	Pn	09 22 34.2	+0.7
INZ	Inchbonnie	2.15	247		Pn	09 22 34.5	+0.9
INZ	Inchbonnie	2.15	247	P	Pn	09 22 34.8	+1.2
DVHZ	Dannevirke	2.24	44	P	Pn	09 22 34.1	-0.7
WAZ	Wanganui	2.27	17	P	Pb	09 22 37.9	-0.9
ANWZ	Angora Road	2.29	51	P	Pn	09 22 35.2	-0.4
RACZ	Rakaia	2.32	219	P	Pn	09 22 35.4	-0.5
TSZ	Takapari Road	2.32	37	P	Pn	09 22 35.9	-0.1
LREZ	Lake Rotokare	2.48	5	P	Pn	09 22 41.4	-1.0
MHCZ	Mount Hutt	2.48	229	P	Pn	09 22 38.2	+0.1
PRHZ	Porangahau	2.52	49	P	Pn	09 22 38.5	-0.1
NMEZ	Namu Road	2.52	355	P	Pb	09 22 44.4	+1.3
PNHZ	Pukenui	2.55	38	P	Pn	09 22 38.7	-0.5
WPHZ	Waipukurau	2.55	44	P	Pn	09 22 38.7	-0.5
WACZ	Wakanui South	2.63	219	P	Pn	09 22 39.9	-0.2
KHEZ	Kahui Hut	2.63	358	P	Pb	09 22 44.7	-0.4
KHEZ	Kahui Hut	2.63	358	P	Pb	09 22 44.6	-0.5
NEZ	North Egmont	2.66	359	P	Pb	09 22 44.8	-0.7
NBEZ	Newall Road No	2.67	355	P	Pb	09 22 45.0	-0.6
PKE	Pukeiti	2.74	358	P	Pb	09 22 45.0	-1.7
MTVZ	Mangateitei	2.74	22	P	Pb	09 22 48.2	+1.4
WVZ	Waitaha Valley	2.76	244	P	Pn	09 22 43.3	+1.3
PKVZ	Pokaka	2.79	20	P	Pb	09 22 47.5	-0.2
PXZ	Pawanui	2.80	48	P	Pn	09 22 41.6	-1.0
MOVZ	Moawhango	2.80	26	P	Pn	09 22 43.1	+0.4
WNVZ	Wahianoa	2.83	24	P	Pn	09 22 44.3	+1.3
TRVZ	Turoa	2.84	23	P	Pn	09 22 44.9	+1.6
VRZ	Vera Road	2.84	10	P	Pn	09 22 45.3	+2.2
BHHZ	Black Hill Sta	2.84	32	P	Pn	09 22 43.7	+0.5
MHEZ	Mangahewa	2.85	3	P	Pb	09 22 47.6	-1.2
DRZ	Dome Shelter	2.87	23	P	Pb	09 22 47.9	-1.3
WHVZ	Whangaehu Hut	2.87	23	P	Pn	09 22 45.5	+1.8
FWVZ	Far West T-bar	2.88	22	P	Pb	09 22 47.6	-1.8
RPZ	Rata Peaks	2.89	231	Pn	Pn	09 22 43.6	-0.2
	23nm,0.3s,baz=116,slow=1.6,SNR=36						
RPZ				Sn	Sn	09 23 17.8	-0.6
	24nm,0.3s,baz=145,slow=23,SNR=13 92nm,0.5s						
RPZ	Rata Peaks	2.89	231	Pn	Pn	09 22 44.0	+0.3
RPZ	Rata Peaks	2.89	231	P	Pn	09 22 44.2	+0.5
RPZ	Rata Peaks	2.89	231	P	Pn	09 22 43.8	+0.1
TUVZ	Tukino	2.90	24	P	Pb	09 22 47.1	-2.5
ARCZ	Arundel	2.96	226	P	Pn	09 22 45.4	+0.5
NGZ	Ngauruhoe	2.97	23	P	Pn	09 22 46.9	+1.9
SNVZ	South Ngauruho	2.97	23	P	Pb	09 22 50.3	-0.5
KAHZ	Kahuranaki	2.98	45	P	Pn	09 22 44.1	-1.0
OTVZ	Oturere	3.00	23	P	Pb	09 22 51.2	-0.2
NNVZ	North Ngauruho	3.01	22	P	Pb	09 22 52.1	+0.5
WTVZ	West Tongariro	3.02	22	P	Pb	09 22 52.7	+1.0
KWHZ	Kaweka Forest	3.05	36	P	Pn	09 22 45.8	-0.2
TMVZ	Te Maari	3.06	24	P	Pb	09 22 52.3	+0.1
GCSZ	Gaunt Creek Bo	3.13	243	P	Pn	09 22 49.7	+2.6
KATZ	Kakaramea	3.18	22	P	Pb	09 22 53.3	-1.1
BKZ	Black Stump Fm	3.29	34		Pn	09 22 48.8	-0.6
BKZ	Black Stump Fm	3.29	34	P	Pn	09 22 48.5	-0.9
TMZ	Timaru	3.36	222	P	Pn	09 22 50.1	-0.1
ARHZ	Aropaoanui	3.44	40	P	Pn	09 22 51.1	-0.2
HIZ	Hauiti	3.46	9		Pn	09 22 54.4	+2.8
HIZ	Hauiti	3.46	9	P	Pn	09 22 53.9	+2.3
HIZ	Hauiti	3.46	9	P	Pn	09 22 54.2	+2.6
MRHZ	Matea Rd	3.55	30	P	Pn	09 22 52.0	-0.9
FOZ	Fox Glacier	3.56	242	Pn	Pn	09 22 55.0	+2.0
FOZ	Fox Glacier	3.56	242	P	Pn	09 22 54.3	+1.3
MTHZ	Maungataniwha	3.70	35	P	Pn	09 22 54.4	-0.6
TLZ	Tolley Road	3.75	17	P	Pb	09 23 00.7	-3.4
LBZ	Lake Benmore	3.79	228	P	Pn	09 22 56.6	+0.4
MUGZ	Murupara	4.00	31	P	Pn	09 23 00.2	+1.3
ODZ	Otahua Downs	4.02	218	P	Pn	09 22 59.1	-0.2
ODZ	Otahua Downs	4.02	218	P	Pn	09 22 58.8	-0.5
RAGZ	Rawiri	4.25	37	P	Pn	09 23 00.6	-1.9
URZ	Urewera	4.32	33	P	Pn	09 23 03.6	+0.2
URZ	Urewera	4.32	33	P	Pn	09 23 01.8	-1.5
TOZ	Tahuroa Road	4.32	14	P	Pn	09 23 05.0	+1.5
MWZ	Matawai	4.43	37	P	Pn	09 23 02.8	-2.2
JCZ	Jackson Bay	4.47	240	P	Pn	09 23 06.9	+1.3
JCZ	Jackson Bay	4.47	240	P	Pn	09 23 06.7	+1.1
RUGZ	Raukumara Rang	4.80	36	P	Pn	09 23 08.7	-1.5
EAZ	Earnscleugh	4.82	225	P	Pn	09 23 09.9	-0.4
AWAZ	Awhitu Peninsu	4.88	5	P	Pn	09 23 14.3	+3.2
MKAZ	Moumakai	4.88	10	P	Pn	09 23 12.8	+1.6
WTAZ	Waiatarua	5.00	4	P	Pn	09 23 16.3	+3.5
ETAZ	East Tamaki Re	5.01	7	P	Pn	09 23 16.3	+3.5
RVAZ	Riverhead Bore	5.17	4	P	Pn	09 23 17.8	+2.8
MBAZ	Motutapu North	5.19	7	P	Pn	09 23 17.2	+1.8
WIAZ	Waiheke Island	5.19	9	P	Pn	09 23 18.5	+3.1
MSZ	Milford Sound	5.30	237	P	Pn	09 23 16.0	-0.8
KUZ	Kuaotunu	5.32	14	P	Pn	09 23 21.7	+4.5
KUZ	Kuaotunu	5.32	14	P	Pn	09 23 19.8	+2.6
SYZ	Scrubby Hill	5.84	216	P	Pn	09 23 24.9	+0.6
SYZ	Scrubby Hill	5.84	216	P	Pn	09 23 24.6	+0.3
OUZ	Omahuta	6.71	356	P	Pn	09 23 41.5	+5.2
OUZ	Omahuta	6.71	356	P	Pn	09 23 40.4	+4.1
CTZ	Chatham Island	7.03	108	P	Pn	09 23 42.3	+1.7
DZM	Mont Dzumac	20.83	340	LR	LR	09 33 29.8	
	comp=Z,113nm,18.4s,baz=203,slow=33						
STKA	Stephens Creek	27.75	281	LR	LR	09 37 34.5	
	comp=Z,86nm,18.7s,baz=27,slow=34						
ASAR	Alice Springs	38.00	286	P	P	09 29 13.9	-2.0
	0.6nm,0.9s,baz=119,slow=6.1,SNR=11						
ASAR				PcP	PcP	09 31 32.9	+1.4
	0.3nm,0.7s,baz=126,slow=3.8,SNR=4.2						
ASAR				LR	LR	09 44 50.6	
	comp=Z,83nm,18.2s,baz=117,slow=36 0.6nm,0.9s						
WR0	Warramunga Arr	39.94	291	P	P	09 29 30.2	-1.9
WB2	Warramunga Arr	40.08	291	P	P	09 29 31.7	-1.7
WB2				IAmb	IAmb	09 30 09.2	
	comp=Z,7.0nm,1.2s						
WRAB	Tennant Creek	40.09	291	P	P	09 29 32.3	-1.1
WRA	Warramunga Arr	40.09	291	P	P	09 29 32.5	-0.9
	comp=Z,0.3nm,0.3s,baz=127,slow=8.3,SNR=11						
WRA				PcP	PcP	09 31 38.9	+0.9
	comp=Z,0.3nm,0.7s,baz=124,slow=3.3,SNR=2.2						
WRA				LR	LR	09 45 14.9	
	comp=Z,87nm,19.1s,baz=151,slow=35 comp=Z,0.3nm,0.3s						
WB0	Warramunga Arr	40.17	291	P	P	09 29 32.3	-1.8
WB0				IAmb	IAmb	09 29 45.6	
	comp=Z,7.0nm,1.2s						
CMAR	Chiang Mai Arr	91.64	293	P	P	09 35 06.2	+1.1
	comp=Z,1.1nm,0.3s,baz=157,slow=2.9,SNR=1.7 comp=Z,1.1nm,0.3s						
ARCES	ARCESS Array B	147.92	340	PKPbc	PKPbc	09 41 42.1	+0.3
	comp=Z,3.0nm,1.1s,baz=49,slow=2.7,SNR=1.2						
TORD	Torodi Ar. Bea	150.58	195	PKPbc	PKPbc	09 41 49.7	-0.4
	comp=Z,0.6nm,0.4s,baz=191,slow=2.7,SNR=6.6						
TORD				PKPab	pPKPbc	09 41 54.9	+0.9
	comp=Z,0.8nm,0.4s,baz=155,slow=2.7,SNR=8.9						

IDC ***17*** *09:24:43.5±2.6,41°.84S×174°.19E,h0km,mb3.3/2, mbtmp3.4/3,ML3.4/1,Error ellipse: s-maj=52.1km s-min=40.3km az=118.0*

WEL ***17*** *09:24:44.9±0.3,42°.S±3°×17°.4E±°,h6km±3km,M3.9/37, ML4.1/18,MLv3.9/37,Error ellipse: s-maj=0.0km s-min=0.0km az=164.6*

ISC 17 09:24:44.6±0.9,41°.75S±0°.03×174°.26E±0°.03,h13km±5km, n88,σ1°23/91,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.03	266	P	Pg	09 24 47.0	-0.1
CMWZ				S	Sg	09 24 48.8	+0.1
BSWZ	Blackbirch Sta	0.29	276	P	Pg	09 24 50.2	-0.4
BSWZ				S	Sg	09 24 54.6	0.0
TUWZ	Tuamarina	0.40	323	P	Pg	09 24 51.8	-0.7
TCW	Tory Channel	0.54	1	P	Pg	09 24 54.4	-0.7
WEL	Wellington	0.60	40	P	Pg	09 24 56.6	+0.3
PLWZ	Palliser	0.77	77	P	Pb	09 25 01.1	+1.3
MSWZ	Moikau Station	0.81	66	P	Pb	09 25 01.4	+0.8
NNZ	Nelson	0.85	308	P	Pg	09 24 59.8	-1.2
CAW	Cannon Point	0.88	44	P	Pg	09 25 01.5	-0.2
PAWZ	Paruwai Farm	0.95	68	P	Pb	09 25 04.0	+1.0
DUWZ	D'Urville Isla	0.98	345	P	Pg	09 25 02.1	-1.4
KIW	Kapiti Island	1.01	29	P	Pg	09 25 03.3	-0.8
THZ	Tophouse	1.01	269	P	Pg	09 25 03.6	-0.5
MTW	Mount Morrison	1.10	58	P	Pg	09 25 05.8	-0.1
TRWZ	Traveller	1.13	72	P	Pg	09 25 06.1	-0.3
OGWZ	Otaki Gorge	1.16	37	P	Pg	09 25 06.1	-0.8
MRNZ	Matariki Terra	1.18	287	P	Pg	09 25 06.5	-0.8
TKNZ	Takaka Hill	1.21	306	P	Pg	09 25 06.2	-1.7
HOWZ	Holdsworth Sta	1.27	49	P	Pn	09 25 08.0	0.0
TMWZ	Te Maipa	1.38	63	P	Pn	09 25 09.3	-0.3
MRZ	Mangatainoka R	1.47	43	P	Pn	09 25 11.0	+0.1
GVZ	Greta Valley S	1.52	216	P	Pn	09 25 11.8	+0.3
TIWZ	Tintock	1.56	52	P	Pn	09 25 12.2	+0.1
QRZ	Quartz Range	1.60	305	P	Pn	09 25 13.1	+0.6
OHWZ	Ohakea	1.73	28	P	Pb	09 25 16.1	-0.2
PRWZ	Pori Road	1.76	48	P	Pn	09 25 14.7	-0.1
POWZ	Post Office Ro	1.77	41	P	Pn	09 25 14.9	0.0
LTZ	Lake Taylor	1.80	234	P	Pn	09 25 15.8	+0.4
DSZ	Denniston Nort	1.84	269	P	Pn	09 25 17.3	+1.4
BFZ	Birch Farm	1.84	55	P	Pn	09 25 16.1	+0.2
AMCZ	Amberley	1.86	219	P	Pn	09 25 16.0	-0.1
DVHZ	Dannevirke	2.04	46	P	Pn	09 25 17.9	-0.8
WAZ	Wanganui	2.06	16	P	Pb	09 25 21.1	-0.8
ANWZ	Angora Road	2.11	53	P	Pn	09 25 18.9	-0.7
TSZ	Takapari Road	2.12	38	P	Pn	09 25 19.6	-0.2
OKCZ	Okains Bay	2.16	204	P	Pn	09 25 19.8	-0.5
OXZ	Oxford	2.28	225	P	Pn	09 25 21.1	-0.8
LREZ	Lake Rotokare	2.29	3	P	Pb	09 25 25.0	-0.7
MQZ	McQueen's Vall	2.29	211	P	Pn	09 25 20.7	-1.3
INZ	Inchbonnie	2.31	244	P	Pn	09 25 23.5	+1.2
PRHZ	Porangahau	2.33	51	P	Pn	09 25 22.3	-0.3
PNHZ	Pukenui	2.35	39	P	Pn	09 25 22.4	-0.6
WPHZ	Waipukurau	2.36	45	P	Pn	09 25 23.0	0.0
KHEZ	Kahui Hut	2.46	356	P	Pb	09 25 27.4	-1.2
NBEZ	Newall Road No	2.49	353	P	Pb	09 25 29.6	+0.3
RACZ	Rakaia	2.52	218	P	Pn	09 25 24.0	-1.2
PKE	Pukeiti	2.56	355	P	Pb	09 25 28.7	-1.7
MOVZ	Moawhango	2.60	26	P	Pn	09 25 26.8	+0.4
WNVZ	Wahianoa	2.62	23	P	Pn	09 25 28.0	+1.2
TRVZ	Turoa	2.63	22	P	Pn	09 25 28.8	+1.8
BHHZ	Black Hill Sta	2.64	32	P	Pn	09 25 27.1	+0.2
VRZ	Vera Road	2.65	8	P	Pn	09 25 29.2	+2.3
DRZ	Dome Shelter	2.66	22	P	Pb	09 25 31.0	-1.3
WHVZ	Whangaehu Hut	2.66	23	P	Pn	09 25 28.9	+1.5
MHCZ	Mount Hutt	2.67	227	P	Pn	09 25 26.4	-0.9
FWVZ	Far West T-bar	2.68	22	P	Pb	09 25 31.1	-1.4
TUVZ	Tukino	2.69	24	P	Pb	09 25 31.7	-1.1
NGZ	Ngauruhoe	2.77	22	P	Pn	09 25 30.3	+1.5
SNVZ	South Ngauruho	2.77	23	P	Pb	09 25 34.0	0.0
KAHZ	Kahuranaki	2.79	46	P	Pn	09 25 28.2	-0.8
OTVZ	Oturere	2.79	23	P	Pb	09 25 34.1	-0.4
NNVZ	North Ngauruho	2.81	22	P	Pn	09 25 31.2	+1.9
WTVZ	West Tongariro	2.82	22	P	Pb	09 25 34.9	+0.1
WACZ	Wakanui South	2.83	218	P	Pn	09 25 28.6	-0.8
ETVZ	East Tongariro	2.83	23	P	Pb	09 25 34.7	-0.4
KWHZ	Kaweka Forest	2.85	36	P	Pn	09 25 29.3	-0.5
TMVZ	Te Maari	2.85	23	P	Pb	09 25 35.2	-0.2
WVZ	Waitaha Valley	2.93	242	P	Pn	09 25 32.2	+1.4
KATZ	Kakaramea	2.98	22	P	Pb	09 25 37.0	-0.6
RPZ	Rata Peaks	3.07	229	Pn	Pn	09 25 31.9	-0.9
	5.2nm,0.3s,baz=72,slow=3.2,SNR=7.2						
RPZ				Sn	Sn	09 26 08.3	-1.2
	12nm,0.3s,baz=126,slow=23,SNR=23 23nm,0.5s						
RPZ	Rata Peaks	3.07	229	P	Pn	09 25 32.2	-0.7
BKZ	Black Stump Fm	3.09	34	P	Pn	09 25 32.1	-1.1
RATZ	Rangitukua	3.10	22	P	Pb	09 25 39.2	-0.4
HIZ	Hauiti	3.26	8	P	Pn	09 25 37.6	+2.2
GCSZ	Gaunt Creek Bo	3.30	240	P	Pn	09 25 40.1	+4.1
MRHZ	Matea Rd	3.34	30	P	Pn	09 25 35.6	-1.1
TLZ	Tolley Road	3.55	16	P	Pb	09 25 43.8	-3.5
TMZ	Timaru	3.55	221	P	Pn	09 25 38.8	-0.7
MUGZ	Murupara	3.79	31	P	Pn	09 25 42.0	-0.7
URZ	Urewera	4.11	33	P	Pn	09 25 46.8	-0.3
TOZ	Tahuroa Road	4.12	14	P	Pn	09 25 48.4	+1.2
JCZ	Jackson Bay	4.64	238	P	Pn	09 25 58.3	+3.8
AWAZ	Awhitu Peninsu	4.69	4	P	Pn	09 25 57.3	+2.3
MKAZ	Moumakai	4.69	1	P	Pn	09 25 56.0	+1.0
ETAZ	East Tamaki Re	4.81	6	P	Pn	09 25 59.3	+2.5
ASAR	Alice Springs	38.03	286	P	P	09 32 05.2	+2.5
	0.1nm,0.4s,baz=126,slow=7.0,SNR=4.8 0.1nm,0.4s						
WRA	Warramunga Arr	40.11	290	P	P	09 32 19.0	-1.1
	0.3nm,0.5s,baz=127,slow=8.4,SNR=6.0 0.3nm,0.5s						
TORD	Torodi Ar. Bea	150.78	195	PKPbc	PKPbc	09 44 37.5	+0.5
	0.2nm,0.5s,baz=178,slow=2.8,SNR=1.6						

NNC ***17*** *09:25:11.2±3.9,54°.30N×86°.00E,h0km,mb3.6,mpv2.8, Error ellipse: s-maj=61.7km s-min=18.9km az=160.0, Suspected Mining explosion.*

IDC ***17*** *09:25:12.5±2.3,54°.31N×85°.99E,h0km,mbtmp3.5/2, ML3.2/2,Error ellipse: s-maj=17.4km s-min=9.8km az=54.0*

ISC 17 09:25:11.0±3.5,54°.6N±0°.2×84°.02E±0°.09,h0km,n8, σ1°20/11,5C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.82	145	I		09 30 05.0	
	baz=60,slow=353,SNR=5.0						
ZAA0	Zalesovo Array	0.82	145	⇓P	Pg	09 25 26.0	-0.7
	0.4nm,0.3s						
ZAA0				⇓S	Sg	09 25 37.2	-0.1
	1.9nm,0.3s						
ZALV	Zalesovo Beam	0.82	145	Pg	Pg	09 25 25.9	-0.7
	5.3nm,0.3s,baz=58,slow=17,SNR=66						
ZALV				Lg	Lg	09 25 38.9	
	46nm,0.3s,baz=63,slow=30,SNR=22						
KURK	Kurchatov	5.11	222	⇑Pn	Pb	09 26 40.8	-0.4
	3.1nm,1.2s						
KURK				⇑Lg	Lg	09 28 16.6	
	1.9nm,0.6s						
KURBB	Kurchatov Arra	5.22	222	Pn	Pb	09 26 41.9	-1.1
	0.4nm,0.3s,baz=49,slow=13,SNR=13						
KURBB				Sn	Sb	09 27 46.1	-0.1
	baz=57,slow=6.8						
KURBB				Lg	Lg	09 28 20.1	
	0.1nm,0.3s,baz=47,slow=28,SNR=5.3 2.7nm,0.4s						
KURBB	Kurchatov Arra	5.22	222	⇓Pn	Pb	09 26 41.8	-1.3
	1.4nm,0.2s						
KURBB				⇓Lg	Lg	09 28 20.2	
	2.1nm,0.5s						
MK31	Makanchi Array	7.92	189	⇑Pn	Pn	09 27 08.6	+1.4
	0.1nm,0.2s,baz=25,slow=14,SNR=34						
MK31				⇑Sn	Sn	09 28 38.7	+1.2
	0.4nm,0.5s,baz=256,slow=22,SNR=4.2						
MK31				⇑Lg	Lg	09 29 23.1	
	3.0nm,1.2s,baz=24,slow=28						
MKAR	Makanchi Array	7.92	189	Pn	Pn	09 27 09.2	+2.0
	0.5nm,0.3s,baz=23,slow=12,SNR=27						
MKAR				Sn	Sn	09 28 36.8	-0.7
	baz=13,slow=13,SNR=2.2						
MKAR				Lg	Lg	09 29 20.1	
	0.1nm,0.3s,baz=22,slow=29,SNR=2.1 0.8nm,0.3s						

WEL 17 09:37:13.8±0.5,43°S±3°×17°3E±°,h5km,M2.6/4,ML2.8/6, MLv2.6/4,Error ellipse: s-maj=0.0km s-min=0.0km az=91.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.38	179	P	Pg	09 37 21.4	+0.4
GVZ				S	Sb	09 37 27.6	-1.5
LTZ	Lake Taylor	0.59	251	P	Pg	09 37 25.2	+0.2
LTZ				S	Sg	09 37 33.5	+0.9
AMCZ	Amberley	0.65	205	P	Pg	09 37 26.8	+0.6
THZ	Tophouse	0.83	354	P	Pg	09 37 29.6	-0.1
OXZ	Oxford	1.03	224	P	Pg	09 37 32.8	-0.7
MQZ	McQueen's Vall	1.15	193	P	Pg	09 37 33.3	-2.5
DSZ	Denniston Nort	1.24	313	P	Pg	09 37 37.5	0.0
RACZ	Rakaia	1.31	209	P	Pn	09 37 36.2	-2.4
MHCZ	Mount Hutt	1.42	228	P	Pn	09 37 38.1	-2.2
DUWZ	D'Urville Isla	1.91	21	P	Pn	09 37 47.3	+0.3
WAZ	Wanganui	3.20	28	P	Pn	09 38 05.0	+0.3
LREZ	Lake Rotokare	3.30	19	P	Pn	09 38 08.6	+2.6
PKE	Pukeiti	3.47	12	P	Pn	09 38 11.8	+3.3
VRZ	Vera Road	3.70	21	P	Pn	09 38 12.7	+1.1
MOVZ	Moawhango	3.79	34	P	Pn	09 38 11.0	-1.9
TRVZ	Turoa	3.80	31	P	Pn	09 38 12.5	-0.7
WHVZ	Whangaehu Hut	3.83	31	P	Pn	09 38 12.8	-0.9
NNVZ	North Ngauruho	3.98	31	P	Pn	09 38 14.6	-0.9
WTVZ	West Tongariro	3.98	30	P	Pn	09 38 14.9	-0.6
KATZ	Kakaramea	4.14	30	P	Pn	09 38 19.1	+1.4
TOZ	Tahuroa Road	5.21	22	P	Pn	09 38 32.0	-0.3
AWAZ	Awhitu Peninsu	5.66	13	P	Pn	09 38 40.3	+1.8
MKAZ	Moumakai	5.72	17	P	Pn	09 38 39.6	+0.3
ETAZ	East Tamaki Re	5.82	15	P	Pn	09 38 41.9	+1.2
WIAZ	Waiheke Island	6.01	16	P	Pn	09 38 44.0	+0.6

NOU ***17*** *09:37:20.3,42°.47S×174°.15E,h22km,MLv4.3/10,Off E. Coast of S. Island, N.Z.*

WEL ***17*** *09:37:21.2±0.5,42°S±3°×17°4E±°,h12km,M3.6/19, ML3.9/9,MLv3.6/19,Error ellipse: s-maj=0.0km s-min=0.0km az=126.1*

ISC 17 09:37:20.6±1.1,42°37S±0°.04×174°01E±0°.04,h21km,n63, σ0°68/67,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.63	14	P	Pn	09 37 34.1	-0.2
BSWZ	Blackbirch Sta	0.66	351	P	Pb	09 37 32.7	-0.7
GVZ	Greta Valley S	0.94	230	P	Pn	09 37 39.0	+0.5
GVZ				S	Sn	09 37 52.8	+1.5
TUWZ	Tuamarina	0.94	357	P	Pb	09 37 38.1	0.0
TUWZ	Tuamarina	0.94	357	P	Pb	09 37 38.1	0.0
THZ	Tophouse	1.02	306	P	Pb	09 37 38.4	-1.2
THZ				S	Sb	09 37 51.6	-0.8
TCW	Tory Channel	1.17	10	P	Pn	09 37 41.8	+0.1
TCW	Tory Channel	1.17	10	P	Pn	09 37 41.6	-0.1
TCW				S	Sn	09 37 58.0	+1.0
SNZO	South Karori	1.18	26	P	Pb	09 37 42.1	0.0
WEL	Wellington	1.22	28	P	Pb	09 37 42.9	0.0
WEL	Wellington	1.22	28	P	Pb	09 37 42.7	-0.2
PLWZ	Palliser	1.22	50	P	Pb	09 37 42.9	-0.1
PLWZ	Palliser	1.22	50	P	Pn	09 37 42.6	+0.1
NNZ	Nelson	1.24	337	P	Pn	09 37 42.7	+0.1
NNZ	Nelson	1.24	337	P	Pn	09 37 42.9	+0.3
AMCZ	Amberley	1.29	230	P	Pb	09 37 43.7	-0.4
MSWZ	Moikau Station	1.33	45	P	Pn	09 37 44.0	+0.2
LTZ	Lake Taylor	1.35	251	P	Pn	09 37 44.5	+0.3
LTZ				S	Sn	09 38 01.7	+0.2
PAWZ	Paruwai Farm	1.45	48	P	Pn	09 37 45.5	0.0
CAW	Cannon Point	1.48	33	P	Pn	09 37 46.3	+0.3
OKCZ	Okains Bay	1.52	207	P	Pn	09 37 46.9	+0.3
TKNZ	Takaka Hill	1.54	329	P	Pn	09 37 47.8	-0.7
TRWZ	Traveller	1.58	53	P	Pn	09 37 47.4	0.0
MTW	Mount Morrison	1.64	43	P	Pn	09 37 48.1	-0.1
KIW	Kapiti Island	1.65	24	P	Pn	09 37 48.8	+0.6
MQZ	McQueen's Vall	1.67	216	P	Pn	09 37 47.8	-0.7
AKCZ	Akaroa Harbour	1.71	208	P	Pn	09 37 49.2	+0.1
OGWZ	Otaki Gorge	1.78	30	P	Pn	09 37 47.3	-2.7
HOWZ	Holdsworth Sta	1.85	38	P	Pn	09 37 51.0	0.0
TMWZ	Te Maipa	1.89	49	P	Pn	09 37 51.3	-0.3
QRZ	Quartz Range	1.90	324	P	Pb	09 37 53.3	-1.1
INZ	Inchbonnie	1.93	258	P	Pn	09 37 52.4	+0.3
RAKCZ	Rakaia	1.93	225	P	Pn	09 37 51.9	-0.3
MRZ	Mangatainoka R	2.07	35	P	Pn	09 37 54.0	-0.1
MHCZ	Mount Hutt	2.14	236	P	Pn	09 37 54.7	-0.4
WACZ	Wakanui South	2.24	224	P	Pn	09 37 56.1	-0.2
PRWZ	Pori Road

TUWZ	**Tuamarina**	**0.59**	**14**	P		Pb	09 39 52.0	-0.4
THZ	**Tophouse**	**0.68**	**291**	P		Pb	09 39 53.6	-0.3
NNZ	**Nelson**	**0.84**	**340**	P		Pg	09 39 56.1	0.0
TCW	**Tory Channel**	**0.89**	**26**	P		Pg	09 39 56.8	-0.2
MRNZ	**Matariki Terra**	**0.96**	**309**	P		Pb	09 39 58.8	+0.2
WEL	**Wellington**	**1.05**	**47**	P		Pb	09 40 00.2	0.0
GVZ	**Greta Valley S**	**1.10**	**209**	P		Pb	09 40 00.6	-0.4
TKNZ	**Takaka Hill**	**1.14**	**328**	P		Pb	09 40 01.7	0.0
PLWZ	**Palliser**	**1.21**	**69**	P		Pn	09 40 01.5	-1.4
DUWZ	**D'Urville Isla**	**1.21**	**6**	P		Pn	09 40 02.5	-0.4
MSWZ	**Moikau Station**	**1.27**	**63**	P		Pn	09 40 02.4	-1.3
CAW	**Cannon Point**	**1.33**	**48**	P		Pn	09 40 03.8	-0.8
LTZ	**Lake Taylor**	**1.34**	**234**	P		Pn	09 40 04.7	-0.1
PAWZ	**Paruwai Farm**	**1.40**	**64**	P		Pn	09 40 04.0	-1.6
AMCZ	**Amberley**	**1.42**	**214**	P		Pn	09 40 05.0	-0.9
KIW	**Kapiti Island**	**1.44**	**38**	P		Pn	09 40 05.8	-0.3
DSZ	**Dennistone Nort**	**1.48**	**280**	P		Pg	09 40 08.1	-0.2
QRZ	**Quartz Range**	**1.50**	**322**	P		Pn	09 40 06.1	-0.7
MTW	**Mount Morrison**	**1.56**	**58**	P		Pn	09 40 06.1	-1.6
TRWZ	**Traveller**	**1.57**	**68**	P		Pn	09 40 06.0	-1.8
OGWZ	**Otaki Gorge**	**1.60**	**42**	P		Pn	09 40 07.5	-0.7
HOWZ	**Holdsworth Sta**	**1.73**	**51**	P		Pn	09 40 08.6	-1.5
OXZ	**Oxford**	**1.83**	**223**	P		Pn	09 40 10.0	-1.3
INZ	**Inchbonnie**	**1.85**	**246**	P		Pn	09 40 12.0	+0.3
MQZ	**McQueen's Vall**	**1.88**	**205**	P		Pn	09 40 10.5	-1.6
MRZ	**Mangatainoka R**	**1.92**	**46**	P		Pn	09 40 11.4	-1.3
RACZ	**Rakaia**	**2.09**	**214**	P		Pn	09 40 13.1	-1.8
OHWZ	**Ohakea**	**2.15**	**34**	P		Pn	09 40 16.5	+0.7
PRWZ	**Pori Road**	**2.21**	**50**	P		Pn	09 40 16.0	-0.7
POWZ	**Post Office Ro**	**2.22**	**44**	P		Pn	09 40 15.5	-1.3
WAZ	**Wanganui**	**2.44**	**23**	P		Pb	09 40 23.7	-0.1
WVZ	**Waitaha Valley**	**2.47**	**243**	P		Pn	09 40 21.6	+1.4
DVHZ	**Dannevirke**	**2.50**	**48**	P		Pn	09 40 19.5	-2.1
TSZ	**Takapari Road**	**2.57**	**41**	P		Pn	09 40 20.1	-1.5
RPZ	**Rata Peaks**	**2.62**	**228**	P		Pn	09 40 21.6	-0.7
PNHZ	**Pukenui**	**2.79**	**42**	P		Pn	09 40 22.9	-1.8
PKE	**Pukeiti**	**2.82**	**4**	P		Pb	09 40 29.3	-1.0
GCSZ	**Gaunt Creek Bo**	**2.84**	**241**	P		Pn	09 40 27.4	+2.0
VRZ	**Vera Road**	**2.98**	**15**	P		Pb	09 40 30.5	-2.5
MOVZ	**Moawhango**	**3.01**	**31**	P		Pb	09 40 31.1	-2.6
WNVZ	**Wahianoa**	**3.02**	**28**	P		Pn	09 40 30.7	+2.8
TRVZ	**Turoa**	**3.03**	**27**	P		Pb	09 40 32.8	-1.3
WHVZ	**Whangaehu Hut**	**3.06**	**28**	P		Pb	09 40 32.5	-2.1
BHHZ	**Black Hill Sta**	**3.07**	**36**	P		Pb	09 40 34.0	-0.6
WTVZ	**West Tongariro**	**3.21**	**26**	P		Pb	09 40 35.8	-1.3
HIZ	**Hauiti**	**3.59**	**14**	P		Pn	09 40 39.6	+3.9
RTZ	**Ruatahuna**	**4.19**	**37**	P		Pn	09 40 42.9	-1.1

TIF ***17*** *09:53:40.9, 40°.78N×46°.92E, h25*$^{km}_{\pm}$*1km*
NSSP ***17*** *09:53:40.9, 40°.75N×46°.80E, h20*^{km}*, Ms3.0*
AZER ***17*** *09:53:41.8±0.0, 40°.86N×46°.81E, h23*^{km}*, Error ellipse: s-maj=0.4km s-min=0.2km az=322.0*
MOS ***17*** *09:53:42.2±0.0, 40°.96N×46°.88E, h13*^{km}*, MPVA4.2*
DRS ***17*** *09:53:44.7±0.0, 40°.91N×46°.72E, h18*^{km}

ISC 17 09:53:43.4±0.9, 40°.86N±0°.02×46°.81E±0°.02, h27$^{km}_{\pm}$**7km, n63,σ1$74/124, 3C-7D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNGR	**Mingechevir, A** SNR=114	**0.23**	**112**	P	**Pb**	**09 53 48.9**	**-0.7**
MNGR				S	**Sb**	**09 53 54.4**	**+0.6**
GANJ	**Ganja** SNR=106	**0.42**	**240**	P	**Pb**	**09 53 51.6**	**-0.9**
GANJ				S	**Sb**	**09 53 58.3**	**-0.4**
SEKA	**Sheki** SNR=105	**0.46**	**40**	Pg	**Pb**	**09 53 52.1**	**-1.0**
SEKA				Sg	**Sb**	**09 53 59.2**	**-0.5**
BRDA	**Brd** SNR=8.0	**0.66**	**154**	P	**Pb**	**09 53 56.1**	**-0.2**
BRDA				S	**Sn**	**09 54 07.0**	**+0.7**
AGDM	**Agdam** SNR=26	**0.78**	**163**	P	**Pb**	**09 53 57.6**	**-0.9**
AGDM				S	**Sn**	**09 54 09.7**	**+0.3**
DDFL	**Dedoflistskaro**	**0.79**	**319**	P	**Pn**	**09 54 00.2**	**+1.4**
QBL	**Gabala** SNR=15	**0.79**	**83**	P	**Pb**	**09 53 57.3**	**-1.2**
QBL				S	**Sb**	**09 54 09.0**	**+0.1**
ZKTA	**Zakatala** SNR=173	**0.79**	**350**	P	**Pb**	**09 53 58.2**	**-0.4**
ZKTA				S	**Sn**	**09 54 10.4**	**+0.7**
GDB	**GEDABAY** SNR=519	**0.81**	**261**	P	**Pb**	**09 53 57.9**	**-1.1**
GDB				S	**Sb**	**09 54 09.4**	**-0.3**
ZRD	**Zardab** SNR=57	**0.88**	**131**	P	**Pn**	**09 53 59.6**	**-0.3**
ZRD				S	**Sn**	**09 54 13.8**	**+1.9**
AKT	**Akhty**	**0.93**	**48**	*i* Pg	**Pn**	**09 53 59.9**	**-0.9**
AKT				*e*Sg	**Sb**	**09 54 12.4**	**-0.7**
STKZ		**1.04**	**182**	⇓*i*P	**Pn**	**09 54 00.7**	**-1.6**
STKZ				⇓*i*S	**Sn**	**09 54 14.0**	**-2.0**
IML	**Ismayilli** SNR=19	**1.05**	**93**	P	**Pn**	**09 54 01.5**	**-0.8**
IML				S	**Sb**	**09 54 16.0**	**-0.2**
LGD	**Lagodekhi**	**1.06**	**337**	P	**Pb**	**09 54 02.9**	**-0.3**
LGD				S	**Sb**	**09 54 18.8**	**+2.0**
QZX	**Qazax, Azerbai** SNR=310	**1.10**	**281**	P	**Pb**	**09 54 03.1**	**-0.8**
QZX				S	**Sb**	**09 54 19.0**	**+1.1**
KDMR	**Kurdemir**	**1.15**	**114**	P	**Pn**	**09 54 03.4**	**-0.3**
KDMR				S	**Sb**	**09 54 20.4**	**+1.2**
DGRG	**David-gareji**	**1.23**	**299**	P	**Pb**	**09 54 05.3**	**-0.8**
DGRG				S	**Sb**	**09 54 24.4**	**+2.8**
KSMR	**Kasumkent**	**1.24**	**53**	*e*Pg	**Pb**	**09 54 05.8**	**-0.4**
KSMR				*e*Sg	**Sb**	**09 54 22.7**	**+0.7**
BLQ	**Beylaqan** SNR=20	**1.27**	**153**	P	**Pn**	**09 54 04.9**	**-0.5**
BLQ				S	**Sb**	**09 54 22.8**	**+0.1**
KMKR	**Kumukh**	**1.29**	**10**	*e*Pg	**Pb**	**09 54 06.6**	**-0.5**
KMKR				*e*Sg	**Sb**	**09 54 23.9**	**+0.5**
PQL	**Pirkuli** SNR=6.9	**1.36**	**92**	Pn	**Pn**	**09 54 06.4**	**-0.2**
PQL				Sn	**Sb**	**09 54 25.1**	**-0.1**
QUBA	**Quba, Azerbaij**	**1.37**	**68**	Pn	**Pn**	**09 54 06.8**	**+0.1**
QUBA				Sn	**Sb**	**09 54 25.2**	**-0.2**
GRS	**Goris**	**1.40**	**195**	⇓*i*P	Pn	09 54 02.0	-1.3
GRS				⇓*i*S	**Sn**	**09 54 20.0**	**-5.0**
URKR	**Urkarakh**	**1.45**	**25**	*e*Pg	**Pb**	**09 54 09.2**	**-0.6**
URKR				*e*Sg	**Sb**	**09 54 28.5**	**+0.7**
QRD	**Qoradiz** SNR=18	**1.45**	**164**	Pn	**Pn**	**09 54 07.6**	**-0.2**
QRD				Sn	**Sb**	**09 54 27.1**	**-0.5**
SAAT	**Saatly**	**1.59**	**128**	Pn	**Pn**	**09 54 08.7**	**-1.0**
SAAT				Sn	**Sn**	**09 54 29.5**	**+0.3**
SIZA	**Siyzn** SNR=18	**1.60**	**81**	Pn	**Pn**	**09 54 10.4**	**+0.4**
SIZA				Sg	**Sb**	**09 54 33.7**	**+1.6**
ATGJ	**Altiaghaj**	**1.62**	**89**	Pn	**Pb**	**09 54 11.2**	**-1.4**
ATGJ				Sn	**Sb**	**09 54 33.8**	**+1.2**
DRN	**Derbent**	**1.64**	**44**	*e*Pg	**Pb**	**09 54 12.1**	**-0.8**
DRN				*e*Sg	**Sb**	**09 54 33.6**	**+0.5**
GNI	**Garni**	**1.73**	**246**	⇑*i*P	**Pb**	**09 54 14.6**	**+0.1**
GNI				⇓*i*S	**Sb**	**09 54 39.1**	**+3.3**
SBZ	**Shahbuz** SNR=10	**1.75**	**214**	Pg	**Pb**	**09 54 14.1**	**-0.7**
SBZ				Sg	**Sb**	**09 54 38.3**	**+2.0**
ARKR	**Arakani**	**1.75**	**5**	*e*Pg	**Pb**	**09 54 13.9**	**-1.0**
ARKR				*e*Sg	**Sb**	**09 54 37.2**	**+0.8**
NRKZ	**NAREK**	**1.85**	**243**	⇑*i*P	**Pn**	**09 54 14.5**	**+1.1**
NRKZ				⇓*i*S	**Sb**	**09 54 40.0**	**+0.8**
STE	**Stepanavan**	**1.85**	**275**	*e*P	**Pb**	**09 54 14.8**	**-1.8**
STE				*e*S	**Sb**	**09 54 39.2**	**-0.2**
UNCR	**Uncukul**	**1.85**	**360**	*e*Pg	**Pb**	**09 54 15.6**	**-1.0**
UNCR				*e*Sg	**Sb**	**09 54 40.3**	**+0.9**
BTLR	**Botlikh**	**1.86**	**347**	*e*Pg	**Pb**	**09 54 15.7**	**-1.0**
BTLR				*e*Sg	**Sb**	**09 54 40.4**	**+0.9**
HYR	**Heyderabad**	**1.88**	**233**	Pg	**Pb**	**09 54 16.5**	**-0.5**
HYR				Sg	**Sb**	**09 54 42.0**	**+1.9**
KZRT	**Kazreti**	**1.89**	**287**	P	**Pb**	**09 54 15.4**	**-1.8**
KZRT				S	**Sb**	**09 54 40.1**	**-0.4**
ALIB	**Äli-Bayra**	**1.91**	**117**	Pg	**Pn**	**09 54 15.4**	**+1.4**
ALIB				Sg	**Sb**	**09 54 43.8**	**+3.0**
NAX	**Nakhchivan**	**1.96**	**211**	Sn	**Sb**	**09 54 42.8**	**+0.3**
KRNR	**Karanay**	**1.97**	**2**	*e*Pg	**Pb**	**09 54 17.4**	**-1.2**
KRNR				*e*Sg	**Sb**	**09 54 43.2**	**+0.5**
BUJR	**Buynaksk**	**1.98**	**6**	*e*Pg	**Pb**	**09 54 17.3**	**-1.4**
BUJR				*e*Sg	**Sb**	**09 54 43.5**	**+0.5**
GLBA	**Clilabad**	**2.02**	**142**	Pn	**Pn**	**09 54 16.0**	**+0.4**
GLBA				Sn	**Sb**	**09 54 42.4**	**-1.7**
ORD	**Ordubad**	**2.03**	**198**	Pg	**Pb**	**09 54 17.6**	**-2.0**
	SNR=12						
ORD				Sn	**Sb**	**09 54 43.9**	**-0.5**
DMNI	**Dmanisi**	**2.03**	**284**	P	**Pb**	**09 54 18.1**	**-1.6**
DMNI				S	**Sb**	**09 54 44.8**	**+0.2**
ARUZ	**Aruch**	**2.15**	**255**	⇑*i*P	**Pb**	**09 54 21.4**	**-0.2**
ARUZ				⇓*i*S	**Sb**	**09 54 52.3**	**+4.5**
DBC	**Dubki**	**2.16**	**0**	*e*Pg	**Pb**	**09 54 20.2**	**-1.7**
DBC				*e*Sg	**Sb**	**09 54 48.3**	**0.0**
SHTL	**Shatili**	**2.18**	**326**	P	**Pb**	**09 54 20.0**	**-2.3**
SHTL				S	**Sb**	**09 54 48.2**	**-0.7**
DLMR	**Dylym**	**2.21**	**357**	*e*Pg	**Pb**	**09 54 20.6**	**-2.1**
DLMR				*e*Sg	**Sb**	**09 54 49.6**	**-0.1**
YRD	**Yardimli** SNR=17	**2.23**	**150**	Pn	**Pn**	**09 54 18.2**	**-0.5**
YRD				Sn	**Sn**	**09 54 46.5**	**+1.0**
BRNG	**Burnasheti**	**2.37**	**290**	P	**Pb**	**09 54 24.0**	**-1.6**
BRNG				S	**Sb**	**09 54 55.7**	**+1.3**
PNSH	**Pansheti**	**2.42**	**318**	P	**Pb**	**09 54 23.5**	**-2.8**
PNSH				S	**Sb**	**09 54 54.0**	**-1.7**
LRK	**Lerik** SNR=4.5	**2.51**	**151**	Pn	**Pn**	**09 54 22.7**	**+0.2**
LRK				Sn	**Sn**	**09 54 53.9**	**+1.6**
AKH	**Akhalkalaki**	**2.56**	**284**	P	**Pb**	**09 54 27.4**	**-1.3**
AKH				S	**Sb**	**09 55 00.9**	**+1.0**
LKRN	**Lenkeran, Azer**	**2.63**	**144**	Pn	**Pn**	**09 54 25.6**	**+1.6**
LKRN				Sn	**Sn**	**09 54 56.3**	**+1.4**
ALIG	**Mtskhetisjvari**	**2.68**	**299**	P	**Pn**	**09 54 26.4**	**+1.7**
ALIG				S	**Sb**	**09 55 00.4**	**-2.7**
LACR	**Lac**	**2.72**	**317**	*e*Pn	**Pb**	**09 54 27.9**	**-3.5**
LACR				*e*Sn	**Sb**	**09 55 02.9**	**-1.5**
ASTR	**Astara**	**2.76**	**146**	Pn	**Pn**	**09 54 26.2**	**+0.4**
ASTR				Sn	**Sn**	**09 54 59.2**	**+1.0**
ZEI	**Tsey**	**2.90**	**313**	*e*Pn	**Pn**	**09 54 30.7**	**+2.7**
ZEI				*e*Sn	**Sb**	**09 55 07.5**	**-2.2**
KORR	**Kora**	**3.02**	**318**	*e*Pn	**Pn**	**09 54 32.0**	**+2.6**
KORR				*e*Sn	**Sb**	**09 55 10.1**	**-2.8**
DIGR	**Digorskoe uzhe**	**3.16**	**311**	*e*Pn	**Pn**	**09 54 34.1**	**+2.6**
DIGR				*e*Sn	**Sb**	**09 55 13.7**	**-3.3**
NEY	**Neytrino**	**3.87**	**310**	*e*Pn	**Pn**	**09 54 44.1**	**+2.9**
NEY				*e*Sn	**Sb**	**09 55 31.4**	**-6.0**
SHA1	**Shidzhatmaz**	**4.21**	**314**	*e*Pn	**Pn**	**09 54 48.7**	**+2.7**
SHA1				*e*Sn	**Sn**	**09 55 39.7**	**+5.3**

TRN ***17*** *09:53:57.7, 14°.99N×61°.22W, h162*^{km}*, MD4.2*
IDC ***17*** *09:53:58.3±0.4, 14°.95N×61°.20W, h157*$^{km}_{\pm}$*2km, mb3.4/9, mbtmp3.9/13, MS3.2/2, Error ellipse: s-maj=12.2km s-min=5.7km az=83.0*
NEIC ***17*** *09:53:58.9±0.5, 15°.00N±0°.03×61°.16W±0°.04, h162*$^{km}_{\pm}$*4km, mb4.5/7, Error ellipse: s-maj=9.7km s-min=7.0km az=75.0*

ISC 17 09:53:57.9±0.5, 15°.00N±0°.03×61°.16W±0°.04, h162$^{km}_{\pm}$**4km, n137,σ1$37/163, mb4.0/13, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	**Savane Anatole**	**0.16**	**182**		**Pn**	**09 54 20.6**	**+1.0**
BAMF	**Morne Balai**	**0.18**	**176**	*e*P	**Pn**	**09 54 20.9**	**+1.2**
PCM	**Pelee Case Pet**	**0.19**	**195**	*e*P	**Pn**	**09 54 20.7**	**+1.0**
GBMF	**Grand Be**	**0.20**	**181**	*e*P	**Pn**	**09 54 20.9**	**+1.1**
PML	**Morne Lenard**	**0.22**	**186**	*e*P	**Pn**	**09 54 21.6**	**+1.9**
FDF	**Fort de France**	**0.26**	**178**		**Pn**	**09 54 20.8**	**+1.0**
FDF	**Fort de France**	**0.26**	**178**	*e*P	**Pn**	**09 54 21.1**	**+1.2**
FDF				*e*S	**Sn**	**09 54 37.3**	**+0.7**
ILAM	**Ilet Lapin Mar**	**0.36**	**129**		**Pn**	**09 54 20.7**	**+0.6**
ILAM	**Ilet Lapin Mar**	**0.36**	**129**	*e*P	**Pn**	**09 54 20.6**	**+0.6**
ILAM				*e*S	**Sn**	**09 54 37.4**	**+0.5**
TRMF	**Trois Ilets**	**0.47**	**167**	*e*P	**Pn**	**09 54 21.3**	**+0.8**
BIM	**Bigot**	**0.49**	**170**		**Pn**	**09 54 21.4**	**+0.7**
BIM	**Bigot**	**0.49**	**170**	*e*P	**Pn**	**09 54 21.5**	**+0.8**
BIM				*e*S	**Sn**	**09 54 38.7**	**+0.7**
DSLB	**Salisbury**	**0.50**	**330**	*e*P	**Pn**	**09 54 21.8**	**+1.2**
DSLB				*e*S	**Sn**	**09 54 39.1**	**+1.0**
MVM	**Montagne Vaucl**	**0.51**	**150**	*e*P	**Pn**	**09 54 21.4**	**+0.7**
MPOM	**Morne Pois Mar**	**0.62**	**152**	Pn	**Pn**	**09 54 22.0**	**+0.8**
MPOM	**Morne Pois Mar**	**0.62**	**152**	*e*P	**Pn**	**09 54 21.8**	**+0.6**
MPOM				*e*S	**Sn**	**09 54 39.3**	**+0.2**
H05S1	**Guadeloupe/Mar**	**0.65**	**151**	P	**Pn**	**09 54 22.2**	**+0.8**
H05S1				S	**Sn**	**09 54 39.7**	**+0.3**
MDVC	**Dominica, Viel**	**0.66**	**339**	*e*P	**Pn**	**09 54 22.6**	**+1.2**
MDVC				*e*S	**Sn**	**09 54 41.4**	**+1.9**
MDCT	**Cottage Hill,**	**0.68**	**335**	*e*P	**Pn**	**09 54 23.0**	**+1.5**
MDCT				*e*S	**Sn**	**09 54 41.7**	**+1.9**
MAGL	**Barre de l'ile**	**0.95**	**353**		**Pn**	**09 54 24.0**	**+0.5**
MAGL	**Barre de l'ile**	**0.95**	**353**	*e*P	**Pn**	**09 54 24.3**	**+0.8**
MAGL				*e*S	**Sn**	**09 54 43.5**	**+0.4**
TBG	**Guadaloupe-3**	**0.97**	**331**	*e*P	**Pn**	**09 54 24.4**	**+0.9**
SLBI	**Saint Lucia, B**	**0.99**	**169**	*e*P	**Pn**	**09 54 24.2**	**+0.4**
SLBI				*e*S	**Sn**	**09 54 43.0**	**-0.5**
SLCP	**Castries, St.**	**1.00**	**170**	*e*P	**Pn**	**09 54 24.2**	**+0.4**
SLCP				*e*S	**Sn**	**09 54 43.7**	**0.0**
CBE	**Ff, Capester**	**1.15**	**338**		**Pn**	**09 54 26.1**	**+1.0**
CBE	**Ff, Capester**	**1.15**	**338**	*e*P	**Pn**	**09 54 26.0**	**+0.9**
CBE				*e*S	**Sn**	**09 54 46.6**	**+0.6**
SLB	**Belfond**	**1.17**	**174**	*e*P	**Pn**	**09 54 27.2**	**+1.8**
MCLT	**Moule a Chique**	**1.30**	**171**	Pn	**Pn**	**09 54 27.1**	**+0.6**
MCLT	**Moule a Chique**	**1.30**	**171**	*e*P	**Pn**	**09 54 27.0**	**+0.6**
MCLT				*e*S	**Sn**	**09 54 47.7**	**-0.7**
GDSD	**La Dsirade Is**	**1.31**	**4**		**Pn**	**09 54 27.1**	**+0.6**
H05N1	**Guadeloupe/Mar**	**1.31**	**4**	P	**Pn**	**09 54 27.2**	**+0.6**
H05N1	SNR=7924			S	**Sn**	**09 54 48.9**	**+0.2**
GDHS	**Morne Mazeau,**	**1.39**	**335**		**Pn**	**09 54 28.6**	**+1.2**
ABD	**La Joyeuse, An**	**1.50**	**348**		**Pn**	**09 54 29.1**	**+0.8**
ABD	**La Joyeuse, An**	**1.50**	**348**	*e*P	**Pn**	**09 54 29.1**	**+0.8**
ABD				*e*S	**Sn**	**09 54 51.7**	**-0.2**
SSV	**Crater Summit**	**1.66**	**181**	*e*P	**Pn**	**09 54 31.6**	**+1.4**
SSV				*e*S	**Sn**	**09 54 55.3**	**+0.2**
SVB	**Belmont**	**1.72**	**183**		**Pn**	**09 54 31.3**	**+0.6**
SVB	**Belmont**	**1.72**	**183**	*e*P	**Pn**	**09 54 31.5**	**+0.8**
SVB				*e*S	**Sn**	**09 54 55.8**	**-0.2**
MBFL	**Flemmings, Mon**	**2.01**	**330**	*e*P	**Pn**	**09 54 34.5**	**+0.5**
MBFL				*e*S	**Sn**	**09 55 02.8**	**+1.0**
ANBD	**Bethesda, Anti**	**2.12**	**344**	*e*P	**Pn**	**09 54 35.3**	**+0.2**
ANBD				*e*S	**Sn**	**09 55 03.1**	**-0.8**
ANDO	**Antigua, Disas**	**2.20**	**343**	*e*P	**Pn**	**09 54 36.2**	**+0.2**
ANDO				*e*S	**Sn**	**09 55 04.2**	**-1.4**
BCHC	**Barbados, Cave**	**2.38**	**141**	*e*P	**Pn**	**09 54 41.2**	**+3.1**
BCHC				*e*S	**Sn**	**09 55 09.9**	**+0.7**
BBGH	**Gun Hill**	**2.41**	**140**	Pn	**Pn**	**09 54 40.7**	**+2.1**
BBGH	**Gun Hill**	**2.41**	**140**	*e*P	**Pn**	**09 54 40.9**	**+2.3**
BBGH				*e*S	**Sn**	**09 55 11.1**	**+1.0**
BBSP	**Saint Philip**	**2.50**	**139**	*e*P	**Pn**	**09 54 41.6**	**+2.0**
BBSP				*e*S	**Sn**	**09 55 12.9**	**+0.9**
GCMP	**Grenada, Carri**	**2.51**	**186**	*e*P	**Pn**	**09 54 40.5**	**+0.7**
GCMP				*e*S	**Sn**	**09 55 11.4**	**-0.8**
ANWB	**Willy Bob**	**2.72**	**347**	Pn	**Pn**	**09 54 42.0**	**-0.2**
ANWB	**Willy Bob**	**2.72**	**347**	*e*P	**Pn**	**09 54 42.1**	**-0.2**
ANWB				*e*S	**Sn**	**09 55 14.9**	**-1.9**
GRGR	**Grenville**	**2.89**	**190**	Pn	**Pn**	**09 54 45.0**	**+0.6**
GRGR	**Grenville**	**2.89**	**190**	*e*P	**Pn**	**09 54 45.2**	**+0.7**
GRGR				*e*S	**Sn**	**09 55 19.3**	**-1.2**
GRFF	**Grenada Fort F**	**2.98**	**191**	*e*P	**Pn**	**09 54 45.9**	**+0.2**
GRFF				*e*S	**Sn**	**09 55 21.7**	**-1.0**
SEUS	**St. Eustatius**	**3.04**	**325**		**Pn**	**09 54 47.0**	**+0.8**
SEUS	**St. Eustatius**	**3.04**	**325**	*e*P	**Pn**	**09 54 47.0**	**+0.8**
SEUS				*e*S	**Sn**	**09 55 23.4**	**-0.3**
SMRT	**St. Maarten**	**3.55**	**329**	Pn	**Pn**	**09 54 52.3**	**-0.4**
SMRT	**St. Maarten**	**3.55**	**329**	*e*P	**Pn**	**09 54 52.8**	**+0.2**
SMRT				*e*S	**Sn**	**09 55 33.0**	**-2.3**
TOSP	**Speyside**	**3.73**	**171**	Pn	**Pn**	**09 54 55.5**	**+0.5**
TOSP	**Speyside**	**3.73**	**171**	*e*P	**Pn**	**09 54 55.7**	**+0.7**
TOSP				*e*S	**Sn**	**09 55 38.8**	**-0.6**
TRN	**Trinidad (W)**	**4.33**	**183**	*e*P	**Pn**	**09 55 03.7**	**+0.9**
TRN	**Trinidad (W)**	**4.33**	**183**	*e*S	**Sn**	**09 55 51.3**	**-2.1**
CDVI	**St. Croix**	**4.41**	**309**	*e*P	**Pn**	**09 55 04.3**	**+0.5**
CUPR	**Culebra, Puert**	**5.14**	**310**		**Pn**	**09 55 13.7**	**+0.4**
SJG	**San Juan**	**5.70**	**304**	P	**Pn**	**09 55 21.1**	**+0.4**
	7.9nm,0.4s,baz=359,slow=21,SNR=0.8						
SJG				S	**Sn**	**09 56 29.2**	**+3.6**
	38nm,0.5s,baz=310,slow=23,SNR=14						
GCPR	**Guaynabo City**	**5.75**	**306**		**Pn**	**09 55 23.4**	**+1.9**
PCRV	**Puerto La Cruz**	**5.87**	**216**	P	**Pn**	**09 55 22.5**	**-0.6**
	3.4nm,0.5s,baz=3.1,slow=10,SNR=2.3						
PCRV				S	**Sn**	**09 56 36.2**	**+6.3**
	7.7nm,0.4s,baz=244,slow=19,SNR=6.6						
AOPR	**Arecibo Observ**	**6.31**	**303**		**Pn**	**09 55 29.5**	**+0.6**
AOPR	**Arecibo Observ**	**6.31**	**303**	*e*P	**Pn**	**09 55 27.9**	**-0.9**
AOPR	**Arecibo Observ**	**6.31**	**303**	*e*S	**Sn**	**09 56 36.1**	**-4.2**
MLPR	**Magueyes Islan**	**6.37**	**298**	Pn	**Pn**	**09 55 29.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	**6.44**	**298**	Pn	**Pn**	**09 55 30.1**	**-0.5**

BAUV	**El Baul**	**9.03**	**229**	Pn		**Pn**	**09 56 03.6**	**-1.4**
SDV	**Santo Domingo**	**11.08**	**238**	P		**Pn**	**09 56 30.6**	**-1.6**
	2.4nm,0.5s,baz=75,slow=16,SNR=1.5							
SDV	**Santo Domingo**	**11.08**	**238**	*e*P		**Pn**	**09 56 31.2**	**-1.0**
BOAV	**Boa Vista**	**12.54**	**177**	Pn		**Pn**	**09 56 48.1**	**-2.7**
BOAV	**Boa Vista**	**12.54**	**177**	*e*P		**Pn**	**09 56 48.6**	**-2.2**
MDP	**Montagnes des**	**12.92**	**139**	P		**Pn**	**09 56 54.7**	**-1.0**
	13nm,0.3s,baz=329,slow=15,SNR=25							
MDP				S		**Sn**	**09 59 11.0**	**-8.0**
	50nm,0.5s,baz=264,slow=21,SNR=23							
SGCB	**SEo Gabriel d**	**16.11**	**202**	*e*P		**Pn**	**09 57 34.8**	**-0.7**
MCPB	**Macapa, AP**	**17.72**	**149**	*e*P		**Pn**	**09 57 56.3**	**+1.5**
MACA	**Manacapuru-AM**	**18.05**	**178**	P		**P**	**09 57 57.7**	**+0.7**
MACA				IAmb	IAmb		09 58 00.1	
	comp=Z,36nm,0.6s							
MACA	**Manacapuru-AM**	**18.05**	**178**	*e*P		**P**	**09 57 56.6**	**-0.4**
MALB	**Monte Alegre**	**18.08**	**157**	*e*P		**P**	**09 57 57.0**	**-0.4**
TBTG	**Tabatinga, AM**	**20.94**	**205**	*e*P		**P**	**09 58 27.4**	**-0.8**
TMAB	**Tom-Au,PA,Br**	**21.57**	**142**	*e*P		**P**	**09 58 34.7**	**-0.2**
NPGB	**Novo Progresso**	**22.64**	**165**	*e*P		**P**	**09 58 45.3**	**-0.2**
HDC	**Heredia**	**22.95**	**260**	*e*P		**P**	**09 58 48.0**	**-0.5**
PRPB	**Parauapebas**	**23.85**	**151**	*e*P		**P**	**09 58 56.5**	**0.0**
PORT	**Chimborazo Vol**	**23.90**	**228**	P		**P**	**09 58 58.9**	**+1.2**
PORT				IAmb	IAmb		09 59 00.1	
	comp=Z,8.9nm,0.7s							
ROSB	**Rosrio**	**24.51**	**135**	*e*P		**P**	**09 59 02.5**	**0.0**
BOSC	**San Juan Bosco**	**24.90**	**225**	P		**P**	**09 59 05.3**	**-1.0**
BOSC				IAmb	IAmb		09 59 07.4	
	comp=Z,8.0nm,0.2s							
ETMB	**Extrema**	**25.16**	**192**	P		**P**	**09 59 07.3**	**-1.0**
ETMB				IAmb	IAmb		09 59 09.3	
	comp=Z,4.4nm,0.7s							
ETMB	**Extrema**	**25.16**	**192**	*e*P		**P**	**09 59 08.0**	**-0.3**
CZSB	**Cruzeiro do Su**	**25.32**	**208**	*e*P		**P**	**09 59 09.5**	**-0.3**
**

MOVZ	**Moawhango**	**2.59**	**27**	P		Pb	10 04 04.8	-0.9
WNVZ	**Wahianoa**	**2.61**	**24**	P		Pn	10 04 03.1	+1.4
TRVZ	**Turoa**	**2.62**	**23**	P		Pb	10 04 06.0	-0.4
VRZ	**Vera Road**	**2.63**	**9**	P		Pn	10 04 03.9	+2.0
BHHZ	**Black Hill Sta**	**2.63**	**33**	P		Pn	10 04 04.2	+2.2
DRZ	**Dome Shelter**	**2.65**	**23**	P		Pg	10 04 09.1	-0.4
WHVZ	**Whangaehu Hut**	**2.65**	**23**	P		Pb	10 04 06.4	-0.5
NGZ	**Ngauruhoe**	**2.75**	**23**	P		Pb	10 04 09.2	+0.6
SNVZ	**South Ngauruho**	**2.75**	**23**	P		Pb	10 04 09.2	+0.7
OTVZ	**Oturere**	**2.78**	**24**	P		Pb	10 04 09.4	+0.3
WTVZ	**West Tongariro**	**2.80**	**22**	P		Pb	10 04 09.2	-0.2
TWVZ	**Taurewa**	**2.80**	**20**	P		Pb	10 04 09.8	+0.4
ETVZ	**East Tongariro**	**2.82**	**24**	P		Pn	10 04 01.8	-2.8
KWHZ	**Kaweka Forest**	**2.84**	**37**	P		Pb	10 04 11.3	+1.3
NTVZ	**North Tongarir**	**2.84**	**23**	P		Pn	10 04 03.5	-1.5
WVZ	**Waitaha Valley**	**2.92**	**241**	P		Pn	10 04 07.7	+1.8
RPZ	**Rata Peaks**	**3.07**	**229**	P		Pn	10 04 06.6	-1.4
BKZ	**Black Stump Fm**	**3.08**	**35**	P		Pn	10 04 09.8	+1.7
HIZ	**Hauiti**	**3.24**	**9**	P		Pb	10 04 13.7	-3.1
GCSZ	**Gaunt Creek Bo**	**3.30**	**240**	P		Pb	10 04 17.0	-0.8
TMZ	**Timaru**	**3.56**	**221**	P		Pn	10 04 13.1	-1.6
LIRZ	**Lichensteins R**	**4.07**	**25**	P		Pn	10 04 19.7	-1.9
ODZ	**Otahua Downs**	**4.23**	**217**	P		Pn	10 04 21.6	-2.2

IDC 17 10:10:47.8±30.0, 35°.65N×71°.83E, h234km±107km, mb3.1/2, mbtmp3.5/5, Error ellipse: s-maj=387.2km s-min=65.5km az=169.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AAK	**Ala-Archa**	**7.28**	**16**	P		Pn	10 12 32.2	+0.3
	1.0nm,0.5s,baz=243,slow=2.3,SNR=2.4							
AAK				S		S	10 13 46.8	-8.5
	0.6nm,0.3s,baz=114,slow=19,SNR=1.5							
MKAR	**Makanchi Array**	**13.62**	**32**	P		Pn	10 13 51.2	-0.5
	0.2nm,0.3s,baz=206,slow=12,SNR=13							
KURBB	**Kurchatov Arra**	**15.73**	**16**	P		P	10 14 14.8	-1.6
	0.3nm,0.4s,baz=208,slow=12,SNR=2.0							
ZALV	**Zalesovo Beam**	**20.42**	**22**	P		P	10 15 07.8	+0.7
	0.4nm,0.3s,baz=217,slow=12,SNR=2.7							
	0.4nm,0.3s							
ARCES	**ARCESS Array B**	**42.18**	**338**	P		P	10 18 17.1	-0.1
	2.1nm,0.8s,baz=121,slow=8.5,SNR=7.1							
	2.1nm,0.8s							

WEL 17 10:10:50.2±0.4, 42°S±3°×17°4E±°, h12km, M3.8/20, ML4.4/12, MLv3.8/20, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSWZ	**Blackbirch Sta**	**0.63**	**22**	P		Pg	10 11 02.8	+0.2
BSWZ				S		Sb	10 11 12.2	+0.1
THZ	**Tophouse**	**0.73**	**318**	P		Pb	10 11 04.8	-0.1
CMWZ	**Cape Campbell**	**0.74**	**42**	P		Pb	10 11 05.5	+0.5
CMWZ				S		Sn	10 11 17.3	-0.4
GVZ	**Greta Valley S**	**0.77**	**210**	P		Pn	10 11 06.3	-0.6
TUWZ	**Tuamarina**	**0.92**	**18**	P		Pg	10 11 07.9	0.0
LTZ	**Lake Taylor**	**1.06**	**243**	P		Pb	10 11 10.6	0.0
MRNZ	**Matariki Terra**	**1.08**	**326**	P		Pn	10 11 11.5	+0.2
NNZ	**Nelson**	**1.09**	**353**	P		Pn	10 11 11.4	0.0
AMCZ	**Amberley**	**1.10**	**217**	P		Pb	10 11 10.7	-0.5
TCW	**Tory Channel**	**1.22**	**26**	P		Pn	10 11 12.1	-0.9
TKNZ	**Takaka Hill**	**1.34**	**340**	P		Pb	10 11 15.5	+0.1
WEL	**Wellington**	**1.36**	**42**	P		Pn	10 11 14.0	-1.1
DSZ	**Denniston Nort**	**1.42**	**293**	P		Pb	10 11 16.3	-0.3
PLWZ	**Palliser**	**1.46**	**61**	P		Pn	10 11 12.3	-4.2
OKCZ	**Okains Bay**	**1.47**	**194**	P		Pn	10 11 15.0	-1.5
OXZ	**Oxford**	**1.52**	**227**	P		Pn	10 11 15.7	-1.5
MSWZ	**Moikau Station**	**1.54**	**56**	P		Pn	10 11 15.5	-2.1
MQZ	**McQueen's Vall**	**1.55**	**205**	P		Pn	10 11 15.5	-2.1
INZ	**Inchbonnie**	**1.62**	**254**	P		Pn	10 11 18.7	+0.1
AKCZ	**Akaroa Harbour**	**1.64**	**197**	P		Pn	10 11 17.3	-1.6
QRZ	**Quartz Range**	**1.67**	**332**	P		Pn	10 11 10.4	-8.8
RACZ	**Rakaia**	**1.76**	**216**	P		Pn	10 11 18.8	-1.8
MHCZ	**Mount Hutt**	**1.91**	**229**	P		Pn	10 11 21.2	-1.5
WACZ	**Wakanui South**	**2.07**	**217**	P		Pn	10 11 23.3	-1.4
WVZ	**Waitaha Valley**	**2.22**	**249**	P		Pn	10 11 26.9	+0.1
RPZ	**Rata Peaks**	**2.32**	**232**	P		Pn	10 11 27.0	-1.2
ARCZ	**Arundel**	**2.40**	**226**	P		Pn	10 11 28.1	-1.2
GCSZ	**Gaunt Creek Bo**	**2.58**	**246**	P		Pn	10 11 32.2	+0.3
TMZ	**Timaru**	**2.79**	**221**	P		Pn	10 11 33.1	-1.6
FOZ	**Fox Glacier**	**3.01**	**245**	P		Pn	10 11 38.3	+0.6
LBZ	**Lake Benmore**	**3.22**	**229**	P		Pn	10 11 39.6	-1.1
ODZ	**Otahua Downs**	**3.46**	**217**	P		Pn	10 11 41.9	-2.0
HHSZ	**Highcliff Hill**	**4.17**	**210**	P		Pn	10 11 52.0	-1.7
EAZ	**Earnscleugh**	**4.25**	**225**	P		Pn	10 11 53.1	-1.6
SYZ	**Scrubby Hill**	**5.28**	**215**	P		Pn	10 12 07.6	-1.4

*WEL **17** 10:11:00, 41°.72S×174°.37E, h18km, ML4.4, Mw4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15} Nm; M_{rr}0.38; $M_{\theta\theta}$2.15; $M_{\phi\phi}$-2.53; $M_{r\theta}$0.99; $M_{\theta\phi}$-1.21; $M_{\phi r}$-0.77; Fault plane solution: $M_0$2.93000×10^{15} NP1: ϕ_s56.00000°, δ66.00000°, λ169.00000°. NP2: ϕ_s151.00000°, δ80.00000°, λ24.00000°. Principal axes: T 295.9500, Plg24.0000°, Azm16.0000°; N -4.9100, Plg64.0000°, Azm171.0000°; P -291.0400, Plg9.0000°, Azm282.0000°;*

*IDC **17** 10:11:50.0±2.3, 41°.52S×174°.17E, h0km, mb3.7/3, mbtmp3.8/4, MS3.5/11 Error ellipse: s-maj=60.3km s-min=31.1km az=53.0*

*NEIC **17** 10:11:52.1±2.3, 41°.77S±0°.02×174°.34E±0°.02, h10km±2km, mb4.2/4, ML4.4(WEL), Error ellipse: s-maj=4.4km s-min=3.0km az=29.0*

*WEL **17** 10:11:52.3±0.4, 42°.5S±3°×17°.4E±°, h10km±3km, M4.4/43, ML4.7/17, MLv4.4/43, Error ellipse: s-maj=0.0km s-min=0.0km az=144.0*

ISC 17 10:11:52.2±0.9, 41°.75S±0°.03×174°.38E±0°.02, h18km±4km, n97, σ074/93, mb3.9/5, MS3.4/10, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**271**	P		**Pb**	**10 11 55.9**	**0.0**
CMWZ				S		**Sg**	**10 11 59.4**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.38**	**275**	P		**Pg**	**10 12 00.3**	**+0.2**
TUWZ	**Tuamarina**	**0.46**	**314**	Pg		**Pg**	**10 12 01.5**	**0.0**
TUWZ	**Tuamarina**	**0.46**	**314**	P		**Pg**	**10 12 01.6**	**0.0**
TUWZ				S		**Sb**	**10 12 08.4**	**+0.1**
SNZO	**South Karori**	**0.50**	**29**	Pg		**Pg**	**10 12 02.1**	**-0.2**
TCW	**Tory Channel**	**0.55**	**352**	Pg		**Pg**	**10 12 02.4**	**-0.7**
TCW	**Tory Channel**	**0.55**	**352**	P		**Pg**	**10 12 02.8**	**-0.4**
TCW				S		**Sg**	**10 12 10.1**	**-0.4**
WEL	**Wellington**	**0.55**	**32**	P		**Pg**	**10 12 03.1**	**-0.1**
PLWZ	**Palliser**	**0.68**	**75**	Pg		**Pg**	**10 12 06.3**	**+0.7**
PLWZ	**Palliser**	**0.68**	**75**	P		**Pg**	**10 12 06.4**	**+0.8**
MSWZ	**Moikau Station**	**0.73**	**63**	Pg		**Pb**	**10 12 06.9**	**+0.4**
MSWZ	**Moikau Station**	**0.73**	**63**	P		**Pg**	**10 12 07.1**	**+0.6**
CAW	**Cannon Point**	**0.82**	**39**	P		**Pb**	**10 12 07.9**	**-0.2**
PAWZ	**Paruwai Farm**	**0.87**	**65**	P		**Pb**	**10 12 09.2**	**+0.4**
NNZ	**Nelson**	**0.92**	**305**	Pg		**Pb**	**10 12 09.5**	**-0.2**
NNZ	**Nelson**	**0.92**	**305**	P		**Pb**	**10 12 09.8**	**0.0**
KIW	**Kapiti Island**	**0.97**	**24**	P		**Pb**	**10 12 10.5**	**-0.1**
DUWZ	**D'Urville Isla**	**1.01**	**340**	P		**Pb**	**10 12 11.5**	**+0.2**
MTW	**Mount Morrison**	**1.03**	**55**	P		**Pb**	**10 12 11.4**	**-0.1**
TRWZ	**Traveller**	**1.04**	**71**	P		**Pb**	**10 12 11.2**	**-0.6**
THZ	**Tophouse**	**1.10**	**269**	Pg		**Pb**	**10 12 12.9**	**0.0**
OGWZ	**Otaki Gorge**	**1.11**	**33**	P		**Pn**	**10 12 12.7**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.21**	**45**	P		**Pn**	**10 12 14.0**	**-0.2**
MRNZ	**Matariki Terra**	**1.27**	**286**			**Pb**	**10 12 15.9**	**+0.3**
MRNZ	**Matariki Terra**	**1.27**	**286**	P		**Pb**	**10 12 16.3**	**+0.6**
TKNZ	**Takaka Hill**	**1.29**	**303**			**Pb**	**10 12 15.8**	**-0.2**
TKNZ	**Takaka Hill**	**1.29**	**303**	P		**Pb**	**10 12 16.3**	**+0.3**
TMWZ	**Te Maipa**	**1.30**	**61**	P		**Pn**	**10 12 14.9**	**-0.7**
MRZ	**Mangatainoka R**	**1.42**	**40**	Pn		**Pn**	**10 12 16.9**	**-0.2**
MRZ	**Mangatainoka R**	**1.42**	**40**	P		**Pn**	**10 12 16.9**	**-0.2**
TIWZ	**Tintock**	**1.50**	**50**	P		**Pn**	**10 12 17.6**	**-0.7**
GVZ	**Greta Valley S**	**1.57**	**219**	P		**Pn**	**10 12 19.5**	**+0.2**
CPWZ	**Castlepoint**	**1.61**	**59**	P		**Pn**	**10 12 19.3**	**-0.5**
QRZ	**Quartz Range**	**1.68**	**303**	Pn		**Pb**	**10 12 22.3**	**-0.2**
QRZ	**Quartz Range**	**1.68**	**303**	P		**Pb**	**10 12 22.6**	**+0.1**
PRWZ	**Pori Road**	**1.69**	**46**	P		**Pn**	**10 12 20.6**	**-0.4**
OHWZ	**Ohakea**	**1.70**	**25**	P		**Pb**	**10 12 22.7**	**-0.3**
POWZ	**Post Office Ro**	**1.72**	**38**	P		**Pn**	**10 12 21.1**	**-0.1**
BFZ	**Birch Farm**	**1.77**	**53**	Pn		**Pn**	**10 12 22.3**	**+0.4**
LTZ	**Lake Taylor**	**1.88**	**236**	Pn		**Pn**	**10 12 23.9**	**+0.4**
LTZ	**Lake Taylor**	**1.88**	**236**	P		**Pn**	**10 12 23.8**	**+0.4**
DSZ	**Denniston Nort**	**1.93**	**269**	Pn		**Pn**	**10 12 25.4**	**+1.1**
DSZ	**Denniston Nort**	**1.93**	**269**	P		**Pn**	**10 12 25.3**	**+1.1**
DVHZ	**Dannevirke**	**1.98**	**44**	P		**Pn**	**10 12 23.9**	**-1.0**
WAZ	**Wanganui**	**2.05**	**13**	P		**Pb**	**10 12 29.4**	**+0.5**
TSZ	**Takapari Road**	**2.07**	**36**	P		**Pn**	**10 12 25.8**	**-0.4**
LREZ	**Lake Rotokare**	**2.29**	**0**	P		**Pb**	**10 12 32.9**	**-0.1**
PNHZ	**Pukenui**	**2.30**	**38**	P		**Pn**	**10 12 28.6**	**-0.7**
WPHZ	**Waipukurau**	**2.30**	**43**	P		**Pg**	**10 12 36.0**	**-0.3**
MQZ	**McQueen's Vall**	**2.33**	**213**	P		**Pn**	**10 12 28.2**	**-1.5**
NMEZ	**Namu Road**	**2.37**	**350**	P		**Pb**	**10 12 34.7**	**+0.4**
INZ	**Inchbonnie**	**2.39**	**245**	Pn		**Pb**	**10 12 34.5**	**-0.2**
INZ	**Inchbonnie**	**2.39**	**245**	P		**Pb**	**10 12 34.7**	**0.0**
KHEZ	**Kahui Hut**	**2.47**	**353**	P		**Pb**	**10 12 37.3**	**+1.1**
NEZ	**North Egmont**	**2.49**	**355**	P		**Pg**	**10 12 39.0**	**-1.0**
MTVZ	**Mangateitei**	**2.50**	**20**	P		**Pb**	**10 12 37.5**	**+0.7**
DREZ	**Durham Road**	**2.56**	**357**	P		**Pb**	**10 12 37.1**	**-0.6**
MOVZ	**Moawhango**	**2.56**	**24**	P		**Pn**	**10 12 33.9**	**+0.9**
PKVZ	**Pokaka**	**2.57**	**17**	P		**Pb**	**10 12 37.5**	**-0.2**
PKE	**Pukeiti**	**2.57**	**353**	P		**Pb**	**10 12 37.3**	**-0.6**
BHHZ	**Black Hill Sta**	**2.60**	**30**	P		**Pb**	**10 12 38.5**	**+0.2**
TRVZ	**Turoa**	**2.61**	**20**	P		**Pb**	**10 12 39.1**	**+0.5**
DRZ	**Dome Shelter**	**2.63**	**20**	P		**Pb**	**10 12 39.7**	**+0.6**
WHVZ	**Whangaehu Hut**	**2.63**	**21**	P		**Pb**	**10 12 39.0**	**0.0**
VRZ	**Vera Road**	**2.64**	**6**	P		**Pb**	**10 12 37.7**	**-1.3**
FWVZ	**Far West T-bar**	**2.65**	**20**	P		**Pb**	**10 12 38.8**	**-0.5**
TUVZ	**Tukino**	**2.66**	**22**	P		**Pn**	**10 12 35.5**	**+1.1**
NGZ	**Ngauruhoe**	**2.74**	**20**	P		**Pb**	**10 12 41.4**	**+0.6**
SNVZ	**South Ngauruho**	**2.74**	**21**	P		**Pn**	**10 12 36.7**	**+1.2**
OTVZ	**Oturere**	**2.77**	**21**	P		**Pn**	**10 12 37.1**	**+1.3**
NNVZ	**North Ngauruho**	**2.78**	**20**	P		**Pn**	**10 12 37.4**	**+1.4**
WTVZ	**West Tongariro**	**2.79**	**20**	P		**Pb**	**10 12 42.1**	**+0.4**
KWHZ	**Kaweka Forest**	**2.80**	**34**	P		**Pb**	**10 12 43.1**	**+1.4**
TWVZ	**Taurewa**	**2.80**	**17**	P		**Pb**	**10 12 41.1**	**-0.6**
ETVZ	**East Tongariro**	**2.80**	**22**	P		**Pb**	**10 12 42.2**	**+0.3**
TMVZ	**Te Maari**	**2.82**	**21**	P		**Pb**	**10 12 42.9**	**+0.8**
NTVZ	**North Tongarir**	**2.83**	**21**	P		**Pb**	**10 12 42.3**	**0.0**
BKZ	**Black Stump Fm**	**3.04**	**33**	P		**Pb**	**10 12 46.9**	**+1.0**
RATZ	**Rangitukua**	**3.07**	**21**	P		**Pb**	**10 12 47.0**	**+0.6**
RPZ	**Rata Peaks**	**3.14**	**230**	Pn		**Pn**	**10 12 40.2**	**-0.6**
	25nm,0.4s,baz=24,slow=10.0,SNR=1.1							
RPZ				Sn		**Sn**	**10 13 16.3**	**-1.6**
	18nm,0.3s,baz=84,slow=9.1,SNR=3.3							
RPZ				LR		LR	10 13 53.1	
	comp=Z,220nm,19.3s,baz=9.0,slow=39							
HIZ	**Hauiti**	**3.25**	**7**	Pn		**Pn**	**10 12 44.3**	**+1.9**
DZM	**Mont Dzumac**	**20.73**	**339**	LR		LR	10 22 39.1	
	comp=Z,84nm,19.3s,baz=208,slow=32							
MSVF	**Nonsavu**	**24.14**	**9**	LR		LR	10 25 21.5	
	comp=Z,134nm,18.7s,baz=212,slow=34							
STKA	**Stephens Creek**	**27.89**	**280**	LR		LR	10 27 21.1	
	comp=Z,49nm,21.6s,baz=211,slow=34							
CTA	**Charters Tower**	**32.14**	**304**	LR		LR	10 29 26.1	
	comp=Z,85nm,20.5s,baz=86,slow=33							
ASAR	**Alice Springs**	**38.12**	**285**	P		**P**	**10 19 09.1**	**-1.3**
	0.4nm,0.5s,baz=121,slow=6.7,SNR=14							
ASAR				LR		LR	10 35 58.3	
	comp=Z,49nm,19.4s,baz=116,slow=38							
	0.4nm,0.5s							
PMG	**Port Moresby**	**40.16**	**316**	LR		LR	10 34 54.2	
	comp=Z,70nm,20.1s,baz=34,slow=35							
WB2	**Warramunga Arr**	**40.19**	**290**	P		**P**	**10 19 26.6**	**-1.0**
WB2				IAmb		IAmb	10 19 27.7	
	comp=Z,4.3nm,0.7s							
WRAB	**Tennant Creek**	**40.19**	**290**	P		**P**	**10 19 26.9**	**-0.8**
WRA	**Warramunga Arr**	**40.20**	**290**	P		**P**	**10 19 26.3**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=128,slow=7.9,SNR=20							
WRA				LR		LR	10 34 26.4	
	comp=Z,49nm,20.2s,baz=129,slow=34							
	comp=Z,1.9nm,0.7s							
WRA	**Warramunga Arr**	**40.20**	**290**	P		**P**	**10 19 26.7**	**-1.0**
WB0	**Warramunga Arr**	**40.27**	**291**	P		**P**	**10 19 27.3**	**-1.0**
WB0				IAmb		IAmb	10 19 33.9	
	comp=Z,3.2nm,0.8s							
QSPA	**South Pole Qui**	**48.38**	**180**	P		**P**	**10 20 34.5**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=87,slow=7.3,SNR=3.1							
	comp=Z,0.7nm,0.9s							
LEM	**Lembang**	**68.19**	**281**	LR		LR	10 53 02.4	
	comp=Z,55nm,19.0s,baz=166,slow=36							
NNA	**Nana**	**95.67**	**111**	LR		LR	10 58 28.2	
	comp=Z,22nm,19.8s,baz=250,slow=29							
BRDH	**Bariadhala**	**99.61**	**292**	LR		LR	11 15 13.9	
	comp=Z,147nm,18.3s,baz=276,slow=38							
TORD	**Torodi_Ar. Bea**	**150.80**	**195**	PKPbc		**PKiKP**	**10 31 45.5**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=160,slow=1.9,SNR=5.4							

*IDC **17** 10:53:21.7±2.0, 26°.10N×125°.51E, h118km±14km, mb4.2/19, mbtmp4.5/22, MS3.2/3, Error ellipse: s-maj=29.0km s-min=14.0km az=6.0*

*NIED **17** 10:53:23.8, 26°.22N×125°.46E, h123km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.43; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$2.90; $M_{r\theta}$-0.98; $M_{\theta\phi}$-2.09; $M_{\phi r}$-0.95; Fault plane solution: $M_0$3.64000×10^{15} NP1: ϕ_s124.00000°, δ51.00000°, λ-137.00000°. NP2: ϕ_s4.00000°, δ58.00000°, λ-48.00000°.*

*JMA **17** 10:53:23.8±0.2, 26°.N±1°×12°.5E±°, h123km, MD4.3/30, MV4.6/30, NW OFF MIYAKOJIMA ISLAND*

*NEIC **17** 10:53:23.5±1.7, 26°.1N±0°.1×125°.59E±0°.10, h132km±9km, mb4.8/84, Error ellipse: s-maj=19.4km s-min=9.4km az=151.0*

ISC 17 10:53:23.2±0.4, 26°.07N±0°.05×125°.60E±0°.04, h132km±4km, h132km:pP-P, n374, σ123/366, mb4.8/71, 10C-3D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JKE	**Kume jima 2**	**1.10**	**76**	*i* P		**Pn**	**10 53 48.6**	**+1.5**
JKE				S		**Sn**	**10 54 06.6**	**+1.2**
JKE	**Kume jima 2**	**1.10**	**76**	A		A	10 53 48.6	
	comp=E,7.0nm,1.1s,comp=E,6.0nm,0.7s							
JIKM	**Ikemajima**	**1.18**	**196**	*i* P		**Pn**	**10 53 49.9**	**+1.8**
JIKM				S		**Sn**	**10 54 08.4**	**+1.5**
JIKM	**Ikemajima**	**1.18**	**196**	A		A	10 53 49.9	
	comp=E,28nm,1.2s,comp=E,12nm,1.2s							
JMJ	**Miyako jima 2**	**1.28**	**192**	P		**Pn**	**10 53 51.7**	**+2.7**
JIRB	**Irabujima**	**1.29**	**197**	*i* P		**Pn**	**10 53 50.6**	**+1.4**
JIRB				S		**Sn**	**10 54 09.8**	**+0.9**
JIRB	**Irabujima**	**1.29**	**197**	A		A	10 53 50.6	
	comp=E,16nn,2.5s,comp=E,8.0nm,2.0s							
JOGS	**Gusukube**	**1.31**	**188**	*i* P		**Pn**	**10 53 51.4**	**+2.0**
JOGS				S		**Sn**	**10 54 11.6**	**+2.3**
JOGS	**Gusukube**	**1.31**	**188**	A		A	10 53 51.4	
	comp=E,19nm,0.8s,comp=E,18nm,0.8s							
JMJ2	**Miyako jima3**	**1.34**	**190**	*i* P		**Pn**	**10 53 51.7**	**+2.0**
JMJ2				S		**Sn**	**10 54 11.9**	**+2.0**
JMJ2	**Miyako jima3**	**1.34**	**190**	A		A	10 53 51.7	
	comp=E,15nm,2.3s,comp=E,12nm,0.6s							
JAGN	**Aguni-jima**	**1.56**	**70**	*i* P		**Pn**	**10 53 53.6**	**+1.5**
JAGN				S		**Sn**	**10 54 15.0**	**+0.8**
JAGN	**Aguni-jima**	**1.56**	**70**	A		A	10 53 53.6	
	comp=E,4.0nm,1.2s,comp=E,6.0nm,1.6s							
JTJ	**Tarama**	**1.64**	**210**	*i* P		**Pn**	**10 53 54.3**	**+1.4**
JTJ				S		**Sn**	**10 54 16.1**	**+0.4**
JTJ	**Tarama**	**1.64**	**210**	A		A	10 53 54.3	
	comp=E,14nm,2.5s,comp=E,7.0nm,1.3s							
JISG	**Ishigakijimahi**	**1.88**	**219**	*i* P		**Pn**	**10 53 56.9**	**+1.1**
JISG				S		**Sn**	**10 54 20.5**	**-0.3**
JISG	**Ishigakijimahi**	**1.88**	**219**	A		A	10 53 56.9	
	comp=E,7.0nm,2.4s,comp=E,11nm,0.7s							
JJT3	**Tamagusuku3**	**1.97**	**87**	*i* P		**Pn**	**10 53 59.2**	**+2.4**
JJT3				S		**Sn**	**10 54 24.6**	**+1.9**
JJT3	**Tamagusuku3**	**1.97**	**87**	A		A	10 53 59.2	
	comp=E,10.0nm,1.0s,comp=E,12nm,0.8s							
JIJ	**Ishigaki jima**	**2.15**	**218**	*i* P		**Pn**	**10 53 59.7**	**+0.6**
JIJ				S		**Sn**	**10 54 25.3**	**-1.3**
JIJ	**Ishigaki jima**	**2.15**	**218**	A		A	10 53 59.7	
	comp=E,4.0nm,0.9s,comp=E,4.0nm,1.1s							
JNTH	**Nagotoyohara**	**2.22**	**78**	*i* P		**Pn**	**10 54 01.4**	**+1.4**
JNTH				S		**Sn**	**10 54 27.8**	**-0.4**
JKRS	**Kuro-shima**	**2.32**	**219**	*i* P		**Pn**	**10 54 01.9**	**+0.6**
JKRS				S		**Sn**	**10 54 30.4**	**0.0**
JKRS	**Kuro-shima**	**2.32**	**219**	A		A	10 54 01.9	
	comp=E,14nm,2.2s,comp=E,6.0nm,2.3s							
JIH	**Iheya**	**2.33**	**65**	*i* P		**Pn**	**10 54 02.7**	**+1.4**
JIH				S		**Sn**	**10 54 30.6**	**0.0**
IRIF	**Iriomote-Funau**	**2.42**	**225**	*i* P		**Pn**	**10 54 03.0**	**+0.5**
IRIF				*e*S		**Sn**	**10 54 32.1**	**-0.4**
IRIF	**Iriomote-Funau**	**2.42**	**225**	A		A	10 54 03.0	
	comp=E,5.0nm,1.9s,comp=E,5.0nm,10.9s							
JOW	**Kunigami**	**2.52**	**72**	P		**Pn**	**10 54 04.5**	**+0.8**
	608nm,0.2s,baz=144,slow=14,SNR=2242							
JOW				S		**Sn**	**10 54 33.7**	**-1.1**
	1μm,0.3s,baz=127,slow=29,SNR=20							
JOW				LR		LR	10 55 12.7	
	comp=Z,131nm,20.9s,baz=48,slow=43							
JOW	**Kunigami**	**2.52**	**72**	Pn		**Pn**	**10 54 04.8**	**+1.1**
JOW	**Kunigami**	**2.52**	**72**	P		**Pn**	**10 54 05.0**	**+1.3**
JOW	**Kunigami**	**2.52**	**72**	*i* P		**Pn**	**10 54 04.8**	**+1.1**
JOW				S		**Sn**	**10 54 34.2**	**-0.6**
JOW	**Kunigami**	**2.52**	**72**	A		A	10 54 04.8	
	comp=E,3.0nm,0.4s,comp=E,3.0nm,5.4s							
HATJ	**Hateruma jima**	**2.58**	**219**	P		**Pn**	**10 54 05.1**	**+0.6**
HATJ				*e*S		**Sn**	**10 54 36.0**	**-0.2**
HATJ	**Hateruma jima**	**2.58**	**219**	A		A	10 54 05.1	
	comp=E,5.0nm,3.7s,comp=E,5.0nm,3.3s							
JYRO	**Yoronjima**	**2.73**	**69**	*i* P		**Pn**	**10 54 07.2**	**+0.9**
JYRO				S		**Sn**	**10 54 38.7**	**-0.9**
YOJ	**Yonaguni jima**	**2.83**	**236**			**Pn**	**10 54 08.8**	**+1.0**
YOJ	**Yonaguni jima**	**2.83**	**236**	P		**Pn**	**10 54 09.1**	**+1.3**
YOJ	**Yonaguni jima**	**2.83**	**236**	*i* P		**Pn**	**10 54 08.8**	**+1.0**
YOJ				S		**Sn**	**10 54 42.3**	**+0.2**
JYNG	**Yonagunijimaku**	**2.89**	**237**	*i* P		**Pn**	**10 54 09.5**	**+1.0**
JYNG				*e*S		**Sn**	**10 54 43.7**	**+0.4**
JOKE	**Okinoerabujima**	**2.96**	**64**	*i* P		**Pn**	**10 54 09.8**	**+0.5**
JTK	**Tokunoshima**	**3.45**	**60**	*i* P		**Pn**	**10 54 16.0**	**+0.2**
JTK				S		**Sn**	**10 54 55.9**	**-0.4**
JAMN	**Amaminishikomi**	**3.85**	**55**	*i* P		**Pn**	**10 54 20.9**	**-0.2**
TATO	**Taipei**	**3.87**	**255**	Pn		**Pn**	**10 54 23.2**	**+1.9**
TATO	**Taipei**	**3.87**	**255**	P		**Pn**	**10 54 23.3**	**+2.0**
YHNB	**Yeheng**	**4.06**	**251**			**Pn**	**10 54 25.9**	**+2.0**
YHNB	**Yeheng**	**4.06**	**251**	P		**Pn**	**10 54 26.3**	**+2.3**
NACB	**Ninganchiao**	**4.09**	**243**			**Pn**	**10 54 24.0**	**-0.2**
NACB	**Ninganchiao**	**4.09**	**243**	P		**Pn**	**10 54 24.1**	**-0.1**
JAM	**Amami Oshima**	**4.26**	**56**	*i* P		**Pn**	**10 54 26.1**	**-0.3**
JAM		

MKAR PcP **PcP** **11 02 47.5 +0.3**
comp=Z,3.0nm,0.6s,baz=80,slow=3.6,SNR=13
MKAR ScP **ScP** **11 06 24.0 0.0**
comp=Z,0.6nm,0.8s,baz=84,slow=5.9,SNR=3.5
comp=Z,5.3nm,0.5s
MKAR Makanchi Array 39.89 313 P **P** **11 00 43.5 -0.6**
MAKZ Makanchi 40.10 313 P **P** **11 00 45.4 -0.5**
SEY Seymchan 40.89 18 P **P** **11 00 52.0 -0.1**
comp=Z,3.0nm,0.7s,baz=215,slow=7.6,SNR=6.6
comp=Z,3.0nm,0.7s
ZAA0 Zalesovo Array 40.96 324 P **P** **11 00 51.9 -0.9**
ZAA0 IAmb IAmb 11 00 52.4
comp=Z,8.1nm,0.5s
ZALV Zalesovo Beam 40.96 324 P **P** **11 00 51.6 -1.2**
comp=Z,8.3nm,0.5s,baz=112,slow=8.7,SNR=35
ZALV PcP **PcP** **11 02 49.7 -0.7**
comp=Z,2.3nm,0.4s,baz=113,slow=5.6,SNR=8.1
ZALV ScP **ScP** **11 06 27.3 -0.7**
comp=Z,0.4nm,0.5s,baz=137,slow=7.4,SNR=1.7
comp=Z,8.3nm,0.5s
ZALV Zalesovo Beam 40.96 324 P **P** **11 00 51.7 -1.1**
KURK Kurchatov 43.32 317 P **P** **11 01 11.1 -0.8**
KURK Kurchatov 43.32 317 P **P** **11 01 11.0 -0.9**
KURBB Kurchatov Arra 43.35 317 P **P** **11 01 11.1 -1.1**
comp=Z,4.8nm,0.5s,baz=108,slow=9.0,SNR=46
KURBB PcP **PcP** **11 02 58.0 -0.5**
comp=Z,1.8nm,0.6s,baz=109,slow=3.5,SNR=8.9
comp=Z,4.8nm,0.5s
AAK Ala-Archa 44.62 305 P **P** **11 01 22.5 -0.2**
comp=Z,1.6nm,0.4s,baz=153,slow=2.6,SNR=5.0
comp=Z,1.6nm,0.4s
AAK Ala-Archa 44.62 305 P **P** **11 01 21.5 -1.3**
TIXI Tiksi 45.66 1 P **P** **11 01 28.7 -1.4**
comp=Z,0.7nm,0.3s,baz=246,slow=0.1,SNR=2.0
TIXI PcP **PcP** **11 03 05.1 -0.9**
comp=Z,4.1nm,0.5s,baz=159,slow=0.1,SNR=16
comp=Z,0.7nm,0.3s
KK31 Karatay Array 47.58 306 P **P** **11 01 45.6 0.0**
KKAR Karatay Array 47.58 306 P **P** **11 01 45.7 +0.1**
NRIK Noril'sk 48.70 343 P **P** **11 01 53.3 -0.5**
comp=Z,12nm,0.7s,baz=120,slow=7.9,SNR=16
NRIK PcP **PcP** **11 03 16.4 -0.5**
comp=Z,8.4nm,0.5s,baz=72,slow=2.7,SNR=7.4
comp=Z,12nm,0.7s
NRIK Noril'sk 48.70 343 P **P** **11 01 53.3 -0.5**
NRIK IAmb IAmb 11 01 54.1
comp=Z,14nm,0.8s
BRVK Borovoye 48.90 319 P **P** **11 01 54.7 -0.9**
BRVK IAmb IAmb 11 01 56.6
comp=Z,6.9nm,0.3s
BRVK Borovoye 48.90 319 P **P** **11 01 55.0 -0.6**
CTAO Charters Tower 50.07 154 P **P** **11 02 03.5 -1.3**
CTAO pP **pP** **11 02 32.8 -2.4**
CTAO sP **sP** **11 02 47.6 -2.2**
GAMB Gambell 54.91 29 P **P** **11 02 40.4 +0.4**
baz=258
ABKAR Akbulak array 55.03 313 P **P** **11 02 38.8 -2.2**
ABKAR Akbulak array 55.03 313 IAmb IAmb 11 02 42.5
comp=Z,6.0nm,0.7s
GEYT Alibeck 57.32 300 P **P** **11 02 56.7 -0.9**
comp=Z,3.2nm,0.4s,baz=83,slow=3.3,SNR=6.1
comp=Z,3.2nm,0.4s
GEYT Alibeck 57.32 300 IAmb IAmb 11 02 59.2
comp=Z,6.9nm,0.6s
N16K Nishlik Lake 60.65 33 P **P** **11 03 21.4 +1.3**
baz=272
O16K Kokwok River B 61.02 34 P **P** **11 03 24.2 +1.7**
baz=273
O17K Koliganek Bris 61.51 34 P **P** **11 03 26.7 +0.8**
baz=273
Q16K King Salmon 61.81 35 P **P** **11 03 29.1 +1.3**
baz=274
N18K Kilae Creek 62.06 33 P **P** **11 03 31.0 +1.4**
baz=274
L19K White Mountain 62.45 31 P **P** **11 03 33.7 +1.5**
baz=274
O18K Koktuh Hills 62.46 34 P **P** **11 03 33.4 +1.2**
baz=275
P18K Big Mountain, 62.49 35 P **P** **11 03 33.6 +1.2**
baz=275
J20K Nowinta River 62.64 29 IAmb IAmb 11 03 36.1
comp=Z,5.4nm,0.7s
J20K Nowinta River 62.64 29 P **P** **11 03 34.5 +1.1**
baz=274
Q18K Katmai Hardscr 62.67 35 P **P** **11 03 35.0 +1.2**
baz=276
M19K Big River Lodg 62.69 32 P **P** **11 03 36.2 +2.4**
baz=275
K20K Telida 62.73 30 P **P** **11 03 35.6 +1.6**
baz=274
N19K Bonanza Creek 62.73 33 P **P** **11 03 35.8 +1.6**
baz=275
F21K Alatna River 62.75 26 P **P** **11 03 35.0 +0.9**
baz=273
G21K Allakaket 62.78 26 P **P** **11 03 36.1 +1.9**
baz=273
O19K Port Alsworth 62.87 34 P **P** **11 03 36.4 +1.5**
baz=276
L20K Farewell, AK 62.88 31 P **P** **11 03 36.5 +1.5**
baz=275
H21K Melozitna Rive 63.11 27 P **P** **11 03 37.7 +1.2**
baz=274
F22K John River 63.24 25 P **P** **11 03 38.0 +0.7**
baz=274,SNR=11
M20K Styx River 63.28 32 IAmb IAmb 11 03 40.5
comp=Z,9.7nm,0.6s
M20K Styx River 63.28 32 P **P** **11 03 39.3 +1.5**
baz=276
E22K Anaktuvuk Pass 63.34 25 P **P** **11 03 39.0 +1.0**
baz=274
SII Sitkinak Islan 63.35 38 P **P** **11 03 39.1 +1.0**
baz=278
I21K Tanana 63.49 28 P **P** **11 03 39.7 +0.8**
baz=275
G22K Bettles 63.54 26 P **P** **11 03 39.8 +0.5**
baz=275
CAST Castle Rocks 63.61 30 P **P** **11 03 41.3 +1.5**
CAST Castle Rocks 63.61 30 P **P** **11 03 40.8 +0.9**
baz=276
PPLA Purkeypile 63.62 30 P **P** **11 03 41.0 +1.0**
baz=276
C23K Ikkillik River 63.66 23 P **P** **11 03 41.3 +1.3**
baz=274
H22K Ishtalitna Cre 63.68 27 P **P** **11 03 41.3 +1.1**
baz=275
D23K Nanushuk River 63.70 24 P **P** **11 03 41.6 +1.3**
baz=274
OHAK Old Harbor 63.75 37 P **P** **11 03 41.6 +0.9**
baz=278
N20K Mount Spurr 63.80 32 P **P** **11 03 41.6 +0.4**
baz=277
SKT Skwentna 64.03 31 P **P** **11 03 43.4 +0.8**
baz=277
BPAW Bear Paw Mtn. 64.03 29 P **P** **11 03 44.1 +1.5**
BPAW IAmb IAmb 11 03 45.6
comp=Z,5.6nm,0.5s
BPAW Bear Paw Mtn. 64.03 29 P **P** **11 03 44.0 +1.5**
baz=276,SNR=5.9
COLD Coldfoot 64.03 26 P **P** **11 03 43.3 +0.8**
baz=276
MLY Manley 64.03 28 P **P** **11 03 43.9 +1.3**
baz=276
TOLK Toolik Lake Re 64.13 24 IAmb IAmb 11 03 45.3
comp=Z,8.1nm,0.8s
TOLK Toolik Lake Re 64.13 24 P **P** **11 03 44.4 +1.2**
baz=276
G23K Bananza Creek 64.15 26 P **P** **11 03 44.9 +1.6**
baz=276
E23K Chandalar 64.17 25 P **P** **11 03 45.0 +1.5**
baz=276
C24K Franklin Bluff 64.33 23 P **P** **11 03 45.4 +1.0**
baz=276
D24K Happy Valley 64.35 23 P **P** **11 03 46.0 +1.5**
baz=276
TRF Thorofare Moun 64.41 30 P **P** **11 03 45.8 +0.5**
baz=277
H23K Yukon River 64.44 27 P **P** **11 03 47.3 +2.1**
baz=277
SUA Susitna One 64.46 32 P **P** **11 03 45.5 0.0**
SUA Susitna One 64.46 32 P **P** **11 03 46.2 +0.7**
baz=278,SNR=5.1
CUT Chulitna 64.56 31 P **P** **11 03 46.9 +0.9**
baz=278
E24K Your Creek 64.59 25 P **P** **11 03 47.6 +1.5**
baz=277
I23K Minto, Yukon-K 64.60 28 P **P** **11 03 47.5 +1.3**
baz=277
BRSE Bradley Lake S 64.71 34 P **P** **11 03 48.0 +0.9**
baz=279
M22K Willow 64.72 32 P **P** **11 03 47.5 +0.6**
baz=278,SNR=6.4
NEA2 Nenana 64.80 28 IAmb IAmb 11 03 49.8
comp=Z,30nm,1.2s
NEA2 Nenana 64.80 28 P **P** **11 03 48.6 +1.1**
baz=278,SNR=11
F24K Squaw Lake 64.88 25 P **P** **11 03 50.0 +1.9**
baz=278
MCK McKinley 64.97 29 P **P** **11 03 49.0 +0.3**
MCK IAmb IAmb 11 03 51.1
comp=Z,7.0nm,0.8s
MCK McKinley 64.97 29 P **P** **11 03 49.4 +0.7**
baz=278
RC01 Rabbit Creek A 65.00 32 P **P** **11 03 49.6 +0.7**
baz=279
RND Reindeer 65.06 30 P **P** **11 03 50.0 +0.7**
MDM Murphy Dome 65.10 28 IAmb IAmb 11 03 52.0
comp=Z,17nm,0.9s
O22K Cooper Landing 65.10 33 P **P** **11 03 50.0 +0.5**
baz=279
H24K Noodor Dome 65.12 27 IAmb IAmb 11 03 52.6
comp=Z,10nm,0.9s
H24K Noodor Dome 65.12 27 P **P** **11 03 50.8 +1.2**
baz=278
G24K Hadweenzic Riv 65.16 26 P **P** **11 03 51.1 +1.3**
baz=278
D25K Kavik River 65.19 23 P **P** **11 03 50.7 +0.7**
baz=278
PMR Palmer 65.21 32 P **P** **11 03 50.6 +0.4**
baz=279
WRH Wood River Hil 65.23 28 IAmb IAmb 11 03 58.6
comp=Z,31nm,2.0s
TCOL CIGO, UAF Yank 65.27 28 P **P** **11 03 51.5 +1.0**
baz=279
COLA College 65.27 28 P **P** **11 03 51.1 +0.6**
baz=279
COLA College 65.27 28 P **P** **11 03 51.8 +1.2**
COLA pP **pP** **11 04 23.5 +1.6**
WAT1 Susitna Watana 65.28 30 P **P** **11 03 51.6 +0.9**
baz=279
SEW Seward 65.30 33 P **P** **11 03 51.8 +1.0**
baz=280
CCB Clear Creek Bu 65.33 28 P **P** **11 03 50.9 0.0**
POKR Poker Plat Res 65.41 28 IAmb IAmb 11 03 54.1
comp=Z,11nm,0.7s
POKR Poker Plat Res 65.41 28 P **P** **11 03 52.4 +0.9**
baz=279
SML Sawmill 65.55 31 P **P** **11 03 53.4 +0.9**
baz=280
KNK Knik Glacier 65.56 32 P **P** **11 03 53.4 +0.9**
baz=280,SNR=5.4
C26K Camden Bay 65.61 22 P **P** **11 03 54.0 +1.3**
baz=279
E25K Arctic Village 65.67 24 P **P** **11 03 53.8 +0.7**
baz=279
G25K Bearman Lake 65.68 26 P **P** **11 03 54.1 +1.0**
baz=280
WAT6 Susitna Watana 65.69 30 P **P** **11 03 54.4 +0.8**
baz=280,SNR=6.0
IL31 65.70 28 P **P** **11 03 52.9 -0.3**
IL31 IAmb IAmb 11 04 36.9
comp=Z,26nm,1.9s
ILAR Eielson Array 65.70 28 P **P** **11 03 53.5 +0.2**
comp=Z,1.7nm,0.5s,baz=258,slow=4.9,SNR=56
comp=Z,1.7nm,0.5s
PWL Port Wells 65.71 32 P **P** **11 03 53.8 +0.4**
baz=280
F25K Christian Rive 65.72 25 P **P** **11 03 55.1 +1.6**
baz=280
HDA Harding Lake 65.73 28 IAmb IAmb 11 03 54.7
comp=Z,11nm,0.9s
HDA Harding Lake 65.73 28 P **P** **11 03 53.4 -0.1**
baz=280,SNR=6.4
DHY Denali Highway 65.77 30 IAmb IAmb 11 05 04.0
comp=Z,40nm,2.0s
DHY Denali Highway 65.77 30 P **P** **11 03 54.3 +0.3**
baz=280
M23K Glacier View 65.84 31 P **P** **11 03 54.8 +0.6**
baz=280
H25L Birch Creek 65.88 26 P **P** **11 03 55.5 +1.1**
baz=280
SCM Sheep Creek Mo 66.02 31 P **P** **11 03 56.4 +0.9**
baz=281,SNR=5.2
C27K Jago River 66.07 23 P **P** **11 03 56.3 +0.7**
baz=280
PRP Porcupine Dome 66.13 27 P **P** **11 03 57.5 +1.2**
baz=281
BMAR Burnt Mountain 66.16 25 P **P** **11 03 57.7 +1.5**
F26K Sheenjek River 66.27 25 P **P** **11 03 58.4 +1.5**
baz=281
K24K Donnelly Dome 66.34 29 P **P** **11 03 58.7 +1.2**
baz=281,SNR=5.3
J25K Salcha River, 66.37 28 P **P** **11 03 57.6 -0.1**
baz=281
M24K Tolsona, Glenn 66.50 31 P **P** **11 03 60.0 +1.4**
baz=282,SNR=6.6
G26K Porcupine Rive 66.55 25 P **P** **11 04 00.3 +1.7**
baz=282,SNR=13
PAX Paxson 66.64 30 P **P** **11 04 00.3 +0.8**
baz=282
KLU Klutina 66.74 31 IAmb IAmb 11 04 02.1
comp=Z,12nm,0.5s
KLU Klutina 66.74 31 P **P** **11 04 00.9 +0.8**
baz=282,SNR=5.5
RIDG Independent Ri 66.76 29 P **P** **11 04 00.8 +0.6**
RIDG IAmb IAmb 11 04 02.3
comp=Z,25nm,1.4s
RIDG Independent Ri 66.76 29 P **P** **11 04 00.4 +0.2**
baz=282
DIV Divide 66.89 32 P **P** **11 04 01.8 +0.7**
HARP HAARP 66.91 30 P **P** **11 04 02.1 +1.0**
baz=282
EYAK Cordova Ski Ar 67.02 32 P **P** **11 04 02.5 +0.7**
baz=282
SCRK Sand Creek 67.09 29 P **P** **11 04 03.1 +0.8**
baz=283
E27K Coleen River 67.11 24 P **P** **11 04 03.5 +1.2**
baz=283
DOT Dot Lake 67.12 29 P **P** **11 04 02.1 -0.4**
DOT IAmb IAmb 11 04 03.9
comp=Z,6.3nm,0.6s
I26K Coal Creek Min 67.15 27 IAmb IAmb 11 04 07.4
comp=Z,16nm,1.4s
I26K Coal Creek Min 67.15 27 P **P** **11 04 03.1 +0.6**
baz=283
J26L Joseph Creek 67.15 28 P **P** **11 04 03.3 +0.6**
baz=283
N25K Chitina, Valde 67.33 31 P **P** **11 04 04.6 +0.7**
baz=283
G27K Doyon Strip 67.40 25 P **P** **11 04 05.8 +1.7**
baz=283
KBZ Khabaz 67.42 309 P **P** **11 04 04.2 -0.3**
comp=Z,11nm,1.2s,baz=56,slow=6.5,SNR=4.8
comp=Z,11nm,1.2s
MENT Mentasta 67.43 30 P **P** **11 04 05.8 +1.4**
MENT IAmb IAmb 11 04 06.8
comp=Z,9.1nm,0.5s
BMRM Bremner River 67.48 32 IAmb IAmb 11 04 06.9
comp=Z,14nm,0.8s
BMRM Bremner River 67.48 32 P **P** **11 04 05.5 +0.7**
baz=283
L26K Log Cabin Wild 67.58 30 IAmb IAmb 11 04 21.8
comp=Z,18nm,1.6s
L26K Log Cabin Wild 67.58 30 P **P** **11 04 06.9 +1.6**
baz=284
H27K Steamboat Moun 67.59 26 P **P** **11 04 07.3 +2.0**
baz=284
I27K Kandik River 67.70 27 P **P** **11 04 07.7 +1.6**
baz=284,SNR=18
GLB Gilahina Butte 67.74 31 IAmb IAmb 11 04 08.2
comp=Z,13nm,0.5s
M26K Nabesna, AK 67.88 30 P **P** **11 04 08.5 +1.2**
baz=284
K27K Chicken 67.89 28 P **P** **11 04 08.8 +1.6**
baz=284
VRDI Verde Repeater 67.96 31 P **P** **11 04 08.7 +0.8**
VRDI IAmb IAmb 11 04 09.9
comp=Z,12nm,0.6s
EGAK Eagle 68.09 27 P **P** **11 04 08.5 0.0**
EGAK IAmb IAmb 11 04 10.4
comp=Z,8.8nm,0.8s
EGAK Eagle 68.09 27 P **P** **11 04 09.6 +1.2**
baz=285,SNR=6.6
MCARA McCarthy VSAT 68.12 31 IAmb IAmb 11 04 11.9
comp=Z,9.8nm,0.8s
MCARA McCarthy VSAT 68.12 31 P **P** **11 04 09.7 +1.0**
baz=284
L27K Beaver Creek, 68.24 29 P **P** **11 04 11.1 +1.7**
baz=285
M27K Edge Creek, AK 68.40 30 P **P** **11 04 12.0 +1.4**
baz=285
SPA0 Spitsbergen Ar 68.49 348 *e*P **P** **11 04 10.3 -0.5**
SPA0 IAmb IAmb 11 04 12.4
comp=Z,68nm,1.2s
ISLE Juniper Island 68.64 32 P **P** **11 04 11.7 -0.5**
ISLE IAmb IAmb 11 04 13.8
comp=Z,11nm,0.5s
BARN Barnard Glacie 68.84 31 IAmb IAmb 11 04 15.7
comp=Z,12nm,0.6s
BVCY Beaver Creek 68.84 30 P **P** **11 04 14.7 +1.5**
baz=286
DAWY Dawson 69.02 28 P **P** **11 04 12.2 -2.1**
DAWY IAmb IAmb 11 04 16.6
comp=Z,10nm,1.0s
DAWY Dawson 69.02 28 P **P** **11 04 15.7 +1.4**
baz=286,SNR=6.5
I29M Ogilvie Camp, 69.10 27 IAmb IAmb 11 04 17.3
comp=Z,8.8nm,0.8s
I29M Ogilvie Camp, 69.10 27 P **P** **11 04 16.4 +1.7**
baz=287,SNR=12
YUK3 Moose Creek 69.20 30 P **P** **11 04 16.5 +0.9**
baz=286
ARA0 ARCESS Array S 69.28 338 *e*P **P** **11 04 15.3 -0.4**
ARCES ARCESS Array B 69.28 338 P **P** **11 04 15.1 -0.7**
comp=Z,1.5nm,0.4s,baz=68,slow=7.4,SNR=34
comp=Z,1.5nm,0.4s
J29M Klondike Camp 69.40 27 P **P** **11 04 18.6 +1.9**
baz=287,SNR=6.0
EPYK Eagle Plains 69.42 25 P **P** **11 04 17.7 +1.0**
baz=288,SNR=20
G30M tAoh Zraii Nji 69.42 25 P **P** **11 04 17.5 +0.8**
baz=288
O28M Mount Upton 69.61 31 P **P** **11 04 19.7 +1.4**
baz=287
YUK8 Steele Glacier 69.66 31 P **P** **11 04 20.1 +1.6**
baz=287
PINM Pinnacle 69.78 32 P **P** **11 04 20.7 +1.6**
baz=287
L29M L29M 69.84 29 P **P** **11 04 21.3 +2.0**
baz=288
K29M Barlow Dome 69.88 28 P **P** **11 04 20.2 +0.5**
baz=288
M29M Somme Creek 69.90 30 P **P** **11 04 21.1 +1.3**
baz=288,SNR=5.4
INK Inuvik 69.96 23 P **P** **11 04 19.4 -0.5**
INK IAmb IAmb 11 04 21.8
comp=Z,9.0nm,0.8s
INK Inuvik 69.96 23 P **P** **11 04 20.5 +0.6**
baz=290,SNR=8.8
YUK4 Talbot Arm 70.16 31 P **P** **11 04 22.8 +1.3**
baz=288,SNR=8.0
F31M Tsiigehtchic 70.18 24 P **P** **11 04 21.9 +0.6**
baz=290,SNR=6.6
KTK1 Kautokeino 70.22 338 *e*P **P** **11 04 20.8 -0.8**
KTK1 IAmb IAmb 11 04 23.1
comp=Z,127nm,2.0s
PNL Peninsula 70.32 32 P **P** **11 04 23.6 +1.3**
baz=288
YUK6 Outpost Mounta 70.41 31 P **P** **11 04 25.0 +1.8**
baz=288,SNR=10
O29M Mount Kennedy 70.52 32 P **P** **11 04 25.5 +1.9**
baz=288
M30M Minto, Yukon 70.59 29 P **P** **11 04 25.6 +1.6**
baz=289
MAYO Mayo, Yukon 70.64 28 P **P** **11 04 25.7 +1.6**
baz=290
MARD Mardin 70.82 303 P **P** **11 04 26.5 +0.6**
N30M Aishikik Lake 70.83 30 P **P** **11 04 26.8 +1.4**
baz=289
HYT Haines Junctio 70.85 31 P **P** **11 04 27.6 +2.0**
baz=289,SNR=6.9
A36M Sachs Harbour 71.12 18 P **P** **11 04 28.1 +1.3**
baz=296
P29M Windy Craggy 71.13 32 P **P** **11 04 29.1 +1.9**
baz=289
P30M Million Dollar 71.34 32 P **P** **11 04 30.1 +1.6**
baz=290
N31M Braeburn, Yuko 71.41 30 IAmb IAmb 11 04 31.6
comp=Z,12nm,0.8s
N31M Braeburn, Yuko 71.41 30 P **P** **11 04 30.3 +1.4**
baz=290
O30N Mendenhall 71.52 31 P **P** **11 04 31.3 +1.7**
baz=290
ALE Alert 71.56 1 P **P** **11 04 29.3 -0.2**
ALE pP **pP** **11 05 01.0 -0.5**
M31M Drury Creek, Y 71.78 29 IAmb IAmb 11 04 33.3
comp=Z,9.6nm,0.6s
M31M Drury Creek, Y 71.78 29 P **P** **11 04 33.0 +2.0**
baz=291,SNR=6.3
FINES FINESS Array B 71.83 330 P **P** **11 04 30.9 -0.4**
comp=Z,8.0nm,0.5s,baz=63,slow=6.0,SNR=71
comp=Z,8.0nm,0.5s
PLBC Pleasant Camp 71.85 32 P **P** **11 04 32.7 +1.2**
baz=291,SNR=9.3
WHY Whitehorse 72.12 31 P **P** **11 04 34.8 +1.6**
baz=291
FARO Faro, Yukon 72.22 29 IAmb IAmb 11 04 36.6
comp=Z,19nm,0.9s
FARO Faro, Yukon 72.22 29 P **P** **11 04 35.2 +1.5**
baz=292,SNR=17
SKAG Skagway 72.34 32 IAmb IAmb 11 04 37.5
comp=Z,13nm,0.7s
SKAG Skagway 72.34 32 P **P** **11 04 36.3 +1.9**
baz=291
C36M Paulatuk 72.68 20 IAmb IAmb 11 04 37.5
comp=Z,8.9nm,0.5s
C36M Paulatuk 72.68 20 P **P** **11 04 36.6 +0.4**
baz=298,SNR=8.0
N32M Quiet Lake 72.75 30 P **P** **11 04 38.2 +1.4**
baz=293
MMPY Sheldon Lake, 72.96 28 P **P** **11 04 39.8 +1.6**
baz=294,SNR=6.9
P32M Atlin 73.06 32 P **P** **11 04 40.3 +1.6**
baz=293
R32K Eaglecrest 73.17 33 P **P** **11 04 41.1 +1.8**
baz=292
SIT Sitka 73.23 34 P **P** **11 04 41.6 +1.9**
baz=292
P33M Teslin, Yukon 73.23 31 P **P** **11 04 41.6 +1.8**
baz=293
STEI Steigen 73.36 338 *e*P **P** **11 04 39.5 -0.7**
STEI IAmb IAmb 11 04 42.2
comp=Z,123nm,1.8s
FAUS Fauske 73.60 338 *e*P **P** **11 04 40.9 -0.8**
FAUS IAmb IAmb 11 04 42.7
comp=Z,215nm,2.2s
NACGM Naroch 73.91 324 *e*P **P** **11 04 45.9 +2.2**
comp=Z,23nm,0.9s,baz=68
Q32M Nakina River 73.99 32 P **P** **11 04 46.4 +2.1**
baz=294
AKASG Malin Array Be 74.11 319 P **P** **11 04 43.8 -1.2**
comp=Z,2.0nm,0.3s,baz=54,slow=6.5,SNR=7.9
comp=Z,2.0nm,0.3s
R33M Jennings River 74.42 31 P **P** **11 04 48.7 +1.9**
baz=295
MOR8 Moi Rana 74.48 337 *e*P **P** **11 04 44.9 -1.9**
TGTN Hyland Airport 74.70 29 P **P** **11 04 49.8 +1.6**
baz=296,SNR=7.6
STOK Stokkvaagen 74.90 337 *e*P **P** **11 04 49.0 -0.2**
S34M Telegraph Cree 74.97 33 P **P** **11 04 52.0 +2.2**
baz=295
WRAK Wrangell Islan 74.99 34 P **P** **11 04 51.6 +1.7**
baz=295
WTLY Watson Lake, Y 75.10 30 IAmb IAmb 11 04 54.1
comp=Z,20nm,1.3s
WTLY Watson Lake, Y 75.10 30 P **P** **11 04 52.6 +2.1**
baz=296,SNR=6.1
BRTR Keskin Array B 75.25 307 P **P** **11 04 50.8 -1.2**
comp=Z,2.3nm,0.6s,baz=90,slow=7.4,SNR=5.6
comp=Z,2.3nm,0.6s
DLBC Dease Lake 75.27 32 P **P** **11 04 53.7 +2.1**
baz=296
WRGLY Wrigley 75.87 26 P **P** **11 04 56.1 +1.3**
baz=300
NSS Namsos 76.22 336 *e*P **P** **11 04 56.3 -0.5**
LIRD Liard River Hi 76.64 30 P **P** **11 05 00.7 +1.5**
baz=299,SNR=7.6
KOTAN Kotaneelee Air 77.19 29 P **P** **11 05 03.7 +1.4**
baz=300
FLDN Fort Liard 77.38 29 P **P** **11 05 05.2 +1.9**
baz=301
BUR08 Bucovina Ar. S 77.75 317 P **P** **11 05 05.1 -0.7**
BURAR Bucovina Array 77.75 317 P **P** **11 05 04.2 -1.6**
NC405 NORSAR Array S 78.16 333 P **P** **11 05 07.2 -0.5**
NB2 NORSAR Subarra 78.40 333 P **P** **11 05 08.3 -0.8**

baz=54,slow=6.2
NB2 NORSAR Subarra 78.40 333 P **P** 11 05 08.3 **-0.8**
comp=Z,4.6nm,0.4s,baz=54,slow=6.2
NOA NORSAR Array B 78.40 333 P **P** 11 05 08.1 **-0.9**
comp=Z,3.7nm,0.4s,baz=60,slow=7.9,SNR=26
comp=Z,3.7nm,0.4s
NC602 NORSAR Array S 78.43 333 *eP* **P** 11 05 08.5 **-0.7**
NC602 IAmb IAmb 11 05 12.5
comp=Z,62nm,1.6s
NC204 NORSAR Array S 78.45 333 P **P** 11 05 08.8 **-0.6**
DOMB Dombas 78.69 335 *eP* **P** 11 05 10.4 **-0.2**
ELL Elmali 79.12 306 P **P** 11 05 13.1 **-0.5**
YKA Yellowknife Ar 79.66 24 P **P** 11 05 16.9 **+1.1**
comp=Z,17nm,0.8s,baz=301,slow=5.8,SNR=40
comp=Z,17nm,0.8s
SKAR Skarslia 79.78 334 *eP* **P** 11 05 16.8 **+0.2**
SUMG Summit 81.01 355 *iP* **P** 11 05 22.0 **-1.4**
VYHS Vyhne 81.15 320 *eP* **P** 11 05 24.6 **+0.5**
CLL Coilm 82.92 324 *eP* **P** 11 05 33.0 **-0.2**
GERES GERESS Array B 83.88 322 P **P** 11 05 38.2 **-0.2**
comp=Z,0.7nm,0.4s,baz=60,slow=5.8,SNR=0.5
comp=Z,0.7nm,0.4s
ICESG Greenland Ices 84.51 355 *eP* **P** 11 05 39.4 **-2.1**
NEW Newport 87.15 36 P **P** 11 05 55.8 **+1.3**
baz=307
MSO Missoula 89.73 36 P **P** 11 06 08.8 **+2.0**
baz=309
FFC Flin Flon 89.77 25 P **P** 11 06 07.8 **+1.1**
FFC IAmb IAmb 11 06 08.7
comp=Z,12nm,0.8s
HLID Hailey 91.53 39 P **P** 11 06 17.2 **+1.9**
HLID Hailey 91.53 39 P **P** 11 06 17.1 **+1.8**
baz=309
BOZ Bozeman (W) 91.75 36 P **P** 11 06 17.8 **+1.5**
baz=311
PDAR Pinedale Array 94.75 37 P **P** 11 06 30.9 **+0.7**
comp=Z,0.2nm,0.5s,baz=350,slow=3.0,SNR=2.3
comp=Z,0.2nm,0.5s
SCHQ Schefferville 98.72 7 LR LR 11 54 56.2
comp=Z,48nm,18.0s,baz=98,slow=37
TXAR Lajitas Array 107.43 44 PKiKP **PKiKP** 11 11 35.8 **+0.9**
comp=Z,0.2nm,0.6s,baz=263,slow=1.5,SNR=3.8
TORD Torodi Ar. Bea 112.95 299 PKiKP **PKiKP** 11 11 45.2 **-0.3**
comp=Z,0.3nm,0.5s,baz=39,slow=2.0,SNR=2.9
DBIC Dimbokro 121.95 297 PKP **PKPdf** 11 12 02.6 **-0.2**
comp=Z,2.4nm,0.5s,baz=38,slow=5.4,SNR=4.6
KIC Kosan Boka 122.04 297 *↑iP* **PKiKP** 11 12 03.5 **+0.3**
comp=Z,4.0nm,0.3s
TIC Toumodi 122.10 297 *↑iP* **PKiKP** 11 12 06.0 **+2.7**
comp=Z,3.5nm,0.2s
LIC Lamto 122.35 297 *↑iP* **PKiKP** 11 12 04.1 **+0.3**
comp=Z,6.7nm,0.3s

RSPR 17 10:54:43.9, 18.10N×65.53W, h21km±5km, 2C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**0.03**	**269**	*↑eP*	Pb	10 54 46.8	-0.8
MTP	**Monte Pirata**	**0.03**	**269**	*eS*	Sb	10 54 50.4	+0.3
CUPR	**Culebra, Puert**	**0.31**	**48**	*↑eP*	Pb	10 54 51.7	+0.9
CUPR	**Culebra, Puert**	**0.31**	**48**	*eS*	Sb	10 54 54.6	-0.8
CBYP	**Canovanas**	**0.36**	**299**	*↓eP*	Pb	10 54 50.4	-1.1
CBYP	**Canovanas**	**0.36**	**299**	*eS*	Sb	10 54 56.9	+0.2

TRN 17 10:55:44.4, 15.95N×61.03W, h31km, MD2.9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.24**	**270**	*eP*	Pn	10 55 53.5	+1.6
MAGL				*eS*	Sn	10 55 58.6	+1.9
MDVC	**Dominica, Viel**	**0.49**	**228**	*eP*	Pn	10 55 57.0	+1.6
MDVC				*eS*	Sn	10 56 04.9	+2.1
MDCT	**Cottage Hill,**	**0.53**	**232**	*eP*	Pn	10 55 57.2	+1.3
MDCT				*eS*	Sn	10 56 06.0	+2.2
CBE	**Ff, Capester**	**0.57**	**282**	*eP*	Pn	10 55 58.3	+1.9
CBE				*eS*	Sn	10 56 07.3	+2.5
TBG	**Guadaloupe-3**	**0.60**	**261**	*eP*	Pn	10 55 58.4	+1.6
TBG				*eS*	Sn	10 56 07.5	+2.0
DSLB	**Salisbury**	**0.63**	**217**	*eP*	Pn	10 55 58.5	+1.3
DSLB				*eS*	Sn	10 56 08.1	+1.8
ABD	**La Joyeuse, An**	**0.68**	**320**	*eP*	Pn	10 55 58.7	+0.7
ABD				*eS*	Sn	10 56 08.3	+0.8
MPOM	**Morne Pois Mar**	**1.50**	**174**	*eP*	Pb	10 56 10.7	-1.0
MPOM				*eS*	Sb	10 56 30.7	+0.3

IDC 17 10:57:44.9±2.0, 8.15S×131.38E, h0km, mb3.6/1, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=74.5km s-min=28.7km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**7.24**	**359**	Pn	Pn	10 59 32.8	+0.7
	0.5nm,0.3s,baz=143,slow=20,SNR=1.5						
SIJI				Sn	Sn	11 00 47.5	-7.5
	0.6nm,0.3s,baz=239,slow=19,SNR=1.5						
	2.5nm,0.4s						
WRA	**Warramunga Arr**	**12.07**	**167**	Pn	Pn	11 00 38.6	+0.4
	0.2nm,0.3s,baz=347,slow=12,SNR=16						
WRA				Sn	Sn	11 02 49.5	-4.1
	0.4nm,0.3s,baz=340,slow=24,SNR=5.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**15.62**	**171**	Pn	Pn	11 01 26.4	-0.1
	0.1nm,0.3s,baz=351,slow=12,SNR=5.0						
ASAR				Sn	Sn	11 04 15.0	-5.4
	0.1nm,0.3s,baz=314,slow=51,SNR=1.9						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**69.93**	**326**	P	P	11 08 57.8	-0.2
	0.3nm,0.5s,baz=117,slow=7.7,SNR=3.1						
	0.3nm,0.5s						

UCR 17 10:57:58.8±2.2, 8.28N×82.79W, h13km±9km, MW3.5
UPA 17 10:57:58.7±0.3, 8.30N×82.78W, h10km±1km, MD3.2
ISC 17 10:57:55.9±2.0, 8.17N±0.09×82.85W±0.04, h15km±12km, n21, σ0.74/34, 1C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCOL	**Caracol de Cor**	**0.26**	**332**	*↑iP*	**Pn**	**10 58 04.1**	**-1.2**
CCOL				*eS*	**Sb**	**10 58 09.0**	**+2.3**
CDITO	**Canoas**	**0.40**	**356**	*↓eP*	**Pb**	**10 58 05.1**	**+0.4**
CDITO				*eS*	**Sg**	**10 58 09.6**	**+0.1**
DVD	**David**	**0.47**	**56**	*eP*	**Pb**	**10 58 06.8**	**+0.8**
DVD				*eS*	**Sg**	**10 58 11.4**	**-0.3**
PIRO	**Carate, Puerto**	**0.54**	**295**	*eP*	**Pn**	**10 58 09.0**	**0.0**
PTAR3	**Potrerillos Ar**	**0.62**	**34**	*eP*	**Pb**	**10 58 08.8**	**+0.2**
PTAR3				*eS*	**Sg**	**10 58 16.6**	**0.0**
BCO2	**Palmira**	**0.63**	**30**	*↓eP*	**Pb**	**10 58 08.9**	**+0.2**
BCO2				*eS*	**Sg**	**10 58 16.8**	**0.0**
BRU2	**Volcan**	**0.64**	**14**	*↓iP*	**Pb**	**10 58 08.8**	**-0.1**
BRU2				*eS*	**Sg**	**10 58 18.0**	**+1.0**
GUAL3	**Gualaca, Chiri**	**0.65**	**57**	*↓eP*	**Pb**	**10 58 09.4**	**+0.4**
GUAL3				*eS*	**Sg**	**10 58 17.4**	**0.0**
EDSV	**San Vito**	**0.66**	**349**	*eP*	**Pb**	**10 58 09.6**	**+0.5**
EDSV				*eS*	**Sg**	**10 58 18.6**	**+1.1**
POTG	**Potrero Grande**	**0.91**	**343**	*↓eP*	**Pb**	**10 58 13.7**	**+0.2**
POTG				*eS*	**Sg**	**10 58 25.4**	**-0.4**
EDPN	**Palmar Norte**	**0.99**	**323**	*eP*	**Pn**	**10 58 15.6**	**+0.3**
EDPN				*eS*	**Sg**	**10 58 28.1**	**0.0**
SRBA	**San Rafael, Bu**	**1.17**	**334**	*eP*	**Pn**	**10 58 17.5**	**-0.3**
CNI2	**El Empalme, Bo**	**1.30**	**17**	*eP*	**Pn**	**10 58 19.2**	**-0.3**
CNI2				*eS*	**Sb**	**10 58 34.8**	**-1.7**
PEZE	**Perez Zeledon,**	**1.46**	**326**	*eP*	**Pg**	**10 58 24.2**	**+0.2**
EDDO	**Dominical**	**1.47**	**317**	*eP*	**Pg**	**10 58 23.7**	**-0.6**
EDDO				*eS*	**Sg**	**10 58 43.8**	**+0.4**
CDM	**Cerro de Muert**	**1.64**	**327**	*eP*	**Pn**	**10 58 25.1**	**+0.4**
MRVA	**Moravia de Chi**	**1.74**	**340**	*eP*	**Pb**	**10 58 27.2**	**-0.5**
RIMA	**Rio Macho**	**1.88**	**328**	*eP*	**Pb**	**10 58 29.1**	**-0.9**
LCR2	**La Lucha 2**	**1.93**	**324**	*eP*	**Pb**	**10 58 30.9**	**-0.1**
LCR2				*eS*	**Sb**	**10 58 55.4**	**+0.4**
VTCV	**VTCV, Calle Va**	**2.00**	**334**	*eP*	**Pb**	**10 58 32.0**	**-0.1**
OCM	**Ochomogo**	**2.03**	**327**	*eP*	**Pb**	**10 58 31.8**	**-0.9**

WEL 17 11:23:33.3±0.8, 43.3S±4.7×17.3E±.7, h12km, M3.2/11, ML3.4/12, MLv3.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=64.7, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.47**	**198**	P	Pb	11 23 43.7	+0.2
GVZ				S	Sb	11 23 51.1	+0.7
LTZ	**Lake Taylor**	**0.75**	**250**	P	Pb	11 23 48.5	+0.1
LTZ				S	Sb	11 23 58.9	+0.4
AMCZ	**Amberley**	**0.78**	**213**	P	Pn	11 23 49.6	-0.5
THZ	**Tophouse**	**0.80**	**342**	P	Pb	11 23 49.3	+0.1
OXZ	**Oxford**	**1.19**	**227**	P	Pn	11 23 55.1	-0.6
OKCZ	**Okains Bay**	**1.20**	**186**	P	Pn	11 23 55.4	-0.6
MQZ	**McQueen's Vall**	**1.25**	**199**	P	Pn	11 23 55.3	-1.3
INZ	**Inchbonnie**	**1.33**	**261**	P	Pb	11 23 58.3	+0.1
RACZ	**Rakaia**	**1.44**	**213**	P	Pn	11 23 58.3	-1.0
MHCZ	**Mount Hutt**	**1.58**	**230**	P	Pn	11 24 00.5	-0.7
WACZ	**Wakanui South**	**1.74**	**215**	P	Pn	11 24 02.5	-0.9
WVZ	**Waitaha Valley**	**1.91**	**252**	P	Pn	11 24 06.3	+0.6
RPZ	**Rata Peaks**	**1.99**	**232**	P	Pn	11 24 06.3	-0.5
ARCZ	**Arundel**	**2.07**	**226**	P	Pn	11 24 07.1	-0.8
GCSZ	**Gaunt Creek Bo**	**2.27**	**249**	P	Pn	11 24 11.9	+1.2
TMZ	**Timaru**	**2.46**	**220**	P	Pn	11 24 13.4	+0.1
LBZ	**Lake Benmore**	**2.89**	**229**	P	Pn	11 24 19.0	-0.2
ODZ	**Otahua Downs**	**3.14**	**216**	P	Pn	11 24 21.4	-1.1

IDC 17 11:24:24.6±2.5, 41.69S×173.99E, h0km, mb3.3/2, mbtmp3.3/3, ML2.9/1, MS3.2/1, Error ellipse: s-maj=50.0km s-min=40.2km az=106.0
WEL 17 11:24:27.3±0.4, 42.3S±3.7×17.4E±.7, h10km±3km, M3.7/38, ML3.9/17, MLv3.7/38, Error ellipse: s-maj=0.0km s-min=0.0km az=30.8
ISC 17 11:24:26.6±0.9, 41.80S±0.04×174.25E±0.04, h21km±2km, n66, σ0.85/68, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.06**	**329**	P	**Pb**	**11 24 30.4**	**-0.1**
CMWZ				S	**Sb**	**11 24 33.0**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.29**	**286**	P	**Pb**	**11 24 33.3**	**0.0**
BSWZ				S	**Sb**	**11 24 37.7**	**-0.2**
TUWZ	**Tuamarina**	**0.44**	**328**	P	**Pb**	**11 24 35.0**	**-0.6**
TCW	**Tory Channel**	**0.59**	**2**	P	**Pb**	**11 24 37.4**	**-0.9**
WEL	**Wellington**	**0.64**	**37**	P	**Pb**	**11 24 39.3**	**0.0**
PLWZ	**Palliser**	**0.78**	**73**	P	**Pn**	**11 24 43.1**	**+0.7**
MSWZ	**Moikau Station**	**0.84**	**63**	P	**Pn**	**11 24 43.9**	**+0.7**
NNZ	**Nelson**	**0.88**	**311**	P	**Pn**	**11 24 42.9**	**-0.8**
CAW	**Cannon Point**	**0.92**	**42**	P	**Pn**	**11 24 44.3**	**0.0**
PAWZ	**Paruwai Farm**	**0.97**	**65**	P	**Pn**	**11 24 45.6**	**+0.5**
THZ	**Tophouse**	**1.01**	**272**	P	**Pn**	**11 24 46.3**	**+0.7**
DUWZ	**D'Urville Isla**	**1.03**	**346**	P	**Pn**	**11 24 45.1**	**-0.7**
KIW	**Kapiti Island**	**1.06**	**28**	P	**Pn**	**11 24 46.1**	**-0.2**
MTW	**Mount Morrison**	**1.14**	**56**	P	**Pn**	**11 24 47.5**	**+0.3**
TRWZ	**Traveller**	**1.15**	**70**	P	**Pn**	**11 24 47.7**	**+0.2**
MRNZ	**Matariki Terra**	**1.19**	**289**	P	**Pn**	**11 24 49.3**	**+0.8**
OGWZ	**Otaki Gorge**	**1.20**	**35**	P	**Pb**	**11 24 48.9**	**+0.3**
TKNZ	**Takaka Hill**	**1.24**	**308**	P	**Pb**	**11 24 49.5**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.31**	**47**	P	**Pn**	**11 24 50.0**	**+0.3**
TMWZ	**Te Maipa**	**1.41**	**61**	P	**Pn**	**11 24 51.2**	**+0.1**
MRZ	**Mangatainoka R**	**1.51**	**42**	P	**Pn**	**11 24 52.9**	**+0.4**
TIWZ	**Tintock**	**1.60**	**51**	P	**Pn**	**11 24 53.8**	**+0.1**
QRZ	**Quartz Range**	**1.62**	**306**	P	**Pb**	**11 24 55.9**	**0.0**
LTZ	**Lake Taylor**	**1.77**	**236**	P	**Pb**	**11 24 57.6**	**-0.7**
OHWZ	**Ohakea**	**1.78**	**27**	P	**Pb**	**11 24 58.2**	**-0.3**
PRWZ	**Pori Road**	**1.80**	**47**	P	**Pn**	**11 24 56.4**	**+0.1**
POWZ	**Post Office Ro**	**1.81**	**40**	P	**Pn**	**11 24 56.8**	**+0.3**
DSZ	**Denniston Nort**	**1.83**	**271**	P	**Pb**	**11 24 59.7**	**+0.3**
BFZ	**Birch Farm**	**1.87**	**54**	P	**Pn**	**11 24 56.8**	**-0.6**
DVHZ	**Dannevirke**	**2.08**	**45**	P	**Pn**	**11 24 59.9**	**-0.4**
WAZ	**Wanganui**	**2.12**	**15**	P	**Pn**	**11 25 04.9**	**+0.6**
TSZ	**Takapari Road**	**2.17**	**37**	P	**Pn**	**11 25 01.5**	**+0.1**
INZ	**Inchbonnie**	**2.28**	**245**	P	**Pb**	**11 25 07.6**	**+0.5**
LREZ	**Lake Rotokare**	**2.34**	**3**	P	**Pb**	**11 25 09.2**	**+1.2**
PNHZ	**Pukenui**	**2.39**	**39**	P	**Pn**	**11 25 04.4**	**-0.2**
NMEZ	**Namu Road**	**2.40**	**353**	P	**Pb**	**11 25 11.1**	**+2.0**
KHEZ	**Kahui Hut**	**2.51**	**356**	P	**Pb**	**11 25 11.1**	**+0.1**
NEZ	**North Egmont**	**2.53**	**357**	P	**Pb**	**11 25 11.3**	**-0.1**
NBEZ	**Newall Road No**	**2.54**	**353**	P	**Pb**	**11 25 12.0**	**+0.5**
DREZ	**Durham Road**	**2.61**	**359**	P	**Pb**	**11 25 14.2**	**+1.5**
PKE	**Pukeiti**	**2.61**	**355**	P	**Pb**	**11 25 13.6**	**+0.9**
MOVZ	**Moawhango**	**2.65**	**26**	P	**Pb**	**11 25 13.3**	**-0.1**
WNVZ	**Wahianoa**	**2.67**	**23**	P	**Pb**	**11 25 15.1**	**+1.2**
TRVZ	**Turoa**	**2.69**	**22**	P	**Pb**	**11 25 14.6**	**+0.5**
BHHZ	**Black Hill Sta**	**2.69**	**31**	P	**Pb**	**11 25 14.7**	**+0.7**
VRZ	**Vera Road**	**2.70**	**8**	P	**Pb**	**11 25 13.2**	**-1.0**
WHVZ	**Whangaehu Hut**	**2.71**	**22**	P	**Pb**	**11 25 14.8**	**+0.2**
TUVZ	**Tukino**	**2.74**	**23**	P	**Pb**	**11 25 16.4**	**+1.3**
NGZ	**Ngauruhoe**	**2.81**	**22**	P	**Pb**	**11 25 17.0**	**+0.8**
SNVZ	**South Ngauruho**	**2.81**	**23**	P	**Pb**	**11 25 14.1**	**-2.2**
OTVZ	**Oturere**	**2.84**	**23**	P	**Pb**	**11 25 17.1**	**+0.3**
NNVZ	**North Ngauruho**	**2.86**	**22**	P	**Pb**	**11 25 17.8**	**+0.8**
WTVZ	**West Tongariro**	**2.87**	**21**	P	**Pb**	**11 25 17.8**	**+0.7**
ETVZ	**East Tongariro**	**2.88**	**23**	P	**Pb**	**11 25 17.8**	**+0.4**
TMVZ	**Te Maari**	**2.90**	**23**	P	**Pb**	**11 25 17.7**	**0.0**
WVZ	**Waitaha Valley**	**2.90**	**243**	P	**Pb**	**11 25 17.8**	**+0.2**
RPZ	**Rata Peaks**	**3.04**	**230**	Pn	**Pn**	**11 25 13.2**	**-0.2**
	1.7nm,0.3s,baz=58,slow=9.5,SNR=1.0						
RPZ				Sn	**Sn**	**11 25 49.3**	**+0.2**
	2.6nm,0.3s,baz=10.0,slow=5.5,SNR=1.4						
	17nm,0.5s						
HIZ	**Hauiti**	**3.31**	**8**	P	**Pb**	**11 25 23.2**	**-1.5**
MRHZ	**Matea Rd**	**3.39**	**30**	P	**Pn**	**11 25 17.6**	**-0.8**
MKAZ	**Moumakai**	**4.74**	**9**	P	**Pn**	**11 25 39.3**	**+2.5**
ETAZ	**East Tamaki Re**	**4.87**	**6**	P	**Pn**	**11 25 41.3**	**+2.7**
CTZ	**Chatham Island**	**6.99**	**109**	P	**Pn**	**11 26 08.1**	**+0.4**
ASAR	**Alice Springs**	**38.05**	**286**	P	**P**	**11 31 43.1**	**-0.5**
	0.2nm,0.4s,baz=125,slow=6.9,SNR=7.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.12**	**290**	P	**P**	**11 32 00.1**	**-0.9**
	0.2nm,0.5s,baz=126,slow=8.3,SNR=5.4						
	0.2nm,0.5s						
KRVT	**Keravat (AS076**	**42.29**	**326**	LR	LR	11 50 17.6	
	comp=Z,32nm,18.9s,baz=262,slow=37						
TORD	**Torodi Ar. Bea**	**150.73**	**195**	PKPbc	**PKiKP**	**11 44 18.9**	**+0.7**
	0.2nm,0.4s,baz=170,slow=1.9,SNR=4.2						

NNC 17 11:26:09.5±3.0, 41.02N×80.02E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=22.5km s-min=19.5km az=87.0
SOME 17 11:26:09.4, 41.10N×80.30E, h5km, 1C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.15**	**343**	*eP*	Pb	11 26 48.6	-0.3
	4.1nm,0.1s						
SHLS				*eS*	Sb	11 27 16.9	+1.0
	13nm,0.5s						
SHLS	**Shalkode**	**2.15**	**343**	Pg	Pb	11 26 48.6	-0.3
	4.1nm,0.1s						
SHLS				Lg	Lg	11 27 16.9	
	13nm,0.5s						
UZB	**Uzymbulak**	**2.26**	**335**	*eP*	Pb	11 26 51.1	+0.4
	2.8nm,0.3s						
UZB				*eS*	Sg	11 27 20.9	-1.0
	3.5nm,0.6s						
UZB	**Uzymbulak**	**2.26**	**335**	Pg	Pb	11 26 51.1	+0.4
	2.8nm,0.3s						
UZB				Lg	Lg	11 27 20.9	
	3.5nm,0.6s						
PDGK	**Podgornoye**	**2.31**	**345**	Pg	Pg	11 26 52.6	-1.0
	6.2nm,0.4s						
PDGK				Lg	Lg	11 27 24.0	
	4.5nm,0.5s						
PDGK	**Podgornoye**	**2.31**	**345**	↓Pg	Pb	11 26 52.3	+0.7
	6.1nm,0.4s						
PDGK				↑Lg	Lg	11 27 23.1	
	7.2nm,0.5s						
SATY	**Saty**	**2.41**	**325**	*eP*	Pb	11 26 54.4	+1.0
	3.0nm,0.2s						
SATY				*eS*	Sg	11 27 26.8	-0.1
	8.3nm,0.4s						
SATY	**Saty**	**2.41**	**325**	Pg	Pb	11 26 54.4	+1.0
	3.0nm,0.2s						
SATY				Lg	Lg	11 27 26.8	
	8.3nm,0.4s						
KPKS	**Kokpek**	**2.65**	**334**	*eP*	Pb	11 26 57.9	+0.4
	5.4nm,0.4s						
KPKS				*eS*	Sg	11 27 33.0	-1.5
	12nm,0.5s						
KPKS	**Kokpek**	**2.65**	**334**	Pg	Pb	11 26 57.9	+0.4
	5.4nm,0.4s						
KPKS				Lg	Lg	11 27 33.1	
	12nm,0.5s						
MDOK	**Medeo**	**3.18**	**312**	↓Pg	Pb	11 27 03.6	-2.8
	10nm,1.2s						
MDOK				↓Lg	Lg	11 27 47.7	
	6.5nm,0.6s						
DJR	**Jarkent**	**3.25**	**354**	*eP*	Pb	11 27 08.4	+0.7
	1.3nm,0.5s						
DJR				*eS*	Sb	11 27 50.6	+3.0
	5.4nm,0.5s						

WEL 17 11:52:56.7±0.5, 42.3S±4.7×17.4E±.7, h7km±3km, M3.6/35, ML3.8/24, MLv3.6/35, Error ellipse: s-maj=0.0km s-min=0.0km az=155.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**356**	P	Pg	11 53 00.6	+0.9
CMWZ				S	Sg	11 53 04.1	+2.4
BSWZ	**Blackbirch Sta**	**0.32**	**304**	P	Pg	11 53 03.2	+0.2
TUWZ	**Tuamarina**	**0.51**	**335**	P	Pg	11 53 06.9	+0.4
TUWZ				S	Sg	11 53 14.3	+1.2
TCW	**Tory Channel**	**0.68**	**3**	P	Pg	11 53 10.1	+0.2
WEL	**Wellington**	**0.73**	**34**	P	Pb	11 53 11.8	+0.1
PLWZ	**Palliser**	**0.83**	**68**	P	Pb	11 53 14.0	+0.4
MSWZ	**Moikau Station**	**0.90**	**59**	P	Pb	11 53 15.0	+0.3
NNZ	**Nelson**	**0.93**	**316**	P	Pg	11 53 14.2	-0.3
THZ	**Tophouse**	**1.00**	**277**	P	Pg	11 53 16.1	+0.2
CAW	**Cannon Point**	**1.00**	**39**	P	Pb	11 53 16.6	+0.2
PAWZ	**Paruwai Farm**	**1.03**	**61**	P	Pg	11 53 16.6	0.0
DUWZ	**D'Urville Isla**	**1.11**	**348**	P	Pg	11 53 17.5	-0.5
KIW	**Kapiti Island**	**1.15**	**27**	P	Pg	11 53 18.8	0.0
TRWZ	**Traveller**	**1.20**	**66**	P	Pg	11 53 18.7	-1.0
MTW	**Mount Morrison**	**1.21**	**53**	P	Pg	11 53 18.9	-0.9
MRNZ	**Matariki Terra**	**1.21**	**294**	P	Pg	11 53 19.8	-0.1
TKNZ	**Takaka Hill**	**1.28**	**312**	P	Pn	11 53 20.6	-0.5
OGWZ	**Otaki Gorge**	**1.29**	**34**	P	Pn	11 53 20.7	-0.4
HOWZ	**Holdsworth Sta**	**1.39**	**45**	P	Pn	11 53 21.5	-1.0
GVZ	**Greta Valley S**	**1.39**	**219**	P	Pn	11 53 22.0	-0.6
TMWZ	**Te Maipa**	**1.48**	**58**	P	Pn	11 53 22.3	-1.4
MRZ	**Mangatainoka R**	**1.60**	**40**	P	Pn	11 53 24.5	-0.9
QRZ	**Quartz Range**	**1.66**	**309**	P	Pb	11 53 27.2	-0.5
TIWZ	**Tintock**	**1.67**	**49**	P	Pn	11 53 25.0	-1.5
LTZ	**Lake Taylor**	**1.70**	**238**	P	Pn	11 53 26.5	-0.4
DSZ	**Denniston Nort**	**1.82**	**274**	P	Pn	11 53 29.2	+0.7
OHWZ	**Ohakea**	**1.87**	**26**	P	Pn	11 53 30.1	+0.9
PRWZ	**Pori Road**	**1.87**	**45**	P	Pn	11 53 28.0	-1.2
POWZ	**Post Office Ro**	**1.90**	**38**	P	Pn	11 53 28.5	-1.0
BFZ	**Birch Farm**	**1.94**	**52**	P	Pn	11 53 28.4	-1.8
OKCZ	**Okains Bay**	**2.02**	**205**	P	Pn	11 53 30.5	-0.7
MQZ	**McQueen's Vall**	**2.15**	**212**	P	Pn	11 53 31.2	-1.8
OXZ	**Oxford**	**2.16**	**228**	P	Pn	11 53 31.6	-1.6
DVHZ	**Dannevirke**	**2.16**	**43**	P	Pn	11 53 31.3	-1.9
WAZ	**Wanganui**	**2.21**	**15**	P	Pb	11 53 35.9	-1.1
ANWZ	**Angora Road**	**2.22**	**51**	P	Pn	11 53 32.2	-1.7
INZ	**Inchbonnie**	**2.23**	**247**	P	Pn	11 53 34.0	-0.1
TSZ	**Takapari Road**	**2.25**	**36**	P	Pn	11 53 33.3	-1.2
RACZ	**Rakaia**	**2.39**	**219**	P	Pn	11 53 35.0	-1.3
LREZ	**Lake Rotokare**	**2.43**	**3**	P	Pb	11 53 39.6	-1.2
WPHZ	**Waipukurau**	**2.48**	**43**	P	Pn	11 53 36.6	-0.9
PNHZ	**Pukenui**	**2.48**	**38**	P	Pn	11 53 36.1	-1.4
NMEZ	**Namu Road**	**2.49**	**354**	P	Pb	11 53 42.0	+0.3
KHEZ	**Kahui Hut**	**2.60**	**356**	P	Pb	11 53 42.2	-1.5
NEZ	**North Egmont**	**2.62**	**358**	P	Pb	11 53 42.6	-1.4
NBEZ	**Newall Road No**	**2.63**	**354**	P	Pb	11 53 43.8	-0.5
WACZ	**Wakanui South**	**2.70**	**220**	P	Pn	11 53 39.6	-0.9
DREZ	**Durham Road**	**2.70**	**360**	P	Pb	11 53 43.9	-1.5
PKE	**Pukeiti**	**2.70**	**356**	P	Pb	11 53 43.1	-2.3
PKVZ	**Pokaka**	**2.73**	**19**	P	Pn	11 53 45.1	-0.8
MOVZ	**Moawhango**	**2.74**	**26**	P	Pn	11 53 40.9	-0.3
WNVZ	**Wahianoa**	**2.77**	**23**	P	Pn	11 53 41.9	+0.3
BHHZ	**Black Hill Sta**	**2.78**	**31**	P	Pn	11 53 40.9	-0.8
TRVZ	**Turoa**	**2.78**	**22**	P	Pn	11 53 43.2	+1.3
VRZ	**Vera Road**	**2.79**	**9**	P	Pn	11 53 43.2	+1.4
DRZ	**Dome Shelter**	**2.80**	**22**	P	Pb	11 53 47.0	-0.3
WHVZ	**Whangaehu Hut**	**2.80**	**22**	P	Pn	11 53 43.6	+0.6
MHEZ	**Mangahewa**	**2.81**	**2**	P	Pb	11 53 46.2

133nm,0.5s,baz=254,slow=16,SNR=2.1
NNA Nana 3.60 127 Pn **Pn 12 10 07.6 -1.4**
MCRA Macar, Loja 5.42 358 Pn **Pn 12 10 33.5 -0.6**
ARNL Arenillas 6.24 357 Pn **Pn 12 10 46.1 +0.8**
BOSC San Juan Bosco 6.75 11 Pn **Pn 12 10 52.0 -0.4**
CZSB Cruzeiro do Su 7.29 74 Pn **Pn 12 11 00.5 +0.8**
CZSB Cruzeiro do Su 7.29 74 *eP* **Pn 12 11 00.6 +0.8**
COHC Cochancay 7.33 4 Pn **Pn 12 11 01.2 +0.9**
CHSH Refugio Sur-Vo 8.32 6 Pn **Pn 12 11 15.6 +1.1**
PORT Chimborazo Vol 8.36 7 Pn **Pn 12 11 16.9 +1.9**
SLOR San Lorenzo - 9.12 8 Pn **Pn 12 11 26.7 +1.4**
PULU Pululahua 9.86 7 Pn **Pn 12 11 35.0 -0.4**
TULM Tulcn-Chalpat 10.65 11 Pn **Pn 12 11 46.2 -0.2**
LPAZ La Paz 13.04 121 P **Pn 12 12 20.2 +1.2**
0.1nm,0.3s,baz=330,slow=12,SNR=2.8
LPAZ LR LR 12 17 12.4
comp=Z,247nm,19.6s,baz=308,slow=36
1.1nm,0.8s
LPAZ La Paz 13.04 121 Pn **Pn 12 12 16.7 -2.3**
LPAZ La Paz 13.04 121 *eP* **Pn 12 12 22.1 +3.1**
PB16 IPOC Station P 13.06 131 Pn **Pn 12 12 17.2 -2.1**
ETMB Extrema 13.37 91 Pn **Pn 12 12 18.8 -4.1**
PRAC Prado 14.30 20 Pn 12 12 33.6 -2.2
PB09 IPOC Station P 15.62 141 P **P 12 12 55.8 -1.5**
PB09 IAmb IAmb 12 13 10.9
comp=Z,21nm,1.1s
LVC Limon Verde 16.43 142 P **P 12 13 04.7 -1.8**
comp=Z,0.3nm,0.3s,baz=304,slow=12,SNR=2.8
LVC LR LR 12 19 07.5
comp=Z,190nm,18.0s,baz=310,slow=36
comp=Z,8.1nm,1.0s
LVC Limon Verde 16.43 142 *eP* **P 12 13 09.5 +3.0**
SIV San Ignacio 19.23 111 P **P 12 13 35.7 -1.3**
baz=282,slow=12,SNR=23
SIV LR LR 12 21 16.6
comp=Z,330nm,19.7s,baz=284,slow=37
comp=Z,7.9nm,0.9s
VILB Vilhena 19.44 101 P **P 12 13 37.1 -2.3**
VILB IAmb IAmb 12 14 00.9
comp=Z,20nm,1.0s
VILB Vilhena 19.44 101 *eP* **Pn 12 13 40.0 -0.8**
BBSD Serra de San D 20.01 113 *eP* **P 12 13 45.8 +0.2**
MACA Manacapuru-AM 20.08 72 P **P 12 13 45.0 -1.3**
MACA IAmb IAmb 12 13 47.7
comp=Z,60nm,0.7s
MACA Manacapuru-AM 20.08 72 *eP* **P 12 13 45.8 -0.5**
SDV Santo Domingo 20.69 26 P **P 12 13 52.8 -0.4**
comp=Z,7.1nm,0.8s,baz=216,slow=8.4,SNR=7.0
SDV LR LR 12 22 54.0
comp=Z,466nm,18.9s,baz=242,slow=40
comp=Z,7.1nm,0.8s
SDV Santo Domingo 20.69 26 P **P 12 13 53.0 -0.1**
SDV Santo Domingo 20.69 26 *eP* **P 12 13 54.3 +1.2**
PTLB Pontes e Lacer 20.89 108 P 12 13 54.6 -0.5
PTLB IAmb IAmb 12 13 56.6
comp=Z,39nm,1.0s
PTLB Pontes e Lacer 20.89 108 *eP* **P 12 13 55.6 +0.5**
BBRB Robore, Bolivi 21.10 116 *eP* **P 12 13 56.4 -0.9**
BAUV El Baul 22.00 32 P **P 12 14 06.6 -0.4**
BOAV Boa Vista 22.69 59 P **P 12 14 13.9 -0.6**
BOAV IAmb IAmb 12 14 25.4
comp=Z,16nm,1.2s
BOAV Boa Vista 22.69 59 *eP* **P 12 14 13.5 -1.0**
PDRB Porto dos Gac 22.71 97 *eP* **P 12 14 13.5 -1.2**
URIC Uribia, Colomb 22.74 20 P **P 12 14 14.2 -0.7**
H03N2 Juan Fernandez 23.52 178 T T 12 38 45.5
baz=357,slow=76
H03N1 Juan Fernandez 23.52 178 T T 12 38 47.3
baz=357,slow=76
H03N3 Juan Fernandez 23.53 178 T T 12 38 43.8
baz=357,slow=76
CLDB Colider 23.61 95 *eP* **P 12 14 22.5 -1.2**
SALV Santo Antonio 24.23 107 *eP* **P 12 14 29.7 +0.2**
NPGB Novo Progresso 24.31 85 *eP* **P 12 14 29.0 -1.2**
MURT Porto Murtinho 24.32 122 *eP* **P 12 14 31.6 +1.3**
ITTB Itaituba 24.46 79 *eP* **P 12 14 31.2 -0.3**
AQDB Aquidauana 25.50 117 *eP* **P 12 14 43.3 +2.3**
ANTJ Antonio Joao (25.82 121 *eP* **P 12 14 46.8 +2.9**
MALB Monte Alegre 26.56 74 *eP* **P 12 14 50.7 +0.1**
CPUP Villa Florida 26.85 131 P **P 12 14 55.3 +2.2**
comp=Z,2.2nm,0.5s,baz=330,slow=7.8,SNR=4.2
CPUP LR LR 12 26 38.2
comp=Z,118nm,21.2s,baz=308,slow=39
comp=Z,2.2nm,0.5s
CPUP Villa Florida 26.85 131 *eP* **P 12 14 56.9 +3.8**
SNDB Serra Nova Dou 28.04 97 *eP* **P 12 15 04.5 +0.6**
MCR1 Marechal Candi 28.50 124 *eP* **P 12 15 11.0 +3.0**
MCPB Macapa, AP 29.14 73 *eP* **P 12 15 14.0 +0.3**
PRPB Parauapebas 29.88 85 *eP* **P 12 15 20.0 -0.3**
ITRB Iturama 30.05 112 *eP* **P 12 15 21.8 +0.1**
MDP Montagnes des 30.83 62 LR LR 12 28 44.6
comp=Z,235nm,20.9s,baz=94,slow=38
SJG San Juan 30.84 26 LR LR 12 29 49.0
comp=Z,126nm,19.2s,baz=215,slow=40
BDFB Brasilia 31.49 104 P **P 12 15 34.0 -0.6**
comp=Z,2.3nm,0.4s,baz=278,slow=12,SNR=4.1
comp=Z,2.3nm,0.4s
SMTB Santa Maria do 31.77 91 *eP* **P 12 15 37.5 +0.6**
PLCA Paso Flores 31.85 167 P **P 12 15 38.4 +1.0**
comp=Z,2.3nm,1.0s,baz=352,slow=10.0,SNR=3.5
comp=Z,2.3nm,1.0s
RPN Rapa Nui 32.77 234 LR LR 12 25 01.0
comp=Z,141nm,21.6s,baz=43,slow=29
RCBR Riachuelo 43.62 88 LR LR 12 37 51.2
comp=Z,93nm,18.4s,baz=78,slow=39
TXAR Lajitas Array 45.23 330 P **P 12 17 30.3 +0.4**
comp=Z,0.2nm,0.7s,baz=146,slow=9.8,SNR=2.1
comp=Z,0.2nm,0.7s
TKL Tuckaleechee C 45.39 355 LR LR 12 36 46.9
comp=Z,81nm,19.0s,baz=140,slow=36
PDAR Pinedale Array 58.99 335 P **P 12 19 12.0 -0.1**
comp=Z,0.4nm,0.6s,baz=134,slow=8.5,SNR=5.9
comp=Z,0.4nm,0.6s
NVAR Mina Array Bea 59.96 326 P **P 12 19 18.7 -0.1**
comp=Z,0.4nm,0.7s,baz=145,slow=5.3,SNR=4.0
comp=Z,0.4nm,0.7s
BBTS Babate 67.24 70 LR LR 12 49 34.2
comp=Z,114nm,19.4s,baz=276,slow=36
FRB Frobisher Bay 73.85 5 LR LR 12 55 07.4
comp=Z,45nm,18.4s,baz=360,slow=37
LIC Lamto 76.14 81⇑*i*PKP1 **P 12 21 02.8 +2.0**
comp=Z,2.2nm,0.2s
TIC Toumodi 76.23 81⇑*i*PKP1 **P 12 21 02.5 +1.2**
comp=Z,3.4nm,0.2s
DBIC Dimbokro 76.40 81 P **P 12 21 03.0 +0.8**
comp=Z,3.3nm,0.7s,baz=235,slow=4.2,SNR=3.6
comp=Z,3.3nm,0.7s
KIC Kosan Boka 76.45 81⇑*i*PKP1 **P 12 21 03.6 +1.1**
comp=Z,3.6nm,0.5s
YKA Yellowknife Ar 76.97 344 P **P 12 21 04.2 -0.1**
comp=Z,1.6nm,0.7s,baz=149,slow=5.9,SNR=3.7
comp=Z,1.6nm,0.7s
SFJD Kangerlussuaq 79.49 11 LR LR 12 56 30.9
comp=Z,50nm,21.0s,baz=114,slow=36
TORD Torodi Ar. Bea 84.03 76 P **P 12 21 42.2 -1.1**
comp=Z,2.0nm,0.7s,baz=275,slow=5.2,SNR=14
comp=Z,2.0nm,0.7s
ESDC Sonseca Array 85.49 49 P **P 12 21 49.5 -0.7**
comp=Z,0.8nm,0.7s,baz=260,slow=5.1,SNR=2.3
comp=Z,0.8nm,0.7s
INK Inuvik 86.60 343 P **P 12 21 54.3 -0.6**
comp=Z,1.8nm,1.1s,baz=120,slow=6.9,SNR=3.6
comp=Z,1.8nm,1.1s
ILAR Eielson Array 89.36 337 P **P 12 22 06.7 -1.6**
comp=Z,0.4nm,0.9s,baz=120,slow=5.3,SNR=2.3
comp=Z,0.4nm,0.9s
AFI Afiamalu 89.59 256 LR LR 12 53 53.6
comp=Z,45nm,18.1s,baz=104,slow=30
KEST Kesra 94.95 55 LR LR 13 04 58.0
comp=Z,54nm,18.7s,baz=272,slow=35
H11N3 WAKE ISLAND Hyl 15.11 287 T T 14 33 03.2
baz=93,slow=74
H11N2 WAKE ISLAND Hyl 15.12 287 T T 14 33 00.9
baz=93,slow=74
H11N1 WAKE ISLAND Hyl 15.12 287 T T 14 33 01.5
baz=93,slow=74
ASAR Alice Springs 133.18 224 PKP **PKPdf 12 28 28.8 +0.1**
comp=Z,0.6nm,0.9s,baz=121,slow=2.4,SNR=4.7
ZALV Zalesovo Beam 134.29 13 PKP **PKPdf 12 28 30.3 +0.6**
comp=Z,0.4nm,0.4s,baz=346,slow=3.0,SNR=2.1
WRA Warramunga Ar 135.25 229 PKP **PKPdf 12 28 32.5 -0.1**
comp=Z,0.4nm,0.5s,baz=123,slow=2.0,SNR=7.1
MKAR Makanchi Array 140.12 19 PKP **PKPdf 12 28 40.0 -0.8**
comp=Z,0.2nm,0.5s,baz=321,slow=3.4,SNR=2.2
SONM Songino Array 141.76 353 PKP **PKPdf 12 28 42.9 -1.0**
comp=Z,0.8nm,0.6s,baz=341,slow=3.1,SNR=2.2

IDC 17 12:18:07.4±1.2,**25.18N**×**96.83E,h0**km,**mb3.8/4, mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=74.6km s-min=16.9km az=68.0,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.98**	**163**	Pn	Pn	12 19 52.4	+1.5
	0.3nm,0.3s,baz=334,slow=13,SNR=9.8						
CMAR				Pg	Pg	12 20 16.2	-4.9
	0.4nm,0.3s,baz=336,slow=17,SNR=30						
CMAR				Lg	Lg	12 21 50.4	
	baz=328,slow=30						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**24.48**	**335**	P	P	12 23 29.4	+1.1
	2.3nm,0.6s,baz=145,slow=9.4,SNR=22						
	2.3nm,0.6s						
KURBB	**Kurchatov Arra**	**29.05**	**336**	P	P	12 24 09.1	-0.1
	0.4nm,0.4s,baz=148,slow=9.2,SNR=4.9						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**30.10**	**346**	P	P	12 24 17.9	-0.6
	0.8nm,0.5s,baz=164,slow=8.0,SNR=4.8						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**57.82**	**137**	P	P	12 27 59.2	-1.7
	0.7nm,0.9s,baz=321,slow=7.9,SNR=2.9						
	0.7nm,0.9s						

*RSNC **17** 12:27:30.0±1.0, 7.27N×78.15W, h11km±5km, ML2.7*
*UPA **17** 12:27:30.6±0.7, 7.18N×78.15W, h33km±7km, MW3.8*
ISC 17 12:27:27.7±1.6,**7.24N**±0.03×**78.16W**±0.03,**h10**km±12km, **n22,**σ1**9**09/43,**2C,Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**1.25**	**143**	*eP*	**Pb**	**12 27 51.2**	**-0.2**
SOLC				*eS*	**Sn**	**12 28 09.9**	**+1.7**
SOLC				IAML		12 28 13.8	
	comp=Z,275nm,0.3s						
UPD2	**Meteti**	**1.31**	**6**	*eP*	**Pn**	**12 27 52.1**	**0.0**
UPD2				*eS*	**Sb**	**12 28 09.5**	**+0.1**
UPD2				IAML		12 28 13.9	
	comp=Z,377nm,0.3s						
UPD2	**Meteti**	**1.31**	**6**	*eP*	**Pg**	**12 27 53.2**	**+0.3**
UPD2				*eS*	**Sg**	**12 28 10.1**	**+0.1**
DBBC	**Dabeiba**	**1.95**	**96**	*eP*	**Pn**	**12 28 00.6**	**-0.3**
DBBC				*eS*	**Sn**	**12 28 24.5**	**-1.0**
AZU	**Azuero**	**2.17**	**285**	*eP*	**Pn**	**12 28 04.9**	**+1.0**
AZU				*eS*	**Sn**	**12 28 30.1**	**-0.7**
AZU				IAML		12 28 49.0	
	comp=Z,90nm,0.7s						
AZU	**Azuero**	**2.17**	**285**	*eP*	**Pn**	**12 28 04.9**	**+1.0**
AZU				*eS*	**Sn**	**12 28 30.6**	**-0.2**
UPA	**Univ. de Panam**	**2.20**	**322**	*eP*	**Pb**	**12 28 06.7**	**-1.0**
UPA				*eS*	**Sb**	**12 28 33.8**	**-1.3**
UPA				IAML		12 28 44.5	
	comp=Z,18nm,0.3s						
UPA	**Univ. de Panam**	**2.20**	**322**	*eP*	**Pn**	**12 28 05.7**	**+1.4**
UPA				*eS*	**Sn**	**12 28 32.5**	**+0.8**
CHIT3	**Chitre**	**2.35**	**288**	*eP*	**Pn**	**12 28 07.5**	**+1.1**
CHIT3				*eS*	**Sn**	**12 28 34.4**	**-0.9**
LCBC	**Los crdobas,**	**2.40**	**48**	*eP*	**Pn**	**12 28 08.9**	**+1.8**
LCBC				*eS*	**Sb**	**12 28 41.1**	**+0.4**
LCBC				IAML		12 28 50.3	
	comp=Z,34nm,0.4s						
LCBC	**Los crdobas,**	**2.40**	**48**	*eP*	**Pn**	**12 28 08.7**	**+1.6**
LCBC				*eS*	**Sn**	**12 28 36.3**	**-0.3**
CBOC	**Ciudad Bolivar**	**2.53**	**122**	*eP*	**Pn**	**12 28 08.3**	**-0.8**
BCIP	**Isla Barro Col**	**2.54**	**319**	*eP*	**Pn**	**12 28 08.8**	**-0.1**
BCIP				*eS*	**Sn**	**12 28 40.5**	**+0.5**
BCIP	**Isla Barro Col**	**2.54**	**319**	*eP*	**Pn**	**12 28 10.4**	**+1.4**
BCIP				*eS*	**Sn**	**12 28 40.3**	**+0.3**
UREC	**San Jos de Ur**	**2.66**	**79**⇑	*eP*	**Pn**	**12 28 11.0**	**+0.3**
UREC				*eS*	**Sn**	**12 28 41.0**	**-1.9**
UREC				IAML		12 28 46.4	
	comp=Z,33nm,0.7s						
UREC	**San Jos de Ur**	**2.66**	**79**	*eP*	**Pn**	**12 28 10.8**	**+0.2**
UREC				*eS*	**Sn**	**12 28 42.3**	**-0.7**
ZARC	**Zaragoza, Cauc**	**3.29**	**85**⇑	*eP*	**Pn**	**12 28 19.5**	**+0.2**
ZARC				*eS*	**Sn**	**12 28 57.4**	**-1.1**
ZARC				IAML		12 28 59.3	
	comp=Z,23nm,0.4s						
NORC	**Norcasia**	**3.67**	**117**	*eP*	**Pn**	**12 28 26.3**	**+1.7**
NORC				*eS*	**Sn**	**12 29 09.5**	**+1.5**
YOTC	**Yotoco, Valle**	**3.70**	**151**	*eP*	**Pb**	**12 28 32.2**	**-1.1**
YOTC				*eS*	**Sb**	**12 29 16.9**	**-1.4**
PTBC	**PUERTO BERRIO,**	**3.74**	**100**	*eP*	**Pn**	**12 28 26.5**	**+0.9**
PTBC				*eS*	**Sn**	**12 29 11.8**	**+2.0**
PTBC				IAML		12 29 23.1	
	comp=Z,7.9nm,0.5s						
SJCC	**San Jacinto, C**	**3.96**	**48**	*eP*	**Pn**	**12 28 29.4**	**+0.8**
SJCC				*eS*	**Sn**	**12 29 14.1**	**-1.2**
SJCC				IAML		12 29 18.0	
	comp=Z,7.5nm,0.5s						
PAMC	**Pamplona, Colo**	**5.42**	**89**	*eP*	**Pn**	**12 28 50.4**	**+1.4**
PAMC				*eS*	**Sn**	**12 29 52.2**	**+0.4**
PAMC				IAML		12 29 57.1	
	comp=Z,6.5nm,0.6s						

*IDC **17** 12:35:43.2±3.6, 51.04N×179.47W, h0km, mb3.6/5, mbtmp3.7/5, Error ellipse: s-maj=103.4km s-min=31.3km az=179.0*
*NEIC **17** 12:35:44.2±1.4, 50.6N±0.2×179.36W±0.09, h28km±21km, mb3.9/17, ML3.2(AEIC), Error ellipse: s-maj=35.7km s-min=8.2km az=180.0*
*AEIC **17** 12:35:45.2±2.0, 50.8N±0.2×179.25W±0.07, h16km±9km, Error ellipse: s-maj=26.2km s-min=6.4km az=179.0*
ISC 17 12:35:48.8±2.0,**51.0N**±0.3×**179.4W**±0.1,**h43**km,**n28,** σ1**9**17/30,**mb3.9**/11,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**1.62**	**59**	Pn	**Pn**	**12 36 13.0**	**-1.9**
KIWB					**Sn**	**12 36 37.1**	**+2.5**
ADK	**Adak**	**1.90**	**62**	Pn	**Pn**	**12 36 18.1**	**-0.4**
ADK					**Sn**	**12 36 42.2**	**+1.0**
GSTR	**Great Sitkin T**	**2.33**	**61**	Pn	**Pn**	**12 36 23.8**	**-0.8**
UNV	**Unalaska Valle**	**8.36**	**65**	Pn	**Pn**	**12 37 48.8**	**+1.5**
OHAK	**Old Harbor**	**16.44**	**58**	Pn	**Pn**	**12 39 32.4**	**-3.7**
J20K	**Nowinta River**	**18.70**	**36**	P	**Pn**	**12 40 03.9**	**0.0**
J20K				IAmb	IAmb	12 40 15.1	
	comp=Z,10.0nm,1.5s						
CAST	**Castle Rocks**	**19.10**	**39**	P	**P**	**12 40 07.8**	**+0.2**
RC01	**Rabbit Creek A**	**19.20**	**47**	P	**P**	**12 40 08.3**	**-0.4**
KTH	**Kantishna Hill**	**19.63**	**39**	P	**P**	**12 40 13.4**	**0.0**
KTH				IAmb	IAmb	12 40 31.9	
	comp=Z,9.5nm,1.1s						
BPAW	**Bear Paw Mtn.**	**19.85**	**38**	P	**P**	**12 40 16.1**	**+0.3**
BPAW				IAmb	IAmb	12 40 19.6	
	comp=Z,7.7nm,1.5s						
SCM	**Sheep Creek Mo**	**20.53**	**46**	P	**P**	**12 40 23.7**	**+0.5**
MDM	**Murphy Dome**	**21.31**	**37**	P	**P**	**12 40 31.0**	**-0.5**
MDM				IAmb	IAmb	12 41 09.9	
	comp=Z,7.3nm,1.4s						
N25K	**Chitina, Valde**	**21.73**	**47**	P	**P**	**12 40 36.1**	**+0.1**
N25K				IAmb	IAmb	12 40 47.9	
	comp=Z,4.4nm,1.1s						
COLD	**Coldfoot**	**21.75**	**31**	P	**P**	**12 40 36.0**	**-0.1**
ILAR	**Eielson Array**	**21.75**	**38**	P	**P**	**12 40 36.5**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=255,slow=10,SNR=1.5						
	comp=Z,0.3nm,0.7s						
GLB	**Gilahina Butte**	**22.06**	**48**	P	**P**	**12 40 39.3**	**-0.2**
GLB				IAmb	IAmb	12 41 15.9	
	comp=Z,8.8nm,1.3s						
RIDG	**Independent Ri**	**22.20**	**42**	P	**P**	**12 40 40.7**	**-0.4**
RIDG				IAmb	IAmb	12 41 24.8	
	comp=Z,12nm,1.5s						
SCRK	**Sand Creek**	**22.64**	**42**	P	**P**	**12 40 45.1**	**-0.8**
J26L	**Joseph Creek**	**22.98**	**40**	P	**P**	**12 40 48.4**	**-1.0**
J26L				IAmb	IAmb	12 40 58.8	
	comp=Z,7.9nm,1.5s						
BCAR	**Beaver Creek A**	**23.34**	**45**	P	**P**	**12 40 53.3**	**+0.4**
K27K	**Chicken**	**23.46**	**42**	P	**P**	**12 40 52.9**	**-1.1**
BMAR	**Burnt Mountain**	**23.73**	**33**	P	**P**	**12 40 56.8**	**+0.3**
EGAK	**Eagle**	**24.05**	**41**	P	**P**	**12 40 58.8**	**-0.7**
EGAK				IAmb	IAmb	12 41 15.5	
	comp=Z,5.1nm,1.3s						
MAYO	**Mayo, Yukon**	**26.05**	**44**	P	**P**	**12 41 19.5**	**+1.9**
PDAR	**Pinedale Array**	**46.77**	**72**	P	**P**	**12 44 14.5**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=324,slow=5.6,SNR=1.8						
	comp=Z,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**59.10**	**313**	P	**P**	**12 45 44.9**	**+0.6**
	comp=Z,0.9nm,0.2s,baz=42,slow=6.3,SNR=5.2						
	comp=Z,0.9nm,0.2s						
MKAR	**Makanchi Array**	**59.96**	**308**	P	**P**	**12 45 50.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=49,slow=6.2,SNR=6.2						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**75.77**	**342**	P	**P**	**12 47 29.6**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=20,slow=6.6,SNR=4.7						
	comp=Z,1.0nm,0.4s						

*IDC **17** 12:42:08.8±1.5, 35.17N×133.87E, h0km, mb3.4/2, mbtmp3.3/5, ML2.8/3, MS2.9/3, Error ellipse: s-maj=29.8km s-min=21.2km az=149.0*
*NIED **17** 12:42:09.1, 35.39N×133.88E, h8km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=1.58; Mθθ=4.58; Mφφ=-3.00; Mrθ=-1.72; Mθφ=0.10; Mφr=1.13; Fault plane solution: M0=4.38000×10^14^ NP1: φs=226.00000°, δ=56.00000°, λ=-166.00000°. NP2: φs=128.00000°, δ=79.00000°, λ=-35.00000°.*
*JMA **17** 12:42:09.1±0.0, 35.4N±0.1×133.88E±0.09, h8km, MV3.8/20, EASTERN TOTTORI PREF*
JMA Felt II J1 at EASTERN TOTTORI PREF .
ISC 17 12:42:09.1±1.1,**35.30N**±0.05×**133.88E**±0.05,**h5**km±9km, **n16,**σ1**9**41/17,**2D,Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.09**	**325**	⇓P	**Pg**	**12 42 10.8**	**-0.3**
JKR				⇓S	**Sg**	**12 42 12.2**	**-0.3**
JAD	**Aida**	**0.43**	**147**	P	**Pb**	**12 42 18.8**	**-0.4**
JAD				S	**Sb**	**12 42 25.7**	**-0.3**
JHS	**Saijyo**	**0.70**	**244**	P	**Pb**	**12 42 23.2**	**-0.6**
JMN	**Monobe**	**1.57**	**180**	P	**Pg**	**12 42 39.3**	**0.0**
INU	**Inuyama**	**2.56**	**88**	P	**Pn**	**12 42 51.7**	**+0.4**
JGF	**Kuroka**	**2.85**	**83**	P	**Pn**	**12 42 55.6**	**+0.3**
JNU	**Nakatsue**	**3.31**	**230**	P	**Pn**	**12 43 03.6**	**+2.0**
MAJO	**Matsushiro**	**3.72**	**69**	P	**Pn**	**12 43 08.6**	**+1.4**
MJAR	**Matsushiro Arr**	**3.72**	**69**	Pn	**Pn**	**12 43 08.8**	**+1.6**
	0.3nm,0.3s,baz=250,slow=13,SNR=11						
MJAR				Lg	Lg	12 44 09.2	
	0.5nm,0.3s,baz=231,slow=29,SNR=7.8						
	3.4nm,0.4s						
JSU	**Suzuyama**	**4.75**	**218**	P	**Pn**	**12 43 22.6**	**+1.2**
KSRS	**Korea Array**	**5.27**	**296**	Pn	**Pn**	**12 43 29.5**	**+1.0**
	0.5nm,0.3s,baz=110,slow=14,SNR=3.7						
KSRS				Sn	**Sn**	**12 44 26.9**	**-2.6**
	1.3nm,0.3s,baz=112,slow=24,SNR=6.9						
KSRS				LR	LR	12 45 27.1	
	comp=Z,33nm,19.0s,baz=35,slow=37						
	0.8nm,0.3s						
USRK	**Ussuriysk Ar.**	**9.00**	**351**	Pn	**Pn**	**12 44 22.2**	**+2.5**
	0.1nm,0.3s,baz=172,slow=16,SNR=1.8						
	1.0nm,0.5s						
ASAJ	**Asahikawa**	**11.06**	**35**	LR	LR	12 48 38.0	
	comp=Z,81nm,18.5s,baz=148,slow=35						
KLR	**Kul'dur**	**14.01**	**354**	LR	LR	12 50 05.2	
	comp=Z,80nm,18.4s,baz=10,slow=34						
WRA	**Warramunga Arr**	**54.94**	**179**	P	**P**	**12 51 41.2**	**+0.1**
	0.3nm,0.8s,baz=354,slow=7.6,SNR=2.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**58.65**	**180**	P	**P**	**12 52 06.2**	**-1.2**
	0.5nm,1.1s,baz=8.0,slow=14,SNR=2.6						
	0.5nm,1.1s						

IDC 17 12:53:55.5±5.0,**6.16S**×**140.93E,h0**km,**mb3.9**/1, **mbtmp3.4/3,ML3.0/2,Error ellipse: s-maj=192.7km s-min=34.0km az=95.0,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.12**	**204**	Pn	Pn	12 57 31.2	+0.5
	baz=27,slow=11,SNR=1.4						
WRA				Sn	Sn	13 00 13.5	-5.5
	baz=35,slow=18,SNR=0.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**18.67**	**200**	P	P	12 58 14.9	-0.5
	0.1nm,0.3s,baz=28,slow=11,SNR=12						
	0.5nm,0.7s						
SONM	**Songino Array**	**61.76**	**334**	P	P	13 04 16.1	0.0
	0.5nm,0.4s,baz=157,slow=7.7,SNR=2.1						
	0.5nm,0.4s						

*NOU **17** 12:58:45.9, 41.86S×175.27E, h108km, MLv4.3/7, North Island, New Zealand*
*WEL **17** 12:58:51.5±0.4, 42.2°S±4.4×17.4E±, h10km±3km, M3.6/32, ML3.8/18, MLv3.6/32, Error ellipse: s-maj=0.0km s-min=0.0km az=141.6*
ISC 17 12:58:51.3±1.1,**41.91S**±0.04×**174.23E**±0.03,**h16**km±8km, **n71,**σ1**9**09/69,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**356**	P	**Pg**	**12 58 55.3**	**-0.2**
CMWZ				S	**Sg**	**12 58 58.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.33**	**307**	P	**Pg**	**12 58 57.7**	**-0.5**
BSWZ				S	**Sb**	**12 59 02.9**	**-0.9**
TUWZ	**Tuamarina**	**0.53**	**336**	P	**Pg**	**12 59 01.5**	**-0.3**
SNZO	**South Karori**	**0.70**	**31**	P	**Pb**	**12 59 05.8**	**+0.7**
TCW	**Tory Channel**	**0.70**	**3**	P	**Pg**	**12 59 04.6**	**-0.5**
WEL	**Wellington**	**0.75**	**33**	P	**Pb**	**12 59 06.5**	**+0.6**
PLWZ	**Palliser**	**0.84**	**66**	P	**Pb**	**12 59 08.8**	**+1.2**
MSWZ	**Moikau Station**	**0.91**	**57**	P	**Pb**	**12 59 09.6**	**+0.8**
NNZ	**Nelson**	**0.94**	**317**	P	**Pg**	**12 59 08.8**	**-0.8**
THZ	**Tophouse**	**1.00**	**278**	P	**Pb**	**12 59 10.5**	**+0.2**
CAW	**Cannon Point**	**1.02**	**38**	P	**Pb**	**12 59 11.1**	**+0.5**
PAWZ	**Paruwai Farm**	**1.04**	**60**	P	**Pg**	**12 59 11.1**	**-0.4**
DUWZ	**D'Urville Isla**	**1.14**	**348**	P	**Pg**	**12 59 12.1**	**-1.1**
KIW	**Kapiti Island**	**1.17**	**26**	P	**Pb**	**12 59 13.4**	**+0.3**
TRWZ	**Traveller**	**1.21**	**65**	P	**Pn**	**12 59 13.3**	**-0.3**
MTW	**Mount Morrison**	**1.22**	**52**	P	**Pn**	**12 59 13.4**	**-0.3**
TKNZ	**Takaka Hill**	**1.30**	**312**	P	**Pn**	**12 59 15.2**	**+0.4**
OGWZ	**Otaki Gorge**	**1.31**	**33**	P	**Pn**	**12 59 15.1**	**+0.3**
GVZ	**Greta Valley S**	**1.37**	**220**	P	**Pn**	**12 59 16.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.40**	**44**	P	**Pn**	**12 59 16.1**	**-0.2**
TMWZ	**Te Maipa**	**1.49**	**58**	P	**Pn**	**12 59 16.8**	**-0.5**
MRZ	**Mangatainoka R**	**1.61**	**40**	P	**Pn**	**12 59 19.0**	**-0.1**
QRZ	**Quartz Range**	**1.68**	**310**	P	**Pb**	**12 59 21.9**	**+0.1**
TIWZ	**Tintock**	**1.69**	**48**	P	**Pn**	**12 59 20.3**	**+0.2**
LTZ	**Lake Taylor**	**1.69**	**238**	P	**Pn**	**12 59 20.9**	**+0.7**
DSZ	**Denniston Nort**	**1.82**	**275**	P	**Pn**	**12 59 23.4**	**+1.4**
PRWZ	**P

JCZ	**Jackson Bay**	**4.54**	**240**	P	Pn	13 00 04.8	+5.4
MKAZ	**Moumakai**	**4.86**	**9**	P	**Pn**	**13 00 04.7**	**+1.0**
ETAZ	**East Tamaki Re**	**4.98**	**6**	P	**Pn**	**13 00 07.8**	**+2.4**
PKGZ	**Pakihiroa**	**4.99**	**38**	P	Pb	13 00 12.7	-5.6

HEL 17 13:01:59.2±0.5, 60.89N×29.20E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.88**	**247**	PB	Pg	13 02 15.7	-0.4
VJF				SB	Sg	13 02 28.1	+0.6
FIA0	**FINESS Array S**	**1.62**	**292**	PG	Pn	13 02 27.7	-1.2
	baz=112						
FIA0				SN	Sn	13 02 49.7	-0.7
PVF	**Pernaja**	**1.68**	**260**	PG	Pn	13 02 28.8	-0.9
PVF				MSG		13 02 49.5	
	comp=Z,7.2nm,0.2s						
PVF				SN	Sg	13 02 53.1	0.0
KAF	**Kangasniemi**	**1.86**	**313**	PG	Pn	13 02 32.6	+0.4
JOF	**Joensuu**	**2.27**	**25**	PB	Pn	13 02 39.2	+1.3
	baz=206						
NUR	**Nurmijrvi**	**2.27**	**262**	PG	Pb	13 02 40.0	-1.0
	baz=75						
NUR				SG	Sb	13 03 10.1	+0.5
KEF	**Keuruu**	**2.44**	**304**	PB	Pn	13 02 41.4	+1.1
KEF				MSG		13 03 11.2	
	comp=Z,1.5nm,0.2s						
KEF				SG	Sb	13 03 14.1	-0.4
MEF	**Metsahovi**	**2.47**	**256**	PG	Pb	13 02 43.3	-1.1
MEF				MSG		13 03 12.0	
	comp=Z,3.5nm,0.2s						
MEF				SG	Sb	13 03 13.7	-1.6
VAF	**Ylistaro**	**3.77**	**308**	PB	Pb	13 03 03.6	-2.9

*UPP **17** 13:02:32.1±0.1, 56.23N×13.07E, h0km, ML2.6, Explosion*
*DNK **17** 13:02:32.5±0.4, 56.23N×13.08E, h0km, ML2.6(UPP), Explosion*
ISC 17 13:02:31.4±1.0, 56.26N±0.04×13.03E±0.05, h0km, n20, σ0830/24, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJUU	**Bjuv**	**0.18**	**182**	P	**Pg**	**13 02 35.3**	**+0.4**
BJUU				S	**Sg**	**13 02 37.4**	**+0.2**
BJUU	**Bjuv**	**0.18**	**182**	P	**Pg**	**13 02 35.3**	**+0.4**
BJUU				S	**Sg**	**13 02 37.4**	**+0.2**
DEL	**Delary**	**0.51**	**65**	P	**Pg**	**13 02 41.7**	**+0.4**
DEL				S	**Sg**	**13 02 48.2**	**+0.3**
DEL	**Delary**	**0.51**	**65**	P	**Pg**	**13 02 41.7**	**+0.4**
DEL				S	**Sg**	**13 02 48.2**	**+0.3**
LUNU	**Lund**	**0.67**	**159**	P	**Pg**	**13 02 44.3**	**+0.1**
LUNU	**Lund**	**0.67**	**159**	P	**Pg**	**13 02 44.3**	**+0.1**
FABU	**Falkenberg**	**0.77**	**347**	P	**Pb**	**13 02 47.1**	**-0.5**
FABU	**Falkenberg**	**0.77**	**347**	P	**Pb**	**13 02 47.1**	**-0.5**
GNOU	**Gnosjoe**	**1.11**	**21**	P	**Pb**	**13 02 53.3**	**-0.2**
GNOU	**Gnosjoe**	**1.11**	**21**	P	**Pb**	**13 02 53.3**	**-0.2**
VXJU	**Vaexsjoe**	**1.25**	**57**	P	**Pg**	**13 02 55.5**	**+0.1**
VXJU	**Vaexsjoe**	**1.25**	**57**	P	**Pg**	**13 02 55.5**	**+0.1**
ONAU	**Onsala**	**1.30**	**332**	P	**Pn**	**13 02 56.9**	**+0.1**
ONAU	**Onsala**	**1.30**	**332**	P	**Pn**	**13 02 56.9**	**+0.1**
BORU	**Boraas**	**1.39**	**354**	P	**Pn**	**13 02 58.0**	**0.0**
BORU	**Boraas**	**1.39**	**354**	P	**Pn**	**13 02 58.0**	**0.0**
BLEU	**Blekinge**	**1.55**	**87**	P	**Pn**	**13 03 00.0**	**-0.3**
BLEU	**Blekinge**	**1.55**	**87**	P	**Pn**	**13 03 00.0**	**-0.3**
EKSU	**Eksjoe**	**1.81**	**42**	P	**Pb**	**13 03 05.2**	**-0.3**
EKSU	**Eksjoe**	**1.81**	**42**	P	**Pb**	**13 03 05.2**	**-0.3**

BER 17 13:12:45.6±1.3, 66.40N×14.78E, h0km, ML1.1, Suspected explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOR8	**Moi Rana**	**0.27**	**211**	*e*P	Pg	13 12 47.5	-3.1
MOR8				*e*S	Sg	13 12 49.7	-4.4
MOR8				IAML		13 12 50.9	
	comp=Z,137nm,0.4s						
KONS	**Konsvik**	**0.68**	**279**	*e*P	Pg	13 12 56.9	-1.6
KONS				*e*S	Sg	13 13 06.9	-0.3
KONS				IAML		13 13 10.2	
	comp=Z,8.6nm,0.3s						
STOK	**Stokkvaagen**	**0.71**	**266**	*e*P	Pg	13 12 58.3	-0.9
STOK				*e*S	Sg	13 13 08.0	-0.5
FAUS	**Fauske**	**1.01**	**11**	*e*P	Pg	13 13 03.0	-1.9
FAUS				*e*S	Sg	13 13 16.6	-1.4
FAUS				IAML		13 13 21.9	
	comp=Z,5.2nm,0.2s						
STEI	**Steigen**	**1.55**	**6**	*e*P	Pn	13 13 12.4	-2.0
STEI				*e*Sg	Sn	13 13 35.2	0.0
STEI				IAML		13 13 39.7	
	comp=Z,3.4nm,0.5s						

*HEL **17** 13:13:28.5±0.8, 61.10N×29.48E, h0km, ML1.9, Explosion*
ISC 17 13:13:27.6±3.6, 61.1N±0.2×29.5E±0.2, h0km, n5, σ083/8, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.09**	**243**	PG	**Pg**	**13 13 48.2**	**-0.2**
VJF				SG	**Sg**	**13 14 01.8**	**-0.7**
VJF				MSG		13 14 01.9	
	comp=Z,16nm,0.2s						
FIA0	**FINESS Array S**	**1.71**	**285**	SN	**Sb**	**13 14 21.9**	**0.0**
PVF	**Pernaja**	**1.86**	**256**	PG	**Pn**	**13 14 01.3**	**+0.6**
	baz=63						
PVF				MSG		13 14 23.7	
	comp=Z,6.4nm,0.2s						
PVF				SG	**Sb**	**13 14 26.5**	**+0.3**
NUR	**Nurmijrvi**	**2.45**	**259**	PG	**Pb**	**13 14 11.9**	**-0.5**
MEF	**Metsahovi**	**2.66**	**254**	PG	**Pb**	**13 14 15.4**	**-0.5**
	baz=61						
MEF				MSG		13 14 46.8	
	comp=Z,3.5nm,0.2s						
MEF				SG	**Sb**	**13 14 50.4**	**+1.4**

ROM 17 13:15:35.8±0.3, 42.55N±0.02×13.22E±0.02, h10km±3km, Md1.1/3, 7C-15D, Error ellipse: s-maj=2.0km s-min=1.9km az=22.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.04**	**181**	P	Pg	13 15 38.1	+0.2
RM33				S	Sg	13 15 39.3	-0.1
RM33				AML	AML		
	comp=E,1175μm,1.5s						
RM33				AML	AML		
	comp=N,1480μm,1.6s						
RM33				AML	AML		
	comp=E,1110μm,1.6s						
RM33				AML	AML		
	comp=E,1640μm,0.4s						
RM33				AML	AML		
	comp=E,1640μm,0.4s						
RM33				AML	AML		
	comp=N,1375μm,1.6s						
RM33				END			
LNSS	**Leonessa**	**0.14**	**291**	P	Pg	13 15 40.0	+1.0
LNSS				S	Sg	13 15 42.6	+1.2
LNSS				AML	AML		
	comp=N,3450μm,0.7s						
LNSS				AML	AML		
	comp=E,1330μm,0.5s						
LNSS				AML	AML		
	comp=E,1335μm,0.5s						
LNSS				AML	AML		
	comp=N,3455μm,0.7s						
T1218	**Civita (PG)**	**0.14**	**328**	⇓P	Pg	13 15 39.9	+0.8
T1218				S	Sg	13 15 42.3	+0.9
T1218				AML	AML		
	comp=E,2550μm,1.0s						
T1218				AML	AML		
	comp=N,2830μm,1.1s						
T1218				AML	AML		
	comp=E,2365μm,0.4s						
T1218				AML	AML		
	comp=N,2875μm,0.7s						
T1218				AML	AML		
	comp=N,2835μm,1.1s						
T1218				AML	AML		
	comp=E,2365μm,0.4s						
T1218				AML	AML		
	comp=N,2900μm,0.6s						
T1218				AML	AML		
	comp=E,2363μm,0.4s						
T1218				AML	AML		
	comp=N,2905μm,0.6s						
T1218				END			
CAMP	**Campotosto**	**0.14**	**97**	P	Pg	13 15 39.7	+0.5
CAMP				S	Sg	13 15 42.8	+1.3
CAMP				AML	AML		
	comp=E,1335μm,0.8s						
CAMP				AML	AML		
	comp=N,1215μm,1.6s						
CAMP				END			
TERO	**Teramo**	**0.29**	**76**	P	Pg	13 15 42.2	+0.4
TERO				AML	AML		
	comp=N,1970μm,1.4s						
TERO				AML	AML		
	comp=N,1965μm,1.4s						
TERO				AML	AML		
	comp=E,2610μm,0.6s						
TERO				AML	AML		
	comp=E,2525μm,0.6s						
TERO				AML	AML		
	comp=N,2110μm,1.4s						
T1216	**Preci, Frazion**	**0.37**	**337**	P	Pg	13 15 42.7	-0.4
T1216				AML	AML		
	comp=E,25050μm,0.9s						
T1216				AML	AML		
	comp=N,32600μm,0.3s						
T1216				AML	AML		
	comp=E,25050μm,0.9s						
T1216				AML	AML		
	comp=N,32550μm,0.3s						
FEMA	**Monte Fema**	**0.43**	**343**	AML	AML		
	comp=N,52500μm,0.4s						
FEMA				AML	AML		
	comp=N,52450μm,0.4s						
FEMA				AML	AML		
	comp=E,42500μm,0.2s						
FEMA				AML	AML		
	comp=N,52450μm,0.4s						
FEMA				AML	AML		
	comp=E,42500μm,0.2s						
T1256	**Bolognola (MC)**	**0.45**	**1**	AML	AML		
	comp=E,43950μm,0.7s						
T1256				AML	AML		
	comp=E,44000μm,0.7s						
T1256				AML	AML		
	comp=N,36200μm,1.0s						
T1256				AML	AML		
	comp=N,35350μm,1.0s						
T1256				AML	AML		
	comp=E,44650μm,0.7s						
CESX	**Cesi**	**0.47**	**277**	AML	AML		
	comp=E,2550μm,0.4s						
CESX				AML	AML		
	comp=N,2795μm,0.9s						
CESI	**CESI - Serrava**	**0.51**	**333**	AML	AML		
	comp=N,15600μm,0.3s						
CESI				AML	AML		
	comp=E,17350μm,0.5s						
GUMA	**Gualdo di Mace**	**0.52**	**10**	AML	AML		
	comp=N,36500μm,0.4s						
GUMA				AML	AML		
	comp=E,38100μm,0.4s						
GUMA				AML	AML		
	comp=N,31900μm,0.4s						
GUMA				AML	AML		
	comp=E,38150μm,0.4s						
GUMA				AML	AML		
	comp=N,31900μm,0.4s						
GUMA				AML	AML		
	comp=E,34850μm,0.6s						
T0110	**Collepietro**	**0.53**	**128**	S	Sn	13 16 01.0	+2.4
CSP1	**Cessapalombo**	**0.54**	**359**	AML	AML		
	comp=E,25250μm,1.0s						
CSP1				AML	AML		
	comp=E,41800μm,0.6s						
CSP1				AML	AML		
	comp=N,47800μm,1.3s						
SRES	**S.Oreste - Sor**	**0.61**	**239**	⇑P	Pn	13 15 52.7	+2.1
SRES				AML	AML		
	comp=E,583μm,1.1s						
SRES				AML	AML		
	comp=N,544μm,0.5s						
SEF1	**Sefro**	**0.63**	**342**	AML	AML		
	comp=E,22150μm,0.2s						
SEF1				AML	AML		
	comp=N,14800μm,0.3s						
SSM1	**San Severino M**	**0.68**	**358**	P	Pg	13 15 48.7	-0.2
SNTG	**Esanatoglia**	**0.73**	**344**	⇓P	Pg	13 15 49.3	-0.7
SNTG				AML	AML		
	comp=N,2610μm,1.3s						
SNTG				AML	AML		
	comp=E,2490μm,0.8s						
SNTG				AML	AML		
	comp=E,2620μm,0.8s						
SNTG				AML	AML		
	comp=N,2615μm,1.3s						
SNTG				AML	AML		
	comp=N,2700μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.76**	**326**	⇓P	Pb	13 15 51.9	+0.6
ATCC				AML	AML		
	comp=E,6455μm,0.2s						
ATCC				AML	AML		
	comp=N,4420μm,0.3s						
ATCC				AML	AML		
	comp=N,4425μm,0.3s						
MURB	**Monte Urbino**	**0.87**	**325**	⇓P	Pn	13 15 53.9	-0.4
MURB				S	Sg	13 16 03.0	-1.1
MURB				AML	AML		
	comp=E,5340μm,0.4s						
MURB				AML	AML		
	comp=N,3990μm,0.3s						
MURB				AML	AML		
	comp=E,5730μm,0.4s						
MURB				AML	AML		
	comp=E,5340μm,0.4s						
MURB				AML	AML		
	comp=N,3985μm,0.5s						
PP3	**Marolino**	**0.87**	**19**	⇓P	Pg	13 15 52.2	-0.5
PP3				AML	AML		
	comp=E,3615μm,0.3s						
PP3				AML	AML		
	comp=N,5320μm,0.3s						
PP3				AML	AML		
	comp=E,3635μm,0.5s						
PP3				AML	AML		
	comp=E,3615μm,0.3s						
PP3				AML	AML		
	comp=N,5320μm,0.3s						
PP3				AML	AML		
	comp=E,3630μm,0.5s						
PP3				AML	AML		
	comp=N,5650μm,0.3s						
MGAB	**Montegabbione**	**0.89**	**294**	⇑P	Pn	13 15 58.4	+4.0
MGAB				AML	AML		
	comp=E,1500μm,0.5s						
MGAB				AML	AML		
	comp=N,1615μm,0.7s						
MGAB				AML	AML		
	comp=E,1845μm,0.4s						
MGAB				AML	AML		
	comp=N,1510μm,0.8s						
POFI	**Posta Fibreno**	**0.91**	**156**	S	Sn	13 16 12.0	+3.9
SSFR	**Montelago di S**	**0.94**	**340**	⇓P	Pg	13 15 53.4	-0.5
SSFR				AML	AML		
	comp=E,4900μm,1.2s						
SSFR				AML	AML		
	comp=N,4890μm,1.0s						
SSFR				AML	AML		
	comp=E,4315μm,0.8s						
SSFR				AML	AML		
	comp=N,3840μm,1.0s						
ATFO	**Monte Foce - G**	**0.94**	**330**	⇓P	Pb	13 15 54.3	0.0
ATFO				AML	AML		
	comp=N,1110μm,0.6s						
ATFO				AML	AML		
	comp=E,1180μm,0.6s						
ARVD	**Arcevia**	**0.97**	**348**	⇓P	Pg	13 15 53.4	-1.0
ARVD				AML	AML		
	comp=E,2350μm,0.2s						
ARVD				AML	AML		
	comp=N,1405μm,0.2s						
GIUL	**Giuliano Di Ro**	**0.99**	**178**	S	Sn	13 16 10.0	0.0
ATVO	**AVT- Monte Val**	**1.02**	**325**	⇓P	Pn	13 15 56.0	-0.3
ATVO				AML	AML		
	comp=E,720μm,1.5s						
ATVO				AML	AML		
	comp=N,1120μm,0.5s						
FRON	**Frontone**	**1.03**	**340**	⇑P	Pg	13 15 55.0	-0.6
FRON				AML	AML		
	comp=E,1430μm,0.8s						
FRON				AML	AML		
	comp=N,2100μm,0.4s						
ATMI	**Monte Miggiano**	**1.05**	**319**	⇓P	Pn	13 16 00.6	+4.0
ATPI	**Pietralunga -**	**1.08**	**327**	⇓P	Pn	13 15 56.9	-0.1
ATPI				AML	AML		
	comp=E,1091μm,0.6s						
ATPI				AML	AML		
	comp=N,802μm,0.3s						
ATPI				AML	AML		
	comp=E,1090μm,0.6s						
COR1	**Corinaldo**	**1.09**	**352**	⇑P	Pn	13 15 57.4	+0.2
COR1				AML	AML		
	comp=E,3600μm,0.8s						
COR1				AML	AML		
	comp=N,4640μm,1.6s						
PIEI	**Pieia**	**1.10**	**333**	⇓P	Pg	13 15 56.5	-0.5
PIEI				S	Sg	13 16 09.0	-2.4
PIEI				AML	AML		
	comp=E,1116μm,0.3s						
PIEI				AML	AML		
	comp=N,887μm,1.4s						
MPAG	**Monte Paganucc**	**1.13**	**343**	⇑P	Pb	13 15 56.8	-0.7
MPAG				S	Sg	13 16 09.0	-3.2
MPAG				AML	AML		
	comp=E,1315μm,0.5s						
MPAG				AML	AML		
	comp=N,1200μm,0.8s						
FSSB	**Fossombrone**	**1.18**	**344**	P	Pb	13 15 57.7	-0.7
FSSB				S	Sb	13 16 11.0	-2.8
FSSB				AML	AML		
	comp=E,4865μm,0.5s						
FSSB				AML	AML		
	comp=N,9705μm,0.3s						
BADI	**Badiali**	**1.19**	**324**	⇑P	Pg	13 15 59.4	+0.6
CAFI	**Castiglion Fio**	**1.20**	**311**	⇓P	Pg	13 16 01.1	+2.2
CAFI				AML	AML		
	comp=E,425μm,0.5s						
CAFI				AML	AML		
	comp=N,472μm,0.7s						
VAGA	**Valle Agricola**	**1.37**	**146**	S	Sg	13 16 22.0	+2.2
PESA	**Pesaro**	**1.42**	**349**	P	Pg	13 16 03.0	+0.1
PESA				S	Sn	13 16 20.0	-0.4
PESA				AML	AML		
	comp=E,1700μm,0.7s						
PESA				AML	AML		
	comp=N,1500μm,0.4s						
CIGN	**Sant'Elia a Pi**	**1.54**	**125**	P	Pg	13 16 05.3	-0.1
CIGN				AML	AML		
	comp=E,108μm,1.5s						
CIGN				AML	AML		
	comp=N,135μm,0.6s						
RUFI	**Rufina**	**1.79**	**316**	⇑P	Pg	13 16 12.2	+1.9
SGTA	**Sant Agata di**	**2.14**	**131**	S	Sb	13 16 42.0	+0.6

*ROM **17** 13:15:43.3±0.1, 43.009N±0.004×13.134E±0.004, h8km, ML2.9/11, Error ellipse: s-maj=0.3km s-min=0.3km az=252.0*
*PRU **17** 13:15:46.2±0.0, 43.06N×13.64E, h10km*
ISC 17 13:15:43.0±0.8, 43.02N±0.02×13.16E±0.02, h14km±4km, n66, σ154/89, 5C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1256	**Bolognola (MC)**	**0.05**	**102**	P	**Pg**	**13 15 45.3**	**-0.5**
T1256				S	**Sg**	**13 15 46.7**	**-1.1**
FDMO	**Fiordimonte**	**0.06**	**290**	P	**Pg**	**13 15 44.9**	**-0.8**
FDMO				S	**Sg**	**13 15 46.0**	**-1.6**
CSP1	**Cessapalombo**	**0.08**	**23**	P	**Pg**	**13 15 46.0**	**-0.1**
CSP1				S	**Sg**	**13 15 47.6**	**-0.6**
FEMA	**Monte Fema**	**0.10**	**236**	P	**Pg**	**13 15 45.8**	**-0.4**
FEMA				S	**Sg**	**13 15 47.7**	**-0.7**
T1219	**Muccia, Frazio**	**0.12**	**289**	P	**Pb**	**13 15 46.2**	**-1.0**
T1219				S	**Sg**	**13 15 48.3**	**-0.4**
GUMA	**Gualdo di Mace**	**0.14**	**70**	P	**Pb**	**13 15 47.4**	**-0.1**
GUMA				S	**Sb**	**13 15 50.6**	**+0.2**
T1245	**Castelsantange**	**0.16**	**173**	P	**Pg**	**13 15 47.1**	**+0.1**
T1245				S	**Sg**	**13 15 50.1**	**+0.3**
T1216	**Preci, Frazion**	**0.16**	**220**	P	**Pb**	**13 15 47.0**	**-0.9**
T1216				S	**Sg**	**13 15 50.0**	**+0.3**
MMO1	**Montemonaco**	**0.17**	**134**	P	**Pb**	**13 15 47.5**	**-0.6**
MMO1				S	**Sg**	**13 15 50.5**	**+0.5**
MDAR	**Monte D'Aria**	**0.18**	**356**	P	**Pb**	**13 15 47.5**	**-0.7**
MDAR				S	**Sb**	**13 15 50.6**	**-1.0**
NRCA	**Norcia**	**0.19**	**191**	P	**Pb**	**13 15 47.5**	**-0.8**
NRCA				AML	AML		
	comp=E,9730μm,0.5s						
NRCA				AML	AML		
	comp=N,9920μm,1.5s						
NRCA				AML	AML		
	comp=E,10105μm,0.5s						
NRCA				AML	AML		
	comp=N,10305μm,1.5s						
CESI	**CESI - Serrava**	**0.19**	**266**	P	**Pb**	**13 15 47.5**	**-0.8**
CESI				S	**Sb**	**13 15 50.7**	**-1.2**
SEF1	**Sefro**	**0.20**	**310**	P	**Pb**	**13 15 47.9**	**-0.7**
SEF1				S	**Sb**	**13 15 51.2**	**-1.1**
T1241	**Roccafluvione,**	**0.26**	**129**	P	**Pb**	**13 15 49.1**	**-0.4**
T1241				S	**Sb**	**13 15 53.6**	**-0.2**
MNTP	**Montappone**	**0.26**	**62**	P	**Pb**	**13 15 50.0**	**+0.5**
MNTP				S	**Sb**	**13 15 55.6**	**+1.8**
T1215	**Vallo di Nera,**	**0.30**	**225**	P	**Pb**	**13 15 49.5**	**-0.8**
T1215				S	**Sb**	**13 15 54.5**	**-0.7**
T1218	**Civita (PG)**	**0.35**	**186**	⇓P	**Pb**	**13 15 50.5**	**-0.7**
T1218				S	**Sb**	**13 15 56.5**	**0.0**
T1218				AML	AML		
	comp=E,2550μm,1.0s						
T1218				AML	AML		
	comp=N,2830μm,1.1s						
T1218				AML	AML		
	comp=E,2365μm,0.4s						
T1218				AML	AML		
	comp=N,2875μm,0.7s						
T1218				AML	AML		
	comp=N,2905μm,0.6s						
T1218				AML	AML		
	comp=E,2555μm,1.0s						
T1218				AML	AML		
	comp=E,2362μm,0.4s						
T1218				AML	AML		
	comp=N,2835μm,1.1s						
T1218				AML	AML		
	comp=N,2910μm,0.7s						
T1243	**Rocca Santa Ma**	**0.38**	**146**	⇓P	**Pb**	**13 15 51.4**	**-0.3**
T1243				S	**Sb**	**13 15 57.9**	**+0.3**
SMA1	**SAN MARTINO**	**0.41**	**162**	⇑P	**Pb**	**13 15 51.7**	**-0.4**
SMA1				S	**Sb**	**13 15 58.0**	**-0.3**
SMA1				AML	AML		
	comp=E,3150μm,0.6s						
SMA1				AML	AML		
	comp=N,3210μm,0.3s						
LNSS	**Leonessa**	**0.42**	**192**	⇑P	**Pb**	**13 15 51.9**	**-0.5**
LNSS				S	**Sb**	**13 15 58.5**	**-0.2**
LNSS				AML	AML		
	comp=E,1330μm,0.5s						
LNSS				AML	AML		
	comp=N,3450μm,0.7s						
LNSS				AML	AML		
	comp=N,3455μm,0.7s						
LNSS				AML	AML		
	comp=E,1335μm,0.5s						
MMUR	**Monte Murano**	**0.44**	**344**	S	**Sn**	**13 16 01.0**	**-2.0**
SSFR	**Montelago di S**	**0.50**	**327**	S	**Sn**	**13 16 03.0**	**-1.5**
ARVD	**Arcevia**	**0.51**	**342**	S	**Sn**	**13 16 03.0**	**-1.5**
RM33	**Pellescritta (**	**0.51**	**176**	⇓P	**Pb**	**13 15 53.3**	**-0.6**
RM33				S	**Sb**	**13 16 01.5**	**+0.3**
RM33				AML	AML		
	comp=E,1640μm,0.4s						
RM33				AML	AML		
	comp=N,1375μm,1.6s						

RM33					AML	AML		
	comp=N,1480µm,1.6s							
RM33					AML	AML		
	comp=E,1635µm,0.4s							
TERO	**Teramo**	**0.51**	**140**	⇑P	**Pb**		**13 15 53.5**	**-0.4**
TERO				S	**Sb**		**13 16 02.0**	**+0.8**
TERO				AML	AML			
	comp=E,2525µm,0.6s							
TERO				AML	AML			
	comp=N,1970µm,1.4s							
TERO				AML	AML			
	comp=E,2610µm,0.6s							
TERO				AML	AML			
	comp=N,1965µm,1.4s							
TERO				AML	AML			
	comp=N,2110µm,1.4s							
ARRO	**Arrone**	**0.53**	**214**	P	**Pb**		**13 15 53.8**	**-0.2**
ARRO				S	**Sb**		**13 16 01.6**	**0.0**
T1247	**Pizzolo (AQ)**	**0.58**	**170**	⇓P	**Pb**		**13 15 55.3**	**+0.2**
T1247				S	**Sb**		**13 16 03.8**	**+0.5**
T1247				AML	AML			
	comp=N,1645µm,0.4s							
T1247				AML	AML			
	comp=E,2430µm,0.6s							
CESX	**Cesi**	**0.59**	**227**	S	**Sb**		**13 16 04.0**	**+0.6**
GIGS	**Gran Sasso**	**0.64**	**152**	P	**Pb**		**13 15 55.8**	**-0.3**
GIGS				S	**Sb**		**13 16 05.8**	**+0.8**
GIGS				AML	AML			
	comp=E,630µm,0.4s							
GIGS				AML	AML			
	comp=N,462µm,0.3s							
FIAM	**Fiamignano**	**0.75**	**182**	⇓P	**Pg**		**13 15 57.4**	**-0.2**
FIAM				AML	AML			
	comp=E,841µm,0.9s							
FIAM				AML	AML			
	comp=N,518µm,0.7s							
VCEL	**Villa Celiera**	**0.80**	**141**	⇓P	**Pb**		**13 15 59.2**	**+0.4**
VCEL				S	**Sn**		**13 16 11.5**	**-0.3**
VCEL				AML	AML			
	comp=E,1419µm,0.5s							
VCEL				AML	AML			
	comp=N,1480µm,0.5s							
FAGN	**Fagnano**	**0.81**	**157**	P	**Pb**		**13 15 58.9**	**-0.1**
FAGN				AML	AML			
	comp=E,1925µm,0.5s							
FAGN				AML	AML			
	comp=N,1770µm,0.4s							
SACS	**San Casciano d**	**0.93**	**260**	⇓P	**Pn**		**13 16 01.9**	**0.0**
SACS				AML	AML			
	comp=N,950µm,0.6s							
SACS				AML	AML			
	comp=E,636µm,0.6s							
SACS				AML	AML			
	comp=E,540µm,0.6s							
SACS				AML	AML			
	comp=N,948µm,0.6s							
VIVA	**Pratoni del Vi**	**1.30**	**193**	S	**Sg**		**13 16 28.0**	**+3.1**
CIGN	**Sant'Elia a Pi**	**1.88**	**136**	P	**Pb**		**13 16 16.8**	**-0.4**
A050A	**Klekovaca**	**2.85**	**58**	*e*Pn	**Pb**		**13 16 31.0**	**-2.7**
CEY	**Cerknica**	**2.87**	**18**	*e*Pn	**Pn**		**13 16 29.9**	**+1.5**
BOJS	**Bojanci**	**2.91**	**30**	*e*Pn	**Pb**		**13 16 32.5**	**-2.1**
MGRS	**Mrkonjic Grad**	**3.17**	**62**	*e*Pn	**Pg**		**13 16 41.5**	**-2.3**
CRES	**Cresnjev**	**3.25**	**30**	*e*Pn	**Pg**		**13 16 45.0**	**-0.4**
STON	**Ston**	**3.34**	**91**	*e*Pn	**Pn**		**13 16 34.1**	**-0.7**
A051A	**Mrakovica**	**3.36**	**52**	*e*Pn	**Pb**		**13 16 38.9**	**-3.5**
BLY	**Banja Luka**	**3.38**	**58**	*e*Pn	**Pb**		**13 16 41.8**	**-1.0**
SIRI	**Monte Sirino -**	**3.48**	**143**	S	**Sn**		**13 17 18.0**	**-0.1**
SARZ	**Sarezzano**	**3.58**	**303**	⇑P	**Pb**		**13 16 44.0**	**-2.3**
MYKA	**Terra Mystica**	**3.63**	**5**	*e*Pn	**Pn**		**13 16 42.0**	**+3.1**
	comp=N,2.4nm,0.3s							
OBKA	**Obir**	**3.63**	**15**	*e*Pn	**Pn**		**13 16 40.8**	**+1.9**
OBKA	**Obir**	**3.63**	**15**	*e*Pn	**Pn**		**13 16 41.2**	**+2.2**
	comp=N,2.1nm,0.3s							
LTRZ	**Laterza**	**3.65**	**130**	S	**Sn**		**13 17 20.0**	**-1.9**
LTRZ	**Laterza**	**3.65**	**130**	S	Sn		13 17 09.0	-13
NOCI	**Noci**	**3.67**	**126**	⇑P	**Pn**		**13 16 36.4**	**-2.9**
ABTA	**Abfaltersbach**	**3.76**	**353**	*e*Pn	**Pn**		**13 16 43.5**	**+2.8**
	comp=N,9.3nm,0.3s							
SOKA	**Soboth**	**3.90**	**19**	*e*Pn	**Pn**		**13 16 42.6**	**+0.1**
	comp=N,0.9nm,0.2s							
BRY	**Bratogost**	**3.95**	**90**	*e*Pn	**Pn**		**13 16 46.7**	**+3.3**
KBA	**Koelnbreinsper**	**4.06**	**2**	*e*Pn	**Pn**		**13 16 48.1**	**+3.2**
	comp=N,2.2nm,0.2s							
KOGS	**Kog**	**4.08**	**32**	P	**Pn**		**13 16 47.9**	**+2.9**
UPM	**Unac-Piva**	**4.21**	**86**	*e*Pn	**Pn**		**13 16 47.6**	**+0.6**
FETA	**Feichten**	**4.36**	**338**	*e*Pn	**Pn**		**13 16 52.6**	**+3.5**
	comp=N,1.3nm,0.3s							
WTTA	**Wattenberg**	**4.38**	**346**	*e*Pn	**Pn**		**13 16 53.3**	**+4.0**
	comp=N,0.2nm,0.1s							
SQTA	**Sankt Quirin**	**4.42**	**342**	*e*Pn	**Pn**		**13 16 52.7**	**+2.8**
	comp=N,10nm,0.3s							
WATA	**Walderalm**	**4.46**	**346**	*e*Pn	**Pn**		**13 16 53.0**	**+2.6**
	comp=N,3.7nm,0.3s							
DRME	**Dracevica, Mon**	**4.52**	**99**	*e*Pn	**Pn**		**13 16 53.9**	**+2.8**
BIOA	**Bad Ischl, Aus**	**4.69**	**4**	*e*Pn	Pb		13 16 59.3	-5.7
	comp=N,3.7nm,0.3s							
VPL	**Vulcano Piano**	**4.84**	**163**	P	Pn		13 16 49.9	-5.5
CONA	**Conrad Observa**	**5.27**	**20**	*e*Pn	**Pn**		**13 17 01.8**	**+0.4**
	comp=N,1.0nm,0.2s							
KHC	**Kasperske Hory**	**6.12**	**3**	*e*PN	**Pn**		**13 17 14.8**	**+1.7**
KHC				*e*SN	**Sn**		**13 18 22.5**	**-0.5**

WEL 17 13:28:06.4±0.6, 42°S±4'×17°3E±', h9km±4km, M2.3/6, ML2.5/6, MLv2.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=25.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.04**	**88**	P	Pg	13 28 08.7	+0.4
THZ				S	Sg	13 28 10.7	+1.1
MRNZ	**Matariki Terra**	**0.37**	**349**	P	Pg	13 28 14.3	+0.6
MRNZ				S	Sb	13 28 20.5	-0.5
NNZ	**Nelson**	**0.67**	**36**	P	Pg	13 28 19.8	+0.4
NNZ				S	Sb	13 28 30.4	+0.7
TKNZ	**Takaka Hill**	**0.73**	**6**	P	Pg	13 28 20.5	0.0
TKNZ				S	Sb	13 28 31.3	-0.2
BSWZ	**Blackbirch Sta**	**0.77**	**87**	P	Pg	13 28 21.5	+0.3
DSZ	**Denniston Nort**	**0.79**	**271**	P	Pg	13 28 20.5	-1.0
DSZ				S	Sn	13 28 34.3	-1.3
TUWZ	**Tuamarina**	**0.88**	**68**	P	Pg	13 28 22.9	-0.4
QRZ	**Quartz Range**	**0.97**	**345**	P	Pg	13 28 24.7	-0.3
TCW	**Tory Channel**	**1.20**	**63**	P	Pn	13 28 28.6	-0.7
DUWZ	**D'Urville Isla**	**1.25**	**9**	P	Pn	13 29 30.1	0.0
INZ	**Inchbonnie**	**1.42**	**227**	P	Pn	13 28 31.0	-1.4
CAW	**Cannon Point**	**1.79**	**69**	P	Pn	13 28 37.7	+0.3
OGWZ	**Otaki Gorge**	**1.99**	**62**	P	Pn	13 28 40.6	+0.5
MTW	**Mount Morrison**	**2.08**	**74**	P	Pn	13 28 37.5	-3.9
MRZ	**Mangatainoka R**	**2.33**	**63**	P	Pb	13 28 48.7	+0.1
GRRZ	**Galatos Road**	**4.23**	**37**	P	Pn	13 29 10.8	-0.2

WEL 17 13:28:15.6±0.3, 43°S±2°×17°3E±', h5km, M3.7/32, ML4.0/12, MLv3.7/32, Error ellipse: s-maj=0.0km s-min=0.0km az=103.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.34**	**161**	P	Pg	13 28 22.8	+0.6
GVZ	**Greta Valley S**	**0.34**	**161**	P	Pg	13 28 22.8	+0.6
LTZ	**Lake Taylor**	**0.47**	**253**	P	Pg	13 28 25.4	+0.8
LTZ	**Lake Taylor**	**0.47**	**253**	P	Pg	13 28 25.4	+0.7
KHZ	**Kahutara**	**0.54**	**65**	P	Pg	13 28 22.2	-3.7
KHZ	**Kahutara**	**0.54**	**65**	P	Pg	13 28 25.7	-0.2
AMCZ	**Amberley**	**0.56**	**198**	P	Pb	13 28 27.4	-0.4
AMCZ	**Amberley**	**0.56**	**198**	P	Pb	13 28 27.4	-0.4
THZ	**Tophouse**	**0.88**	**1**	P	Pg	13 28 32.0	-0.5
OXZ	**Oxford**	**0.92**	**222**	P	Pg	13 28 33.2	0.0
OXZ	**Oxford**	**0.92**	**222**	P	Pg	13 28 33.4	+0.1
INZ	**Inchbonnie**	**1.06**	**265**	P	Pg	13 28 35.9	-0.1
MQZ	**McQueen's Vall**	**1.07**	**189**	P	Pg	13 28 34.4	-1.7
MQZ	**McQueen's Vall**	**1.07**	**189**	P	Pg	13 28 34.6	-1.5
OKCZ	**Okains Bay**	**1.08**	**173**	P	Pg	13 28 35.0	-1.4
OKCZ	**Okains Bay**	**1.08**	**173**	P	Pg	13 28 35.2	-1.2
BSWZ	**Blackbirch Sta**	**1.19**	**39**	P	Pg	13 28 37.6	-0.8
DSZ	**Denniston Nort**	**1.21**	**318**	P	Pg	13 28 38.6	-0.1
RACZ	**Rakaia**	**1.21**	**206**	P	Pg	13 28 36.9	-1.9
RACZ	**Rakaia**	**1.21**	**206**	P	Pg	13 28 36.9	-1.9
AKCZ	**Akaroa Harbour**	**1.23**	**179**	P	Pg	13 28 36.8	-2.2
AKCZ	**Akaroa Harbour**	**1.23**	**179**	P	Pg	13 28 36.7	-2.4
MRNZ	**Matariki Terra**	**1.25**	**356**	P	Pg	13 28 38.8	-0.8
MHCZ	**Mount Hutt**	**1.31**	**227**	P	Pn	13 28 38.6	-2.0
TUWZ	**Tuamarina**	**1.45**	**33**	P	Pn	13 28 41.7	-0.8
TUWZ				S	Sg	13 29 02.5	+0.3
NNZ	**Nelson**	**1.48**	**15**	P	Pn	13 28 41.8	-1.0
WACZ	**Wakanui South**	**1.50**	**210**	P	Pn	13 28 41.0	-2.2
WACZ	**Wakanui South**	**1.50**	**210**	P	Pn	13 28 41.1	-2.1
TKNZ	**Takaka Hill**	**1.61**	**2**	P	Pn	13 28 44.3	-0.4
WVZ	**Waitaha Valley**	**1.64**	**254**	P	Pn	13 28 44.4	-0.6
WVZ	**Waitaha Valley**	**1.64**	**254**	P	Pn	13 28 44.3	-0.7
RPZ	**Rata Peaks**	**1.71**	**231**	P	Pn	13 28 44.3	-1.8
RPZ	**Rata Peaks**	**1.71**	**231**	P	Pn	13 28 44.2	-1.9
TCW	**Tory Channel**	**1.77**	**36**	P	Pn	13 28 45.9	-1.0
ARCZ	**Arundel**	**1.80**	**223**	P	Pn	13 28 45.4	-2.0
ARCZ	**Arundel**	**1.80**	**223**	P	Pn	13 28 45.1	-2.2
QRZ	**Quartz Range**	**1.84**	**352**	P	Pn	13 28 48.6	+0.8
WEL	**Wellington**	**1.96**	**47**	P	Pn	13 28 47.7	-1.7
GCSZ	**Gaunt Creek Bo**	**1.99**	**250**	P	Pn	13 28 49.3	-0.6
GCSZ	**Gaunt Creek Bo**	**1.99**	**250**	P	Pn	13 28 49.2	-0.7
DUWZ	**D'Urville Isla**	**2.00**	**23**	P	Pn	13 28 50.2	+0.1
PLWZ	**Palliser**	**2.07**	**59**	P	Pn	13 28 48.3	-2.7
MSWZ	**Moikau Station**	**2.15**	**56**	P	Pn	13 28 49.5	-2.6
TMZ	**Timaru**	**2.21**	**218**	P	Pn	13 28 50.9	-2.1
CAW	**Cannon Point**	**2.24**	**47**	P	Pn	13 28 51.3	-2.1
PAWZ	**Paruwai Farm**	**2.28**	**57**	P	Pn	13 28 51.0	-2.9
KIW	**Kapiti Island**	**2.34**	**41**	P	Pn	13 28 53.7	-1.1
FOZ	**Fox Glacier**	**2.42**	**247**	P	Pn	13 28 55.2	-0.5
OGWZ	**Otaki Gorge**	**2.50**	**44**	P	Pn	13 28 55.0	-2.0
LBZ	**Lake Benmore**	**2.62**	**228**	P	Pn	13 28 56.8	-1.8
HOWZ	**Holdsworth Sta**	**2.63**	**49**	P	Pn	13 28 56.2	-2.5
MRZ	**Mangatainoka R**	**2.83**	**46**	P	Pn	13 28 58.9	-2.6
ODZ	**Otahua Downs**	**2.89**	**213**	P	Pn	13 28 59.9	-2.4
PRWZ	**Pori Road**	**3.12**	**49**	P	Pn	13 29 03.1	-2.3
POWZ	**Post Office Ro**	**3.12**	**45**	P	Pn	13 29 03.0	-2.5
BFZ	**Birch Farm**	**3.19**	**53**	P	Pn	13 29 03.8	-2.7
WAZ	**Wanganui**	**3.30**	**29**	P	Pn	13 29 08.0	+0.1
JCZ	**Jackson Bay**	**3.31**	**243**	P	Pn	13 29 06.8	-1.4
NMEZ	**Namu Road**	**3.32**	**13**	P	Pn	13 29 11.4	+3.3
LREZ	**Lake Rotokare**	**3.38**	**20**	P	Pb	13 29 16.7	+0.7
DVHZ	**Dannevirke**	**3.40**	**48**	P	Pn	13 29 06.0	-3.3
KHEZ	**Kahui Hut**	**3.46**	**15**	P	Pn	13 29 11.3	+1.2
NBEZ	**Newall Road No**	**3.46**	**13**	P	Pn	13 29 11.8	+1.7
TSZ	**Takapari Road**	**3.47**	**43**	P	Pn	13 29 07.7	-2.6
NEZ	**North Egmont**	**3.50**	**16**	P	Pn	13 29 12.2	+1.5
PKE	**Pukeiti**	**3.55**	**14**	P	Pn	13 29 12.3	+0.9
WKZ	**Wanaka**	**3.55**	**231**	P	Pn	13 29 08.9	-2.4
DREZ	**Durham Road**	**3.60**	**17**	P	Pn	13 29 13.0	+1.0
HHSZ	**Highcliff Hill**	**3.63**	**206**	P	Pn	13 29 09.9	-2.6
EAZ	**Earnscleugh**	**3.65**	**224**	P	Pn	13 29 10.4	-2.3
PNHZ	**Pukenui**	**3.70**	**44**	P	Pn	13 29 10.4	-3.1
MOVZ	**Moawhango**	**3.90**	**35**	P	Pn	13 29 14.3	-1.9
WNVZ	**Wahianoa**	**3.90**	**33**	P	Pn	13 29 15.3	-1.0
TRVZ	**Turoa**	**3.91**	**32**	P	Pn	13 29 15.6	-0.9
WHVZ	**Whangaehu Hut**	**3.94**	**32**	P	Pn	13 29 15.9	-1.0
BHHZ	**Black Hill Sta**	**3.97**	**38**	P	Pn	13 29 15.0	-2.1
SNVZ	**South Ngauruho**	**4.04**	**32**	P	Pn	13 29 17.3	-0.9
TUZ	**Tuapeka**	**4.05**	**214**	P	Pn	13 29 16.0	-2.1
MSZ	**Milford Sound**	**4.13**	**239**	P	Pn	13 29 16.4	-2.8
MLZ	**Mavora Lakes**	**4.38**	**230**	P	Pn	13 29 21.0	-1.8
SYZ	**Scrubby Hill**	**4.72**	**213**	P	Pn	13 29 25.1	-2.3
WHZ	**Wether Hill Ro**	**4.80**	**226**	P	Pn	13 29 25.4	-3.2
APZ	**The Paps**	**5.45**	**218**	P	Pn	13 29 34.7	-2.8

*HVO **17** 13:32:36.6±1.5, 19°.76N±0°.05×155°.89W±0°.07, h31km±8km, ML2.7/12, ML2.9/40(NEIC), Error ellipse: s-maj=11.0km s-min=4.6km az=119.0*

NEIC 17 13:32:34.7±0.5, 19°.77N±0°.02×155°.87W±0°.06, h40km±5km, Error ellipse: s-maj=7.9km s-min=2.7km az=91.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.09**	**159**	P	Pn	13 32 41.4	-0.2
HUH				S	Sn	13 32 45.0	-1.5
HUH	**Hualalai**	**0.09**	**159**	IAML		13 32 48.8	
	comp=E,2µm,0.2s						
HUH				IAML		13 32 49.2	
	comp=N,3µm,0.2s						
CPH	**Captain Cook**	**0.29**	**189**	P	Pn	13 32 42.8	0.0
HPAH	**Hawaii Prepara**	**0.30**	**33**	P	Pn	13 32 43.5	+0.4
HPAH				S	Sn	13 32 48.1	-0.9
HPAH	**Hawaii Prepara**	**0.30**	**33**	IAML		13 32 48.2	
	comp=N,278nm,0.8s						
HPAH				IAML		13 32 48.3	
	comp=E,278nm,0.4s						
ALEP	**Alea Permanent**	**0.31**	**137**	P	Pn	13 32 43.9	+0.4
ALEP				S	Sn	13 32 49.3	-0.3
POHA	**Pohakuloa**	**0.32**	**93**	P	Pn	13 32 43.6	+0.2
POHA				S	Sn	13 32 49.0	-0.5
POHA	**Pohakuloa**	**0.32**	**93**	IAML		13 32 49.1	
	comp=E,1µm,0.2s						
POHA				IAML		13 32 49.6	
	comp=E,880nm,0.1s						
MLOA	**Mauna Loa Obse**	**0.36**	**130**	P	Pn	13 32 44.4	+0.2
MLOA				S	Sn	13 32 50.0	-0.7
MLOA	**Mauna Loa Obse**	**0.36**	**130**	IAML		13 32 50.4	
	comp=E,497nm,0.2s						
MLOA				IAML		13 32 50.4	
	comp=N,705nm,0.1s						
MWH	**Moku'aweowe**	**0.39**	**138**	P	Pn	13 32 44.4	-0.1
MWH				S	Sn	13 32 50.5	-0.8
HMH	**Humu'ula Sheep**	**0.40**	**115**	P	Pn	13 32 45.0	+0.5
HMH				S	Sn	13 32 51.5	+0.2
HMH	**Humu'ula Sheep**	**0.40**	**115**	IAML		13 32 51.7	
	comp=E,769nm,0.2s						
HMH				IAML		13 32 51.8	
	comp=N,746nm,0.1s						
MLH	**Mauna Loa**	**0.54**	**121**	P	Pn	13 32 46.4	+0.3
MLH				P	Pn	13 32 53.8	+7.6
MLH	**Mauna Loa**	**0.54**	**121**	IAML		13 32 54.1	
	comp=N,779nm,0.1s						
MLH				IAML		13 32 54.2	
	comp=E,794nm,0.1s						
AIN	**Ainahou**	**0.56**	**136**	P	Pn	13 32 46.5	+0.1
AIN				P	Pn	13 32 54.0	+7.6
AIN	**Ainahou**	**0.56**	**136**	IAML		13 32 54.7	
	comp=E,509nm,0.2s						
AIN				IAML		13 32 54.8	
	comp=N,739nm,0.3s						
KHU	**Kahuku**	**0.58**	**155**	P	Pn	13 32 46.7	0.0
KHU				P	Pn	13 32 54.1	+7.4
KHU	**Kahuku**	**0.58**	**155**	IAML		13 32 54.7	
	comp=N,324nm,1.7s						
KHU				IAML		13 32 55.0	
	comp=E,384nm,0.4s						
RSD	**Rainshed**	**0.64**	**119**	P	Pn	13 32 47.7	+0.3
RSD				P	Pn	13 32 55.8	+8.4
RSD	**Rainshed**	**0.64**	**119**	IAML		13 32 56.4	
	comp=E,1µm,0.3s						
RSD				IAML		13 32 56.6	
	comp=N,738nm,0.2s						
UWE	**Uwekahuna**	**0.65**	**123**	P	Pn	13 32 47.6	+0.1
WRMHI	**West Rim**	**0.65**	**124**	P	Pn	13 32 47.6	0.0
OBL	**Observatory Le**	**0.66**	**122**	P	Pn	13 32 47.6	-0.1
UWB	**Uwekahuna B**	**0.66**	**122**	P	Pn	13 32 47.5	-0.1
NPH	**North Pit**	**0.66**	**123**	Pn	Pn	13 32 47.8	0.0
NPH				IAML		13 33 13.1	
	comp=E,377nm,1.9s						
NPH				IAML		13 33 14.3	
	comp=N,519nm,1.8s						
SBLHI	**Steaming Bluff**	**0.66**	**121**	P	Pn	13 32 47.6	-0.2
SBLHI	**Steaming Bluff**	**0.66**	**121**	IAML		13 32 56.6	
	comp=N,444nm,0.7s						
SBLHI				IAML		13 33 01.3	
	comp=E,351nm,0.9s						
SDHHI	**Sand Hill**	**0.66**	**125**	Pn	Pn	13 32 48.0	+0.3
HATHI	**Halema'uma'u T**	**0.67**	**121**	IAML		13 32 56.9	
	comp=N,570nm,1.4s						
BYL	**Byron's Ledge**	**0.68**	**122**	IAML		13 33 09.2	
	comp=N,538nm,1.1s						
BYL				IAML		13 33 17.0	
	comp=E,703nm,1.4s						
PUH	**Pauahi**	**0.73**	**123**	IAML		13 32 55.5	
	comp=N,330nm,3.0s						

WEL 17 13:39:10.9±0.3, 42°S±3°×17°4E±', h13km±2km, M3.5/34, ML3.7/19, MLv3.5/34, Error ellipse: s-maj=0.0km s-min=0.0km az=157.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**47**	P	Pb	13 39 14.8	+0.2
CMWZ				S	Sb	13 39 18.2	+1.0
BSWZ	**Blackbirch Sta**	**0.21**	**300**	P	Pb	13 39 16.3	-0.2
BSWZ				S	Sb	13 39 20.3	+0.1
TUWZ	**Tuamarina**	**0.41**	**341**	P	Pb	13 39 20.0	+0.1
TUWZ				S	Sb	13 39 26.2	+0.2
TCW	**Tory Channel**	**0.62**	**11**	P	Pb	13 39 23.4	-0.1
WEL	**Wellington**	**0.72**	**43**	P	Pb	13 39 25.6	+0.3
KHZ	**Kahutara**	**0.74**	**215**	P	Pb	13 39 25.9	+0.4
NNZ	**Nelson**	**0.81**	**317**	P	Pb	13 39 27.1	+0.2
PLWZ	**Palliser**	**0.89**	**74**	P	Pg	13 39 27.8	-0.2
THZ	**Tophouse**	**0.91**	**273**	P	Pn	13 39 28.9	-0.4
MSWZ	**Moikau Station**	**0.94**	**65**	P	Pb	13 39 28.8	-0.1
CAW	**Cannon Point**	**1.01**	**46**	P	Pg	13 39 30.3	0.0
DUWZ	**D'Urville Isla**	**1.02**	**352**	P	Pg	13 39 30.7	+0.1
PAWZ	**Paruwai Farm**	**1.08**	**67**	P	Pn	13 39 30.4	-0.9
MRNZ	**Matariki Terra**	**1.10**	**292**	P	Pg	13 39 32.5	+0.5
KIW	**Kapiti Island**	**1.13**	**32**	P	Pn	13 39 32.4	+0.1
TKNZ	**Takaka Hill**	**1.17**	**312**	P	Pg	13 39 33.3	-0.1
MTW	**Mount Morrison**	**1.23**	**58**	P	Pn	13 39 32.6	-1.1
TRWZ	**Traveller**	**1.25**	**71**	P	Pn	13 39 32.4	-1.6
OGWZ	**Otaki Gorge**	**1.28**	**39**	P	Pn	13 39 34.1	-0.2
HOWZ	**Holdsworth Sta**	**1.40**	**49**	P	Pn	13 39 35.1	-0.9
GVZ	**Greta Valley S**	**1.40**	**214**	P	Pn	13 39 35.7	-0.4
TMWZ	**Te Maipa**	**1.51**	**63**	P	Pn	13 39 36.0	-1.6
QRZ	**Quartz Range**	**1.55**	**309**	P	Pb	13 39 39.6	+0.2
MRZ	**Mangatainoka R**	**1.60**	**44**	P	Pn	13 39 38.0	-0.7
LTZ	**Lake Taylor**	**1.67**	**234**	P	Pn	13 39 39.6	-0.2
TIWZ	**Tintock**	**1.69**	**53**	P	Pn	13 39 38.6	-1.5
DSZ	**Denniston Nort**	**1.73**	**272**	P	Pb	13 39 42.1	-0.4
OHWZ	**Ohakea**	**1.85**	**30**	P	Pb	13 39 43.4	-1.1
PRWZ	**Pori Road**	**1.89**	**49**	P	Pn	13 39 41.5	-1.2
POWZ	**Post Office Ro**	**1.89**	**42**	P	Pn	13 39 41.9	-0.9
BFZ	**Birch Farm**	**1.97**	**55**	P	Pn	13 39 42.0	-1.8
WAZ	**Wanganui**	**2.16**	**18**	P	Pb	13 39 48.5	-1.3
DVHZ	**Dannevirke**	**2.17**	**46**	P	Pn	13 39 44.9	-1.8
INZ	**Inchbonnie**	**2.18**	**245**	P	Pn	13 39 47.4	+0.7
ANWZ	**Angora Road**	**2.24**	**54**	P	Pn	13 39 44.3	-3.2
TSZ	**Takapari Road**	**2.25**	**39**	P	Pn	13 39 46.7	-1.0
LREZ	**Lake Rotokare**	**2.37**	**5**	P	Pb	13 39 53.0	-0.3
PRHZ	**Porangahau**	**2.46**	**52**	P	Pn	13 39 49.2	-1.4
PNHZ	**Pukenui**	**2.47**	**40**	P	Pn	13 39 49.5	-1.4
WPHZ	**Waipukurau**	**2.48**	**46**	P	Pn	13 39 49.4	-1.6
KHEZ	**Kahui Hut**	**2.52**	**358**	P	Pb	13 39 55.8	-0.2
NEZ	**North Egmont**	**2.54**	**360**	P	Pb	13 39 55.6	-0.8
NBEZ	**Newall Road No**	**2.55**	**356**	P	Pb	13 39 55.8	-0.7
PKE	**Pukeiti**	**2.62**	**358**	P	Pb	13 39 56.1	-1.6
DREZ	**Durham Road**	**2.63**	**1**	P	Pb	13 39 56.4	-1.3
WACZ	**Wakanui South**	**2.70**	**217**	P	Pn	13 39 52.5	-1.5
MOVZ	**Moawhango**	**2.71**	**28**	P	Pn	13 39 54.0	-0.1
WNVZ	**Wahianoa**	**2.73**	**25**	P	Pn	13 39 55.2	+0.7
VRZ	**Vera Road**	**2.73**	**11**	P	Pn	13 39 56.2	+1.9
TRVZ	**Turoa**	**2.74**	**24**	P	Pn	13 39 56.4	+1.7
BHHZ	**Black Hill Sta**	**2.76**	**33**	P	Pn	13 39 54.3	-0.4
DRZ	**Dome Shelter**	**2.77**	**24**	P	Pb	13 40 00.5	+0.2
WHVZ	**Whangaehu Hut**	**2.77**	**24**	P	Pn	13 39 56.0	+0.9
FWVZ	**Far West T-bar**	**2.78**	**24**	P	Pb	13 40 00.0	-0.5
WVZ	**Waitaha Valley**	**2.80**	**242**	P	Pn	13 39 57.8	+2.6
TUVZ	**Tukino**	**2.80**	**25**	P	Pb	13 40 00.9	+0.1
NGZ	**Ngauruhoe**	**2.87**	**24**	P	Pb	13 40 00.8	-1.3
SNVZ	**South Ngauruho**	**2.87**	**24**	P	Pb	13 40 00.3	-1.7
OTVZ	**Oturere**	**2.90**	**25**	P	Pb	13 40 03.4	+0.8
KAHZ	**Kahuranaki**	**2.91**	**47**	P	Pn	13 39 54.5	-2.4
NNVZ	**North Ngauruho**	**2.92**	**24**	P	Pn	13 39 58.4	+1.4
WTVZ	**West Tongariro**	**2.92**	**23**	P	Pb	13 40 01.9	-0.9
RPZ	**Rata Peaks**	**2.95**	**229**	P	Pn	13 39 56.7	-0.6
KRVZ	**Karewarewa**	**2.96**	**24**	P	Pb	13 40 01.5	-2.0
TMVZ	**

RPZ	**Rata Peaks**	**3.08**	**228**	P	**Pb**	**13 43 38.5**	**-0.7**
HIZ	**Hauiti**	**3.23**	**9**	P	**Pb**	**13 43 41.0**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**3.30**	**240**	P	**Pb**	**13 43 41.9**	**-1.0**
TMZ	**Timaru**	**3.57**	**220**	P	**Pn**	**13 43 39.5**	**0.0**
RAGZ	**Rawiri**	**4.04**	**38**	P	**Pn**	**13 43 46.1**	**+0.2**
URZ	**Urewera**	**4.10**	**34**	P	**Pn**	**13 43 50.4**	**+3.8**
JCZ	**Jackson Bay**	**4.64**	**238**	P	**Pn**	**13 43 59.0**	**+4.8**
MKAZ	**Moumakai**	**4.66**	**9**	P	Pn	13 44 00.4	+6.0
ASAR	**Alice Springs**	**38.00**	**285**	P	**P**	**13 50 02.1**	**0.0**
	0.8nm,1.1s,baz=129,slow=6.7,SNR=2.9 0.8nm,1.1s						
WRA	**Warramunga Arr**	**40.07**	**290**	P	**P**	**13 50 19.2**	**-0.2**
	0.2nm,0.6s,baz=127,slow=8.2,SNR=1.3 0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.81**	**195**	PKPbc	**PKPbc**	**14 02 36.8**	**+0.1**
	0.3nm,0.5s,baz=170,slow=2.4,SNR=1.6						

*ISK **17** 13:59:00.9, 38°.22N×26°.16E, h9km, ML2.8/16*
*ATH **17** 13:59:00.8, 38°.14N×26°.02E, h44km±7km, ML2.8/2, Error ellipse: s-maj=8.1km s-min=1.4km az=293.0*
*DDA **17** 13:59:00.0±0.0, 38°.12N×26°.10E, h7km±3km, ML2.4*
*THE **17** 13:59:00.3, 38°.19N×26°.16E, h1km±2km, ML2.8/4, Error ellipse: s-maj=2.1km s-min=0.8km az=177.0*

ISC 17 13:59:00.4±1.0, 38°.16N±0°.02×26°.13E±0°.02, h10km±9km, n43, σ0971/61, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.30**	**75**	P	**Pb**	**Pb**	**13 59 07.3**	**-0.7**
ZEYE				*i* AML	AML	AML	13 59 12.0	
	comp=N,848nm,0.3s							
ZEYE				S	**Sb**	**Sb**	**13 59 12.4**	**-0.7**
URLA	**Izmir**	**0.42**	**61**	PG	**Pg**	**Pg**	**13 59 08.7**	**0.0**
URLA				SG	**Sg**	**Sg**	**13 59 14.4**	**+0.2**
URLA	**Izmir**	**0.42**	**61**	P	**Pg**	**Pg**	**13 59 08.4**	**-0.3**
URLA				S	**Sb**	**Sb**	**13 59 15.5**	**-0.9**
URLA				*i* AML	AML	AML	13 59 18.0	
	comp=E,324nm,0.9s							
PSRA	**Psara**	**0.59**	**311**	P	**Pg**	**Pg**	**13 59 12.7**	**+0.9**
PSRA				S	**Sg**	**Sg**	**13 59 20.6**	**+1.0**
DGB	**zmir**	**0.60**	**100**	P	**Pg**	**Pg**	**13 59 12.5**	**+0.3**
DGB				S	**Sb**	**Sb**	**13 59 21.1**	**-0.5**
DGB				*i* AML	AML	AML	13 59 22.0	
	comp=N,216nm,0.4s							
SMG	**Samos**	**0.72**	**129**	P	**Pg**	**Pg**	**13 59 14.5**	**+0.2**
SMG				S	**Sb**	**Sb**	**13 59 25.0**	**0.0**
	540nm,0.4s							
FOCM	**Foa**	**0.73**	**40**	PG	**Pb**	**Pb**	**13 59 15.2**	**0.0**
BLCB	**Balcova**	**0.75**	**72**	PG	**Pb**	**Pb**	**13 59 15.2**	**-0.4**
BLCB				SG	**Sb**	**Sb**	**13 59 25.4**	**-0.6**
BLCB	**Balcova**	**0.75**	**72**	P	**Pg**	**Pg**	**13 59 14.2**	**-0.8**
BLCB				S	**Sb**	**Sb**	**13 59 25.4**	**-0.6**
TNSA	**Tinos**	**0.98**	**231**	P	**Pg**	**Pg**	**13 59 18.6**	**-0.7**
TNSA				S	**Sg**	**Sg**	**13 59 31.3**	**-0.8**
GCAM	**G?zelcaml?**	**0.99**	**117**	PG	**Pn**	**Pn**	**13 59 20.3**	**0.0**
GCAM	**G?zelcaml?**	**0.99**	**117**	P	**Pg**	**Pg**	**13 59 18.1**	**-1.2**
GCAM				S	**Sg**	**Sg**	**13 59 31.3**	**-0.9**
GCAM				*i* AML	AML	AML	13 59 35.0	
	comp=N,68nm,0.8s							
SIGR	**SIGRI**	**1.07**	**349**	PG	**Pg**	**Pg**	**13 59 20.9**	**-0.2**
SIGR	**SIGRI**	**1.07**	**349**	P	**Pg**	**Pg**	**13 59 20.9**	**-0.2**
SIGR				S	**Sb**	**Sb**	**13 59 35.2**	**0.0**
	382nm,0.5s							
SIGR	**SIGRI**	**1.07**	**349**	P	**Pg**	**Pg**	**13 59 20.9**	**-0.2**
SIGR				S	**Sn**	**Sn**	**13 59 36.3**	**-0.2**
SIGR				AML	AML	AML	13 59 38.3	
	comp=E,626μm,0.4s							
SIGR				AML	AML	AML	13 59 39.6	
	comp=N,739μm,0.4s							
PRK	**Paraskevi**	**1.09**	**6**	P	**Pg**	**Pg**	**13 59 19.6**	**-1.8**
PRK				S	**Sn**	**Sn**	**13 59 36.5**	**-0.5**
	comp=N,510nm,0.7s							
PRK	**Paraskevi**	**1.09**	**6**	P	**Pn**	**Pn**	**13 59 21.8**	**0.0**
PRK				S	**Sn**	**Sn**	**13 59 36.4**	**-0.5**
PRK				AML	AML	AML	13 59 40.4	
	comp=E,1172μm,1.1s							
PRK				AML	AML	AML	13 59 41.3	
	comp=N,873μm,0.4s							
DKL	**Dikili**	**1.09**	**33**	PG	**Pg**	**Pg**	**13 59 21.1**	**-0.4**
ZEDA	**zmir-Bergama**	**1.10**	**42**	P	**Pb**	**Pb**	**13 59 21.4**	**-0.1**
ZEDA				S	**Sn**	**Sn**	**13 59 38.0**	**+0.8**
ZEDA				*i* AML	AML	AML	13 59 39.0	
	comp=N,232nm,0.5s							
APE	**Apeiranthos**	**1.19**	**204**	P	**Pb**	**Pb**	**13 59 21.5**	**-1.6**
AYVA	**Ayvalik**	**1.23**	**21**	P	**Pg**	**Pg**	**13 59 24.5**	**+0.5**
AYVA				S	**Sn**	**Sn**	**13 59 40.8**	**+0.4**
AYVA				*i* AML	AML	AML	13 59 44.0	
	comp=N,210nm,0.4s							
GPNR	**Gulpinar-Canak**	**1.29**	**0**	PN	**Pn**	**Pn**	**13 59 24.8**	**+0.2**
KOCA	**Canakkale, Ayv**	**1.34**	**0**	P	**Pn**	**Pn**	**13 59 24.8**	**-0.5**
KOCA				S	**Sg**	**Sg**	**13 59 44.6**	**+1.0**
KOCA				*i* AML	AML	AML	13 59 47.0	
	comp=N,170nm,0.8s							
AYDB	**Zeytinkoy-Aydi**	**1.41**	**98**	PN	**Pb**	**Pb**	**13 59 27.1**	**+0.2**
BODT	**Bodrum**	**1.44**	**139**	PN	**Pg**	**Pg**	**13 59 28.3**	**+0.2**
AYDN	**Tasoluk**	**1.47**	**109**	P	**Pg**	**Pg**	**13 59 28.6**	**0.0**
KOSK	**Kos Island**	**1.56**	**154**	PN	**Pb**	**Pb**	**13 59 30.3**	**+0.9**
MLSB	**Milas**	**1.56**	**123**	PN	**Pb**	**Pb**	**13 59 29.8**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.61**	**12**	P	**Pn**	**Pn**	**13 59 28.1**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.66**	**287**	P	**Pn**	**Pn**	**13 59 29.6**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.66**	**287**	P	**Pn**	**Pn**	**13 59 29.1**	**-0.6**
EZN	**Ezine**	**1.67**	**5**	PN	**Pn**	**Pn**	**13 59 29.4**	**-0.4**
BOZC	**Bozcaada**	**1.68**	**358**	PN	**Pn**	**Pn**	**13 59 30.5**	**+0.6**
DION	**Dionisos Attik**	**1.73**	**268**	P	**Pn**	**Pn**	**13 59 31.2**	**+0.5**
DION				S	**Sb**	**Sb**	**13 59 54.8**	**+0.6**
	comp=N,285nm,0.4s							
THT2	**Imerovigli**	**1.81**	**198**	PN	**Pb**	**Pb**	**13 59 34.1**	**+0.4**
DAT	**Datca**	**1.83**	**141**	PN	**Pb**	**Pb**	**13 59 33.8**	**-0.4**
KULA	**Kula-Manisa**	**2.02**	**79**	PN	**Pn**	**Pn**	**13 59 35.6**	**+0.9**
GADA	**Gvkgeada**	**2.04**	**355**	PN	**Pn**	**Pn**	**13 59 35.5**	**+0.7**
GELI	**Tayfur-Gelibol**	**2.25**	**7**	PN	**Pn**	**Pn**	**13 59 38.3**	**+0.5**
LPK	**Lapseki**	**2.26**	**12**	PN	**Pn**	**Pn**	**13 59 38.8**	**+0.9**
KRBG	**Karabiga-Canak**	**2.41**	**22**	PN	**Pn**	**Pn**	**13 59 40.7**	**+0.8**
DALY	**Dalyan (Mula)**	**2.41**	**123**	PN	**Pn**	**Pn**	**13 59 41.9**	**+1.9**
EDC	**Edincik**	**2.57**	**31**	PN	**Pn**	**Pn**	**13 59 42.8**	**+0.7**

*IDC **17** 14:07:48.9±0.7, 1°.09N×129°.22E, h0km, mb4.1/11, mbtmp4.2/13, ML4.7/2, MS3.5/18, Error ellipse: s-maj=31.4km s-min=11.8km az=75.0*
*DJA **17** 14:07:54.1±1.1, 1°.1±3°×12°.9E±°, h37km±25km, M4.6/17, mb4.9/8, mB5.1/7, MLv4.6/17, Mw(mB)4.5/7*
*NEIC **17** 14:07:56.4±2.4, 0°.6N±0°.1×129°.0E±0°.1, h71km±9km, mb4.4/15, Error ellipse: s-maj=22.7km s-min=9.7km az=219.0*

ISC 17 14:07:53.3±0.8, 0°.95N±0°.05×129°.21E±0°.05, h38km±2km, n93, σ2937/85, mb4.4/23, MS3.4/18, 5C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAMI	**Galela, Maluku**	**1.67**	**302**	P	**Pn**	**Pn**	**14 08 18.6**	**-1.4**
GAMI				S	**Sn**	**Sn**	**14 08 40.4**	**+0.2**
TNTI	**Ternate**	**1.85**	**265**	Pn	**Pn**	**Pn**	**14 08 22.1**	**-0.3**
TNTI	**Ternate**	**1.85**	**265**	P	**Pn**	**Pn**	**14 08 22.7**	**+0.3**
TNTI				S	**Sn**	**Sn**	**14 08 46.8**	**+2.3**
LBMI	**Labuha**	**2.32**	**227**	P	**Pn**	**Pn**	**14 08 29.1**	**+0.1**
LBMI				S	**Sn**	**Sn**	**14 08 57.4**	**+1.2**
SIJI	**Sorong**	**2.74**	**131**	Pn	**Pn**	**Pn**	**14 08 35.1**	**+0.3**
	110nm,0.3s,baz=286,slow=9.3,SNR=311							
SIJI				Sn		**Sn**	**14 09 08.4**	**+1.8**
	74nm,0.3s,baz=202,slow=22,SNR=26 252nm,0.3s							
SIJI	**Sorong**	**2.74**	**131**	P	**Pn**	**Pn**	**14 08 35.0**	**+0.3**
SIJI				S	**Sn**	**Sn**	**14 09 08.0**	**+1.4**
MSAI	**Masohi**	**4.27**	**184**	P	**Pn**	**Pn**	**14 08 59.3**	**+3.5**
MSAI				S	**Sn**	**Sn**	**14 09 48.7**	**+4.2**
KRAI	**Karang Ratu**	**4.31**	**191**	P	**Pn**	**Pn**	**14 08 58.8**	**+2.4**
SANI	**Sanana**	**4.38**	**227**	P	**Pn**	**Pn**	**14 08 57.2**	**-0.1**
SANI				S	**Sn**	**Sn**	**14 09 46.6**	**-0.5**
SGSI	**Sangihe**	**4.57**	**307**	P	**Pn**	**Pn**	**14 09 04.5**	**+4.6**
SGSI				S	**Sn**	**Sn**	**14 09 51.7**	**-0.1**
NLAI	**Namlea**	**4.66**	**207**	P	**Pn**	**Pn**	**14 09 02.6**	**+1.5**
NLAI				S	**Sn**	**Sn**	**14 09 55.0**	**+1.0**
AAI	**Ambon**	**4.71**	**192**	P	**Pn**	**Pn**	**14 09 03.8**	**+1.9**
AAI				S	**Sn**	**Sn**	**14 09 57.0**	**+1.7**
FAKI	**Fak Fak**	**4.90**	**142**	Pn	**Pn**	**Pn**	**14 09 05.2**	**+0.8**
FAKI	**Fak Fak**	**4.90**	**142**	P	**Pn**	**Pn**	**14 09 05.2**	**+0.8**
FAKI				S	**Sn**	**Sn**	**14 10 00.3**	**+0.4**
MWPI	**Manokwari, Pap**	**5.18**	**111**	P	**Pn**	**Pn**	**14 09 11.7**	**+3.4**
	0.7nm103nm,0.7s							
MWPI				S	**Sn**	**Sn**	**14 10 06.2**	**-0.7**
	0.7nm103nm,0.7s							
BNDI	**Bandanaira**	**5.48**	**173**	P	**Pn**	**Pn**	**14 09 14.0**	**+1.6**
	0.9nm3μm220nm,0.7s							
RKPI	**Ransiki, Papua**	**5.54**	**116**	P	**Pn**	**Pn**	**14 09 14.6**	**+1.4**
	0.7nm4μm98nm,0.7s							
GTOI	**Gorontalo**	**6.20**	**267**	P	**Pn**	**Pn**	**14 09 26.1**	**+3.8**
	0.1nm328nm32nm,0.7s							
LUWI	**Luwuk**	**6.73**	**253**	Pn	**Pn**	**Pn**	**14 09 30.4**	**+0.8**
LUWI	**Luwuk**	**6.73**	**253**	P	**Pn**	**Pn**	**14 09 29.8**	**+0.2**
	0.4nm2μm76nm,0.6s							
KCP	**Kidapawan**	**7.29**	**326**	*e*P	**Pn**	**Pn**	**14 09 36.4**	**-0.9**
BIPH	**Bislig**	**7.73**	**339**	*e*P	**Pn**	**Pn**	**14 09 40.3**	**-3.0**
BIPH				*i* S	Sn	Sn	14 10 56.3	-13
APSI	**Ampana**	**7.78**	**256**	P	**Pn**	**Pn**	**14 09 44.4**	**+0.4**
	0.4nm1μm110nm,0.6s							
CTBH	**Cotabato--PC H**	**7.96**	**322**	*e*P	**Pn**	**Pn**	**14 09 50.4**	**+4.0**
BUKP	**Musuan**	**8.03**	**329**	*e*P	**Pn**	**Pn**	**14 09 47.9**	**+0.4**
TOLI2	**Tolitoli**	**8.42**	**271**	Pn	**Pn**	**Pn**	**14 09 53.2**	**+0.3**
SAUI	**Saumlaki**	**9.11**	**167**	Pn	**Pn**	**Pn**	**14 10 01.6**	**-0.8**
SPSI	**Sidrap Palu**	**10.62**	**243**	P	**Pn**	**Pn**	**14 10 23.6**	**+0.7**
	950m83nm,0.6s							
BKSI	**Bulukumba**	**11.00**	**235**	P	**Pn**	**Pn**	**14 10 29.4**	**+1.2**
KAPI	**Kappang**	**11.15**	**238**	Pn	**Pn**	**Pn**	**14 10 31.2**	**+1.0**
	5.2nm,0.3s,baz=181,slow=14,SNR=2.9 11nm,0.3s							
MYLDM	**Lahad Datu**	**11.48**	**292**	Pn	**Pn**	**Pn**	**14 10 34.8**	**0.0**
BATI	**Baumata**	**12.38**	**206**	LR	LR	LR	14 15 28.9	
	comp=Z,172nm,20.5s,baz=62,slow=37							
MTN	**Manton Dam**	**13.83**	**172**	Pn	**Pn**	**Pn**	**14 11 03.2**	**-3.7**
MTN	**Manton Dam**	**13.83**	**172**	P	**Pn**	**Pn**	**14 11 04.0**	**-2.9**
KDU	**Kakadu**	**13.93**	**167**	P	**Pn**	**Pn**	**14 11 04.5**	**-3.7**
KNRA	**Kununurra**	**16.52**	**181**			**Pn**	**14 11 36.5**	**-5.7**
KNRA					IAmb	IAmb	14 11 54.2	
	comp=Z,18nm,0.8s							
PMG	**Port Moresby**	**20.63**	**120**	LR	LR	LR	14 20 33.1	
	comp=Z,115nm,20.8s,baz=268,slow=37							
WB0	**Warramunga Arr**	**21.20**	**166**	P	**P**	**P**	**14 12 33.0**	**-2.8**
WB0					IAmb	IAmb	14 12 42.1	
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**21.36**	**167**	P	**P**	**P**	**14 12 35.0**	**-2.4**
WRAB					IAmb	IAmb	14 12 39.5	
	comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**21.36**	**167**	P	**P**	**P**	**14 12 38.9**	**+1.5**
WRA	**Warramunga Arr**	**21.36**	**167**	P	**P**	**P**	**14 12 38.8**	**+1.3**
	comp=Z,13nm,0.8s,baz=344,slow=11,SNR=84							
WRA					S	**S**	**14 16 26.5**	**-6.3**
	comp=Z,0.5nm,0.7s,baz=347,slow=25,SNR=0.9							
WRA					LR	LR	14 21 42.4	
	comp=Z,121nm,20.1s,baz=348,slow=39 comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**21.36**	**167**	P	**P**	**P**	**14 12 33.2**	**-4.3**
WB2	**Warramunga Arr**	**21.36**	**167**	P	**P**	**P**	**14 12 36.2**	**-1.3**
WB2					IAmb	IAmb	14 12 39.6	
	comp=Z,14nm,0.8s							
WB1	**Warramunga Ar.**	**21.38**	**167**	P	**P**	**P**	**14 12 38.9**	**+1.2**
KRVT	**Keravat (AS076**	**23.39**	**103**	LR	LR	LR	14 20 38.4	
	comp=Z,114nm,18.1s,baz=46,slow=33							
QIS	**Mount Isa**	**23.67**	**155**	P	**P**	**P**	**14 13 03.9**	**+2.3**
TPUB	**Ta-pu**	**23.73**	**340**	P	**P**	**P**	**14 12 59.9**	**-2.1**
TPUB					IAmb	IAmb	14 13 18.2	
	comp=Z,25nm,1.1s							
SSLB	**Suanglung**	**24.07**	**341**	P	**P**	**P**	**14 13 05.1**	**-0.2**
SSLB					IAmb	IAmb	14 13 13.0	
	comp=Z,20nm,1.1s							
YHNB	**Yeheng**	**24.77**	**343**	P	**P**	**P**	**14 13 10.3**	**-1.3**
YHNB					IAmb	IAmb	14 13 18.9	
	comp=Z,28nm,1.0s							
AS31	**Alice Springs**	**24.89**	**170**	P	**P**	**P**	**14 13 11.7**	**-1.0**
ASAR	**Alice Springs**	**24.89**	**170**	P	**P**	**P**	**14 13 14.7**	**+2.0**
	comp=Z,6.6nm,0.6s,baz=350,slow=10,SNR=120							
ASAR					S	**S**	**14 17 42.3**	**+8.8**
	comp=Z,0.7nm,0.8s,baz=349,slow=17,SNR=1.9							
ASAR					LR	LR	14 25 33.5	
	comp=Z,100nm,19.7s,baz=348,slow=42 comp=Z,6.6nm,0.6s							
ASAR	**Alice Springs**	**24.89**	**170**	P	**P**	**P**	**14 13 10.3**	**-2.4**
AS01	**Alice Springs**	**24.89**	**170**	P	**P**	**P**	**14 13 15.2**	**+2.4**
JOW	**Kunigami**	**25.75**	**358**	LR	LR	LR	14 22 33.0	
	comp=Z,119nm,19.4s,baz=180,slow=34							
WRKA	**Warakurna**	**25.84**	**182**	P	**P**	**P**	**14 13 23.6**	**+2.2**
CTA	**Charters Tower**	**26.76**	**142**	LR	LR	LR	14 25 55.1	
	comp=Z,133nm,19.1s,baz=309,slow=40							
INKA	**Innaminka**	**30.60**	**160**	P	P	P	14 14 09.2	+5.4
MULG	**Mulgathing**	**31.40**	**172**	P	P	P	14 14 16.6	+5.9
HNR	**Honiara**	**32.30**	**109**	LR	LR	LR	14 27 58.7	
	comp=Z,513nm,20.4s,baz=328,slow=37							
NJ2	**Nanjing**	**32.45**	**343**	*e*P		**P**	**14 14 21.8**	**+1.9**
NJ2					pmax	pmax		
	comp=Z,11nm,0.5s							
BBOO	**Buckleboo**	**34.19**	**170**	P	**P**	**P**	**14 14 31.9**	**-3.3**
CMAR	**Chiang Mai Arr**	**34.42**	**302**	P	**P**	**P**	**14 14 37.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=119,slow=9.4,SNR=5.4 comp=Z,0.6nm,0.7s							
STKA	**Stephens Creek**	**34.69**	**161**	P	**P**	**P**	**14 14 41.0**	**+1.5**
	comp=Z,3.4nm,0.4s,baz=342,slow=8.7,SNR=9.6 comp=Z,3.4nm,0.4s							
STKA	**Stephens Creek**	**34.69**	**161**	P	**P**	**P**	**14 14 37.3**	**-2.2**
KSRS	**Korea Array**	**36.35**	**358**	P	**P**	**P**	**14 14 53.4**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=176,slow=9.8,SNR=8.8							
KSRS					LR	LR	14 27 42.5	
	comp=Z,60nm,21.8s,baz=190,slow=33 comp=Z,1.2nm,0.5s							
MJAR	**Matsushiro Arr**	**36.39**	**12**	P	**P**	**P**	**14 14 54.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=189,slow=9.4,SNR=5.5							
MJAR					LR	LR	14 27 00.6	
	comp=Z,54nm,20.2s,baz=180,slow=32 comp=Z,1.4nm,0.7s							
ARMA	**Armidale**	**37.80**	**147**	P	**P**	**P**	**14 15 04.1**	**-2.2**
XAN	**Xi'an**	**38.01**	**332**	⇑P	**P**	**P**	**14 15 08.5**	**+0.6**
XAN					pP	pP	14 15 13.9	-4.3
XAN					pmax	pmax		
	comp=Z,11nm,1.1s							
XAN					LR	LR		
	comp=E,200nm,15.8s							
H11S3	**WAKE ISLAND Hy**	**40.70**	**62**	T	T	T	14 58 48.4	
	baz=248,slow=75,SNR=42							
H11S2	**WAKE ISLAND Hy**	**40.71**	**62**	T	T	T	14 58 50.3	
	baz=248,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**40.72**	**62**	T	T	T	14 58 51.0	
	baz=248,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**41.33**	**61**	T	T	T	14 59 35.4	
	baz=247,slow=75,SNR=154							
H11N2	**WAKE ISLAND Hy**	**41.34**	**61**	T	T	T	14 59 37.5	
	baz=247,slow=75,SNR=112							
H11N3	**WAKE ISLAND Hy**	**41.34**	**61**	T	T	T	14 59 39.1	
	baz=247,slow=75,SNR=180							
LZH	**Lanzhou**	**42.14**	**329**	*e*P		**P**	**14 15 42.8**	**+0.5**
LZH					pP	pP	14 15 49.0	-3.7
LZH					sP	pwP	14 15 52.3	-2.8
LZH					pmax	pmax		
	comp=Z,12nm,0.9s							
DZM	**Mont Dzumac**	**42.92**	**124**	LR	LR	LR	14 33 27.5	
	comp=Z,46nm,19.8s,baz=5.5,slow=36							
USRK	**Ussuriysk Ar.**	**43.14**	**3**	P	**P**	**P**	**14 15 50.1**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=145,slow=41,SNR=2.9 comp=Z,1.4nm,0.6s							
ASAJ	**Asahikawa**	**44.60**	**14**	LR	LR	LR	14 33 03.0	
	comp=Z,47nm,20.6s,baz=146,slow=34							
GTA	**Gaotai**	**46.74**	**329**	*e*P		**P**	**14 16 19.3**	**+0.3**
GTA					pP	pP	14 16 22.8	-6.7
GTA					sP	pwP	14 16 25.8	-6.2
GTA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KLR	**Kul'dur**	**48.15**	**2**	LR	LR	LR	14 36 55.1	
	comp=Z,23nm,19.8s,baz=160,slow=36							
SONM	**Songino Array**	**50.72**	**340**	P	**P**	**P**	**14 16 51.5**	**+2.1**
	comp=Z,1.1nm,0.6s,baz=145,slow=8.3,SNR=2.8 comp=Z,1.1nm,0.6s							
MSVF	**Nonsavu**	**51.52**	**114**	LR	LR	LR	14 38 45.9	
	comp=Z,60nm,18.3s,baz=283,slow=36							
MA2	**Magadan**	**60.83**	**12**	LR		LR	14 46 49.0	
	comp=Z,22nm,18.1s,baz=306,slow=39							
YAK	**Yakutsk**	**60.93**	**0**	LR	LR	LR	14 45 27.5	
	comp=Z,36nm,19.2s,baz=91,slow=37							
MK31	**Makanchi Array**	**61.24**	**325**	P	**P**	**P**	**14 18 04.6**	**+0.1**
MK31					IAmb	IAmb	14 18 11.4	
	comp=Z,1.7nm,0.7s							
MKAR	**Makanchi Array**	**61.24**	**325**	P	**P**	**P**	**14 18 04.6**	**0.0**
	comp=Z,0.9nm,0.4s,baz=117,slow=7.8,SNR=15 comp=Z,0.9nm,0.4s							
MKAR	**Makanchi Array**	**61.24**	**325**	P	**P**	**P**	**14 18 03.9**	**-0.6**
ZALV	**Zalesovo Beam**	**64.18**	**333**	P	**P**	**P**	**14 18 23.4**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=111,slow=8.1,SNR=3.6 comp=Z,1.1nm,0.6s							
KURK	**Kurchatov**	**65.40**	**327**	P	**P**	**P**	**14 18 32.2**	**+0.2**
TIXI	**Tiksi**	**70.59**	**360**	LR	LR	LR	14 49 58.6	
	comp=Z,37nm,19.4s,baz=252,slow=36							
VNDA	**Vanda**	**80.38**	**173**	P	**P**	**P**	**14 20 03.1**	**+2.9**
	comp=Z,0.6nm,0.9s,baz=2.6,slow=4.9,SNR=3.2 comp=Z,0.6nm,0.9s							
QSPA	**South Pole Qui**	**90.87**	**180**	P	**P**	**P**	**14 20 49.4**	**-3.3**
QSPA					IAmb	IAmb	14 20 59.2	
	comp=Z,1.5nm,0.9s							
RES	**Resolute Bay**	**100.08**	**11**	LR	LR	LR	15 05 08.9	
	comp=Z,56nm,21.8s,baz=2.5,slow=34							

*IDC **17** 14:15:11.3±1.3, 23°.04N×126°.46E, h0km, mb3.5/3, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=46.5km s-min=21.7km az=83.0*
*JMA **17** 14:15:15.8±0.3, 23°.1N±1°.1×125°.8E±0°.9, h128km, MV3.2/25, FAR S OFF OKINAWAJIMA*

ISC 17 14:15:14.1±2.9, 23°.2N±0°.3×126°.0E±0°.1, h109km±38km, n25, σ0888/41, mb3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JOGS	**Gusukube**	**1.60**	**342**	P	**Pn**	**Pn**	**14 15 42.8**	**+0.7**
JOGS				S	**Sn**	**Sn**	**14 16 03.6**	**+0.2**
JMJ2	**Miyako jima3**	**1.61**	**340**	P	**Pn**	**Pn**	**14 15 42.6**	**+0.5**
JMJ2				S	**Sn**	**Sn**	**14 16 02.9**	**-0.6**
JIRB	**Irabujima**	**1.75**	**336**	P	**Pn**	**Pn**	**14 15 44.3**	**+0.4**
JIKM	**Ikemajima**	**1.81**	**339**	P	**Pn**	**Pn**	**14 15 45.3**	**+0.7**
JTJ	**Tarama**	**1.81**	**321**	P	**Pn**	**Pn**	**14 15 45.2**	**+0.6**
JTJ				S	**Sn**	**Sn**	**14 16 07.6**	**-0.3**
JIJ	**Ishigaki jima**	**2.00**	**305**	*i* P	**Pn**	**Pn**	**14 15 47.5**	**+0.4**
JIJ				S	**Sn**	**Sn**	**14 16 10.9**	**-1.3**
JISG	**Ishigakijimahi**	**2.02**	**312**	P	**Pn**	**Pn**	**14 15 48.0**	**+0.8**
JISG				S	**Sn**	**Sn**	**14 16 12.4**	**-0.3**
JKRS	**Kuro-shima**	**2.04**	**300**	P	**Pn**	**Pn**	**14 15 48.3**	**+0.8**
JKRS				S	**Sn**	**Sn**	**14 16 11.9**	**-1.2**
HATJ	**Hateruma jima**	**2.13**	**293**	P	**Pn**	**Pn**	**14 15 49.2**	**+0.5**
HATJ				*e*S	**Sn**	**Sn**	**14 16 13.6**	**-1.5**
IRIF	**Iriomote-Funau**	**2.31**	**299**	P	**Pn**	**Pn**	**14 15 51.7**	**+0.7**
IRIF				*e*S	**Sn**	**Sn**	**14 16 18.8**	**-0.6**
YOJJ	**Yonaguni jima**	**2.96**	**295**	P	**Pn**	**Pn**	**14 16 00.8**	**+1.3**
YOJ				*e*S	**Sn**	**Sn**	**14 16 33.3**	**-1.1**
JYNG	**Yonagunijimaku**	**3.01**	**295**	P	**Pn**	**Pn**	**14 16 01.2**	**+1.1**
JYNG				*e*S	**Sn**	**Sn**	**14 16 34.8**	**-0.8**
JKE	**Kume jima 2**	**3.18**	**14**	P	**Pn**	**Pn**	**14 16 02.9**	**+0.5**
JKE				*e*S	**Sn**	**Sn**	**14 16 39.1**	**-0.6**
JJT3	**Tamagusuku3**	**3.35**	**30**	P	**Pn**	**Pn**	**14 16 05.1**	**+0.4**
JJT3				*e*S	**Sn**	**Sn**	**14 16 43.7**	**-0

BHHZ	Black Hill Sta	3.32	35	P		Pg	14 27 01.1	0.0
ODZ	Otahua Downs	3.54	216	P		Pn	14 26 51.3	-1.9
BKZ	Black Stump Fm	3.77	37	P		Pb	14 27 05.7	+1.0
HIZ	Hauiti	3.84	15	P		Pb	14 27 02.6	-3.2
NMHZ	Naumai	3.97	39	P		Pb	14 27 07.8	-0.3
JCZ	Jackson Bay	3.97	241	P		Pn	14 27 00.5	+1.2
MRHZ	Matea Rd	4.02	33	P		Pg	14 27 13.2	-1.4

IDC 17 14:26:27.3±3.1,1°.07N×93°.18E,h0km,mb3.4/4, mbtmp3.4/5,MS3.7/1,Error ellipse: s-maj=106.6km s-min=26.1km az=61.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.19**	**18**	P	Pn	14 30 41.5	+0.2
	0.4nm,0.3s,baz=204,slow=13,SNR=5.2						
H08S2	**Diego Garcia H**	**22.38**	**247**	T	T	14 53 00.7	
	baz=68,slow=74						
H08S3	**Diego Garcia H**	**22.38**	**247**	T	T	14 53 01.0	
H08S1	**Diego Garcia H**	**22.39**	**247**	T	T	14 53 02.2	
	baz=68						
WRA	**Warramunga Arr**	**45.42**	**120**	P	P	14 34 48.4	+0.2
	0.4nm,0.5s,baz=295,slow=8.5,SNR=5.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**46.53**	**350**	P	P	14 34 56.4	-0.1
	0.3nm,0.6s,baz=184,slow=8.7,SNR=2.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**46.58**	**125**	P	P	14 34 56.8	-0.5
	0.3nm,1.0s,baz=299,slow=8.0,SNR=1.6						
	0.3nm,1.0s						
ZALV	**Zalesovo Beam**	**53.16**	**354**	P	P	14 35 46.7	-0.1
	0.4nm,0.4s,baz=177,slow=5.5,SNR=2.3						
ZALV				LR	LR	15 01 44.0	
	comp=Z,61nm,18.1s,baz=22,slow=40						
	0.4nm,0.4s						

*IDC **17** 14:29:17.1±0.5,55°.73S×27°.21W,h0km,mb4.7/13, mbtmp4.7/14,ML4.5/1,MS3.9/22,Error ellipse: s-maj=20.3km s-min=11.1km az=65.0*

*NEIC **17** 14:29:22.4±1.8,55°.83S±0°.03×27°.3W±0°.2,h35km±1km, mb5.1/65,Error ellipse: s-maj=15.4km s-min=4.0km az=255.0*

*GCMT **17** 14:29:23.4±0.4,55°.79S±0°.04×26°.87W±0°.05,h35km±2km, MW5.0/56,Moment Tensor Solution. s39,c46; s56,c69; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.55±.26; Mθθ-1.01±.21; Mϕϕ-1.54±.21; Mrθ-1.73±.26; Mϕϕ2.27±.13; Mθϕ2.54±.24; Best double couple: Mo4.34100×10^16^ NP1:ϕs325.00000°,δ68.00000°,λ97.00000°. NP2: ϕs128.00000°,δ23.00000°,λ74.00000°. Principal axes: T 3.8570, Plg67.0000°, Azm247.0000°; N 0.9670, Plg6.0000°, Azm143.0000°; P -4.8240, Plg23.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 14:29:22.1±0.3,55°.84S±0°.06×27°.32W±0°.07,h35km,n297, σ1s04/277,mb5.1/40,MS4.1/26,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.49**	**283**	Pn	**Pn**	**14 30 42.9**	**+1.6**
HOPE				Sn	**Sn**	**14 31 39.8**	**-3.4**
VNA1	**Neumayer--Stat**	**17.02**	**158**	P	**P**	**14 33 19.6**	**+1.2**
VNA1	**Neumayer--Stat**	**17.02**	**158**	ScP	**ScP**	**14 41 29.0**	**-3.4**
VNA3	**Neumayer Olymp**	**17.21**	**161**	P	**P**	**14 33 21.1**	**+0.5**
VNA3	**Neumayer Olymp**	**17.21**	**161**	ScP	**ScP**	**14 41 31.6**	**-1.3**
VNA2	**Neumayer--Watz**	**17.41**	**158**	P	**P**	**14 33 23.1**	**+0.2**
	baz=319,slow=12						
VNA2	**Neumayer--Watz**	**17.41**	**158**	ScP	**ScP**	**14 41 31.7**	**-1.6**
SNAA	**Sanae**	**18.96**	**156**	P	**P**	**14 33 39.8**	**-0.2**
SNAA	**Sanae**	**18.96**	**156**	ScP	**ScP**	**14 41 34.4**	**-2.4**
SNAA	**Sanae**	**18.96**	**156**	P	**P**	**14 33 39.8**	**-0.2**
	1.3nm,0.3s,baz=320,slow=12,SNR=46						
SNAA				S	**S**	**14 37 18.0**	**+4.9**
	2.2nm,0.9s,baz=328,slow=3.7,SNR=2.1						
SNAA				LR	LR	14 39 25.6	
	comp=Z,339nm,21.9s,baz=11,slow=32						
	6.6nm,0.5s						
SNAA	**Sanae**	**18.96**	**156**	P	**P**	**14 33 38.8**	**-1.2**
PMSA	**Palmer Station**	**19.98**	**229**	P	**Pn**	**14 33 53.5**	**+0.6**
	33nm,1.0s,baz=101,slow=4.7,SNR=4.2						
PMSA				LR	LR	14 40 10.8	
	comp=Z,531nm,21.8s,baz=80,slow=32						
	33nm,1.0s						
PMSA	**Palmer Station**	**19.98**	**229**	P	**P**	**14 33 50.6**	**-0.4**
TROLL	**Troll, Antarti**	**20.47**	**154**	P	**P**	**14 33 56.2**	**-0.2**
TROLL	**Troll, Antarti**	**20.47**	**154**	ScP	**ScP**	**14 41 39.1**	**-1.3**
SMAI	**San Martin Ant**	**21.88**	**220**	P	**P**	**14 34 12.3**	**+0.9**
BELA	**Belgrano 2**	**22.28**	**184**	P	**P**	**14 34 14.7**	**-1.0**
MG02	**Cerro Sombrero**	**24.36**	**260**	P	**P**	**14 34 35.1**	**-1.3**
TRQA	**Tornquist**	**29.17**	**293**	P	**P**	**14 35 19.9**	**0.0**
PLTB	**Pedras Altas**	**30.30**	**312**	P	**P**	**14 35 30.0**	**+0.1**
PLTB				IAmb	IAmb	14 35 32.8	
	comp=Z,29nm,0.8s						
PLTB	**Pedras Altas**	**30.30**	**312**	*eP*	**P**	**14 35 31.6**	**+1.6**
CNLB	**Canela**	**31.36**	**318**	*eP*	**P**	**14 35 40.4**	**+1.0**
CPSB	**Cacapava Do Su**	**31.42**	**313**	*eP*	**P**	**14 35 41.7**	**+2.0**
TER01	**Tubaro-SC**	**31.44**	**321**	*eP*	**P**	**14 35 41.6**	**+1.6**
PLCA	**Paso Flores**	**31.89**	**280**	P	**P**	**14 35 42.7**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=163,slow=5.2,SNR=6.0						
PLCA				LR	LR	14 49 13.0	
	comp=Z,200nm,18.1s,baz=144,slow=38						
	comp=Z,2.7nm,0.9s						
PLCA	**Paso Flores**	**31.89**	**280**	P	**P**	**14 35 41.8**	**-2.2**
PLCA	**Paso Flores**	**31.89**	**280**	*eP*	**P**	**14 35 43.4**	**-0.6**
RODS	**Rosario do Sul**	**32.21**	**311**	*eP*	**P**	**14 35 49.1**	**+2.5**
ALGR	**Alto Alegre (B**	**32.67**	**315**	*eP*	**P**	**14 35 51.9**	**+1.1**
UNIS	**Unistalda (Bra**	**33.27**	**312**	*eP*	**P**	**14 35 57.5**	**+1.6**
ITQB	**Itaqui**	**33.41**	**309**	*eP*	**P**	**14 35 58.1**	**+1.0**
ITAB	**Concordia**	**33.72**	**318**	P	**P**	**14 35 59.2**	**-0.7**
ITAB				IAmb	IAmb	14 36 03.3	
	comp=Z,34nm,1.1s						
ITAB	**Concordia**	**33.72**	**318**	*eP*	**P**	**14 36 01.8**	**+1.9**
CRSM	**Crissiumal (Br**	**34.23**	**315**	*eP*	**P**	**14 36 05.8**	**+1.5**
QSPA	**South Pole Qui**	**34.41**	**180**	P	**P**	**14 36 06.2**	**+0.5**
	comp=Z,17nm,0.8s,baz=34,slow=4.3,SNR=127						
QSPA				LR	LR	14 49 38.9	
	comp=Z,197nm,19.6s,baz=190,slow=35						
	comp=Z,17nm,0.8s						
QSPA	**South Pole Qui**	**34.41**	**180**	P	**P**	**14 36 06.0**	**+0.3**
QSPA				IAmb	IAmb	14 36 17.4	
	comp=Z,46nm,1.3s						
QSPA	**South Pole Qui**	**34.41**	**180**	P	**P**	**14 36 06.1**	**+0.3**
AZCA	**Azaras, Argent**	**34.52**	**312**	*eP*	**P**	**14 36 07.7**	**+0.9**
MAN01	**Angra dos Reis**	**35.17**	**333**	*eP*	**P**	**14 36 14.8**	**+2.3**
FRBT	**Francisco Belt**	**35.21**	**317**	*eP*	**P**	**14 36 14.4**	**+1.5**
DUB01	**Friburgo-RJ**	**35.53**	**336**	*eP*	**P**	**14 36 18.3**	**+2.7**
VAO	**Valinhos**	**35.87**	**328**	*eP*	**P**	**14 36 20.9**	**+2.3**
PTGB	**Pitanga**	**35.98**	**320**	*eP*	**P**	**14 36 20.7**	**+1.2**
FRTB	**Fartura**	**36.37**	**324**	*eP*	**P**	**14 36 22.3**	**-0.5**
ALF01	**Guarapari-ES**	**36.58**	**339**	*eP*	**P**	**14 36 26.0**	**+1.5**
CPUP	**Villa Florida**	**36.62**	**311**	P	**P**	**14 36 25.4**	**+0.6**
	comp=Z,28nm,1.0s,baz=148,slow=7.6,SNR=36						
CPUP				LR	LR	14 49 34.2	
	comp=Z,140nm,21.1s,baz=163,slow=33						
	comp=Z,28nm,1.0s						
CPUP	**Villa Florida**	**36.62**	**311**	P	**P**	**14 36 23.5**	**-1.3**
CPUP				IAmb	IAmb	14 36 26.6	
	comp=Z,34nm,1.0s						
CPUP	**Villa Florida**	**36.62**	**311**	*eP*	**P**	**14 36 25.8**	**+1.0**
CPUP	**Villa Florida**	**36.62**	**311**	P	**P**	**14 36 25.4**	**+0.6**
CPUP				pP	**pP**	**14 36 33.6**	**-0.9**
MT09	**Talagante**	**37.17**	**288**	P	**P**	**14 36 28.1**	**-1.6**
MT09				IAmb	IAmb	14 37 25.9	
	comp=Z,64nm,1.6s						
MT01	**Popeta**	**37.25**	**287**	P	**P**	**14 36 28.4**	**-1.7**
MT01				IAmb	IAmb	14 37 45.3	
	comp=Z,43nm,1.5s						
CFA	**Coronel Fontan**	**37.41**	**293**	LR	LR	14 51 58.9	
	comp=Z,126nm,21.0s,baz=121,slow=36						
MT02	**Curacav**	**37.65**	**288**	P	**P**	**14 36 33.1**	**-0.5**
MT02				IAmb	IAmb	14 36 36.1	
	comp=Z,28nm,1.1s						
ZON	**Zonda**	**37.69**	**293**	P	**P**	**14 36 32.6**	**-1.3**
ZON				IAmb	IAmb	14 36 45.9	
	comp=Z,14nm,0.7s						
VA03	**San Esteban**	**37.72**	**289**	P	**P**	**14 36 33.0**	**-1.3**
VA03				IAmb	IAmb	14 36 35.6	
	comp=Z,19nm,0.6s						
ROC1	**El Roble**	**37.80**	**289**	P	**P**	**14 36 32.9**	**-2.3**
ROC1				IAmb	IAmb	14 36 38.4	
	comp=Z,24nm,0.7s						
TRCB	**Terra Rica**	**37.94**	**320**	*eP*	**P**	**14 36 37.8**	**+1.6**
BB19B	**Bebedouro**	**38.17**	**327**	*eP*	**P**	**14 36 40.3**	**+2.2**
VA06	**Catapilco**	**38.27**	**289**	P	**P**	**14 36 37.9**	**-0.9**
SJMB	**Sao Joao De Ma**	**38.53**	**339**	*eP*	**P**	**14 36 41.9**	**+0.8**
PCMB	**Pacaembu**	**38.55**	**323**	*eP*	**P**	**14 36 42.7**	**+1.4**
CO02	**Combarbal**	**39.17**	**290**	P	**P**	**14 36 45.5**	**-1.0**
CO02				IAmb	IAmb	14 36 58.0	
	comp=Z,120nm,1.8s						
CO03	**El Pedregal**	**39.30**	**291**	P	**P**	**14 36 47.7**	**+0.2**
CO03				IAmb	IAmb	14 37 31.7	
	comp=Z,68nm,1.6s						
DIAM	**Diamantina, MG**	**39.48**	**335**	*eP*	**P**	**14 36 49.7**	**+0.6**
CO01	**Juntas del Tor**	**39.67**	**293**	P	**P**	**14 36 51.2**	**+0.4**
CO01				IAmb	IAmb	14 36 52.7	
	comp=Z,14nm,0.6s						
GO04	**Tololo Observa**	**39.88**	**292**	P	**P**	**14 36 51.6**	**-1.0**
GO04				IAmb	IAmb	14 37 18.9	
	comp=Z,29nm,1.1s						
CO06	**Fray Jorge**	**39.92**	**290**	P	**P**	**14 36 50.9**	**-1.7**
CO06				IAmb	IAmb	14 36 58.7	
	comp=Z,58nm,1.3s						
ANTJ	**Antonio Joao (**	**39.93**	**316**	*eP*	**P**	**14 36 52.9**	**+0.1**
PMNB	**Patos De Minas**	**39.95**	**331**	*eP*	**P**	**14 36 54.9**	**+1.8**
MAW	**Mawson**	**40.36**	**144**	P	**P**	**14 36 56.4**	**+0.6**
	comp=Z,3.6nm,0.3s,baz=227,slow=7.2,SNR=36						
	comp=Z,3.6nm,0.3s						
MAW	**Mawson**	**40.36**	**144**	P	**P**	**14 36 56.2**	**+0.5**
SUR	**Sutherland**	**40.66**	**75**	LR	LR	14 49 28.4	
	comp=Z,325nm,21.8s,baz=217,slow=30						
AC05	**El Transito**	**40.67**	**293**	P	**P**	**14 36 59.0**	**0.0**
AC05				IAmb	IAmb	14 37 01.9	
	comp=Z,35nm,0.9s						
LCO	**Las Campanas**	**40.76**	**293**	P	**P**	**14 36 58.6**	**-1.2**
LCO	**Las Campanas**	**40.76**	**293**	P	**P**	**14 36 59.8**	**-0.1**
MURT	**Porto Murtinho**	**40.88**	**314**	*eP*	**P**	**14 37 00.7**	**+0.1**
IPMB	**Ipameri, GO**	**40.98**	**329**	*eP*	**P**	**14 37 03.2**	**+1.7**
MC01	**Montes Claros**	**41.07**	**335**	*eP*	**P**	**14 37 02.9**	**+0.6**
AQDB	**Aquidauana**	**41.20**	**317**	P	**P**	**14 37 03.2**	**+0.1**
AQDB				IAmb	IAmb	14 37 04.5	
	comp=Z,38nm,1.2s						
AQDB	**Aquidauana**	**41.20**	**317**	*eP*	**P**	**14 37 03.5**	**+0.3**
GO03	**Copiap**	**41.66**	**295**	P	**P**	**14 37 06.1**	**-0.9**
GO03				IAmb	IAmb	14 37 08.1	
	comp=Z,25nm,0.8s						
AC02	**Maricunga**	**41.72**	**296**	P	**P**	**14 37 07.9**	**-0.1**
AC02				IAmb	IAmb	14 37 10.6	
	comp=Z,58nm,0.8s						
C2SB	**Chapadao do Su**	**41.72**	**322**	*eP*	**P**	**14 37 09.3**	**+1.8**
AC06	**Mina Casimiro**	**41.91**	**295**	P	**P**	**14 37 07.3**	**-1.8**
AC06				IAmb	IAmb	14 37 10.7	
	comp=Z,29nm,0.8s						
JANB	**Januaria**	**42.75**	**335**	*eP*	**P**	**14 37 16.7**	**+0.7**
AC01	**Pan de Azucar**	**43.03**	**295**	P	**P**	**14 37 16.8**	**-1.3**
AC01				IAmb	IAmb	14 37 20.0	
	comp=Z,23nm,0.8s						
BDFB	**Brasilia**	**43.15**	**330**	P	**P**	**14 37 20.3**	**+1.1**
	comp=Z,7.8nm,0.8s,baz=141,slow=6.3,SNR=7.1						
BDFB				LR	LR	14 53 10.6	
	comp=Z,225nm,20.6s,baz=143,slow=33						
	comp=Z,7.8nm,0.8s						
BDFB	**Brasilia**	**43.15**	**330**	*eP*	**P**	**14 37 20.6**	**+1.4**
GO02	**Mina Guanaco**	**43.33**	**297**	P	**P**	**14 37 21.2**	**+0.3**
ARAG	**Araguaiana, MT**	**44.23**	**325**	*eP*	**P**	**14 37 31.1**	**+1.3**
BBRB	**Robore, Bolivi**	**44.81**	**314**	*eP*	**P**	**14 37 32.9**	**+0.5**
PB15	**IPOC Station P**	**44.90**	**299**	P	**P**	**14 37 34.1**	**+0.6**
PB15				IAmb	IAmb	14 37 37.4	
	comp=Z,19nm,0.6s						
LVC	**Limon Verde**	**45.13**	**300**	P	**P**	**14 37 36.1**	**+0.7**
LVC				IAmb	IAmb	14 37 37.9	
	comp=Z,28nm,0.7s						
LVC	**Limon Verde**	**45.13**	**300**	*eP*	**P**	**14 37 36.9**	**+1.5**
LVC	**Limon Verde**	**45.13**	**300**	P	**P**	**14 37 36.9**	**+1.5**
LVC				pP	**pP**	**14 37 46.8**	**+1.4**
PB10	**IPOC Station P**	**45.19**	**298**	P	**P**	**14 37 34.8**	**-0.6**
PB10				IAmb	IAmb	14 37 38.7	
	comp=Z,39nm,1.2s						
PB06	**IPOC Station P**	**45.38**	**299**	P	**P**	**14 37 37.4**	**+0.3**
PB06				IAmb	IAmb	14 37 39.9	
	comp=Z,18nm,0.8s						
SALV	**Santo Antonio**	**45.38**	**320**	*eP*	**P**	**14 37 38.1**	**+1.1**
SDBA	**SAO DESIDERIO**	**45.44**	**336**	*eP*	**P**	**14 37 38.2**	**+0.7**
PB04	**IPOC Station P**	**45.97**	**299**	P	**P**	**14 37 41.5**	**-0.3**
BOSA	**Boshof**	**45.99**	**76**	P	**P**	**14 37 41.5**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=156,slow=9.0,SNR=2.1						
BOSA				LR	LR	14 53 17.0	
	comp=Z,342nm,20.8s,baz=194,slow=31						
	comp=Z,2.5nm,0.8s						
BOSA	**Boshof**	**45.99**	**76**	P	**P**	**14 37 41.6**	**-0.3**
BOSA				IAmb	IAmb	14 38 43.4	
	comp=Z,40nm,1.6s						
PB03	**IPOC Station P**	**46.02**	**300**	P	**P**	**14 37 42.0**	**-0.2**
PB03				IAmb	IAmb	14 37 44.1	
	comp=Z,25nm,0.8s						
BBSD	**Serra de San D**	**46.11**	**313**	*eP*	**P**	**14 37 43.2**	**+0.4**
PB07	**IPOC Station P**	**46.35**	**300**	P	**P**	**14 37 43.1**	**-1.7**
PB02	**IPOC Station P**	**46.70**	**300**	P	**P**	**14 37 47.2**	**-0.3**
PB01	**IPOC Station P**	**46.74**	**301**	P	**P**	**14 37 48.4**	**+0.6**
VNDA	**Vanda**	**46.78**	**183**	P	**P**	**14 37 48.1**	**+0.8**
	comp=Z,5.6nm,0.6s,baz=196,slow=4.1,SNR=3.6						
	comp=Z,5.6nm,0.6s						
VNDA	**Vanda**	**46.78**	**183**	P	**P**	**14 37 46.7**	**-0.6**
VNDA	**Vanda**	**46.78**	**183**	P	**P**	**14 37 47.9**	**+0.6**
VNDA				pP	**pP**	**14 37 57.3**	**0.0**
VNDA				sP	**sP**	**14 38 02.4**	**+1.1**
PTLB	**Pontes e Lacer**	**47.09**	**316**	P	**P**	**14 37 51.1**	**+0.7**
PTLB				IAmb	IAmb	14 37 52.3	
	comp=Z,46nm,0.9s						
PTLB	**Pontes e Lacer**	**47.09**	**316**	*eP*	**P**	**14 37 51.3**	**+0.8**
PATCX	**Punta Patache**	**47.25**	**300**	P	**P**	**14 37 51.4**	**-0.4**
SNDB	**Serra Nova Dou**	**47.58**	**327**	*eP*	**P**	**14 37 55.8**	**+1.6**
GO01	**Chusmiza**	**47.77**	**302**	P	**P**	**14 37 57.2**	**+0.9**
H10S2	**ASCENSION HYDR**	**47.82**	**17**	T	T	15 30 16.5	
	baz=189,slow=74,SNR=145						
H10S3	**ASCENSION HYDR**	**47.83**	**17**	T	T	15 30 16.8	
	baz=31,slow=74,SNR=186						
CCD	**Concordia, Ant**	**47.89**	**170**	P	**P**	**14 37 56.0**	**-0.5**
CCD				pP	**pP**	**14 38 04.3**	**-2.1**
CCD				sP	**pwP**	**14 38 08.4**	**-0.1**
PB11	**IPOC Station P**	**47.91**	**301**	P	**P**	**14 37 57.0**	**0.0**
PSGCX	**Pisagua**	**48.28**	**301**	P	**P**	**14 37 59.9**	**+0.1**
PSGCX				IAmb	IAmb	14 38 01.5	
	comp=Z,23nm,0.9s						
MNMC	**Minye Minye**	**48.42**	**302**	P	**P**	**14 38 01.1**	**0.0**
H10N1	**ASCENSION HYDR**	**48.94**	**17**	T	T	15 31 40.8	
	baz=189,slow=75,SNR=60						
H10N3	**ASCENSION HYDR**	**48.94**	**17**	T	T	15 31 40.7	
	baz=189,slow=75,SNR=166						
H10N2	**ASCENSION HYDR**	**48.96**	**17**	T	T	15 31 41.8	
	baz=189,slow=75,SNR=120						
LBTB	**Lobatse**	**49.02**	**73**	LR	LR	14 54 25.1	
	comp=Z,63nm,19.9s,baz=188,slow=31						
LBTB	**Lobatse**	**49.02**	**73**	P	**P**	**14 38 04.7**	**-0.7**
LBTB				IAmb	IAmb	14 39 27.6	
	comp=Z,51nm,1.8s						
LBTB	**Lobatse**	**49.02**	**73**	P	**P**	**14 38 04.9**	**-0.5**
PB16	**IPOC Station P**	**49.07**	**302**	P	**P**	**14 38 06.9**	**+0.5**
SMTB	**Santa Maria do**	**49.51**	**333**	*eP*	**P**	**14 38 10.5**	**+1.4**
PDRB	**Porto dos Gac**	**49.72**	**321**	*eP*	**P**	**14 38 11.0**	**+0.4**
VILB	**Vilhena**	**49.78**	**316**	P	**P**	**14 38 10.9**	**-0.2**
VILB				IAmb	IAmb	14 38 12.6	
	comp=Z,38nm,1.0s						
VILB	**Vilhena**	**49.78**	**316**	*eP*	**P**	**14 38 11.7**	**+0.5**
CLDB	**Colider**	**50.07**	**322**	*eP*	**P**	**14 38 13.9**	**+0.5**
LPAZ	**La Paz**	**50.20**	**305**	P	**P**	**14 38 16.4**	**+1.4**
	comp=Z,16nm,0.5s,baz=149,slow=5.9,SNR=68						
LPAZ				LR	LR	14 58 56.4	
	comp=Z,92nm,21.9s,baz=130,slow=36						
	comp=Z,16nm,0.5s						
LPAZ	**La Paz**	**50.20**	**305**	P	**P**	**14 38 14.6**	**-0.4**
LPAZ				IAmb	IAmb	14 38 17.4	
	comp=Z,28nm,0.9s						
LPAZ	**La Paz**	**50.20**	**305**	*eP*	**P**	**14 38 16.2**	**+1.1**
LPAZ	**La Paz**	**50.20**	**305**	P	**P**	**14 38 16.4**	**+1.4**
PRPB	**Parauapebas**	**52.67**	**331**	*eP*	**P**	**14 38 34.2**	**+1.4**
NPGB	**Novo Progresso**	**53.50**	**325**	*eP*	**P**	**14 38 39.3**	**+0.3**
SAML	**Samuel**	**54.60**	**315**	P	**P**	**14 38 46.4**	**-0.6**
SAML				pP	**pP**	**14 38 57.4**	**+0.6**
ETMB	**Extrema**	**55.07**	**311**	*eP*	**P**	**14 38 50.7**	**+0.4**
ITTB	**Itaituba**	**56.14**	**325**	*eP*	**P**	**14 38 58.7**	**+0.7**
MALB	**Monte Alegre**	**58.06**	**328**	*eP*	**P**	**14 39 12.7**	**+1.1**
MCPB	**Macapa, AP**	**58.84**	**331**	*eP*	**P**	**14 39 18.6**	**+1.6**
ATAH	**Atahualpa**	**63.02**	**300**	LR	LR	15 09 02.1	
	comp=Z,58nm,19.4s,baz=153,slow=38						
BOAV	**Boa Vista**	**64.07**	**323**	P	**P**	**14 39 51.1**	**-1.2**
BOAV				IAmb	IAmb	14 39 53.2	
	comp=Z,19nm,0.9s						
BOAV	**Boa Vista**	**64.07**	**323**	*eP*	**P**	**14 39 52.1**	**-0.2**
SGCB	**São Gabriel d**	**64.17**	**315**	*eP*	**P**	**14 39 52.5**	**-0.6**
MDP	**Montagnes des**	**64.22**	**332**	LR	LR	15 05 11.4	
	comp=Z,98nm,20.8s,baz=185,slow=34						
DBIC	**Dimbokro**	**65.01**	**25**	P	**P**	**14 39 58.6**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=249,slow=4.7,SNR=3.6						
	comp=Z,4.2nm,0.9s						
OPO	**Ambohidratompo**	**66.15**	**88**	LR	LR	15 03 07.5	
	comp=Z,188nm,20.2s,baz=302,slow=31						
MCRA	**Macar, Loja**	**66.18**	**300**	P	**P**	**14 40 06.7**	**+0.5**
COHC	**Cochancay**	**67.50**	**302**	P	**P**	**14 40 16.1**	**+1.7**
PCRV	**Puerto La Cruz**	**72.74**	**321**	LR	LR	15 15 37.2	
	comp=Z,47nm,18.7s,slow=38						
BAUV	**El Baul**	**72.85**	**318**	P	**P**	**14 40 45.9**	**-1.3**
TOA0	**Torodi Ar. Sit**	**72.91**	**30**	P	**P**	**14 40 45.8**	**-1.7**
TOA0				IAmb	IAmb	14 40 54.6	
	comp=Z,9.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.91**	**30**	P	**P**	**14 40 47.6**	**+0.1**
	comp=Z,4.2nm,0.5s,baz=201,slow=6.6,SNR=30						
TORD				LR	LR	15 05 49.5	
	comp=Z,70nm,20.4s,baz=218,slow=30						
	comp=Z,4.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**72.91**	**30**	P	**P**	**14 40 47.0**	**-0.4**
SDV	**Santo Domingo**	**73.81**	**315**	LR	LR	15 12 39.5	
	comp=Z,149nm,21.9s,baz=150,slow=35						
SDV	**Santo Domingo**	**73.81**	**315**	*eP*	**P**	**14 40 53.7**	**+0.6**
KMBO	**Kilima Mbogo**	**75.03**	**69**	LR	LR	15 11 59.8	
	comp=Z,95nm,18.8s,baz=118,slow=34						
URIC	**Uribia, Colomb**	**76.91**	**315**	P	**P**	**14 41 09.2**	**-1.4**
GDHS	**Morne Mazeau,**	**77.48**	**326**	P	**P**	**14 41 14.7**	**+0.9**
TBI	**Tubuai**	**87.16**	**231**	*e*LR	LR	15 09 44.0	
	comp=Z,3μm,25.2s						
TBI				*e*LR	LR	15 09 44.4	
	comp=Z,945nm,27.0s						
ATD	**Arta Tunnel**	**88.65**	**67**	LR	LR	15 18 30.4	
	comp=Z,82nm,21.2s,baz=58,slow=33						
BBOO	**Buckleboo**	**90.56**	**166**	P	**P**	**14 42 20.2**	**-0.2**
STKA	**Stephens Creek**	**92.12**	**171**	P	**P**	**14 42 27.9**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=162,slow=8.9,SNR=5.1						
	comp=Z,2.3nm,0.7s						
STKA	**Stephens Creek**	**92.12**	**171**	P	**P**	**14 42 28.2**	**+0.6**
PPT2	**Papeete2**	**92.24**	**234**	*e*LR	LR	15 12 05.6	
	comp=Z,171nm,30.2s						
PPT2				*e*LR	LR	15 12 05.7	
	comp=Z,235nm,29.2s						
PPT	**Papeete**	**92.26**	**234**	LR	LR	15 17 21.0	
	comp=Z,68nm,18.8s,baz=70,slow=31						
RAR	**Rarotonga**	**93.34**	**224**	LR	LR	15 17 29.3	
	comp=Z,43nm,19.0s,baz=152,slow=31						
TAOE	**Nuku Hiva Isla**	**95.16**	**246**	*e*LR	LR	15 13 27.0	
	comp=Z,93nm,23.3s						
ASAR	**Alice Springs**	**99.21**	**163**	P	**Pdif**	**14 42 59.5**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=184,slow=4.1,SNR=14						
ASAR				LR	LR	15 24 23.2	
	comp=Z,40nm,20.8s,baz=228,slow=33						
	comp=Z,1.0nm,0.7s						
DZM	**Mont Dzumac**	**101.52**	**193**	*e*LR	LR	15 16 25.6	
	comp=Z,144nm,23.6s						
WRA	**Warramunga Arr**	**102.93**	**162**	Pdiff	**Pdif**	**14 43 18.1**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=195,slow=4.4,SNR=5.3						
NACGM	**Naroch**	**118.89**	**32**	*e*PKP	**PKPdf**	**14 48 04.6**	**-0.8**
	comp=Z,16nm,0.8s,baz=211						
PDAR	**Pinedale Array**	**120.17**	**302**	PKP	**PKPdf**	**14 48 08.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=154,slow=4.9,SNR=2.5						
NVAR	**Mina Array Bea**	**121.25**	**293**	PKP	**PKP

	baz=104						
BTO	**Baotou**	**148.34 101**	*e*PKPbc	**PKiKP**	**14 49 05.8**	**+0.2**
DOT	**Dot Lake**	**148.45 310**	PKPbc	**PKPbc**	**14 49 03.6**	**+0.2**
J26L	**Joseph Creek**	**148.47 312**	P	**PKPbc**	**14 49 03.7**	**+0.2**
	baz=105						
E27K	**Coleen River**	**148.49 319**	P	**PKPbc**	**14 49 03.6**	**+0.2**
	baz=101						
I26K	**Coal Creek Min**	**148.50 314**	P	**PKPbc**	**14 49 03.2**	**-0.2**
	baz=104						
SCRK	**Sand Creek**	**148.51 311**	PKPbc	**PKPbc**	**14 49 03.8**	**+0.1**
SCRK	**Sand Creek**	**148.51 311**	P	**PKPbc**	**14 49 03.9**	**+0.2**
	baz=106						
HNS	**HongShan**	**148.60 110**	PKPbc	**PKPbc**	**14 49 04.0**	**-0.6**
RIDG	**Independent Ri**	**148.81 310**	PKPbc	**PKPbc**	**14 49 04.8**	**+0.4**
RIDG	**Independent Ri**	**148.81 310**	P	**PKPbc**	**14 49 05.1**	**+0.7**
	baz=105						
PAX	**Paxson**	**148.88 309**	P	**PKPbc**	**14 49 05.3**	**+0.7**
	baz=106						
NRIK	**Noril'sk**	**148.89 39**	PKPbc	**PKPbc**	**14 49 03.8**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=130,slow=2.1,SNR=6.8						
TIA	**Tai'an**	**148.96 114**	*e*PKPbc	**PKPbc**	**14 49 04.4**	**-1.2**
G26K	**Porcupine Rive**	**149.09 317**	P	**PKPbc**	**14 49 05.1**	**+0.2**
	baz=101						
F26K	**Sheenjek River**	**149.36 318**	P	**PKiKP**	**14 49 06.8**	**0.0**
	baz=99						
HHC	**Hu-ho-hao-te**	**149.36 102**	*e*PKPbc	**PKPdf**	**14 48 58.3**	**-3.8**
C27K	**Jago River**	**149.46 322**	P	**PKPbc**	**14 49 06.6**	**+0.8**
	baz=96						
BMAR	**Burnt Mountain**	**149.48 317**		**PKPbc**	**14 49 06.4**	**+0.4**
PRP	**Porcupine Dome**	**149.51 314**	P	**PKPbc**	**14 49 06.6**	**+0.4**
	baz=102						
WAT6	**Susitna Watana**	**149.78 308**	P	**PKPbc**	**14 49 07.4**	**+0.4**
	baz=105						
SML	**Sawmill**	**149.85 306**	PKPbc	**PKPbc**	**14 49 07.3**	**+0.3**
SML	**Sawmill**	**149.85 306**	P	**PKPbc**	**14 49 07.5**	**+0.5**
	baz=106						
HDA	**Harding Lake**	**149.87 311**	P	**PKPbc**	**14 49 07.2**	**+0.3**
	baz=103						
F25K	**Christian Rive**	**149.91 318**	P	**PKPbc**	**14 49 07.7**	**+0.7**
	baz=98						
ILAR	**Eielson Array**	**149.92 312**	PKPbc	**PKPbc**	**14 49 06.7**	**-0.3**
	comp=Z,16nm,1.0s,baz=135,slow=1.6,SNR=59						
ILAR	**Eielson Array**	**149.92 312**	PKPbc	**PKPbc**	**14 49 07.3**	**+0.3**
E25K	**Arctic Village**	**149.95 319**	P	**PKPbc**	**14 49 07.6**	**+0.5**
	baz=97						
G25K	**Bearman Lake**	**149.96 316**	P	**PKiKP**	**14 49 08.0**	**+0.1**
	baz=99						
WAT1	**Susitna Watana**	**150.21 308**	P	**PKPbc**	**14 49 08.2**	**+0.4**
	baz=104						
COLA	**College**	**150.34 312**	P	**PKiKP**	**14 49 08.9**	**+0.1**
	baz=101						
D25K	**Kavik River**	**150.36 321**	P	**PKiKP**	**14 49 09.1**	**+0.3**
	baz=95						
BRSE	**Bradley Lake S**	**150.38 301**	P	**PKPbc**	**14 49 08.4**	**+0.1**
	baz=108						
G24K	**Hadweenzic Riv**	**150.49 316**	P	**PKiKP**	**14 49 09.4**	**+0.3**
	baz=98						
H24K	**Nodoir Dome**	**150.53 314**	P	**PKPbc**	**14 49 09.0**	**+0.4**
	baz=100						
MCK	**McKinley**	**150.58 310**		**PKPbc**	**14 49 09.0**	**+0.3**
MCK	**McKinley**	**150.58 310**	P	**PKPbc**	**14 49 09.4**	**+0.7**
	baz=102						
M22K	**Willow**	**150.65 305**	P	**PKiKP**	**14 49 10.1**	**+0.6**
	baz=105						
SONM	**Songino Array**	**150.79 86**	PKPbc	**PKPbc**	**14 49 09.4**	**-0.4**
	comp=Z,7.3nm,0.8s,baz=206,slow=3.9,SNR=17						
SONM	**Songino Array**	**150.79 86**		**PKPbc**	**14 49 09.3**	**-0.5**
OHAK	**Old Harbor**	**150.82 295**	P	**PKPbc**	**14 49 09.5**	**+0.2**
	baz=111						
I23K	**Minto, Yukon-K**	**151.03 312**	P	**PKPbc**	**14 49 10.0**	**+0.4**
	baz=100						
E24K	**Your Creek**	**151.03 318**	P	**PKiKP**	**14 49 10.3**	**+0.1**
	baz=95						
TRF	**Thorofare Moun**	**151.12 309**	P	**PKPbc**	**14 49 10.2**	**+0.1**
	baz=102						
SKT	**Skwentna**	**151.36 305**	P	**PKPbc**	**14 49 10.8**	**+0.3**
	baz=104						
E23K	**Chandalar**	**151.46 318**	P	**PKiKP**	**14 49 11.6**	**+0.4**
	baz=94						
TOLK	**Toolik Lake Re**	**151.47 320**	PKPbc	**PKPbc**	**14 49 10.6**	**0.0**
TOLK	**Toolik Lake Re**	**151.47 320**	P	**PKPbc**	**14 49 10.6**	**0.0**
	baz=93						
G23K	**Bananza Creek**	**151.50 315**	P	**PKPbc**	**14 49 11.2**	**+0.4**
	baz=96						
BPAW	**Bear Paw Mtn.**	**151.54 310**	PKPbc	**PKPbc**	**14 49 10.8**	**-0.1**
BPAW	**Bear Paw Mtn.**	**151.54 310**	P	**PKPbc**	**14 49 10.8**	**-0.1**
	baz=100						
MLY	**Manley**	**151.58 312**	P	**PKiKP**	**14 49 12.0**	**+0.6**
	baz=99						
COLD	**Coldfoot**	**151.62 317**	P	**PKiKP**	**14 49 13.0**	**+1.6**
	baz=95						
PPLA	**Purkeypile**	**151.85 307**	PKPbc	**PKPbc**	**14 49 11.5**	**-0.3**
C23K	**Itkillik River**	**151.87 322**	P	**PKiKP**	**14 49 12.9**	**+1.1**
	baz=90						
CAST	**Castle Rocks**	**151.90 308**		**PKPbc**	**14 49 11.6**	**-0.1**
CAST	**Castle Rocks**	**151.90 308**	P	**PKPbc**	**14 49 11.3**	**-0.5**
	baz=101						
M20K	**Styx River**	**152.07 305**	P	**PKPbc**	**14 49 11.6**	**-0.7**
	baz=103						
CHUM	**Lake Minchumin**	**152.08 309**	P	**PKPbc**	**14 49 11.8**	**-0.2**
	baz=100						
G22K	**Bettles**	**152.10 316**	P	**PKiKP**	**14 49 13.1**	**+0.7**
	baz=94						
E22K	**Anaktuvuk Pass**	**152.28 318**	P	**PKiKP**	**14 49 13.6**	**+0.8**
	baz=92						
F22K	**John River**	**152.40 317**	P	**PKPbc**	**14 49 13.2**	**+0.4**
	baz=93						
N19K	**Bonanza Creek**	**152.47 302**	P	**PKPbc**	**14 49 13.3**	**+0.2**
	baz=104						
H21K	**Melozitna Rive**	**152.52 313**	P	**PKPbc**	**14 49 13.5**	**+0.5**
	baz=96						
K20K	**Telida**	**152.77 308**	P	**PKiKP**	**14 49 14.2**	**+0.3**
	baz=99						
IMAR	**Indian Mountai**	**152.94 314**		**PKiKP**	**14 49 14.4**	**+0.3**
CN2	**Changchun**	**158.86 113**	*e*PKP	**PKPdf**	**14 49 13.6**	**-1.6**

*MAN **17** 14:40:14.4, 8.°96N×126.°48E, h20km, mb4.0, ML2.8, MS2.4*
*IDC **17** 14:40:34.7±2.9, 8.°76N×126.°20E, h242km±22km, mb3.2/7, mbtmp3.8/7, Error ellipse: s-maj=74.5km s-min=17.6km az=62.0*

ISC 17 14:40:35.7±1.3, 8.°7N±0.°1×126.°1E±0.°3, h250km, n14, σ0s86/9, mb3.5/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.64**	**197**	P	**Pn**	**14 41 14.2**	**-0.9**
	176nm,0.5s,baz=55,slow=16,SNR=1.5						
DAV				S	**S**	**14 41 46.5**	**+0.3**
	137nm,0.4s,baz=238,slow=23,SNR=1.8						
CMAR	**Chiang Mai Arr**	**28.07**	**293**	P	**P**	**14 46 05.2**	**+0.7**
	0.3nm,0.6s,baz=88,slow=7.3,SNR=2.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**29.56**	**164**	P	**P**	**14 46 18.6**	**+1.0**
	0.6nm,1.1s,baz=334,slow=9.3,SNR=1.7						
	0.6nm,1.1s						
ASAR	**Alice Springs**	**33.02**	**167**	P	**P**	**14 46 47.5**	**-0.3**
	0.1nm,0.3s,baz=345,slow=7.2,SNR=5.0						
	0.1nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.60**	**72**	T	T	15 30 48.6	
	baz=262,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**40.62**	**72**	T	T	15 30 46.4	
	baz=262,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**40.62**	**72**	T	T	15 30 49.8	
	baz=262,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**40.98**	**70**	T	T	15 31 25.0	
	baz=265,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.99**	**70**	T	T	15 31 27.4	
	baz=265,slow=74						
H11N3	**WAKE ISLAND Hy**	**41.00**	**70**	T	T	15 31 27.2	
	baz=265,slow=74						
MKAR	**Makanchi Array**	**53.19**	**324**	P	**P**	**14 49 27.8**	**-0.6**
	0.9nm,0.5s,baz=128,slow=7.3,SNR=6.5						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**57.29**	**326**	P	**P**	**14 49 56.4**	**-1.0**
	0.9nm,0.4s,baz=123,slow=7.3,SNR=2.4						
	0.9nm,0.4s						
ARCES	**ARCESS Array B**	**85.63**	**340**	P	**P**	**14 52 46.1**	**+0.3**
	2.6nm,0.8s,baz=88,slow=8.2,SNR=0.8						
	2.6nm,0.8s						
FINES	**FINESS Array B**	**87.21**	**332**	P	**P**	**14 52 54.3**	**+0.7**
	3.1nm,1.0s,baz=103,slow=6.0,SNR=1.2						
	3.1nm,1.0s						

WEL 17 14:45:54.0±0.8, 42.°S±5.°×17.°4E±.°, h12km, M3.3/29, ML3.7/12, MLv3.3/29, Error ellipse: s-maj=0.0km

s-min=0.0km az=121.7, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.29**	**249**	P	Pg	14 46 00.4	+0.4
KHZ				S	Sb	14 46 05.9	-0.1
BSWZ	**Blackbirch Sta**	**0.60**	**357**	P	Pg	14 46 05.2	-0.4
CMWZ	**Cape Campbell**	**0.61**	**22**	P	Pb	14 46 06.5	0.0
CMWZ				S	Sn	14 46 17.5	-0.6
TUWZ	**Tuamarina**	**0.88**	**1**	P	Pg	14 46 10.8	-0.2
GVZ	**Greta Valley S**	**0.92**	**224**	P	Pb	14 46 12.1	+0.2
THZ	**Tophouse**	**0.93**	**306**	P	Pg	14 46 11.5	-0.4
TCW	**Tory Channel**	**1.14**	**14**	P	Pb	14 46 14.2	-1.3
NNZ	**Nelson**	**1.17**	**340**	P	Pb	14 46 15.2	-0.8
WEL	**Wellington**	**1.21**	**32**	P	Pn	14 46 15.3	-1.4
PLWZ	**Palliser**	**1.25**	**54**	P	Pn	14 46 15.2	-2.0
MRNZ	**Matariki Terra**	**1.26**	**316**	P	Pb	14 46 17.5	-0.1
AMCZ	**Amberley**	**1.27**	**227**	P	Pn	14 46 17.0	-0.5
LTZ	**Lake Taylor**	**1.30**	**248**	P	Pn	14 46 17.5	-0.5
MSWZ	**Moikau Station**	**1.34**	**49**	P	Pn	14 46 16.4	-2.1
TKNZ	**Takaka Hill**	**1.46**	**331**	P	Pn	14 46 20.2	0.0
PAWZ	**Paruwai Farm**	**1.47**	**51**	P	Pn	14 46 17.8	-2.4
CAW	**Cannon Point**	**1.48**	**36**	P	Pn	14 46 18.7	-1.7
DUWZ	**D'Urville Isla**	**1.51**	**0**	P	Pn	14 46 20.3	-0.6
OKCZ	**Okains Bay**	**1.54**	**204**	P	Pn	14 46 19.9	-1.4
KIW	**Kapiti Island**	**1.63**	**28**	P	Pn	14 46 21.4	-1.1
MTW	**Mount Morrison**	**1.66**	**46**	P	Pn	14 46 20.5	-2.4
DSZ	**Denniston Nort**	**1.67**	**289**	P	Pb	14 46 23.9	-0.7
MQZ	**McQueen's Vall**	**1.67**	**213**	P	Pn	14 46 21.1	-1.9
OXZ	**Oxford**	**1.71**	**233**	P	Pn	14 46 22.2	-1.4
OGWZ	**Otaki Gorge**	**1.77**	**33**	P	Pn	14 46 22.7	-1.6
QRZ	**Quartz Range**	**1.81**	**325**	P	Pn	14 46 25.4	+0.4
HOWZ	**Holdsworth Sta**	**1.86**	**41**	P	Pn	14 46 23.6	-2.0
INZ	**Inchbonnie**	**1.87**	**256**	P	Pn	14 46 25.5	-0.2
RACZ	**Rakaia**	**1.92**	**222**	P	Pn	14 46 25.0	-1.5
MRZ	**Mangatainoka R**	**2.07**	**38**	P	Pn	14 46 26.5	-2.0
MHCZ	**Mount Hutt**	**2.11**	**234**	P	Pn	14 46 27.8	-1.4
WACZ	**Wakanui South**	**2.23**	**222**	P	Pn	14 46 29.3	-1.4
BFZ	**Birch Farm**	**2.39**	**48**	P	Pn	14 46 30.1	-2.9
WVZ	**Waitaha Valley**	**2.46**	**251**	P	Pn	14 46 33.7	-0.2
RPZ	**Rata Peaks**	**2.52**	**235**	P	Pn	14 46 33.5	-1.2
ARCZ	**Arundel**	**2.58**	**230**	P	Pn	14 46 34.6	-1.1
WAZ	**Wanganui**	**2.68**	**18**	P	Pn	14 46 37.4	+0.5
TSZ	**Takapari Road**	**2.73**	**35**	P	Pn	14 46 35.5	-2.2
GCSZ	**Gaunt Creek Bo**	**2.82**	**248**	P	Pn	14 46 39.0	+0.2
TMZ	**Timaru**	**2.96**	**225**	P	Pn	14 46 39.7	-1.1
KHEZ	**Kahui Hut**	**3.02**	**2**	P	Pb	14 46 46.0	-1.6
NEZ	**North Egmont**	**3.04**	**3**	P	Pb	14 46 45.5	-2.5
PKE	**Pukeiti**	**3.12**	**1**	P	Pn	14 46 44.6	+1.7
MOVZ	**Moawhango**	**3.22**	**26**	P	Pn	14 46 43.0	-1.4
WNVZ	**Wahianoa**	**3.25**	**24**	P	Pn	14 46 44.2	-0.6
FOZ	**Fox Glacier**	**3.25**	**247**	P	Pn	14 46 45.0	+0.3
VRZ	**Vera Road**	**3.25**	**12**	P	Pn	14 46 45.2	+0.5
BHHZ	**Black Hill Sta**	**3.26**	**31**	P	Pn	14 46 44.2	-0.8
LBZ	**Lake Benmore**	**3.42**	**231**	P	Pn	14 46 46.1	-0.9
NNVZ	**North Ngauruho**	**3.43**	**23**	P	Pn	14 46 47.0	-0.4
WTVZ	**West Tongariro**	**3.44**	**22**	P	Pn	14 46 47.2	-0.2
ODZ	**Otahua Downs**	**3.62**	**220**	P	Pn	14 46 48.3	-1.4
BKZ	**Black Stump Fm**	**3.71**	**33**	P	Pn	14 46 49.3	-1.8
HIZ	**Hauiti**	**3.86**	**11**	P	Pn	14 46 53.6	+0.4
EAZ	**Earnscleugh**	**4.43**	**227**	P	Pn	14 46 59.6	-1.4
TOZ	**Tahuroa Road**	**4.74**	**15**	P	Pn	14 47 04.5	-0.6
MKAZ	**Moumakai**	**5.29**	**11**	P	Pn	14 47 12.1	-0.7
ETAZ	**East Tamaki Re**	**5.41**	**9**	P	Pn	14 47 14.4	0.0

HEL 17 15:03:32.6±0.5, 68.°10N×19.°95E, h0km, ML1.1, Explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.77**	**93**	PG	Pg	15 03 47.2	-0.1
	baz=275						
LANU				SB	Sg	15 03 57.1	-0.1
KIF	**Kilpisjarvi**	**0.96**	**19**	PG	Pg	15 03 51.0	+0.1
KIF				MSG		15 04 03.2	
	comp=Z,0.8nm,0.2s						
HEF	**Hetta**	**1.41**	**76**	PN	Pb	15 03 59.8	0.0
	baz=256						
HEF				MSG		15 04 15.1	
	comp=Z,0.7nm,0.2s						
HEF				SN	Sb	15 04 18.6	+0.2
KLF	**Kolari**	**1.76**	**118**	SB	Sn	15 04 23.6	-3.9
ERTU	**Ertsjaerv**	**1.78**	**150**	SG	Sn	15 04 24.5	-3.4
KALU	**Kalix**	**2.62**	**148**	SN	Sn	15 04 47.4	-1.1
TOF	**Tornio**	**2.66**	**138**	SN	Sn	15 04 47.6	-1.8
TOF				MSG		15 04 50.9	
	comp=Z,0.9nm,0.2s						
RNF	**Rovaniemi**	**2.78**	**120**	SN	Sn	15 04 53.0	+0.4
KEV	**Kevo**	**3.04**	**54**	MSG		15 05 02.0	
	comp=Z,0.6nm,0.2s						
KEV				SG	Sb	15 05 04.0	-1.1
OUL	**Oulu**	**3.85**	**139**	PB	Pb	15 04 38.6	-2.6
OLKF	**Oulanka, Finla**	**4.09**	**112**	SG	Sb	15 05 36.7	+1.5

*IDC **17** 15:04:42.6±2.4, 42.°04S×173.°69E, h0km, mb3.3/2, mbtmp3.3/3, Error ellipse: s-maj=47.9km s-min=37.9km az=112.0*
*NOU **17** 15:04:43.1, 42.°47S×174.°30E, h6km, MLv4.3/8, Off E. Coast of S. Island, N.Z.*
*WEL **17** 15:04:44.9±0.3, 42.°5S±3.°7×17.°4E±.°, h5km, M3.5/36, ML3.8/17, MLv3.5/36, Error ellipse: s-maj=0.0km s-min=0.0km az=132.0*

ISC 17 15:04:44.5±0.8, 42.°06S±0.°03×173.°78E±0.°03, h17km, n85, σ1s29/87, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.35**	**12**	P	**Pg**	**15 04 51.9**	**0.0**
KHZ	**Kahutara**	**0.40**	**207**	P	**Pb**	**15 04 53.2**	**+0.2**
KHZ				S	**Sb**	**15 04 59.4**	**+0.6**
CMWZ	**Cape Campbell**	**0.45**	**46**	P	**Pn**	**15 04 55.2**	**-1.0**
TUWZ	**Tuamarina**	**0.64**	**11**	P	**Pb**	**15 04 57.3**	**+0.1**
TUWZ				S	**Sb**	**15 05 06.8**	**+0.9**
THZ	**Tophouse**	**0.72**	**294**	P	**Pg**	**15 04 57.7**	**-0.8**
NNZ	**Nelson**	**0.90**	**340**	P	**Pb**	**15 05 01.1**	**-0.5**
TCW	**Tory Channel**	**0.93**	**24**	P	**Pg**	**15 05 02.3**	**-0.2**
MRNZ	**Matariki Terra**	**1.01**	**311**	P	**Pb**	**15 05 03.4**	**-0.1**
SNZO	**South Karori**	**1.02**	**43**	P	**Pg**	**15 05 05.5**	**+1.2**
GVZ	**Greta Valley S**	**1.06**	**211**	P	**Pg**	**15 05 05.2**	**+0.2**
WEL	**Wellington**	**1.07**	**44**	P	**Pg**	**15 05 05.9**	**+0.7**
TKNZ	**Takaka Hill**	**1.20**	**329**	P	**Pb**	**15 05 06.5**	**-0.2**
PLWZ	**Palliser**	**1.21**	**66**	P	**Pb**	**15 05 07.2**	**+0.3**
DUWZ	**D'Urville Isla**	**1.26**	**5**	P	**Pb**	**15 05 07.8**	**0.0**
MSWZ	**Moikau Station**	**1.28**	**60**	P	**Pb**	**15 05 08.1**	**+0.1**
LTZ	**Lake Taylor**	**1.33**	**237**	P	**Pb**	**15 05 08.5**	**-0.1**
CAW	**Cannon Point**	**1.36**	**46**	P	**Pb**	**15 05 09.6**	**+0.2**
AMCZ	**Amberley**	**1.39**	**216**	P	**Pb**	**15 05 09.4**	**-0.6**
PAWZ	**Paruwai Farm**	**1.41**	**62**	P	**Pn**	**15 05 09.7**	**+0.3**
KIW	**Kapiti Island**	**1.47**	**36**	P	**Pb**	**15 05 11.6**	**+0.2**
DSZ	**Denniston Nort**	**1.51**	**281**	P	**Pb**	**15 05 12.3**	**+0.3**
QRZ	**Quartz Range**	**1.55**	**322**	P	**Pb**	**15 05 12.5**	**-0.2**
TRWZ	**Traveller**	**1.57**	**66**	P	**Pn**	**15 05 11.7**	**+0.1**
MTW	**Mount Morrison**	**1.58**	**56**	P	**Pn**	**15 05 11.8**	**+0.2**
OGWZ	**Otaki Gorge**	**1.62**	**41**	P	**Pb**	**15 05 13.3**	**-0.7**
OKCZ	**Okains Bay**	**1.74**	**197**	P	**Pn**	**15 05 14.2**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.75**	**49**	P	**Pn**	**15 05 14.3**	**+0.3**
OXZ	**Oxford**	**1.80**	**225**	P	**Pn**	**15 05 14.3**	**-0.4**
MQZ	**McQueen's Vall**	**1.84**	**206**	P	**Pn**	**15 05 14.5**	**-0.8**
INZ	**Inchbonnie**	**1.85**	**248**	P	**Pb**	**15 05 16.6**	**-1.2**
AKCZ	**Akaroa Harbour**	**1.92**	**199**	P	**Pn**	**15 05 16.4**	**0.0**
MRZ	**Mangatainoka R**	**1.95**	**45**	P	**Pn**	**15 05 17.2**	**+0.4**
RACZ	**Rakaia**	**2.06**	**215**	P	**Pn**	**15 05 17.6**	**-0.6**
OHWZ	**Ohakea**	**2.19**	**33**	P	**Pb**	**15 05 22.3**	**-1.2**
MHCZ	**Mount Hutt**	**2.19**	**227**	P	**Pn**	**15 05 19.7**	**-0.5**
PRWZ	**Pori Road**	**2.23**	**48**	P	**Pn**	**15 05 20.6**	**-0.1**
BFZ	**Birch Farm**	**2.31**	**54**	P	**Pn**	**15 05 21.3**	**-0.5**
WACZ	**Wakanui South**	**2.36**	**216**	P	**Pn**	**15 05 22.2**	**-0.2**
WVZ	**Waitaha Valley**	**2.46**	**245**	P	**Pn**	**15 05 25.1**	**+1.3**
WAZ	**Wanganui**	**2.48**	**22**	P	**Pb**	**15 05 27.5**	**-1.0**
DVHZ	**Dannevirke**	**2.52**	**46**	P	**Pn**	**15 05 24.1**	**-0.6**
TSZ	**Takapari Road**	**2.59**	**40**	P	**Pn**	**15 05 25.8**	**+0.1**
RPZ	**Rata Peaks**	**2.60**	**230**	Pn	**Pn**	**15 05 25.7**	**0.0**
	27nm,0.5s,baz=46,slow=4.2						
RPZ				Sn	**Sn**	**15 05 56.3**	**-0.5**
	16nm,0.3s,baz=14,slow=22,SNR=2.5						
RPZ	**Rata Peaks**	**2.60**	**230**	P	**Pn**	**15 05 25.7**	**0.0**
RPZ	**Rata Peaks**	**2.60**	**230**	P	**Pn**	**15 05 25.6**	**0.0**
PREZ	**Palmer Road**	**2.73**	**6**	P	**Pb**	**15 05 33.7**	**+0.8**
KHEZ	**Kahui Hut**	**2.77**	**4**	P	**Pb**	**15 05 33.9**	**+0.4**
KHEZ	**Kahui Hut**	**2.77**	**4**	P	**Pb**	**15 05 34.0**	**+0.4**
NBEZ	**Newall Road No**	**2.79**	**1**	P	**Pg**	**15 05 36.1**	**-1.9**
NEZ	**North Egmont**	**2.80**	**5**	P	**Pb**	**15 05 33.8**	**-0.2**
PNHZ	**Pukenui**	**2.82**	**41**	P	**Pn**	**15 05 28.7**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.84**	**243**	P	**Pn**	**15 05 30.5**	**+1.5**
PKE	**Pukeiti**	**2.87**	**3**	P	**Pb**	**15 05 33.6**	**-1.6**
DREZ	**Durham Road**	**2.89**	**7**	P	**Pb**	**15 05 33.9**	**-1.6**
PKVZ	**Pokaka**	**3.02**	**24**	P	**Pb**	**15 05 39.1**	**+1.4**
VRZ	**Vera Road**	**3.03**	**15**	P	**Pb**	**15 05 35.7**	**-2.2**
MOVZ	**Moawhango**	**3.05**	**30**	P	**Pb**	**15 05 35.8**	**-2.5**
WNVZ	**Wahianoa**	**3.06**	**27**	P	**Pb**	**15 05 36.9**	**-1.7**
TRVZ	**Turoa**	**3.07**	**27**	P	**Pb**	**15 05 37.6**	**-1.1**
TMZ	**Timaru**	**3.08**	**220**	P	**Pn**	**15 05 32.3**	**0.0**
WHVZ	**Whangaehu Hut**	**3.10**	**27**	P	**Pb**	**15 05 37.5**	**-1.7**
BHHZ	**Black Hill Sta**	**3.10**	**35**	P	**Pb**	**15 05 38.9**	**-0.3**
FWVZ	**Far West T-bar**	**3.11**	**26**	P	**Pb**	**15 05 40.1**	**+0.6**
NGZ	**Ngauruhoe**	**3.20**	**26**	P	**Pb**	**15 05 42.3**	**+1.4**
NNVZ	**North Ngauruho**	**3.24**	**26**	P	**Pb**	**15 05 40.8**	**-0.9**
TWVZ	**Taurewa**	**3.24**	**23**	P	**Pb**	**15 05 42.4**	**+0.7**
WTVZ	**West Tongariro**	**3.25**	**26**	P	**Pb**	**15 05 41.8**	**0.0**
FOZ	**Fox Glacier**	**3.27**	**242**	P	**Pn**	**15 05 37.2**	**+2.3**
TMVZ	**Te Maari**	**3.29**	**27**	P	**Pb**	**15 05 41.6**	**-0.8**
LBZ	**Lake Benmore**	**3.51**	**227**	P	**Pn**	**15 05 38.5**	**+0.3**
HIZ	**Hauiti**	**3.64**	**13**	P	**Pb**	**15 05 44.9**	**-3.4**
HIZ	**Hauiti**	**3.64**	**13**	P	**Pb**	**15 05 44.4**	**-3.9**
ODZ	**Otahua Downs**	**3.75**	**216**	P	**Pn**	**15 05 40.8**	**-0.8**
ODZ	**Otahua Downs**	**3.75**	**216**	P	**Pn**	**15 05 40.7**	**-0.9**
JCZ	**Jackson Bay**	**4.17**	**240**	P	**Pn**	**15 05 49.9**	**+2.4**
JCZ	**Jackson Bay**	**4.17**	**240**	P	**Pn**	**15 05 49.6**	**+2.1**
TOZ	**Tahuroa Road**	**4.52**	**18**	P	Pn	15 05 57.5	+5.3
MKAZ	**Moumakai**	**5.06**	**13**	P	**Pn**	**15 06 02.9**	**+3.4**
ETAZ	**East Tamaki Re**	**5.18**	**10**	P	**Pn**	**15 06 04.6**	**+3.5**
WIAZ	**Waiheke Island**	**5.37**	**12**	P	**Pn**	**15 06 08.0**	**+4.3**
SYZ	**Scrubby Hill**	**5.58**	**215**	P	**Pn**	**15 06 06.2**	**-0.4**
SYZ	**Scrubby Hill**	**5.58**	**215**	P	**Pn**	**15 06 06.7**	**+0.1**
ASAR	**Alice Springs**	**37.78**	**286**	P	**P**	**15 12 00.6**	**+0.8**
	0.2nm,0.6s,baz=119,slow=6.6,SNR=6.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**39.88**	**291**	P	**P**	**15 12 16.9**	**-0.6**
	0.4nm,0.8s,baz=127,slow=8.5,SNR=8.0						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.38**	**196**	PKPbc	**PKiKP**	**15 24 35.9**	**-0.1**
	0.3nm,0.3s,baz=151,slow=2.3,SNR=5.1						

*IDC **17** 15:05:13.2±1.1, 83.°99N×0.°41W, h0km, mb3.7/9, mbtmp3.7/11, ML3.4/2, MS3.8/42, Error ellipse: s-maj=28.7km s-min=17.9km az=58.0*
*NEIC **17** 15:05:14.3±2.2, 83.°9N±0.°1×±.°, h18km±5km, mb4.4/37, Error ellipse: s-maj=20.2km s-min=10.2km az=222.0*
*IEPN **17** 15:05:20.0, 83.°85N×1.°01E, h10km*

ISC 17 15:05:12.8±0.5, 83.°92N±0.°07×0.°10W±0.°06, h10km, n98, σ2s05/70, mb4.3/29, MS3.7/39, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.32**	**154**	Pn	**Pn**	**15 06 30.4**	**-1.7**

SCHQ Schefferville 33.35 255 LR LR 15 24 58.9
comp=Z,110nm,19.1s,baz=40,slow=36
SCM Sheep Creek Mo 33.62 332 P **P** **15 11 53.1 +0.2**
SKT Skwentna 33.67 336 P **P** **15 11 52.3 -1.0**
SKT IAmb IAmb 15 12 04.2
comp=Z,14nm,1.4s
N25K Chitina, Valde 33.71 330 P **P** **15 11 53.2 -0.4**
N25K IAmb IAmb 15 11 55.4
comp=Z,12nm,1.2s
BELG Belogornoye 33.94 126 LR LR 15 29 13.9
comp=Z,136nm,18.3s,baz=333,slow=42
SUA Susitna One 34.15 335 P **P** **15 12 00.1 +2.6**
AKSAG Malin Array Be 34.26 146 LR LR 15 25 25.5
comp=Z,154nm,18.3s,baz=330,slow=35
VRAC Vranov 35.06 161 LR LR 15 25 32.7
comp=Z,123nm,19.9s,baz=350,slow=35
GERES GERESS Array B 35.43 164 P **P** **15 12 11.4 +2.8**
comp=Z,0.5nm,0.4s,baz=354,slow=8.9,SNR=1.8
GERES LR LR 15 27 28.7
comp=Z,174nm,18.0s,baz=312,slow=38
comp=Z,0.5nm,0.4s
BVAR Borovoye Array 35.52 101 LR LR 15 30 01.3
comp=Z,194nm,18.4s,baz=331,slow=42
HOM Homer 36.00 336 P **P** **15 12 13.7 +0.4**
MA2 Magadan 36.05 25 LR LR 15 26 56.8
comp=Z,69nm,18.2s,baz=214,slow=36
P19K Oil Pt 36.07 337 P **P** **15 12 16.4 +2.5**
ZAA0 Zalesovo Array 36.14 87 P **P** **15 12 14.6 +0.1**
ZALV Zalesovo Beam 36.14 87 P **P** **15 12 17.4 +2.8**
comp=Z,1.2nm,0.7s,baz=357,slow=7.4,SNR=5.6
ZALV LR LR 15 30 17.7
comp=Z,191nm,18.7s,baz=341,slow=42
comp=Z,1.2nm,0.7s
ZALV Zalesovo Beam 36.14 87 P **P** **15 12 14.3 -0.2**
BUR08 Bucovina Ar. S 37.09 151 P **P** **15 12 23.7 +0.9**
BUR08 IAmb IAmb 15 12 31.1
comp=Z,8.9nm,1.4s
BURAR Bucovina Array 37.12 151 P **P** **15 12 24.8 +1.7**
DAVOX Davos/Dischmat 37.40 169 LR LR 15 28 40.0
comp=Z,177nm,18.4s,baz=308,slow=38
SENIN Lac Senin/Sane 37.77 172 P **P** **15 12 30.9 +2.2**
STAL STALIGIAL 37.98 166 P **P** **15 12 33.2 +2.9**
CTI Castel Tesino 38.17 167 P **P** **15 12 32.1 +0.2**
CTI IAmb IAmb 15 12 35.1
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 38.19 113 P **P** **15 12 32.4 +0.5**
ABKAR Akbulak array 38.19 113 P **P** **15 12 34.0 +2.0**
KURK Kurchatov 38.67 94 P **P** **15 12 36.8 +0.8**
KURK IAmb IAmb 15 12 45.5
comp=Z,10nm,1.4s
KURBB Kurchatov Arra 38.75 94 LR LR 15 32 27.7
comp=Z,143nm,18.2s,baz=142,slow=42
MLR Muntele Rosu 39.28 151 LR LR 15 28 45.6
comp=Z,204nm,21.0s,baz=341,slow=36
MAKZ Makanchi 42.89 91 P **P** **15 13 10.0 -0.8**
MAKZ IAmb IAmb 15 13 19.6
comp=Z,9.2nm,1.4s
MKAR Makanchi Array 42.93 91 P **P** **15 13 13.3 +2.1**
comp=Z,0.3nm,0.6s,baz=0.3,slow=7.4,SNR=2.5
MKAR LR LR 15 31 53.3
comp=Z,90nm,18.4s,baz=328,slow=37
comp=Z,0.3nm,0.6s
FNA Florina 43.76 156 P **P** **15 13 18.0 0.0**
SONM Songino Array 44.41 67 P **P** **15 13 25.5 +2.3**
comp=Z,1.5nm,0.8s,baz=359,slow=10,SNR=4.3
SONM LR LR 15 32 13.7
comp=Z,80nm,19.9s,baz=258,slow=36
comp=Z,1.5nm,0.8s
NEW Newport 44.98 303 LR LR 15 34 00.9
comp=Z,84nm,18.1s,baz=61,slow=38
KK31 Karatay Array 45.34 104 P **P** **15 13 31.0 +0.5**
KK31 IAmb IAmb 15 13 40.1
comp=Z,5.8nm,1.3s
KKAR Karatay Array 45.34 104 P **P** **15 13 31.4 +0.8**
KKAR Karatay Array 45.34 104 P **P** **15 13 30.6 +0.1**
KKAR IAmb IAmb 15 13 40.1
comp=Z,5.8nm,1.3s
BRTR Keskin Array B 45.47 143 LR LR 15 34 06.7
comp=Z,138nm,18.1s,baz=313,slow=38
GNI Garni 45.85 131 LR LR 15 33 42.0
comp=Z,71nm,19.2s,baz=316,slow=37
AAK Ala-Archa 46.22 100 LR LR 15 34 25.6
comp=Z,98nm,20.0s,baz=328,slow=38
GEYT Alibeck 49.23 117 LR LR 15 39 05.4
comp=Z,115nm,19.2s,baz=13,slow=41
IDI Anoyia 49.39 153 LR LR 15 35 27.6
comp=Z,60nm,21.5s,baz=342,slow=37
CHGR Chuyangaron 49.60 106 P **P** **15 14 02.8 -1.0**
PDAR Pinedale Array 49.72 294 LR LR 15 35 35.0
comp=Z,217nm,19.3s,baz=36,slow=37
YBH Yreka Blue Hor 51.95 307 LR LR 15 38 19.0
comp=Z,53nm,18.0s,baz=14,slow=38
ELK Elko 52.26 300 LR LR 15 36 51.1
comp=Z,78nm,19.1s,baz=54,slow=36
TMUT Trail Mountain 53.32 295 P **P** **15 14 29.6 -2.3**
SDCO Great Sand Dun 54.29 290 P **P** **15 14 35.9 -3.1**
KSRS Korea Array 56.64 49 LR LR 15 39 37.8
comp=Z,28nm,18.0s,baz=230,slow=36
ANMO Albuquerque 57.16 290 LR LR 15 40 05.7
comp=Z,308nm,18.0s,baz=26,slow=37
TXAR Lajitas Array 62.43 287 LR LR 15 43 26.4
comp=Z,203nm,18.8s,baz=7.0,slow=37
WSAR Wadi Sarin 63.83 119 LR LR 15 47 29.4
comp=Z,46nm,19.8s,baz=346,slow=40
CMAR Chiang Mai Arr 72.72 79 P **P** **15 16 42.0 +1.3**
comp=Z,1.0nm,0.8s,baz=344,slow=7.2,SNR=8.3
CMAR LR LR 15 51 33.0
comp=Z,59nm,18.6s,baz=0.0,slow=38
comp=Z,1.0nm,0.8s
CMIG Matias Romero 73.62 277 LR LR 15 52 30.8
comp=Z,32nm,18.5s,baz=5.0,slow=39
KMBO Kilima Mbogo 86.26 143 LR LR 15 59 19.1
comp=Z,36nm,19.4s,baz=90,slow=38

*IDC **17** 15:09:32.2±2.7, 41˚.70S×174˚.00E, h0km, mb3.2/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=52.1km s-min=38.3km az=107.0*
*NOU **17** 15:09:33.3, 41˚.90S×174˚.29E, h5km, MLv4.4/12, Cook Strait, New Zealand*
*WEL **17** 15:09:34.5±0.3, 42˚.5±2˚×17˚.4E±˚, h11km±2km, M3.8/38, ML4.0/19, MLv3.8/38, Error ellipse: s-maj=0.0km s-min=0.0km az=33.8*

ISC 17 15:09:33.6±0.9, 41˚.83S±0˚.03×174˚.24E±0˚.03, h17km±6km, n92, σ1s32/97, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.09**	**346**	P	**Pg**	**15 09 37.3**	**+0.2**
CMWZ				S	**Sg**	**15 09 39.9**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.30**	**293**	P	**Pg**	**15 09 39.8**	**-0.3**
BSWZ				S	**Sg**	**15 09 44.0**	**-0.4**
TUWZ	**Tuamarina**	**0.46**	**331**	P	**Pg**	**15 09 42.4**	**-0.5**
TUWZ				S	**Sg**	**15 09 48.0**	**-1.2**
TCW	**Tory Channel**	**0.62**	**2**	P	**Pg**	**15 09 45.4**	**-0.6**
TCW				S	**Sg**	**15 09 53.5**	**-0.7**
SNZO	**South Karori**	**0.63**	**34**	P	**Pb**	**15 09 46.6**	**+0.5**
WEL	**Wellington**	**0.68**	**36**	P	**Pb**	**15 09 47.6**	**+0.6**
KHZ	**Kahutara**	**0.78**	**222**	P	**Pn**	**15 09 51.4**	**+1.5**
PLWZ	**Palliser**	**0.80**	**71**	P	**Pn**	**15 09 51.1**	**+0.9**
MSWZ	**Moikau Station**	**0.86**	**61**	P	**Pn**	**15 09 52.0**	**+1.0**
NNZ	**Nelson**	**0.89**	**313**	P	**Pb**	**15 09 50.0**	**-0.7**
CAW	**Cannon Point**	**0.95**	**41**	P	**Pn**	**15 09 52.6**	**+0.3**
PAWZ	**Paruwai Farm**	**1.00**	**63**	P	**Pg**	**15 09 53.8**	**+0.8**
THZ	**Tophouse**	**1.00**	**274**	P	**Pn**	**15 09 52.9**	**-0.1**
DUWZ	**D'Urville Isla**	**1.06**	**347**	P	**Pb**	**15 09 52.8**	**-0.8**
MTW	**Mount Morrison**	**1.16**	**55**	P	**Pb**	**15 09 55.7**	**+0.5**
TRWZ	**Traveller**	**1.17**	**69**	P	**Pb**	**15 09 55.8**	**+0.4**
MRNZ	**Matariki Terra**	**1.19**	**291**	P	**Pb**	**15 09 56.1**	**+0.3**
OGWZ	**Otaki Gorge**	**1.23**	**35**	P	**Pb**	**15 09 57.0**	**+0.6**
TKNZ	**Takaka Hill**	**1.25**	**309**	P	**Pb**	**15 09 56.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.34**	**46**	P	**Pn**	**15 09 58.1**	**+0.6**
TMWZ	**Te Maipa**	**1.44**	**60**	P	**Pn**	**15 09 59.3**	**+0.4**
GVZ	**Greta Valley S**	**1.44**	**218**	P	**Pb**	**15 10 00.2**	**+0.1**
MRZ	**Mangatainoka R**	**1.55**	**41**	P	**Pn**	**15 10 01.1**	**+0.7**
TIWZ	**Tintock**	**1.63**	**50**	P	**Pn**	**15 10 02.5**	**+0.9**
QRZ	**Quartz Range**	**1.64**	**307**	P	**Pb**	**15 10 03.0**	**-0.3**
QRZ	**Quartz Range**	**1.64**	**307**	P	**Pb**	**15 10 03.1**	**-0.2**
AMCZ	**Amberley**	**1.78**	**221**	P	**Pn**	**15 10 04.6**	**+0.9**
OHWZ	**Ohakea**	**1.82**	**27**	P	**Pb**	**15 10 06.4**	**0.0**
DSZ	**Denniston Nort**	**1.82**	**272**	P	**Pb**	**15 10 06.5**	**-0.1**
PRWZ	**Pori Road**	**1.83**	**46**	P	**Pn**	**15 10 04.6**	**+0.4**
POWZ	**Post Office Ro**	**1.84**	**39**	P	**Pn**	**15 10 05.1**	**+0.5**
BFZ	**Birch Farm**	**1.90**	**53**	P	**Pn**	**15 10 05.6**	**+0.3**
BFZ	**Birch Farm**	**1.90**	**53**	P	**Pn**	**15 10 05.1**	**-0.2**
OKCZ	**Okains Bay**	**2.08**	**204**	P	**Pn**	**15 10 08.3**	**+0.6**
DVHZ	**Dannevirke**	**2.11**	**44**	P	**Pn**	**15 10 08.0**	**-0.2**
WAZ	**Wanganui**	**2.15**	**15**	P	**Pb**	**15 10 11.9**	**-0.3**
ANWZ	**Angora Road**	**2.17**	**52**	P	**Pn**	**15 10 09.0**	**0.0**
TSZ	**Takapari Road**	**2.20**	**37**	P	**Pn**	**15 10 09.8**	**+0.3**
MQZ	**McQueen's Vall**	**2.21**	**211**	P	**Pn**	**15 10 09.2**	**-0.3**
INZ	**Inchbonnie**	**2.26**	**246**	P	**Pn**	**15 10 11.5**	**+1.3**
LREZ	**Lake Rotokare**	**2.37**	**3**	P	**Pb**	**15 10 14.4**	**-1.5**
PRHZ	**Porangahau**	**2.39**	**50**	P	**Pn**	**15 10 11.3**	**-0.7**
PNHZ	**Pukenui**	**2.43**	**38**	P	**Pn**	**15 10 12.5**	**0.0**
WPHZ	**Waipukurau**	**2.43**	**44**	P	**Pn**	**15 10 12.7**	**+0.2**
NMEZ	**Namu Road**	**2.43**	**353**	P	**Pb**	**15 10 18.1**	**+1.2**
PREZ	**Palmer Road**	**2.49**	**359**	P	**Pb**	**15 10 16.8**	**-1.1**
KHEZ	**Kahui Hut**	**2.54**	**356**	P	**Pb**	**15 10 18.0**	**-0.8**
KHEZ	**Kahui Hut**	**2.54**	**356**	P	**Pb**	**15 10 17.9**	**-0.9**
NEZ	**North Egmont**	**2.56**	**357**	P	**Pb**	**15 10 18.3**	**-0.9**
NBEZ	**Newall Road No**	**2.58**	**354**	P	**Pb**	**15 10 19.6**	**+0.2**
DREZ	**Durham Road**	**2.64**	**359**	P	**Pb**	**15 10 19.0**	**-1.5**
PKE	**Pukeiti**	**2.64**	**356**	P	**Pn**	**15 10 17.9**	**+2.4**
MOVZ	**Moawhango**	**2.68**	**26**	P	**Pn**	**15 10 17.2**	**+1.1**
WNVZ	**Wahianoa**	**2.71**	**23**	P	**Pn**	**15 10 19.0**	**+2.5**
TRVZ	**Turoa**	**2.72**	**22**	P	**Pb**	**15 10 19.9**	**-2.1**
BHHZ	**Black Hill Sta**	**2.72**	**31**	P	**Pn**	**15 10 17.6**	**+1.0**
VRZ	**Vera Road**	**2.73**	**8**	P	**Pn**	**15 10 19.4**	**+2.7**
DRZ	**Dome Shelter**	**2.75**	**22**	P	**Pb**	**15 10 23.4**	**+0.9**
WHVZ	**Whangaehu Hut**	**2.75**	**22**	P	**Pb**	**15 10 20.5**	**-1.9**
MHEZ	**Mangahewa**	**2.75**	**1**	P	**Pb**	**15 10 22.4**	**0.0**
FWVZ	**Far West T-bar**	**2.76**	**22**	P	**Pb**	**15 10 22.3**	**-0.4**
NGZ	**Ngauruhoe**	**2.85**	**22**	P	**Pb**	**15 10 24.4**	**+0.2**
SNVZ	**South Ngauruho**	**2.85**	**22**	P	**Pn**	**15 10 21.3**	**+2.8**
NNVZ	**North Ngauruho**	**2.90**	**22**	P	**Pn**	**15 10 21.5**	**+2.4**
WTVZ	**West Tongariro**	**2.90**	**21**	P	**Pb**	**15 10 22.9**	**-2.1**
TWVZ	**Taurewa**	**2.91**	**19**	P	**Pb**	**15 10 24.9**	**-0.1**
TMVZ	**Te Maari**	**2.94**	**23**	P	**Pb**	**15 10 24.5**	**-1.0**
RPZ	**Rata Peaks**	**3.01**	**230**	Pn	**Pn**	**15 10 20.9**	**+0.4**
	5.4nm,0.3s,baz=72,slow=1.5,SNR=12						
RPZ				Sn	**Sn**	**15 10 56.1**	**0.0**
	8.4nm,0.3s,baz=334,slow=23,SNR=10						
	16nm,0.4s						
RPZ	**Rata Peaks**	**3.01**	**230**	P	**Pn**	**15 10 20.9**	**+0.4**
MCHZ	**McNeill Hill**	**3.03**	**39**	P	**Pn**	**15 10 20.5**	**-0.4**
BKZ	**Black Stump Fm**	**3.17**	**34**	P	**Pn**	**15 10 22.4**	**-0.4**
ARHZ	**Aropaoanui**	**3.32**	**40**	P	**Pn**	**15 10 23.9**	**-0.9**
HIZ	**Hauiti**	**3.35**	**8**	P	**Pn**	**15 10 27.5**	**+2.3**
HIZ	**Hauiti**	**3.35**	**8**	P	**Pn**	**15 10 28.0**	**+2.8**
MTHZ	**Maungataniwha**	**3.58**	**35**	P	**Pn**	**15 10 29.4**	**+1.0**
TLZ	**Tolley Road**	**3.64**	**16**	P	**Pb**	**15 10 33.9**	**-3.6**
ODZ	**Otahua Downs**	**4.14**	**218**	P	**Pn**	**15 10 36.5**	**+0.4**
URZ	**Urewera**	**4.19**	**33**	P	**Pn**	**15 10 37.6**	**+0.8**
URZ	**Urewera**	**4.19**	**33**	P	**Pn**	**15 10 38.0**	**+1.2**
TOZ	**Tahuroa Road**	**4.21**	**14**	P	**Pn**	**15 10 39.9**	**+2.9**
MWZ	**Matawai**	**4.31**	**37**	P	**Pn**	**15 10 36.7**	**-1.7**
JCZ	**Jackson Bay**	**4.59**	**239**	P	**Pn**	**15 10 42.5**	**+0.2**
AWAZ	**Awhitu Peninsu**	**4.77**	**4**	P	**Pn**	**15 10 48.3**	**+3.6**
MKAZ	**Moumakai**	**4.78**	**9**	P	**Pn**	**15 10 46.3**	**+1.5**
ETAZ	**East Tamaki Re**	**4.90**	**6**	P	**Pn**	**15 10 49.0**	**+2.5**
WIAZ	**Waiheke Island**	**5.08**	**8**	P	**Pn**	**15 10 52.9**	**+4.0**
KUZ	**Kuaotunu**	**5.21**	**13**	P	**Pn**	**15 10 52.3**	**+1.6**
SYZ	**Scrubby Hill**	**5.96**	**216**	P	**Pn**	**15 11 02.7**	**+1.6**
CTZ	**Chatham Island**	**6.99**	**109**	P	**Pn**	**15 11 16.1**	**+0.9**
ASAR	**Alice Springs**	**38.05**	**286**	P	**P**	**15 16 50.6**	**-0.6**
	0.2nm,0.6s,baz=124,slow=6.7,SNR=8.1						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**40.13**	**291**	P	**P**	**15 17 07.7**	**-0.9**
	0.3nm,0.6s,baz=127,slow=8.3,SNR=7.8						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.69**	**195**	PKPbc	**PKiKP**	**15 29 26.4**	**+0.6**
	0.2nm,0.3s,baz=164,slow=3.5,SNR=2.4						

*NEIC **17** 15:25:56.5±2.6, 7˚.09S±0˚.06×129˚.40E±0˚.07, h152km±5km, mb4.1/9, Error ellipse: s-maj=10.4km s-min=8.5km az=92.0*
*IDC **17** 15:25:57.9±2.3, 7˚.05S×129˚.45E, h160km±24km, mb3.5/3, mbtmp4.0/6, Error ellipse: s-maj=32.2km s-min=19.2km az=76.0*

ISC 17 15:25:55.4±0.6, 7˚.11S±0˚.05×129˚.43E±0˚.06, h139km, n45, σ2s47/52, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.05**	**115**	Pn	**Pn**	**15 26 33.5**	**+3.1**
SAUI				Sn	**Sn**	**15 27 01.2**	**+3.9**
FAKI	**Fak Fak**	**5.02**	**34**	Pn	**Pn**	**15 27 09.7**	**+0.7**
FAKI				Sn	**Sn**	**15 28 03.8**	**-2.6**
SOEI	**Soe**	**5.74**	**242**	Pn	**Pn**	**15 27 21.4**	**+2.7**
SOEI				Sn	**Sn**	**15 28 21.8**	**-1.9**
MTN	**Manton Dam**	**5.94**	**164**		**Pn**	**15 27 22.2**	**+1.0**
MTN				Sn	**Sn**	**15 28 24.6**	**-3.6**
MTN	**Manton Dam**	**5.94**	**164**	P	**Pn**	**15 27 22.6**	**+1.4**
KDU	**Kakadu**	**6.30**	**152**	P	**Pn**	**15 27 27.3**	**+1.3**
SIJI	**Sorong**	**6.47**	**17**	P	**Pn**	**15 27 29.9**	**+1.5**
	2.3nm,0.3s,baz=216,slow=23,SNR=12						
SIJI				S	**Sn**	**15 28 37.6**	**-3.4**
	19nm,0.2s,baz=250,slow=23,SNR=18						
BATI	**Baumata**	**6.48**	**241**	P	**Pn**	**15 27 32.4**	**+4.0**
	14nm,0.4s,baz=64,slow=8.5,SNR=1.5						
BATI				S	**Sn**	**15 28 42.3**	**+1.1**
	19nm,0.4s,baz=257,slow=23,SNR=3.9						
KNRA	**Kununurra**	**8.54**	**184**	Pn	**Pn**	**15 27 56.2**	**+0.2**
KNRA	**Kununurra**	**8.54**	**184**	P	**Pn**	**15 27 56.2**	**+0.2**
WB0	**Warramunga Arr**	**13.47**	**160**	Pn	**Pn**	**15 28 59.0**	**-2.1**
WRAB	**Tennant Creek**	**13.61**	**160**	Pn	**Pn**	**15 29 00.4**	**-2.5**
WRAB	**Tennant Creek**	**13.61**	**160**	P	**Pn**	**15 29 01.1**	**-1.8**
WRA	**Warramunga Arr**	**13.62**	**160**	P	**Pn**	**15 29 01.2**	**-1.8**
	1.3nm,0.4s,baz=344,slow=13,SNR=21						
WRA				S	Sn	15 31 23.1	-10
	4.8nm,0.7s,baz=330,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.62**	**160**	Pn	**Pn**	**15 28 58.8**	**-4.2**
WB2	**Warramunga Arr**	**13.62**	**160**	Pn	**Pn**	**15 29 00.4**	**-2.6**
WR0	**Warramunga Arr**	**13.70**	**159**	Pn	**Pn**	**15 29 01.6**	**-2.5**
COEN	**Coen**	**15.12**	**118**	Pn	**Pn**	**15 29 21.5**	**-0.5**
COEN				IAmb	IAmb	15 29 24.2	
	comp=Z,41nm,1.4s						
QIS	**Mount Isa**	**16.61**	**145**	P	**P**	**15 29 42.3**	**+2.0**
AS31	**Alice Springs**	**17.01**	**166**	P	**P**	**15 29 44.2**	**-0.5**
ASAR	**Alice Springs**	**17.01**	**166**	P	**Pn**	**15 29 46.2**	**+1.1**
	comp=Z,3.3nm,0.7s,baz=340,slow=9.8,SNR=91						
ASAR				S	**S**	**15 32 45.2**	**-10**
	comp=Z,1.0nm,0.6s,baz=318,slow=16,SNR=7.4						
ASAR	**Alice Springs**	**17.01**	**166**	P	**P**	**15 29 44.4**	**-0.3**
AS01	**Alice Springs**	**17.02**	**166**	P	**Pn**	**15 29 46.3**	**+1.1**
PSA00	**Pilbara Seismi**	**17.10**	**212**	P	**Pn**	**15 29 45.8**	**-0.3**
PSA00				IAmb	IAmb	15 29 48.1	
	comp=Z,8.1nm,0.9s						
PSA00	**Pilbara Seismi**	**17.10**	**212**	P	**P**	**15 29 44.6**	**-1.1**
PSA00				IAmb	IAmb	15 30 16.9	
	comp=Z,8.8nm,1.5s						
WRKA	**Warakurna**	**17.86**	**183**	P	**Pn**	**15 29 55.6**	**+0.3**
MTSU	**Mount Surprise**	**18.18**	**128**	P	**Pn**	**15 30 00.2**	**+1.1**
OOD	**Oodnadatta**	**21.41**	**165**	P	**P**	**15 30 32.2**	**-0.1**
INKA	**Innaminka**	**23.15**	**154**	P	**P**	**15 30 51.3**	**+1.7**
MULG	**Mulgathing**	**23.46**	**170**	P	**P**	**15 30 53.4**	**+1.0**
FORT	**Forrest**	**23.58**	**183**	P	**P**	**15 30 51.8**	**-1.7**
FORT	**Forrest**	**23.58**	**183**	P	**P**	**15 30 56.1**	**+2.6**
QLP	**Quilpie**	**23.95**	**146**	P	**P**	**15 30 59.3**	**+2.4**
	comp=Z,16nm,1.2s						
LCRK	**Leigh Creek**	**24.64**	**162**	P	**P**	**15 31 06.7**	**+3.6**
BBOO	**Buckleboo**	**26.30**	**167**	P	**P**	**15 31 18.7**	**+0.6**
BBOO	**Buckleboo**	**26.30**	**167**	P	**P**	**15 31 21.6**	**+3.5**
STKA	**Stephens Creek**	**27.13**	**157**	P	**P**	**15 31 26.1**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=339,slow=11,SNR=3.4						
	comp=Z,1.1nm,0.5s						
STKA	**Stephens Creek**	**27.13**	**157**	P	**P**	**15 31 26.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**39.37**	**311**	P	**P**	**15 33 10.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=139,slow=7.0,SNR=5.3						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**68.01**	**327**	P	**P**	**15 36 38.6**	**-1.0**
MK31				IAmb	IAmb	15 36 50.9	
	comp=Z,3.5nm,1.4s						
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**15 36 40.0**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=118,slow=7.9,SNR=26						
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**15 36 38.8**	**-0.9**
MAKZ	**Makanchi**	**68.19**	**327**	P	**P**	**15 36 40.6**	**-0.1**
MAKZ				IAmb	IAmb	15 37 17.6	
	comp=Z,2.2nm,1.1s						
MAW	**Mawson**	**74.64**	**201**	P	**P**	**15 37 21.4**	**+2.4**
ABKAR	**Akbulak array**	**82.24**	**322**	P	**P**	**15 38 01.1**	**0.0**

*IDC **17** 15:48:35.7±0.8, 84˚.06N×0˚.15W, h0km, mb3.6/11, mbtmp3.7/15, ML3.4/4, MS3.6/25, Error ellipse: s-maj=21.5km s-min=15.1km az=39.0*
*BER **17** 15:48:45.7±2.0, 83˚.53N×0˚.69W, h23km±176km, ML2.3, Confirmed Earthquake*

ISC 17 15:48:36.8±0.6, 83˚.83N±0˚.06×1˚.15E±0˚.06, h10km, n43, σ2s89/33, mb3.6/11, MS3.6/22, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**3.17**	**234**	*eP*	**Pn**	**15 49 27.3**	**+0.6**
KBS	**Kingsbay**	**5.18**	**156**	*eP*	**Pn**	**15 49 56.0**	**+1.9**
KBS				*eS*	**Sn**	**15 50 50.1**	**-3.7**
KBS				IAML		15 50 53.5	
	comp=Z,8.7nm,0.5s						
BRBB	**Barentsburg B**	**6.09**	**154**	*eP*	**Pn**	**15 50 09.9**	**+3.1**
BRBB				*eS*	**Sn**	**15 51 12.6**	**-3.8**
SPA0	**Spitsbergen Ar**	**6.12**	**149**	P	Pn	15 50 00.5	-6.7
SPA0				*eS*	Sn	15 51 05.7	-11
SPA0	**Spitsbergen Ar**	**6.12**	**149**	*eP*	**Pn**	**15 50 10.7**	**+3.5**
SPA0				IAML		15 51 14.4	
	comp=Z,5.3nm,0.8s						
SPITS	**Spitsbergen Ar**	**6.12**	**149**	Pn	**Pn**	**15 50 08.4**	**+1.2**
	baz=6.1,slow=8.6						
SPITS				Sn	**Sn**	**15 51 14.3**	**-2.8**
	baz=21,slow=10						
	comp=Z,6.6nm,0.8s						
BRBA	**Barentsburg A**	**6.13**	**154**	*eP*	**Pn**	**15 50 11.8**	**+4.6**
BRBA				*eS*	**Sn**	**15 51 14.4**	**-2.8**
BRBA				IAML		15 51 31.0	
	comp=Z,9.1nm,1.0s						
ZFI	**Zemlya Franca-**	**6.70**	**92**	*eP*	**Pn**	**15 50 15.7**	**+0.6**
ZFI				*eS*	**Sn**	**15 51 27.6**	**-3.8**
	comp=Z,112nm,1.4s						
OMEGA	**Omega**	**6.73**	**92**	*eP*	**Pn**	**15 50 15.7**	**+0.3**
OMEGA				*eS*	**Sn**	**15 51 27.6**	**-4.3**
DAG	**Danmarks Havn**	**7.75**	**215**	*i P*	**Pn**	**15 50 30.0**	**+0.5**
DAG	**Danmarks Havn**	**7.75**	**215**	*eP*	**Pn**	**15 50 29.9**	**+0.3**
DBG	**Daneborg**	**10.26**	**214**	*eP*	**Pn**	**15 51 02.1**	**-1.6**
ARCES	**ARCESS Array B**	**15.14**	**146**	Pn	**Pn**	**15 52 11.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=325,slow=6.2,SNR=1.6						
ARCES				Sn	**Sn**	**15 54 49.6**	**-8.2**
	baz=352,slow=24,SNR=1.5						
ARCES				LR	LR	15 57 53.1	
	comp=Z,172nm,19.4s,baz=313,slow=36						
	comp=Z,2.8nm,0.8s						
RES	**Resolute Bay**	**17.19**	**297**	Pn	**Pn**	**15 52 34.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=35,slow=13,SNR=2.6						
RES				LR	LR	15 59 31.8	
	comp=Z,235nm,18.0s,baz=336,slow=39						
	comp=Z,2.1nm,0.7s						
SFJD	**Kangerlussuaq**	**19.87**	**245**	P	**Pn**	**15 53 07.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=33,slow=22,SNR=2.6						
SFJD				LR	LR	16 01 03.1	
	comp=Z,139nm,18.6s,baz=13,slow=38						
	comp=Z,10nm,0.8s						
NRIK	**Noril'sk**	**21.28**	**77**	LR	LR	16 01 20.7	
	comp=Z,118nm,21.8s,baz=310,slow=36						
NB2	**NORSAR Subarra**	**23.03**	**167**	P	**P**	**15 53 44.3**	**+2.7**
	comp=Z,32nm,1.7s,baz=357,slow=10						
NOA	**NORSAR Array B**	**23.03**	**167**	P	**P**	**15 53 44.1**	**+2.5**
	comp=Z,1.5nm,0.9s,baz=341,slow=7.5,SNR=3.4						
	comp=Z,1.5nm,0.9s						
HFS	**Hagfors**	**24.00**	**164**	LR	LR	16 02 01.5	
	comp=Z,386nm,21.1s,baz=330,slow=33						
INK	**Inuvik**	**26.55**	**324**	P	**P**	**15 54 11.3**	**-2.8**
	comp=Z,2.1nm,1.0s,baz=355,slow=9.9,SNR=4.1						
INK				LR	LR	16 08 29.1	
	comp=Z,60nm,18.1s,baz=346,slow=45						
	comp=Z,2.1nm,1.0s						
ARU	**Arti**	**30.80**	**114**	LR	LR	16 08 10.3	
	comp=Z,123nm,18.4s,baz=317,slow=38						
ILAR	**Eielson Array**	**30.81**	**334**	P	**P**	**15 54 50.5**	**-1.6**
	comp=Z,0.8nm,1.0s,baz=322,slow=33,SNR=4.9						
ILAR				LR	LR	16 07 04.7	
	comp=Z,69nm,18.6s,baz=320,slow=36						
	comp=Z,0.8nm,1.0s						
YKA	**Yellowknife Ar**	**30.83**	**305**	LR	LR	16 07 51.6	
	comp=Z,101nm,19.0s,baz=252,slow=38						
YAK	**Yakutsk**	**32.34**	**44**	LR	LR	16 09 37.8	
	comp=Z,77nm,18.3s,baz=92,slow=39						
AKASG	**Malin Array Be**	**34.11**	**148**	LR	LR	16 09 52.2

DSZ	Denniston Nort	1.46	289	P		Pb	16 00 23.0	-0.3
CAW	Cannon Point	1.54	44	P		Pn	16 00 23.7	+0.6
OKCZ	Okains Bay	1.55	196	P		Pn	16 00 23.9	+0.7
PAWZ	Paruwai Farm	1.58	58	P		Pn	16 00 23.8	+0.2
OXZ	Oxford	1.61	227	P		Pn	16 00 23.9	-0.2
QRZ	Quartz Range	1.64	329	P		Pn	16 00 25.4	+1.1
QRZ	Quartz Range	1.64	329	P		Pn	16 00 25.3	+1.0
MQZ	McQueen's Vall	1.65	206	P		Pn	16 00 24.1	-0.3
KIW	Kapiti Island	1.66	35	P		Pn	16 00 25.7	+1.0
INZ	Inchbonnie	1.70	252	P		Pn	16 00 26.2	+1.0
AKCZ	Akaroa Harbour	1.73	198	P		Pn	16 00 26.1	+0.5
TRWZ	Traveller	1.74	62	P		Pn	16 00 25.8	+0.1
MTW	Mount Morrison	1.75	53	P		Pn	16 00 26.0	+0.1
OGWZ	Otaki Gorge	1.82	39	P		Pn	16 00 27.4	+0.6
RACZ	Rakaia	1.86	216	P		Pn	16 00 27.2	-0.2
HOWZ	Holdsworth Sta	1.93	47	P		Pn	16 00 28.5	+0.1
MHCZ	Mount Hutt	2.01	229	P		Pn	16 00 29.3	-0.2
TMWZ	Te Maipa	2.02	57	P		Pn	16 00 29.4	-0.3
MRZ	Mangatainoka R	2.14	43	P		Pn	16 00 31.3	+0.1
WACZ	Wakanui South	2.17	217	P		Pn	16 00 31.4	-0.2
WVZ	Waitaha Valley	2.31	248	P		Pn	16 00 34.6	+1.1
RPZ	Rata Peaks	2.41	231	P		Pn	16 00 35.4	+0.3
RPZ	Rata Peaks	2.41	231	P		Pn	16 00 35.1	+0.1
PRWZ	Pori Road	2.42	47	P		Pn	16 00 35.5	+0.4
POWZ	Post Office Ro	2.43	42	P		Pn	16 00 35.7	+0.4
BFZ	Birch Farm	2.49	52	P		Pb	16 00 39.5	-1.4
ARCZ	Arundel	2.49	226	P		Pn	16 00 36.1	-0.1
WAZ	Wanganui	2.67	23	P		Pn	16 00 41.3	+2.7
GCSZ	Gaunt Creek Bo	2.67	245	P		Pn	16 00 39.6	+1.0
DVHZ	Dannevirke	2.71	45	P		Pn	16 00 38.7	-0.4
TSZ	Takapari Road	2.79	40	P		Pn	16 00 39.9	-0.2
LREZ	Lake Rotokare	2.83	12	P		Pb	16 00 45.2	-1.3
TMZ	Timaru	2.89	221	P		Pn	16 00 41.5	-0.1
KHEZ	Kahui Hut	2.95	6	P		Pb	16 00 46.4	-2.3
KHEZ	Kahui Hut	2.95	6	P		Pb	16 00 46.5	-2.1
NBEZ	Newall Road No	2.96	3	P		Pb	16 00 46.8	-2.1
NEZ	North Egmont	2.98	7	P		Pb	16 00 47.4	-1.8
PNHZ	Pukenui	3.01	41	P		Pn	16 00 42.8	-0.5
PKE	Pukeiti	3.04	5	P		Pn	16 00 47.2	+3.4
DREZ	Durham Road	3.07	8	P		Pb	16 00 48.2	-2.5
MHEZ	Mangahewa	3.19	9	P		Pb	16 00 49.9	-2.9
PKVZ	Pokaka	3.21	24	P		Pn	16 00 48.0	+1.9
VRZ	Vera Road	3.21	16	P		Pn	16 00 49.1	+3.0
MOVZ	Moawhango	3.24	30	P		Pn	16 00 46.9	+0.4
WNVZ	Wahianoa	3.26	28	P		Pn	16 00 48.6	+1.8
TRVZ	Turoa	3.26	27	P		Pn	16 00 49.2	+2.3
WHVZ	Whangaehu Hut	3.29	27	P		Pn	16 00 49.0	+1.7
BHHZ	Black Hill Sta	3.29	35	P		Pn	16 00 47.7	+0.5
LBZ	Lake Benmore	3.32	226	P		Pn	16 00 47.7	+0.3
WTVZ	West Tongariro	3.44	26	P		Pn	16 00 50.5	+1.2
ODZ	Otahua Downs	3.56	217	P		Pn	16 00 50.8	0.0
ODZ	Otahua Downs	3.56	217	P		Pn	16 00 50.5	-0.2
BKZ	Black Stump Fm	3.75	36	P		Pn	16 00 54.9	+1.5
BKZ	Black Stump Fm	3.75	36	P		Pn	16 00 52.7	-0.7
HIZ	Hauiti	3.83	14	P		Pn	16 00 58.1	+3.7
HIZ	Hauiti	3.83	14	P		Pn	16 00 58.3	+3.8
JCZ	Jackson Bay	4.01	241	P		Pn	16 00 58.1	+1.1
JCZ	Jackson Bay	4.01	241	P		Pn	16 00 57.9	+0.9
TLZ	Tolley Road	4.16	21	P		Pn	16 01 03.5	+4.4
TOZ	Tahuroa Road	4.71	18	P		Pn	16 01 07.9	+1.2
AWAZ	Awhitu Peninsu	5.22	9	P		Pn	16 01 15.8	+2.2
MKAZ	Moumakai	5.25	13	P		Pn	16 01 15.5	+1.5
ETAZ	East Tamaki Re	5.36	11	P		Pn	16 01 17.7	+2.1
SYZ	Scrubby Hill	5.38	215	P		Pn	16 01 16.4	+0.6
SYZ	Scrubby Hill	5.38	215	P		Pn	16 01 16.1	+0.3
MBAZ	Motutapu North	5.54	10	P		Pn	16 01 20.9	+3.0
WIAZ	Waiheke Island	5.55	12	P		Pn	16 01 21.9	+3.7
MRNZ	Matariki Terra	1.03	310	P		Pg	16 14 49.3	+0.3
GVZ	Greta Valley S	1.06	212	P		Pg	16 14 49.8	0.0
WEL	Wellington	1.07	43	P		Pg	16 14 49.8	-0.1
PLWZ	Palliser	1.20	66	P		Pg	16 14 50.6	-1.6
TKNZ	Takaka Hill	1.21	328	P		Pg	16 14 52.2	-0.4
MSWZ	Moikau Station	1.27	59	P		Pg	16 14 51.7	-1.9
DUWZ	D'Urville Isla	1.27	4	P		Pg	16 14 52.9	-0.7
LTZ	Lake Taylor	1.34	237	P		Pn	16 14 54.1	-0.6
CAW	Cannon Point	1.35	45	P		Pn	16 14 53.4	-1.5
AMCZ	Amberley	1.40	217	P		Pn	16 14 54.1	-1.4
PAWZ	Paruwai Farm	1.40	61	P		Pn	16 14 53.2	-2.3
KIW	Kapiti Island	1.47	35	P		Pn	16 14 55.6	-0.9
DSZ	Denniston Nort	1.52	282	P		Pg	16 14 58.5	-0.1
TRWZ	Traveller	1.56	65	P		Pn	16 14 55.2	-2.6
MTW	Mount Morrison	1.57	55	P		Pn	16 14 55.6	-2.3
QRZ	Quartz Range	1.57	322	P		Pb	16 14 58.4	-0.5
OGWZ	Otaki Gorge	1.62	40	P		Pn	16 14 57.2	-1.4
HOWZ	Holdsworth Sta	1.74	48	P		Pn	16 14 58.1	-2.1
OKCZ	Okains Bay	1.74	198	P		Pn	16 14 58.1	-2.2
OXZ	Oxford	1.81	225	P		Pn	16 14 59.3	-1.9
TMWZ	Te Maipa	1.84	59	P		Pn	16 14 58.9	-2.7
MQZ	McQueen's Vall	1.84	207	P		Pn	16 14 58.8	-2.8
INZ	Inchbonnie	1.86	249	P		Pn	16 15 02.2	+0.2
AKCZ	Akaroa Harbour	1.92	200	P		Pn	16 15 00.5	-2.2
MRZ	Mangatainoka R	1.94	44	P		Pn	16 15 01.1	-1.9
RACZ	Rakaia	2.06	216	P		Pn	16 15 02.3	-2.4
MHCZ	Mount Hutt	2.20	228	P		Pn	16 15 04.5	-2.1
PRWZ	Pori Road	2.23	48	P		Pn	16 15 04.9	-2.0
POWZ	Post Office Ro	2.24	42	P		Pn	16 15 05.2	-1.9
BFZ	Birch Farm	2.30	54	P		Pn	16 15 05.2	-2.8
WACZ	Wakanui South	2.36	217	P		Pn	16 15 06.8	-1.9
WVZ	Waitaha Valley	2.48	245	P		Pn	16 15 10.4	0.0
WAZ	Wanganui	2.48	22	P		Pn	16 15 11.7	+1.2
DVHZ	Dannevirke	2.51	46	P		Pn	16 15 07.8	-3.1
TSZ	Takapari Road	2.59	40	P		Pn	16 15 09.8	-2.1
RPZ	Rata Peaks	2.60	230	P		Pn	16 15 10.8	-1.4
NMEZ	Namu Road	2.65	1	P		Pb	16 15 17.8	+0.5
ARCZ	Arundel	2.69	225	P		Pn	16 15 11.5	-1.8
PREZ	Palmer Road	2.74	6	P		Pb	16 15 19.6	+0.8
KHEZ	Kahui Hut	2.77	3	P		Pb	16 15 20.3	+0.8
NBEZ	Newall Road No	2.80	1	P		Pb	16 15 20.7	+0.9
PNHZ	Pukenui	2.82	41	P		Pn	16 15 12.5	-2.5
WPHZ	Waipukurau	2.83	46	P		Pn	16 15 14.8	-0.4
GCSZ	Gaunt Creek Bo	2.85	243	P		Pn	16 15 16.6	+1.1
PKE	Pukeiti	2.87	3	P		Pb	16 15 19.8	-1.3
DREZ	Durham Road	2.89	6	P		Pb	16 15 22.0	+0.5
VRZ	Vera Road	3.03	14	P		Pb	16 15 21.3	-2.5
MOVZ	Moawhango	3.04	30	P		Pb	16 15 21.9	-2.2
WNVZ	Wahianoa	3.06	27	P		Pb	16 15 21.8	-2.6
TRVZ	Turoa	3.07	26	P		Pb	16 15 22.3	-2.2
TMZ	Timaru	3.09	220	P		Pn	16 15 17.3	-1.5
DRZ	Dome Shelter	3.10	26	P		Pb	16 15 23.9	-1.2
WHVZ	Whangaehu Hut	3.10	27	P		Pn	16 15 21.5	+2.4
FOZ	Fox Glacier	3.28	242	P		Pn	16 15 22.7	+1.3
LBZ	Lake Benmore	3.51	228	P		Pn	16 15 24.1	-0.5
BKZ	Black Stump Fm	3.55	36	P		Pn	16 15 24.8	-0.4
HIZ	Hauiti	3.64	13	P		Pb	16 15 31.1	-3.1
ODZ	Otahua Downs	3.76	217	P		Pn	16 15 26.1	-1.9
JCZ	Jackson Bay	4.18	240	P		Pn	16 15 35.2	+1.2
TOZ	Tahuroa Road	4.53	17	P		Pn	16 15 42.1	+3.5
EAZ	Earnscleugh	4.54	224	P		Pn	16 15 36.4	-2.3
URZ	Urewera	4.57	35	P		Pn	16 15 37.2	-1.9
MWZ	Matawai	4.70	39	P		Pn	16 15 38.1	-2.8
AWAZ	Awhitu Peninsu	5.04	8	P		Pn	16 15 47.2	+1.6
MKAZ	Moumakai	5.07	12	P		Pn	16 15 46.9	+0.9
MBAZ	Motutapu North	5.36	9	P		Pn	16 15 55.0	+5.1
SYZ	Scrubby Hill	5.58	215	P		Pn	16 15 51.4	-1.6
APZ	The Paps	6.32	219	P		Pn	16 16 01.3	-1.9

*NOU **17** 16:13:08.8, 42°.55S×174°.02E, h13km, MLv4.0/7, Off E. Coast of S. Island, N.Z.*
*WEL **17** 16:13:09.7±0.4, 42°S±3°×17°4E±°, h12km, M3.4/28, ML3.7/22, MLv3.4/28, Error ellipse: s-maj=0.6km s-min=0.0km az=125.0*
ISC 17 16:13:08.4±1.6, **42°.45S**±0°.04×**173°.90E**±0°.04, **h6**km±13km, **n59**, σ0°**85**/64, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.74**	**359**	P	**Pg**	**16 13 23.4**	**+0.8**
BSWZ				S	**Sn**	16 13 37.0	+0.2
CMWZ	**Cape Campbell**	**0.74**	**18**	P	**Pn**	**16 13 25.5**	**+0.2**
GVZ	**Greta Valley S**	**0.82**	**231**	P	**Pn**	**16 13 26.8**	**+0.3**
GVZ				S	**Sn**	**16 13 39.8**	**+0.9**
THZ	**Tophouse**	**1.01**	**313**	P	**Pg**	**16 13 27.7**	**-0.1**
THZ				S	**Sg**	**16 13 40.6**	**-0.3**
TUWZ	**Tuamarina**	**1.02**	**2**	P	**Pb**	**16 13 28.8**	**+0.3**
TUWZ				S	**Sn**	16 13 43.3	-0.6
AMCZ	**Amberley**	**1.17**	**231**	P	**Pb**	**16 13 31.5**	**+0.4**
LTZ	**Lake Taylor**	**1.25**	**254**	P	**Pn**	**16 13 32.5**	**+0.1**
LTZ				S	**Sn**	**16 13 49.5**	**0.0**
TCW	**Tory Channel**	**1.27**	**13**	P	**Pn**	16 13 32.3	-0.4
SNZO	**South Karori**	**1.29**	**28**	P	**Pn**	**16 13 32.9**	**0.0**
NNZ	**Nelson**	**1.29**	**342**	P	**Pn**	16 13 32.7	-0.2
WEL	**Wellington**	**1.33**	**29**	P	**Pn**	**16 13 33.8**	**+0.2**
PLWZ	**Palliser**	**1.34**	**49**	P	**Pn**	16 13 33.7	0.0
MRNZ	**Matariki Terra**	**1.35**	**321**	P	**Pn**	**16 13 33.0**	**-0.8**
OKCZ	**Okains Bay**	**1.41**	**206**	P	**Pn**	**16 13 35.2**	**+0.6**
MSWZ	**Moikau Station**	**1.44**	**45**	P	**Pn**	**16 13 34.9**	**-0.1**
MQZ	**McQueen's Vall**	**1.55**	**216**	P	**Pn**	**16 13 35.8**	**-0.7**
PAWZ	**Paruwai Farm**	**1.56**	**47**	P	**Pn**	**16 13 36.3**	**-0.4**
TKNZ	**Takaka Hill**	**1.58**	**333**	P	**Pn**	**16 13 37.5**	**+0.5**
AKCZ	**Akaroa Harbour**	**1.59**	**207**	P	**Pn**	**16 13 37.4**	**+0.2**
CAW	**Cannon Point**	**1.60**	**33**	P	**Pn**	16 13 37.2	-0.1
DUWZ	**D'Urville Isla**	**1.65**	**1**	P	**Pn**	**16 13 38.5**	**+0.6**
DSZ	**Denniston Nort**	**1.71**	**294**	P	**Pn**	**16 13 37.6**	**-1.2**
KIW	**Kapiti Island**	**1.76**	**26**	P	**Pn**	**16 13 39.7**	**+0.3**
MTW	**Mount Morrison**	**1.76**	**43**	P	**Pn**	**16 13 39.0**	**-0.4**
RACZ	**Rakaia**	**1.81**	**225**	P	**Pn**	16 13 39.7	-0.4
INZ	**Inchbonnie**	**1.83**	**261**	P	**Pn**	**16 13 40.9**	**+0.4**
OGWZ	**Otaki Gorge**	**1.89**	**31**	P	**Pn**	16 13 41.1	-0.1
QRZ	**Quartz Range**	**1.92**	**327**	P	**Pb**	**16 13 43.0**	**-0.9**
QRZ	**Quartz Range**	**1.92**	**327**	P	**Pn**	**16 13 42.5**	**+0.9**
HOWZ	**Holdsworth Sta**	**1.97**	**38**	P	**Pn**	**16 13 42.2**	**-0.1**
WACZ	**Wakanui South**	**2.12**	**225**	P	**Pn**	16 13 44.1	-0.3
MRZ	**Mangatainoka R**	**2.19**	**36**	P	**Pn**	**16 13 44.9**	**-0.4**
WVZ	**Waitaha Valley**	**2.41**	**254**	P	**Pn**	**16 13 49.1**	**+0.8**
RPZ	**Rata Peaks**	**2.44**	**238**	P	**Pn**	**16 13 48.5**	**-0.3**
RPZ	**Rata Peaks**	**2.44**	**238**	P	**Pn**	16 13 48.5	-0.3
ARCZ	**Arundel**	**2.49**	**232**	P	**Pn**	**16 13 49.0**	**-0.5**
BFZ	**Birch Farm**	**2.50**	**46**	P	**Pn**	**16 13 48.9**	**-0.6**
BFZ	**Birch Farm**	**2.50**	**46**	P	**Pn**	**16 13 48.4**	**-1.1**
WAZ	**Wanganui**	**2.82**	**17**	P	**Pn**	**16 13 56.1**	**+2.2**
TSZ	**Takapari Road**	**2.85**	**34**	P	**Pn**	**16 13 54.2**	**-0.2**
TMZ	**Timaru**	**2.86**	**227**	P	**Pn**	**16 13 54.3**	**-0.2**
PNHZ	**Pukenui**	**3.07**	**35**	P	**Pn**	**16 13 56.6**	**-0.9**
PREZ	**Palmer Road**	**3.11**	**4**	P	**Pb**	**16 14 05.0**	**+0.8**
KHEZ	**Kahui Hut**	**3.16**	**2**	P	**Pb**	**16 14 05.6**	**+0.6**
NBEZ	**Newall Road No**	**3.18**	**360**	P	**Pb**	**16 14 04.2**	**-1.1**
NEZ	**North Egmont**	**3.18**	**3**	P	**Pb**	**16 14 04.2**	**-1.2**
PKE	**Pukeiti**	**3.26**	**1**	P	**Pb**	**16 14 04.3**	**-2.3**
DREZ	**Durham Road**	**3.27**	**4**	P	**Pb**	**16 14 04.6**	**-2.2**
LBZ	**Lake Benmore**	**3.33**	**233**	P	**Pn**	**16 14 00.8**	**-0.1**
MOVZ	**Moawhango**	**3.35**	**25**	P	**Pn**	**16 14 03.2**	**+1.9**
WNVZ	**Wahianoa**	**3.38**	**23**	P	**Pn**	**16 14 03.5**	**+1.7**
VRZ	**Vera Road**	**3.39**	**11**	P	**Pn**	**16 14 03.3**	**+1.5**
TRVZ	**Turoa**	**3.39**	**22**	P	**Pb**	**16 14 08.7**	**-0.3**
ODZ	**Otahua Downs**	**3.50**	**221**	P	**Pn**	**16 14 03.4**	**0.0**
ODZ	**Otahua Downs**	**3.50**	**221**	P	**Pn**	**16 14 03.0**	**-0.4**
HIZ	**Hauiti**	**4.00**	**11**	P	**Pn**	**16 14 11.4**	**+1.2**
HIZ	**Hauiti**	**4.00**	**11**	P	**Pn**	**16 14 11.6**	**+1.4**
JCZ	**Jackson Bay**	**4.07**	**245**	P	**Pn**	**16 14 10.9**	**-0.4**
TOZ	**Tahuroa Road**	**4.87**	**15**	P	**Pn**	**16 14 22.9**	**+0.7**

WEL 17 16:14:29.4±0.3, **42°S**±3°×**17°4E**±°, **h5**km, **M3.8**/41, **ML4.0**/17, **MLv3.8**/41, **Error ellipse: s-maj=0.0km s-min=0.0km az=127.2, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**9**	P	Pg	16 14 36.7	+0.4
BSWZ				S	Sb	16 14 42.7	-1.5
KHZ	**Kahutara**	**0.40**	**209**	P	Pg	16 14 37.3	+0.2
KHZ				S	Sb	16 14 43.9	-1.5
CMWZ	**Cape Campbell**	**0.44**	**44**	P	Pb	16 14 38.9	-0.7
TUWZ	**Tuamarina**	**0.65**	**10**	P	Pg	16 14 42.2	+0.4
THZ	**Tophouse**	**0.73**	**294**	P	Pg	16 14 43.7	+0.2
NNZ	**Nelson**	**0.91**	**339**	P	Pg	16 14 46.6	-0.1
TCW	**Tory Channel**	**0.93**	**23**	P	Pg	16 14 46.9	-0.2

MAN 17 16:30:37.1, 9°.79N×123°.86E, h2km, **mb4.0, ML2.8, MS2.4, 8C-4D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.09**	**176**	↓*i*P	Pg	16 30 39.4	+0.5
TBP				*i* S	Sg	16 30 41.6	+1.4
GHBP	**Garcia Hernand**	**0.48**	**109**	↓*e*P	Pg	16 30 46.7	+0.3
GHBP				*i* S	Sb	16 30 55.2	-0.8
LLP	**Lapu-Lapu**	**0.54**	**12**	↑*e*P	Pg	16 30 48.4	+0.9
LLP				*e*S	Sb	16 30 57.0	-0.6
TABP	**Talibon, Bohol**	**0.56**	**57**	↑*e*P	Pg	16 30 48.4	+0.5
TABP				*e*S	Sb	16 30 57.3	-0.8
LSIP	**Lazi, Siquijor**	**0.69**	**199**	↑*e*P	Pg	16 30 50.2	0.0
LSIP				*i* S	Sb	16 31 00.7	-1.0
SNPH	**Sibulan**	**0.75**	**234**	↑*i*P	Pg	16 30 52.0	+0.5
SNPH				*i* S	Sb	16 31 03.8	+0.1
MSLP	**Maasin**	**1.05**	**71**	↑*e*P	Pb	16 30 57.6	-0.3
MSLP				*e*S	Sn	16 31 13.9	-0.1
SCPH	**Surigao**	**1.61**	**90**	↑*e*P	Pn	16 31 05.9	-0.7
SCPH				*e*S	Sb	16 31 28.4	0.0
PAGZ	**Pagadian**	**1.98**	**194**	↑*e*P	Pn	16 31 11.4	-0.2
PAGZ				*e*S	Sn	16 31 38.0	+0.9
RCP	**Roxas**	**2.08**	**328**	↓*e*P	Pn	16 31 13.7	+0.7
RCP				*e*S	Sb	16 31 41.4	-0.3
CTBH	**Cotabato--PC H**	**2.58**	**171**	↑*e*P	Pn	16 31 21.6	+1.7
BIPH	**Bislig**	**2.94**	**123**	↓*i*P	Pn	16 31 19.4	-5.5
BIPH				*i* S	Sn	16 31 56.7	-4.1

WEL 17 16:36:05.5, 43°S±7°×**17°2E**±°, **h14**km±13km, **M2.9**/7, **MLv2.9**/7, **Error ellipse: s-maj=0.0km s-min=0.0km az=15.5, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.06**	**156**	P	Pg	16 36 09.0	+0.7
AMCZ	**Amberley**	**0.55**	**146**	P	Pb	16 36 17.7	+0.9
INZ	**Inchbonnie**	**0.58**	**270**	P	Pn	16 36 18.5	-0.9
OXZ	**Oxford**	**0.62**	**193**	P	Pn	16 36 19.4	-0.4
KHZ	**Kahutara**	**1.01**	**73**	P	Pn	16 36 26.3	+1.1
DSZ	**Denniston Nort**	**1.03**	**342**	P	Pn	16 36 25.5	0.0
MQZ	**McQueen's Vall**	**1.03**	**163**	P	Pn	16 36 25.7	+0.3
THZ	**Tophouse**	**1.08**	**28**	P	Pb	16 36 24.5	-1.5
RPZ	**Rata Peaks**	**1.31**	**221**	P	Pg	16 36 30.6	-0.2
MRNZ	**Matariki Terra**	**1.38**	**17**	P	Pg	16 36 37.5	+5.6
TMZ	**Timaru**	**1.89**	**208**	P	Pn	16 36 38.0	+0.7
MWZ	**Matawai**	**5.96**	**44**	P	Pn	16 37 39.0	+5.7
TWGZ	**Tauwhareparae**	**6.31**	**46**	P	Pn	16 37 41.3	+3.2

*ASRS **17** 16:36:11.6±0.2, 51°N±2°×9°8E±°, h3km, MLh4.5/9, Error ellipse: s-maj=3.8km s-min=2.2km az=10.8, confirmed*
*MOS **17** 16:36:15.4±3.2, 50°.28N×98°.74E, h8km, mb3.8/1, Error ellipse: s-maj=10.0km s-min=7.7km az=120.1*
*IDC **17** 16:36:25.2±2.5, 51°.23N×97°.51E, h0km, mbtmp3.4/3, ML2.3/2, Error ellipse: s-maj=40.5km s-min=18.0km az=9.0*
ISC 17 16:36:16.6±0.7, **51°.21N**±0°.03×**98°.33E**±0°.03, **h10**km, **n45, s2**§**74**/5, **2C-2D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.79**	**221**	↓Pg	**Pg**	**16 36 30.4**	**-1.5**
KNGR				Sg	**Sg**	**16 36 41.5**	**-0.7**
KNGR	**Kungurtug, Tuv**	**0.79**	**221**	*d*↓PG	**Pg**	**16 36 29.3**	**-2.6**
KNGR				*e*S	**Sg**	**16 36 40.3**	**-2.0**
MOY	**Mondy**	**1.73**	**73**	↑Pg	**Pn**	**16 36 46.4**	**-0.4**
MOY				Sg	**Sb**	**16 37 09.4**	**-0.9**
MOY	**Mondy**	**1.73**	**73**	↑*i*PN	**Pn**	**16 36 46.4**	**-0.4**
MOY				pmax	pmax		
	comp=Z,170nm,0.3s						
KZLR	**Kyzyl**	**2.48**	**283**	Pg	**Pb**	**16 37 00.6**	**-0.7**
KZLR				Sg	**Sg**	**16 37 35.0**	**-1.2**
KZLR	**Kyzyl**	**2.48**	**283**	PN	**Pb**	**16 37 00.5**	**-0.7**
ARS	**Arshan**	**2.65**	**73**	*e*PN	**Pn**	**16 37 00.2**	**+0.7**
ARS				*e*		16 37 38.1	
ARS				pmax	pmax		
	comp=Z,89nm,0.2s						
ARS				smax	smax		
	comp=E,1μm,0.7s						
HVS	**Khovu-Aksy**	**2.92**	**270**	*i* PN	**Pb**	**16 37 06.9**	**-1.8**
HVS				*i* S	**Sb**	**16 37 46.2**	**+1.8**
ZAK	**Zakamensk**	**3.25**	**103**	Pn	**Pn**	**16 37 05.2**	**-2.5**
ZAK				Pg	**Pb**	**16 37 12.2**	**-2.1**
ZAK				Sg	**Sg**	**16 37 57.3**	**-3.5**
ZAK	**Zakamensk**	**3.25**	**103**	*e*PN	**Pn**	**16 37 08.8**	**+1.1**
ZAK				*e*		16 37 11.6	
ZAK				*e*		16 37 54.2	
ZAK				pmax	pmax		
	comp=Z,110nm,0.4s						
ZAK				smax	smax		
	comp=N,555nm,0.6s						
TLY	**Talaya**	**3.36**	**80**	*e*PN	**Pb**	**16 37 13.6**	**-2.6**
TLY				*e*		16 37 58.9	
TLY				pmax	pmax		
	comp=Z,53nm,0.8s						
TLY				smax	smax		
	comp=E,340nm,1.0s						
IRK	**Irkutsk**	**3.83**	**72**	Pg	**Pb**	**16 37 23.9**	**-0.4**
IRK				Sg	**Sb**	**16 38 13.3**	**+2.5**
IRK	**Irkutsk**	**3.83**	**72**	*e*PN	**Pb**	**16 37 23.8**	**-0.5**
IRK				*e*		16 38 12.4	
IRK				pmax	pmax		
	comp=Z,115nm,0.4s						
IRK				smax	smax		
	comp=E,910nm,0.4s						
ORY	**Orie**	**4.27**	**334**	*i* PN	**Pb**	**16 37 32.3**	**+0.5**
MINR	**Mina**	**4.46**	**328**	Pg	**Pb**	**16 37 35.3**	**+0.3**
MINR				Sg	**Sg**	**16 38 41.5**	**+1.7**
MINR	**Mina**	**4.46**	**328**	PN	**Pg**	**16 37 39.1**	**-2.9**
MINR						16 38 41.4	
DJOS	**Djoyskaya Sosn**	**4.57**	**293**	Pg	**Pb**	**16 37 39.6**	**+2.7**
DJOS				Sg	**Sg**	**16 38 40.9**	**-2.4**
DJOS	**Djoyskaya Sosn**	**4.57**	**293**	PN	**Pg**	**16 37 41.2**	**-2.9**
DJOS						16 38 40.8	
CERR	**Cheremushki**	**4.58**	**294**	Pg	**Pb**	**16 37 38.6**	**+1.6**
CERR				Sg	**Sg**	**16 38 41.3**	**-2.3**
CERR	**Cheremushki**	**4.58**	**294**	PN	**Pb**	**16 37 39.7**	**+2.7**
CERR						16 38 40.0	
DJO	**Djoy, Khakassi**	**4.67**	**293**	Pn	**Pn**	**16 37 28.8**	**+1.6**
DJO				Pg	**Pb**	**16 37 40.6**	**+2.0**
DJO				Sg	**Sg**	**16 38 44.6**	**-2.0**
DJO	**Djoy, Khakassi**	**4.67**	**293**	PN	**Pb**	**16 37 40.5**	**+2.0**
DJO						16 38 44.5	
ABNR	**Abakan**	**4.92**	**304**	*i* PN	**Pb**	**16 37 43.8**	**+1.1**
ABNR				*i* S	**Sg**	**16 38 49.8**	**-4.5**
TBTR	**Tabat**	**5.00**	**293**	*i* PN	**Pb**	**16 37 40.2**	**-4.0**
TRG	**Tyrgan**	**5.19**	**69**	*e*PN	**Pn**	**16 37 31.8**	**-2.5**
TRG				*e*		16 38 55.2	
TRG				pmax	pmax		
	comp=Z,61nm,1.0s						
TRG				smax	smax		
	comp=E,242nm,1.1s						
GZL	**Zheleznogorsk**	**5.81**	**333**	Sg	**Sg**	**16 39 19.2**	**-3.8**
GZLN	**Zheleznogorsk**	**5.85**	**334**	Pg	**Pb**	**16 38 00.9**	**+2.4**
GZLN				Sg	**Sg**	**16 39 18.8**	**-5.3**
GZLN	**Zheleznogorsk**	**5.85**	**334**	*i* PN	**Pb**	**16 38 00.6**	**+2.0**
GZLN				*i* S	**Sg**	**16 39 19.5**	**-4.6**
SHTK

WPHZ	Waipukurau	2.38	46	P	Pn	16 37 30.8	-1.2
PREZ	Palmer Road	2.38	359	P	Pb	16 37 35.5	-0.5
KHEZ	Kahui Hut	2.43	357	P	Pb	16 37 35.9	-1.0
KHEZ	Kahui Hut	2.43	357	P	Pb	16 37 36.1	-0.8
NEZ	North Egmont	2.45	358	P	Pb	16 37 36.8	-0.5
NBEZ	Newall Road No	2.47	354	P	Pb	16 37 38.2	+0.7
DREZ	Durham Road	2.53	0	P	Pb	16 37 39.4	+0.8
PKE	Pukeiti	2.53	356	P	Pb	16 37 38.5	-0.1
PKVZ	Pokaka	2.58	20	P	Pn	16 37 36.8	+1.8
MOVZ	Moawhango	2.60	28	P	Pn	16 37 35.3	+0.1
WNVZ	Wahianoa	2.62	24	P	Pn	16 37 36.9	+1.3
TRVZ	Turoa	2.63	23	P	Pb	16 37 40.6	+0.2
VRZ	Vera Road	2.63	10	P	Pb	16 37 37.9	-2.4
BHHZ	Black Hill Sta	2.65	33	P	Pn	16 37 35.7	-0.1
WHVZ	Whangaehu Hut	2.66	24	P	Pb	16 37 39.5	-1.4
FWVZ	Far West T-bar	2.67	23	P	Pb	16 37 41.2	0.0
NGZ	Ngauruhoe	2.76	23	P	Pb	16 37 43.3	+0.7
SNVZ	South Ngauruho	2.76	24	P	Pb	16 37 43.0	+0.4
OTVZ	Oturere	2.79	24	P	Pb	16 37 43.4	+0.3
NNVZ	North Ngauruho	2.81	23	P	Pb	16 37 42.7	-0.7
WTVZ	West Tongariro	2.81	23	P	Pb	16 37 43.3	-0.1
TWVZ	Taurewa	2.81	20	P	Pb	16 37 43.8	+0.4
TMVZ	Te Maari	2.85	24	P	Pb	16 37 44.7	+0.6
KWHZ	Kaweka Forest	2.85	37	P	Pb	16 37 45.2	+1.1
WVZ	Waitaha Valley	2.90	241	P	Pb	16 37 42.9	-1.9
KATZ	Kakaramea	2.98	23	P	Pb	16 37 46.3	+0.1
BKZ	Black Stump Fm	3.10	35	P	Pn	16 37 40.8	-1.3
HIZ	Hauiti	3.25	9	P	Pn	16 37 46.1	+2.1
HIZ	Hauiti	3.25	9	P	Pn	16 37 46.7	+2.7
GCSZ	Gaunt Creek Bo	3.27	240	P	Pb	16 37 48.9	-2.3
TMZ	Timaru	3.54	220	P	Pn	16 37 47.1	-0.9
LBZ	Lake Benmore	3.96	227	P	Pn	16 37 54.0	0.0
ODZ	Otahua Downs	4.21	217	P	Pn	16 37 56.8	-0.5
ODZ	Otahua Downs	4.21	217	P	Pn	16 37 55.8	-1.4
TKGZ	Te Karaka	4.31	42	P	Pn	16 37 59.3	+0.7
JCZ	Jackson Bay	4.62	238	P	Pn	16 38 05.1	+2.1

*IDC **17** 16:46:00.5±2.3,31°.77S×179°.09W,h0km,mb4.4/3, mbtmp4.4/3,Error ellipse: s-maj=65.5km s-min=32.8km az=44.0*

*WEL **17** 16:46:07.0,32°.59S×179°.56W,h22km,M4.7/16,mB5.1/3, ML4.9/16,MLv4.7/16,Mw(mB)4.4/3*

*NEIC **17** 16:46:07.5±1.0,32°.59S±0°.08×179°.6W±0°.2,h22km±10km, mb4.4/9,Error ellipse: s-maj=26.2km s-min=8.6km az=105.0*

ISC 17 16:46:08.4±0.8,32°.44S±0°.08×179°.5W±0°.2,h35km,n46, σ1§53/49,mb4.4/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.44	24	P	Pn	16 47 00.9	+1.5
GLKZ				S	Sn	16 47 39.9	+0.9
MXZ	Matakaoa Point	5.42	199	Pn	Pn	16 47 23.1	-3.6
MXZ	Matakaoa Point	5.42	199	P	Pn	16 47 28.1	+1.4
MXZ				S	Sn	16 48 26.9	-1.0
WMGZ	Waiomatatini S	5.64	197	P	Pn	16 47 31.2	+1.6
WMGZ				S	Sn	16 48 32.2	-0.9
HAZ	Te Kaha	5.76	202	P	Pn	16 47 33.8	+2.6
HAZ				S	Sn	16 48 38.3	+2.2
PUZ	Puketiti	5.92	198	P	Pn	16 47 34.2	+0.7
RUGZ	Raukumara Rang	5.98	202	P	Pn	16 47 36.7	+2.2
TWGZ	Tauwhareparae	6.09	199	P	Pn	16 47 36.9	+1.1
TWGZ				S	Sn	16 48 44.0	-0.3
OPRZ	Ohinepanea	6.29	210	P	Pn	16 47 42.1	+3.5
CNGZ	Carnagh Statio	6.32	197	P	Pn	16 47 40.1	+1.2
MWZ	Matawai	6.37	202	P	Pn	16 47 40.3	+0.6
MWZ				S	Sn	16 48 50.6	-0.6
TKGZ	Te Karaka	6.37	199	P	Pn	16 47 35.6	-4.1
URZ	Urewera	6.44	205	P	Pn	16 47 42.2	+1.6
MUGZ	Murupara	6.75	206	P	Pn	16 47 46.0	+1.1
RTZ	Ruatahuna	6.80	204	P	Pn	16 47 46.4	+0.7
KNZ	Kokohu	6.95	199	P	Pn	16 47 47.4	-0.4
MHGZ	Mahia Peninsul	7.03	197	P	Pn	16 47 47.8	-0.9
RAHZ	Arahi	7.04	202	P	Pn	16 47 49.5	+0.6
BKZ	Black Stump Fm	7.46	205	Pn	Pn	16 47 53.6	-1.1
BKZ	Black Stump Fm	7.46	205	P	Pn	16 47 54.3	-0.5
HIZ	Hauiti	7.62	216	Pn	Pn	16 47 56.2	-0.6
MCHZ	McNeill Hill	7.64	203	P	Pn	16 47 56.9	-0.3
KWHZ	Kaweka Forest	7.72	204	P	Pn	16 47 57.8	-0.4
KAHZ	Kahuranaki	7.91	201	P	Pn	16 48 00.4	-0.4
BFZ	Birch Farm	8.91	201	Pn	Pn	16 48 11.2	-3.4
KHZ	Kahutara	11.39	207	P	Pn	16 48 47.5	-1.0
AS31	Alice Springs	41.78	270	P	P	16 53 54.3	-0.3
ASAR	Alice Springs 1.9nm,0.5s,baz=106,slow=7.6,SNR=58 1.9nm,0.5s	41.78	270	P	P	16 53 54.5	-0.2
ASAR	Alice Springs	41.78	270	P	P	16 53 53.7	-0.9
WB2	Warramunga Arr	42.94	275	P	P	16 54 03.6	-0.5
WRAB	Tennant Creek	42.95	275	P	P	16 54 03.9	-0.3
WRAB				IAmb	IAmb	16 54 46.4	
	comp=Z,10nm,1.3s						
WRA	Warramunga Arr comp=Z,3.7nm,0.4s,baz=115,slow=7.9,SNR=158 comp=Z,3.7nm,0.4s	42.95	275	P	P	16 54 04.0	-0.2
WB0	Warramunga Arr	42.99	275	P	P	16 54 04.2	-0.2
WB0				IAmb	IAmb	16 54 04.8	
	comp=Z,5.9nm,0.8s						
MTN	Manton Dam	49.09	282	P	P	16 54 52.3	-0.2
KNRA	Kununurra	49.63	277	P	P	16 54 56.1	-0.6
QSPA	South Pole Qui comp=Z,2.8nm,0.7s,baz=60,slow=3.1,SNR=29 comp=Z,2.8nm,0.7s	57.68	180	P	P	16 55 57.2	+2.1
QSPA	South Pole Qui	57.68	180	P	P	16 55 56.7	+1.6
QSPA				IAmb	IAmb	16 55 58.0	
	comp=Z,3.1nm,0.8s						
BELA	Belgrano 2	67.94	172	P	P	16 57 03.3	+0.2
BELA				IAmb	IAmb	16 57 09.9	
	comp=Z,2.9nm,1.4s						
SNAA	Sanae	76.15	179	P	P	16 57 52.4	0.0
SNAA	Sanae	76.15	179	P	P	16 57 52.3	-0.1
SNAA				IAmb	IAmb	16 57 53.7	
	comp=Z,4.7nm,1.2s						
VNA3	Neumayer Olymp	76.36	177	P	P	16 57 53.8	+0.3
VNA2	Neumayer--Watz baz=176,slow=5.0	76.78	177	P	P	16 57 56.3	+0.5
H03S2	Juan Fernandez baz=236,slow=74,SNR=5.4	80.40	124	T	T	18 26 49.7	
H03S1	Juan Fernandez baz=236,slow=74,SNR=5.8	80.41	124	T	T	18 26 57.5	
H03S3	Juan Fernandez baz=236,slow=74,SNR=5.1	80.42	124	T	T	18 26 51.3	
FINES	FINESS Array B comp=Z,2.6nm,1.0s,baz=357,slow=2.8,SNR=1.6	146.58	338	PKPbc	PKPdf	17 05 40.9	-2.8

MAN 17 16:47:49.2,13°.82N×120°.90E,h54km,mb4.0,ML2.8, MS2.4,2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.29	81	eP	Pn	16 47 59.9	+1.2
TGY				eS	Sn	16 48 07.6	+2.1
LQP	Lukban	0.69	65	eP	Pn	16 48 04.6	+1.4

MAN 17 16:55:04.8,9°.77N×123°.86E,h5km,mb4.0,ML2.8,MS2.4, 3C-3D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	Tagbilaran	0.08	179	iP	Pg	16 55 07.1	+0.5
TBP				iS	Sg	16 55 09.3	+1.4
GHBP	Garcia Hernand	0.47	107	eP	Pg	16 55 14.6	+0.6
GHBP				iS	Sb	16 55 22.7	-0.4
LLP	Lapu-Lapu	0.55	11	eP	Pg	16 55 15.9	+0.5
LLP				eS	Sb	16 55 24.4	-0.8
TABP	Talibon, Bohol	0.56	56	eP	Pg	16 55 16.0	+0.4
TABP				eS	Sb	16 55 24.9	-0.6
SNPH	Sibulan	0.75	235	iP	Pb	16 55 19.9	-0.6
SNPH				iS	Sb	16 55 30.9	-0.1
MSLP	Maasin	1.05	70	eP	Pg	16 55 25.1	+0.2
MSLP				iS	Sn	16 55 41.5	+0.2

WEL 17 16:56:23.9±0.4,42°.S±3°×17°.4E±°,h12km,M3.2/32, ML3.4/19,MLv3.2/32,Error ellipse: s-maj=0.0km s-min=0.0km az=126.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.26	251	P	Pb	16 56 30.2	-0.2
KHZ				S	Sb	16 56 34.2	-0.6
BSWZ	Blackbirch Sta	0.62	0	P	Pg	16 56 36.0	0.0
BSWZ				S	Sg	16 56 44.6	+0.6
CMWZ	Cape Campbell	0.64	24	P	Pn	16 56 38.1	-0.6
GVZ	Greta Valley S	0.88	224	P	Pn	16 56 42.1	-0.1
TUWZ	Tuamarina	0.91	4	P	Pg	16 56 41.4	+0.1
THZ	Tophouse	0.92	308	P	Pg	16 56 40.6	-1.0
TCW	Tory Channel	1.16	15	P	Pb	16 56 45.2	-0.7
NNZ	Nelson	1.18	342	P	Pb	16 56 45.3	-0.8
AMCZ	Amberley	1.23	226	P	Pn	16 56 46.6	-0.3
WEL	Wellington	1.25	33	P	Pn	16 56 46.7	-0.4
MRNZ	Matariki Terra	1.25	318	P	Pn	16 56 46.7	-0.5
LTZ	Lake Taylor	1.26	249	P	Pn	16 56 46.9	-0.5
PLWZ	Palliser	1.29	54	P	Pn	16 56 47.0	-0.7
MSWZ	Moikau Station	1.38	49	P	Pn	16 56 48.3	-0.6
TKNZ	Takaka Hill	1.47	332	P	Pn	16 56 50.0	-0.1
PAWZ	Paruwai Farm	1.50	51	P	Pn	16 56 49.6	-1.1
OKCZ	Okains Bay	1.51	203	P	Pn	16 56 50.5	-0.3
CAW	Cannon Point	1.52	37	P	Pn	16 56 50.3	-0.6
DUWZ	D'Urville Isla	1.53	1	P	Pn	16 56 51.2	+0.1
MQZ	McQueen's Vall	1.64	213	P	Pn	16 56 51.2	-1.2
DSZ	Denniston Nort	1.65	290	P	Pn	16 56 53.4	+0.7
TRWZ	Traveller	1.65	56	P	Pn	16 56 51.9	-0.8
KIW	Kapiti Island	1.67	28	P	Pn	16 56 52.5	-0.4
OXZ	Oxford	1.67	233	P	Pn	16 56 51.8	-1.2
MTW	Mount Morrison	1.69	47	P	Pn	16 56 52.3	-1.0
OGWZ	Otaki Gorge	1.80	33	P	Pn	16 56 54.1	-0.7
QRZ	Quartz Range	1.81	326	P	Pn	16 56 51.4	-3.5
RACZ	Rakaia	1.88	222	P	Pn	16 56 54.6	-1.2
HOWZ	Holdsworth Sta	1.89	41	P	Pn	16 56 55.2	-0.8
TMWZ	Te Maipa	1.95	52	P	Pn	16 56 56.8	0.0
MHCZ	Mount Hutt	2.01	234	P	Pn	16 56 57.2	-1.3
MRZ	Mangatainoka R	2.11	38	P	Pn	16 56 57.9	-1.1
WACZ	Wakanui South	2.19	222	P	Pn	16 56 59.0	-1.0
PRWZ	Pori Road	2.38	42	P	Pg	16 57 09.2	-0.2
POWZ	Post Office Ro	2.41	37	P	Pg	16 57 09.9	-0.2
WVZ	Waitaha Valley	2.42	251	P	Pn	16 57 03.2	-0.1
BFZ	Birch Farm	2.43	48	P	Pg	16 57 11.9	+1.5
RPZ	Rata Peaks	2.48	235	P	Pn	16 57 03.1	-1.0
ARCZ	Arundel	2.55	230	P	Pn	16 57 03.9	-1.1
DVHZ	Dannevirke	2.67	41	P	Pg	16 57 15.0	0.0
WAZ	Wanganui	2.71	19	P	Pn	16 57 08.5	+1.2
TSZ	Takapari Road	2.77	35	P	Pn	16 57 06.8	-1.3
TMZ	Timaru	2.92	225	P	Pn	16 57 09.3	-1.0
WPHZ	Waipukurau	2.98	41	P	Pg	16 57 22.5	+1.4
PNHZ	Pukenui	2.99	37	P	Pg	16 57 19.6	-1.6
KHEZ	Kahui Hut	3.04	2	P	Pb	16 57 17.6	-0.3
MOVZ	Moawhango	3.25	27	P	Pn	16 57 15.1	+0.3
VRZ	Vera Road	3.28	12	P	Pn	16 57 16.1	+1.1
WNVZ	Wahianoa	3.28	24	P	Pb	16 57 20.6	-1.5
BHHZ	Black Hill Sta	3.29	31	P	Pb	16 57 23.5	+1.2
LBZ	Lake Benmore	3.38	231	P	Pn	16 57 15.8	-0.7
NGZ	Ngauruhoe	3.42	23	P	Pb	16 57 25.4	+0.9
NNVZ	North Ngauruho	3.46	23	P	Pb	16 57 26.8	+1.6
WTVZ	West Tongariro	3.47	23	P	Pb	16 57 26.6	+1.3
KWHZ	Kaweka Forest	3.49	35	P	Pg	16 57 28.5	-2.3
ODZ	Otahua Downs	3.58	220	P	Pn	16 57 17.8	-1.3
MCHZ	McNeill Hill	3.60	38	P	Pg	16 57 31.6	-1.1
HIZ	Hauiti	3.89	11	P	Pb	16 57 32.0	-0.4
NMHZ	Naumai	3.93	36	P	Pn	16 57 28.4	+4.3
EAZ	Earnscleugh	4.39	227	P	Pn	16 57 29.5	-0.9
RTZ	Ruatahuna	4.41	34	P	Pn	16 57 33.2	+2.6

*BJI **17** 16:56:38.0±0.0,6°.70S×130°.86E,h113km,mb5.8/81, mB5.8/61*

*KLM **17** 16:56:41,6°.39S×130°.88E,h103km,mb6.0*

*DJA **17** 16:56:44.4±0.1,6°.S±1°×13°1E±°,h124km±2km,M5.5/88, mb5.8/88,mB5.9/79,MLv6.2/17,Mw(mB)5.5/79, MwMwp5.2/47,Mwp5.5/47*

*NEIC **17** 16:56:44.2,6°.29S×130°.50E,h112km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.16; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$0.10; $M_{r\theta}$2.09; $M_{\theta\phi}$-0.08; $M_{\phi r}$1.45; Fault plane solution: M_o2.56000×10^{17} NP1:$\phi_1$291.75000°, δ3.72000°,λ146.31000°. NP2:$\phi_2$55.39000°,δ87.94000°, λ86.91000°. Principal axes: T 2.5277, Plg47.0000°, Azm322.0000°; N 0.0549, Plg3.0000°, Azm55.0000°; P -2.5826, Plg43.0000°, Azm148.0000°;*

*NEIC **17** 16:56:44.3±2.2,6°.26S±0°.04×130°.48E±0°.05,h112km±3km, mb5.7/222,Mwb5.5/19,Mww5.5 Error ellipse: s-maj=7.7km s-min=6.2km az=106.0*

*MOS **17** 16:56:45.6±0.7,6°.31S×130°.52E,h148km,mb5.9/75,Error ellipse: s-maj=8.5km s-min=4.9km az=115.8*

*IDC **17** 16:56:45.3±0.8,6°.27S×130°.47E,h126km±7km,mb5.4/48, mbtmp5.8/53,MS4.3/35,Error ellipse: s-maj=8.3km s-min=6.6km az=63.0*

*NEIC **17** 16:56:46,6°.52S×130°.63E,h110km,Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^{17}Nm; M_{rr}1.61; $M_{\theta\theta}$-1.87; $M_{\phi\phi}$0.26; $M_{r\theta}$1.03; $M_{\theta\phi}$-0.36; $M_{\phi r}$0.93; Fault plane solution: M_o2.27000×10^{17} NP1: $\phi_1$282.00000°,δ32.00000°,λ127.00000°. NP2: $\phi_2$60.00000°,δ65.00000°,λ70.00000°. Principal axes: T 2.2321, Plg64.0000°, Azm296.0000°; N 0.0675, Plg18.0000°, Azm69.0000°; P -2.2995, Plg17.0000°, Azm165.0000°;*

*GCMT **17** 16:56:46.3±0.1,6°.33S±0°.01×130°.48E±0°.01,h128km, MW5.6/161,Moment Tensor Solution. s143,c247; s161,c321; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}1.22±.03; $M_{\theta\theta}$-1.84±.04; $M_{\phi\phi}$0.61±.04; $M_{r\theta}$1.61±.03; $M_{\theta\phi}$0.18±.04; $M_{\phi r}$1.67±.02; Best double couple: M_o2.81600×10^{17} NP1:$\phi_1$57.00000°,δ76.00000°, λ63.00000°. NP2:$\phi_2$303.00000°,δ30.00000°,λ152.00000°. Principal axes: T 3.0100, Plg51.0000°, Azm296.0000°; N -0.3920, Plg26.0000°, Azm64.0000°; P -2.6210, Plg26.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 16:56:44.6±0.2,6°.27S±0°.02×130°.52E±0°.03,h127km±1km, h126km:pP-P,n1502,σ1§48/1685,mb5.7/255,86C-25D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.84	340	P	Pn	16 57 18.5	+2.0
BNDI	Bandanaira	1.84	340	P	Pn	16 57 19.1	+2.6
SAUI	Saumlaki	1.87	156	Pn	Pn	16 57 17.1	+0.3
SAUI				Sn	Sn	16 57 40.4	-1.1
SAUI	Saumlaki	1.87	156	P	Pn	16 57 17.3	+0.5
SAUI				S	Sn	16 57 40.6	-0.9
SAUI	Saumlaki	1.87	156	P	Pn	16 57 18.0	+1.1
MSAI	Masohi	3.31	331	P	Pn	16 57 37.7	+2.4
MSAI				S	Sn	16 58 15.6	+2.2
AAI	Ambon	3.46	318	P	Pn	16 57 39.3	+2.1
AAI				S	Sn	16 58 20.0	+2.2
AAI	Ambon	3.46	318	P	Pn	16 57 39.6	+2.4
KRAI	Karang Ratu	3.62	324	P	Pn	16 57 42.7	+3.4
KRAI				S	Sn	16 58 25.0	+3.4
FAKI	Fak Fak	3.75	27	Pn	Pn	16 57 40.7	-0.3
FAKI				Sn	Sn	16 58 21.7	-3.0
FAKI	Fak Fak	3.75	27	P	Pn	16 57 41.0	0.0
FAKI				S	Sn	16 58 23.2	-1.5
FAKI	Fak Fak	3.75	27	P	Pn	16 57 41.8	+0.8
NLAI	Namlea	4.55	311	P	Pn	16 57 54.4	+2.7
NLAI				S	Sn	16 58 49.7	+5.9
SIJI	Sorong 3µm,0.3s,baz=186,slow=7.1,SNR=2751	5.42	8	P	Pn	16 58 03.3	-0.1
SIJI				S	Sn	16 59 00.0	-4.7
	6µm,0.3s,baz=113,slow=24,SNR=24						
SIJI	Sorong 49nm35µm277µm5µm,0.8s	5.42	8	P	Pn	16 58 02.9	-0.5
SIJI				S	Sn	16 59 00.7	-4.0
	49nm35µm277µm5µm,0.8s						
RKPI	Ransiki, Papua 73nm12µm73µm6µm,0.6s	5.97	38	P	Pn	16 58 11.0	+0.2
RKPI				S	Sn	16 59 15.6	-2.4
	73nm12µm73µm6µm,0.6s						
SANI	Sanana 4.8nm18µm17µm1µm,0.7s	6.17	313	P	Pn	16 58 14.7	+1.3
SANI				S	Sn	16 59 21.7	-1.0
	4.8nm18µm17µm1µm,0.7s						
SANI	Sanana	6.17	313	P	Pn	16 58 16.5	+3.1
LBMI	Labuha 30nm27µm2µm,0.5s	6.36	332	P	Pn	16 58 16.2	+0.2
LBMI				S	Sn	16 59 25.0	-2.3
	30nm27µm2µm,0.5s						
MTN	Manton Dam	6.56	175	P	Pn	16 58 17.0	-1.7
	baz=6.5						
MTN				S	Sn	16 59 26.4	-5.8
	baz=6.5						
MTN	Manton Dam	6.56	175		Pn	16 58 16.7	-2.0
MTN				Sn	Sn	16 59 26.1	-6.1
MTN	Manton Dam	6.56	175	P	Pn	16 58 18.0	-0.7
KDU	Kakadu baz=6.6	6.66	163	P	Pn	16 58 17.2	-2.8
KDU	Kakadu	6.66	163	P	Pn	16 58 18.2	-1.9
SOEI	Soe	7.09	240	Pn	Pn	16 58 25.6	-0.5
SOEI				Sn	Sn	16 59 42.1	-3.3
SOEI	Soe 17nm14µm18µm2µm,0.9s	7.09	240	P	Pn	16 58 26.4	+0.3
SOEI				S	Sn	16 59 42.3	-3.1
	17nm14µm18µm2µm,0.9s						
SOEI	Soe	7.09	240	P	Pn	16 58 27.8	+1.7
SRPI	Serui, Papua 6.7nm3µm9µm792nm,0.8s	7.18	53	P	Pn	16 58 26.5	-0.7
SRPI				S	Sn	16 59 43.8	-3.6
	6.7nm3µm9µm792nm,0.8s						
TNTI	Ternate	7.67	336	Pn	Pn	16 58 33.9	+0.2
TNTI				Sn	Sn	16 59 55.7	-3.5
TNTI	Ternate 4.4nm4µm10µm1µm,0.7s	7.67	336	P	Pn	16 58 34.5	+0.8
TNTI				S	Sn	16 59 56.8	-2.4
	4.4nm4µm10µm1µm,0.7s						
TNTI	Ternate	7.67	336	P	Pn	16 58 35.6	+1.9
BATI	Baumata 707nm,0.4s,baz=104,slow=3.9,SNR=226	7.83	240	P	Pn	16 58 36.0	+0.1
BATI				S	Sn	16 59 59.7	-3.4
	2µm,0.5s,baz=72,slow=23,SNR=13						
BATI				LR	LR	17 01 10.5	
	comp=Z,2µm,20.4s,baz=80,slow=34						
BATI	Baumata 10nm13µm929nm,0.6s	7.83	240	P	Pn	16 58 36.0	+0.1
BATI				S	Sn	17 00 01.1	-2.0
	10nm13µm929nm,0.6s						
BBSI	Bau Bau 6µm7µm607nm,1.0s	7.95	275	P	Pn	16 58 41.2	+3.7
WAMI	Wamena 2µm,0.7s	8.49	74	P	Pn	16 58 48.5	+3.7
GAMI	Galela, Maluku 9µm7µm902nm,1.0s	8.51	341	P	Pn	16 58 46.8	+1.8
MMRI	Maumere	8.54	254		Pn	16 58 45.5	0.0
MMRI				Sn	Sn	17 00 17.2	-3.1
MMRI	Maumere 4µm7µm565nm,1.0s	8.54	254	P	Pn	16 58 47.8	+2.3
MMRI	Maumere	8.54	254	P	Pn	16 58 48.5	+3.0
KKSI	Kolaka, Sulawe 4µm223nm,0.7s	9.08	283	P	Pn	16 58 55.7	+3.0
SMPI	Sarmi 5µm480nm,1.0s	9.21	63	P	Pn	16 58 54.7	+0.3
LUWI	Luwuk	9.31	304	Pn	Pn	16 58 56.6	+0.7
LUWI	Luwuk 8µm14µm827nm,1.1s	9.31	304	P	Pn	16 58 58.6	+2.7
LUWI	Luwuk	9.31	304	P	Pn	16 58 59.6	+3.7
KNRA	Kununurra baz=9.5	9.51	190	P	Pn	16 58 55.7	-2.8
KNRA	Kununurra	9.51	190	Pn	Pn	16 58 55.1	-3.3
KNRA				Sn	Sn	17 00 33.5	-10
KNRA	Kununurra	9.51	190	P	Pn	16 58 55.9	-2.5
BSSI	Bau Bau, Buton 5µm10µm455nm,1.6s	9.97	270	P	Pn	16 59 06.4	+1.6
GTOI	Gorontalo 3µm276nm,0.8s	10.16	312	P	Pn	16 59 11.6	+4.3
APSI	Ampana 10µm27µm3µm,1.1s	10.33	301	P	Pn	16 59 13.2	+3.6
BKSI	Bulukumba 5µm3µm186nm,0.9s	10.39	275	P	Pn	16 59 12.0	+1.7
BNSI	Bone 4µm2µm209nm,1.1s	10.54	280	P	Pn	16 59 14.2	+1.9
BASI	Baing, Sumba	10.59	248	P	Pn	16 59 12.0	-1.1
KAPI	Kappang 67nm,1.0s,baz=90,slow=5.9,SNR=8.8	10.79	276	P	Pn	16 59 17.5	+1.8
KAPI				S	Sn	17 01 12.7	-2.0
	34nm,0.9s,baz=64,slow=21,SNR=1.0						
KAPI	Kappang	10.79	276	Pn	Pn	16 59 16.0	+0.3
KAPI	Kappang	10.79	276	P	Pn	16 59 17.0	+1.3
KAPI	Kappang 5µm3µm348nm,1.0s	10.79	276	P	Pn	16 59 17.7	+2.0
KAPI	Kappang	10.79	276	P	Pn	16 59 17.1	+1.3
KAPI	Kappang	10.79	276	c	iP	16 59 17.9	+2.2
MRSI	Marisa 7µm12µm1µm,1.0s	10.88	308	P	Pn	16 59 18.4	+1.5
SPSI	Sidrap Palu 6µm6µm390nm,0.8s	10.95	282	P	Pn	16 59 20.5	+2.6
SGSI	Sangihe 6µm429nm,1.0s	11.08	333	P	Pn	16 59 19.6	+0.1
PMSI	Majene 6µm8µm789nm,1.0s	11.89	283	P	Pn	16 59 33.2	+2.9
MMSI	Mamuju	12.11	287	P	P	16 59 39.6	-0.9
TOLI2	Tolitoli	12.18	307		Pn	16 59 34.6	+0.5
TOLI2	Tolitoli	12.18	307	P	Pn	16 59 36.7	+2.6
MPSI	Mapaga 8µm5µm411nm,0.9s	12.47	301	P	Pn	16 59 40.3	+2.4
PLAI	Plampang 4µm6µm496nm,0.6s	12.89	258	P	Pn	16 59 42.4	-0.9
PLAI	Plampang	12.89	258	P	Pn	16 59 43.5	+0.2
TWSI	Taliwang, Sumb 4µm3µm233nm,0.8s	13.74	259	P	Pn	16 59 53.2	-1.1
WB0	Warramunga Arr	13.93	165		Pn	16 59 51.0	-5.8
I07AU	WARRAMUNGA INF baz=334,slow=23,SNR=2.7	14.08	165	P	Pn	16 59 52.8	-5.8
WRA	Warramunga Arr 133nm,0.7s,baz=339,slow=14,SNR=476	14.09	165	P	Pn	16 59 53.4	-5.4
WRA				S	Sn	17 02 19.4	-15
	739nm,0.9s,baz=329,slow=21,SNR=15						
WRA				LR	LR	17 06 35.8

comp=Z,3µmcomp=Z,255nm,1.0s
MANU Manus Island 17.31 77 P **Pn 17 00 39.6 +0.8**
MANU Manus Island 17.31 77 P **Pn 17 00 40.7 +1.9**
AS31 Alice Springs 17.60 170 P **P 17 00 39.1 -2.2**
ASAR Alice Springs 17.60 170 P **Pn 17 00 42.0 -0.1**
comp=Z,989nm,0.7s,baz=346,slow=9.7,SNR=1787
ASAR S S 17 03 45.2 -13
comp=Z,184nm,0.9s,baz=350,slow=26,SNR=12
ASAR LR LR 17 08 19.9
comp=Z,2µm,20.1s,baz=353,slow=39
ASAR Alice Springs 17.60 170 P **P 17 00 38.7 -2.6**
AS01 Alice Springs 17.61 170 P **P 17 00 41.8 +0.4**
BWJI Bawean 17.77 270 P **Pn 17 00 44.5 +0.3**
comp=Z,10µmcomp=Z,21µmcomp=Z,2µm,0.8s
MTSU Mount Surprise 17.89 132 P **P 17 00 44.0 -0.6**
baz=18,SNR=187
MTSU Mount Surprise 17.89 132 P **Pn 17 00 46.1 +0.4**
GRJI Gresik 17.93 267 P **P 17 00 45.1 +0.1**
comp=Z,4µmcomp=Z,11µmcomp=Z,1µm,1.1s
MBWA Marble Bar 18.12 214 P **P 17 00 46.7 -0.3**
MBWA Marble Bar 18.12 214 P **P 17 00 46.8 -0.2**
MBWA Marble Bar 18.12 214 P **Pn 17 00 47.7 -0.6**
AUCSH Cairns State H 18.29 127 P **Pn 17 00 51.5 +1.2**
PSA00 Pilbara Seismi 18.39 213 P **P 17 00 49.8 -0.1**
PSA00 Pilbara Seismi 18.39 213 P **P 17 00 49.1 -0.9**
PSA00 Pilbara Seismi 18.39 213 P **P 17 00 50.7 +0.8**
WRKA Warakurna 18.78 186 P **P 17 00 53.7 -0.5**
baz=19,SNR=979
WRKA Warakurna 18.78 186 P **P 17 00 54.5 +0.2**
KKM Kota Kinabalu 18.80 310 P **P 17 00 54.7 0.0**
KKM Kota Kinabalu 18.80 310 P **Pn 17 00 55.8 -0.8**
comp=Z,12µmcomp=Z,10µmcomp=Z,897nm,0.8s
KKM Kota Kinabalu 18.80 310 P **Pn 17 00 56.2 -0.4**
NGJI Ngawi 18.96 266 P **Pn 17 00 57.8 -0.5**
comp=Z,528nm,0.9s
PBKI Pangkalan Bun 19.12 280 P **Pn 17 00 59.7 -0.5**
comp=Z,13µmcomp=Z,1µm,1.1s
UGM Wanagama 19.91 264 P **P 17 01 06.7 +0.1**
UGM Wanagama 19.91 264 P **P 17 01 07.1 +0.5**
SMRI Semarang 19.96 267 P **P 17 01 07.3 +0.2**
SMRI Semarang 19.96 267 P **Pn 17 01 09.3 -0.7**
comp=Z,320nm,1.0s
SBUM Sibu 20.22 295 P **P 17 01 10.6 +0.7**
SBUM Sibu 20.22 295 P **P 17 01 11.0 +1.1**
comp=Z,4µmcomp=Z,3µmcomp=Z,278nm,1.1s
SBUM Sibu 20.22 295 P **P 17 01 11.0 +1.1**
TV1H Townsville Har 20.43 131 P **P 17 01 13.4 +1.3**
CTA Charters Tower 20.54 133 P **P 17 01 14.4 +1.1**
comp=Z,244nm,0.9s,baz=315,slow=11,SNR=83
CTA S **S 17 04 55.1 -1.2**
comp=Z,26nm,0.7s,baz=40,slow=23,SNR=1.2
CTA LR LR 17 09 31.8
comp=Z,3µm,19.5s,baz=310,slow=37
comp=Z,244nm,0.9s
CTA Charters Tower 20.54 133 P Pn 17 01 15.1 -1.7
CTAO Charters Tower 20.54 133 P **P 17 01 13.5 +0.2**
CTAO Charters Tower 20.54 133 P **P 17 01 14.8 +1.5**
CTAO Charters Tower 20.54 133 P **P 17 01 13.5 +0.2**
CTJI Waduk Cacaban 21.21 267 P **P 17 01 19.1 -1.4**
comp=Z,5µmcomp=Z,292nm,1.0s
KRVT Keravat (AS076 21.50 86 P **P 17 01 24.9 +1.2**
comp=Z,399nm,1.0s,baz=244,slow=4.2,SNR=26
KRVT S **S 17 05 15.8 +1.1**
comp=Z,43nm,0.9s,baz=322,slow=20,SNR=1.6
comp=Z,399nm,1.0s
KSM Kuching 21.60 290 P **P 17 01 23.5 -1.1**
KSM Kuching 21.60 290 P **P 17 01 23.9 -0.8**
comp=Z,2µmcomp=Z,205nm,1.0s
KSM Kuching 21.60 290 P **P 17 01 25.2 +0.5**
RABL Rabaul 21.65 86 P **P 17 01 25.9 +0.7**
RABL Rabaul 21.65 86 P **P 17 01 26.9 +1.6**
OOD Oodnadatta 21.96 168 P **P 17 01 28.4 +0.1**
JCJI Jatiwangi 22.11 268 P **P 17 01 31.3 +1.2**
comp=Z,18µmcomp=Z,858nm,1.6s
GIRL Giralia 22.62 222 P **P 17 01 34.3 -0.8**
baz=23,SNR=24
GIRL Giralia 22.62 222 P **P 17 01 36.0 +1.0**
GIRL Giralia 22.62 222 P **P 17 01 36.5 +1.5**
BBJI Bungbulang 22.74 266 P **P 17 01 34.9 -1.4**
LEM Lembang 22.76 267 P **P 17 01 36.5 -0.2**
comp=Z,673nm,0.9s,baz=59,slow=8.3,SNR=35
LEM S **S 17 05 31.6 -4.6**
comp=Z,23nm,0.3s,baz=327,slow=21,SNR=2.2
LEM ScP **ScP 17 08 51.0 +0.3**
comp=Z,28nm,0.6s,baz=49,slow=3.1,SNR=4.9
comp=Z,673nm,0.9s
LEM Lembang 22.76 267 P **P 17 01 34.6 -2.1**
comp=Z,3µmcomp=Z,8µmcomp=Z,774nm,1.1s
MEEK Meekatharra 23.22 208 P **P 17 01 40.5 -0.2**
baz=23,SNR=69
MEEK Meekatharra 23.22 208 P **P 17 01 41.0 +0.3**
CNJI Cibinong 23.25 266 P **P 17 01 37.6 -3.5**
comp=Z,16µmcomp=Z,2µm,1.1s
INKA Innaminka 23.46 157 P **P 17 01 43.9 +1.1**
CBJI Citeko 23.53 268 P **P 17 01 43.3 -0.3**
comp=Z,12µmcomp=Z,2µm,0.9s
SKJI Sukabumi 23.82 267 P **P 17 01 45.7 -0.5**
comp=Z,5µmcomp=Z,659nm,0.8s
QLP Quilpie 24.06 149 P **P 17 01 48.7 +0.4**
baz=24,SNR=122
QLP Quilpie 24.06 149 P **P 17 01 49.2 +0.9**
MULG Mulgathing 24.12 172 P **P 17 01 49.5 +0.8**
GUMO Guam 24.34 36 P **P 17 01 51.7 +0.8**
comp=Z,228nm,0.7s,baz=178,slow=8.1,SNR=15
GUMO S **S 17 06 03.6 +2.4**
comp=Z,56nm,1.1s,baz=230,slow=22,SNR=1.2
comp=Z,228nm,0.7s
GUMO Guam 24.34 36 P **P 17 01 52.1 +1.2**
GUMO Guam 24.34 36 P **P 17 01 52.4 +1.6**
GUMO Guam 24.34 36 P **P 17 01 52.1 +1.2**
FORT Forrest 24.49 185 P **P 17 01 52.0 -0.1**
baz=24,SNR=97
FORT Forrest 24.49 185 P **P 17 01 51.2 -0.9**
FORT Forrest 24.49 185 P **P 17 01 52.7 +0.6**
PPBI Pangkal Pinang 24.65 278 P **P 17 01 55.6 +1.8**
comp=Z,6µmcomp=Z,386nm,1.1s
XMI Christmas Isla 24.91 259 P **P 17 01 57.3 +1.1**
comp=Z,640nm,0.8s
LCRK Leigh Creek 25.11 164 P **P 17 01 58.5 +0.7**
PMBI Palembang 25.88 276 P **P 17 02 06.0 +1.1**
PMBI Palembang 25.88 276 P **P 17 02 07.9 +3.0**
comp=Z,1µm,1.1s
KMBL Kambalda 26.25 197 P **P 17 02 08.2 +0.2**
baz=26,SNR=64
KMBL Kambalda 26.25 197 P **P 17 02 08.5 +0.5**
GD1S Gladstone Soft 26.44 134 P **P 17 02 12.1 +2.3**
comp=Z,80nm,1.0s
MORW Morawa 26.48 209 P **P 17 02 10.9 +0.7**
baz=26,SNR=24
MORW Morawa 26.48 209 P **P 17 02 09.8 -0.4**
MORW Morawa 26.48 209 P **P 17 02 11.1 +0.9**
DSRI Dabo 26.52 282 P **P 17 02 12.2 +1.5**
comp=Z,3µmcomp=Z,2µmcomp=Z,86nm,1.4s
RMQ Roma 26.58 141 P **P 17 02 11.8 +0.6**
baz=27,SNR=66
RMQ Roma 26.58 141 P **P 17 02 11.7 +0.6**
BBOO Buckleboo 26.91 170 P **P 17 02 13.6 -0.3**
baz=27,SNR=70
BBOO Buckleboo 26.91 170 P **P 17 02 13.1 -0.9**
BBOO IAmb IAmb 17 02 52.2
comp=Z,170nm,0.8s
BBOO Buckleboo 26.91 170 P **P 17 02 13.7 -0.3**
TPRI Tanjung Pinang 26.91 284 P **P 17 02 16.2 +2.0**
comp=Z,3µmcomp=Z,2µmcomp=Z,165nm,1.3s
JMBI JAMBI 27.20 279 P **P 17 02 19.3 +2.5**
comp=Z,3µmcomp=Z,163nm,1.0s
EIDS Eidsvold 27.34 136 P **P 17 02 17.9 0.0**
baz=27,SNR=8.9
EIDS Eidsvold 27.34 136 P **P 17 02 17.5 -0.4**
EIDS Eidsvold 27.34 136 P **P 17 02 18.2 +0.3**
WHYH Whyalla 27.43 167 P **P 17 02 18.7 +0.2**
BLDU Ballidu 27.48 206 P **P 17 02 19.4 +0.4**
baz=28,SNR=53
BLDU Ballidu 27.48 206 P **P 17 02 19.6 +0.6**
STKA Stephens Creek 27.50 159 P **P 17 02 19.6 +0.4**
comp=Z,89nm,0.6s,baz=335,slow=8.6,SNR=239
STKA S **S 17 06 49.4 -1.5**
comp=Z,30nm,0.7s,baz=133,slow=23,SNR=2.1
comp=Z,89nm,0.6s
STKA Stephens Creek 27.50 159 P **P 17 02 19.3 +0.1**
baz=28,SNR=130
STKA Stephens Creek 27.50 159 P **P 17 02 18.4 -0.9**
STKA Stephens Creek 27.50 159 P **P 17 02 19.5 +0.2**
STKA Stephens Creek 27.50 159 *d* iP **P 17 02 19.4 +0.2**
MNAI Manna 27.51 273 P **P 17 02 18.5 -1.0**

MYKOM Kota Tinggi 27.81 286 P **P 17 02 21.4 -0.8**
MYKOM IAmb IAmb 17 02 27.8
comp=Z,134nm,0.9s
MYKOM Kota Tinggi 27.81 286 P **P 17 02 24.3 +2.1**
comp=Z,2µmcomp=Z,201nm,0.9s
KLBR Kellerberrin 27.88 204 P **P 17 02 22.8 +0.2**
baz=28,SNR=66
KLBR Kellerberrin 27.88 204 P **P 17 02 23.3 +0.6**
HTT Hallett 28.13 165 P **P 17 02 24.9 0.0**
baz=28,SNR=70
HTT Hallett 28.13 165 P **P 17 02 25.8 +0.9**
UBSI University, Be 28.25 274 P **P 17 02 27.4 +1.3**
comp=Z,418nm,1.3s
AULRC Lightning Ridg 28.32 147 P **P 17 02 26.6 0.0**
DLV T Lat 28.42 310 P **P 17 02 28.6 +0.8**
MUN Mundaring 28.86 206 P **P 17 02 31.7 +0.3**
baz=29,SNR=9.5
MUN Mundaring 28.86 206 P **P 17 02 31.7 +0.3**
CMSA Cobar Meteorol 28.87 152 P **P 17 02 31.8 +0.4**
baz=29,SNR=330
CMSA Cobar Meteorol 28.87 152 P **P 17 02 32.4 +1.0**
NWAO Narrogin (SRO) 29.26 203 P **P 17 02 35.1 +0.2**
comp=Z,34nm,0.5s,baz=258,slow=7.4,SNR=75
NWAO S **S 17 07 18.8 +0.2**
comp=Z,29nm,0.8s,baz=232,slow=12,SNR=1.6
NWAO LR LR 17 16 21.8
comp=Z,1µm,20.3s,baz=258,slow=40
comp=Z,34nm,0.5s
NWAO Narrogin (SRO) 29.26 203 P **P 17 02 35.4 +0.5**
baz=29,SNR=53
NWAO P **P 17 02 35.4 +0.5**
baz=29,SNR=53
NWAO Narrogin (SRO) 29.26 203 P **P 17 02 33.5 -1.4**
NWAO Narrogin (SRO) 29.26 203 P **P 17 02 33.3 -1.6**
NWAO IAmb IAmb 17 03 23.8
comp=Z,75nm,1.0s
NWAO Narrogin (SRO) 29.26 203 P **P 17 02 34.4 -0.5**
NWAO Narrogin (SRO) 29.26 203 P **P 17 02 35.4 +0.5**
HNR Honiara 29.31 98 P **P 17 02 36.0 +0.5**
comp=Z,5µm,0.8s,baz=288,slow=6.4,SNR=44
HNR S **S 17 07 19.5 -0.3**
comp=Z,234nm,0.5s,baz=121,slow=12,SNR=1.9
HNR ScP **ScP 17 09 10.2 +0.7**
comp=Z,936nm,0.8s,baz=227,slow=1.7,SNR=6.3
HNR LR LR 17 15 27.0
comp=Z,9µm,19.9s,baz=264,slow=38
HNR Honiara 29.31 98 P **P 17 02 34.3 -1.2**
HNR Honiara 29.31 98 P **P 17 02 36.0 +0.5**
GHSS Government Hou 29.47 166 P **P 17 02 38.5 +1.9**
SDSI Sungai Dareh 29.51 279 P **P 17 02 38.4 +1.1**
comp=Z,3µmcomp=Z,3µmcomp=Z,146nm,1.1s
AUBSH Beerwah State 29.58 136 P **P 17 02 38.3 +0.5**
JRMM Jerantut 29.77 289 P **P 17 02 40.0 +0.4**
AUWSH Wavell State H 29.99 137 P **P 17 02 42.7 +1.3**
BKNI Bangkinang 30.15 281 P **P 17 02 41.1 -1.8**
BKNI IAmb IAmb 17 02 48.3
comp=Z,226nm,1.1s
BKNI Bangkinang 30.15 281 P **P 17 02 42.3 -0.7**
comp=Z,2µmcomp=Z,3µmcomp=Z,199nm,1.0s
BKNI Bangkinang 30.15 281 P **P 17 02 42.7 -0.2**
comp=Z,202nm,1.0s
TWGBT Beinan 30.35 343 P **P 17 02 44.5 -0.1**
comp=Z,36nm,0.8s
TWG Pinlang 30.36 343 P **P 17 02 42.5 -2.1**
PATS Pohnpei 30.64 65 P **P 17 02 45.6 -1.6**
PATS IAmb IAmb 17 03 15.1
comp=Z,417nm,1.5s
GC1S Gold Coast 1 S 30.80 138 P **P 17 02 51.1 +2.6**
comp=Z,61nm,0.7s
YULB Yu-li 30.83 343 P **P 17 02 45.9 -2.9**
YULB Yu-li 30.83 343 P **P 17 02 46.9 -1.9**
RKGY Rocky Gully 30.85 202 P **P 17 02 50.7 +1.8**
baz=31,SNR=22
RKGY Rocky Gully 30.85 202 P **P 17 02 50.5 +1.6**
AUDCS Dubbo College 30.86 149 P **P 17 02 49.6 +0.6**
comp=Z,304nm,1.0s
AUALB St Joseph's Co 30.87 200 P **P 17 02 50.8 +1.8**
TPUB Ta-pu 30.94 342 P **P 17 02 47.2 -2.6**
TPUB IAmb IAmb 17 02 49.8
comp=Z,118nm,1.2s
TPUB Ta-pu 30.94 342 P **P 17 02 49.2 -0.6**
ARMA Armidale 31.15 143 P **P 17 02 53.0 +1.3**
baz=31,SNR=13
ARMA Armidale 31.15 143 P **P 17 02 51.4 -0.3**
ARMA IAmb IAmb 17 02 55.6
comp=Z,237nm,1.6s
ARMA Armidale 31.15 143 P **P 17 02 53.6 +1.8**
AUPHS Peel High Scho 31.22 145 P **P 17 02 53.7 +1.5**
SSLB Suanglung 31.30 343 P **P 17 02 50.9 -2.1**
SSLB IAmb IAmb 17 02 53.7
comp=Z,127nm,1.0s
SSLB Suanglung 31.30 343 P **P 17 02 51.8 -1.2**
IPM Ipoh 31.33 289 P **P 17 02 52.0 -1.4**
IPM IAmb IAmb 17 02 57.9
comp=Z,77nm,0.8s
IPM PcP **PcP 17 05 45.4 +0.7**
IPM Ipoh 31.33 289 P **P 17 02 54.3 +0.9**
comp=Z,1µmcomp=Z,123nm,0.9s
IPM Ipoh 31.33 289 P **P 17 02 53.0 -0.4**
YOJ Yonaguni jima 31.41 347 P **P 17 02 53.6 -0.2**
YOJ Yonaguni jima 31.41 347 P **P 17 02 54.7 +0.8**
YOJ Yonaguni jima 31.41 347 P **P 17 02 53.7 -0.2**
YOJ pmax pmax
comp=Z,271nm,0.8s
NACB Ninganchiao 31.49 344 P **P 17 02 52.5 -2.1**
NACB IAmb IAmb 17 02 54.6
comp=Z,309nm,1.9s
NACB Ninganchiao 31.49 344 P **P 17 02 55.0 +0.4**
SISI Saibi 31.73 278 P **P 17 02 55.6 -1.3**
comp=Z,86nm,0.9s
KULM Kulim 31.95 290 P **P 17 02 57.5 -1.3**
KULM IAmb IAmb 17 02 59.2
comp=Z,106nm,0.8s
KULM PcP **PcP 17 05 47.1 +0.8**
KULM Kulim 31.95 290 P **P 17 02 58.1 -0.7**
comp=Z,1µmcomp=Z,143nm,1.0s
YHNB Yeheng 32.02 344 P **P 17 02 57.7 -1.6**
YHNB IAmb IAmb 17 02 59.7
comp=Z,172nm,1.2s
YHNB Yeheng 32.02 344 P **P 17 02 59.3 0.0**
ARPS Mount Arapiles 32.07 163 P **P 17 03 00.5 +1.0**
baz=32,SNR=34
ARPS Mount Arapiles 32.07 163 P **P 17 03 00.9 +1.3**
TATO Taipei 32.28 345 P **P 17 02 59.9 -1.6**
TATO Taipei 32.28 345 P **P 17 02 59.8 -1.6**
QIZ Qiongzhong 32.36 321 IAmb IAmb 17 03 04.2
comp=Z,157nm,1.3s
QIZ Qiongzhong 32.36 321 ⇑ *i*P **P 17 03 02.9 +0.6**
QIZ S **S 17 08 04.9 -2.4**
QIZ sS **sS 17 08 52.8 +0.7**
QIZ pmax pmax
comp=Z,94nm,1.0s
QIZ LR LR
comp=Z,1µm,19.9s
QIZ LR LR
comp=Z,680nm,13.5s
QIZ LR LR
comp=Z,910nm,16.7s
QIZ Qiongzhong 32.36 321 P **P 17 03 03.5 +1.2**
comp=Z,132nm,1.6s
QIZ Qiongzhong 32.36 321 P **P 17 03 02.8 +0.6**
QIZ ScP **ScP 17 09 20.6 +1.1**
AUMAG Moama Anglican 32.43 158 P **P 17 03 04.5 +1.8**
HKPS Hong Kong Po S 32.59 331 P **P 17 03 03.4 -0.9**
HKPS IAmb IAmb 17 03 06.1
comp=Z,332nm,1.8s
SKLT Songkhla 32.68 294 P **P 17 03 05.9 +0.7**
KNMB Chin-men Tao 32.76 339 P **P 17 03 05.2 -0.5**
PBSI Pulau Batu 32.76 280 P **P 17 03 05.4 -0.5**
comp=Z,167nm,1.3s
RPSI Rantau Prapat 32.78 285 P **P 17 03 03.9 -2.2**
RPSI PcP **PcP 17 05 48.4 -0.2**
PSI Prapat 32.81 285 P **P 17 03 04.6 -1.9**
comp=Z,286nm,1.0s,comp=Z,2µm,1.0s,comp=Z,475nm,1.0s,
comp=Z,3µm
PSI P **P 17 03 04.4 -2.1**
comp=Z,286nm,1.0s,comp=Z,2µm,1.0s,comp=Z,475nm,1.0s,
comp=Z,3µm
PSI Prapat 32.81 285 P **P 17 03 05.5 -1.0**
PSI Prapat 32.81 285 P **P 17 03 03.9 -2.6**
PSI 17 05 48.4
PSI pmax pmax
comp=Z,342nm,0.9s
JOW Kunigami 32.98 356 P **P 17 03 08.1 +0.6**
comp=Z,354nm,0.8s,baz=175,slow=7.8,SNR=112

JOW S **S 17 08 16.0 -0.7**
comp=Z,7.5nm,0.9s,baz=24,slow=20,SNR=6.1
JOW ScP **ScP 17 09 21.6 +0.1**
comp=Z,40nm,1.0s,baz=181,slow=2.7,SNR=7.3
comp=Z,354nm,0.8s
JOW Kunigami 32.98 356 P **P 17 03 08.3 +0.7**
JOW Kunigami 32.98 356 P **P 17 03 09.3 +1.7**
NTLH Newcastle Hard 33.02 146 P **P 17 03 09.5 +1.6**
QZH Quanzhou 33.13 340 *i*P **P 17 03 09.3 +0.4**
QZH pP **pP 17 03 35.8 0.0**
QZH S **S 17 08 16.4 -2.6**
QZH ScP **ScP 17 09 22.4 +0.4**
QZH pmax pmax
comp=Z,390nm,3.6s
SYDH Sydney Hard Ro 33.16 148 P **P 17 03 11.1 +2.0**
RIV Riverview 33.43 148 P **P 17 03 13.6 +2.1**
baz=33,SNR=5.5
RIV Riverview 33.43 148 P **P 17 03 14.2 +2.8**
BRAT Ballarat 33.45 160 P **P 17 03 13.6 +2.1**
AUHPC Hawkesdale P12 33.46 163 P **P 17 03 14.4 +2.8**
CAN Canberra 33.54 152 P **P 17 03 12.2 -0.3**
CAN IAmb IAmb 17 03 15.2
comp=Z,210nm,0.9s
CAN Canberra 33.54 152 P **P 17 03 14.1 +1.6**
CAN Canberra 33.54 152 P **P 17 03 12.2 -0.3**
CAN pmax pmax
comp=Z,210nm,0.9s
CAN Canberra 33.54 152 P **P 17 03 13.8 +1.3**
CAN pP **pP 17 03 37.7 -1.6**
CAN sP **sP 17 03 49.8 -3.7**
CAN ScP **ScP 17 09 23.3 -0.2**
CNB Canberra Magne 33.71 152 P **P 17 03 15.1 +1.2**
baz=34,SNR=64
CNB Canberra Magne 33.71 152 P **P 17 03 14.9 +0.9**
WOLH Wollongong Har 33.73 149 P **P 17 03 16.3 +2.3**
GSI Gunungsitoli 33.74 282 P **P 17 03 11.5 -2.9**
GSI IAmb IAmb 17 03 17.4
comp=Z,227nm,1.0s
GSI Gunungsitoli 33.74 282 P **P 17 03 12.7 -1.7**
comp=Z,237nm,1.0s
GSI Gunungsitoli 33.74 282 P **P 17 03 12.6 -1.8**
COCO West Island 33.74 257 P **P 17 03 13.5 -0.9**
COCO IAmb IAmb 17 03 17.6
comp=Z,277nm,1.1s
COCO West Island 33.74 257 P **P 17 03 13.5 -0.9**
COCO pmax pmax
comp=Z,277nm,1.2s
TOO Toolangi 34.01 158 P **P 17 03 18.3 +1.8**
baz=34,SNR=51
TOO Toolangi 34.01 158 P **P 17 03 16.8 +0.3**
TOO IAmb IAmb 17 03 19.7
comp=Z,111nm,0.8s
TOO Toolangi 34.01 158 P **P 17 03 18.7 +2.2**
TOO Toolangi 34.01 158 P **P 17 03 16.8 +0.3**
TOO pmax pmax
comp=Z,111nm,0.9s
KCSI Kotacane, Aceh 34.12 286 P **P 17 03 16.5 -1.2**
comp=Z,1µmcomp=Z,76nm,0.9s
GEXS Deakin Univers 34.15 160 P **P 17 03 20.8 +3.2**
comp=Z,335nm,0.9s
SRIT Nakonsritamara 34.18 295 P **P 17 03 17.7 -0.5**
SRIT IAmb IAmb 17 03 19.4
comp=Z,80nm,0.9s
SRIT Nakonsritamara 34.18 295 P **P 17 03 19.4 +1.2**
AUSMG Snowy Mountain 34.28 154 P **P 17 03 20.5 +1.7**
AUUHS Ulladulla High 34.28 150 P **P 17 03 20.4 +1.6**
SURA Surathani 34.40 296 P **P 17 03 20.7 +0.7**
JCJ Chichijima 35.04 18 P **P 17 03 24.5 -0.9**
comp=Z,201nm,0.8s,baz=237,slow=6.5,SNR=10.0
JCJ S **S 17 08 42.8 -5.7**
comp=Z,94nm,0.9s,baz=282,slow=19,SNR=2.5
comp=Z,201nm,0.8s
JCJ Chichijima 35.04 18 P **P 17 03 24.3 -1.0**
JCJ Chichijima 35.04 18 P **P 17 03 24.4 -0.9**
MILA Mila 35.05 154 P **P 17 03 27.2 +1.8**
baz=35,SNR=9.9
MILA Mila 35.05 154 P **P 17 03 27.2 +1.8**
SNSI Sinabang, Aceh 35.22 283 P **P 17 03 27.6 +0.5**
comp=Z,157nm,1.7s
LHMI Lhok Sumawe 35.41 288 P **P 17 03 27.6 -1.2**
LHMI Lhok Sumawe 35.41 288 P **P 17 03 27.7 -1.1**
comp=Z,7µmcomp=Z,1µm,0.9s
LHMI Lhok Sumawe 35.41 288 P **P 17 03 28.3 -0.5**
NAYO Nakonayok 35.46 305 P **P 17 03 29.7 +0.5**
KOUNC Koumac, New Ca 35.67 117 P **P 17 03 31.0 0.0**
KOUNC IAmb IAmb 17 03 33.1
comp=Z,63nm,0.8s
KOUNC Koumac, New Ca 35.67 117 P **P 17 03 32.3 +1.3**
NONG Nongkai 36.26 312 P **P 17 03 36.4 +0.5**
JSU Suzuyama 37.56 360 P **P 17 03 47.6 +0.8**
JSU IAmb IAmb 17 03 49.2
comp=Z,173nm,0.8s
JSU Suzuyama 37.56 360 P **P 17 03 48.0 +1.2**
AULHS Lilydale High 37.88 159 P **P 17 03 51.4 +2.0**
GLAD Gladstone 37.94 158 P **P 17 03 51.4 +1.6**
NOUC Port Laguerre 37.95 118 P **P 17 03 51.0 +0.8**
NOUC pP **pP 17 04 18.0 +1.0**
CORO Coronation Par 38.04 160 P **P 17 03 51.8 +1.2**
DZM Mont Dzumac 38.07 118 P **P 17 03 52.4 +1.1**
comp=Z,78nm,0.8s,baz=247,slow=9.6,SNR=38
DZM S **S 17 09 36.2 +1.3**
comp=Z,3.5nm,0.8s,baz=288,slow=20,SNR=1.2
DZM LR LR 17 20 33.5
comp=Z,485nm,20.3s,baz=260,slow=38
comp=Z,78nm,0.8s
DZM Mont Dzumac 38.07 118 *e*P **P 17 03 51.9 +0.6**
comp=Z,428nm,25.3s
DZM *e*S **S 17 09 37.9 +3.0**
comp=Z,605nm,28.2s
DZM *e*LR LR 17 14 22.0
comp=Z,1µm,26.7s
DZM Mont Dzumac 38.07 118 P **P 17 03 51.6 +0.3**
DZM IAmb IAmb 17 03 53.6
comp=Z,95nm,0.9s
DZM Mont Dzumac 38.07 118 P **P 17 03 52.6 +1.3**
DZM Mont Dzumac 38.07 118 P **P 17 03 52.4 +1.1**
ONTNC Ouen Toro 38.15 118 P **P 17 03 51.2 -0.7**
ONTNC IAmb IAmb 17 03 53.9
comp=Z,98nm,0.8s
ONTNC Ouen Toro 38.15 118 P **P 17 03 52.6 +0.7**
SSE Sheshan 38.21 347 P **P 17 03 53.6 +1.4**
SSE S **S 17 09 34.3 -2.2**
SSE SS **SS 17 12 26.3 -3.8**
SSE pmax pmax
comp=Z,150nm,1.1s
SSE pmax pmax
comp=Z,450nm,3.9s
SSE LR LR
comp=Z,160nm,17.5s
LIFNC LIFOU 38.38 116 P **P 17 03 54.1 +0.3**
LIFNC LIFOU 38.38 116 P **P 17 03 55.3 +1.5**
YATNC Mamie plateau, 38.46 118 P **P 17 03 56.5 +2.0**
OUENC Ouen Island, N 38.53 118 P **P 17 03 55.7 +0.6**
OUENC IAmb IAmb 17 03 57.6
comp=Z,80nm,0.8s
OUENC Ouen Island, N 38.53 118 P **P 17 03 56.4 +1.3**
PHRA Phrae 38.71 310 P **P 17 03 57.2 +0.6**
PHRA ScP **ScP 17 09 43.1 +0.5**
MOO Moorlands 38.93 160 P **P 17 04 00.3 +2.2**
baz=39,SNR=19
MOO Moorlands 38.93 160 P **P 17 04 00.1 +1.9**
JNU Nakatsue 39.18 0 P **P 17 04 00.5 +0.2**
JNU Nakatsue 39.18 0 P **P 17 04 01.3 +1.0**
MARNC Mare, Loyalty 39.29 116 P **P 17 04 01.4 0.0**
MARNC Mare, Loyalty 39.29 116 P **P 17 04 02.7 +1.3**
TAU Tasmania Unive 39.39 160 P **P 17 04 03.4 +1.4**
TAU IAmb IAmb 17 04 04.9
comp=Z,69nm,0.8s
TAU Tasmania Unive 39.39 160 P **P 17 04 02.9 +1.0**
TAU Tasmania Unive 39.39 160 P **P 17 04 03.4 +1.4**
TAU pmax pmax
comp=Z,69nm,0.9s
TAU Tasmania Unive 39.39 160 P **P 17 04 03.4 +1.4**
CM31 Chiang Mai Arr 39.67 309 P **P 17 04 05.3 +0.7**
CMAR Chiang Mai Arr 39.67 309 P **P 17 04 05.0 +0.3**
comp=Z,114nm,0.8s,baz=140,slow=7.6,SNR=779
CMAR PcP **PcP 17 06 10.3 +1.2**
comp=Z,38nm,0.8s,baz=160,slow=2.6,SNR=17
CMAR ScP **ScP 17 09 46.5 +0.1**
comp=Z,10nm,1.0s,baz=152,slow=3.3,SNR=12
comp=Z,114nm,0.8s
CMAR Chiang Mai Arr 39.67 309 P **P 17 04 04.7 +0.1**
CMAR Chiang Mai Arr 39.67 309 *i* P **P 17 04 05.4 +0.8**
CMAR pmax pmax

comp=Z,121nm,0.8s
NJ2 Nanjing 39.70 344⇑ *i*P **P** **17 04 06.1 +1.5**
NJ2 sP **sP** **17 04 45.0 -1.2**
NJ2 S **S** **17 09 57.8 -1.0**
NJ2 ScS **ScS** **17 13 52.5 -6.6**
NJ2 pmax pmax
comp=Z,260nm,0.9s
NJ2 pmax pmax
comp=Z,290nm,5.3s
NJ2 LR LR
comp=Z,380nm,13.5s
NJ2 LR LR
comp=Z,340nm,14.2s
NJ2 LR LR
comp=Z,530nm,20.4s
WHN Wuhan 39.75 338⇑ *i*P **P** **17 04 06.8 +1.8**
WHN PcP **PcP** **17 06 10.3 +1.2**
WHN ScP **ScP** **17 09 46.6 +0.2**
WHN S **S** **17 09 59.3 -0.3**
WHN PcS **PcS** **17 10 00.3 +0.9**
CHTO Chiang Mai 39.88 309 P **P** **17 04 06.4 +0.1**
CHTO Chiang Mai 39.88 309 P **P** **17 04 06.4 +0.1**
CHTO pmax pmax
comp=Z,324nm,0.9s
JMN Monobe 39.91 4 P **P** **17 04 07.2 +0.8**
JMN IAmb IAmb 17 04 09.1
comp=Z,208nm,0.9s
JMN Monobe 39.91 4 P **P** **17 04 08.1 +1.7**
GYA Guiyang 39.92 326⇓ *i*P **P** **17 04 07.9 +1.2**
GYA pP pP 17 04 34.4 +0.5
GYA PcP **PcP** **17 06 11.8 +1.9**
GYA ScP **ScP** **17 09 48.8 +1.5**
GYA S **S** **17 10 04.8 +2.2**
GYA sS sS 17 10 47.9 -0.5
GYA SS **SS** **17 13 07.6 +3.0**
GYA pmax pmax
comp=Z,93nm,1.2s
GYA pmax pmax
comp=Z,890nm,3.9s
GYA LR LR
comp=Z,310nm,15.4s
GYA LR LR
comp=Z,480nm,15.5s
GYA LR LR
comp=Z,440nm,21.2s
JTU Tsushima 40.59 359 P **P** **17 04 12.4 +0.6**
JTU IAmb IAmb 17 04 14.4
comp=Z,196nm,1.1s
JTU Tsushima 40.59 359 P **P** **17 04 13.4 +1.5**
JHS Saijyo 41.12 3 P **P** **17 04 17.4 +1.1**
JHS Saijyo 41.12 3 P **P** **17 04 18.0 +1.7**
KMI Kunming 41.28 320⇑ P **P** **17 04 19.3 +1.3**
KMI pP pP 17 04 46.0 +0.5
KMI sP sP 17 04 57.8 -1.7
KMI PP **PP** **17 05 55.0 -1.0**
KMI PcP **PcP** **17 06 16.4 +1.9**
KMI S **S** **17 10 20.3 -2.8**
KMI pmax pmax
comp=Z,130nm,1.6s
KMI pmax pmax
comp=Z,670nm,3.5s
KMI LR LR
comp=Z,510nm,18.2s
KMI LR LR
comp=Z,430nm,23.5s
KMI LR LR
comp=Z,820nm,31.7s
KMI Kunming 41.28 320 P **P** **17 04 19.4 +1.3**
KMI PcP **PcP** **17 06 16.2 +1.7**
ENH Enshi 41.56 332 P **P** **17 04 19.8 -0.1**
ENH IAmb IAmb 17 04 21.1
comp=Z,120nm,0.8s
ENH PcP **PcP** **17 06 14.2 -0.8**
ENH Enshi 41.56 332 P **P** **17 04 20.4 +0.4**
ENH Enshi 41.56 332 P **P** **17 04 20.2 +0.2**
ENH PcP **PcP** **17 06 16.1 +1.1**
ENH ScP **ScP** **17 09 53.4 -0.2**
INU Inuyama 41.85 8 P **P** **17 04 22.7 +0.5**
INU Inuyama 41.85 8 P **P** **17 04 23.6 +1.4**
DGPR DIGLIPUR 42.04 297 *e*P **P** **17 04 25.2 +1.1**
JGF Kuroka 42.14 8 P **P** **17 04 25.2 +0.6**
JGF Kuroka 42.14 8 P **P** **17 04 25.6 +1.0**
TJN Taejon 42.53 356 P **P** **17 04 28.6 +0.9**
TJN Taejon 42.53 356 P **P** **17 04 29.0 +1.3**
TJN Taejon 42.53 356 *c i*P **P** **17 04 28.8 +1.1**
PZH PanZhiHua 42.89 321⇑ P **P** **17 04 31.3 +0.3**
PZH sP **pwP** **17 05 06.8 +3.9**
PZH PP **PcP** **17 06 16.9 -2.8**
PZH PcP **PP** **17 06 20.4 +7.2**
PZH ScP **ScP** **17 09 59.4 +0.2**
PZH PcS **PcS** **17 10 12.1 -0.3**
PZH S **S** **17 10 50.5 +4.0**
PZH ScS **ScS** **17 14 17.4 -1.7**
PZH pmax pmax
comp=Z,90nm,1.0s
PZH pmax pmax
comp=Z,630nm,3.8s
PZH LR LR
comp=Z,610nm,19.6s
PZH LR LR
comp=Z,790nm,22.2s
PZH LR LR
comp=Z,960nm,22.2s
TARA Tarawa 43.00 81 P **P** **17 04 33.2 +1.3**
MAJO Matsushiro 43.19 9 P **P** **17 04 32.7 -0.3**
MAJO IAmb IAmb 17 04 34.0
comp=Z,172nm,0.8s
MAJO Matsushiro 43.19 9 P **P** **17 04 33.0 -0.1**
MAJO Matsushiro 43.19 9 *c i*P **P** **17 04 32.8 -0.3**
MAJO pmax pmax
comp=Z,175nm,0.8s
MAJO Matsushiro 43.19 9 P **P** **17 04 32.8 -0.3**
MAJO pP **pP** **17 05 01.0 +0.7**
MJAR Matsushiro Arr 43.19 9 P **P** **17 04 32.9 -0.2**
comp=Z,88nm,0.8s,baz=186,slow=9.4,SNR=165
MJAR ScP **ScP** **17 10 00.4 +0.4**
comp=Z,3.2nm,0.9s,baz=186,slow=5.5,SNR=4.3
MJAR S **S** **17 10 47.3 -3.0**
comp=Z,5.1nm,1.1s,baz=190,slow=16,SNR=4.5
MJAR LR LR 17 21 34.6
comp=Z,713nm,20.7s,baz=197,slow=34
comp=Z,88nm,0.8s
MJB9 Matsu-Tunnel 43.20 9 P **P** **17 04 32.7 -0.4**
MJB9 IAmb IAmb 17 04 34.0
comp=Z,169nm,0.8s
KSAR Wonju Array Be 43.55 357 P **P** **17 04 37.3 +1.4**
KSAR Wonju Array Be 43.55 357 P **P** **17 04 37.3 +1.4**
KSRS Korea Array 43.56 357 P **P** **17 04 37.5 +1.5**
comp=Z,34nm,0.6s,baz=176,slow=9.9,SNR=119
KSRS PcP **PcP** **17 06 22.2 +0.7**
comp=Z,16nm,1.0s,baz=179,slow=4.9,SNR=5.4
KSRS ScP **ScP** **17 10 01.5 +0.1**
comp=Z,6.2nm,0.8s,baz=176,slow=4.2,SNR=10
KSRS LR LR 17 21 26.6
comp=Z,431nm,21.7s,baz=180,slow=34
comp=Z,34nm,0.6s
KS19 Wonju Array Si 43.62 357 P **P** **17 04 37.1 +0.6**
INCN Inchon 43.68 356 P **P** **17 04 37.9 +0.9**
INCN IAmb IAmb 17 04 40.4
comp=Z,101nm,0.8s
INCN Inchon 43.68 356 P **P** **17 04 37.4 +0.5**
INCN Inchon 43.68 356 P **P** **17 04 39.0 +2.0**
INCN Inchon 43.68 356 P **P** **17 04 37.9 +0.9**
INCN pmax pmax
comp=Z,101nm,0.8s
INCN Inchon 43.68 356 P **P** **17 04 38.4 +1.5**
MND Mandalay 43.89 311 P **P** **17 04 39.0 +0.1**
TNCH TengChong 44.02 316⇑ P **P** **17 04 40.5 +0.4**
TNCH pP pP 17 05 08.6 +0.9
TNCH sP sP 17 05 20.8 -0.7
TNCH PP **PP** **17 06 25.9 +0.7**
TNCH sS sS 17 11 51.4 +1.9
TNCH pmax pmax
comp=Z,130nm,1.6s
TNCH pmax pmax
comp=Z,830nm,4.4s
LYN LuoYang 44.04 338⇑ *i*P **P** **17 04 40.5 +0.6**
LYN sP sP 17 05 22.8 +0.9
LYN PP **PP** **17 06 28.4 +3.3**
LYN ScP **ScP** **17 10 04.0 +0.5**
LYN S **S** **17 10 58.4 -4.3**
LYN ScS **ScS** **17 14 26.8 +1.1**
LYN pmax pmax
comp=Z,150nm,1.0s
LYN pmax pmax
comp=Z,980nm,3.8s
TIA Tai'an 44.09 344 P **P** **17 04 40.5 +0.2**
TIA PP **PP** **17 06 24.8 -0.8**
TIA ScP **ScP** **17 10 03.9 +0.3**
TIA ScS **SS** **17 14 24.8 -1.0**
TIA pmax pmax
comp=Z,99nm,0.9s
TIA pmax pmax
comp=Z,650nm,3.5s
TIA LR LR
comp=Z,70nm,11.4s
TIA LR LR
comp=Z,280nm,11.4s
TIA LR LR
comp=Z,210nm,16.4s
JSD Sado 44.66 9 P **P** **17 04 44.4 -0.4**
JSD Sado 44.66 9 P **P** **17 04 46.2 +1.4**
JMM Marumori 44.94 12 P **P** **17 04 47.5 +0.5**
JMM Marumori 44.94 12 P **P** **17 04 48.2 +1.2**
CD2 Chengdu 44.98 327 P **P** **17 04 47.3 -0.1**
CD2 PcP **PcP** **17 06 25.8 -0.8**
CD2 S **S** **17 11 10.8 -5.7**
CD2 SS **SS** **17 14 39.8 -1.5**
CD2 pmax pmax
comp=Z,90nm,0.9s
CD2 pmax pmax
comp=Z,600nm,5.7s
CD2 LR LR
comp=Z,450nm,14.2s
XAN Xi'an 45.00 334⇑ P **P** **17 04 47.5 -0.1**
XAN pP pP 17 05 15.8 -0.2
XAN sP sP 17 05 28.4 -1.0
XAN PcP **PcP** **17 06 27.3 +0.7**
XAN PP **PP** **17 06 31.8 -3.6**
XAN ScP **ScP** **17 10 07.8 +0.3**
XAN PcS **PcS** **17 10 15.3 -5.3**
XAN S **S** **17 11 10.6 -6.2**
XAN sS sS 17 12 03.4 0.0
XAN ScS **ScS** **17 14 29.8 -2.2**
XAN SS **SS** **17 14 38.4 -3.3**
XAN pmax pmax
comp=Z,280nm,1.0s
XAN pmax pmax
comp=Z,1μm,4.5s
XAN LR LR
comp=Z,450nm,14.4s
XAN LR LR
comp=Z,420nm,18.6s
XAN Xi'an 45.00 334 P **P** **17 04 47.7 0.0**
XAN PcP **PcP** **17 06 27.8 +1.2**
XAN ScP **ScP** **17 10 07.9 +0.4**
DL2 Dalian 45.70 350 P **P** **17 04 53.9 +1.0**
DL2 S **S** **17 11 25.0 -1.5**
DL2 sS **sS** **17 12 14.9 +1.7**
DL2 pmax pmax
comp=Z,130nm,1.1s
DL2 pmax pmax
comp=Z,700nm,5.2s
HNS HongShan 45.88 342⇑ P **P** **17 04 55.3 +0.9**
HNS pP **pP** **17 05 21.1 -1.9**
HNS sP **sP** **17 05 33.8 -3.3**
HNS PP **PP** **17 06 50.4 +5.8**
HNS S **S** **17 11 26.1 -3.1**
HNS ScS **ScS** **17 14 37.8 +0.5**
HNS pmax pmax
comp=Z,470nm,0.9s
HNS LR LR
comp=Z,410nm,15.7s
HNS LR LR
comp=Z,360nm,21.0s
TIY Taiyuan 46.90 340 P **P** **17 05 03.0 +0.6**
TIY pP **pP** **17 05 30.6 -0.6**
TIY S **S** **17 11 42.3 -1.5**
TIY ScS **ScS** **17 14 42.3 -1.9**
BRDH Bariadhala 47.69 308 P **P** **17 05 09.8 +1.1**
comp=Z,130nm,0.4s,baz=88,slow=7.4,SNR=28
comp=Z,130nm,0.4s
MSVF Nonsavu 47.73 108 P **P** **17 05 11.2 +2.0**
comp=Z,28nm,0.8s,baz=250,slow=5.9,SNR=36
MSVF LR LR 17 24 53.5
comp=Z,224nm,18.1s,baz=360,slow=35
comp=Z,28nm,0.8s
MSVF Nonsavu 47.73 108 P **P** **17 05 08.6 -0.7**
MSVF Nonsavu 47.73 108 P **P** **17 05 11.3 +2.0**
MSVF Nonsavu 47.73 108⇓ *i*P **P** **17 05 10.0 +0.7**
MSVF pmax pmax
comp=Z,54nm,0.9s
MSVF Nonsavu 47.73 108 P **P** **17 05 10.9 +1.7**
MSVF sP **sP** **17 05 47.9 -2.3**
MSVF ScP **ScP** **17 10 23.1 +3.7**
JTM Tenmabayashi 47.82 11 P **P** **17 05 09.7 +0.3**
JTM IAmb IAmb 17 05 11.2
comp=Z,105nm,0.8s
JTM Tenmabayashi 47.82 11 P **P** **17 05 10.8 +1.4**
BJT Baijiatuan 47.92 345 P **P** **17 05 10.9 +0.6**
BJT Baijiatuan 47.92 345 P **P** **17 05 11.4 +1.2**
BJT Baijiatuan 47.92 345 P **P** **17 05 10.9 +0.6**
BJT pmax pmax
comp=Z,302nm,0.7s
BJT Baijiatuan 47.92 345 P **P** **17 05 11.1 +0.9**
BJT ScP **ScP** **17 10 20.0 +0.4**
BJI Beijing 47.94 345 P **P** **17 05 11.3 +0.9**
BJI pP **pP** **17 05 39.8 +0.8**
BJI S **S** **17 12 00.3 +1.9**
BJI pmax pmax
comp=Z,410nm,0.7s
BJI pmax pmax
comp=Z,280nm,3.5s
FUNA Funafuti 48.30 96 P **P** **17 05 13.7 +0.1**
FUNA IAmb IAmb 17 05 52.3
comp=Z,301nm,1.6s
MSHR Mys Shultsa 48.62 1⇓ *i*P **P** **17 05 17.3 +1.8**
MSHR pmax pmax
comp=Z,144nm,1.8s
OUZ Omahuta 48.94 132 P **P** **17 05 20.1 +1.9**
OUZ IAmb IAmb 17 05 33.1
comp=Z,290nm,1.9s
LZH Lanzhou 49.01 331⇑ P **P** **17 05 20.3 +1.4**
LZH pP pP 17 05 47.6 +0.1
LZH sP sP 17 05 56.6 -4.8
LZH PcP **PcP** **17 06 42.3 +1.3**
LZH ScP **ScP** **17 10 26.6 +2.1**
LZH S **S** **17 12 10.6 -3.4**
LZH sS sS 17 12 59.8 -1.4
LZH SS **SS** **17 15 45.4 -1.4**
LZH pmax pmax
comp=Z,290nm,1.3s
LZH pmax pmax
comp=Z,1μm,4.6s
LZH LR LR
comp=Z,440nm,16.5s
LZH LR LR
comp=Z,410nm,15.5s
LZH LR LR
comp=Z,1μm,19.6s
SHL Shillong 49.10 312 P **P** **17 05 19.2 -0.5**
SHL PcP **PcP** **17 06 42.1 +0.6**
SHL Shillong 49.10 312 P **P** **17 05 19.7 0.0**
SNR=71
SHL Shillong 49.10 312 *e*P **P** **17 05 19.6 -0.2**
SHL IAmb IAmb 17 05 20.4
comp=Z,186nm,1.0s
SHL Shillong 49.10 312 P **P** **17 05 19.2 -0.5**
SHL pmax pmax
comp=Z,239nm,0.9s
ERM Erimo 49.42 12 P **P** **17 05 23.0 +1.4**
ERM IAmb IAmb 17 05 57.9
comp=Z,132nm,1.4s
ERM Erimo 49.42 12 P **P** **17 05 23.0 +1.4**
ERM pmax pmax
comp=Z,132nm,1.4s
HHC Hu-ho-hao-te 50.02 341 *e*P **P** **17 05 27.8 +1.4**
HHC sP sP 17 06 06.6 -2.1
HHC S **S** **17 12 28.3 +0.6**
HHC pmax pmax
comp=Z,340nm,1.0s
HHC pmax pmax
comp=Z,2μm,4.6s
CN2 Changchun 50.05 355 *e*P **P** **17 05 26.0 -0.4**
CN2 sP sP 17 06 09.1 +0.1
CN2 pmax pmax
comp=Z,160nm,0.7s
CN2 pmax pmax
comp=Z,840nm,6.0s
CN2 LR LR
comp=Z,420nm,20.0s
CN2 LR LR
comp=Z,360nm,20.0s
CN2 LR LR
comp=Z,420nm,21.0s
USA0B Ussuriysk Arra 50.25 1 P **P** **17 05 28.2 +0.3**
USA0B IAmb IAmb 17 05 29.7
comp=Z,88nm,0.7s
USA0B PcP **PcP** **17 06 47.1 +2.0**
USA0B Ussuriysk Arra 50.25 1 *c i*P **P** **17 05 28.9 +1.0**
USRK Ussuriysk Ar. 50.25 1 P **P** **17 05 29.0 +1.1**
comp=Z,67nm,0.6s,baz=182,slow=7.2,SNR=194
USRK LR LR 17 26 03.7
comp=Z,294nm,21.2s,baz=155,slow=35
comp=Z,67nm,0.6s
USRK Ussuriysk Ar. 50.25 1 P **P** **17 05 29.0 +1.1**
BTO Baotou 50.31 340 *e*P **P** **17 05 30.3 +1.7**
DCZ Deep Cove 50.32 147 P **P** **17 05 29.8 +1.4**
DCZ IAmb IAmb 17 05 30.9
comp=Z,53nm,0.9s
PYZ Puysegur Point 50.52 148 P **P** **17 05 30.1 +0.2**
PYZ IAmb IAmb 17 06 05.1
comp=Z,78nm,1.1s
FOZ Fox Glacier 50.65 143 P **P** **17 05 30.8 -0.2**
FOZ IAmb IAmb 17 05 33.2
comp=Z,80nm,0.9s
MDJ Mudanjiang 50.66 359 P **P** **17 05 31.4 +0.5**
MDJ IAmb IAmb 17 05 32.9
comp=Z,113nm,0.8s
MDJ Mudanjiang 50.66 359 P **P** **17 05 32.1 +1.2**
MDJ S **S** **17 12 38.8 +2.6**
MDJ ScS **ScS** **17 15 04.0 -5.0**
MDJ pmax pmax
comp=Z,180nm,0.8s
MDJ pmax pmax
comp=Z,630nm,3.6s
MDJ Mudanjiang 50.66 359 P **P** **17 05 32.5 +1.6**
MDJ Mudanjiang 50.66 359 P **P** **17 05 32.2 +1.2**
MLZ Mavora Lakes 50.79 146 P **P** **17 05 32.9 +0.8**
QRZ Quartz Range 50.86 139 P **P** **17 05 33.9 +1.3**
QRZ IAmb IAmb 17 05 35.5
comp=Z,95nm,0.8s
DSZ Denniston Nort 50.88 140 P **P** **17 05 33.5 +0.8**
WKZ Wanaka 50.96 145 P **P** **17 05 34.1 +0.8**
WKZ IAmb IAmb 17 06 10.9
comp=Z,234nm,1.6s
WHZ Wether Hill Ro 51.02 147 P **P** **17 05 34.2 +0.5**
WHZ IAmb IAmb 17 05 35.5
comp=Z,96nm,0.8s
INZ Inchbonnie 51.18 142 P **P** **17 05 35.0 0.0**
INZ IAmb IAmb 17 05 38.4
comp=Z,77nm,1.0s
TKNZ Takaka Hill 51.25 139 P **P** **17 05 36.1 +0.6**
MRNZ Matariki Terra 51.30 140 P **P** **17 05 36.5 +0.6**
ASAJ Asahikawa 51.33 11 P **P** **17 05 36.7 +0.8**
ASAJ pmax pmax
comp=Z,73nm,0.8s
JKA Kamikawa-asahi 51.33 11 P **P** **17 05 36.7 +0.8**
JKA IAmb IAmb 17 05 37.8
comp=Z,73nm,0.8s
TEY Ternei 51.36 6⇑ *i*P **P** **17 05 37.3 +1.1**
TEY pmax pmax
comp=N,100nm,1.5s
TEY pmax pmax
comp=Z,100nm,2.6s
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=N,40nm,1.5s
LBZ Lake Benmore 51.37 144 P **P** **17 05 37.1 +0.7**
LBZ IAmb IAmb 17 05 38.3
comp=Z,105nm,0.8s
PALK Pallekele 51.49 284 P **P** **17 05 37.5 -0.3**
comp=Z,42nm,0.7s,baz=202,slow=8.4,SNR=28
PALK PcP **PcP** **17 06 51.7 +1.3**
comp=Z,39nm,1.1s,baz=126,slow=2.0,SNR=4.1
PALK LR LR 17 28 03.5
comp=Z,252nm,20.0s,baz=246,slow=36
comp=Z,42nm,0.7s
PALK Pallekele 51.49 284 P **P** **17 05 37.2 -0.6**
PALK IAmb IAmb 17 05 42.4
comp=Z,98nm,1.0s
PALK PcP **PcP** **17 06 52.1 +1.7**
PALK Pallekele 51.49 284 P **P** **17 05 37.0 -0.8**
PALK Pallekele 51.49 284 *c i*P **P** **17 05 36.8 -1.0**
PALK pmax pmax
comp=Z,149nm,1.0s
PALK Pallekele 51.49 284 P **P** **17 05 37.1 -0.6**
PALK PcP **PcP** **17 06 52.0 +1.6**
RPZ Rata Peaks 51.49 143 P **P** **17 05 38.2 +0.9**
comp=Z,72nm,0.8s,baz=258,slow=1.0,SNR=14
RPZ LR LR 17 27 02.3
comp=Z,988nm,19.7s,baz=314,slow=35
comp=Z,72nm,0.8s
RPZ Rata Peaks 51.49 143 P **P** **17 05 37.8 +0.5**
RPZ IAmb IAmb 17 05 39.6
comp=Z,109nm,1.0s
XLT XiLinHaoTe 51.62 347⇑ *i*P **P** **17 05 39.0 +0.8**
XLT pmax pmax
comp=Z,230nm,1.1s
BNX BinXian 51.85 357⇑ P **P** **17 05 40.0 +0.2**
BNX pP **pP** **17 06 08.9 +0.1**
BNX PP **PP** **17 07 38.3 -0.8**
BNX S **S** **17 12 50.5 -2.0**
BNX sS **sS** **17 13 44.5 +4.2**
BNX pmax pmax
comp=Z,83nm,1.0s
BNX pmax pmax
comp=Z,600nm,5.9s
BNX LR LR
comp=Z,620nm,16.8s
BNX LR LR
comp=Z,250nm,9.8s
BNX LR LR
comp=Z,600nm,19.7s
OXZ Oxford 51.88 142 P **P** **17 05 40.5 +0.4**
ODZ Otahua Downs 52.02 145 P **P** **17 05 41.8 +0.6**
LSA Lhasa 52.04 316 P **P** **17 05 43.1 +1.0**
LSA IAmb IAmb 17 05 44.2
comp=Z,99nm,0.8s
LSA Lhasa 52.04 316 P **P** **17 05 43.4 +1.3**
LSA pmax pmax
comp=Z,95nm,0.7s
LSA Lhasa 52.04 316 *i*P **P** **17 05 43.4 +1.3**
SNR=36
LSA Lhasa 52.04 316 P **P** **17 05 43.1 +1.0**
LSA pmax pmax
comp=Z,99nm,0.8s
LSA Lhasa 52.04 316 P **P** **17 05 43.6 +1.5**
TUWZ Tuamarina 52.09 139 P **P** **17 05 42.2 +0.5**
VIS Vishakhapatnam 52.34 298 *e*P **P** **17 05 44.5 +0.7**
VIS IAmb IAmb 17 05 45.6
comp=Z,584nm,1.1s
BKZ Black Stump Fm 52.74 135 P **P** **17 05 46.1 -0.6**
BKZ IAmb IAmb 17 05 48.9
comp=Z,73nm,1.0s
BKZ Black Stump Fm 52.74 135 P **P** **17 05 48.0 +1.3**
MRZ Mangatainoka R 52.80 137 P **P** **17 05 47.2 +0.2**
MRZ IAmb IAmb 17 06 21.9
comp=Z,74nm,1.2s
BOK Bokaro 52.81 306 *e*P **P** **17 05 47.8 +0.4**
BOK IAmb IAmb 17 05 50.8
comp=Z,101nm,1.0s
RAGD RAYAGADA 52.83 300 *e*P **P** **17 05 48.5 +1.0**
ODAN Odare 53.18 310 *e*P **P** **17 05 50.9 +0.6**
TAPN Taplejung 53.20 311 *e*P **P** **17 05 50.9 +0.4**
BFZ Birch Farm 53.26 137 P **P** **17 05 51.1 +0.7**
BFZ IAmb IAmb 17 06 32.5
comp=Z,159nm,1.4s
MCQ Macquarie Isla 53.27 160 P **P** **17 05 49.9 -0.2**
baz=53,SNR=4.0
MCQ Macquarie Isla 53.27 160 P **P** **17 05 50.6 +0.5**
MCQ Macquarie Isla 53.27 160 P **P** **17 05 50.8 +0.7**
MCQ Macquarie Isla 53.27 160 P **P** **17 05 50.6 +0.5**
MCQ pmax pmax
comp=Z,181nm,0.9s
MXZ Matakaoa Point 53.37 133 P **P** **17 05 52.0 +0.8**
MDRS Chennai 53.51 291 *e*P **P** **17 05 53.1 +0.5**
MDRS IAmb IAmb 17 05 53.8
comp=Z,322nm,0.9s
GTA Gaotai 53.59 331⇑ P **P** **17 05 54.1 +1.2**
GTA pP pP 17 06 17.8 -3.8
GTA sP pwP 17 06 29.8 +3.5

GTA PcP **PcP** **17 06 59.3 +1.4**
GTA ScP **ScP** **17 10 44.4 +0.3**
GTA PcS **PcS** **17 10 56.0 -1.2**
GTA S **S** **17 13 14.3 -2.4**
GTA ScS **ScS** **17 15 28.8 -1.3**
GTA pmax pmax
comp=Z,190nm,1.4s
GTA pmax pmax
comp=Z,810nm,11.6s
GTA LR LR
comp=Z,310nm,15.9s
GTA LR LR
comp=Z,330nm,18.7s
GTA LR LR
comp=Z,320nm,17.6s
JHSG JHARSUGUGA 53.62 303 *eP* **P** **17 05 54.2 +1.0**
RAMN Ramite 53.83 310 *eP* **P** **17 05 55.7 +0.7**
GOMU GeErMu 53.91 324 P **P** **17 05 56.8 +1.2**
GOMU S **S** **17 13 17.4 -4.2**
GOMU SS **SS** **17 17 11.6 +6.9**
GOMU pmax pmax
comp=Z,140nm,3.7s
GOMU LR LR
comp=Z,170nm,14.9s
GOMU LR LR
comp=Z,190nm,14.0s
GOMU LR LR
comp=Z,420nm,16.3s
YSS Yuzh-Sakhalins 54.09 10 P **P** **17 05 57.2 +1.0**
YSS IAmb IAmb 17 05 58.2
comp=Z,86nm,0.6s
YSS Yuzh-Sakhalins 54.09 10 P **P** **17 05 57.6 +1.4**
YSS Yuzh-Sakhalins 54.09 10 *eP* **P** **17 05 56.7 +0.5**
YSS *eS* **S** **17 13 18.9 -4.0**
YSS pmax pmax
comp=Z,110nm,0.5s
YSS Yuzh-Sakhalins 54.09 10 P **P** **17 05 57.0 +0.8**
VJD Vijayawada 54.27 295 *eP* **P** **17 05 58.9 +0.9**
JIRN Jiri 54.51 310 *eP* **P** **17 06 00.4 +0.3**
GUN Gumba 54.87 311 *eP* **P** **17 06 03.2 +0.5**
comp=Z,742nm,0.7s
SALM Salem 55.01 289 *eP* **P** **17 06 04.3 +0.8**
PKI Pulchoki 55.05 310 *eP* **P** **17 06 04.0 0.0**
comp=Z,456nm,1.1s
PKIN Phulchoki 55.07 310 *eP* **P** **17 06 03.9 -0.1**
BLSP Bilaspur 55.15 302 *eP* **P** **17 06 04.5 +0.1**
KKN Kakani 55.26 310 *eP* **P** **17 06 05.6 +0.2**
KLR Kul'dur 55.28 1 P **P** **17 06 05.9 +1.1**
comp=Z,60nm,0.8s,baz=195,slow=4.6,SNR=133
KLR LR LR 17 29 25.6
comp=Z,224nm,20.8s,baz=187,slow=36
comp=Z,60nm,0.8s
KLR Kul'dur 55.28 1*c* *iP* **P** **17 06 05.8 +1.1**
KLR pmax pmax
comp=Z,138nm,1.1s
DMN Daman 55.30 310 *eP* **P** **17 06 06.1 +0.4**
comp=Z,660nm,1.0s
KOD Kodaikanal 55.32 287 *eP* **P** **17 06 05.9 -0.1**
TRD Trivandrum 55.38 285 *eP* **P** **17 06 06.3 +0.2**
GKN Gorkha 55.86 310 *eP* **P** **17 06 09.8 +0.2**
comp=Z,888nm,1.0s
UGL Uglegorsk 56.03 9 *eP* **P** **17 06 09.6 -0.5**
UGL pmax pmax
comp=Z,2μm,2.0s
UGL pmax pmax
comp=E,270nm,1.0s
UGL pmax pmax
comp=N,110nm,0.8s
UGL pmax pmax
comp=Z,440nm,1.1s
HIA Hailar 56.10 352 P **P** **17 06 11.3 +0.6**
HIA PcP **PcP** **17 07 07.8 +0.6**
HIA Hailar 56.10 352 P **P** **17 06 12.3 +1.6**
HIA Hailar 56.10 352 P **P** **17 06 11.8 +1.1**
HIA PcP **PcP** **17 07 08.2 +1.0**
VLK Valmikinagar 56.11 309 *eP* **P** **17 06 12.7 +1.5**
HEH HeiHe 56.36 358 *eP* **P** **17 06 11.6 -0.8**
HEH sP **sP** **17 06 50.3 -5.4**
HEH S **S** **17 13 47.0 -6.0**
HEH pmax pmax
comp=Z,190nm,1.6s
HEH pmax pmax
comp=Z,1μm,5.4s
PCHI Peechi 56.46 287⇑ *eP* **P** **17 06 13.6 -0.3**
HYB Hyderabad 56.47 296 *eP* **P** **17 06 13.2 -0.7**
HYB IAmb IAmb 17 06 14.3
comp=Z,234nm,1.1s
HYBB Hyderabad (bro 56.47 296⇑ *eP* **P** **17 06 13.3 -0.6**
HYBB IVmB_BB 17 06 13.9
comp=Z,1μm,1.5s
DANN Dangsing 56.70 310 *eP* **P** **17 06 15.9 +0.2**
GRNR Gornyy 57.04 4⇑ *iP* **P** **17 06 18.7 +1.5**
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,40nm,1.2s
AFI Afiamalu 57.20 102 P **P** **17 06 20.8 +1.6**
comp=Z,48nm,0.8s,baz=282,slow=4.5,SNR=11
comp=Z,48nm,0.8s
AFI Afiamalu 57.20 102 P **P** **17 06 21.3 +2.1**
AFI IAmb IAmb 17 06 22.2
comp=Z,166nm,1.3s
AFI Afiamalu 57.20 102 P **P** **17 06 21.6 +2.5**
AFI Afiamalu 57.20 102 P **P** **17 06 21.3 +2.1**
AFI pmax pmax
comp=Z,166nm,1.3s
AFI Afiamalu 57.20 102 P **P** **17 06 21.1 +1.9**
NGP Nagpur 57.38 300 *eP* **P** **17 06 20.2 -0.1**
DGAR Diego Garcia 57.63 265 P **P** **17 06 23.9 +1.8**
DGAR Diego Garcia 57.63 265 P **P** **17 06 21.4 -0.7**
DGAR Diego Garcia 57.63 265*c* *eP* **P** **17 06 24.6 +2.5**
DGAR pmax pmax
comp=Z,371nm,1.3s
DGAR Diego Garcia 57.63 265 P **P** **17 06 23.9 +1.8**
DGAR sP **sP** **17 07 04.6 -0.5**
ULN Ulaanbaatar 57.74 342 P **P** **17 06 24.1 +1.8**
ULN PcP **PcP** **17 07 15.2 +1.4**
ULN Ulaanbaatar 57.74 342 P **P** **17 06 24.4 +2.0**
ULN Ulaanbaatar 57.74 342*c* *iP* **P** **17 06 24.3 +1.9**
ULN pmax pmax
comp=Z,370nm,0.8s
ULN Ulaanbaatar 57.74 342 P **P** **17 06 24.2 +1.8**
ULN PcP **PcP** **17 07 15.2 +1.4**
ULN ScP **ScP** **17 11 02.5 +0.3**
KAAM Kaadhehdhoo 57.81 275 P **P** **17 06 23.5 +0.2**
KAAM Kaadhehdhoo 57.81 275 P **P** **17 06 24.1 +0.7**
TYV Tymovskoe 57.86 9 *eP* **P** **17 06 24.7 +1.7**
TYV pmax pmax
comp=Z,102nm,0.8s
TYV pmax pmax
comp=Z,800nm,4.9s
SONM Songino Array 57.92 341 P **P** **17 06 25.3 +1.7**
comp=Z,114nm,0.7s,baz=159,slow=6.9,SNR=297
SONM PcP **PcP** **17 07 15.4 +0.9**
comp=Z,27nm,0.7s,baz=160,slow=4.7,SNR=4.8
SONM S **S** **17 14 14.7 +0.9**
comp=Z,1.3nm,0.9s,baz=153,slow=4.7,SNR=2.1
comp=Z,114nm,0.7s
SONM Songino Array 57.92 341 P **P** **17 06 25.4 +1.7**
SONM PcP **PcP** **17 07 15.6 +1.0**
BRCI Bahraich 58.01 308 *eP* **P** **17 06 25.7 +1.2**
AKL Akola 58.98 299 *eP* **P** **17 06 30.5 -0.9**
MNCI Minicoy 59.09 283 P **P** **17 06 33.0 +0.8**
MNCY Minicoy 59.12 283 *eP* **P** **17 06 32.2 -0.2**
MNCY IAmb IAmb 17 06 33.6
comp=Z,144nm,0.9s
JHNI Jhansi 59.53 304 *eP* **P** **17 06 34.1 -1.0**
BHPL Bhopal 59.57 301 *eP* **P** **17 06 34.4 -1.0**
BHPL IAmb IAmb 17 06 35.0
comp=Z,116nm,0.5s
ZEA Zeya 59.85 358 *eP* **P** **17 06 37.8 +1.1**
ZEA *e* 17 07 15.9
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,70nm,0.9s
ZEA pmax pmax
comp=Z,160nm,1.0s
ZEA pmax pmax
comp=Z,200nm,1.3s
CIT Chita 59.85 348 *eP* **P** **17 06 38.6 +1.8**
CIT *e* 17 07 14.0
CIT *e* 17 07 21.8
CIT pmax pmax
comp=Z,282nm,2.1s
LGTI Lohaghat 59.93 309 *eP* **P** **17 06 37.8 +0.1**
PTH Pithoragarh 60.00 309 *eP* **P** **17 06 38.2 -0.2**
GOA Goa 60.17 292 *eP* **P** **17 06 40.2 +0.6**
GOA IAmb IAmb 17 06 40.7
comp=Z,217nm,1.0s
KAD Karad 60.38 294 *eP* **P** **17 06 40.8 -0.2**
DRV Dumont d'Urvil 60.65 176 P **P** **17 06 42.8 +0.9**
DRV sP **pwP** **17 07 20.1 +3.5**
MIDW Midway 60.81 53 P **P** **17 06 42.8 -0.9**
POO Poona 61.06 295⇑ *iP* P 17 06 38.0 -7.6
comp=Z,200nm,2.0s
ZAK Zakamensk 61.15 340 *eP* **P** **17 06 46.7 +1.0**
ZAK *e* 17 07 27.2
ZAK pmax pmax
comp=Z,124nm,1.2s
ZAK pmax pmax
comp=Z,66nm,1.0s
CASY Casey 61.50 189 P **P** **17 06 47.9 +0.2**
CASY Casey 61.50 189 P **P** **17 06 49.0 +1.3**
CASY pP **pP** **17 07 16.8 -0.1**
SONA Sohna 61.88 307 *eP* **P** **17 06 50.8 -0.2**
KUDL Kundal 62.31 306 *eP* **P** **17 06 53.2 -0.6**
IRK Irkutsk 62.44 342 *eP* **P** **17 06 55.2 +1.0**
IRK pmax pmax
comp=Z,417nm,1.6s
MOY Mondy 63.01 340 *eP* **P** **17 07 00.0 +1.9**
MOY pmax pmax
comp=Z,503nm,2.1s
SMLA Simla 63.06 309 *eP* **P** **17 06 59.5 +0.7**
SMLA IAmb IAmb 17 07 02.2
comp=Z,372nm,0.6s
WMQ Urumqi 63.07 327⇑ P **P** **17 07 00.3 +1.6**
WMQ pP pP 17 07 28.3 +0.2
WMQ S **S** **17 15 19.3 -0.3**
WMQ sS sS 17 16 11.8 +1.8
WMQ ScS **SKSac** **17 16 37.8 -1.8**
WMQ pmax pmax
comp=Z,320nm,1.3s
WMQ pmax pmax
comp=Z,2μm,3.9s
WMQ LR LR
comp=Z,300nm,21.3s
WMQ Urumqi 63.07 327 P **P** **17 07 00.2 +1.6**
AJM Ajmer 63.15 304 *eP* **P** **17 06 58.9 -0.5**
PEA0B Petropavlovsk- 63.48 18 P **P** **17 07 02.4 +1.4**
PEA0B IAmb IAmb 17 07 03.8
comp=Z,138nm,0.8s
PEA0B PcP **sP** **17 07 41.6 -1.3**
PEA0B Petropavlovsk- 63.48 18*c* *iP* **P** **17 07 02.1 +1.1**
PETK Petropavlovsk- 63.48 18 P **P** **17 07 02.0 +1.0**
comp=Z,78nm,0.6s,baz=197,slow=8.1,SNR=59
PETK LR LR 17 33 06.0
comp=Z,128nm,20.3s,baz=215,slow=34
comp=Z,78nm,0.6s
PETK Petropavlovsk- 63.48 18 P **P** **17 07 02.0 +1.0**
PETK PcP **sP** **17 07 41.0 -1.9**
PET Petropavlovsk 63.70 19 P **P** **17 07 03.7 +1.2**
PET IAmb IAmb 17 07 05.2
comp=Z,160nm,1.0s
PET Petropavlovsk 63.70 19 *eP* **P** **17 07 03.4 +1.0**
PET *e**SP **sP** **17 07 42.4 -2.0**
PET *eS* **S** **17 15 29.2 +2.5**
PET pmax pmax
comp=Z,235nm,1.0s
PET pmax pmax
comp=Z,200nm,14.2s
BHK Bhakra 63.77 309 *eP* **P** **17 07 04.4 +1.0**
BOD Bodaibo 65.27 350 *eP* **P** **17 07 13.4 +0.8**
BOD pmax pmax
comp=Z,226nm,1.2s
PAF Port-aux-Franc 66.17 218 P **P** **17 07 19.6 +1.0**
PAF Port-aux-Franc 66.17 218 P **P** **17 07 19.6 +1.0**
PAF pmax pmax
comp=Z,929nm,1.9s
ZSN Zaisan 66.93 328 *i* P **P** **17 07 24.6 +1.1**
comp=Z,87nm,0.9s,baz=328
ZSN Zaisan 66.93 328 *i* P **P** **17 07 24.5 +1.1**
ZSN pmax pmax
comp=Z,87nm,0.9s
DGZ Jazzator, Alta 67.12 331*c* *iP* **P** **17 07 26.3 +1.5**
DGZ pmax pmax
comp=Z,485nm,1.1s
NIL Nilore 67.14 310 P **P** **17 07 25.4 +0.3**
NIL IAmb IAmb 17 07 26.5
comp=Z,95nm,0.8s
NIL Nilore 67.14 310 P **P** **17 07 25.4 +0.3**
NIL pmax pmax
comp=Z,95nm,0.8s
NIL Nilore 67.14 310 P **P** **17 07 25.8 +0.7**
SHLS Shalkode 67.46 322⇑ *iP* **P** **17 07 26.9 -0.2**
comp=Z,94nm,0.8s,baz=322
SHLS Shalkode 67.46 322*c* *iP* **P** **17 07 26.9 -0.2**
SHLS pmax pmax
comp=Z,94nm,0.8s
PDGK Podgornoye 67.54 322 P **P** **17 07 28.6 +1.0**
MA2 Magadan 67.59 11 P **P** **17 07 28.3 +0.9**
comp=Z,76nm,0.8s,baz=180,slow=6.5,SNR=24
MA2 LR LR 17 35 51.2
comp=Z,242nm,20.5s,baz=206,slow=35
comp=Z,76nm,0.8s
MA2 Magadan 67.59 11 P **P** **17 07 27.8 +0.5**
MA2 IAmb IAmb 17 07 30.1
comp=Z,108nm,0.9s
MA2 Magadan 67.59 11 P **P** **17 07 29.0 +1.7**
MA2 Magadan 67.59 11*c* *iP* **P** **17 07 28.7 +1.4**
MA2 pmax pmax
comp=Z,158nm,1.7s
MA2 Magadan 67.59 11 P **P** **17 07 28.9 +1.5**
MA2 sP **sP** **17 08 08.8 -1.3**
UZB Uzynbulak 67.73 322⇑ *iP* **P** **17 07 30.1 +1.3**
baz=322
UZB Uzynbulak 67.73 322*c* *iP* **P** **17 07 30.1 +1.3**
KSH Kashi 67.84 317 P **P** **17 07 30.8 +1.3**
KSH pP PcP 17 07 57.1 +1.9
KSH pmax pmax
comp=Z,120nm,1.0s
MK31 Makanchi Array 67.91 326 P **P** **17 07 30.2 +0.6**
MK31 PcP **PcP** **17 07 55.8 +0.6**
MK31 Makanchi Array 67.91 326*c* *iP* **P** **17 07 31.0 +1.3**
MKAR Makanchi Array 67.91 326 P **P** **17 07 31.0 +1.4**
comp=Z,557nm,0.7s,baz=123,slow=7.9,SNR=3193
MKAR PcP **PcP** **17 07 56.2 +1.0**
comp=Z,68nm,0.7s,baz=128,slow=4.9,SNR=4.7
MKAR S **S** **17 16 18.5 +0.2**
comp=Z,3.5nm,1.1s,baz=133,slow=10,SNR=3.8
comp=Z,557nm,0.7s
SATY Saty 68.06 321⇑ *iP* **P** **17 07 32.3 +1.4**
comp=Z,172nm,0.9s,baz=321
SATY Saty 68.06 321*c* *iP* **P** **17 07 32.2 +1.4**
SATY pmax pmax
comp=Z,172nm,0.9s
MAKZ Makanchi 68.09 326 P **P** **17 07 31.7 +0.9**
MAKZ PcP **PcP** **17 07 57.2 +1.2**
MAKZ Makanchi 68.09 326 P **P** **17 07 32.1 +1.3**
MAKZ Makanchi 68.09 326 P **P** **17 07 32.0 +1.3**
MAKZ sP **sP** **17 08 12.7 -1.2**
ZHN Zhinishke 68.10 322⇑ *iP* **P** **17 07 32.2 +1.1**
baz=322
ZHN Zhinishke 68.10 322*c* *iP* **P** **17 07 32.1 +1.1**
YAK Yakutsk 68.10 360 P **P** **17 07 31.5 +1.0**
comp=Z,304nm,0.6s,baz=166,slow=0.4,SNR=360
YAK LR LR 17 36 26.0
comp=Z,199nm,21.9s,baz=265,slow=35
comp=Z,304nm,0.6s
YAK Yakutsk 68.10 360 P **P** **17 07 31.5 +1.0**
YAK Yakutsk 68.10 360*c* *iP* **P** **17 07 31.6 +1.1**
YAK *e* 17 07 52.8
YAK *e**PP **pwP** **17 08 08.3 +3.3**
YAK *e* 17 10 12.2
YAK *eS* **S** **17 16 19.9 0.0**
YAK *e**SS **sS** **17 17 10.1 -0.3**
YAK *e* 17 17 15.2
YAK pmax pmax
comp=Z,572nm,0.9s
YAK pmax pmax
comp=E,24nm,0.8s
YAK pmax pmax
comp=N,118nm,0.9s
YAK pmax pmax
comp=Z,519nm,3.7s
YAK pmax pmax
comp=N,459nm,3.8s
YAK pmax pmax
comp=E,116nm,2.3s
YAK smax smax
comp=N,149nm,1.5s
YAK smax smax
comp=E,47nm,1.1s
YAK Yakutsk 68.10 360 P **P** **17 07 31.6 +1.1**
KPKS Kokpek 68.11 322⇑ *iP* **P** **17 07 32.3 +1.2**
comp=E,224nm,1.0s,baz=322
KPKS Kokpek 68.11 322*c* *iP* **P** **17 07 32.3 +1.2**
KPKS pmax pmax
comp=Z,224nm,1.0s
RAR Rarotonga 68.85 110 P **P** **17 07 37.0 +1.0**
RAR IAmb IAmb 17 08 53.2
comp=Z,116nm,1.3s
RAR Rarotonga 68.85 110 P **P** **17 07 37.0 +1.0**
RAR pmax pmax
comp=Z,116nm,1.3s
CCD Concordia, Ant 68.91 182 P **P** **17 07 36.9 +1.1**
MDOK Medeo 68.96 321 *iP* **P** **17 07 37.7 +1.2**
baz=321
MDOK Medeo 68.96 321 *i* P **P** **17 07 37.7 +1.2**
ULHL Ulahol 69.01 320 P **P** **17 07 38.5 +1.7**
SNR=11
ARXS Arharly 69.03 322 *eP* **P** **17 07 37.6 +0.8**
KNDC Almaty 69.04 321 P **P** **17 07 38.2 +1.3**
AAA Alma-Ata 69.07 321 *eP* **P** **17 07 38.5 +1.5**
comp=Z,238nm,0.7s,baz=321
AAA Alma-Ata 69.07 321 *eP* **P** **17 07 38.6 +1.5**
TDK Taldyqorghan 69.11 323⇑ *iP* **P** **17 07 38.4 +1.2**
comp=Z,544nm,1.4s,baz=323
TDK Taldyqorghan 69.11 323*c* *iP* **P** **17 07 38.4 +1.2**
TDK pmax pmax
comp=Z,544nm,1.4s
CHKK Chushkaly 69.36 322⇑ *iP* **P** **17 07 39.6 +0.9**
baz=322
CHKK Chushkaly 69.36 322⇑ *iP* **P** **17 07 39.6 +0.9**
SHEM Shemya Is, Ala 69.40 27 LR LR 17 34 33.5
comp=Z,286nm,20.5s,baz=246,slow=33
TKM2 Tokmak 2 69.76 320 P **P** **17 07 42.9 +1.5**
SNR=165
TKM2 Tokmak 2 69.76 320 *i* P **P** **17 07 42.0 +0.6**
TKM2 pmax pmax
comp=Z,234nm,0.8s
KUU Kurty 69.78 321⇑ *iP* **P** **17 07 42.5 +1.2**
baz=321
KUU Kurty 69.78 321*c* *iP* **P** **17 07 42.5 +1.2**
KBK Karagaybulak 70.04 320 P **P** **17 07 44.8 +1.6**
SNR=69
UCH Uchtor 70.11 319 P **P** **17 07 45.9 +1.9**
SNR=214
AAK Ala-Archa 70.33 319 P **P** **17 07 46.6 +1.7**
SNR=99
AAK Ala-Archa 70.33 319 P **P** **17 07 45.9 +1.1**
AAK Ala-Archa 70.33 319 P **P** **17 07 46.8 +1.9**
AAK Ala-Archa 70.33 319 *iP* **P** **17 07 46.5 +1.7**
SNR=108
AAK Ala-Archa 70.33 319*c* *iP* **P** **17 07 46.0 +1.1**
AAK pmax pmax
comp=Z,326nm,1.0s
AAK Ala-Archa 70.33 319 P **P** **17 07 46.7 +1.7**
CHMS Chumysh 70.33 320 P **P** **17 07 46.0 +1.2**
SNR=54
CHMS Chumysh 70.33 320 *iP* **P** **17 07 45.1 +0.4**
CHMS pmax pmax
comp=Z,145nm,0.8s
AML Almayashu 70.61 319 P **P** **17 07 49.1 +2.3**
SNR=19
USP Ospenovka 70.63 320 P **P** **17 07 47.6 +1.1**
SNR=294
SGDS Sogindy 70.63 320⇑ *iP* **P** **17 07 47.6 +1.0**
comp=Z,83nm,1.0s,baz=320
SGDS Sogindy 70.63 320*c* *iP* **P** **17 07 47.6 +1.0**
SGDS pmax pmax
comp=Z,83nm,1.0s
KBL Kabul 70.69 310 P **P** **17 07 47.8 +0.4**
KBL IAmb IAmb 17 07 49.5
comp=Z,212nm,1.1s
KBL Kabul 70.69 310 P **P** **17 07 48.3 +1.0**
SNR=75
KBL Kabul 70.69 310 P **P** **17 07 47.8 +0.4**
KBL pmax pmax
comp=Z,212nm,1.1s
EKS2 Erkin-Say 70.80 319 P **P** **17 07 49.6 +1.9**
SNR=143
SEY Seymchan 71.00 10 P **P** **17 07 49.8 +1.6**
comp=Z,185nm,0.8s,baz=200,slow=4.8,SNR=268
comp=Z,185nm,0.8s
SEY Seymchan 71.00 10*c* *iP* **P** **17 07 50.1 +1.8**
SEY pmax pmax
comp=Z,60nm,0.3s
ZAA0 Zalesovo Array 71.16 333 P **P** **17 07 49.4 -0.1**
ZALV Zalesovo Beam 71.16 333 P **P** **17 07 50.0 +0.5**
comp=Z,278nm,0.8s,baz=114,slow=4.7,SNR=918
ZALV S **S** **17 16 54.1 -1.9**
comp=Z,6.3nm,1.0s,baz=160,slow=9.1,SNR=9.5
ZALV LR LR 17 42 38.8
comp=Z,83nm,19.0s,baz=136,slow=39
comp=Z,278nm,0.8s
ZALV Zalesovo Beam 71.16 333 P **P** **17 07 49.2 -0.2**
ZALV Zalesovo Beam 71.16 333 *iP* **P** **17 07 49.7 +0.3**
ZALV pmax pmax
comp=Z,278nm,0.8s
GAR Garm 71.53 315 P **P** **17 07 52.5 +0.4**
BTLS Baital 71.78 322⇑ *iP* **P** **17 07 54.4 +1.1**
comp=Z,145nm,1.3s,baz=322
BTLS Baital 71.78 322*c* *iP* **P** **17 07 54.4 +1.1**
BTLS pmax pmax
comp=Z,145nm,1.3s
KURK Kurchatov 72.17 328 P **P** **17 07 56.2 +0.6**
KURK Kurchatov 72.17 328 P **P** **17 07 56.3 +0.8**
KURK Kurchatov 72.17 328*c* *iP* **P** **17 07 56.0 +0.5**
KURK pmax pmax
comp=Z,643nm,1.3s
CHGR Chuyangaron 72.21 314 P **P** **17 07 57.2 +1.0**
DZA Taraz 72.51 319 *eP* **P** **17 07 57.5 -0.3**
baz=319
DZA Taraz 72.51 319 *eP* **P** **17 07 57.5 -0.3**
VNDA Vanda 73.11 173 P **P** **17 08 01.6 +0.9**
comp=Z,7.0nm,0.9s,baz=322,slow=7.4,SNR=52
VNDA S **S** **17 17 17.8 +0.1**
comp=Z,3.0nm,1.0s,baz=22,slow=23,SNR=7.8
VNDA LR LR 17 39 23.7
comp=Z,214nm,18.9s,baz=341,slow=35
VNDA Vanda 73.11 173 P **P** **17 08 00.9 +0.3**
KK31 Karatay Array 73.14 318 IAmb IAmb 17 08 03.9
comp=Z,257nm,1.1s
KK31 Karatay Array 73.14 318 *iP* **P** **17 08 02.2 +0.7**
KKAR Karatay Array 73.14 318 P **P** **17 08 01.8 +0.3**
KKAR Karatay Array 73.14 318 IAmb IAmb 17 08 03.9
comp=Z,257nm,1.1s
KKAR Karatay Array 73.14 318 P **P** **17 08 01.8 +0.3**
SBA Scott Base 73.98 173 P **P** **17 08 07.1 +1.3**
SBA Scott Base 73.98 173 P **P** **17 08 07.1 +1.3**
SBA pmax pmax
comp=Z,21nm,1.2s
NGCH Negor - Chabah 74.31 298 P **P** **17 08 10.5 +1.9**
SNR=35
OTUK Ortayu 74.36 324 P **P** **17 08 09.5 +1.0**
MSEY Mahe Island 74.66 267 P **P** **17 08 10.7 -0.3**
MSEY Mahe Island 74.66 267 P **P** **17 08 11.4 +0.3**
MSEY Mahe Island 74.66 267 *iP* **P** **17 08 11.8 +0.7**
SNR=8.6
MSEY Mahe Island 74.66 267 P **P** **17 08 10.7 -0.3**
MSEY pmax pmax
comp=Z,66nm,1.0s
BRZS Berezniki 75.01 326⇑ *iP* **P** **17 08 12.9 +0.6**
comp=Z,79nm,0.7s,baz=326
BRZS Berezniki 75.01 326*c* *iP* **P** **17 08 12.8 +0.6**
BRZS pmax pmax
comp=Z,79nm,0.7s
WBK Wadi Bani Khal 75.57 295 P **P** **17 08 16.8 +0.8**
SNR=32
MAW Mawson 75.81 201 P **P** **17 08 18.0 +1.6**
comp=Z,30nm,0.7s,baz=64,slow=5.9,SNR=34
MAW LR LR 17 39 39.2
comp=Z,392nm,20.1s,baz=60,slow=34
comp=Z,30nm,0.7s
MAW Mawson 75.81 201 P **P** **17 08 18.4 +2.0**
baz=76,SNR=35
MAW Mawson 75.81 201 P **P** **17 08 17.8 +1.4**
HRA Herat 75.92 308 IAmb IAmb 17 08 20.2
comp=Z,83nm,0.9s
MHTO MHTO 76.12 293 P **P** **17 08 19.4 +0.3**
SNR=17
DQM DQM 76.29 292 P **P** **17 08 20.8 +0.6**
SNR=8.4
JMDO Jabal Madar 76.30 295 P **P** **17 08 21.1 +0.9**

SNR=26
SMDO Samad 76.50 295 P **P** 17 08 22.1 +0.8
SNR=23
BIDO Bidbid 76.53 296 P **P** 17 08 22.6 +1.2
SNR=52
BSY Bisya 77.19 295 P **P** 17 08 25.9 +0.7
SNR=18
HOQ Hoqain 77.28 296 P **P** 17 08 26.6 +1.0
SNR=41
JASK Jask - Hormozg 77.30 298 P **P** 17 08 28.0 +2.3
SNR=18
BVA0 Borovoye Array 77.73 328 P **P** 17 08 28.2 +0.7
BVAR Borovoye Array 77.73 328 LR LR 17 44 00.6
comp=Z,145nm,20.3s,baz=125,slow=36
TIXI Tiksi 77.77 359 P **P** 17 08 27.4 +0.1
comp=Z,95nm,0.6s,baz=249,slow=0.0,SNR=313
TIXI LR LR 17 41 56.1
comp=Z,265nm,21.1s,baz=64,slow=35
comp=Z,95nm,0.6s
TIXI Tiksi 77.77 359 P **P** 17 08 26.8 -0.5
TIXI IAmb IAmb 17 08 29.0
comp=Z,114nm,0.7s
TIXI Tiksi 77.77 359*c iP* **P** 17 08 26.9 -0.4
TIXI pmax pmax
comp=Z,116nm,0.7s
BRVK Borovoye 77.80 328 P **P** 17 08 28.4 +0.6
BRVK Borovoye 77.80 328 P **P** 17 08 28.7 +0.9
BRVK Borovoye 77.80 328*c iP* **P** 17 08 28.1 +0.2
BRVK pmax pmax
comp=Z,444nm,1.3s
ARQ Araqi 77.93 295 P **P** 17 08 29.8 +0.5
SNR=17
DMTO DMTO 78.27 289 P **P** 17 08 31.7 +0.5
BILL Bilibino 78.29 13 P **P** 17 08 31.1 +0.8
BILL Bilibino 78.29 13*de* P **P** 17 08 30.4 +0.1
BILL *e* 17 11 29.0
BILL pmax pmax
comp=Z,42nm,2.5s
TBI Tubuai 78.40 112 *e*P **P** 17 08 34.6 +2.8
comp=Z,996nm,26.8s
TBI *e*S **S** 17 18 19.0 +1.4
comp=Z,2µm,38.2s
TBI Tubuai 78.40 112 *e*LR LR 17 33 04.7
comp=Z,3µm,38.0s
PPT2 Papeete2 78.53 107 *e*P **P** 17 08 34.6 +1.9
comp=Z,308nm,24.8s
PPT2 *e*S **S** 17 18 21.0 +1.6
comp=Z,337nm,27.5s
PPT2 Papeete2 78.53 107 *e*LR LR 17 33 08.3
comp=Z,1µm,41.8s
MDH Madha 78.55 297 P **P** 17 08 32.4 -0.2
MDH Madha 78.55 297 *i* P **P** 17 08 32.4 -0.2
SNR=9.6
UOSS Minazif 78.56 297 P **P** 17 08 31.7 -1.0
UOSS IAmb IAmb 17 08 34.2
comp=Z,79nm,0.8s
UOSS Minazif 78.56 297 P **P** 17 08 32.7 +0.1
UOSS Minazif 78.56 297 *i* P **P** 17 08 32.7 +0.1
SNR=10
HATD Hatta, Dubai 78.59 297 P **P** 17 08 33.8 +0.9
SNR=16
HATD Hatta, Dubai 78.59 297 *i* P **P** 17 08 33.5 +0.6
SNR=24
ASHO Ashiyiah 78.63 297 P **P** 17 08 33.9 +0.7
SNR=36
ASHO P **PcP** 17 08 35.0 -6.7
SNR=18
ASHO Ashiyiah 78.63 297 *i* P **P** 17 08 33.8 +0.7
SNR=33
BANOM Banah 78.68 298 P **P** 17 08 34.7 +1.4
SNR=27
BANOM Banah 78.68 298 *i* P **P** 17 08 34.4 +1.1
SNR=72
MSFE Esma-Masafi 78.68 297 *i* P **P** 17 08 34.4 +1.0
SNR=66
MASF Masafi 78.69 297 P **P** 17 08 34.4 +1.0
SNR=30
ALNE Al Ain 78.77 296 P **P** 17 08 34.7 +0.9
SNR=28
ALNE Al Ain 78.77 296 *i* P **P** 17 08 34.5 +0.6
SNR=17
SHME Shamm 78.85 298 P **P** 17 08 35.4 +1.1
SNR=26
SHME Shamm 78.85 298 *i* P **P** 17 08 35.3 +1.1
SNR=18
RBK Rabkut 78.93 289 P **P** 17 08 35.3 +0.4
SNR=8.3
UMZA Um Al Zommool 79.03 294 P **P** 17 08 35.4 +0.2
NAZ Nazwa, Dubai 79.05 297 P **P** 17 08 36.0 +0.7
SNR=22
NAZ Nazwa, Dubai 79.05 297 *i* P **P** 17 08 36.0 +0.7
SNR=16
FAQ Al Faqa, Dubai 79.06 297 P **P** 17 08 35.9 +0.5
SNR=48
FAQ Al Faqa, Dubai 79.06 297 *i* P **P** 17 08 35.9 +0.5
SNR=61
UMQ Umm Al-Quwin 79.16 297 P **P** 17 08 37.6 +1.7
DOK Doka 79.20 290 P **P** 17 08 36.3 +0.1
SNR=40
DOK P **PcP** 17 08 37.0 -7.2
SNR=10
ASUD Al Ashush, Dub 79.27 296 P **P** 17 08 37.7 +1.2
SNR=21
ASUD Al Ashush, Dub 79.27 296 *i* P **P** 17 08 37.4 +0.9
SNR=42
UNV Unalaska Valle 79.61 32 P **P** 17 08 38.3 +0.6
UNV Unalaska Valle 79.61 32 P **P** 17 08 38.8 +1.1
baz=244
ABTO Aybut 79.76 289 P **P** 17 08 40.0 +0.6
SNR=13
GEYT Alibeck 80.14 310 P **P** 17 08 42.1 +1.1
comp=Z,125nm,0.8s,baz=151,slow=3.4,SNR=222
GEYT LR LR 17 52 58.2
comp=Z,66nm,18.2s,baz=116,slow=42
comp=Z,125nm,0.8s
GEYT Alibeck 80.14 310 P **P** 17 08 41.6 +0.6
GEYT IAmb IAmb 17 08 43.5
comp=Z,164nm,0.9s
GYA0B ALIBECK ARRAY 80.14 310 P **P** 17 08 41.8 +0.7
GYA0B IAmb IAmb 17 08 43.5
comp=Z,144nm,0.8s
MZWR Madinat Zayed 80.39 295 P **P** 17 08 43.0 +0.5
MZR Muzera 80.61 294 P **P** 17 08 44.4 +0.6
SNR=39
MZR Muzera 80.61 294 *i* P **P** 17 08 44.3 +0.5
SNR=21
NRIK Noril'sk 80.98 346 P **P** 17 08 46.0 +1.2
comp=Z,214nm,0.8s,baz=133,slow=5.8,SNR=151
comp=Z,214nm,0.8s
NRIK Noril'sk 80.98 346*c iP* **P** 17 08 45.7 +0.9
NRIK pmax pmax
comp=Z,315nm,0.9s
GHWR Ruwais 81.33 295 P **P** 17 08 48.0 +0.5
JRN Qarnain Island 81.54 296 P **P** 17 08 49.0 +0.4
SNR=23
FALS False Pass 81.68 32 IAmb IAmb 17 08 50.7
comp=Z,63nm,0.8s
FALS False Pass 81.68 32 P **P** 17 08 49.5 +0.8
baz=247
OPO Ambohidratompo 81.73 252 P **P** 17 08 50.1 +0.1
comp=Z,26nm,0.8s,baz=93,slow=5.0,SNR=27
comp=Z,26nm,0.8s
VOI Vohitsoka 81.89 249 P **P** 17 08 51.2 +0.4
SNR=5.1
VOI Vohitsoka 81.89 249 P **P** 17 08 51.7 +0.9
GAMB Gambell 82.05 22 P **P** 17 08 52.0 +1.5
baz=238
AB31 Akbulak array 82.26 321 *i* P **P** 17 08 52.3 +0.4
ABKAR Akbulak array 82.26 321 P **P** 17 08 52.0 0.0
ABKAR Akbulak array 82.26 321 IAmb IAmb 17 08 53.5
comp=Z,117nm,1.0s
SLWR Sila 82.41 295 P **P** 17 08 54.2 +0.9
SMRA Abu-Samra 83.31 296 P **P** 17 08 58.5 +0.6
SHMA Al-Shehemyia 83.38 297 P **P** 17 08 58.4 +0.2
SDPT Sand Point 83.43 32 P **P** 17 08 58.3 +0.5
SDPT Sand Point 83.43 32 P **P** 17 08 58.4 +0.6
baz=249,SNR=9.4
QSPA South Pole Qui 83.70 180 P **P** 17 08 59.5 +0.3
comp=Z,29nm,0.9s,baz=250,slow=0.6,SNR=64
QSPA S **S** 17 19 04.8 -6.4
comp=Z,3.3nm,1.0s,baz=56,slow=4.4,SNR=4.5
comp=Z,29nm,0.9s
CNBA Chernabura Isl 83.72 33 IAmb IAmb 17 09 01.3
comp=Z,50nm,0.8s
CHNA Chernabura Isl 83.73 33 P **P** 17 09 00.7 +1.4
baz=250,SNR=7.6
SAKB Bahrain 83.78 297 P **P** 17 09 00.8 +0.6
AKTO Aktyubinsk 83.82 322 P **P** 17 09 00.5 +0.6
SVE Sverdlovsk 84.42 329*d iP* **P** 17 09 03.4 +0.6
SVE pmax pmax
comp=Z,471nm,1.2s
CHGN Chignik 84.85 32 P **P** 17 09 05.8 +0.8
baz=251
ARU Arti 85.36 328 P **P** 17 09 07.6 +0.1
comp=Z,155nm,0.7s,baz=113,slow=2.1,SNR=193
comp=Z,155nm,0.7s
ARU Arti 85.36 328 P **P** 17 09 06.8 -0.7
ARU Arti 85.36 328*c iP* **P** 17 09 07.2 -0.3
ARU *PP **pP** 17 09 40.6 +1.9
ARU S **SKSac** 17 19 19.3 -1.4
ARU SS **SS** 17 25 01.8 -3.8
ARU pmax pmax
comp=Z,282nm,1.0s
R16K Pilot Point 85.70 31 P **P** 17 09 10.0 +0.8
baz=251
P16K Nushagak River 85.97 29 P **P** 17 09 11.6 +1.2
baz=251
N16K Nishlik Lake 86.08 28 P **P** 17 09 13.2 +2.2
baz=250
O16K Kokwok River B 86.10 29 P **P** 17 09 12.5 +1.4
baz=251
CHIR Chirikof Islan 86.19 33 P **P** 17 09 13.0 +1.4
baz=253
O17K Koliganek Bris 86.64 29 P **P** 17 09 15.0 +1.3
baz=252
Q17K Contact Creek 86.77 31 P **P** 17 09 14.6 +0.1
baz=253,SNR=15
P17K Kvichak River 86.78 30 P **P** 17 09 14.9 +0.5
baz=252
SII Sitkinak Islan 87.17 32 P **P** 17 09 17.4 +1.0
baz=254,SNR=8.2
SII Sitkinak Islan 87.17 32 P **P** 17 09 18.3 +1.9
RDOG Red Dog Mine 87.25 20 P **P** 17 09 17.6 +1.1
baz=246
Q18K Katmai Hardscr 87.33 30 P **P** 17 09 17.0 -0.2
baz=254,SNR=10
P18K Big Mountain, 87.43 30 P **P** 17 09 17.7 +0.1
baz=253
N18K Kilae Creek 87.49 28 P **P** 17 09 19.1 +1.2
baz=253
O18K Koktuh Hills 87.57 29 P **P** 17 09 18.9 +0.6
baz=253
OHAK Old Harbor 87.82 32 P **P** 17 09 19.7 +0.3
OHAK IAmb IAmb 17 09 21.6
comp=Z,85nm,0.7s
OHAK Old Harbor 87.82 32 P **P** 17 09 20.8 +1.4
baz=255,SNR=16
RAYN Ar Rayn 87.93 294 P **P** 17 09 21.4 +0.6
Q19K Cape Douglas, 88.08 30 P **P** 17 09 21.5 +0.8
baz=255
O19K Port Alsworth 88.10 29 P **P** 17 09 21.6 +0.9
baz=254
TTA Tatalina 88.11 26 IAmb IAmb 17 09 23.5
comp=Z,52nm,1.0s
TTA Tatalina 88.11 26 P **P** 17 09 22.1 +1.3
baz=252
N19K Bonanza Creek 88.19 28 P **P** 17 09 22.6 +1.3
baz=254
GCSA Galena City Sc 88.31 24 P **P** 17 09 22.5 +0.9
baz=252
TAOE Nuku Hiva Isla 88.39 99 *e*P **P** 17 09 25.6 +2.3
comp=Z,203nm,25.1s
TAOE Nuku Hiva Isla 88.39 99 *e*S **S** 17 19 59.3 +0.5
comp=Z,254nm,30.0s
TAOE Nuku Hiva Isla 88.39 99 *e*LR LR 17 37 41.0
comp=Z,241nm,29.3s
L19K White Mountain 88.41 27 IAmb IAmb 17 09 25.1
comp=Z,77nm,1.0s
L19K White Mountain 88.41 27 P **P** 17 09 23.9 +1.8
baz=254
M19K Big River Lodg 88.54 27 P **P** 17 09 24.5 +1.8
baz=254
AKT Akhty 88.73 312 *e*P **P** 17 09 24.5 +0.2
AKT *e*SP **sP** 17 10 14.5 +5.6
AKT *e* 17 12 53.8
AKT pmax pmax
comp=Z,127nm,0.9s
L20K Farewell, AK 88.92 27 P **P** 17 09 25.9 +1.3
baz=254
ATD Arta Tunnel 88.97 282 P **P** 17 09 25.8 -0.1
comp=Z,62nm,0.9s,baz=53,slow=1.0,SNR=15
ATD LR LR 17 46 36.6
comp=Z,67nm,20.6s,baz=62,slow=34
comp=Z,62nm,0.9s
K20K Telida 89.08 26 P **P** 17 09 26.5 +1.2
baz=254
M20K Styx River 89.11 27 P **P** 17 09 26.7 +1.2
baz=255
MAK Makhachkala 89.14 313 *e*P **P** 17 09 26.3 +0.3
MAK *e* 17 12 56.6
MAK *e*PPP PPP 17 14 54.4
MAK *e* 17 19 44.0
MAK *e*SS SS 17 26 02.6 +1.4
MAK *e*SSS SSS 17 29 37.8
MAK pmax pmax
comp=Z,449nm,1.9s
MAK MLR MLR
comp=Z,535nm,18.0s
J20K Nowinta River 89.27 25 IAmb IAmb 17 09 28.6
comp=Z,82nm,1.6s
J20K Nowinta River 89.27 25 P **P** 17 09 27.4 +1.3
baz=254
N20K Mount Spurr 89.36 28 P **P** 17 09 27.1 +0.4
baz=256
SPCR Spur Chakacha 89.36 28 P **P** 17 09 27.0 +0.3
baz=256
PPLA Purkeypile 89.79 27 P **P** 17 09 28.7 -0.1
baz=256
SKT Skwentna 89.86 28 P **P** 17 09 29.5 +0.5
baz=256
IMAR Indian Mountai 89.93 23 P **P** 17 09 29.2 +0.1
CAST Castle Rocks 89.96 26 P **P** 17 09 30.0 +0.6
baz=256,SNR=7.3
CHUM Lake Minchumin 89.97 26 P **P** 17 09 30.1 +0.7
baz=256,SNR=14
SUA Susitna One 90.11 28 IAmb IAmb 17 09 32.3
comp=Z,35nm,0.8s
SUA Susitna One 90.11 28 P **P** 17 09 30.6 +0.3
baz=257
G21K Allakaket 90.16 23 P **P** 17 09 30.8 +0.5
baz=255
H21K Melozitna Rive 90.22 24 P **P** 17 09 31.4 +0.8
baz=255,SNR=6.4
F21K Alatna River 90.36 22 P **P** 17 09 31.8 +0.6
baz=255
O22K Cooper Landing 90.38 29 IAmb IAmb 17 09 37.7
comp=Z,46nm,0.8s
O22K Cooper Landing 90.38 29 P **P** 17 09 32.4 +1.0
baz=258
GROC Groznyy 90.41 313 P **P** 17 09 29.2 -2.7
GROC *e* 17 13 06.8
GROC pmax pmax
comp=Z,54nm,0.5s
I21K Tanana 90.43 24 P **P** 17 09 31.8 +0.3
I21K Tanana 90.43 24 P **P** 17 09 32.3 +0.8
baz=256,SNR=6.3
SEW Seward 90.44 30 P **P** 17 09 32.1 +0.5
baz=258
M22K Willow 90.46 28 P **P** 17 09 31.9 +0.2
baz=258
A21K Barrow 90.48 18 P **P** 17 09 32.3 +0.7
baz=252
RC01 Rabbit Creek A 90.50 29 P **P** 17 09 32.4 +0.4
baz=258
BPAW Bear Paw Mtn. 90.59 25 P **P** 17 09 32.5 +0.1
baz=257
BELG Belogornoye 90.60 323 P **P** 17 09 31.8 -0.7
comp=Z,133nm,0.9s,baz=298,slow=0.6,SNR=45
comp=Z,133nm,0.9s
BELG Belogornoye 90.60 323*c iP* **P** 17 09 31.5 -1.0
BELG pmax pmax
comp=Z,24nm,0.9s
KIRV Kirov 90.68 329 P **P** 17 09 32.2 -0.6
comp=Z,54nm,0.8s,baz=136,slow=0.6,SNR=27
KIRV LR LR 17 53 30.0
comp=Z,105nm,18.6s,baz=102,slow=38
comp=Z,54nm,0.8s
KIRV Kirov 90.68 329*c iP* **P** 17 09 31.6 -1.2
TRF Thorofare Moun 90.75 26 P **P** 17 09 32.9 -0.4
baz=258
GNI Garni 90.78 310 P **P** 17 09 35.2 +1.3
comp=Z,19nm,0.7s,baz=63,slow=3.9,SNR=8.3
GNI LR LR 17 57 24.2
comp=Z,75nm,21.2s,baz=96,slow=40
comp=Z,19nm,0.7s
GNI Garni 90.78 310 P **P** 17 09 35.3 +1.3
GNI IAmb IAmb 17 09 48.9
comp=Z,40nm,0.8s
GNI Garni 90.78 310 P **P** 17 09 35.1 +1.3
GNI Garni 90.78 310 P **P** 17 09 34.9 +0.9
GNI Garni 90.78 310*c iP* **P** 17 09 34.8 +0.9
GNI pmax pmax
comp=Z,41nm,0.8s
H22K Ishtalitna Cre 90.84 24 P **P** 17 09 34.1 +0.6
baz=257,SNR=8.4
PMR Palmer 90.89 28 P **P** 17 09 34.3 +0.6
baz=259
MLY Manley 90.91 25 P **P** 17 09 34.3 +0.5
baz=257
F22K John River 90.92 22 P **P** 17 09 34.8 +1.0
baz=256
G22K Bettles 91.03 23 P **P** 17 09 34.8 +0.5
baz=256
PWL Port Wells 91.13 29 P **P** 17 09 35.0 +0.1
baz=259
KNK Knik Glacier 91.17 28 P **P** 17 09 35.3 +0.2
baz=259,SNR=7.6
BWN Browne 91.26 26 IAmb IAmb 17 09 36.8
comp=Z,57nm,1.0s
SML Sawmill 91.31 28 IAmb IAmb 17 10 29.5
comp=Z,36nm,1.2s
SML Sawmill 91.31 28 P **P** 17 09 35.7 -0.1
baz=259,SNR=5.2
DMNI Dmanisi 91.35 311 P **P** 17 09 32.8 -3.7
WAT1 Susitna Watana 91.40 27 P **P** 17 09 36.0 -0.2
baz=259
MCK McKinley 91.40 26 P **P** 17 09 35.5 -0.6
MCK IAmb IAmb 17 09 37.1
comp=Z,73nm,1.6s
MCK McKinley 91.40 26 P **P** 17 09 35.8 -0.3
baz=259,SNR=10.0
MCK McKinley 91.40 26 P **P** 17 09 35.5 -0.6
MCK pmax pmax
comp=Z,73nm,1.6s
I23K Minto, Yukon-K 91.50 25 P **P** 17 09 37.1 +0.6
baz=258,SNR=12
NEA2 Nenana 91.52 25 P **P** 17 09 36.9 +0.3
baz=259,SNR=5.2
G23K Bananza Creek 91.56 23 P **P** 17 09 37.6 +0.8
baz=258
H23K Yukon River 91.57 24 P **P** 17 09 37.8 +0.9
baz=258
M23K Glacier View 91.59 28 P **P** 17 09 37.4 +0.4
baz=260
COLD Coldfoot 91.60 22 P **P** 17 09 37.5 +0.6
COLD IAmb IAmb 17 09 39.0
comp=Z,52nm,1.2s
COLD Coldfoot 91.60 22 P **P** 17 09 37.9 +1.0
baz=258,SNR=27
WAT6 Susitna Watana 91.72 27 P **P** 17 09 38.0 +0.2
baz=260,SNR=7.1
ZEI Tsey 91.74 313 *e*P **P** 17 09 38.0 -0.4
ZEI pmax pmax
comp=Z,67nm,1.4s
SCM Sheep Creek Mo 91.78 28 IAmb IAmb 17 09 39.7
comp=Z,49nm,1.4s
SCM Sheep Creek Mo 91.78 28 P **P** 17 09 38.5 +0.6
baz=260
D23K Nanushuk River 91.80 21 P **P** 17 09 38.9 +1.0
baz=257
Q23K Middleton Isla 91.86 31 P **P** 17 09 38.6 +0.3
baz=261
AKH Akhalkalaki 91.88 311 P **P** 17 09 40.4 +1.4
WRH Wood River Hil 91.91 25 P **P** 17 09 37.6 -0.8
WRH IAmb IAmb 17 09 39.1
comp=Z,46nm,1.0s
DHY Denali Highway 91.97 27 P **P** 17 09 39.0 0.0
DHY IAmb IAmb 17 09 40.5
comp=Z,47nm,1.4s
DHY Denali Highway 91.97 27 P **P** 17 09 39.5 +0.5
baz=260,SNR=9.0
E23K Chandalar 91.99 22 P **P** 17 09 39.8 +0.9
baz=258
C23K Itkillik River 92.02 20 P **P** 17 09 39.8 +1.0
baz=257,SNR=14
NCK Nalchik 92.04 313⇑ *iP* **P** 17 09 39.7 +0.2
NCK pmax pmax
comp=Z,42nm,0.9s
ONI Oni 92.04 312 IAmb IAmb 17 09 59.1
comp=Z,113nm,2.0s
CCB Clear Creek Bu 92.06 25 IAmb IAmb 17 09 39.5
comp=Z,54nm,1.0s
TCOL CIGO, UAF Yank 92.08 25 P **P** 17 09 38.9 -0.3
baz=260
COLA College 92.08 25 P **P** 17 09 38.3 -0.9
COLA College 92.08 25 P **P** 17 09 39.0 -0.2
baz=260
COLA College 92.08 25 P **P** 17 09 40.6 +1.4
COLA College 92.08 25 ⇓ *iP* **P** 17 09 38.7 -0.5
COLA pmax pmax
comp=Z,21nm,1.0s
KARS Kars 92.10 310 P **P** 17 09 41.3 +1.3
KARS Kars 92.10 310 P **P** 17 09 41.3 +1.3
KARS pmax pmax
comp=Z,169nm,1.0s
TOLK Toolik Lake Re 92.13 21 IAmb IAmb 17 09 41.5
comp=Z,75nm,1.4s
TOLK Toolik Lake Re 92.13 21 P **P** 17 09 40.0 +0.6
baz=258,SNR=12
KIBK Kibwezi 92.21 267 IAmb IAmb 17 09 43.3
comp=Z,41nm,1.1s
KIBK Kibwezi 92.21 267 P **P** 17 09 41.9 +0.9
SNR=12
H24K Noodor Dome 92.24 24 P **P** 17 09 40.8 +0.8
baz=260
POKR Poker Plat Res 92.30 25 P **P** 17 09 41.1 +0.8
baz=260
M24K Tolsona, Glenn 92.36 28 P **P** 17 09 41.5 +0.8
baz=261
HDA Harding Lake 92.39 26 IAmb IAmb 17 09 40.9
comp=Z,30nm,1.0s
HDA Harding Lake 92.39 26 P **P** 17 09 39.7 -0.9
baz=261,SNR=14
KLU Klutina 92.39 28 P **P** 17 09 41.3 +0.5
baz=261
DIV Divide 92.41 29 IAmb IAmb 17 09 42.7
comp=Z,36nm,0.9s
E24K Your Creek 92.41 22 P **P** 17 09 41.4 +0.7
baz=259
IL31 92.47 25 P **P** 17 09 39.5 -1.4
ILAR Eielson Array 92.47 25 P **P** 17 09 39.8 -1.2
comp=Z,12nm,0.8s,baz=272,slow=4.3,SNR=91
ILAR PP **PP** 17 13 20.4 -3.4
comp=Z,1.3nm,0.8s,baz=262,slow=7.4,SNR=4.3
ILAR PKKPbc **PKKPdf** 17 26 54.9 +0.5
comp=Z,0.7nm,0.8s,baz=24,slow=2.2,SNR=5.3
ILAR LR LR 17 47 13.3
comp=Z,99nm,21.0s,baz=242,slow=33
comp=Z,12nm,0.8s
F24K Squaw Lake 92.54 22 P **P** 17 09 42.2 +0.9
baz=260
G24K Hadweenzic Riv 92.55 23 P **P** 17 09 42.0 +0.6
baz=260
KBZ Khabaz 92.57 314 P **P** 17 09 42.0 +0.1
comp=Z,11nm,0.9s,baz=130,slow=4.2,SNR=12
KBZ LR LR 17 58 18.1
comp=Z,117nm,18.2s,baz=70,slow=40
comp=Z,11nm,0.9s
KBZ Khabaz 92.57 314⇑ *iP* **P** 17 09 41.6 -0.3
KBZ pmax pmax
comp=Z,12nm,0.9s
GOF Gofitskoye 92.61 315⇑ *eP* **P** 17 09 42.1 0.0
C24K Franklin Bluff 92.64 20 P **P** 17 09 42.3 +0.6
baz=259
NEY Neytrino 92.65 313⇑ *eP* **P** 17 09 43.7 +1.1
NEY pmax pmax
comp=Z,12nm,1.6s
KIV Kislovodsk 92.75 314 P **P** 17 09 44.7 +1.8
KIV Kislovodsk 92.75 314 *eP* **P** 17 09 41.5 -1.4
KIV *e* 17 13 25.5
KIV *e*SS SS 17 26 53.6 +0.2
KIV pmax pmax
comp=Z,30nm,2.7s
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,139nm,20.0s
K24K Donnelly Dome 92.80 26 P **P** 17 09 43.1 +0.5
baz=262,SNR=6.6
PAX Paxson 92.81 27 IAmb IAmb 17 09 44.5
comp=Z,48nm,1.4s

PAX	Paxson	92.81	27	P		P	17 09 43.1	+0.4
	baz=262,SNR=10							
HARP	HAARP	92.88	28	P		P	17 09 43.5	+0.6
	baz=262							
KAIM	Kayak Island	92.90	30	P		P	17 09 44.2	+1.1
	baz=263							
BMRM	Bremner River	92.94	29	P		P	17 09 44.2	+0.8
	baz=262							
N25K	Chitina, Valde	93.03	28	P		P	17 09 44.4	+0.6
N25K				IAmb		IAmb	17 09 45.7	
	comp=Z,55nm,1.8s							
N25K	Chitina, Valde	93.03	28	P		P	17 09 44.6	+0.9
	baz=263							
PRGR	Permogore	93.04	332	*e*P		P	17 09 39.9	-3.8
PRGR				*e*			17 13 26.7	
PRGR				*e*S		SKSac	17 20 03.8	-1.9
PRGR				pmax		pmax		
	comp=Z,150nm,0.9s							
J25K	Salcha River,	93.09	25	P		P	17 09 43.7	-0.2
	baz=262							
G25K	Bearman Lake	93.10	23	P		P	17 09 45.0	+1.2
	baz=262,SNR=10							
KMBO	Kilima Mbogo	93.13	269	P		P	17 09 46.0	+0.5
	comp=Z,26nm,1.1s,baz=69,slow=5.9,SNR=39							
KMBO				LR		LR	17 46 52.9	
	comp=Z,108nm,21.3s,baz=94,slow=32							
	comp=Z,26nm,1.1s							
KMBO	Kilima Mbogo	93.13	269	P		P	17 09 46.0	+0.5
KMBO				IAmb		IAmb	17 09 47.8	
	comp=Z,35nm,1.1s							
KMBO	Kilima Mbogo	93.13	269	P		P	17 09 46.5	+1.0
KMBO	Kilima Mbogo	93.13	269	*i* P		P	17 09 46.5	+1.0
	SNR=25							
KMBO	Kilima Mbogo	93.13	269	*c i*P		P	17 09 46.4	+1.0
KMBO				pmax		pmax		
	comp=Z,26nm,1.1s							
H25L	Birch Creek	93.14	24	P		P	17 09 45.0	+1.0
	baz=262							
PRP	Porcupine Dome	93.15	25	P		P	17 09 44.0	-0.3
	baz=262,SNR=5.8							
RIDG	Independent Ri	93.20	26	IAmb		IAmb	17 10 42.0	
	comp=Z,46nm,1.1s							
RIDG	Independent Ri	93.20	26	P		P	17 09 44.3	-0.1
	baz=262,SNR=5.6							
D25K	Kavik River	93.38	21	P		P	17 09 45.4	+0.2
	baz=261							
F25K	Christian Rive	93.40	22	P		P	17 09 46.4	+1.1
	baz=262							
E25K	Arctic Village	93.50	22	P		P	17 09 46.7	+1.0
	baz=262							
DOT	Dot Lake	93.53	26	IAmb		IAmb	17 09 47.4	
	comp=Z,30nm,1.2s							
MARD	Mardin	93.55	307	P		P	17 09 47.0	+0.2
SCRK	Sand Creek	93.61	26	P		P	17 09 46.7	+0.3
	baz=263,SNR=7.9							
MCARA	McCarthy VSAT	93.76	29	P		P	17 09 47.9	+0.9
	baz=264							
L26K	Log Cabin Wild	93.78	27	P		P	17 09 47.7	+0.5
	baz=264,SNR=6.0							
J26L	Joseph Creek	93.85	26	IAmb		IAmb	17 09 49.0	
	comp=Z,40nm,0.9s							
J26L	Joseph Creek	93.85	26	P		P	17 09 48.0	+0.5
	baz=264,SNR=38							
M26K	Nabesna, AK	93.88	28	P		P	17 09 47.9	+0.3
	baz=264							
C26K	Camden Bay	93.97	20	P		P	17 09 49.0	+1.2
	baz=263							
F26K	Sheenjek River	93.98	22	P		P	17 09 49.0	+1.1
	baz=263							
KOPT	Kop Dagi	94.00	310	P		P	17 09 50.2	+1.2
KOPT				IAmb		IAmb	17 09 57.2	
	comp=Z,50nm,0.7s							
G26K	Porcupine Rive	94.03	23	P		P	17 09 49.4	+1.3
	baz=264							
VRH	Novokhopyorsk	94.09	321	*e*P		P	17 09 46.4	-2.3
VRH				pmax		pmax		
	comp=Z,70nm,0.6s							
I26K	Coal Creek Min	94.11	25	P		P	17 09 48.8	+0.3
	baz=264							
MESA	MESA	94.16	30	P		P	17 09 49.9	+0.8
	baz=265							
C27K	Jago River	94.36	21	P		P	17 09 50.5	+0.9
	baz=264							
BARN	Barnard Glacie	94.38	29	IAmb		IAmb	17 09 54.7	
	comp=Z,17nm,0.7s							
M27K	Edge Creek, AK	94.39	28	P		P	17 09 51.1	+1.0
	baz=265							
K27K	Chicken	94.45	26	P		P	17 09 51.4	+1.3
	baz=265							
L27K	Beaver Creek,	94.48	27	P		P	17 09 51.0	+0.7
	baz=265							
I27K	Kandik River	94.78	25	P		P	17 09 52.9	+1.2
	baz=266							
G27K	Doyon Strip	94.86	23	P		P	17 09 53.0	+1.1
	baz=266,SNR=16							
SOC	Sochi	94.86	313	*e*P		P	17 09 50.2	-2.2
SOC				*e**PP		pP	17 10 23.5	-0.7
SOC				*e*			17 13 40.3	
SOC				*e*PPP		PPP	17 15 44.4	
SOC				*e*S		SKSac	17 20 12.9	-3.4
SOC				*e*SS		SS	17 27 20.9	-2.4
SOC				*e*SSS		SSS	17 31 04.3	
SOC				pmax		pmax		
	comp=Z,58nm,1.1s							
H27K	Steamboat Moun	94.86	24	P		P	17 09 53.2	+1.2
	baz=266,SNR=37							
BVCY	Beaver Creek	94.87	28	P		P	17 09 53.2	+1.0
	baz=266,SNR=6.6							
EGAK	Eagle	94.91	25	IAmb		IAmb	17 09 53.8	
	comp=Z,36nm,1.0s							
EGAK	Eagle	94.91	25	P		P	17 09 52.5	+0.4
	baz=266,SNR=20							
E27K	Coleen River	94.99	22	P		P	17 09 53.5	+0.9
	baz=266							
TROLL	Troll, Antarti	94.99	194	P		P	17 09 54.1	+1.3
YUK3	Moose Creek	95.01	28	P		P	17 09 53.9	+0.9
	baz=266,SNR=5.3							
O28M	Mount Upton	95.08	30	P		P	17 09 54.3	+0.9
	baz=266							
YUK8	Steele Glacier	95.31	29	P		P	17 09 55.3	+0.8
	baz=267							
PNL	Peninsula	95.41	31	P		P	17 09 55.6	+0.9
	baz=267							
LODK	Lodwar	95.49	273	P		P	17 09 55.2	-0.9
LODK	Lodwar	95.49	273	P		P	17 09 56.7	+0.5
DAWY	Dawson	95.63	26	P		P	17 09 55.6	+0.1
DAWY				IAmb		IAmb	17 09 57.6	
	comp=Z,44nm,1.0s							
DAWY	Dawson	95.63	26	P		P	17 09 56.5	+1.0
	baz=267,SNR=37							
VORR	Voronezh	95.69	321	*e*P		P	17 09 55.2	-0.8
VORR				pmax		pmax		
	comp=Z,60nm,0.4s							
VSR	Storozhevoye	95.69	321	*e*P		P	17 09 53.5	-2.5
VSR				pmax		pmax		
	comp=Z,50nm,1.1s							
YUK4	Talbot Arm	95.86	29	P		P	17 09 57.7	+0.8
	baz=268							
LPSR	Galich'ya Gora	95.90	322	*e*P		P	17 09 54.5	-2.5
LPSR				pmax		pmax		
	comp=Z,40nm,0.8s							
KLMR	Klimovskoe	95.92	331⇑	*i*P		P	17 09 55.1	-1.8
KLMR				⇓*i*P		P	17 09 55.1	-1.8
KLMR				⇓*i*P		P	17 09 55.1	-1.8
KLMR				AMP			17 09 56.5	
	comp=Z,76nm,0.7s							
KLMR				*e*PP		PP	17 13 49.9	-0.8
KLMR	Klimovskoe	95.92	331	*c i*P		P	17 09 55.1	-1.8
KLMR				*e*			17 13 49.8	
KLMR				pmax		pmax		
	comp=Z,76nm,0.7s							
YUK6	Outpost Mounta	95.98	29	P		P	17 09 57.9	+0.4
	baz=268							
M29M	Somme Creek	95.98	28	P		P	17 09 58.1	+0.8
	baz=268							
I29M	Ogilvie Camp,	96.14	25	P		P	17 09 58.4	+0.6
	baz=268,SNR=42							
L29M	L29M	96.16	27	P		P	17 09 59.3	+1.3
	baz=268							
ASF	Jabal al Asfar	96.36	302	P		P	17 10 00.5	+0.8
	comp=Z,29nm,0.9s,baz=110,slow=2.3,SNR=38							
	comp=Z,29nm,0.9s							
GAZ	Gaziantep	96.38	307	IAmb		IAmb	17 10 01.1	
	comp=Z,21nm,0.9s							
HYT	Haines Junctio	96.39	30	P		P	17 09 59.7	+0.4
	baz=269							
K29M	Barlow Dome	96.45	26	P		P	17 10 00.4	+1.0
	baz=269							
SNAA	Sanae	96.49	193	P		P	17 10 00.2	+0.7
SNAA	Sanae	96.49	193	P		P	17 10 00.1	+0.7
	comp=Z,9.6nm,0.9s,baz=80,slow=3.7,SNR=7.3							
SNAA				LR		LR	17 53 21.5	
	comp=Z,315nm,20.4s,baz=184,slow=35							
	comp=Z,9.6nm,0.9s							
SNAA	Sanae	96.49	193	P		P	17 09 59.6	+0.2
SNAA	Sanae	96.49	193	*d* P		P	17 10 00.6	+1.2
SNAA				pmax		pmax		
	comp=Z,11nm,0.9s							
ANN	Anapa	96.56	314	*e*P		P	17 09 58.9	-1.3
ANN				*e*S		SKSac	17 20 23.2	-2.0
ANN				*e*SSS		SSS	17 31 34.5	
ANN				pmax		pmax		
	comp=Z,48nm,0.7s							
N30M	Aishikik Lake	96.61	29	P		P	17 10 00.3	+0.2
	baz=269							
P30M	Million Dollar	96.65	30	P		P	17 10 00.8	+0.5
	baz=269							
M30M	Minto, Yukon	96.76	28	P		P	17 10 01.3	+0.6
	baz=270							
MOS	Moscow	96.77	325	*e*P		P	17 09 58.6	-2.2
MOS				*e*			17 14 00.6	
MOS				pmax		pmax		
	comp=Z,94nm,1.1s							
EPYK	Eagle Plains	96.81	24	IAmb		IAmb	17 10 02.4	
	comp=Z,35nm,1.1s							
EPYK	Eagle Plains	96.81	24	P		P	17 10 01.3	+0.4
	baz=270,SNR=7.7							
PLBC	Pleasant Camp	96.94	31	P		P	17 10 02.6	+1.0
	baz=270							
G30M	tAoh Zraii Nji	97.01	23	P		Pdif	17 10 02.0	+0.1
	baz=271							
O30N	Mendenhall	97.09	30	P		Pdif	17 10 02.8	+0.4
	baz=270							
OBN	Obninsk	97.36	325	P		P	17 10 02.8	-0.7
	comp=Z,15nm,0.6s,baz=332,slow=3.6,SNR=13							
OBN				LR		LR	17 57 05.9	
	comp=Z,28nm,19.5s,baz=99,slow=37							
	comp=Z,15nm,0.6s							
OBN	Obninsk	97.36	325	*c e*P		P	17 10 02.4	-1.1
OBN				*e**PP		pwP	17 10 38.1	-1.0
OBN				*e*			17 14 05.6	
OBN				*e*PPP		PPP	17 16 08.0	
OBN				pmax		pmax		
	comp=Z,73nm,0.7s							
GHAJ	Ghor Haditha	97.45	301	IAmb		IAmb	17 10 06.0	
	comp=Z,39nm,0.8s							
KVT	Kavak	97.45	311	P		P	17 10 01.7	-2.7
SIT	Sitka	97.48	33	P		Pdif	17 10 05.3	+1.3
	baz=270							
BNN	Bunyan	97.53	308	IAmb		IAmb	17 10 05.0	
	comp=Z,27nm,1.0s							
MMAI	Mount Meron Ar	97.66	302	P		Pdif	17 10 06.4	+0.8
	comp=Z,26nm,1.0s,baz=97,slow=6.8,SNR=13							
MMAI				LR		LR	18 01 25.5	
	comp=Z,57nm,18.8s,baz=339,slow=40							
	comp=Z,26nm,1.0s							
WHY	Whitehorse	97.68	30	P		Pdif	17 10 05.3	+0.2
WHY				IAmb		IAmb	17 10 06.9	
	comp=Z,45nm,1.9s							
WHY	Whitehorse	97.68	30	P		Pdif	17 10 05.5	+0.5
	baz=271							
EIL	Elat	97.90	299	P		Pdif	17 10 06.6	0.0
	comp=Z,17nm,0.8s,baz=312,slow=2.0,SNR=11							
EIL				LR		LR	18 00 10.6	
	comp=Z,93nm,19.8s,baz=62,slow=39							
	comp=Z,17nm,0.8s							
F31M	Tsiigehtchic	97.96	23	P		Pdif	17 10 06.4	+0.5
	baz=273							
LVZ	Lovozero	97.98	338	P		P	17 10 03.5	-2.7
LVZ				IAmb		IAmb	17 10 06.1	
	comp=Z,35nm,0.8s							
LVZ	Lovozero	97.98	338	⇓*e*P		Pdif	17 10 08.1	+1.9
LVZ				pmax		pmax		
	comp=Z,31nm,0.9s							
INK	Inuvik	97.99	22	P		P	17 10 06.0	-0.1
	comp=Z,15nm,1.1s,baz=281,slow=4.6,SNR=24							
INK				PKKPbc		PKKPbc	17 26 39.9	-2.4
	comp=Z,2.2nm,0.7s,baz=27,slow=4.8,SNR=6.7							
	comp=Z,15nm,1.1s							
INK	Inuvik	97.99	22	P		P	17 10 05.4	-0.7
INK				IAmb		IAmb	17 10 07.1	
	comp=Z,48nm,1.4s							
INK	Inuvik	97.99	22	P		Pdif	17 10 06.2	+0.1
	baz=273							
VNA2	Neumayer--Watz	98.05	193	P		Pdif	17 10 06.4	0.0
	baz=106,slow=3.0							
P32M	Atlin	98.29	31	P		Pdif	17 10 08.2	+0.5
	baz=272							
VNA3	Neumayer Olymp	98.30	192	P		Pdif	17 10 08.7	+1.1
FARO	Faro, Yukon	98.37	28	P		Pdif	17 10 08.7	+0.7
	baz=272							
APA	Apatity	98.48	337	⇓*i*P		P	17 10 04.4	-3.9
APA				pmax		pmax		
	comp=Z,19nm,0.8s							
N32M	Quiet Lake	98.55	29	P		Pdif	17 10 09.4	+0.6
	baz=273							
SIM	Simferopol'	98.93	314	*e*P		P	17 10 10.5	-0.3
SIM				*e*			17 14 09.5	
SIM				pmax		pmax		
	comp=Z,27nm,0.6s							
WRAK	Wrangell Islan	99.14	34	P		Pdif	17 10 12.0	+0.6
	baz=272							
BR131	Keskin Array S	99.26	309			Pdif	17 10 11.3	-1.3
BR131				IAmb		IAmb	17 10 12.9	
	comp=Z,15nm,0.8s							
BR131	Keskin Array S	99.26	309	*d* P		Pdif	17 10 12.2	-0.4
BRTR	Keskin Array B	99.26	309	P		Pdif	17 10 11.9	-0.7
	comp=Z,9.5nm,0.8s,baz=121,slow=4.8,SNR=22							
BRTR				PP		PP	17 14 14.9	-2.2
	comp=Z,5.6nm,1.0s,baz=116,slow=5.6,SNR=6.6							
BRTR				LR		LR	18 02 19.2	
	comp=Z,99nm,20.4s,baz=104,slow=40							
	comp=Z,9.5nm,0.8s							
BRTR	Keskin Array B	99.26	309	*i* P		Pdif	17 10 12.1	-0.5
BRTR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MMPY	Sheldon Lake,	99.32	28	P		Pdif	17 10 13.2	+1.0
	baz=274							
MBAR	Mbarara	99.66	268	P		Pdif	17 10 15.2	+0.1
	comp=Z,3.3nm,0.5s,baz=97,slow=3.3,SNR=1.9							
MBAR				LR		LR	17 50 39.1	
	comp=Z,100nm,20.2s,baz=76,slow=32							
	comp=Z,3.3nm,0.5s							
MBAR	Mbarara	99.66	268	P		Pdif	17 10 15.1	+0.1
R33M	Jennings River	99.70	31	P		Pdif	17 10 14.8	+0.7
	baz=274							
S34M	Telegraph Cree	99.72	32	P		Pdif	17 10 15.2	+1.2
	baz=274							
LSZ	Lusaka	100.17	253	P		Pdif	17 10 17.1	-0.1
	comp=Z,6.1nm,0.5s,baz=113,slow=3.4,SNR=6.9							
DLBC	Dease Lake	100.26	32	P		Pdif	17 10 17.2	+0.7
	baz=275							
BOSA	Bosnof	100.28	240	P		Pdif	17 10 17.4	0.0
	comp=Z,9.0nm,1.1s,baz=84,slow=8.2,SNR=4.3							
BOSA				PKKPbc		PKKPbc	17 26 35.4	+0.9
	comp=Z,2.4nm,0.6s,baz=328,slow=0.4,SNR=5.7							
A36M	Sachs Harbour	100.32	18	P		Pdif	17 10 17.0	+0.6
	baz=282							
LBTB	Lobatse	100.76	243	P		Pdif	17 10 19.6	0.0
	comp=Z,8.3nm,0.9s,baz=69,slow=4.9,SNR=6.7							
TGTN	Hyland Airport	100.83	29	P		Pdif	17 10 19.6	+0.7
	baz=277							
SPA0	Spitsbergen Ar	100.95	349	*e*P		Pdif	17 10 20.2	+1.0
SPA0				IAmb		IAmb	17 10 22.6	
	comp=Z,136nm,1.6s							
SPITS	Spitsbergen Ar	100.95	349	P		Pdif	17 10 19.1	-0.1
	comp=Z,32nm,0.9s,baz=92,slow=8.5,SNR=14							
ARA0	ARCESS Array S	101.08	340	IAmb		IAmb	17 10 20.0	
	comp=Z,56nm,1.0s							
ARA0				*e*P		Pdif	17 10 20.0	+0.2
ARCES	ARCESS Array B	101.08	340	P		Pdif	17 10 19.3	-0.5
	comp=Z,25nm,0.8s,baz=77,slow=3.9,SNR=30							
ARCES				PKiKP		PKiKP	17 14 44.8	+0.6
	comp=Z,3.0nm,0.8s,baz=74,slow=1.6,SNR=7.0							
C36M	Paulatuk	101.25	20	P		Pdif	17 10 21.1	+0.5
	baz=282							
HAMF	Hammerfest	101.44	341	*e*P		Pdif	17 10 21.6	+0.2
AKASG	Malin Array Be	101.98	320	P		Pdif	17 10 23.4	-0.8
	comp=Z,3.8nm,0.5s,baz=68,slow=4.9,SNR=16							
AKASG				PKiKP		PKiKP	17 14 46.5	+0.2
	comp=Z,3.2nm,0.9s,baz=70,slow=2.4,SNR=4.3							
AKBB	Malin Array Si	101.98	320	⇓*i*P		Pdif	17 10 22.7	-1.5
AKBB				pmax		pmax		
	comp=Z,9.0nm,0.8s							
KTK1	Kautokeino	101.98	339	*e*P		Pdif	17 10 23.5	-0.4
KTK1				IAmb		IAmb	17 10 24.5	
	comp=Z,32nm,0.9s							
FINES	FINESS Array B	102.38	332	P		Pdif	17 10 25.1	-0.7
	comp=Z,15nm,0.7s,baz=51,slow=5.4,SNR=39							
FINES				PKiKP		PKiKP	17 14 47.2	+0.5
	comp=Z,2.5nm,0.6s,baz=44,slow=2.8,SNR=5.1							
FINES	FINESS Array B	102.38	332	*i* P		Pdif	17 10 24.7	-1.0
FINES				pmax		pmax		
	comp=Z,15nm,0.7s							
MNK	Minsk	102.42	324	*i* P		Pdif	17 10 25.8	-0.3
	comp=E,4.0nm,0.9s							
MNK				*i* P		Pdif	17 10 25.8	-0.3
	comp=N,25nm,1.2s							
MNK				*i* P		Pdif	17 10 25.8	-0.3
	comp=Z,64nm,0.9s,baz=84							
MNK				*i* pP		pPdif	17 10 59.1	+1.4
MNK				*i* PP		PP	17 14 40.5	+0.3
MNK				*i* PPP		PPP	17 16 50.4	
MNK				*i* S		SKSac	17 20 52.4	-1.4
MNK				*i* sS		SKKSac	17 21 53.4	+20
MNK				*i* SS		SS	17 29 10.2	+1.9
MNK				*i* SSS		SSS	17 33 14.6	
MNK	Minsk	102.42	324	*i* P		Pdif	17 10 25.8	-0.3
MNK				*i*			17 14 40.5	
MNK				*i* PPP		PPP	17 16 50.4	
MNK				*i* S		SKSac	17 20 52.4	-1.4
MNK				*i* *SS		Sdif	17 21 53.4	-5.8
MNK				*i* SS		SS	17 29 10.1	+1.9
MNK				pmax		pmax		
	comp=Z,64nm,0.9s							
MNK				pmax		pmax		
	comp=E,4.0nm,0.9s							
MNK				pmax		pmax		
	comp=N,25nm,1.2s							
SORM	Soroca	102.77	318	⇓P		Pdif	17 10 27.4	-0.4
SORM	Soroca	102.77	318	⇓P		Pdif	17 10 27.4	-0.4
JETT	Jettan, Norway	102.81	340	*e*P		Pdif	17 10 28.2	+0.6
JETT				IAmb		IAmb	17 10 28.5	
	comp=Z,49nm,0.7s							
NACGM	Naroch	103.00	325	*e*P		Pdif	17 10 28.3	-0.3
	comp=Z,67nm,1.0s,baz=82							
TIRR	Tirgusor	103.01	314	⇓P		Pdif	17 10 28.7	-0.2
TIRR	Tirgusor	103.01	314	⇓P		Pdif	17 10 28.7	-0.2
KOTAN	Kotaneelee Air	103.08	30	P		Pdif	17 10 30.3	+1.3
	baz=280							
TESR	Tescani	104.07	316	⇑P		Pdif	17 10 33.8	+0.1
VRI	Vrincioaia	104.08	316	⇑P		Pdif	17 10 33.7	-0.1
VRI	Vrincioaia	104.08	316	⇑P		Pdif	17 10 33.7	-0.1
PLOR	Plostina	104.13	316	⇑P		Pdif	17 10 38.9	+4.9
PLOR	Plostina	104.13	316	⇑P		Pdif	17 10 38.9	+4.9
NEHR	Nehoiu	104.42	315	⇓P		Pdif	17 10 36.2	+0.9
MLR	Muntele Rosu	104.66	315	⇑P		Pdif	17 10 36.2	-0.3
MLR	Muntele Rosu	104.66	315	Pdif		Pdif	17 10 35.5	-1.0
MLR	Muntele Rosu	104.66	315	⇑P		Pdif	17 10 36.2	-0.3
BURAR	Bucovina Array	104.92	318	⇑P		Pdif	17 10 38.0	+0.5
BURAR	Bucovina Array	104.92	318	⇑P		Pdif	17 10 38.1	+0.5
STEI	Steigen	105.12	339	*e*P		Pdif	17 10 37.1	-0.7
FAUS	Fauske	105.31	339	*e*P		Pdif	17 10 38.5	-0.2
PLVB	Pleven	105.83	313	⇓P		Pdif	17 10 42.1	+0.5
MOR8	Moi Rana	106.06	338	*e*P		Pdif	17 10 41.1	-1.0
IDI	Amyia	106.35	305	PKiKP		PKiKP	17 14 55.9	+0.9
	comp=Z,11nm,0.8s,baz=295,slow=6.3,SNR=7.2							
TRPA	Tarpa	106.63	318	⇑P		Pdif	17 10 42.5	-2.5
KOLS	Kolonicke sedl	106.67	319	*e*PDIFF		Pdif	17 10 46.2	+1.1
KOLS	Kolonicke sedl	106.67	319	*e*P		Pdif	17 10 46.3	+1.1
UZH	Uzhgorod	106.71	319	*e*P		Pdif	17 10 46.2	+0.9
UZH				*e*			17 15 19.5	
RES	Resolute Bay	106.86	11	Pdiff		Pdif	17 10 46.2	+0.7
	comp=Z,2.9nm,0.7s,baz=330,slow=3.3,SNR=7.2							
RES				PKiKP		PKiKP	17 14 55.6	+1.0
	comp=Z,2.8nm,0.8s,baz=218,slow=1.6,SNR=2.7							
YKA	Yellowknife Ar	106.87	26	PKiKP			17 26 28.2	
	comp=Z,3.1nm,0.8s,baz=97,slow=5.9,SNR=4.6							
CRVS	Cervenica-Dubn	107.20	319	*e*PDIFF		Pdif	17 10 48.2	+0.6
CRVS	Cervenica-Dubn	107.20	319	*e*P		Pdif	17 10 48.2	+0.6
STHS	Stebnicka Huta	107.25	320	*e*PDIFF		Pdif	17 10 48.2	+0.4
STHS	Stebnicka Huta	107.25	320	*e*P		Pdif	17 10 48.2	+0.4
DAG	Danmarks Havn	107.59	353	*i* P		Pdif	17 10 48.0	-0.7
NSS	Namsos	107.66	337	*e*P		Pdif	17 10 49.3	+0.1
VYHS	Vyhne	108.99	319	*e*PDIFF		Pdif	17 10 55.4	-0.1
VYHS	Vyhne	108.99	319	*e*P		Pdif	17 10 55.4	-0.1
NB2	NORSAR Subarra	109.37	333	P		Pdif	17 10 56.0	-0.9
	baz=69,slow=4.6							
NB2	NORSAR Subarra	109.37	333	P		Pdif	17 10 56.0	-0.9
	comp=Z,9.5nm,0.9s,baz=69,slow=4.6							
NB2				PKP		PKiKP	17 15 00.5	+0.7
	comp=Z,0.7nm,0.8s,baz=72,slow=3.1							
NB2				PKKP		PKKPbc	17 26 06.7	-1.4
	comp=Z,0.7nm,0.7s,baz=235,slow=2.9							
NOA	NORSAR Array B	109.37	333	Pdiff		Pdif	17 10 56.2	-0.7
	comp=Z,5.9nm,0.8s,baz=68,slow=4.6,SNR=15							
NOA				PKiKP		PKiKP	17 14 59.3	-0.5
	comp=Z,3.9nm,0.9s,baz=75,slow=2.8,SNR=6.9							
NOA				PKKPbc		PKKPbc	17 26 06.8	-1.4
	comp=Z,1.9nm,0.9s,baz=64,slow=2.7,SNR=4.7							
MAUC	Maruska	109.44	320	*e*PKP		PKiKP	17 15 01.2	+1.0
MORC	Moravsky Berou	109.53	321	*e*PKP		PKiKP	17 15 01.4	+1.0
MORH	Mrgy, Hungar	109.59	317	P		PKiKP	17 15 00.8	+0.2
MORH				S		PP	17 15 38.2	+5.0
KRLC	Kraliky	109.93	321	*e*PKP		PKiKP	17 15 01.2	0.0
MPLH	Magyarpolny	110.13	318	P		PKiKP	17 15 00.9	-0.6
DPC	Dobruska-Polom	110.14	322	*e*PKP		PKiKP	17 15 01.9	+0.4
DPC	Dobruska-Polom	110.14	322	*e*PKiKP		PKiKP	17 15 01.9	+0.4
OSTC	Ostas	110.16	322	*e*PKP		PKiKP	17 15 02.3

comp=Z,41nm,1.8s
MSO Missoula 111.91 42 P **PKiKP 17 15 05.9 +0.8**
baz=285
SOKA Soboth 111.92 318 *i* P **PKiKP 17 15 05.1 0.0**
comp=Z,10.0nm,1.0s,SNR=5.4
SOKA *e*P **PP 17 15 50.5 +0.5**
comp=Z,20nm,1.4s
GSC Goldstone, Bar 112.08 55 P **PKiKP 17 15 07.1 +1.4**
baz=278
MOA Molln 112.11 319 *e*P **PKiKP 17 15 05.7 +0.4**
comp=Z,11nm,1.2s
MOA *e*P **PP 17 15 52.2 +1.0**
comp=Z,16nm,2.1s
KHC Kasperske Hory 112.19 321 *e*PKP **PKiKP 17 15 05.0 -0.5**
KHC Kasperske Hory 112.19 321 *e*PKiKP **PKiKP 17 15 05.0 -0.5**
GERES GERESS Array B 112.19 320 Pdiff **Pdif 17 11 09.7 -0.1**
comp=Z,0.5nm,0.7s,baz=52,slow=2.2,SNR=4.6
GERES PKiKP **PKiKP 17 15 06.2 +0.6**
comp=Z,7.0nm,0.6s,baz=70,slow=1.9,SNR=27
GERES SKP 17 18 29.2
comp=Z,2.4nm,0.5s,baz=55,slow=2.5,SNR=10
TPNV Topopah Spring 112.27 53 P **PKiKP 17 15 07.2 +1.0**
baz=279
OBKA Obir 112.28 318 *e*P **PKiKP 17 15 06.0 +0.2**
comp=Z,5.8nm,0.6s
HLID Hailey 112.37 45 P **PKiKP 17 15 07.7 +1.5**
baz=283
HEC Hector,Ludlow 112.53 55 P **PKiKP 17 15 08.3 +1.7**
baz=278
R11A Troy Canyon, C 112.56 51 P **PKiKP 17 15 08.3 +1.6**
baz=280
BIOA Bad Ischl, Aus 112.56 319 *e*P **PKiKP 17 15 06.2 0.0**
comp=Z,4.0nm,0.5s
BIOA *e*P **PP 17 15 55.7 +1.2**
comp=Z,3.9nm,0.6s
PFO Pinyon Flats O 112.59 56 P **PKiKP 17 15 07.8 +1.0**
baz=278
TPFO Pinon Flats 112.60 56 P **PKiKP 17 15 07.7 +0.8**
baz=278
MONP2 Monument Peak 112.72 57 P **PKiKP 17 15 08.1 +1.0**
baz=278
TUQ Turquoise Moun 112.77 54 P **PKiKP 17 15 08.6 +1.5**
baz=279
MYKA Terra Mystica 112.85 318 *e*P **PKiKP 17 15 06.6 -0.2**
comp=Z,0.3nm,0.3s
MYKA *e*P **PP 17 15 57.7 +1.0**
comp=Z,6.1nm,0.8s
BELC Belle Mtn. Jos 112.92 56 P **PKiKP 17 15 08.8 +1.3**
baz=278
KBA Koelnbreinsper 112.92 319 *e*P **PKiKP 17 15 06.9 -0.2**
comp=Z,6.2nm,0.7s
IKP In-Ko-Pah, Jac 113.01 57 P **PKiKP 17 15 09.2 +1.6**
baz=278
GMRC Granite Mounta 113.08 55 P **PKiKP 17 15 09.4 +1.7**
baz=279
SWSC Sam W. Stewart 113.23 57 P **PKiKP 17 15 09.5 +1.6**
baz=278
SUMG Summit 113.42 356 *i* P **PKiKP 17 15 08.0 +0.4**
BC3 Big Chuckawall 113.42 56 P **PKiKP 17 15 09.8 +1.5**
baz=278
ABTA Abfaltersbach 113.57 319 *i* P **PKiKP 17 15 08.4 +0.2**
comp=Z,18nm,0.8s,SNR=6.3
ABTA *e*P **PP 17 16 02.9 +1.2**
comp=Z,12nm,0.8s
IRM Iron Mountain 113.60 56 P **PKiKP 17 15 09.8 +1.2**
baz=279
BOZ Bozeman (W) 113.78 43 P **PKiKP 17 15 09.9 +1.1**
baz=286
WTTA Wattenberg 113.99 319 *i* P **PKiKP 17 15 09.9 +0.7**
comp=Z,33nm,0.5s,SNR=12
WATA Walderalm 114.00 319 *i* P **PKiKP 17 15 09.5 +0.4**
comp=Z,12nm,0.6s,SNR=6.9
SQTA Sankt Quirin 114.28 319 *i* P **PKiKP 17 15 09.9 +0.3**
comp=Z,11nm,0.7s,SNR=5.2
EGMT Eagleton 114.29 40 P **PKiKP 17 15 10.4 +0.9**
baz=289
DUG Dugway, Tooele 114.30 49 P **PKiKP 17 15 11.1 +1.2**
baz=283,SNR=7.7
MOTA Moosalm 114.31 319 *i* P **PKiKP 17 15 10.2 +0.5**
comp=Z,13nm,0.6s,SNR=6.5
PDMCI Parker Dam,Lak 114.39 55 P **PKiKP 17 15 11.1 +1.0**
baz=280
RETA Reutte 114.48 320 *e*P **PKiKP 17 15 10.6 +0.7**
comp=Z,0.4nm,0.1s
FETA Feichten 114.65 319 *i* P PKPdf 17 15 11.2 +0.8
comp=Z,22nm,1.4s,SNR=5.2
H17A Grant Village 114.84 44 P PKPdf 17 15 11.9 +0.9
baz=286
DAVA Damuels 115.11 320 *i* P **PKPdf 17 15 11.7 +0.4**
comp=Z,19nm,0.6s,SNR=7.8
MSU Marysvale 115.15 50 **PKiKP 17 15 11.3 -0.4**
MSU Marysvale 115.15 50 PKiKP **PKiKP 17 15 11.3 -0.4**
MTPU Mount Pierson 115.25 51 **PKiKP 17 15 11.8 -0.3**
DAVOX Davos/Dischmat 115.28 319 SKP 17 18 35.3
comp=Z,6.4nm,0.7s,baz=205,slow=8.6,SNR=7.6
U15A North Rim 115.50 53 **PKiKP 17 15 12.3 -0.2**
RLMT Red Lodge 115.52 43 P **PKPdf 17 15 13.6 +1.4**
baz=288
214A Organ Pipe Nat 115.87 58 P **PKiKP 17 15 13.8 +0.8**
baz=279
BW06 Boulder Array 116.01 45 **PKiKP 17 15 13.9 +0.6**
BW06 Boulder Array 116.01 45 P **PKiKP 17 15 13.9 +0.6**
baz=287
PD31 Pinedale Array 116.01 45 **PKPdf 17 15 12.5 -0.8**
PDAR Pinedale Array 116.01 45 PKP **PKiKP 17 15 14.2 +0.9**
comp=Z,4.6nm,0.7s,baz=228,slow=1.1,SNR=43
PDAR SKP 17 18 37.5
comp=Z,1.3nm,0.6s,baz=281,slow=0.8,SNR=5.2
PDAR PKKPbc **PKKPbc 17 25 43.9 -1.7**
comp=Z,1.9nm,1.0s,baz=107,slow=5.1,SNR=6.3
PDAR SKKPbc SKKPbc 17 29 17.5 -3.0
comp=Z,0.7nm,0.6s,baz=108,slow=4.0,SNR=5.4
MEM Membach 116.27 324 *d*PKPdf **PKiKP 17 15 13.7 +0.5**
SRU San Rafael Swe 116.27 49 **PKPdf 17 15 13.8 0.0**
SRU San Rafael Swe 116.27 49 PKiKP **PKPdf 17 15 13.8 0.0**
WUAZ Wupatki 116.41 53 P **PKiKP 17 15 15.0 +0.8**
baz=282
BCLA Clavier 116.75 324 *d*PKPdf **PKiKP 17 15 14.9 +0.8**
LAO LASA Array 117.00 40 PKPdf **PKiKP 17 15 15.7 +0.8**
LAO LASA Array 117.00 40 P **PKiKP 17 15 16.5 +1.7**
baz=291
LAO LASA Array 117.00 40 P **PKiKP 17 15 15.9 +1.1**
baz=291
BMRD Maredsous 117.11 324 *d*PKPdf **PKiKP 17 15 15.6 +0.8**
DOU Dourbes 117.30 324 *d*PKPdf **PKiKP 17 15 16.1 +0.9**
TUC Tucson 117.51 57 PKPdf **PKPdf 17 15 16.2 -0.1**
TUC Tucson 117.51 57 P **PKiKP 17 15 17.7 +1.4**
baz=281
TUC Tucson 117.51 57 PKiKP **PKPdf 17 15 16.2 -0.1**
DGMT Dagmar 117.59 38 PKPdf **PKiKP 17 15 16.3 +0.5**
DGMT Dagmar 117.59 38 P **PKiKP 17 15 17.1 +1.3**
baz=294
DGMT Dagmar 117.59 38 P **PKiKP 17 15 17.7 +1.8**
baz=294
O20A White River Ci 117.70 48 P **PKiKP 17 15 18.0 +1.4**
baz=286,SNR=10
W18A Petrified Fore 117.80 54 **PKiKP 17 15 17.4 +0.5**
W18A Petrified Fore 117.80 54 P **PKiKP 17 15 18.2 +1.3**
baz=283
BNI Bardonecchia 117.97 318 PKPdf **PKiKP 17 15 17.0 +0.2**
BNI Bardonecchia 117.97 318 PKiKP **PKiKP 17 15 17.0 +0.2**
K22A Casper 118.18 45 P **PKiKP 17 15 18.1 +0.8**
baz=289
K22A Casper 118.18 45 P **PKiKP 17 15 18.4 +1.0**
baz=289
MVCO Mesa Verde 118.28 51 P **PKiKP 17 15 19.2 +1.4**
baz=285
EKA Eskdalemuir Ar 118.77 332 SKP 17 18 41.4
comp=Z,4.1nm,0.8s,baz=8.1,slow=1.2,SNR=5.0
KEST Kesra 118.80 307 PKPdf **PKiKP 17 15 18.9 +0.2**
comp=Z,19nm,1.0s,baz=5.3,slow=3.1,SNR=9.5
KEST PP **PP 17 16 34.6 -4.0**
comp=Z,23nm,1.0s,baz=329,slow=3.8,SNR=6.2
KEST Kesra 118.80 307 PKPdf **PKiKP 17 15 18.8 +0.2**
KEST PP **PP 17 16 32.2 -6.5**
N23A Red Feather La 119.15 46 P **PKiKP 17 15 20.6 +1.2**
baz=288
RSSD Black Hills 119.37 42 PKPdf **PKPdf 17 15 19.4 -0.3**
RSSD Black Hills 119.37 42 P **PKiKP 17 15 20.1 +0.3**
baz=292
RSSD Black Hills 119.37 42 P **PKiKP 17 15 20.6 +0.8**
baz=292
RSSD Black Hills 119.37 42 PKiKP **PKPdf 17 15 19.4 -0.3**
S22A 4UR Ranch, Cre 119.42 50 P **PKiKP 17 15 21.3 +1.2**
baz=286
CLF Chambon-Foret 119.58 323 **PKiKP 17 15 20.3 +0.7**
121A Cookes Peak, D 119.95 56 P **PKiKP 17 15 22.8 +1.7**
baz=283
121A Cookes Peak, D 119.95 56 P **PKiKP 17 15 22.6 +1.5**
baz=283
Y22A Socorro 120.30 54 P **PKiKP 17 15 23.6 +1.8**
baz=284
Q24A Divide 120.33 48 P **PKiKP 17 15 22.7 +0.8**
baz=288
SDCO Great Sand Dun 120.43 50 P **PKiKP 17 15 23.2 +1.1**
baz=287
ANMO Albuquerque 120.46 53 P **PKiKP 17 15 23.8 +1.7**
baz=285
ANMO Albuquerque 120.46 53 P **PKiKP 17 15 22.9 +0.8**
baz=285
T25A Trinidad 121.44 50 P **PKiKP 17 15 24.4 +0.4**
baz=288
ULM Lac du Bonnet 121.56 33 PKP **PKiKP 17 15 23.6 +0.1**
comp=Z,10.0nm,0.6s,baz=309,slow=2.7,SNR=9.3
OGNE Ogallala 121.92 45 P **PKiKP 17 15 25.1 +0.5**
baz=292
KSCO Kaye Shedlock' 122.17 47 P **PKiKP 17 15 25.7 +0.4**
baz=290
HTMS Hat Mesa 123.37 55 PKPpre 17 15 12.6
HTMS PKPdf **PKiKP 17 15 28.1 +0.3**
K31A O'Neill 123.50 42 P **PKiKP 17 15 27.9 +0.2**
baz=296
F33A 5 Mile Ranch, 123.58 38 PKPdf **PKPdf 17 15 26.7 -0.7**
F33A 5 Mile Ranch, 123.58 38 P **PKPdf 17 15 27.1 -0.3**
baz=300
MSTX Muleshoe 123.65 53 P **PKiKP 17 15 28.5 +0.1**
baz=287
MSTX Muleshoe 123.65 53 P **PKiKP 17 15 28.4 +0.1**
baz=287
B35A Bob, Littlefor 123.76 34 P **PKPdf 17 15 27.5 -0.2**
baz=304
TX31 Lajitas Ar. Si 124.11 59 P **PKiKP 17 15 30.0 +0.7**
baz=283
TX32 Lajitas Array 124.11 59 **PKPdf 17 15 28.1 -0.9**
TXAR Lajitas Array 124.11 59 PKP **PKiKP 17 15 29.8 +0.5**
comp=Z,9.1nm,0.8s,baz=245,slow=1.5,SNR=68
TXAR SKPbc SKiKP 17 18 31.6 -22
comp=Z,2.3nm,1.0s,baz=258,slow=4.9,SNR=5.0
TXAR PKKPbc **PKKPbc 17 25 15.2 +0.3**
comp=Z,1.0nm,0.8s,baz=125,slow=5.7,SNR=6.2
AMTX Amarillo 124.24 52 P **PKiKP 17 15 29.7 +0.2**
baz=288
CBKS Cedar Bluff 124.35 47 P **PKiKP 17 15 30.2 +0.8**
baz=292
CBKS Cedar Bluff 124.35 47 P **PKiKP 17 15 29.6 +0.2**
baz=292
ECSD EROS Data Cent 124.40 40 P **PKiKP 17 15 29.5 +0.1**
baz=298
ECSD EROS Data Cent 124.40 40 P **PKPdf 17 15 29.1 +0.1**
baz=298
BGNE Belgrade 124.42 43 P **PKiKP 17 15 29.5 0.0**
baz=295
BGNE Belgrade 124.42 43 P **PKPdf 17 15 29.0 -0.2**
baz=295
EYMN Ely 125.23 33 P **PKPdf 17 15 30.5 0.0**
baz=306
EYMN Ely 125.23 33 P **PKPdf 17 15 30.7 +0.2**
baz=306,SNR=5.4
F36A Milaca 125.23 36 **PKPdf 17 15 30.6 +0.1**
F36A Milaca 125.23 36 P **PKiKP 17 15 31.1 +0.2**
baz=302
R32A Long Quarter, 125.24 47 P **PKiKP 17 15 32.0 +0.8**
baz=293
U32A Winter Ranch, 125.79 49 P **PKiKP 17 15 33.1 +0.7**
baz=291
E38A The Farm, Brul 125.97 35 P **PKiKP 17 15 32.4 +0.1**
baz=305
SPMN Marine on St. 126.00 37 P **PKPdf 17 15 32.3 +0.2**
baz=303
I37A Lemond, Waseca 126.28 38 **PKPdf 17 15 32.4 -0.2**
I37B Waseca 126.28 38 P **PKiKP 17 15 34.0 +0.9**
baz=301
KSU1 Kansas State U 126.47 45 P **PKiKP 17 15 34.0 +0.4**
baz=295
KSU1 Kansas State U 126.47 45 P **PKiKP 17 15 33.6 0.0**
baz=295
WMOK Wichita Mounta 126.54 51 P **PKiKP 17 15 33.9 0.0**
baz=290
WMOK Wichita Mounta 126.54 51 P **PKiKP 17 15 34.3 +0.4**
baz=290
ABTX Abilene, Hawle 126.56 54 **PKPdf 17 15 31.8 -1.8**
ABTX Abilene, Hawle 126.56 54 P **PKiKP 17 15 33.9 -0.1**
baz=288
JCT Junction City 127.06 56 PKPdf **PKiKP 17 15 34.9 -0.2**
JCT Junction City 127.06 56 P **PKiKP 17 15 36.0 +0.9**
baz=287
JCT Junction City 127.06 56 P **PKiKP 17 15 35.5 +0.4**
baz=287
JCT Junction City 127.06 56 PKiKP **PKiKP 17 15 34.9 -0.2**
ESDC Sonseca Array 127.34 316 PKP **PKiKP 17 15 35.4 0.0**
comp=Z,8.4nm,1.1s,baz=23,slow=2.6,SNR=31
ESDC PP **PP 17 17 32.8 -3.0**
comp=Z,2.8nm,1.1s,baz=52,slow=7.3,SNR=4.5
ESDC SKKPbc SKKPbc 17 28 42.4 -0.8
comp=Z,0.2nm,0.3s,baz=249,slow=4.5,SNR=4.1
D41A Chassel 127.35 33 P **PKiKP 17 15 35.3 +0.2**
baz=308
T35B Sooner Cattle 127.44 48 P **PKiKP 17 15 36.7 +1.1**
baz=294
SCIA State Center 127.47 41 P **PKiKP 17 15 35.9 +0.3**
baz=300
G40A Rib Lake 127.51 36 P **PKPdf 17 15 34.8 -0.1**
baz=305
COWI Conover 127.62 34 P **PKiKP 17 15 35.6 -0.1**
baz=307
PAB San Pablo 127.67 316 PKPdf **PKiKP 17 15 36.2 +0.1**
PAB San Pablo 127.67 316 PKiKP **PKiKP 17 15 36.2 +0.1**
833A Chaparral WMA, 127.99 59 P **PKiKP 17 15 38.2 +1.2**
baz=285
833A Chaparral WMA, 127.99 59 P **PKiKP 17 15 38.2 +1.2**
baz=285
PBRG Braganca 128.17 320 *e*PKPdf **PKiKP 17 15 37.8 +0.8**
PBRG Braganca 128.17 320 *e*PP **PP 17 17 34.8 -6.3**
P38A Dawn 128.37 43 P **PKiKP 17 15 37.2 -0.2**
baz=298
TUL1 Leonard 128.37 48 P **PKiKP 17 15 38.4 +0.9**
baz=294
TUL1 Leonard 128.37 48 P **PKiKP 17 15 37.5 0.0**
baz=294
WHTX Lake Whitney, 128.51 54 P **PKiKP 17 15 37.9 0.0**
baz=289
L40A Anamosa 128.66 39 P **PKiKP 17 15 38.0 +0.1**
baz=302
MVO Moncorvo 128.68 319 *e*PKPdf **PKiKP 17 15 39.4 +1.3**
435B Jarrell 128.79 55 P **PKiKP 17 15 38.3 -0.2**
baz=288
JFWS Jewell Farm 128.81 38 P **PKiKP 17 15 38.2 0.0**
baz=304
JFWS Jewell Farm 128.81 38 P **PKiKP 17 15 38.4 +0.2**
baz=304
PCAB Cabril 129.04 320 *e*PKPdf **PKiKP 17 15 40.1 +1.4**
PGAV Gavieira, Arco 129.05 321 *e*PKPdf **PKiKP 17 15 40.0 +1.2**
POLO Lamas de Olo 129.06 320 *e*PKPdf **PKiKP 17 15 40.2 +1.3**
POLO Lamas de Olo 129.06 320 *e*PP PP 17 17 58.5 +11
PVRL Vila Real 129.07 320 *e*PKPdf **PKiKP 17 15 40.2 +1.4**
TORD Torodi Ar. Bea 129.17 282 PKhKP PKPpre 17 15 22.0
comp=Z,0.5nm,0.8s,baz=92,slow=2.9,SNR=2.5
TORD PKP **PKPdf 17 15 38.4 -0.5**
comp=Z,25nm,0.8s,baz=79,slow=2.4,SNR=13
U38A Gravette 129.19 47 P **PKiKP 17 15 39.5 +0.3**
baz=295
PLCA Paso Flores 129.38 159 PKP **PKPdf 17 15 38.8 0.0**
comp=Z,4.3nm,0.8s,baz=282,slow=2.8,SNR=10
PLCA SKPbc SKPbc 17 18 48.7 -0.4
comp=Z,26nm,1.2s,baz=215,slow=4.7,SNR=10
PLCA Paso Flores 129.38 159 *e*P **PKPdf 17 15 37.9 -0.9**
MTE Manteigas 129.41 319 *e*PKPdf **PKiKP 17 15 41.0 +1.5**
S39A Bolivar 129.41 45 P **PKiKP 17 15 39.2 -0.3**
baz=297
P40A Paris 129.42 43 **PKPdf 17 15 38.3 -0.5**
PVIS Viseu 129.47 319 *e*PKPdf **PKiKP 17 15 40.8 +1.2**
PVIS Viseu 129.47 319 *e*PP **PP 17 17 54.8 +5.2**
SCHQ Schefferville 129.60 13 PKP **PKPdf 17 15 38.0 -0.7**
comp=Z,8.1nm,0.8s,baz=239,slow=5.8,SNR=4.2
SCHQ SKPbc SKPab 17 18 48.8 +0.2
comp=Z,5.1nm,0.6s,baz=355,slow=4.5,SNR=6.1
PCBR Castelo Branco 129.65 318 *e*PKPdf **PKiKP 17 15 41.3 +1.4**
PMRV Marv??o 129.79 317 *e*PKPdf **PKiKP 17 15 41.3 +1.0**
PMRV Marv??o 129.79 317 *e*PP **PP 17 17 57.5 +5.8**
R40A Maddies Statio 129.87 44 P **PKiKP 17 15 40.1 -0.3**
baz=298
PBAR Barrancos 130.16 316 *e*PKPdf **PKiKP 17 15 42.4 +1.4**
PBAR Barrancos 130.16 316 *e*PP **PP 17 17 55.6 +1.4**
PESTR Estremoz 130.21 317 *e*PKPdf **PKiKP 17 15 42.6 +1.5**
PCAS Casmilo, Conde 130.21 319 *e*PKPdf **PKiKP 17 15 42.4 +1.3**
PCAS Casmilo, Conde 130.21 319 *e*PP **PP 17 17 58.2 +3.8**
PMTG Montargil 130.53 318 *e*PKPdf **PKiKP 17 15 42.5 +0.8**
MIAR Mount Ida 130.58 49 P **PKiKP 17 15 42.5 +0.5**
baz=294
MIAR Mount Ida 130.58 49 P **PKiKP 17 15 42.0 0.0**
baz=294
EVO Evora 130.66 317 *e*PKPdf **PKiKP 17 15 42.4 +0.4**
EVO Evora 130.66 317 *e*PP **PP 17 17 59.2 +1.8**
MDT Midelt 130.68 308 PKP **PKPdf 17 15 40.7 -0.8**
comp=Z,13nm,1.0s,baz=356,slow=0.2,SNR=15
MDT SKPbc **SKPab 17 18 54.1 +0.1**
comp=Z,12nm,0.7s,baz=91,slow=4.3,SNR=11
CCM Cathedral Cave 130.69 44 PKPdf **PKPdf 17 15 40.7 -0.5**
CCM Cathedral Cave 130.69 44 P **PKiKP 17 15 41.7 -0.3**
baz=299
CCM Cathedral Cave 130.69 44 P **PKiKP 17 15 41.8 -0.3**
baz=299
CCM Cathedral Cave 130.69 44 PKiKP **PKPdf 17 15 40.7 -0.5**
HDIL Hopedale 130.70 40 P **PKPdf 17 15 41.4 +0.2**
baz=303
PBEJ Beja 130.81 316 *e*PKPdf **PKiKP 17 15 43.9 +1.6**
NATX Nacogdoches 130.82 53 P **PKiKP 17 15 42.1 -0.4**
baz=291
GLMI Grayling 130.90 33 P **PKiKP 17 15 42.3 0.0**
baz=311
PVAQ Vaqueiros 131.01 315 *e*PKPdf **PKiKP 17 15 44.3 +1.6**
PCVE Castro Verde 131.12 316 *e*PKPdf **PKiKP 17 15 44.0 +1.0**
MESJ Messejana 131.14 316 *e*PKPdf **PKiKP 17 15 43.0 0.0**
MESJ Messejana 131.14 316 *e*PKPdf **PKiKP 17 15 44.3 +1.3**
MESJ Messejana 131.14 316 *e*PP **PP 17 17 58.0 -2.5**
PNCL Nicolau / Gran 131.22 317 *e*PKPdf **PKiKP 17 15 44.3 +1.2**
FVM French Village 131.28 44 P **PKPdf 17 15 42.6 +0.3**
baz=300
PTEO Sao Teotonio 131.64 316 *e*PKPdf **PKiKP 17 15 46.5 +2.5**
LCAR Lake Charles 131.69 46 P **PKiKP 17 15 44.0 -0.1**
baz=298
MORF Marmelete 131.71 316 *e*PKPdf **PKiKP 17 15 44.0 -0.3**
MORF Marmelete 131.71 316 *e*PKPdf **PKiKP 17 15 45.3 +1.1**
Q44A Meyer Farm, Va 131.76 42 **PKPdf 17 15 43.0 -0.2**
Q44A Meyer Farm, Va 131.76 42 P **PKPdf 17 15 43.0 -0.2**
baz=302
PFVI Vila Bisbo 131.91 316 *e*PKPdf **PKiKP 17 15 46.1 +1.5**
SFIN Lafayette 132.19 39 P **PKiKP 17 15 44.6 -0.4**
baz=305
OLIL Olney 132.46 41 P **PKiKP 17 15 45.4 -0.2**
baz=303
N47A Urbana 132.76 38 P **PKiKP 17 15 46.0 -0.2**
baz=307
N47A P **PKiKP 17 15 46.0 -0.2**
baz=307
L48A N Adams 132.85 36 P **PKPdf 17 15 45.8 +0.6**
baz=309
L48A P **PKPdf 17 15 45.8 +0.6**
baz=309
O48B Farmland 133.46 38 P **PKiKP 17 15 47.5 -0.1**
baz=307
O48B Farmland 133.46 38 P **PKPdf 17 15 47.0 +0.6**
baz=307
N49A Columbus Grove 133.64 37 PKPdf **PKPdf 17 15 45.9 -0.8**
OXF Oxford 133.68 47 P **PKPdf 17 15 47.1 +0.1**
baz=298
WVT Waverly 134.01 44 PKPdf **PKPdf 17 15 46.6 -0.9**
WVT Waverly 134.01 44 P **PKPdf 17 15 47.9 +0.4**
baz=301
WVT Waverly 134.01 44 P **PKPdf 17 15 47.9 +0.4**
baz=301
WVT Waverly 134.01 44 PKiKP **PKPdf 17 15 46.6 -0.9**
P49A Miami Univ. Ec 134.16 38 P **PKPdf 17 15 48.3 +0.6**
baz=307
TRQA Tornquist 134.39 166 *e*P **PKPdf 17 15 47.9 -0.3**
R49A Shelbyville 134.61 40 P **PKiKP 17 15 49.5 -0.5**
baz=306
R49A P **PKiKP 17 15 49.5 -0.5**
baz=306
ACSO Alum Creek Sta 134.78 37 P **PKPdf 17 15 49.4 +0.6**
baz=310
V48A Smith Brothers 134.91 44 P **PKiKP 17 15 50.5 -0.2**
baz=302
CLTN Cedars of Leba 135.07 43 PKPpre 17 15 37.1
CLTN PKPdf **PKPdf 17 15 49.9 +0.3**
R50A Paris 135.15 40 P **PKiKP 17 15 51.6 +0.4**
baz=306
R50A P **PKiKP 17 15 51.6 +0.4**
baz=306
ERPA Erie 135.21 32 P **PKPdf 17 15 50.2 +0.6**
baz=314
U49A Red Boiling Sp 135.21 43 PKPpre 17 15 36.9
U49A **PKPdf 17 15 50.1 +0.4**
M53A WI Miller and 135.31 34 PKPpre 17 15 41.5
M53A WI Miller and 135.31 34 P **PKPdf 17 15 50.4 +0.6**
baz=313
KIC Kosan Boka 135.54 273 ⇑ *i*PKiKP **PKiKP 17 15 53.4 +0.8**
comp=Z,7.4nm,0.4s
P52A Corning 135.67 37 P **PKiKP 17 15 51.4 -0.8**
baz=310
DBIC Dimbokro 135.67 273 PKhKP PKPpre 17 15 38.9
comp=Z,6.4nm,0.8s,baz=97,slow=5.4,SNR=6.5
DBIC PKP **PKPdf 17 15 50.9 -0.3**
comp=Z,36nm,0.8s,baz=103,slow=2.2,SNR=19
DBIC SKPbc **SKPbc 17 19 10.5 -0.7**
comp=Z,24nm,0.7s,baz=107,slow=3.6,SNR=20
DBIC Dimbokro 135.67 273 PKPpre 17 15 37.6
DBIC PKPdf **PKPdf 17 15 51.5 +0.3**
DBIC Dimbokro 135.67 273 PKiKP **PKPdf 17 15 51.5 +0.3**
LIC Lamto 135.82 272 ⇑ *i*PKiKP **PKiKP 17 15 53.9 +0.7**
comp=Z,101nm,0.7s
TIC Toumodi 135.83 273 ⇑ *i*PKiKP **PKiKP 17 15 54.0 +0.8**
comp=Z,15nm,0.3s
LONY Lake Ozonia 135.96 26 P **PKiKP 17 15 52.0 -0.6**
baz=323
LRAL Lakeview Retre 136.15 48 PKPpre 17 15 36.4
LRAL PKPdf **PKPdf 17 15 51.8 +0.2**
LRAL Lakeview Retre 136.15 48 P **PKPdf 17 15 52.2 +0.6**
baz=299
Y49A Blount Mountai 136.17 46 PKPpre 17 15 36.8
Y49A PKPdf **PKPdf 17 15 51.3 -0.3**
W50A Signal Mountai 136.24 44 P **PKiKP 17 15 52.7 -0.8**
baz=303
M55A Ridgway 136.32 32 P **PKPdf 17 15 52.3 +0.6**
baz=315
M55A P **PKPdf 17 15 52.3 +0.6**
baz=315
L56A Greenwood 136.46 31 P **PKPdf 17 15 52.6 +0.6**
baz=317
L56A P **PKPdf 17 15 52.6 +0.6**
baz=317
CPCT Cooper Cave 136.65 43 PKPpre 17 15 39.2
TZTN Tazewell 136.67 41 P **PKiKP 17 15 53.6 -0.7**
baz=306
MCWV Mont Chateau 136.98 35 P **PKiKP 17 15 54.4 -0.4**
baz=313
TKL Tuckaleechee C 137.03 42 SKPbc **SKPbc 17 19 14.4 -0.4**
comp=Z,7.6nm,0.8s,baz=146,slow=5.0,SNR=5.8
BINY Binghamton 137.19 29 P **PKPdf 17 15 54.2 +0.9**
baz=319
BINY Binghamton 137.19 29 P **PKiKP 17 15 54.5 -0.7**
baz=319
W52A Murphy 137.25 43 PKPpre 17 15 40.8
W52A PKPdf **PKPdf 17 15 52.9 -0.8**
Z51A Franklin 137.33 46 P **PKiKP 17 15 55.0 -0.7**
baz=301
LBNH Lisbon 137.38 24 P **PKPdf 17 15 54.5 +0.9**
baz=326
SSPA Standing Stone 137.38 32 PKPpre **PKPdf 17 15 40.7**
SSPA PKPdf **PKPdf 17 15 50.4 -3.3**
SSPA Standing Stone 137.38 32 P **PKPdf 17 15 54.6 +1.0**
baz=316
PKME Peaks-Kenny Pk 137.50 21 P **PKiKP 17 15 54.8 -0.8**
baz=330
Y52A Lilburn 137.83 45 P **PKiKP 17 15 56.1 -0.6**
baz=303
Y52A P **PKiKP 17 15 56.1 -0.6**
baz=303
N58A Sunbury 137.84 31 P **PKPdf 17 15 54.9 +0.4**
baz=318
N58A P **PKPdf 17 15 54.9 +0.4**
baz=318
152A Waverly Hall 138.00 47 PKPpre 17 15 43.4
152A PKPdf **PKPdf 17 15 55.0 -0.1**
BLA Blacksburg 138.25 38 P **PKiKP 17 15 56.9 -0.6**
baz=310
CFA Coronel Fontan 138.29 156 PKhKP PKPpre 17 15 46.0
comp=Z,5.7nm,0.7s,baz=264,slow=3.6,SNR=9.0
CFA SKPbc **SKPbc 17 19 18.8 +0.2**
comp=Z,20nm,1.0s,baz=187,slow=2.9,SNR=14

GOGA	**Godfrey** baz=303	**138.50**	**45**	P		**PKiKP**	17 15 57.1	**-1.0**
L61B	**Northampton** baz=324	**138.52**	**26**	P		**PKiKP**	17 15 56.8	**-1.0**
KMSC	**Kings Mountain** baz=307	**138.95**	**41**	P		**PKiKP**	17 15 57.9	**-1.1**
HRV	**Adam Dziewonsk** baz=326	**138.96**	**25**	P		**PKiKP**	17 15 57.9	**-0.9**
PAL	**Palisades** baz=321	**139.10**	**29**	P		**PKPdf**	17 15 57.8	**+1.0**
LCO	**Las Campanas**	**139.41**	**151**			PKPpre	17 15 50.0	
LCO	**Las Campanas**	**139.41**	**151**		PKHKP	PKPpre	17 15 50.0	
TIGA	**Tifton** baz=301	**139.45**	**48**	P		**PKPdf**	17 15 58.8	**+1.1**
PMAN	**Manadas**	**142.41**	**332**	*e*PKP		**PKPdf**	17 16 00.5	**-2.3**
ROSA	**Rosais**	**142.41**	**332**			PKPpre	17 15 56.6	
ROSA	**Rosais**	**142.41**	**332**	*e*PKP		**PKPdf**	17 16 00.7	**-2.2**
PID	**Ribeirinha**	**142.58**	**332**	*e*PKP		**PKPdf**	17 16 01.7	**-1.5**
PCAN	**Candelaria**	**142.73**	**332**	*e*PKP		**PKPdf**	17 16 02.3	**-1.2**
CALA	**Caldeira**	**142.74**	**333**	*e*PKP		**PKPdf**	17 16 02.1	**-1.4**
H07S1	**FLORES T-PHASE**	**143.15**	**336**	*e*PKP		**PKPdf**	17 16 03.7	**-0.5**
ITQB	**Itaqui**	**143.61**	**169**	*e*P		**PKPdf**	17 16 04.7	**-0.5**
PB10	**IPOC Station P**	**143.94**	**146**		PKPdf	PKPbc	17 16 04.1	0.0
ACON	**Acoyapa**	**144.33**	**78**			PKPbc	17 16 05.6	+0.1
ACON	**Acoyapa**	**144.33**	**78**	*e*P		**PKPdf**	17 16 06.8	**0.0**
POPE	**POPE, Guanacas**	**144.39**	**82**	*e*P		**PKPdf**	17 16 07.3	**+0.3**
COLC	**Colonia**	**144.41**	**80**	*e*P		**PKPdf**	17 16 07.0	**-0.1**
CUI	**Cuipilapa**	**144.45**	**80**	*e*P		**PKPdf**	17 16 07.1	**-0.1**
UNIS	**Unistalda (Bra**	**144.46**	**172**	*e*P		**PKPab**	17 16 03.3	**-1.9**
VMAR	**Armenia, Volca**	**144.49**	**80**	*e*P		**PKPdf**	17 16 07.4	**+0.1**
JTS	**Las Juntas de**	**144.68**	**81**	*e*P		**PKPdf**	17 16 08.3	**+0.7**
VACR	**Volcan Arenal**	**144.94**	**81**	*e*P		**PKPdf**	17 16 09.4	**+1.4**
JACO	**JACO, Garabito**	**145.01**	**82**	*e*P		**PKiKP**	17 16 10.8	**-1.1**
ESPN	**Las Esperanzas**	**145.15**	**78**	*e*P		**PKPdf**	17 16 09.3	**+1.1**
AZCA	**Azaras, Argent**	**145.28**	**170**	*e*P		**PKPbc**	17 16 05.1	**-3.0**
HDC	**Heredia**	**145.53**	**82**	*e*P		**PKiKP**	17 16 12.0	**-1.2**
HDC	**Heredia**	**145.53**	**82**	*e*P		**PKPdf**	17 16 08.3	**-0.8**
HDC3	**Heredia 3**	**145.53**	**82**	*e*P		**PKPab**	17 16 10.9	**+1.0**
LVC	**Limon Verde** comp=Z,44nm,0.7s,baz=260,slow=3.1,SNR=44	**145.57**	**147**		PKPbc	**PKPab**	17 16 11.6	**+1.6**
LVC					SKPbc	**SKiKP**	17 19 38.1	**+0.1**
LVC	**Limon Verde** comp=Z,13nm,1.0s,baz=210,slow=1.6,SNR=4.1	**145.57**	**147**	*e*P		**PKPdf**	17 16 08.0	**-1.3**
OCM	**Ochomogo**	**145.68**	**82**	*e*P		**PKiKP**	17 16 12.7	**-0.9**
HAYA	**Volcan Irazu**	**145.79**	**82**	*e*P		**PKiKP**	17 16 12.9	**-1.2**
CDM	**Cerro de Muert**	**145.90**	**82**	*e*P		**PKiKP**	17 16 13.3	**-1.0**
PEZE	**Perez Zeledon,**	**145.99**	**83**	*e*P		**PKPab**	17 16 12.1	**+0.5**
CRSM	**Crissiumal (Br**	**146.15**	**173**	*e*P		**PKPdf**	17 16 09.6	**-0.1**
MRVA	**Moravia de Chi**	**146.20**	**82**	*e*P		**PKiKP**	17 16 13.8	**-0.8**
PIRO	**Carate, Puerto**	**146.36**	**84**	*e*P		**PKiKP**	17 16 14.5	**-0.2**
BBTS	**Babate** comp=Z,366nm,0.8s,baz=130,slow=3.2,SNR=45	**146.59**	**287**	PKPbc		**PKPbc**	17 16 11.6	**-0.8**
ITAB	**Concordia**	**146.59**	**176**	*e*P		**PKPdf**	17 16 10.2	**-0.2**
CPUP	**Villa Florida** comp=Z,25nm,0.8s,baz=203,slow=2.0,SNR=42	**146.71**	**167**	PKPbc		**PKPbc**	17 16 11.9	**-0.6**
CPUP	**Villa Florida**	**146.71**	**167**	PKPdf		**PKPdf**	17 16 11.3	**+0.7**
CPUP	**Villa Florida**	**146.71**	**167**	*e*P		**PKPdf**	17 16 10.6	**-0.1**
CPUP	**Villa Florida**	**146.71**	**167**	PKP2		**PKPdf**	17 16 11.4	**+0.7**
NNA	**Nana** comp=Z,41nm,0.8s,baz=248,slow=7.4,SNR=3.1	**147.29**	**124**	PKPbc		**PKPbc**	17 16 14.0	**-0.5**
NNA	**Nana**	**147.29**	**124**	PKPdf		**PKPdf**	17 16 11.6	**-0.5**
NNA	**Nana**	**147.29**	**124**	PKP2		**PKPbc**	17 16 14.0	**-0.5**
MCRA	**Macar, Loja**	**147.79**	**108**	PKPdf		**PKPdf**	17 16 12.4	**-0.5**
MCRA						**PKiKP**	17 16 16.9	**-0.9**
PRVC	**Isla de Provid**	**147.83**	**75**	PKPdf		**PKPdf**	17 16 12.1	**-0.7**
PRVC				PKPab		**PKiKP**	17 16 17.2	**-0.5**
ATAH	**Atahualpa** comp=Z,49nm,0.9s,baz=252,slow=0.8,SNR=11	**148.22**	**114**	PKPbc		**PKPbc**	17 16 16.9	**-0.6**
TIJ01	**Guaruva-PR**	**148.59**	**181**	*e*P		**PKPdf**	17 16 13.4	**-0.6**
PTGB	**Pitanga**	**149.10**	**175**	*e*P		**PKPdf**	17 16 14.1	**-0.7**
MCR1	**Marechal Candi**	**149.13**	**172**	*e*P		**PKPdf**	17 16 14.5	**-0.2**
PET01	**Itanhaem-SP**	**149.55**	**184**	*e*P		**PKPdf**	17 16 15.0	**-0.4**
BOSC	**San Juan Bosco**	**149.55**	**107**			**PKPdf**	17 16 15.8	**-0.1**
BOSC					PKPbc	**PKiKP**	17 16 22.2	**+0.6**
PARB	**Paraibuna**	**150.33**	**187**	*e*P		**PKPdf**	17 16 16.6	**-0.1**
MAN01	**Angra dos Reis**	**150.54**	**190**	*e*P		**PKPdf**	17 16 17.1	**+0.1**
FRTB	**Fartura**	**150.57**	**180**	*e*P		**PKPdf**	17 16 16.9	**-0.2**
VAO	**Valinhos**	**150.80**	**185**	*e*P		**PKPdf**	17 16 17.6	**+0.1**
TRCB	**Terra Rica**	**150.95**	**174**	*e*P		**PKPdf**	17 16 17.2	**-0.5**
LPAZ	**La Paz** comp=Z,4.4nm,0.9s,baz=263,slow=1.0,SNR=14	**150.96**	**141**	PKP		**PKPdf**	17 16 20.1	**+1.5**
LPAZ					PKPbc	**PKiKP**	17 16 26.0	**+1.1**
LPAZ	**La Paz** comp=Z,31nm,0.5s,baz=144,slow=1.6,SNR=83	**150.96**	**141**	*e*P		**PKPdf**	17 16 17.7	**-0.9**
DUB01	**Friburgo-RJ**	**150.98**	**194**	*e*P		**PKPdf**	17 16 16.9	**-0.9**
VAS01	**Vassouras-RJ**	**151.02**	**192**	*e*P		**PKPdf**	17 16 17.7	**-0.1**
CAM01	**Campos-RJ**	**151.04**	**195**	*e*P		**PKPdf**	17 16 17.6	**-0.2**
MURT	**Porto Murtinho**	**151.12**	**164**	*e*P		**PKPdf**	17 16 17.6	**-0.3**
ALF01	**Guarapari-ES**	**151.93**	**198**	*e*P		**PKPdf**	17 16 18.7	**-0.4**
PCMB	**Pacaembu**	**152.24**	**176**	*e*P		**PKPdf**	17 16 19.8	**+0.2**
AQDB	**Aquidauana**	**152.73**	**167**	*e*P		**PKPdf**	17 16 20.2	**-0.1**
BB19B	**Bebedouro**	**152.82**	**182**	*e*P		**PKPdf**	17 16 20.5	**0.0**
CZSB	**Cruzeiro do Su**	**152.98**	**121**	*e*P		**PKPdf**	17 16 21.2	**+0.4**
RIB01	**Linhares ES**	**153.05**	**199**	*e*P		**PKPdf**	17 16 20.9	**+0.1**
BBRB	**Robore, Bolivi**	**153.56**	**157**	*e*P		**PKPdf**	17 16 21.9	**+0.3**
SJMB	**Sao Joao De Ma**	**153.87**	**198**	*e*P		**PKPdf**	17 16 22.4	**+0.4**
ITRB	**Iturama**	**154.17**	**178**	*e*P		**PKPdf**	17 16 22.6	**+0.2**
BBSD	**Serra de San D**	**154.22**	**155**	*e*P		**PKPdf**	17 16 22.8	**+0.2**
NAN01	**Guarapari, ES**	**154.32**	**201**	*e*P		**PKPdf**	17 16 22.4	**-0.2**
DIAM	**Diamantina, MG**	**154.93**	**193**	*e*P		**PKPdf**	17 16 23.8	**+0.1**
SIV	**San Ignacio** comp=Z,4.7nm,0.9s,baz=201,slow=1.8,SNR=17	**155.08**	**153**	PKP		**PKPdf**	17 16 24.3	**+0.5**
SIV					PKPab	**PKPab**	17 16 49.8	**+1.2**
GUA01	**Guaratinga, BA** comp=Z,12nm,0.9s,baz=195,slow=6.2,SNR=3.2	**155.36**	**203**	*e*P		**PKPdf**	17 16 25.0	**+0.9**
IPMB	**Ipameri, GO**	**155.87**	**183**	*e*P		**PKPdf**	17 16 25.4	**+0.6**
CMC01	**Camacan, BA**	**156.35**	**205**	*e*P		**PKPdf**	17 16 25.4	**0.0**
PTLB	**Pontes e Lacer**	**156.39**	**156**	*e*P		**PKPdf**	17 16 25.7	**+0.3**
MC01	**Montes Claros**	**156.52**	**193**	*e*P		**PKPdf**	17 16 26.5	**+0.8**
ETMB	**Extrema**	**156.91**	**134**	*e*P		**PKPdf**	17 16 27.0	**+0.8**
SALV	**Santo Antonio**	**157.13**	**164**	*e*P		**PKPdf**	17 16 27.1	**+0.7**
ARAG	**Araguaiana, MT**	**158.04**	**174**	*e*P		**PKPdf**	17 16 28.1	**+0.5**
VILB	**Vilhena**	**158.13**	**151**	*e*P		**PKPdf**	17 16 28.5	**+0.8**
BDFB	**Brasilia** comp=Z,3.9nm,0.6s,baz=173,slow=1.0,SNR=6.2	**158.18**	**184**	PKP		**PKPdf**	17 16 28.4	**+0.5**
BDFB	**Brasilia**	**158.18**	**184**	*e*P		**PKPdf**	17 16 28.4	**+0.5**
JANB	**Januaria**	**158.20**	**194**	*e*P		**PKPdf**	17 16 28.8	**+0.9**
SDV	**Santo Domingo** comp=Z,34nm,0.9s,baz=255,slow=0.3,SNR=30	**158.87**	**82**	PKP		**PKPdf**	17 16 29.1	**+0.2**
SDV	**Santo Domingo**	**158.87**	**82**	PKPdf		**PKPdf**	17 16 28.1	**-0.8**
SDV	**Santo Domingo**	**158.87**	**82**	*e*P		**PKPdf**	17 16 29.0	**+0.2**
CRPR	**Cabo Rojo, PR**	**159.21**	**54**	PKPdf		**PKPdf**	17 16 27.7	**-1.2**
CRPR						**PKPab**	17 17 05.7	**-0.8**
HUMP	**Col San Antoni**	**160.14**	**52**	PKPdf		**PKPdf**	17 16 28.6	**-1.3**
HUMP					PKPab	**PKPab**	17 17 10.3	**-0.3**
PDRB	**Porto dos Gac**	**160.82**	**158**	*e*P		**PKPdf**	17 16 31.4	**+0.5**
SDBA	**SAO DESIDERIO**	**160.89**	**194**	*e*P		**PKPdf**	17 16 31.5	**+0.6**
BAUV	**El Baul**	**161.41**	**81**	PKPdf		**PKPdf**	17 16 30.6	**-0.9**
CLDB	**Colider**	**161.84**	**160**	*e*P		**PKPdf**	17 16 32.3	**+0.4**
RCBR	**Riachuelo** baz=198,slow=3.2	**161.89**	**229**	PKP		**PKPdf**	17 16 32.3	**+0.2**
SMTB	**Santa Maria do**	**164.85**	**187**	*e*P		**PKPdf**	17 16 35.5	**+0.7**
NPGB	**Novo Progresso**	**165.53**	**156**	*e*P		**PKPdf**	17 16 36.5	**+1.1**
PRPB	**Parauapebas**	**167.63**	**178**	*e*P		**PKPdf**	17 16 37.9	**+1.0**
ITTB	**Itaituba**	**167.72**	**149**	*e*P		**PKPdf**	17 16 38.0	**+1.0**
BOAV	**Boa Vista**	**168.34**	**109**	*e*P		**PKPdf**	17 16 38.5	**+1.0**
ROSB	**Rosrio**	**169.44**	**211**	*e*P		**PKPdf**	17 16 39.0	**+0.9**
TMAB	**Tom-Au,PA,Br**	**171.31**	**189**	*e*P		**PKPdf**	17 16 40.2	**+1.0**
MCPB	**Macapa, AP**	**172.93**	**159**	*e*P		**PKPdf**	17 16 41.1	**+1.2**
MDP	**Montagnes des** comp=Z,26nm,1.2s,baz=246,slow=0.6,SNR=4.0	**176.65**	**110**	PKP		**PKPdf**	17 16 40.8	**-0.2**

WEL 17 16:58:13.7±0.3,42°S±3°×17°3E±°, h5km, M3.4/34, ML3.7/12, MLv3.4/34, Error ellipse: s-maj=0.0km s-min=0.0km az=129.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.13**	**64**	P	Pg	16 58 16.5	+0.2
KHZ				S	Sg	16 58 18.8	+0.8
GVZ	**Greta Valley S**	**0.56**	**207**	P	Pg	16 58 25.0	+0.5
GVZ				S	Sb	16 58 33.7	-0.6
THZ	**Tophouse**	**0.79**	**333**	P	Pg	16 58 29.3	+0.3
BSWZ	**Blackbirch Sta**	**0.84**	**26**	P	Pg	16 58 30.0	+0.2
LTZ	**Lake Taylor**	**0.88**	**249**	P	Pg	16 58 30.5	0.0
AMCZ	**Amberley**	**0.89**	**217**	P	Pg	16 58 30.4	-0.3
CMWZ	**Cape Campbell**	**0.95**	**41**	P	Pb	16 58 32.9	+0.2
TUWZ	**Tuamarina**	**1.12**	**22**	P	Pg	16 58 34.9	-0.3
MRNZ	**Matariki Terra**	**1.17**	**336**	P	Pg	16 58 36.1	-0.1
NNZ	**Nelson**	**1.25**	**360**	P	Pg	16 58 37.0	-0.8
OKCZ	**Okains Bay**	**1.27**	**191**	P	Pg	16 58 35.2	-2.9
OXZ	**Oxford**	**1.31**	**229**	P	Pn	16 58 35.9	-2.7
MQZ	**McQueen's Vall**	**1.34**	**203**	P	Pn	16 58 35.7	-3.4
DSZ	**Denniston Nort**	**1.38**	**301**	P	Pn	16 58 39.1	-0.6
TCW	**Tory Channel**	**1.43**	**28**	P	Pn	16 58 38.5	-1.7
AKCZ	**Akaroa Harbour**	**1.44**	**194**	P	Pn	16 58 37.4	-3.1
INZ	**Inchbonnie**	**1.45**	**259**	P	Pn	16 58 39.3	-1.3
TKNZ	**Takaka Hill**	**1.47**	**347**	P	Pn	16 58 40.4	-0.5
RACZ	**Rakaia**	**1.55**	**216**	P	Pn	16 58 38.9	-3.0
WEL	**Wellington**	**1.57**	**41**	P	Pn	16 58 40.2	-2.1
MHCZ	**Mount Hutt**	**1.70**	**231**	P	Pn	16 58 41.3	-2.8
DUWZ	**D'Urville Isla**	**1.72**	**14**	P	Pn	16 58 43.7	-0.6
MSWZ	**Moikau Station**	**1.75**	**53**	P	Pn	16 58 41.9	-2.8
QRZ	**Quartz Range**	**1.77**	**338**	P	Pn	16 58 45.3	+0.4
WACZ	**Wakanui South**	**1.85**	**217**	P	Pn	16 58 43.1	-3.0
CAW	**Cannon Point**	**1.86**	**43**	P	Pn	16 58 43.8	-2.4
PAWZ	**Paruwai Farm**	**1.87**	**55**	P	Pn	16 58 43.3	-3.1
KIW	**Kapiti Island**	**1.98**	**36**	P	Pn	16 58 46.0	-1.8
WVZ	**Waitaha Valley**	**2.04**	**252**	P	Pn	16 58 47.3	-1.4
MTW	**Mount Morrison**	**2.06**	**51**	P	Pn	16 58 45.9	-3.0
RPZ	**Rata Peaks**	**2.11**	**233**	P	Pn	16 58 47.1	-2.6
OGWZ	**Otaki Gorge**	**2.13**	**40**	P	Pn	16 58 47.6	-2.3
ARCZ	**Arundel**	**2.19**	**227**	P	Pn	16 58 47.8	-2.9
HOWZ	**Holdsworth Sta**	**2.24**	**46**	P	Pn	16 58 48.8	-2.7
GCSZ	**Gaunt Creek Bo**	**2.40**	**248**	P	Pn	16 58 52.6	-1.0
MRZ	**Mangatainoka R**	**2.45**	**43**	P	Pn	16 58 51.9	-2.5
TMZ	**Timaru**	**2.58**	**221**	P	Pn	16 58 53.2	-2.9
PRWZ	**Pori Road**	**2.73**	**46**	P	Pb	16 59 00.7	-2.3
BFZ	**Birch Farm**	**2.79**	**51**	P	Pn	16 58 58.7	-0.4
FOZ	**Fox Glacier**	**2.82**	**247**	P	Pn	16 58 58.7	-0.8
WAZ	**Wanganui**	**2.97**	**25**	P	Pn	16 59 02.0	+0.5
LBZ	**Lake Benmore**	**3.02**	**230**	P	Pn	16 58 59.7	-2.4
DVHZ	**Dannevirke**	**3.02**	**45**	P	Pn	16 59 01.9	-0.2
TSZ	**Takapari Road**	**3.10**	**40**	P	Pn	16 59 04.3	+1.0
LREZ	**Lake Rotokare**	**3.11**	**15**	P	Pb	16 59 06.9	-2.5
KHEZ	**Kahui Hut**	**3.21**	**9**	P	Pn	16 59 07.6	+2.7
ODZ	**Otahua Downs**	**3.25**	**217**	P	Pn	16 59 02.1	-3.2
PKE	**Pukeiti**	**3.31**	**8**	P	Pn	16 59 07.2	+1.0
PNHZ	**Pukenui**	**3.32**	**41**	P	Pn	16 59 07.2	+0.8
VRZ	**Vera Road**	**3.50**	**18**	P	Pn	16 59 08.9	+0.1
MOVZ	**Moawhango**	**3.55**	**31**	P	Pn	16 59 09.8	+0.2
WNVZ	**Wahianoa**	**3.56**	**29**	P	Pn	16 59 09.3	-0.5
TRVZ	**Turoa**	**3.57**	**28**	P	Pn	16 59 11.2	+1.2
BHHZ	**Black Hill Sta**	**3.60**	**35**	P	Pn	16 59 12.4	+2.1
NNVZ	**North Ngauruho**	**3.74**	**28**	P	Pn	16 59 12.4	+0.1
WTVZ	**West Tongariro**	**3.75**	**27**	P	Pb	16 59 17.2	-3.3
EAZ	**Earnscleugh**	**4.04**	**226**	P	Pn	16 59 13.1	-3.1
BKZ	**Black Stump Fm**	**4.06**	**37**	P	Pb	16 59 22.0	-3.7
HIZ	**Hauiti**	**4.11**	**16**	P	Pn	16 59 17.3	+0.1
MLZ	**Mavora Lakes**	**4.78**	**231**	P	Pn	16 59 23.5	-2.8
TOZ	**Tahuroa Road**	**5.01**	**20**	P	Pn	16 59 28.2	-1.3
SYZ	**Scrubby Hill**	**5.07**	**215**	P	Pn	16 59 27.5	-2.8
MWZ	**Matawai**	**5.21**	**39**	P	Pn	16 59 33.4	+1.1
AWAZ	**Awhitu Peninsu**	**5.49**	**11**	P	Pn	16 59 36.1	0.0
MKAZ	**Moumakai**	**5.53**	**15**	P	Pn	16 59 35.6	-1.1
ETAZ	**East Tamaki Re**	**5.64**	**13**	P	Pn	16 59 37.9	-0.3
APZ	**The Paps**	**5.81**	**220**	P	Pn	16 59 37.5	-3.1
WIAZ	**Waiheke Island**	**5.83**	**14**	P	Pn	16 59 40.3	-0.5

*IPEC **17** 17:00:15.0±0.4, 51.53N×16.21E, h0km±1km, ML2.6/5, Error ellipse: s-maj=2.6km s-min=1.2km az=31.0*
*PRU **17** 17:00:16.5±0.0, 51.45N×16.07E, h0km*
*VIE **17** 17:00:16.8, 51.36N×16.30E, h0km, ML2.7/2 58 km WNW of Wroclaw Suspected Mining induced.*
*IDC **17** 17:00:16.7±0.7, 51.45N×16.00E, h0km, mbtmp3.3/9, ML2.9/9, Error ellipse: s-maj=13.6km s-min=6.9km az=107.0*

ISC 17 17:00:14.3±0.7, 51.57N±0.03×16.13E±0.02, h0km, n55, σ19.72/107, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**172**	*e*Pg	**Pg**	**17 00 28.6**	**+0.2**
KSP				*e*Sg	**Sg**	**17 00 37.1**	**-0.8**
OSTC	**Ostas**	**1.01**	**177**	*e*PG	**Pg**	**17 00 33.6**	**-0.2**
OSTC				*e*SG	**Sg**	**17 00 45.7**	**-1.2**
	comp=Z,54nm,0.3s						
UPC	**Upice**	**1.07**	**184**	*e*PG	**Pg**	**17 00 34.5**	**-0.2**
UPC				*e*SG	**Sg**	**17 00 47.3**	**-1.2**
	comp=Z,120nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*PG	**Pg**	**17 00 37.3**	**-0.5**
DPC				*e*SG	**Sg**	**17 00 52.3**	**-1.4**
	comp=Z,31nm,0.4s						
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pn**	**17 00 41.1**	**-0.5**
PVCC				*e*SG	**Sg**	**17 00 59.4**	**-1.0**
	comp=Z,174nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**244**	Pg	**Pg**	**17 00 44.2**	**+0.3**
BRG				Sg	**Sn**	**17 01 04.4**	**+0.5**
BRG				Amp		17 01 05.1	
	comp=Z,66nm,0.3s						
BRG				⇓*i*Pdif		17 11 07.2	
BRG				Amp		17 11 08.3	
	comp=Z,5.4nm,1.0s						
KRLC	**Kraliky**	**1.55**	**164**	*e*PG	**Pn**	**17 00 43.0**	**-0.2**
KRLC				*e*SG	**Sn**	**17 01 02.2**	**-1.9**
	comp=Z,55nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	*e*PG	**Pn**	**17 00 47.1**	**-0.4**
GOPC				*e*SG	**Sb**	**17 01 12.7**	**-0.4**
	comp=Z,15nm,0.2s						
PRU	**Pruhonice**	**1.88**	**213**	*e*PG	**Pn**	**17 00 47.3**	**-0.4**
PRU				*e*SG	**Sb**	**17 01 12.7**	**-0.8**
	comp=Z,31nm,0.5s						
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**17 00 49.3**	**+0.2**
	comp=Z,6.0nm,0.4s						
CLL				*i* Pg	**Pb**	**17 00 51.6**	**+0.4**
CLL				*i* x	x	17 00 56.7	
CLL				*i* x	x	17 01 07.0	
CLL				*i* Sg	**Sg**	**17 01 19.1**	**+1.3**
	comp=Z,23nm,0.3s						
MORC	**Moravsky Berou**	**2.01**	**153**	*e*PN	**Pn**	**17 00 49.3**	**-0.2**
MORC				*e*SG	**Sn**	**17 01 16.0**	**+0.7**
MORC	**Moravsky Berou** baz=335	**2.01**	**153**	*e*Pn	**Pn**	**17 00 49.3**	**-0.2**
MORC				*e*Sg	**Sn**	**17 01 16.0**	**+0.7**
	comp=Z,43nm,0.6s,baz=335						
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*PG	**Pb**	**17 00 54.7**	**+0.5**
OKC				*e*SG	**Sb**	**17 01 22.4**	**+0.9**
	comp=Z,56nm,0.8s						
VRAC	**Vranov** comp=Z,2.0nm,0.3s,baz=350,slow=15,SNR=18	**2.28**	**172**	Pn	**Pn**	**17 00 53.7**	**+0.4**
VRAC				Lg	Lg	17 01 24.8	
	comp=Z,5.0nm,0.3s,baz=0.0,slow=20,SNR=8.9						
	comp=Z,4.8nm,0.3s						
VRAC	**Vranov**	**2.28**	**172**	*e*PN	**Pn**	**17 00 53.6**	**+0.4**
VRAC				*e*SG	**Sb**	**17 01 25.1**	**-0.1**
VRAC	**Vranov** baz=354	**2.28**	**172**	*e*Pn	**Pn**	**17 00 53.5**	**+0.2**
VRAC				*e*Sg	**Sb**	**17 01 25.0**	**-0.1**
	comp=Z,30nm,0.7s,baz=354						
TREC	**Trest**	**2.31**	**191**	*e*PG	**Pn**	**17 00 54.9**	**+1.2**
TREC				*e*SG	**Sb**	**17 01 25.4**	**-0.7**
	comp=Z,22nm,0.5s						
MAUC	**Maruska**	**2.46**	**153**	*e*PN	**Pn**	**17 00 56.2**	**+0.5**
MAUC				*e*PG	**Pb**	**17 00 59.9**	**+0.5**
MAUC				*e*SG	**Sg**	**17 01 32.1**	**-1.1**
	comp=Z,56nm,0.8s						
KRUC	**Moravsky**	**2.52**	**176**	*e*PN	**Pn**	**17 00 56.6**	**+0.1**
KRUC				*e*SG	**Sb**	**17 01 32.4**	**+0.6**
KRUC	**Moravsky** baz=357	**2.52**	**176**	*e*Pn	**Pn**	**17 00 56.6**	**+0.1**
KRUC				*e*Sg	**Sb**	**17 01 32.3**	**+0.5**
	comp=Z,27nm,0.6s,baz=357						
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**17 01 05.2**	**-0.6**
OJC				*e*Sg	**Sg**	**17 01 39.8**	**-0.8**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**17 00 59.3**	**+0.4**
NKC				*e*SG	**Sg**	**17 01 40.0**	**-0.7**
	comp=Z,36nm,0.3s						
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**17 01 02.6**	**+0.3**
KHC				*e*PG	**Pb**	**17 01 07.7**	**+0.1**
KHC				*e*SN	**Sn**	**17 01 37.4**	**-0.9**
KHC				*e*SG	**Sg**	**17 01 46.3**	**-2.4**
	comp=Z,15nm,0.7s						
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e*PN	**Pn**	**17 01 03.5**	**+0.5**
CKRC				*e*PG	**Pb**	**17 01 08.7**	**+0.2**
CKRC				*e*SG	**Sg**	**17 01 47.9**	**-2.5**
GERES	**GERESS Array B** comp=Z,1.1nm,0.3s,baz=28,slow=12,SNR=17	**3.14**	**211**	Pn	**Pn**	**17 01 05.5**	**+0.3**
GERES				Pg	**Pb**	**17 01 11.6**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=31,slow=18,SNR=24						
GERES				Lg	Lg	17 01 51.9	
	comp=Z,4.6nm,0.3s,baz=32,slow=29,SNR=9.6						
	comp=Z,2.1nm,0.4s						
MODS	**Modra-Piesok**	**3.28**	**167**	*e*PN	**Pn**	**17 01 07.4**	**+0.4**
MODS				*e*PG	**Pg**	**17 01 15.8**	**-1.4**
MODS				*e*SG	**Sb**	**17 01 56.9**	**+3.0**
ZST	**Bratislava**	**3.43**	**169**	*e*SG	**Sg**	**17 02 02.4**	**-2.2**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**17 01 11.2**	**+0.7**
VYHS				*e*PG	**Pg**	**17 01 22.3**	**+0.2**
VYHS				*e*SG	**Sg**	**17 02 05.1**	**-2.8**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**17 01 13.0**	**+1.3**
BSD				*e*S	**Sn**	**17 01 52.7**	**-2.5**
CONA	**Conrad Observa** comp=Z,2.2nm,0.3s,SNR=7.3	**3.65**	**183**	Pn	**Pn**	**17 01 12.9**	**+0.8**
CONA				*e*Sg	**Sg**	**17 02 09.2**	**-2.3**
	comp=Z,5.5nm,0.4s						
RONA	**Rosalia, Austr** comp=Z,0.9nm,0.2s	**3.88**	**178**	*e*Pn	**Pn**	**17 01 17.2**	**+2.0**
RONA				*e*Sg	**Sg**	**17 02 15.6**	**-3.2**
	comp=Z,3.1nm,0.3s						
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PN	**Pn**	**17 01 17.0**	**+1.4**
STHS				*e*PG	**Pg**	**17 01 30.2**	**+1.0**
STHS				*e*SG	**Sg**	**17 02 22.8**	**+2.9**
MOA	**Molln** comp=Z,1.7nm,0.2s,SNR=4.8	**3.92**	**199**	Pn	**Pn**	**17 01 16.3**	**+0.5**
M

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**211**	P	Pg	17 09 34.4	+0.6
KHZ				S	Sg	17 09 38.1	+1.1
BSWZ	**Blackbirch Sta**	**0.51**	**14**	P	Pg	17 09 39.5	+0.5
CMWZ	**Cape Campbell**	**0.60**	**39**	P	Pg	17 09 40.5	-0.2
THZ	**Tophouse**	**0.75**	**307**	P	Pg	17 09 43.6	+0.1
THZ				S	Sg	17 09 53.6	+0.4
TUWZ	**Tuamarina**	**0.80**	**13**	P	Pg	17 09 44.9	+0.3
GVZ	**Greta Valley S**	**0.90**	**213**	P	Pb	17 09 47.4	+0.1
NNZ	**Nelson**	**1.02**	**346**	P	Pg	17 09 48.5	-0.3
MRNZ	**Matariki Terra**	**1.08**	**319**	P	Pg	17 09 49.8	-0.1
TCW	**Tory Channel**	**1.09**	**23**	P	Pg	17 09 49.8	-0.3
LTZ	**Lake Taylor**	**1.20**	**241**	P	Pg	17 09 51.6	-0.6
WEL	**Wellington**	**1.22**	**41**	P	Pg	17 09 52.0	-0.7
AMCZ	**Amberley**	**1.24**	**219**	P	Pg	17 09 52.2	-0.7
TKNZ	**Takaka Hill**	**1.30**	**334**	P	Pn	17 09 53.6	-0.5
PLWZ	**Palliser**	**1.32**	**61**	P	Pn	17 09 52.7	-1.7
MSWZ	**Moikau Station**	**1.40**	**56**	P	Pn	17 09 53.7	-1.7
DUWZ	**D'Urville Isla**	**1.42**	**7**	P	Pn	17 09 55.1	-0.6
DSZ	**Denniston Nort**	**1.49**	**288**	P	Pb	17 09 57.2	-0.3
CAW	**Cannon Point**	**1.50**	**43**	P	Pn	17 09 55.5	-1.3
PAWZ	**Paruwai Farm**	**1.53**	**58**	P	Pn	17 09 55.3	-1.9
OKCZ	**Okains Bay**	**1.58**	**197**	P	Pn	17 09 56.5	-1.4
KIW	**Kapiti Island**	**1.63**	**34**	P	Pn	17 09 57.7	-0.8
QRZ	**Quartz Range**	**1.64**	**327**	P	Pn	17 09 59.3	+0.6
OXZ	**Oxford**	**1.66**	**227**	P	Pn	17 09 57.1	-1.8
MQZ	**McQueen's Vall**	**1.68**	**207**	P	Pn	17 09 56.6	-2.6
TRWZ	**Traveller**	**1.69**	**62**	P	Pn	17 09 57.1	-2.3
MTW	**Mount Morrison**	**1.71**	**53**	P	Pn	17 09 57.7	-1.9
INZ	**Inchbonnie**	**1.75**	**252**	P	Pn	17 09 60.0	-0.2
OGWZ	**Otaki Gorge**	**1.78**	**39**	P	Pn	17 09 59.3	-1.2
HOWZ	**Holdsworth Sta**	**1.89**	**47**	P	Pn	17 10 00.3	-1.9
RACZ	**Rakaia**	**1.90**	**217**	P	Pn	17 10 00.3	-2.0
TMWZ	**Te Maipa**	**1.98**	**57**	P	Pn	17 10 01.0	-2.3
MHCZ	**Mount Hutt**	**2.05**	**229**	P	Pn	17 10 02.6	-1.8
MRZ	**Mangatainoka R**	**2.10**	**43**	P	Pn	17 10 03.2	-1.8
WACZ	**Wakanui South**	**2.20**	**218**	P	Pn	17 10 05.0	-1.4
OHWZ	**Ohakea**	**2.34**	**32**	P	Pn	17 10 08.8	+0.5
WVZ	**Waitaha Valley**	**2.35**	**248**	P	Pn	17 10 08.0	-0.5
PRWZ	**Pori Road**	**2.38**	**47**	P	Pn	17 10 06.6	-2.2
POWZ	**Post Office Ro**	**2.39**	**41**	P	Pn	17 10 07.2	-1.8
BFZ	**Birch Farm**	**2.45**	**52**	P	Pn	17 10 07.4	-2.4
RPZ	**Rata Peaks**	**2.46**	**231**	P	Pn	17 10 08.4	-1.5
ARCZ	**Arundel**	**2.54**	**226**	P	Pn	17 10 09.5	-1.5
GCSZ	**Gaunt Creek Bo**	**2.72**	**245**	P	Pn	17 10 15.4	+1.9
TSZ	**Takapari Road**	**2.75**	**39**	P	Pn	17 10 12.0	-1.9
NMEZ	**Namu Road**	**2.80**	**3**	P	Pb	17 10 19.7	0.0
LREZ	**Lake Rotokare**	**2.80**	**11**	P	Pn	17 10 16.0	+1.3
PREZ	**Palmer Road**	**2.89**	**7**	P	Pb	17 10 18.7	-2.5
KHEZ	**Kahui Hut**	**2.93**	**5**	P	Pb	17 10 19.8	-2.1
TMZ	**Timaru**	**2.93**	**221**	P	Pn	17 10 16.0	-0.5
NBEZ	**Newall Road No**	**2.94**	**2**	P	Pb	17 10 19.6	-2.5
NEZ	**North Egmont**	**2.96**	**6**	P	Pn	17 10 19.3	+2.5
PNHZ	**Pukenui**	**2.97**	**40**	P	Pn	17 10 14.9	-2.2
PKE	**Pukeiti**	**3.02**	**4**	P	Pn	17 10 20.4	+2.7
DREZ	**Durham Road**	**3.04**	**7**	P	Pn	17 10 19.8	+1.8
VRZ	**Vera Road**	**3.19**	**15**	P	Pn	17 10 20.8	+0.8
MOVZ	**Moawhango**	**3.21**	**30**	P	Pn	17 10 19.4	-0.9
WNVZ	**Wahianoa**	**3.22**	**27**	P	Pn	17 10 19.1	-1.5
TRVZ	**Turoa**	**3.23**	**26**	P	Pn	17 10 20.8	+0.1
BHHZ	**Black Hill Sta**	**3.26**	**34**	P	Pn	17 10 19.4	-1.6
WHVZ	**Whangaehu Hut**	**3.26**	**27**	P	Pn	17 10 19.5	-1.6
NGZ	**Ngauruhoe**	**3.36**	**26**	P	Pn	17 10 22.6	+0.2
OTVZ	**Oturere**	**3.39**	**27**	P	Pn	17 10 22.7	-0.2
NNVZ	**North Ngauruho**	**3.40**	**26**	P	Pn	17 10 23.0	-0.1
WVZ	**West Tongariro**	**3.41**	**25**	P	Pn	17 10 22.8	-0.3
TMVZ	**Te Maari**	**3.45**	**27**	P	Pn	17 10 23.1	+0.1
NTVZ	**North Tongarir**	**3.45**	**26**	P	Pn	17 10 24.4	+0.6
KWHZ	**Kaweka Forest**	**3.47**	**37**	P	Pn	17 10 21.6	-2.3
KATZ	**Kakaramea**	**3.57**	**26**	P	Pb	17 10 30.8	-2.1
ODZ	**Otahua Downs**	**3.60**	**217**	P	Pn	17 10 23.7	-1.9
HIZ	**Hauiti**	**3.80**	**14**	P	Pn	17 10 29.4	+1.1
MRHZ	**Matea Rd**	**3.96**	**32**	P	Pn	17 10 28.0	-2.6
JCZ	**Jackson Bay**	**4.05**	**241**	P	Pn	17 10 32.7	+0.8
MTHZ	**Maungataniwha**	**4.12**	**36**	P	Pn	17 10 30.8	-2.1
TOZ	**Tahuroa Road**	**4.69**	**18**	P	Pn	17 10 40.4	-0.2
AWAZ	**Awhitu Peninsu**	**5.19**	**8**	P	Pn	17 10 48.4	+0.9
MKAZ	**Moumakai**	**5.22**	**13**	P	Pn	17 10 47.8	-0.2
HAZ	**Te Kaha**	**5.44**	**36**	P	Pn	17 10 47.8	-3.1
WIAZ	**Waiheke Island**	**5.53**	**12**	P	Pn	17 10 52.9	+0.8

WEL 17 17:26:16.5±0.5, 42°S±3°×17°4E±°, h12km, M3.8/24, ML4.1/14, MLv3.8/24, Error ellipse: s-maj=0.0km s-min=0.0km az=112.1, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.41**	**262**	P	Pg	17 26 25.1	+0.4
KHZ				S	Sb	17 26 32.0	+0.1
CMWZ	**Cape Campbell**	**0.62**	**8**	P	Pb	17 26 30.0	+0.7
BSWZ	**Blackbirch Sta**	**0.67**	**346**	P	Pg	17 26 29.4	0.0
TUWZ	**Tuamarina**	**0.94**	**353**	P	Pg	17 26 34.5	0.0
TUWZ				S	Sn	17 26 48.3	-0.5
GVZ	**Greta Valley S**	**0.99**	**232**	P	Pb	17 26 36.1	0.0
THZ	**Tophouse**	**1.07**	**304**	P	Pb	17 26 36.6	-0.3
TCW	**Tory Channel**	**1.16**	**7**	P	Pb	17 26 37.7	-0.8
PLWZ	**Palliser**	**1.18**	**48**	P	Pb	17 26 37.8	-0.9
WEL	**Wellington**	**1.19**	**25**	P	Pn	17 26 38.3	-0.6
NNZ	**Nelson**	**1.26**	**335**	P	Pn	17 26 39.5	-0.4
MRNZ	**Matariki Terra**	**1.39**	**314**	P	Pn	17 26 41.9	+0.3
LTZ	**Lake Taylor**	**1.41**	**252**	P	Pn	17 26 41.6	-0.4
OKCZ	**Okains Bay**	**1.56**	**209**	P	Pn	17 26 43.4	-0.6
TKNZ	**Takaka Hill**	**1.57**	**327**	P	Pn	17 26 44.4	+0.1
MQZ	**McQueen's Vall**	**1.71**	**218**	P	Pn	17 26 44.7	-1.3
AKCZ	**Akaroa Harbour**	**1.74**	**209**	P	Pn	17 26 46.0	-0.5
OXZ	**Oxford**	**1.79**	**237**	P	Pn	17 26 46.3	-0.9
DSZ	**Denniston Nort**	**1.81**	**289**	P	Pb	17 26 48.7	-0.9
RACZ	**Rakaia**	**1.98**	**226**	P	Pn	17 26 49.3	-0.5
MHCZ	**Mount Hutt**	**2.19**	**237**	P	Pn	17 26 51.7	-1.0
WACZ	**Wakanui South**	**2.28**	**225**	P	Pn	17 26 52.9	-1.1
WVZ	**Waitaha Valley**	**2.57**	**259**	P	Pn	17 26 58.0	+0.1
RPZ	**Rata Peaks**	**2.60**	**238**	P	Pn	17 26 57.5	-0.9
ARCZ	**Arundel**	**2.66**	**232**	P	Pn	17 26 58.5	-0.7
PNHZ	**Pukenui**	**2.92**	**34**	P	Pn	17 27 01.0	-1.8
GCSZ	**Gaunt Creek Bo**	**2.93**	**250**	P	Pn	17 27 03.2	+0.4
TMZ	**Timaru**	**3.02**	**227**	P	Pn	17 27 03.5	-0.7
TRVZ	**Turoa**	**3.25**	**20**	P	Pn	17 27 08.7	+1.2
VRZ	**Vera Road**	**3.27**	**9**	P	Pn	17 27 08.7	+1.1
DRZ	**Dome Shelter**	**3.28**	**20**	P	Pn	17 27 09.2	+1.2
WHVZ	**Whangaehu Hut**	**3.28**	**21**	P	Pn	17 27 08.9	+1.0
FWVZ	**Far West T-bar**	**3.30**	**20**	P	Pn	17 27 09.1	+1.0
FOZ	**Fox Glacier**	**3.35**	**248**	P	Pn	17 27 09.5	+0.9
ODZ	**Otahua Downs**	**3.67**	**222**	P	Pn	17 27 11.9	-1.0
HIZ	**Hauiti**	**3.89**	**9**	P	Pn	17 27 17.0	+0.9
JCZ	**Jackson Bay**	**4.24**	**244**	P	Pn	17 27 20.9	0.0
AWAZ	**Awhitu Peninsu**	**5.31**	**5**	P	Pn	17 27 36.9	+1.3
MKAZ	**Moumakai**	**5.32**	**9**	P	Pn	17 27 35.6	0.0
WIAZ	**Waiheke Island**	**5.62**	**9**	P	Pn	17 27 40.5	+0.6

TAP ***17*** *17:35:32.1, 23°.19N×120°.70E, h10km, ML3.5, B*
JMA ***17*** *17:35:33.2±0.1, 23°.0N±0°.2×120°.9E±0°.4, h4km, MV3.1/11, TAIWAN REGION*
ISC 17 17:35:32.3±0.7, 23°.15N±0°.01×120°.71E±0°.01, h17km±4km, n128, σ0.97/225, 20C-22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan** baz=114	**0.05**	**78**	⇓*iP*	**Pg**	**17 35 34.9**	**-0.5**
STYT				*i* S	**Sg**	**17 35 36.7**	**-0.9**
STYH	**Taoyuan** baz=104	**0.07**	**75**	⇓*iP*	**Pg**	**17 35 34.0**	**-1.4**
STYH				*i* S	**Sg**	**17 35 35.8**	**-1.8**
WTP	**Ta-pu** baz=309	**0.12**	**318**	⇑*iP*	**Pg**	**17 35 35.3**	**-0.8**
WTP				*i* S	**Sg**	**17 35 37.5**	**-1.2**
SGST	**Jiashian** baz=223	**0.13**	**238**	⇑*iP*	**Pg**	**17 35 35.2**	**-1.0**
SGST				*i* S	**Sg**	**17 35 38.0**	**-0.8**
TPUB	**Ta-pu**	**0.16**	**334**	P	**Pg**	**17 35 35.8**	**-0.8**
TPUB	**Ta-pu** baz=331	**0.16**	**334**	⇑*iP*	**Pg**	**17 35 35.9**	**-0.7**
TPUB				S	**Sg**	**17 35 38.3**	**-1.2**
CHN1	**Nanshi** baz=270	**0.17**	**281**	⇓*iP*	**Pg**	**17 35 36.5**	**-0.1**
CHN1				*i* S	**Sg**	**17 35 39.6**	**0.0**
CHN4	**Tsaushan** baz=337	**0.22**	**332**	⇓*iP*	**Pg**	**17 35 36.1**	**-1.3**
CHN4				*i* S	**Sg**	**17 35 39.7**	**-1.3**
TWK	**Hsinying** baz=293	**0.23**	**299**	⇓*iP*	**Pg**	**17 35 37.4**	**-0.2**
TWK				S	**Sg**	**17 35 41.1**	**-0.1**
ELDTW	**Lidau** baz=90	**0.29**	**83**	⇓*iP*	**Pb**	**17 35 39.1**	**0.0**
ELDTW				S	**Sb**	**17 35 43.2**	**-0.4**
WCKO	**Fanlu** baz=342	**0.30**	**342**	*i* P	**Pg**	**17 35 37.5**	**-1.3**
WCKO				S	**Sg**	**17 35 42.1**	**-1.0**
CHN3	**Shinhua** baz=263	**0.32**	**256**	⇓*iP*	**Pb**	**17 35 40.7**	**+1.1**
CHN3				S	**Sn**	**17 35 47.6**	**-0.9**
SCST	**Cishan** baz=200	**0.33**	**216**	⇑P	**Pb**	**17 35 40.6**	**+0.9**
SCST				*e*S	**Sn**	**17 35 47.3**	**-1.4**
SHHT	**Tainan City** baz=258	**0.35**	**248**	⇓P	**Pb**	**17 35 40.7**	**+0.6**
SHHT				*e*S	**Sn**	**17 35 47.9**	**-1.4**
ALS	**Alishan** baz=19	**0.37**	**14**	⇑*iP*	**Pg**	**17 35 39.8**	**-0.3**
ALS				*i* S	**Sg**	**17 35 45.0**	**-0.4**
SSHA	**Shanhua** baz=263	**0.39**	**268**	P	**Pb**	**17 35 41.7**	**+1.0**
SSHA				S	**Sn**	**17 35 49.5**	**-0.5**
YUS	**Yu-Shan** baz=39	**0.40**	**34**	⇑*iP*	**Pg**	**17 35 40.8**	**+0.1**
YUS				S	**Sg**	**17 35 46.1**	**-0.4**
TWM1	**Shoushan** baz=213	**0.42**	**219**	⇑*iP*	**Pn**	**17 35 43.0**	**-0.6**
TWM1				*e*S	**Sn**	**17 35 52.3**	**+1.4**
CHY	**Chiayi** baz=323	**0.43**	**323**	⇓P	**Pg**	**17 35 41.3**	**+0.3**
CHY				S	**Sb**	**17 35 48.7**	**+1.1**
CHN2	**Minshiung** baz=330	**0.43**	**331**	*e*P	**Pg**	**17 35 41.4**	**+0.3**
CHN2				S	**Sb**	**17 35 48.6**	**+1.0**
CHN5	**Tsauling** baz=5.0	**0.44**	**357**	P	**Pg**	**17 35 40.2**	**-1.1**
CHN5				*e*S	**Sg**	**17 35 46.5**	**-0.8**
ICHU	**Yijhu** baz=295	**0.44**	**298**	*i* P	**Pb**	**17 35 41.8**	**+0.2**
ICHU				S	**Sb**	**17 35 49.7**	**+1.7**
TSMG	**Majia** baz=178	**0.45**	**187**	⇑*iP*	**Pb**	**17 35 42.3**	**+0.6**
TSMG				*e*S	**Sb**	**17 35 49.1**	**+1.0**
TAI1	**Yung-k'ang** baz=264	**0.45**	**256**	*e*P	**Pn**	**17 35 43.7**	**-0.3**
TAI1				*e*S	**Sn**	**17 35 52.2**	**+0.5**
LONT	**Longtian** baz=125	**0.46**	**122**	⇓*iP*	**Pb**	**17 35 42.6**	**+0.6**
LONT				S	**Sn**	**17 35 50.1**	**-1.8**
SCLT	**Jiali** baz=269	**0.47**	**273**	*e*P	**Pb**	**17 35 42.7**	**+0.6**
SCLT				*e*S	**Sn**	**17 35 51.7**	**-0.5**
TWG	**Pinlang** baz=127	**0.47**	**134**	⇓*iP*	**Pb**	**17 35 43.0**	**+0.8**
TWG				*i* S	**Sn**	**17 35 50.4**	**-1.8**
ECS	**Chishang** baz=98	**0.48**	**97**	⇓*iP*	**Pb**	**17 35 42.9**	**+0.7**
ECS				S	**Sn**	**17 35 51.0**	**-1.3**
TWGBT	**Beinan**	**0.48**	**134**	P	**Pb**	**17 35 43.1**	**+0.8**
TWGBT	**Beinan** baz=127	**0.48**	**134**	⇓*iP*	**Pb**	**17 35 43.0**	**+0.7**
TWGBT				S	**Sn**	**17 35 50.4**	**-2.0**
CHN8	**Yiju** baz=291	**0.49**	**293**	P	**Pg**	**17 35 42.5**	**+0.4**
CHN8				*e*S	**Sb**	**17 35 50.9**	**+1.4**
TSPT	**Pingtung City** baz=190	**0.51**	**202**	*e*P	**Pn**	**17 35 44.9**	**+0.1**
SNJT	**Kaohsiung City** baz=217	**0.53**	**221**	*e*P	**Pn**	**17 35 44.3**	**-0.6**
FULB	**Fuli** baz=81	**0.54**	**85**	⇓*iP*	**Pn**	**17 35 44.3**	**-1.0**
FULB				S	**Sn**	**17 35 53.2**	**-0.8**
MASBT	**Mashibuluo** baz=182	**0.54**	**187**	⇑*iP*	**Pb**	**17 35 44.0**	**+0.7**
MASBT				*e*S	**Sb**	**17 35 51.4**	**+0.5**
WGK	**Gukeng** baz=348	**0.55**	**346**	P	**Pg**	**17 35 43.5**	**+0.3**
WGK				S	**Sb**	**17 35 52.2**	**+1.2**
WDLH	**Douliu** baz=345	**0.56**	**344**	⇑*eP*	**Pg**	**17 35 43.7**	**+0.4**
WDLH				*e*S	**Sb**	**17 35 52.2**	**+1.0**
WHYT	**Xinyi Township** baz=22	**0.56**	**14**	⇑*iP*	**Pg**	**17 35 43.1**	**-0.3**
WHYT				*e*S	**Sg**	**17 35 50.7**	**-0.2**
TTN	**Taitung** baz=135	**0.57**	**134**	*e*P	**Pn**	**17 35 45.4**	**-0.2**
TTN				*e*S	**Sn**	**17 35 54.7**	**+0.2**
TSCK	**Chigu Township** baz=267	**0.57**	**269**	*e*P	**Pg**	**17 35 43.4**	**-0.1**
TSCK				S	**Sn**	**17 35 53.9**	**-0.7**
WSL	**Shuilin Townsh** baz=309	**0.57**	**310**	*e*P	**Pg**	**17 35 43.0**	**-0.6**
WSL				*e*S	**Sg**	**17 35 51.6**	**+0.3**
TWF1	**Yuli** baz=74	**0.58**	**70**	P	**Pb**	**17 35 44.2**	**+0.3**
TWF1				*e*S	**Sb**	**17 35 53.2**	**+1.3**
EDH	**Donghe** baz=116	**0.58**	**108**	⇓*eP*	**Pn**	**17 35 45.0**	**-0.7**
EDH				*e*S	**Sn**	**17 35 54.9**	**0.0**
YULB	**Yu-li**	**0.59**	**66**	P	**Pb**	**17 35 44.2**	**0.0**
YULB	**Yu-li** baz=70	**0.59**	**66**	⇓*iP*	**Pb**	**17 35 44.2**	**0.0**
YULB				S	**Sg**	**17 35 51.5**	**-0.5**
EYUL	**Yuli** baz=74	**0.60**	**71**	⇓P	**Pb**	**17 35 44.5**	**+0.3**
EYUL				S	**Sb**	**17 35 52.5**	**+0.1**
ECL	**Taimali** baz=157	**0.60**	**157**	⇓*iP*	**Pn**	**17 35 45.2**	**-0.8**
ECL				S	**Sb**	**17 35 53.4**	**+0.9**
CHKT	**Chengkung** baz=98	**0.61**	**95**	*e*P	**Pn**	**17 35 45.7**	**-0.4**
CHKT				*e*S	**Sn**	**17 35 56.6**	**+1.0**
WSSB	**Gushan** baz=231	**0.65**	**219**	*e*P	**Pn**	**17 35 47.4**	**+0.7**
WSSB				*e*S	**Sn**	**17 36 01.2**	**+4.5**
WSF	**Szhu** baz=317	**0.66**	**317**	*e*P	**Pg**	**17 35 45.2**	**0.0**
WSF				S	**Sb**	**17 35 55.2**	**+1.1**
WJS	**Zhushan** baz=3.0	**0.67**	**2**	⇑*eP*	**Pb**	**17 35 45.7**	**+0.3**
WJS				*e*S	**Sb**	**17 35 55.4**	**+0.9**
EHY	**Hungye** baz=71	**0.67**	**58**	⇓P	**Pb**	**17 35 45.5**	**0.0**
EHY				S	**Sg**	**17 35 54.1**	**-0.2**
SSLB	**Suanglung**	**0.67**	**20**	P	**Pg**	**17 35 45.1**	**-0.4**
SSLB	**Suanglung** baz=29	**0.67**	**20**	⇑*iP*	**Pg**	**17 35 44.8**	**-0.7**
SSLB				*e*S	**Sg**	**17 35 53.7**	**-0.8**
VWDT	**VWDT** baz=38	**0.72**	**34**	⇑*iP*	**Pg**	**17 35 46.2**	**-0.2**
VWDT				*e*S	**Sg**	**17 35 54.9**	**-1.0**
WNT	**Mingjian**	**0.72**	**358**	⇑*iP*	**Pb**	**17 35 46.8**	**+0.4**
WNT				S	**Sb**	**17 35 57.1**	**+1.1**
HGSD	**Ruisui** baz=72	**0.74**	**63**	⇓*eP*	**Pn**	**17 35 47.5**	**-0.5**
HGSD				S	**Sb**	**17 35 57.7**	**+1.1**
SMLT	**Sun Moon Lake** baz=23	**0.75**	**14**	⇑*iP*	**Pg**	**17 35 46.9**	**0.0**
SMLT				*e*S	**Sb**	**17 35 58.1**	**+1.2**
EAST	**Anshuo** baz=176	**0.78**	**170**	⇑*iP*	**Pn**	**17 35 48.5**	**0.0**
EAST				*e*S	**Sn**	**17 36 00.6**	**+0.8**
SCZT	**Fangliau** baz=183	**0.78**	**186**	⇑P	**Pn**	**17 35 48.4**	**-0.1**
SCZT				*e*S	**Sn**	**17 35 59.4**	**-0.5**
WRL	**Guolierlin Hig** baz=327	**0.80**	**338**	*e*P	**Pb**	**17 35 46.8**	**-1.0**
WRL				S	**Sb**	**17 35 58.7**	**+0.3**
WTCT	**Ta-ch'eng** baz=332	**0.81**	**331**	P	**Pb**	**17 35 47.5**	**-0.4**
WTCT				*e*S	**Sg**	**17 35 59.4**	**+0.7**
TAW	**Tawu** baz=171	**0.81**	**167**	*e*P	**Pn**	**17 35 49.0**	**+0.1**
TAWH	**Dawu Township** baz=167	**0.83**	**168**	*e*P	**Pg**	**17 35 48.3**	**-0.1**
TAWH				*e*S	**Sn**	**17 36 00.6**	**-0.3**
EGFH	**Guangfu** baz=62	**0.84**	**52**	*e*P	**Pg**	**17 35 48.5**	**-0.1**
EGFH				*e*S	**Sg**	**17 35 59.9**	**+0.2**
LDUT	**Ludao** baz=125	**0.85**	**124**	*e*P	**Pn**	**17 35 49.5**	**+0.1**
WUSB	**Renai** baz=26	**0.92**	**24**	⇑P	**Pb**	**17 35 49.3**	**-0.5**
WUSB				*e*S	**Sb**	**17 36 01.2**	**-0.5**
WCS	**Beigang Elemen** baz=13	**0.92**	**12**	P	**Pb**	**17 35 48.9**	**-0.8**
WCS				*e*S	**Sb**	**17 36 01.8**	**+0.1**
WCHH	**Zhanghua** baz=353	**0.93**	**352**	*e*P	**Pn**	**17 35 51.0**	**+0.5**
WCHH				*e*S	**Sn**	**17 36 04.5**	**+0.9**
ESL	**Shilin** baz=48	**0.94**	**45**	P	**Pb**	**17 35 50.3**	**+0.2**
ESL				*e*S	**Sb**	**17 36 02.3**	**+0.1**
SLIU	**Shizi** baz=159	**0.94**	**175**	*e*P	**Pn**	**17 35 51.5**	**+0.8**
WDGT	**Dungji** baz=275	**0.97**	**277**	⇓*iP*	**Pb**	**17 35 50.3**	**-0.3**
WDGT				S	**Sb**	**17 36 03.8**	**+0.7**
TCU	**Taichung**	**0.99**	**358**	*e*P	**Pb**	**17 35 51.1**	**+0.2**
TCU				*e*S	**Sg**	**17 36 05.3**	**+0.8**
CHGB	**Renai** baz=27	**1.00**	**25**	*e*P	**Pb**	**17 35 50.3**	**-0.9**
CHGB				*e*S	**Sg**	**17 36 05.4**	**+0.5**
PHUB	**P'eng-hu** baz=289	**1.10**	**289**	⇓P	**Pb**	**17 35 52.0**	**-0.8**
PHUB				*e*S	**Sb**	**17 36 06.6**	**-0.3**
WHF	**Hehuan Shan** baz=29	**1.11**	**27**	⇑*iP*	**Pb**	**17 35 53.1**	**-0.2**
WHF				*e*S	**Sn**	**17 36 08.9**	**+0.3**
SMST	**Manzhou Townsh** baz=171	**1.13**	**174**	*e*P	**Pg**	**17 35 55.0**	**+0.8**
PNG	**Penghu** baz=291	**1.14**	**292**	P	**Pn**	**17 35 52.6**	**-0.8**
PNG				*e*S	**Sb**	**17 36 07.5**	**-0.4**
WHP	**Taichung City** baz=22	**1.14**	**11**	*e*P	**Pb**	**17 35 54.0**	**+0.3**
WHP				*e*S	**Sg**	**17 36 10.2**	**+0.9**
HEN	**Hengchun** baz=170	**1.14**	**178**	P	**Pg**	**17 35 55.5**	**+1.2**
HWA	**Hwalien** baz=47	**1.16**	**45**	*e*P	**Pg**	**17 35 54.8**	**0.0**
HWA				*e*S	**Sg**	**17 36 10.1**	**+0.1**
TDCB	**Techi** baz=23	**1.17**	**21**	*e*P	**Pn**	**17 35 53.7**	**-0.4**
VCHM	**Qimei** baz=272	**1.18**	**273**	P	**Pn**	**17 35 53.3**	**-0.6**
VCHM				*e*S	**Sb**	**17 36 09.1**	**0.0**
TWT	**Tachien** baz=22	**1.18**	**21**	*e*P	**Pn**	**17 35 54.2**	**+0.1**
TWT				*e*S	**Sg**	**17 36 10.8**	**+0.3**
TWQ1	**Liyutan** baz=4.0	**1.19**	**3**	*e*P	**Pb**	**17 35 54.9**	**+0.5**
TWQ1				*e*S	**Sg**	**17 36 11.8**	**+0.9**
WDJ	**Dajia District** baz=358	**1.19**	**357**	*e*P	**Pb**	**17 35 54.9**	**+0.5**
WDJ				*e*S	**Sg**	**17 36 11.8**	**+0.9**
FUSS	**Fushou** baz=26	**1.20**	**24**	P	**Pn**	**17 35 54.5**	**+0.1**
FUSS				*e*S	**Sg**	**17 36 11.4**	**+0.3**
TWK1	**Hengchun** baz=168	**1.21**	**176**	*e*P	**Pg**	**17 35 56.3**	**+0.7**
TWKBT	**Hengchun** baz=168	**1.21**	**175**	*e*P	**Pg**	**17 35 55.5**	**-0.2**
TWD	**Chiawan** baz=43	**1.23**	**41**	*e*P	**Pg**	**17 35 55.7**	**-0.4**
TWD				*e*S	**Sg**	**17 36 12.4**	**+0.2**
NSY	**Sanyi** baz=352	**1.26**	**2**	*e*P	**Pb**	**17 35 56.2**	**+0.7**
NSY				*e*S	**Sg**	**17 36 14.5**	**+1.5**
TSEB	**Hengchuen, Pin** baz=188	**1.26**	**172**	*e*P	**Pg**	**17 35 56.9**	**+0.3**
ETLH	**Xiulin Townshi** baz=35	**1.27**	**34**	*e*P	**Pb**	**17 35 55.9**	**+0.1**
ETLH				*e*S	**Sg**	**17 36 13.5**	**+0.1**
NACB	**Ninganchiao**	**1.30**	**39**	P	**Pg**	**17 35 57.1**	**-0.3**
NACB	**Ninganchiao** baz=51	**1.30**	**39**	*e*P	**Pn**	**17 35 56.1**	**+0.4**
NACB				*e*S	**Sn**	**17 36 13.3**	**+0.6**
LAY	**Lan-yu** baz=144	**1.36**	**145**	*e*P	**Pn**	**17 35 57.3**	**+0.1**
LAY				*e*S	**Sg**	**17 36 17.2**	**+1.1**
NMLH	**Miaoli** baz=353	**1.38**	**3**	*e*P	**Pn**	**17 35 57.5**	**+0.7**
NMLH				*e*S	**Sg**	**17 36 17.0**	**+0.1**
LYUB	**Lan-yu** baz=144	**1.41**	**145**	*e*P	**Pn**	**17 35 56.4**	**-0.7**
LYUB				*e*S	**Sg**	**17 36 16.1**	**-1.5**
NNSB	**Datong** baz=27	**1.41**	**26**	P	**Pn**	**17 35 57.9**	**+0.6**
NNSB				*e*S	**Sg**	**17 36 17.9**	**0.0**
NNS	**Nan Shan** baz=27	**1.42**	**25**	*e*P	**Pn**	**17 35 57.4**	**0.0**

NNS					*e*S		Sg	17 36 18.0	-0.2
	baz=27								
NSTT	**Nanjuang**	**1.50**	**10**	P			**Pn**	17 35 59.3	+0.9
	baz=11								
NSTT					*e*S		Sg	17 36 20.0	-0.6
	baz=11								
LIOB	**Emei**	**1.51**	**11**	*e*P			**Pb**	17 36 00.1	+0.2
	baz=11								
LIOB					*e*S		Sg	17 36 21.9	+0.8
	baz=11								
NFF	**Wufeng Townshi**	**1.52**	**14**	*e*P			**Pn**	17 35 59.3	+0.6
	baz=13								
NFF					*e*S		Sb	17 36 20.1	+1.0
	baz=13								
LATG	**Datong**	**1.57**	**28**	*e*P			**Pb**	17 36 00.7	-0.2
	baz=16								
ENA	**Nanau**	**1.58**	**37**	*e*P			**Pb**	17 36 01.4	+0.3
	baz=53								
NSK	**Sanguang**	**1.63**	**21**	P			**Pn**	17 36 01.0	+0.8
	baz=23								
NSK					*e*S		Sb	17 36 22.6	+0.4
	baz=23								
YHNB	**Yeheng**	**1.63**	**22**	P			**Pb**	17 36 02.3	+0.4
YHNB	**Yeheng**	**1.63**	**22**	*e*P			**Pb**	17 36 01.8	-0.2
	baz=24								
ENTT	**Nioudou**	**1.68**	**28**	*e*P			**Pb**	17 36 02.1	-0.6
	baz=19								
ENTT					*e*S		Sg	17 36 26.9	+0.5
	baz=19								
TWC	**Suao**	**1.79**	**36**	*e*P			**Pb**	17 36 04.7	+0.2
	baz=51								
FUSB	**Fushanzhiwuyua**	**1.79**	**27**	*e*P			**Pb**	17 36 04.5	-0.2
	baz=17								
TWE	**Neicheng**	**1.79**	**29**	*e*P			**Pb**	17 36 04.9	+0.3
	baz=17								
TWA	**Mucha**	**1.99**	**24**	*e*P			**Pb**	17 36 08.8	+0.8
	baz=26								
EGS		**2.02**	**33**	*e*P			**Pg**	17 36 10.5	-0.6
	baz=50								
TIPB	**Shuangxi**	**2.08**	**29**	*e*P			**Pb**	17 36 08.9	-0.7
	baz=10.0								
YM01	**YM01**	**2.13**	**22**	*e*P			**Pn**	17 36 08.4	+1.2
	baz=22								
VWUC	**VWUC**	**2.16**	**328**	*e*P			**Pn**	17 36 06.5	-1.0
	baz=329								
TWB1	**Santiao Chiao**	**2.19**	**32**	*e*P			**Pb**	17 36 11.9	+0.5
	baz=49								
SXI1	**Grass Mountain**	**2.21**	**29**	*e*P			**Pn**	17 36 09.4	+1.1
	baz=11								
JYNG	**Yonagunijimaku**	**2.42**	**57**	P			**Pb**	17 36 13.4	-2.0
JYNG					S		Sn	17 36 42.8	+2.4
YOJ	**Yonaguni jima**	**2.48**	**58**	P			**Pn**	17 36 14.1	+2.2
YOJ	**Yonaguni jima**	**2.48**	**58**	P			**Pn**	17 36 14.1	+2.2
YOJ					S		Sn	17 36 44.3	+2.5
HATJ	**Hateruma jima**	**2.98**	**72**	P			**Pn**	17 36 20.6	+1.8
HATJ					S		Sn	17 36 55.0	+0.8
IRIF	**Iriomote-Funau**	**3.01**	**66**	P			**Pn**	17 36 21.4	+2.2
IRIF					S		Sn	17 36 56.6	+1.7
JKRS	**Kuro-shima**	**3.21**	**70**	P			**Pn**	17 36 23.9	+1.9
JKRS					S		Sn	17 37 01.4	+1.4
JIJ	**Ishigaki jima**	**3.37**	**68**	P			**Pn**	17 36 26.4	+2.3
JIJ					*e*S		Sn	17 37 05.9	+2.1
JISG	**Ishigakijimahi**	**3.59**	**66**	P			**Pn**	17 36 29.6	+2.3
JISG					*e*S		Sn	17 37 11.7	+2.4
JTJ	**Tarama**	**3.95**	**67**	P			**Pn**	17 36 34.6	+2.5
JTJ					*e*S		Sn	17 37 20.1	+2.1

*WEL **17** 17:42:00.42°68S×172°84E, h11km, ML4.1, Mw4.0, Moment Tensor Solution. s5 Moment tensor: Scale 10¹⁵ Nm; Mrr0.54; Mθθ0.56; Mφφ-1.10; Mrθ-0.01; Mθφ-0.66; Mφr0.31; Fault plane solution: M₀1.11000×10¹⁵ NP1: φ=244.00000°, δ68.00000°, λ170.00000°. NP2: φ=338.00000°, δ80.00000°, λ23.00000°. Principal axes: T -137.4600, Plg23.0000°, Azm203.0000°; N 83.8000, Plg66.0000°, Azm0.0000°; P 53.6600, Plg8.0000°, Azm109.0000°;*

*IDC **17** 17:42:28.2±2.1, 42°74S×172°91E, h0km, mb3.2/2, mbtmp3.2/2, MS3.3/1 Error ellipse: s-maj=47.1km s-min=17.6km az=134.0*

*NOU **17** 17:42:30.0, 42°96S×173°03E, h0km, MLv4.6/9, South Island, New Zealand*

*WEL **17** 17:42:31.0±0.3, 43°S±2°×17°3E±°, h5km, M4.0/40, ML4.2/14, MLv4.0/40, Error ellipse: s-maj=0.0km s-min=0.0km az=99.9*

*NEIC **17** 17:42:31.5±1.3, 42°75S±0°06×172°88E±0°07, h18km±7km, mb4.2/6, Error ellipse: s-maj=9.8km s-min=5.7km az=135.0*

ISC 17 17:42:32.9±0.7, **42°78S**±0°03×**172°88E**±0°03, **h33**km, **n142**, σ1§**47**/145, **mb4.0/6, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GVZ	**Greta Valley S**	**0.23**	**149**	Pg		**Pn**	**17 42 38.0**	**-1.6**
GVZ	**Greta Valley S**	**0.23**	**149**	P		**Pn**	**17 42 38.2**	**-1.5**
GVZ				S		**Sb**	**17 42 44.0**	**-0.5**
AMCZ	**Amberley**	**0.43**	**202**			**Pb**	**17 42 42.0**	**-0.4**
AMCZ	**Amberley**	**0.43**	**202**	P		**Pb**	**17 42 42.1**	**-0.4**
LTZ	**Lake Taylor**	**0.44**	**269**			**Pb**	**17 42 39.4**	**-3.3**
LTZ	**Lake Taylor**	**0.44**	**269**	P		**Pb**	**17 42 39.6**	**-3.0**
LTZ				S		**Sb**	**17 42 46.1**	**-3.3**
KHZ	**Kahutara**	**0.61**	**54**			**Pn**	**17 42 42.4**	**-2.7**
KHZ	**Kahutara**	**0.61**	**54**	P		**Pn**	**17 42 42.6**	**-2.5**
OXZ	**Oxford**	**0.82**	**228**	Pg		**Pn**	**17 42 48.0**	**-0.1**
OXZ	**Oxford**	**0.82**	**228**	P		**Pn**	**17 42 48.1**	**-0.1**
MQZ	**McQueen's Vall**	**0.94**	**190**			**Pn**	**17 42 49.4**	**-0.5**
MQZ	**McQueen's Vall**	**0.94**	**190**	P		**Pn**	**17 42 49.8**	**0.0**
OKCZ	**Okains Bay**	**0.96**	**172**	P		**Pb**	**17 42 50.5**	**-0.6**
THZ	**Tophouse**	**1.01**	**1**	Pn		**Pn**	**17 42 47.8**	**-3.0**
THZ	**Tophouse**	**1.01**	**1**	P		**Pn**	**17 42 48.2**	**-2.6**
INZ	**Inchbonnie**	**1.05**	**272**			**Pn**	**17 42 50.3**	**-1.0**
INZ	**Inchbonnie**	**1.05**	**272**	P		**Pn**	**17 42 50.4**	**-1.0**
RACZ	**Rakaia**	**1.09**	**209**	P		**Pn**	**17 42 51.9**	**0.0**
AKCZ	**Akaroa Harbour**	**1.10**	**179**	P		**Pn**	**17 42 52.2**	**+0.2**
MHCZ	**Mount Hutt**	**1.22**	**231**	P		**Pn**	**17 42 53.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.29**	**35**			**Pn**	**17 42 54.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.29**	**35**	P		**Pn**	**17 42 54.3**	**-0.3**
DSZ	**Denniston Nort**	**1.30**	**322**			**Pn**	**17 42 53.6**	**-1.1**
DSZ	**Denniston Nort**	**1.30**	**322**	P		**Pn**	**17 42 53.8**	**-1.0**
MRNZ	**Matariki Terra**	**1.38**	**356**			**Pn**	**17 42 54.8**	**-1.0**
MRNZ	**Matariki Terra**	**1.38**	**356**	P		**Pn**	**17 42 55.1**	**-0.7**
WACZ	**Wakanui South**	**1.39**	**113**	P		**Pn**	**17 42 56.0**	**0.0**
CMWZ	**Cape Campbell**	**1.43**	**45**			**Pn**	**17 42 56.5**	**0.0**
CMWZ	**Cape Campbell**	**1.43**	**45**	P		**Pb**	**17 42 58.8**	**-0.2**
TUWZ	**Tuamarina**	**1.56**	**31**			**Pn**	**17 42 58.4**	**+0.1**
WVZ	**Waitaha Valley**	**1.60**	**258**	P		**Pn**	**17 42 59.4**	**+0.6**
NNZ	**Nelson**	**1.60**	**14**			**Pn**	**17 42 58.5**	**-0.3**
NNZ	**Nelson**	**1.60**	**14**	P		**Pn**	**17 42 59.0**	**+0.2**
RPZ	**Rata Peaks**	**1.63**	**234**	Pg		**Pn**	**17 42 59.1**	**-0.1**
	44nm,0.3s,baz=74,slow=2.3,SNR=47							
RPZ				Lg		Lg	17 43 20.6	
	118nm,0.3s,baz=59,slow=14,SNR=5.8							
RPZ	**Rata Peaks**	**1.63**	**234**			**Pn**	**17 42 59.0**	**-0.2**
RPZ	**Rata Peaks**	**1.63**	**234**	P		**Pn**	**17 42 59.2**	**-0.1**
RPZ	**Rata Peaks**	**1.63**	**234**	P		**Pn**	**17 42 59.2**	**-0.1**
ARCZ	**Arundel**	**1.71**	**226**	P		**Pn**	**17 43 00.1**	**-0.2**
TKNZ	**Takaka Hill**	**1.74**	**2**			**Pn**	**17 43 00.8**	**0.0**
TKNZ	**Takaka Hill**	**1.74**	**2**	P		**Pn**	**17 43 01.1**	**+0.2**
TCW	**Tory Channel**	**1.88**	**34**			**Pn**	**17 43 02.7**	**0.0**
TCW	**Tory Channel**	**1.88**	**34**	P		**Pn**	**17 43 02.7**	**0.0**
GCSZ	**Gaunt Creek Bo**	**1.94**	**253**	P		**Pn**	**17 43 04.3**	**+0.7**
QRZ	**Quartz Range**	**1.96**	**352**			**Pn**	**17 43 04.5**	**+0.6**
QRZ	**Quartz Range**	**1.96**	**352**	P		**Pn**	**17 43 04.6**	**+0.6**
SNZO	**South Karori**	**2.00**	**44**			**Pn**	**17 43 04.0**	**-0.3**
WEL	**Wellington**	**2.05**	**44**	P		**Pn**	**17 43 04.9**	**-0.2**
TMZ	**Timaru**	**2.10**	**220**	P		**Pn**	**17 43 05.8**	**0.0**
DUWZ	**D'Urville Isla**	**2.12**	**22**	P		**Pn**	**17 43 07.5**	**+1.5**
PLWZ	**Palliser**	**2.14**	**57**			**Pn**	**17 43 05.7**	**-0.6**
PLWZ	**Palliser**	**2.14**	**57**	P		**Pn**	**17 43 05.3**	**-1.1**
MSWZ	**Moikau Station**	**2.23**	**53**			**Pn**	**17 43 06.7**	**-0.8**
MSWZ	**Moikau Station**	**2.23**	**53**	P		**Pn**	**17 43 06.5**	**-1.0**
CAW	**Cannon Point**	**2.33**	**45**	P		**Pn**	**17 43 08.4**	**-0.5**
PAWZ	**Paruwai Farm**	**2.35**	**55**	P		**Pn**	**17 43 08.0**	**-1.3**
FOZ	**Fox Glacier**	**2.36**	**250**			**Pn**	**17 43 10.6**	**+1.3**
FOZ	**Fox Glacier**	**2.36**	**250**	P		**Pn**	**17 43 10.3**	**+0.9**
KIW	**Kapiti Island**	**2.44**	**39**	P		**Pn**	**17 43 11.6**	**+1.1**
TRWZ	**Traveller**	**2.50**	**58**	P		**Pn**	**17 43 11.1**	**-0.3**
LBZ	**Lake Benmore**	**2.53**	**230**			**Pn**	**17 43 11.7**	**0.0**
LBZ	**Lake Benmore**	**2.53**	**230**	P		**Pn**	**17 43 11.8**	**+0.1**
MTW	**Mount Morrison**	**2.54**	**51**	P		**Pn**	**17 43 11.5**	**-0.3**
OGWZ	**Otaki Gorge**	**2.60**	**42**	P		**Pn**	**17 43 11.7**	**-0.9**
HOWZ	**Holdsworth Sta**	**2.72**	**47**	P		**Pn**	**17 43 14.1**	**-0.3**
ODZ	**Otahua Downs**	**2.78**	**215**	Pn		**Pn**	**17 43 15.0**	**-0.2**
ODZ	**Otahua Downs**	**2.78**	**215**	P		**Pn**	**17 43 14.9**	**-0.2**
ODZ	**Otahua Downs**	**2.78**	**215**	P		**Pn**	**17 43 15.0**	**-0.2**
TMWZ	**Te Maipa**	**2.80**	**54**	P		**Pn**	**17 43 14.0**	**-1.4**
MRZ	**Mangatainoka R**	**2.93**	**45**	Pn		**Pn**	**17 43 15.4**	**-1.7**
MRZ	**Mangatainoka R**	**2.93**	**45**	P		**Pn**	**17 43 15.7**	**-1.4**
PRWZ	**Pori Road**	**3.21**	**47**	P		**Pn**	**17 43 20.8**	**-0.2**
POWZ	**Post Office Ro**	**3.22**	**43**	P		**Pn**	**17 43 20.6**	**-0.5**
JCZ	**Jackson Bay**	**3.25**	**245**	P		**Pn**	**17 43 21.6**	**0.0**
JCZ	**Jackson Bay**	**3.25**	**245**	P		**Pn**	**17 43 21.6**	**0.0**
BFZ	**Birch Farm**	**3.28**	**51**	Pn		**Pn**	**17 43 21.6**	**-0.3**
BFZ	**Birch Farm**	**3.28**	**51**	P		**Pn**	**17 43 22.2**	**+0.3**
BFZ	**Birch Farm**	**3.28**	**51**	P		**Pn**	**17 43 21.3**	**-0.6**
WAZ	**Wanganui**	**3.41**	**29**	P		**Pn**	**17 43 25.3**	**+1.5**
NMEZ	**Namu Road**	**3.44**	**13**	P		**Pn**	**17 43 27.7**	**+3.6**
WKZ	**Wanaka**	**3.46**	**232**			**Pn**	**17 43 24.1**	**-0.4**
WKZ	**Wanaka**	**3.46**	**232**	P		**Pn**	**17 43 23.8**	**-0.7**
DVHZ	**Dannevirke**	**3.50**	**46**	P		**Pn**	**17 43 22.8**	**-2.2**
HHSZ	**Highcliff Hill**	**3.51**	**207**	P		**Pn**	**17 43 24.9**	**-0.2**
EAZ	**Earnscleugh**	**3.56**	**225**	P		**Pn**	**17 43 25.2**	**-0.6**
TSZ	**Takapari Road**	**3.57**	**42**	P		**Pn**	**17 43 25.6**	**-0.4**
KHEZ	**Kahui Hut**	**3.58**	**14**	P		**Pn**	**17 43 29.7**	**+3.5**
KHEZ	**Kahui Hut**	**3.58**	**14**	P		**Pn**	**17 43 29.0**	**+2.8**
NBEZ	**Newall Road No**	**3.58**	**12**	P		**Pn**	**17 43 28.9**	**+2.8**
NEZ	**North Egmont**	**3.62**	**15**	P		**Pn**	**17 43 30.1**	**+3.4**
PKE	**Pukeiti**	**3.67**	**14**	P		**Pn**	**17 43 29.4**	**+2.0**
DREZ	**Durham Road**	**3.72**	**16**	P		**Pn**	**17 43 31.5**	**+3.5**
PNHZ	**Pukenui**	**3.80**	**42**	P		**Pn**	**17 43 28.7**	**-0.4**
MHEZ	**Mangahewa**	**3.85**	**17**	P		**Pn**	**17 43 33.9**	**+4.0**
VRZ	**Vera Road**	**3.92**	**22**	P		**Pn**	**17 43 32.6**	**+1.9**
TUZ	**Tuapeka**	**3.94**	**215**	P		**Pn**	**17 43 30.8**	**-0.2**
MOVZ	**Moawhango**	**4.01**	**34**	P		**Pn**	**17 43 33.6**	**+1.6**
WNVZ	**Wahianoa**	**4.01**	**32**	P		**Pn**	**17 43 32.6**	**+0.4**
TRVZ	**Turoa**	**4.02**	**31**	P		**Pn**	**17 43 34.0**	**+1.7**
WHVZ	**Whangaehu Hut**	**4.05**	**31**	P		**Pn**	**17 43 33.2**	**+0.5**
MSZ	**Milford Sound**	**4.06**	**240**	P		**Pn**	**17 43 31.4**	**-1.2**
BHHZ	**Black Hill Sta**	**4.07**	**37**	P		**Pn**	**17 43 32.2**	**-0.7**
NGZ	**Ngauruhoe**	**4.15**	**31**	P		**Pn**	**17 43 35.8**	**+1.8**
TWVZ	**Taurewa**	**4.18**	**29**	P		**Pn**	**17 43 36.8**	**+2.4**
NNVZ	**North Ngauruho**	**4.19**	**31**	P		**Pn**	**17 43 36.1**	**+1.5**
WTVZ	**West Tongariro**	**4.19**	**30**	P		**Pn**	**17 43 35.9**	**+1.2**
KRVZ	**Karewarewa**	**4.23**	**31**	P		**Pn**	**17 43 36.9**	**+1.7**
TMVZ	**Te Maari**	**4.24**	**31**	P		**Pn**	**17 43 36.6**	**+1.3**
KWHZ	**Kaweka Forest**	**4.29**	**40**	P		**Pn**	**17 43 38.8**	**+2.9**
MLZ	**Mavora Lakes**	**4.30**	**231**			**Pn**	**17 43 35.3**	**-0.7**
MLZ	**Mavora Lakes**	**4.30**	**231**	P		**Pn**	**17 43 36.1**	**+0.2**
HIZ	**Hauiti**	**4.52**	**20**	Pn		**Pn**	**17 43 41.5**	**+2.6**
HIZ	**Hauiti**	**4.52**	**20**	P		**Pn**	**17 43 41.2**	**+2.2**
HIZ	**Hauiti**	**4.52**	**20**	P		**Pn**	**17 43 39.3**	**+0.3**
BKZ	**Black Stump Fm**	**4.53**	**38**			**Pn**	**17 43 38.5**	**-0.7**
BKZ	**Black Stump Fm**	**4.53**	**38**	P		**Pn**	**17 43 39.4**	**+0.2**
SYZ	**Scrubby Hill**	**4.61**	**214**	P		**Pn**	**17 43 40.1**	**-0.1**
SYZ	**Scrubby Hill**	**4.61**	**214**	P		**Pn**	**17 43 40.1**	**-0.1**
WHZ	**Wether Hill Ro**	**4.71**	**227**			**Pn**	**17 43 41.0**	**-0.7**
WHZ	**Wether Hill Ro**	**4.71**	**227**	P		**Pn**	**17 43 40.7**	**-0.9**
TLZ	**Tolley Road**	**4.88**	**25**	P		**Pn**	**17 43 46.7**	**+2.7**
DCZ	**Deep Cove**	**4.92**	**235**	Pn		**Pn**	**17 43 42.6**	**-1.8**
MTHZ	**Maungataniwha**	**4.94**	**39**	P		**Pn**	**17 43 48.1**	**+3.3**
APZ	**The Paps**	**5.34**	**219**	P		**Pn**	**17 43 49.5**	**-0.8**
TOZ	**Tahuroa Road**	**5.42**	**23**	P		**Pn**	**17 43 52.9**	**+1.5**
URZ	**Urewera**	**5.55**	**37**	P		**Pn**	**17 43 52.4**	**-0.7**
AWAZ	**Awhitu Peninsu**	**5.86**	**14**	P		**Pn**	**17 43 60.0**	**+2.5**
MKAZ	**Moumakai**	**5.93**	**18**	P		**Pn**	**17 43 59.8**	**+1.5**
MBAZ	**Motutapu North**	**6.20**	**15**	P		**Pn**	**17 44 04.8**	**+2.7**
WIAZ	**Waiheke Island**	**6.22**	**17**	P		**Pn**	**17 44 04.4**	**+2.0**
HAZ	**Te Kaha**	**6.26**	**38**	P		**Pn**	**17 44 02.0**	**-0.9**
KUZ	**Kuaotunu**	**6.41**	**21**	P		**Pn**	**17 44 07.1**	**+2.2**
KUZ	**Kuaotunu**	**6.41**	**21**	P		**Pn**	**17 44 03.3**	**-1.7**
OUZ	**Omahuta**	**7.56**	**4**	P		**Pn**	**17 44 23.9**	**+3.1**
VNDA	**Vanda**	**35.15**	**184**	P		**P**	**17 49 23.7**	**+0.7**
VNDA					IAmb	IAmb	17 49 45.6	
	comp=Z,2.0nm,1.3s							
AS31	**Alice Springs**	**37.35**	**288**	P		**P**	**17 49 42.5**	**+0.1**
ASAR	**Alice Springs**	**37.35**	**288**	P		**P**	**17 49 43.3**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=129,slow=7.3,SNR=7.9							
ASAR					PcP	**PcP**	**17 52 00.0**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=126,slow=4.7,SNR=1.4							
ASAR					LR	LR	18 03 43.8	
	comp=Z,45nm,19.2s,baz=25,slow=34							
	comp=Z,0.3nm,0.8s							
WB2	**Warramunga Arr**	**39.52**	**293**	P		**P**	**17 50 00.6**	**-0.1**
WRAB	**Tennant Creek**	**39.53**	**293**	P		**P**	**17 50 01.4**	**+0.7**
WRAB					IAmb	IAmb	17 50 13.7	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**39.53**	**293**	P		**P**	**17 50 00.4**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=132,slow=8.0,SNR=6.1							
	comp=Z,0.2nm,0.6s							
WB0	**Warramunga Arr**	**39.62**	**293**	P		**P**	**17 50 01.1**	**-0.3**
WB0					IAmb	IAmb	17 50 12.0	
	comp=Z,4.9nm,1.1s							
QSPA	**South Pole Qui**	**47.35**	**180**	P		**P**	**17 51 05.4**	**+2.0**
QSPA					IAmb	IAmb	17 51 08.4	
	comp=Z,2.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**149.51**	**197**	PKPbc		**PKiKP**	**18 02 20.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=163,slow=2.4,SNR=3.1							

*JMA **17** 18:03:31.4±0.1, 23°1N±0°4×120°8E±0°7, h0km±1km, MV3.4/11, TAIWAN REGION*

*TAP **17** 18:03:32.7, 23°19N×120°70E, h10km, ML3.6, B*

ISC 17 18:03:33.0±0.7, **23°16N**±0°01×**120°71E**±0°01, **h12**km±4km, **n148**, σ1§**03**/258, **23C-19D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
STYT	**Tauyuan**	**0.04**	**83**	⇓*i*P		**Pg**	**18 03 35.5**	**+0.1**
	baz=113							
STYT				*i* S		**Sg**	**18 03 37.2**	**+0.1**
	baz=113							
STYH	**Taoyuan**	**0.06**	**78**	⇓*i*P		**Pg**	**18 03 34.6**	**-0.8**
	baz=103							
STYH				*i* S		**Sg**	**18 03 36.2**	**-0.9**
	baz=103							
SGST	**Jiashian**	**0.14**	**237**	⇑*i*P		**Pg**	**18 03 35.8**	**-0.6**
	baz=222							
SGST				S		**Sg**	**18 03 38.6**	**-0.2**
	baz=222							
TPUB	**Ta-pu**	**0.16**	**333**	P		**Pg**	**18 03 36.3**	**-0.5**
TPUB	**Ta-pu**	**0.16**	**333**	⇑*i*P		**Pg**	**18 03 36.4**	**-0.3**
	baz=332							
TPUB				*i* S		**Sg**	**18 03 38.8**	**-0.6**
	baz=332							
CHN1	**Nanshi**	**0.17**	**279**	⇓*i*P		**Pg**	**18 03 37.0**	**+0.2**
	baz=270							
CHN1				*i* S		**Sg**	**18 03 40.0**	**+0.4**
	baz=270							
CHN4	**Tsaushan**	**0.22**	**331**	⇑*i*P		**Pg**	**18 03 36.7**	**-1.1**
	baz=337							
CHN4				*i* S		**Sg**	**18 03 40.2**	**-0.7**
	baz=337							
TWK	**Hsinying**	**0.23**	**298**	⇓*i*P		**Pg**	**18 03 38.0**	**0.0**
	baz=294							
TWK				S		**Sg**	**18 03 41.4**	**+0.1**
	baz=294							
ELDTW	**Lidau**	**0.28**	**84**	⇓*i*P		**Pb**	**18 03 39.6**	**-0.6**
	baz=90							
ELDTW				S		**Sb**	**18 03 43.5**	**-1.5**
	baz=90							
WCKO	**Fanlu**	**0.30**	**341**	*e*P		**Pg**	**18 03 38.0**	**-1.1**
	baz=342							
WCKO				S		**Sg**	**18 03 42.6**	**-0.6**
	baz=342							
CHN3	**Shinhua**	**0.33**	**256**	*e*P		**Pb**	**18 03 41.2**	**+0.4**
	baz=263							
CHN3				S		**Sb**	**18 03 48.2**	**+2.2**
	baz=263							
SCST	**Cishan**	**0.34**	**216**	⇑P		**Pb**	**18 03 41.1**	**+0.2**
	baz=199							
SCST				*e*S		**Sb**	**18 03 48.0**	**+1.8**
	baz=199							
SHHT	**Tainan City**	**0.36**	**248**	*e*P		**Pb**	**18 03 41.3**	**-0.1**
	baz=258							
SHHT				*e*S		**Sb**	**18 03 49.1**	**+2.1**
	baz=258							
ALS	**Alishan**	**0.36**	**14**	⇑*i*P		**Pg**	**18 03 40.3**	**-0.1**
	baz=19							
ALS				*i* S		**Sg**	**18 03 45.5**	**+0.2**
	baz=19							
SSHA	**Shanhua**	**0.39**	**267**	P		**Pb**	**18 03 42.1**	**+0.2**
	baz=263							
SSHA				*e*S		**Sb**	**18 03 50.0**	**+2.2**
	baz=263							
YUS	**Yu-Shan**	**0.40**	**34**	⇑*i*P		**Pb**	**18 03 41.4**	**-1.0**
	baz=39							
YUS				*e*S		**Sg**	**18 03 46.9**	**+0.3**
	baz=39							
SSD	**Sandimen**	**0.42**	**190**	⇑*i*P		**Pb**	**18 03 42.2**	**-0.1**
	baz=178							
SSD				*e*S		**Sb**	**18 03 48.5**	**-0.1**
	baz=178							
TWM1	**Shoushan**	**0.42**	**218**	⇑*i*P		**Pn**	**18 03 43.6**	**-1.4**
	baz=213							
TWM1				S		**Sb**	**18 03 50.8**	**+1.9**
	baz=213							
CHY	**Chiayi**	**0.43**	**322**	P		**Pg**	**18 03 41.9**	**+0.4**
	baz=323							
CHY				S		**Sb**	**18 03 49.3**	**+0.3**
	baz=323							
CHN2	**Minshiung**	**0.43**	**330**	P		**Pb**	**18 03 42.0**	**-0.5**
	baz=330							
CHN2				*e*S		**Sb**	**18 03 49.2**	**+0.1**
	baz=330							
CHN5	**Tsauling**	**0.44**	**356**	*e*P		**Pg**	**18 03 40.8**	**-1.0**
	baz=5.0							
CHN5				*e*S		**Sg**	**18 03 47.8**	**+0.2**
	baz=5.0							
ICHU	**Yijhu**	**0.44**	**297**	⇓P		**Pb**	**18 03 42.3**	**-0.5**
	baz=296							
ICHU				*e*S		**Sb**	**18 03 50.0**	**+0.6**
	baz=296							
TSMG	**Majia**	**0.45**	**188**	⇑*i*P		**Pb**	**18 03 42.9**	**-0.1**
	baz=178							
TSMG				*e*S		**Sb**	**18 03 49.3**	**-0.4**
	baz=178							
TAI1	**Yung-k'ang**	**0.46**	**255**	*e*P		**Pn**	**18 03 44.2**	**-1.2**
	baz=264							
TAI1				*e*S		**Sb**	**18 03 52.4**	**+2.6**
	baz=264							
LONT	**Longtian**	**0.46**	**123**	⇓*i*P		**Pb**	**18 03 43.1**	**0.0**
	baz=124							
LONT				*e*S		**Sb**	**18 03 50.4**	**+0.4**
	baz=124							
ECS	**Chishang**	**0.47**	**97**	⇓*i*P		**Pb**	**18 03 43.4**	**+0.1**
	baz=98							
ECS				*e*S		**Sb**	**18 03 51.1**	**+0.8**
	baz=98							
SCLT	**Jiali**	**0.47**	**272**	*e*P		**Pb**	**18 03 43.0**	**-0.3**
	baz=269							
SCLT				*e*S		**Sb**	**18 03 52.2**	**+1.9**
	baz=269							
TWG	**Pinlang**	**0.47**	**135**	⇓*i*P		**Pb**	**18 03 43.5**	**+0.2**
	baz=127							
TWG				S		**Sb**	**18 03 51.0**	**+0.7**
	baz=127							
TWGBT	**Beinan**	**0.48**	**135**	P		**Pb**	**18 03 43.6**	**+0.1**
TWGBT	**Beinan**	**0.48**	**135**	⇓*i*P		**Pb**	**18 03 43.5**	**+0.1**
	baz=127							
TWGBT				S		**Sb**	**18 03 50.6**	**+0.2**
	baz=127							
CHN8	**Yiju**	**0.49**	**292**	⇓P		**Pb**	**18 03 43.1**	**-0.6**
	baz=291							
CHN8				*e*S		**Sb**	**18 03 51.5**	**+0.6**
	baz=291							
TAI	**Tainan**	**0.50**	**251**	*e*P		**Pb**	**18 03 44.3**	**+0.6**
	baz=261							
TAI				*e*S		**Sn**	**18 03 53.0**	**+3.6**
	baz=261

	baz=175									
WMLT	**Mailiao**	**0.78**	**325**	*eP*	**Pg**	**18 03 47.9**	**-0.3**			
	baz=326									
WMLT				*eS*	**Sg**	**18 03 59.2**	**+0.7**			
	baz=326									
SCZT	**Fangliau**	**0.79**	**186**	⇑*iP*	**Pn**	**18 03 48.9**	**-1.0**			
	baz=183									
SCZT				*eS*	**Sn**	**18 04 00.9**	**-0.8**			
	baz=183									
WRL	**Guolierlin Hig**	**0.80**	**338**	*eP*	**Pg**	**18 03 47.3**	**-1.2**			
	baz=327									
WRL				*eS*	**Sg**	**18 03 59.5**	**+0.5**			
	baz=327									
WTCT	**Ta-ch'eng**	**0.81**	**331**	*eP*	**Pg**	**18 03 48.2**	**-0.5**			
	baz=332									
WTCT				*eS*	**Sg**	**18 03 59.9**	**+0.7**			
	baz=332									
WYL	**Yuanlin Townsh**	**0.81**	**352**	P	**Pg**	**18 03 48.8**	**+0.1**			
	baz=353									
WYL				S	**Sb**	**18 04 00.6**	**+0.7**			
	baz=353									
TAW	**Tawu**	**0.81**	**168**	*eP*	**Pn**	**18 03 49.7**	**-0.7**			
	baz=166									
TAWH	**Dawu Township**	**0.83**	**169**	⇑P	**Pb**	**18 03 48.9**	**-0.5**			
	baz=163									
TAWH				*eS*	**Sn**	**18 04 02.1**	**-0.6**			
	baz=163									
EGFH	**Guangfu**	**0.83**	**52**	*eP*	**Pb**	**18 03 49.1**	**-0.4**			
	baz=62									
EGFH				*eS*	**Sb**	**18 04 00.5**	**-0.1**			
	baz=62									
LDUT	**Ludao**	**0.85**	**124**	*eP*	**Pn**	**18 03 50.1**	**-0.7**			
	baz=125									
LDUT				*eS*	**Sn**	**18 04 03.6**	**+0.3**			
	baz=125									
TWP	**Hsiaoliuchiu**	**0.87**	**202**	*eP*	**Pn**	**18 03 52.1**	**+1.0**			
	baz=199									
WPL	**Puli Township**	**0.88**	**15**	P	**Pg**	**18 03 49.7**	**-0.4**			
	baz=3.0									
WPL				*eS*	**Sg**	**18 04 02.0**	**+0.4**			
	baz=3.0									
WWF	**Wufeng**	**0.88**	**359**	*eP*	**Pg**	**18 03 49.1**	**-0.9**			
	baz=1.0									
WWF				S	**Sg**	**18 04 01.9**	**+0.3**			
	baz=1.0									
DPDB	**Guoxing**	**0.89**	**13**	⇑P	**Pg**	**18 03 50.0**	**-0.3**			
	baz=15									
DPDB				*eS*	**Sb**	**18 04 03.2**	**+0.7**			
	baz=15									
WUSB	**Renai**	**0.91**	**24**	⇑*iP*	**Pg**	**18 03 49.8**	**-0.8**			
	baz=26									
WUSB				*eS*	**Sg**	**18 04 01.5**	**-1.1**			
	baz=26									
WCS	**Beigang Elemen**	**0.92**	**12**	*eP*	**Pg**	**18 03 49.6**	**-1.1**			
	baz=14									
WCS				*eS*	**Sg**	**18 04 02.1**	**-0.5**			
	baz=14									
WCHH	**Zhanghua**	**0.93**	**351**	*eP*	**Pb**	**18 03 51.7**	**+0.6**			
	baz=353									
WCHH				*eS*	**Sb**	**18 04 05.0**	**+1.7**			
	baz=353									
ESL	**Shilin**	**0.93**	**45**	*eP*	**Pb**	**18 03 50.9**	**-0.3**			
	baz=48									
ESL				*eS*	**Sb**	**18 04 03.6**	**+0.1**			
	baz=48									
SLIU	**Shizi**	**0.94**	**175**	*eP*	**Pn**	**18 03 51.9**	**-0.2**			
	baz=173									
SLIU				*eS*	**Sn**	**18 04 06.3**	**+0.8**			
	baz=173									
WDGT	**Dungji**	**0.97**	**276**	⇓*iP*	**Pg**	**18 03 50.8**	**-0.9**			
	baz=275									
WDGT				S	**Sg**	**18 04 04.0**	**-0.4**			
	baz=275									
TCU	**Taichung**	**0.99**	**358**	*eP*	**Pg**	**18 03 52.0**	**-0.1**			
TCU				*eS*	**Sg**	**18 04 04.8**	**-0.1**			
CHGB	**Renai**	**0.99**	**25**	⇑*iP*	**Pg**	**18 03 51.5**	**-0.8**			
	baz=27									
CHGB				*eS*	**Sb**	**18 04 06.7**	**+1.2**			
	baz=27									
PHUB	**P'eng-hu**	**1.10**	**289**	P	**Pg**	**18 03 52.2**	**-2.1**			
	baz=289									
PHUB				*eS*	**Sg**	**18 04 07.2**	**-1.4**			
	baz=289									
WHF	**Hehuan Shan**	**1.11**	**27**	⇑*iP*	**Pg**	**18 03 53.6**	**-0.8**			
	baz=29									
WHF				*eS*	**Sb**	**18 04 09.7**	**+0.8**			
	baz=29									
PNG	**Penghu**	**1.14**	**291**	P	**Pg**	**18 03 53.3**	**-1.6**			
	baz=291									
PNG				S	**Sg**	**18 04 08.5**	**-1.2**			
	baz=291									
WHP	**Taichung City**	**1.14**	**11**	*eP*	**Pg**	**18 03 54.5**	**-0.4**			
	baz=22									
WHP				*eS*	**Sb**	**18 04 10.9**	**+1.5**			
	baz=22									
SMST	**Manzhou Townsh**	**1.14**	**174**	*eP*	**Pn**	**18 03 55.6**	**+0.8**			
	baz=160									
HEN	**Hengchun**	**1.15**	**179**	*eP*	**Pn**	**18 03 55.9**	**+1.0**			
	baz=170									
HEN				*eS*	**Sn**	**18 04 15.6**	**+5.0**			
	baz=170									
HWA	**Hwalien**	**1.16**	**45**	*eP*	**Pn**	**18 03 55.3**	**+0.2**			
	baz=47									
HWA				*eS*	**Sn**	**18 04 11.5**	**+0.6**			
	baz=47									
TDCB	**Techi**	**1.17**	**21**	*eP*	**Pg**	**18 03 54.8**	**-0.8**			
	baz=22									
TDCB				*eS*	**Sg**	**18 04 10.1**	**-0.6**			
	baz=22									
TWT	**Tachien**	**1.17**	**21**	*eP*	**Pg**	**18 03 55.0**	**-0.6**			
	baz=22									
TWT				*eS*	**Sb**	**18 04 11.1**	**+0.5**			
	baz=22									
VCHM	**Qimei**	**1.18**	**273**	*eP*	**Pg**	**18 03 53.5**	**-2.2**			
	baz=272									
VCHM				*eS*	**Sg**	**18 04 09.4**	**-1.6**			
	baz=272									
TWQ1	**Liyutan**	**1.19**	**3**	P	**Pb**	**18 03 55.7**	**+0.2**			
	baz=5.0									
TWQ1				*eS*	**Sb**	**18 04 11.7**	**+0.8**			
	baz=5.0									
WDJ	**Dajia District**	**1.19**	**357**	*eP*	**Pb**	**18 03 55.7**	**+0.2**			
	baz=359									
WDJ				*eS*	**Sg**	**18 04 11.4**	**0.0**			
	baz=359									
FUSS	**Fushou**	**1.19**	**24**	*eP*	**Pg**	**18 03 55.1**	**-0.9**			
	baz=26									
FUSS				*eS*	**Sg**	**18 04 11.3**	**-0.3**			
	baz=26									
TWK1	**Hengchun**	**1.21**	**176**	*eP*	**Pn**	**18 03 56.5**	**+0.7**			
	baz=173									
TWK1				*eS*	**Sn**	**18 04 13.9**	**+1.8**			
	baz=173									
TWKBT	**Hengchun**	**1.22**	**175**	*eP*	**Pn**	**18 03 56.6**	**+0.7**			
	baz=173									
TWKBT				*eS*	**Sn**	**18 04 14.6**	**+2.4**			
	baz=173									
TWD	**Chiawan**	**1.23**	**41**	*eP*	**Pb**	**18 03 56.0**	**-0.1**			
	baz=43									
TWD				*eS*	**Sn**	**18 04 13.0**	**+0.4**			
	baz=43									
ETLH	**Xiulin Townshi**	**1.26**	**34**	*eP*	**Pg**	**18 03 56.5**	**-0.8**			
	baz=36									
ETLH				*eS*	**Sb**	**18 04 14.0**	**+0.9**			
	baz=36									
TSEB	**Hengchuen, Pin**	**1.26**	**172**	*eP*	**Pn**	**18 03 58.2**	**+1.7**			
	baz=188									
NACB	**Ninganchiao**	**1.30**	**39**	P	**Pg**	**18 03 57.4**	**-0.6**			
NACB	**Ninganchiao**	**1.30**	**39**	*eP*	**Pn**	**18 03 56.7**	**-0.3**			
	baz=56									
NACB				*eS*	**Sg**	**18 04 13.7**	**-1.2**			
	baz=56									
LAY	**Lan-yu**	**1.36**	**145**	*eP*	**Pg**	**18 03 58.1**	**-1.0**			
	baz=144									
LAY				*eS*	**Sn**	**18 04 17.3**	**+1.4**			
	baz=144									
NMLH	**Miaoli**	**1.38**	**3**	*eP*	**Pn**	**18 03 58.6**	**+0.5**			
	baz=346									
NMLH				*eS*	**Sb**	**18 04 17.0**	**+0.7**			
	baz=346									
LYUB	**Lan-yu**	**1.41**	**145**	*eP*	**Pn**	**18 03 57.4**	**-1.0**			
	baz=144									
LYUB				*eS*	**Sn**	**18 04 16.9**	**-0.1**			
	baz=144									
NNSB	**Datong**	**1.41**	**26**	*eP*	**Pn**	**18 03 58.5**	**-0.1**			
	baz=27									
NNSB				*eS*	**Sg**	**18 04 18.6**	**+0.1**			
	baz=27									
NNS	**Nan Shan**	**1.41**	**25**	*eP*	**Pn**	**18 03 58.2**	**-0.6**			
	baz=27									
NNS				*eS*	**Sb**	**18 04 16.6**	**-0.9**			
	baz=27									
NSTT	**Nanjuang**	**1.49**	**10**	*eP*	**Pn**	**18 03 59.9**	**+0.2**			
	baz=2.0									
NSTT				*eS*	**Sn**	**18 04 20.2**	**+1.1**			
	baz=2.0									
LIOB	**Emei**	**1.51**	**11**	*eP*	**Pn**	**18 03 59.9**	**0.0**			
	baz=353									
NFF	**Wufeng Townshi**	**1.52**	**14**	P	**Pn**	**18 03 60.0**	**-0.1**			
	baz=14									
NFF				*eS*	**Sn**	**18 04 20.2**	**+0.5**			
	baz=14									
LATG	**Datong**	**1.56**	**28**	*eP*	**Pn**	**18 04 01.1**	**+0.4**			
	baz=16									
NDT	**Datong Townshi**	**1.62**	**27**	*eP*	**Pn**	**18 04 00.8**	**-0.6**			
	baz=17									
NDT				*eS*	**Sn**	**18 04 23.2**	**+1.1**			
	baz=17									
NSK	**Sanguang**	**1.62**	**21**	*eP*	**Pn**	**18 04 01.4**	**-0.2**			
	baz=23									
NSK				*eS*	**Sn**	**18 04 23.2**	**+0.7**			
	baz=23									
YHNB	**Yeheng**	**1.62**	**22**	P	**Pb**	**18 04 02.8**	**-0.2**			
YHNB	**Yeheng**	**1.62**	**22**	P	**Pn**	**18 04 02.3**	**+0.7**			
	baz=23									
YHNB				*eS*	**Sn**	**18 04 23.9**	**+1.4**			
	baz=23									
ENTT	**Nioudou**	**1.67**	**28**	*eP*	**Pn**	**18 04 02.5**	**+0.4**			
	baz=19									
ENTT				*eS*	**Sg**	**18 04 26.1**	**-0.7**			
	baz=19									
NWLT	**Wulai**	**1.77**	**24**	*eP*	**Pn**	**18 04 03.4**	**-0.1**			
	baz=26									
TWC	**Suao**	**1.78**	**36**	*eP*	**Pb**	**18 04 05.5**	**-0.2**			
	baz=50									
TWC				*eS*	**Sg**	**18 04 30.1**	**-0.3**			
	baz=50									
FUSB	**Fushanzhiwuyua**	**1.79**	**27**	*eP*	**Pb**	**18 04 05.1**	**-0.7**			
	baz=17									
TWE	**Neicheng**	**1.79**	**29**	*eP*	**Pb**	**18 04 05.8**	**+0.1**			
	baz=30									
TWE				*eS*	**Sb**	**18 04 29.0**	**+0.9**			
	baz=30									
TATO	**Taipei**	**1.94**	**21**	P	**Pb**	**18 04 08.4**	**0.0**			
NHDH	**Xindian Distri**	**1.95**	**22**	*eP*	**Pb**	**18 04 07.5**	**-1.0**			
	baz=7.0									
TWA	**Mucha**	**1.98**	**24**	*eP*	**Pb**	**18 04 09.3**	**+0.2**			
	baz=26									
TIPB	**Shuangxi**	**2.08**	**29**	*eP*	**Pn**	**18 04 09.1**	**+1.4**			
	baz=10.0									
YM01	**YM01**	**2.13**	**21**	*eP*	**Pn**	**18 04 08.9**	**+0.4**			
	baz=22									
NWF	**Wu-fen Shan**	**2.14**	**27**	*eP*	**Pb**	**18 04 12.1**	**+0.2**			
	baz=10.0									
VWUC	**VWUC**	**2.16**	**328**	*eP*	**Pb**	**18 04 06.3**	**-2.5**			
	baz=329									
TWB1	**Santiao Chiao**	**2.18**	**32**	*eP*	**Pb**	**18 04 11.7**	**-0.8**			
	baz=49									
SXI1	**Grass Mountain**	**2.20**	**29**	*eP*	**Pn**	**18 04 11.1**	**+1.5**			
	baz=11									
PTMZ	**Houxiangcun**	**2.37**	**323**	*eP*	**Pn**	**18 04 10.9**	**-0.8**			
	baz=323									
JYNG	**Yonagunijimaku**	**2.42**	**57**	P	**Pn**	**18 04 13.7**	**+1.2**			
JYNG				*eS*	**Sn**	**18 04 44.2**	**+2.2**			
KNM	**Kinmen**	**2.43**	**301**	*eP*	**Pn**	**18 04 12.2**	**-0.4**			
	baz=299									
YOJ	**Yonaguni jima**	**2.48**	**58**	P	**Pn**	**18 04 14.8**	**+1.6**			
YOJ	**Yonaguni jima**	**2.48**	**58**	*eP*	**Pn**	**18 04 13.6**	**+0.4**			
	baz=59									
YOJ	**Yonaguni jima**	**2.48**	**58**	P	**Pn**	**18 04 14.7**	**+1.5**			
YOJ				*eS*	**Sb**	**18 04 46.0**	**-1.9**			
KNMB	**Chin-men Tao**	**2.49**	**302**	*eP*	**Pn**	**18 04 11.1**	**-2.4**			
	baz=301									
HATJ	**Hateruma jima**	**2.98**	**72**	S	**Sn**	**18 04 57.5**	**+1.7**			
IRIF	**Iriomote-Funau**	**3.01**	**66**	P	**Pn**	**18 04 21.4**	**+1.0**			
IRIF				*eS*	**Sn**	**18 04 58.6**	**+2.2**			
AXDP	**Jialang**	**3.05**	**305**	*eP*	**Pn**	**18 04 19.0**	**-2.1**			
	baz=304									
MATB	**Ma-tsu**	**3.06**	**347**	*eP*	**Pn**	**18 04 19.9**	**-1.4**			
	baz=348									
JKRS	**Kuro-shima**	**3.21**	**70**	*eP*	**Pn**	**18 04 24.5**	**+1.2**			
JKRS				*eS*	**Sn**	**18 05 03.2**	**+1.7**			
MHZQ	**Yeshan**	**3.30**	**333**	*eP*	**Pn**	**18 04 23.7**	**-0.9**			
	baz=332									
JIJ	**Ishigaki jima**	**3.37**	**68**	P	**Pn**	**18 04 26.9**	**+1.4**			
JIJ				*eS*	**Sn**	**18 05 07.3**	**+1.9**			
LYJJ	**Jianjiangzhen**	**3.49**	**346**	*eP*	**Pn**	**18 04 26.0**	**-1.1**			
	baz=346									
JISG	**Ishigakijimahi**	**3.59**	**66**	P	**Pn**	**18 04 29.8**	**+1.2**			
JISG				S	**Sn**	**18 05 12.8**	**+1.9**			
XPSS	**Dashiqiu**	**3.79**	**353**	*eP*	**Pn**	**18 04 29.9**	**-1.3**			
	baz=353									
JTJ	**Tarama**	**3.94**	**67**	P	**Pn**	**18 04 34.7**	**+1.3**			
JTJ				*eS*	**Sn**	**18 05 22.1**	**+2.5**			
SXFK	**Yanhouchang**	**4.26**	**320**	*eP*	**Pn**	**18 04 35.8**	**-2.0**			
	baz=319									

WEL ***17*** *18:04:00, 42.˚67S×172.˚81E, h4km, ML4.2, Mw4.1, Moment Tensor Solution. s9 Moment tensor: Scale 10^{15} Nm; M_{rr}-0.38; $M_{\theta\theta}$ 1.07; $M_{\phi\phi}$-0.69; $M_{r\theta}$ 0.45; $M_{\theta\phi}$-1.48; $M_{\phi r}$ 0.63; Fault plane solution: M_0 1.92000×10^{15} NP1: ϕ_s161.00000°, δ70.00000°, λ-18.00000°. NP2: ϕ_s258.00000°, δ73.00000°, λ-159.00000°. Principal axes: T 191.4500, Plg2.0000°, Azm29.0000°; N -191.6500, Plg63.0000°, Azm295.0000°; P 0.1900, Plg27.0000°, Azm120.0000°;*

NOU ***17*** *18:04:40.7, 42˚.91S×173˚.00E, h0km, MLv4.7/11, South Island, New Zealand*

IDC ***17*** *18:04:41.0±2.3, 42˚.67S×172˚.66E, h0km, mb3.5/2, mbtmp3.5/2, MS3.5/6, Error ellipse: s-maj=44.1km s-min=17.7km az=124.0*

WEL ***17*** *18:04:42.2±0.3, 43˚.S±2˚×17˚.3E±˚, h5km, M4.2/37, ML4.5/15, MLv4.2/37, Error ellipse: s-maj=0.0km s-min=0.0km az=95.3*

ISC 17 18:04:43.4±0.9, **42.79S**±0.03×**172.88E**±0.04, **h33**km, **n98, s166/96, MS3.4/6, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.21**	**148**	P	**Pn**		**18 04 48.8**	**-1.1**
GVZ				S	**Sn**		**18 04 54.4**	**+1.2**
AMCZ	**Amberley**	**0.42**	**203**	P	**Pb**		**18 04 52.6**	**-0.3**
LTZ	**Lake Taylor**	**0.45**	**270**	P	**Pb**		**18 04 50.1**	**-3.2**
LTZ				S	**Sb**		**18 04 56.4**	**-3.7**
KHZ	**Kahutara**	**0.61**	**53**	P	**Pn**		**18 04 53.8**	**-1.9**
OXZ	**Oxford**	**0.82**	**229**	P	**Pn**		**18 04 58.8**	**+0.1**
MQZ	**McQueen's Vall**	**0.93**	**190**	P	**Pn**		**18 05 00.7**	**+0.5**
OKCZ	**Okains Bay**	**0.95**	**172**	P	**Pn**		**18 05 01.4**	**+1.0**
THZ	**Tophouse**	**1.02**	**1**	P	**Pn**		**18 04 59.2**	**-2.4**
INZ	**Inchbonnie**	**1.06**	**273**	P	**Pn**		**18 05 00.7**	**-1.2**
AKCZ	**Akaroa Harbour**	**1.09**	**179**	P	**Pn**		**18 05 03.3**	**+1.0**
RACZ	**Rakaia**	**1.09**	**210**	P	**Pn**		**18 05 03.0**	**+0.7**
MHCZ	**Mount Hutt**	**1.22**	**232**	P	**Pn**		**18 05 04.1**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.30**	**35**	P	**Pn**		**18 05 05.4**	**+0.2**
DSZ	**Denniston Nort**	**1.31**	**322**	P	**Pn**		**18 05 05.0**	**-0.5**
WACZ	**Wakanui South**	**1.38**	**213**	P	**Pn**		**18 05 06.8**	**+0.4**
MRNZ	**Matariki Terra**	**1.39**	**356**	P	**Pn**		**18 05 06.0**	**-0.5**
TUWZ	**Tuamarina**	**1.57**	**31**	P	**Pn**		**18 05 09.5**	**+0.5**
WVZ	**Waitaha Valley**	**1.60**	**259**	P	**Pn**		**18 05 09.9**	**+0.5**
NNZ	**Nelson**	**1.61**	**13**	P	**Pn**		**18 05 09.6**	**0.0**
RPZ	**Rata Peaks**	**1.63**	**235**	Pg	**Pn**		**18 05 09.9**	**+0.1**
	35nm,0.3s,baz=62,slow=1.8,SNR=25							
RPZ				Lg	Lg		18 05 30.7	
	128nm,0.3s,baz=56,slow=22,SNR=41							
RPZ	**Rata Peaks**	**1.63**	**235**	P	**Pn**		**18 05 09.9**	**+0.1**
RPZ	**Rata Peaks**	**1.63**	**235**	P	**Pn**		**18 05 09.8**	**0.0**
TKNZ	**Takaka Hill**	**1.75**	**2**	P	**Pn**		**18 05 11.6**	**+0.1**
TCW	**Tory Channel**	**1.89**	**34**	P	**Pn**		**18 05 15.0**	**+1.6**
GCSZ	**Gaunt Creek Bo**	**1.95**	**253**	P	**Pn**		**18 05 15.0**	**+0.9**
QRZ	**Quartz Range**	**1.98**	**352**	P	**Pn**		**18 05 16.0**	**+1.4**
QRZ	**Quartz Range**	**1.98**	**352**	P	**Pn**		**18 05 15.1**	**+0.5**
DUWZ	**D'Urville Isla**	**2.13**	**22**	P	**Pn**		**18 05 18.4**	**+1.7**
PLWZ	**Palliser**	**2.14**	**56**	P	**Pn**		**18 05 16.5**	**-0.4**
MSWZ	**Moikau Station**	**2.23**	**53**	P	**Pn**		**18 05 17.8**	**-0.3**
CAW	**Cannon Point**	**2.34**	**45**	P	**Pn**		**18 05 19.5**	**-0.1**
PAWZ	**Paruwai Farm**	**2.36**	**54**	P	**Pn**		**18 05 18.9**	**-0.9**
KIW	**Kapiti Island**	**2.45**	**39**	P	**Pn**		**18 05 21.3**	**+0.2**
TRWZ	**Traveller**	**2.51**	**57**	P	**Pn**		**18 05 21.4**	**-0.5**
OGWZ	**Otaki Gorge**	**2.61**	**42**	P	**Pn**		**18 05 22.7**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.73**	**47**	P	**Pn**		**18 05 24.7**	**-0.2**
ODZ	**Otahua Downs**	**2.78**	**215**	P	**Pn**		**18 05 25.8**	**+0.2**
TMWZ	**Te Maipa**	**2.80**	**54**	P	**Pn**		**18 05 24.8**	**-1.2**
MRZ	**Mangatainoka R**	**2.93**	**44**	P	**Pn**		**18 05 27.2**	**-0.5**
PRWZ	**Pori Road**	**3.21**	**47**	P	**Pn**		**18 05 32.2**	**+0.6**
POWZ	**Post Office Ro**	**3.23**	**43**	P	**Pn**		**18 05 31.1**	**-0.6**
JCZ	**Jackson Bay**	**3.25**	**245**	P	**Pn**		**18 05 32.7**	**+0.5**
BFZ	**Birch Farm**	**3.28**	**51**	P	**Pn**		**18 05 32.5**	**0.0**
BFZ	**Birch Farm**	**3.28**	**51**	P	**Pn**		**18 05 31.3**	**-1.2**
WAZ	**Wanganui**	**3.42**	**28**	P	**Pn**		**18 05 36.9**	**+2.5**
NMEZ	**Namu Road**	**3.45**	**13**	P	**Pn**		**18 05 38.7**	**+3.9**
DVHZ	**Dannevirke**	**3.50**	**46**	P	**Pn**		**18 05 33.9**	**-1.7**
TSZ	**Takapari Road**	**3.58**	**41**	P	**Pn**		**18 05 36.6**	**0.0**
KHEZ	**Kahui Hut**	**3.59**	**14**	P	**Pn**		**18 05 39.6**	**+2.7**
KHEZ	**Kahui Hut**	**3.59**	**14**	P	**Pn**		**18 05 38.9**	**+2.1**
NBEZ	**Newall Road No**	**3.59**	**12**	P	**Pn**		**18 05 39.4**	**+2.6**
NEZ	**North Egmont**	**3.63**	**15**	P	**Pn**		**18 05 40.0**	**+2.6**
PKE	**Pukeiti**	**3.69**	**13**	P	**Pn**		**18 05 40.0**	**+1.9**
DREZ	**Durham Road**	**3.73**	**16**	P	**Pn**		**18 05 40.9**	**+2.3**
PNHZ	**Pukenui**	**3.81**	**42**	P	**Pn**		**18 05 39.6**	**-0.2**
VRZ	**Vera Road**	**3.92**	**22**	P	**Pn**		**18 05 43.4**	**+2.1**
PKVZ	**Pokaka**	**3.96**	**29**	P	**Pn**		**18 05 43.0**	**+1.1**
MOVZ	**Moawhango**	**4.01**	**34**	P	**Pn**		**18 05 44.4**	**+1.7**
WNVZ	**Wahianoa**	**4.02**	**32**	P	**Pn**		**18 05 43.5**	**+0.7**
TRVZ	**Turoa**	**4.03**	**31**	P	**Pn**		**18 05 44.7**	**+1.8**
WHVZ	**Whangaehu Hut**	**4.05**	**31**	P	**Pn**		**18 05 44.5**	**+1.1**
FWVZ	**Far West T-bar**	**4.07**	**31**	P	**Pn**		**18 05 46.7**	**+3.1**
BHHZ	**Black Hill Sta**	**4.08**	**37**	P	**Pn**		**18 05 42.8**	**-0.7**
NGZ	**Ngauruhoe**	**4.15**	**31**	P	**Pn**		**18 05 48.0**	**+3.3**
TWVZ	**Taurewa**	**4.19**	**28**	P	**Pn**		**18 05 49.8**	**+4.7**
NNVZ	**North Ngauruho**	**4.20**	**30**	P	**Pn**		**18 05 47.1**	**+1.8**
WTVZ	**West Tongariro**	**4.20**	**30**	P	**Pn**		**18 05 46.6**	**+1.3**
TMVZ	**Te Maari**	**4.24**	**31**	P	**Pn**		**18 05 46.4**	**+0.5**
MLZ	**Mavora Lakes**	**4.29**	**231**	P	**Pn**		**18 05 47.3**	**+0.8**
HIZ	**Hauiti**	**4.53**	**20**	P	**Pn**		**18 05 52.0**	**+2.4**
HIZ	**Hauiti**	**4.53**	**20**	P	**Pn**		**18 05 50.4**	**+0.7**
BKZ	**Black Stump Fm**	**4.53**	**38**	P	**Pn**		**18 05 49.8**	**0.0**
SYZ	**Scrubby Hill**	**4.60**	**214**	P	**Pn**		**18 05 51.0**	**+0.3**
SYZ	**Scrubby Hill**	**4.60**	**214**	P	**Pn**		**18 05 50.9**	**+0.3**
WHZ	**Wether Hill Ro**	**4.71**	**227**	P	**Pn**		**18 05 52.6**	**+0.4**
TLZ	**Tolley Road**	**4.89**	**25**	P	**Pn**		**18 05 56.2**	**+1.5**
MTHZ	**Maungataniwha**	**4.95**	**39**	P	**Pn**		**18 05 56.2**	**+0.8**
APZ	**The Paps**	**5.34**	**219**	P	**Pn**		**18 06 00.8**	**+0.1**
TOZ	**Tahuroa Road**	**5.43**	**23**	P	**Pn**		**18 06 03.6**	**+1.5**
URZ	**Urewera**	**5.55**	**37**	P	**Pn**		**18 06 05.1**	**+1.4**
URZ	**Urewera**	**5.55**	**37**	P	**Pn**		**18 06 05.2**	**+1.4**
AWAZ	**Awhitu Peninsu**	**5.87**	**14**	P	**Pn**		**18 06 11.4**	**+3.2**
MKAZ	**Moumakai**	**5.94**	**18**	P	**Pn**		**18 06 09.8**	**+0.8**
ETAZ	**East Tamaki Re**	**6.03**	**16**	P	**Pn**		**18 06 11.1**	**+0.8**
RUGZ	**Raukumara Rang**	**6.05**	**39**	P	**Pn**		**18 06 10.0**	**-0.4**
MBAZ	**Motutapu North**	**6.21**	**15**	P	**Pn**		**18 06 16.2**	**+3.5**
WIAZ	**Waiheke Island**	**6.23**	**17**	P	**Pn**		**18 06 14.3**	**+1.2**
KUZ	**Kuaotunu**	**6.42**	**21**	P	**Pn**		**18 06 17.7**	**+2.1**
KUZ	**Kuaotunu**	**6.42**	**21**	P	**Pn**		**18 06 17.2**	**+1.6**
OUZ	**Omahuta**	**7.58**	**4**	P	**Pn**		**18 06 34.8**	**+3.3**
OUZ	**Omahuta**	**7.58**	**4**	P	**Pn**		**18 06 35.3**	**+3.8**
STKA	**Stephens Creek**	**27.01**	**283**	LR	LR		18 20 30.7	
	comp=Z,94nm,18.2s,baz=202,slow=35							
CTA	**Charters Tower**	**31.83**	**307**	LR	LR		18 22 39.2	
	comp=Z,50nm,20.5s,baz=90,slow=34							
VNDA	**Vanda**	**35.14**	**184**	LR	LR		18 24 43.2	
	comp=Z,49nm,18.7s,baz=307,slow=34							
ASAR	**Alice Springs**	**37.36**	**288**	P	**P**		**18 11 54.5**	**+1.6**
	0.6nm,0.8s,baz=128,slow=6.8,SNR=9.3							
ASAR				LR	LR		18 27 47.3	
	comp=Z,66nm,18.5s,baz=95,slow=37 0.6nm,0.8s							
**

H11N2	**WAKE ISLAND Hy**	**28.93**	**138**	T		T	18 54 51.1	
	baz=329,slow=75,SNR=140							
H11N1	**WAKE ISLAND Hy**	**28.94**	**138**	T		T	18 54 53.8	
	baz=329,slow=75,SNR=107							
H11N3	**WAKE ISLAND Hy**	**28.95**	**138**	T		T	18 54 54.3	
	baz=329,slow=75,SNR=118							
H11S1	**WAKE ISLAND Hy**	**29.88**	**140**	T		T	18 56 01.4	
	baz=330,slow=76,SNR=143							
H11S3	**WAKE ISLAND Hy**	**29.89**	**140**	T		T	18 55 50.6	
	baz=330,slow=76,SNR=172							
H11S2	**WAKE ISLAND Hy**	**29.90**	**140**	T		T	18 55 59.7	
	baz=330,slow=76,SNR=95							
MKAR	**Makanchi Array**	**44.59**	**298**	P		**P**	**18 26 15.6**	**-0.4**
	comp=E,0.3nm,0.8s,baz=82,slow=8.7,SNR=2.5							
	comp=E,0.3nm,0.8s							
KURBB	**Kurchatov Arra**	**45.67**	**304**	LR		LR	18 44 27.5	
	comp=E,114nm,20.9s,baz=148,slow=35							
INK	**Inuvik**	**46.88**	**30**	P		**P**	**18 26 33.3**	**-0.3**
	comp=E,0.5nm,0.3s,baz=280,slow=10,SNR=4.6							
	comp=E,0.5nm,0.3s							
WRA	**Warramunga Arr**	**64.00**	**193**	P		**P**	**18 28 36.4**	**-0.8**
	comp=E,0.2nm,0.5s,baz=9.2,slow=6.8,SNR=8.0							
	comp=E,0.2nm,0.5s							
ASAR	**Alice Springs**	**67.72**	**193**	P		**P**	**18 29 01.9**	**+0.9**
	comp=E,0.5nm,0.8s,baz=8.3,slow=6.7,SNR=7.3							
	comp=E,0.5nm,0.8s							
ASAR	**Alice Springs**	**67.72**	**193**	P		**P**	**18 29 02.0**	**+0.9**

*SJA **17** 18:30:42.2±0.8,28°.38S×70°.50W,h84km±5km,ML4.2, MW4.0*
*NEIC **17** 18:30:42.8±2.0,28°.37S±0°.05×70°.52W±0°.06,h93km±9km, Error ellipse: s-maj=8.1km s-min=6.7km az=77.0*
*GUC **17** 18:30:43.6±0.7,28°.39S×70°.47W,h82km±3km,ML4.3*
*IDC **17** 18:30:44.1±1.0,28°.33S×70°.31W,h80km±5km,mb3.5/3, mbtmp3.9/7,Error ellipse: s-maj=31.1km s-min=12.9km az=69.0*

ISC 17 18:30:42.6±0.6,**28°.42S**±0°.03×**70°.49W**±0°.04,**h84**km±4km, **n102,σ1§87/131,mb3.6/3,5C-3D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AC05	**El Transito**	**0.46**	**156**			**Pn**		**18 30 57.2**	**+0.7**
AC05	**El Transito**	**0.46**	**156**	⇑	*iP*	**Pn**		**18 30 57.3**	**+0.7**
AC05					*iS*	**Sn**		**18 31 07.6**	**+0.7**
AC05					IAML			18 31 08.3	
	comp=E,42μm,0.2s								
AC05	**El Transito**	**0.46**	**156**	*eP*		**Pn**		**18 30 57.0**	**+0.4**
AC05					IAML			18 31 08.4	
	comp=Z,10μm,0.3s								
AC04	**Llanos de Chal**	**0.56**	**292**			**Pn**		**18 30 57.9**	**+0.7**
AC04	**Llanos de Chal**	**0.56**	**292**	⇑	*iP*	**Pn**		**18 30 58.0**	**+0.7**
AC04					*iS*	**Sn**		**18 31 08.5**	**+0.5**
AC04					IAML			18 31 09.2	
	comp=E,15μm,0.1s								
AC04	**Llanos de Chal**	**0.56**	**292**	*eP*		**Pn**		**18 30 57.9**	**+0.7**
AC04					*eS*	**Sn**		**18 31 09.0**	**+0.9**
AC04					IAML			18 31 11.2	
	comp=Z,4μm,0.3s								
LCO	**Las Campanas**	**0.62**	**198**			**Pn**		**18 30 58.9**	**+0.8**
LCO	**Las Campanas**	**0.62**	**198**	⇑	*iP*	**Pn**		**18 30 59.1**	**+1.0**
LCO					*iS*	**Sn**		**18 31 10.2**	**+0.6**
LCO					*iS*			18 31 10.7	
LCO	**Las Campanas**	**0.62**	**198**	*eP*		**Pn**		**18 30 59.0**	**+0.8**
GO03	**Copiap**	**0.85**	**15**			**Pn**		**18 31 00.3**	**+0.1**
GO03	**Copiap**	**0.85**	**15**	⇑	*iP*	**Pn**		**18 31 00.6**	**+0.3**
GO03					*iS*	**Sn**		**18 31 13.2**	**-0.2**
GO03	**Copiap**	**0.85**	**15**	*eP*		**Pn**		**18 31 00.3**	**+0.1**
GO03					*eS*	**Sn**		**18 31 13.5**	**+0.1**
AC06	**Mina Casimiro**	**1.06**	**6**			**Pn**		**18 31 03.0**	**+0.3**
AC06	**Mina Casimiro**	**1.06**	**6**	⇓	*iP*	**Pn**		**18 31 03.1**	**+0.4**
AC06					*iS*	**Sn**		**18 31 18.0**	**+0.3**
AC06					IAML			18 31 19.3	
	comp=N,7μm,0.4s								
CO01	**Juntas del Tor**	**1.59**	**168**			**Pn**		**18 31 10.8**	**+1.3**
CO01	**Juntas del Tor**	**1.59**	**168**	*eP*		**Pn**		**18 31 11.3**	**+1.8**
CO01					*eS*	**Sn**		**18 31 31.9**	**+2.1**
CO01	**Juntas del Tor**	**1.59**	**168**	*eP*		**Pn**		**18 31 11.0**	**+1.5**
CO01					*eS*	**Sn**		**18 31 32.3**	**+2.4**
CO05	**La Serena**	**1.64**	**204**			**Pn**		**18 31 11.0**	**+1.2**
CO05	**La Serena**	**1.64**	**204**	*eP*		**Pn**		**18 31 11.3**	**+1.5**
CO05					*iS*	**Sn**		**18 31 32.8**	**+2.4**
CO05					IAML			18 31 34.6	
	comp=E,7μm,0.4s								
GO04	**Tololo Observa**	**1.77**	**189**	Pn		**Pn**		**18 31 13.2**	**+1.4**
GO04	**Tololo Observa**	**1.77**	**189**	⇑	*iP*	**Pn**		**18 31 13.3**	**+1.5**
GO04					*iS*	**Sn**		**18 31 34.4**	**+2.4**
GO04	**Tololo Observa**	**1.77**	**189**	*eP*		**Pn**		**18 31 13.4**	**+1.6**
GO04					*eS*	**Sn**		**18 31 35.0**	**+1.0**
AROD	**Rodeo**	**1.96**	**153**	*eP*		**Pn**		**18 31 16.9**	**+2.5**
AROD					*eS*	**Sn**		**18 31 34.6**	**-3.9**
AC02	**Maricunga**	**1.98**	**38**			**Pn**		**18 31 16.1**	**+1.1**
AC02	**Maricunga**	**1.98**	**38**	*eP*		**Pn**		**18 31 16.2**	**+1.3**
AC02					*eS*	**Sn**		**18 31 40.2**	**+0.8**
AC02	**Maricunga**	**1.98**	**38**	*eP*		**Pn**		**18 31 16.0**	**+1.1**
AC02					*eS*	**Sn**		**18 31 40.9**	**+1.5**
AC01	**Pan de Azucar**	**2.26**	**357**	Pn		**Pn**		**18 31 18.3**	**+0.1**
AC01	**Pan de Azucar**	**2.26**	**357**	⇓	*iP*	**Pn**		**18 31 18.3**	**+0.1**
AC01					IAML			18 31 54.4	
	comp=E,1μm,0.4s								
AC01	**Pan de Azucar**	**2.26**	**357**	*eP*		**Pn**		**18 31 18.2**	**+0.1**
AC01					*eS*	Sn		18 31 33.6	-12
AC01					*eS*			18 31 40.9	
CO03	**El Pedregal**	**2.42**	**184**	Pn		**Pn**		**18 31 22.0**	**+1.7**
CO03	**El Pedregal**	**2.42**	**184**	*eP*		**Pn**		**18 31 22.1**	**+1.8**
CO03					*iS*	**Sn**		**18 31 51.1**	**+1.9**
CO03					IAML			18 31 55.1	
	comp=N,1μm,0.4s								
CO03	**El Pedregal**	**2.42**	**184**	*eP*		**Pn**		**18 31 22.0**	**+1.7**
CO03					*eS*	Sn		18 31 34.6	-15
CO03					*eS*			18 31 52.1	
CO03					IAML			18 31 55.8	
	comp=Z,654nm,0.6s								
CO06	**Fray Jorge**	**2.46**	**204**			**Pn**		**18 31 21.5**	**+0.7**
CO06	**Fray Jorge**	**2.46**	**204**	⇓	*iP*	**Pn**		**18 31 21.9**	**+1.1**
CO06					IAML			18 32 03.6	
	comp=E,1μm,0.4s								
ACCO	**Cerro Coronel**	**2.49**	**151**	*eP*		**Pn**		**18 31 25.0**	**+3.5**
ACCO					*eS*	**Sn**		**18 31 44.1**	**-7.2**
CO02	**Combarbal**	**2.81**	**189**			**Pn**		**18 31 26.8**	**+1.2**
CO02	**Combarbal**	**2.81**	**189**	*eP*		**Pn**		**18 31 27.0**	**+1.4**
ACLC	**CERRO LA CRUZ**	**3.26**	**109**	*eP*		**Pn**		**18 31 33.0**	**+1.3**
ACLC					*eS*	**Sn**		**18 32 12.6**	**+3.1**
ACLC					IAML			18 32 16.5	
	comp=Z,581nm,0.4s								
GO02	**Mina Guanaco**	**3.34**	**14**	Pn		**Pn**		**18 31 33.1**	**+0.1**
GO02	**Mina Guanaco**	**3.34**	**14**	*eP*		**Pn**		**18 31 33.0**	**+0.1**
GO02					*eP*			18 31 33.1	
GO02					*eS*	**Sn**		**18 32 14.6**	**+2.9**
RTLL	**Cerro Villicun**	**3.39**	**149**	*eP*		**Pn**		**18 31 36.0**	**+2.7**
RTLL					*eS*	**Sn**		**18 32 13.1**	**+0.6**
ZON	**Zonda**	**3.49**	**154**	Pn		**Pn**		**18 31 35.6**	**+0.9**
RTLS	**Leoncito**	**3.52**	**163**	*eP*		**Pn**		**18 31 39.0**	**+3.6**
RTLS					IAML			18 32 29.1	
	comp=Z,230nm,0.4s								
CFA	**Coronel Fontan**	**3.73**	**149**	P		**Pn**		**18 31 40.3**	**+2.4**
	comp=Z,43nm,0.3s,baz=324,slow=11,SNR=22								
CFA					S	**Sn**		**18 32 22.3**	**+1.5**
	comp=Z,75nm,0.3s,baz=339,slow=14,SNR=6.0								
PB14	**IPOC Station P**	**3.78**	**1**	Pn		**Pn**		**18 31 38.1**	**-0.8**
CYA	**Choya**	**4.13**	**91**	*eP*		**Pn**		**18 31 39.6**	**-3.7**
CYA					*eP*			18 31 44.6	
CYA					*eS*	**Sn**		**18 32 31.1**	**+0.6**
CYA					IAML			18 32 33.9	
	comp=Z,249nm,0.8s								
VA06	**Catapilco**	**4.19**	**189**	Pn		**Pn**		**18 31 44.0**	**-0.1**
VA03	**San Esteban**	**4.33**	**181**			**Pn**		**18 31 47.9**	**+1.7**
VA03	**San Esteban**	**4.33**	**181**	*eP*		**Pn**		**18 31 44.1**	**-2.1**
VA03					*eP*			18 31 49.0	
VA03					*eS*	**Sn**		**18 32 39.6**	**+4.0**
VA03					IAML			18 33 02.9	
	comp=Z,337nm,0.5s								
ASAL	**Salagasta**	**4.40**	**161**	*eP*		**Pn**		**18 31 51.0**	**+3.9**
ASAL					*eS*	**Sn**		**18 32 38.1**	**+1.0**
ROC1	**El Roble**	**4.57**	**186**			**Pn**		**18 31 49.8**	**+0.2**
ROC1	**El Roble**	**4.57**	**186**	*eP*		**Pn**		**18 31 51.0**	**+1.5**
ROC1					*eS*	**Sn**		**18 32 37.6**	**-3.9**
VA01	**Torpederas**	**4.70**	**192**	Pn		**Pn**		**18 31 52.0**	**+1.0**
MT02	**Curacav**	**4.86**	**186**			**Pn**		**18 31 54.3**	**+1.0**
MT02	**Curacav**	**4.86**	**186**	*eP*		**Pn**		**18 31 54.0**	**+0.7**
MT02					*eS*	**Sn**		**18 32 49.6**	**+1.4**
MT02					IAML			18 33 06.1	
	comp=Z,186nm,0.7s								
AAGR	**Agrelo**	**4.87**	**163**	*eP*		**Pn**		**18 31 54.6**	**+1.1**
PB10	**IPOC Station P**	**4.88**	**359**	Pn		**Pn**		**18 31 54.3**	**+0.6**
MT05	**Renca**	**4.96**	**182**	Pn		**Pn**		**18 31 53.9**	**-0.9**
MT03	**Universidad Ad**	**5.06**	**180**	Pn		**Pn**		**18 31 58.1**	**+2.0**
PB15	**IPOC Station P**	**5.27**	**10**	Pn		**Pn**		**18 31 57.5**	**-1.6**
PB15	**IPOC Station P**	**5.27**	**10**	*eP*		**Pn**		**18 31 54.6**	**-4.5**
PB15					*eP*			18 31 59.0	
PB15					*eS*	Sn		18 33 11.1	+13
PB15					IAML			18 33 36.4	
	comp=Z,555nm,0.3s								
VA05	**Santo Domingo**	**5.31**	**190**	Pn		**Pn**		**18 31 58.6**	**-0.8**
MT09	**Talagante**	**5.36**	**184**	Pn		**Pn**		**18 32 01.6**	**+1.4**
LMEL	**Las Melosas**	**5.42**	**177**	Pn		**Pn**		**18 32 00.6**	**-0.4**
MT01	**Popeta**	**5.47**	**187**			**Pn**		**18 32 01.9**	**+0.3**
BO04	**La Punta**	**5.56**	**181**			**Pn**		**18 32 03.6**	**+0.8**
PB06	**IPOC Station P**	**5.75**	**8**			**Pn**		**18 32 03.5**	**-2.1**
AF01	**San Pedro de A**	**5.83**	**21**	Pn		**Pn**		**18 32 05.0**	**-1.8**
LVC	**Limon Verde**	**5.96**	**14**	P		**Pn**		**18 32 07.6**	**-1.0**
	comp=Z,5.7nm,0.3s,baz=171,slow=6.4,SNR=9.6								
LVC					S	**Sn**		**18 33 20.7**	**+5.1**
	comp=Z,44nm,0.6s,baz=80,slow=20,SNR=3.7								
LVC	**Limon Verde**	**5.96**	**14**	Pn		**Pn**		**18 32 07.9**	**-0.7**
BO01	**Tunca**	**5.98**	**185**	Pn		**Pn**		**18 32 09.2**	**+0.7**
PB04	**IPOC Station P**	**6.07**	**3**	Pn		**Pn**		**18 32 07.8**	**-2.1**
BO02	**Sierra Bellavi**	**6.36**	**182**			**Pn**		**18 32 13.6**	**-0.2**
PB03	**IPOC Station P**	**6.38**	**6**			**Pn**		**18 32 11.2**	**-3.0**
PB07	**IPOC Station P**	**6.68**	**5**	Pn		**Pn**		**18 32 15.9**	**-2.5**
GO05	**Huala**	**6.69**	**190**			**Pn**		**18 32 17.3**	**-0.9**
PB09	**IPOC Station P**	**6.69**	**10**	Pn		**Pn**		**18 32 17.3**	**-1.1**
PB02	**IPOC Station P**	**7.09**	**4**			**Pn**		**18 32 20.9**	**-2.9**
PB01	**IPOC Station P**	**7.40**	**7**			**Pn**		**18 32 25.0**	**-3.0**
PATCX	**Punta Patache**	**7.57**	**2**	Pn		**Pn**		**18 32 30.2**	**-0.2**
PB11	**IPOC Station P**	**8.65**	**5**	Pn		**Pn**		**18 32 43.5**	**-1.7**
H03N1	**Juan Fernandez**	**8.80**	**233**	T		T	18 41 38.0		
	baz=56,slow=74,SNR=796								
H03N2	**Juan Fernandez**	**8.81**	**233**	T		T	18 40 30.4		
	baz=56,slow=74								
H03N3	**Juan Fernandez**	**8.81**	**233**	T		T	18 41 37.1		
	baz=56,slow=74,SNR=641								
PB12	**IPOC Station P**	**9.76**	**1**	Pn		**Pn**		**18 32 55.6**	**-4.6**
CPUP	**Villa Florida**	**11.88**	**83**	P		**Pn**		**18 33 29.1**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=267,slow=12,SNR=4.4								
CPUP	**Villa Florida**	**11.88**	**83**	Pn		**Pn**		**18 33 28.9**	**-0.1**
TRQA	**Tornquist**	**11.96**	**146**	Pn		**Pn**		**18 33 30.2**	**+0.2**
ITQB	**Itaqui**	**12.20**	**99**	Pn		**Pn**		**18 33 32.0**	**-1.2**
LPAZ	**La Paz**	**12.27**	**11**	P		**Pn**		**18 33 37.3**	**+2.5**
	comp=Z,0.8nm,0.4s,baz=174,slow=8.5,SNR=3.4								
LPAZ	**La Paz**	**12.27**	**11**	Pn		**Pn**		**18 33 34.5**	**-0.3**
SIV	**San Ignacio**	**15.12**	**37**	P		**Pn**		**18 34 12.5**	**+0.8**
	comp=Z,2.1nm,0.5s,baz=205,slow=9.6,SNR=8.4								
PTLB	**Pontes e Lacer**	**16.64**	**42**	P		**P**		**18 34 31.6**	**-0.2**
BOSC	**San Juan Bosco**	**26.26**	**342**	P		**P**		**18 36 09.1**	**-1.2**
VA02	**Isla de Pascua**	**34.38**	**263**	P		**P**		**18 37 19.7**	**-2.1**
HOPE	**Hope Point**	**35.74**	**146**	P		**P**		**18 37 31.2**	**-1.8**
TXAR	**Lajitas Array**	**65.61**	**328**	P		**P**		**18 41 20.2**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=133,slow=9.1,SNR=2.1								
	comp=Z,0.2nm,0.6s								
DBIC	**Dimbokro**	**72.16**	**72**	P		**P**		**18 41 59.1**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=231,slow=6.5,SNR=2.6								
	comp=Z,3.7nm,0.9s								
TORD	**Torodi Ar. Bea**	**81.05**	**70**	P		**P**		**18 42 49.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=279,slow=6.6,SNR=5.8								
TORD					pP	**pP**		**18 43 11.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=265,slow=4.8,SNR=2.4								
TORD					sP	**sP**		**18 43 20.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=264,slow=6.1,SNR=3.3								
	comp=Z,0.4nm,0.5s								
WRA	**Warramunga Arr**	**126.27**	**209**	PKP		**PKiKP**		**18 49 37.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=161,slow=1.6,SNR=1.6								
WRA					pPKP	**pPKPdf**		**18 50 01.9**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=151,slow=1.5,SNR=1.9								
ZALV	**Zalesovo Beam**	**148.75**	**28**	PKPbc		**PKiKP**		**18 50 21.9**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=289,slow=3.0,SNR=5.7								
ZALV					pPKPbc	**pPKPbc**		**18 50 43.8**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=316,slow=4.1,SNR=2.9								
MKAR	**Makanchi Array**	**151.90**	**42**	PKPbc		**PKiKP**		**18 50 28.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=305,slow=1.7,SNR=8.2								
MKAR					pPKPbc	**pPKPbc**		**18 50 50.0**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=293,slow=2.3,SNR=2.3								

*NEIC **17** 18:39:27.8±1.2,42°.35S±0°.04×174°.02E±0°.06,h16km±7km, mb4.2/7,Error ellipse: s-maj=7.3km s-min=4.9km az=142.0*
*WEL **17** 18:39:28.4±0.6,42°.3S×17°.4E±°,h12km,M3.7/40, ML4.0/13,MLv3.7/40,Error ellipse: s-maj=0.0km s-min=0.0km az=121.5*

ISC 17 18:39:27.8±0.9,**42°.38S**±0°.03×**174°.05E**±0°.04,**h21**km,**n103, σ1§08/104,mb4.2/5,Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.38**	**264**	Pg		**Pb**		**18 39 34.8**	**-1.0**
KHZ	**Kahutara**	**0.38**	**264**	P		**Pb**		**18 39 34.9**	**-0.8**
KHZ				S		Sb		18 39 40.2	-1.0
CMWZ	**Cape Campbell**	**0.64**	**11**			**Pb**		**18 39 41.0**	**+0.7**
CMWZ	**Cape Campbell**	**0.64**	**11**	P		**Pn**		**18 39 41.9**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.68**	**349**			**Pb**		**18 39 40.3**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.68**	**349**	P		**Pb**		**18 39 40.3**	**-0.6**
TUWZ	**Tuamarina**	**0.95**	**355**			**Pb**		**18 39 45.7**	**+0.1**
TUWZ	**Tuamarina**	**0.95**	**355**	P		**Pn**		**18 39 46.0**	**+0.1**
GVZ	**Greta Valley S**	**0.95**	**231**			**Pn**		**18 39 46.3**	**+0.4**
GVZ	**Greta Valley S**	**0.95**	**231**	P		**Pn**		**18 39 46.6**	**+0.6**
THZ	**Tophouse**	**1.05**	**305**			**Pb**		**18 39 46.2**	**-1.2**
THZ	**Tophouse**	**1.05**	**305**	P		**Pb**		**18 39 46.5**	**-0.8**
SNZO	**South Karori**	**1.17**	**25**			**Pb**		**18 39 49.5**	**+0.2**
TCW	**Tory Channel**	**1.18**	**8**			**Pn**		**18 39 49.0**	**0.0**
TCW	**Tory Channel**	**1.18**	**8**	P		**Pn**		**18 39 49.3**	**+0.2**
PLWZ	**Palliser**	**1.21**	**48**			**Pn**		**18 39 50.0**	**+0.5**
PLWZ	**Palliser**	**1.21**	**48**	P		**Pn**		**18 39 50.0**	**+0.5**
WEL	**Wellington**	**1.22**	**26**	P		**Pb**		**18 39 50.4**	**+0.3**
NNZ	**Nelson**	**1.26**	**336**			**Pb**		**18 39 50.2**	**0.0**
NNZ	**Nelson**	**1.26**	**336**	P		**Pb**		**18 39 50.5**	**0.4**
AMCZ	**Amberley**	**1.30**	**232**			**Pb**		**18 39 52.1**	**+0.6**
AMCZ	**Amberley**	**1.30**	**232**	P		**Pb**		**18 39 51.7**	**+0.1**
MSWZ	**Moikau Station**	**1.31**	**43**			**Pn**		**18 39 51.3**	**+0.4**
MSWZ	**Moikau Station**	**1.31**	**43**	P		**Pn**		**18 39 51.4**	**+0.5**
MRNZ	**Matariki Terra**	**1.37**	**315**			**Pb**		**18 39 52.3**	**-0.5**
MRNZ	**Matariki Terra**	**1.37**	**315**	P		**Pb**		**18 39 52.8**	**0.0**
LTZ	**Lake Taylor**	**1.38**	**252**	Pn		**Pn**		**18 39 52.0**	**+0.2**
LTZ	**Lake Taylor**	**1.38**	**252**	P		**Pn**		**18 39 52.0**	**+0.2**
PAWZ	**Paruwai Farm**	**1.43**	**46**	P		**Pn**		**18 39 52.9**	**+0.4**
OKCZ	**Okains Bay**	**1.53**	**208**	P		**Pn**		**18 39 54.4**	**+0.5**
TRWZ	**Traveller**	**1.57**	**52**	P		**Pn**		**18 39 54.3**	**0.0**
TKNZ	**Takaka Hill**	**1.57**	**328**			**Pn**		**18 39 55.0**	**+0.5**
TKNZ	**Takaka Hill**	**1.57**	**328**	P		**Pn**		**18 39 55.2**	**+0.7**
DUWZ	**D'Urville Isla**	**1.58**	**356**	P		**Pn**		**18 39 55.4**	**+0.9**
MTW	**Mount Morrison**	**1.63**	**42**	P		**Pn**		**18 39 55.5**	**+0.3**
KIW	**Kapiti Island**	**1.65**	**23**	P		**Pn**		**18 39 56.3**	**+0.8**
MQZ	**McQueen's Vall**	**1.68**	**217**			**Pb**		**18 39 55.6**	**-0.2**
MQZ	**McQueen's Vall**	**1.68**	**217**	P		**Pn**		**18 39 55.4**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.71**	**209**	P		**Pn**		**18 39 56.7**	**+0.3**
OXZ	**Oxford**	**1.76**	**237**	Pn		**Pn**		**18 39 56.9**	**-0.1**
OXZ	**Oxford**	**1.76**	**237**	P		**Pn**		**18 39 56.7**	**-0.3**
OGWZ	**Otaki Gorge**	**1.77**	**29**	P		**Pn**		**18 39 57.7**	**+0.5**
DSZ	**Denniston Nort**	**1.79**	**290**			**Pb**		**18 39 57.7**	**+0.2**
DSZ	**Denniston Nort**	**1.79**	**290**	P		**Pb**		**18 39 58.6**	**-1.3**
HOWZ	**Holdsworth Sta**	**1.84**	**37**	P		**Pn**		**18 39 58.5**	**+0.3**
TMWZ	**Te Maipa**	**1.87**	**48**	P		**Pn**		**18 39 58.8**	**+0.2**
QRZ	**Quartz Range**	**1.93**	**323**			**Pb**		**18 40 00.8**	**-1.4**
QRZ	**Quartz Range**	**1.93**	**323**	P		**Pb**		**18 40 01.0**	**-1.1**
INZ	**Inchbonnie**	**1.96**	**259**			**Pn**		**18 39 60.0**	**+0.2**
MRZ	**Mangatainoka R**	**2.06**	**34**			**Pn**		**18 40 01.3**	**+0.1**
MRZ	**Mangatainoka R**	**2.06**	**34**	P		**Pn**		**18 40 01.5**	**+0.3**
MHCZ	**Mount Hutt**	**2.16**	**237**	P		**Pn**		**18 40 02.2**	**-0.3**
WACZ	**Wakanui South**	**2.25**	**225**	P		**Pn**		**18 40 03.7**	**-0.1**
BFZ	**Birch Farm**	**2.36**	**45**			**Pn**		**18 40 05.0**	**-0.3**
BFZ	**Birch Farm**	**2.36**	**45**	P		**Pn**		**18 40 05.1**	**-0.3**
POWZ	**Post Office Ro**	**2.37**	**34**	P		**Pn**		**18 40 05.8**	**+0.4**
OHWZ	**Ohakea**	**2.37**	**24**	P		**Pn**		**18 40 07.6**	**+2.2**
WVZ	**Waitaha Valley**	**2.54**	**253**	P		**Pn**		**18 40 08.5**	**+0.7**
RPZ	**Rata Peaks**	**2.57**	**238**	Pn		**Pn**		**18 40 08.2**	**0.0**
RPZ	**Rata Peaks**	**2.57**	**238**	P		**Pn**		**18 40 08.2**	**0.0**
ARCZ	**Arundel**	**2.62**	**232**	P		**Pn**		**18 40 08.9**	**-0.1**
WAZ	**Wanganui**	**2.71**	**15**	P		**Pb**		**18 40 13.2**	**-2.5**
TSZ	**Takapari Road**	**2.73**	**33**	P		**Pn**		**18 40 10.3**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.90**	**250**	P		**Pn**		**18 40 13.5**	**+0.8**
PNHZ	**Pukenui**	**2.95**	**34**	P		**Pn**		**18 40 13.0**	**-0.4**
TMZ	**Timaru**	**2.99**	**227**	P		**Pn**		**18 40 14.2**	**+0.2**
PREZ	**Palmer Road**	**3.03**	**2**	P		**Pb**		**18 40 18.2**	**-2.9**
KHEZ	**Kahui Hut**	**3.08**	**359**	P		**Pb**		**18 40 19.7**	**-2.2**
NEZ	**North Egmont**	**3.10**	**1**	P		**Pb**		**18 40 20.1**	**-2.2**
NBEZ	**Newall Road No**	**3.11**	**357**	P		**Pb**		**18 40 21.6**	**-0.8**
PKE	**Pukeiti**	**3.18**	**359**	P		**Pn**		**18 40 19.4**	**+2.8**
DREZ	**Durham Road**	**3.19**	**2**	P		**Pb**		**18 40 21.1**	**-2.6**
MOVZ	**Moawhango**	**3.24**	**24**	P		**Pn**		**18 40 18.4**	**+1.0**
WNVZ	**Wahianoa**	**3.27**	**22**	P		**Pn**		**18 40 19.7**	**+1.8**
TRVZ	**Turoa**	**3.28**	**21**	P		**Pn**		**18 40 21.2**	**+3.1**
VRZ	**Vera Road**	**3.29**	**10**	P		**Pn**		**18 40 20.3**	**+2.2**
WHVZ	**Whangaehu Hut**	**3.30**	**21**	P		**Pn**		**18 40 21.3**	**+2.8**
FOZ	**Fox Glacier**	**3.32**	**248**			**Pn**		**18 40 19.6**	**+1.2**
FOZ	**Fox Glacier**	**3.32**	**248**	P		**Pn**		**18 40 19.9**	**+1.5**
FWVZ	**Far West T-bar**	**3.32**	**21**	P		**Pb**		**18 40 23.6**	**-2.5**
NNVZ	**North Ngauruho**	**3.45**	**21**	P		**Pn**		**18 40 22.1**	**+1.6**
LBZ	**Lake Benmore**	**3.46**	**233**			**Pn**		**18 40 21.2**	**+0.8**
LBZ	**Lake Benmore**	**3.46**	**233**	P		**Pn**		**18 40 21.0**	**+0.5**
KRVZ	**Karewarewa**	**3.50**	**21**	P		**Pn**		**18 40 20.1**	**-0.9**
ODZ	**Otahua Downs**	**3.63**	**222**	Pn		**Pn**		**18 40 22.8**	**-0.1**
ODZ	**Otahua Downs**	**3.63**	**222**	P		**Pn**		**18 40 22.7**	**-0.1**
BKZ	**Black Stump Fm**	**3.71**	**31**			**Pn**		**18 40 24.8**	**+0.9**
HIZ	**Hauiti**	**3.91**	**9**	Pn		**Pn**		**18 40 28.4**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.33**	**183**	P	Pg	18 57 33.4	+0.8
GVZ				S	Sb	18 57 39.5	-0.8
KHZ	**Kahutara**	**0.42**	**58**	P	Pg	18 57 34.1	-0.3
KHZ				S	Sg	18 57 40.3	+0.5
LTZ	**Lake Taylor**	**0.59**	**256**	P	Pg	18 57 38.4	+0.7
AMCZ	**Amberley**	**0.61**	**209**	P	Pb	18 57 39.4	-0.1
THZ	**Tophouse**	**0.88**	**353**	P	Pg	18 57 42.8	-0.3
OXZ	**Oxford**	**1.01**	**227**	P	Pg	18 57 45.6	0.0
OKCZ	**Okains Bay**	**1.08**	**180**	P	Pg	18 57 46.3	-0.7
BSWZ	**Blackbirch Sta**	**1.11**	**34**	P	Pg	18 57 47.2	-0.2
BSWZ				S	Sn	18 58 04.1	+0.1
MQZ	**McQueen's Vall**	**1.11**	**195**	P	Pg	18 57 45.9	-1.5
INZ	**Inchbonnie**	**1.19**	**265**	P	Pg	18 57 49.0	0.0
AKCZ	**Akaroa Harbour**	**1.24**	**185**	P	Pg	18 57 48.2	-1.8
CMWZ	**Cape Campbell**	**1.24**	**45**	P	Pg	18 57 49.8	-0.1
MRNZ	**Matariki Terra**	**1.26**	**350**	P	Pg	18 57 49.7	-0.7
RACZ	**Rakaia**	**1.28**	**211**	P	Pg	18 57 49.2	-1.5
TUWZ	**Tuamarina**	**1.38**	**29**	P	Pn	18 57 51.6	-0.5
MHCZ	**Mount Hutt**	**1.41**	**230**	P	Pn	18 57 51.0	-1.6
NNZ	**Nelson**	**1.44**	**10**	P	Pn	18 57 52.3	-0.6
WACZ	**Wakanui South**	**1.58**	**214**	P	Pn	18 57 53.2	-1.6
WVZ	**Waitaha Valley**	**1.76**	**255**	P	Pn	18 57 57.3	0.0
RPZ	**Rata Peaks**	**1.82**	**233**	P	Pn	18 57 56.9	-1.3
QRZ	**Quartz Range**	**1.85**	**348**	P	Pn	18 57 59.1	+0.4
ARCZ	**Arundel**	**1.90**	**226**	P	Pn	18 57 57.7	-1.6
DUWZ	**D'Urville Isla**	**1.95**	**20**	P	Pn	18 57 59.9	0.0
GCSZ	**Gaunt Creek Bo**	**2.11**	**250**	P	Pn	18 58 02.0	-0.2
TMZ	**Timaru**	**2.29**	**220**	P	Pn	18 58 03.3	-1.5
OGWZ	**Otaki Gorge**	**2.41**	**42**	P	Pn	18 58 04.7	-1.6
FOZ	**Fox Glacier**	**2.54**	**248**	P	Pn	18 58 08.5	+0.5
LBZ	**Lake Benmore**	**2.72**	**229**	P	Pn	18 58 09.4	-1.2
ODZ	**Otahua Downs**	**2.97**	**215**	P	Pn	18 58 12.2	-1.8

WEL 17 19:07:32.4±0.7, **42°S**±4°×**17°4E**±°, **h5**km, **M3.4/35, ML3.8**/12, **MLv3.4/35**, **Error ellipse: s-maj=0.0km s-min=0.0km az=128.2, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**263**	P	Pg	19 07 35.7	-0.4
KHZ				S	Sg	19 07 39.4	+0.9
BSWZ	**Blackbirch Sta**	**0.68**	**6**	P	Pg	19 07 45.1	-0.4
BSWZ				S	Sb	19 07 56.5	0.0
CMWZ	**Cape Campbell**	**0.72**	**26**	P	Pb	19 07 47.0	-0.4
GVZ	**Greta Valley S**	**0.80**	**224**	P	Pb	19 07 48.5	-0.3
THZ	**Tophouse**	**0.91**	**314**	P	Pg	19 07 49.3	-0.6
TUWZ	**Tuamarina**	**0.97**	**7**	P	Pg	19 07 50.6	-0.5
AMCZ	**Amberley**	**1.15**	**227**	P	Pg	19 07 53.5	-0.9
LTZ	**Lake Taylor**	**1.19**	**250**	P	Pg	19 07 54.3	-0.8
NNZ	**Nelson**	**1.22**	**345**	P	Pg	19 07 54.5	-1.2
TCW	**Tory Channel**	**1.24**	**17**	P	Pg	19 07 54.2	-1.9
MRNZ	**Matariki Terra**	**1.26**	**322**	P	Pg	19 07 55.7	-0.8
WEL	**Wellington**	**1.33**	**34**	P	Pn	19 07 55.5	-2.2
PLWZ	**Palliser**	**1.37**	**53**	P	Pn	19 07 55.3	-2.9
OKCZ	**Okains Bay**	**1.43**	**202**	P	Pn	19 07 57.0	-2.1
MSWZ	**Moikau Station**	**1.47**	**49**	P	Pn	19 07 56.6	-2.9
TKNZ	**Takaka Hill**	**1.49**	**335**	P	Pg	19 07 59.2	-0.7
MQZ	**McQueen's Vall**	**1.55**	**212**	P	Pn	19 07 57.8	-2.8
OXZ	**Oxford**	**1.59**	**234**	P	Pn	19 07 58.9	-2.3
PAWZ	**Paruwai Farm**	**1.59**	**51**	P	Pn	19 07 58.1	-3.2
DUWZ	**D'Urville Isla**	**1.59**	**4**	P	Pn	19 08 00.3	-1.1
CAW	**Cannon Point**	**1.60**	**37**	P	Pn	19 07 58.9	-2.5
AKCZ	**Akaroa Harbour**	**1.61**	**203**	P	Pn	19 07 59.2	-2.4
DSZ	**Denniston Nort**	**1.61**	**293**	P	Pn	19 08 01.6	+0.1
TRWZ	**Traveller**	**1.73**	**56**	P	Pn	19 08 00.0	-3.2
KIW	**Kapiti Island**	**1.75**	**29**	P	Pn	19 08 01.3	-2.1
MTW	**Mount Morrison**	**1.78**	**47**	P	Pn	19 08 00.7	-3.1
RACZ	**Rakaia**	**1.80**	**222**	P	Pn	19 08 01.6	-2.5
QRZ	**Quartz Range**	**1.83**	**329**	P	Pn	19 08 04.2	-0.3
OGWZ	**Otaki Gorge**	**1.89**	**34**	P	Pn	19 08 02.8	-2.5
HOWZ	**Holdsworth Sta**	**1.98**	**41**	P	Pn	19 08 03.6	-3.0
MHCZ	**Mount Hutt**	**1.99**	**234**	P	Pn	19 08 04.3	-2.4
TMWZ	**Te Maipa**	**2.03**	**51**	P	Pn	19 08 03.7	-3.6
WACZ	**Wakanui South**	**2.10**	**222**	P	Pn	19 08 06.0	-2.3
MRZ	**Mangatainoka R**	**2.19**	**38**	P	Pn	19 08 06.6	-2.9
WVZ	**Waitaha Valley**	**2.35**	**252**	P	Pn	19 08 08.9	-0.8
RPZ	**Rata Peaks**	**2.40**	**236**	P	Pn	19 08 10.2	-2.2
ARCZ	**Arundel**	**2.46**	**230**	P	Pn	19 08 10.9	-2.3
PRWZ	**Pori Road**	**2.46**	**42**	P	Pb	19 08 17.1	-0.1
BFZ	**Birch Farm**	**2.52**	**48**	P	Pn	19 08 10.4	-3.6
GCSZ	**Gaunt Creek Bo**	**2.71**	**249**	P	Pn	19 08 17.9	+1.3
DVHZ	**Dannevirke**	**2.75**	**41**	P	Pn	19 08 13.4	-3.9
WAZ	**Wanganui**	**2.79**	**19**	P	Pn	19 08 18.1	+0.4
TMZ	**Timaru**	**2.84**	**225**	P	Pn	19 08 16.4	-2.0
TSZ	**Takapari Road**	**2.85**	**36**	P	Pn	19 08 15.5	-3.1
FOZ	**Fox Glacier**	**3.13**	**247**	P	Pn	19 08 22.3	-0.1
PKE	**Pukeiti**	**3.20**	**3**	P	Pn	19 08 25.5	+2.1
LBZ	**Lake Benmore**	**3.29**	**232**	P	Pn	19 08 23.3	-1.4
MOVZ	**Moawhango**	**3.34**	**27**	P	Pn	19 08 23.7	-1.6
VRZ	**Vera Road**	**3.35**	**13**	P	Pn	19 08 25.2	-0.2
WNVZ	**Wahianoa**	**3.36**	**25**	P	Pn	19 08 25.2	-0.5
ODZ	**Otahua Downs**	**3.49**	**220**	P	Pn	19 08 25.0	-2.3
NGZ	**Ngauruhoe**	**3.50**	**24**	P	Pn	19 08 29.3	+1.6
TWVZ	**Taurewa**	**3.55**	**21**	P	Pn	19 08 27.3	-1.0
BKZ	**Black Stump Fm**	**3.82**	**33**	P	Pn	19 08 35.1	+3.1
HIZ	**Hauiti**	**3.96**	**12**	P	Pn	19 08 33.9	0.0
KMRZ	**Kaimai**	**4.83**	**21**	P	Pn	19 08 47.5	+1.6
TOZ	**Tahuroa Road**	**4.84**	**16**	P	Pn	19 08 44.4	-1.4
MKAZ	**Moumakai**	**5.39**	**12**	P	Pn	19 08 51.9	-1.6

NEIC ***17*** *19:10:07.9±2.5, 24°.20S±0°.07×67°.17W±0°.10, h169*km*±5*km*, mb4.5/8, Md3.8(SJA), ML4.5(GUC), Error ellipse: s-maj=13.2km s-min=8.9km az=70.0*

IDC ***17*** *19:10:08.4±1.2, 24°.16S×67°.09W, h164*km*±13*km*, mb3.5/1, mbtmp3.9/8, Error ellipse: s-maj=18.2km s-min=17.0km az=29.0*

VAO ***17*** *19:10:08.8±0.4, 24°.24S×67°.10W, h172*km*, mb4.0*

GUC ***17*** *19:10:10.2±0.7, 24°.13S×67°.51W, h204*km*±5*km*, ML4.5*

ISC 17 19:10:08.2±0.7, **24°.18S**±0°.04×**67°.23W**±0°.06, **h174**km±7km, **n93**, σ1°**30**/108, **mb4.3/3, 9C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.50**	**324**		**Pn**	**19 10 39.1**	**-0.9**
AF01	**San Pedro de A**	**1.50**	**324**	*eP*	**Pn**	**19 10 42.5**	**+2.5**
AF01				*eS*	**Sn**	**19 11 07.2**	**+2.7**
AF01				IAML		19 11 10.9	
	comp=N,1μm,0.3s						
LVC	**Limon Verde**	**2.20**	**315**	P	**Pn**	**19 10 49.1**	**+1.7**
	comp=N,60nm,0.3s,baz=117,slow=8.6,SNR=205						
LVC				S	**Sn**	**19 11 18.3**	**+0.6**
	comp=N,393nm,0.3s,baz=212,slow=23,SNR=96						
LVC	**Limon Verde**	**2.20**	**315**		**Pn**	**19 10 48.9**	**+1.5**
LVC	**Limon Verde**	**2.20**	**315**	*i* P	**Pn**	**19 10 49.0**	**+1.5**
LVC				*i* S	**Sn**	**19 11 18.4**	**+0.6**
LVC	**Limon Verde**	**2.20**	**315**	*eP*	**Pn**	**19 10 49.0**	**+1.5**
PB15	**IPOC Station P**	**2.27**	**295**		**Pn**	**19 10 49.2**	**+1.1**
PB15	**IPOC Station P**	**2.27**	**295**	⇑*i*P	**Pn**	**19 10 49.2**	**+1.6**
PB15				*i* S	**Sn**	**19 11 19.3**	**+0.3**
GO02	**Mina Guanaco**	**2.36**	**245**		**Pn**	**19 10 50.6**	**+1.4**
GO02	**Mina Guanaco**	**2.36**	**245**	⇑*i*P	**Pn**	**19 10 50.7**	**+1.5**
GO02				*i* S	**Sn**	**19 11 22.2**	**+1.2**
PB06	**IPOC Station P**	**2.60**	**304**		**Pn**	**19 10 52.8**	**+0.9**
PB06	**IPOC Station P**	**2.60**	**304**	⇑*i*P	**Pn**	**19 10 53.2**	**+1.3**
PB06				*i* S	**Sn**	**19 11 25.5**	**-0.4**
PB06				IAML		19 11 27.5	
	comp=E,3μm,0.2s						
PB14	**IPOC Station P**	**2.93**	**261**	Pn	**Pn**	**19 10 56.6**	**+0.6**
PB09	**IPOC Station P**	**3.01**	**322**	Pn	**Pn**	**19 10 58.5**	**+1.6**
PB09	**IPOC Station P**	**3.01**	**322**	*eP*	**Pn**	**19 10 58.6**	**+1.6**
PB09				*i* S	**Sn**	**19 11 35.2**	**+0.5**
PB09				IAML		19 11 37.2	
	comp=E,606nm,0.5s						
PB10	**IPOC Station P**	**3.12**	**282**		**Pn**	**19 10 58.6**	**+0.6**
PB10	**IPOC Station P**	**3.12**	**282**	⇑*i*P	**Pn**	**19 10 59.0**	**+1.0**
PB10				*i* S	**Sn**	**19 11 35.3**	**-1.4**
PB10				IAML		19 11 45.0	
	comp=N,417nm,0.3s						
PB03	**IPOC Station P**	**3.15**	**312**		**Pn**	**19 10 59.0**	**+0.5**
PB03	**IPOC Station P**	**3.15**	**312**	⇑*i*P	**Pn**	**19 10 59.2**	**+0.7**
PB03				*i* S	**Sn**	**19 11 36.2**	**-1.5**
PB03				IAML		19 11 40.0	
	comp=N,910nm,0.2s						
AC02	**Maricunga**	**3.15**	**213**		**Pn**	**19 11 00.4**	**+1.5**
PB04	**IPOC Station P**	**3.25**	**304**	Pn	**Pn**	**19 11 00.4**	**+0.6**
PB04	**IPOC Station P**	**3.25**	**304**	⇑*i*P	**Pn**	**19 11 00.4**	**+0.6**
PB04				*i* S	**Sn**	**19 11 38.3**	**-1.8**
PB04				IAML		19 11 41.2	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	**3.46**	**314**		**Pn**	**19 11 02.7**	**+0.2**
PB07	**IPOC Station P**	**3.46**	**314**	⇑*i*P	**Pn**	**19 11 03.0**	**+0.6**
PB07				*i* S	**Sn**	**19 11 42.4**	**-2.2**
AC01	**Pan de Azucar**	**3.63**	**237**		**Pn**	**19 11 04.1**	**-0.2**
AC01	**Pan de Azucar**	**3.63**	**237**	⇑*i*P	**Pn**	**19 11 04.2**	**-0.1**
PB01	**IPOC Station P**	**3.75**	**326**		**Pn**	**19 11 06.1**	**0.0**
PB01	**IPOC Station P**	**3.75**	**326**	⇑*i*P	**Pn**	**19 11 06.3**	**+0.2**
PB02	**IPOC Station P**	**3.76**	**319**		**Pn**	**19 11 06.2**	**0.0**
PB02	**IPOC Station P**	**3.76**	**319**	*i* P	**Pn**	**19 11 06.3**	**+1.0**
PB02				*i* S	**Sn**	**19 11 48.7**	**-2.8**
AC06	**Mina Casimiro**	**4.24**	**221**		**Pn**	**19 11 11.7**	**-0.5**
PATCX	**Punta Patache**	**4.30**	**320**		**Pn**	**19 11 12.8**	**-0.2**
PATCX	**Punta Patache**	**4.30**	**320**	*i* P	**Pn**	**19 11 13.1**	**0.0**
PATCX				*eS*	**Sn**	**19 12 00.3**	**-3.4**
GO03	**Copiap**	**4.35**	**218**		**Pn**	**19 11 12.7**	**-0.9**
PB08	**IPOC Station P**	**4.40**	**336**		**Pn**	**19 11 13.9**	**-0.7**
PB08	**IPOC Station P**	**4.40**	**336**	⇓*i*P	**Pn**	**19 11 15.7**	**+1.1**
TA01	**Diego Aracena**	**4.52**	**322**	Pn	**Pn**	**19 11 14.9**	**-0.8**
GO01	**Chusmiza**	**4.84**	**337**		**Pn**	**19 11 21.3**	**+0.8**
PB11	**IPOC Station P**	**4.94**	**332**	Pn	**Pn**	**19 11 20.6**	**-0.9**
AC04	**Llanos de Chal**	**5.29**	**220**	Pn	**Pn**	**19 11 24.1**	**-1.7**
PSGCX	**Pisagua**	**5.29**	**329**	Pn	**Pn**	**19 11 24.9**	**-1.1**
AC05	**El Transito**	**5.38**	**210**	Pn	**Pn**	**19 11 26.2**	**-0.9**
MNMC	**Minye Minye**	**5.48**	**336**		**Pn**	**19 11 28.0**	**-0.7**
LCO	**Las Campanas**	**5.73**	**212**		**Pn**	**19 11 29.8**	**-2.0**
PB16	**IPOC Station P**	**6.19**	**339**		**Pn**	**19 11 37.9**	**-0.4**
PB12	**IPOC Station P**	**6.25**	**332**	Pn	**Pn**	**19 11 36.5**	**-2.0**
GO04	**Tololo Observa**	**6.76**	**207**	Pn	**Pn**	**19 11 42.5**	**-2.9**
CFA	**Coronel Fontan**	**7.45**	**187**	P	**Pn**	**19 11 55.1**	**+0.9**
	comp=N,1.7nm,0.3s,baz=324,slow=13,SNR=9.5						
CFA				S	**Sn**	**19 13 13.9**	**-4.1**
	comp=N,6.8nm,0.4s,baz=235,slow=20,SNR=12						
LPAZ	**La Paz**	**7.90**	**354**	P	**Pn**	**19 12 02.1**	**+1.3**
	comp=N,4.2nm,0.4s,baz=146,slow=6.9,SNR=31						
LPAZ				S	**Sn**	**19 13 25.2**	**-4.4**
	comp=N,1.4nm,0.5s,baz=234,slow=18,SNR=2.1						
LPAZ	**La Paz**	**7.90**	**354**		**Pn**	**19 12 01.7**	**+1.0**
LPAZ	**La Paz**	**7.90**	**354**	*eP*	**Pn**	**19 12 02.0**	**+1.3**
MURT	**Porto Murtinho**	**9.21**	**76**	*eP*	**Pn**	**19 12 17.9**	**+0.3**
CPUP	**Villa Florida**	**9.21**	**106**	*eP*	**Pn**	**19 12 16.4**	**-1.1**
	comp=N,1.0nm,0.6s,baz=271,slow=16,SNR=1.8						
CPUP	**Villa Florida**	**9.21**	**106**	*eP*	**Pn**	**19 12 17.1**	**-0.3**
BBSD	**Serra de San D**	**9.31**	**43**	*eP*	**Pn**	**19 12 17.4**	**-1.5**
SIV	**San Ignacio**	**9.99**	**36**	P	**Pn**	**19 12 25.9**	**-1.9**
	comp=N,3.5nm,0.6s,baz=213,slow=15,SNR=15						
SIV				S	Sn	19 14 03.5	-15
	comp=N,1.4nm,0.7s,baz=221,slow=16,SNR=2.0						
PTLB	**Pontes e Lacer**	**11.55**	**43**	*eP*	**Pn**	**19 12 47.6**	**-0.4**
TRCB	**Terra Rica**	**13.46**	**87**	*eP*	**Pn**	**19 13 11.8**	**-0.8**
ETMB	**Extrema**	**14.32**	**4**	*eP*	**P**	**19 13 26.1**	**+0.8**
GO06	**Curarrehue**	**15.77**	**192**	P	**Pn**	**19 13 40.1**	**-1.0**
PDRB	**Porto dos Gac**	**15.99**	**40**	*eP*	**Pn**	**19 13 43.3**	**-0.4**
FRTB	**Fartura**	**16.20**	**91**	*eP*	**P**	**19 13 45.1**	**-1.0**
ITRB	**Iturama**	**16.27**	**77**	*eP*	**P**	**19 13 46.5**	**-0.4**
TIJ01	**Guaruva-PR**	**16.60**	**98**	*eP*	**P**	**19 13 48.6**	**-2.0**
PLCA	**Paso Flores**	**16.74**	**189**	P	**P**	**19 13 52.6**	**+0.7**
	comp=N,2.4nm,0.8s,baz=2.6,slow=13,SNR=6.2						
PLCA	**Paso Flores**	**16.74**	**189**	*eP*	**P**	**19 13 51.9**	**-0.1**
ARAG	**Araguaiana, MT**	**16.75**	**63**	*eP*	**Pn**	**19 13 53.8**	**+0.8**
CLDB	**Colider**	**17.13**	**41**	*eP*	**P**	**19 13 55.8**	**-0.6**
BB19B	**Bebedouro**	**17.54**	**84**	*eP*	**P**	**19 14 00.3**	**-0.6**
PET01	**Itanhaem-SP**	**18.20**	**94**	*eP*	**P**	**19 14 08.3**	**+0.2**
VAO	**Valinhos**	**18.61**	**90**	*eP*	**P**	**19 14 12.3**	**-0.3**
IPMB	**Ipameri, GO**	**18.78**	**74**	*eP*	**P**	**19 14 14.5**	**+0.1**
LL02	**Futaleuf**	**19.34**	**190**	P	**P**	**19 14 20.7**	**+0.5**
LL02				IAmb	IAmb	19 14 25.4	
	comp=Z,16nm,0.8s						
PARB	**Paraibuna**	**19.80**	**92**	*eP*	**P**	**19 14 24.6**	**-0.7**
BDFB	**Brasilia**	**19.95**	**68**	P	**P**	**19 14 26.8**	**-0.3**
	comp=Z,15nm,0.7s,baz=234,slow=11,SNR=20						
BDFB	**Brasilia**	**19.95**	**68**	P	**P**	**19 14 27.2**	**+0.1**
BDFB				IAmb	IAmb	19 14 27.7	
	comp=Z,17nm,0.7s						
BDFB	**Brasilia**	**19.95**	**68**	*eP*	**P**	**19 14 27.5**	**+0.4**
MC01	**Montes Claros**	**23.03**	**76**	*eP*	**P**	**19 14 57.6**	**-0.7**
JANB	**Januaria**	**23.39**	**71**	*eP*	**P**	**19 15 00.8**	**-0.4**
SGCB	**SC Gabriel d**	**23.91**	**0**	*eP*	**P**	**19 15 08.0**	**+1.7**
SMTB	**Santa Maria do**	**24.17**	**54**	*eP*	**P**	**19 15 08.4**	**-0.2**
SDBA	**SAO DESIDERIO**	**24.17**	**65**	*eP*	**P**	**19 15 08.0**	**-0.7**
MALB	**Monte Alegre**	**25.49**	**31**	*eP*	**P**	**19 15 20.7**	**+0.2**
BELA	**Belgrano 2**	**55.89**	**172**	P	**P**	**19 19 28.4**	**+1.0**
BELA				IAmb	IAmb	19 20 13.0	
	comp=Z,3.0nm,0.6s						
Y49A	**Blount Mountai**	**60.53**	**342**	P	**P**	**19 19 59.8**	**-0.3**
Y49A				IAmb	IAmb	19 20 02.6	
	comp=Z,11nm,0.8s						
MSTX	**Muleshoe**	**66.98**	**328**	P	**P**	**19 20 43.6**	**+1.3**
BRIGG	**Briggsdale**	**73.09**	**331**	P	**P**	**19 21 18.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.83**	**69**	P	**P**	**19 21 41.4**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=252,slow=6.2,SNR=6.1						
	comp=Z,0.5nm,0.4s						
R11A	**Troy Canyon, C**	**76.97**	**323**	P	**P**	**19 21 41.9**	**+0.1**
ASAR	**Alice Springs**	**128.21**	**205**	PKP	**PKPdf**	**19 28 55.0**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=132,slow=1.4,SNR=4.7						
WRA	**Warramunga Arr**	**131.37**	**207**	PKP	**PKPdf**	**19 29 01.2**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=167,slow=1.8,SNR=1.6						
MKAR	**Makanchi Array**	**146.79**	**40**	PKPbc	**PKPbc**	**19 29 30.9**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=326,slow=2.9,SNR=5.6						
SIJI	**Sorong**	**149.30**	**218**	PKPbc	**PKiKP**	**19 29 39.2**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=104,slow=2.1,SNR=4.1						

IDC ***17*** *19:10:20.6±2.8, 13°.64S×166°.83E, h20*km*±15*km*, mb4.5/15, mbtmp4.5/15, ML6.0/1, MS3.8/33, Error ellipse: s-maj=25.9km s-min=17.0km az=107.0*

NEIC ***17*** *19:10:24.0±2.9, 13°.50S×0°.08×166°.77E±0°.10, h42*km*±7km, mb4.9/34, Error ellipse: s-maj=14.1km s-min=10.7km az=71.0*

NOU ***17*** *19:10:28.2, 13°.81S×166°.45E, h28*km*, mb4.9/23, Vanuatu Islands*

ISC 17 19:10:23.6±0.4, **13°.43S**±0°.06×**166°.75E**±0°.07, **h39**km, **n135,** σ1°**31**/116, **mb4.8**/36, **MS3.9**/31, **1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**4.49**	**162**	P	**Pn**	**19 11 30.8**	**+1.7**
RTV	**Rentapao**	**4.63**	**160**	P	**Pn**	**19 11 33.8**	**+2.8**
LIFNC	**LIFOU**	**7.32**	**176**	Pn	**Pn**	**19 12 05.5**	**-2.5**
LIFNC	**LIFOU**	**7.32**	**176**	P	**Pn**	**19 12 09.2**	**+1.2**
KOUNC	**Koumac, New Ca**	**7.46**	**198**	Pn	**Pn**	**19 12 09.2**	**-0.8**
KOUNC	**Koumac, New Ca**	**7.46**	**198**	P	**Pn**	**19 12 09.6**	**-0.4**
HNR	**Honiara**	**7.76**	**300**	Pn	**Pn**	**19 12 15.0**	**+0.9**
	197nm,0.3s,baz=62,slow=3.0,SNR=9.9						
HNR				Sn	**Sn**	**19 13 38.9**	**-1.9**
	130nm,0.3s,baz=275,slow=13,SNR=1.5						
HNR				LR	LR	19 15 20.1	
	comp=Z,2μm,21.9s,baz=124,slow=38						
HNR	**Honiara**	**7.76**	**300**	Pn	**Pn**	**19 12 14.0**	**-0.2**
HNR	**Honiara**	**7.76**	**300**	P	**Pn**	**19 12 17.8**	**+3.7**
MARNC	**Mare, Loyalty**	**8.10**	**171**	Pn	**Pn**	**19 12 17.4**	**-1.3**
MARNC	**Mare, Loyalty**	**8.10**	**171**	P	**Pn**	**19 12 19.5**	**+0.8**
YATNC	**Mamie plateau,**	**8.58**	**179**	P	**Pn**	**19 12 25.4**	**0.0**
DZM	**Mont Dzumac**	**8.60**	**182**	Pn	**Pn**	**19 12 24.8**	**-0.8**
	3.8nm,0.3s,baz=144,slow=20,SNR=32						
DZM				Sn	**Sn**	**19 14 05.3**	**+3.9**
	baz=5.8,slow=20						
DZM				LR	LR	19 14 27.9	
	comp=Z,74nm,19.5s,baz=26,slow=30						
DZM	**Mont Dzumac**	**8.60**	**182**	*e*Pn	**Pn**	**19 12 26.3**	**+0.6**
	64nm,1.1s						
DZM				*e*Sn	Sn	19 14 12.6	+11
	250nm,1.0s						
DZM				*e*LR	LR	19 14 46.7	
	comp=Z,1μm,24.1s						
DZM	**Mont Dzumac**	**8.60**	**182**	P	**Pn**	**19 12 25.3**	**-0.4**
ONTNC	**Ouen Toro**	**8.83**	**182**	Pn	**Pn**	**19 12 28.2**	**-0.6**
ONTNC	**Ouen Toro**	**8.83**	**182**	P	**Pn**	**19 12 29.1**	**+0.3**
OUENC	**Ouen Island, N**	**8.94**	**179**	Pn	**Pn**	**19 12 30.3**	**0.0**
OUENC	**Ouen Island, N**	**8.94**	**179**	P	**Pn**	**19 12 30.8**	**+0.6**
MSVF	**Nonsavu**	**11.70**	**113**	LR	LR	19 17 01.7	
	comp=Z,378nm,19.2s,baz=11,slow=35						
MSVF	**Nonsavu**	**11.70**	**113**	Pn	**Pn**	**19 13 08.4**	**+0.2**
TARA	**Tarawa**	**15.92**	**23**		**Pn**	**19 14 03.9**	**-1.0**
TARA	**Tarawa**	**15.92**	**23**	P	P	19 14 16.3	+8.2
	54nm,0.8s						
KRVT	**Keravat (AS076**	**17.13**	**301**	LR	LR	19 21 24.5	
	comp=Z,138nm,20.1s,baz=261,slow=38						
EIDS	**Eidsvold**	**18.93**	**229**	P	**P**	**19 14 41.3**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**19.61**	**280**	LR	LR	19 21 55.7	
	comp=Z,124nm,18.9s,baz=34,slow=35						
CTA	**Charters Tower**	**20.70**	**249**	LR	LR	19 21 49.8	
	comp=Z,222nm,21.7s,baz=70,slow=33						
AFI	**Afiamalu**	**20.87**	**94**	LR	LR	19 21 18.3	
	comp=Z,148nm,18.6s,baz=232,slow=32						
RMQ	**Roma**	**21.29**	**230**	P	**P**	**19 15 07.9**	**+1.0**
ARMA	**Armidale**	**21.92**	**217**	P	**P**	**19 15 13.7**	**-0.2**
ARMA				IAmb	IAmb	19 15 15.1	
	comp=Z,44nm,1.4s						
ARMA	**Armidale**	**21.92**	**217**	P	**P**	**19 15 14.1**	**+0.3**
MANU	**Manus Island**	**22.26**	**299**	P	**P**	**19 15 18.6**	**+1.1**
MANU				IAmb	IAmb	19 15 19.9	
	comp=Z,41nm,1.1s						
STKA	**Stephens Creek**	**29.47**	**227**	P	**P**	**19 16 23.9**	**-0.1**
	comp=Z,4.9nm,0.6s,baz=52,slow=8.4,SNR=6.8						
STKA				LR	LR	19 28 15.1	
	comp=Z,239nm,19.1s,baz=34,slow=37						
	comp=Z,4.9nm,0.6s						
STKA	**Stephens Creek**	**29.47**	**227**	P	**P**	**19 16 24.2**	**+0.2**
RPZ	**Rata Peaks**	**30.40**	**174**	LR	LR	19 28 44.0	
	comp=Z,275nm,18.1s,baz=7.5,slow=36						
LCRK	**Leigh Creek**	**31.29**	**233**	P	**P**	**19 16 42.4**	**+2.3**
WB0	**Warramunga Arr**	**31.60**	**254**	P	**P**	**19 16 41.6**	**-1.4**
WB0				IAmb	IAmb	19 17 18.5	
	comp=Z,34nm,2.0s						
WRA	**Warramunga Arr**	**31.67**	**254**	P	**P**	**19 16 41.4**	**-2.3**
	comp=Z,0.6nm,0.6s,baz=83,slow=8.2,SNR=9.3						
WRA				PcP	**PcP**	**19 19 35.0**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=80,slow=2.5,SNR=7.9						
WRA				ScP	**ScP**	**19 23 16.4**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=86,slow=3.8,SNR=8.4						
WRA				LR	LR	19 28 50.4	
	comp=Z,268nm,19.5s,baz=91,slow=35						
	comp=Z,0.6nm,0.6s						
HTT	**Hallett**	**32.20**	**227**	P	**P**

TAPN	**Taplejung**	**86.61 299**	*e*P	**P**	**19 23 04.3 +0.5**			
RAMN	**Ramite**	**87.45 298**	*e*P	**P**	**19 23 07.8 0.0**			
JIRN	**Jiri**	**88.00 299**	*e*P	**P**	**19 23 10.7 +0.1**			
	comp=Z,9.2nm,0.6s							
DLBC	**Dease Lake**	**88.04 28**	LR	LR	19 54 57.9			
	comp=Z,34nm,21.1s,baz=53,slow=30							
BELA	**Belgrano 2**	**88.05 176**	P	**P**	**19 23 08.1 -1.4**			
BELA			IAmb	IAmb	19 23 09.9			
	comp=Z,3.9nm,0.7s							
TIXI	**Tiksi**	**88.61 349**	P	**P**	**19 23 11.7 -0.2**			
	comp=Z,1.7nm,0.8s,baz=178,slow=0.7,SNR=5.6							
TIXI			LR	LR	19 59 16.0			
	comp=Z,47nm,19.7s,baz=188,slow=33							
	comp=Z,1.7nm,0.8s							
PKIN	**Phulchoki**	**88.65 299**	*e*P	**P**	**19 23 13.3 -0.3**			
KKN	**Kakani**	**88.81 299**	*e*P	**P**	**19 23 14.1 -0.1**			
GKN	**Gorkha**	**89.41 299**	*e*P	**P**	**19 23 16.6 -0.4**			
	comp=Z,24nm,0.8s							
ELK	**Elko**	**89.80 48**	LR	LR	19 54 40.1			
	comp=Z,55nm,21.4s,baz=254,slow=30							
DANN	**Dangsing**	**90.25 299**	*e*P	**P**	**19 23 20.5 -0.6**			
INK	**Inuvik**	**91.83 19**	LR	LR	19 59 43.8			
	comp=Z,89nm,19.6s,baz=265,slow=32							
TROLL	**Troll, Antarti**	**94.11 185**	P	**P**	**19 23 37.1 -0.8**			
PDAR	**Pinedale Array**	**94.44 47**	LR	LR	20 03 11.9			
	comp=Z,46nm,18.0s,baz=326,slow=34							
SNAA	**Sanae**	**94.81 183**	P	**P**	**19 23 39.4 -1.6**			
SNAA	**Sanae**	**94.81 183**	LR	LR	20 05 08.6			
	comp=Z,78nm,18.9s,baz=192,slow=35							
SNAA	**Sanae**	**94.81 183**	P	**P**	**19 23 39.6 -1.4**			
SNAA			IAmb	IAmb	19 25 25.6			
	comp=Z,12nm,1.5s							
ANMO	**Albuquerque**	**94.99 55**	LR	LR	20 05 31.5			
	comp=Z,46nm,18.2s,baz=295,slow=35							
VNA3	**Neumayer Olymp**	**95.49 181**	P	**P**	**19 23 42.8 -1.3**			
VNA2	**Neumayer--Watz**	**95.75 182**	P	**P**	**19 23 44.3 -1.0**			
	baz=151,slow=1.0							
MK31	**Makanchi Array**	**95.92 317**	P	**P**	**19 23 45.4 -1.1**			
MK31			IAmb	IAmb	19 23 47.8			
	comp=Z,3.7nm,0.9s							
MKAR	**Makanchi Array**	**95.92 317**	P	**P**	**19 23 47.0 +0.5**			
	comp=Z,3.0nm,0.8s,baz=94,slow=6.2,SNR=22							
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**95.92 317**	P	**P**	**19 23 46.6 +0.2**			
ZAA0	**Zalesovo Array**	**96.05 324**	P	**P**	**19 23 45.7 -1.1**			
ZAA0			IAmb	IAmb	19 23 47.1			
	comp=Z,4.8nm,0.8s							
ZALV	**Zalesovo Beam**	**96.05 324**	P	**P**	**19 23 46.4 -0.4**			
	comp=Z,3.6nm,0.7s,baz=113,slow=4.3,SNR=18							
	comp=Z,3.6nm,0.7s							
ZALV	**Zalesovo Beam**	**96.05 324**	P	**P**	**19 23 45.7 -1.1**			
ZALV	**Zalesovo Beam**	**96.05 324**	*e*P	P	19 23 46.3 -15			
ZALV	**Zalesovo Beam**	**96.05 324**	pmax	pmax				
	comp=Z,4.0nm,0.7s							
MAKZ	**Makanchi**	**96.13 317**	P	**P**	**19 23 45.9 -1.5**			
MAKZ			IAmb	IAmb	19 23 48.7			
	comp=Z,6.9nm,1.2s							
YKA	**Yellowknife Ar**	**96.63 27**	LR	LR	20 02 02.6			
	comp=Z,33nm,21.7s,baz=292,slow=32							
USHA	**Ushuaia**	**97.65 151**	LR	LR	19 58 22.3			
	comp=Z,2µm,22.0s,baz=0.5,slow=30							
ARCES	**ARCESS Array B**	**118.88 345**	PKP	**PKPdf**	**19 29 06.9 -0.4**			
	comp=Z,1.5nm,0.5s,baz=62,slow=1.9,SNR=26							
BOSA	**Boshof**	**124.02 221**	PKP	**PKPdf**	**19 29 17.9 -0.8**			
	comp=Z,2.7nm,0.8s,baz=217,slow=3.0,SNR=3.7							
FINES	**FINESS Array B**	**124.34 338**	PKP	**PKPdf**	**19 29 17.5 -0.5**			
	comp=Z,3.0nm,0.8s,baz=225,slow=5.1,SNR=3.9							
NB2	**NORSAR Subarra**	**129.25 345**	PKPdf	**PKPdf**	**19 29 27.4 -0.1**			
	comp=Z,0.9nm,0.8s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**129.25 345**	PKP	**PKPdf**	**19 29 25.8 -1.7**			
	comp=Z,0.9nm,0.7s,baz=32,slow=2.1,SNR=5.2							
AKASG	**Malin Array Be**	**129.38 326**	PKP	**PKPdf**	**19 29 27.4 -0.6**			
	comp=Z,1.0nm,0.6s,baz=45,slow=2.3,SNR=5.6							
GERES	**GERESS Array B**	**138.26 333**	PKP	**PKPdf**	**19 29 44.3 -0.5**			
	comp=Z,1.1nm,0.8s,baz=356,slow=1.9,SNR=5.1							
GERES			SKPbc	**SKiKP**	**19 33 18.3 -1.8**			
	comp=Z,1.0nm,0.8s,baz=31,slow=5.9,SNR=5.2							
KEST	**Kesra**	**149.89 321**	PKPbc	**PKiKP**	**19 30 10.8 -0.4**			
	comp=Z,20nm,0.7s,baz=118,slow=1.7,SNR=28							
ESDC	**Sonseca Array**	**152.61 344**	PKPbc	**PKPbc**	**19 30 15.1 -1.3**			
	comp=Z,2.0nm,0.7s,baz=17,slow=3.3,SNR=18							
ESDC			PKPab	**PKPab**	**19 30 27.2 +0.3**			
	comp=Z,0.8nm,0.8s,baz=7.3,slow=4.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**165.45 271**	PKP	**PKPdf**	**19 30 23.0 -2.0**			
	comp=Z,0.8nm,0.7s,baz=52,slow=1.0,SNR=6.2							
TORD			PKPab	**PKPab**	**19 31 23.3 0.0**			
	comp=Z,0.3nm,0.7s,baz=72,slow=5.2,SNR=1.9							

*KRSC **17** 19:16:06.5±1.8,58˚.91N×165˚.43E,h18km±29km, ML4.5*
*IDC **17** 19:16:07.8±0.7,58˚.88N×165˚.08E,h0km,mb3.8/14, mbtmp3.8/16,ML4.7/1,MS3.5/8,Error ellipse: s-maj=23.8km s-min=14.3km az=173.0*
*NEIC **17** 19:16:08.7±1.8,58˚.95N±0˚.09×165˚.5E±0˚.2,h10km±1km, mb4.4/27,Error ellipse: s-maj=18.8km s-min=13.1km az=131.0*
*MOS **17** 19:16:08.8±0.8,59˚.01N×165˚.05E,h16km,mb4.3/13,Error ellipse: s-maj=12.1km s-min=5.2km az=74.8*

ISC 17 19:16:09.4±0.5,59˚.00N±0˚.05×165˚.23E±0˚.05,h10km,n118, σ1§22/111,mb4.3/32,MS3.4/7,3C-6D,Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OSSR	**Ossora**	**1.15**	**284**	*e*P		Pb	19 16 28.9	-2.4
OSSR				*e*S		**Sb**	**19 16 44.6**	**-1.7**
OSSR	**Ossora**	**1.15**	**284**	PN		Pb	19 16 28.9	-2.4
OSSR				S		**Sb**	**19 16 44.6**	**-1.7**
TILK	**Tilichiki**	**1.53**	**17**	*e*P		**Pn**	**19 16 35.8**	**-0.9**
TILK				*e*S		**Sn**	**19 16 56.8**	**+0.2**
TILK	**Tilichiki**	**1.53**	**17**	PN		**Pn**	**19 16 35.8**	**-0.9**
TILK				S		**Sn**	**19 16 56.8**	**+0.2**
PALN	**Palana**	**2.72**	**274**	P		**Pn**	**19 17 28.3**	**+1.1**
PALN				S		**Sn**	**19 17 28.3**	**+2.2**
PALN	**Palana**	**2.72**	**274**	PN		**Pn**	**19 16 54.2**	**+1.1**
PALN				S		**Sn**	**19 17 28.3**	**+2.2**
KBTR	**Krutoberegovo**	**3.08**	**206**	*e*P		Pn	19 16 55.8	-2.3
KBTR	**Krutoberegovo**	**3.08**	**206**	PN		Pn	19 16 55.8	-2.3
KMSK	**Kamenskaya**	**3.52**	**7**	*e*P		**Pn**	**19 17 03.3**	**-0.7**
KMSK				*e*S		**Sn**	**19 17 46.0**	**+0.4**
KMSK	**Kamenskaya**	**3.52**	**7**	PN		**Pn**	**19 17 03.3**	**-0.7**
KMSK				S		**Sn**	**19 17 46.0**	**+0.4**
BZWR	**Bezymyannyi-We**	**3.97**	**222**	P		**Pn**	**19 17 10.5**	**0.0**
BZWR	**Bezymyannyi-We**	**3.97**	**222**	PN		**Pn**	**19 17 10.5**	**0.0**
BZMR	**Bezymyannaya**	**4.00**	**222**	P		**Pn**	**19 17 11.1**	**+0.3**
BZMR	**Bezymyannaya**	**4.00**	**222**	PN		**Pn**	**19 17 11.1**	**+0.3**
SRDR	**Sredinnyy**	**4.00**	**230**	*e*P		**Pn**	**19 17 10.5**	**-0.3**
SRDR	**Sredinnyy**	**4.00**	**230**	PN		**Pn**	**19 17 10.5**	**-0.3**
KIRR	**Kirishev**	**4.03**	**223**	*e*P		**Pn**	**19 17 11.0**	**-0.3**
KIRR	**Kirishev**	**4.03**	**223**	PN		**Pn**	**19 17 11.0**	**-0.3**
KPT	**Kopyto**	**4.07**	**224**	*e*P		**Pn**	**19 17 10.7**	**-1.0**
KPT	**Kopyto**	**4.07**	**224**	PN		**Pn**	**19 17 10.7**	**-1.0**
KOZ	**Kozyrevsk**	**4.13**	**227**	*e*P		**Pn**	**19 17 11.6**	**-0.9**
KOZ	**Kozyrevsk**	**4.13**	**227**	PN		**Pn**	**19 17 11.6**	**-0.9**
KMNR	**Kamenistaya**	**4.23**	**222**	*e*P		**Pn**	**19 17 14.3**	**+0.4**
KMNR	**Kamenistaya**	**4.23**	**222**	PN		**Pn**	**19 17 14.3**	**+0.4**
TUMR	**Tumrok**	**4.64**	**219**	*e*P		**Pn**	**19 17 20.7**	**+1.1**
TUMR	**Tumrok**	**4.64**	**219**	PN		**Pn**	**19 17 20.7**	**+1.1**
GNL	**Ganaly**	**6.68**	**220**	P		**Pn**	**19 17 47.0**	**-0.6**
GNL	**Ganaly**	**6.68**	**220**	PN		**Pn**	**19 17 47.0**	**-0.6**
SMAR	**Somma**	**6.78**	**215**	*e*P		**Pn**	**19 17 50.5**	**+1.5**
SMAR	**Somma**	**6.78**	**215**	PN		**Pn**	**19 17 50.5**	**+1.5**
AVH	**Avacha**	**6.79**	**215**	P		**Pn**	**19 17 50.0**	**+0.9**
AVH	**Avacha**	**6.79**	**215**	PN		**Pn**	**19 17 50.0**	**+0.9**
KOK	**Koryaka**	**6.80**	**216**	*e*P		**Pn**	**19 17 51.4**	**+2.2**
KOK	**Koryaka**	**6.80**	**216**	PN		**Pn**	**19 17 51.4**	**+2.2**
PET	**Petropavlovsk**	**7.03**	**214**	Pn		**Pn**	**19 17 53.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**7.25**	**219**	Pn		**Pn**	**19 17 56.4**	**+1.1**
PEA0B	**Petropavlovsk-**	**7.25**	**219**	PN		**Pn**	**19 17 56.4**	**+1.1**
PETK	**Petropavlovsk-**	**7.25**	**219**	Pn		**Pn**	**19 17 56.0**	**+0.7**
	0.4nm,0.3s,baz=76,slow=15,SNR=8.1							
KRMR	**Karymshinskiy**	**7.35**	**216**	*e*P		**Pn**	**19 17 58.0**	**+1.3**
KRMR	**Karymshinskiy**	**7.35**	**216**	PN		**Pn**	**19 17 58.0**	**+1.3**
SEY	**Seymchan**	**7.39**	**308**	Pn		**Pn**	**19 17 56.4**	**-0.8**
	1.5nm,0.7s,baz=106,slow=17,SNR=1.2							
SEY	**Seymchan**	**7.39**	**308**	*e*PN		**Pn**	**19 17 59.6**	**+2.4**
MA2	**Magadan**	**7.43**	**281**	Pn		Pn	19 17 55.9	-1.9
MA2	**Magadan**	**7.43**	**281**	PN		Pn	19 17 55.9	-1.9
RUS	**Russkaya**	**7.59**	**213**	P		**Pn**	**19 17 59.6**	**-0.4**
RUS	**Russkaya**	**7.59**	**213**	PN		**Pn**	**19 17 59.6**	**-0.4**
SHEM	**Shemya Is, Ala**	**8.01**	**138**	LR		LR	19 20 34.4	
	comp=Z,142nm,21.5s,baz=138,slow=33							
BILL	**Bilibino**	**9.09**	**2**	Pn		**Pn**	**19 18 21.8**	**+1.3**
BILL	**Bilibino**	**9.09**	**2**	*e*PN		**Pn**	**19 18 21.7**	**+1.3**
BILL				pmax		pmax		
	comp=Z,13nm,1.7s							
BILL				MLR		MLR		
	comp=Z,53nm,14.0s							
FALS	**False Pass**	**17.51**	**90**			**Pn**	**19 20 11.6**	**-1.7**
YAK	**Yakutsk**	**17.62**	**295**	Pn		**Pn**	**19 20 11.4**	**-3.3**
YAK	**Yakutsk**	**17.62**	**295**	*e*P		**Pn**	**19 20 14.4**	**-0.2**
YAK				pmax		pmax		
	comp=Z,55nm,3.1s							
TIXI	**Tiksi**	**19.34**	**325**	P		**P**	**19 20 35.5**	**+1.0**
	comp=Z,12nm,0.3s,baz=146,slow=0.2,SNR=12							
	comp=Z,2.7nm,0.8s							
TIXI	**Tiksi**	**19.34**	**325**	P		**P**	**19 20 35.2**	**+0.8**
TIXI	**Tiksi**	**19.34**	**325**	*i*P		**P**	**19 20 35.6**	**+1.1**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.9s							
IMAR	**Indian Mountai**	**19.86**	**52**			**P**	**19 20 40.2**	**0.0**
CAST	**Castle Rocks**	**20.72**	**60**	P		**P**	**19 20 50.4**	**+0.8**
ZEA	**Zeya**	**21.47**	**272**	*e*P		**P**	**19 21 00.4**	**+2.7**
ZEA				*e*			19 21 08.9	
TOLK	**Toolik Lake Re**	**21.60**	**45**	P		**P**	**19 20 59.9**	**+0.8**
KLR	**Kul'dur**	**21.70**	**258**	P		**P**	**19 20 59.8**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=37,slow=9.4,SNR=6.7							
KLR				LR		LR	19 30 16.3	
	comp=Z,142nm,18.3s,baz=35,slow=39							
	comp=Z,2.1nm,0.8s							
KLR	**Kul'dur**	**21.70**	**258**	*e*P		**P**	**19 21 00.1**	**-0.1**
KLR				pmax		pmax		
	comp=Z,9.0nm,2.0s							
COLA	**College**	**22.38**	**55**	*e*P		**P**	**19 21 11.4**	**+4.0**
COLA				pmax		pmax		
	comp=Z,14nm,1.7s							
IL31		**22.80**	**55**	P		**P**	**19 21 13.0**	**+1.1**
IL31				IAmb		IAmb	19 21 34.9	
	comp=Z,11nm,1.4s							
ILAR	**Eielson Array**	**22.80**	**55**	P		**P**	**19 21 12.8**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=269,slow=9.3,SNR=19							
ILAR				LR		LR	19 29 50.4	
	comp=Z,53nm,21.9s,baz=1.5,slow=36							
	comp=Z,1.4nm,0.7s							
ILAR	**Eielson Array**	**22.80**	**55**	*e*P		**P**	**19 21 12.7**	**+0.8**
ILAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
DHY	**Denali Highway**	**22.88**	**60**	P		**P**	**19 21 11.2**	**-1.6**
DHY				IAmb		IAmb	19 21 40.7	
	comp=Z,14nm,1.4s							
HEH	**HeiHe**	**23.29**	**265**	*e*P		**P**	**19 21 14.9**	**-2.1**
BMAR	**Burnt Mountain**	**23.48**	**48**	P		**P**	**19 21 18.1**	**-0.8**
RIDG	**Independent Ri**	**23.86**	**57**	P		**P**	**19 21 21.5**	**-1.0**
RIDG				IAmb		IAmb	19 21 50.0	
	comp=Z,14nm,1.5s							
SCRK	**Sand Creek**	**24.18**	**57**	P		**P**	**19 21 24.5**	**-1.2**
DOT	**Dot Lake**	**24.22**	**57**	P		**P**	**19 21 24.8**	**-1.1**
MENT	**Mentasta**	**24.54**	**59**	P		**P**	**19 21 28.8**	**0.0**
MENT				IAmb		IAmb	19 21 31.5	
	comp=Z,18nm,1.5s							
USRK	**Ussuriysk Ar.**	**25.07**	**249**	LR		LR	19 31 20.8	
	comp=Z,81nm,18.2s,baz=305,slow=37							
BCAR	**Beaver Creek A**	**25.36**	**58**	P		**P**	**19 21 35.0**	**-1.2**
M27K	**Edge Creek, AK**	**25.51**	**60**	P		**P**	**19 21 35.2**	**-2.5**
M27K				IAmb		IAmb	19 21 46.4	
	comp=Z,8.2nm,1.1s							
INK	**Inuvik**	**27.52**	**45**	P		**P**	**19 21 56.8**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=255,slow=16,SNR=2.5							
	comp=Z,1.1nm,0.7s							
DLBC	**Dease Lake**	**32.45**	**62**	LR		LR	19 36 11.2	
	comp=Z,78nm,18.8s,baz=287,slow=37							
DGZ	**Jazzator, Alta**	**43.80**	**294**	*e*P		**P**	**19 24 14.9**	**-0.3**
DGZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
NEW	**Newport**	**44.72**	**68**	LR		LR	19 42 47.9	
	comp=Z,55nm,18.9s,baz=318,slow=36							
KURK	**Kurchatov**	**47.16**	**300**	P		**P**	**19 24 40.9**	**-0.7**
KURK				IAmb		IAmb	19 24 41.9	
	comp=Z,6.0nm,0.9s							
KURK	**Kurchatov**	**47.16**	**300**	*i*P		**P**	**19 24 40.4**	**-1.2**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MK31	**Makanchi Array**	**48.29**	**294**	P		**P**	**19 24 48.9**	**-1.5**
MK31				IAmb		IAmb	19 25 03.8	
	comp=Z,3.0nm,1.2s							
MK31	**Makanchi Array**	**48.29**	**294**	P		**P**	**19 24 48.9**	**-1.5**
MK31				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MKAR	**Makanchi Array**	**48.29**	**294**	P		**P**	**19 24 49.1**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=42,slow=6.5,SNR=5.9							
MKAR				LR		LR	19 46 14.8	
	comp=Z,113nm,18.1s,baz=344,slow=37							
	comp=Z,1.1nm,0.7s							
BRVK	**Borovoye**	**49.06**	**307**	P		**P**	**19 24 55.4**	**-0.8**
BRVK				IAmb		IAmb	19 24 56.5	
	comp=Z,3.8nm,0.6s							
BRVK	**Borovoye**	**49.06**	**307**	*i*P		**P**	**19 24 55.3**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,22nm,3.4s							
ELK	**Elko**	**51.11**	**74**	P		**P**	**19 25 14.2**	**+2.0**
	comp=Z,4.5nm,1.3s,baz=336,slow=5.9,SNR=3.8							
	comp=Z,4.5nm,1.3s							
NVAR	**Mina Array Bea**	**51.34**	**78**	P		**P**	**19 25 15.8**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=322,slow=7.4,SNR=5.6							
	comp=Z,0.5nm,0.6s							
PDAR	**Pinedale Array**	**52.36**	**68**	P		**P**	**19 25 21.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=327,slow=3.2,SNR=8.6							
	comp=Z,0.7nm,0.7s							
ABKAR	**Akbulak array**	**56.16**	**310**	P		**P**	**19 25 48.2**	**-0.5**
KK31	**Karatay Array**	**56.54**	**299**	P		**P**	**19 25 50.8**	**-0.8**
KK31				IAmb		IAmb	19 25 56.0	
	comp=Z,3.8nm,1.2s							
KK31	**Karatay Array**	**56.54**	**299**	P		**P**	**19 25 50.8**	**-0.8**
KK31				pmax		pmax		
	comp=Z,4.0nm,1.3s							
KKAR	**Karatay Array**	**56.54**	**299**	P		**P**	**19 25 50.5**	**-1.1**
KKAR	**Karatay Array**	**56.54**	**299**	P		**P**	**19 25 50.5**	**-1.1**
LSA	**Lhasa**	**56.96**	**273**	P		**P**	**19 25 54.6**	**-0.6**
LSA				IAmb		IAmb	19 25 55.7	
	comp=Z,2.5nm,0.8s							
LSA	**Lhasa**	**56.96**	**273**	P		**P**	**19 25 54.7**	**-0.6**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
GAR	**Garm**	**59.89**	**296**	P		**P**	**19 26 14.8**	**-0.4**
GAR				IAmb		IAmb	19 26 15.7	
	comp=Z,5.4nm,0.7s							
CHGR	**Chuyangaron**	**60.70**	**297**	P		**P**	**19 26 20.0**	**-0.8**
CHGR	**Chuyangaron**	**60.70**	**297**	P		**P**	**19 26 20.0**	**-0.8**
CHGR				pmax		pmax		
	comp=Z,8.0nm,0.6s							
PHRA	**Phrae**	**61.48**	**258**	P		**P**	**19 26 26.1**	**0.0**
NACGM	**Naroch**	**61.66**	**334**	*e*P		P	19 26 21.6	-5.3
	comp=Z,15nm,0.9s,baz=23							
CMAR	**Chiang Mai Arr**	**62.17**	**259**	P		**P**	**19 26 30.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=11,slow=7.3,SNR=12							
	comp=Z,0.9nm,0.7s							
AKASG	**Malin Array Be**	**64.94**	**331**	P		**P**	**19 26 48.4**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=26,slow=6.5,SNR=4.3							
	comp=Z,1.4nm,0.6s							
AKASG	**Malin Array Be**	**64.94**	**331**	*e*P		**P**	**19 26 49.3**	**+0.6**
TX31	**Lajitas Ar. Si**	**65.90**	**73**	P		P	19 26 53.5	-1.9
TX32	**Lajitas Array**	**65.90**	**73**	P		P	19 26 53.6	-1.7
TX32				IAmb		IAmb	19 27 02.5	
	comp=Z,4.4nm,1.2s							
TXAR	**Lajitas Array**	**65.90**	**73**	P		**P**	**19 26 56.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=298,slow=5.5,SNR=6.6							
	comp=Z,0.5nm,0.7s							
TXAR	**Lajitas Array**	**65.90**	**73**	P		P	19 26 53.5	-1.9
TXAR	**Lajitas Array**	**65.90**	**73**	*e*P		**P**	**19 26 57.1**	**+1.8**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
KBZ	**Khabaz**	**67.13**	**318**	P		**P**	**19 27 03.6**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=349,slow=4.5,SNR=3.9							
	comp=Z,3.8nm,0.9s							
KBZ	**Khabaz**	**67.13**	**318**	*e*P		**P**	**19 27 04.9**	**+2.1**
KBZ				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BUR08	**Bucovina Ar. S**	**68.77**	**332**	P		**P**	**19 27 13.4**	**+0.1**
BUR08				IAmb		IAmb	19 27 17.8	
	comp=Z,2.3nm,1.0s							
BURAR	**Bucovina Array**	**68.80**	**332**	P		**P**	**19 27 13.4**	**-0.1**
BURAR				IAmb		IAmb	19 27 14.8	
	comp=Z,2.6nm,0.8s							
ESDC	**Sonseca Array**	**81.28**	**352**	P		**P**	**19 28 25.5**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=12,slow=7.6,SNR=2.5							
	comp=Z,0.7nm,1.0s							
WRA	**Warramunga Arr**	**82.66**	**209**	P		**P**	**19 28 31.7**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=15,slow=5.5,SNR=6.7							
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**82.66**	**209**	*i* P		**P**	**19 28 33.0**	**+0.3**
WRA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
ASAR	**Alice Springs**	**86.34**	**209**	P		**P**	**19 28 50.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=16,slow=4.8,SNR=4.3							
	comp=Z,0.3nm,0.6s							
ATD	**Arta Tunnel**	**95.84**	**304**	LR		LR	20 17 17.0	
	comp=Z,54nm,18.4s,baz=63,slow=38							

*IDC **17** 19:26:15.1±2.6,41˚.75S×174˚.35E,h0km,mb3.2/2, mbtmp3.3/3,ML3.7/1,MS2.9/1,Error ellipse: s-maj=57.2km s-min=48.9km az=51.0*
*NOU **17** 19:26:16.7,41˚.94S×174˚.42E,h4km,MLv4.3/7,Cook Strait, New Zealand*
*WEL **17** 19:26:18.3±0.3,42˚.S±3˚×17˚.4E±˚,h11km±3km,M3.8/34, ML4.1/20,MLv3.8/34,Error ellipse: s-maj=0.0km s-min=0.0km az=143.4*
*NEIC **17** 19:26:18.4±1.4,41˚.75S±0˚.04×174˚.29E±0˚.03,h18km±8km, mb4.3/4,Error ellipse: s-maj=5.5km s-min=2.8km az=151.0*

ISC 17 19:26:17.3±1.2,41˚.83S±0˚.03×174˚.36E±0˚.03,h19km±4km, n142,σ1§11/144,mb3.8/4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**304**			**Pg**	**19 26 21.6**	**0.0**
CMWZ	**Cape Campbell**	**0.14**	**304**	P		**Pg**	**19 26 21.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.38**	**287**	Pg		**Pg**	**19 26 25.2**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.38**	**287**	P		**Pg**	**19 26 25.3**	**-0.1**
BSWZ				S		**Sg**	**19 26 30.4**	**-0.4**
TUWZ	**Tuamarina**	**0.51**	**321**			**Pb**	**19 26 26.9**	**-0.6**
TUWZ	**Tuamarina**	**0.51**	**321**	P		**Pb**	**19 26 27.0**	**-0.6**
TUWZ				S		**Sg**	**19 26 33.3**	**-1.1**
SNZO	**South Karori**	**0.57**	**26**			**Pg**	**19 26 29.4**	**+0.6**
SNZO	**South Karori**	**0.57**	**26**	P		**Pn**	**19 26 29.6**	**-0.8**
TCW	**Tory Channel**	**0.62**	**354**			**Pb**	**19 26 28.9**	**-0.4**
TCW	**Tory Channel**	**0.62**	**354**	P		**Pb**	**19 26 29.0**	**-0.4**
WEL	**Wellington**	**0.62**	**29**	P		**Pn**	**19 26 30.4**	**-0.7**
PLWZ	**Palliser**	**0.71**	**69**	Pg		**Pn**	**19 26 33.4**	**+1.0**
PLWZ	**Palliser**	**0.71**	**69**	P		**Pn**	**19 26 33.5**	**+1.0**
MSWZ	**Moikau Station**	**0.78**	**59**			**Pn**	**19 26 34.3**	**+1.0**
MSWZ	**Moikau Station**	**0.78**	**59**	P		**Pn**	**19 26 34.5**	**+1.2**
KHZ	**Kahutara**	**0.85**	**226**			**Pn**	**19 26 35.7**	**+1.5**
KHZ	**Kahutara**	**0.85**	**226**	P		**Pn**	**19 26 35.7**	**+1.5**
CAW	**Cannon Point**	**0.89**	**37**	P		**Pn**	**19 26 35.2**	**+0.4**
PAWZ	**Paruwai Farm**	**0.91**	**61**	P		**Pn**	**19 26 36.1**	**+0.9**
NNZ	**Nelson**	**0.96**	**309**			**Pb**	**19 26 34.9**	**-0.4**
NNZ	**Nelson**	**0.96**	**309**	P		**Pb**	**19 26 34.9**	**-0.4**
KIW	**Kapiti Island**	**1.05**	**23**	P		**Pg**	**19 26 37.4**	**-0.3**
DUWZ	**D'Urville Isla**	**1.08**	**342**	P		**Pb**	**19 26 37.0**	**-0.4**
TRWZ	**Traveller**	**1

MKAZ	**Moumakai**	**4.76**	**8**	P		**Pn**	**19 27 29.2**	**+1.3**
WKZ	**Wanaka**	**4.92**	**231**	Pn		**Pn**	**19 27 31.3**	**+1.1**
EAZ	**Earnscleugh**	**5.01**	**226**	P		**Pn**	**19 27 31.7**	**+0.2**
WIAZ	**Waiheke Island**	**5.06**	**7**	P		**Pn**	**19 27 33.9**	**+1.8**
MLZ	**Mavora Lakes**	**5.75**	**230**	Pn		**Pn**	**19 27 42.6**	**+1.0**
DCZ	**Deep Cove**	**6.37**	**233**	Pn		**Pn**	**19 27 51.4**	**+1.3**
RAR	**Rarotonga**	**29.95**	**55**	LR		LR	19 45 23.3	
	comp=Z,19nm,18.3s,baz=190,slow=38							
ASAR	**Alice Springs**	**38.13**	**286**	P		**P**	**19 33 36.3**	**+1.0**
	0.2nm,0.5s,baz=122,slow=6.8,SNR=6.5							
	0.2nm,0.5s							
WR0	**Warramunga Arr**	**40.06**	**291**	P		**P**	**19 33 50.9**	**-0.5**
WB2	**Warramunga Arr**	**40.20**	**290**			**P**	**19 33 53.2**	**+0.6**
WB2				IAmb		IAmb	19 34 17.3	
	comp=Z,9.5nm,1.3s							
WRA	**Warramunga Arr**	**40.21**	**290**	P		**P**	**19 33 52.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=127,slow=8.3,SNR=1.2							
	comp=Z,0.2nm,0.5s							
WRA	**Warramunga Arr**	**40.21**	**290**	P		**P**	**19 33 52.1**	**-0.5**
WB0	**Warramunga Arr**	**40.29**	**291**	P		**P**	**19 33 52.7**	**-0.6**
WB0				IAmb		IAmb	19 34 25.4	
	comp=Z,11nm,1.5s							
TORD	**Torodi Ar. Bea**	**150.72**	**195**	PKPbc		**PKiKP**	**19 46 09.5**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=159,slow=2.9,SNR=4.9							

*IDC **17** 19:26:54.1±9.5,42˚.37S×173˚.83E,h0km,mb3.3/2, mbtmp3.3/2,Error ellipse: s-maj=554.0km s-min=54.5km az=36.0*
*WEL **17** 19:26:56.0±0.5,42˚.5±3˚×17˚.4E±˚,h9km±3km,M3.8/20, ML4.1/12,MLv3.8/20,Error ellipse: s-maj=0.0km s-min=0.0km az=121.7*

ISC 17 19:26:55.9±1.2,41˚.90S±0˚.04×174˚.06E±0˚.04,h17km±8km, n23,σ0ᵌ65/27,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.19**	**38**	P		**Pb**	**19 27 01.1**	**+0.1**
CMWZ				S		**Sb**	**19 27 05.7**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.23**	**324**	P		**Pg**	**19 27 00.9**	**-0.3**
BSWZ				S		**Sg**	**19 27 04.7**	**0.0**
TUWZ	**Tuamarina**	**0.48**	**350**	P		**Pg**	**19 27 05.5**	**0.0**
TUWZ				S		**Sb**	**19 27 12.4**	**-0.2**
KHZ	**Kahutara**	**0.64**	**217**	P		**Pb**	**19 27 09.0**	**+0.4**
TCW	**Tory Channel**	**0.71**	**14**	P		**Pb**	**19 27 09.6**	**-0.2**
WEL	**Wellington**	**0.82**	**41**	P		**Pn**	**19 27 12.5**	**-0.1**
NNZ	**Nelson**	**0.85**	**323**	P		**Pg**	**19 27 12.5**	**+0.1**
NNZ				S		**Sg**	**19 27 23.8**	**+0.1**
THZ	**Tophouse**	**0.87**	**279**	P		**Pb**	**19 27 12.6**	**0.0**
PLWZ	**Palliser**	**0.96**	**70**	P		**Pb**	**19 27 14.0**	**-0.1**
MSWZ	**Moikau Station**	**1.02**	**62**	P		**Pb**	**19 27 15.0**	**-0.1**
MRNZ	**Matariki Terra**	**1.09**	**297**	P		**Pg**	**19 27 16.9**	**-0.1**
CAW	**Cannon Point**	**1.10**	**44**	P		**Pb**	**19 27 16.6**	**+0.1**
DUWZ	**D'Urville Isla**	**1.10**	**355**	P		**Pb**	**19 27 16.4**	**-0.1**
TKNZ	**Takaka Hill**	**1.20**	**316**	P		**Pn**	**19 27 18.0**	**+0.1**
GVZ	**Greta Valley S**	**1.31**	**215**	P		**Pb**	**19 27 19.9**	**-0.1**
OGWZ	**Otaki Gorge**	**1.37**	**38**	P		**Pn**	**19 27 20.2**	**-0.1**
LTZ	**Lake Taylor**	**1.59**	**236**	P		**Pn**	**19 27 23.6**	**+0.3**
DSZ	**Denniston Nort**	**1.69**	**275**	P		**Pb**	**19 27 26.7**	**+0.1**
MRZ	**Mangatainoka R**	**1.69**	**43**	P		**Pn**	**19 27 24.3**	**-0.3**
RPZ	**Rata Peaks**	**2.86**	**230**	Sn		**Sn**	**19 28 13.2**	**-1.6**
	29nm,0.3s,baz=131,slow=24,SNR=9.0							
ASAR	**Alice Springs**	**37.93**	**286**	P		**P**	**19 34 11.7**	**-0.8**
	0.2nm,0.4s,baz=124,slow=6.7,SNR=1.5							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**40.02**	**291**	P		**P**	**19 34 32.1**	**+2.0**
	0.3nm,0.6s,baz=129,slow=8.6,SNR=2.0							
	0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**150.59**	**195**	PKPbc		**PKPbc**	**19 46 46.7**	**-0.5**
	0.3nm,0.5s,baz=156,slow=3.3,SNR=2.1							

*IDC **17** 19:33:19.5±0.9,36˚.73N×71˚.12E,h0km,mb3.9/16, mbtmp4.0/21,ML3.6/5,MS2.9/2,Error ellipse: s-maj=18.1km s-min=14.4km az=155.0*
*NEIC **17** 19:33:23.3±1.6,37˚.09N±0˚.05×71˚.09E±0˚.03,h10km±1km, mb4.2/11,Error ellipse: s-maj=10.1km s-min=3.0km az=336.0*
*NNC **17** 19:33:23.0±1.6,36˚.96N×70˚.74E,h0km,mb4.4,mpv4.3, Error ellipse: s-maj=15.5km s-min=9.0km az=151.0*

ISC 17 19:33:21.2±0.4,36˚.76N±0˚.04×70˚.98E±0˚.04,h10km,n72, σ1ᵌ74/83,mb4.0/18,11C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAR	**Garm**	**2.30**	**347**			**Pn**	**19 34 00.3**	**+1.1**
GAR				Sn		**Sn**	**19 34 27.6**	**-0.2**
CHGR	**Chuyangaron**	**2.38**	**323**			**Pb**	**19 34 02.9**	**-1.4**
KBL	**Kabul**	**2.72**	**216**	Pn		**Pg**	**19 34 12.7**	**-0.5**
KBL				Sn		**Sg**	**19 34 48.5**	**+0.1**
CHCP	**Chirah Chowk**	**3.61**	**148**	P		**Pb**	**19 34 23.0**	**-2.2**
NIL	**Nilore**	**3.62**	**148**	Pn		**Pb**	**19 34 22.7**	**-2.5**
JMU	**Jammu**	**5.16**	**140**	*e*P		**Pn**	**19 34 42.0**	**+3.5**
JMU				*e*P		Pb	19 34 42.1	-9.4
JMU				*e*S		**Sn**	**19 35 40.7**	**+2.6**
JMU				*e*S		Sb	19 35 41.1	-12
KK31	**Karatay Array**	**6.35**	**357**			**Pn**	**19 34 56.4**	**+1.5**
KK31	**Karatay Array**	**6.35**	**357**	⇑Pn		**Pn**	**19 34 56.3**	**+1.5**
	6.7nm,0.3s,baz=173,slow=12,SNR=434							
KK31				⇑Sn		**Sn**	**19 36 07.9**	**+0.5**
	27nm,0.6s							
KK31				⇓Lg		Lg	19 36 36.6	
	37nm,0.8s,baz=176,slow=30,SNR=5.0							
KKAR	**Karatay Array**	**6.35**	**357**			**Pn**	**19 34 56.4**	**+1.6**
KKAR	**Karatay Array**	**6.35**	**357**			**Pn**	**19 34 56.2**	**+1.4**
AAK	**Ala-Archa**	**6.47**	**24**	Pn		**Pn**	**19 34 58.0**	**+1.4**
	1.7nm,0.3s,baz=214,slow=8.9,SNR=14							
AAK				Sn		**Sn**	**19 36 13.7**	**+3.2**
	0.8nm,0.3s,baz=27,slow=7.9,SNR=4.1							
AAK				Lg		Lg	19 36 46.2	
	1.3nm,0.3s,baz=65,slow=23,SNR=1.6							
AAK				LR		LR	19 37 33.9	
	comp=Z,84nm,21.2s,baz=282,slow=39							
	4.5nm,0.6s							
AAK	**Ala-Archa**	**6.47**	**24**	Pn		**Pn**	**19 34 57.3**	**+0.7**
CHMS	**Chumysh**	**6.88**	**24**	⇑Pn		**Pn**	**19 35 04.2**	**+2.2**
	20nm,0.8s							
CHMS				⇑Sn		**Sn**	**19 36 21.3**	**+1.0**
	15nm,0.8s							
CHMS				⇑Lg		Lg	19 36 59.3	
	13nm,0.7s							
BHK	**Bhakra**	**6.98**	**138**	*e*P		**Pn**	**19 35 07.2**	**+3.7**
BHK				*e*S		**Sn**	**19 36 25.0**	**+2.1**
TKM2	**Tokmak 2**	**7.11**	**29**	⇑Pn		**Pn**	**19 35 07.6**	**+2.3**
	15nm,0.7s							
TKM2				⇓Lg		Lg	19 37 09.1	
	21nm,1.3s							
HRA	**Herat**	**7.50**	**254**	Pn		**Pn**	**19 35 13.4**	**+2.6**
SMLA	**Simla**	**7.61**	**136**	*e*P		**Pn**	**19 35 15.1**	**+3.0**
SMLA				*e*S		**Sn**	**19 36 36.1**	**-2.3**
SMLA				IAML			19 36 42.9	
	comp=N,87nm,0.3s							
SMLA				IAML			19 36 45.9	
	comp=E,63nm,0.2s							
KUDL	**Kundal**	**9.77**	**150**	*e*P		**Pn**	**19 35 43.8**	**+2.1**
GEYT	**Alibeck**	**10.31**	**280**	Pn		**Pn**	**19 35 49.5**	**+0.4**
	comp=E,4.6nm,0.3s,baz=118,slow=12,SNR=46							
GEYT				Sn		**Sn**	**19 37 43.8**	**-1.0**
	comp=E,1.7nm,0.3s,baz=286,slow=28,SNR=5.6							
GEYT				LR		LR	19 41 03.7	
	comp=E,97nm,20.1s,baz=18,slow=44							
	comp=E,8.9nm,0.4s							
GYA0B	**ALIBECK ARRAY**	**10.31**	**280**			**Pn**	**19 35 49.5**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**10.31**	**280**	⇑Pn		**Pn**	**19 35 49.5**	**+0.3**
GYA0B				⇑Sn		**Sn**	**19 37 43.4**	**-1.4**
PTH	**Pithoragarh**	**10.56**	**130**	*e*P		**Pn**	**19 35 54.0**	**+1.3**
LGTI	**Lohaghat**	**10.65**	**131**	*e*P		**Pn**	**19 35 54.1**	**+0.3**
AJM	**Ajmer**	**10.71**	**162**	*e*P		**Pn**	**19 35 57.0**	**+2.3**
AJM				*e*S		**Sn**	**19 37 52.1**	**-2.6**
MAKZ	**Makanchi**	**12.96**	**36**			**Pn**	**19 36 24.2**	**-1.0**
MAKZ	**Makanchi**	**12.96**	**36**	⇓P		**Pn**	**19 36 26.9**	**+1.6**
	comp=E,14nm,1.3s							
JHNI	**Jhansi**	**12.98**	**148**	*e*P		**Pn**	**19 36 27.7**	**+2.0**
MK31	**Makanchi Array**	**13.09**	**36**	Pn		**Pn**	**19 36 27.5**	**+0.4**
MK31	**Makanchi Array**	**13.09**	**36**	⇑P		**Pn**	**19 36 27.8**	**+0.7**
	comp=E,2.5nm,0.8s,baz=219,slow=13,SNR=17							
MKAR	**Makanchi Array**	**13.09**	**36**	Pn		**Pn**	**19 36 27.7**	**+0.5**
	comp=E,0.2nm,0.3s,baz=220,slow=13,SNR=13							
	comp=E,4.6nm,1.0s							
MKAR	**Makanchi Array**	**13.09**	**36**	Pn		**Pn**	**19 36 28.1**	**+0.9**
GKN	**Gorkha**	**14.46**	**123**	*e*P		**Pn**	**19 36 44.7**	**-1.3**
	comp=E,15nm,0.4s							
BHPL	**Bhopal**	**14.57**	**156**	*e*S		Sn	19 39 20.1	-9.0
AB31	**Akbulak array**	**14.85**	**331**	Pn		**Pn**	**19 36 48.9**	**-2.2**
	comp=E,1.5nm,0.4s,baz=156,slow=11,SNR=68							
AB31				⇓Sn		**Sn**	**19 39 32.7**	**-2.9**
	comp=E,1.9nm,0.6s,baz=166,slow=20,SNR=5.1							
ABKAR	**Akbulak array**	**14.85**	**331**			**Pn**	**19 36 49.4**	**-1.8**
ABKAR	**Akbulak array**	**14.85**	**331**	Pn		**Pn**	**19 36 48.5**	**-2.6**
KURBB	**Kurchatov Arra**	**14.88**	**19**	Pn		**Pn**	**19 36 49.6**	**-1.9**
	baz=212,slow=12,SNR=7.5							
	comp=E,0.4nm,0.6s							
KURK	**Kurchatov**	**14.99**	**19**			**Pn**	**19 36 51.9**	**-1.1**
PKIN	**Phulchoki**	**15.24**	**123**	*e*P		**Pn**	**19 36 55.2**	**-1.5**
	comp=E,7.5nm,0.4s							
JIRN	**Jiri**	**15.73**	**121**	*e*P		**Pn**	**19 37 00.2**	**-3.0**
	comp=E,19nm,0.5s							
BVAR	**Borovoye Array**	**16.27**	**359**	Pn		**Pn**	**19 37 08.3**	**-1.4**
	comp=E,0.1nm,0.3s,baz=159,slow=9.7,SNR=4.8							
RAMN	**Ramite**	**16.46**	**122**	*e*P		**Pn**	**19 37 10.7**	**-1.8**
	comp=E,15nm,0.6s							
AKTO	**Aktyubinsk**	**16.55**	**330**	⇑Pn		**Pn**	**19 37 14.0**	**+0.7**
	comp=E,6.2nm,0.9s							
AKTO				⇑Sn		**Sn**	**19 40 13.8**	**-3.1**
	comp=E,6.3nm,1.2s							
AKL	**Akola**	**16.84**	**160**	*e*P		**Pn**	**19 37 17.6**	**+0.6**
TAPN	**Taplejung**	**16.98**	**119**	*e*P		**Pn**	**19 37 16.1**	**-3.0**
	comp=E,4.6nm,0.5s							
ZAA0	**Zalesovo Array**	**19.69**	**25**	P		**P**	**19 37 48.6**	**-1.7**
ZALV	**Zalesovo Beam**	**19.69**	**25**	P		**P**	**19 37 49.3**	**-1.0**
	comp=E,0.9nm,0.3s,baz=215,slow=12,SNR=13							
	comp=E,2.5nm,0.4s							
ZALV	**Zalesovo Beam**	**19.69**	**25**	P		**P**	**19 37 48.4**	**-1.9**
GNI	**Garni**	**20.80**	**287**	P		Pn	19 38 05.5	+0.4
	comp=E,7.5nm,0.7s,baz=302,slow=1.7,SNR=4.9							
	comp=E,7.5nm,0.7s							
GNI	**Garni**	**20.80**	**287**			**P**	**19 38 03.6**	**+0.9**
GNI					IAmb	IAmb	19 38 17.1	
	comp=Z,32nm,1.4s							
SHL	**Shillong**	**21.03**	**116**	P		**P**	**19 38 06.3**	**+0.9**
SHL					IAmb	IAmb	19 38 11.2	
	comp=Z,5.1nm,0.6s							
ARU	**Arti**	**21.39**	**341**	P		**P**	**19 38 09.7**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=173,slow=11,SNR=5.2							
	comp=Z,1.6nm,0.3s							
ARU	**Arti**	**21.39**	**341**	P		**P**	**19 38 07.5**	**-1.1**
ONI	**Oni**	**21.92**	**294**	P		**P**	**19 38 18.0**	**+3.3**
ONI					IAmb	IAmb	19 38 22.9	
	comp=Z,8.1nm,0.7s							
KBZ	**Khabaz**	**22.47**	**297**	P		**P**	**19 38 21.3**	**+0.9**
	comp=Z,4.4nm,0.7s,baz=107,slow=8.5,SNR=4.6							
	comp=Z,4.4nm,0.7s							
BELG	**Belogornoye**	**22.68**	**321**	P		**P**	**19 38 23.9**	**+1.3**
	comp=Z,8.9nm,0.6s,baz=331,slow=3.6,SNR=6.9							
	comp=Z,8.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.59**	**119**	P		**P**	**19 39 36.1**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=298,slow=8.4,SNR=6.8							
	comp=Z,0.9nm,0.9s							
ELL	**Elmali**	**32.73**	**283**	P		**P**	**19 39 54.7**	**+0.5**
AKASG	**Malin Array Be**	**32.77**	**309**	P		**P**	**19 39 55.4**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=81,slow=7.0,SNR=6.4							
	comp=Z,0.6nm,0.5s							
IDI	**Anoyia**	**37.03**	**282**	P		**P**	**19 40 31.2**	**0.0**
FINES	**FINESS Array B**	**37.26**	**326**	P		**P**	**19 40 33.7**	**+1.0**
	comp=Z,2.2nm,0.4s,baz=116,slow=9.1,SNR=20							
	comp=Z,2.2nm,0.4s							
ARCES	**ARCESS Array B**	**40.90**	**337**	P		**P**	**19 41 03.0**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=90,slow=6.1,SNR=6.0							
	comp=Z,2.4nm,0.8s							
NB2	**NORSAR Subarra**	**44.17**	**323**	P		**P**	**19 41 30.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.17**	**323**	P		**P**	**19 41 30.0**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=95,slow=7.8,SNR=5.3							
	comp=Z,1.6nm,0.8s							
TIXI	**Tiksi**	**45.54**	**22**	P		**P**	**19 41 39.2**	**-1.3**
TIXI					IAmb	IAmb	19 41 47.8	
	comp=Z,2.0nm,0.8s							
KEST	**Kesra**	**48.94**	**288**	P		**P**	**19 42 09.3**	**+1.7**
	comp=Z,1.5nm,0.6s,baz=27,slow=14,SNR=1.2							
	comp=Z,1.5nm,0.6s							
ESDC	**Sonseca Array**	**57.32**	**298**	P		**P**	**19 43 09.2**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=58,slow=7.3,SNR=6.8							
	comp=Z,0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P		**P**	**19 44 06.2**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=62,slow=6.0,SNR=4.2							
	comp=Z,0.3nm,0.6s							
INK	**Inuvik**	**73.65**	**9**	P		**P**	**19 44 54.6**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=342,slow=5.9,SNR=11							
	comp=Z,2.1nm,0.7s							
ILAR	**Eielson Array**	**74.54**	**16**	P		**P**	**19 44 59.5**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=342,slow=4.8,SNR=6.0							
	comp=Z,0.2nm,0.4s							
YKA	**Yellowknife A**	**80.99**	**3**	P		**P**	**19 45 35.4**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=347,slow=6.0,SNR=4.5							
	comp=Z,2.0nm,0.7s							
WRA	**Warramunga Arr**	**82.14**	**122**	P		**P**	**19 45 40.0**	**-2.3**
	comp=Z,0.2nm,0.8s,baz=323,slow=4.8,SNR=1.6							
	comp=Z,0.2nm,0.8s							

*SJA **17** 19:39:17.1±0.7,26˚.33S×70˚.99W,h32km±3km,ML4.3, MW4.2*
*NEIC **17** 19:39:18.5±1.3,26˚.30S±0˚.04×71˚.00W±0˚.08,h29km±7km, Error ellipse: s-maj=10.8km s-min=4.4km az=107.0*
*IDC **17** 19:39:20.5±0.8,26˚.26S×70˚.64W,h31km±5km,mb3.9/4, mbtmp4.0/8,ML4.0/4,MS3.1/7,Error ellipse: s-maj=27.3km s-min=18.0km az=103.0*
*GUC **17** 19:39:20.0±0.8,26˚.32S×70˚.70W,h34km±3km,ML4.1*

ISC 17 19:39:17.7±0.6,26˚.29S±0˚.02×70˚.99W±0˚.05,h23km±4km, n114,σ1ᵌ78/143,mb4.5/8,2C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.38**	**69**			**Pn**	**19 39 26.5**	**-1.4**
AC01	**Pan de Azucar**	**0.38**	**69**	*i* P		**Pn**	**19 39 26.8**	**-1.0**
AC01				*i* S		**Sb**	**19 39 31.4**	**0.0**
AC01	**Pan de Azucar**	**0.38**	**69**	*e*P		**Pn**	**19 39 26.5**	**-1.4**
AC01				*e*P		**Pb**	**19 39 26.6**	**+0.7**
AC01				IAML			19 39 34.1	
	comp=Z,11μm,0.3s							
AC06	**Mina Casimiro**	**1.21**	**152**			**Pn**	**19 39 39.4**	**+0.1**
AC06	**Mina Casimiro**	**1.21**	**152**	⇑*i*P		**Pn**	**19 39 39.4**	**+0.1**
AC06				*i* S		**Sn**	**19 39 53.4**	**-1.7**
AC06				IAML			19 39 56.6	
	comp=E,9μm,0.3s							
GO03	**Copiap**	**1.47**	**153**			**Pn**	**19 39 43.3**	**+0.4**
GO03	**Copiap**	**1.47**	**153**	⇓*i*P		**Pn**	**19 39 43.6**	**+0.7**
GO03				*i* S		**Sn**	**19 40 00.9**	**-0.6**
GO03				IAML			19 40 03.6	
	comp=E,4μm,0.3s							
GO03	**Copiap**	**1.47**	**153**	*e*P		Pn	19 39 38.1	-4.8
GO03				*e*P		**Pb**	**19 39 43.8**	**-0.6**
GO03				*e*S		**Sn**	**19 40 01.4**	**0.0**
GO03				*e*S		**Sn**	**19 40 01.5**	**0.0**
GO02	**Mina Guanaco**	**1.69**	**49**	Pn		**Pb**	**19 39 46.8**	**-1.5**
GO02	**Mina Guanaco**	**1.69**	**49**	⇓*i*P		**Pb**	**19 39 47.0**	**-1.4**
GO02				*i* S		**Sb**	**19 40 07.2**	**-2.1**
GO02	**Mina Guanaco**	**1.69**	**49**	*e*P		**Pb**	**19 39 47.1**	**-1.2**
GO02				*e*S		**Sb**	**19 40 09.6**	**+0.4**
GO02				*e*S		**Sn**	**19 40 10.3**	**+3.1**
PB14	**IPOC Station P**	**1.74**	**18**			**Pb**	**19 39 47.7**	**-1.4**
PB14	**IPOC Station P**	**1.74**	**18**	*i* P		**Pb**	**19 39 47.8**	**-1.3**
AC02	**Maricunga**	**1.76**	**109**			**Pn**	**19 39 47.5**	**+0.2**
AC02	**Maricunga**	**1.76**	**109**	⇓*i*P		**Pn**	**19 39 47.6**	**+0.4**
AC02				*i* S		**Sn**	**19 40 07.6**	**-1.6**
AC02				IAML			19 40 13.3	
	comp=E,4μm,0.1s							
AC02	**Maricunga**	**1.76**	**109**	*e*P		**Pn**	**19 39 47.6**	**+0.4**
AC02				*e*S		**Sn**	**19 40 08.0**	**-1.1**
AC02				IAML			19 40 11.0	
	comp=Z,2μm,0.2s							
AC04	**Llanos de Chal**	**1.91**	**182**			**Pn**	**19 39 49.3**	**+0.4**
AC04	**Llanos de Chal**	**1.91**	**182**	⇓*i*P		**Pn**	**19 39 49.5**	**+0.5**
AC04				IAML			19 40 24.3	
	comp=E,2μm,0.2s							
AC04	**Llanos de Chal**	**1.91**	**182**	*e*P		**Pn**	**19 39 49.0**	**0.0**
AC04				*e*S		**Sn**	**19 40 12.9**	**+0.6**
AC05	**El Transito**	**2.62**	**166**			**Pn**	**19 39 58.8**	**-0.1**
AC05	**El Transito**	**2.62**	**166**	*i* P		**Pn**	**19 40 00.9**	**+2.1**
AC05				*i* S		**Sn**	**19 40 31.2**	**+1.2**
AC05				IAML			19 40 42.8	
	comp=N,1μm,0.2s							
AC05	**El Transito**	**2.62**	**166**	*e*P		**Pn**	**19 40 00.9**	**+2.1**
AC05				*e*P		**Pn**	**19 40 01.0**	**+2.1**
AC05				*e*S		**Sn**	**19 40 29.6**	**-0.3**
AC05				IAML			19 40 47.1	
	comp=Z,1μm,0.5s							
LCO	**Las Campanas**	**2.73**	**175**			**Pn**	**19 40 00.8**	**+0.4**
LCO	**Las Campanas**	**2.73**	**175**	*i* P		**Pn**	**19 40 01.5**	**+1.1**
LCO	**Las Campanas**	**2.73**	**175**	*e*P		**Pn**	**19 40 02.0**	**+1.6**
PB10	**IPOC Station P**	**2.79**	**8**			**Pn**	**19 40 01.6**	**+0.6**
PB10	**IPOC Station P**	**2.79**	**8**	*i* P		**Pn**	**19 40 01.4**	**+0.4**
PB10	**IPOC Station P**	**2.79**	**8**	*e*P		**Pn**	**19 40 01.0**	**0.0**
PB10				*e*P		Pb	19 40 01.4	-5.5
PB10				*e*S		**Sb**	**19 40 38.1**	**-2.5**
PB15	**IPOC Station P**	**3.36**	**25**	Pn		**Pn**	**19 40 10.7**	**+1.7**
PB15	**IPOC Station P**	**3.36**	**25**	*e*P		**Pn**	**19 40 10.8**	**+1.7**
PB15	**IPOC Station P**	**3.36**	**25**	*e*P		**Pn**	**19 40 10.9**	**+1.8**
PB15				*e*S		**Sb**	**19 41 01.4**	**+4.1**
PB15				IAML			19 41 05.5	
	comp=Z,2μm,0.3s							
CO05	**La Serena**	**3.63**	**183**			**Pn**	**19 40 13.4**	**+0.9**
CO01	**Juntas del Tor**	**3.76**	**168**			**Pn**	**19 40 14.9**	**+0.3**
CO01	**Juntas del Tor**	**3.76**	**168**	*e*P		**Pn**	**19 40 17.4**	**+2.8**
CO01				*e*P		Pb	19 40 18.0	-5.7
CO01				*e*S		**Sb**	**19 41 14.1**	**+5.2**
PB06	**IPOC Station P**	**3.79**	**20**			**Pn**	**19 40 15.7**	**+0.7**
PB06	**IPOC Station P**	**3.79**	**20**	⇑*i*P		**Pn**	**19 40 15.7**	**+0.7**
PB06	**IPOC Station P**	**3.79**	**20**	*e*P		**Pn**	**19 40 15.6**	**+0.7**
PB06				*e*S		**Sn**	**19 41 00.2**	**+1.3**
PB06				IAML			19 41 17.3	
	comp=Z,379nm,0.5s							
GO04	**Tololo Observa**	**3.88**	**178**	Pn		**Pn**	**19 40 17.6**	**+1.4**
GO04	**Tololo Observa**	**3.88**	**178**	*i* P		**Pn**	**19 40 17.6**	**+1.4**
GO04	**Tololo Observa**	**3.88**	**178**	*e*P		**Pn**	**19 40 18.0**	**+1.8**
GO04				*e*S		**Sb**	**19 41 09.6**	**-2.6**
PB04	**IPOC Station P**	**4.01**	**11**	Pn		**Pn**	**19 40 17.8**	**-0.1**
PB04	**IPOC Station P**	**4.01**	**11**	*e*P		**Pn**	**19 40 18.0**	**+0.1**
PB04				*e*P		Pb	19 40 18.3	-10
PB04				*e*S		**Sb**	**19 41 16.1**	**+0.2**
PB04				IAML			19 41 29.4	
	comp=Z,300nm,0.7s							
AROD	**Rodeo**	**4.09**	**161**	*e*P		**Pn**	**19 40 23.0**	**+3.8**
AROD				*e*S		**Sb**	**19 41 20.6**	**+2.1**
LVC	**Limon Verde**	**4.12**	**28**	Pn		**Pn**	**19 40 21.1**	**+1.5**
	comp=Z,8.3nm,0.3s,baz=208,slow=7.9,SNR=125							
LVC				Pg		**Pb**	**19 40 32.1**	**+2.2**
	comp=Z,30nm,0.3s,baz=224,slow=10.0,SNR=25							
LVC				Lg		Lg	19 41 17.8	
	comp=Z,57nm,0.3s,baz=158,slow=19,SNR=12							
LVC				LR		LR	19 42 02.3	
	comp=Z,268nm,18.4s,baz=222,slow=41							
	comp=Z,14nm,0.2s							
LVC	**Limon Verde**	**4.12**	**28**	Pn		**Pn**	**19 40 21.0**	**+1.3**
LVC	**Limon Verde**	**4.12**	**28**	*e*P		**Pn**	**19 40 16.1**	**-3.5**
LVC				*e*P		Pb	19 40 21.0	-8.9
LVC				*e*S		Sb	19 41 27.6	+8.3
LVC				IAML			19 41 29.9	
	comp=Z,306nm,0.4s							
AF01	**San Pedro de A**	**4.19**	**38**			**Pn**	**19 40 23.1**	**+2.5**
PB03	**IPOC Station P**	**4.37**	**15**			**P

BAUV	**El Baul**	**35.13**	**5**	P	**P**		**19 46 10.1**	**+0.4**
BAUV				IAmb	IAmb		19 46 10.8	
	comp=Z,6.6nm,0.6s							
MDP	**Montagnes des**	**35.92**	**32**	LR	LR		20 02 15.4	
	comp=Z,44nm,21.5s,baz=82,slow=38							
ILAM	**Ilet Lapin Mar**	**41.98**	**15**	P	**P**		**19 47 07.4**	**+0.2**
CELP	**Cerrillos**	**44.30**	**6**	P	**P**		**19 47 26.0**	**+0.1**
CELP				IAmb	IAmb		19 47 26.8	
	comp=Z,16nm,1.1s							
OXF	**Oxford**	**62.94**	**343**	P	**P**		**19 49 41.5**	**-0.7**
OXF				IAmb	IAmb		19 50 20.5	
	comp=Z,14nm,0.8s							
TXAR	**Lajitas Array**	**63.56**	**328**	P	**P**		**19 49 49.7**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=157,slow=9.0,SNR=4.7							
	comp=Z,0.5nm,0.7s							
QSPA	**South Pole Qui**	**63.93**	**180**	P	**P**		**19 49 48.8**	**+0.1**
QSPA				IAmb	IAmb		19 49 51.2	
	comp=Z,5.0nm,1.1s							
MAW	**Mawson**	**80.30**	**164**	P	**P**		**19 51 28.2**	**+1.8**
	comp=Z,2.0nm,0.5s,baz=201,slow=6.3,SNR=4.9							
	comp=Z,2.0nm,0.5s							
TSUM	**Tsumeb**	**80.50**	**107**	LR	LR		20 23 54.3	
	comp=Z,38nm,18.6s,baz=150,slow=33							
TORD	**Torodi Ar. Bea**	**80.75**	**70**	P	**P**		**19 51 29.3**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=265,slow=5.7,SNR=14							
	comp=Z,1.7nm,0.7s							
ASAR	**Alice Springs**	**124.81**	**208**	PKP	**PKPdf**		**19 58 16.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=141,slow=1.8,SNR=2.3							
H11S2	**WAKE ISLAND Hyl**	**126.45**	**274**	T	T		22 18 18.6	
	baz=116,slow=76,SNR=7.9							
H11S1	**WAKE ISLAND Hyl**	**126.46**	**274**	T	T		22 17 55.3	
	baz=116,slow=76,SNR=8.2							
H11S3	**WAKE ISLAND Hyl**	**126.47**	**274**	T	T		22 17 56.8	
	baz=116,slow=76,SNR=8.2							
WRA	**Warramunga Arr**	**127.88**	**211**	PKP	**PKiKP**		**19 58 23.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=160,slow=2.0,SNR=2.1							
WRA				pPKP	**sPKPdf**		**19 58 33.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=155,slow=1.5,SNR=3.4							
ZALV	**Zalesovo Beam**	**147.07**	**26**	PKPbc	**PKPab**		**19 58 59.3**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=312,slow=3.6,SNR=13							
ZALV				pPKPbc	**sPKPab**		**19 59 09.1**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=331,slow=2.9,SNR=5.6							
MKAR	**Makanchi Array**	**150.58**	**39**	PKPbc	**PKiKP**		**19 59 08.5**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=312,slow=2.2,SNR=23							
MKAR				pPKPbc	**sPKPbc**		**19 59 18.1**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=327,slow=3.0,SNR=6.2							

KRNET ***17*** *19:44:18.3±0.1, 39°.45N×73°.61E, mb2.7*
ISC 17 19:44:23.4±2.6, **39°.6N**±0°.1×**73°.5E**±0°.1, **h29**km, **n4**, **σ2°57**/8, **3C-6D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
BTK	**Batken**	**2.12**	**284**	⇑*i*P	**Pn**		**19 44**	**57.4**	**+0.5**
	baz=87								
BTK				⇑*i*S	**Sb**		**19 45**	**26.3**	**-0.7**
	baz=87								
GAR	**Garm**	**2.52**	**258**	⇓*i*P	**Pn**		**19 45**	**03.0**	**+0.5**
	baz=61								
GAR				⇓*i*S	**Sn**		**19 45**	**34.5**	**+2.1**
	baz=61								
UCH	**Uchtor**	**2.78**	**16**	⇓*i*P	**Pn**		**19 45**	**06.6**	**+0.3**
	baz=14								
UCH				⇓*i*S	**Sn**		**19 45**	**41.4**	**+2.3**
	baz=14								
KK31	**Karatay Array**	**4.19**	**329**	⇑Pn	**Pb**		**19 45**	**33.3**	**-3.0**
	1.0nm,0.7s,baz=139,slow=16,SNR=3.9								
KK31				⇓Sn	**Sn**		**19 46**	**16.9**	**+3.6**
	0.4nm,0.4s,baz=149,slow=16,SNR=3.9								
KK31				⇓Lg	Lg		19 46	31.0	
	0.3nm,0.3s,baz=134,slow=26								

ATH ***17*** *19:54:52.8, 39°.77N×20°.71E, h4km±2km, ML3.2/13, Error ellipse: s-maj=2.0km s-min=0.8km az=327.0*
BEO ***17*** *19:54:52.8±0.4, 39°.67N×20°.79E, h14km±2km, ML3.0/12*
TIR ***17*** *19:54:52.4, 39°.76N×20°.71E, h11km±1km, Md3.1, Ml3.2*
THE ***17*** *19:54:53.0, 39°.77N×20°.72E, h7km±1km, ML3.2/14, Error ellipse: s-maj=1.1km s-min=0.5km az=308.0*
IDC ***17*** *19:54:54.7±3.4, 39°.75N×20°.74E, h37km±33km, mb3.4/6, mbtmp3.6/8, ML3.1/2, MS2.9/1, Error ellipse: s-maj=31.4km s-min=20.3km az=104.0*
ISC 17 19:54:52.6±0.8, **39°.74N**±0°.01×**20°.73E**±0°.02, **h13**km±5km, **n112**, **σ1°18**/151, **mb3.6**/5, **6C-9D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
JAN	**Janina**	**0.13**	**132**	P	**Pg**		**19 54**	**55.8**	**-0.3**
JAN				S	**Sg**		**19 54**	**58.8**	**+0.4**
	31μm,0.4s								
JAN	**Janina**	**0.13**	**132**	P	**Pg**		**19 54**	**55.8**	**-0.3**
JAN				S	**Sg**		**19 54**	**58.7**	**+0.3**
JAN				AML	AML		19 54	59.1	
	comp=N,56035μm,0.5s								
JAN				AML	AML		19 54	59.2	
	comp=E,65524μm,0.4s								
IGT	**Igoumenitsa**	**0.37**	**235**	P	**Pg**		**19 55**	**00.1**	**0.0**
IGT				S	**Sb**		**19 55**	**06.9**	**+0.2**
	comp=E,6μm,0.4s								
IGT	**Igoumenitsa**	**0.37**	**235**	*e*Pg	**Pg**		**19 55**	**00.0**	**0.0**
IGT				*e*Sg	**Sb**		**19 55**	**06.5**	**-0.2**
IGT	**Igoumenitsa**	**0.37**	**235**	P	**Pg**		**19 55**	**00.0**	**0.0**
	baz=233								
IGT				S	**Sg**		**19 55**	**05.6**	**+0.5**
	baz=233								
IGT	**Igoumenitsa**	**0.37**	**235**	P	**Pg**		**19 55**	**00.1**	**0.0**
IGT				S	**Sg**		**19 55**	**05.4**	**+0.3**
IGT				AML	AML		19 55	10.1	
	comp=N,9058μm,0.3s								
IGT				AML	AML		19 55	10.8	
	comp=E,13598μm,0.4s								
LSK	**Leskovik**	**0.42**	**347**	P	**Pg**		**19 55**	**00.9**	**-0.1**
LSK				S	**Sg**		**19 55**	**05.9**	**-0.7**
	comp=E,6μm,0.5s								
LSK	**Leskovik**	**0.42**	**347**	P	**Pg**		**19 55**	**00.8**	**-0.2**
	baz=348								
LSK				S	**Sb**		**19 55**	**07.2**	**-1.0**
	baz=348								
LSK				AMP					
	comp=N,25nm,0.5s,baz=348								
KPRO	**Kipourio**	**0.53**	**67**	P	**Pg**		**19 55**	**03.1**	**0.0**
KPRO				S	**Sb**		**19 55**	**11.1**	**-0.4**
	comp=N,5μm,0.6s								
KPRO	**Kipourio**	**0.53**	**67**	P	**Pg**		**19 55**	**03.1**	**0.0**
KPRO				S	**Sg**		**19 55**	**10.4**	**+0.2**
KPRO				AML	AML		19 55	13.0	
	comp=N,10282μm,0.5s								
KPRO				AML	AML		19 55	15.9	
	comp=E,11525μm,0.7s								
SRN	**Sarande**	**0.57**	**284**	P	**Pg**		**19 55**	**03.6**	**-0.3**
SRN				S	**Sb**		**19 55**	**12.7**	**+0.1**
	comp=E,2μm,0.3s								
SRN	**Sarande**	**0.57**	**284**	P	**Pg**		**19 55**	**03.7**	**-0.2**
	baz=283								
SRN				S	**Sb**		**19 55**	**12.4**	**-0.2**
	baz=283								
SRN				AMP					
	comp=N,7.5nm,0.3s,baz=283								
KASA	**Kassiopi**	**0.61**	**270**	P	**Pg**		**19 55**	**04.1**	**-0.4**
KASA				S	**Sg**		**19 55**	**12.2**	**-0.4**
KASA				AML	AML		19 55	14.8	
	comp=E,4909μm,0.4s								
KASA				AML	AML		19 55	17.6	
	comp=N,4752μm,0.5s								
NEST	**Nestorio**	**0.71**	**20**	P	**Pg**		**19 55**	**06.2**	**-0.3**
NEST	**Nestorio**	**0.71**	**20**	P	**Pg**		**19 55**	**06.2**	**-0.3**
NEST				AML	AML		19 55	19.6	
	comp=E,2760μm,0.5s								
NEST				AML	AML		19 55	23.4	
	comp=N,3075μm,0.5s								
KEK	**Kerkira**	**0.72**	**268**	P	**Pg**		**19 55**	**05.8**	**-0.8**
KEK	**Kerkira**	**0.72**	**268**	P	**Pg**		**19 55**	**05.7**	**-0.8**
KEK				S	**Sg**		**19 55**	**16.4**	**+0.4**
KEK				AML	AML		19 55	19.2	
	comp=N,2624μm,0.3s								
KEK				AML	AML		19 55	21.4	
	comp=E,2708μm,0.3s								
KBN	**Korca**	**0.88**	**3**	P	**Pg**		**19 55**	**09.0**	**-0.6**
KBN	**Korca**	**0.88**	**3**	P	**Pg**		**19 55**	**09.1**	**-0.6**
	baz=4.0								
KBN				S	**Sb**		**19 55**	**21.7**	**+0.2**
	baz=4.0								
KBN				AMP					
	comp=N,3.1nm,0.8s,baz=4.0								

TSLK	**Tsoukalades, L**	**0.92**	**183**	P	**Pg**		**19 55**	**10.5**	**+0.1**
TSLK	**Tsoukalades, L**	**0.92**	**183**	P	**Pg**		**19 55**	**10.5**	**+0.1**
TSLK				AML	AML		19 55	30.9	
	comp=E,3178μm,0.3s								
TSLK				AML	AML		19 55	33.0	
	comp=N,3636μm,0.4s								
LKD2	**Lefkada island**	**0.96**	**183**	P	**Pg**		**19 55**	**11.0**	**0.0**
LKD2				S	**Sn**		**19 55**	**25.5**	**+0.2**
	comp=N,942nm,0.5s								
LKD2	**Lefkada island**	**0.96**	**183**	P	**Pg**		**19 55**	**11.3**	**+0.2**
	baz=183								
LKD2				S	**Sn**		**19 55**	**25.5**	**+0.2**
	baz=183								
LKD2	**Lefkada island**	**0.96**	**183**	P	**Pg**		**19 55**	**11.1**	**0.0**
LKD2				AML	AML		19 55	29.4	
	comp=N,1903μm,0.5s								
LKD2				AML	AML		19 55	34.2	
	comp=E,1897μm,0.4s								
KZN	**Kozani**	**0.98**	**55**	P	**Pg**		**19 55**	**10.8**	**-0.7**
KZN				S	**Sb**		**19 55**	**25.4**	**+1.0**
	comp=E,1μm,0.6s								
KZN	**Kozani**	**0.98**	**55**	P	**Pg**		**19 55**	**10.6**	**-0.9**
KZN				AML	AML		19 55	29.9	
	comp=N,2339μm,0.8s								
KZN				AML	AML		19 55	32.9	
	comp=E,2458μm,0.3s								
THL	**Klokotos Trika**	**1.01**	**100**	P	**Pg**		**19 55**	**11.0**	**-1.1**
THL				AML	AML		19 55	32.9	
	comp=N,1470μm,0.4s								
THL				AML	AML		19 55	33.5	
	comp=E,1206μm,0.5s								
NYDR	**Nydri-Lefkada**	**1.03**	**181**	P	**Pb**		**19 55**	**12.1**	**-0.2**
NYDR				S	**Sn**		**19 55**	**28.6**	**+1.6**
	comp=E,1μm,0.5s								
EVGI	**Lefkada island**	**1.12**	**183**	P	**Pb**		**19 55**	**13.9**	**0.0**
EVGI				S	**Sn**		**19 55**	**32.0**	**+2.7**
	comp=E,1μm,0.4s								
EVGI	**Lefkada island**	**1.12**	**183**	P	**Pb**		**19 55**	**13.9**	**0.0**
FNA	**Florina**	**1.15**	**25**	P	**Pb**		**19 55**	**14.1**	**-0.4**
FNA				S	**Sn**		**19 55**	**30.4**	**+0.2**
	comp=E,918nm,0.5s								
FNA	**Florina**	**1.15**	**25**	*e*Pg	**Pb**		**19 55**	**14.0**	**-0.4**
FNA				*e*Sg	**Sn**		**19 55**	**30.7**	**+0.5**
FNA	**Florina**	**1.15**	**25**	P	**Pb**		**19 55**	**14.3**	**-0.1**
	baz=26								
FNA				S	**Sn**		**19 55**	**30.4**	**+0.2**
	baz=26								
FNA	**Florina**	**1.15**	**25**	P	**Pb**		**19 55**	**14.3**	**-0.1**
FNA				AML	AML		19 55	37.2	
	comp=N,1556μm,0.5s								
FNA				AML	AML		19 55	39.4	
	comp=E,2157μm,0.5s								
EVR	**Evrytania**	**1.18**	**134**	P	**Pb**		**19 55**	**14.7**	**-0.2**
EVR				S	**Sn**		**19 55**	**32.9**	**+2.1**
	comp=E,885nm,0.8s								
EVR	**Evrytania**	**1.18**	**134**	P	**Pb**		**19 55**	**14.7**	**-0.2**
VLO	**Vlora**	**1.19**	**308**	P	**Pg**		**19 55**	**15.9**	**+0.4**
	baz=308								
VLO				S	**Sn**		**19 55**	**32.7**	**+1.7**
	baz=308								
KTI	**Kastanea**	**1.25**	**58**	P	**Pn**		**19 55**	**16.1**	**+0.2**
PVO	**Paravola**	**1.29**	**151**	P	**Pb**		**19 55**	**17.1**	**+0.4**
PVO	**Paravola**	**1.29**	**151**	P	**Pb**		**19 55**	**17.1**	**+0.4**
FSK	**Fiskardo**	**1.29**	**186**	P	**Pn**		**19 55**	**16.8**	**+0.5**
FSK				S	**Sg**		**19 55**	**35.0**	**+0.8**
	comp=E,722nm,0.4s								
FSK	**Fiskardo**	**1.29**	**186**	P	**Pn**		**19 55**	**16.6**	**+0.3**
FSK				AML	AML		19 55	38.0	
	comp=N,1225μm,0.6s								
FSK				AML	AML		19 55	41.9	
	comp=E,1668μm,0.3s								
MAKR	**Makrakomi, Fth**	**1.31**	**123**	P	**Pn**		**19 55**	**17.3**	**+0.6**
MAKR				S	**Sn**		**19 55**	**34.9**	**+0.9**
	comp=E,3μm,0.5s								
MAKR	**Makrakomi, Fth**	**1.31**	**123**	P	**Pn**		**19 55**	**17.3**	**+0.6**
MAKR				S	**Sg**		**19 55**	**35.6**	**+0.8**
MAKR				AML	AML		19 55	40.0	
	comp=E,4662μm,0.7s								
MAKR				AML	AML		19 55	41.5	
	comp=N,6024μm,0.4s								
OHR	**Ohrid**	**1.37**	**2**	*e*Pg	**Pg**		**19 55**	**19.1**	**+0.2**
OHR				*e*Sg	**Sg**		**19 55**	**39.0**	**+2.3**
OHR	**Ohrid**	**1.37**	**2**	*i* Pn	**Pg**		**19 55**	**19.1**	**+0.2**
OHR				*i* Sn	**Sg**		**19 55**	**40.2**	**+3.5**
ANX	**Ano Chora**	**1.48**	**141**	P	**Pn**		**19 55**	**19.9**	**+0.9**
ANX	**Ano Chora**	**1.48**	**141**	P	**Pn**		**19 55**	**19.8**	**+0.9**
KEF4	**Livadi, Kephal**	**1.50**	**189**	P	**Pb**		**19 55**	**20.7**	**+0.4**
KEF4	**Livadi, Kephal**	**1.50**	**189**	P	**Pb**		**19 55**	**19.5**	**+0.2**
DMLN	**Damoulianata-K**	**1.53**	**190**	P	**Pb**		**19 55**	**21.1**	**+0.3**
DMLN				S	**Sn**		**19 55**	**40.5**	**+1.1**
	comp=N,915nm,0.7s								
KEF3	**Kipouria, Keph**	**1.57**	**191**	P	**Pn**		**19 55**	**19.9**	**-0.2**
KEF3	**Kipouria, Keph**	**1.57**	**191**	P	**Pn**		**19 55**	**19.9**	**-0.2**
EFP	**Efpalio**	**1.60**	**145**	P	**Pb**		**19 55**	**22.3**	**+0.2**
EFP	**Efpalio**	**1.60**	**145**	P	**Pb**		**19 55**	**22.2**	**+0.1**
TIR	**Tirane**	**1.73**	**338**	⇓P	**Pg**		**19 55**	**26.8**	**+0.9**
TIR	**Tirane**	**1.73**	**338**	*e*Pn	**Pb**		**19 55**	**24.2**	**-0.1**
TIR	**Tirane**	**1.73**	**338**	P	**Pn**		**19 55**	**22.1**	**-0.3**
	baz=339								
GRG	**Grva**	**1.76**	**46**	P	**Pn**		**19 55**	**23.4**	**+0.5**
SCTE	**Santa Cesarea**	**1.77**	**281**	P	**Pn**		**19 55**	**22.9**	**0.0**
	baz=282								
SCTE				S	**Sn**		**19 55**	**46.1**	**+0.8**
	baz=282								
SCTE				AMP					
	comp=E,0.7nm,0.6s,baz=282								
RLS	**Riolos of Patr**	**1.78**	**161**	P	**Pn**		**19 55**	**24.5**	**+1.4**
AXAR	**Agios Charalam**	**1.79**	**122**	P	**Pb**		**19 55**	**24.8**	**-0.5**
DRO	**Drossia**	**1.95**	**156**	P	**Pn**		**19 55**	**27.0**	**+1.6**
DRO	**Drossia**	**1.95**	**156**	P	**Pn**		**19 55**	**26.9**	**+1.6**
NEO	**Neokhori**	**1.98**	**102**	P	**Pn**		**19 55**	**27.3**	**+1.4**
NEO	**Neokhori**	**1.98**	**102**	P	**Pn**		**19 55**	**27.0**	**+1.1**
HORT	**Hortiatis**	**2.01**	**64**	P	**Pn**		**19 55**	**26.8**	**+0.5**
LTHK	**Lithakia**	**2.03**	**178**	P	**Pn**		**19 55**	**28.2**	**+1.7**
VAY	**Valandovo**	**2.11**	**41**	*e*Pn	**Pn**		**19 55**	**28.0**	**+0.4**
VAY	**Valandovo**	**2.11**	**41**	*i* Pn	**Pn**		**19 55**	**28.4**	**+0.8**
KNT	**Kendrikon**	**2.18**	**49**	P	**Pn**		**19 55**	**28.6**	**0.0**
STIP	**Stip**	**2.24**	**29**	*i* Pn	**Pb**		**19 55**	**32.3**	**-0.7**
STIP				*i* Sn	**Sg**		**19 56**	**05.7**	**+1.0**
SKO	**Skopje**	**2.29**	**13**	*e*Pn	**Pn**		**19 55**	**31.9**	**+1.8**
SKO	**Skopje**	**2.29**	**13**	*i* Pn	**Pb**		**19 55**	**33.0**	**-0.8**
OUR	**Ouranopolis**	**2.57**	**76**	P	**Pn**		**19 55**	**34.5**	**+0.6**
SRS	**Serrai**	**2.58**	**57**	*e*Pn	**Pn**		**19 55**	**34.2**	**+0.1**
SRS				*e*Sn	**Sn**		**19 56**	**04.4**	**-1.0**
PDG	**Podgorica**	**2.91**	**338**	*e*Pn	**Pn**		**19 55**	**40.4**	**+1.9**
PDG				*e*Sn	**Sn**		**19 56**	**15.6**	**+2.3**
BARS	**Barje**	**3.18**	**15**	*e*Pn	**Pn**		**19 55**	**43.8**	**+1.5**
BARS				*e*Sn	**Sn**		**19 56**	**20.9**	**+0.8**
VTS	**Vitosha**	**3.44**	**33**	*e*Pn	**Pn**		**19 55**	**46.4**	**+0.4**
SELS	**Selova**	**3.48**	**5**	*e*Pn	**Pn**		**19 55**	**47.5**	**+0.9**
SJES	**Sjenica**	**3.56**	**351**	*e*Pn	**Pn**		**19 55**	**49.3**	**+1.7**
SJES				*e*Sn	**Sn**		**19 56**	**29.6**	**0.0**
ZAPS	**Zavoj**	**3.81**	**21**	*e*Pn	**Pn**		**19 55**	**52.2**	**+1.2**
IVAS	**Ivanjica**	**3.85**	**354**	*e*Pn	**Pn**		**19 55**	**51.9**	**+0.3**
GRUS	**Gruza**	**4.14**	**360**	*e*Pn	**Pn**		**19 55**	**56.4**	**+0.9**
ZAGS	**Zajecar**	**4.22**	**15**	*e*Pn	**Pn**		**19 55**	**56.7**	**+0.1**
BBLS	**Lazići**	**4.24**	**347**	*e*Sn	**Sn**		**19 56**	**46.1**	**-0.1**
DIVS	**Divibare**	**4.38**	**353**	*e*Pn	**Pn**		**19 55**	**59.6**	**+0.6**
DIVS				*e*Sn	**Sn**		**19 56**	**49.2**	**-0.7**
TRUS	**Trudelj**	**4.48**	**357**	*e*Pn	**Pn**		**19 56**	**01.9**	**+1.7**
PLVB	**Pleven**	**4.67**	**37**	⇑P	**Pn**		**19 56**	**05.9**	**+3.2**
MDVR	**Moldovita**	**5.09**	**8**	⇓P	**Pn**		**19 56**	**10.2**	**+1.7**
HERR	**Herculane**	**5.28**	**13**	⇓P	**Pn**		**19 56**	**12.5**	**+1.3**
IDI	**Anoyia**	**5.54**	**142**	Pn	**Pn**		**19 56**	**13.3**	**-1.6**
	comp=E,0.3nm,0.3s,baz=287,slow=5.8,SNR=1.9								
IDI				Sn	**Sn**		**19 57**	**15.1**	**-3.4**
	comp=E,1.9nm,0.3s,baz=314,slow=15,SNR=7.4								
	comp=E,7.1nm,0.9s								
GZR	**Gura Zlata**	**5.84**	**14**	⇓P	**Pn**		**19 56**	**20.4**	**+1.4**
BZS	**Buzias**	**5.91**	**6**	⇓P	**Pn**		**19 56**	**20.5**	**+0.7**
ARR	**Arges**	**6.32**	**26**	⇑P	**Pn**		**19 56**	**26.8**	**+1.3**
VOIR		**6.52**	**28**	⇓P	**Pn**		**19 56**	**30.6**	**+2.3**
MLR	**Muntele Rosu**	**6.91**	**32**	⇑P	**Pn**		**19 56**	**36.3**	**+2.6**
MLR	**Muntele Rosu**	**6.91**	**32**	Pn	**Pn**		**19 56**	**35.4**	**+1.7**
	comp=E,0.2nm,0.3s,baz=294,slow=17,SNR=3.6								
MLR				Sn	**Sn**		**19 57**	**55.4**	**+3.1**
	comp=E,0.1nm,0.3s,baz=242,slow=21,SNR=1.1								
	comp=E,3.2nm,0.8s								
NEHR	**Nehoiu**	**7.01**	**34**	⇑P	**Pn**		**19 56**	**37.2**	**+2.2**
DOPR	**Dopca**	**7.10**	**27**	⇓P	**Pn**		**19 56**	**38.6**	**+2.4**
BISRR	**Bisoca**	**7.29**	**35**	⇑P	**Pn**		**19 56**	**41.6**	**+2.8**
COVR	**Voineasa-Covas**	**7.31**	**32**	⇑P	**Pn**		**19 56**	**41.1**	**+2.1**
PLOR	**Plostina**	**7.50**	**34**	⇓P	**Pn**		**19 56**	**44.5**	**+2.8**

VRI	**Vrincioaia**	**7.54**	**34**	⇓P	**Pn**		**19 56**	**45.2**	**+2.9**
KBZ	**Khabaz**	**17.01**	**69**	LR	LR		20 07 12.3		
	comp=E,39nm,18.2s,baz=328,slow=43								
HFS	**Hagfors**	**20.88**	**350**	P	**P**		**19 59**	**33.1**	**-1.2**
	comp=E,2.9nm,0.8s,baz=138,slow=14,SNR=1.9								
	comp=E,2.9nm,0.8s								
FINES	**FINESS Array B**	**21.98**	**7**	P	**P**		**19 59**	**43.5**	**-2.4**
	comp=E,1.9nm,0.7s,baz=175,slow=11,SNR=6.0								
	comp=E,1.9nm,0.7s								
NB2	**NORSAR Subarra**	**22.12**	**348**	P	**P**		**19 59**	**47.9**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=160,slow=11								
NOA	**NORSAR Array B**	**22.12**	**348**	P	**P**		**19 59**	**46.8**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=162,slow=11,SNR=4.1								
	comp=Z,0.9nm,0.7s								
TORD	**Torodi Ar. Bea**	**31.36**	**218**	P	**P**		**20 01**	**12.2**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=30,slow=9.4,SNR=6.0								
	comp=Z,0.9nm,0.7s								
MKAR	**Makanchi Array**	**44.36**	**60**	P	**P**		**20 03**	**01.2**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=272,slow=7.5,SNR=8.9								
	comp=Z,0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**44.54**	**49**	P	**P**		**20 03**	**02.3**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=282,slow=9.6,SNR=2.3								
	comp=Z,0.3nm,0.3s								

IDC ***17*** *19:59:44.8±2.8, 24°.95S×179°.92E, h483km±24km, mb3.4/6, mbtmp4.3/7, Error ellipse: s-maj=77.4km s-min=20.4km az=157.0*
NEIC ***17*** *19:59:47.3±1.0, 25°.1S±0°.2×179°.9E±0°.2, h518km±19km, mb4.4/22, Error ellipse: s-maj=26.5km s-min=22.1km az=133.0*
ISC 17 19:59:46.3±0.7, **25°.1S**±0°.1×**179°.88E**±0°.10, **h501**km, **n37**, **σ0°97**/39, **mb4.3**/18, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
NIUE	**Niue**	**11.18**	**60**	P	**P**		**20 02**	**16.9**	**+0.7**
MARNC	**Mare, Loyalty**	**11.47**	**286**	P	**P**		**20 02**	**19.6**	**+0.3**
DZM	**Mont Dzumac**	**12.68**	**281**	P	**P**		**20 02**	**33.6**	**+1.4**
	10nm,0.9s,baz=111,slow=17,SNR=2.6								
DZM	**Mont Dzumac**	**12.68**	**281**	P	**P**		**20 02**	**33.4**	**+1.2**
BKZ	**Black Stump Fm**	**14.32**	**191**	P	**P**		**20 02**	**48.9**	**-0.3**
ARMA	**Armidale**	**25.52**	**252**	P	**P**		**20 04**	**36.1**	**+1.6**
EIDS	**Eidsvold**	**26.04**	**263**	P	**P**		**20 04**	**39.6**	**+0.7**
EIDS				IAmb	IAmb		20 04	40.5	
	comp=Z,23nm,1.2s								
CTAO	**Charters Tower**	**31.39**	**272**	P	**P**		**20 05**	**26.3**	**+0.6**
TOO	**Toolangi**	**31.73**	**239**	P	**P**		**20 05**	**29.9**	**+1.5**
TOO				IAmb	IAmb		20 05	50.6	
	comp=Z,9.4nm,1.1s								
STKA	**Stephens Creek**	**34.20**	**250**	P	**P**		**20 05**	**50.0**	**+0.6**
	comp=Z,2.0nm,0.4s,baz=91,slow=10,SNR=17								
	comp=Z,2.0nm,0.4s								
STKA	**Stephens Creek**	**34.20**	**250**	P	**P**		**20 05**	**50.1**	**+0.6**
BBOO	**Buckleboo**	**38.89**	**248**	P	**P**		**20 06**	**27.8**	**-0.4**
AS31	**Alice Springs**	**41.75**	**262**	P	**P**		**20 06**	**51.0**	**-0.2**
AS31				IAmb	IAmb		20 06	51.8	
	comp=Z,2.3nm,0.3s								
ASAR	**Alice Springs**	**41.75**	**262**	P	**P**		**20 06**	**51.0**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=95,slow=7.6,SNR=82								
ASAR				ScP	**ScP**		**20 11**	**40.4**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=120,slow=4.8,SNR=1.9								
	comp=Z,2.3nm,0.

comp=N,2μm,0.5s
KPRO **Kipourio** 0.54 66 P Pg 20 02 20.6 -0.1
KPRO S Sg 20 02 28.3 +0.4
KPRO AML AML 20 02 31.5
comp=N,3004μm,0.3s
KPRO AML AML 20 02 32.3
comp=E,3590μm,0.4s
SRN **Sarande** 0.57 284 P Pg 20 02 21.1 -0.1
SRN S Sb 20 02 30.4 +0.5
comp=E,732nm,0.3s
SRN **Sarande** 0.57 284 P Pg 20 02 21.1 -0.1
baz=283
SRN S Sb 20 02 29.9 0.0
baz=283
SRN AMP
comp=E,2.1nm,0.2s,baz=283
KASA **Kassiopi** 0.60 271 P Pg 20 02 21.4 -0.4
KASA S Sg 20 02 29.8 0.0
KASA AML AML 20 02 32.3
comp=N,2036μm,0.3s
KASA AML AML 20 02 33.4
comp=E,2067μm,0.3s
KEK **Kerkira** 0.71 268 P Pg 20 02 23.1 -0.7
KEK S Sb 20 02 34.7 +0.8
comp=E,618nm,0.3s
KEK **Kerkira** 0.71 268 P Pg 20 02 23.1 -0.7
KEK S Sg 20 02 33.1 -0.1
KEK AML AML 20 02 39.1
comp=N,1175μm,0.5s
KEK AML AML 20 02 40.4
comp=E,1286μm,0.4s
NEST **Nestorio** 0.72 20 P Pg 20 02 24.0 0.0
NEST **Nestorio** 0.72 20 P Pg 20 02 23.6 -0.4
NEST AML AML 20 02 37.3
comp=N,988μm,0.4s
NEST AML AML 20 02 40.6
comp=E,971μm,0.7s
KBN **Korca** 0.88 3 P Pb 20 02 27.1 -0.1
baz=3.0
KBN S Sn 20 02 40.6 -0.3
baz=3.0
KBN AMP
comp=N,1.2nm,0.6s,baz=3.0
TSLK **Tsoukalades, L** 0.92 183 P Pg 20 02 27.9 +0.2
TSLK **Tsoukalades, L** 0.92 183 P Pg 20 02 27.7 0.0
TSLK AML AML 20 02 48.2
comp=E,1187μm,0.5s
TSLK AML AML 20 02 50.3
comp=N,1398μm,0.4s
LKD2 **Lefkada island** 0.95 183 P Pg 20 02 28.5 +0.1
LKD2 **Lefkada island** 0.95 183 P Pg 20 02 28.6 +0.2
baz=183
LKD2 S Sn 20 02 43.5 +0.9
baz=183
LKD2 **Lefkada island** 0.95 183 P Pg 20 02 28.5 +0.1
LKD2 AML AML 20 02 46.6
comp=E,666μm,0.5s
LKD2 AML AML 20 02 53.2
comp=N,909μm,0.5s
KZN **Kozani** 0.98 55 P Pg 20 02 28.6 -0.5
KZN **Kozani** 0.98 55 P Pg 20 02 28.5 -0.6
KZN AML AML 20 02 47.3
comp=N,783μm,0.9s
KZN AML AML 20 02 49.2
comp=E,990μm,0.3s
THL **Klokotos Trika** 1.01 100 P Pg 20 02 28.8 -0.8
THL S Sb 20 02 43.8 +1.1
comp=E,232nm,0.5s
THL **Klokotos Trika** 1.01 100 P Pg 20 02 28.9 -0.8
THL AML AML 20 02 46.5
comp=N,568μm,0.7s
THL AML AML 20 02 49.1
comp=E,357μm,0.4s
NYDR **Nydri-Lefkada** 1.03 181 P Pg 20 02 29.2 -0.6
NYDR S Sn 20 02 45.8 +1.5
comp=E,290nm,0.4s
EVGI **Lefkada island** 1.12 183 P Pg 20 02 31.4 -0.2
EVGI **Lefkada island** 1.12 183 P Pg 20 02 31.6 +0.1
FNA **Florina** 1.16 26 P Pg 20 02 31.6 -0.7
FNA **Florina** 1.16 26 P Pg 20 02 31.9 -0.4
baz=26
FNA S Sn 20 02 48.3 +0.6
baz=26
FNA **Florina** 1.16 26 P Pg 20 02 31.4 -0.9
FNA AML AML 20 02 52.5
comp=N,648μm,0.4s
FNA AML AML 20 02 54.5
comp=E,829μm,0.3s
TYRN **Tyrnavos** 1.17 91 P Pb 20 02 32.1 0.0
TYRN AML AML 20 02 53.1
comp=E,891μm,0.4s
TYRN AML AML 20 02 54.0
comp=N,962μm,0.6s
EVR **Evrytania** 1.18 134 P Pb 20 02 32.0 -0.3
EVR **Evrytania** 1.18 134 P Pb 20 02 31.9 -0.3
EVR AML AML 20 02 54.5
comp=N,600μm,0.5s
EVR AML AML 20 02 58.7
comp=E,358μm,0.4s
VLO **Vlora** 1.19 308 P Pg 20 02 33.2 +0.4
baz=308
VLO S Sn 20 02 49.5 +1.2
baz=308
VLO AMP
comp=E,3.4nm,0.5s,baz=308
FSK **Fiskardo** 1.29 186 P Pn 20 02 34.2 +0.5
FSK S Sb 20 02 50.8 +0.3
comp=E,320nm,0.6s
FSK **Fiskardo** 1.29 186 P Pn 20 02 34.6 +0.9
FSK AML AML 20 02 54.4
comp=E,718μm,0.3s
FSK AML AML 20 02 55.2
comp=N,575μm,0.8s
PVO **Paravola** 1.29 151 P Pg 20 02 34.9 +0.1
MAKR **Makrakomi, Fth** 1.31 123 P Pn 20 02 34.7 +0.6
MAKR **Makrakomi, Fth** 1.31 123 P Pn 20 02 34.8 +0.6
MAKR AML AML 20 02 57.4
comp=E,1597μm,0.5s
MAKR AML AML 20 03 00.9
comp=N,1461μm,0.6s
OHR **Ohrid** 1.37 3 *i* Pn Pg 20 02 37.0 +0.6
OHR **Ohrid** 1.37 3 *i* Pn Pg 20 02 37.1 +0.7
OHR *i* Sn Sg 20 02 56.1 +1.9
ANX **Ano Chora** 1.48 140 P Pn 20 02 37.1 +0.7
ANX **Ano Chora** 1.48 140 P Pn 20 02 37.5 +1.0
KEF4 **Livadi, Kephal** 1.50 189 P Pb 20 02 37.9 +0.2
DMLN **Damoulianata-K** 1.52 190 P Pn 20 02 36.4 -0.6
KEF3 **Kipouria, Keph** 1.56 191 P Pn 20 02 37.1 -0.4
VLS **Valsamata** 1.56 184 P Pn 20 02 37.7 +0.2
VLS **Valsamata** 1.56 184 P Pb 20 02 39.0 +0.2
VLS AML AML 20 03 02.9
comp=E,491μm,0.3s
VLS AML AML 20 03 07.0
comp=N,488μm,0.4s
EFP **Efpalio** 1.60 144 P Pb 20 02 39.7 +0.3
TIR **Tirane** 1.73 338 P Pn 20 02 41.0 +1.1
baz=339
SCTE **Santa Cesarea** 1.76 282 P Pn 20 02 40.3 0.0
baz=282
SCTE S Sb 20 03 04.7 +0.5
baz=282
SCTE AMP
comp=E,0.3nm,0.3s,baz=282
SCTE **Santa Cesarea** 1.76 282 P Pn 20 02 40.3 0.0
SCTE AML AML 20 03 06.2
comp=N,156μm,0.3s
SCTE AML AML 20 03 06.4
comp=E,172μm,0.3s
AXAR **Agios Charalam** 1.79 122 P Pb 20 02 42.9 +0.1
VAY **Valandovo** 2.12 41 *i* Pn Pn 20 02 45.8 +0.7
VAY **Valandovo** 2.12 41 *i* Pn Pb 20 02 47.3 -0.9
VAY *i* Sn Sg 20 03 22.7 +4.6
KNT **Kendrikon** 2.19 49 P Pn 20 02 46.1 0.0
STIP **Stip** 2.25 29 *i* Pn Pb 20 02 50.3 -0.2
STIP **Stip** 2.25 29 *i* Pn Pb 20 02 50.2 -0.2
HFS **Hagfors** 20.89 350 P P 20 06 50.9 -0.8
comp=E,4.0nm,1.0s,baz=164,slow=12,SNR=2.4
comp=E,4.0nm,1.0s
FINES **FINESS Array B** 21.98 7 P P 20 07 02.1 -1.2
comp=E,3.1nm,0.9s,baz=184,slow=11,SNR=1.9
comp=E,3.1nm,0.9s
TORD **Torodi Ar. Bea** 31.35 218 P P 20 08 30.0 -0.4
comp=E,0.2nm,0.5s,baz=32,slow=9.0,SNR=1.9
comp=E,0.2nm,0.5s
MKAR **Makanchi Array** 44.37 60 P P 20 10 18.3 -1.7
comp=E,0.3nm,0.5s,baz=284,slow=7.2,SNR=5.6
comp=E,0.3nm,0.5s

IDC 17 20:10:15.6±8.5, 4°31N×96°24E, h0km, mb3.2/3, mbtmp3.2/3, MS3.6/1, Error ellipse: s-maj=444.2km s-min=32.7km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**26.51**	**243**	T	T	20 43 01.4	
	baz=64,slow=74						
H08S3	**Diego Garcia H**	**26.51**	**243**	T	T	20 42 58.9	
	baz=64,slow=74						
H08S1	**Diego Garcia H**	**26.52**	**243**	T	T	20 42 58.5	
	baz=64						
MKAR	**Makanchi Array**	**44.01**	**346**	P	P	20 18 24.7	-0.2
	0.1nm,0.4s,baz=154,slow=9.5,SNR=1.8						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**44.52**	**124**	P	P	20 18 28.9	-0.6
	0.3nm,0.5s,baz=301,slow=9.6,SNR=2.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**46.05**	**129**	P	P	20 18 41.9	+0.3
	0.2nm,0.9s,baz=299,slow=7.6,SNR=1.8						
	0.2nm,0.9s						
ZALV	**Zalesovo Beam**	**50.35**	**351**	LR	LR	20 44 30.9	
	comp=Z,60nm,19.4s,baz=245,slow=41						

IDC 17 20:20:44.8±761.0, 45°30N×66°42E, h0km, Error ellipse: s-maj=270.1km s-min=174.5km az=151.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.61**	**315**	I		21 07 10.0	
	0.1nm,1.3s,baz=129,slow=316,SNR=2.8						
I46RU	**ZALESOVO INFRA**	**14.70**	**47**	I		21 55 40.0	
	0.2nm,1.3s,baz=241,slow=334,SNR=2.6						

*IDC **17** 20:23:27.6±1.5, 39°.79N×20°.73E, h0km, mb3.6/5, mbtmp3.6/6, ML2.7/1, MS3.0/2, Error ellipse: s-maj=38.6km s-min=24.1km az=125.0*
*TIR **17** 20:23:30.7, 39°.76N×20°.69E, h2km±1km, Md3.3, Ml3.4*
*ATH **17** 20:23:30.9, 39°.78N×20°.72E, h7km±1km, ML3.3/11, Error ellipse: s-maj=1.6km s-min=0.8km az=318.0*
*THE **17** 20:23:31.2, 39°.76N×20°.73E, h8km±1km, ML3.4/15, Error ellipse: s-maj=1.0km s-min=0.5km az=310.0*
*PDG **17** 20:23:31.0±0.6, 39°.74N×20°.70E, h16km±1km, ML3.3/13, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*NEIC **17** 20:23:32.5±3.0, 39°.89N±0°.04×20°.59E±0°.05, h13km±7km, Error ellipse: s-maj=6.7km s-min=5.6km az=152.0*
ISC 17 20:23:30.8±0.8, 39°.75N±0°.01×20°.72E±0°.02, h11km±5km, n173, σ1°25°/220, mb3.7/6, 13C-13D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.14**	**132**	P	Pg	20 23 33.7	-0.4
JAN				S	Sg	20 23 37.0	+0.5
	71μm,0.4s						
JAN	**Janina**	**0.14**	**132**	P	Pg	20 23 34.1	-0.1
JAN				S	Sg	20 23 36.4	-0.1
JAN				AML	AML	20 23 37.4	
JAN				AML	AML	20 23 37.8	
IGT	**Igoumenitsa**	**0.37**	**234**	P	Pg	20 23 38.5	+0.4
IGT				S	Sb	20 23 44.4	-0.6
	9μm,0.5s						
IGT	**Igoumenitsa**	**0.37**	**234**	P	Pg	20 23 38.4	+0.2
	baz=231						
IGT				S	Sb	20 23 44.9	-0.1
	baz=231						
IGT	**Igoumenitsa**	**0.37**	**234**	P	Pg	20 23 38.2	+0.1
IGT				S	Sb	20 23 44.2	-0.8
IGT				AML	AML	20 23 48.6	
	comp=N,14861μm,0.5s						
IGT				AML	AML	20 23 48.9	
	comp=E,22464μm,0.5s						
LSK	**Leskovik**	**0.41**	**347**	P	Pg	20 23 39.0	+0.1
LSK				S	Sb	20 23 45.7	-0.6
	comp=E,8μm,0.8s						
LSK	**Leskovik**	**0.41**	**347**	P	Pg	20 23 39.1	+0.1
	baz=350						
LSK				S	Sb	20 23 45.9	-0.4
	baz=350						
LSK				AMP			
	comp=E,25nm,0.7s,baz=350						
KPRO	**Kipourio**	**0.54**	**67**	P	Pg	20 23 41.1	-0.1
KPRO				S	Sb	20 23 49.4	-0.6
	comp=E,7μm,0.5s						
KPRO	**Kipourio**	**0.54**	**67**	P	Pg	20 23 41.2	-0.1
KPRO				S	Sg	20 23 48.3	-0.1
KPRO				AML	AML	20 23 50.8	
	comp=E,14586μm,0.4s						
KPRO				AML	AML	20 23 53.2	
	comp=N,11829μm,0.4s						
SRN	**Sarande**	**0.57**	**283**	P	Pg	20 23 41.6	-0.2
SRN				S	Sb	20 23 50.8	+0.1
	comp=N,3μm,0.4s						
SRN	**Sarande**	**0.57**	**283**	P	Pg	20 23 41.6	-0.2
	baz=283						
SRN				S	Sb	20 23 50.8	+0.1
	baz=283						
SRN				AMP			
	comp=N,10.0nm,0.3s,baz=283						
KASA	**Kassiopi**	**0.60**	**270**	P	Pg	20 23 42.2	-0.3
KASA				S	Sb	20 23 51.2	-0.6
KASA				AML	AML	20 23 54.1	
	comp=E,5613μm,0.3s						
KASA				AML	AML	20 23 54.5	
	comp=N,4988μm,0.3s						
KEK	**Kerkira**	**0.71**	**267**	Pg	Pg	20 23 44.0	-0.5
KEK	**Kerkira**	**0.71**	**267**	P	Pg	20 23 43.7	-0.8
KEK				S	Sb	20 23 55.7	+0.9
	comp=N,2μm,0.4s						
KEK	**Kerkira**	**0.71**	**267**	P	Pg	20 23 43.9	-0.6
KEK				S	Sg	20 23 53.9	+0.1
KEK				AML	AML	20 23 57.2	
	comp=E,3820μm,0.2s						
KEK				AML	AML	20 23 57.3	
	comp=N,3525μm,0.2s						
NEST	**Nestorio**	**0.71**	**21**	P	Pg	20 23 44.4	-0.2
NEST	**Nestorio**	**0.71**	**21**	P	Pg	20 23 44.4	-0.2
NEST				S	Sg	20 23 53.8	-0.1
NEST				AML	AML	20 23 57.2	
	comp=N,2994μm,0.2s						
NEST				AML	AML	20 23 59.2	
	comp=E,2304μm,0.3s						
KBN	**Korca**	**0.87**	**3**		Pg	20 23 47.0	-0.6
KBN	**Korca**	**0.87**	**3**	P	Pg	20 23 47.0	-0.6
KBN	**Korca**	**0.87**	**3**	P	Pg	20 23 47.3	-0.4
	baz=4.0						
KBN				S	Sn	20 24 01.6	-0.2
	baz=4.0						
KBN				AMP			
	comp=E,2.6nm,0.9s,baz=4.0						
TSLK	**Tsoukalades, L**	**0.93**	**183**	P	Pb	20 23 49.1	+0.3
TSLK	**Tsoukalades, L**	**0.93**	**183**	P	Pb	20 23 48.8	0.0
TSLK				S	Sn	20 24 02.7	-0.2
TSLK				AML	AML	20 24 09.0	
	comp=E,4318μm,0.7s						
TSLK				AML	AML	20 24 11.2	
	comp=N,6601μm,0.6s						
LKD2	**Lefkada island**	**0.96**	**183**	P	Pb	20 23 49.5	+0.1
LKD2	**Lefkada island**	**0.96**	**183**	P	Pn	20 23 49.9	-0.3
	baz=182						
LKD2				S	Sn	20 24 05.3	+1.5
	baz=182						
LKD2	**Lefkada island**	**0.96**	**183**	P	Pb	20 23 49.5	+0.1
LKD2				S	Sb	20 24 02.8	+0.7
LKD2				AML	AML	20 24 07.3	
	comp=E,3675μm,0.6s						
LKD2				AML	AML	20 24 14.1	
	comp=N,4002μm,0.6s						
KZN	**Kozani**	**0.98**	**55**	P	Pg	20 23 48.7	-1.0
KZN	**Kozani**	**0.98**	**55**	P	Pg	20 23 48.2	-1.4
KZN				S	Sg	20 24 01.9	-0.6
KZN				AML	AML	20 24 08.0	
	comp=N,3944μm,0.8s						
KZN				AML	AML	20 24 09.2	
	comp=E,3197μm,0.7s						
THL	**Klokotos Trika**	**1.02**	**100**	P	Pb	20 23 49.2	-1.2
THL	**Klokotos Trika**	**1.02**	**100**	P	Pb	20 23 49.2	-1.2
THL				S	Sg	20 24 03.5	-0.2
THL				AML	AML	20 24 07.3	
	comp=N,4216μm,0.6s						
THL				AML	AML	20 24 09.9	
	comp=E,2444μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.04**	**181**	P	Pg	20 23 50.8	+0.1
NYDR				S	Sn	20 24 06.6	+1.0
	comp=E,1μm,0.7s						
EVGI	**Lefkada island**	**1.13**	**182**	P	Pb	20 23 52.0	-0.3
EVGI				S	Sn	20 24 09.4	+1.5
	comp=E,2μm,0.7s						
EVGI	**Lefkada island**	**1.13**	**182**	P	Pb	20 23 52.3	+0.1
EVGI				S	Sn	20 24 08.3	+0.4
FNA	**Florina**	**1.15**	**26**	Pg	Pb	20 23 51.8	-0.9
FNA	**Florina**	**1.15**	**26**	P	Pb	20 23 52.4	-0.2
FNA	**Florina**	**1.15**	**26**	P	Pb	20 23 52.4	-0.2
	baz=27						
FNA				S	Sn	20 24 10.2	+1.7
	baz=27						
FNA	**Florina**	**1.15**	**26**	P	Pb	20 23 52.1	-0.6
TYRN	**Tyrnavos**	**1.17**	**91**	P	Pb	20 23 52.4	-0.5
TYRN				S	Sn	20 24 10.5	+1.6
	comp=E,2μm,0.8s						
TYRN	**Tyrnavos**	**1.17**	**91**	P	Pb	20 23 52.0	-1.0
VLO	**Vlora**	**1.18**	**308**		Pb	20 23 51.4	-1.7
VLO	**Vlora**	**1.18**	**308**	P	Pg	20 23 53.9	+0.5
	baz=308						
VLO				S	Sn	20 24 10.6	+1.4
	baz=308						
VLO				AMP			
	comp=N,8.4nm,0.4s,baz=308						
EVR	**Evrytania**	**1.19**	**134**	P	Pb	20 23 52.6	-0.7
EVR	**Evrytania**	**1.19**	**134**	P	Pb	20 23 52.4	-0.9
FSK	**Fiskardo**	**1.29**	**185**	P	Pn	20 23 54.6	-0.1
FSK				S	Sg	20 24 14.0	+1.5
	comp=N,1μm,0.7s						
FSK	**Fiskardo**	**1.29**	**185**	P	Pb	20 23 55.1	0.0
FSK				S	Sb	20 24 11.7	0.0
PVO	**Paravola**	**1.29**	**151**	P	Pg	20 23 55.6	0.0
PVO	**Paravola**	**1.29**	**151**	P	Pg	20 23 55.6	0.0
MAKR	**Makrakomi, Fth**	**1.32**	**123**	P	Pb	20 23 55.6	0.0
MAKR	**Makrakomi, Fth**	**1.32**	**123**	P	Pb	20 23 55.5	0.0
MAKR				S	Sg	20 24 13.7	+0.4
OHR	**Ohrid**	**1.36**	**3**	*i* Pn	Pg	20 23 57.0	+0.1
OHR				*i* Sn	Sg	20 24 17.6	+3.0
ANX	**Ano Chora**	**1.49**	**141**	P	Pn	20 23 57.7	+0.3
ANX	**Ano Chora**	**1.49**	**141**	P	Pn	20 23 57.8	+0.3
KEF4	**Livadi, Kephal**	**1.51**	**189**	P	Pb	20 23 58.0	-0.3
KEF4	**Livadi, Kephal**	**1.51**	**189**	P	Pn	20 23 57.7	+0.1
KEF4				S	Sb	20 24 18.0	+0.2
DMLN	**Damoulianata-K**	**1.53**	**190**	P	Pb	20 23 58.9	-0.3
DMLN				S	Sb	20 24 18.5	-0.1
	comp=N,1μm,0.6s						
KEF3	**Kipouria, Keph**	**1.57**	**191**	P	Pn	20 23 58.0	-0.5
KEF3	**Kipouria, Keph**	**1.57**	**191**	P	Pn	20 23 57.8	-0.8
VLS	**Valsamata**	**1.57**	**184**	P	Pn	20 23 58.6	0.0
VLS				S	Sb	20 24 19.7	0.0
	comp=N,1μm,0.6s						
VLS	**Valsamata**	**1.57**	**184**	P	Pn	20 23 58.6	0.0
VLS				S	Sn	20 24 18.4	-0.5
VLS				AML	AML	20 24 28.2	
	comp=N,2041μm,0.4s						
VLS				AML	AML	20 24 30.4	
	comp=E,2224μm,0.6s						
EFP	**Efpalio**	**1.61**	**145**	P	Pb	20 23 59.9	-0.6
SERG	**Sergoula**	**1.69**	**142**	P	Pn	20 24 00.8	+0.5
TIR	**Tirane**	**1.72**	**338**	⇑P	Pg	20 24 05.5	+1.7
TIR	**Tirane**	**1.72**	**338**		Pb	20 24 02.0	-0.4
TIR	**Tirane**	**1.72**	**338**	P	Pb	20 24 02.5	+0.1
	baz=339						
TIR				AMP			
	comp=N,1.5nm,1.0s,baz=339						
SCTE	**Santa Cesarea**	**1.76**	**281**		Pn	20 24 00.4	-0.7
SCTE	**Santa Cesarea**	**1.76**	**281**	P	Pn	20 24 00.8	-0.3
	baz=282						
SCTE				S	Sb	20 24 25.6	+0.6
	baz=282						
SCTE				AMP			
	comp=N,0.6nm,0.2s,baz=282						
GRG	**Griva**	**1.76**	**46**	P	Pn	20 24 01.4	+0.2
GRG	**Griva**	**1.76**	**46**	P	Pn	20 24 00.5	-0.7
RLS	**Riolos of Patr**	**1.79**	**161**	P	Pn	20 24 02.5	+1.0
AXAR	**Agios Charalam**	**1.80**	**122**	P	Pn	20 24 01.6	-0.1
DRO	**Drossia**	**1.96**	**156**	P	Pn	20 24 04.7	+0.8
NEO	**Neokhori**	**1.99**	**102**	P	Pn	20 24 04.5	+0.2
NEO				S	Sb	20 24 30.9	-0.8
	comp=N,1μm,0.9s						
LTHK	**Lithakia**	**2.04**	**177**	P	Pn	20 24 06.0	+1.0
LKR	**Lokris**	**2.09**	**121**	P	Pn	20 24 06.0	+0.4
VAY	**Valandovo**	**2.11**	**41**	*i* Pn	Pn	20 24 05.9	0.0
STIP	**Stip**	**2.24**	**29**	*i* Pn	Pb	20 24 10.8	-0.4
SOH	**Sokhos**	**2.28**	**61**	P	Pn	20 24 09.4	+1.0
SOH				S	Sn	20 24 37.4	+0.9
	comp=N,338nm,1.0s						
SKO	**Skopje**	**2.29**	**14**	*i* Pn	Pb	20 24 11.9	-0.1
PAIG	**Paliouri**	**2.29**	**85**	P	Pn	20 24 08.2	-0.2
ULC	**Ulcinj**	**2.48**	**334**	*e*Pn	Pn	20 24 11.4	+0.4
ULC				*i* Sn	Sn	20 24 42.7	+1.5
OUR	**Ouranopolis**	**2.57**	**76**	P	Pn	20 24 12.7	+0.4
OUR				S	Sn	20 24 44.9	+1.4
	comp=N,260nm,0.5s						
SRS	**Serrai**	**2.58**	**57**	P	Pn	20 24 13.0	+0.5
BCI	**Bajram Curri**	**2.66**	**350**	P	Pb	20 24 16.3	-2.0
	baz=350						
DRME	**Dracevica, Mon**	**2.70**	**335**	*e*Pn	Pn	20 24 14.6	+0.6
DRME	**Dracevica, Mon**	**2.70**	**335**	⇓*i*Pn	Pn	20 24 15.2	+1.2
DRME				*i* Sn	Sn	20 24 47.9	+1.3
ITM	**Ithomi**	**2.74**	**159**		Pn	20 24 16.6	+2.0
PDG	**Podgorica**	**2.90**	**338**	⇑P	Pb	20 24 22.5	+0.1
PDG	**Podgorica**	**2.90**	**338**	Pn	Pn	20 24 15.7	-1.0
TTG	**Podgorica**	**2.90**	**338**	*e*Pn	Pn	20 24 18.0	+1.3
TTG				*i* Sn	Sn	20 24 52.7	+1.2
BUM	**Brajici-Budva**	**2.90**	**332**	*e*Pn	Pn	20 24 17.9	+1.1
BUM				*i* Sn	Sn	20 24 52.8	+1.1
PVY	**Plav**	**2.90**	**349**	⇓*i*Pn	Pn	20 24 18.1	+1.2
PVY				*i* Sn	Sn	20 24 52.9	+1.1
CEME	**Cevo**	**3.11**	**335**	*e*Pn	Pn	20 24 20.0	+0.3
CEME				*i* Sn	Sn	20 24 57.4	+0.6
TIP	**Timpagrande**	**3.12**	**261**	Pn	Pn	20 24 19.2	-0.7
HCY	**Herceg Novi**	**3.17**	**329**	*e*Pn	Pn	20 24 20.0	-0.6
HCY	**Herceg Novi**	**3.17**	**329**	*e*Pn	Pn	20 24 20.4	-0.2
HCY				*i* Sn	Sn	20 24 59.6	+1.2
IVA	**Berane**	**3.18**	**349**	⇓*i*Pn	Pn	20 24 22.0	+1.3
IVA				*i* Sn	Sn	20 24 59.7	+1.0
MATE	**Matera**	**3.20**	**288**	⇓P	Pg	20 24 33.6	+1.5
MATE				⇑S	Sg	20 25 14.4	+0.9
KOME	**Kolasin**	**3.23**	**344**	⇓*i*Pn	Pn	20 24 22.7	+1.3
KOME				*i* Sn	Sn	20 25 00.8	+1.0
NKME	**Niksic**	**3.29**	**337**	⇓*i*Pn	Pn	20 24 23.6	+1.3
NKME				*i* Sn	Sn	20 25 02.4	+1.0
VTS	**Vitosha**	**3.44**	**33**	Pn	Pn	20 24 25.4	+1.1
TREB	**Trebinje**	**3.46**	**330**	*e*Pn	Pn	20 24 23.9	-0.6
BRY	**Bratogost**	**3.55**	**333**	*e*Pn	Pn	20 24 25.8	-0.1
BRY	**Bratogost**	**3.55**	**333**	*e*Pn	Pn	20 24 26.0	+0.1
BRY				*i* Sn	Sn	20 25 08.6	+0.7
UPM	**Unac-Piva**	**3.71**	**339**	*e*Pn	Pn	20 24 29.4	+1.3
UPM				*i* Sn	Sn	20 25 12.4	+0.6
PLE	**Pljevlja**	**3.71**	**345**	⇑*i*Pn	Pn	20 24 29.4	+1.3
PLE				*i* Sn	Sn	20 25 12.6	+0.8
CUC	**Castrocucco**	**3.78**	**275**	Pn	Pn	20 24 27.7	-1.2
STON	**Ston**	**3.86**	**325**	*e*Pn	Pn	20 24 27.8	-2.1
RDO	**Rodhopi**	**3.93**	**68**	Pn	Pn	20 24 31.3	+0.3
CEL	**Celeste**	**4.04**	**250**	Pn	Pn	20 24 30.7	-1.9
BBLS	**Lazići**	**4.23**	**347**	*e*Pn	Pb	20 24 41.5	-3.6
SGRT	**San Giovanni R**	**4.28**	**300**	Pn	Pn	20 24 34.9	-0.9
DIVS	**Divibare**	**4.38**	**353**	Pn	Pn	20 24 37.5	+0.2
DIVS	**Divibare**	**4.38**	**353**	*e*Pn	Pn	20 24 37.6	+0.4
HAPS	**Han Pijesak,Bl**	**4.53**	**344**	*e*Pn	Pn	20 24 41.1	+1.8
PAOL	**Paolisi**	**4.87**	**287**		Pn	20 24 44.3	+0.4
SRKY	**Kupres RS**	**5.06**	**330**	*e*Pn	Pn	20 24 39.2	-7.4
MDVR	**Moldovita**	**5.08**	**8**	⇑P	Pn	20 24 50.0	+3.1
HERR	**Herculane**	**5.28**	**13**	⇓P	Pn	20 24 52.7	+3.2
FRGS	**Fruska Gora**	**5.45**	**353**	*e*Pn	Pn	20 24 51.3	-0.5
IDI	**Anoyia**	**5.55**	**142**	⇑P	Pb	20 25 10.6	+2.9
IDI	**Anoyia**	**5.55**	**142**	Pn	Pn	20 24 53.0	-0.3
RAFF	**Raffo Rosso**	**5.59**	**245**	Pn	Pn	20 24 51.5	-2.3
BLY	**Banja Luka**	**5.64**	**333**	*e*Pn	Pn	20 24 54.3	-0.2
A050A	**Klekovaca**	**5.66**	**328**	*e*Pn	Pn	20 24 54.6	-0.2
GZR	**Gura Zlata**	**5.84**	**14**	⇓P	Pn	20 25 00.0	+2.8
BZS	**Buzias**	**5.90**	**6**	⇑P	Pn	20 25 00.6	+2.6
A051A	**Mrakovica**	**5.97**	**333**	*e*Pn	Pn	20 24 58.5	-0.5
AQU	**L'Aquila**	**6.11**	**298**	Pn	Pn	20 25 00.9	0.0
LOT	**Lotru**	**6.12**	**21**	⇓P	Pn	20 25 04.0	+2.8

CAMP	**Campotosto**	**6.18**	**299**			**Pn**	**20 25 00.9**	**-1.0**
ARR	**Arges**	**6.31**	**26**	⇑	P	**Pn**	**20 25 06.1**	**+2.3**
NRCA	**Norcia**	**6.50**	**301**			**Pn**	**20 25 06.8**	**+0.5**
VOIR		**6.52**	**28**	⇑	P	**Pn**	**20 25 09.5**	**+2.9**
KARP	**Karpathos**	**6.61**	**127**		Pn	**Pn**	**20 25 06.3**	**-1.5**
KOVH	**Kovagotottos**	**6.62**	**344**		P	**Pn**	**20 25 08.0**	**+0.2**
ARG	**Arkhangelos**	**6.83**	**119**		Pn	**Pn**	**20 25 09.5**	**-1.3**
ISR	**Istrita**	**6.88**	**37**	⇑	P	**Pn**	**20 25 13.6**	**+2.1**
MLR	**Muntele Rosu**	**6.91**	**32**	⇓	P	**Pn**	**20 25 15.2**	**+3.2**
MLR	**Muntele Rosu**	**6.91**	**32**		Pn	**Pn**	**20 25 13.2**	**+1.2**
NEHR	**Nehoiu**	**7.01**	**34**	⇓	P	**Pn**	**20 25 16.7**	**+3.4**
BOJS	**Bojanci**	**7.02**	**327**	*e*	Pn	**Pn**	**20 25 11.3**	**-2.1**
MURB	**Monte Urbino**	**7.08**	**302**		Pn	**Pn**	**20 25 12.8**	**-1.5**
DOPR	**Dopca**	**7.10**	**27**	⇓	P	**Pn**	**20 25 16.9**	**+2.4**
COVR	**Voineasa-Covas**	**7.30**	**32**	⇑	P	**Pn**	**20 25 19.9**	**+2.5**
OZUR		**7.35**	**29**	⇑	P	**Pn**	**20 25 20.3**	**+2.3**
PLOR	**Plostina**	**7.49**	**34**	⇓	P	**Pn**	**20 25 23.6**	**+3.7**
VRI	**Vrincioaia**	**7.54**	**34**	⇑	P	**Pn**	**20 25 23.9**	**+3.4**
CEY	**Cerknica**	**7.56**	**324**	*e*	Pn	**Pn**	**20 25 20.2**	**-0.7**
ELL	**Elmali**	**7.83**	**110**		Pn	**Pn**	**20 25 26.6**	**+2.0**
AKAS	**Kas**	**7.85**	**114**		Pn	**Pn**	**20 25 28.6**	**+3.7**
OBKA	**Obir**	**8.12**	**328**	*e*	Pn	**Pn**	**20 25 29.7**	**+1.1**
SABO	**M.te Sabotino**	**8.13**	**322**		Pn	**Pn**	**20 25 27.0**	**-1.6**
ARSA	**Arzberg** comp=N,2.4nm,0.6s	**8.39**	**335**	*e*	Pn		20 25 37.2	+5.0
BURAR	**Bucovina Array**	**8.51**	**21**		Pn	**Pn**	**20 25 34.8**	**+0.9**
BUR08	**Bucovina Ar. S**	**8.53**	**21**		Pn	**Pn**	20 25 29.1	-5.1
ZCCA	**Zocca**	**8.58**	**306**		Pn	**Pn**	**20 25 36.2**	**+1.3**
TEOL	**Teolo**	**8.71**	**313**		Pn	**Pn**	**20 25 35.7**	**-1.0**
VYHS	**Vyhne**	**8.85**	**352**	*e*	PN	Pn	20 25 45.0	+6.6
CIMO	**Cimolais**	**8.93**	**320**		Pn	**Pn**	**20 25 41.3**	**+1.7**
ABTA	**Abfaltersbach** comp=N,0.5nm,0.3s	**9.20**	**322**	*e*	Pn	**Pn**	**20 25 43.0**	**-0.4**
BRTR	**Keskin Array B** comp=N,69nm,18.5s,baz=292,slow=44	**9.96**	**86**		LR	LR	20 30 41.8	
SENIN	**Lac Senin/Sane**	**11.82**	**308**		Pn	**Pn**	**20 26 21.2**	**+1.8**
AKASG	**Malin Array Be** comp=N,91nm,21.4s,baz=55,slow=45	**12.47**	**26**		LR	LR	20 32 44.0	
ESDC	**Sonseca Array** baz=71,slow=11,SNR=2.5 comp=N,0.4nm,0.9s	**18.98**	**278**		P	**P**	**20 27 50.6**	**-1.5**
FINES	**FINESS Array B** comp=N,1.8nm,0.8s,baz=187,slow=11,SNR=1.5 comp=N,1.8nm,0.8s	**21.97**	**7**		P	**P**	**20 28 22.1**	**-2.2**
FINES	**FINESS Array B**	**21.97**	**7**		P	**P**	**20 28 25.7**	**+1.4**
NB2	**NORSAR Subarra** comp=Z,1.5nm,0.8s,baz=156,slow=9.3	**22.11**	**348**		P	**P**	**20 28 27.7**	**+1.8**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.7s,baz=162,slow=11,SNR=2.2 comp=Z,0.7nm,0.7s	**22.11**	**348**		P	**P**	**20 28 24.4**	**-1.5**
ARCES	**ARCESS Array B** comp=Z,2.4nm,0.9s,baz=185,slow=10.0,SNR=1.5 comp=Z,2.4nm,0.9s	**29.96**	**3**		P	**P**	**20 29 36.8**	**-1.8**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.7s,baz=23,slow=9.4,SNR=5.9 comp=Z,0.8nm,0.7s	**31.36**	**218**		P	**P**	**20 29 50.4**	**-1.0**
MK31	**Makanchi Array**	**44.36**	**60**		P	**P**	**20 31 39.2**	**-1.8**
MK31	comp=Z,2.6nm,1.4s				IAmb	IAmb	20 32 11.1	
MKAR	**Makanchi Array** comp=Z,0.7nm,0.6s,baz=277,slow=7.4,SNR=7.0 comp=Z,0.7nm,0.6s	**44.36**	**60**		P	**P**	**20 31 39.3**	**-1.6**
MKAR	**Makanchi Array**	**44.36**	**60**		P	**P**	**20 31 40.2**	**-0.7**
VNDA	**Vanda**	**138.78**	**168**			**PKiKP**	**20 42 57.4**	**-0.3**

ISK 17 20:24:42.9, 36.71N×26.41E, h8km, ML2.3/13, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.46**	**84**	PG	Pg	20 24 52.5	+0.6
KOSK				SG	Sb	20 24 59.8	-0.4
NIS1	**Nisyros Isl.**	**0.63**	**99**	PG	Pb	20 24 55.8	-0.3
NIS1				SG	Sb	20 25 04.9	-0.2
APE	**Apeiranthos**	**0.79**	**298**	⇓P	Pg	20 24 56.0	-2.2
APE	**Apeiranthos**	**0.79**	**298**	PG	Pb	20 24 59.4	+0.5
BODT	**Bodrum**	**0.81**	**64**	PG	Pg	20 24 58.3	-0.1
BODT				SG	Sb	20 25 09.9	-0.3
SANT	**Santorini**	**0.83**	**247**	PG	Pg	20 24 58.8	-0.1
SANT				SG	Sb	20 25 11.6	+0.6
SANT	**Santorini**	**0.83**	**247**		Pg	20 24 58.8	-0.1
THT2	**Imerovigli**	**0.84**	**251**	PG	Pb	20 24 59.5	-0.2
DAT	**Datca**	**0.94**	**88**	PG	Pb	20 25 01.3	-0.2
GCAM	**G?zelcaml?**	**1.19**	**33**	PN	Pn	20 25 06.9	+1.1
MLSB	**Milas**	**1.24**	**61**	PN	Pg	20 25 07.2	+0.4
KARP	**Karpathos**	**1.31**	**152**	PN	Pn	20 25 07.5	+0.1
ARG	**Arkhangelos**	**1.47**	**109**	PN	Pb	20 25 10.6	+0.2
TURN	**Turunc**	**1.48**	**87**	PN	Pb	20 25 10.6	0.0
FETY	**Fethiye**	**2.15**	**91**	PN	Pn	20 25 20.2	+1.1
CAME	**Cameli-Denizli**	**2.33**	**83**	PN	Pn	20 25 22.9	+1.2

TAP 17 20:26:01.6, 24.30N×121.45E, h9km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi** baz=161	**0.10**	**161**	*i* P	Pg	20 26 04.8	+0.7
ETLH	baz=161			*i* S	Sg	20 26 06.6	+0.7
NNSB	**Datong** baz=344	**0.14**	**336**	P	Pg	20 26 05.4	+0.6
NNSB	baz=344			S	Sg	20 26 07.4	+0.3
NNSH	**Datong** baz=342	**0.14**	**336**	*e*P	Pg	20 26 04.3	-0.5
NNSH	baz=342			*e*S	Sg	20 26 06.3	-0.8
NNS	**Nan Shan** baz=345	**0.16**	**334**	*e*P	Pg	20 26 04.1	-1.0
NNS	baz=345			*e*S	Sg	20 26 06.9	-0.6
FUSS	**Fushou** baz=255	**0.19**	**255**	P	Pg	20 26 06.2	+0.5
FUSS	baz=255			S	Sg	20 26 08.8	+0.3
WHF	**Hehuan Shan** baz=226	**0.23**	**228**	P	Pg	20 26 06.7	+0.3
WHF	baz=226			*e*S	Sg	20 26 09.8	+0.2
LATG	**Datong** baz=16	**0.25**	**17**	P	Pg	20 26 07.1	+0.4
LATG	baz=16			S	Sg	20 26 10.6	+0.5
TDCB	**Techi** baz=255	**0.27**	**260**	P	Pg	20 26 07.7	+0.6
TDCB	baz=255			S	Sg	20 26 11.1	+0.5
CHGB	**Renai** baz=227	**0.34**	**227**	P	Pg	20 26 08.3	+0.3
ENTT	**Nioudou** baz=15	**0.36**	**18**	*e*P	Pg	20 26 08.3	-0.3
YHNB	**Yeheng** baz=350	**0.38**	**350**	*e*P	Pb	20 26 09.9	-0.6
YHNB	baz=350			*e*S	Sg	20 26 14.5	+0.5

JMA 17 20:26:13.9±0.1, 23.9N±0.7×123.5E±0.4, h31km±1km, MV2.1/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.30**	**58**	P	Pg	20 26 21.2	-0.2
HATJ				S	Sb	20 26 26.5	-0.1
IRIF	**Iriomote-Funau**	**0.47**	**23**	P	Pb	20 26 23.6	-0.4
IRIF				S	Sb	20 26 31.0	+0.1
JKRS	**Kuro-shima**	**0.56**	**52**	P	Pb	20 26 25.3	0.0
JKRS				S	Sb	20 26 32.8	-0.3
JIJ	**Ishigaki jima**	**0.73**	**50**	P	Pn	20 26 27.5	-0.6
JIJ				S	Sb	20 26 37.4	-0.5
YOJ	**Yonaguni jima**	**0.73**	**320**	P	Pn	20 26 27.8	-0.3
YOJ				*e*S	Sb	20 26 37.7	-0.2
JYNG	**Yonagunijimaku**	**0.77**	**316**	P	Pn	20 26 28.2	-0.3
JYNG				*e*S	Sb	20 26 38.8	-0.1
JISG	**Ishigakijimahi**	**0.99**	**46**	P	Pn	20 26 31.5	-0.2
JISG				*e*S	Sn	20 26 44.8	+0.2
JTJ	**Tarama**	**1.30**	**55**	P	Pb	20 26 37.0	-0.9
JTJ				*e*S	Sn	20 26 53.2	+0.8

*HVO **17** 20:28:38.2±0.5, 19.350N±0.005×155.465W±0.007, h10km±3km, ML2.9/36, ML2.9/44(NEIC), Error ellipse: s-maj=0.9km s-min=0.8km az=76.0*

NEIC 17 20:28:37.9±0.4, 19.358N±0.009×155.473W±0.006, h14km±2km, Error ellipse: s-maj=1.4km s-min=0.6km az=158.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIN	**Ainahou**	**0.02**	**45**	Pg	Pg	20 28 40.5	-0.1
HTC	**Hot Caves**	**0.14**	**149**		Pg	20 28 41.6	0.0
MLH	**Mauna Loa**	**0.16**	**31**		Pg	20 28 42.1	0.0
MLH					Sg	20 28 44.8	0.0
MLH	**Mauna Loa** comp=E,1μm,0.6s	**0.16**	**31**	IAML		20 28 45.0	
MLH	comp=N,2μm,0.2s			IAML		20 28 47.6	
HLP	**Hilina Pali**	**0.17**	**111**		Pg	20 28 42.1	+0.1
HLP					Sg	20 28 45.2	+0.4
HLP	**Hilina Pali** comp=E,2μm,0.7s	**0.17**	**111**	IAML		20 28 45.5	
HLP	comp=N,3μm,0.2s			IAML		20 28 47.4	
WRMHI	**West Rim**	**0.17**	**73**		Pg	20 28 42.1	0.0
WRMHI					Sg	20 28 45.0	+0.1
MWH	**Moku'aweowe**	**0.17**	**317**		Pg	20 28 42.4	0.0
MWH	**Moku'aweowe** comp=E,5μm,0.5s	**0.17**	**317**	IAML		20 28 46.2	
MWH	comp=N,3μm,0.4s			IAML		20 28 47.8	
SDHHI	**Sand Hill**	**0.17**	**79**		Pg	20 28 42.1	0.0
SDHHI					Sg	20 28 44.9	-0.1
SDHHI	**Sand Hill** comp=E,5μm,0.3s	**0.17**	**79**	IAML		20 28 45.0	
SDHHI	comp=N,4μm,0.2s			IAML		20 28 48.1	
KHU	**Kahuku**	**0.17**	**230**		Pg	20 28 42.2	0.0
KHU					Sg	20 28 45.2	0.0
KHU	**Kahuku** comp=N,2μm,0.4s	**0.17**	**230**	IAML		20 28 45.2	
KHU	comp=E,2μm,0.2s			IAML		20 28 45.6	
UWE	**Uwekahuna**	**0.18**	**70**		Pg	20 28 42.3	0.0
UWE	**Uwekahuna** comp=E,3μm,0.4s	**0.18**	**70**	IAML		20 28 46.9	
UWE	comp=N,2μm,0.4s			IAML		20 28 47.2	
OBL	**Observatory Le**	**0.19**	**72**		Pg	20 28 42.3	0.0
OBL	**Observatory Le** comp=E,3μm,0.3s	**0.19**	**72**	IAML		20 28 48.6	
OBL	comp=N,4μm,0.4s			IAML		20 28 49.1	
NPH	**North Pit**	**0.19**	**73**		Pg	20 28 42.5	+0.1
NPH					Sg	20 28 45.9	+0.5
RIM	**Rim**	**0.19**	**79**		Pg	20 28 42.4	0.0
RIM					Sg	20 28 45.1	-0.4
RIM	**Rim** comp=E,2μm,0.3s	**0.19**	**79**	IAML		20 28 47.0	
RIM	comp=N,2μm,0.6s			IAML		20 28 47.9	
UWB	**Uwekahuna B**	**0.20**	**70**		Pg	20 28 42.4	-0.1
UWB					Sg	20 28 45.5	0.0
UWB	**Uwekahuna B** comp=N,1μm,0.3s	**0.20**	**70**	IAML		20 28 46.5	
UWB	comp=E,707nm,0.3s			IAML		20 28 46.6	
KKO	**Keanakako`i**	**0.20**	**78**		Pg	20 28 42.5	0.0
KKO					Sg	20 28 45.7	0.0
KKO	**Keanakako`i** comp=N,2μm,0.5s	**0.20**	**78**	IAML		20 28 49.4	
KKO	comp=E,1μm,0.4s			IAML		20 28 49.8	
MLOA	**Mauna Loa Obse**	**0.20**	**331**		Pg	20 28 42.9	+0.1
MLOA					Sg	20 28 46.3	+0.1
MLOA	**Mauna Loa Obse** comp=N,14μm,0.2s	**0.20**	**331**	IAML		20 28 46.5	
MLOA	comp=E,6μm,0.2s			IAML		20 28 46.5	
SBLHI	**Steaming Bluff**	**0.21**	**70**		Pg	20 28 42.6	-0.1
SBLHI					Sb	20 28 46.6	-0.7
SBLHI	**Steaming Bluff** comp=E,2μm,0.3s	**0.21**	**70**	IAML		20 28 46.8	
SBLHI	comp=N,3μm,0.2s			IAML		20 28 46.9	
BYL	**Byron's Ledge**	**0.21**	**75**		Pg	20 28 42.7	+0.1
BYL					Sb	20 28 47.0	-0.4
BYL	**Byron's Ledge** comp=E,1μm,0.5s	**0.21**	**75**	IAML		20 28 48.7	
BYL	comp=N,1μm,0.5s			IAML		20 28 49.3	
HATHI	**Halema'uma'u T**	**0.21**	**72**		Pg	20 28 42.7	0.0
HATHI					Sg	20 28 46.1	+0.1
HATHI	**Halema'uma'u T** comp=E,2μm,0.3s	**0.21**	**72**	IAML		20 28 47.1	
HATHI	comp=N,2μm,0.2s			IAML		20 28 47.7	
RSD	**Rainshed**	**0.21**	**60**		Pg	20 28 42.9	+0.1
PUH	**Pauahi**	**0.24**	**86**		Pg	20 28 43.0	-0.2
PUH					Sg	20 28 47.5	+0.6
PUH	**Pauahi** comp=N,1μm,0.4s	**0.24**	**86**	IAML		20 28 47.7	
PUH	comp=E,1μm,0.3s			IAML		20 28 48.1	
ALEP	**Alea Permanent**	**0.24**	**319**		Pg	20 28 43.4	0.0
ALEP					Sg	20 28 47.1	-0.1
HMH	**Humu'ula Sheep**	**0.24**	**358**		Pg	20 28 43.7	+0.3
HMH					Sg	20 28 47.6	+0.5
HMH	**Humu'ula Sheep** comp=N,3μm,0.3s	**0.24**	**358**	IAML		20 28 47.8	
HMH	comp=E,2μm,0.2s			IAML		20 28 49.9	
KNHH	**Kane Nui o Ham**	**0.29**	**86**		Pg	20 28 43.7	-0.3
KNHH					Sb	20 28 49.6	-0.1
NPOC	**North of Pu'u** comp=E,2μm,0.4s	**0.34**	**84**	IAML		20 28 50.8	
NPOC	**North of Pu'u**	**0.34**	**84**		Pg	20 28 45.1	+0.1
NPOC					Sg	20 28 50.2	+0.5
JCUZ	**Jacuzzi** comp=N,997nm,0.3s	**0.35**	**86**	IAML		20 28 50.8	
JCUZ	comp=E,2μm,0.2s			IAML		20 28 51.0	
JCUZ	**Jacuzzi**	**0.35**	**86**		Pg	20 28 45.2	+0.1
JCUZ					Sg	20 28 50.7	+0.7
POHA	**Pohakuloa**	**0.40**	**352**		Pg	20 28 46.4	+0.3
POHA					Sb	20 28 52.4	-0.7
POHA	**Pohakuloa** comp=E,1μm,0.2s	**0.40**	**352**	IAML		20 28 53.1	
POHA	comp=E,2μm,0.5s			IAML		20 28 56.7	
CPH	**Captain Cook**	**0.44**	**287**		Pg	20 28 46.6	-0.1
CPH					Sb	20 28 53.4	-0.6
JOKA	**Jonika Flow**	**0.45**	**80**		Pg	20 28 46.4	-0.5
JOKA					Sg	20 28 52.9	0.0
HUH	**Hualalai**	**0.47**	**314**		Pb	20 28 47.9	-0.4
HPAH	**Hawaii Prepara**	**0.70**	**343**		Sg	20 29 00.0	-0.9
HPAH	**Hawaii Prepara**	**0.70**	**343**		Pg	20 28 50.6	-1.1
HLK	**Haleakala**	**1.57**	**333**	Pn	Pn	20 29 06.0	+0.2
KHLH	**Kahului Airpor**	**1.77**	**330**	Pn	Pn	20 29 09.2	+0.9

*SEA **17** 20:28:43.6±1.5, 47.24N±0.02×122.40W±0.03, h25km±6km, ML1.9/31, ML1.8/12(NEIC), Error ellipse: s-maj=3.9km s-min=1.6km az=211.0*

NEIC 17 20:28:42.9±1.1, 47.24N±0.03×122.41W±0.03, h28km±2km, Error ellipse: s-maj=4.2km s-min=3.2km az=196.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHW	**Garrison Hill**	**0.22**	**154**		Pb	20 28 48.9	-0.2
PCFR	**Pierce County**	**0.25**	**185**		Sb	20 28 54.3	+0.5
B941	**Kapowsin**	**0.28**	**153**		Pb	20 28 49.9	0.0
B941					Sb	20 28 54.2	-0.4
D05A	**Enumclaw**	**0.29**	**99**		Pb	20 28 50.4	+0.4
D05A					Sb	20 28 55.7	+0.8
D05A	**Enumclaw** comp=E,91nm,0.5s	**0.29**	**99**	IAML		20 28 56.0	
D05A	comp=N,59nm,0.4s			IAML		20 28 56.2	
GMW	**Gold Mountain**	**0.40**	**321**		Pb	20 28 51.5	-0.2
GSM	**Grass Mountain**	**0.42**	**94**		Pb	20 28 52.0	-0.1
GNW	**Green Mountain**	**0.43**	**319**		Pb	20 28 51.9	-0.3
GNW					Sb	20 28 58.5	-0.1
RATT	**Rattlesnake La**	**0.45**	**65**		Pb	20 28 52.3	-0.3
RATT					Sb	20 28 59.1	0.0
CDMR	**Cedar Moraine**	**0.48**	**67**		Sb	20 29 00.1	+0.3
OBSR	**Observation Ro**	**0.53**	**129**		Pb	20 28 53.7	-0.2
REMR	**Mount Rainier-**	**0.57**	**137**		Pb	20 28 54.1	-0.4
FMW	**Mount Fremont**	**0.59**	**121**		Pb	20 28 54.4	-0.5
HDW	**Hoodsport**	**0.60**	**314**		Pb	20 28 54.6	-0.4
HDW					Sb	20 29 03.3	0.0
C04A	**Brinnon**	**0.61**	**322**		Pb	20 28 54.7	-0.4
C04A					Sb	20 29 03.6	+0.1
RRHS	**Rochester High**	**0.61**	**225**		Pn	20 28 56.8	+1.0
LON	**Longmire**	**0.64**	**140**		Pb	20 28 55.1	-0.5
LON				Sn	Sb	20 29 03.1	-1.0
LON	comp=N,28nm,0.2s			IAML		20 29 04.0	
LON	**Longmire**	**0.64**	**140**		Pb	20 28 55.0	-0.5
SMW	**South Mountain**	**0.64**	**278**		Pn	20 28 56.3	+0.1
PANH	**Panhandle Gap,**	**0.65**	**126**		Pb	20 28 55.5	-0.3
SR41	**SR410 Landslid**	**0.69**	**120**		Pb	20 28 56.0	-0.5
KOSW	**Kosmos**	**0.79**	**169**		Pb	20 28 57.8	-0.3
WPW	**White Pass**	**0.80**	**132**		Pb	20 28 58.0	-0.3
GLK	**Glacier Lake**	**0.87**	**141**		Pn	20 28 59.1	-0.3
ERK	**Elk Rock**	**0.93**	**177**		Pn	20 28 59.8	-0.4
B201	**Coldwater, Mou**	**0.94**	**174**		Pn	20 28 60.0	-0.3
BMW	**Boistfort Moun**	**0.95**	**217**		Pn	20 29 00.4	0.0
NLWA	**Neilton Lookou**	**1.01**	**279**	Pn	Pb	20 29 02.2	+0.4
NLWA	comp=N,22nm,2.3s			IAML		20 29 20.6	
NLWA	comp=N,34nm,2.7s			IAML		20 29 39.1	
STD	**Studebaker Rid**	**1.01**	**173**		Pn	20 29 01.2	-0.1
B202	**Windy Ridge, M**	**1.01**	**169**		Pn	20 29 01.0	-0.3
SOSW	**Source of Smit**	**1.01**	**169**		Pn	20 29 01.3	0.0
JCW	**Jim Creek**	**1.01**	**18**		Pn	20 29 01.2	-0.1
BOLM	**Sugar Bowl**	**1.03**	**171**		Pn	20 29 02.0	+0.2
FL2	**Flat Top 2**	**1.04**	**178**		Pn	20 29 01.7	-0.1
SEPW	**September Lobe**	**1.05**	**172**		Pn	20 29 02.2	+0.2
E03A	**Lebam**	**1.05**	**229**	Pn	Pb	20 29 02.2	-0.2
E03A	comp=N,37nm,1.6s			IAML		20 29 19.9	
SHW	**Mount Saint He**	**1.05**	**174**		Pn	20 29 02.2	+0.2
SWF2	**Southwest Flan**	**1.07**	**173**		Pn	20 29 02.4	+0.2
B203	**Quarry, Mount**	**1.07**	**177**		Pn	20 29 02.0	0.0
HSR	**South Ridge**	**1.07**	**172**		Pb	20 29 03.0	0.0
RVW	**Rose Valley**	**1.11**	**192**		Pn	20 29 03.0	+0.3
CDFW	**Cedar Flats**	**1.15**	**167**		Pn	20 29 03.6	+0.4
LTY	**Liberty**	**1.18**	**88**	Pn	Pn	20 29 03.6	-0.1
LTY	comp=N,12nm,2.7s			IAML		20 29 20.7	
WRW	**Wenatchee Ridg**	**1.21**	**58**		Pb	20 29 05.0	-0.2
B023	**Clatskanie**	**1.22**	**203**		Pb	20 29 04.7	-0.6
MTMW	**Mount Mitchell**	**1.22**	**174**		Pb	20 29 05.0	-0.4
ASR	**Mount Adams--S**	**1.22**	**152**		Pb	20 29 04.9	-0.6
RPW	**Rockport**	**1.35**	**26**		Pb	20 29 07.0	-0.7
PGC	**Sidney**	**1.58**	**334**	Pn	Pn	20 29 09.1	+0.1
SHUK	**Shuksan-Mt. Ba**	**1.69**	**17**		Pb	20 29 12.5	-1.0
PGO	**Gresham**	**1.77**	**181**		Pb	20 29 17.9	+3.2
G06A	**Carlson Farm,**	**2.35**	**148**	Pn	Pn	20 29 20.5	+0.8

*IDC **17** 20:34:02.6±0.7, 8.85S×74.42W, h151km±6km, mb3.7/10, mbtmp4.1/14, MS4.5/1, Error ellipse: s-maj=22.3km s-min=13.8km az=36.0*

*VAO **17** 20:34:14.9±0.4, 8.73S×73.24W, h125km, mbR4.3*

ISC 17 20:34:02.0±0.5, 8.87S±0.07×74.51W±0.06, h145km, n35, σ1°38/41, mb4.0/10, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.12**	**58**	*e*P	**Pn**	**20 34 39.2**	**+0.9**
NNA	**Nana** 26nm,0.4s,baz=29,slow=15,SNR=11	**3.85**	**216**	P	**Pn**	**20 35 00.7**	**+0.5**
NNA	101nm,0.4s,baz=69,slow=14,SNR=9.6			S	**Sn**	**20 35 42.6**	**-2.9**
ATAH	**Atahualpa** 82nm,0.3s,baz=82,slow=6.8,SNR=124	**4.21**	**294**	P	**Pn**	**20 35 06.0**	**+0.6**
ATAH	26nm,0.4s,baz=105,slow=8.6,SNR=4.2			S	**Sn**	**20 35 50.5**	**-4.0**
TBTG	**Tabatinga, AM**	**6.53**	**45**	*e*P	**Pn**	**20 35 35.6**	**-0.1**
ETMB	**Extrema**	**8.24**	**97**	*e*P	**Pn**	**20 35 56.3**	**-2.4**
LPAZ	**La Paz** 0.6nm,0.3s,baz=333,slow=9.0,SNR=1.6	**9.65**	**140**	P	**Pn**	**20 36 19.1**	**+1.1**
VILB	**Vilhena**	**14.62**	**107**	*e*P	**Pn**	**20 37 20.9**	**-1.3**
MACA	**Manacapuru-AM**	**14.87**	**68**	*e*P	**Pn**	**20 37 24.2**	**-1.0**
SIV	**San Ignacio** 5.5nm,0.6s,baz=294,slow=10.0,SNR=28	**14.90**	**120**	P	**Pn**	**20 37 25.2**	**-0.4**
SIV	1.8nm,0.7s,baz=252,slow=20,SNR=2.1			S	Sn	20 40 01.4	-10
BBSD	**Serra de San D**	**15.86**	**123**	*e*P	**P**	**20 37 38.4**	**+0.2**
PTLB	**Pontes e Lacer**	**16.38**	**115**	*e*P	**P**	**20 37 45.3**	**+1.4**
PDRB	**Porto dos Gac**	**17.71**	**100**	*e*P	**P**	**20 37 59.3**	**+0.7**
BOAV	**Boa Vista**	**17.88**	**52**	*e*P	**Pn**	**20 38 01.9**	**0.0**
CLDB	**Colider**	**18.55**	**98**	*e*P	**P**	**20 38 07.7**	**-0.1**
NPGB	**Novo Progresso**	**19.06**	**86**	*e*P	**P**	**20 38 13.0**	**-0.3**
ITTB	**Itaituba**	**19.18**	**78**	*e*P	**P**	**20 38 15.6**	**+1.0**
MALB	**Monte Alegre**	**21.32**	**72**	*e*P	**P**	**20 38 39.9**	**+2.2**
SNDB	**Serra Nova Dou**	**23.04**	**100**	*e*P	**P**	**20 38 55.9**	**+1.1**
BDFB	**Brasilia** 1.7nm,0.4s,baz=194,slow=12,SNR=3.6 1.7nm,0.4s	**26.73**	**107**	P	**P**	**20 39 29.7**	**+1.4**
RIB01	**Linhares ES**	**34.61**	**111**	*e*P	P	20 40 43.5	+6.0
RCBR	**Riachuelo** 4.6nm,0.5s,baz=221,slow=19,SNR=4.1 4.6nm,0.5s	**38.40**	**88**	P	**P**	**20 41 07.0**	**-2.7**
USHA	**Ushuaia** comp=Z,570nm,18.7s,baz=346,slow=36	**46.09**	**175**	LR	LR	21 02 06.2	
TXAR	**Lajitas Array** 0.9nm,0.4s,baz=151,slow=8.7,SNR=21	**47.24**	**325**	P	**P**	**20 42 21.7**	**+0.9**
TXAR	0.3nm,0.5s,baz=149,slow=8.9,SNR=3.3 0.9nm,0.4s			pP	**pP**	**20 42 56.1**	**+2.4**
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=125,slow=7.9,SNR=2.6	**60.52**	**331**	P	**P**	**20 43 56.8**	**-0.3**
PDAR	0.4nm,0.8s,baz=140,slow=7.1,SNR=2.2 0.2nm,0.4s			pP	**pP**	**20 44 33.0**	**+1.4**
DBIC	**Dimbokro** 2.4nm,0.5s,baz=235,slow=4.4,SNR=5.7 2.4nm,0.5s	**71.12**	**80**	P	**P**	**20 45 04.4**	**-0.9**
YKA	**Yellowknife Ar** 5.6nm,1.2s,baz=123,slow=4.1,SNR=1.9	**77.57**	**342**	P	**P**	**20 45 40.9**	**-0.7**
YKA	0.8nm,0.5s,baz=138,slow=5.5,SNR=2.2 5.6nm,1.2s			pP	**pP**	**20 46 19.1**	**+1.5**
TORD	**Torodi Ar. Bea** 0.5nm,0.4s,baz=264,slow=3.7,SNR=5.8 0.5n

GVZ	Greta Valley S	0.41	194	P	Pb	20 36 22.0	+0.6
GVZ				S	Sn	20 36 29.4	-1.7
LTZ	Lake Taylor	0.69	252	P	Pb	20 36 25.9	-0.4
AMCZ	Amberley	0.71	212	P	Pn	20 36 27.7	-0.3
THZ	Tophouse	0.83	346	P	Pg	20 36 27.6	-1.1
BSWZ	Blackbirch Sta	1.01	32	P	Pn	20 36 31.9	-0.1
OXZ	Oxford	1.12	228	P	Pg	20 36 33.3	-0.8
CMWZ	Cape Campbell	1.13	44	P	Pg	20 36 35.5	+1.2
OKCZ	Okains Bay	1.15	184	P	Pb	20 36 34.1	0.0
MQZ	McQueen's Vall	1.19	198	P	Pn	20 36 33.7	-0.9
MRNZ	Matariki Terra	1.21	345	P	Pb	20 36 34.7	-0.5
TUWZ	Tuamarina	1.28	27	P	Pb	20 36 36.3	0.0
DSZ	Denniston Nort	1.31	309	P	Pg	20 36 36.6	-1.2
AKCZ	Akaroa Harbour	1.31	188	P	Pn	20 36 36.0	-0.2
NNZ	Nelson	1.36	7	P	Pn	20 36 36.9	0.0
RACZ	Rakaia	1.38	213	P	Pn	20 36 37.0	-0.2
MHCZ	Mount Hutt	1.52	230	P	Pn	20 36 38.8	-0.3
TKNZ	Takaka Hill	1.55	354	P	Pb	20 36 40.1	-0.8
TCW	Tory Channel	1.59	32	P	Pn	20 36 40.6	+0.5
WACZ	Wakanui South	1.68	215	P	Pn	20 36 41.1	-0.2
WEL	Wellington	1.75	43	P	Pn	20 36 43.1	+0.7
QRZ	Quartz Range	1.81	344	P	Pb	20 36 44.1	-1.2
PLWZ	Palliser	1.85	58	P	Pn	20 36 43.3	-0.4
DUWZ	D'Urville Isla	1.86	18	P	Pb	20 36 44.9	-1.2
WVZ	Waitaha Valley	1.86	254	P	Pn	20 36 42.9	-0.8
RPZ	Rata Peaks	1.92	233	Pn	Pn	20 36 44.4	-0.2
	52nm,0.3s,baz=26,slow=2.0,SNR=187						
RPZ				Sn	Sn	20 37 08.1	-0.5
	26nm,0.3s,baz=10,slow=19,SNR=22						
RPZ	Rata Peaks	1.92	233	P	Pn	20 36 44.5	-0.2
MSWZ	Moikau Station	1.93	54	P	Pn	20 36 44.6	-0.3
ARCZ	Arundel	2.00	226	P	Pn	20 36 45.4	-0.4
CAW	Cannon Point	2.04	45	P	Pn	20 36 46.4	+0.2
PAWZ	Paruwai Farm	2.06	55	P	Pn	20 36 46.0	-0.6
KIW	Kapiti Island	2.15	38	P	Pn	20 36 48.3	+0.5
GCSZ	Gaunt Creek Bo	2.22	249	P	Pn	20 36 49.6	+0.9
OGWZ	Otaki Gorge	2.31	41	P	Pn	20 36 50.1	+0.2
TMZ	Timaru	2.40	220	P	Pn	20 36 50.9	-0.3
HOWZ	Holdsworth Sta	2.43	47	P	Pn	20 36 51.5	-0.1
TMWZ	Te Maipa	2.51	55	P	Pn	20 36 51.7	-1.0
MRZ	Mangatainoka R	2.63	44	P	Pn	20 36 54.0	-0.4
FOZ	Fox Glacier	2.64	248	P	Pn	20 36 55.2	+0.8
LBZ	Lake Benmore	2.83	229	P	Pn	20 36 57.1	0.0
ODZ	Otahua Downs	3.07	216	P	Pn	20 36 59.9	-0.5
TSZ	Takapari Road	3.28	41	P	Pn	20 37 02.6	-0.7
KHEZ	Kahui Hut	3.34	11	P	Pn	20 37 07.4	+3.2
NBEZ	Newall Road No	3.34	9	P	Pn	20 37 07.3	+3.1
NEZ	North Egmont	3.37	12	P	Pb	20 37 08.5	-3.5
PKE	Pukeiti	3.43	11	P	Pn	20 37 08.2	+2.8
PNHZ	Pukenui	3.50	42	P	Pn	20 37 05.7	-0.7
JCZ	Jackson Bay	3.53	243	P	Pn	20 37 07.0	+0.1
MOVZ	Moawhango	3.72	33	P	Pb	20 37 13.9	-4.0
WNVZ	Wahianoa	3.73	30	P	Pn	20 37 11.2	+1.5
TRVZ	Turoa	3.73	30	P	Pn	20 37 12.5	+2.7
WKZ	Wanaka	3.76	232	P	Pn	20 37 09.2	-0.7
WHVZ	Whangaehu Hut	3.76	30	P	Pn	20 37 13.5	+3.3
FWVZ	Far West T-bar	3.77	29	P	Pn	20 37 13.3	+3.0
BHHZ	Black Hill Sta	3.78	36	P	Pn	20 37 11.0	+0.8
HHSZ	Highcliff Hill	3.79	208	P	Pn	20 37 10.0	-0.3
EAZ	Earnscleugh	3.85	225	P	Pn	20 37 10.5	-0.7
NGZ	Ngauruhoe	3.86	29	P	Pn	20 37 13.8	+2.4
SNVZ	South Ngauruho	3.87	30	P	Pn	20 37 13.1	+1.6
NNVZ	North Ngauruho	3.91	29	P	Pn	20 37 13.8	+1.7
WTVZ	West Tongariro	3.91	29	P	Pb	20 37 17.9	-3.3
KRVZ	Karewarewa	3.95	29	P	Pb	20 37 19.2	-2.6
TMVZ	Te Maari	3.95	30	P	Pb	20 37 17.6	-4.3
TUZ	Tuapeka	4.23	216	P	Pn	20 37 15.9	-0.4
HIZ	Hauiti	4.25	18	P	Pn	20 37 18.5	+1.8
MLZ	Mavora Lakes	4.59	231	P	Pn	20 37 21.3	-0.1
TLZ	Tolley Road	4.61	24	P	Pn	20 37 25.0	+3.4
SYZ	Scrubby Hill	4.90	215	P	Pn	20 37 25.3	-0.2
TOZ	Tahuroa Road	5.16	21	P	Pn	20 37 30.3	+1.3
AWAZ	Awhitu Peninsu	5.62	12	P	Pn	20 37 38.0	+2.6
APZ	The Paps	5.63	219	P	Pn	20 37 34.7	-1.0
MKAZ	Moumakai	5.67	16	P	Pn	20 37 37.5	+1.3
MBAZ	Motutapu North	5.95	14	P	Pn	20 37 41.4	+1.5
WIAZ	Waiheke Island	5.97	15	P	Pn	20 37 42.0	+1.7
ASAR	Alice Springs	37.49	288	P	P	20 43 25.3	-0.4
	0.5nm,0.5s,baz=128,slow=6.6,SNR=9.9						
ASAR				PcP	PcP	20 45 43.6	-0.3
	0.7nm,0.9s,baz=118,slow=3.7,SNR=3.0						
	0.5nm,0.5s						
WRA	Warramunga Arr	39.66	292	P	P	20 43 43.3	-0.6
	0.6nm,0.8s,baz=129,slow=8.4,SNR=4.8						
	0.6nm,0.8s						
QSPA	South Pole Qui	47.55	180	P	P	20 44 50.3	+3.2
	1.1nm,0.3s,baz=58,slow=3.9,SNR=4.4						
	1.1nm,0.3s						
CMAR	Chiang Mai Arr	91.23	294	P	P	20 49 18.3	+1.1
	0.3nm,0.6s,baz=153,slow=5.0,SNR=2.8						
	0.3nm,0.6s						
TORD	Torodi Ar. Bea	149.76	197	PKPbc	PKiKP	20 56 02.5	-0.5
	1.3nm,0.8s,baz=168,slow=2.7,SNR=5.4						

WEL 17 20:43:21.4±1.0, 42°S±4″×17°4E±″, h11km±8km, M2.7/8, ML2.7/6, MLv2.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=77.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.04	210	S	Sg	20 43 26.0	+0.9
CMWZ	Cape Campbell	0.04	210	P	Pg	20 43 23.5	0.0
TUWZ	Tuamarina	0.36	321	S	Sb	20 43 35.8	+0.4
TUWZ	Tuamarina	0.36	321	P	Pb	20 43 29.6	-0.2
TCW	Tory Channel	0.50	3	S	Sb	20 43 39.1	-0.4
TCW	Tory Channel	0.50	3	P	Pb	20 43 31.7	-0.5
PLWZ	Palliser	0.77	88	P	Pb	20 43 37.3	+0.4
MSWZ	Moikau Station	0.81	69	S	Sn	20 43 50.2	-0.6
MSWZ	Moikau Station	0.81	69	P	Pb	20 43 38.1	+0.6
NNZ	Nelson	0.81	307	P	Pb	20 43 37.8	+0.2
CAW	Cannon Point	0.86	46	S	Sn	20 43 53.1	+1.0
CAW	Cannon Point	0.86	46	P	Pg	20 43 37.8	-0.2
DUWZ	D'Urville Isla	0.94	345	S	Sn	20 43 54.3	+0.4
DUWZ	D'Urville Isla	0.94	345	P	Pn	20 43 40.6	+0.1
KIW	Kapiti Island	0.99	31	P	Pb	20 43 40.5	0.0
THZ	Tophouse	1.00	267	P	Pn	20 43 42.5	+1.1
MTW	Mount Morrison	1.09	60	S	Sn	20 43 58.5	+0.7
MTW	Mount Morrison	1.09	60	P	Pb	20 43 42.1	-0.2
OGWZ	Otaki Gorge	1.13	38	P	Pn	20 43 43.6	+0.4
MRNZ	Matariki Terra	1.16	285	P	Pg	20 43 44.6	+1.0
HOWZ	Holdsworth Sta	1.26	50	P	Pn	20 43 43.4	-1.5
QRZ	Quartz Range	1.57	304	P	Pg	20 43 51.3	-0.1
CNGZ	Carnagh Statio	4.43	45	P	Pn	20 44 33.7	+5.2

IDC 17 20:43:45.6±1.3, 42°.78S×172°.32E, h0km, mb3.8/3, mbtmp3.8/3, MS3.3/7, Error ellipse: s-maj=32.2km s-min=23.5km az=111.0

WEL 17 20:43:46.6±0.3, 43°S±2″×17°3E±″, h5km, M4.3/37, ML4.5/16, MLv4.3/37, Error ellipse: s-maj=0.0km s-min=0.0km az=87.8

NOU 17 20:43:46.6, 42°.98S×172°.65E, h11km, MLv4.7/12, South Island, New Zealand

NEIC 17 20:43:46.9±1.4, 42°.85S±0°.02×172°.55E±0°.03, h10km±2km, mb4.2/4, Error ellipse: s-maj=4.0km s-min=3.0km az=155.0

ISC 17 20:43:45.8±1.2, 42°.88S±0°.03×172°.60E±0°.03, h7km±8km, n170, σ1§49/176, mb4.2/5, MS3.2/7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	Lake Taylor	0.26	291		Pg	20 43 50.7	-0.3
LTZ	Lake Taylor	0.26	291	P	Pg	20 43 50.7	-0.3
LTZ	Lake Taylor	0.26	291	P	Pg	20 43 50.8	-0.3
LTZ				S	Sg	20 43 54.1	-0.4
AMCZ	Amberley	0.30	173		Pb	20 43 54.4	+0.9
AMCZ	Amberley	0.30	173	P	Pb	20 43 54.5	+0.9
AMCZ	Amberley	0.30	173	P	Pb	20 43 54.5	+1.0
AMCZ				S	Sb	20 44 00.8	+2.1
GVZ	Greta Valley S	0.33	106		Pb	20 43 54.8	+0.8
GVZ	Greta Valley S	0.33	106	P	Pb	20 43 54.8	+0.8
GVZ	Greta Valley S	0.33	106	P	Pb	20 43 54.9	+0.9
GVZ				S	Sb	20 44 01.0	+1.5
OXZ	Oxford	0.61	222		Pb	20 43 59.1	+0.3
OXZ				Sg	Sb	20 44 08.0	+0.3
OXZ	Oxford	0.61	222	P	Pb	20 43 59.1	+0.3
OXZ	Oxford	0.61	222	P	Pb	20 43 59.1	+0.3
KHZ	Kahutara	0.83	57		Pn	20 44 03.2	-0.6
KHZ	Kahutara	0.83	57	P	Pn	20 44 03.4	-0.4
MQZ	McQueen's Vall	0.83	178	Pg	Pb	20 44 02.9	+0.3
MQZ	McQueen's Vall	0.83	178	P	Pb	20 44 02.9	+0.3
MQZ	McQueen's Vall	0.83	178	P	Pn	20 44 03.4	-0.4
INZ	Inchbonnie	0.87	280		Pg	20 44 02.2	-0.2
INZ	Inchbonnie	0.87	280	P	Pg	20 44 02.3	-0.2
INZ	Inchbonnie	0.87	280	P	Pg	20 44 02.3	-0.2
OKCZ	Okains Bay	0.91	159	P	Pn	20 44 04.7	-0.3
OKCZ	Okains Bay	0.91	159	P	Pn	20 44 05.0	-0.1
RACZ	Rakaia	0.92	202	P	Pb	20 44 04.3	+0.3
RACZ	Rakaia	0.92	202	P	Pb	20 44 04.4	+0.4
MHCZ	Mount Hutt	1.00	229	P	Pb	20 44 05.4	-0.1
MHCZ	Mount Hutt	1.00	229	P	Pb	20 44 05.4	-0.1
AKCZ	Akaroa Harbour	1.02	167	P	Pb	20 44 06.2	+0.4
AKCZ	Akaroa Harbour	1.02	167	P	Pb	20 44 06.1	+0.4
THZ	Tophouse	1.14	11	Pn	Pg	20 44 06.7	-0.9
THZ	Tophouse	1.14	11	P	Pg	20 44 06.9	-0.6
WACZ	Wakanui South	1.20	207	P	Pb	20 44 08.2	-0.7
WACZ	Wakanui South	1.20	207	P	Pb	20 44 08.2	-0.7
DSZ	Denniston Nort	1.28	332		Pn	20 44 09.7	-0.3
DSZ	Denniston Nort	1.28	332	P	Pn	20 44 09.8	-0.3
WVZ	Waitaha Valley	1.39	261	P	Pn	20 44 11.5	0.0
WVZ	Waitaha Valley	1.39	261	P	Pn	20 44 11.5	0.0
RPZ	Rata Peaks	1.41	233	Pn	Pn	20 44 11.2	-0.7
	148nm,0.3s,baz=80,slow=1.2,SNR=510						
RPZ				Sn	Sb	20 44 29.8	-0.8
	462nm,0.3s,baz=24,slow=20,SNR=30						
RPZ	Rata Peaks	1.41	233	P	Pn	20 44 11.3	-0.6
RPZ	Rata Peaks	1.41	233	P	Pn	20 44 11.2	-0.7
RPZ	Rata Peaks	1.41	233	P	Pn	20 44 11.2	-0.7
MRNZ	Matariki Terra	1.48	4		Pn	20 44 13.1	+0.2
MRNZ	Matariki Terra	1.48	4	P	Pb	20 44 13.5	-0.1
ARCZ	Arundel	1.49	224	P	Pn	20 44 12.2	-0.9
ARCZ	Arundel	1.49	224	P	Pn	20 44 12.6	-0.4
CMWZ	Cape Campbell	1.64	47		Pb	20 44 15.9	-0.5
GCSZ	Gaunt Creek Bo	1.73	254	P	Pn	20 44 16.5	+0.3
GCSZ	Gaunt Creek Bo	1.73	254	P	Pn	20 44 16.5	+0.3
NNZ	Nelson	1.75	19		Pb	20 44 17.6	-0.7
NNZ	Nelson	1.75	19	P	Pn	20 44 17.4	+0.8
TUWZ	Tuamarina	1.75	35		Pn	20 44 16.8	+0.2
TUWZ	Tuamarina	1.75	35	P	Pn	20 44 17.2	+0.6
TUWZ				S	Sb	20 44 40.7	+0.2
TKNZ	Takaka Hill	1.86	8		Pn	20 44 18.8	+0.8
TMZ	Timaru	1.90	217	P	Pn	20 44 17.8	-0.9
QRZ	Quartz Range	2.05	358		Pn	20 44 20.7	0.0
QRZ	Quartz Range	2.05	358	P	Pn	20 44 21.0	+0.4
TCW	Tory Channel	2.08	37		Pn	20 44 20.8	-0.2
TCW	Tory Channel	2.08	37	P	Pn	20 44 21.1	0.0
FOZ	Fox Glacier	2.14	251		Pn	20 44 21.8	-0.1
FOZ	Fox Glacier	2.14	251	P	Pn	20 44 22.3	+0.4
SNZO	South Karori	2.21	46		Pn	20 44 22.6	-0.3
WEL	Wellington	2.26	46	P	Pn	20 44 23.6	0.0
DUWZ	D'Urville Isla	2.29	26	P	Pn	20 44 25.2	+1.2
LBZ	Lake Benmore	2.32	229		Pn	20 44 23.6	-0.7
LBZ	Lake Benmore	2.32	229	P	Pn	20 44 23.7	-0.7
PLWZ	Palliser	2.36	57		Pn	20 44 23.9	-1.1
PLWZ	Palliser	2.36	57	P	Pn	20 44 24.0	-1.0
MSWZ	Moikau Station	2.45	54		Pn	20 44 25.2	-1.0
MSWZ	Moikau Station	2.45	54	P	Pn	20 44 25.2	-1.0
MSWZ				S	Sn	20 44 54.3	-2.0
CAW	Cannon Point	2.55	47	P	Pn	20 44 26.8	-0.7
CAW				S	Sn	20 44 56.1	-2.7
PAWZ	Paruwai Farm	2.58	56	P	Pn	20 44 26.6	-1.3
PAWZ				S	Sn	20 44 56.2	-3.3
ODZ	Otahua Downs	2.59	212		Pn	20 44 27.3	-0.8
ODZ	Otahua Downs	2.59	212	P	Pn	20 44 27.3	-0.8
ODZ	Otahua Downs	2.59	212	P	Pn	20 44 27.0	-1.1
KIW	Kapiti Island	2.65	41	P	Pn	20 44 28.7	-0.2
TRWZ	Traveller	2.73	58	P	Pn	20 44 29.6	-0.3
TRWZ				S	Sn	20 45 00.3	-2.9
MTW	Mount Morrison	2.76	52	P	Pn	20 44 30.6	+0.2
OGWZ	Otaki Gorge	2.81	44	P	Pn	20 44 30.5	-0.7
HOWZ	Holdsworth Sta	2.94	49	P	Pn	20 44 31.8	-1.1
TMWZ	Te Maipa	3.02	55	P	Pn	20 44 34.6	+0.6
JCZ	Jackson Bay	3.03	245	P	Pn	20 44 34.2	0.0
JCZ	Jackson Bay	3.03	245	P	Pn	20 44 33.9	-0.3
MRZ	Mangatainoka R	3.14	46		Pn	20 44 34.3	-1.4
MRZ	Mangatainoka R	3.14	46	P	Pn	20 44 34.4	-1.2
MRZ				S	Sn	20 45 10.8	-2.5
WKZ	Wanaka	3.25	232		Pn	20 44 35.6	-1.5
WKZ	Wanaka	3.25	232	P	Pn	20 44 35.9	-1.2
HHSZ	Highcliff Hill	3.33	205	P	Pn	20 44 37.4	-0.9
EAZ	Earnscleugh	3.34	224	P	Pn	20 44 37.0	-1.5
PRWZ	Pori Road	3.42	49	P	Pn	20 44 39.0	-0.5
POWZ	Post Office Ro	3.43	45	P	Pn	20 44 38.6	-1.0
BFZ	Birch Farm	3.50	52		Pn	20 44 40.1	-0.4
BFZ	Birch Farm	3.50	52	P	Pn	20 44 40.6	0.0
BFZ	Birch Farm	3.50	52	P	Pn	20 44 40.5	0.0
NMEZ	Namu Road	3.59	16	P	Pn	20 44 44.8	+3.0
WAZ	Wanganui	3.60	31	P	Pn	20 44 43.5	+1.6
LREZ	Lake Rotokare	3.67	22	P	Pn	20 44 45.9	+3.0
DVHZ	Dannevirke	3.71	47	P	Pn	20 44 41.4	-2.1
PREZ	Palmer Road	3.72	19	P	Pn	20 44 47.0	+3.3
NBEZ	Newall Road No	3.73	15	P	Pn	20 44 46.6	+2.9
KHEZ	Kahui Hut	3.73	17	P	Pn	20 44 46.5	+2.6
KHEZ	Kahui Hut	3.73	17	P	Pn	20 44 46.5	+2.6
TUZ	Tuapeka	3.74	214	P	Pn	20 44 43.1	-0.8
NEZ	North Egmont	3.77	18	P	Pn	20 44 48.2	+3.8
TSZ	Takapari Road	3.78	43	P	Pn	20 44 43.0	-1.4
PKE	Pukeiti	3.82	15	P	Pn	20 44 47.2	+2.1
DREZ	Duram Road	3.88	19	P	Pn	20 44 49.5	+3.8
PNHZ	Pukenui	4.01	44	P	Pn	20 44 47.2	-0.5
MLZ	Mavora Lakes	4.08	231		Pn	20 44 47.0	-1.6
MLZ	Mavora Lakes	4.08	231	P	Pn	20 44 47.0	-1.6
MLZ	Mavora Lakes	4.08	231	P	Pn	20 44 47.0	-1.6
VRZ	Vera Road	4.09	24	P	Pn	20 44 50.2	+1.5
PKVZ	Pokaka	4.14	31	P	Pn	20 44 51.2	+1.8
MOVZ	Moawhango	4.20	36	P	Pn	20 44 50.5	+0.2
WNVZ	Wahianoa	4.21	34	P	Pn	20 44 50.6	+0.2
TRVZ	Turoa	4.21	33	P	Pn	20 44 50.8	+0.2
WHVZ	Whangaehu Hut	4.24	33	P	Pn	20 44 51.1	+0.2
FWVZ	Far West T-bar	4.25	33	P	Pn	20 44 51.1	0.0
BHHZ	Black Hill Sta	4.27	39	P	Pn	20 44 50.6	-0.6
NGZ	Ngauruhoe	4.34	33	P	Pn	20 44 52.7	+0.5
SNVZ	South Ngauruho	4.34	33	P	Pn	20 44 52.8	+0.5
TWVZ	Taurewa	4.36	30	P	Pn	20 44 55.2	+2.6
OTVZ	Oturere	4.37	33	P	Pn	20 44 54.4	+3.6
NNVZ	North Ngauruho	4.38	32	P	Pn	20 44 53.2	+0.3
WTVZ	West Tongariro	4.38	32	P	Pn	20 44 54.5	+1.6
SYZ	Scrubby Hill	4.42	213	P	Pn	20 44 52.3	-0.8
SYZ	Scrubby Hill	4.42	213	P	Pn	20 44 52.4	-0.7
KRVZ	Karewarewa	4.42	32	P	Pn	20 44 55.5	+2.1
TMVZ	Te Maari	4.43	33	P	Pn	20 44 53.5	0.0
NTVZ	North Tongarir	4.43	33	P	Pn	20 44 56.0	+2.5
KAHZ	Kahuranaki	4.45	48	P	Pn	20 44 53.3	-0.5
KWHZ	Kaweka Forest	4.49	41	P	Pn	20 44 58.3	+4.0
WHZ	Wether Hill Ro	4.50	226		Pn	20 44 51.5	-2.8
WHZ	Wether Hill Ro	4.50	226	P	Pn	20 44 51.8	-2.5
KATZ	Kakaramea	4.55	32	P	Pn	20 44 58.7	+3.6
HIZ	Hauiti	4.68	22		Pn	20 44 57.4	+0.5
HIZ	Hauiti	4.68	22	P	Pn	20 44 58.7	+1.9
HIZ	Hauiti	4.68	22	P	Pn	20 44 57.9	+1.0
DCZ	Deep Cove	4.70	235		Pn	20 44 55.3	-1.8
DCZ	Deep Cove	4.70	235	P	Pn	20 44 55.6	-1.4
BKZ	Black Stump Fm	4.73	40		Pn	20 44 56.5	-1.0
BKZ	Black Stump Fm	4.73	40	P	Pn	20 44 56.5	-1.0
TLZ	Tolley Road	5.06	27	P	Pn	20 45 03.8	+1.7
APZ	The Paps	5.14	218	P	Pn	20 45 00.9	-2.2
PYZ	Puysegur Point	5.36	230		Pn	20 45 03.6	-2.5
PYZ	Puysegur Point	5.36	230	P	Pn	20 45 06.5	+0.3
	178nm,1.0s						
PYZ	Puysegur Point	5.36	230	P	Pn	20 45 04.0	-2.1
TOZ	Tahuroa Road	5.59	24	P	Pn	20 45 11.3	+2.0
AWAZ	Awhitu Peninsu	6.01	16	P	Pn	20 45 18.6	+3.5
MKAZ	Moumakai	6.09	20	P	Pn	20 45 17.2	+1.0
MBAZ	Motutapu North	6.35	17	P	Pn	20 45 24.2	+4.5
WIAZ	Waiheke Island	6.38	19	P	Pn	20 45 22.4	+2.2
KUZ	Kuaotunu	6.58	22	P	Pn	20 45 25.1	+2.3
KUZ	Kuaotunu	6.58	22	P	Pn	20 45 25.6	+2.8
OUZ	Omahuta	7.68	6	Pn	Pn	20 45 36.9	-1.1
OUZ	Omahuta	7.68	6	P	Pn	20 45 39.6	+1.6
DZM	Mont Dzumac	21.37	344	LR	LR	20 56 07.7	
	comp=Z,79nm,20.2s,baz=176,slow=35						
STKA	Stephens Creek	26.83	284	LR	LR	20 59 25.3	
	comp=Z,62nm,18.3s,baz=193,slow=35						
RAR	Rarotonga	31.61	56	LR	LR	20 59 48.5	
	comp=Z,41nm,21.2s,baz=194,slow=30						
VNDA	Vanda	35.03	184	LR	LR	21 01 05.1	
	comp=Z,62nm,21.1s,baz=308,slow=30						
ASAR	Alice Springs	37.19	288	P	P	20 50 56.9	-0.7
	0.5nm,0.5s,baz=128,slow=7.1,SNR=17						
ASAR				LR	LR	21 07 30.8	
	comp=Z,39nm,18.2s,baz=120,slow=39						
	0.5nm,0.5s						
WB2	Warramunga Arr	39.38	293	P	P	20 51 15.8	-0.3
WRAB	Tennant Creek	39.39	293	P	P	20 51 13.9	-2.2
WRAB				IAmb	IAmb	20 51 26.3	
	comp=Z,7.1nm,1.2s						
WRA	Warramunga Arr	39.39	293	P	P	20 51 15.0	-1.1
	comp=Z,0.6nm,0.7s,baz=134,slow=7.8,SNR=8.1						
WRA				LR	LR	21 08 12.8	
	comp=Z,54nm,18.4s,baz=110,slow=38						
	comp=Z,0.6nm,0.7s						
WRA	Warramunga Arr	39.39	293	P	P	20 51 15.1	-1.1
WB0	Warramunga Arr	39.48	294	P	P	20 51 16.5	-0.4
WB0				IAmb	IAmb	20 51 26.0	
	comp=Z,6.4nm,1.1s						
QSPA	South Pole Qui	47.25	180	P	P	20 52 22.5	+3.2
	comp=Z,3.5nm,1.0s,baz=39,slow=5.5,SNR=2.8						
	comp=Z,3.5nm,1.0s						
KAPI	Kappang	59.93	293	LR	LR	21 20 31.1	
	comp=Z,33nm,18.4s,baz=132,slow=37						
ARCES	ARCESS Array B	148.40	339	PKPbc	PKPbc	21 03 32.1	+0.4
	comp=Z,4.0nm,1.0s,baz=32,slow=3.6,SNR=1.9						
TORD	Torodi Ar. Bea	149.35	198	PKPbc	PKPbc	21 03 34.7	-1.0
	comp=Z,0.8nm,0.4s,baz=170,slow=2.3,SNR=11						
FINES	FINESS Array B	152.77	325	PKPbc	PKPbc	21 03 42.1	-0.2
	comp=Z,1.9nm,0.8s,baz=47,slow=2.5,SNR=4.0						
AKASG	Malin Array Be	153.95	300	PKPbc	PKiKP	21 03 47.0	+1.8
	comp=Z,0.2nm,0.3s,baz=73,slow=2.9,SNR=1.7						

WEL 17 20:48:53.2±0.4, 42°S±2″×17°4E±″, h9km±3km, M3.6/34, ML3.9/16, MLv3.6/34, Error ellipse: s-maj=0.0km s-min=0.0km az=126.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.07	199	P	Pg	20 48 55.7	+0.5
CMWZ				S	Sg	20 48 58.2	+1.4
TUWZ	Tuamarina	0.34	318	P	Pb	20 49 00.7	-0.7
TUWZ				S	Sb	20 49 06.6	-0.3
TCW	Tory Channel	0.47	3	P	Pg	20 49 02.9	+0.5
TCW				S	Sb	20 49 09.8	-0.9
WEL	Wellington	0.56	45	P	Pb	20 49 04.7	-0.5
WEL				S	Sb	20 49 13.3	0.0
PLWZ	Palliser	0.77	82	P	Pb	20 49 08.8	0.0
NNZ	Nelson	0.80	305	P	Pg	20 49 08.8	+0.2
NNZ				S	Sg	20 49 19.5	+0.5
MSWZ	Moikau Station	0.80	71	P	Pb	20 49 09.1	-0.2
CAW	Cannon Point	0.85	47	P	Pg	20 49 09.6	+0.2
KHZ	Kahutara	0.90	215	P	Pg	20 49 10.7	+0.2
DUWZ	D'Urville Isla	0.91	344	P	Pg	20 49 10.7	0.0
PAWZ	Paruwai Farm	0.94	72	P	Pg	20 49 11.3	0.0
KIW	Kapiti Island	0.96	32	P	Pg	20 49 11.5	-

WEL ***17*** *20:50:00.0, 42.29°S × 173.81°E, h10km, ML4.2, Mw4.1, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}1.15; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$-0.67; $M_{r\theta}$0.32; $M_{\theta\phi}$-1.09; $M_{r\phi}$0.65; Fault plane solution: $M_0$1.60000 × 10^{15} NP1: ϕ_s238.00000°, δ34.00000°, λ114.00000°. NP2: ϕ_s30.00000°, δ59.00000°, λ75.00000°. Principal axes: T -183.2500, Plg72.0000°, Azm265.0000°; N 47.4200, Plg13.0000°, Azm38.0000°; P 135.8300, Plg13.0000°, Azm131.0000°;*

IDC ***17*** *20:50:08.1±1.5, 42.22°S × 173.82°E, h0km, mb4.1/3, mbtmp4.2/4, ML4.9/1, MS2.6/1 Error ellipse: s-maj=46.4km s-min=38.2km az=166.0*

NOU ***17*** *20:50:09.5, 42.52°S × 173.94°E, h0km, MLv4.8/7, South Island, New Zealand*

WEL ***17*** *20:50:11.5±0.4, 42.3°S × 17.4°E, h12km, M4.1/37, ML4.5/12, MLv4.1/37, Error ellipse: s-maj=0.0km s-min=0.0km az=128.9*

ISC 17 20:50:10.4±0.7, **42.36S**±0.03 × **173.92E**±0.03, **h21**km, **n84, σ1§16/89, mb4.1/3, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**258**	P	**Pb**	**20 50 16.8**	**0.0**
KHZ				S	**Sb**	**20 50 20.9**	**-0.5**
CMWZ	**Cape Campbell**	**0.65**	**20**	P	**Pn**	**20 50 24.8**	**+0.5**
GVZ	**Greta Valley S**	**0.89**	**227**	P	**Pn**	**20 50 28.8**	**+1.1**
TUWZ	**Tuamarina**	**0.93**	**1**	P	**Pn**	**20 50 28.2**	**0.0**
THZ	**Tophouse**	**0.96**	**308**	P	**Pb**	**20 50 27.7**	**-0.6**
THZ				S	**Sb**	**20 50 39.7**	**-0.9**
TCW	**Tory Channel**	**1.18**	**13**	P	**Pb**	**20 50 32.0**	**0.0**
TCW				S	**Sn**	**20 50 48.2**	**+1.2**
NNZ	**Nelson**	**1.21**	**340**	P	**Pn**	**20 50 32.3**	**+0.3**
AMCZ	**Amberley**	**1.24**	**228**	P	**Pn**	**20 50 33.5**	**+0.5**
WEL	**Wellington**	**1.25**	**31**	P	**Pb**	**20 50 33.6**	**+0.5**
PLWZ	**Palliser**	**1.27**	**52**	P	**Pb**	**20 50 33.5**	**-0.1**
LTZ	**Lake Taylor**	**1.29**	**250**	P	**Pb**	**20 50 33.9**	**0.0**
MRNZ	**Matariki Terra**	**1.29**	**317**	P	**Pb**	**20 50 34.0**	**+0.1**
MSWZ	**Moikau Station**	**1.37**	**47**	P	**Pb**	**20 50 34.7**	**-0.6**
PAWZ	**Paruwai Farm**	**1.49**	**50**	P	**Pn**	**20 50 36.1**	**+0.2**
OKCZ	**Okains Bay**	**1.50**	**204**	P	**Pb**	**20 50 37.1**	**-0.5**
TKNZ	**Takaka Hill**	**1.50**	**331**	P	**Pb**	**20 50 37.3**	**-0.3**
CAW	**Cannon Point**	**1.52**	**35**	P	**Pn**	**20 50 36.8**	**+0.5**
DUWZ	**D'Urville Isla**	**1.56**	**0**	P	**Pb**	**20 50 37.9**	**-0.5**
TRWZ	**Traveller**	**1.63**	**55**	P	**Pn**	**20 50 38.1**	**+0.2**
MQZ	**McQueen's Vall**	**1.64**	**214**	P	**Pn**	**20 50 37.9**	**0.0**
KIW	**Kapiti Island**	**1.67**	**27**	P	**Pb**	**20 50 39.7**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.68**	**206**	P	**Pb**	**20 50 39.7**	**-1.0**
MTW	**Mount Morrison**	**1.69**	**45**	P	**Pn**	**20 50 38.8**	**+0.3**
OXZ	**Oxford**	**1.69**	**234**	P	**Pn**	**20 50 38.8**	**+0.2**
DSZ	**Denniston Nort**	**1.69**	**291**	P	**Pb**	**20 50 41.0**	**+0.2**
OGWZ	**Otaki Gorge**	**1.80**	**32**	P	**Pb**	**20 50 41.0**	**+0.8**
QRZ	**Quartz Range**	**1.85**	**325**	P	**Pb**	**20 50 43.1**	**-0.4**
QRZ	**Quartz Range**	**1.85**	**325**	P	**Pb**	**20 50 42.8**	**-0.7**
INZ	**Inchbonnie**	**1.86**	**258**	P	**Pn**	**20 50 41.8**	**+0.8**
HOWZ	**Holdsworth Sta**	**1.89**	**40**	P	**Pn**	**20 50 41.9**	**+0.5**
RACZ	**Rakaia**	**1.89**	**223**	P	**Pn**	**20 50 41.7**	**+0.3**
MHCZ	**Mount Hutt**	**2.09**	**235**	P	**Pn**	**20 50 44.2**	**0.0**
MRZ	**Mangatainoka R**	**2.10**	**37**	P	**Pn**	**20 50 44.8**	**+0.5**
TIWZ	**Tintock**	**2.16**	**44**	P	**Pn**	**20 50 46.2**	**+1.0**
WACZ	**Wakanui South**	**2.20**	**223**	P	**Pn**	**20 50 46.0**	**+0.4**
PRWZ	**Pori Road**	**2.37**	**41**	P	**Pb**	**20 50 52.3**	**0.0**
BFZ	**Birch Farm**	**2.42**	**47**	P	**Pn**	**20 50 48.7**	**0.0**
WVZ	**Waitaha Valley**	**2.45**	**252**	P	**Pn**	**20 50 50.0**	**+0.9**
RPZ	**Rata Peaks**	**2.50**	**236**	Pn	**Pn**	**20 50 49.8**	**+0.1**
	262nm,0.3s,baz=81,slow=2.5,SNR=173						
RPZ				Sn	**Sn**	**20 51 18.5**	**-1.2**
	118nm,0.3s,baz=34,slow=21,SNR=21						
RPZ				LR	LR	20 51 57.0	
	comp=Z,122nm,19.7s,baz=1.0,slow=43						
	750nm,0.4s						
RPZ	**Rata Peaks**	**2.50**	**236**	P	**Pn**	**20 50 49.9**	**+0.1**
RPZ	**Rata Peaks**	**2.50**	**236**	P	**Pn**	**20 50 49.8**	**+0.1**
ARCZ	**Arundel**	**2.56**	**231**	P	**Pn**	**20 50 50.6**	**0.0**
TSZ	**Takapari Road**	**2.77**	**35**	P	**Pn**	**20 50 53.8**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**2.81**	**249**	P	**Pn**	**20 50 55.3**	**+1.2**
TMZ	**Timaru**	**2.93**	**225**	P	**Pn**	**20 50 56.6**	**+0.8**
NBEZ	**Newall Road No**	**3.09**	**359**	P	**Pb**	**20 51 03.3**	**-1.2**
PKE	**Pukeiti**	**3.16**	**1**	P	**Pb**	**20 51 03.5**	**-2.3**
FOZ	**Fox Glacier**	**3.23**	**247**	P	**Pn**	**20 51 01.1**	**+1.3**
MOVZ	**Moawhango**	**3.26**	**26**	P	**Pn**	**20 51 03.1**	**+2.8**
VRZ	**Vera Road**	**3.29**	**11**	P	**Pn**	**20 51 03.2**	**+2.5**
WHVZ	**Whangaehu Hut**	**3.32**	**23**	P	**Pb**	**20 51 05.3**	**-3.4**
LBZ	**Lake Benmore**	**3.39**	**232**	P	**Pn**	**20 51 02.7**	**+0.6**
NGZ	**Ngauruhoe**	**3.43**	**22**	P	**Pn**	**20 51 06.5**	**+3.8**
OTVZ	**Oturere**	**3.46**	**23**	P	**Pb**	**20 51 10.4**	**-0.6**
WTVZ	**West Tongariro**	**3.48**	**22**	P	**Pb**	**20 51 11.2**	**-0.1**
ODZ	**Otahua Downs**	**3.58**	**220**	P	**Pn**	**20 51 05.1**	**+0.4**
ODZ	**Otahua Downs**	**3.58**	**220**	P	**Pn**	**20 51 04.9**	**+0.2**
ARHZ	**Aropaoanui**	**3.87**	**38**	P	**Pn**	**20 51 12.1**	**+3.5**
HIZ	**Hauiti**	**3.91**	**11**	P	**Pb**	**20 51 14.6**	**-4.0**
JCZ	**Jackson Bay**	**4.12**	**244**	P	**Pn**	**20 51 13.0**	**+0.8**
JCZ	**Jackson Bay**	**4.12**	**244**	P	**Pn**	**20 51 13.0**	**+0.8**
HHSZ	**Highcliff Hill**	**4.26**	**213**	P	**Pn**	**20 51 14.4**	**+0.4**
WKZ	**Wanaka**	**4.33**	**234**	P	**Pn**	**20 51 14.4**	**-0.6**
EAZ	**Earnscleugh**	**4.40**	**228**	P	**Pn**	**20 51 16.0**	**0.0**
TUZ	**Tuapeka**	**4.74**	**219**	P	**Pn**	**20 51 21.5**	**+1.0**
TOZ	**Tahuroa Road**	**4.78**	**15**	P	**Pn**	**20 51 22.3**	**+1.2**
MLZ	**Mavora Lakes**	**5.16**	**232**	P	**Pn**	**20 51 26.4**	**0.0**
AWAZ	**Awhitu Peninsu**	**5.32**	**6**	P	**Pn**	**20 51 30.5**	**+2.0**
MKAZ	**Moumakai**	**5.33**	**11**	P	**Pn**	**20 51 29.9**	**+1.2**
SYZ	**Scrubby Hill**	**5.40**	**218**	P	**Pn**	**20 51 29.7**	**+0.1**
SYZ	**Scrubby Hill**	**5.40**	**218**	P	**Pn**	**20 51 30.2**	**+0.6**
ETAZ	**East Tamaki Re**	**5.45**	**9**	P	**Pn**	**20 51 32.7**	**+2.3**
WIAZ	**Waiheke Island**	**5.64**	**10**	P	**Pn**	**20 51 34.6**	**+1.7**
APZ	**The Paps**	**6.16**	**221**	P	**Pn**	**20 51 40.3**	**+0.2**
CTZ	**Chatham Island**	**7.07**	**104**	P	**Pn**	**20 51 52.9**	**+0.4**
CTZ	**Chatham Island**	**7.07**	**104**	P	**Pn**	**20 51 52.8**	**+0.3**
OUZ	**Omahuta**	**7.13**	**358**	P	Pn	20 51 58.4	+5.0
ASAR	**Alice Springs**	**37.96**	**287**	P	**P**	**20 57 26.3**	**-0.3**
	0.8nm,0.5s,baz=128,slow=6.7,SNR=16						
ASAR				PcP	**PcP**	**20 59 42.2**	**0.0**
	0.4nm,0.7s,baz=128,slow=3.9,SNR=2.4						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**40.09**	**291**	P	**P**	**20 57 44.1**	**-0.3**
	3.0nm,0.7s,baz=130,slow=7.7,SNR=27						
WRA				PcP	**PcP**	**20 59 50.1**	**+1.2**
	0.2nm,0.8s,baz=121,slow=4.6,SNR=1.6						
	3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.65**	**293**	P	**P**	**21 03 17.6**	**+1.5**
	0.5nm,0.5s,baz=150,slow=3.2,SNR=3.3						
	0.5nm,0.5s						
MMAI	**Mount Meron Ar**	**146.16**	**268**	PKPbc	**PKiKP**	**21 09 51.3**	**-0.8**
	1.5nm,0.5s,baz=100,slow=6.4,SNR=4.9						
ARCES	**ARCESS Array B**	**148.26**	**340**	PKPbc	**PKPbc**	**21 09 53.5**	**-0.1**
	4.3nm,0.9s,baz=38,slow=4.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.12**	**195**	PKPbc	**PKiKP**	**21 10 00.5**	**-0.2**
	0.3nm,0.4s,baz=158,slow=2.8,SNR=2.9						
FINES	**FINESS Array B**	**152.90**	**326**	PKPbc	**PKPbc**	**21 10 04.4**	**-0.4**
	1.2nm,0.8s,baz=65,slow=6.6,SNR=0.8						

TRN ***17*** *21:04:23.8, 10.41N × 62.98W, h18km, MD3.6*

FUNV ***17*** *21:04:24.9, 10.45N × 62.85W, h16km, MW3.4*

ISC 17 21:04:20.8±1.1, **10.20N**±0.05 × **62.90W**±0.03, **h12**km±10km, **n17, σ1§94/25, 1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.58**	**325**	*i*P	**Pg**	**21 04 31.8**	**-0.4**
CRUV				eS	**Sg**	**21 04 38.3**	**-1.6**
TPP	**Pointe-a-Pierr**	**1.43**	**85**	*e*P	**Pg**	**21 04 49.5**	**+1.2**
TRN	**Trinidad (W)**	**1.54**	**73**	*e*P	**Pg**	**21 04 49.9**	**-0.6**
TRN				eS	**Sg**	**21 05 10.5**	**+0.1**
PCRV	**Puerto La Cruz**	**1.71**	**269**	*e*P	**Pg**	**21 04 54.6**	**+0.8**
PCRV				eS	**Sg**	**21 05 15.3**	**-0.6**
TBH	**Brigand Hill**	**1.82**	**81**	*e*P	**Pg**	**21 04 56.3**	**+0.4**
TBH				eS	**Sg**	**21 05 19.5**	**-0.1**
GRFF	**Grenada Fort F**	**2.17**	**32**	*e*S	**Sn**	**21 05 21.9**	**-1.7**
PRGV	**PARIAGUAN**	**2.24**	**231**	*e*P	**Pg**	**21 05 03.5**	**-0.3**
PRGV				eS	**Sg**	**21 05 32.1**	**-0.7**
GRGR	**Grenville**	**2.28**	**32**	*e*P	**Pn**	**21 04 59.3**	**+0.9**
GRGR				eS	**Sn**	**21 05 25.5**	**-0.9**
TPR	**Prospect**	**2.31**	**65**	*e*P	**Pb**	**21 05 01.8**	**-0.6**
TACV	**Tcata**	**4.07**	**270**	*e*P	**Pn**	**21 05 26.1**	**+3.2**
CACV	**CAICARA DEL OR**	**4.45**	**234**	*e*P	**Pn**	**21 05 27.7**	**-0.5**
CACV				eS	**Sn**	**21 06 15.3**	**-4.6**
BENV	**Beln**	**4.63**	**268**	*e*P	**Pn**	**21 05 33.6**	**+2.7**
TURV	**Turiamo**	**4.87**	**273**	*e*P	**Pn**	**21 05 36.3**	**+2.3**
BAUV	**El Baul**	**5.22**	**257**	*e*P	**Pn**	**21 05 42.2**	**+3.3**
BAUV	**El Baul**	**5.22**	**257**	eS	**Sn**	**21 06 38.5**	**-0.6**
BAUV	**El Baul**	**5.22**	**257**	*e*P	**Pn**	**21 05 41.9**	**+3.0**
BAUV				eS	**Sn**	**21 06 39.1**	**0.0**
JACV	**Jacura**	**5.90**	**279**	*e*P	**Pn**	**21 05 49.6**	**+1.4**

WEL ***17*** *21:06:35.3±0.4, 42.3°S × 17.4°E, h12km±3km, M3.3/27, ML3.5/16, MLv3.3/27, Error ellipse: s-maj=0.0km s-min=0.0km az=81.0*

NEIC ***17*** *21:06:36.5±2.0, 41.746°S × 0.010° × 174.09°E ± 0.02, h19km±2km, mb4.1/5, Error ellipse: s-maj=2.6km s-min=1.3km az=76.0*

ISC 17 21:06:35.5±0.9, **41.76S**±0.02 × **174.12E**±0.02, **h19**km±2km, **n94, σ1§19/107, mb4.0/3, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**78**		**Pg**	**21 06 39.1**	**+0.1**
CMWZ				Sg	**Sg**	**21 06 42.0**	**+0.5**
CMWZ	**Cape Campbell**	**0.07**	**78**	P	**Pg**	**21 06 39.0**	**0.0**
TUWZ	**Tuamarina**	**0.36**	**338**		**Pb**	**21 06 43.3**	**-0.1**
TUWZ				Sg	**Sb**	**21 06 48.8**	**+0.1**
TUWZ	**Tuamarina**	**0.36**	**338**	P	**Pg**	**21 06 43.2**	**+0.1**
TUWZ				S	**Sb**	**21 06 48.6**	**0.0**
TCW	**Tory Channel**	**0.56**	**12**		**Pb**	**21 06 46.7**	**0.0**
TCW				Sg	**Sb**	**21 06 55.0**	**+0.7**
TCW	**Tory Channel**	**0.56**	**12**	P	**Pb**	**21 06 46.5**	**-0.1**
SNZO	**South Karori**	**0.63**	**44**		**Pg**	**21 06 48.4**	**+0.4**
SNZO				Sg	**Sn**	**21 06 58.7**	**-0.2**
WEL	**Wellington**	**0.68**	**46**	P	**Pg**	**21 06 49.4**	**+0.5**
NNZ	**Nelson**	**0.78**	**314**		**Pb**	**21 06 50.5**	**+0.1**
NNZ				Sg	**Sb**	**21 07 00.2**	**-0.4**
NNZ	**Nelson**	**0.78**	**314**	P	**Pb**	**21 06 50.3**	**-0.1**
KHZ	**Kahutara**	**0.78**	**213**		**Pg**	**21 06 51.6**	**+0.8**
KHZ					**Sn**	**21 07 03.6**	**+0.9**
KHZ	**Kahutara**	**0.78**	**213**	P	**Pg**	**21 06 51.4**	**+0.6**
PLWZ	**Palliser**	**0.87**	**77**		**Pb**	**21 06 52.5**	**+0.5**
PLWZ					**Sn**	**21 07 06.6**	**+1.6**
PLWZ	**Palliser**	**0.87**	**77**	P	**Pb**	**21 06 52.3**	**+0.3**
THZ	**Tophouse**	**0.91**	**270**		**Pg**	**21 06 53.2**	**-0.1**
THZ					**Sn**	**21 07 06.0**	**0.0**
THZ	**Tophouse**	**0.91**	**270**	P	**Pb**	**21 06 52.9**	**+0.2**
MSWZ	**Moikau Station**	**0.91**	**68**		**Pb**	**21 06 53.4**	**+0.6**
MSWZ					**Sn**	**21 07 07.7**	**+1.7**
MSWZ	**Moikau Station**	**0.91**	**68**	P	**Pb**	**21 06 53.2**	**+0.5**
CAW	**Cannon Point**	**0.97**	**48**	P	**Pn**	**21 06 54.2**	**+0.2**
DUWZ	**D'Urville Isla**	**0.97**	**351**	P	**Pb**	**21 06 53.7**	**-0.1**
PAWZ	**Paruwai Farm**	**1.05**	**69**	P	**Pb**	**21 06 54.9**	**-0.2**
KIW	**Kapiti Island**	**1.08**	**34**	P	**Pb**	**21 06 55.7**	**+0.2**
MRNZ	**Matariki Terra**	**1.09**	**289**		**Pn**	**21 06 56.1**	**+0.4**
MRNZ					**Sg**	**21 07 11.6**	**+0.8**
MRNZ	**Matariki Terra**	**1.09**	**289**	P	**Pn**	**21 06 56.2**	**+0.5**
TKNZ	**Takaka Hill**	**1.14**	**309**		**Pb**	**21 06 56.4**	**-0.1**
TKNZ					**Sg**	**21 07 12.4**	**0.0**
TKNZ	**Takaka Hill**	**1.14**	**309**	P	**Pb**	**21 06 56.7**	**+0.1**
MTW	**Mount Morrison**	**1.20**	**60**	P	**Pn**	**21 06 56.9**	**-0.4**
TRWZ	**Traveller**	**1.23**	**73**	P	**Pn**	**21 06 57.0**	**-0.6**
OGWZ	**Otaki Gorge**	**1.23**	**40**	P	**Pn**	**21 06 58.1**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.36**	**51**	P	**Pn**	**21 06 59.1**	**-0.3**
GVZ	**Greta Valley S**	**1.45**	**213**	Pn	**Pn**	**21 07 01.3**	**+0.6**
GVZ	**Greta Valley S**	**1.45**	**213**	P	**Pn**	**21 07 00.6**	**-0.1**
QRZ	**Quartz Range**	**1.52**	**307**		**Pb**	**21 07 03.3**	**+0.3**
QRZ				Sg	**Sg**	**21 07 24.3**	**-0.3**
QRZ	**Quartz Range**	**1.52**	**307**	P	**Pb**	**21 07 03.4**	**+0.3**
MRZ	**Mangatainoka R**	**1.56**	**45**		**Pn**	**21 07 02.2**	**0.0**
MRZ	**Mangatainoka R**	**1.56**	**45**	P	**Pn**	**21 07 02.1**	**0.0**
LTZ	**Lake Taylor**	**1.71**	**233**		**Pn**	**21 07 05.5**	**+1.2**
DSZ	**Denniston Nort**	**1.73**	**270**	Pn	**Pb**	**21 07 06.6**	**-0.1**
DSZ	**Denniston Nort**	**1.73**	**270**	P	**Pb**	**21 07 06.3**	**-0.5**
AMCZ	**Amberley**	**1.78**	**217**	Pn	**Pb**	**21 07 07.9**	**+0.3**
PRWZ	**Pori Road**	**1.85**	**50**	P	**Pn**	**21 07 05.7**	**-0.4**
POWZ	**Post Office Ro**	**1.85**	**43**	P	**Pn**	**21 07 06.2**	**0.0**
BFZ	**Birch Farm**	**1.93**	**57**	Pn	**Pn**	**21 07 06.2**	**-1.2**
BFZ	**Birch Farm**	**1.93**	**57**	P	**Pn**	**21 07 06.1**	**-1.2**
OKCZ	**Okains Bay**	**2.11**	**201**	P	**Pn**	**21 07 08.5**	**-1.3**
WAZ	**Wanganui**	**2.11**	**18**	P	**Pb**	**21 07 12.1**	**-1.1**
TSZ	**Takapari Road**	**2.20**	**40**	P	**Pn**	**21 07 10.8**	**-0.3**
INZ	**Inchbonnie**	**2.21**	**243**		**Pn**	**21 07 12.5**	**+1.4**
INZ	**Inchbonnie**	**2.21**	**243**	P	**Pn**	**21 07 12.3**	**+1.2**
MQZ	**McQueen's Vall**	**2.22**	**209**	Pn	**Pn**	**21 07 10.3**	**-1.0**
MQZ	**McQueen's Vall**	**2.22**	**209**	P	**Pn**	**21 07 09.4**	**-1.8**
LREZ	**Lake Rotokare**	**2.31**	**5**	P	**Pb**	**21 07 18.0**	**+1.4**
PREZ	**Palmer Road**	**2.42**	**1**	P	**Pb**	**21 07 17.9**	**-0.5**
KHEZ	**Kahui Hut**	**2.47**	**358**	P	**Pb**	**21 07 19.1**	**-0.2**
NEZ	**North Egmont**	**2.49**	**360**	P	**Pb**	**21 07 19.0**	**-0.7**
NBEZ	**Newall Road No**	**2.50**	**355**	P	**Pg**	**21 07 22.4**	**-1.0**
PKE	**Pukeiti**	**2.57**	**358**	P	**Pb**	**21 07 20.0**	**-0.9**
DRBZ	**Durham Road**	**2.57**	**1**	P	**Pb**	**21 07 21.5**	**+1.5**
MOVZ	**Moawhango**	**2.66**	**28**	P	**Pb**	**21 07 21.3**	**+1.3**
VRZ	**Vera Road**	**2.68**	**11**	P	**Pn**	**21 07 20.1**	**+2.4**
WNVZ	**Wahianoa**	**2.68**	**25**	P	**Pn**	**21 07 19.1**	**+1.3**
TRVZ	**Turoa**	**2.69**	**24**	P	**Pn**	**21 07 23.1**	**-0.1**
BHHZ	**Black Hill Sta**	**2.71**	**34**	P	**Pn**	**21 07 18.5**	**+0.4**
DRZ	**Dome Shelter**	**2.72**	**24**	P	**Pg**	**21 07 25.9**	**-1.7**
WHVZ	**Whangaehu Hut**	**2.72**	**25**	P	**Pb**	**21 07 23.1**	**-0.6**
FWVZ	**Far West T-bar**	**2.73**	**24**	P	**Pb**	**21 07 23.4**	**-0.5**
TUVZ	**Tukino**	**2.75**	**26**	P	**Pb**	**21 07 25.8**	**+1.6**
NGZ	**Ngauruhoe**	**2.82**	**24**	P	**Pn**	**21 07 22.7**	**+3.0**
SNVZ	**South Ngauruho**	**2.82**	**25**	P	**Pb**	**21 07 25.7**	**+0.4**
OTVZ	**Oturere**	**2.85**	**25**	P	**Pb**	**21 07 26.8**	**+0.9**
NNVZ	**North Ngauruho**	**2.87**	**24**	P	**Pn**	**21 07 21.8**	**+1.5**
WTVZ	**West Tongariro**	**2.87**	**23**	P	**Pb**	**21 07 25.4**	**-0.8**
ETVZ	**East Tongariro**	**2.89**	**25**	P	**Pb**	**21 07 28.0**	**+1.5**
KRVZ	**Karewarewa**	**2.91**	**24**	P	**Pb**	**21 07 27.2**	**+0.4**
TMVZ	**Te Maari**	**2.91**	**25**	P	**Pb**	**21 07 28.0**	**+1.2**
NTVZ	**North Tongarir**	**2.91**	**25**	P	**Pb**	**21 07 28.1**	**+1.1**
KWHZ	**Kaweka Forest**	**2.92**	**38**	P	**Pb**	**21 07 26.1**	**-0.8**
RPZ	**Rata Peaks**	**2.98**	**228**	Pn	**Pn**	**21 07 24.8**	**+3.0**
KATZ	**Kakaramea**	**3.03**	**24**	P	**Pb**	**21 07 30.3**	**+1.3**
BKZ	**Black Stump Fm**	**3.16**	**36**	Pg	**Pb**	**21 07 32.1**	**+1.0**
HIZ	**Hauiti**	**3.29**	**10**	Pn	**Pn**	**21 07 28.4**	**+2.3**
HIZ	**Hauiti**	**3.29**	**10**	P	**Pn**	**21 07 28.8**	**+2.7**
FOZ	**Fox Glacier**	**3.63**	**239**	Pn	**Pb**	**21 07 35.6**	**-3.4**
MUGZ	**Murupara**	**3.86**	**33**	P	**Pb**	**21 07 41.0**	**-1.9**
LBZ	**Lake Benmore**	**3.90**	**226**	Pn	**Pn**	**21 07 36.2**	**+1.9**
ODZ	**Otahua Downs**	**4.14**	**217**	Pn	**Pn**	**21 07 38.8**	**+1.0**
WKZ	**Wanaka**	**4.82**	**229**	Pn	**Pn**	**21 07 49.6**	**+2.6**
MXZ	**Matakaoa Point**	**5.29**	**39**	Pn	**Pn**	**21 07 54.6**	**+1.0**
PYZ	**Puysegur Point**	**6.94**	**228**	Pn	**Pn**	**21 08 12.8**	**-3.3**
WB2	**Warramunga Arr**	**40.01**	**291**	P	**P**	**21 14 08.6**	**-0.6**
WRAB	**Tennant Creek**	**40.02**	**291**	P	**P**	**21 14 08.6**	**-0.7**
WRAB				IAmb	IAmb	21 14 23.9	
	comp=Z,2.8nm,1.0s						
QSPA	**South Pole Qui**	**48.36**	**180**	P	**P**	**21 15 17.0**	**+1.2**
QSPA				IAmb	IAmb	21 15 35.5	
	comp=Z,1.5nm,1.0s						
KAPI	**Kappang**	**60.54**	**292**	P	**P**	**21 16 41.6**	**-3.1**
SMAI	**San Martin Ant**	**61.29**	**158**	P	**P**	**21 16 50.3**	**+1.3**
SMAI				IAmb	IAmb	21 16 57.5	
	comp=Z,2.1nm,0.8s						

IDC ***17*** *21:07:10.9±1.2, 39.71N × 20.64E, h0km, mb3.7/7, mbtmp3.6/11, ML3.5/4, Error ellipse: s-maj=21.8km s-min=18.5km az=94.0*

TIR ***17*** *21:07:13.6, 39.76N × 20.71E, h3km±1km, Md3.0, Ml3.3*

BEO ***17*** *21:07:14.1±0.4, 39.67N × 20.82E, h17km±3km, ML3.1/13*

ATH ***17*** *21:07:14.3, 39.79N × 20.70E, h7km±1km, ML3.3/24, Error ellipse: s-maj=1.5km s-min=0.7km az=290.0*

THE ***17*** *21:07:14.5, 39.77N × 20.72E, h6km±1km, ML3.3/15, Error ellipse: s-maj=1.2km s-min=0.5km az=338.0*

ISC 17 21:07:14.1±0.8, **39.76N**±0.02 × **20.72E**±0.02, **h17**km±5km, **n150, σ1§63/199, mb3.7/6, 5C-13D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.14**	**135**	P	**Pg**	**21 07 17.4**	**-0.7**
JAN				S	**Sg**	**21 07 20.5**	**-0.4**
	32μm,0.3s						
JAN	**Janina**	**0.14**	**135**	P	**Pg**	**21 07 17.4**	**-0.7**
JAN				S	**Sg**	**21 07 20.5**	**-0.4**
JAN				AML	AML	21 07 20.9	
	comp=E,80047μm,0.3s						
JAN				AML	AML	21 07 22.1	
	comp=N,47266μm,0.3s						
IGT	**Igoumenitsa**	**0.37**	**233**	P	**Pg**	**21 07 21.6**	**-0.2**
IGT				S	**Sb**	**21 07 28.5**	**+0.7**
	comp=N,8μm,0.5s						
IGT	**Igoumenitsa**	**0.37**	**233**	*e*Pg	**Pg**	**21 07 21.6**	**-0.2**
IGT				*e*Sg	**Sb**	**21 07 28.5**	**+0.7**
IGT	**Igoumenitsa**	**0.37**	**233**	P	**Pg**	**21 07 21.6**	**-0.2**
	baz=234						
IGT				S	**Sb**	**21 07 27.6**	**-0.2**
	baz=234						
IGT	**Igoumenitsa**	**0.37**	**233**	P	**Pg**	**21 07 21.5**	**-0.2**
IGT				S	**Sg**	**21 07 27.0**	**-0.1**
IGT				AML	AML	21 07 31.7	
	comp=E,13788μm,0.6s						
IGT				AML	AML	21 07 32.0	
	comp=N,17135μm,0.4s						
LSK	**Leskovik**	**0.40**	**347**	P	**Pg**	**21 07 22.3**	**-0.1**
LSK				S	**Sg**	**21 07 28.1**	**+0.1**
	comp=N,7μm,0.7s						
LSK	**Leskovik**	**0.40**	**347**	P	**Pg**	**21 07 22.4**	**0.0**
	baz=348						
LSK				S	**Sg**	**21 07 28.3**	**+0.3**
	baz=348						
LSK				AMP			
	comp=N,28nm,0.4s,baz=348						
KPRO	**Kipourio**	**0.53**	**68**	P	**Pg**	**21 07 24.6**	**-0.2**
KPRO				S	**Sg**	**21 07 31.9**	**-0.1**
	comp=N,7μm,0.4s						
KPRO	**Kipourio**	**0.53**	**68**	P	**Pg**	**21 07 24.6**	**-0.2**
KPRO				S	**Sg**	**21 07 31.8**	**-0.1**
KPRO				AML	AML	21 07 34.5	
	comp=N,13533μm,0.4s						
KPRO				AML	AML	21 07 38.1	
	comp=E,15697μm,0.6s						
SRN	**Sarande**	**0.57**	**283**	P	**Pg**	**21 07 25.0**	**-0.3**
SRN				S	**Sb**	**21 07 34.1**	**+0.7**
	comp=E,9μm,0.3s						
SRN	**Sarande**	**0.57**	**283**	P	**Pg**	**21 07 25.1**	**-0.2**
	baz=284						
SRN				S	**Sb**	**21 07 33.7**	**+0.3**
	baz=284						
SRN				AMP			
	comp=N,8.2nm,0.4s,baz=284						
KASA	**Kassiopi**	**0.60**	**269**	P	**Pg**	**21 07 25.4**	**-0.6**
KASA				S	**Sg**	**21 07 34.4**	**+0.3**
KASA				AML	AML	21 07 36.6	
	comp=E,6244μm,0.3s						
KASA				AML	AML	21 07 39.5	
	comp=N,7528nm,0.4s						
NEST	**Nestorio**	**0.70**	**21**	P	**Pg**	**21 07 27.6**	**-0.3**
NEST	**Nestorio**	**0.70**	**21**

ANX AML AML 21 08 11.9
comp=E,1868μm,0.4s
ANX AML AML 21 08 16.1
comp=N,1842μm,0.4s
KEF4 Livadi, Kephal 1.52 189 P **Pn** **21 07 41.0 +0.6**
KEF4 S **Sn** **21 08 01.7 +1.9**
comp=N,4μm,0.6s
KEF4 Livadi, Kephal 1.52 189 P **Pn** **21 07 41.1 +0.6**
DMLN Damoulianata-K 1.54 190 P **Pn** **21 07 41.3 +0.5**
KEF3 Kipouria, Keph 1.58 191 P **Pn** **21 07 41.5 +0.2**
KEF3 Kipouria, Keph 1.58 191 P **Pn** **21 07 41.1 -0.2**
VLS Valsamata 1.58 184 P **Pn** **21 07 41.9 +0.5**
VLS Valsamata 1.58 184 P **Pn** **21 07 41.8 +0.5**
VLS AML AML 21 08 07.1
comp=N,1744μm,0.4s
VLS AML AML 21 08 07.3
comp=E,1303μm,0.6s
EFP Efpalio 1.62 145 P **Pb** **21 07 43.9 +0.4**
EFP Efpalio 1.62 145 P **Pb** **21 07 44.0 +0.4**
EFP AML AML 21 08 15.1
comp=E,1704μm,0.7s
EFP AML AML 21 08 17.6
comp=N,1577μm,0.4s
SERG Sergoula 1.70 142 P **Pb** **21 07 45.2 +0.3**
TIR Tirane 1.72 338 ⇓P **Pn** **21 07 43.8 +0.6**
TIR ⇑S **Sn** **21 08 02.7 -2.0**
TIR Tirane 1.72 338 *e*Pn **Pn** **21 07 45.1 +1.9**
TIR *e*Sn **Sb** **21 08 08.1 +1.6**
TIR Tirane 1.72 338 P **Pn** **21 07 45.1 +1.9**
baz=339
GRG Griva 1.76 46 P **Pn** **21 07 44.9 +1.1**
GRG Griva 1.76 46 P **Pn** **21 07 44.8 +1.1**
GRG AML AML 21 08 17.8
comp=N,1161μm,0.8s
GRG AML AML 21 08 18.6
comp=E,696μm,0.8s
SCTE Santa Cesarea 1.76 281 P **Pn** **21 07 44.5 +0.7**
baz=282
SCTE S **Sb** **21 08 08.9 +1.2**
baz=282
SCTE AMP
comp=E,0.9nm,0.4s,baz=282
RLS Riolos of Patr 1.79 161 P **Pb** **21 07 46.5 0.0**
RLS Riolos of Patr 1.79 161 P **Pn** **21 07 46.4 +2.1**
AXAR Agios Charalam 1.80 123 P **Pn** **21 07 46.5 +2.1**
XOR Xorichti 1.95 101 P **Pn** **21 07 48.7 +2.2**
XOR Xorichti 1.95 101 P **Pn** **21 07 47.9 +1.4**
DRO Drossia 1.96 156 P **Pn** **21 07 48.7 +2.1**
DRO Drossia 1.96 156 P **Pn** **21 07 48.3 +1.6**
DRO AML AML 21 08 28.6
comp=N,1207μm,0.6s
DRO AML AML 21 08 33.9
comp=E,1369μm,0.6s
NEO Neokhori 1.99 102 P **Pn** **21 07 48.6 +1.6**
NEO Neokhori 1.99 102 P **Pn** **21 07 48.1 +1.1**
HORT Hortiatis 2.01 65 P **Pn** **21 07 48.3 +1.0**
LTHK Lithakia 2.05 177 P **Pn** **21 07 49.7 +2.0**
LKR Lokris 2.09 127 P **Pn** **21 07 49.9 +1.6**
VAY Valandovo 2.10 41 *i* Pn **Pn** **21 07 50.0 +1.4**
VAY *i* Sn **Sb** **21 08 18.3 +0.6**
KNT Kendrikon 2.17 49 P **Pn** **21 07 49.9 +0.4**
KNT Kendrikon 2.17 49 P **Pn** **21 07 49.9 +0.4**
KNT AML AML 21 08 29.4
comp=E,195μm,0.5s
KNT AML AML 21 08 29.7
comp=N,228μm,0.8s
STIP Stip 2.23 29 *i* Pn **Pb** **21 07 53.8 -0.2**
SKO Skopje 2.28 14 *e*Pn **Pn** **21 07 52.7 +1.7**
SKO *e*Sn **Sn** **21 08 19.0 +0.3**
SKO Skopje 2.28 14 *i* Pn **Pn** **21 07 53.5 +2.6**
SKO *i* Sn **Sb** **21 08 23.5 +0.9**
SOH Sokhos 2.28 61 P **Pn** **21 07 52.8 +1.8**
SOH Sokhos 2.28 61 P **Pn** **21 07 52.6 +1.6**
PAIG Paliouri 2.29 85 P **Pn** **21 07 51.5 +0.5**
PAIG Paliouri 2.29 85 P **Pn** **21 07 51.7 +0.7**
PAIG AML AML 21 08 23.1
comp=N,266μm,0.4s
PAIG AML AML 21 08 23.4
comp=E,335μm,0.4s
THAL Thalero 2.29 138 P **Pn** **21 07 53.5 +2.3**
THAL AML AML 21 08 38.2
comp=E,899μm,0.5s
THAL AML AML 21 08 50.5
comp=N,775μm,1.2s
LOUT Loutraki 2.49 134 P **Pn** **21 07 55.2 +1.3**
VIL2 Platees 2.52 127 P **Pn** **21 07 57.3 +3.1**
OUR Ouranopolis 2.57 76 P **Pn** **21 07 55.9 +1.0**
OUR Ouranopolis 2.57 76 P **Pn** **21 07 55.9 +1.0**
OUR AML AML 21 08 29.9
comp=N,552μm,0.3s
OUR AML AML 21 08 30.5
comp=E,624μm,0.3s
SRS Serrai 2.58 57 P **Pn** **21 07 56.2 +1.1**
SRS Serrai 2.58 57 *e*Pn **Pn** **21 07 55.9 +0.8**
SRS *e*Sn **Sn** **21 08 24.1 -2.0**
SRS Serrai 2.58 57 P **Pn** **21 07 56.1 +1.1**
BCI Bajram Curri 2.65 350 P **Pn** **21 07 59.6 +3.5**
baz=350
BCI AMP
comp=E,0.8nm,0.4s,baz=350
KOKK Kokkinochori, 2.72 66 P **Pn** **21 07 58.2 +1.1**
NVR Nevrokopi 2.87 55 P **Pn** **21 08 00.4 +1.2**
NVR Nevrokopi 2.87 55 P **Pn** **21 08 00.1 +0.9**
PDG Podgorica 2.89 338 ⇑P **Pn** **21 08 00.2 +0.9**
PDG Podgorica 2.89 338 *e*Pn **Pn** **21 08 01.0 +1.7**
PDG *e*Sn **Sn** **21 08 36.7 +3.0**
BOSS Bosilegrad 3.04 25 *e*Pn **Pn** **21 08 03.0 +1.5**
VLY Voula,Athens 3.06 127 P **Pn** **21 08 04.4 +2.6**
TIP Timpagrande 3.12 261 ⇓P **Pn** **21 08 03.5 +0.9**
BARS Barje 3.17 15 *e*Pn **Pn** **21 08 05.6 +2.4**
THAS Thassos island 3.18 73 P **Pn** **21 08 04.1 +0.8**
THAS Thassos island 3.18 73 P **Pn** **21 08 03.7 +0.3**
MATE Matera 3.20 287 ⇓P **Pn** **21 08 04.0 +0.4**
MATE ⇓S **Sn** **21 08 37.7 -3.6**
VTS Vitosha 3.43 33 ⇓P **Pn** **21 08 10.9 +3.9**
VTS Vitosha 3.43 33 *e*Pn **Pn** **21 08 08.3 +1.4**
VTS *e*Sn **Sn** **21 08 44.8 -2.5**
SELS Selova 3.47 5 *e*Pn **Pn** **21 08 09.6 +2.2**
SJES Sjenica 3.54 351 *e*Pn **Pn** **21 08 11.0 +2.5**
IVAS Ivanjica 3.84 354 *e*Pn **Pn** **21 08 13.7 +1.2**
GRUS Gruza 4.13 360 *e*Pn **Pn** **21 08 17.0 +0.6**
ZAGS Zajecar 4.21 15 *e*Pn **Pn** **21 08 18.8 +1.4**
BBLS Lazići 4.22 347 *e*Pn **Pn** **21 08 18.7 +1.0**
BBLS *e*Sn **Sn** **21 09 07.0 +0.4**
DIVS Divibare 4.37 353 *e*Pn **Pn** **21 08 20.6 +0.8**
DIVS *e*Sn **Sn** **21 09 10.4 0.0**
PLVB Pleven 4.66 38 ⇓P **Pn** **21 08 27.3 +3.6**
HERR Herculane 5.27 13 ⇓P **Pn** **21 08 34.2 +2.1**
FRGS Fruska Gora 5.44 353 *e*Pn **Pn** **21 08 35.3 +0.9**
IDI Anoyia 5.56 142 Pn **Pn** **21 08 35.7 -0.4**
comp=E,0.4nm,0.3s,baz=291,slow=8,SNR=7.1
IDI Sn **Sn** **21 09 36.3 -3.3**
comp=E,2.5nm,0.3s,baz=102,slow=19,SNR=7.5
comp=E,4.5nm,0.7s
GZR Gura Zlata 5.83 14 ⇓P **Pn** **21 08 42.0 +2.1**
BZS Buzias 5.89 6 ⇓P **Pn** **21 08 42.1 +1.5**
VOIR 6.51 28 ⇓P **Pn** **21 08 52.2 +3.0**
MORH Mrgy, Hungar 6.63 347 ⇓P **Pn** **21 08 51.9 +1.2**
MLR Muntele Rosu 6.90 32 ⇑P **Pn** **21 08 58.3 +3.7**
MLR Muntele Rosu 6.90 32 Pn **Pn** **21 08 57.4 +2.8**
comp=E,0.8nm,0.3s,baz=252,slow=20,SNR=13
MLR Sn **Sn** **21 10 12.1 -0.7**
baz=266,slow=23
comp=E,2.4nm,0.4s
NEHR Nehoiu 7.00 34 ⇑P **Pn** **21 08 59.9 +4.0**
PLOR Plostina 7.49 34 ⇑P **Pn** **21 09 06.0 +3.4**
VRI Vrincioaia 7.53 34 ⇓P **Pn** **21 09 06.6 +3.5**
PANC Panciu 7.72 36 ⇓P **Pn** **21 09 08.7 +3.0**
SOKA Soboth 8.06 331 *e*Pn **Pn** **21 09 11.5 +1.0**
comp=E,0.8nm,0.3s
OBKA Obir 8.12 328 *e*Pn **Pn** **21 09 13.4 +2.2**
comp=E,0.3nm,0.1s
ARSA Arzberg 8.38 335 *e*Pn **Pn** **21 09 16.6 +1.8**
comp=E,0.7nm,0.2s
MYKA Terra Mystica 8.59 325 *e*Pn **Pn** **21 09 19.4 +1.7**
VYHS Vyhne 8.84 352 *e*PN Pn 21 09 27.5 +6.5
ABTA Abfaltersbach 9.20 322 *e*Pn **Pn** **21 09 27.6 +1.6**
comp=E,0.5nm,0.3s
SQTA Sankt Quirin 10.16 320 *e*Pn **Pn** **21 09 40.4 +1.1**
comp=E,0.5nm,0.2s
FETA Feichten 10.27 318 *e*Pn **Pn** **21 09 43.0 +2.3**
comp=E,0.5nm,0.5s
MOTA Moosalm 10.30 321 *e*Pn **Pn** **21 09 43.3 +2.2**
comp=E,0.2nm,0.1s
GERES GERESS Array B 10.38 333 Pn **Pn** **21 09 42.6 +0.3**
comp=E,0.1nm,0.3s,baz=149,slow=14,SNR=2.5
comp=E,0.2nm,0.3s
DAVOX Davos/Dischmat 10.56 315 Pn **Pn** **21 09 45.0 +0.1**
comp=E,0.2nm,0.3s,baz=51,slow=14,SNR=2.0
DAVOX Sn **Sn** **21 11 39.1 -3.6**
comp=E,0.1nm,0.3s,baz=290,slow=21,SNR=1.8
comp=E,0.7nm,0.4s
HFS Hagfors 20.87 350 P **P** **21 11 53.6 -1.4**
comp=E,2.7nm,0.8s,baz=174,slow=18,SNR=5.6
comp=E,2.7nm,0.8s
FINES FINESS Array B 21.96 7 P **P** **21 12 05.4 -1.3**
comp=E,2.1nm,0.7s,baz=190,slow=12,SNR=9.0
comp=E,2.1nm,0.7s
NOA NORSAR Array B 22.11 348 P **P** **21 12 08.1 -0.3**
comp=E,1.1nm,0.9s,baz=163,slow=11,SNR=4.0
comp=E,1.1nm,0.9s
ARCES ARCESS Array B 29.95 3 P **P** **21 13 19.3 -1.7**
comp=E,1.9nm,0.8s,baz=186,slow=8.2,SNR=1.5
comp=E,1.9nm,0.8s
TORD Torodi Ar. Bea 31.36 218 P **P** **21 13 33.4 -0.5**
comp=E,0.7nm,0.6s,baz=32,slow=9.3,SNR=5.1
comp=E,0.7nm,0.6s
MKAR Makanchi Array 44.36 60 P **P** **21 15 22.5 -0.8**
comp=E,0.6nm,0.5s,baz=279,slow=7.7,SNR=11
comp=E,0.6nm,0.5s
ZALV Zalesovo Beam 44.53 49 P **P** **21 15 23.3 -1.3**
comp=E,0.4nm,0.4s,baz=283,slow=7.9,SNR=2.6
comp=E,0.4nm,0.4s

WEL 17 21:26:40.1±0.5, 42°S±3°×17°4E±°, h5km, M3.6/17, ML5.2/12, MLv3.6/17, Error ellipse: s-maj=0.0km s-min=0.0km az=124.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**228**	P	Pg	21 26 45.9	+0.2
KHZ				S	Sg	21 26 50.4	+0.9
CMWZ	**Cape Campbell**	**0.56**	**32**	P	Pb	21 26 51.9	-0.5
TUWZ	**Tuamarina**	**0.80**	**6**	P	Pg	21 26 55.5	0.0
TUWZ				S	Sb	21 27 07.2	-0.4
THZ	**Tophouse**	**0.82**	**304**	P	Pg	21 26 56.0	0.0
THZ				S	Sb	21 27 07.7	-0.7
GVZ	**Greta Valley S**	**0.94**	**218**	P	Pg	21 26 58.4	+0.2
GVZ				S	Sb	21 27 12.5	+0.7
NNZ	**Nelson**	**1.06**	**342**	P	Pg	21 26 60.0	-0.5
TCW	**Tory Channel**	**1.07**	**19**	P	Pg	21 27 00.0	-0.6
TCW				S	Sb	21 27 15.4	+0.1
MRNZ	**Matariki Terra**	**1.15**	**316**	P	Pg	21 27 02.1	0.0
WEL	**Wellington**	**1.18**	**37**	P	Pg	21 27 01.2	-1.4
PLWZ	**Palliser**	**1.25**	**59**	P	Pg	21 27 01.4	-2.7
LTZ	**Lake Taylor**	**1.28**	**244**	P	Pg	21 27 03.2	-1.3
AMCZ	**Amberley**	**1.28**	**222**	P	Pn	21 27 03.1	-1.6
MSWZ	**Moikau Station**	**1.34**	**53**	P	Pn	21 27 02.6	-2.8
TKNZ	**Takaka Hill**	**1.35**	**331**	P	Pn	21 27 05.5	-0.2
DUWZ	**D'Urville Isla**	**1.42**	**3**	P	Pn	21 27 05.9	-0.8
CAW	**Cannon Point**	**1.45**	**40**	P	Pn	21 27 04.7	-2.3
PAWZ	**Paruwai Farm**	**1.47**	**55**	P	Pn	21 27 04.1	-3.1
DSZ	**Denniston Nort**	**1.58**	**287**	P	Pb	21 27 09.4	-0.4
KIW	**Kapiti Island**	**1.59**	**31**	P	Pn	21 27 07.4	-1.5
OKCZ	**Okains Bay**	**1.60**	**200**	P	Pn	21 27 06.8	-2.3
MTW	**Mount Morrison**	**1.65**	**50**	P	Pn	21 27 06.7	-3.0
QRZ	**Quartz Range**	**1.70**	**325**	P	Pn	21 27 10.9	+0.5
MQZ	**McQueen's Vall**	**1.71**	**210**	P	Pn	21 27 07.4	-3.2
OXZ	**Oxford**	**1.71**	**229**	P	Pn	21 27 08.1	-2.6
OGWZ	**Otaki Gorge**	**1.73**	**36**	P	Pn	21 27 08.6	-2.3
AKCZ	**Akaroa Harbour**	**1.78**	**202**	P	Pn	21 27 09.0	-2.5
INZ	**Inchbonnie**	**1.83**	**253**	P	Pn	21 27 11.2	-1.0
HOWZ	**Holdsworth Sta**	**1.84**	**44**	P	Pn	21 27 10.1	-2.2
TMWZ	**Te Maipa**	**1.91**	**55**	P	Pn	21 27 10.0	-3.3
RACZ	**Rakaia**	**1.94**	**219**	P	Pn	21 27 11.2	-2.5
MRZ	**Mangatainoka R**	**2.04**	**41**	P	Pn	21 27 12.5	-2.6
MHCZ	**Mount Hutt**	**2.11**	**231**	P	Pn	21 27 13.4	-2.7
WAKZ	**Wakanui South**	**2.25**	**220**	P	Pn	21 27 15.5	-2.5
PRWZ	**Pori Road**	**2.32**	**45**	P	Pn	21 27 20.7	+1.7
BFZ	**Birch Farm**	**2.39**	**51**	P	Pn	21 27 16.5	-3.4
WVZ	**Waitaha Valley**	**2.43**	**248**	P	Pn	21 27 19.3	-1.1
RPZ	**Rata Peaks**	**2.52**	**233**	P	Pn	21 27 19.4	-2.4
ARCZ	**Arundel**	**2.59**	**227**	P	Pn	21 27 20.2	-2.5
DVHZ	**Dannevirke**	**2.61**	**43**	P	Pn	21 27 19.3	-3.7
TSZ	**Takapari Road**	**2.70**	**37**	P	Pn	21 27 21.4	-2.8
GCSZ	**Gaunt Creek Bo**	**2.80**	**246**	P	Pn	21 27 24.7	-0.8
PREZ	**Palmer Road**	**2.89**	**5**	P	Pb	21 27 30.5	-1.7
PNHZ	**Pukenui**	**2.92**	**39**	P	Pn	21 27 24.3	-3.0
KHEZ	**Kahui Hut**	**2.93**	**3**	P	Pn	21 27 30.0	+2.6
NBEZ	**Newall Road No**	**2.95**	**1**	P	Pb	21 27 31.6	-1.6
NEZ	**North Egmont**	**2.96**	**4**	P	Pb	21 27 30.9	-2.4
PKE	**Pukeiti**	**3.03**	**2**	P	Pn	21 27 30.7	+2.0
MOVZ	**Moawhango**	**3.17**	**28**	P	Pn	21 27 29.3	-1.5
VRZ	**Vera Road**	**3.18**	**13**	P	Pn	21 27 31.0	+0.2
TRVZ	**Turoa**	**3.20**	**25**	P	Pn	21 27 31.5	+0.2
BHHZ	**Black Hill Sta**	**3.22**	**33**	P	Pn	21 27 29.8	-1.6
DRZ	**Dome Shelter**	**3.23**	**25**	P	Pb	21 27 35.2	-2.9
WHVZ	**Whangaehu Hut**	**3.23**	**25**	P	Pn	21 27 31.7	0.0
FWVZ	**Far West T-bar**	**3.24**	**24**	P	Pn	21 27 31.6	-0.2
NGZ	**Ngauruhoe**	**3.33**	**25**	P	Pn	21 27 33.6	+0.6
NNVZ	**North Ngauruho**	**3.38**	**24**	P	Pn	21 27 33.9	+0.3
TMVZ	**Te Maari**	**3.42**	**25**	P	Pn	21 27 35.5	+1.3
LBZ	**Lake Benmore**	**3.42**	**230**	P	Pn	21 27 32.0	-2.1
ODZ	**Otahua Downs**	**3.64**	**218**	P	Pn	21 27 34.3	-2.8
BKZ	**Black Stump Fm**	**3.67**	**34**	P	Pb	21 27 42.0	-3.4
HIZ	**Hauiti**	**3.79**	**12**	P	Pn	21 27 40.4	+1.3
JCZ	**Jackson Bay**	**4.12**	**242**	P	Pn	21 27 43.1	-0.8
MKAZ	**Moumakai**	**5.22**	**12**	P	Pn	21 27 58.4	-0.3

*IDC **17** 21:26:59.7±0.8, 42°.11S×173°.92E, h0km, mb4.4/9, mbtmp4.4/10, ML4.0/1, MS4.1/9, Error ellipse: s-maj=26.2km s-min=22.1km az=86.0*

*WEL **17** 21:27:00, 42°.18S×173°.81E, h8km, ML4.8, Mw4.6, Moment Tensor Solution. s9 Moment tensor: Scale 10^{16} Nm; M_{rr}0.51; $M_{\theta\theta}$0.32; $M_{\phi\phi}$-0.83; $M_{r\theta}$0.39; $M_{\theta\phi}$-0.89; $M_{r\phi}$0.31; Fault plane solution: $M_0$1.18000×10^{16} NP1: ϕ_s165.00000°, δ58.00000°, λ13.00000°. NP2:ϕ_d68.00000°, δ79.00000°, λ148.00000°. Principal axes: T -1425.8700, Plg31.0000°, Azm22.0000°; N 928.5300, Plg56.0000°, Azm231.0000°; P 497.3400, Plg14.0000°, Azm120.0000°;*

*NEIC **17** 21:27:01.4, 42°.32S×174°.00E, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.35; $M_{\theta\theta}$0.20; $M_{\phi\phi}$-0.55; $M_{r\theta}$0.68; $M_{\theta\phi}$-1.30; $M_{r\phi}$-0.11; Fault plane solution: $M_0$1.55000×10^{16} NP1:ϕ_s175.04000°, δ62.66000°, λ13.72000°. NP2:ϕ_d78.64000°, δ77.84000°, λ151.98000°. Principal axes: T 1.5029, Plg28.0000°, Azm34.0000°; N 0.0843, Plg60.0000°, Azm237.0000°; P -1.5872, Plg10.0000°, Azm129.0000°;*

*NEIC **17** 21:27:01.5±1.3, 42°.32S±0°.03×174°.00E±0°.04, h12km±4km, mb4.8/28, Mwr4.7/32 Error ellipse: s-maj=5.2km s-min=1.9km az=129.0*

*WEL **17** 21:27:03.2±0.5, 42°S±3°×17°4E±°, h5km, M4.8/49, ML5.2/13, MLv4.8/49, Error ellipse: s-maj=0.0km s-min=0.0km az=126.4*

ISC 17 21:27:01.5±1.0, 42°.30S±0°.02×173°.99E±0°.03, h15km±6km, n194, σ1°19/205, mb4.7/21, MS4.2/12, 3C, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**251**	Pg	**Pg**	**21 27 08.9**	**+0.1**
KHZ				Sg	**Sg**	**21 27 13.5**	**-0.2**
KHZ	**Kahutara**	**0.36**	**251**	P	**Pg**	**21 27 08.9**	**+0.1**
KHZ				S	**Sg**	**21 27 13.4**	**-0.2**
CMWZ	**Cape Campbell**	**0.57**	**17**	Pg	**Pb**	**21 27 13.9**	**+0.7**
CMWZ				Sg	**Sn**	**21 27 23.6**	**-0.8**
CMWZ	**Cape Campbell**	**0.57**	**17**	P	**Pn**	**21 27 14.9**	**-0.2**
TUWZ	**Tuamarina**	**0.87**	**357**	Pg	**Pg**	**21 27 18.4**	**+0.1**
TUWZ				Sg	**Sg**	**21 27 30.1**	**+0.3**
TUWZ	**Tuamarina**	**0.87**	**357**	P	**Pg**	**21 27 18.6**	**+0.2**
TUWZ				S	**Sg**	**21 27 29.8**	**0.0**
THZ	**Tophouse**	**0.97**	**303**	Pg	**Pb**	**21 27 19.2**	**-0.9**
THZ				Sn	**Sb**	**21 27 31.0**	**-1.7**
THZ	**Tophouse**	**0.97**	**303**	P	**Pb**	**21 27 19.2**	**-0.9**
THZ				S	**Sb**	**21 27 30.7**	**-2.1**
GVZ	**Greta Valley S**	**0.97**	**226**	Pn	**Pn**	**21 27 21.6**	**+0.9**
GVZ				Sn	**Sn**	**21 27 35.7**	**+1.4**
GVZ	**Greta Valley S**	**0.97**	**226**	P	**Pn**	**21 27 21.8**	**+1.1**
TCW	**Tory Channel**	**1.11**	**11**		**Pg**	**21 27 23.0**	**+0.1**
TCW				Sn	**Sn**	**21 27 38.9**	**+1.4**
TCW	**Tory Channel**	**1.11**	**11**	P	**Pg**	**21 27 23.2**	**+0.3**
SNZO	**South Karori**	**1.12**	**29**		**Pn**	**21 27 22.6**	**0.0**
SNZO					**Sg**	**21 27 39.3**	**+1.5**
WEL	**Wellington**	**1.17**	**30**	P	**Pg**	**21 27 24.2**	**+0.2**
NNZ	**Nelson**	**1.18**	**337**	Pn	**Pn**	**21 27 23.1**	**-0.3**
NNZ				Sn	**Sb**	**21 27 37.3**	**-1.2**
NNZ	**Nelson**	**1.18**	**337**	P	**Pn**	**21 27 23.1**	**-0.3**
PLWZ	**Palliser**	**1.19**	**53**		**Pb**	**21 27 24.0**	**+0.2**
PLWZ	**Palliser**	**1.19**	**53**	P	**Pg**	**21 27 24.6**	**+0.2**
MSWZ	**Moikau Station**	**1.29**	**47**		**Pn**	**21 27 25.2**	**+0.2**
MSWZ	**Moikau Station**	**1.29**	**47**	P	**Pb**	**21 27 25.7**	**+0.2**
MRNZ	**Matariki Terra**	**1.29**	**314**	Pn	**Pn**	**21 27 25.1**	**+0.1**
MRNZ				Sn	**Sb**	**21 27 41.4**	**-0.4**
MRNZ	**Matariki Terra**	**1.29**	**314**	P	**Pb**	**21 27 25.5**	**+0.1**
AMCZ	**Amberley**	**1.32**	**228**	Pn	**Pg**	**21 27 26.6**	**-0.3**
AMCZ				Sn	**Sg**	**21 27 45.2**	**+1.1**
AMCZ	**Amberley**	**1.32**	**228**	P	**Pg**	**21 27 27.1**	**+0.2**
LTZ	**Lake Taylor**	**1.36**	**249**	Pn	**Pb**	**21 27 26.6**	**-0.1**
LTZ				Sn	**Sn**	**21 27 43.1**	**-0.7**
LTZ	**Lake Taylor**	**1.36**	**249**	P	**Pb**	**21 27 26.6**	**-0.1**
PAWZ	**Paruwai Farm**	**1.41**	**50**	P	**Pn**	**21 27 27.1**	**+0.4**
CAW	**Cannon Point**	**1.44**	**34**	P	**Pb**	**21 27 28.0**	**0.0**
TKNZ	**Takaka Hill**	**1.48**	**328**	Pn	**Pn**	**21 27 28.1**	**+0.5**
TKNZ	**Takaka Hill**	**1.48**	**328**	P	**Pb**	**21 27 28.6**	**-0.1**
DUWZ	**D'Urville Isla**	**1.50**	**358**	P	**Pn**	**21 27 27.8**	**0.0**
TRWZ	**Traveller**	**1.55**	**55**	P	**Pn**	**21 27 28.4**	**-0.2**
KIW	**Kapiti Island**	**1.59**	**26**	P	**Pb**	**21 27 30.5**	**-0.1**
MTW	**Mount Morrison**	**1.60**	**45**	P	**Pn**	**21 27 30.0**	**+0.7**
MQZ	**McQueen's Vall**	**1.72**	**214**	Pn	**Pn**	**21 27 29.9**	**-1.0**
MQZ				Sn	**Sn**	**21 27 51.7**	**-0.8**
MQZ	**McQueen's Vall**	**1.72**	**214**	P	**Pn**	**21 27 29.7**	**-1.1**
DSZ	**Denniston Nort**	**1.72**	**288**	Pn	**Pn**	**21 27 31.6**	**+0.6**
DSZ				Sn	**Sb**	**21 27 54.6**	**+0.3**
DSZ	**Denniston Nort**	**1.72**	**288**	P	**Pb**	**21 27 32.5**	**-0.3**
OGWZ	**Otaki Gorge**	**1.72**	**31**	P	**Pn**	**21 27 31.9**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.76**	**206**	P	**Pn**	**21 27 32.0**	**+0.5**
OXZ	**Oxford**	**1.77**	**234**	Pn	**Pn**	**21 27 30.7**	**-0.9**
OXZ	**Oxford**	**1.77**	**234**	P	**Pn**	**21 27 30.7**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.81**	**40**	P	**Pn**	**21 27 33.0**	**+0.9**
QRZ	**Quartz Range**	**1.84**	**323**	Pn	**Pn**	**21 27 33.1**	**+0.6**
QRZ				Sn	**Sb**	**21 27 57.1**	**-0.5**
QRZ	**Quartz Range**	**1.84**	**323**	P	**Pb**	**21 27 34.3**	**-0.5**
TMWZ	**Te Maipa**	**1.85**	**51**	P	**Pn**	**21 27 33.0**	**+0.2**
INZ	**Inchbonnie**	**1.93**	**256**	Pn	**Pn**	**21 27 34.2**	**+0.4**
INZ				Sn	**Sb**	**21 28 00.1**	**-0.3**
INZ	**Inchbonnie**	**1.93**	**256**	P	**Pn**	**21 27 34.6**	**+0.7**
RACZ	**Rakaia**	**1.97**	**223**	P	**Pn**	**21 27 34.3**	**0.0**
MRZ	**Mangatainoka R**	**2.02**	**37**	Pn	**Pn**	**21 27 35.2**	**+0.1**
MRZ	**Mangatainoka R**	**2.02**	**37**	P	**Pn**	**21 27 35.7**	**+0.6**
TIWZ	**Tintock**	**2.08**	**44**	P	**Pn**	**21 27 37.2**	**+1.3**
MHCZ	**Mount Hutt**	**2.17**	**235**	P	**Pn**	**21 27 36.7**	**-0.4**
WAKZ	**Wakanui South**	**2.28**	**223**	P	**Pn**	**21 27 38.6**	**+0.1**
OHWZ	**Ohakea**	**2.32**	**26**	P	**Pb**	**21 27 41.3**	**-1.7**
POWZ	**Post Office Ro**	**2.33**	**36**	P	**Pn**	**21 27 40.1**	**+0.8**
BFZ	**Birch Farm**	**2.34**	**47**	Pn	**Pn**	**21 27 39.9**	**+0.4**
BFZ	**Birch Farm**	**2.34**	**47**	P	**Pn**	**21 27 39.5**	**+0.1**
WVZ	**Waitaha Valley**	**2.52**	**251**	P	**Pn**	**21 27 42.9**	**+1.0**
RPZ	**Rata Peaks**	**2.58**	**236**	Pn	**Pn**	**21 27 42.4**	**-0.3**
RPZ	28nm,0.3s,baz=82,slow=3.0,SNR=12 208nm,0.3s,baz=239,slow=18,SNR=30			Sn	**Sn**	**21 28 12.3**	**-1.5**
RPZ	comp=Z,616nm,21.7s,baz=13,slow=38 432nm,0.4s			LR	LR	21 28 39.1	
RPZ	**Rata Peaks**	**2.58**	**236**	P	**Pn**	**21 27 42.2**	**-0.6**
RPZ	**Rata Peaks**	**2.58**	**236**	P	**Pn**	**21 27 42.8**	**+0.1**
ANWZ	**Angora Road**	**2.62**	**46**	P	**Pn**	**21 27 43.5**	**+0.2**
ARCZ	**Arundel**	**2.64**	**230**	P	**Pn**	**21 27 43.7**	**+0.1**
WAZ	**Wanganui**	**2.65**	**17**	P	**Pb**	**21 27 46.6**	**-2.1**
TSZ	**Takapari Road**	**2.69**	**34**	P	**Pn**	**21 27 44.4**	**+0.2**
GCSZ	**Gaunt Creek Bo**	**2.88**	**248**	P	**Pn**	**21 27 48.3**	**+1.4**
NMEZ	**Namu Road**	**2.88**	**358**	P	**Pb**	**21 27 51.8**	**-0.8**
WPHZ	**Waipukurau**	**2.90**	**40**	P	**Pn**	**21 27 46.7**	**-0.4**
PNHZ	**Pukenui**	**2.91**	**36**	P	**Pn**	**21 27 47.2**	**-0.1**
PREZ	**Palmer Road**	**2.96**	**2**	P	**Pb**	**21 27 53.2**	**-0.7**
KHEZ	**Kahui Hut**	**3.00**	**0**	P	**Pb**	**21 27 54.8**	**+0.1**
TMZ	**Timaru**	**3.02**	**225**	P	**Pn**	**21 27 49.5**	**+0.8**
NEZ	**North Egmont**	**3.03**	**2**	P	**Pb**	**21 27 53.4**	**-1.7**
PKE	**Pukeiti**	**3.10**	**360**	P	**Pb**	**21 27 53.8**	**-2.6**
DREZ	**Durham Road**	**3.11**	**3**	P	**Pb**	**21 27 54.2**	**-2.3**
MTVZ	**Mangateitei**	**3.12**	**22**	P	**Pn**	**21 27 52.9**	**+2.6**
PKVZ	**Pokaka**	**3.18**	**19**	P	**Pn**	**21 27 53.3**	**+2.3**
BHHZ	**Black Hill Sta**	**3.21**	**30**	P	**Pn**	**21 27 52.8**	**+1.3**
VRZ	**Vera Road**	**3.22**	**11**	P	**Pn**	**21 27 54.1**	**+2.5**
MHEZ	**Mangahewa**	**3.23**	**5**	P	**Pb**	**21 27 56.4**	**-2.1**
DRZ	**Dome Shelter**	**3.25**	**22**	P	**Pb**	**21 27 55.8**	**-3.2**
WHVZ	**Whangaehu Hut**	**3.25**	**22**	P	**Pn**	**21 27 53.7**	**+1.6**
FOZ	**Fox Glacier**	**3.31**	**247**	Pn	**Pn**	**21 27 52.6**	**-0.1**
FOZ	**Fox Glacier**	**3.31**	**247**	P	**Pn**	**21 27 54.8**	**+2.1**
KAHZ	**Kahuranaki**	**3.32**	**42**	P	**Pn**	**21 27 51.6**	**-1.3**
NGZ	**Ngauruhoe**	**3.35**	**22**	P	**Pn**	**21 27

comp=Z,5μm,22.5s
TBI eLR LR 21 43 34.0
comp=Z,830nm,23.0s
TBI Tubuai 35.70 70 *e*T T 22 11 39.9
comp=Z,18nm,0.3s
AS31 Alice Springs 38.00 286 P **P** **21 34 18.6 -0.4**
ASAR Alice Springs 38.00 286 P P **21 34 18.6 -0.5**
comp=Z,4.1nm,0.6s,baz=129,slow=7.3,SNR=58
ASAR PcP **PcP** **21 36 33.9 -0.6**
comp=Z,0.9nm,0.6s,baz=129,slow=3.7,SNR=4.3
comp=Z,4.1nm,0.6s
FORT Forrest 38.23 272 P **P** **21 34 20.6 -0.2**
FORT IAmb IAmb 21 34 21.9
comp=Z,33nm,0.9s
COEN Coen 38.81 307 P **P** **21 34 25.8 0.0**
COEN IAmb IAmb 21 34 47.6
comp=Z,25nm,1.5s
PPT2 Papeete2 39.58 63 eLR LR 21 45 21.9
comp=Z,180nm,27.2s
PPT2 eLR LR 21 45 22.4
comp=Z,236nm,24.2s
WR0 Warramunga Arr 39.97 291 P **P** **21 34 35.3 -0.2**
WR0 IAmb IAmb 21 34 41.2
comp=Z,20nm,1.4s
WB2 Warramunga Arr 40.11 291 P **P** **21 34 36.4 -0.3**
WB2 IAmb IAmb 21 34 38.8
comp=Z,15nm,0.7s
WRAB Tennant Creek 40.12 291 P **P** **21 34 36.3 -0.4**
WRAB IAmb IAmb 21 34 38.1
comp=Z,17nm,0.8s
WRA Warramunga Arr 40.12 291 P **P** **21 34 36.1 -0.6**
comp=Z,11nm,0.7s,baz=129,slow=7.5,SNR=76
WRA PcP **PcP** **21 36 40.5 -0.6**
comp=Z,1.3nm,0.7s,baz=132,slow=3.0,SNR=4.8
comp=Z,11nm,0.7s
WRA Warramunga Arr 40.12 291 P **P** **21 34 36.4 -0.4**
WB0 Warramunga Arr 40.20 292 IAmb IAmb 21 34 37.7
comp=Z,14nm,0.7s
PMG Port Moresby 40.35 317 P **P** **21 34 39.0 +0.4**
PMG IAmb IAmb 21 34 43.6
comp=Z,40nm,1.0s
RABL Rabaul 42.65 327 P **P** **21 34 57.3 -0.2**
TARA Tarawa 43.46 358 P **P** **21 35 02.9 -1.2**
KNRA Kununurra 46.90 290 P **P** **21 35 32.5 +1.1**
QSPA South Pole Qui 47.83 180 P **P** **21 35 41.8 +3.5**
comp=Z,2.6nm,1.0s,baz=340,slow=3.6,SNR=5.4
QSPA LR LR 21 54 01.0
comp=Z,135nm,20.0s,baz=42,slow=34
comp=Z,2.6nm,1.0s
QSPA South Pole Qui 47.83 180 P **P** **21 35 38.9 +0.6**
QSPA IAmb IAmb 21 36 02.1
comp=Z,9.7nm,1.0s
MORW Morawa 48.03 266 P **P** **21 35 39.9 -0.2**
MORW IAmb IAmb 21 35 59.4
comp=Z,25nm,1.4s
PSA00 Pilbara Seismi 49.49 277 P **P** **21 35 51.0 -0.4**
PSA00 IAmb IAmb 21 36 07.5
comp=Z,9.4nm,1.3s
TAOE Nuku Hiva Isla 52.18 64 eLR LR 21 51 11.8
comp=Z,282nm,23.8s
SOEI Soe 54.15 292 P **P** **21 36 26.4 0.0**
SMAI San Martin Ant 60.83 158 P **P** **21 37 13.1 +0.5**
LUWI Luwuk 61.53 298 P **P** **21 37 18.0 0.0**
TOLI2 Tolitoli 64.45 297 P **P** **21 37 37.1 -0.4**
TOLI2 IAmb IAmb 21 37 58.5
comp=Z,4.1nm,0.8s
MJAR Matsushiro Arr 85.00 332 P **P** **21 39 35.7 -0.3**
comp=Z,0.8nm,0.6s,baz=161,slow=4.9,SNR=2.0
comp=Z,0.8nm,0.6s
CFA Coronel Fontan 86.86 131 LR LR 22 10 56.0
comp=Z,78nm,20.4s,baz=294,slow=30
KSRS Korea Array 89.80 325 P **P** **21 39 59.6 +0.5**
comp=Z,1.6nm,0.7s,baz=153,slow=5.6,SNR=6.2
comp=Z,1.6nm,0.7s
KSAR Wonju Array Be 89.80 325 P **P** **21 39 58.2 -1.0**
CMAR Chiang Mai Arr 91.68 293 P **P** **21 40 09.3 +1.0**
comp=Z,1.5nm,0.5s,baz=147,slow=3.7,SNR=11
comp=Z,1.5nm,0.5s
LVC Limon Verde 93.21 125 LR LR 22 12 35.3
comp=Z,61nm,20.7s,baz=224,slow=29
PZH PanZhiHua 95.45 301 P **P** **21 40 28.6 +2.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,5.1s
NNA Nana 95.73 112 LR LR 22 15 23.0
comp=Z,149nm,19.0s,baz=218,slow=30
LPIG La Paz 96.02 63 LR LR 22 15 11.7
comp=Z,108nm,20.0s,baz=219,slow=30
CPUP Villa Florida 96.91 135 LR LR 22 17 43.2
comp=Z,86nm,18.7s,baz=219,slow=31
ATAH Atahualpa 98.05 107 LR LR 22 17 12.6
comp=Z,52nm,18.8s,baz=246,slow=31
HHC Hu-ho-hao-te 100.16 317 *e*P **Pdif** **21 40 48.8 +2.3**
YKA Yellowknife Ar 118.95 30 PKP **PKiKP** **21 45 49.1 +0.8**
comp=Z,2.2nm,0.8s,baz=226,slow=1.6,SNR=4.3
MKAR Makanchi Array 120.16 307 PKP **PKPdf** **21 45 51.1 -0.1**
comp=Z,0.7nm,0.8s,baz=197,slow=1.5,SNR=8.4
KURBB Kurchatov Arra 124.19 310 PKP **PKPdf** **21 45 58.3 -0.5**
comp=Z,0.7nm,0.5s,baz=97,slow=1.7,SNR=3.1
BVAR Borovoye Array 129.78 310 PKP **PKiKP** **21 46 09.9 -0.2**
comp=Z,0.7nm,0.6s,baz=136,slow=0.9,SNR=3.2
LIC Lamto 144.06 182⇑*i*PKP1 **PKiKP** **21 46 40.3 -0.2**
comp=Z,21nm,0.5s
KIC Kosan Boka 144.19 182⇑*i*PKP1 **PKiKP** **21 46 40.8 0.0**
comp=Z,4.4nm,0.5s
TIC Toumodi 144.48 182⇑*i*PKP1 **PKiKP** **21 46 41.6 +0.2**
comp=Z,2.9nm,0.3s
DBIC Dimbokro 144.50 182 PKP **PKiKP** **21 46 40.2 -1.2**
comp=Z,4.4nm,0.6s,baz=159,slow=3.2,SNR=5.8
KBZ Khabaz 144.63 289 PKP **PKPab** **21 46 35.5 -0.1**
comp=Z,4.2nm,0.7s,baz=114,slow=4.5,SNR=9.7
ARCES ARCESS Array B 148.23 340 PKPbc **PKPbc** **21 46 45.1 -0.5**
comp=Z,2.0nm,0.4s,baz=43,slow=2.5,SNR=29
BRTR Keskin Array B 150.16 279 PKPbc **PKPbc** **21 46 51.5 -0.1**
comp=Z,3.3nm,0.8s,baz=159,slow=4.2,SNR=8.0
TORD Torodi Ar. Bea 150.19 195 PKPbc **PKiKP** **21 46 52.9 -0.2**
comp=Z,20nm,0.5s,baz=177,slow=1.2,SNR=31
FINES FINESS Array B 152.88 326 PKPbc **PKPbc** **21 46 55.9 -1.1**
comp=Z,1.9nm,0.6s,baz=46,slow=3.1,SNR=14
FINES PKPab **PKPab** **21 47 07.2 -0.9**
comp=Z,0.9nm,0.4s,baz=63,slow=4.9,SNR=7.3
AKASG Malin Array Be 154.53 301 PKPbc **PKPbc** **21 46 60.0 -0.9**
comp=Z,0.2nm,0.2s,baz=70,slow=2.0,SNR=1.4
AKASG PKPab **PKPab** **21 47 14.2 -1.3**
comp=Z,0.2nm,0.3s,baz=68,slow=3.3,SNR=4.2

KRNET ***17*** *21:44:50.2±0.1,39.˚26N×72.˚63E,mb2.9*
ISU ***17*** *21:45:42,40.˚90N×72.˚79E,h10km*
ISC 17 21:44:40.1±2.2,39.03N±0.09×73.21E±0.08,h10km,n7,
σ1§49/12,8C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
FRG	**Fergana**	**1.74**	**321**	P		Pg		21 45 19.8			+6.3
FRG				S		**Sb**		**21 45 33.6**			**-0.5**
CHMI	**Chimion**	**1.80**	**314**	P		Pg		21 45 23.6			+9.0
CHMI				S		**Sg**		**21 45 40.7**			**+2.7**
BTK	**Batken** baz=0.0	**2.12**	**300**⇑	*e*P		**Pg**		**21 45 19.5**			**-1.2**
BTK	baz=0.0			⇑*i*S		**Sn**		**21 45 41.0**			**-1.1**
GAR	**Garm** baz=62	**2.25**	**270**⇑	*e*P		**Pg**		**21 45 23.0**			**-0.4**
GAR	baz=62			⇑*i*S		**Sn**		**21 45 46.8**			**+1.3**
CHGR	**Chuyangaron** baz=59	**3.19**	**265**⇑	*e*P		**Pb**		**21 45 36.2**			**-0.7**
CHGR	baz=59			⇑*i*S		**Sn**		**21 46 09.8**			**+1.3**
UCH	**Uchtor** baz=25	**3.35**	**17**⇑	*i*P		**Pg**		**21 45 43.5**			**-0.8**
UCH	baz=25			⇑*i*S		**Sb**		**21 46 22.2**			**+1.4**
KK31	**Karatay Array** 0.3nm,0.2s,baz=150,slow=12,SNR=25	**4.55**	**334**	⇓Pn		**Pb**		**21 46 00.2**			**0.0**
KK31	0.4nm,0.4s,baz=145,slow=25			⇓Sn		**Sb**		**21 46 53.3**			**-1.8**
KK31	0.7nm,0.6s			⇓Lg		Lg		21 47 11.4			

NDI ***17*** *21:45:51.0±4.0,32.˚59N×96.˚57E,h10km,mb4.6, mb5.0(NEIC)*
IDC ***17*** *21:45:54.2±0.5,32.˚61N×96.˚20E,h0km,mb4.7/34,*

mbtmp4.7/37,ML4.4/3,MS4.1/70,Error ellipse: s-maj=17.1km s-min=11.4km az=44.0
MOS ***17*** *21:45:55.4±0.8,32.˚63N×96.˚11E,h18km,mb5.2/74, MS4.3/10,Error ellipse: s-maj=6.5km s-min=3.2km az=126.1*
BJI ***17*** *21:45:56.1±0.0,32.˚63N×96.˚11E,h7km,mb4.6/44, mB4.9/27,ML4.6/8,Ms4.9/66,Ms7 4.6/59*
NEIC ***17*** *21:45:56.6±1.3,32.˚69N±0.˚07×96.˚15E±0.˚08,h10km±1km, mb5.0/179,Error ellipse: s-maj=12.1km s-min=10.4km az=215.0*
GCMT ***17*** *21:45:58.6±0.2,32.˚59N±0.˚02×96.˚21E±0.˚01,h22km±1km, MW4.9/98,Moment Tensor Solution. s24,c26; s98,c141; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.88±.15; Mθθ-0.55±.10; Mφφ 1.42±.10; Mrθ 0.33±.15; Mθφ 2.32±.07; Mφr 0.88±.14; Best double couple: M₀2.64500×10¹⁶ NP1:φs349.00000°,δ89.00000°,λ163.00000°. NP2: φs79.00000°,δ73.00000°,λ1.00000°. Principal axes: T 3.1650, Plg13.0000°, Azm303.0000°; N -1.0400, Plg73.0000°, Azm166.0000°; P -2.1250, Plg11.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DMN ***17*** *21:46:51.1±8.9,30.˚93N×91.˚50E,h10km,Mb5.4/4 Error ellipse: s-maj=217.3km s-min=15.0km az=56.0*
ISC 17 21:45:59.7±0.3,32.62N±0.03×96.06E±0.03,h35km,n677,
σ1§35/666,mb5.0/225,MS4.2/77,42C-36D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
GOMU	**GeErMu**	**3.71**	**344**	Pn		**Pn**		**21 46 58.8**			**+3.9**
GOMU				Sn		Sn		21 47 47.9			+10
GOMU				Sg				21 47 54.0			
GOMU				LR		LR					
	comp=N,12μm,7.9s										
GOMU				LR		LR					
	comp=E,17μm,9.3s										
GOMU				LR		LR					
	comp=Z,12μm,8.0s										
LSA	**Lhasa**	**5.12**	**237**	Pn		**Pn**		**21 47 17.2**			**+2.8**
LSA	**Lhasa**	**5.12**	**237**	Pn		**Pn**		**21 47 17.4**			**+3.0**
LSA				Sn		**Sn**		**21 48 20.3**			**+7.8**
LSA				LR		LR					
	comp=N,13μm,9.3s										
LSA				LR		LR					
	comp=E,5μm,12.1s										
LSA				LR		LR					
	comp=Z,6μm,10.0s										
CD2	**Chengdu**	**6.77**	**103**	Pn		**Pn**		**21 47 39.4**			**+2.7**
CD2				Sg		Sn		21 49 29.9			+37
CD2				LR		LR					
	comp=N,15μm,8.5s										
CD2				LR		LR					
	comp=E,7μm,5.7s										
CD2				LR		LR					
	comp=Z,3μm,5.7s										
LZH	**Lanzhou**	**7.30**	**60**	Pn		**Pn**		**21 47 45.8**			**+1.7**
LZH				Sg		Sn		21 49 52.6			+47
LZH				smax		smax					
	comp=N,250nm,1.6s										
LZH				smax		smax					
	comp=E,230nm,1.2s										
LZH				LR		LR					
	comp=N,9μm,9.5s										
LZH				LR		LR					
	comp=E,5μm,9.2s										
LZH				LR		LR					
	comp=Z,5μm,10.2s										
GTA	**Gaotai**	**7.42**	**23**	Pn		**Pn**		**21 47 47.3**			**+1.6**
GTA				Sn		**Sn**		**21 49 07.3**			**-1.4**
GTA				LR		LR					
	comp=N,5μm,10.4s										
GTA				LR		LR					
	comp=E,5μm,13.1s										
GTA				LR		LR					
	comp=Z,4μm,10.8s										
PZH	**PanZhiHua**	**7.85**	**140**	Pn		**Pn**		**21 47 51.9**			**+0.3**
PZH				Sn		**Sn**		**21 49 24.9**			**+5.6**
PZH				LR		LR					
	comp=N,6μm,12.0s										
PZH				LR		LR					
	comp=E,4μm,9.2s										
PZH				LR		LR					
	comp=Z,4μm,11.2s										
TNCH	**TengChong**	**7.87**	**163**	P		**Pn**		**21 47 53.0**			**+1.1**
TNCH				pP				21 47 56.6			
TNCH				sP				21 47 59.1			
TNCH				S		**Sn**		**21 49 21.3**			**+1.5**
TNCH				sS				21 49 29.4			
TNCH				pmax		pmax					
	comp=Z,10.0nm,0.7s										
TNCH				pmax		pmax					
	comp=Z,110nm,4.9s										
TNCH				LR		LR					
	comp=N,8μm,9.0s										
TNCH				LR		LR					
	comp=E,7μm,5.9s										
TNCH				LR		LR					
	comp=Z,7μm,10.0s										
SHL	**Shillong**	**7.92**	**209**			**Pn**		**21 47 51.8**			**-0.8**
SHL	**Shillong**	**7.92**	**209**	*e*P		**Pn**		**21 47 52.0**			**-0.6**
SHL				*e*S		**Sn**		**21 49 20.8**			**-0.4**
SHL	**Shillong**	**7.92**	**209**	P		**Pn**		**21 47 51.8**			**-0.8**
TAPN	**Taplejung**	**8.95**	**236**	*e*P		**Pn**		**21 48 06.3**			**-0.5**
ODAN	**Odare**	**9.47**	**235**	*e*P		**Pn**		**21 48 14.7**			**+0.8**
KMI	**Kunming**	**9.49**	**140**	⇑P		**Pn**		**21 48 17.3**			**+3.2**
KMI				sP				21 48 19.4			
KMI				S		**Sn**		**21 50 05.9**			**+6.2**
KMI				pmax		pmax					
	comp=Z,19nm,0.6s										
KMI				pmax		pmax					
	comp=Z,190nm,7.5s										
KMI				LR		LR					
	comp=N,4μm,8.4s										
KMI				LR		LR					
	comp=E,4μm,9.2s										
KMI				LR		LR					
	comp=Z,3μm,13.2s										
JIRN	**Jiri**	**9.87**	**242**	*e*P		**Pn**		**21 48 18.2**			**-1.3**
RAMN	**Ramite** 40nm,0.4s	**9.97**	**238**	*e*P		**Pn**		**21 48 20.5**			**-0.3**
KKN	**Kakani**	**10.49**	**245**	*e*P		**Pn**		**21 48 27.0**			**-0.9**
PKIN	**Phulchoki** 85nm,0.5s	**10.51**	**244**	*e*P		**Pn**		**21 48 26.5**			**-1.7**
MND	**Mandalay**	**10.57**	**180**	Pn		**Pn**		**21 48 29.1**			**+0.4**
MND	**Mandalay**	**10.57**	**180**	P		**Pn**		**21 48 30.4**			**+1.7**
XAN	**Xi'an**	**10.85**	**79**	⇓P		**Pn**		**21 48 32.8**			**+0.2**
XAN				pP				21 48 37.0			
XAN				S		**Sn**		**21 50 36.0**			**+3.2**
XAN				pmax		pmax					
	comp=Z,18nm,1.4s										
XAN				LR		LR					
	comp=N,7μm,17.2s										
XAN				LR		LR					
	comp=E,3μm,15.8s										
XAN				LR		LR					
	comp=Z,4μm,11.0s										
GKN	**Gorkha** 25nm,0.4s	**10.89**	**248**	*e*P		**Pn**		**21 48 31.9**			**-1.4**
GYA	**Guiyang**	**11.09**	**121**	⇓*i*P		**Pn**		**21 48 37.9**			**+2.0**
GYA				S		**Sn**		**21 50 41.0**			**+2.3**
GYA				pmax		pmax					
	comp=Z,29nm,0.8s										
GYA				pmax		pmax					
	comp=Z,180nm,5.1s										
GYA				LR		LR					
	comp=N,2μm,9.1s										
GYA				LR		LR					
	comp=E,1μm,6.8s										
GYA				LR		LR					
	comp=Z,2μm,10.5s										
DANN	**Dangsing** 38nm,0.4s	**11.43**	**251**	*e*P		**Pn**		**21 48 39.6**			**-1.2**
ENH	**Enshi**	**11.70**	**98**	Pn		**Pn**		**21 48 43.2**			**-1.0**
VLK	**Valmikinagar**	**11.82**	**247**	*e*P		**Pn**		**21 48 43.1**			**-2.7**
BOK	**Bokaro**	**12.56**	**228**	*e*P		**Pn**		**21 48 54.0**			**-1.9**
BOK				IAmb		IAmb		21 49 04.7			
	comp=Z,25nm,0.8s										
BOK				*e*S		**Sn**		**21 51 07.8**			**-6.8**
WMQ	**Urumqi**	**12.96**	**332**	*e*P		**Pn**		**21 49 00.9**			**-0.5**
WMQ				sP		P		21 49 11.6			+0.1
WMQ				S		**Sn**		**21 51 24.6**			**+0.2**
WMQ				pmax		pmax					
	comp=Z,56nm,1.5s										
WMQ				pmax		pmax					
	comp=Z,170nm,5.1s										
WMQ				LR		LR					
	comp=Z,3μm,12.5s										
WMQ				LR		LR					
	comp=Z,2μm,13.3s										
WMQ				LR		LR					
	comp=Z,1μm,15.7s										
BTO	**Baotou**	**13.74**	**51**	*e*P		**Pn**		**21 49 13.0**			**+0.9**
BTO				LR		LR					
	comp=Z,7μm,14.5s										
BTO				LR		LR					
	comp=Z,5μm,12.8s										
LYN	**LuoYang**	**13.81**	**78**	*e*P		**Pn**		**21 49 11.0**			**-2.0**
LYN				S		**Sn**		**21 51 46.3**			**+1.2**
LYN				pmax		pmax					
	comp=Z,100nm,4.7s										
LYN				LR		LR					
	comp=Z,5μm,14.5s										
LYN				LR		LR					
	comp=Z,1μm,13.7s										
LYN				LR		LR					
	comp=Z,1μm,8.1s										
PTH	**Pithoragarh**	**13.92**	**261**	*e*P		**Pn**		**21 49 13.6**			**-1.1**
LGTI	**Lohaghat**	**13.92**	**261**	*e*P		**Pn**		**21 49 15.5**			**+0.9**
CHTO	**Chiang Mai**	**13.99**	**169**			**Pn**		**21 49 15.7**			**+0.1**
CHTO	**Chiang Mai**	**13.99**	**169**	P		**Pn**		**21 49 15.7**			**+0.1**
CM31	**Chiang Mai Arr**	**14.34**	**169**			**Pn**		**21 49 20.7**			**+0.3**
CMAR	**Chiang Mai Arr**	**14.34**	**169**	Pn		**Pn**		**21 49 20.3**			**0.0**
	comp=Z,0.6nm,0.3s,baz=339,slow=12,SNR=37										
CMAR				Lg		Lg		21 53 26.3			
	comp=Z,0.1nm,0.3s,baz=350,slow=29,SNR=1.8										
CMAR				LR		LR		21 55 03.3			
	comp=Z,1μm,18.4s,baz=345,slow=38										
	comp=Z,3.3nm,0.7s										
CMAR	**Chiang Mai Arr**	**14.34**	**169**			**Pn**		**21 49 19.6**			**-0.7**
CMAR	**Chiang Mai Arr**	**14.34**	**169**	*i* P		**Pn**		**21 49 21.0**			**+0.7**
CMAR				pmax		pmax					
	comp=Z,5.0nm,0.6s										
PHRA	**Phrae**	**14.56**	**164**			**Pn**		**21 49 23.1**			**-0.1**
HHC	**Hu-ho-hao-te**	**14.88**	**52**	*e*P		**Pn**		**21 49 26.8**			**-0.8**
HHC				PP		**PnPn**		**21 49 38.0**			**+2.3**
HHC				S		**Sn**		**21 52 14.5**			**+3.2**
HHC				pmax		pmax					
	comp=Z,28nm,0.9s										
HHC				pmax		pmax					
	comp=Z,180nm,6.2s										
HHC				LR		LR					
	comp=Z,5μm,11.8s										
HHC				LR		LR					
	comp=Z,5μm,10.6s										
HHC				LR		LR					
	comp=Z,5μm,12.6s										
WHN	**Wuhan**	**15.72**	**93**	⇑P		**P**		**21 49 41.8**			**-0.4**
WHN				S		**S**		**21 52 41.8**			**-3.9**
WHN				LR		LR					
	comp=Z,11μm,15.9s										
WHN				LR		LR					
	comp=Z,7μm,12.4s										
WHN				LR		LR					
	comp=Z,4μm,14.2s										
NONG	**Nongkai**	**15.84**	**155**	P		**P**		**21 49 45.6**			**+2.1**
HNS	**HongShan**	**16.00**	**67**	⇑P		**Pn**		**21 49 40.9**			**-1.1**
HNS				S		**Sn**		**21 52 42.8**			**+4.6**
HNS				pmax		pmax					
	comp=Z,12nm,1.1s										
HNS				LR		LR					
	comp=Z,6μm,12.3s										
HNS				LR		LR					
	comp=Z,2μm,12.9s										
HNS				LR		LR					
	comp=Z,2μm,13.9s										
SMLA	**Simla**	**16.12**	**270**	*e*P		**Pn**		**21 49 41.7**			**-1.9**
SMLA				IAmb		IAmb		21 49 55.0			
	comp=Z,43nm,0.9s										
BHK	**Bhakra**	**16.71**	**271**	*e*P		**P**		**21 49 52.0**			**-1.1**
BHK				*e*S		**S**		**21 53 06.1**			**+0.3**
SHLS	**Shalkode** baz=314	**16.77**	**314**	*e*P		**Pn**		**21 49 47.4**			**-4.6**
SHLS	baz=314			*e*S		**S**		**21 53 03.9**			**-3.2**
SHLS	**Shalkode**	**16.77**	**314**	*e*P		**Pn**		**21 49 47.3**			**-4.6**
JHNI	**Jhansi**	**16.89**	**250**	*e*P		**Pn**		**21 49 49.7**			**-3.7**
UZB	**Uzynbulak** baz=313	**17.04**	**313**	*e*P		**Pn**		**21 49 54.8**			**-0.5**
UZB	**Uzynbulak**	**17.04**	**313**	*e*P		**Pn**		**21 49 54.8**			**-0.5**
ZSN	**Zaisan** baz=333	**17.08**	**333**	*e*P		**Pn**		**21 49 55.2**			**-0.6**
ZSN	baz=333			*e*S		**S**		**21 53 18.0**			**+4.8**
ZSN	**Zaisan**	**17.08**	**333**	*e*P		**Pn**		**21 49 55.1**			**-0.6**
SONM	**Songino Array** comp=Z,65nm,1.3s,baz=212,slow=10,SNR=60	**17.09**	**24**	P		**P**		**21 49 56.9**			**-0.5**
SONM				LR		LR		21 56 55.2			
	comp=Z,816nm,18.4s,baz=207,slow=39										
SONM	**Songino Array**	**17.09**	**24**			**Pn**		**21 49 54.3**			**-1.7**
SONM	**Songino Array**	**17.09**	**24**	P		**Pn**		**21 49 54.3**			**-1.7**
SONM				pmax		pmax					
	comp=Z,81nm,1.3s										
TARG	**Taragay, Kyrgy**	**17.13**	**307**			**Pn**		**21 49 56.3**			**-0.4**
TARG	**Taragay, Kyrgy**	**17.13**	**307**	P		**Pn**		**21 49 56.3**			**-0.4**
TARG				pmax		pmax					
	comp=Z,63nm,1.0s										
ULN	**Ulaanbaatar**	**17.35**	**25**	P		**Pn**		**21 49 58.2**			**-1.0**
ULN	**Ulaanbaatar**	**17.35**	**25**	P		**P**		**21 50 01.0**			**+0.7**
	comp=Z,123nm,1.1s										
ULN	**Ulaanbaatar**	**17.35**	**25**	*ce*P		**P**		**21 50 00.2**			**-0.1**
SATY	**Saty** baz=312	**17.37**	**312**	*e*P		**P**		**21 49 59.8**			**-0.7**
SATY	**Saty**	**17.37**	**312**	*e*P		**P**		**21 49 59.8**			**-0.7**
ZHN	**Zhinishke** baz=312	**17.41**	**312**	*e*P		**Pn**		**21 49 59.6**			**-0.3**
ZHN	**Zhinishke**	**17.41**	**312**	*e*P		**Pn**		**21 49 59.6**			**-0.3**
KPKS	**Kokpek** baz=313	**17.41**	**313**	*e*P		**Pn**		**21 49 59.3**			**-0.7**
KPKS	**Kokpek**	**17.41**	**313**	*e*P		**Pn**		**21 49 59.2**			**-0.7**
KUDL	**Kundal**	**17.46**	**260**	*e*P		**Pn**		**21 50 00.0**			**-0.5**
KSH	**Kashi**	**17.62**	**299**	P		**P**		**21 50 05.9**			**+2.6**
KSH				S		**S**		**21 53 23.6**			**-0.9**
KSH				pmax		pmax					
	comp=Z,38nm,0.9s										
KSH				LR		LR					
	comp=Z,720nm,12.1s										
KSH				LR		LR					
	comp=Z,1μm,12.4s										
KSH				LR		LR					
	comp=Z,2μm,11.7s										
MK31	**Makanchi Array**	**17.64**	**327**			**Pn**		**21 50 00.7**			**-1.9**
MK31	**Makanchi Array**	**17.64**	**327**	*de*P		**P**		**21 50 02.7**			**-0.6**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.3s,baz=140,slow=13,SNR=29	**17.64**	**327**	P		**Pn**		**21 50 02.1**			**-0.5**
MKAR				LR		LR		21 57 01.3			
	comp=Z,577nm,21.2s,baz=166,slow=38										
	comp=Z,9.0nm,0.8s										
MKAR	**Makanchi Array**	**17.64**	**327**			**Pn**		**21 50 01.0**			**-1.7**
MKAR	**Makanchi Array**	**17.64**	**327**	*i* P		**P**		**21 50 02.7**			**-0.6**
MKAR				pmax		pmax					
	comp=Z,30nm,1.1s										
TIA	**Tai'an**	**17.74**	**73**	⇑P		**P**		**21 50 04.1**			**-0.4**
TIA				S		**Sn**		**21 53 14.3**			**-6.2**
TIA				SS		**SnSn**		**21 53 37.1**			**+3.1**
TIA				pmax		pmax					
	comp=Z,12nm,0.8s										
TIA				pmax		pmax					
	comp=Z,79nm,4.1s										
TIA				LR		LR					
	comp=Z,920nm,10.7s										
TIA				LR		LR					
	comp=Z,1μm,12.8s										
TIA				LR		LR					
	comp=Z,1μm,13.5s										
BJT	**Baijiatuan**	**17.78**	**60**	P		**Pn**		**21 50 02.9**			**-1.5**
BJT	**Baijiatuan**	**17.78**	**60**	P		**P**		**21 50 07.1**			**+2.2**
BJT	**Baijiatuan**	**17.78**	**60**	P		**Pn**		**21 50 02.9**			**-1.5**
BJT				pmax		pmax					
	comp=Z,17nm,1.2s										
**MA

JMU **Jammu** 17.82 276 *e*P **P** 21 50 05.2 -0.1
JMU *e*S **S** 21 53 28.9 +0.5
KNGR **Kungurtug, Tuv** 18.00 3*d i*P **P** 21 50 09.1 +1.7
KNGR pmax pmax
comp=Z,43nm,1.1s
DGZ **Jazzator, Alta** 18.23 342*c i*P **Pn** 21 50 11.2 +1.2
DGZ pmax pmax
comp=Z,13nm,0.8s
QIZ **Qiongzhong** 18.34 134 **P** 21 50 08.8 -2.3
QIZ **Qiongzhong** 18.34 134 P **P** 21 50 07.8 -3.4
QIZ S **S** 21 53 37.0 -2.0
QIZ LR LR
comp=Z,2µm,9.6s
QIZ LR LR
comp=Z,1µm,10.4s
QIZ LR LR
comp=Z,2µm,17.5s
AAA **Alma-Ata** 18.39 311 *e*P **Pn** 21 50 11.9 -0.1
baz=310
AAA **Alma-Ata** 18.39 311 *e*P **Pn** 21 50 11.9 -0.1
TDK **Taldyqorghan** 18.45 317 *e*P **P** 21 50 10.9 -1.4
comp=Z,76nm,1.6s,baz=317
TDK **Taldyqorghan** 18.45 317 *e*P **P** 21 50 10.8 -1.4
TDK pmax pmax
comp=Z,76nm,1.6s
ZAK **Zakamensk** 18.53 15 *e*P **P** 21 50 12.7 -0.5
ZAK pmax pmax
comp=Z,22nm,1.2s
NAYO **Nakonayok** 18.85 164 P **Pn** 21 50 20.8 +3.3
BHPL **Bhopal** 18.91 245 *e*P **P** 21 50 14.0 -3.5
BHPL IAmb IAmb 21 50 18.8
comp=Z,28nm,0.7s
KUU **Kurty** 19.09 312 *e*P **Pn** 21 50 19.6 -0.7
comp=Z,87nm,1.4s,baz=312
KUU **Kurty** 19.09 312 *e*P **Pn** 21 50 19.6 -0.7
KUU pmax pmax
comp=Z,87nm,1.4s
NIL **Nilore** 19.13 279 P **P** 21 50 19.0 -0.8
NIL IAmb IAmb 21 50 26.3
comp=Z,52nm,0.8s
NIL **Nilore** 19.13 279 P **P** 21 50 19.0 -0.8
NIL pmax pmax
comp=Z,52nm,0.8s
NJ2 **Nanjing** 19.27 86 *e*P **Pn** 21 50 23.8 +1.3
NJ2 pP **pP** 21 50 26.9 -4.8
NJ2 sP **sP** 21 50 30.1 -6.6
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=Z,3µm,12.2s
NJ2 LR LR
comp=Z,820nm,11.9s
NJ2 LR LR
comp=Z,630nm,10.8s
AJM **Ajmer** 19.60 257 *e*P **P** 21 50 24.9 -0.1
AAK **Ala-Archa** 19.74 307 P **Pn** 21 50 28.7 +0.4
comp=Z,1.8nm,0.3s,baz=109,slow=9.5,SNR=24
AAK LR LR 21 59 25.6
comp=Z,1µm,18.1s,baz=120,slow=41
comp=Z,42nm,0.9s
AAK **Ala-Archa** 19.74 307 Pn **Pn** 21 50 27.6 -0.7
AAK IAmb IAmb 21 50 34.5
comp=Z,81nm,0.9s
AAK **Ala-Archa** 19.74 307*c i*P **Pn** 21 50 29.0 +0.7
AAK pmax pmax
comp=Z,91nm,0.9s
SGDS **Sogindy** 19.99 309 *e*P **P** 21 50 28.2 -1.0
baz=309
SGDS **Sogindy** 19.99 309 *e*P **P** 21 50 28.1 -1.0
IRK **Irkutsk** 20.50 15 *e*P Pn 21 50 35.6 -1.3
IRK pmax pmax
comp=Z,111nm,1.7s
AKL **Akola** 20.71 240 *e*P **P** 21 50 37.6 +0.5
BTLS **Baital** 21.09 312 *e*P **P** 21 50 40.5 -0.4
baz=312
BTLS **Baital** 21.09 312 *e*P **P** 21 50 40.5 -0.4
KNMB **Chin-men Tao** 21.20 107 P **P** 21 50 41.7 -0.7
KNMB IAmb IAmb 21 50 46.6
comp=Z,50nm,0.8s
SSE **Sheshan** 21.39 87 P **P** 21 50 42.3 -2.0
SSE S **S** 21 54 39.4 -0.4
SSE pmax pmax
comp=Z,8.0nm,0.8s
SSE LR LR
comp=Z,1µm,18.6s
SSE LR LR
comp=Z,340nm,18.8s
GAR **Garm** 21.79 294 P **P** 21 50 48.0 -0.7
GAR IAmb IAmb 21 50 49.6
comp=Z,75nm,0.8s
HYBB **Hyderabad (bro** 21.88 230 *e*P **P** 21 50 49.9 +0.1
KURBB **Kurchatov Arra** 22.15 329 P **P** 21 50 51.9 -0.5
comp=Z,30nm,1.0s,baz=136,slow=11,SNR=63
KURBB LR LR 21 59 35.5
comp=Z,841nm,19.3s,baz=133,slow=37
comp=Z,30nm,1.0s
KURK **Kurchatov** 22.18 330 P **P** 21 50 51.8 -0.8
KURK IAmb IAmb 21 50 55.9
comp=Z,55nm,0.9s
KURK **Kurchatov** 22.18 330*c i*P **P** 21 50 52.2 -0.5
KURK pmax pmax
comp=Z,86nm,1.3s
KBL **Kabul** 22.57 282 P **P** 21 50 58.0 +0.8
KBL **Kabul** 22.57 282 P **P** 21 50 58.0 +0.8
KBL pmax pmax
comp=Z,141nm,1.1s
CHGR **Chuyangaron** 22.64 293 P **P** 21 50 57.5 -0.3
CHGR **Chuyangaron** 22.64 293 P **P** 21 50 57.5 -0.3
CHGR pmax pmax
comp=Z,94nm,0.8s
KK31 **Karatay Array** 22.64 305 P **P** 21 50 57.8 +0.1
KK31 IAmb IAmb 21 51 00.7
comp=Z,52nm,1.0s
KK31 **Karatay Array** 22.64 305 P **P** 21 50 57.8 +0.1
KK31 pmax pmax
comp=Z,52nm,1.0s
KKAR **Karatay Array** 22.64 305 P **P** 21 50 58.1 +0.4
KKAR **Karatay Array** 22.64 305 P **P** 21 50 58.1 +0.4
KKAR IAmb IAmb 21 51 00.7
comp=Z,52nm,1.0s
KKAR **Karatay Array** 22.64 305 P **P** 21 50 58.1 +0.4
KKAR pmax pmax
comp=Z,52nm,1.0s
ZAA0 **Zalesovo Array** 22.78 343 P **P** 21 50 58.5 -0.4
ZAA0 IAmb IAmb 21 51 01.6
comp=Z,66nm,1.1s
ZALV **Zalesovo Beam** 22.78 343 P **P** 21 50 58.5 -0.5
comp=Z,46nm,1.0s,baz=162,slow=10,SNR=102
ZALV LR LR 22 00 34.7
comp=Z,527nm,19.5s,baz=164,slow=39
comp=Z,46nm,1.0s
ZALV **Zalesovo Beam** 22.78 343 P **P** 21 50 58.3 -0.7
ZALV **Zalesovo Beam** 22.78 343 *i* P **P** 21 50 58.5 -0.5
ZALV pmax pmax
comp=Z,47nm,1.0s
TAS **Tashkent** 23.01 300 P **P** 21 51 01.9 +0.3
TAS **Tashkent** 23.01 300 P **P** 21 51 01.9 +0.3
TAS pmax pmax
comp=Z,49nm,0.6s
SSLB **Suanglung** 23.59 106 P **P** 21 51 06.1 -1.4
SSLB IAmb IAmb 21 51 21.1
comp=Z,42nm,1.3s
SSLB **Suanglung** 23.59 106 P **P** 21 51 08.4 +1.0
NACB **Ninganchiao** 23.94 104 P **P** 21 51 10.0 -0.7
NACB IAmb IAmb 21 51 30.0
comp=Z,25nm,0.9s
NACB **Ninganchiao** 23.94 104 P **P** 21 51 13.8 +3.1
YULB **Yu-li** 24.06 106 P **P** 21 51 05.6 -6.2
YULB IAmb IAmb 21 51 27.3
comp=Z,33nm,1.3s
SRIT **Nakonsritamara** 24.13 171 P **P** 21 51 12.4 -0.1
SRIT IAmb IAmb 21 51 13.8
comp=Z,33nm,1.2s
TWG **Pinlang** 24.15 108 P **P** 21 51 11.7 -0.9
TWG IAmb IAmb 21 51 17.0
comp=Z,21nm,0.6s
TWGBT **Beinan** 24.15 108 P **P** 21 51 13.0 +0.3
HIA **Hailar** 24.27 40 P **P** 21 51 13.3 -0.2
HIA **Hailar** 24.27 40 P **P** 21 51 14.6 +1.1
HIA **Hailar** 24.27 40 P **P** 21 51 13.3 -0.2
HIA pmax pmax
comp=Z,30nm,1.5s
BRZS **Berezniki** 24.52 322 *e*P **P** 21 51 15.5 -0.3
baz=322
BRZS **Berezniki** 24.52 322 *e*P **P** 21 51 15.5 -0.3

INCN **Inchon** 25.43 70 P **P** 21 51 22.8 -1.3
INCN IAmb IAmb 21 51 26.0
comp=Z,23nm,0.9s
INCN **Inchon** 25.43 70 P **P** 21 51 22.8 -1.3
INCN pmax pmax
comp=Z,23nm,1.0s
CN2 **Changchun** 25.52 56 *e*P **P** 21 51 25.1 +0.3
CN2 PP **PnPn** 21 52 04.1 +3.0
CN2 S **S** 21 55 48.8 -1.1
CN2 sS sS 21 55 55.9 -13
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 LR LR
comp=Z,2µm,15.0s
CN2 LR LR
comp=Z,870nm,15.0s
CN2 LR LR
comp=Z,670nm,16.0s
TJN **Taejon** 26.01 73⇓*e*P **P** 21 51 30.7 +1.3
KS19 **Wonju Array Si** 26.41 70 P **P** 21 51 33.7 +0.6
KSAR **Wonju Array Be** 26.43 71 P **P** 21 51 32.5 -0.6
KSAR **Wonju Array Be** 26.43 71 P **P** 21 51 32.5 -0.6
KSRS **Korea Array** 26.46 71 P **P** 21 51 32.5 -0.8
comp=Z,5.5nm,0.7s,baz=261,slow=10,SNR=19
KSRS LR LR 22 01 20.1
comp=Z,188nm,19.9s,baz=260,slow=35
comp=Z,5.5nm,0.7s
BVAR **Borovoye Array** 27.50 325 P **P** 21 51 43.6 +1.0
comp=Z,8.9nm,0.9s,baz=130,slow=10,SNR=30
BVAR LR LR 22 02 51.0
comp=Z,725nm,20.5s,baz=119,slow=37
comp=Z,8.9nm,0.9s
KULM **Kulim** 27.53 170 P **P** 21 51 42.5 -0.8
KULM **Kulim** 27.53 170 P **P** 21 51 43.3 +0.1
comp=Z,13nm,1.0s
BRVK **Borovoye** 27.57 325 P **P** 21 51 43.5 +0.2
BRVK **Borovoye** 27.57 325*ce*P **P** 21 51 44.3 +1.0
BRVK pmax pmax
comp=Z,13nm,0.8s
HRA **Herat** 28.18 283 P **P** 21 51 49.4 +0.2
HRA IAmb IAmb 21 51 50.9
comp=Z,17nm,1.1s
IPM **Ipoh** 28.38 170 P **P** 21 51 49.2 -1.6
JOW **Kunigami** 28.49 93 LR LR 22 03 35.3
comp=Z,432nm,21.7s,baz=277,slow=37
PALK **Pallekele** 28.98 213 LR LR 22 04 07.0
comp=Z,369nm,21.9s,baz=139,slow=38
HEH **HeiHe** 29.07 43 *e*P **P** 21 51 56.5 -0.2
HEH pmax pmax
comp=Z,5.0nm,0.9s
HEH LR LR
comp=Z,640nm,11.5s
HEH LR LR
comp=Z,1µm,10.3s
HEH LR LR
comp=Z,1µm,10.8s
PSI **Prapat** 29.79 174 P **P** 21 52 04.8 +1.4
comp=Z,6.3nm,1.1s
PSI **Prapat** 29.79 174 P **P** 21 52 04.2 +0.8
PSI pmax pmax
comp=Z,5.0nm,0.8s
RPSI **Rantau Prapat** 29.89 174 P **P** 21 52 04.2 0.0
USA0B **Ussuriysk Arra** 30.20 57⇑*e*P **P** 21 52 05.8 -0.9
USRK **Ussuriysk Ar.** 30.20 57 LR LR 22 04 37.9
comp=Z,426nm,19.6s,baz=249,slow=37
ZEA **Zeya** 30.63 37 *e*P **P** 21 52 11.7 +1.3
ZEA *e* 21 52 19.2
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,500nm,8.0s
ZEA MLR MLR
comp=N,300nm,9.0s
ZEA MLR MLR
comp=Z,500nm,10.0s
GSI **Gunungsitoli** 31.19 177 P **P** 21 52 15.3 -0.3
GSI **Gunungsitoli** 31.19 177 P **P** 21 52 16.4 +0.8
comp=Z,31nm,0.8s
GSI **Gunungsitoli** 31.19 177 P **P** 21 52 15.7 +0.1
GEYT **Alibeck** 31.28 291 P **P** 21 52 18.1 +1.7
comp=Z,13nm,1.0s,baz=116,slow=6.8,SNR=21
GEYT LR LR 22 07 27.7
comp=Z,785nm,18.5s,baz=86,slow=41
comp=Z,13nm,1.0s
GEYT **Alibeck** 31.28 291 P **P** 21 52 15.2 -1.2
GEYT IAmb IAmb 21 52 19.6
comp=Z,15nm,1.0s
GYA0B **ALIBECK ARRAY** 31.28 291 P **P** 21 52 16.8 +0.4
GYA0B IAmb IAmb 21 52 19.6
comp=Z,16nm,1.1s
KLR **Kul'dur** 31.30 47 LR LR 22 05 28.2
comp=Z,228nm,18.2s,baz=250,slow=38
KLR **Kul'dur** 31.30 47⇓*e*P **P** 21 52 16.6 +0.2
KLR pmax pmax
comp=Z,12nm,1.4s
MYKOM **Kota Tinggi** 31.53 165 P **P** 21 52 18.2 -0.4
MYKOM IAmb IAmb 21 52 19.6
comp=Z,14nm,1.1s
MYKOM **Kota Tinggi** 31.53 165 P **P** 21 52 18.7 0.0
comp=Z,11nm,1.4s
ABKAR **Akbulak array** 31.57 312 P **P** 21 52 19.6 +0.8
KKM **Kota Kinabalu** 32.44 140 P **P** 21 52 26.3 -0.5
KKM IAmb IAmb 21 52 31.0
comp=Z,20nm,0.9s
KKM **Kota Kinabalu** 32.44 140 P **P** 21 52 27.9 +1.2
comp=Z,25nm,1.0s
KKM **Kota Kinabalu** 32.44 140 P **P** 21 52 28.0 +1.2
SBUM **Sibu** 33.63 150 P **P** 21 52 37.5 +0.4
SBUM **Sibu** 33.63 150 P **P** 21 52 39.1 +2.0
comp=Z,4.3nm,0.9s
SDSI **Sungai Dareh** 33.76 170 P **P** 21 52 38.7 +0.5
comp=Z,6.1nm,1.4s
KSM **Kuching** 33.76 154 P **P** 21 52 37.8 -0.5
KSM IAmb IAmb 21 52 46.3
comp=Z,12nm,0.7s
KSM **Kuching** 33.76 154 P **P** 21 52 41.3 +3.1
comp=Z,18nm,1.1s
SISI **Saibi** 33.89 175 P **P** 21 52 40.7 +1.4
comp=Z,37nm,1.7s
DSRI **Dabo** 33.89 165 P **P** 21 52 39.8 +0.5
comp=Z,9.9nm,0.8s
WSAR **Wadi Sarin** 34.22 264 LR LR 22 07 39.7
comp=Z,321nm,18.4s,baz=115,slow=38
SVE **Sverdlovsk** 34.29 326*de*P **P** 21 52 43.9 +1.5
SVE pmax pmax
comp=Z,61nm,0.9s
MYLDM **Lahad Datu** 34.42 138 P **P** 21 52 44.2 +0.3
MYLDM **Lahad Datu** 34.42 138 P **P** 21 52 47.1 +3.2
comp=Z,38nm,0.7s
MJAR **Matsushiro Arr** 34.72 72 LR LR 22 06 24.7
comp=Z,248nm,20.0s,baz=260,slow=36
ARU **Arti** 35.11 324 LR LR 22 07 41.2
comp=Z,511nm,18.2s,baz=106,slow=37
ARU **Arti** 35.11 324 P **P** 21 52 50.0 +0.5
ARU **Arti** 35.11 324*c i*P **P** 21 52 50.3 +0.8
ARU 21 54 09.5
ARU 21 55 21.2
ARU S **S** 21 58 26.5 +6.8
ARU SS **SnSn** 22 00 30.8 -6.8
ARU pmax pmax
comp=Z,59nm,1.0s
ARU MLR MLR
comp=Z,469nm,17.0s
PPBI **Pangkal Pinang** 35.89 163 P **P** 21 52 57.5 +0.9
YAK **Yakutsk** 36.44 26 LR LR 22 08 51.4
comp=Z,503nm,18.0s,baz=270,slow=38
YAK **Yakutsk** 36.44 26 P **P** 21 53 00.6 -0.2
YAK IAmb IAmb 21 53 14.3
comp=Z,29nm,0.9s
YAK **Yakutsk** 36.44 26 *e*P **P** 21 53 00.0 -0.8
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK MLR MLR
comp=Z,675nm,11.0s
YAK MLR MLR
comp=E,432nm,11.0s
YAK MLR MLR
comp=N,353nm,11.0s

NRIK **Noril'sk** 37.08 355 P **P** 21 53 05.6 -0.5
comp=N,13nm,0.9s,baz=161,slow=7.2,SNR=13
NRIK LR LR 22 08 13.4
comp=N,200nm,18.6s,baz=181,slow=36
comp=N,13nm,0.9s
NRIK **Noril'sk** 37.08 355 P **P** 21 53 05.8 -0.3
NRIK IAmb IAmb 21 53 07.4
comp=Z,30nm,1.2s
NRIK **Noril'sk** 37.08 355*ce*P **P** 21 53 06.2 0.0
NRIK pmax pmax
comp=Z,24nm,1.1s
TOLI2 **Tolitoli** 39.04 138 P **P** 21 53 23.3 0.0
TOLI2 **Tolitoli** 39.04 138 P **P** 21 53 24.6 +1.3
MAK **Makhachkala** 39.25 300 *e*P **P** 21 53 20.1 -4.7
MAK *e*S **S** 21 59 19.5 -3.5
MAK MLR MLR
comp=Z,177nm,10.0s
BELG **Belogornoye** 39.91 314*c i*P **P** 21 53 30.8 +0.7
BELG pmax pmax
comp=Z,15nm,1.0s
KIRV **Kirov** 40.49 324 LR LR 22 11 08.8
comp=Z,394nm,20.8s,baz=105,slow=37
KIRV **Kirov** 40.49 324*ce*P **P** 21 53 34.1 -0.8
GROC **Groznyy** 40.50 300 *e*P **P** 21 53 36.1 +0.9
GROC *e* 21 55 10.0
GROC pmax pmax
comp=Z,29nm,0.6s
LEM **Lembang** 40.74 162 LR LR 22 12 24.4
comp=Z,499nm,20.3s,baz=340,slow=39
GNI **Garni** 41.51 295 P **P** 21 53 45.1 +1.4
comp=Z,18nm,1.1s,baz=84,slow=5.9,SNR=3.3
GNI LR LR 22 13 32.1
comp=Z,178nm,19.4s,baz=74,slow=40
comp=Z,18nm,1.1s
GNI **Garni** 41.51 295 P **P** 21 53 44.1 +0.3
GNI IAmb IAmb 21 53 52.8
comp=Z,59nm,1.4s
GNI **Garni** 41.51 295*ce*P **P** 21 53 45.4 +1.6
GNI pmax pmax
comp=Z,43nm,1.5s
ZEI **Tsey** 41.91 299 *e*P **P** 21 53 47.5 +0.5
ZEI pmax pmax
comp=Z,13nm,1.0s
NCK **Nalchik** 42.09 301⇓*i*P **P** 21 53 49.3 +1.1
NCK pmax pmax
comp=Z,4.0nm,0.3s
ONI **Oni** 42.25 299 P **P** 21 53 50.6 +1.0
ONI IAmb IAmb 21 53 53.0
comp=Z,32nm,1.0s
ONI **Oni** 42.25 299 P **P** 21 53 50.6 +1.0
ONI pmax pmax
comp=Z,32nm,1.0s
GOF **Gofitskoye** 42.41 303⇑*e*P **P** 21 53 52.6 +1.7
GOF pmax pmax
comp=Z,153nm,0.9s
KBZ **Khabaz** 42.58 301 P **P** 21 53 52.9 +0.7
comp=Z,7.5nm,0.8s,baz=87,slow=5.2,SNR=10
KBZ LR LR 22 14 57.6
comp=Z,471nm,19.8s,baz=84,slow=41
comp=Z,7.5nm,0.8s
KBZ **Khabaz** 42.58 301⇑*i*P **P** 21 53 53.4 +1.2
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KVAR **Kislovodsk Arr** 42.71 301 P **P** 21 53 55.1 +1.7
comp=Z,14nm,0.8s,baz=117,slow=18,SNR=3.5
comp=Z,14nm,0.8s
KIV **Kislovodsk** 42.72 301 P **P** 21 53 53.9 +0.4
KIV IAmb IAmb 21 54 04.0
comp=Z,30nm,0.8s
KIV **Kislovodsk** 42.72 301 *e*P **P** 21 53 54.6 +1.1
KIV pmax pmax
comp=Z,45nm,1.1s
KIV MLR MLR
comp=Z,250nm,16.0s
NEY **Neytrino** 42.74 300⇑*e*P **P** 21 53 56.1 +2.4
NEY pmax pmax
comp=Z,5.0nm,0.9s
TIXI **Tiksi** 42.81 15 LR LR 22 12 09.5
comp=Z,122nm,20.1s,baz=34,slow=37
TIXI **Tiksi** 42.81 15 P **P** 21 53 52.9 -0.8
TIXI **Tiksi** 42.81 15⇓*i*P **P** 21 53 52.3 -1.4
TIXI pmax pmax
comp=Z,12nm,1.5s
PRGR **Permogore** 43.27 328 *e*P **P** 21 53 57.6 +0.1
PRGR pmax pmax
comp=Z,36nm,0.9s
VRH **Novokhopyorsk** 43.40 312 *e*P **P** 21 53 58.2 -0.5
VRH pmax pmax
comp=Z,30nm,0.9s
KAPI **Kappang** 43.68 145 LR LR 22 13 52.5
comp=Z,231nm,19.9s,baz=312,slow=38
GURO **Guroymak-BITLI** 43.81 294 P **P** 21 54 03.4 +1.0
MA2 **Magadan** 44.77 36 LR LR 22 14 19.3
comp=Z,286nm,18.4s,baz=242,slow=38
VORR **Voronezh** 45.00 312 *e*P **P** 21 54 12.1 +0.6
VORR pmax pmax
comp=Z,50nm,0.5s
MARD **Mardin** 45.01 292 P **P** 21 54 12.0 0.0
MARD IAmb IAmb 21 54 20.4
comp=Z,9.6nm,0.8s
VSR **Storozhevoye** 45.01 312 *e*P **P** 21 54 11.3 -0.3
VSR pmax pmax
comp=Z,20nm,1.1s
RAYN **Ar Rayn** 45.17 272 P **P** 21 54 13.5 +0.2
RAYN pmax pmax
comp=Z,5.0nm,0.8s
LPSR **Galich'ya Gora** 45.21 314 *e*P **P** 21 54 12.8 -0.4
LPSR pmax pmax
comp=Z,50nm,0.8s
KLMR **Klimovskoe** 45.92 325 *e*P **P** 21 54 18.6 -0.2
KLMR AMP 21 54 20.3
comp=Z,72nm,1.1s
KLMR *e*PP **PP** 21 56 06.6 +0.1
KLMR **Klimovskoe** 45.92 325 *e*P **P** 21 54 18.5 -0.2
KLMR *e* 21 56 06.5
KLMR pmax pmax
comp=Z,72nm,1.1s
MOS **Moscow** 46.19 318 *e*P **P** 21 54 19.8 -1.0
MOS pmax pmax
comp=Z,60nm,0.8s
SEY **Seymchan** 46.28 32⇑*e*P **P** 21 54 19.6 -1.9
SEY pmax pmax
comp=Z,79nm,2.8s
ANN **Anapa** 46.41 303 *e*P **P** 21 54 20.5 -2.2
ANN *e*PP pP 21 54 23.8 -11
ANN *e*S **S** 22 01 08.5 +0.5
ANN pmax pmax
comp=Z,47nm,0.7s
ANN MLR MLR
comp=Z,749nm,16.0s
ANN MLR MLR
comp=E,838nm,23.0s
ANN MLR MLR
comp=N,843nm,16.0s
OBN **Obninsk** 46.74 317 P **P** 21 54 25.0 -0.2
comp=N,1.8nm,0.4s,baz=93,slow=21,SNR=1.9
OBN LR LR 22 14 54.8
comp=N,110nm,19.9s,baz=101,slow=37
comp=N,1.8nm,0.4s
OBN **Obninsk** 46.74 317 P **P** 21 54 24.7 -0.5
OBN **Obninsk** 46.74 317⇓*e*P **P** 21 54 25.9 +0.7
OBN *e* 21 55 57.1
OBN *e* 21 56 15.4
OBN pmax pmax
comp=Z,44nm,1.4s
OBN MLR MLR
comp=Z,500nm,19.0s
TOKA **Tokat** 47.74 297 P **P** 21 54 33.3 0.0
TOKA IAmb IAmb 21 54 35.2
comp=Z,19nm,1.4s
GAZ **Gaziantep** 47.82 293 P **P** 21 54 34.8 +0.8
GAZ IAmb IAmb 21 54 36.2
comp=Z,14nm,0.8s
GUMO **Guam** 48.27 101 LR LR 22 14 35.8
comp=Z,79nm,21.9s,baz=84,slow=36
BNN **Bunyan** 48.51 295 P **P** 21 54 39.0 -0.4
SIM **Simferopol'** 48.73 304 *e*P **P** 21 54 42.0 +1.2
SIM *e* 21 56 35.4
SIM pmax pmax
comp=Z,38nm,0.7s
SIM pmax pmax
comp=Z,33nm,15.7s
BZK **Bozkurt** 49.28 300 P **P** 21 54 45.3 +0.3
ASF **Jabal al Asfar** 49.37 286 P **P** 21 54 47.0 +1.0
comp=Z,6.0nm,0.9s,baz=52,slow=4.0,SNR=6.8
comp=Z,6.0nm,0.9s

LVZ Lovozero 49.50 334 P **P** **21 54 46.5 +0.1**
LVZ Lovozero 49.50 334 P **P** **21 54 46.5 +0.1**
LVZ pmax pmax
comp=Z,97nm,1.5s
ILGA Ilgaz 49.66 299 P **P** **21 54 48.5 +0.2**
APA Apatity 49.89 334 ⇓*i*P P 21 54 58.5 +9.2
APA pmax pmax
comp=Z,10.0nm,1.0s
BR131 Keskin Array S 50.00 297 P **P** **21 54 50.4 -0.3**
BR131 IAmb IAmb 21 54 56.5
comp=Z,8.8nm,0.8s
BR131 Keskin Array S 50.00 297 ⇓*e*P **P** **21 54 51.2 +0.5**
BRTR Keskin Array B 50.00 297 P **P** **21 54 51.0 +0.2**
comp=Z,5.2nm,0.8s,baz=96,slow=7.8,SNR=14
BRTR LR LR 22 21 39.1
comp=Z,145nm,18.4s,baz=116,slow=43
comp=Z,5.2nm,0.8s
BRTR Keskin Array B 50.00 297 P **P** **21 54 50.1 -0.6**
BRTR Keskin Array B 50.00 297 P **P** **21 54 51.0 +0.2**
SOEI Soe 50.00 143 P **P** **21 54 51.1 +0.1**
SOEI IAmb IAmb 21 55 06.4
comp=Z,26nm,1.0s
BATI Baumata 50.08 144 LR LR 22 19 33.2
comp=Z,307nm,18.3s,baz=350,slow=40
MMAI Mount Meron Ar 50.33 288 LR LR 22 19 06.4
comp=Z,112nm,19.0s,baz=317,slow=40
ANTO Ankara 50.60 297 P **P** **21 54 55.6 +0.4**
ANTO IAmb IAmb 21 54 56.8
comp=Z,22nm,0.8s
ANTO Ankara 50.60 297 P **P** **21 54 55.6 +0.4**
ANTO pmax pmax
comp=Z,22nm,0.8s
BR231 Keskin MP Arra 50.62 297 P **P** **21 54 55.7 +0.2**
BR231 IAmb IAmb 21 54 57.0
comp=Z,20nm,0.9s
AKASG Malin Array Be 51.31 311 P **P** **21 55 00.1 -0.1**
comp=Z,10nm,0.8s,baz=73,slow=6.8,SNR=36
AKASG LR LR 22 18 52.4
comp=Z,188nm,20.1s,baz=89,slow=38
comp=Z,10nm,0.8s
AKASG Malin Array Be 51.31 311 P **P** **21 55 00.4 +0.2**
AKASG Malin Array Be 51.31 311 P **P** **21 55 00.4 +0.2**
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKBB Malin Array Si 51.31 311 P **P** **21 54 60.0 -0.2**
AKBB IAmb IAmb 21 55 01.3
comp=Z,18nm,0.8s
AKBB Malin Array Si 51.31 311 ⇑*e*P **P** **21 55 00.2 0.0**
AKBB pmax pmax
comp=Z,24nm,1.0s
CSS Mathiatis 51.42 291 P **P** **21 55 02.5 +1.2**
PURM Purcari 51.44 306 ⇓P **P** **21 55 02.2 +1.0**
MDUB Mudurnu 51.66 298 P **P** **21 55 02.5 -0.7**
EIL Elat 51.75 284 P **P** **21 55 04.3 +0.4**
comp=Z,10nm,0.8s,baz=53,slow=5.3,SNR=6.1
EIL LR LR 22 19 59.2
comp=Z,266nm,18.5s,baz=62,slow=39
comp=Z,10nm,0.8s
MNK Minsk 51.77 316 *i* P **P** **21 55 01.6 -2.1**
comp=E,3.0nm,0.8s
MNK *i* P **P** **21 55 01.6 -2.1**
comp=N,23nm,1.0s
MNK *i* P **P** **21 55 01.6 -2.1**
comp=Z,25nm,0.8s
MNK *i* PP **PP** **21 57 02.6 +1.3**
MNK *i* PPP PPP 21 58 03.3
MNK *i* S **S** **22 02 23.1 0.0**
MNK *i* SS **SS** **22 05 59.3 -0.2**
MNK *i* SSS SSS 22 07 41.7
MNK *i* LR LR 22 14 58.1
MNK *i* LRM MLR 22 17 45.2
comp=Z,661nm,19.5s
MNK *i* LRM MLR 22 18 07.2
comp=E,84nm,18.7s
MNK *i* LRM MLR 22 18 22.5
comp=N,344nm,14.4s
MNK Minsk 51.77 316 *i* P **P** **21 55 01.6 -2.1**
MNK *i* 21 57 02.5
MNK *i* PPP PPP 21 58 03.3
MNK *i* S **S** **22 02 23.0 0.0**
MNK *i* SS **SS** **22 05 59.2 -0.2**
MNK *i* SSS SSS 22 07 41.7
MNK pmax pmax
comp=Z,25nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,23nm,1.0s
MNK MLR MLR
comp=Z,661nm,20.0s
MNK MLR MLR
comp=E,84nm,19.0s
MNK MLR MLR
comp=N,344nm,14.0s
MILM Milestii Mici 52.09 307 ⇑P **P** **21 55 05.9 -0.3**
MILM Milestii Mici 52.09 307 P **P** **21 55 05.9 -0.3**
VSU Vasula 52.19 322 *e*P **P** **21 55 07.6 +0.9**
VSU Vasula 52.19 322 *de*P **P** **21 55 07.1 +0.4**
VSU pmax pmax
comp=Z,123nm,0.9s
SORM Soroca 52.21 308 ⇑P **P** **21 55 06.9 -0.1**
SORM Soroca 52.21 308 P **P** **21 55 06.9 -0.1**
BORA Eskisehir 52.35 298 P **P** **21 55 07.8 -0.5**
BORA IAmb IAmb 21 55 09.0
comp=Z,15nm,1.3s
NACGM Naroch 52.38 317 *e*P **P** **21 55 09.1 +0.9**
comp=Z,34nm,0.8s,baz=85
FINES FINESS Array B 52.46 325 P **P** **21 55 08.9 +0.3**
comp=Z,8.2nm,0.5s,baz=90,slow=7.7,SNR=85
comp=Z,8.2nm,0.5s
FINES FINESS Array B 52.46 325 *i* P **P** **21 55 09.1 +0.5**
FINES pmax pmax
comp=Z,8.0nm,0.5s
SAUI Saumlaki 52.51 134 P **P** **21 55 08.2 -1.4**
TPGR Topolog 52.74 304 ⇓P **P** **21 55 11.8 +0.8**
BILL Bilibino 52.80 26 P **P** **21 55 11.6 +0.5**
BILL IAmb IAmb 21 55 21.0
comp=Z,28nm,1.5s
BILL Bilibino 52.80 26 ⇑*e*P **P** **21 55 11.4 +0.3**
BILL *e* 21 56 22.8
BILL *e* 21 57 16.8
BILL pmax pmax
comp=Z,31nm,1.9s
BILL MLR MLR
comp=Z,162nm,15.0s
TIRR Tirgusor 52.82 304 P **P** **21 55 11.9 +0.3**
TIRR Tirgusor 52.82 304 P **P** **21 55 11.9 +0.3**
TIRR pmax pmax
comp=Z,98nm,1.3s
ARA0 ARCESS Array S 53.05 335 *e*P **P** **21 55 13.7 +0.7**
ARCES ARCESS Array B 53.05 335 P **P** **21 55 13.4 +0.4**
comp=Z,4.9nm,0.6s,baz=80,slow=7.5,SNR=23
ARCES LR LR 22 20 30.8
comp=Z,717nm,18.1s,baz=97,slow=39
comp=Z,4.9nm,0.6s
HARR Harsova 53.11 304 ⇑P **P** **21 55 14.4 +0.6**
HARR Harsova 53.11 304 P **P** **21 55 14.3 +0.6**
TESR Tescani 53.63 307 ⇑P **P** **21 55 18.0 +0.5**
MTSE Matsula 53.70 322 *e*P **P** **21 55 17.4 -0.4**
VRI Vrincioaia 53.71 306 ⇓P **P** **21 55 19.4 +1.3**
VRI Vrincioaia 53.71 306 P **P** **21 55 19.4 +1.3**
PLOR Plostina 53.76 306 ⇓P **P** **21 55 18.9 +0.3**
PLOR Plostina 53.76 306 P **P** **21 55 18.9 +0.3**
HAMF Hammerfest 53.77 337 *e*P **P** **21 55 19.2 +1.0**
KTK1 Kautokeino 53.82 335 *e*P **P** **21 55 19.7 +1.1**
KTK1 IAmb IAmb 21 55 19.9
comp=Z,183nm,1.8s
PABE Paberze 53.92 318 P **P** **21 55 19.9 +0.4**
PABE Paberze 53.92 318 *e*P **P** **21 55 20.4 +0.9**
ISR Istrita 53.99 305 ⇓P **P** **21 55 20.5 +0.2**
ISR Istrita 53.99 305 P **P** **21 55 20.4 +0.2**
COVR Voineasa-Covas 54.07 306 ⇓P **P** **21 55 21.1 +0.3**
NEHR Nehoiu 54.09 305 ⇓P **P** **21 55 21.2 +0.2**
SULR 54.28 304 ⇑P **P** **21 55 22.3 0.0**
MLR Muntele Rosu 54.32 305 ⇓P **P** **21 55 22.6 -0.1**
MLR Muntele Rosu 54.32 305 P **P** **21 55 23.7 +0.9**
comp=Z,24nm,1.0s,baz=83,slow=5.7
MLR LR LR 22 22 40.9
comp=Z,437nm,20.8s,baz=65,slow=40
comp=Z,24nm,1.0s
MLR Muntele Rosu 54.32 305 P **P** **21 55 23.5 +0.7**
RAZG Razgrad 54.35 303 ⇓P **P** **21 55 22.6 -0.3**
BURAR Bucovina Array 54.38 308 ⇑P **P** **21 55 24.8 +1.7**
BURAR Bucovina Array 54.38 308 P **P** **21 55 23.4 +0.3**
BUR08 Bucovina Ar. S 54.38 308 P **P** **21 55 22.8 -0.4**

RAF Rauma 54.56 325 *e*P **P** **21 55 23.8 -0.2**
DOPR Dopca 54.60 306 ⇓P **P** **21 55 25.0 +0.4**
LVV L'vov 54.73 311 *e*P **P** **21 55 25.8 +0.3**
JETT Jettan, Norway 54.84 335 *e*P **P** **21 55 26.9 +0.8**
JETT IAmb IAmb 21 55 27.1
comp=Z,26nm,0.9s
VOIR 54.95 306 ⇓P **P** **21 55 27.8 +0.6**
VOIR 54.95 306 P **P** **21 55 27.8 +0.6**
ARCR ARCALIA 55.06 308 ⇑P **P** **21 55 29.1 +1.1**
ARG Arkhangelos 55.11 294 P P 21 55 33.1 +4.6
ARG Arkhangelos 55.11 294 P P 21 55 33.1 +4.6
COPA Copaceanca 55.13 304 ⇓P **P** **21 55 28.7 +0.2**
STFAR Stefanesti-Arg 55.14 305 ⇓P **P** **21 55 29.2 +0.7**
ARR Arges 55.25 306 ⇑P **P** **21 55 29.6 +0.2**
TRO Tromso 55.36 335 *e*P **P** **21 55 30.0 +0.3**
TRO IAmb IAmb 21 55 32.9
comp=Z,242nm,1.9s
BMR Baia Mare 55.51 309 ⇑P **P** **21 55 32.4 +1.3**
BMR Baia Mare 55.51 309 P **P** **21 55 32.4 +1.3**
CJR Cluj-Napoca 55.65 307 ⇓P **P** **21 55 32.4 +0.2**
CJR Cluj-Napoca 55.65 307 P **P** **21 55 32.4 +0.2**
RDO Rodhopi 55.66 300 P **P** **21 55 31.8 -0.5**
LOT Lotru 55.82 306 ⇑P **P** **21 55 34.2 +0.6**
KOLS Kolonicke sedl 56.03 310 *e*P **P** **21 55 35.8 +0.9**
KOLS Kolonicke sedl 56.03 310 *e*P **P** **21 55 35.9 +1.0**
KOLS pmax pmax
comp=Z,12nm,1.4s
TRPA Tarpa 56.03 309 ⇑P **P** **21 55 36.5 +1.6**
TRPA Tarpa 56.03 309 P **P** **21 55 35.3 +0.5**
UZH Uzhgorod 56.09 310 *e*P **P** **21 55 36.0 +0.7**
UZH *e* 21 55 41.5
SPB2 Spitsbergen Ar 56.21 346 P **P** **21 55 35.2 -0.5**
SPITS Spitsbergen Ar 56.21 346 P **P** **21 55 35.2 -0.6**
SPITS pmax pmax
comp=Z,88nm,1.5s
DEV Deva 56.31 307 ⇓P **P** **21 55 37.9 +0.9**
DEV Deva 56.31 307 P **P** **21 55 37.8 +0.9**
GZR Gura Zlata 56.51 306 ⇓P **P** **21 55 39.4 +0.9**
CRVS Cervenica-Dubn 56.56 310 *e*P **P** **21 55 41.3 +2.6**
CRVS Cervenica-Dubn 56.56 310 *e*P **P** **21 55 41.3 +2.6**
STHS Stebnicka Huta 56.59 311 *e*P **P** **21 55 38.5 -0.4**
STHS Stebnicka Huta 56.59 311 *e*P **P** **21 55 38.5 -0.4**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STEI Steigen 56.80 334 *e*P **P** **21 55 39.2 -0.8**
STEI IAmb IAmb 21 55 41.2
comp=Z,43nm,1.1s
FAUS Fauske 56.83 333 *e*P **P** **21 55 40.5 +0.3**
FAUS IAmb IAmb 21 55 41.0
comp=Z,34nm,0.9s
ABAH Abaujker 56.84 310 P **P** **21 55 40.7 0.0**
SURR Surduc 56.87 307 ⇑P **P** **21 55 42.1 +1.2**
VTS Vitosha 56.91 303 ⇑P **P** **21 55 41.8 +0.3**
VTS Vitosha 56.91 303 IAmb IAmb 21 55 43.4
comp=Z,12nm,1.0s
VTS Vitosha 56.91 303 P **P** **21 55 41.8 +0.3**
SIRR Siria 57.05 307 ⇑P **P** **21 55 43.1 +0.9**
BZS Buzias 57.25 306 ⇓P **P** **21 55 43.6 0.0**
BZS Buzias 57.25 306 P **P** **21 55 43.5 0.0**
MOR8 Moi Rana 57.30 331 *e*P **P** **21 55 43.0 -0.7**
MOR8 IAmb IAmb 21 55 43.9
comp=Z,27nm,1.1s
KNRA Kununurra 57.32 142 P **P** **21 55 44.0 -0.3**
OJC Ojcow 57.32 312 *e*P **P** **21 55 41.9 -2.1**
OJC *e*L L 22 21 50.0
comp=Z,472nm,17.2s
OJC Ojcow 57.32 312 IAmb IAmb 21 55 43.4
comp=Z,19nm,1.0s
LOF Lofoten 57.41 334 *e*P **P** **21 55 44.1 -0.3**
PSZ Piszkesteto 57.81 309 P **P** **21 55 48.0 +0.4**
PSZ Piszkesteto 57.81 309 P **P** **21 55 49.0 +1.4**
PSZ Piszkesteto 57.81 309 P **P** **21 55 48.0 +0.4**
PSZ pmax pmax
comp=Z,9.0nm,1.2s
SMY Shemya 57.84 45 P **P** **21 55 46.8 -0.8**
SMY Shemya 57.84 45 P **P** **21 55 46.8 -0.8**
SMY pmax pmax
comp=Z,273nm,1.2s
IDI Anoyia 57.90 294 LR LR 22 24 55.1
comp=Z,63nm,21.6s,baz=94,slow=40
VYHS Vyhne 58.35 310 *e*P **P** **21 55 52.1 +0.8**
VYHS Vyhne 58.35 310 *e*P **P** **21 55 52.1 +0.8**
VYHS pmax pmax
comp=Z,13nm,1.2s
OKC Ostrava-Krasne 58.45 312 *e*P **P** **21 55 52.9 +1.0**
OKC Ostrava-Krasne 58.45 312 *e*P **P** **21 55 52.9 +1.0**
NSS Namsos 58.58 330 *e*P **P** **21 55 52.5 -0.1**
HFS Hagfors 58.63 324 P **P** **21 55 53.2 +0.2**
comp=Z,10.0nm,0.5s,baz=98,slow=10,SNR=36
HFS LR LR 22 22 59.1
comp=Z,475nm,20.9s,baz=71,slow=38
comp=Z,10.0nm,0.5s
MAUC Maruska 58.77 312 *e*P **P** **21 55 55.1 +0.9**
DIVS Divibare 58.77 305 IAmb IAmb 21 55 55.8
comp=Z,18nm,1.2s
MORC Moravsky Berou 58.84 312 P **P** **21 55 55.1 +0.4**
MORC IAmb IAmb 21 55 56.6
comp=Z,14nm,1.0s
MORC Moravsky Berou 58.84 312 *e*P **P** **21 55 55.3 +0.6**
MORC Moravsky Berou 58.84 312 P **P** **21 55 55.2 +0.4**
MORC pmax pmax
comp=Z,14nm,1.0s
CSKK Cskako 59.02 309 P **P** **21 55 56.8 +0.8**
MORH Mrgy, Hungar 59.09 308 ⇑P **P** **21 55 57.5 +1.1**
MORH Mrgy, Hungar 59.09 308 P **P** **21 55 56.8 +0.4**
KRLC Kraliky 59.24 313 *e*P **P** **21 55 57.8 +0.3**
KRLC Kraliky 59.24 313 *e*P **P** **21 55 57.8 +0.3**
KBN Korca 59.25 301 P **P** **21 55 56.8 -1.0**
KBN IAmb IAmb 21 55 59.1
comp=Z,16nm,0.9s
KBN Korca 59.25 301 P **P** **21 55 56.8 -1.0**
KBN pmax pmax
comp=Z,16nm,0.9s
NC405 NORSAR Array S 59.38 326 P **P** **21 55 58.1 -0.1**
MODS Modra-Piesok 59.38 311 *e*P **P** **21 56 00.0 +1.5**
MODS Modra-Piesok 59.38 311 *e*P **P** **21 56 00.0 +1.5**
DPC Dobruska-Polom 59.45 313 *e*P **P** **21 56 00.0 +1.1**
DPC Dobruska-Polom 59.45 313 *e*P **P** **21 56 00.0 +1.1**
OSTC Ostas 59.46 313 *e*P **P** **21 55 59.9 +0.9**
KOVH Kovagotottos 59.48 308 P **P** **21 55 59.3 +0.1**
NC303 NORSAR Array S 59.51 326 IAmb IAmb 21 56 00.2
comp=Z,18nm,1.1s
ITM Ithomi 59.53 297 P **P** **21 55 58.9 -0.7**
NC602 NORSAR Array S 59.54 325 P **P** **21 55 59.3 -0.1**
NC602 NORSAR Array S 59.54 325 *e*P **P** **21 55 59.4 +0.1**
NC602 IAmb IAmb 21 55 59.7
comp=Z,19nm,0.6s
NORES NORESS Array B 59.54 325 P **P** **21 55 59.2 -0.1**
MPLH Magyarpolny 59.55 309 P **P** **21 56 00.0 +0.4**
VRAC Vranov 59.56 312 ⇑P **P** **21 56 01.6 +1.9**
VRAC Vranov 59.56 312 P **P** **21 56 00.7 +1.0**
comp=Z,7.8nm,0.8s,baz=75,slow=6.5,SNR=12
VRAC LR LR 22 23 23.2
comp=Z,210nm,19.2s,baz=67,slow=38
comp=Z,7.8nm,0.8s
VRAC Vranov 59.56 312 *e*P **P** **21 56 00.7 +1.0**
TBLU Trondheim 59.57 328 *e*P **P** **21 55 58.0 -1.5**
NB201 NORSAR Array S 59.59 326 P **P** **21 55 59.4 -0.3**
UPC Upice 59.60 313 *e*P **P** **21 56 00.8 +0.9**
UPC Upice 59.60 313 *e*P **P** **21 56 00.8 +0.9**
NB2 NORSAR Subarra 59.63 326 P **P** **21 55 59.8 -0.2**
baz=77,slow=7.4
NB2 NORSAR Subarra 59.63 326 P **P** **21 55 59.8 -0.2**
comp=Z,12nm,0.6s,baz=77,slow=7.4
NOA NORSAR Array B 59.63 326 P **P** **21 55 59.9 -0.1**
comp=Z,12nm,0.6s,baz=76,slow=6.9,SNR=44
NOA LR LR 22 22 51.4
comp=Z,162nm,21.1s,baz=80,slow=37
comp=Z,12nm,0.6s
KRUC Moravsky 59.75 311 *e*P **P** **21 56 02.0 +1.0**
PDG Podgorica 59.78 303 ⇑P **P** **21 56 01.1 -0.2**
PDG Podgorica 59.78 303 P **P** **21 56 01.0 -0.2**
PDG IAmb IAmb 21 56 02.0
comp=Z,14nm,0.9s
NC204 NORSAR Array S 59.79 326 P **P** **21 56 01.0 -0.1**
NAO01 NORSAR Array S 59.83 326 P **P** **21 56 00.8 -0.5**
NBO00 NORSAR Array S 59.84 326 P **P** **21 56 01.4 +0.1**
SOP Sopron 60.04 310 P **P** **21 56 03.5 +0.6**
OSL Oslo 60.12 325 *e*P **P** **21 56 03.8 +0.5**
TREC Trest 60.26 312 *e*P **P** **21 56 05.9 +1.4**
TREC Trest 60.26 312 *e*P **P** **21 56 05.9 +1.4**
DOMB Dombas 60.39 327 *e*P **P** **21 56 05.3 +0.2**
RUE Ruedersdorf 60.41 316 *e*P **P** **21 56 06.0 +0.6**

CONA Conrad Observa 60.42 310 *i* P **P** **21 56 06.5 +0.8**
comp=Z,13nm,1.0s,SNR=10
PVCC Panska Ves 60.48 313 *e*P **P** **21 56 06.7 +0.8**
PVCC Panska Ves 60.48 313 *e*P **P** **21 56 06.7 +0.8**
PRU Pruhonice 60.65 313 *e*P **P** **21 56 07.8 +0.7**
PRU Pruhonice 60.65 313 *e*P **P** **21 56 07.8 +0.7**
KONO Kongsberg 60.75 324 P **P** **21 56 07.5 -0.1**
KONO Kongsberg 60.75 324 P **P** **21 56 07.5 -0.1**
KONO pmax pmax
comp=Z,42nm,1.4s
KONO Kongsberg 60.75 324 *e*P **P** **21 56 07.7 +0.1**
BRG Berggiesshubel 60.76 314 ⇑*i*P **P** **21 56 08.7 +0.8**
BRG Amp 21 56 09.6
comp=Z,13nm,0.8s
BRG Berggiesshubel 60.76 314 ⇑*i*P **P** **21 56 08.6 +0.8**
BRG pmax pmax
comp=Z,13nm,0.8s
ARSA Arzberg 60.84 310 *e*P **P** **21 56 08.3 -0.2**
comp=Z,11nm,1.3s
MOL Molde 60.94 328 *e*P **P** **21 56 08.6 -0.3**
GROS Grobnik 61.09 309 *i* P **P** **21 56 10.6 +0.3**
SKAR Skarslia 61.10 326 *e*P **P** **21 56 11.2 +1.2**
SKAR IAmb IAmb 21 56 12.3
comp=Z,40nm,1.2s
CKRC Cesky Krumlov 61.14 312 *e*P **P** **21 56 11.6 +1.1**
CKRC *ex* x 21 56 15.6
CLL Collm 61.20 315 P **P** **21 56 11.4 +0.6**
CLL IAmb IAmb 21 56 12.3
comp=Z,9.6nm,0.7s
CLL Collm 61.20 315 ⇑*i*P **P** **21 56 11.2 +0.4**
comp=Z,12nm,0.8s
CLL L L 22 22 00.0
comp=Z,200nm,18.3s
CLL Collm 61.20 315 ⇑*i*P **P** **21 56 11.2 +0.4**
CLL pmax pmax
comp=Z,12nm,0.8s
AKN Aaknes 61.30 328 *e*P **P** **21 56 12.0 +0.7**
SOKA Soboth 61.33 309 *i* P **P** **21 56 12.1 +0.2**
comp=Z,15nm,1.3s,SNR=5.5
KHC Kasperske Hory 61.51 312 P **P** **21 56 13.8 +0.8**
KHC Kasperske Hory 61.51 312 *e*P **P** **21 56 13.3 +0.3**
KHC *ex* x 21 56 21.8
KHC Kasperske Hory 61.51 312 ⇓*i*P **P** **21 56 14.0 +1.0**
KHC pmax pmax
comp=Z,22nm,1.5s
GEC2 GERESS Array S 61.52 312 P **P** **21 56 14.0 +0.8**
GEC2 IAmb IAmb 21 56 15.0
comp=Z,12nm,1.1s
GERES GERESS Array B 61.52 312 P **P** **21 56 13.9 +0.8**
comp=Z,5.0nm,0.8s,baz=77,slow=5.9,SNR=24
GERES LR LR 22 24 21.8
comp=Z,273nm,19.0s,baz=70,slow=38
comp=Z,5.0nm,0.8s
GERES GERESS Array B 61.52 312 P **P** **21 56 14.0 +0.8**
OBKA Obir 61.70 309 *e*P **P** **21 56 12.8 -1.7**
comp=Z,0.2nm,0.4s
NKC Novy Kostel 61.86 314 *e*P **P** **21 56 15.6 +0.2**
NKC Novy Kostel 61.86 314 *e*P **P** **21 56 15.6 +0.2**
CEY Cerknica 62.03 308 *i* P **P** **21 56 17.1 +0.5**
KBA Koelnbreinsper 62.30 310 *e*P **P** **21 56 17.6 -0.9**
comp=Z,9.8nm,1.1s
SNART Snartemo 62.30 323 *e*P **P** **21 56 18.2 +0.1**
SGRT San Giovanni R 62.47 304 P **P** **21 56 19.7 0.0**
SGRT IAmb IAmb 21 56 21.8
comp=Z,8.2nm,0.9s
SABO M.te Sabotino 62.50 309 P **P** **21 56 19.3 -0.4**
SABO IAmb IAmb 21 56 20.5
comp=Z,20nm,1.1s
TIP Timpagrande 62.66 301 P **P** **21 56 20.7 -0.2**
TIP IAmb IAmb 21 56 21.6
comp=Z,15nm,1.4s
GRA1 Grafenberg Arr 62.79 313 P **P** **21 56 21.4 -0.1**
GRF Grafenberg Arr 62.79 313 P **P** **21 56 21.4 -0.1**
GRF pmax pmax
comp=Z,26nm,1.0s
GRFO Grafenberg 62.79 313 P **P** **21 56 21.6 +0.1**
GRFO Grafenberg 62.79 313 P **P** **21 56 21.6 +0.1**
GRFO pmax pmax
comp=Z,29nm,1.1s
ABTA Abfaltersbach 62.95 310 *e*P **P** **21 56 22.3 -0.5**
comp=Z,3.6nm,0.8s
ABTA *e*P **PP** **21 58 37.0 -4.2**
comp=Z,9.5nm,1.7s
STAL STALIGIAL 62.99 309 IAmb IAmb 21 56 23.3
comp=Z,16nm,1.3s
CUC Castrocucco 63.04 302 P **P** **21 56 24.3 +0.8**
CUC IAmb IAmb 21 56 25.2
comp=Z,12nm,0.9s
CIMO Cimolais 63.15 309 P **P** **21 56 23.1 -0.9**
CIMO IAmb IAmb 21 56 24.6
comp=Z,14nm,1.1s
WTTA Wattenberg 63.34 311 *e*P **P** **21 56 25.5 0.0**
comp=Z,18nm,1.4s
WATA Walderalm 63.35 311 *e*P **P** **21 56 25.4 -0.1**
comp=Z,16nm,1.5s
WATA *e*P **PP** **21 58 46.5 +1.8**
comp=Z,7.6nm,1.4s
CEL Celeste 63.62 300 P **P** **21 56 26.9 -0.4**
SQTA Sankt Quirin 63.63 311 *i* P **P** **21 56 27.5 +0.2**
comp=Z,10nm,0.6s,SNR=5.7
SQTA *e*P **PP** **21 58 46.3 -0.8**
comp=Z,4.1nm,0.8s
MOTA Moosalm 63.65 311 *e*P **P** **21 56 27.6 +0.1**
comp=Z,15nm,1.0s
MOTA *e*P **PP** **21 58 48.1 +0.8**
comp=Z,5.8nm,1.1s
WB0 Warramunga Arr 63.70 139 P **P** **21 56 27.6 -0.2**
WB0 IAmb IAmb 21 56 31.7
comp=Z,14nm,1.4s
WRAB Tennant Creek 63.81 139 P **P** **21 56 29.0 +0.3**
WRAB IAmb IAmb 21 56 57.1
comp=Z,5.7nm,0.8s
WRAB Tennant Creek 63.81 139 ⇓*e*P **P** **21 56 28.9 +0.3**
WRAB pmax pmax
comp=Z,18nm,2.2s
WRA Warramunga Arr 63.81 140 P **P** **21 56 27.9 -0.7**
comp=Z,2.3nm,0.9s,baz=319,slow=8.8,SNR=20
WRA LR LR 22 27 38.3
comp=Z,92nm,18.3s,baz=306,slow=39
comp=Z,2.3nm,0.9s
WRA Warramunga Arr 63.81 140 P **P** **21 56 29.2 +0.6**
WRA Warramunga Arr 63.81 140 *i* P **P** **21 56 28.8 +0.2**
WRA pmax pmax
comp=Z,2.0nm,0.6s
RETA Reutte 63.82 311 *e*P **P** **21 56 28.7 +0.2**
RETA *e*P **PP** **21 58 47.5 -1.2**
comp=Z,9.1nm,1.2s
WB2 Warramunga Arr 63.82 139 P **P** **21 56 28.9 +0.3**
WB2 IAmb IAmb 21 56 54.5
comp=Z,5.5nm,0.8s
CAMP Campotosto 63.82 305 P **P** **21 56 28.4 -0.3**
CAMP IAmb IAmb 21 56 29.8
comp=Z,13nm,0.9s
AQU L'Aquila 63.89 305 P **P** **21 56 28.9 0.0**
AQU L'Aquila 63.89 305 P **P** **21 56 29.0 0.0**
AQU pmax pmax
comp=Z,19nm,0.8s
WR0 Warramunga Arr 63.94 139 P **P** **21 56 29.3 -0.1**
WR0 IAmb IAmb 21 56 35.4
comp=Z,11nm,1.2s
TEOL Teolo 63.98 309 P **P** **21 56 29.2 -0.3**
FETA Feichten 64.00 311 *e*P **P** **21 56 30.0 +0.1**
comp=Z,12nm,0.9s
FETA *e*P **PP** **21 58 52.9 +2.4**
comp=Z,5.8nm,1.1s
JMIC Jan Mayen 64.06 339 LR LR 22 29 19.2
comp=Z,48nm,18.4s,baz=52,slow=41
MURB Monte Urbino 64.16 306 P **P** **21 56 31.2 +0.4**
CESX Cesi 64.36 306 P **P** **21 56 31.5 -0.5**
CESX IAmb IAmb 21 56 32.8
comp=Z,7.8nm,0.9s
FUORN Ofenpass-Fuorn 64.45 310 IAmb IAmb 21 56 44.6
comp=Z,7.2nm,1.2s
DAVA Damuels 64.45 311 *e*P **P** **21 56 32.5 -0.2**
comp=Z,14nm,1.7s
DAVA *e*P **PP** **21 58 55.6 +1.3**
comp=Z,9.4nm,0.9s
KRVT Keravat (AS076 64.47 114 LR LR 22 22 41.3
comp=Z,84nm,20.6s,baz=73,slow=34
DAVOX Davos/Dischmat 64.64 311 P **P** **21 56 34.1 +0.1**
comp=Z,15nm,0.6s,baz=83,slow=6.3,SNR=26
DAVOX LR LR 22 27 53.2
comp=Z,402nm,18.9s,baz=75,slow=39
comp=Z,15nm,0.6s
KMBO Kilima Mbogo 64.76 251 P **P** **21 56 35.6 +0.3**
comp=Z,2.5nm,0.7s,baz=36,slow=8.8,SNR=11

comp=Z,2.5nm,0.7s
KMBO Kilima Mbogo 64.76 251 P P 21 56 36.0 +0.7
KMBO Kilima Mbogo 64.76 251 P P **21 56 36.0 +0.7**
KMBO pmax pmax
comp=Z,4.0nm,1.1s
VAE Valguarnera 65.00 300 LR LR 22 29 21.1
comp=Z,105nm,18.6s,baz=9.0,slow=40
BFO Black Forest 65.05 313 P **P 21 56 36.5 +0.1**
BFO IAmb IAmb 21 56 37.8
comp=Z,14nm,1.0s
BFO Black Forest 65.05 313 P P **21 56 36.5 +0.1**
BFO pmax pmax
comp=Z,14nm,1.0s
WLF Walferdange 65.88 315 P P **21 56 42.6 +0.9**
WLF Walferdange 65.88 315 *d*P P **21 56 43.2 +1.5**
comp=Z,27nm,0.9s
WLF Walferdange 65.88 315 P P **21 56 42.6 +0.9**
WLF pmax pmax
comp=Z,37nm,0.9s
HINF Hinteralfeld 66.16 313 *e*P P **21 56 43.1 -0.5**
HINF pmax pmax
comp=Z,45nm,1.6s
BGES Gesves 66.23 316 *d*P P **21 56 44.3 +0.3**
HAU Haudompre 66.40 313 *e*P P **21 56 44.7 -0.4**
HAU pmax pmax
comp=Z,6.0nm,0.7s
SENIN Lac Senin/Sane 66.44 311 P P **21 56 46.0 +0.3**
AS31 Alice Springs 66.62 142 P P **21 56 47.0 +0.3**
ASAR Alice Springs 66.62 142 P P **21 56 46.4 -0.4**
comp=Z,2.0nm,0.5s,baz=327,slow=6.7,SNR=41
ASAR LR LR 22 27 16.8
comp=Z,71nm,19.2s,baz=302,slow=37
comp=Z,2.0nm,0.5s
DOU Dourbes 66.64 315 *d*P P **21 56 47.3 +0.7**
PGF Pioggiola 66.83 307 *e*P P **21 56 47.9 -0.2**
PGF pmax pmax
comp=Z,15nm,1.0s
C23K Itkillik River 67.21 20 P P **21 56 50.5 +0.6**
baz=303
SBF Sospel 67.35 308 *e*P P **21 56 50.9 -0.4**
SBF pmax pmax
comp=Z,11nm,0.7s
BNI Bardonecchia 67.36 310 P P **21 56 52.0 +0.5**
BNI IAmb IAmb 21 56 58.5
comp=Z,7.3nm,0.8s
BNI Bardonecchia 67.36 310 P P **21 56 52.0 +0.5**
BNI pmax pmax
comp=Z,7.0nm,0.9s
MBDF Montbardon 67.43 309 *e*P P **21 56 50.2 -1.8**
MBDF pmax pmax
comp=Z,9.0nm,0.8s
EUNU Eureka 67.56 0 P P **21 56 53.2 +1.2**
EUNU IAmb IAmb 21 56 54.0
comp=Z,19nm,1.3s
D23K Nanushuk River 67.66 21 P P **21 56 53.4 +0.6**
baz=303
F21K Alatna River 67.70 23 P P **21 56 53.5 +0.4**
baz=301
GCSA Galena City Sc 67.76 26 P P **21 56 53.9 +0.5**
baz=299
C24K Franklin Bluff 67.83 20 P P **21 56 54.0 +0.3**
baz=304
ORIF Oris-en-Rattie 67.93 310 *e*P P **21 56 55.3 +0.3**
ORIF pmax pmax
comp=Z,15nm,1.0s
F22K John River 67.98 23 P P **21 56 55.0 +0.2**
baz=302
G21K Allakaket 68.07 24 P P **21 56 55.2 -0.2**
baz=302
LMR La Mourre 68.18 308 *e*P P **21 56 55.4 -1.1**
LMR pmax pmax
comp=Z,10.0nm,1.2s
TOLK Toolik Lake Re 68.18 21 IAmb IAmb 21 56 58.0
comp=Z,20nm,1.3s
TOLK Toolik Lake Re 68.18 21 P P **21 56 56.4 +0.3**
baz=304
NWAO Narrogin (SRO) 68.19 161 LR LR 22 27 37.1
comp=Z,160nm,21.5s,baz=168,slow=37
IMAR Indian Mountai 68.26 24 P P **21 56 56.5 -0.2**
E23K Chandalar 68.49 22 P P **21 56 58.5 +0.4**
baz=304
SMF Signal de Mont 68.51 312 *e*P P **21 56 58.1 -0.4**
SMF pmax pmax
comp=Z,16nm,0.9s
G22K Bettles 68.52 23 P P **21 56 58.1 -0.1**
baz=303
SSF Saint Saulge 68.54 313 *e*P P **21 56 58.2 -0.5**
SSF pmax pmax
comp=Z,13nm,0.9s
EKA Eskdalemuir Ar 68.71 323 P P **21 56 59.7 +0.1**
comp=Z,14nm,0.9s,baz=66,slow=6.7,SNR=16
EKA LR LR 22 30 41.0
comp=Z,315nm,19.9s,baz=51,slow=39
comp=Z,14nm,0.9s
VIVF Saint-Julien-l 68.74 310 *e*P P **21 56 59.7 -0.3**
VIVF pmax pmax
comp=Z,16nm,1.1s
H21K Melozitna River 68.77 25 P P **21 56 59.5 -0.2**
H21K IAmb IAmb 21 57 01.1
comp=Z,10nm,1.2s
H21K Melozitna River 68.77 25 P P **21 57 00.1 +0.3**
baz=302
C26K Camden Bay 68.77 19 P P **21 57 00.5 +0.8**
baz=308
E24K Your Creek 68.83 21 P P **21 57 00.6 +0.4**
baz=305
J20K Nowinta River 69.07 26 P P **21 57 02.5 +0.8**
baz=302
OPO Ambohidratompo 69.11 230 LR LR 22 22 50.9
comp=Z,81nm,19.1s,baz=133,slow=32
BGF Bois d'Agland 69.17 313 *e*P P **21 57 02.3 -0.3**
BGF pmax pmax
comp=Z,12nm,1.0s
C27K Jago River 69.28 19 P P **21 57 03.5 +0.6**
baz=309
I21K Tanana 69.31 25 P P **21 57 03.5 +0.3**
baz=303
F24K Squaw Lake 69.34 22 P P **21 57 04.9 +1.5**
baz=306
KEST Kesra 69.43 300 P P **21 57 04.1 -0.4**
comp=Z,12nm,1.1s,baz=45,slow=0.6,SNR=7.8
KEST LR LR 22 34 28.8
comp=Z,75nm,18.1s,baz=286,slow=42
comp=Z,12nm,1.1s
K20K Telida 69.54 27 P P **21 57 04.9 +0.3**
K20K IAmb IAmb 21 57 07.3
comp=Z,9.0nm,1.1s
TCF Toulx Ste Croi 69.68 312 *e*P P **21 57 05.8 0.0**
TCF pmax pmax
comp=Z,24nm,0.9s
E25K Arctic Village 69.69 21 P P **21 57 05.9 +0.5**
baz=308
MLY Manley 69.84 25 P P **21 57 06.9 +0.4**
MLY IAmb IAmb 21 57 20.3
comp=Z,8.9nm,1.2s
MLY Manley 69.84 25 P P **21 57 06.8 +0.4**
baz=304
L19K White Mountain 69.85 28 P P **21 57 07.4 +0.8**
L19K IAmb IAmb 21 57 09.8
comp=Z,12nm,0.9s
L19K White Mountain 69.85 28 P P **21 57 07.6 +1.0**
baz=302
G24K Hadweenzic Riv 69.96 22 P P **21 57 07.9 +0.7**
baz=306
F25K Christian River 69.99 21 P P **21 57 08.4 +1.1**
baz=308
LDF La Druitiere 70.07 315 *e*P P **21 57 07.7 -0.4**
LDF pmax pmax
comp=Z,85nm,1.5s
CAST Castle Rocks 70.25 26 P P **21 57 09.6 +0.6**
CAST IAmb IAmb 21 57 10.5
comp=Z,18nm,1.4s
BPAW Bear Paw Mtn. 70.27 25 P P **21 57 08.4 -0.7**
BPAW IAmb IAmb 21 57 30.9
comp=Z,14nm,1.1s
F26K Sheenjek River 70.38 21 P P **21 57 10.2 +0.5**
baz=309
CAF Calviac 70.38 311 *e*P P **21 57 10.3 +0.2**
CAF pmax pmax
comp=Z,10.0nm,0.9s
PPLA Purkeypile 70.50 27 P P **21 57 11.1 +0.4**
PPLA Purkeypile 70.50 27 P P **21 57 11.1 +0.4**
baz=304
SUMG Summit 70.53 347 *i* P P **21 57 10.0 -1.0**
RJF Les Rejaudoux 70.55 312 *e*P P **21 57 11.6 +0.5**
RJF pmax pmax
comp=Z,15nm,1.0s
GRR Gorron 70.60 315 *e*P P **21 57 11.0 -0.3**
GRR pmax pmax
comp=Z,31nm,1.0s
KTH Kantishna Hill 70.61 26 IAmb IAmb 21 57 12.5
comp=Z,25nm,1.5s
NEA2 Nenana 70.67 25 P P **21 57 11.5 0.0**
NEA2 IAmb IAmb 21 57 14.3
comp=Z,5.8nm,0.8s
NEA2 Nenana 70.67 25 P P **21 57 11.8 +0.3**
baz=306
M20K Styx River 70.70 28 IAmb IAmb 21 57 21.6
comp=Z,18nm,1.1s
M20K Styx River 70.70 28 P P **21 57 12.7 +0.8**
baz=303
MDM Murphy Dome 70.75 24 P P **21 57 12.2 +0.2**
MDM IAmb IAmb 21 57 17.7
comp=Z,9.1nm,1.2s
E27K Coleen River 70.80 20 P P **21 57 12.6 +0.3**
baz=311
POKR Poker Plat Res 70.92 24 P P **21 57 12.9 -0.1**
POKR IAmb IAmb 21 57 14.9
comp=Z,7.4nm,0.8s
POKR Poker Plat Res 70.92 24 P P **21 57 14.4 +1.4**
baz=307
TCOL CIGO, UAF Yank 70.92 24 P P **21 57 12.7 -0.3**
TCOL IAmb IAmb 21 57 13.9
comp=Z,12nm,0.9s
COLA College 70.93 24 P P **21 57 12.2 -0.8**
COLA IAmb IAmb 21 57 13.9
comp=Z,10nm,0.9s
COLA College 70.93 24 ⇓*i*P P **21 57 13.3 +0.3**
COLA pmax pmax
comp=Z,13nm,1.2s
G26K Porcupine Rive 70.96 21 P P **21 57 13.7 +0.5**
baz=309
CTA Charters Tower 71.06 130 LR LR 22 31 15.9
comp=Z,42nm,18.0s,baz=262,slow=38
LFF La Frestale 71.21 312 *e*P P **21 57 15.3 +0.2**
LFF pmax pmax
comp=Z,36nm,1.4s
SKT Skwentna 71.27 27 IAmb IAmb 21 57 21.1
comp=Z,12nm,1.1s
SKT Skwentna 71.27 27 P P **21 57 14.9 -0.3**
baz=304
PRP Porcupine Dome 71.31 23 P P **21 57 15.6 +0.1**
PRP Porcupine Dome 71.31 23 P P **21 57 16.4 +0.8**
baz=308
ILAR Eielson Array 71.32 24 P P **21 57 14.7 -0.7**
comp=Z,2.7nm,0.9s,baz=298,slow=4.8,SNR=19
comp=Z,2.7nm,0.9s
BORG Borgarnes 71.45 336 LR LR 22 28 20.8
comp=Z,98nm,18.9s,baz=48,slow=36
RSO Redoubt South 71.64 29 P P **21 57 18.6 +0.9**
A36M Sachs Harbour 71.78 12 P P **21 57 18.1 0.0**
A36M IAmb IAmb 21 57 29.0
comp=Z,14nm,0.8s
A36M Sachs Harbour 71.78 12 P P **21 57 18.0 0.0**
baz=324
ROSF Rostrenen 72.04 316 *e*P P **21 57 20.3 +0.2**
ROSF pmax pmax
comp=Z,166nm,1.6s
H27K Steamboat Moun 72.11 21 P P **21 57 20.9 +0.7**
baz=312
QUIF Quistinic 72.18 316 *e*P P **21 57 20.8 -0.1**
QUIF pmax pmax
comp=Z,85nm,1.3s
I26K Coal Creek Min 72.21 22 P P **21 57 20.6 -0.2**
I26K Coal Creek Min 72.21 22 P P **21 57 21.1 +0.3**
baz=310
K24K Donnelly Dome 72.30 24 P P **21 57 20.7 -0.6**
baz=309
RC01 Rabbit Creek A 72.49 28 P P **21 57 21.4 -1.1**
I27K Kandik River 72.50 22 P P **21 57 23.2 +0.6**
baz=312
J26L Joseph Creek 72.60 23 P P **21 57 22.7 -0.6**
baz=310
SML Sawmill 72.60 27 P P **21 57 23.2 0.0**
SML Sawmill 72.60 27 P P **21 57 23.4 +0.2**
baz=307
RIDG Independent Ri 72.66 24 IAmb IAmb 21 57 35.5
comp=Z,24nm,1.3s
RIDG Independent Ri 72.66 24 P P **21 57 22.9 -0.7**
baz=309
RES Resolute Bay 72.72 3 LR LR 22 29 51.4
comp=Z,150nm,21.9s,baz=353,slow=36
KNK Knik Glacier 72.79 27 IAmb IAmb 21 57 27.5
comp=Z,13nm,0.8s
SCRK Sand Creek 72.80 24 IAmb IAmb 21 57 24.9
comp=Z,10nm,1.0s
SCRK Sand Creek 72.80 24 P P **21 57 24.1 -0.3**
baz=310
M23K Glacier View 72.84 26 P P **21 57 25.1 +0.5**
baz=308
INK Inuvik 72.86 17 LR LR 22 35 06.8
comp=Z,112nm,18.6s,baz=284,slow=40
INK Inuvik 72.86 17 P P **21 57 24.6 +0.1**
baz=318
ETSF Etsaut 73.00 310 *e*P P **21 57 26.2 +0.2**
ETSF pmax pmax
comp=Z,10.0nm,0.7s
EGAK Eagle 73.20 22 IAmb IAmb 21 57 28.0
comp=Z,9.8nm,1.2s
EGAK Eagle 73.20 22 P P **21 57 26.6 0.0**
baz=312
SJPF Ste Jean 73.32 311 *e*P P **21 57 28.9 +1.1**
SJPF pmax pmax
comp=Z,31nm,1.4s
K27K Chicken 73.41 23 P P **21 57 28.1 +0.2**
K27K IAmb IAmb 21 57 47.4
comp=Z,17nm,1.5s
K27K Chicken 73.41 23 P P **21 57 28.3 +0.5**
baz=312
KLU Klutina 73.70 26 P P **21 57 29.9 +0.1**
KLU IAmb IAmb 21 57 32.9
comp=Z,16nm,0.9s
KLU Klutina 73.70 26 P P **21 57 30.3 +0.5**
baz=309
HNR Honiara 73.79 113 LR LR 22 27 23.9
comp=Z,931nm,21.8s,baz=319,slow=34
N25K Chitina, Valde 74.12 26 IAmb IAmb 21 57 33.6
comp=Z,13nm,1.2s
L27K Beaver Creek, 74.14 24 P P **21 57 32.4 +0.2**
L27K Beaver Creek, 74.14 24 P P **21 57 33.2 +1.0**
baz=312
C36M Paulatuk 74.17 14 P P **21 57 31.5 -0.7**
C36M Paulatuk 74.17 14 P P **21 57 32.0 -0.2**
baz=326
M26K Nabesna, AK 74.17 25 P P **21 57 33.1 +0.6**
M26K IAmb IAmb 21 57 57.7
comp=Z,14nm,1.4s
M26K Nabesna, AK 74.17 25 P P **21 57 33.9 +1.4**
baz=311
DAWY Dawson 74.25 22 P P **21 57 32.8 -0.1**
baz=314
BMRM Bremner River 74.53 26 P P **21 57 34.6 0.0**
BMRM IAmb IAmb 21 57 47.2
comp=Z,18nm,1.0s
M27K Edge Creek, AK 74.59 24 P P **21 57 35.5 +0.5**
MCARA McCarthy VSAT 74.84 25 P P **21 57 36.9 +0.6**
MCARA IAmb IAmb 21 57 48.9
comp=Z,11nm,0.9s
BVCY Beaver Creek 74.90 24 P P **21 57 37.5 +0.8**
baz=313
K29M Barlow Dome 74.99 22 P P **21 57 37.6 +0.3**
baz=315
ISLE Juniper Island 75.61 26 P P **21 57 40.5 -0.4**
ISLE IAmb IAmb 21 58 00.5
comp=Z,15nm,1.2s
ESDC Sonseca Array 76.83 309 P P **21 57 48.5 +0.4**
comp=Z,4.4nm,0.9s,baz=48,slow=5.8,SNR=24
ESDC LR LR 22 38 05.5
comp=Z,158nm,21.8s,baz=44,slow=41
comp=Z,4.4nm,0.9s
ESDC Sonseca Array 76.83 309 P P **21 57 48.5 +0.4**
PAB San Pablo 77.15 309 P P **21 57 49.5 -0.5**
PAB San Pablo 77.15 309 P P **21 57 49.5 -0.5**
PAB pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 77.24 141 P P **21 57 50.0 -0.2**
comp=Z,2.1nm,0.7s,baz=336,slow=7.1,SNR=3.8
STKA LR LR 22 35 56.8
comp=Z,77nm,18.9s,baz=269,slow=39
comp=Z,2.1nm,0.7s
STKA Stephens Creek 77.24 141 P P **21 57 50.0 -0.2**
SFJD Kangerlussuaq 77.51 347 LR LR 22 34 28.3
comp=Z,179nm,21.0s,baz=18,slow=38
O30N Mendenhall 77.68 23 P P **21 57 53.3 +0.8**
baz=317
MMPY Sheldon Lake, 77.80 20 P P **21 57 54.0 +0.9**
baz=321
MVO Moncorvo 78.02 311 *e*P P **21 57 55.9 +1.1**
comp=Z,23nm,1.3s
PCAB Cabril 78.35 312 *e*P P **21 57 58.9 +2.3**
comp=Z,34nm,1.8s
PGAV Gavieira, Arco 78.37 312 *e*P P **21 57 58.1 +1.4**
comp=Z,37nm,1.8s
MTE Manteigas 78.77 311 *e*P P **21 57 58.5 -0.4**
comp=Z,23nm,1.3s
PVIS Viseu 78.82 311 *e*P P **21 58 00.3 +1.1**
comp=Z,29nm,1.8s
SKAG Skagway 78.91 24 P P **21 57 59.5 +0.3**
SKAG IAmb IAmb 21 58 02.2
comp=Z,15nm,1.1s
PCBR Castelo Branco 79.03 310 *e*P P **21 58 01.3 +1.0**
comp=Z,18nm,1.5s
PMRV Marv??o 79.20 310 *e*P P **21 58 02.4 +1.1**
comp=Z,16nm,1.4s
PBAR Barrancos 79.66 309 *e*P P **21 58 04.5 +0.8**
comp=Z,28nm,1.6s
EVO Evora 80.10 309 *e*P P **21 58 07.2 +1.1**
comp=Z,23nm,1.0s
R33M Jennings River 80.41 22 P P **21 58 08.3 +0.8**
baz=321
LSZ Lusaka 80.43 245 P P **21 58 08.7 +0.5**
comp=Z,2.3nm,0.5s,baz=60,slow=5.7
LSZ LR LR 22 30 47.7
comp=Z,96nm,21.4s,baz=77,slow=33
comp=Z,2.3nm,0.5s
PVAQ Vaqueiros 80.53 308 *e*P P **21 58 08.0 -0.5**
comp=Z,28nm,1.6s
PCVE Castro Verde 80.62 309 *e*P P **21 58 09.3 +0.4**
comp=Z,21nm,1.8s
MESJ Messejana 80.62 309 *e*P P **21 58 10.1 +1.2**
comp=Z,20nm,2.0s
PNCL Nicolau / Gran 80.67 309 *e*P P **21 58 10.5 +1.3**
comp=Z,20nm,1.5s
MDT Midelt 80.92 303 P P **21 58 11.2 +0.5**
comp=Z,4.1nm,0.9s,baz=72,slow=6.6,SNR=10
comp=Z,4.1nm,0.9s
DLBC Dease Lake 81.46 23 LR LR 22 37 53.0
comp=Z,163nm,19.0s,baz=286,slow=38
S34M Telegraph Cree 81.51 23 P P **21 58 14.7 +1.4**
baz=321
YKA Yellowknife Ar 82.06 14 P P **21 58 16.5 +0.4**
comp=Z,2.9nm,1.0s,baz=333,slow=5.2,SNR=2.1
YKA LR LR 22 39 28.2
comp=Z,68nm,19.2s,baz=307,slow=39
comp=Z,2.9nm,1.0s
FRB Frobisher Bay 83.18 353 LR LR 22 37 18.6
comp=Z,128nm,19.6s,baz=14,slow=37
TOA0 Torodi Ar. Sit 86.64 283 IAmb IAmb 21 58 39.3
comp=Z,7.4nm,1.1s
TORD Torodi Ar. Bea 86.64 283 P P **21 58 38.9 -1.2**
comp=Z,4.0nm,0.9s,baz=55,slow=5.2,SNR=23
TORD LR LR 22 43 29.8
comp=Z,80nm,18.4s,baz=222,slow=40
comp=Z,4.0nm,0.9s
BBB Bella Bella 87.12 25 LR LR 22 38 31.1
comp=Z,78nm,18.8s,baz=302,slow=36
LBTB Lobatse 88.26 239 LR LR 22 34 58.2
comp=Z,132nm,20.1s,baz=10,slow=33
BOSA Boshof 90.67 236 LR LR 22 37 26.9
comp=Z,82nm,19.8s,baz=14,slow=34
TSUM Tsumeb 90.92 248 LR LR 22 40 58.5
comp=Z,84nm,18.7s,baz=72,slow=36
SCHQ Schefferville 91.66 350 LR LR 22 43 18.9
comp=Z,109nm,18.9s,baz=60,slow=38
NEW Newport 94.17 22 LR LR 22 47 16.7
comp=Z,122nm,19.4s,baz=332,slow=39
DBIC Dimbokro 95.56 281 LR LR 22 46 22.7
comp=Z,110nm,18.0s,baz=78,slow=38
YBH Yreka Blue Hor 97.85 28 LR LR 22 46 20.9
comp=Z,56nm,18.3s,baz=330,slow=37
TXAR Lajitas Array 115.60 19 PKP **PKPdf 22 04 38.2 -0.5**
comp=Z,0.1nm,0.4s,baz=356,slow=1.2,SNR=2.0
SIV San Ignacio 153.48 303 PKPab **PKPab 22 06 07.9 +0.5**
baz=56,slow=7.5
CFA Coronel Fontan 166.65 270 PKPab **PKPab 22 07 03.8 -0.7**
comp=Z,0.8nm,0.3s,baz=90,slow=1.0,SNR=3.7

KRNET 17 21:46:12.1±0.1, 41.76N×73.77E, h10km, mb2.1, 6C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.73**	**50**	⇑*e*P		Pg	21 46 26.0	-0.2
	baz=50							
UCH				⇑*i*S		Sg	21 46 36.1	+0.3
	baz=50							
EKS2	**Erkin-Say**	**0.90**	**0**	⇑*i*P		Pg	21 46 29.2	-0.3
	baz=0.0							
EKS2				⇑*i*S		Sb	21 46 41.8	-0.2
	baz=0.0							
AAK	**Ala-Archa**	**1.03**	**31**	⇑*i*P		Pg	21 46 31.5	-0.4
	baz=31							
AAK				⇑*i*S		Sb	21 46 45.7	-0.1
	baz=31							

*KRNET **17** 21:48:02.6±0.1, 41.05N×72.42E, h15km, mb3.1*
*ISU **17** 21:48:03.2, 41.03N×72.49E, h25km*
*KNET **17** 21:48:04.3±0.4, 41.23N×72.40E, h2km±1km, ml2.6, Error ellipse: s-maj=5.8km s-min=2.1km az=145.0*
*SOME **17** 21:48:05.3, 41.18N×72.35E, h5km*
*NNC **17** 21:48:05.5±2.1, 41.12N×72.52E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=18.2km s-min=7.3km az=177.0*

ISC 17 21:48:02.7±1.1, 41.06N±0.02×72.49E±0.02, h9km±11km, n44, σ1916/77, 24C-14D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.32**	**198**	P		**Pb**	**21 48 09.7**	**-0.9**
ANR				S		**Sb**	**21 48 15.2**	**-0.6**
OHH	**Osh**	**0.58**	**157**	P		**Pg**	**21 48 13.4**	**-0.5**
OHH				S		**Sg**	**21 48 22.0**	**+0.5**
ARK	**Arkit**	**0.84**	**332**	⇑*i*P		**Pg**	**21 48 18.3**	**-0.6**
	baz=36							
ARK				⇑*i*S		**Sg**	**21 48 29.8**	**0.0**
	baz=36							
FRG	**Fergana**	**0.87**	**218**	P		**Pg**	**21 48 18.3**	**-1.1**
FRG				S		**Sg**	**21 48 30.5**	**-0.1**
CHMI	**Chimion**	**1.08**	**223**	P		**Pn**	**21 48 24.8**	**+0.8**
CHMI				S		**Sn**	**21 48 40.0**	**+0.9**
MINT	**Mingtut**	**1.29**	**243**	S		**Sg**	**21 48 48.2**	**+4.0**
MINT	**Mingtut**	**1.29**	**243**	P		**Pg**	**21 48 28.5**	**+1.0**
MINT				S		**Sg**	**21 48 47.3**	**+3.1**
MINT	**Mingtut**	**1.29**	**243**	P		**Pg**	**21 48 28.3**	**+0.8**
AML	**Almayashu**	**1.40**	**40**	⇑P		**Pg**	**21 48 30.0**	**+0.3**
	19nm,0.3s,SNR=31							
AML				⇑S		**Sg**	**21 48 50.3**	**+2.4**
	67nm,0.2s							
BTK	**Batken**	**1.62**	**232**	⇑*i*P		**Pb**	**21 48 32.1**	**-0.7**
	baz=31							
BTK				⇑*i*S		**Sb**	**21 48 53.6**	**+0.3**
	baz=31							
MRKS	**Merke**	**1.77**	**18**	*e*P		**Pg**	**21 48 37.3**	**+0.6**
	8.4nm,0.3s							
MRKS				*e*S		**Sg**	**21 49 00.6**	**+0.8**
	52nm,0.5s							
MRKS	**Merke**	**1.77**	**18**	P		**Pg**	**21 48 37.3**	**+0.6**
	8.4nm,0.3s							
MRKS				S		**Sg**	**21 49 00.6**	**+0.8**
	52nm,0.5s							
EKS2	**Erkin-Say**	**1.87**	**31**	⇑P		**Pb**	**21 48 37.9**	**+0.8**
	8.9nm,0.5s,SNR=14							
EKS2				⇑S		**Sg**	**21 49 03.3**	**+0.5**
	17nm,0.5s							
EKS2	**Erkin-Say**	**1.87**	**31**	⇑*i*P		**Pb**	**21 48 37.9**	**+0.8**
	baz=32							
EKS2				⇑*i*S		**Sg**	**21 49 03.4**	**+0.5**
	baz=32							
UCH	**Uchtor**	**1.92**	**52**	⇑P		**Pg**	**21 48 39.6**	**+0.2**
	13nm,0.2s,SNR=22							
UCH				⇓S		**Sg**	**21 49 07.1**	**+2.7**
	51nm,0.3s							
UCH	**Uchtor**	**1.92**	**52**	⇓*i*P		**Pg**	**21 48 39.1**	**-0.4**
	baz=53							
UCH				⇓*i*S		**Sg**	**21 49 05.5**	**+1.1**
	baz=53							
CHRV	**Charvak**	**2.00**	**288**	P		**Pb**	**21 48 39.3**	**+0.1**
CHRV				S		**Sg**	**21 49 06.8**	**0.0**
DZA	**Taraz**	**2.03**	**335**	*e*P		**Pg**	**21 48 41.3**	**-0.2**
	20nm,0.2s							

DZA				*e*S	**Sg**	**21 49 07.0**	**-0.8**
	80nm,0.5s							
DZA	**Taraz**	**2.03**	**335**	P	**Pg**	**21 48 41.3**	**-0.2**
	20nm,0.2s							
DZA				S	**Sg**	**21 49 07.0**	**-0.8**
	80nm,0.5s							
AAK	**Ala-Archa**	**2.18**	**43**	⇓P	**Pb**	**21 48 43.3**	**+0.9**
	9.0nm,0.2s,SNR=12							
AAK				⇑S	**Sg**	**21 49 13.6**	**+0.9**
	19nm,0.4s							
AAK	**Ala-Archa**	**2.18**	**43**	⇓*i*P	**Pb**	**21 48 42.6**	**+0.2**
	baz=44							
AAK				⇓*i*S	**Sg**	**21 49 11.8**	**-0.9**
	baz=44							
KBK	**Karagaybulak**	**2.44**	**48**	⇓P	**Pb**	**21 48 47.7**	**+0.9**
	11nm,0.4s,SNR=8.2							
KBK				⇓S	**Sg**	**21 49 21.2**	**+0.2**
	60nm,0.5s							
KBK	**Karagaybulak**	**2.44**	**48**	⇑*i*P	**Pb**	**21 48 46.3**	**-0.5**
	baz=49							
KBK				⇑*i*S	**Sb**	**21 49 18.2**	**+1.2**
	baz=49							
KK31	**Karatay Array**	**2.52**	**325**	⇑Pn	**Pb**	**21 48 46.3**	**-1.8**
	4.2nm,0.5s,baz=135,slow=13,SNR=91							
KK31				⇓Lg	Lg	21 49 20.5		
	19nm,0.6s,baz=137,slow=29,SNR=11							
KKAR	**Karatay Array**	**2.52**	**325**	⇑*i*P	**Pb**	**21 48 46.3**	**-1.8**
	baz=26							
KKAR				⇑*i*S	**Sb**	**21 49 18.2**	**-1.0**
	baz=26							
CHMS	**Chumysh**	**2.57**	**40**	⇓*e*P	**Pb**	**21 48 47.7**	**-1.3**
	baz=41							
CHMS				⇓*i*S	**Sb**	**21 49 20.9**	**+0.1**
	baz=41							
CHMS	**Chumysh**	**2.57**	**40**	⇓Pg	**Pg**	**21 48 51.0**	**-1.0**
	6.4nm,0.7s							
CHMS				⇑Lg	Lg	21 49 23.7		
	17nm,0.8s							
GAR	**Garm**	**2.65**	**220**	⇑*e*P	**Pb**	**21 48 48.0**	**-2.3**
	baz=19							
GAR				⇑*i*S	**Sb**	**21 49 21.2**	**-1.8**
	baz=19							
USP	**Ospenovka**	**2.67**	**33**	⇓P	**Pb**	**21 48 49.7**	**-1.0**
	2.8nm,0.2s,SNR=11							
USP				⇑S	**Sb**	**21 49 25.5**	**+2.0**
	22nm,0.3s							
USP	**Ospenovka**	**2.67**	**33**	⇑*i*P	**Pb**	**21 48 49.2**	**-1.5**
	baz=34							
USP				⇑*i*S	**Sb**	**21 49 23.2**	**-0.3**
	baz=34							
TKM2	**Tokmak 2**	**2.97**	**50**	⇑Pg	**Pb**	**21 48 54.3**	**-1.6**
	3.8nm,0.5s							
TKM2				⇓Lg	Lg	21 49 37.7		
	7.3nm,0.6s							
KST	**Kastek**	**3.26**	**51**	*e*P	**Pg**	**21 49 05.2**	**0.0**
	4.2nm,0.7s							
KST				*e*S	**Sg**	**21 49 47.8**	**+0.3**
	14nm,0.5s							
KST	**Kastek**	**3.26**	**51**	Pg	**Pg**	**21 49 05.2**	**0.0**
	4.2nm,0.7s							
KST				Lg	Lg	21 49 47.8		
	14nm,0.5s							
DGS	**Degeres**	**3.28**	**47**	*e*P	**Pg**	**21 49 05.2**	**-0.3**
	3.3nm,0.5s							
DGS				*e*S	**Sg**	**21 49 47.6**	**-0.3**
	7.9nm,0.4s							
DGS	**Degeres**	**3.28**	**47**	Pg	**Pg**	**21 49 05.2**	**-0.3**
	3.3nm,0.5s							
DGS				Lg	Lg	21 49 47.6		
	7.9nm,0.4s							
KRBS	**Karabastau**	**3.54**	**41**	*e*P	**Pg**	**21 49 09.3**	**-1.2**
	0.9nm,0.5s							
KRBS				*e*S	**Sg**	**21 49 54.9**	**-1.5**
	7.0nm,0.8s							
KRBS	**Karabastau**	**3.54**	**41**	Pg	**Pg**	**21 49 09.3**	**-1.2**
	0.9nm,0.5s							
KRBS				Lg	Lg	21 49 54.9		
	7.0nm,0.8s							
MTBS	**Maitube**	**3.59**	**53**	*e*P	**Pg**	**21 49 11.5**	**0.0**
	1.5nm,0.3s							
MTBS				*e*S	**Sg**	**21 49 58.5**	**+0.5**
	6.6nm,0.3s							
MTBS	**Maitube**	**3.59**	**53**	Pg	**Pg**	**21 49 11.5**	**0.0**
	1.5nm,0.3s							
MTBS				Lg	Lg	21 49 58.5		
	6.6nm,0.3s							
KOTS	**Kotyrbulak**	**4.07**	**56**	*e*P	**Pg**	**21 49 19.9**	**-0.7**
	2.3nm,0.4s							
KOTS				*e*S	**Sg**	**21 50 12.8**	**-0.6**
	85nm,1.8s							
KOTS	**Kotyrbulak**	**4.07**	**56**	Pg	**Pg**	**21 49 19.9**	**-0.7**
	2.3nm,0.4s							
KOTS				Lg	Lg	21 50 12.8		
	85nm,1.8s							
KTBS	**Karatobe**	**4.09**	**48**	*e*P	**Pg**	**21 49 19.8**	**-1.2**
	1.1nm,0.2s							
KTBS				*e*S	**Sg**	**21 50 12.6**	**-1.3**
	12nm,0.6s							
KTBS	**Karatobe**	**4.09**	**48**	Pg	**Pg**	**21 49 19.8**	**-1.2**
	1.1nm,0.2s							
KTBS				Lg	Lg	21 50 12.6		
	12nm,0.6s							
BTLS	**Baital**	**4.14**	**15**	*e*P	**Pg**	**21 49 22.1**	**+0.1**
	2.3nm,0.7s							
BTLS				*e*S	**Sg**	**21 50 16.5**	**+0.9**
	8.1nm,0.6s							

MOS **17** *21:50:38.6±0.0, 41°38N×47°92E, h20km, MPVA3.5*
ISC 17 21:50:38.0±2.0, **41°24N**±0°08×**47°99E**±0°06, **h12**km±9km, **n18**,σ1°13/34, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**0.31**	**321**	*i* Pg	**Pg**	**21 50 44.4**	**0.0**
AKT				*e*Sg	**Sg**	**21 50 48.3**	**-0.3**
KSMR	**Kasumkent**	**0.38**	**16**	*e*Pg	**Pg**	**21 50 46.4**	**+0.8**
KSMR				*e*Sg	**Sg**	**21 50 51.0**	**+0.3**
DRN	**Derbent**	**0.83**	**18**	*e*Pg	**Pg**	**21 50 54.3**	**+0.2**
DRN				*e*Sg	**Sg**	**21 51 04.9**	**-0.1**
URKR	**Urkarakh**	**0.97**	**344**	*e*Pg	**Pb**	**21 50 56.2**	**-0.6**
URKR				*e*Sg	**Sg**	**21 51 08.6**	**-0.6**
KMKR	**Kumukh**	**1.12**	**324**	*e*Pg	**Pb**	**21 50 59.0**	**-0.3**
KMKR				*e*Sg	**Sb**	**21 51 13.1**	**-0.9**
DDFL	**Dedoflistskaro**	**1.43**	**279**	P	**Pg**	**21 51 04.5**	**-0.8**
DDFL				S	**Sg**	**21 51 27.3**	**+3.5**
LGD	**Lagodekhi**	**1.44**	**295**	P	**Pb**	**21 51 04.3**	**-0.4**
LGD				S	**Sg**	**21 51 26.3**	**+1.9**
BUJR	**Buynaksk**	**1.72**	**338**	*e*Pg	**Pn**	**21 51 08.2**	**+0.4**
BUJR				*e*Sg	**Sn**	**21 51 30.2**	**+0.5**
UNCR	**Uncukul**	**1.73**	**329**	*e*Pg	**Pn**	**21 51 08.5**	**+0.6**
UNCR				*e*Sg	**Sn**	**21 51 30.4**	**+0.5**
KRNR	**Karanay**	**1.78**	**333**	*e*Pg	**Pn**	**21 51 09.3**	**+0.6**
KRNR				*e*Sg	**Sb**	**21 51 32.2**	**-0.9**
BTLR	**Botlikh**	**1.94**	**318**	*e*Pg	**Pb**	**21 51 11.8**	**-1.5**
BTLR				*e*Sg	**Sb**	**21 51 36.6**	**-1.0**
DBC	**Dubki**	**1.98**	**335**	*e*Pg	**Pn**	**21 51 11.9**	**+0.5**
DBC				*e*Sg	**Sn**	**21 51 37.1**	**+0.8**
DGRG	**David-gareji**	**1.98**	**277**	P	**Pn**	**21 51 10.6**	**-0.8**
DGRG				S	**Sb**	**21 51 38.2**	**-0.5**
DLMR	**Dylym**	**2.09**	**332**	*e*Pg	**Pn**	**21 51 13.7**	**+0.8**
DLMR				*e*Sg	**Sb**	**21 51 40.4**	**-1.5**
DVE	**Vedeno**	**2.21**	**322**	*e*Pg	**Pn**	**21 51 15.3**	**+0.7**
DVE				*e*Sg	**Sn**	**21 51 42.9**	**+1.0**
SHTL	**Shatili**	**2.55**	**305**	P	**Pb**	**21 51 21.8**	**-2.0**
GROC	**Groznyy**	**2.55**	**321**	*e*Pn	**Pn**	**21 51 20.1**	**+0.9**
GROC				*e*Sn	**Sn**	**21 51 51.8**	**+1.6**
ALIG	**Mtskhetisjvari**	**3.37**	**286**	P	**Pn**	**21 51 30.4**	**0.0**

IDC **17** *21:54:51.6±0.7, 34°84N×25°79E, h0km, mb4.1/22, mbtmp4.1/31, ML3.7/9, MS4.0/1, Error ellipse: s-maj=16.2km s-min=7.8km az=13.0*
ISK **17** *21:54:53.2, 34°94N×25°75E, h5km, ML3.9/25*
NEIC **17** *21:54:54.0±2.0, 34°81N±0°07×25°72E±0°06, h6km±6km, mb4.1/16, ML3.7(THE), Error ellipse: s-maj=11.0km s-min=5.7km az=202.0*
ATH **17** *21:54:54.3, 34°92N×25°75E, h16km±1km, ML3.9/18, Error ellipse: s-maj=3.0km s-min=0.7km az=354.0*
THE **17** *21:54:54.4, 34°93N×25°74E, h0km±1km, ML3.7/11, Error ellipse: s-maj=2.3km s-min=0.6km az=168.0*
GII **17** *21:54:55.6±0.0, 34°47N×26°00E, h1km, Mm3.8/3*
DDA **17** *21:54:56.0±0.0, 34°91N×25°69E, h59km×77km, MW3.9*
ISC 17 21:54:54.0±0.8, **34°86N**±0°03×**25°79E**±0°02, **h15**km±5km,

2016 NOV

n217,σ1°41/247, **mb4.1**/26, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.17**	**343**	P	**Pg**	**21 54 57.8**	**-0.3**
FRMA				S	**Sg**	**21 55 00.9**	**0.0**
	35μm,0.2s						
FRMA	**Ierapetra Chan**	**0.17**	**343**	P	**Pg**	**21 54 57.8**	**-0.3**
FRMA				S	**Sg**	**21 55 00.8**	**0.0**
FRMA				AML	AML	21 55 01.2	
FRMA				AML	AML	21 55 04.0	
STIA	**Sitia Lasithi**	**0.42**	**35**	P	**Pg**	**21 55 02.1**	**-0.4**
STIA				S	**Sb**	**21 55 08.8**	**-0.5**
STIA	**Sitia Lasithi**	**0.42**	**35**	P	**Pg**	**21 55 02.1**	**-0.4**
STIA				S	**Sb**	**21 55 08.8**	**-0.5**
STIA				AML	AML	21 55 12.2	
	comp=E,80910μm,0.5s						
STIA				AML	AML	21 55 14.8	
	comp=N,85989μm,0.4s						
ZKR	**Zakros**	**0.43**	**53**	PG	**Pg**	**21 55 02.5**	**-0.2**
ZKR				SG	**Sb**	**21 55 09.6**	**0.0**
ZKR	**Zakros**	**0.43**	**53**	P	**Pg**	**21 55 02.5**	**-0.2**
ZKR				S	**Sb**	**21 55 09.8**	**+0.2**
	comp=N,27μm,0.3s						
ZKR	**Zakros**	**0.43**	**53**	P	**Pg**	**21 55 02.5**	**-0.2**
ZKR				S	**Sb**	**21 55 09.1**	**-0.5**
ZKR				AML	AML	21 55 11.8	
	comp=N,29468μm,0.3s						
ZKR				AML	AML	21 55 12.0	
	comp=E,78340μm,0.4s						
HRKL	**Herakleio**	**0.72**	**309**	PG	**Pg**	**21 55 07.5**	**-0.6**
HRKL				SG	**Sg**	**21 55 17.1**	**-0.6**
HRKL	**Herakleio**	**0.72**	**309**	P	**Pg**	**21 55 07.3**	**-0.8**
HRKL	**Herakleio**	**0.72**	**309**	P	**Pg**	**21 55 07.4**	**-0.8**
KSTL	**Kastelli Herak**	**0.74**	**307**	P	Pg	21 55 03.0	-5.4
KSTL	**Kastelli Herak**	**0.74**	**307**	P	Pg	21 55 03.0	-5.4
KSTL				AML	AML	21 55 19.0	
	comp=N,24075μm,0.4s						
KSTL				AML	AML	21 55 20.9	
	comp=E,9347μm,0.5s						
IACM	**Heraklion**	**0.74**	**307**	P	**Pg**	**21 55 07.8**	**-0.6**
IACM	**Heraklion**	**0.74**	**307**	P	**Pg**	**21 55 07.6**	**-0.9**
SIVA	**Sivas**	**0.82**	**282**	P	**Pg**	**21 55 08.7**	**-1.3**
SIVA				S	**Sb**	**21 55 21.5**	**+0.7**
	comp=E,18μm,0.4s						
SIVA	**Sivas**	**0.82**	**282**	P	**Pg**	**21 55 08.6**	**-1.3**
SIVA				AML	AML	21 55 22.7	
	comp=N,28061μm,0.4s						
SIVA				AML	AML	21 55 26.5	
	comp=E,42425μm,0.4s						
IDI	**Anoyia**	**0.85**	**300**	Pg	**Pg**	**21 55 08.8**	**-1.8**
	comp=E,127nm,0.3s,baz=157,slow=9.6,SNR=172						
IDI				Lg	Lg	21 55 20.7	
	comp=E,491nm,0.3s,baz=356,slow=21,SNR=12						
IDI				LR	LR	21 55 49.2	
	comp=E,469nm,19.5s,baz=321,slow=66						
IDI	**Anoyia**	**0.85**	**300**	PG	**Pg**	**21 55 08.8**	**-1.8**
IDI				SG	**Sg**	**21 55 21.2**	**-0.7**
IDI	**Anoyia**	**0.85**	**300**	P	**Pg**	**21 55 08.6**	**-2.0**
IDI				S	**Sb**	**21 55 21.6**	**-0.2**
	comp=E,4μm,0.6s						
IDI	**Anoyia**	**0.85**	**300**	P	**Pg**	**21 55 08.9**	**-1.8**
IDI				S	**Sg**	**21 55 20.4**	**-1.5**
IDI				AML	AML	21 55 24.4	
	comp=N,9158μm,0.4s						
IDI				AML	AML	21 55 25.3	
	comp=E,7184μm,0.6s						
TMBK	**Timbaki Herakl**	**0.87**	**285**	P	**Pg**	**21 55 09.6**	**-1.2**
TMBK				S	**Sb**	**21 55 23.1**	**+1.0**
	comp=E,5μm,0.9s						
TMBK	**Timbaki Herakl**	**0.87**	**285**	P	**Pg**	**21 55 09.9**	**-1.0**
TMBK				S	**Sg**	**21 55 20.3**	**-2.0**
TMBK				AML	AML	21 55 26.3	
	comp=N,26515μm,0.4s						
TMBK				AML	AML	21 55 37.4	
	comp=E,31759μm,0.9s						
PRNS	**Prines Rethymn**	**1.17**	**296**	P	**Pg**	**21 55 15.3**	**-1.3**
PRNS				S	**Sn**	**21 55 33.7**	**+2.2**
	comp=E,1μm,0.4s						
KARP	**Karpathos**	**1.32**	**58**	PN	**Pg**	**21 55 19.1**	**-0.2**
KARP	**Karpathos**	**1.32**	**58**	Pn	**Pn**	**21 55 18.7**	**+0.8**
KARP	**Karpathos**	**1.32**	**58**	P	**Pn**	**21 55 18.4**	**+0.6**
KARP				S	**Sn**	**21 55 38.1**	**+3.0**
	comp=E,5μm,0.6s						
KARP	**Karpathos**	**1.32**	**58**	P	**Pn**	**21 55 18.6**	**+0.8**
KARP				AML	AML	21 55 50.5	
	comp=N,8809μm,0.7s						
KARP				AML	AML	21 55 52.2	
	comp=E,9470μm,0.5s						
GVDS	**Gavdos**	**1.40**	**270**	PN	**Pg**	**21 55 21.1**	**+0.2**
GVDS	**Gavdos**	**1.40**	**270**	P	**Pn**	**21 55 20.4**	**+1.5**
GVD	**Gavdhos**	**1.40**	**270**	PN	**Pn**	**21 55 20.4**	**+1.5**
GVD	**Gavdhos**	**1.40**	**270**	P	**Pn**	**21 55 20.1**	**+1.1**
GVD	**Gavdhos**	**1.40**	**270**	P	**Pn**	**21 55 20.0**	**+1.1**
GVD				AML	AML	21 55 49.3	
	comp=N,8542μm,0.4s						
GVD				AML	AML	21 55 50.9	
	comp=E,7834μm,0.7s						
THR6	**Thira Island,**	**1.53**	**348**	P	**Pn**	**21 55 20.8**	**+0.1**
THR6	**Thira Island,**	**1.53**	**348**	P	**Pn**	**21 55 20.9**	**+0.2**
SANT	**Santorini**	**1.54**	**350**	PN	**Pb**	**21 55 21.7**	**-0.4**
SANT	**Santorini**	**1.54**	**350**	Pn	**Pg**	**21 55 22.2**	**-1.3**
SANT				Sn	**Sg**	**21 55 42.9**	**-0.6**
SANT	**Santorini**	**1.54**	**350**	P	**Pn**	**21 55 20.8**	**0.0**
SANT				S	**Sb**	**21 55 40.7**	**-0.7**
	comp=E,3μm,0.6s						
SANT	**Santorini**	**1.54**	**350**	P	**Pn**	**21 55 21.2**	**+0.4**
SANT	**Santorini**	**1.54**	**350**	P	**Pn**	**21 55 20.5**	**-0.3**
SANT				AML	AML	21 55 48.1	
	comp=E,8525μm,0.5s						
SANT				AML	AML	21 55 51.9	
	comp=N,3241μm,0.7s						
THR9	**Santorini-Faro**	**1.54**	**347**	P	**Pn**	**21 55 21.1**	**+0.3**
THR8	**Santorini-Mono**	**1.57**	**351**	P	**Pn**	**21 55 21.3**	**+0.1**
CHAN	**Chania**	**1.58**	**295**	P	**Pn**	**21 55 21.8**	**+0.5**
CHAN				AML	AML	21 55 58.7	
	comp=N,6357μm,0.8s						
CHAN				AML	AML	21 55 58.9	
	comp=E,6527μm,1.0s						
THR3	**Thira Island,**	**1.58**	**349**	P	**Pn**	**21 55 21.2**	**-0.2**
THR3	**Thira Island,**	**1.58**	**349**	P	**Pn**	**21 55 21.1**	**-0.3**
SFIR	**Foira Santorin**	**1.59**	**349**	P	**Pn**	**21 55 21.8**	**+0.3**
THR5	**Thira Island,**	**1.60**	**347**	P	**Pn**	**21 55 21.6**	**0.0**
THR5	**Thira Island,**	**1.60**	**347**	P	**Pn**	**21 55 21.6**	**0.0**
IMMV	**Iera Moni Meta**	**1.60**	**293**	PN	**Pn**	**21 55 23.0**	**+1.3**
IMMV	**Iera Moni Meta**	**1.60**	**293**	P	**Pn**	**21 55 22.3**	**+0.6**
IMMV	**Iera Moni Meta**	**1.60**	**293**	P	**Pn**	**21 55 22.0**	**+0.3**
IMMV				AML	AML	21 55 51.4	
	comp=N,5522μm,1.0s						
IMMV				AML	AML	21 55 57.9	
	comp=E,6434μm,0.8s						
THT2	**Imerovigli**	**1.60**	**349**	PN	**Pn**	**21 55 22.3**	**+0.6**
THT2	**Imerovigli**	**1.60**	**349**	P	**Pn**	**21 55 21.8**	**+0.1**
THT2				S	**Sb**	**21 55 42.6**	**-0.7**
SAP3	**Santorini-Thir**	**1.62**	**347**	P	**Pn**	**21 55 21.8**	**-0.1**
SAP3				S	**Sn**	**21 55 42.6**	**+0.1**
	comp=E,12μm,0.6s						
CMBO	**Columbo, Santo**	**1.64**	**349**	P	**Pn**	**21 55 22.1**	**-0.1**
CMBO				S	**Sg**	**21 55 44.8**	**-2.1**
	comp=E,6μm,0.6s						
KNDR	**Palaiochora Ch**	**1.77**	**283**	PN	**Pb**	**21 55 26.3**	**+0.3**
KNDR	**Palaiochora Ch**	**1.77**	**283**	P	**Pn**	**21 55 25.7**	**+1.7**
KNDR				AML	AML	21 56 06.6	
	comp=N,4270μm,0.6s						
KNDR				AML	AML	21 56 15.2	
	comp=E,5156μm,0.6s						
NISR	**Nisiros**	**2.06**	**31**	P	**Pb**	**21 55 29.8**	**-1.3**
NISR	**Nisiros**	**2.06**	**31**	P	**Pn**	**21 55 29.4**	**+1.4**
NISR				AML	AML	21 56 06.8	
	comp=N,3743μm,0.6s						
NISR				AML	AML	21 56 15.0	
	comp=E,3938μm,0.7s						
NIS1	**Nisyros Isl.**	**2.08**	**33**	PN	**Pn**	**21 55 29.7**	**+1.5**
NIS1	**Nisyros Isl.**	**2.08**	**33**	P	**Pn**	**21 55 28.6**	**+0.4**
KOSK	**Kos Island**	**2.12**	**27**	PN	**Pn**	**21 55 30.6**	**+1.8**
KOSK	**Kos Island**	**2.12**	**27**	P	**Pn**	**21 55 30.2**	**+1.3**
KOSK	**Kos Island**	**2.12**	**27**	P	**Pn**	**21 55 30.2**	**+1.3**
KOSK				AML	AML	21 56 15.3	
	comp=N,6832μm,0.5s						
KOSK				AML	AML	21 56 20.6	
	comp=E,6785μm,0.7s						
MHLO	**Agia Marina, M**	**2.15**	**329**	P	**Pn**	**21 55 30.0**	**+0.8**
MHLO	**Agia Marina, M**	**2.15**	**329**	P	**Pn**	**21 55 30.2**	**+1.0**
MHLO				AML	AML	21 56 12.4	
	comp=N,10956μm,0.5s						
MHLO				AML	AML	21 56 12.8	
	comp=E,6860μm,0.5s						
APE	**Apeiranthos**	**2.22**	**355**	PN	**Pn**	**21 55 31.2**	**+1.0**
APE	**Apeiranthos**	**2.22**	**355**	P	**Pn**	**21 55 30.3**	**+0.1**
APE				S	**Sn**	**21 55 57.6**	**+0.2**
	comp=E,658nm,0.9s						
APE	**Apeiranthos**	**2.22**	**355**	P	**Pn**	**21 55 31.0**	**+0.8**
APE				S	**Sn**	**21 55 55.7**	**-1.6**
APE	**Apeiranthos**	**2.22**	**355**	P	**Pn**	**21 55 30.7**	**+0.5**
ANKY	**Antikythira Is**	**2.27**	**297**	P	**Pn**	**21 55 30.6**	**-0.3**
ANKY	**Antikythira Is**	**2.27**	**297**	P	**Pn**	**21 55 32.6**	**+1.7**
ANKY				AML	AML	21 56 22.7	
	comp=N,1230μm,0.7s						
ANKY				AML	AML	21 56 27.7	
	comp=E,1860μm,0.8s						
ARG	**Arkhangelos**	**2.34**	**54**	PN	**Pb**	**21 55 34.4**	**-1.4**
ARG	**Arkhangelos**	**2.34**	**54**		**Pn**	**21 55 34.1**	**+2.3**
ARG	**Arkhangelos**	**2.34**	**54**	P	**Pb**	**21 55 34.8**	**-0.9**
ARG				AML	AML	21 56 16.8	
	comp=E,1589μm,0.7s						
ARG				AML	AML	21 56 20.7	
	comp=N,1411μm,0.6s						
DAT	**Datca**	**2.37**	**37**	PN	**Pb**	**21 55 34.6**	**-1.7**
DAT	**Datca**	**2.37**	**37**	P	**Pn**	**21 55 33.6**	**+1.3**
BODT	**Bodrum**	**2.52**	**29**	PN	**Pn**	**21 55 35.2**	**+0.8**
BODT	**Bodrum**	**2.52**	**29**	P	**Pn**	**21 55 35.2**	**+0.8**
BDRM	**Kayabasi**	**2.58**	**31**	P	**Pn**	**21 55 34.2**	**-0.9**
KTHA	**Kythira Island**	**2.63**	**303**	PN	**Pn**	**21 55 37.6**	**+1.8**
KTHA	**Kythira Island**	**2.63**	**303**	P	**Pn**	**21 55 37.0**	**+1.2**
KTHR	**Kythira**	**2.67**	**302**	P	**Pn**	**21 55 38.6**	**+2.2**
TURN	**Turunc**	**2.76**	**45**	PN	**Pn**	**21 55 40.2**	**+2.6**
TURN	**Turunc**	**2.76**	**45**	P	**Pn**	**21 55 38.7**	**+1.1**
DDIM	**Aydin, Didim**	**2.85**	**24**	P	**Pb**	**21 55 44.5**	**+0.1**
MLSB	**Milas**	**2.92**	**33**	PN	**Pn**	**21 55 41.6**	**+1.8**
MLSB	**Milas**	**2.92**	**33**	P	**Pn**	**21 55 40.7**	**+0.9**
DALY	**Dalyan (Mula)**	**3.04**	**49**	PN	**Pn**	**21 55 44.1**	**+2.7**
YER	**Yerkesik**	**3.04**	**41**	PN	**Pn**	**21 55 43.8**	**+2.2**
YER	**Yerkesik**	**3.04**	**41**	P	**Pn**	**21 55 43.7**	**+2.2**
GCAM	**G?zelcaml?**	**3.07**	**22**	P	**Pb**	**21 55 46.6**	**-1.6**
FETY	**Fethiye**	**3.21**	**56**	PN	**Pn**	**21 55 44.8**	**+0.9**
AYDN	**Tasoluk**	**3.27**	**30**	P	**Pn**	**21 55 46.6**	**+1.9**
DGB	**zmir**	**3.31**	**15**	P	**Pn**	**21 55 44.3**	**-0.8**
DGB				S	**Sn**	**21 56 25.4**	**+1.2**
DGB				*i* AML	AML	21 56 29.0	
	comp=N,55nm,0.4s						
DGB				*i* AML	AML	21 56 30.0	
	comp=N,106nm,0.7s						
AKAS	**Kas**	**3.40**	**65**	PN	**Pn**	**21 55 47.5**	**+1.0**
AKAS	**Kas**	**3.40**	**65**	Pn	**Pn**	**21 55 47.5**	**+1.0**
AKAS	**Kas**	**3.40**	**65**	P	**Pn**	**21 55 47.1**	**+0.5**
ZEYE	**Izmir, Urla-Ze**	**3.42**	**9**	P	**Pn**	**21 55 47.0**	**+0.3**
CAME	**Cameli-Denizli**	**3.53**	**53**	PN	**Pn**	**21 55 50.7**	**+2.4**
DION	**Dionisos Attik**	**3.55**	**336**	P	**Pn**	**21 55 47.7**	**-0.8**
URLA	**Izmir**	**3.56**	**10**	P	**Pn**	**21 55 46.5**	**-2.1**
TAVA	**DENIZLI_Tavas**	**3.63**	**43**	P	**Pn**	**21 55 50.5**	**+0.9**
CAEL	**Denizli, Çamel**	**3.65**	**51**	P	**Pn**	**21 55 50.5**	**+0.6**
BLCB	**Balcova**	**3.66**	**16**	P	**Pn**	**21 55 50.6**	**+0.6**
ELL	**Elmali**	**3.84**	**59**	PN	**Pn**	**21 55 55.6**	**+3.0**
ELL	**Elmali**	**3.84**	**59**		**Pn**	**21 55 54.8**	**+2.2**
ELL	**Elmali**	**3.84**	**59**	P	**Pn**	**21 55 51.0**	**-1.7**
APMY	**Acipayam-Deniz**	**3.86**	**46**	PN	**Pn**	**21 55 55.1**	**+2.3**
GOLH	**Golhisar**	**3.87**	**51**	P	**Pn**	**21 55 53.0**	**0.0**
ITM	**Ithomi**	**3.90**	**308**	PN	**Pn**	**21 55 55.4**	**+2.1**
ITM	**Ithomi**	**3.90**	**308**		**Pn**	**21 55 55.4**	**+2.1**
AKUM	**Antalya-Kumluc**	**3.99**	**67**	P	Pn	21 55 50.4	-4.1
ZEDA	**zmir-Bergama**	**4.23**	**14**	P	**Pn**	**21 55 57.3**	**-0.5**
ZEDA				S	**Sn**	**21 56 45.1**	**-1.8**
ZEDA				*i* AML	AML	21 56 52.0	
	comp=N,40nm,1.1s						
MANT	**Manisa**	**4.25**	**31**		**Pn**	**21 56 01.2**	**+2.8**
MANT	**Manisa**	**4.25**	**31**	P	**Pn**	**21 55 58.3**	**0.0**
KORT	**Korkueli**	**4.27**	**59**	PN	**Pn**	**21 56 01.6**	**+3.1**
KORT	**Korkueli**	**4.27**	**59**	P	**Pn**	**21 56 01.9**	**+3.4**
KULA	**Kula-Manisa**	**4.32**	**31**	P	**Pn**	**21 56 01.6**	**+2.5**
BRDR	**BURDUR-Merkez**	**4.46**	**49**	P	**Pn**	**21 56 02.8**	**+1.6**
PASA	**Karahalli, USA**	**4.58**	**39**	P	**Pn**	**21 56 04.1**	**+1.4**
USAK	**Uak-Merkez**	**4.64**	**33**	P	**Pn**	**21 56 05.8**	**+2.3**
KOCA	**Canakkale, Ayv**	**4.65**	**3**	P	**Pn**	**21 56 03.5**	**0.0**
BUHA	**Balikesir, Bur**	**4.75**	**12**	P	**Pn**	**21 56 05.3**	**+0.4**
DEMI	**Demirci**	**4.79**	**28**	P	**Pn**	**21 56 05.2**	**-0.4**
KZIL	**AFYON_Kizioren**	**4.88**	**45**	P	**Pn**	**21 56 06.8**	**0.0**
BAYC	**CANAKKALE_Bayr**	**4.91**	**7**	P	**Pn**	**21 56 07.8**	**+0.6**
BAYC				S	Sn	21 56 50.8	-13
BAYC				*i* AML	AML	21 57 12.0	
	comp=N,8.4nm,0.4s						
**

ONI					IAmb	IAmb	21 58 43.4	
	comp=Z,9.9nm,0.7s							
KIV	**Kislovodsk**	**15.88**	**50**	Pn	**P**		**21 58 40.1**	**-0.5**
KIV					IAmb	IAmb	21 58 44.2	
	comp=Z,15nm,1.1s							
KVAR	**Kislovodsk Arr**	**15.89**	**50**	Pn	**P**		**21 58 39.9**	**-0.8**
	baz=270,slow=20							
	comp=Z,6.2nm,1.1s							
KBZ	**Khabaz**	**15.91**	**51**	Pn	**P**		**21 58 40.0**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=239,slow=12,SNR=22							
	comp=Z,15nm,0.8s							
GNI	**Garni**	**15.93**	**65**	Pn	**P**		**21 58 43.2**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=209,slow=13,SNR=1.8							
AKASG	**Malin Array Be**	**16.03**	**8**	Pn	**Pn**		**21 58 40.8**	**+2.1**
	comp=Z,1.6nm,0.3s,baz=197,slow=11,SNR=7.1							
AKBB	**Malin Array Si**	**16.03**	**8**		**P**		**21 58 41.0**	**-1.1**
AKBB					IAmb	IAmb	21 58 49.3	
	comp=Z,15nm,1.3s							
FUORN	**Ofenpass-Fuorn**	**16.59**	**320**	P	**P**		**21 58 49.6**	**+0.9**
GERES	**GERESS Array B**	**16.60**	**331**	Pn	**P**		**21 58 48.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=145,slow=12,SNR=3.3							
	comp=Z,0.8nm,0.7s							
DAVOX	**Davos/Dischmat**	**16.90**	**320**	Pn	**Pn**		**21 58 51.1**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=169,slow=19,SNR=2.7							
	comp=Z,1.3nm,0.4s							
RAYN	**Ar Rayn**	**20.54**	**118**			Pn	21 59 35.9	+1.7
TAM	**Tamanrasset**	**21.40**	**241**	P	**P**		**21 59 44.7**	**+3.5**
BELG	**Belogornoye**	**23.45**	**35**	P	**P**		**22 00 02.4**	**-0.1**
	comp=Z,12nm,0.8s,baz=194,slow=17,SNR=6.4							
	comp=Z,12nm,0.8s							
ESDC	**Sonseca Array**	**24.11**	**290**	P	**P**		**22 00 08.8**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=82,slow=9.6,SNR=16							
	comp=Z,1.1nm,0.6s							
MDT	**Midelt**	**25.29**	**274**	P	**P**		**22 00 20.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=77,slow=16,SNR=1.8							
	comp=Z,0.6nm,0.5s							
GEYT	**Alibeck**	**26.13**	**74**	P	**P**		**22 00 27.9**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=269,slow=8.9,SNR=7.4							
	comp=Z,2.2nm,0.5s							
GEYT	**Alibeck**	**26.13**	**74**	P	**P**		**22 00 29.6**	**+2.2**
GYA0B	**ALIBECK ARRAY**	**26.13**	**74**	P	**P**		**22 00 29.3**	**+1.9**
HFS	**Hagfors**	**26.49**	**346**	P	**P**		**22 00 29.6**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=102,slow=13,SNR=1.3							
	comp=Z,2.3nm,0.8s							
FINES	**FINESS Array B**	**26.61**	**0**	P	**P**		**22 00 29.7**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=159,slow=11,SNR=5.8							
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**27.83**	**345**	P	**P**		**22 00 42.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=155,slow=9.4,SNR=1.8							
	comp=Z,0.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**28.59**	**325**	P	**P**		**22 00 50.1**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=115,slow=9.2,SNR=5.8							
	comp=Z,0.7nm,0.5s							
ABKAR	**Akbulak array**	**28.87**	**50**	IAmb	IAmb		22 01 17.5	
	comp=Z,3.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**30.70**	**231**	P	**P**		**22 01 07.6**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=39,slow=10.0,SNR=12							
	comp=Z,2.2nm,0.7s							
ARCES	**ARCESS Array B**	**34.73**	**360**	P	**P**		**22 01 41.2**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=168,slow=9.2,SNR=7.8							
	comp=Z,0.5nm,0.4s							
KK31	**Karatay Array**	**35.38**	**63**	IAmb	IAmb		22 01 50.8	
	comp=Z,2.6nm,0.8s							
KKAR	**Karatay Array**	**35.38**	**63**	P	**P**		**22 01 49.8**	**+0.9**
KKAR	**Karatay Array**	**35.38**	**63**	IAmb	IAmb		22 01 50.8	
	comp=Z,2.6nm,0.8s							
AAK	**Ala-Archa**	**38.33**	**63**	P	**P**		**22 02 15.0**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=248,slow=11,SNR=5.7							
	comp=Z,1.5nm,0.6s							
DBIC	**Dimbokro**	**39.79**	**232**	P	**P**		**22 02 25.9**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=58,slow=10,SNR=1.5							
	comp=Z,1.7nm,0.6s							
KURBB	**Kurchatov Arra**	**40.91**	**51**	P	**P**		**22 02 35.9**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=278,slow=8.7,SNR=26							
	comp=Z,2.9nm,0.6s							
KURK	**Kurchatov**	**40.97**	**51**	P	**P**		**22 02 36.5**	**+0.7**
MAKZ	**Makanchi**	**43.29**	**56**	P	**P**		**22 02 56.1**	**+1.1**
MAKZ					IAmb	IAmb	22 02 56.3	
	comp=Z,2.4nm,0.8s							
MKAR	**Makanchi Array**	**43.51**	**56**	P	**P**		**22 02 57.8**	**+1.0**
	comp=Z,2.9nm,0.5s,baz=272,slow=7.5,SNR=38							
	comp=Z,2.9nm,0.5s							
MKAR	**Makanchi Array**	**43.51**	**56**	P	**P**		**22 02 57.6**	**+0.9**
ZALV	**Zalesovo Beam**	**44.84**	**46**	P	**P**		**22 03 07.0**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=269,slow=8.1,SNR=8.7							
	comp=Z,2.3nm,0.4s							
NRIK	**Noril'sk**	**47.93**	**25**	P	**P**		**22 03 30.4**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=221,slow=10,SNR=2.6							
	comp=Z,2.4nm,0.6s							
DANN	**Dangsing**	**49.22**	**81**	*eP*	**P**		**22 03 43.1**	**+1.0**
	comp=Z,29nm,0.7s							
GKN	**Gorkha**	**50.06**	**81**	*eP*	**P**		**22 03 49.0**	**+0.6**
	comp=Z,10nm,0.7s							
PKIN	**Phulchoki**	**50.85**	**81**	*eP*	**P**		**22 03 55.0**	**+0.5**
JIRN	**Jiri**	**51.46**	**80**	*eP*	**P**		**22 03 59.6**	**+0.4**
	comp=Z,11nm,0.7s							
RAMN	**Ramite**	**52.08**	**81**	*eP*	**P**		**22 04 04.2**	**+0.5**
SONM	**Songino Array**	**59.28**	**51**	P	**P**		**22 04 56.0**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=286,slow=7.7,SNR=5.0							
	comp=Z,0.8nm,0.5s							
SCHQ	**Schefferville**	**63.75**	**320**	P	**P**		**22 05 24.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=162,slow=6.4,SNR=0.8							
	comp=Z,0.7nm,0.3s							
CMAR	**Chiang Mai Arr**	**66.09**	**84**	P	**P**		**22 05 40.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=299,slow=9.2,SNR=5.8							
	comp=Z,1.1nm,0.3s							
USRK	**Ussuriysk Ar.**	**76.69**	**45**	P	**P**		**22 06 44.1**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=321,slow=5.8,SNR=6.2							
	comp=Z,2.7nm,0.6s							
KSRS	**Korea Array**	**78.06**	**53**	P	**P**		**22 06 52.6**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=297,slow=5.3,SNR=2.5							
	comp=Z,1.2nm,0.8s							
ILAR	**Eielson Array**	**80.53**	**357**	P	**P**		**22 07 06.4**	**+1.3**
	comp=Z,0.3nm,0.9s,baz=1.4,slow=3.8,SNR=1.7							
	comp=Z,0.3nm,0.9s							
ANMO	**Albuquerque**	**97.46**	**322**	LR	LR		22 53 31.4	
	comp=Z,62nm,20.3s,baz=2.0,slow=36							

IDC 17 21:55:49.8±2.6, 21°.99N×144°.20E, h0^{km}, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=127.0km s-min=30.7km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.78**	**194**	P	P	22 03 49.4	0.0
	0.2nm,0.5s,baz=15,slow=9.4,SNR=6.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.96**	**317**	P	P	22 05 44.1	+0.1
	0.6nm,0.4s,baz=92,slow=7.6,SNR=12						
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**78.94**	**342**	P	P	22 07 55.8	+0.9
	2.3nm,0.8s,baz=64,slow=6.1,SNR=1.3						
	2.3nm,0.8s						
FINES	**FINESS Array B**	**83.32**	**335**	P	P	22 08 17.3	-1.0
	2.4nm,0.9s,baz=66,slow=4.7,SNR=6.1						
	2.4nm,0.9s						

*SJA **17** 22:08:54.1±0.7, 27°.94S×66°.53W, h190^{km}±4^{km}, ML4.4, MW4.1*

*NEIC **17** 22:08:54.8±2.1, 27°.93S±0°.06×66°.49W±0°.08, h156^{km}±7^{km}, mb4.8/14, Md4.4(SJA), Error ellipse: s-maj=10.5km s-min=8.8km az=86.0*

*VAO **17** 22:08:55.4±0.3, 27°.96S×66°.53W, h183^{km}, mb4.5*

*IDC **17** 22:08:56.7±0.6, 27°.86S×66°.34W, h176^{km}±4^{km}, mb3.7/10, mbtmp4.2/13, MS3.6/2, Error ellipse: s-maj=16.2km s-min=14.0km az=67.0*

ISC 17 22:08:55.4±0.5, 27°.90S±0°.03×66°.58W±0°.04, h174^{km}±4^{km}, n188, σ1^{s}54/234, mb4.4/15, 2C-3D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**0.87**	**129**	*eP*	**Pn**	**22 09 22.4**	**+0.8**
CYA				*eS*	**Sn**	22 09 40.7	-1.1
CYA	**Choya**	**0.87**	**129**	*eP*	**Pn**	**22 09 22.0**	**+0.4**
CYA				*eS*	**Sn**	22 09 42.5	+0.7
TINO	**Tinogasta**	**0.89**	**259**	*eP*	**Pn**	**22 09 23.1**	**+1.2**
TINO				*eS*	**Sn**	22 09 43.0	+0.8
ACLC	**CERRO LA CRUZ**	**1.56**	**192**	*eP*	**Pn**	**22 09 28.0**	**+0.4**
ACLC				IAML		22 09 53.6	
	comp=Z,744nm,0.3s						
ACLC				*eS*	**Sn**	**22 09 53.7**	**+1.1**
FSA	**Cafayete**	**1.86**	**17**	*eP*	**Pn**	**22 09 32.0**	**+1.2**
FSA				*eS*	**Sn**	**22 09 59.0**	**+0.9**
APLL	**PUNTA DE LOS L**	**2.49**	**179**	*eP*	**Pn**	**22 09 37.0**	**-0.7**
AC02	**Maricunga**	**2.51**	**294**		**Pn**	**22 09 39.5**	**+1.1**
AC02					Sn	**22 10 12.3**	**+0.7**
AC02	**Maricunga**	**2.51**	**294**	*eP*	**Pn**	**22 09 40.0**	**+1.6**
AC02				*eS*	Sn	22 10 25.5	+14
ACDV	**Cuesta del Vie**	**3.17**	**224**	*eP*	**Pn**	**22 09 46.7**	**+0.6**
ACDV				*eS*	**Sn**	**22 10 27.2**	**+1.6**
ACDV				IAML		22 10 27.9	
	comp=Z,347nm,0.5s						
GO03	**Copiap**	**3.26**	**275**		**Pn**	**22 09 47.1**	**+0.1**
GO03					Sn	**22 10 25.8**	**-1.4**
GO03	**Copiap**	**3.26**	**275**	*eP*	**Pn**	**22 09 47.3**	**+0.3**
GO03				*eS*	**Sn**	**22 10 24.8**	**-2.4**
GO03				IAML		22 10 26.7	
	comp=N,3μm,0.6s						
GO03	**Copiap**	**3.26**	**275**	*eP*	**Pn**	**22 09 47.3**	**+0.3**
GO03				*eS*	**Sn**	**22 10 26.0**	**-1.2**
SLA	**San Lorenzo**	**3.31**	**17**	*eP*	**Pn**	**22 09 44.0**	**-3.8**
SLA				*eP*		22 09 49.0	
SLA				*eS*	**Sn**	**22 10 27.0**	**-1.6**
AC05	**El Transito**	**3.39**	**253**		**Pn**	**22 09 49.2**	**+0.4**
AC05					Sn	**22 10 30.0**	**-0.3**
AC05	**El Transito**	**3.39**	**253**	*eP*	**Pn**	**22 09 49.0**	**+0.3**
AC05				*eS*	**Sn**	**22 10 27.5**	**-2.8**
AC05				IAML		22 10 31.8	
	comp=N,4μm,0.2s						
AC05	**El Transito**	**3.39**	**253**	*eP*	**Pn**	**22 09 49.0**	**+0.3**
AC05				*eP*		22 09 49.5	
AC05				*eS*	**Sn**	**22 10 30.0**	**-0.3**
AC05				IAML		22 10 32.4	
	comp=Z,2μm,1.1s						
AC06	**Mina Casimiro**	**3.40**	**278**		**Pn**	**22 09 48.5**	**-0.2**
AC06					Sn	**22 10 27.9**	**-2.3**
AC06	**Mina Casimiro**	**3.40**	**278**	*eP*	**Pn**	**22 09 48.5**	**-0.2**
AC06				*i S*	**Sn**	**22 10 26.9**	**-3.3**
ACCO	**Cerro Coronel**	**3.45**	**218**	*eP*	**Pn**	**22 09 49.0**	**-0.7**
ACCO				*eP*		22 09 49.7	
ACCO				*eS*	**Sn**	**22 10 31.7**	**-0.3**
CO01	**Juntas del Tor**	**3.71**	**235**		**Pn**	**22 09 53.4**	**+0.5**
CO01					Sn	**22 10 35.6**	**-2.2**
CO01	**Juntas del Tor**	**3.71**	**235**	*eP*	**Pn**	**22 09 54.1**	**+1.2**
CO01				*eS*	**Sn**	**22 10 35.9**	**-1.9**
CO01	**Juntas del Tor**	**3.71**	**235**	*eP*	**Pn**	**22 09 52.6**	**-0.3**
CO01				*eS*	**Sn**	**22 10 40.5**	**+2.7**
CO01				IAML		22 10 41.0	
	comp=Z,290nm,0.5s						
LCO	**Las Campanas**	**3.80**	**252**		**Pn**	**22 09 53.9**	**-0.1**
LCO					Sn	**22 10 37.6**	**-2.1**
LCO	**Las Campanas**	**3.80**	**252**	*eP*	**Pn**	**22 09 54.0**	**-0.1**
RTLL	**Cerro Villicun**	**3.80**	**205**	*eP*	**Pn**	**22 09 53.5**	**-0.3**
RTLL				*eS*	**Sn**	**22 10 38.5**	**-0.9**
GO02	**Mina Guanaco**	**3.84**	**315**		**Pn**	**22 09 55.8**	**+1.2**
GO02	**Mina Guanaco**	**3.84**	**315**	*eP*	**Pn**	**22 09 56.2**	**+1.6**
GO02				*eS*	**Sn**	**22 10 40.9**	**+0.2**
GO02	**Mina Guanaco**	**3.84**	**315**	*eP*	**Pn**	**22 09 56.0**	**+1.4**
GO02				*eS*	**Sn**	**22 10 44.2**	**+3.5**
AZAP	**Zapla**	**3.90**	**21**	*eP*	**Pn**	**22 09 56.0**	**+0.6**
AZAP				IAML		22 10 49.2	
	comp=Z,164nm,0.9s						
CFA	**Coronel Fontan**	**3.96**	**201**	P	**Pn**	**22 09 55.4**	**-0.5**
	comp=Z,825nm,0.3s,baz=44,slow=18,SNR=3519						
CFA				S	**Sn**	**22 10 39.9**	**-3.4**
	comp=Z,677nm,0.3s,baz=23,slow=12,SNR=16						
AC04	**Llanos de Chal**	**3.99**	**265**		**Pn**	**22 09 55.6**	**-0.6**
AC04	**Llanos de Chal**	**3.99**	**265**	*eP*	**Pn**	**22 09 55.5**	**-0.7**
AC04				*eS*	**Sn**	**22 10 40.1**	**-3.5**
AC04	**Llanos de Chal**	**3.99**	**265**	*eP*	**Pn**	**22 09 56.3**	**+0.2**
AC04				*eS*	Sn	22 10 31.0	-13
AC04				IAML		22 10 45.0	
	comp=Z,451nm,0.6s						
AC01	**Pan de Azucar**	**3.99**	**295**		**Pn**	**22 09 55.9**	**-0.3**
AC01	**Pan de Azucar**	**3.99**	**295**	*eP*	**Pn**	**22 09 56.0**	**-0.3**
AC01				*eS*	**Sn**	**22 10 40.3**	**-3.5**
AC01	**Pan de Azucar**	**3.99**	**295**	*eP*	**Pn**	**22 09 56.0**	**-0.3**
AC01				*eP*		22 09 56.1	
AC01				*eS*	**Sn**	**22 10 43.8**	**+0.1**
AC01				IAML		22 10 48.0	
	comp=Z,181nm,0.7s						
ZON	**Zonda**	**4.07**	**206**	Pn	**Pn**	**22 09 56.5**	**-0.7**
ZON	**Zonda**	**4.07**	**206**	*eP*	**Pn**	**22 09 56.8**	**-0.4**
ZON				*eS*	**Sn**	**22 10 44.0**	**-1.6**
ZON				IAML		22 10 46.5	
	comp=Z,241nm,0.2s						
RTCV	**Cerro Valdivia**	**4.30**	**203**	*eP*	**Pn**	**22 10 00.0**	**-0.2**
RTCV				*eS*	**Sn**	**22 10 49.5**	**-1.5**
GO04	**Tololo Observa**	**4.34**	**238**		**Pn**	**22 10 00.4**	**-0.5**
GO04	**Tololo Observa**	**4.34**	**238**	*eP*	**Pn**	**22 10 00.4**	**-0.5**
GO04				*eS*	**Sn**	**22 10 49.7**	**-2.3**
GO04	**Tololo Observa**	**4.34**	**238**	*eP*	**Pn**	**22 10 00.0**	**-0.9**
GO04				*eP*		22 10 00.4	
GO04				*eS*	**Sn**	**22 10 51.4**	**-0.6**
ASTB	**Santa Barbara**	**4.37**	**26**	*eP*	**Pn**	**22 10 02.0**	**+0.6**
ASTB				*eP*		22 10 02.8	
RTLS	**Leoncito**	**4.55**	**211**	*eP*	**Pn**	**22 10 03.2**	**-0.4**
RTLS				*eS*	**Sn**	**22 10 56.8**	**-0.3**
RTLS				IAML		22 10 59.2	
	comp=Z,318nm,0.2s						
CO05	**La Serena**	**4.55**	**243**		**Pn**	**22 10 01.9**	**-1.6**
CO05	**La Serena**	**4.55**	**243**	*eP*	**Pn**	**22 10 01.8**	**-1.7**
CO05				*eS*	**Sn**	**22 10 52.9**	**-3.9**
MRA	**San Martin**	**4.56**	**171**	*eP*	**Pn**	**22 10 02.0**	**-1.7**
MRA				*eP*		22 10 02.8	
MRA				*eS*	**Sn**	**22 10 49.5**	**-7.7**
MRA				*eS*		22 10 54.6	
MRA				IAML		22 11 10.7	
	comp=Z,617nm,0.4s						
CO03	**El Pedregal**	**4.63**	**230**		**Pn**	**22 10 04.0**	**-0.6**
CO03	**El Pedregal**	**4.63**	**230**	*eP*	**Pn**	**22 10 04.0**	**-0.6**
CO03				*eS*	**Sn**	**22 10 58.5**	**-0.2**
CO03				IAML		22 11 00.7	
	comp=Z,556nm,0.3s						
ALOL	**LOMAS DE OLMED**	**4.69**	**30**	*eP*	**Pn**	**22 10 06.0**	**+0.7**
PB14	**IPOC Station P**	**4.74**	**313**	Pn	**Pn**	**22 10 06.7**	**+0.5**
PB14	**IPOC Station P**	**4.74**	**313**	*eP*	**Pn**	**22 10 07.0**	**+0.8**
PB14				*eS*	**Sn**	**22 11 01.5**	**-0.1**
PB14				IAML		22 11 05.8	
	comp=Z,136nm,0.5s						
ASAL	**Salagasta**	**5.07**	**202**	*eP*	**Pn**	**22 10 09.4**	**-0.8**
CO02	**Combarbal**	**5.07**	**228**		**Pn**	**22 10 08.8**	**-1.5**
CO02	**Combarbal**	**5.07**	**228**	*eP*	**Pn**	**22 10 08.8**	**-1.5**
CO02				*eS*	**Sn**	**22 11 06.9**	**-2.1**
CO02	**Combarbal**	**5.07**	**228**	*eP*	**Pn**	**22 10 09.2**	**-1.1**
CO02				*eS*	**Sn**	**22 11 08.1**	**-0.8**
CO02				IAML		22 11 09.2	
	comp=Z,336nm,0.2s						
AF01	**San Pedro de A**	**5.13**	**343**	Pn	**Pn**	**22 10 10.9**	**-0.4**
ARCO	**CERRO ARCO**	**5.33**	**202**	*eS*	**Sn**	**22 11 13.6**	**-1.5**
PB15	**IPOC Station P**	**5.35**	**330**	Pn	**Pn**	**22 10 14.3**	**+0.1**
PB10	**IPOC Station P**	**5.65**	**320**		**Pn**	**22 10 17.5**	**-0.3**
LVC	**Limon Verde**	**5.67**	**338**	P	**Pn**	**22 10 19.2**	**+0.7**
	comp=Z,43nm,0.3s,baz=141,slow=12,SNR=173						
LVC				S	**Sn**	**22 11 20.7**	**-3.0**
	comp=Z,70nm,0.3s,baz=267,slow=20,SNR=29						
LVC	**Limon Verde**	**5.67**	**338**	Pn	**Pn**	**22 10 18.7**	**+0.2**
LVC	**Limon Verde**	**5.67**	**338**	*eP*	**Pn**	**22 10 19.3**	**+0.7**
PB06	**IPOC Station P**	**5.84**	**332**		**Pn**	**22 10 20.2**	**-0.2**
PB04	**IPOC Station P**	**6.42**	**329**		**Pn**	**22 10 27.1**	**-1.0**
MT03	**Universidad Ad**	**6.52**	**210**		**Pn**	**22 10 28.5**	**-0.9**
MT02	**Curacav**	**6.63**	**215**		**Pn**	**22 10 29.3**	**-1.4**
MT09	**Talagante**	**6.98**	**212**		**Pn**	**22 10 32.9**	**-2.5**
BO01	**Tunca**	**7.54**	**210**		**Pn**	**22 10 39.7**	**-2.9**
TA01	**Diego Aracena**	**8.01**	**335**	Pn	**Pn**	**22 10 48.1**	**-0.8**
CPUP	**Villa Florida**	**8.39**	**81**	P	**Pn**	**22 10 52.0**	**-1.9**
	comp=Z,12nm,0.8s,baz=263,slow=12,SNR=18						
CPUP	**Villa Florida**	**8.39**	**81**	Pn	**Pn**	**22 10 52.2**	**-1.7**
CPUP	**Villa Florida**	**8.39**	**81**	*eP*	**Pn**	**22 10 53.8**	**-0.1**
GO05	**Huala**	**8.43**	**211**	Pn	**Pn**	**22 10 51.2**	**-3.3**
GO01	**Chusmiza**	**8.54**	**343**		**Pn**	**22 10 54.9**	**-1.5**
PB11	**IPOC Station P**	**8.58**	**340**	Pn	**Pn**	**22 10 55.0**	**-1.6**
PSGCX	**Pisagua**	**8.88**	**338**	Pn	**Pn**	**22 10 58.8**	**-1.7**
ITQB	**Itaqui**	**8.91**	**104**	*eP*	**Pn**	**22 11 00.3**	**-0.4**
AZCA	**Azaras, Argent**	**9.37**	**94**	*eP*	**Pn**	**22 11 06.4**	**-0.4**
PB12	**IPOC Station P**	**9.86**	**339**	Pn	**Pn**	**22 11 10.0**	**-3.5**
UNIS	**Unistalda (Bra**	**10.19**	**99**	*eP*	**Pn**	**22 11 17.2**	**-0.4**
MURT	**Porto Murtinho**	**10.24**	**55**	*eP*	**Pn**	**22 11 17.9**	**-0.4**
TRQA	**Tornquist**	**10.84**	**160**	Pn	**Pn**	**22 11 25.5**	**-0.4**
CRSM	**Crissiumal (Br**	**11.12**	**91**	*eP*	**Pn**	**22 11 28.5**	**-1.1**
BBRB	**Robore, Bolivi**	**11.42**	**34**	*eP*	**Pn**	**22 11 32.4**	**-1.2**
LPAZ	**La Paz**	**11.64**	**353**	P	**Pn**	**22 11 35.6**	**-1.5**
	comp=Z,7.6nm,0.3s,baz=174,slow=9.3,SNR=54						
LPAZ				S	**Sn**	**22 13 39.6**	**-7.2**
	comp=Z,2.7nm,0.6s,baz=163,slow=24,SNR=2.0						
LPAZ	**La Paz**	**11.64**	**353**	*eP*	**Pn**	**22 11 37.5**	**+0.3**

MCR1	**Marechal Candi**	**11.77**	**76**	*eP*	**Pn**		**22 11 37.9**	**-0.3**
PLTB	**Pedras Altas**	**11.90**	**112**	*eP*	**Pn**		**22 11 36.9**	**-2.9**
BBSD	**Serra de San D**	**12.00**	**29**	*eP*	**Pn**		**22 11 40.7**	**-0.4**
GO06	**Curarrehue**	**12.34**	**198**	Pn	**Pn**		**22 11 43.7**	**-1.7**
AQDB	**Aquidauana**	**12.37**	**56**	Pn	**Pn**		**22 11 45.1**	**-0.7**
AQDB	**Aquidauana**	**12.37**	**56**	*eP*	**Pn**		**22 11 45.3**	**-0.5**
ITAB	**Concordia**	**12.83**	**90**	*eP*	**Pn**		**22 11 50.9**	**-0.8**
SIV	**San Ignacio**	**12.90**	**24**	P	**Pn**		**22 11 51.2**	**-1.5**
	comp=Z,9.5nm,0.7s,baz=211,slow=12,SNR=42							
PLCA	**Paso Flores**	**13.21**	**193**	P	**Pn**		**22 11 55.2**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=12,slow=11,SNR=17							
PLCA	**Paso Flores**	**13.21**	**193**		**Pn**		**22 11 56.2**	**-0.2**
PLCA	**Paso Flores**	**13.21**	**193**	*eP*	**Pn**		**22 11 55.4**	**-1.1**
LR04	**Corral**	**13.23**	**204**	Pn	**Pn**		**22 11 54.8**	**-1.7**
PTGB	**Pitanga**	**13.40**	**80**	*eP*	**Pn**		**22 11 58.9**	**-0.1**
TRCB	**Terra Rica**	**13.59**	**71**	*eP*	**Pn**		**22 12 00.8**	**-0.5**
LL04	**Puerto Octay**	**13.84**	**199**	Pn	**Pn**		**22 12 01.5**	**-2.7**
LL03	**Petrohue**	**14.05**	**198**	Pn	**Pn**		**22 12 04.6**	**-2.3**
PTLB	**Pontes e Lacer**	**14.18**	**31**	Pn	**Pn**		**22 12 08.2**	**-0.5**
PTLB	**Pontes e Lacer**	**14.18**	**31**	*eP*	**Pn**		**22 12 08.9**	**+0.2**
PCMB	**Pacaembu**	**15.25**	**69**	*eP*	**Pn**		**22 12 21.7**	**-0.3**
SALV	**Santo Antonio**	**15.62**	**42**	*eP*	**Pn**		**22 12 26.1**	**-0.5**
FRTB	**Fartura**	**16.00**	**77**	*eP*	**Pn**		**22 12 29.8**	**-1.3**
VILB	**Vilhena**	**16.02**	**23**		**Pn**		**22 12 30.8**	**-0.6**
VILB	**Vilhena**	**16.02**	**23**	*eP*	**Pn**		**22 12 30.6**	**-0.8**
ITRB	**Iturama**	**16.92**	**65**	*eP*	**P**		**22 12 41.6**	**+0.3**
PET01	**Itanhaem-SP**	**17.70**	**83**	*eP*	**P**		**22 12 50.2**	**+0.3**
BB19B	**Bebedouro**	**17.77**	**71**	*eP*	**P**		**22 12 50.3**	**-0.4**
ETMB	**Extrema**	**17.99**	**1**	P	**P**		**22 12 53.5**	**+0.4**
ETMB	**Extrema**	**17.99**	**1**	*eP*	**P**		**22 12 53.7**	**+0.6**
RCLB	**Rio Claro- Sao**	**18.08**	**77**	*eP*	**P**		**22 12 54.1**	**+0.1**
ARAG	**Araguaiana, MT**	**18.28**	**51**	*eP*	**P**		**22 12 56.1**	**-0.2**
VAO	**Valinhos**	**18.36**	**79**	*eP*	**P**		**22 12 58.0**	**+0.8**
PDRB	**Porto dos Gac**	**18.65**	**32**	*eP*	**P**		**22 12 58.8**	**-1.4**
PARB	**Paraibuna**	**19.43**	**81**	*eP*	**P**		**22 13 07.2**	**-1.5**
IPMB	**Ipameri, GO**	**19.56**	**64**	*eP*	**P**		**22 13 09.3**	**-0.7**
CLDB	**Colider**	**19.73**	**33**	*eP*	**P**		**22 13 10.8**	**-1.1**
CZSB	**Cruzeiro do Su**	**20.88**	**343**	P	**P**		**22 13 23.5**	**-0.7**
CZSB	**Cruzeiro do Su**	**20.88**	**343**	*eP*	**P**		**22 13 24.6**	**+0.4**
BDFB	**Brasilia**	**21.08**	**58**	P	**P**		**22 13 25.1**	**-1.4**
	comp=Z,13nm,0.6s,baz=228,slow=9.0,SNR=21							
	comp=Z,13nm,0.6s							

WEL 17 22:09:54.4±0.3, 43°S×3°×17°3E±°, h5km, M3.2/32, ML3.5/13, MLv3.2/32, Error ellipse: s-maj=0.0km s-min=0.0km az=126.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**71**	P	Pg	22 09 59.6	+0.1
KHZ				S	Sg	22 10 03.6	+0.5
GVZ	**Greta Valley S**	**0.48**	**195**	P	Pb	22 10 04.5	-0.8
GVZ				S	Sb	22 10 12.1	-0.6
LTZ	**Lake Taylor**	**0.74**	**248**	P	Pg	22 10 08.6	0.0
THZ	**Tophouse**	**0.77**	**343**	P	Pg	22 10 09.3	+0.1
AMCZ	**Amberley**	**0.78**	**211**	P	Pb	22 10 10.2	-0.3
BSWZ	**Blackbirch Sta**	**0.94**	**33**	P	Pg	22 10 12.2	-0.1
CMWZ	**Cape Campbell**	**1.07**	**45**	P	Pb	22 10 15.4	+0.1
MRNZ	**Matariki Terra**	**1.15**	**343**	P	Pg	22 10 16.4	-0.1
OXZ	**Oxford**	**1.18**	**226**	P	Pg	22 10 15.8	-1.2
TUWZ	**Tuamarina**	**1.21**	**28**	P	Pg	22 10 16.9	-0.6
MQZ	**McQueen's Vall**	**1.27**	**198**	P	Pg	22 10 15.9	-2.8
DSZ	**Denniston Nort**	**1.29**	**306**	P	Pg	22 10 18.5	-0.5
NNZ	**Nelson**	**1.29**	**6**	P	Pn	22 10 18.4	-0.7
AKCZ	**Akaroa Harbour**	**1.38**	**189**	P	Pn	22 10 18.0	-2.3
RACZ	**Rakaia**	**1.45**	**212**	P	Pn	22 10 18.9	-2.3
TKNZ	**Takaka Hill**	**1.48**	**353**	P	Pn	22 10 21.6	-0.1
TCW	**Tory Channel**	**1.52**	**32**	P	Pn	22 10 21.0	-1.2
MHCZ	**Mount Hutt**	**1.58**	**229**	P	Pn	22 10 21.1	-2.0
WACZ	**Wakanui South**	**1.75**	**214**	P	Pn	22 10 23.1	-2.2
QRZ	**Quartz Range**	**1.75**	**343**	P	Pn	22 10 26.0	+0.6
DUWZ	**D'Urville Isla**	**1.79**	**18**	P	Pn	22 10 25.9	0.0
PLWZ	**Palliser**	**1.79**	**59**	P	Pn	22 10 23.7	-2.3
MSWZ	**Moikau Station**	**1.88**	**55**	P	Pn	22 10 24.6	-2.5
WVZ	**Waitaha Valley**	**1.90**	**252**	P	Pn	22 10 26.8	-0.6
CAW	**Cannon Point**	**1.97**	**46**	P	Pn	22 10 26.6	-1.9
RPZ	**Rata Peaks**	**1.98**	**232**	P	Pn	22 10 26.9	-1.7
ARCZ	**Arundel**	**2.06**	**225**	P	Pn	22 10 28.1	-1.6
KIW	**Kapiti Island**	**2.08**	**39**	P	Pn	22 10 28.7	-1.3
OGWZ	**Otaki Gorge**	**2.24**	**42**	P	Pn	22 10 30.3	-1.8
GCSZ	**Gaunt Creek Bo**	**2.26**	**248**	P	Pn	22 10 31.9	-0.5
HOWZ	**Holdsworth Sta**	**2.36**	**48**	P	Pn	22 10 31.5	-2.3
TMZ	**Timaru**	**2.46**	**220**	P	Pn	22 10 34.4	-0.8
MRZ	**Mangatainoka R**	**2.56**	**45**	P	Pn	22 10 34.2	-2.4
LBZ	**Lake Benmore**	**2.89**	**228**	P	Pn	22 10 40.0	-1.1
ODZ	**Otahua Downs**	**3.14**	**215**	P	Pn	22 10 42.1	-2.4
PKE	**Pukeiti**	**3.36**	**10**	P	Pn	22 10 49.1	+1.5
TUVZ	**Tukino**	**3.73**	**31**	P	Pb	22 10 57.6	-3.3
KRVZ	**Karewarewa**	**3.88**	**29**	P	Pn	22 10 53.9	-0.8
HIZ	**Hauiti**	**4.18**	**18**	P	Pn	22 10 59.2	+0.4
RTZ	**Ruatahuna**	**4.84**	**38**	P	Pn	22 11 13.0	+5.1
MUGZ	**Murupara**	**4.86**	**35**	P	Pn	22 11 13.4	+5.3
MKAZ	**Moumakai**	**5.60**	**16**	P	Pn	22 11 18.2	-0.1
WIAZ	**Waiheke Island**	**5.90**	**15**	P	Pn	22 11 22.7	+0.3

KRNET 17 22:12:52.1±0.1, 41°.04N×72°.41E, h13km, mb2.5
SOME 17 22:12:55.2, 41°.22N×72°.32E, h5km
NNC 17 22:12:55.2±3.6, 41°.08N×72°.60E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=28.0km s-min=13.0km az=176.0
ISU 17 22:12:58, 40°.65N×72°.54E, h10km

ISC 17 22:12:52.5±1.2, 41°.05N±0°.02×72°.48E±0°.03, h1km±12km, n22, σ1§08/39, 22C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.31**	**197**	S	**Sb**	**22 13 04.9**	**-1.6**
OHH	**Osh**	**0.57**	**156**	⇑*i*P	**Pg**	**22 13 03.6**	**+0.1**
	baz=51						
OHH				⇑*i*S	**Sg**	**22 13 11.9**	**+0.9**
	baz=51						
ARK	**Arkit**	**0.84**	**333**	⇑*i*P	**Pg**	**22 13 08.1**	**-0.6**
	baz=36						
ARK				⇑*i*S	**Sg**	**22 13 19.7**	**+0.1**
	baz=36						
FRG	**Fergana**	**0.86**	**218**	P	**Pn**	**22 13 11.2**	**-0.6**
FRG				S	**Sg**	**22 13 20.7**	**+0.6**
CHMI	**Chimion**	**1.07**	**223**	P	**Pn**	**22 13 15.1**	**+0.4**
CHMI				S	**Sb**	**22 13 28.3**	**0.0**
MINT	**Mingtut**	**1.28**	**243**	P	**Sn**	**22 13 37.7**	**+2.2**
BTK	**Batken**	**1.61**	**232**	⇑*i*P	**Pn**	**22 13 21.5**	**-0.7**
	baz=32						
BTK				⇑*i*S	**Sn**	**22 13 43.0**	**-0.6**
	baz=32						
MRKS	**Merke**	**1.78**	**18**	*e*P	**Pg**	**22 13 27.9**	**+1.2**
	1.9nm,0.4s						
MRKS				*e*S	**Sg**	**22 13 51.0**	**+1.2**
	28nm,0.6s						
MRKS	**Merke**	**1.78**	**18**	P	**Pg**	**22 13 27.9**	**+1.2**
	1.9nm,0.4s						
MRKS				S	**Sg**	**22 13 51.0**	**+1.2**
	28nm,0.6s						
EKS2	**Erkin-Say**	**1.88**	**31**	⇑*e*P	**Pb**	**22 13 27.7**	**0.0**
	baz=32						
EKS2				⇑*i*S	**Sg**	**22 13 53.6**	**+0.7**
	baz=32						
UCH	**Uchtor**	**1.93**	**52**	⇑*i*P	**Pb**	**22 13 29.0**	**+0.3**
	baz=52						
UCH				⇑*i*S	**Sg**	**22 13 55.7**	**+1.3**
	baz=52						
AAK	**Ala-Archa**	**2.19**	**43**	⇑*i*P	**Pb**	**22 13 32.4**	**-0.6**
	baz=44						
AAK				⇑*i*S	**Sg**	**22 14 01.8**	**-0.9**
	baz=44						
KBK	**Karagaybulak**	**2.44**	**48**	⇑*i*P	**Pb**	**22 13 36.1**	**-1.3**
	baz=49						
KBK				⇑*i*S	**Sb**	**22 14 08.1**	**0.0**
	baz=49						
KK31	**Karatay Array**	**2.52**	**325**	⇑Pn	**Pb**	**22 13 37.6**	**-1.0**
	1.0nm,0.5s,baz=140,slow=13,SNR=27						
KK31				⇓Sn	**Sb**	**22 14 10.1**	**0.0**
	2.1nm,0.4s,baz=138,slow=24,SNR=14						
KKAR	**Karatay Array**	**2.52**	**325**	⇑*i*P	**Pn**	**22 13 36.1**	**+1.4**
	baz=26						
KKAR				⇑*i*S	**Sb**	**22 14 08.1**	**-2.0**
	baz=26						
GAR	**Garm**	**2.64**	**220**	⇑*i*P	**Pn**	**22 13 37.4**	**+1.0**
	baz=19						
GAR				⇑*i*S	**Sn**	**22 14 10.4**	**+1.3**
	baz=19						
USP	**Ospenovka**	**2.67**	**33**	⇑*i*P	**Pb**	**22 13 39.1**	**-2.1**
	baz=34						
USP				⇑*i*S	**Sb**	**22 14 13.1**	**-1.5**
	baz=34						
SGDS	**Sogindy**	**2.88**	**33**	*e*P	**Pg**	**22 13 47.6**	**-0.1**
	0.6nm,0.2s						
SGDS				*e*S	**Sg**	**22 14 24.6**	**-0.5**
	5.1nm,0.5s						
SGDS	**Sogindy**	**2.88**	**33**	Pg	**Pg**	**22 13 47.6**	**-0.1**
	0.6nm,0.2s						
SGDS				Lg	Lg	22 14 24.6	
	5.1nm,0.5s						
TKM2	**Tokmak 2**	**2.98**	**50**	⇓Pg	**Pb**	**22 13 45.1**	**-1.5**
	5.0nm,1.4s						
TKM2				⇑Lg	Lg	22 14 24.5	
	2.1nm,0.6s						
KST	**Kastek**	**3.27**	**51**	*e*P	**Pg**	**22 13 55.2**	**+0.1**
	1.2nm,0.4s						
KST				*e*S	**Sg**	**22 14 37.5**	**0.0**
	4.4nm,0.7s						
KST	**Kastek**	**3.27**	**51**	Pg	**Pg**	**22 13 55.2**	**+0.1**
	1.2nm,0.4s						
KST				Lg	Lg	22 14 37.5	
	4.4nm,0.7s						

NOU 17 22:14:59.5, 41°.84S×174°.49E, h9km, MLv4.2/9, Cook Strait, New Zealand
WEL 17 22:15:00.1±0.3, 42°S±3°×17°4E±°, h12km±3km, M3.6/37, ML3.9/20, MLv3.6/37, Error ellipse: s-maj=0.0km s-min=0.0km az=145.4
NEIC 17 22:15:00.4±1.9, 41°.66S±0°.03×174°.27E±0°.03, h18km±5km, mb4.2/8, Error ellipse: s-maj=4.7km s-min=2.2km az=142.0

ISC 17 22:14:59.2±1.0, 41°.62S±0°.02×174°.34E±0°.02, h17km±7km, n130, σ1§07/138, mb4.2/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**216**		**Pb**	**22 15 04.2**	**+0.4**
CMWZ				Sg	**Sb**	**22 15 07.5**	**+0.6**
CMWZ	**Cape Campbell**	**0.16**	**216**	P	**Pb**	**22 15 04.2**	**+0.4**
CMWZ				S	**Sb**	**22 15 07.5**	**+0.6**
TUWZ	**Tuamarina**	**0.35**	**303**	Pg	**Pb**	**22 15 07.5**	**+0.4**
TUWZ				Sg	**Sb**	**22 15 12.6**	**+0.3**
TUWZ	**Tuamarina**	**0.35**	**303**	P	**Pb**	**22 15 07.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.36**	**254**		**Pg**	**22 15 06.9**	**+0.2**
BSWZ				Sg	**Sg**	**22 15 11.8**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.36**	**254**	P	**Pg**	**22 15 06.8**	**+0.2**
BSWZ				S	**Sg**	**22 15 11.7**	**-0.1**
TCW	**Tory Channel**	**0.41**	**354**		**Pb**	**22 15 09.2**	**+1.1**
TCW				Sg	**Sb**	**22 15 15.5**	**+1.5**
TCW	**Tory Channel**	**0.41**	**354**	P	**Pb**	**22 15 09.1**	**+1.0**
SNZO	**South Karori**	**0.41**	**42**		**Pn**	**22 15 10.2**	**-0.3**
SNZO				Sg	**Sn**	**22 15 17.7**	**-0.1**
SNZO	**South Karori**	**0.41**	**42**	P	**Pn**	**22 15 10.0**	**-0.5**
WEL	**Wellington**	**0.47**	**44**	P	**Pn**	**22 15 11.0**	**-0.2**
PLWZ	**Palliser**	**0.69**	**86**	Pg	**Pn**	**22 15 15.6**	**+1.3**
PLWZ	**Palliser**	**0.69**	**86**	P	**Pn**	**22 15 15.4**	**+1.1**
MSWZ	**Moikau Station**	**0.71**	**74**		**Pn**	**22 15 15.8**	**+1.2**
MSWZ	**Moikau Station**	**0.71**	**74**	P	**Pn**	**22 15 15.7**	**+1.0**
CAW	**Cannon Point**	**0.75**	**47**	P	**Pn**	**22 15 15.8**	**+0.7**
NNZ	**Nelson**	**0.82**	**299**		**Pg**	**22 15 15.6**	**+0.3**
NNZ	**Nelson**	**0.82**	**299**	P	**Pg**	**22 15 15.5**	**+0.2**
PAWZ	**Paruwai Farm**	**0.85**	**74**	P	**Pn**	**22 15 17.8**	**+1.3**
KIW	**Kapiti Island**	**0.87**	**30**	P	**Pn**	**22 15 17.7**	**+0.9**
DUWZ	**D'Urville Isla**	**0.88**	**339**	P	**Pn**	**22 15 17.0**	**+0.2**
MTW	**Mount Morrison**	**0.99**	**63**	P	**Pg**	**22 15 19.8**	**+1.4**
KHZ	**Kahutara**	**0.99**	**217**	Pg	**Pg**	**22 15 18.6**	**+0.1**
KHZ	**Kahutara**	**0.99**	**217**	P	**Pg**	**22 15 18.7**	**+0.2**
KHZ	**Kahutara**	**0.99**	**217**	P	**Pg**	**22 15 18.6**	**+0.1**
OGWZ	**Otaki Gorge**	**1.02**	**38**	P	**Pg**	**22 15 20.4**	**+1.4**
TRWZ	**Traveller**	**1.04**	**78**	P	**Pg**	**22 15 20.2**	**+0.9**
THZ	**Tophouse**	**1.08**	**262**	Pn	**Pb**	**22 15 19.7**	**+0.1**
THZ	**Tophouse**	**1.08**	**262**	P	**Pb**	**22 15 19.6**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.14**	**51**	P	**Pg**	**22 15 22.0**	**+0.7**
TKNZ	**Takaka Hill**	**1.19**	**299**		**Pg**	**22 15 22.1**	**+0.2**
TKNZ	**Takaka Hill**	**1.19**	**299**	P	**Pg**	**22 15 22.1**	**+0.2**
MRNZ	**Matariki Terra**	**1.21**	**280**		**Pb**	**22 15 22.2**	**+0.6**
MRNZ	**Matariki Terra**	**1.21**	**280**	P	**Pb**	**22 15 22.3**	**+0.6**
TMWZ	**Te Maipa**	**1.28**	**67**	P	**Pg**	**22 15 23.4**	**-0.5**
MRZ	**Mangatainoka R**	**1.34**	**45**	Pn	**Pg**	**22 15 24.9**	**-0.1**
MRZ	**Mangatainoka R**	**1.34**	**45**	P	**Pg**	**22 15 25.0**	**-0.1**
TIWZ	**Tintock**	**1.44**	**55**	P	**Pg**	**22 15 26.4**	**-0.5**
QRZ	**Quartz Range**	**1.58**	**300**		**Pb**	**22 15 28.5**	**+0.5**
QRZ	**Quartz Range**	**1.58**	**300**	P	**Pb**	**22 15 28.3**	**+0.3**
QRZ	**Quartz Range**	**1.58**	**300**	P	**Pb**	**22 15 28.3**	**+0.3**
OHWZ	**Ohakea**	**1.59**	**28**	P	**Pg**	**22 15 30.3**	**+0.4**
PRWZ	**Pori Road**	**1.63**	**50**	P	**Pb**	**22 15 28.6**	**-0.2**
POWZ	**Post Office Ro**	**1.64**	**42**	P	**Pb**	**22 15 28.9**	**-0.1**
GVZ	**Greta Valley S**	**1.66**	**215**		**Pn**	**22 15 27.5**	**-0.2**
GVZ	**Greta Valley S**	**1.66**	**215**	P	**Pn**	**22 15 27.4**	**-0.2**
BFZ	**Birch Farm**	**1.72**	**58**		**Pb**	**22 15 29.3**	**-1.1**
BFZ	**Birch Farm**	**1.72**	**58**	P	**Pb**	**22 15 29.3**	**-1.1**
BFZ	**Birch Farm**	**1.72**	**58**	P	**Pb**	**22 15 29.1**	**+0.6**
DSZ	**Denniston Nort**	**1.90**	**265**		**Pn**	**22 15 32.1**	**+3.1**
DSZ	**Denniston Nort**	**1.90**	**265**	P	**Pb**	**22 15 32.6**	**-1.0**
DVHZ	**Dannevirke**	**1.91**	**47**	P	**Pn**	**22 15 31.9**	**+0.8**
LTZ	**Lake Taylor**	**1.93**	**232**	Pn	**Pn**	**22 15 31.5**	**+0.2**
LTZ	**Lake Taylor**	**1.93**	**232**	P	**Pn**	**22 15 31.0**	**-0.3**
TSZ	**Takapari Road**	**1.99**	**39**	P	**Pb**	**22 15 33.7**	**-1.3**
AMCZ	**Amberley**	**2.00**	**218**		**Pg**	**22 15 39.8**	**+2.2**
PRHZ	**Porangahau**	**2.20**	**53**	P	**Pn**	**22 15 35.9**	**+0.8**
PNHZ	**Pukenui**	**2.21**	**40**	P	**Pn**	**22 15 36.4**	**+1.1**
WPHZ	**Waipukurau**	**2.23**	**46**	P	**Pn**	**22 15 36.6**	**+1.2**
PREZ	**Palmer Road**	**2.28**	**357**	P	**Pb**	**22 15 41.2**	**+1.2**
OKCZ	**Okains Bay**	**2.30**	**204**	P	**Pn**	**22 15 35.3**	**-1.2**
KHEZ	**Kahui Hut**	**2.34**	**354**	P	**Pg**	**22 15 42.8**	**-1.2**
KHEZ	**Kahui Hut**	**2.34**	**354**	P	**Pb**	**22 15 42.5**	**+1.5**
NEZ	**North Egmont**	**2.35**	**355**	P	**Pb**	**22 15 42.0**	**+0.8**
NBEZ	**Newall Road No**	**2.38**	**351**	P	**Pg**	**22 15 43.5**	**-1.3**
OXZ	**Oxford**	**2.41**	**224**	Pn	**Pn**	**22 15 36.7**	**-1.2**
OXZ	**Oxford**	**2.41**	**224**	P	**Pn**	**22 15 36.7**	**-1.2**
INZ	**Inchbonnie**	**2.42**	**242**		**Pn**	**22 15 38.3**	**+0.2**
INZ	**Inchbonnie**	**2.42**	**242**	P	**Pb**	**22 15 41.8**	**-0.5**
MQZ	**McQueen's Vall**	**2.43**	**210**	Pn	**Pn**	**22 15 36.4**	**-1.7**
MQZ	**McQueen's Vall**	**2.43**	**210**	P	**Pn**	**22 15 36.4**	**-1.7**
DREZ	**Durham Road**	**2.43**	**358**	P	**Pb**	**22 15 44.3**	**+1.8**
PKE	**Pukeiti**	**2.44**	**354**	P	**Pb**	**22 15 43.0**	**+0.4**
PKVZ	**Pokaka**	**2.45**	**19**	P	**Pg**	**22 15 45.4**	**-0.9**
MOVZ	**Moawhango**	**2.46**	**26**	P	**Pn**	**22 15 40.8**	**+2.1**
WNVZ	**Wahianoa**	**2.48**	**23**	P	**Pb**	**22 15 43.5**	**0.0**
PXZ	**Pawanui**	**2.49**	**51**	P	**Pn**	**22 15 39.5**	**+0.5**
TRVZ	**Turoa**	**2.50**	**22**	P	**Pb**	**22 15 43.9**	**+0.1**
BHHZ	**Black Hill Sta**	**2.50**	**32**	P	**Pn**	**22 15 41.3**	**+2.1**
VRZ	**Vera Road**	**2.51**	**7**	P	**Pb**	**22 15 43.3**	**-0.6**
DRZ	**Dome Shelter**	**2.52**	**22**	P	**Pg**	**22 15 47.9**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.52**	**23**	P	**Pb**	**22 15 43.6**	**-0.6**
FWVZ	**Far West T-bar**	**2.54**	**22**	P	**Pb**	**22 15 43.2**	**-1.3**
TUVZ	**Tukino**	**2.56**	**29**	P	**Pb**	**22 15 45.5**	**+0.8**
NGZ	**Ngauruhoe**	**2.62**	**22**	P	**Pb**	**22 15 44.3**	**-1.6**
SNVZ	**South Ngauruho**	**2.63**	**23**	P	**Pb**	**22 15 44.2**	**-1.8**
OTVZ	**Oturere**	**2.66**	**23**	P	**Pg**	**22 15 48.6**	**-1.6**
RACZ	**Rakaia**	**2.66**	**217**	P	**Pn**	**22 15 39.9**	**-1.4**
NNVZ	**North Ngauruho**	**2.67**	**22**	P	**Pb**	**22 15 44.9**	**-1.8**
WTVZ	**West Tongariro**	**2.68**	**21**	P	**Pb**	**22 15 48.3**	**+1.5**
TWVZ	**Taurewa**	**2.68**	**19**	P	**Pg**	**22 15 49.1**	**-1.6**
KWHZ	**Kaweka Forest**	**2.71**	**37**	P	**Pn**	**22 15 43.6**	**+1.5**
TMVZ	**Te Maari**	**2.71**	**23**	P	**Pb**	**22 15 49.1**	**+1.7**
KRVZ	**Karewarewa**	**2.71**	**22**	P	**Pg**	**22 15 50.1**	**-1.1**
NTVZ	**North Tongariro**	**2.72**	**23**	P	**Pg**	**22 15 49.7**	**-1.7**
MHCZ	**Mount Hutt**	**2.80**	**226**	P	**Pn**	**22 15 41.9**	**-1.4**
KATZ	**Kakaramea**	**2.84**	**22**	P	**Pg**	**22 15 51.8**	**-1.9**
RITZ	**Rihia Road**	**2.88**	**24**	P	**Pg**	**22 15 53.1**	**-1.4**
BKZ	**Black Stump Fm**	**2.95**	**35**		**Pg**	**22 15 55.1**	**-0.7**
BKZ	**Black Stump Fm**	**2.95**	**35**	P	**Pg**	**22 15 54.3**	**-1.5**
WACZ	**Wakanui South**	**2.96**	**218**	P	**Pn**	**22 15 44.2**	**-1.2**
WVZ	**Waitaha Valley**	**3.04**	**240**	P	**Pn**	**22 15 46.7**	**+0.1**
HIZ	**Hauiti**	**3.13**	**7**		**Pb**	**22 15 51.4**	**-3.0**
HIZ	**Hauiti**	**3.13**	**7**	P	**Pb**	**22 15 53.2**	**-1.2**
HIZ	**Hauiti**	**3.13**	**7**	P	**Pb**	**22 15 52.4**	**-2.0**
RPZ	**Rata Peaks**	**3.20**	**228**		**Pn**	**22 15 47.8**	**-1.0**
RPZ				Pg	**Pb**	**22 15 57.3**	**+1.6**
RPZ	**Rata Peaks**	**3.20**	**228**	P	**Pn**	**22 15 47.9**	**-1.0**
RPZ				P	Pb	22 15 47.9	-7.7
ARCZ	**Arundel**	**3.29**	**224**	P	**Pn**	**22 15 49.2**	**-0.8**
TLZ	**Tolley Road**	**3.41**	**16**	P	**Pb**	**22 15 58.4**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**3.42**	**239**	P	**Pn**	**22 15 52.5**	**+0.7**
TMZ	**Timaru**	**3.69**	**220**	P	**Pn**	**22 15 55.2**	**-0.3**
FOZ	**Fox Glacier**	**3.85**	**239**	Pn	**Pn**	**22 15 57.0**	**-0.6**
LBZ	**Lake Benmore**	**4.11**	**226**	Pn	**Pn**	**22 16 01.1**	**-0.2**
LBZ	**Lake Benmore**	**4.11**	**226**	P	**Pn**	**22 16 01.3**	**-0.1**
ODZ	**Otahua Downs**	**4.36**	**217**	Pn	**Pn**	**22 16 03.4**	**-1.2**
ODZ	**Otahua Downs**	**4.36**	**217**	P	**Pn**	**22 16 03.5**	**-1.2**
ODZ	**Otahua Downs**	**4.36**	**217**	P	**Pn**	**22 16 03.7**	**-1.0**
JCZ	**Jackson Bay**	**4.76**	**237**	P	**Pn**	**22 16 11.5**	**+1.2**
JCZ	**Jackson Bay**	**4.76**	**237**	P	**Pn**	**22 16 09.8**	**-0.6**
SYZ	**Scrubby Hill**	**6.18**	**216**	P	**Pn**	**22 16 29.1**	**-0.6**
DCZ	**Deep Cove**	**6.48**	**231**	Pn	**Pn**	**22 16 33.2**	**-0.6**
MCQ	**Macquarie Isla**	**16.43**	**213**	Pn	**Pn**	**22 18 47.7**	**-1.2**
LIFNC	**LIFOU**	**21.63**	**342**	P	**P**	**22 19 49.5**	**+0.8**
EIDS	**Eidsvold**	**25.16**	**303**	P	**P**	**22 20 22.9**	**-0.8**
EIDS				IAmb	IAmb	22 20 40.0	
	comp=Z,7.7nm,1.1s						
COEN	**Coen**	**38.60**	**306**	P	**P**	**22 22 20.9**	**-0.7**
COEN				IAmb	IAmb	22 22 21.9	
	comp=Z,6.5nm,0.9s						
WR0	**Warramunga Arr**	**39.97**	**290**	P	**P**	**22 22 35.2**	**+2.2**
WB2	**Warramunga Arr**	**40.11**	**290**	P	**P**	**22 22 34.0**	**-0.2**
WB0	**Warramunga Arr**	**40.20**	**290**	P	**P**	**22 22 33.8**	**-1.1**
WB0				IAmb	IAmb	22 22 39.0	
	comp=Z,3.4nm,1.1s						
SNAA	**Sanae**	**67.00**	**181**	P	**P**	**22 25 51.6**	**+0.9**
SNAA				IAmb	IAmb	22 26 10.2	
	comp=Z,1.8nm,1.1s						
HHC	**Hu-ho-hao-te**	**99.84**	**317**	*e*P	**Pdif**	**22 28 41.1**	**-1.5**

WEL 17 22:19:53.5±0.3, 42°S±2°×17°3E±°, h5km, M3.1/22, ML3.2/11, MLv3.1/22, Error ellipse: s-maj=0.0km s-min=0.0km az=117.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**163**	P	Pg	22 19 57.8	+0.9
KHZ				S	Sg	22 20 00.9	+1.8
BSWZ	**Blackbirch Sta**	**0.62**	**29**	P	Pg	22 20 05.2	-0.1
BSWZ				S	Sb	22 20 14.9	-0.7
THZ	**Tophouse**	**0.65**	**319**	P	Pb	22 20 06.6	-0.6
CMWZ	**Cape Campbell**	**0.75**	**48**	P	Pb	22 20 08.8	-0.1
GVZ	**Greta Valley S**	**0.78**	**204**	P	Pg	22 20 09.0	+0.5
TUWZ	**Tuamarina**	**0.90**	**23**	P	Pg	22 20 10.4	-0.2
MRNZ	**Matariki Terra**	**1.01**	**328**	P	Pb	22 20 13.3	-0.1
LTZ	**Lake Taylor**	**1.03**	**239**	P	Pg	22 20 12.7	-0.6
NNZ	**Nelson**	**1.04**	**356**	P	Pg	22 20 13.0	-0.3
AMCZ	**Amberley**	**1.10**	**213**	P	Pg	22 20 13.3	-1.3
TCW	**Tory Channel**	**1.20**	**30**	P	Pg	22 20 14.9	-1.6
DSZ	**Denniston Nort**	**1.34**	**292**	P	Pn	22 20 18.5	-0.4
WEL	**Wellington**	**1.37**	**45**	P	Pn	22 20 16.2	-3.0
DUWZ	**D'Urville Isla**	**1.49**	**13**	P	Pn	22 20 20.3	-0.6
PLWZ	**Palliser**	**1.50**	**63**	P	Pn	22 20 17.7	-3.3
OKCZ	**Okains Bay**	**1.50**	**191**	P	Pn	22 20 18.1	-2.9
OXZ	**Oxford**	**1.50**	**224**	P	Pn	22 20 18.2	-2.9
MSWZ	**Moikau Station**	**1.57**	**58**	P	Pn	22 20 18.8	-3.2
MQZ	**McQueen's Vall**	**1.57**	**202**	P	Pn	22 20 18.4	-3.6
CAW	**Cannon Point**	**1.65**	**47**	P	Pn	22 20 20.4	-2.8
AKCZ	**Akaroa Harbour**	**1.67**	**194**	P	Pn	22 20 20.1	-3.3
PAWZ	**Paruwai Farm**	**1.70**	**60**	P	Pn	22 20 20.2	-3.6
KIW	**Kapiti Island**	**1.76**	**38**	P	Pn	22 20 22.4	-2.2
RACZ	**Rakaia**	**1.77**	**213**	P	Pn	22 20 21.4	-3.3
MTW	**Mount Morrison**	**1.87**	**55**	P	Pn	22 20 22.8	-3.3
MHCZ	**Mount Hutt**	**1.90**	**227**	P	Pn	22 20 23.6	-2.9
OGWZ	**Otaki Gorge**	**1.92**	**42**	P	Pn	22 20 24.1	-2.7
HOWZ	**Holdsworth Sta**	**2.04**	**49**	P	Pn	22 20 25.2	-3.4
WACZ	**Wakanui South**	**2.07**	**215**	P	Pn	22 20 25.7	-3.2
TMWZ	**Te Maipa**	**2.14**	**59**	P	Sn	22 20 52.2	-4.7
WVZ	**Waitaha Valley**	**2.18**	**247**	P	Pn	22 20 29.0	-1.3
MRZ	**Mangatainoka R**	**2.24**	**46**	P	Pn	22 20 28.0	-3.3
RPZ	**Rata Peaks**	**2.30**	**230**	P	Pn	22 20 29.4	-2.7
ARCZ	**Arundel**	**2.39**	**224**	P	Pn	22 20 30.3	-2.9
PRWZ	**Pori Road**	**2.53**	**49**	P	Pg	22 20 43.3	+1.4
POWZ	**Post Office Ro**	**2.54**	**44**	P	Pg	22 20 45.3	+3.2
GCSZ	**Gaunt Creek Bo**	**2.55**	**244**	P	Pn	22 20 34.4	-1.0
BFZ	**Birch Farm**	**2.61**	**54**	P	Pb	22 20 41.1	+0.4
TMZ	**Timaru**	**2.79**	**219**	P	Pn	22 20 36.0	-2.7
DVHZ	**Dannevirke**	**2.82**	**47**	P	Pn	22 20 40.0	+0.9
ANWZ	**Angora Road**	**2.88**	**53**	P	Pn	22 20 42.6	-3.5
TSZ	**Takapari Road**	**2.89**	**41**	P	Pb	22 20 43.4	-2.1
FOZ	**Fox Glacier**	**2.98**	**243**	P	Pn	22 20 39.2	-2.1
PRHZ	**Porangahau**	**3.10**	**51**	P	Pn	22 20 33.9	-9.1
PNHZ	**Pukenui**	**3.12**	**42**	P	Pn	22 20 42.4	-0.9
WPHZ	**Waipukurau**	**3.13**	**47**	P	Pn	22 20 38.4	-5.0
MOVZ	**Moawhango**	**3.33**	**32**	P	Pb	22 20 52.2	-0.8
WNVZ	**Wahianoa**	**3.34**	**30**	P	Pb	22 20 54.1	+0.9
TRVZ	**Turoa**	**3.34**	**29**	P	Pb	22 20 54.6	+1.2
BHHZ	**Black Hill Sta**	**3.39**	**36**	P	Pn	22 20 48.7	+1.6
PXZ	**Pawanui**	**3.39**	**50**	P	Pn	22 20 36.9	-10
ODZ	**Otahua Downs**	**3.46**	**215**	P	Pn	22 20 44.5	-3.5
NGZ	**Ngauruhoe**	**3.47**	**28**	P	Pb	22 20 57.7	+2.2
SNVZ	**South Ngauruho**	**3.48**	**29**	P	Pb	22 20 56.3	+0.7
OTVZ	**Oturere**	**3.51**	**29**	P	Pb	22 20 57.4	+1.2
NNVZ	**North Ngauruho**	**3.52**	**28**	P	Pb	22 20 56.5	+0.2
WTVZ	**West Tongariro**	**3.52**	**28**	P	Pb	22 20 56.8	+0.4
KAHZ	**Kahuranaki**	**3.56**	**47**	P	Pn	22 20 41.5	-7.8
KWHZ	**Kaweka Forest**	**3.60**

SYZ	**Scrubby Hill**	**5.41 216**	P	**Pn**	**23 02 53.9 +0.6**
SYZ	**Scrubby Hill**	**5.41 216**	P	**Pn**	**23 02 53.6 +0.3**

*JMA **17** 23:03:46.0±0.1,24.5°N±0.3×122.0°E±0.6,h31km±3km, MV2.7/11, TAIWAN REGION*
*TAP **17** 23:03:47.1,24.32°N×122.04E,h19km,ML2.9, C*
ISC 17 23:03:45.1±1.0,**24.29N**±0.02×**122.14E**±0.02,**h12**km±8km, **n91**,σ0.87/141,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EWUT	**Wuta**	**0.36**	**295**	*eP*		**Pg**	**23 03 52.3**	**-0.1**
	baz=298							
EWUT				*eS*		**Sg**	**23 03 56.8**	**-0.4**
	baz=298							
EHP	**Heping Village**	**0.36**	**273**	P		**Pb**	**23 03 53.5**	**-0.1**
	baz=273							
EHP				S		**Sb**	**23 03 58.5**	**-0.7**
	baz=273							
ENA	**Nanau**	**0.39**	**290**	*i* P		**Pb**	**23 03 53.8**	**-0.2**
	baz=297							
ENA				S		**Sg**	**23 03 58.6**	**+0.5**
	baz=297							
TWC	**Suao**	**0.41**	**320**	*i* P		**Pb**	**23 03 54.5**	**+0.1**
	baz=330							
TWC				S		**Sg**	**23 03 59.2**	**+0.5**
	baz=330							
NACB	**Ninganchiao**	**0.51**	**257**	P		**Pb**	**23 03 56.1**	**0.0**
NACB	**Ninganchiao**	**0.51**	**257**	P		**Pb**	**23 03 56.1**	**0.0**
	baz=254							
NACB				S		**Sg**	**23 04 02.7**	**+0.7**
	baz=254							
TWD	**Chiawan**	**0.54**	**247**	*e*P		**Pb**	**23 03 57.0**	**+0.4**
	baz=244							
EGS		**0.58**	**341**	P		**Pn**	**23 03 58.2**	**-1.0**
	baz=346							
HWA	**Hwalien**	**0.58**	**237**	*e*P		**Pn**	**23 03 59.6**	**+0.4**
	baz=227							
ILA	**Ilan**	**0.59**	**323**	P		**Pn**	**23 03 58.5**	**-0.8**
	baz=331							
ILA				S		**Sb**	**23 04 05.7**	**0.0**
	baz=331							
TWE	**Neicheng**	**0.61**	**315**	*i* P		**Pb**	**23 03 58.0**	**+0.3**
	baz=322							
TWE				S		**Sb**	**23 04 05.4**	**-0.8**
	baz=322							
ETLH	**Xiulin Townshi**	**0.61**	**262**	*e*P		**Pb**	**23 03 57.8**	**+0.1**
	baz=263							
ETLH				*e*S		**Sg**	**23 04 05.8**	**+0.8**
	baz=263							
LATG	**Datong**	**0.61**	**293**	P		**Pb**	**23 03 57.9**	**+0.1**
	baz=301							
LATG				*e*S		**Sg**	**23 04 05.1**	**0.0**
	baz=301							
NTC	**Toucheng**	**0.63**	**333**	*e*P		**Pb**	**23 03 58.3**	**+0.3**
	baz=348							
ENTT	**Nioudou**	**0.63**	**303**	*e*P		**Pg**	**23 03 57.4**	**0.0**
	baz=308							
ENTT				*e*S		**Sg**	**23 04 04.7**	**-0.9**
	baz=308							
NDT	**Datong Townshi**	**0.65**	**298**	*e*P		**Pg**	**23 03 56.0**	**-1.8**
	baz=301							
ETM	**Tongmen**	**0.68**	**241**	*e*P		**Pb**	**23 03 59.7**	**+0.8**
	baz=234							
FUSB	**Fushanzhiwuyua**	**0.69**	**313**	P		**Pn**	**23 03 59.8**	**-0.9**
	baz=317							
FUSB				S		**Sb**	**23 04 08.1**	**-0.4**
	baz=317							
NNSB	**Datong**	**0.70**	**281**	P		**Pb**	**23 03 59.6**	**+0.2**
	baz=288							
NNSB				S		**Sg**	**23 04 08.0**	**-0.1**
	baz=288							
NNSH	**Datong**	**0.70**	**281**	*e*P		**Pg**	**23 03 58.5**	**-0.3**
	baz=286							
NNSH				*e*S		**Sg**	**23 04 07.0**	**-1.1**
	baz=286							
NNS	**Nan Shan**	**0.71**	**282**	*e*P		**Pg**	**23 03 58.8**	**-0.2**
	baz=289							
NNS				*e*S		**Sg**	**23 04 07.3**	**-1.1**
	baz=289							
TWB1	**Santiao Chiao**	**0.72**	**349**	*e*P		**Pn**	**23 04 01.0**	**-0.1**
	baz=349							
TWB1				*e*S		**Sb**	**23 04 09.6**	**+0.1**
	baz=349							
TIPB	**Shuangxi**	**0.73**	**337**	*e*P		**Pn**	**23 04 00.9**	**-0.4**
	baz=344							
TIPB				*e*S		**Sb**	**23 04 10.2**	**+0.4**
	baz=344							
JYNG	**Yonagunijimaku**	**0.75**	**78**	P		**Pn**	**23 04 02.6**	**+1.1**
JYNG				S		**Sn**	**23 04 14.1**	**+1.3**
NWLT	**Wulai**	**0.76**	**310**	*e*P		**Pb**	**23 03 59.9**	**-0.3**
	baz=309							
NWLT				*e*S		**Sg**	**23 04 08.9**	**-0.7**
	baz=309							
YHNB	**Yeheng**	**0.79**	**298**	P		**Pn**	**23 04 01.5**	**-0.7**
YHNB	**Yeheng**	**0.79**	**298**	*e*P		**Pn**	**23 04 01.5**	**-0.7**
	baz=305							
YHNB				*e*S		**Sg**	**23 04 10.7**	**-0.2**
	baz=305							
ESL	**Shilin**	**0.80**	**234**	P		**Pn**	**23 04 02.5**	**+0.2**
	baz=226							
NSK	**Sanguang**	**0.81**	**298**	*e*P		**Pg**	**23 04 00.7**	**-0.1**
	baz=305							
NSK				*e*S		**Sg**	**23 04 10.1**	**-1.3**
	baz=305							
YOJ	**Yonaguni jima**	**0.81**	**78**	P		**Pn**	**23 04 03.8**	**+1.5**
YOJ	**Yonaguni jima**	**0.81**	**78**	*i* P		**Pn**	**23 04 03.9**	**+1.5**
	baz=72							
YOJ				S		**Sn**	**23 04 15.4**	**+1.1**
	baz=72							
YOJ	**Yonaguni jima**	**0.81**	**78**	P		**Pn**	**23 04 03.5**	**+1.1**
YOJ				S		**Sn**	**23 04 15.9**	**+1.6**
WHF	**Hehuan Shan**	**0.81**	**260**	*e*P		**Pb**	**23 04 01.8**	**+0.4**
	baz=262							
FUSS	**Fushou**	**0.82**	**267**	P		**Pb**	**23 04 02.1**	**+0.6**
	baz=264							
SXI1	**Grass Mountain**	**0.83**	**343**	P		**Pn**	**23 04 03.1**	**+0.3**
	baz=355							
SXI1				*e*S		**Sb**	**23 04 13.2**	**+0.4**
	baz=355							
NWF	**Wu-fen Shan**	**0.84**	**337**	P		**Pn**	**23 04 03.0**	**+0.1**
	baz=334							
NWF				S		**Sn**	**23 04 13.9**	**-1.3**
	baz=334							
WFSB	**Wu-fen Shan**	**0.84**	**337**	P		**Pn**	**23 04 02.9**	**+0.1**
	baz=334							
WFSB				*e*S		**Sn**	**23 04 13.9**	**-1.2**
	baz=334							
TWA	**Mucha**	**0.85**	**324**	P		**Pn**	**23 04 03.3**	**+0.3**
	baz=337							
TWA				S		**Sb**	**23 04 13.9**	**+0.6**
	baz=337							
TWT	**Tachien**	**0.88**	**268**	P		**Pn**	**23 04 03.4**	**-0.1**
	baz=271							
TWT				S		**Sb**	**23 04 15.1**	**+0.8**
	baz=271							
TDCB	**Techi**	**0.90**	**268**	*e*P		**Pn**	**23 04 03.5**	**-0.2**
	baz=271							
TDCB				*e*S		**Sg**	**23 04 13.8**	**-0.5**
	baz=271							
EGFH	**Guangfu**	**0.90**	**226**	*e*P		**Pn**	**23 04 03.9**	**+0.2**
	baz=203							
TATO	**Taipei**	**0.90**	**319**	P		**Pn**	**23 04 06.0**	**+2.4**
TATO	**Taipei**	**0.90**	**319**	*e*P		**Pn**	**23 04 04.4**	**+0.7**
	baz=314							
TATO				*e*S		**Sb**	**23 04 14.6**	**-0.1**
	baz=314							
CHGB	**Renai**	**0.91**	**255**	*e*P		**Pn**	**23 04 04.2**	**+0.2**
	baz=241							
TNOU	**National Taiwa**	**0.92**	**339**	*e*P		**Pn**	**23 04 04.4**	**+0.6**
	baz=337							
TNOU				*e*S		**Sn**	**23 04 15.7**	**-1.3**
	baz=337							
TAP1	**Taipei**	**0.93**	**323**	*e*S		**Sn**	**23 04 16.3**	**-1.0**
	baz=318							
WUSB	**Renai**	**0.98**	**252**	*e*P		**Pn**	**23 04 05.4**	**+0.6**
	baz=248							
NFF	**Wufeng Townshi**	**0.99**	**290**	*e*P		**Pb**	**23 04 04.2**	**-0.1**
	baz=296							
NFF				*e*S		**Sg**	**23 04 16.1**	**-1.1**
	baz=296							
YM01	**YM01**	**0.99**	**329**	*e*P		**Pn**	**23 04 06.6**	**+1.6**
	baz=340							
YM01				*e*S		**Sn**	**23 04 18.6**	**-0.3**
	baz=340							
YM08	**YM08**	**1.02**	**331**	*e*P		**Pn**	**23 04 06.2**	**+0.9**
	baz=336							
YM08				*e*S		**Sn**	**23 04 19.2**	**-0.4**
	baz=336							
HGSD	**Ruisui**	**1.03**	**220**	*e*P		**Pn**	**23 04 05.6**	**+0.2**
	baz=199							
TWS1	**Kuangyinshan**	**1.04**	**321**	*e*P		**Pn**	**23 04 07.8**	**+2.3**
	baz=319							
TWS1				*e*S		**Sn**	**23 04 20.3**	**+0.3**
	baz=319							
VWDT	**VWDT**	**1.06**	**240**	*e*P		**Pn**	**23 04 06.5**	**+0.7**
	baz=234							
LIOB	**Emei**	**1.08**	**289**	*e*P		**Pn**	**23 04 07.7**	**+1.6**
	baz=295							
LIOB				*e*S		**Sn**	**23 04 21.7**	**+0.6**
	baz=295							
EHY	**Hungye**	**1.08**	**224**	*e*P		**Pb**	**23 04 05.9**	**+0.1**
	baz=217							
NSTT	**Nanjuang**	**1.09**	**288**	P		**Pn**	**23 04 07.7**	**+1.5**
	baz=295							
NSTT				*e*S		**Sg**	**23 04 20.6**	**+0.2**
	baz=295							
WHP	**Taichung City**	**1.09**	**269**	P		**Pn**	**23 04 07.6**	**+1.3**
	baz=268							
WHP				*e*S		**Sg**	**23 04 20.9**	**+0.5**
	baz=268							
TWY	**Chenhua**	**1.09**	**333**	*e*P		**Pn**	**23 04 08.2**	**+1.9**
	baz=338							
TWY				*e*S		**Sn**	**23 04 21.1**	**-0.2**
	baz=338							
WCS	**Beigang Elemen**	**1.15**	**258**	*e*P		**Pg**	**23 04 07.2**	**0.0**
	baz=255							
YULB	**Yu-li**	**1.18**	**221**	P		**Pn**	**23 04 07.1**	**-0.4**
YULB	**Yu-li**	**1.18**	**221**	*e*P		**Pn**	**23 04 06.8**	**-0.8**
	baz=214							
SSLB	**Suanglung**	**1.20**	**245**	P		**Pg**	**23 04 08.5**	**+0.4**
SSLB	**Suanglung**	**1.20**	**245**	*e*P		**Pg**	**23 04 08.5**	**+0.4**
	baz=241							
SMLT	**Sun Moon Lake**	**1.21**	**250**	*e*P		**Pg**	**23 04 09.1**	**+0.8**
	baz=246							
TWF1	**Yuli**	**1.22**	**220**	*e*P		**Pn**	**23 04 07.7**	**-0.2**
	baz=232							
TYC	**Yuchr**	**1.24**	**252**	P		**Pg**	**23 04 09.5**	**+0.6**
	baz=239							
TYC				*e*S		**Sg**	**23 04 27.0**	**+2.0**
	baz=239							
TWQ1	**Liyutan**	**1.25**	**273**	*e*P		**Pg**	**23 04 11.8**	**+2.6**
	baz=262							
WHYT	**Xinyi Township**	**1.32**	**243**	*e*P		**Pg**	**23 04 10.7**	**+0.2**
	baz=231							
FULB	**Fuli**	**1.34**	**216**	*e*P		**Pn**	**23 04 09.7**	**0.0**
	baz=196							
FULB				*e*S		**Sg**	**23 04 28.3**	**0.0**
	baz=196							
YUS	**Yu-Shan**	**1.35**	**234**	*e*P		**Pg**	**23 04 11.2**	**0.0**
	baz=228							
ALS	**Alishan**	**1.45**	**238**	*e*P		**Pg**	**23 04 12.8**	**-0.2**
	baz=232							
IRIF	**Iriomote-Funau**	**1.45**	**88**	P		**Pg**	**23 04 13.2**	**+0.2**
IRIF				S		**Sg**	**23 04 31.9**	**+0.1**
EDH	**Donghe**	**1.52**	**210**	*e*P		**Pn**	**23 04 11.7**	**-0.4**
	baz=190							
EDH				*e*S		**Sn**	**23 04 30.6**	**-1.3**
	baz=190							
HATJ	**Hateruma jima**	**1.54**	**98**	P		**Pg**	**23 04 15.3**	**+0.6**
HATJ				S		**Sg**	**23 04 36.2**	**+1.6**
WDLH	**Douliu**	**1.58**	**248**	*e*P		**Pg**	**23 04 15.8**	**+0.2**
	baz=227							
WCKO	**Fanlu**	**1.64**	**239**	*e*P		**Pb**	**23 04 15.9**	**+0.5**
	baz=235							
WCKO				*e*S		**Sg**	**23 04 38.2**	**+0.1**
	baz=235							
STYH	**Taoyuan**	**1.68**	**228**	*e*P		**Pn**	**23 04 14.8**	**+0.6**
	baz=209							
CHN4	**Tsaushan**	**1.70**	**237**	*e*P		**Pb**	**23 04 16.2**	**-0.1**
	baz=216							
TPUB	**Ta-pu**	**1.70**	**235**	P		**Pg**	**23 04 17.5**	**-0.3**
TPUB	**Ta-pu**	**1.70**	**235**	*e*P		**Pb**	**23 04 16.8**	**+0.5**
	baz=218							
TPUB				*e*S		**Sg**	**23 04 40.2**	**+0.4**
	baz=218							
JKRS	**Kuro-shima**	**1.71**	**92**	P		**Pg**	**23 04 17.1**	**-0.7**
JKRS				S		**Sg**	**23 04 38.8**	**-1.2**
LDUT	**Ludao**	**1.73**	**201**	*e*P		**Pn**	**23 04 13.8**	**-1.2**
	baz=195							
LDUT				*e*S		**Sn**	**23 04 35.1**	**-1.8**
	baz=195							
WTP	**Ta-pu**	**1.75**	**234**	*e*P		**Pb**	**23 04 17.5**	**+0.4**
	baz=214							
TWK	**Hsinying**	**1.83**	**236**	*e*P		**Pb**	**23 04 19.4**	**+0.8**
	baz=230							
JIJ	**Ishigaki jima**	**1.83**	**87**	P		**Pb**	**23 04 18.8**	**+0.3**
JIJ				*e*S		**Sb**	**23 04 40.6**	**-0.7**
CHN1	**Nanshi**	**1.84**	**234**	*e*P		**Pg**	**23 04 20.4**	**-0.1**
	baz=228							
JISG	**Ishigakijimahi**	**2.00**	**81**	P		**Pb**	**23 04 21.0**	**-0.4**
JISG				*e*S		**Sb**	**23 04 45.1**	**-1.1**
MASBT	**Mashibuluo**	**2.17**	**220**	*e*P		**Pb**	**23 04 23.2**	**-1.2**
	baz=201							
JTJ	**Tarama**	**2.36**	**81**	P		**Pb**	**23 04 26.2**	**-1.3**
JTJ				S		**Sb**	**23 04 54.6**	**-2.0**
WDGT	**Dungji**	**2.50**	**246**	*e*P		**Pn**	**23 04 26.0**	**+0.5**
	baz=242							
VWUC	**VWUC**	**2.55**	**286**	*e*P		**Pn**	**23 04 27.2**	**+0.9**
	baz=288							

*PRU **17** 23:16:50.4±0.0,42.66N×13.80E,h10km*
*ROM **17** 23:16:51.1±0.0,42.768N±0.002×13.198E±0.003, h13km,ML3.4/116, Error ellipse: s-maj=0.2km s-min=0.1km az=247.0*
*LDG **17** 23:16:51.9±0.2,42.74N×13.15E,h13km,Ml3.4/8, Error ellipse: s-maj=6.8km s-min=4.0km az=46.0*
*IDC **17** 23:16:52.2±1.8,42.92N×13.37E,h0km,mb3.4/3, mbtmp3.6/8,ML3.3/5,MS2.5/1, Error ellipse: s-maj=25.5km s-min=15.6km az=66.0*
*GEN **17** 23:17:13.9,43.63N×11.48E,h22km±10km,Ml1.6*
ISC 17 23:16:51.5±0.7,**42.76N**±0.01×**13.17E**±0.02,**h15**km±4km, **n222**,σ1.80/276,**57C-48D**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
NRCA	**Norcia**	**0.08**	**329**		P	**Pg**	**23 16 54.4**	**-0.3**
NRCA					S	**Sg**	**23 16 56.4**	**-0.4**
NRCA					AML	AML		
	comp=N,97700μm,0.2s							
NRCA					AML	AML		
	comp=N,97700μm,0.2s							
NRCA					AML	AML		
NRCA					AML	AML		
NRCA					AML	AML		
T1245	**Castelsantange**	**0.09**	**8**		P	**Pg**	**23 16 54.4**	**-0.5**
T1245					S	**Sg**	**23 16 56.6**	**-0.5**
T1245					AML	AML		
T1245					AML	AML		
	comp=E,95000μm,0.7s							
T1245					AML	AML		
T1245					AML	AML		
T1245					AML	AML		
	comp=E,89950μm,0.3s							
T1218	**Civita (PG)**	**0.10**	**204**		P	**Pg**	**23 16 54.8**	**-0.1**
T1218					S	**Sg**	**23 16 57.3**	**+0.2**
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1218					AML	AML		
T1216	**Preci, Frazion**	**0.17**	**319**		P	**Pg**	**23 16 55.6**	**-0.1**
T1216					S	**Sg**	**23 16 58.7**	**+0.2**
T1216					AML	AML		
	comp=E,35400μm,0.3s							
T1216					AML	AML		
	comp=N,35050μm,1.6s							
T1216					AML	AML		
	comp=E,35350μm,0.3s							
T1216					AML	AML		
	comp=N,35050μm,1.6s							
MMO1	**Montemonaco**	**0.18**	**40**		P	**Pg**	**23 16 55.4**	**-0.5**
MMO1					S	**Sg**	**23 16 58.4**	**-0.4**
SMA1	**SAN MARTINO**	**0.18**	**137**		P	**Pg**	**23 16 55.6**	**-0.3**
SMA1					S	**Sg**	**23 16 58.6**	**-0.2**
LNSS	**Leonessa**	**0.19**	**211**		P	**Pg**	**23 16 56.1**	**+0.1**
LNSS					S	**Sb**	**23 16 59.8**	**-0.4**
LNSS					AML	AML		
	comp=N,67600μm,1.0s							
LNSS					AML	AML		
	comp=E,30350μm,0.2s							
T1243	**Rocca Santa Ma**	**0.21**	**108**		P	**Pg**	**23 16 55.9**	**-0.5**
T1243					S	**Sg**	**23 16 59.2**	**-0.5**
T1215	**Vallo di Nera,**	**0.23**	**280**		P	**Pg**	**23 16 56.7**	**+0.2**
T1215					S	**Sb**	**23 17 00.8**	**-0.5**
T1215					AML	AML		
	comp=E,9235μm,0.3s							
T1215					AML	AML		
	comp=N,9055μm,0.9s							
T1215					AML	AML		
	comp=E,8860μm,0.3s							
T1215					AML	AML		
	comp=N,9170μm,0.9s							
T1215					AML	AML		
	comp=E,9255μm,0.3s							
T1215					AML	AML		
	comp=N,9050μm,0.9s							
T1215					AML	AML		
	comp=N,9155μm,0.9s							
T1215					AML	AML		
	comp=E,9265μm,0.3s							
T1215					AML	AML		
	comp=E,8850μm,0.3s							
T1215					AML	AML		
	comp=N,9035μm,0.9s							
T1215					AML	AML		
	comp=N,9150μm,0.9s							
T1256	**Bolognola (MC)**	**0.25**	**9**		P	**Pg**	**23 16 56.6**	**-0.4**
T1256					S	**Sg**	**23 17 00.5**	**-0.2**
T1256					AML	AML		
	comp=E,24100μm,0.8s							
T1256					AML	AML		
	comp=N,21350μm,1.3s							
T1256					AML	AML		
	comp=N,19850μm,1.3s							
T1256					AML	AML		
	comp=N,21400μm,1.3s							
T1256					AML	AML		
	comp=E,24650μm,0.8s							
RM33	**Pellescritta (**	**0.26**	**173**		P	**Pg**	**23 16 57.0**	**0.0**
RM33					S	**Sg**	**23 17 01.4**	**+0.5**
RM33					AML	AML		
	comp=E,53300μm,1.6s							
RM33					AML	AML		
	comp=N,35900μm,0.1s							
RM33					AML	AML		
	comp=E,53200μm,1.6s							
RM33					AML	AML		
	comp=N,37400μm,0.1s							
RM33					AML	AML		
	comp=E,53200μm,1.6s							
RM33					AML	AML		
	comp=E,53350μm,1.6s							
RM33					AML	AML		
	comp=N,37400μm,0.1s							
RM33					AML	AML		
	comp=N,35950μm,0.1s							
FDMO	**Fiordimonte**	**0.28**	**347**		P	**Pg**	**23 16 57.3**	**-0.2**
FDMO					S	**Sg**	**23 17 01.9**	**+0.3**
FDMO					AML	AML		
	comp=E,11000μm,1.5s							
FDMO					AML	AML		
	comp=N,10950μm,0.4s							
CAMP	**Campotosto**	**0.29**	**142**		P	**Pg**	**23 16 57.3**	**-0.3**
CAMP					S	**Sg**	**23 17 01.7**	**-0.1**
CAMP					AML	AML		
	comp=E,10045μm,0.2s							
CAMP					AML	AML		
	comp=N,9720μm,0.2s							
CESI	**CESI - Serrava**	**0.31**	**321**		P	**Pg**	**23 16 58.0**	**0.0**
CESI					S	**Sg**	**23 17 03.3**	**+0.8**
CESI					AML	AML		
	comp=E,9355μm,0.7s							
CESI					AML	AML		
	comp=N,16050μm,0.9s							
T1219	**Muccia, Frazio**	**0.32**	**338**		P	**Pg**	**23 16 57.9**	**-0.2**
T1219					S	**Sg**	**23 17 03.0**	**+0.4**
T1219					AML	AML		
	comp=E,19200μm,0.3s							
T1219					AML	AML		
	comp=N,28450μm,0.2s							
T1219					AML	AML		
	comp=E,20350μm,0.3s							
T1219					AML	AML		
	comp=N,27450μm,0.2s							
T1219					AML	AML		
	comp=N,28450μm,0.2s							
T1219					AML	AML		
	comp=N,27400μm,0.2s							
T1219					AML	AML		
	comp=N,27450μm,0.2s							
T1219					AML	AML		
	comp=E,19250μm,0.4s							
GUMA	**Gualdo di Mace**	**0.32**	**22**		P	**Pg**	**23 16 58.2**	**0.0**
GUMA					AML	AML		
	comp=E,93050μm,0.3s							
GUMA					AML	AML		
GUMA					AML	AML		
	comp=E,93050μm,0.2s							
GUMA					AML	AML		
GUMA					AML	AML		
	comp=N,93950μm,0.6s							
GUMA					AML	AML		
CSP1	**Cessapalombo**	**0.33**	**4**		P	**Pg**	**23 16 58.1**	**-0.3**
CSP1					S	**Sg**	**23 17 03.3**	**+0.2**
CSP1					AML	AML		
	comp=E,13800μm,0.3s							
CSP1					AML	AML		
	comp=N,24900μm,0.5s							
T1247	**Pizzolo (AQ)**	**0.33**	**164**		P	**Pg**	**23 16 58.3**	**-0.1**
T1247					AML	AML		
	comp=E,30850μm,0.2s							
T1247					AML	AML		
	comp=N,41950μm,0.4s							
TERO	**Teramo**	**0.35**	**114**		P	**Pg**	**23 16 58.1**	**-0.6**
TERO					S	**Sg**	**23 17 03.2**	**-0.3**
TERO					AML	AML		
	comp=N,34900μm,0.1s							
TERO					AML	AML		
	comp=N,30150μm,0.1s							
TERO					AML	AML		
	comp=E,35300μm,0.3s							
TERO					AML	AML		
	comp=E,38400μm,0.3s							
ARRO	**Arrone**	**0.35**	**239**		P	**Pg**	**23 16 58.9**	**+0.2**
ARRO					AML	AML		
	comp=E,11600μm,0.2s							
ARRO					AML	AML		
	comp=N,8845μm,0.2s							
OFFI	**Offida**	**0.42**	**65**		P	**Pg**	**23 17 00.2**	**+0.3**
OFFI					AML	AML		
	comp=E,37450μm,0.6s							
OFFI					AML	AML		
	comp=N,52250μm,0.5s							
SEF1	**Sefro**	**0.42**	**337**		P	**Pg**	**23 16 59.7**	**-0.2**
SEF1					AML	AML		
	comp=E,8900μm,1.3s							
SEF1					AML	AML		
	comp=N,8215μm,0.3s							
SEF1					AML	AML		
	comp=E,8895μm,1.3s							
SEF1					AML	AML		
	comp=N,8240μm,0.3s							
GIGS	**Gran Sasso**	**0.43**	**137**		P	**Pg**	**23 16 59.4**	**-0.8**
GIGS					AML	AML		
	comp=E,3170μm,0.6s							
GIGS					AML	AML		
	comp=N,4760μm,0.2s							
MDAR	**Monte D'Aria**	**0.43**	**357**		P	**Pg**	**23 16 60.0**	**-0.2**
MDAR					AML	AML		
	comp=E,5095μm,0.6s							
MDAR					AML	AML		
	comp=N,7235μm,0.6s							
MNTP	**Montappone**	**0.43**	**30**		P	**Pg**	**23 17 00.3**	**+0.1**
MNTP					AML	AML		
	comp=N,16150μm,0.9s							
MNTP					AML	AML		
	comp=E,17100μm,0.4s							
AQU	**L'Aquila**	**0.44**	**157**		P	**Pg**	**23 17 00.0**	**-0.4**
AQU					AML	AML		
	comp=N,7665μm,0.4s							
AQU					AML	AML		
	comp=E,8005μm,0.8s							
AQU					AML	AML		
	comp=N,7670μm,0.4s							

AQU AML AML
comp=E,7830µm,0.8s
AQU AML AML
comp=N,7775µm,0.4s
CESX Cesi 0.46 251 ⇑P **Pg 23 17 00.7 0.0**
CESX AML AML
comp=E,9395µm,0.7s
CESX AML AML
comp=N,8945µm,0.4s
SSM1 San Severino M 0.47 1 P **Pg 23 17 00.6 -0.2**
ASSB Assisi San Ben 0.47 307 P **Pg 23 17 00.6 -0.2**
FIAM Fiamignano 0.50 185 P **Pg 23 17 01.1 -0.3**
FIAM AML AML
comp=E,10795µm,0.6s
FIAM AML AML
comp=N,8790µm,0.5s
SNTG Esanatoglia 0.52 341 P **Pg 23 17 01.4 -0.5**
SNTG AML AML
comp=E,1930µm,0.3s
SNTG AML AML
comp=N,2005µm,0.3s
SNTG AML AML
comp=E,1975µm,0.5s
SNTG AML AML
comp=N,2010µm,0.3s
SNTG AML AML
comp=N,2075µm,0.3s
TRTR Tortoreto Alta 0.55 85 ⇑P **Pg 23 17 02.8 +0.5**
TRTR AML AML
comp=E,35500µm,0.5s
TRTR AML AML
comp=N,33550µm,0.4s
EL6 Elcito 0.57 355 ⇑P **Pg 23 17 02.3 -0.4**
EL6 S **Sb 23 17 12.0 +0.7**
EL6 AML AML
comp=N,6505µm,0.9s
EL6 AML AML
comp=E,4950µm,0.9s
EL6 AML AML
comp=E,4955µm,0.9s
ATCC AVT- Casa Cast 0.57 317 P **Pg 23 17 02.5 -0.3**
ATCC AML AML
comp=N,2945µm,0.5s
ATCC AML AML
comp=E,3505µm,0.3s
FAGN Fagnano 0.58 148 P **Pg 23 17 02.1 -0.9**
FAGN AML AML
comp=N,12050µm,0.6s
FAGN AML AML
comp=E,11200µm,0.4s
FOSV Fossato di Vic 0.61 331 P **Pg 23 17 03.0 -0.5**
FOSV AML AML
comp=N,2640µm,1.2s
FOSV AML AML
comp=E,1635µm,0.8s
FOSV AML AML
comp=N,2635µm,1.2s
CING Cingoli 0.61 2 ⇑P **Pg 23 17 03.0 -0.6**
CING AML AML
comp=E,4985µm,0.6s
CING AML AML
comp=N,3130µm,0.4s
VCEL Villa Celiera 0.62 126 P **Pg 23 17 03.2 -0.4**
VCEL AML AML
comp=E,11700µm,0.2s
VCEL AML AML
comp=N,12850µm,0.2s
VCEL AML AML
comp=E,11650µm,0.2s
MURB Monte Urbino 0.69 317 P **Pg 23 17 04.8 -0.2**
MURB AML AML
comp=E,6125µm,1.3s
MURB AML AML
comp=N,5030µm,1.2s
MURB AML AML
comp=E,6605µm,1.3s
MURB AML AML
comp=N,5030µm,1.1s
MURB AML AML
comp=E,6130µm,1.3s
MURB AML AML
comp=N,5215µm,0.9s
PP3 Marolino 0.69 27 ⇑P **Pg 23 17 05.2 +0.1**
PP3 AML AML
comp=N,20450µm,0.5s
PP3 AML AML
comp=E,16700µm,0.5s
PP3 AML AML
comp=N,20500µm,0.5s
PP3 AML AML
comp=N,20100µm,0.4s
PP3 AML AML
comp=E,15250µm,0.5s
PP3 AML AML
comp=E,16650µm,0.5s
T0110 Collepietro 0.70 140 P **Pg 23 17 04.1 -1.1**
T0110 AML AML
comp=N,6715µm,0.3s
T0110 AML AML
comp=E,8220µm,0.4s
SRES S.Oreste - Sor 0.72 223 ⇑P **Pg 23 17 05.1 -0.4**
SRES AML AML
comp=N,3470µm,0.4s
SRES AML AML
comp=E,2860µm,0.5s
SSFR Montelago di S 0.73 337 ⇓P **Pg 23 17 05.6 -0.2**
SSFR AML AML
comp=E,3315µm,0.2s
SSFR AML AML
comp=N,3385µm,0.3s
SSFR AML AML
comp=E,3200µm,0.2s
SSFR AML AML
comp=N,3685µm,0.2s
ATFO Monte Foce - G 0.75 324 ⇑P **Pg 23 17 05.7 -0.4**
ATFO AML AML
comp=E,1845µm,0.5s
ATFO AML AML
comp=N,1470µm,0.5s
ARVD Arcevia 0.75 347 ⇑P **Pg 23 17 05.6 -0.6**
ARVD AML AML
comp=N,1060µm,1.1s
ARVD AML AML
comp=E,1400µm,0.6s
PTQR Pietraquaria 0.76 167 ⇑P **Pg 23 17 05.3 -1.0**
PTQR AML AML
comp=E,1655µm,0.4s
PTQR AML AML
comp=N,1435µm,1.0s
MGAB Montegabbione 0.79 281 ⇑P **Pg 23 17 06.9 0.0**
MGAB AML AML
comp=E,2930µm,0.9s
MGAB AML AML
comp=N,3945µm,0.4s
MGAB AML AML
comp=E,3620µm,0.9s
MGAB AML AML
comp=N,4070µm,0.4s
MGAB AML AML
comp=N,3950µm,0.4s
MTCE Montecelio 0.81 203 ⇑P **Pg 23 17 06.2 -0.9**
MTCE AML AML
comp=N,4010µm,0.5s
MTCE AML AML
comp=E,4260µm,0.5s
FRON Frontone 0.82 337 ⇑P **Pg 23 17 07.0 -0.5**
FRON S **Sn 23 17 21.0 +0.4**
FRON AML AML
comp=E,1445µm,1.0s
FRON AML AML
comp=N,2185µm,0.6s
CERT Cerreto 0.82 190 P **Pg 23 17 05.6 -1.9**
CERT AML AML
comp=E,8875µm,0.7s
CERT AML AML
comp=N,4515µm,0.8s
ATVO AVT- Monte Val 0.83 318 P **Pg 23 17 07.0 -0.8**
ATVO S **Sn 23 17 22.0 +1.1**
ATVO AML AML
comp=E,1325µm,0.9s
ATVO AML AML
comp=N,1415µm,0.6s
AOI Ancona 0.85 22 ⇓P **Pb 23 17 07.6 -0.4**
AOI S **Sn 23 17 22.0 +0.8**
AOI AML AML
comp=E,3145µm,0.3s
AOI AML AML
comp=N,2235µm,1.1s
ATMI Monte Miggiano 0.87 311 ⇓P **Pg 23 17 08.8 +0.4**
ATMI AML AML
comp=E,5140µm,0.6s
ATMI AML AML
comp=N,5475µm,1.4s
COR1 Corinaldo 0.88 352 ⇓P **Pg 23 17 09.2 +0.6**
COR1 AML AML
comp=E,2685µm,1.0s
COR1 AML AML
comp=N,4955µm,0.5s
COR1 AML AML
comp=E,5110µm,0.6s
COR1 AML AML
comp=N,5425µm,1.6s
ATPI Pietralunga - 0.89 321 ⇓P **Pb 23 17 08.1 -0.7**
ATPI AML AML
comp=E,1209µm,1.1s
ATPI AML AML
comp=N,1640µm,0.6s
ATPI AML AML
comp=E,1206µm,1.1s
PIEI Pieia 0.90 329 ⇓P **Pb 23 17 08.3 -0.6**
PIEI AML AML
comp=E,1315µm,0.4s
PIEI AML AML
comp=N,904µm,1.4s
MPAG Monte Paganucc 0.92 341 ⇑P **Pb 23 17 08.8 -0.4**
MPAG AML AML
comp=E,1845µm,0.6s
MPAG AML AML
comp=N,1530µm,0.6s
RCAV Rocca di Cave 0.93 190 ⇓P **Pb 23 17 09.3 -0.1**
RCAV AML AML
comp=E,6545µm,0.4s
RCAV AML AML
comp=N,6620µm,1.6s
RCAV AML AML
comp=N,6625µm,1.6s
SACS San Casciano d 0.93 276 P **Pb 23 17 09.5 0.0**
SACS AML AML
comp=E,2015µm,1.6s
SACS AML AML
comp=E,2010µm,1.5s
SACS AML AML
comp=N,2225µm,0.7s
SACS AML AML
comp=N,2405µm,0.8s
SENI Senigallia 0.94 3 ⇓P **Pg 23 17 10.1 +0.4**
SENI AML AML
comp=E,2861µm,0.8s
SENI AML AML
comp=N,1695µm,1.6s
SENI AML AML
comp=N,8520µm,0.3s
SENI AML AML
comp=E,9015µm,0.9s
NARO Abbazia di Nar 0.95 333 ⇓P **Pb 23 17 09.2 -0.5**
NARO AML AML
comp=E,967µm,0.6s
NARO AML AML
comp=N,1116µm,1.1s
VVLD Villa Vallelon 0.95 159 ⇓P **Pb 23 17 08.8 -0.9**
VVLD AML AML
comp=N,1560µm,0.4s
VVLD AML AML
comp=E,2205µm,0.7s
FSSB Fossombrone 0.97 343 ⇑P **Pb 23 17 09.8 -0.3**
FSSB AML AML
comp=N,4760µm,0.4s
FSSB AML AML
comp=E,4235µm,1.3s
GUAR Guarcino 0.97 174 ⇑P **Pn 23 17 12.5 +1.8**
GUAR AML AML
comp=E,2830µm,0.5s
GUAR AML AML
comp=N,3600µm,1.1s
BADI Badiali 1.01 318 ⇑P **Pb 23 17 10.6 -0.1**
BADI AML AML
comp=E,95µm,0.7s
BADI AML AML
comp=N,926µm,0.5s
LATE Laterza 1.02 262 P **Pg 23 17 11.2 0.0**
CAFR Castel Frentan 1.02 121 P **Pb 23 17 10.2 -0.7**
CAFR AML AML
comp=E,2500µm,0.3s
CAFR AML AML
comp=N,1775µm,1.3s
LPEL Lama dei Pelig 1.04 133 ⇓P **Pb 23 17 09.9 -1.3**
LPEL AML AML
comp=N,2065µm,0.6s
LPEL AML AML
comp=E,2505µm,0.3s
CAFI Castiglion Fio 1.05 303 ⇑P **Pb 23 17 11.4 0.0**
CAFI AML AML
comp=N,1008µm,0.7s
CAFI AML AML
comp=N,1055µm,0.7s
CAFI AML AML
comp=E,958µm,1.3s
CAFI AML AML
comp=E,966µm,1.3s
PE3 Peglio 1.05 332 ⇓P **Pb 23 17 11.8 +0.3**
VIVA Pratoni del Vi 1.05 197 ⇓P **Pg 23 17 12.8 +1.0**
VIVA S **Sn 23 17 28.0 +1.7**
VIVA AML AML
comp=E,7250µm,0.6s
VIVA AML AML
comp=N,6110µm,0.5s
RDP Rocca di Papa 1.06 199 ⇑P **Pg 23 17 12.8 +0.8**
RDP AML AML
comp=N,8495µm,0.6s
RDP AML AML
comp=E,8550µm,0.4s
MA9 Marino 1.06 201 ⇓P **Pg 23 17 12.1 +0.1**
MA9 AML AML
comp=E,6910µm,0.6s
MA9 AML AML
comp=N,4540µm,0.7s
MCIV Monte Civitell 1.10 271 ⇑P **Pg 23 17 13.7 +1.0**
MCIV AML AML
comp=N,610µm,0.7s
MCIV AML AML
comp=E,791µm,1.6s
SSP9 Sansepolcro 1.11 317 ⇓P **Pg 23 17 13.8 +0.9**
TOLF Tolfa 1.11 232 ⇑P **Pb 23 17 12.3 -0.2**
TOLF AML AML
comp=E,1340µm,0.6s
TOLF AML AML
comp=N,1385µm,0.3s
POFI Posta Fibreno 1.12 159 ⇑P **Pg 23 17 15.0 +1.9**
POFI AML AML
comp=E,1200µm,0.6s
POFI AML AML
comp=E,1240µm,0.6s
POFI AML AML
comp=N,742µm,1.2s
POFI AML AML
comp=N,758µm,0.6s
LAV9 Lanuvio 1.14 198 ⇓P **Pg 23 17 13.7 +0.2**
LAV9 AML AML
comp=E,6405µm,0.5s
LAV9 AML AML
comp=N,7725µm,0.4s
PESA Pesaro 1.20 349 ⇑P **Pg 23 17 14.9 +0.2**
PESA AML AML
comp=E,2230µm,0.4s
PESA AML AML
comp=N,2610µm,0.4s
GIUL Giuliano Di Ro 1.21 177 ⇓P **Pg 23 17 15.7 +0.9**
GIUL AML AML
comp=E,1495µm,0.5s
GIUL AML AML
comp=N,1240µm,0.7s
CRE Caprese Michel 1.24 314 ⇓P **Pb 23 17 15.0 +0.3**
CRE AML AML
comp=E,684µm,0.5s
CRE AML AML
comp=N,605µm,1.4s
LIK San Giovanni I 1.29 167 ⇓P **Pg 23 17 17.4 +1.1**
LIK AML AML
comp=N,2150µm,0.7s
LIK AML AML
comp=E,1898µm,0.9s
CERA Filignano 1.32 151 ⇑P **Pn 23 17 15.8 +0.2**
CERA AML AML
comp=N,1020µm,0.6s
CERA AML AML
comp=N,1061µm,0.6s
CERA AML AML
comp=E,1440µm,0.5s
CERA AML AML
comp=E,1465µm,0.5s
FRES Fresagrandinar 1.36 125 ⇓P **Pg 23 17 17.8 0.0**
FRES AML AML
comp=E,867µm,0.8s
FRES AML AML
comp=N,542µm,1.4s
MIDA Miranda 1.38 144 ⇓P **Pn 23 17 15.7 -0.6**
MIDA AML AML
comp=E,1045µm,1.0s
MIDA AML AML
comp=N,1050µm,0.4s
MIDA AML AML
comp=E,1081µm,0.6s
MIDA AML AML
comp=N,889µm,0.4s
TRIV Trivento 1.43 134 ⇓P **Pb 23 17 18.4 +0.5**
TRIV AML AML
comp=E,810µm,0.6s
TRIV AML AML
comp=N,741µm,0.9s
ASQU Asqua 1.44 316 P **Pn 23 17 17.4 +0.1**
ASQU AML AML
comp=E,406µm,1.3s
ASQU AML AML
comp=N,522µm,0.7s
MAON Monte Argentar 1.54 258 ⇑P **Pb 23 17 19.7 -0.1**
MAON AML AML
comp=N,254µm,1.6s
MAON AML AML
comp=E,300µm,0.6s
VAGA Valle Agricola 1.56 149 ⇑P **Pg 23 17 21.5 0.0**
VAGA AML AML
comp=E,350µm,0.6s
VAGA AML AML
comp=N,514µm,0.9s
VAGA AML AML
comp=E,370µm,0.9s
VAGA AML AML
comp=N,532µm,0.9s
OSSC Osservatorio P 1.60 299 P **Pn 23 17 20.1 +0.7**
OSSC Osservatorio P 1.60 299 ⇑P **Pb 23 17 20.4 -0.5**
OSSC AML AML
comp=E,250µm,0.7s
OSSC AML AML
comp=N,284µm,0.7s
RUFI Rufina 1.62 312 P **Pn 23 17 20.0 +0.4**
RUFI Rufina 1.62 312 P **Pb 23 17 20.7 -0.4**
LMD Lutirano 1.69 321 P **Pb 23 17 21.8 -0.5**
CASP Castiglione de 1.70 272 ⇓P **Pn 23 17 21.4 +0.8**
CASP AML AML
comp=E,132µm,1.2s
CASP AML AML
comp=N,166µm,1.0s
CIGN Sant'Elia a Pi 1.70 130 ⇓P **Pb 23 17 22.7 +0.2**
CIGN AML AML
comp=N,456µm,0.5s
CIGN AML AML
comp=E,376µm,0.5s
MODR Mondragone 1.70 162 ⇑P **Pb 23 17 22.7 +0.2**
MODR AML AML
comp=N,286µm,0.7s
MODR AML AML
comp=E,240µm,0.9s
MELA Melanico ??? S 1.80 125 ⇑P **Pb 23 17 23.7 -0.4**
MELA AML AML
comp=E,1615µm,1.2s
MELA AML AML
comp=N,1380µm,0.6s
MELA AML AML
comp=E,1660µm,1.2s
MELA AML AML
comp=N,1330µm,0.6s
BRIS BRISIGHELLA 1.84 319 ⇓P **Pg 23 17 26.7 -0.2**
TREM Isole Tremiti 1.85 109 ⇑P **Pb 23 17 24.2 -0.7**
TREM AML AML
comp=N,1590µm,0.6s
TREM AML AML
comp=E,1415µm,0.7s
MPPT Montemurlo 1.93 309 P **Pn 23 17 25.1 +1.1**
MPPT AML AML
comp=N,242µm,1.6s
MPPT AML AML
comp=E,280µm,0.8s
MTCR Monte La Croce 2.03 309 P **Pn 23 17 25.7 +0.4**
MTCR Monte La Croce 2.03 309 ⇓P **Pn 23 17 26.0 +0.7**
APRC Apricena 2.03 119 ⇑P **Pn 23 17 26.1 +0.9**
APRC S **Sb 23 17 54.0 +0.8**
APRC AML AML
comp=N,1146µm,0.9s
APRC AML AML
comp=E,782µm,0.3s
MOCO Biccari - m.te 2.03 133 P **Pb 23 17 28.0 -0.2**
MOCO AML AML
comp=E,254µm,0.5s
MOCO AML AML
comp=N,144µm,0.5s
SGRT San Giovanni R 2.16 117 ⇑P **Pn 23 17 28.3 +1.3**
SGRT S **Sb 23 17 56.0 -1.0**
SGRT AML AML
comp=E,726µm,0.9s
SGRT AML AML
comp=N,784µm,0.5s
BRJN Brijuni 2.18 11 ⇓P **Pn 23 17 28.1 +0.8**
MAIM Mastiano 2.27 301 P **Pn 23 17 29.2 +0.7**
MAIM Mastiano 2.27 301 ⇓P **Pn 23 17 29.6 +1.1**
MAIM AML AML
comp=N,138µm,0.6s
MAIM AML AML
comp=E,150µm,0.7s
MSAG Monte S. Angel 2.29 116 ⇓P **Pn 23 17 30.4 +1.5**
MSAG AML AML
comp=E,756µm,0.9s
MSAG AML AML
comp=N,1975µm,0.4s
MSAG AML AML
comp=E,826µm,0.9s
MSAG AML AML
comp=N,2015µm,0.4s
SGTA Sant Agata di 2.31 134 ⇑P **Pb 23 17 32.0 -0.8**
SGTA AML AML
comp=E,390µm,0.6s
SGTA AML AML
comp=N,246µm,0.5s
CARD Cardoso 2.33 304 P **Pn 23 17 29.8 +0.5**
HVAR Hvar 2.44 79 ⇓P **Pn 23 17 31.6 +0.8**
VLC Villacollemand 2.46 305 P **Pn 23 17 31.4 +0.2**
SARO Sassorosso 2.47 306 P **Pn 23 17 31.4 +0.1**
SARO Sassorosso 2.47 306 ⇑P **Pn 23 17 31.4 +0.1**
CAPA Cerignola FG 2.54 128 ⇓P **Pn 23 17 33.5 +1.2**
CAPA AML AML
comp=E,394µm,1.6s
CAPA AML AML
comp=N,405µm,0.9s
VULT Monte Vulture 2.57 134 ⇑P **Pn 23 17 33.9 +1.2**
VULT AML AML
comp=E,540µm,0.6s
VULT AML AML
comp=N,448µm,0.3s
PALZ Palazzo San Ge 2.76 130 ⇓P **Pn 23 17 36.9 +1.6**
PALZ AML AML
comp=N,465µm,1.5s
PALZ AML AML
comp=E,546µm,0.7s
MRVN Minervino Murg 2.83 126 P **Pn 23 17 37.4 +1.2**
MRVN AML AML
comp=N,133µm,0.3s
MRVN AML AML
comp=E,128µm,0.5s
A050A Klekovaca 2.98 54 *e*Pn **Pn 23 17 39.7 +1.3**
PGF Pioggiola 3.08 267 *e*P **Pn 23 17 41.4 +1.6**
PGF *e*Sn **Sn 23 18 14.2 -2.3**
comp=E,9.5nm,0.6s
CEY Cerknica 3.11 16 *e*Pn **Pn 23 17 40.8 +0.7**
BOJS Bojanci 3.12 28 *e*Pn **Pn 23 17 40.9 +0.7**
BOJS Bojanci 3.12 28 P **Pb 23 17 45.6 -1.2**
AMUR Altamura 3.17 125 ⇑P **Pn 23 17 42.2 +1.4**
AMUR AML AML
comp=N,186µm,1.3s
AMUR AML AML
comp=E,211µm,0.4s
SRKY Kupres RS 3.19 64 *e*Pn **Pn 23 17 43.1 +1.9**

SABO	**M.te Sabotino**	**3.23**	**5**	⇑P		**Pn**	**23 17 42.0 +0.3**
SABO				AML		AML	
	comp=E,1345µm,0.6s						
SABO				AML		AML	
	comp=E,322µm,0.6s						
SABO				AML		AML	
	comp=N,374µm,0.7s						
SABO				AML		AML	
	comp=N,1590µm,0.7s						
ROVR	**Rover Verones**	**3.25**	**333**	⇑P		**Pn**	**23 17 43.9 +1.8**
ROVR				AML		AML	
	comp=N,72µm,0.9s						
ROVR				AML		AML	
	comp=E,3482µm,1.4s						
ROVR				AML		AML	
	comp=E,46µm,0.9s						
ROVR				AML		AML	
	comp=N,226µm,1.6s						
CGRP	**Cima Grappa**	**3.27**	**343**	⇑P		**Pn**	**23 17 43.8 +1.4**
CGRP				AML		AML	
	comp=E,226µm,0.7s						
CGRP				AML		AML	
	comp=N,271µm,0.6s						
MGRS	**Mrkonjic Grad**	**3.29**	**58**	*e*Pn		**Pn**	**23 17 44.0 +1.5**
STON	**Ston**	**3.33**	**87**	*e*Pn		**Pn**	**23 17 42.0 -1.1**
STON	**Ston**	**3.33**	**87**	⇓P		**Pn**	**23 17 42.1 -1.0**
STON				AML		AML	
	comp=N,89µm,0.3s						
STON				AML		AML	
	comp=E,86µm,0.4s						
MATE	**Matera**	**3.38**	**127**	⇑P		**Pn**	**23 17 45.6 +1.8**
MATE				⇓S		**Sn**	**23 18 26.0 +2.3**
LJU	**Ljubljana**	**3.42**	**16**	⇑P		**Pn**	**23 17 48.1 +3.8**
DOSS	**Dosso del Somm**	**3.43**	**336**	⇓P		**Pn**	**23 17 46.5 +1.9**
DOSS				AML		AML	
	comp=N,135µm,1.0s						
DOSS				AML		AML	
	comp=E,122µm,0.7s						
DOSS				AML		AML	
	comp=N,169µm,0.8s						
DOSS				AML		AML	
	comp=E,170µm,1.6s						
SALO	**Salr**	**3.43**	**327**	⇑P		**Pn**	**23 17 47.1 +2.6**
SALO				AML		AML	
	comp=N,153µm,0.9s						
SALO				AML		AML	
	comp=E,211µm,0.6s						
CTI	**Castel Tesino**	**3.46**	**342**	P		**Pn**	**23 17 46.4 +1.5**
CTI				AML		AML	
	comp=N,134µm,0.5s						
CTI				AML		AML	
	comp=E,132µm,0.9s						
STAL	**STALIGIAL**	**3.51**	**355**	⇓P		**Pn**	**23 17 46.4 +0.8**
STAL				AML		AML	
	comp=N,131µm,0.3s						
STAL				AML		AML	
	comp=E,198µm,0.7s						
A051A	**Mrakovica**	**3.51**	**49**	*e*Pn		**Pn**	**23 17 47.5 +1.8**
NOCI	**Noci**	**3.52**	**123**	⇓P		**Pn**	**23 17 47.1 +1.5**
NOCI				AML		AML	
	comp=E,187µm,0.3s						
NOCI				AML		AML	
	comp=N,173µm,0.3s						
BLY	**Banja Luka**	**3.52**	**54**	*e*Pn		**Pb**	**23 17 50.3 -3.2**
LUSI	**Trento, Gardas**	**3.57**	**334**	⇓P		**Pn**	**23 17 48.4 +2.0**
LUSI				AML		AML	
	comp=E,104µm,0.6s						
LUSI				AML		AML	
	comp=N,125µm,0.6s						
DGI	**Dorgali Grotta**	**3.62**	**229**	P		**Pn**	**23 17 48.7 +1.6**
PTCC	**Patocco-Chiusa**	**3.64**	**2**	⇑P		**Pn**	**23 17 47.6 +0.1**
PTCC				AML		AML	
	comp=E,91µm,0.5s						
PTCC				AML		AML	
	comp=N,90µm,0.9s						
GAGG	**Gaggia**	**3.68**	**335**	⇑P		**Pn**	**23 17 50.5 +2.5**
GAGG				AML		AML	
	comp=E,131µm,0.9s						
GAGG				AML		AML	
	comp=N,110µm,1.0s						
ZONE	**Zone**	**3.72**	**325**	⇓P		**Pn**	**23 17 50.6 +2.2**
ZONE				AML		AML	
	comp=E,86µm,0.8s						
ZONE				AML		AML	
	comp=N,106µm,0.3s						
ZOU	**Zoufplan**	**3.80**	**358**	⇓P		**Pn**	**23 17 50.5 +0.8**
ZOU				AML		AML	
	comp=N,120µm,1.0s						
ZOU				AML		AML	
	comp=E,116µm,0.8s						
TAR1	**Taranto**	**3.81**	**125**	⇓P		**Pn**	**23 17 51.7 +2.1**
TAR1				AML		AML	
	comp=E,120µm,0.6s						
TAR1				AML		AML	
	comp=N,149µm,0.8s						
TREB	**Trebinje**	**3.81**	**89**	*e*Pn		**Pn**	**23 17 50.7 +1.0**
OBKA	**Obir**	**3.87**	**14**	*e*Pn		**Pn**	**23 17 49.0 -1.6**
OBKA	**Obir**	**3.87**	**14**	*e*Pn		**Pn**	**23 17 54.0 +3.3**
OBKA				*e*Sn		**Sn**	**23 18 36.5 +0.5**
	comp=N,2.1nm,0.4s						
	comp=N,12nm,0.4s						
MYKA	**Terra Mystica**	**3.88**	**5**	*e*Pn		**Pn**	**23 17 51.6 +0.9**
	comp=N,4.3nm,0.4s						
MYKA				*e*Sn		**Sn**	**23 18 40.5 +4.4**
	comp=N,5.6nm,0.4s						
MDI	**Monti di Nese**	**3.91**	**322**	⇓P		**Pn**	**23 17 53.4 +2.4**
MDI				AML		AML	
	comp=E,63µm,1.4s						
MDI				AML		AML	
	comp=N,68µm,0.5s						
KOSI	**Kohlern**	**3.92**	**342**	⇑P		**Pn**	**23 17 53.8 +2.5**
KOSI				AML		AML	
	comp=N,113µm,1.6s						
KOSI				AML		AML	
	comp=E,174µm,0.9s						
HCY	**Herceg Novi**	**3.94**	**93**	*e*Pn		**Pn**	**23 17 52.2 +0.7**
BRY	**Bratogost**	**3.95**	**86**	*e*Pn		**Pn**	**23 17 52.5 +0.8**
BOSI	**Bolzano**	**3.96**	**341**	⇑P		**Pn**	**23 17 53.4 +1.7**
BOSI				AML		AML	
	comp=N,332µm,0.9s						
BOSI				AML		AML	
	comp=E,382µm,1.0s						
APPI	**Appiano**	**3.97**	**340**	⇓P		**Pn**	**23 17 53.9 +2.0**
APPI				AML		AML	
	comp=E,104µm,0.7s						
APPI				AML		AML	
	comp=N,100µm,0.5s						
ABTA	**Abfaltersbach**	**4.01**	**354**	Pn		**Pn**	**23 17 54.0 +1.5**
	comp=N,19nm,0.4s,SNR=42						
ABTA				*e*Sn		**Sn**	**23 18 42.7 +3.4**
	comp=N,12nm,0.6s						
SOKA	**Soboth**	**4.13**	**18**	*e*Pn		**Pn**	**23 17 56.0 +1.8**
	comp=N,2.3nm,0.3s						
UPM	**Unac-Piva**	**4.23**	**82**	*e*Pn		**Pn**	**23 17 56.1 +0.5**
RISI	**Rein**	**4.26**	**350**	⇑P		**Pn**	**23 17 58.0 +2.0**
RISI				AML		AML	
	comp=E,207µm,0.5s						
RISI				AML		AML	
	comp=N,272µm,0.5s						
KBA	**Koelnbreinsper**	**4.32**	**2**	*e*Pn		**Pn**	**23 17 59.9 +3.1**
	comp=N,1.8nm,0.2s						
KBA				*e*Sn		**Sn**	**23 18 47.2 +0.2**
	comp=N,11nm,0.7s						
SBF	**Sospel**	**4.33**	**287**	*e*P		**Pn**	**23 17 58.1 +1.2**
SBF				*e*Sn		**Sn**	**23 18 42.9 -4.2**
	comp=N,18nm,0.5s						
MUGIO	**Muggio**	**4.33**	**318**	⇑P		**Pn**	**23 17 57.8 +0.9**
VSL	**Villasalto**	**4.34**	**223**	⇓P		**Pn**	**23 17 59.0 +2.0**
ROSI	**Rosskopf**	**4.35**	**344**	⇑P		**Pn**	**23 17 59.3 +2.0**
ROSI				AML		AML	
	comp=N,159µm,0.8s						
ROSI				AML		AML	
	comp=E,116µm,1.1s						
HAPS	**Han Pijesak,BI**	**4.41**	**71**	*e*Pn		**Pn**	**23 17 58.9 +0.8**
DRME	**Dracevica, Mon**	**4.49**	**95**	⇑/Pn		**Pn**	**23 18 00.5 +1.5**
TIP	**Timpagrande**	**4.49**	**142**	⇑P		**Pn**	**23 18 03.3 +4.1**
PDG	**Podgorica**	**4.50**	**92**	⇑P		**Pn**	**23 18 00.7 +1.5**
PDG				⇓S		**Sn**	**23 18 51.1 -0.2**
PDG	**Podgorica**	**4.50**	**92**	⇑P		**Pn**	**23 18 01.7 +2.5**
PDG				AML		AML	
	comp=N,82µm,1.0s						
PDG				AML		AML	
	comp=E,86µm,1.3s						
FETA	**Feichten**	**4.60**	**339**	Pn		**Pn**	**23 18 03.4 +2.8**
	comp=E,2.0nm,0.4s,SNR=7.7						
FETA				*e*Sn		**Sn**	**23 18 54.3 +0.4**
	comp=E,3.1nm,0.5s						
WTTA	**Wattenberg**	**4.63**	**347**	Pn		**Pn**	**23 18 03.9 +2.8**
	comp=E,2.5nm,0.3s,SNR=7.5						
WTTA				*e*Sn		**Sn**	**23 18 58.0 +3.3**
	comp=E,10nm,0.4s						
DAVOX	**Davos/Dischmat**	**4.65**	**331**	Pn		**Pn**	**23 18 04.9 +3.5**
	comp=E,1.7nm,0.3s,baz=156,slow=18,SNR=11						
DAVOX				Sn		**Sn**	**23 18 57.8 +2.6**
	comp=E,0.5nm,0.3s,baz=114,slow=23,SNR=1.1						
DAVOX				LR		LR	23 20 07.7
	comp=E,50nm,18.8s,baz=79,slow=43						
	comp=E,4.5nm,0.4s						
SQTA	**Sankt Quirin**	**4.67**	**343**	Pn		**Pn**	**23 18 04.2 +2.6**
	comp=E,8.9nm,0.4s,SNR=15						
SQTA				*e*Sn		**Sn**	**23 18 57.0 +1.4**
	comp=E,6.9nm,0.4s						
BBLS	**Lazići**	**4.68**	**74**	*e*Pn		**Pn**	**23 18 03.0 +1.3**
WATA	**Walderalm**	**4.71**	**347**	Pn		**Pn**	**23 18 04.9 +2.8**
	comp=E,1.7nm,0.3s,SNR=9.7						
WATA				*e*Sn		**Sn**	**23 18 58.0 +1.4**
	comp=E,9.2nm,0.6s						
ARSA	**Arzberg**	**4.79**	**20**	*e*Pn		**Pn**	**23 18 05.8 +2.7**
	comp=E,3.3nm,0.4s						
ARSA				*e*Sn		**Sn**	**23 18 57.3 -1.1**
	comp=E,3.1nm,0.4s						
SCTE	**Santa Cesarea**	**4.80**	**122**	⇑P		**Pn**	**23 18 05.6 +2.2**
MOTA	**Moosalm**	**4.81**	**343**	Pn		**Pn**	**23 18 06.1 +2.5**
	comp=E,1.7nm,0.3s,SNR=9.9						
MOTA				*e*Sn		**Sn**	**23 19 04.1 +5.0**
	comp=E,3.5nm,0.5s						
LMR	**La Mourre**	**4.92**	**279**	*e*P		**Pn**	**23 18 06.2 +1.3**
BIOA	**Bad Ischl, Aus**	**4.94**	**4**	*e*Pn		**Pn**	**23 18 06.5 +1.3**
	comp=E,3.6nm,0.3s						
RETA	**Reutte**	**5.02**	**341**	*e*Pn		**Pn**	**23 18 07.3 +0.9**
	comp=E,5.4nm,0.3s						
MBDF	**Montbardon**	**5.04**	**295**	*e*P		**Pn**	**23 18 09.0 +2.4**
MBDF				*e*Sn		**Sn**	**23 19 01.0 -3.6**
DAVA	**Damuels**	**5.09**	**334**	*i* Pn		**Pn**	**23 18 08.4 +1.0**
	comp=E,3.8nm,0.3s,SNR=8.3						
DIVS	**Divibare**	**5.14**	**73**	*e*Pn		**Pn**	**23 18 08.7 +0.6**
MOA	**Molln**	**5.14**	**8**	*e*Pn		**Pn**	**23 18 08.9 +0.9**
	comp=E,1.6nm,0.5s						
MOA				*e*Sn		**Sn**	**23 19 09.0 +1.8**
	comp=E,3.6nm,0.4s						
MOA				*e*Sn		Sb	23 19 09.3 -14
	comp=E,5.6nm,0.4s						
TIR	**Tirane**	**5.18**	**104**	⇑P		**Pn**	**23 18 09.9 +1.4**
MORH	**Mrgy, Hungar**	**5.22**	**47**	⇓P		**Pn**	**23 18 10.8 +1.8**
FRGS	**Fruska Gora**	**5.36**	**61**	*e*Pn		**Pn**	**23 18 07.4 -3.5**
RONA	**Rosalia, Austr**	**5.41**	**23**	*e*Pn		**Pn**	**23 18 12.4 +0.7**
	comp=E,0.8nm,0.2s						
RONA				*e*Sn		**Sn**	**23 19 14.5 +0.9**
	comp=E,2.4nm,0.4s						
CONA	**Conrad Observa**	**5.50**	**19**	*e*Pn		**Pn**	**23 18 13.7 +0.7**
	comp=E,2.8nm,0.5s						
CONA				*e*Sn		**Sn**	**23 19 16.1 +0.1**
	comp=E,2.9nm,0.4s						
SMRF	**Simiane la Rot**	**5.67**	**285**	*e*P		**Pn**	**23 18 18.6 +3.4**
ORIF	**Oris-en-Rattie**	**5.70**	**295**	*e*P		**Pn**	**23 18 18.6 +2.9**
ORIF				*e*Sn		**Sn**	**23 19 15.7 -5.2**
	comp=E,28nm,1.4s						
OHR	**Ohrid**	**5.92**	**104**	*i* Pn		**Pn**	**23 18 21.2 +2.4**
OHR				*i* Sn		**Sn**	**23 19 25.1 -1.3**
GERES	**GERESS Array B**	**6.09**	**3**	Pn		**Pn**	**23 18 21.2 +0.1**
	comp=E,0.4nm,0.3s,baz=175,slow=13,SNR=8.6						
GERES				Sn		**Sn**	**23 19 30.3 -0.4**
	comp=E,1.0nm,0.3s,baz=182,slow=25,SNR=5.9						
	comp=E,0.7nm,0.4s						
CKRC	**Cesky Krumlov**	**6.11**	**7**	*e*PN		**Pn**	**23 18 20.6 -0.7**
CKRC				*e*SN		**Sn**	**23 19 29.1 -1.8**
MODS	**Modra-Piesok**	**6.31**	**26**	*e*PN		**Pn**	**23 18 26.8 +2.8**
CABF	**La Chapelle**	**6.35**	**310**	*e*P		**Pn**	**23 18 28.1 +3.5**
KHC	**Kasperske Hory**	**6.38**	**2**	*e*PN		**Pn**	**23 18 25.2 +0.3**
KHC				*e*SN		**Sn**	**23 19 36.2 -1.3**
BZS	**Buzias**	**6.71**	**62**	⇓P		**Pn**	**23 18 29.9 +0.4**
HINF	**Hinteralfeld**	**6.74**	**321**	*e*P		**Pn**	**23 18 33.6 +3.7**
HINF				*e*Sn		**Sn**	**23 19 40.5 -5.9**
	comp=E,12nm,0.5s						
STIP	**Stip**	**6.78**	**96**	*i* Pn		**Pn**	**23 18 33.7 +3.3**
STIP				*i* Sn		**Sn**	**23 19 50.4 +3.0**
LASF	**Ste Croix**	**6.91**	**284**	*e*P		**Pn**	**23 18 35.0 +2.7**
VYHS	**Vyhne**	**6.97**	**33**	*e*PN		**Pn**	**23 18 37.2 +4.1**
CDF	**Champ du Feu**	**7.00**	**326**	*e*P		**Pn**	**23 18 35.0 +1.4**
CDF				*e*Sn		**Sn**	**23 19 47.8 -5.1**
	comp=E,90nm,1.7s						
HAU	**Haudompre**	**7.11**	**320**	*e*P		**Pn**	**23 18 36.5 +1.5**
HAU				*e*Sn		**Sn**	**23 19 49.7 -5.8**
	comp=E,14nm,0.5s						
GZR	**Gura Zlata**	**7.40**	**66**	⇑P		**Pn**	**23 18 39.7 +0.7**
VTS	**Vitosha**	**7.42**	**88**	⇑P		**Pn**	**23 18 40.7 +1.3**
VTS				⇑S		**Sn**	**23 20 03.3 -0.1**
KEST	**Kesra**	**7.62**	**204**	Pn		Pn	23 18 47.4 +5.3
	comp=E,0.2nm,0.3s,baz=23,slow=11,SNR=7.3						
KEST				Sn		**Sn**	**23 20 10.1 +1.9**
	comp=E,0.1nm,0.3s,baz=108,slow=15,SNR=2.1						
	comp=E,3.0nm,0.8s						
SMF	**Signal de Mont**	**7.70**	**303**	*e*Sn		**Sn**	**23 20 03.2 -6.7**
	comp=E,2.1nm,0.4s						
LOR	**Lormes**	**7.99**	**308**	*e*Pn		**Pn**	**23 18 47.3 +0.3**
LOR				*e*Sn		**Sn**	**23 20 09.8 -7.3**
	comp=E,3.6nm,0.4s						
MTLF	**Montolieu**	**8.04**	**278**	*e*P		**Pn**	**23 18 51.5 +3.7**
BRG	**Berggiesshubel**	**8.13**	**3**	*ex*		x	23 20 16.3
BRG				Amp			23 20 20.0
	comp=Z,1.5nm,0.6s						
BRG				*ex*		x	23 21 10.2
BRG				Amp			23 21 39.6
	comp=Z,7.1nm,1.2s						
MLR	**Muntele Rosu**	**9.58**	**69**	⇓P		**Pn**	**23 19 09.7 +0.7**
MLR	**Muntele Rosu**	**9.58**	**69**	Pn		**Pn**	**23 19 11.0 +2.0**
	comp=Z,0.1nm,0.3s,baz=254,slow=20,SNR=2.2						
	comp=Z,1.5nm,0.8s						
IDI	**Anoyia**	**11.77**	**125**	Pn		**Pn**	**23 19 41.6 +2.6**
	comp=Z,0.2nm,0.3s,baz=331,slow=13,SNR=2.6						
IDI				Sn		**Sn**	**23 21 43.3 -6.8**
	comp=Z,0.2nm,0.3s,baz=244,slow=12,SNR=2.2						
	comp=Z,12nm,1.0s						
FINES	**FINESS Array B**	**20.25**	**18**	P		**P**	**23 21 26.3 +0.3**
	comp=Z,2.1nm,0.9s,baz=195,slow=9.9,SNR=1.3						
	comp=Z,2.1nm,0.9s						
KBZ	**Khabaz**	**21.63**	**77**	P		**P**	**23 21 40.8 -0.2**
	comp=Z,1.9nm,0.9s,baz=270,slow=8.1,SNR=1.6						
	comp=Z,1.9nm,0.9s						
MKAR	**Makanchi Array**	**47.79**	**60**	P		**P**	**23 25 29.4 +1.3**
	comp=Z,0.4nm,0.7s,baz=290,slow=6.9,SNR=3.7						
	comp=Z,0.4nm,0.7s						

WEL 17 23:19:11.1±0.5, 42°S±3°×17°4E±°, h9km±3km, M3.3/28, ML3.7/13, MLv3.3/28, Error ellipse: s-maj=0.0km s-min=0.0km az=120.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.16**	**237**	P	Pg	23 19 15.1	+0.6
KHZ				S	Sg	23 19 18.6	+1.8
BSWZ	**Blackbirch Sta**	**0.63**	**11**	P	Pg	23 19 23.4	+0.1
CMWZ	**Cape Campbell**	**0.69**	**33**	P	Pb	23 19 25.5	+0.2
GVZ	**Greta Valley S**	**0.81**	**218**	P	Pb	23 19 27.2	-0.2
THZ	**Tophouse**	**0.83**	**313**	P	Pb	23 19 27.5	-0.2
TUWZ	**Tuamarina**	**0.92**	**11**	P	Pg	23 19 28.7	0.0
NNZ	**Nelson**	**1.14**	**347**	P	Pb	23 19 32.3	-0.6
AMCZ	**Amberley**	**1.15**	**222**	P	Pb	23 19 32.0	-1.2
MRNZ	**Matariki Terra**	**1.17**	**322**	P	Pb	23 19 33.5	0.0
TCW	**Tory Channel**	**1.20**	**21**	P	Pb	23 19 32.1	-1.8
WEL	**Wellington**	**1.31**	**37**	P	Pn	23 19 33.5	-2.0
PLWZ	**Palliser**	**1.38**	**57**	P	Pn	23 19 33.6	-3.0
TKNZ	**Takaka Hill**	**1.41**	**336**	P	Pn	23 19 37.0	0.0
MSWZ	**Moikau Station**	**1.47**	**52**	P	Pn	23 19 34.8	-2.9
OKCZ	**Okains Bay**	**1.47**	**199**	P	Pn	23 19 35.4	-2.5
DUWZ	**D'Urville Isla**	**1.54**	**6**	P	Pn	23 19 37.7	-1.0
DSZ	**Denniston Nort**	**1.54**	**292**	P	Pb	23 19 39.5	-0.3
MQZ	**McQueen's Vall**	**1.58**	**209**	P	Pn	23 19 36.3	-3.0
OXZ	**Oxford**	**1.58**	**231**	P	Pn	23 19 37.2	-2.2
CAW	**Cannon Point**	**1.59**	**40**	P	Pn	23 19 37.0	-2.4
PAWZ	**Paruwai Farm**	**1.59**	**54**	P	Pn	23 19 36.3	-3.2
AKCZ	**Akaroa Harbour**	**1.65**	**201**	P	Pn	23 19 37.6	-2.7
KIW	**Kapiti Island**	**1.72**	**32**	P	Pn	23 19 39.3	-1.9
INZ	**Inchbonnie**	**1.72**	**256**	P	Pn	23 19 40.2	-1.0
QRZ	**Quartz Range**	**1.75**	**329**	P	Pn	23 19 42.2	+0.6
RACZ	**Rakaia**	**1.81**	**219**	P	Pn	23 19 40.0	-2.5
OGWZ	**Otaki Gorge**	**1.87**	**36**	P	Pn	23 19 40.8	-2.4
HOWZ	**Holdsworth Sta**	**1.97**	**44**	P	Pn	23 19 41.9	-2.7
MHCZ	**Mount Hutt**	**1.98**	**232**	P	Pn	23 19 42.6	-2.3
TMWZ	**Te Maipa**	**2.04**	**54**	P	Pn	23 19 42.1	-3.5
WACZ	**Wakanui South**	**2.12**	**220**	P	Pn	23 19 44.3	-2.3
MRZ	**Mangatainoka R**	**2.18**	**41**	P	Pn	23 19 44.7	-2.9
WVZ	**Waitaha Valley**	**2.32**	**250**	P	Pn	23 19 48.8	-0.6
RPZ	**Rata Peaks**	**2.39**	**234**	P	Pn	23 19 48.4	-2.1
BFZ	**Birch Farm**	**2.52**	**50**	P	Pn	23 19 48.5	-3.6
GCSZ	**Gaunt Creek Bo**	**2.68**	**247**	P	Pn	23 19 53.6	-0.8
DVHZ	**Dannevirke**	**2.74**	**43**	P	Pn	23 19 56.7	+1.4
TSZ	**Takapari Road**	**2.83**	**37**	P	Pg	23 20 05.3	-0.1
TMZ	**Timaru**	**2.85**	**223**	P	Pn	23 19 54.8	-2.0
KHEZ	**Kahui Hut**	**3.04**	**4**	P	Pb	23 20 04.2	-1.3
FOZ	**Fox Glacier**	**3.10**	**246**	P	Pn	23 20 00.3	0.0
MHEZ	**Mangahewa**	**3.28**	**8**	P	Pg	23 20 17.0	+3.0
LBZ	**Lake Benmore**	**3.29**	**230**	P	Pn	23 20 01.3	-1.6
VRZ	**Vera Road**	**3.30**	**14**	P	Pn	23 20 03.1	+0.1
MOVZ	**Moawhango**	**3.31**	**29**	P	Pb	23 20 08.5	-1.5
WNVZ	**Wahianoa**	**3.32**	**26**	P	Pn	23 20 03.4	0.0
TRVZ	**Turoa**	**3.33**	**25**	P	Pn	23 20 06.1	+2.5
BHHZ	**Black Hill Sta**	**3.35**	**33**	P	Pb	23 20 10.9	+0.2
WHVZ	**Whangaehu Hut**	**3.36**	**26**	P	Pb	23 20 10.0	-0.9
FWVZ	**Far West T-bar**	**3.38**	**25**	P	Pb	23 20 09.2	-2.0
NGZ	**Ngauruhoe**	**3.46**	**25**	P	Pb	23 20 14.0	+1.3
SNVZ	**South Ngauruho**	**3.46**	**26**	P	Pg	23 20 15.8	-1.7
OTVZ	**Oturere**	**3.49**	**26**	P	Pb	23 20 12.3	-0.9
ODZ	**Otahua Downs**	**3.51**	**218**	P	Pn	23 20 03.2	-2.6
WTVZ	**West Tongariro**	**3.51**	**25**	P	Pb	23 20 12.8	-0.7
KRVZ	**Karewarewa**	**3.55**	**25**	P	Pb	23 20 15.5	+1.4
TMVZ	**Te Maari**	**3.55**	**26**	P	Pb	23 20 15.2	+1.0
KWHZ	**Kaweka Forest**	**3.56**	**36**	P	Pb	23 20 15.1	+0.8
KATZ	**Kakaramea**	**3.67**	**25**	P	Pb	23 20 18.7	+2.4
BKZ	**Black Stump Fm**	**3.80**	**35**	P	Pb	23 20 19.6	+1.2
HIZ	**Hauiti**	**3.91**	**13**	P	Pn	23 20 11.4	0.0
JCZ	**Jackson Bay**	**4.00**	**243**	P	Pn	23 20 11.5	-1.2
MTHZ	**Maungataniwha**	**4.21**	**35**	P	Pb	23 20 33.4	+1.6
EAZ	**Earnscleugh**	**4.31**	**226**	P	Pn	23 20 13.5	-3.4
KMRZ	**Kaimai**	**4.79**	**22**	P	Pb	23 20 32.0	-3.3

IDC 17 23:23:02.1±1.9, 37°90N×111°73E, h0km, mb3.4/4, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=53.4km s-min=21.3km az=72.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.67**	**340**	Pn	Pn	23 25 35.8	-0.5
	0.2nm,0.3s,baz=155,slow=17,SNR=2.5						
SONM				Lg	Lg	23 28 38.8	
	0.4nm,0.3s,baz=160,slow=30,SNR=2.3						
	0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**22.37**	**214**	P	P	23 28 02.0	0.0
	2.0nm,0.9s,baz=22,slow=8.9,SNR=11						
	2.0nm,0.9s						
MKAR	**Makanchi Array**	**23.39**	**302**	P	P	23 28 11.3	-1.2
	0.3nm,0.5s,baz=92,slow=10,SNR=4.9						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**24.44**	**320**	P	P	23 28 23.8	+1.4
	0.8nm,0.4s,baz=108,slow=14,SNR=10.0						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**61.34**	**156**	P	P	23 33 19.4	-0.3
	0.6nm,1.0s,baz=347,slow=7.5,SNR=1.9						
	0.6nm,1.0s						

WEL 17 23:35:50.6±0.5, 42°S±3°×17°4E±°, h5km, M3.0/15, ML3.5/9, MLv3.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=116.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**250**	P	Pg	23 35 53.0	+0.3
KHZ				S	Sg	23 35 55.6	+1.3
BSWZ	**Blackbirch Sta**	**0.68**	**13**	P	Pg	23 36 03.3	-0.3
CMWZ	**Cape Campbell**	**0.75**	**33**	P	Pb	23 36 05.7	-0.4
THZ	**Tophouse**	**0.84**	**317**	P	Pg	23 36 06.7	0.0
TUWZ	**Tuamarina**	**0.97**	**12**	P	Pg	23 36 08.7	-0.4
NNZ	**Nelson**	**1.18**	**349**	P	Pg	23 36 12.4	-0.8
MRNZ	**Matariki Terra**	**1.20**	**325**	P	Pg	23 36 13.2	-0.2
TCW	**Tory Channel**	**1.25**	**21**	P	Pg	23 36 12.5	-2.1
TKNZ	**Takaka Hill**	**1.45**	**338**	P	Pn	23 36 16.9	-0.5
MSWZ	**Moikau Station**	**1.52**	**51**	P	Pn	23 36 15.2	-3.2
DSZ	**Denniston Nort**	**1.53**	**294**	P	Pn	23 36 18.8	+0.3
DUWZ	**D'Urville Isla**	**1.59**	**7**	P	Pn	23 36 18.8	-0.5
PAWZ	**Paruwai Farm**	**1.65**	**53**	P	Pn	23 36 16.6	-3.5
QRZ	**Quartz Range**	**1.77**	**331**	P	Pn	23 36 22.2	+0.3
KIW	**Kapiti Island**	**1.78**	**32**	P	Pn	23 36 20.1	-1.9
OGWZ	**Otaki Gorge**	**1.92**	**36**	P	Pn	23 36 21.4	-2.5
MHCZ	**Mount Hutt**	**1.93**	**233**	P	Pn	23 36 21.3	-2.7
HOWZ	**Holdsworth Sta**	**2.02**	**44**	P	Pg	23 36 29.0	-0.4
WACZ	**Wakanui South**	**2.06**	**220**	P	Pn	23 36 23.2	-2.6
MRZ	**Mangatainoka R**	**2.24**	**40**	P	Pn	23 36 25.6	-2.6
ARCZ	**Arundel**

GO02			IAML		23 40 52.3	
	comp=N,318nm,0.1s					
PB06	**IPOC Station P**	**2.61 301**		**Pn**	**23 40 14.6**	**+0.7**
PB06			Sn	**S**	**23 40 52.6**	**-0.4**
PB06	**IPOC Station P**	**2.61 301**	*eP*	**Pn**	**23 40 15.8**	**+1.9**
PB06			*eS*	**S**	**23 40 52.8**	**-0.2**
PB06			IAML		23 40 53.8	
	comp=N,190nm,0.2s					
PB09	**IPOC Station P**	**2.98 319**		**Pn**	**23 40 19.9**	**+2.2**
PB09				**S**	**23 40 59.1**	**-0.7**
PB14	**IPOC Station P**	**3.03 259**	Pn	**Pn**	**23 40 18.9**	**+0.6**
PB14			Sn	**S**	**23 41 00.3**	**-0.6**
PB03	**IPOC Station P**	**3.13 309**		**Pn**	**23 40 20.6**	**+1.2**
PB03	**IPOC Station P**	**3.13 309**	*eP*	**Pn**	**23 40 20.9**	**+1.5**
PB03			*eS*	**S**	**23 41 01.4**	**-1.4**
PB03			IAML		23 41 03.8	
	comp=E,113nm,0.1s					
PB10	**IPOC Station P**	**3.17 279**	Pn	**Pn**	**23 40 20.6**	**+1.0**
PB10	**IPOC Station P**	**3.17 279**	*eS*	**S**	**23 41 01.8**	**-1.5**
PB04	**IPOC Station P**	**3.26 301**		**Pn**	**23 40 23.0**	**+2.3**
PB04	**IPOC Station P**	**3.26 301**	*eP*	**Pn**	**23 40 22.8**	**+2.1**
PB04			*eS*	**S**	**23 41 04.0**	**-1.3**
AC02	**Maricunga**	**3.29 213**		**Pn**	**23 40 22.4**	**+1.0**
PB07	**IPOC Station P**	**3.44 312**		**Pn**	**23 40 24.0**	**+1.3**
PB07	**IPOC Station P**	**3.44 312**	*eP*	**Pn**	**23 40 24.7**	**+1.9**
PB07			*eS*	**S**	**23 41 08.1**	**-0.8**
PB01	**IPOC Station P**	**3.71 324**		**Pn**	**23 40 27.0**	**+1.3**
PB01	**IPOC Station P**	**3.71 324**	*eP*	**Pn**	**23 40 27.1**	**+1.4**
PB01			*eS*	**S**	**23 41 13.0**	**-1.3**
PB02	**IPOC Station P**	**3.73 317**		**Pn**	**23 40 26.5**	**+0.5**
PB02	**IPOC Station P**	**3.73 317**	*eP*	**Pn**	**23 40 27.4**	**+1.4**
PB02			*eS*	**S**	**23 41 13.6**	**-1.1**
AC01	**Pan de Azucar**	**3.76 236**	Pn	**Pn**	**23 40 27.6**	**+1.5**
AC01	**Pan de Azucar**	**3.76 236**	*eP*	**Pn**	**23 40 27.5**	**+1.5**
AC01			*eS*	**S**	**23 41 13.8**	**-1.2**
PATCX	**Punta Patache**	**4.26 319**	Pn	**Pn**	**23 40 33.1**	**+1.0**
PB08	**IPOC Station P**	**4.33 334**		**Pn**	**23 40 35.2**	**+2.1**
PB08	**IPOC Station P**	**4.33 334**	*eP*	**Pn**	**23 40 35.4**	**+2.3**
PB08			*eS*	**S**	**23 41 28.5**	**+0.8**
AC06	**Mina Casimiro**	**4.38 221**	Pn	**Pn**	**23 40 34.2**	**+0.9**
TA01	**Diego Aracena**	**4.48 320**	Pn	**Pn**	**23 40 35.9**	**+1.4**
GO03	**Copiap**	**4.49 218**		**Pn**	**23 40 35.2**	**+0.6**
TA02	**Huaiquique**	**4.68 323**	Pn	**Pn**	**23 40 37.1**	**+0.2**
GO01	**Chusmiza**	**4.77 336**		**Pn**	**23 40 39.6**	**+1.1**
PB11	**IPOC Station P**	**4.88 331**	Pn	**Pn**	**23 40 39.8**	**+0.4**
PB11				**S**	**23 41 38.1**	**-1.2**
PSGCX	**Pisagua**	**5.24 328**	Pn	**Pn**	**23 40 44.3**	**+0.5**
MNMC	**Minye Minye**	**5.42 335**	Pn	**Pn**	**23 40 47.3**	**+1.2**
AC04	**Llanos de Chal**	**5.43 220**	Pn	**Pn**	**23 40 46.7**	**+0.8**
AC05	**El Transito**	**5.52 210**	Pn	**Pn**	**23 40 48.0**	**+0.9**
LCO	**Las Campanas**	**5.87 212**	Pn	**Pn**	**23 40 52.0**	**+0.4**
PB16	**IPOC Station P**	**6.11 338**	Pn	**Pn**	**23 40 54.8**	**-0.2**
PB12	**IPOC Station P**	**6.18 331**	Pn	**Pn**	**23 40 56.3**	**+0.9**
PZH	**PanZhiHua**	**169.65 74**	PKP	**PKPdf**	**23 59 00.1**	**-1.4**

WEL ***17*** *23:42:00,41˙.93S×174˙.08E,h18km,ML4.1,Mw4.0, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁵ Nm; Mrr1.19; Mθθ0.04; Mϕϕ-1.23; Mrθ-0.42; Mϕθ-0.42; Mϕr0.10; Fault plane solution: M₀1.35000×10¹⁵ NP1: ϕs358.00000°,δ48.00000°,λ62.00000°. NP2: ϕs216.00000°,δ49.00000°,λ117.00000°. Principal axes: T 135.0200, Plg70.0000°, Azm196.0000°; N 0.8700, Plg20.0000°. Azm17.0000°; P -135.8900, Plg1.0000°, Azm287.0000°;*

IDC ***17*** *23:42:13.4±1.2,41˙.65S×174˙.04E,h0km,mb4.0/5, mbtmp4.1/6,ML4.8/1,MS3.3/1 Error ellipse: s-maj=38.6km s-min=23.2km az=63.0*

WEL ***17*** *23:42:17.5±0.3,42˙S±3˙×17˙4E±˙,h12km±2km,M4.1/43, ML4.5/15,MLv4.1/43,Error ellipse: s-maj=0.0km s-min=0.0km az=122.8*

NOU ***17*** *23:42:17.9,42˙.13S×174˙.20E,h22km,MLv4.7/12, Off E. Coast of S. Island, N.Z.*

NEIC ***17*** *23:42:17.5,41˙.92S×174˙.06E,h17km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.21; Mθθ-0.07; Mϕϕ-1.14; Mrθ-0.19; Mϕθ-0.43; Mϕr-0.06; Fault plane solution: M₀1.27000×10¹⁵ NP1:ϕs11.24000°, δ42.79000°,λ78.19000°. NP2:ϕs207.14000°,δ48.33000°, λ100.72000°. Principal axes: T 1.2394, Plg82.0000°, Azm180.0000°; N 0.0563, Plg8.0000°, Azm20.0000°; P -1.2957, Plg3.0000°, Azm290.0000°;*

NEIC ***17*** *23:42:17.4±2.5,41˙.93S±0˙.02×174˙.06E±0˙.03,h19km±3km, mb4.3/4,Mwr4.0/33 Error ellipse: s-maj=3.9km s-min=0.9km az=130.0*

ISC 17 23:42:17.2±0.6,**41˚98S**±0˙.03×**174˚09E**±0˙.03,**h21**km±1km, **n167**,σ1ᵗ**25**/180,**mb4.2**/6,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.25**	**22**		**Pb**	**23 42 23.2**	**-0.3**
CMWZ				Sg	**Sb**	**23 42 28.5**	**+0.8**
CMWZ	**Cape Campbell**	**0.25**	**22**	P	**Pb**	**23 42 23.1**	**-0.3**
CMWZ				S	**Sb**	**23 42 28.2**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.31**	**329**	Pg	**Pb**	**23 42 23.0**	**-1.1**
BSWZ				Sg	**Sb**	**23 42 27.2**	**-1.5**
BSWZ	**Blackbirch Sta**	**0.31**	**329**	P	**Pb**	**23 42 22.9**	**-1.2**
TUWZ	**Tuamarina**	**0.56**	**349**		**Pb**	**23 42 27.6**	**-0.9**
TUWZ				Sg	**Sb**	**23 42 35.2**	**-1.0**
TUWZ	**Tuamarina**	**0.56**	**349**	P	**Pb**	**23 42 27.6**	**-0.9**
TUWZ				S	**Sb**	**23 42 35.0**	**-1.1**
KHZ	**Kahutara**	**0.59**	**223**	Pg	**Pn**	**23 42 30.3**	**-0.2**
KHZ				Sg	**Sn**	**23 42 40.1**	**+0.7**
KHZ	**Kahutara**	**0.59**	**223**	P	**Pn**	**23 42 30.4**	**0.0**
KHZ	**Kahutara**	**0.59**	**223**	P	**Pn**	**23 42 30.1**	**-0.3**
KHZ				S	**Sn**	**23 42 39.7**	**+0.3**
TCW	**Tory Channel**	**0.79**	**10**		**Pb**	**23 42 31.6**	**-0.6**
TCW				Sn	**Sb**	**23 42 42.6**	**+0.2**
TCW	**Tory Channel**	**0.79**	**10**	P	**Pb**	**23 42 31.6**	**-0.6**
SNZO	**South Karori**	**0.82**	**35**		**Pn**	**23 42 33.4**	**-0.1**
SNZO				Sn	**Sn**	**23 42 45.5**	**+0.6**
SNZO	**South Karori**	**0.82**	**35**	P	**Pn**	**23 42 34.0**	**+0.5**
WEL	**Wellington**	**0.87**	**36**	P	**Pn**	**23 42 34.4**	**+0.2**
THZ	**Tophouse**	**0.91**	**284**		**Pb**	**23 42 34.1**	**-0.3**
THZ	**Tophouse**	**0.91**	**284**	P	**Pb**	**23 42 34.1**	**-0.3**
NNZ	**Nelson**	**0.93**	**325**		**Pb**	**23 42 33.9**	**-0.8**
NNZ				Sn	**Sb**	**23 42 45.1**	**-1.5**
NNZ	**Nelson**	**0.93**	**325**	P	**Pb**	**23 42 33.9**	**-0.8**
PLWZ	**Palliser**	**0.97**	**65**		**Pn**	**23 42 35.6**	**-0.1**
PLWZ	**Palliser**	**0.97**	**65**	P	**Pn**	**23 42 35.5**	**-0.2**
MSWZ	**Moikau Station**	**1.04**	**57**		**Pb**	**23 42 36.4**	**-0.1**
MSWZ					**Sn**	**23 42 51.1**	**+0.6**
MSWZ	**Moikau Station**	**1.04**	**57**	P	**Pn**	**23 42 36.5**	**0.0**
CAW	**Cannon Point**	**1.14**	**40**	P	**Pn**	**23 42 38.2**	**-0.1**
MRNZ	**Matariki Terra**	**1.16**	**300**		**Pb**	**23 42 38.3**	**-0.2**
MRNZ					**Sn**	**23 42 54.8**	**+1.4**
MRNZ	**Matariki Terra**	**1.16**	**300**	P	**Pb**	**23 42 38.3**	**-0.2**
PAWZ	**Paruwai Farm**	**1.17**	**59**	P	**Pn**	**23 42 38.1**	**-0.3**
DUWZ	**D'Urville Isla**	**1.19**	**354**	P	**Pn**	**23 42 38.3**	**-0.3**
GVZ	**Greta Valley S**	**1.25**	**218**	Pn	**Pb**	**23 42 40.2**	**0.0**
GVZ	**Greta Valley S**	**1.25**	**218**	P	**Pb**	**23 42 40.1**	**0.0**
TKNZ	**Takaka Hill**	**1.27**	**318**		**Pn**	**23 42 39.6**	**-0.2**
TKNZ	**Takaka Hill**	**1.27**	**318**	P	**Pn**	**23 42 39.8**	**0.0**
KIW	**Kapiti Island**	**1.28**	**29**	P	**Pb**	**23 42 40.3**	**-0.3**
TRWZ	**Traveller**	**1.33**	**64**	P	**Pn**	**23 42 40.1**	**-0.5**
MTW	**Mount Morrison**	**1.34**	**53**	P	**Pn**	**23 42 40.4**	**-0.4**
OGWZ	**Otaki Gorge**	**1.42**	**35**	P	**Pn**	**23 42 42.0**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.53**	**45**	P	**Pn**	**23 42 42.9**	**-0.4**
LTZ	**Lake Taylor**	**1.56**	**239**	Pn	**Pn**	**23 42 44.6**	**+0.7**
LTZ	**Lake Taylor**	**1.56**	**239**	P	**Pn**	**23 42 44.5**	**+0.7**
AMCZ	**Amberley**	**1.60**	**221**		**Pb**	**23 42 44.4**	**+0.2**
AMCZ	**Amberley**	**1.60**	**221**	P	**Pb**	**23 42 44.4**	**+0.2**
TMWZ	**Te Maipa**	**1.61**	**58**	P	**Pb**	**23 42 43.8**	**-0.7**
QRZ	**Quartz Range**	**1.65**	**314**		**Pb**	**23 42 46.2**	**-0.7**
QRZ	**Quartz Range**	**1.65**	**314**	P	**Pb**	**23 42 46.5**	**-0.4**
QRZ	**Quartz Range**	**1.65**	**314**	P	**Pb**	**23 42 46.2**	**-0.7**
DSZ	**Denniston Nort**	**1.72**	**277**		**Pb**	**23 42 47.2**	**-1.0**
DSZ	**Denniston Nort**	**1.72**	**277**	P	**Pb**	**23 42 47.2**	**-1.0**
MRZ	**Mangatainoka R**	**1.73**	**41**	Pn	**Pn**	**23 42 45.9**	**-0.3**
MRZ	**Mangatainoka R**	**1.73**	**41**	P	**Pn**	**23 42 45.8**	**-0.3**
TIWZ	**Tintock**	**1.81**	**49**	P	**Pn**	**23 42 46.8**	**-0.4**
OKCZ	**Okains Bay**	**1.90**	**203**	P	**Pn**	**23 42 48.2**	**-0.2**
OHWZ	**Ohakea**	**2.00**	**28**	P	**Pb**	**23 42 51.6**	**-1.4**
PRWZ	**Pori Road**	**2.01**	**45**	P	**Pn**	**23 42 49.5**	**-0.5**
MQZ	**McQueen's Vall**	**2.02**	**211**	Pn	**Pn**	**23 42 49.0**	**-1.0**
MQZ	**McQueen's Vall**	**2.02**	**211**	P	**Pn**	**23 42 49.1**	**-1.0**
OXZ	**Oxford**	**2.02**	**228**	Pn	**Pn**	**23 42 49.6**	**-0.5**
OXZ	**Oxford**	**2.02**	**228**	P	**Pn**	**23 42 49.6**	**-0.5**
POWZ	**Post Office Ro**	**2.03**	**39**	P	**Pn**	**23 42 50.1**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.08**	**204**	P	**Pn**	**23 42 50.5**	**-0.3**
BFZ	**Birch Farm**	**2.08**	**52**		**Pn**	**23 42 50.1**	**-0.8**
BFZ	**Birch Farm**	**2.08**	**52**	P	**Pn**	**23 42 50.3**	**-0.6**
BFZ	**Birch Farm**	**2.08**	**52**	P	**Pn**	**23 42 49.9**	**-1.1**
INZ	**Inchbonnie**	**2.10**	**248**		**Pn**	**23 42 52.0**	**+0.9**
INZ	**Inchbonnie**	**2.10**	**248**	P	**Pn**	**23 42 51.8**	**+0.8**
RACZ	**Rakaia**	**2.26**	**219**	P	**Pn**	**23 42 52.6**	**-0.7**
DVHZ	**Dannevirke**	**2.30**	**44**	P	**Pn**	**23 42 52.7**	**-1.2**
WAZ	**Wanganui**	**2.33**	**17**	P	**Pn**	**23 42 56.0**	**+1.7**
ANWZ	**Angora Road**	**2.36**	**51**	P	**Pn**	**23 42 54.0**	**-0.7**
TSZ	**Takapari Road**	**2.39**	**37**	P	**Pn**	**23 42 54.7**	**-0.5**
MHCZ	**Mount Hutt**	**2.42**	**229**	P	**Pn**	**23 42 54.9**	**-0.6**
WACZ	**Wakanui South**	**2.56**	**216**	P	**Pn**	**23 42 56.8**	**-0.7**
NMEZ	**Namu Road**	**2.57**	**356**	P	**Pb**	**23 43 02.6**	**-0.1**
PRHZ	**Porangahau**	**2.58**	**49**	P	**Pn**	**23 42 56.4**	**-1.3**
PNHZ	**Pukenui**	**2.62**	**38**	P	**Pn**	**23 42 57.3**	**-0.9**
WPHZ	**Waipukurau**	**2.62**	**44**	P	**Pn**	**23 42 57.4**	**-0.9**
PREZ	**Palmer Road**	**2.64**	**1**	P	**Pb**	**23 43 03.2**	**-0.6**
KHEZ	**Kahui Hut**	**2.69**	**359**	P	**Pb**	**23 43 03.5**	**-1.2**
KHEZ	**Kahui Hut**	**2.69**	**359**	P	**Pb**	**23 43 02.4**	**-2.3**
WVZ	**Waitaha Valley**	**2.71**	**245**	P	**Pn**	**23 43 00.1**	**+0.6**
NEZ	**North Egmont**	**2.71**	**0**	P	**Pb**	**23 43 03.2**	**-1.8**
NBEZ	**Newall Road No**	**2.72**	**356**	P	**Pb**	**23 43 03.5**	**-1.6**
PKE	**Pukeiti**	**2.79**	**358**	P	**Pb**	**23 43 03.7**	**-2.6**
DREZ	**Durham Road**	**2.79**	**2**	P	**Pb**	**23 43 04.8**	**-1.6**
MTVZ	**Mangateitei**	**2.80**	**22**	P	**Pn**	**23 43 02.7**	**+1.8**
RPZ	**Rata Peaks**	**2.82**	**231**	Pn	**Pn**	**23 43 01.1**	**-0.1**
	118nm,0.3s,baz=93,slow=1.4,SNR=251						
RPZ				Sn	**Sn**	**23 43 34.1**	**-0.4**
	101nm,0.3s,baz=158,slow=24,SNR=20						
	325nm,0.3s						
RPZ	**Rata Peaks**	**2.82**	**231**	Pn	**Pn**	**23 43 00.8**	**-0.3**
RPZ	**Rata Peaks**	**2.82**	**231**	P	**Pn**	**23 43 01.0**	**-0.1**
RPZ	**Rata Peaks**	**2.82**	**231**	P	**Pn**	**23 43 01.0**	**-0.2**
PKVZ	**Pokaka**	**2.86**	**20**	P	**Pn**	**23 43 03.1**	**+1.4**
MOVZ	**Moawhango**	**2.87**	**27**	P	**Pn**	**23 43 02.1**	**+0.3**
WNVZ	**Wahianoa**	**2.89**	**24**	P	**Pn**	**23 43 03.6**	**+1.4**
ARCZ	**Arundel**	**2.90**	**226**	P	**Pn**	**23 43 01.6**	**-0.6**
VRZ	**Vera Road**	**2.90**	**10**	P	**Pn**	**23 43 04.2**	**+2.0**
TRVZ	**Turoa**	**2.90**	**23**	P	**Pn**	**23 43 03.7**	**+1.2**
BHHZ	**Black Hill Sta**	**2.91**	**32**	P	**Pn**	**23 43 02.4**	**0.0**
DRZ	**Dome Shelter**	**2.93**	**23**	P	**Pb**	**23 43 08.6**	**-0.3**
WHWZ	**Whangaehu Hut**	**2.93**	**23**	P	**Pn**	**23 43 04.1**	**+1.4**
FWVZ	**Far West T-bar**	**2.94**	**23**	P	**Pn**	**23 43 04.2**	**+1.2**
TUVZ	**Tukino**	**2.96**	**24**	P	**Pn**	**23 43 04.6**	**+1.4**
NGZ	**Ngauruhoe**	**3.03**	**23**	P	**Pn**	**23 43 05.4**	**+1.3**
SNVZ	**South Ngauruho**	**3.04**	**23**	P	**Pn**	**23 43 05.1**	**+0.9**
KAHZ	**Kahuranaki**	**3.04**	**45**	P	**Pn**	**23 43 02.4**	**-1.8**
OTVZ	**Oturere**	**3.06**	**24**	P	**Pn**	**23 43 06.1**	**+1.6**
GCSZ	**Gaunt Creek Bo**	**3.08**	**243**	P	**Pn**	**23 43 05.3**	**+0.7**
NNVZ	**North Ngauruho**	**3.08**	**23**	P	**Pn**	**23 43 06.1**	**+1.3**
WTVZ	**West Tongariro**	**3.09**	**22**	P	**Pb**	**23 43 11.6**	**+0.1**
TWVZ	**Taurewa**	**3.09**	**20**	P	**Pn**	**23 43 05.9**	**+1.1**
ETVZ	**East Tongariro**	**3.10**	**24**	P	**Pn**	**23 43 07.4**	**+2.4**
KWHZ	**Kaweka Forest**	**3.11**	**36**	P	**Pn**	**23 43 04.1**	**-1.0**
TMVZ	**Te Maari**	**3.12**	**24**	P	**Pn**	**23 43 06.5**	**+1.2**
NTVZ	**North Tongarir**	**3.13**	**23**	P	**Pn**	**23 43 06.2**	**+0.8**
KATZ	**Kakaramea**	**3.25**	**23**	P	**Pb**	**23 43 14.2**	**0.0**
TMZ	**Timaru**	**3.29**	**222**	P	**Pn**	**23 43 06.9**	**-0.7**
BKZ	**Black Stump Fm**	**3.36**	**34**		**Pn**	**23 43 09.7**	**+1.2**
BKZ	**Black Stump Fm**	**3.36**	**34**	P	**Pn**	**23 43 07.3**	**-1.2**
FOZ	**Fox Glacier**	**3.51**	**242**		**Pn**	**23 43 10.7**	**+0.2**
FOZ	**Fox Glacier**	**3.51**	**242**	P	**Pn**	**23 43 11.2**	**+0.7**
HIZ	**Hauiti**	**3.52**	**10**		**Pn**	**23 43 11.6**	**+1.0**
HIZ	**Hauiti**	**3.52**	**10**	P	**Pn**	**23 43 12.5**	**+1.9**
HIZ	**Hauiti**	**3.52**	**10**	P	**Pn**	**23 43 12.6**	**+2.0**
LBZ	**Lake Benmore**	**3.73**	**229**		**Pn**	**23 43 13.4**	**-0.1**
LBZ	**Lake Benmore**	**3.73**	**229**	P	**Pn**	**23 43 13.3**	**-0.3**
MTHZ	**Maungataniwha**	**3.77**	**35**	P	**Pn**	**23 43 13.8**	**-0.3**
TLZ	**Tolley Road**	**3.82**	**17**	P	**Pn**	**23 43 18.9**	**+4.1**
ODZ	**Otahua Downs**	**3.95**	**218**		**Pn**	**23 43 15.8**	**-0.8**
ODZ	**Otahua Downs**	**3.95**	**218**	P	**Pn**	**23 43 15.8**	**-0.8**
ODZ	**Otahua Downs**	**3.95**	**218**	P	**Pn**	**23 43 15.6**	**-1.0**
TOZ	**Tahuroa Road**	**4.38**	**15**	P	**Pn**	**23 43 23.6**	**+1.0**
JCZ	**Jackson Bay**	**4.41**	**240**	P	**Pn**	**23 43 23.1**	**+0.1**
JCZ	**Jackson Bay**	**4.41**	**240**	P	**Pn**	**23 43 22.7**	**-0.3**
HHSZ	**Highcliff Hill**	**4.64**	**212**	P	**Pn**	**23 43 25.8**	**-0.3**
WKZ	**Wanaka**	**4.66**	**231**		**Pn**	**23 43 26.7**	**-0.7**
WKZ	**Wanaka**	**4.66**	**231**	P	**Pn**	**23 43 25.9**	**-0.5**
EAZ	**Earnscleugh**	**4.75**	**225**	P	**Pn**	**23 43 26.9**	**-0.7**
RUGZ	**Raukumara Rang**	**4.87**	**36**	P	**Pn**	**23 43 27.3**	**-2.0**
AWAZ	**Awhitu Peninsu**	**4.93**	**5**	P	**Pn**	**23 43 32.4**	**+2.3**
MKAZ	**Moumakai**	**4.94**	**10**	P	**Pn**	**23 43 31.7**	**+1.4**
WTAZ	**Waiatarua**	**5.06**	**4**	P	**Pn**	**23 43 36.1**	**+4.3**
ETAZ	**East Tamaki Re**	**5.07**	**8**	P	**Pn**	**23 43 36.1**	**+4.2**
HAZ	**Te Kaha**	**5.09**	**35**	P	**Pn**	**23 43 32.3**	**+0.1**
TUZ	**Tuapeka**	**5.11**	**218**	P	**Pn**	**23 43 32.0**	**-0.5**
MBAZ	**Motutapu North**	**5.25**	**7**	P	**Pn**	**23 43 38.4**	**+4.0**
WIAZ	**Waiheke Island**	**5.25**	**9**	P	**Pn**	**23 43 35.9**	**+1.5**
MXZ	**Matakaoa Point**	**5.48**	**38**	Pg	**Pb**	23 43 57.5	+5.3
MLZ	**Mavora Lakes**	**5.49**	**230**		**Pn**	**23 43 37.0**	**-0.8**
MLZ	**Mavora Lakes**	**5.49**	**230**	P	**Pn**	**23 43 37.0**	**-0.8**
SYZ	**Scrubby Hill**	**5.77**	**216**	P	**Pn**	**23 43 41.9**	**+0.3**
SYZ	**Scrubby Hill**	**5.77**	**216**	P	**Pn**	**23 43 41.2**	**-0.4**
WHZ	**Wether Hill Ro**	**5.91**	**227**	Pn	**Pn**	**23 43 42.3**	**-1.2**
WHZ	**Wether Hill Ro**	**5.91**	**227**	P	**Pn**	**23 43 42.1**	**-1.4**
DCZ	**Deep Cove**	**6.11**	**333**	Pn	**Pn**	**23 43 46.0**	**-1.3**
APZ	**The Paps**	**6.52**	**220**	P	**Pn**	**23 43 51.3**	**-0.6**
OUZ	**Omahuta**	**6.76**	**357**	P	**Pn**	**23 43 59.6**	**+4.3**
PYZ	**Puysegur Point**	**6.78**	**229**	Pn	**Pn**	**23 43 53.7**	**-1.7**
CTZ	**Chatham Island**	**7.05**	**107**	P	**Pn**	**23 43 58.9**	**-0.2**
DZM	**Mont Dzumac**	**20.87**	**340**	LR	LR	23 55 10.8	
	comp=Z,81nm,19.0s,baz=13,slow=38						
ASAR	**Alice Springs**	**37.98**	**286**	P	**P**	**23 49 32.4**	**-1.3**
	0.8nm,0.4s,baz=122,slow=6.8,SNR=12						
ASAR				PcP	**PcP**	**23 51 46.5**	**-2.6**
	0.2nm,0.6s,baz=113,slow=4.3,SNR=1.6						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**40.07**	**291**	P	**P**	**23 49 49.8**	**-1.4**
	1.1nm,0.5s,baz=130,slow=8.3,SNR=28						
WRA				PcP	**PcP**	**23 51 53.6**	**-2.1**
	0.2nm,0.5s,baz=146,slow=3.0,SNR=1.8						
	1.1nm,0.5s						
QSPA	**South Pole Qui**	**48.14**	**180**	P	**P**	**23 50 58.2**	**+2.7**
	4.3nm,1.1s,baz=7.0,slow=1.9,SNR=6.5						
	4.3nm,1.1s						
QSPA	**South Pole Qui**	**48.14**	**180**	P	**P**	**23 50 57.4**	**+1.9**
QSPA				IAmb	IAmb	23 51 00.2	
	comp=Z,3.0nm,0.9s						
PSA00	**Pilbara Seismi**	**49.52**	**277**	P	**P**	**23 51 05.2**	**-1.3**
PSA00				IAmb	IAmb	23 51 11.6	
	comp=Z,3.2nm,1.1s						
MBWA	**Marble Bar**	**49.86**	**277**	P	**P**	**23 51 07.7**	**-1.3**
BELA	**Belgrano 2**	**59.13**	**173**	P	**P**	**23 52 17.4**	**+1.8**
MAW	**Mawson**	**59.19**	**205**	P	**P**	**23 52 17.8**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=101,slow=5.2,SNR=2.0						
	comp=Z,1.1nm,0.6s						
SNAA	**Sanae**	**66.63**	**181**	P	**P**	**23 53 07.3**	**+1.7**
	comp=Z,1.8nm,1.0s,baz=162,slow=6.4,SNR=9.0						
	comp=Z,1.8nm,1.0s						
ARCES	**ARCESS Array B**	**147.96**	**340**	PKPbc	**PKPbc**	**00 01 58.7**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=40,slow=2.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**150.52**	**195**	PKPbc	**PKiKP**	**00 02 08.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=161,slow=2.4,SNR=11						
FINES	**FINESS Array B**	**152.66**	**326**	PKPbc	**PKPbc**	**00 02 09.3**	**-1.9**
	comp=Z,1.4nm,0.7s,baz=45,slow=2.2,SNR=5.4						

IDC ***17*** *23:54:14.9±2.6,42˙.44S×173˙.67E,h0km,mb3.5/2, mbtmp3.6/3,MS2.1/1,Error ellipse: s-maj=51.5km s-min=38.8km az=129.0*

NOU ***17*** *23:54:16.0,42˙.58S×173˙.80E,h0km,MLv4.1/8,South Island, New Zealand*

WEL ***17*** *23:54:18.1±0.6,42˙S±3˙×17˙4E±˙,h5km,M3.7/39, ML4.0/12,MLv3.7/39,Error ellipse: s-maj=0.0km s-min=0.0km az=130.5*

ISC 17 23:54:15.4±1.4,**42˚53S**±0˙.03×**173˚84E**±0˙.04,**h7**km±10km, **n84**,σ1ᵗ**39**/86,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.25**	**297**	P	**Pg**	**23 54 20.6**	**+0.3**
KHZ	**Kahutara**	**0.25**	**297**	P	**Pg**	**23 54 20.5**	**+0.1**
KHZ				S	**Sg**	**23 54 23.1**	**-0.5**
GVZ	**Greta Valley S**	**0.74**	**233**	P	**Pn**	**23 54 33.1**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.81**	**2**	P	**Pg**	**23 54 31.9**	**+0.9**
THZ	**Tophouse**	**1.03**	**317**	P	**Pg**	**23 54 35.0**	**-0.3**
AMCZ	**Amberley**	**1.09**	**233**	P	**Pn**	**23 54 38.1**	**+1.1**
TUWZ	**Tuamarina**	**1.10**	**4**	P	**Pb**	**23 54 37.3**	**+0.6**
LTZ	**Lake Taylor**	**1.19**	**257**	P	**Pn**	**23 54 38.7**	**+0.3**
OKCZ	**Okains Bay**	**1.32**	**205**	P	**Pg**	**23 54 41.7**	**+0.9**
NNZ	**Nelson**	**1.36**	**345**	P	**Pn**	**23 54 40.9**	**+0.2**
TCW	**Tory Channel**	**1.36**	**14**	P	**Pn**	**23 54 40.7**	**0.0**
MRNZ	**Matariki Terra**	**1.39**	**324**	P	**Pb**	**23 54 41.6**	**0.0**
WEL	**Wellington**	**1.42**	**29**	P	**Pn**	**23 54 42.4**	**+0.7**
MQZ	**McQueen's Vall**	**1.46**	**216**	P	**Pn**	**23 54 42.5**	**+0.3**
AKCZ	**Akaroa Harbour**	**1.50**	**207**	P	**Pb**	**23 54 43.9**	**+0.2**
MSWZ	**Moikau Station**	**1.53**	**44**	P	**Pn**	**23 54 43.3**	**+0.2**
OXZ	**Oxford**	**1.54**	**238**	P	**Pn**	**23 54 43.4**	**+0.1**
TKNZ	**Takaka Hill**	**1.63**	**336**	P	**Pb**	**23 54 45.4**	**-0.4**
PAWZ	**Paruwai Farm**	**1.65**	**46**	P	**Pn**	**23 54 44.8**	**0.0**
DSZ	**Denniston Nort**	**1.71**	**297**	P	**Pb**	**23 54 46.0**	**-1.1**
RACZ	**Rakaia**	**1.73**	**226**	P	**Pn**	**23 54 46.3**	**+0.5**
DUWZ	**D'Urville Isla**	**1.73**	**2**	P	**Pn**	**23 54 47.5**	**0.0**
INZ	**Inchbonnie**	**1.78**	**263**	P	**Pn**	**23 54 47.0**	**+0.5**
TRWZ	**Traveller**	**1.78**	**51**	P	**Pn**	**23 54 46.9**	**+0.4**
MTW	**Mount Morrison**	**1.85**	**43**	P	**Pn**	**23 54 47.4**	**0.0**
KIW	**Kapiti Island**	**1.85**	**26**	P	**Pn**	**23 54 48.2**	**+0.7**
MHCZ	**Mount Hutt**	**1.94**	**238**	P	**Pn**	**23 54 48.9**	**0.0**
QRZ	**Quartz Range**	**1.97**	**330**	P	**Pb**	**23 54 50.6**	**-0.9**
QRZ	**Quartz Range**	**1.97**	**330**	P	**Pb**	**23 54 50.3**	**-1.1**
OGWZ	**Otaki Gorge**	**1.98**	**31**	P	**Pn**	**23 54 49.7**	**+0.

GCSZ	Gaunt Creek Bo	2.44	248	P		Pn	00 07 11.7	+0.2
BFZ	Birch Farm	2.75	51	P		Pn	00 07 12.8	-2.9
LBZ	Lake Benmore	3.06	229	P		Pn	00 07 18.5	-1.6
KHEZ	Kahui Hut	3.17	8	P		Pn	00 07 24.3	+2.7
PKE	Pukeiti	3.26	8	P		Pn	00 07 25.6	+2.7
ODZ	Otahua Downs	3.30	217	P		Pn	00 07 20.4	-2.9
WNVZ	Wahianoa	3.51	29	P		Pn	00 07 25.9	-0.6
TRVZ	Turoa	3.52	28	P		Pn	00 07 25.7	-0.9
FWVZ	Far West T-bar	3.56	28	P		Pn	00 07 26.8	-0.3
NGZ	Ngauruhoe	3.65	28	P		Pb	00 07 32.4	-3.7
JCZ	Jackson Bay	3.77	243	P		Pn	00 07 30.2	+0.4
HIZ	Hauiti	4.07	16	P		Pn	00 07 34.0	+0.1
AWAZ	Awhitu Peninsu	5.44	10	P		Pn	00 07 52.8	0.0
MKAZ	Moumakai	5.49	15	P		Pn	00 07 52.7	-0.7

WEL ***18*** *00:08:00, 41.˙68S×174.˙40E, h19km, ML4.5, Mw4.2, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15} Nm; M_{rr}0.97; $M_{\theta\theta}$1.45; $M_{\phi\phi}$-2.42; $M_{r\theta}$0.03; $M_{\theta\phi}$-1.58; $M_{\phi r}$-0.33; Fault plane solution: $M_0$2.52000×10^{15} NP1: ϕ_s65.00000°, δ81.00000°, λ178.00000°. NP2: ϕ_s155.00000°, δ88.00000°, λ9.00000°. Principal axes: T -300.2200, Plg8.0000°, Azm20.0000°; N 203.1300, Plg81.0000°, Azm167.0000°; P 97.1000, Plg5.0000°, Azm290.0000°;*

IDC ***18*** *00:08:44.1±1.8, 41.˙62S×174.˙34E, h0km, mb3.7/2, mbtmp3.8/3, ML4.0/1, MS3.4/5 Error ellipse: s-maj=47.6km s-min=41.6km az=165.0*

NOU ***18*** *00:08:46.2, 41.˙83S×174.˙52E, h10km, MLv4.8/14, Cook Strait, New Zealand*

WEL ***18*** *00:08:47.4±0.3, 42.˚S±3.˚×17.˚4E±.˚, h9km±3km, M4.5/48, ML4.8/22, MLv4.5/48, Error ellipse: s-maj=0.0km s-min=0.0km az=153.1*

NEIC ***18*** *00:08:48, 41.˚69S×174.˚36E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.17; $M_{\theta\theta}$-1.66; $M_{\phi\phi}$ 1.83; $M_{r\theta}$-0.28; $M_{\theta\phi}$0.99; $M_{\phi r}$0.44; Fault plane solution: $M_0$2.08000×10^{15} NP1:ϕ_s150.22000°, δ87.67000°, λ-165.25000°. NP2:ϕ_s59.61000°, δ75.27000°, λ-2.41000°. Principal axes: T 2.1476, Plg9.0000°, Azm284.0000°; N -0.1397, Plg75.0000°, Azm159.0000°; P -2.0079, Plg12.0000°, Azm16.0000°;*

NEIC ***18*** *00:08:48.1±2.1, 41.˙66S±0.˙02×174.˙35E±0.˙02, h17km±4km, mb4.5/6, Mwr4.1/34 Error ellipse: s-maj=2.9km s-min=1.9km az=145.0*

ISC 18 00:08:46.5±1.1**, 41.˙77S**±0.˙03×**174.˙44E**±0.˙02**, h12**km±7km**, n12, σ1§15/177, mb4.4**/6**, MS3.3**/5**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**277**		**Pb**	**00 08 51.5**	**-0.1**
CMWZ				Sg	**Sb**	**00 08 55.5**	**+2.3**
CMWZ	**Cape Campbell**	**0.17**	**277**	P	**Pg**	**00 08 51.4**	**+0.9**
CMWZ				S	**Sb**	**00 08 55.8**	**+2.6**
BSWZ	**Blackbirch Sta**	**0.43**	**277**	Pg	**Pb**	**00 08 55.8**	**-0.2**
BSWZ				Sg	**Sb**	**00 09 02.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.43**	**277**	P	**Pg**	**00 08 55.5**	**+0.6**
BSWZ				S	**Sb**	**00 09 02.2**	**-0.2**
SNZO	**South Karori**	**0.50**	**23**		**Pg**	**00 08 56.6**	**+0.4**
SNZO	**South Karori**	**0.50**	**23**	P	**Pg**	**00 08 56.7**	**+0.4**
TUWZ	**Tuamarina**	**0.51**	**312**		**Pg**	**00 08 56.4**	**-0.1**
TUWZ				Sg	**Sg**	**00 09 03.1**	**0.0**
TUWZ	**Tuamarina**	**0.51**	**312**	P	**Pg**	**00 08 56.3**	**-0.1**
TUWZ				S	**Sg**	**00 09 03.2**	**0.0**
WEL	**Wellington**	**0.54**	**27**	P	**Pg**	**00 08 57.6**	**+0.5**
TCW	**Tory Channel**	**0.57**	**347**		**Pg**	**00 08 57.3**	**-0.3**
TCW				Sg	**Sg**	**00 09 03.9**	**-1.3**
TCW	**Tory Channel**	**0.57**	**347**	P	**Pg**	**00 08 57.4**	**-0.3**
TCW				S	**Sg**	**00 09 04.7**	**-0.6**
PLWZ	**Palliser**	**0.64**	**72**	Pg	**Pn**	**00 09 01.1**	**-0.3**
PLWZ				Sg	**Sn**	**00 09 12.8**	**+1.2**
PLWZ	**Palliser**	**0.64**	**72**	P	**Pn**	**00 09 01.3**	**-0.1**
MSWZ	**Moikau Station**	**0.70**	**60**	Pg	**Pb**	**00 08 57.8**	**+0.7**
MSWZ					**Sn**	**00 09 14.7**	**+1.8**
MSWZ	**Moikau Station**	**0.70**	**60**	P	**Pb**	**00 09 01.6**	**+1.0**
CAW	**Cannon Point**	**0.81**	**36**	P	**Pb**	**00 09 02.3**	**-0.2**
PAWZ	**Paruwai Farm**	**0.83**	**63**	P	**Pn**	**00 09 04.0**	**0.0**
KHZ	**Kahutara**	**0.93**	**226**		**Pn**	**00 09 05.8**	**+0.4**
KHZ					**Sn**	**00 09 20.2**	**+1.5**
KHZ	**Kahutara**	**0.93**	**226**	P	**Pn**	**00 09 06.1**	**+0.7**
KHZ	**Kahutara**	**0.93**	**226**	P	**Pn**	**00 09 05.9**	**+0.5**
NNZ	**Nelson**	**0.97**	**304**		**Pb**	**00 09 04.6**	**-0.6**
NNZ	**Nelson**	**0.97**	**304**	P	**Pb**	**00 09 04.6**	**-0.6**
KIW	**Kapiti Island**	**0.97**	**21**	P	**Pb**	**00 09 04.8**	**-0.5**
MTW	**Mount Morrison**	**1.00**	**53**	P	**Pb**	**00 09 06.3**	**+0.5**
TRWZ	**Traveller**	**1.00**	**69**	P	**Pb**	**00 09 06.2**	**+0.4**
DUWZ	**D'Urville Isla**	**1.04**	**338**	P	**Pb**	**00 09 06.2**	**-0.3**
OGWZ	**Otaki Gorge**	**1.10**	**30**	P	**Pb**	**00 09 07.1**	**-0.3**
THZ	**Tophouse**	**1.15**	**270**	Pn	**Pg**	**00 09 08.6**	**0.0**
THZ	**Tophouse**	**1.15**	**270**	P	**Pg**	**00 09 08.7**	**0.0**
HOWZ	**Holdsworth Sta**	**1.19**	**43**	P	**Pn**	**00 09 08.8**	**-0.2**
TMWZ	**Te Maipa**	**1.27**	**59**	P	**Pn**	**00 09 09.8**	**-0.3**
MRNZ	**Matariki Terra**	**1.32**	**286**		**Pb**	**00 09 11.2**	**0.0**
MRNZ	**Matariki Terra**	**1.32**	**286**	P	**Pb**	**00 09 11.6**	**+0.1**
TKNZ	**Takaka Hill**	**1.34**	**303**		**Pb**	**00 09 11.0**	**-0.5**
TKNZ	**Takaka Hill**	**1.34**	**303**	P	**Pb**	**00 09 11.1**	**-0.4**
MRZ	**Mangatainoka R**	**1.40**	**38**		**Pn**	**00 09 11.8**	**0.0**
MRZ	**Mangatainoka R**	**1.40**	**38**	P	**Pn**	**00 09 11.8**	**0.0**
TIWZ	**Tintock**	**1.47**	**48**	P	**Pn**	**00 09 12.4**	**-0.4**
GVZ	**Greta Valley S**	**1.59**	**221**	Pn	**Pn**	**00 09 13.2**	**-1.2**
PRWZ	**Pori Road**	**1.67**	**44**	P	**Pn**	**00 09 15.3**	**-0.3**
OHWZ	**Ohakea**	**1.70**	**23**	P	**Pb**	**00 09 17.3**	**-0.3**
POWZ	**Post Office Ro**	**1.70**	**36**	P	**Pn**	**00 09 15.8**	**-0.2**
QRZ	**Quartz Range**	**1.72**	**303**	Pn	**Pb**	**00 09 17.5**	**-0.5**
QRZ	**Quartz Range**	**1.72**	**303**	P	**Pb**	**00 09 17.8**	**-0.3**
QRZ	**Quartz Range**	**1.72**	**303**	P	**Pb**	**00 09 17.4**	**-0.6**
BFZ	**Birch Farm**	**1.74**	**52**	Pg	**Pg**	**00 09 21.2**	**+1.3**
BFZ	**Birch Farm**	**1.74**	**52**	P	**Pn**	**00 09 15.9**	**-0.6**
BFZ	**Birch Farm**	**1.74**	**52**	P	**Pn**	**00 09 15.6**	**-1.0**
LTZ	**Lake Taylor**	**1.90**	**237**	Pn	**Pn**	**00 09 18.9**	**+0.1**
AMCZ	**Amberley**	**1.90**	**223**		**Pb**	**00 09 19.2**	**+0.1**
DVHZ	**Dannevirke**	**1.96**	**42**	P	**Pn**	**00 09 18.7**	**-0.9**
DSZ	**Denniston Nort**	**1.97**	**270**		**Pn**	**00 09 20.1**	**+0.3**
DSZ	**Denniston Nort**	**1.97**	**270**	P	**Pb**	**00 09 21.4**	**-1.0**
ANWZ	**Angora Road**	**2.02**	**50**	P	**Pn**	**00 09 19.3**	**-1.0**
WAZ	**Wanganui**	**2.05**	**12**	P	**Pb**	**00 09 23.6**	**-0.1**
TSZ	**Takapari Road**	**2.06**	**34**	P	**Pn**	**00 09 20.6**	**-0.4**
OKCZ	**Okains Bay**	**2.20**	**207**	P	**Pn**	**00 09 22.3**	**-0.6**
PRHZ	**Porangahau**	**2.24**	**49**	P	**Pn**	**00 09 22.3**	**-1.1**
WPHZ	**Waipukurau**	**2.28**	**42**	P	**Pn**	**00 09 24.3**	**+0.4**
PNHZ	**Pukenui**	**2.28**	**36**	P	**Pn**	**00 09 23.4**	**-0.6**
LREZ	**Lake Rotokare**	**2.31**	**359**	P	**Pb**	**00 09 27.7**	**-0.3**
MQZ	**McQueen's Vall**	**2.34**	**214**		**Pn**	**00 09 23.7**	**-1.0**
OXZ	**Oxford**	**2.36**	**228**	Pn	**Pn**	**00 09 25.0**	**0.0**
AKCZ	**Akaroa Harbour**	**2.38**	**208**	P	**Pn**	**00 09 24.7**	**-0.7**
NMEZ	**Namu Road**	**2.39**	**349**	P	**Pb**	**00 09 29.3**	**-0.2**
INZ	**Inchbonnie**	**2.42**	**246**		**Pn**	**00 09 26.8**	**+0.9**
INZ	**Inchbonnie**	**2.42**	**246**	P	**Pn**	**00 09 26.9**	**+1.1**
KHEZ	**Kahui Hut**	**2.49**	**352**	P	**Pb**	**00 09 30.1**	**-1.2**
KHEZ	**Kahui Hut**	**2.49**	**352**	P	**Pb**	**00 09 29.4**	**-1.8**
MTVZ	**Mangateitei**	**2.51**	**19**	P	**Pb**	**00 09 29.3**	**-2.1**
NEZ	**North Egmont**	**2.51**	**354**	P	**Pb**	**00 09 30.3**	**-1.2**
PXZ	**Pawanui**	**2.53**	**47**	P	**Pn**	**00 09 25.6**	**-1.7**
NBEZ	**Newall Road No**	**2.54**	**350**	P	**Pb**	**00 09 29.5**	**-2.5**
MOVZ	**Moawhango**	**2.56**	**23**	P	**Pn**	**00 09 28.0**	**+0.1**
PKVZ	**Pokaka**	**2.57**	**16**	P	**Pn**	**00 09 29.4**	**+1.4**
DREZ	**Durham Road**	**2.58**	**356**	P	**Pb**	**00 09 30.8**	**-2.0**
BHHZ	**Black Hill Sta**	**2.59**	**29**	P	**Pn**	**00 09 28.3**	**+0.1**
WNVZ	**Wahianoa**	**2.59**	**20**	P	**Pn**	**00 09 29.0**	**+0.6**
PKE	**Pukeiti**	**2.60**	**352**	P	**Pb**	**00 09 30.4**	**-2.6**
TRVZ	**Turoa**	**2.61**	**19**	P	**Pn**	**00 09 29.5**	**+0.8**
WHVZ	**Whangaehu Hut**	**2.63**	**20**	P	**Pn**	**00 09 29.8**	**+0.8**
DRZ	**Dome Shelter**	**2.63**	**19**	P	**Pn**	**00 09 30.2**	**+1.1**
FWVZ	**Far West T-bar**	**2.65**	**19**	P	**Pn**	**00 09 30.1**	**+0.8**
VRZ	**Vera Road**	**2.65**	**5**	P	**Pn**	**00 09 30.8**	**+1.7**
TUVZ	**Tukino**	**2.66**	**21**	P	**Pn**	**00 09 30.2**	**+0.8**
MHEZ	**Mangahewa**	**2.69**	**358**	P	**Pn**	**00 09 33.2**	**-1.3**
KAHZ	**Kahuranaki**	**2.70**	**44**	P	**Pn**	**00 09 28.3**	**-1.5**
NGZ	**Ngauruhoe**	**2.74**	**19**	P	**Pn**	**00 09 31.4**	**+1.0**
SNVZ	**South Ngauruho**	**2.74**	**20**	P	**Pn**	**00 09 31.2**	**+0.8**
OTVZ	**Oturere**	**2.77**	**20**	P	**Pn**	**00 09 31.6**	**+0.8**
NNVZ	**North Ngauruho**	**2.78**	**19**	P	**Pn**	**00 09 31.9**	**+0.9**
KWHZ	**Kaweka Forest**	**2.79**	**33**	P	**Pn**	**00 09 30.0**	**-1.0**
WTVZ	**West Tongariro**	**2.79**	**19**	P	**Pn**	**00 09 32.2**	**+1.1**
TWVZ	**Taurewa**	**2.80**	**16**	P	**Pn**	**00 09 32.0**	**+0.8**
ETVZ	**East Tongariro**	**2.80**	**21**	P	**Pn**	**00 09 32.3**	**+1.1**
TMVZ	**Te Maari**	**2.82**	**20**	P	**Pn**	**00 09 32.0**	**+0.6**
KRVZ	**Karewarewa**	**2.82**	**19**	P	**Pn**	**00 09 33.0**	**+1.5**
NTVZ	**North Tongarir**	**2.83**	**20**	P	**Pn**	**00 09 32.3**	**+0.7**
MCHZ	**McNeill Hill**	**2.89**	**37**	P	**Pn**	**00 09 31.2**	**-1.1**
KATZ	**Kakaramea**	**2.95**	**19**	P	**Pn**	**00 09 35.4**	**+2.1**
RITZ	**Rihia Road**	**2.99**	**22**	P	**Pb**	**00 09 39.5**	**-0.2**
BKZ	**Black Stump Fm**	**3.04**	**32**		**Pn**	**00 09 36.4**	**+2.1**
BKZ	**Black Stump Fm**	**3.04**	**32**	P	**Pn**	**00 09 32.8**	**-1.6**
BKZ	**Black Stump Fm**	**3.04**	**32**	P	**Pn**	**00 09 33.2**	**-1.2**
WVZ	**Waitaha Valley**	**3.04**	**243**	P	**Pn**	**00 09 35.1**	**+0.8**
RATZ	**Rangitukua**	**3.07**	**20**	P	**Pb**	**00 09 39.9**	**-1.2**
RPZ	**Rata Peaks**	**3.16**	**231**	Pn	**Pn**	**00 09 35.1**	**-1.0**
	17nm,0.3s,baz=38,slow=20,SNR=12						
RPZ				Sn	**Sn**	**00 10 12.0**	**-1.8**
	26nm,0.3s,baz=46,slow=16,SNR=3.2 44nm,0.3s						
RPZ	**Rata Peaks**	**3.16**	**231**	Pn	**Pn**	**00 09 36.1**	**0.0**
RPZ	**Rata Peaks**	**3.16**	**231**	P	**Pn**	**00 09 35.8**	**-0.3**
NMHZ	**Naumai**	**3.22**	**35**	P	**Pn**	**00 09 35.6**	**-1.3**
ARCZ	**Arundel**	**3.24**	**227**	P	**Pn**	**00 09 36.6**	**-0.5**
HIZ	**Hauiti**	**3.27**	**6**	Pn	**Pn**	**00 09 38.6**	**+1.1**
HIZ	**Hauiti**	**3.27**	**6**	P	**Pn**	**00 09 39.4**	**+1.9**
HIZ	**Hauiti**	**3.27**	**6**	P	**Pn**	**00 09 39.2**	**+1.6**
MRHZ	**Matea Rd**	**3.30**	**28**	P	**Pb**	**00 09 44.1**	**-0.8**
GCSZ	**Gaunt Creek Bo**	**3.41**	**242**	P	**Pn**	**00 09 41.3**	**+1.8**
MTHZ	**Maungataniwha**	**3.44**	**33**	P	**Pn**	**00 09 38.7**	**-1.3**
RAHZ	**Arahi**	**3.49**	**36**	P	**Pn**	**00 09 39.0**	**-1.7**
ALRZ	**Allen Road**	**3.52**	**25**	P	**Pb**	**00 09 42.6**	**-2.1**
TLZ	**Tolley Road**	**3.54**	**14**	P	**Pn**	**00 09 42.4**	**+1.2**
TMZ	**Timaru**	**3.63**	**223**	P	**Pn**	**00 09 41.6**	**-0.9**
HRRZ	**Handcock Road**	**3.66**	**23**	P	**Pb**	**00 09 49.2**	**-1.9**
FOZ	**Fox Glacier**	**3.84**	**241**		**Pn**	**00 09 47.6**	**+2.2**
FOZ	**Fox Glacier**	**3.84**	**241**	P	**Pn**	**00 09 45.6**	**+0.3**
TARZ	**Mount Tarawera**	**3.87**	**25**	P	**Pn**	**00 09 44.9**	**-0.9**
URZ	**Urewera**	**4.06**	**31**	P	**Pn**	**00 09 48.0**	**-0.4**
LBZ	**Lake Benmore**	**4.07**	**229**		**Pn**	**00 09 49.7**	**+1.1**
LBZ	**Lake Benmore**	**4.07**	**229**	P	**Pn**	**00 09 48.9**	**+0.3**
TOZ	**Tahuroa Road**	**4.12**	**12**	P	**Pn**	**00 09 49.8**	**+0.7**
ODZ	**Otahua Downs**	**4.29**	**219**		**Pn**	**00 09 50.7**	**-0.8**
ODZ	**Otahua Downs**	**4.29**	**219**	P	**Pn**	**00 09 50.4**	**-1.1**
MKAZ	**Moumakai**	**4.69**	**7**	P	**Pn**	**00 09 57.7**	**+0.7**
MYRZ	**Mayor Island**	**4.69**	**18**	P	Pb	00 10 03.1	-5.6
AWAZ	**Awhitu Peninsu**	**4.70**	**2**	P	**Pn**	**00 09 58.9**	**+1.7**
JCZ	**Jackson Bay**	**4.75**	**239**	P	**Pn**	**00 09 58.8**	**+0.8**
JCZ	**Jackson Bay**	**4.75**	**239**	P	**Pn**	**00 09 57.8**	**-0.1**
HAZ	**Te Kaha**	**4.76**	**34**	P	**Pn**	**00 09 56.1**	**-1.9**
ETAZ	**East Tamaki Re**	**4.82**	**5**	P	**Pn**	**00 10 01.6**	**+2.7**
WTAZ	**Waiatarua**	**4.83**	**1**	P	**Pn**	**00 10 01.9**	**+2.8**
HHSZ	**Highcliff Hill**	**4.96**	**213**	P	**Pn**	**00 09 59.9**	**-0.9**
WIAZ	**Waiheke Island**	**5.00**	**6**	P	**Pn**	**00 10 02.4**	**+1.1**
WKZ	**Wanaka**	**5.00**	**231**	Pn	**Pn**	**00 10 01.4**	**0.0**
MBAZ	**Motutapu North**	**5.01**	**4**	P	**Pn**	**00 10 04.9**	**+3.5**
EAZ	**Earnscleugh**	**5.09**	**225**	P	**Pn**	**00 10 02.2**	**-0.4**
KUZ	**Kuaotunu**	**5.11**	**12**	P	**Pn**	**00 10 04.3**	**+1.4**
	126nm,0.9s						
MXZ	**Matakaoa Point**	**5.15**	**37**	P	**Pn**	**00 10 03.2**	**-0.2**
	155nm,0.8s						
ABAZ	**Army Bay**	**5.17**	**3**	P	**Pn**	**00 10 05.4**	**+1.8**
GRZ	**Great Barrier**	**5.57**	**8**	P	Pn	00 10 16.1	+7.0
MLZ	**Mavora Lakes**	**5.83**	**230**	Pn	**Pn**	**00 10 13.6**	**+4.3**
SYZ	**Scrubby Hill**	**6.10**	**217**	P	**Pn**	**00 10 16.3**	**-0.1**
	75nm,2.2s						
SYZ	**Scrubby Hill**	**6.10**	**217**	P	**Pn**	**00 10 16.3**	**-0.1**
DCZ	**Deep Cove**	**6.45**	**233**	Pn	**Pn**	**00 10 22.0**	**+0.8**
OUZ	**Omahuta**	**6.57**	**354**	P	**Pn**	**00 10 25.3**	**+2.4**
	50nm,2.0s						
OUZ	**Omahuta**	**6.57**	**354**	P	**Pn**	**00 10 25.2**	**+2.2**
CTZ	**Chatham Island**	**6.87**	**110**	P	**Pn**	**00 10 25.9**	**-1.0**
	141nm,1.6s						
CTZ	**Chatham Island**	**6.87**	**110**	P	**Pn**	**00 10 26.5**	**-0.4**
STKA	**Stephens Creek**	**27.94**	**280**	LR	LR	00 24 01.5	
	comp=Z,42nm,20.0s,baz=194,slow=33						
RAR	**Rarotonga**	**29.86**	**55**	LR	LR	00 26 46.9	
	comp=Z,45nm,18.9s,baz=346,slow=36						
CTA	**Charters Tower**	**32.19**	**304**	LR	LR	00 26 54.3	
	comp=Z,63nm,19.3s,baz=80,slow=34						
ASAR	**Alice Springs**	**38.17**	**285**	P	**P**	**00 16 04.7**	**-1.3**
	0.5nm,0.5s,baz=128,slow=7.0,SNR=11 0.5nm,0.5s						
WB2	**Warramunga Arr**	**40.24**	**290**	P	**P**	**00 16 21.6**	**-1.5**
WB2				IAmb	IAmb	00 16 39.2	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**40.24**	**290**	P	**P**	**00 16 21.4**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=126,slow=8.4,SNR=14 comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**40.24**	**290**	P	**P**	**00 16 22.5**	**-0.8**
WB0	**Warramunga Arr**	**40.32**	**291**	P	**P**	**00 16 22.7**	**-1.2**
WB0				IAmb	IAmb	00 16 29.0	
	comp=Z,13nm,1.4s						
CASY	**Casey**	**42.27**	**213**	P	**P**	**00 16 40.3**	**+1.0**
SMAI	**San Martin Ant**	**61.20**	**158**	P	**P**	**00 19 01.2**	**+0.7**
SMAI				IAmb	IAmb	00 19 32.0	
	comp=Z,11nm,1.5s						
SNAA	**Sanae**	**66.85**	**181**	P	**P**	**00 19 39.2**	**+1.5**
SNAA				IAmb	IAmb	00 20 04.9	
	comp=Z,7.0nm,1.5s						
CMAR	**Chiang Mai Arr**	**91.78**	**293**	LR	LR	01 08 51.5	
	comp=Z,14nm,18.1s,baz=175,slow=39						
NNA	**Nana**	**95.62**	**111**	LR	LR	00 56 35.6	
	comp=Z,31nm,18.4s,baz=303,slow=30						
ARCES	**ARCESS Array B**	**147.84**	**340**	PKPbc	**PKPbc**	**00 28 29.7**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=35,slow=3.3,SNR=1.5						
TORD	**Torodi Ar. Bea**	**150.79**	**195**	PKPbc	**PKPbc**	**00 28 39.3**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=172,slow=3.8,SNR=2.8						
FINES	**FINESS Array B**	**152.63**	**327**	PKPbc	**PKPbc**	**00 28 39.4**	**-2.5**
	comp=Z,2.7nm,1.0s,baz=46,slow=8.0,SNR=1.5						

WEL 18 00:20:37.6±0.6**, 42.˚S**±4.˚×**17.˚4E**±.˚**, h9**km±3km**, M3.4**/28, ML3.8**/13, MLv3.4**/28, Error ellipse: s-maj=0.0km s-min=0.0km az=127.4, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**263**	P	Pg	00 20 41.9	+0.4
KHZ				S	Sg	00 20 45.9	+1.8
BSWZ	**Blackbirch Sta**	**0.68**	**6**	P	Pg	00 20 51.1	+0.3
CMWZ	**Cape Campbell**	**0.72**	**26**	P	Pb	00 20 52.2	0.0
GVZ	**Greta Valley S**	**0.80**	**224**	P	Pb	00 20 53.3	-0.3
THZ	**Tophouse**	**0.91**	**314**	P	Pb	00 20 55.3	-0.2
TUWZ	**Tuamarina**	**0.97**	**7**	P	Pg	00 20 55.9	-0.4
AMCZ	**Amberley**	**1.14**	**227**	P	Pb	00 20 58.1	-1.3
LTZ	**Lake Taylor**	**1.18**	**250**	P	Pb	00 20 59.2	-1.0
NNZ	**Nelson**	**1.22**	**345**	P	Pn	00 20 59.7	-1.0
TCW	**Tory Channel**	**1.24**	**17**	P	Pn	00 20 59.2	-1.8
MRNZ	**Matariki Terra**	**1.26**	**322**	P	Pn	00 21 01.2	-0.1
WEL	**Wellington**	**1.33**	**34**	P	Pn	00 21 00.5	-1.8
PLWZ	**Palliser**	**1.37**	**53**	P	Pn	00 21 00.0	-2.8
OKCZ	**Okains Bay**	**1.43**	**202**	P	Pn	00 21 01.6	-2.1
MSWZ	**Moikau Station**	**1.47**	**49**	P	Pn	00 21 01.4	-2.7
TKNZ	**Takaka Hill**	**1.50**	**335**	P	Pn	00 21 04.5	0.0
MQZ	**McQueen's Vall**	**1.55**	**212**	P	Pn	00 21 02.7	-2.6
OXZ	**Oxford**	**1.59**	**234**	P	Pn	00 21 03.8	-2.0
PAWZ	**Paruwai Farm**	**1.59**	**51**	P	Pn	00 21 02.9	-2.9
DUWZ	**D'Urville Isla**	**1.60**	**4**	P	Pn	00 21 04.7	-1.2
CAW	**Cannon Point**	**1.60**	**37**	P	Pn	00 21 03.9	-2.2
AKCZ	**Akaroa Harbour**	**1.61**	**203**	P	Pn	00 21 04.0	-2.2
DSZ	**Denniston Nort**	**1.61**	**293**	P	Pn	00 21 06.5	+0.3
TRWZ	**Traveller**	**1.73**	**56**	P	Pn	00 21 04.7	-3.2
KIW	**Kapiti Island**	**1.75**	**29**	P	Pn	00 21 06.3	-1.7
INZ	**Inchbonnie**	**1.76**	**258**	P	Pn	00 21 07.8	-0.4
MTW	**Mount Morrison**	**1.78**	**47**	P	Pn	00 21 05.5	-3.0
RACZ	**Rakaia**	**1.80**	**222**	P	Pn	00 21 06.4	-2.3
QRZ	**Quartz Range**	**1.83**	**329**	P	Pn	00 21 09.5	+0.4
OGWZ	**Otaki Gorge**	**1.89**	**34**	P	Pn	00 21 07.8	-2.1
HOWZ	**Holdsworth Sta**	**1.98**	**41**	P	Pn	00 21 08.5	-2.7
MHCZ	**Mount Hutt**	**1.98**	**234**	P	Pn	00 21 09.2	-2.2
TMWZ	**Te Maipa**	**2.03**	**51**	P	Pn	00 21 08.6	-3.4
WACZ	**Wakanui South**	**2.10**	**222**	P	Pn	00 21 10.9	-2.0
MRZ	**Mangatainoka R**	**2.19**	**38**	P	Pn	00 21 11.4	-2.7
WVZ	**Waitaha Valley**	**2.35**	**252**	P	Pn	00 21 15.2	-1.0
RPZ	**Rata Peaks**	**2.40**	**236**	P	Pn	00 21 15.1	-1.9
ARCZ	**Arundel**	**2.46**	**230**	P	Pn	00 21 15.8	-2.1
POWZ	**Post Office Ro**	**2.50**	**37**	P	Pn	00 21 15.7	-2.7
BFZ	**Birch Farm**	**2.52**	**48**	P	Pn	00 21 14.8	-3.8
GCSZ	**Gaunt Creek Bo**	**2.71**	**249**	P	Pn	00 21 21.1	-0.1
DVHZ	**Dannevirke**	**2.76**	**41**	P	Pn	00 21 18.3	-3.7
TMZ	**Timaru**	**2.84**	**225**	P	Pn	00 21 20.3	-1.8
TSZ	**Takapari Road**	**2.85**	**36**	P	Pn	00 21 20.3	-2.9
PNHZ	**Pukenui**	**3.08**	**37**	P	Pn	00 21 23.2	-3.2
KHEZ	**Kahui Hut**	**3.10**	**3**	P	Pn	00 21 29.2	+2.5
NBEZ	**Newall Road No**	**3.12**	**1**	P	Pb	00 21 30.3	-3.0
FOZ	**Fox Glacier**	**3.13**	**247**	P	Pn	00 21 28.5	+1.5
NEZ	**North Egmont**	**3.13**	**4**	P	Pb	00 21 31.5	-1.9
LBZ	**Lake Benmore**	**3.29**	**232**	P	Pn	00 21 27.5	-1.8
MOVZ	**Moawhango**	**3.34**	**27**	P	Pn	00 21 28.0	-1.9
VRZ	**Vera Road**	**3.35**	**13**	P	Pn	00 21 30.2	+0.2
WNVZ	**Wahianoa**	**3.36**	**25**	P	Pn	00 21 29.1	-1.2
TRVZ	**Turoa**	**3.37**	**24**	P	Pn	00 21 29.8	-0.7
WHVZ	**Whangaehu Hut**	**3.40**	**24**	P	Pn	00 21 30.0	-1.0
FWVZ	**Far West T-bar**	**3.41**	**24**	P	Pn	00 21 30.3	-0.8
ODZ	**Otahua Downs**	**3.49**	**220**	P	Pn	00 21 29.7	-2.3
NGZ	**Ngauruhoe**	**3.50**	**24**	P	Pn	00 21 32.9	+0.6
SNVZ	**South Ngauruho**	**3.50**	**24**	P	Pn	00 21 31.3	-1.0
OTVZ	**Oturere**	**3.53**	**24**	P	Pn	00 21 31.4	-1.2
TMVZ	**Te Maari**	**3.59**	**25**	P	Pn	00 21 31.9	-1.5
NTVZ	**North Tongarir**	**3.59**	**24**	P	Pn	00 21 32.1	-1.4
BKZ	**Black Stump Fm**	**3.83**	**33**	P	Pn	00 21 33.9	-2.7
HIZ	**Hauiti**	**3.96**	**12**	P	Pn	00 21 38.4	-0.1
JCZ	**Jackson Bay**	**4.02**	**244**	P	Pn	00 21 38.9	-0.5
AWAZ	**Awhitu Peninsu**	**5.37**

comp=E,297nm,0.7s
PCDR IAML 00 23 01.7
comp=N,452nm,0.9s
GDHS Morne Mazeau, 4.11 142 Pn Pn 00 22 02.4 -0.6
ABD La Joyeuse, An 4.13 137 Pn **Pn 00 22 02.4 -0.7**
ABD IAML 00 23 39.1
comp=E,307nm,1.9s
ABD IAML 00 23 39.2
comp=N,211nm,1.9s
ABD La Joyeuse, An 4.13 137 *eP* **Pn 00 22 02.5 -0.7**
ABD La Joyeuse, An 4.13 137 *eS* **Sn 00 22 50.8 -0.5**
CBE Ff, Capester 4.36 142 Pn 00 22 06.5 0.0
CBE Ff, Capester 4.36 142 *eP* **Pn 00 22 07.0 +0.5**
CBE Ff, Capester 4.36 142 *eS* **Sn 00 22 58.4 +1.3**
GDSD La Dsirade Is 4.52 135 Pn 00 22 08.2 -0.5
GDSD IAML 00 23 24.9
comp=E,135nm,1.2s
H05N1 Guadeloupe/Mar 4.53 134 Pn **Pn 00 22 06.6 -2.1**
H05N1 Sn **Sn 00 22 56.4 -4.8**
MDCT Cottage Hill, 4.81 144 *eP* **Pn 00 22 13.6 +1.1**
MDVC Dominica, Viel 4.84 143 *eP* **Pn 00 22 14.3 +1.2**
DSLB Salisbury 4.98 144 *eP* **Pn 00 22 15.5 +0.6**
DSLB Salisbury 4.98 144 *eS* **Sn 00 23 15.4 +3.1**
SDD Santo Domingo 5.30 259 Pn 00 22 20.2 +0.8
SDD IAML 00 23 31.5
comp=E,202nm,0.8s
FDF Fort de France 5.71 146 Pn 00 22 25.9 +1.0
ILAM Ilet Lapin Mar 5.82 144 Pn **Pn 00 22 27.2 +0.7**
BIM Bigot 5.93 147 Pn 00 22 28.8 +0.8
BIM Bigot 5.93 147 *eP* **Pn 00 22 29.0 +1.0**
SC01 Santiago de lo 5.95 270 Pn 00 22 28.7 +0.4
MPOM Morne Pois Mar 6.10 145 Pn **Pn 00 22 31.2 +0.9**
MPOM Morne Pois Mar 6.10 145 *eP* **Pn 00 22 31.3 +1.0**
H05S1 Guadeloupe/Mar 6.13 145 Pn **Pn 00 22 30.2 -0.5**
H05S1 Sn **Sn 00 23 37.6 -3.0**
SLBI Saint Lucia, B 6.39 148 *eP* **Pn 00 22 34.7 +0.3**
SDDR Presa de Saban 6.51 266 Pn **Pn 00 22 37.3 +1.3**
SDDR Presa de Saban 6.51 266 *eP* **Pn 00 22 36.7 +0.7**
SDDR Presa de Saban 6.51 266 *eS* **Sn 00 23 50.1 0.0**
GRTK Grand Turk 6.59 289 Pn **Pn 00 22 36.2 -0.9**
LGNH Logne 7.81 264 Pn 00 22 54.3 +0.5
GRGR Grenville 7.82 160 Pn **Pn 00 22 54.2 +0.2**
HATO Hato, Curacao 8.51 211 Pn **Pn 00 23 03.0 -0.4**
MASC Masc 9.25 276 *eP* **Pn 00 23 10.7 -3.0**
MASC IAmb IAmb 00 23 14.8
comp=Z,25nm,0.6s
MASC *eS* Sn 00 24 47.5 -10
MASC IAML 00 24 51.8
comp=E,21nm,0.4s
MASC IAML 00 24 54.2
comp=N,21nm,0.4s
PCRV Puerto La Cruz 9.30 181 Pn **Pn 00 23 14.9 +0.5**
comp=N,0.9nm,0.3s,baz=15,slow=5.2,SNR=1.9
PCRV Sn **Sn 00 24 55.3 -3.6**
comp=N,0.4nm,0.3s,baz=35,slow=18,SNR=1.5
comp=N,4.7nm,0.5s
MOAC Moa 9.96 278 *eP* **Pn 00 23 19.4 -4.0**
MOAC IAmb IAmb 00 23 21.0
comp=Z,97nm,0.3s
MOAC *eS* Sn 00 25 04.0 -11
MOAC IAML 00 25 09.7
comp=N,35nm,0.4s
MOAC IAML 00 25 12.7
comp=E,35nm,0.5s
GTBY Guantanamo Bay 10.07 274 Pn **Pn 00 23 21.6 -3.3**
URIC Uribia, Colomb 10.66 224 Pn **Pn 00 23 32.6 -0.4**
HLGC Holguin 11.01 279 *eP* **Pn 00 23 36.4 -1.4**
HLGC IAML 00 23 41.0
comp=Z,18nm,0.4s
HLGC *eS* **Sn 00 25 33.5 -7.2**
HLGC IAML 00 25 39.5
comp=E,27nm,0.5s
HLGC IAML 00 25 39.6
comp=N,27nm,0.4s
BAUV El Baul 11.09 199 Pn **Pn 00 23 39.6 +0.7**
LMGC Las Mercedes 11.86 275 *eP* **Pn 00 23 45.0 -4.3**
LMGC IAmb IAmb 00 23 47.6
comp=Z,9.4nm,0.4s
LMGC *eS* Sn 00 25 50.9 -11
LMGC IAML 00 25 57.0
comp=E,4.0nm,0.1s
LMGC IAML 00 25 58.1
comp=N,2.9nm,0.1s
SDV Santo Domingo 12.17 210 Pn **Pn 00 23 53.0 -0.8**
comp=N,0.7nm,0.3s,baz=64,slow=12,SNR=1.7
SDV Sn **Sn 00 26 09.8 +0.3**
comp=N,0.5nm,0.3s,baz=312,slow=23,SNR=1.6
SDV LR LR 00 28 38.8
comp=N,88nm,21.0s,baz=30,slow=38
comp=N,1.9nm,0.3s
SDV Santo Domingo 12.17 210 Pn Pn 00 23 59.2 +5.4
MTDJ Mount Denham 12.48 266 Pn **Pn 00 23 55.9 -2.1**
CCCC Cccc 12.62 280 *eP* Pn 00 23 51.1 -8.7
CCCC IAmb IAmb 00 23 56.7
comp=Z,14nm,0.3s
CCCC *eS* Sn 00 26 01.0 -19
CCCC IAML 00 26 05.4
comp=N,4.3nm,0.3s
CCCC IAML 00 26 06.3
comp=E,4.3nm,0.3s
BBSR BB Station 12.79 359 Pn **Pn 00 23 58.4 -3.6**
MGV Manicaragua 14.77 283 *eP* **Pn 00 24 29.1 -0.1**
MGV IAmb IAmb 00 24 32.8
comp=Z,26nm,1.1s
060A Indiantown 16.43 300 P **Pn 00 24 51.1 +0.4**
061Z Ochoppi 16.46 296 Pn 00 24 50.5 -0.6
PRVC Isla de Provid 17.36 252 P **Pn 00 25 00.1 -2.5**
BOAV Boa Vista 17.45 167 P **Pn 00 25 03.7 0.0**
BOAV IAmb IAmb 00 25 23.3
comp=Z,5.8nm,0.7s
DWPF Disney Wildern 17.74 302 Pn 00 25 07.8 +0.6
DWPF IAmb IAmb 00 25 21.3
comp=Z,76nm,0.8s
BCIP Isla Barro Col 18.13 238 P **Pn 00 25 11.9 -0.2**
BCIP IAmb IAmb 00 25 21.5
comp=Z,14nm,1.0s
MDP Montagnes des 18.37 140 P **Pn 00 25 12.7 -2.4**
comp=Z,0.3nm,0.3s,baz=42,slow=6.2,SNR=1.4
MDP S Sn 00 28 23.0 -17
comp=Z,6.5nm,1.0s,baz=270,slow=20,SNR=1.4
MDP LR LR 00 33 09.9
comp=Z,67nm,19.1s,baz=6.0,slow=40
comp=Z,4.7nm,0.7s
Y60A Bolivia 18.93 322 P **Pn 00 25 26.2 +4.5**
Y60A IAmb IAmb 00 25 45.3
comp=Z,48nm,0.9s
TKL Tuckaleechee C 23.43 317 P **P 00 26 11.3 +2.0**
comp=Z,3.5nm,0.8s,baz=84,slow=18,SNR=1.6
TKL S **S 00 30 24.8 +2.6**
comp=Z,5.9nm,0.7s,baz=227,slow=21,SNR=2.3
comp=Z,3.5nm,0.8s
SADO Sadowa 27.99 337 S **S 00 31 40.0 +5.5**
comp=Z,1.3nm,0.4s,baz=75,slow=4.7,SNR=3.3
CMIG Matias Romero 29.00 270 LR LR 00 41 36.1
comp=Z,40nm,18.1s,baz=84,slow=43
ATAH Atahualpa 29.86 209 LR LR 00 41 01.5
comp=Z,60nm,18.8s,baz=13,slow=40
H07S1 FLORES T-PHASE 34.76 48 T T 01 03 57.1
SNR=26
SIV San Ignacio 35.45 174 P **P 00 27 54.7 -1.9**
comp=Z,3.4nm,0.6s,baz=0.7,slow=7.9,SNR=14
comp=Z,3.4nm,0.6s
LPAZ La Paz 35.78 186 P **P 00 27 59.8 -0.3**
comp=Z,1.2nm,0.9s,baz=349,slow=3.6,SNR=2.0
comp=Z,1.2nm,0.9s
BDFB Brasilia 38.50 154 P **P 00 28 22.4 -0.3**
comp=Z,2.0nm,0.6s,baz=308,slow=11,SNR=3.8
comp=Z,2.0nm,0.6s
ULM Lac du Bonnet 39.53 328 P **P 00 28 30.4 -0.4**
comp=Z,4.0nm,0.6s,baz=131,slow=8.0,SNR=4.3
comp=Z,4.0nm,0.6s
ANMO Albuquerque 40.09 301 P **P 00 28 35.6 -0.4**
comp=Z,0.9nm,0.6s,baz=95,slow=6.8,SNR=4.0
comp=Z,0.9nm,0.6s
LVC Limon Verde 42.11 186 P **P 00 28 51.3 -1.5**
comp=Z,1.4nm,0.4s,baz=334,slow=12,SNR=1.7
LVC LR LR 00 47 29.2
comp=Z,52nm,18.7s,baz=330,slow=38
comp=Z,1.4nm,0.4s
PDAR Pinedale Array 44.37 312 P **P 00 29 11.1 +0.2**
comp=Z,0.5nm,0.4s,baz=113,slow=9.1,SNR=7.8
comp=Z,0.5nm,0.4s
CPUP Villa Florida 46.10 171 P **P 00 29 22.2 -2.1**
comp=Z,2.4nm,0.8s,baz=348,slow=9.9,SNR=4.4
comp=Z,2.4nm,0.8s
NVAR Mina Array Bea 50.03 304 P **P 00 29 56.4 +1.4**
comp=Z,0.6nm,0.5s,baz=83,slow=8.9,SNR=4.9
comp=Z,0.6nm,0.5s
CFA Coronel Fontan 50.98 184 LR LR 00 53 07.8
comp=Z,58nm,18.2s,baz=26,slow=38
MDT Midelt 54.65 63 P **P 00 30 31.5 +2.2**
comp=Z,1.4nm,0.8s,baz=250,slow=5.7,SNR=4.7
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 54.92 334 P **P 00 30 30.4 -0.2**
comp=Z,1.3nm,0.7s,baz=110,slow=7.5,SNR=3.1
comp=Z,1.3nm,0.7s
ESDC Sonseca Array 55.23 55 P **P 00 30 34.1 +0.7**
comp=Z,1.0nm,1.0s,baz=340,slow=5.9,SNR=5.1
comp=Z,1.0nm,1.0s
H10N3 ASCENSION HYDR 56.18 114 T T 01 31 19.1
baz=299
H10N2 ASCENSION HYDR 56.18 114 T T 01 31 19.1
baz=299
H10N1 ASCENSION HYDR 56.20 114 T T 01 31 19.1
baz=299,SNR=13
DBIC Dimbokro 59.14 94 P **P 00 31 02.4 +1.1**
comp=Z,4.9nm,1.0s,baz=323,slow=16,SNR=2.5
comp=Z,4.9nm,1.0s
PLCA Paso Flores 60.22 185 P **P 00 31 09.2 +1.0**
comp=Z,2.1nm,0.9s,baz=104,slow=4.4,SNR=3.0
comp=Z,2.1nm,0.9s
TORD Torodi Ar. Bea 63.44 85 P **P 00 31 31.0 +0.6**
comp=Z,2.0nm,0.7s,baz=292,slow=7.1,SNR=17
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 66.16 31 P **P 00 31 49.4 +2.0**
comp=Z,1.0nm,0.8s,baz=298,slow=6.4,SNR=3.6
comp=Z,1.0nm,0.8s
GERES GERESS Array B 67.81 44 P **P 00 31 58.9 +0.7**
comp=Z,0.6nm,0.8s,baz=226,slow=6.7,SNR=2.9
comp=Z,0.6nm,0.8s
ILAR Eielson Array 69.31 333 P **P 00 32 06.9 -0.4**
comp=Z,0.7nm,0.6s,baz=102,slow=4.3,SNR=13
comp=Z,0.7nm,0.6s
ARCES ARCESS Array B 71.85 22 P **P 00 32 23.3 +0.7**
comp=Z,1.5nm,0.7s,baz=348,slow=4.1,SNR=5.4
comp=Z,1.5nm,0.7s
FINES FINESS Array B 73.29 30 P **P 00 32 31.2 -0.1**
comp=Z,1.5nm,0.8s,baz=339,slow=4.7,SNR=4.8
comp=Z,1.5nm,0.8s
PZH PanZhiHua 132.31 17 PKP **PKPdf 00 40 11.3 -3.8**
WRA Warramunga Arr 162.33 266 PKPab **PKPab 00 41 49.5 -0.5**
comp=Z,0.4nm,0.6s,baz=88,slow=3.7,SNR=1.6
ASAR Alice Springs 162.47 253 PKP **PKPdf 00 41 02.1 -0.7**
comp=Z,0.2nm,0.3s,baz=132,slow=2.8,SNR=2.3
ASAR PKPab **PKPab 00 41 50.7 +0.1**
comp=Z,0.6nm,0.8s,baz=104,slow=4.2,SNR=2.9

*IDC **18** 00:23:36.5±0.9, 14.22N×90.84W, h0km, mb4.0/11, mbtmp4.1/13, ML4.5/2, MS3.6/17, Error ellipse: s-maj=33.4km s-min=17.1km az=43.0*
*INET **18** 00:23:43.5±2.6, 13.98N×91.71W, h6km, MW3.9*
*NEIC **18** 00:23:48.1±1.7, 14.13N±0.06×91.26W±0.06, h66km±5km, mb4.5/89, Mwr4.5/10, Md4.3(SNET), Error ellipse: s-maj=11.2km s-min=6.0km az=219.0*
*GCG **18** 00:23:49.1±0.6, 14.28N×91.32W, h51km±19km, MD4.5*
*NEIC **18** 00:23:49.1, 14.17N×91.21W, h64km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.95; $M_{\theta\theta}$-4.14; $M_{\phi\phi}$0.20; $M_{r\theta}$3.94; $M_{\theta\phi}$2.24; $M_{\phi r}$-2.88; Fault plane solution: M_o6.73000×10^{15} NP1:ϕ_s277.69000°, δ23.12000°, λ65.56000°. NP2:ϕ_s123.99000°, δ69.05000°, λ100.02000°. Principal axes: T 6.1927, Plg65.0000°, Azm51.0000°; N 0.9636, Plg9.0000°, Azm300.0000°; P -7.1563, Plg23.0000°, Azm206.0000°;*
*SNET **18** 00:23:51.0±6.0, 14.19N×90.92W, h67km, ML4.3*
ISC 18 00:23:46.4±0.6, 14.10N±0.06×91.30W±0.05, h71km±5km, n175, σ1$\hat{}$77/180, mb4.4/35, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SULM	**Suchitepequez,**	**0.33**	**308**	*eP*	**Pn**	**00 23 57.8**	**-0.1**
FUG	**Fuego 3**	**0.56**	**52**	*eP*	**Pn**	**00 24 00.9**	**+0.8**
RTAL	**Retalhuleu**	**0.57**	**318**		**Pn**	**00 23 58.8**	**-1.2**
RTAL				Sn	**Sn**	**00 24 08.5**	**-1.6**
RTAL	**Retalhuleu**	**0.57**	**318**	*eP*	**Pn**	**00 23 58.8**	**-1.2**
STG3	**Santiaguito 3,**	**0.66**	**337**	*eP*	**Pn**	**00 24 00.9**	**-0.3**
PCG	**Pacaya**	**0.73**	**67**	*eP*	**Pn**	**00 24 03.2**	**+1.2**
NBG	**Las Nubes**	**1.04**	**62**	*eP*	**Pn**	**00 24 08.0**	**+2.2**
HUEH	**Huehuetenango**	**1.23**	**351**		**Pn**	**00 24 08.9**	**+0.8**
HUEH				Sn	**Sn**	**00 24 26.4**	**+2.2**
HUEH	**Huehuetenango**	**1.23**	**351**	*eP*	**Pn**	**00 24 08.8**	**+2.6**
HUEH				*eS*	**Sn**	**00 24 26.8**	**+2.6**
HUEH	**Huehuetenango**	**1.23**	**351**	*eP*	**Pn**	**00 24 08.9**	**+0.8**
SLOZ	**Alcaldia de Sa**	**1.47**	**93**	*eP*	**Pn**	**00 24 11.8**	**+0.7**
NUBE	**Las Nubes**	**1.49**	**97**	*i* P	**Pn**	**00 24 11.8**	**+0.5**
NUBE				*eS*	**Sn**	**00 24 30.4**	**+0.1**
CEVE	**Cerro Verde**	**1.65**	**99**	*eP*	**Pn**	**00 24 14.6**	**+1.0**
CEVE				*eS*	**Sn**	**00 24 36.0**	**+1.8**
SNJE	**San Jose**	**1.66**	**98**	*eP*	**Pn**	**00 24 14.9**	**+1.2**
MRL	**Marmol**	**1.84**	**58**	*eP*	**Pn**	**00 24 18.1**	**+1.9**
JAYA	**Jayaque - finc**	**1.85**	**104**	*eP*	**Pn**	**00 24 16.8**	**+0.5**
JAYA				*eS*	**Sn**	**00 24 39.6**	**+0.7**
MTO3	**Montecristo**	**1.90**	**81**		**Pn**	**00 24 17.2**	**+0.3**
MTO3				Sn	**Sn**	**00 24 35.8**	**-4.4**
MTO3	**Montecristo**	**1.90**	**81**	*ij* P	**Pn**	**00 24 17.3**	**+0.3**
MTO3	**Montecristo**	**1.90**	**81**	*eP*	**Pn**	**00 24 17.3**	**+0.3**
ESQI	**Esquipulas**	**1.95**	**76**		**Pn**	**00 24 17.4**	**-0.2**
ESQI				Sn	**Sn**	**00 24 38.0**	**-3.2**
ESQI	**Esquipulas**	**1.95**	**76**	*eP*	**Pn**	**00 24 18.1**	**+0.6**
BOQS	**Boqueron**	**2.00**	**100**	*eP*	**Pn**	**00 24 19.1**	**+0.9**
SNET	**Serv Nac Est T**	**2.05**	**101**		**Pn**	**00 24 19.5**	**+0.6**
SJTE	**Alcalda de S**	**2.28**	**102**	*eP*	**Pn**	**00 24 22.6**	**+0.6**
CCIG	**Comitan**	**2.31**	**340**		**Pn**	**00 24 24.0**	**+1.5**
PAVA	**Las Pavas**	**2.33**	**99**	*eP*	**Pn**	**00 24 23.2**	**+0.6**
COEG	**Centro de Oper**	**2.40**	**101**	*eP*	**Pn**	**00 24 24.2**	**+0.7**
P5NO	**Presa 5 de nov**	**2.47**	**92**	*eP*	**Pn**	**00 24 24.4**	**0.0**
SCLA	**Alcaldia de Sa**	**2.53**	**99**	*eP*	**Pn**	**00 24 25.8**	**+0.6**
PQSS	**Presa 15 de Se**	**2.70**	**100**	*eP*	**Pn**	**00 24 29.1**	**+1.5**
COEB	**Comit de Eme**	**2.76**	**102**	*eP*	**Pn**	**00 24 29.4**	**+1.0**
PACA	**Pacayal**	**2.96**	**102**	*eP*	**Pn**	**00 24 33.1**	**+1.9**
PETF	**Flores**	**3.12**	**26**	Pn	**Pn**	**00 24 34.4**	**+1.1**
PETF	**Flores**	**3.12**	**26**	*eP*	**Pn**	**00 24 34.6**	**+1.3**
PETF	**Flores**	**3.12**	**26**	*eP*	**Pn**	**00 24 34.6**	**+1.3**
LCND	**La Caada**	**3.41**	**103**	*eP*	**Pn**	**00 24 37.9**	**+0.8**
CNCH	**Conchagua**	**3.47**	**103**	*eP*	**Pn**	**00 24 38.7**	**+0.6**
TGUH	**Tegucigalpa,Un**	**3.91**	**90**		**Pn**	**00 24 44.6**	**+0.5**
CRIN	**San Cristobal**	**4.36**	**108**		**Pn**	**00 24 51.1**	**+0.8**
CRIN	**San Cristobal**	**4.36**	**108**	*eP*	**Pn**	**00 24 53.3**	**+2.9**
CRIN				*eS*	**Sn**	**00 25 48.0**	**+8.0**
CMIG	**Matias Romero**	**4.56**	**311**	Pn	**Pn**	**00 24 52.3**	**-0.6**
	14nm,0.3s,baz=111,slow=9.9,SNR=85						
CMIG				Sn	**Sn**	**00 25 44.8**	**+0.2**
	48nm,0.3s,baz=84,slow=19,SNR=6.5						
	35nm,0.3s						
CNGN	**Cerro Negro**	**4.75**	**109**		**Pn**	**00 24 57.4**	**+1.8**
CNGN				Sn	**Sn**	**00 25 51.5**	**+2.0**
CNGN	**Cerro Negro**	**4.75**	**109**	*eP*	**Pn**	**00 24 58.0**	**+2.4**
CNGN				*eS*	**Sn**	**00 25 56.8**	**+6.9**
MOMN	**Momotombo**	**4.93**	**109**	*eP*	**Pn**	**00 24 60.0**	**+1.9**
MATN	**Matagalpa**	**5.36**	**102**		**Pn**	**00 25 05.2**	**+1.3**
MATN	**Matagalpa**	**5.36**	**102**	*eP*	**Pn**	**00 25 05.6**	**+1.7**
BOAB	**BOACO BROADBAN**	**5.72**	**106**		**Pn**	**00 25 10.0**	**+1.1**
ACON	**Acoyapa**	**6.33**	**109**		**Pn**	**00 25 18.6**	**+1.4**
TEIG	**Tepich**	**6.74**	**25**	Pn	**Pn**	**00 25 23.8**	**+1.0**
ORTG	**Ortega, Santa**	**6.81**	**122**	Pn	**Pn**	**00 25 25.3**	**+1.5**
ESPN	**Las Esperanzas**	**7.08**	**105**		**Pn**	**00 25 29.0**	**+1.7**
JTS	**Las Juntas de**	**7.27**	**121**	Pn	Pn	00 25 16.4	-14
	0.2nm,0.3s,baz=247,slow=11,SNR=2.0						
JTS				Sn	**Sn**	**00 26 46.1**	**-5.0**
	baz=294,slow=16						
JTS	**Las Juntas de**	**7.27**	**121**	Pn	**Pn**	**00 25 32.8**	**+2.8**
TLIG	**Tlapa**	**7.79**	**297**	Pn	**Pn**	**00 25 39.8**	**+2.6**
RIMA	**Rio Macho**	**8.46**	**120**		**Pn**	**00 25 47.3**	**+0.9**
SRBA	**San Rafael, Bu**	**9.16**	**121**		**Pn**	**00 25 57.8**	**+1.9**
MOIG	**Morelia**	**10.97**	**302**		**Pn**	**00 26 23.7**	**+2.9**
SOR	**Soroa**	**11.68**	**41**		**Pn**	**00 26 31.9**	**+1.6**
ZAIG	**Zacatecas**	**13.73**	**311**	Pn	**Pn**	**00 26 59.7**	**+1.5**
735A	**Kenedy**	**15.88**	**339**	Pn	**Pn**	**00 27 27.2**	**+1.6**
735A				IAmb	IAmb	00 27 33.3	
	comp=Z,30nm,0.8s						
833A	**Chaparral WMA,**	**16.03**	**333**	Pn	**Pn**	**00 27 28.3**	**+0.8**
451A	**Vernon**	**17.21**	**16**	Pn	**Pn**	**00 27 41.6**	**-0.6**
451A				IAmb	IAmb	00 27 46.1	
	comp=Z,48nm,1.2s						
656A	**Willston**	**17.23**	**27**	Pn	**Pn**	**00 27 42.4**	**+0.1**
656A				IAmb	IAmb	00 27 47.7	
	comp=Z,49nm,1.1s						
344A	**Westbrook Farm**	**17.28**	**2**	P	**P**	**00 27 44.8**	**+1.4**
344A				IAmb	IAmb	00 27 49.7	
	comp=Z,35nm,0.8s						
346A	**Big Creek Wild**	**17.29**	**5**	P	**P**	**00 27 46.6**	**+3.0**
BRAL	**Brewton**	**17.43**	**12**	P	**P**	**00 27 47.3**	**+2.2**
BRAL				IAmb	IAmb	00 27 49.4	
	comp=Z,34nm,0.9s						
435B	**Jarrell**	**17.58**	**342**		**Pn**	**00 27 47.0**	**+0.3**
NATX	**Nacogdoches**	**17.85**	**351**	P	**P**	**00 27 51.2**	**+1.5**
JCT	**Junction City**	**18.09**	**336**	P	**P**	**00 27 53.3**	**+0.8**
352A	**Blakely**	**18.26**	**18**	P	**P**	**00 27 55.2**	**+1.0**
352A				IAmb	IAmb	00 27 59.7	
	comp=Z,31nm,0.8s						
237A	**Washetta, Mont**	**18.29**	**348**	P	**P**	**00 27 56.3**	**+1.7**
250A	**Grady**	**18.38**	**14**	P	**Pn**	**00 27 57.6**	**+1.2**
250A				IAmb	IAmb	00 27 59.7	
	comp=Z,22nm,0.9s						
143A	**Socs Landing,**	**18.52**	**360**	P	**P**	**00 27 58.4**	**+1.3**
143A				IAmb	IAmb	00 28 00.7	
	comp=Z,18nm,0.7s						
HPIG		**18.53**	**316**	P	**P**	**00 27 58.7**	**+1.2**
146A	**Union**	**18.57**	**6**	P	**Pn**	**00 28 00.9**	**+2.3**
TIGA	**Tifton**	**18.65**	**21**	P	**P**	**00 28 00.2**	**+1.7**
URIC	**Uribia, Colomb**	**18.97**	**95**	P	**P**	**00 28 02.9**	**+0.7**
TXAR	**Lajitas Array**	**19.00**	**325**	P	**P**	**00 28 03.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=151,slow=12,SNR=31						
TXAR				PcP	**PcP**	**00 32 25.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=150,slow=5.1,SNR=3.6						
	comp=Z,2.2nm,0.7s						
TXAR	**Lajitas Array**	**19.00**	**325**	P	**P**	**00 28 05.0**	**+2.5**
TX31	**Lajitas Ar. Si**	**19.00**	**325**	P	**P**	**00 28 04.6**	**+2.1**
TX32	**Lajitas Array**	**19.00**	**325**	P	**P**	**00 28 04.6**	**+2.1**
Z47A	**Carrollton**	**19.24**	**8**	P	**P**	**00 28 06.9**	**+1.9**
LRAL	**Lakeview Retre**	**19.25**	**11**	P	**P**	**00 28 07.2**	**+2.0**
LRAL				IAmb	IAmb	00 28 10.9	
	comp=Z,27nm,1.1s						
Z38A	**Mt. Pleasant**	**19.37**	**351**	P	**P**	**00 28 07.0**	**+0.6**
Z38A				IAmb	IAmb	00 28 08.4	
	comp=Z,14nm,0.7s						
152A	**Waverly Hall**	**19.43**	**17**	P	**P**	**00 28 08.3**	**+1.1**
152A				IAmb	IAmb	00 28 37.6	
	comp=Z,24nm,1.2s						
WLAR	**White Oak Lake**	**19.57**	**355**	P	**P**	**00 28 10.1**	**+1.5**
WLAR				IAmb	IAmb	00 28 23.2	
	comp=Z,18nm,0.7s						
CCAR	**Cane Creek**	**19.73**	**359**	P	**P**	**00 28 11.4**	**+1.1**
CCAR				IAmb	IAmb	00 28 16.5	
	comp=Z,36nm,1.1s						
Y45A	**Yeager Farm, C**	**19.74**	**4**	P	**P**	**00 28 11.9**	**+1.4**
ABTX	**Abilene, Hawle**	**19.95**	**339**	P	**P**	**00 28 13.7**	**+0.9**
ABTX				IAmb	IAmb	00 28 15.0	
	comp=Z,18nm,0.8s						
257A	**Skidaway Islan**	**20.12**	**26**	P	**P**	**00 28 16.0**	**+1.4**
Y49A	**Blount Mountai**	**20.16**	**12**	P	**P**	**00 28 16.3**	**+1.2**
Y49A				IAmb	IAmb	00 28 17.6	
	comp=Z,14nm,0.8s						
MIAR	**Mount Ida**	**20.46**	**355**	P	**P**	**00 28 19.9**	**+1.7**
LPIG	**La Paz**	**20.51**	**302**	LR	LR	00 36 19.6	
	comp=Z,44nm,18.7s,baz=66,slow=37						
UALR	**University of**	**20.61**	**358**	P	**P**	**00 28 20.4**	**+0.7**
UALR				IAmb	IAmb	00 28 23.1	
	comp=Z,22nm,0.6s						
X48A	**Hartselle**	**20.62**	**10**	P	**P**	**00 28 21.1**	**+1.1**
X48A				IAmb	IAmb	00 28 27.4	
	comp=Z,13nm,0.8s						
X37A	**Clayton**	**20.73**	**350**	P	**P**	**00 28 22.1**	**+1.0**
X37A				IAmb	IAmb	00 28 30.3	
	comp=Z,19nm,1.1s						
Y52A	**Lilburn**	**20.74**	**17**	P	**P**	**00 28 22.5**	**+1.2**
Y52A				IAmb	IAmb	00 28 27.8	
	comp=Z,16nm,0.8s						
SDV	**Santo Domingo**	**20.90**	**102**	P	**P**	**00 28 18.0**	**-5.4**
	comp=Z,2.4nm,0.3s,baz=309,slow=8.4,SNR=2.3						
	comp=Z,2.4nm,0.3s						
FPAL	**Fort Paine**	**20.99**	**13**	P	**P**	**00 28 24.2**	**+0.2**
FPAL				IAmb	IAmb	00 28 55.1	
	comp=Z,19nm,1.1s						
PLAL	**Pickwick Lake**	**21.00**	**7**	P	**P**	**00 28 25.4**	**+1.4**
WHAR	**Wooly Hollow**	**21.12**	**358**	P	**P**	**00 28 26.1**	**+0.8**
X51A	**Calhoun**	**21.19**	**15**	P	**P**	**00 28 26.9**	**+0.7**
X51A				IAmb	IAmb	00 28 34.1	
	comp=Z,19nm,0.8s						
GDL2	**Guadalupe Moun**	**21.62**	**329**	P	**P**	**00 28 32.1**	**+1.4**
WMOK	**Wichita Mounta**	**21.63**	**343**	P	**P**	**00 28 31.6**	**+0.8**
W50A	**Signal Mountai**	**21.69**	**13**	P	**P**	**00 28 32.5**	**+1.1**
W50A				IAmb	IAmb	00 28 49.4	
	comp=Z,16nm,0.8s						
FCAR	**Ozark Folk Cen**	**21.71**	**358**	IAmb	IAmb	00 28 32.9	
	comp=Z,10nm,0.6s						
LCAR	**Lake Charles**	**21.88**	**0**	P	**P**	**00 28 32.9**	**-0.5**
LCAR				IAmb	IAmb	00 28 35.4	
	comp=Z,14nm,0.9s						
V48A	**Smith Brothers**	**21.92**	**10**	P	**P**	**00 28 35.3**	**+1.4**
V48A				IAmb	IAmb	00 28 53.5	
	comp=Z,18nm,1.1s						
TUL1	**Leonard**	**22.09**	**350**	P	**P**	**00 28 38.1**	**+2.4**
Y57A	**Sumter**	**22.16**	**25**	P	**P**	**00 28 36.8**	**+0.4**
MSTX	**Muleshoe**	**22.35**	**334**	P	**P**	**00 28 38.9**	**+0.2**
MSTX				IAmb	IAmb	00 28 39.5	
	comp=Z,9.3nm,0.6s						
TKL	**Tuckaleechee C**	**22.51**	**16**	P	**P**	**00 28 39.2**	**-1.0**
	comp=Z,9.5nm,0.5s,baz=183,slow=9.3,SNR=4.1						
TKL				LR	LR	00 38 21.9	
	comp=Z,106nm,18.6s,baz=182,slow=40						
TKL	**Tuckaleechee C**	**22.51**	**16**	P	**P**	**00 28 40.8**	**+0.5**
TKL					**sP**	**00 29 01.0**	**-3.8**
AMTX	**Amarillo**	**22.72**	**337**	P	**P**	**00 28 42.2**	**-0.3**
AMTX				IAmb	IAmb	00 28 45.4	
	comp=Z,9.0nm,0.7s						
V52A	**Sevierville**	**22.73**	**16**	P	**P**	**00 28 42.8**	**+0.2**
V52A				pP	**pP**	**00 28 59.4**	**+1.3**
V52A				IAmb	IAmb	00 29 01.9	
	comp=Z,26nm,1.1s						
Y59A	**Loris**	**22.78**	**27**	P	**P**	**00 28 43.7**	**+0.6**
OK048	**Pawnee Station**	**22.79**	**348**	P	**P**	**00 28 45.2**	**+2.0**
OK048				IAmb	IAmb	00 29 16.5	
	comp=Z,23nm,1.0s						
V53A	**Saluda**	**22.79**	**18**	P	**P**	**00 28 44.3**	**+1.1**
V53A					**pP**	**00 29 02.0**	**+3.3**
KMSC	**Kings Mountain**	**22.80**	**21**	P	**P**	**00 28 43.2**	**-0.1**
KMSC					**pP**	**00 29 01.0**	**+2.1**
KMSC				IAmb	IAmb	00 29 02.6	

PDAR				LR	LR	00 44 30.2		
	comp=Z,60nm,22.0s,baz=108,slow=38 comp=Z,0.5nm,0.6s							
ELK	**Elko**	**33.78**	**326**	P	**P**	**00 30 22.6**	**+0.8**	
NV11	**Mina Array Sit**	**33.93**	**321**	P	**P**	**00 30 24.1**	**+1.1**	
NV11				IAmb	IAmb	00 30 27.1		
	comp=Z,4.1nm,0.9s							
NVAR	**Mina Array Bea**	**34.02**	**320**	P	**P**	**00 30 26.1**	**+2.3**	
	comp=Z,5.7nm,0.8s,baz=135,slow=8.5,SNR=17							
NVAR				PcP	**PcP**	**00 33 00.1**	**-0.3**	
	comp=Z,1.9nm,0.7s,baz=125,slow=3.7,SNR=7.8 comp=Z,5.7nm,0.8s							
NVAR	**Mina Array Bea**	**34.02**	**320**	P	**P**	**00 30 25.7**	**+1.8**	
KVN	**Kaiserville**	**34.29**	**321**	P	**P**	**00 30 27.9**	**+1.8**	
KVN				IAmb	IAmb	00 30 30.1		
	comp=Z,4.7nm,1.1s							
ETMB	**Extrema**	**34.41**	**132**	P	**P**	**00 30 27.3**	**+0.1**	
ETMB				pP	**pP**	**00 30 44.8**	**+0.5**	
ETMB				IAmb	IAmb	00 30 45.5		
	comp=Z,7.0nm,1.0s							
MACA	**Manacapuru-AM**	**34.87**	**117**	P	**P**	**00 30 30.5**	**-0.7**	
MACA				IAmb	IAmb	00 30 31.3		
	comp=Z,13nm,0.6s							
MCMT	**McKenzie Canyo**	**35.68**	**333**	P	**P**	**00 30 39.8**	**+1.7**	
LPAZ	**La Paz**	**37.89**	**142**	LR	LR	00 45 17.4		
	comp=Z,35nm,19.2s,baz=319,slow=34							
YBH	**Yreka Blue Hor**	**38.71**	**321**	LR	LR	00 48 12.1		
	comp=Z,57nm,20.0s,baz=144,slow=38							
H04A	**Detroit Lake**	**40.21**	**325**	P	**P**	**00 31 16.9**	**+0.9**	
C09A	**Chrisman Ranch**	**40.38**	**332**	P	**P**	**00 31 18.7**	**+1.3**	
VILB	**Vilhena**	**40.89**	**130**	P	**P**	**00 31 22.0**	**+0.1**	
VILB				IAmb	IAmb	00 31 22.4		
	comp=Z,12nm,0.8s							
SIV	**San Ignacio**	**42.27**	**134**	P	**P**	**00 31 31.8**	**-1.4**	
	comp=Z,4.9nm,0.7s,baz=309,slow=8.5,SNR=15 comp=Z,4.9nm,0.7s							
SCHQ	**Schefferville**	**44.90**	**20**	P	**P**	**00 31 51.5**	**-2.3**	
	comp=Z,2.9nm,0.5s,baz=212,slow=6.7,SNR=8.6							
SCHQ				LR	LR	00 51 16.0		
	comp=Z,81nm,19.4s,baz=212,slow=37 comp=Z,2.9nm,0.5s							
YKA	**Yellowknife Ar**	**51.09**	**346**	P	**P**	**00 32 40.2**	**-1.3**	
	comp=Z,1.8nm,0.6s,baz=151,slow=7.7,SNR=5.5							
YKA				PcP	**PcP**	**00 33 54.6**	**-1.7**	
	comp=Z,1.4nm,0.7s,baz=162,slow=3.9,SNR=3.0 comp=Z,1.8nm,0.6s							
CPUP	**Villa Florida**	**52.02**	**140**	LR	LR	00 54 13.6		
	comp=Z,61nm,18.5s,baz=210,slow=35							
FRB	**Frobisher Bay**	**52.07**	**13**	LR	LR	00 54 44.0		
	comp=Z,66nm,19.5s,baz=208,slow=36							
DLBC	**Dease Lake**	**52.84**	**336**	LR	LR	00 57 38.2		
	comp=Z,54nm,19.1s,baz=228,slow=39							
PLCA	**Paso Flores**	**57.85**	**161**	LR	LR	00 55 08.2		
	comp=Z,61nm,18.4s,baz=188,slow=33							
SFJD	**Kangerlussuaq**	**59.22**	**17**	LR	LR	00 59 55.7		
	comp=Z,63nm,18.4s,baz=184,slow=37							
ILAR	**Eielson Array**	**63.02**	**337**	P	**P**	**00 34 04.4**	**-1.2**	
	comp=Z,0.7nm,0.6s,baz=119,slow=5.6,SNR=15 comp=Z,0.7nm,0.6s							
NEA2	**Nenana**	**63.79**	**336**	P	**P**	**00 34 12.1**	**+1.4**	
NEA2				IAmb	IAmb	00 34 14.0		
	comp=Z,4.2nm,0.6s							
MLY	**Manley**	**64.62**	**336**	P	**P**	**00 34 15.7**	**-0.5**	
MLY				IAmb	IAmb	00 34 16.5		
	comp=Z,3.7nm,0.5s							
ESDC	**Sonseca Array**	**79.12**	**52**	P	P	00 35 39.6	-4.0	
	comp=Z,0.3nm,0.5s,baz=280,slow=4.5,SNR=6.2 comp=Z,0.3nm,0.5s							
NOA	**NORSAR Array B**	**83.73**	**29**	P	**P**	**00 36 05.7**	**-1.9**	
	comp=Z,0.5nm,0.6s,baz=292,slow=5.2,SNR=1.8							
NOA				LR	LR	01 14 01.2		
	comp=Z,30nm,18.9s,baz=295,slow=36 comp=Z,0.5nm,0.6s							
ARCES	**ARCESS Array B**	**85.83**	**18**	LR	LR	01 14 59.0		
	comp=Z,83nm,18.3s,baz=314,slow=36							
TORD	**Torodi Ar. Bea**	**89.69**	**77**	P	**P**	**00 36 34.7**	**-2.7**	
	comp=Z,0.3nm,0.8s,baz=288,slow=1.4,SNR=2.0							
TORD				LR	LR	01 16 08.8		
	comp=Z,30nm,18.4s,baz=212,slow=35 comp=Z,0.3nm,0.8s							
KEST	**Kesra**	**90.29**	**53**	LR	LR	01 14 35.5		
	comp=Z,40nm,18.1s,baz=296,slow=34							
NRIK	**Noril'sk**	**96.77**	**0**	LR	LR	01 27 07.0		
	comp=Z,52nm,18.1s,baz=328,slow=39							
MKAR	**Makanchi Array**	**119.11**	**5**	PKP	**PKPdf**	**00 42 25.4**	**-2.0**	
	comp=Z,0.5nm,0.7s,baz=18,slow=1.1,SNR=3.9							
WRA	**Warramunga Arr**	**136.08**	**256**	PKP	**PKPdf**	**00 43 00.0**	**-0.3**	
	comp=Z,0.6nm,0.6s,baz=88,slow=1.8,SNR=4.8							
ASAR	**Alice Springs**	**136.34**	**250**	PKP	**PKPdf**	**00 43 01.1**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=83,slow=2.2,SNR=4.7							
PZH	**PanZhiHua**	**137.69**	**343**	PKP	**PKPdf**	**00 43 04.1**	**+0.7**	
CMAR	**Chiang Mai Arr**	**146.11**	**342**	PKPbc	**PKPdf**	**00 43 18.3**	**-0.1**	
	comp=Z,7.3nm,0.6s,baz=341,slow=3.5,SNR=28							

*WEL **18** 00:27:20.2±0.3,42°S±2°×17°4E±°,h5km,M3.8/47, ML4.1/16,MLv3.8/47,Error ellipse: s-maj=0.0km s-min=0.0km az=128.3*
*NOU **18** 00:27:21.0,42.23S×173.79E,h11km,MLv4.3/12,South Island, New Zealand*
ISC 18 00:27:20.1±0.9,42.15S±0.03×173.77E±0.04,h17km,n100, σ2s13/100**,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.32**	**213**	P	**Pb**	**00 27 27.8**	**+0.5**
KHZ	**Kahutara**	**0.32**	**213**	P	**Pb**	**00 27 27.9**	**+0.6**
KHZ				S	**Sb**	**00 27 33.8**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.44**	**10**	P	**Pg**	**00 27 27.8**	**-1.3**
BSWZ				S	**Sg**	**00 27 34.0**	**-1.1**
CMWZ	**Cape Campbell**	**0.52**	**40**	P	**Pg**	**00 27 30.9**	**+0.4**
TUWZ	**Tuamarina**	**0.73**	**10**	P	**Pb**	**00 27 33.1**	**-1.3**
THZ	**Tophouse**	**0.75**	**301**	P	**Pb**	**00 27 32.9**	**-1.9**
THZ				S	**Sb**	**00 27 42.4**	**-2.3**
NNZ	**Nelson**	**0.98**	**342**	P	**Pb**	**00 27 36.7**	**-1.9**
GVZ	**Greta Valley S**	**0.98**	**213**	P	**Pn**	**00 27 40.3**	**+1.1**
TCW	**Tory Channel**	**1.01**	**22**	P	**Pb**	**00 27 38.1**	**-1.1**
MRNZ	**Matariki Terra**	**1.07**	**314**	P	**Pn**	**00 27 38.6**	**-1.7**
SNZO	**South Karori**	**1.09**	**40**	P	**Pn**	**00 27 41.6**	**+1.0**
WEL	**Wellington**	**1.14**	**41**	P	**Pn**	**00 27 41.7**	**+0.3**
PLWZ	**Palliser**	**1.25**	**63**	P	**Pn**	**00 27 43.0**	**+0.1**
TKNZ	**Takaka Hill**	**1.27**	**331**	P	**Pn**	**00 27 41.9**	**-1.2**
LTZ	**Lake Taylor**	**1.28**	**240**	P	**Pn**	**00 27 43.7**	**+0.5**
AMCZ	**Amberley**	**1.32**	**218**	P	**Pn**	**00 27 44.6**	**+0.9**
MSWZ	**Moikau Station**	**1.33**	**57**	P	**Pn**	**00 27 43.8**	**-0.1**
DUWZ	**D'Urville Isla**	**1.35**	**5**	P	**Pn**	**00 27 43.6**	**-0.7**
CAW	**Cannon Point**	**1.43**	**43**	P	**Pn**	**00 27 45.2**	**0.0**
PAWZ	**Paruwai Farm**	**1.46**	**59**	P	**Pn**	**00 27 45.5**	**-0.2**
DSZ	**Denniston Nort**	**1.52**	**285**	P	**Pn**	**00 27 47.6**	**+1.0**
KIW	**Kapiti Island**	**1.55**	**34**	P	**Pn**	**00 27 47.2**	**+0.3**
QRZ	**Quartz Range**	**1.62**	**324**	P	**Pn**	**00 27 48.7**	**+0.8**
QRZ	**Quartz Range**	**1.62**	**324**	P	**Pn**	**00 27 47.8**	**-0.1**
TRWZ	**Traveller**	**1.62**	**63**	P	**Pn**	**00 27 47.6**	**-0.3**
MTW	**Mount Morrison**	**1.63**	**53**	P	**Pn**	**00 27 47.5**	**-0.6**
OKCZ	**Okains Bay**	**1.66**	**198**	P	**Pn**	**00 27 49.1**	**+0.6**
OGWZ	**Otaki Gorge**	**1.70**	**39**	P	**Pn**	**00 27 49.0**	**0.0**
OXZ	**Oxford**	**1.73**	**227**	P	**Pn**	**00 27 49.4**	**-0.1**
MQZ	**McQueen's Vall**	**1.76**	**207**	P	**Pn**	**00 27 49.5**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.81**	**47**	P	**Pn**	**00 27 50.1**	**-0.5**
INZ	**Inchbonnie**	**1.81**	**251**	P	**Pn**	**00 27 52.9**	**+2.3**
AKCZ	**Akaroa Harbour**	**1.83**	**200**	P	**Pn**	**00 27 51.4**	**+0.5**
TMWZ	**Te Maipa**	**1.90**	**57**	P	**Pn**	**00 27 51.1**	**-0.7**
RACZ	**Rakaia**	**1.98**	**217**	P	**Pn**	**00 27 52.9**	**0.0**
MRZ	**Mangatainoka R**	**2.02**	**43**	P	**Pn**	**00 27 52.9**	**-0.5**
TIWZ	**Tintock**	**2.10**	**50**	P	**Pn**	**00 27 54.4**	**-0.2**
MHCZ	**Mount Hutt**	**2.13**	**229**	P	**Pn**	**00 27 55.0**	**0.0**
WACZ	**Wakanui South**	**2.28**	**218**	P	**Pn**	**00 27 57.3**	**+0.2**
PRWZ	**Pori Road**	**2.30**	**47**	P	**Pn**	**00 27 56.9**	**-0.4**
POWZ	**Post Office Ro**	**2.31**	**41**	P	**Pn**	**00 27 57.3**	**-0.2**
BFZ	**Birch Farm**	**2.37**	**53**	P	**Pn**	**00 28 00.4**	**+2.2**
BFZ	**Birch Farm**	**2.37**	**53**	P	**Pn**	**00 27 58.3**	**0.0**
WVZ	**Waitaha Valley**	**2.42**	**247**	P	**Pn**	**00 28 00.0**	**+1.1**
RPZ	**Rata Peaks**	**2.53**	**231**	P	**Pn**	**00 28 01.0**	**+0.5**
WAZ	**Wanganui**	**2.56**	**21**	P	**Pn**	**00 28 03.7**	**+2.8**
DVHZ	**Dannevirke**	**2.59**	**45**	P	**Pn**	**00 28 00.3**	**-1.0**
ARCZ	**Arundel**	**2.62**	**226**	P	**Pn**	**00 28 01.6**	**0.0**
TSZ	**Takapari Road**	**2.67**	**39**	P	**Pn**	**00 28 01.8**	**-0.6**
LREZ	**Lake Rotokare**	**2.73**	**10**	P	**Pn**	**00 28 07.4**	**+4.3**
NMEZ	**Namu Road**	**2.73**	**2**	P	Pn	00 28 08.2	+5.0
GCSZ	**Gaunt Creek Bo**	**2.79**	**244**	P	**Pn**	**00 28 05.8**	**+1.8**
KHEZ	**Kahui Hut**	**2.86**	**4**	P	**Pn**	**00 28 08.8**	**+3.8**
KHEZ	**Kahui Hut**	**2.86**	**4**	P	**Pn**	**00 28 08.8**	**+3.8**
NBEZ	**Newall Road No**	**2.88**	**2**	P	**Pn**	**00 28 08.7**	**+3.4**
NEZ	**North Egmont**	**2.89**	**5**	P	**Pn**	**00 28 09.1**	**+3.6**
PNHZ	**Pukenui**	**2.89**	**40**	P	**Pn**	**00 28 04.4**	**-1.1**
PKE	**Pukeiti**	**2.96**	**3**	P	**Pn**	**00 28 09.4**	**+3.1**
DREZ	**Durham Road**	**2.98**	**6**	P	**Pn**	**00 28 09.7**	**+3.2**
TMZ	**Timaru**	**3.01**	**221**	P	**Pn**	**00 28 07.6**	**+0.6**
MTVZ	**Mangateitei**	**3.05**	**26**	P	Pn	00 28 12.6	+4.9
PKVZ	**Pokaka**	**3.10**	**23**	P	**Pn**	**00 28 12.5**	**+4.2**
VRZ	**Vera Road**	**3.11**	**14**	P	**Pn**	**00 28 12.4**	**+4.0**
MOVZ	**Moawhango**	**3.13**	**29**	P	**Pn**	**00 28 11.7**	**+3.0**
WNVZ	**Wahianoa**	**3.14**	**27**	P	**Pn**	**00 28 11.0**	**+1.9**
TRVZ	**Turoa**	**3.15**	**26**	P	**Pn**	**00 28 12.7**	**+3.5**
BHHZ	**Black Hill Sta**	**3.18**	**34**	P	**Pn**	**00 28 09.5**	**+0.2**
DRZ	**Dome Shelter**	**3.18**	**26**	P	**Pn**	**00 28 14.1**	**+4.5**
WHVZ	**Whangaehu Hut**	**3.18**	**26**	P	**Pn**	**00 28 13.5**	**+4.0**
FWVZ	**Far West T-bar**	**3.19**	**26**	P	**Pn**	**00 28 11.6**	**+1.8**
TUVZ	**Tukino**	**3.22**	**27**	P	**Pn**	**00 28 13.5**	**+3.5**
FOZ	**Fox Glacier**	**3.22**	**243**	P	**Pn**	**00 28 11.8**	**+2.0**
NGZ	**Ngauruhoe**	**3.28**	**26**	P	**Pb**	**00 28 17.5**	**-0.5**
SNVZ	**South Ngauruho**	**3.28**	**26**	P	**Pn**	**00 28 12.7**	**+1.7**
OTVZ	**Oturere**	**3.31**	**26**	P	**Pb**	**00 28 17.6**	**-0.9**
NNVZ	**North Ngauruho**	**3.33**	**26**	P	**Pn**	**00 28 15.6**	**+4.1**
KAHZ	**Kahuranaki**	**3.33**	**46**	P	**Pn**	**00 28 09.9**	**-1.6**
WTVZ	**West Tongariro**	**3.33**	**25**	P	Pn	00 28 17.6	+6.0
KRVZ	**Karewarewa**	**3.37**	**26**	P	**Pb**	**00 28 18.3**	**-1.2**
TMVZ	**Te Maari**	**3.37**	**27**	P	**Pn**	**00 28 16.4**	**+4.3**
NTVZ	**North Tongarir**	**3.38**	**26**	P	**Pn**	**00 28 15.8**	**+3.6**
LBZ	**Lake Benmore**	**3.44**	**228**	P	**Pn**	**00 28 14.8**	**+1.8**
BKZ	**Black Stump Fm**	**3.63**	**36**	P	**Pn**	**00 28 17.3**	**+1.7**
BKZ	**Black Stump Fm**	**3.63**	**36**	P	**Pn**	**00 28 14.3**	**-1.3**
ODZ	**Otahua Downs**	**3.68**	**217**	P	**Pn**	**00 28 15.9**	**-0.3**
ODZ	**Otahua Downs**	**3.68**	**217**	P	**Pn**	**00 28 15.9**	**-0.3**
HIZ	**Hauiti**	**3.73**	**13**	P	**Pn**	**00 28 20.0**	**+3.1**
HIZ	**Hauiti**	**3.73**	**13**	P	**Pn**	**00 28 19.7**	**+2.9**
TLZ	**Tolley Road**	**4.05**	**20**	P	**Pn**	**00 28 25.3**	**+3.9**
RAHZ	**Arahi**	**4.10**	**39**	P	**Pn**	**00 28 25.9**	**+3.8**
JCZ	**Jackson Bay**	**4.12**	**241**	P	**Pn**	**00 28 24.3**	**+1.9**
JCZ	**Jackson Bay**	**4.12**	**241**	P	**Pn**	**00 28 24.5**	**+2.1**
TOZ	**Tahuroa Road**	**4.61**	**17**	P	**Pn**	**00 28 27.5**	**-1.5**
URZ	**Urewera**	**4.65**	**34**	P	**Pn**	**00 28 32.0**	**+2.4**
AWAZ	**Awhitu Peninsu**	**5.12**	**8**	P	**Pn**	**00 28 39.3**	**+3.2**
MKAZ	**Moumakai**	**5.15**	**12**	P	**Pn**	**00 28 39.7**	**+3.2**
MBAZ	**Motutapu North**	**5.44**	**10**	P	**Pn**	**00 28 44.0**	**+3.5**
WIAZ	**Waiheke Island**	**5.45**	**12**	P	**Pn**	**00 28 43.7**	**+3.1**
SYZ	**Scrubby Hill**	**5.50**	**216**	P	**Pn**	**00 28 41.2**	**0.0**
PYZ	**Puysegur Point**	**6.49**	**229**	P	**Pn**	**00 28 57.0**	**+2.2**

*IDC **18** 00:32:00.9±1.2,3.08S×134.87E,h0km,mb4.0/5, mbtmp4.1/6,ML4.0/1,Error ellipse: s-maj=53.2km s-min=23.4km az=64.0*
*NEIC **18** 00:32:05.9±1.2,3.41S±0.09×134.75E±0.1,h22km±8km, mb4.0/8,Error ellipse: s-maj=22.7km s-min=4.1km az=55.0*
ISC 18 00:32:04.2±0.9,3.3S±0.1×134.6E±0.1,h24km,n22, σ1s33/20**,mb4.1/6,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.36**	**279**		**Pn**	**00 32 41.6**	**0.0**
SIJI	**Sorong**	**4.10**	**306**	Pn	**Pn**	**00 33 06.2**	**+0.8**
	8.0nm,0.3s,baz=59,slow=18,SNR=46						
SIJI				Sn	**Sn**	**00 33 51.3**	**-1.5**
	2.8nm,0.3s,baz=126,slow=24,SNR=1.5 42nm,0.2s						
MTN	**Manton Dam**	**10.08**	**200**	Pn	**Pn**	**00 34 27.4**	**-0.2**
COEN	**Coen**	**13.57**	**142**	Pn	**Pn**	**00 35 14.8**	**-0.6**
KNRA	**Kununurra**	**13.57**	**205**	Pn	**Pn**	**00 35 14.1**	**-1.3**
WB0	**Warramunga Arr**	**16.37**	**181**	Pn	**Pn**	**00 35 51.5**	**-1.1**
WB0				IAmb	IAmb	00 36 00.8	
	comp=Z,8.1nm,1.3s						
WB2	**Warramunga Arr**	**16.55**	**181**	Pn	**Pn**	**00 35 54.7**	**-0.2**
WRA	**Warramunga Arr**	**16.55**	**181**	Pn	**Pn**	**00 35 52.3**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=1.2,slow=13,SNR=12						
WRA				Sn	Sn	00 38 47.9	-10
	baz=12,slow=22,SNR=1.0						
WRA	**Warramunga Arr**	**16.55**	**181**	P	**Pn**	**00 35 53.0**	**-1.8**
CTA	**Charters Tower**	**20.20**	**147**	P	**P**	**00 36 38.4**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=330,slow=12,SNR=1.7 comp=Z,5.2nm,0.8s						
CTAO	**Charters Tower**	**20.20**	**147**		**P**	**00 36 38.2**	**+0.7**
ASAR	**Alice Springs**	**20.26**	**182**	P	Pn	00 36 40.0	-0.1
	comp=Z,7.3nm,0.6s,baz=5.6,slow=11,SNR=48 comp=Z,7.3nm,0.6s						
ASAR	**Alice Springs**	**20.26**	**182**		Pn	00 36 40.5	+0.4
MBWA	**Marble Bar**	**22.89**	**218**	P	**P**	**00 37 06.9**	**+0.5**
MBWA				IAmb	IAmb	00 37 10.5	
	comp=Z,10nm,1.1s						
WMQ	**Urumqi**	**62.97**	**324**	*e*P	P	00 42 35.8	+6.7
MK31	**Makanchi Array**	**67.79**	**324**	P	**P**	**00 43 01.8**	**+1.6**
MK31				IAmb	IAmb	00 43 10.4	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**67.79**	**324**	P	**P**	**00 43 01.3**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=111,slow=8.1,SNR=28 comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**67.79**	**324**	P	**P**	**00 43 01.8**	**+1.6**
MAKZ	**Makanchi**	**67.98**	**324**	P	**P**	**00 43 03.0**	**+1.6**
ZALV	**Zalesovo Beam**	**70.42**	**331**	P	**P**	**00 43 15.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=107,slow=6.7,SNR=3.6 comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**75.59**	**174**	P	**P**	**00 43 48.0**	**+1.4**
VNDA				IAmb	IAmb	00 43 57.6	
	comp=Z,2.4nm,1.4s						
ILAR	**Eielson Array**	**88.08**	**25**	P	**P**	**00 44 51.2**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=251,slow=5.4,SNR=2.7 comp=Z,0.4nm,0.7s						

*IDC **18** 00:33:53.2±1.1,67.76N×20.69E,h0km,mbtmp3.0/3, ML1.8/3,Error ellipse: s-maj=18.1km s-min=6.8km az=119.0*
*UPP **18** 00:33:54.6±0.0,67.83N×20.20E,h0km,ML2.1,Explosion*
*HEL **18** 00:33:55.1±0.1,67.83N×20.21E,h0km,ML2.0, ML2.1(UPP),Explosion*
ISC 18 00:33:53.7±0.7,67.82N±0.02×20.24E±0.02,h0km,n38, σ1s60/58**,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**16**	P	**Pg**	**00 33 57.5**	**+1.2**
KUA				S	**Sg**	**00 33 59.5**	**+1.4**
KUA	**Kurravaara**	**0.14**	**16**	*i* P	**Pg**	**00 33 57.5**	**+1.2**
KUA				*i* S	**Sg**	**00 33 59.5**	**+1.4**
RATU	**Laukkuluspa**	**0.24**	**271**	P	**Pg**	**00 33 59.1**	**+0.8**
RATU				S	**Sg**	**00 34 02.4**	**+0.9**
RATU	**Laukkuluspa**	**0.24**	**271**	*i* P	**Pg**	**00 33 59.1**	**+0.8**
RATU				*i* S	**Sg**	**00 34 02.4**	**+0.9**
KOVU	**Salmi**	**0.40**	**356**	P	**Pg**	**00 34 02.3**	**+0.8**
KOVU	**Salmi**	**0.40**	**356**	*i* P	**Pg**	**00 34 02.3**	**+0.8**
LANU	**Lannavaara**	**0.70**	**70**	*e*P	**Pg**	**00 34 07.7**	**+0.6**
LANU				*e*S	**Sg**	**00 34 17.2**	**+1.0**
DUNU	**Dundret**	**0.71**	**169**	P	**Pg**	**00 34 08.0**	**+0.7**
DUNU	**Dundret**	**0.71**	**169**	*i* P	**Pg**	**00 34 08.0**	**+0.7**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pb**	**00 34 09.3**	**-0.6**
MASU	**Masugnsbyn**	**0.77**	**118**	*i* P	**Pb**	**00 34 09.3**	**-0.6**
SALU	**Saltoluokta**	**0.80**	**237**	P	**Pg**	**00 34 09.5**	**+0.5**
SALU	**Saltoluokta**	**0.80**	**237**	*i* P	**Pg**	**00 34 09.5**	**+0.5**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**00 34 14.8**	**-2.0**
KIF				MSG		00 34 33.0	
	comp=Z,25nm,0.2s						
KIF				*e*SB	**Sb**	**00 34 33.6**	**+0.2**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pn**	**00 34 18.0**	**+0.2**
PAJU	**Pajala**	**1.37**	**124**	P	**Pg**	**00 34 19.7**	**-0.2**
PAJU	**Pajala**	**1.37**	**124**	*e*P	**Pg**	**00 34 19.6**	**-0.2**
	baz=303						
PAJU				*e*SB	**Sb**	**00 34 38.4**	**+0.2**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**00 34 20.4**	**-0.2**
	baz=245						
HEF				MSG		00 34 37.7	
	comp=Z,13nm,0.2s						
HEF				*e*SN	**Sn**	**00 34 43.6**	**+3.7**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pb**	**00 34 22.6**	**+0.5**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*P	**Pn**	**00 34 21.4**	**-0.2**
ERTU				*e*SB	**Sn**	**00 34 42.1**	**+0.5**
KLF	**Kolari**	**1.55**	**111**	*e*P	**Pn**	**00 34 22.8**	**+0.3**
KLF				*e*SN	**Sg**	**00 34 44.8**	**+1.4**
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	**Pn**	**00 34 21.9**	**-1.8**
KTK1				*e*SN	**Sg**	**00 34 46.2**	**+0.1**
TRO	**Tromso**	**1.88**	**346**	*e*PG	**Pb**	**00 34 29.0**	**+0.2**
TRO				*e*SG	**Sb**	**00 34 53.1**	**+0.3**
KALU	**Kalix**	**2.33**	**147**	*e*P	**Pb**	**00 34 35.1**	**-1.3**
	baz=324						
KALU				*e*SB	**Sb**	**00 35 05.6**	**0.0**
TOF	**Tornio**	**2.38**	**135**	*e*PB	**Pb**	**00 34 36.1**	**-1.2**
	baz=314						
TOF				MSG		00 35 05.1	
	comp=Z,6.0nm,0.2s						
TOF				*e*SB	**Sb**	**00 35 07.2**	**+0.1**
RNF	**Rovaniemi**	**2.56**	**116**	*e*P	**Pn**	**00 34 36.0**	**-0.3**
RNF				*e*SG	**Sb**	**00 35 13.4**	**+1.0**
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*PB	**Pb**	**00 34 39.0**	**-1.8**
ARA0				*e*SB	**Sb**	**00 35 13.0**	**-0.1**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**00 34 35.2**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=227,slow=14,SNR=45						
ARCES				Pg	**Pb**	**00 34 38.2**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=227,slow=20,SNR=2.0						
ARCES				Lg	Lg	00 35 11.9	
	comp=Z,1.5nm,0.3s,baz=227,slow=25,SNR=19 comp=Z,5.0nm,1.0s						
KEV	**Kevo**	**3.13**	**49**	*e*P	**Pn**	**00 34 46.2**	**+2.0**
KEV				*e*S	**Sn**	**00 35 24.0**	**+1.7**
KEV				MSG		00 35 27.4	
	comp=Z,3.7nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	*e*P	**Pn**	**00 34 46.3**	**+2.0**
BURU	**Burvik**	**3.29**	**171**	*e*P	**Pn**	**00 34 48.6**	**+2.3**
VRF	**Varrio**	**3.56**	**87**	*e*PB	**Pb**	**00 34 55.1**	**-2.4**
OUL	**Oulu**	**3.56**	**138**	*e*PG	**Pb**	**00 34 59.2**	**+1.6**
	baz=326						
OLKF	**Oulanka, Finla**	**3.89**	**109**	*e*P	**Pn**	**00 34 56.5**	**+1.9**
MSF	**Maaselka**	**3.97**	**115**	*e*P	**Pn**	**00 34 57.8**	**+2.1**
	baz=300						
KU6	**Riekki**	**4.21**	**111**	*e*P	**Pn**	**00 35 00.5**	**+1.5**
	baz=300						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**00 35 33.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=1.5						
FINES				Sn	**Sn**	**00 36 50.1**	**-4.3**
	baz=346,slow=22,SNR=1.3						
FINES				Lg	Lg	00 37 25.3	
	comp=Z,0.1nm,0.3s,baz=341,slow=25,SNR=2.1 comp=Z,2.3nm,1.0s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**00 35 48.6**	**-0.2**
	baz=22,slow=12,SNR=1.6						
NOA				Sn	**Sn**	**00 37 12.8**	**-5.4**
	baz=57,slow=15,SNR=1.3						
NOA				Lg	Lg	00 37 59.1	
	baz=32,slow=19,SNR=1.1 comp=Z,0.9nm,0.9s						

WEL 18 00:45:24.4±0.4,42°S±3°×17°4E±°,h8km±3km,M3.5/35, ML3.8/18,MLv3.5/35,Error ellipse: s-maj=0.0km s-min=0.0km az=154.4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**36**	P	**Pg**	**00 45 27.6**	**+0.6**
CMWZ				S	Sg	00 45 31.0	+2.2
BSWZ	**Blackbirch Sta**	**0.22**	**304**	P	**Pg**	**00

MRNZ	Matariki Terra	1.29	292	P		Pn	00 56 35.2	-0.1
HOWZ	Holdsworth Sta	1.33	42	P		Pn	00 56 35.9	-0.1
TKNZ	Takaka Hill	1.35	309	P		Pn	00 56 35.6	-0.6
TMWZ	Te Maipa	1.41	56	P		Pn	00 56 36.9	-0.1
GVZ	Greta Valley S	1.44	222	P		Pb	00 56 38.3	+0.2
MRZ	Mangatainoka R	1.55	37	P		Pn	00 56 38.9	0.0
TIWZ	Tintock	1.62	47	P		Pn	00 56 39.0	-0.8
QRZ	Quartz Range	1.73	308	P		Pn	00 56 41.9	+0.5
QRZ	Quartz Range	1.73	308	P		Pn	00 56 41.9	+0.5
LTZ	Lake Taylor	1.77	239	P		Pn	00 56 42.6	+0.6
PRWZ	Pori Road	1.82	43	P		Pn	00 56 42.6	-0.1
OHWZ	Ohakea	1.85	24	P		Pn	00 56 43.9	+1.0
POWZ	Post Office Ro	1.85	36	P		Pn	00 56 43.0	0.0
BFZ	Birch Farm	1.88	50	P		Pn	00 56 43.2	-0.2
BFZ	Birch Farm	1.88	50	P		Pn	00 56 42.8	-0.6
DSZ	Denniston Nort	1.90	274	P		Pn	00 56 44.9	+1.1
OKCZ	Okains Bay	2.05	207	P		Pn	00 56 46.2	+0.4
DVHZ	Dannevirke	2.11	41	P		Pn	00 56 45.7	-0.9
ANWZ	Angora Road	2.16	49	P		Pn	00 56 46.7	-0.5
MQZ	McQueen's Vall	2.19	214	P		Pn	00 56 47.2	-0.4
WAZ	Wanganui	2.20	13	P		Pb	00 56 51.2	+0.3
TSZ	Takapari Road	2.21	34	P		Pn	00 56 48.7	+0.7
OXZ	Oxford	2.22	229	P		Pn	00 56 47.7	-0.3
AKCZ	Akaroa Harbour	2.23	208	P		Pn	00 56 48.7	+0.4
INZ	Inchbonnie	2.30	248	P		Pn	00 56 49.9	+0.7
PRHZ	Porangahau	2.38	48	P		Pn	00 56 49.4	-0.9
WPHZ	Waipukurau	2.43	42	P		Pn	00 56 52.0	+1.0
PNHZ	Pukenui	2.43	36	P		Pn	00 56 50.4	-0.7
LREZ	Lake Rotokare	2.44	1	P		Pb	00 56 55.1	0.0
RACZ	Rakaia	2.44	221	P		Pn	00 56 50.8	-0.3
NMEZ	Namu Road	2.51	352	P		Pn	00 56 56.2	0.0
KHEZ	Kahui Hut	2.61	354	P		Pn	00 56 57.5	-0.6
KHEZ	Kahui Hut	2.61	354	P		Pn	00 56 56.7	-1.4
MHCZ	Mount Hutt	2.62	230	P		Pn	00 56 53.0	-0.6
NEZ	North Egmont	2.63	356	P		Pn	00 56 57.2	-1.3
NBEZ	Newall Road No	2.65	352	P		Pb	00 56 59.0	+0.3
DREZ	Durham Road	2.71	358	P		Pn	00 56 57.6	+2.8
MOVZ	Moawhango	2.71	24	P		Pn	00 56 55.6	+0.7
PKE	Pukeiti	2.72	354	P		Pb	00 56 59.8	0.0
BHHZ	Black Hill Sta	2.74	29	P		Pn	00 56 55.4	+0.1
WNVZ	Wahianoa	2.74	21	P		Pn	00 56 56.1	+0.6
WACZ	Wakanui South	2.75	221	P		Pn	00 56 55.3	0.0
TRVZ	Turoa	2.76	20	P		Pn	00 56 57.1	+1.4
WHVZ	Whangaehu Hut	2.78	20	P		Pn	00 56 57.0	+0.9
DRZ	Dome Shelter	2.78	20	P		Pb	00 57 02.2	+1.1
VRZ	Vera Road	2.79	7	P		Pb	00 56 59.0	-2.1
FWVZ	Far West T-bar	2.80	20	P		Pn	00 56 57.3	+1.0
TUVZ	Tukino	2.81	21	P		Pn	00 56 57.8	+1.4
KAHZ	Kahuranaki	2.85	43	P		Pn	00 56 55.8	-1.0
NGZ	Ngauruhoe	2.88	20	P		Pb	00 57 02.7	-0.1
SNVZ	South Ngauruho	2.88	20	P		Pn	00 56 58.3	+0.9
WVZ	Waitaha Valley	2.91	245	P		Pn	00 56 58.9	+1.3
OTVZ	Oturere	2.91	21	P		Pb	00 57 03.4	+0.1
NNVZ	North Ngauruho	2.93	20	P		Pn	00 56 59.2	+1.2
WTVZ	West Tongariro	2.94	19	P		Pb	00 57 03.4	-0.3
TWVZ	Taurewa	2.95	17	P		Pb	00 57 02.7	-1.1
TMVZ	Te Maari	2.97	21	P		Pn	00 56 59.0	+0.5
KRVZ	Karewarewa	2.97	20	P		Pn	00 57 00.7	+2.1
NTVZ	North Tongarir	2.98	20	P		Pn	00 56 59.4	+0.8
RPZ	Rata Peaks	3.02	232	P		Pn	00 56 58.8	-0.4
RPZ	Rata Peaks	3.02	232	P		Pn	00 56 59.0	-0.1
MCHZ	McNeill Hill	3.04	37	P		Pb	00 57 06.1	+0.9
ARCZ	Arundel	3.10	228	P		Pn	00 57 00.1	-0.1
RITZ	Rihia Road	3.14	22	P		Pb	00 57 07.8	+0.7
BKZ	Black Stump Fm	3.19	32	P		Pn	00 57 00.4	-1.0
GCSZ	Gaunt Creek Bo	3.28	243	P		Pn	00 57 04.6	+1.9
HIZ	Hauiti	3.41	7	P		Pn	00 57 07.7	+3.3
HIZ	Hauiti	3.41	7	P		Pn	00 56 58.8	+2.4
TMZ	Timaru	3.48	223	P		Pn	00 57 05.1	-0.4
TLZ	Tolley Road	3.68	15	P		Pb	00 57 13.7	-2.6
FOZ	Fox Glacier	3.71	242	P		Pn	00 57 09.6	+1.0
LBZ	Lake Benmore	3.93	229	P		Pn	00 57 11.8	+0.2
ODZ	Otahua Downs	4.14	219	P		Pn	00 57 14.4	0.0
ODZ	Otahua Downs	4.14	219	P		Pn	00 57 13.9	-0.6
JCZ	Jackson Bay	4.62	240	P		Pn	00 57 22.7	+1.6

IDC 18 00:58:52.2±9.6, 48.96S×121.69E, h0km, mb3.6/3, mbtmp3.6/3, MS3.2/4, Error ellipse: s-maj=452.2km s-min=30.4km az=95.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	Cape Leeuwin H	15.12	336	T	T	01 17 53.3	
	baz=160,slow=74,SNR=19						
H01W2	Cape Leeuwin H	15.12	336	T	T	01 17 53.9	
	baz=160,slow=74,SNR=21						
H01W3	Cape Leeuwin H	15.13	336	T	T	01 17 54.0	
	baz=160,slow=74,SNR=16						
STKA	Stephens Creek	22.71	49	LR	LR	01 11 42.5	
	comp=Z,52nm,18.4s,baz=220,slow=34						
ASAR	Alice Springs	27.02	25	P	P	01 04 36.3	+0.3
	1.2nm,0.9s,baz=194,slow=8.9,SNR=6.0						
ASAR				LR	LR	01 14 25.3	
	comp=Z,45nm,20.7s,baz=158,slow=34						
	1.2nm,0.9s						
WRA	Warramunga Arr	30.68	24	P	P	01 05 08.2	-0.4
	0.5nm,0.8s,baz=197,slow=8.8,SNR=2.7						
WRA				LR	LR	01 16 30.3	
	comp=Z,45nm,20.5s,baz=78,slow=34						
	0.5nm,0.8s						
VNDA	Vanda	32.48	165	P	P	01 05 23.8	0.0
	0.7nm,0.7s,baz=304,slow=8.9,SNR=2.4						
	0.7nm,0.7s						
CTA	Charters Tower	34.89	43	LR	LR	01 19 47.5	
	comp=Z,50nm,18.1s,baz=264,slow=36						
H08S2	Diego Garcia H	58.24	298	T	T	02 11 41.5	
	baz=144						
H08S1	Diego Carcia H	58.25	298	T	T	02 11 44.8	
	baz=144						
H08S3	Diego Garcia H	58.26	298	T	T	02 11 44.4	
	baz=144						

*IDC **18** 01:02:48.0±1.6, 3.27S×138.68E, h0km, mb4.0/5, mbtmp4.0/6, ML3.8/1, MS3.7/2, Error ellipse: s-maj=56.5km s-min=26.1km az=88.0*
*NEIC **18** 01:02:56.6±2.5, 3.4S±0.1×138.54E±0.08, h74km±11km, mb4.3/9, Error ellipse: s-maj=22.1km s-min=4.0km az=209.0*

ISC 18 01:02:55.9±0.9, 3.40S±0.09×138.5E±0.1, h71km, n24, σ1s31/23, mb4.1/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	6.30	274	Pn	Pn	01 04 26.1	-0.2
COEN	Coen	11.44	157	Pn	Pn	01 05 36.4	-0.2
KNRA	Kununurra	15.54	218	Pn	Pn	01 06 30.5	-0.4
KNRA				IAmb	IAmb	01 06 44.8	
	comp=Z,28nm,1.1s						
WRAB	Tennant Creek	16.93	194		P	01 06 49.9	+0.6
WRAB				IAmb	IAmb	01 07 07.6	
	comp=Z,9.4nm,0.7s						
WB2	Warramunga Arr	16.94	194		Pn	01 06 47.9	-0.6
WB2				IAmb	IAmb	01 07 07.3	
	comp=Z,11nm,0.7s						
WRA	Warramunga Arr	16.94	194	P	Pn	01 06 47.0	-1.5
	comp=Z,0.4nm,0.3s,baz=16,slow=13,SNR=18						
WRA				S	Sn	01 09 44.9	-11
	comp=Z,3.7nm,0.9s,baz=9.6,slow=22,SNR=9.2						
	comp=Z,1.1nm,0.4s						
WRA	Warramunga Arr	16.94	194	Pn	Pn	01 06 46.6	-1.9
AS31	Alice Springs	20.64	192	P	P	01 07 30.8	+0.9
ASAR	Alice Springs	20.64	192	P	P	01 07 31.8	+1.9
	comp=Z,3.7nm,0.6s,baz=19,slow=7.9,SNR=28						
ASAR				S	S	01 11 17.8	+1.2
	comp=Z,1.6nm,0.9s,baz=12,slow=28,SNR=8.2						
	comp=Z,3.7nm,0.6s						
ASAR	Alice Springs	20.64	192	P	P	01 07 29.4	-0.4
MJAR	Matsushiro Arr	39.74	360	LR	LR	01 23 39.9	
	comp=Z,168nm,19.7s,baz=230,slow=32						
CMAR	Chiang Mai Arr	44.64	301	P	P	01 11 02.5	+0.7
	comp=Z,0.9nm,0.3s,baz=126,slow=6.6,SNR=4.8						
	comp=Z,0.9nm,0.3s						
CMAR	Chiang Mai Arr	44.64	301	P	P	01 11 03.0	+1.2
MK31	Makanchi Array	70.23	323	P	P	01 14 01.9	+0.3
MK31				IAmb	IAmb	01 14 04.3	
	comp=Z,2.7nm,0.9s						
MKAR	Makanchi Array	70.23	323	P	P	01 14 03.4	+1.9
	comp=Z,3.5nm,0.5s,baz=104,slow=8.3,SNR=53						
	comp=Z,3.5nm,0.5s						
MKAR	Makanchi Array	70.23	323	P	P	01 14 02.1	+0.6
ZALV	Zalesovo Beam	72.45	330	P	P	01 14 15.7	+1.1
	comp=Z,0.5nm,0.5s,baz=103,slow=6.4,SNR=3.9						
	comp=Z,0.5nm,0.5s						
ZALV	Zalesovo Beam	72.45	330	P	P	01 14 13.8	-0.8
KK31	Karatay Array	76.50	316	P	P	01 14 35.8	-2.7
KKAR	Karatay Array	76.50	316	P	P	01 14 36.0	-2.4
BRVK	Borovoye	79.85	325	P	P	01 14 56.9	+0.1
BRVK				IAmb	IAmb	01 15 02.4	
	comp=Z,4.8nm,0.8s						
ABKAR	Akbulak array	85.14	320	P	P	01 15 24.9	+0.6
ILAR	Eielson Array	86.53	24	P	P	01 15 31.5	+0.6
	comp=Z,0.5nm,1.0s,baz=271,slow=4.6,SNR=4.2						
	comp=Z,0.5nm,1.0s						
ARU	Arti	87.28	327	LR	LR	01 56 03.3	
	comp=Z,21nm,18.3s,baz=319,slow=37						

WEL 18 01:05:13.6±0.3, 42°S±3°×17°4E±°, h8km±2km, M3.5/41, ML3.7/24, MLv3.5/41, Error ellipse: s-maj=0.0km s-min=0.0km az=147.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.05	284	P	Pg	01 05 15.9	+0.6
CMWZ				S	Sg	01 05 17.9	+1.4
BSWZ	Blackbirch Sta	0.31	279	P	Pg	01 05 19.9	+0.2
BSWZ				S	Sg	01 05 24.9	+1.1
TUWZ	Tuamarina	0.42	323	P	Pg	01 05 22.2	+0.4
TCW	Tory Channel	0.55	360	P	Pg	01 05 24.6	+0.4
WEL	Wellington	0.60	38	P	Pb	01 05 26.3	-0.1
PLWZ	Palliser	0.76	76	P	Pb	01 05 29.4	+0.4
MSWZ	Moikau Station	0.81	65	P	Pb	01 05 30.3	+0.4
KHZ	Kahutara	0.86	220	P	Pb	01 05 30.6	-0.1
NNZ	Nelson	0.87	308	P	Pg	01 05 30.0	-0.3
CAW	Cannon Point	0.88	42	P	Pb	01 05 31.1	-0.1
PAWZ	Paruwai Farm	0.94	67	P	Pb	01 05 32.0	-0.2
DUWZ	D'Urville Isla	1.00	344	P	Pg	01 05 32.4	-0.3
KIW	Kapiti Island	1.02	28	P	Pg	01 05 33.3	+0.2
THZ	Tophouse	1.03	270	P	Pg	01 05 33.4	0.0
MTW	Mount Morrison	1.10	57	P	Pg	01 05 34.3	-0.4
TRWZ	Traveller	1.12	71	P	Pg	01 05 34.0	-1.1
OGWZ	Otaki Gorge	1.16	36	P	Pg	01 05 35.7	-0.2
MRNZ	Matariki Terra	1.20	287	P	Pb	01 05 36.5	-0.1
TKNZ	Takaka Hill	1.23	306	P	Pb	01 05 36.9	-0.3
HOWZ	Holdsworth Sta	1.27	48	P	Pn	01 05 36.7	-1.0
TMWZ	Te Maipa	1.38	62	P	Pn	01 05 37.9	-1.3
MRZ	Mangatainoka R	1.47	42	P	Pn	01 05 39.7	-0.8
GVZ	Greta Valley S	1.52	217	P	Pn	01 05 40.5	-0.7
TIWZ	Tintock	1.56	51	P	Pn	01 05 40.7	-1.1
QRZ	Quartz Range	1.62	305	P	Pb	01 05 43.2	-0.5
PRWZ	Pori Road	1.76	47	P	Pn	01 05 43.2	+1.1
POWZ	Post Office Ro	1.77	40	P	Pn	01 05 43.9	-0.7
LTZ	Lake Taylor	1.81	235	P	Pn	01 05 44.1	-1.0
BFZ	Birch Farm	1.83	55	P	Pn	01 05 44.8	-0.6
BFZ				P	Pb	01 05 45.0	-2.5
DSZ	Denniston Nort	1.85	270	P	Pn	01 05 46.0	+0.2
AMCZ	Amberley	1.86	220	P	Pb	01 05 47.8	0.0
DVHZ	Dannevirke	2.04	45	P	Pn	01 05 46.6	-1.7
WAZ	Wanganui	2.08	15	P	Pb	01 05 52.3	+0.7
ANWZ	Angora Road	2.11	53	P	Pg	01 05 55.9	+1.9
TSZ	Takapari Road	2.12	37	P	Pn	01 05 48.7	-0.8
OKCZ	Okains Bay	2.16	204	P	Pn	01 05 47.7	-2.2
OXZ	Oxford	2.28	226	P	Pn	01 05 49.6	-2.0
MQZ	McQueen's Vall	2.28	211	P	Pn	01 05 48.8	-2.8
LREZ	Lake Rotokare	2.30	2	P	Pb	01 05 54.8	-0.6
INZ	Inchbonnie	2.32	245	P	Pn	01 05 54.0	-1.6
PNHZ	Pukenui	2.35	39	P	Pn	01 05 51.3	-1.3
WPHZ	Waipukurau	2.36	45	P	Pn	01 05 59.5	+0.7
KHEZ	Kahui Hut	2.47	355	P	Pb	01 05 57.0	-1.3
NEZ	North Egmont	2.49	357	P	Pb	01 05 58.0	-0.7
NBEZ	Newall Road No	2.51	353	P	Pb	01 05 58.4	-0.6
DREZ	Durham Road	2.57	359	P	Pb	01 05 58.4	-1.6
PKE	Pukeiti	2.58	355	P	Pb	01 05 59.8	-0.3
PKVZ	Pokaka	2.60	19	P	Pb	01 06 00.7	+0.1
MOVZ	Moawhango	2.61	26	P	Pb	01 05 58.5	-2.1
WNVZ	Wahianoa	2.63	23	P	Pn	01 05 58.1	+1.5
TRVZ	Turoa	2.64	22	P	Pn	01 05 58.5	+1.7
BHHZ	Black Hill Sta	2.64	31	P	Pn	01 05 57.2	+0.5
VRZ	Vera Road	2.66	8	P	Pn	01 05 58.6	+1.8
DRZ	Dome Shelter	2.67	22	P	Pg	01 06 03.3	-1.4
WHVZ	Whangaehu Hut	2.67	22	P	Pn	01 05 59.4	+2.2
MHCZ	Mount Hutt	2.67	228	P	Pn	01 05 54.9	-2.1
FWVZ	Far West T-bar	2.69	22	P	Pn	01 05 58.2	+0.8
TUVZ	Tukino	2.70	23	P	Pn	01 05 59.9	+2.4
NGZ	Ngauruhoe	2.77	22	P	Pn	01 05 59.9	+1.4
SNVZ	South Ngauruho	2.77	22	P	Pn	01 05 59.8	+1.3
OTVZ	Oturere	2.80	23	P	Pb	01 06 04.9	+0.8
NNVZ	North Ngauruho	2.82	22	P	Pn	01 06 00.6	+1.5
WTVZ	West Tongariro	2.83	21	P	Pb	01 06 04.4	0.0
TWVZ	Taurewa	2.83	19	P	Pb	01 06 04.3	-0.2
ETVZ	East Tongariro	2.84	23	P	Pb	01 06 05.4	+0.7
TMVZ	Te Maari	2.86	23	P	Pn	01 06 00.6	+0.9
KRVZ	Karewarewa	2.86	22	P	Pb	01 06 05.1	+0.1
NTVZ	North Tongarir	2.87	22	P	Pn	01 06 00.4	+0.6
WVZ	Waitaha Valley	2.93	242	P	Pn	01 06 05.1	-1.0
KATZ	Kakaramea	2.99	22	P	Pb	01 06 07.9	+0.8
RITZ	Rihia Road	3.03	24	P	Pb	01 06 09.4	+1.5
RPZ	Rata Peaks	3.08	230	P	Pn	01 06 01.0	-1.5
BKZ	Black Stump Fm	3.09	34	P	Pb	01 06 09.1	+0.2
HIZ	Hauiti	3.27	8	P	Pn	01 06 08.6	+3.3
GCSZ	Gaunt Creek Bo	3.31	241	P	Pn	01 06 08.8	+3.0
MRHZ	Matea Rd	3.35	30	P	Pn	01 06 13.4	+0.1
TMZ	Timaru	3.55	221	P	Pn	01 06 07.7	-1.9
TLZ	Tolley Road	3.56	16	P	Pn	01 06 12.8	+3.6
RAGZ	Rawiri	4.05	37	P	Pb	01 06 22.4	-2.9
TOZ	Tahuroa Road	4.13	14	P	Pn	01 06 21.5	+4.4
ODZ	Otahua Downs	4.22	218	P	Pn	01 06 15.3	-2.9
JCZ	Jackson Bay	4.65	238	P	Pn	01 06 26.9	+2.7
AWAZ	Awhitu Peninsu	4.70	4	P	Pn	01 06 28.0	+3.2
MKAZ	Moumakai	4.70	9	P	Pn	01 06 27.9	+3.0

WEL 18 01:15:17.9±0.6, 42°S±4°×17°4E±°, h6km±3km, M3.4/34, ML3.7/13, MLv3.4/34, Error ellipse: s-maj=0.0km s-min=0.0km az=129.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.19	259	P	Pg	01 15 22.0	+0.3
KHZ				S	Sg	01 15 25.8	+1.4
BSWZ	Blackbirch Sta	0.67	5	P	Pg	01 15 30.4	-0.3
BSWZ				S	Sb	01 15 42.2	+0.8
CMWZ	Cape Campbell	0.70	26	P	Pb	01 15 32.6	+0.1
GVZ	Greta Valley S	0.81	223	P	Pb	01 15 34.6	+0.2
GVZ				S	Sn	01 15 47.9	-0.3
THZ	Tophouse	0.91	313	P	Pg	01 15 34.8	-0.5
TUWZ	Tuamarina	0.95	7	P	Pg	01 15 35.5	-0.7
AMCZ	Amberley	1.16	226	P	Pg	01 15 39.3	-0.8
LTZ	Lake Taylor	1.20	250	P	Pg	01 15 40.1	-0.8
NNZ	Nelson	1.20	345	P	Pg	01 15 39.6	-1.2
TCW	Tory Channel	1.22	17	P	Pg	01 15 39.5	-1.8
MRNZ	Matariki Terra	1.25	321	P	Pb	01 15 41.5	-0.3
WEL	Wellington	1.31	34	P	Pn	01 15 40.9	-1.8
PLWZ	Palliser	1.35	54	P	Pn	01 15 40.8	-2.5
OKCZ	Okains Bay	1.45	202	P	Pn	01 15 42.8	-1.9
MSWZ	Moikau Station	1.45	49	P	Pn	01 15 42.0	-2.6
TKNZ	Takaka Hill	1.48	335	P	Pn	01 15 44.8	-0.3
MQZ	McQueen's Vall	1.57	212	P	Pn	01 15 43.8	-2.4
PAWZ	Paruwai Farm	1.57	51	P	Pn	01 15 43.5	-2.8
DUWZ	D'Urville Isla	1.58	3	P	Pn	01 15 45.7	-0.6
CAW	Cannon Point	1.59	37	P	Pn	01 15 44.2	-2.2
OXZ	Oxford	1.60	233	P	Pn	01 15 44.8	-1.9
DSZ	Denniston Nort	1.61	292	P	Pn	01 15 47.2	+0.3
AKCZ	Akaroa Harbour	1.63	203	P	Pn	01 15 45.1	-1.9
TRWZ	Traveller	1.72	56	P	Pn	01 15 46.2	-2.1
KIW	Kapiti Island	1.73	29	P	Pn	01 15 46.6	-1.9
INZ	Inchbonnie	1.77	258	P	Pn	01 15 48.4	-0.6
RACZ	Rakaia	1.81	221	P	Pn	01 15 47.6	-2.0
QRZ	Quartz Range	1.82	328	P	Pn	01 15 53.0	+0.7
HOWZ	Holdsworth Sta	1.96	42	P	Pn	01 15 49.4	-2.3
MHCZ	Mount Hutt	2.00	234	P	Pn	01 15 50.2	-2.0
WACZ	Wakanui South	2.12	222	P	Pn	01 15 51.9	-1.9
MRZ	Mangatainoka R	2.18	39	P	Pn	01 15 52.2	-2.4
WVZ	Waitaha Valley	2.36	252	P	Pn	01 15 56.5	-0.5
RPZ	Rata Peaks	2.41	235	P	Pn	01 15 56.0	-1.8
ARCZ	Arundel	2.48	230	P	Pn	01 15 56.9	-1.8
GCSZ	Gaunt Creek Bo	2.72	249	P	Pn	01 16 02.4	+0.4
TMZ	Timaru	2.85	224	P	Pn	01 16 02.1	-1.8
FOZ	Fox Glacier	3.14	247	P	Pn	01 16 08.8	+1.0
LBZ	Lake Benmore	3.31	231	P	Pn	01 16 08.9	-1.3
VRZ	Vera Road	3.33	13	P	Pn	01 16 11.3	+0.9
ODZ	Otahua Downs	3.51	220	P	Pn	01 16 10.8	-2.1
KWHZ	Kaweka Forest	3.56	35	P	Pn	01 16 17.4	+3.8
JCZ	Jackson Bay	4.04	243	P	Pn	01 16 20.3	+0.1
HHSZ	Highcliff Hill	4.19	212	P	Pn	01 16 20.1	-2.2
EAZ	Earnscleugh	4.32	227	P	Pn	01 16 22.4	-1.7
SYZ	Scrubby Hill	5.33	217	P	Pn	01 16 36.2	-1.6
MKAZ	Moumakai	5.37	12	P	Pn	01 16 40.1	+1.6

JMA 18 01:18:03.5±0.5, 28°N±2°×13°0E±°, h22km±4km, MV0.9/4, NEAR AMAMI-OSHIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	Amami Oshima	0.16	344	*e*P	Pb	01 18 08.2	-1.1
JAMN	Amaminishikomi	0.42	268	P	Pb	01 18 12.2	0.0
JAMN				*e*S	Sb	01 18 18.0	-0.2
JTK	Tokunoshima	0.78	233	*e*P	Pb	01 18 17.9	-0.5
JTK				*e*S	Sb	01 18 27.4	-1.2

*IDC **18** 01:19:01.6±1.8, 33.98N×131.37E, h0km, mb3.4/2, mbtmp3.4/3, ML3.2/1, MS3.2/7, Error ellipse: s-maj=44.7km s-min=25.3km az=55.0*
*BJI **18** 01:19:05.3±0.0, 33.52N×130.00E, h10km, mb4.4/19, mB4.8/11, Ms3.9/5, Ms7 3.8/6*
*NIED **18** 01:19:05.4, 33.74N×130.24E, h14km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.66; Mθθ1.40; Mφφ-0.74; Mrθ0.06; Mθφ0.64; Mφr-0.65; Fault plane solution: M0 1.52000×10^15 NP1: φs292.00000°, δ61.00000°, λ-28.00000°. NP2: φs37.00000°, δ66.00000°, λ-148.00000°.*
*NEIC **18** 01:19:05.4±1.3, 33.65N±0.04×130.11E±0.06, h10km±2km, mb4.1/4 Error ellipse: s-maj=11.3km s-min=3.0km az=49.0*
*JMA **18** 01:19:05.4±0.0, 33.7N±0.1×130.24E±0.09, h14km, MD4.2/40, MW4.1/40, NW OFF KYUSHU*
JMA Felt III J1 at NW OFF KYUSHU .

ISC 18 01:19:05.4±1.1, 33.72N±0.04×130.19E±0.04, h9km±8km, n69, σ1s58/46, mb4.1/5, MS3.1/6, 1C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	Itaya	0.34	151	*i* P	Pg	01 19 12.3	+0.2
JFI				S	Sg	01 19 17.3	+0.7
JFI	Itaya	0.34	151	A	A	01 19 12.3	
	comp=E,27nm,0.9s,comp=E,28nm,0.5s						
JII	Iki	0.39	281	⇓*i* P	Pg	01 19 14.0	+0.9
JII				⇓S	Sb	01 19 19.9	-0.7
JII	Iki	0.39	281	A	A	01 19 14.0	
	comp=E,23nm,2.2s,comp=E,34nm,2.8s						
JFA	Akaike	0.50	91	⇓*i* P	Pg	01 19 14.5	-0.7
JFA				⇓S	Sg	01 19 21.3	-0.5
JFA	Akaike	0.50	91	A	A	01 19 14.5	
	comp=E,21nm,0.6s,comp=E,31nm,0.5s						
JUR	Ureshino	0.66	198	A	A	01 19 18.4	
	comp=E,22nm,2.0s,comp=E,14nm,1.4s						
JTA	Tamana	0.81	159	*i* P	Pg	01 19 20.5	-0.5
JTA	Tamana	0.81	159	A	A	01 19 20.5	
	comp=E,9.0nm,0.6s,comp=E,6.0nm,2.1s						
JNU	Nakatsue	0.83	136	Pg	Pg	01 19 20.6	-0.8
JNU				Sg	Sg	01 19 31.5	-0.7
JNU	Nakatsue	0.83	136	P	Pg	01 19 20.6	-0.8
JNU	Nakatsue	0.83	136	A	A	01 19 20.8	
	comp=E,9.0nm,3.5s,comp=E,6.0nm,1.4s						
JTY	Toyota	0.90	53	A	A	01 19 21.7	
	comp=E,9.0nm,1.1s,comp=E,10.0nm,0.7s						
JTSM	Tsushimamitsus	0.91	313	*i* P	Pg	01 19 22.6	-0.3
JTSM				S	Sg	01 19 34.7	-0.1
JTSM	Tsushimamitsus	0.91	313	A	A	01 19 22.6	
	comp=E,18nm,0.6s,comp

ENH				IAmb	IAmb	01 23 17.8	
	comp=Z,20nm,1.3s						
SONM	**Songino Array**	**22.76**	**315**	P	**P**	**01 24 12.3**	**+4.3**
	comp=Z,0.9nm,0.7s,baz=127,slow=10,SNR=7.5						
SONM				LR	LR	01 33 50.9	
	comp=Z,92nm,18.6s,baz=82,slow=38						
	comp=Z,0.9nm,0.7s						
PZH	**PanZhiHua**	**25.59**	**261**	P	**P**	**01 24 35.5**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,6.6s						
YAK	**Yakutsk**	**28.33**	**359**	LR	LR	01 35 59.9	
	comp=Z,43nm,18.6s,baz=107,slow=36						
GOMU	**GeErMu**	**29.00**	**285**	P	**P**	**01 25 07.1**	**+1.2**
GOMU				pP	sP	01 25 10.5	+0.5
GOMU				sP	pP	01 25 11.6	+2.8
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,82nm,4.8s						
MA2	**Magadan**	**29.22**	**21**	LR	LR	01 35 58.0	
	comp=Z,30nm,18.4s,baz=193,slow=36						
CMAR	**Chiang Mai Arr**	**31.76**	**249**	LR	LR	01 40 10.5	
	comp=Z,40nm,18.8s,baz=55,slow=39						
WMQ	**Urumqi**	**34.30**	**300**	*e*P	**P**	**01 25 53.6**	**+1.5**
ZALV	**Zalesovo Beam**	**37.65**	**316**	LR	LR	01 44 11.4	
	comp=Z,74nm,18.5s,baz=68,slow=40						
MAKZ	**Makanchi**	**38.46**	**305**	P	**P**	**01 26 27.9**	**+0.4**
KAPI	**Kappang**	**39.77**	**196**	LR	LR	01 45 21.3	
	comp=Z,30nm,18.1s,baz=66,slow=39						
KK31	**Karatay Array**	**46.81**	**300**	P	**P**	**01 27 34.3**	**-1.1**
KK31				IAmb	IAmb	01 27 35.9	
	comp=Z,1.6nm,0.9s						
KKAR	**Karatay Array**	**46.81**	**300**	P	**P**	**01 27 34.5**	**-0.9**
NIL	**Nilore**	**46.84**	**287**	P	**P**	**01 27 34.4**	**-1.4**
WRA	**Warramunga Arr**	**53.51**	**175**	P	**P**	**01 28 24.9**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=353,slow=7.9,SNR=3.0						
	comp=Z,0.5nm,0.9s						

IDC 18 01:31:46.2±2.0, 0°.62N×128°.46E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=129.3km s-min=25.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.23**	**165**	P	P	01 36 33.6	-0.3
	0.5nm,0.4s,baz=344,slow=11,SNR=9.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**24.72**	**168**	P	P	01 37 09.6	+0.2
	1.1nm,0.8s,baz=349,slow=10,SNR=8.9						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**61.08**	**326**	P	P	01 42 02.1	0.0
	0.2nm,0.6s,baz=129,slow=7.7,SNR=2.9						
	0.2nm,0.6s						

*DDA **18** 01:35:46.0±0.0, 39°.74N×26°.12E, h3km±1km, ML2.5*
*ISK **18** 01:35:46.6, 39°.79N×26°.13E, h5km, ML2.4/20*
*ATH **18** 01:35:47.6, 39°.78N×26°.07E, h9km±2km, ML2.0/4, Error ellipse: s-maj=3.8km s-min=0.9km az=255.0*
ISC 18 01:35:46.5±0.8, 39°.77N±0°.02×26°.12E±0°.02, h9km±6km, n42, σ0°70/59, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.09**	**325**	PG	**Pg**	**01 35 48.9**	**0.0**
BOZC				SG	**Sg**	**01 35 50.5**	**-0.1**
BOZC	**Bozcaada**	**0.09**	**325**	P	**Pg**	**01 35 48.4**	**-0.5**
BOZC				P		01 35 48.7	
BOZC				*i* AML	AML	01 35 50.0	
	comp=N,7μm,0.2s						
BOZC				*i* AML	AML	01 35 50.0	
	comp=E,7μm,0.2s						
BOZC				S	**Sg**	**01 35 50.4**	**-0.1**
EZN	**Ezine**	**0.17**	**71**	PG	**Pg**	**01 35 50.1**	**-0.1**
ECEA	**Canakkale, Ece**	**0.28**	**9**	P	**Pg**	**01 35 52.3**	**+0.2**
ECEA				S	**Sg**	**01 35 57.1**	**+1.2**
GADA	**Gvkgeada**	**0.45**	**338**	PG	**Pg**	**01 35 55.5**	**+0.1**
GADA				SG	**Sg**	**01 36 02.1**	**+0.7**
PRK	**Paraskevi**	**0.54**	**167**	P	**Pb**	**01 35 58.3**	**+0.2**
PRK				S	**Sb**	**01 36 05.3**	**-0.6**
PRK				AML	AML	01 36 07.3	
	comp=N,626μm,0.3s						
PRK				AML	AML	01 36 07.6	
	comp=E,577μm,0.5s						
SIGR	**SIGRI**	**0.59**	**200**	PG	**Pb**	**01 35 58.9**	**-0.2**
SIGR				SG	**Sb**	**01 36 07.7**	**+0.2**
SIGR	**SIGRI**	**0.59**	**200**	P	**Pg**	**01 35 58.4**	**+0.4**
SIGR				S	**Sb**	**01 36 07.1**	**-0.5**
SIGR				AML	AML	01 36 08.9	
	comp=E,341μm,0.5s						
SIGR				AML	AML	01 36 10.8	
	comp=N,437μm,0.3s						
GELI	**Tayfur-Gelibol**	**0.68**	**24**	PG	**Pg**	**01 35 59.8**	**0.0**
GELI				SG	**Sb**	**01 36 09.6**	**-0.6**
LPK	**Lapseki**	**0.78**	**39**	PG	**Pg**	**01 36 01.6**	**+0.1**
BUHA	**Balikesir, Bur**	**0.79**	**110**	P	**Pg**	**01 36 01.3**	**-0.5**
SMTH	**Samothraki Isl**	**0.83**	**327**	P	**Pg**	**01 36 02.8**	**+0.2**
SMTH				S	**Sg**	**01 36 14.0**	**+0.5**
SMTH				AML	AML	01 36 17.5	
	comp=N,177μm,0.2s						
SMTH				AML	AML	01 36 17.6	
	comp=E,231μm,0.4s						
DKL	**Dikili**	**0.93**	**139**	PG	**Pb**	**01 36 04.9**	**+0.1**
ERIK	**Erikli-Kesan**	**0.95**	**19**	PG	**Pg**	**01 36 04.8**	**0.0**
ENEZ	**Enez**	**0.96**	**2**	PG	**Pg**	**01 36 05.3**	**+0.2**
ZEDA	**zmir-Bergama**	**1.09**	**137**	P	**Pg**	**01 36 07.8**	**+0.2**
ZEDA				S	**Sb**	**01 36 22.7**	**+0.7**
KRBG	**Karabiga-Canak**	**1.10**	**55**	PN	**Pg**	**01 36 07.7**	**0.0**
KESN	**Edirne-Kesan**	**1.14**	**22**	P	**Pb**	**01 36 09.0**	**+0.4**
KESN				S	**Sb**	**01 36 24.7**	**+1.1**
KESN				*i* AML	AML	01 36 27.0	
	comp=E,102nm,0.7s						
KESN				*i* AML	AML	01 36 27.0	
	comp=E,107nm,0.4s						
BALY	**Balya**	**1.16**	**91**	P	**Pg**	**01 36 08.5**	**-0.3**
BALY				S	**Sg**	**01 36 22.2**	**-1.6**
FOCM	**Foa**	**1.16**	**156**	PN	**Pn**	**01 36 09.4**	**+0.5**
KNL	**Balıkesir**	**1.19**	**65**	P	**Pg**	**01 36 08.9**	**-0.5**
KNL				S	**Sg**	**01 36 24.2**	**-0.7**
KNL				*i* AML	AML	01 36 29.0	
	comp=E,104nm,0.6s						
RKY	**Sarkoy-Tekirda**	**1.22**	**41**	PN	**Pb**	**01 36 10.2**	**+0.3**
GONE	**Gonen-Balikesi**	**1.24**	**77**	PN	**Pn**	**01 36 10.6**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.30**	**107**	P	**Pn**	**01 36 11.3**	**+0.4**
STEP				S	**Sn**	**01 36 29.0**	**+0.7**
PSRA	**Psara**	**1.30**	**199**	P	**Pn**	**01 36 11.1**	**+0.3**
THAS	**Thassos island**	**1.36**	**308**	P	**Pn**	**01 36 11.4**	**-0.2**
MRMT	**Marmara Adasi**	**1.41**	**53**	PN	**Pn**	**01 36 12.8**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.41**	**16**	PN	**Pn**	**01 36 13.0**	**+0.6**
RDO	**Rodhopi**	**1.44**	**342**	PN	**Pn**	**01 36 13.3**	**+0.5**
RDO	**Rodhopi**	**1.44**	**342**	P	**Pn**	**01 36 13.0**	**+0.2**
RDO				S	**Sb**	**01 36 31.0**	**-1.0**
RDO				AML	AML	01 36 34.5	
	comp=N,32μm,0.2s						
RDO				AML	AML	01 36 34.9	
	comp=E,39μm,0.3s						
URLA	**Izmir**	**1.46**	**165**	PN	**Pb**	**01 36 14.2**	**+0.4**
EDC	**Edincik**	**1.46**	**66**	PN	**Pn**	**01 36 13.8**	**+0.8**
OUR	**Ouranopolis**	**1.73**	**290**	PN	**Pb**	**01 36 18.2**	**-0.3**
KCTX	**Karacabey (Bur**	**1.79**	**73**	PN	**Pn**	**01 36 18.3**	**+0.7**
DURS	**Dursunbey**	**1.83**	**95**	P	**Pb**	**01 36 19.7**	**-0.4**
DURS				S	**Sn**	**01 36 41.6**	**+0.1**
DURS				*i* AML	AML	01 36 48.0	
	comp=E,33nm,0.5s						
CRLT	**Corlu**	**1.83**	**42**	PN	**Pn**	**01 36 19.3**	**+1.1**
KDZ	**Kurdzhali**	**1.95**	**344**	PN	**Pn**	**01 36 20.0**	**+0.2**
EDRB	**Edirne**	**2.13**	**13**	PN	**Pn**	**01 36 23.2**	**+1.0**
DEMI	**Demirci**	**2.14**	**109**	P	**Pg**	**01 36 27.1**	**-0.5**
KIRK	**Kırklareli**	**2.14**	**20**	P	**Pn**	**01 36 21.4**	**-1.0**
KIRK				S	**Sn**	**01 36 46.5**	**-2.6**
SLVT	**Silivri**	**2.16**	**47**	PN	**Pn**	**01 36 23.6**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.21**	**73**	PN	**Pn**	**01 36 24.6**	**+1.3**

*ISN **18** 01:57:05.5±0.9, 32°.97N×45°.82E, h6km±5km, ML3.7*
*TEH **18** 01:57:06.0, 32°.97N×45°.81E, h18km, ML3.6*
*IDC **18** 01:57:16.5±28.0, 34°.46N×46°.39E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=570.8km s-min=43.2km az=16.0*
ISC 18 01:57:05.7±1.4, 32°.98N±0°.04×45°.82E±0°.04, h3km±11km, n39, σ0°68/44, mb3.6/3, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.16**	**36**	*e*Pg	**Pg**	**01 57 09.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**01 57 11.0**	**0.0**
IBDR				AML	AML	01 57 15.5	
	comp=E,32μm,0.2s						
IBDR				AML	AML	01 57 17.9	
	comp=N,29μm,0.6s						
ILBA	**Ilam Banvizeh**	**0.72**	**27**	*e*Pg	**Pg**	**01 57 19.2**	**-0.3**
BHD	**Baghdad**	**1.24**	**284**	*e*Pg	**Pg**	**01 57 29.0**	**-0.4**
BHD				*e*Sg	**Sn**	**01 57 46.5**	**-0.7**
BHD				AML	AML	01 57 59.7	
	comp=E,2μm,0.5s						
DHL1	**Dehloran**	**1.27**	**103**	*e*Pg	**Pg**	**01 57 30.5**	**+0.5**
DHL1				*e*Sg	**Sn**	**01 57 48.0**	**+0.2**
RAFI	**Al-Rafai**	**1.28**	**169**	*e*Pg	**Pg**	**01 57 31.0**	**+0.9**
RAFI				*e*Sg	**Sn**	**01 57 48.0**	**0.0**
IGHG	**Ghaleghazi**	**1.49**	**25**	*e*Pg	**Pg**	**01 57 34.4**	**+0.2**
IGHG				*e*		01 58 08.1	
	comp=E,14μm,0.8s						
KCHF	**Cheshme Sefid,**	**1.65**	**38**	*e*Pg	**Pb**	**01 57 36.6**	**-0.2**
KCHF				*e*		01 58 00.5	
	comp=E,10μm,0.5s						
IDHR	**Dehrash**	**1.78**	**15**	*e*Pg	**Pg**	**01 57 40.0**	**+0.2**
KER	**Kermanshah**	**1.78**	**38**	*e*Pn	**Pb**	**01 57 38.5**	**-0.6**
KER				*e*		01 58 13.9	
	comp=E,6μm,0.8s						
IKFM	**Kafar-mosalman**	**1.79**	**72**	*e*Pn	**Pn**	**01 57 38.1**	**+0.7**
IKFM				*e*		01 58 04.0	
	comp=E,9μm,0.6s						
IKOM	**Komasi**	**1.85**	**49**	*e*Pn	**Pb**	**01 57 39.4**	**-0.8**
IKOM				*e*		01 58 07.8	
	comp=E,11μm,0.5s						
IDOB	**Doab**	**2.13**	**67**	*e*Pn	**Pn**	**01 57 42.5**	**+0.1**
ILIN	**Lien**	**2.16**	**26**	*e*Pn	**Pb**	**01 57 44.5**	**-1.0**
ILIN				*e*		01 58 23.0	
	comp=E,3μm,1.0s						
IKMR	**Kamar-syah**	**2.21**	**75**	*e*Pn	**Pn**	**01 57 44.0**	**+0.7**
IKMR				*e*		01 58 20.0	
	comp=E,4μm,0.4s						
SNGE	**Sanandaj**	**2.46**	**31**	*e*Pn	**Pn**	**01 57 48.0**	**+1.1**
HSAM	**Samen**	**2.63**	**61**	*e*Pn	**Pn**	**01 57 49.8**	**+0.5**
IKRK	**Kirkuk**	**2.71**	**334**	*e*Pn	**Pn**	**01 57 51.0**	**+0.9**
IKRK				*e*Sn	**Sn**	**01 58 25.0**	**+1.6**
IKRK				AML	AML	01 58 52.2	
	comp=N,202nm,0.3s						
IKRK				AML	AML	01 58 52.8	
	comp=E,198nm,0.5s						
AMIS	**Naft Sefid**	**3.22**	**113**	*e*Pn	**Pn**	**01 57 57.5**	**+0.4**
HAGD	**Aghdareh**	**3.32**	**55**	*e*Pn	**Pn**	**01 57 59.4**	**+0.6**
HAGD				*e*		01 59 02.8	
	comp=E,651nm,0.8s						
KHMZ	**Khomeyn**	**3.55**	**77**	*e*Pn	**Pn**	**01 58 02.4**	**+0.5**
ASAO	**Ashtian**	**3.84**	**65**	*e*Pn	**Pn**	**01 58 06.7**	**+0.8**
IRAZ	**Razeghan**	**4.18**	**53**	*e*Pn	**Pn**	**01 58 11.0**	**+0.4**
IRAZ				*e*		01 59 34.4	
	comp=E,512nm,1.0s						
IPIR	**Pirpir**	**4.28**	**93**	*e*Pn	**Pn**	**01 58 12.4**	**+0.3**
IPIR				*e*		01 59 04.7	
	comp=E,605nm,0.6s						
SHK1	**Shahrekord**	**4.32**	**97**	*e*Pn	**Pn**	**01 58 12.3**	**-0.3**
ZNJK	**Zanjan**	**4.37**	**32**	*e*Pn	**Pn**	**01 58 14.1**	**+0.8**
IQOM	**Qom**	**4.75**	**66**	*e*Pn	**Pn**	**01 58 18.7**	**+0.3**
IQOM				*e*		02 00 03.4	
	comp=Z,240nm,1.2s						
GHVR	**GHOM**	**4.80**	**70**	*e*Pn	**Pn**	**01 58 19.6**	**+0.6**
IKLH	**Kolahrood**	**4.84**	**84**	*e*Pn	**Pn**	**01 58 20.6**	**+0.9**
IKLH				*e*		01 59 58.3	
	comp=Z,254nm,0.9s						
QALM	**Alamut, Qazvin**	**5.26**	**48**	*e*Pn	**Pn**	**01 58 26.4**	**+0.9**
CHTH	**Charan**	**5.27**	**55**	*e*Pn	**Pn**	**01 58 25.4**	**-0.2**
ISHB	**Shabestar**	**5.30**	**358**	*e*Pn	**Pn**	**01 58 27.3**	**+1.4**
IVRN	**Varamin**	**5.31**	**66**	*e*Pn	**Pn**	**01 58 26.2**	**+0.3**
KRSH	**Karshahi**	**5.37**	**78**	*e*Pn	**Pn**	**01 58 26.9**	**0.0**
IZEF	**Zefreh**	**5.48**	**89**	*e*Pn	**Pn**	**01 58 28.8**	**+0.4**
ISFB	**Sefidab**	**5.53**	**74**	*e*Pn	**Pn**	**01 58 28.8**	**-0.2**
IRAM	**Ramesheh**	**5.67**	**100**	*e*Pn	**Pn**	**01 58 31.0**	**-0.1**
AKASG	**Malin Array Be**	**21.51**	**330**	P	**P**	**02 01 55.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=139,slow=9.4,SNR=5.3						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**30.90**	**53**	P	**P**	**02 03 23.8**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=244,slow=9.6,SNR=8.0						
	comp=Z,0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**34.60**	**41**	P	**P**	**02 03 54.3**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=255,slow=10,SNR=2.2						
	comp=Z,0.3nm,0.3s						

*NOU **18** 01:57:47.3, 42°.56S×174°.02E, h2km, MLv4.0/10, Off E. Coast of S. Island, N.Z.*
*WEL **18** 01:57:50.0±0.7, 42°.5±5°×17°.4E±°, h9km±4km, M3.5/37, ML3.9/12, MLv3.5/37, Error ellipse: s-maj=0.0km s-min=0.0km az=134.3*
ISC 18 01:57:48.5±1.2, 42°.50S±0°.04×174°.00E±0°.04, h21km, n87, σ1°47/86, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.35**	**284**	P	**Pb**	**01 57 54.7**	**-1.1**
KHZ	**Kahutara**	**0.35**	**284**	P	**Pb**	**01 57 54.8**	**-1.1**
KHZ				S	**Sb**	**01 57 58.5**	**-2.4**
CMWZ	**Cape Campbell**	**0.77**	**12**	P	**Pn**	**01 58 05.2**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.79**	**354**	P	**Pb**	**01 58 04.1**	**+0.5**
GVZ	**Greta Valley S**	**0.85**	**236**	P	**Pn**	**01 58 06.3**	**+1.1**
TUWZ	**Tuamarina**	**1.07**	**358**	P	**Pn**	**01 58 08.8**	**+0.6**
THZ	**Tophouse**	**1.10**	**312**	P	**Pn**	**01 58 08.4**	**-0.3**
AMCZ	**Amberley**	**1.20**	**235**	P	**Pb**	**01 58 11.1**	**+0.7**
LTZ	**Lake Taylor**	**1.30**	**257**	P	**Pn**	**01 58 11.9**	**+0.4**
SNZO	**South Karori**	**1.30**	**24**	P	**Pn**	**01 58 12.5**	**+1.1**
TCW	**Tory Channel**	**1.31**	**9**	P	**Pn**	**01 58 12.2**	**+0.7**
PLWZ	**Palliser**	**1.32**	**46**	P	**Pn**	**01 58 13.0**	**+1.2**
WEL	**Wellington**	**1.35**	**26**	P	**Pn**	**01 58 13.3**	**+1.3**
NNZ	**Nelson**	**1.36**	**340**	P	**Pn**	**01 58 12.6**	**+0.3**
OKCZ	**Okains Bay**	**1.40**	**209**	P	**Pb**	**01 58 14.4**	**+0.5**
MSWZ	**Moikau Station**	**1.43**	**41**	P	**Pn**	**01 58 14.4**	**+1.1**
MRNZ	**Matariki Terra**	**1.44**	**320**	P	**Pn**	**01 58 14.1**	**+0.8**
PAWZ	**Paruwai Farm**	**1.55**	**44**	P	**Pn**	**01 58 15.9**	**+1.0**
MQZ	**McQueen's Vall**	**1.55**	**219**	P	**Pn**	**01 58 15.5**	**+0.6**
AKCZ	**Akaroa Harbour**	**1.58**	**210**	P	**Pb**	**01 58 16.9**	**-0.1**
CAW	**Cannon Point**	**1.61**	**30**	P	**Pn**	**01 58 16.8**	**+1.1**
OXZ	**Oxford**	**1.66**	**240**	P	**Pn**	**01 58 16.6**	**+0.2**
TKNZ	**Takaka Hill**	**1.66**	**332**	P	**Pn**	**01 58 17.4**	**+1.0**
TRWZ	**Traveller**	**1.68**	**49**	P	**Pn**	**01 58 17.6**	**+1.0**
DUWZ	**D'Urville Isla**	**1.70**	**358**	P	**Pn**	**01 58 17.6**	**+0.7**
MTW	**Mount Morrison**	**1.75**	**40**	P	**Pn**	**01 58 18.4**	**+0.8**
KIW	**Kapiti Island**	**1.78**	**23**	P	**Pn**	**01 58 19.1**	**+1.1**
DSZ	**Denniston Nort**	**1.80**	**294**	P	**Pn**	**01 58 19.5**	**+1.2**
RACZ	**Rakaia**	**1.83**	**227**	P	**Pn**	**01 58 19.3**	**+0.7**
OGWZ	**Otaki Gorge**	**1.90**	**28**	P	**Pn**	**01 58 20.7**	**+1.0**
HOWZ	**Holdsworth Sta**	**1.97**	**36**	P	**Pn**	**01 58 21.5**	**+0.9**
TMWZ	**Te Maipa**	**1.99**	**46**	P	**Pn**	**01 58 21.5**	**+0.6**
QRZ	**Quartz Range**	**2.00**	**326**	P	**Pn**	**01 58 22.5**	**+1.4**
QRZ	**Quartz Range**	**2.00**	**326**	P	**Pn**	**01 58 22.4**	**+1.3**
MHCZ	**Mount Hutt**	**2.06**	**239**	P	**Pn**	**01 58 22.0**	**+0.1**
WACZ	**Wakanui South**	**2.13**	**227**	P	**Pn**	**01 58 23.6**	**+0.7**
MRZ	**Mangatainoka R**	**2.19**	**33**	P	**Pn**	**01 58 24.4**	**+0.7**
PRWZ	**Pori Road**	**2.45**	**38**	P	**Pn**	**01 58 27.9**	**+0.7**
WVZ	**Waitaha Valley**	**2.46**	**256**	P	**Pn**	**01 58 28.5**	**+1.1**
RPZ	**Rata Peaks**	**2.47**	**240**	P	**Pn**	**01 58 27.9**	**+0.4**
RPZ	**Rata Peaks**	**2.47**	**240**	P	**Pn**	**01 58 27.9**	**+0.4**
BFZ	**Birch Farm**	**2.48**	**44**	P	**Pn**	**01 58 28.1**	**+0.4**
BFZ	**Birch Farm**	**2.48**	**44**	P	**Pn**	**01 58 28.0**	**+0.4**
POWZ	**Post Office Ro**	**2.50**	**33**	P	**Pn**	**01 58 29.4**	**+1.6**
ARCZ	**Arundel**	**2.52**	**234**	P	**Pn**	**01 58 28.5**	**+0.4**
DVHZ	**Dannevirke**	**2.74**	**37**	P	**Pn**	**01 58 31.3**	**0.0**
GCSZ	**Gaunt Creek Bo**	**2.81**	**252**	P	**Pn**	**01 58 33.6**	**+1.4**
WAZ	**Wanganui**	**2.85**	**16**	P	**Pn**	**01 58 35.4**	**+2.7**
TMZ	**Timaru**	**2.88**	**228**	P	**Pn**	**01 58 33.8**	**+0.7**
LLREZ	**Lake Rotokare**	**3.06**	**6**	P	**Pn**	**01 58 39.1**	**+3.6**
PNHZ	**Pukenui**	**3.08**	**33**	P	**Pn**	**01 58 36.0**	**+0.1**
KHEZ	**Kahui Hut**	**3.21**	**0**	P	**Pn**	**01 58 39.6**	**+1.9**
KHEZ	**Kahui Hut**	**3.21**	**0**	P	**Pn**	**01 58 42.1**	**+4.4**
NEZ	**North Egmont**	**3.23**	**1**	P	Pn	01 58 43.0	+4.9
FOZ	**Fox Glacier**	**3.23**	**250**	P	**Pn**	**01 58 40.3**	**+2.3**
NBEZ	**Newall Road No**	**3.23**	**358**	P	**Pb**	**01 58 43.9**	**-1.2**
PKE	**Pukeiti**	**3.31**	**360**	P	**Pn**	**01 58 43.6**	**+4.6**
LBZ	**Lake Benmore**	**3.35**	**235**	P	**Pn**	**01 58 40.4**	**+0.7**
MOVZ	**Moawhango**	**3.37**	**24**	P	**Pn**	**01 58 40.9**	**+0.9**
BHHZ	**Black Hill Sta**	**3.39**	**28**	P	**Pn**	**01 58 41.2**	**+0.9**
WNVZ	**Wahianoa**	**3.40**	**21**	P	**Pn**	**01 58 42.0**	**+1.6**
TRVZ	**Turoa**	**3.41**	**21**	P	**Pn**	**01 58 42.7**	**+2.1**
VRZ	**Vera Road**	**3.42**	**10**	P	**Pn**	**01 58 43.1**	**+2.5**
WHVZ	**Whangaehu Hut**	**3.44**	**21**	P	**Pn**	**01 58 42.8**	**+1.8**
DRZ	**Dome Shelter**	**3.44**	**21**	P	**Pb**	**01 58 46.5**	**-2.3**
FWVZ	**Far West T-bar**	**3.45**	**21**	P	**Pn**	**01 58 43.2**	**+2.0**
TUVZ	**Tukino**	**3.47**	**22**	P	**Pn**	**01 58 42.9**	**+1.5**
ODZ	**Otahua Downs**	**3.51**	**223**	P	**Pn**	**01 58 42.4**	**+0.6**
ODZ	**Otahua Downs**	**3.51**	**223**	P	**Pn**	**01 58 42.6**	**+0.8**
NGZ	**Ngauruhoe**	**3.54**	**21**	P	**Pn**	**01 58 44.3**	**+2.0**
SNVZ	**South Ngauruho**	**3.54**	**21**	P	**Pn**	**01 58 44.1**	**+1.7**
NNVZ	**North Ngauruho**	**3.58**	**21**	P	**Pn**	**01 58 45.0**	**+2.0**
ETVZ	**East Tongariro**	**3.61**	**22**	P	**Pn**	**01 58 44.9**	**+1.6**
TMVZ	**Te Maari**	**3.62**	**22**	P	**Pn**	**01 58 44.6**	**+1.1**
NTVZ	**North Tongarir**	**3.63**	**21**	P	**Pn**	**01 58 45.0**	**+1.4**
BKZ	**Black Stump Fm**	**3.83**	**30**	P	**Pn**	**01 58 48.0**	**+1.7**
HIZ	**Hauiti**	**4.04**	**10**	P	**Pn**	**01 58 51.0**	**+1.9**
HIZ	**Hauiti**	**4.04**	**10**	P	**Pn**	**01 58 51.3**	**+2.2**
JCZ	**Jackson Bay**	**4.11**	**246**	P	**Pn**	**01 58 51.0**	**+0.8**
JCZ	**Jackson Bay**	**4.11**	**246**	P	**Pn**	**01 58 51.0**	**+0.8**
MTHZ	**Maungataniwha**	**4.24**	**32**	P	**Pn**	**01 58 51.8**	**-0.1**
EAZ	**Earnscleugh**	**4.35**	**230**	P	**Pn**	**01 58 53.7**	**+0.4**
RTZ	**Ruatahuna**	**4.50**	**31**	P	Pb	01 59 02.6	-4.2
SYZ	**Scrubby Hill**	**5.32**	**219**	P	**Pn**	**01 59 07.7**	**+1.1**
SYZ	**Scrubby Hill**	**5.32**	**219**	P	**Pn**	**01 59 07.9**	**+1.2**
AWAZ	**Awhitu Peninsu**	**5.46**	**5**	P	**Pn**	**01 59 10.5**	**+2.0**
MKAZ	**Moumakai**	**5.47**	**10**	P	**Pn**	**01 59 09.4**	**+0.7**

*IDC **18** 02:19:27.7±6.4, 8°.37S×110°.62E, h33km±47km, mb4.3/22, mbtmp4.5/22, ML5.6/1, MS3.4/18, Error ellipse: s-maj=17.6km s-min=11.6km az=75.0*
*DJA **18** 02:19:29.3±0.3, 9°.5±2°×11°.1E±°, h20km±2km, M5.3/25, mB5.9/10, mb5.0/25, MLv5.2/25, Mw(mB)5.4/10*
*NEIC **18** 02:19:31.7±2.2, 8°.76S±0°.06×110°.62E±0°.07, h58km±5km, mb4.6/33, Error ellipse: s-maj=11.2km s-min=8.0km az=58.0*
ISC 18 02:19:31.1±0.7, 8°.74S±0°.05×110°.53E±0°.04, h69km±5km, n205, σ1°80/204, mb4.5/44, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**0.82**	**359**		**Pn**	**02 19 48.1**	**+0.8**
UGM				Sn	**Sn**	**02 19 59.2**	**-0.1**
UGM	**Wanagama**	**0.82**	**359**	P	**Pn**	**02 19 48.1**	**+0.8**
UGM				S	**Sn**	**02 19 59.7**	**+0.4**
UGM	**Wanagama**	**0.82**	**359**	P	**Pn**	**02 19 48.3**	**+1.0**
PCJI	**Pacitan**	**0.83**	**50**	P	**Pn**	**02 19 47.3**	**-0.1**
PCJI				S	**Sn**	**02 19 58.3**	**-1.2**
YOGI	**Yogyakarta**	**0.94**	**346**	P	**Pn**	**02 19 49.1**	**+0.3**
SJI	**Sawahan**	**1.57**	**51**	P	**Pn**	**02 19 58.0**	**+0.9**
SJI				S	**Sn**	**02 20 19.0**	**+2.3**
NGJI	**Ngawi**	**1.64**	**34**	P	**Pn**	**02 20 01.3**	**+3.4**
SMRI	**Semarang**	**1.68**	**357**	Pn	**Pn**	**02 20 00.5**	**+2.1**
SMRI				Sn	**Sn**	**02 20 22.5**	**+3.4**
SMRI	**Semarang**	**1.68**	**357**	P	**Pn**	**02 20 00.7**	**+2.3**
SMRI				S	**Sn**	**02 20 23.2**	**+4.1**
SMRI	**Semarang**	**1.68**	**357**	P	**Pn**	**02 20 00.8**	**+2.3**
SCJI	**Gunung Srandil**	**1.71**	**308**	P	**Pn**	**02 19 59.3**	**+0.5**
KRKI	**Karangkates**	**1.98**	**73**	P	**Pn**	**02 20 03.6**	**+1.1**
KRKI				S	**Sn**	**02 20 27.8**	**+1.4**
CTJI	**Waduk Cacaban**	**2.18

MEEK	**Meekatharra**	**19.38**	**158**	P		**Pn**	**02 23 54.5**	**+1.2**
MTN	**Manton Dam**	**20.64**	**103**	P		**P**	**02 24 06.1**	**+0.9**
SURA	**Surathani**	**20.84**	**328**	P		Pn	02 24 15.4	+5.0
MORW	**Morawa**	**20.88**	**166**	P		Pn	02 24 10.7	-0.1
DAV	**Davao City (W)**	**21.71**	**44**	LR		LR	02 34 29.5	
	comp=Z,33nm,18.2s,baz=246,slow=42							
SIJI	**Sorong**	**22.07**	**70**	P		**P**	**02 24 23.8**	**+3.2**
	comp=Z,30nm,0.7s							
FAKI	**Fak Fak**	**22.35**	**76**	P		**P**	**02 24 25.1**	**+1.4**
FAKI				IAmb		IAmb	02 24 41.7	
	comp=Z,14nm,0.7s							
FAKI	**Fak Fak**	**22.35**	**76**	P		**P**	**02 24 30.2**	**+6.5**
WRKA	**Warakurna**	**23.44**	**136**	P		**P**	**02 24 35.9**	**+1.4**
NWAO	**Narrogin (SRO)**	**24.86**	**166**	LR		LR	02 35 08.6	
	comp=Z,75nm,19.6s,baz=270,slow=37							
WRA	**Warramunga Arr**	**25.57**	**118**	P		**P**	**02 24 55.1**	**+1.2**
	comp=Z,6.1nm,0.9s,baz=296,slow=11,SNR=46							
WRA				PcP		**PcP**	**02 28 24.3**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=309,slow=1.8,SNR=6.8							
WRA				LR		LR	02 35 10.1	
	comp=Z,46nm,20.2s,baz=326,slow=37							
	comp=Z,6.1nm,0.9s							
WRA	**Warramunga Arr**	**25.57**	**118**	P		**P**	**02 24 55.2**	**+1.2**
WRAB	**Tennant Creek**	**25.58**	**118**	P		**P**	**02 24 54.3**	**+0.3**
WRAB				IAmb		IAmb	02 25 15.7	
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**25.58**	**118**	P		**P**	**02 24 55.0**	**+1.0**
WB2	**Warramunga Arr**	**25.59**	**118**	P		**P**	**02 24 54.8**	**+0.7**
WB2				IAmb		IAmb	02 25 15.6	
	comp=Z,20nm,1.1s							
ASAR	**Alice Springs**	**26.84**	**126**	P		**P**	**02 25 06.3**	**+0.9**
	comp=Z,3.5nm,0.5s,baz=301,slow=8.6,SNR=21							
ASAR				PcP		**PcP**	**02 28 27.6**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=305,slow=1.8,SNR=7.4							
ASAR				LR		LR	02 35 18.2	
	comp=Z,66nm,21.4s,baz=317,slow=35							
	comp=Z,3.5nm,0.5s							
AS31	**Alice Springs**	**26.84**	**126**	P		**P**	**02 25 06.1**	**+0.7**
AS01	**Alice Springs**	**26.88**	**126**	P		**P**	**02 25 07.4**	**+1.7**
FORT	**Forrest**	**27.36**	**146**	P		**P**	**02 25 11.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**29.34**	**337**	P		**P**	**02 25 26.1**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=165,slow=6.6,SNR=1.9							
CMAR				PcP		**PcP**	**02 28 34.0**	**+1.2**
	comp=Z,2.8nm,0.7s,baz=200,slow=2.9,SNR=9.4							
CMAR				LR		LR	02 37 44.0	
	comp=Z,65nm,18.6s,baz=150,slow=38							
	comp=Z,1.4nm,0.4s							
CMAR	**Chiang Mai Arr**	**29.34**	**337**	P		**P**	**02 25 29.9**	**+2.2**
CMAR				PcP		**PcP**	**02 28 33.3**	**+0.6**
OOD	**Oodnadatta**	**30.38**	**132**	P		**P**	**02 25 38.1**	**+1.4**
MULG	**Mulgathing**	**30.71**	**137**	P		**P**	**02 25 41.1**	**+1.4**
COEN	**Coen**	**32.40**	**102**	P		**P**	**02 25 55.1**	**+0.4**
COEN				IAmb		IAmb	02 26 27.1	
	comp=Z,18nm,1.2s							
PALK	**Pallekele**	**33.72**	**297**	LR		LR	02 39 13.2	
	comp=Z,85nm,18.0s,baz=205,slow=35							
TNCH	**TengChong**	**35.54**	**341**	*e*P		P	02 26 27.8	+5.8
TNCH				pP		pP	02 26 40.8	+2.3
TNCH				pmax		pmax		
	comp=Z,120nm,0.5s							
PZH	**PanZhiHua**	**36.05**	**347**	P		P	02 26 32.1	+5.9
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,130nm,5.1s							
BRDH	**Bariadhala**	**36.29**	**330**	LR		LR	02 42 38.7	
	comp=Z,114nm,19.9s,baz=280,slow=39							
CTA	**Charters Tower**	**36.31**	**112**	LR		LR	02 42 48.1	
	comp=Z,66nm,18.4s,baz=262,slow=38							
STKA	**Stephens Creek**	**36.90**	**133**	P		**P**	**02 26 34.9**	**+1.6**
	comp=Z,2.3nm,0.4s,baz=320,slow=7.9,SNR=15							
STKA				PcP		**PcP**	**02 28 54.8**	**+1.1**
	comp=Z,5.4nm,0.4s,baz=328,slow=2.3,SNR=7.0							
STKA				LR		LR	02 43 20.1	
	comp=Z,39nm,19.1s,baz=303,slow=39							
	comp=Z,2.3nm,0.4s							
STKA	**Stephens Creek**	**36.90**	**133**	P		**P**	**02 26 34.1**	**+0.8**
STKA				PcP		**PcP**	**02 28 51.1**	**-2.6**
STKA	**Stephens Creek**	**36.90**	**133**	P		**P**	**02 26 35.7**	**+2.4**
H08S2	**Diego Garcia H**	**37.66**	**269**	T		T	03 06 38.1	
	baz=94,slow=75,SNR=98							
H08S3	**Diego Garcia H**	**37.67**	**269**	T		T	03 06 36.9	
	baz=94,slow=75,SNR=88							
H08S1	**Diego Garcia H**	**37.68**	**269**	T		T	03 06 36.6	
	baz=94,slow=75,SNR=64							
SHL	**Shillong**	**38.63**	**332**	P		**P**	**02 26 47.3**	**-0.8**
SHL				IAmb		IAmb	02 27 00.2	
	comp=Z,5.3nm,0.8s							
NJ2	**Nanjing**	**41.33**	**11**	*e*P		P	02 27 16.1	+5.9
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
XAN	**Xi'an**	**42.57**	**358**	P		P	02 27 32.5	+12
XAN				pP		sP	02 27 43.3	-1.8
XAN				pmax		pmax		
	comp=Z,5.0nm,0.7s							
XAN				LR		LR		
	comp=N,210nm,12.4s							
XAN				LR		LR		
	comp=Z,190nm,17.9s							
LZH	**Lanzhou**	**45.02**	**352**	*e*P		**P**	**02 27 42.9**	**+2.7**
LZH				pP		pP	02 27 48.5	-8.7
LZH				sP		sP	02 27 52.6	-12
LZH				pmax		pmax		
	comp=Z,16nm,0.9s							
KSRS	**Korea Array**	**48.75**	**18**	P		**P**	**02 28 09.0**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=203,slow=10.0,SNR=5.8							
HHC	**Hu-ho-hao-te**	**49.35**	**1**	*e*P		P	02 28 21.3	+7.7
HHC				pmax		pmax		
	comp=Z,36nm,1.0s							
HHC				pmax		pmax		
	comp=Z,220nm,5.3s							
MJAR	**Matsushiro Arr**	**52.01**	**28**	P		**P**	**02 28 30.7**	**-2.9**
	comp=Z,1.5nm,0.3s,baz=205,slow=8.0,SNR=6.1							
MJAR				LR		LR	02 49 38.7	
	comp=Z,34nm,20.9s,baz=167,slow=35							
	comp=Z,1.5nm,0.3s							
XLT	**XiLinHaoTe**	**52.63**	**5**	*e*P		**P**	**02 28 40.3**	**+2.1**
XLT				pP		pP	02 28 51.0	-4.7
XLT				sP		sP	02 28 55.3	-8.1
XLT				pmax		pmax		
	comp=Z,5.0nm,1.2s							
XLT				pmax		pmax		
	comp=Z,180nm,5.9s							
USRK	**Ussuriysk Ar.**	**56.16**	**18**	P		**P**	**02 29 02.1**	**-1.6**
	comp=Z,3.9nm,0.6s,baz=198,slow=6.8,SNR=8.3							
	comp=Z,3.9nm,0.6s							
WMQ	**Urumqi**	**56.27**	**340**	*e*P		P	02 29 09.8	+5.2
SONM	**Songino Array**	**56.44**	**357**	P		**P**	**02 29 04.2**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=175,slow=8.7,SNR=9.4							
SONM				PcP		**PcP**	**02 30 01.6**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=179,slow=3.6,SNR=13							
	comp=Z,1.2nm,0.6s							
SONM	**Songino Array**	**56.44**	**357**	P		**P**	**02 29 05.1**	**-0.7**
SONM				PcP		**PcP**	**02 30 02.2**	**+0.2**
ASAJ	**Asahikawa**	**60.08**	**26**	LR		LR	02 56 34.5	
	comp=Z,19nm,19.1s,baz=186,slow=37							
KLR	**Kul'dur**	**60.65**	**16**	P		**P**	**02 29 32.4**	**-2.5**
	comp=Z,1.7nm,0.5s,baz=170,slow=6.7,SNR=8.4							
	comp=Z,1.7nm,0.5s							
MK31	**Makanchi Array**	**60.74**	**338**	P		**P**	**02 29 34.4**	**-1.2**
MKAR	**Makanchi Array**	**60.74**	**338**	P		**P**	**02 29 33.8**	**-1.8**
	comp=Z,3.0nm,0.4s,baz=151,slow=7.4,SNR=82							
	comp=Z,3.0nm,0.4s							
MKAR	**Makanchi Array**	**60.74**	**338**	P		**P**	**02 29 34.1**	**-1.5**
AAK	**Ala-Archa**	**60.79**	**330**	LR		LR	03 00 44.3	
	comp=Z,75nm,18.2s,baz=62,slow=41							
OPO	**Ambohidratompo**	**62.07**	**254**	P		**P**	**02 29 47.1**	**+1.8**
	comp=Z,3.6nm,0.8s,baz=82,slow=7.1,SNR=2.7							
	comp=Z,3.6nm,0.8s							
KURK	**Kurchatov**	**65.36**	**338**	P		**P**	**02 30 07.9**	**+1.8**
KURK				IAmb		IAmb	02 30 37.5	
	comp=Z,2.5nm,0.7s							
ZAA0	**Zalesovo Array**	**66.12**	**344**	P		**P**	**02 30 09.9**	**-1.0**
ZAA0				IAmb		IAmb	02 30 10.2	
	comp=Z,2.4nm,0.5s							
ZALV	**Zalesovo Beam**	**66.12**	**344**	P		**P**	**02 30 09.0**	**-1.9**
	comp=Z,2.0nm,0.3s,baz=152,slow=5.5,SNR=17							
	comp=Z,2.0nm,0.3s							
MAW	**Mawson**	**66.77**	**198**	P		**P**	**02 30 17.7**	**+2.9**
	comp=Z,5.6nm,0.8s,baz=72,slow=6.3,SNR=15							
	comp=Z,5.6nm,0.8s							
MAW	**Mawson**	**66.77**	**198**	P		**P**	**02 30 16.4**	**+1.6**
ABKAR	**Akbulak array**	**72.71**	**328**	P		**P**	**02 30 50.1**	**-1.6**
KMBO	**Kilima Mbogo**	**73.31**	**271**	P		**P**	**02 30 58.2**	**+1.9**
	comp=Z,1.9nm,0.7s,baz=54,slow=9.4,SNR=7.5							
	comp=Z,1.9nm,0.7s							
KMBO	**Kilima Mbogo**	**73.31**	**271**	P		**P**	**02 30 56.8**	**+0.5**
PETK	**Petropavlovsk-**	**73.45**	**27**	P		**P**	**02 30 54.3**	**-1.7**
	comp=Z,8.5nm,0.5s,baz=204,slow=2.3,SNR=33							
	comp=Z,8.5nm,0.5s							
VNDA	**Vanda**	**73.64**	**170**	P		**P**	**02 30 58.6**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=334,slow=6.2,SNR=12							
	comp=Z,1.5nm,0.6s							
VNDA	**Vanda**	**73.64**	**170**	P		**P**	**02 30 58.5**	**+1.8**
VNDA				IAmb		IAmb	02 31 18.8	
	comp=Z,3.9nm,0.9s							
LODK	**Lodwar**	**75.90**	**276**	P		**P**	**02 31 12.8**	**+1.7**
LODK				IAmb		IAmb	02 31 13.4	
	comp=Z,3.0nm,0.8s							
ARU	**Arti**	**77.71**	**333**	LR		LR	03 10 39.7	
	comp=Z,67nm,20.9s,baz=329,slow=40							
SEY	**Seymchan**	**78.31**	**18**	P		**P**	**02 31 22.4**	**-1.0**
	comp=Z,4.3nm,0.4s,baz=232,slow=3.8,SNR=22							
	comp=Z,4.3nm,0.4s							
KARS	**Kars**	**79.01**	**314**	P		**P**	**02 31 28.4**	**+0.4**
MBAR	**Mbarara**	**79.82**	**271**	LR		LR	03 00 41.7	
	comp=Z,20nm,19.2s,baz=90,slow=31							
MBAR	**Mbarara**	**79.82**	**271**	P		**P**	**02 31 33.3**	**+0.3**
MBAR				IAmb		IAmb	02 31 35.9	
	comp=Z,12nm,1.1s							
KBZ	**Khabaz**	**80.28**	**317**	P		**P**	**02 31 34.1**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=151,slow=3.8,SNR=6.6							
	comp=Z,3.5nm,0.7s							
LSZ	**Lusaka**	**80.41**	**256**	LR		LR	03 01 30.9	
	comp=Z,54nm,19.2s,baz=128,slow=31							
LSZ	**Lusaka**	**80.41**	**256**	P		**P**	**02 31 36.6**	**+0.5**
LSZ				IAmb		IAmb	02 31 38.1	
	comp=Z,13nm,1.5s							
QSPA	**South Pole Qui**	**81.26**	**180**	P		**P**	**02 31 40.4**	**+0.7**
BOSA	**Boshof**	**81.75**	**242**	P		**P**	**02 31 45.2**	**+2.1**
	comp=Z,4.4nm,0.5s,baz=112,slow=4.6,SNR=39							
BOSA				LR		LR	03 06 31.4	
	comp=Z,42nm,18.4s,baz=83,slow=34							
	comp=Z,4.4nm,0.5s							
LBTB	**Lobatse**	**81.80**	**246**	P		**P**	**02 31 43.6**	**+0.3**
LBTB				IAmb		IAmb	02 31 45.7	
	comp=Z,7.2nm,0.8s							
TOKA	**Tokat**	**83.66**	**312**	P		**P**	**02 31 53.1**	**+0.6**
TOKA				IAmb		IAmb	02 31 54.3	
	comp=Z,8.0nm,0.8s							
BR131	**Keskin Array S**	**85.59**	**311**	P		**P**	**02 32 01.4**	**-1.0**
BRTR	**Keskin Array B**	**85.59**	**311**	P		**P**	**02 32 01.9**	**-0.5**
	comp=Z,5.2nm,0.7s,baz=126,slow=7.0,SNR=16							
	comp=Z,5.2nm,0.7s							
TROLL	**Troll, Antarti**	**87.22**	**197**	P		**P**	**02 32 12.3**	**+2.5**
MDUB	**Mudurnu**	**87.59**	**311**	P		**P**	**02 32 11.3**	**-0.7**
ELL	**Elmali**	**87.74**	**308**	P		**P**	**02 32 13.6**	**+0.7**
KLMR	**Klimovskoe**	**88.52**	**332**	*e*P		**P**	**02 32 14.0**	**-1.8**
KLMR				AMP			02 32 17.8	
	comp=Z,24nm,1.3s							
SNAA	**Sanae**	**88.91**	**197**	P		**P**	**02 32 20.3**	**+2.6**
SNAA	**Sanae**	**88.91**	**197**	P		**P**	**02 32 19.2**	**+1.5**
VNA2	**Neumayer--Watz**	**90.56**	**197**	P		**P**	**02 32 28.0**	**+2.6**
	baz=107,slow=4.0							
VNA1	**Neumayer--Stat**	**90.94**	**197**	P		**P**	**02 32 30.6**	**+3.5**
VNA3	**Neumayer Olymp**	**91.04**	**196**	P		**P**	**02 32 30.0**	**+2.4**
AKASG	**Malin Array Be**	**91.23**	**321**	P		**P**	**02 32 26.9**	**-1.9**
	comp=Z,1.5nm,0.6s,baz=85,slow=4.5,SNR=10							
	comp=Z,1.5nm,0.6s							
BELA	**Belgrano 2**	**91.38**	**187**	P		**P**	**02 32 30.7**	**+1.6**
MNK	**Minsk**	**92.80**	**325**	*i* P		**P**	**02 32 33.9**	**-2.0**
	comp=E,1.0nm,0.9s							
MNK				*i* P		**P**	**02 32 33.9**	**-2.0**
	comp=N,13nm,0.9s							
MNK				*i* P		**P**	**02 32 33.9**	**-2.0**
	comp=Z,5.0nm,0.8s,baz=101							
MNK				*i* pP		**pP**	**02 32 53.2**	**-1.5**
MNK				*i* PP		**PP**	**02 36 15.7**	**-3.2**
MNK				*i* PPP		PPP	02 38 15.4	
MNK				*i* SKS			02 42 33.8	
MNK				*i* S		**SKSac**	**02 43 00.6**	**-3.0**
MNK				*i* sS		**S**	**02 43 35.4**	**-0.2**
MNK				*i* SS		**SS**	**02 49 46.6**	**-3.6**
MNK				*i* SSS		SSS	02 53 26.4	
MNK				*i* LR		LR	03 13 17.8	
MNK				*i* LRM		MLR	03 14 50.4	
	comp=N,325nm,15.5s							
MNK				*i* LRM		MLR	03 15 13.5	
	comp=E,63nm,21.9s							
MNK				*i* LRM		MLR	03 15 13.5	
	comp=Z,77nm,11.3s							
FINES	**FINESS Array B**	**94.96**	**331**	P		**P**	**02 32 44.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=119,slow=7.0,SNR=10.0							
	comp=Z,1.1nm,0.6s							
ARCES	**ARCESS Array B**	**96.38**	**339**	P		**P**	**02 32 50.1**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=48,slow=5.4,SNR=3.6							
	comp=Z,1.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**110.19**	**281**	PKiKP		**PKiKP**	**02 37 54.6**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=83,slow=1.4,SNR=2.6							
YKA	**Yellowknife Ar**	**117.22**	**22**	PKP		**PKPdf**	**02 38 07.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=183,slow=2.2,SNR=6.0							
NVAR	**Mina Array Bea**	**127.19**	**48**	PKP		**PKiKP**	**02 38 29.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=230,slow=2.5,SNR=9.2							
PDAR	**Pinedale Array**	**131.22**	**39**	PKP		**PKiKP**	**02 38 36.6**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=156,slow=11,SNR=6.1							
SCHQ	**Schefferville**	**133.38**	**359**	PKP		**PKPdf**	**02 38 40.2**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=270,slow=5.1,SNR=5.4							
TXAR	**Lajitas Array**	**141.95**	**53**	PKhKP		PKPpre	02 38 50.6	
	comp=Z,0.4nm,0.6s,baz=222,slow=3.8,SNR=10							
TXAR				PKP		**PKPdf**	**02 38 56.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=256,slow=0.9,SNR=7.4							
CPUP	**Villa Florida**	**143.20**	**198**	PKhKP		PKPpre	02 38 56.2	
	comp=Z,2.0nm,0.5s,baz=173,slow=2.7,SNR=8.2							
SFIN	**Lafayette**	**144.79**	**24**	PKPdf		**PKPdf**	**02 39 00.2**	**-0.3**
CCM	**Cathedral Cave**	**144.82**	**31**	PKPdf		**PKPab**	**02 38 59.5**	**-0.2**
N47A	**Urbana**	**144.89**	**22**	PKPbc		PKPbc	02 39 00.1	+0.1
MGMO	**Mountain Grove**	**144.97**	**33**	PKPbc		**PKPab**	**02 38 59.2**	**-1.1**
J57A	**Williamstown**	**144.99**	**8**	PKPbc		PKPbc	02 38 59.4	-0.8
WHTX	**Lake Whitney,**	**145.22**	**44**	PKPbc		**PKPdf**	**02 39 01.8**	**+0.3**
ZAIG	**Zacatecas**	**145.33**	**62**	PKPbc		**PKPab**	**02 39 02.6**	**+0.2**
MMNY	**Mt. Morris Dam**	**145.34**	**11**	PKPbc		**PKPab**	**02 39 01.4**	**0.0**
K57A	**Scipio Center**	**145.58**	**9**			**PKPab**	**02 39 02.4**	**0.0**
OLIL	**Olney**	**145.76**	**26**			**PKPdf**	**02 39 01.6**	**-0.6**
L56A	**Greenwood**	**145.98**	**11**	PKPbc		**PKPab**	**02 39 03.6**	**-0.4**
P48A	**Milroy**	**146.23**	**23**	PKPbc		**PKPbc**	**02 39 04.3**	**+0.2**
ACSO	**Alum Creek Sta**	**146.40**	**19**	PKPbc		**PKPbc**	**02 39 04.5**	**-0.1**
PARMO	**Parma**	**146.64**	**30**	PKPbc		**PKPbc**	**02 39 05.5**	**0.0**
WCI	**Wyandotte Cave**	**146.95**	**25**	PKPbc		**PKPbc**	**02 39 05.5**	**-0.8**
P52A	**Corning**	**147.21**	**18**	PKPbc		**PKPbc**	**02 39 06.4**	**-0.6**
Q51A	**Peebles**	**147.37**	**20**	PKPbc		**PKPbc**	**02 39 07.2**	**-0.3**
BDFB	**Brasilia**	**147.78**	**221**	PKPbc		**PKiKP**	**02 39 10.6**	**-0.7**
	comp=Z,4.2nm,0.5s,baz=132,slow=2.4,SNR=7.9							
Q52A	**Bidwell**	**147.78**	**19**	PKPbc		**PKPbc**	**02 39 08.6**	**+0.1**
W45A	**Hickory Valley**	**148.10**	**32**	PKPbc		**PKPbc**	**02 39 08.9**	**-0.6**
S51A	**Beattyville**	**148.52**	**22**	PKPbc		**PKPbc**	**02 39 09.3**	**-1.2**
V48A	**Smith Brothers**	**148.80**	**28**	PKPbc		**PKPbc**	**02 39 10.0**	**-1.3**
LVC	**Limon Verde**	**148.84**	**181**	PKPbc		**PKPab**	**02 39 15.3**	**-0.8**
	baz=225,slow=0.6							
SWET	**Sewanee**	**149.64**	**27**	PKPbc		**PKPbc**	**02 39 12.4**	**-1.1**
PB09	**IPOC Station P**	**149.66**	**180**	PKPbc		**PKPbc**	**02 39 12.4**	**-1.7**
V51A	**Loudon**	**149.83**	**25**	PKPbc		**PKPbc**	**02 39 13.0**	**-0.9**
CMIG	**Matias Romero**	**153.90**	**69**	PKPbc		**PKPbc**	**02 39 22.4**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=275,slow=1.3,SNR=4.5							
LPAZ	**La Paz**	**155.10**	**183**	PKPab		**PKPab**	**02 39 45.6**	**+3.0**
	comp=Z,1.9nm,0.5s,baz=156,slow=2.6,SNR=7.6							

WEL 18 02:20:38.3±0.5, **42°S**±3°×**17°4E**±°, **h9**km±3km, **M3.9**/48,
ML4.3/14, **MLv3.9**/48, **Error ellipse: s-maj=0.0km**
s-min=0.0km az=123.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.22**	**267**	P	Pg	02 20 43.2	+0.5
KHZ				S	Sg	02 20 47.1	+1.4
BSWZ	**Blackbirch Sta**	**0.69**	**3**	P	Pb	02 20 52.3	-0.2
BSWZ				S	Sb	02 21 02.0	-0.1
CMWZ	**Cape Campbell**	**0.71**	**24**	P	Pb	02 20 53.2	+0.3
GVZ	**Greta Valley S**	**0.81**	**226**	P	Pb	02 20 54.7	+0.1
GVZ				S	Sb	02 21 06.8	+1.1
THZ	**Tophouse**	**0.94**	**313**	P	Pb	02 20 56.7	-0.2
TUWZ	**Tuamarina**	**0.98**	**5**	P	Pg	02 20 57.0	-0.1
AMCZ	**Amberley**	**1.16**	**228**	P	Pb	02 20 59.3	-1.3
LTZ	**Lake Taylor**	**1.21**	**251**	P	Pb	02 21 00.3	-1.2
NNZ	**Nelson**	**1.23**	**344**	P	Pn	02 21 00.8	-0.9
TCW	**Tory Channel**	**1.24**	**16**	P	Pn	02 21 00.2	-1.6
MRNZ	**Matariki Terra**	**1.28**	**321**	P	Pb	02 21 02.6	-0.1
WEL	**Wellington**	**1.32**	**32**	P	Pn	02 21 01.3	-1.6
PLWZ	**Palliser**	**1.35**	**52**	P	Pn	02 21 01.0	-2.4
OKCZ	**Okains Bay**	**1.44**	**203**	P	Pn	02 21 03.1	-1.4
MSWZ	**Moikau Station**	**1.45**	**47**	P	Pn	02 21 02.4	-2.3
TKNZ	**Takaka Hill**	**1.52**	**334**	P	Pn	02 21 05.7	0.0
MQZ	**McQueen's Vall**	**1.56**	**213**	P	Pn	02 21 03.9	-2.4
PAWZ	**Paruwai Farm**	**1.57**	**50**	P	Pn	02 21 03.9	-2.5
CAW	**Cannon Point**	**1.59**	**36**	P	Pn	02 21 04.8	-1.8
DUWZ	**D'Urville Isla**	**1.60**	**2**	P	Pn	02 21 06.2	-0.7
AKCZ	**Akaroa Harbour**	**1.62**	**204**	P	Pn	02 21 05.1	-2.0
DSZ	**Denniston Nort**	**1.65**	**293**	P	Pb	02 21 08.4	-0.5
TRWZ	**Traveller**	**1.71**	**55**	P	Pn	02 21 05.6	-2.7
KIW	**Kapiti Island**	**1.74**	**28**	P	Pn	02 21 07.3	-1.5
MTW	**Mount Morrison**	**1.76**	**46**	P	Pn	02 21 06.5	-2.5
INZ	**Inchbonnie**	**1.79**	**259**	P	Pn	02 21 09.1	-0.3
RACZ	**Rakaia**	**1.81**	**223**	P	Pn	02 21 07.5	-2.2
QRZ	**Quartz Range**	**1.85**	**328**	P	Pn	02 21 10.9	+0.6
OGWZ	**Otaki Gorge**	**1.88**	**33**	P	Pn	02 21 08.7	-1.9
HOWZ	**Holdsworth Sta**	**1.96**	**41**	P	Pn	02 21 09.5	-2.3
MHCZ	**Mount Hutt**	**2.01**	**235**	P	Pn	02 21 10.3	-2.1
TMWZ	**Te Maipa**	**2.01**	**51**	P	Pn	02 21 09.5	-2.9
WACZ	**Wakanui South**	**2.12**	**223**	P	Pn	02 21 12.0	-2.0
MRZ	**Mangatainoka R**	**2.18**	**38**	P	Pn	02 21 12.4	-2.4
TIWZ	**Tintock**	**2.24**	**44**	P	Pn	02 21 12.7	-2.9
WVZ	**Waitaha Valley**	**2.38**	**253**	P	Pn	02 21 16.8	-0.6
RPZ	**Rata Peaks**	**2.42**	**236**	P	Pn	02 21 16.3	-1.8
PRWZ	**Pori Road**	**2.45**	**42**	P	Pn	02 21 15.8	-2.7
OHWZ	**Ohakea**	**2.46**	**27**	P	Pn	02 21 18.2	-0.4
ARCZ	**Arundel**	**2.48**	**231**	P	Pn	02 21 17.0	-2.0
POWZ	**Post Office Ro**	**2.48**	**37**	P	Pn	02 21 16.5	-2.4
BFZ	**Birch Farm**	**2.50**	**47**	P	Pn	02 21 16.2	-3.0
GCSZ	**Gaunt Creek Bo**	**2.73**	**249**	P	Pn	02 21 21.9	-0.5
DVHZ	**Dannevirke**	**2.74**	**41**	P	Pn	02 21 19.1	-3.4
ANWZ	**Angora Road**	**2.78**	**47**	P	Pn	02 21 19.4	-3.6
WAZ	**Wanganui**	**2.79**	**19**	P	Pn	02 21 23.4	+0.2
TSZ	**Takapari Road**	**2.84**	**35**	P	Pn	02 21 21.3	-2.6
TMaru		**2.86**	**225**	P	Pn	02 21 22.4	-1.7
LREZ	**Lake Rotokare**	**2.97**	**9**	P	Pn	02 21 27.0	+1.4
PRHZ	**Porangahau**	**3.00**	**46**	P	Pn	02 21 22.6	-3.4
WPHZ	**Waipukurau**	**3.06**	**41**	P	Pn	02 21 25.0	-1.8
PNHZ	**Pukenui**	**3.06**	**36**	P	Pn	02 21 24.0	-3.0
KHEZ	**Kahui Hut**	**3.11**	**3**	P	Pn	02 21 30.3	+2.7
NBEZ	**Newall Road No**	**3.13**	**1**	P	Pb	02 21 31.7	-2.5
NEZ	**North Egmont**	**3.14**	**4**	P	Pn	02 21 30.1	+2.1
FOZ	**Fox Glacier**	**3.16**	**248**	P	Pn	02 21 28.2	0.0
PKE	**Pukeiti**	**3.21**	**2**	P	Pn	02 21 31.5	+2.5
DREZ	**Durham Road**	**3.22**	**5**	P	Pn	02 21 30.5	+1.4
PXZ	**Pawanui**	**3.29**

ARCES	**ARCESS Array B**	**43.49**	**338**	P		**P**	**02 43 21.7**	**+0.1**
	1.4nm,0.5s,baz=119,slow=8.6,SNR=9.1							
	1.4nm,0.5s							
TIXI	**Tiksi**	**46.67**	**21**	LR	LR		03 04 50.8	
	comp=Z,250nm,19.3s,baz=213,slow=38							
TORD	**Torodi Ar. Bea**	**67.66**	**271**	P		**P**	**02 46 15.2**	**-0.8**
	0.6nm,0.7s,baz=39,slow=5.6,SNR=2.7							
INK	**Inuvik**	**75.29**	**10**	P		**P**	**02 47 01.4**	**+0.3**
	1.6nm,1.1s,baz=345,slow=3.3,SNR=6.1							
	1.6nm,1.1s							
WRA	**Warramunga Arr**	**79.41**	**123**	P		**P**	**02 47 25.9**	**+1.0**
	0.2nm,0.7s,baz=328,slow=5.0,SNR=1.4							
	0.2nm,0.7s							

*NOU **18** 02:48:05.2, 42°.53S × 173°.94E, h0km, MLv3.8/8, South Island, New Zealand*
*WEL **18** 02:48:07.8 ± 0.4, 42°.53 S ± 3°.1 × 17°.47 E ± °, h7km ± 2km, M3.2/32, ML3.6/15, MLv3.2/32, Error ellipse: s-maj=0.0km s-min=0.0km az=125.8*

ISC 18 02:48:05.5 ± 1.5, 42°.45S ± 0°.04 × 173°.89E ± 0°.05, h4km ± 16km, n69, σ0s84/71, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**277**	P	**Pg**	**02 48 10.9**	**+0.3**
KHZ	**Kahutara**	**0.26**	**277**	P	**Pg**	**02 48 10.8**	**+0.2**
KHZ				S	**Sg**	**02 48 13.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.73**	**359**	P	**Pg**	**02 48 20.5**	**+0.9**
CMWZ	**Cape Campbell**	**0.74**	**19**	P	**Pb**	**02 48 23.0**	**+2.1**
GVZ	**Greta Valley S**	**0.82**	**230**	P	**Pb**	**02 48 23.8**	**+1.5**
THZ	**Tophouse**	**1.01**	**313**	P	**Pg**	**02 48 24.0**	**-0.8**
TUWZ	**Tuamarina**	**1.02**	**2**	P	**Pg**	**02 48 25.8**	**+0.8**
AMCZ	**Amberley**	**1.17**	**231**	P	**Pg**	**02 48 28.7**	**+0.8**
LTZ	**Lake Taylor**	**1.24**	**254**	P	**Pg**	**02 48 29.3**	**+0.1**
LTZ				P	**Pb**	**02 48 29.4**	**+0.1**
TCW	**Tory Channel**	**1.27**	**13**	P	**Pb**	**02 48 29.9**	**-0.1**
NNZ	**Nelson**	**1.29**	**343**	P	**Pg**	**02 48 29.5**	**-0.7**
SNZO	**South Karori**	**1.29**	**28**	P	**Pn**	**02 48 30.5**	**+0.2**
WEL	**Wellington**	**1.34**	**30**	P	**Pn**	**02 48 31.3**	**+0.3**
PLWZ	**Palliser**	**1.34**	**50**	P	**Pn**	**02 48 31.2**	**+0.1**
MRNZ	**Matariki Terra**	**1.35**	**321**	P	**Pg**	**02 48 30.5**	**-0.9**
OKCZ	**Okains Bay**	**1.41**	**205**	P	**Pn**	**02 48 32.4**	**+0.4**
MSWZ	**Moikau Station**	**1.45**	**45**	P	**Pn**	**02 48 32.5**	**0.0**
MQZ	**McQueen's Vall**	**1.55**	**215**	P	**Pn**	**02 48 33.1**	**-0.7**
PAWZ	**Paruwai Farm**	**1.57**	**48**	P	**Pn**	**02 48 34.0**	**-0.2**
TKNZ	**Takaka Hill**	**1.58**	**333**	P	**Pn**	**02 48 34.5**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.59**	**207**	P	**Pn**	**02 48 34.6**	**+0.1**
CAW	**Cannon Point**	**1.60**	**34**	P	**Pn**	**02 48 34.8**	**+0.1**
OXZ	**Oxford**	**1.62**	**237**	P	**Pn**	**02 48 34.1**	**-0.8**
DUWZ	**D'Urville Isla**	**1.65**	**1**	P	**Pn**	**02 48 35.7**	**+0.4**
DSZ	**Denniston Nort**	**1.71**	**294**	P	**Pn**	**02 48 35.9**	**-0.2**
KIW	**Kapiti Island**	**1.76**	**26**	P	**Pn**	**02 48 37.1**	**+0.3**
MTW	**Mount Morrison**	**1.77**	**43**	P	**Pn**	**02 48 36.7**	**-0.2**
RACZ	**Rakaia**	**1.81**	**225**	P	**Pn**	**02 48 36.9**	**-0.5**
INZ	**Inchbonnie**	**1.83**	**261**	P	**Pn**	**02 48 37.4**	**-0.3**
OGWZ	**Otaki Gorge**	**1.89**	**31**	P	**Pn**	**02 48 38.4**	**-0.2**
QRZ	**Quartz Range**	**1.92**	**327**	P	**Pn**	**02 48 39.8**	**+0.8**
QRZ	**Quartz Range**	**1.92**	**327**	P	**Pn**	**02 48 39.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.97**	**39**	P	**Pn**	**02 48 39.4**	**-0.3**
TMWZ	**Te Maipa**	**2.01**	**49**	P	**Pn**	**02 48 39.8**	**-0.5**
MHCZ	**Mount Hutt**	**2.02**	**237**	P	**Pn**	**02 48 39.4**	**-1.0**
WACZ	**Wakanui South**	**2.12**	**225**	P	**Pn**	**02 48 41.2**	**-0.4**
MRZ	**Mangatainoka R**	**2.19**	**36**	P	**Pn**	**02 48 42.4**	**-0.3**
WVZ	**Waitaha Valley**	**2.41**	**254**	P	**Pn**	**02 48 45.7**	**0.0**
RPZ	**Rata Peaks**	**2.43**	**238**	P	**Pn**	**02 48 45.3**	**-0.8**
RPZ	**Rata Peaks**	**2.43**	**238**	P	**Pn**	**02 48 45.2**	**-0.8**
PRWZ	**Pori Road**	**2.45**	**40**	P	**Pn**	**02 48 45.9**	**-0.5**
ARCZ	**Arundel**	**2.49**	**232**	P	**Pn**	**02 48 45.8**	**-1.0**
BFZ	**Birch Farm**	**2.50**	**46**	P	**Pn**	**02 48 46.4**	**-0.6**
BFZ	**Birch Farm**	**2.50**	**46**	P	**Pn**	**02 48 46.3**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**2.76**	**251**	P	**Pn**	**02 48 50.7**	**+0.2**
WAZ	**Wanganui**	**2.82**	**17**	P	**Pn**	**02 48 53.3**	**+1.9**
TMZ	**Timaru**	**2.86**	**226**	P	**Pn**	**02 48 51.5**	**-0.4**
PNHZ	**Pukenui**	**3.08**	**35**	P	**Pn**	**02 48 54.0**	**-0.9**
KHEZ	**Kahui Hut**	**3.15**	**2**	P	**Pn**	**02 48 57.9**	**+1.9**
KHEZ	**Kahui Hut**	**3.15**	**2**	P	**Pb**	**02 49 01.1**	**-1.0**
NBEZ	**Newall Road No**	**3.18**	**360**	P	**Pb**	**02 49 01.1**	**-1.4**
FOZ	**Fox Glacier**	**3.18**	**249**	P	**Pn**	**02 48 56.8**	**+0.5**
LBZ	**Lake Benmore**	**3.32**	**233**	P	**Pn**	**02 48 57.7**	**-0.6**
MOVZ	**Moawhango**	**3.35**	**25**	P	**Pn**	**02 48 58.7**	**-0.1**
WNVZ	**Wahianoa**	**3.38**	**23**	P	**Pn**	**02 48 59.8**	**+0.7**
BHHZ	**Black Hill Sta**	**3.38**	**30**	P	**Pn**	**02 48 59.1**	**0.0**
VRZ	**Vera Road**	**3.39**	**11**	P	**Pn**	**02 49 00.8**	**+1.7**
TRVZ	**Turoa**	**3.39**	**22**	P	**Pn**	**02 49 00.5**	**+1.1**
FWVZ	**Far West T-bar**	**3.43**	**22**	P	**Pn**	**02 49 00.7**	**+0.7**
ODZ	**Otahua Downs**	**3.50**	**221**	P	**Pn**	**02 49 00.3**	**-0.4**
ODZ	**Otahua Downs**	**3.50**	**221**	P	**Pn**	**02 49 00.2**	**-0.6**
SNVZ	**South Ngauruho**	**3.52**	**23**	P	**Pn**	**02 49 02.2**	**+1.1**
ETVZ	**East Tongariro**	**3.59**	**23**	P	**Pn**	**02 49 00.8**	**-1.2**
BKZ	**Black Stump Fm**	**3.83**	**32**	P	**Pn**	**02 49 03.9**	**-1.4**
HIZ	**Hauiti**	**4.00**	**11**	P	**Pn**	**02 49 08.9**	**+1.3**
JCZ	**Jackson Bay**	**4.07**	**245**	P	**Pn**	**02 49 09.6**	**+1.0**
JCZ	**Jackson Bay**	**4.07**	**245**	P	**Pn**	**02 49 08.4**	**-0.2**
EAZ	**Earnscleugh**	**4.33**	**228**	P	**Pn**	**02 49 11.4**	**-0.7**
TOZ	**Tahuroa Road**	**4.87**	**15**	P	**Pn**	**02 49 17.9**	**-1.7**

*IDC **18** 02:53:34.1 ± 0.9, 0°.04S × 125°.78E, h0km, mb4.1/7, mbtmp4.1/8, ML3.3/1, Error ellipse: s-maj=45.9km s-min=15.9km az=73.0*
*DJA **18** 02:53:39.5 ± 0.3, 0°.N ± 4° × 12° 6E ± °, h10km, M4.2/13, mb4.5/3, mB4.7/3, MLv4.0/13, Mw(mB)4.0/3*
*NEIC **18** 02:53:41.5 ± 1.6, 0°.03S ± 0°.10 × 125°.82E ± 0°.07, h57km ± 11km, mb4.2/13, Error ellipse: s-maj=14.3km s-min=9.6km az=171.0*

ISC 18 02:53:40.1 ± 0.6, 0°.05S ± 0°.06 × 125°.78E ± 0°.07, h4km, n44, σ1s98/44, mb4.2/14, 1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.78**	**63**		**Pn**	**02 54 09.6**	**+1.2**
TNTI	**Ternate**	**1.78**	**63**	P	**Pn**	**02 54 10.3**	**+1.9**
LBMI	**Labuha**	**1.82**	**109**	P	**Pn**	**02 54 10.3**	**+1.4**
SANI	**Sanana**	**2.00**	**174**	P	**Pn**	**02 54 09.3**	**-2.1**
GAMI	**Galela, Maluku**	**2.75**	**47**	P	**Pn**	**02 54 23.5**	**+1.9**
GTOI	**Gorontalo**	**2.85**	**284**	P	**Pn**	**02 54 26.9**	**+3.8**
LUWI	**Luwuk**	**3.17**	**252**		**Pn**	**02 54 31.6**	**+4.2**
LUWI	**Luwuk**	**3.17**	**252**	P	**Pn**	**02 54 30.4**	**+3.0**
MRSI	**Marisa**	**3.87**	**278**	P	**Pn**	**02 54 40.1**	**+3.0**
KRAI	**Karang Ratu**	**4.17**	**141**	P	**Pn**	**02 54 43.2**	**+2.0**
APSI	**Ampana**	**4.22**	**258**	P	**Pn**	**02 54 45.2**	**+3.3**
MSAI	**Masohi**	**4.54**	**136**	P	**Pn**	**02 54 49.7**	**+3.3**
TOLI2	**Tolitoli**	**5.13**	**283**		**Pn**	**02 54 55.9**	**+1.5**
MPSI	**Mapaga**	**5.89**	**274**	P	**Pn**	**02 55 07.8**	**+2.9**
	0.2nm?59nm33nm,0.7s						
FAKI	**Fak Fak**	**7.07**	**114**	Pn	**Pn**	**02 55 22.2**	**+1.2**
SPSI	**Sidrap Palu**	**7.16**	**237**	P	**Pn**	**02 55 26.4**	**+4.2**
KAPI	**Kappang**	**7.78**	**231**	Pn	**Pn**	**02 55 30.8**	**0.0**
	0.4nm,0.3s,baz=106,slow=19,SNR=1.5						
	2.2nm,0.3s						
MYLDM	**Lahad Datu**	**8.93**	**306**	Pn	**Pn**	**02 55 49.6**	**+3.0**
SBUM	**Sibu**	**13.78**	**280**	Pn	**Pn**	**02 56 52.7**	**-0.3**
JAGI	**Jajag, Banyuwa**	**14.29**	**234**	Pn	**Pn**	**02 56 59.5**	**-0.4**
JCNP	**Jose Panganiba**	**14.57**	**348**	∥	*iP*	**02 56 59.9**	**-3.6**
KSM	**Kuching**	**15.54**	**276**	Pn	**Pn**	**02 57 16.8**	**+0.5**
WRA	**Warramunga Arr**	**21.48**	**158**	P	**P**	**02 58 23.7**	**-1.4**
	2.5nm,0.7s,baz=335,slow=11,SNR=17						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**21.48**	**158**	P	**P**	**02 58 25.9**	**+0.8**
WB2	**Warramunga Arr**	**21.48**	**157**	P	**P**	**02 58 24.2**	**-0.9**
WB2				IAmb	IAmb	02 58 35.5	
	comp=Z,7.0nm,0.9s						
AS31	**Alice Springs**	**24.77**	**162**	P	**P**	**02 58 58.8**	**+0.9**
ASAR	**Alice Springs**	**24.77**	**162**	P	**P**	**02 58 58.1**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=345,slow=7.1,SNR=25						
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**24.77**	**162**	P	**P**	**02 58 57.2**	**-0.7**
STKA	**Stephens Creek**	**35.02**	**156**	P	**P**	**03 00 28.7**	**+0.1**
	comp=Z,3.7nm,0.6s,baz=5.3,slow=4.5,SNR=7.7						
	comp=Z,3.7nm,0.6s						
KSRS	**Korea Array**	**37.37**	**3**	P	**P**	**03 00 49.4**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=178,slow=10,SNR=8.5						
	comp=Z,2.4nm,0.7s						
SONM	**Songino Array**	**50.58**	**343**	P	**P**	**03 02 35.5**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=155,slow=8.5,SNR=9.5						
	comp=Z,2.4nm,0.8s						
MK31	**Makanchi Array**	**60.14**	**327**	P	**P**	**03 03 43.0**	**-0.3**
MK31				IAmb	IAmb	03 03 47.6	
	comp=Z,5.3nm,1.4s						
MKAR	**Makanchi Array**	**60.14**	**327**	P	**P**	**03 03 42.7**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=122,slow=8.2,SNR=31						
	comp=Z,1.4nm,0.4s						
MKAR	**Makanchi Array**	**60.14**	**327**	P	**P**	**03 03 41.9**	**-1.3**
KBL	**Kabul**	**63.11**	**309**	P	**P**	**03 04 02.5**	**-1.1**
ZAA0	**Zalesovo Array**	**63.53**	**334**	P	**P**	**03 04 04.8**	**-1.0**
ZAA0				IAmb	IAmb	03 04 08.0	
	comp=Z,2.2nm,1.0s						
ZALV	**Zalesovo Beam**	**63.53**	**334**	P	**P**	**03 04 05.0**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=126,slow=6.0,SNR=5.8						
	comp=Z,1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**63.53**	**334**	P	**P**	**03 04 05.9**	**+0.1**
KURK	**Kurchatov**	**64.43**	**329**	P	**P**	**03 04 11.4**	**-0.4**
KK31	**Karatay Array**	**65.37**	**319**	P	**P**	**03 04 17.3**	**-0.8**
KK31				IAmb	IAmb	03 04 44.3	
	comp=Z,2.6nm,1.2s						
KKAR	**Karatay Array**	**65.37**	**319**	P	**P**	**03 04 18.1**	**0.0**
KKAR				IAmb	IAmb	03 04 44.3	
	comp=Z,2.6nm,1.2s						
BRVK	**Borovoye**	**70.05**	**328**	P	**P**	**03 04 48.0**	**+0.6**
BRVK				IAmb	IAmb	03 04 50.3	
	comp=Z,5.7nm,1.4s						
ABKAR	**Akbulak array**	**74.48**	**322**	P	**P**	**03 05 13.4**	**-0.5**
ARU	**Arti**	**77.62**	**328**	P	**P**	**03 05 29.6**	**-2.0**
ARU				IAmb	IAmb	03 05 32.1	
	comp=Z,4.9nm,0.9s						

IDC 18 02:55:21.0 ± 2.4, 0°.40N × 126°.70E, h0km, mb3.4/3, mbtmp3.4/3, MS3.3/7, Error ellipse: s-maj=240.7km s-min=27.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.56**	**160**	P	P	03 00 12.1	-0.2
	0.6nm,0.7s,baz=338,slow=12,SNR=2.1						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**24.93**	**164**	P	P	03 00 46.3	+0.2
	0.4nm,0.6s,baz=349,slow=9.4,SNR=1.8						
	0.4nm,0.6s						
CTA	**Charters Tower**	**27.96**	**138**	LR	LR	03 13 00.6	
	comp=Z,46nm,21.6s,baz=265,slow=38						
CMAR	**Chiang Mai Arr**	**32.63**	**305**	LR	LR	03 16 34.5	
	comp=Z,36nm,18.6s,baz=115,slow=39						
MJAR	**Matsushiro Arr**	**37.51**	**15**	LR	LR	03 16 28.9	
	comp=Z,39nm,21.1s,baz=214,slow=34						
BRDH	**Bariadhala**	**40.65**	**305**	LR	LR	03 21 30.7	
	comp=Z,74nm,18.1s,baz=92,slow=39						
USRK	**Ussuriysk Ar.**	**43.86**	**5**	LR	LR	03 21 10.8	
	comp=Z,20nm,21.9s,baz=207,slow=35						
PALK	**Pallekele**	**46.37**	**280**	LR	LR	03 22 48.2	
	comp=Z,38nm,21.5s,baz=211,slow=36						
SONM	**Songino Array**	**50.43**	**342**	LR	LR	03 27 50.8	
	comp=Z,54nm,19.4s,baz=198,slow=39						
MKAR	**Makanchi Array**	**60.27**	**326**	P	P	03 05 31.4	-0.1
	0.6nm,0.4s,baz=121,slow=8.4,SNR=7.2						
	0.6nm,0.4s						

IDC 18 02:58:30.8 ± 2.0, 0°.27N × 126°.44E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=175.9km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.52**	**159**	P	P	03 03 21.1	-0.6
	0.2nm,0.4s,baz=338,slow=10,SNR=7.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**24.87**	**164**	P	P	03 03 55.9	+0.5
	0.3nm,0.6s,baz=349,slow=14,SNR=1.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**60.24**	**327**	P	P	03 08 41.0	-0.1
	0.4nm,0.4s,baz=123,slow=7.6,SNR=9.5						
	0.4nm,0.4s						

WEL 18 03:01:09.2 ± 0.4, 39°.S ± 2°.× 17°.8E ± °, h15km ± 3km, M4.1/50, ML4.6/18, MLv4.1/50, Error ellipse: s-maj=0.0km s-min=0.0km az=80.8, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKGZ	**Te Karaka**	**0.13**	**340**	P	**Pb**	**03 01 13.9**	**+0.6**
TKGZ				S	Sb	03 01 18.0	+1.8
RIGZ	**Rimuhau**	**0.18**	**218**	P	**Pb**	**03 01 14.6**	**+0.3**
RIGZ				S	Sb	03 01 19.4	+1.8
CNGZ	**Carnagh Statio**	**0.25**	**72**	P	**Pb**	**03 01 16.7**	**+1.3**
MWZ	**Matawai**	**0.38**	**307**	P	**Pb**	**03 01 17.6**	**+0.1**
MWZ				S	Sb	03 01 23.4	+0.2
TWGZ	**Tauwhareparae**	**0.39**	**9**	P	**Pb**	**03 01 18.7**	**+0.8**
RAGZ	**Rawiri**	**0.39**	**280**	P	**Pb**	**03 01 18.0**	**+0.1**
KNZ	**Kokohu**	**0.49**	**202**	P	**Pb**	**03 01 19.9**	**+0.3**
PUZ	**Puketiti**	**0.56**	**29**	P	**Pb**	**03 01 21.4**	**+0.6**
MHGZ	**Mahia Peninsul**	**0.59**	**180**	P	**Pb**	**03 01 21.5**	**+0.3**
RUGZ	**Raukumara Rang**	**0.62**	**343**	P	**Pb**	**03 01 22.1**	**+0.2**
PKGZ	**Pakihiroa**	**0.69**	**11**	P	**Pn**	**03 01 23.8**	**-0.7**
URZ	**Urewera**	**0.69**	**296**	P	**Pb**	**03 01 23.1**	**+0.2**
RTZ	**Ruatahuna**	**0.73**	**266**	P	**Pb**	**03 01 23.9**	**+0.3**
RAHZ	**Arahi**	**0.73**	**241**	P	**Pb**	**03 01 24.2**	**+0.5**
WHHZ	**Waihua**	**0.73**	**225**	P	**Pb**	**03 01 24.0**	**+0.3**
HAZ	**Te Kaha**	**0.81**	**353**	P	**Pg**	**03 01 25.0**	**0.0**
WMGZ	**Waiomatatini S**	**0.84**	**29**	P	**Pg**	**03 01 25.7**	**0.0**
MTHZ	**Maungataniwha**	**0.88**	**251**	P	**Pb**	**03 01 26.2**	**0.0**
MUGZ	**Murupara**	**0.90**	**275**	P	**Pg**	**03 01 26.8**	**+0.2**
ARHZ	**Aropaoanui**	**1.00**	**225**	P	**Pb**	**03 01 28.1**	**-0.1**
NMHZ	**Naumai**	**1.01**	**238**	P	**Pb**	**03 01 28.1**	**-0.4**
WHRZ	**Whale Island**	**1.02**	**314**	P	**Pn**	**03 01 29.2**	**+0.2**
EDRZ	**Edgecumbe**	**1.02**	**296**	P	**Pg**	**03 01 28.9**	**-0.1**
MXZ	**Matakaoa Point**	**1.05**	**18**	P	**Pb**	**03 01 28.7**	**-0.3**
RRRZ	**Republican Roa**	**1.11**	**281**	P	**Pb**	**03 01 30.2**	**0.0**
MARZ	**Manawahe**	**1.13**	**300**	P	**Pb**	**03 01 29.9**	**-0.5**
TARZ	**Mount Tarawera**	**1.15**	**286**	P	**Pb**	**03 01 30.9**	**+0.1**
WIZ	**White Island**	**1.18**	**331**	P	**Pn**	**03 01 30.5**	**-0.6**
WSRZ	**White Island S**	**1.19**	**331**	P	**Pb**	**03 01 31.7**	**+0.2**
MRHZ	**Matea Rd**	**1.20**	**256**	P	**Pn**	**03 01 30.9**	**-0.6**
MKRZ	**Makatiti**	**1.21**	**290**	P	**Pb**	**03 01 32.1**	**+0.2**
ALRZ	**Allen Road**	**1.23**	**270**	P	**Pn**	**03 01 31.4**	**-0.4**
BKZ	**Black Stump Fm**	**1.26**	**241**	P	**Pb**	**03 01 31.4**	**-0.8**
HLRZ	**Highlands Stat**	**1.26**	**284**	P	**Pb**	**03 01 32.6**	**-0.1**
CKHZ	**Cape Kidnapper**	**1.27**	**210**	P	**Pn**	**03 01 30.6**	**-1.8**
OPRZ	**Ohinepanea**	**1.28**	**304**	P	**Pn**	**03 01 31.8**	**-0.8**
HRRZ	**Handcock Road**	**1.28**	**277**	P	**Pn**	**03 01 32.7**	**+0.1**
MCHZ	**McNeill Hill**	**1.29**	**227**	P	**Pn**	**03 01 31.6**	**-1.1**
OMRZ	**Omania**	**1.29**	**290**	P	**Pn**	**03 01 32.6**	**-0.1**
HSRZ	**Hossack Road**	**1.33**	**280**	P	**Pn**	**03 01 33.4**	**+0.2**
UTU	**Utuhina**	**1.40**	**285**	P	**Pb**	**03 01 35.0**	**-0.1**
KARZ	**Kaharoa**	**1.42**	**292**	P	**Pn**	**03 01 34.0**	**-0.4**
GRRZ	**Galatos Road**	**1.43**	**278**	P	**Pn**	**03 01 34.9**	**+0.4**
NGRZ	**Ngongotaha**	**1.43**	**288**	P	**Pn**	**03 01 35.0**	**+0.4**
KWHZ	**Kaweka Forest**	**1.44**	**233**	P	**Pn**	**03 01 34.0**	**-0.8**
KAHZ	**Kaharanaki**	**1.47**	**213**	P	**Pn**	**03 01 33.1**	**-2.0**
WHTZ	**Whakaora**	**1.53**	**266**	P	**Pb**	**03 01 37.4**	**+0.1**
TGRZ	**Tauranga**	**1.54**	**302**	P	**Pn**	**03 01 36.2**	**+0.1**
RITZ	**Rihia Road**	**1.65**	**255**	P	**Pb**	**03 01 38.6**	**-0.8**
PXZ	**Pawanui**	**1.68**	**209**	P	**Pn**	**03 01 36.0**	**-1.9**
RATZ	**Rangitukua**	**1.70**	**259**	P	**Pg**	**03 01 41.6**	**-0.3**
KMRZ	**Kaimai**	**1.71**	**294**	P	**Pn**	**03 01 37.8**	**-0.6**
BHHZ	**Black Hill Sta**	**1.71**	**237**	P	**Pn**	**03 01 37.4**	**-1.1**
KATZ	**Kakaramea**	**1.78**	**256**	P	**Pg**	**03 01 42.9**	**-0.5**
TMVZ	**Te Maari**	**1.81**	**252**	P	**Pn**	**03 01 39.9**	**0.0**
ETVZ	**East Tongariro**	**1.81**	**251**	P	**Pn**	**03 01 40.2**	**+0.3**
NTVZ	**North Tongarir**	**1.82**	**252**	P	**Pn**	**03 01 40.4**	**+0.3**
MYRZ	**Mayor Island**	**1.84**	**314**	P	**Pn**	**03 01 39.8**	**-0.4**
KRVZ	**Karewarewa**	**1.85**	**253**	P	**Pn**	**03 01 40.8**	**+0.3**
OTVZ	**Oturere**	**1.85**	**250**	P	**Pb**	**03 01 42.5**	**-0.3**
TLZ	**Tolley Road**	**1.87**	**276**	P	**Pn**	**03 01 40.8**	**+0.1**
SNVZ	**South Ngauruho**	**1.88**	**250**	P	**Pn**	**03 01 41.2**	**+0.4**
NNVZ	**North Ngauruho**	**1.88**	**252**	P	**Pb**	**03 01 42.7**	**-0.6**
MOVZ	**Moawhango**	**1.88**	**243**	P	**Pn**	**03 01 40.7**	**-0.1**
WPHZ	**Waipukurau**	**1.88**	**217**	P	**Pn**	**03 01 38.3**	**-2.5**
PNHZ	**Pukenui**	**1.89**	**224**	P	**Pn**	**03 01 38.7**	**-2.2**
WTVZ	**West Tongariro**	**1.89**	**252**	P	**Pb**	**03 01 44.2**	**+0.8**
TUVZ	**Tukino**	**1.89**	**247**	P	**Pb**	**03 01 43.2**	**-0.3**
NGZ	**Ngauruhoe**	**1.90**	**251**	P	**Pb**	**03 01 42.0**	**+0.8**
WHVZ	**Whangaehu Hut**	**1.94**	**248**	P	**Pb**	**03 01 44.7**	**+0.2**
WNVZ	**Wahianoa**	**1.96**	**246**	P	**Pn**	**03 01 41.6**	**-0.3**
DRZ	**Dome Shelter**	**1.96**	**248**	P	**Pg**	**03 01 46.1**	**-0.8**
FWVZ	**Far West T-bar**	**1.96**	**249**	P	**Pn**	**03 01 41.9**	**-0.2**
PRHZ	**Porangahau**	**1.96**	**210**	P	**Pn**	**03 01 39.5**	**-2.4**
TRVZ	**Turoa**	**1.98**	**247**	P	**Pb**	**03 01 43.8**	**-1.3**
TWVZ	**Taurewa**	**1.99**	**255**	P	**Pb**	**03 01 43.9**	**-1.3**
MTVZ	**Mangateitei**	**2.07**	**246**	P	**Pn**	**03 01 44.2**	**+0.8**
TOZ	**Tahuroa Road**	**2.07**	**293**	P	**Pn**	**03 01 42.7**	**-0.6**
TSZ	**Takapari Road**	**2.12**	**225**	P	**Pn**	**03 01 42.0**	**-2.1**
PKVZ	**Pokaka**	**2.12**	**249**	P	**Pn**	**03 01 45.8**	**+1.6**
ANWZ	**Angora Road**	**2.19**	**210**	P	**Pn**	**03 01 43.4**	**-1.6**
DVHZ	**Dannevirke**	**2.19**	**217**	P	**Pn**	**03 01 42.4**	**-2.8**
HIZ	**Hauiti**	**2.39**	**270**	P	**Pn**	**03 01 47.9**	**+0.1**
KUZ	**Kuaotunu**	**2.51**	**316**	P	**Pn**	**03 01 48.6**	**-0.8**
WAZ	**Wanganui**	**2.56**	**241**	P	**Pn**	**03 01 49.8**	**-0.4**
MKAZ	**Moumakai**	**2.62**	**303**	P	**Pn**	**03 01 50.4**	**-0.5**
MRZ	**Mangatainoka R**	**2.76**	**220**	P	**Pn**	**03 01 49.8**	**-3.1**
LREZ	**Lake Rotokare**	**2.87**	**251**	P	**Pn**	**03 01 54.9**	**+0.5**
HOWZ	**Holdsworth Sta**	**2.97**	**218**	P	**Pn**	**03 01 52.5**	**-3.3**
MBAZ	**Motutapu North**	**2.98**	**306**	P	**Pn**	**03 01 56.4**	**+0.5**
AWAZ	**Awhitu Peninsu**	**2.99**	**299**	P	**Pn**	**03 01 56.3**	**+0.4**
GRZ	**Great Barrier**	**3.02**	**319**	P	**Pn**	**03 01 56.0**	**-0.4**
NEZ	**North Egmont**	**3.06**	**255**	P	**Pn**	**03 01 58.1**	**+1.1**
OGWZ	**Otaki Gorge**	**3.09**	**222**	P	**Pn**	**03 01 55.5**	**-1.8**
KHEZ	**Kahui Hut**	**3.12**	**255**	P	**Pn**	**03 01 59.0**	**+1.0**
PKE	**Pukeiti**	**3.12**	**257**	P	**Pn**	**03 01 58.8**	**+0.9**
TRWZ	**Traveller**	**3.31**	**210**	P	**Pn**	**03 02 00.3**	**-0.1**
CAW	**Cannon Point**	**3.35**	**220**	P	**Pn**	**03 01 59.9**	**-1.1**
CAW	**Cannon Point**	**3.35**	**220**	P	**Pn**	**03 01 59.8**	**-1.2**
PAWZ	**Paruwai Farm**	**3.40**	**213**	P	**Pn**	**03 01 59.5**	**-2.2**
WCZ	**Waipu Caves**	**3.86**	**312**	P	**Pn**	**03 02 08.5**	**+0.4**
CTZ	**Chatham Island**	**6.62**	**143**	P	**Pn**	**03 02 43.5**	**-2.3**

WEL 18 03:01:34.0 ± 0.3, 42°.S ± 2°.× 17°.4E ± °, h5km, M3.5/34, ML3.9/12, MLv3.5/34, Error ellipse: s-maj=0.0km s-min=0.0km az=111.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.20**	**203**	P	**Pg**	**03 01 38.3**	**+0.3**
KHZ				S	**Sg**	**03 01 41.6**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.54**	**19**	P	**Pg**	**03 01 44.4**	**0.0**
CMWZ	**Cape Campbell**	**0.64**	**42**	P	**Pb**	**03 01 47.1**	**-0.6**
THZ	**Tophouse**	**0.72**	**310**	P	**Pg**	**03 01 48.1**	**+0.2**
TUWZ	**Tuamarina**	**0.83**	**16**	P	**Pg**	**03 01 49.8**	**-0.1**
GVZ	**Greta Valley S**	**0.86**	**211**	P	**Pb**	**03 01 51.1**	**-0.4**
NNZ	**Nelson**	**1.03**	**349**	P	**Pg**	**03 01 53.2**	**-0.6**
MRNZ	**Matariki Terra**	**1.06**	**321**	P	**Pg**	**03 01 54.3**	**-0.1**
TCW	**Tory Channel**	**1.12**	**25**	P	**Pg**	**03 01 54.5**	**-1.0**
LTZ	**Lake Taylor

s-min=24.6km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.68**	**163**	P	P	03 37 24.9	+0.4
	1.0nm,0.5s,baz=342,slow=11,SNR=16 1.0nm,0.5s						
ASAR	**Alice Springs**	**26.12**	**166**	P	P	03 37 56.4	-0.6
	0.1nm,0.3s,baz=352,slow=12,SNR=2.7 0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.46**	**326**	P	P	03 42 26.0	+0.1
	0.3nm,0.7s,baz=118,slow=8.3,SNR=2.7 0.3nm,0.7s						

*SNET **18** 03:33:11.5±1.1, 12°.18N×88°.03W, h14km±6km, ML2.9*
*INET **18** 03:33:16.0±0.3, 12°.26N×87°.34W, h28km±2km, MW3.1*

ISC 18 03:33:04.2±2.7, 11°.9N±0°.2×88°.0W±0°.1, h11km±13km, n13, σ0°.65/19, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.21**	**49**	*e*P	**Pn**	**03 33 26.7**	**-0.3**
CNGN	**Cerro Negro**	**1.39**	**65**	*e*P	**Pn**	**03 33 29.8**	**+0.2**
LCND	**La Caada**	**1.40**	**4**	*e*P	**Pb**	**03 33 30.6**	**+0.3**
LCND				*e*S	**Sn**	**03 33 47.5**	**-0.6**
LCND				IAML		03 33 51.8	
	comp=Z,376nm,0.4s						
MOMN	**Momotombo**	**1.50**	**70**	*e*P	**Pn**	**03 33 30.2**	**-0.9**
ALJI	**Alcalda de J**	**1.52**	**338**	*e*P	**Pg**	**03 33 33.8**	**+0.3**
ALJI				*e*S	**Sn**	**03 33 50.5**	**-0.7**
PACA	**Pacayal**	**1.59**	**348**	*e*P	**Pg**	**03 33 35.4**	**+0.6**
PACA				*e*S	**Sn**	**03 33 53.3**	**+0.4**
PACA				IAML		03 33 55.5	
	comp=Z,1μm,0.3s						
COEB	**Comit de Eme**	**1.67**	**341**	*e*P	**Pg**	**03 33 36.3**	**0.0**
COEB				*e*S	**Sn**	**03 33 55.1**	**+0.1**
COEB				IAML		03 33 57.5	
	comp=Z,85nm,0.4s						
HUEN		**1.82**	**76**	*e*P	**Pn**	**03 33 35.2**	**-0.3**
COEG	**Centro de Oper**	**1.91**	**333**	*e*S	**Sn**	**03 34 02.2**	**+1.2**
SCLA	**Alcaldia de Sa**	**1.93**	**338**	*e*P	**Pb**	**03 33 39.8**	**+0.4**
SCLA				*e*S	**Sb**	**03 34 03.0**	**-0.4**
SCLA				IAML		03 34 09.5	
	comp=Z,24nm,0.3s						
SJTE	**Alcalda de S**	**1.97**	**330**	*e*P	**Pg**	**03 33 41.5**	**-0.6**
SJTE				*e*S	**Sn**	**03 34 03.4**	**+1.0**
P5NO	**Presa 5 de nov**	**2.20**	**340**	*e*P	**Pb**	**03 33 43.5**	**-0.6**
BOAB	**BOACO BROADBAN**	**2.33**	**76**	*e*P	**Pn**	**03 33 43.1**	**+0.6**

*NOU **18** 03:52:37.9, 42°.51S×173°.63E, h2km, MLv3.9/9, South Island, New Zealand*
*WEL **18** 03:52:38.8±0.3, 42°.5±2°×17°.3E±°, h5km, M3.3/29, MLv3.7/12, MLv3.3/29, Error ellipse: s-maj=0.0km s-min=0.0km az=115.2*

ISC 18 03:52:38.2±1.0, 42°.41S±0°.04×173°.60E±0°.05, h15km±6km, n62, σ1°.53/63, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.04**	**264**	P	**Pg**	**03 52 40.7**	**-0.2**
KHZ	**Kahutara**	**0.04**	**264**	P	**Pg**	**03 52 40.9**	**0.0**
KHZ				S	**Sg**	**03 52 42.6**	**-0.1**
GVZ	**Greta Valley S**	**0.69**	**217**	P	**Pg**	**03 52 53.3**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.72**	**17**	P	**Pg**	**03 52 52.5**	**+0.2**
CMWZ	**Cape Campbell**	**0.80**	**35**	P	**Pb**	**03 52 55.8**	**+1.9**
THZ	**Tophouse**	**0.83**	**321**	P	**Pg**	**03 52 52.3**	**-2.0**
TUWZ	**Tuamarina**	**1.01**	**15**	P	**Pg**	**03 52 57.7**	**0.0**
AMCZ	**Amberley**	**1.04**	**222**	P	**Pg**	**03 52 58.3**	**+0.1**
LTZ	**Lake Taylor**	**1.05**	**249**	P	**Pg**	**03 52 58.0**	**-0.5**
NNZ	**Nelson**	**1.21**	**352**	P	**Pg**	**03 52 60.0**	**-1.4**
TCW	**Tory Channel**	**1.30**	**23**	P	**Pn**	**03 53 02.3**	**+0.5**
SNZO	**South Karori**	**1.38**	**37**	P	**Pn**	**03 53 03.3**	**+0.5**
WEL	**Wellington**	**1.43**	**38**	P	**Pn**	**03 53 04.2**	**+0.7**
TKNZ	**Takaka Hill**	**1.46**	**341**	P	**Pn**	**03 53 04.3**	**+0.3**
DSZ	**Denniston Nort**	**1.49**	**296**	P	**Pn**	**03 53 04.6**	**+0.1**
PLWZ	**Palliser**	**1.49**	**56**	P	**Pn**	**03 53 04.6**	**+0.1**
MSWZ	**Moikau Station**	**1.58**	**52**	P	**Pn**	**03 53 05.9**	**+0.1**
DUWZ	**D'Urville Isla**	**1.63**	**9**	P	**Pn**	**03 53 07.1**	**+0.8**
CAW	**Cannon Point**	**1.70**	**41**	P	**Pn**	**03 53 07.7**	**+0.3**
PAWZ	**Paruwai Farm**	**1.71**	**54**	P	**Pn**	**03 53 07.3**	**-0.1**
QRZ	**Quartz Range**	**1.78**	**333**	P	**Pn**	**03 53 09.4**	**+1.1**
QRZ	**Quartz Range**	**1.78**	**333**	P	**Pn**	**03 53 09.5**	**+1.1**
KIW	**Kapiti Island**	**1.83**	**33**	P	**Pn**	**03 53 09.8**	**+0.6**
TRWZ	**Traveller**	**1.86**	**58**	P	**Pn**	**03 53 09.2**	**-0.3**
MTW	**Mount Morrison**	**1.90**	**49**	P	**Pn**	**03 53 09.9**	**-0.1**
OGWZ	**Otaki Gorge**	**1.98**	**37**	P	**Pn**	**03 53 11.4**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.08**	**44**	P	**Pn**	**03 53 12.7**	**0.0**
TMWZ	**Te Maipa**	**2.15**	**54**	P	**Pn**	**03 53 13.1**	**-0.5**
RPZ	**Rata Peaks**	**2.28**	**234**	P	**Pn**	**03 53 15.0**	**-0.3**
RPZ	**Rata Peaks**	**2.28**	**234**	P	**Pn**	**03 53 14.9**	**-0.3**
MRZ	**Mangatainoka R**	**2.29**	**41**	P	**Pn**	**03 53 15.3**	**-0.2**
ARCZ	**Arundel**	**2.34**	**228**	P	**Pn**	**03 53 15.6**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**2.57**	**248**	P	**Pn**	**03 53 20.0**	**+0.7**
BFZ	**Birch Farm**	**2.63**	**50**	P	**Pn**	**03 53 22.7**	**+2.5**
BFZ	**Birch Farm**	**2.63**	**50**	P	**Pn**	**03 53 19.5**	**-0.6**
TMZ	**Timaru**	**2.73**	**223**	P	**Pn**	**03 53 21.2**	**-0.3**
WAZ	**Wanganui**	**2.85**	**22**	P	**Pn**	**03 53 25.5**	**+2.3**
FOZ	**Fox Glacier**	**3.00**	**247**	P	**Pn**	**03 53 26.1**	**+1.0**
KHEZ	**Kahui Hut**	**3.13**	**6**	P	**Pb**	**03 53 30.9**	**+3.8**
KHEZ	**Kahui Hut**	**3.13**	**6**	P	**Pb**	**03 53 31.2**	**-2.4**
NBEZ	**Newall Road No**	**3.15**	**4**	P	**Pb**	**03 53 32.6**	**-1.2**
NEZ	**North Egmont**	**3.16**	**7**	P	**Pb**	**03 53 32.3**	**-1.8**
PNHZ	**Pukenui**	**3.17**	**39**	P	**Pn**	**03 53 26.9**	**-0.8**
PKE	**Pukeiti**	**3.23**	**5**	P	**Pn**	**03 53 32.3**	**+3.9**
PKVZ	**Pokaka**	**3.39**	**24**	P	**Pb**	**03 53 35.6**	**-2.4**
ODZ	**Otahua Downs**	**3.39**	**218**	P	**Pn**	**03 53 30.2**	**-0.4**
ODZ	**Otahua Downs**	**3.39**	**218**	P	**Pn**	**03 53 30.0**	**-0.6**
VRZ	**Vera Road**	**3.40**	**15**	P	**Pn**	**03 53 34.4**	**+3.7**
MOVZ	**Moawhango**	**3.42**	**29**	P	**Pn**	**03 53 33.5**	**+2.5**
WNVZ	**Wahianoa**	**3.43**	**27**	P	**Pn**	**03 53 32.6**	**+1.3**
TRVZ	**Turoa**	**3.44**	**26**	P	**Pn**	**03 53 32.6**	**+1.1**
BHHZ	**Black Hill Sta**	**3.46**	**33**	P	**Pn**	**03 53 31.9**	**+0.2**
WHVZ	**Whangaehu Hut**	**3.47**	**26**	P	**Pn**	**03 53 34.6**	**+2.8**
FWVZ	**Far West T-bar**	**3.48**	**26**	P	**Pn**	**03 53 33.2**	**+1.2**
KAHZ	**Kahuranaki**	**3.60**	**45**	P	**Pn**	**03 53 35.3**	**+1.8**
ETVZ	**East Tongariro**	**3.64**	**27**	P	**Pn**	**03 53 36.6**	**+2.4**
JCZ	**Jackson Bay**	**3.89**	**243**	P	**Pn**	**03 53 40.2**	**+2.7**
JCZ	**Jackson Bay**	**3.89**	**243**	P	**Pn**	**03 53 37.8**	**+0.3**
HIZ	**Hauiti**	**4.01**	**14**	P	**Pn**	**03 53 41.3**	**+2.2**
HIZ	**Hauiti**	**4.01**	**14**	P	**Pn**	**03 53 41.1**	**+2.0**
EAZ	**Earnscleugh**	**4.19**	**226**	P	**Pn**	**03 53 41.4**	**-0.2**
AWAZ	**Awhitu Peninsu**	**5.40**	**9**	P	**Pn**	**03 53 59.9**	**+1.7**

WEL 18 03:56:29.3±0.4, 42°S±4°×17°4E±°, h5km, M1.8/12, ML2.2/12, MLv1.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=149.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**250**	S	**Sg**	**03 56 34.9**	**+1.5**
CMWZ	**Cape Campbell**	**0.12**	**250**	P	**Pg**	**03 56 31.7**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.37**	**269**	S	**Sg**	**03 56 42.3**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.37**	**269**	P	**Pg**	**03 56 36.0**	**-0.4**
TUWZ	**Tuamarina**	**0.42**	**311**	S	**Sb**	**03 56 44.8**	**-1.1**
TUWZ	**Tuamarina**	**0.42**	**311**	P	**Pg**	**03 56 37.8**	**+0.3**
TCW	**Tory Channel**	**0.50**	**352**	P	**Pg**	**03 56 39.4**	**+0.4**
PLWZ	**Palliser**	**0.68**	**79**	P	**Pb**	**03 56 43.0**	**-0.7**
MSWZ	**Moikau Station**	**0.72**	**67**	P	**Pb**	**03 56 44.0**	**-0.4**
CAW	**Cannon Point**	**0.80**	**42**	P	**Pb**	**03 56 44.9**	**+0.3**
PAWZ	**Paruwai Farm**	**0.86**	**68**	P	**Pg**	**03 56 45.7**	**-0.1**
KIW	**Kapiti Island**	**0.94**	**26**	P	**Pg**	**03 56 47.4**	**0.0**
DUWZ	**D'Urville Isla**	**0.96**	**340**	P	**Pg**	**03 56 48.0**	**+0.2**
MTW	**Mount Morrison**	**1.01**	**58**	P	**Pg**	**03 56 48.0**	**-0.8**
OGWZ	**Otaki Gorge**	**1.08**	**35**	P	**Pg**	**03 56 49.7**	**-0.3**
OKCZ	**Okains Bay**	**2.23**	**205**	P	**Pn**	**03 57 08.0**	**+1.0**
OXZ	**Oxford**	**2.36**	**226**	P	**Pn**	**03 57 08.6**	**-0.2**
MQZ	**McQueen's Vall**	**2.36**	**212**	P	**Pn**	**03 57 08.4**	**-0.3**
MQZ	**McQueen's Vall**	**2.36**	**212**	P	**Pn**	**03 57 08.4**	**-0.3**
AKCZ	**Akaroa Harbour**	**2.42**	**206**	P	**Pn**	**03 57 10.1**	**+0.6**
RACZ	**Rakaia**	**2.60**	**218**	P	**Pn**	**03 57 11.7**	**-0.3**
MHCZ	**Mount Hutt**	**2.75**	**228**	P	**Pn**	**03 57 13.9**	**-0.3**
WACZ	**Wakanui South**	**2.91**	**219**	P	**Pn**	**03 57 16.4**	**+0.2**
TMZ	**Timaru**	**3.63**	**222**	P	**Pn**	**03 57 26.5**	**+0.2**
FOZ	**Fox Glacier**	**3.82**	**240**	P	**Pn**	**03 57 31.9**	**+3.1**

*NOU **18** 03:56:43.3, 42°.51S×173°.65E, h8km, MLv4.0/12, South Island, New Zealand*

*WEL **18** 03:56:44.5±0.3, 42°.5±2°×17°.3E±°, h5km±2km, M3.5/37, ML3.8/13, MLv3.5/37, Error ellipse: s-maj=0.0km s-min=0.0km az=137.6*

ISC 18 03:56:43.2±1.1, 42°.47S±0°.04×173°.63E±0°.04, h17km±6km, n83, σ1°.37/84, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.09**	**311**	P	**Pg**	**03 56 46.9**	**+0.2**
KHZ	**Kahutara**	**0.09**	**311**	P	**Pg**	**03 56 46.8**	**+0.2**
KHZ				S	**Sg**	**03 56 48.9**	**-0.1**
GVZ	**Greta Valley S**	**0.66**	**221**	P	**Pn**	**03 56 58.3**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.78**	**14**	P	**Pg**	**03 56 58.4**	**0.0**
CMWZ	**Cape Campbell**	**0.84**	**31**	P	**Pn**	**03 57 01.5**	**+1.2**
THZ	**Tophouse**	**0.89**	**323**	P	**Pb**	**03 56 58.7**	**-1.5**
AMCZ	**Amberley**	**1.00**	**225**	P	**Pn**	**03 57 03.8**	**+1.3**
LTZ	**Lake Taylor**	**1.05**	**252**	P	**Pb**	**03 57 02.8**	**-0.1**
TUWZ	**Tuamarina**	**1.07**	**13**	P	**Pb**	**03 57 03.6**	**+0.4**
MRNZ	**Matariki Terra**	**1.25**	**329**	P	**Pn**	**03 57 05.5**	**-0.5**
NNZ	**Nelson**	**1.27**	**352**	P	**Pn**	**03 57 06.0**	**-0.1**
TCW	**Tory Channel**	**1.35**	**21**	P	**Pn**	**03 57 07.8**	**+0.6**
SNZO	**South Karori**	**1.41**	**35**	P	**Pb**	**03 57 09.2**	**+0.1**
WEL	**Wellington**	**1.46**	**36**	P	**Pb**	**03 57 09.9**	**0.0**
PLWZ	**Palliser**	**1.51**	**54**	P	**Pn**	**03 57 10.3**	**+0.8**
TKNZ	**Takaka Hill**	**1.52**	**341**	P	**Pn**	**03 57 09.9**	**+0.3**
DSZ	**Denniston Nort**	**1.54**	**298**	P	**Pn**	**03 57 10.1**	**+0.2**
MSWZ	**Moikau Station**	**1.61**	**49**	P	**Pn**	**03 57 11.6**	**+0.8**
INZ	**Inchbonnie**	**1.63**	**260**	P	**Pn**	**03 57 11.6**	**+0.5**
DUWZ	**D'Urville Isla**	**1.69**	**8**	P	**Pn**	**03 57 12.6**	**+0.8**
PAWZ	**Paruwai Farm**	**1.73**	**52**	P	**Pn**	**03 57 13.0**	**+0.5**
CAW	**Cannon Point**	**1.74**	**39**	P	**Pn**	**03 57 13.4**	**+0.8**
QRZ	**Quartz Range**	**1.84**	**333**	P	**Pn**	**03 57 15.1**	**+1.1**
QRZ	**Quartz Range**	**1.84**	**333**	P	**Pn**	**03 57 15.0**	**+1.0**
TRWZ	**Traveller**	**1.88**	**56**	P	**Pn**	**03 57 15.6**	**+1.1**
KIW	**Kapiti Island**	**1.88**	**31**	P	**Pn**	**03 57 15.5**	**+1.0**
MTW	**Mount Morrison**	**1.92**	**47**	P	**Pn**	**03 57 15.7**	**+0.6**
OGWZ	**Otaki Gorge**	**2.02**	**35**	P	**Pn**	**03 57 17.1**	**+0.6**
HOWZ	**Holdsworth Sta**	**2.12**	**43**	P	**Pn**	**03 57 18.2**	**+0.4**
TMWZ	**Te Maipa**	**2.17**	**52**	P	**Pn**	**03 57 19.0**	**+0.4**
WVZ	**Waitaha Valley**	**2.21**	**253**	P	**Pn**	**03 57 19.8**	**+0.8**
RPZ	**Rata Peaks**	**2.26**	**236**	P	**Pn**	**03 57 19.8**	**+0.1**
RPZ	**Rata Peaks**	**2.26**	**236**	P	**Pn**	**03 57 19.8**	**+0.1**
ARCZ	**Arundel**	**2.32**	**230**	P	**Pn**	**03 57 20.7**	**+0.1**
MRZ	**Mangatainoka R**	**2.33**	**40**	P	**Pn**	**03 57 21.0**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**2.57**	**250**	P	**Pn**	**03 57 25.8**	**+1.8**
BFZ	**Birch Farm**	**2.66**	**49**	P	**Pn**	**03 57 27.9**	**+2.7**
BFZ	**Birch Farm**	**2.66**	**49**	P	**Pn**	**03 57 25.2**	**0.0**
DVHZ	**Dannevirke**	**2.89**	**42**	P	**Pn**	**03 57 28.0**	**-0.5**
WAZ	**Wanganui**	**2.90**	**21**	P	**Pn**	**03 57 30.8**	**+2.2**
TSZ	**Takapari Road**	**2.99**	**37**	P	**Pn**	**03 57 29.7**	**-0.1**
LREZ	**Lake Rotokare**	**3.07**	**11**	P	**Pn**	**03 57 33.7**	**+2.9**
KHEZ	**Kahui Hut**	**3.19**	**5**	P	**Pn**	**03 57 34.6**	**+2.0**
KHEZ	**Kahui Hut**	**3.19**	**5**	P	**Pn**	**03 57 34.9**	**+2.3**
NBEZ	**Newall Road No**	**3.21**	**3**	P	**Pn**	**03 57 35.7**	**+3.0**
PNHZ	**Pukenui**	**3.21**	**38**	P	**Pn**	**03 57 32.4**	**-0.5**
NEZ	**North Egmont**	**3.22**	**6**	P	**Pb**	**03 57 37.1**	**-2.9**
PKE	**Pukeiti**	**3.29**	**5**	P	**Pn**	**03 57 36.4**	**+2.5**
ODZ	**Otahua Downs**	**3.36**	**219**	P	**Pn**	**03 57 35.5**	**+0.7**
ODZ	**Otahua Downs**	**3.36**	**219**	P	**Pn**	**03 57 35.1**	**+0.3**
MTVZ	**Mangateitei**	**3.39**	**25**	P	**Pn**	**03 57 40.4**	**-2.3**
PKVZ	**Pokaka**	**3.44**	**23**	P	**Pn**	**03 57 37.3**	**+1.3**
VRZ	**Vera Road**	**3.45**	**15**	P	**Pn**	**03 57 38.1**	**+2.0**
MOVZ	**Moawhango**	**3.46**	**28**	P	**Pn**	**03 57 37.0**	**+0.7**
WNVZ	**Wahianoa**	**3.48**	**26**	P	**Pn**	**03 57 37.9**	**+1.3**
TRVZ	**Turoa**	**3.49**	**25**	P	**Pn**	**03 57 38.3**	**+1.4**
BHHZ	**Black Hill Sta**	**3.50**	**33**	P	**Pn**	**03 57 37.5**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.52**	**26**	P	**Pn**	**03 57 38.7**	**+1.5**
FWVZ	**Far West T-bar**	**3.53**	**25**	P	**Pn**	**03 57 38.8**	**+1.3**
TUVZ	**Tukino**	**3.55**	**26**	P	**Pn**	**03 57 39.3**	**+1.6**
NGZ	**Ngauruhoe**	**3.62**	**25**	P	**Pn**	**03 57 39.0**	**+0.4**
SNVZ	**South Ngauruho**	**3.62**	**26**	P	**Pn**	**03 57 39.7**	**+1.1**
OTVZ	**Oturere**	**3.65**	**26**	P	**Pn**	**03 57 40.4**	**+1.4**
NNVZ	**North Ngauruho**	**3.66**	**25**	P	**Pn**	**03 57 41.0**	**+1.8**
TWVZ	**Taurewa**	**3.67**	**23**	P	**Pn**	**03 57 40.2**	**+1.0**
ETVZ	**East Tongariro**	**3.69**	**26**	P	**Pn**	**03 57 40.7**	**+1.1**
TMVZ	**Te Maari**	**3.71**	**26**	P	**Pn**	**03 57 40.8**	**+1.0**
JCZ	**Jackson Bay**	**3.88**	**244**	P	**Pn**	**03 57 44.5**	**+2.4**
BKZ	**Black Stump Fm**	**3.96**	**34**	P	**Pn**	**03 57 44.9**	**+1.2**
BKZ	**Black Stump Fm**	**3.96**	**34**	P	**Pn**	**03 57 42.4**	**-0.7**
HIZ	**Hauiti**	**4.07**	**14**	P	**Pn**	**03 57 46.4**	**+1.8**
HIZ	**Hauiti**	**4.07**	**14**	P	**Pn**	**03 57 46.5**	**+1.9**
NMHZ	**Naumai**	**4.15**	**37**	P	**Pn**	**03 57 50.0**	**+4.2**
MRHZ	**Matea Rd**	**4.21**	**31**	P	**Pn**	**03 57 45.7**	**-0.9**
TLZ	**Tolley Road**	**4.39**	**20**	P	**Pn**	**03 57 50.5**	**+1.5**
TOZ	**Tahuroa Road**	**4.95**	**17**	P	**Pn**	**03 57 57.6**	**+0.8**
URZ	**Urewera**	**4.98**	**33**	P	**Pn**	**03 57 57.0**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.46**	**9**	P	**Pn**	**03 58 05.3**	**+1.6**
RUGZ	**Raukumara Rang**	**5.47**	**36**	P	**Pn**	**03 58 03.1**	**-0.8**
MKAZ	**Moumakai**	**5.49**	**13**	P	**Pn**	**03 58 05.0**	**+0.8**
ETAZ	**East Tamaki Re**	**5.60**	**11**	P	**Pn**	**03 58 07.2**	**+1.5**
MBAZ	**Motutapu North**	**5.78**	**10**	P	**Pn**	**03 58 09.9**	**+1.8**
CTZ	**Chatham Island**	**7.25**	**103**	P	**Pn**	**03 58 29.0**	**+0.7**

WEL 18 04:01:55.0±2.0, 36°S±17°×17°8E±1°, h183km±15km, M2.9/12, MLv2.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=43.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.34**	**159**	P	**Pn**	**04 02 25.8**	**+0.2**
MXZ				S	**Sn**	**04 02 50.2**	**+0.7**
HAZ	**Te Kaha**	**1.44**	**177**	P	**Pn**	**04 02 26.4**	**-0.2**
PKGZ	**Pakihiroa**	**1.60**	**169**	P	**Pn**	**04 02 28.9**	**+0.7**
WMGZ	**Waiomatatini S**	**1.61**	**159**	P	**Pn**	**04 02 28.5**	**+0.3**
WMGZ				S	**Sn**	**04 02 54.7**	**+0.6**
RUGZ	**Raukumara Rang**	**1.65**	**181**	P	**Pn**	**04 02 27.9**	**-0.8**
KUZ	**Kuaotunu**	**1.65**	**254**	P	**Pn**	**04 02 29.0**	**+0.4**
PUZ	**Puketiti**	**1.81**	**166**	P	**Pn**	**04 02 30.2**	**0.0**
PUZ				S	**Sn**	**04 02 57.4**	**-0.4**
GRZ	**Great Barrier**	**1.81**	**271**	P	**Pn**	**04 02 29.7**	**-0.5**
TWGZ	**Tauwhareparae**	**1.87**	**173**	P	**Pn**	**04 02 31.4**	**+0.5**
EDRZ	**Edgecumbe**	**1.94**	**203**	P	**Pn**	**04 02 33.4**	**+1.6**
URZ	**Urewera**	**2.00**	**193**	P	**Pn**	**04 02 31.6**	**-0.6**
MWZ	**Matawai**	**2.02**	**184**	P	**Pn**	**04 02 32.5**	**0.0**
RAGZ	**Rawiri**	**2.19**	**186**	P	**Pn**	**04 02 34.4**	**0.0**
MUGZ	**Murupara**	**2.28**	**199**	P	**Pn**	**04 02 35.5**	**+0.2**
RIGZ	**Rimuhau**	**2.39**	**179**	P	**Pn**	**04 02 35.7**	**-0.9**
NMHZ	**Naumai**	**2.86**	**194**	P	**Pn**	**04 02 42.1**	**-0.1**
BKZ	**Black Stump Fm**	**3.00**	**198**	P	**Pn**	**04 02 42.8**	**-1.0**
MCHZ	**McNeill Hill**	**3.22**	**194**	P	**Pn**	**04 02 45.6**	**-0.8**
BHHZ	**Black Hill Sta**	**3.42**	**202**	P	**Pn**	**04 02 47.0**	**-2.0**
MOVZ	**Moawhango**	**3.45**	**206**	P	**Pn**	**04 02 47.5**	**-1.8**
KAHZ	**Kahuranaki**	**3.53**	**190**	P	**Pn**	**04 02 48.7**	**-1.6**
PXZ	**Pawanui**	**3.77**	**190**	P	**Pn**	**04 02 50.6**	**-2.6**
PNHZ	**Pukenui**	**3.78**	**198**	P	**Pn**	**04 02 50.9**	**-2.5**
PRHZ	**Porangahau**	**4.03**	**192**	P	**Pn**	**04 02 53.9**	**-2.6**
POWZ	**Post Office Ro**	**4.34**	**200**	P	**Pn**	**04 02 49.1**	**-11**
BFZ	**Birch Farm**	**4.50**	**194**	P	**Pn**	**04 02 59.0**	**-3.6**
MRZ	**Mangatainoka R**	**4.64**	**200**	P	**Pn**	**04 03 00.9**	**-3.4**
HOWZ	**Holdsworth Sta**	**4.88**	**200**	P	**Pn**	**04 03 03.7**	**-3.7**
OGWZ	**Otaki Gorge**	**4.91**	**203**	P	**Pn**	**04 03 03.9**	**-3.9**
KIW	**Kapiti Island**	**5.04**	**205**	P	**Pn**	**04 03 05.9**	**-3.5**
PAWZ	**Paruwai Farm**	**5.36**	**199**	P	**Pn**	**04 03 11.9**	**-1.7**
MSWZ	**Moikau Station**	**5.44**	**200**	P	**Pn**	**04 03 11.6**	**-3.1**
WEL	**Wellington**	**5.46**	**204**	P	**Pn**	**04 03 07.9**	**-7.1**

MAN 18 04:02:48.3, 9°.77N×124°.71E, h24km, mb4.0, ML2.8, MS2.4, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.39**	**22↑**	*e*P	**Pb**	**04 02 57.5**	**+0.9**
MSLP				*i* S	**Sn**	**04 03 06.3**	**+1.2**
SCPH	**Surigao**	**0.77**	**89**	*e*P	**Pn**	**04 03 15.2**	**+11**
TBP	**Tagbilaran**	**0.84**	**265↑**	*e*P	**Pb**	**04 03 03.9**	**-0.3**
TBP				*i* S	**Sn**	**04 03 16.3**	**+0.1**
LLP	**Lapu-Lapu**	**0.91**	**307↑**	*i*P	**Pb**	**04 03 05.3**	**-0.1**
LLP				*i* S	**Sn**	**04 03 18.6**	**+0.7**
CGP	**Cagayan de Oro**	**1.31**	**181↑**	*e*P	**Pn**	**04 03 10.6**	**-0.5**
CGP				*e*S	**Sn**	**04 03 27.4**	**-0.4**
DCPH	**Dipolog City**	**1.79**	**229↓**	*i*P	**Pn**	**04 03 17.5**	**-0.1**
DCPH				*i* S	**Sn**	**04 03 40.4**	**+0.9**

WEL 18 04:07:39.2±0.3, 43°S±2°×17°3E±°, h5km, M3.0/13, ML3.7/12, MLv3.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=139.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**61**	P	**Pg**	**04 07 44.9**	**-0.2**
KHZ				S	**Sg**	**04 07 49.5**	**+0.4**
GVZ	**Greta Valley S**	**0.41**	**195**	P	**Pg**	**04 07 47.7**	**+0.5**
GVZ				S	**Sb**	**04 07 54.6**	**-1.0**
LTZ	**Lake Taylor**	**0.70**	**252**	P	**Pg**	**04 07 52.9**	**+0.2**
LTZ				S	**Sb**	**04 08 03.2**	**-0.7**
AMCZ	**Amberley**	**0.72**	**212**	P	**Pb**	**04 07 53.7**	**-0.5**
THZ	**Tophouse**	**0.83**	**346**	P	**Pg**	**04 07 55.0**	**0.0**
BSWZ	**Blackbirch Sta**	**1.00**	**32**	P	**Pg**	**04 07 58.3**	**0.0**
OXZ	**Oxford**	**1.13**	**227**	P	**Pg**	**04 08 00.0**	**-0.8**
OKCZ	**Okains Bay**	**1.16**	**184**	P	**Pg**	**04 08 00.2**	**-1.2**
MQZ	**McQueen's Vall**	**1.20**	**198**	P	**Pg**	**04 07 58.7**	**-3.5**
MRNZ	**Matariki Terra**	**1.21**	**345**	P	**Pn**	**04 08 03.1**	**+0.4**
TUWZ	**Tuamarina**	**1.27**	**27**	P	**Pg**	**04 08 03.0**	**-0.5**
INZ	**Inchbonnie**	**1.29**	**262**	P	**Pn**	**04 08 03.2**	**-0.6**
DSZ	**Denniston Nort**	**1.31**	**308**	P	**Pn**	**04 08 00.9**	**-3.3**
AKCZ	**Akaroa Harbour**	**1.32**	**188**	P	**Pn**	**04 08 01.8**	**-2.5**
NNZ	**Nelson**	**1.36**	**6**	P	**Pn**	**04 08 04.5**	**-0.2**
RACZ	**Rakaia**	**1.39**	**213**	P	**Pn**	**04 08 03.2**	**-2.0**
MHCZ	**Mount Hutt**	**1.52**	**230**	P	**Pn**	**04 08 05.4**	**-1.7**
TKNZ	**Takaka Hill**	**1.54**	**354**	P	**Pn**	**04 08 07.3**	**0.0**
TCW	**Tory Channel**	**1.58**	**32**	P	**Pn**	**04 08 06.8**	**-1.1**
WEL	**Wellington**	**1.75**	**43**	P	**Pn**	**04 08 08.8**	**-1.3**
PLWZ	**Palliser**	**1.84**	**58**	P	**Pn**	**04 08 09.1**	**-2.3**
DUWZ	**D'Urville Isla**	**1.85**	**18**	P	**Pn**	**04 08 12.0**	**+0.5**
WVZ	**Waitaha Valley**	**1.87**	**253**	P	**Pn**	**04 08 11.4**	**-0.4**
MSWZ	**Moikau Station**	**1.93**	**54**	P	**Pn**	**04 08 10.4**	**-2.2**
RPZ	**Rata Peaks**	**1.93**	**233**	P

s-min=0.0km az=129.5
*NOU **18** 04:38:54.3, 42.17′S×173.80′E, h20km, MLv4.4/13, South Island, New Zealand*
ISC 18 04:38:53.5±1.0, 42°09′S±0.03′×173°71′E±0.03, h10km, n116, σ1s49/113, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.35**	**201**	P	**Pg**	**04 39 02.6**	**+2.1**
KHZ	**Kahutara**	**0.35**	**201**	P	**Pg**	**04 39 02.6**	**+2.1**
KHZ				S	**Sb**	**04 39 08.7**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.39**	**18**	P	**Pg**	**04 39 00.7**	**-0.5**
CMWZ	**Cape Campbell**	**0.51**	**48**	P	**Pg**	**04 39 04.5**	**+1.2**
TUWZ	**Tuamarina**	**0.68**	**15**	P	**Pg**	**04 39 05.8**	**-0.8**
THZ	**Tophouse**	**0.68**	**298**	P	**Pg**	**04 39 05.8**	**-1.0**
NNZ	**Nelson**	**0.90**	**344**	P	**Pg**	**04 39 09.2**	**-1.7**
TCW	**Tory Channel**	**0.97**	**26**	P	**Pg**	**04 39 11.0**	**-1.2**
MRNZ	**Matariki Terra**	**0.99**	**314**	P	**Pg**	**04 39 11.2**	**-1.3**
GVZ	**Greta Valley S**	**1.01**	**209**	P	**Pg**	**04 39 14.1**	**+1.2**
SNZO	**South Karori**	**1.07**	**44**	P	**Pg**	**04 39 14.2**	**+0.1**
WEL	**Wellington**	**1.13**	**45**	P	**Pb**	**04 39 14.8**	**-0.2**
TKNZ	**Takaka Hill**	**1.19**	**332**	P	**Pn**	**04 39 14.5**	**-1.8**
PLWZ	**Palliser**	**1.26**	**66**	P	**Pn**	**04 39 16.2**	**-1.1**
LTZ	**Lake Taylor**	**1.27**	**236**	P	**Pn**	**04 39 17.2**	**-0.2**
DUWZ	**D'Urville Isla**	**1.29**	**7**	P	**Pn**	**04 39 16.0**	**-1.7**
MSWZ	**Moikau Station**	**1.33**	**60**	P	**Pn**	**04 39 17.1**	**-1.0**
AMCZ	**Amberley**	**1.34**	**215**	P	**Pn**	**04 39 18.3**	**+0.1**
CAW	**Cannon Point**	**1.41**	**47**	P	**Pn**	**04 39 18.5**	**-0.7**
DSZ	**Denniston Nort**	**1.46**	**283**	P	**Pn**	**04 39 20.5**	**+0.5**
PAWZ	**Paruwai Farm**	**1.46**	**62**	P	**Pn**	**04 39 18.7**	**-1.3**
KIW	**Kapiti Island**	**1.52**	**37**	P	**Pn**	**04 39 20.3**	**-0.5**
QRZ	**Quartz Range**	**1.54**	**324**	P	**Pn**	**04 39 20.5**	**-0.5**
QRZ	**Quartz Range**	**1.54**	**324**	P	**Pn**	**04 39 20.3**	**-0.7**
TRWZ	**Traveller**	**1.63**	**66**	P	**Pn**	**04 39 20.8**	**-1.5**
MTW	**Mount Morrison**	**1.63**	**56**	P	**Pn**	**04 39 20.9**	**-1.4**
OGWZ	**Otaki Gorge**	**1.68**	**41**	P	**Pn**	**04 39 22.1**	**-0.7**
OKCZ	**Okains Bay**	**1.70**	**196**	P	**Pn**	**04 39 22.9**	**-0.4**
OXZ	**Oxford**	**1.75**	**224**	P	**Pn**	**04 39 23.1**	**-0.8**
MQZ	**McQueen's Vall**	**1.79**	**205**	P	**Pn**	**04 39 23.3**	**-1.1**
INZ	**Inchbonnie**	**1.80**	**248**	P	**Pn**	**04 39 25.1**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.80**	**49**	P	**Pn**	**04 39 23.3**	**-1.4**
AKCZ	**Akaroa Harbour**	**1.88**	**198**	P	**Pn**	**04 39 24.9**	**-0.7**
TMWZ	**Te Maipa**	**1.91**	**60**	P	**Pn**	**04 39 24.4**	**-1.7**
MRZ	**Mangatainoka R**	**2.00**	**45**	P	**Pn**	**04 39 26.0**	**-1.3**
RACZ	**Rakaia**	**2.00**	**215**	P	**Pn**	**04 39 26.4**	**-1.0**
TIWZ	**Tintock**	**2.10**	**52**	P	**Pn**	**04 39 27.1**	**-1.5**
MHCZ	**Mount Hutt**	**2.14**	**227**	P	**Pn**	**04 39 28.4**	**-0.8**
PRWZ	**Pori Road**	**2.29**	**49**	P	**Pn**	**04 39 30.4**	**-0.9**
POWZ	**Post Office Ro**	**2.30**	**43**	P	**Pn**	**04 39 30.8**	**-0.6**
WACZ	**Wakanui South**	**2.31**	**216**	P	**Pn**	**04 39 30.9**	**-0.6**
BFZ	**Birch Farm**	**2.37**	**54**	P	**Pn**	**04 39 33.2**	**+0.8**
WVZ	**Waitaha Valley**	**2.41**	**245**	P	**Pn**	**04 39 33.9**	**+1.0**
WAZ	**Wanganui**	**2.52**	**23**	P	**Pn**	**04 39 36.2**	**+1.7**
RPZ	**Rata Peaks**	**2.54**	**229**	P	**Pn**	**04 39 34.3**	**-0.5**
RPZ	**Rata Peaks**	**2.54**	**229**	P	**Pn**	**04 39 34.3**	**-0.5**
DVHZ	**Dannevirke**	**2.57**	**47**	P	**Pn**	**04 39 33.1**	**-2.2**
ARCZ	**Arundel**	**2.63**	**224**	P	**Pn**	**04 39 35.4**	**-0.6**
TSZ	**Takapari Road**	**2.65**	**41**	P	**Pn**	**04 39 34.6**	**-1.6**
NMEZ	**Namu Road**	**2.67**	**3**	P	**Pn**	**04 39 38.8**	**+2.2**
LREZ	**Lake Brokare**	**2.67**	**18**	P	**Pn**	**04 39 39.1**	**+2.5**
GCZ	**Gaunt Creek Bo**	**2.78**	**243**	P	**Pn**	**04 39 39.0**	**+1.0**
KHEZ	**Kahui Hut**	**2.80**	**5**	P	**Pn**	**04 39 40.7**	**+2.3**
KHEZ	**Kahui Hut**	**2.80**	**5**	P	**Pn**	**04 39 40.7**	**+2.3**
NBEZ	**Newall Road No**	**2.82**	**2**	P	**Pn**	**04 39 40.2**	**+1.6**
NEZ	**North Egmont**	**2.83**	**6**	P	**Pn**	**04 39 40.9**	**+2.0**
PRHZ	**Porangahau**	**2.86**	**51**	P	**Pn**	**04 39 38.7**	**-0.5**
PNHZ	**Pukenui**	**2.87**	**42**	P	**Pn**	**04 39 37.6**	**-1.8**
PKE	**Pukeiti**	**2.90**	**4**	P	**Pn**	**04 39 41.4**	**+1.7**
DREZ	**Durham Road**	**2.92**	**7**	P	**Pn**	**04 39 42.0**	**+2.1**
MTVZ	**Mangateitei**	**3.01**	**27**	P	**Pn**	**04 39 44.7**	**+3.4**
TMZ	**Timaru**	**3.03**	**220**	P	**Pn**	**04 39 41.1**	**-0.4**
MHEZ	**Mangahewa**	**3.04**	**9**	P	**Pn**	**04 39 44.4**	**+2.8**
PKVZ	**Pokaka**	**3.06**	**25**	P	**Pn**	**04 39 43.6**	**+1.7**
VRZ	**Vera Road**	**3.06**	**15**	P	**Pn**	**04 39 43.2**	**+1.2**
MOVZ	**Moawhango**	**3.09**	**31**	P	**Pn**	**04 39 42.8**	**+0.3**
WNVZ	**Wahianoa**	**3.11**	**28**	P	**Pn**	**04 39 42.9**	**+0.2**
TRVZ	**Turoa**	**3.12**	**27**	P	**Pn**	**04 39 43.8**	**+1.0**
DRZ	**Dome Shelter**	**3.14**	**27**	P	**Pn**	**04 39 47.8**	**+4.5**
WHVZ	**Whangaehu Hut**	**3.14**	**28**	P	**Pn**	**04 39 44.4**	**+1.1**
BHHZ	**Black Hill Sta**	**3.15**	**35**	P	**Pn**	**04 39 43.3**	**+0.1**
FWVZ	**Far West T-bar**	**3.16**	**27**	P	**Pn**	**04 39 43.9**	**+0.5**
TUVZ	**Tukino**	**3.18**	**28**	P	**Pn**	**04 39 45.0**	**+1.3**
FOZ	**Fox Glacier**	**3.21**	**242**	P	**Pn**	**04 39 44.6**	**+0.7**
NGZ	**Ngauruhoe**	**3.24**	**27**	P	**Pn**	**04 39 45.9**	**+1.3**
SNVZ	**South Ngauruho**	**3.25**	**27**	P	**Pn**	**04 39 46.0**	**+1.4**
OTVZ	**Oturere**	**3.28**	**28**	P	**Pn**	**04 39 47.1**	**+2.1**
TWVZ	**Taurewa**	**3.29**	**24**	P	**Pn**	**04 39 47.2**	**+2.1**
NNVZ	**North Ngauruho**	**3.29**	**27**	P	**Pn**	**04 39 47.2**	**+2.0**
WTVZ	**West Tongariro**	**3.29**	**26**	P	**Pn**	**04 39 47.2**	**+2.0**
KAHZ	**Kahuranaki**	**3.31**	**47**	P	**Pn**	**04 39 43.9**	**-1.5**
ETVZ	**East Tongariro**	**3.32**	**28**	P	**Pn**	**04 39 46.8**	**+1.2**
KRVZ	**Karewarewa**	**3.33**	**27**	P	**Pn**	**04 39 48.9**	**+3.1**
TMVZ	**Te Maari**	**3.33**	**28**	P	**Pn**	**04 39 46.9**	**+1.1**
NTVZ	**North Tongarir**	**3.34**	**27**	P	Pn	04 39 51.3	+5.4
KWHZ	**Kaweka Forest**	**3.36**	**29**	P	Pn	04 39 51.0	+5.1
LBZ	**Lake Benmore**	**3.45**	**227**	P	**Pn**	**04 39 47.0**	**-0.3**
RITZ	**Rihia Road**	**3.51**	**28**	P	Pn	04 39 53.6	+5.5
RATZ	**Rangitukua**	**3.58**	**27**	P	Pn	04 39 54.2	+5.1
BKZ	**Black Stump Fm**	**3.60**	**37**	P	**Pn**	**04 39 49.2**	**-0.2**
BKZ	**Black Stump Fm**	**3.60**	**37**	P	**Pn**	**04 39 47.3**	**-2.2**
HIZ	**Hauiti**	**3.68**	**14**	P	**Pn**	**04 39 52.3**	**+1.9**
HIZ	**Hauiti**	**3.68**	**14**	P	**Pn**	**04 39 51.9**	**+1.6**
ODZ	**Otahua Downs**	**3.70**	**216**	P	**Pn**	**04 39 49.6**	**-1.2**
ODZ	**Otahua Downs**	**3.70**	**216**	P	**Pn**	**04 39 49.5**	**-1.2**
NMHZ	**Naumai**	**3.80**	**39**	P	**Pn**	**04 39 51.1**	**-1.1**
TLZ	**Tolley Road**	**4.00**	**21**	P	**Pn**	**04 39 57.4**	**+2.4**
MTHZ	**Maungataniwha**	**4.02**	**37**	P	**Pn**	**04 39 55.1**	**0.0**
JCZ	**Jackson Bay**	**4.12**	**240**	P	**Pn**	**04 39 56.4**	**-0.1**
JCZ	**Jackson Bay**	**4.12**	**240**	P	**Pn**	**04 39 57.1**	**+0.6**
TOZ	**Tahuroa Road**	**4.56**	**18**	P	**Pn**	**04 40 03.4**	**+0.8**
URZ	**Urewera**	**4.62**	**35**	P	**Pn**	**04 40 02.0**	**-1.4**
URZ	**Urewera**	**4.62**	**35**	P	**Pn**	**04 40 01.5**	**-1.9**
AWZ	**Awhitu Peninsu**	**5.07**	**8**	P	**Pn**	**04 40 11.3**	**+1.8**
MKAZ	**Moumakai**	**5.10**	**13**	P	**Pn**	**04 40 10.8**	**+0.9**
RUGZ	**Raukumara Rang**	**5.12**	**38**	P	**Pn**	**04 40 08.5**	**-1.8**
WTAZ	**Waiatarua**	**5.19**	**8**	P	**Pn**	**04 40 12.9**	**+1.7**
ETAZ	**East Tamaki Re**	**5.21**	**11**	P	**Pn**	**04 40 13.0**	**+1.5**
HAZ	**Te Kaha**	**5.34**	**37**	P	**Pn**	**04 40 11.1**	**-2.1**
MBAZ	**Motutapu North**	**5.39**	**10**	P	**Pn**	**04 40 15.8**	**+1.9**
WIAZ	**Waiheke Island**	**5.40**	**12**	P	**Pn**	**04 40 15.3**	**+1.2**
SYZ	**Scrubby Hill**	**5.53**	**215**	P	**Pn**	**04 40 15.4**	**-0.4**
SYZ	**Scrubby Hill**	**5.53**	**215**	P	**Pn**	**04 40 15.6**	**-0.1**
MXZ	**Matakaoa Point**	**5.74**	**40**	P	**Pn**	**04 40 18.2**	**-0.5**
CTZ	**Chatham Island**	**7.29**	**106**	P	**Pn**	**04 40 38.4**	**-1.6**
CTZ	**Chatham Island**	**7.29**	**106**	P	**Pn**	**04 40 37.9**	**-2.0**

WEL 18 04:39:56.7±0.3, 42°S±3′×17°4E±′, h5km, M3.7/30, ML4.0/13, MLv3.7/30, Error ellipse: s-maj=0.0km s-min=0.0km az=135.8, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.33**	**33**	P	Pg	04 40 03.4	+0.3
KHZ	**Kahutara**	**0.43**	**190**	P	Pg	04 40 05.2	+0.3
KHZ				S	Sg	04 40 11.4	+1.0
CMWZ	**Cape Campbell**	**0.50**	**60**	P	Pg	04 40 07.1	-0.8
THZ	**Tophouse**	**0.59**	**293**	P	Pg	04 40 08.3	+0.2
TUWZ	**Tuamarina**	**0.61**	**22**	P	Pg	04 40 08.6	+0.2
NNZ	**Nelson**	**0.80**	**346**	P	Pg	04 40 11.9	-0.2
MRNZ	**Matariki Terra**	**0.89**	**312**	P	Pg	04 40 13.8	+0.1
TCW	**Tory Channel**	**0.92**	**32**	P	Pg	04 40 13.6	-0.7
GVZ	**Greta Valley S**	**1.07**	**204**	P	Pg	04 40 16.8	-0.4
TKNZ	**Takaka Hill**	**1.09**	**332**	P	Pg	04 40 17.0	-0.5
WEL	**Wellington**	**1.11**	**50**	P	Pg	04 40 17.4	-0.5
DUWZ	**D'Urville Isla**	**1.21**	**10**	P	Pg	04 40 19.1	-0.8
LTZ	**Lake Taylor**	**1.28**	**232**	P	Pg	04 40 20.1	-1.1
PLWZ	**Palliser**	**1.28**	**71**	P	Pg	04 40 18.6	-2.7
MSWZ	**Moikau Station**	**1.34**	**65**	P	Pn	04 40 19.7	-2.4
AMCZ	**Amberley**	**1.39**	**211**	P	Pn	04 40 20.8	-1.9
DSZ	**Denniston Nort**	**1.39**	**280**	P	Pb	04 40 23.1	-0.1
QRZ	**Quartz Range**	**1.44**	**324**	P	Pn	04 40 23.4	+0.1
KIW	**Kapiti Island**	**1.48**	**41**	P	Pn	04 40 23.3	-0.8
OGWZ	**Otaki Gorge**	**1.65**	**45**	P	Pn	04 40 24.5	-1.8
OKCZ	**Okains Bay**	**1.78**	**194**	P	Pn	04 40 25.5	-2.6
INZ	**Inchbonnie**	**1.78**	**245**	P	Pn	04 40 28.1	0.0
MQZ	**McQueen's Vall**	**1.85**	**203**	P	Pn	04 40 25.8	-3.4
AKCZ	**Akaroa Harbour**	**1.95**	**196**	P	Pn	04 40 27.8	-2.6
MRZ	**Mangatainoka R**	**1.98**	**48**	P	Pn	04 40 28.8	-2.1
RACZ	**Rakaia**	**2.05**	**212**	P	Pn	04 40 29.0	-2.8
MHCZ	**Mount Hutt**	**2.16**	**224**	P	Pn	04 40 31.1	-2.3
WACZ	**Wakanui South**	**2.35**	**214**	P	Pn	04 40 32.9	-3.0
WVZ	**Waitaha Valley**	**2.40**	**242**	P	Pn	04 40 36.1	-0.5
RPZ	**Rata Peaks**	**2.56**	**227**	P	Pn	04 40 36.9	-1.9
WHZ	**Wether Hill Ro**	**5.66**	**225**	P	Pn	04 41 19.9	-1.5

MAN 18 04:59:11.9, 14.13N×120.51E, h20km, mb4.0, ML2.8, MS2.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.42**	**93**	⇓*i*P	Pb	04 59 21.2	+0.5
TGY				*i* S	Sn	04 59 30.8	+0.8
LUBP	**Lubang**	**0.46**	**213**	⇑*e*P	Pb	04 59 21.8	+0.4
LUBP				*e*S	Sn	04 59 32.2	+1.2

*NNC **18** 05:09:35.8±5.9, 36.94N×70.23E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=50.1km s-min=37.6km az=167.0*
ISC 18 05:09:44.6±2.8, 37.0N±0.2×70.7E±0.1, h200km, n16, σ1s55/20, 8C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu** SNR=135	**5.66**	**24**	P	**Pn**	**05 11 06.6**	**-1.2**
UCH	**Uchtor** SNR=29	**6.03**	**28**	P	**Pn**	**05 11 11.3**	**-1.4**
KK31	**Karatay Array** 8.4nm,0.5s,baz=179,slow=13,SNR=154	**6.12**	**359**	⇑P	**Pn**	**05 11 10.4**	**-3.0**
KK31				⇑S	**Sn**	**05 12 21.3**	**-2.4**
EKS2	**Erkin-Say** SNR=22 8.2nm,0.3s,baz=189,slow=24,SNR=19	**6.17**	**22**	P	**Pn**	**05 11 13.2**	**-0.8**
AAK	**Ala-Archa** SNR=17	**6.38**	**26**	P	**Pn**	**05 11 15.9**	**-0.9**
KBK	**Karagaybulak** SNR=10.0	**6.56**	**29**	P	**Pn**	**05 11 18.4**	**-0.9**
CHMS	**Chumysh** SNR=8.3	**6.79**	**26**	P	**Pn**	**05 11 21.0**	**-1.0**
CHMS	**Chumysh** 7.8nm,0.5s	**6.79**	**26**	⇑P	**Pn**	**05 11 20.6**	**-1.4**
CHMS	20nm,0.8s			⇓S	**Sn**	**05 12 38.6**	**-0.7**
USP	**Ospenovka** SNR=6.9	**6.94**	**24**	P	**Pn**	**05 11 24.0**	**0.0**
TKM2	**Tokmak 2** SNR=21	**7.05**	**31**	P	**Pn**	**05 11 24.2**	**-1.3**
TKM2	**Tokmak 2** 10.0nm,0.5s	**7.05**	**31**	⇑P	**Pn**	**05 11 24.1**	**-1.5**
TKM2	7.1nm,0.7s			⇑S	**Sn**	**05 12 47.2**	**+1.5**
MK31	**Makanchi Array** 2.6nm,0.7s,baz=217,slow=9.3,SNR=12	**13.08**	**38**	⇑P	**Pn**	**05 12 43.6**	**+0.7**
AB31	**Akbulak array** 0.3nm,0.3s,baz=143,slow=11,SNR=13	**14.54**	**331**	⇑P	**P**	**05 13 02.2**	**+0.1**
AB31	0.7nm,0.4s,baz=149,slow=24,SNR=3.4			S	**Sn**	**05 15 46.5**	**+3.0**
KURBB	**Kurchatov Arra** 2.6nm,0.8s	**14.77**	**20**	⇑P	**P**	**05 13 05.5**	**+0.8**
BVA0	**Borovoye Array** 1.1nm,0.6s	**16.05**	**359**	⇓P	**P**	**05 13 18.9**	**+0.1**
AKTO	**Aktyubinsk** 3.7nm,0.9s	**16.23**	**330**	⇓P	**P**	**05 13 20.2**	**-0.7**

*MDD **18** 05:15:36.3±0.6, 37.24N×2.30E, h14km±11km, Mb3.9/20, M_mb3.2/20, Error ellipse: s-maj=10.6km s-min=2.7km az=132.0*
*CNRM **18** 05:15:44.0, 36.98N×1.69E, h83km, ml2.9*
*CRAAG **18** 05:15:45.9, 36.72N×3.07E, Ml2.9*
ISC 18 05:15:33.3±1.0, 37.23N±0.04×2.25E±0.06, h10km, n27, σ2s39/45, 16C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.76**	**124**	P	**Pg**	**05 15 49.1**	**+1.1**
ABMS	**Boumerdes**	**1.09**	**116**	P	**Pg**	**05 15 53.8**	**-0.6**
ADJB	**Djebel Djouab**	**1.44**	**138**	P	**Pg**	**05 16 00.8**	**-0.1**
ETOS	**Mallorca**	**2.57**	**10**	Pn	**Pn**	**05 16 15.1**	**+0.1**
ETOS	471nm,SNR=3.4			⇑*i*Vmb_V		05 16 15.4	
ETOS				Sn	Sn	05 16 42.5	-3.9
CART	**Cartagena**	**2.62**	**279**	P	**Pn**	**05 16 17.6**	**+2.0**
CART				S	**Sn**	**05 16 46.3**	**-1.1**
AFON	**Font Roja**	**2.63**	**304**	Pn	**Pn**	**05 16 17.6**	**+1.6**
AFON				Sn	**Sn**	**05 16 44.9**	**-3.1**
EMUR	**La Murta**	**2.84**	**283**	Pn	**Pn**	**05 16 20.2**	**+1.4**
EMUR	116nm,SNR=1.4			⇑*i*Vmb_V		05 16 22.5	
EMUR				Sn	**Sn**	**05 16 53.3**	**+0.2**
ECOL	**Islas Columbre**	**2.93**	**336**	Pn	**Pn**	**05 16 21.0**	**+1.1**
ECOL				Sn	**Sn**	**05 16 53.5**	**-1.7**
EZAR	**Zarzadilla de**	**3.20**	**283**	Pn	**Pn**	**05 16 24.0**	**+0.2**
EZAR	206nm,SNR=2.0			⇑*i*Vmb_V		05 16 27.6	
EZAR				Sn	**Sn**	**05 16 59.6**	**-2.4**
ETOB	**Tobarra**	**3.32**	**296**	Pn	**Pn**	**05 16 27.3**	**+1.9**
ETOB	239nm,SNR=2.5			⇑*i*Vmb_V		05 16 29.4	
ETOB				Sn	**Sn**	**05 17 03.8**	**-1.1**
ECHE	**Chera**	**3.46**	**314**	Pn	**Pn**	**05 16 29.3**	**+2.1**
ECHE	110nm,SNR=1.1			⇑*i*Vmb_V		05 16 30.4	
ECHE				Sn	**Sn**	**05 17 06.5**	**-1.7**
ENIJ	**Nijar**	**3.58**	**267**	Pn	**Pn**	**05 16 30.1**	**+1.2**
ENIJ	191nm,SNR=2.6			⇑*i*Vmb_V		05 16 31.1	
ENIJ				Sn	**Sn**	**05 17 10.5**	**-0.7**
EMOS	**Mosqueruela**	**3.78**	**327**	Pn	**Pn**	**05 16 33.4**	**+1.6**
EMOS	160nm,SNR=1.4			⇑*i*Vmb_V		05 16 33.8	
EMOS				Sn	**Sn**	**05 17 13.7**	**-2.8**
ERTA	**Horta de San J**	**4.01**	**339**	Pn	**Pn**	**05 16 36.0**	**+1.2**
ERTA	114nm,SNR=1.8			⇑*i*Vmb_V		05 16 37.7	
ERTA				Sn	**Sn**	**05 17 19.5**	**-2.4**
EBER	**Berja**	**4.13**	**267**	Pn	**Pn**	**05 16 37.7**	**+1.1**
EBER	142nm,SNR=1.8			⇑*i*Vmb_V		05 16 40.3	
EBER				Sn	**Sn**	**05 17 25.9**	**+0.9**
EPOB	**Poblet**	**4.21**	**348**	Pn	**Pn**	**05 16 38.0**	**+0.3**
EPOB	103nm,SNR=1.3			⇑*i*Vmb_V		05 16 40.1	
EPOB				Sn	**Sn**	**05 17 24.3**	**-2.7**
EQES	**Quesada**	**4.27**	**279**	Pn	**Pn**	**05 16 41.3**	**+2.8**
EQES	182nm,SNR=3.1			⇑*i*Vmb_V		05 16 45.1	
EQES				Sn	**Sn**	**05 17 29.1**	**+0.7**
TAF	**Taforalt**	**4.49**	**239**	P	**Pn**	**05 16 45.0**	**+3.6**
TAF				S	**Sn**	**05 17 28.6**	**-5.2**
ELGU	**Los Guajares,**	**4.72**	**267**	Pn	**Pn**	**05 16 47.1**	**+2.5**
ELGU	110nm,SNR=2.1			⇑*i*Vmb_V		05 16 49.2	
ELGU				Sn	**Sn**	**05 17 38.1**	**-1.3**
JBK	**JBK**	**4.87**	**235**	P	**Pn**	**05 16 47.9**	**+1.0**
JBK				S	**Sn**	**05 17 40.6**	**-2.8**
EGOR	**Sierra Gorda,**	**5.08**	**271**	Pn	**Pn**	**05 16 53.3**	**+3.6**
EGOR	49nm,SNR=0.9			⇑*i*Vmb_V		05 16 55.0	
EJON	**La Jonquera**	**5.23**	**5**	Pn	**Pn**	**05 16 53.5**	**+1.8**
EADA	**Adamuz**	**5.50**	**282**	Pn	**Pn**	**05 16 57.4**	**+2.2**
EADA	45nm,SNR=0.7			⇑*i*Vmb_V		05 16 59.6	
AKLM	**AKL**	**5.66**	**243**	P	**Pn**	**05 16 59.0**	**+1.5**
AKLM				S	**Sn**	**05 18 00.6**	**-2.0**
PAB	**San Pablo**	**5.68**	**296**	Pn	**Pn**	**05 17 00.0**	**+2.3**
PAB	119nm,SNR=1.9			⇑*i*Vmb_V		05 17 00.0	
ECAB	**El Cabril**	**6.14**	**280**	Pn	**Pn**	**05 17 05.7**	**+1.5**
ECAB	60nm,SNR=0.8			⇑*i*Vmb_V		05 17 06.8	
MD31	**MD31**	**7.21**	**235**	P	**Pn**	**05 17 21.1**	**+2.2**
MD31				S	**Sn**	**05 18 32.9**	**-8.0**

*THE **18** 05:30:17.3, 34.67N×25.14E, h0km, ML3.2/9, Error ellipse: s-maj=1.1km s-min=0.4km az=177.0*
*DDA **18** 05:30:18.0±0.0, 34.42N×25.07E, h35km, ML3.6*
*ATH **18** 05:30:18.1, 34.64N×25.17E, h7km±2km, ML3.5/11, Error ellipse: s-maj=3.2km s-min=1.3km az=4.0*
*ISK **18** 05:30:18.5, 34.66N×25.16E, h30km, ML3.4/22*

ISC 18 05:30:18.3±1.3, 34.69N±0.05×25.16E±0.02, h9km±9km, n64, σ0s80/88, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.44**	**318**	P	**Pg**	**05 30 26.5**	**-0.4**
SIVA	14µm,0.4s			S	**Sg**	**05 30 33.7**	**+1.0**
SIVA	**Sivas**	**0.44**	**318**	P	**Pg**	**05 30 26.4**	**-0.5**
SIVA				S	**Sb**	**05 30 33.9**	**-1.0**
SIVA	comp=E,32277µm,0.4s			AML	AML	05 30 34.3	
SIVA	comp=N,22065µm,0.5s			AML	AML	05 30 39.5	
TMBK	**Timbaki Herakl**	**0.50**	**319**	P	**Pg**	**05 30 28.1**	**0.0**
TMBK	comp=N,2µm,0.4s			S	**Sg**	**05 30 35.3**	**+0.6**
TMBK	**Timbaki Herakl**	**0.50**	**319**	P	**Pg**	**05 30 28.0**	**0.0**
TMBK				S	**Sb**	**05 30 36.0**	**-0.7**
TMBK	comp=N,14555µm,0.4s			AML	AML	05 30 43.7	
TMBK	comp=E,21012µm,0.5s			AML	AML	05 30 44.7	
FRMA	**Ierapetra Chan**	**0.57**	**55**	P	**Pb**	**05 30 30.9**	**+0.5**
FRMA	comp=E,668nm,0.5s			S	**Sn**	**05 30 41.4**	**-0.7**
FRMA	**Ierapetra Chan**	**0.57**	**55**	P	**Pb**	**05 30 30.9**	**+0.5**
FRMA	comp=N,4737µm,0.5s			AML	AML	05 30 53.6	
FRMA	comp=E,5719µm,0.5s			AML	AML	05 30 58.8	
KSTL	**Kastelli Herak**	**0.62**	**353**	P	**Pg**	**05 30 28.8**	**-1.5**
KSTL				S	**Sg**	**05 30 37.7**	**-0.7**
IACM	**Heraklion**	**0.62**	**353**	P	**Pg**	**05 30 30.2**	**-0.1**
HRKL	**Herakleio**	**0.62**	**355**	PG	**Pb**	**05 30 31.7**	**+0.3**
HRKL	**Herakleio**	**0.62**	**355**	P	**Pg**	**05 30 30.3**	**-0.1**
HRKL	comp=E,5µm,0.5s			S	**Sb**	**05 30 40.0**	**-0.2**
HRKL	**Herakleio**	**0.62**	**355**	P	**Pg**	**05 30 30.1**	**-0.3**
HRKL	comp=E,29518µm,0.8s			AML	AML	05 30 52.6	
HRKL	comp=N,26481µm,0.6s			AML	AML	05 30 58.0	
IDI	**Anoyia**	**0.64**	**339**	PG	**Pg**	**05 30 29.8**	**-0.9**
IDI	**Anoyia**	**0.64**	**339**	P	**Pg**	**05 30 30.0**	**-0.7**
IDI	comp=N,2µm,0.3s			S	**Sb**	**05 30 40.6**	**-0.1**
IDI	**Anoyia**	**0.64**	**339**	P	**Pg**	**05 30 29.8**	**-0.9**
IDI				S	**Sb**	**05 30 40.4**	**-0.3**
IDI	comp=E,4593µm,0.5s			AML	AML	05 30 45.2	
IDI	comp=N,2648µm,0.5s			AML	AML	05 30 47.8	
PRNS	**Prines Rethymn**	**0.86**	**321**	P	**Pg**	**05 30 34.5**	**-0.5**
PRNS	comp=N,650nm,0.5s			S	**Sb**	**05 30 48.1**	**+0.9**
GVDS	**Gavdos**	**0.90**	**280**	PG	**Pg**	**05 30 35.6**	**0.0**
GVDS				SG	**Sb**	**05 30 48.4**	**+0.3**
GVDS	**Gavdos**	**0.90**	**280**	P	**Pg**	**05 30 34.8**	**-0.8**
GVDS	comp=N,3µm,0.4s			S	**Sb**	**05 30 48.8**	**+0.7**
GVD	**Gavdhos**	**0.90**	**280**	PG	**Pg**	**05 30 35.3**	**-0.3**
GVD				SG	**Sb**	**05 30 47.8**	**-0.4**
GVD	**Gavdhos**	**0.90**	**280**	P	**Pg**	**05 30 34.4**	**-1.2**
GVD	comp=N,4µm,0.3s			S	**Sb**	**05 30 48.1**	**0.0**
GVD	**Gavdhos**	**0.90**	**280**	P	**Pg**	**05 30 35.5**	**-0.2**
GVD				S	**Sb**	**05 30 48.2**	**0.0**
GVD	comp=N,8001µm,0.4s			AML	AML	05 30 58.1	
GVD	comp=E,8344µm,0.3s			AML	AML	05 30 58.2	
STIA	**Sitia Lasithi**	**0.92**	**56**	P	**Pg**	**05 30 35.5**	**-0.5**
STIA				S	**Sn**	**05 30 50.0**	**-0.6**
STIA	**Sitia Lasithi**	**0.92**	**56**	P	**Pb**	**05 30 36.4**	**0.0**
STIA				S	**Sb**

	3.0nm,0.1s							
DJR				S		Sg	05 34 00.5	0.0
	14nm,0.2s							
TDK	**Taldyqorghan**	**0.68**	**285**	*eP*		**Pg**	05 33 54.5	-0.1
	19nm,0.1s							
TDK				*eS*		**Sb**	05 34 03.9	-1.7
	27nm,0.1s							
ARXS	**Arharly**	**1.24**	**241**	*eP*		**Pb**	05 34 04.8	-0.5
	2.6nm,0.2s							
ARXS				*eS*		**Sg**	05 34 21.5	+0.2
	11nm,0.2s							
ARXS	**Arharly**	**1.24**	**241**	P		**Pb**	05 34 04.8	-0.5
	2.6nm,0.2s							
ARXS				S		**Sg**	05 34 21.5	+0.2
	11nm,0.2s							
KPKS	**Kokpek**	**1.44**	**199**	*eP*		**Pb**	05 34 08.3	-0.4
	9.5nm,0.1s							
KPKS				*eS*		**Sg**	05 34 27.7	+0.1
	12nm,0.2s							
KPKS	**Kokpek**	**1.44**	**199**	P		**Pb**	05 34 08.3	-0.4
	9.5nm,0.2s							
KPKS				S		**Sg**	05 34 27.7	+0.1
	12nm,0.2s							
PDGK	**Podgornoye**	**1.50**	**176**	P		**Pb**	05 34 09.1	-0.7
	1.5nm,0.2s							
PDGK				S		**Sn**	05 34 28.6	-0.5
	1.9nm,0.2s							
PDGK	**Podgornoye**	**1.50**	**176**	⇓P		**Pn**	05 34 08.8	-0.3
	0.8nm,0.2s							
PDGK				⇑S		**Sg**	05 34 30.3	+0.7
	3.0nm,0.5s							
KURS	**Kuram**	**1.58**	**212**	*eP*		**Pb**	05 34 11.1	0.0
	1.6nm,0.1s							
KURS				*eS*		**Sg**	05 34 32.1	0.0
	6.5nm,0.5s							
KURS	**Kuram**	**1.58**	**212**	P		**Pb**	05 34 11.1	0.0
	1.3nm,0.4s							
KURS				S		**Sg**	05 34 32.1	0.0
	6.5nm,0.5s							
SHLS	**Shalkode**	**1.67**	**177**	*eP*		**Pg**	05 34 13.4	0.0
	2.7nm,0.1s							
SHLS				*eS*		**Sg**	05 34 36.3	+1.2
	7.2nm,0.1s							
SHLS	**Shalkode**	**1.67**	**177**	P		**Pg**	05 34 13.4	0.0
	2.7nm,0.1s							
SHLS				S		**Sg**	05 34 36.3	+1.2
	7.2nm,0.3s							
UZB	**Uzynbulak**	**1.69**	**188**	*eP*		**Pb**	05 34 12.4	-0.7
	0.8nm,0.3s							
UZB				*eS*		**Sb**	05 34 34.0	-0.7
	3.0nm,0.3s							
UZB	**Uzynbulak**	**1.69**	**188**	P		**Pb**	05 34 12.4	-0.7
	0.8nm,0.3s							
UZB				S		**Sb**	05 34 34.0	-0.7
	3.0nm,0.3s							
SATY	**Saty**	**1.89**	**201**	*eP*		**Pb**	05 34 16.2	-0.3
	4.7nm,0.1s							
SATY				*eS*		**Sb**	05 34 40.7	+0.3
	8.1nm,0.3s							
SATY	**Saty**	**1.89**	**201**	P		**Pb**	05 34 16.2	-0.3
	4.7nm,0.1s							
SATY				S		**Sb**	05 34 40.7	+0.3
	8.1nm,0.3s							
CHKK	**Chushkaly**	**1.94**	**241**	*eP*		**Pb**	05 34 16.8	-0.5
	5.9nm,0.0s							
CHKK				*eS*		**Sb**	05 34 42.1	+0.2
	23nm,0.1s							
CHKK	**Chushkaly**	**1.94**	**241**	Pg		**Pb**	05 34 16.8	-0.5
	5.9nm,0.1s							
CHKK				Lg		Lg	05 34 42.1	
	9.8nm,0.5s							
KTBS	**Karatobe**	**2.21**	**241**	*eP*		**Pb**	05 34 21.2	-0.6
	0.9nm,0.3s							
KTBS				*eS*		**Sb**	05 34 49.7	+0.2
	12nm,0.1s							
KTBS	**Karatobe**	**2.21**	**241**	Pg		**Pb**	05 34 21.2	-0.6
	0.9nm,0.3s							
KTBS				Lg		Lg	05 34 49.7	
	12nm,0.5s							
KOTS	**Kotyrbulak**	**2.26**	**226**	*eP*		**Pb**	05 34 23.5	+0.7
	1.4nm,0.1s							
KOTS				*eS*		**Sg**	05 34 53.4	-0.6
	15nm,0.2s							
KOTS	**Kotyrbulak**	**2.26**	**226**	Pg		**Pb**	05 34 23.5	+0.7
	1.4nm,0.4s							
KOTS				Lg		Lg	05 34 53.4	
	15nm,0.6s							
MDOK	**Medeo**	**2.34**	**226**	*eP*		**Pb**	05 34 23.7	-0.5
	2.1nm,0.0s							
MDOK				*eS*		**Sb**	05 34 53.6	+0.2
	4.2nm,0.1s							
MDOK	**Medeo**	**2.34**	**226**	Pg		**Pb**	05 34 23.7	-0.5
	1.5nm,0.8s							
MDOK				Lg		Lg	05 34 53.6	
	4.2nm,0.6s							
KUU	**Kurty**	**2.34**	**248**	*eP*		**Pb**	05 34 23.6	-0.5
	0.5nm,0.1s							
KUU				*eS*		**Sb**	05 34 53.8	+0.5
	9.4nm,0.1s							
KUU	**Kurty**	**2.34**	**248**	Pg		**Pb**	05 34 23.6	-0.5
	0.5nm,1.7s							
KUU				Lg		Lg	05 34 53.8	
	9.5nm,0.7s							
MTBS	**Maitube**	**2.70**	**232**	*eP*		**Pb**	05 34 30.4	+0.2
	0.9nm,0.0s							
MTBS				*eS*		**Sb**	05 35 05.1	+1.6
	10nm,0.1s							
MTBS	**Maitube**	**2.70**	**232**	Pg		**Pb**	05 34 30.4	+0.2
	1.1nm,0.2s							
MTBS				Lg		Lg	05 35 05.1	
	11nm,0.4s							
MAKZ	**Makanchi**	**2.71**	**42**	⇑Pn		**Pn**	05 34 26.9	+1.2
	2.9nm,1.2s							
MAKZ				⇑Lg		Lg	05 34 59.8	
	0.9nm,0.5s							
MK31	**Makanchi Array**	**2.85**	**45**	⇓Pn		**Pn**	05 34 27.8	+0.2
	0.2nm,0.2s,baz=221,slow=14,SNR=12							
MK31				⇓Lg		Lg	05 35 01.8	
	0.3nm,0.3s,baz=222,slow=25,SNR=5.8							
KRBS	**Karabastau**	**2.86**	**248**	*eP*		**Pb**	05 34 32.5	-0.5
	0.5nm,0.1s							
KRBS				*eS*		**Sb**	05 35 09.0	+0.7
	2.4nm,0.1s							
KRBS	**Karabastau**	**2.86**	**248**	Pg		**Pb**	05 34 32.5	-0.5
	0.5nm,0.5s							
KRBS				Lg		Lg	05 35 09.0	
	2.4nm,0.3s							
DGS	**Degeres**	**3.02**	**240**	*eP*		**Pb**	05 34 35.4	-0.2
	1.0nm,0.2s							
DGS				*eS*		**Sb**	05 35 13.9	+1.1
	2.6nm,0.3s							
DGS	**Degeres**	**3.02**	**240**	Pg		**Pb**	05 34 35.4	-0.2
	1.0nm,0.8s							
DGS				Lg		Lg	05 35 13.9	
	2.6nm,0.3s							

*NOU **18** 05:42:24.5, 42°.58S×173°.57E, h4km, MLv4.0/9, South Island, New Zealand*
*WEL **18** 05:42:26.3±0.4, 42°.2±2°×17°.3E±°, h5km±2km, M3.6/38, ML4.0/13, MLv3.6/38, Error ellipse: s-maj=0.0km s-min=0.0km az=135.0*
ISC 18 05:42:25.3±1.0, 42°.50S±0°.03×173°.58E±0°.04, h14km±6km, n68, σ1°.32/70, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.09**	**342**	P	**Pg**	05 42 28.3	**0.0**
KHZ	**Kahutara**	**0.09**	**342**	P	**Pg**	05 42 28.2	**-0.1**
KHZ				S	**Sg**	05 42 30.0	**-0.3**
GVZ	**Greta Valley S**	**0.61**	**220**	P	**Pg**	05 42 39.0	**+1.7**
BSWZ	**Blackbirch Sta**	**0.82**	**16**	P	**Pg**	05 42 40.8	**-0.3**
CMWZ	**Cape Campbell**	**0.89**	**32**	P	**Pb**	05 42 43.9	**+1.5**
THZ	**Tophouse**	**0.89**	**326**	P	**Pg**	05 42 41.0	**-1.6**
THZ				S	**Sg**	05 42 51.2	**-3.0**
AMCZ	**Amberley**	**0.96**	**225**	P	**Pg**	05 42 44.0	**+0.1**
LTZ	**Lake Taylor**	**1.00**	**253**	P	**Pg**	05 42 43.8	**-0.9**
TUWZ	**Tuamarina**	**1.10**	**14**	P	**Pg**	05 42 46.0	**-0.5**
MRNZ	**Matariki Terra**	**1.26**	**331**	P	**Pg**	05 42 47.8	**-1.7**
OKCZ	**Okains Bay**	**1.28**	**197**	P	**Pn**	05 42 48.8	**+0.1**
NNZ	**Nelson**	**1.29**	**353**	P	**Pg**	05 42 48.4	**-1.7**
MQZ	**McQueen's Vall**	**1.38**	**209**	P	**Pn**	05 42 49.2	**-0.9**
TCW	**Tory Channel**	**1.39**	**22**	P	**Pn**	05 42 49.8	**-0.4**
OXZ	**Oxford**	**1.40**	**233**	P	**Pn**	05 42 49.4	**-1.0**
AKCZ	**Akaroa Harbour**	**1.46**	**199**	P	**Pn**	05 42 50.9	**-0.2**
SNZO	**South Karori**	**1.46**	**36**	P	**Pn**	05 42 51.6	**+0.5**
WEL	**Wellington**	**1.51**	**37**	P	**Pn**	05 42 51.9	**+0.1**
DSZ	**Denniston Nort**	**1.52**	**299**	P	**Pn**	05 42 51.9	**-0.2**
TKNZ	**Takaka Hill**	**1.54**	**342**	P	**Pn**	05 42 52.5	**+0.2**
PLWZ	**Palliser**	**1.56**	**54**	P	**Pn**	05 42 52.0	**-0.6**
INZ	**Inchbonnie**	**1.59**	**261**	P	**Pn**	05 42 53.1	**+0.2**
RACZ	**Rakaia**	**1.62**	**220**	P	**Pn**	05 42 52.4	**-0.9**
MSWZ	**Moikau Station**	**1.65**	**50**	P	**Pn**	05 42 53.3	**-0.6**
DUWZ	**D'Urville Isla**	**1.72**	**9**	P	**Pn**	05 42 55.1	**+0.4**
PAWZ	**Paruwai Farm**	**1.78**	**52**	P	**Pn**	05 42 54.8	**-0.8**
CAW	**Cannon Point**	**1.78**	**39**	P	**Pn**	05 42 55.5	**-0.1**
MHCZ	**Mount Hutt**	**1.80**	**234**	P	**Pn**	05 42 54.8	**-1.1**
QRZ	**Quartz Range**	**1.85**	**335**	P	**Pn**	05 42 57.2	**+0.6**
QRZ	**Quartz Range**	**1.85**	**335**	P	**Pn**	05 42 57.1	**+0.6**
KIW	**Kapiti Island**	**1.92**	**32**	P	**Pn**	05 42 57.5	**0.0**
TRWZ	**Traveller**	**1.92**	**56**	P	**Pn**	05 42 56.8	**-0.8**
MTW	**Mount Morrison**	**1.97**	**48**	P	**Pn**	05 42 56.5	**-1.6**
OGWZ	**Otaki Gorge**	**2.06**	**36**	P	**Pn**	05 42 58.9	**-0.5**
HOWZ	**Holdsworth Sta**	**2.16**	**43**	P	**Pb**	05 43 04.8	**+0.7**
WVZ	**Waitaha Valley**	**2.17**	**254**	P	**Pn**	05 43 01.0	**+0.1**
RPZ	**Rata Peaks**	**2.21**	**236**	P	**Pn**	05 43 00.7	**-0.8**
RPZ	**Rata Peaks**	**2.21**	**236**	P	**Pn**	05 43 00.7	**-0.8**
TMWZ	**Te Maipa**	**2.22**	**52**	P	**Pn**	05 43 00.6	**-1.1**
ARCZ	**Arundel**	**2.27**	**230**	P	**Pn**	05 43 01.5	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.52**	**250**	P	**Pn**	05 43 07.0	**+1.2**
TMZ	**Timaru**	**2.65**	**224**	P	**Pn**	05 43 06.9	**-0.7**
BFZ	**Birch Farm**	**2.70**	**49**	P	**Pn**	05 43 09.7	**+1.4**
BFZ	**Birch Farm**	**2.70**	**49**	P	**Pn**	05 43 07.0	**-1.3**
WAZ	**Wanganui**	**2.94**	**22**	P	**Pn**	05 43 13.3	**+1.7**
FOZ	**Fox Glacier**	**2.94**	**248**	P	**Pn**	05 43 12.8	**+1.2**
LBZ	**Lake Benmore**	**3.11**	**232**	P	**Pn**	05 43 13.2	**-0.6**
KHEZ	**Kahui Hut**	**3.22**	**6**	P	**Pn**	05 43 17.5	**+2.0**
KHEZ	**Kahui Hut**	**3.22**	**6**	P	**Pn**	05 43 18.3	**+2.8**
NBEZ	**Newall Road No**	**3.24**	**4**	P	**Pn**	05 43 19.2	**+3.5**
ODZ	**Otahua Downs**	**3.31**	**219**	P	**Pn**	05 43 15.8	**-0.8**
ODZ	**Otahua Downs**	**3.31**	**219**	P	**Pn**	05 43 15.7	**-1.0**
PKE	**Pukeiti**	**3.32**	**6**	P	**Pn**	05 43 19.0	**+2.2**
PKVZ	**Pokaka**	**3.48**	**23**	P	**Pn**	05 43 19.8	**+0.9**
VRZ	**Vera Road**	**3.49**	**15**	P	**Pn**	05 43 22.0	**+2.9**
MOVZ	**Moawhango**	**3.50**	**29**	P	**Pn**	05 43 19.0	**-0.3**
WNVZ	**Wahianoa**	**3.52**	**26**	P	**Pn**	05 43 20.1	**+0.4**
TRVZ	**Turoa**	**3.53**	**26**	P	**Pn**	05 43 20.3	**+0.4**
FWVZ	**Far West T-bar**	**3.57**	**25**	P	**Pn**	05 43 21.6	**+1.1**
TUVZ	**Tukino**	**3.59**	**27**	P	**Pn**	05 43 21.3	**+0.7**
ETVZ	**East Tongariro**	**3.73**	**26**	P	**Pn**	05 43 26.2	**+3.6**
JCZ	**Jackson Bay**	**3.83**	**244**	P	**Pn**	05 43 24.8	**+0.9**
JCZ	**Jackson Bay**	**3.83**	**244**	P	**Pn**	05 43 26.2	**+2.3**
HIZ	**Hauiti**	**4.10**	**14**	P	**Pn**	05 43 28.8	**+1.3**
HIZ	**Hauiti**	**4.10**	**14**	P	**Pn**	05 43 29.0	**+1.5**
LIRZ	**Lichensteins R**	**4.98**	**26**	P	**Pn**	05 43 40.7	**+1.1**
AWAZ	**Awhitu Peninsu**	**5.49**	**9**	P	**Pn**	05 43 47.5	**+0.9**
MKAZ	**Moumakai**	**5.53**	**13**	P	**Pn**	05 43 47.5	**+0.5**

*WEL **18** 06:02:34.5±0.3, 42°.5S±2°×17°.4E±°, h5km, M3.7/48, ML3.9/22, MLv3.7/48, Error ellipse: s-maj=0.0km s-min=0.0km az=143.5*
*NOU **18** 06:02:34.0, 41°.855S×174°.39E, h3km, MLv4.1/10, Cook Strait, New Zealand*
ISC 18 06:02:34.0±1.0, 41°.77S±0°.03×174°.29E±0°.03, h12km±7km, n90, σ1°.23/92, 1C, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.06**	**291**	P	**Pg**	06 02 36.1	**-0.3**
CMWZ				S	**Sg**	06 02 38.0	**-0.1**
BSWZ	**Blackbirch Sta**	**0.31**	**280**	P	**Pg**	06 02 39.9	**-0.5**
BSWZ				S	**Sg**	06 02 44.8	**+0.2**
TUWZ	**Tuamarina**	**0.43**	**323**	P	**Pg**	06 02 41.5	**-0.9**
SNZO	**South Karori**	**0.56**	**34**	P	**Pg**	06 02 44.5	**-0.3**
TCW	**Tory Channel**	**0.56**	**359**	P	**Pg**	06 02 44.0	**-0.9**
WEL	**Wellington**	**0.60**	**37**	P	**Pb**	06 02 46.3	**-0.2**
PLWZ	**Palliser**	**0.75**	**75**	P	**Pb**	06 02 50.5	**+1.4**
MSWZ	**Moikau Station**	**0.80**	**64**	P	**Pb**	06 02 50.8	**+0.8**
KHZ	**Kahutara**	**0.85**	**221**	P	**Pb**	06 02 52.1	**+1.3**
KHZ	**Kahutara**	**0.85**	**221**	P	**Pb**	06 02 52.2	**+1.5**
NNZ	**Nelson**	**0.88**	**309**	P	**Pg**	06 02 49.5	**-1.4**
CAW	**Cannon Point**	**0.88**	**42**	P	**Pg**	06 02 51.2	**+0.1**
PAWZ	**Paruwai Farm**	**0.94**	**66**	P	**Pb**	06 02 53.1	**+0.9**
DUWZ	**D'Urville Isla**	**1.01**	**344**	P	**Pg**	06 02 51.8	**-1.6**
KIW	**Kapiti Island**	**1.02**	**27**	P	**Pg**	06 02 53.0	**-0.7**
THZ	**Tophouse**	**1.03**	**270**	P	**Pg**	06 02 53.3	**-0.6**
MTW	**Mount Morrison**	**1.10**	**57**	P	**Pg**	06 02 55.2	**+0.1**
TRWZ	**Traveller**	**1.11**	**71**	P	**Pg**	06 02 55.4	**-0.1**
OGWZ	**Otaki Gorge**	**1.16**	**35**	P	**Pg**	06 02 55.8	**-0.5**
MRNZ	**Matariki Terra**	**1.21**	**287**	P	**Pg**	06 02 56.0	**-1.2**
TKNZ	**Takaka Hill**	**1.24**	**306**	P	**Pg**	06 02 57.0	**-1.8**
HOWZ	**Holdsworth Sta**	**1.27**	**47**	P	**Pg**	06 02 57.7	**-0.8**
TMWZ	**Te Maipa**	**1.38**	**62**	P	**Pn**	06 02 58.8	**-0.3**
MRZ	**Mangatainoka R**	**1.48**	**42**	P	**Pn**	06 03 00.6	**+0.1**
GVZ	**Greta Valley S**	**1.52**	**217**	P	**Pn**	06 03 01.3	**+0.3**
TIWZ	**Tintock**	**1.56**	**51**	P	**Pn**	06 03 01.6	**0.0**
QRZ	**Quartz Range**	**1.63**	**305**	P	**Pn**	06 03 02.8	**+0.3**
QRZ	**Quartz Range**	**1.63**	**305**	P	**Pn**	06 03 02.8	**+0.3**
OHWZ	**Ohakea**	**1.75**	**27**	P	**Pb**	06 03 06.3	**+0.3**
PRWZ	**Pori Road**	**1.76**	**47**	P	**Pn**	06 03 04.3	**0.0**
POWZ	**Post Office Ro**	**1.77**	**40**	P	**Pn**	06 03 04.9	**+0.3**
BFZ	**Birch Farm**	**1.83**	**54**	P	**Pn**	06 03 05.0	**-0.4**
BFZ	**Birch Farm**	**1.83**	**54**	P	**Pn**	06 03 04.6	**-0.8**
AMCZ	**Amberley**	**1.85**	**220**	P	**Pn**	06 03 05.6	**-0.1**
DSZ	**Denniston Nort**	**1.86**	**270**	P	**Pn**	06 03 07.0	**+1.2**
DVHZ	**Dannevirke**	**2.04**	**45**	P	**Pn**	06 03 07.7	**-0.6**
WAZ	**Wanganui**	**2.08**	**15**	P	**Pb**	06 03 11.7	**-0.1**
ANWZ	**Angora Road**	**2.11**	**52**	P	**Pn**	06 03 08.5	**-0.6**
OKCZ	**Okains Bay**	**2.15**	**204**	P	**Pn**	06 03 09.2	**-0.6**
OXZ	**Oxford**	**2.28**	**226**	P	**Pn**	06 03 10.7	**-0.7**
MQZ	**McQueen's Vall**	**2.28**	**211**	P	**Pn**	06 03 10.1	**-1.4**
LREZ	**Lake Rotokare**	**2.31**	**2**	⇑P	**Pb**	06 03 15.7	**+0.1**
INZ	**Inchbonnie**	**2.32**	**245**	P	**Pn**	06 03 12.7	**+0.7**
PRHZ	**Porangahau**	**2.33**	**51**	P	**Pn**	06 03 11.2	**-1.0**
PNHZ	**Pukenui**	**2.35**	**39**	P	**Pn**	06 03 12.4	**-0.2**
WPHZ	**Waipukurau**	**2.36**	**44**	P	**Pn**	06 03 12.4	**-0.2**
KHEZ	**Kahui Hut**	**2.48**	**355**	P	**Pb**	06 03 18.4	**-0.2**
KHEZ	**Kahui Hut**	**2.48**	**355**	P	**Pb**	06 03 18.4	**-0.2**
NEZ	**North Egmont**	**2.50**	**357**	P	**Pb**	06 03 18.4	**-0.6**
RACZ	**Rakaia**	**2.52**	**218**	P	**Pn**	06 03 13.8	**-0.9**
NBEZ	**Newall Road No**	**2.52**	**353**	P	**Pb**	06 03 19.0	**-0.2**
MTVZ	**Mangateitei**	**2.55**	**21**	P	**Pb**	06 03 20.6	**+0.9**
PKE	**Pukeiti**	**2.58**	**355**	P	**Pg**	06 03 21.5	**-2.0**
PKVZ	**Pokaka**	**2.61**	**18**	P	**Pb**	06 03 21.8	**+1.0**
MOVZ	**Moawhango**	**2.61**	**26**	P	**Pn**	06 03 17.1	**+0.9**
WNVZ	**Wahianoa**	**2.64**	**23**	P	**Pn**	06 03 19.0	**+2.4**
BHHZ	**Black Hill Sta**	**2.65**	**31**	P	**Pn**	06 03 17.1	**+0.5**
TRVZ	**Turoa**	**2.65**	**22**	P	**Pn**	06 03 18.7	**+1.9**
VRZ	**Vera Road**	**2.67**	**8**	P	**Pn**	06 03 19.0	**+2.2**
WHVZ	**Whangaehu Hut**	**2.67**	**22**	P	**Pn**	06 03 19.7	**+2.5**
FWVZ	**Far West T-bar**	**2.69**	**21**	P	**Pn**	06 03 19.0	**+1.6**
TUVZ	**Tukino**	**2.71**	**23**	P	**Pb**	06 03 22.0	**-0.5**
NGZ	**Ngauruhoe**	**2.78**	**22**	P	**Pn**	06 03 21.2	**+2.6**
SNVZ	**South Ngauruho**	**2.78**	**22**	P	**Pb**	06 03 24.0	**+0.3**
KAHZ	**Kahuranaki**	**2.79**	**46**	P	**Pn**	06 03 17.0	**-1.5**
OTVZ	**Oturere**	**2.81**	**22**	P	**Pb**	06 03 23.5	**-0.8**
NNVZ	**North Ngauruho**	**2.82**	**21**	P	**Pb**	06 03 23.5	**-1.0**
WTVZ	**West Tongariro**	**2.83**	**21**	P	**Pb**	06 03 24.8	**+0.2**
TWVZ	**Taurewa**	**2.84**	**18**	P	**Pb**	06 03 24.1	**-0.6**
ETVZ	**East Tongariro**	**2.85**	**23**	P	**Pn**	06 03 21.8	**+2.3**
KWHZ	**Kaweka Forest**	**2.85**	**35**	P	**Pg**	06 03 27.0	**-1.6**
TMVZ	**Te Maari**	**2.86**	**23**	P	**Pb**	06 03 23.1	**-2.0**
NTVZ	**North Tongarir**	**2.87**	**22**	P	**Pn**	06 03 21.8	**+2.0**
RPZ	**Rata Peaks**	**3.07**	**230**	P	**Pn**	06 03 22.2	**-0.3**
RPZ	**Rata Peaks**	**3.07**	**230**	P	**Pn**	06 03 22.5	**0.0**
ARCZ	**Arundel**	**3.16**	**225**	P	**Pn**	06 03 23.2	**-0.4**
HIZ	**Hauiti**	**3.28**	**8**	P	**Pn**	06 03 27.0	**+1.7**
HIZ	**Hauiti**	**3.28**	**8**	P	**Pn**	06 03 27.5	**+2.2**
GCSZ	**Gaunt Creek Bo**	**3.31**	**241**	P	**Pn**	06 03 28.3	**+2.6**
TMZ	**Timaru**	**3.55**	**222**	P	**Pn**	06 03 28.6	**-0.4**
TLZ	**Tolley Road**	**3.57**	**16**	P	**Pb**	06 03 36.4	**-0.7**
FOZ	**Fox Glacier**	**3.74**	**240**	P	**Pn**	06 03 32.6	**+1.1**
LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	06 03 34.7	**-0.2**
URZ	**Urewera**	**4.12**	**33**	P	**Pn**	06 03 39.6	**+2.8**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	06 03 37.5	**-0.6**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	06 03 36.9	**-1.1**
RUGZ	**Raukumara Rang**	**4.61**	**36**	P	**Pn**	06 03 42.7	**-0.9**
JCZ	**Jackson Bay**	**4.65**	**238**	P	**Pn**	06 03 46.8	**+2.6**
JCZ	**Jackson Bay**	**4.65**	**238**	P	**Pn**	06 03 45.0	**+0.8**
MKAZ	**Moumakai**	**4.71**	**9**	P	**Pn**	06 03 48.2	**+3.3**

GCMT 18 06:14:19.0±0.3, 36°.00S±0°.02×102°.27W±0°.02, h19km±1km, MW4.9/88, Moment Tensor Solution. s25,c28; s88,c116; Duration: 0 Moment tensor: Scale 10^{16}
Nm: M_{rr}-0.18±.12; $M_{\theta\theta}$-0.51±.10; $M_{\phi\phi}$0.68±.11; $M_{r\theta}$0.78±.23; $M_{\theta\phi}$-2.46±.09; $M_{\phi r}$-0.04±.20; **Best double couple:** $M_{\circ}$2.65100×10^{16} **NP1:**$\phi_1$277.00000°, δ87.00000°, λ-163.00000°. **NP2:**$\phi_2$187.00000°, δ73.00000°, λ-3.00000°. **Principal axes:** T 2.7120, Plg10.0000°, Azm51.0000°; N -0.1220, Plg73.0000°, Azm286.0000°; P -2.5900, Plg14.0000°, Azm143.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**42.52**	**274**	*eLR*	LR	06 33 59.6	
	comp=Z,567nm,22.5s						
TAOE	**Nuku Hiva Isla**	**43.78**	**299**	*eS*	S	06 28 57.8	+4.2
	41nm,28.2s						
TAOE				*eLR*	LR	06 34 37.5	
	comp=Z,187nm,24.3s						
PPT2	**Papeete2**	**45.55**	**281**	*eLR*	LR	06 35 24.3	
	comp=Z,82nm,23.2s						
DZM	**Mont Dzumac**	**78.36**	**251**	*eLR*	LR	06 50 36.7	
	comp=Z,245nm,27.4s						

*IDC **18** 06:17:18.4±1.3, 2°.25S×139°.18E, h0km, mb3.7/5, mbtmp3.7/6, ML3.5/1, MS3.6/2 Error ellipse: s-maj=67.9km s-min=22.4km az=88.0*
ISC 18 06:17:23.7±1.2, 2°.3S±0°.1×139°.1E±0°.4, h35km, n7, σ0°.86/6, mb3.8/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.14**	**195**	P	**Pn**	**06 21 32.0**	**-0.9**
	0.2nm,0.3s,baz=20,slow=11,SNR=14						
WRA				LR	LR	06 29 35.3	
	comp=Z,75nm,18.4s,baz=100,slow=40						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**21.82**	**193**	P	**P**	**06 22 13.6**	**+0.5**
	0.4nm,0.5s,baz=20,slow=11,SNR=6.0						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**29.51**	**176**	P	**P**	**06 23 25.2**	**+0.4**
	1.3nm,0.7s,baz=337,slow=16,SNR=3.0						
	1.3nm,0.7s						
RPZ	**Rata Peaks**	**50.04**	**150**	LR	LR	06 45 15.8	
	comp=Z,130nm,22.0s,baz=96,slow=34						
MKAR	**Makanchi Array**	**69.71**	**322**	P	**P**	**06 28 30.9**	**+0.8**
	1.3nm,0.9s,baz=104,slow=7.6,SNR=6.3						
	1.3nm,0.9s						
ZALV	**Zalesovo Beam**	**71.78**	**330**	P	**P**	**06 28 41.8**	**-0.7**
	0.5nm,0.6s,baz=96,slow=2.9,SNR=2.5						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.31**	**24**	P	**P**	**06 29 56.6**	**-0.1**
	0.9nm,0.9s,baz=257,slow=5.2,SNR=5.5						
	0.9nm,0.9s						

*SNET **18** 06:31:14.0±1.1, 13°.31N×87°.85W, h9km±2km, ML3.2*
*INET **18** 06:31:14.3±0.3, 13°.31N×87°.85W, h6km±2km, MWW2.3*
ISC 18 06:31:13.8±0.9, 13°.33N±0°.05×87°.85W±0°.04, h12km±6km, n12, σ0°.40/23, 1C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.04**	**245**

MKAZ	**Moumakai**	**5.38**	**15**	P		Pn	06 51 06.2	-1.3
ETAZ	**East Tamaki Re**	**5.48**	**12**	P		Pn	06 51 08.6	-0.3

NNC ***18*** *06:54:31.3±3.2,36.˚70N×71.˚04E,h0km,mb4.8,mpv4.9, Error ellipse: s-maj=35.1km s-min=20.5km az=151.0*
IDC ***18*** *06:54:34.6±2.8,36.˚40N×71.˚29E,h68km±25km,mb4.0/21, mbtmp4.4/24,MS3.2/13,Error ellipse: s-maj=18.4km s-min=12.3km az=17.0*
MOS ***18*** *06:54:36.2±0.9,36.˚64N×71.˚40E,h92km,mb4.5/23,Error ellipse: s-maj=6.4km s-min=3.5km az=86.2*
NEIC ***18*** *06:54:37.6±1.5,36.˚62N±0.˚06×71.˚35E±0.˚08,h85km±7km, mb4.6/34,Error ellipse: s-maj=9.7km s-min=8.2km az=93.0*

ISC 18 06:54:37.3±0.3,36.˚50N±0.˚04×71.˚40E±0.˚04,h100km,n265, σ2ᵠ11/287,mb4.5/63,25C-9D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.64**	**341**				**Pn**	**06 55 17.3**	**-1.1**
CEP	**Cherat**	**2.70**	**171**	P			**Pn**	**06 55 21.8**	**+2.6**
CEP				S			**Sn**	**06 55 56.0**	**+4.7**
KBL	**Kabul**	**2.74**	**225**				**Pn**	**06 55 20.4**	**+0.6**
KBL	**Kabul**	**2.74**	**225**	PN			**Pn**	**06 55 20.4**	**+0.6**
CHGR	**Chuyangaron**	**2.80**	**321**				**Pn**	**06 55 18.1**	**-2.3**
CHGR	**Chuyangaron**	**2.80**	**321**	PN			**Pn**	**06 55 18.1**	**-2.3**
DRK	**Karamyk**	**3.00**	**6**				**Pn**	**06 55 23.0**	**-0.2**
CHCP	**Chirah Chowk**	**3.22**	**151**	P			**Pn**	**06 55 28.1**	**+2.1**
NIL	**Nilore**	**3.22**	**151**	Pn			**Pn**	**06 55 28.3**	**+2.3**
NIL	**Nilore**	**3.22**	**151**	PN			**Pn**	**06 55 28.3**	**+2.3**
BTK	**Batken**	**3.59**	**353**	Pn			**Pn**	**06 55 31.1**	**+0.2**
BTK	**Batken**	**3.59**	**353**	PN			**Pn**	**06 55 31.2**	**+0.2**
THW	**Thamme Wali**	**3.70**	**176**	P			**Pn**	**06 55 33.5**	**+1.0**
SARP	**Sargodha**	**4.68**	**167**	P			**Pn**	**06 55 44.4**	**-1.3**
KSH	**Kashi**	**4.70**	**49**	P			**Pn**	**06 55 41.8**	**-4.3**
KSH				S			Sn	06 56 29.0	-11
KSH				smax			smax		
	comp=N,600nm,0.6s								
KSH				smax			smax		
	comp=E,650nm,0.8s								
JMU	**Jammu**	**4.75**	**142**	*e*S			**Sn**	**06 56 38.2**	**-2.2**
TAS	**Tashkent**	**5.09**	**342**	Pn			**Pn**	**06 55 49.7**	**-1.6**
TAS	**Tashkent**	**5.09**	**342**	PN			**Pn**	**06 55 49.7**	**-1.6**
IUG	**luzhnay**	**5.74**	**350**	*e*P			**Pn**	**06 55 58.3**	**-1.8**
	baz=350								
IUG				*e*S			**Sn**	**06 57 00.4**	**-4.3**
	baz=350								
IUG	**luzhnay**	**5.74**	**350**	*e*PN			**Pn**	**06 55 58.3**	**-1.8**
AML	**Almayashu**	**5.90**	**17**	P			**Pn**	**06 56 02.3**	**-0.2**
	SNR=282								
NRN	**Naryn**	**6.09**	**35**	Pn			**Pn**	**06 56 04.0**	**-1.1**
NRN	**Naryn**	**6.09**	**35**	PN			**Pn**	**06 56 04.0**	**-1.1**
UCH	**Uchtor**	**6.21**	**22**	P			**Pn**	**06 56 06.5**	**-0.3**
	SNR=105								
DZA	**Taraz**	**6.39**	**360**	*e*P			**Pn**	**06 56 07.7**	**-1.2**
	baz=0.2								
DZA				*e*S			**Sn**	**06 57 16.8**	**-3.5**
	baz=0.2								
DZA	**Taraz**	**6.39**	**360**	*e*PN			**Pn**	**06 56 07.6**	**-1.2**
EKS2	**Erkin-Say**	**6.42**	**16**	P			**Pn**	**06 56 09.6**	**+0.2**
	SNR=178								
BHK	**Bhakra**	**6.56**	**139**	*e*P			**Pn**	**06 56 12.9**	**+1.7**
BHK				*e*S			**Sn**	**06 57 21.2**	**-3.3**
AAK	**Ala-Archa**	**6.58**	**20**	P			**Pn**	**06 56 11.6**	**0.0**
	SNR=196								
AAK	**Ala-Archa**	**6.58**	**20**	P			**Pn**	**06 56 12.3**	**+0.7**
	173nm,0.3s,baz=176,slow=6.2,SNR=444								
AAK				S			**Sn**	**06 57 24.0**	**-1.2**
	32nm,0.6s,baz=344,slow=24,SNR=7.1								
AAK	**Ala-Archa**	**6.58**	**20**	Pn			**Pn**	**06 56 11.4**	**-0.1**
AAK	**Ala-Archa**	**6.58**	**20**	*ce*PN			**Pn**	**06 56 11.5**	**0.0**
AAK				pmax			pmax		
	comp=Z,92nm,0.5s								
KK31	**Karatay Array**	**6.63**	**354**	Pn			**Pn**	**06 56 10.5**	**-1.7**
KK31	**Karatay Array**	**6.63**	**354**	⇑P			**Pn**	**06 56 10.7**	**-1.5**
	comp=Z,46nm,0.5s,baz=181,slow=12,SNR=1193								
KK31				⇑S			**Sn**	**06 57 22.9**	**-3.4**
	comp=Z,23nm,0.4s,baz=177,slow=20,SNR=3.6								
KK31	**Karatay Array**	**6.63**	**354**	PN			**Pn**	**06 56 10.5**	**-1.7**
KKAR	**Karatay Array**	**6.63**	**354**	Pn			**Pn**	**06 56 11.0**	**-1.1**
KKAR	**Karatay Array**	**6.63**	**354**				**Pn**	**06 56 10.6**	**-1.6**
KKAR	**Karatay Array**	**6.63**	**354**	PN			**Pn**	**06 56 10.6**	**-1.6**
KBK	**Karagaybulak**	**6.73**	**23**	P			**Pn**	**06 56 14.2**	**+0.6**
	SNR=36								
ULHL	**Ulahol**	**6.86**	**32**	P			**Pn**	**06 56 16.6**	**+1.2**
	SNR=7.2								
BOOM	**Boomskoye usch**	**6.94**	**29**				**Pn**	**06 56 16.1**	**-0.4**
BOOM	**Boomskoye usch**	**6.94**	**29**	PN			**Pn**	**06 56 16.1**	**-0.4**
CHMS	**Chumysh**	**6.99**	**21**	P			**Pn**	**06 56 17.5**	**+0.5**
	SNR=8.3								
CHMS	**Chumysh**	**6.99**	**21**	⇑P			**Pn**	**06 56 16.5**	**-0.5**
	comp=Z,84nm,0.6s								
CHMS				⇓S			**Sn**	**06 57 32.8**	**-2.1**
	comp=Z,53nm,0.7s								
CHMS	**Chumysh**	**6.99**	**21**	*i* PN			**Pn**	**06 56 16.5**	**-0.5**
CHMS				pmax			pmax		
	comp=Z,84nm,0.5s								
USP	**Ospenovka**	**7.17**	**18**	P			**Pn**	**06 56 19.1**	**-0.4**
	SNR=22								
TKM2	**Tokmak 2**	**7.18**	**25**	P			**Pn**	**06 56 20.0**	**+0.2**
	SNR=98								
TKM2	**Tokmak 2**	**7.18**	**25**	⇑P			**Pn**	**06 56 19.9**	**0.0**
	comp=Z,61nm,0.6s								
TKM2				⇓S			**Sn**	**06 57 39.1**	**-0.8**
	comp=Z,29nm,0.9s								
TKM2	**Tokmak 2**	**7.18**	**25**	*i* PN			**Pn**	**06 56 19.8**	**0.0**
TKM2				pmax			pmax		
	comp=Z,61nm,0.5s								
SMLA	**Simla**	**7.19**	**136**	*e*P			**Pn**	**06 56 19.1**	**-0.6**
SMLA				*e*S			**Sn**	**06 57 35.0**	**-4.7**
SMLA				IAML				06 57 39.1	
	comp=E,726nm,0.3s								
SMLA				IAML				06 57 41.0	
	comp=N,720nm,0.2s								
TARG	**Taragay, Kyrgy**	**7.21**	**42**				**Pn**	**06 56 19.6**	**-0.8**
TARG	**Taragay, Kyrgy**	**7.21**	**42**	PN			**Pn**	**06 56 19.6**	**-0.8**
SGDS	**Sogindy**	**7.38**	**19**	*e*P			**Pn**	**06 56 21.3**	**-1.0**
	baz=20								
SGDS				*e*S			**Sn**	**06 57 40.3**	**-4.1**
	baz=20								
SGDS	**Sogindy**	**7.38**	**19**	*e*PN			**Pn**	**06 56 21.2**	**-1.0**
MDOK	**Medeo**	**7.95**	**31**	*e*P			**Pn**	**06 56 29.6**	**-0.5**
	baz=32								
MDOK				*e*S			**Sn**	**06 57 59.5**	**+1.0**
	baz=32								
MDOK	**Medeo**	**7.95**	**31**	⇑P			**Pn**	**06 56 31.2**	**+1.1**
	comp=N,17nm,0.6s								
MDOK	**Medeo**	**7.95**	**31**	PN			**Pn**	**06 56 31.2**	**+1.1**
DDI	**Dehra Dun**	**8.29**	**136**	*e*P			**Pn**	**06 56 34.8**	**-0.1**
DDI				*e*S			**Sn**	**06 58 02.3**	**-4.6**
DDI				IAML				06 58 06.5	
	comp=E,602nm,0.5s								
KUU	**Kurty**	**8.30**	**26**	*e*P			**Pn**	**06 56 33.0**	**-1.8**
	baz=26								
KUU	**Kurty**	**8.30**	**26**	*e*PN			**Pn**	**06 56 32.9**	**-1.8**
SATY	**Saty**	**8.48**	**37**	*e*P			**Pn**	**06 56 36.1**	**-1.3**
	baz=38								
SATY	**Saty**	**8.48**	**37**	*e*PN			**Pn**	**06 56 36.1**	**-1.3**
CHKK	**Chushkaly**	**8.50**	**28**	*e*P			**Pn**	**06 56 36.2**	**-1.4**
	baz=29								
CHKK	**Chushkaly**	**8.50**	**28**	*e*PN			**Pn**	**06 56 36.1**	**-1.4**
BTLS	**Baital**	**8.77**	**12**	*e*P			**Pn**	**06 56 39.3**	**-1.9**
	baz=13								
BTLS	**Baital**	**8.77**	**12**	*e*PN			**Pn**	**06 56 39.2**	**-1.9**
UZB	**Uzynbulak**	**8.86**	**39**	*e*P			**Pn**	**06 56 41.1**	**-1.4**
	baz=40								
UZB	**Uzynbulak**	**8.86**	**39**	*e*PN			**Pn**	**06 56 41.1**	**-1.4**
KPKS	**Kokpek**	**8.92**	**37**	*e*P			**Pn**	**06 56 42.2**	**-1.2**
	baz=38								
KPKS	**Kokpek**	**8.92**	**37**	*e*PN			**Pn**	**06 56 42.1**	**-1.2**
SHLS	**Shalkode**	**9.09**	**40**	*e*P			**Pn**	**06 56 47.2**	**+1.6**
	baz=43								
SHLS	**Shalkode**	**9.09**	**40**	*e*P			**Pn**	**06 56 47.2**	**+1.6**
KHET	**Khetri**	**9.19**	**155**	*e*P			**Pn**	**06 56 44.5**	**-2.4**
KHET				*e*S			**Sn**	**06 58 20.6**	**-7.9**
NDI	**New Delhi**	**9.20**	**146**	*e*P			**Pn**	**06 56 48.0**	**+0.8**
NDI				*e*S			**Sn**	**06 58 22.8**	**-6.1**
NDI				*e*S				06 58 23.0	
PDGK	**Podgornoye**	**9.22**	**40**	⇑P			**Pn**	**06 56 46.1**	**-1.4**
	comp=E,13nm,0.8s								
PDGK	**Podgornoye**	**9.22**	**40**	P			**Pn**	**06 56 46.1**	**-1.4**
KUDL	**Kundal**	**9.37**	**151**	*e*P			**Pn**	**06 56 47.4**	**-2.1**
KUDL				*e*S			**Sn**	**06 58 24.6**	**-8.4**
SONA	**Sohna**	**9.52**	**148**	*e*P			**Pn**	**06 56 49.8**	**-1.6**
SONA				*e*S			Sn	06 58 27.2	-9.4
TDK	**Taldyqorghan**	**10.02**	**30**	*e*P			**Pn**	**06 56 56.1**	**-2.0**
	baz=31								
TDK	**Taldyqorghan**	**10.02**	**30**	*e*P			**Pn**	**06 56 56.1**	**-2.0**
PTH	**Pithoragarh**	**10.13**	**131**	*e*P			**Pn**	**06 56 56.0**	**-3.9**
PTH				*e*S			**Sn**	**06 58 43.0**	**-8.8**
LGTI	**Lohaghat**	**10.22**	**131**	*e*P			**Pn**	**06 56 58.2**	**-2.8**
LGTI				*e*P				06 57 03.8	
LGTI				*e*S			Sn	06 58 43.7	-10
LGTI				*e*S				06 58 51.9	
AJM	**Ajmer**	**10.36**	**164**	*e*P			**Pn**	**06 57 01.4**	**-1.6**
GEYT	**Alibeck**	**10.69**	**282**	P			Pn	06 57 02.1	-5.3
	comp=E,10nm,0.4s,baz=112,slow=9.9,SNR=17								
GEYT				S			Sn	06 58 55.0	-10
	comp=E,27nm,0.4s,baz=292,slow=26,SNR=18								
GEYT				LR			LR	07 01 38.1	
	comp=E,41nm,19.4s,baz=184,slow=40								
GEYT	**Alibeck**	**10.69**	**282**	Pn			Pn	06 57 02.8	-4.6
GYA0	**ALIBECK ARRAY**	**10.69**	**282**	P			Pn	06 57 02.0	-5.4
GYA0B	**ALIBECK ARRAY**	**10.69**	**282**	Pn			Pn	06 57 02.6	-4.8
GYA0B	**ALIBECK ARRAY**	**10.69**	**282**	⇓P			Pn	06 57 02.0	-5.4
GYA0B				⇓S			Sn	06 58 57.4	-7.8
OTUK	**Ortayu**	**11.76**	**3**	⇓P			**Pn**	**06 57 18.7**	**-3.0**
	comp=E,23nm,0.6s								
OTUK				⇑S			**Sn**	**06 59 28.2**	**-2.7**
	comp=E,20nm,0.9s								
OTUK	**Ortayu**	**11.76**	**3**	P			**Pn**	**06 57 18.6**	**-3.0**
OTUK				S			Sn	06 59 22.2	-8.7
JHNI	**Jhansi**	**12.58**	**149**	*e*P			**Pn**	**06 57 29.8**	**-2.9**
MAKZ	**Makanchi**	**12.97**	**34**				**Pn**	**06 57 36.0**	**-1.7**
MAKZ	**Makanchi**	**12.97**	**34**	⇑P			**Pn**	**06 57 36.0**	**-1.7**
	comp=E,12nm,0.9s								
MAKZ	**Makanchi**	**12.97**	**34**	P			**Pn**	**06 57 36.1**	**-1.7**
MK31	**Makanchi Array**	**13.11**	**35**				**Pn**	**06 57 38.1**	**-1.4**
MK31	**Makanchi Array**	**13.11**	**35**	⇑P			**Pn**	**06 57 37.9**	**-1.5**
	comp=E,2.8nm,0.5s,baz=220,slow=13,SNR=18								
MK31	**Makanchi Array**	**13.11**	**35**	*d* P			**Pn**	**06 57 39.1**	**-0.4**
MK31				pmax			pmax		
	comp=Z,4.0nm,0.6s								
MKAR	**Makanchi Array**	**13.11**	**35**	P			**Pn**	**06 57 38.4**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=222,slow=14,SNR=20								
MKAR	**Makanchi Array**	**13.11**	**35**				**Pn**	**06 57 38.1**	**-1.4**
DANN	**Dangsing**	**13.22**	**124**	*e*P			**Pn**	**06 57 38.4**	**-2.9**
	comp=Z,41nm,0.3s								
DANN				*e*S			Sn	06 59 54.1	-13
BHUJ	**Bhuj**	**13.28**	**187**	*e*P			**Pn**	**06 57 39.6**	**-2.3**
BHUJ				IAmb			IAmb	06 57 40.0	
	comp=Z,68nm,0.7s								
BHUJ				*e*S			Sn	06 59 56.7	-11
KOLN	**Koldanda**	**13.50**	**127**	*e*P			**Pn**	**06 57 43.6**	**-1.3**
BRZS	**Berezniki**	**13.51**	**4**	*e*P			**Pn**	**06 57 41.6**	**-3.2**
	comp=Z,11nm,0.9s,baz=3.9								
BRZS	**Berezniki**	**13.51**	**4**	*e*P			**Pn**	**06 57 41.5**	**-3.2**
BRZS				pmax			pmax		
	comp=Z,11nm,0.9s								
VLK	**Valmikinagar**	**13.98**	**127**	*e*P			**Pn**	**06 57 47.9**	**-3.1**
VLK				*e*S			Sn	07 00 12.9	-12
GKN	**Gorkha**	**14.03**	**123**	*e*P			**Pn**	**06 57 48.8**	**-2.9**
	comp=Z,40nm,0.3s								
BHPL	**Bhopal**	**14.20**	**157**	*e*P			**Pn**	**06 57 51.8**	**-2.1**
BHPL				*e*S			Sn	07 00 17.7	-13
WMQ	**Urumqi**	**14.43**	**55**	*e*P			**Pn**	**06 57 56.3**	**-0.5**
WMQ				pmax			pmax		
	comp=Z,16nm,0.9s								
DMN	**Daman**	**14.60**	**123**	*e*P			**Pn**	**06 57 56.4**	**-2.8**
	comp=Z,24nm,0.2s								
DMN				*e*S			Sn	07 00 26.9	-13
KKN	**Kakani**	**14.60**	**123**	*e*P			**Pn**	**06 57 55.8**	**-3.3**
PKIN	**Phulchoki**	**14.82**	**123**	*e*P			**Pn**	**06 57 58.9**	**-3.0**
	comp=Z,28nm,0.3s								
PKI	**Pulchoki**	**14.83**	**123**	*e*P			**Pn**	**06 57 59.3**	**-2.9**
	comp=Z,18nm,0.3s								
GUN	**Gumba**	**14.94**	**121**	*e*P			**Pn**	**06 58 00.0**	**-3.5**
	comp=Z,30nm,0.3s								
KURBB	**Kurchatov Arra**	**15.03**	**18**	P			**Pn**	**06 58 00.1**	**-4.0**
	comp=Z,1.9nm,0.2s,baz=208,slow=11,SNR=13								
KURBB	**Kurchatov Arra**	**15.03**	**18**	⇓P			**Pn**	**06 57 59.7**	**-4.4**
	comp=Z,14nm,0.6s								
KURK	**Kurchatov**	**15.13**	**18**				**Pn**	**06 58 01.0**	**-4.5**
KURK	**Kurchatov**	**15.13**	**18**	⇑P			**Pn**	**06 58 00.9**	**-4.5**
	comp=Z,9.7nm,0.8s								
KURK	**Kurchatov**	**15.13**	**18**	*i* P			**Pn**	**06 58 02.0**	**-3.5**
KURK				pmax			pmax		
	comp=Z,10.0nm,0.8s								
JBP	**Jabalpur**	**15.22**	**148**	*e*S			Sn	07 00 42.0	-13
AB31	**Akbulak array**	**15.25**	**330**	⇓P			**Pn**	**06 58 02.2**	**-4.8**
	comp=Z,4.0nm,0.3s,baz=143,slow=12,SNR=154								
AB31	**Akbulak array**	**15.25**	**330**	*i* P			**Pn**	**06 58 02.1**	**-4.8**
AB31				S			Sn	07 00 43.9	-11
ABKAR	**Akbulak array**	**15.25**	**330**				**Pn**	**06 58 02.0**	**-5.0**
JIRN	**Jiri**	**15.31**	**121**	*e*P			**Pn**	**06 58 04.4**	**-3.8**
	comp=Z,31nm,0.3s								
RAMN	**Ramite**	**16.04**	**122**	*e*P			**Pn**	**06 58 14.6**	**-2.7**
	comp=Z,23nm,0.3s								
AKL	**Akola**	**16.48**	**161**	*e*P			**Pn**	**06 58 21.4**	**-1.2**
BVA0	**Borovoye Array**	**16.54**	**358**	⇓P			**Pn**	**06 58 20.3**	**-2.7**
	comp=Z,5.2nm,0.5s								
BVA0	**Borovoye Array**	**16.54**	**358**	P			**Pn**	**06 58 20.3**	**-2.7**
BVAR	**Borovoye Array**	**16.54**	**358**	P			**Pn**	**06 58 20.5**	**-2.6**
	comp=Z,12nm,0.7s,baz=165,slow=13,SNR=46								
BVAR				LR			LR	07 05 12.6	
	comp=Z,75nm,21.2s,baz=184,slow=38								
BRVK	**Borovoye**	**16.58**	**358**				**Pn**	**06 58 20.8**	**-2.7**
BRVK				IAmb			IAmb	06 58 25.9	
	comp=Z,58nm,1.4s								
BRVK	**Borovoye**	**16.58**	**358**	⇑P			**Pn**	**06 58 20.4**	**-3.1**
	comp=Z,20nm,0.9s								
BRVK	**Borovoye**	**16.58**	**358**	*i* P			**Pn**	**06 58 21.5**	**-2.0**
BRVK				pmax			pmax		
	comp=Z,15nm,0.6s								
AKTO	**Aktyubinsk**	**16.95**	**329**	P			**Pn**	**06 58 25.6**	**-2.4**
AKTO				S			Sn	07 01 23.6	-13
WSAR	**Wadi Sarin**	**17.22**	**223**	P			**Pn**	**06 58 33.0**	**+1.4**
	comp=Z,1.8nm,0.5s,baz=51,slow=7.3,SNR=6.4								
WSAR				LR			LR	07 05 42.9	
	comp=Z,38nm,18.1s,baz=144,slow=39								
DGZ	**Jazzator, Alta**	**17.59**	**36**	*i* P			**P**	**06 58 34.9**	**-0.8**
DGZ				pmax			pmax		
	comp=Z,12nm,0.9s								
BOK	**Bokaro**	**17.78**	**131**	*e*S			Sn	07 01 40.4	-16
GOMU	**GeErMu**	**18.86**	**84**	P			**Pn**	**06 58 52.4**	**+0.9**
GOMU				pmax			pmax		
	comp=Z,5.0nm,0.6s								
GOMU				pmax			pmax		
	comp=Z,73nm,5.1s								
GOMU				LR			LR		
	comp=Z,100nm,6.2s								
GOMU				LR			LR		
	comp=Z,75nm,5.7s								
GOMU				LR			LR		
	comp=Z,74nm,5.7s								
SEKA	**Sheki**	**19.41**	**291**	P			**P**	**06 58 56.3**	**+0.8**
ZAA0	**Zalesovo Array**	**19.79**	**24**	P			**P**	**06 58 58.8**	**-0.6**
ZAA0				IAmb			IAmb	06 59 01.0	
	comp=Z,22nm,0.5s								
ZAA0	**Zalesovo Array**	**19.79**	**24**	⇑P			**P**	**06 58 58.9**	**-0.5**
	comp=Z,2.3nm,0.5s								
ZALV	**Zalesovo Beam**	**19.79**	**24**	P			**P**	**06 58 59.3**	**-0.1**
	comp=Z,28nm,0.6s,baz=223,slow=11,SNR=101								
ZALV				LR			LR	07 07 21.3	
	comp=Z,40nm,20.4s,baz=251,slow=38								
ZALV	**Zalesovo Beam**	**19.79**	**24**	P			**P**	**06 58 59.0**	**-0.3**
ZALV	**Zalesovo Beam**	**19.79**	**24**	*i* P			**P**	**06 58 59.2**	**-0.2**
ZALV				pmax			pmax		
	comp=Z,28nm,0.6s								
ZKTA	**Zakatala**	**19.89**	**293**	P			**P**	**06 59 02.5**	**+1.8**
GANJ	**Ganja**	**20.02**	**290**	P			**P**	**06 59 04.1**	**+2.0**
SHL	**Shillong**	**20.61**	**116**	P			**P**	**06 59 09.4**	**+0.6**
SHL				IAmb			IAmb	06 59 10.4	
	comp=Z,24nm,0.9s								
SHL	**Shillong**	**20.61**	**116**	P			**P**	**06 59 09.4**	**+0.6**
SHL				pmax			pmax		
	comp=Z,24nm,0.9s								
GROC	**Groznyy**	**20.72**	**297**	*e*P			**P**	**06 59 09.3**	**-0.3**
GROC				pmax			pmax		
	comp=Z,99nm,0.5s								
GNI	**Garni**	**21.20**	**288**	P			**P**	**06 59 17.0**	**+2.0**
	comp=Z,18nm,0.5s,baz=120,slow=2.7,SNR=4.6								
GNI	**Garni**	**21.20**	**288**	*ce*P			**P**	**06 59 17.1**	**+2.1**
GNI				pmax			pmax		
	comp=Z,16nm,0.6s								
SVE	**Sverdlovsk**	**21.59**	**344**	*e*P			**P**	**06 59 18.5**	**-0.2**
SVE				pmax			pmax		
	comp=Z,40nm,0.7s								
ARU	**Arti**	**21.74**	**341**	P			**P**	**06 59 19.8**	**-0.6**
	comp=Z,15nm,0.4s,baz=153,slow=6.9,SNR=19								
ARU				LR			LR	07 08 27.7	
	comp=Z,111nm,18.4s,baz=159,slow=38								
	comp=Z,15nm,0.4s								
ARU	**Arti**	**21.74**	**341**	P			**P**	**06 59 19.3**	**-1.1**
ARU				IAmb			IAmb	06 59 25.1	
	comp=Z,31nm,1.2s								
ARU	**Arti**	**21.74**	**341**	*c* P			**P**	**06 59 20.4**	**0.0**
ARU								06 59 47.8	
ARU				S			**S**	**07 03 15.6**	**+0.7**
ARU				SS			**SnSn**	**07 03 55.2**	**+6.5**
ARU				pmax			pmax		
	comp=Z,13nm,0.6s								
ZEI	**Tsey**	**22.03**	**295**	*e*P			**P**	**06 59 24.2**	**+0.4**
ZEI				pmax			pmax		
	comp=Z,10.0nm,0.8s								
GTA	**Gaotai**	**22.55**	**74**	⇑P			**P**	**06 59 32.4**	**+3.2**
GTA				pmax			pmax		
	comp=Z,25nm,0.6s								
KBZ	**Khabaz**	**22.89**	**297**	P			**P**	**06 59 31.1**	**-1.2**
	comp=Z,4.8nm,0.8s,baz=152,slow=6.0,SNR=7.0								
	comp=Z,4.8nm,0.8s								
KBZ	**Khabaz**	**22.89**	**297**	*ce*P			**P**	**06 59 32.7**	**+0.3**
KBZ				pmax			pmax		
	comp=Z,5.0nm,0.9s								
SHA1	**Shidzhatmaz**	**23.07**	**297**	*i* P			**P**	**06 59 34.8**	**+0.4**
KIV	**Kislovodsk**	**23.08**	**298**	P			**P**	**06 59 35.1**	**+0.8**
KIV				IAmb			IAmb	07 00 01.8	
	comp=Z,22nm,1.1s								
KIV	**Kislovodsk**	**23.08**	**298**	*e*P			**P**	**06 59 35.0**	**+0.7**
KIV				*e*S			**S**	**07 03 39.6**	**+2.1**
KIV				pmax			pmax		
	comp=Z,13nm,1.0s								
BELG	**Belogornoye**	**23.10**	**321**	P			**P**	**06 59 34.1**	**-0.1**
	comp=Z,37nm,0.8s,baz=334,slow=1.8,SNR=13								
	comp=Z,37nm,0.8s								
BELG	**Belogornoye**	**23.10**	**321**	*i* P			**P**	**06 59 34.9**	**+0.7**
BELG				pmax			pmax		
	comp=Z,8.0nm,1.0s								
VRH	**Novokhopyorsk**	**25.74**	**314**	*e*P			**P**	**06 59 58.3**	**0.0**
VRH				pmax			pmax		
	comp=Z,10.0nm,0.9s								
RAYN	**Ar Rayn**	**25.80**	**247**	P			**P**	**07 00 00.4**	**+1.3**
RAYN				pmax			pmax		
	comp=Z,10.0nm,1.5s								
LZH	**Lanzhou**	**26.09**	**81**	*e*P			**P**	**07 00 05.3**	**+3.5**
LZH				pmax			pmax		
	comp=Z,14nm,0.9s								
KIRV	**Kirov**	**26.39**	**334**	P			**P**	**07 00 05.6**	**+1.6**
	comp=Z,22nm,0.5s,baz=12,slow=1.5,SNR=5.3								
KIRV				LR			LR	07 11 18.1	
	comp=Z,73nm,20.6s,baz=128,slow=38								
	comp=Z,22nm,0.5s								
KIRV	**Kirov**	**26.39**	**334**	*ce*P			**P**	**07 00 05.1**	**+1.1**
VSR	**Storozhevoye**	**27.24**	**313**	*e*P			**P**	**07 00 11.1**	**-0.7**
VSR				pmax			pmax		
	comp=Z,8.0nm,0.6s								
VORR	**Voronezh**	**27.38**	**314**	*e*P			**P**	**07 00 13.1**	**+0.1**
LPSR	**Galich'ya Gora**	**27.88**	**316**	*e*P			**P**	**07 00 16.9**	**-0.5**
LPSR				pmax			pmax		
	comp=Z,10.0nm,0.8s								
SONM	**Songino Array**	**28.07**	**55**	P			**P**	**07 00 21.1**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=264,slow=8.9,SNR=12								
	comp=Z,1.4nm,

BURAR				pmax	pmax	
	comp=Z,3.0nm,0.8s					
BUR08	**Bucovina Ar. S**	**35.57**	**303**	P	**P**	**07 01 26.1 +1.2**
BUR08				IAmb	IAmb	07 01 29.7
	comp=Z,4.8nm,1.2s					
VSU	**Vasula**	**36.39**	**321**	*e*P	**P**	**07 01 32.5 +0.9**
PABE	**Paberze**	**37.15**	**316**	P	**P**	**07 01 39.4 +1.3**
PABE	**Paberze**	**37.15**	**316**	*e*P	**P**	**07 01 39.0 +1.0**
FIA1	**FINESS Array S**	**37.67**	**326**	P	**P**	**07 01 43.4 +1.0**
FINES	**FINESS Array B**	**37.67**	**326**	P	**P**	**07 01 43.6 +1.2**
	comp=Z,7.5nm,0.4s,baz=120,slow=9.0,SNR=91					
	comp=Z,7.5nm,0.4s					
FINES	**FINESS Array B**	**37.67**	**326**	P	**P**	**07 01 43.3 +0.9**
MTSE	**Matsula**	**37.93**	**321**	*e*P	**P**	**07 01 45.5 +0.9**
DIVS	**Divibare**	**39.40**	**297**	P	**P**	**07 01 58.1 +0.9**
DIVS				IAmb	IAmb	07 01 59.8
	comp=Z,6.6nm,1.0s					
KEV	**Kevo**	**40.92**	**338**	P	**P**	**07 02 10.2 +0.9**
KEV	**Kevo**	**40.92**	**338**	P	**P**	**07 02 10.2 +0.9**
KEV				pmax	pmax	
	comp=Z,41nm,1.3s					
ARA0	**ARCESS Array S**	**41.27**	**337**	*e*P	**P**	**07 02 13.4 +1.1**
ARCES	**ARCESS Array B**	**41.27**	**337**	P	**P**	**07 02 13.7 +1.4**
	comp=Z,11nm,0.5s,baz=116,slow=9.1,SNR=84					
ARCES				LR	LR	07 20 03.3
	comp=Z,151nm,18.4s,baz=244,slow=37					
	comp=Z,11nm,0.5s					
ARCES	**ARCESS Array B**	**41.27**	**337**	P	**P**	**07 02 13.2 +1.0**
ARCES				IAmb	IAmb	07 02 14.4
	comp=Z,11nm,0.8s					
KTK1	**Kautokeino**	**41.75**	**336**	*e*P	**P**	**07 02 17.1 +1.0**
KTK1				IAmb	IAmb	07 02 17.6
	comp=Z,23nm,0.4s					
HAMF	**Hammerfest**	**42.35**	**339**	*e*P	**P**	**07 02 22.7 +1.7**
HAMF				IAmb	IAmb	07 02 23.8
	comp=Z,40nm,0.8s					
BRG	**Berggiesshubel**	**42.88**	**308**	*e*P	**P**	**07 02 25.8 +0.2**
BRG				Amp		07 02 28.2
	comp=Z,6.9nm,0.8s					
BRG	**Berggiesshubel**	**42.88**	**308**	*e*P	**P**	**07 02 25.7 +0.2**
BRG				pmax	pmax	
	comp=Z,7.0nm,0.8s					
JETT	**Jettan, Norway**	**42.89**	**336**	*e*P	**P**	**07 02 26.5 +1.1**
JETT				IAmb	IAmb	07 02 27.2
	comp=Z,14nm,0.6s					
GERES	**GERESS Array B**	**43.20**	**305**	P	**P**	**07 02 29.6 +1.3**
	comp=Z,0.4nm,0.4s,baz=84,slow=18,SNR=1.9					
GERES				LR	LR	07 25 30.1
	comp=Z,80nm,19.0s,baz=244,slow=43					
	comp=Z,0.4nm,0.4s					
TRO	**Tromso**	**43.40**	**336**	*e*P	**P**	**07 02 30.5 +1.1**
YAK	**Yakutsk**	**43.78**	**35**	LR	LR	07 19 55.4
	comp=Z,44nm,18.4s,baz=104,slow=35					
FAUS	**Fauske**	**43.96**	**332**	*e*P	**P**	**07 02 34.8 +0.8**
FAUS				IAmb	IAmb	07 02 39.2
	comp=Z,47nm,1.1s					
MOR8	**Moi Rana**	**43.98**	**331**	*e*P	**P**	**07 02 34.6 +0.5**
MOR8				IAmb	IAmb	07 02 35.0
	comp=Z,34nm,0.7s					
STEI	**Steigen**	**44.12**	**333**	*e*P	**P**	**07 02 36.5 +1.2**
STEI				IAmb	IAmb	07 02 36.9
	comp=Z,17nm,0.7s					
NC405	**NORSAR Array S**	**44.34**	**323**	P	**P**	**07 02 37.6 +0.4**
CIMO	**Cimolais**	**44.37**	**302**	P	**P**	**07 02 38.7 +1.1**
CIMO				IAmb	IAmb	07 02 39.4
	comp=Z,6.6nm,0.8s					
NC602	**NORSAR Array S**	**44.39**	**323**	*e*P	**P**	**07 02 38.0 +0.5**
NORES	**NORESS Array B**	**44.39**	**323**	P	**P**	**07 02 38.0 +0.5**
FDMO	**Fiordimonte**	**44.52**	**297**	P	**P**	**07 02 40.7 +1.8**
FDMO				IAmb	IAmb	07 03 02.5
	comp=Z,7.2nm,1.0s					
KONS	**Konsvik**	**44.57**	**331**	*e*P	**P**	**07 02 39.8 +1.0**
KONS				IAmb	IAmb	07 02 50.5
	comp=Z,219nm,2.2s					
KSRS	**Korea Array**	**44.57**	**71**	P	**P**	**07 02 41.2 +2.0**
	comp=Z,1.8nm,0.6s,baz=272,slow=7.2,SNR=7.6					
KSRS				LR	LR	07 23 34.4
	comp=Z,21nm,18.1s,baz=115,slow=39					
	comp=Z,1.8nm,0.6s					
STOK	**Stokkvaagen**	**44.58**	**331**	*e*P	**P**	**07 02 40.2 +1.3**
NB2	**NORSAR Subarra**	**44.58**	**323**	P	**P**	**07 02 39.5 +0.4**
	baz=93,slow=7.9					
NB2	**NORSAR Subarra**	**44.58**	**323**	P	**P**	**07 02 39.5 +0.4**
	comp=Z,7.2nm,0.5s,baz=93,slow=7.9					
NOA	**NORSAR Array B**	**44.58**	**323**	P	**P**	**07 02 39.8 +0.7**
	comp=Z,10nm,0.5s,baz=96,slow=7.8,SNR=51					
NOA				LR	LR	07 24 32.6
	comp=Z,27nm,20.0s,baz=300,slow=40					
	comp=Z,10nm,0.5s					
NSS	**Namsos**	**44.67**	**328**	*e*P	**P**	**07 02 39.9 +0.3**
WTTA	**Wattenberg**	**44.77**	**303**	*e*P	**P**	**07 02 41.7 +0.7**
	comp=Z,4.5nm,0.6s					
LOF	**Lofoten**	**44.79**	**333**	*e*P	**P**	**07 02 41.3 +0.7**
WATA	**Walderalm**	**44.80**	**303**	*e*P	**P**	**07 02 42.4 +1.2**
	comp=Z,2.6nm,0.4s					
KLR	**Kul'dur**	**44.88**	**54**	P	**P**	**07 02 43.2 +1.6**
	comp=Z,1.0nm,0.6s,baz=279,slow=9.0,SNR=5.3					
	comp=Z,1.0nm,0.6s					
RAFF	**Raffo Rosso**	**45.04**	**289**	P	**P**	**07 02 43.9 +0.9**
MOTA	**Moosalm**	**45.12**	**304**	*e*P	**P**	**07 02 43.8 +0.2**
	comp=Z,0.6nm,0.2s					
KONO	**Kongsberg**	**45.29**	**321**	P	**P**	**07 02 45.3 +0.6**
KONO	**Kongsberg**	**45.29**	**321**	P	**P**	**07 02 45.3 +0.6**
KONO				pmax	pmax	
	comp=Z,84nm,1.5s					
KONO	**Kongsberg**	**45.29**	**321**	*e*P	**P**	**07 02 45.6 +1.0**
FETA	**Feichten**	**45.42**	**303**	*e*P	**P**	**07 02 46.7 +0.6**
	comp=Z,1.8nm,0.5s					
TIXI	**Tiksi**	**45.66**	**22**	P	**P**	**07 02 47.9 +0.5**
TIXI				IAmb	IAmb	07 02 48.7
	comp=Z,6.6nm,0.8s					
TIXI	**Tiksi**	**45.66**	**22***ce*	P	**P**	**07 02 48.0 +0.6**
TIXI				pmax	pmax	
	comp=Z,12nm,1.7s					
DOMB	**Dombas**	**45.69**	**324**	*e*P	**P**	**07 02 49.1 +1.3**
FUORN	**Ofenpass-Fuorn**	**45.80**	**303**	P	**P**	**07 02 50.8 +1.5**
FUORN				IAmb	IAmb	07 03 27.1
	comp=Z,7.3nm,1.3s					
DAVA	**Damuels**	**45.95**	**304**	*e*P	**P**	**07 02 51.0 +0.8**
	comp=Z,5.2nm,0.3s					
SKAR	**Skarslia**	**45.98**	**322**	*e*P	**P**	**07 02 51.7 +1.6**
LODK	**Lodwar**	**46.72**	**234**	P	**P**	**07 02 58.4 +1.9**
SSB	**Saint Sauveur**	**49.99**	**302**	P	**P**	**07 03 22.2 +1.0**
SSB				IAmb	IAmb	07 03 23.0
	comp=Z,6.0nm,0.7s					
SSB	**Saint Sauveur**	**49.99**	**302**	P	**P**	**07 03 22.3 +1.0**
SSB				pmax	pmax	
	comp=Z,6.0nm,0.7s					
ESDC	**Sonseca Array**	**57.75**	**298**	P	**P**	**07 04 19.1 +1.2**
	comp=Z,0.8nm,0.6s,baz=53,slow=8.8,SNR=5.0					
	comp=Z,0.8nm,0.6s					
SUMG	**Summit**	**61.17**	**341**	*i* P	**P**	**07 04 42.0 +0.7**
TORD	**Torodi Ar. Bea**	**66.04**	**269**	P	**P**	**07 05 11.2 -2.5**
	comp=Z,1.9nm,0.5s,baz=55,slow=6.3,SNR=12					
POGA	**Pongola**	**73.69**	**216**	P	**P**	**07 06 01.1 +1.0**
C36M	**Paulatuk**	**73.85**	**6**	P	**P**	**07 06 00.8 +0.2**
C36M				IAmb	IAmb	07 06 25.1
	comp=Z,5.7nm,0.8s					
INK	**Inuvik**	**73.86**	**9**	P	**P**	**07 06 01.3 +0.7**
INK	**Inuvik**	**73.86**	**9**	P	**P**	**07 06 01.3 +0.7**
INK				pmax	pmax	
	comp=Z,3.0nm,0.9s					
ILAR	**Eielson Array**	**74.69**	**16**	P	**P**	**07 06 05.6 0.0**
	comp=Z,0.2nm,0.5s,baz=344,slow=5.2,SNR=4.2					
	comp=Z,0.2nm,0.5s					
BOSA	**Boshof**	**77.95**	**220**	P	**P**	**07 06 24.9 +0.4**
	comp=Z,2.9nm,0.7s,baz=22,slow=6.1,SNR=7.5					
	comp=Z,2.9nm,0.7s					
BOSA	**Boshof**	**77.95**	**220**	P	**P**	**07 06 25.0 +0.4**
YKA	**Yellowknife Ar**	**81.23**	**3**	P	**P**	**07 06 42.6 +0.9**
	comp=Z,1.6nm,0.6s,baz=349,slow=5.4,SNR=7.3					
	comp=Z,1.6nm,0.6s					
WRA	**Warramunga Arr**	**81.71**	**122**	P	**P**	**07 06 44.8 -0.1**
	comp=Z,0.7nm,0.7s,baz=324,slow=4.8,SNR=5.0					
	comp=Z,0.7nm,0.7s					
WRA	**Warramunga Ar**	**81.71**	**122***ce*	P	**P**	**07 06 47.0 +2.1**
SCHQ	**Schefferville**	**82.23**	**337**	P	**P**	**07 06 48.0 +0.8**
	comp=Z,2.1nm,0.6s,baz=84,slow=18,SNR=5.4					
	comp=Z,2.1nm,0.6s					
ASAR	**Alice Springs**	**83.99**	**125**	P	**P**	**07 06 57.0 +0.4**
	comp=Z,0.8nm,0.6s,baz=310,slow=4.9,SNR=5.4					
	comp=Z,0.8nm,0.6s					

*IDC **18** 06:58:32.8±1.5,2°.29S×100°.49E, h0km, mb4.4/9, mbtmp4.4/10, ML4.7/1, Error ellipse: s-maj=57.7km*

s-min=16.0km az=56.0
*DJA **18** 06:58:39.9±0.4,2°.S±3°×10°.1E±°, h15km±4km, M4.3/19, mb4.4/5, MLv4.3/19*
*NEIC **18** 06:58:42.6±1.6,2°.17S±0°.09×100°.6E±0°.1, h66km±9km, mb4.4/14, Error ellipse: s-maj=17.3km s-min=9.2km az=53.0*

ISC 18 06:58:40.9±0.6,2°.22S±0°.05×100°.55E±0°.05, h56km, n65, σ1ˢ44/64, mb4.5/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.77**	**225**	P	**Pn**	**06 58 56.4**	**+0.7**
PDSI	**Padang**	**1.30**	**356**	P	**Pn**	**06 59 02.5**	**-0.4**
SDSI	**Sungai Dareh**	**1.55**	**34**	P	**Pn**	**06 59 06.5**	**+0.3**
SISI	**Saibi**	**1.71**	**301**	P	**Pn**	**06 59 09.6**	**+1.2**
PPI	**Padang Panjang**	**1.76**	**355**	P	**Pn**	**06 59 09.8**	**+0.8**
MASI	**Maura Aman, Be**	**1.92**	**119**	P	**Pn**	**06 59 11.7**	**+0.5**
MASI				S	**Sn**	**06 59 30.2**	**-4.0**
KSI	**Kapahiang**	**2.48**	**125**	P	**Pn**	**06 59 18.8**	**-0.2**
KSI				S	**Sn**	**06 59 53.6**	**+5.5**
BKNI	**Bangkinang**	**2.58**	**11**		**Pn**	**06 59 21.5**	**+1.3**
BKNI	**Bangkinang**	**2.58**	**11**	P	**Pn**	**06 59 22.3**	**+2.1**
PBSI	**Pulau Batu**	**3.13**	**313**	P	**Pn**	**06 59 28.6**	**+0.8**
JMBI	**JAMBI**	**3.14**	**79**	P	**Pn**	**06 59 29.1**	**+1.2**
MNSI	**Mandailing Nat**	**3.15**	**342**	P	**Pn**	**06 59 29.2**	**+1.1**
MNAI	**Manna**	**3.20**	**132**		**Pn**	**06 59 29.9**	**+1.1**
MNAI	**Manna**	**3.20**	**132**	P	**Pn**	**06 59 30.0**	**+1.2**
EGSI	**Enggano, Bengk**	**3.55**	**151**	P	**Pn**	**06 59 32.8**	**-0.8**
DSRI	**Dabo**	**4.38**	**67**	P	**Pn**	**06 59 44.7**	**-0.2**
LWLI	**Liwa**	**4.47**	**129**	P	**Pn**	**06 59 47.5**	**+1.3**
GSI	**Gunungsitoli**	**4.60**	**320**	Pn	**Pn**	**06 59 48.1**	**+0.2**
GSI	**Gunungsitoli**	**4.60**	**320**	P	**Pn**	**06 59 47.3**	**-0.6**
BTDF	**Bukit Timah Da**	**4.80**	**42**	P	**Pn**	**06 59 51.2**	**+0.6**
KASI	**Kota Agung**	**5.12**	**130**	P	**Pn**	**06 59 56.5**	**+1.4**
	0.5nm43nm,0.6s						
RPSI	**Rantau Prapat**	**5.15**	**342**	Pn	**Pn**	**06 59 57.2**	**+1.8**
MYKOM	**Kota Tinggi**	**5.17**	**40**	Pn	**Pn**	**06 59 56.1**	**+0.4**
MYKOM	**Kota Tinggi**	**5.17**	**40**	P	**Pn**	**06 59 56.3**	**+0.6**
	0.3nm53nm,0.7s						
PSI	**Prapat**	**5.25**	**342**	P		06 59 57.6	
	0.1nm19nm,0.9s,0.0nm,0.9s,12nm,0.9s			P			
PSI					**Pn**	**06 59 57.1**	**+0.2**
	0.1nm19nm,0.9s,0.0nm,0.9s,12nm,0.9s						
KCSI	**Kotacane, Aceh**	**6.35**	**334**	P	Pn	07 00 18.6	+6.7
IPM	**Ipoh**	**6.67**	**4**	Pn	**Pn**	**07 00 17.2**	**+0.9**
IPM	**Ipoh**	**6.67**	**4**	P	**Pn**	**07 00 16.1**	**-0.3**
KULM	**Kulim**	**7.46**	**1**	Pn	**Pn**	**07 00 27.9**	**+0.7**
KULM	**Kulim**	**7.46**	**1**	P	**Pn**	**07 00 31.1**	**+3.9**
UGM	**Wanagama**	**11.42**	**120**	Pn	**Pn**	**07 01 20.8**	**-0.7**
KAPI	**Kappang**	**19.36**	**99**	P	**P**	**07 03 02.3**	**+0.2**
	2.1nm,0.3s,baz=272,slow=16,SNR=6.7						
	9.7nm,0.4s						
KAPI	**Kappang**	**19.36**	**99**		**Pn**	**07 03 02.9**	**-0.7**
KAPI				IAmb	IAmb	07 03 06.0	
	comp=Z,25nm,1.1s						
KAPI	**Kappang**	**19.36**	**99**	P	**Pn**	**07 03 07.1**	**+3.5**
MYLDM	**Lahad Datu**	**19.38**	**68**	P	**Pn**	**07 03 03.3**	**-0.6**
BKSI	**Bulukumba**	**19.77**	**100**	P	**Pn**	**07 03 11.9**	**+3.4**
TOLI2	**Tolitoli**	**20.49**	**81**		**P**	**07 03 14.1**	**-0.4**
TOLI2				IAmb	IAmb	07 03 15.5	
	comp=Z,15nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.61**	**356**	P	**P**	**07 03 14.9**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=189,slow=9.5,SNR=5.6						
	comp=Z,0.9nm,0.3s						
H08S2	**Diego Garcia H**	**28.46**	**258**	T	T	07 33 32.9	
	baz=81,slow=75,SNR=29						
H08S3	**Diego Garcia H**	**28.47**	**258**	T	T	07 33 34.2	
	baz=81,slow=75,SNR=39						
H08S1	**Diego Garcia H**	**28.48**	**258**	T	T	07 33 34.3	
	baz=81,slow=75,SNR=15						
WRA	**Warramunga Arr**	**37.40**	**121**	P	**P**	**07 05 47.3**	**-1.5**
	comp=Z,1.8nm,0.4s,baz=299,slow=9.2,SNR=24						
	comp=Z,1.8nm,0.4s						
WB2	**Warramunga Ar**	**37.41**	**121**	P	**P**	**07 05 47.1**	**-1.8**
WB2				IAmb	IAmb	07 05 48.8	
	comp=Z,3.7nm,0.6s						
WR0	**Warramunga Arr**	**37.58**	**120**	P	**P**	**07 05 49.2**	**-1.1**
WR0				IAmb	IAmb	07 05 50.0	
	comp=Z,4.6nm,0.8s						
ASAR	**Alice Springs**	**38.67**	**126**	P	**P**	**07 05 58.8**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=305,slow=7.9,SNR=57						
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**38.67**	**126**	P	**P**	**07 05 58.6**	**-0.9**
AS31	**Alice Springs**	**38.68**	**126**	P	**P**	**07 05 58.9**	**-0.6**
COEN	**Coen**	**43.69**	**108**	P	**P**	**07 06 40.5**	**-0.2**
TARG	**Taragay, Kyrgy**	**48.38**	**337**	P	**P**	**07 07 18.9**	**+1.2**
TARG				IAmb	IAmb	07 07 36.4	
	comp=Z,4.6nm,1.1s						
STKA	**Stephens Creek**	**48.59**	**132**	P	**P**	**07 07 18.8**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=315,slow=7.5,SNR=6.3						
	comp=Z,1.5nm,0.5s						
STKA	**Stephens Creek**	**48.59**	**132**	P	**P**	**07 07 18.6**	**-0.5**
NRN	**Naryn**	**48.85**	**335**	P	**P**	**07 07 21.8**	**+0.6**
NRN				IAmb	IAmb	07 07 24.7	
	comp=Z,3.6nm,1.0s						
GAR	**Garm**	**49.57**	**329**	P	**P**	**07 07 26.9**	**+0.4**
GAR				IAmb	IAmb	07 07 33.1	
	comp=Z,3.5nm,0.8s						
SONM	**Songino Array**	**50.11**	**5**	P	**P**	**07 07 30.6**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=186,slow=9.7,SNR=8.3						
SONM				PcP	**PcP**	**07 08 49.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=177,slow=5.8,SNR=2.7						
	comp=Z,1.2nm,0.4s						
MK31	**Makanchi Array**	**51.39**	**344**	P	**P**	**07 07 39.6**	**-0.4**
MK31				IAmb	IAmb	07 07 40.8	
	comp=Z,4.5nm,0.8s						
MKAR	**Makanchi Array**	**51.39**	**344**	P	**P**	**07 07 40.2**	**+0.1**
	comp=Z,4.0nm,0.4s,baz=159,slow=8.9,SNR=61						
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**51.39**	**344**	P	**P**	**07 07 39.9**	**-0.2**
USRK	**Ussuriysk Ar.**	**54.09**	**28**	P	**P**	**07 07 59.1**	**-0.9**
	comp=Z,4.0nm,0.6s,baz=217,slow=6.9,SNR=6.6						
	comp=Z,4.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**54.09**	**28**	P	**P**	**07 07 59.9**	**-0.1**
ZAA0	**Zalesovo Array**	**57.49**	**349**		**P**	**07 08 23.4**	**-0.7**
ZALV	**Zalesovo Beam**	**57.49**	**349**	P	**P**	**07 08 23.7**	**-0.4**
	comp=Z,9.2nm,0.7s,baz=177,slow=5.3,SNR=36						
	comp=Z,9.2nm,0.7s						
ABKAR	**Akbulak array**	**62.10**	**331**	P	**P**	**07 08 55.3**	**-0.7**
ABKAR	**Akbulak array**	**62.10**	**331**	P	**P**	**07 08 55.2**	**-0.7**
ABKAR				IAmb	IAmb	07 08 56.4	
	comp=Z,4.0nm,0.7s						
ARCES	**ARCESS Array B**	**86.87**	**340**	P	**P**	**07 11 19.6**	**+0.4**
	comp=Z,5.2nm,1.0s,baz=100,slow=6.9,SNR=5.7						
	comp=Z,5.2nm,1.0s						
TXAR	**Lajitas Array**	**144.54**	**38**	PKP	**PKPdf**	**07 18 11.0**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=303,slow=1.1,SNR=43						

WEL 18 07:09:44.6±0.3,42°S±3°×17°4E±°, h5km, M3.8/48, ML4.0/22, MLv3.8/48, Error ellipse: s-maj=0.0km s-min=0.0km az=142.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**195**	P	Pg	07 09 46.2	+0.1
BSWZ	**Blackbirch Sta**	**0.27**	**264**	P	Pg	07 09 50.0	+0.1
BSWZ				S	Sg	07 09 54.5	+1.1
TUWZ	**Tuamarina**	**0.34**	**319**	P	Pg	07 09 51.6	+0.5
TCW	**Tory Channel**	**0.48**	**4**	P	Pg	07 09 54.1	+0.4
WEL	**Wellington**	**0.57**	**45**	P	Pb	07 09 56.2	-0.7
PLWZ	**Palliser**	**0.77**	**82**	P	Pb	07 10 00.5	0.0
NNZ	**Nelson**	**0.80**	**306**	P	Pg	07 09 59.6	-0.2
MSWZ	**Moikau Station**	**0.81**	**71**	P	Pb	07 10 00.8	-0.3
CAW	**Cannon Point**	**0.85**	**48**	P	Pb	07 10 01.5	-0.4
KHZ	**Kahutara**	**0.90**	**215**	P	Pb	07 10 02.4	-0.2
DUWZ	**D'Urville Isla**	**0.91**	**345**	P	Pg	07 10 01.9	-0.3
PAWZ	**Paruwai Farm**	**0.94**	**72**	P	Pb	07 10 03.2	-0.3
KIW	**Kapiti Island**	**0.97**	**32**	P	Pg	07 10 03.0	-0.1
THZ	**Tophouse**	**1.00**	**265**	P	Pg	07 10 03.4	-0.3
MTW	**Mount Morrison**	**1.09**	**61**	P	Pg	07 10 05.2	-0.2
OGWZ	**Otaki Gorge**	**1.12**	**39**	P	Pg	07 10 05.9	-0.1
TRWZ	**Traveller**	**1.13**	**76**	P	Pg	07 10 05.4	-0.8
MRNZ	**Matariki Terra**	**1.15**	**284**	P	Pg	07 10 06.4	-0.2
TKNZ	**Takaka Hill**	**1.16**	**304**	P	Pg	07 10 06.1	-0.7
HOWZ	**Holdsworth Sta**	**1.24**	**51**	P	Pg	07 10 07.6	-0.8
TMWZ	**Te Maipa**	**1.37**	**66**	P	Pn	07 10 08.8	-1.6
MRZ	**Mangatainoka R**	**1.44**	**45**	P	Pn	07 10 10.5	-0.8
TIWZ	**Tintock**	**1.54**	**54**	P	Pn	07 10 11.6	-1.2
QRZ	**Quartz Range**	**1.55**	**303**	P	Pn	07 10 13.1	+0.3
GVZ	**Greta Valley S**	**1.56**	**214**	P	Pn	07 10 11.4	-1.6
OHWZ	**Ohakea**	**1.69**	**29**	P	Pb	07 10 15.8	-0.3
PRWZ	**Pori Road**	**1.73**	**50**	P	Pn	07 10 14.3	-1.0
POWZ	**Post Office Ro**	**1.74**	**42**	P	Pn	07 10 14.7	-0.7
BFZ	**Birch Farm**	**1.82**	**57**	P	Pn	07 10 14.5	-2.0
DSZ	**Denniston Nort**	**1.82**	**267**	P	Pn	07 10 17.1	+0.5
LTZ	**Lake Taylor**	**1.82**	**232**	P	Pn	07 10 15.5	-1.1
AMCZ	**Amberley**	**1.90**	**218**	P	Pn	07 10 15.7	-1.9
WAZ	**Wanganui**	**2.01**	**17**	P	Pb	07 10 21.4	-0.2
DVHZ	**Dannevirke**	**2.01**	**47**	P	Pn	07 10 17.6	-1.6
TSZ	**Takapari Road**	**2.09**	**39**	P	Pn	07 10 19.7	-0.5
OKCZ	**Okains Bay**	**2.21**	**203**	P	Pn	07 10 19.4	-2.6
LREZ	**Lake Rotokare**	**2.23**	**3**	P	Pb	07 10 25.0	-0.3
NMEZ	**Namu Road**	**2.29**	**353**	P	Pb	07 10 27.1	+0.9
OXZ	**Oxford**	**2.31**	**224**	P	Pn	07 10 20.8	-2.5
PNHZ	**Pukenui**	**2.31**	**41**	P	Pn	07 10 22.1	-1.3
INZ	**Inchbonnie**	**2.32**	**242**	P	Pn	07 10 22.8	-0.6
WPHZ	**Waipukurau**	**2.33**	**47**	P	Pn	07 10 23.7	+0.2
MQZ	**McQueen's Vall**	**2.33**	**209**	P	Pn	07 10 20.4	-3.2
AKCZ	**Akaroa Harbour**	**2.39**	**204**	P	Pn	07 10 21.7	-2.8
KHEZ	**Kahui Hut**	**2.40**	**356**	P	Pb	07 10 28.2	0.0
NEZ	**North Egmont**	**2.42**	**357**	P	Pb	07 10 28.0	-0.6
NBEZ	**Newall Road No**	**2.43**	**353**	P	Pb	07 10 28.0	-0.7
MTVZ	**Mangateitei**	**2.48**	**23**	P	Pb	07 10 30.5	+0.8
PKE	**Pukeiti**	**2.50**	**356**	P	Pg	07 10 31.2	-1.1
PKVZ	**Pokaka**	**2.54**	**20**	P	Pb	07 10 30.9	+0.3
MOVZ	**Moawhango**	**2.55**	**27**	P	Pn	07 10 28.6	+2.0
RACZ	**Rakaia**	**2.56**	**216**	P	Pn	07 10 23.7	-3.0
WNVZ	**Wahianoa**	**2.58**	**24**	P	Pb	07 10 29.7	-1.7
TRVZ	**Turoa**	**2.58**	**23**	P	Pb	07 10 31.0	-0.5
PXZ	**Pawanui**	**2.59**	**51**	P	Pn	07 10 25.6	-1.4
VRZ	**Vera Road**	**2.59**	**9**	P	Pn	07 10 29.0	+1.9
BHHZ	**Black Hill Sta**	**2.60**	**33**	P	Pn	07 10 28.1	+0.9
MHEZ	**Mangahewa**	**2.61**	**1**	P	Pg	07 10 35.3	+0.8
DRZ	**Dome Shelter**	**2.61**	**23**	P	Pg	07 10 35.0	+0.4
WHVZ	**Whangaehu Hut**	**2.61**	**24**	P	Pb	07 10 31.5	-0.5
FWVZ	**Far West T-bar**	**2.63**	**23**	P	Pn	07 10 29.1	+1.3
TUVZ	**Tukino**	**2.65**	**25**	P	Pn	07 10 29.0	+1.0
MHCZ	**Mount Hutt**	**2.70**	**226**	P	Pn	07 10 26.3	-2.4
NGZ	**Ngauruhoe**	**2.71**	**23**	P	Pb	07 10 33.1	-0.6
SNVZ	**South Ngauruho**	**2.72**	**24**	P	Pb	07 10 33.3	-0.4
OTVZ	**Oturere**	**2.75**	**24**	P	Pb	07 10 34.6	+0.4
KAHZ	**Kahuranaki**	**2.76**	**48**	P	Pn	07 10 27.4	-2.1
NNVZ	**North Ngauruho**	**2.76**	**23**	P	Pb	07 10 32.4	-2.1
TWVZ	**Taurewa**	**2.77**	**20**	P	Pb	07 10 32.5	-2.0
WTVZ	**West Tongariro**	**2.77**	**22**	P	Pb	07 10 34.7	+0.1
ETVZ	**East Tongariro**	**2.79**	**24**	P	Pn	07 10 31.3	+1.4
TMVZ	**Te Maari**	**2.80**	**24**	P	Pb	07 10 33.5	-1.7
KRVZ	**Karewarewa**	**2.80**	**23**	P	Pb	07 10 34.5	-0.7
KWHZ	**Kaweka Forest**	**2.81**	**37**	P	Pb	07 10 36.5	+1.3
NTVZ	**North Tongariro**	**2.81**	**24**	P	Pb	07 10 35.0	-0.3
WACZ	**Wakanui South**	**2.86**	**217**	P	Pn	07 10 28.6	-2.2
KATZ	**Kakaramea**	**2.93**	**23**	P	Pg	07 10 39.2	-1.5
WVZ	**Waitaha Valley**	**2.94**	**241**	P	Pn	07 10 34.4	+2.5
BKZ	**Black Stump Fm**	**3.05**	**35**	P	Pb	07 10 40.7	+1.3
RATZ	**Rangitukua**	**3.05**	**23**	P	Pb	07 10 40.8	+1.5
ARCZ	**Arundel**	**3.19**	**224**	P	Pn	07 10 33.3	-2.1
HIZ	**Hauiti**	**3.20**	**9**	P	Pn

*WEL **18** 07:37:21.7±0.3,42°S±2°×17°4E±°, h5km, M3.1/32, ML3.3/16, MLv3.1/32, Error ellipse: s-maj=0.0km s-min=0.0km az=122.1*
*NOU **18** 07:37:21.3,42°.16S×173°.59E, h0km, MLv3.7/6, South Island, New Zealand*
ISC 18 07:37:21.5±0.9,**42°14S**±0°.03×**173°60E**±0°.03,**h10**km,**n57**, σ1§**28**/59,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**189**	P		**Pg**	**07 37 37.8**	**+0.7**
KHZ				S		**Sg**	**07 37 32.6**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.47**	**26**	P		**Pg**	**07 37 30.9**	**+0.2**
BSWZ				S		**Sg**	**07 37 38.7**	**+1.7**
CMWZ	**Cape Campbell**	**0.60**	**50**	P		**Pg**	**07 37 34.7**	**+1.5**
THZ	**Tophouse**	**0.64**	**306**	P		**Pg**	**07 37 33.0**	**-1.0**
TUWZ	**Tuamarina**	**0.76**	**20**	P		**Pg**	**07 37 35.5**	**-0.6**
GVZ	**Greta Valley S**	**0.93**	**207**	P		**Pg**	**07 37 39.9**	**+0.6**
NNZ	**Nelson**	**0.94**	**350**	P		**Pg**	**07 37 38.7**	**-0.8**
MRNZ	**Matariki Terra**	**0.97**	**319**	P		**Pg**	**07 37 39.2**	**-1.0**
TCW	**Tory Channel**	**1.06**	**29**	P		**Pg**	**07 37 41.4**	**-0.4**
SNZO	**South Karori**	**1.17**	**45**	P		**Pb**	**07 37 43.9**	**+0.1**
LTZ	**Lake Taylor**	**1.17**	**237**	P		**Pb**	**07 37 42.5**	**-1.4**
TKNZ	**Takaka Hill**	**1.21**	**336**	P		**Pn**	**07 37 43.3**	**-1.2**
WEL	**Wellington**	**1.22**	**46**	P		**Pn**	**07 37 44.7**	**0.0**
AMCZ	**Amberley**	**1.25**	**214**	P		**Pn**	**07 37 44.9**	**-0.1**
DUWZ	**D'Urville Isla**	**1.36**	**10**	P		**Pn**	**07 37 46.4**	**-0.1**
PLWZ	**Palliser**	**1.36**	**66**	P		**Pn**	**07 37 45.8**	**-0.8**
DSZ	**Denniston Nort**	**1.40**	**286**	P		**Pn**	**07 37 47.1**	**0.0**
MSWZ	**Moikau Station**	**1.43**	**60**	P		**Pn**	**07 37 46.8**	**-0.7**
CAW	**Cannon Point**	**1.51**	**47**	P		**Pn**	**07 37 48.3**	**-0.3**
QRZ	**Quartz Range**	**1.54**	**328**	P		**Pn**	**07 37 49.0**	**-0.1**
QRZ	**Quartz Range**	**1.54**	**328**	P		**Pn**	**07 37 48.9**	**-0.1**
PAWZ	**Paruwai Farm**	**1.56**	**62**	P		**Pn**	**07 37 48.5**	**-0.9**
KIW	**Kapiti Island**	**1.61**	**38**	P		**Pn**	**07 37 50.1**	**+0.1**
OKCZ	**Okains Bay**	**1.63**	**194**	P		**Pn**	**07 37 49.1**	**-1.2**
OXZ	**Oxford**	**1.65**	**224**	P		**Pn**	**07 37 51.5**	**+0.9**
INZ	**Inchbonnie**	**1.70**	**249**	P		**Pn**	**07 37 51.3**	**+0.1**
MQZ	**McQueen's Vall**	**1.71**	**204**	P		**Pn**	**07 37 49.3**	**-2.1**
MTW	**Mount Morrison**	**1.73**	**56**	P		**Pn**	**07 37 50.5**	**-1.1**
OGWZ	**Otaki Gorge**	**1.77**	**42**	P		**Pn**	**07 37 51.9**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.80**	**196**	P		**Pn**	**07 37 51.3**	**-1.4**
HOWZ	**Holdsworth Sta**	**1.90**	**50**	P		**Pn**	**07 37 53.0**	**-1.0**
RACZ	**Rakaia**	**1.91**	**214**	P		**Pn**	**07 37 52.6**	**-1.5**
TMWZ	**Te Maipa**	**2.00**	**60**	P		**Pn**	**07 37 54.0**	**-1.4**
MRZ	**Mangatainoka R**	**2.10**	**46**	P		**Pn**	**07 37 55.9**	**-0.8**
WVZ	**Waitaha Valley**	**2.31**	**245**	P		**Pn**	**07 37 59.9**	**+0.4**
PRWZ	**Pori Road**	**2.39**	**49**	P		**Pn**	**07 38 00.3**	**-0.4**
RPZ	**Rata Peaks**	**2.44**	**229**	P		**Pn**	**07 38 01.3**	**-0.2**
RPZ	**Rata Peaks**	**2.44**	**229**	P		**Pn**	**07 38 00.0**	**-1.4**
WAZ	**Wanganui**	**2.60**	**24**	P		**Pb**	**07 38 07.2**	**-1.0**
DVHZ	**Dannevirke**	**2.67**	**47**	P		**Pn**	**07 38 02.9**	**-1.7**
GCSZ	**Gaunt Creek Bo**	**2.68**	**243**	P		**Pn**	**07 38 06.3**	**+1.6**
TSZ	**Takapari Road**	**2.74**	**41**	P		**Pn**	**07 38 04.5**	**-1.1**
PNHZ	**Pukenui**	**2.97**	**42**	P		**Pn**	**07 38 07.2**	**-1.5**
MTVZ	**Mangateitei**	**3.10**	**28**	P		**Pb**	**07 38 15.7**	**-1.1**
FOZ	**Fox Glacier**	**3.11**	**242**	P		**Pn**	**07 38 11.2**	**+0.7**
MOVZ	**Moawhango**	**3.18**	**32**	P		**Pb**	**07 38 16.6**	**-1.5**
WNVZ	**Wahianoa**	**3.19**	**29**	P		**Pn**	**07 38 15.9**	**+4.0**
TRVZ	**Turoa**	**3.20**	**28**	P		**Pn**	**07 38 12.8**	**+0.7**
BHHZ	**Black Hill Sta**	**3.24**	**36**	P		**Pn**	**07 38 12.2**	**-0.3**
FWVZ	**Far West T-bar**	**3.24**	**28**	P		**Pn**	**07 38 14.6**	**+2.0**
ETVZ	**East Tongariro**	**3.41**	**29**	P		**Pn**	**07 38 15.8**	**+1.1**
TMVZ	**Te Maari**	**3.42**	**29**	P		**Pb**	**07 38 21.1**	**-1.2**
BKZ	**Black Stump Fm**	**3.70**	**37**	P		**Pn**	**07 38 19.1**	**+0.4**
HIZ	**Hauiti**	**3.75**	**15**	P		**Pn**	**07 38 21.4**	**+2.0**
HIZ	**Hauiti**	**3.75**	**15**	P		**Pn**	**07 38 22.7**	**+3.3**
JCZ	**Jackson Bay**	**4.02**	**240**	P		**Pn**	**07 38 24.5**	**+1.3**
JCZ	**Jackson Bay**	**4.02**	**240**	P		**Pn**	**07 38 24.8**	**+1.6**

*TRN **18** 07:39:55.0,19°.75N×64°.31W, h77km*
*NEIC **18** 07:39:58.1±0.8,19°.60N±0°.09×64°.29W±0°.09, h44km±55km, Error ellipse: s-maj=14.8km s-min=10.9km az=218.0*
*RSPR **18** 07:39:58.9,19°.40N×64°.27W, h96km±9km, MD3.3/7*
ISC 18 07:39:56.8±2.0,**19°63N**±0°.10×**64°32W**±0°.04,**h27**km,**n47**, σ1§**02**/53,**10C-1D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SJVI	**Gifft Hill Sch**	**1.36**	**198**	*e*P		**Pn**	**07 37 20.0**	**0.0**
SJVI	**Gifft Hill Sch**	**1.36**	**198**	*e*S		**Sn**	**07 40 37.3**	**+0.2**
SJVI	**Gifft Hill Sch**	**1.36**	**198**			**Pn**	**07 40 20.0**	**0.0**
SJVI						**Sn**	**07 40 37.3**	**+0.2**
SJVI	**Gifft Hill Sch**	**1.36**	**198**	IAML			07 40 43.2	
	comp=E,154nm,1.1s							
STVI	**Saint Thomas**	**1.40**	**205**	*e*P		**Pn**	**07 40 19.6**	**-1.0**
STVI	**Saint Thomas**	**1.40**	**205**	*e*S		**Sn**	**07 40 38.2**	**0.0**
STVI	**Saint Thomas**	**1.40**	**205**			**Pn**	**07 40 19.6**	**-1.0**
STVI						**Sn**	**07 40 38.2**	**0.0**
STVI	**Saint Thomas**	**1.40**	**205**	IAML			07 40 49.4	
	comp=N,113nm,0.8s							
STVI				IAML			07 40 49.8	
	comp=E,148nm,0.9s							
CUPR	**Culebra, Puert**	**1.60**	**215**	*e*P		**Pn**	**07 40 23.7**	**+0.4**
CUPR	**Culebra, Puert**	**1.60**	**215**	*e*S		**Sn**	**07 40 43.0**	**0.0**
CUPR	**Culebra, Puert**	**1.60**	**215**			**Pn**	**07 40 23.7**	**+0.4**
CUPR						**Sn**	**07 40 43.0**	**0.0**
CUPR	**Culebra, Puert**	**1.60**	**215**	IAML			07 40 44.3	
	comp=E,92nm,0.5s							
CDVI	**St. Croix**	**1.91**	**193**	Pn		**Pn**	**07 40 28.3**	**+0.7**
CDVI	**St. Croix**	**1.91**	**193**	*e*P		**Pn**	**07 40 29.5**	**+1.9**
CDVI				*e*S		**Sb**	**07 40 53.5**	**-1.0**
MTP	**Monte Pirata**	**1.92**	**218**	*e*P		**Pn**	**07 40 28.1**	**+0.4**
MTP	**Monte Pirata**	**1.92**	**218**	*e*S		**Sn**	**07 40 51.5**	**+0.5**
MTP	**Monte Pirata**	**1.92**	**218**			**Pn**	**07 40 28.1**	**+0.4**
MTP						**Sn**	**07 40 51.5**	**+0.5**
SMRT	**St. Maarten**	**1.96**	**143**	Pn		**Pn**	**07 40 28.3**	**0.0**
SMRT				IAML			07 41 08.6	
	comp=N,115nm,0.6s							
SMRT				IAML			07 41 10.3	
	comp=E,141nm,0.8s							
HUMP	**Col San Antoni**	**2.07**	**225**	*e*P		**Pn**	**07 40 30.6**	**+0.8**
HUMP	**Col San Antoni**	**2.07**	**225**	*e*S		**Sn**	**07 40 55.1**	**+0.4**
HUMP	**Col San Antoni**	**2.07**	**225**			**Pn**	**07 40 30.6**	**+0.8**
HUMP						**Sn**	**07 40 55.1**	**+0.4**
HUMP	**Col San Antoni**	**2.07**	**225**	IAML			07 41 01.1	
	comp=E,60nm,0.6s							
SJG	**San Juan**	**2.29**	**229**	Pn		**Pn**	**07 40 33.3**	**+0.5**
SJG				IAML			07 41 18.9	
	comp=E,46nm,0.3s							
IGPR	**InterUniversit**	**2.36**	**226**	*e*P		**Pn**	**07 40 34.4**	**+0.6**
IGPR	**InterUniversit**	**2.36**	**226**	*e*S		**Sn**	**07 41 00.7**	**-1.3**
IGPR	**InterUniversit**	**2.36**	**226**			**Pn**	**07 40 34.4**	**+0.6**
IGPR						**Sn**	**07 41 00.7**	**-1.3**
AOPR	**Arecibo Observ**	**2.63**	**241**	*e*P		**Pn**	**07 40 38.9**	**+1.4**
AOPR	**Arecibo Observ**	**2.63**	**241**	*e*S		**Sn**	**07 41 09.8**	**+1.3**
AOPR	**Arecibo Observ**	**2.63**	**241**			**Pn**	**07 40 38.9**	**+1.4**
AOPR						**Sn**	**07 41 09.8**	**+1.3**
AOPR	**Arecibo Observ**	**2.63**	**241**	*e*P		**Pn**	**07 40 37.5**	**0.0**
CELP	**Cerrillos**	**2.64**	**234**	*e*P		**Pn**	**07 40 38.3**	**+0.7**
CELP	**Cerrillos**	**2.64**	**234**	*e*S		**Sn**	**07 41 08.7**	**0.0**
CELP	**Cerrillos**	**2.64**	**234**			**Pn**	**07 40 38.3**	**+0.7**
CELP						**Sn**	**07 41 08.7**	**0.0**
CELP	**Cerrillos**	**2.64**	**234**	IAML			07 41 23.0	
	comp=N,38nm,0.8s							
CELP				IAML			07 41 24.3	
	comp=E,32nm,0.7s							
AGPR	**Aguadilla, PR**	**2.88**	**247**	*e*P		**Pn**	**07 40 38.9**	**-2.0**
AGPR	**Aguadilla, PR**	**2.88**	**247**	*e*S		**Sn**	**07 41 16.2**	**+1.5**
AGPR	**Aguadilla, PR**	**2.88**	**247**			**Pn**	**07 40 38.9**	**-2.0**
AGPR						**Sn**	**07 41 16.2**	**+1.5**
MLPR	**Magueyes Islan**	**3.06**	**238**	*e*P		**Pn**	**07 40 44.1**	**+0.7**
MLPR	**Magueyes Islan**	**3.06**	**238**	*e*S		**Sn**	**07 41 16.8**	**-2.4**
MLPR	**Magueyes Islan**	**3.06**	**238**			**Pn**	**07 40 44.1**	**+0.7**
MLPR						**Sn**	**07 41 16.8**	**-2.4**
MLPR	**Magueyes Islan**	**3.06**	**238**	IAML			07 41 22.0	
	comp=N,23nm,0.7s							
MLPR				IAML			07 41 29.4	
	comp=E,25nm,1.4s							
CRPR	**Cabo Rojo, PR**	**3.09**	**239**	*e*P		**Pn**	**07 40 44.9**	**+1.1**
CRPR	**Cabo Rojo, PR**	**3.09**	**239**			**Pn**	**07 40 44.9**	**+1.1**
CRPR	**Cabo Rojo, PR**	**3.09**	**239**	IAML			07 41 25.1	
	comp=N,44nm,0.8s							
CRPR				IAML			07 41 31.8	
	comp=E,23nm,0.8s							
ANWB	**Willy Bob**	**3.10**	**129**	*e*P		**Pn**	**07 40 43.5**	**-0.4**
ANWB				*e*S		**Sn**	**07 41 20.4**	**+0.3**
ANBD	**Bethesda, Anti**	**3.53**	**136**	*e*P		**Pn**	**07 40 51.2**	**+1.3**
ANBD				*e*S		**Sn**	**07 41 30.7**	**-0.1**
SDDR	**Presa de Saban**	**6.61**	**266**			**Pn**	**07 41 33.0**	**+0.7**

*BJI **18** 07:42:19.7±0.0,34°.91N×6°.27E, h7km, mb5.0/61, mB5.3/36, Ms5.0/33, Ms7 4.7/34*
*LDG **18** 07:42:20.4±0.1,34°.64N×6°.26E, h10km, Ml4.8/41, Error ellipse: s-maj=3.2km s-min=2.4km az=39.0*
*MOS **18** 07:42:21.2±1.3,34°.70N×6°.27E, h22km, mb5.3/52, MS4.6/22, Error ellipse: s-maj=4.6km s-min=2.2km az=69.5*
*MED_RC **18** 07:42:21.0±0.3,34°.53N×6°.15E, h23km, MW5.2/29, Moment Tensor Solution. Body waves: s2,c2; Mantle waves: s29,c54; Duration: 1§3 Moment tensor: Scale 10¹⁶Nm; Mrr~5.09±.37; Mθθ5.83±.23; Mφφ~0.74±.19; Mrθ3.29±.21; Mθφ~1.14±.10; Mφr~1.39±.22; Best double couple: M₀6.62000×10¹⁶ NP1:φ₁288.00000°, δ62.00000°, λ-81.00000°. NP2:φ₂90.00000°, δ30.00000°, λ-106.00000°. Principal axes: T 7.0300, Plg16.0000°, Azm11.0000°; N -0.8200, Plg8.0000°, Azm104.0000°; P -6.2100, Plg72.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*GCMT **18** 07:42:24.7±0.2,34°.71N±0°.01×6°.15E±0°.02, h26km, MW5.3/123, Moment Tensor Solution. s88,c120; s123,c211; Duration: 1§1 Moment tensor: Scale 10¹⁷ Nm; Mrr~0.55±.02; Mθθ0.69±.02; Mφφ~0.13±.01; Mrθ0.78±.04; Mθφ~0.15±.01; Mφr~0.32±.03; Best double couple: M₀1.05700×10¹⁷ NP1:φ₁291.00000°, δ72.00000°, λ-81.00000°. NP2:φ₂85.00000°, δ20.00000°, λ-114.00000°. Principal axes: T 1.1240, Plg26.0000°, Azm14.0000°; N -0.1340, Plg8.0000°, Azm108.0000°; P -0.9900, Plg62.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 07:42:24.7±1.6,34°.75N±0°.07×6°.24E±0°.06, h26km±4km, mb5.3/132, Ms_20 5.0/96, Mww5.2 Error ellipse: s-maj=9.7km s-min=7.6km az=173.0*
*CRAAG **18** 07:42:24.6,34°.79N×6°.27E, Ml5.0*
*IDC **18** 07:42:25.1±1.9,34°.85N×6°.21E, h33km±14km, mb4.6/47, mbtmp4.8/53, ML4.8/7, MS4.6/87, Error ellipse: s-maj=10.3km s-min=8.3km az=158.0*
*NEIC **18** 07:42:31,34°.96N×6°.24E, h30km, Moment Tensor Solution. Duration: 18§4 Moment tensor: Scale 10¹⁶Nm; Mrr~5.94; Mθθ5.68; Mφφ0.27; Mrθ4.85; Mθφ~1.01; Mφr0.71; Fault plane solution: M₀7.67000×10¹⁶ NP1: φ₁111.00000°, δ27.00000°, λ-70.00000°. NP2: φ₂269.00000°, δ65.00000°, λ-99.00000°. Principal axes: T 7.5081, Plg19.0000°, Azm6.0000°; N 0.3226, Plg9.0000°, Azm273.0000°; P -7.8307, Plg69.0000°, Azm160.0000°;*
*CNRM **18** 07:42:34.8,34°.95N×6°.47E, h56km*
ISC 18 07:42:23.7±0.5,**34°88N**±0°.03×**6°22E**±0°.03,**h27**km±2km, **h27**km:**pP-P,n1653,**σ1§**90**/1679,**mb5.2**/194,**MS4.8**/156, **39C-84D,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**1.19**	**7**	P		**Pb**	**07 42 45.7**	**0.0**
CKHR	**Kef el Ahmar**	**1.27**	**333**	P		**Pb**	**07 42 47.6**	**+0.5**
CASM	**Ain Smara**	**1.39**	**9**	P		**Pb**	**07 42 48.4**	**-0.7**
SIET	**Setif**	**1.48**	**333**	P		**Pb**	**07 42 55.0**	**+4.5**
CKFL	**Kef-Lekhel**	**1.57**	**15**	P		**Pn**	**07 42 50.6**	**+0.7**
DFRA	**Djebel Bou Aff**	**1.69**	**351**	P		**Pn**	**07 42 52.6**	**+1.2**
ABSA	**Djebel Ababsia**	**1.73**	**36**	P		**Pn**	**07 42 52.6**	**+0.6**
AKET	**Djebel Ketaf**	**2.24**	**302**	P		**Pb**	**07 43 02.5**	**-1.0**
ADJB	**Djebel Djouab**	**2.60**	**300**	P		**Pb**	**07 43 07.1**	**-2.6**
KEST	**Kesra**	**2.69**	**71**	Pn		**Pn**	**07 43 07.1**	**+1.8**
	35nm,0.3s,baz=64,slow=12,SNR=500							
KEST					Sn	**Sn**	**07 43 39.6**	**+2.6**
	133nm,0.3s,baz=215,slow=23,SNR=7.8							
	474nm,0.7s							
KEST	**Kesra**	**2.69**	**71**	Pn		**Pn**	**07 43 06.6**	**+1.4**
I48TN	**KESRA INFRASON**	**2.70**	**69**	Pn		**Pb**	**07 43 10.1**	**-1.1**
	baz=263,slow=20							
I48TN				I		I	07 54 50.0	
	baz=250,slow=311,SNR=0.8							
ABMS	**Boumerdes**	**2.91**	**311**	P		**Pn**	**07 43 10.1**	**+2.0**
ABA	**Alger-Bouzarea**	**3.22**	**307**	P		**Pn**	**07 43 14.7**	**+2.2**
ECHA	**Ech Chlef**	**4.16**	**289**	P		**Pn**	**07 43 27.1**	**+1.8**
EANR	**'Ain N'Sour**	**4.32**	**286**	P		**Pn**	**07 43 29.6**	**+2.0**
OJBR	**Djebel Berber**	**4.86**	**280**	P		**Pb**	**07 43 46.0**	**-2.1**
MAHO	**Mahon**	**5.24**	**343**	P		**Pn**	**07 43 42.9**	**+2.7**
MAHO				S		**Sn**	**07 44 38.5**	**-1.2**
MAHO	**Mahon**	**5.24**	**343**	Pn		**Pn**	**07 43 42.2**	**+2.0**
ODJA	**Bouhanifia**	**5.24**	**277**	P		**Pn**	**07 43 44.0**	**+3.7**
USTO	**Oran**	**5.60**	**281**	P		**Pn**	**07 43 53.0**	**-2.2**
OTSS	**Djebel Tessala**	**5.77**	**276**	P		**Pn**	07 43 40.0	-7.5
CLTB	**Caltabellotta**	**6.26**	**63**			**Pn**	**07 43 56.0**	**+1.7**
CART	**Cartagena**	**6.43**	**297**	P		**Pn**	**07 43 57.9**	**+1.4**
CART				S		**Sn**	**07 45 06.9**	**-2.1**
CART	**Cartagena**	**6.43**	**297**	Pn		**Pn**	**07 43 57.6**	**+1.0**
CART	**Cartagena**	**6.43**	**297**	P		**Pn**	**07 43 58.6**	**+2.0**
CART	**Cartagena**	**6.43**	**297**	P		**Pn**	**07 43 58.6**	**+2.0**
CART				S		**Sn**	**07 45 06.0**	**-3.1**
FIGM	**Figuig**	**6.83**	**248**	P		**Pn**	**07 44 03.2**	**+1.1**
FIGM	**Figuig**	**6.83**	**248**	P		**Pn**	**07 44 03.2**	**+1.1**
FIGM				S		**Sn**	**07 45 17.3**	**-1.6**
TAF	**Taforalt**	**7.10**	**272**	P		**Pn**	**07 44 08.0**	**+2.1**
TAF	**Taforalt**	**7.10**	**272**	P		**Pn**	**07 44 08.0**	**+2.1**
TAF				S		**Sn**	**07 45 16.9**	**-8.7**
CHAS	**Isla Isabel II**	**7.11**	**275**	P		**Pn**	**07 44 07.0**	**+1.2**
CHAS				S		**Sn**	**07 45 22.2**	**-3.4**
VAE	**Valguarnera**	**7.11**	**66**	Pn		**Pn**	**07 44 09.3**	**+3.4**
	11nm,0.3s,baz=233,slow=5.4,SNR=3.7							
JBK	**JBK**	**7.27**	**268**	P		**Pn**	**07 44 10.3**	**+2.0**
JBK				S		**Sn**	**07 45 27.5**	**-2.5**
PGF	**Pioggiola**	**7.96**	**15**	*e*Pn		**Pn**	**07 44 17.1**	**-0.5**
PGF	**Pioggiola**	**7.96**	**15**	*e*P		**Pn**	**07 44 20.9**	**+3.3**
PGF				*e*Sn		**Sn**	**07 45 44.6**	**-2.1**
	235nm,0.5s							
PGF	**Pioggiola**	**7.96**	**15**	P		**Pn**	**07 44 20.3**	**+2.7**
PALE	**Palemas**	**8.34**	**275**	P		**Pn**	**07 44 25.0**	**+2.2**
PALE	**Palemas**	**8.34**	**275**	P		**Pn**	**07 44 25.0**	**+2.2**
PALE				S		**Sn**	**07 45 54.7**	**-1.4**
LMR	**La Mourre**	**8.45**	**1**	*e*Pn		**Pn**	**07 44 24.7**	**+0.5**
LMR	**La Mourre**	**8.45**	**1**	*e*P		Pn	07 44 29.3	+5.1
LMR				*e*Sn		**Sn**	**07 45 56.1**	**-2.4**
	305nm,0.5s							
LMR	**La Mourre**	**8.45**	**1**	P		**Pn**	**07 44 26.1**	**+1.9**
CEL	**Celeste**	**8.48**	**64**			**Pn**	**07 44 27.9**	**+3.2**
PVLZ	**Peæn de**	**8.64**	**275**	P		**Pn**	**07 44 28.0**	**+1.2**
PVLZ				S		**Sn**	**07 45 59.7**	**-3.6**
CASP	**Castiglione de**	**8.69**	**23**			**Pn**	**07 44 30.8**	**+3.3**
EMAL	**Malaga-Limoner**	**8.85**	**285**	P		**Pn**	**07 44 30.9**	**+1.1**
EMAL				S		**Sn**	**07 46 03.3**	**-5.3**
MTLF	**Montolieu**	**9.00**	**341**	*e*P		**Pn**	**07 44 34.4**	**+2.6**
MTLF				*e*Sn		**Sn**	**07 46 09.9**	**-2.4**
	144nm,0.6s							
MTLF	**Montolieu**	**9.00**	**341**	P		**Pn**	**07 44 35.8**	**+4.0**
PAOL	**Paolisi**	**9.01**	**45**			**Pn**	**07 44 34.6**	**+2.7**
SBF	**Sospel**	**9.02**	**6**	*e*Pn		**Pn**	**07 44 31.7**	**-0.4**
SBF	**Sospel**	**9.02**	**6**	*e*P		**Pn**	**07 44 36.5**	**+4.4**
SBF				*e*Sn		**Sn**	**07 46 08.8**	**-4.0**
	158nm,0.4s							
SBF	**Sospel**	**9.02**	**6**	P		**Pn**	**07 44 33.8**	**+1.7**
SMRF	**Simiane la Rot**	**9.10**	**357**	*e*Pn		**Pn**	**07 44 32.8**	**-0.4**
SMRF	**Simiane la Rot**	**9.10**	**357**	*e*P		Pn	07 44 38.5	+5.3
SMRF				*e*Sn		**Sn**	**07 46 14.2**	**-0.5**
	96nm,0.5s							
SAOF	**Saorge**	**9.15**	**6**	P		**Pn**	**07 44 38.0**	**+4.1**
SAOF				pmax	pmax			
	comp=Z,62nm,1.2s							
CESX	**Cesi**	**9.18**	**31**			**Pn**	**07 44 38.4**	**+4.2**
CUC	**Castrocucco**	**9.18**	**53**	Pn		**Pn**	**07 44 36.4**	**+2.1**
MDT	**Midelt**	**9.24**	**260**	Pn		**Pn**	**07 44 36.1**	**+0.9**
	comp=Z,11nm,0.3s,baz=86,slow=17,SNR=285							
MDT					Sn	**Sn**	**07 46 14.0**	**-4.3**
	comp=Z,1.5nm,0.3s,baz=74,slow=15,SNR=1.2							
MDT					Lg	Lg	07 47 20.9	
	baz=167,slow=18							
MDT					LR	LR	07 48 43.0	
	comp=Z,4μm,20.3s,baz=78,slow=41 comp=Z,97nm,0.6s							
MDT	**Midelt**	**9.24**	**260**	P		**Pn**	**07 44 37.8**	**+2.6**
MDT	**Midelt**	**9.24**	**260**	P		**Pn**	**07 44 37.8**	**+2.6**
MDT				S		**Sn**	**07 46 14.0**	**-4.3**
LCRM	**LCR**	**9.25**	**266**	P		**Pn**	**07 44 38.1**	**+2.7**
LCRM	**LCR**	**9.25**	**266**	P		**Pn**	**07 44 38.1**	**+2.7**
LCRM				S		**Sn**	**07 46 14.7**	**-3.9**
UCM	**Universidad Co**	**9.26**	**309**	S		**Sn**	**07 46 13.6**	**-5.0**
ISO	**Isola**	**9.31**	**4**	P		**Pn**	**07 44 38.5**	**+2.4**
ISO				pmax	pmax			
	comp=Z,54nm,1.3s							
EPF	**Esparros**	**9.34**	**332**	*e*P		Pn	07 44 41.5	+5.1
EPF				*e*Sn		**Sn**	**07 46 18.1**	**-2.4**
	comp=Z,342nm,0.5s							
EPF	**Esparros**	**9.34**	**332**	P		Pn	07 44 41.8	+5.4
AQU	**L'Aquila**	**9.34**	**35**			Pn	07 44 41.4	+4.9
AQU	**L'Aquila**	**9.34**	**35**	P		Pn	07 44 41.4	+4.9
MD31	**MD31**	**9.35**	**261**	P		**Pn**	**07 44 39.5**	**+2.8**
MD31				S		**Sn**	**07 46 16.1**	**-4.9**
LASF	**Ste Croix**	**9.36**	**349**	*e*Pn		**Pn**	**07 44 36.5**	**-0.3**
LASF	**Ste Croix**	**9.36**	**349**	*e*P		Pn	07 44 42.1	+5.3
LASF				*e*Sn		**Sn**	**07 46 18.6**	**-2.6**
	comp=Z,249nm,0.5s							
ESBB	**Sonseca Array**	**9.42**	**304**	Pn		**Pn**	**07 44 39.9**	**+2.3**
ESDC	**Sonseca Array**	**9.42**	**304**	Pn		**Pn**	**07 44 40.1**	**+2.5**
	comp=Z,2.0nm,0.3s,baz=116,slow=13,SNR=55							
ESDC					Sn	**Sn**	**07 46 19.2**	**-3.4**
	comp=Z,2.0nm,0.3s,baz=130,slow=16,SNR=1.0							
ESDC					LR	LR	07 48 45.6	
	comp=Z,4μm,19.3s,baz=119,slow=40 comp=Z,9.9nm,0.5s							
ESDC	**Sonseca Array**	**9.42**	**304**	Pn		**Pn**	**07 44 39.6**	**+2.0**
TIP	**Timpagrande**	**9.45**	**60**	⇑P		**Pn**	**07 44 40.9**	**+2.8**
TIP	**Timpagrande**	**9.45**	**60**	Pn		**Pn**	**07 44 41.4**	**+3.4**
OSSC	**Osservatorio P**	**9.47**	**23**	Pn		Pn	07 44 43.3	+5.1
CAMP	**Campotosto**	**9.48**	**34**			Pn	07 44 43.4	+4.9
CHEFC	**Chefchaouen**	**9.49**	**275**	P		**Pn**	**07 44 42.0**	**+3.4**
CEU	**Ceuta**	**9.52**	**279**	P		**Pn**	**07 44 40.5**	**+1.6**
CEU				Sg		**Sn**	**07 46 22.9**	**-2.1**
NRCA	**Norcia**	**9.59**	**32**			**Pn**	**07 44 44.0**	**+4.1**
ETSF	**Etsaut**	**9.59**	**329**	*e*P		Pn	07 44 45.3	+5.4
ETSF				*e*Sn		**Sn**	**07 46 24.0**	**-2.8**
	comp=Z,210nm,0.6s							
ETSF	**Etsaut**	**9.59**	**329**	P		Pn	07 44 45.3	+5.4
PAB	**San Pablo**	**9.63**	**302**	Pn		**Pn**	**07 44 42.5**	**+2.0**
PAB	**San Pablo**	**9.63**	**302**	P		**Pn**	**07 44 43.1**	**+2.6**
PAB	**San Pablo**	**9.63**	**302**	⇓P		**Pn**	**07 44 42.8**	**+2.3**
MURB	**Monte Urbino**	**9.70**	**28**			Pn	07 44 46.8	+5.4
MSSA	**Maissana**	**9.76**	**14**			**Pn**	**07 44 45.9**	**+3.6**
VLC	**Villacollemand**	**9.81**	**18**			**Pn**	**07 44 45.9**	**+3.0**
MBDF	**Montbardon**	**9.84**	**2**	*e*Pn		**Pn**	**07 44 43.3**	**-0.2**
MBDF	**Montbardon**	**9.84**	**2**	*e*P		Pn	07 44 49.2	+5.7
MBDF				*e*Sn		**Sn**	**07 46 30.1**	**-3.0**
	comp=Z,86nm,0.5s							
MBDF	**Montbardon**	**9.84**	**2**	P		**Pn**	**07 44 45.7**	**+2.2**
ORIF	**Oris-en-Rattie**	**10.03

HCY **Herceg Novi** 12.20 48 *e*Pn **Pn** 07 45 20.0 +4.4
HCY **Herceg Novi** 12.20 48 *e*P **Pn** 07 45 19.0 +3.4
DAVOX **Davos/Dischmat** 12.21 12 Pn Pn 07 45 20.9 +5.1
comp=Z,0.9nm,0.3s,baz=192,slow=10.0,SNR=39
DAVOX LR LR 07 50 12.2
comp=Z,4µm,20.5s,baz=200,slow=38
MTE **Manteigas** 12.22 301 *e*P Pn 07 45 20.9 +5.0
comp=Z,74nm,1.7s
MTE *e*LR LR 07 48 51.3
comp=Z,2µm,18.0s
MTE **Manteigas** 12.22 301 **Pn** 07 45 18.1 +2.1
TREB **Trebinje** 12.27 47 *e*Pn **Pn** 07 45 19.1 +2.6
MORF **Marmelete** 12.28 286 *e*P **Pn** 07 45 17.8 +1.1
MORF **Marmelete** 12.28 286 *e*P **Pn** 07 45 18.4 +1.7
comp=Z,84nm,1.5s
PMTG **Montargil** 12.29 294 *e*P **Pn** 07 45 19.4 +2.6
comp=Z,64nm,1.4s
PBRG **Braganca** 12.30 308 *e*P **Pn** 07 45 20.0 +3.1
comp=Z,114nm,1.3s
PNCL **Nicolau / Gran** 12.30 289 *e*P **Pn** 07 45 18.6 +1.6
comp=Z,44nm,1.5s
SSF **Saint Saulge** 12.34 351 *e*Pn **Pn** 07 45 16.8 -0.7
SSF **Saint Saulge** 12.34 351 *e*P Pn 07 45 22.3 +4.8
SSF *e*Sn **Sn** 07 47 28.5 -5.5
comp=Z,27nm,0.6s
CIMO **Cimolais** 12.35 21 **Pn** 07 45 22.0 +4.3
PTEO **Sao Teotonio** 12.36 287 *e*P **Pn** 07 45 20.0 +2.2
comp=Z,74nm,1.1s
BUM **Brajici-Budva** 12.37 49 *e*P **Pn** 07 45 20.7 +2.8
STAL **STÅLIGIAL** 12.38 21 **Pn** 07 45 22.5 +4.4
PFVI **Vila Bisbo** 12.39 285 *e*P **Pn** 07 45 18.2 0.0
comp=Z,121nm,2.0s
SABO **M.te Sabotino** 12.42 25 **Pn** 07 45 22.8 +4.2
A050A **Klekovaca** 12.44 36 *e*Pn **Pn** 07 45 22.0 +3.1
BRY **Bratogost** 12.49 46 *e*Pn **Pn** 07 45 23.2 +3.5
BRY **Bratogost** 12.49 46 *e*P **Pn** 07 45 23.2 +3.5
BRY **Bratogost** 12.49 46 P Pn 07 45 24.8 +5.1
DRME **Dracevica, Mon** 12.49 50 *e*Pn **Pn** 07 45 21.5 +2.0
DRME **Dracevica, Mon** 12.49 50 *e*P **Pn** 07 45 22.4 +2.9
LOR **Lormes** 12.50 353 *e*Pn **Pn** 07 45 19.1 -0.6
LOR **Lormes** 12.50 353 *e*P Pn 07 45 25.0 +5.3
baz=180
LOR *e*Sn **Sn** 07 47 33.2 -4.8
comp=Z,15nm,0.5s,baz=163
CEY **Cerknica** 12.52 27 *e*Pn **Pn** 07 45 23.0 +3.1
CEY **Cerknica** 12.52 27 *e*P **Pn** 07 45 23.1 +3.2
CEY *e*S Sn 07 48 05.6 +27
CEME **Cevo** 12.52 49 *e*P **Pn** 07 45 23.1 +3.1
TIR **Tirane** 12.53 55 ⇓P **Pn** 07 45 23.1 +3.0
TIR **Tirane** 12.53 55 **Pn** 07 45 23.1 +3.0
TIR **Tirane** 12.53 55 P **Pn** 07 45 23.1 +3.0
PVIS **Viseu** 12.59 302 *e*P **Pn** 07 45 24.1 +3.2
comp=Z,85nm,1.9s
FETA **Feichten** 12.60 14 *i* Pn P 07 45 27.5 -4.8
comp=Z,24nm,0.9s,SNR=30
CLUD **Cludinico** 12.61 22 **Pn** 07 45 25.7 +4.4
BOJS **Bojanci** 12.65 30 *e*Pn **Pn** 07 45 24.6 +2.9
MFF **Saint Martin d** 12.66 340 *e*Pn **Pn** 07 45 21.5 -0.3
MFF **Saint Martin d** 12.66 340 *e*P **Pn** 07 45 26.3 +4.5
MFF *e*Sn **Sn** 07 47 38.3 -3.5
comp=Z,29nm,0.6s
MFF **Saint Martin d** 12.66 340 P **Pn** 07 45 26.6 +4.8
NKME **Niksic** 12.66 48 *e*P **Pn** 07 45 25.2 +3.3
PDG **Podgorica** 12.66 50 ⇓P **Pn** 07 45 24.9 +2.9
PDG **Podgorica** 12.66 50 **Pn** 07 45 23.8 +1.9
TTG **Podgorica** 12.66 50 *e*P **Pn** 07 45 24.8 +2.9
HYF **Humbligny** 12.67 349 *e*P **Pn** 07 45 26.3 +4.4
DAVA **Damuels** 12.70 11 *i* Pn P 07 45 28.4 -5.1
comp=Z,77nm,0.6s,SNR=17
PVRL **Vila Real** 12.70 304 *e*P **Pn** 07 45 26.2 +3.8
comp=Z,70nm,1.4s
COI **Coimbra** 12.77 299 *e*P **Pn** 07 45 27.3 +3.9
comp=Z,110nm,0.8s
COI **Coimbra** 12.77 299 **Pn** 07 45 26.1 +2.8
COI **Coimbra** 12.77 299 P **Pn** 07 45 26.1 +2.8
ABTA **Abfaltersbach** 12.77 20 *i* Pn P 07 45 29.0 -5.2
comp=Z,21nm,0.6s,SNR=52
PCAS **Casmilo, Conde** 12.78 298 *e*P **Pn** 07 45 25.5 +2.0
comp=Z,64nm,1.3s
POLO **Lamas de Olo** 12.79 305 *e*P **Pn** 07 45 27.3 +3.5
comp=Z,27nm,1.3s
PRED **Cave del Predi** 12.82 23 **Pn** 07 45 28.0 +3.9
PSBE **So Bento** 12.83 296 *e*P **Pn** 07 45 28.2 +3.9
comp=Z,67nm,2.1s
KBN **Korca** 12.87 59 **Pn** 07 45 27.4 +2.6
KBN **Korca** 12.87 59 P **Pn** 07 45 27.4 +2.6
UPM **Unac-Piva** 12.88 46 *e*Pn Pn 07 45 17.6 -7.5
SQTA **Sankt Quirin** 12.89 15 *i* Pn **P** 07 45 31.9 -3.7
comp=Z,26nm,0.6s,SNR=27
ITM **Ithomi** 12.92 75 **Pn** 07 45 27.0 +1.5
HINF **Hinteralfeld** 12.93 2 *e*Pn **Pn** 07 45 25.0 -0.6
HINF **Hinteralfeld** 12.93 2 *e*P **Pn** 07 45 30.0 +4.4
HINF *e*Sn **Sn** 07 47 42.5 -6.1
comp=Z,11nm,0.5s
BLY **Banja Luka** 12.95 37 *e*Pn **Pn** 07 45 28.1 +2.2
MOTA **Moosalm** 12.98 15 *i* Pn **P** 07 45 32.8 -3.8
comp=Z,30nm,0.8s,SNR=32
SLE **Schleitheim** 12.98 7 P **Pn** 07 45 30.9 +4.6
SLE pmax pmax
comp=Z,120nm,1.3s
MYKA **Terra Mystica** 13.01 23 *i* Pn Pn 07 45 31.5 +4.8
comp=Z,33nm,0.9s,SNR=46
A051A **Mrakovica** 13.01 36 *e*Pn **Pn** 07 45 29.3 +2.6
WTTA **Wattenberg** 13.02 17 *i* Pn **P** 07 45 33.2 -3.9
comp=Z,38nm,0.8s,SNR=20
WTTA **Wattenberg** 13.02 17 P **P** 07 45 32.6 -4.5
WTTA pmax pmax
comp=Z,107nm,1.4s
RETA **Reutte** 13.05 14 *i* Pn **P** 07 45 32.8 -4.5
comp=Z,38nm,0.8s,SNR=14
KOME **Kolasin** 13.05 48 *e*P **Pn** 07 45 30.2 +2.9
PMAFR **Mafra** 13.05 293 *e*P **Pn** 07 45 28.5 +1.2
comp=Z,208nm,1.7s
OHR **Ohrid** 13.06 57 *i* P **Pn** 07 45 30.4 +2.9
WATA **Walderalm** 13.08 16 *i* Pn **P** 07 45 34.1 -3.6
comp=Z,28nm,0.8s,SNR=21
PCAB **Cabril** 13.10 306 *e*P **Pn** 07 45 28.8 +0.9
comp=Z,132nm,1.2s
HAU **Haudompre** 13.12 0 *e*Pn **Pn** 07 45 27.4 -0.7
HAU **Haudompre** 13.12 0 *e*P **Pn** 07 45 32.5 +4.4
HAU *e*Sn **Sn** 07 47 48.2 -4.8
comp=Z,28nm,0.4s
HAU **Haudompre** 13.12 0 P **Pn** 07 45 29.9 +1.8
GOLS **Golise** 13.21 30 *e*P **Pn** 07 45 32.7 +3.3
OBKA **Obir** 13.21 26 *e*Pn **Pn** 07 45 32.1 +2.6
OBKA **Obir** 13.21 26 *i* Pn **Pn** 07 45 33.4 +3.9
comp=Z,7.4nm,0.7s,SNR=11
PTJ **Puntijarka** 13.27 31 P **Pn** 07 45 33.6 +3.3
IVA **Berane** 13.30 49 *e*P **Pn** 07 45 33.8 +3.2
KBA **Koelnbreinsper** 13.31 22 *i* Pn **P** 07 45 35.7 -4.6
comp=Z,36nm,1.2s,SNR=28
KBA **Koelnbreinsper** 13.31 22 P **P** 07 45 35.9 -4.4
KBA pmax pmax
comp=Z,18nm,1.3s
ECH **Echery** 13.34 3 **Pn** 07 45 35.1 +3.9
ECH **Echery** 13.34 3 P **Pn** 07 45 35.1 +3.9
FNA **Florina** 13.34 59 *e*P **Pn** 07 45 30.0 -1.3
FNA **Florina** 13.34 59 **Pn** 07 45 33.1 +1.9
FNA **Florina** 13.34 59 P **Pn** 07 45 33.1 +1.9
SFTF **Sexfontaines** 13.34 357 *e*Pn **Pn** 07 45 30.8 -0.4
SFTF **Sexfontaines** 13.34 357 *e*P **Pn** 07 45 35.5 +4.3
baz=169
SFTF *e*Sn **Sn** 07 47 53.0 -5.5
comp=Z,21nm,0.6s
PGAV **Gavieira, Arco** 13.38 306 *e*P **Pn** 07 45 35.8 +4.1
comp=Z,95nm,1.4s
PGAV *e*LR LR 07 50 00.9
comp=Z,3µm,18.0s
HAPS **Han Pijesak,BI** 13.45 43 *e*Pn **Pn** 07 45 37.0 +4.3
CLF **Chambon-Foret** 13.46 349 **Pn** 07 45 36.1 +3.3
BFO **Black Forest** 13.53 6 **Pn** 07 45 37.1 +3.3
BFO **Black Forest** 13.53 6 P **Pn** 07 45 37.1 +3.3
GROS **Grobnik** 13.53 28 *e*P **Pn** 07 45 36.5 +2.7
SOKA **Soboth** 13.53 27 *i* Pn **Pn** 07 45 37.4 +3.5
comp=Z,12nm,0.5s,SNR=20
CDF **Champ du Feu** 13.54 3 *e*Pn **Pn** 07 45 33.1 -0.9
CDF **Champ du Feu** 13.54 3 *e*P **Pn** 07 45 38.2 +4.2
MEZF **Maizieres J'vi** 13.64 357 *e*Pn **Pn** 07 45 36.0 +0.8
MEZF **Maizieres J'vi** 13.64 357 *e*P **P** 07 45 39.7 -4.0
baz=172
MEZF *e*Sn **Sn** 07 48 01.5 -4.2
comp=Z,17nm,0.5s
PAGF **Fort de Pagny** 13.67 359 *e*Pn **Pn** 07 45 34.6 -1.0
PAGF **Fort de Pagny** 13.67 359 *e*P **Pn** 07 45 37.9 +2.3
baz=175
PAGF *e*Sn **Sn** 07 48 00.1 -6.4
comp=Z,43nm,0.5s
SAVF **Savonnieres en** 13.75 357 *e*Pn **Pn** 07 45 35.7 -1.0
SAVF **Savonnieres en** 13.75 357 *e*P **Pn** 07 45 40.8 +4.1
baz=162
SAVF *e*Sn **Sn** 07 48 01.7 -6.7
comp=Z,10nm,0.4s,baz=170
FUR **Furstenfeldbru** 13.80 14 P **P** 07 45 42.1 -3.5
FUR pmax pmax
comp=Z,439nm,1.1s
SKO **Skopje** 13.86 55 *i* P **Pn** 07 45 40.6 +2.3
BIOA **Bad Ischl, Aus** 13.95 21 *i* Pn **P** 07 45 44.5 -2.7
comp=Z,37nm,1.0s,SNR=16
DIVS **Divibare** 14.05 45 **Pn** 07 45 44.1 +3.2
DIVS **Divibare** 14.05 45 *e*Pn **Pn** 07 45 42.2 +1.3
STU **Stuttgart** 14.05 8 **Pn** 07 45 43.8 +2.9
STU **Stuttgart** 14.05 8 P **Pn** 07 45 43.8 +2.9
BEHE **Becsehely** 14.06 31 P **Pn** 07 45 44.1 +3.1
GRG **Griva** 14.13 60 P **Pn** 07 45 41.3 -0.7
GRG **Griva** 14.13 60 P **Pn** 07 45 43.1 +1.1
GRG pmax pmax
comp=Z,45nm,1.2s
ARSA **Arzberg** 14.20 27 *i* Pn **Pn** 07 45 45.3 +2.5
comp=Z,9.5nm,0.7s,SNR=12
STIP **Stip** 14.25 57 *i* P **P** 07 45 47.2 -3.4
MOA **Molln** 14.28 22 *i* Pn **P** 07 45 48.2 -2.7
comp=Z,31nm,0.8s,SNR=28
KOVH **Kovagotottos** 14.37 35 P **Pn** 07 45 46.6 +1.5
VAY **Valandovo** 14.38 59 *i* P **Pn** 07 45 46.1 +0.7
GRR **Gorron** 14.49 341 *e*Pn **Pn** 07 45 46.8 0.0
GRR **Gorron** 14.49 341 *e*P **P** 07 45 51.8 -1.4
GRR *e*Sn **Sn** 07 48 22.7 -3.7
comp=Z,32nm,0.8s
GRR **Gorron** 14.49 341 P **Pn** 07 45 48.0 +1.2
LDF **La Druitiere** 14.49 343 *e*Pn **Pn** 07 45 47.0 +0.2
LDF **La Druitiere** 14.49 343 *e*P **P** 07 45 51.1 -2.1
LDF *e*Sn **Sn** 07 48 22.7 -3.7
comp=Z,22nm,0.7s
LDF **La Druitiere** 14.49 343 P **Pn** 07 45 49.0 +2.2
HORT **Hortiatis** 14.52 62 *e*P **P** 07 45 53.6 0.0
KNT **Kendrikon** 14.55 60 *e*P **Pn** 07 45 46.2 -1.6
FRGS **Fruska Gora** 14.60 41 *e*Pn **Pn** 07 45 51.0 +2.7
MORH **Mrgy, Hungar** 14.72 36 ⇑P **Pn** 07 45 51.4 +1.5
MORH **Mrgy, Hungar** 14.72 36 P **Pn** 07 45 51.3 +1.3
FLN **La Foliniere** 14.73 342 *e*Pn **Pn** 07 45 49.5 -0.6
FLN **La Foliniere** 14.73 342 *e*P **P** 07 45 53.8 -2.1
baz=162
FLN *e*Sn **Sn** 07 48 27.2 -5.2
comp=Z,10nm,0.5s
WLF **Walferdange** 14.78 360 *d*P **P** 07 45 53.6 -2.7
comp=Z,115nm,1.4s
WLF **Walferdange** 14.78 360 P **P** 07 45 57.8 +1.4
QUIF **Quistinic** 14.79 335 *e*Pn **Pn** 07 45 49.9 -1.0
QUIF **Quistinic** 14.79 335 *e*P **P** 07 45 54.1 -2.4
QUIF *e*Sn **Sn** 07 48 29.1 -4.7
comp=Z,29nm,0.6s
QUIF **Quistinic** 14.79 335 P **P** 07 45 55.0 -1.5
RONA **Rosalia, Austr** 14.86 27 *i* Pn **Pn** 07 45 54.5 +2.6
comp=Z,11nm,0.7s,SNR=20
SGMF **Saint Gilles** 14.88 337 *e*Pn **Pn** 07 45 51.2 -0.8
SGMF **Saint Gilles** 14.88 337 *e*P **P** 07 45 57.1 -0.4
SGMF *e*Sn **Sn** 07 48 31.0 -4.8
comp=Z,37nm,0.7s
TIH **Tihany** 14.88 33 P **Pn** 07 45 54.2 +2.1
CONA **Conrad Observa** 14.89 26 *i* Pn **P** 07 45 55.0 -2.7
comp=Z,26nm,1.1s,SNR=18
MPLH **Magyarpolny** 14.94 31 P **P** 07 45 55.5 -2.7
KKB **Krupnik** 14.94 57 *i* P **Pn** 07 45 54.4 +1.5
SOP **Sopron** 14.95 28 P **Pn** 07 45 54.6 +1.6
GEC2 **GERESS Array S** 15.01 19 Pn **Pn** 07 45 55.9 +2.0
GEC2 lAmb lAmb 07 45 57.6
comp=Z,161nm,1.2s
GERES **GERESS Array B** 15.01 19 Pn **Pn** 07 45 56.2 +2.3
comp=Z,1.3nm,0.3s,baz=193,slow=11,SNR=66
GERES LR LR 07 52 08.1
comp=Z,3µm,21.2s,baz=208,slow=39
comp=Z,45nm,1.0s
GERES **GERESS Array B** 15.01 19 Pn **Pn** 07 45 56.4 +2.4
GERES **GERESS Array B** 15.01 19 P **Pn** 07 45 56.4 +2.4
OUR **Ouranopolis** 15.09 64 *e*P **Pn** 07 45 54.6 -0.3
OUR **Ouranopolis** 15.09 64 P **P** 07 45 57.9 -1.9
CKRC **Cesky Krumlov** 15.16 21 *e*P **P** 07 45 58.3 -2.4
CKRC *e*S **Sn** 07 48 48.1 +5.2
CKRC *e*S **S** 07 48 48.6 -11
CKRC AMS AMS 07 52 10.0
comp=Z,4µm,19.3s
ROSF **Rostrenen** 15.19 335 *e*Pn **Pn** 07 45 56.2 0.0
ROSF **Rostrenen** 15.19 335 *e*P **P** 07 46 00.0 -0.9
ROSF *e*Sn **Sn** 07 48 39.1 -4.3
comp=Z,38nm,0.7s
BAIF **Baives** 15.24 355 *e*P **P** 07 46 00.1 -1.4
BAIF **Baives** 15.24 355 P **P** 07 46 00.5 -1.0
KHC **Kasperske Hory** 15.24 19 **Pn** 07 45 58.9 +2.0
KHC **Kasperske Hory** 15.24 19 *e*P **Pn** 07 45 59.0 +2.0
KHC *e*pP **pP** 07 46 10.5 +1.3
KHC *e*S **S** 07 48 55.8 -5.2
KHC AMS AMS 07 51 20.0
comp=Z,4µm,24.0s
KHC **Kasperske Hory** 15.24 19 *e*P **Pn** 07 45 59.0 +2.0
KHC *e*S **S** 07 48 55.8 -5.2
KHC MLR MLR
comp=Z,4µm,24.0s
GIVF **Givet** 15.25 357 *e*P **P** 07 45 59.9 -1.7
GRFO **Grafenberg** 15.25 12 **P** 07 45 59.3 -2.3
GRFO **Grafenberg** 15.25 12 P **P** 07 45 59.3 -2.3
GRFO pmax pmax
comp=Z,129nm,1.6s
GRA1 **Grafenberg Arr** 15.25 12 **Pn** 07 45 59.2 +2.2
GRF **Grafenberg Arr** 15.25 12 P **Pn** 07 45 59.2 +2.2
GRF pmax pmax
comp=Z,145nm,1.6s
DOU **Dourbes** 15.25 356 *d*P **P** 07 45 59.4 -2.2
comp=Z,78nm,0.8s
RCHB **Rochefort** 15.28 358 *d*P **Pn** 07 45 59.4 +2.0
comp=Z,196nm,0.9s
MMB **Musomiste** 15.29 59 *i* P **Pn** 07 45 58.5 +0.9
IDI **Anoyia** 15.29 83 ⇓P **Pn** 07 45 59.7 +2.0
IDI **Anoyia** 15.29 83 Pn **Pn** 07 45 59.5 +1.7
comp=Z,0.6nm,0.3s,baz=294,slow=12,SNR=2.2
IDI LR LR 07 54 11.3
comp=Z,933nm,18.0s,baz=268,slow=46
comp=Z,6.3nm,0.8s
IDI **Anoyia** 15.29 83 **Pn** 07 45 57.8 +0.1
VTS **Vitosha** 15.34 55 ⇓P **Pn** 07 46 00.1 +1.7
VTS **Vitosha** 15.34 55 Pn **Pn** 07 45 59.5 +1.1
VTS **Vitosha** 15.34 55 *i* P **Pn** 07 45 59.5 +1.1
VTS **Vitosha** 15.34 55 ⇓P **Pn** 07 46 00.1 +1.7
CSKK **Cskako** 15.40 32 P **P** 07 46 01.4 -1.9
TNS **Taunus Mts** 15.42 5 P **P** 07 46 02.3 -1.3
TNS pmax pmax
comp=Z,119nm,0.8s
MDVR **Moldovita** 15.45 46 ⇓P **Pn** 07 46 01.8 +2.1
BMRD **Maredsous** 15.45 356 *d*P **P** 07 46 02.5 -1.3
comp=Z,182nm,0.8s
BHOU **Houvegnez** 15.47 359 *d*P **P** 07 46 03.8 -0.3
comp=Z,39nm,1.2s
BGES **Gesves** 15.52 357 *d*P **P** 07 46 05.0 +0.4
comp=Z,99nm,1.0s
BCLA **Clavier** 15.54 358 *d*P **Pn** 07 46 02.2 +1.4
comp=Z,39nm,1.4s
ZST **Bratislava** 15.58 28 *e*P **P** 07 46 03.6 -1.7
ZST *e*S S 07 49 30.8 +23
ZST **Bratislava** 15.58 28 *e*P **P** 07 46 03.6 -1.7
ZST pmax pmax
comp=Z,270nm,1.8s
SNF **Seneffe** 15.68 355 *d*P **P** 07 46 06.5 +0.1
comp=Z,154nm,0.8s
THT2 **Imerovigli** 15.69 79 *e*P P 07 46 30.6 +24
BTNL **Ternell** 15.70 360 *d*P **P** 07 46 06.8 +0.2
comp=Z,35nm,1.1s
BSTI **Sart Tilman** 15.70 358 *d*P **P** 07 46 06.3 -0.4
SANT **Santorini** 15.72 79 *e*P **P** 07 46 05.7 -1.3
SANT **Santorini** 15.72 79 **Pn** 07 46 03.6 +0.4
MEM **Membach** 15.72 359 *d*P **P** 07 46 07.2 +0.3
comp=Z,62nm,0.9s
MEM **Membach** 15.72 359 P **P** 07 46 06.9 0.0
MEM pmax pmax
comp=Z,114nm,1.2s
SRO **Srobarova** 15.77 31 *e*P **P** 07 46 07.0 -0.4
SRO **Srobarova** 15.77 31 *e*P **P** 07 46 07.0 -0.4
SRO pmax pmax
comp=Z,58nm,1.0s
APE **Apeiranthos** 15.79 76 *i* P **Pn** 07 46 03.7 -0.4
APE pmax pmax
comp=Z,29nm,1.1s
MODS **Modra-Piesok** 15.79 28 *e*P **Pn** 07 46 05.7 +1.7
MODS *e*S S 07 49 35.3 +23
MODS **Modra-Piesok** 15.79 28 *e*P **Pn** 07 46 05.7 +1.7
MODS pmax pmax
comp=Z,99nm,1.5s
BUD **Budapest** 15.83 33 P **Pn** 07 46 06.2 +1.7
BUD **Budapest** 15.83 33 P **P** 07 46 13.5 +5.4
BUD pmax pmax
comp=Z,45nm,0.9s
DJES **Djerdap** 15.86 47 ⇓P **P** 07 46 07.7 -0.8
DJES **Djerdap** 15.86 47 **Pn** 07 46 06.5 +1.5
BZS **Buzias** 15.88 43 ⇓P **P** 07 46 07.2 -1.5
BZS **Buzias** 15.88 43 ⇓P **P** 07 46 07.2 -1.5
HERR **Herculane** 15.92 46 ⇓P **P** 07 46 07.6 -1.4
TREC **Trest** 15.94 23 *e*P **P** 07 46 08.5 -0.9
TREC AMS AMS 07 52 50.0
comp=Z,7µm,17.2s
TREC **Trest** 15.94 23 P **P** 07 46 07.9 -1.5
TREC pmax pmax
comp=Z,63nm,1.6s
NKC **Novy Kostel** 16.00 15 *e*P **P** 07 46 08.6 -1.4
NKC AMS AMS 07 52 40.0
comp=Z,3µm,18.5s
NKC **Novy Kostel** 16.00 15 *e*P **P** 07 46 08.6 -1.4
NKC MLR MLR
comp=Z,3µm,18.5s
RZN **Rozhen** 16.02 59 *i* P **Pn** 07 46 07.5 +0.3
KRUC **Moravsky** 16.04 25 *e*PN **P** 07 46 08.9 -1.5
KRUC **Moravsky** 16.04 25 P **P** 07 46 09.7 -0.7
KRUC pmax pmax
comp=Z,80nm,1.0s
PLD **Plovdiv** 16.15 58 *e*P **Pn** 07 46 09.3 +0.6
PLD **Plovdiv** 16.15 58 *i* P **Pn** 07 46 09.9 +1.2
PLD **Plovdiv** 16.15 58 P **P** 07 46 10.6 -1.1
PLD pmax pmax
comp=Z,135nm,1.3s
MOX **Moxa** 16.24 12 P **P** 07 46 12.0 -0.6
MOX pmax pmax
comp=Z,45nm,1.1s
SURR **Surduc** 16.25 43 ⇓P **P** 07 46 11.9 -0.9
SIGR **SIGRI** 16.26 69 *e*P **Pn** 07 46 08.1 -1.9
PRU **Pruhonice** 16.28 19 *e*P **P** 07 46 12.7 -0.4
PRU AMS AMS 07 52 20.0
PRU **Pruhonice** 16.28 19 *e*P **P** 07 46 12.7 -0.4
PRU MLR MLR
comp=N,3µm,20.9s
SIRR **Siria** 16.31 41 ⇑P **P** 07 46 13.0 -0.4
VRAC **Vranov** 16.32 25 ⇓P **Pn** 07 46 11.9 +1.1
VRAC **Vranov** 16.32 25 Pn **P** 07 46 14.0 +0.5
comp=N,1.2nm,0.3s,baz=219,slow=11,SNR=29
VRAC LR LR 07 53 20.7
comp=N,4µm,19.4s,baz=201,slow=40
comp=N,38nm,0.7s
VRAC **Vranov** 16.32 25 *e*PN **Pn** 07 46 11.8 +1.0
VRAC **Vranov** 16.32 25 P **P** 07 46 14.0 +0.5
GZR **Gura Zlata** 16.41 45 ⇓P **P** 07 46 13.7 -1.0
RDO **Rodhopi** 16.44 62 *e*P **Pn** 07 46 11.1 -1.3
RDO **Rodhopi** 16.44 62 **Pn** 07 46 13.2 +0.8
GADA **Gvkgeada** 16.47 65 *e*P **P** 07 46 19.8 +4.5
KDZ **Kurdzhali** 16.50 60 *e*P **Pn** 07 46 13.1 -0.1
KDZ **Kurdzhali** 16.50 60 *i* P **Pn** 07 46 12.9 -0.3
VYHS **Vyhne** 16.52 31 *e*P **P** 07 46 15.4 -0.3
VYHS **Vyhne** 16.52 31 *e*P **P** 07 46 15.4 -0.3
VYHS pmax pmax
comp=Z,92nm,1.2s
BOZC **Bozcaada** 16.52 67 *i* P **Pn** 07 46 14.2 +0.8
PSZ **Piszkesteto** 16.55 34 ⇓P **P** 07 46 15.5 -0.6
PSZ **Piszkesteto** 16.55 34 **P** 07 46 15.0 -1.2
PSZ **Piszkesteto** 16.55 34 P **Pn** 07 46 14.4 +0.7
PSZ **Piszkesteto** 16.55 34 ⇓P **P** 07 46 15.5 -0.6
BUG **Bochum--Univer** 16.57 2 P **P** 07 46 18.1 +1.9
BUG pmax pmax
comp=Z,108nm,1.9s
PLVB **Pleven** 16.59 54 ⇓P **P** 07 46 16.9 +0.4
URLA **Izmir** 16.72 72 *e*P **Pn** 07 46 14.8 -1.1
EZN **Ezine** 16.72 67 P **Pn** 07 46 15.5 -0.4
DEV **Deva** 16.77 44 ⇓P **P** 07 46 18.4 -0.1
DEV **Deva** 16.77 44 ⇓P **P** 07 46 18.4 -0.1
PVCC **Panska Ves** 16.78 19 *e*P **P** 07 46 18.5 -0.1
PVCC AMS AMS 07 52 30.0
comp=Z,3µm,19.4s
PVCC **Panska Ves** 16.78 19 *e*P **P** 07 46 18.5 -0.1
PVCC MLR MLR
comp=Z,3µm,19.4s
ENEZ **Enez** 16.79 64 *e*P **Pn** 07 46 14.5 -2.3
MAUC **Maruska** 16.81 27 *e*P **P** 07 46 19.6 +0.6
MAUC AMS AMS 07 54 30.0
comp=Z,5µm,14.4s
BRG **Berggiesshubel** 16.94 17 *i* P **P** 07 46 20.8 +0.4
BRG Amp 07 46 22.2
comp=Z,72nm,1.3s
BRG *i* x x 07 46 26.6
BRG Amp 07 46 27.3
comp=Z,23nm,0.8s
BRG *i* x x 07 46 33.6
BRG Amp 07 46 35.6
comp=Z,54nm,1.1s
BRG *ex* x 07 49 55.6
BRG Amp 07 49 58.1
comp=Z,12nm,1.0s
BRG Amp 07 52 38.0
comp=Z,2.8nm,22.6s
BRG Amp 07 52 42.0
comp=E,2.0nm,17.4s
BRG Amp 07 52 45.0
comp=N,1.8nm,15.7s
BRG **Berggiesshubel** 16.94 17 *i* P **P** 07 46 20.7 +0.4
BRG pmax pmax
comp=Z,73nm,1.3s
BRG MLR MLR
comp=Z,3µm,22.6s
BRG MLR MLR
comp=E,2µm,17.4s
BRG MLR MLR
comp=N,2µm,15.7s
GELI **Tayfur-Gelibol** 16.95 65 *e*P **Pn** 07 46 15.5 -3.3
PVL **Pavlikeni** 16.99 55 *i* P **Pn** 07 46 18.4 -0.9
LOT **Lotru** 17.03 46 ⇓P **P** 07 46 22.3 +0.7
KRLC **Kraliky** 17.04 24 *e*P **P** 07 46 22.8 +1.3
KRLC AMS AMS 07 53 30.0
comp=N,5µm,17.7s
KRLC **Kraliky** 17.04 24 *e*P **P** 07 46 22.8 +1.3
KRLC MLR MLR
comp=Z,5µm,17.7s
ERIK **Erikli-Kesan** 17.04 64 *e*P **Pn** 07 46 20.5 +0.6
DKL **Dikili** 17.04 70 *e*P **Pn** 07 46 19.2 -0.8
MORC **Moravsky Berou** 17.05 26 ⇓P **P** 07 46 21.8 +0.1
MORC **Moravsky Berou** 17.05 26 **P** 07 46 21.6 0.0
MORC **Moravsky Berou** 17.05 26 *e*PN **P** 07 46 21.7 +0.1
MORC **Moravsky Berou** 17.05 26 ⇓P **P** 07 46 21.8 +0.1
BLCB **Balcova** 17.07 72 *e*P **Pn** 07 46 17.5 -2.8
NIS1 **Nisyros Isl.** 17.10 78 *e*P **Pn** 07 46 18.0 -2.7
KARP **Karpathos** 17.13 82 **Pn** 07 46 21.0 -0.1
DPC **Dobruska-Polom** 17.13 22 *e*P **P** 07 46 23.1 +0.6
DPC AMS AMS 07 53 30.0
comp=Z,5µm,16.2s
DPC **Dobruska-Polom** 17.13 22 *e*P **P** 07 46 23.1 +0.6
DPC MLR MLR
comp=Z,5µm,16.2s
CLL **Collm** 17.14 15 Pn **P** 07 46 22.9 +0.4
CLL **Collm** 17.14 15 ⇑*i*P **P** 07 46 22.9 +0.4
comp=Z,117nm,1.7s
CLL *e*pP **pP** 07 46 31.0 +0.8
CLL *e*PP **sP** 07 46 34.0 +0.4
CLL *i* x x 07 46 39.7
comp=Z,73nm,1.1s
CLL *e*S **S** 07 49 42.0 +2.4
CLL *e*SSS SSS 07 50 12.0
CLL L L 07 53 00.0
comp=Z,2µm,18.0s
CLL Lmax 07 54 00.0
CLL **Collm** 17.14 15 P **P** 07 46 22.9 +0.4
CLL pmax pmax
comp=Z,75nm,1.4s
LTVH **Ltavrtes, Hu** 17.15 39 P **P** 07 46 23.1 +0.4
LPK **Lapseki** 17.16 65 *e*P **Pn** 07 46 18.9 -2.5
GCAM **G?zelcaml?** 17.17 74 *e*P **Pn** 07 46 19.7 -1.9
UPC **Upice** 17.17 22 *e*P **P** 07 46 23.4 +0.5
UPC AMS AMS 07 53 30.0
comp=Z,4µm,17.9s
UPC **Upice** 17.17 22 *e*P **P** 07 46 23.4 +0.5

UPC MLR MLR
comp=Z,4μm,17.9s
BODT Bodrum 17.21 77 *e*P **Pn 07 46 22.2 +0.1**
DYA Yadsworthy 17.22 338 *e*P **P 07 46 24.3 +0.9**
KECS Kecovo 17.23 34 *e*P **P 07 46 25.8 +2.2**
KECS Kecovo 17.23 34 *e*P **P 07 46 25.8 +2.2**
KECS pmax pmax
comp=Z,109nm,1.1s
OSTC Ostas 17.28 22 *e*P **P 07 46 25.1 +1.0**
OSTC AMS AMS 07 53 30.0
comp=Z,4μm,15.6s
OKC Ostrava-Krasne 17.32 27 *e*P **P 07 46 25.8 +1.3**
OKC AMS AMS 07 54 30.0
comp=Z,2μm,13.8s
OKC Ostrava-Krasne 17.32 27 *e*P **P 07 46 25.8 +1.3**
OKC MLR MLR
comp=Z,2μm,13.8s
DAT Datca 17.42 78 *e*P **Pn 07 46 19.7 -5.1**
ABAH Abaujker 17.45 35 P **P 07 46 26.8 +0.8**
ARR Arges 17.51 48 ⇓P **P 07 46 28.4 +1.6**
EDRB Edirne 17.51 61 *e*P **Pn 07 46 24.9 -0.9**
RKY Sarkoy-Tekirda 17.54 65 *e*P Pn 07 46 12.8 -13
KSP Ksiaz 17.55 22 *e*P **P 07 46 28.3 +1.2**
KSP Ksiaz 17.55 22 P **P 07 46 28.9 +1.8**
KSP pmax pmax
comp=Z,100nm,1.4s
KRBG Karabiga-Canak 17.56 66 *e*P **Pn 07 46 25.3 -1.1**
JMB Yambol 17.59 58 *i*P **Pn 07 46 27.1 +0.4**
MLSB Milas 17.59 76 *e*P **Pn 07 46 26.7 -0.1**
CJR Cluj-Napoca 17.64 43 ⇓P **P 07 46 30.2 +2.0**
CJR Cluj-Napoca 17.64 43 ⇓P **P 07 46 30.2 +2.0**
AYDB Zeytinkoy-Aydi 17.70 74 *e*P **P 07 46 28.7 -0.3**
MTUR Matau 17.70 49 ⇑P **P 07 46 30.8 +1.9**
MTUR Matau 17.70 49 ⇑P **P 07 46 30.8 +1.9**
VOIR 17.80 48 ⇓P **P 07 46 32.2 +2.2**
VOIR 17.80 48 ⇓P **P 07 46 32.2 +2.2**
SGRR Singureni 17.83 53 ⇓P **P 07 46 32.3 +2.1**
ARG Arkhangelos 17.87 79 P **Pn 07 46 29.9 -0.4**
ARG IAmb IAmb 07 46 40.1
comp=Z,359nm,1.9s
ARG Arkhangelos 17.87 79 P **Pn 07 46 29.9 -0.4**
ARG pmax pmax
comp=Z,359nm,1.9s
RAZG Razgrad 17.92 55 ⇓P **P 07 46 33.6 +2.3**
STRD Stroud 17.93 343 *e*P **P 07 46 33.5 +2.2**
STRD IAmb IAmb 07 46 34.0
comp=Z,171nm,1.0s
TURN Turunc 17.96 78 *e*P **Pn 07 46 28.3 -3.0**
TRPA Tarpa 17.97 38 ⇑P **P 07 46 33.3 +1.6**
TRPA Tarpa 17.97 38 P **P 07 46 32.2 +0.5**
EDC Edincik 17.98 66 *e*P **Pn 07 46 31.7 +0.1**
EDC Edincik 17.98 66 P **P 07 46 32.2 +0.3**
CRVS Cervenica-Dubn 17.98 34 *e*P **P 07 46 34.1 +2.2**
CRVS *e*S S 07 50 11.4 +15
CRVS Cervenica-Dubn 17.98 34 *e*P **P 07 46 34.1 +2.2**
CRVS pmax pmax
comp=Z,155nm,1.2s
YER Yerkesik 17.99 76 *i*P **P 07 46 33.0 +0.9**
YER Yerkesik 17.99 76 P **P 07 46 32.7 +0.6**
MONM Monmouth 18.15 342 *e*P **P 07 46 35.1 +1.4**
MONM IAmb IAmb 07 46 36.8
comp=Z,72nm,0.8s
BMR Baia Mare 18.17 40 P **P 07 46 35.9 +2.0**
BMR pmax pmax
comp=Z,129nm,1.3s
UZH Uzhgorod 18.18 36 *e*P **P 07 46 35.0 +0.9**
UZH *e*S **Sn 07 49 55.2 -0.8**
SECR 18.24 50 ⇓P **P 07 46 37.4 +2.6**
STHS Stebnicka Huta 18.25 33 *e*P **P 07 46 37.1 +2.2**
STHS Stebnicka Huta 18.25 33 *e*P **P 07 46 37.2 +2.3**
STHS pmax pmax
comp=Z,111nm,1.0s
OJC Ojcow 18.26 29 *e*P **Pn 07 46 33.9 -1.0**
OJC Ojcow 18.26 29 P **Pn 07 46 34.1 -0.8**
OJC pmax pmax
comp=Z,66nm,1.2s
MANT Manisa 18.27 72 P **P 07 46 35.8 +0.5**
DOPR Dopca 18.27 47 ⇓P **Pn 07 46 36.9 +1.8**
DALY Dalyan (Mula) 18.28 77 *e*P **Pn 07 46 36.2 +0.9**
KULA Kula-Manisa 18.35 72 *e*P **Pn 07 46 37.7 +1.5**
MLR Muntele Rosu 18.38 49 ⇓P **Pn 07 46 39.5 +3.0**
MLR Muntele Rosu 18.38 49 P **Pn 07 46 38.5 +2.0**
comp=Z,2.6nm,0.3s,baz=250,slow=6.7,SNR=54
MLR LR LR 07 55 15.1
comp=Z,4μm,18.1s,baz=250,slow=42
MLR Muntele Rosu 18.38 49 P **Pn 07 46 38.5 +2.0**
MLR IAmb IAmb 07 46 42.5
comp=Z,372nm,1.2s
MLR Muntele Rosu 18.38 49 ⇓P **Pn 07 46 39.5 +3.0**
KOLS Kolonicke sedl 18.38 35 *e*P **Pn 07 46 38.9 +2.5**
KOLS Kolonicke sedl 18.38 35 *e*P **Pn 07 46 38.9 +2.5**
KOLS pmax pmax
comp=Z,62nm,0.9s
PRD Provadia 18.39 57 *i*P **Pn 07 46 37.6 +1.0**
SLVT Silivri 18.42 63 *e*P **Pn 07 46 37.4 +0.5**
CTYL Yalikoy Yolu 18.53 63 *e*P **Pn 07 46 39.8 +1.5**
NEHR Nehoiu 18.56 49 ⇓P **Pn 07 46 40.7 +2.0**
OZUR 18.57 47 ⇓P **Pn 07 46 41.0 +2.2**
ISR Istrita 18.58 51 ⇓P **Pn 07 46 41.1 +2.2**
ISR Istrita 18.58 51 ⇓P **Pn 07 46 41.1 +2.2**
FETY Fethiye 18.63 78 *e*P **P 07 46 34.0 -5.2**
CTKS Kestanelik-??a 18.64 63 *e*P **Pn 07 46 41.6 +2.0**
SIMA Simav-Kutahya 18.65 70 *e*P **P 07 46 37.7 -1.7**
COVR Voineasa-Covas 18.70 48 ⇓P **Pn 07 46 42.5 +2.1**
CAME Cameli-Denizli 18.80 77 *e*P **Pn 07 46 42.3 +0.5**
APMY Acipayam-Deniz 18.80 75 *e*P **Pn 07 46 43.6 +1.9**
BISRR Bisoca 18.88 49 ⇓P **Pn 07 46 44.5 +1.9**
PLOR Plostina 18.98 49 ⇑P **Pn 07 46 46.0 +2.2**
PLOR Plostina 18.98 49 ⇑P **Pn 07 46 46.0 +2.2**
ICOR Ion Corvin 18.99 54 ⇓P **Pn 07 46 45.4 +1.5**
ISK Istanbul-Kandi 19.01 64 *e*P **P 07 46 40.7 -2.5**
KAVV Kandilli-Istan 19.01 64 *e*P **Pn 07 46 43.7 -0.4**
KLYT Kilyos 19.04 64 *e*P **Pn 07 46 46.5 +2.1**
VRI Vrincioaia 19.04 49 ⇓P **Pn 07 46 45.1 +0.7**
VRI Vrincioaia 19.04 49 ⇓P **Pn 07 46 45.1 +0.7**
TVSB Tavsanli 19.06 69 *e*P **P 07 46 43.3 -0.6**
BURAR Bucovina Array 19.06 42 ⇓P **Pn 07 46 46.4 +1.6**
BURAR Bucovina Array 19.06 42 P **Pn 07 46 45.5 +0.7**
BURAR Bucovina Array 19.06 42 ⇓P **Pn 07 46 46.4 +1.6**
BUR08 Bucovina Ar. S 19.07 42 P **Pn 07 46 46.0 +1.1**
ODBI Odobesti 19.19 49 ⇑P **Pn 07 46 48.0 +1.7**
FOEL Foel Wylfa 19.21 342 *e*P **Pn 07 46 46.5 +0.1**
FOEL IAmb IAmb 07 46 50.4
comp=Z,410nm,1.7s
BSEG Bad Segeberg 19.27 7 P **Pn 07 46 47.9 +0.8**
BSEG pmax pmax
comp=Z,198nm,0.9s
ELL Elmali 19.29 78 P **Pn 07 46 47.8 +0.1**
ELL IAmb IAmb 07 46 58.3
comp=Z,114nm,0.8s
ELL Elmali 19.29 78 P **Pn 07 46 47.8 +0.1**
ELL pmax pmax
comp=Z,114nm,0.8s
HARR Harsova 19.30 53 ⇓P **Pn 07 46 47.9 +0.4**
HARR Harsova 19.30 53 ⇓P **Pn 07 46 47.9 +0.4**
PANC Panciu 19.30 49 ⇑P **Pn 07 46 48.3 +0.7**
TESR Tescani 19.30 47 ⇓P **Pn 07 46 48.9 +1.3**
ADVT Abdulvahap 19.40 66 *e*P **Pn 07 46 49.0 +0.2**
HRT Hereke 19.42 65 *e*P **Pn 07 46 54.0 +5.0**
MANR Mangalia 19.42 56 ⇓P **Pn 07 46 50.0 +1.0**
MFTR Murfatlar 19.43 55 ⇓P **Pn 07 46 49.2 0.0**
CAVI Cavuskoy 19.45 67 *e*P **P 07 46 47.0 -1.1**
SILT Sile 19.46 64 *e*P **Pn 07 46 50.6 +1.1**
TIRR Tirgusor 19.53 54 ⇑P **Pn 07 46 50.6 +0.3**
TIRR Tirgusor 19.53 54 ⇑P **Pn 07 46 50.6 +0.3**
TIRR Tirgusor 19.53 54 ⇑P **Pn 07 46 50.6 +0.3**
GHRR 19.55 49 ⇓P **Pn 07 46 51.6 +1.1**
AUBOZ BOZOYUK 19.55 68 *e*P **P 07 46 45.7 -3.6**
TPGR Topolog 19.68 53 ⇑P **Pn 07 46 52.9 +0.8**
SCTR Scanteiesti 19.74 50 ⇓P **Pn 07 46 53.0 +0.2**
ISP Isparta 19.78 74 *e*P **Pn 07 46 55.8 +2.4**
ISP Isparta 19.78 74 P **Pn 07 46 55.4 +2.0**
LVV L'vov 19.83 36 *e*P **Pn 07 46 53.8 0.0**
LVV *e*S **S 07 50 34.0 +0.1**
LVV pmax pmax
comp=Z,300nm,1.8s
LVV MLR MLR
comp=E,600nm,15.0s
LVV MLR MLR
comp=N,900nm,14.0s
LVV MLR MLR
comp=Z,1μm,15.0s

SHUT Suhut-Afyon 19.83 72 P **Pn 07 46 53.3 -0.7**
HPK Haverah Park 19.86 346 *e*P **Pn 07 46 54.6 +0.5**
HPK IAmb IAmb 07 47 03.8
comp=Z,266nm,1.0s
BORA Eskisehir 19.87 68 P **Pn 07 46 54.4 -0.1**
VLDR Vladesti 19.87 50 ⇓P **Pn 07 46 53.9 -0.4**
WLF1 Llynfaes 19.88 341 *e*P **Pn 07 46 55.1 +0.7**
WLF1 IAmb IAmb 07 46 57.7
comp=Z,228nm,1.1s
YRC Rhoscolyn 19.89 341 *e*P **Pn 07 46 54.8 +0.2**
BEL Belsk 19.92 27 P **Pn 07 46 55.3 +0.4**
BEL pmax pmax
comp=Z,178nm,1.1s
JURR Jurilovca 19.95 54 ⇓P **Pn 07 46 54.6 -0.6**
WME Myndd Eilian 19.95 341 *e*P **Pn 07 46 55.4 +0.2**
WME IAmb IAmb 07 46 58.3
comp=Z,296nm,1.6s
GKP Gorka Klasztor 19.97 20 *e*P **Pn 07 46 55.2 -0.2**
GKP Gorka Klasztor 19.97 20 P **Pn 07 46 55.9 +0.5**
GKP pmax pmax
comp=Z,136nm,1.2s
GULT Gulveren 19.99 67 *e*P **Pn 07 46 58.7 +2.8**
VASR Vaslui 20.05 48 ⇑P Pn 07 46 56.6 +0.1
IAS Iasi 20.18 46 P **P 07 46 54.2 -1.7**
CIFT Cifteler, Eski 20.28 70 *e*P **P 07 46 55.0 -2.3**
MDUB Mudurnu 20.51 67 *e*P Pn 07 47 03.9 +1.9
MDUB Mudurnu 20.51 67 P **P 07 47 00.8 +1.1**
SVRH Sivrihisar-ESK 20.65 70 *e*P **P 07 46 54.7 -6.5**
EDMD Edmundbyers 20.75 347 *e*P **P 07 47 03.2 +1.2**
EDMD IAmb IAmb 07 47 07.2
comp=Z,80nm,0.6s
KESW Keswick, Cumbr 20.75 345 *e*P Pn 07 47 06.5 +1.9
IOMK Kirk Michael 20.80 342 *e*P Pn 07 47 04.7 -0.5
IOMK IAmb IAmb 07 47 08.5
comp=Z,417nm,1.4s
MILM Milestii Mici 20.80 48 ⇑ *i*P **P 07 47 02.5 -0.2**
comp=Z,260nm,1.2s
MILM Milestii Mici 20.80 48 *e*PP Pn 07 47 18.0 +13
MILM Milestii Mici 20.80 48 *e*PPP PPP 07 47 29.0
MILM *i*S **S 07 50 48.0 -5.4**
comp=Z,800nm,1.4s
MILM *e*L L 07 54 51.0
MILM LRM MLR 07 57 09.0
comp=Z,1μm,15.6s
MILM Milestii Mici 20.80 48 ⇓P **P 07 47 04.0 +1.3**
MILM Milestii Mici 20.80 48 ⇓P Pn 07 47 04.0 -1.2
KIS Kishinev 20.84 48 ⇑ *i*P **P 07 47 03.0 -0.1**
comp=Z,50nm,0.3s
KIS *i*S **S 07 50 51.5 -2.7**
comp=Z,750nm,1.8s
KIS *e*L L 07 54 48.0
KIS LRM MLR 07 57 08.0
comp=Z,700nm,16.0s
KIS Kishinev 20.84 48 *c i*P **P 07 47 03.0 -0.1**
KIS *e* 07 47 12.0
KIS *i*S **S 07 50 51.5 -2.7**
KIS pmax pmax
comp=Z,200nm,0.7s
KIS smax smax
comp=N,750nm,1.8s
KIS smax smax
comp=E,850nm,1.5s
KIS MLR MLR
comp=Z,700nm,16.0s
YUVA Yuva-Kibriscik 20.87 67 *e*P **P 07 46 58.0 -5.7**
BSD Bornholm Skovb 21.11 14 *i*P **P 07 47 09.5 +3.5**
SORM Soroca 21.12 44 ⇓P **P 07 47 07.4 +1.3**
SORM Soroca 21.12 44 ⇓P **P 07 47 07.4 +1.3**
LUNU Lund 21.34 11 *i*P **P 07 47 09.8 +1.4**
ESK Eskdalemuir 21.45 345 *e*P **P 07 47 10.9 +1.3**
ESK IAmb IAmb 07 47 16.2
comp=Z,56nm,1.0s
ESK Eskdalemuir 21.45 345 P **P 07 47 11.4 +1.8**
ESK IAmb IAmb 07 47 29.9
comp=Z,200nm,1.6s
ESK Eskdalemuir 21.45 345 P **P 07 47 11.5 +1.8**
ESK pmax pmax
comp=Z,200nm,1.6s
EKA Eskdalemuir Ar 21.46 345 P **P 07 47 10.7 +1.0**
comp=Z,13nm,0.6s,baz=157,slow=11,SNR=27
EKA LR LR 07 56 03.3
comp=Z,2μm,18.1s,baz=170,slow=38
comp=Z,13nm,0.6s
NEWG New Galloway 21.50 343 *e*P **P 07 47 10.1 0.0**
ANTO Ankara 21.66 69 P **P 07 47 13.0 +0.9**
ANTO Ankara 21.66 69 P **P 07 47 14.1 +2.0**
ANTO P **P 07 47 14.1 +2.0**
ANTO Ankara 21.66 69 P **P 07 47 13.0 +0.9**
ANTO pmax pmax
comp=Z,34nm,0.9s
BJUU Bjuv 21.70 10 *i*P **P 07 47 12.1 -0.2**
EBL Broad Law 21.85 346 *e*P **P 07 47 14.7 +0.9**
ESY Stoneypath 21.90 347 *e*P **P 07 47 15.0 +1.6**
EDI Edinburgh 22.02 346 *e*P **P 07 47 17.2 +1.6**
EDI IAmb IAmb 07 47 22.4
comp=Z,86nm,1.1s
TOA0 Torodi Ar. Sit 22.02 192 P **P 07 47 11.7 -4.3**
TORD Torodi Ar. Bea 22.02 192 P **P 07 47 12.5 -3.6**
comp=Z,122nm,1.0s,baz=20,slow=4.7,SNR=34
TORD S **S 07 51 09.8 -7.9**
comp=Z,8.3nm,0.8s,baz=19,slow=14,SNR=1.8
TORD Torodi Ar. Bea 22.02 192 P **P 07 47 11.9 -4.1**
CSS Mathiatis 22.21 82 P **P 07 47 20.0 +2.0**
CSS IAmb IAmb 07 47 32.8
comp=Z,224nm,1.4s
DEL Delary 22.22 11 *i*P **P 07 47 15.9 -1.9**
BR131 Keskin Array S 22.30 69 P **P 07 47 20.4 +1.3**
BR131 IAmb IAmb 07 47 39.6
comp=Z,98nm,1.0s
BR131 Keskin Array S 22.30 69 *i*P **P 07 47 19.7 +0.7**
BRTR Keskin Array B 22.30 69 P **P 07 47 20.8 +1.8**
comp=Z,32nm,1.0s,baz=259,slow=10,SNR=22
BRTR LR LR 07 58 05.0
comp=Z,1μm,18.2s,baz=244,slow=42
comp=Z,32nm,1.0s
BRTR Keskin Array B 22.30 69 P **P 07 47 20.5 +1.5**
BLEU Blekinge 22.41 14 *i*P **P 07 47 19.0 -0.8**
ILGA Ilgaz 22.48 66 P **P 07 47 22.3 +1.2**
ILGA IAmb IAmb 07 47 42.9
comp=Z,124nm,1.0s
FABU Falkenberg 22.56 9 *i*P **P 07 47 21.1 -0.4**
LAWE Loch Awe, Argy 22.82 343 *e*P **P 07 47 25.1 +0.9**
LAWE IAmb IAmb 07 47 26.6
comp=Z,165nm,1.6s
ONAU Onsala 22.85 8 *i*P **P 07 47 22.9 -1.6**
AKASG Malin Array Be 22.99 40 P **P 07 47 23.9 -2.1**
comp=Z,35nm,0.7s,baz=238,slow=9.8,SNR=41
AKASG S **S 07 51 28.6 -6.0**
comp=Z,11nm,1.0s,baz=228,slow=17,SNR=11
AKASG ScP **ScP 07 54 48.7 -2.4**
comp=Z,1.2nm,0.7s,baz=246,slow=4.1,SNR=6.2
AKASG LR LR 07 57 52.5
comp=Z,2μm,18.4s,baz=226,slow=40
AKBB Malin Array Si 22.99 40 P **P 07 47 24.1 -1.9**
AKBB IAmb IAmb 07 47 45.5
comp=Z,82nm,0.8s
AKBB Malin Array Si 22.99 40 *c*eP **P 07 47 24.8 -1.2**
AKBB pmax pmax
comp=Z,42nm,0.9s
BORU Boraas 23.18 9 *i*P **P 07 47 27.6 -0.4**
HOMB Homborsund 23.45 3 *i*P P 07 47 38.0 +7.5
HOMB Homborsund 23.45 3 *e* **P 07 47 33.7 +3.2**
SNART Snartemo 23.48 1 *i*P P 07 47 41.0 +10
SIM Simferopol' 23.54 56 *e*P **P 07 47 34.7 +3.1**
MCD Coleburn Disti 23.59 347 *e*P **P 07 47 31.9 0.0**
PBUR Paburge 23.73 22 *e*P **P 07 47 34.3 +1.0**
KAC Achnashellach 23.92 345 *e*P **P 07 47 34.9 -0.2**
BNN Bunyan 23.98 72 P **P 07 47 36.8 +0.8**
BNN IAmb IAmb 07 47 55.1
comp=Z,103nm,1.0s
PABE Paberze 23.99 25 P **P 07 47 34.9 -0.8**
PABE Paberze 23.99 25 *e*P **P 07 47 35.8 +0.2**
KVT Kavak 24.24 66 P **P 07 47 40.2 +1.9**
MMAI Mount Meron Ar 24.24 86 P **P 07 47 40.9 +2.4**
comp=Z,20nm,0.7s,baz=283,slow=7.6,SNR=14
comp=Z,20nm,0.7s
VSVD Vaisvydziai 24.35 24 *e*P **P 07 47 39.6 +0.6**
KMY Karmoy 24.35 359 *e*P **P 07 47 40.7 +1.7**
KMY IAmb IAmb 07 47 48.9
comp=Z,55nm,0.9s
STRU Stroemstad 24.39 6 *i*P **P 07 47 38.6 -0.8**
TOKA Tokat 24.51 68 P **P 07 47 42.7 +1.9**
BLS5 Blasjo 24.55 0 *e*P **P 07 47 42.4 +1.5**
BLS5 IAmb IAmb 07 47 52.0

comp=Z,48nm,1.1s
NACGM Naroch 24.59 29 ⇓ *i*P **P 07 47 41.3 0.0**
comp=Z,325nm,1.0s,baz=222
MNK Minsk 24.76 31 *i*P **P 07 47 42.0 -0.8**
comp=E,7.0nm,0.9s
MNK *i*P **P 07 47 42.0 -0.8**
comp=N,62nm,1.1s
MNK *i*P **P 07 47 42.0 -0.8**
comp=Z,87nm,0.8s,baz=46
MNK *i*PP **PnPn 07 48 14.3 -1.0**
MNK *i*PPP PPP 07 48 22.4
MNK *i*PcP **PcP 07 51 17.6 -1.2**
MNK *i*S **S 07 52 05.8 +2.5**
MNK *i*SS **SnSn 07 52 54.3 +3.5**
MNK *i*SSS SSS 07 53 08.0
MNK *i*LR LR 07 56 18.5
MNK *i*LRM MLR 07 58 13.8
comp=E,190nm,22.1s
MNK *i*LRM MLR 07 58 13.8
comp=N,1μm,21.2s
MNK *i*LRM MLR 07 58 13.8
comp=Z,2μm,22.1s
MNK Minsk 24.76 31 *i*P **P 07 47 41.9 -0.8**
MNK *i*PPP PPP 07 48 22.3
MNK *i* 07 51 17.6
MNK *i*S **S 07 52 05.7 +2.5**
MNK *i*SSS SSS 07 53 08.0
MNK pmax pmax
comp=Z,87nm,0.9s
MNK pmax pmax
comp=N,62nm,1.0s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK MLR MLR
comp=E,190nm,22.0s
MNK MLR MLR
comp=Z,2μm,22.0s
MNK MLR MLR
comp=N,1μm,21.0s
EIL Elat 24.80 94 P **P 07 47 45.0 +1.6**
comp=N,18nm,0.6s,baz=323,slow=4.3,SNR=11
EIL LR LR 08 00 21.6
comp=N,972nm,18.5s,baz=278,slow=43
comp=N,18nm,0.6s
KONO Kongsberg 24.88 4 *c e*P **P 07 47 45.9 +2.1**
KONO pmax pmax
comp=Z,45nm,1.7s
KONO Kongsberg 24.88 4 *e*P **P 07 47 46.8 +2.9**
ODD1 Odda 25.05 0 *e*P **P 07 47 48.3 +2.9**
GAZ Gaziantep 25.11 76 P **P 07 47 48.0 +1.7**
GAZ IAmb IAmb 07 48 12.9
comp=Z,79nm,0.8s
ASK Askoy 25.63 359 *e* **P 07 47 53.6 +3.0**
ASF Jabal al Asfar 25.67 87 P **P 07 47 53.3 +2.0**
comp=Z,11nm,0.8s,baz=282,slow=6.7,SNR=8.7
comp=Z,11nm,0.8s
HFS Hagfors 25.73 9 P **P 07 47 52.2 +0.6**
comp=Z,9.5nm,0.6s,baz=197,slow=9.3,SNR=24
HFS LR LR 07 58 42.7
comp=Z,998nm,20.2s,baz=219,slow=38
comp=Z,9.5nm,0.6s
ANN Anapa 25.79 58 *e*P **P 07 47 50.9 -1.3**
ANN *e**PP **pP 07 47 53.9 -6.5**
ANN *e* 07 48 26.6
ANN *e*S **S 07 52 17.3 -2.5**
ANN pmax pmax
comp=Z,127nm,0.9s
ANN MLR MLR
comp=Z,888nm,21.0s
SKAR Skarslia 25.85 2 *e*P **P 07 47 54.7 +2.0**
SKAR IAmb IAmb 07 48 05.4
comp=Z,39nm,1.0s
NC602 NORSAR Array S 26.10 6 *e*P **P 07 47 54.4 -0.5**
NORES NORESS Array B 26.10 6 P **P 07 47 54.0 -0.9**
NB2 NORSAR Subarra 26.37 5 P **P 07 47 56.7 -0.7**
baz=188,slow=9.3
NB2 NORSAR Subarra 26.37 5 P **P 07 47 56.7 -0.7**
comp=Z,24nm,0.7s,baz=188,slow=9.3
NOA NORSAR Array B 26.37 5 P **P 07 47 57.5 +0.1**
comp=Z,9.0nm,0.9s,baz=196,slow=9.6,SNR=23
NOA PcP **PcP 07 51 23.2 +0.8**
comp=Z,2.0nm,0.7s,baz=178,slow=2.0,SNR=3.7
NOA LR LR 07 59 28.3
comp=Z,2μm,19.1s,baz=190,slow=39
comp=Z,9.0nm,0.9s
MTSE Matsula 26.55 21 *e*P **P 07 48 01.0 +2.2**
NC303 NORSAR Array S 26.57 6 P **P 07 48 01.1 +2.0**
NC303 IAmb IAmb 07 48 11.4
comp=Z,59nm,1.1s
FOO Floro 26.75 359 *e*P **P 07 48 04.2 +3.6**
SOC Sochi 27.21 61 *e*P **P 07 48 11.7 +6.6**
SOC *e* 07 48 22.1
SOC *e* 07 48 55.5
SOC *e*S **S 07 52 50.3 +8.0**
SOC pmax pmax
comp=Z,54nm,0.9s
SOC MLR MLR
comp=Z,276nm,13.0s
DOMB Dombas 27.24 3 *e*P **P 07 48 06.2 +1.0**
DOMB IAmb IAmb 07 48 15.3
comp=Z,64nm,0.9s
VSU Vasula 27.25 24 *e*P **P 07 48 08.4 +3.2**
VSU Vasula 27.25 24 *i*P **P 07 48 07.1 +1.9**
VSU pmax pmax
comp=Z,350nm,1.0s
AKN Aaknes 27.32 1 *e*P **P 07 48 06.2 +0.3**
AKN IAmb IAmb 07 48 15.9
comp=Z,36nm,1.0s
MARD Mardin 27.94 75 P **P 07 48 12.8 +1.0**
MEF Metsahovi 27.97 19 *e*P **P 07 48 14.2 +2.5**
RAF Rauma 28.00 16 *e*P P 07 48 17.4 +5.5
BBTS Babate 28.72 231 P **P 07 48 18.5 -0.3**
comp=Z,69nm,0.7s,baz=142,slow=22,SNR=9.0
comp=Z,69nm,0.7s
VSR Storozhevoye 28.77 45 *e*P P 07 48 23.9 +5.0
VSR pmax pmax
comp=Z,40nm,1.0s
VORR Voronezh 28.97 44 *e*P **P 07 48 18.9 -1.8**
VORR pmax pmax
comp=Z,80nm,0.5s
OBN Obninsk 29.12 37 LR LR 08 01 13.7
comp=Z,383nm,20.0s,baz=237,slow=39
OBN Obninsk 29.12 37 ⇓ *e*P **P 07 48 21.3 -0.7**
OBN *i* 07 48 29.7
OBN *e* 07 51 29.2
OBN *e*S **S 07 53 14.5 +2.4**
OBN pmax pmax
comp=Z,45nm,1.7s
OBN MLR MLR
comp=Z,1μm,19.0s
LPSR Galich'ya Gora 29.18 43 *e*P **P 07 48 21.3 -1.2**
LPSR pmax pmax
comp=Z,50nm,0.9s
MBO M'Bour 29.19 231 P **P 07 48 23.4 +0.4**
MBO IAmb IAmb 07 49 21.4
comp=Z,62nm,0.7s
MBO IAMs_20 IAMs_20 08 00 42.5
comp=Z,3μm,18.0s
SHA1 Shidzhatmaz 29.35 61 *i*P **P 07 48 25.4 +0.9**
NEY Neytrino 29.36 62 *i*P **P 07 48 25.4 +0.9**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 29.39 61 P **P 07 48 24.6 0.0**
KIV Kislovodsk 29.39 61 *e*P **P 07 48 25.7 +1.0**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,162nm,15.0s
FINES FINESS Array B 29.45 19 P **P 07 48 24.9 +0.1**
comp=Z,7.9nm,0.7s,baz=209,slow=6.1,SNR=31
FINES LR LR 08 01 42.3
comp=Z,1μm,18.7s,baz=206,slow=39
comp=Z,7.9nm,0.7s
FIA1 FINESS Array S 29.45 19 P **P 07 48 27.8 +3.0**
KBZ Khabaz 29.52 61 P **P 07 48 27.7 +2.0**
comp=Z,6.6nm,0.7s,baz=254,slow=7.4,SNR=14
KBZ LR LR 08 03 44.7
comp=Z,386nm,19.8s,baz=282,slow=43
comp=Z,6.6nm,0.7s
KBZ Khabaz 29.52 61 *i*P **P 07 48 26.9 +1.2**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
ONI Oni 29.86 64 P **P 07 48 29.8 +1.0**
ONI IAmb IAmb 07 48 54.6
comp=Z,46nm,1.0s
ONI Oni 29.86 64 P **P 07 48 29.8 +1.0**

ONI pmax pmax
comp=Z,46nm,1.0s
DBIC Dimbokro 29.87 203 P **P 07 48 28.4 -0.6**
comp=Z,24nm,0.6s,baz=26,slow=9.4,SNR=37
DBIC LR LR 08 01 08.9
comp=Z,5µm,18.3s,baz=18,slow=38
comp=Z,24nm,0.6s
DBIC Dimbokro 29.87 203 *eP* **P 07 48 27.6 -1.4**
DBIC Dimbokro 29.87 203 *eP* **P 07 48 29.3 +0.3**
TIC Toumodi 29.95 203⇓*iP* **P 07 48 28.7 -1.0**
comp=Z,23nm,0.3s
MOS Moscow 29.96 36 *eP* **P 07 48 28.1 -1.3**
MOS *e* 07 48 37.6
MOS *e* 07 49 26.0
MOS pmax pmax
comp=Z,90nm,1.1s
KIC Kosan Boka 30.13 202⇑*iP* **P 07 48 30.8 -0.5**
comp=Z,33nm,0.5s
ZEI Tsey 30.20 63 *eP* **P 07 48 32.8 +0.9**
ZEI pmax pmax
comp=Z,28nm,1.2s
VRH Novokhopyorsk 30.28 46 *eP* **P 07 48 30.9 -1.3**
VRH pmax pmax
comp=Z,30nm,0.6s
LIC Lamto 30.35 203⇓*iP* **P 07 48 32.4 -0.8**
comp=Z,162nm,0.6s
GNI Garni 30.83 69 LR LR 08 03 36.9
comp=Z,443nm,20.4s,baz=284,slow=41
GROC Groznyy 31.60 63 *eP* **P 07 48 46.3 +2.3**
GROC *e* 07 49 49.4
GROC S **S 07 53 55.1 +3.9**
GROC pmax pmax
comp=Z,68nm,0.5s
MOR8 Moi Rana 31.70 6 *eP* **P 07 48 46.3 +1.6**
GANJ Ganja 32.02 68 P **P 07 48 49.3 +1.5**
MAK Makhachkala 32.85 63 *eP* P 07 48 50.0 -5.0
MAK *eS* **S 07 54 05.9 -4.7**
MAK pmax pmax
comp=Z,265nm,1.2s
FAUS Fauske 32.97 6 *eP* **P 07 48 55.8 +0.1**
FAUS IAmb IAmb 07 49 07.6
comp=Z,73nm,1.4s
AKT Akhty 33.04 66 *eP* **P 07 48 58.2 +1.3**
AKT *e* 07 50 07.1
AKT pmax pmax
comp=Z,33nm,0.8s
STEI Steigen 33.50 6 *eP* **P 07 49 00.8 +0.5**
STEI IAmb IAmb 07 49 03.5
comp=Z,50nm,1.2s
KLMR Klimovskoe 33.61 29 *eP* **P 07 49 00.8 -0.6**
KLMR *eP* **P 07 49 00.8 -0.6**
KLMR *eP* **P 07 49 00.8 -0.6**
KLMR AMP 07 49 10.9
comp=Z,180nm,1.1s
KLMR *ePP* **PnPn 07 50 07.8 -5.5**
KLMR S **S 07 54 18.2 -3.9**
KLMR S **S 07 54 18.2 -3.9**
KLMR Klimovskoe 33.61 29 *eP* **P 07 49 00.7 -0.6**
KLMR S **S 07 54 18.2 -3.9**
KLMR pmax pmax
comp=Z,180nm,1.1s
BELG Belogornoye 34.13 46 P **P 07 49 07.5 +1.6**
comp=Z,19nm,0.7s,baz=270,slow=2.0,SNR=10.0
BELG ScP **ScP 07 55 23.4 -2.4**
comp=Z,17nm,0.9s,baz=226,slow=2.5,SNR=3.5
BELG LR LR 08 05 11.3
comp=Z,1µm,18.6s,baz=267,slow=40
comp=Z,19nm,0.7s
BELG Belogornoye 34.13 46 *iP* **P 07 49 06.2 +0.2**
BELG pmax pmax
comp=Z,4.0nm,0.8s
BORG Borgarnes 34.22 339 LR LR 08 01 57.0
comp=Z,488nm,21.9s,baz=151,slow=34
KTK1 Kautokeino 35.48 10 *eP* **P 07 49 16.9 -0.6**
TRO Tromso 35.51 8 *eP* **P 07 49 16.8 -0.9**
TRO IAmb IAmb 07 49 27.6
comp=Z,30nm,0.8s
JETT Jettan, Norway 35.61 9 *eP* **P 07 49 20.6 +2.0**
RAYN Ar Rayn 35.90 98 P **P 07 49 22.6 +0.9**
RAYN Ar Rayn 35.90 98 *iP* **P 07 49 22.5 +0.9**
SNR=6.5
RAYN Ar Rayn 35.90 98 P **P 07 49 21.0 -0.7**
RAYN pmax pmax
comp=Z,45nm,1.9s
RAYN MLR MLR
comp=Z,800nm,20.0s
APA Apatity 36.26 17⇓*iP* P 07 49 34.3 +10
APA pmax pmax
comp=Z,13nm,0.9s
ARA0 ARCESS Array S 36.31 11 *eP* **P 07 49 24.0 -0.6**
ARCES ARCESS Array B 36.31 11 P **P 07 49 23.7 -0.9**
comp=Z,1.8nm,0.5s,baz=198,slow=9.4,SNR=17
ARCES PcP **PcP 07 51 48.6 -0.2**
comp=Z,5.7nm,0.5s,baz=190,slow=3.1,SNR=12
ARCES LR LR 08 06 36.2
comp=Z,782nm,18.8s,baz=236,slow=40
comp=Z,1.8nm,0.5s
PRGR Permogore 36.53 31 *eP* **P 07 49 25.2 -1.3**
PRGR *eS* **S 07 55 03.2 -3.7**
PRGR pmax pmax
comp=Z,50nm,0.9s
KIRV Kirov 36.98 37 LR LR 08 05 48.0
comp=Z,1µm,21.1s,baz=251,slow=38
KIRV Kirov 36.98 37*ceP* **P 07 49 30.2 -0.1**
JMIC Jan Mayen 37.02 352 LR LR 08 05 21.9
comp=Z,357nm,18.2s,baz=106,slow=37
SAKB Bahrain 38.97 91 P **P 07 49 48.0 +0.4**
AAE Adis Abeba 39.34 123 *eP* **P 07 49 52.5 +1.3**
AAE Adis Abeba 39.34 123 *eP* **P 07 49 53.2 +2.0**
AAE *eS* **pP 07 49 58.3 -1.0**
SHMA Al-Shehemyia 39.37 91 P **P 07 49 51.2 +0.3**
FURI Furi 39.38 123 *eP* **P 07 49 53.9 +2.4**
SMRA Abu-Samra 39.72 92 P **P 07 49 53.9 +0.1**
AKTO Aktyubinsk 40.29 51 P **P 07 49 58.2 -0.1**
ATD Arta Tunnel 40.56 116 LR LR 08 08 50.4
comp=Z,407nm,18.2s,baz=334,slow=39
SLWR Sila 40.72 93 P **P 07 50 02.3 +0.1**
ARU Arti 41.20 42 LR LR 08 08 32.3
comp=Z,1µm,21.0s,baz=258,slow=38
ARU Arti 41.20 42 P **P 07 50 05.2 -0.5**
ARU IAmb IAmb 07 50 22.3
comp=Z,40nm,0.8s
ARU Arti 41.20 42*diP* **P 07 50 06.4 +0.7**
ARU 07 51 40.3
ARU 07 52 03.3
ARU S **S 07 56 22.0 +4.6**
ARU SS **SnSn 07 59 26.0 -3.6**
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU MLR MLR
comp=Z,1µm,20.0s
LODK Lodwar 41.36 133 P **P 07 50 07.1 -0.4**
LODK Lodwar 41.36 133 P **P 07 50 08.0 +0.5**
SNR=9.2
GEYT Alibeck 41.44 70 P **P 07 50 08.9 +0.9**
comp=Z,6.7nm,0.6s,baz=266,slow=10,SNR=10
GEYT LR LR 08 12 49.4
comp=Z,212nm,18.2s,baz=316,slow=44
comp=Z,6.7nm,0.6s
GEYT Alibeck 41.44 70 P **P 07 50 08.8 +0.9**
GEYT IAmb IAmb 07 50 19.1
comp=Z,78nm,1.8s
GYA0 ALIBECK ARRAY 41.44 70 P **P 07 50 11.1 +3.1**
GYA0B ALIBECK ARRAY 41.44 70 P **P 07 50 08.0 0.0**
AB31 Akbulak array 41.51 53 P **P 07 50 08.0 -0.4**
ABKAR Akbulak array 41.51 53 P **P 07 50 08.1 -0.3**
ABKAR Akbulak array 41.51 53 P **P 07 50 07.9 -0.5**
GHWR Ruwais 41.74 92 P **P 07 50 10.9 +0.3**
MBAR Mbarara 42.09 142 LR LR 08 08 57.8
comp=Z,1µm,19.7s,baz=318,slow=38
MBAR Mbarara 42.09 142 P **P 07 50 13.0 -0.7**
MBAR Mbarara 42.09 142 P **P 07 50 13.5 -0.1**
MBAR Mbarara 42.09 142 *iP* **P 07 50 12.7 -1.0**
MBAR pmax pmax
comp=Z,29nm,1.1s
SVE Sverdlovsk 42.39 42 *eP* **P 07 50 15.9 +0.4**
SVE pmax pmax
comp=Z,53nm,0.7s
SVE MLR MLR
comp=Z,1µm,19.0s
ICESG Greenland Ices 42.54 338 *iP* **P 07 50 14.5 -2.4**
MZWR Madinat Zayed 42.65 92 P **P 07 50 18.2 +0.2**
MZR Muzera 42.66 93 P **P 07 50 18.0 -0.1**
SNR=11
MZR Muzera 42.66 93 *iP* **P 07 50 18.3 +0.2**
SNR=17
UMQ Umm Al-Quwin 43.37 89 P **P 07 50 24.2 +0.5**
ASUD Al Ashush, Dub 43.47 90 P **P 07 50 24.5 0.0**
SNR=6.8
ASUD Al Ashush, Dub 43.47 90 *iP* **P 07 50 24.6 0.0**
SNR=9.1
SHME Shamm 43.55 88 P **P 07 50 24.6 -0.6**
SHME Shamm 43.55 88 *iP* **P 07 50 25.0 -0.2**
SNR=8.9
NAZ Nazwa, Dubai 43.59 89 P **P 07 50 25.7 +0.2**
SNR=10
NAZ Nazwa, Dubai 43.59 89 *iP* **P 07 50 25.8 +0.2**
SNR=21
SPITS Spitsbergen Ar 43.62 3 P **P 07 50 26.0 +0.8**
comp=Z,5.5nm,0.6s,baz=156,slow=11,SNR=6.6
SPITS LR LR 08 10 08.5
comp=Z,753nm,19.8s,baz=160,slow=38
comp=Z,5.5nm,0.6s
SPITS Spitsbergen Ar 43.62 3 P **P 07 50 26.0 +0.8**
FAQ Al Faqa, Dubai 43.64 90 P **P 07 50 25.9 -0.1**
SNR=8.3
FAQ Al Faqa, Dubai 43.64 90 *iP* **P 07 50 26.0 0.0**
SNR=12
BANOM Banah 43.73 88 P **P 07 50 26.7 0.0**
BANOM Banah 43.73 88 *iP* **P 07 50 26.5 -0.2**
SNR=8.6
MASF Masafi 43.84 88 P **P 07 50 27.5 -0.1**
SNR=5.7
MSFE Esma-Masafi 43.84 88 *iP* **P 07 50 27.5 -0.2**
SNR=11
MDH Madha 43.98 88 P **P 07 50 28.4 -0.3**
SNR=5.9
MDH Madha 43.98 88 *iP* **P 07 50 28.5 -0.3**
SNR=14
SUMG Summit 44.03 342 *iP* **P 07 50 28.4 -0.6**
ASHO Ashiyiah 44.05 89 P **P 07 50 29.0 -0.2**
SNR=9.1
ASHO Ashiyiah 44.05 89 *iP* **P 07 50 29.1 -0.2**
SNR=13
HATD Hatta, Dubai 44.05 89 P **P 07 50 29.1 -0.1**
SNR=8.3
HATD Hatta, Dubai 44.05 89 *iP* **P 07 50 29.2 -0.1**
SNR=23
UOSS Minazif 44.05 89 P **P 07 50 28.6 -0.8**
UOSS IAmb IAmb 07 50 47.2
comp=Z,42nm,0.9s
UOSS Minazif 44.05 89 P **P 07 50 28.9 -0.4**
UOSS Minazif 44.05 89 *iP* **P 07 50 28.9 -0.4**
SNR=18
ALNE Al Ain 44.06 90 P **P 07 50 29.5 +0.1**
SNR=15
ALNE Al Ain 44.06 90 *iP* **P 07 50 29.4 0.0**
SNR=6.8
UMZA Um Al Zommool 44.17 92 P **P 07 50 30.3 0.0**
SOHO SOHO 44.67 90 P **P 07 50 34.3 0.0**
SOHO SOHO 44.67 90 *iP* **P 07 50 34.2 0.0**
SNR=37
ARQ Araqi 45.01 91 P **P 07 50 37.4 +0.4**
SNR=12
JASK Jask - Hormozg 45.04 87 P **P 07 50 38.2 +1.0**
SNR=9.5
ABTO Aybut 45.29 100 P **P 07 50 39.6 +0.3**
DOK Doka 45.31 98 P **P 07 50 38.9 -0.5**
HOQ Hoqain 45.55 90 P **P 07 50 40.7 -0.6**
SNR=18
SFJD Kangerlussuaq 45.56 333 P **P 07 50 41.1 +0.4**
comp=Z,7.9nm,0.7s,baz=83,slow=6.1,SNR=5.5
SFJD LR LR 08 09 28.7
comp=Z,689nm,18.1s,baz=110,slow=36
comp=Z,7.9nm,0.7s
HRA Herat 45.57 74 P **P 07 50 42.0 +0.5**
BSY Bisya 45.84 91 P **P 07 50 43.7 +0.1**
SNR=17
RBK Rabkut 45.95 99 P **P 07 50 44.4 -0.1**
KMBO Kilima Mbogo 46.11 134 P **P 07 50 46.8 +0.8**
comp=Z,14nm,1.1s,baz=328,slow=7.8,SNR=23
KMBO LR LR 08 11 50.4
comp=Z,861nm,18.2s,baz=293,slow=38
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 46.11 134 P **P 07 50 46.2 +0.2**
KMBO IAmb IAmb 07 50 48.5
comp=Z,29nm,1.2s
KMBO Kilima Mbogo 46.11 134 *eP* **P 07 50 46.5 +0.5**
KMBO IAmb IAmb 07 50 48.1
comp=Z,16nm,1.2s
KMBO Kilima Mbogo 46.11 134 P **P 07 50 47.1 +1.1**
KMBO Kilima Mbogo 46.11 134 *iP* **P 07 50 47.0 +1.0**
SNR=13
KMBO Kilima Mbogo 46.11 134*ceP* **P 07 50 45.1 -0.9**
KMBO pmax pmax
comp=Z,14nm,1.0s
BIDO Bidbid 46.25 90 P **P 07 50 46.4 -0.4**
SNR=19
SMDO Samad 46.39 90 P **P 07 50 47.9 -0.2**
SNR=26
DMTO DMTO 46.44 99 P **P 07 50 46.9 -1.4**
JMDO Jalal Madar 46.75 91 P **P 07 50 50.4 -0.3**
SNR=17
WSAR Wadi Sarin 46.79 90 LR LR 08 15 02.5
comp=Z,581nm,19.4s,baz=310,slow=42
MHTO MHTO 47.28 93 P **P 07 50 54.9 0.0**
SNR=7.3
WBK Wadi Bani Khal 47.35 90 P **P 07 50 56.1 +0.6**
SNR=13
KIBK Kibwezi 47.55 134 P **P 07 50 57.2 +0.2**
KIBK IAmb IAmb 07 50 59.1
comp=Z,25nm,1.2s
KIBK Kibwezi 47.55 134 P **P 07 50 57.7 +0.6**
SNR=7.9
NOR Nord 47.59 356 *iP* **P 07 50 56.3 -0.1**
BRVK Borovoye 47.86 47 P **P 07 50 60.0 +1.0**
BRVK IAmb IAmb 07 51 10.3
comp=Z,27nm,0.9s
BRVK Borovoye 47.86 47 P **P 07 50 59.8 +0.8**
BRVK Borovoye 47.86 47 P **P 07 51 00.0 +1.0**
BRVK pmax pmax
comp=Z,27nm,0.9s
BVA0 Borovoye Array 47.93 47 P **P 07 50 59.7 +0.2**
BVAR Borovoye Array 47.93 47 P **P 07 51 00.1 +0.6**
comp=Z,2.8nm,0.5s,baz=280,slow=7.9,SNR=17
BVAR LR LR 08 13 33.7
comp=Z,386nm,18.4s,baz=282,slow=39
comp=Z,2.8nm,0.5s
NGCH Negor - Chabah 47.93 86 P **P 07 51 01.7 +1.8**
SNR=7.6
NEEM North Greenlan 49.26 346 *iP* **P 07 51 09.3 -0.4**
IUG Iuzhnay 49.42 61 *eP* **P 07 51 10.8 -0.6**
baz=61
IUG *eS* **S 07 58 14.9 -1.9**
baz=61
IUG Iuzhnay 49.42 61 *eP* **P 07 51 10.7 -0.6**
IUG *eS* **S 07 58 14.9 -1.9**
KK31 Karatay Array 49.55 60 P **P 07 51 11.7 -0.4**
KK31 Karatay Array 49.55 60 *iP* **P 07 51 11.9 -0.2**
KKAR Karatay Array 49.55 60 P **P 07 51 11.8 -0.3**
KKAR Karatay Array 49.55 60 P **P 07 51 11.8 -0.3**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
CHGR Chuyangaron 49.68 66 P **P 07 51 13.7 +0.4**
CHGR IAmb IAmb 07 51 23.2
comp=Z,50nm,1.0s
CHGR Chuyangaron 49.68 66 P **P 07 51 13.7 +0.4**
CHGR pmax pmax
comp=Z,51nm,1.0s
BRZS Berezniki 49.70 51 *eP* **P 07 51 12.1 -1.1**
comp=Z,5.4nm,0.7s,baz=51
BRZS *eS* **S 07 58 17.8 -2.5**
baz=51
BRZS Berezniki 49.70 51 *eP* **P 07 51 12.0 -1.1**
BRZS *eS* **S 07 58 17.7 -2.5**
BRZS pmax pmax
comp=Z,5.0nm,0.7s
OTUK Ortayu 49.77 53 P **P 07 51 13.8 +0.1**
GAR Garm 50.45 65 P **P 07 51 19.8 +0.6**
BTK Batken 50.53 64 P **P 07 51 19.4 -0.3**
BTK Batken 50.53 64 P **P 07 51 19.4 -0.3**
BTK pmax pmax
comp=Z,14nm,0.7s
KBL Kabul 50.85 71 P **P 07 51 22.5 +0.1**
KBL Kabul 50.85 71 P **P 07 51 22.9 +0.6**
SNR=11
KBL Kabul 50.85 71 P **P 07 51 22.5 +0.1**
KBL pmax pmax
comp=Z,15nm,0.8s
BTLS Baital 51.58 57 *eP* **P 07 51 26.4 -1.0**
baz=57
BTLS Baital 51.58 57 *eP* **P 07 51 26.4 -1.0**
SGDS Sogindy 52.38 59 *eP* **P 07 51 32.5 -1.0**
baz=59
SGDS Sogindy 52.38 59 *eP* **P 07 51 32.4 -1.0**
AAK Ala-Archa 52.50 60 P **P 07 51 35.2 +0.8**
comp=Z,7.3nm,0.8s,baz=250,slow=2.9,SNR=5.2
AAK LR LR 08 19 23.1
comp=Z,493nm,18.8s,baz=310,slow=42
comp=Z,7.3nm,0.8s
AAK Ala-Archa 52.50 60 P **P 07 51 34.7 +0.3**
AAK Ala-Archa 52.50 60 P **P 07 51 35.5 +1.1**
AAK Ala-Archa 52.50 60*ceP* **P 07 51 35.8 +1.3**
AAK pmax pmax
comp=Z,9.0nm,1.0s
CHMS Chumysh 52.58 59 *iP* **P 07 51 33.1 -1.8**
FRB Frobisher Bay 52.70 327 LR LR 08 12 50.1
comp=Z,1µm,20.2s,baz=87,slow=35
SCHQ Schefferville 52.92 316 P **P 07 51 37.2 +0.1**
comp=Z,29nm,0.7s,baz=80,slow=6.3,SNR=47
SCHQ LR LR 08 11 04.3
comp=Z,721nm,21.6s,baz=80,slow=32
comp=Z,29nm,0.7s
TKM2 Tokmak 2 53.20 59 *iP* **P 07 51 39.5 -0.2**
TKM2 pmax pmax
comp=Z,8.0nm,1.1s
KURBB Kurchatov Arra 53.27 49 P **P 07 51 39.7 -0.1**
comp=Z,24nm,0.8s,baz=287,slow=8.2,SNR=73
KURBB S **S 07 59 07.6 -1.7**
comp=Z,9.0nm,1.2s,baz=291,slow=16,SNR=17
comp=Z,24nm,0.8s
KURBB Kurchatov Arra 53.27 49 P **P 07 51 37.8 -2.0**
KURK Kurchatov 53.31 49 P **P 07 51 39.9 -0.2**
KURK Kurchatov 53.31 49 P **P 07 51 40.2 +0.1**
KURK Kurchatov 53.31 49*ceP* **P 07 51 40.3 +0.2**
KURK pmax pmax
comp=Z,45nm,1.0s
KUU Kurty 53.45 58 *eP* **P 07 51 41.1 -0.2**
baz=58
KUU Kurty 53.45 58 *eP* **P 07 51 41.1 -0.2**
LSZ Lusaka 54.07 154 LR LR 08 16 43.2
comp=Z,2µm,20.3s,baz=348,slow=38
LSZ Lusaka 54.07 154 P **P 07 51 45.3 -0.8**
LSZ Lusaka 54.07 154⇓*iP* **P 07 51 45.9 -0.2**
LSZ IAmb IAmb 07 51 46.9
comp=Z,895nm,1.3s
LSZ Lusaka 54.07 154 *iP* **P 07 51 46.6 +0.5**
LSZ Lusaka 54.07 154 P **P 07 51 46.3 +0.2**
LSZ Lusaka 54.07 154 *iP* **P 07 51 46.6 +0.5**
LSZ Lusaka 54.07 154 P **P 07 51 45.3 -0.8**
LSZ pmax pmax
comp=Z,83nm,1.2s
LSZ MLR MLR
comp=Z,2µm,20.0s
TNSS Tian-Shan 54.12 59 *eP* **P 07 51 46.8 +0.1**
baz=59
TNSS Tian-Shan 54.12 59 *eP* **P 07 51 46.7 +0.1**
MDOK Medeo 54.15 58 *eP* **P 07 51 45.7 -0.9**
baz=58
MDOK Medeo 54.15 58 P **P 07 51 45.9 -0.7**
NIL Nilore 54.44 71 P **P 07 51 49.6 +0.9**
KSH Kashi 54.49 63 P **P 07 51 48.3 -0.8**
KSH sP pP 07 51 57.4 -0.3
KSH pmax pmax
comp=Z,14nm,0.8s
KSH LR LR
comp=Z,270nm,14.4s
KSH LR LR
comp=Z,250nm,11.6s
KSH LR LR
comp=Z,370nm,12.3s
NRIK Noril'sk 54.82 25 P **P 07 51 53.5 +2.7**
comp=Z,2.5nm,0.5s,baz=271,slow=5.5,SNR=5.0
NRIK LR LR 08 17 24.2
comp=Z,922nm,21.9s,baz=276,slow=38
comp=Z,2.5nm,0.5s
NRIK Noril'sk 54.82 25 *iP* **P 07 51 52.8 +2.0**
NRIK pmax pmax
comp=Z,11nm,1.0s
TSUM Tsumeb 54.86 167 LR LR 08 16 09.3
comp=Z,3µm,19.1s,baz=337,slow=37
TSUM Tsumeb 54.86 167 P **P 07 51 51.0 -0.8**
TSUM Tsumeb 54.86 167 *eP* **P 07 51 50.7 -1.0**
SATY Saty 55.13 58 *eP* **P 07 51 52.7 -1.0**
baz=58
SATY Saty 55.13 58 *eP* **P 07 51 52.7 -1.0**
KPKS Kokpek 55.21 58 *eP* **P 07 51 52.8 -1.4**
baz=58
KPKS Kokpek 55.21 58 *eP* **P 07 51 52.7 -1.4**
UZB Uzynbulak 55.54 58 *eP* **P 07 51 55.8 -0.9**
baz=58
UZB Uzynbulak 55.54 58 *eP* **P 07 51 55.7 -0.9**
PDGK Podgornoye 55.81 58 P **P 07 51 58.1 -0.4**
SHLS Shalkode 55.84 58 *eP* **P 07 52 00.7 +1.9**
baz=58
SHLS Shalkode 55.84 58 *eP* **P 07 52 00.7 +1.9**
D62A Allapoint, All 56.05 307 P **P 07 52 00.6 +0.6**
baz=74
D62A P **P 07 52 00.6 +0.6**
baz=74
ZAA0 Zalesovo Array 56.27 44 P **P 07 52 02.3 +0.8**
ZAA0 IAmb IAmb 07 52 11.7
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 56.27 44 P **P 07 52 01.9 +0.4**
comp=Z,10nm,0.6s,baz=279,slow=7.7,SNR=35
ZALV LR LR 08 19 53.4
comp=Z,897nm,18.0s,baz=290,slow=40
comp=Z,10nm,0.6s
ZALV Zalesovo Beam 56.27 44 P **P 07 52 02.0 +0.5**
MAKZ Makanchi 56.45 53 P **P 07 52 03.1 +0.2**
MAKZ IAmb IAmb 07 52 21.9
comp=Z,24nm,1.1s
MAKZ Makanchi 56.45 53 P **P 07 52 03.1 +0.2**
MAKZ pmax pmax
comp=Z,24nm,1.1s
MAKZ MLR MLR
comp=Z,500nm,19.0s
F63A Nahmakanta, Br 56.49 306 P **P 07 52 03.2 0.0**
baz=73
F63A P **P 07 52 03.2 0.0**
baz=73
MK31 Makanchi Array 56.66 53 P **P 07 52 04.6 +0.2**
MK31 IAmb IAmb 07 52 23.2
comp=Z,19nm,0.8s
MK31 Makanchi Array 56.66 53 P **P 07 52 04.6 +0.2**
MK31 pmax pmax
comp=Z,19nm,0.9s
MKAR Makanchi Array 56.66 53 P **P 07 52 04.5 +0.1**
comp=Z,6.2nm,0.4s,baz=288,slow=6.2,SNR=165
MKAR S **S 07 59 50.2 -4.8**
comp=Z,2.5nm,1.0s,baz=287,slow=12,SNR=4.0
MKAR LR LR 08 20 50.0
comp=Z,387nm,18.2s,baz=286,slow=41
comp=Z,6.2nm,0.4s
MKAR Makanchi Array 56.66 53 P **P 07 52 04.3 -0.1**
RCBR Riachuelo 56.68 233 P **P 07 52 07.1 +2.2**
comp=Z,30nm,1.0s,baz=168,slow=7.9,SNR=6.6
RCBR LR LR 08 17 00.1
comp=Z,655nm,18.0s,baz=190,slow=37
comp=Z,30nm,1.0s
RCBR Riachuelo 56.68 233 P **P 07 52 06.3 +1.4**
RCBR IAmb IAmb 07 52 07.9
comp=Z,45nm,1.1s
RCBR Riachuelo 56.68 233 *eP* **P 07 52 06.6 +1.6**
RCBR Riachuelo 56.68 233 *eP* **P 07 52 05.4 +0.5**
PKME Peaks-Kenny Pk 56.75 305 P **P 07 52 04.8 -0.2**
baz=72
F62A Pittston Farm, 57.01 306 P **P 07 52 07.3 +0.5**
baz=72
F62A P **P 07 52 07.3 +0.5**
baz=72
G62A West of Eustis 57.60 305 P **P 07 52 11.3 +0.3**
baz=72
G62A P **P 07 52 11.3 +0.3**
baz=72
ZSN Zaisan 58.13 52 *eP* **P 07 52 15.3 +0.4**
baz=52
ZSN Zaisan 58.13 52 *eP* **P 07 52 15.2 +0.4**
LBNH Lisbon 58.86 305 P **P 07 52 21.1 +1.2**
LBNH IAmb IAmb 07 53 12.7
comp=Z,45nm,1.2s
LBNH Lisbon 58.86 305 P **P 07 52 21.1 +1.2**
baz=70
LBNH Lisbon 58.86 305 P **P 07 52 20.3 +0.4**
baz=70
LBNH Lisbon 58.86 305 P **P 07 52 21.1 +1.2**
LBNH pmax pmax

comp=Z,45nm,1.2s
DGZ Jazzator, Alta 59.03 48 *i* P **P** **07 52 22.1 +0.9**
DGZ pmax pmax
comp=Z,33nm,1.5s
HRV Adam Dziewonsk 59.21 303 P **P** **07 52 21.9 -0.5**
baz=69
VT1 Waterbury 59.38 305 IAMs_20 IAMs_20 08 17 34.2
comp=Z,1µm,19.0s
RES Resolute Bay 59.56 342 LR LR 08 17 26.5
comp=Z,585nm,20.7s,baz=84,slow=35
MCVT Middlebury Col 59.68 305 P **P** **07 52 26.7 +1.1**
baz=69
TRQ Mont Tremblant 59.92 308 P **P** **07 52 27.2 0.0**
TRQ IAmb IAmb 07 53 15.5
comp=Z,54nm,1.5s
L61B Northampton 60.00 303 P **P** **07 52 28.1 +0.3**
baz=69
ROSB Rosrio 60.30 242 *eP* **P** **07 52 31.7 +1.5**
ROSB Rosrio 60.30 242 *eP* **P** **07 52 31.0 +0.8**
LONY Lake Ozonia 60.51 306 P **P** **07 52 31.3 +0.1**
baz=69
MSEY Mahe Island 60.74 120 P **P** **07 52 34.2 +1.0**
MSEY Mahe Island 60.74 120 P **P** **07 52 34.5 +1.3**
MUSN Musina, Limpop 61.12 155 *eP* **P** **07 52 34.6 -1.0**
MUSN IAmb IAmb 07 52 36.4
comp=Z,79nm,1.1s
MUSN Musina, Limpop 61.12 155 *i* P **P** **07 52 36.9 +1.3**
MUSN Musina, Limpop 61.12 155 *i* P **P** **07 52 36.9 +1.3**
WMQ Urumqi 61.25 55 *eP* **P** **07 52 37.0 +0.6**
WMQ sP pP 07 52 46.3 +1.1
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=Z,180nm,20.7s
WMQ LR LR
comp=Z,380nm,20.7s
WMQ LR LR
comp=Z,310nm,23.7s
PAL Palisades 61.40 302 P **P** **07 52 37.4 +0.1**
baz=67
WCNY West Carthage 61.46 306 P **P** **07 52 38.9 +1.2**
baz=68
MDP Montagnes des 61.72 255 LR LR 08 16 30.2
comp=Z,361nm,21.4s,baz=28,slow=33
ODNJ Ogdensburg 61.85 302 P **P** **07 52 41.1 +0.7**
baz=67
LEPH Lephalale, Lim 61.90 158⇓ *i* P **P** **07 52 40.1 -0.8**
LEPH IAmb IAmb 07 52 50.9
comp=Z,78nm,1.2s
LBTB Lobatse 62.34 160 LR LR 08 21 25.1
comp=Z,2µm,18.0s,baz=342,slow=38
LBTB Lobatse 62.34 160 P **P** **07 52 43.2 -0.6**
LBTB Lobatse 62.34 160⇓ *i* P **P** **07 52 43.3 -0.4**
LBTB IAmb IAmb 07 52 44.3
comp=Z,82nm,1.1s
LBTB Lobatse 62.34 160 *i* P **P** **07 52 44.4 +0.7**
LBTB Lobatse 62.34 160 *i* P **P** **07 52 44.4 +0.7**
LBTB Lobatse 62.34 160 P **P** **07 52 43.2 -0.6**
LBTB pmax pmax
comp=Z,81nm,1.1s
K57A Scipio Center 62.52 305 P **P** **07 52 46.1 +1.2**
K57A IAmb IAmb 07 53 25.8
comp=Z,20nm,0.8s
K57A Scipio Center 62.52 305 P **P** **07 52 45.6 +0.7**
baz=67
MOPA Mopani 62.80 154 *eP* **P** **07 52 46.8 0.0**
MOPA IAmb IAmb 07 52 48.2
comp=Z,43nm,1.0s
MOPA Mopani 62.80 154 *i* P **P** **07 52 49.3 +2.5**
MOPA Mopani 62.80 154 *i* P **P** **07 52 49.3 +2.5**
TMAB Tom-Au,PA,Br 62.89 246 *eP* **P** **07 52 49.6 +2.0**
TMAB Tom-Au,PA,Br 62.89 246 *eP* **P** **07 52 48.5 +0.9**
N58A Sunbury 63.41 303 P **P** **07 52 51.6 +0.7**
N58A IAmb IAmb 07 52 53.2
comp=Z,47nm,1.4s
SADO Sadowa 63.46 307 LR LR 08 18 25.6
comp=Z,790nm,19.9s,baz=54,slow=34
L56A Greenwood 63.46 304 P **P** **07 52 52.4 +1.2**
baz=66
L56A P **P** **07 52 52.4 +1.2**
baz=66
SBV Sambava 63.47 131 *eP* **P** **07 52 51.9 +0.5**
SBV Sambava 63.47 131 P **P** **07 52 52.9 +1.5**
M57A Sunshine Farm, 63.50 303 P **P** **07 52 52.6 +1.3**
baz=66
M57A P **P** **07 52 52.6 +1.3**
baz=66
MVL Millersville 63.51 302 P **P** **07 52 52.8 +1.4**
MVL IAmb IAmb 07 52 53.5
comp=Z,52nm,1.4s
HRAO HartRAO 63.77 158⇓ *i* P **P** **07 52 53.1 -0.2**
HRAO IAmb IAmb 07 52 53.6
comp=Z,49nm,0.8s
SLR Silverton 63.81 158 *eP* **P** **07 52 53.2 -0.3**
SLR IAmb IAmb 07 52 54.4
comp=Z,55nm,1.1s
WVNY West Valley, N 64.06 305 P **P** **07 52 56.3 +1.2**
WVNY IAmb IAmb 07 52 56.6
comp=Z,22nm,0.8s
WVNY West Valley, N 64.06 305 P **P** **07 52 56.3 +1.2**
baz=66
SDMD Soldier's Deli 64.09 301 P **P** **07 52 56.4 +1.1**
baz=65
SSPA Standing Stone 64.31 303 P **P** **07 52 57.7 +1.0**
baz=65
SSPA Standing Stone 64.31 303 P **P** **07 52 57.5 +0.8**
baz=65
SWZ Schweizer 64.32 161 *eP* **P** **07 52 55.0 -1.9**
SWZ IAmb IAmb 07 52 57.0
comp=Z,58nm,1.1s
AUGR Augrabies 64.53 166 *eP* **P** **07 52 57.8 -0.3**
AUGR IAmb IAmb 07 52 58.5
comp=Z,35nm,0.9s
M55A Ridgway 64.56 304 P **P** **07 52 59.4 +1.0**
baz=65
M55A P **P** **07 52 59.4 +1.0**
baz=65
CRLN Carolina, Mapu 64.61 156 *eP* **P** **07 52 58.6 -0.3**
CRLN IAmb IAmb 07 52 58.8
comp=Z,37nm,1.0s
MCPB Macapa, AP 64.61 250 *eP* **P** **07 53 00.4 +1.3**
MCPB Macapa, AP 64.61 250 *eP* **P** **07 52 59.7 +0.7**
PRYS Parys 64.64 159 *eP* **P** **07 52 57.3 -1.8**
PRYS IAmb IAmb 07 53 37.1
comp=Z,58nm,1.6s
DANN Dangsing 64.83 72 *eP* **P** **07 53 00.5 -0.2**
P57A Homestead Farm 64.89 302 P **P** **07 53 01.5 +1.0**
baz=65
P57A P **P** **07 53 01.5 +1.0**
baz=65
KOLN Koldanda 64.97 73 *eP* **P** **07 53 00.7 -0.8**
comp=Z,28nm,1.9s
GDU01 Guandu, BA 64.98 230 *eP* **P** **07 53 02.1 +0.8**
GDU01 Guandu, BA 64.98 230 *eP* **P** **07 53 01.9 +0.6**
CBN Corbin Frederi 64.98 300 P **P** **07 53 01.8 +0.7**
baz=64
ERPA Erie 65.11 305 IAMs_20 IAMs_20 08 18 12.8
comp=Z,1µm,21.0s
ERPA Erie 65.11 305 P **P** **07 53 02.9 +0.9**
baz=65
ERPA Erie 65.11 305 P **P** **07 53 02.4 +0.4**
baz=65
SJG San Juan 65.63 276 LR LR 08 17 11.2
comp=Z,182nm,21.9s,baz=84,slow=32
BOSA Boshof 65.66 162 P **P** **07 53 05.1 -0.5**
comp=Z,27nm,0.8s,baz=351,slow=7.4,SNR=35
BOSA LR LR 08 23 41.5
comp=Z,2µm,18.1s,baz=344,slow=38
comp=Z,27nm,0.8s
BOSA Boshof 65.66 162 P **P** **07 53 05.1 -0.5**
BOSA Boshof 65.66 162⇓ *i* P **P** **07 53 04.5 -1.1**
BOSA IAmb IAmb 07 53 05.7
comp=Z,100nm,1.4s
BOSA Boshof 65.66 162 *i* P **P** **07 53 06.0 +0.4**
BOSA Boshof 65.66 162 *i* P **P** **07 53 06.0 +0.4**
BOSA Boshof 65.66 162 P **P** **07 53 05.1 -0.5**
BOSA pmax pmax
comp=Z,91nm,1.3s
GKN Gorkha 65.68 72 *eP* **P** **07 53 05.4 -0.6**
comp=Z,115nm,0.7s
UPAO U. Pittsburgh 65.84 303 P **P** **07 53 07.8 +1.1**
baz=64
M53A WI Miller and 65.87 305 P **P** **07 53 06.7 -0.1**
baz=64
OPO Ambohidratompo 65.88 137 LR LR 08 23 42.8
comp=Z,335nm,18.6s,baz=176,slow=38

HYBB Hyderabad (bro 65.94 85 *eP* **P** **07 53 09.7 +2.0**
SNKL Senekal, Frees 66.03 159 *eP* **P** **07 53 07.4 -0.7**
SNKL IAmb IAmb 07 53 08.4
comp=Z,147nm,1.3s
PKA Prieska 66.07 164 *eP* **P** **07 53 06.1 -2.1**
PKA IAmb IAmb 07 53 33.9
comp=Z,8.8nm,0.8s
MCWV Mont Chateau 66.08 303 P **P** **07 53 09.1 +0.8**
MCWV IAmb IAmb 07 53 10.5
comp=Z,24nm,0.9s
MCWV Mont Chateau 66.08 303 P **P** **07 53 08.8 +0.5**
baz=64,SNR=6.1
NWCL Newcastle 66.18 157 *eP* **P** **07 53 08.1 -0.8**
NWCL IAmb IAmb 07 53 09.5
comp=Z,67nm,1.4s
CMC01 Camacan, BA 66.19 229 *eP* **P** **07 53 10.5 +1.5**
CMC01 Camacan, BA 66.19 229 *eP* **P** **07 53 10.6 +1.5**
O54A Avella 66.22 303 P **P** **07 53 09.9 +0.8**
baz=64
O54A P **P** **07 53 09.9 +0.8**
baz=64
DMN Daman 66.23 72 *eP* **P** **07 53 09.6 -0.1**
comp=Z,252nm,0.7s
N53A Lisbon 66.26 304 P **P** **07 53 10.1 +0.7**
baz=64
N53A P **P** **07 53 10.1 +0.7**
baz=64
KKN Kakani 66.28 72 *eP* **P** **07 53 09.6 -0.4**
comp=Z,12nm,0.6s
M52A Chesterland 66.29 305 P **P** **07 53 10.7 +1.2**
M52A Chesterland 66.29 305 P **P** **07 53 10.5 +1.0**
baz=64
M52A P **P** **07 53 10.5 +1.0**
baz=64
POGA Pongola 66.42 155 *eP* **P** **07 53 10.4 0.0**
POGA IAmb IAmb 07 53 10.9
comp=Z,27nm,0.8s
TIXI Tiksi 66.45 17 LR LR 08 25 58.2
comp=Z,514nm,20.7s,baz=134,slow=39
TIXI Tiksi 66.45 17 *i* P **P** **07 53 12.2 +2.2**
TIXI pmax pmax
comp=Z,11nm,1.5s
PKIN Phulchoki 66.47 72 *eP* **P** **07 53 10.8 -0.5**
comp=Z,109nm,0.8s
PKI Pulchoki 66.48 72 *eP* **P** **07 53 10.8 -0.6**
comp=Z,161nm,0.9s
PRPB Parauapebas 66.68 244 *eP* **P** **07 53 13.8 +1.4**
PRPB Parauapebas 66.68 244 *eP* **P** **07 53 13.4 +1.0**
GUN Gumba 66.69 71 *eP* **P** **07 53 12.5 -0.2**
comp=Z,106nm,0.7s
O53A New Philadelph 66.76 304 P **P** **07 53 13.1 +0.5**
baz=63,SNR=6.6
T57A Hurt 66.86 300 P **P** **07 53 14.7 +1.5**
SMTB Santa Maria do 66.88 240 *eP* **P** **07 53 15.2 +1.6**
SMTB Santa Maria do 66.88 240 *eP* **P** **07 53 15.2 +1.6**
R55A Marlinton 66.89 301 P **P** **07 53 14.5 +0.9**
R55A IAmb IAmb 07 53 17.8
comp=Z,14nm,0.8s
R55A Marlinton 66.89 301 P **P** **07 53 14.8 +1.3**
baz=63
R55A P **P** **07 53 14.8 +1.3**
baz=63
GLMI Grayling 66.96 309 P **P** **07 53 14.0 +0.2**
baz=63
JIRN Jiri 67.05 72 *eP* **P** **07 53 14.7 -0.4**
comp=Z,33nm,0.5s
Q54A Coxs Mills 67.07 302 P **P** **07 53 15.5 +1.0**
Q54A Coxs Mills 67.07 302 P **P** **07 53 15.6 +1.0**
baz=63
Q54A P **P** **07 53 15.6 +1.0**
baz=63
P53A Whipple 67.23 303 P **P** **07 53 16.6 +1.0**
baz=63
P53A P **P** **07 53 16.6 +1.0**
baz=63
CVNA Calvinia 67.23 167 *eP* **P** **07 53 15.6 +0.1**
O52A Adamsville 67.25 304 P **P** **07 53 16.2 +0.5**
baz=63
O52A P **P** **07 53 16.2 +0.5**
baz=63
N51A Ashland 67.25 305 P **P** **07 53 16.6 +0.9**
baz=63
N51A P **P** **07 53 16.6 +0.9**
baz=63
MALB Monte Alegre 67.26 251 *eP* **P** **07 53 17.2 +1.1**
MALB Monte Alegre 67.26 251 *eP* **P** **07 53 17.6 +1.5**
GUA01 Guaratinga, BA 67.30 228 *eP* **P** **07 53 17.4 +1.3**
GUA01 Guaratinga, BA 67.30 228 *eP* **P** **07 53 17.2 +1.1**
V58A Windy Hill, Pi 67.31 299 P **P** **07 53 17.7 +1.6**
V58A IAmb IAmb 07 53 18.5
comp=Z,26nm,0.9s
V58A Windy Hill, Pi 67.31 299 P **P** **07 53 17.5 +1.4**
baz=63
V58A P **P** **07 53 17.5 +1.4**
baz=63
Y60A Bolivia 67.47 296 P **P** **07 53 19.1 +2.0**
baz=62
Y60A P **P** **07 53 19.1 +2.0**
baz=62
AAM Ann Arbor 67.48 307 P **P** **07 53 16.7 -0.3**
baz=63
SDBA SAO DESIDERIO 67.51 235 *eP* **P** **07 53 18.8 +1.2**
SDBA SAO DESIDERIO 67.51 235 *eP* **P** **07 53 18.3 +0.7**
BLA Blacksburg 67.59 300 P **P** **07 53 19.1 +1.1**
baz=63
BLA Blacksburg 67.59 300 P **P** **07 53 18.2 +0.2**
baz=63
HVD Gariep Dam 67.62 162⇓ *i* P **P** **07 53 17.8 -0.3**
HVD IAmb IAmb 07 53 18.8
comp=Z,116nm,1.1s
P52A Corning 67.67 303 P **P** **07 53 19.2 +0.8**
P52A IAMs_20 IAMs_20 08 21 22.5
comp=Z,668nm,20.0s
P52A Corning 67.67 303 P **P** **07 53 19.0 +0.6**
baz=63,SNR=13
E43A Lone Tree Farm 67.74 312 P **P** **07 53 19.0 +0.3**
baz=62
PCHI Peechi 67.78 93⇓ *eP* **P** **07 53 19.0 -0.3**
PCHI *eS* **S** **08 02 12.4 -3.4**
J47A Sunmer 67.81 308 P **P** **07 53 19.5 +0.4**
baz=63
J47A P **P** **07 53 19.5 +0.4**
baz=63
S54A Dingess, Beckl 67.95 301 P **P** **07 53 20.6 +0.4**
baz=62
S54A P **P** **07 53 20.6 +0.4**
baz=62
Y59A Loris 67.97 297 P **P** **07 53 21.7 +1.4**
Y59A Loris 67.97 297 P **P** **07 53 21.8 +1.5**
baz=62
Y59A P **P** **07 53 21.8 +1.5**
baz=62
FRAZ Fraserburg 67.97 166⇓ *i* P **P** **07 53 19.9 -0.4**
FRAZ IAmb IAmb 07 53 21.0
comp=Z,88nm,1.0s
ACSO Alum Creek Sta 67.98 304 IAMs_20 IAMs_20 08 21 51.5
comp=Z,946nm,20.0s
ACSO Alum Creek Sta 67.98 304 P **P** **07 53 21.0 +0.8**
baz=62
ACSO Alum Creek Sta 67.98 304 P **P** **07 53 20.8 +0.5**
baz=62,SNR=12
X58A Rowland 68.04 297 P **P** **07 53 21.3 +0.6**
X58A IAmb IAmb 07 53 23.5
comp=Z,29nm,0.8s
X58A Rowland 68.04 297 P **P** **07 53 21.5 +0.7**
baz=62
X58A P **P** **07 53 21.5 +0.7**
baz=62
Q52A Bidwell 68.07 303 P **P** **07 53 21.7 +0.8**
baz=62
Q52A P **P** **07 53 21.7 +0.8**
baz=62
ZAK Zakamensk 68.12 43 *eP* **P** **07 53 21.7 +0.6**
ZAK pmax pmax
comp=Z,22nm,1.2s
R53A Hurricane 68.15 302 P **P** **07 53 22.0 +0.6**
baz=62
R53A P **P** **07 53 22.0 +0.6**
baz=62
A36M Sachs Harbour 68.18 345 IAMs_20 IAMs_20 08 23 43.6
comp=Z,619nm,19.0s
A36M Sachs Harbour 68.18 345 P **P** **07 53 21.8 +0.8**
baz=42,SNR=9.7
W57A Gilead 68.24 298 P **P** **07 53 23.0 +1.0**
W57A IAmb IAmb 07 53 24.1
comp=Z,34nm,1.4s

SUR Sutherland 68.30 167 LR LR 08 24 29.9
comp=Z,2µm,18.1s,baz=339,slow=37
BFON Badsfontein, M 68.33 164 *eP* **P** **07 53 22.5 -0.1**
BFON IAmb IAmb 07 53 32.8
comp=Z,45nm,0.9s
VOI Vohitsoka 68.36 139 P **P** **07 53 23.0 +0.1**
VOI IAmb IAmb 07 53 24.9
comp=Z,45nm,1.1s
VOI Vohitsoka 68.36 139 *eP* **P** **07 53 21.7 -1.2**
VOI Vohitsoka 68.36 139 P **P** **07 53 24.1 +1.3**
P51A Williamsport 68.38 304 P **P** **07 53 23.3 +0.5**
baz=62
P51A P **P** **07 53 23.3 +0.5**
baz=62
NAN01 Guarapari, ES 68.46 228 *eP* **P** **07 53 24.2 +0.8**
NAN01 Guarapari, ES 68.46 228 *eP* **P** **07 53 23.6 +0.2**
Y58A Scranton 68.59 297 P **P** **07 53 25.4 +1.3**
Y58A Scranton 68.59 297 P **P** **07 53 26.1 +2.0**
baz=62
Y58A P **P** **07 53 26.1 +2.0**
baz=62
Q51A Peebles 68.79 303 P **P** **07 53 26.1 +0.7**
baz=62
Q51A P **P** **07 53 26.1 +0.7**
baz=62
V55A Taylorsville 68.79 299 P **P** **07 53 26.6 +1.1**
BIRD Birdtown, Kers 68.82 298 P **P** **07 53 26.4 +0.8**
BIRD IAmb IAmb 07 53 27.4
comp=Z,13nm,0.8s
U54A Nelsons Funny 68.90 300 P **P** **07 53 27.0 +0.8**
U54A IAmb IAmb 07 53 30.7
comp=Z,30nm,1.0s
U54A Nelsons Funny 68.90 300 P **P** **07 53 27.2 +1.0**
baz=62
U54A P **P** **07 53 27.2 +1.0**
baz=62
O49A Covington 68.91 305 P **P** **07 53 26.5 +0.4**
baz=62
O49A P **P** **07 53 26.5 +0.4**
baz=62
ROOI Rooidraai Farm 68.97 164 *eP* **P** **07 53 26.3 -0.1**
ROOI IAmb IAmb 07 53 27.1
comp=Z,70nm,1.1s
GRAF Camdeboo Natio 68.98 163 *eP* **P** **07 53 27.2 +0.8**
GRAF IAmb IAmb 07 53 27.5
comp=Z,50nm,1.0s
CER Ceres 68.98 168 *eP* **P** **07 53 26.6 +0.2**
JANB Januaria 69.03 233 *eP* **P** **07 53 28.2 +1.1**
JANB Januaria 69.03 233 *eP* **P** **07 53 28.3 +1.1**
MATJ Matjiesfontein 69.11 167 *eP* **P** **07 53 26.6 -0.7**
MATJ IAmb IAmb 07 53 28.2
comp=Z,71nm,0.9s
COWI Conover 69.18 312 IAMs_20 IAMs_20 08 21 40.3
comp=Z,906nm,18.0s
KMSC Kings Mountain 69.21 299 P **P** **07 53 28.7 +0.6**
baz=62
NHSC New Hope 69.34 296 P **P** **07 53 30.2 +1.3**
baz=61,SNR=5.4
O48B Farmland 69.43 305 P **P** **07 53 29.0 -0.3**
baz=61
O48B Farmland 69.43 305 P **P** **07 53 29.2 -0.2**
baz=61
GOMU GeErMu 69.45 60 P **P** **07 53 34.3 +4.3**
GOMU pP pP 07 53 38.6 -0.4
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,160nm,5.8s
GOMU LR LR
comp=Z,130nm,17.6s
GOMU LR LR
comp=Z,160nm,17.8s
GOMU LR LR
comp=Z,200nm,18.4s
P49A Miami Univ. Ec 69.48 304 IAMs_20 IAMs_20 08 21 11.4
comp=Z,851nm,21.0s
P49A Miami Univ. Ec 69.48 304 P **P** **07 53 29.5 -0.2**
baz=61
P49A Miami Univ. Ec 69.48 304 P **P** **07 53 29.3 -0.4**
baz=61,SNR=6.4
N47A Urbana 69.49 306 P **P** **07 53 29.8 0.0**
baz=61
N47A P **P** **07 53 29.8 0.0**
baz=61
JSC Jenkinsville 69.57 298 P **P** **07 53 31.6 +1.3**
baz=61
S51A Beattyville 69.62 302 P **P** **07 53 31.3 +0.7**
baz=61
S51A P **P** **07 53 31.3 +0.7**
baz=61
BOAV Boa Vista 69.64 258 P **P** **07 53 32.2 +1.2**
BOAV IAmb IAmb 07 53 34.3
comp=Z,66nm,1.6s
BOAV Boa Vista 69.64 258 *eP* **P** **07 53 32.7 +1.8**
BOAV Boa Vista 69.64 258 *eP* **P** **07 53 32.6 +1.6**
EYMN Ely 69.68 315 P **P** **07 53 31.2 +0.5**
baz=60
PAULI Pauline 69.71 299 P **P** **07 53 32.2 +1.1**
baz=61
BOD Bodaibo 69.72 33 *eP* **P** **07 53 30.5 -0.3**
BOD pmax pmax
comp=Z,42nm,1.4s
RIB01 Linhares ES 69.75 227 *eP* **P** **07 53 32.7 +1.3**
RIB01 Linhares ES 69.75 227 *eP* **P** **07 53 32.8 +1.3**
SJMB Sao Joao De Ma 69.76 228 *eP* **P** **07 53 32.0 +0.5**
SJMB Sao Joao De Ma 69.76 228 *eP* **P** **07 53 32.0 +0.5**
R50A Paris 69.82 303 P **P** **07 53 32.4 +0.7**
baz=61
R50A P **P** **07 53 32.4 +0.7**
baz=61
LSA Lhasa 69.89 67 P **P** **07 53 33.3 +0.4**
LSA pmax pmax
comp=Z,22nm,0.9s
ITTB Itaituba 69.98 249 *eP* **P** **07 53 34.7 +1.7**
ITTB Itaituba 69.98 249 *eP* **P** **07 53 34.5 +1.4**
MC01 Montes Claros 70.00 232 *eP* **P** **07 53 34.4 +1.3**
MC01 Montes Claros 70.00 232 *eP* **P** **07 53 33.4 +0.3**
P48A Milroy 70.00 305 P **P** **07 53 32.1 -0.7**
baz=61
P48A P **P** **07 53 32.1 -0.7**
baz=61
V53A Saluda 70.02 300 P **P** **07 53 34.2 +1.1**
baz=61
V53A P **P** **07 53 34.2 +1.1**
baz=61
TZTN Tazewell 70.11 301 P **P** **07 53 34.6 +1.0**
baz=61
TZTN Tazewell 70.11 301 P **P** **07 53 34.3 +0.7**
baz=61
G40A Rib Lake 70.24 312 P **P** **07 53 34.7 +0.5**
baz=60
ELIM Elim 70.27 168 *eP* **P** **07 53 33.0 -1.3**
ELIM IAmb IAmb 07 53 35.0
comp=Z,76nm,1.0s
HODGE Hodges 70.32 298 P **P** **07 53 36.0 +1.2**
baz=61
L44A Lake County Fo 70.32 308 P **P** **07 53 35.1 +0.4**
baz=61
L44A Lake County Fo 70.32 308 P **P** **07 53 34.3 -0.5**
baz=61
R49A Shelbyville 70.39 303 P **P** **07 53 35.7 +0.4**
baz=61
R49A P **P** **07 53 35.7 +0.4**
baz=61
CASEE Lake Jocassee 70.43 299 P **P** **07 53 36.7 +1.1**
baz=61
257A Skidaway Islan 70.52 296 P **P** **07 53 37.0 +0.9**
SFIN Lafayette 70.67 306 P **P** **07 53 37.1 +0.1**
baz=60
SFIN Lafayette 70.67 306 P **P** **07 53 36.8 -0.1**
baz=60
TKL Tuckaleechee C 70.70 300 LR LR 08 24 04.4
comp=Z,274nm,20.1s,baz=66,slow=35
TKL Tuckaleechee C 70.70 300 P **P** **07 53 37.8 +0.6**
baz=61
T50A Nancy 70.78 302 P **P** **07 53 37.8 +0.1**
baz=60
T50A P **P** **07 53 37.8 +0.1**
baz=60
ALF01 Guarapari-ES 70.94 226 *eP* **P** **07 53 39.8 +1.2**
ALF01 Guarapari-ES 70.94 226 *eP* **P** **07 53 39.1 +0.4**
ULM Lac du Bonnet 70.98 318 P **P** **07 53 38.9 +0.2**
comp=Z,22nm,0.9s,baz=57,slow=6.4,SNR=9.9
ULM LR LR 08 22 35.8
comp=Z,414nm,18.3s,baz=40,slow=34
comp=Z,22nm,0.9s

DIAM **Diamantina, MG** 71.00 230 *e*P P 07 53 40.8 +1.4
DIAM **Diamantina, MG** 71.00 230 *e*P P 07 53 40.7 +1.4
V51A **Loudon** 71.04 301 P P 07 53 40.1 +0.8
V51A IAmb IAmb 07 53 41.3
comp=Z,28nm,0.9s
V51A **Loudon** 71.04 301 P P 07 53 40.1 +0.8
baz=60
W52A **Murphy** 71.09 300 P P 07 53 40.2 +0.6
baz=60
SONM **Songino Array** 71.17 44 P P 07 53 40.7 +0.8
comp=Z,6.0nm,1.0s,baz=303,slow=6.3,SNR=16
SONM LR LR 08 29 19.9
comp=Z,515nm,18.3s,baz=323,slow=40
comp=Z,6.0nm,1.0s
SONM **Songino Array** 71.17 44 P P 07 53 41.0 +1.0
SONM IAmb IAmb 07 53 51.0
comp=Z,27nm,1.2s
SONM **Songino Array** 71.17 44 P P 07 53 41.0 +1.0
SONM pmax pmax
comp=Z,27nm,1.2s
I40A **Norwalk** 71.19 311 P P 07 53 40.5 +0.5
baz=60
WCI **Wyandotte Cave** 71.19 304 IAMs_20 IAMs_20 08 22 58.7
comp=Z,895nm,19.0s
WCI **Wyandotte Cave** 71.19 304 P P 07 53 40.3 +0.2
baz=60
WCI **Wyandotte Cave** 71.19 304 P P 07 53 40.0 -0.2
baz=60
WCI **Wyandotte Cave** 71.19 304 P P 07 53 40.7 +0.6
GTA **Gaotai** 71.33 55 *e*P P 07 53 41.6 +0.4
GTA pP pP 07 53 45.9 -4.3
GTA sP sP 07 53 49.6 -3.5
GTA S **S** **08 02 56.0 -1.4**
GTA sS sS 08 03 11.3 -0.9
GTA pmax pmax
comp=Z,6.0nm,0.5s
GTA pmax pmax
comp=Z,110nm,6.8s
GTA LR LR
comp=Z,240nm,16.3s
GTA LR LR
comp=Z,260nm,19.5s
GTA LR LR
comp=Z,350nm,15.9s
NPGB **Novo Progresso** 71.40 247 *e*P P 07 53 42.6 +1.0
NPGB **Novo Progresso** 71.40 247 *e*P P 07 53 42.5 +0.9
JFWS **Jewell Farm** 71.45 310 P P 07 53 41.3 -0.3
baz=60
ULN **Ulaanbaatar** 71.53 44 IAMs_20 IAMs_20 08 28 32.1
comp=Z,675nm,20.0s
ULN **Ulaanbaatar** 71.53 44 P P 07 53 51.9 +10
ULN **Ulaanbaatar** 71.53 44 *ce*P P 07 53 42.3 +0.1
ULN pmax pmax
comp=Z,4.0nm,1.0s
L42A **Oliver, Polo** 71.54 309 P P 07 53 42.3 +0.1
baz=60
GOGA **Godfrey** 71.59 298 P P 07 53 43.7 +1.1
GOGA IAmb IAmb 07 53 45.2
comp=Z,38nm,1.2s
GOGA **Godfrey** 71.59 298 P P 07 53 42.7 0.0
baz=60
GOGA **Godfrey** 71.59 298 P P 07 53 43.7 +1.1
baz=60,SNR=11
GOGA **Godfrey** 71.59 298 P P 07 53 43.7 +1.1
GOGA pmax pmax
comp=Z,38nm,1.2s
255A **Hazlehurst** 71.61 296 P P 07 53 44.2 +1.4
baz=60
SNDB **Serra Nova Dou** 71.66 240 *e*P P 07 53 44.3 +1.1
SNDB **Serra Nova Dou** 71.66 240 *e*P P 07 53 44.5 +1.4
O44A **Mansfield** 71.69 306 P P 07 53 43.6 +0.4
baz=60
U49A **Red Boiling Sp** 71.69 302 P P 07 53 43.3 +0.1
baz=60
154A **Montrose** 71.73 297 P P 07 53 45.2 +1.8
baz=60
Y52A **Lilburn** 71.80 299 P P 07 53 45.2 +1.3
baz=60
Y52A P P 07 53 45.2 +1.3
baz=60
SPMN **Marine on St.** 71.84 313 P P 07 53 43.5 -0.5
baz=59,SNR=6.4
456A **Hilliard** 71.88 295 P P 07 53 46.9 +2.5
baz=60
BDFB **Brasilia** 71.92 235 P P 07 53 45.8 +1.0
comp=Z,26nm,0.8s,baz=48,slow=6.4,SNR=34
BDFB LR LR 08 23 48.4
comp=Z,879nm,20.9s,baz=62,slow=34
comp=Z,26nm,0.8s
BDFB **Brasilia** 71.92 235 P P 07 53 45.3 +0.5
BDFB IAmb IAmb 07 53 47.4
comp=Z,43nm,1.0s
BDFB **Brasilia** 71.92 235 *e*P P 07 53 46.5 +1.7
BDFB **Brasilia** 71.92 235 *e*P P 07 53 46.1 +1.3
AGMN **Agassiz Nation** 72.01 317 IAMs_20 IAMs_20 08 22 18.2
comp=Z,744nm,21.0s
AGMN **Agassiz Nation** 72.01 317 P P 07 53 45.3 +0.4
baz=58
AGMN **Agassiz Nation** 72.01 317 P P 07 53 45.2 +0.4
baz=58,SNR=5.4
X51A **Calhoun** 72.02 300 P P 07 53 46.2 +1.0
baz=60
X51A P P 07 53 46.2 +1.0
baz=60
W50A **Signal Mountai** 72.02 301 P P 07 53 46.3 +1.0
baz=60
YKA **Yellowknife Ar** 72.03 335 P P 07 53 45.1 +0.5
comp=Z,4.9nm,0.5s,baz=48,slow=6.0,SNR=43
YKA LR LR 08 25 03.3
comp=Z,783nm,18.4s,baz=59,slow=36
comp=Z,4.9nm,0.5s
HDIL **Hopedale** 72.03 307 IAMs_20 IAMs_20 08 23 46.8
comp=Z,848nm,20.0s
HDIL **Hopedale** 72.03 307 P P 07 53 45.1 -0.1
baz=59
BAUV **El Baul** 72.05 268 P P 07 53 46.6 +1.0
BAUV IAmb IAmb 07 53 48.4
comp=Z,31nm,1.0s
OLIL **Olney** 72.16 305 P P 07 53 45.9 0.0
baz=60
T47A **Sharon Grove** 72.37 303 P P 07 53 47.9 +0.6
T47A **Sharon Grove** 72.37 303 P P 07 53 47.8 +0.6
baz=60
CAM01 **Campos-RJ** 72.43 226 *e*P P 07 53 48.2 +0.7
CAM01 **Campos-RJ** 72.43 226 *e*P P 07 53 48.3 +0.7
L40A **Anamosa** 72.50 309 P P 07 53 48.0 +0.1
baz=59
P43A **Skaggs, Pawnee** 72.65 306 P P 07 53 48.7 -0.1
baz=59
TIGA **Tifton** 72.68 296 P P 07 53 50.1 +1.0
baz=60
Q44A **Meyer Farm, Va** 72.69 306 P P 07 53 49.3 +0.2
baz=59
DWPF **Disney Wildern** 72.75 292 P P 07 53 50.3 +0.7
baz=59
V48A **Smith Brothers** 72.81 302 P P 07 53 49.9 0.0
baz=59
INK **Inuvik** 72.83 345 P P 07 53 49.8 +0.4
comp=Z,3.2nm,0.5s,baz=20,slow=9.1,SNR=40
INK LR LR 08 28 09.3
comp=Z,748nm,18.0s,baz=12,slow=38
comp=Z,3.2nm,0.5s
INK **Inuvik** 72.83 345 P P 07 53 49.9 +0.5
baz=34
I37B **Waseca** 72.84 312 P P 07 53 50.1 +0.1
baz=58
152A **Waverly Hall** 72.88 298 P P 07 53 51.6 +1.2
baz=59
656A **Willston** 72.94 294 P P 07 53 53.3 +2.6
baz=59
N41A **Harden Midland** 72.97 308 P P 07 53 50.5 -0.3
baz=59
DUB01 **Friburgo-RJ** 73.05 227 *e*P P 07 53 52.2 +0.8
DUB01 **Friburgo-RJ** 73.05 227 *e*P P 07 53 52.1 +0.8
MACA **Manacapuru-AM** 73.09 254 *e*P P 07 53 53.9 +2.0
MACA **Manacapuru-AM** 73.09 254 *e*P P 07 53 53.1 +1.3
PALK **Pallekele** 73.15 93 P P 07 53 52.1 -0.2
comp=Z,18nm,0.8s,baz=162,slow=1.1,SNR=6.8
PALK LR LR 08 26 59.1
comp=Z,350nm,21.7s,baz=51,slow=36
comp=Z,18nm,0.8s
K38A **Parkersburg** 73.17 310 P P 07 53 51.4 -0.6
baz=58
YAK **Yakutsk** 73.24 24 LR LR 08 30 54.8
comp=Z,480nm,18.4s,baz=277,slow=40
YAK **Yakutsk** 73.24 24 *e*P P 07 53 51.9 0.0
YAK *e**PP **pP** 07 54 00.5 -0.3
YAK *e* 07 54 10.1
YAK *e*S **S** **08 03 19.0 +0.9**
YAK *e* 08 03 56.3
YAK *e*SS **SS** **08 07 58.5 -0.4**
YAK *e*SSS SSS 08 11 18.9
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,153nm,2.3s
YAK pmax pmax
comp=N,147nm,2.3s
YAK pmax pmax
comp=E,96nm,2.2s
YAK smax smax
comp=N,251nm,2.7s
YAK smax smax
comp=E,114nm,2.3s
YAK MLR MLR
comp=Z,617nm,22.0s
YAK MLR MLR
comp=N,409nm,19.0s
YAK MLR MLR
comp=E,480nm,22.0s
WVT **Waverly** 73.31 303 P P 07 53 52.4 -0.4
baz=59
WVT **Waverly** 73.31 303 P P 07 53 52.1 -0.7
baz=59
WVT **Waverly** 73.31 303 P P 07 53 52.6 -0.2
C26K **Camden Bay** 73.41 350 P P 07 53 54.6 +1.8
baz=24
Y49A **Blount Mountai** 73.49 300 P P 07 53 54.0 +0.1
baz=59
C27K **Jago River** 73.50 349 P P 07 53 54.7 +1.3
baz=25
F31M **Tsiigehtchic** 73.60 345 P P 07 53 54.6 +0.7
baz=34,SNR=8.9
X48A **Hartselle** 73.63 301 P P 07 53 55.2 +0.5
baz=59
352A **Blakely** 73.64 297 P P 07 53 56.1 +1.3
baz=59
IPMB **Ipameri, GO** 73.71 234 *e*P P 07 53 56.2 +0.8
IPMB **Ipameri, GO** 73.71 234 *e*P P 07 53 55.9 +0.5
BRDH **Bariadhala** 73.81 73 LR LR 08 31 35.8
comp=E,136nm,18.8s,baz=278,slow=40
VAS01 **Vassouras-RJ** 73.84 227 *e*P P 07 53 57.4 +1.4
VAS01 **Vassouras-RJ** 73.84 227 *e*P P 07 53 56.6 +0.7
C24K **Franklin Bluff** 74.10 351 P P 07 53 58.3 +1.5
baz=21
FVM **French Village** 74.12 305 P P 07 53 58.0 +0.4
baz=58
D25K **Kavik River** 74.16 350 P P 07 53 59.2 +1.9
baz=23
CLDB **Colider** 74.20 244 *e*P P 07 53 59.0 +0.7
CLDB **Colider** 74.20 244 *e*P P 07 53 59.0 +0.7
SDV **Santo Domingo** 74.21 270 LR LR 08 23 15.7
comp=E,126nm,21.7s,baz=78,slow=33
SDV **Santo Domingo** 74.21 270 *e*P P 07 54 00.3 +1.6
SDV **Santo Domingo** 74.21 270 *e*P P 07 53 59.8 +1.1
C23K **Itkillik River** 74.22 352 P P 07 53 59.6 +2.0
baz=20
LRAL **Lakeview Retre** 74.33 299 P P 07 53 59.4 +0.5
LRAL IAmb IAmb 07 54 00.3
comp=Z,27nm,0.7s
LRAL **Lakeview Retre** 74.33 299 P P 07 53 59.0 +0.1
baz=58
LRAL **Lakeview Retre** 74.33 299 P P 07 53 59.1 +0.3
baz=58,SNR=24
WRGLY **Wrigley** 74.35 339 P P 07 54 00.0 +1.7
baz=41
MDND **Maddock** 74.35 318 P P 07 53 58.6 -0.1
baz=55
P40A **Paris** 74.37 307 P P 07 53 58.8 -0.2
baz=58
E27K **Coleen River** 74.46 348 P P 07 54 00.4 +1.4
baz=27
N38A **Joes South For** 74.46 309 P P 07 53 59.4 -0.1
baz=57
G30M **tAoh Zraii Nji** 74.51 346 P P 07 53 59.4 0.0
baz=31
ARAG **Araguaiana, MT** 74.57 238 *e*P P 07 54 02.0 +1.7
ARAG **Araguaiana, MT** 74.57 238 *e*P P 07 54 00.8 +0.5
MAN01 **Angra dos Reis** 74.60 227 *e*P P 07 54 02.0 +1.5
MAN01 **Angra dos Reis** 74.60 227 *e*P P 07 54 01.1 +0.7
CCM **Cathedral Cave** 74.63 306 IAMs_20 IAMs_20 08 23 42.5
comp=Z,1µm,22.0s
CCM **Cathedral Cave** 74.63 306 P P 07 54 00.5 0.0
baz=58
CCM **Cathedral Cave** 74.63 306 P P 07 54 00.8 +0.3
baz=58
W45A **Hickory Valley** 74.76 302 P P 07 54 01.0 -0.3
baz=58
ECSD **EROS Data Cent** 74.94 313 P P 07 54 02.7 +0.4
ECSD IAmb IAmb 07 54 03.6
comp=Z,20nm,0.8s
ECSD **EROS Data Cent** 74.94 313 P P 07 54 02.4 +0.1
baz=56
ECSD **EROS Data Cent** 74.94 313 P P 07 54 02.4 +0.1
baz=56,SNR=18
Z47A **Carrollton** 75.01 300 P P 07 54 02.8 0.0
baz=58
D23K **Nanushuk River** 75.06 352 P P 07 54 03.3 +0.8
baz=20
EPYK **Eagle Plains** 75.14 345 IAMs_20 IAMs_20 08 28 52.4
comp=Z,690nm,20.0s
EPYK **Eagle Plains** 75.14 345 P P 07 54 03.8 +0.8
baz=31,SNR=6.8
E25K **Arctic Village** 75.15 349 P P 07 54 04.7 +1.6
baz=24
R40A **Maddies Statio** 75.18 306 P P 07 54 04.0 +0.3
baz=57
TOLK **Toolik Lake Re** 75.23 351 P P 07 54 04.9 +1.4
baz=20
OXF **Oxford** 75.26 302 P P 07 54 03.7 -0.6
baz=58
OXF **Oxford** 75.26 302 P P 07 54 03.6 -0.6
baz=58
P38A **Dawn** 75.28 308 P P 07 54 04.5 +0.2
P38A IAmb IAmb 07 54 05.6
comp=Z,34nm,0.8s
P38A **Dawn** 75.28 308 P P 07 54 04.4 +0.2
baz=57
F26K **Sheenjek River** 75.32 349 P P 07 54 05.5 +1.5
baz=25,SNR=7.4
BRAL **Brewton** 75.35 298 P P 07 54 05.2 +0.4
baz=58
PDRB **Porto dos Gac** 75.38 244 *e*P P 07 54 06.4 +1.3
PDRB **Porto dos Gac** 75.38 244 *e*P P 07 54 06.0 +0.9
E24K **Your Creek** 75.61 350 P P 07 54 07.3 +1.6
baz=21
LCAR **Lake Charles** 75.63 304 P P 07 54 06.5 +0.2
baz=57
F25K **Christian Rive** 75.65 349 P P 07 54 07.0 +1.1
baz=24
E28A **Huff** 75.69 317 P P 07 54 07.0 +0.4
baz=54
Y45A **Yeager Farm, C** 75.70 301 P P 07 54 06.7 0.0
baz=58
G27K **Doyon Strip** 75.70 347 P P 07 54 07.0 +0.8
baz=27
E23K **Chandalar** 75.78 351 P P 07 54 09.1 +2.3
baz=20
L34A **Svendsen Farm,** 75.79 311 P P 07 54 07.3 +0.2
L34A **Svendsen Farm,** 75.79 311 P P 07 54 07.1 0.0
baz=56
LZH **Lanzhou** 75.79 56 *e*P P 07 54 08.3 +0.9
LZH sP pP 07 54 16.8 +0.3
LZH S **S** **08 03 47.8 -0.1**
LZH sS sS 08 04 04.8 +1.9
LZH pmax pmax
comp=Z,23nm,1.3s
LZH LR LR
comp=Z,410nm,16.5s
LZH LR LR
comp=Z,440nm,16.8s
LZH LR LR
comp=Z,370nm,18.1s
SUSD **Miller** 75.93 315 P P 07 54 08.8 +0.8
baz=55
G26K **Porcupine Rive** 75.94 348 P P 07 54 10.1 +2.6
baz=25,SNR=8.7
PARB **Paraibuna** 75.96 228 *e*P P 07 54 09.7 +1.4
PARB **Paraibuna** 75.96 228 *e*P P 07 54 09.2 +0.9
E22K **Anaktuvuk Pass** 75.98 352 P P 07 54 09.2 +1.4
baz=18
F24K **Squaw Lake** 76.05 350 P P 07 54 10.1 +1.9
baz=22
BB19B **Bebedouro** 76.13 232 *e*P P 07 54 10.8 +1.6
BB19B **Bebedouro** 76.13 232 *e*P P 07 54 10.2 +0.9
H27K **Steamboat Moun** 76.20 347 P P 07 54 10.1 +1.1
baz=27
S39A **Bolivar** 76.20 306 P P 07 54 10.1 +0.5
baz=57
BILL **Bilibino** 76.30 8*c* *i*P P 07 54 18.9 +9.3
BILL *i* 07 54 26.0
BILL *e* 07 57 10.0
BILL pmax pmax
comp=Z,30nm,1.4s
I29M **Ogilvie Camp,** 76.34 346 IAMs_20 IAMs_20 08 28 15.2
comp=Z,527nm,20.0s
I29M **Ogilvie Camp,** 76.34 346 P P 07 54 11.2 +1.3
baz=29,SNR=13
ITRB **Iturama** 76.36 234 *e*P P 07 54 12.2 +1.7
ITRB **Iturama** 76.36 234 *e*P P 07 54 11.2 +0.7
SGCB **SÃo Gabriel d** 76.37 260 *e*P P 07 54 13.1 +2.2
SGCB **SÃo Gabriel d** 76.37 260 *e*P P 07 54 12.0 +1.2
FCAR **Ozark Folk Cen** 76.39 304 P P 07 54 10.8 +0.1
FCAR IAmb IAmb 07 54 12.1
comp=Z,22nm,0.9s
DGMT **Dagmar** 76.47 320 P P 07 54 11.7 +0.8
baz=52
DGMT **Dagmar** 76.47 320 P P 07 54 12.6 +1.7
baz=52
RCLB **Rio Claro- Sao** 76.47 230 *e*P P 07 54 12.9 +1.7
RCLB **Rio Claro- Sao** 76.47 230 *e*P P 07 54 11.8 +0.7
G25K **Bearman Lake** 76.48 349 P P 07 54 12.0 +1.4
baz=23
VAO **Valinhos** 76.54 229 *e*P P 07 54 13.0 +1.4
VAO **Valinhos** 76.54 229 *e*P P 07 54 12.0 +0.4
F22K **John River** 76.62 352 P P 07 54 12.9 +1.5
baz=18
COLD **Coldfoot** 76.64 351 P P 07 54 13.3 +1.8
COLD **Coldfoot** 76.64 351 P P 07 54 13.4 +1.9
baz=20
G24K **Hadweenzic Riv** 76.75 350 P P 07 54 14.0 +1.8
baz=22
I27K **Kandik River** 76.78 347 P P 07 54 13.7 +1.3
baz=27
KOTAN **Kotaneelee Air** 76.89 337 P P 07 54 14.0 +1.0
baz=40
H25L **Birch Creek** 76.90 349 P P 07 54 15.2 +2.2
baz=23
346A **Big Creek Wild** 76.98 299 P P 07 54 15.0 +1.0
baz=57
MMPY **Sheldon Lake,** 77.02 341 P P 07 54 15.9 +2.1
baz=35,SNR=6.4
F21K **Alatna River** 77.05 352 P P 07 54 16.0 +2.1
baz=17
TGTN **Hyland Airport** 77.08 339 P P 07 54 16.1 +1.9
baz=37
G22K **Bettles** 77.10 351 P P 07 54 16.0 +1.9
baz=19
G23K **Bananza Creek** 77.11 351 P P 07 54 16.2 +2.0
baz=20
J29M **Klondike Camp** 77.12 345 IAMs_20 IAMs_20 08 30 02.7
comp=Z,800nm,19.0s
J29M **Klondike Camp** 77.12 345 P P 07 54 15.6 +1.3
baz=29
N33B **J Bar K, Exete** 77.15 311 P P 07 54 15.5 +0.6
baz=55
BGNE **Belgrade** 77.20 312 P P 07 54 15.9 +0.7
BGNE **Belgrade** 77.20 312 P P 07 54 15.5 +0.3
baz=55
BGNE **Belgrade** 77.20 312 P P 07 54 15.9 +0.7
baz=55,SNR=8.0
VBMS **Vicksburg** 77.28 300 P P 07 54 16.6 +0.9
baz=57
BTO **Baotou** 77.30 49 *e*P P 07 54 26.6 +11
I26K **Coal Creek Min** 77.33 347 P P 07 54 16.6 +1.3
I26K IAMs_20 IAMs_20 08 30 36.2
comp=Z,697nm,19.0s
I26K **Coal Creek Min** 77.33 347 P P 07 54 16.2 +0.8
baz=25
C2SB **Chapadao do Su** 77.38 236 *e*P P 07 54 18.2 +1.9
C2SB **Chapadao do Su** 77.38 236 *e*P P 07 54 17.3 +1.0
HHAR **Hobbs** 77.40 305 P P 07 54 16.4 +0.1
baz=56
EGAK **Eagle** 77.43 346 P P 07 54 16.9 +0.9
baz=27
SALV **Santo Antonio** 77.44 240 *e*P P 07 54 17.3 +0.6
SALV **Santo Antonio** 77.44 240 *e*P P 07 54 17.3 +0.6
K29M **Barlow Dome** 77.50 344 P P 07 54 17.5 +1.0
baz=30
PRP **Porcupine Dome** 77.54 348 P P 07 54 18.5 +1.7
PRP IAmb IAmb 07 54 28.9
comp=Z,22nm,1.1s
PRP **Porcupine Dome** 77.54 348 P P 07 54 18.1 +1.3
baz=24
KSU1 **Kansas State U** 77.56 309 P P 07 54 17.5 +0.3
baz=55
KSU1 **Kansas State U** 77.56 309 P P 07 54 17.3 +0.2
baz=55,SNR=7.0
HIA **Hailar** 77.57 38 IAMs_20 IAMs_20 08 32 47.8
comp=Z,696nm,18.0s
U38A **Gravette** 77.61 306 P P 07 54 16.9 -0.6
baz=56
H24K **Noodor Dome** 77.62 349 P P 07 54 17.5 +0.4
baz=22
143A **Socs Landing,** 77.64 301 P P 07 54 18.4 +0.7
baz=56
PET01 **Itanhaem-SP** 77.68 229 *e*P P 07 54 19.5 +1.6
PET01 **Itanhaem-SP** 77.68 229 *e*P P 07 54 18.7 +0.8
DAWY **Dawson** 77.70 345 P P 07 54 19.3 +1.7
baz=28,SNR=13
G21K **Allakaket** 77.73 352 P P 07 54 18.3 +0.7
baz=17
344A **Westbrook Farm** 77.85 300 P P 07 54 19.9 +1.1
baz=57
H23K **Yukon River** 77.88 350 P P 07 54 20.1 +1.6
baz=20
FARO **Faro, Yukon** 77.89 342 P P 07 54 21.0 +2.4
FARO **Faro, Yukon** 77.89 342 P P 07 54 20.6 +2.0
baz=33,SNR=7.2
TNCH **TengChong** 77.90 68 *e*P P 07 54 20.0 +0.5
TNCH pP pP 07 54 23.1 -5.2
TNCH pmax pmax
comp=Z,69nm,0.5s
H22K **Ishtalitna Cre** 78.06 351 P P 07 54 20.9 +1.3
baz=19
ZEA **Zeya** 78.10 31 *e*P P 07 54 29.9 +10
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=Z,700nm,16.0s
LIRD **Liard River Hi** 78.11 337 P P 07 54 21.0 +1.2
baz=38
HHC **Hu-ho-hao-te** 78.12 48 *e*P P 07 54 21.4 +1.0
HHC sP PcP 07 54 31.0 +1.1
HHC S **S** **08 04 14.3 +1.2**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,260nm,5.6s
HHC LR LR
comp=Z,620nm,22.0s
HHC LR LR
comp=Z,580nm,15.9s
HHC LR LR
comp=Z,890nm,21.8s
MIAR **Mount Ida** 78.12 304 P P 07 54 21.0 +0.6
MIAR IAmb IAmb 07 54 22.3
comp=Z,26nm,0.8s
MIAR IAMs_20 IAMs_20 08 26 09.1
comp=Z,709nm,21.0s
MIAR **Mount Ida** 78.12 304 P P 07 54 21.3 +0.9
baz=56
MIAR **Mount Ida** 78.12 304 P P 07 54 21.0 +0.6
baz=56,SNR=16
MIAR **Mount Ida** 78.12 304 P P 07 54 21.0 +0.6
MIAR pmax pmax
comp=Z,27nm,0.8s
J26L **Joseph Creek** 78.13 347 IAMs_20 IAMs_20 08 30 38.5
comp=Z,537nm,19.0s
J26L **Joseph Creek** 78.13 347 P P 07 54 20.4 +0.4
baz=25
M31M **Drury Creek, Y** 78.17 342 P P 07 54 21.4 +1.2
baz=32,SNR=6.7
POKR **Poker Plat Res** 78.22 349 P P 07 54 21.5 +1.1
baz=22

IMAR **Indian Mountai** 78.27 352 P P 07 54 22.1 +1.5
L29M **L29M** 78.27 344 P P 07 54 22.2 +1.4
baz=29
K27K **Chicken** 78.28 346 IAMs_20 IAMs_20 08 29 00.5
comp=Z,505nm,20.0s
K27K **Chicken** 78.28 346 P P 07 54 22.1 +1.3
baz=26
PCMB **Pacaembu** 78.30 233 eP P 07 54 23.3 +1.9
PCMB **Pacaembu** 78.30 233 eP P 07 54 22.2 +0.9
J25K **Salcha River,** 78.35 348 IAMs_20 IAMs_20 08 30 10.3
comp=Z,547nm,20.0s
J25K **Salcha River,** 78.35 348 P P 07 54 22.4 +1.2
baz=24
WTLY **Watson Lake, Y** 78.38 339 P P 07 54 22.1 +0.7
baz=36
FRTB **Fartura** 78.43 231 eP P 07 54 23.4 +1.3
FRTB **Fartura** 78.43 231 eP P 07 54 22.7 +0.6
M30M **Minto, Yukon** 78.43 343 IAMs_20 IAMs_20 08 26 59.6
comp=Z,644nm,22.0s
M30M **Minto, Yukon** 78.43 343 P P 07 54 22.4 +0.7
baz=30
ILAR **Eielson Array** 78.46 349 P P 07 54 22.9 +1.2
comp=Z,0.6nm,0.5s,baz=334,slow=4.6,SNR=13
ILAR PKKPbc **PKKPbc** 08 13 16.1 -2.3
comp=Z,1.1nm,0.8s,baz=256,slow=2.8,SNR=9.2
ILAR LR LR 08 32 38.2
comp=Z,490nm,19.2s,baz=34,slow=38
comp=Z,0.6nm,0.5s
H21K **Melozitna Rive** 78.47 351 P P 07 54 23.6 +1.8
baz=18
I23K **Minto, Yukon-K** 78.49 350 P P 07 54 23.2 +1.4
baz=20
COLA **College** 78.52 349 P P 07 54 23.1 +1.1
CD2 **Chengdu** 78.56 60 eP P 07 54 23.0 0.0
LAO **LASA Array** 78.65 320 P P 07 54 24.5 +1.3
baz=51
LAO **LASA Array** 78.65 320 P P 07 54 24.4 +1.3
baz=51,SNR=10
SCRK **Sand Creek** 78.69 347 IAMs_20 IAMs_20 08 29 41.3
comp=Z,512nm,20.0s
SCRK **Sand Creek** 78.69 347 P P 07 54 25.0 +1.9
baz=25,SNR=10
N32M **Quiet Lake** 78.72 341 P P 07 54 24.6 +1.4
baz=33
T35B **Sooner Cattle** 78.74 307 P P 07 54 24.8 +1.0
baz=55
MLY **Manley** 78.80 350 P P 07 54 25.2 +1.5
baz=19
HDA **Harding Lake** 78.81 348 P P 07 54 24.0 +0.4
baz=22,SNR=8.6
I21K **Tanana** 78.82 351 P P 07 54 25.3 +1.6
baz=18
SEY **Seymchan** 78.82 15 P P 07 54 25.2 +1.5
comp=Z,3.4nm,0.7s,baz=18,slow=19,SNR=3.2
comp=Z,3.4nm,0.7s
VILB **Vilhena** 78.83 246 eP P 07 54 26.4 +2.0
VILB **Vilhena** 78.83 246 eP P 07 54 25.4 +0.9
TUL1 **Leonard** 78.84 306 P P 07 54 24.7 +0.4
baz=55
TUL1 **Leonard** 78.84 306 P P 07 54 24.4 0.0
baz=55,SNR=8.4
M29M **Somme Creek** 78.93 344 P P 07 54 25.0 +0.5
baz=29,SNR=5.6
XLT **XiLinHaoTe** 78.96 44 eP P 07 54 24.8 -0.2
XLT pP PcP 07 54 28.8 -4.7
XLT sP pP 07 54 30.5 -3.6
XLT PcP **sP** 07 54 34.8 -2.1
XLT S **S** 08 04 21.8 -0.1
XLT sS pS 08 04 31.0 -2.4
XLT ScS **ScS** 08 04 44.1 -1.2
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,230nm,5.5s
XLT LR LR
comp=Z,440nm,17.7s
XLT LR LR
comp=Z,630nm,16.0s
RSSD **Black Hills** 79.05 317 P P 07 54 26.4 +0.8
baz=52
RSSD **Black Hills** 79.05 317 P P 07 54 26.8 +1.2
baz=52
RIDG **Independent Ri** 79.06 347 P P 07 54 25.6 +0.4
baz=24
L27K **Beaver Creek,** 79.10 346 IAMs_20 IAMs_20 08 31 44.2
comp=Z,650nm,19.0s
L27K **Beaver Creek,** 79.10 346 P P 07 54 26.9 +1.6
baz=26
N31M **Braeburn, Yuko** 79.13 342 P P 07 54 27.3 +1.8
baz=31,SNR=5.4
K24K **Donnelly Dome** 79.17 348 P P 07 54 26.5 +0.8
baz=23
R32A **Long Quarter,** 79.29 309 P P 07 54 27.4 +0.7
baz=54
X37A **Clayton** 79.32 305 P P 07 54 27.8 +0.8
baz=55
L26K **Log Cabin Wild** 79.43 346 P P 07 54 26.9 -0.2
baz=25
P33M **Teslin, Yukon** 79.44 341 IAMs_20 IAMs_20 08 29 03.3
comp=Z,732nm,18.0s
P33M **Teslin, Yukon** 79.44 341 P P 07 54 28.0 +0.7
baz=33,SNR=5.3
N30M **Aishikik Lake** 79.47 343 P P 07 54 28.4 +1.0
baz=30
BVCY **Beaver Creek** 79.48 345 P P 07 54 28.8 +1.4
baz=27
TIJ01 **Guaruva-PR** 79.50 229 eP P 07 54 29.8 +1.7
TIJ01 **Guaruva-PR** 79.50 229 eP P 07 54 28.8 +0.7
OK031 **S. Brethren Rd** 79.51 307 IAMs_20 IAMs_20 08 27 56.9
comp=Z,816nm,21.0s
PZH **PanZhiHua** 79.53 65 P P 07 54 28.0 -0.4
PZH S **S** 08 04 27.8 -0.8
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,3.7s
PZH LR LR
comp=Z,450nm,22.1s
PZH LR LR
comp=Z,450nm,23.0s
PZH LR LR
comp=Z,710nm,23.5s
OK033 **Mehan** 79.53 307 IAMs_20 IAMs_20 08 28 35.2
comp=Z,865nm,21.0s
R33M **Jennings River** 79.60 339 P P 07 54 30.4 +2.2
baz=35
WHY **Whitehorse** 79.61 342 P P 07 54 30.0 +1.8
baz=32,SNR=5.6
EGMT **Eagleton** 79.62 322 IAMs_20 IAMs_20 08 28 31.3
comp=Z,622nm,19.0s
EGMT **Eagleton** 79.62 322 P P 07 54 29.6 +1.1
baz=49,SNR=5.4
PTLB **Pontes e Lacer** 79.64 243 eP P 07 54 30.2 +1.4
PTLB **Pontes e Lacer** 79.64 243 eP P 07 54 29.9 +1.0
CBKS **Cedar Bluff** 79.70 310 P P 07 54 29.9 +0.9
baz=54
BPAW **Bear Paw Mtn.** 79.72 350 P P 07 54 28.4 -0.2
baz=19
M27K **Edge Creek, AK** 79.75 345 P P 07 54 30.1 +1.1
baz=26
MCK **McKinley** 79.76 349 P P 07 54 29.9 +1.0
baz=20
TNA **Tin City** 79.78 358 P P 07 54 29.5 +0.6
baz=4.9
Z38A **Mt. Pleasant** 79.81 303 P P 07 54 30.8 +1.1
baz=55
GCSA **Galena City Sc** 79.82 353 P P 07 54 31.0 +1.9
baz=14
O30N **Mendenhall** 79.83 342 P P 07 54 31.1 +1.8
baz=31
OGNE **Ogallala** 79.83 313 P P 07 54 31.4 +1.7
baz=52
OGNE **Ogallala** 79.83 313 P P 07 54 30.3 +0.5
baz=52
PAX **Paxson** 79.88 347 P P 07 54 30.3 +0.7
baz=23
OK032 **Salt Plains WL** 79.92 308 IAMs_20 IAMs_20 08 29 23.5
comp=Z,638nm,20.0s
M26K **Nabesna, AK** 79.93 346 IAMs_20 IAMs_20 08 31 19.1
comp=Z,525nm,18.0s
M26K **Nabesna, AK** 79.93 346 P P 07 54 31.7 +1.8
baz=25
YUK4 **Talbot Arm** 79.94 344 P P 07 54 30.9 +0.8
baz=29
YUK3 **Moose Creek** 79.97 345 P P 07 54 30.6 +0.3
baz=27
441A **DeRidder** 79.99 300 P P 07 54 32.6 +1.9
baz=55
TRCB **Terra Rica** 80.03 233 eP P 07 54 32.6 +1.7
TRCB **Terra Rica** 80.03 233 eP P 07 54 31.4 +0.5
J20K **Nowinta River** 80.06 351 P P 07 54 31.5 +1.1
baz=16
CHUM **Lake Minchumin** 80.11 351 P P 07 54 31.5 +0.8
baz=18
DLBC **Dease Lake** 80.11 338 P P 07 54 33.4 +2.5
comp=Z,2.8nm,0.6s,baz=18,slow=5.3,SNR=10.0
DLBC LR LR 08 30 53.9
comp=Z,281nm,18.7s,baz=90,slow=36
comp=Z,2.8nm,0.6s
DLBC **Dease Lake** 80.11 338 P P 07 54 32.6 +1.7
baz=35
DHY **Denali Highway** 80.12 348 P P 07 54 31.6 +0.6
baz=22,SNR=12
HYT **Haines Junctio** 80.12 343 P P 07 54 32.4 +1.4
baz=30
P32M **Atlin** 80.21 341 P P 07 54 31.5 +0.1
baz=32
YUK6 **Outpost Mounta** 80.23 343 P P 07 54 32.3 +0.6
baz=29
TRF **Thorofare Moun** 80.23 350 P P 07 54 32.0 +0.4
baz=19
YUK8 **Steele Glacier** 80.25 344 P P 07 54 33.0 +1.2
baz=28
Q32M **Nakina River** 80.34 340 P P 07 54 33.2 +0.9
baz=34
XAN **Xi'an** 80.38 55 ⇑P P 07 54 32.8 0.0
XAN pP PcP 07 54 39.5 -0.3
XAN sP pP 07 54 42.8 +0.9
XAN S **S** 08 04 36.4 -0.8
XAN pmax pmax
comp=Z,15nm,1.4s
XAN LR LR
comp=Z,220nm,19.2s
XAN LR LR
comp=Z,260nm,17.2s
XAN LR LR
comp=Z,350nm,19.2s
NATX **Nacogdoches** 80.45 302 P P 07 54 33.5 +0.4
baz=55
AQDB **Aquidauana** 80.51 237 eP P 07 54 35.2 +1.8
AQDB **Aquidauana** 80.51 237 eP P 07 54 34.4 +0.9
CAST **Castle Rocks** 80.52 350 P P 07 54 34.7 +1.8
baz=18
WAT1 **Susitna Watana** 80.54 349 P P 07 54 33.3 +0.2
baz=21
P30M **Million Dollar** 80.60 342 P P 07 54 34.9 +1.4
baz=30
HEH **HeiHe** 80.61 34 eP P 07 54 33.9 +0.3
HEH pmax pmax
comp=Z,10.0nm,0.8s
HEH pmax pmax
comp=Z,310nm,4.2s
WAT6 **Susitna Watana** 80.64 348 P P 07 54 35.2 +1.3
baz=21
ANM **Nome** 80.66 356 P P 07 54 34.6 +1.0
baz=7.0
U32A **Winter Ranch,** 80.68 308 P P 07 54 36.0 +1.6
baz=54
SKAG **Skagway** 80.76 341 P P 07 54 35.1 +0.9
baz=31
O28M **Mount Upton** 80.80 344 P P 07 54 36.0 +1.2
baz=27
M24K **Tolsona, Glenn** 80.81 347 P P 07 54 36.6 +2.0
baz=23
K20K **Telida** 80.84 351 P P 07 54 36.0 +1.3
baz=16
O29M **Mount Kennedy** 80.84 343 P P 07 54 36.0 +1.1
baz=29
MCARA **McCarthy VSAT** 80.86 346 P P 07 54 37.2 +2.4
MCARA IAmb IAmb 07 54 50.6
comp=Z,48nm,1.2s
MCARA IAMs_20 IAMs_20 08 30 58.7
comp=Z,585nm,20.0s
MCARA **McCarthy VSAT** 80.86 346 P P 07 54 35.1 +0.2
baz=25
BARN **Barnard Glacie** 80.87 345 IAMs_20 IAMs_20 08 30 46.9
comp=Z,742nm,21.0s
S34M **Telegraph Cree** 80.87 339 P P 07 54 35.7 +0.8
baz=34
GLB **Gilahina Butte** 80.97 346 IAMs_20 IAMs_20 08 32 12.5
comp=Z,580nm,18.0s
N25K **Chitina, Valde** 80.97 346 P P 07 54 36.3 +0.8
baz=24
PTGB **Pitanga** 81.01 232 eP P 07 54 37.7 +1.6
PTGB **Pitanga** 81.01 232 eP P 07 54 36.7 +0.5
PLBC **Pleasant Camp** 81.03 342 P P 07 54 36.7 +0.9
baz=30
PPLA **Purkeypile** 81.03 350 P P 07 54 36.2 +0.3
PPLA IAmb IAmb 07 55 00.2
comp=Z,35nm,1.3s
PPLA **Purkeypile** 81.03 350 P P 07 54 36.7 +0.9
baz=18
KMI **Kunming** 81.04 66 ⇑P P 07 54 34.4 -2.3
KMI pmax pmax
comp=Z,10.0nm,0.8s
TBTG **Tabatinga, AM** 81.07 259 eP P 07 54 38.3 +1.6
TBTG **Tabatinga, AM** 81.07 259 eP P 07 54 37.8 +1.1
P29M **Windy Craggy** 81.23 342 IAMs_20 IAMs_20 08 29 51.4
comp=Z,790nm,22.0s
P29M **Windy Craggy** 81.23 342 P P 07 54 37.6 +0.8
baz=29
SCM **Sheep Creek Mo** 81.27 348 P P 07 54 38.1 +1.1
baz=22
RLMT **Red Lodge** 81.28 320 IAMs_20 IAMs_20 08 29 12.4
comp=Z,699nm,19.0s
TABL **Table Mountain** 81.31 344 IAMs_20 IAMs_20 08 30 27.6
comp=Z,602nm,20.0s
KLU **Klutina** 81.33 347 P P 07 54 38.8 +1.4
baz=23
T35M **Bob Quinn** 81.37 338 P P 07 54 38.8 +1.2
baz=35,SNR=5.2
M23K **Glacier View** 81.37 348 P P 07 54 38.0 +0.4
baz=21
KSCO **Kaye Shedlock'** 81.38 312 P P 07 54 38.6 +0.5
baz=52
K22A **Casper** 81.39 317 P P 07 54 38.9 +0.8
baz=50
K22A **Casper** 81.39 317 P P 07 54 38.8 +0.6
baz=50,SNR=6.8
BJI **Beijing** 81.41 47 P P 07 54 39.3 +1.2
BJI S **S** 08 04 46.8 -0.7
BJI pmax pmax
comp=Z,5.0nm,1.0s
BJI pmax pmax
comp=Z,160nm,5.7s
SIV **San Ignacio** 81.41 244 LR LR 08 30 17.3
comp=Z,412nm,19.4s,baz=105,slow=35
BJT **Baijiatuau** 81.42 47 IAMs_20 IAMs_20 08 36 20.8
comp=Z,508nm,20.0s
PINM **Pinnacle** 81.42 344 P P 07 54 38.4 +0.5
baz=27
MA2 **Magadan** 81.42 17 P P 07 54 39.3 +1.6
comp=Z,21nm,0.9s,baz=354,slow=10,SNR=3.6
MA2 LR LR 08 35 53.0
comp=Z,535nm,18.0s,baz=316,slow=39
comp=Z,21nm,0.9s
MA2 **Magadan** 81.42 17 eP P 07 54 39.8 +2.0
MA2 pmax pmax
comp=Z,41nm,1.7s
ISLE **Juniper Island** 81.43 345 P P 07 54 39.5 +1.5
ISLE IAmb IAmb 07 55 00.5
comp=Z,25nm,1.0s
ETMB **Extrema** 81.48 252 P P 07 54 39.9 +1.0
ETMB IAmb IAmb 07 54 41.3
comp=Z,101nm,0.8s
ETMB **Extrema** 81.48 252 eP P 07 54 40.4 +1.6
ETMB **Extrema** 81.48 252 eP P 07 54 39.8 +1.0
TTA **Tatalina** 81.49 352 P P 07 54 39.5 +1.3
baz=15
WMOK **Wichita Mounta** 81.51 306 P P 07 54 39.8 +1.1
baz=53
WMOK **Wichita Mounta** 81.51 306 P P 07 54 39.4 +0.7
baz=53,SNR=20
R32K **Eaglecrest** 81.55 340 P P 07 54 40.2 +1.7
baz=32
BMRM **Bremner River** 81.56 346 P P 07 54 39.3 +0.7
baz=24
PNL **Peninsula** 81.60 343 P P 07 54 39.4 +0.7
baz=28
CHTO **Chiang Mai** 81.63 73 P P 07 54 39.8 +0.1
CHTO pmax pmax
comp=Z,2.0nm,1.5s
L20K **Farewell, AK** 81.66 351 P P 07 54 39.4 +0.3
baz=16
MESA **MESA** 81.72 345 IAMs_20 IAMs_20 08 31 13.6
comp=Z,735nm,21.0s
PMR **Palmer** 81.80 348 P P 07 54 40.9 +1.2
baz=20
SKT **Skwentna** 81.81 350 P P 07 54 39.7 -0.1
baz=18
CMAR **Chiang Mai Arr** 81.83 73 P P 07 54 41.0 +0.3
comp=Z,4.4nm,0.6s,baz=301,slow=7.1,SNR=22
comp=Z,4.4nm,0.6s
CMAR **Chiang Mai Arr** 81.83 73 *i* P P 07 54 40.7 0.0
CMAR pmax pmax
comp=Z,4.0nm,0.6s
BBSD **Serra de San D** 81.84 243 eP P 07 54 42.0 +1.4
KNK **Knik Glacier** 81.86 348 P P 07 54 40.6 +0.5
baz=21
BBRB **Robore, Bolivi** 81.96 241 eP P 07 54 42.6 +1.4
L19K **White Mountain** 82.07 351 P P 07 54 43.2 +2.0
L19K IAmb IAmb 07 57 14.8
comp=Z,88nm,1.9s
L19K **White Mountain** 82.07 351 P P 07 54 42.2 +1.0
baz=16
MCR1 **Marechal Candi** 82.11 233 eP P 07 54 43.5 +1.6
M20K **Styx River** 82.13 350 P P 07 54 42.5 +0.9
baz=17
HNS **HongShan** 82.14 50 ⇓P P 07 54 43.8 +1.8
HNS S **S** 08 05 00.8 +5.6
HNS SS **SS** 08 10 20.0 +5.9
HNS pmax pmax
comp=Z,13nm,0.5s
HNS LR LR
comp=Z,180nm,13.1s
HNS LR LR
comp=Z,320nm,16.1s
HNS LR LR
comp=Z,370nm,20.0s
N23A **Red Feather La** 82.18 315 P P 07 54 43.2 +0.7
baz=50,SNR=15
SUA **Susitna One** 82.18 349 P P 07 54 42.5 +0.5
baz=19
BOZ **Bozeman (W)** 82.20 321 P P 07 54 43.8 +1.4
baz=47,SNR=13
WHTX **Lake Whitney,** 82.25 304 P P 07 54 43.7 +1.0
baz=54
WHTX **Lake Whitney,** 82.25 304 P P 07 54 43.5 +0.8
baz=54
S32K **Killisnoo** 82.25 340 P P 07 54 43.0 +0.8
baz=32
M19K **Big River Lodg** 82.28 351 P P 07 54 43.8 +1.4
M19K IAmb IAmb 07 55 01.6
comp=Z,22nm,1.1s
M19K **Big River Lodg** 82.28 351 P P 07 54 43.3 +1.0
baz=16
S31K **Pelican** 82.29 341 P P 07 54 43.0 +0.6
baz=30
HKT **Hockley** 82.31 301 P P 07 54 44.3 +1.4
baz=54
LYN **LuoYang** 82.44 53 eP P 07 54 42.9 -0.7
LYN PP **PP** 07 57 53.5 +1.1
LYN S **S** 08 05 00.3 +1.9
LYN LR LR
comp=Z,230nm,13.1s
LYN LR LR
comp=Z,210nm,17.3s
LYN LR LR
comp=Z,230nm,17.1s
H17A **Grant Village** 82.46 320 P P 07 54 46.6 +2.6
baz=48,SNR=14
KAIM **Kayak Island** 82.48 346 P P 07 54 44.2 +0.9
baz=24
MSO **Missoula** 82.52 323 P P 07 54 44.4 +0.4
baz=46
MURT **Porto Murtinho** 82.62 237 eP P 07 54 45.3 +0.7
N20K **Mount Spurr** 82.66 350 P P 07 54 43.9 -0.4
baz=18
FLWY **Flagg Ranch** 82.74 320 IAMs_20 IAMs_20 08 28 57.0
comp=Z,467nm,20.0s
ITAB **Concordia** 82.82 230 eP P 07 54 47.6 +2.1
ITAB **Concordia** 82.82 230 eP P 07 54 46.3 +0.8
Q24A **Divide** 82.94 313 P P 07 54 47.3 +0.7
baz=50,SNR=8.5
IMW **Indian Meadow** 82.99 320 P P 07 54 48.9 +2.2
BW06 **Boulder Array** 83.00 318 P P 07 54 47.2 +0.5
baz=48,SNR=9.3
PDAR **Pinedale Array** 83.00 318 P P 07 54 47.5 +0.8
comp=Z,6.9nm,0.7s,baz=55,slow=5.4,SNR=68
PDAR LR LR 08 29 34.3
comp=Z,390nm,19.8s,baz=48,slow=34
comp=Z,6.9nm,0.7s
NEW **Newport** 83.02 326 P P 07 54 47.6 +1.1
comp=Z,6.5nm,0.8s,baz=28,slow=3.5,SNR=12
NEW LR LR 08 30 58.3
comp=Z,837nm,20.4s,baz=44,slow=35
comp=Z,6.5nm,0.8s
NEW **Newport** 83.02 326 P P 07 54 47.3 +0.9
NEW IAmb IAmb 07 54 57.8
comp=Z,25nm,1.4s
NEW **Newport** 83.02 326 P P 07 54 47.0 +0.5
baz=44,SNR=8.3
435B **Jarrell** 83.05 303 P P 07 54 48.3 +1.4
baz=54
435B **Jarrell** 83.05 303 P P 07 54 48.0 +1.2
baz=54
GYA **Guiyang** 83.18 63 ⇑*i* P P 07 54 49.4 +1.6
GYA pmax pmax
comp=Z,19nm,0.9s
SNOW **Snow King Moun** 83.19 319 IAMs_20 IAMs_20 08 29 12.8
comp=Z,796nm,20.0s
FXWY **Fox Creek** 83.21 319 IAMs_20 IAMs_20 08 29 23.5
comp=Z,480nm,20.0s
SEW **Seward** 83.26 348 P P 07 54 47.3 0.0
baz=20
KLR **Kul'dur** 83.30 32 P P 07 54 48.4 +0.5
comp=Z,4.2nm,0.5s,baz=316,slow=5.7,SNR=18
comp=Z,4.2nm,0.5s
KLR **Kul'dur** 83.30 32 *ce* P P 07 54 48.7 +0.9
KLR pmax pmax
comp=Z,24nm,2.5s
REDW **Red Top Meadow** 83.31 319 P P 07 54 50.1 +1.8
REDW IAMs_20 IAMs_20 08 28 14.0
comp=Z,691nm,20.0s
ABTX **Abilene, Hawle** 83.35 305 P P 07 54 50.1 +1.7
baz=53
ABTX **Abilene, Hawle** 83.35 305 P P 07 54 49.2 +0.8
baz=53,SNR=12
T25A **Trinidad** 83.64 311 P P 07 54 50.0 -0.1
baz=51
N18K **Kilae Creek** 83.66 351 P P 07 54 50.5 +1.1
baz=15
BNX **BinXian** 83.79 37 ⇑P P 07 54 50.8 +0.4
BNX pmax pmax
comp=Z,25nm,1.0s
BNX pmax pmax
comp=Z,160nm,4.0s
O20K **Slope Mountain** 83.79 350 P P 07 54 50.4 +0.2
baz=17
AHID **Auburn Hatcher** 83.84 319 IAMs_20 IAMs_20 08 29 54.2
comp=Z,546nm,20.0s
SDCO **Great Sand Dun** 83.93 312 P P 07 54 52.9 +1.2
baz=50
SDCO **Great Sand Dun** 83.93 312 P P 07 54 53.1 +1.4
baz=50,SNR=21
O20A **White River Ci** 84.00 315 P P 07 54 53.1 +1.3
baz=49,SNR=6.0
GRNR **Gornyy** 84.10 29 ⇑*i* P P 07 55 01.1 +9.2
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,500nm,15.0s
GRNR MLR MLR
comp=N,350nm,13.0s
CN2 **Changchun** 84.15 39 P P 07 54 51.8 -0.5
CN2 S **S** 08 05 09.8 -5.5
CN2 pmax pmax
comp=N,10.0nm,0.6s
CN2 LR LR
comp=N,400nm,16.0s
CN2 LR LR
comp=N,400nm,16.0s
CN2 LR LR
comp=N,700nm,17.0s
N16K **Nishlik Lake** 84.19 353 P P 07 54 53.8 +1.6
baz=12
CRSM **Crissiumal (Br** 84.21 231 eP P 07 54 54.3 +1.6
ACON **Acoyapa** 84.39 281 P P 07 54 55.1 +1.1
BOAB **BOACO BROADBA** 84.52 281 P P 07 54 55.5 +0.9
BBB **Bella Bella** 84.56 334 LR LR 08 34 28.9
comp=N,346nm,18.0s,baz=35,slow=37

MSTX	Muleshoe baz=51	84.59	308	P		P		07 54 56.8	+1.9
MSTX	Muleshoe baz=51,SNR=5.4	84.59	308	P		P		07 54 55.9	+1.1
O17K	Koliganek Bris baz=14	84.69	352	P		P		07 54 56.4	+1.8
S22A	4UR Ranch, Cre baz=49,SNR=30	84.73	313	P		P		07 54 57.2	+1.4
JCT	Junction City baz=52	84.76	304	P		P		07 54 57.3	+1.6
JCT	Junction City baz=52,SNR=9.4	84.76	304	P		P		07 54 56.8	+1.2
HWUT	Hardware Ranch comp=Z,610nm,20.0s	84.89	318	IAMs_20		IAMs_20		08 31 12.8	
HLID	Hailey baz=45,SNR=12	85.05	321	P		P		07 54 58.1	+1.1
Q19K	Cape Douglas, baz=16	85.05	350	P		P		07 54 56.9	+0.4
JTS	Las Juntas de comp=Z,89nm,18.4s,baz=114,slow=34	85.16	279	LR		LR		08 30 08.2	
PV07	Paradox Valley	85.36	314	P		P		07 55 00.1	+1.4
CZSB	Cruzeiro do Su	85.39	257	*eP*		P		07 54 59.0	+0.1
CZSB	Cruzeiro do Su	85.39	257	*eP*		P		07 54 59.0	+0.1
CPUP	Villa Florida comp=Z,21nm,1.1s,baz=52,slow=5.0,SNR=14	85.56	234	P		P		07 55 00.7	+1.2
CPUP				LR		LR		08 33 40.4	
	comp=Z,478nm,18.8s,baz=55,slow=36 comp=Z,21nm,1.1s								
CPUP	Villa Florida	85.56	234	*eP*		P		07 55 00.8	+1.4
CPUP	Villa Florida	85.56	234	*eP*		P		07 55 00.2	+0.8
PV23	Carpenter Ridg	85.56	315	P		P		07 55 01.2	+1.3
MDJ	Mudanjiang comp=Z,573nm,20.0s	85.67	37	IAMs_20		IAMs_20		08 36 58.1	
833A	Chaparral WMA, baz=52	85.78	302	P		P		07 55 02.8	+2.1
833A	Chaparral WMA, baz=52,SNR=6.7	85.78	302	P		P		07 55 02.3	+1.6
AZCA	Azaras, Argent	85.86	232	*eP*		P		07 55 02.3	+1.4
UNIS	Unistalda (Bra	85.96	230	*eP*		P		07 55 03.3	+1.9
Q17K	Contact Creek baz=15	86.00	351	P		P		07 55 01.1	-0.3
MVCO	Mesa Verde baz=48,SNR=14	86.08	313	P		P		07 55 03.9	+1.5
ANMO	Albuquerque comp=Z,524nm,20.5s,baz=54,slow=34	86.32	311	LR		LR		08 31 48.1	
ANMO	Albuquerque baz=50	86.32	311	P		P		07 55 05.3	+1.7
ANMO	Albuquerque baz=50	86.32	311	P		P		07 55 05.2	+1.7
ANMO	Albuquerque	86.32	311	*ce*P		P		07 55 04.0	+0.4
ANMO				pmax		pmax			
	comp=Z,6.0nm,1.0s								
DUG	Dugway, Tooele baz=46	86.54	318	P		P		07 55 05.5	+1.0
LPAZ	La Paz comp=Z,14nm,1.0s,baz=43,slow=6.0,SNR=36	86.89	248	P		P		07 55 07.2	+0.2
LPAZ				LR		LR		08 33 03.2	
	comp=Z,264nm,20.2s,baz=76,slow=35 comp=Z,14nm,1.0s								
LPAZ	La Paz	86.89	248	P		P		07 55 06.7	-0.3
LPAZ				IAmb		IAmb		07 55 08.1	
	comp=Z,26nm,1.1s								
LPAZ	La Paz	86.89	248	*eP*		P		07 55 06.9	-0.1
LPAZ	La Paz	86.89	248	*eP*		P		07 55 06.8	-0.3
R16K	Pilot Point baz=13	86.90	351	P		P		07 55 07.2	+1.5
PLTB	Pedras Altas	86.92	228	*eP*		P		07 55 07.2	+1.1
PLTB	Pedras Altas	86.92	228	*eP*		P		07 55 06.8	+0.7
Y22A	Socorro baz=49	87.29	310	P		P		07 55 09.8	+1.5
ITQB	Itaqui	87.35	231	*eP*		P		07 55 09.8	+1.7
ITQB	Itaqui	87.35	231	*eP*		P		07 55 09.2	+1.1
BOSC	San Juan Bosco	87.45	264	P		P		07 55 10.0	+0.7
ELK	Elko comp=Z,397nm,19.5s,baz=46,slow=34	87.47	320	LR		LR		08 32 21.5	
ELK	Elko	87.47	320	P		P		07 55 11.1	+2.0
MTPU	Mount Pierson	87.68	316	P		P		07 55 11.7	+1.3
MTPU				IAmb		IAmb		07 55 23.0	
	comp=Z,39nm,1.5s								
WVOR	Wild Horse Val	88.00	323	P		P		07 55 11.8	+0.3
TXAR	Lajitas Array comp=Z,2.4nm,0.7s,baz=83,slow=4.7,SNR=27	88.09	305	P		P		07 55 13.9	+1.8
TXAR				LR		LR		08 34 48.2	
	comp=Z,328nm,18.2s,baz=48,slow=36 comp=Z,2.4nm,0.7s								
TXAR	Lajitas Array	88.09	305	P		P		07 55 13.1	+1.0
TX31	Lajitas Ar. Si	88.10	305	P		P		07 55 13.8	+1.7
TX31				IAmb		IAmb		07 55 32.0	
	comp=Z,14nm,0.9s								
TX31	Lajitas Ar. Si baz=51	88.10	305	P		P		07 55 13.5	+1.4
NJ2	Nanjing	88.17	52	⇑P		P		07 55 12.9	+0.6
NJ2				pmax		pmax			
	comp=Z,17nm,0.5s								
121A	Cookes Peak, D baz=49	88.73	309	P		P		07 55 17.2	+2.0
121A	Cookes Peak, D baz=49,SNR=13	88.73	309	P		P		07 55 17.0	+1.8
PETK	Petropavlovsk- comp=Z,406nm,18.8s,baz=332,slow=40	88.93	17	LR		LR		08 40 58.1	
WUAZ	Wupatki baz=47,SNR=6.0	88.94	314	P		P		07 55 17.1	+1.1
CMIG	Matias Romero comp=Z,242nm,20.9s,baz=49,slow=33	89.15	290	LR		LR		08 31 52.8	
INCN	Inchon comp=Z,435nm,18.0s	89.20	43	IAMs_20		IAMs_20		08 42 15.8	
MCRA	Macar, Loja	89.34	264	P		P		07 55 18.8	+0.7
MCRA				IAmb		IAmb		07 55 19.7	
	comp=Z,36nm,1.3s								
R11A	Troy Canyon, C baz=44,SNR=7.8	89.37	318	P		P		07 55 19.9	+1.8
ATAH	Atahualpa comp=Z,187nm,19.9s,baz=57,slow=35	89.64	261	LR		LR		08 35 16.3	
QIZ	Qiongzhong	89.92	67	P		P		07 55 21.8	+1.1
QIZ				S		S		08 06 10.4	-1.5
QIZ				LR		LR			
	comp=Z,240nm,19.9s								
QIZ				LR		LR			
	comp=Z,250nm,20.7s								
QIZ				LR		LR			
	comp=Z,220nm,23.9s								
KSRS	Korea Array comp=Z,3.4nm,0.8s,baz=316,slow=4.1,SNR=11	89.95	43	P		P		07 55 20.5	0.0
KSRS				LR		LR		08 40 46.7	
	comp=Z,446nm,18.7s,baz=320,slow=39 comp=Z,3.4nm,0.8s								
HUMO	Hull Mountain	89.97	325	P		P		07 55 21.1	+0.5
HUMO				IAmb		IAmb		07 57 14.0	
	comp=Z,38nm,1.9s								
SSE	Sheshan	90.29	51	P		P		07 55 20.8	-1.5
SSE				S		S		08 06 11.8	-3.1
SSE				pmax		pmax			
	comp=Z,18nm,0.7s								
SSE				pmax		pmax			
	comp=Z,67nm,5.4s								
SSE				LR		LR			
	comp=Z,110nm,17.2s								
SSE				LR		LR			
	comp=Z,100nm,17.5s								
GSI	Gunungsitoli	90.38	88	P		P		07 55 33.2	+10
YBH	Yreka Blue Hor comp=Z,1.1nm,0.6s,baz=48,slow=12,SNR=5.8	90.53	324	P		P		07 55 23.5	+0.2
YBH				LR		LR		08 35 32.2	
	comp=Z,553nm,20.1s,baz=24,slow=35 comp=Z,1.1nm,0.6s								
TPNV	Topopah Spring baz=44	90.74	317	P		P		07 55 25.6	+1.1
TUC	Tucson baz=47	90.76	311	P		P		07 55 26.3	+1.8
TUC	Tucson	90.76	311	P		P		07 55 26.8	+2.2
NVAR	Mina Array Bea comp=Z,1.3nm,0.8s,baz=68,slow=4.1,SNR=8.8	90.78	320	P		P		07 55 26.0	+1.3
NVAR				LR		LR		08 33 55.8	
	comp=Z,399nm,21.5s,baz=58,slow=34 comp=Z,1.3nm,0.8s								
NNA	Nana comp=Z,106nm,21.9s,baz=62,slow=34	91.17	256	LR		LR		08 33 46.8	
NNA	Nana	91.17	256	*ce*P		P		07 55 27.0	+0.5
NNA				pmax		pmax			
	comp=Z,76nm,1.7s								
LVC	Limon Verde comp=Z,274nm,19.6s,baz=47,slow=36	91.30	243	LR		LR		08 37 55.0	
LVC	Limon Verde	91.30	243	*eP*		P		07 55 28.9	+1.5
LVC	Limon Verde	91.30	243	*eP*		P		07 55 27.7	+0.3
LVC	Limon Verde	91.30	243	P		P		07 55 28.7	+1.3
LVC				pmax		pmax			
	comp=Z,67nm,1.0s								
NEE2	Needles Airpor baz=45	91.36	315	P		P		07 55 28.7	+1.5
PDMC	Parker Dam,Lak baz=45,SNR=7.1	91.41	314	P		P		07 55 28.6	+1.1
FURC	Furnace Creek, baz=44	91.43	317	P		P		07 55 28.7	+1.3
SHOC	Shoshone, Teco baz=44	91.51	317	P		P		07 55 28.1	+0.2
TUQ	Turquoise Moun baz=44	91.64	316	P		P		07 55 29.6	+0.9
ASAJ	Asahikawa comp=Z,568nm,18.5s,baz=350,slow=38	91.93	30	LR		LR		08 41 20.8	
GMRC	Granite Mounta baz=44,SNR=5.9	91.95	316	P		P		07 55 32.0	+1.9
MPMC	Manual Prospec baz=43	92.07	318	P		P		07 55 31.7	+1.0
IRM	Iron Mountain baz=45,SNR=7.1	92.10	315	P		P		07 55 31.9	+1.2
CWC	Cottonwood Cre baz=43	92.12	318	P		P		07 55 32.5	+1.6
GSC	Goldstone, Bar baz=44	92.24	317	P		P		07 55 32.6	+1.2
214A	Organ Pipe Nat baz=46	92.25	312	P		P		07 55 32.0	+0.6
HEC	Hector,Ludlow baz=44	92.31	316	P		P		07 55 33.0	+1.4
NIKH	Nikolski High baz=4.0	92.41	357	P		P		07 55 32.5	+0.9
LRMC	Laurel Mtn Rad baz=43	92.60	317	P		P		07 55 34.1	+1.0
BC3	Big Chuckawall baz=44	92.64	315	P		P		07 55 34.9	+1.6
GLA	Glamis baz=45	92.70	314	P		P		07 55 34.7	+1.2
BELC	Belle Mtn. Jos baz=44	92.71	315	P		P		07 55 34.7	+1.0
ISA	Isabella, Lake baz=43,SNR=5.3	92.90	318	P		P		07 55 35.6	+1.2
BBRC	Big Bear Solar baz=44	93.05	316	P		P		07 55 36.3	+1.0
EDW2	Edwards Air Fo baz=43	93.21	317	P		P		07 55 35.9	+0.1
PFO	Pinyon Flats O baz=44	93.26	315	P		P		07 55 37.3	+1.2
PFO	Pinyon Flats O	93.26	315	P		P		07 55 38.4	+2.3
TPFO	Pinon Flats baz=44,SNR=5.9	93.26	315	P		P		07 55 37.4	+1.3
SWSC	Sam W. Stewart baz=44	93.35	314	P		P		07 55 37.9	+1.5
BFSC	Mount Baldy Ra baz=43	93.49	316	P		P		07 55 38.0	+0.8
MONP2	Monument Peak baz=44	93.75	315	P		P		07 55 40.3	+1.7
LPIG	La Paz comp=Z,292nm,21.5s,baz=42,slow=34	95.99	305	LR		LR		08 37 19.9	
MAJO	Matsushiro comp=Z,360nm,20.0s	96.05	37	IAMs_20		IAMs_20		08 42 41.8	
MJAR	Matsushiro Arr comp=Z,3.4nm,0.9s,baz=332,slow=4.6,SNR=5.5	96.05	37	P		P		07 55 48.1	-0.6
MJAR				LR		LR		08 42 53.0	
	comp=Z,347nm,20.2s,baz=336,slow=38 comp=Z,3.4nm,0.9s								
CFA	Coronel Fontan comp=Z,287nm,18.1s,baz=91,slow=37	96.25	236	LR		LR		08 41 28.8	
JOW	Kunigami comp=Z,219nm,20.9s,baz=328,slow=38	97.72	50	LR		LR		08 43 43.1	
JHJ	Hachijo jima 2 comp=Z,135nm,21.0s,baz=20,slow=38	99.55	38	LR		LR		08 44 59.1	
TROLL	Troll, Antarti baz=35,slow=6.2	106.63	181	PKiKP		PKiKP		08 00 54.7	+9.4
WRA	Warramunga Arr comp=Z,0.5nm,0.6s,baz=265,slow=2.2,SNR=3.5	132.10	86	PKhKP		PKPpre		08 01 21.3	
WRA				PKP		**PKPdf**		**08 01 34.9**	**-0.4**
	comp=Z,4.4nm,0.8s,baz=315,slow=1.3,SNR=7.9								
WRA				SKPbc		**SKPbc**		**08 04 57.2**	**-2.5**
	comp=Z,5.7nm,1.0s,baz=305,slow=4.7,SNR=7.6								
WRAB	Tennant Creek	132.11	86*c*	*i*PKIKP		**PKiKP**		**08 01 36.8**	**+0.5**
WRAB				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ASAR	Alice Springs comp=Z,1.1nm,0.6s,baz=320,slow=2.0,SNR=7.9	133.47	91	PKhKP		PKPpre		08 01 24.9	
ASAR				PKP		**PKPdf**		**08 01 37.4**	**-0.4**
	comp=Z,7.1nm,0.9s,baz=265,slow=0.8,SNR=4.2								
ASAR				PP		**PP**		**08 04 04.8**	**-1.5**
	comp=Z,1.3nm,1.0s,baz=299,slow=4.1,SNR=4.3								
ASAR				SKPbc		**SKPbc**		**08 04 57.2**	**-7.2**
	comp=Z,1.7nm,1.0s,baz=320,slow=4.1,SNR=3.3								
VNDA	Vanda comp=Z,1.7nm,0.9s,baz=291,slow=5.1,SNR=7.6	135.94	173	PKP		**PKPdf**		**08 01 40.8**	**0.0**
VNDA				PP		**PP**		**08 04 18.0**	**-2.2**
	comp=Z,2.0nm,1.1s,baz=242,slow=6.2,SNR=3.8								
TAOE	Nuku Hiva Isla comp=Z,259nm,24.0s	139.78	302	e*L*R		LR		08 47 09.2	
CTA	Charters Tower comp=Z,12nm,0.9s,baz=343,slow=2.5,SNR=8.3	141.87	78	PKhKP		PKPpre		08 01 47.0	
STKA	Stephens Creek comp=Z,18nm,0.7s,baz=309,slow=3.6,SNR=49	142.84	98	PKhKP		PKPpre		08 01 50.5	
PPT2	Papeete2 comp=Z,252nm,27.5s	152.41	302	e*L*R		LR		08 53 00.4	
PPT2				e*L*R		LR		08 53 00.4	
	comp=Z,257nm,23.0s								
TBI	Tubuai comp=Z,786nm,24.5s	155.91	292	e*L*R		LR		08 54 37.5	
TBI				e*L*R		LR		08 54 37.8	
	comp=Z,4μm,22.2s								
DZM	Mont Dzumac comp=Z,254nm,23.2s	158.48	59	e*L*R		LR		08 55 49.3	

NOU ***18*** *07:43:13.6, 42°.47S×173°.55E, h0km, MLv4.6/8, South Island, New Zealand*
WEL ***18*** *07:43:14.3±0.7, 42°.5±4°×17°.4E±°, h5km, M4.1/12, ML4.3/10, MLv4.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=137.4*
IDC ***18*** *07:43:17.6±1.6, 42°.38S×172°.79E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=34.6km s-min=25.8km az=80.0*

ISC 18 07:43:12.0±1.1, 42°.36S±0°.03×173°.88E±0°.04, h27km±8km, n106, σ2s01/108, mb4.3/5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.26	258	P		P	Pb	07 43 20.0	+1.5
BSWZ	Blackbirch Sta	0.65	360	P		P	Pb	07 43 24.4	-0.4
BSWZ				S		S	Sb	07 43 32.5	-1.0
CMWZ	Cape Campbell	0.66	22	P		P	Pn	07 43 26.2	+0.5
GVZ	Greta Valley S	0.87	226	P		P	Pn	07 43 29.3	+0.8
GVZ				S		S	Sb	07 43 37.4	-2.4
TUWZ	Tuamarina	0.94	3	P		P	Pn	07 43 29.9	+0.5
THZ	Tophouse	0.94	309	P		P	Pn	07 43 30.1	+0.6
TCW	Tory Channel	1.19	14	P		P	Pb	07 43 34.3	+0.4
NNZ	Nelson	1.21	342	P		P	Pb	07 43 34.1	0.0
AMCZ	Amberley	1.22	228	P		P	Pb	07 43 34.9	+0.5
AMCZ				S		S	Sb	07 43 47.2	-2.5
LTZ	Lake Taylor	1.26	250	P		P	Pn	07 43 32.6	-1.3
LTZ				S		S	Sn	07 43 43.1	-6.9
WEL	Wellington	1.27	32	P		P	Pb	07 43 35.7	+0.5
MRNZ	Matariki Terra	1.28	319	P		P	Pb	07 43 36.4	+1.0
PLWZ	Palliser	1.30	53	P		P	Pb	07 43 35.9	+0.2
MSWZ	Moikau Station	1.39	48	P		P	Pb	07 43 37.0	-0.3
OKCZ	Okains Bay	1.49	204	P		P	Pb	07 43 40.6	+1.6
TKNZ	Takaka Hill	1.50	332	P		P	Pb	07 43 39.8	+0.6
PAWZ	Paruwai Farm	1.52	50	P		P	Pn	07 43 38.6	+1.1
CAW	Cannon Point	1.54	36	P		P	Pb	07 43 39.2	-0.6
DUWZ	D'Urville Isla	1.56	1	P		P	Pb	07 43 39.8	-0.4
DUWZ	D'Urville Isla	1.56	1	P		P	Pb	07 43 40.8	+0.6
MQZ	McQueen's Vall	1.61	213	P		P	Pb	07 43 40.3	-0.8
TRWZ	Traveller	1.66	55	P		P	Pn	07 43 40.6	+1.3
OXZ	Oxford	1.66	234	P		P	Pn	07 43 40.1	+0.6
DSZ	Denniston Nort	1.67	291	P		P	Pb	07 43 42.1	+0.1
AKCZ	Akaroa Harbour	1.67	205	P		P	Pb	07 43 42.6	+0.6
KIW	Kapiti Island	1.69	28	P		P	Pb	07 43 41.6	-0.8
MTW	Mount Morrison	1.71	46	P		P	Pn	07 43 41.2	+1.1
OGWZ	Otaki Gorge	1.82	32	P		P	Pn	07 43 43.2	+1.6
INZ	Inchbonnie	1.84	258	P		P	Pn	07 43 42.2	+0.4
QRZ	Quartz Range	1.84	326	P		P	Pb	07 43 45.4	+0.4
QRZ	Quartz Range	1.84	326	P		P	Pb	07 43 45.1	+0.2
RACZ	Rakaia	1.87	223	P		P	Pn	07 43 43.5	+1.3
HOWZ	Holdsworth Sta	1.91	40	P		P	Pb	07 43 44.7	-1.5
TMWZ	Te Maipa	1.96	51	P		P	Pn	07 43 44.5	+1.0
MHCZ	Mount Hutt	2.06	235	P		P	Pn	07 43 45.5	+0.6
MRZ	Mangatainoka R	2.13	37	P		P	Pn	07 43 46.9	+1.2
WACZ	Wakanui South	2.17	223	P		P	Pn	07 43 47.8	+1.4
PRWZ	Pori Road	2.40	42	P		P	Pb	07 43 53.5	-0.9
WVZ	Waitaha Valley	2.42	252	P		P	Pn	07 43 50.6	+0.8
BFZ	Birch Farm	2.44	47	P		P	Pn	07 43 50.8	+0.7
RPZ	Rata Peaks 306nm,0.3s,baz=269,slow=0.9,SNR=495	2.47	236	Pn		Pn		07 43 51.1	+0.5
RPZ				Sn		Sn		07 44 15.0	-4.9
	130nm,0.3s,baz=6.0,slow=20,SNR=14								
RPZ	Rata Peaks	2.47	236	P		P	Pn	07 43 51.4	+0.8
RPZ	Rata Peaks	2.47	236	P		P	Pn	07 43 51.3	+0.7
ARCZ	Arundel	2.53	230	P		P	Pn	07 43 52.3	+0.9
DVHZ	Dannevirke	2.69	41	P		P	Pn	07 43 53.9	+0.4
WAZ	Wanganui	2.74	18	P		P	Pb	07 43 59.2	-1.1
GCSZ	Gaunt Creek Bo	2.78	249	P		P	Pn	07 43 55.9	+1.1
TSZ	Takapari Road	2.79	35	P		P	Pn	07 43 56.5	+1.6
TMZ	Timaru	2.91	225	P		P	Pn	07 43 57.4	+0.9
LREZ	Lake Rotokare	2.93	8	P		P	Pb	07 44 03.7	+0.2
PNHZ	Pukenui	3.01	36	P		P	Pn	07 43 59.1	+1.1
KHEZ	Kahui Hut	3.07	2	P		P	Pb	07 44 06.9	+1.0
KHEZ	Kahui Hut	3.07	2	P		P	Pb	07 44 04.7	-1.3
NBEZ	Newall Road No	3.09	360	P		P	Pb	07 44 05.0	-1.3
PKE	Pukeiti	3.17	1	P		P	Pb	07 44 05.1	-2.5
FOZ	Fox Glacier	3.21	247	P		P	Pn	07 44 01.9	+1.3
PKVZ	Pokaka	3.27	20	P		P	Pn	07 44 04.6	+3.1
MOVZ	Moawhango	3.28	26	P		P	Pn	07 44 04.2	+2.5
WNVZ	Wahianoa	3.30	24	P		P	Pb	07 44 06.2	-3.8
VRZ	Vera Road	3.30	12	P		P	Pn	07 44 05.4	+3.5
TRVZ	Turoa	3.31	23	P		P	Pn	07 44 06.2	+3.9
WHVZ	Whangaehu Hut	3.34	23	P		P	Pb	07 44 06.8	-3.9
FWVZ	Far West T-bar	3.35	23	P		P	Pn	07 44 06.1	+3.2
LBZ	Lake Benmore	3.37	232	P		P	Pn	07 44 03.5	+0.6
TUVZ	Tukino	3.37	24	P		P	Pn	07 44 06.0	+2.9
NGZ	Ngauruhoe	3.44	23	P		P	Pn	07 44 07.4	+3.4
NNVZ	North Ngauruho	3.49	23	P		P	Pb	07 44 11.7	-1.4
TWVZ	Taurewa	3.50	20	P		P	Pb	07 44 11.1	-2.2
ETVZ	East Tongariro	3.51	24	P		P	Pb	07 44 09.7	-3.9
TMVZ	Te Maari	3.53	24	P		P	Pb	07 44 10.1	-3.7
KRVZ	Karewarewa	3.53	23	P		P	Pb	07 44 14.0	+0.2
ODZ	Otahua Downs	3.56	220	P		P	Pn	07 44 06.7	+1.2
ODZ	Otahua Downs	3.56	220	P		P	Pn	07 44 06.5	+1.0
BKZ	Black Stump Fm	3.76	33	P		P	Pb	07 44 16.9	-0.8
HIZ	Hauiti	3.92	11	P		P	Pn	07 44 15.0	+4.6
HIZ	Hauiti	3.92	11	P		P	Pn	07 44 13.7	+3.3
JCZ	Jackson Bay	4.10	244	P		P	Pn	07 44 13.5	+0.5
JCZ	Jackson Bay	4.10	244	P		P	Pn	07 44 13.5	+0.5
TLZ	Tolley Road	4.22	18	P		P	Pn	07 44 17.8	+3.2
HHSZ	Highcliff Hill	4.24	213	P		P	Pn	07 44 16.4	+1.5
WKZ	Wanaka	4.31	233	P		P	Pn	07 44 15.8	0.0
EAZ	Earnscleugh	4.38	228	P		P	Pn	07 44 17.1	+0.4
TUZ	Tuapeka	4.71	219	P		P	Pn	07 44 22.6	+1.3
URZ	Urewera	4.79	32	P		P	Pb	07 44 30.1	-5.0
URZ	Urewera	4.79	32	P		P	Pb	07 44 30.4	-4.7
TOZ	Tahuroa Road	4.79	16	P		P	Pn	07 44 24.7	+2.3
MSZ	Milford Sound	4.91	240	P		P	Pn	07 44 23.1	-0.8
MLZ	Mavora Lakes	5.13	232	P		P	Pn	07 44 26.8	-0.3
RUGZ	Raukumara Rang	5.27	35	P		P	Pn	07 44 31.3	+2.2
AWAZ	Awhitu Peninsu	5.33	7	P		P	Pn	07 44 33.0	+3.2
MKAZ	Moumakai	5.34	11	P		P	Pn	07 44 32.2	+2.2
SYZ	Scrubby Hill	5.38	218	P		P	Pn	07 44 31.8	+1.4
SYZ	Scrubby Hill	5.38	218	P		P	Pn	07 44 31.8	+1.4
ETAZ	East Tamaki Re	5.46	9	P		P	Pn	07 44 35.1	+3.5
WHZ	Wether Hill Ro	5.54	228	P		P	Pn	07 44 32.7	0.0
MBAZ	Motutapu North	5.64	8	P		P	Pn	07 44 39.1	+5.0
DCZ	Deep Cove	5.76	235	P		P	Pn	07 44 35.0	-0.7
KUZ	Kuaotunu	5.79	15	P		P	Pb	07 44 44.6	-7.6
APZ	The Paps	6.13	221	P		P	Pn	07 44 41.3	+0.5
ASAR	Alice Springs 1.0nm,0.6s,baz=127,slow=7.3,SNR=19	37.94	287	P		P		07 50 30.9	+3.6
	1.0nm,0.6s								
WRA	Warramunga Arr 1.2nm,0.8s,baz=129,slow=8.3,SNR=18	40.07	291	P		P		07 50 47.5	+2.4
	1.2nm,0.8s								
QSPA	South Pole Qui 2.1nm,0.7s,baz=45,slow=1.7,SNR=11	47.76	180	P		P		07 51 56.0	+9.4
	2.1nm,0.7s								
PSI	Prapat 16nm,1.4s	80.82	282	P		P		07 55 25.4	+1.7
PSI				P		P		07 55 25.4	+1.7
	16nm,1.4s								
KULM	Kulim 43nm,1.3s	81.29	285	P		P		07 55 25.1	-1.0
TORD	Torodi Ar. Bea 3.4nm,0.8s,baz=138,slow=2.3,SNR=2.1	150.11	195	PKPbc		**PKPab**		**08 03 08.8**	**+2.3**
FINES	FINESS Array B 1.2nm,0.7s,baz=28,slow=6.3,SNR=3.6	152.89	326	PKPbc		**PKPab**		**08 03 15.5**	**-1.3**

IDC ***18*** *07:55:34.1±2.2, 29°.59N×130°.54E, h0km, mb4.1/6, mbtmp4.0/8, ML3.7/2, MS2.9/1, Error ellipse: s-maj=46.6km s-min=31.9km az=114.0*
NIED ***18*** *07:55:38.1, 29°.49N×130°.71E, h57km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.63; Mθθ-0.11; Mφφ-0.51; Mrθ0.41; Mrφ-0.51; Mθφ0.56; Fault plane solution: M0 1.02000×10^15 NP1: φs212.00000°, δ24.00000°, λ86.00000°. NP2: φs36.00000°, δ67.00000°, λ92.00000°.*
JMA ***18*** *07:55:38.1±0.1, 29°.5N±0°.4×130°.7E±0°.6, h57km±2km, MV3.5/35, NEAR AMAMI-OSHIMA ISLAND*

ISC 18 07:55:36.3±1.9, 29°.43N±0°.04×130°.80E±0°.08, h24km±13km, n28, σ1s04/39, mb3.9/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYAK	Yakushimahirau	0.85	342	P		P	Pn	07 55 52.9	+0.1
JYAK				e*S*		e*S*	Sb	07 56 04.2	+0.9
JNN	Nakanoshima	0.91	297	P		P	Pb	07 55 53.6	+0.1
JNN				e*S*		e*S*	Sb	07 56 05.7	+0.6
JMTN	Minamitane	0.97	5	*eP*		P

ML4.2/23,MLv4.0/51,Error ellipse: s-maj=0.0km s-min=0.0km az=148.1
*NOU **18** 08:00:36.5, 41°.83S×174°.40E, h6km, MLv4.3/10, Cook Strait, New Zealand*
ISC 18 08:00:36.1±1.1, 41°.78S±0°.03×174°.31E±0°.02, h14km±9km, n110, σ1§37/109, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**294**	P	**Pg**	**08 00 39.0**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.33**	**281**	P	**Pg**	**08 00 42.7**	**-0.3**
BSWZ				S	**Sb**	**08 00 47.7**	**-1.3**
TUWZ	**Tuamarina**	**0.45**	**322**	P	**Pg**	**08 00 44.3**	**-0.8**
SNZO	**South Karori**	**0.56**	**32**	P	**Pb**	**08 00 47.2**	**-0.3**
TCW	**Tory Channel**	**0.57**	**357**	P	**Pg**	**08 00 46.5**	**-0.8**
WEL	**Wellington**	**0.60**	**35**	P	**Pb**	**08 00 48.2**	**-0.1**
PLWZ	**Palliser**	**0.74**	**74**	P	**Pb**	**08 00 52.0**	**+1.3**
MSWZ	**Moikau Station**	**0.79**	**63**	P	**Pb**	**08 00 52.6**	**+1.0**
KHZ	**Kahutara**	**0.86**	**222**	P	**Pb**	**08 00 54.3**	**+1.6**
KHZ	**Kahutara**	**0.86**	**222**	P	**Pb**	**08 00 54.2**	**+1.5**
CAW	**Cannon Point**	**0.88**	**40**	P	**Pg**	**08 00 53.1**	**-0.1**
NNZ	**Nelson**	**0.90**	**308**	P	**Pg**	**08 00 52.3**	**-1.2**
PAWZ	**Paruwai Farm**	**0.93**	**65**	P	**Pg**	**08 00 54.6**	**+0.6**
DUWZ	**D'Urville Isla**	**1.02**	**343**	P	**Pg**	**08 00 54.4**	**-1.5**
KIW	**Kapiti Island**	**1.02**	**26**	P	**Pg**	**08 00 55.1**	**-0.8**
THZ	**Tophouse**	**1.05**	**271**	P	**Pg**	**08 00 55.8**	**-0.6**
MTW	**Mount Morrison**	**1.09**	**55**	P	**Pg**	**08 00 56.7**	**-0.4**
TRWZ	**Traveller**	**1.10**	**70**	P	**Pg**	**08 00 56.9**	**-0.4**
OGWZ	**Otaki Gorge**	**1.16**	**34**	P	**Pg**	**08 00 57.6**	**-0.9**
MRNZ	**Matariki Terra**	**1.23**	**288**	P	**Pg**	**08 00 58.9**	**-0.9**
TKNZ	**Takaka Hill**	**1.26**	**306**	P	**Pb**	**08 00 58.8**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.27**	**46**	P	**Pn**	**08 00 59.2**	**-0.1**
TMWZ	**Te Maipa**	**1.36**	**61**	P	**Pn**	**08 01 00.2**	**-0.4**
MRZ	**Mangatainoka R**	**1.47**	**41**	P	**Pn**	**08 01 02.1**	**0.0**
GVZ	**Greta Valley S**	**1.52**	**218**	P	**Pn**	**08 01 03.0**	**+0.3**
TIWZ	**Tintock**	**1.55**	**50**	P	**Pb**	**08 01 04.8**	**+0.2**
QRZ	**Quartz Range**	**1.65**	**305**	P	**Pb**	**08 01 05.6**	**-0.6**
QRZ	**Quartz Range**	**1.65**	**305**	P	**Pn**	**08 01 05.3**	**+0.7**
OHWZ	**Ohakea**	**1.75**	**26**	P	**Pb**	**08 01 08.3**	**+0.4**
PRWZ	**Pori Road**	**1.75**	**46**	P	**Pn**	**08 01 05.8**	**-0.2**
POWZ	**Post Office Ro**	**1.77**	**39**	P	**Pn**	**08 01 06.8**	**+0.5**
LTZ	**Lake Taylor**	**1.81**	**236**	P	**Pn**	**08 01 07.3**	**+0.4**
BFZ	**Birch Farm**	**1.83**	**54**	P	**Pn**	**08 01 08.2**	**+1.2**
BFZ	**Birch Farm**	**1.83**	**54**	P	**Pb**	**08 01 06.2**	**-0.8**
AMCZ	**Amberley**	**1.86**	**221**	P	**Pn**	**08 01 07.4**	**-0.1**
DSZ	**Denniston Nort**	**1.88**	**270**	P	**Pn**	**08 01 08.9**	**+1.1**
DVHZ	**Dannevirke**	**2.04**	**44**	P	**Pn**	**08 01 09.2**	**-0.7**
WAZ	**Wanganui**	**2.09**	**14**	P	**Pb**	**08 01 13.5**	**-0.2**
ANWZ	**Angora Road**	**2.10**	**52**	P	**Pn**	**08 01 09.9**	**-0.8**
TSZ	**Takapari Road**	**2.13**	**36**	P	**Pn**	**08 01 11.4**	**+0.3**
OKCZ	**Okains Bay**	**2.15**	**205**	P	**Pn**	**08 01 11.0**	**-0.5**
MQZ	**McQueen's Vall**	**2.28**	**212**	P	**Pn**	**08 01 12.0**	**-1.2**
OXZ	**Oxford**	**2.28**	**227**	P	**Pn**	**08 01 12.5**	**-0.8**
PRHZ	**Porangahau**	**2.32**	**50**	P	**Pn**	**08 01 12.7**	**-1.1**
LREZ	**Lake Rotokare**	**2.32**	**2**	P	**Pb**	**08 01 17.9**	**+0.3**
INZ	**Inchbonnie**	**2.33**	**245**	P	**Pn**	**08 01 14.6**	**+0.7**
AKCZ	**Akaroa Harbour**	**2.33**	**206**	P	**Pn**	**08 01 13.4**	**-0.5**
PNHZ	**Pukenui**	**2.35**	**38**	P	**Pn**	**08 01 14.6**	**+0.4**
WPHZ	**Waipukurau**	**2.35**	**44**	P	**Pn**	**08 01 14.7**	**+0.5**
NMEZ	**Namu Road**	**2.39**	**352**	P	**Pb**	**08 01 18.7**	**-0.1**
KHEZ	**Kahui Hut**	**2.50**	**355**	P	**Pb**	**08 01 19.7**	**-1.0**
KHEZ	**Kahui Hut**	**2.50**	**355**	P	**Pb**	**08 01 19.6**	**-1.1**
NEZ	**North Egmont**	**2.51**	**356**	P	**Pb**	**08 01 20.5**	**-0.5**
RACZ	**Rakaia**	**2.52**	**219**	P	**Pb**	**08 01 15.5**	**-1.0**
NBEZ	**Newall Road No**	**2.53**	**352**	P	**Pb**	**08 01 20.3**	**-1.0**
MTVZ	**Mangateitei**	**2.55**	**21**	P	**Pb**	**08 01 22.2**	**+0.6**
DREZ	**Durham Road**	**2.59**	**358**	P	**Pb**	**08 01 21.2**	**-1.1**
PKE	**Pukeiti**	**2.60**	**354**	P	**Pb**	**08 01 22.0**	**-0.4**
PXZ	**Pawanui**	**2.61**	**49**	P	**Pn**	**08 01 17.2**	**-0.5**
PKVZ	**Pokaka**	**2.61**	**18**	P	**Pn**	**08 01 20.3**	**+2.4**
MOVZ	**Moawhango**	**2.61**	**25**	P	**Pn**	**08 01 19.3**	**+1.4**
WNVZ	**Wahianoa**	**2.64**	**22**	P	**Pn**	**08 01 20.3**	**+2.0**
BHHZ	**Black Hill Sta**	**2.65**	**31**	P	**Pn**	**08 01 19.5**	**+1.1**
TRVZ	**Turoa**	**2.65**	**21**	P	**Pn**	**08 01 20.7**	**+2.1**
VRZ	**Vera Road**	**2.68**	**7**	P	**Pb**	**08 01 23.5**	**-0.2**
DRZ	**Dome Shelter**	**2.68**	**21**	P	**Pb**	**08 01 23.8**	**-0.2**
WHVZ	**Whangaehu Hut**	**2.68**	**22**	P	**Pn**	**08 01 21.0**	**+2.0**
FWVZ	**Far West T-bar**	**2.69**	**21**	P	**Pn**	**08 01 20.9**	**+1.7**
TUVZ	**Tukino**	**2.71**	**21**	P	**Pn**	**08 01 21.2**	**+1.9**
KAHZ	**Kahuranaki**	**2.78**	**45**	P	**Pn**	**08 01 19.5**	**-0.7**
NGZ	**Ngauruhoe**	**2.78**	**21**	P	**Pn**	**08 01 22.4**	**+2.1**
SNVZ	**South Ngauruho**	**2.78**	**22**	P	**Pb**	**08 01 26.1**	**+0.4**
OTVZ	**Oturere**	**2.81**	**22**	P	**Pb**	**08 01 27.1**	**+0.9**
NNVZ	**North Ngauruho**	**2.83**	**21**	P	**Pb**	**08 01 23.1**	**+2.2**
WTVZ	**West Tongariro**	**2.84**	**20**	P	**Pb**	**08 01 25.7**	**-0.9**
ETVZ	**East Tongariro**	**2.85**	**22**	P	**Pb**	**08 01 23.3**	**+2.1**
KWHZ	**Kaweka Forest**	**2.85**	**35**	P	**Pb**	**08 01 28.0**	**+1.3**
TMVZ	**Te Maari**	**2.87**	**22**	P	**Pn**	**08 01 22.6**	**+1.1**
KRVZ	**Karewarewa**	**2.87**	**21**	P	**Pb**	**08 01 27.4**	**+0.3**
NTVZ	**North Tongarir**	**2.88**	**22**	P	**Pb**	**08 01 27.6**	**+0.4**
WVZ	**Waitaha Valley**	**2.95**	**243**	P	**Pn**	**08 01 23.7**	**+1.3**
MCHZ	**McNeill Hill**	**2.96**	**39**	P	**Pb**	**08 01 26.1**	**-2.5**
KATZ	**Kakaramea**	**3.00**	**21**	P	**Pb**	**08 01 29.6**	**+0.3**
RPZ	**Rata Peaks**	**3.08**	**230**	P	**Pn**	**08 01 24.1**	**-0.2**
RPZ	**Rata Peaks**	**3.08**	**230**	P	**Pn**	**08 01 23.8**	**-0.5**
BKZ	**Black Stump Fm**	**3.10**	**33**	P	**Pn**	**08 01 26.5**	**+2.0**
BKZ	**Black Stump Fm**	**3.10**	**33**	P	**Pn**	**08 01 27.3**	**+2.8**
RATZ	**Rangitukua**	**3.12**	**21**	P	**Pb**	**08 01 31.8**	**+0.5**
ARCZ	**Arundel**	**3.16**	**226**	P	**Pn**	**08 01 25.0**	**-0.4**
NMHZ	**Naumai**	**3.29**	**36**	P	**Pn**	**08 01 29.3**	**+2.1**
HIZ	**Hauiti**	**3.29**	**7**	P	**Pn**	**08 01 30.3**	**+3.1**
HIZ	**Hauiti**	**3.29**	**7**	P	**Pn**	**08 01 29.7**	**+2.5**
GCSZ	**Gaunt Creek Bo**	**3.32**	**241**	P	**Pn**	**08 01 28.9**	**+1.3**
MRHZ	**Matea Rd**	**3.35**	**29**	P	**Pb**	**08 01 35.3**	**-0.1**
MTHZ	**Maungataniwha**	**3.51**	**34**	P	**Pb**	**08 01 37.3**	**-0.6**
TMZ	**Timaru**	**3.55**	**222**	P	**Pn**	**08 01 30.4**	**-0.4**
TLZ	**Tolley Road**	**3.57**	**16**	P	**Pb**	**08 01 35.5**	**-3.6**
FOZ	**Fox Glacier**	**3.75**	**241**	P	**Pn**	**08 01 35.1**	**+1.7**
LBZ	**Lake Benmore**	**3.99**	**228**	P	**Pn**	**08 01 38.0**	**+1.3**
URZ	**Urewera**	**4.12**	**32**	P	**Pn**	**08 01 38.5**	**-0.1**
URZ	**Urewera**	**4.12**	**32**	P	**Pn**	**08 01 39.0**	**+0.5**
TOZ	**Tahuroa Road**	**4.15**	**13**	P	**Pn**	**08 01 42.7**	**+3.8**
ODZ	**Otahua Downs**	**4.22**	**218**	P	**Pn**	**08 01 38.9**	**-0.9**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**08 01 48.9**	**+2.8**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**08 01 48.8**	**+2.8**
MKAZ	**Moumakai**	**4.72**	**8**	P	**Pn**	**08 01 48.5**	**+1.8**
AWAZ	**Awhitu Peninsu**	**4.72**	**3**	P	**Pn**	**08 01 49.9**	**+3.1**
ETAZ	**East Tamaki Re**	**4.84**	**6**	P	Pb	08 01 55.1	-5.6
WIAZ	**Waiheke Island**	**5.02**	**8**	P	**Pn**	**08 01 53.9**	**+2.9**
MBAZ	**Motutapu North**	**5.03**	**5**	P	Pb	08 01 57.3	-6.4

*TRN **18** 08:01:28.5, 11°.05N×62°.18W, h112km, MD3.3*
*FUNV **18** 08:01:31.3, 11°.03N×62°.29W, h29km, MW3.4*
ISC 18 08:01:28.4±1.7, 11°.02N±0°.06×62°.28W±0°.06, h98km±18km, n12, σ1§46/19, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.94**	**113**	*eP*	**Pn**	**08 01 49.2**	**+1.2**
TRN				*eS*	**Sn**	**08 02 02.9**	**+0.2**
CRUV	**Carupano**	**1.00**	**250**	⇑*iP*	**Pn**	**08 01 49.6**	**+0.9**
CRUV				*eS*	**Sn**	**08 02 01.7**	**-2.1**
GRFF	**Grenada Fort F**	**1.15**	**28**	*eP*	**Pn**	**08 01 50.8**	**+0.4**
GRFF				*eS*	**Sn**	**08 02 07.2**	**+0.2**
GRGR	**Grenville**	**1.26**	**29**	*eP*	**Pn**	**08 01 51.8**	**0.0**
GRGR				*eS*	**Sn**	**08 02 09.7**	**+0.3**
TBH	**Brigand Hill**	**1.31**	**114**	*eP*	**Pn**	**08 01 51.6**	**-0.7**
GCMP	**Grenada, Carri**	**1.68**	**30**	*eP*	**Pn**	**08 01 56.6**	**-0.2**
GCMP				*eS*	**Sn**	**08 02 17.8**	**-0.6**
PCRV	**Puerto La Cruz**	**2.46**	**250**	*eP*	**Pn**	**08 02 08.5**	**+1.5**
PCRV				*eS*	**Sn**	**08 02 35.9**	**-0.7**
MERV	**Las Mercedes**	**4.33**	**246**	*eP*	**Pn**	**08 02 33.5**	**+1.5**
MERV				*eS*	**Sn**	**08 03 20.3**	**-1.1**
BENV	**Beln**	**5.33**	**259**	*eP*	**Pn**	**08 02 47.1**	**+1.3**
CACV	**CAICARA DEL OR**	**5.43**	**231**	*eS*	Sn	08 03 36.8	-11
BAUV	**El Baul**	**6.04**	**251**	*eP*	**Pn**	**08 02 56.7**	**+1.5**
BAUV				*eS*	**Sn**	**08 03 59.5**	**-3.6**
MAPV	**Macapo**	**6.19**	**260**	*eP*	**Pn**	**08 02 58.4**	**+1.1**

*NOU **18** 08:04:54.8, 32°.46S×177°.65W, h227km, mb4.7/9, South of Kermadec Islands*
*IDC **18** 08:05:28.8±4.6, 34°.36S×179°.54E, h172km±37km, mb4.1/6, mbtmp4.6/8, Error ellipse: s-maj=28.4km s-min=25.1km az=144.0*
*WEL **18** 08:05:29.0, 34°.20S×179°.53E, h161km, M4.7/28, mB5.2/7, ML5.1/20, MLv4.8/28, Mw(mB)4.5/7*
*NEIC **18** 08:05:29.2±2.2, 34°.20S±0°.09×179°.5E±0°.1, h161km±6km,*

mb4.6/26, Error ellipse: s-maj=15.7km s-min=12.2km az=126.0
ISC 18 08:05:29.3±0.6, 34°.39S±0°.06×179°.95E±0°.09, h200km, n167, σ1§87/146, mb4.5/17, 3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.44**	**202**		**Pn**	**08 06 24.4**	**+0.4**
MXZ	**Matakaoa Point**	**3.44**	**202**	P	**Pn**	**08 06 24.5**	**+0.4**
MXZ	**Matakaoa Point**	**3.44**	**202**	P	**Pn**	**08 06 24.5**	**+0.4**
WMGZ	**Waiomatatini S**	**3.64**	**199**	P	**Pn**	**08 06 28.1**	**+1.5**
HAZ	**Te Kaha**	**3.79**	**207**	P	**Pn**	**08 06 28.9**	**+0.5**
HAZ				S	**Sn**	**08 07 14.5**	**-0.5**
PKGZ	**Pakihiroa**	**3.81**	**203**	P	**Pn**	**08 06 29.5**	**+0.8**
PKGZ				S	**Sn**	**08 07 15.2**	**-0.2**
PUZ	**Puketiti**	**3.92**	**200**	P	**Pn**	**08 06 30.8**	**+0.7**
RUGZ	**Raukumara Rang**	**4.02**	**207**	P	**Pn**	**08 06 31.8**	**+0.4**
RUGZ				S	**Sn**	**08 07 16.0**	**-4.1**
TWGZ	**Tauwhareparae**	**4.10**	**202**	P	**Pn**	**08 06 33.8**	**+1.5**
GRZ	**Great Barrier**	**4.12**	**242**	P	**Pn**	**08 06 31.7**	**-0.8**
KUZ	**Kuaotunu**	**4.17**	**234**	P	**Pn**	**08 06 33.5**	**+0.3**
KUZ	**Kuaotunu**	**4.17**	**234**	P	**Pn**	**08 06 33.5**	**+0.3**
WHRZ	**Whale Island**	**4.22**	**214**	P	**Pn**	**08 06 36.7**	**+3.0**
CNGZ	**Carnagh Statio**	**4.32**	**198**	P	**Pn**	**08 06 33.4**	**+1.3**
TKGZ	**Te Karaka**	**4.38**	**202**	P	**Pn**	**08 06 36.0**	**+0.2**
MWZ	**Matawai**	**4.40**	**206**	P	**Pn**	**08 06 36.4**	**+0.3**
MARZ	**Manawahe**	**4.46**	**215**	P	**Pn**	**08 06 39.2**	**+2.4**
URZ	**Urewera**	**4.49**	**210**	P	**Pn**	**08 06 37.6**	**+0.4**
URZ	**Urewera**	**4.49**	**210**	P	**Pn**	**08 06 37.0**	**-0.1**
RAGZ	**Rawiri**	**4.58**	**206**	P	**Pn**	**08 06 38.7**	**+0.3**
WIAZ	**Waiheke Island**	**4.60**	**237**	P	**Pn**	**08 06 39.0**	**+0.5**
RIGZ	**Rimuhau**	**4.66**	**202**	P	**Pn**	**08 06 39.3**	**0.0**
KARZ	**Kaharoa**	**4.70**	**218**	P	**Pn**	**08 06 41.8**	**+2.0**
TARZ	**Mount Tarawera**	**4.74**	**215**	P	**Pn**	**08 06 43.0**	**+2.6**
MKAZ	**Moumakai**	**4.75**	**234**	P	**Pn**	**08 06 40.8**	**+0.4**
MUGZ	**Murupara**	**4.82**	**211**	P	**Pn**	**08 06 42.2**	**+0.9**
RRRZ	**Republican Roa**	**4.82**	**214**	P	**Sn**	**08 07 40.7**	**+2.5**
RRRZ	**Republican Roa**	**4.82**	**214**	P	**Pn**	**08 06 43.4**	**+2.0**
WCZ	**Waipu Caves**	**4.84**	**250**	P	**Pn**	**08 06 40.8**	**-0.8**
HSRZ	**Hossack Road**	**4.93**	**216**	P	**Pn**	**08 06 44.9**	**+2.2**
HRRZ	**Handcock Road**	**4.97**	**215**	P	**Pn**	**08 06 45.4**	**+2.1**
KNZ	**Kokohu**	**4.97**	**201**	P	**Pn**	**08 06 43.6**	**+0.4**
MHGZ	**Mahia Peninsul**	**5.03**	**198**	P	**Pn**	**08 06 44.1**	**+0.1**
RAHZ	**Arahi**	**5.07**	**206**	P	**Pn**	**08 06 44.3**	**-0.3**
ALRZ	**Allen Road**	**5.08**	**214**	P	**Pn**	**08 06 46.0**	**+1.4**
WHHZ	**Waihua**	**5.16**	**204**	P	**Pn**	**08 06 46.7**	**+1.0**
MRHZ	**Matea Rd**	**5.27**	**212**	P	**Pn**	**08 06 47.3**	**+0.2**
OUZ	**Omahuta**	**5.29**	**259**	Pn	**Pn**	**08 06 44.1**	**-3.3**
OUZ	**Omahuta**	**5.29**	**259**	P	**Pn**	**08 06 45.2**	**-2.2**
OUZ	**Omahuta**	**5.29**	**259**	P	**Pn**	**08 06 44.4**	**-3.0**
TLZ	**Tolley Road**	**5.31**	**221**	P	**Pn**	**08 06 49.7**	**+2.1**
ARHZ	**Aropaoanui**	**5.41**	**205**	P	**Pn**	**08 06 48.6**	**-0.2**
GLKZ	**Green Lake**	**5.42**	**20**	P	Pn	08 06 43.2	-5.9
BKZ	**Black Stump Fm**	**5.52**	**209**		**Pn**	**08 06 49.0**	**-1.3**
BKZ	**Black Stump Fm**	**5.52**	**209**	P	**Pn**	**08 06 50.3**	**0.0**
BKZ	**Black Stump Fm**	**5.52**	**209**	P	**Pn**	**08 06 50.1**	**-0.2**
MCHZ	**McNeill Hill**	**5.68**	**206**	P	**Pn**	**08 06 51.7**	**-0.7**
KWHZ	**Kaweka Forest**	**5.77**	**208**	P	**Pn**	**08 06 53.5**	**0.0**
HIZ	**Hauiti**	**5.81**	**222**	Pn	**Pn**	**08 06 54.4**	**+0.4**
HIZ	**Hauiti**	**5.81**	**223**	P	**Pn**	**08 06 55.7**	**+1.6**
HIZ	**Hauiti**	**5.81**	**223**	P	**Pn**	**08 06 55.7**	**+1.6**
NTVZ	**North Tongarir**	**5.82**	**215**	P	**Pn**	**08 06 55.3**	**+1.0**
TMVZ	**Te Maari**	**5.82**	**215**	P	**Pn**	**08 06 53.7**	**-0.6**
ETVZ	**East Tongariro**	**5.83**	**214**	P	**Pn**	**08 06 54.5**	**+0.1**
WTVZ	**West Tongariro**	**5.88**	**215**	P	**Pn**	**08 06 55.4**	**+0.4**
NNVZ	**North Ngauruho**	**5.88**	**215**	P	**Pn**	**08 06 55.7**	**+0.7**
SNVZ	**South Ngauruho**	**5.91**	**215**	P	**Pn**	**08 06 55.8**	**+0.3**
TWVZ	**Taurewa**	**5.91**	**216**	P	**Pn**	**08 06 56.0**	**+0.6**
NGZ	**Ngauruhoe**	**5.92**	**215**	P	**Pn**	**08 06 55.9**	**+0.3**
KAHZ	**Kahuranaki**	**5.93**	**204**	P	**Pn**	**08 06 54.3**	**-1.3**
TUVZ	**Tukino**	**5.97**	**214**	P	**Pn**	**08 06 56.3**	**+0.1**
BHHZ	**Black Hill Sta**	**5.97**	**210**	P	**Pn**	**08 06 55.0**	**-1.1**
FWVZ	**Far West T-bar**	**6.00**	**215**	P	**Pn**	**08 06 56.3**	**-0.4**
WHVZ	**Whangaehu Hut**	**6.01**	**214**	P	**Pn**	**08 06 56.9**	**+0.1**
MOVZ	**Moawhango**	**6.03**	**213**	P	**Pn**	**08 06 56.7**	**-0.2**
TRVZ	**Turoa**	**6.04**	**214**	P	**Pn**	**08 06 57.8**	**+0.6**
PKVZ	**Pokaka**	**6.10**	**216**	P	**Pn**	**08 06 59.4**	**+1.2**
PXZ	**Pawanui**	**6.15**	**203**	P	**Pn**	**08 06 56.1**	**-2.3**
PNHZ	**Pukenui**	**6.28**	**207**	P	**Pn**	**08 06 58.1**	**-2.0**
WPHZ	**Waipukurau**	**6.32**	**205**	P	**Pn**	**08 07 00.0**	**-0.6**
PRHZ	**Porangahau**	**6.44**	**203**	P	**Pn**	**08 07 00.2**	**-1.9**
TSZ	**Takapari Road**	**6.49**	**208**	P	**Pn**	**08 07 01.1**	**-1.8**
MHEZ	**Mangahewa**	**6.50**	**222**	P	Pn	08 07 08.9	+5.9
DVHZ	**Dannevirke**	**6.63**	**206**	P	**Pn**	**08 07 03.0**	**-1.6**
ANWZ	**Angora Road**	**6.66**	**203**	P	**Pn**	**08 07 04.1**	**-0.9**
WAZ	**Wanganui**	**6.67**	**215**	P	**Pn**	**08 07 04.3**	**-0.8**
NEZ	**North Egmont**	**6.77**	**222**	P	**Pn**	**08 07 08.9**	**+2.5**
KHEZ	**Kahui Hut**	**6.83**	**222**	P	**Pn**	**08 07 09.6**	**+2.3**
KHEZ	**Kahui Hut**	**6.83**	**222**	P	**Pn**	**08 07 09.4**	**+2.2**
POWZ	**Post Office Ro**	**6.86**	**208**	P	**Pn**	**08 07 05.3**	**-2.2**
PRWZ	**Pori Road**	**6.92**	**206**	P	**Pn**	**08 07 07.7**	**-0.7**
BFZ	**Birch Farm**	**6.94**	**204**	Pn	**Pn**	**08 07 06.9**	**-1.8**
BFZ	**Birch Farm**	**6.94**	**204**	P	**Pn**	**08 07 06.7**	**-1.9**
BFZ	**Birch Farm**	**6.94**	**204**	P	**Pn**	**08 07 06.7**	**-1.5**
TIWZ	**Tintock**	**7.15**	**206**	P	**Pn**	**08 07 09.9**	**-1.4**
MRZ	**Mangatainoka R**	**7.16**	**208**	Pn	**Pn**	**08 07 10.1**	**-1.4**
MRZ	**Mangatainoka R**	**7.16**	**208**	P	**Pn**	**08 07 07.7**	**-3.8**
HOWZ	**Holdsworth Sta**	**7.39**	**207**	P	**Pn**	**08 07 11.6**	**-2.9**
HOWZ	**Holdsworth Sta**	**7.39**	**207**	P	**Pn**	**08 07 11.6**	**-2.9**
TMWZ	**Te Maipa**	**7.44**	**204**	P	**Pn**	**08 07 12.7**	**-2.4**
OGWZ	**Otaki Gorge**	**7.46**	**209**	P	**Pn**	**08 07 13.6**	**-1.7**
KIW	**Kapiti Island**	**7.60**	**210**	P	**Pn**	**08 07 15.1**	**-2.1**
TRWZ	**Traveller**	**7.77**	**204**	P	**Pn**	**08 07 16.9**	**-2.5**
PAWZ	**Paruwai Farm**	**7.84**	**206**	P	**Pn**	**08 07 17.9**	**-2.5**
MSWZ	**Moikau Station**	**7.94**	**206**	P	**Pn**	**08 07 19.5**	**-2.1**
DUWZ	**D'Urville Isla**	**7.99**	**215**	P	**Pn**	**08 07 19.8**	**-2.6**
WEL	**Wellington**	**8.01**	**209**	P	**Pn**	**08 07 20.0**	**-2.5**
PLWZ	**Palliser**	**8.07**	**206**	P	**Pn**	**08 07 20.9**	**-2.5**
TCW	**Tory Channel**	**8.16**	**212**	P	**Pn**	**08 07 21.5**	**-2.9**
TUWZ	**Tuamarina**	**8.48**	**212**	P	**Pn**	**08 07 25.0**	**-3.7**
NNZ	**Nelson**	**8.57**	**215**	P	**Pn**	**08 07 26.5**	**-3.3**
CMWZ	**Cape Campbell**	**8.63**	**210**	P	Pn	08 07 26.2	-8.4
BSWZ	**Blackbirch Sta**	**8.74**	**211**	P	Pn	08 07 25.9	-6.2
THZ	**Tophouse**	**9.22**	**215**	P	**Pn**	**08 07 35.5**	**-2.9**
KHZ	**Kahutara**	**9.46**	**210**	P	Pn	08 07 33.6	-7.8
LTZ	**Lake Taylor**	**10.31**	**213**	P	**Pn**	**08 07 49.2**	**-3.3**
RPZ	**Rata Peaks**	**11.59**	**214**	P	**Pn**	**08 08 05.6**	**-3.3**
RPZ	3.8nm,0.4s,baz=1.2,slow=17,SNR=1.6 13nm,0.3s,baz=62,slow=22,SNR=10			S	Sn	08 10 06.1	-12
ODZ	**Otahua Downs**	**12.82**	**211**	P	**Pn**	**08 08 21.5**	**-2.8**
MSVF	**Nonsavu**	**16.67**	**354**	P	**Pn**	**08 09 11.0**	**-0.8**
MSVF	28nm,0.6s,baz=204,slow=9.6,SNR=27 comp=Z,38nm,0.7s			IAmb	IAmb	08 09 14.0	
MSVF	**Nonsavu**	**16.67**	**354**	P	**Pn**	**08 09 10.2**	**-1.6**
NIUE	**Niue**	**17.71**	**33**	P	**Pn**	**08 09 24.5**	**+0.5**
NIUE	comp=Z,200nm,1.4s			IAmb	IAmb	08 09 38.2	
FUNA	**Funafuti**	**25.75**	**358**	P	**P**	**08 10 42.4**	**+0.9**
EIDS	**Eidsvold**	**26.52**	**282**	P	**P**	**08 10 48.5**	**0.0**
EIDS	comp=Z,13nm,1.1s			IAmb	IAmb	08 11 30.9	
CTA	**Charters Tower**	**33.00**	**287**	P	**P**	**08 11 46.2**	**+0.6**
CTAO	comp=Z,8.2nm,0.8s,baz=114,slow=9.4,SNR=6.2 comp=Z,8.2nm,0.8s			IAmb	IAmb	08 11 46.8	
CTAO	**Charters Tower**	**33.00**	**287**	P	**P**	**08 11 45.7**	**+0.1**
BBOO	**Buckleboo**	**36.38**	**260**	P	**P**	**08 12 14.9**	**+0.5**
BBOO	comp=Z,12nm,1.0s			IAmb	IAmb	08 12 17.5	
AS31	**Alice Springs**	**41.35**	**272**	P	**P**	**08 12 54.9**	**-0.9**
ASAR	**Alice Springs**	**41.35**	**272**	P	**P**	**08 12 55.5**	**-0.3**
ASAR	comp=Z,5.2nm,0.6s,baz=115,slow=7.6,SNR=26 comp=Z,1.9nm,0.7s,baz=122,slow=4.3,SNR=6.2 comp=Z,5.2nm,0.6s			PcP	**PcP**	**08 14 51.5**	**+1.3**
ASAR	**Alice Springs**	**41.35**	**272**	P	**P**	**08 12 55.6**	**-0.2**
WB2	**Warramunga Arr**	**42.69**	**278**	P	**P**	**08 13 05.9**	**-0.8**
WB2	comp=Z,6.0nm,0.8s			IAmb	IAmb	08 13 10.5	
WRAB	**Tennant Creek**	**42.70**	**278**	P	**P**	**08 13 06.6**	**-0.1**
WRA	**Warramunga Arr**	**42.70**	**278**	P	**P**	**08 13 06.1**	**-0.7**
WRA	comp=Z,5.0nm,0.8s,baz=118,slow=7.9,SNR=46 comp=Z,0.3nm,0.8s,baz=105,slow=0.1,SNR=5.1 comp=Z,5.0nm,0.8s			PKiKP	**PKiKP**	**08 21 58.9**	**+0.4**
WRA	**Warramunga Arr**	**42.70**	**278**	P	**P**	**08 13 05.5**	**-1.2**
FORT	**Forrest**	**43.49**	**260**	P	**P**	**08 13 13.1**	**+0.2**
FORT	comp=Z,18nm,1.2s			IAmb	IAmb	08 13 51.6	
KNRA	**Kununurra**	**49.44**	**279**	P	**P**	**08 14 00.5**	**+1.2**
KNRA	comp=Z,40nm,1.4s			IAmb	IAmb	08 14 36.2	
CASY	**Casey**	**50.82**	**209**	P	**P**	**08 14 11.8**	**+2.9**
CASY	comp=Z,37nm,1.4s			IAmb	IAmb	08 14 14.2	
QSPA	**South Pole Qui**	**55.73**	**180**	P	P	08 14 52.2	+7.3
QSPA	comp=Z,7.0nm,0.8s			IAmb	IAmb	08 14 54.2	
HMH	**Humu'ula Sheep**	**58.56**	**27**	P	P	08 15 11.6	+6.2
BELA	**Belgrano 2**	**66.08**	**172**	P	P	08 16 00.6	+6.5
MAW	**Mawson**	**67.97**	**202**	P	**P**	**08 16 09.1**	**+2.9**
TROLL	**Troll, Antarti**	**73.88**	**181**	P	P	08 16 47.6	+5.7
SNAA	**Sanae**	**74.22**	**179**	P	P	08 16 49.3	+5.6
SNAA	**Sanae**	**74.22**	**179**	P	P	08 16 49.5	+5.8
VNA3	**Neumayer Olymp**	**74.44**	**177**	P	P	08 16 50.9	+5.9
VNA2	**Neumayer--Watz** baz=175,slow=6.0	**74.86**	**178**	P	P	08 16 53.5	+6.2
VNA1	**Neumayer--Stat**	**75

YKA	**Yellowknife Ar**	**81.02**	**3**	P		**P**	**08 29 24.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=356,slow=8.8,SNR=4.3							
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**81.96**	**122**	P		**P**	**08 29 28.2**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=324,slow=5.0,SNR=1.6							
	comp=Z,0.1nm,0.4s							
ASAR	**Alice Springs**	**84.24**	**125**	P		**P**	**08 29 39.5**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=315,slow=4.1,SNR=5.1							
	comp=Z,0.7nm,0.9s							

*IDC **18** 08:40:29.2±2.0,27.77S×67.06W,h118km±21km,mb3.8/3, mbtmp4.2/5,Error ellipse: s-maj=49.2km s-min=16.0km az=97.0*

*GUC **18** 08:40:31.6±0.6,27.62S×67.79W,h158km±19km,ML4.1*

ISC 18 08:40:29.7±0.8,27.69S±0.04×67.51W±0.07,h137km,n19, σ1s31/30,mb4.0/3,2C-1D,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC02	**Maricunga**	**1.68**	**300**	*eP*	**Pn**	**08 41 02.6**	**+1.8**
GO03	**Copiap**	**2.42**	**272**	↑*iP*	**Pn**	**08 41 09.9**	**+0.6**
GO03				*i* S	**Sn**	**08 41 39.0**	**-0.7**
GO03				IAML		08 41 40.2	
	comp=N,959nm,0.4s						
AC06	**Mina Casimiro**	**2.55**	**277**	*eP*	**Pn**	**08 41 10.8**	**0.0**
AC06				*i* S	**Sn**	**08 41 40.9**	**-1.6**
AC06				IAML		08 41 45.7	
	comp=N,492nm,0.5s						
AC05	**El Transito**	**2.69**	**244**	↑*iP*	**Pn**	**08 41 13.8**	**+1.0**
AC05				*i* S	**Sn**	**08 41 46.8**	**+0.9**
AC05				IAML		08 41 49.3	
	comp=E,971nm,0.4s						
LCO	**Las Campanas**	**3.11**	**244**	*eP*	**Pn**	**08 41 18.3**	**+0.1**
LCO				*i* S	**Sn**	**08 41 55.4**	**-0.2**
GO02	**Mina Guanaco**	**3.13**	**323**	↓*iP*	**Pn**	**08 41 19.8**	**+1.1**
GO02				*i* S	**Sn**	**08 41 56.1**	**-0.3**
GO02				IAML		08 41 59.7	
	comp=N,274nm,0.6s						
CO01	**Juntas del Tor**	**3.21**	**224**	*eP*	**Pn**	**08 41 21.1**	**+1.5**
CO01				*i* S	**Sn**	**08 41 59.9**	**+1.8**
CO01				IAML		08 42 02.8	
	comp=N,293nm,0.4s						
GO04	**Tololo Observa**	**3.80**	**229**	*eP*	**Pn**	**08 41 26.9**	**-0.3**
GO04				*i* S	**Sn**	**08 42 11.6**	**-0.1**
CFA	**Coronel Fontan**	**3.95**	**189**	P	**Pn**	**08 41 29.4**	**+0.4**
	comp=N,26nm,0.3s,baz=10,slow=12,SNR=574						
CFA				S	**Sn**	**08 42 13.7**	**-1.4**
	comp=N,100nm,0.4s,baz=341,slow=19,SNR=21						
CO05	**La Serena**	**3.95**	**235**	*eP*	**Pn**	**08 41 27.7**	**-1.3**
CO05				*i* S	**Sn**	**08 42 12.4**	**-2.6**
CO03	**El Pedregal**	**4.19**	**221**	*eP*	**Pn**	**08 41 32.4**	**+0.1**
CO03				*i* S	**Sn**	**08 42 19.8**	**-1.0**
CO02	**Combarbal**	**4.64**	**220**	*i* P	**Pn**	**08 41 37.4**	**-0.8**
LVC	**Limon Verde**	**5.22**	**346**	P	**Pn**	**08 41 47.6**	**+1.4**
	comp=N,25nm,0.3s,baz=168,slow=8.4,SNR=87						
LVC				S	**Sn**	**08 42 42.1**	**-3.6**
	comp=N,5.3nm,0.5s,baz=180,slow=13,SNR=1.3						
QSPA	**South Pole Qui**	**62.53**	**180**	P	**P**	**08 50 40.3**	**+1.6**
	comp=N,0.7nm,0.6s,baz=170,slow=0.5,SNR=6.7						
	comp=N,0.7nm,0.6s						
DBIC	**Dimbokro**	**69.43**	**70**	P	**P**	**08 51 23.4**	**0.0**
	comp=N,2.3nm,0.5s,baz=206,slow=6.8,SNR=1.3						
	comp=N,2.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**78.33**	**68**	P	**P**	**08 52 14.2**	**-1.1**
	comp=N,2.1nm,0.7s						
	comp=N,2.1nm,0.7s						
ASAR	**Alice Springs**	**124.92**	**204**	PKP	**PKiKP**	**08 59 14.4**	**-0.1**
	comp=N,0.2nm,0.4s,baz=130,slow=1.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**146.83**	**30**	PKPbc	**PKPab**	**08 59 56.9**	**-0.1**
	comp=N,4.0nm,0.6s,baz=302,slow=3.7,SNR=12						
MKAR	**Makanchi Array**	**149.59**	**43**	PKPbc	**PKiKP**	**09 00 04.0**	**+0.1**
	comp=N,1.8nm,0.7s,baz=291,slow=2.9,SNR=14						

IDC 18 08:58:23.2±1.5,12.29N×144.55E,h0km,mb3.6/3, mbtmp3.6/3,MS3.1/1,Error ellipse: s-maj=70.5km s-min=17.1km az=102.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.33**	**14**	Pn	Pn	08 58 49.6	+0.6
	45nm,0.3s,baz=90,slow=2.6,SNR=21						
GUMO				Sn	Sn	08 59 07.3	-0.1
	152nm,0.3s,baz=18,slow=22,SNR=15						
JOW	**Kunigami**	**21.04**	**316**	LR	LR	09 09 29.1	
	comp=Z,60nm,21.2s,baz=85,slow=32						
WRA	**Warramunga Arr**	**33.57**	**198**	P	P	09 05 04.8	-0.4
	0.9nm,0.7s,baz=22,slow=9.7,SNR=12						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**37.22**	**196**	P	P	09 05 36.9	+0.3
	0.5nm,0.7s,baz=11,slow=10,SNR=5.8						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**62.20**	**317**	P	P	09 08 46.4	-0.3
	0.3nm,0.6s,baz=95,slow=9.1,SNR=4.7						
	0.3nm,0.6s						

*NOU **18** 09:06:13.9,42.41S×173.81E,h12km,MLv4.0/11,South Island, New Zealand*

*WEL **18** 09:06:15.1±0.3,42.2S±2.2×17.4E±.,h5km,M3.6/44, ML3.9/15,MLv3.6/44,Error ellipse: s-maj=0.0km s-min=0.0km az=114.7*

ISC 18 09:06:14.2±0.9,42.31S±0.03×173.70E±0.04,h10km,n95, σ1s13/97,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.16**	**228**	P	**Pg**	**09 06 19.4**	**+1.7**
KHZ	**Kahutara**	**0.16**	**228**	P	**Pg**	**09 06 19.4**	**+1.7**
KHZ				S	**Sg**	**09 06 22.6**	**+2.4**
BSWZ	**Blackbirch Sta**	**0.61**	**12**	P	**Pg**	**09 06 26.3**	**+0.3**
BSWZ				S	**Sg**	**09 06 34.5**	**+0.6**
CMWZ	**Cape Campbell**	**0.68**	**35**	P	**Pb**	**09 06 29.3**	**+1.2**
THZ	**Tophouse**	**0.81**	**312**	P	**Pg**	**09 06 28.2**	**-1.5**
GVZ	**Greta Valley S**	**0.82**	**217**	P	**Pn**	**09 06 31.8**	**-0.1**
TUWZ	**Tuamarina**	**0.90**	**12**	P	**Pg**	**09 06 31.5**	**0.0**
NNZ	**Nelson**	**1.12**	**347**	P	**Pb**	**09 06 34.3**	**-1.3**
MRNZ	**Matariki Terra**	**1.15**	**322**	P	**Pb**	**09 06 34.6**	**-1.5**
LTZ	**Lake Taylor**	**1.16**	**245**	P	**Pb**	**09 06 35.2**	**-1.2**
AMCZ	**Amberley**	**1.16**	**221**	P	**Pb**	**09 06 36.2**	**-0.2**
TCW	**Tory Channel**	**1.18**	**22**	P	**Pb**	**09 06 36.4**	**-0.2**
SNZO	**South Karori**	**1.25**	**37**	P	**Pn**	**09 06 37.4**	**-0.3**
WEL	**Wellington**	**1.30**	**38**	P	**Pn**	**09 06 38.2**	**-0.1**
PLWZ	**Palliser**	**1.38**	**58**	P	**Pn**	**09 06 39.3**	**-0.2**
TKNZ	**Takaka Hill**	**1.39**	**336**	P	**Pn**	**09 06 39.0**	**-0.7**
MSWZ	**Moikau Station**	**1.46**	**53**	P	**Pn**	**09 06 40.5**	**-0.1**
OKCZ	**Okains Bay**	**1.49**	**198**	P	**Pn**	**09 06 40.9**	**-0.2**
DUWZ	**D'Urville Isla**	**1.52**	**6**	P	**Pn**	**09 06 41.2**	**-0.2**
DSZ	**Denniston Nort**	**1.52**	**291**	P	**Pn**	**09 06 41.2**	**-0.3**
CAW	**Cannon Point**	**1.58**	**41**	P	**Pn**	**09 06 42.2**	**-0.1**
PAWZ	**Paruwai Farm**	**1.59**	**55**	P	**Pn**	**09 06 42.1**	**-0.3**
OXZ	**Oxford**	**1.59**	**230**	P	**Pn**	**09 06 41.2**	**-1.3**
MQZ	**McQueen's Vall**	**1.59**	**208**	P	**Pn**	**09 06 41.1**	**-1.4**
AKCZ	**Akaroa Harbour**	**1.67**	**200**	P	**Pn**	**09 06 43.0**	**-0.5**
KIW	**Kapiti Island**	**1.71**	**32**	P	**Pn**	**09 06 44.2**	**+0.1**
INZ	**Inchbonnie**	**1.72**	**255**	P	**Pn**	**09 06 43.5**	**-0.7**
QRZ	**Quartz Range**	**1.72**	**329**	P	**Pn**	**09 06 44.5**	**+0.3**
QRZ	**Quartz Range**	**1.72**	**329**	P	**Pn**	**09 06 44.3**	**0.0**
TRWZ	**Traveller**	**1.74**	**59**	P	**Pn**	**09 06 43.9**	**-0.6**
MTW	**Mount Morrison**	**1.77**	**50**	P	**Pn**	**09 06 44.3**	**-0.7**
RACZ	**Rakaia**	**1.82**	**218**	P	**Pn**	**09 06 44.4**	**-1.2**
OGWZ	**Otaki Gorge**	**1.85**	**37**	P	**Pn**	**09 06 45.9**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.96**	**45**	P	**Pn**	**09 06 46.9**	**-0.6**
MHCZ	**Mount Hutt**	**1.99**	**231**	P	**Pn**	**09 06 46.7**	**-1.3**
TMWZ	**Te Maipa**	**2.03**	**55**	P	**Pn**	**09 06 47.7**	**-0.8**
WACZ	**Wakanui South**	**2.13**	**219**	P	**Pn**	**09 06 48.6**	**-1.2**
MRZ	**Mangatainoka R**	**2.17**	**41**	P	**Pn**	**09 06 49.8**	**-0.6**
WVZ	**Waitaha Valley**	**2.31**	**250**	P	**Pn**	**09 06 51.9**	**-0.4**
RPZ	**Rata Peaks**	**2.40**	**233**	P	**Pn**	**09 06 52.3**	**-1.2**
RPZ	**Rata Peaks**	**2.40**	**233**	P	**Pn**	**09 06 52.4**	**-1.2**
PRWZ	**Pori Road**	**2.45**	**45**	P	**Pn**	**09 06 53.3**	**-0.9**
ARCZ	**Arundel**	**2.47**	**228**	P	**Pn**	**09 06 53.2**	**-1.3**
BFZ	**Birch Farm**	**2.51**	**50**	P	**Pn**	**09 06 53.7**	**-1.3**
GCSZ	**Gaunt Creek Bo**	**2.68**	**247**	P	**Pn**	**09 06 57.4**	**0.0**
WAZ	**Wanganui**	**2.73**	**21**	P	**Pn**	**09 06 59.6**	**+1.5**
DVHZ	**Dannevirke**	**2.73**	**44**	P	**Pn**	**09 06 56.6**	**-1.6**
TSZ	**Takapari Road**	**2.82**	**38**	P	**Pn**	**09 06 58.4**	**-0.9**
TMZ	**Timaru**	**2.86**	**223**	P	**Pn**	**09 06 58.7**	**-1.1**
LREZ	**Lake Rotokare**	**2.90**	**11**	P	**Pb**	**09 07 04.4**	**-1.5**
NMEZ	**Namu Road**	**2.90**	**3**	P	**Pb**	**09 07 07.0**	**+1.1**
KHEZ	**Kahui Hut**	**3.02**	**5**	P	**Pn**	**09 07 04.0**	**+1.8**
KHEZ	**Kahui Hut**	**3.02**	**5**	P	**Pn**	**09 07 05.2**	**+3.0**
NBEZ	**Newall Road No**	**3.04**	**2**	P	**Pn**	**09 07 05.2**	**+2.8**
PNHZ	**Pukenui**	**3.05**	**39**	P	**Pn**	**09 07 01.4**	**-1.1**
NEZ	**North Egmont**	**3.05**	**6**	P	**Pb**	**09 07 06.3**	**-2.4**
WPHZ	**Waipukurau**	**3.05**	**44**	P	**Pn**	**09 07 01.3**	**-1.2**
FOZ	**Fox Glacier**	**3.10**	**245**	P	**Pn**	**09 07 03.0**	**-0.2**
PKE	**Pukeiti**	**3.12**	**4**	P	**Pb**	**09 07 08.1**	**-1.6**
DREZ	**Durham Road**	**3.14**	**7**	P	**Pn**	**09 07 01.2**	**-2.6**
PKVZ	**Pokaka**	**3.27**	**23**	P	**Pn**	**09 07 06.5**	**+1.0**
VRZ	**Vera Road**	**3.28**	**15**	P	**Pn**	**09 07 07.2**	**+1.6**
MOVZ	**Moawhango**	**3.29**	**29**	P	**Pn**	**09 07 05.7**	**-0.1**
LBZ	**Lake Benmore**	**3.30**	**230**	P	**Pn**	**09 07 05.3**	**-0.7**
WNVZ	**Wahianoa**	**3.31**	**26**	P	**Pn**	**09 07 07.1**	**+0.9**
TRVZ	**Turoa**	**3.32**	**26**	P	**Pn**	**09 07 07.1**	**+0.7**
BHHZ	**Black Hill Sta**	**3.34**	**33**	P	**Pn**	**09 07 06.0**	**-0.5**
WHVZ	**Whangaehu Hut**	**3.34**	**26**	P	**Pn**	**09 07 07.6**	**+0.9**
FWVZ	**Far West T-bar**	**3.36**	**25**	P	**Pn**	**09 07 07.8**	**+0.8**
TUVZ	**Tukino**	**3.38**	**27**	P	**Pn**	**09 07 08.0**	**+0.9**
NGZ	**Ngauruhoe**	**3.45**	**25**	P	**Pn**	**09 07 08.7**	**+0.6**
KAHZ	**Kahuranaki**	**3.48**	**45**	P	**Pn**	**09 07 06.6**	**-1.8**
NNVZ	**North Ngauruho**	**3.49**	**25**	P	**Pn**	**09 07 09.2**	**+0.5**
TWVZ	**Taurewa**	**3.49**	**23**	P	**Pn**	**09 07 09.1**	**+0.4**
ETVZ	**East Tongariro**	**3.52**	**26**	P	**Pn**	**09 07 09.7**	**+0.7**
ODZ	**Otahua Downs**	**3.52**	**218**	P	**Pn**	**09 07 07.9**	**-1.1**
ODZ	**Otahua Downs**	**3.52**	**218**	P	**Pn**	**09 07 07.6**	**-1.3**
TMVZ	**Te Maari**	**3.53**	**26**	P	**Pn**	**09 07 09.9**	**+0.7**
NTVZ	**North Tongarir**	**3.54**	**26**	P	**Pn**	**09 07 10.5**	**+1.1**
BKZ	**Black Stump Fm**	**3.79**	**35**	P	**Pn**	**09 07 12.3**	**-0.4**
BKZ	**Black Stump Fm**	**3.79**	**35**	P	**Pn**	**09 07 10.9**	**-1.8**
HIZ	**Hauiti**	**3.89**	**13**	P	**Pn**	**09 07 15.5**	**+1.4**
HIZ	**Hauiti**	**3.89**	**13**	P	**Pn**	**09 07 15.5**	**+1.4**
JCZ	**Jackson Bay**	**4.00**	**242**	P	**Pn**	**09 07 16.2**	**+0.5**
JCZ	**Jackson Bay**	**4.00**	**242**	P	**Pn**	**09 07 15.4**	**-0.3**
MRHZ	**Mata Rd**	**4.04**	**32**	P	**Pn**	**09 07 14.5**	**-1.7**
TLZ	**Tolley Road**	**4.21**	**20**	P	**Pn**	**09 07 18.8**	**+0.2**
ALRZ	**Allen Road**	**4.25**	**29**	P	**Pn**	**09 07 18.6**	**-0.4**
TOZ	**Tahuroa Road**	**4.78**	**17**	P	**Pn**	**09 07 26.3**	**+0.1**
URZ	**Urewera**	**4.81**	**34**	P	**Pn**	**09 07 25.9**	**-0.8**
AWAZ	**Awhitu Peninsu**	**5.29**	**8**	P	**Pn**	**09 07 34.5**	**+1.2**
MKAZ	**Moumakai**	**5.32**	**13**	P	**Pn**	**09 07 33.9**	**+0.2**
SYZ	**Scrubby Hill**	**5.34**	**216**	P	**Pn**	**09 07 33.2**	**-0.8**
ETAZ	**East Tamaki Re**	**5.43**	**10**	P	**Pn**	**09 07 36.2**	**+1.0**
WIAZ	**Waiheke Island**	**5.62**	**12**	P	**Pn**	**09 07 38.8**	**+1.1**

WEL 18 09:11:47.2±0.3,42.5S±3.3×17.4E±.,h5km,M3.4/23, ML3.6/18,MLv3.4/23,Error ellipse: s-maj=0.0km s-min=0.0km az=152.9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.29**	**255**	P	Pg	09 11 53.1	+0.3
BSWZ				S	Sg	09 11 57.9	+1.2
TUWZ	**Tuamarina**	**0.32**	**312**	P	Pg	09 11 54.0	+0.7
TUWZ				S	Sg	09 11 59.0	+1.5
TCW	**Tory Channel**	**0.43**	**2**	P	Pg	09 11 56.1	+0.5
WEL	**Wellington**	**0.53**	**47**	P	Pg	09 11 58.0	+0.7
PLWZ	**Palliser**	**0.76**	**85**	P	Pb	09 12 02.5	-0.4
MSWZ	**Moikau Station**	**0.78**	**74**	P	Pb	09 12 02.9	-0.4
NNZ	**Nelson**	**0.78**	**303**	P	Pb	09 12 02.0	-0.1
PAWZ	**Paruwai Farm**	**0.92**	**74**	P	Pb	09 12 05.0	-0.2
KIW	**Kapiti Island**	**0.93**	**33**	P	Pg	09 12 04.7	-0.2
KHZ	**Kahutara**	**0.94**	**214**	P	Pg	09 12 05.0	-0.1
THZ	**Tophouse**	**1.02**	**263**	P	Pg	09 12 06.1	-0.6
OGWZ	**Otaki Gorge**	**1.08**	**40**	P	Pg	09 12 07.5	-0.3
TRWZ	**Traveller**	**1.11**	**78**	P	Pg	09 12 07.6	-0.8
TKNZ	**Takaka Hill**	**1.15**	**302**	P	Pg	09 12 08.2	-1.0
MRNZ	**Matariki Terra**	**1.15**	**282**	P	Pg	09 12 08.9	-0.3
HOWZ	**Holdsworth Sta**	**1.21**	**52**	P	Pg	09 12 09.5	-0.9
TMWZ	**Te Maipa**	**1.34**	**67**	P	Pn	09 12 10.4	-2.2
MRZ	**Mangatainoka R**	**1.40**	**46**	P	Pn	09 12 12.3	-1.1
TIWZ	**Tintock**	**1.51**	**55**	P	Pn	09 12 14.7	-0.2
QRZ	**Quartz Range**	**1.53**	**302**	P	Pn	09 12 15.2	-0.1
OHWZ	**Ohakea**	**1.65**	**30**	P	Pb	09 12 17.9	-0.1
POWZ	**Post Office Ro**	**1.70**	**43**	P	Pn	09 12 16.6	-0.8
BFZ	**Birch Farm**	**1.79**	**58**	P	Pg	09 12 21.3	-0.1
DSZ	**Denniston Nort**	**1.84**	**266**	P	Pn	09 12 19.8	+0.4
LTZ	**Lake Taylor**	**1.86**	**232**	P	Pn	09 12 18.0	-1.8
AMCZ	**Amberley**	**1.94**	**217**	P	Pg	09 12 24.9	+0.6
WAZ	**Wanganui**	**1.97**	**17**	P	Pb	09 12 23.8	+0.2
DVHZ	**Dannevirke**	**1.98**	**48**	P	Pb	09 12 24.1	+0.5
LREZ	**Lake Rotokare**	**2.18**	**3**	P	Pb	09 12 27.2	0.0
PNHZ	**Pukenui**	**2.27**	**41**	P	Pb	09 12 29.3	+0.5
WPHZ	**Waipukurau**	**2.29**	**47**	P	Pb	09 12 28.7	-0.3
INZ	**Inchbonnie**	**2.35**	**242**	P	Pn	09 12 27.7	+1.3
KHEZ	**Kahui Hut**	**2.35**	**356**	P	Pb	09 12 29.9	-0.2
NBEZ	**Newall Road No**	**2.39**	**353**	P	Pb	09 12 31.3	+0.6
AKCZ	**Akaroa Harbour**	**2.44**	**203**	P	Pg	09 12 33.9	0.0
PKE	**Pukeiti**	**2.45**	**355**	P	Pg	09 12 33.4	-0.8
PKVZ	**Pokaka**	**2.50**	**20**	P	Pb	09 12 32.5	-0.1
MOVZ	**Moawhango**	**2.51**	**28**	P	Pb	09 12 32.0	-0.7
WNVZ	**Wahianoa**	**2.53**	**24**	P	Pb	09 12 32.7	-0.5
TRVZ	**Turoa**	**2.54**	**23**	P	Pb	09 12 33.1	-0.3
VRZ	**Vera Road**	**2.54**	**9**	P	Pb	09 12 31.8	-1.6
PXZ	**Pawanui**	**2.55**	**52**	P	Pb	09 12 33.3	-0.2
BHHZ	**Black Hill Sta**	**2.56**	**33**	P	Pb	09 12 33.1	-0.4
DRZ	**Dome Shelter**	**2.57**	**23**	P	Pb	09 12 35.0	+1.0
WHVZ	**Whangaehu Hut**	**2.57**	**24**	P	Pb	09 12 33.6	-0.3
FWVZ	**Far West T-bar**	**2.58**	**23**	P	Pb	09 12 33.6	-0.6
TUVZ	**Tukino**	**2.60**	**25**	P	Pb	09 12 34.9	+0.5
NGZ	**Ngauruhoe**	**2.67**	**23**	P	Pb	09 12 35.6	0.0
SNVZ	**South Ngauruho**	**2.67**	**24**	P	Pb	09 12 35.6	0.0
NNVZ	**North Ngauruho**	**2.72**	**23**	P	Pb	09 12 36.4	0.0
KAHZ	**Kahuranaki**	**2.72**	**48**	P	Pb	09 12 37.1	+0.8
WTVZ	**West Tongariro**	**2.72**	**22**	P	Pb	09 12 36.4	-0.1
TWVZ	**Taurewa**	**2.72**	**20**	P	Pb	09 12 35.9	-0.5
ETVZ	**East Tongariro**	**2.74**	**24**	P	Pb	09 12 36.5	-0.2
TMVZ	**Te Maari**	**2.76**	**24**	P	Pb	09 12 36.8	-0.3
NTVZ	**North Tongarir**	**2.76**	**24**	P	Pb	09 12 37.1	0.0
KWHZ	**Kaweka Forest**	**2.77**	**37**	P	Pg	09 12 38.4	+1.2
MCHZ	**McNeill Hill**	**2.88**	**41**	P	Pg	09 12 42.1	-0.2
WVZ	**Waitaha Valley**	**2.97**	**240**	P	Pn	09 12 36.6	+1.6
RATZ	**Rangitukua**	**3.01**	**23**	P	Pb	09 12 42.3	+1.0
BKZ	**Black Stump Fm**	**3.01**	**35**	P	Pb	09 12 41.5	+0.2
HIZ	**Hauiti**	**3.16**	**9**	P	Pb	09 12 42.2	-1.6
NMHZ	**Naumai**	**3.21**	**38**	P	Pg	09 12 47.1	-1.6
GCSZ	**Gaunt Creek Bo**	**3.35**	**239**	P	Pn	09 12 43.4	+3.2
MTHZ	**Maungataniwha**	**3.42**	**36**	P	Pb	09 12 49.7	+1.4
TLZ	**Tolley Road**	**3.45**	**17**	P	Pb	09 12 47.3	-1.6
RAHZ	**Arahi**	**3.48**	**39**	P	Pg	09 12 52.6	-1.3
FOZ	**Fox Glacier**	**3.78**	**239**	P	Pn	09 12 45.0	-1.1
TOZ	**Tahuroa Road**	**4.02**	**14**	P	Pn	09 12 52.8	+3.4
JCZ	**Jackson Bay**	**4.70**	**237**	P	Pn	09 13 00.5	+1.7

WEL 18 09:13:10.1±0.3,42.5S±4.4×17.3E±.,h31km±4km,M3.8/37, ML3.9/15,MLv3.8/37,Error ellipse: s-maj=0.0km s-min=0.0km az=136.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.28**	**79**	P	Pn	09 13 18.9	+0.9
KHZ				S	Sn	09 13 25.0	+1.9
GVZ	**Greta Valley S**	**0.51**	**191**	P	Pn	09 13 22.0	+0.7
GVZ				S	Sn	09 13 30.4	+1.4
THZ	**Tophouse**	**0.73**	**344**	P	Pn	09 13 24.1	-0.2
LTZ	**Lake Taylor**	**0.73**	**244**	P	Pb	09 13 24.8	+0.4
AMCZ	**Amberley**	**0.81**	**208**	P	Pn	09 13 25.4	+0.1
BSWZ	**Blackbirch Sta**	**0.92**	**35**	P	Pb	09 13 27.2	-0.3
MRNZ	**Matariki Terra**	**1.11**	**344**	P	Pn	09 13 29.8	+0.3
TUWZ	**Tuamarina**	**1.11**	**29**	P	Pn	09 13 30.4	-0.2
OXZ	**Oxford**	**1.20**	**224**	P	Pn	09 13 30.0	-0.7
DSZ	**Denniston Nort**	**1.25**	**305**	P	Pn	09 13 31.5	+0.1
OKCZ	**Okains Bay**	**1.26**	**184**	P	Pn	09 13 30.9	-0.6
NNZ	**Nelson**	**1.26**	**7**	P	Pn	09 13 31.8	+0.3
MQZ	**McQueen's Vall**	**1.29**	**197**	P	Pn	09 13 30.7	-1.3
INZ	**Inchbonnie**	**1.30**	**258**	P	Pn	09 13 33.0	+0.8
AKCZ	**Akaroa Harbour**	**1.42**	**188**	P	Pn	09 13 32.7	-1.0
TKNZ	**Takaka Hill**	**1.44**	**354**	P	Pn	09 13 34.7	+0.6
RACZ	**Rakaia**	**1.47**	**211**	P	Pn	09 13 33.4	-1.0
TCW	**Tory Channel**	**1.50**	**34**	P	Pn	09 13 34.3	-0.6
MHCZ	**Mount Hutt**	**1.59**	**227**	P	Pn	09 13 35.2	-0.9
WEL	**Wellington**	**1.68**	**46**	P	Pn	09 13 36.7	-0.6
QRZ	**Quartz Range**	**1.71**	**343**	P	Pn	09 13 38.3	+0.5
DUWZ	**D'Urville Isla**	**1.76**	**19**	P	Pn	09 13 38.5	0.0
WACZ	**Wakanui South**	**1.77**	**213**	P	Pn	09 13 37.4	-1.1
WVZ	**Waitaha Valley**	**1.89**	**250**	P	Pn	09 13 40.8	+0.6
CAW	**Cannon Point**	**1.96**	**47**	P	Pn	09 13 40.2	-1.0
RPZ	**Rata Peaks**	**1.99**	**231**	P	Pn	09 13 41.2	-0.4
ARCZ	**Arundel**	**2.08**	**224**	P	Pn	09 13 41.9	-1.0
OGWZ	**Otaki Gorge**	**2.23**	**43**	P	Pn	09 13 43.8	-1.0
GCSZ	**Gaunt Creek Bo**	**2.26**	**247**	P	Pn	09 13 46.1	+0.9
TMZ	**Timaru**	**2.48**	**219**	P	Pn	09 13 47.5	-0.9
MRZ	**Mangatainoka R**	**2.55**	**46**	P	Pn	09 13 47.8	-1.5
FOZ	**Fox Glacier**	**2.68**	**245**	P	Pn	09 13 52.4	+1.4
LBZ	**Lake Benmore**	**2.90**	**228**	P	Pn	09 13 53.7	-0.4
ODZ	**Otahua Downs**	**3.16**	**215**	P	Pn	09 13 56.3	-1.4
PKE	**Pukeiti**	**3.33**	**11**	P	Pn	09 14 02.4	+2.3
JCZ	**Jackson Bay**	**3.58**	**242**	P	Pn	09 14 06.2	+2.7
HHSZ	**Highcliff Hill**	**3.88**	**208**	P	Pn	09 14 06.3	-1.4
EAZ	**Earnscleugh**	**3.93**	**224**	P	Pn	09 14 07.1	-1.1
TUZ	**Tuapeka**	**4.32**	**215**	P	Pn	09 14 12.6	-1.0
MLZ	**Mavora Lakes**	**4.66**	**230**	P	Pn	09 14 17.7	-0.6
SYZ	**Scrubby Hill**	**4.99**	**214**	P	Pn	09 14 21.7	-1.0
RAGZ	**Rawiri**	**5.12**	**41**	P	Pn	09 14 26.6	+1.9
AWAZ	**Awhitu Peninsu**	**5.51**	**12**	P	Pn	09 14 30.5	+0.5
MKAZ	**Moumakai**	**5.57**	**17**	P	Pn	09 14 30.6	-0.2
APZ	**The Paps**	**5.72**	**218**	P	Pn	09 14 31.3	-1.6
WIAZ	**Waiheke Island**	**5.87**	**16**	P	Pn	09 14 35.2	+0.3

IDC 18 09:20:42.3±3.2,54.29N×87.49E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=26.0km s-min=17.6km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**259**	I		09 33 00.0	
	baz=78,slow=351,SNR=7.7						
ZALV	**Zalesovo Beam**	**1.61**	**259**	Pg	Pn	09 21 09.6	-2.3
	0.9nm,0.3s,baz=75,slow=15,SNR=6.4						
ZALV				Lg		09 21 33.8	
	0.8nm,0.3s,baz=72,slow=32,SNR=4.2						
ZALV				Rg	Rg	09 21 40.4	
	2.9nm,0.5s,baz=68,slow=24,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.59**	**240**	Pn

NGZ	Ngauruhoe	2.75	24	P		Pb	09 46 59.3	-1.9
SNVZ	South Ngauruho	2.75	25	P		Pb	09 46 59.3	-1.9
OTVZ	Oturere	2.78	25	P		Pb	09 47 02.5	+0.8
NNVZ	North Ngauruho	2.80	24	P		Pb	09 46 59.5	-2.4
TWVZ	Taurewa	2.80	21	P		Pb	09 46 59.6	-2.4
WTVZ	West Tongariro	2.80	23	P		Pb	09 47 02.5	+0.4
KAHZ	Kahuranaki	2.81	48	P		Pn	09 46 55.1	-1.6
ETVZ	East Tongariro	2.82	25	P		Pb	09 47 01.4	-1.0
TMVZ	Te Maari	2.84	25	P		Pb	09 47 01.7	-1.0
NTVZ	North Tongarir	2.84	24	P		Pb	09 47 02.1	-0.6
KWHZ	Kaweka Forest	2.85	38	P		Pb	09 47 04.5	+1.6
WVZ	Waitaha Valley	2.89	241	P		Pb	09 47 01.6	-1.8
RPZ	Rata Peaks	3.05	228	P		Pn	09 46 58.3	-1.8
RATZ	Rangitukua	3.09	24	P		Pb	09 47 08.2	+1.4
BKZ	Black Stump Fm	3.09	36	P		Pb	09 47 07.2	+0.2
HIZ	Hauiti	3.23	10	P		Pn	09 47 04.2	+1.7
GCSZ	Gaunt Creek Bo	3.26	239	P		Pn	09 47 05.7	+2.7
MTHZ	Maungataniwha	3.51	37	P		Pb	09 47 13.9	-0.1
TLZ	Tolley Road	3.53	18	P		Pn	09 47 08.4	+1.6
FOZ	Fox Glacier	3.69	239	P		Pn	09 47 08.9	0.0
LBZ	Lake Benmore	3.96	226	P		Pn	09 47 11.6	-1.1
TOZ	Tahuroa Road	4.10	15	P		Pn	09 47 17.5	+3.0
URZ	Urewera	4.12	34	P		Pb	09 47 21.9	-2.5
ODZ	Otahua Downs	4.21	216	P		Pn	09 47 13.2	-2.9
JCZ	Jackson Bay	4.61	237	P		Pn	09 47 23.8	+2.3
MKAZ	Moumakai	4.66	10	P		Pn	09 47 24.2	+2.1

IDC 18 09:48:07.2±2.5, 54°32N×86°14E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=18.9km s-min=11.4km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.86	245	I		09 52 50.0	
	0.1nm,0.6s,baz=67,slow=352,SNR=3.9						
ZALV	Zalesovo Beam	0.86	245	Pg	Pg	09 48 22.0	-1.6
	2.0nm,0.3s,baz=61,slow=16,SNR=7.1						
ZALV				Lg	Lg	09 48 36.9	
	9.5nm,0.3s,baz=67,slow=28,SNR=24						
ZALV				Rg	Rg	09 48 44.0	
	8.9nm,0.4s,baz=64,slow=26,SNR=5.0						
KURBB	Kurchatov Arra	5.94	235	Pn	Pn	09 49 35.3	-1.0
	0.1nm,0.3s,baz=56,slow=14,SNR=7.8						
KURBB				Sn	Sn	09 50 44.3	-0.7
	baz=57,slow=31 0.9nm,0.5s						
MKAR	Makanchi Array	7.92	200	Pn	Pn	09 50 05.8	+2.2
	0.4nm,0.3s,baz=16,slow=16,SNR=10						
MKAR				Sn	Sn	09 51 34.4	+0.6
	0.2nm,0.3s,baz=31,slow=28,SNR=2.5 0.5nm,0.3s						

WEL 18 09:51:36.5±0.4, 43°S±3°×17°3E±°, h5km, M2.4/7, ML2.8/8, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=115.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.37	185	P	Pg	09 51 44.0	+0.3
GVZ				S	Sg	09 51 50.0	+1.3
KHZ	Kahutara	0.39	62	P	Pg	09 51 44.2	+0.3
KHZ				S	Sg	09 51 50.3	+1.3
LTZ	Lake Taylor	0.62	252	P	Pg	09 51 48.4	-0.1
AMCZ	Amberley	0.66	208	P	Pg	09 51 49.5	+0.3
THZ	Tophouse	0.84	351	P	Pg	09 51 52.6	-0.2
MQZ	McQueen's Vall	1.15	195	P	Pg	09 51 56.2	-2.4
INZ	Inchbonnie	1.21	263	P	Pn	09 52 00.1	-0.1
MRNZ	Matariki Terra	1.22	349	P	Pg	09 51 59.9	0.0
DSZ	Denniston Nort	1.27	312	P	Pg	09 52 00.8	-0.1
NNZ	Nelson	1.40	9	P	Pn	09 52 02.4	-0.3
TSZ	Takapari Road	3.34	42	P	Pn	09 52 28.9	-0.5

*NEIC **18** 10:23:02.9±1.4, 41°.78S±0°.02×174°.17E±0°.03, h18km±4km, mb4.3/4, Mwr3.7/10, Error ellipse: s-maj=3.0km s-min=2.0km az=113.0*

*WEL **18** 10:23:02.2±0.4, 42°S±3°×17°4E±°, h7km±3km, M3.8/33, ML4.1/22, MLv3.8/33, Error ellipse: s-maj=0.0km s-min=0.0km az=143.2*

*NEIC **18** 10:23:03.2, 41°.80S×174°.21E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.34; $M_{\theta\theta}$=4.74; $M_{\phi\phi}$=-4.41; $M_{r\theta}$=0.76; $M_{r\phi}$=-0.39; $M_{\theta\phi}$=1.19; Fault plane solution: M_0=4.81000×10^{14} NP1:ϕ_s228.29000°, δ84.68000°, λ=-163.14000°. NP2:ϕ_s=136.68000°, δ73.22000°, λ=-5.56000°. Principal axes: T 4.8602, Plg8.0000°, Azm1.0000°; N -0.0945, Plg72.0000°, Azm245.0000°; P -4.7657, Plg16.0000°, Azm94.0000°;*

*IDC **18** 10:23:04.1±2.3, 42°.55S×172°.87E, h0km, mb3.3/2, mbtmp3.3/2, MS3.6/2 Error ellipse: s-maj=48.6km s-min=33.0km az=118.0*

ISC 18 10:23:01.8±0.8, 41°.83S±0°.03×174°.25E±0°.02, h16km±5km, n126, σ1$50/127, mb3.7/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.08	340		Pg	10 23 04.6	-0.3
CMWZ				Sg	Sg	10 23 07.3	+0.2
CMWZ	Cape Campbell	0.08	340	P	Pg	10 23 04.7	-0.3
CMWZ				S	Sg	10 23 07.6	+0.6
BSWZ	Blackbirch Sta	0.30	292	Pg	Pg	10 23 07.8	-0.4
BSWZ				Sg	Sg	10 23 12.8	+0.2
BSWZ	Blackbirch Sta	0.30	292	P	Pg	10 23 07.8	-0.4
BSWZ				S	Sg	10 23 12.8	+0.2
TUWZ	Tuamarina	0.46	330		Pg	10 23 11.0	0.0
TUWZ				Sg	Sb	10 23 18.0	-0.2
TUWZ	Tuamarina	0.46	330	P	Pb	10 23 11.2	-0.4
TUWZ				S	Sb	10 23 17.8	-0.3
TCW	Tory Channel	0.62	2		Pb	10 23 14.1	-0.1
TCW				Sg	Sb	10 23 21.9	-0.8
TCW	Tory Channel	0.62	2	P	Pb	10 23 14.2	-0.1
SNZO	South Karori	0.62	33		Pb	10 23 15.1	+0.9
SNZO				Sg	Sn	10 23 24.2	-1.3
WEL	Wellington	0.67	36	P	Pb	10 23 16.0	+1.0
KHZ	Kahutara	0.79	222	Pg	Pg	10 23 18.0	+0.8
KHZ	Kahutara	0.79	222	P	Pg	10 23 18.0	+0.8
PLWZ	Palliser	0.79	71	Pg	Pn	10 23 18.8	+0.4
PLWZ	Palliser	0.79	71	P	Pb	10 23 18.6	+1.3
MSWZ	Moikau Station	0.85	61		Pn	10 23 19.7	+0.5
MSWZ	Moikau Station	0.85	61	P	Pn	10 23 19.7	+0.5
NNZ	Nelson	0.90	313	Pg	Pb	10 23 19.0	+0.1
NNZ					Sb	10 23 30.9	+0.3
NNZ	Nelson	0.90	313	P	Pg	10 23 18.9	-0.3
CAW	Cannon Point	0.94	41	P	Pn	10 23 21.0	+0.5
PAWZ	Paruwai Farm	0.99	64	P	Pg	10 23 21.2	+0.3
THZ	Tophouse	1.01	273	Pg	Pb	10 23 21.0	+0.1
THZ					Sb	10 23 34.0	0.0
THZ	Tophouse	1.01	273	P	Pb	10 23 21.0	0.0
DUWZ	D'Urville Isla	1.05	346	P	Pg	10 23 21.9	-0.3
KIW	Kapiti Island	1.09	27	P	Pn	10 23 23.1	+0.7
MTW	Mount Morrison	1.15	55	P	Pb	10 23 23.6	+0.2
TRWZ	Traveller	1.16	69	P	Pb	10 23 23.4	0.0
MRNZ	Matariki Terra	1.20	290		Pg	10 23 24.8	-0.1
MRNZ	Matariki Terra	1.20	290	P	Pg	10 23 24.9	-0.1
OGWZ	Otaki Gorge	1.22	35	P	Pg	10 23 25.3	-0.1
TKNZ	Takaka Hill	1.25	309		Pg	10 23 25.6	-0.4
TKNZ	Takaka Hill	1.25	309	P	Pg	10 23 25.5	-0.4
HOWZ	Holdsworth Sta	1.33	46	P	Pn	10 23 26.5	+0.7
TMWZ	Te Maipa	1.43	60	P	Pn	10 23 27.0	-0.1
GVZ	Greta Valley S	1.45	218	P	Pn	10 23 13.2	-14
MRZ	Mangatainoka R	1.54	41	Pn	Pb	10 23 29.8	-0.1
MRZ	Mangatainoka R	1.54	41	P	Pn	10 23 29.2	+0.6
TIWZ	Tintock	1.62	50	P	Pb	10 23 31.2	-0.1
QRZ	Quartz Range	1.64	307		Pn	10 23 30.5	+0.5
QRZ	Quartz Range	1.64	307	P	Pb	10 23 32.3	+0.6
LTZ	Lake Taylor	1.75	236	Pn	Pn	10 23 32.1	+0.5
LTZ	Lake Taylor	1.75	236	P	Pn	10 23 18.2	-13
AMCZ	Amberley	1.79	221	Pn	Pn	10 23 32.8	+0.7
AMCZ	Amberley	1.79	221	P	Pn	10 23 19.8	-12
OHWZ	Ohakea	1.81	27	P	Pb	10 23 34.8	+0.2
PRWZ	Pori Road	1.82	46	P	Pn	10 23 33.3	+0.8
DSZ	Denniston Nort	1.83	272		Pn	10 23 33.5	+0.8
DSZ	Denniston Nort	1.83	272	P	Pn	10 23 30.5	-2.2
POWZ	Post Office Ro	1.84	39	P	Pn	10 23 34.1	+1.4
BFZ	Birch Farm	1.89	53		Pn	10 23 34.6	+1.1
BFZ	Birch Farm	1.89	53	P	Pn	10 23 33.7	+0.3
DVHZ	Dannevirke	2.10	44	P	Pn	10 23 36.1	-0.3
WAZ	Wanganui	2.15	15	P	Pb	10 23 40.8	+0.5
TSZ	Takapari Road	2.19	37	P	Pn	10 23 38.0	+0.4
MQZ	McQueen's Vall	2.21	212	Pn	Pn	10 23 40.7	+2.8
MQZ	McQueen's Vall	2.21	212	P	Pn	10 23 26.5	-11
OXZ	Oxford	2.22	227		Pn	10 23 38.8	+0.8
OXZ	Oxford	2.22	227	P	Pn	10 23 25.9	-12
INZ	Inchbonnie	2.27	246		Pn	10 23 39.1	+0.4
LREZ	Lake Rotokare	2.37	3	P	Pb	10 23 44.2	+0.2
PNHZ	Pukenui	2.42	38	P	Pn	10 23 41.0	+0.2
WPHZ	Waipukurau	2.42	44	P	Pn	10 23 41.6	+0.9
NMEZ	Namu Road	2.43	353	P	Pb	10 23 45.7	+0.6
RACZ	Rakaia	2.45	219	P	Pn	10 23 29.1	-12
KHEZ	Kahui Hut	2.54	356	P	Pb	10 23 46.9	-0.1
NEZ	North Egmont	2.56	357	P	Pb	10 23 47.9	+0.5
NBEZ	Newall Road No	2.57	353	P	Pb	10 23 47.4	-0.2
MTVZ	Mangateitei	2.61	21	P	Pb	10 23 46.7	-1.6
DREZ	Durham Road	2.64	359	P	Pb	10 23 48.3	-0.4
PKE	Pukeiti	2.64	356	P	Pb	10 23 48.7	-0.1
PKVZ	Pokaka	2.67	19	P	Pb	10 23 47.1	-2.1
MOVZ	Moawhango	2.67	26	P	Pn	10 23 45.8	+1.5
WNVZ	Wahianoa	2.70	23	P	Pn	10 23 46.9	+2.1
BHHZ	Black Hill Sta	2.71	31	P	Pb	10 23 51.2	+1.2
TRVZ	Turoa	2.71	22	P	Pb	10 23 47.8	-2.3
VRZ	Vera Road	2.73	8	P	Pb	10 23 48.1	-2.1
DRZ	Dome Shelter	2.74	22	P	Pb	10 23 52.0	+1.4
WHVZ	Whangaehu Hut	2.74	22	P	Pb	10 23 49.0	-1.5
MHEZ	Mangahewa	2.75	1	P	Pb	10 23 50.4	-0.2
FWVZ	Far West T-bar	2.75	22	P	Pn	10 23 48.0	+2.5
TUVZ	Tukino	2.77	23	P	Pb	10 23 51.3	+0.3
NGZ	Ngauruhoe	2.84	22	P	Pn	10 23 49.3	+2.6
SNVZ	South Ngauruho	2.84	22	P	Pb	10 23 52.1	-0.2
KAHZ	Kahuranaki	2.84	45	P	Pn	10 23 46.0	-0.7
OTVZ	Oturere	2.87	22	P	Pb	10 23 52.3	-0.5
NNVZ	North Ngauruho	2.89	22	P	Pb	10 23 49.9	+2.5
WTVZ	West Tongariro	2.90	21	P	Pb	10 23 53.0	-0.1
TWVZ	Taurewa	2.90	19	P	Pb	10 23 51.4	-1.8
ETVZ	East Tongariro	2.91	23	P	Pn	10 23 49.9	+2.3
TMVZ	Te Maari	2.93	23	P	Pb	10 23 52.3	-1.4
KRVZ	Karewarewa	2.93	22	P	Pb	10 23 52.6	-1.1
NTVZ	North Tongarir	2.94	22	P	Pb	10 23 54.1	+0.2
RPZ	Rata Peaks	3.02	230	Pn	Pn	10 23 36.5	-12
	1.6nm,0.3s,baz=65,slow=17,SNR=1.3						
RPZ				Sn	Sn	10 23 58.5	-26
	20nm,0.3s,baz=333,slow=1.6,SNR=14						
RPZ	Rata Peaks	3.02	230	Pn	Pn	10 23 49.8	+0.9
KATZ	Kakaramea	3.06	22	P	Pb	10 23 57.7	+1.8
BKZ	Black Stump Fm	3.16	33	Pn	Pn	10 23 50.4	-0.6
BKZ	Black Stump Fm	3.16	33	P	Pn	10 23 51.5	+0.5
RATZ	Rangitukua	3.18	22	P	Pb	10 23 59.2	+1.3
HIZ	Hauiti	3.34	8	Pn	Pn	10 23 56.5	+3.1
HIZ	Hauiti	3.34	8	P	Pn	10 23 56.6	+3.1
NMHZ	Naumai	3.35	36	P	Pn	10 23 54.5	+0.9
TLZ	Tolley Road	3.63	16	P	Pn	10 24 01.2	+3.8
ALRZ	Allen Road	3.63	27	P	Pn	10 23 58.9	+1.4
FOZ	Fox Glacier	3.69	241	Pn	Pn	10 23 58.2	+0.1
LBZ	Lake Benmore	3.92	228	Pn	Pn	10 23 59.7	-1.7
TOZ	Tahuroa Road	4.20	14	P	Pn	10 24 08.6	+3.3
TGRZ	Tauranga	4.38	21	P	Pn	10 24 12.7	+5.1
CNGZ	Carnagh Statio	4.51	44	P	Pn	10 24 08.9	-0.6
CNGZ				P	Pb	10 24 14.6	-6.0
TWGZ	Tauwhareparae	4.64	39	P	Pn	10 24 15.5	+4.2
RUGZ	Raukumara Rang	4.67	35	P	Pb	10 24 19.7	-3.7
AWAZ	Awhitu Peninsu	4.77	4	P	Pn	10 24 17.1	+4.1
MKAZ	Moumakai	4.77	9	P	Pn	10 24 15.7	+2.6
ETAZ	East Tamaki Re	4.90	6	P	Pn	10 24 17.9	+3.1
MBAZ	Motutapu North	5.08	6	P	Pn	10 24 21.5	+4.2
KUZ	Kuaotunu	5.20	13	P	Pn	10 24 22.4	+3.4
MXZ	Matakaoa Point	5.28	38	Pn	Pn	10 24 19.1	-0.9
MLZ	Mavora Lakes	5.69	229	Pn	Pn	10 24 25.3	-0.4
OUZ	Omahuta	6.62	355	P	Pn	10 24 42.1	+3.6
DZM	Mont Dzumac	20.76	339	LR	LR	10 34 26.3	
	comp=Z,95nm,19.0s,baz=232,slow=32						
ASAR	Alice Springs	38.05	286	P	P	10 30 18.2	-1.5
	0.1nm,0.4s,baz=123,slow=6.6,SNR=8.2						
ASAR				PcP	PcP	10 32 36.2	+1.4
	0.2nm,0.9s,baz=131,slow=4.1,SNR=1.2 0.1nm,0.4s						
WB2	Warramunga Arr	40.12	291	P	P	10 30 36.3	-0.7
WB2				IAmb	IAmb	10 30 46.0	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	40.13	291	P	P	10 30 35.8	-1.3
	comp=Z,0.3nm,0.6s,baz=127,slow=8.4,SNR=10 comp=Z,0.3nm,0.6s						
WRA	Warramunga Arr	40.13	291	P	P	10 30 36.3	-0.8
WB0	Warramunga Arr	40.21	291	P	P	10 30 37.8	0.0
WB0				IAmb	IAmb	10 30 43.4	
	comp=Z,6.1nm,1.2s						
PSA00	Pilbara Seismi	49.63	277	P	P	10 31 50.6	-2.0
BATI	Baumata	54.26	290	LR	LR	10 56 16.1	
	comp=Z,98nm,18.5s,baz=157,slow=37						
TORD	Torodi Ar. Bea	150.70	195	PKPbc	PKiKP	10 42 56.1	+1.9
	comp=Z,0.2nm,0.3s,baz=173,slow=1.9,SNR=1.8						

IDC 18 10:27:41.5±2.7, 25°.90S×178°.27W, h422km±33km, mb3.4/4, mbtmp4.1/5, Error ellipse: s-maj=74.8km s-min=35.8km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.35	175	P	P	10 28 48.6	-0.4
	362nm,0.3s,baz=190,slow=22,SNR=4.7						
MSVF	Nonsavu	8.81	336	P	P	10 29 47.1	+1.2
	3.5nm,0.6s,baz=141,slow=7.9,SNR=3.7						
CTA	Charters Tower	33.10	273	P	P	10 33 40.0	-0.7
	2.2nm,0.3s,baz=97,slow=10,SNR=5.9 2.2nm,0.3s						
ASAR	Alice Springs	43.29	262	P	P	10 35 05.1	+0.7
	0.3nm,0.4s,baz=100,slow=7.4,SNR=18 0.3nm,0.4s						
WRA	Warramunga Arr	43.87	268	P	P	10 35 08.1	-0.7
	1.4nm,0.5s,baz=100,slow=6.8,SNR=40 1.4nm,0.5s						
CMAR	Chiang Mai Arr	91.68	290	P	P	10 40 02.8	-0.1
	1.3nm,0.6s,baz=118,slow=4.3,SNR=2.1 1.3nm,0.6s						

*NEIC **18** 10:28:27.4±1.3, 11°.70S±0°.02×166°.8E±0°.1, h10km±1km, mb4.4/19, Error ellipse: s-maj=20.6km s-min=4.5km az=93.0*

*IDC **18** 10:28:27.4±1.9, 11°.33S×166°.93E, h0km, mb4.0/4, mbtmp3.9/4, ML5.4/1, MS3.3/8, Error ellipse: s-maj=58.5km s-min=28.2km az=151.0*

ISC 18 10:28:27.0±1.0, 11°.7S±0°.1×166°.9E±0°.1, h10km, n41, σ1$47/35, mb4.3/15, MS3.2/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.18	288	Pn	Pn	10 30 13.8	+1.7
	69nm,0.3s,baz=258,slow=16,SNR=2.0						
HNR				Sn	Sn	10 31 35.7	+1.8
	25nm,0.3s,baz=78,slow=6.4,SNR=1.0						
HNR				LR	LR	10 33 17.7	
	comp=Z,5μm,18.6s,baz=144,slow=41						
HNR	Honiara	7.18	288	Pn	Pn	10 30 10.7	-1.5
LIFNC	LIFOU	9.00	178	Pn	Pn	10 30 37.4	+0.3
MARNC	Mare, Loyalty	9.76	174	Pn	Pn	10 30 47.5	0.0
ONTNC	Ouen Toro	10.52	182	Pn	Pn	10 30 58.8	+0.8
OUENC	Ouen Island, N	10.62	180	Pn	Pn	10 31 00.1	+0.7
MSVF	Nonsavu	12.34	120	LR	LR	10 35 11.7	
	comp=Z,283nm,18.3s,baz=3.4,slow=32						
KRVT	Keravat (AS076	16.44	295	LR	LR	10 38 59.7	
	comp=Z,113nm,18.9s,baz=243,slow=39						
PMG	Port Moresby	19.52	275	LR	LR	10 39 49.5	
	comp=Z,137nm,20.6s,baz=75,slow=35						
EIDS	Eidsvold	20.17	226	P	P	10 33 01.6	-0.2
AFI	Afiamalu	20.93	98	LR	LR	10 39 22.8	
	comp=Z,65nm,20.5s,baz=275,slow=31						
WR0	Warramunga Arr	32.11	251	P	P	10 34 53.3	-1.5
WR0				IAmb	IAmb	10 34 59.0	
	comp=Z,3.7nm,1.1s						
WB0	Warramunga Arr	32.22	252	P	P	10 34 54.5	-1.2
WB0				IAmb	IAmb	10 34 59.9	
	comp=Z,4.1nm,1.0s						
WRAB	Tennant Creek	32.29	251	P	P	10 34 54.5	-1.8
WRAB				IAmb	IAmb	10 35 03.0	
	comp=Z,4.7nm,1.1s						
WB2	Warramunga Arr	32.29	251	P	P	10 34 54.2	-2.1
WB2				IAmb	IAmb	10 34 57.0	
	comp=Z,3.7nm,1.1s						
WRA	Warramunga Arr	32.30	251	P	P	10 35 00.1	+3.6
	comp=Z,1.0nm,0.9s,baz=80,slow=9.4,SNR=5.8 comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	32.30	251	P	P	10 34 54.7	-1.8
GUMO	Guam	33.31	318	LR	LR	10 46 40.2	
	comp=Z,19nm,21.8s,baz=92,slow=33						
ASAR	Alice Springs	33.49	245	P	P	10 35 10.6	+3.8
	comp=Z,0.7nm,0.9s,baz=74,slow=9.8,SNR=5.4						
ASAR				LR	LR	10 48 35.2	
	comp=Z,56nm,18.2s,baz=80,slow=36 comp=Z,0.7nm,0.9s						
SOEI	Soe	41.88	268	P	P	10 36 16.6	-1.4
SOEI				IAmb	IAmb	10 36 19.7	
	comp=Z,6.9nm,0.5s						
PSA00	Pilbara Seismi	45.95	251	P	P	10 36 48.6	-1.9
PSA00				IAmb	IAmb	10 36 52.6	
	comp=Z,5.3nm,1.0s						
JOW	Kunigami	53.62	316	LR	LR	11 00 58.0	
	comp=Z,18nm,18.6s,baz=128,slow=36						
CMAR	Chiang Mai Arr	73.40	293	LR	LR	11 12 42.7	
	comp=Z,13nm,18.0s,baz=50,slow=36						
H21K	Melozitna Rive	82.78	16	P	P	10 40 49.6	-1.4
IMAR	Indian Mountai	82.79	15	P	P	10 40 52.6	+1.6
HDA	Harding Lake	83.54	18	P	P	10 40 56.0	+1.0
MDM	Murphy Dome	83.55	18	P	P	10 40 55.1	+0.1
MDM				IAmb	IAmb	10 40 56.0	
	comp=Z,5.3nm,1.0s						
L26K	Log Cabin Wild	83.77	21	P	P	10 40 55.9	-0.3
H23K	Yukon River	83.80	17	P	P	10 40 56.6	+0.3
H23K				IAmb	IAmb	10 41 04.8	
	comp=Z,1.9nm,1.0s						
IL31		83.81	18	P	P	10 40 56.7	+0.5
IL31				IAmb	IAmb	10 40 57.5	
	comp=Z,2.8nm,0.8s						
ILAR	Eielson Array	83.81	18	P	P	10 40 56.6	+0.3
	comp=Z,2.0nm,0.7s,baz=232,slow=3.8,SNR=27 comp=Z,2.0nm,0.7s						
ILAR	Eielson Array	83.81	18	P	P	10 40 56.3	0.0
J25K	Salcha River,	84.17	19	P	P	10 40 59.4	+1.2
L27K	Beaver Creek,	84.32	21	P	P	10 40 58.6	-0.4
L27K				IAmb	IAmb	10 41 07.1	
	comp=Z,3.4nm,1.1s						
BCAR	Beaver Creek A	84.34	21	P	P	10 40 59.1	0.0
I26K	Coal Creek Min	85.34	19	P	P	10 41 03.7	-0.3
EGAK	Eagle	85.64	20	P	P	10 41 06.0	+0.5
DAWY	Dawson	85.80	21	P	P	10 41 07.5	+1.1
DAWY				IAmb	IAmb	10 41 09.0	
	comp=Z,2.7nm,0.9s						
M30M	Minto, Yukon	85.86	23	P	P	10 41 08.0	+1.3
BMAR	Burnt Mountain	86.34	17	P	P	10 41 10.0	+1.0
MKAR	Makanchi Array	94.78	317	P	P	10 41 49.2	+0.2
	comp=Z,0.6nm,0.8s,baz=108,slow=4.7,SNR=5.0 comp=Z,0.6nm,0.8s						

WEL 18 10:38:51.6±0.4, 42°S±2°×17°4E±°, h5km, M2.6/10, ML2.7/11, MLv2.6/10, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.27	195	S	Sg	10 39 01.3	+0.8
KHZ	Kahutara	0.27	195	P	Pg	10 38 57.2	+0.3
BSWZ	Blackbirch Sta	0.48	23	S	Sb	10 39 08.4	-1.4
BSWZ	Blackbirch Sta	0.48	23	P	Pg	10 39 01.1	+0.3
THZ	Tophouse	0.67	306	P	Pg	10 39 04.8	+0.4
TUWZ	Tuamarina	0.76	18	P	Pg	10 39 06.5	+0.3
GVZ	Greta Valley S	0.92	208	P	Pg	10 39 09.5	+0.2
NNZ	Nelson	0.96	349	P	Pg	10 39 10.2	+0.3
WEL	Wellington	1.22	45	P	Pg	10 39 13.7	-1.2
DUWZ	D'Urville Isla	1.37	9	P	Pn	10 39 16.9	-0.5
DSZ	Denniston Nort	1.42	286	P	Pn	10 39 17.7	-0.5
QRZ	Quartz Range	1.56	328	P	Pn	10 39 20.4	+0.4
MQZ	McQueen's Vall	1.71	204	P	Pn	10 39 18.7	-3.3
AKCZ	Akaroa Harbour	1.80	197	P	Pn	10 39 20.6	-2.7
RACZ	Rakaia	1.92	214	P	Pn	10 39 21.6	-3.3

*IDC **18** 10:39:27.1±2.7, 41°.75S×173°.97E, h0km, mb3.2/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=52.1km s-min=38.6km az=108.0*

*WEL **18** 10:39:28.9±0.3, 42°S±2°×17°4E±°, h7km±2km, M3.2/35, ML3.5/20, MLv3.2/35, Error ellipse: s-maj=0.0km s-min=0.0km az=131.7*

*NEIC **18** 10:39:29.3±2.0, 41°.77S±0°.02×174°.11E±0°.02, h16km±3km, mb4.1/7, Error ellipse: s-maj=2.8km s-min=2.1km az=122.0*

ISC 18 10:39:27.6±0.8, 41°.86S±0°.03×174°.17E±0°.02, h14km±5km, n110, σ0$94/111, mb4.0/6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11	16		Pg	10 39 31.1	+0.1
CMWZ				Sg	Sg	10 39 33.2	+0.1
CMW

WNVZ	**Wahianoa**	**2.75**	**24**	P		**Pb**	**10 40 15.0**	**-1.6**
TRVZ	**Turoa**	**2.76**	**23**	P		**Pb**	**10 40 14.7**	**-2.2**
VRZ	**Vera Road**	**2.77**	**10**	P		**Pb**	**10 40 14.4**	**-2.4**
BHHZ	**Black Hill Sta**	**2.77**	**32**	P		**Pb**	**10 40 15.9**	**-1.0**
WHVZ	**Whangaehu Hut**	**2.79**	**23**	P		**Pb**	**10 40 15.7**	**-1.7**
FWVZ	**Far West T-bar**	**2.81**	**22**	P		**Pb**	**10 40 18.8**	**+1.2**
WVZ	**Waitaha Valley**	**2.82**	**243**	P		**Pb**	**10 40 15.7**	**-2.0**
TUVZ	**Tukino**	**2.82**	**24**	P		**Pn**	**10 40 14.7**	**+2.3**
NGZ	**Ngauruhoe**	**2.89**	**23**	P		**Pb**	**10 40 20.5**	**+1.4**
KAHZ	**Kahuranaki**	**2.91**	**46**	P		**Pn**	**10 40 14.3**	**+0.8**
NNVZ	**North Ngauruho**	**2.94**	**22**	P		**Pb**	**10 40 19.9**	**+0.1**
WTVZ	**West Tongariro**	**2.94**	**22**	P		**Pb**	**10 40 21.1**	**+1.2**
RPZ	**Rata Peaks**	**2.95**	**230**	Pn		**Pn**	**10 40 15.2**	**+1.2**
	2.7nm,0.3s,baz=12,slow=1.8,SNR=7.0							
RPZ				Sn		**Sn**	**10 40 49.9**	**+0.6**
	1.9nm,0.3s,baz=333,slow=23,SNR=10							
	6.1nm,0.4s							
RPZ	**Rata Peaks**	**2.95**	**230**	P		**Pn**	**10 40 15.4**	**+1.4**
ETVZ	**East Tongariro**	**2.96**	**24**	P		**Pb**	**10 40 20.8**	**+0.6**
TMVZ	**Te Maari**	**2.98**	**24**	P		**Pb**	**10 40 21.2**	**+0.7**
GCSZ	**Gaunt Creek Bo**	**3.19**	**242**	P		**Pb**	**10 40 23.6**	**-0.4**
BKZ	**Black Stump Fm**	**3.22**	**34**	Pn		**Pn**	**10 40 17.7**	**-0.1**
BKZ	**Black Stump Fm**	**3.22**	**34**	P		**Pb**	**10 40 26.2**	**+1.6**
HIZ	**Hauiti**	**3.38**	**9**	Pn		**Pn**	**10 40 20.8**	**+0.9**
HIZ	**Hauiti**	**3.38**	**9**	P		**Pb**	**10 40 24.0**	**-3.3**
TMZ	**Timaru**	**3.43**	**221**	P		**Pn**	**10 40 21.3**	**+0.7**
FOZ	**Fox Glacier**	**3.62**	**241**	Pn		**Pn**	**10 40 23.5**	**+0.3**
ODZ	**Otahua Downs**	**4.09**	**218**	Pn		**Pn**	**10 40 30.3**	**+0.6**
JCZ	**Jackson Bay**	**4.53**	**239**	P		**Pn**	**10 40 38.8**	**+3.0**
WKZ	**Wanaka**	**4.79**	**230**	Pn		**Pn**	**10 40 40.9**	**+1.6**
EIDS	**Eidsvold**	**25.18**	**304**	P		**P**	**10 44 50.4**	**-2.2**
EIDS				IAmb		IAmb	10 44 52.3	
	comp=Z,8.5nm,1.1s							
BBOO	**Buckleboo**	**31.41**	**274**	P		**P**	**10 45 48.5**	**+0.3**
ASAR	**Alice Springs**	**38.00**	**286**	P		**P**	**10 46 45.8**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=123,slow=6.8,SNR=7.0							
	comp=Z,0.1nm,0.4s							
ASAR	**Alice Springs**	**38.00**	**286**	P		**P**	**10 46 45.9**	**+0.7**
WR0	**Warramunga Arr**	**39.93**	**291**	P		**P**	**10 47 01.4**	**-0.1**
WR0				IAmb		IAmb	10 47 04.6	
	comp=Z,4.9nm,1.2s							
WB2	**Warramunga Arr**	**40.08**	**291**	P		**P**	**10 47 03.0**	**+0.3**
WB2				IAmb		IAmb	10 47 19.0	
	comp=Z,4.7nm,1.2s							
WRA	**Warramunga Arr**	**40.09**	**291**	P		**P**	**10 47 02.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=127,slow=8.5,SNR=8.4							
	comp=Z,0.2nm,0.4s							
WRA	**Warramunga Arr**	**40.09**	**291**	P		**P**	**10 47 02.9**	**+0.2**
WRA				IAmb		IAmb	10 47 21.6	
	comp=Z,0.2nm,1.4s							
WB0	**Warramunga Arr**	**40.16**	**291**	P		**P**	**10 47 03.3**	**-0.1**
WB0				IAmb		IAmb	10 47 27.5	
	comp=Z,11nm,1.4s							
FITZ	**Fitzroy Crossi**	**47.48**	**285**	P		**P**	**10 48 02.1**	**-0.1**
H03S2	**Juan Fernandez**	**79.18**	**126**	T		T	12 18 58.5	
	baz=233,slow=73,SNR=9.3							
H03S1	**Juan Fernandez**	**79.19**	**126**	T		T	12 18 59.6	
	baz=233,slow=73,SNR=6.0							
H03S3	**Juan Fernandez**	**79.20**	**126**	T		T	12 18 54.7	
	baz=233,slow=73,SNR=7.9							
H03N3	**Juan Fernandez**	**79.44**	**126**	T		T	12 19 07.9	
	baz=235,slow=71,SNR=15							
H03N2	**Juan Fernandez**	**79.45**	**126**	T		T	12 19 06.3	
	baz=235,slow=71,SNR=14							
H03N1	**Juan Fernandez**	**79.46**	**126**	T		T	12 19 06.2	
	baz=235,slow=71,SNR=17							
TORD	**Torodi Ar. Bea**	**150.66**	**195**	PKPbc		**PKiKP**	**10 59 21.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=174,slow=3.5,SNR=2.0							

IDC 18 10:40:49.0±3.0, 42°18N×129°52E, h0km, mbtmp2.4/2, ML2.3/2, Error ellipse: s-maj=51.1km s-min=20.3km az=121.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**2.71**	**41**	I		10 58 00.0	
	baz=221,slow=319,SNR=1.9						
USRK	**Ussuriysk Ar.**	**2.71**	**41**	Pn	Pn	10 41 33.6	-0.2
	0.2nm,0.3s,baz=224,slow=15,SNR=6.2						
USRK				Pg	Pb	10 41 38.6	+0.2
	0.8nm,0.3s,baz=227,slow=14,SNR=17						
USRK				Lg	Lg	10 42 15.2	
	1.3nm,0.3s,baz=230,slow=26,SNR=9.6						
	0.5nm,0.3s						
KSRS	**Korea Array**	**4.88**	**195**	Pn	Pn	10 42 03.9	+0.3
	0.2nm,0.3s,baz=13,slow=13,SNR=4.6						
	0.7nm,0.5s						

WEL 18 10:48:11.6±0.5, 42°S±3°×17°4E±°, h11km±3km, M2.2/7, ML2.8/11, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=62.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.15**	**310**	P	Pb	10 48 15.9	-0.6
BSWZ				S	Sg	10 48 19.2	+1.8
CMWZ	**Cape Campbell**	**0.15**	**67**	P	Pb	10 48 16.1	-0.4
CMWZ				S	Sg	10 48 20.0	+2.5
TUWZ	**Tuamarina**	**0.39**	**351**	P	Pb	10 48 20.1	-0.4
TUWZ				S	Sb	10 48 26.1	-0.3
KHZ	**Kahutara**	**0.71**	**211**	P	Pb	10 48 26.4	+0.4
WEL	**Wellington**	**0.77**	**47**	P	Pb	10 48 26.9	-0.1
NNZ	**Nelson**	**0.77**	**320**	P	Pb	10 48 26.8	-0.2
THZ	**Tophouse**	**0.84**	**273**	P	Pb	10 48 28.4	0.0
MSWZ	**Moikau Station**	**1.00**	**67**	P	Pg	10 48 30.3	-0.5
MRNZ	**Matariki Terra**	**1.04**	**293**	P	Pn	10 48 32.1	0.0
CAW	**Cannon Point**	**1.05**	**48**	P	Pg	10 48 31.5	-0.3
KIW	**Kapiti Island**	**1.16**	**35**	P	Pb	10 48 33.4	-0.3
KIW	**Kapiti Island**	**1.16**	**35**	P	Pb	10 48 29.0	-4.7
MTW	**Mount Morrison**	**1.28**	**60**	P	Pn	10 48 31.6	-4.0
OGWZ	**Otaki Gorge**	**1.31**	**41**	P	Pn	10 48 35.3	-0.7
MRZ	**Mangatainoka R**	**1.64**	**46**	P	Pn	10 48 39.3	-1.1
KWHZ	**Kaweka Forest**	**3.00**	**38**	P	Pn	10 48 54.4	-4.8
MTHZ	**Maungataniwha**	**3.65**	**37**	P	Pn	10 49 11.5	+3.3

*NOU **18** 10:48:32.6, 42°72S×173°37E, h0km, MLv3.8/5, South Island, New Zealand*
*WEL **18** 10:48:33.8±0.3, 43°S±3°×17°3E±°, h12km, M3.3/21, ML3.3/10, MLv3.3/21, Error ellipse: s-maj=0.0km s-min=0.0km az=136.2*
ISC 18 10:48:33.7±0.9, 42°53S±0°04×173°28E±0°04, h10km, n30, σ1§10/34, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**58**	P	**Pg**	**10 48 38.9**	**+0.7**
KHZ	**Kahutara**	**0.22**	**58**	P	**Pg**	**10 48 38.9**	**+0.7**
KHZ				S	**Sg**	**10 48 42.7**	**+1.4**
GVZ	**Greta Valley S**	**0.47**	**203**	P	**Pb**	**10 48 44.5**	**+0.5**
GVZ				S	**Sb**	**10 48 52.2**	**+1.1**
LTZ	**Lake Taylor**	**0.79**	**251**	P	**Pb**	**10 48 49.6**	**+0.1**
LTZ				S	**Sb**	**10 49 00.0**	**-0.2**
AMCZ	**Amberley**	**0.79**	**216**	P	**Pb**	**10 48 50.0**	**+0.4**
AMCZ				S	**Sb**	**10 49 01.6**	**+1.2**
THZ	**Tophouse**	**0.82**	**340**	P	**Pb**	**10 48 49.8**	**-0.2**
MRNZ	**Matariki Terra**	**1.20**	**341**	P	**Pg**	**10 48 56.5**	**-0.2**
OKCZ	**Okains Bay**	**1.20**	**188**	P	**Pn**	**10 48 55.4**	**-1.2**
TUWZ	**Tuamarina**	**1.21**	**24**	P	**Pg**	**10 48 56.6**	**-0.3**
OXZ	**Oxford**	**1.21**	**229**	P	**Pn**	**10 48 55.4**	**-1.2**
MQZ	**McQueen's Vall**	**1.26**	**201**	P	**Pn**	**10 48 55.4**	**-1.9**
NNZ	**Nelson**	**1.32**	**3**	P	**Pb**	**10 48 58.2**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.37**	**191**	P	**Pn**	**10 48 57.2**	**-1.6**
INZ	**Inchbonnie**	**1.37**	**261**	P	**Pn**	**10 48 58.5**	**-0.4**
RACZ	**Rakaia**	**1.46**	**215**	P	**Pn**	**10 48 58.5**	**-1.6**
MHCZ	**Mount Hutt**	**1.61**	**231**	P	**Pn**	**10 49 00.8**	**-1.4**
WEL	**Wellington**	**1.67**	**42**	P	**Pn**	**10 49 02.3**	**-0.6**
WACZ	**Wakanui South**	**1.76**	**216**	P	**Pn**	**10 49 02.7**	**-1.5**
MSWZ	**Moikau Station**	**1.84**	**53**	P	**Pn**	**10 49 04.0**	**-1.3**
CAW	**Cannon Point**	**1.95**	**44**	P	**Pn**	**10 49 05.7**	**-1.1**
WVZ	**Waitaha Valley**	**1.95**	**253**	P	**Pn**	**10 49 06.7**	**-0.1**
RPZ	**Rata Peaks**	**2.02**	**233**	P	**Pn**	**10 49 06.5**	**-1.3**
RPZ	**Rata Peaks**	**2.02**	**233**	P	**Pn**	**10 49 06.4**	**-1.3**
ARCZ	**Arundel**	**2.09**	**227**	P	**Pn**	**10 49 07.2**	**-1.6**
GCSZ	**Gaunt Creek Bo**	**2.31**	**249**	P	**Pn**	**10 49 11.9**	**+0.2**
FOZ	**Fox Glacier**	**2.73**	**247**	P	**Pn**	**10 49 17.7**	**+0.2**
LBZ	**Lake Benmore**	**2.92**	**230**	P	**Pn**	**10 49 19.0**	**-1.2**
ODZ	**Otahua Downs**	**3.15**	**216**	P	**Pn**	**10 49 21.6**	**-1.8**
JCZ	**Jackson Bay**	**3.63**	**243**	P	**Pn**	**10 49 29.9**	**-0.1**
SYZ	**Scrubby Hill**	**4.98**	**215**	P	**Pn**	**10 49 47.2**	**-1.2**

*BER **18** 10:50:47.5±1.0, 67°.83N×20°.16E, h0km, ML2.1, ML2.3(UPP), Suspected explosion*
*HEL **18** 10:50:48.1±0.1, 67°.89N×20°.07E, h0km, ML2.2, ML2.3(UPP), Explosion*
*KOLA **18** 10:50:56.5, 68°.18N×20°.72E, h0km, ML2.1*
ISC 18 10:50:47.4±1.2, 67°.85N±0°.03×20°.13E±0°.03, h2km±10km, n27, σ1§23/31, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**38**	*i* P	**Pg**	**10 50 49.6**	**-0.3**
KUA				*i* S	**Sg**	**10 50 51.6**	**-0.1**
KUA	**Kurravaara**	**0.13**	**38**	P	**Pg**	**10 50 49.6**	**-0.3**
KUA				S	**Sg**	**10 50 51.6**	**-0.1**
RATU	**Laukkuluspa**	**0.20**	**262**	*i* P	**Pg**	**10 50 51.4**	**+0.1**
RATU	**Laukkuluspa**	**0.20**	**262**	P	**Pg**	**10 50 51.4**	**+0.1**
KOVU	**Salmi**	**0.37**	**2**	*i* P	**Pg**	**10 50 54.4**	**-0.1**
KOVU	**Salmi**	**0.37**	**2**	P	**Pg**	**10 50 54.4**	**-0.1**
NIKU	**Nikkaluokta**	**0.41**	**273**	*i* P	**Pg**	**10 50 55.2**	**0.0**
NIKU	**Nikkaluokta**	**0.41**	**273**	P	**Pg**	**10 50 55.2**	**0.0**
LANU	**Lannavaara**	**0.73**	**73**	P	**Pg**	**10 51 00.2**	**-1.1**
SALU	**Saltoluokta**	**0.78**	**233**	*i* P	**Pg**	**10 51 01.3**	**-1.0**
SALU	**Saltoluokta**	**0.78**	**233**	P	**Pg**	**10 51 01.3**	**-1.0**
KIF	**Kilpisjarvi**	**1.19**	**12**	*e*PN	**Pn**	**10 51 11.7**	**+0.8**
KIF				*e*SB	**Sb**	**10 51 26.0**	**-0.3**
KIF				MSG		10 51 26.1	
	comp=Z,23nm,0.2s						
KIF	**Kilpisjarvi**	**1.19**	**12**	*e*P	**Pb**	**10 51 10.7**	**+0.1**
PAJU	**Pajala**	**1.42**	**124**	*e*S	**Sg**	**10 51 32.7**	**-0.3**
PAJU	**Pajala**	**1.42**	**124**	P	**Pn**	**10 51 12.1**	**-2.2**
HEF	**Hetta**	**1.44**	**65**	MSG		10 51 31.8	
	comp=Z,14nm,0.2s						
HEF	**Hetta**	**1.44**	**65**	*e*P	**Pn**	**10 51 13.3**	**-1.1**
KLF	**Kolari**	**1.60**	**111**	*e*PN	**Pb**	**10 51 18.3**	**+0.7**
KLF				*e*SN	**Sg**	**10 51 39.9**	**+1.3**
KTK1	**Kautokeino**	**1.64**	**43**	*e*PG	**Pn**	**10 51 17.6**	**+0.4**
KTK1	**Kautokeino**	**1.64**	**43**	*e*P	**Pn**	**10 51 16.5**	**-0.6**
KTK1				IAML		10 51 45.5	
	comp=Z,19nm,0.3s						
JETT	**Jettan, Norway**	**1.72**	**3**	*e*P	**Pn**	**10 51 16.9**	**-1.4**
JETT				IAML		10 51 48.4	
	comp=Z,61nm,0.3s						
KALU	**Kalix**	**2.37**	**146**	*e*PB	**Pb**	**10 51 30.5**	**-0.2**
KALU				*e*SG	**Sb**	**10 52 02.6**	**+2.2**
TOF	**Tornio**	**2.43**	**135**	MSG		10 52 02.3	
	comp=Z,16nm,0.2s						
ARCES	**ARCESS Array B**	**2.59**	**47**	P	**Pb**	**10 51 33.9**	**-0.6**
ARCES				S	**Sn**	**10 52 01.6**	**-0.7**
KEV	**Kevo**	**3.15**	**49**	MSG		10 52 21.0	
	comp=Z,7.1nm,0.2s						
APA0	**Apatity Array**	**4.90**	**87**	S	**Sn**	**10 52 59.5**	**+0.3**
TERR	**Teriberka**	**5.67**	**69**	P	**Pn**	**10 52 16.6**	**+4.2**
TERR				S	**Sn**	**10 53 16.2**	**-1.7**

WEL 18 11:03:03.9±0.4, 42°S±3°×17°4E±°, h11km±3km, M3.5/42, ML3.8/15, MLv3.5/42, Error ellipse: s-maj=0.0km s-min=0.0km az=146.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.25**	**346**	P	Pb	11 03 09.8	-0.6
BSWZ				S	Sb	11 03 14.1	-0.7
CMWZ	**Cape Campbell**	**0.28**	**43**	P	Pb	11 03 10.8	-0.2
TUWZ	**Tuamarina**	**0.53**	**359**	P	Pb	11 03 15.0	-0.2
KHZ	**Kahutara**	**0.55**	**214**	P	Pb	11 03 15.4	-0.2
TCW	**Tory Channel**	**0.78**	**18**	P	Pg	11 03 19.2	+0.1
THZ	**Tophouse**	**0.81**	**284**	P	Pb	11 03 20.1	+0.1
NNZ	**Nelson**	**0.86**	**329**	P	Pb	11 03 20.7	-0.1
WEL	**Wellington**	**0.91**	**42**	P	Pb	11 03 22.0	+0.3
WEL				S	Sn	11 03 36.1	+0.5
PLWZ	**Palliser**	**1.04**	**69**	P	Pg	11 03 23.1	-0.9
MRNZ	**Matariki Terra**	**1.06**	**301**	P	Pn	11 03 24.8	+0.1
MSWZ	**Moikau Station**	**1.11**	**61**	P	Pb	11 03 24.0	-1.1
DUWZ	**D'Urville Isla**	**1.16**	**359**	P	Pb	11 03 25.8	-0.1
TKNZ	**Takaka Hill**	**1.19**	**321**	P	Pg	11 03 26.7	0.0
CAW	**Cannon Point**	**1.19**	**45**	P	Pb	11 03 25.8	-0.7
GVZ	**Greta Valley S**	**1.22**	**214**	P	Pn	11 03 26.2	-0.7
PAWZ	**Paruwai Farm**	**1.24**	**63**	P	Pn	11 03 25.6	-1.7
KIW	**Kapiti Island**	**1.31**	**33**	P	Pn	11 03 28.0	-0.1
MTW	**Mount Morrison**	**1.41**	**56**	P	Pn	11 03 27.9	-1.6
TRWZ	**Traveller**	**1.41**	**67**	P	Pn	11 03 27.6	-2.0
OGWZ	**Otaki Gorge**	**1.46**	**39**	P	Pn	11 03 29.6	-0.6
LTZ	**Lake Taylor**	**1.50**	**236**	P	Pn	11 03 30.6	-0.2
AMCZ	**Amberley**	**1.55**	**218**	P	Pn	11 03 30.6	-0.9
QRZ	**Quartz Range**	**1.56**	**316**	P	Pb	11 03 33.1	+0.3
HOWZ	**Holdsworth Sta**	**1.58**	**48**	P	Pn	11 03 30.6	-1.2
DSZ	**Denniston Nort**	**1.62**	**277**	P	Pb	11 03 34.0	+0.1
TMWZ	**Te Maipa**	**1.68**	**60**	P	Pn	11 03 31.3	-2.0
MRZ	**Mangatainoka R**	**1.78**	**44**	P	Pn	11 03 33.4	-1.2
OKCZ	**Okains Bay**	**1.88**	**200**	P	Pn	11 03 34.4	-1.7
OXZ	**Oxford**	**1.97**	**225**	P	Pn	11 03 35.6	-1.6
MQZ	**McQueen's Vall**	**1.99**	**208**	P	Pn	11 03 35.1	-2.4
INZ	**Inchbonnie**	**2.02**	**247**	P	Pn	11 03 38.1	+0.3
AKCZ	**Akaroa Harbour**	**2.06**	**202**	P	Pn	11 03 36.8	-1.7
PRWZ	**Pori Road**	**2.07**	**48**	P	Pn	11 03 37.5	-1.0
POWZ	**Post Office Ro**	**2.08**	**42**	P	Pg	11 03 43.0	-0.7
BFZ	**Birch Farm**	**2.14**	**54**	P	Pn	11 03 38.0	-1.6
RACZ	**Rakaia**	**2.22**	**216**	P	Pn	11 03 38.8	-1.8
WAZ	**Wanganui**	**2.33**	**20**	P	Pb	11 03 46.0	0.0
DVHZ	**Dannevirke**	**2.35**	**46**	P	Pn	11 03 40.6	-1.8
MHCZ	**Mount Hutt**	**2.36**	**227**	P	Pn	11 03 41.1	-1.6
TSZ	**Takapari Road**	**2.43**	**39**	P	Pn	11 03 42.8	-0.8
LREZ	**Lake Rotokare**	**2.52**	**8**	P	Pb	11 03 49.1	0.0
WACZ	**Wakanui South**	**2.52**	**217**	P	Pn	11 03 43.2	-1.6
WVZ	**Waitaha Valley**	**2.63**	**244**	P	Pn	11 03 46.7	+0.4
KHEZ	**Kahui Hut**	**2.66**	**1**	P	Pb	11 03 52.2	+0.6
NBEZ	**Newall Road No**	**2.69**	**359**	P	Pb	11 03 53.3	+1.3
RPZ	**Rata Peaks**	**2.77**	**230**	P	Pn	11 03 47.0	-1.2
ARCZ	**Arundel**	**2.85**	**225**	P	Pn	11 03 48.1	-1.3
PKVZ	**Pokaka**	**2.87**	**22**	P	Pb	11 03 52.9	-2.2
MOVZ	**Moawhango**	**2.89**	**29**	P	Pb	11 03 54.2	-1.3
VRZ	**Vera Road**	**2.90**	**12**	P	Pb	11 03 53.6	-1.9
WNVZ	**Wahianoa**	**2.91**	**26**	P	Pb	11 03 54.2	-1.7
TRVZ	**Turoa**	**2.92**	**25**	P	Pb	11 03 54.2	-1.9
WHVZ	**Whangaehu Hut**	**2.95**	**25**	P	Pb	11 03 55.3	-1.3
FWVZ	**Far West T-bar**	**2.96**	**25**	P	Pb	11 03 55.5	-1.3
TUVZ	**Tukino**	**2.98**	**26**	P	Pb	11 03 55.5	-1.6
GCSZ	**Gaunt Creek Bo**	**3.00**	**242**	P	Pn	11 03 52.0	+0.6
NGZ	**Ngauruhoe**	**3.05**	**25**	P	Pb	11 03 56.7	-1.5
NNVZ	**North Ngauruho**	**3.09**	**25**	P	Pb	11 03 57.6	-1.4
ETVZ	**East Tongariro**	**3.12**	**26**	P	Pb	11 03 57.7	-1.7
TMVZ	**Te Maari**	**3.14**	**26**	P	Pb	11 03 58.3	-1.5
TMZ	**Timaru**	**3.25**	**221**	P	Pn	11 03 53.1	-1.7
FOZ	**Fox Glacier**	**3.43**	**241**	P	Pn	11 03 57.5	+0.2
HIZ	**Hauiti**	**3.51**	**12**	P	Pb	11 04 02.7	-3.3
LBZ	**Lake Benmore**	**3.67**	**227**	P	Pn	11 03 59.6	-1.0
TLZ	**Tolley Road**	**3.82**	**19**	P	Pn	11 04 06.3	+3.6
ODZ	**Otahua Downs**	**3.92**	**217**	P	Pn	11 04 01.9	-2.1
JCZ	**Jackson Bay**	**4.34**	**239**	P	Pn	11 04 10.2	+0.3
EAZ	**Earnscleugh**	**4.70**	**224**	P	Pn	11 04 13.3	-1.5
MKAZ	**Moumakai**	**4.94**	**11**	P	Pn	11 04 21.0	+3.0

*SKO **18** 11:18:03.4, 40°.98N×22°.75E, h15km*
*ISK **18** 11:18:04.5, 40°.97N×22°.75E, h5km, ML2.6/8*
*ATH **18** 11:18:05.0, 40°.98N×22°.74E, h9km±4km, ML2.4/5, Error ellipse: s-maj=4.1km s-min=1.1km az=326.0*
*THE **18** 11:18:05.1, 40°.98N×22°.75E, h5km±1km, ML2.3/8, Error ellipse: s-maj=1.3km s-min=0.4km az=337.0*
ISC 18 11:18:05.0±0.9, 40°.98N±0°.02×22°.75E±0°.02, h11km±7km, n42, σ0§48/69, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.22**	**32**	PG	**Pg**	**11 18 09.4**	**-0.2**
KNT				SG	**Sg**	**11 18 12.6**	**-0.1**
KNT	**Kendrikon**	**0.22**	**32**	P	**Pg**	**11 18 09.4**	**-0.2**
KNT				S	**Sg**	**11 18 12.4**	**-0.3**
	4µm,0.2s						
KNT	**Kendrikon**	**0.22**	**32**	⇑*i*Pg	**Pg**	**11 18 09.4**	**-0.2**
KNT				*i* Sg	**Sg**	**11 18 12.5**	**-0.1**
KNT	**Kendrikon**	**0.22**	**32**	P	**Pg**	**11 18 09.3**	**-0.2**
GRG	**Griva**	**0.26**	**266**	PG	**Pg**	**11 18 10.2**	**-0.1**
GRG				SG	**Sg**	**11 18 14.4**	**+0.4**
GRG	**Griva**	**0.26**	**266**	P	**Pg**	**11 18 10.4**	**+0.1**
GRG				S	**Sg**	**11 18 14.1**	**+0.1**
	2µm,0.2s						
GRG	**Griva**	**0.26**	**266**	⇓*i*Pg	**Pg**	**11 18 10.4**	**+0.1**
GRG				*i* Sg	**Sg**	**11 18 14.4**	**+0.4**
GRG	**Griva**	**0.26**	**266**	P	**Pg**	**11 18 10.4**	**+0.1**
GRG				S	**Sg**	**11 18 13.2**	**-0.8**
GRG				AML	AML	11 18 14.9	
	comp=E,4557µm,0.2s						
GRG				AML	AML	11 18 15.4	
	comp=N,3776µm,0.2s						
VAY	**Valandovo**	**0.37**	**339**	*i* Pg	**Pg**	**11 18 12.7**	**+0.4**
VAY				*i* Sg	**Sg**	**11 18 17.9**	**+0.6**
VAY				*e*Lg	Lg	11 18 18.1	
	comp=N,274nm,0.2s						
VAY				*e*Lg	Lg	11 18 18.4	
	comp=E,448nm,0.7s						
THE	**Thessaloniki**	**0.38**	**154**	P	**Pg**	**11 18 12.3**	**-0.2**
THE				S	**Sg**	**11 18 17.6**	**-0.1**
	comp=E,685nm,0.3s						
THE	**Thessaloniki**	**0.38**	**154**	*i* Pg	**Pg**	**11 18 12.4**	**-0.2**
THE				*i* Sg	**Sg**	**11 18 17.9**	**+0.3**
THE	**Thessaloniki**	**0.38**	**154**	P	**Pg**	**11 18 12.3**	**-0.2**
THE				S	**Sg**	**11 18 17.5**	**-0.1**
THE				AML	AML	11 18 18.7	
	comp=E,1062µm,0.3s						
THE				AML	AML	11 18 19.2	
	comp=N,1717µm,0.3s						
HORT	**Hortiatis**	**0.47**	**145**	PG	**Pg**	**11 18 13.8**	**-0.3**
HORT	**Hortiatis**	**0.47**	**145**	P	**Pg**	**11 18 14.1**	**0.0**
HORT				S	**Sg**	**11 18 20.1**	**-0.2**
	comp=N,435nm,0.2s						
HORT	**Hortiatis**	**0.47**	**145**	P	**Pg**	**11 18 14.1**	**0.0**
SOH	**Sokhos**	**0.49**	**108**	P	**Pg**	**11 18 14.6**	**+0.1**
SOH				S	**Sg**	**11 18 21.7**	**+0.8**
	comp=N,852nm,0.3s						
SOH	**Sokhos**	**0.49**	**108**	⇓*i*Pg	**Pg**	**11 18 14.6**	**+0.1**
SOH				*i* Sg	**Sg**	**11 18 21.4**	**+0.5**
SOH	**Sokhos**	**0.49**	**108**	P	**Pg**	**11 18 14.6**	**+0.1**
SOH				S	**Sg**	**11 18 20.9**	**-0.1**
SOH				AML	AML	11 18 22.1	
	comp=E,2133µm,0.4s						
SOH				AML	AML	11 18 22.2	
	comp=N,2123µm,0.3s						
SRS	**Serrai**	**0.66**	**77**	P	**Pg**	**11 18 17.4**	**-0.3**
SRS				S	**Sg**	**11 18 26.4**	**+0.1**
	comp=N,202nm,0.2s						
SRS	**Serrai**	**0.66**	**77**	*i* Pg	**Pg**	**11 18 17.5**	**-0.3**
SRS				*i* Sg	**Sb**	**11 18 26.9**	**-0.6**
SRS	**Serrai**	**0.66**	**77**	P	**Pg**	**11 18 17.4**	**-0.3**
SRS				S	**Sg**	**11 18 25.5**	**-0.8**
SRS				AML	AML	11 18 27.3	
	comp=N,390µm,0.3s						
SRS				AML	AML	11 18 27.9	
	comp=E,419µm,0.2s						
STIP	**Stip**	**0.83**	**330**	*i* Pg	**Pg**	**11 18 20.1**	**-0.9**
STIP				*i* Sg	**Sg**	**11 18 30.7**	**-1.1**
NVR	**Nevrokopi**	**0.92**	**66**	P	**Pg**	**11 18 22.6**	**-0.1**
NVR				S	**Sb**	**11 18 35.4**	**+0.1**
	comp=E,108nm,0.4s						
NVR	**Nevrokopi**	**0.92**	**66**	P	**Pg**	**11 18 22.5**	**-0.3**
NVR				S	**Sg**	**11 18 34.4**	**-0.3**
NVR				AML	AML	11 18 35.5	
	comp=N,170µm,0.5s						
NVR				AML	AML	11 18 36.2	
	comp=E,256µm,0.3s						
KOKK	**Kokkinochori,**	**0

AFI				Sn	**Sn**	**11 22 41.8**		**-2.8**
	25nm,0.3s,baz=44,slow=23,SNR=8.8							
	4.5nm,0.3s							
AFI	**Afiamalu**	**4.15**	**34**	Pn	**Pn**	**11 21 58.3**		**+2.4**
NIUE	**Niue**	**4.35**	**113**		**Pn**	**11 21 59.7**		**+1.1**
COEN	**Coen**	**41.16**	**269**	P	**P**	**11 28 38.3**		**+0.9**
COEN				IAmb	IAmb	11 28 56.7		
	comp=Z,11nm,1.1s							
STKA	**Stephens Creek**	**42.44**	**242**	P	**P**	**11 28 47.2**		**-0.4**
BBOO	**Buckleboo**	**47.20**	**241**	P	**P**	**11 29 24.8**		**-0.8**
WR0	**Warramunga Arr**	**48.52**	**259**	P	**P**	**11 29 36.0**		**0.0**
WB0	**Warramunga Arr**	**48.68**	**259**	P	**P**	**11 29 36.6**		**-0.7**
WB0				IAmb	IAmb	11 29 56.5		
	comp=Z,5.7nm,1.3s							
WB2	**Warramunga Arr**	**48.70**	**259**	P	**P**	**11 29 35.2**		**-2.2**
WB2				IAmb	IAmb	11 29 39.6		
	comp=Z,9.4nm,1.3s							
WRAB	**Tennant Creek**	**48.70**	**259**	P	**P**	**11 29 37.0**		**-0.4**
WRAB				IAmb	IAmb	11 30 01.9		
	comp=Z,4.8nm,1.1s							
WRA	**Warramunga Arr**	**48.71**	**258**	P	**P**	**11 29 36.9**		**-0.6**
	comp=Z,1.2nm,0.5s,baz=98,slow=7.3,SNR=27							
	comp=Z,1.2nm,0.5s							
WRA	**Warramunga Arr**	**48.71**	**258**	P	**P**	**11 29 37.4**		**-0.1**
AS31	**Alice Springs**	**48.83**	**254**	P	**P**	**11 29 38.4**		**0.0**
AS31				IAmb	IAmb	11 29 39.2		
	comp=Z,4.0nm,0.8s							
ASAR	**Alice Springs**	**48.83**	**254**	P	**P**	**11 29 38.3**		**-0.1**
	comp=Z,12nm,0.6s,baz=91,slow=8.1,SNR=183							
	comp=Z,12nm,0.6s							
QSPA	**South Pole Qui**	**72.66**	**180**	P	**P**	**11 32 20.1**		**-0.1**
	comp=Z,1.4nm,0.9s,baz=54,slow=1.6,SNR=5.1							
	comp=Z,1.4nm,0.9s							
QSPA	**South Pole Qui**	**72.66**	**180**	P	**P**	**11 32 20.2**		**-0.1**
QSPA				IAmb	IAmb	11 32 21.5		
	comp=Z,1.1nm,0.8s							
ILAR	**Eielson Array**	**84.53**	**11**	P	**P**	**11 33 25.0**		**-0.2**
	comp=Z,0.3nm,0.7s,baz=226,slow=6.2,SNR=4.5							
	comp=Z,0.3nm,0.7s							

WEL ***18*** *11:32:00,41.˚77S×174.˚39E,h15km,ML4.3,Mw4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15} Nm; M_{rr}0.40; $M_{\theta\theta}$1.00; $M_{\phi\phi}$-1.40; $M_{r\theta}$1.52; $M_{\theta\phi}$-1.62; $M_{\phi r}$-1.29; Fault plane solution: $M_0$2.76000×10^{15} NP1: ϕ_s64.00000°, δ55.00000°, λ163.00000°. NP2: ϕ_s164.00000°, δ76.00000°, λ37.00000°. Principal axes: T 318.6200, Plg35.0000°, Azm30.0000°; N -85.4000, Plg52.0000°, Azm182.0000°; P -233.2200, Plg14.0000°, Azm290.0000°;*

WEL ***18*** *11:32:15.6±0.3,42˚S±3˚×17˚4E±˚,h10km±3km,M4.2/51, ML4.5/21,MLv4.2/51 Error ellipse: s-maj=0.0km s-min=0.0km az=147.9*

NEIC ***18*** *11:32:15.9,41.˚75S×174.˚38E,h14km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.30; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-1.04; $M_{r\theta}$0.66; $M_{\theta\phi}$-1.59; $M_{\phi r}$-0.52; Fault plane solution: $M_0$2.16000×10^{15} NP1:ϕ_s185.47000°, δ57.18000°, λ40.31000°. NP2:ϕ_s70.78000°, δ57.07000°, λ139.78000°. Principal axes: T 2.0020, Plg50.0000°, Azm38.0000°; N 0.2847, Plg40.0000°, Azm218.0000°; P -2.2867, Plg0.0000°, Azm308.0000°;*

NOU ***18*** *11:32:15.0,41.˚87S×174.˚55E,h8km,MLv4.5/14,Cook Strait, New Zealand*

IDC ***18*** *11:32:15.2±2.7,41.˚76S×174.˚02E,h0km,mb3.6/3, mbtmp3.5/4,ML3.3/1,MS3.5/5,Error ellipse: s-maj=49.9km s-min=38.3km az=106.0*

NEIC ***18*** *11:32:15.3±1.4,41.˚76S±0.˚03×174.˚43E±0.˚03,h11km±4km, mb4.2/9,Mwr4.2/40,Error ellipse: s-maj=4.8km s-min=2.7km az=162.0*

ISC 18 11:32:15.3±1.0,**41.˚82S**±0.˚03×**174.˚44E**±0.˚02,**h11**km±6km, **n198,**σ1§**28**/200,**mb4.1**/8,**MS3.4**/5,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.18**	**292**		**Pg**	**11 32 18.9**	**-0.3**
CMWZ	**Cape Campbell**	**0.18**	**292**	P	**Pg**	**11 32 18.9**	**-0.3**
CMWZ				S	**Sg**	**11 32 22.7**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.43**	**283**	Pg	**Pg**	**11 32 23.6**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.43**	**283**	P	**Pg**	**11 32 23.5**	**-0.2**
BSWZ				S	**Sg**	**11 32 30.1**	**+0.7**
TUWZ	**Tuamarina**	**0.53**	**316**		**Pg**	**11 32 25.1**	**-0.6**
TUWZ	**Tuamarina**	**0.53**	**316**	P	**Pg**	**11 32 25.0**	**-0.6**
TUWZ				S	**Sg**	**11 32 32.2**	**-0.5**
SNZO	**South Karori**	**0.54**	**22**		**Pg**	**11 32 26.1**	**+0.2**
SNZO	**South Karori**	**0.54**	**22**	P	**Pg**	**11 32 26.1**	**+0.2**
WEL	**Wellington**	**0.59**	**25**	P	**Pg**	**11 32 26.8**	**+0.1**
TCW	**Tory Channel**	**0.62**	**349**		**Pg**	**11 32 26.5**	**-0.7**
TCW	**Tory Channel**	**0.62**	**349**	P	**Pg**	**11 32 26.5**	**-0.7**
PLWZ	**Palliser**	**0.66**	**68**		**Pn**	**11 32 30.5**	**-0.1**
PLWZ	**Palliser**	**0.66**	**68**	P	**Pn**	**11 32 30.0**	**-0.6**
MSWZ	**Moikau Station**	**0.73**	**57**		**Pn**	**11 32 31.1**	**-0.4**
MSWZ	**Moikau Station**	**0.73**	**57**	P	**Pn**	**11 32 30.7**	**-0.8**
CAW	**Cannon Point**	**0.85**	**34**	P	**Pg**	**11 32 31.5**	**-0.2**
PAWZ	**Paruwai Farm**	**0.86**	**60**	P	**Pn**	**11 32 32.8**	**-0.6**
KHZ	**Kahutara**	**0.90**	**228**	Pg	**Pn**	**11 32 33.6**	**-0.1**
KHZ				Sg	**Sn**	**11 32 46.8**	**+0.1**
KHZ	**Kahutara**	**0.90**	**228**	P	**Pn**	**11 32 33.7**	**-0.1**
KHZ	**Kahutara**	**0.90**	**228**	P	**Pn**	**11 32 33.5**	**-0.3**
NNZ	**Nelson**	**0.99**	**307**		**Pg**	**11 32 33.3**	**-1.1**
NNZ	**Nelson**	**0.99**	**307**	P	**Pg**	**11 32 33.1**	**-1.2**
KIW	**Kapiti Island**	**1.02**	**21**	P	**Pg**	**11 32 34.1**	**-0.8**
TRWZ	**Traveller**	**1.03**	**67**	P	**Pb**	**11 32 34.8**	**-0.3**
MTW	**Mount Morrison**	**1.04**	**51**	P	**Pb**	**11 32 35.0**	**-0.2**
DUWZ	**D'Urville Isla**	**1.08**	**339**	P	**Pb**	**11 32 34.7**	**-1.3**
OGWZ	**Otaki Gorge**	**1.14**	**29**	P	**Pb**	**11 32 36.3**	**-0.7**
THZ	**Tophouse**	**1.15**	**272**	Pn	**Pb**	**11 32 36.9**	**-0.2**
THZ					**Sg**	**11 32 52.3**	**+0.2**
THZ	**Tophouse**	**1.15**	**272**	P	**Pb**	**11 32 36.7**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.23**	**42**	P	**Pn**	**11 32 37.6**	**-0.7**
TMWZ	**Te Maipa**	**1.30**	**58**	P	**Pn**	**11 32 38.5**	**-0.9**
MRNZ	**Matariki Terra**	**1.32**	**288**		**Pn**	**11 32 39.1**	**-0.6**
MRNZ				Sg	**Sb**	**11 32 56.0**	**-1.1**
MRNZ	**Matariki Terra**	**1.32**	**288**	P	**Pn**	**11 32 39.6**	**-0.2**
TKNZ	**Takaka Hill**	**1.36**	**305**		**Pn**	**11 32 39.5**	**-0.6**
TKNZ				Sg	**Sn**	**11 32 58.3**	**+0.1**
TKNZ	**Takaka Hill**	**1.36**	**305**	P	**Pn**	**11 32 39.6**	**-0.6**
MRZ	**Mangatainoka R**	**1.44**	**37**		**Pn**	**11 32 40.8**	**-0.5**
MRZ	**Mangatainoka R**	**1.44**	**37**	P	**Pn**	**11 32 40.7**	**-0.6**
TIWZ	**Tintock**	**1.51**	**47**	P	**Pn**	**11 32 41.6**	**-0.7**
GVZ	**Greta Valley S**	**1.55**	**222**		**Pn**	**11 32 42.6**	**-0.2**
GVZ	**Greta Valley S**	**1.55**	**222**	P	**Pn**	**11 32 42.7**	**-0.2**
CPWZ	**Castlepoint**	**1.61**	**56**	P	**Pn**	**11 32 43.2**	**-0.4**
PRWZ	**Pori Road**	**1.71**	**43**	P	**Pn**	**11 32 44.1**	**-0.9**
OHWZ	**Ohakea**	**1.74**	**23**	P	**Pb**	**11 32 46.4**	**-0.8**
POWZ	**Post Office Ro**	**1.74**	**36**	P	**Pn**	**11 32 45.2**	**-0.3**
QRZ	**Quartz Range**	**1.74**	**304**		**Pn**	**11 32 45.9**	**+0.4**
QRZ	**Quartz Range**	**1.74**	**304**	P	**Pn**	**11 32 46.2**	**+0.7**
QRZ	**Quartz Range**	**1.74**	**304**	P	**Pn**	**11 32 46.1**	**+0.6**
BFZ	**Birch Farm**	**1.77**	**51**		**Pn**	**11 32 44.8**	**-1.1**
BFZ	**Birch Farm**	**1.77**	**51**	P	**Pn**	**11 32 45.0**	**-0.9**
BFZ	**Birch Farm**	**1.77**	**51**	P	**Pn**	**11 32 44.5**	**-1.4**
LTZ	**Lake Taylor**	**1.87**	**238**	Pn	**Pn**	**11 32 47.0**	**-0.3**
LTZ	**Lake Taylor**	**1.87**	**238**	P	**Pn**	**11 32 46.9**	**-0.4**
AMCZ	**Amberley**	**1.90**	**224**		**Pn**	**11 32 47.7**	**+0.1**
AMCZ	**Amberley**	**1.90**	**224**	P	**Pn**	**11 32 46.8**	**-0.8**
DSZ	**Denniston Nort**	**1.97**	**271**		**Pn**	**11 32 48.5**	**-0.1**
DSZ	**Denniston Nort**	**1.97**	**271**	P	**Pn**	**11 32 49.0**	**+0.4**
DVHZ	**Dannevirke**	**2.00**	**41**	P	**Pn**	**11 32 47.5**	**-1.5**
ANWZ	**Angora Road**	**2.05**	**49**	P	**Pn**	**11 32 48.5**	**-1.1**
WAZ	**Wanganui**	**2.10**	**12**	P	**Pb**	**11 32 51.9**	**-1.4**
TSZ	**Takapari Road**	**2.10**	**34**	P	**Pn**	**11 32 49.4**	**-1.0**
OKCZ	**Okains Bay**	**2.16**	**208**	P	**Pn**	**11 32 50.1**	**-1.1**
PRHZ	**Porangahau**	**2.27**	**48**	P	**Pn**	**11 32 51.1**	**-1.6**
MQZ	**McQueen's Vall**	**2.30**	**214**	Pn	**Pn**	**11 32 51.5**	**-1.6**
MQZ	**McQueen's Vall**	**2.30**	**214**	P	**Pn**	**11 32 51.3**	**-1.8**
WPHZ	**Waipukurau**	**2.32**	**42**	P	**Pn**	**11 32 52.0**	**-1.4**
PNHZ	**Pukenui**	**2.32**	**36**	P	**Pn**	**11 32 52.3**	**-1.2**
OXZ	**Oxford**	**2.33**	**229**	Pn	**Pn**	**11 32 53.3**	**-0.2**
OXZ	**Oxford**	**2.33**	**229**	P	**Pn**	**11 32 58.5**	**+1.2**
AKCZ	**Akaroa Harbour**	**2.34**	**208**	P	**Pn**	**11 32 53.0**	**-0.8**
LREZ	**Lake Rotokare**	**2.35**	**359**	P	**Pb**	**11 32 55.9**	**-1.7**
INZ	**Inchbonnie**	**2.40**	**247**		**Pn**	**11 32 54.9**	**+0.4**
INZ	**Inchbonnie**	**2.40**	**247**	P	**Pn**	**11 32 54.8**	**+0.3**
NMEZ	**Namu Road**	**2.44**	**350**	P	**Pb**	**11 32 57.9**	**-1.2**
KHEZ	**Kahui Hut**	**2.54**	**353**	P	**Pb**	**11 32 59.5**	**-1.4**
KHEZ	**Kahui Hut**	**2.54**	**353**	P	**Pb**	**11 32 58.9**	**-1.9**
MTVZ	**Mangateitei**	**2.55**	**18**	P	**Pn**	**11 32 58.2**	**+1.5**
NEZ	**North Egmont**	**2.56**	**354**	P	**Pb**	**11 33 01.5**	**+0.3**
PXZ	**Pawanui**	**2.56**	**47**	P	**Pn**	**11 32 54.8**	**-1.9**
NBEZ	**Newall Road No**	**2.58**	**350**	P	**Pn**	**11 32 58.9**	**+2.0**
MOVZ	**Moawhango**	**2.61**	**23**	P	**Pn**	**11 32 57.2**	**-0.2**
PKVZ	**Pokaka**	**2.62**	**16**	P	**Pn**	**11 32 58.3**	**+0.8**
DREZ	**Durham Road**	**2.63**	**356**	P	**Pb**	**11 33 00.1**	**-2.3**
BHHZ	**Black Hill Sta**	**2.63**	**29**	P	**Pn**	**11 32 57.7**	**-0.1**
WNVZ	**Wahianoa**	**2.64**	**20**	P	**Pn**	**11 32 58.3**	**+0.4**
PKE	**Pukeiti**	**2.64**	**352**	P	**Pb**	**11 33 01.2**	**-1.4**
TRVZ	**Turoa**	**2.65**	**19**	P	**Pn**	**11 32 58.5**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.68**	**20**	P	**Pn**	**11 32 59.0**	**+0.4**
DRZ	**Dome Shelter**	**2.68**	**19**	P	**Pn**	**11 33 00.4**	**+1.8**
FWVZ	**Far West T-bar**	**2.69**	**19**	P	**Pn**	**11 32 59.5**	**+0.7**
VRZ	**Vera Road**	**2.70**	**5**	P	**Pn**	**11 32 59.7**	**+1.1**
TUVZ	**Tukino**	**2.71**	**20**	P	**Pn**	**11 32 59.1**	**+0.3**
MHEZ	**Mangahewa**	**2.74**	**358**	P	**Pb**	**11 33 02.5**	**-1.7**
KAHZ	**Kahuranaki**	**2.74**	**43**	P	**Pn**	**11 32 57.2**	**-2.1**
NGZ	**Ngauruhoe**	**2.78**	**19**	P	**Pn**	**11 33 00.3**	**+0.4**
SNVZ	**South Ngauruho**	**2.78**	**20**	P	**Pn**	**11 33 00.3**	**+0.4**
OTVZ	**Oturere**	**2.81**	**20**	P	**Pn**	**11 33 01.2**	**+0.9**
KWHZ	**Kaweka Forest**	**2.83**	**33**	P	**Pb**	**11 33 06.7**	**+0.9**
NNVZ	**North Ngauruho**	**2.83**	**19**	P	**Pn**	**11 33 01.1**	**+0.6**
WTVZ	**West Tongariro**	**2.84**	**18**	P	**Pn**	**11 33 01.6**	**+1.0**
TWVZ	**Taurewa**	**2.85**	**16**	P	**Pn**	**11 33 02.6**	**+1.9**
ETVZ	**East Tongariro**	**2.85**	**20**	P	**Pn**	**11 33 01.1**	**+0.4**
WACZ	**Wakanui South**	**2.86**	**221**	P	**Pn**	**11 32 59.8**	**-0.9**
TMVZ	**Te Maari**	**2.87**	**20**	P	**Pn**	**11 33 01.1**	**+0.1**
KRVZ	**Karewarewa**	**2.87**	**19**	P	**Pb**	**11 33 07.3**	**+0.8**
NTVZ	**North Tongariro**	**2.87**	**20**	P	**Pn**	**11 33 01.5**	**+0.4**
MCHZ	**McNeill Hill**	**2.93**	**37**	P	**Pn**	**11 33 00.3**	**-1.5**
KATZ	**Kakaramea**	**3.00**	**19**	P	**Pb**	**11 33 09.2**	**+0.5**
WVZ	**Waitaha Valley**	**3.01**	**244**	P	**Pn**	**11 33 03.7**	**+0.8**
BKZ	**Black Stump Fm**	**3.08**	**31**		**Pn**	**11 33 02.4**	**-1.5**
BKZ	**Black Stump Fm**	**3.08**	**31**	P	**Pn**	**11 33 03.2**	**-0.7**
BKZ	**Black Stump Fm**	**3.08**	**31**	P	**Pn**	**11 33 02.3**	**-1.5**
RATZ	**Rangitukua**	**3.12**	**20**	P	**Pb**	**11 33 09.4**	**-1.3**
RPZ	**Rata Peaks**	**3.13**	**232**	Pn	**Pn**	**11 33 03.4**	**-1.1**
	3.9nm,0.3s,baz=98,slow=4.1,SNR=12							
RPZ				Sn	**Sn**	**11 33 38.1**		**-3.8**
	6.1nm,0.3s,baz=301,slow=22,SNR=10.0							
	7.9nm,0.3s							
RPZ	**Rata Peaks**	**3.13**	**232**	Pn	**Pn**	**11 33 04.8**		**+0.2**
RPZ	**Rata Peaks**	**3.13**	**232**	P	**Pn**	**11 33 04.6**		**0.0**
RPZ	**Rata Peaks**	**3.13**	**232**	P	**Pn**	**11 33 03.7**		**-0.9**
ARHZ	**Aropaoanui**	**3.21**	**38**	P	**Pn**	**11 33 04.4**		**-1.3**
NMHZ	**Naumai**	**3.26**	**34**	P	**Pn**	**11 33 05.1**		**-1.3**
HIZ	**Hauiti**	**3.31**	**6**		**Pn**	**11 33 08.1**		**+1.0**
HIZ	**Hauiti**	**3.31**	**6**	P	**Pn**	**11 33 07.9**		**+0.8**
HIZ	**Hauiti**	**3.31**	**6**	P	**Pn**	**11 33 08.1**		**+1.0**
MRHZ	**Matea Rd**	**3.34**	**28**	P	**Pn**	**11 33 06.2**		**-1.3**
WHTZ	**Whakaora**	**3.35**	**21**	P	**Pb**	**11 33 16.9**		**+2.1**
GCSZ	**Gaunt Creek Bo**	**3.38**	**242**	P	**Pb**	**11 33 13.5**		**-1.7**
WHHZ	**Waihua**	**3.47**	**39**	P	**Pg**	**11 33 25.0**		**+3.3**
MTHZ	**Maungataniwha**	**3.48**	**33**	P	**Pb**	**11 33 18.9**		**+1.9**
MTHZ	**Maungataniwha**	**3.48**	**33**	P	**Pn**	**11 33 10.1**		**+0.7**
RAHZ	**Arahi**	**3.53**	**36**	P	**Pn**	**11 33 08.3**		**-1.8**
ALRZ	**Allen Road**	**3.56**	**25**	P	**Pb**	**11 33 17.3**		**-1.0**
TLZ	**Tolley Road**	**3.58**	**14**	P	**Pn**	**11 33 10.8**		**0.0**
TMZ	**Timaru**	**3.59**	**223**	P	**Pn**	**11 33 10.2**		**-0.7**
GRRZ	**Galatos Road**	**3.69**	**21**	P	**Pb**	**11 33 21.4**		**+0.9**
RTZ	**Ruatahuna**	**3.74**	**32**	P	**Pg**	**11 33 24.7**		**-2.3**
RTZ	**Ruatahuna**	**3.74**	**32**	P	**Pn**	**11 33 10.5**		**-2.5**
HSRZ	**Hossack Road**	**3.77**	**22**	P	**Pb**	**11 33 21.0**		**-0.8**
MUGZ	**Muriara**	**3.78**	**29**	P	**Pb**	**11 33 23.9**		**+1.8**
FOZ	**Fox Glacier**	**3.81**	**242**	Pn	**Pn**	**11 33 15.3**		**+1.4**
FOZ	**Fox Glacier**	**3.81**	**242**	P	**Pn**	**11 33 14.7**		**+0.8**
RRRZ	**Republican Roa**	**3.82**	**25**	P	**Pb**	**11 33 20.8**		**-1.9**
HLRZ	**Highlands Stat**	**3.85**	**23**	P	**Pg**	**11 33 27.4**		**-1.7**
UTU	**Utuhina**	**3.88**	**21**	P	**Pb**	**11 33 26.3**		**+2.6**
TARZ	**Mount Tarawera**	**3.91**	**25**	P	**Pg**	**11 33 27.5**		**-2.7**
NGRZ	**Ngongotaha**	**3.94**	**21**	P	**Pb**	**11 33 27.0**		**+2.2**
RIGZ	**Rimuhau**	**4.01**	**40**	P	Pg	**11 33 38.0**		**+5.8**
RAGZ	**Rawiri**	**4.03**	**36**	P	**Pg**	**11 33 32.5**		**+0.1**
LBZ	**Lake Benmore**	**4.04**	**229**	Pn	**Pn**	**11 33 17.2**		**+0.2**
LBZ	**Lake Benmore**	**4.04**	**229**	P	**Pn**	**11 33 16.9**		**-0.1**
KARZ	**Kaharoa**	**4.04**	**21**	P	**Pg**	**11 33 29.4**		**-3.2**
URZ	**Urewera**	**4.10**	**31**	P	**Pn**	**11 33 16.7**		**-1.2**
URZ	**Urewera**	**4.10**	**31**	P	**Pn**	**11 33 16.3**		**-1.6**
EDRZ	**Edgecumbe**	**4.11**	**26**	P	**Pg**	**11 33 32.0**		**-1.9**
TOZ	**Tahuroa Road**	**4.16**	**12**	P	**Pn**	**11 33 19.1**		**+0.4**
ODZ	**Otahua Downs**	**4.25**	**215**	Pn	**Pn**	**11 33 19.5**		**-0.3**
ODZ	**Otahua Downs**	**4.25**	**219**	P	**Pn**	**11 33 19.4**		**-0.5**
ODZ	**Otahua Downs**	**4.25**	**219**	P	**Pn**	**11 33 18.1**		**-1.7**
TKGZ	**Te Karaka**	**4.27**	**39**	P	**Pn**	**11 33 17.4**		**-2.7**
TGRZ	**Tauranga**	**4.32**	**20**	P	**Pn**	**11 33 21.0**		**+0.1**
TWGZ	**Tauwhareparae**	**4.54**	**38**	P	**Pn**	**11 33 21.4**		**-2.5**
RUGZ	**Raukumara Rang**	**4.58**	**34**	P	**Pn**	**11 33 22.1**		**-2.6**
JCZ	**Jackson Bay**	**4.72**	**240**	P	**Pn**	**11 33 28.6**		**+2.1**
MKAZ	**Moumakai**	**4.74**	**7**	P	**Pn**	**11 33 26.6**		**0.0**
AWAZ	**Awhitu Peninsu**	**4.75**	**2**	P	**Pn**	**11 33 27.7**		**+0.9**
HAZ	**Te Kaha**	**4.80**	**34**	P	**Pn**	**11 33 25.3**		**-2.2**
ETAZ	**East Tamaki Re**	**4.87**	**5**	P	**Pn**	**11 33 29.5**		**+1.1**
WTAZ	**Waiatarua**	**4.88**	**1**	P	**Pn**	**11 33 31.0**		**+2.4**
RVAZ	**Riverhead Bore**	**5.04**	**1**	P	**Pn**	**11 33 32.4**		**+1.7**
WIAZ	**Waiheke Island**	**5.04**	**6**	P	**Pn**	**11 33 32.1**		**+1.2**
MBAZ	**Motutapu North**	**5.05**	**4**	P	**Pn**	**11 33 32.0**		**+1.0**
KUZ	**Kuaotunu**	**5.16**	**12**	P	**Pn**	**11 33 32.5**		**+0.1**
KUZ	**Kuaotunu**	**5.16**	**12**	P	**Pn**	**11 33 32.6**		**+0.2**
MXZ	**Matakaoa Point**	**5.19**	**36**	Pn	**Pn**	**11 33 30.8**		**-2.1**
MXZ	**Matakaoa Point**	**5.19**	**36**	P	**Pn**	**11 33 33.0**		**+0.1**
MXZ	**Matakaoa Point**	**5.19**	**36**	P	**Pb**	**11 33 46.5**		**+0.5**
WHZ	**Wether Hill Ro**	**6.21**	**227**	Pn	**Pn**	**11 33 49.6**		**+2.8**
DCZ	**Deep Cove**	**6.42**	**233**	Pn	**Pn**	**11 33 50.4**		**+0.7**
OUZ	**Omahuta**	**6.62**	**354**	Pn	**Pn**	**11 33 52.6**		**+0.1**
OUZ	**Omahuta**	**6.62**	**354**	P	**Pn**	**11 33 53.8**		**+1.4**
OUZ	**Omahuta**	**6.62**	**354**	P	**Pn**	**11 33 54.0**		**+1.6**
CTZ	**Chatham Island**	**6.86**	**109**	P	**Pn**	**11 33 55.4**		**-0.3**
CTZ	**Chatham Island**	**6.86**	**109**	P	**Pn**	**11 33 55.2**		**-0.5**
MSVF	**Nonsavu**	**24.20**	**8**	LR	LR	11 45 56.2		
	comp=Z,104nm,18.1s,baz=206,slow=34							
STKA	**Stephens Creek**	**27.94**	**280**	P	**P**	**11 38 06.3**		**+0.7**
	0.9nm,0.6s,baz=126,slow=19,SNR=2.9							
	0.9nm,0.6s							
STKA	**Stephens Creek**	**27.94**	**280**	P	**P**	**11 38 07.1**		**+1.5**
RAR	**Rarotonga**	**29.89**	**55**	LR	LR	11 49 57.3		
	comp=Z,45nm,18.6s,baz=304,slow=35							
ASAR	**Alice Springs**	**38.18**	**285**	P	**P**	**11 39 33.2**		**-1.8**
	0.4nm,0.7s,baz=128,slow=7.2,SNR=5.2							
	0.4nm,0.7s							
WR0	**Warramunga Arr**	**40.10**	**291**	P	**P**	**11 39 49.5**		**-1.5**
WR0				IAmb	IAmb	11 40 13.0		
	comp=Z,8.1nm,1.4s							
WB2	**Warramunga Arr**	**40.25**	**290**	P	**P**	**11 39 50.9**		**-1.3**
WB2				IAmb	IAmb	11 40 05.6		
	comp=Z,8.5nm,1.4s							
WRAB	**Tennant Creek**	**40.25**	**290**	P	**P**	**11 39 49.9**		**-2.3**
WRAB				IAmb	IAmb	11 40 01.7		
	comp=Z,4.3nm,1.1s							
WRA	**Warramunga Arr**	**40.26**	**290**	P	**P**	**11 39 50.6**		**-1.6**
	comp=Z,0.6nm,0.7s,baz=128,slow=8.5,SNR=12							
	comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**40.26**	**290**	P	**P**	**11 39 50.9**		**-1.4**
WB0	**Warramunga Arr**	**40.33**	**291**	P	**P**	**11 39 50.8**		**-2.2**
WB0				IAmb	IAmb	11 40 08.3		
	comp=Z,8.3nm,1.4s							
MTN	**Manton Dam**	**47.37**	**295**	P	**P**	**11 40 48.9**		**-0.6**
QSPA	**South Pole Qui**	**48.31**	**180**	LR	LR	11 57 30.5		
	comp=Z,52nm,21.0s,baz=78,slow=31							
QSPA	**South Pole Qui**	**48.31**	**180**	P	**P**	**11 40 59.9**		**+3.5**
QSPA				IAmb	IAmb	11 41 08.2		
	comp=Z,4.3nm,1.2s							
PSA00	**Pilbara Seismi**	**49.76**	**276**	P	**P**	**11 41 09.0**		**+1.1**
SNAA	**Sanae**	**66.80**	**181**	LR	LR	12 12 00.0		
	comp=Z,67nm,18.4s,baz=191,slow=36							
KSRS	**Korea Array**	**89.59**	**325**	LR	LR	12 21 48.5		
	comp=Z,14nm,19.5s,baz=220,slow=33							
TORD	**Torodi Ar. Bea**	**150.75**	**195**	PKPbc	**PKiKP**	**11 52 09.3**		**+0.7**
	comp=Z,0.7nm,0.9s,baz=159,slow=4.3,SNR=2.4							

ARE ***18*** *11:33:11±1.7,14.˚54S±0.˚08×75.˚8W±0.˚1,h52km±7km, Error ellipse: s-maj=16.0km s-min=7.4km az=57.0*

NEIC ***18*** *11:33:12.1±1.5,14.˚47S±0.˚07×75.˚7W±0.˚1,h48km±2km, mb4.2/11,ML4.9(ARE),Error ellipse: s-maj=16.2km s-min=9.7km az=70.0*

VAO ***18*** *11:33:12.7±0.6,14.˚32S×75.˚75W,h58km,mb4.1*

IDC ***18*** *11:33:13.1±2.0,14.˚38S×75.˚72W,h49km±21km,mb3.5/4, mbtmp3.9/9,ML3.8/5,MS3.1/7,Error ellipse: s-maj=39.9km s-min=16.3km az=63.0*

ISC 18 11:33:12.2±0.6,**14.˚49S**±0.˚06×**75.˚68W**±0.˚08,**h53km**,**n94,** σ1§**31**/85,**mb4.1**/9,**MS3.2**/5,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.73**	**335**	P	**Pn**	**11 33 53.3**	**-0.4**
	91nm,0.3s,baz=144,slow=13,SNR=81						
NNA				S	**Sn**	**11 34 27.0**	**+1.4**
	660nm,0.3s,baz=236,slow=17,SNR=13						
	207nm,0.3s						
NNA	**Nana**	**2.73**	**335**		**Pn**	**11 33 52.5**	**-1.2**
AP01	**Chacalluta**	**6.41**	**128**	Pn	**Pn**	**11 34 44.7**	**+0.6**
PB12	**IPOC Station P**	**6.57**	**129**	Pn	**Pn**	**11 34 46.1**	**-0.3**
PB16	**IPOC Station P**	**7.05**	**124**		**Pn**	**11 34 53.7**	**+0.4**
CZSB	**Cruzeiro do Su**	**7.32**	**24**	Pn	**Pn**	**11 34 56.2**	**-0.4**
CZSB	**Cruzeiro do Su**	**7.32**	**24**	eP	**Pn**	**11 34 56.6**	**0.0**
PSGCX	**Pisagua**	**7.35**	**134**	Pn	**Pn**	**11 34 56.6**	**-0.5**
MNMC	**Minye Minye**	**7.43**	**129**		**Pn**	**11 34 58.3**	**0.0**
LPAZ	**La Paz**	**7.50**	**105**	P	**Pn**	**11 35 02.9**	**+3.4**
	1.6nm,0.3s,baz=302,slow=7.4,SNR=20						
	3.4nm,0.3s						
LPAZ	**La Paz**	**7.50**	**105**	Pn	**Pn**	**11 34 58.9**	**-0.6**
LPAZ	**La Paz**	**7.50**	**105**	eP	**Pn**	**11 35 01.4**	**+1.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.87**	**14**	Pn	Pn	11 37 20.9	+0.2
	350nm,0.3s,baz=142,slow=9.9,SNR=256						
GUMO				Sn	Sg	11 37 27.9	-1.3
	1μm,0.3s,baz=315,slow=22,SNR=49						
SIJI	**Sorong**	**18.95**	**225**	LR	LR	11 49 01.2	
	comp=Z,32nm,18.8s,baz=98,slow=38						
H11S3	**WAKE ISLAND Hy**	**21.97**	**72**	T	T	12 04 42.0	
	baz=259,slow=75,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**21.99**	**72**	T	T	12 04 34.2	
	baz=259,slow=75,SNR=8.4						
H11S2	**WAKE ISLAND Hy**	**21.99**	**72**	T	T	12 04 34.9	
	baz=259,slow=75,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**22.44**	**69**	T	T	12 04 51.9	
	baz=257,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**22.45**	**69**	T	T	12 04 53.4	
	baz=257,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**22.46**	**69**	T	T	12 04 53.5	
	baz=257,slow=75,SNR=15						
WRA	**Warramunga Arr**	**34.03**	**198**	P	P	11 43 47.3	0.0
	0.2nm,0.7s,baz=22,slow=9.6,SNR=1.6						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**61.95**	**316**	P	P	11 47 24.2	+1.1
	0.4nm,0.7s,baz=93,slow=7.6,SNR=2.8						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**62.18**	**325**	P	P	11 47 22.7	-1.7
	0.4nm,0.4s,baz=110,slow=6.6,SNR=2.0						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**65.13**	**320**	P	P	11 47 44.2	+0.3
	0.3nm,0.5s,baz=101,slow=6.9,SNR=5.6						
	0.3nm,0.5s						

IDC ***18*** *11:42:38.4±1.5, 8.°62N×71.°48W, h0km, mb3.2/1, mbtmp3.5/2, ML3.8/1, Error ellipse: s-maj=56.8km s-min=11.3km az=168.0*

FUNV ***18*** *11:42:39.4, 8.°40N×71.°46W, h3km, MW3.3*

ISC 18 11:42:39.0±1.3, 8.°46N±0.°06×71.°45W±0.°03, h9km±10km, n14, σ0s95/23, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.61**	**106**	*eP*	**Pg**	**11 42 51.3**	**+0.5**
SOCV				*eS*	**Sg**	**11 42 59.2**	**+0.3**
SDV	**Santo Domingo**	**0.91**	**62**	Pg	**Pg**	**11 42 55.8**	**-0.8**
	139nm,0.3s,baz=220,slow=5.3,SNR=275						
SDV				Lg	Lg	11 43 07.1	
	124nm,0.3s,baz=351,slow=19,SNR=11						
CAPV	**Capacho**	**1.04**	**236**	*eP*	**Pg**	**11 42 58.5**	**-0.5**
CAPV				*eS*	**Sg**	**11 43 12.4**	**-0.1**
MCQV	**Machiques**	**1.91**	**326**	*eP*	**Pn**	**11 43 12.2**	**+0.4**
MCQV				*eS*	**Sb**	**11 43 37.5**	**-0.6**
CURV	**Curarigua**	**2.13**	**43**	*eS*	**Sb**	**11 43 43.5**	**-1.0**
DABV	**Dabajuro**	**2.58**	**18**	*eP*	**Pn**	**11 43 21.6**	**+0.7**
DABV				*eS*	**Sn**	**11 43 53.4**	**+1.0**
SIQV	**Siquisique**	**2.71**	**36**	*eP*	**Pn**	**11 43 23.9**	**+1.1**
SIQV				*eS*	**Sn**	**11 43 56.7**	**+0.9**
MAPV	**Macapo**	**3.25**	**65**	*eP*	**Pn**	**11 43 30.7**	**+0.4**
MAPV				*eS*	**Sn**	**11 44 09.5**	**+0.4**
BAUV	**El Baul**	**3.40**	**82**	*eP*	**Pn**	**11 43 32.9**	**+0.6**
BAUV				*eS*	**Sn**	**11 44 11.2**	**-1.6**
BENV	**Beln**	**4.08**	**68**	*eP*	**Pn**	**11 43 42.2**	**+0.4**
BENV				*eS*	**Sn**	**11 44 28.0**	**-1.7**
PCRV	**Puerto La Cruz**	**6.94**	**75**	Pn	**Pn**	**11 44 22.0**	**+1.1**
	1.6nm,0.3s,baz=270,slow=5.1,SNR=14						
PCRV				Sn	**Sn**	**11 45 38.7**	**-1.3**
	0.7nm,0.3s,baz=11,slow=9.6,SNR=1.6						
PCRV				Lg	Lg	11 46 20.9	
	0.9nm,0.3s,baz=300,slow=17,SNR=1.6						
	5.2nm,0.4s						
PDAR	**Pinedale Array**	**47.78**	**322**	P	**P**	**11 51 16.6**	**-0.4**
	0.1nm,0.4s,baz=120,slow=10,SNR=4.7						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**151.40**	**235**	PKPbc	**PKPbc**	**12 02 34.8**	**+0.6**
	0.3nm,0.9s,baz=107,slow=2.7,SNR=1.5						
WRA	**Warramunga Arr**	**152.56**	**243**	PKPbc	**PKPbc**	**12 02 37.8**	**+0.9**
	0.4nm,0.8s,baz=104,slow=2.5,SNR=4.9						

IDC ***18*** *11:48:39.7±0.5, 6.°91S×154.°89E, h0km, mb4.3/21, mbtmp4.3/23, ML2.1/1, MS3.6/21, Error ellipse: s-maj=18.1km s-min=14.9km az=115.0*

NEIC ***18*** *11:48:41.0±2.0, 7.°03S±0.°08×154.°80E±0.°04, h10km±1km, mb4.9/52, Error ellipse: s-maj=15.3km s-min=2.9km az=201.0*

DJA ***18*** *11:48:51.2±0.7, 7.°S±7.°×15.°4E±.°, h51km±13km, M4.6/8, mbB4.8/1, mb4.6/8, MLv4.6/2, Mw(mB)4.0/1*

ISC 18 11:48:45.4±0.4, 7.°03S±0.°06×154.°87E±0.°07, h41km, n124, σ1s52/114, mb4.8/55, MS3.5/19, 2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.91**	**316**	Pn	**Pn**	**11 49 41.5**	**-1.4**
KRVT	**Keravat (AS076**	**3.92**	**314**	Pn	**Pn**	**11 49 41.9**	**-1.3**
	81nm,0.6s,baz=308,slow=2.8,SNR=16						
KRVT				Sn	**Sn**	**11 50 31.1**	**+3.1**
	31nm,0.3s,baz=141,slow=23,SNR=6.3						
HNR	**Honiara**	**5.56**	**116**	Pn	Pn	11 50 15.0	+9.3
	baz=269,slow=5.1						
HNR				Sn	Sn	11 51 20.0	+12
	48nm,0.3s,baz=350,slow=13,SNR=1.6						
HNR				LR	LR	11 52 32.8	
	comp=Z,16μm,19.1s,baz=260,slow=42						
HNR	**Honiara**	**5.56**	**116**	Pn	**Pn**	**11 50 03.6**	**-2.1**
PMG	**Port Moresby**	**7.99**	**252**	Pn	**Pn**	**11 50 39.3**	**+0.2**
	1.4nm,0.3s,baz=359,slow=6.4,SNR=4.6						
PMG				Sn	**Sn**	**11 52 08.9**	**+0.6**
	1.4nm,0.3s,baz=70,slow=21,SNR=6.8						
	36nm,0.8s						
PMG	**Port Moresby**	**7.99**	**252**	Pn	Pn	11 50 33.3	-5.8
PMG	**Port Moresby**	**7.99**	**252**	P	Pn	11 50 48.6	+10
MANU	**Manus Island**	**8.97**	**303**	Pn	**Pn**	**11 50 47.9**	**-4.7**
CTA	**Charters Tower**	**15.44**	**212**	Pn	**P**	**11 52 24.7**	**+0.3**
	0.4nm,0.3s,baz=38,slow=9.7,SNR=9.8						
CTA				LR	LR	11 58 10.4	
	comp=Z,338nm,18.4s,baz=72,slow=37						
DZM	**Mont Dzumac**	**18.66**	**144**	LR	LR	11 59 13.0	
	comp=Z,300nm,19.2s,baz=13,slow=34						
ARMA	**Armidale**	**23.46**	**187**	P	**P**	**11 53 49.5**	**-2.0**
ARMA				IAmb	IAmb	11 53 58.5	
	comp=Z,58nm,1.9s						
WR0	**Warramunga Arr**	**23.54**	**235**	P	**P**	**11 53 49.5**	**-2.8**
WR0				IAmb	IAmb	11 53 54.0	
	comp=Z,22nm,0.9s						
WB0	**Warramunga Arr**	**23.56**	**236**	P	**P**	**11 53 50.4**	**-2.1**
WRAB	**Tennant Creek**	**23.68**	**235**	P	**P**	**11 53 50.6**	**-3.0**
WB2	**Warramunga Arr**	**23.68**	**235**	P	**P**	**11 53 50.3**	**-3.3**
WB2				IAmb	IAmb	11 53 55.4	
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**23.70**	**235**	P	**P**	**11 53 53.4**	**-0.3**
	comp=Z,14nm,0.9s,baz=60,slow=9.8,SNR=55						
WRA				PcP	**PcP**	**11 57 39.0**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=62,slow=2.8,SNR=5.4						
WRA				ScP	**ScP**	**12 01 16.3**	**+3.7**
	comp=Z,1.2nm,0.9s,baz=58,slow=2.8,SNR=5.2						
WRA				LR	LR	12 03 21.5	
	comp=Z,170nm,18.8s,baz=94,slow=37						
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**23.70**	**235**	P	**P**	**11 53 51.2**	**-2.5**
SIJI	**Sorong**	**24.32**	**284**	P	**P**	**11 53 59.6**	**0.0**
	comp=Z,9.3nm,0.8s,baz=55,slow=8.8,SNR=5.3						
SIJI				LR	LR	12 05 09.0	
	comp=Z,173nm,18.4s,baz=26,slow=41						
	comp=Z,9.3nm,0.8s						
SIJI	**Sorong**	**24.32**	**284**	P	**P**	**11 54 04.0**	**+4.4**
	comp=Z,16nm,0.8s						
MSVF	**Nonsavu**	**24.98**	**117**	P	**P**	**11 54 06.5**	**+1.0**
	comp=Z,8.8nm,0.9s,baz=296,slow=13,SNR=3.6						
	comp=Z,8.8nm,0.9s						
MSVF	**Nonsavu**	**24.98**	**117**	P	**P**	**11 54 05.8**	**+0.2**
MSVF				IAmb	IAmb	11 54 09.5	
	comp=Z,93nm,1.8s						
AS31	**Alice Springs**	**26.05**	**228**	P	**P**	**11 54 15.2**	**-0.1**
ASAR	**Alice Springs**	**26.06**	**228**	P	**P**	**11 54 15.6**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=61,slow=8.4,SNR=68						
ASAR				PcP	**PcP**	**11 57 44.3**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=59,slow=3.8,SNR=2.9						
ASAR				ScP	**ScP**	**12 01 23.9**	**+4.8**
	comp=Z,2.0nm,0.9s,baz=58,slow=3.4,SNR=13						
ASAR				LR	LR	12 04 42.5	
	comp=Z,175nm,18.1s,baz=98,slow=37						
	comp=Z,4.3nm,0.7s						
ASAR	**Alice Springs**	**26.06**	**228**	P	**P**	**11 54 14.6**	**-0.6**

KNRA	**Kununurra**	**26.97**	**249**	P	**P**	**11 54 22.7**	**-0.8**
KNRA				IAmb	IAmb	11 54 26.7	
	comp=Z,25nm,0.9s						
STKA	**Stephens Creek**	**27.65**	**205**	P	**P**	**11 54 29.9**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=47,slow=18,SNR=4.3						
STKA				LR	LR	12 06 06.8	
	comp=Z,195nm,19.2s,baz=21,slow=38						
	comp=Z,1.9nm,0.6s						
STKA	**Stephens Creek**	**27.65**	**205**	P	**P**	**11 54 27.9**	**-1.6**
BATI	**Baumata**	**31.01**	**262**	LR	LR	12 09 59.1	
	comp=Z,188nm,18.1s,baz=114,slow=41						
DAV	**Davao City (W)**	**32.41**	**295**	LR	LR	12 09 38.4	
	comp=Z,56nm,18.1s,baz=123,slow=39						
AFI	**Afiamalu**	**33.47**	**105**	LR	LR	12 08 07.1	
	comp=Z,71nm,18.4s,baz=276,slow=35						
FORT	**Forrest**	**34.48**	**223**	P	**P**	**11 55 28.8**	**-0.8**
FORT				IAmb	IAmb	11 55 30.5	
	comp=Z,19nm,0.8s						
KAPI	**Kappang**	**34.98**	**271**	LR	LR	12 13 02.5	
	comp=Z,51nm,18.0s,baz=122,slow=42						
PSA00	**Pilbara Seismi**	**36.77**	**243**	P	**P**	**11 55 46.6**	**-2.8**
PSA00				IAmb	IAmb	11 55 53.1	
	comp=Z,18nm,1.2s						
PSA00	**Pilbara Seismi**	**36.77**	**243**	P	**P**	**11 55 47.8**	**-1.6**
PSA00				IAmb	IAmb	11 55 53.1	
	comp=Z,8.4nm,1.2s						
NWAO	**Narrogin (SRO)**	**43.38**	**228**	LR	LR	12 15 14.5	
	comp=Z,175nm,18.6s,baz=96,slow=37						
YULB	**Yu-li**	**44.62**	**314**	P	**P**	**11 56 53.1**	**-1.0**
YULB				IAmb	IAmb	11 56 56.4	
	comp=Z,12nm,0.7s						
NACB	**Ninganchiao**	**44.90**	**315**	P	**P**	**11 56 55.2**	**-1.1**
NACB				IAmb	IAmb	11 56 57.6	
	comp=Z,24nm,0.8s						
KSM	**Kuching**	**45.27**	**279**	P	**P**	**11 56 56.1**	**-3.3**
YHNB	**Yeheng**	**45.37**	**315**	P	**P**	**11 57 00.2**	**0.0**
YHNB				IAmb	IAmb	11 57 02.1	
	comp=Z,20nm,0.9s						
MJAR	**Matsushiro Arr**	**46.08**	**341**	LR	LR	12 14 56.3	
	comp=Z,14nm,20.4s,baz=176,slow=34						
LEM	**Lembang**	**46.90**	**267**	LR	LR	12 20 29.0	
	comp=Z,42nm,18.2s,baz=104,slow=41						
KSRS	**Korea Array**	**50.92**	**332**	P	**P**	**11 57 41.0**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=151,slow=8.4,SNR=4.4						
	comp=Z,1.0nm,0.7s						
NJ2	**Nanjing**	**51.87**	**321**	*eP*	**P**	**11 57 54.3**	**+4.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ASAJ	**Asahikawa**	**52.11**	**349**	LR	LR	12 19 03.0	
	comp=Z,41nm,19.9s,baz=158,slow=35						
CN2	**Changchun**	**57.18**	**335**	P	P	11 58 33.8	+5.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**57.18**	**313**	P	**P**	**11 58 27.9**	**-0.7**
ENH				IAmb	IAmb	11 58 29.7	
	comp=Z,14nm,0.9s						
KLR	**Kul'dur**	**59.57**	**343**	LR	LR	12 23 23.7	
	comp=Z,23nm,20.4s,baz=130,slow=35						
XAN	**Xi'an**	**59.65**	**316**	||P	**P**	**11 58 46.3**	**+0.5**
XAN				pP	pP	11 58 54.0	-2.4
XAN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
PETK	**Petropavlovsk-**	**59.96**	**2**	P	**P**	**11 58 47.0**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=188,slow=8.7,SNR=2.3						
PETK				LR	LR	12 19 08.7	
	comp=Z,36nm,20.6s,baz=142,slow=31						
	comp=Z,4.8nm,0.9s						
PETK	**Petropavlovsk-**	**59.96**	**2**	P	**P**	**11 58 46.8**	**-0.6**
CMAR	**Chiang Mai Ar**	**60.69**	**296**	P	**P**	**11 58 53.7**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=119,slow=5.2,SNR=28						
CMAR				LR	LR	12 24 16.6	
	comp=Z,21nm,19.8s,baz=225,slow=35						
	comp=Z,4.6nm,0.8s						
CHTO	**Chiang Mai**	**60.81**	**296**	P	**P**	**11 58 52.4**	**-1.6**
PZH	**PanZhiHua**	**61.34**	**305**	P	**P**	**11 58 58.4**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,6.2s						
HHC	**Hu-ho-hao-te**	**62.05**	**324**	*eP*	**P**	**11 59 03.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,170nm,4.5s						
TNCH	**TengChong**	**63.40**	**302**	*eP*	**P**	**11 59 11.8**	**+0.3**
TNCH				pP	pP	11 59 15.5	-5.9
TNCH				pmax	pmax		
	comp=Z,47nm,0.4s						
LZH	**Lanzhou**	**64.26**	**316**	*eP*	**P**	**11 59 17.4**	**+0.5**
LZH				pP	pP	11 59 24.3	-2.9
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
MA2	**Magadan**	**66.48**	**358**	LR	LR	12 25 23.8	
	comp=Z,19nm,21.4s,baz=124,slow=33						
GTA	**Gaotai**	**68.69**	**317**	||P	**P**	**11 59 46.6**	**+1.5**
GTA				pP	pP	11 59 51.0	-4.5
GTA				sP	sP	11 59 54.3	-5.2
GTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SHL	**Shillong**	**69.21**	**301**	P	**P**	**11 59 47.9**	**-0.8**
SONM	**Songino Array**	**69.30**	**327**	P	**P**	**11 59 48.9**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=146,slow=6.3,SNR=14						
	comp=Z,2.4nm,0.8s						
SONM	**Songino Array**	**69.30**	**327**	P	**P**	**11 59 48.9**	**+0.2**
SEY	**Seymchan**	**69.79**	**359**	P	**P**	**11 59 51.2**	**0.0**
	comp=Z,0.7nm,0.2s,baz=184,slow=19,SNR=1.3						
	comp=Z,0.7nm,0.2s						
VNDA	**Vanda**	**70.55**	**178**	P	**P**	**11 59 57.4**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=328,slow=7.0,SNR=8.8						
VNDA				LR	LR	12 22 21.2	
	comp=Z,66nm,21.2s,baz=352,slow=29						
	comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**70.55**	**178**	P	**P**	**11 59 56.6**	**+0.9**
RAMN	**Ramite**	**74.15**	**300**	*eP*	**P**	**12 00 19.7**	**+1.2**
	comp=Z,11nm,0.6s						
JIRN	**Jiri**	**74.70**	**301**	*eP*	**P**	**12 00 23.0**	**+1.2**
GUN	**Gumba**	**75.03**	**301**	*eP*	**P**	**12 00 25.2**	**+1.5**
	comp=Z,30nm,0.7s						
PKI	**Pulchoki**	**75.34**	**301**	*eP*	**P**	**12 00 26.5**	**+1.1**
	comp=Z,11nm,0.5s						
PKIN	**Phulchoki**	**75.35**	**301**	*eP*	**P**	**12 00 26.5**	**+1.1**
DMN	**Daman**	**75.61**	**301**	*eP*	**P**	**12 00 28.4**	**+1.5**
GKN	**Gorkha**	**76.12**	**301**	*eP*	**P**	**12 00 30.4**	**+0.7**
DANN	**Dangsing**	**76.95**	**301**	*eP*	**P**	**12 00 35.3**	**+0.7**
	comp=Z,15nm,0.7s						
O18K	**Koktuh Hills**	**77.44**	**23**	P	**P**	**12 00 36.7**	**+0.5**
N18K	**Kilae Creek**	**77.70**	**22**	P	**P**	**12 00 39.0**	**+1.3**
WMQ	**Urumqi**	**78.77**	**317**	*eP*	**P**	**12 00 46.3**	**+2.2**
CNPM	**China Poot**	**78.84**	**25**	P	**P**	**12 00 44.7**	**+0.7**
M19K	**Big River Lodg**	**79.03**	**22**	P	**P**	**12 00 44.4**	**-0.7**
M19K				IAmb	IAmb	12 01 26.4	
	comp=Z,42nm,1.8s						
L19K	**White Mountain**	**79.04**	**22**	P	**P**	**12 00 45.7**	**+0.7**
L19K				IAmb	IAmb	12 00 53.0	
	comp=Z,11nm,0.9s						
PPLA	**Purkeypile**	**80.45**	**22**	P	**P**	**12 00 51.9**	**-0.9**
PPLA				IAmb	IAmb	12 01 20.6	
	comp=Z,37nm,1.6s						
J20K	**Nowinta River**	**80.54**	**20**	P	**P**	**12 00 52.0**	**-1.1**
J20K				IAmb	IAmb	12 02 56.8	
	comp=Z,42nm,1.9s						
M22K	**Willow**	**80.57**	**23**	P	**P**	**12 00 52.7**	**-0.6**
PWL	**Port Wells**	**80.79**	**25**	P	**P**	**12 00 53.4**	**-1.2**
PWL				IAmb	IAmb	12 01 02.2	
	comp=Z,22nm,1.0s						
CAST	**Castle Rocks**	**80.80**	**21**	P	**P**	**12 00 55.7**	**+1.1**
CAST				IAmb	IAmb	12 03 23.4	
	comp=Z,12nm,1.3s						
GHO	**Glory Hole Cre**	**81.06**	**24**	P	**P**	**12 00 56.9**	**+0.9**
IMAR	**Indian Mountai**	**81.80**	**19**	P	**P**	**12 00 59.8**	**0.0**
WAX	**Waxell Ridge**	**82.92**	**26**	P	**P**	**12 01 06.2**	**+0.4**
QSPA	**South Pole Qui**	**82.94**	**180**	P	**P**	**12 01 06.4**	**+0.4**
QSPA				IAmb	IAmb	12 01 22.9	
	comp=Z,7.4nm,1.0s						
GLB	**Gilahina Butte**	**82.98**	**25**	P	**P**	**12 01 06.1**	**0.0**
MK31	**Makanchi Array**	**83.35**	**319**	P	**P**	**12 01 07.6**	**-0.7**
MKAR	**Makanchi Array**	**83.35**	**319**	P	**P**	**12 01 08.4**	**0.0**
	comp=Z,1.6nm,0.7s,baz=106,slow=5.6,SNR=16						
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**83.35**	**319**	P	**P**	**12 01 07.8**	**-0.6**
ILAR	**Eielson Array**	**83.45**	**22**	P	**P**	**12 01 07.5**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=241,slow=4.2,SNR=7.3						
ILAR				LR	LR	12 34 33.2	
	comp=Z,76nm,19.4s,baz=230,slow=33						
	comp=Z,0.9nm,0.7s						
MENT	**Mentasta**	**83.74**	**24**	P	**P**	**12 01 09.8**	**-0.1**

J25K	**Salcha River,**	**83.93**	**22**	P	**P**	**12 01 10.7**	**-0.3**
DOT	**Dot Lake**	**83.95**	**23**	P	**P**	**12 01 10.1**	**-0.9**
DOT				IAmb	IAmb	12 04 12.1	
	comp=Z,18nm,1.3s						
ZALV	**Zalesovo Beam**	**84.14**	**326**	P	**P**	**12 01 11.4**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=120,slow=5.2,SNR=5.2						
	comp=Z,0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**84.14**	**326**	P	**P**	**12 01 10.4**	**-1.8**
M27K	**Edge Creek, AK**	**84.22**	**25**	P	**P**	**12 01 13.0**	**+0.4**
M27K				IAmb	IAmb	12 01 20.3	
	comp=Z,8.1nm,0.9s						
MAW	**Mawson**	**84.31**	**203**	P	**P**	**12 01 13.3**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=123,slow=16,SNR=1.8						
	comp=Z,1.0nm,0.6s						
BCAR	**Beaver Creek A**	**84.58**	**24**	P	**P**	**12 01 14.8**	**+0.6**
HYT	**Haines Junctio**	**85.46**	**27**	P	**P**	**12 01 18.0**	**-0.8**
HYT				IAmb	IAmb	12 01 27.0	
	comp=Z,5.5nm,0.8s						
EGAK	**Eagle**	**85.60**	**23**	P	**P**	**12 01 19.0**	**-0.3**
BMAR	**Burnt Mountain**	**85.63**	**20**	P	**P**	**12 01 20.1**	**+0.7**
KSH	**Kashi**	**85.94**	**310**	P	**P**	**12 01 24.0**	**+2.3**
KSH				pP	PcP	12 01 27.3	+2.9
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DAWY	**Dawson**	**85.98**	**24**	P	**P**	**12 01 21.4**	**+0.2**
DAWY				IAmb	IAmb	12 01 43.3	
	comp=Z,13nm,1.6s						
M30M	**Minto, Yukon**	**86.45**	**26**	P	**P**	**12 01 23.8**	**+0.2**
N31M	**Braeburn, Yuko**	**86.49**	**27**	P	**P**	**12 01 23.7**	**-0.1**
N31M				IAmb	IAmb	12 01 48.9	
	comp=Z,12nm,1.1s						
I29M	**Ogilvie Camp,**	**86.94**	**23**	P	**P**	**12 01 26.3**	**+0.4**
I29M				IAmb	IAmb	12 01 27.8	
	comp=Z,14nm,1.5s						
M31M	**Drury Creek, Y**	**87.36**	**26**	P	**P**	**12 01 28.0**	**+0.1**
M31M				IAmb	IAmb	12 01 29.5	
	comp=Z,7.6nm,1.1s						
EPYK	**Eagle Plains**	**87.94**	**22**	P	**P**	**12 01 30.5**	**-0.2**
DLBC	**Dease Lake**	**88.24**	**31**	P	**P**	**12 01 32.3**	**0.0**
	comp=Z,4.5nm,1.1s,baz=262,slow=9.5,SNR=5.0						
	comp=Z,4.5nm,1.1s						
YBH	**Yreka Blue Hor**	**89.00**	**48**	LR	LR	12 34 45.9	
	comp=Z,90nm,20.1s,baz=346,slow=31						
INK	**Inuvik**	**89.80**	**21**	P	**P**	**12 01 38.2**	**-1.1**
	comp=Z,1.6nm,1.0s,baz=241,slow=3.8,SNR=4.4						
	comp=Z,1.6nm,1.0s						
NVAR	**Mina Array Bea**	**91.84**	**52**	P	**P**	**12 01 50.8**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=254,slow=7.0,SNR=13						
	comp=Z,1.8nm,0.8s						
NVAR	**Mina Array Bea**	**91.84**	**52**	P	**P**	**12 01 50.2**	**+0.4**
NV11	**Mina Array Sit**	**91.95**	**52**	P	**P**	**12 01 49.8**	**-0.4**
NV11				IAmb	IAmb	12 01 52.3	
	comp=Z,4.0nm,1.1s						
A36M	**Sachs Harbour**	**93.52**	**18**	P	**P**	**12 01 56.4**	**-0.1**
NEW	**Newport**	**93.86**	**42**	P	**P**	**12 01 58.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=116,slow=3.9,SNR=1.8						
	comp=Z,0.6nm,0.6s						
YKA	**Yellowknife Ar**	**96.43**	**28**	P	**P**	**12 02 10.2**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=267,slow=4.8,SNR=5.1						
	comp=Z,2.9nm,0.9s						
PDAR	**Pinedale Array**	**98.81**	**48**	P	**P**	**12 02 19.9**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.7						
	comp=Z,0.2nm,0.6s						
AKASG	**Malin Array Be**	**117.50**	**324**	PKP	**PKiKP**	**12 07 26.8**	**0.0**
	comp=Z,0.8nm,0.5s,baz=57,slow=2.6,SNR=5.5						
CLL	**Collm**	**125.79**	**331**	*i* PKPdf	**PKiKP**	**12 07 43.9**	**+0.7**
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**127.02**	**329**	PKP	**PKiKP**	**12 07 46.5**	**+0.6**
	comp=Z,4.4nm,0.6s,baz=72,slow=3.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**152.92**	**285**	PKPbc	**PKiKP**	**12 08 40.2**	**+0.6**

IDC ***18*** *12:01:13.7±1.4, 7.°15S×155.°16E, h0km, mb3.8/7, mbtmp3.8/9, ML1.8/1, MS3.1/2, Error ellipse: s-maj=38.7km s-min=23.8km az=130.0*

ISC 18 12:01:20.4±1.0, 7.°0S±0.°1×154.°9E±0.°1, h41km, n10, σ1s35/12, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.92**	**313**	Pn	**Pn**	**12 02 17.4**	**-0.8**
	40nm,0.7s,baz=243,slow=9.1,SNR=3.0						
KRVT				Sn	**Sn**	**12 03 02.4**	**-0.7**
	7.7nm,0.3s,baz=324,slow=22,SNR=2.2						
PMG	**Port Moresby**	**8.04**	**252**	Pn	**Pn**	**12 03 14.5**	**-0.2**
	0.6nm

NNZ	Nelson	0.86	345	Pg	Pb	12 04 12.4	-0.4		
NNZ				Sg	Sg	12 04 23.2	-0.5		
NNZ	Nelson	0.86	345	P	Pb	12 04 12.4	-0.4		
MRNZ	Matariki Terra	0.94	313	Pg	Pb	12 04 14.1	-0.2		
MRNZ					Sb	12 04 26.8	0.0		
MRNZ	Matariki Terra	0.94	313	P	Pb	12 04 14.1	-0.2		
TCW	Tory Channel	0.95	29		Pb	12 04 14.4	+0.1		
TCW					Sb	12 04 27.5	+0.6		
TCW	Tory Channel	0.95	29	P	Pb	12 04 14.5	+0.1		
TCW				S	Sb	12 04 27.5	+0.6		
GVZ	Greta Valley S	1.04	207	Pn	Pn	12 04 17.1	+0.7		
GVZ				Sg	Sn	12 04 32.2	+1.4		
GVZ	Greta Valley S	1.04	207	P	Pn	12 04 17.0	+0.7		
SNZO	South Karori	1.06	47		Pn	12 04 17.5	+0.8		
SNZO	South Karori	1.06	47	P	Pn	12 04 17.8	+1.1		
WEL	Wellington	1.12	47	P	Pn	12 04 18.4	+1.0		
TKNZ	Takaka Hill	1.15	332		Pn	12 04 17.4	-0.5		
TKNZ	Takaka Hill	1.15	332	P	Pn	12 04 17.5	-0.4		
DUWZ	D'Urville Isla	1.25	8	P	Pn	12 04 19.5	+0.1		
PLWZ	Palliser	1.27	69	Pn	Pg	12 04 19.7	-0.8		
PLWZ	Palliser	1.27	69	P	Pg	12 04 19.9	-0.6		
LTZ	Lake Taylor	1.28	234	Pn	Pb	12 04 19.9	-0.1		
LTZ	Lake Taylor	1.28	234	P	Pb	12 04 19.8	-0.2		
MSWZ	Moikau Station	1.33	62		Pn	12 04 20.5	0.0		
MSWZ	Moikau Station	1.33	62	P	Pg	12 04 20.8	-0.8		
AMCZ	Amberley	1.36	213		Pg	12 04 21.1	-1.1		
AMCZ	Amberley	1.36	213	P	Pg	12 04 21.1	-1.1		
CAW	Cannon Point	1.40	49	P	Pg	12 04 22.1	-0.9		
DSZ	Denniston Nort	1.43	281		Pg	12 04 23.1	-0.4		
DSZ	Denniston Nort	1.43	281	P	Pg	12 04 22.9	-0.6		
PAWZ	Paruwai Farm	1.47	64	P	Pn	12 04 22.3	0.0		
QRZ	Quartz Range	1.49	324		Pg	12 04 23.3	-1.4		
QRZ	Quartz Range	1.49	324	P	Pg	12 04 24.0	-0.7		
QRZ	Quartz Range	1.49	324	P	Pg	12 04 23.3	-1.4		
KIW	Kapiti Island	1.50	38	P	Pg	12 04 23.8	-1.0		
MTW	Mount Morrison	1.63	58	P	Pn	12 04 24.4	-0.1		
TRWZ	Traveller	1.64	67	P	Pn	12 04 24.5	-0.1		
OGWZ	Otaki Gorge	1.66	43	P	Pb	12 04 25.7	-0.9		
OKCZ	Okains Bay	1.74	195	P	Pn	12 04 26.0	-0.1		
OXZ	Oxford	1.76	223		Pn	12 04 25.6	-0.7		
OXZ	Oxford	1.76	223	P	Pn	12 04 26.0	-0.4		
INZ	Inchbonnie	1.79	247		Pb	12 04 27.7	-1.0		
INZ	Inchbonnie	1.79	247		Pb	12 04 27.6	-1.1		
HOWZ	Holdsworth Sta	1.79	51	P	Pn	12 04 26.8	0.0		
MQZ	McQueen's Vall	1.82	204	Pn	Pn	12 04 26.4	-0.8		
MQZ	McQueen's Vall	1.82	204	P	Pn	12 04 26.2	-1.0		
TMWZ	Te Maipa	1.91	61	P	Pn	12 04 27.9	-0.4		
AKCZ	Akaroa Harbour	1.91	197	P	Pn	12 04 28.0	-0.4		
MRZ	Mangatainoka R	1.99	47	Pn	Pn	12 04 29.4	-0.1		
MRZ	Mangatainoka R	1.99	47	P	Pn	12 04 29.7	+0.2		
RACZ	Rakaia	2.03	213	P	Pn	12 04 29.2	-0.7		
TIWZ	Tintock	2.09	53	P	Pn	12 04 31.0	+0.1		
MHCZ	Mount Hutt	2.15	226	P	Pn	12 04 31.4	-0.4		
OHWZ	Ohakea	2.21	34	P	Pb	12 04 34.6	-1.4		
PRWZ	Pori Road	2.28	50	P	Pn	12 04 33.2	-0.2		
POWZ	Post Office Ro	2.28	44	P	Pn	12 04 34.1	+0.6		
WACZ	Wakanui South	2.33	215	P	Pn	12 04 33.4	-0.7		
BFZ	Birch Farm	2.37	56	Pn	Pn	12 04 34.6	0.0		
BFZ	Birch Farm	2.37	56	P	Pn	12 04 33.4	-1.2		
WVZ	Waitaha Valley	2.40	244	P	Pn	12 04 35.8	+0.7		
WAZ	Wanganui	2.49	24	P	Pb	12 04 39.3	-1.4		
RPZ	Rata Peaks	2.55	228	Pn	Pn	12 04 36.6	-0.6		
	102nm,0.3s,baz=59,slow=2.6,SNR=350								
RPZ				Sn	Sn	12 05 08.0	-0.2		
	72nm,0.3s,baz=168,slow=22,SNR=22								
	448nm,0.5s								
RPZ	Rata Peaks	2.55	228	Pn	Pn	12 04 36.8	-0.5		
RPZ	Rata Peaks	2.55	228	P	Pn	12 04 37.2	0.0		
RPZ	Rata Peaks	2.55	228	P	Pn	12 04 36.7	-0.5		
DVHZ	Dannevirke	2.56	48	P	Pn	12 04 36.6	-0.8		
TSZ	Takapari Road	2.63	42	P	Pn	12 04 38.2	-0.2		
NMEZ	Namu Road	2.63	3	P	Pb	12 04 42.6	-0.5		
LREZ	Lake Rotokare	2.64	12	P	Pb	12 04 41.9	-1.3		
ARCZ	Arundel	2.64	223	P	Pn	12 04 38.1	-0.4		
KHEZ	Kahui Hut	2.76	5	P	Pb	12 04 43.5	-1.8		
KHEZ	Kahui Hut	2.76	5	P	Pb	12 04 43.1	-2.2		
GCSZ	Gaunt Creek Bo	2.78	242	P	Pn	12 04 41.2	+0.9		
NBEZ	Newall Road No	2.78	3	P	Pb	12 04 43.6	-2.0		
NEZ	North Egmont	2.79	1	P	Pn	12 04 44.6	-1.2		
PRHZ	Porangahau	2.85	52	P	Pn	12 04 46.2	-1.2		
PKE	Pukeiti	2.86	5	P	Pb	12 04 45.3	-1.7		
PNHZ	Pukenui	2.86	43	P	Pn	12 04 41.1	-0.3		
WPHZ	Waipukurau	2.88	47	P	Pn	12 04 41.2	-0.5		
DREZ	Durham Road	2.88	8	P	Pb	12 04 45.2	-2.1		
MTVZ	Mangateitei	2.99	28	P	Pb	12 04 47.1	-2.1		
MHEZ	Mangahewa	3.01	10	P	Pb	12 04 47.7	-1.8		
PKVZ	Pokaka	3.03	25	P	Pn	12 04 46.0	+2.1		
VRZ	Vera Road	3.03	16	P	Pb	12 04 46.7	-3.2		
TMZ	Timaru	3.05	219	P	Pn	12 04 43.2	-0.8		
MOVZ	Moawhango	3.07	32	P	Pn	12 04 45.2	+0.7		
WNVZ	Wahianoa	3.08	29	P	Pn	12 04 46.9	+2.3		
TRVZ	Turoa	3.09	28	P	Pn	12 04 46.5	+1.7		
DRZ	Dome Shelter	3.12	28	P	Pb	12 04 48.5	-3.1		
WHVZ	Whangaehu Hut	3.12	28	P	Pn	12 04 47.1	+1.9		
BHHZ	Black Hill Sta	3.13	36	P	Pn	12 04 45.6	+0.4		
FWVZ	Far West T-bar	3.13	28	P	Pn	12 04 47.6	+2.2		
PXZ	Pawanui	3.14	51	P	Pn	12 04 43.7	-1.6		
PXZ				P	Pb	12 04 43.9	-7.8		
TUVZ	Tukino	3.15	29	P	Pn	12 04 47.6	+2.0		
FOZ	Fox Glacier	3.21	241	Pn	Pn	12 04 47.5	+1.3		
FOZ	Fox Glacier	3.21	241	P	Pn	12 04 46.7	+0.5		
NGZ	Ngauruhoe	3.22	28	P	Pn	12 04 48.2	+1.7		
SNVZ	South Ngauruho	3.22	28	P	Pb	12 04 51.1	-2.2		
OTVZ	Oturere	3.25	28	P	Pb	12 04 51.7	-2.0		
TWVZ	Taurewa	3.26	25	P	Pb	12 04 50.6	-3.3		
NNVZ	North Ngauruho	3.26	28	P	Pn	12 04 49.7	+2.6		
WTVZ	West Tongariro	3.27	27	P	Pb	12 04 50.6	-3.4		
ETVZ	East Tongariro	3.29	29	P	Pn	12 04 49.7	+2.2		
KRVZ	Karewarewa	3.31	28	P	Pb	12 04 51.8	-2.8		
KAHZ	Kahuranaki	3.31	48	P	Pn	12 04 46.5	-1.2		
TMVZ	Te Maari	3.31	28	P	Pn	12 04 49.5	+1.8		
NTVZ	North Tongarir	3.31	28	P	Pb	12 04 51.7	-3.1		
LBZ	Lake Benmore	3.46	226	Pn	Pn	12 04 49.3	-0.5		
LBZ	Lake Benmore	3.46	226	P	Pn	12 04 49.2	-0.5		
RATZ	Rangitukua	3.55	27	P	Pb	12 04 55.7	-3.1		
BKZ	Black Stump Fm	3.59	38	Pn	Pn	12 04 50.5	-1.0		
BKZ	Black Stump Fm	3.59	38	P	Pn	12 04 52.4	+0.9		
BKZ	Black Stump Fm	3.59	38	P	Pn	12 04 51.0	-0.5		
HIZ	Hauiti	3.64	15	Pn	Pn	12 04 53.6	+1.4		
HIZ	Hauiti	3.64	15	P	Pb	12 04 56.2	-4.1		
HIZ	Hauiti	3.64	15	P	Pn	12 04 55.4	+3.2		
ODZ	Otahua Downs	3.72	215		Pn	12 04 52.3	-1.0		
ODZ	Otahua Downs	3.72	215	P	Pn	12 04 52.7	-0.6		
ODZ	Otahua Downs	3.72	215	P	Pn	12 04 52.2	-1.0		
NMHZ	Naumai	3.79	40	P	Pn	12 04 57.5	+3.2		
MRHZ	Matea Rd	3.83	34	P	Pn	12 04 54.0	-0.8		
TLZ	Tolley Road	3.98	22	P	Pn	12 04 58.8	+2.0		
MTHZ	Maungataniwha	4.00	38	P	Pn	12 05 01.0	+3.9		
ALRZ	Allen Road	4.03	31	P	Pn	12 04 57.9	+0.3		
JCZ	Jackson Bay	4.12	239	P	Pn	12 04 59.1	+0.3		
JCZ	Jackson Bay	4.12	239	P	Pn	12 04 58.7	-0.1		
HRRZ	Handcock Road	4.19	30	P	Pb	12 05 06.2	-2.4		
RTZ	Ruatahuna	4.25	37	P	Pb	12 05 06.5	-4.3		
MHGZ	Mahia Peninsul	4.33	49	P	Pn	12 05 00.7	-0.9		
WKZ	Wanaka	4.39	229	Pn	Pn	12 05 01.6	-0.9		
WKZ	Wanaka	4.39	229	P	Pn	12 05 01.3	-1.1		
HHSZ	Highcliff Hill	4.43	209	P	Pn	12 05 02.1	-1.0		
EAZ	Earnscleugh	4.49	223	P	Pn	12 05 03.1	-0.8		
TOZ	Tahuroa Road	4.53	19	P	Pn	12 05 05.8	+1.4		
URZ	Urewera	4.61	36	P	Pn	12 05 03.8	-1.7		
OPRZ	Ohinepanea	4.74	29	P	Pb	12 05 13.7	-5.3		
TGRZ	Tauranga	4.75	26	P	Pn	12 05 10.1	+2.8		
TUZ	Tuapeka	4.88	215	P	Pn	12 05 08.8	-0.3		
MSZ	Milford Sound	4.95	236	P	Pn	12 05 08.6	-1.5		
AWAZ	Awhitu Peninsu	5.03	9	P	Pn	12 05 13.8	+2.6		
MKAZ	Moumakai	5.07	14	P	Pn	12 05 13.5	+1.8		
TWGZ	Tauwhareparae	5.08	42	P	Pn	12 05 12.3	+0.3		
RUGZ	Raukumara Rang	5.10	38	P	Pn	12 05 11.2	-1.1		
WTAZ	Waiatarua	5.15	8	P	Pn	12 05 16.4	+3.4		
ETAZ	East Tamaki Re	5.18	11	P	Pn	12 05 15.8	+2.6		
MLZ	Mavora Lakes	5.22	229	Pn	Pn	12 05 12.7	-1.3		
MLZ	Mavora Lakes	5.22	229	P	Pn	12 05 13.0	-0.9		
EPAZ	Eden Park BICE	5.23	9	P	Pn	12 05 17.7	+3.7		
HBAZ	Herne Bay Bore	5.25	9	P	Pn	12 05 17.2	+2.9		
RVAZ	Riverhead Bore	5.31	8	P	Pn	12 05 17.8	+2.7		
HAZ	Te Kaha	5.32	38	P	Pn	12 05 14.2	-1.0		
MBAZ	Motutapu North	5.35	11	P	Pn	12 05 18.7	+3.1		
WIAZ	Waiheke Island	5.37	13	P	Pn	12 05 18.6	+2.8		
ABAZ	Army Bay	5.51	10	P	Pn	12 05 21.3	+3.4		

KUZ	Kuaotunu	5.52	17	P	Pn	12 05 19.5	+1.5		
KUZ	Kuaotunu	5.52	17	P	Pn	12 05 19.4	+1.3		
SYZ	Scrubby Hill	5.55	214	P	Pn	12 05 17.9	-0.4		
SYZ	Scrubby Hill	5.55	214	P	Pn	12 05 17.8	-0.5		
WMGZ	Waiomatatini S	5.57	42	P	Pn	12 05 17.1	-1.6		
WHZ	Wether Hill Ro	5.65	225	Pn	Pn	12 05 17.5	-2.2		
WHZ	Wether Hill Ro	5.65	225	P	Pn	12 05 17.7	-2.0		
MXZ	Matakaoa Point	5.72	40	Pn	Pn	12 05 21.6	+0.8		
MXZ	Matakaoa Point	5.72	40	P	Pn	12 05 21.8	+1.0		
MXZ	Matakaoa Point	5.72	40	P	Pn	12 05 19.6	-1.1		
DCZ	Deep Cove	5.83	232	Pn	Pn	12 05 21.0	-1.3		
GRZ	Great Barrier	5.95	14	P	Pn	12 05 31.4	+7.5		
WCZ	Waipu Caves	6.12	5	P	Pn	12 05 29.1	+2.9		
APZ	The Paps	6.28	219	P	Pn	12 05 27.7	-0.8		
PYZ	Puysegur Point	6.51	228	Pn	Pn	12 05 30.5	-1.1		
PYZ	Puysegur Point	6.51	228	P	Pn	12 05 33.3	+1.8		
PYZ	Puysegur Point	6.51	228	P	Pn	12 05 33.9	+2.4		
OUZ	Omahuta	6.81	359	Pn	Pn	12 05 32.9	-2.8		
OUZ	Omahuta	6.81	359	P	Pn	12 05 38.0	+2.2		
OUZ	Omahuta	6.81	359	P	Pn	12 05 38.5	+2.7		
CTZ	Chatham Island	7.33	107	P	Pn	12 05 41.4	-1.4		
CTZ	Chatham Island	7.33	107	P	Pn	12 05 41.2	-1.6		
MSVF	Nonsavu	24.52	10	LR	LR	12 16 52.5			
	comp=Z,74nm,18.6s,baz=196,slow=32								
STKA	Stephens Creek	27.43	281	LR	LR	12 19 13.2			
	comp=Z,144nm,18.6s,baz=70,slow=34								
RAR	Rarotonga	30.49	55	LR	LR	12 21 21.2			
	comp=Z,44nm,18.1s,baz=248,slow=34								
CTA	Charters Tower	31.87	305	LR	LR	12 23 44.8			
	comp=Z,81nm,18.3s,baz=84,slow=38								
SBA	Scott Base	36.03	182	P	P	12 10 56.0	-0.6		
AS31	Alice Springs	37.70	286	P	P	12 11 10.6	-0.9		
AS31				IAmb	IAmb	12 11 17.7			
	comp=Z,0.9nm,1.0s								
ASAR	Alice Springs	37.70	286	P	P	12 11 11.2	-0.2		
	comp=Z,0.7nm,0.7s,baz=126,slow=7.2,SNR=9.1								
ASAR				PcP	PcP	12 13 27.7	-0.9		
	comp=Z,0.3nm,0.8s,baz=126,slow=3.9,SNR=1.6								
ASAR				LR	LR	12 26 18.0			
	comp=Z,97nm,18.8s,baz=123,slow=36								
	comp=Z,0.7nm,0.7s								
ASAR	Alice Springs	37.70	286	P	P	12 11 10.5	-0.9		
WR0	Warramunga Arr	39.66	292	P	P	12 11 27.1	-0.7		
WR0				IAmb	IAmb	12 11 36.3			
	comp=Z,7.6nm,1.4s								
WB2	Warramunga Arr	39.80	291	P	P	12 11 28.4	-0.6		
WRAB	Tennant Creek	39.81	291	P	P	12 11 28.1	-1.1		
WRAB				IAmb	IAmb	12 11 36.6			
	comp=Z,3.7nm,0.9s								
WRA	Warramunga Arr	39.81	291	P	P	12 11 28.4	-0.7		
	comp=Z,1.5nm,0.7s,baz=129,slow=7.8,SNR=13								
WRA				PcP	PcP	12 13 33.7	-1.5		
	comp=Z,0.3nm,0.7s,baz=153,slow=3.2,SNR=1.6								
WRA				LR	LR	12 29 31.1			
	comp=Z,79nm,18.1s,baz=150,slow=39								
	comp=Z,1.5nm,0.7s								
WRA	Warramunga Arr	39.81	291	P	P	12 11 28.3	-0.9		
WB0	Warramunga Arr	39.89	292	P	P	12 11 29.2	-0.6		
WB0				IAmb	IAmb	12 11 42.7			
	comp=Z,3.7nm,1.0s								
QSPA	South Pole Qui	48.08	180	P	P	12 12 37.3	+2.1		
	comp=Z,4.0nm,1.0s,baz=4.5,slow=4.1,SNR=12								
	comp=Z,4.0nm,1.0s								
QSPA	South Pole Qui	48.08	180	P	P	12 12 37.0	+1.8		
PLCA	Paso Flores	79.19	136	P	P	12 16 03.4	+2.5		
	comp=Z,2.3nm,0.9s,baz=244,slow=8.5,SNR=5.0								
	comp=Z,2.3nm,0.8s								
ARCES	ARCESS Array B	147.91	340	PKPbc	PKPbc	12 23 40.4	+0.5		
	comp=Z,4.2nm,1.0s,baz=5.0,slow=2.8,SNR=4.3								
BRTR	Keskin Array B	149.89	279	PKPbc	PKPbc	12 23 44.8	-1.2		
	comp=Z,0.9nm,0.7s,baz=64,slow=3.4,SNR=2.2								
FINES	FINESS Array B	152.54	326	PKPbc	PKiKP	12 23 51.5	+0.1		
	comp=Z,7.6nm,1.2s,baz=68,slow=4.9,SNR=1.2								

*IDC **18** 12:08:17.3±0.4,34˚.88N×6˚.18E,h0km,mb4.3/40, mbtmp4.4/44,ML4.1/4,MS3.9/70,Error ellipse: s-maj=12.4km s-min=10.4km az=152.0*
*MOS **18** 12:08:18.7±1.3,34˚.67N×6˚.29E,h21km,mb4.8/42,Error ellipse: s-maj=5.9km s-min=2.6km az=74.2*
*LDG **18** 12:08:18.1±0.2,34˚.59N×6˚.27E,h10km,Ml4.5/29,Error ellipse: s-maj=5.7km s-min=4.3km az=43.0*
*NEIC **18** 12:08:19.5±1.9,34˚.75N±0˚.06×6˚.30E±0˚.07,h10km±3km, mb4.9/149,ML4.5(ALG),Error ellipse: s-maj=9.3km s-min=7.9km az=182.0*
*MED_RC **18** 12:08:19.0±2.8,34˚.67N×6˚.19E,h31km,MW4.7/17, Moment Tensor Solution.Mantle waves: s17,c24; Duration: 1ŝ0 Moment tensor: Scale 10^16^Nm; Mrr-1.29±.20; Mθθ0.99±.12; Mφφ0.30±.11; Mrθ0.68±.08; Mθφ-0.49±.08; Mφr-0.41±.09; Best double couple: M◎1.50000×10^16^ NP1:◎s299.00000°,δ61.00000°, λ-88.00000°. NP2:◎s116.00000°,δ29.00000°, λ-93.00000°. Principal axes: T 1.4800, Plg16.0000°, Azm28.0000°; N 0.0500, Plg2.0000°, Azm118.0000°; P -1.5200, Plg74.0000°, Azm214.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*CRAAG **18** 12:08:23.1,34˚.84N×6˚.29E,Ml4.5*

ISC 18 12:08:19.1±0.3,34˚.84N±0˚.03×6˚.27E±0˚.03,h10km,n674, σ1◎98/661,mb4.8/149,MS4.0/67,43C-28D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	Djebel Teioual	1.23	5	P	Pg	12 08 45.6	+2.9
CKHR	Kef el Ahmar	1.33	332	P	Pg	12 08 47.2	+2.5
CASM	Ain Smara	1.43	7	P	Pg	12 08 48.4	+1.8
SET	Setif	1.53	333	P	Pg	12 08 56.0	+7.4
CKFL	Kef-Lekhel	1.60	13	P	Pg	12 08 50.4	+0.5
DFRA	Djebel Bou Aff	1.73	349	P	Pb	12 08 52.5	+1.4
ABSA	Djebel Ababsia	1.74	34	P	Pg	12 08 52.2	-0.3
CMAH	Djebel Manchou	2.01	27	P	Pb	12 08 55.3	-0.6
AKET	Djebel Ketaf	2.29	302	P	Pb	12 09 00.1	-0.6
KEST	Kesra	2.67	70	Pn	Pn	12 09 04.5	+2.2
	15nm,0.3s,baz=211,slow=10,SNR=216						
KEST				Sn	Sb	12 09 37.1	-2.8
	66nm,0.3s,baz=149,slow=21,SNR=8.9						
	173nm,0.7s						
KEST	Kesra	2.67	70	Pn	Pb	12 09 04.9	-2.2
I48TN	KESRA INFRASON	2.68	68	I	I	12 22 20.0	
	baz=248,slow=311,SNR=0.5						
ABA	Alger-Bouzarea	3.28	308	P	Pn	12 09 12.9	+2.3
ECHA	Ech Chlef	4.21	290	P	Pn	12 09 25.4	+2.1
EANR	'Ain N'Sour	4.37	286	P	Pn	12 09 27.9	+2.3
MAHO	Mahon	5.29	343	Pn	Pn	12 09 40.1	+1.9
CLTB	Caltabellotta	6.25	62	Pn	Pn	12 09 53.0	+1.6
CART	Cartagena	6.49	297	Pn	Pn	12 09 55.6	+1.0
RAFF	Raffo Rosso	6.97	68	Pn	Pn	12 10 02.2	+0.9
VAE	Valguarnera	7.09	66	Pn	Pn	12 10 03.8	+0.8
	5.4nm,0.3s,baz=252,slow=9.6,SNR=2.6						
	12nm,0.5s						
PGF	Pioggiola	7.99	15	ePn	Pn	12 10 16.6	+1.3
PGF				eSn	Sn	12 11 41.5	-4.3
	55nm,0.5s						
PGF	Pioggiola	7.99	15	P	Pn	12 10 19.6	+4.3
PGF				pmax	pmax		
	comp=Z,24nm,0.8s						
CEL	Celeste	8.46	63	Pn	Pn	12 10 21.2	-0.7
LMR	La Mourre	8.48	1	ePn	Pn	12 10 21.6	-0.5
LMR				eSn	Sn	12 11 52.7	-5.1
	comp=Z,115nm,0.4s						
CASP	Castiglione de	8.71	23	Pn	Pn	12 10 25.8	+0.6
LATE	Laterza	8.88	27		Pn	12 10 28.8	+1.2
PAOL	Paolisi	9.01	44		Pn	12 10 29.9	+0.6
MTLF	Montolieu	9.05	341	eP	Pn	12 10 33.0	+3.1
MTLF				eSn	Sn	12 12 05.1	-6.8
	comp=Z,38nm,0.5s						
SBF	Sospel	9.06	5	ePn	Pn	12 10 30.5	+0.5
SBF				eSn	Sn	12 12 06.9	-5.1
	comp=Z,74nm,0.4s						
SMRF	Simiane la Rot	9.14	357	ePn	Pn	12 10 31.7	+0.6
SMRF				eSn	Sn	12 12 11.1	-2.9
	comp=Z,36nm,0.5s						
CUC	Castrocucco	9.17	53	Pn	Pn	12 10 32.8	+1.3
SAOF	Saorge	9.19	6	P	Pn	12 10 34.0	+2.2
SAOF				pmax	pmax		
	comp=Z,22nm,1.5s						
CESX	Cesi	9.19	31		Pn	12 10 34.7	+3.0
MDT	Midelt	9.27	260	Pn	Pn	12 10 35.8	+2.8
	comp=Z,3.0nm,0.3s,baz=89,slow=17,SNR=98						
MDT				Sn	Sn	12 12 18.1	+0.7
	comp=Z,6.0nm,0.3s,baz=58,slow=15,SNR=1.9						
MDT				LR	LR	12 14 40.4	
	comp=Z,572nm,20.5s,baz=78,slow=42						
AQU	L'Aquila	9.35	35		Pn	12 10 34.7	+0.8
AQU	L'Aquila	9.35	35	P	Pn	12 10 34.7	+0.8
ISO	Isola	9.35	3	P	Pn	12 10 36.5	+2.5
ISO				pmax	pmax		
	comp=Z,17nm,0.8s						
EPF	Esparros	9.39	332	eP	Pn	12 10 39.6	+5.1
EPF				eSn	Sn	12 12 15.6	-4.6
	comp=Z,85nm,0.5s						
LASF	Ste Croix	9.41	349	ePn	Pn	12 10 36.3	+1.5
LASF				eSn	Sn	12 12 16.0	-4.7
	comp=Z,89nm,0.4s						
TIP	Timpagrande	9.44	60	⇑P	Pn	12 10 40.6	+5.4
TIP	Timpagrande	9.44	60	Pn	Pn	12 10 35.3	+0.1
ESBB	Sonseca Array	9.48	304		Pn	12 10 36.9	+1.2
ESDC	Sonseca Array	9.48	304	Pn	Pn	12 10 38.5	+2.7
	comp=Z,0.5nm,0.3s,baz=116,slow=13,SNR=12						
ESDC				Sn	Sn	12 12 22.0	-0.3
	comp=Z,1.2nm,0.3s,baz=115,slow=24,SNR=4.8						
ESDC	Sonseca Array	9.48	304	Pn	Pn	12 10 36.5	+0.7
OSSC	Osservatorio P	9.49	22	Pn	Pn	12 10 39.4	+3.5
CAMP	Campotosto	9.49	34		Pn	12 10 38.1	+2.1
NRCA	Norcia	9.60	32		Pn	12 10 40.8	+3.4
ETSF	Etsaut	9.65	329	eP	Pn	12 10 43.3	+5.2
ETSF				eSn	Sn	12 12 22.0	-4.5
	comp=Z,58nm,0.6s						
ETSF	Etsaut	9.65	329	P	Pn	12 10 42.8	+4.7
PAB	San Pablo	9.69	302	Pn	Pn	12 10 41.1	+2.4
PAB	San Pablo	9.69	302	⇓P	Pn	12 10 41.0	+2.4
MURB	Monte Urbino	9.71	28		Pn	12 10 38.6	-0.4
FDMO	Fiordimonte	9.75	31		Pn	12 10 41.2	+1.7
MSSA	Maissana	9.79	14	Pn	Pn	12 10 40.5	+0.5
VLC	Villacollemand	9.84	18	Pn	Pn	12 10 42.8	+2.2
MBDF	Montbardon	9.88	2	ePn	Pn	12 10 42.3	+0.9
MBDF				eSn	Sn	12 12 26.8	-5.6
	comp=Z,35nm,0.5s						
ORIF	Oris-en-Rattie	10.07	358	ePn	Pn	12 10 44.8	+0.9
ORIF				eSn	Sn	12 12 32.4	-4.6
	comp=Z,26nm,0.6s						
ORIF	Oris-en-Rattie	10.07	358	P	Pn	12 10 49.5	+5.6
ORIF				pmax	pmax		
	comp=Z,19nm,1.2s						
VIVF	Saint-Julien-l	10.08	353	ePn	Pn	12 10 45.0	+1.0
VIVF				eSn	Sn	12 12 32.2	-4.9
	comp=Z,46nm,0.5s						
VIVF	Saint-Julien-l	10.08	353	P	Pn	12 10 45.8	+1.8
MATE	Matera	10.09	52	⇑P	Pn	12 10 47.4	+3.4

POLO Lamas de Olo 12.85 305 *e*P Pn 12 11 25.5 +3.6
comp=Z,21nm,1.4s
KBN Korca 12.86 59 Pn Pn 12 11 23.1 +1.1
KBN Korca 12.86 59 P Pn 12 11 23.1 +1.1
ITM Ithomi 12.89 75 Pn Pn 12 11 20.9 -1.6
SQTA Sankt Quirin 12.91 15 *i* Pn Pn 12 11 30.0 +7.2
comp=Z,1.8nm,0.3s,SNR=6.8
HINF Hinteralfeld 12.97 2 *e*Pn Pn 12 11 24.2 +0.7
HINF *e*Sn Sn 12 13 40.4 -7.5
comp=Z,2.2nm,0.4s
HINF Hinteralfeld 12.97 2 P Pn 12 11 25.9 +2.4
MOTA Moosalm 13.01 15 *i* Pn P 12 11 31.2 -3.5
comp=Z,9.2nm,0.6s,SNR=6.8
SLE Schleitheim 13.02 7 P Pn 12 11 28.7 +4.5
SLE pmax pmax
comp=Z,19nm,0.6s
MYKA Terra Mystica 13.03 23 *i* Pn Pn 12 11 29.8 +5.5
comp=Z,7.6nm,0.7s,SNR=10
WTTA Wattenberg 13.05 16 *e*Pn P 12 11 30.6 -4.6
comp=Z,1.0nm,0.2s
WTTA Wattenberg 13.05 16 P P 12 11 30.7 -4.5
WTTA pmax pmax
comp=Z,28nm,1.0s
RETA Reutte 13.08 14 *e*Pn P 12 11 31.3 -4.1
comp=Z,6.4nm,0.5s
WATA Walderalm 13.11 16 *i* Pn P 12 11 32.0 -3.7
comp=Z,2.8nm,0.4s,SNR=5.1
HAU Haudompre 13.16 0 *e*Pn Pn 12 11 25.6 -0.4
HAU *e*Sn Sn 12 13 45.1 -7.2
comp=Z,10.0nm,0.4s
OBKA Obir 13.23 26 *e*Pn P 12 11 35.0 -2.1
comp=Z,14nm,0.9s
FNA Florina 13.33 59 Pn Pn 12 11 30.9 +2.5
FNA Florina 13.33 59 P Pn 12 11 30.9 +2.5
KBA Koelnbreinsper 13.34 21 *i* Pn P 12 11 34.4 -3.9
comp=Z,13nm,1.0s,SNR=6.1
KBA Koelnbreinsper 13.34 21 P P 12 11 34.4 -3.9
KBA pmax pmax
comp=Z,26nm,1.2s
ECH Echery 13.38 3 Pn 12 11 29.7 +0.6
ECH Echery 13.38 3 P Pn 12 11 29.7 +0.6
SFTF Sexfontaines 13.39 356 *e*Pn Pn 12 11 29.0 -0.1
SOKA Soboth 13.55 27 *e*Pn Pn 12 11 35.3 +3.9
comp=Z,5.7nm,0.7s
BFO Black Forest 13.57 6 Pn 12 11 31.3 -0.3
BFO Black Forest 13.57 6 P Pn 12 11 35.3 +3.7
BFO pmax pmax
comp=Z,27nm,0.8s
CDF Champ du Feu 13.58 3 *e*Pn Pn 12 11 33.3 +1.4
CDF *e*Sn Sn 12 13 55.3 -7.5
comp=Z,2.2nm,0.3s
MEZF Maizieres J'vi 13.68 357 *e*Pn Pn 12 11 32.8 -0.3
PAGF Fort de Pagny 13.71 358 *e*Pn Pn 12 11 34.8 +1.3
PAGF *e*Sn Sn 12 13 59.0 -6.9
comp=Z,22nm,0.6s
SAVF Savonnieres en 13.79 357 *e*Pn Pn 12 11 34.8 +0.2
FUR Furstenfeldbru 13.83 14 P P 12 11 39.9 -3.7
FUR pmax pmax
comp=Z,143nm,1.0s
BIOA Bad Ischl, Aus 13.97 21 *i* Pn P 12 11 42.9 -2.4
comp=Z,2.4nm,0.3s,SNR=5.2
DIVS Divibare 14.05 45 Pn 12 11 37.7 -0.6
STU Stuttgart 14.09 8 Pn Pn 12 11 40.6 +1.9
STU Stuttgart 14.09 8 P Pn 12 11 40.6 +1.9
ARSA Arzberg 14.21 26 *e*Pn Pn 12 11 44.0 +3.5
comp=Z,5.4nm,0.7s
MOA Molln 14.31 22 *i* Pn P 12 11 46.2 -2.7
comp=Z,6.4nm,0.7s,SNR=8.9
KOVH Kovagotottos 14.38 35 P Pn 12 11 44.6 +1.9
GRR Gorron 14.54 341 *e*Pn P 12 11 49.3 -2.2
LDF La Druitiere 14.54 343 *e*Pn Pn 12 11 46.3 +1.4
LDF La Druitiere 14.54 343 P Pn 12 11 46.8 +1.9
MORH Mrgy, Hungar 14.73 36 ⇑P Pn 12 11 47.7 +0.2
MORH Mrgy, Hungar 14.73 36 P Pn 12 11 50.5 +3.0
PAIG Paliouri 14.74 65 P P 12 11 55.5 +1.8
FLN La Foliniere 14.79 342 *e*Pn Pn 12 11 47.7 -0.5
WLF Walferdange 14.82 360 Pn Pn 12 11 49.0 +0.4
WLF Walferdange 14.82 360 *d*P P 12 11 58.7 +4.2
comp=Z,34nm,1.0s
WLF *dx* x 12 12 06.6
WLF Walferdange 14.82 360 P Pn 12 11 49.0 +0.4
QUIF Quistinic 14.85 335 *e*Pn Pn 12 11 48.7 -0.3
QUIF *e*Sn Sn 12 14 25.6 -7.8
QUIF Quistinic 14.85 335 P P 12 11 54.0 -0.9
RONA Rosalia, Austr 14.88 27 *e*Pn Pn 12 11 52.4 +2.9
comp=Z,7.9nm,1.0s
CONA Conrad Observa 14.91 26 *i* Pn Pn 12 11 52.7 +2.7
comp=Z,6.8nm,0.8s,SNR=6.4
SGMF Saint Gilles 14.93 337 *e*Pn Pn 12 11 50.1 0.0
SGMF Saint Gilles 14.93 337 P Pn 12 11 53.0 +2.9
MPLH Magyarpolny 14.95 31 P Pn 12 11 53.4 +3.0
GEC2 GERESS Array S 15.04 19 Pn 12 11 53.4 +1.6
GEC2 IAmb IAmb 12 11 55.2
comp=Z,39nm,1.1s
GERES GERESS Array B 15.04 19 Pn Pn 12 11 50.9 -0.8
comp=Z,0.2nm,0.3s,baz=186,slow=12,SNR=51
GERES Sn Sn 12 14 41.6 +3.3
comp=Z,0.2nm,0.3s,baz=205,slow=13,SNR=2.0
GERES LR LR 12 18 05.1
comp=Z,419nm,20.0s,baz=226,slow=39
comp=Z,16nm,1.0s
GERES GERESS Array B 15.04 19 Pn 12 11 54.0 +2.3
GERES GERESS Array B 15.04 19 P Pn 12 11 54.0 +2.3
CKRC Cesky Krumlov 15.19 21 *e*P Pn 12 11 55.9 +2.3
ROSF Rostrenen 15.24 335 *e*Pn Pn 12 11 52.7 -1.6
ROSF Rostrenen 15.24 335 P P 12 11 58.3 -1.0
IDI Anoyia 15.26 83 ⇑P P 12 12 03.0 +3.3
IDI Anoyia 15.26 83 Pn P 12 11 58.4 -1.2
comp=Z,1.3nm,0.3s,baz=282,slow=10,SNR=14
IDI LR LR 12 19 18.1
comp=Z,143nm,20.0s,baz=276,slow=43
IDI Anoyia 15.26 83 Pn Pn 12 11 54.4 -0.3
KHC Kasperske Hory 15.27 18 Pn Pn 12 11 56.0 +1.3
KHC Kasperske Hory 15.27 18 *e*P Pn 12 11 57.0 +2.3
KHC *ex* x 12 12 08.5
KHC Kasperske Hory 15.27 18 *i* P Pn 12 11 56.4 +1.7
KHC pmax pmax
comp=Z,74nm,1.1s
MMB Musomiste 15.28 59 *e*P Pn 12 11 55.0 +0.1
BAIF Baives 15.29 355 *e*P P 12 12 00.0 +0.2
BAIF *e*Sn Sn 12 14 37.8 -6.4
comp=Z,2.8nm,0.4s
GIVF Givet 15.29 356 *e*Pn Pn 12 11 56.0 +1.0
DOU Dourbes 15.30 356 *d*P Pn 12 11 57.5 +2.5
comp=Z,28nm,0.8s
DOU *dx* x 12 12 09.7
RCHB Rochefort 15.33 357 *d*P P 12 12 00.7 +0.5
comp=Z,68nm,0.9s
RCHB *dx* x 12 12 10.2
VTS Vitosha 15.33 55 ⇑P Pn 12 11 56.6 +0.9
VTS Vitosha 15.33 55 Pn 12 11 56.7 +1.0
VTS Vitosha 15.33 55 *e*P Pn 12 11 57.0 +1.3
VTS Vitosha 15.33 55 P Pn 12 11 56.7 +1.0
VTS pmax pmax
comp=Z,18nm,1.4s
CSKK Cskako 15.41 32 P P 12 11 59.5 -1.7
MDVR Moldovita 15.45 45 ⇑P P 12 11 59.8 -1.8
TNS Taunus Mts 15.46 5 P P 12 12 00.8 -0.9
TNS pmax pmax
comp=Z,44nm,0.9s
BMRD Maredsous 15.49 356 *d*P P 12 12 00.6 -1.5
comp=Z,60nm,0.8s
BMRD *dx* x 12 12 13.0
BGES Gesves 15.56 357 *d*P P 12 12 02.9 +0.1
comp=Z,33nm,0.9s
BGES *dx* x 12 12 14.5
ZST Bratislava 15.60 28 *e*P P 12 12 03.7 +0.5
ZST Bratislava 15.60 28 *e*P P 12 12 03.7 +0.5
SANT Santorini 15.69 79 Pn Pn 12 11 58.5 -1.7
SNF Seneffe 15.73 355 *dx* x 12 12 15.7
comp=Z,60nm,0.8s
MODS Modra-Piesok 15.81 28 *e*P P 12 12 10.2 +4.6
MODS Modra-Piesok 15.81 28 *e*P P 12 12 10.2 +4.6
DJES Djerdap 15.86 47 Pn P 12 12 04.6 -1.7
BZS Buzias 15.88 43 ⇑P P 12 12 05.4 -1.0
BZS Buzias 15.88 43 ⇑P P 12 12 05.4 -1.0
HERR Herculane 15.92 46 ⇑P P 12 12 05.7 -1.1
PGB Panagyurishte 15.94 56 *e*P Pn 12 12 05.0 +1.5
NKC Novy Kostel 16.03 14 *e*P Pn 12 12 06.7 +2.1
NKC Novy Kostel 16.03 14 *e*P Pn 12 12 06.7 +2.1
KRUC Moravsky 16.06 25 *e*PN P 12 12 07.6 -0.8
KRUC Moravsky 16.06 25 P P 12 12 08.3 -0.1
KRUC pmax pmax
comp=Z,26nm,1.0s
comp=Z,253nm,18.1s,baz=232,slow=40
comp=Z,7.2nm,0.6s
AKASG Malin Array Be 22.99 39 *i* P P 12 13 22.0 -1.9
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 22.99 39 P P 12 13 22.0 -1.9
AKBB IAmb IAmb 12 13 43.3
comp=Z,30nm,0.8s
AKBB Malin Array Si 22.99 39 *ce*P P 12 13 22.3 -1.6
AKBB pmax pmax
comp=Z,26nm,0.9s
SIM Simferopol' 23.53 56 *e*P P 12 13 33.6 +4.3
SIM *e* 12 14 05.2
SIM *e*S S 12 17 44.0 +0.8
SIM pmax pmax
comp=Z,17nm,0.8s
SIM MLR MLR
comp=Z,71nm,15.3s
PABE Paberze 24.01 25 P P 12 13 33.6 -0.2
PABE Paberze 24.01 25 *e*P P 12 13 33.2 -0.6
MMAI Mount Meron Ar 24.21 86 P P 12 13 37.2 +1.1
comp=Z,5.2nm,0.8s,baz=297,slow=5.5,SNR=5.4
comp=Z,5.2nm,0.8s
NACGM Naroch 24.61 29 ⇓ *i* P P 12 13 39.4 +0.1
comp=Z,99nm,0.9s,baz=222
IIGN Ignalina 24.71 28 *e*P P 12 13 42.0 +1.6
EIL Élat 24.75 94 P P 12 13 42.5 +1.6
comp=Z,6.7nm,0.6s,baz=297,slow=6.8,SNR=5.7
EIL LR LR 12 26 28.3
comp=Z,155nm,18.1s,baz=243,slow=44
comp=Z,6.7nm,0.6s
MNK Minsk 24.77 31 *i* P P 12 13 39.5 -1.4
comp=E,6.0nm,1.0s
MNK *i* P P 12 13 39.5 -1.4
comp=N,15nm,0.7s
MNK *i* P P 12 13 39.5 -1.4
comp=Z,33nm,0.8s,baz=46
MNK *i* PP PnPn 12 14 11.8 -1.0
MNK *i* PPP PPP 12 14 19.9
MNK *i* PcP PcP 12 17 15.2 -1.9
MNK *i* S S 12 18 03.3 +0.3
MNK *i* SS SnSn 12 18 51.8 +2.2
MNK *i* SSS SSS 12 19 05.5
MNK *i* LR LR 12 22 25.7
MNK *i* LRM MLR 12 24 04.3
comp=N,842nm,18.1s
MNK *i* LRM MLR 12 24 11.2
comp=E,247nm,21.3s
MNK *i* LRM MLR 12 24 11.2
comp=Z,320nm,20.0s
MNK Minsk 24.77 31 *i* P P 12 13 39.5 -1.4
MNK *i* PPP PPP 12 14 19.8
MNK *i* 12 17 15.2
MNK *i* S S 12 18 03.2 +0.3
MNK *i* SSS SSS 12 19 05.4
MNK pmax pmax
comp=Z,33nm,0.8s
MNK pmax pmax
comp=N,15nm,0.7s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK MLR MLR
comp=N,842nm,18.0s
MNK MLR MLR
comp=E,247nm,21.0s
MNK MLR MLR
comp=Z,320nm,20.0s
KONO Kongsberg 24.92 4 *i* P P 12 13 43.1 +1.0
KONO pmax pmax
comp=Z,17nm,1.3s
ASF Jabal al Asfar 25.63 87 P P 12 13 50.3 +1.3
comp=Z,4.2nm,0.9s,baz=267,slow=6.3,SNR=4.9
comp=Z,4.2nm,0.9s
HFS Hagfors 25.77 9 P P 12 13 49.0 -0.8
comp=Z,5.9nm,0.7s,baz=196,slow=10,SNR=16
HFS LR LR 12 24 18.4
comp=Z,176nm,21.0s,baz=218,slow=37
comp=Z,5.9nm,0.7s
ANN Anapa 25.78 58 *e*P P 12 13 46.9 -3.2
ANN *e**PP pP 12 13 51.5 -1.7
ANN *e*PPP PPP 12 14 32.4
ANN *e*S S 12 18 10.5 -8.7
ANN pmax pmax
comp=Z,25nm,0.6s
NC602 NORSAR Array S 26.14 6 P P 12 13 51.8 -1.3
NC602 IAmb IAmb 12 14 02.4
comp=Z,41nm,1.2s
NORES NORESS Array B 26.14 6 P P 12 13 55.5 +2.4
NAO01 NORSAR Array S 26.19 5 P P 12 13 53.1 -0.5
NAO01 IAmb IAmb 12 14 03.0
comp=Z,21nm,0.7s
NBO00 NORSAR Array S 26.37 5 P P 12 13 55.8 +0.6
NBO00 IAmb IAmb 12 14 05.7
comp=Z,28nm,0.9s
NB2 NORSAR Subarra 26.41 5 P P 12 13 55.9 +0.2
comp=Z,20nm,1.4s,baz=191,slow=9.3
NOA NORSAR Array B 26.41 5 P P 12 13 55.1 -0.6
comp=Z,2.9nm,0.8s,baz=190,slow=8.8,SNR=6.6
NOA LR LR 12 25 25.6
comp=Z,231nm,19.2s,baz=190,slow=39
comp=Z,2.9nm,0.8s
NB201 NORSAR Array S 26.43 5 P P 12 13 55.1 -0.7
NB201 IAmb IAmb 12 14 17.4
comp=Z,84nm,1.8s
NC405 NORSAR Array S 26.52 6 P P 12 13 55.7 -1.0
NC303 NORSAR Array S 26.61 6 P P 12 13 56.3 -1.1
NC204 NORSAR Array S 26.61 5 P P 12 13 57.3 -0.2
NC204 IAmb IAmb 12 14 18.5
comp=Z,38nm,1.4s
VSU Vasula 27.27 24 *e*P P 12 14 06.0 +2.6
VSU Vasula 27.27 24 *i* P P 12 14 05.2 +1.8
VSU pmax pmax
comp=Z,77nm,0.6s
BBTS Babate 28.73 231 LR LR 12 26 35.0
comp=Z,574nm,18.2s,baz=45,slow=38
VSR Storozhevoye 28.77 45 *e*P P 12 14 16.2 -0.7
VSR pmax pmax
comp=Z,6.0nm,0.9s
VORR Voronezh 28.97 44 *e*P P 12 14 25.5 +6.9
OBN Obninsk 29.13 37 LR LR 12 27 11.5
comp=Z,60nm,21.1s,baz=174,slow=39
OBN Obninsk 29.13 37 *e*P P 12 14 23.5 +3.5
OBN *e* 12 15 14.1
OBN *e* 12 17 27.8
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,233nm,19.0s
LPSR Galich'ya Gora 29.18 42 *e*P P 12 14 15.7 -4.8
LPSR pmax pmax
comp=Z,40nm,1.3s
SHA1 Shidzhatmaz 29.34 61 *i* P P 12 14 24.6 +2.3
KIV Kislovodsk 29.38 61 *e*P P 12 14 24.0 +1.5
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,30nm,15.0s
FINES FINESS Array B 29.47 19 P P 12 14 21.5 -1.4
comp=Z,2.0nm,0.6s,baz=215,slow=7.0,SNR=6.9
FINES PcP PcP 12 17 28.5 +0.3
comp=Z,2.4nm,0.8s,baz=242,slow=3.0,SNR=1.4
FINES LR LR 12 27 49.5
comp=Z,246nm,19.1s,baz=208,slow=40
comp=Z,2.0nm,0.6s
FINES FINESS Array B 29.47 19 P 12 14 23.5 +0.5
FINES FINESS Array B 29.47 19 P P 12 14 23.5 +0.5
FIA1 FINESS Array S 29.47 19 P P 12 14 22.9 0.0
KBZ Khabaz 29.51 61 P P 12 14 22.6 -0.9
comp=Z,2.7nm,0.9s,baz=252,slow=8.0,SNR=4.6
KBZ LR LR 12 28 09.0
comp=Z,68nm,21.7s,baz=265,slow=40
comp=Z,2.7nm,0.9s
KBZ Khabaz 29.51 61 *i* P P 12 14 24.5 +1.0
KBZ pmax pmax
comp=Z,3.0nm,0.9s
ONI Oni 29.84 64 P P 12 14 26.3 -0.3
ONI IAmb IAmb 12 14 48.1
comp=Z,16nm,1.0s
ONI Oni 29.84 64 P P 12 14 26.3 -0.3
ONI pmax pmax
comp=Z,16nm,1.0s
DBIC Dimbokro 29.85 203 P P 12 14 25.7 -1.0
comp=Z,9.2nm,0.6s,baz=28,slow=9.2,SNR=13
DBIC LR LR 12 27 06.3
comp=Z,761nm,18.4s,baz=20,slow=38
comp=Z,9.2nm,0.6s

SURR Surduc 16.25 43 ⇑P P 12 12 09.6 -0.9
MOX Moxa 16.27 12 P P 12 12 09.7 -1.0
MOX pmax pmax
comp=Z,14nm,1.1s
PRU Pruhonice 16.31 19 *e*P P 12 12 10.8 -0.3
PRU Pruhonice 16.31 19 *e*P P 12 12 10.8 -0.3
SIRR Siria 16.31 41 ⇑P P 12 12 10.4 -0.8
VRAC Vranov 16.34 25 ⇓P P 12 12 11.7 +0.2
VRAC Vranov 16.34 25 Pn Pn 12 12 10.1 +1.5
comp=Z,0.8nm,0.3s,baz=224,slow=10,SNR=14
VRAC LR LR 12 19 17.8
comp=Z,683nm,18.4s,baz=194,slow=40
comp=Z,14nm,0.7s
VRAC Vranov 16.34 25 *e*PN P 12 12 10.5 -1.0
GZR Gura Zlata 16.42 45 ⇑P P 12 12 11.7 -0.7
RDO Rodhopi 16.43 62 Pn 12 12 10.6 +0.9
VYHS Vyhne 16.53 31 *e*P P 12 12 14.8 +1.2
VYHS Vyhne 16.53 31 *e*P P 12 12 14.8 +1.2
VYHS pmax pmax
comp=Z,27nm,1.2s
PSZ Piszkesteto 16.56 34 P P 12 12 15.2 +1.3
PSZ Piszkesteto 16.56 34 P P 12 12 16.7 +2.7
PSZ pmax pmax
comp=Z,23nm,2.2s
PVCC Panska Ves 16.81 19 P P 12 12 18.6 +2.0
MAUC Maruska 16.83 27 *e*P P 12 12 18.1 +1.2
BRG Berggiesshubel 16.97 17 *e*P P 12 12 19.5 +1.1
BRG Amp 12 12 20.4
comp=Z,14nm,1.1s
BRG *ex* x 12 12 31.4
BRG Amp 12 12 33.4
comp=Z,9.6nm,0.9s
BRG Berggiesshubel 16.97 17 *e*P P 12 12 19.5 +1.1
BRG pmax pmax
comp=Z,14nm,1.1s
LOT Lotru 17.03 46 ⇓P P 12 12 20.2 +0.9
KRLC Kraliky 17.06 24 *e*P P 12 12 20.7 +1.2
KRLC AMS AMS 12 19 40.0
comp=Z,800nm,16.1s
KRLC Kraliky 17.06 24 *e*P P 12 12 20.7 +1.2
KRLC MLR MLR
comp=Z,800nm,16.1s
MORC Moravsky Berou 17.07 26 ⇑P P 12 12 20.3 +0.7
MORC Moravsky Berou 17.07 26 P P 12 12 20.8 +1.3
MORC Moravsky Berou 17.07 26 *e*PN P 12 12 19.9 +0.3
MORC Moravsky Berou 17.07 26 ⇑P P 12 12 20.3 +0.7
KARP Karpathos 17.09 82 Pn Pn 12 12 17.7 -0.5
DPC Dobruska-Polom 17.15 22 *e*P P 12 12 20.5 0.0
DPC Dobruska-Polom 17.15 22 *e*P P 12 12 20.5 0.0
CLL Collm 17.17 14 P P 12 12 21.0 +0.4
CLL Collm 17.17 14 *i* P P 12 12 21.8 +1.2
comp=Z,33nm,1.3s
CLL *e*PP PnPn 12 12 31.0 +2.2
CLL *ex* x 12 12 36.0
CLL *e*S Sn 12 15 30.0 +0.2
CLL Collm 17.17 14 *i* P P 12 12 21.8 +1.2
CLL pmax pmax
comp=Z,33nm,1.3s
UPC Upice 17.19 21 *e*P P 12 12 22.1 +1.2
UPC Upice 17.19 21 *e*P P 12 12 22.1 +1.2
OSTC Ostas 17.30 22 *e*P P 12 12 22.9 +0.8
OKC Ostrava-Krasne 17.34 27 *e*P P 12 12 24.1 +1.6
OKC Ostrava-Krasne 17.34 27 *e*P P 12 12 24.1 +1.6
ABAH Abaujker 17.46 35 P P 12 12 25.7 +1.9
ARR Arges 17.51 48 ⇓P P 12 12 26.4 +1.9
KSP Ksiaz 17.57 21 P P 12 12 26.6 +1.5
KSP pmax pmax
comp=Z,41nm,1.1s
VOIR 17.80 48 ⇑P P 12 12 30.2 +2.5
VOIR 17.80 48 ⇑P P 12 12 30.2 +2.5
TRPA Tarpa 17.98 37 ⇑P P 12 12 31.1 +1.6
TRPA Tarpa 17.98 37 P P 12 12 31.0 +1.4
CRVS Cervenica-Dubn 17.99 34 *e*P P 12 12 32.5 +2.8
CRVS Cervenica-Dubn 17.99 34 *e*P P 12 12 32.5 +2.8
CRVS pmax pmax
comp=Z,80nm,1.7s
UZH Uzhgorod 18.19 36 *e*P P 12 12 35.0 +3.1
STHS Stebnicka Huta 18.27 33 *e*P P 12 12 34.8 +2.0
STHS Stebnicka Huta 18.27 33 *e*P P 12 12 34.8 +2.0
STHS pmax pmax
comp=Z,42nm,1.0s
DOPR Dopca 18.27 47 ⇑P P 12 12 34.3 +1.4
OJC Ojcow 18.27 29 P Pn 12 12 32.3 -0.4
OJC Ojcow 18.27 29 P Pn 12 12 32.3 -0.4
OJC pmax pmax
comp=Z,22nm,0.9s
MLR Muntele Rosu 18.37 49 ⇑P P 12 12 37.4 +3.3
MLR Muntele Rosu 18.37 49 P P 12 12 36.6 +2.5
comp=Z,38nm,0.9s,baz=232,slow=5.5,SNR=28
MLR S Sn 12 16 00.0 +0.7
comp=Z,1.0nm,0.4s,baz=256,slow=18,SNR=1.0
MLR LR LR 12 21 22.0
comp=Z,724nm,18.2s,baz=248,slow=43
MLR Muntele Rosu 18.37 49 P P 12 12 34.8 +0.7
MLR IAmb IAmb 12 12 40.0
comp=Z,100nm,1.3s
MLR Muntele Rosu 18.37 49 P P 12 12 34.8 +0.7
MLR pmax pmax
comp=Z,101nm,1.3s
KOLS Kolonicke sedl 18.39 35 *e*P Pn 12 12 36.6 +2.4
KOLS Kolonicke sedl 18.39 35 *e*P Pn 12 12 36.7 +2.5
KOLS pmax pmax
comp=Z,18nm,0.7s
OZUR 18.57 47 ⇑P Pn 12 12 39.1 +2.7
ISR Istrita 18.57 50 ⇑P Pn 12 12 39.0 +2.5
ISR Istrita 18.57 50 ⇑P Pn 12 12 39.0 +2.5
COVR Voineasa-Covas 18.70 48 ⇑P Pn 12 12 40.6 +2.7
BISRR Bisoca 18.87 49 ⇑P P 12 12 37.3 -2.3
PLOR Plostina 18.98 48 ⇑P Pn 12 12 42.4 +1.1
PLOR Plostina 18.98 48 ⇑P Pn 12 12 42.4 +1.1
VRI Vrincioaia 19.03 48 ⇓P Pn 12 12 43.9 +1.9
VRI Vrincioaia 19.03 48 ⇓P Pn 12 12 43.9 +1.9
AKAS Kas 19.04 79 P P 12 12 40.7 -0.7
BURAR Bucovina Array 19.07 42 ⇑P Pn 12 12 45.1 +2.6
BURAR Bucovina Array 19.07 42 P Pn 12 12 43.0 +0.5
BURAR Bucovina Array 19.07 42 ⇑P Pn 12 12 45.1 +2.6
BUR08 Bucovina Ar. S 19.07 42 P Pn 12 12 42.4 -0.2
ELL Elmali 19.26 77 P P 12 12 43.5 -0.4
ELL IAmb IAmb 12 12 55.9
comp=Z,57nm,1.1s
ELL Elmali 19.26 77 P P 12 12 43.5 -0.4
ELL pmax pmax
comp=Z,57nm,1.1s
HARR Harsova 19.29 53 ⇑P P 12 12 44.5 +0.5
HARR Harsova 19.29 53 ⇑P P 12 12 44.5 +0.5
TESR Tescani 19.30 47 ⇑P Pn 12 12 49.8 +4.6
TIRR Tirgusor 19.52 54 P Pn 12 12 48.0 +0.2
TIRR Tirgusor 19.52 54 P Pn 12 12 48.0 +0.2
TIRR pmax pmax
comp=Z,39nm,0.9s
GHRR 19.54 49 ⇑P Pn 12 12 48.6 +0.5
CFR Carcaliu 19.62 52 ⇓P P 12 12 48.0 +0.4
CFR Carcaliu 19.62 52 ⇓P P 12 12 48.0 +0.4
TPGR Topolog 19.68 53 ⇑P P 12 12 46.9 -1.4
LVV L'vov 19.84 36 *e*P Pn 12 12 51.4 -0.1
BORA Eskisehir 19.85 68 P P 12 12 50.0 -0.3
SORM Soroca 21.12 44 ⇑P P 12 13 05.5 +1.6
SORM Soroca 21.12 44 ⇑P P 12 13 05.5 +1.6
EKA Eskdalemuir Ar 21.51 345 P P 12 13 08.5 +0.5
comp=Z,6.9nm,0.7s,baz=153,slow=10,SNR=14
EKA LR LR 12 21 51.1
comp=Z,421nm,18.0s,baz=176,slow=38
comp=Z,6.9nm,0.7s
TOA0 Torodi Ar. Sit 21.99 192 P P 12 13 10.0 -3.5
CSS Mathiatis 22.17 82 P P 12 13 14.8 -0.5
CSS IAmb IAmb 12 13 24.8
comp=Z,40nm,1.1s
BR131 Keskin Array S 22.27 69 P P 12 13 18.0 +1.4
BR131 Keskin Array S 22.27 69 *i* P P 12 13 18.6 +2.0
BRTR Keskin Array B 22.27 69 P P 12 13 18.0 +1.4
comp=Z,13nm,1.1s,baz=258,slow=9.9,SNR=12
BRTR LR LR 12 24 03.0
comp=Z,196nm,18.2s,baz=248,slow=42
comp=Z,13nm,1.1s
BRTR Keskin Array B 22.27 69 P P 12 13 18.0 +1.4
BRTR Keskin Array B 22.27 69 *i* P P 12 13 18.5 +2.0
BRTR pmax pmax
comp=Z,13nm,1.1s
AKASG Malin Array Be 22.99 39 P P 12 13 21.9 -2.0
comp=Z,7.2nm,0.6s,baz=237,slow=10,SNR=31
AKASG S S 12 17 25.9 -8.3
comp=Z,1.0nm,0.5s,baz=230,slow=19,SNR=6.1
AKASG LR LR 12 23 50.2

DBIC Dimbokro 29.85 203 P P 12 14 25.8 -1.0
DBIC IAmb IAmb 12 14 26.8
comp=Z,49nm,1.4s
DBIC Dimbokro 29.85 203 P P 12 14 25.8 -1.0
DBIC pmax pmax
comp=Z,49nm,1.5s
TIC Toumodi 29.93 203 ⇓ iP P 12 14 26.3 -1.1
comp=Z,35nm,0.7s
MOS Moscow 29.97 36 eP P 12 14 35.7 +8.2
MOS e 12 14 45.4
MOS pmax pmax
comp=Z,36nm,0.7s
KIC Kosan Boka 30.11 202 ⇑ iP P 12 14 28.4 -0.6
comp=Z,13nm,0.5s
ZEI Tsey 30.18 63 eP P 12 14 31.8 +2.1
ZEI pmax pmax
comp=Z,10.0nm,1.3s
VRH Novokhopyorsk 30.28 46 eP P 12 14 28.0 -2.2
VRH pmax pmax
comp=Z,10.0nm,0.5s
LIC Lamto 30.32 203 ⇓ iP P 12 14 30.1 -0.8
comp=Z,52nm,0.6s
GNI Garni 30.81 69 LR LR 12 29 23.5
comp=Z,65nm,20.3s,baz=274,slow=41
GNI Garni 30.81 69 P P 12 14 34.3 -1.0
GNI IAmb IAmb 12 15 12.9
comp=Z,13nm,0.7s
GNI Garni 30.81 69 P P 12 14 34.3 -1.0
GNI pmax pmax
comp=Z,13nm,0.7s
KLMR Klimovskoe 33.63 29 eP P 12 14 57.7 -1.8
KLMR AMP 12 15 09.2
comp=Z,57nm,1.3s
KLMR Klimovskoe 33.63 29 eP P 12 14 57.6 -1.9
KLMR pmax pmax
comp=Z,57nm,1.3s
BELG Belogornoye 34.13 46 LR LR 12 31 09.4
comp=Z,209nm,18.9s,baz=181,slow=40
BORG Borgarnes 34.27 339 LR LR 12 28 05.9
comp=Z,73nm,18.9s,baz=142,slow=35
ARCES ARCESS Array B 36.34 11 P P 12 15 21.6 -1.2
comp=Z,2.2nm,0.8s,baz=198,slow=9.0,SNR=10
ARCES PcP **PcP 12 17 46.5 -0.7**
comp=Z,2.4nm,0.6s,baz=163,slow=3.4,SNR=6.3
ARCES LR LR 12 29 49.6
comp=Z,144nm,21.0s,baz=209,slow=36
comp=Z,2.2nm,0.8s
PRGR Permogore 36.55 31 eP P 12 15 22.1 -2.5
PRGR pmax pmax
comp=Z,14nm,0.8s
KIRV Kirov 36.99 37 LR LR 12 31 45.3
comp=Z,234nm,20.5s,baz=256,slow=38
KIRV Kirov 36.99 37 i P P 12 15 29.2 +0.8
JMIC Jan Mayen 37.06 352 LR LR 12 29 19.6
comp=Z,64nm,20.0s,baz=124,slow=34
ARU Arti 41.20 42 LR LR 12 34 39.6
comp=Z,177nm,19.4s,baz=255,slow=38
ARU Arti 41.20 42 P P 12 16 03.7 -0.1
ARU IAmb IAmb 12 16 20.6
comp=Z,18nm,1.0s
ARU Arti 41.20 42 d iP P 12 16 03.5 -0.3
ARU 12 18 01.0
ARU S **S 12 22 19.5 +2.4**
ARU SS **SS 12 25 19.2 -0.6**
ARU pmax pmax
comp=Z,8.0nm,0.8s
LODK Lodwar 41.30 133 P P 12 16 03.1 -2.0
GEYT Alibeck 41.42 70 P P 12 16 06.5 +0.6
comp=Z,3.3nm,0.7s,baz=288,slow=15,SNR=3.6
comp=Z,3.3nm,0.7s
GEYT Alibeck 41.42 70 P P 12 16 03.8 -2.1
GYA0B ALIBECK ARRAY 41.42 70 P P 12 16 04.0 -1.8
ABKAR Akbulak array 41.51 53 P P 12 16 06.0 -0.4
MBAR Mbarara 42.04 142 LR LR 12 34 03.1
comp=Z,158nm,19.7s,baz=351,slow=37
SVE Sverdlovsk 42.40 42 eP P 12 16 13.7 +0.2
SVE pmax pmax
comp=Z,26nm,0.9s
SHME Shamm 43.51 88 P P 12 16 22.8 -0.1
SHME Shamm 43.51 88 P P 12 16 22.4 -0.5
NAZ Nazwa, Dubai 43.55 89 P P 12 16 23.4 +0.1
FAQ Al Faqa, Dubai 43.60 90 P P 12 16 23.7 0.0
FAQ Al Faqa, Dubai 43.60 90 P P 12 16 23.4 -0.3
SPB2 Spitsbergen Ar 43.66 3 P P 12 16 25.1 +1.6
SPITS Spitsbergen Ar 43.66 3 P P 12 16 23.2 -0.3
comp=Z,8.1nm,0.9s,baz=182,slow=11,SNR=1.5
SPITS LR LR 12 35 56.2
comp=Z,136nm,18.9s,baz=144,slow=38
comp=Z,8.1nm,0.9s
SPITS Spitsbergen Ar 43.66 3 P P 12 16 23.2 -0.3
SPITS pmax pmax
comp=Z,193nm,1.8s
BANOM Banah 43.69 88 P P 12 16 24.5 0.0
BANOM Banah 43.69 88 P P 12 16 24.4 -0.1
MASF Masafi 43.80 88 P P 12 16 25.1 -0.2
MSFE Esma-Masafi 43.80 88 P P 12 16 25.1 -0.3
MDH Madha 43.94 88 P P 12 16 26.1 -0.3
ASHO Ashiyiah 44.01 89 P P 12 16 26.8 -0.2
ASHO Ashiyiah 44.01 89 P P 12 16 26.5 -0.5
HATD Hatta, Dubai 44.01 89 P P 12 16 26.8 -0.1
SNR=7.6
HATD Hatta, Dubai 44.01 89 P P 12 16 26.9 0.0
UOSS Minazif 44.02 89 P P 12 16 26.5 -0.5
UOSS IAmb IAmb 12 16 45.0
comp=Z,16nm,0.9s
UOSS Minazif 44.02 89 P P 12 16 26.4 -0.7
UOSS Minazif 44.02 89 P P 12 16 26.3 -0.7
SOHO SOHO 44.63 90 P P 12 16 31.8 -0.1
SOHO SOHO 44.63 90 P P 12 16 31.6 -0.4
ARQ Araqi 44.97 91 P P 12 16 35.0 +0.3
JASK Jask - Hormozg 45.00 87 P P 12 16 35.8 +0.9
ABTO Aybut 45.24 100 P P 12 16 37.0 0.0
DOK Doka 45.26 98 P P 12 16 36.9 -0.2
HOQ Hoqain 45.51 90 P P 12 16 38.4 -0.6
SNR=10
HRA Herat 45.54 74 P P 12 16 39.9 +0.6
SFJD Kangerlussuaq 45.61 333 LR LR 12 33 41.5
comp=Z,200nm,21.4s,baz=112,slow=34
BSY Bisya 45.80 91 P P 12 16 41.5 +0.2
KMBO Kilima Mbogo 46.06 134 P P 12 16 44.1 +0.5
comp=Z,2.8nm,0.8s,baz=323,slow=4.9,SNR=7.3
KMBO LR LR 12 37 39.1
comp=Z,108nm,20.5s,baz=60,slow=38
comp=Z,2.8nm,0.8s
KMBO Kilima Mbogo 46.06 134 P P 12 16 42.9 -0.6
KMBO Kilima Mbogo 46.06 134 i P P 12 16 45.2 +1.6
KMBO pmax pmax
comp=Z,2.0nm,0.7s
BIDO Bidbid 46.21 90 P P 12 16 44.3 -0.2
SMDO Samad 46.35 90 P P 12 16 45.5 -0.3
SNR=6.2
JMDO Jabal Madar 46.71 91 P P 12 16 48.2 -0.3
WSAR Wadi Sarin 46.75 90 LR LR 12 40 60.0
comp=Z,94nm,19.2s,baz=311,slow=42
ASCN Ascension 46.80 209 P P 12 16 48.9 -0.2
MHTO MHTO 47.24 93 P P 12 16 52.6 0.0
WBK Wadi Bani Khal 47.31 90 P P 12 16 53.7 +0.5
SNR=13
BRVK Borovoye 47.86 47 P P 12 16 57.6 +0.6
BRVK IAmb IAmb 12 17 07.4
comp=Z,12nm,0.9s
BRVK Borovoye 47.86 47 P P 12 16 58.1 +1.1
BRVK Borovoye 47.86 47 ceP P 12 16 58.1 +1.1
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 47.92 47 P P 12 16 56.8 -0.7
comp=Z,2.2nm,0.6s,baz=272,slow=7.3,SNR=9.6
comp=Z,2.2nm,0.6s
KK31 Karatay Array 49.53 60 P P 12 17 09.4 -0.6
KK31 Karatay Array 49.53 60 P P 12 17 09.4 -0.6
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 49.53 60 P P 12 17 09.6 -0.4
KKAR Karatay Array 49.53 60 P P 12 17 09.6 -0.4
CHGR Chuyangaron 49.66 66 P P 12 17 11.4 +0.2
CHGR IAmb IAmb 12 17 33.3
comp=Z,16nm,0.9s
CHGR Chuyangaron 49.66 66 P P 12 17 11.4 +0.2
CHGR pmax pmax
comp=Z,16nm,0.9s
BTK Batken 50.52 64 P P 12 17 17.5 -0.1
BTK IAmb IAmb 12 19 11.2
comp=Z,8.1nm,0.4s
BTK Batken 50.52 64 P P 12 17 17.5 -0.1
BTK pmax pmax
comp=Z,8.0nm,0.4s
KBL Kabul 50.83 71 P P 12 17 19.2 -1.0
KBL Kabul 50.83 71 P P 12 17 19.2 -1.0
KBL pmax pmax
comp=Z,14nm,1.4s
AAK Ala-Archa 52.48 60 P P 12 17 33.1 +0.6
comp=Z,3.0nm,0.8s,baz=268,slow=12,SNR=2.6
AAK LR LR 12 45 11.6
comp=Z,79nm,18.7s,baz=306,slow=42
comp=Z,3.0nm,0.8s
AAK Ala-Archa 52.48 60 ceP P 12 17 33.7 +1.3
AAK pmax pmax
comp=Z,2.0nm,0.7s
FRB Frobisher Bay 52.76 327 LR LR 12 38 37.5
comp=Z,250nm,19.5s,baz=72,slow=34
SCHQ Schefferville 52.98 316 P P 12 17 33.7 -2.0
comp=Z,9.9nm,0.7s,baz=86,slow=7.4,SNR=13
SCHQ LR LR 12 37 32.8
comp=Z,101nm,19.5s,baz=86,slow=33
comp=Z,9.9nm,0.7s
SCHQ Schefferville 52.98 316 P P 12 17 35.5 -0.2
SCHQ IAmb IAmb 12 17 37.5
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 53.27 49 P P 12 17 37.0 -0.8
comp=Z,8.7nm,0.8s,baz=287,slow=8.2,SNR=41
comp=Z,8.7nm,0.8s
KURK Kurchatov 53.31 49 P P 12 17 37.9 -0.3
KURK IAmb IAmb 12 17 51.9
comp=Z,20nm,0.8s
KURK Kurchatov 53.31 49 P P 12 17 37.8 -0.3
KURK Kurchatov 53.31 49 ceP P 12 17 38.2 +0.1
KURK pmax pmax
comp=Z,15nm,0.8s
NRN Naryn 53.90 61 P P 12 17 42.7 -0.4
NRN Naryn 53.90 61 P P 12 17 42.7 -0.4
NRN pmax pmax
comp=Z,3.0nm,0.7s
LSZ Lusaka 54.02 154 LR LR 12 42 30.4
comp=Z,259nm,20.7s,baz=348,slow=38
LSZ Lusaka 54.02 154 P P 12 17 42.0 -1.8
LSZ IAmb IAmb 12 17 44.3
comp=Z,11nm,0.7s
LSZ Lusaka 54.02 154 P P 12 17 43.7 -0.1
LSZ Lusaka 54.02 154 P P 12 17 42.0 -1.8
LSZ pmax pmax
comp=Z,11nm,0.7s
NIL Nilore 54.41 71 P P 12 17 46.7 +0.1
NIL Nilore 54.41 71 P P 12 17 46.7 +0.1
NIL pmax pmax
comp=Z,24nm,0.8s
KSH Kashi 54.47 63 P P 12 17 46.9 -0.1
KSH sP sP 12 17 56.3 +4.7
KSH pmax pmax
comp=Z,6.0nm,1.0s
TSUM Tsumeb 54.81 167 LR LR 12 42 07.0
comp=Z,350nm,19.7s,baz=332,slow=37
TSUM Tsumeb 54.81 167 P P 12 17 47.6 -1.9
TSUM IAmb IAmb 12 17 50.3
comp=Z,17nm,0.9s
NRIK Noril'sk 54.84 25 P P 12 17 48.9 -0.2
comp=Z,0.8nm,0.3s,baz=258,slow=7.5,SNR=1.6
NRIK LR LR 12 44 54.2
comp=Z,131nm,18.2s,baz=277,slow=40
comp=Z,0.8nm,0.3s
NRIK Noril'sk 54.84 25 i P P 12 17 49.3 +0.3
NRIK pmax pmax
comp=Z,6.0nm,1.0s
TARG Taragay, Kyrgy 55.10 60 P P 12 17 50.8 -1.1
TARG IAmb IAmb 12 18 11.0
comp=Z,7.3nm,0.7s
TARG Taragay, Kyrgy 55.10 60 P P 12 17 50.8 -1.1
TARG pmax pmax
comp=Z,7.0nm,0.7s
ZAA0 Zalesovo Array 56.27 44 P P 12 17 58.6 -1.0
ZALV Zalesovo Beam 56.27 44 P P 12 17 59.1 -0.5
comp=Z,3.3nm,0.7s,baz=284,slow=7.7,SNR=10.0
ZALV LR LR 12 45 20.9
comp=Z,142nm,19.0s,baz=288,slow=40
comp=Z,3.3nm,0.7s
ZALV Zalesovo Beam 56.27 44 P P 12 17 59.0 -0.6
ZALV Zalesovo Beam 56.27 44 i P P 12 17 59.2 -0.4
ZALV pmax pmax
comp=Z,3.0nm,0.7s
EUNU Eureka 56.41 348 P P 12 18 00.8 +0.6
MAKZ Makanchi 56.44 53 P P 12 18 00.8 -0.1
MAKZ Makanchi 56.44 53 P P 12 18 00.9 -0.1
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
MK31 Makanchi Array 56.65 53 P P 12 18 02.2 -0.3
MK31 IAmb IAmb 12 18 30.4
comp=Z,6.2nm,0.7s
MK31 Makanchi Array 56.65 53 d iP P 12 18 02.1 -0.3
MKAR Makanchi Array 56.65 53 P P 12 18 01.8 -0.7
comp=Z,4.4nm,0.6s,baz=285,slow=6.1,SNR=48
MKAR LR LR 12 45 43.6
comp=Z,72nm,18.1s,baz=289,slow=40
comp=Z,4.4nm,0.6s
MKAR Makanchi Array 56.65 53 P P 12 18 02.4 -0.1
MKAR Makanchi Array 56.65 53 i P P 12 18 02.0 -0.5
MKAR pmax pmax
comp=Z,4.0nm,0.6s
RCBR Riachuelo 56.69 233 LR LR 12 43 06.1
comp=Z,98nm,18.2s,baz=157,slow=37
DGZ Jazzator, Alta 59.03 48 i P P 12 18 19.4 +0.1
DGZ pmax pmax
comp=Z,10.0nm,1.6s
RES Resolute Bay 59.61 342 LR LR 12 44 23.3
comp=Z,87nm,18.4s,baz=74,slow=36
LONY Lake Ozonia 60.56 306 P P 12 18 29.9 +0.2
WMQ Urumqi 61.24 55 eP P 12 18 36.8 +2.4
WMQ pmax pmax
comp=Z,8.0nm,0.9s
MDP Montagnes des 61.75 256 P P 12 18 38.9 +0.8
comp=Z,7.7nm,0.8s,baz=68,slow=9.3,SNR=3.7
MDP LR LR 12 42 16.4
comp=Z,53nm,21.2s,baz=118,slow=33
comp=Z,7.7nm,0.8s
LBTB Lobatse 62.28 160 LR LR 12 47 22.6
comp=Z,277nm,18.3s,baz=342,slow=38
LBTB Lobatse 62.28 160 P P 12 18 40.9 -0.6
LBTB Lobatse 62.28 160 P P 12 18 40.9 -0.6
LBTB pmax pmax
comp=Z,15nm,0.8s
SADO Sadowa 63.51 308 LR LR 12 44 52.1
comp=Z,117nm,18.2s,baz=18,slow=35
M57A Sunshine Farm, 63.55 303 P P 12 18 50.7 +0.9
SSPA Standing Stone 64.36 303 P P 12 18 55.1 -0.1
M55A Ridgway 64.62 304 P P 12 18 57.5 +0.6
MCPB Macapa, AP 64.64 250 eP P 12 18 58.0 +0.7
DANN Dangsing 64.81 72 eP P 12 18 58.2 -0.4
comp=Z,36nm,0.6s
BOSA Boshof 65.61 162 P P 12 19 02.1 -1.2
comp=Z,8.4nm,0.7s,baz=346,slow=8.7,SNR=13
BOSA LR LR 12 49 20.5
comp=Z,280nm,18.2s,baz=352,slow=38
comp=Z,8.4nm,0.7s
BOSA Boshof 65.61 162 P P 12 19 02.4 -1.0
BOSA IAmb IAmb 12 19 03.4
comp=Z,9.0nm,0.8s
GKN Gorkha 65.65 72 eP P 12 19 03.1 -0.9
CMC01 Camacan, BA 66.19 229 eP P 12 19 08.8 +1.6
DMN Daman 66.20 72 eP P 12 19 07.6 -0.1
comp=Z,71nm,0.7s
KKN Kakani 66.25 72 eP P 12 19 07.4 -0.5
PKIN Phulchoki 66.44 72 eP P 12 19 08.7 -0.5
comp=Z,47nm,0.9s
PKI Pulchoki 66.46 72 eP P 12 19 08.8 -0.6
comp=Z,50nm,0.7s
TIXI Tiksi 66.48 17 LR LR 12 52 26.8
comp=Z,80nm,19.1s,baz=254,slow=40
TIXI Tiksi 66.48 17 i P P 12 19 09.6 +1.3
TIXI pmax pmax
comp=Z,3.0nm,1.0s
GUN Gumba 66.67 71 eP P 12 19 10.2 -0.5
comp=Z,22nm,0.5s
SMTB Santa Maria do 66.90 240 eP P 12 19 12.8 +1.0
JIRN Jiri 67.03 72 eP P 12 19 12.4 -0.7
comp=Z,13nm,0.6s
Q54A Coxs Mills 67.13 302 P P 12 19 13.5 +0.5
MALB Monte Alegre 67.29 251 eP P 12 19 15.4 +1.1
GUA01 Guaratinga, BA 67.30 228 eP P 12 19 15.1 +0.8
SDBA SAO DESIDERIO 67.52 235 eP P 12 19 16.6 +0.8
RAMN Ramite 67.69 72 eP P 12 19 16.4 -0.7
Q52A Bidwell 68.13 303 P P 12 19 20.0 +0.6
R53A Hurricane 68.20 302 P P 12 19 20.4 +0.6
A36M Sachs Harbour 68.23 345 P P 12 19 20.1 +0.7
A36M IAmb IAmb 12 19 48.8
comp=Z,6.1nm,0.9s
SUR Sutherland 68.25 167 LR LR 12 50 27.5
comp=Z,328nm,18.4s,baz=337,slow=37
JANB Januaria 69.04 233 eP P 12 19 25.9 +0.6
ITTB Itaituba 70.00 250 eP P 12 19 32.7 +1.4
V53A Saluda 70.07 300 P P 12 19 31.7 +0.1
V53A IAmb IAmb 12 19 32.9
comp=Z,7.8nm,0.8s
TKL Tuckaleechee C 70.76 300 LR LR 12 50 40.9
comp=Z,51nm,18.6s,baz=30,slow=36
DIAM Diamantina, MG 71.01 230 eP P 12 19 38.8 +1.4
ULM Lac du Bonnet 71.04 318 P P 12 19 37.2 +0.1
comp=Z,3.2nm,0.7s,baz=74,slow=5.4,SNR=2.2
comp=Z,3.2nm,0.7s
SONM Songino Array 71.17 44 P P 12 19 38.0 -0.2
comp=Z,1.6nm,0.8s,baz=309,slow=5.4,SNR=9.9
SONM LR LR 12 52 59.6
comp=Z,87nm,19.0s,baz=329,slow=38
comp=Z,1.6nm,0.8s
SONM Songino Array 71.17 44 P P 12 19 38.0 -0.2
GTA Gaotai 71.33 55 eP P 12 19 41.3 +2.0
GTA pP sP 12 19 45.9 +2.0
GTA sP pP 12 19 49.0 +6.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
NPGB Novo Progresso 71.42 247 eP P 12 19 40.3 +0.3
Y52A Lilburn 71.85 299 P P 12 19 43.3 +0.9
Y52A IAmb IAmb 12 19 43.8
comp=Z,11nm,0.8s
BDFB Brasilia 71.93 235 P P 12 19 43.2 +0.2
comp=Z,6.0nm,0.7s,baz=43,slow=5.8,SNR=7.6
comp=Z,6.0nm,0.7s
W50A Signal Mountai 72.08 301 P P 12 19 44.1 +0.4
W50A IAmb IAmb 12 19 44.6
comp=Z,6.7nm,0.7s
YKA Yellowknife Ar 72.08 335 P P 12 19 42.6 -0.5
comp=Z,1.6nm,0.6s,baz=46,slow=6.1,SNR=12
YKA LR LR 12 50 29.9
comp=Z,157nm,18.9s,baz=354,slow=35
comp=Z,1.6nm,0.6s
BAUV El Baul 72.09 269 P P 12 19 42.8 -1.2
BAUV IAmb IAmb 12 19 59.7
comp=Z,13nm,1.1s
T47A Sharon Grove 72.43 303 P P 12 19 45.8 0.0
L40A Anamosa 72.56 309 P P 12 19 45.0 -1.4
L40A IAmb IAmb 12 19 46.1
comp=Z,11nm,0.9s
INK Inuvik 72.88 345 P P 12 19 47.2 -0.6
comp=Z,2.0nm,0.6s,baz=17,slow=7.7,SNR=13
comp=Z,2.0nm,0.6s
INK Inuvik 72.88 345 P P 12 19 48.1 +0.3
INK IAmb IAmb 12 21 21.0
comp=Z,18nm,1.9s
152A Waverly Hall 72.93 298 P P 12 19 49.0 +0.2
152A IAmb IAmb 12 19 50.1
comp=Z,8.4nm,0.7s
N41A Harden Midland 73.03 308 P P 12 19 48.6 -0.6
N41A IAmb IAmb 12 19 50.8
comp=Z,13nm,0.9s
PALK Pallekele 73.11 93 LR LR 12 53 18.5
comp=Z,70nm,20.9s,baz=29,slow=37
YAK Yakutsk 73.26 24 eP P 12 19 49.7 -0.5
YAK pmax pmax
comp=Z,11nm,1.0s
X48A Hartselle 73.68 301 P P 12 19 53.1 -0.1
X48A IAmb IAmb 12 19 53.8
comp=Z,9.8nm,0.7s
PLAL Pickwick Lake 74.13 302 P P 12 19 55.1 -0.7
PLAL IAmb IAmb 12 19 56.0
comp=Z,8.4nm,0.8s
SDV Santo Domingo 74.25 270 P P 12 19 57.3 +0.2
SDV IAmb IAmb 12 20 00.9
comp=Z,11nm,1.1s
SDV Santo Domingo 74.25 270 eP P 12 19 58.5 +1.5
LRAL Lakeview Retre 74.39 299 P P 12 19 57.5 +0.1
LRAL IAmb IAmb 12 19 57.9
comp=Z,7.8nm,0.7s
CCM Cathedral Cave 74.68 306 P P 12 19 58.7 -0.3
CCM IAmb IAmb 12 19 59.3
comp=Z,7.3nm,0.8s
CCM Cathedral Cave 74.68 306 P P 12 19 58.7 -0.3
CCM pmax pmax
comp=Z,7.0nm,0.8s
ECSD EROS Data Cent 75.00 313 P P 12 20 00.7 -0.1
TOLK Toolik Lake Re 75.27 351 P P 12 20 04.4 +2.5
TOLK IAmb IAmb 12 20 13.4
comp=Z,8.7nm,0.8s
OXF Oxford 75.31 302 P P 12 20 01.4 -1.3
OXF Oxford 75.31 302 P P 12 20 01.4 -1.3
OXF pmax pmax
comp=Z,20nm,0.7s
PDRB Porto dos Gac 75.39 244 eP P 12 20 04.2 +0.8
LCAR Lake Charles 75.69 304 P P 12 20 04.6 -0.2
E28A Huff 75.75 317 P P 12 20 04.8 -0.2
Y45A Yeager Farm, C 75.75 301 P P 12 20 04.7 -0.5
BILL Bilibino 76.34 8 eP P 12 20 10.5 +2.6
BILL pmax pmax
comp=Z,3.0nm,1.0s
I29M Ogilvie Camp, 76.39 346 P P 12 20 10.2 +1.9
I29M IAmb IAmb 12 20 18.9
comp=Z,7.7nm,0.8s
SGCB SΣo Gabriel d 76.40 260 eP P 12 20 10.5 +1.3
FYU Fort Yukon 76.58 349 P P 12 20 11.0 +1.7
WHAR Wooly Hollow 76.88 304 P P 12 20 11.7 +0.1
WHAR IAmb IAmb 12 23 03.9
comp=Z,10.0nm,0.9s
MAYO Mayo, Yukon 77.39 344 P P 12 20 15.8 +1.8
HHAR Hobbs 77.45 305 P P 12 20 14.8 0.0
DAWY Dawson 77.75 345 P P 12 20 18.0 +1.9
DAWY IAmb IAmb 12 20 27.1
comp=Z,8.3nm,0.8s
HHC Hu-ho-hao-te 78.11 48 eP P 12 20 19.0 +0.4
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,240nm,5.8s
MIAR Mount Ida 78.18 304 P P 12 20 19.2 +0.3
MIAR IAmb IAmb 12 22 55.0
comp=Z,12nm,0.7s
MIAR Mount Ida 78.18 304 P P 12 20 19.2 +0.3
MIAR pmax pmax
comp=Z,13nm,0.7s
ILAR Eielson Array 78.51 349 P P 12 20 18.7 -1.4
comp=Z,0.3nm,0.5s,baz=348,slow=5.7,SNR=7.3
ILAR LR LR 12 58 25.3
comp=Z,72nm,19.3s,baz=358,slow=38
comp=Z,0.3nm,0.5s
SCRK Sand Creek 78.74 347 P P 12 20 23.7 +2.1
T35A Sooner Cattle 78.80 307 P P 12 20 22.6 +0.3
HDA Harding Lake 78.85 348 P P 12 20 22.3 +0.2
HDA IAmb IAmb 12 20 32.6
comp=Z,7.4nm,0.9s
SEY Seymchan 78.85 15 P P 12 20 22.1 +0.1
comp=Z,1.4nm,0.6s,baz=309,slow=6.5,SNR=6.9
comp=Z,1.4nm,0.6s
XLT XiLinHaoTe 78.96 44 eP P 12 20 23.6 +0.4
XLT sP PcP 12 20 30.0 -1.8
XLT pmax pmax
comp=Z,6.0nm,1.2s
XLT pmax pmax
comp=Z,140nm,4.5s
BCAR Beaver Creek A 79.14 346 P P 12 20 24.8 +1.1
L27K Beaver Creek, 79.15 346 P P 12 20 25.3 +1.5
L27K IAmb IAmb 12 20 35.8
comp=Z,29nm,2.0s
R32A Long Quarter, 79.34 309 P P 12 20 24.7 -0.6
OK048 Pawnee Station 79.37 307 P P 12 20 25.1 -0.3
X37A Clayton 79.37 305 P P 12 20 26.2 +0.8
L26K Log Cabin Wild 79.48 346 P P 12 20 27.1 +1.6
P33M Teslin, Yukon 79.49 341 P P 12 20 26.9 +1.2
PZH PanZhiHua 79.51 65 P P 12 20 26.9 +0.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,70nm,4.9s
PTLB Pontes e Lacer 79.66 243 P P 12 20 27.0 -0.1
PTLB IAmb IAmb 12 20 29.3
comp=Z,16nm,1.0s
OK032 Salt Plains WL 79.97 308 P 12 20 28.4 -0.3
DLBC Dease Lake 80.16 338 LR LR 12 54 40.3
comp=Z,102nm,21.6s,baz=69,slow=35
DHY Denali Highway 80.17 348 P P 12 20 31.0 +1.6
DHY IAmb IAmb 12 20 40.9
comp=Z,15nm,0.9s

XAN	**Xi'an**	**80.37**	**55**	⇓P	**P**	**12 20 32.1**	**+1.2**
XAN				pP	PcP	12 20 37.3	-0.7
XAN				sP	sP	12 20 39.8	+4.1
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KMI	**Kunming**	**81.02**	**66**	⇓P	**P**	**12 20 33.4**	**-1.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GCMT	**Greycliff**	**81.11**	**320**	P	**P**	**12 20 35.9**	**+1.1**
BJI	**Beijing**	**81.41**	**47**	P	**P**	**12 20 38.3**	**+2.0**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,78nm,4.3s						
SIV	**San Ignacio**	**81.43**	**244**	LR	LR	12 54 41.4	
	comp=Z,106nm,21.3s,baz=99,slow=34						
MA2	**Magadan**	**81.45**	**17**	LR	LR	13 01 41.7	
	comp=Z,95nm,18.5s,baz=296,slow=39						
ETMB	**Extrema**	**81.51**	**252**	P	**P**	**12 20 37.6**	**+0.5**
ETMB				IAmb	IAmb	12 20 38.9	
	comp=Z,26nm,0.7s						
PHWY	**Pilot Hill**	**81.69**	**315**	P	**P**	**12 20 38.3**	**+0.1**
PHWY				IAmb	IAmb	12 22 50.1	
	comp=Z,7.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**81.80**	**73**	P	**P**	**12 20 38.7**	**0.0**
	comp=Z,1.0nm,0.4s,baz=304,slow=7.4,SNR=8.1						
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**81.80**	**73**	P	**P**	**12 20 37.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**81.80**	**73**	*i* P	**P**	**12 20 38.5**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HNS	**HongShan**	**82.14**	**50**	⇓P	**P**	**12 20 39.4**	**-0.8**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
IMW	**Indian Meadow**	**83.05**	**320**	P	**P**	**12 20 46.2**	**+1.0**
BW06	**Boulder Array**	**83.06**	**318**	P	**P**	**12 20 44.6**	**-0.6**
PD31	**Pinedale Array**	**83.06**	**318**	P	**P**	**12 20 44.7**	**-0.4**
PD31				IAmb	IAmb	12 20 46.7	
	comp=Z,25nm,2.0s						
PDAR	**Pinedale Array**	**83.06**	**318**	P	**P**	**12 20 45.2**	**0.0**
	comp=Z,2.0nm,0.6s,baz=57,slow=5.6,SNR=19						
	comp=Z,2.0nm,0.6s						
PDAR	**Pinedale Array**	**83.06**	**318**	P	**P**	**12 20 44.8**	**-0.4**
LOHW	**Long Hollow**	**83.06**	**319**	P	**P**	**12 20 44.8**	**-0.5**
LOHW				IAmb	IAmb	12 21 02.6	
	comp=Z,17nm,1.9s						
NEW	**Newport**	**83.07**	**326**	P	**P**	**12 20 44.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=45,slow=7.1						
NEW				LR	LR	12 56 45.3	
	comp=Z,169nm,19.5s,baz=18,slow=35						
	comp=Z,1.1nm,0.5s						
GYA	**Guiyang**	**83.17**	**63**	⇑P	**P**	**12 20 48.5**	**+2.6**
GYA				pmax	pmax		
	comp=Z,17nm,0.7s						
FXWY	**Fox Creek**	**83.27**	**319**	P	**P**	**12 20 46.9**	**+0.6**
FXWY				IAmb	IAmb	12 20 57.3	
	comp=Z,15nm,1.8s						
KLR	**Kul'dur**	**83.31**	**33**	P	**P**	**12 20 46.0**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=344,slow=2.5,SNR=4.9						
	comp=Z,1.4nm,0.5s						
KLR	**Kul'dur**	**83.31**	**33**	*i* P	**P**	**12 20 47.4**	**+1.3**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
REDW	**Red Top Meadow**	**83.36**	**319**	P	**P**	**12 20 47.7**	**+0.9**
REDW				IAmb	IAmb	12 20 58.1	
	comp=Z,26nm,1.9s						
MCMT	**McKenzie Canyo**	**83.41**	**321**	P	**P**	**12 20 48.1**	**+1.1**
BNX	**BinXian**	**83.79**	**37**	⇑P	**P**	**12 20 48.4**	**-0.2**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,97nm,5.5s						
SDCO	**Great Sand Dun**	**83.98**	**312**	P	**P**	**12 20 50.4**	**+0.3**
CN2	**Changchun**	**84.15**	**39**	P	**P**	**12 20 51.8**	**+1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
COVE	**Coope Vega, Sa**	**84.51**	**279**	P	**P**	**12 20 53.2**	**+0.4**
RDMU	**Red Mountain**	**84.53**	**316**	P	**P**	**12 20 53.2**	**+0.4**
RDMU				IAmb	IAmb	12 21 03.8	
	comp=Z,19nm,1.4s						
F10A	**Beach Ranch, E**	**84.78**	**324**	P	**P**	**12 20 53.4**	**-0.4**
F10A				IAmb	IAmb	12 21 23.8	
	comp=Z,8.4nm,1.0s						
D08A	**Wollman Farm,**	**84.79**	**326**	P	**P**	**12 20 54.0**	**+0.4**
D08A				IAmb	IAmb	12 24 08.9	
	comp=Z,19nm,1.8s						
S22A	**4UR Ranch, Cre**	**84.79**	**313**	P	**P**	**12 20 54.7**	**+0.5**
S22A				IAmb	IAmb	12 20 56.4	
	comp=Z,12nm,1.6s						
HWUT	**Hardware Ranch**	**84.94**	**318**	P	**P**	**12 20 55.5**	**+0.8**
HWUT				IAmb	IAmb	12 21 05.1	
	comp=Z,7.6nm,1.0s						
HLID	**Hailey**	**85.10**	**321**	P	**P**	**12 20 56.3**	**+0.8**
HLID				IAmb	IAmb	12 21 06.8	
	comp=Z,17nm,2.0s						
JTS	**Las Juntas de**	**85.20**	**279**	LR	LR	12 53 54.0	
	comp=Z,41nm,19.3s,baz=85,slow=32						
PV07	**Paradox Valley**	**85.42**	**314**	P	**P**	**12 20 58.4**	**+1.2**
PV07				IAmb	IAmb	12 20 59.0	
	comp=Z,9.2nm,0.8s						
CZSB	**Cruzeiro do Su**	**85.42**	**257**	P	**P**	**12 20 57.3**	**0.0**
CZSB				IAmb	IAmb	12 20 58.7	
	comp=Z,51nm,1.4s						
HVU	**Hansel Valley**	**85.48**	**319**	P	**P**	**12 20 57.6**	**+0.1**
HVU	**Hansel Valley**	**85.48**	**319**	P	**P**	**12 20 57.6**	**+0.1**
HVU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
P18A	**Preston Nutter**	**85.55**	**316**	P	**P**	**12 20 56.9**	**-1.1**
P18A				IAmb	IAmb	12 21 09.8	
	comp=Z,20nm,1.6s						
CPUP	**Villa Florida**	**85.56**	**234**	P	**P**	**12 20 57.6**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=45,slow=2.9,SNR=3.0						
CPUP				LR	LR	12 57 32.5	
	comp=Z,73nm,21.4s,baz=48,slow=35						
	comp=Z,2.5nm,0.8s						
PV23	**Carpenter Ridg**	**85.62**	**315**	P	**P**	**12 20 58.5**	**+0.1**
BMO	**Blue Mountains**	**85.63**	**324**	P	**P**	**12 20 58.2**	**+0.1**
BMO				IAmb	IAmb	12 21 08.4	
	comp=Z,11nm,1.2s						
BMO	**Blue Mountains**	**85.63**	**324**	P	**P**	**12 20 58.2**	**+0.1**
BMO				pmax	pmax		
	comp=Z,11nm,1.3s						
PV11	**David Mesa, Pa**	**85.64**	**314**	P	**P**	**12 20 59.0**	**+0.6**
MFID	**Camas Ranch**	**85.93**	**322**	P	**P**	**12 21 00.2**	**+0.6**
MFID				IAmb	IAmb	12 21 11.0	
	comp=Z,8.6nm,1.2s						
SRU	**San Rafael Swe**	**86.05**	**316**	P	**P**	**12 21 01.1**	**+0.8**
SRU				IAmb	IAmb	12 21 11.2	
	comp=Z,11nm,0.9s						
SRU	**San Rafael Swe**	**86.05**	**316**	P	**P**	**12 21 01.2**	**+0.8**
SRU				pmax	pmax		
	comp=Z,11nm,0.9s						
MVCO	**Mesa Verde**	**86.14**	**313**	P	**P**	**12 21 01.7**	**+0.8**
MVCO				IAmb	IAmb	12 21 11.9	
	comp=Z,28nm,1.9s						
HTMS	**Hat Mesa**	**86.15**	**307**	P	**P**	**12 21 01.6**	**+0.7**
TMUT	**Trail Mountain**	**86.32**	**316**	P	**P**	**12 21 01.1**	**-0.7**
TMUT				IAmb	IAmb	12 21 14.7	
	comp=Z,7.8nm,1.0s						
LON	**Longmire**	**86.33**	**327**	P	**P**	**12 21 02.4**	**+1.0**
LON				IAmb	IAmb	12 24 03.2	
	comp=Z,23nm,1.8s						
LON	**Longmire**	**86.33**	**327**	P	**P**	**12 21 02.4**	**+1.0**
LON				pmax	pmax		
	comp=Z,23nm,1.8s						
ANMO	**Albuquerque**	**86.38**	**311**	LR	LR	12 57 24.2	
	comp=Z,73nm,20.0s,baz=78,slow=34						
ANMO	**Albuquerque**	**86.38**	**311**	*ce*P	**P**	**12 21 00.8**	**-1.3**
ANMO				pmax	pmax		
	comp=Z,8.0nm,2.5s						
MTO3	**Montecristo**	**86.43**	**285**	P	**P**	**12 21 02.9**	**+0.3**
LPAZ	**La Paz**	**86.91**	**248**	P	**P**	**12 21 04.6**	**-0.7**
LPAZ				LR	LR	12 58 59.2	
	comp=Z,2.6nm,0.9s,baz=37,slow=3.1,SNR=8.3						
	comp=Z,45nm,19.4s,baz=78,slow=35						
	comp=Z,2.6nm,0.9s						
LPAZ	**La Paz**	**86.91**	**248**	P	**P**	**12 21 04.5**	**-0.8**
LPAZ	**La Paz**	**86.91**	**248**	P	**P**	**12 21 04.5**	**-0.8**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**87.15**	**36**	LR	LR	13 03 53.6	
	comp=Z,75nm,19.0s,baz=332,slow=38						
ELK	**Elko**	**87.53**	**320**	LR	LR	12 59 14.7	
	comp=Z,77nm,18.3s,baz=43,slow=35						
COHC	**Cochancay**	**87.72**	**265**	P	**P**	**12 21 07.2**	**-1.4**
COHC				IAmb	IAmb	12 22 08.9	
	comp=Z,2.4nm,0.4s						
MTPU	**Mount Pierson**	**87.73**	**316**	P	**P**	**12 21 07.7**	**-1.1**
MTPU				IAmb	IAmb	12 21 20.7	
	comp=Z,5.8nm,1.1s						
TXAR	**Lajitas Array**	**88.15**	**305**	P	**P**	**12 21 10.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=79,slow=5.1,SNR=12						
TXAR				LR	LR	13 00 37.4	
	comp=Z,50nm,18.5s,baz=28,slow=36						
	comp=Z,1.1nm,0.7s						
TXAR	**Lajitas Array**	**88.15**	**305**	P	**P**	**12 21 09.5**	**-1.1**
TXAR	**Lajitas Array**	**88.15**	**305**	P	**P**	**12 21 09.5**	**-1.1**
TX31	**Lajitas Ar. Si**	**88.15**	**305**	P	**P**	**12 21 09.8**	**-0.8**
TX31				IAmb	IAmb	12 24 34.9	
	comp=Z,9.0nm,0.8s						
TX32	**Lajitas Array**	**88.15**	**305**	P	**P**	**12 21 11.1**	**+0.5**
NJ2	**Nanjing**	**88.16**	**52**	*e*P	**P**	**12 21 13.0**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SPR3	**Spring Creek 3**	**88.27**	**318**	P	**P**	**12 21 13.3**	**+2.0**
SPR3				IAmb	IAmb	12 21 24.7	
	comp=Z,19nm,1.8s						
PETK	**Petropavlovsk-**	**88.96**	**17**	LR	LR	13 06 46.3	
	comp=Z,63nm,18.9s,baz=338,slow=40						
PB16	**IPOC Station P**	**89.19**	**247**	P	**P**	**12 21 15.8**	**-0.3**
MCRA	**Macar, Loja**	**89.37**	**264**	P	**P**	**12 21 15.7**	**-0.8**
MCRA				IAmb	IAmb	12 23 09.1	
	comp=Z,5.9nm,1.1s						
ATAH	**Atahualpa**	**89.67**	**261**	LR	LR	13 01 24.9	
	comp=Z,32nm,19.5s,baz=27,slow=36						
GO01	**Chusmiza**	**89.75**	**246**	P	**P**	**12 21 17.7**	**-0.9**
KSRS	**Korea Array**	**89.95**	**43**	LR	LR	13 06 44.2	
	comp=Z,76nm,18.5s,baz=350,slow=39						
YBH	**Yreka Blue Hor**	**90.58**	**324**	LR	LR	13 01 29.6	
	comp=Z,105nm,19.4s,baz=15,slow=35						
NVAR	**Mina Array Bea**	**90.84**	**320**	P	**P**	**12 21 23.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=54,slow=4.7,SNR=4.4						
	comp=Z,0.5nm,0.7s						
NNA	**Nana**	**91.19**	**256**	LR	LR	13 03 08.2	
	comp=Z,21nm,18.0s,baz=64,slow=36						
LVC	**Limon Verde**	**91.32**	**243**	LR	LR	13 03 22.4	
	comp=Z,49nm,19.3s,baz=358,slow=36						
ASAJ	**Asahikawa**	**91.95**	**30**	LR	LR	13 06 28.0	
	comp=Z,116nm,19.7s,baz=332,slow=38						
MJAR	**Matsushiro Arr**	**96.06**	**37**	P	**P**	**12 21 45.6**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=316,slow=5.1,SNR=2.4						
MJAR				LR	LR	13 09 01.0	
	comp=Z,66nm,19.2s,baz=346,slow=38						
	comp=Z,1.0nm,0.8s						
HOPE	**Hope Point**	**96.12**	**204**	*i* P	**P**	**12 21 46.6**	**+0.2**
JOW	**Kunigami**	**97.71**	**50**	LR	LR	13 11 59.6	
	comp=Z,42nm,18.0s,baz=257,slow=39						
WRA	**Warramunga Arr**	**132.06**	**86**	PKhKP	PKPpre	12 27 25.3	
	comp=Z,0.7nm,0.8s,baz=292,slow=1.1,SNR=8.4						
WRA				PKP	**PKPdf**	**12 27 32.5**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=319,slow=1.4,SNR=12						
ASAR	**Alice Springs**	**133.43**	**91**	PKhKP	PKPpre	12 27 25.5	
	comp=Z,0.3nm,0.5s,baz=317,slow=1.2,SNR=8.6						
ASAR				PKP	**PKPdf**	**12 27 35.2**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=312,slow=1.4,SNR=14						
STKA	**Stephens Creek**	**142.80**	**98**	PKhKP	PKPpre	12 27 47.5	
	comp=Z,3.9nm,0.6s,baz=308,slow=3.3,SNR=12						

WEL 18 12:09:35.0±0.8,38°S±3°×17°8E±°,h10km±6km,M2.4/13, ML2.8/12,MLv2.4/13,Error ellipse: s-maj=0.0km s-min=0.0km az=90.4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**0.16**	**293**	P	Pg	12 09 39.3	+0.7
TWGZ				S	Sg	12 09 43.4	+2.4
PUZ	**Puketiti**	**0.18**	**24**	P	Pg	12 09 39.6	+0.7
PUZ				S	Sg	12 09 43.5	+1.8
CNGZ	**Carnagh Statio**	**0.25**	**172**	P	Pb	12 09 41.0	-0.6
TKGZ	**Te Karaka**	**0.32**	**231**	P	Pg	12 09 41.9	+0.5
PKGZ	**Pakihiroa**	**0.36**	**349**	P	Pb	12 09 43.0	-0.5
PKGZ				S	Sb	12 09 49.3	+0.2
WMGZ	**Waiomatatini S**	**0.46**	**26**	P	Pb	12 09 45.3	0.0
RUGZ	**Raukumara Rang**	**0.47**	**305**	P	Pg	12 09 44.7	+0.4
RUGZ				S	Sb	12 09 52.1	-0.3
MWZ	**Matawai**	**0.51**	**259**	P	Pg	12 09 45.2	+0.3
RIGZ	**Rimuhau**	**0.56**	**214**	P	Pb	12 09 47.3	+0.3
HAZ	**Te Kaha**	**0.57**	**328**	P	Pb	12 09 46.5	-0.5
HAZ				S	Sb	12 09 55.2	0.0
MXZ	**Matakaoa Point**	**0.69**	**10**	P	Pb	12 09 49.3	+0.3
URZ	**Urewera**	**0.83**	**268**	P	Pg	12 09 51.0	+0.1
KNZ	**Kokohu**	**0.87**	**206**	P	Pb	12 09 52.1	-0.1
MHGZ	**Mahia Peninsul**	**0.93**	**192**	P	Pg	12 09 52.7	-0.3

IDC 18 12:14:51.6±1.7,0°63S×127°48E,h0km,mb3.2/3, mbtmp3.3/4,ML3.1/1,Error ellipse: s-maj=39.5km s-min=27.5km az=51.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.80**	**94**	Pn	Pn	12 15 50.9	-0.6
	1.5nm,0.3s,baz=190,slow=20,SNR=2.6						
SIJI				Sn	Sn	12 16 37.6	+0.7
	0.7nm,0.3s,baz=237,slow=23,SNR=1.7						
	3.7nm,0.4s						
WRA	**Warramunga Arr**	**20.34**	**161**	P	P	12 19 30.3	+0.6
	0.4nm,0.6s,baz=338,slow=12,SNR=6.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**23.74**	**165**	P	P	12 20 05.4	-0.3
	0.8nm,0.8s,baz=343,slow=8.0,SNR=9.4						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**61.55**	**326**	P	P	12 25 10.9	+0.1
	0.5nm,0.8s,baz=119,slow=8.4,SNR=2.9						
	0.5nm,0.8s						

IDC 18 12:16:52.7±1.4,3°96S×151°26E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=35.3km s-min=10.6km az=19.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.84**	**114**	Pg	Pg	12 17 08.0	-0.9
	26nm,0.3s,baz=236,slow=2.6,SNR=67						
KRVT				Lg	Lg	12 17 21.6	
	146nm,0.3s,baz=193,slow=22,SNR=81						
WRA	**Warramunga Arr**	**22.90**	**225**	P	P	12 21 58.9	+0.5
	0.3nm,0.6s,baz=52,slow=9.5,SNR=2.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**25.78**	**219**	P	P	12 22 25.3	-0.3
	0.3nm,0.7s,baz=56,slow=8.4,SNR=5.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**78.68**	**319**	P	P	12 28 57.1	+0.2
	0.1nm,0.3s,baz=117,slow=5.4,SNR=7.4						
	0.1nm,0.3s						

WEL 18 12:23:26.0±0.3,43°S±3°×17°3E±°,h5km,M2.7/10, ML3.1/12,MLv2.7/10,Error ellipse: s-maj=0.0km s-min=0.0km az=127.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**66**	P	Pg	12 23 32.5	+0.2
KHZ				S	Sg	12 23 37.7	+1.0
GVZ	**Greta Valley S**	**0.42**	**190**	P	Pb	12 23 35.2	-0.8
GVZ				S	Sb	12 23 42.2	-0.5
LTZ	**Lake Taylor**	**0.68**	**250**	P	Pg	12 23 39.3	+0.3
AMCZ	**Amberley**	**0.72**	**210**	P	Pb	12 23 40.9	-0.1
THZ	**Tophouse**	**0.81**	**348**	P	Pg	12 23 41.7	+0.3
OXZ	**Oxford**	**1.12**	**226**	P	Pg	12 23 46.8	-0.6
OKCZ	**Okains Bay**	**1.17**	**183**	P	Pg	12 23 47.7	-0.7
INZ	**Inchbonnie**	**1.26**	**262**	P	Pg	12 23 49.5	-0.6
INZ	**Inchbonnie**	**1.26**	**262**	P	Pg	12 23 50.1	0.0
DSZ	**Denniston Nort**	**1.28**	**309**	P	Pg	12 23 50.3	-0.1
NNZ	**Nelson**	**1.35**	**8**	P	Pg	12 23 52.4	+0.6
RACZ	**Rakaia**	**1.38**	**211**	P	Pn	12 23 50.2	-1.7
MHCZ	**Mount Hutt**	**1.51**	**229**	P	Pn	12 23 52.3	-1.4
TKNZ	**Takaka Hill**	**1.52**	**355**	P	Pn	12 23 54.0	+0.1
TKNZ				P	Pb	12 23 54.1	-0.6
WACZ	**Wakanui South**	**1.68**	**214**	P	Pn	12 23 54.2	-1.8
QRZ	**Quartz Range**	**1.78**	**345**	P	Pb	12 23 58.4	-0.8
WVZ	**Waitaha Valley**	**1.84**	**253**	P	Pn	12 23 58.3	+0.1
RPZ	**Rata Peaks**	**1.92**	**232**	P	Pn	12 23 58.1	-1.1
TMZ	**Timaru**	**2.40**	**220**	P	Pn	12 24 04.7	-1.2
ODZ	**Otahua Downs**	**3.08**	**215**	P	Pn	12 24 13.3	-1.9
WAZ	**Wanganui**	**3.12**	**27**	P	Pn	12 24 16.0	+0.2
LREZ	**Lake Rotokare**	**3.23**	**18**	P	Pb	12 24 20.6	-3.2
DREZ	**Durham Road**	**3.46**	**14**	P	Pn	12 24 23.6	+3.2
VRZ	**Vera Road**	**3.64**	**20**	P	Pn	12 24 23.2	+0.3
PKVZ	**Pokaka**	**3.66**	**28**	P	Pn	12 24 25.1	+1.7
MOVZ	**Moawhango**	**3.71**	**33**	P	Pn	12 24 25.0	+1.0
WNVZ	**Wahianoa**	**3.72**	**31**	P	Pn	12 24 26.1	+1.9
TRVZ	**Turoa**	**3.73**	**30**	P	Pn	12 24 24.3	-0.1
WHVZ	**Whangaehu Hut**	**3.76**	**30**	P	Pn	12 24 27.0	+2.2
FWVZ	**Far West T-bar**	**3.77**	**30**	P	Pn	12 24 27.9	+3.0
BHHZ	**Black Hill Sta**	**3.78**	**37**	P	Pn	12 24 24.4	-0.5
TUVZ	**Tukino**	**3.79**	**31**	P	Pn	12 24 27.5	+2.3
NGZ	**Ngauruhoe**	**3.86**	**30**	P	Pn	12 24 26.9	+0.8
SNVZ	**South Ngauruho**	**3.86**	**30**	P	Pn	12 24 29.2	+3.0
NNVZ	**North Ngauruho**	**3.90**	**30**	P	Pn	12 24 25.1	-1.5
HIZ	**Hauiti**	**4.24**	**19**	P	Pn	12 24 31.5	+0.3
TLZ	**Tolley Road**	**4.60**	**24**	P	Pn	12 24 39.7	+3.5
MUGZ	**Murupara**	**4.92**	**35**	P	Pn	12 24 41.4	+0.8
TOZ	**Tahuroa Road**	**5.14**	**21**	P	Pn	12 24 47.4	+3.8
MKAZ	**Moumakai**	**5.66**	**17**	P	Pn	12 24 52.0	+1.3

*WEL **18** 12:23:38.6±0.4,42°S±3°×17°4E±°,h8km±3km,M3.1/25, ML3.4/18,MLv3.1/25,Error ellipse: s-maj=0.0km s-min=0.0km az=142.4*
*NOU **18** 12:23:45.1,41°59S×173°93E,h12km,MLv3.9/5,South Island, New Zealand*

ISC 18 12:23:38.8±1.0,41°71S±0°04×174°34E±0°03,h8km±9km, n33,σ1°10/37,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**244**	P	**Pg**	**12 23 40.7**	**-0.5**
CMWZ				S	**Sg**	**12 23 43.1**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.34**	**268**	P	**Pg**	**12 23 45.6**	**+0.1**
BSWZ				S	**Sb**	**12 23 51.6**	**-1.2**
TUWZ	**Tuamarina**	**0.40**	**313**	P	**Pg**	**12 23 47.3**	**+0.7**
TUWZ				S	**Sb**	**12 23 54.2**	**-0.2**
TCW	**Tory Channel**	**0.50**	**355**	P	**Pg**	**12 23 49.3**	**+1.0**
TCW				S	**Sb**	**12 23 57.4**	**+0.3**
WEL	**Wellington**	**0.53**	**38**	P	**Pg**	**12 23 50.2**	**+1.2**
PLWZ	**Palliser**	**0.70**	**79**	P	**Pb**	**12 23 54.0**	**+0.7**
MSWZ	**Moikau Station**	**0.74**	**67**	P	**Pg**	**12 23 54.3**	**+1.2**
CAW	**Cannon Point**	**0.81**	**43**	P	**Pg**	**12 23 55.3**	**+0.9**
NNZ	**Nelson**	**0.87**	**304**	P	**Pg**	**12 23 55.2**	**-0.2**
PAWZ	**Paruwai Farm**	**0.88**	**69**	P	**Pg**	**12 23 56.5**	**+0.8**
KIW	**Kapiti Island**	**0.95**	**27**	P	**Pg**	**12 23 57.4**	**+0.4**
DUWZ	**D'Urville Isla**	**0.95**	**341**	P	**Pg**	**12 23 57.1**	**-0.1**
MTW	**Mount Morrison**	**1.03**	**58**	P	**Pg**	**12 23 58.7**	**+0.1**
TRWZ	**Traveller**	**1.06**	**74**	P	**Pg**	**12 23 58.4**	**-0.7**
OGWZ	**Otaki Gorge**	**1.09**	**36**	P	**Pg**	**12 23 59.7**	**0.0**
HOWZ	**Holdsworth Sta**	**1.20**	**48**	P	**Pb**	**12 24 01.4**	**-0.4**
MRNZ	**Matariki Terra**	**1.22**	**284**	P	**Pb**	**12 24 01.7**	**-0.4**
TKNZ	**Takaka Hill**	**1.23**	**303**	P	**Pb**	**12 24 01.8**	**-0.5**
TMWZ	**Te Maipa**	**1.31**	**63**	P	**Pn**	**12 24 02.2**	**-1.2**
MRZ	**Mangatainoka R**	**1.40**	**42**	P	**Pn**	**12 24 04.3**	**-0.3**
QRZ	**Quartz Range**	**1.62**	**302**	P	**Pn**	**12 24 08.6**	**+1.0**
QRZ	**Quartz Range**	**1.62**	**302**	P	**Pn**	**12 24 08.5**	**+0.9**
PRWZ	**Pori Road**	**1.69**	**48**	P	**Pn**	**12 24 08.6**	**0.0**
BFZ	**Birch Farm**	**1.77**	**55**	P	**Pn**	**12 24 09.4**	**-0.2**
LTZ	**Lake Taylor**	**1.87**	**234**	P	**Pn**	**12 24 09.7**	**-1.4**
DVHZ	**Dannevirke**	**1.97**	**45**	P	**Pn**	**12 24 11.3**	**-1.2**
TSZ	**Takapari Road**	**2.06**	**37**	P	**Pn**	**12 24 13.0**	**-0.6**
KHEZ	**Kahui Hut**	**2.42**	**354**	P	**Pb**	**12 24 23.2**	**+0.7**
KHEZ	**Kahui Hut**	**2.42**	**354**	P	**Pb**	**12 24 23.3**	**+0.7**
BKZ	**Black Stump Fm**	**3.02**	**34**	P	**Pb**	**12 24 34.2**	**+1.3**
HIZ	**Hauiti**	**3.21**	**7**	P	**Pb**	**12 24 33.8**	**-2.2**
MWZ	**Matawai**	**4.17**	**37**	P	**Pn**	**12 24 40.2**	**-2.4**
JCZ	**Jackson Bay**	**4.71**	**238**	P	**Pn**	**12 24 53.4**	**+3.2**

*PGC **18** 12:24:12.5±0.3,50°55N×130°31W,h10km,MLSn3.2/37, Mw3.8/37,205km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **18** 12:24:15.0±1.5,50°67N×129°88W,h0km,mb3.5/2, mbtmp3.5/8,ML3.7/4,MS3.1/2,Error ellipse: s-maj=23.0km s-min=10.9km az=73.0*

ISC 18 12:24:13.9±2.8,50°60N±0°05×130°13W±0°07, h10km±18km,n86,σ1°68/87,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.27**	**88**	P	Pn	12 24 36.0	-1.8
HOLB				S	**Sg**	**12 24 52.2**	**-2.6**
BPBC	**Brooks Peninsu**	**1.57**	**106**	Pn	Pn	12 24 39.5	-2.5
PACB	**Port Alice, BC**	**1.69**	**95**	Pn	**Pn**	**12 24 41.8**	**-1.7**
PACB				Sn	**Sn**	**12 25 01.2**	**-4.0**
HG4B	**Hotspring**	**1.82**	**339**	Pn	Pn	12 24 41.8	-3.5
HG4B	

B08A	Colville Reser	7.38	104	Pn		Pn		12 26 03.0	+1.2	
DLBC	Dease Lake	7.85	0	Pn		Pn		12 26 09.2	+1.1	
	0.4nm,0.3s,baz=183,slow=12,SNR=18									
DLBC				Sn		Sn		12 27 34.0	-3.1	
	0.2nm,0.3s,baz=189,slow=18,SNR=2.0									
	1.5nm,0.4s									
DLBC	Dease Lake	7.85	0	Pn		Pn		12 26 10.0	+1.8	
BDMTA	Bald Mountain	8.01	54	Pn		Pn		12 26 12.8	+2.5	
NBC5	NorthernBC 5	8.20	29	Pn		Pn		12 26 14.4	+1.5	
NEW	Newport	8.79	100	Pn		Pn		12 26 20.8	-0.3	
	0.5nm,0.3s,baz=294,slow=12,SNR=7.9									
NEW				LR		LR		12 29 54.3		
	comp=Z,128nm,19.2s,baz=290,slow=39									
	1.6nm,0.4s									
YBH	Yreka Blue Hor	10.25	147	Pn		Pn		12 26 44.0	+2.9	
	3.1nm,1.0s,baz=337,slow=7.7,SNR=3.8									
NVAR	Mina Array Bea	14.78	141	Pn		P		12 27 47.6	-1.6	
	0.1nm,0.3s,baz=320,slow=9.7,SNR=2.2									
	0.1nm,0.3s									
PDAR	Pinedale Array	16.11	111	Pn		Pn		12 28 03.4	+2.8	
	0.1nm,0.3s,baz=302,slow=9.3,SNR=14									
PDAR				LR		LR		12 34 11.5		
	comp=Z,55nm,19.3s,baz=306,slow=37									
	2.6nm,0.9s									
ILAR	Eielson Array	16.70	335	Pn		P		12 28 12.7	+2.6	
	1.0nm,1.0s,baz=145,slow=12,SNR=8.3									
ANMO	Albuquerque	23.23	123	P		P		12 29 23.2	+1.8	
	0.7nm,0.7s,baz=315,slow=8.6,SNR=2.2									
	0.7nm,0.7s									
TXAR	Lajitas Array	29.10	127	P		P		12 30 16.6	+1.9	
	1.0nm,1.0s,baz=336,slow=5.5,SNR=5.1									
	1.0nm,1.0s									
H11N2	WAKE ISLAND Hy	57.90	262	T		T		13 36 33.9		
	baz=42,slow=76,SNR=408									
H11N3	WAKE ISLAND Hy	57.90	262	T		T		13 36 33.9		
	baz=42,slow=76,SNR=539									
H11N1	WAKE ISLAND Hy	57.92	262	T		T		13 36 35.1		
	baz=42,slow=76,SNR=230									
H11S1	WAKE ISLAND Hy	58.93	261	T		T		13 37 56.8		
	baz=40,slow=75,SNR=14									
H11S2	WAKE ISLAND Hy	58.94	261	T		T		13 37 59.5		
	baz=40,slow=75,SNR=12									
H11S3	WAKE ISLAND Hy	58.95	261	T		T		13 38 23.1		
	baz=40,slow=75,SNR=7.9									

IDC 18 12:28:55.1±1.9,0°02S×134°90E,h0km,mb3.9/3, mbtmp3.9/4,ML3.9/1,MS3.0/1,Error ellipse: s-maj=83.3km s-min=24.8km az=70.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PMG	Port Moresby	15.36	128	LR	LR	12 38 53.2		
	comp=Z,58nm,21.2s,baz=32,slow=39							
WRA	Warramunga Arr	19.81	182	P	P	12 33 26.9		-0.4
	0.4nm,0.3s,baz=2.0,slow=11,SNR=39							
	3.0nm,0.6s							
CTA	Charters Tower	22.84	152	P	P	12 34 00.6		+0.6
	4.0nm,0.6s,baz=327,slow=10,SNR=7.0							
	4.0nm,0.6s							
ASAR	Alice Springs	23.53	182	P	P	12 34 07.0		-0.1
	1.4nm,0.5s,baz=10,slow=11,SNR=34							
	1.4nm,0.5s							
MKAR	Makanchi Array	65.36	323	P	P	12 39 39.3		-0.1
	0.7nm,0.7s,baz=116,slow=6.6,SNR=5.4							
	0.7nm,0.7s							

WEL 18 12:39:45.8±0.5,43°S±3°×17°3E±°,h5km,M2.4/9,ML2.7/8, MLv2.4/9,Error ellipse: s-maj=0.0km s-min=0.0km az=82.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GVZ	Greta Valley S	0.33	158	P	Pg	12 39 52.6		+0.5
GVZ				S	Sb	12 39 58.2		-1.5
LTZ	Lake Taylor	0.46	255	P	Pg	12 39 54.9		+0.3
LTZ				S	Sg	12 40 01.9		+1.3
AMCZ	Amberley	0.54	197	P	Pb	12 39 57.0		-0.7
OXZ	Oxford	0.90	222	P	Pb	12 40 03.5		-0.4
THZ	Tophouse	0.90	2	P	Pb	12 40 03.6		-0.3
INZ	Inchbonnie	1.05	266	P	Pb	12 40 06.3		0.0
MQZ	McQueen's Vall	1.05	189	P	Pg	12 40 04.9		-1.1
MQZ	McQueen's Vall	1.05	189	P	Pg	12 40 00.4		-5.5
OKCZ	Okains Bay	1.07	173	P	Pg	12 40 05.7		-0.5
RACZ	Rakaia	1.19	206	P	Pg	12 40 07.0		-1.6
DSZ	Denniston Nort	1.21	319	P	Pg	12 40 08.9		-0.1
MHCZ	Mount Hutt	1.29	227	P	Pn	12 40 10.4		-0.1

WEL 18 12:40:03.5±0.5,42°S±3°×17°4E±°,h9km±4km,M2.2/13, ML2.5/12,MLv2.2/13,Error ellipse: s-maj=0.0km s-min=0.0km az=55.7,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CMWZ	Cape Campbell	0.06	128	P	Pg	12 40 06.1		+0.6
CMWZ				S	Sg	12 40 08.4		+1.6
BSWZ	Blackbirch Sta	0.21	269	P	Pg	12 40 08.6		+0.8
BSWZ				S	Sg	12 40 12.4		+1.8
TUWZ	Tuamarina	0.32	331	P	Pb	12 40 10.9		-0.6
TUWZ				S	Sb	12 40 16.5		-0.3
TCW	Tory Channel	0.51	11	P	Pg	12 40 13.9		+0.4
TCW				S	Sb	12 40 21.5		-0.8
WEL	Wellington	0.63	47	P	Pg	12 40 16.2		+0.5
NNZ	Nelson	0.76	310	P	Pg	12 40 18.6		+0.4
KHZ	Kahutara	0.84	213	P	Pb	12 40 20.4		+0.1
PLWZ	Palliser	0.84	80	P	Pg	12 40 19.9		+0.2
MSWZ	Moikau Station	0.88	71	P	Pb	12 40 20.8		-0.1
CAW	Cannon Point	0.92	49	P	Pg	12 40 21.2		+0.1
DUWZ	D'Urville Isla	0.93	349	P	Pg	12 40 21.4		0.0
KIW	Kapiti Island	1.02	34	P	Pg	12 40 22.9		-0.3
MTW	Mount Morrison	1.16	62	P	Pb	12 40 24.4		-1.3
OGWZ	Otaki Gorge	1.18	41	P	Pb	12 40 25.6		-0.5
MRZ	Mangatainoka R	1.50	46	P	Pn	12 40 29.7		-1.0

WEL 18 12:40:33.4±0.3,42°S±3°×17°3E±°,h5km,M3.5/19, ML3.8/13,MLv3.5/19,Error ellipse: s-maj=0.0km s-min=0.0km az=129.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KHZ	Kahutara	0.11	119	P	Pg	12 40 35.5		-0.2
GVZ	Greta Valley S	0.67	205	P	Pb	12 40 47.0		-0.6
THZ	Tophouse	0.71	328	P	Pg	12 40 47.2		+0.1
CMWZ	Cape Campbell	0.86	44	P	Pb	12 40 50.7		-0.1
LTZ	Lake Taylor	0.94	243	P	Pg	12 40 51.6		0.0
AMCZ	Amberley	0.99	214	P	Pg	12 40 52.7		+0.3
TUWZ	Tuamarina	1.01	23	P	Pg	12 40 52.3		-0.6
MRNZ	Matariki Terra	1.08	333	P	Pg	12 40 54.4		+0.2
NNZ	Nelson	1.15	359	P	Pg	12 40 54.7		-0.7
TCW	Tory Channel	1.32	30	P	Pn	12 40 56.7		-1.8
DSZ	Denniston Nort	1.35	297	P	Pn	12 40 58.6		-0.4
TKNZ	Takaka Hill	1.37	346	P	Pn	12 40 58.9		-0.4
OKCZ	Okains Bay	1.38	191	P	Pn	12 40 56.7		-2.7
OXZ	Oxford	1.40	226	P	Pn	12 40 57.2		-2.4
MQZ	McQueen's Vall	1.45	202	P	Pn	12 40 57.1		-3.3
WEL	Wellington	1.48	44	P	Pn	12 40 58.4		-2.3
INZ	Inchbonnie	1.50	255	P	Pn	12 41 00.2		-0.8
AKCZ	Akaroa Harbour	1.55	194	P	Pn	12 40 59.4		-2.4
PLWZ	Palliser	1.59	61	P	Pn	12 40 59.0		-3.2
DUWZ	D'Urville Isla	1.61	14	P	Pn	12 41 02.7		+0.2
RACZ	Rakaia	1.65	214	P	Pn	12 41 00.7		-2.4
MSWZ	Moikau Station	1.67	56	P	Pn	12 41 00.3		-3.0
QRZ	Quartz Range	1.67	336	P	Pn	12 41 03.6		+0.2
CAW	Cannon Point	1.76	45	P	Pn	12 41 01.9		-2.7
MHCZ	Mount Hutt	1.79	229	P	Pn	12 41 02.6		-2.4
PAWZ	Paruwai Farm	1.79	58	P	Pn	12 41 01.7		-3.4
KIW	Kapiti Island	1.87	37	P	Pn	12 41 04.3		-1.8
TRWZ	Traveller	1.95	61	P	Pn	12 41 04.9		-2.3
WACZ	Wakanui South	1.95	216	P	Pn	12 41 05.2		-2.1
MTW	Mount Morrison	1.97	53	P	Pn	12 41 04.3		-3.2
OGWZ	Otaki Gorge	2.03	41	P	Pn	12 41 05.8		-2.5
WVZ	Waitaha Valley	2.10	249	P	Pn	12 41 08.6		-0.7
WVZ				P	Pn	12 41 08.5		-0.7
HOWZ	Holdsworth Sta	2.15	48	P	Pn	12 41 09.4		-0.6
RPZ	Rata Peaks	2.19	231	P	Pn	12 41 08.6		-2.0
TMWZ	Te Maipa	2.24	57	P	Pn	12 41 07.5		-3.7
ARCZ	Arundel	2.28	225	P	Pn	12 41 09.4		-2.3
MRZ	Mangatainoka R	2.35	44	P	Pn	12 41 09.9		-2.9
TMZ	Timaru	2.67	220	P	Pn	12 41 16.3		-0.9
WAZ	Wanganui	2.87	25	P	Pb	12 41 22.6		-2.4
DVHZ	Dannevirke	2.92	46	P	Pb	12 41 23.8		-2.3
NMEZ	Namu Road	2.97	7	P	Pg	12 41 32.5		+2.2
ANWZ	Angora Road	2.99	51	P	Pg	12 41 39.3		+8.7
LREZ	Lake Rotokare	3.00	15	P	Pg	12 41 29.1		-1.7
TSZ	Takapari Road	3.00	41	P	Pn	12 41 20.6		-1.1
KHEZ	Kahui Hut	3.10	9	P	Pb	12 41 29.3		+0.2
LBZ	Lake Benmore	3.10	228	P	Pb	12 41 27.7		-1.4
NBEZ	Newall Road No	3.11	6	P	Pg	12 41 31.5		-1.6
DREZ	Durham Road	3.23	11	P	Pg	12 41 35.6		+0.4
PNHZ	Pukenui	3.23	42	P	Pn	12 41 22.9		-1.9
WPHZ	Waipukurau	3.24	46	P	Pg	12 41 40.3		+4.9
ODZ	Otahua Downs	3.35	216	P	Pn	12 41 24.0		-2.5
VRZ	Vera Road	3.39	18	P	Pn	12 41 29.4		+2.4
PKVZ	Pokaka	3.40	26	P	Pn	12 41 29.2		+1.9
MOWZ	Moawhango	3.44	32	P	Pn	12 41 28.7		+0.8
WNVZ	Wahianoa	3.46	29	P	Pn	12 41 29.6		+1.5
TRVZ	Turoa	3.46	29	P	Pn	12 41 31.5		+3.3
DRZ	Dome Shelter	3.49	29	P	Pb	12 41 35.9		+0.1
PXZ	Pawanui	3.49	49	P	Pg	12 41 45.3		+5.0
BHHZ	Black Hill Sta	3.50	36	P	Pb	12 41 37.4		+1.5
FWVZ	Far West T-bar	3.50	28	P	Pb	12 41 35.8		-0.3
TUVZ	Tukino	3.53	30	P	Pn	12 41 31.7		+2.7
NGZ	Ngauruhoe	3.59	28	P	Pn	12 41 32.9		+3.0
OTVZ	Oturere	3.63	29	P	Pn	12 41 34.0		+3.6
NNVZ	North Ngauruho	3.64	28	P	Pn	12 41 33.0		+2.4
WTVZ	West Tongariro	3.64	28	P	Pg	12 41 41.2		-2.0
ETVZ	East Tongariro	3.67	29	P	Pn	12 41 34.3		+3.4
TMVZ	Te Maari	3.68	29	P	Pb	12 41 39.9		+0.9
BKZ	Black Stump Fm	3.96	37	P	Pn	12 41 36.9		+2.1
HIZ	Hauiti	4.00	16	P	Pn	12 41 37.8		+2.4
TLZ	Tolley Road	4.34	23	P	Pn	12 41 39.4		-0.8
TOZ	Tahuroa Road	4.90	20	P	Pn	12 41 49.5		+1.8
AWAZ	Awhitu Peninsu	5.38	11	P	Pn	12 41 57.5		+3.2
MKAZ	Moumakai	5.42	15	P	Pn	12 41 54.6		+2.3
ETAZ	East Tamaki Re	5.53	13	P	Pn	12 41 56.0		-0.4
MBAZ	Motutapu North	5.70	12	P	Pn	12 42 02.0		+3.2

WEL 18 12:41:56.4±0.4,42°S±2°×17°4E±°,h7km±3km,M3.4/29, ML3.6/13,MLv3.4/29,Error ellipse: s-maj=0.0km s-min=0.0km az=111.9,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KHZ	Kahutara	0.13	178	P	Pg	12 41 59.9		+0.7
KHZ				S	Sg	12 42 02.8		+1.7
BSWZ	Blackbirch Sta	0.62	24	P	Pg	12 42 08.4		+0.1
BSWZ				S	Sb	12 42 17.8		-0.7
THZ	Tophouse	0.70	318	P	Pb	12 42 10.5		-0.4
CMWZ	Cape Campbell	0.73	44	P	Pb	12 42 11.2		-0.3
GVZ	Greta Valley S	0.78	208	P	Pb	12 42 12.0		-0.3
TUWZ	Tuamarina	0.91	20	P	Pg	12 42 13.7		0.0
MRNZ	Matariki Terra	1.06	326	P	Pb	12 42 17.1		+0.1
LTZ	Lake Taylor	1.06	241	P	Pg	12 42 16.5		-0.2
NNZ	Nelson	1.07	354	P	Pg	12 42 16.5		-0.4
AMCZ	Amberley	1.10	216	P	Pg	12 42 16.4		-1.2
TCW	Tory Channel	1.21	28	P	Pg	12 42 17.8		-1.7
TKNZ	Takaka Hill	1.32	341	P	Pn	12 42 21.0		-0.2
WEL	Wellington	1.36	43	P	Pn	12 42 19.6		-2.2
DSZ	Denniston Nort	1.40	292	P	Pn	12 42 22.4		+0.1
PLWZ	Palliser	1.47	62	P	Pn	12 42 20.3		-3.1
OKCZ	Okains Bay	1.48	193	P	Pn	12 42 20.7		-2.8
DUWZ	D'Urville Isla	1.51	11	P	Pn	12 42 23.0		-0.9
MSWZ	Moikau Station	1.55	57	P	Pn	12 42 21.3		-3.1
MQZ	McQueen's Vall	1.56	204	P	Pn	12 42 21.2		-3.3
QRZ	Quartz Range	1.64	332	P	Pb	12 42 26.3		-0.6
CAW	Cannon Point	1.64	45	P	Pn	12 42 23.2		-2.5
AKCZ	Akaroa Harbour	1.65	196	P	Pn	12 42 22.9		-2.9
PAWZ	Paruwai Farm	1.68	58	P	Pn	12 42 22.9		-3.3
KIW	Kapiti Island	1.76	36	P	Pn	12 42 25.3		-1.9
RACZ	Rakaia	1.77	215	P	Pn	12 42 24.5		-2.9
MTW	Mount Morrison	1.85	53	P	Pn	12 42 25.2		-3.3
MHCZ	Mount Hutt	1.91	228	P	Pn	12 42 26.8		-2.6
OGWZ	Otaki Gorge	1.91	41	P	Pn	12 42 26.9		-2.4
HOWZ	Holdsworth Sta	2.03	48	P	Pb	12 42 34.2		+0.6
WACZ	Wakanui South	2.07	216	P	Pn	12 42 28.9		-2.6
MRZ	Mangatainoka R	2.23	44	P	Pn	12 42 30.9		-2.9
AWAZ	Awhitu Peninsu	5.28	10	P	Pn	12 43 15.5		-0.2
MKAZ	Moumakai	5.32	14	P	Pn	12 43 15.2		-1.1
ETAZ	East Tamaki Re	5.43	12	P	Pn	12 43 17.4		-0.4
WIAZ	Waiheke Island	5.62	13	P	Pn	12 43 20.0		-0.3

IDC 18 12:48:17.5±1.1,42°S×173°75E,h0km,mb4.1/3, mbtmp4.2/4,ML4.5/1,Error ellipse: s-maj=42.2km s-min=27.7km az=154.0
NEIC 18 12:48:18.9±0.9,42°44S±0°03×173°94E±0°05,h10km±1km, mb4.5/11,Error ellipse: s-maj=6.5km s-min=4.7km az=251.0
WEL 18 12:48:20.7±0.5,42°S±3°×17°4E±°,h5km,M4.2/47, ML4.6/14,MLv4.2/47,Error ellipse: s-maj=0.0km s-min=0.0km az=129.9
NOU 18 12:48:20.3,42°49S×173°76E,h6km,MLv4.6/9,South Island, New Zealand

ISC 18 12:48:20.2±0.6,42°41S±0°03×173°90E±0°04,h21km,n171, σ1§26/176,mb4.3/10,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KHZ	Kahutara	0.27	269		Pb	12 48 24.7		-1.9
KHZ	Kahutara	0.27	269	P	Pb	12 48 24.6		-1.9
KHZ	Kahutara	0.27	269	P	Pb	12 48 24.7		-1.9
KHZ				S	Sb	12 48 28.1		-2.8
BSWZ	Blackbirch Sta	0.70	359		Pb	12 48 32.5		-1.2
BSWZ	Blackbirch Sta	0.70	359	P	Pb	12 48 32.6		-1.2
CMWZ	Cape Campbell	0.70	20		Pb	12 48 34.6		+0.8
CMWZ	Cape Campbell	0.70	20	P	Pb	12 48 34.7		-0.2
GVZ	Greta Valley S	0.84	229		Pn	12 48 37.6		+0.7
GVZ	Greta Valley S	0.84	229	P	Pn	12 48 37.6		+0.7
GVZ				S	Sn	12 48 50.9		+2.1
TUWZ	Tuamarina	0.98	2	Pg	Pb	12 48 37.9		-0.6
TUWZ	Tuamarina	0.98	2	P	Pb	12 48 38.0		-0.6
THZ	Tophouse	0.98	311		Pb	12 48 36.9		-1.7
THZ	Tophouse	0.98	311	P	Pb	12 48 36.9		-1.7
AMCZ	Amberley	1.19	230		Pb	12 48 42.1		-0.1
AMCZ	Amberley	1.19	230	P	Pb	12 48 42.3		+0.2
TCW	Tory Channel	1.23	13		Pn	12 48 42.3		0.0
TCW	Tory Channel	1.23	13	P	Pn	12 48 42.3		+0.1
NNZ	Nelson	1.25	342		Pn	12 48 41.8		-0.7
NNZ	Nelson	1.25	342	P	Pn	12 48 41.9		-0.7
SNZO	South Karori	1.25	29		Pn	12 48 42.9		+0.4
LTZ	Lake Taylor	1.26	252		Pb	12 48 42.8		-0.5
LTZ	Lake Taylor	1.26	252	P	Pb	12 48 42.8		-0.5
WEL	Wellington	1.30	30	P	Pn	12 48 43.6		+0.5
PLWZ	Palliser	1.32	51		Pb	12 48 44.0		-0.2
PLWZ	Palliser	1.32	51	P	Pn	12 48 43.7		+0.3
MRNZ	Matariki Terra	1.32	320		Pn	12 48 43.1		-0.4
MRNZ	Matariki Terra	1.32	320	P	Pn	12 48 43.3		-0.1
MSWZ	Moikau Station	1.42	46		Pn	12 48 44.9		+0.1
MSWZ	Moikau Station	1.42	46	P	Pn	12 48 45.0		+0.2
OKCZ	Okains Bay	1.45	205	P	Pb	12 48 46.0		-0.5
PAWZ	Paruwai Farm	1.54	48	P	Pn	12 48 46.6		+0.1
TKNZ	Takaka Hill	1.55	333		Pn	12 48 46.8		+0.2
TKNZ	Takaka Hill	1.55	333	P	Pn	12 48 47.1		+0.5
CAW	Cannon Point	1.57	34	P	Pn	12 48 47.2		+0.4
MQZ	McQueen's Vall	1.58	215	Pn	Pn	12 48 46.8		-0.2
MQZ	McQueen's Vall	1.58	215	P	Pn	12 48 47.0		-0.1
DUWZ	D'Urville Isla	1.61	1	P	Pn	12 48 47.7		+0.3
AKCZ	Akaroa Harbour	1.63	206	P	Pb	12 48 48.2		-1.4
OXZ	Oxford	1.65	236	Pn	Pn	12 48 47.6		-0.3
OXZ	Oxford	1.65	236	P	Pn	12 48 47.7		-0.3
TRWZ	Traveller	1.68	53	P	Pn	12 48 48.5		+0.1
DSZ	Denniston Nort	1.69	292		Pn	12 48 49.3		+0.7
DSZ	Denniston Nort	1.69	292	P	Pn	12 48 49.1		+0.5
KIW	Kapiti Island	1.73	26	P	Pn	12 48 49.6		+0.5
MTW	Mount Morrison	1.73	44	P	Pn	12 48 49.1		-0.1
INZ	Inchbonnie	1.84	259		Pn	12 48 50.8		+0.2
INZ	Inchbonnie	1.84	259	P	Pn	12 48 50.8		+0.2
RACZ	Rakaia	1.84	224	P	Pn	12 48 50.6		0.0
OGWZ	Otaki Gorge	1.86	31	P	Pn	12 48 51.1		+0.3
QRZ	Quartz Range	1.89	327		Pn	12 48 52.4		+1.1
QRZ	Quartz Range	1.89	327	P	Pn	12 48 52.4		+1.2
HOWZ	Holdsworth Sta	1.94	39	P	Pn	12 48 51.9		-0.1
TMWZ	Te Maipa	1.98	49	P	Pn	12 48 52.3		-0.3
MHCZ	Mount Hutt	2.04	236	P	Pn	12 48 53.1		-0.3
WACZ	Wakanui South	2.15	224	P	Pn	12 48 55.0		+0.2
MRZ	Mangatainoka R	2.16	36	Pn	Pn	12 48 54.8		-0.2
MRZ	Mangatainoka R	2.16	36	P	Pn	12 48 54.8		-0.2
WVZ	Waitaha Valley	2.42	253	P	Pn	12 48 59.2		+0.7
PRWZ	Pori Road	2.42	41	P	Pn	12 48 59.5		+0.9
RPZ	Rata Peaks	2.46	237	Pn	Pn	12 48 58.3		-0.8
	107nm,0.3s,baz=75,slow=2.1,SNR=82							
RPZ				Sn	Sn	12 49 28.3		-0.2
	184nm,0.3s,baz=58,slow=24,SNR=36							
	620nm,0.5s							
RPZ	Rata Peaks	2.46	237	Pn	Pn	12 48 59.0		-0.1
RPZ	Rata Peaks	2.46	237	P	Pn	12 48 59.0		-0.1
RPZ	Rata Peaks	2.46	237	P	Pn	12 48 59.0		-0.1
BFZ	Birch Farm	2.47	46	Pn	Pn	12 48 58.7		-0.5
BFZ	Birch Farm	2.47	46	P	Pn	12 48 58.7		-0.5
ARCZ	Arundel	2.51	231	P	Pn	12 48 59.9		0.0
DVHZ	Dannevirke	2.71	40	P	Pn	12 49 01.6		-1.0
GCSZ	Gaunt Creek Bo	2.78	250	P	Pn	12 49 04.3		+0.9
WAZ	Wanganui	2.78	18	P	Pn	12 49 05.6		+2.1
TSZ	Takapari Road	2.82	34	P	Pn	12 49 03.8		-0.3
TMZ	Timaru	2.88	226	P	Pn	12 49 05.0		+0.1
LREZ	Lake Rotokare	2.97	8	P	Pn	12 49 09.1		+2.9
NMEZ	Namu Road	3.00	360	P	Pb	12 49 11.5		-1.3
PNHZ	Pukenui	3.04	36	P	Pn	12 49 06.7		-0.5
KHEZ	Kahui Hut	3.12	2	P	Pb	12 49 12.0		-3.0
KHEZ	Kahui Hut	3.12	2	P	Pb	12 49 12.1		-2.9
NBEZ	Newall Road No	3.14	360	P	Pn	12 49 11.6		+3.1
NEZ	North Egmont	3.14	3	P	Pb	12 49 13.9		-1.5
FOZ	Fox Glacier	3.20	248	Pn	Pn	12 49 10.2		+1.0
FOZ	Fox Glacier	3.20	248	P	Pn	12 49 10.3		+1.1
PKE	Pukeiti	3.22	1	P	Pn	12 49 12.4		+2.9
DREZ	Durham Road	3.23	4	P	Pn	12 49 11.9		+2.3
MTVZ	Mangateitei	3.25	22	P	Pn	12 49 12.4		+2.4
PKVZ	Pokaka	3.31	20	P	Pn	12 49 12.3		+1.5
MOVZ	Moawhango	3.31	26	P	Pn	12 49 11.3		+0.4
WNVZ	Wahianoa	3.34	23	P	Pn	12 49 13.7		+2.4
BHHZ	Black Hill Sta	3.35	30	P	Pn	12 49 11.8		+0.4
LBZ	Lake Benmore	3.35	233	Pn	Pn	12 49 11.6		+0.3
LBZ	Lake Benmore	3.35	233	P	Pn	12 49 11.6		+0.2
VRZ	Vera Road	3.35	12	P	Pn	12 49 13.3		+2.0
TRVZ	Turoa	3.35	22	P	Pn	12 49 13.4		+1.9
DRZ	Dome Shelter	3.38	23	P	Pn	12 49 15.0		+3.0
WHVZ	Whangaehu Hut	3.38	23	P	Pn	12 49 13.1		+1.1
FWVZ	Far West T-bar	3.39	22	P	Pn	12 49 13.5		+1.3
TUVZ	Tukino	3.41	24	P	Pn	12 49 14.3		+1.9
NGZ	Ngauruhoe	3.48	22	P	Pn	12 49 15.8		+2.5
SNVZ	South Ngauruho	3.48	23	P	Pn	12 49 15.8		+2.5
OTVZ	Oturere	3.51	23	P	Pn	12 49 16.8		+3.1
NNVZ	North Ngauruho	3.53	22	P	Pn	12 49 16.2		+2.3
ODZ	Otahua Downs	3.53	221	Pn	Pn	12 49 13.9		+0.1
ODZ	Otahua Downs	3.53	221	P	Pn	12 49 14.1		+0.2
ODZ	Otahua Downs	3.53	221	P	Pn	12 49 14.1		+0.2
WTVZ	West Tongariro	3.54	22	P	Pn	12 49 16.5		+2.5
ETVZ	East Tongariro	3.55	23	P	Pn	12 49 16.5		+2.3
TMVZ	Te Maari	3.57	23	P	Pn	12 49 15.5		+1.1
BKZ	Black Stump Fm	3.79	32	Pn	Pn	12 49 16.9		-0.7
BKZ	Black Stump Fm	3.79	32	P	Pn	12 49 18.1		+0.6
RATZ	Rangitukua	3.82	23	P	Pb	12 49 23.8		-3.1
HIZ	Hauiti	3.96	11	Pn	Pn	12 49 21.5		+1.8
HIZ	Hauiti	3.96	11	P	Pn	12 49 22.7		+2.9
HI

CHMS	**Chumysh**	**0.04**	**224**	⇑P		**Pg**	**13 10 03.0**	**-0.2**
	124nm,0.1s,SNR=278								
CHMS				⇑S		**Sg**	**13 10 04.6**	**-0.1**
	295nm,0.1s								
CHMS	**Chumysh**	**0.04**	**224**	⇓*i*P		**Pg**	**13 10 03.1**	**-0.1**
	baz=25								
CHMS				⇓*i*S		**Sg**	**13 10 04.5**	**-0.1**
	baz=25								
CHMS	**Chumysh**	**0.04**	**224**	⇑P		**Pg**	**13 10 02.8**	**-0.4**
	39nm,0.2s								
CHMS				⇑S		**Sg**	**13 10 04.5**	**-0.1**
	241nm,0.4s								
USP	**Ospenovka**	**0.32**	**319**	⇓P		**Pg**	**13 10 07.5**	**-0.2**
	21nm,0.1s,SNR=11								
USP				⇑S		**Sg**	**13 10 11.8**	**-0.1**
	32nm,0.1s								
USP	**Ospenovka**	**0.32**	**319**	⇓*i*P		**Pg**	**13 10 07.4**	**-0.2**
	baz=17								
USP				⇓*i*S		**Sg**	**13 10 11.9**	**-0.1**
	baz=17								
KBK	**Karagaybulak**	**0.39**	**163**	⇓P		**Pg**	**13 10 09.0**	**0.0**
	9.1nm,0.1s,SNR=39								
KBK				⇑S		**Sg**	**13 10 14.8**	**+0.7**
	24nm,0.1s								
KBK	**Karagaybulak**	**0.39**	**163**	⇑*i*P		**Pg**	**13 10 08.8**	**-0.1**
	baz=64								
KBK				⇑*i*S		**Sg**	**13 10 14.4**	**+0.3**
	baz=64								
SGDS	**Sogindy**	**0.44**	**345**	*e*P		**Pg**	**13 10 09.6**	**-0.3**
	7.8nm,0.1s								
SGDS				*e*S		**Sg**	**13 10 15.6**	**-0.2**
	44nm,0.1s								
SGDS	**Sogindy**	**0.44**	**345**	P		**Pg**	**13 10 09.5**	**-0.3**
	7.8nm,0.1s								
SGDS				S		**Sg**	**13 10 15.6**	**-0.2**
	44nm,0.1s								
AAK	**Ala-Archa**	**0.45**	**209**	⇓P		**Pg**	**13 10 09.9**	**-0.2**
	5.8nm,0.1s,SNR=28								
AAK				⇑S		**Sg**	**13 10 16.2**	**+0.3**
	9.3nm,0.1s								
AAK	**Ala-Archa**	**0.45**	**209**	⇓*i*P		**Pg**	**13 10 09.8**	**-0.2**
	baz=10.0								
AAK				⇓*i*S		**Sg**	**13 10 16.7**	**+0.8**
	baz=10.0								
TKM2	**Tokmak 2**	**0.60**	**100**	⇓*i*P		**Pg**	**13 10 12.2**	**-0.7**
	baz=0.0								
TKM2				⇓*i*S		**Sg**	**13 10 20.3**	**-0.6**
	baz=0.0								
TKM2	**Tokmak 2**	**0.60**	**100**	⇓P		**Pg**	**13 10 12.5**	**-0.5**
	2.4nm,0.5s								
TKM2				⇓S		**Sg**	**13 10 19.8**	**-1.1**
	1.6nm,0.1s								
DGS	**Degeres**	**0.75**	**73**	*e*P		**Pg**	**13 10 15.3**	**-0.4**
	baz=73								
DGS				*e*S		**Sg**	**13 10 25.3**	**-0.3**
	baz=73								
DGS	**Degeres**	**0.75**	**73**	*e*P		**Pg**	**13 10 15.3**	**-0.4**
	3.6nm,0.2s								
DGS				*e*S		**Sg**	**13 10 25.3**	**-0.3**
	12nm,0.1s								
DGS	**Degeres**	**0.75**	**73**	P		**Pg**	**13 10 15.3**	**-0.4**
	3.6nm,0.2s								
DGS				S		**Sg**	**13 10 25.3**	**-0.3**
	12nm,0.1s								
UCH	**Uchtor**	**0.82**	**194**	⇓P		**Pg**	**13 10 16.8**	**-0.4**
	7.4nm,0.1s,SNR=42								
UCH				⇑S		**Sg**	**13 10 28.0**	**0.0**
	3.6nm,0.1s								
UCH	**Uchtor**	**0.82**	**194**	⇓*i*P		**Pg**	**13 10 16.6**	**-0.6**
	baz=95								
UCH				⇓*i*S		**Sg**	**13 10 28.3**	**+0.3**
	baz=95								
EKS2	**Erkin-Say**	**0.83**	**244**	⇓P		**Pg**	**13 10 16.9**	**-0.3**
	1.4nm,0.2s,SNR=11								
EKS2				⇑S		**Sg**	**13 10 27.9**	**-0.2**
	4.5nm,0.2s								
EKS2	**Erkin-Say**	**0.83**	**244**	⇓*i*P		**Pg**	**13 10 16.6**	**-0.6**
	baz=44								
EKS2				⇓*i*S		**Sg**	**13 10 28.4**	**+0.4**
	baz=44								
KST	**Kastek**	**0.86**	**89**	*e*P		**Pg**	**13 10 17.5**	**-0.3**
	baz=89								
KST				*e*S		**Sg**	**13 10 28.9**	**-0.1**
	baz=89								
KST	**Kastek**	**0.86**	**89**	*e*P		**Pg**	**13 10 17.5**	**-0.3**
	2.5nm,0.1s								
KST				*e*S		**Sg**	**13 10 28.9**	**-0.1**
	12nm,0.4s								
KST	**Kastek**	**0.86**	**89**	P		**Pg**	**13 10 17.5**	**-0.3**
	2.5nm,0.1s								
KST				S		**Sg**	**13 10 28.9**	**-0.1**
	12nm,0.4s								
KRBS	**Karabastau**	**0.93**	**44**	*e*P		**Pb**	**13 10 18.6**	**-0.5**
	baz=44								
KRBS				*e*S		**Sg**	**13 10 30.8**	**-0.4**
	baz=44								
KRBS	**Karabastau**	**0.93**	**44**	*e*P		**Pg**	**13 10 18.6**	**-0.5**
	1.9nm,0.0s								
KRBS				*e*S		**Sg**	**13 10 30.8**	**-0.4**
	9.0nm,0.1s								
KRBS	**Karabastau**	**0.93**	**44**	P		**Pg**	**13 10 18.6**	**-0.5**
	2.0nm,0.1s								
KRBS				S		**Sg**	**13 10 30.8**	**-0.4**
	9.0nm,0.1s								
MRKS	**Merke**	**1.18**	**257**	*e*P		**Pb**	**13 10 23.5**	**-0.3**
	baz=57								
MRKS				*e*S		**Sb**	**13 10 39.1**	**-0.1**
	baz=57								
MRKS	**Merke**	**1.18**	**257**	*e*P		**Pb**	**13 10 23.5**	**-0.3**
	1.9nm,0.0s								
MRKS				*e*S		**Sb**	**13 10 39.1**	**-0.1**
	4.8nm,0.1s								
MRKS	**Merke**	**1.18**	**257**	P		**Pb**	**13 10 23.5**	**-0.3**
	1.9nm,0.0s								
MRKS				S		**Sb**	**13 10 39.1**	**-0.1**
	4.8nm,0.1s								
MTBS	**Maitube**	**1.21**	**85**	*e*P		**Pb**	**13 10 23.7**	**-0.5**
	baz=85								
MTBS				*e*S		**Sb**	**13 10 39.5**	**-0.4**
	baz=85								
MTBS	**Maitube**	**1.21**	**85**	*e*P		**Pb**	**13 10 23.7**	**-0.5**
	1.3nm,0.2s								
MTBS				*e*S		**Sb**	**13 10 39.5**	**-0.4**
	7.0nm,0.3s								
MTBS	**Maitube**	**1.21**	**85**	P		**Pb**	**13 10 23.7**	**-0.5**
	1.3nm,0.2s								
MTBS				S		**Sb**	**13 10 39.5**	**-0.4**
	7.0nm,0.3s								
AML	**Almayashu**	**1.21**	**222**	⇑P		**Pb**	**13 10 23.7**	**-0.7**
	3.7nm,0.1s,SNR=20								
AML				⇓S		**Sg**	**13 10 40.0**	**-0.2**
	7.3nm,0.2s								
ARLS	**Aral**	**1.22**	**197**	⇑*i*P		**Pb**	**13 10 23.7**	**-0.7**
	baz=97								
ARLS				⇑*i*S		**Sb**	**13 10 40.1**	**-0.1**
	baz=97								
KUU	**Kurty**	**1.42**	**52**	*e*P		**Pn**	**13 10 27.4**	**+0.2**
	baz=52								
KUU				*e*S		**Sn**	**13 10 45.9**	**-0.1**
	baz=52								
KUU	**Kurty**	**1.42**	**52**	*e*P		**Pn**	**13 10 27.4**	**+0.2**
	3.6nm,0.1s								
KUU				*e*S		**Sn**	**13 10 45.9**	**-0.1**
	10nm,0.1s								
KUU	**Kurty**	**1.42**	**52**	P		**Pn**	**13 10 27.4**	**+0.2**
	3.6nm,0.1s								
KUU				S		**Sn**	**13 10 45.9**	**-0.1**
	13nm,0.3s								
KTBS	**Karatobe**	**1.54**	**63**	*e*P		**Pb**	**13 10 29.6**	**-0.3**
	baz=63								
KTBS				*e*S		**Sb**	**13 10 49.7**	**+0.2**
	baz=63								
KTBS	**Karatobe**	**1.54**	**63**	*e*P		**Pb**	**13 10 29.6**	**-0.3**
	1.7nm,0.2s								
KTBS				*e*S		**Sb**	**13 10 49.7**	**+0.2**
	28nm,0.1s								
KTBS	**Karatobe**	**1.54**	**63**	P		**Pb**	**13 10 29.6**	**-0.3**
	1.7nm,0.2s								
KTBS				S		**Sb**	**13 10 49.7**	**+0.2**
	28nm,0.4s								
TNSS	**Tian-Shan**	**1.58**	**89**	*e*P		**Pb**	**13 10 30.3**	**-0.5**
	baz=89								
TNSS				*e*S		**Sb**	**13 10 50.8**	**-0.2**
	baz=89								
TNSS	**Tian-Shan**	**1.58**	**89**	*e*P		**Pb**	**13 10 30.3**	**-0.5**
	2.7nm,0.2s								
TNSS				*e*S		**Sb**	**13 10 50.8**	**-0.2**
	5.8nm,0.4s								
TNSS	**Tian-Shan**	**1.58**	**89**	P		**Pb**	**13 10 30.3**	**-0.5**
	2.7nm,0.2s								
TNSS				S		**Sb**	**13 10 50.8**	**-0.2**
	5.8nm,0.4s								
MDOK	**Medeo**	**1.66**	**85**	*e*P		**Pb**	**13 10 31.9**	**-0.1**
	baz=85								
MDOK				*e*S		**Sb**	**13 10 53.6**	**+0.6**
	baz=85								
MDOK	**Medeo**	**1.66**	**85**	*e*P		**Pb**	**13 10 31.9**	**-0.1**
	1.5nm,0.3s								
MDOK				*e*S		**Sb**	**13 10 53.6**	**+0.6**
	6.7nm,0.3s								
MDOK	**Medeo**	**1.66**	**85**	⇓P		**Pb**	**13 10 31.8**	**-0.2**
	3.5nm,0.8s								
MDOK				Pg		**Pb**	**13 10 31.9**	**-0.1**
	1.5nm,0.3s								
MDOK				⇑S		**Sb**	**13 10 52.8**	**-0.2**
	3.1nm,0.4s								
MDOK				Lg		Lg	13 10 53.6		
	6.7nm,0.3s								
KOTS	**Kotyrbulak**	**1.71**	**82**	*e*P		**Pb**	**13 10 32.8**	**-0.1**
	baz=82								
KOTS				*e*S		**Sb**	**13 10 55.3**	**+0.8**
	baz=82								
KOTS	**Kotyrbulak**	**1.71**	**82**	*e*P		**Pb**	**13 10 32.8**	**-0.1**
	2.1nm,0.1s								
KOTS				*e*S		**Sb**	**13 10 55.3**	**+0.8**
	9.4nm,0.2s								
KOTS	**Kotyrbulak**	**1.71**	**82**	P		**Pb**	**13 10 32.8**	**-0.1**
	2.1nm,0.3s								
KOTS				S		**Sb**	**13 10 55.3**	**+0.8**
	9.4nm,0.2s								
CHKK	**Chushkaly**	**1.80**	**62**	*e*P		**Pb**	**13 10 34.2**	**-0.2**
	baz=62								
CHKK				*e*S		**Sb**	**13 10 57.7**	**+0.7**
	baz=62								
CHKK	**Chushkaly**	**1.80**	**62**	*e*P		**Pb**	**13 10 34.1**	**-0.2**
	1.8nm,0.1s								
CHKK				*e*S		**Sb**	**13 10 57.7**	**+0.7**
	12nm,0.3s								
CHKK	**Chushkaly**	**1.80**	**62**	P		**Pb**	**13 10 34.2**	**-0.2**
	1.8nm,0.1s								
CHKK				S		**Sb**	**13 10 57.7**	**+0.7**
	12nm,0.3s								
BTLS	**Baital**	**2.08**	**345**	*e*P		**Pb**	**13 10 39.1**	**0.0**
	2.6nm,0.4s								
BTLS				*e*S		**Sb**	**13 11 06.0**	**+1.0**
	6.4nm,0.4s								
BTLS	**Baital**	**2.08**	**345**	Pg		**Pb**	**13 10 39.1**	**0.0**
	2.6nm,0.4s								
BTLS				Lg		Lg	13 11 06.0		
	6.4nm,0.4s								
ARXS	**Arharly**	**2.50**	**61**	*e*P		**Pb**	**13 10 46.7**	**+0.4**
	1.0nm,0.1s								
ARXS				*e*S		**Sb**	**13 11 18.9**	**+1.7**
	4.8nm,0.0s								
SATY	**Saty**	**2.65**	**88**	*e*P		**Pb**	**13 10 50.1**	**+1.2**
	1.3nm,0.2s								
SATY				*e*S		**Sg**	**13 11 24.6**	**-1.7**
	7.4nm,0.1s								
SATY	**Saty**	**2.65**	**88**	Pg		**Pb**	**13 10 50.1**	**+1.2**
	1.3nm,0.2s								
SATY				Lg		Lg	13 11 24.6		
	7.4nm,0.1s								
KPKS	**Kokpek**	**2.88**	**80**	*e*P		**Pb**	**13 10 52.8**	**+0.1**
	2.0nm,0.3s								
KPKS				*e*S		**Sb**	**13 11 29.5**	**+1.4**
	6.1nm,0.4s								
KPKS	**Kokpek**	**2.88**	**80**	Pg		**Pb**	**13 10 52.8**	**+0.1**
	2.0nm,0.3s								
KPKS				Lg		Lg	13 11 29.5		
	6.1nm,0.4s								
UZB	**Uzynbulak**	**3.10**	**86**	*e*P		**Pb**	**13 10 57.3**	**+0.7**
	1.1nm,0.5s								
UZB				*e*S		**Sb**	**13 11 37.1**	**+2.6**
	2.7nm,0.5s								
UZB	**Uzynbulak**	**3.10**	**86**	Pg		**Pb**	**13 10 57.3**	**+0.7**
	1.1nm,0.5s								
UZB				Lg		Lg	13 11 37.1		
	2.7nm,0.5s								
KK31	**Karatay Array**	**3.14**	**273**	⇑Lg		Lg	13 11 36.5		
	0.7nm,0.6s,baz=102,slow=29,SNR=4.0								

IDC 18 13:21:45.9±2.3, 1°82N×126°55E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=189.3km s-min=28.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.94**	**161**	P	P	13 26 51.0	-0.9
	0.7nm,0.6s,baz=340,slow=11,SNR=7.8						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**26.32**	**165**	P	P	13 27 24.5	+0.8
	0.1nm,0.3s,baz=336,slow=8.6,SNR=5.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.02**	**326**	P	P	13 31 47.5	-0.1
	0.1nm,0.4s,baz=127,slow=5.8,SNR=1.2						
	0.1nm,0.4s						

*WEL **18** 13:30:00,42°.35S×173°.46E,h8km,ML4.6,Mw4.4, Moment Tensor Solution. s9 Moment tensor: Scale 10^{15} Nm; M_{rr}-1.20; $M_{\theta\theta}$2.03; $M_{\phi\phi}$-0.83; $M_{r\theta}$2.68; $M_{\theta\phi}$-1.94; $M_{\phi r}$2.88; Fault plane solution: M_o4.47000×10^{15} NP1: ϕ_s146.00000°,δ38.00000°,λ-16.00000°. NP2: ϕ_s249.00000°,δ80.00000°,λ-127.00000°. Principal axes: T -536.6200, Plg26.0000°, Azm7.0000°; N 357.9200, Plg36.0000°, Azm256.0000°; P 178.7000, Plg43.0000°, Azm124.0000°;*

*IDC **18** 13:30:07.1±0.8,42°.17S×173°.17E,h0km,mb4.0/6, mbtmp4.1/7,ML4.1/1,MS3.5/12 Error ellipse: s-maj=27.1km s-min=22.4km az=62.0*

*NEIC **18** 13:30:09.9,42°.43S×173°.58E,h19km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.14; $M_{\theta\theta}$0.63; $M_{\phi\phi}$-2.77; $M_{r\theta}$1.76; $M_{\theta\phi}$-2.09; $M_{\phi r}$0.49; Fault plane solution: M_o3.75000×10^{15} NP1:ϕ_s55.99000°, δ65.68000°,λ129.99000°. NP2:ϕ_s172.14000°,δ45.72000°, λ35.12000°. Principal axes: T 3.4097, Plg52.0000°, Azm13.0000°; N 0.6010, Plg36.0000°, Azm217.0000°; P -4.0107, Plg12.0000°, Azm118.0000°;*

*NEIC **18** 13:30:09.6±1.3,42°.45S±0°.04×173°.57E±0°.05,h16km±3km, mb4.6/15,Mwr4.3/38 Error ellipse: s-maj=6.1km s-min=4.6km az=136.0*

*WEL **18** 13:30:10.7±0.3,42°.3S±2°×17°.3E±°,h7km±3km,M4.5/48, ML4.8/13,MLv4.5/48,Error ellipse: s-maj=0.0km s-min=0.0km az=108.9*

ISC 18 13:30:10.1±0.9, 42°.37S±0°.03×173°.48E±0°.03, h20km±4km, n134, σ0.98/130, mb4.3/14, MS3.6/11, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.06**	**134**		**Pg**	**13 30 13.7**	**0.0**
KHZ	**Kahutara**	**0.06**	**134**	P	**Pg**	**13 30 13.7**	**0.0**
KHZ				S	**Sg**	**13 30 15.9**	**-0.2**
GVZ	**Greta Valley S**	**0.68**	**209**		**Pn**	**13 30 24.6**	**0.0**
GVZ	**Greta Valley S**	**0.68**	**209**	P	**Pn**	**13 30 24.8**	**+0.2**
GVZ				S	**Sn**	**13 30 35.4**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.72**	**24**		**Pg**	**13 30 24.5**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.72**	**24**	P	**Pn**	**13 30 24.7**	**-0.5**
THZ	**Tophouse**	**0.74**	**325**	Pg	**Pn**	**13 30 24.9**	**-0.7**
THZ	**Tophouse**	**0.74**	**325**	P	**Pn**	**13 30 24.9**	**-0.7**
THZ				S	**Sg**	**13 30 34.7**	**0.0**
CMWZ	**Cape Campbell**	**0.83**	**41**		**Pn**	**13 30 27.4**	**+0.7**
CMWZ	**Cape Campbell**	**0.83**	**41**	P	**Pn**	**13 30 27.7**	**+1.0**
LTZ	**Lake Taylor**	**0.98**	**245**	Pn	**Pn**	**13 30 28.8**	**0.0**
LTZ	**Lake Taylor**	**0.98**	**245**	P	**Pn**	**13 30 28.7**	**-0.2**
TUWZ	**Tuamarina**	**1.00**	**20**	Pn	**Pn**	**13 30 29.1**	**0.0**
TUWZ	**Tuamarina**	**1.00**	**20**	P	**Pg**	**13 30 29.8**	**+0.1**
AMCZ	**Amberley**	**1.01**	**217**		**Pn**	**13 30 29.4**	**+0.3**
AMCZ	**Amberley**	**1.01**	**217**	P	**Pg**	**13 30 29.6**	**-0.1**
MRNZ	**Matariki Terra**	**1.11**	**331**		**Pg**	**13 30 31.1**	**-0.6**
MRNZ	**Matariki Terra**	**1.11**	**331**	P	**Pg**	**13 30 31.7**	**-0.1**
NNZ	**Nelson**	**1.16**	**356**		**Pg**	**13 30 31.9**	**-0.6**
NNZ	**Nelson**	**1.16**	**356**	P	**Pg**	**13 30 31.9**	**-0.6**
NNZ				P	**Pg**	**13 30 32.0**	**-0.6**
TCW	**Tory Channel**	**1.31**	**27**		**Pb**	**13 30 33.6**	**-0.4**
TCW	**Tory Channel**	**1.31**	**27**	P	**Pb**	**13 30 33.9**	**-0.1**
OKCZ	**Okains Bay**	**1.38**	**193**	P	**Pn**	**13 30 34.3**	**-0.1**
TKNZ	**Takaka Hill**	**1.39**	**344**		**Pb**	**13 30 35.7**	**+0.2**
TKNZ	**Takaka Hill**	**1.39**	**344**	P	**Pb**	**13 30 35.9**	**+0.4**
DSZ	**Denniston Nort**	**1.40**	**296**		**Pg**	**13 30 36.1**	**-1.0**
DSZ	**Denniston Nort**	**1.40**	**296**	P	**Pg**	**13 30 36.1**	**-1.0**
SNZO	**South Karori**	**1.40**	**41**		**Pn**	**13 30 34.9**	**+0.3**
OXZ	**Oxford**	**1.42**	**228**		**Pn**	**13 30 34.7**	**-0.2**
OXZ	**Oxford**	**1.42**	**228**	P	**Pn**	**13 30 34.6**	**-0.3**
WEL	**Wellington**	**1.45**	**42**	P	**Pb**	**13 30 35.8**	**-0.6**
MQZ	**McQueen's Vall**	**1.46**	**204**		**Pn**	**13 30 34.6**	**-0.8**
MQZ	**McQueen's Vall**	**1.46**	**204**	P	**Pn**	**13 30 34.6**	**-0.8**
INZ	**Inchbonnie**	**1.54**	**256**		**Pb**	**13 30 37.7**	**-0.3**
INZ	**Inchbonnie**	**1.54**	**256**	P	**Pb**	**13 30 37.5**	**-0.5**
PLWZ	**Palliser**	**1.55**	**59**		**Pn**	**13 30 36.5**	**-0.2**
PLWZ	**Palliser**	**1.55**	**59**	P	**Pn**	**13 30 36.5**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.56**	**195**	P	**Pn**	**13 30 36.2**	**-0.5**
DUWZ	**D'Urville Isla**	**1.60**	**12**	P	**Pb**	**13 30 38.4**	**-0.7**
MSWZ	**Moikau Station**	**1.63**	**55**		**Pn**	**13 30 37.7**	**0.0**
MSWZ	**Moikau Station**	**1.63**	**55**	P	**Pn**	**13 30 37.7**	**0.0**
RACZ	**Rakaia**	**1.67**	**216**	P	**Pn**	**13 30 37.7**	**-0.6**
QRZ	**Quartz Range**	**1.70**	**335**	Pn	**Pb**	**13 30 40.6**	**-0.1**
QRZ	**Quartz Range**	**1.70**	**335**	P	**Pb**	**13 30 41.1**	**+0.3**
CAW	**Cannon Point**	**1.74**	**44**	P	**Pn**	**13 30 39.5**	**+0.3**
PAWZ	**Paruwai Farm**	**1.76**	**56**	P	**Pn**	**13 30 39.2**	**-0.4**
MHCZ	**Mount Hutt**	**1.82**	**230**	P	**Pn**	**13 30 39.9**	**-0.5**
KIW	**Kapiti Island**	**1.85**	**36**	P	**Pn**	**13 30 41.5**	**+0.7**
TRWZ	**Traveller**	**1.92**	**60**	P	**Pn**	**13 30 41.1**	**-0.6**
MTW	**Mount Morrison**	**1.94**	**52**	P	**Pn**	**13 30 41.6**	**-0.4**
WACZ	**Wakanui South**	**1.97**	**217**	P	**Pn**	**13 30 42.1**	**-0.3**
OGWZ	**Otaki Gorge**	**2.01**	**40**	P	**Pn**	**13 30 43.2**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.12**	**47**	P	**Pn**	**13 30 42.0**	**-2.5**
WVZ	**Waitaha Valley**	**2.14**	**250**	P	**Pn**	**13 30 45.7**	**+1.0**
TMWZ	**Te Maipa**	**2.21**	**56**	P	**Pn**	**13 30 45.0**	**-0.7**
RPZ	**Rata Peaks**	**2.23**	**232**	Pn	**Pn**	**13 30 45.4**	**-0.6**
	52nm,0.3s,baz=83,slow=2.5,SNR=77						
RPZ				Sn	**Sn**	**13 31 11.9**	**-0.9**
	85nm,0.3s,baz=333,slow=22,SNR=48						
RPZ				LR	LR	13 31 28.2	
	comp=Z,274nm,20.4s,baz=236,slow=37						
	402nm,0.4s						
RPZ	**Rata Peaks**	**2.23**	**232**	Pn	**Pn**	**13 30 45.7**	**-0.2**
RPZ	**Rata Peaks**	**2.23**	**232**	P	**Pn**	**13 30 45.7**	**-0.2**
ARCZ	**Arundel**	**2.30**	**226**	P	**Pn**	**13 30 46.5**	**-0.5**
MRZ	**Mangatainoka R**	**2.33**	**43**	Pn	**Pn**	**13 30 47.0**	**-0.3**
TIWZ	**Tintock**	**2.41**	**49**	P	**Pn**	**13 30 49.1**	**+0.7**
GCSZ	**Gaunt Creek Bo**	**2.50**	**247**	P	**Pn**	**13 30 50.8**	**+1.1**
PRWZ	**Pori Road**	**2.61**	**47**	P	**Pn**	**13 30 50.8**	**-0.4**
BFZ	**Birch Farm**	**2.68**	**52**	Pn	**Pn**	**13 30 51.0**	**-1.2**
TMZ	**Timaru**	**2.70**	**221**	P	**Pn**	**13 30 52.1**	**-0.3**
FOZ	**Fox Glacier**	**2.93**	**245**		**Pn**	**13 30 56.4**	**+0.8**
FOZ	**Fox Glacier**	**2.93**	**245**	P	**Pn**	**13 30 57.1**	**+1.5**
NMEZ	**Namu Road**	**2.97**	**6**	P	**Pb**	**13 30 59.2**	**-3.1**
NBEZ	**Newall Road No**	**3.12**	**6**	P	**Pn**	**13 31 01.1**	**+3.0**
LBZ	**Lake Benmore**	**3.13**	**229**		**Pn**	**13 30 58.0**	**-0.3**
LBZ	**Lake Benmore**	**3.13**	**229**	P	**Pn**	**13 30 58.1**	**-0.3**
PKE	**Pukeiti**	**3.20**	**7**	P	**Pn**	**13 31 02.3**	**+2.9**
ODZ	**Otahua Downs**	**3.37**	**217**	Pn	**Pn**	**13 31 01.1**	**-0.5**
ODZ	**Otahua Downs**	**3.37**	**217**	P	**Pn**	**13 31 00.8**	**-0.9**
JCZ	**Jackson Bay**	**3.83**	**242**	P	**Pn**	**13 31 08.5**	**+0.5**
BKZ	**Black Stump Fm**	**3.94**	**37**	Pn	**Pn**	**13 31 08.1**	**-1.4**
HIZ	**Hauiti**	**4.00**	**16**	Pn	**Pn**	**13 31 12.0**	**+1.7**
WKZ	**Wanaka**	**4.06**	**231**	P	**Pn**	**13 31 12.2**	**+1.0**
HHSZ	**Highcliff Hill**	**4.08**	**210**	P	**Pn**	**13 31 10.7**	**-0.6**
EAZ	**Earnscleugh**	**4.16**	**225**	P	**Pn**	**13 31 11.9**	**-0.6**
TUZ	**Tuapeka**	**4.52**	**216**	P	**Pn**	**13 31 17.1**	**-0.4**
MSZ	**Milford Sound**	**4.65**	**238**	P	**Pn**	**13 31 19.5**	**+0.3**
MLZ	**Mavora Lakes**	**4.89**	**231**	Pn	**Pn**	**13 31 22.3**	**-0.3**
MLZ	**Mavora Lakes**	**4.89**	**231**	P	**Pn**	**13 31 22.5**	**-0.1**
SYZ	**Scrubby Hill**	**5.19**	**215**	P	**Pn**	**13 31 26.4**	**-0.2**
WHZ	**Wether Hill Ro**	**5.31**	**227**	Pn	**Pn**	**13 31 27.8**	**-0.6**
WHZ	**Wether Hill Ro**	**5.31**	**227**	P	**Pn**	**13 31 27.2**	**-1.1**
DCZ	**Deep Cove**	**5.51**	**234**	Pn	**Pn**	**13 31 31.3**	**+0.2**
APZ	**The Paps**	**5.93**	**219**	P	**Pn**	**13 31 36.7**	**-0.2**
MXZ	**Matakaoa Point**	**6.07**	**39**		**Pn**	**13 31 38.6**	**-0.1**
OUZ	**Omahuta**	**7.14**	**1**	Pn	**Pn**	**13 31 55.4**	**+2.0**
DZM	**Mont Dzumac**	**21.09**	**342**	LR	LR	13 42 19.5	
	comp=Z,286nm,18.5s,baz=211,slow=35						
DZM	**Mont Dzumac**	**21.09**	**342**	P	**P**	**13 34 52.8**	**-0.5**
DZM				IAmb	IAmb	13 35 33.4	
	comp=Z,32nm,1.3s						
KOUNC	**Koumac, New Ca**	**23.10**	**338**	P	**P**	**13 35 13.6**	**-1.0**
MSVF	**Nonsavu**	**24.87**	**10**	LR	LR	13 44 23.7	
	comp=Z,186nm,18.4s,baz=196,slow=35						
EIDS	**Eidsvold**	**25.05**	**306**	P	**P**	**13 35 33.2**	**+0.2**
EIDS				IAmb	IAmb	13 35 59.9	
	comp=Z,23nm,1.5s						
STKA	**Stephens Creek**	**27.35**	**282**	LR	LR	13 46 02.8	
	comp=Z,79nm,18.9s,baz=79,slow=35						
CTA	**Charters Tower**	**31.94**	**306**	LR

comp=Z,5.5nm,1.0s,baz=54,slow=2.3,SNR=6.5
BRTR Keskin Array B 149.79 279 PKPbc **PKPbc 13 49 58.1 -0.4**
comp=Z,1.1nm,0.6s,baz=129,slow=3.9,SNR=3.6
TORD Torodi Ar. Bea 150.02 196 PKPbc **PKPbc 13 49 59.3 -0.3**
comp=Z,3.2nm,1.0s,baz=175,slow=1.5,SNR=11
FINES FINESS Array B 152.73 326 PKPbc **PKPbc 13 50 03.2 -1.2**
comp=Z,2.2nm,0.9s,baz=71,slow=4.7,SNR=3.6

WEL 18 13:37:32.4±0.3, 42°S±3°×17°4E±°, h5km, M2.9/30, ML3.0/15, MLv2.9/30, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.36**	**208**	P	Pg	13 37 39.8	+0.4
KHZ				S	Sg	13 37 45.4	+1.2
BSWZ	**Blackbirch Sta**	**0.39**	**12**	P	Pg	13 37 40.1	+0.3
TUWZ	**Tuamarina**	**0.68**	**11**	P	Pg	13 37 45.3	-0.1
THZ	**Tophouse**	**0.72**	**297**	P	Pg	13 37 46.2	0.0
NNZ	**Nelson**	**0.92**	**342**	P	Pg	13 37 49.7	-0.4
TCW	**Tory Channel**	**0.96**	**24**	P	Pg	13 37 48.1	-2.7
GVZ	**Greta Valley S**	**1.03**	**212**	P	Pb	13 37 52.4	-0.2
MRNZ	**Matariki Terra**	**1.03**	**312**	P	Pg	13 37 51.7	-0.4
WEL	**Wellington**	**1.10**	**43**	P	Pg	13 37 41.9	-12
WEL				S	Sb	13 38 09.3	+0.7
TKNZ	**Takaka Hill**	**1.22**	**330**	P	Pg	13 37 55.2	-0.5
PLWZ	**Palliser**	**1.23**	**65**	P	Pg	13 37 54.6	-1.3
DUWZ	**D'Urville Isla**	**1.30**	**5**	P	Pn	13 37 56.6	-0.5
MSWZ	**Moikau Station**	**1.30**	**59**	P	Pn	13 37 55.5	-1.7
LTZ	**Lake Taylor**	**1.30**	**238**	P	Pn	13 37 56.5	-0.8
AMCZ	**Amberley**	**1.36**	**217**	P	Pn	13 37 56.7	-1.2
CAW	**Cannon Point**	**1.39**	**45**	P	Pn	13 37 57.2	-1.1
PAWZ	**Paruwai Farm**	**1.43**	**61**	P	Pn	13 37 57.1	-2.0
KIW	**Kapiti Island**	**1.50**	**35**	P	Pn	13 37 59.4	-0.5
DSZ	**Denniston Nort**	**1.50**	**283**	P	Pb	13 38 00.9	+0.1
QRZ	**Quartz Range**	**1.57**	**323**	P	Pn	13 38 01.3	+0.4
TRWZ	**Traveller**	**1.60**	**65**	P	Pn	13 37 59.0	-2.3
OGWZ	**Otaki Gorge**	**1.66**	**40**	P	Pn	13 38 01.1	-0.9
OKCZ	**Okains Bay**	**1.71**	**197**	P	Pn	13 38 01.0	-1.9
OXZ	**Oxford**	**1.77**	**225**	P	Pn	13 38 01.8	-1.9
HOWZ	**Holdsworth Sta**	**1.78**	**48**	P	Pb	13 38 05.8	+0.4
MQZ	**McQueen's Vall**	**1.81**	**207**	P	Pn	13 38 01.6	-2.5
INZ	**Inchbonnie**	**1.83**	**249**	P	Pn	13 38 04.4	-0.1
TMWZ	**Te Maipa**	**1.87**	**59**	P	Pn	13 38 02.6	-2.6
AKCZ	**Akaroa Harbour**	**1.88**	**199**	P	Pn	13 38 03.2	-2.1
MRZ	**Mangatainoka R**	**1.98**	**44**	P	Pn	13 38 04.9	-1.6
RACZ	**Rakaia**	**2.02**	**216**	P	Pn	13 38 05.3	-1.8
MHCZ	**Mount Hutt**	**2.16**	**228**	P	Pn	13 38 07.0	-2.1
WACZ	**Wakanui South**	**2.33**	**217**	P	Pn	13 38 09.3	-2.0
WVZ	**Waitaha Valley**	**2.44**	**245**	P	Pn	13 38 12.6	-0.3
WAZ	**Wanganui**	**2.51**	**22**	P	Pb	13 38 18.3	+0.3
RPZ	**Rata Peaks**	**2.57**	**230**	P	Pn	13 38 13.0	-1.6
TSZ	**Takapari Road**	**2.62**	**40**	P	Pn	13 38 21.4	-1.3
ARCZ	**Arundel**	**2.65**	**225**	P	Pn	13 38 13.8	-2.0
NBEZ	**Newall Road No**	**2.83**	**2**	P	Pg	13 38 25.9	-0.6
PKVZ	**Pokaka**	**3.05**	**24**	P	Pb	13 38 26.7	-0.4
TMZ	**Timaru**	**3.05**	**220**	P	Pn	13 38 19.3	-1.9
VRZ	**Vera Road**	**3.06**	**15**	P	Pb	13 38 25.3	-2.0
MOVZ	**Moawhango**	**3.08**	**30**	P	Pb	13 38 27.4	-0.3
WNVZ	**Wahianoa**	**3.10**	**27**	P	Pb	13 38 26.8	-1.2
TRVZ	**Turoa**	**3.10**	**26**	P	Pb	13 38 27.5	-0.7
BHHZ	**Black Hill Sta**	**3.13**	**35**	P	Pb	13 38 29.0	+0.4
TUVZ	**Tukino**	**3.17**	**28**	P	Pb	13 38 29.7	+0.5
NGZ	**Ngauruhoe**	**3.23**	**26**	P	Pb	13 38 31.1	+0.8
NNVZ	**North Ngauruho**	**3.28**	**26**	P	Pb	13 38 31.7	+0.7
ETVZ	**East Tongariro**	**3.31**	**27**	P	Pb	13 38 31.5	0.0
TMVZ	**Te Maari**	**3.32**	**27**	P	Pb	13 38 31.7	-0.1
BKZ	**Black Stump Fm**	**3.59**	**36**	P	Pb	13 38 37.0	+0.7
HIZ	**Hauiti**	**3.67**	**13**	P	Pb	13 38 41.1	-3.6
ODZ	**Otahua Downs**	**3.72**	**217**	P	Pn	13 38 28.0	-2.4
MKRZ	**Makatiti**	**4.46**	**29**	P	Pn	13 38 43.6	+2.8

WEL 18 13:52:38.3±1.2, 40°S±6°×17°7E±°, h16km±5km, M2.4/12, ML2.5/12, MLv2.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.27**	**314**	P	Pb	13 52 44.6	-0.2
ANWZ	**Angora Road**	**0.32**	**269**	P	Pb	13 52 46.1	+0.5
ANWZ				S	Sb	13 52 52.0	+1.5
PXZ	**Pawanui**	**0.43**	**357**	P	Pb	13 52 48.0	+0.6
PXZ				S	Sb	13 52 55.3	+1.7
WPHZ	**Waipukurau**	**0.52**	**318**	P	Pb	13 52 49.4	+0.4
WPHZ				S	Sb	13 52 57.9	+1.5
BFZ	**Birch Farm**	**0.54**	**245**	P	Pn	13 52 50.6	-0.7
DVHZ	**Dannevirke**	**0.58**	**286**	P	Pb	13 52 50.2	+0.2
DVHZ				S	Sb	13 52 59.3	+1.4
KAHZ	**Kahuranaki**	**0.66**	**359**	P	Pb	13 52 52.0	+0.5
PRWZ	**Pori Road**	**0.71**	**262**	P	Pn	13 52 53.1	-0.5
PNHZ	**Pukenui**	**0.76**	**315**	P	Pb	13 52 53.1	0.0
TSZ	**Takapari Road**	**0.82**	**299**	P	Pb	13 52 53.9	-0.1
POWZ	**Post Office Ro**	**0.86**	**274**	P	Pg	13 52 55.3	+0.3
MRZ	**Mangatainoka R**	**1.02**	**258**	P	Pb	13 52 57.1	-0.5
HOWZ	**Holdsworth Sta**	**1.14**	**247**	P	Pn	13 52 58.4	-1.1
BHHZ	**Black Hill Sta**	**1.16**	**326**	P	Pn	13 52 59.4	-0.4
BKZ	**Black Stump Fm**	**1.33**	**346**	P	Pn	13 53 01.5	-0.7
MOVZ	**Moawhango**	**1.37**	**320**	P	Pb	13 53 03.3	-0.2
PUZ	**Puketiti**	**2.61**	**24**	P	Pb	13 53 24.6	0.0
PKGZ	**Pakihiroa**	**2.73**	**20**	P	Pg	13 53 29.6	-0.9
HAZ	**Te Kaha**	**2.78**	**15**	P	Pg	13 53 29.9	-1.7
WMGZ	**Waiomatatini S**	**2.89**	**25**	P	Pb	13 53 29.7	+0.4
MRNZ	**Matariki Terra**	**3.27**	**252**	P	Pb	13 53 35.4	-0.6
DSZ	**Denniston Nort**	**4.05**	**250**	P	Pb	13 53 44.9	-4.4
AMCZ	**Amberley**	**4.17**	**228**	P	Pn	13 53 43.1	+1.9
OKCZ	**Okains Bay**	**4.33**	**220**	P	Pn	13 53 48.2	+4.8
AKCZ	**Akaroa Harbour**	**4.52**	**220**	P	Pn	13 53 50.3	+4.3
INZ	**Inchbonnie**	**4.67**	**239**	P	Pn	13 53 50.3	+2.2
RACZ	**Rakaia**	**4.81**	**226**	P	Pn	13 53 51.5	+1.5
WACZ	**Wakanui South**	**5.12**	**225**	P	Pn	13 53 55.9	+1.7

WEL 18 13:56:30.5±0.4, 42°S±3°×17°4E±°, h7km±3km, M3.4/20, ML3.6/11, MLv3.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=117.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**267**	P	Pg	13 56 32.9	+0.2
KHZ				S	Sg	13 56 36.1	+1.8
BSWZ	**Blackbirch Sta**	**0.71**	**12**	P	Pg	13 56 43.3	-0.9
BSWZ				S	Sb	13 56 55.7	+0.5
GVZ	**Greta Valley S**	**0.73**	**220**	P	Pb	13 56 45.6	+0.1
THZ	**Tophouse**	**0.86**	**318**	P	Pg	13 56 47.5	+0.3
AMCZ	**Amberley**	**1.07**	**224**	P	Pn	13 56 50.6	-0.5
LTZ	**Lake Taylor**	**1.10**	**250**	P	Pg	13 56 51.5	-0.1
OKCZ	**Okains Bay**	**1.39**	**199**	P	Pn	13 56 54.1	-2.2
TKNZ	**Takaka Hill**	**1.48**	**339**	P	Pn	13 56 57.1	-0.5
MQZ	**McQueen's Vall**	**1.49**	**210**	P	Pn	13 56 54.9	-2.9
DSZ	**Denniston Nort**	**1.54**	**295**	P	Pn	13 56 58.3	-0.2
AKCZ	**Akaroa Harbour**	**1.56**	**201**	P	Pn	13 56 56.3	-2.5
INZ	**Inchbonnie**	**1.68**	**258**	P	Pn	13 57 00.2	-0.1
RACZ	**Rakaia**	**1.73**	**220**	P	Pn	13 56 58.7	-2.3
QRZ	**Quartz Range**	**1.80**	**331**	P	Pn	13 57 02.5	+0.5
MHCZ	**Mount Hutt**	**1.91**	**233**	P	Pn	13 57 01.4	-2.1
WACZ	**Wakanui South**	**2.04**	**221**	P	Pn	13 57 03.1	-2.1
WVZ	**Waitaha Valley**	**2.26**	**252**	P	Pn	13 57 07.9	-0.4
RPZ	**Rata Peaks**	**2.32**	**235**	P	Pn	13 57 07.4	-1.8
ARCZ	**Arundel**	**2.38**	**229**	P	Pn	13 57 08.1	-2.0
GCSZ	**Gaunt Creek Bo**	**2.62**	**249**	P	Pn	13 57 13.0	-0.3
TMZ	**Timaru**	**2.77**	**224**	P	Pn	13 57 13.4	-1.9
FOZ	**Fox Glacier**	**3.04**	**247**	P	Pn	13 57 19.1	+0.1
LBZ	**Lake Benmore**	**3.22**	**231**	P	Pn	13 57 19.8	-1.7
ODZ	**Otahua Downs**	**3.43**	**219**	P	Pn	13 57 21.9	-2.5
EAZ	**Earnscleugh**	**4.23**	**227**	P	Pn	13 57 33.4	-2.0
AWAZ	**Awhitu Peninsu**	**5.39**	**8**	P	Pn	13 57 50.2	-1.1
MKAZ	**Moumakai**	**5.42**	**13**	P	Pn	13 57 49.7	-2.1
ETAZ	**East Tamaki Re**	**5.54**	**10**	P	Pn	13 57 52.4	-1.0

IDC 18 14:01:51.8±8.4, 8°64S×124°85E, h0km, mb4.0/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=120.0km s-min=33.9km az=163.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.94**	**217**	Pn	Pn	14 02 26.1	0.0
	24nm,0.3s,baz=24,slow=4.6,SNR=12						
BATI				Sn	Sn	14 02 51.0	-0.2
	3.5nm,0.3s,baz=305,slow=22,SNR=3.8						
WRA	**Warramunga Arr**	**14.51**	**142**	Pn	Pn	14 05 17.7	-0.9
	0.2nm,0.3s,baz=321,slow=14,SNR=14						
WRA				Sn	Sn	14 07 53.2	-7.2
	0.1nm,0.3s,baz=307,slow=23,SNR=2.4 1.1nm,0.7s						
ASAR	**Alice Springs**	**17.27**	**151**	P	Pn	14 05 54.8	+0.1
	0.1nm,0.3s,baz=323,slow=11,SNR=2.4 0.1nm,0.4s						
STKA	**Stephens Creek**	**27.87**	**148**	P	P	14 07 43.7	+0.3
	2.0nm,1.0s,baz=350,slow=11,SNR=2.6 2.0nm,1.0s						

WEL ***18*** *14:22:00, 42°.68S×173°.42E, h2km, ML5.0, Mw5.3, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16} Nm; M_{rr}5.09; $M_{\theta\theta}$-1.53; $M_{\phi\phi}$-3.56; $M_{r\theta}$4.19; $M_{\theta\phi}$-3.58; $M_{r\phi}$6.37; Fault plane solution: $M_0$9.51000×10^{16} NP1: ϕ_s222.00000°, δ18.00000°, λ98.00000°. NP2:ϕ_s34.00000°, δ72.00000°, λ87.00000°. Principal axes: T -10087.7000, Plg63.0000°, Azm301.0000°; N 1152.3000, Plg2.0000°, Azm34.0000°; P 8935.4000, Plg27.0000°, Azm126.0000°;*

BJI ***18*** *14:22:55.3±0.0, 42°.43S×173°.53E, h8km, mb5.3/18, mB5.7/7, Ms5.0/11, Ms7 4.9/13*

IDC ***18*** *14:22:56.0±0.5, 42°.35S×173°.16E, h0km, mb4.9/17, mbtmp4.9/18, ML5.5/1, MS4.6/45, Error ellipse: s-maj=18.5km s-min=13.6km az=69.0*

NEIC ***18*** *14:22:56, 42°.42S×173°.29E, h16km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}8.60; $M_{\theta\theta}$-3.10; $M_{\phi\phi}$-5.50; $M_{r\theta}$1.55; $M_{\theta\phi}$-4.02; $M_{r\phi}$4.06; Fault plane solution: $M_0$9.59000×10^{16} NP1: ϕ_s223.00000°, δ32.00000°, λ102.00000°. NP2: ϕ_s30.00000°, δ58.00000°, λ83.00000°. Principal axes: T 9.7018, Plg75.0000°, Azm279.0000°; N -0.2273, Plg6.0000°, Azm34.0000°; P -9.4745, Plg13.0000°, Azm125.0000°;*

NOU ***18*** *14:22:56.3, 42°.69S×173°.38E, h0km, mb5.0/41, South Island, New Zealand*

WEL ***18*** *14:22:57.6±0.3, 43°S±2°×17°3E±°, h5km, M5.3/71, ML5.4/17, MLv5.3/71, Error ellipse: s-maj=0.0km s-min=0.0km az=124.8*

NEIC ***18*** *14:22:57.1±2.3, 42°.59S±0°.03×173°.26E±0°.06, h7km±3km, mb5.2/46, Mwr5.1/28, Mww5.3, Error ellipse: s-maj=7.3km s-min=4.1km az=115.0*

NEIC ***18*** *14:22:57.2, 42°.59S×173°.26E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}5.42; $M_{\theta\theta}$-1.74; $M_{\phi\phi}$-3.68; $M_{r\theta}$1.83; $M_{\theta\phi}$-3.15; $M_{r\phi}$0.72; Fault plane solution: $M_0$6.06000×10^{16} NP1:ϕ_s205.18000°, δ37.95000°, λ72.31000°. NP2:ϕ_s47.20000°, δ54.13000°, λ103.33000°. Principal axes: T 5.8606, Plg76.0000°, Azm1.0000°; N 0.3875, Plg11.0000°, Azm219.0000°; P -6.2481, Plg8.0000°, Azm128.0000°;*

GCMT ***18*** *14:22:58.1±0.2, 42°.67S±0°.01×172°.97E±0°.01, h12km, MW5.2/123, Moment Tensor Solution. s72,c99; s123,c204; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.31±.11; $M_{\theta\theta}$-1.91±.11; $M_{\phi\phi}$-4.40±.10; $M_{r\theta}$2.49±.35; $M_{\theta\phi}$-3.50±.09; $M_{r\phi}$-0.96±.33; Best double couple: $M_0$7.11700×10^{16} NP1:ϕ_s55.00000°, δ51.00000°, λ117.00000°. NP2:ϕ_s196.00000°, δ46.00000°, λ60.00000°. Principal axes: T 7.3300, Plg69.0000°, Azm28.0000°; N -0.4250, Plg21.0000°, Azm217.0000°; P -6.9040, Plg3.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 14:22:58.1±0.3, 42°.60S±0°.03×173°.24E±0°.03, h15km, n502, σ1s29/503, mb5.3/75, MS4.7/57, 6C-11D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**51**		**Pg**	**14 23 03.6**	**-0.5**
KHZ	**Kahutara**	**0.29**	**51**	P	**Pg**	**14 23 03.8**	**-0.4**
KHZ				S	**Sb**	**14 23 09.0**	**-0.6**
GVZ	**Greta Valley S**	**0.40**	**202**		**Pb**	**14 23 06.8**	**0.0**
GVZ				Sg	**Sn**	**14 23 14.6**	**-2.0**
GVZ	**Greta Valley S**	**0.40**	**202**	P	**Pb**	**14 23 06.8**	**0.0**
GVZ				S	**Sn**	**14 23 14.5**	**-2.1**
AMCZ	**Amberley**	**0.72**	**216**		**Pb**	**14 23 12.5**	**+0.2**
AMCZ	**Amberley**	**0.72**	**216**	P	**Pb**	**14 23 12.5**	**+0.2**
LTZ	**Lake Taylor**	**0.73**	**255**		**Pg**	**14 23 10.6**	**-1.7**
LTZ	**Lake Taylor**	**0.73**	**255**	P	**Pg**	**14 23 10.7**	**-1.7**
THZ	**Tophouse**	**0.87**	**344**		**Pb**	**14 23 12.3**	**-2.6**
THZ	**Tophouse**	**0.87**	**344**	P	**Pb**	**14 23 12.3**	**-2.6**
NNBS	**New Brighton**	**0.97**	**203**	P	**Pb**	**14 23 15.6**	**-1.1**
BSWZ	**Blackbirch Sta**	**1.00**	**29**		**Pb**	**14 23 16.2**	**-0.9**
BSWZ	**Blackbirch Sta**	**1.00**	**29**	P	**Pb**	**14 23 16.5**	**-0.6**
CMWZ	**Cape Campbell**	**1.12**	**41**	P	**Pg**	**14 23 20.1**	**+0.4**
OKCZ	**Okains Bay**	**1.13**	**186**	P	**Pb**	**14 23 19.0**	**-0.3**
OXZ	**Oxford**	**1.14**	**230**		**Pb**	**14 23 18.2**	**-1.3**
OXZ	**Oxford**	**1.14**	**230**	P	**Pb**	**14 23 18.6**	**-0.9**
MQZ	**McQueen's Vall**	**1.19**	**201**		**Pn**	**14 23 18.6**	**-1.5**
MQZ	**McQueen's Vall**	**1.19**	**201**	P	**Pn**	**14 23 18.8**	**-1.3**
MRNZ	**Matariki Terra**	**1.25**	**343**		**Pn**	**14 23 19.5**	**-1.5**
MRNZ	**Matariki Terra**	**1.25**	**343**	P	**Pn**	**14 23 19.8**	**-1.2**
TUWZ	**Tuamarina**	**1.28**	**25**		**Pn**	**14 23 20.7**	**-0.7**
TUWZ	**Tuamarina**	**1.28**	**25**	P	**Pn**	**14 23 21.1**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.29**	**190**	P	**Pn**	**14 23 20.8**	**-0.8**
INZ	**Inchbonnie**	**1.33**	**264**		**Pn**	**14 23 21.1**	**-0.9**
INZ	**Inchbonnie**	**1.33**	**264**	P	**Pn**	**14 23 21.4**	**-0.6**
DSZ	**Denniston Nort**	**1.36**	**308**		**Pn**	**14 23 21.5**	**-1.1**
DSZ	**Denniston Nort**	**1.36**	**308**	P	**Pn**	**14 23 21.7**	**-0.9**
RACZ	**Rakaia**	**1.38**	**215**	P	**Pn**	**14 23 21.8**	**-1.1**
NNZ	**Nelson**	**1.39**	**5**		**Pn**	**14 23 21.7**	**-1.1**
NNZ	**Nelson**	**1.39**	**5**	P	**Pn**	**14 23 21.9**	**-1.1**
MHCZ	**Mount Hutt**	**1.54**	**232**	P	**Pn**	**14 23 23.7**	**-1.3**
TKNZ	**Takaka Hill**	**1.58**	**352**		**Pn**	**14 23 24.8**	**-0.8**
TKNZ	**Takaka Hill**	**1.58**	**352**	P	**Pn**	**14 23 25.2**	**-0.3**
TCW	**Tory Channel**	**1.59**	**30**	Pn	**Pn**	**14 23 24.9**	**-0.8**
TCW	**Tory Channel**	**1.59**	**30**	P	**Pn**	**14 23 25.4**	**-0.3**
WACZ	**Wakanui South**	**1.69**	**217**	P	**Pn**	**14 23 26.0**	**-1.0**
SNZO	**South Karori**	**1.69**	**41**		**Pn**	**14 23 26.7**	**-0.3**
WEL	**Wellington**	**1.74**	**42**	P	**Pn**	**14 23 27.4**	**-0.3**
PLWZ	**Palliser**	**1.82**	**56**		**Pn**	**14 23 28.6**	**-0.3**
PLWZ	**Palliser**	**1.82**	**56**	P	**Pn**	**14 23 28.3**	**-0.6**
QRZ	**Quartz Range**	**1.85**	**343**		**Pn**	**14 23 29.0**	**-0.2**
QRZ	**Quartz Range**	**1.85**	**343**	P	**Pn**	**14 23 30.1**	**+0.9**
QRZ	**Quartz Range**	**1.85**	**343**	P	**Pn**	**14 23 29.1**	**-0.2**
DUWZ	**D'Urville Isla**	**1.87**	**16**	P	**Pn**	**14 23 29.7**	**+0.1**
WVZ	**Waitaha Valley**	**1.90**	**255**	P	**Pn**	**14 23 29.4**	**-0.4**
MSWZ	**Moikau Station**	**1.91**	**52**		**Pn**	**14 23 27.6**	**-2.5**
MSWZ	**Moikau Station**	**1.91**	**52**	P	**Pn**	**14 23 29.2**	**-0.9**
RPZ	**Rata Peaks**	**1.95**	**234**	Pn	**Pn**	**14 23 29.8**	**-0.8**
	2µm,0.3s,baz=94,slow=1.5,SNR=1394						
RPZ				Sn	**Sn**	**14 23 54.3**	**-0.5**
	304nm,0.3s,baz=329,slow=23,SNR=16						
RPZ				LR	LR	14 24 31.4	
	comp=Z,15µm,18.0s,baz=152,slow=46 6µm,0.5s						
RPZ	**Rata Peaks**	**1.95**	**234**		**Pn**	**14 23 29.4**	**-1.3**
RPZ	**Rata Peaks**	**1.95**	**234**	P	**Pn**	**14 23 30.3**	**-0.3**
RPZ	**Rata Peaks**	**1.95**	**234**	P	**Pn**	**14 23 29.7**	**-0.9**
ARCZ	**Arundel**	**2.02**	**227**	P	**Pn**	**14 23 30.3**	**-1.3**
CAW	**Cannon Point**	**2.02**	**43**	P	**Pn**	**14 23 31.0**	**-0.6**
PAWZ	**Paruwai Farm**	**2.04**	**54**	P	**Pn**	**14 23 30.6**	**-1.3**
KIW	**Kapiti Island**	**2.14**	**36**	P	**Pn**	**14 23 33.0**	**-0.3**
TRWZ	**Traveller**	**2.19**	**58**	P	**Pn**	**14 23 33.1**	**-0.8**
MTW	**Mount Morrison**	**2.22**	**50**	P	**Pn**	**14 23 33.2**	**-1.2**
GCSZ	**Gaunt Creek Bo**	**2.25**	**250**	P	**Pn**	**14 23 34.9**	**+0.1**
OGWZ	**Otaki Gorge**	**2.30**	**40**	P	**Pn**	**14 23 34.8**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.41**	**46**	P	**Pn**	**14 23 35.7**	**-1.3**
TMWZ	**Te Maipa**	**2.48**	**54**	P	**Pn**	**14 23 36.5**	**-1.4**
MRZ	**Mangatainoka R**	**2.62**	**43**	Pn	**Pn**	**14 23 38.5**	**-1.3**
MRZ	**Mangatainoka R**	**2.62**	**43**	P	**Pn**	**14 23 38.6**	**-1.3**
FOZ	**Fox Glacier**	**2.67**	**248**		**Pn**	**14 23 40.9**	**+0.3**
TIWZ	**Tintock**	**2.69**	**48**	P	**Pn**	**14 23 39.7**	**-1.2**
CPWZ	**Castlepoint**	**2.79**	**54**	P	**Pn**	**14 23 41.8**	**-0.3**
LBZ	**Lake Benmore**	**2.85**	**230**	Pn	**Pn**	**14 23 42.2**	**-0.8**
OHWZ	**Ohakea**	**2.86**	**34**	P	**Pn**	**14 23 43.5**	**+0.4**
PRWZ	**Pori Road**	**2.90**	**46**	P	**Pn**	**14 23 42.1**	**-1.5**
POWZ	**Post Office Ro**	**2.91**	**42**	P	**Pn**	**14 23 42.7**	**-1.2**
BFZ	**Birch Farm**	**2.96**	**51**	Pn	**Pn**	**14 23 43.2**	**-1.3**
BFZ	**Birch Farm**	**2.96**	**51**	P	**Pn**	**14 23 43.8**	**-0.7**
BFZ	**Birch Farm**	**2.96**	**51**	P	**Pn**	**14 23 42.6**	**-1.9**
ODZ	**Otahua Downs**	**3.08**	**217**	Pn	**Pn**	**14 23 45.1**	**-1.1**
ODZ	**Otahua Downs**	**3.08**	**217**	P	**Pn**	**14 23 45.3**	**-0.9**
WAZ	**Wanganui**	**3.13**	**26**	P	**Pn**	**14 23 48.4**	**+1.5**
DVHZ	**Dannevirke**	**3.18**	**45**	P	**Pn**	**14 23 45.5**	**-2.1**
NMEZ	**Namu Road**	**3.22**	**9**	P	**Pn**	**14 23 49.9**	**+1.9**
ANWZ	**Angora Road**	**3.24**	**50**	P	**Pn**	**14 23 46.9**	**-1.4**
LREZ	**Lake Rotokare**	**3.26**	**16**	P	**Pn**	**14 23 50.4**	**+1.8**
TSZ	**Takapari Road**	**3.26**	**40**	P	**Pn**	**14 23 47.3**	**-1.5**
KHEZ	**Kahui Hut**	**3.35**	**10**	P	**Pn**	**14 23 52.4**	**+2.4**
KHEZ	**Kahui Hut**	**3.35**	**10**	P	**Pn**	**14 23 51.6**	**+1.6**
NBEZ	**Newall Road No**	**3.36**	**8**	P	**Pn**	**14 23 51.4**	**+1.3**
NEZ	**North Egmont**	**3.39**	**11**	P	**Pn**	**14 23 52.8**	**+2.3**
PKE	**Pukeiti**	**3.45**	**10**	P	**Pn**	**14 23 53.1**	**+1.8**
DREZ	**Durham Road**	**3.48**	**12**	P	**Pn**	**14 23 53.3**	**+1.6**
PNHZ	**Pukenui**	**3.49**	**41**	P	**Pn**	**14 23 50.0**	**-1.8**
WPHZ	**Waipukurau**	**3.50**	**45**	P	**Pn**	**14 23 50.0**	**-1.9**
JCZ	**Jackson Bay**	**3.56**	**244**	P	**Pn**	**14 23 53.4**	**+0.5**
MHEZ	**Mangahewa**	**3.62**	**14**	P	**Pn**	**14 23 56.0**	**+2.5**
MTVZ	**Mangateitei**	**3.63**	**29**	P	**Pn**	**14 23 54.3**	**+0.5**
VRZ	**Vera Road**	**3.66**	**19**	P	**Pn**	**14 23 55.4**	**+1.3**
PKVZ	**Pokaka**	**3.67**	**27**	P	**Pn**	**14 23 55.0**	**+0.6**
MOVZ	**Moawhango**	**3.71**	**32**	P	**Pn**	**14 23 54.0**	**-1.0**
WNVZ	**Wahianoa**	**3.73**	**29**	P	**Pn**	**14 23 55.5**	**+0.3**
TRVZ	**Turoa**	**3.73**	**29**	P	**Pn**	**14 23 55.4**	**0.0**
PXZ	**Pawanui**	**3.75**	**48**	P	**Pn**	**14 23 53.0**	**-2.3**
DRZ	**Dome Shelter**	**3.76**	**29**	P	**Pn**	**14 23 56.5**	**+0.7**
WHVZ	**Whangaehu Hut**	**3.76**	**29**	P	**Pn**	**14 23 55.8**	**0.0**
BHHZ	**Black Hill Sta**	**3.77**	**35**	P	**Pn**	**14 23 54.9**	**-0.9**
FWVZ	**Far West T-bar**	**3.77**	**28**	P	**Pn**	**14 23 56.0**	**+0.1**
WKZ	**Wanaka**	**3.78**	**232**	Pn	**Pn**	**14 23 54.5**	**-1.4**
TUVZ	**Tukino**	**3.80**	**30**	P	**Pn**	**14 23 56.3**	**+0.1**
NGZ	**Ngauruhoe**	**3.86**	**28**	P	**Pn**	**14 23 57.1**	**0.0**
SNVZ	**South Ngauruho**	**3.87**	**29**	P	**Pn**	**14 23 57.3**	**+0.1**
EAZ	**Earnscleugh**	**3.87**	**226**	P	**Pn**	**14 23 55.5**	**-1.5**
OTVZ	**Oturere**	**3.90**	**29**	P	**Pn**	**14 23 57.7**	**+0.1**
TWVZ	**Taurewa**	**3.90**	**26**	P	**Pn**	**14 23 57.7**	**0.0**
NNVZ	**North Ngauruho**	**3.91**	**28**	P	**Pn**	**14 23 57.7**	**0.0**
WTVZ	**West Tongariro**	**3.91**	**28**	P	**Pn**	**14 23 57.6**	**-0.1**
KAHZ	**Kahuranaki**	**3.92**	**46**	P	**Pn**	**14 23 55.5**	**-2.3**
ETVZ	**East Tongariro**	**3.94**	**29**	P	**Pn**	**14 23 58.0**	**-0.1**
KRVZ	**Karewarewa**	**3.95**	**28**	P	**Pn**	**14 23 58.4**	**+0.2**
TMVZ	**Te Maari**	**3.95**	**29**	P	**Pn**	**14

EIDS IAmb IAmb 14 28 26.6
comp=Z,82nm,1.8s
EIDS Eidsvold 25.04 306 P P 14 28 24.1 +2.5
MSVF Nonsavu 25.12 11 P P 14 28 21.6 -0.9
MSVF LR LR 14 37 36.6
comp=Z,7.1nm,0.7s,baz=140,slow=12,SNR=6.1
comp=Z,2µm,18.1s,baz=184,slow=35
comp=Z,7.1nm,0.7s
MSVF Nonsavu 25.12 11 P P 14 28 22.8 +0.4
MSVF IAmb IAmb 14 28 29.1
comp=Z,27nm,0.9s
MSVF Nonsavu 25.12 11 P P 14 28 24.6 +2.1
RMQ Roma 25.65 301 P P 14 28 29.2 +1.9
baz=26,SNR=7.1
STKA Stephens Creek 27.22 283 P P 14 28 41.1 -0.2
comp=Z,18nm,0.9s,baz=112,slow=11,SNR=20
STKA PcP PcP 14 32 01.7 +0.5
comp=Z,3.3nm,0.9s,baz=14,slow=7.9,SNR=3.0
STKA LR LR 14 37 47.8
comp=Z,2µm,21.6s,baz=125,slow=33
comp=Z,18nm,0.9s
STKA Stephens Creek 27.22 283 P P 14 28 42.1 +0.8
baz=27,SNR=10
STKA Stephens Creek 27.22 283 P P 14 28 42.2 +0.8
STKA Stephens Creek 27.22 283 P P 14 28 41.9 +0.5
HTT Hallett 28.38 277 P P 14 28 51.6 -0.2
baz=28,SNR=3.1
QLP Quilpie 28.54 295 P P 14 28 53.8 +0.6
baz=29,SNR=17
LCRK Leigh Creek 30.43 282 P P 14 29 10.3 +0.4
BBOO Buckleboo 30.78 276 P P 14 29 13.3 +0.3
baz=31,SNR=7.4
BBOO Buckleboo 30.78 276 P P 14 29 13.3 +0.3
BBOO IAmb IAmb 14 29 16.5
comp=Z,63nm,1.4s
BBOO Buckleboo 30.78 276 P P 14 29 17.4 +4.4
RAR Rarotonga 31.07 55 LR LR 14 40 24.9
comp=Z,826nm,20.7s,baz=222,slow=34
AFI Afiamalu 31.38 29 LR LR 14 41 45.6
comp=Z,310nm,19.1s,baz=196,slow=36
CTA Charters Tower 31.93 306 P P 14 29 22.6 -0.5
comp=Z,16nm,0.8s,baz=145,slow=12,SNR=9.9
CTA LR LR 14 41 55.9
comp=Z,2µm,18.1s,baz=121,slow=36
comp=Z,16nm,0.8s
CTAO Charters Tower 31.93 306 P P 14 29 23.8 +0.6
CTAO IAmb IAmb 14 29 26.5
comp=Z,20nm,0.9s
OOD Oodnadatta 33.75 284 P P 14 29 39.5 +0.4
MTSU Mount Surprise 34.59 306 P P 14 29 47.3 +0.9
baz=35,SNR=4.1
MTSU Mount Surprise 34.59 306 P P 14 29 47.8 +1.4
HNR Honiara 35.03 337 LR LR 14 41 38.2
comp=Z,15µm,21.8s,baz=165,slow=32
VNDA Vanda 35.34 184 P P 14 29 55.0 +2.7
comp=Z,2.3nm,1.1s,baz=9.0,slow=9.0,SNR=8.3
VNDA LR LR 14 43 28.0
comp=Z,1µm,18.1s,baz=18,slow=35
comp=Z,2.3nm,1.1s
VNDA Vanda 35.34 184 P P 14 29 51.7 -0.6
VNDA IAmb IAmb 14 29 60.0
comp=Z,43nm,2.0s
QIS Mount Isa 35.75 297 P P 14 29 56.3 -0.2
baz=36,SNR=8.2
QIS Mount Isa 35.75 297 P P 14 29 56.0 -0.4
TBI Tubuai 36.34 70 eS S 14 35 42.1 +0.3
comp=Z,792nm,31.0s
TBI eLR LR 14 39 45.2
comp=Z,20µm,23.5s
TBI eLR LR 14 39 45.6
comp=Z,6µm,27.5s
TBI Tubuai 36.34 70 eT T 15 08 01.2
comp=Z,40nm,0.4s
AS31 Alice Springs 37.55 288 P P 14 30 10.9 -0.9
ASAR Alice Springs 37.55 288 P P 14 30 10.7 -1.1
comp=Z,14nm,0.6s,baz=128,slow=6.8,SNR=142
ASAR PcP PcP 14 32 28.1 -1.6
comp=Z,4.4nm,0.7s,baz=125,slow=3.6,SNR=8.6
ASAR LR LR 14 45 15.3
comp=Z,2µm,19.4s,baz=139,slow=36
comp=Z,14nm,0.6s
ASAR Alice Springs 37.55 288 P P 14 30 10.1 -1.7
FORT Forrest 37.69 273 P P 14 30 12.7 -0.1
FORT IAmb IAmb 14 30 28.1
comp=Z,151nm,1.9s
FORT Forrest 37.69 273 P P 14 30 15.4 +2.6
COEN Coen 38.55 309 P P 14 30 20.1 -0.1
baz=39,SNR=4.9
COEN Coen 38.55 309 P P 14 30 20.3 +0.1
COEN IAmb IAmb 14 30 23.2
comp=Z,31nm,1.1s
COEN Coen 38.55 309 P P 14 30 21.1 +0.9
comp=Z,31nm,1.1s
WR0 Warramunga Arr 39.56 293 P P 14 30 27.8 -0.9
WR0 IAmb IAmb 14 30 31.8
comp=Z,34nm,1.1s
WB2 Warramunga Arr 39.70 292 P P 14 30 28.9 -0.9
baz=40
WB2 Warramunga Arr 39.70 292 P P 14 30 29.1 -0.8
WB2 IAmb IAmb 14 30 31.8
comp=Z,26nm,0.9s
WRAB Tennant Creek 39.71 292 P P 14 30 29.1 -0.8
WRAB Tennant Creek 39.71 292 P P 14 30 29.2 -0.7
WRA Warramunga Arr 39.71 292 P P 14 30 28.5 -1.4
comp=Z,27nm,1.0s,baz=134,slow=7.9,SNR=60
WRA PcP PcP 14 32 35.4 -1.1
comp=Z,4.1nm,0.7s,baz=130,slow=3.1,SNR=8.7
WRA LR LR 14 46 40.7
comp=Z,2µm,18.1s,baz=128,slow=36
comp=Z,27nm,1.0s
WRA Warramunga Arr 39.71 292 P P 14 30 28.8 -1.1
WB0 Warramunga Arr 39.79 293 P P 14 30 29.8 -0.8
WB0 IAmb IAmb 14 30 33.6
comp=Z,37nm,1.1s
PAE Paea 40.16 63 eT T 15 12 53.4
comp=Z,3.8nm,0.2s
PMG Port Moresby 40.19 318 P P 14 30 32.5 -1.4
comp=Z,13nm,0.7s,baz=133,slow=8.1,SNR=4.1
PMG LR LR 14 45 03.5
comp=Z,2µm,21.8s,baz=150,slow=33
comp=Z,13nm,0.7s
PMG Port Moresby 40.19 318 P P 14 30 36.1 +2.3
PMG IAmb IAmb 14 30 47.7
comp=Z,33nm,0.9s
PPT2 Papeete2 40.22 63 eS S 14 36 41.2 +0.4
comp=Z,193nm,24.5s
PPT2 eLR LR 14 41 33.4
comp=Z,1µm,23.0s
PPT2 eLR LR 14 41 33.6
comp=Z,1µm,28.0s
PPT2 Papeete2 40.22 63 eT T 15 12 58.5
comp=Z,6.8nm,0.4s
PPT Papeete 40.23 63 LR LR 14 42 59.1
comp=Z,740nm,21.6s,baz=240,slow=30
WRKA Warakurna 40.72 281 P P 14 30 36.9 -1.3
baz=41,SNR=19
WRKA Warakurna 40.72 281 P P 14 30 37.6 -0.6
KRVT Keravat (AS076 42.55 328 LR LR 14 47 51.1
comp=Z,891nm,18.4s,baz=286,slow=35
RABL Rabaul 42.60 328 P P 14 30 53.2 -0.4
NWAO Narrogin (SRO) 44.59 263 LR LR 14 46 03.5
comp=Z,840nm,20.9s,baz=334,slow=31
KLBR Kellerberrin 44.88 265 P P 14 31 12.5 +0.6
baz=45,SNR=6.6
MUN Mundaring 45.82 264 P P 14 31 20.4 +1.0
baz=46,SNR=4.2
MUN Mundaring 45.82 264 P P 14 31 20.2 +0.9
KDU Kakadu 46.14 298 P P 14 31 21.4 -0.5
baz=46,SNR=13
KNRA Kununurra 46.48 291 P P 14 31 24.8 +0.2
baz=47,SNR=15
KNRA Kununurra 46.48 291 P P 14 31 24.9 +0.2
KNRA Kununurra 46.48 291 P P 14 31 27.0 +2.4
MEEK Meekatharra 46.89 272 P P 14 31 26.9 -0.9
baz=47,SNR=21
MEEK Meekatharra 46.89 272 P P 14 31 28.7 +0.8
MTN Manton Dam 46.90 296 P P 14 31 27.4 -0.6
baz=47,SNR=9.8
MTN Manton Dam 46.90 296 P P 14 31 27.7 -0.3
MORW Morawa 47.45 267 P P 14 31 32.8 +0.6
baz=47,SNR=3.5
MORW Morawa 47.45 267 P P 14 31 31.8 -0.4
MORW IAmb IAmb 14 32 24.2
comp=Z,29nm,1.4s
MORW Morawa 47.45 267 P P 14 31 34.4 +2.2
comp=Z,16nm,1.1s
QSPA South Pole Qui 47.53 180 P P 14 31 35.5 +3.0
comp=Z,22nm,0.6s,baz=18,slow=3.0,SNR=149
QSPA LR LR 14 50 21.7
comp=Z,747nm,18.3s,baz=41,slow=34
comp=Z,22nm,0.6s
QSPA South Pole Qui 47.53 180 P P 14 31 34.4 +1.9
PSA00 Pilbara Seismi 48.97 278 P P 14 31 43.0 -1.0
PSA00 Pilbara Seismi 48.97 278 P P 14 31 43.3 -0.7
PSA00 IAmb IAmb 14 31 45.8
comp=Z,23nm,1.1s
MBWA Marble Bar 49.31 278 P P 14 31 48.5 +1.9
comp=Z,14nm,0.9s
TAOE Nuku Hiva Isla 52.82 64 eS S 14 39 40.9 -0.4
comp=Z,186nm,24.4s
TAOE eLR LR 14 47 23.8
comp=Z,1µm,23.3s
SOEI Soe 53.75 293 P P 14 32 20.9 +0.9
comp=Z,1µmcomp=Z,67nm,1.2s
FAKI Fak Fak 53.79 306 P P 14 32 17.6 -2.5
FAKI IAmb IAmb 14 32 22.7
comp=Z,21nm,0.8s
FAKI Fak Fak 53.79 306 P P 14 32 18.5 -1.6
comp=Z,28nm,0.8s
BATI Baumata 53.84 292 LR LR 14 56 01.0
comp=Z,981nm,18.8s,baz=169,slow=37
SIJI Sorong 56.01 306 P P 14 32 34.9 -1.4
comp=Z,35nm,0.8s,baz=94,slow=5.2,SNR=21
SIJI LR LR 14 58 38.6
comp=Z,1µm,18.2s,baz=108,slow=38
comp=Z,35nm,0.8s
SIJI Sorong 56.01 306 P P 14 32 34.1 -2.1
comp=Z,574nmcomp=Z,36nm,0.7s
BBSI Bau Bau 58.00 295 P P 14 32 50.6 +0.3
comp=Z,658nmcomp=Z,28nm,1.5s
SANI Sanana 58.34 300 P P 14 32 51.3 -1.4
comp=Z,755nmcomp=Z,43nm,0.8s
MAW Mawson 58.37 205 P P 14 32 54.3 +2.1
comp=Z,8.1nm,0.7s,baz=119,slow=7.4,SNR=17
MAW PcP PcP 14 33 44.6 +1.7
comp=Z,6.0nm,0.8s,baz=166,slow=4.2,SNR=5.5
MAW LR LR 14 58 25.1
comp=Z,453nm,18.1s,baz=112,slow=36
comp=Z,8.1nm,0.7s
MAW Mawson 58.37 205 P P 14 32 52.3 +0.1
baz=58,SNR=12
MAW Mawson 58.37 205 P P 14 32 53.9 +1.7
LBMI Labuha 58.48 303 P P 14 32 54.6 +0.9
comp=Z,1µmcomp=Z,57nm,1.0s
DBNI Kabupaten Domp 58.75 289 P P 14 32 56.7 +1.1
comp=Z,33nm,1.0s
KKSI Kolaka, Sulawe 59.58 295 P P 14 33 01.7 +0.4
comp=Z,32nm,0.6s
TWSI Taliwang, Sumb 59.59 287 P P 14 33 02.2 +0.8
comp=Z,888nmcomp=Z,41nm,0.9s
BKSI Bulukumba 59.77 293 P P 14 33 02.0 -0.6
comp=Z,485nmcomp=Z,23nm,1.0s
KAPI Kappang 60.25 293 P P 14 33 05.5 -0.4
comp=Z,14nm,0.3s,baz=144,slow=7.5,SNR=5.4
KAPI LR LR 14 59 39.8
comp=Z,396nm,19.1s,baz=154,slow=37
comp=Z,14nm,0.3s
KAPI Kappang 60.25 293 P P 14 33 06.2 +0.3
comp=Z,930nmcomp=Z,30nm,1.2s
BNSI Bone 60.45 294 P P 14 33 07.1 -0.2
comp=Z,478nmcomp=Z,16nm,2.1s
SPSI Sidrap Palu 61.00 294 P P 14 33 10.2 -0.8
comp=Z,737nmcomp=Z,24nm,1.0s
LUWI Luwuk 61.17 298 P P 14 33 11.8 -0.4
LUWI Luwuk 61.17 298 P P 14 33 12.1 -0.1
SRBI Singaraja 61.22 287 P P 14 33 12.9 +0.4
comp=Z,26nm,1.0s
GUMO Guam 61.69 328 LR LR 15 01 38.0
comp=Z,185nm,18.1s,baz=120,slow=38
APSI Ampana 62.01 297 P P 14 33 18.8 +1.0
comp=Z,17nmcomp=Z,37nm,1.3s
GTOI Gorontalo 62.29 300 P P 14 33 21.2 +1.5
comp=Z,277nmcomp=Z,17nm,0.8s
MMSI Mamuju 62.51 294 P P 14 33 22.0 +0.8
comp=Z,13nm,1.0s
RPN Rapa Nui 63.32 103 LR LR 14 55 44.3
comp=Z,855nm,19.4s,baz=280,slow=31
PMSA Palmer Station 64.00 156 LR LR 14 57 20.5
comp=Z,871nm,18.8s,baz=230,slow=32
MPSI Mapaga 64.09 297 P P 14 33 31.2 -0.5
comp=Z,938nmcomp=Z,29nm,1.0s
TOLI2 Tolitoli 64.09 298 P P 14 33 31.2 -0.4
TOLI2 IAmb IAmb 14 33 34.8
comp=Z,20nm,0.9s
BBKI Banjar Baru 64.74 290 P P 14 33 36.5 +0.5
comp=Z,51nm,1.2s
TROLL Troll, Antarti 65.51 183 P P 14 33 41.8 +1.5
DAV Davao City (W) 65.72 306 LR LR 15 02 35.7
comp=Z,506nm,20.0s,baz=120,slow=36
SNAA Sanae 66.00 181 P P 14 33 44.4 +1.0
SNAA Sanae 66.00 181 LR LR 15 00 44.6
comp=Z,619nm,19.2s,baz=192,slow=34
SNAA Sanae 66.00 181 P P 14 33 44.7 +1.3
SNAA IAmb IAmb 14 33 47.5
comp=Z,37nm,1.5s
VNA3 Neumayer Olymp 66.45 179 P P 14 33 47.1 +0.9
MTKI Muara Teweh, K 66.51 292 P P 14 33 47.6 +0.2
comp=Z,82nm,1.0s
VNA2 Neumayer--Watz 66.79 180 P P 14 33 49.5 +1.1
baz=167,slow=6.0
VNA1 Neumayer--Stat 67.06 179 P P 14 33 51.5 +1.5
LEM Lembang 67.52 282 P P 14 33 55.5 +1.5
comp=Z,30nm,0.8s,baz=102,slow=11,SNR=5.8
LEM LR LR 15 02 48.8
comp=Z,589nm,21.6s,baz=116,slow=36
comp=Z,30nm,0.8s
LEM Lembang 67.52 282 P P 14 33 54.2 +0.2
comp=Z,48nm,1.0s
MYLDM Lahad Datu 68.65 299 P P 14 34 01.7 +0.8
MYLDM Lahad Datu 68.65 299 P P 14 34 01.1 +0.3
comp=Z,47nm,1.1s
GO09 Cerro Castillo 70.56 143 P P 14 34 12.5 +0.3
KKM Kota Kinabalu 70.78 298 P P 14 34 15.0 +0.8
KKM Kota Kinabalu 70.78 298 P P 14 34 14.8 +0.7
comp=Z,774nmcomp=Z,63nm,1.0s
SBUM Sibu 70.80 292 P P 14 34 14.0 -0.1
comp=Z,263nmcomp=Z,10nm,1.2s
KSM Kuching 71.41 290 P P 14 34 17.0 -0.9
comp=Z,3µmcomp=Z,25nm,1.1s
PPBI Pangkal Pinang 71.80 284 P P 14 34 20.0 -0.2
MASI Maura Aman, Be 73.93 281 P P 14 34 33.1 +0.2
comp=Z,54nm,1.0s
DSRI Dabo 74.08 284 P P 14 34 33.7 0.0
comp=Z,17nm,0.9s
JCJ Chichijima 75.03 332 LR LR 15 04 28.2
comp=Z,255nm,21.2s,baz=116,slow=33
MYKOM Kota Tinggi 76.18 286 P P 14 34 45.3 -0.5
MYKOM IAmb IAmb 14 34 52.1
comp=Z,18nm,1.1s
MYKOM Kota Tinggi 76.18 286 P P 14 34 45.8 0.0
comp=Z,596nmcomp=Z,17nm,1.0s
MNSI Mandailing Nat 78.55 282 P P 14 34 57.5 -1.6
comp=Z,38nm,1.1s
PLCA Paso Flores 79.02 136 P P 14 35 04.5 +3.0
comp=Z,3.5nm,0.7s,baz=237,slow=7.0,SNR=9.0
PLCA LR LR 15 01 54.7
comp=Z,832nm,21.6s,baz=206,slow=30
comp=Z,3.5nm,0.7s
IPM Ipoh 80.06 285 P P 14 35 05.9 -1.5
IPM IAmb IAmb 14 35 09.0
comp=Z,23nm,0.7s
IPM Ipoh 80.06 285 P P 14 35 06.1 -1.3
comp=Z,32nm,0.8s
GSI Gunungsitoli 80.35 281 P P 14 35 09.5 +0.5
GSI Gunungsitoli 80.35 281 P P 14 35 09.0 0.0
comp=Z,2µmcomp=Z,86nm,0.8s
PSI Prapat 80.40 283 P P 14 35 06.5 -2.9
comp=Z,15nm,1.0s
JOW Kunigami 80.56 320 LR LR 15 07 39.1
comp=Z,416nm,20.6s,baz=127,slow=33
KULM Kulim 80.89 286 P P 14 35 11.3 -0.5
KULM IAmb IAmb 14 35 13.6
comp=Z,25nm,0.9s
KULM Kulim 80.89 286 P P 14 35 11.6 -0.2
comp=Z,34nm,0.9s
TSI Tuntungan 81.14 283 P P 14 35 12.7 -0.5
comp=Z,80nm,0.5s
JHJ Hachijo jima 2 81.36 332 LR LR 15 08 22.9
comp=Z,255nm,20.9s,baz=94,slow=34
KCSI Kotacane, Aceh 81.73 282 P P 14 35 15.7 -0.6
comp=Z,24nm,1.0s
SKLT Songkhla 82.22 287 P P 14 35 17.8 -1.0
comp=Z,668nmcomp=Z,37nm,0.9s
MLSI Meulaboh, Aceh 83.23 282 P P 14 35 24.7 +0.6
comp=Z,59nm,1.2s
INU Inuyama 84.34 331 P P 14 35 28.5 -0.7
INU IAmb IAmb 14 35 30.7
comp=Z,24nm,0.9s
QIZ Qiongzhong 84.59 302 P P 14 35 31.5 +0.6
QIZ S S 14 45 58.3 +0.8
QIZ LR LR
comp=Z,310nm,28.7s
QIZ LR LR
comp=Z,250nm,23.9s
QIZ LR LR
comp=Z,340nm,22.3s
MJAR Matsushiro Arr 85.00 332 P P 14 35 32.2 -0.3
comp=Z,4.3nm,0.8s,baz=166,slow=6.0,SNR=11
MJAR LR LR 15 10 07.0
comp=Z,117nm,21.7s,baz=142,slow=33
comp=Z,4.3nm,0.8s
MAJO Matsushiro 85.00 332 P P 14 35 32.1 -0.5
MAJO IAmb IAmb 14 35 33.8
comp=Z,8.7nm,0.8s
MJB9 Matsu-Tunnel 85.01 332 P P 14 35 32.3 -0.2
MJB9 IAmb IAmb 14 35 33.8
comp=Z,8.6nm,0.8s
JSD Sado 86.33 333 P P 14 35 38.9 -0.2
JSD IAmb IAmb 14 35 40.9
comp=Z,23nm,0.8s
NJ2 Nanjing 89.48 316 eP P 14 35 55.8 +1.5
NJ2 pmax pmax
comp=Z,19nm,0.6s
NJ2 LR LR
comp=Z,270nm,23.7s
NJ2 LR LR
comp=Z,220nm,17.0s
NJ2 LR LR
comp=Z,530nm,21.8s
KSRS Korea Array 89.72 326 P P 14 35 55.5 +0.3
comp=Z,12nm,0.8s,baz=147,slow=5.5,SNR=28
KSRS LR LR 15 13 49.2
comp=Z,161nm,20.2s,baz=140,slow=34
comp=Z,12nm,0.8s
KSAR Wonju Array Be 89.73 326 P P 14 35 55.0 -0.3
KS19 Wonju Array Si 89.79 326 P P 14 35 56.0 +0.4
ASAJ Asahikawa 90.59 338 LR LR 15 12 39.7
comp=Z,466nm,21.1s,baz=160,slow=33
WHN Wuhan 90.68 312 ⇑P P 14 36 01.8 +1.9
WHN pmax pmax
comp=Z,650nm,3.2s
CM31 Chiang Mai Arr 91.29 294 P P 14 36 03.7 +0.6
CM31 IAmb IAmb 14 36 05.9
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 91.29 294 P P 14 36 03.5 +0.5
comp=Z,12nm,0.8s,baz=149,slow=3.4,SNR=48
CMAR PP PP 14 39 40.5 -0.1
comp=Z,0.7nm,0.4s,baz=146,slow=6.3,SNR=5.1
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 91.29 294 P P 14 36 02.9 -0.2
CHTO Chiang Mai 91.54 294 P P 14 36 03.7 -0.5
GYA Guiyang 92.04 305 ⇓P P 14 36 07.9 +1.3
GYA pmax pmax
comp=Z,27nm,0.7s
LVC Limon Verde 93.50 125 LR LR 15 10 14.1
comp=Z,152nm,20.6s,baz=216,slow=30
TIA Tai'an 93.65 318 ⇓P P 14 36 13.5 -0.1
TIA pmax pmax
comp=Z,11nm,0.9s
TIA LR LR
comp=Z,190nm,19.6s
TIA LR LR
comp=Z,140nm,20.1s
TIA LR LR
comp=Z,260nm,19.6s
USRK Ussuriysk Ar. 93.97 332 LR LR 15 15 42.1
comp=Z,117nm,20.8s,baz=141,slow=34
SHEM Shemya Is, Ala 94.95 1 LR LR 15 14 30.5
comp=Z,127nm,21.0s,baz=132,slow=33
PZH PanZhiHua 95.12 301 P P 14 36 21.9 +1.2
PZH S S 14 47 31.1 -4.2
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.3s
PZH LR LR
comp=Z,730nm,22.0s
PZH LR LR
comp=Z,630nm,21.0s
PZH LR LR
comp=Z,1µm,24.1s
CN2 Changchun 96.08 327 P P 14 36 25.3 +0.8
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,300nm,22.0s
CN2 LR LR
comp=Z,300nm,22.0s
CN2 LR LR
comp=Z,400nm,21.0s
NNA Nana 96.14 112 LR LR 15 10 27.1
comp=Z,578nm,21.0s,baz=217,slow=30
TNCH TengChong 96.15 298 eP P 14 36 26.5 +1.0
TNCH pP pP 14 36 29.5 -1.1
TNCH S S 14 47 43.5 -0.9
TNCH pmax pmax
comp=Z,14nm,0.4s
TNCH pmax pmax
comp=Z,74nm,4.5s
TNCH LR LR
comp=Z,130nm,16.9s
TNCH LR LR
comp=Z,170nm,17.9s
TNCH LR LR
comp=Z,270nm,24.5s
PETK Petropavlovsk- 96.27 351 LR LR 15 13 45.9
comp=Z,223nm,20.8s,baz=174,slow=32
XAN Xi'an 96.31 311 ⇓P P 14 36 26.8 +0.9
XAN pP sP 14 36 34.8 +1.9
XAN pmax pmax
comp=Z,6.0nm,1.3s
XAN LR LR
comp=Z,190nm,19.9s
XAN LR LR
comp=Z,320nm,22.7s
LPIG La Paz 96.65 63 LR LR 15 11 14.1
comp=Z,405nm,20.5s,baz=222,slow=30
PALK Pallekele 96.73 274 LR LR 15 16 30.7
comp=Z,314nm,19.7s,baz=233,slow=33
CD2 Chengdu 97.02 306 eP P 14 36 29.0 -0.2
CPUP Villa Florida 97.09 136 LR LR 15 12 50.3
comp=Z,589nm,21.1s,baz=212,slow=31
KLR Kul'dur 98.43 334 LR LR 15 20 09.6
comp=Z,119nm,19.3s,baz=171,slow=35
ATAH Atahualpa 98.50 108 LR LR 15 13 11.4
comp=Z,196nm,19.4s,baz=234,slow=31
LPAZ La Paz 98.73 121 LR LR 15 11 40.5
comp=Z,298nm,22.0s,baz=194,slow=30
BRDH Bariadhala 99.14 292 LR LR 15 26 21.7
comp=Z,201nm,19.8s,baz=130,slow=38
HHC Hu-ho-hao-te 100.00 317 eP Pdif 14 36 43.9 +1.6
HHC pmax pmax
comp=Z,120nm,5.4s
XLT XiLinHaoTe 100.17 322 LR LR
comp=Z,360nm,20.2s
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,130nm,5.2s
XLT LR LR
comp=Z,220nm,15.6s
XLT XiLinHaoTe 100.17 322 eP Pdif 14 36 45.8 +2.8
XLT XiLinHaoTe 100.17 322 S Sdif 14 48 22.9 +5.5
NVAR Mina Array Bea 101.80 48 P Pdif 14 36 51.4 +0.8
comp=Z,0.1nm,0.3s,baz=237,slow=8.2,SNR=1.9
TXAR Lajitas Array 104.55 64 PKKPbc PKKPbc 14 52 51.2 +3.9
comp=Z,0.6nm,0.7s,baz=90,slow=4.1,SNR=4.6
ILAR Eielson Array 111.50 17 PKiKP PKiKP 14 41 29.8 -0.7
comp=Z,0.4nm,0.6s,baz=293,slow=2.6,SNR=4.6
ILAR PKKPbc PKKPab 14 52 33.7 +2.2
comp=Z,0.5nm,0.8s,baz=359,slow=4.3,SNR=4.7
WMQ Urumqi 115.07 307 ePKP PKiKP 14 41 38.8 +0.7
WMQ LR LR
comp=Z,200nm,22.1s
INK Inuvik 117.50 20 PKP PKPdf 14 41 40.9 -1.0
comp=Z,1.0nm,0.7s,baz=7.5,slow=1.3,SNR=7.8
ECSD EROS Data Cent 117.77 55 PKPdf PKiKP 14 41 43.4 +0.1
PLAL Pickwick Lake 118.46 67 PKPdf PKPdf 14 41 44.2 -0.6
X48A Hartselle 118.87 68 PKiKP 14 41 45.7 0.0
WVT Waverly 119.26 66 PKPdf PKPdf 14 41 46.0 -0.3
YKA Yellowknife Ar 119.49 31 PKP PKPdf 14 41 45.4 -0.5
comp=Z,3.3nm,0.8s,baz=235,slow=1.9,SNR=8.6

KIBK	Kibwezi	119.74	234			PKPdf	14 41 47.6	-0.5
I37A	Lemond, Waseca	119.88	56			PKiKP	14 41 47.6	+0.3
MK31	Makanchi Array	119.89	308		PKPdf	PKPdf	14 41 45.8	-1.5
MKAR	Makanchi Array	119.89	308		PKP	PKPdf	14 41 45.3	-1.9
	comp=Z,2.6nm,0.8s,baz=284,slow=0.4,SNR=14							
MKAR					PP	PP	14 43 09.2	-2.8
	comp=Z,0.2nm,0.6s,baz=123,slow=6.1,SNR=3.7							
MKAR	Makanchi Array	119.89	308		PKPdf	PKPdf	14 41 45.9	-1.3
KSH	Kashi	119.97	298		PKP	PKiKP	14 41 48.4	+0.5
MAKZ	Makanchi	120.08	307			PKPdf	14 41 46.9	-0.7
KMBO	Kilima Mbogo	121.18	234		PKP	PKPdf	14 41 50.6	-0.5
	comp=Z,1.5nm,0.4s,baz=72,slow=2.9,SNR=6.8							
WCI	Wyandotte Cave	121.42	65		PKPdf	PKPdf	14 41 49.9	-0.5
A36M	Sachs Harbour	122.10	19		PKPdf	PKPdf	14 41 50.4	-0.3
ZALV	Zalesovo Beam	122.13	316		PKP	PKPdf	14 41 49.4	-1.9
	comp=Z,1.7nm,0.8s,baz=167,slow=3.4,SNR=6.6							
WSAR	Wadi Sarin	123.19	272		PKP	PKPdf	14 41 53.4	-0.9
	comp=Z,2.7nm,0.8s,baz=131,slow=5.5,SNR=4.8							
GAR	Garm	123.46	294			PKPdf	14 41 54.4	-0.1
BTK	Batken	123.65	296		PKPdf	PKPdf	14 41 54.4	-0.4
Q51A	Peebles	123.81	66			PKiKP	14 41 55.6	+0.3
KURK	Kurchatov	123.94	310		PKPdf	PKPdf	14 41 54.1	-0.7
ACSO	Alum Creek Sta	124.65	65			PKiKP	14 41 57.3	+0.4
KK31	Karatay Array	125.33	299		PKPdf	PKPdf	14 41 57.2	-0.6
KKAR	Karatay Array	125.33	299		PKPdf	PKPdf	14 41 56.8	-1.0
N53A	Lisbon	126.36	65			PKiKP	14 42 00.3	0.0
E46A	Sault Ste Mari	126.64	57		PKPdf	PKiKP	14 42 00.8	+0.2
NRIK	Noril'sk	127.64	333		PKP	PKPdf	14 42 00.8	-0.6
	comp=Z,2.3nm,0.4s,baz=274,slow=4.9,SNR=4.7							
BRVK	Borovoye	129.61	310		PKPdf	PKPdf	14 42 05.2	-0.4
GEYT	Alibeck	131.35	287		PKP	PKiKP	14 42 10.0	-0.4
	comp=Z,2.1nm,0.7s,baz=119,slow=1.9,SNR=3.6							
ARU	Arti	137.05	312		PKPdf	PKiKP	14 42 20.2	-1.1
MARD	Mardin	143.56	278			PKPdf	14 42 32.9	+0.8
DBIC	Dimbokro	144.18	183		PKP	PKPbc	14 42 32.4	+0.6
	comp=Z,5.8nm,0.7s,baz=269,slow=2.9,SNR=6.9							
KBZ	Khabaz	144.19	289		PKP	PKPab	14 42 30.1	-0.4
	comp=Z,16nm,0.9s,baz=101,slow=3.2,SNR=23							
DRLN	Deer Lake	144.65	61		PKPdf	PKPdf	14 42 33.3	-0.1
KOPT	Kop Dagi	144.76	282		PKPdf	PKPdf	14 42 34.0	-0.2
DAG	Danmarks Havn	145.35	5	*i*	P	PKPbc	14 42 30.4	-3.3
SFJD	Kangerlussuaq	146.03	29		PKPbc	PKPbc	14 42 35.8	-0.2
	baz=244,slow=6.2							
SFJD	Kangerlussuaq	146.03	29	*i*	P	PKPdf	14 42 34.8	-0.4
GAZ	Gaziantep	146.12	276			PKPbc	14 42 37.1	-0.3
SUMG	Summit	146.34	17	*i*	P	PKPdf	14 42 35.8	-0.3
KLMR	Klimovskoe	146.91	320	*e*	PKPdf	PKPdf	14 42 36.2	-0.7
KLMR					AMP		14 42 39.8	
	comp=Z,35nm,0.8s							
BNN	Bunyan	147.74	278			PKPdf	14 42 40.0	+0.9
ARCES	ARCESS Array B	148.31	339		PKPbc	PKPbc	14 42 40.9	-1.5
	comp=Z,9.4nm,0.8s,baz=58,slow=1.3,SNR=20							
ARCES	ARCESS Array B	148.31	339			PKPbc	14 42 41.1	-1.3
ICESG	Greenland Ices	148.43	22	*i*	P	PKPdf	14 42 40.9	+1.3
OBN	Obninsk	149.38	309			PKPbc	14 42 44.0	-1.5
BR131	Keskin Array S	149.65	278			PKPbc	14 42 45.7	-1.2
BR131						sPKPbc	14 42 53.4	-0.5
BRTR	Keskin Array B	149.65	278		PKPbc	PKPbc	14 42 46.1	-0.8
	comp=Z,19nm,0.8s,baz=145,slow=4.9,SNR=40							
BRTR	Keskin Array B	149.65	278			PKPbc	14 42 45.6	-1.3
BRTR						sPKPbc	14 42 53.4	-0.5
ILGA	Ilgaz	149.99	281			PKPbc	14 42 47.3	-0.5
ANTO	Ankara	150.31	278	⇓	P	PKPbc	14 42 48.3	-0.1
ANTO	Ankara	150.31	278			PKPbc	14 42 47.8	-0.6
ELL	Elmali	151.33	271			PKPbc	14 42 51.0	0.0
ELL					PKPab	PKPab	14 42 59.5	+0.3
AKAS	Kas	151.35	269			PKPbc	14 42 50.0	-1.0
MDUB	Mudurnu	151.66	279			PKPbc	14 42 50.8	-0.8
FINES	FINESS Array B	152.81	325		PKPbc	PKPbc	14 42 52.1	-1.2
	comp=Z,9.9nm,0.7s,baz=90,slow=4.0,SNR=21							
KARP	Karpathos	152.87	266			PKPbc	14 42 53.8	-0.6
KARP					PKPab	PKPab	14 43 06.1	+0.5
AKASG	Malin Array Be	154.21	301		PKPbc	PKPbc	14 42 55.8	-0.9
	comp=Z,3.7nm,0.9s,baz=69,slow=2.6,SNR=7.6							
AKASG	Malin Array Be	154.21	301			PKiKP	14 42 56.8	+0.1
AKASG					PKPab	PKPab	14 43 10.1	-0.6
AKBB	Malin Array Si	154.21	301		PKPdf	PKPdf	14 42 46.3	-2.2
AKBB						sPKPdf	14 42 55.3	-0.2
AKBB					PKPab	PKPab	14 43 09.2	-1.4
IDI	Anoyia	154.43	264		PKPbc	PKiKP	14 42 58.5	+0.6
	comp=Z,20nm,0.7s,baz=70,slow=1.8,SNR=14							
IDI	Anoyia	154.43	264		PKPdf	PKPdf	14 42 47.7	-1.7
IDI						PKiKP	14 42 58.4	+0.6
IDI					PKPab	sPKPbc	14 43 06.6	+1.8
MNK	Minsk	154.43	310	*i*	PKP	PKPdf	14 42 46.9	-1.8
	comp=E,3.0nm,1.0s							
MNK				*i*	PKP	PKPdf	14 42 46.9	-1.8
	comp=N,37nm,0.9s							
MNK				*i*	PKP	PKPdf	14 42 46.9	-1.8
	comp=Z,11nm,0.8s,baz=257							
MNK				*i*	PKiKP	sPKPdf	14 42 56.0	+0.3
MNK				*i*	PP	PP	14 46 45.3	-2.0
MNK				*i*	SKS	SKSdf	14 49 53.8	-0.7
MNK				*i*	PPP	PPP	14 50 14.7	
MNK				*i*	SKKS	SKKSdf	14 58 32.8	-1.1
MNK				*i*	SS	SS	15 06 26.8	-0.2
MNK				*i*	SSS	SSS	15 12 19.5	
MNK				*i*	LQ	LQ	15 46 11.5	
MNK				*i*	LR	LR	15 51 09.6	
MNK				*i*	LRM	MLR	15 55 27.4	
	comp=N,493nm,19.5s							
MNK				*i*	LRM	MLR	15 55 30.8	
	comp=E,93nm,19.5s							
MNK				*i*	LRM	MLR	15 55 44.3	
	comp=Z,307nm,22.0s							
SORM	Soroca	154.87	295	⇑	P	PKPab	14 43 12.5	-1.1
VRI	Vrincioaia	155.88	289	⇓	P	PKPab	14 43 17.4	-0.6
PLOR	Plostina	155.94	289	⇑	P	PKPab	14 43 19.9	+1.6
TESR	Tescani	155.98	291	⇓	P	PKPab	14 43 17.5	-1.0
MLR	Muntele Rosu	156.40	288	⇓	P	PKPab	14 43 19.5	-1.0
MLR	Muntele Rosu	156.40	288		PKPab	PKPab	14 43 19.7	-0.7
	comp=Z,5.7nm,0.8s,baz=180,slow=4.4,SNR=7.8							
MLR	Muntele Rosu	156.40	288		PKPdf	PKPdf	14 42 50.4	-1.5
MLR					PKPab	PKPab	14 43 21.2	+0.8
BURAR	Bucovina Array	156.98	294	⇑	P	PKPab	14 43 22.0	-0.8
BURAR	Bucovina Array	156.98	294		PKPdf	PKPdf	14 42 52.0	-0.5
BURAR					PKPab	PKPab	14 43 22.9	+0.1
BUR08	Bucovina Ar. S	156.99	294		PKPdf	PKPdf	14 42 51.8	-0.8
BUR08						PKPab	14 43 22.9	0.0
VOIR		157.02	288	⇓	P	PKPab	14 43 25.3	+2.2
ARR	Arges	157.31	288	⇓	P	PKPab	14 43 23.1	-1.2
LOT	Lotru	157.92	288	⇑	P	PKPab	14 43 25.6	-1.4
HFS	Hagfors	158.45	332		PKPab	PKPab	14 43 26.3	-2.3
	comp=Z,3.4nm,0.6s,baz=86,slow=6.1,SNR=14							
NB2	NORSAR Subarra	158.58	336		PKP	PKPab	14 43 27.3	-1.9
	baz=41,slow=4.6							
NB2	NORSAR Subarra	158.58	336		PKP	PKPab	14 43 27.3	-1.9
	comp=Z,4.6nm,0.8s,baz=41,slow=4.6							
NOA	NORSAR Array B	158.58	336		PKPab	PKPab	14 43 27.0	-2.2
	comp=Z,3.1nm,0.7s,baz=41,slow=4.6,SNR=11							
HERR	Herculane	158.84	286	⇓	P	PKPab	14 43 29.6	-1.2
SURR	Surduc	159.09	289	⇓	P	PKPab	14 43 31.4	-0.5
MDVR	Moldovita	159.33	286	⇑	P	PKPab	14 43 32.7	-0.3
DIVS	Divibare	160.51	284		PKPdf	PKPdf	14 42 56.2	-0.6
DIVS					PKPab	PKPab	14 43 36.9	-1.4
GERES	GERESS Array B	164.42	301		PKPab	PKPab	14 43 55.9	+0.6
	comp=Z,0.5nm,0.3s,baz=64,slow=6.1,SNR=9.0							
STAL	STALIGIAL	165.62	291		PKPdf	PKPdf	14 43 01.1	-0.5
STAL						PKPab	14 44 00.2	-0.3
CIMO	Cimolais	165.79	292		PKPdf	PKPdf	14 43 00.6	-1.1
CIMO					PKPab	PKPab	14 44 00.5	-0.8
DAVOX	Davos/Dischmat	167.44	295		PKPab	PKPab	14 44 08.8	0.0
	comp=Z,9.5nm,0.7s,baz=118,slow=5.5,SNR=8.9							
MDT	Midelt	170.08	191		PKP	PKPdf	14 43 07.0	+1.8
	comp=Z,2.5nm,0.9s,baz=235,slow=2.0,SNR=4.7							
ESDC	Sonseca Array	176.39	217		PKP	PKPdf	14 43 08.8	+1.4
	comp=Z,1.2nm,0.8s,baz=329,slow=2.4,SNR=6.8							
ESDC					PKPab	PKPab	14 44 50.3	+1.9
	comp=Z,0.5nm,0.7s,baz=111,slow=4.6,SNR=4.1							

TAP ***18*** *14:25:23.7, 24.˚53N×122.˚78E, h84km±1km, ML3.2, C*
JMA ***18*** *14:25:23.7±0.1,25.˚N±2.˚×122.˚8E±0.˚5, h87km±1km, MV2.3/14, NW OFF ISHIGAKIJIMA IS*

ISC 18 14:25:24.0±1.3, 24.˚53N±0.˚03×122.˚78E±0.˚02, h86km±7km, n110, σ0.˚92/189, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.17	117	Op P		Pn	14 25 36.4	0.0
JYNG				S		Sn	14 25 45.5	0.0
YOJ	Yonaguni jima	0.22	108	P		Pn	14 25 36.3	-0.2
	baz=107							
YOJ					*e*S	Sn	14 25 46.2	+0.4
	baz=107							
YOJ	Yonaguni jima	0.22	108	P		Pn	14 25 36.6	+0.1
YOJ				S		Sn	14 25 45.7	-0.1
EGS		0.83	292	P		Pn	14 25 42.1	+0.6
	baz=292							
TWC	Suao	0.85	276	P		Pn	14 25 41.5	-0.2
	baz=275							
TWC					*i* S	Sn	14 25 53.5	-1.4
	baz=275							
TWB1	Santiao Chiao	0.86	304	*i*	P	Pn	14 25 41.1	-0.7
	baz=303							
IRIF	Iriomote-Funau	0.89	102	P		Pn	14 25 42.1	0.0
IRIF				S		Sn	14 25 55.9	+0.3
ENA	Nanau	0.95	264	*i*	P	Pn	14 25 43.4	+0.6
	baz=263							
ENA					*i* S	Sn	14 25 57.7	+0.7
	baz=263							
ILA	Ilan	0.97	284	P		Pn	14 25 42.5	-0.5
	baz=283							
ILA				S		Sn	14 25 57.4	+0.2
	baz=283							
TIPB	Shuangxi	0.97	297	P		Pn	14 25 42.5	-0.6
	baz=296							
TIPB					*i* S	Sn	14 25 56.5	-0.9
	baz=296							
SXI1	Grass Mountain	0.99	305	P		Pn	14 25 43.1	-0.3
	baz=304							
SXI1				S		Sn	14 25 58.7	+0.7
	baz=304							
TWE	Neicheng	1.03	281	⇓	*i* P	Pn	14 25 43.8	+0.1
	baz=280							
TWE					*i* S	Sn	14 25 58.1	-0.5
	baz=280							
NWF	Wu-fen Shan	1.05	301	P		Pn	14 25 43.8	-0.4
	baz=300							
NWF					*i* S	Sn	14 26 00.0	+0.8
	baz=300							
FUSB	Fushanzhiwuyua	1.11	282	P		Pn	14 25 44.8	0.0
	baz=281							
FUSB				S		Sn	14 26 01.1	+0.8
	baz=281							
ENTT	Nioudou	1.11	276	*i*	P	Pn	14 25 44.7	-0.1
	baz=275							
ENTT					*i* S	Sn	14 26 00.8	+0.5
	baz=275							
ETL	Fush Village	1.12	251	P		Pn	14 25 44.8	-0.1
	baz=250							
ETL				S		Sn	14 26 00.4	0.0
	baz=250							
NACB	Ninganchiao	1.14	252	P		Pn	14 25 44.9	-0.1
	baz=251							
NACB				S		Sn	14 26 00.0	-0.8
	baz=251							
LATG	Datong	1.14	271	P		Pn	14 25 45.4	+0.2
	baz=270							
LATG				S		Sn	14 26 01.6	+0.5
	baz=270							
NDT	Datong Townshi	1.16	274	*e*	P	Pn	14 25 44.8	-0.4
	baz=273							
NDT				*e*	S	Sn	14 26 00.5	-0.8
	baz=273							
JKRS	Kuro-shima	1.16	104	P		Pn	14 25 45.7	+0.4
JKRS				S		Sn	14 26 02.3	+1.1
TWD	Chiawan	1.17	248	P		Pn	14 25 45.2	-0.2
	baz=247							
TWD				S		Sn	14 26 01.0	-0.5
	baz=247							
TWA	Mucha	1.18	293	*i*	P	Pn	14 25 45.7	+0.1
	baz=292							
TWA					*i* S	Sn	14 26 01.6	-0.1
	baz=292							
NWLT	Wulai	1.19	282	*i*	P	Pn	14 25 45.4	-0.2
	baz=281							
NWLT					*i* S	Sn	14 26 00.8	-1.2
	baz=281							
HWA	Hwalien	1.21	243	*e*	P	Pn	14 25 46.1	+0.3
	baz=242							
HWA				S		Sn	14 26 04.0	+1.7
	baz=242							
NHDH	Xindian Distri	1.22	291	*e*	P	Pn	14 25 47.7	+1.6
	baz=290							
NHDH				*e*	S	Sn	14 26 02.3	-0.3
	baz=290							
ETLH	Xiulin Townshi	1.23	255	P		Pn	14 25 46.4	+0.2
	baz=254							
ETLH				S		Sn	14 26 02.5	-0.4
	baz=254							
JIJ	Ishigaki jima	1.25	97	P		Pn	14 25 46.2	-0.2
JIJ				S		Sn	14 26 02.8	-0.6
YM01	YM01	1.26	299	P		Pn	14 25 46.4	-0.1
	baz=299							
YM01				S		Sn	14 26 03.5	0.0
	baz=299							
NNSB	Datong	1.28	266	P		Pn	14 25 47.1	+0.3
	baz=265							
NNSB				S		Sn	14 26 04.1	+0.1
	baz=265							
NNS	Nan Shan	1.28	266	P		Pn	14 25 47.7	+0.7
	baz=265							
NNS					*i* S	Sn	14 26 03.1	-1.1
	baz=265							
YHNB	Yeheng	1.29	277	P		Pn	14 25 47.4	+0.5
	baz=276							
YHNB				S		Sn	14 26 04.1	-0.1
	baz=276							
NSK	Sanguang	1.30	277	*i*	P	Pn	14 25 46.5	-0.6
	baz=276							
NSK					*i* S	Sn	14 26 03.8	-0.8
	baz=276							
TWS1	Kuangyinshan	1.36	295	P		Pn	14 25 48.5	+0.8
	baz=294							
TWS1				S		Sn	14 26 06.4	+0.7
	baz=294							
JISG	Ishigakijimahi	1.40	87	P		Pn	14 25 48.0	-0.2
JISG				S		Sn	14 26 06.0	-0.5
ESL	Shilin	1.42	240	*e*	P	Pn	14 25 48.5	0.0
	baz=239							
ESL				*e*	S	Sn	14 26 07.1	0.0
	baz=239							
FUSS	Fushou	1.43	259	*e*	P	Pn	14 25 49.5	+0.7
	baz=258							
FUSS				S		Sn	14 26 07.8	+0.1
	baz=258							
WHF	Hehuan Shan	1.43	255	*i*	P	Pn	14 25 49.3	+0.2
	baz=254							
WHF					*i* S	Sn	14 26 07.7	-0.4
	baz=254							
TWT	Tachien	1.49	260	*e*	P	Pn	14 25 50.8	+1.2
	baz=259							
TWT					*i* S	Sn	14 26 09.8	+0.9
	baz=259							
EGFH	Guangfu	1.50	236	P		Pn	14 25 49.7	+0.1
	baz=235							
EGFH				S		Sn	14 26 09.4	+0.5
	baz=235							
TDCB	Techi	1.50	260	P		Pn	14 25 50.2	+0.5
	baz=259							
TDCB				S		Sn	14 26 09.0	-0.2
	baz=259							
NCUH	Zhongli	1.51	287	*e*	S	Sn	14 26 10.7	+1.5
	baz=286							
NFF	Wufeng Townshi	1.52	274	P		Pn	14 25 49.7	-0.2
	baz=273							
NFF				S		Sn	14 26 08.9	-0.5
	baz=273							
CHGB	Renai	1.54	253	*e*	P	Pn	14 25 51.0	+0.7
	baz=252							
CHGB				S		Sn	14 26 09.7	-0.4
	baz=252							
WUSB	Renai	1.61	251	P		Pn	14 25 51.9	+0.8
	baz=250							
WUSB				S		Sn	14 26 11.7	+0.1
	baz=250							
LIOB	Emei	1.61	274	P		Pn	14 25 52.7	+1.7
	baz=274							
LIOB				S		Sn	14 26 11.7	+0.2
	baz=274							
HGSD	Ruisui	1.61	230	P		Pn	14 25 50.9	-0.1
	baz=230							
HGSD					*e* S	Sn	14 26 11.4	0.0
	baz=230							
NSTT	Nanjuang	1.62	274	P		Pn	14 25 52.3	+1.2
	baz=273							
NSTT				S		Sn	14 26 12.0	+0.3
	baz=273							
EHY	Hungye	1.68	233	P		Pn	14 25 51.5	-0.3
	baz=232							
EHY					S	Sn	14 26 12.1	-0.9
	baz=232							
VWDT	VWDT	1.68	243	P		Pn	14 25 52.8	+0.9
	baz=242							
VWDT					S	Sn	14 26 13.3	+0.2
	baz=242							
WHP	Taichung City	1.69	262	P		Pn	14 25 53.4	+1.3
	baz=261							
WHP					S	Sn	14 26 14.1	+0.7
	baz=261							
JTJ	Tarama	1.75	86	P		Pn	14 25 53.0	+0.1
JTJ				S		Sn	14 26 14.9	+0.2
YULB	Yu-li	1.77	230	P		Pn	14 25 52.9	-0.1
	baz=230							
YULB					S	Sn	14 26 14.3	-0.7
	baz=230							
WCS	Beigang Elemen	1.77	255	*e*	P	Pn	14 25 53.3	+0.3
	baz=254							
WCS					*e* S	Sn	14 26 15.4	+0.4
	baz=254							
EYUL	Yuli	1.78	229	*e*	P	Pn	14 25 53.9	+0.7
	baz=228							
EYUL					*e* S	Sn	14 26 17.2	+1.8
	baz=228							
SSLB	Suanglung	1.82	246	P		Pn	14 25 54.7	+0.9
	baz=246							
SSLB					S	Sn	14 26 17.0	+0.6
	baz=246							
SMLT	Sun Moon Lake	1.83	250	P		Pn	14 25 55.8	+1.8
	baz=249							
TWQ1	Liyutan	1.84	265	*e*	S	Sn	14 26 17.7	+0.9
	baz=264							
NSY	Sanyi	1.84	267	*e*	S	Sn	14 26 18.0	+1.1
	baz=266							
TYC	Yuchr	1.86	251	P		Pn	14 25 55.9	+1.6
	baz=250							
TYC					S	Sn	14 26 18.8	+1.5
	baz=250							
FULB	Fuli	1.90	226	P		Pn	14 25 55.0	+0.2
	baz=225							
FULB					S	Sn	14 26 17.8	-0.4
	baz=225							
CHKT	Chengkung	1.93	223	P		Pn	14 25 54.5	-0.5
	baz=222							
CHKT					S	Sn	14 26 17.0	-1.7
	baz=222							
WHYT	Xinyi Township	1.95	245	P		Pn	14 25 56.9	+1.5
	baz=244							
WHYT					*e* S	Sn	14 26 21.1	+1.8
	baz=244							
TCU	Taichung	1.96	259	*e*	S	Sn	14 26 21.0	+1.5
	baz=258							
WDJ	Dajia District	1.96	265	*e*	P	Pn	14 25 55.2	-0.3
	baz=264							
WDJ					*e* S	Sn	14 26 20.9	+1.4
	baz=264							
YUS	Yu-Shan	1.97	239	*i*	P	Pn	14 25 57.0	+0.9
	baz=237							
YUS					*i* S	Sn	14 26 20.0	-0.5
	baz=237							
WJS	Zhushan	2.00	250	*e*	P	Pn	14 25 58.1	+2.0
	baz=249							
WNT	Mingjian	2.02	252	*e*	P	Pn	14 25 57.0	+0.7
	baz=251							
EDH	Donghe	2.06	221	P		Pn	14 25 56.4	-0.4
	baz=221							
EDH					S	Sn	14 26 20.9	-1.0
	baz=221							
ALS	Alishan	2.07	241	P		Pn	14 25 58.7	+1.4
	baz=240							
ALS					S	Sn	14 26 23.9	+1.2
	baz=240							
ELDTW	Lidau	2.09	231	P		Pn	14 25 57.7	+0.2
	baz=230							
ELDTW					S	Sn	14 26 22.3	-0.6
	baz=230							
CHN5	Tsauling	2.13	245	*e*	P	Pn	14 25 59.7	+1.7
	baz=244							
CHN5					*e* S	Sn	14 26 25.2	+1.4
	baz=244							
JIRB	Irabujima	2.20	82	P		Pn	14 25 58.8	+0.1
JIRB				S		Sn	14 26 24.8	-0.4
LDUT	Ludao	2.21	213	P		Pn	14 25 58.7	-0.1
	baz=212							
LDUT					*e* S	Sn	14 26 25.2	-0.1
	baz=212							
LONT	Longtian	2.21	223	P		Pn	14 25 59.3	+0.4
	baz=223							
LONT					*e* S	Sn	14 26 24.3	-1.3
	baz=223							
WDLH	Douliu	2.21	248	*e*	P	Pn	14 25 58.4	-0.4
	baz=247							
WCKO	Fanlu	2.27	242	*e*	P	Pn	14 26 00.4	+0.8
	baz=241							
WCKO					S	Sn	14 26 27.9	+1.0
	baz=241							
JIKM	Ikemajima	2.28	80	S		Sn	14 26 28.3	+1.2
STYH	Taoyuan	2.28	234	*e*	P	Pn	14 26 00.1	+0.3
	baz=233							
STYH					*e* S	Sn	14 26 27.8	+0.6
	baz=233							
WRL	Guolierlin Hig	2.28	255	*e*	P	Pn	14 25 59.1	-0.7
	baz=254							
WRL					*e* S	Sn	14 26 26.0	-1.2
	baz=254							
TWGBT	Beinan	2.31	223	P		Pn	14 25 59.9	-0.3
	baz=222							
TWGBT					S	Sn	14 26 27.6	-0.3
	baz=222							
TWG	Pinlang	2.31	223	*e*	P	Pn	14 26 00.0	-0.2
	baz=222							
TWG					*e* S	Sn	14 26 27.6	-0.4
	baz=222							
TPUB	Ta-pu	2.32	239	P		Pn	14 26 02.0	+1.7
	baz=238							
CHN4	Tsaushan	2.32	240	P		Pn	14 26 01.6	+1.2
	baz=239							
JMJ2	Miyako jima3	2.33	84	S		Sn	14 26 28.8	+0.5
WTP	Ta-pu	2.36	238	P		Pn	14 26 02.7	+1.8
	baz=236							
CHY	Chiayi	2.39	245	*e*	S	Sn	14 26 31.3	+1.6
	baz=244							
JOGS	Gusukube	2.40	84	S		Sn	14 26 30.9	+0.8
TWK	Hsinying	2.44	240	P		Pn	14 26 04.0	+1.9
	baz=238							
CHN1	Nanshi	2.46	237	*e*	P	Pn	14 26 03.4	+1.2
	baz=236							
CHN1					*e* S	Sn	14 26 32.8	+1.3
	baz=236							
SGST

baz=278
SMST Manzhou Townsh 3.07 216 *e*P **Pn 14 26 10.8 +0.3**
baz=215
SMST *e*S **Sn 14 26 46.8 +0.6**
baz=215
PHUB P'eng-hu 3.10 252 *e*P **Pn 14 26 11.4 +0.6**
baz=250
PHUB *e*S **Sn 14 26 45.8 -1.2**
baz=250
WDGT Dungji 3.12 247 *e*P **Pn 14 26 11.3 +0.2**
baz=245
WDGT *e*S **Sn 14 26 46.4 -1.0**
baz=245
XPSS Dashiqiu 3.34 316 *e*P **Pn 14 26 13.0 -1.0**
baz=315
PTMZ Houxiangcun 3.37 279 *e*P **Pn 14 26 12.8 -1.6**
baz=278
PTMZ *e*S **Sn 14 26 50.1 -3.2**
baz=278

WEL 18 14:26:55.9±0.3, 42.3°S×173.4°E±, h9km±3km, M3.4/21, ML3.6/17, MLv3.4/21, Error ellipse: s-maj=0.0km s-min=0.0km az=123.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**224**	P	Pg	14 26 58.7	+0.8
CMWZ				S	Sg	14 27 01.1	+1.8
BSWZ	**Blackbirch Sta**	**0.29**	**269**	P	Pg	14 27 02.2	+0.4
BSWZ				S	Sb	14 27 07.2	-1.2
TUWZ	**Tuamarina**	**0.37**	**319**	P	Pb	14 27 04.0	-0.7
TUWZ				S	Sb	14 27 09.7	-0.9
TCW	**Tory Channel**	**0.50**	**1**	P	Pg	14 27 06.2	+0.6
TCW				S	Sb	14 27 13.6	-0.6
WEL	**Wellington**	**0.57**	**42**	P	Pb	14 27 07.9	-0.2
PLWZ	**Palliser**	**0.75**	**80**	P	Pb	14 27 11.4	+0.1
MSWZ	**Moikau Station**	**0.79**	**69**	P	Pb	14 27 12.2	+0.3
NNZ	**Nelson**	**0.83**	**306**	P	Pg	14 27 11.9	0.0
CAW	**Cannon Point**	**0.85**	**45**	P	Pb	14 27 12.8	-0.1
KHZ	**Kahutara**	**0.89**	**217**	P	Pg	14 27 13.1	+0.1
PAWZ	**Paruwai Farm**	**0.93**	**70**	P	Pg	14 27 13.9	+0.1
DUWZ	**D'Urville Isla**	**0.94**	**344**	P	Pb	14 27 14.4	-0.1
KIW	**Kapiti Island**	**0.98**	**30**	P	Pg	14 27 14.8	+0.1
THZ	**Tophouse**	**1.02**	**267**	P	Pg	14 27 15.5	0.0
MTW	**Mount Morrison**	**1.08**	**60**	P	Pg	14 27 15.9	-0.7
TRWZ	**Traveller**	**1.11**	**74**	P	Pg	14 27 15.9	-1.3
OGWZ	**Otaki Gorge**	**1.12**	**38**	P	Pg	14 27 17.5	0.0
MRNZ	**Matariki Terra**	**1.17**	**285**	P	Pn	14 27 18.8	+0.2
TKNZ	**Takaka Hill**	**1.19**	**304**	P	Pg	14 27 18.8	0.0
HOWZ	**Holdsworth Sta**	**1.24**	**50**	P	Pn	14 27 18.4	-1.1
TMWZ	**Te Maipa**	**1.36**	**64**	P	Pn	14 27 19.5	-1.7
MRZ	**Mangatainoka R**	**1.44**	**44**	P	Pn	14 27 21.3	-0.9
TIWZ	**Tintock**	**1.54**	**53**	P	Pn	14 27 22.0	-1.5
GVZ	**Greta Valley S**	**1.56**	**216**	P	Pn	14 27 24.3	+0.5
QRZ	**Quartz Range**	**1.58**	**303**	P	Pb	14 27 25.3	0.0
PRWZ	**Pori Road**	**1.73**	**49**	P	Pn	14 27 24.9	-1.3
LTZ	**Lake Taylor**	**1.83**	**233**	P	Pn	14 27 26.4	-1.2
TSZ	**Takapari Road**	**2.09**	**38**	P	Pn	14 27 30.0	-1.1
PNHZ	**Pukenui**	**2.32**	**40**	P	Pn	14 27 32.6	-1.7
MUGZ	**Murupara**	**3.75**	**32**	P	Pn	14 27 57.9	+3.8

WEL 18 14:29:03.8±0.3, 43.5°S×173.3°E±, h5km, M3.3/20, ML3.5/10, MLv3.3/20, Error ellipse: s-maj=0.0km s-min=0.0km az=138.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**75**	P	Pg	14 29 10.1	0.0
KHZ				S	Sg	14 29 15.1	+0.7
GVZ	**Greta Valley S**	**0.47**	**187**	P	Pg	14 29 13.2	+0.4
GVZ				S	Sb	14 29 20.9	-0.8
LTZ	**Lake Taylor**	**0.68**	**246**	P	Pg	14 29 17.2	+0.3
AMCZ	**Amberley**	**0.75**	**207**	P	Pb	14 29 19.0	-0.4
THZ	**Tophouse**	**0.76**	**348**	P	Pg	14 29 17.7	-0.6
BSWZ	**Blackbirch Sta**	**0.97**	**36**	P	Pb	14 29 23.1	0.0
MRNZ	**Matariki Terra**	**1.14**	**346**	P	Pn	14 29 27.0	+0.7
OXZ	**Oxford**	**1.14**	**224**	P	Pg	14 29 24.7	-0.9
OKCZ	**Okains Bay**	**1.22**	**182**	P	Pg	14 29 25.1	-2.0
DSZ	**Denniston Nort**	**1.23**	**307**	P	Pn	14 29 28.7	+0.9
TUWZ	**Tuamarina**	**1.24**	**30**	P	Pg	14 29 27.5	0.0
MQZ	**McQueen's Vall**	**1.25**	**196**	P	Pg	14 29 25.1	-2.7
NNZ	**Nelson**	**1.30**	**9**	P	Pg	14 29 30.0	+1.3
AKCZ	**Akaroa Harbour**	**1.38**	**186**	P	Pn	14 29 27.3	-2.4
RACZ	**Rakaia**	**1.42**	**210**	P	Pn	14 29 28.3	-1.9
TKNZ	**Takaka Hill**	**1.47**	**355**	P	Pg	14 29 32.4	+0.4
MHCZ	**Mount Hutt**	**1.53**	**227**	P	Pn	14 29 30.2	-1.6
TCW	**Tory Channel**	**1.56**	**34**	P	Pn	14 29 32.0	-0.1
WACZ	**Wakanui South**	**1.71**	**213**	P	Pn	14 29 32.5	-1.8
QRZ	**Quartz Range**	**1.73**	**345**	P	Pg	14 29 36.7	-0.3
WEL	**Wellington**	**1.73**	**46**	P	Pn	14 29 35.2	+0.7
WVZ	**Waitaha Valley**	**1.84**	**251**	P	Pn	14 29 35.8	-0.2
MSWZ	**Moikau Station**	**1.93**	**56**	P	Pn	14 29 35.7	-1.5
RPZ	**Rata Peaks**	**1.93**	**231**	P	Pn	14 29 36.0	-1.4
ARCZ	**Arundel**	**2.02**	**224**	P	Pn	14 29 37.0	-1.6
GCSZ	**Gaunt Creek Bo**	**2.20**	**247**	P	Pn	14 29 41.1	+0.1
TMZ	**Timaru**	**2.43**	**219**	P	Pn	14 29 42.6	-1.6
LBZ	**Lake Benmore**	**2.84**	**228**	P	Pn	14 29 48.5	-1.3
ODZ	**Otahua Downs**	**3.11**	**214**	P	Pn	14 29 51.3	-2.1

MDD 18 14:33:39.5±0.6, 40.60N×2.86E, h0km, mb_Lg2.0/6, Error ellipse: s-maj=8.9km s-min=3.7km az=85.0, Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**0.83**	**183**	P	Pg	14 33 55.7	+0.3
ETOS				S	Sg	14 34 05.0	-1.1
ETOS				*i* Vmb_Lg		14 34 07.0	
EPOB	**Poblet**	**1.55**	**300**	P	Pn	14 34 06.2	-2.2
EPOB				S	Sg	14 34 26.7	-2.6
EPOB				*i* Vmb_Lg		14 34 28.3	
EMIR	**Miracle**	**1.66**	**323**	S	Sn	14 34 30.3	-1.6
EJON	**La Jonquera**	**1.85**	**1**	S	Sn	14 34 34.5	-2.2
EJON				*i* Vmb_Lg		14 34 42.3	

MRB 18 14:33:48.3±0.3, 41.16N×2.41E, ML0.9/6, Error ellipse: s-maj=8.4km s-min=3.4km az=305.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGAR	**Garraf**	**0.40**	**290**	P	Pn	14 34 00.2	-1.1
CGAR				S	Sb	14 34 09.1	+4.2
	2.1nm,0.1s						
CFON	**Fontmartina**	**0.60**	**2**	P	Pb	14 34 02.0	+0.2
CFON				S	Sb	14 34 12.7	+1.7
	3.6nm,0.2s						
CCAS	**Cassa de la Se**	**0.81**	**27**	P	Pg	14 34 04.5	+0.5
CCAS				S	Sb	14 34 16.9	0.0
	4.0nm,0.3s						
EPOB	**Poblet**	**1.02**	**281**	P	Pg	14 34 07.0	-0.9
EPOB				S	Sg	14 34 21.4	+0.3
	1.7nm,0.4s						
CBEU	**Beuda**	**1.11**	**10**	P	Pg	14 34 08.2	-1.5
CBEU				S	Sg	14 34 23.5	-0.6
	2.6nm,0.5s						
CBRU	**Bruguera**	**1.14**	**351**	P	Pg	14 34 08.7	-1.4
CBRU				S	Sg	14 34 23.7	-1.2
	2.1nm,0.6s						
CPAL	**Palau Saverder**	**1.28**	**26**	P	Pg	14 34 10.4	-2.5
CPAL				S	Sg	14 34 26.7	-2.8
FILF	**Fillols**	**1.41**	**5**	S	Sg	14 34 29.6	-3.9

*IDC **18** 14:36:32.3±0.3, 13.80N×144.87E, h133km±3km, mb3.6/15, mbtmp4.0/16, Error ellipse: s-maj=19.0km s-min=12.1km az=100.0*
*NEIC **18** 14:36:33.8±1.3, 13.8N±0.1×144.8E±0.2, h143km±7km, mb4.4/62, Error ellipse: s-maj=21.7km s-min=14.4km az=106.0*

ISC 18 14:36:33.6±0.5, 13.70N±0.08×144.8E±0.1, h150km, n93, σ0984/88, mb4.3/46, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.13**	**149**	P	**Pn**	**14 36 51.5**	**-2.3**
	6μm,0.3s,baz=143,slow=0.9,SNR=901						
GUMO				LR	LR	14 36 59.1	
	comp=Z,99nm,19.9s,baz=284,slow=127						
GUMO				S	**Sn**	**14 37 05.7**	**-3.4**
	3μm,0.4s,baz=295,slow=15,SNR=46						
GUMO	**Guam**	**0.13**	**149**	Pn	**Pn**	**14 36 51.8**	**-2.0**
SIJI	**Sorong**	**19.73**	**224**	P	**Pn**	**14 40 54.6**	**-0.4**
	11nm,0.6s,baz=17,slow=13,SNR=8.6						
FAKI	**Fak Fak**	**20.68**	**218**	P	Pn	14 41 05.5	-0.6
FAKI				IAmb	IAmb	14 41 07.1	
	comp=Z,9.5nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**21.55**	**74**	T	T	15 02 58.5	
	baz=261,slow=75,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**21.57**	**74**	T	T	15 03 25.4	
	baz=261,slow=75,SNR=2.4						
H11S2	**WAKE ISLAND Hy**	**21.57**	**74**	T	T	15 03 01.2	
	baz=261,slow=75,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**21.98**	**71**	T	T	15 04 33.5	
	baz=257,slow=75,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**21.98**	**71**	T	T	15 04 17.8	
	baz=257,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**21.99**	**71**	T	T	15 04 20.1	
	baz=257,slow=75,SNR=9.9						
MJAR	**Matsushiro Arr**	**23.50**	**347**	P	**P**	**14 41 28.7**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=165,slow=11,SNR=2.4						
	comp=Z,1.8nm,0.8s						
MAJO	**Matsushiro**	**23.50**	**347**	P	**P**	**14 41 30.6**	**+0.6**
MJB9	**Matsu-Tunnel**	**23.51**	**347**	P	**P**	**14 41 31.3**	**+1.2**
YULB	**Yu-li**	**24.25**	**297**	P	**P**	**14 41 36.8**	**-0.1**
YULB				IAmb	IAmb	14 42 15.5	
	comp=Z,31nm,1.5s						
MTN	**Manton Dam**	**29.65**	**208**	P	**P**	**14 42 25.4**	**+0.2**
KNRA	**Kununurra**	**33.22**	**209**	P	**P**	**14 42 55.8**	**-0.7**
WB0	**Warramunga Arr**	**34.80**	**197**	P	**P**	**14 43 09.9**	**-0.2**
WB0				IAmb	IAmb	14 43 41.2	
	comp=Z,8.5nm,1.4s						
WR0	**Warramunga Arr**	**34.94**	**197**	P	**P**	**14 43 11.1**	**-0.2**
WR0				IAmb	IAmb	14 43 20.7	
	comp=Z,8.6nm,1.4s						
WRAB	**Tennant Creek**	**34.97**	**197**	P	**P**	**14 43 11.8**	**+0.2**
WB2	**Warramunga Arr**	**34.98**	**197**	P	**P**	**14 43 11.7**	**0.0**
WRA	**Warramunga Arr**	**34.98**	**197**	P	**P**	**14 43 12.2**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=7.7,slow=8.2,SNR=31						
	comp=Z,1.6nm,0.8s						
WRA	**Warramunga Arr**	**34.98**	**197**	P	**P**	**14 43 12.1**	**+0.5**
KLR	**Kul'dur**	**37.03**	**346**	P	**P**	**14 43 28.3**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=138,slow=12,SNR=3.6						
	comp=Z,1.2nm,0.6s						
AS31	**Alice Springs**	**38.63**	**196**	P	**P**	**14 43 43.4**	**+0.8**
ASAR	**Alice Springs**	**38.63**	**196**	P	**P**	**14 43 42.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=17,slow=12,SNR=26						
	comp=Z,0.7nm,0.6s						
DZM	**Mont Dzumac**	**41.40**	**149**	P	**P**	**14 44 07.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**44.23**	**282**	P	**P**	**14 44 29.1**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=85,slow=6.0,SNR=8.9						
CMAR				ScP	**ScP**	**14 49 50.3**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=76,slow=3.0,SNR=5.5						
	comp=Z,0.9nm,0.6s						
STKA	**Stephens Creek**	**45.42**	**184**	P	**P**	**14 44 37.7**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=14,slow=12,SNR=5.7						
	comp=Z,0.8nm,0.4s						
STKA	**Stephens Creek**	**45.42**	**184**	P	**P**	**14 44 37.2**	**-0.2**
SONM	**Songino Array**	**46.61**	**325**	P	**P**	**14 44 47.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=141,slow=9.1,SNR=4.1						
	comp=Z,0.7nm,0.6s						
BBOO	**Buckleboo**	**46.99**	**190**	P	**P**	**14 44 49.9**	**+0.1**
BBOO				IAmb	IAmb	14 44 50.7	
	comp=Z,10nm,0.8s						
FORT	**Forrest**	**47.06**	**200**	P	**P**	**14 44 50.4**	**+0.2**
FORT				IAmb	IAmb	14 45 02.0	
	comp=Z,18nm,1.1s						
UNV	**Unalaska Valle**	**55.27**	**33**	P	**P**	**14 45 50.5**	**-0.7**
SDPT	**Sand Point**	**59.09**	**33**	P	**P**	**14 46 17.6**	**-0.3**
CHGN	**Chignik**	**60.52**	**32**	P	**P**	**14 46 27.2**	**-0.5**
MK31	**Makanchi Array**	**61.37**	**316**	P	**P**	**14 46 33.8**	**+0.1**
MKAR	**Makanchi Array**	**61.37**	**316**	P	**P**	**14 46 34.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=92,slow=8.5,SNR=8.6						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**61.37**	**316**	P	**P**	**14 46 33.8**	**+0.1**
ZALV	**Zalesovo Beam**	**61.50**	**324**	P	**P**	**14 46 34.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=111,slow=6.8,SNR=1.9						
	comp=Z,0.5nm,0.6s						
MAKZ	**Makanchi**	**61.58**	**316**	P	**P**	**14 46 35.0**	**-0.1**
MAKZ				IAmb	IAmb	14 47 14.3	
	comp=Z,3.8nm,1.2s						
SII	**Sitkinak Islan**	**62.82**	**33**	P	**P**	**14 46 43.8**	**+0.6**
O18K	**Koktuh Hills**	**63.35**	**29**	P	**P**	**14 46 46.5**	**-0.1**
OHAK	**Old Harbor**	**63.49**	**32**	P	**P**	**14 46 47.9**	**+0.4**
N19K	**Bonanza Creek**	**64.01**	**28**	P	**P**	**14 46 51.9**	**+0.9**
KURK	**Kurchatov**	**64.46**	**320**	P	**P**	**14 46 54.2**	**+0.2**
CNPM	**China Poot**	**65.17**	**30**	P	**P**	**14 46 58.7**	**+0.2**
J20K	**Nowinta River**	**65.32**	**25**	P	**P**	**14 47 00.4**	**+1.1**
J20K				IAmb	IAmb	14 47 20.1	
	comp=Z,4.6nm,1.2s						
PPLA	**Purkeypile**	**65.72**	**27**	P	**P**	**14 47 02.6**	**+0.5**
PPLA				IAmb	IAmb	14 47 38.4	
	comp=Z,12nm,1.3s						
CAST	**Castle Rocks**	**65.93**	**26**	P	**P**	**14 47 04.2**	**+0.9**
CAST				IAmb	IAmb	14 47 33.4	
	comp=Z,6.1nm,1.3s						
IMAR	**Indian Mountai**	**66.12**	**23**	P	**P**	**14 47 05.3**	**+0.9**
PWL	**Port Wells**	**66.91**	**29**	P	**P**	**14 47 10.0**	**+0.4**
KNK	**Knik Glacier**	**66.99**	**29**	P	**P**	**14 47 10.1**	**0.0**
KNK				IAmb	IAmb	14 47 10.9	
	comp=Z,6.8nm,0.6s						
SML	**Sawmill**	**67.14**	**28**	P	**P**	**14 47 11.5**	**+0.4**
DHY	**Denali Highway**	**67.88**	**27**	P	**P**	**14 47 16.7**	**+0.9**
DHY				IAmb	IAmb	14 47 51.3	
	comp=Z,10nm,1.4s						
MDM	**Murphy Dome**	**67.99**	**25**	P	**P**	**14 47 17.0**	**+0.7**
MDM				IAmb	IAmb	14 47 41.1	
	comp=Z,9.2nm,1.5s						
KLU	**Klutina**	**68.19**	**29**	P	**P**	**14 47 17.9**	**+0.1**
KLU				IAmb	IAmb	14 47 57.2	
	comp=Z,7.0nm,1.1s						
IL31		**68.50**	**25**	P	**P**	**14 47 18.0**	**-1.4**
ILAR	**Eielson Array**	**68.50**	**25**	P	**P**	**14 47 17.4**	**-2.0**
	comp=Z,2.2nm,0.4s,baz=252,slow=5.7,SNR=61						
	comp=Z,2.2nm,0.4s						
ILAR	**Eielson Array**	**68.50**	**25**	P	**P**	**14 47 18.2**	**-1.2**
TOLK	**Toolik Lake Re**	**68.54**	**21**	P	**P**	**14 47 19.3**	**-0.4**
TOLK				IAmb	IAmb	14 48 02.0	
	comp=Z,5.1nm,1.4s						
N25K	**Chitina, Valde**	**68.84**	**29**	P	**P**	**14 47 21.9**	**+0.1**
N25K				IAmb	IAmb	14 47 38.5	
	comp=Z,7.9nm,1.2s						
J25K	**Salcha River,**	**69.10**	**26**	P	**P**	**14 47 23.2**	**0.0**
J25K				IAmb	IAmb	14 47 42.4	
	comp=Z,7.4nm,1.5s						
VRDI	**Verde Repeater**	**69.31**	**29**	P	**P**	**14 47 24.4**	**-0.4**
VRDI				IAmb	IAmb	14 47 30.2	
	comp=Z,9.9nm,1.3s						
L26K	**Log Cabin Wild**	**69.67**	**28**	P	**P**	**14 47 26.5**	**-0.2**
L26K				IAmb	IAmb	14 47 57.0	
	comp=Z,5.4nm,1.3s						
J26L	**Joseph Creek**	**69.84**	**26**	P	**P**	**14 47 27.1**	**-0.7**
J26L				IAmb	IAmb	14 47 28.5	
	comp=Z,2.7nm,0.6s						
M27K	**Edge Creek, AK**	**70.23**	**28**	P	**P**	**14 47 30.2**	**-0.1**
M27K				IAmb	IAmb	14 48 02.2	
	comp=Z,11nm,1.4s						
TABL	**Table Mountain**	**70.32**	**30**	P	**P**	**14 47 30.7**	**-0.2**
L27K	**Beaver Creek,**	**70.36**	**28**	P	**P**	**14 47 31.6**	**+0.6**
L27K				IAmb	IAmb	14 47 44.7	
	comp=Z,6.6nm,1.4s						
BCAR	**Beaver Creek A**	**70.38**	**28**	P	**P**	**14 47 31.3**	**+0.2**
EGAK	**Eagle**	**70.91**	**26**	P	**P**	**14 47 34.7**	**+0.5**
EGAK				IAmb	IAmb	14 47 46.8	
	comp=Z,7.2nm,1.5s						
DAWY	**Dawson**	**71.57**	**27**	P	**P**	**14 47 39.1**	**+0.9**
HYT	**Haines Junctio**	**72.14**	**30**	P	**P**	**14 47 43.0**	**+1.2**
HYT				IAmb	IAmb	14 47 59.7	
	comp=Z,8.8nm,1.4s						
M30M	**Minto, Yukon**	**72.60**	**28**	P	**P**	**14 47 45.2**	**+0.9**
EPYK	**Eagle Plains**	**72.93**	**24**	P	**P**	**14 47 46.3**	**0.0**
EPYK				IAmb	IAmb	14 48 02.4	
	comp=Z,9.3nm,1.5s						
M31M	**Drury Creek, Y**	**73.70**	**29**	P	**P**	**14 47 50.9**	**0.0**
INK	**Inuvik**	**74.29**	**22**	P	**P**	**14 47 55.2**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=276,slow=9.9,SNR=6.8						
	comp=Z,0.4nm,0.4s						
INK	**Inuvik**	**74.29**	**22**	P	**P**	**14 47 54.2**	**+0.2**
DIB	**Dawson Inlet,**	**74.81**	**38**	P	**P**	**14 47 57.8**	**+0.4**
DLBC	**Dease Lake**	**75.93**	**33**	P	**P**	**14 48 04.8**	**+1.0**
DLBC				IAmb	IAmb	14 48 05.7	
	comp=Z,4.3nm,0.7s						
ABKAR	**Akbulak array**	**76.42**	**318**	P	**P**	**14 48 06.8**	**+0.2**
C36M	**Paulatuk**	**77.69**	**21**	P	**P**	**14 48 13.5**	**+0.2**
H04A	**Detroit Lake**	**82.62**	**46**	P	**P**	**14 48 40.5**	**+0.2**
H04A				IAmb	IAmb	14 49 21.1	
	comp=Z,17nm,1.4s						
EUNU	**Eureka**	**82.77**	**8**	P	**P**	**14 48 41.4**	**+1.0**
EUNU				IAmb	IAmb	14 49 22.4	
	comp=Z,6.0nm,1.4s						
YKA	**Yellowknife Ar**	**82.79**	**27**	P	**P**	**14 48 40.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=310,slow=6.5,SNR=8.5						
	comp=Z,0.5nm,0.3s						
YBH	**Yreka Blue Hor**	**82.85**	**49**	P	**P**	**14 48 42.2**	**+0.5**
YBH				IAmb	IAmb	14 48 43.9	
	comp=Z,3.2nm,0.8s						
PINE	**Pine Mountain**	**83.68**	**47**	P	**P**	**14 48 46.9**	**+0.9**
PINE				IAmb	IAmb	14 48 48.2	
	comp=Z,8.5nm,0.8s						
K05A	**Summer Lake**	**83.95**	**48**	P	**P**	**14 48 47.8**	**+0.4**
K05A				IAmb	IAmb	14 48 49.8	
	comp=Z,5.9nm,0.9s						
PLID	**Pearl Lake**	**86.79**	**44**	P	**P**	**14 49 01.4**	**-0.1**
PLID				IAmb	IAmb	14 49 02.0	
	comp=Z,2.7nm,0.8s						
NVAR	**Mina Array Bea**	**86.90**	**51**	P	**P**	**14 49 02.5**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=272,slow=5.6,SNR=7.7						
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**91.04**	**335**	P	**P**	**14 49 19.9**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=79,slow=9.9,SNR=5.4						
	comp=Z,1.1nm,0.5s						
PDAR	**Pinedale Array**	**91.93**	**45**	P	**P**	**14 49 25.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=208,slow=2.0,SNR=4.6						
	comp=Z,0.4nm,0.6s						
LVC	**Limon Verde**	**146.83**	**110**	PKPbc	**PKPab**	**14 56 01.1**	**0.0**
	comp=Z,7.0nm,0.6s,baz=289,slow=2.9,SNR=5.4						
LPAZ	**La Paz**	**148.10**	**99**	PKPbc	**PKiKP**	**14 56 05.2**	**+0.1**
	comp=Z,8.6nm,0.6s,baz=282,slow=2.3,SNR=33						

*ATH **18** 14:40:37.8, 39.75N×20.73E, h9km±4km, ML2.1/6, Error ellipse: s-maj=4.3km s-min=0.9km az=169.0*
THE 18 14:40:37.7, 39.74N×20.74E, h14km±1km, ML1.9/10, Error ellipse: s-maj=1.0km s-min=0.5km az=287.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.12**	**134**	P	Pg	14 40 40.5	-0.6
JAN				S	Sg	14 40 43.6	+0.2
	2μm,0.4s						
JAN	**Janina**	**0.12**	**134**	P	Pg	14 40 40.5	-0.6
JAN				S	Sg	14 40 43.5	0.0
JAN				AML	AML	14 40 43.8	
	comp=N,4462μm,0.5s						
JAN				AML	AML	14 40 43.9	
	comp=E,4896μm,0.3s						
IGT	**Igoumenitsa**	**0.38**	**236**	P	Pg	14 40 44.9	-0.4
IGT				S	Sg	14 40 51.0	+0.6
	comp=E,438nm,0.2s						
IGT	**Igoumenitsa**	**0.38**	**236**	P	Pg	14 40 45.0	-0.3
IGT				S	Sg	14 40 51.0	+0.6
IGT				AML	AML	14 40 54.2	
	comp=E,1130μm,0.3s						
IGT				AML	AML	14 40 55.6	
	comp=N,604μm,0.3s						
LSK	**Leskovik**	**0.42**	**346**	P	Pg	14 40 45.8	-0.4
LSK				S	Sb	14 40 52.7	-0.6
	comp=N,370nm,0.4s						
KPRO	**Kipourio**	**0.53**	**66**	P	Pg	14 40 48.0	-0.1
KPRO				S	Sb	14 40 56.1	-0.3
	comp=N,428nm,0.3s						
KPRO	**Kipourio**	**0.53**	**66**	P	Pg	14 40 48.1	-0.1
KPRO				S	Sb	14 40 56.0	-0.3
KPRO				AML	AML	14 40 57.8	
	comp=N,901μm,0.4s						
KPRO				AML	AML	14 40 58.4	
	comp=E,801μm,0.2s						
SRN	**Sarande**	**0.58**	**284**	P	Pg	14 40 48.5	-0.6
SRN				S	Sb	14 40 57.9	+0.1
KASA	**Kassiopi**	**0.62**	**271**	P	Pg	14 40 48.9	-0.8
KASA				S	Sb	14 40 58.5	-0.3
NEST	**Nestorio**	**0.71**	**20**	P	Pg	14 40 51.0	-0.6
NEST				S	Sb	14 41 02.4	+0.6
	comp=E,72nm,0.3s						
NEST	**Nestorio**	**0.71**	**20**	P	Pg	14 40 50.9	-0.7
NEST				S	Sg	14 41 01.0	-0.1
KEK	**Kerkira**	**0.72**	**268**	P	Pg	14 40 50.6	-1.2
KEK				S	Sb	14 41 01.9	0.0
	comp=E,155nm,0.3s						
KEK	**Kerkira**	**0.72**	**268**	P	Pg	14 40 50.6	-1.1
KEK				S	Sg	14 41 01.5	+0.2
KEK				AML	AML	14 41 06.0	
	comp=N,358μm,0.3s						
KEK				AML	AML	14 41 06.7	
	comp=E,269μm,0.4s						
TSLK	**Tsoukalades, L**	**0.92**	**184**	P	Pg	14 40 55.5	+0.1
TSLK	**Tsoukalades, L**	**0.92**	**184**	P	Pg	14 40 55.5	+0.1
LKD2	**Lefkada island**	**0.95**	**184**	P	Pb	14 40 55.8	-0.2
KZN	**Kozani**	**0.97**	**54**	P	Pb	14 40 55.7	-0.8
KZN				S	Sg	14 41 09.7	+0.4
	comp=E,50nm,0.4s						
KZN	**Kozani**	**0.97**	**54**	P	Pb	14 40 55.9	-0.5
THL	**Klokotos Trika**	**1.00**	**100**	P	Pb	14 40 56.0	-0.9
THL				S	Sg	14 41 10.2	0.0
	comp=E,48nm,0.3s						
THL	**Klokotos Trika**	**1.00**	**100**	P	Pb	14 40 55.

CMWZ	**Cape Campbell**	**1.10**	**39**	P		**Pn**	**14 46 13.7**	**+0.7**
OKCZ	**Okains Bay**	**1.14**	**188**	P		**Pb**	**14 46 13.5**	**+0.2**
OXZ	**Oxford**	**1.17**	**231**	P		**Pb**	**14 46 13.2**	**-0.6**
MQZ	**McQueen's Vall**	**1.20**	**202**	P		**Pn**	**14 46 13.3**	**-1.1**
MRNZ	**Matariki Terra**	**1.26**	**342**	P		**Pn**	**14 46 13.6**	**-1.7**
TUWZ	**Tuamarina**	**1.27**	**23**	P		**Pn**	**14 46 14.9**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.30**	**192**	P		**Pn**	**14 46 15.6**	**-0.3**
INZ	**Inchbonnie**	**1.36**	**264**	P		**Pn**	**14 46 15.7**	**-0.9**
NNZ	**Nelson**	**1.38**	**3**	P		**Pn**	**14 46 16.0**	**-0.9**
DSZ	**Denniston Nort**	**1.39**	**307**	P		**Pn**	**14 46 16.1**	**-0.9**
RACZ	**Rakaia**	**1.40**	**216**	P		**Pn**	**14 46 16.6**	**-0.5**
MHCZ	**Mount Hutt**	**1.56**	**233**	P		**Pn**	**14 46 18.7**	**-0.8**
TCW	**Tory Channel**	**1.57**	**28**	P		**Pn**	**14 46 19.3**	**-0.2**
TKNZ	**Takaka Hill**	**1.58**	**351**	P		**Pn**	**14 46 19.0**	**-0.7**
SNZO	**South Karori**	**1.67**	**40**	P		**Pn**	**14 46 20.6**	**-0.2**
WACZ	**Wakanui South**	**1.71**	**218**	P		**Pn**	**14 46 20.9**	**-0.5**
WEL	**Wellington**	**1.72**	**41**	P		**Pn**	**14 46 21.4**	**-0.2**
PLWZ	**Palliser**	**1.79**	**56**	P		**Pn**	**14 46 22.0**	**-0.6**
DUWZ	**D'Urville Isla**	**1.86**	**15**	P		**Pn**	**14 46 23.7**	**+0.2**
QRZ	**Quartz Range**	**1.86**	**342**	P		**Pn**	**14 46 23.2**	**-0.3**
QRZ	**Quartz Range**	**1.86**	**342**	P		**Pn**	**14 46 23.2**	**-0.3**
MSWZ	**Moikau Station**	**1.88**	**52**	P		**Pn**	**14 46 23.2**	**-0.6**
WVZ	**Waitaha Valley**	**1.93**	**255**	P		**Pn**	**14 46 24.1**	**-0.3**
RPZ	**Rata Peaks**	**1.98**	**235**	P		**Pn**	**14 46 24.5**	**-0.6**
RPZ	**Rata Peaks**	**1.98**	**235**	P		**Pn**	**14 46 24.6**	**-0.6**
CAW	**Cannon Point**	**2.00**	**42**	P		**Pn**	**14 46 24.9**	**-0.5**
PAWZ	**Paruwai Farm**	**2.01**	**53**	P		**Pn**	**14 46 24.7**	**-0.9**
ARCZ	**Arundel**	**2.04**	**228**	P		**Pn**	**14 46 25.4**	**-0.6**
KIW	**Kapiti Island**	**2.12**	**36**	P		**Pn**	**14 46 26.9**	**-0.2**
TRWZ	**Traveller**	**2.16**	**57**	P		**Pn**	**14 46 26.6**	**-1.0**
MTW	**Mount Morrison**	**2.20**	**50**	P		**Pn**	**14 46 27.1**	**-1.1**
OGWZ	**Otaki Gorge**	**2.27**	**39**	P		**Pn**	**14 46 28.7**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.29**	**251**	P		**Pn**	**14 46 29.3**	**0.0**
HOWZ	**Holdsworth Sta**	**2.38**	**45**	P		**Pn**	**14 46 29.7**	**-1.0**
TMZ	**Timaru**	**2.43**	**222**	P		**Pn**	**14 46 30.9**	**-0.5**
TMWZ	**Te Maipa**	**2.45**	**53**	P		**Pn**	**14 46 30.5**	**-1.2**
MRZ	**Mangatainoka R**	**2.59**	**42**	P		**Pn**	**14 46 32.6**	**-1.0**
FOZ	**Fox Glacier**	**2.71**	**249**	P		**Pn**	**14 46 35.3**	**+0.2**
PRWZ	**Pori Road**	**2.87**	**46**	P		**Pn**	**14 46 36.2**	**-1.2**
LBZ	**Lake Benmore**	**2.88**	**231**	P		**Pn**	**14 46 37.2**	**-0.3**
POWZ	**Post Office Ro**	**2.89**	**41**	P		**Pn**	**14 46 36.4**	**-1.2**
BFZ	**Birch Farm**	**2.93**	**50**	P		**Pn**	**14 46 37.4**	**-0.9**
ODZ	**Otahua Downs**	**3.10**	**217**	P		**Pn**	**14 46 40.4**	**-0.1**
ODZ	**Otahua Downs**	**3.10**	**217**	P		**Pn**	**14 46 39.7**	**-0.8**
WAZ	**Wanganui**	**3.12**	**25**	P		**Pn**	**14 46 42.5**	**+1.6**
DVHZ	**Dannevirke**	**3.16**	**44**	P		**Pn**	**14 46 39.5**	**-1.9**
ANWZ	**Angora Road**	**3.21**	**49**	P		**Pn**	**14 46 40.4**	**-1.7**
NMEZ	**Namu Road**	**3.21**	**8**	P		**Pn**	**14 46 44.4**	**+2.4**
TSZ	**Takapari Road**	**3.24**	**39**	P		**Pn**	**14 46 41.2**	**-1.3**
LREZ	**Lake Rotokare**	**3.25**	**15**	P		**Pn**	**14 46 44.5**	**+2.0**
KHEZ	**Kahui Hut**	**3.35**	**10**	P		**Pn**	**14 46 46.0**	**+2.0**
KHEZ	**Kahui Hut**	**3.35**	**10**	P		**Pn**	**14 46 46.1**	**+2.0**
NBEZ	**Newall Road No**	**3.36**	**8**	P		**Pn**	**14 46 45.8**	**+1.8**
PKE	**Pukeiti**	**3.44**	**9**	P		**Pn**	**14 46 47.3**	**+2.0**
PNHZ	**Pukenui**	**3.47**	**40**	P		**Pn**	**14 46 44.1**	**-1.5**
JCZ	**Jackson Bay**	**3.60**	**244**	P		**Pn**	**14 46 46.9**	**-0.5**
JCZ	**Jackson Bay**	**3.60**	**244**	P		**Pn**	**14 46 47.2**	**-0.2**
MHEZ	**Mangahewa**	**3.61**	**13**	P		**Pn**	**14 46 49.4**	**+1.9**
VRZ	**Vera Road**	**3.65**	**18**	P		**Pn**	**14 46 49.3**	**+1.2**
PKVZ	**Pokaka**	**3.66**	**26**	P		**Pn**	**14 46 49.0**	**+0.7**
MOVZ	**Moawhango**	**3.70**	**31**	P		**Pn**	**14 46 48.1**	**-0.8**
WNVZ	**Wahianoa**	**3.71**	**29**	P		**Pn**	**14 46 49.5**	**+0.5**
TRVZ	**Turoa**	**3.72**	**28**	P		**Pn**	**14 46 49.4**	**+0.1**
WHVZ	**Whangaehu Hut**	**3.75**	**29**	P		**Pn**	**14 46 50.1**	**+0.5**
BHHZ	**Black Hill Sta**	**3.75**	**35**	P		**Pn**	**14 46 48.8**	**-0.8**
FWVZ	**Far West T-bar**	**3.76**	**28**	P		**Pn**	**14 46 49.8**	**0.0**
TUVZ	**Tukino**	**3.78**	**229**	P		**Pn**	**14 46 50.7**	**+0.6**
HHSZ	**Highcliff Hill**	**3.81**	**210**	P		**Pn**	**14 46 49.6**	**-0.7**
NGZ	**Ngauruhoe**	**3.85**	**28**	P		**Pn**	**14 46 51.2**	**+0.3**
NNVZ	**North Ngauruho**	**3.89**	**28**	P		**Pn**	**14 46 51.6**	**+0.1**
EAZ	**Earnscleugh**	**3.89**	**226**	P		**Pn**	**14 46 50.9**	**-0.5**
WTVZ	**West Tongariro**	**3.90**	**27**	P		**Pn**	**14 46 51.6**	**0.0**
ETVZ	**East Tongariro**	**3.92**	**29**	P		**Pn**	**14 46 52.6**	**+0.7**
TMVZ	**Te Maari**	**3.94**	**29**	P		**Pn**	**14 46 52.3**	**+0.1**
RATZ	**Rangitukua**	**4.18**	**28**	P		**Pn**	**14 46 58.4**	**+2.9**
BKZ	**Black Stump Fm**	**4.21**	**36**	P		**Pn**	**14 46 53.7**	**-2.1**
HIZ	**Hauiti**	**4.25**	**17**	P		**Pn**	**14 46 57.4**	**+1.0**
HIZ	**Hauiti**	**4.25**	**17**	P		**Pn**	**14 46 57.2**	**+0.8**
TLZ	**Tolley Road**	**4.60**	**23**	P		**Pn**	**14 47 01.2**	**0.0**
MTHZ	**Maungataniwha**	**4.62**	**37**	P		**Pn**	**14 46 59.4**	**-2.0**
MLZ	**Mavora Lakes**	**4.64**	**232**	P		**Pn**	**14 47 01.5**	**-0.3**
MUGZ	**Murupara**	**4.90**	**34**	P		**Pn**	**14 47 06.0**	**+0.7**
SYZ	**Scrubby Hill**	**4.92**	**216**	P		**Pn**	**14 47 05.7**	**+0.1**
SYZ	**Scrubby Hill**	**4.92**	**216**	P		**Pn**	**14 47 05.5**	**-0.1**
TAHZ	**Tahuroa Road**	**5.17**	**29**	P		**Pn**	**14 47 08.6**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.63**	**11**	P		**Pn**	**14 47 15.9**	**+0.7**
APZ	**The Paps**	**5.67**	**220**	P		**Pn**	**14 47 15.2**	**-0.7**
MKAZ	**Moumakai**	**5.68**	**15**	P		**Pn**	**14 47 15.9**	**0.0**
WTAZ	**Waiatarua**	**5.75**	**10**	P		**Pn**	**14 47 17.9**	**+1.0**
ETAZ	**East Tamaki Re**	**5.78**	**13**	P		**Pn**	**14 47 17.9**	**+0.5**
RVAZ	**Riverhead Bore**	**5.91**	**10**	P		**Pn**	**14 47 19.7**	**+0.6**
MBAZ	**Motutapu North**	**5.96**	**13**	P		**Pn**	**14 47 20.3**	**+0.5**
WIAZ	**Waiheke Island**	**5.97**	**14**	P		**Pn**	**14 47 20.7**	**+0.7**
ABAZ	**Army Bay**	**6.11**	**12**	P		**Pn**	**14 47 21.0**	**-0.9**
KUZ	**Kuaotunu**	**6.14**	**19**	P		**Pn**	**14 47 21.9**	**-0.4**
KUZ	**Kuaotunu**	**6.14**	**19**	P		**Pn**	**14 47 21.5**	**-0.8**

*IDC **18** 14:57:39.7±1.0,21.17S×67.21W,h171km±9km,mb3.5/3, mbtmp4.0/7,Error ellipse: s-maj=20.2km s-min=11.0km az=124.0*
*NEIC **18** 14:57:40.0±2.9,21.23S±0.06×67.38W±0.09, h194km±10km,mb4.3/5,ML4.5(GUC),Error ellipse: s-maj=13.4km s-min=6.9km az=59.0*
*GUC **18** 14:57:41.5±0.7,21.21S×67.53W,h201km±6km,ML4.5*
*VAO **18** 14:57:41.3±0.5,21.05S×67.41W,h201km,mb4.1*
*SCB **18** 14:57:42.4±0.7,21.25S×67.45W,h191km,ML4.2/3, MW3.7,Error ellipse: s-maj=3.1km s-min=2.7km az=2.0*

ISC 18 14:57:39.8±0.6,21°16S±0.04×67°40W±0.05,h187km±7km, n104,σ1§36/130,mb4.2/5,6C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOCB	**Mochara**	**1.65**	**93**	P		**Pn**	**14 58 15.9**	**+1.6**
MOCB				IAML			14 58 42.9	
	843nm,1.0s							
PB09	**IPOC Station P**	**1.82**	**249**	Pn		**Pn**	**14 58 17.0**	**+1.2**
PB09	**IPOC Station P**	**1.82**	**249**	*eP*		**Pn**	**14 58 17.1**	**+1.4**
PB09				*eS*		**Sn**	**14 58 44.5**	**+0.8**
AF01	**San Pedro de A**	**1.92**	**202**			**Pn**	**14 58 18.5**	**+1.7**
PB08	**IPOC Station P**	**1.93**	**302**	*eP*		**Pn**	**14 58 18.8**	**+1.7**
PB08				*eS*		**Sn**	**14 58 47.5**	**+1.6**
PB01	**IPOC Station P**	**1.95**	**273**	*eP*		**Pn**	**14 58 17.3**	**+0.3**
PB01				*eS*		**Sn**	**14 58 45.1**	**-0.7**
LVC	**Limon Verde**	**2.01**	**224**	P		**Pn**	**14 58 18.9**	**+1.0**
	20nm,0.3s,baz=50,slow=7.8,SNR=176							
LVC				S		**Sn**	**14 58 47.5**	**+0.1**
	78nm,0.3s,baz=241,slow=2.9,SNR=6.0							
LVC	**Limon Verde**	**2.01**	**224**	Pn		**Pn**	**14 58 19.1**	**+1.3**
LVC	**Limon Verde**	**2.01**	**224**	*eP*		**Pn**	**14 58 18.9**	**+1.0**
LVC				*eS*		**Sn**	**14 58 47.7**	**+0.3**
LVC	**Limon Verde**	**2.01**	**224**	P		**Pn**	**14 58 18.4**	**+0.5**
YJA	**Yavi**	**2.02**	**120**	P		**Pn**	**14 58 19.5**	**+1.4**
GO01	**Chusmiza**	**2.25**	**311**			**Pn**	**14 58 21.9**	**+1.3**
GO01	**Chusmiza**	**2.25**	**311**	*eP*		**Pn**	**14 58 22.0**	**+1.4**
GO01				*eS*		**Sn**	**14 58 53.4**	**+1.2**
GO01				IAML			14 58 59.4	
	comp=N,2μm,0.1s							
GO01	**Chusmiza**	**2.25**	**311**	P		**Pn**	**14 58 22.4**	**+1.8**
PB02	**IPOC Station P**	**2.33**	**266**	*eP*		**Pn**	**14 58 21.8**	**+0.6**
PB02				*eS*		**Sn**	**14 58 52.4**	**-0.8**
PB02				IAML			14 58 54.5	
	comp=E,2μm,0.3s							
PB02	**IPOC Station P**	**2.33**	**266**	P		**Pn**	**14 58 22.1**	**+1.0**
PB02				S		**Sn**	**14 58 50.8**	**-2.4**
PB02				IAML			14 58 54.3	
	comp=E,889nm,0.4s							
PB03	**IPOC Station P**	**2.36**	**248**	*eP*		**Pn**	**14 58 22.0**	**+0.5**
PB03				*eS*		**Sn**	**14 58 53.1**	**-0.8**
PB03				IAML			14 58 54.3	
	comp=E,1μm,0.2s							
PB07	**IPOC Station P**	**2.38**	**256**	*eP*		**Pn**	**14 58 22.3**	**+0.6**
PB07				*eS*		**Sn**	**14 58 53.3**	**-1.1**
PB07				IAML			14 58 53.9	
	comp=N,2μm,0.5s							
PB07				IAML			14 58 54.2	
	comp=E,1μm,0.2s							
HMBC	**Humberstone**	**2.49**	**290**	*eP*		**Pn**	**14 58 23.3**	**+0.3**
HMBC				*i* S		**Sn**	**14 58 55.7**	**-0.7**
HMBC				*eS*			14 58 55.8	
HMBC				IAML			14 58 57.0	
	comp=E,815nm,0.1s							
PB06	**IPOC Station P**	**2.53**	**232**	*eP*		**Pn**	**14 58 24.1**	**+0.7**
PB06				*eS*		**Sn**	**14 58 56.8**	**-0.7**
PB06				IAML			14 58 58.8	
	comp=N,1μm,0.3s							
PB06	**IPOC Station P**	**2.53**	**232**	P		**Pn**	**14 58 23.9**	**+0.4**
PB11	**IPOC Station P**	**2.53**	**303**	*eP*		**Pn**	**14 58 24.2**	**+0.7**
PB11				*eS*		**Sn**	**14 58 57.2**	**-0.3**
PB11				IAML			14 58 59.5	
	comp=N,2μm,0.2s							
PATCX	**Punta Patache**	**2.59**	**277**			**Pn**	**14 58 24.7**	**+0.6**
PATCX	**Punta Patache**	**2.59**	**277**	*eP*		**Pn**	**14 58 24.7**	**+0.6**
PATCX				*eS*		**Sn**	**14 58 57.1**	**-1.4**
PATCX				IAML			14 58 59.3	
	comp=N,729nm,0.1s							
TA01	**Diego Aracena**	**2.67**	**282**			**Pn**	**14 58 25.0**	**+0.2**
TA01	**Diego Aracena**	**2.67**	**282**	*eP*		**Pn**	**14 58 25.0**	**+0.2**
TA01				*eS*		**Sn**	**14 58 58.4**	**-1.4**
TA01				IAML			14 58 59.9	
	comp=E,792nm,0.3s							
TA01	**Diego Aracena**	**2.67**	**282**	P		**Pn**	**14 58 25.3**	**+0.5**
TA02	**Huaiquique**	**2.71**	**289**	*eP*		**Pn**	**14 58 25.5**	**+0.2**
TA02				*eS*		**Sn**	**14 58 59.4**	**-1.3**
TA02	**Huaiquique**	**2.71**	**289**	P		**Pn**	**14 58 26.0**	**+0.7**
PB15	**IPOC Station P**	**2.80**	**223**	*eP*		**Pn**	**14 58 27.4**	**+0.9**
PB15				*eS*		**Sn**	**14 59 02.1**	**-1.0**
PB15	**IPOC Station P**	**2.80**	**223**	P		**Pn**	**14 58 27.0**	**+0.4**
PB04	**IPOC Station P**	**2.81**	**245**	*eP*		**Pn**	**14 58 27.2**	**+0.6**
PB04				*eS*		**Sn**	**14 59 01.5**	**-1.7**
PB04				IAML			14 59 03.6	
	comp=N,834nm,0.2s							
MNMC	**Minye Minye**	**2.89**	**314**			**Pn**	**14 58 29.1**	**+1.3**
MNMC	**Minye Minye**	**2.89**	**314**	*eP*		**Pn**	**14 58 29.3**	**+1.5**
MNMC				*eS*		**Sn**	**14 59 05.8**	**+0.7**
PSGC	**Pisagua**	**2.99**	**301**	*eP*		**Pn**	**14 58 28.5**	**-0.3**
PSGC				*eS*		**Sn**	**14 59 05.5**	**-1.5**
PSGC				IAML			14 59 07.6	
	comp=N,555nm,0.6s							
PSGCX	**Pisagua**	**2.99**	**301**			**Pn**	**14 58 29.0**	**+0.2**
PB16	**IPOC Station P**	**3.44**	**324**	*eP*		**Pn**	**14 58 37.0**	**+2.2**
PB16				*eS*		**Sn**	**14 59 18.7**	**+1.0**
PB16				IAML			14 59 21.4	
	comp=E,534nm,0.5s							
PB10	**IPOC Station P**	**3.74**	**231**	*eP*		**Pn**	**14 58 38.0**	**+0.1**
PB10				*eS*		**Sn**	**14 59 21.5**	**-1.9**
PB10				IAML			14 59 23.0	
	comp=E,180nm,0.4s							
PB12	**IPOC Station P**	**3.74**	**312**	*eP*		**Pn**	**14 58 37.5**	**-0.6**
PB12				*eS*		**Sn**	**14 59 21.1**	**-2.5**
PB12				IAML			14 59 23.7	
	comp=E,520nm,0.1s							
AP01	**Chacalluta**	**3.92**	**315**	*eP*		**Pn**	**14 58 40.9**	**+0.7**
AP01				*eS*		**Sn**	**14 59 25.2**	**-2.3**
SOEJ	**Jacaque**	**4.23**	**350**	P		**Pn**	**14 58 46.6**	**+1.9**
BBOE	**La Paz, Chanca**	**4.36**	**353**	P		**Pn**	**14 58 48.8**	**+2.4**
GO02	**Mina Guanaco**	**4.46**	**206**	Pn		**Pn**	**14 58 47.3**	**0.0**
GO02	**Mina Guanaco**	**4.46**	**206**	P		**Pn**	**14 58 47.0**	**-0.3**
GO02				IAML			14 59 40.3	
	comp=E,262nm,0.1s							
BBOD	**La Paz, Gloria**	**4.64**	**346**	P		**Pn**	**14 58 52.0**	**+2.1**
LPAZ	**La Paz**	**4.90**	**352**	P		**Pn**	**14 58 54.6**	**+1.3**
	comp=E,11nm,0.3s,baz=138,slow=5.4,SNR=90							
LPAZ				S		**Sn**	**14 59 51.2**	**+0.3**
	comp=E,8.8nm,0.6s,baz=207,slow=25,SNR=4.9							
LPAZ	**La Paz**	**4.90**	**352**	P		**Pn**	**14 58 55.5**	**+2.2**
AC01	**Pan de Azucar**	**5.76**	**210**	Pn		**Pn**	**14 59 02.7**	**-1.1**
GO03	**Copiap**	**6.90**	**201**			**Pn**	**14 59 16.1**	**-2.6**
AC04	**Llanos de Chal**	**7.76**	**205**	Pn		**Pn**	**14 59 26.4**	**-3.6**
SIV	**San Ignacio**	**7.91**	**50**	P		**Pn**	**14 59 30.3**	**-1.7**
	comp=E,8.7nm,0.3s,baz=233,slow=11,SNR=38							
SIV				S		**Sn**	**15 00 54.7**	**-6.2**
	comp=E,12nm,1.0s,baz=282,slow=22,SNR=9.5							
LCO	**Las Campanas**	**8.37**	**200**	Pn		**Pn**	**14 59 35.2**	**-2.9**
GO04	**Tololo Observa**	**9.48**	**198**	Pn		**Pn**	**14 59 50.6**	**-2.1**
PTLB	**Pontes e Lacer**	**9.69**	**55**	Pn		**Pn**	**14 59 54.2**	**-1.1**
PTLB	**Pontes e Lacer**	**9.69**	**55**	*eP*		**Pn**	**14 59 53.9**	**-1.4**
CO03	**El Pedregal**	**10.08**	**196**	Pn		**Pn**	**14 59 57.5**	**-2.8**
VILB	**Vilhena**	**10.68**	**41**	*eP*		**Pn**	**15 00 09.2**	**+1.1**
AQDB	**Aquidauana**	**10.97**	**89**	*eP*		**Pn**	**15 00 13.2**	**+1.4**
ETMB	**Extrema**	**11.34**	**6**			**Pn**	**15 00 15.3**	**-1.4**
ETMB	**Extrema**	**11.34**	**6**	*eP*		**Pn**	**15 00 15.8**	**-0.9**
MT02	**Curacav**	**12.50**	**195**	Pn		**Pn**	**15 00 30.4**	**-0.9**
PTGB	**Pitanga**	**14.56**	**107**	*eP*		**P**	**15 01 00.3**	**+1.4**
ITAB	**Concordia**	**15.18**	**116**	*eP*		**P**	**15 01 06.6**	**+1.0**
ARAG	**Araguaiana, MT**	**15.75**	**72**	*eP*		**Pn**	**15 01 12.8**	**+0.9**
PLTB	**Pedras Altas**	**16.23**	**133**	P		**P**	**15 01 17.0**	**-0.1**
PLTB	**Pedras Altas**	**16.23**	**133**	*eP*		**Pn**	**15 01 17.9**	**+0.3**
FRTB	**Fartura**	**16.66**	**101**	*eP*		**Pn**	**15 01 22.9**	**+0.2**
BB19B	**Bebedouro**	**17.61**	**93**	*eP*		**Pn**	**15 01 25.5**	**-0.6**
SNDB	**Serra Nova Dou**	**17.93**	**62**	*eP*		**P**	**15 01 36.3**	**+0.4**
TER01	**Tubaro-SC**	**18.12**	**118**	*eP*		**P**	**15 01 38.8**	**+0.9**
NPGB	**Novo Progresso**	**18.24**	**41**	*eP*		**P**	**15 01 39.0**	**-0.3**
IPMB	**Ipameri, GO**	**18.36**	**83**	*eP*		**P**	**15 01 41.4**	**+0.8**
RCLB	**Rio Claro- Sao**	**18.50**	**98**	*eP*		**P**	**15 01 42.8**	**+0.8**
PET01	**Itanhaem-SP**	**18.82**	**103**	*eP*		**P**	**15 01 46.4**	**+0.9**
VAO	**Valinhos**	**19.03**	**99**	*eP*		**P**	**15 01 48.0**	**+0.1**
MACA	**Manacapuru-AM**	**19.05**	**21**	*eP*		**P**	**15 01 47.6**	**-0.5**
BDFB	**Brasilia**	**19.19**	**77**	P		**P**	**15 01 49.9**	**+0.1**
	comp=E,5.4nm,0.5s,baz=283,slow=9.5,SNR=7.8							
BDFB	**Brasilia**	**19.19**	**77**	P		**P**	**15 01 49.2**	**-0.5**
BDFB				IAmb	IAmb		15 01 53.4	
	comp=Z,22nm,1.4s							
BDFB	**Brasilia**	**19.19**	**77**	*eP*		**P**	**15 01 50.3**	**+0.6**
PLCA	**Paso Flores**	**19.69**	**187**	*eP*		**Pn**	**15 01 56.6**	**-1.9**
ITTB	**Itaituba**	**20.18**	**36**	*eP*		**P**	**15 01 59.9**	**-0.3**
MCRA	**Macar, Loja**	**20.67**	**322**	P		**P**	**15 02 07.0**	**+1.4**
SGCB	**São Gabriel d**	**20.92**	**1**	*eP*		**P**	**15 02 07.7**	**-0.3**
DIAM	**Diamantina, MG**	**22.51**	**87**	*eP*		**P**	**15 02 23.8**	**-0.5**
MC01	**Montes Claros**	**22.62**	**83**	*eP*		**P**	**15 02 25.2**	**+0.1**
PRPB	**Parauapebas**	**22.63**	**51**	*eP*		**P**	**15 02 24.9**	**-0.3**
SMTB	**Santa Maria do**	**22.68**	**60**	*eP*		**P**	**15 02 25.6**	**0.0**
JANB	**Januaria**	**22.76**	**78**	*eP*		**P**	**15 02 25.9**	**-0.4**
MALB	**Monte Alegre**	**23.07**	**35**	*eP*		**P**	**15 02 29.1**	**0.0**
SDBA	**SAO DESIDERIO**	**23.21**	**72**	*eP*		**P**	**15 02 30.4**	**-0.1**
DUB01	**Friburgo-RJ**	**23.28**	**97**	*eP*		**P**	**15 02 31.9**	**+0.9**
BOAV	**Boa Vista**	**24.36**	**17**	*eP*		**P**	**15 02 40.3**	**-0.5**
SJMB	**Sao Joao De Ma**	**24.76**	**89**	*eP*		**P**	**15 02 44.5**	**+0.1**
RIB01	**Linhares ES**	**25.40**	**91**	*eP*		**P**	**15 02 50.1**	**-0.1**
GUA01	**Guaratinga, BA**	**26.49**	**85**	*eP*		**P**	**15 02 59.8**	**-0.2**
GDU01	**Guandu, BA**	**27.53**	**79**	*eP*		**P**	**15 03 08.4**	**-0.9**
ROSB	**Rosrio**	**29.04**	**54**	*eP*		**P**	**15 03 21.7**	**-0.9**
TXAR	**Lajitas Array**	**61.17**	**324**	P		**P**	**15 07 36.6**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=133,slow=8.9,SNR=2.7							
	comp=Z,0.4nm,0.5s							
SNAA	**Sanae**	**62.14**	**161**	P		**P**	**15 07 41.9**	**+1.1**
SNAA				IAmb	IAmb		15 08 01.1	
	comp=Z,4.7nm,1.3s							
PDAR	**Pinedale Array**	**74.53**	**329**	P		**P**	**15 09 00.3**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=131,slow=8.9,SNR=6.5							
	comp=Z,0.4nm,0.5s							
TOA0	**Torodi Ar. Sit**	**75.92**	**70**	P		**P**	**15 09 03.9**	**-2.5**
TOA0				IAmb	IAmb		15 09 07.5	
	comp=Z,2.8nm,0.6s							
YKA	**Yellowknife Ar**	**91.34**	**340**	P		**P**	**15 10 25.1**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=131,slow=4.8,SNR=5.4							
	comp=Z,1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**141.04**	**26**	PKP		**PKiKP**	**15 16 49.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=302,slow=3.2,SNR=2.2							
MKAR	**Makanchi Array**	**144.53**	**37**	PKP		**PKPdf**	**15 16 54.7**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=336,slow=2.7,SNR=10							

IDC 18 14:58:57.3±4.0,18°31S×172°42W,h0km,mb3.4/3, mbtmp3.6/4,ML4.2/1,Error ellipse: s-maj=132.2km s-min=30.5km az=130.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**4.42**	**8**	Pn		Pn	15 00 06.0	+0.2
	13nm,0.3s,baz=190,slow=3.2,SNR=93							
AFI					Sn	Sn	15 00 40.9	-17
	26nm,0.3s,baz=52,slow=21,SNR=14							
	38nm,0.3s							
WRA	**Warramunga Arr**	**50.16**	**259**	P		P	15 07 54.6	-0.4
	0.3nm,0.9s,baz=96,slow=8.3,SNR=4.6							
	0.3nm,0.9s							
ASAR	**Alice Springs**	**50.16**	**254**	P		P	15 07 55.3	+0.2
	0.3nm,0.6s,baz=89,slow=8.3,SNR=6.8							
	0.3nm,0.6s							
ILAR	**Eielson Array**	**85.11**	**11**	P		P	15 11 34.6	-0.1
	0.3nm,0.7s,baz=214,slow=4.9,SNR=5.1							
	0.3nm,0.7s							

*CNRM **18** 15:04:26.5,35.54N×5.21W,h68km,ml3.1*
*MDD **18** 15:04:27.2±0.3,35.52N×5.19W,h64km±5km,Mb3.7/23, Error ellipse: s-maj=2.9km s-min=2.1km az=6.0*
*SFS **18** 15:04:27.0,35.55N×5.16W,h67km,ML3.3,TETUAN (MARRUECOS)*
*LDG **18** 15:04:29.1±0.3,35.82N×5.02W,h30km,Ml3.2/3,Error ellipse: s-maj=7.2km s-min=3.6km az=1.0*
*INMG **18** 15:04:29.0±1.9,35.67N×5.23W,h60km±8km,ML3.1,Error ellipse: s-maj=5.7km s-min=3.6km az=179.0*

ISC 18 15:04:25.8±1.0,35°58N±0.03×5°16W±0.03,h83km±7km, n98,σ1§90/172,24C-4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CEU	**Ceuta**	**0.36**	**331**	P		**Pn**	**15 04 38.6**	**-0.2**
CEU				S		**Sn**	**15 04 47.8**	**-0.7**
ECEU	**Ceuta**	**0.37**	**331**	P		**Pn**	**15 04 38.8**	**-0.1**
ECEU				*i*Vmb_V			15 04 39.7	
	18μm,SNR=244							
ECEU				S		**Sn**	**15 04 47.0**	**-1.5**
CHEFC	**Chefchaouen**	**0.49**	**198**	P		**Pn**	**15 04 40.1**	**+0.2**
CHEFC				S		**Sn**	**15 04 48.6**	**-1.7**
PVLZ	**Peæn de**	**0.81**	**120**	P		**Pn**	**15 04 42.1**	**-0.7**
PVLZ				S		**Sn**	**15 04 53.3**	**-2.2**
EJIF	**Jimena Fronter**	**0.91**	**344**	P		**Pn**	**15 04 46.0**	**+2.0**
EJIF				S		**Sn**	**15 04 57.8**	**

PESTR					*e*S		**Sn**	**15 06 04.2**	**-1.8**
PESTR					A		A	15 06 07.8	
	comp=N,19nm,0.4s								
PESTR	**Estremoz**	**3.81**	**330**		P		**Pn**	**15 05 24.7**	**+2.4**
EMUR	**La Murta**	**3.87**	**53**		P		**Pn**	**15 05 25.3**	**+2.2**
EMUR					⇑*i*Vmb_V			15 05 30.9	
	comp=N,160nm,SNR=1.3								
EMUR					S		**Sn**	**15 06 08.1**	**+0.7**
PAB	**San Pablo**	**4.01**	**9**		P		**Pn**	**15 05 26.3**	**+1.3**
PAB					⇑*i*Vmb_V			15 05 35.3	
	comp=N,151nm,SNR=1.9								
PAB					S		**Sn**	**15 06 08.3**	**-2.5**
ESDC	**Sonseca Array**	**4.20**	**13**		P		**Pn**	**15 05 28.6**	**+1.2**
ESDC					⇑*i*Vmb_V			15 05 36.7	
	comp=N,219nm,SNR=2.2								
ESDC					S		**Sn**	**15 06 13.1**	**-2.2**
ETOB	**Tobarra**	**4.21**	**42**		P		**Pn**	**15 05 29.6**	**+2.0**
ETOB					⇑*i*Vmb_V			15 05 37.9	
	comp=N,143nm,SNR=1.2								
ETOB					S		**Sn**	**15 06 16.2**	**+0.6**
PMRV	**Marv??o**	**4.23**	**336**	*e*P			**Pn**	**15 05 29.9**	**+1.9**
PMRV					*e*S		**Sn**	**15 06 14.6**	**-1.6**
PMRV					A		A	15 06 17.2	
	comp=N,18nm,0.4s								
PMTG	**Montargil**	**4.26**	**326**	*e*P			**Pn**	**15 05 29.5**	**+1.3**
PMTG					*e*S		**Sn**	**15 06 14.9**	**-1.8**
PMTG					A		A	15 06 17.5	
	comp=N,22nm,0.5s								
PACT	**Alcochete**	**4.33**	**318**	*e*P			**Pn**	**15 05 31.1**	**+1.9**
PACT					*e*S		**Sn**	**15 06 17.6**	**-0.9**
PACT					A		A	15 06 28.2	
	comp=N,30nm,0.5s								
PMST	**Lisbon--Monsan**	**4.50**	**316**	*e*S			**Sn**	**15 06 22.0**	**-0.7**
EPLA	**Plasencia**	**4.54**	**351**	P			**Pn**	**15 05 33.5**	**+1.4**
EPLA					⇑*i*Vmb_V			15 05 42.6	
	comp=N,252nm,SNR=2.0								
EPLA					S		**Sn**	**15 06 21.1**	**-2.5**
PCBR	**Castelo Branco**	**4.64**	**337**	*e*P			**Pn**	**15 05 35.5**	**+2.1**
PCBR					*e*S		**Sn**	**15 06 23.5**	**-2.4**
PCBR					A		A	15 06 25.6	
	comp=N,20nm,0.6s								
PMAFR	**Mafra**	**4.71**	**317**	*e*P			**Pn**	**15 05 36.2**	**+1.8**
PMAFR					*e*S		**Sn**	**15 06 26.0**	**-1.8**
PMAFR					A		A	15 06 36.6	
	comp=N,20nm,0.7s								
PSBE	**So Bento**	**4.88**	**325**	*e*P			**Pn**	**15 05 38.6**	**+1.9**
PSBE					*e*S		**Sn**	**15 06 30.5**	**-1.4**
PSBE					A		A	15 06 32.7	
	comp=N,11nm,0.4s								
OUK	**Oukaimeden**	**4.91**	**208**		P		**Pn**	**15 05 37.9**	**+0.3**
GUD	**Guadarrama**	**5.12**	**9**		P		**Pn**	**15 05 41.6**	**+1.5**
GUD					⇑*i*Vmb_V			15 05 49.7	
	comp=N,80nm,SNR=0.8								
GUD					S		**Sn**	**15 06 35.1**	**-2.8**
MTE	**Manteigas**	**5.17**	**339**		S		**Sn**	**15 06 37.1**	**-2.0**
PCAS	**Casmilo, Conde**	**5.19**	**330**	*e*P			**Pn**	**15 05 42.7**	**+1.7**
PCAS					*e*S		**Sn**	**15 06 37.0**	**-2.5**
PCAS					A		A	15 06 39.3	
	comp=N,12nm,0.3s								
COI	**Coimbra**	**5.29**	**332**	*e*P			**Pn**	**15 05 44.5**	**+2.2**
COI					*e*S		**Sn**	**15 06 39.9**	**-2.0**
PVIS	**Viseu**	**5.56**	**338**	*e*P			**Pn**	**15 05 47.8**	**+1.7**
PVIS					*e*S		**Sn**	**15 06 46.5**	**-2.2**
PVIS					A		A	15 06 48.2	
	comp=N,9.4nm,0.5s								
MVO	**Moncorvo**	**5.77**	**346**	*e*P			**Pn**	**15 05 50.9**	**+2.0**
MVO					*e*S		**Sn**	**15 06 51.1**	**-2.6**
MVO					A		A	15 06 54.4	
	comp=N,17nm,0.3s								
ETOR	**Torete**	**5.77**	**24**		P		**Pn**	**15 05 50.5**	**+1.6**
ETOR					⇑*i*Vmb_V			15 06 00.5	
	comp=N,173nm,SNR=1.7								
ETOR					S		**Sn**	**15 06 52.1**	**-1.8**
PVRL	**Vila Real**	**6.03**	**341**	⇑*i*P			**Pn**	**15 05 54.6**	**+2.1**
PVRL					*e*S		**Sn**	**15 06 58.9**	**-1.2**
PVRL					A		A	15 06 59.8	
	comp=N,51nm,0.1s								
POLO	**Lamas de Olo**	**6.14**	**341**	*e*P			**Pn**	**15 05 56.2**	**+2.1**
POLO					*e*S		**Sn**	**15 07 00.1**	**-2.8**
POLO					A		A	15 07 01.3	
	comp=N,6.4nm,0.4s								
PTO	**Porto**	**6.18**	**335**	*e*P			**Pn**	**15 05 56.5**	**+2.1**
PTO					*e*S		**Sn**	**15 06 58.6**	**-4.9**
PBRG	**Braganca**	**6.34**	**349**	*e*P			**Pn**	**15 05 58.7**	**+2.0**
PBRG					*e*S		**Sn**	**15 07 05.7**	**-1.9**
PBRG					A		A	15 07 08.3	
	comp=N,6.1nm,0.2s								
ECAL	**Calabor**	**6.47**	**349**		P		**Pn**	**15 05 59.9**	**+1.4**
ECAL					⇑*i*Vmb_V			15 06 08.3	
	comp=N,248nm,SNR=1.1								
ECAL					S		**Sn**	**15 07 08.9**	**-2.0**
PCAB	**Cabril**	**6.52**	**341**	*e*P			**Pn**	**15 06 01.4**	**+2.3**
PCAB					*e*S		**Sn**	**15 07 08.9**	**-3.1**
PCAB					A		A	15 07 12.4	
	comp=N,10nm,0.1s								
ELOB	**Lobios**	**6.68**	**341**		P		**Pn**	**15 06 02.1**	**+0.8**
ELOB					⇑*i*Vmb_V			15 06 04.0	
	comp=N,312nm,SNR=1.5								
ELOB					S		**Sn**	**15 07 13.0**	**-2.9**
PGAV	**Gavieira, Arco**	**6.83**	**340**	*e*P			**Pn**	**15 06 05.6**	**+2.3**
PGAV					*e*S		**Sn**	**15 07 16.3**	**-3.2**
PGAV					A		A	15 07 18.0	
	comp=N,11nm,0.5s								
SFNM	**Sidi Ifni**	**7.53**	**216**		P		**Pn**	**15 06 13.7**	**+0.8**
EARI	**Arriondas**	**7.71**	**360**		P		**Pn**	**15 06 17.3**	**+1.9**
EARI					S		**Sn**	**15 07 37.9**	**-3.3**
ELAN	**Lanestosa**	**7.76**	**9**		P		**Pn**	**15 06 19.0**	**+3.0**
ELAN					S		**Sn**	**15 07 38.9**	**-3.4**
EPON	**Pontenova**	**7.89**	**349**		S		**Sn**	**15 07 41.0**	**-4.4**
SJPF	**Ste Jean**	**8.12**	**21**	*e*Pn			**Pn**	**15 06 19.3**	**-1.6**
SJPF	**Ste Jean**	**8.12**	**21**	*e*P			**Pn**	**15 06 24.1**	**+3.2**
SJPF					*e*Sn		Sn	15 07 42.3	-8.6
	comp=N,1.5nm,0.2s								
ETSF	**Etsaut**	**8.13**	**25**	*e*Pn			**Pn**	**15 06 19.8**	**-1.3**
ETSF	**Etsaut**	**8.13**	**25**	*e*P			**Pn**	**15 06 24.7**	**+3.6**
ETSF					*e*Sn		Sn	15 07 43.2	-8.2
	comp=N,0.9nm,0.2s								
EALK	**Alkurruntz**	**8.14**	**19**		P		**Pn**	**15 06 23.6**	**+2.5**
EALK					S		**Sn**	**15 07 47.3**	**-4.2**
EPF	**Esparros**	**8.57**	**28**	*e*P			**Pn**	**15 06 31.1**	**+4.0**
EPF					*e*Sn		Sn	15 07 53.5	-8.6
	comp=N,2.6nm,0.3s								
TANT	**Tantan**	**8.82**	**217**		P		**Pn**	**15 06 31.6**	**+1.1**
MTLF	**Montolieu**	**9.62**	**34**	*e*Pn			**Pn**	**15 06 39.9**	**-1.4**
MTLF	**Montolieu**	**9.62**	**34**	*e*P			**Pn**	**15 06 45.3**	**+4.0**
CAF	**Calviac**	**10.84**	**28**	*e*Pn			**Pn**	**15 06 57.2**	**-0.8**
CAF	**Calviac**	**10.84**	**28**	*e*P			**Pn**	**15 07 02.1**	**+4.1**
RJF	**Les Rejaudoux**	**10.96**	**26**	*e*Pn			**Pn**	**15 06 58.0**	**-1.6**
RJF	**Les Rejaudoux**	**10.96**	**26**	*e*P			**Pn**	**15 07 03.9**	**+4.3**
RJF					*e*Sn		Sn	15 08 51.0	-9.2
SMRF	**Simiane la Rot**	**11.76**	**41**	*e*Pn			**Pn**	**15 07 09.5**	**-1.0**
QUIF	**Quistinic**	**12.42**	**6**	*e*Pn			**Pn**	**15 07 18.6**	**-0.7**
SGMF	**Saint Gilles**	**12.81**	**8**	*e*Pn			**Pn**	**15 07 22.8**	**-1.8**

NEIC ***18*** *15:16:04.3±1.8,21°.4S±0°.1×178°.7W±0°.1,h589km±8km, mb4.6/36,Error ellipse: s-maj=18.9km s-min=17.3km az=157.0*

IDC ***18*** *15:16:05.4±1.8,21°.32S×178°.86W,h589km±18km, mb3.6/15,mbtmp4.6/17,Error ellipse: s-maj=22.6km s-min=13.4km az=138.0*

NOU ***18*** *15:16:12.4,21°.42S×179°.36W,h652km,mb4.6/29,Fiji Islands Region*

ISC 18 15:16:05.9±0.4,**21°.26S**±0°.09×**178°.92W**±0°.07,**h602**km, **n148**,σ1§**01**/142,**mb4.5**/34,**16C-12D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.53**	**320**	P	**P**	**15 17 34.8**	**-0.8**
	66nm,0.6s,baz=145,slow=5.9,SNR=73						
MSVF	**Nonsavu**	**4.53**	**320**	P	**P**	**15 17 34.6**	**-0.9**
NIUE	**Niue**	**8.72**	**77**	P	**P**	**15 18 08.3**	**-3.9**
AFI	**Afiamalu**	**9.99**	**44**	P	P	15 18 19.6	-5.2
	14nm,0.3s,baz=152,slow=1.5,SNR=9.2						
AFI				S	S	15 20 08.0	-11
	39nm,0.6s,baz=7.3,slow=21,SNR=7.5						
AFI	**Afiamalu**	**9.99**	**44**	P	P	15 18 19.1	-5.7
MARNC	**Mare, Loyalty**	**12.16**	**267**	P	**P**	**15 18 45.0**	**-1.3**
DZM	**Mont Dzumac**	**13.64**	**264**	P	**P**	**15 19 00.0**	**-1.3**
	9.4nm,0.4s,baz=115,slow=19,SNR=12						
CTZ	**Chatham Island**	**22.49**	**176**	P	**P**	**15 20 25.6**	**+4.0**
EIDS	**Eidsvold**	**27.82**	**256**	P	**P**	**15 21 08.8**	**0.0**
EIDS				IAmb	IAmb	15 21 09.5	
	comp=Z,13nm,0.8s						
EIDS	**Eidsvold**	**27.82**	**256**	P	**P**	**15 21 09.4**	**+0.5**
ARMA	**Armidale**	**27.97**	**245**	P	**P**	**15 21 10.8**	**+0.6**
ARMA				IAmb	IAmb	15 21 12.0	
	comp=Z,12nm,0.8s						
ARMA	**Armidale**	**27.97**	**245**	P	**P**	**15 21 11.0**	**+0.8**
RMQ	**Roma**	**29.97**	**254**	P	**P**	**15 21 28.7**	**+1.3**
CNB	**Canberra Magne**	**31.09**	**236**	P	**P**	**15 21 37.7**	**+0.8**
TV1H	**Townsville Har**	**32.19**	**267**	P	**P**	**15 21 46.8**	**+0.4**
CTA	**Charters Tower**	**32.57**	**266**	P	**P**	**15 21 50.2**	**+0.6**
	comp=Z,18nm,0.4s,baz=92,slow=10,SNR=63						
	comp=Z,18nm,0.4s						
CTA	**Charters Tower**	**32.57**	**266**	P	**P**	**15 21 50.2**	**+0.6**
CTAO	**Charters Tower**	**32.57**	**266**	P	**P**	**15 21 50.0**	**+0.4**
CTAO				IAmb	IAmb	15 21 50.9	
	comp=Z,26nm,1.0s						
CTAO	**Charters Tower**	**32.57**	**266**	P	**P**	**15 21 50.1**	**+0.5**
CMSA	**Cobar Meteorol**	**33.19**	**245**	P	**P**	**15 21 54.9**	**+0.3**
QLP	**Quilpie**	**34.02**	**254**	P	**P**	**15 22 02.1**	**+0.5**
PMG	**Port Moresby**	**34.69**	**285**	P	**P**	**15 22 05.6**	**-1.7**
MTSU	**Mount Surprise**	**34.71**	**269**	P	**P**	**15 22 08.3**	**+0.8**
TOO	**Toolangi**	**34.76**	**234**	P	**P**	**15 22 06.3**	**-1.4**
TOO	**Toolangi**	**34.76**	**234**	P	**P**	**15 22 08.1**	**+0.4**
STKA	**Stephens Creek**	**36.69**	**245**	P	**P**	**15 22 24.1**	**+0.5**
	comp=Z,7.5nm,0.5s,baz=91,slow=10,SNR=25						
	comp=Z,7.5nm,0.5s						
STKA	**Stephens Creek**	**36.69**	**245**	P	**P**	**15 22 23.5**	**-0.1**
COEN	**Coen**	**36.78**	**275**	P	**P**	**15 22 23.9**	**-0.8**
COEN				IAmb	IAmb	15 22 26.6	
	comp=Z,12nm,0.7s						
COEN	**Coen**	**36.78**	**275**	P	**P**	**15 22 25.8**	**+1.2**
INKA	**Innaminka**	**37.15**	**252**	P	**P**	**15 22 28.6**	**+1.2**
HTT	**Hallett**	**39.12**	**243**	P	**P**	**15 22 42.9**	**-0.4**
LCRK	**Leigh Creek**	**39.45**	**248**	P	**P**	**15 22 46.6**	**+0.6**
BBOO	**Buckleboo**	**41.44**	**244**	P	**P**	**15 23 00.3**	**-1.4**
BBOO				IAmb	IAmb	15 23 01.9	
	comp=Z,15nm,0.6s						
BBOO	**Buckleboo**	**41.44**	**244**	P	**P**	**15 23 01.6**	**-0.1**
OOD	**Oodnadatta**	**41.63**	**252**	P	**P**	**15 23 04.4**	**+1.2**
MULG	**Mulgathing**	**43.04**	**248**	P	**P**	**15 23 14.5**	**+0.3**
WR0	**Warramunga Arr**	**43.46**	**263**	P	**P**	**15 23 17.4**	**-0.3**
WR0				IAmb	IAmb	15 23 18.1	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**43.51**	**258**	P	**P**	**15 23 17.8**	**-0.3**
ASAR	**Alice Springs**	**43.52**	**258**	P	**P**	**15 23 18.2**	**+0.1**
	comp=Z,27nm,0.8s,baz=94,slow=7.7,SNR=292						
ASAR				PcP	**PcP**	**15 24 52.6**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=102,slow=4.0,SNR=9.6						
ASAR				S	**S**	**15 29 04.2**	**-0.4**
	comp=Z,2.7nm,1.1s,baz=91,slow=16,SNR=7.8						
	comp=Z,27nm,0.8s						
ASAR	**Alice Springs**	**43.52**	**258**	P	**P**	**15 23 18.1**	**0.0**
WB0	**Warramunga Arr**	**43.63**	**263**	P	**P**	**15 23 18.4**	**-0.5**
WB2	**Warramunga Arr**	**43.64**	**263**	P	**P**	**15 23 18.6**	**-0.4**
WB2				IAmb	IAmb	15 23 19.6	
	comp=Z,26nm,0.8s						
WRAB	**Tennant Creek**	**43.64**	**263**	P	**P**	**15 23 18.7**	**-0.4**
WRAB				IAmb	IAmb	15 23 19.6	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**43.64**	**263**	P	**P**	**15 23 18.9**	**-0.2**
WRA	**Warramunga Arr**	**43.65**	**263**	P	**P**	**15 23 18.8**	**-0.3**
	comp=Z,13nm,0.5s,baz=97,slow=7.6,SNR=484						
WRA				S	**S**	**15 29 04.0**	**-2.6**
	comp=Z,0.8nm,0.8s,baz=101,slow=12,SNR=2.8						
	comp=Z,13nm,0.5s						
WRA	**Warramunga Arr**	**43.65**	**263**	P	**P**	**15 23 17.7**	**-1.4**
KDU	**Kakadu**	**47.12**	**272**	P	**P**	**15 23 45.9**	**+0.4**
FORT	**Forrest**	**48.21**	**247**	P	**P**	**15 23 52.2**	**-1.2**
FORT	**Forrest**	**48.21**	**247**	P	**P**	**15 23 53.3**	**-0.1**
MTN	**Manton Dam**	**48.32**	**272**	P	**P**	**15 23 54.1**	**-0.3**
MTN				IAmb	IAmb	15 23 54.9	
	comp=Z,20nm,0.7s						
MTN	**Manton Dam**	**48.32**	**272**	P	**P**	**15 23 54.5**	**+0.1**
KNRA	**Kununurra**	**49.76**	**267**	P	**P**	**15 24 05.1**	**+0.1**
KNRA	**Kununurra**	**49.76**	**267**	P	**P**	**15 24 05.3**	**+0.3**
FAKI	**Fak Fak**	**50.85**	**284**	P	**P**	**15 24 13.8**	**+0.9**
PSA00	**Pilbara Seismi**	**56.66**	**258**	P	**P**	**15 24 52.4**	**-1.4**
PSA00				IAmb	IAmb	15 24 54.4	
	comp=Z,22nm,0.9s						
PSA00	**Pilbara Seismi**	**56.66**	**258**	P	**P**	**15 24 52.5**	**-1.2**
PSA00				IAmb	IAmb	15 24 54.5	
	comp=Z,10nm,1.1s						
PSA00	**Pilbara Seismi**	**56.66**	**258**	P	**P**	**15 24 53.9**	**+0.2**
MBWA	**Marble Bar**	**56.85**	**258**	P	**P**	**15 24 54.8**	**-0.3**
MBWA				IAmb	IAmb	15 24 55.6	
	comp=Z,20nm,0.7s						
KLBR	**Kellerberrin**	**56.96**	**245**	P	**P**	**15 24 55.7**	**+0.1**
VNDA	**Vanda**	**57.08**	**185**	P	**P**	**15 24 56.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=279,slow=5.1,SNR=2.7						
	comp=Z,0.5nm,0.7s						
VNDA	**Vanda**	**57.08**	**185**	P	**P**	**15 24 53.3**	**-2.3**
NWAO	**Narrogin (SRO)**	**57.26**	**244**	P	**P**	**15 24 57.5**	**-0.2**
MMRI	**Maumere**	**57.93**	**273**	P	**P**	**15 25 01.1**	**-1.3**
MMRI				IAmb	IAmb	15 25 05.6	
	comp=Z,30nm,0.8s						
BLDU	**Ballidu**	**57.96**	**246**	P	**P**	**15 25 02.3**	**-0.1**
MUN	**Mundaring**	**58.23**	**245**	P	**P**	**15 25 05.0**	**+0.8**
MORW	**Morawa**	**58.75**	**248**	P	**P**	**15 25 07.0**	**-0.7**
GIRL	**Giralia**	**61.52**	**255**	P	**P**	**15 25 25.3**	**-0.8**
TOLI2	**Tolitoli**	**62.93**	**283**	P	**P**	**15 25 35.2**	**-0.1**
TOLI2				IAmb	IAmb	15 25 38.0	
	comp=Z,10nm,0.6s						
JHJ2	**Mitsune**	**66.90**	**323**	P	**P**	**15 26 00.8**	**+1.1**
QSPA	**South Pole Qui**	**68.81**	**180**	P	**P**	**15 26 10.8**	**-0.2**
UGM	**Wanagama**	**69.10**	**269**	P	**P**	**15 26 12.8**	**-0.8**
KKM	**Kota Kinabalu**	**69.13**	**286**	P	**P**	**15 26 13.3**	**-0.4**
KKM				IAmb	IAmb	15 26 15.2	
	comp=Z,7.6nm,0.5s						
MJAR	**Matsushiro Arr**	**70.32**	**324**	P	**P**	**15 26 20.6**	**+0.4**
	comp=Z,4.9nm,0.7s,baz=152,slow=5.9,SNR=12						
	comp=Z,4.9nm,0.7s						
TPUB	**Ta-pu**	**73.67**	**304**	P	**P**	**15 26 39.5**	**-0.4**
PETK	**Petropavlovsk-**	**76.79**	**346**	P	**P**	**15 26 57.3**	**+0.9**
	comp=Z,5.8nm,0.7s,baz=176,slow=3.5,SNR=20						
	comp=Z,5.8nm,0.7s						
KSRS	**Korea Array**	**76.89**	**319**	P	**P**	**15 26 59.4**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=204,slow=40,SNR=3.2						
	comp=Z,1.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**79.12**	**326**	P	**P**	**15 27 11.3**	**+2.2**
	comp=Z,6.7nm,0.8s,baz=109,slow=3.1,SNR=12						
	comp=Z,6.7nm,0.8s						
NJ2	**Nanjing**	**79.71**	**310**	*e*P	**P**	**15 27 10.3**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NVAR	**Mina Array Bea**	**82.16**	**44**	P	**P**	**15 27 26.4**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=222,slow=8.7,SNR=10						
	comp=Z,1.2nm,0.6s						
IPM	**Ipoh**	**82.38**	**278**	P	**P**	**15 27 26.7**	**0.0**
IPM				IAmb	IAmb	15 27 28.7	
	comp=Z,20nm,0.7s						
KLR	**Kul'dur**	**82.75**	**330**	P	**P**	**15 27 28.8**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=145,slow=3.5,SNR=8.4						
	comp=Z,3.0nm,0.8s						
GSI	**Gunungsitoli**	**84.42**	**274**	P	**P**	**15 27 36.9**	**+0.1**
HEH	**HeiHe**	**85.51**	**329**	*e*P	**P**	**15 27 42.3**	**+1.2**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HEH				pmax	pmax		
	comp=Z,250nm,5.3s						
GHO	**Glory Hole Cre**	**86.16**	**14**		pwP	15 29 53.8	+1.4
TROLL	**Troll, Antarti**	**86.97**	**180**	P	**P**	**15 27 49.1**	**+1.1**
CAST	**Castle Rocks**	**86.99**	**12**	P	**P**	**15 27 45.4**	**-2.4**
CAST				IAmb	IAmb	15 27 48.2	
	comp=Z,6.5nm,0.7s						
TRF	**Thorofare Moun**	**87.37**	**12**	P	**P**	**15 27 49.3**	**-0.5**
TRF				IAmb	IAmb	15 27 50.3	
	comp=Z,11nm,0.8s						
VNA3	**Neumayer Olymp**	**87.44**	**177**	P	**P**	**15 27 49.0**	**-1.0**
VNA2	**Neumayer--Watz**	**87.87**	**177**	P	**P**	**15 27 51.4**	**-0.7**
	baz=194,slow=2.0						
XAN	**Xi'an**	**87.92**	**308**	⇓P	**P**	**15 27 54.6**	**+1.7**
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
TXAR	**Lajitas Array**	**88.19**	**58**	P	**P**	**15 27 55.7**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=203,slow=8.2,SNR=5.6						
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**89.25**	**13**	P	**P**	**15 27 58.2**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=217,slow=5.2,SNR=23						
	comp=Z,1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P	**P**	**15 28 03.2**	**+2.4**
	comp=Z,4.8nm,0.9s,baz=129,slow=3.2,SNR=32						
	comp=Z,4.8nm,0.9s						
PDAR	**Pinedale Array**	**90.10**	**44**	P	**P**	**15 28 03.5**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=218,slow=2.6,SNR=12						
	comp=Z,1.2nm,0.7s						
CO01	**Juntas del Tor**	**94.70**	**125**		pwP	15 30 34.0	-3.4
ZALV	**Zalesovo Beam**	**110.55**	**321**	PKiKP	**PKiKP**	**15 33 30.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=119,slow=0.7,SNR=4.6						
MKAR	**Makanchi Array**	**111.09**	**313**	PKiKP	**PKiKP**	**15 33 31.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=117,slow=1.3,SNR=7.9						
SPITS	**Spitsbergen Ar**	**122.57**	**356**	PKP	**PKPdf**	**15 33 52.9**	**-0.3**
	comp=Z,12nm,0.8s,baz=81,slow=8.9,SNR=6.1						
ARU	**Arti**	**125.33**	**325**	PKP	**PKPdf**	**15 33 59.3**	**+0.3**
	comp=Z,3.1nm,0.4s,baz=262,slow=4.3,SNR=5.6						
GEYT	**Alibeck**	**128.47**	**302**	PKP	**PKPdf**	**15 34 04.9**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=137,slow=5.0,SNR=3.7						
ARCES	**ARCESS Array B**	**129.51**	**349**	PKP	**PKPdf**	**15 34 06.1**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=13,slow=1.1,SNR=18						
FINES	**FINESS Array B**	**136.25**	**343**	PKhKP	PKPpre	15 34 11.7	
	comp=Z,1.8nm,0.7s,baz=343,slow=4.0,SNR=3.9						
FINES				PKP	**PKPdf**	**15 34 20.1**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=85,slow=2.5,SNR=7.9						
NOA	**NORSAR Array B**	**139.62**	**352**	PKhKP	PKPpre	15 34 19.1	
	comp=Z,0.5nm,0.5s,baz=5.8,slow=3.6,SNR=5.2						
HFS	**Hagfors**	**140.15**	**350**	PKhKP	PKPpre	15 34 20.3	
	comp=Z,3.0nm,0.4s,baz=68,slow=4.0,SNR=28						
AKASG	**Malin Array Be**	**143.25**	**330**	PKP	PKPab	15 34 30.5	-0.2
	comp=Z,13nm,0.6s,baz=42,slow=4.4,SNR=66						
AKASG	**Malin Array Be**	**143.25**	**330**	PKPdf	PKPab	15 34 31.0	+0.3
AKBB	**Malin Array Si**	**143.25**	**330**	PKPdf	PKPab	15 34 30.8	+0.1
SORM	**Soroca**	**145.39**	**327**	⇓P	**PKPbc**	**15 34 37.1**	**-0.5**
EKA	**Eskdalemuir Ar**	**145.83**	**4**	PKPbc	**PKPbc**	**15 34 38.4**	**-0.2**
	comp=Z,25nm,1.3s,baz=351,slow=3.1,SNR=10						
ASF	**Jabal al Asfar**	**146.36**	**296**	PKPbc	**PKPbc**	**15 34 42.4**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=135,slow=2.4,SNR=8.0						
BRTR	**Keskin Array B**	**146.70**	**311**	PKPbc	**PKPbc**	**15 34 42.0**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=136,slow=4.6,SNR=18						
BURAR	**Bucovina Array**	**147.29**	**329**	⇓P	**PKPbc**	**15 34 43.7**	**+0.9**
TPGR	**Topolog**	**147.43**	**323**	⇑P	**PKiKP**	**15 34 44.2**	**-0.5**
MMAI	**Mount Meron Ar**	**147.43**	**298**	PKPbc	**PKiKP**	**15 34 44.6**	**-0.6**
	comp=Z,6.3nm,0.5s,baz=74,slow=6.3,SNR=14						
KOLS	**Kolonicke sedl**	**147.62**	**334**	*e*PKP	**PKiKP**	**15 34 44.9**	**-0.1**
VRI	**Vrincioaia**	**147.72**	**326**	⇑P	**PKiKP**	**15 34 44.8**	**-0.5**
MFTR	**Murfatlar**	**147.84**	**322**	⇓P	**PKPbc**	**15 34 44.9**	**+0.7**
CRVS	**Cervenica-Dubn**	**147.98**	**334**	*e*PKP	**PKiKP**	**15 34 45.6**	**-0.2**
TRPA	**Tarpa**	**148.13**	**332**	⇑P	**PKPbc**	**15 34 45.5**	**+0.6**
DOPR	**Dopca**	**148.35**	**327**	⇓P	**PKiKP**	**15 34 46.8**	**+0.1**
MLR	**Muntele Rosu**	**148.38**	**326**	⇑P	**PKPbc**	**15 34 46.1**	**+0.4**
MLR	**Muntele Rosu**	**148.38**	**326**	PKPbc	**PKPbc**	**15 34 46.1**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=130,slow=7.9,SNR=5.5						
EIL	**Elat**	**148.39**	**292**	PKPbc	**PKiKP**	**15 34 47.0**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=106,slow=7.4,SNR=2.9						
DPC	**Dobruska-Polom**	**148.58**	**341**	⇑*e*PKP	**PKiKP**	**15 34 47.0**	**0.0**
CLL

997nm,0.2s
KBK Karagaybulak 1.73 315 ⇑*i*P **Pn 15 17 13.6 +0.5**
baz=18
KBK ⇑*i*S **Sb 15 17 37.9 +1.2**
baz=18
KBK Karagaybulak 1.73 315 *i* PN **Pn 15 17 13.6 +0.5**
KBK *i* S **Sb 15 17 37.9 +1.2**
UCH Uchtor 1.75 297 ⇑P **Pn 15 17 13.7 +0.1**
150nm,0.2s,SNR=218
UCH ⇓S **Sb 15 17 38.1 +0.6**
672nm,0.3s
UCH Uchtor 1.75 297 ⇑*i*P **Pn 15 17 13.5 -0.1**
baz=0.0
UCH ⇑*i*S **Sb 15 17 37.7 +0.2**
baz=0.0
UCH Uchtor 1.75 297 ⇓PN **Pn 15 17 13.5 -0.1**
UCH *i* S **Sb 15 17 37.7 +0.2**
MDOK Medeo 1.75 11 *e*P **Pb 15 17 15.2 0.0**
1μm,0.4s
MDOK *e*S **Sg 15 17 40.3 +1.0**
4μm,0.4s
MDOK Medeo 1.75 11 ⇓Pn **Pb 15 17 15.0 -0.2**
868nm,0.5s
MDOK Pg **Pb 15 17 15.2 0.0**
1μm,0.4s
MDOK ⇑Sn **Sg 15 17 40.0 +0.7**
4μm,0.6s
MDOK Lg Lg 15 17 40.3
4μm,0.4s
MDOK Medeo 1.75 11 PN **Pb 15 17 14.9 -0.2**
MDOK 15 17 40.0
AAA Alma-Ata 1.78 7 *e*P **Pb 15 17 16.1 +0.5**
1μm,0.4s
AAA *e*S **Sg 15 17 42.2 +2.0**
2μm,0.4s
AAA Alma-Ata 1.78 7 ⇓*i*P **Pb 15 17 16.1 +0.5**
baz=12
AAA *e*S **Sg 15 17 41.8 +1.5**
baz=12
AAA Alma-Ata 1.78 7 Pg **Pb 15 17 16.1 +0.5**
1μm,0.4s
AAA Lg Lg 15 17 42.2
2μm,0.4s
AAA Alma-Ata 1.78 7 *d* *i*PN **Pb 15 17 16.0 +0.4**
AAA *e*S **Sg 15 17 41.7 +1.5**
KNDC Almaty 1.80 8 ⇑Pn **Pb 15 17 16.0 +0.2**
1μm,0.7s
KNDC ⇑Sn **Sg 15 17 42.4 +1.7**
8μm,0.6s
KNDC Almaty 1.80 8 PN **Pb 15 17 16.0 +0.2**
KNDC 15 17 42.3
KOTS Kotyrbulak 1.83 12 *e*P **Pb 15 17 16.9 +0.4**
836nm,0.1s
KOTS *e*S **Sg 15 17 43.2 +1.4**
14μm,0.1s
KOTS Kotyrbulak 1.83 12 Pg **Pb 15 17 16.9 +0.4**
836nm,0.4s
KOTS Lg Lg 15 17 43.2
14μm,0.5s
DGS Degeres 1.91 341 *e*P **Pb 15 17 18.0 +0.3**
435nm,0.2s
DGS *e*S **Sg 15 17 45.2 +1.0**
2μm,0.6s
DGS Degeres 1.91 341 Pg **Pb 15 17 18.0 +0.3**
581nm,0.5s
DGS Lg Lg 15 17 45.2
2μm,0.6s
AAK Ala-Archa 1.98 308 P **Pb 15 17 18.0 -1.0**
301nm,0.2s,SNR=213
AAK ⇓S **Sb 15 17 45.3 +1.5**
1μm,0.6s
AAK Ala-Archa 1.98 308 Pn **Pb 15 17 18.0 -1.0**
266nm,0.3s,baz=133,slow=7.6,SNR=286
AAK Sn **Sg 15 17 45.7 -0.8**
119nm,0.3s,baz=324,slow=20,SNR=25
AAK Ala-Archa 1.98 308 ⇓*i*P **Pn 15 17 17.4 +0.9**
baz=10.0
AAK ⇓*i*S **Sb 15 17 44.6 +0.9**
baz=10.0
KSH Kashi 1.98 194 Pg **Pg 15 17 23.6 +2.7**
KSH Sg Sg 15 17 56.0 +9.4
KSH smax smax
comp=N,930nm,0.5s
KSH smax smax
comp=E,1μm,0.7s
CHMS Chumysh 2.08 319 ⇑P **Pb 15 17 20.3 -0.4**
188nm,0.3s,SNR=124
CHMS ⇓S **Sb 15 17 48.6 +2.1**
2μm,0.6s
CHMS Chumysh 2.08 319 ⇓*i*P **Pn 15 17 19.0 +1.2**
baz=21
CHMS ⇓*i*S **Sb 15 17 47.0 +0.5**
baz=21
CHMS Chumysh 2.08 319 ⇓Pn **Pb 15 17 20.3 -0.4**
216nm,0.6s
CHMS ⇑Lg Lg 15 17 49.2
502nm,0.5s
CHMS Chumysh 2.08 319 *i* PN **Pb 15 17 20.3 -0.4**
CHMS pmax pmax
comp=Z,216nm,0.6s
SATY Saty 2.10 39 *e*P **Pb 15 17 20.9 -0.2**
comp=Z,391nm,0.2s
SATY *e*S **Sg 15 17 50.2 -0.2**
comp=Z,985nm,0.4s
SATY Saty 2.10 39 ⇓*i*P **Pb 15 17 20.6 -0.4**
baz=43
SATY *e*S **Sg 15 17 49.8 -0.5**
baz=43
SATY Saty 2.10 39 Pg **Pb 15 17 20.9 -0.2**
comp=Z,397nm,0.5s
SATY Lg Lg 15 17 50.2
comp=Z,985nm,0.4s
SATY Saty 2.10 39 *d* *i*PN **Pb 15 17 20.6 -0.4**
SATY *e*S **Sg 15 17 49.8 -0.5**
ZHN Zhinishke 2.19 38 *e*P **Pb 15 17 22.5 -0.2**
comp=Z,345nm,0.2s
ZHN *e*S **Sg 15 17 52.8 -0.7**
comp=Z,3μm,0.2s
ZHN Zhinishke 2.19 38 Pg **Pb 15 17 22.5 -0.2**
comp=Z,345nm,0.2s
ZHN Lg Lg 15 17 52.8
comp=Z,3μm,0.2s
KTBS Karatobe 2.27 1 *e*P **Pb 15 17 24.4 +0.4**
comp=Z,448nm,0.4s
KTBS *e*S **Sg 15 17 56.1 +0.2**
comp=Z,2μm,0.2s
KTBS Karatobe 2.27 1 Pg **Pb 15 17 24.4 +0.4**
comp=Z,448nm,0.4s
KTBS Lg Lg 15 17 56.1
comp=Z,2μm,0.2s
AML Almayashu 2.29 289 ⇑P **Pn 15 17 22.5 +1.6**
comp=Z,134nm,0.2s,SNR=268
AML ⇓S **Sb 15 17 53.8 +1.0**
comp=Z,707nm,0.3s
AML Almayashu 2.29 289 *i* PN **Pn 15 17 21.4 +0.5**
AML *i* S **Sn 15 17 51.4 +2.1**
KURS Kuram 2.35 29 *e*P **Pb 15 17 25.4 +0.1**
comp=Z,273nm,0.7s
KURS *e*S **Sg 15 17 58.1 -0.4**
comp=Z,634nm,0.5s
KURS Kuram 2.35 29 Pg **Pb 15 17 25.4 +0.1**
comp=Z,273nm,0.7s
KURS Lg Lg 15 17 58.1
comp=Z,634nm,0.5s
KRBS Karabastau 2.36 343 *e*P **Pb 15 17 25.8 +0.4**
comp=Z,431nm,0.3s
KRBS *e*S **Sg 15 17 59.8 +1.1**
comp=Z,1μm,0.4s
KRBS Karabastau 2.36 343 Pg **Pb 15 17 25.8 +0.4**
comp=Z,431nm,0.3s
KRBS Lg Lg 15 17 59.8
comp=Z,1μm,0.4s
USP Ospenovka 2.40 320 ⇓P **Pb 15 17 25.2 -1.0**
comp=Z,176nm,0.2s,SNR=301
USP Ospenovka 2.40 320 ⇑*i*P **Pn 15 17 23.5 +1.3**
baz=22
USP ⇑*i*S **Sb 15 17 54.9 -0.9**
baz=22
USP Ospenovka 2.40 320 *i* PN **Pn 15 17 23.5 +1.3**
USP *i* S **Sb 15 17 54.9 -0.9**
CHKK Chushkaly 2.43 6 *e*P **Pb 15 17 27.0 +0.4**
comp=Z,362nm,0.2s
CHKK *e*S **Sg 15 18 00.9 -0.1**
comp=Z,1μm,0.4s
CHKK Chushkaly 2.43 6 ⇓*i*P **Pb 15 17 26.5 -0.2**
baz=10
CHKK *e*S **Sg 15 18 00.5 -0.5**
baz=10
CHKK Chushkaly 2.43 6 Pg **Pb 15 17 27.0 +0.4**
comp=Z,364nm,0.5s
CHKK Lg Lg 15 18 00.9
comp=Z,1μm,0.4s
CHKK Chushkaly 2.43 6 ⇓*i*PN **Pb 15 17 26.4 -0.2**
CHKK *e*S **Sg 15 18 00.5 -0.5**
EKS2 Erkin-Say 2.44 301 ⇓P **Pb 15 17 25.4 -1.4**
comp=Z,352nm,0.4s,SNR=109
EKS2 Erkin-Say 2.44 301 ⇓*i*P **Pn 15 17 23.7 +1.0**
baz=3.0
EKS2 ⇓*i*S **Sb 15 17 55.3 -1.6**
baz=3.0
EKS2 Erkin-Say 2.44 301 *e*PN **Pn 15 17 23.7 +1.0**
KUU Kurty 2.46 355 *e*P **Pb 15 17 27.4 +0.2**
comp=Z,348nm,0.2s
KUU *e*S **Sg 15 18 01.6 -0.4**
comp=Z,849nm,0.2s
KUU Kurty 2.46 355 *e*P **Pb 15 17 27.2 0.0**
baz=359
KUU *i* S **Sg 15 18 01.7 -0.3**
baz=359
KUU Kurty 2.46 355 Pg **Pb 15 17 27.4 +0.2**
comp=Z,348nm,0.2s
KUU Lg Lg 15 18 01.6
comp=Z,936nm,0.7s
KUU Kurty 2.46 355 *e*PN **Pb 15 17 27.1 0.0**
KUU *i* S **Sg 15 18 01.6 -0.4**
UZB Uzynbulak 2.47 46 *e*P **Pb 15 17 26.9 -0.6**
comp=Z,126nm,0.4s
UZB *e*S **Sg 15 18 00.7 -1.7**
comp=Z,723nm,0.7s
UZB Uzynbulak 2.47 46 Pg **Pb 15 17 26.9 -0.6**
comp=Z,126nm,0.4s
UZB Lg Lg 15 18 00.7
comp=Z,723nm,0.7s
UZB Uzynbulak 2.47 46 *i* PN **Pb 15 17 26.9 -0.6**
SGDS Sogindy 2.49 325 *e*P **Pb 15 17 28.1 +0.4**
comp=Z,368nm,0.5s
SGDS *e*S **Sg 15 18 02.7 -0.1**
comp=Z,468nm,0.6s
SGDS Sogindy 2.49 325 ⇓*i*Pg **Pb 15 17 27.5 -0.1**
baz=327
SGDS *e*Lg Lg 15 18 02.2
baz=327
SGDS Sogindy 2.49 325 Pg **Pb 15 17 28.1 +0.4**
comp=Z,368nm,0.5s
SGDS Lg Lg 15 18 02.7
comp=Z,468nm,0.6s
SGDS Sogindy 2.49 325 *d* *i*PN **Pb 15 17 27.5 -0.1**
SGDS *e* 15 18 02.2
KPKS Kokpek 2.54 36 *e*P **Pb 15 17 28.2 -0.3**
comp=Z,238nm,0.1s
KPKS *e*S **Sg 15 18 03.4 -1.2**
comp=Z,2μm,0.4s
KPKS Kokpek 2.54 36 ⇓*i*P **Pb 15 17 27.9 -0.8**
baz=40
KPKS *e*S **Sg 15 18 03.4 -1.2**
baz=40
KPKS Kokpek 2.54 36 Pg **Pb 15 17 28.2 -0.3**
comp=Z,231nm,0.4s
KPKS Lg Lg 15 18 03.4
comp=Z,2μm,0.4s
KPKS Kokpek 2.54 36 *d* *i*PN **Pb 15 17 27.8 -0.8**
KPKS *e*S **Sg 15 18 03.4 -1.2**
SHLS Shalkode 2.73 50 *e*P **Pg 15 17 36.4 +1.2**
comp=Z,145nm,0.3s
SHLS *e*S **Sg 15 18 16.6 +6.1**
comp=Z,692nm,0.6s
SHLS Shalkode 2.73 50 *e*P **Pg 15 17 33.9 -1.3**
baz=56
SHLS *e*S **Sg 15 18 15.4 +4.9**
baz=56
SHLS Shalkode 2.73 50 Pg **Pg 15 17 36.4 +1.2**
comp=Z,145nm,0.3s
SHLS Lg Lg 15 18 16.6
comp=Z,692nm,0.6s
SHLS Shalkode 2.73 50 *e*PN **Pg 15 17 33.8 -1.3**
SHLS *e*S **Sg 15 18 15.4 +4.9**
MRKS Merke 2.83 299 *e*P **Pb 15 17 34.0 +0.5**
comp=Z,89nm,0.3s
MRKS *e*S **Sg 15 18 12.6 -1.4**
comp=Z,456nm,0.4s
MRKS Merke 2.83 299 Pg **Pb 15 17 34.1 +0.5**
comp=Z,89nm,0.3s
MRKS Lg Lg 15 18 12.6
comp=Z,456nm,0.4s
PDGK Podgornoye 2.85 48 Pg **Pb 15 17 33.2 -0.6**
comp=Z,90nm,0.6s
PDGK Lg Lg 15 18 11.2
comp=Z,677nm,0.7s
PDGK Podgornoye 2.85 48 ⇑Pg **Pb 15 17 32.7 -1.2**
comp=Z,182nm,0.8s
PDGK ⇑Lg Lg 15 18 11.0
comp=Z,2μm,0.8s
PDGK Podgornoye 2.85 48 PN **Pb 15 17 32.7 -1.2**
PDGK 15 18 10.9
ARXS Arharly 2.91 18 *e*P **Pb 15 17 34.8 -0.1**
comp=Z,407nm,0.5s
ARXS *e*S **Sg 15 18 14.4 -2.1**
comp=Z,942nm,0.6s
ARXS Arharly 2.91 18 Pg **Pb 15 17 34.8 -0.1**
comp=Z,407nm,0.5s
ARXS Lg Lg 15 18 14.4
comp=Z,942nm,0.6s
ARXS Arharly 2.91 18 *e*PN **Pb 15 17 33.3 -1.6**
KTMS Ketmen 3.42 53 *e*P **Pb 15 17 43.7 +0.1**
comp=Z,15nm,0.5s
KTMS *e*S **Sg 15 18 29.0 -3.7**
comp=Z,119nm,0.5s
KTMS Ketmen 3.42 53 Pg **Pb 15 17 43.7 +0.1**
comp=Z,15nm,0.5s
KTMS Lg Lg 15 18 29.0
comp=Z,119nm,0.5s
DJR Jarkent 3.72 38 *e*P **Pb 15 17 48.7 +0.1**
comp=Z,62nm,0.1s
DJR *e*S **Sb 15 18 37.8 +4.1**
comp=Z,230nm,0.1s
DJR Jarkent 3.72 38 Pg **Pb 15 17 48.7 +0.1**
comp=Z,62nm,0.3s
DJR Lg Lg 15 18 37.8
comp=Z,230nm,0.5s
TDK Taldyqorghan 3.79 20 *e*P **Pb 15 17 51.1 +1.2**
comp=Z,255nm,0.6s
TDK *e*S **Sg 15 18 41.9 -2.9**
comp=Z,755nm,0.7s
TDK Taldyqorghan 3.79 20 *e*Pn **Pn 15 17 43.9 +2.5**
baz=22
TDK *e*Pg **Pg 15 17 53.8 -1.8**
baz=22
TDK *i* Lg Lg 15 18 41.6
baz=22
TDK Taldyqorghan 3.79 20 Pg **Pb 15 17 51.1 +1.2**
comp=Z,255nm,0.6s
TDK Lg Lg 15 18 41.9
comp=Z,755nm,0.7s
TDK Taldyqorghan 3.79 20 *e*PN **Pn 15 17 43.8 +2.5**
TDK *e* 15 17 53.8
TDK *i* 15 18 41.5
BTLS Baital 4.06 333 *e*P **Pb 15 17 55.7 +1.4**
comp=Z,85nm,0.5s
BTLS *e*S **Sg 15 18 50.0 -3.2**
comp=Z,16nm,0.7s
BTLS Baital 4.06 333 *e*Pn **Pn 15 17 48.0 +3.1**
baz=335
BTLS *e*Pg **Pb 15 17 56.0 +1.6**
baz=335
BTLS *e*Lg Lg 15 18 50.1
baz=335
BTLS Baital 4.06 333 Pg **Pb 15 17 55.7 +1.4**
comp=Z,85nm,0.5s
BTLS Lg Lg 15 18 50.0
comp=Z,16nm,0.7s
BTLS Baital 4.06 333 *e*PN **Pn 15 17 48.0 +3.1**
BTLS *e* 15 17 55.9
BTLS *i* 15 18 50.0
TRKS Terek-Say 4.11 273 ⇓*i*P **Pn 15 17 45.9 +0.1**
baz=73
TRKS ⇓*i*S **Sn 15 18 33.9 0.0**
baz=73
TRKS Terek-Say 4.11 273 ⇓*i*PN **Pn 15 17 45.9 +0.1**
TRKS *i* S **Sn 15 18 33.9 0.0**
DRK Karamyk 4.16 243 ⇓*i*P **Pn 15 17 46.6 0.0**
baz=44
DRK ⇓*i*S **Sn 15 18 34.9 -0.4**
baz=44
DRK Karamyk 4.16 243 **Pn 15 17 44.6 -2.0**
DZA Taraz 4.18 292 *e*P **Pb 15 17 58.7 +2.2**
comp=Z,54nm,0.1s
DZA *e*S **Sg 15 18 55.1 -2.1**
comp=Z,232nm,0.0s
DZA Taraz 4.18 292 *e*Pg **Pb 15 17 58.5 +1.9**
baz=292
DZA *e*Lg Lg 15 18 55.6
baz=292
DZA Taraz 4.18 292 *e*PN **Pb 15 17 58.4 +1.9**
BTK Batken 4.61 254 Pn **Pn 15 17 52.9 +0.3**
BTK Batken 4.61 254 PN **Pn 15 17 52.9 +0.3**
KK31 Karatay Array 4.82 292 Pn **Pn 15 17 55.6 +0.2**
KK31 Karatay Array 4.82 292 ⇓Pn **Pn 15 17 56.5 +1.1**
comp=Z,0.3nm,0.2s
KK31 ⇓Pg **Pb 15 18 09.6 +2.2**
comp=Z,11nm,0.4s,baz=117,slow=15,SNR=94
KK31 ⇑Lg Lg 15 19 12.4
comp=Z,23nm,0.4s,baz=112,slow=26,SNR=3.9
KK31 Karatay Array 4.82 292 PN **Pn 15 17 55.6 +0.2**
KKAR Karatay Array 4.82 292 Pn **Pn 15 17 56.6 +1.2**
KKAR Karatay Array 4.82 292 PN **Pn 15 17 56.6 +1.2**
IUG luzhnay 4.97 280 *e*P **Pb 15 18 13.7 +3.8**
comp=Z,52nm,0.3s
IUG *e*S **Sg 15 19 20.6 -1.8**
comp=Z,194nm,0.7s
IUG luzhnay 4.97 280 *e*Pn **Pn 15 17 58.9 +1.4**
baz=280
IUG *e*Pg **Pb 15 18 11.2 +1.3**
baz=280
IUG *e*Lg Lg 15 19 19.9
baz=280
IUG luzhnay 4.97 280 Pg **Pb 15 18 13.7 +3.8**
comp=Z,50nm,0.6s
IUG Lg Lg 15 19 20.6
comp=Z,194nm,0.7s
IUG luzhnay 4.97 280 *e*PN **Pn 15 17 58.9 +1.4**
IUG *e* 15 18 11.2
GAR Garm 5.40 245 ⇑*i*P **Pn 15 18 03.4 0.0**
baz=46
GAR ⇑*i*S **Sn 15 19 04.2 -1.4**
baz=46
GAR Garm 5.40 245 **Pn 15 18 02.1 -1.3**
GAR Garm 5.40 245 *i* PN **Pn 15 18 03.4 0.0**
GAR *i* S **Sn 15 19 04.2 -1.4**
CHGR Chuyangaron 6.36 247 ⇑*i*P **Pn 15 18 16.5 -0.1**
baz=47
CHGR ⇑*i*S **Sn 15 19 26.8 -2.4**
baz=47
CHGR Chuyangaron 6.36 247 **Pn 15 18 16.2 -0.4**
CHGR Chuyangaron 6.36 247 PN **Pn 15 18 16.2 -0.4**
MAKZ Makanchi 6.61 34 **Pn 15 18 22.8 +2.8**
MAKZ Makanchi 6.61 34 ⇓Pn **Pn 15 18 23.1 +3.1**
comp=Z,5.0nm,0.7s
MAKZ ⇑Lg Lg 15 20 07.2
comp=Z,56nm,1.1s
MAKZ Makanchi 6.61 34 PN **Pn 15 18 22.8 +2.8**
MK31 Makanchi Array 6.73 35 Pn **Pn 15 18 24.8 +3.1**
MK31 Makanchi Array 6.73 35 ⇓Pn **Pn 15 18 24.3 +2.6**
comp=Z,13nm,0.6s,baz=214,slow=13,SNR=124
MK31 ⇑Lg Lg 15 20 11.8
comp=Z,7.2nm,0.4s,baz=250,slow=26,SNR=4.8
MK31 Makanchi Array 6.73 35 *d* *i*PN **Pn 15 18 24.7 +3.0**
MK31 pmax pmax
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 6.73 35 Pn **Pn 15 18 24.7 +3.0**
comp=Z,2.6nm,0.3s,baz=212,slow=13,SNR=75
MKAR Lg Lg 15 20 12.8
comp=Z,3.7nm,0.3s,baz=221,slow=26,SNR=6.6
comp=Z,16nm,0.6s
CHCP Chirah Chowk 8.21 200 P **Pn 15 18 43.9 +1.9**
NIL Nilore 8.22 200 Pn **Pn 15 18 42.1 0.0**
NIL Nilore 8.22 200 P **Pn 15 18 42.1 0.0**
CEP Cherat 8.47 208 P **Pn 15 18 48.8 +3.2**
CEP S **Sn 15 20 18.0 -3.2**
WMQ Urumqi 8.51 70 *e*P **Pn 15 18 46.3 +0.2**
WMQ S **Sn 15 20 20.0 -2.2**
WMQ smax smax
comp=Z,21nm,1.7s
WMQ smax smax
comp=Z,27nm,1.5s
BRZS Berezniki 8.97 344 *e*P **Pn 15 18 54.8 +2.4**
baz=344
BRZS Berezniki 8.97 344 *e*P **Pn 15 18 54.7 +2.4**
KURBB Kurchatov Arra 9.28 8 Pn **Pn 15 18 57.6 +1.1**
comp=Z,0.2nm,0.3s,baz=192,slow=12,SNR=22
KURBB Lg Lg 15 21 34.7
comp=Z,0.6nm,0.3s,baz=194,slow=29,SNR=12
comp=Z,2.7nm,0.7s
KURBB Kurchatov Arra 9.28 8 ⇓Pn **Pn 15 18 57.7 +1.1**
comp=Z,6.3nm,0.7s
KURBB ⇑Lg Lg 15 21 34.2
comp=Z,96nm,0.9s
KURK Kurchatov 9.38 8 Pn **Pn 15 18 58.8 +0.9**
KURK Kurchatov 9.38 8 *i* P **Pn 15 18 59.5 +1.6**
KURK pmax pmax
comp=Z,1.0nm,0.2s
THW Thamme Wali 9.46 206 P **Pn 15 19 01.1 +2.0**
DGZ Jazzator, Alta 11.21 39 *i* P **Pn 15 19 25.9 +2.8**
DGZ pmax pmax
comp=Z,1.0nm,0.2s
BVA0 Borovoye Array 12.33 342 ⇑Pn **Pn 15 19 39.1 +0.8**
comp=Z,7.8nm,0.9s
BVA0 ⇓Lg Lg 15 23 07.7
comp=Z,61nm,1.0s
BVA0 Borovoye Array 12.33 342 P **Pn 15 19 39.8 +1.5**
BVAR Borovoye Array 12.33 342 Pn **Pn 15 19 38.1 -0.2**
comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=21
BVAR Lg Lg 15 23 10.4
comp=Z,0.1nm,0.3s,baz=151,slow=31,SNR=6.6
comp=Z,3.2nm,0.5s
BRVK Borovoye 12.38 342 **Pn 15 19 40.0 +1.0**
BRVK Borovoye 12.38 342 ⇑Pn **Pn 15 19 40.4 +1.4**
comp=Z,9.5nm,1.0s
BRVK ⇑Sn **Sn 15 21 59.2 +2.4**
comp=Z,6.4nm,0.7s
BRVK ⇓Lg Lg 15 23 11.3
comp=Z,69nm,1.2s
BRVK Borovoye 12.38 342 *i* P **Pn 15 19 41.1 +2.1**
ZALV Zalesovo Beam 13.67 21 Pn **Pn 15 19 57.6 +1.2**
comp=Z,0.3nm,0.3s,baz=230,slow=11,SNR=3.0
ZALV Lg Lg 15 23 56.5
comp=Z,0.1nm,0.3s,baz=207,slow=25,SNR=2.7
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 13.67 21 Pn **Pn 15 19 54.2 -2.3**
ZALV Zalesovo Beam 13.67 21 *i* P **P 15 20 02.9 -2.4**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
AB31 Akbulak array 14.07 309 P **Pn 15 20 02.1 +0.1**
comp=Z,0.3nm,0.3s,baz=118,slow=15,SNR=17
AB31 Akbulak array 14.07 309 P **Pn 15 20 02.1 +0.1**
ABKAR Akbulak array 14.07 309 Pn Pn 15 19 53.6 -8.4
DANN Dangsing 14.31 154 *e*P **Pn 15 20 03.9 -1.8**
comp=Z,6.6nm,0.4s
GKN Gorkha 14.93 151 *e*P **Pn 15 20 11.7 -2.3**
comp=Z,9.6nm,0.4s
GOMU GeErMu 15.12 104 P **Pn 15 20 12.6 -4.1**
GOMU pP P 15 20 16.1 -5.9
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU pmax pmax
comp=Z,68nm,3.8s
GUN Gumba 15.49 148 *e*P **Pn 15 20 20.4 -1.2**
comp=Z,4.4nm,0.3s
PKIN Phulchoki 15.60 150 *e*P **Pn 15 20 20.4 -2.5**
comp=Z,6.4nm,0.5s
JIRN Jiri 15.84 147 *e*P **Pn 15 20 25.1 -1.0**
RAMN Ramite 16.63 147 *e*P **Pn 15 20 34.5 -1.7**
ARU Arti 19.03 328 P **Pn 15 21 06.5 +1.1**
baz=112,slow=11,SNR=3.2
comp=Z,0.9nm,0.3s
ARU Arti 19.03 328 *d* *i*P **Pn 15 21 07.1 +1.7**
ARU S **S 15 24 43.9 +3.6**
ARU pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 22.05 63 P **P 15 21 38.4 +0.7**
comp=Z,1.6nm,0.8s,baz=261,slow=11,SNR=7.5
comp=Z,1.6nm,0.8s
ULN Ulaanbaatar 22.49 63 P **P 15 21 39.4 -3.0**
ULN IAmb IAmb 15 21 48.9
comp=Z,4.8nm,1.1s
ULN Ulaanbaatar 22.49 63 *i* P **P 15 21 43.3 +0.9**
ULN pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 24.96 287 *e*P **P 15 22 04.8 -1.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s

XAN	**Xi'an**	**26.49**	**96**	P	**P**	**15 22 22.0**	**+1.8**
XAN				sP	sP	15 22 31.3	+4.9
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN	**Obninsk**	**29.50**	**311**	*eP*	**P**	**15 22 48.8**	**+2.0**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BR131	**Keskin Array S**	**32.44**	**281**	P	**P**	**15 23 13.4**	**+0.3**
BR131	**Keskin Array S**	**32.44**	**281**	P	**P**	**15 23 13.4**	**+0.3**
BR131				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRTR	**Keskin Array B**	**32.44**	**281**	P	**P**	**15 23 12.9**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=96,slow=8.1,SNR=19						
	comp=Z,3.3nm,0.7s						
BRTR	**Keskin Array B**	**32.44**	**281**	*i* P	**P**	**15 23 13.8**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HEH	**HeiHe**	**35.85**	**58**	*eP*	**P**	**15 23 43.8**	**+1.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	**FINESS Array B**	**36.11**	**321**	P	**P**	**15 23 43.9**	**-0.6**
	comp=Z,4.2nm,1.0s,baz=92,slow=14,SNR=4.5						
	comp=Z,4.2nm,1.0s						
BURAR	**Bucovina Array**	**36.59**	**298**	P	**P**	**15 23 48.4**	**-0.5**
ARCES	**ARCESS Array B**	**38.44**	**334**	P	**P**	**15 24 03.8**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=103,slow=8.7,SNR=5.2						
	comp=Z,2.7nm,0.7s						
TIXI	**Tiksi**	**39.54**	**23**	P	**P**	**15 24 13.8**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=216,slow=0.0,SNR=3.5						
	comp=Z,1.5nm,0.3s						
TIXI	**Tiksi**	**39.54**	**23**	P	**P**	**15 24 12.8**	**-0.5**
TIXI				IAmb	IAmb	15 24 14.8	
	comp=Z,4.7nm,1.1s						
TIXI	**Tiksi**	**39.54**	**23**	*i* P	**P**	**15 24 14.0**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**43.25**	**320**	P	**P**	**15 24 42.7**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=87,slow=8.1,SNR=2.3						
	comp=Z,0.7nm,0.7s						
GERES	**GERESS Array B**	**43.85**	**302**	P	**P**	**15 24 48.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=69,slow=7.4,SNR=10						
	comp=Z,1.2nm,0.7s						
BILL	**Bilibino**	**52.22**	**28**	*eP*	**P**	**15 25 53.9**	**+0.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ILAR	**Eielson Array**	**68.78**	**18**	P	**P**	**15 27 46.4**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=313,slow=5.4,SNR=7.9						
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**76.02**	**5**	P	**P**	**15 28 28.4**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=347,slow=5.2,SNR=3.0						
	comp=Z,2.0nm,0.9s						

WEL ***18*** *15:17:00,41.75S×174.25E,h16km,ML4.4,Mw4.4, Moment Tensor Solution. s5 Moment tensor: Scale 10^15 Nm; Mrr=0.41; Mθθ=3.21; Mϕϕ=-2.80; Mrθ=-0.05; Mθϕ=-3.97; Mϕr=0.47; Fault plane solution: M0=5.00000×10^15 NP1: ϕs=72.00000°,δ85.00000°,λ=-177.00000°. NP2: ϕs=341.00000°,δ87.00000°,λ=-5.00000°. Principal axes: T 518.7500, Plg1.0000°, Azm27.0000°; N -481.5100, Plg84.0000°, Azm130.0000°; P -37.2300, Plg6.0000°, Azm297.0000°;*

NOU ***18*** *15:17:32.2,41.98S×174.52E,h1km,MLv4.7/15,Cook Strait, New Zealand*

IDC ***18*** *15:17:33.2±3.5,41.66S×174.01E,h0km,mb3.8/2, mbtmp3.8/3,ML3.8/1,MS3.7/20,Error ellipse: s-maj=91.4km s-min=36.9km az=120.0*

WEL ***18*** *15:17:33.6±0.3,42.3S±3°×17.4E±°,h8km±3km,M4.4/52, ML4.7/23,MLv4.4/52,Error ellipse: s-maj=0.0km s-min=0.0km az=146.6*

ISC 18 15:17:32.0±1.3,41.85S±0.04×174.48E±0.03,h6km±9km, n177,σ1§06/162,MS3.6/18,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.23**	**297**	P	**Pg**	**15 17 36.7**	**+0.2**
CMWZ				S	**Sg**	**15 17 39.6**	**+0.1**
CMWZ	**Cape Campbell**	**0.23**	**297**	S	**Sg**	**15 17 41.3**	**+1.8**
BSWZ	**Blackbirch Sta**	**0.47**	**287**	P	**Pg**	**15 17 41.5**	**+0.3**
BSWZ				S	**Sg**	**15 17 48.2**	**+0.8**
SNZO	**South Karori**	**0.57**	**17**	P	**Pg**	**15 17 43.7**	**+0.8**
TUWZ	**Tuamarina**	**0.58**	**316**	P	**Pg**	**15 17 42.7**	**-0.5**
TUWZ				S	**Sg**	**15 17 50.1**	**-0.7**
WEL	**Wellington**	**0.61**	**21**	P	**Pg**	**15 17 44.4**	**+0.7**
PLWZ	**Palliser**	**0.64**	**64**	P	**Pn**	**15 17 47.8**	**0.0**
PLWZ	**Palliser**	**0.64**	**64**	S	**Sn**	**15 17 59.5**	**+1.2**
TCW	**Tory Channel**	**0.66**	**346**	P	**Pg**	**15 17 44.1**	**-0.6**
TCW				S	**Sg**	**15 17 52.7**	**-0.6**
MSWZ	**Moikau Station**	**0.72**	**53**	P	**Pn**	**15 17 48.3**	**-0.5**
MSWZ	**Moikau Station**	**0.72**	**53**	S	**Sn**	**15 18 01.2**	**+1.0**
PAWZ	**Paruwai Farm**	**0.85**	**57**	P	**Pn**	**15 17 50.8**	**+0.2**
CAW	**Cannon Point**	**0.86**	**31**	P	**Pg**	**15 17 49.1**	**+0.5**
CAW	**Cannon Point**	**0.86**	**31**	S	**Sn**	**15 18 04.1**	**+0.4**
KHZ	**Kahutara**	**0.90**	**231**	P	**Pn**	**15 17 51.9**	**+0.6**
TRWZ	**Traveller**	**1.01**	**64**	P	**Pn**	**15 17 53.0**	**+0.2**
MTW	**Mount Morrison**	**1.03**	**48**	P	**Pb**	**15 17 52.9**	**+0.6**
KIW	**Kapiti Island**	**1.04**	**18**	P	**Pg**	**15 17 51.7**	**-0.3**
NNZ	**Nelson**	**1.04**	**307**	P	**Pg**	**15 17 52.9**	**-1.1**
DUWZ	**D'Urville Isla**	**1.13**	**338**	P	**Pb**	**15 17 52.5**	**-1.5**
OGWZ	**Otaki Gorge**	**1.16**	**27**	P	**Pb**	**15 17 53.9**	**-0.6**
THZ	**Tophouse**	**1.18**	**274**	P	**Pb**	**15 17 54.7**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.23**	**39**	P	**Pn**	**15 17 55.6**	**-0.3**
TMWZ	**Te Maipa**	**1.29**	**55**	P	**Pn**	**15 17 56.5**	**-0.1**
MRNZ	**Matariki Terra**	**1.37**	**289**	P	**Pn**	**15 17 57.6**	**-0.1**
TKNZ	**Takaka Hill**	**1.41**	**305**	P	**Pn**	**15 17 57.5**	**-0.8**
MRZ	**Mangatainoka R**	**1.45**	**35**	P	**Pn**	**15 17 58.6**	**-0.2**
TIWZ	**Tintock**	**1.51**	**45**	P	**Pn**	**15 17 59.5**	**-0.1**
GVZ	**Greta Valley S**	**1.55**	**223**	P	**Pn**	**15 18 00.9**	**+0.7**
CPWZ	**Castlepoint**	**1.60**	**55**	P	**Pn**	**15 18 01.2**	**+0.4**
PRWZ	**Pori Road**	**1.71**	**41**	P	**Pn**	**15 18 02.2**	**-0.2**
POWZ	**Post Office Ro**	**1.75**	**34**	P	**Pn**	**15 18 02.9**	**-0.1**
OHWZ	**Ohakea**	**1.76**	**21**	P	**Pb**	**15 18 04.4**	**-0.3**
BFZ	**Birch Farm**	**1.77**	**49**	P	**Pn**	**15 18 03.5**	**+0.3**
BFZ	**Birch Farm**	**1.77**	**49**	P	**Pn**	**15 18 02.6**	**-0.6**
QRZ	**Quartz Range**	**1.79**	**304**	P	**Pn**	**15 18 04.2**	**+0.6**
QRZ	**Quartz Range**	**1.79**	**304**	P	**Pn**	**15 18 04.0**	**+0.4**
LTZ	**Lake Taylor**	**1.89**	**240**	P	**Pn**	**15 18 05.2**	**+0.3**
AMCZ	**Amberley**	**1.89**	**225**	P	**Pn**	**15 18 05.3**	**+0.4**
DSZ	**Denniston Nort**	**2.01**	**272**	P	**Pn**	**15 18 07.3**	**+0.8**
DVHZ	**Dannevirke**	**2.01**	**40**	P	**Pn**	**15 18 05.5**	**-1.0**
ANWZ	**Angora Road**	**2.05**	**48**	P	**Pn**	**15 18 06.6**	**-0.5**
TSZ	**Takapari Road**	**2.11**	**32**	P	**Pn**	**15 18 07.5**	**-0.5**
WAZ	**Wanganui**	**2.13**	**10**	P	**Pb**	**15 18 09.9**	**-1.1**
OKCZ	**Okains Bay**	**2.14**	**209**	P	**Pn**	**15 18 08.3**	**-0.1**
PRHZ	**Porangahau**	**2.27**	**46**	P	**Pn**	**15 18 09.7**	**-0.4**
MQZ	**McQueen's Vall**	**2.29**	**215**	P	**Pn**	**15 18 09.7**	**-0.7**
WPHZ	**Waipukurau**	**2.32**	**40**	P	**Pn**	**15 18 10.1**	**-0.8**
AKCZ	**Akaroa Harbour**	**2.33**	**209**	P	**Pn**	**15 18 10.8**	**-0.1**
OXZ	**Oxford**	**2.33**	**230**	P	**Pn**	**15 18 10.5**	**-0.5**
PNHZ	**Pukenui**	**2.33**	**34**	P	**Pn**	**15 18 10.4**	**-0.6**
LREZ	**Lake Rotokare**	**2.39**	**358**	P	**Pb**	**15 18 13.8**	**-1.7**
INZ	**Inchbonnie**	**2.42**	**248**	P	**Pn**	**15 18 12.8**	**+0.7**
NMEZ	**Namu Road**	**2.48**	**349**	P	**Pb**	**15 18 13.4**	**-1.5**
RACZ	**Rakaia**	**2.55**	**222**	P	**Pn**	**15 18 13.4**	**-0.5**
PXZ	**Pawanui**	**2.56**	**46**	P	**Pn**	**15 18 12.7**	**-1.3**
MTVZ	**Mangateitei**	**2.58**	**17**	P	**Pn**	**15 18 16.2**	**+1.9**
KHEZ	**Kahui Hut**	**2.58**	**352**	P	**Pb**	**15 18 17.4**	**-1.4**
KHEZ	**Kahui Hut**	**2.58**	**352**	P	**Pb**	**15 18 16.6**	**-2.2**
NEZ	**North Egmont**	**2.60**	**353**	P	**Pb**	**15 18 17.6**	**-1.5**
NBEZ	**Newall Road No**	**2.62**	**349**	P	**Pn**	**15 18 16.7**	**+1.7**
MOVZ	**Moawhango**	**2.63**	**22**	P	**Pn**	**15 18 15.2**	**+0.1**
PKVZ	**Pokaka**	**2.64**	**15**	P	**Pn**	**15 18 16.5**	**+1.2**
BHHZ	**Black Hill Sta**	**2.65**	**27**	P	**Pn**	**15 18 15.2**	**-0.2**
WNVZ	**Wahianoa**	**2.66**	**19**	P	**Pn**	**15 18 16.1**	**+0.5**
DREZ	**Durham Road**	**2.67**	**355**	P	**Pb**	**15 18 18.6**	**-1.6**
TRVZ	**Turoa**	**2.68**	**18**	P	**Pn**	**15 18 16.8**	**+0.9**
PKE	**Pukeiti**	**2.68**	**352**	P	**Pn**	**15 18 18.0**	**+2.2**
WHVZ	**Whangaehu Hut**	**2.70**	**19**	P	**Pn**	**15 18 17.0**	**+0.7**
DRZ	**Dome Shelter**	**2.70**	**18**	P	**Pn**	**15 18 17.3**	**+0.9**
FWVZ	**Far West T-bar**	**2.72**	**18**	P	**Pn**	**15 18 17.4**	**+0.9**
MHCZ	**Mount Hutt**	**2.73**	**231**	P	**Pn**	**15 18 16.3**	**-0.2**
TUVZ	**Tukino**	**2.73**	**19**	P	**Pn**	**15 18 17.3**	**+0.7**
VRZ	**Vera Road**	**2.73**	**4**	P	**Pn**	**15 18 17.9**	**+1.4**
KAHZ	**Kahuranaki**	**2.74**	**42**	P	**Pn**	**15 18 15.2**	**-1.4**
MHEZ	**Mangahewa**	**2.77**	**357**	P	**Pb**	**15 18 20.1**	**-1.9**
SNVZ	**South Ngauruho**	**2.81**	**19**	P	**Pn**	**15 18 18.4**	**+0.7**
NGZ	**Ngauruhoe**	**2.81**	**18**	P	**Pn**	**15 18 18.4**	**+0.8**
OTVZ	**Oturere**	**2.83**	**19**	P	**Pn**	**15 18 19.0**	**+1.0**
KWHZ	**Kaweka Forest**	**2.84**	**32**	P	**Pn**	**15 18 17.5**	**-0.5**
NNVZ	**North Ngauruho**	**2.85**	**18**	P	**Pn**	**15 18 19.3**	**+1.1**
WACZ	**Wakanui South**	**2.85**	**222**	P	**Pn**	**15 18 17.9**	**-0.2**
WTVZ	**West Tongariro**	**2.86**	**18**	P	**Pn**	**15 18 19.2**	**+0.9**
ETVZ	**East Tongariro**	**2.87**	**19**	P	**Pn**	**15 18 19.5**	**+1.1**
TWVZ	**Taurewa**	**2.87**	**15**	P	**Pn**	**15 18 19.1**	**+0.7**
TMVZ	**Te Maari**	**2.89**	**19**	P	**Pn**	**15 18 19.2**	**+0.5**
KRVZ	**Karewarewa**	**2.89**	**18**	P	**Pn**	**15 18 19.6**	**+0.9**
NTVZ	**North Tongarir**	**2.90**	**19**	P	**Pn**	**15 18 19.5**	**+0.6**
MCHZ	**McNeill Hill**	**2.94**	**36**	P	**Pn**	**15 18 17.3**	**-2.0**
KATZ	**Kakaramea**	**3.02**	**18**	P	**Pn**	**15 18 22.8**	**+2.3**
KATZ				P	**Pb**	**15 18 25.9**	**-0.3**
WVZ	**Waitaha Valley**	**3.03**	**245**	P	**Pn**	**15 18 21.5**	**+1.0**
BKZ	**Black Stump Fm**	**3.09**	**30**	P	**Pn**	**15 18 21.2**	**-0.2**
BKZ	**Black Stump Fm**	**3.09**	**30**	P	**Pn**	**15 18 20.2**	**-1.2**
RPZ	**Rata Peaks**	**3.14**	**232**	Pn	**Pn**	**15 18 22.1**	**+0.1**
	14nm,0.3s,baz=80,slow=3.0,SNR=33						
RPZ				Sn	**Sn**	**15 18 59.0**	**-0.8**
	19nm,0.3s,baz=138,slow=23,SNR=20						
RPZ				LR	LR	15 19 08.1	
	comp=Z,183nm,19.1s,baz=30,slow=32						
	26nm,0.3s						
RPZ	**Rata Peaks**	**3.14**	**232**	P	**Pn**	**15 18 22.3**	**+0.3**
RPZ	**Rata Peaks**	**3.14**	**232**	P	**Pn**	**15 18 22.2**	**+0.1**
RATZ	**Rangitukua**	**3.14**	**19**	P	**Pb**	**15 18 27.2**	**-1.1**
HATZ	**Hinemaiaia**	**3.20**	**23**	P	**Pb**	**15 18 29.9**	**+0.5**
ARCZ	**Arundel**	**3.21**	**228**	P	**Pn**	**15 18 22.9**	**-0.1**
ARHZ	**Aropaoanui**	**3.22**	**37**	P	**Pn**	**15 18 22.4**	**-0.7**
NMHZ	**Naumai**	**3.27**	**34**	P	**Pn**	**15 18 22.8**	**-1.1**
HIZ	**Hauiti**	**3.35**	**5**	P	**Pn**	**15 18 26.2**	**+1.3**
HIZ	**Hauiti**	**3.35**	**5**	P	**Pn**	**15 18 26.1**	**+1.3**
MRHZ	**Matea Rd**	**3.36**	**27**	P	**Pn**	**15 18 23.9**	**-1.2**
GCSZ	**Gaunt Creek Bo**	**3.40**	**243**	P	**Pn**	**15 18 26.9**	**+1.2**
MTHZ	**Maungataniwha**	**3.50**	**32**	P	**Pn**	**15 18 25.6**	**-1.4**
RAHZ	**Arahi**	**3.54**	**35**	P	**Pn**	**15 18 26.0**	**-1.6**
ALRZ	**Allen Road**	**3.58**	**24**	P	**Pn**	**15 18 26.9**	**-1.2**
TMZ	**Timaru**	**3.59**	**224**	P	**Pn**	**15 18 27.9**	**-0.4**
TLZ	**Tolley Road**	**3.61**	**13**	P	**Pn**	**15 18 29.3**	**+0.7**
HRRZ	**Handcock Road**	**3.72**	**22**	P	**Pn**	**15 18 29.4**	**-0.7**
RTZ	**Ruatahuna**	**3.75**	**31**	P	**Pn**	**15 18 29.2**	**-1.4**
FOZ	**Fox Glacier**	**3.83**	**242**	P	**Pn**	**15 18 32.4**	**+0.9**
RRRZ	**Republican Roa**	**3.84**	**25**	P	**Pn**	**15 18 30.3**	**-1.4**
TARZ	**Mount Tarawera**	**3.93**	**24**	P	**Pn**	**15 18 32.1**	**-0.9**
RIGZ	**Rimuhau**	**4.02**	**40**	P	**Pn**	**15 18 32.3**	**-1.9**
LBZ	**Lake Benmore**	**4.04**	**230**	P	**Pn**	**15 18 34.8**	**+0.4**
URZ	**Urewera**	**4.12**	**30**	P	**Pn**	**15 18 34.1**	**-1.4**
URZ	**Urewera**	**4.12**	**30**	P	**Pn**	**15 18 33.5**	**-2.0**
TOZ	**Tahuroa Road**	**4.19**	**11**	P	**Pn**	**15 18 36.9**	**+0.4**
ODZ	**Otahua Downs**	**4.24**	**220**	P	**Pn**	**15 18 36.7**	**-0.5**
ODZ	**Otahua Downs**	**4.24**	**220**	P	**Pn**	**15 18 36.5**	**-0.7**
OPRZ	**Ohinepanea**	**4.31**	**22**	P	**Pn**	**15 18 37.0**	**-1.1**
TGRZ	**Tauranga**	**4.34**	**19**	P	**Pn**	**15 18 38.6**	**+0.1**
TWGZ	**Tauwhareparae**	**4.55**	**37**	P	**Pn**	**15 18 39.9**	**-1.6**
RUGZ	**Raukumara Rang**	**4.59**	**33**	P	**Pn**	**15 18 39.7**	**-2.4**
JCZ	**Jackson Bay**	**4.73**	**240**	P	**Pn**	**15 18 45.7**	**+1.6**
JCZ	**Jackson Bay**	**4.73**	**240**	P	**Pn**	**15 18 44.8**	**+0.8**
MKAZ	**Moumakai**	**4.77**	**7**	P	**Pn**	**15 18 44.9**	**+0.4**
AWAZ	**Awhitu Peninsu**	**4.78**	**2**	P	**Pn**	**15 18 45.7**	**+1.0**
HAZ	**Te Kaha**	**4.81**	**33**	P	**Pn**	**15 18 43.1**	**-1.9**
ETAZ	**East Tamaki Re**	**4.90**	**4**	P	**Pn**	**15 18 47.7**	**+1.4**
HHSZ	**Highcliff Hill**	**4.91**	**214**	P	**Pn**	**15 18 46.6**	**+0.2**
WTAZ	**Waiatarua**	**4.91**	**1**	P	**Pn**	**15 18 48.3**	**+1.8**
EPAZ	**Edwin Park BICE**	**4.97**	**2**	P	**Pn**	**15 18 49.6**	**+2.3**
HBAZ	**Herne Bay Bore**	**5.00**	**2**	P	Pn	15 18 53.5	+6.0
EAZ	**Earnscleugh**	**5.05**	**226**	P	**Pn**	**15 18 48.9**	**+0.5**
RVAZ	**Riverhead Bore**	**5.08**	**1**	P	**Pn**	**15 18 50.0**	**+1.4**
WIAZ	**Waiheke Island**	**5.08**	**6**	P	**Pn**	**15 18 49.6**	**+0.9**
MBAZ	**Motutapu North**	**5.09**	**4**	P	**Pn**	**15 18 50.8**	**+2.0**
KUZ	**Kuaotunu**	**5.19**	**11**	P	**Pn**	**15 18 51.2**	**+1.0**
KUZ	**Kuaotunu**	**5.19**	**11**	P	**Pn**	**15 18 51.2**	**+1.0**
MXZ	**Matakaoa Point**	**5.20**	**36**	P	**Pn**	**15 18 51.7**	**+1.3**
WCZ	**Waipu Caves**	**5.91**	**359**	P	**Pn**	**15 19 02.2**	**+2.1**
SYZ	**Scrubby Hill**	**6.06**	**218**	P	**Pn**	**15 19 02.6**	**+0.5**
SYZ	**Scrubby Hill**	**6.06**	**218**	P	**Pn**	**15 19 02.7**	**+0.5**
OUZ	**Omahuta**	**6.66**	**354**	IAmb	IAmb	15 19 18.1	
	comp=Z,24nm,0.8s						
OUZ	**Omahuta**	**6.66**	**354**	P	**Pn**	**15 19 12.2**	**+1.8**
OUZ	**Omahuta**	**6.66**	**354**	P	**Pn**	**15 19 11.0**	**+0.6**
OUZ	**Omahuta**	**6.66**	**354**	P	**Pn**	**15 19 11.4**	**+1.0**
CTZ	**Chatham Island**	**6.81**	**109**	P	**Pn**	**15 19 13.9**	**+1.4**
CTZ	**Chatham Island**	**6.81**	**109**	P	**Pn**	**15 19 13.5**	**+1.0**
RAO	**Raoul Island**	**14.00**	**29**	LR	LR	15 26 03.5	
	comp=Z,318nm,20.6s,baz=197,slow=36						
DZM	**Mont Dzumac**	**20.85**	**339**	LR	LR	15 28 35.6	
	comp=Z,145nm,18.5s,baz=203,slow=32						
MSVF	**Nonsavu**	**24.23**	**8**	LR	LR	15 32 36.2	
	comp=Z,169nm,18.0s,baz=197,slow=38						
STKA	**Stephens Creek**	**27.98**	**280**	LR	LR	15 32 49.1	
	comp=Z,75nm,21.1s,baz=65,slow=33						
RAR	**Rarotonga**	**29.89**	**54**	LR	LR	15 35 35.6	
	comp=Z,132nm,18.4s,baz=201,slow=36						
CTA	**Charters Tower**	**32.26**	**304**	LR	LR	15 35 18.5	
	comp=Z,122nm,20.6s,baz=104,slow=33						
ASAR	**Alice Springs**	**38.23**	**285**	LR	LR	15 40 59.3	
	comp=Z,94nm,18.4s,baz=163,slow=37						
PPT	**Papeete**	**39.06**	**63**	LR	LR	15 37 59.4	
	comp=Z,117nm,20.9s,baz=246,slow=31						
PMG	**Port Moresby**	**40.28**	**316**	LR	LR	15 42 22.2	
	comp=Z,88nm,18.0s,baz=66,slow=37						
WRA	**Warramunga Arr**	**40.30**	**290**	P	**P**	**15 25 08.9**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=128,slow=8.1,SNR=3.1						
WRA				LR	LR	15 42 00.3	
	comp=Z,83nm,18.7s,baz=142,slow=37						
	comp=Z,0.7nm,0.5s						
KRVT	**Keravat (AS076**	**42.43**	**326**	LR	LR	15 42 32.7	
	comp=Z,58nm,19.5s,baz=294,slow=36						
QSPA	**South Pole Qui**	**48.28**	**180**	LR	LR	15 46 11.0	
	comp=Z,121nm,18.1s,baz=36,slow=35						
SIJI	**Sorong**	**56.33**	**305**	LR	LR	15 53 09.2	
	comp=Z,35nm,18.4s,baz=208,slow=38						
MAW	**Mawson**	**59.43**	**204**	LR	LR	15 52 48.8	
	comp=Z,220nm,18.2s,baz=108,slow=36						
KAPI	**Kappang**	**60.83**	**291**	LR	LR	15 53 42.9	
	comp=Z,41nm,18.1s,baz=155,slow=36						
TROLL	**Troll, Antarti**	**66.30**	**183**	P	**P**	**15 28 20.8**	**-0.2**
SNAA	**Sanae**	**66.77**	**181**	P	**P**	**15 28 25.5**	**+1.7**
SNAA	**Sanae**	**66.77**	**181**	LR	LR	15 56 49.4	
	comp=Z,133nm,18.1s,baz=193,slow=35						
VNA2	**Neumayer--Watz**	**67.53**	**179**	P	**P**	**15 28 29.9**	**+1.4**
	baz=177,slow=6.0						
VNA1	**Neumayer--Stat**	**67.79**	**179**	P	P	15 28 16.0	-14
LEM	**Lembang**	**68.29**	**281**	LR	LR	15 57 46.9	
	comp=Z,59nm,20.1s,baz=182,slow=36						
JOW	**Kunigami**	**80.59**	**319**	LR	LR	16 06 32.8	
	comp=Z,26nm,18.2s,baz=86,slow=37						
CMAR	**Chiang Mai Arr**	**91.84**	**293**	P	**P**	**15 30 41.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=146,slow=3.5,SNR=1.8						
	comp=Z,0.3nm,0.5s						
NNA	**Nana**	**95.56**	**111**	LR	LR	16 05 22.2	
	comp=Z,70nm,20.2s,baz=214,slow=30						
BRTR	**Keskin Array B**	**150.45**	**279**	PKPbc	**PKiKP**	**15 37 25.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=132,slow=2.1,SNR=3.6						

WEL 18 15:18:10.2±0.4,42.2S±4°×17.4E±°,h5km,M3.9/13, ML4.2/13,MLv3.9/13,Error ellipse: s-maj=0.0km s-min=0.0km az=157.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**253**	P	Pg	15 18 13.1	+0.5
BSWZ	**Blackbirch Sta**	**0.36**	**270**	P	Pg	15 18 17.6	+0.3
BSWZ				S	Sb	15 18 24.0	-1.2
TUWZ	**Tuamarina**	**0.42**	**312**	P	Pg	15 18 18.5	+0.1
TUWZ				S	Sb	15 18 25.8	-1.1
WEL	**Wellington**	**0.53**	**35**	P	Pg	15 18 20.6	+0.3
PLWZ	**Palliser**	**0.68**	**76**	P	Pb	15 18 24.1	-0.5
MSWZ	**Moikau Station**	**0.73**	**66**	P	Pb	15 18 25.2	-0.2
CAW	**Cannon Point**	**0.81**	**41**	P	Pb	15 18 27.0	-0.3
PAWZ	**Paruwai Farm**	**0.86**	**68**	P	Pg	15 18 27.0	+0.2
NNZ	**Nelson**	**0.89**	**304**	P	Pg	15 18 27.3	0.0
KHZ	**Kahutara**	**0.93**	**221**	P	Pg	15 18 27.7	-0.4
KIW	**Kapiti Island**	**0.95**	**26**	P	Pg	15 18 28.2	-0.2
MTW	**Mount Morrison**	**1.02**	**57**	P	Pg	15 18 29.4	-0.4
OGWZ	**Otaki Gorge**	**1.08**	**34**	P	Pg	15 18 30.9	-0.1
MRNZ	**Matariki Terra**	**1.25**	**284**	P	Pg	15 18 33.5	-0.5
TMWZ	**Te Maipa**	**1.30**	**63**	P	Pn	15 18 32.8	-2.3
OHWZ	**Ohakea**	**1.67**	**26**	P	Pb	15 18 41.1	-0.3

WEL 18 15:20:19.7±0.4,42.2S±3°×17.4E±°,h5km,M3.7/35, ML3.9/18,MLv3.7/35,Error ellipse: s-maj=0.0km s-min=0.0km az=160.6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**259**	P	Pg	15 20 22.5	+0.1
BSWZ	**Blackbirch Sta**	**0.38**	**271**	P	Pg	15 20 27.2	+0.1
BSWZ				S	Sb	15 20 34.1	-1.2
TUWZ	**Tuamarina**	**0.45**	**311**	P	Pg	15 20 28.5	+0.2
TUWZ				S	Sb	15 20 35.7	-1.3
TCW	**Tory Channel**	**0.52**	**351**	P	Pg	15 20 29.6	-0.1
TCW				S	Sb	15 20 37.8	-1.3
WEL	**Wellington**	**0.52**	**33**	P	Pg	15 20 30.1	+0.4
PLWZ	**Palliser**	**0.67**	**77**	P	Pb	15 20 33.5	-0.3
MSWZ	**Moikau Station**	**0.71**	**65**	P	Pb	15 20 34.4	-0.3
CAW	**Cannon Point**	**0.80**	**40**	P	Pg	15 20 35.0	0.0
PAWZ	**Paruwai Farm**	**0.85**	**67**	P	Pb	15 20 36.7	-0.3
NNZ	**Nelson**	**0.91**	**303**	P	Pg	15 20 36.9	-0.3
KHZ	**Kahutara**	**0.94**	**222**	P	Pg	15 20 37.5	-0.2
KIW	**Kapiti Island**	**0.95**	**25**	P	Pg	15 20 37.6	-0.3
DUWZ	**D'Urville Isla**	**0.99**	**339**	P	Pg	15 20 38.3	-0.3
MTW	**Mount Morrison**	**1.01**	**56**	P	Pg	15 20 38.9	-0.2
TRWZ	**Traveller**	**1.03**	**72**	P	Pg	15 20 39.4	0.0
OGWZ	**Otaki Gorge**	**1.08**	**33**	P	Pg	15 20 40.0	-0.4
THZ	**Tophouse**	**1.11**	**267**	P	Pg	15 20 40.9	-0.1
HOWZ	**Holdsworth Sta**	**1.18**	**46**	P	Pg	15 20 41.4	-1.0
MRNZ	**Matariki Terra**	**1.27**	**284**	P	Pg	15 20 43.5	-0.5
TKNZ	**Takaka Hill**	**1.28**	**302**	P	Pg	15 20 43.4	-0.7
TMWZ	**Te Maipa**	**1.29**	**62**	P	Pg	15 20 42.1	-2.3
MRZ	**Mangatainoka R**	**1.39**	**41**	P	Pn	15 20 44.4	-1.4
QRZ	**Quartz Range**	**1.66**	**302**	P	Pn	15 20 49.3	-0.2
OHWZ	**Ohakea**	**1.67**	**25**	P	Pn	15 20 50.1	+0.6
PRWZ	**Pori Road**	**1.67**	**46**	P	Pn	15 20 47.8	-1.8
POWZ	**Post Office Ro**	**1.69**	**39**	P	Pn	15 20 48.8	-1.0
BFZ	**Birch Farm**	**1.75**	**54**	P	Pn	15 20 48.7	-2.0
LTZ	**Lake

8.2nm,0.3s,baz=191,slow=7.1,SNR=27
CTA Charters Tower 33.65 264 P **P** **15 30 45.8 -0.3**
1.6nm,0.3s,baz=93,slow=11,SNR=7.8
1.6nm,0.3s
STKA Stephens Creek 37.92 244 P **P** **15 31 21.6 +0.3**
0.8nm,0.5s,baz=72,slow=10,SNR=4.0
0.8nm,0.5s
ASAR Alice Springs 44.67 257 P **P** **15 32 14.8 -0.2**
3.6nm,0.7s,baz=89,slow=8.1,SNR=51
ASAR PcP **PcP** **15 33 46.6 +0.5**
0.5nm,0.7s,baz=106,slow=4.0,SNR=4.2
3.6nm,0.7s
WRA Warramunga Arr 44.76 262 P **P** **15 32 14.8 -0.9**
1.2nm,0.4s,baz=97,slow=7.6,SNR=72
1.2nm,0.4s
ILAR Eielson Array 88.33 13 P **P** **15 36 43.4 -0.4**
0.2nm,0.3s,baz=213,slow=5.0,SNR=5.8
0.2nm,0.3s
CMAR Chiang Mai Arr 90.29 290 P **P** **15 36 54.5 +0.6**
0.5nm,0.3s,baz=123,slow=4.4,SNR=2.5
0.5nm,0.3s
AKASG Malin Array Be 143.15 331 PKP PKPab 15 43 19.5 -0.7
0.5nm,0.4s,baz=44,slow=4.4,SNR=8.5
BRTR Keskin Array B 147.00 312 PKPbc **PKPbc** **15 43 32.4 -0.2**
0.4nm,0.5s,baz=124,slow=3.7,SNR=2.0

WEL 18 15:40:08.5±0.4, 42.°S±3.°×17.°4E±.°, h5km, M3.7/15, ML3.9/12, MLv3.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=118.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**215**	P	Pg	15 40 13.5	0.0
KHZ				S	Sg	15 40 18.3	+1.3
BSWZ	**Blackbirch Sta**	**0.50**	**12**	P	Pg	15 40 18.2	0.0
CMWZ	**Cape Campbell**	**0.58**	**38**	P	Pb	15 40 20.5	-0.6
THZ	**Tophouse**	**0.77**	**305**	P	Pg	15 40 23.4	+0.3
TUWZ	**Tuamarina**	**0.79**	**11**	P	Pg	15 40 23.7	0.0
GVZ	**Greta Valley S**	**0.92**	**214**	P	Pb	15 40 27.0	-0.1
NNZ	**Nelson**	**1.02**	**345**	P	Pg	15 40 27.9	-0.3
TCW	**Tory Channel**	**1.07**	**22**	P	Pg	15 40 28.7	-0.4
MRNZ	**Matariki Terra**	**1.09**	**317**	P	Pb	15 40 29.8	-0.1
WEL	**Wellington**	**1.20**	**40**	P	Pg	15 40 30.5	-1.0
LTZ	**Lake Taylor**	**1.23**	**242**	P	Pg	15 40 31.5	-0.6
AMCZ	**Amberley**	**1.26**	**219**	P	Pg	15 40 31.7	-1.0
PLWZ	**Palliser**	**1.30**	**61**	P	Pn	15 40 31.0	-2.3
TKNZ	**Takaka Hill**	**1.31**	**332**	P	Pn	15 40 33.2	-0.3
MSWZ	**Moikau Station**	**1.38**	**56**	P	Pn	15 40 32.1	-2.3
DUWZ	**D'Urville Isla**	**1.41**	**6**	P	Pn	15 40 34.7	-0.2
CAW	**Cannon Point**	**1.48**	**43**	P	Pn	15 40 34.1	-1.7
PAWZ	**Paruwai Farm**	**1.51**	**57**	P	Pn	15 40 33.6	-2.6
DSZ	**Dennistion Nort**	**1.52**	**287**	P	Pb	15 40 37.3	+0.1
OKCZ	**Okains Bay**	**1.60**	**198**	P	Pn	15 40 35.1	-2.3
KIW	**Kapiti Island**	**1.60**	**34**	P	Pn	15 40 36.4	-1.1
QRZ	**Quartz Range**	**1.65**	**326**	P	Pb	15 40 39.0	-0.4
TRWZ	**Traveller**	**1.66**	**62**	P	Pn	15 40 35.7	-2.7
OXZ	**Oxford**	**1.68**	**228**	P	Pn	15 40 36.8	-1.8
MTW	**Mount Morrison**	**1.68**	**52**	P	Pn	15 40 36.2	-2.4
MQZ	**McQueen's Vall**	**1.70**	**208**	P	Pn	15 40 36.0	-2.8
OGWZ	**Otaki Gorge**	**1.75**	**38**	P	Pn	15 40 38.0	-1.6
AKCZ	**Akaroa Harbour**	**1.77**	**200**	P	Pn	15 40 37.6	-2.3
INZ	**Inchbonnie**	**1.78**	**252**	P	Pn	15 40 39.6	-0.3
HOWZ	**Holdsworth Sta**	**1.87**	**46**	P	Pn	15 40 38.9	-2.2
RACZ	**Rakaia**	**1.92**	**217**	P	Pn	15 40 39.7	-2.2
TMWZ	**Te Maipa**	**1.95**	**56**	P	Pn	15 40 39.4	-2.9
MRZ	**Mangatainoka R**	**2.07**	**42**	P	Pn	15 40 41.8	-2.2
WACZ	**Wakanui South**	**2.23**	**218**	P	Pn	15 40 44.1	-1.9
PRWZ	**Pori Road**	**2.35**	**46**	P	Pn	15 40 45.2	-2.6
WVZ	**Waitaha Valley**	**2.38**	**248**	P	Pn	15 40 47.8	-0.4
RPZ	**Rata Peaks**	**2.48**	**232**	P	Pn	15 40 48.1	-1.5
ARCZ	**Arundel**	**2.56**	**226**	P	Pn	15 40 49.3	-1.4
WAZ	**Wanganui**	**2.62**	**21**	P	Pn	15 40 53.2	+1.6
DVHZ	**Dannevirke**	**2.64**	**45**	P	Pn	15 40 48.9	-2.9
ANWZ	**Angora Road**	**2.70**	**51**	P	Pn	15 40 51.8	-0.7
TSZ	**Takapari Road**	**2.72**	**39**	P	Pn	15 40 50.5	-2.4
GCSZ	**Gaunt Creek Bo**	**2.75**	**245**	P	Pn	15 40 53.3	+0.1
LREZ	**Lake Rotokare**	**2.79**	**11**	P	Pb	15 40 57.6	-1.2
NMEZ	**Namu Road**	**2.79**	**2**	P	Pb	15 40 58.6	-0.2
KHEZ	**Kahui Hut**	**2.92**	**4**	P	Pb	15 40 59.2	-1.8
NBEZ	**Newall Road No**	**2.94**	**2**	P	Pn	15 40 58.7	-2.6
PNHZ	**Pukenui**	**2.95**	**40**	P	Pn	15 40 53.6	-2.5
TMZ	**Timaru**	**2.95**	**222**	P	Pn	15 40 54.4	-1.6
WPHZ	**Waipukurau**	**2.96**	**45**	P	Pn	15 40 55.1	-1.0
PKE	**Pukeiti**	**3.02**	**4**	P	Pb	15 41 00.6	-2.0
PKVZ	**Pokaka**	**3.16**	**23**	P	Pn	15 40 59.1	+0.2
VRZ	**Vera Road**	**3.17**	**14**	P	Pn	15 41 00.0	+0.9
FOZ	**Fox Glacier**	**3.18**	**244**	P	Pn	15 40 59.3	+0.2
MOVZ	**Moawhango**	**3.19**	**29**	P	Pn	15 40 58.6	-0.7
WNVZ	**Wahianoa**	**3.20**	**27**	P	Pn	15 40 59.5	-0.1
TRVZ	**Turoa**	**3.21**	**26**	P	Pn	15 40 60.0	+0.2
BHHZ	**Black Hill Sta**	**3.23**	**34**	P	Pn	15 40 58.3	-1.7
WHVZ	**Whangaehu Hut**	**3.24**	**26**	P	Pn	15 41 00.8	+0.6
TUVZ	**Tukino**	**3.27**	**27**	P	Pn	15 41 03.5	+2.9
NGZ	**Ngauruhoe**	**3.34**	**26**	P	Pn	15 41 01.9	+0.3
NNVZ	**North Ngauruho**	**3.38**	**26**	P	Pn	15 41 02.1	-0.1
TWVZ	**Taurewa**	**3.39**	**23**	P	Pn	15 41 02.3	+0.1
LBZ	**Lake Benmore**	**3.39**	**229**	P	Pn	15 41 01.0	-1.1
WTVZ	**West Tongariro**	**3.39**	**25**	P	Pn	15 41 05.6	+3.4
TMVZ	**Te Maari**	**3.43**	**26**	P	Pn	15 41 03.5	+0.8
ODZ	**Otahua Downs**	**3.62**	**217**	P	Pn	15 41 03.0	-2.2
BKZ	**Black Stump Fm**	**3.69**	**35**	P	Pn	15 41 08.7	+2.5
HIZ	**Hauiti**	**3.79**	**13**	P	Pn	15 41 08.4	+0.9
MRHZ	**Matea Rd**	**3.94**	**32**	P	Pn	15 41 07.0	-2.6
JCZ	**Jackson Bay**	**4.08**	**241**	P	Pn	15 41 11.7	+0.1
TLZ	**Tolley Road**	**4.11**	**20**	P	Pn	15 41 12.0	0.0
TOZ	**Tahuroa Road**	**4.67**	**17**	P	Pn	15 41 19.4	-0.3
CNGZ	**Carnagh Statio**	**5.05**	**44**	P	Pn	15 41 26.5	+1.7
AWAZ	**Awhitu Peninsu**	**5.18**	**8**	P	Pn	15 41 27.4	+0.7
MKAZ	**Moumakai**	**5.21**	**13**	P	Pn	15 41 26.8	-0.3
ETAZ	**East Tamaki Re**	**5.33**	**10**	P	Pn	15 41 29.3	+0.6
SYZ	**Scrubby Hill**	**5.44**	**216**	P	Pn	15 41 28.7	-1.6
MBAZ	**Motutapu North**	**5.50**	**10**	P	Pn	15 41 33.0	+1.9

*IDC **18** 15:46:17.6±3.2, 36.°37N×71.°22E, h145km±29km, mb3.4/5, mbtmp3.7/10, Error ellipse: s-maj=24.8km s-min=18.1km az=6.0*

ISC 18 15:46:21.4±0.8, 36.°63N±0.°08×71.°11E±0.°07, h188km, n20, σ1$68/23, mb3.5/5, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.49**	**356**	⇑Pn	**Pn**	**15 47 55.2**	**+0.5**
	2.6nm,0.5s,baz=178,slow=13,SNR=62						
KK31				⇓Sn	**Sn**	**15 49 04.0**	**-4.6**
	1.9nm,0.3s,baz=175,slow=22,SNR=8.9						
AAK	**Ala-Archa**	**6.55**	**22**	P	**Pn**	**15 47 55.9**	**+0.2**
	1.2nm,0.3s,baz=125,slow=3.6,SNR=7.7						
AAK				S	**Sn**	**15 49 09.3**	**-1.0**
	3.5nm,0.5s,baz=358,slow=23,SNR=12						
GEYT	**Alibeck**	**10.43**	**281**	P	**Pn**	**15 48 45.5**	**-0.9**
	2.0nm,0.7s,baz=116,slow=3.4,SNR=4.2						
GEYT				S	**Sn**	**15 50 40.9**	**-1.7**
	1.6nm,0.3s,baz=169,slow=17,SNR=4.9						
MKAR	**Makanchi Array**	**13.14**	**36**	P	**Pn**	**15 49 20.2**	**-0.7**
	0.7nm,0.8s,baz=232,slow=14,SNR=4.4						
DANN	**Dangsing**	**13.49**	**124**	*eP*	**Pn**	**15 49 24.4**	**-1.3**
	8.9nm,0.4s						
GKN	**Gorkha**	**14.30**	**123**	*eP*	**Pn**	**15 49 34.5**	**-1.2**
	5.1nm,0.3s						
DMN	**Daman**	**14.87**	**123**	*eP*	**P**	**15 49 43.3**	**-0.6**
	7.7nm,0.3s						
KURBB	**Kurchatov Arra**	**14.98**	**19**	P	**Pn**	**15 49 44.3**	**+0.7**
	0.2nm,0.6s,baz=207,slow=11,SNR=5.3						
PKIN	**Phulchoki**	**15.09**	**123**	*eP*	**P**	**15 49 45.5**	**-0.8**
	14nm,0.5s						
PKI	**Pulchoki**	**15.10**	**123**	*eP*	**Pn**	**15 49 45.1**	**-0.6**
GUN	**Gumba**	**15.21**	**121**	*eP*	**Pn**	**15 49 45.9**	**-1.1**
JIRN	**Jiri**	**15.58**	**121**	*eP*	**Pn**	**15 49 51.0**	**-0.6**
RAMN	**Ramite**	**16.31**	**122**	*eP*	**Pn**	**15 50 01.7**	**+1.4**
	5.2nm,0.2s						
TAPN	**Taplejung**	**16.83**	**119**	*eP*	**Pn**	**15 50 07.1**	**+0.5**
	8.1nm,0.5s						
ZALV	**Zalesovo Beam**	**19.77**	**24**	P	**P**	**15 50 38.1**	**+1.3**
	0.9nm,0.3s,baz=217,slow=9.8,SNR=6.0						
FINES	**FINESS Array B**	**37.43**	**326**	P	**P**	**15 53 18.4**	**+2.3**
	5.0nm,1.0s,baz=119,slow=11,SNR=5.4						
	5.0nm,1.0s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**15 53 49.0**	**+3.0**
	1.7nm,0.7s,baz=93,slow=5.2,SNR=5.0						
	1.7nm,0.7s						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**15 54 14.4**	**+1.9**
	1.2nm,0.8s,baz=96,slow=7.7,SNR=3.7						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**81.98**	**122**	P	**P**	**15 58 19.9**	**-0.6**
	0.2nm,0.4s,baz=325,slow=4.8,SNR=8.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**84.26**	**125**	P	**P**	**15 58 32.4**	**+0.3**
	0.4nm,0.8s,baz=310,slow=5.0,SNR=11						
	0.4nm,0.6s						

WEL 18 15:52:41.6, 43.°S±4.°×17.°3E±.°, h26km±12km, M2.8/16, mB5.9/1, ML3.0/28, MLv2.8/16, Mw(mB)5.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=80.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**61**	P	Pb	15 52 48.5	+0.2
GVZ	**Greta Valley S**	**0.43**	**197**	P	Pn	15 52 51.6	-0.5
LTZ	**Lake Taylor**	**0.73**	**251**	P	Pb	15 52 55.5	-0.1
AMCZ	**Amberley**	**0.75**	**213**	P	Pn	15 52 57.4	+0.9
THZ	**Tophouse**	**0.82**	**344**	P	Pb	15 52 57.1	-0.1
BSWZ	**Blackbirch Sta**	**0.97**	**31**	P	Pb	15 53 01.3	+1.5
OXZ	**Oxford**	**1.16**	**228**	P	Pb	15 53 03.2	+0.3
OKCZ	**Okains Bay**	**1.18**	**185**	P	Pb	15 53 04.2	+1.0
MRNZ	**Matariki Terra**	**1.20**	**344**	P	Pb	15 53 04.6	+1.0
MQZ	**McQueen's Vall**	**1.22**	**199**	P	Pn	15 53 02.2	-0.7
TUWZ	**Tuamarina**	**1.25**	**26**	P	Pb	15 53 05.8	+1.3
INZ	**Inchbonnie**	**1.31**	**262**	P	Pb	15 53 05.8	+0.3
DSZ	**Dennistion Nort**	**1.32**	**307**	P	Pb	15 53 06.1	+0.4
AKCZ	**Akaroa Harbour**	**1.34**	**189**	P	Pb	15 53 05.7	-0.2
NNZ	**Nelson**	**1.34**	**6**	P	Pb	15 53 07.1	+1.1
RACZ	**Rakaia**	**1.41**	**213**	P	Pb	15 53 06.7	-0.5
TKNZ	**Takaka Hill**	**1.53**	**353**	P	Pb	15 53 09.7	+0.5
MHCZ	**Mount Hutt**	**1.55**	**230**	P	Pb	15 53 08.7	-0.9
TCW	**Tory Channel**	**1.56**	**31**	P	Pb	15 53 10.1	+0.4
WACZ	**Wakanui South**	**1.71**	**215**	P	Pn	15 53 10.8	+1.1
WEL	**Wellington**	**1.72**	**43**	P	Pb	15 53 12.2	-0.3
QRZ	**Quartz Range**	**1.80**	**343**	P	Pb	15 53 14.2	+0.4
PLWZ	**Palliser**	**1.81**	**58**	P	Pb	15 53 12.8	-1.2
DUWZ	**D'Urville Isla**	**1.83**	**17**	P	Pb	15 53 15.2	+0.8
WVZ	**Waitaha Valley**	**1.89**	**253**	P	Pb	15 53 14.3	-1.1
MSWZ	**Moikau Station**	**1.90**	**54**	P	Pb	15 53 14.0	-1.5
RPZ	**Rata Peaks**	**1.96**	**233**	P	Pn	15 53 14.5	+1.4
CAW	**Cannon Point**	**2.00**	**45**	P	Pb	15 53 15.8	-1.5
ARCZ	**Arundel**	**2.04**	**226**	P	Pn	15 53 15.4	+1.2
GCSZ	**Gaunt Creek Bo**	**2.25**	**249**	P	Pb	15 53 19.4	-2.0
OGWZ	**Otaki Gorge**	**2.27**	**41**	P	Pn	15 53 19.5	+2.1
TMZ	**Timaru**	**2.43**	**220**	P	Pn	15 53 20.8	+1.2
MRZ	**Mangatainoka R**	**2.59**	**44**	P	Pn	15 53 23.4	+1.6
FOZ	**Fox Glacier**	**2.67**	**247**	P	Pn	15 53 25.4	+2.6
ODZ	**Otahua Downs**	**3.11**	**216**	P	Pn	15 53 29.7	+0.9
TSZ	**Takapari Road**	**3.24**	**41**	P	Pn	15 53 31.9	+1.1
VRZ	**Vera Road**	**3.62**	**19**	P	Pb	15 53 41.4	-3.4
BHHZ	**Black Hill Sta**	**3.75**	**36**	P	Pb	15 53 46.4	-0.6
RTZ	**Ruatahuna**	**4.87**	**37**	P	Pb	15 54 00.2	-5.9
CNGZ	**Carnagh Statio**	**5.57**	**45**	P	Pn	15 54 05.7	+3.0
MKAZ	**Moumakai**	**5.64**	**16**	P	Pn	15 54 07.1	+3.4
WIAZ	**Waiheke Island**	**5.94**	**15**	P	Pn	15 54 11.4	+3.6

*WEL **18** 15:55:00, 42.°51S×173.°13E, h4km, ML4.8, Mw4.4, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁵ Nm; Mrr4.08; Mθθ-0.45; Mϕϕ-3.63; Mrθ0.26; Mθϕ-1.44; Mϕr1.66; Fault plane solution: M₀4.46000×10¹⁵ NP1: ϕ₁206.00000°, δ34.00000°, λ98.00000°. NP2:ϕ₂16.00000°, δ56.00000°, λ85.00000°. Principal axes: T -450.2400, Plg78.0000°, Azm267.0000°; N 7.7200, Plg5.0000°, Azm19.0000°; P 442.5200, Plg11.0000°, Azm110.0000°;*

*IDC **18** 15:55:32.5±0.7, 42.°35S×173.°18E, h0km, mb4.4/12, mbtmp4.5/13, ML5.1/1, MS3.7/19 Error ellipse: s-maj=25.9km s-min=16.3km az=68.0*

*NOU **18** 15:55:33.8, 42.°68S×173.°29E, h8km, MLv5.0/16, South Island, New Zealand*

*NEIC **18** 15:55:34.1±1.6, 42.°58S±0.°03×173.°11E±0.°03, h10km±1km, mb4.6/18, Mwr4.3/33, Error ellipse: s-maj=5.1km s-min=4.1km az=18.0*

*WEL **18** 15:55:34.7±0.3, 43.°S±2.°×17.°3E±.°, h5km, M4.6/42, ML5.0/17, MLv4.6/42, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8*

*NEIC **18** 15:55:34.1, 42.°59S×173.°11E, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.48; Mθθ-0.34; Mϕϕ-3.14; Mrθ0.27; Mθϕ-0.86; Mϕr-1.04; Fault plane solution: M₀3.60000×10¹⁵ NP1:ϕ₁87.51000°, δ53.14000°, λ80.04000°. NP2:ϕ₂23.82000°, δ38.00000°, λ102.98000°. Principal axes: T 3.6806, Plg79.0000°, Azm58.0000°; N -0.1758, Plg8.0000°, Azm194.0000°; P -3.5048, Plg8.0000°, Azm285.0000°;*

ISC 18 15:55:34.4±1.0, 42.°57S±0.°02×173.°17E±0.°03, h13km±6km, n247, σ1$32/235, mb4.5/23, MS3.7/21, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**61**		**Pg**	**15 55 40.7**	**0.0**
KHZ				Sg	**Sg**	**15 55 46.0**	**+1.0**
KHZ	**Kahutara**	**0.31**	**61**	P	**Pg**	**15 55 40.9**	**+0.2**
KHZ	**Kahutara**	**0.31**	**61**	P	**Pg**	**15 55 40.8**	**0.0**
KHZ				S	**Sb**	**15 55 46.2**	**-0.6**
GVZ	**Greta Valley S**	**0.41**	**194**		**Pb**	**15 55 43.8**	**+0.3**
GVZ	**Greta Valley S**	**0.41**	**194**	P	**Pb**	**15 55 43.9**	**+0.3**
GVZ				S	**Sb**	**15 55 51.3**	**+1.5**
LTZ	**Lake Taylor**	**0.70**	**252**		**Pg**	**15 55 47.9**	**0.0**
LTZ	**Lake Taylor**	**0.70**	**252**	P	**Pg**	**15 55 48.0**	**0.0**
LTZ				S	**Sb**	**15 55 58.0**	**0.0**
AMCZ	**Amberley**	**0.72**	**212**		**Pb**	**15 55 48.9**	**+0.2**
AMCZ	**Amberley**	**0.72**	**212**	P	**Pn**	**15 55 49.7**	**-0.6**
THZ	**Tophouse**	**0.83**	**346**		**Pg**	**15 55 49.5**	**-0.9**
THZ				Sg	**Sg**	**15 56 00.3**	**-1.0**
THZ	**Tophouse**	**0.83**	**346**	P	**Pg**	**15 55 49.5**	**-0.9**
BSWZ	**Blackbirch Sta**	**1.00**	**32**		**Pb**	**15 55 53.5**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.00**	**32**	P	**Pb**	**15 55 53.6**	**+0.1**
OXZ	**Oxford**	**1.12**	**227**	Pn	**Pb**	**15 55 55.3**	**-0.4**
OXZ	**Oxford**	**1.12**	**227**	P	**Pb**	**15 55 55.4**	**-0.3**
CMWZ	**Cape Campbell**	**1.13**	**44**		**Pg**	**15 55 56.5**	**+0.4**
CMWZ	**Cape Campbell**	**1.13**	**44**	P	**Pg**	**15 55 56.9**	**+0.8**
OKCZ	**Okains Bay**	**1.16**	**184**	P	**Pb**	**15 55 55.9**	**-0.3**
MQZ	**McQueen's Vall**	**1.20**	**198**	Pn	**Pn**	**15 55 55.6**	**-1.2**
MQZ	**McQueen's Vall**	**1.20**	**198**	P	**Pn**	**15 55 55.6**	**-1.2**
MRNZ	**Matariki Terra**	**1.21**	**345**		**Pn**	**15 55 56.2**	**-0.7**
MRNZ	**Matariki Terra**	**1.21**	**345**	P	**Pn**	**15 55 56.6**	**-0.4**
TUWZ	**Tuamarina**	**1.27**	**27**		**Pn**	**15 55 57.8**	**-0.1**
TUWZ	**Tuamarina**	**1.27**	**27**	P	**Pb**	**15 55 58.2**	**0.0**
INZ	**Inchbonnie**	**1.28**	**262**		**Pn**	**15 55 57.9**	**-0.1**
INZ	**Inchbonnie**	**1.28**	**262**	P	**Pn**	**15 55 58.0**	**-0.1**
DSZ	**Dennistion Nort**	**1.31**	**309**		**Pb**	**15 55 58.7**	**-0.1**
DSZ	**Dennistion Nort**	**1.31**	**309**	P	**Pb**	**15 55 58.7**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.32**	**188**	P	**Pn**	**15 55 57.9**	**-0.6**
NNZ	**Nelson**	**1.36**	**7**		**Pn**	**15 55 59.0**	**0.0**
NNZ	**Nelson**	**1.36**	**7**	P	**Pn**	**15 55 58.8**	**-0.2**
RACZ	**Rakaia**	**1.38**	**213**	P	**Pn**	**15 55 58.9**	**-0.4**
MHCZ	**Mount Hutt**	**1.52**	**230**	P	**Pn**	**15 56 00.7**	**-0.6**
TKNZ	**Takaka Hill**	**1.54**	**354**		**Pn**	**15 56 01.9**	**+0.3**
TKNZ	**Takaka Hill**	**1.54**	**354**	P	**Pn**	**15 56 02.1**	**+0.5**
TCW	**Tory Channel**	**1.59**	**32**		**Pn**	**15 56 02.3**	**+0.1**
TCW	**Tory Channel**	**1.59**	**32**	P	**Pn**	**15 56 02.4**	**+0.3**
WACZ	**Wakanui South**	**1.68**	**215**	P	**Pn**	**15 56 03.0**	**-0.5**
SNZO	**South Karori**	**1.70**	**43**		**Pn**	**15 56 03.7**	**0.0**
SNZO	**South Karori**	**1.70**	**43**	P	**Pn**	**15 56 04.1**	**+0.4**
WEL	**Wellington**	**1.75**	**43**	P	**Pn**	**15 56 04.5**	**+0.1**
QRZ	**Quartz Range**	**1.81**	**344**	Pn	**Pn**	**15 56 06.0**	**+0.9**
QRZ	**Quartz Range**	**1.81**	**344**	P	**Pb**	**15 56 06.5**	**-0.8**
QRZ	**Quartz Range**	**1.81**	**344**	P	**Pn**	**15 56 06.0**	**+0.9**
PLWZ	**Palliser**	**1.84**	**58**	Pn	**Pn**	**15 56 05.0**	**-0.8**
PLWZ	**Palliser**	**1.84**	**58**	P	**Pn**	**15 56 05.1**	**-0.7**
DUWZ	**D'Urville Isla**	**1.85**	**18**	P	**Pn**	**15 56 06.6**	**+0.8**
WVZ	**Waitaha Valley**	**1.86**	**253**	P	**Pn**	**15 56 06.4**	**+0.5**
RPZ	**Rata Peaks**	**1.93**	**233**	Pn	**Pn**	**15 56 06.4**	**-0.4**
	663nm,0.3s,baz=69,slow=1.5,SNR=1090						
RPZ				Sn	**Sn**	**15 56 30.7**	**-0.3**
	125nm,0.3s,baz=4.6,slow=14,SNR=2.7						
RPZ				LR	LR	15 56 41.2	
	comp=Z,413nm,19.2s,baz=82,slow=33						
	3µm,0.5s						
RPZ	**Rata Peaks**	**1.93**	**233**	P	**Pn**	**15 56 06.7**	**-0.2**
RPZ	**Rata Peaks**	**1.93**	**233**	P	**Pn**	**15 56 06.5**	**-0.4**
MSWZ	**Moikau Station**	**1.93**	**54**		**Pn**	**15 56 06.0**	**-0.9**
MSWZ	**Moikau Station**	**1.93**	**54**	P	**Pn**	**15 56 06.2**	**-0.7**
ARCZ	**Arundel**	**2.01**	**226**	P	**Pn**	**15 56 07.5**	**-0.4**
CAW	**Cannon Point**	**2.03**	**45**	P	**Pn**	**15 56 08.0**	**-0.3**
PAWZ	**Paruwai Farm**	**2.06**	**56**	P	**Pn**	**15 56 07.8**	**-0.9**
KIW	**Kapiti Island**	**2.15**	**38**	P	**Pn**	**15 56 10.1**	**+0.2**
TRWZ	**Traveller**	**2.21**	**59**	P	**Pn**	**15 56 10.3**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.22**	**249**	P	**Pn**	**15 56 11.7**	**+0.8**
MTW	**Mount Morrison**	**2.24**	**52**	P	**Pn**	**15 56 10.1**	**-1.0**
OGWZ	**Otaki Gorge**	**2.30**	**41**	P	**Pn**	**15 56 11.8**	**-0.2**
TMZ	**Timaru**	**2.40**	**220**	P	**Pn**	**15 56 12.8**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.42**	**47**	P	**Pn**	**15 56 12.9**	**-0.8**
TMWZ	**Te Maipa**	**2.50**	**55**	P	**Pn**	**15 56 13.5**	**-1.3**
MRZ	**Mangatainoka R**	**2.62**	**44**		**Pn**	**15 56 15.7**	**-0.8**
MRZ	**Mangatainoka R**	**2.62**	**44**	P	**Pn**	**15 56 15.6**	**-0.8**
FOZ	**Fox Glacier**	**2.64**	**247**		**Pn**	**15 56 17.1**	**+0.4**
FOZ	**Fox Glacier**	**2.64**	**247**	P	**Pn**	**15 56 17.5**	**+0.8**
TIWZ	**Tintock**	**2.71**	**50**	P	**Pb**	**15 56 23.8**	**+1.1**
LBZ	**Lake Benmore**	**2.83**	**229**		**Pn**	**15 56 18.9**	**-0.4**
LBZ	**Lake Benmore**	**2.83**	**229**	P	**Pn**	**15 56 19.2**	**-0.2**
OHWZ	**Ohakea**	**2.86**	**35**	P	**Pn**	**15 56 21.1**	**+1.4**
PRWZ	**Pori Road**	**2.91**	**47**	P	**Pn**	**15 56 19.7**	**-0.6**
POWZ	**Post Office Ro**	**2.92**	**43**	P	**Pn**	**15 56 20.1**	**-0.4**
BFZ	**Birch Farm**	**2.98**	**52**		**Pn**	**15 56 21.0**	**-0.3**
BFZ	**Birch Farm**	**2.98**	**52**	P	**Pn**	**15 56 20.2**	**-1.1**
ODZ	**Otahua Downs**	**3.08**	**216**		**Pn**	**15 56 22.0**	**-0.7**
ODZ	**Otahua Downs**	**3.08**	**216**	P	**Pn**	**15 56 21.9**	**-0.7**
ODZ	**Otahua Downs**	**3.08**	**216**	P	**Pn**	**15 56 21.9**	**-0.7**
WAZ	**Wanganui**	**3.13**	**27**	P	**Pn**	**15 56 25.2**	**+1.8**
DVHZ	**Dannevirke**	**3.19**	**46**	P	**Pn**	**15 56 22.8**	**-1.5**
NMEZ	**Namu Road**	**3.20**	**10**	P	**Pn**	**15 56 27.5**	**+3.2**
LREZ	**Lake Rotokare**	**3.24**	**17**	P	**Pn**	**15 56 27.6**	**+2.7**
ANWZ	**Angora Road**	**3.25**	**51**	P	**Pn**	**15 56 24.9**	**-0.2**
TSZ	**Takapari Road**	**3.27**	**41**	P	**Pn**	**15 56 24.4**	**-1.0**
KHEZ	**Kahui Hut**	**3.33**	**11**	P	**Pn**	**15 56 29.7**	**+3.4**
KHEZ	**Kahui Hut**	**3.33**	**11**	P	**Pn**	**15 56 28.5**	**+2.2**
NBEZ	**Newall Road No**	**3.34**	**9**	P	**Pn**	**15 56 28.6**	**+2.4**
NEZ	**North Egmont**	**3.37**	**12**	P	**Pn**	**15 56 29.9**	**+3.2**
PKE	**Pukeiti**	**3.43**	**11**	P	**Pn**	**15 56 30.2**	**+2.7**
DREZ	**Durham Road**	**3.46**	**13**	P	**Pn**	**15 56 30.7**	**+2.7**
PNHZ	**Pukenui**	**3.50**	**42**	P	**Pn**	**15 56 27.3**	**-1.3**
WPHZ	**Waipukurau**	**3.51**	**46**	P	**Pn**	**15 56 27.8**	**-0.9**
JCZ	**Jackson Bay**	**3.54**	**243**	P	**Pn**	**15 56 29.5**	**+0.4**
JCZ	**

HNR	**Honiara**	**34.99**	**337**	LR	LR	16 14 37.3	
	comp=Z,771nm,18.6s,baz=172,slow=33						
VNDA	**Vanda**	**35.37**	**184**	P	**P**	**16 02 31.2**	**+2.1**
	comp=Z,0.9nm,0.9s,baz=28,slow=3.7,SNR=5.8						
	comp=Z,0.9nm,0.9s						
TBI	**Tubuai**	**36.37**	**70**	*e*LR	LR	16 12 25.3	
TBI	comp=Z,327nm,25.5s			*e*LR	LR	16 12 25.4	
	comp=Z,2μm,24.5s						
TBI	**Tubuai**	**36.37**	**70**	*e*T	T	16 40 37.7	
	comp=Z,22nm,0.3s						
AS31	**Alice Springs**	**37.49**	**288**	P	**P**	**16 02 47.6**	**-0.3**
ASAR	**Alice Springs**	**37.49**	**288**	P	**P**	**16 02 47.4**	**-0.5**
	comp=Z,5.2nm,0.7s,baz=126,slow=7.1,SNR=208						
ASAR				PcP	**PcP**	**16 05 05.0**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=129,slow=3.5,SNR=7.0						
ASAR				LR	LR	16 18 01.2	
	comp=Z,152nm,19.4s,baz=156,slow=36						
	comp=Z,5.2nm,0.7s						
ASAR	**Alice Springs**	**37.49**	**288**	P	**P**	**16 02 47.2**	**-0.7**
FORT	**Forrest**	**37.64**	**273**	P	**P**	**16 02 48.5**	**-0.5**
FORT				IAmb	IAmb	16 02 51.2	
	comp=Z,18nm,0.9s						
WR0	**Warramunga Arr**	**39.51**	**293**	P	**P**	**16 03 04.3**	**-0.5**
WR0				IAmb	IAmb	16 03 08.7	
	comp=Z,11nm,1.0s						
WB2	**Warramunga Arr**	**39.65**	**292**	P	**P**	**16 03 05.1**	**-0.9**
WB2				IAmb	IAmb	16 03 06.6	
	comp=Z,8.0nm,0.8s						
WRAB	**Tennant Creek**	**39.65**	**292**	P	**P**	**16 03 03.9**	**-2.1**
WRAB				IAmb	IAmb	16 03 06.7	
	comp=Z,7.4nm,0.9s						
WRA	**Warramunga Arr**	**39.66**	**292**	P	**P**	**16 03 05.7**	**-0.4**
	comp=Z,7.8nm,1.0s,baz=131,slow=8.0,SNR=52						
WRA				PcP	**PcP**	**16 05 11.3**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=129,slow=3.0,SNR=5.1						
WRA				LR	LR	16 18 38.0	
	comp=Z,143nm,19.8s,baz=130,slow=35						
	comp=Z,7.8nm,1.0s						
WRA	**Warramunga Arr**	**39.66**	**292**	P	**P**	**16 03 04.5**	**-1.6**
WB0	**Warramunga Arr**	**39.74**	**293**	P	**P**	**16 03 05.2**	**-1.6**
WB0				IAmb	IAmb	16 03 09.3	
	comp=Z,10nm,1.1s						
PMG	**Port Moresby**	**40.13**	**318**	LR	LR	16 17 50.6	
	comp=Z,138nm,20.7s,baz=117,slow=34						
PMG	**Port Moresby**	**40.13**	**318**	P	**P**	**16 03 08.5**	**-1.5**
PMG				IAmb	IAmb	16 03 11.8	
	comp=Z,17nm,0.8s						
PAE	**Paea**	**40.19**	**63**	*e*T	T	16 45 30.5	
	comp=Z,3.2nm,0.4s						
PPT2	**Papeete2**	**40.24**	**63**	*e*LR	LR	16 14 13.0	
	comp=Z,152nm,27.5s						
PPT2				*e*LR	LR	16 14 13.1	
	comp=Z,90nm,25.5s						
KRVT	**Keravat (AS076**	**42.49**	**328**	LR	LR	16 21 03.0	
	comp=Z,58nm,19.9s,baz=264,slow=36						
RABL	**Rabaul**	**42.55**	**328**	P	**P**	**16 03 29.8**	**0.0**
NWAO	**Narrogin (SRO)**	**44.55**	**263**	LR	LR	16 18 48.2	
	comp=Z,111nm,19.0s,baz=110,slow=31						
MTN	**Manton Dam**	**46.84**	**296**	P	**P**	**16 04 03.6**	**-0.6**
MORW	**Morawa**	**47.41**	**267**	P	**P**	**16 04 07.9**	**-0.6**
MORW				IAmb	IAmb	16 04 51.4	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**47.56**	**180**	P	**P**	**16 04 12.1**	**+2.7**
	comp=Z,13nm,0.8s,baz=29,slow=1.9,SNR=89						
	comp=Z,13nm,0.8s						
QSPA	**South Pole Qui**	**47.56**	**180**	P	**P**	**16 04 11.2**	**+1.8**
TAOE	**Nuku Hiva Isla**	**52.85**	**64**	*e*LR	LR	16 20 03.2	
	comp=Z,84nm,22.4s						
BATI	**Baumata**	**53.78**	**292**	LR	LR	16 26 53.2	
	comp=Z,107nm,19.6s,baz=198,slow=35						
SIJI	**Sorong**	**55.95**	**306**	P	**P**	**16 05 12.2**	**-0.2**
	comp=Z,10nm,0.7s,baz=134,slow=7.0,SNR=13						
SIJI				LR	LR	16 31 14.9	
	comp=Z,41nm,18.3s,baz=64,slow=38						
	comp=Z,10nm,0.7s						
MAW	**Mawson**	**58.38**	**205**	P	**P**	**16 05 30.9**	**+2.1**
	comp=Z,5.3nm,0.9s,baz=139,slow=8.1,SNR=7.4						
MAW				LR	LR	16 28 31.7	
	comp=Z,66nm,20.7s,baz=100,slow=34						
	comp=Z,5.3nm,0.9s						
MAW	**Mawson**	**58.38**	**205**	P	**P**	**16 05 29.2**	**+0.4**
KAPI	**Kappang**	**60.19**	**293**	LR	LR	16 32 17.2	
	comp=Z,42nm,18.1s,baz=156,slow=37						
TOLI2	**Tolitoli**	**64.04**	**298**	P	**P**	**16 06 07.3**	**-0.7**
TOLI2				IAmb	IAmb	16 06 09.7	
	comp=Z,6.8nm,0.7s						
SNAA	**Sanae**	**66.03**	**181**	P	**P**	**16 06 20.2**	**0.0**
SNAA				IAmb	IAmb	16 06 22.6	
	comp=Z,12nm,1.4s						
LEM	**Lembang**	**67.47**	**282**	LR	LR	16 36 06.2	
	comp=Z,66nm,19.2s,baz=148,slow=36						
PLCA	**Paso Flores**	**79.07**	**136**	P	**P**	**16 07 40.1**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=214,slow=6.8,SNR=5.7						
	comp=Z,1.8nm,0.8s						
GSI	**Gununguitoli**	**80.30**	**281**	P	**P**	**16 07 45.4**	**+0.1**
MJAR	**Matsushiro Arr**	**84.95**	**332**	P	**P**	**16 08 08.2**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=174,slow=9.2,SNR=4.5						
	comp=Z,2.1nm,0.9s						
KSRS	**Korea Array**	**89.67**	**326**	P	**P**	**16 08 31.4**	**-0.2**
	comp=Z,5.1nm,1.0s,baz=143,slow=5.8,SNR=11						
	comp=Z,5.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.23**	**294**	P	**P**	**16 08 40.5**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=152,slow=3.6,SNR=24						
CMAR				LR	LR	16 54 11.9	
	comp=Z,15nm,18.2s,baz=160,slow=39						
	comp=Z,3.2nm,0.8s						
PALK	**Pallekele**	**96.68**	**274**	LR	LR	16 49 36.4	
	comp=Z,41nm,18.1s,baz=288,slow=34						
MKAR	**Makanchi Array**	**119.84**	**308**	PKP	**PKPdf**	**16 14 21.9**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=17,slow=1.6,SNR=5.2						
KBZ	**Khabaz**	**144.11**	**289**	PKP	**PKPab**	**16 15 06.8**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=112,slow=2.3,SNR=8.4						
DBIC	**Dimbokro**	**144.21**	**183**	PKP	PKPbc	16 15 08.9	+0.5
	comp=Z,5.1nm,1.0s,baz=149,slow=4.2,SNR=4.2						
ARCES	**ARCESS Array B**	**148.26**	**339**	PKPbc	**PKPbc**	**16 15 17.4**	**-1.6**
	comp=Z,2.3nm,0.6s,baz=37,slow=1.8,SNR=11						
BRTR	**Keskin Array B**	**149.60**	**278**	PKPbc	**PKPbc**	**16 15 23.1**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=152,slow=5.6,SNR=14						
FINES	**FINESS Array B**	**152.76**	**325**	PKPbc	**PKPbc**	**16 15 28.8**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=102,slow=4.6,SNR=8.6						
AKASG	**Malin Array Be**	**154.15**	**301**	PKPbc	**PKiKP**	**16 15 35.0**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=66,slow=1.8,SNR=1.8						
NOA	**NORSAR Array B**	**158.53**	**336**	PKPab	**PKPab**	**16 16 04.6**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=39,slow=4.4,SNR=3.8						

WEL 18 16:06:54.0±0.4, 42°S±3°×17°4E±°, h8km±4km, M2.3/18, ML2.5/19, MLv2.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=126.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**223**	P	Pg	16 06 55.7	0.0
CMWZ				S	Sg	16 06 57.7	+0.8
BSWZ	**Blackbirch Sta**	**0.28**	**271**	P	Pg	16 07 00.2	+0.6
BSWZ				S	Sb	16 07 05.6	-0.7
TUWZ	**Tuamarina**	**0.37**	**321**	P	Pg	16 07 01.8	+0.5
TUWZ				S	Sb	16 07 08.0	-0.8
TCW	**Tory Channel**	**0.51**	**2**	P	Pg	16 07 04.0	+0.1
WEL	**Wellington**	**0.58**	**42**	P	Pb	16 07 05.9	-0.6
PLWZ	**Palliser**	**0.77**	**79**	P	Pb	16 07 10.1	+0.5
MSWZ	**Moikau Station**	**0.81**	**68**	P	Pb	16 07 10.1	-0.2
NNZ	**Nelson**	**0.82**	**307**	P	Pg	16 07 09.9	0.0
CAW	**Cannon Point**	**0.86**	**45**	P	Pg	16 07 10.6	0.0
KHZ	**Kahutara**	**0.88**	**217**	P	Pg	16 07 10.0	-0.9
DUWZ	**D'Urville Isla**	**0.95**	**345**	P	Pg	16 07 12.3	+0.1
KIW	**Kapiti Island**	**0.99**	**30**	P	Pg	16 07 12.8	-0.3
THZ	**Tophouse**	**1.01**	**267**	P	Pb	16 07 13.7	-0.1
MTW	**Mount Morrison**	**1.09**	**60**	P	Pg	16 07 14.7	-0.4
OGWZ	**Otaki Gorge**	**1.14**	**38**	P	Pg	16 07 15.4	-0.4
MRNZ	**Matariki Terra**	**1.17**	**285**	P	Pn	16 07 16.8	+0.1
TKNZ	**Takaka Hill**	**1.19**	**305**	P	Pb	16 07 16.3	-0.5
HOWZ	**Holdsworth Sta**	**1.26**	**50**	P	Pn	16 07 17.2	-0.7
TMWZ	**Te Maipa**	**1.38**	**64**	P	Pn	16 07 18.2	-1.3
MRZ	**Mangatainoka R**	**1.46**	**44**	P	Pn	16 07 20.0	-0.6
QRZ	**Quartz Range**	**1.58**	**304**	P	Pb	16 07 23.3	-0.1
DSZ	**Denniston Nort**	**1.83**	**268**	P	Pb	16 07 28.2	+0.4

*WEL **18** 16:07:44.5±0.4, 42°S±3°×17°4E±°, h9km±3km, M4.2/51, ML4.5/16, MLv4.2/51, Error ellipse: s-maj=0.0km s-min=0.0km az=134.9*
*IDC **18** 16:07:44.5±1.9, 41°92S×173°41E, h0km, mb3.8/3, mbtmp3.9/4, ML4.3/1, MS2.9/1, Error ellipse: s-maj=40.0km s-min=28.7km az=87.0*
*NOU **18** 16:07:44.5, 42°18S×174°00E, h13km, MLv4.5/13, Off E. Coast of S. Island, N.Z.*

ISC 18 16:07:44.4±0.8, 42°11S±0°03×173°96E±0°04, h17km, n129, σ1s41/131, mb3.6/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.39**	**351**	P	**Pg**	**16 07 51.0**	**-1.5**
BSWZ				S	**Sg**	**16 07 55.8**	**-2.2**
CMWZ	**Cape Campbell**	**0.40**	**28**	P	**Pg**	**16 07 53.1**	**+0.4**
KHZ	**Kahutara**	**0.44**	**225**	P	**Pb**	**16 07 53.9**	**+0.3**
KHZ	**Kahutara**	**0.44**	**225**	P	**Pb**	**16 07 53.9**	**+0.3**
TUWZ	**Tuamarina**	**0.68**	**359**	P	**Pg**	**16 07 56.4**	**-1.2**
THZ	**Tophouse**	**0.86**	**293**	P	**Pb**	**16 07 59.3**	**-1.5**
TCW	**Tory Channel**	**0.93**	**15**	P	**Pb**	**16 08 01.0**	**-1.0**
SNZO	**South Karori**	**0.97**	**35**	P	**Pb**	**16 08 03.5**	**+0.8**
NNZ	**Nelson**	**0.99**	**334**	P	**Pb**	**16 08 01.2**	**-1.8**
WEL	**Wellington**	**1.02**	**37**	P	**Pb**	**16 08 04.1**	**+0.5**
GVZ	**Greta Valley S**	**1.10**	**218**	P	**Pg**	**16 08 05.7**	**+0.1**
PLWZ	**Palliser**	**1.11**	**62**	P	**Pn**	**16 08 05.1**	**0.0**
MRNZ	**Matariki Terra**	**1.14**	**308**	P	**Pb**	**16 08 04.6**	**-1.1**
MSWZ	**Moikau Station**	**1.19**	**55**	P	**Pn**	**16 08 06.1**	**-0.1**
CAW	**Cannon Point**	**1.30**	**40**	P	**Pn**	**16 08 07.7**	**0.0**
DUWZ	**D'Urville Isla**	**1.30**	**359**	P	**Pn**	**16 08 07.1**	**-0.7**
TKNZ	**Takaka Hill**	**1.31**	**325**	P	**Pn**	**16 08 07.0**	**-0.9**
PAWZ	**Paruwai Farm**	**1.32**	**57**	P	**Pn**	**16 08 07.8**	**-0.2**
LTZ	**Lake Taylor**	**1.42**	**241**	P	**Pn**	**16 08 09.8**	**+0.4**
KIW	**Kapiti Island**	**1.44**	**30**	P	**Pn**	**16 08 09.9**	**+0.3**
AMCZ	**Amberley**	**1.44**	**222**	P	**Pn**	**16 08 09.9**	**+0.2**
TRWZ	**Traveller**	**1.48**	**62**	P	**Pn**	**16 08 09.7**	**-0.5**
MTW	**Mount Morrison**	**1.50**	**51**	P	**Pn**	**16 08 10.0**	**-0.5**
OGWZ	**Otaki Gorge**	**1.58**	**36**	P	**Pn**	**16 08 11.5**	**-0.1**
DSZ	**Denniston Nort**	**1.65**	**282**	P	**Pn**	**16 08 13.7**	**+1.1**
QRZ	**Quartz Range**	**1.67**	**320**	P	**Pn**	**16 08 13.8**	**+1.0**
QRZ	**Quartz Range**	**1.67**	**320**	P	**Pn**	**16 08 13.5**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.68**	**45**	P	**Pn**	**16 08 12.5**	**-0.5**
OKCZ	**Okains Bay**	**1.75**	**202**	P	**Pn**	**16 08 14.2**	**+0.3**
TMWZ	**Te Maipa**	**1.76**	**56**	P	**Pn**	**16 08 13.3**	**-0.8**
MQZ	**McQueen's Vall**	**1.86**	**210**	P	**Pn**	**16 08 14.8**	**-0.7**
OXZ	**Oxford**	**1.87**	**229**	P	**Pn**	**16 08 15.0**	**-0.5**
MRZ	**Mangatainoka R**	**1.89**	**41**	P	**Pn**	**16 08 15.4**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.93**	**203**	P	**Pn**	**16 08 16.4**	**+0.1**
INZ	**Inchbonnie**	**1.96**	**251**	P	**Pn**	**16 08 17.5**	**+0.7**
TIWZ	**Tintock**	**1.97**	**48**	P	**Pn**	**16 08 16.7**	**-0.3**
RACZ	**Rakaia**	**2.10**	**219**	P	**Pn**	**16 08 18.2**	**-0.5**
OHWZ	**Ohakea**	**2.16**	**29**	P	**Pn**	**16 08 21.0**	**+1.4**
PRWZ	**Pori Road**	**2.17**	**45**	P	**Pn**	**16 08 18.9**	**-0.8**
POWZ	**Post Office Ro**	**2.19**	**39**	P	**Pn**	**16 08 19.5**	**-0.5**
BFZ	**Birch Farm**	**2.23**	**51**	P	**Pn**	**16 08 19.6**	**-1.0**
BFZ				P	Pb	16 08 19.7	-4.6
MHCZ	**Mount Hutt**	**2.26**	**230**	P	**Pn**	**16 08 20.3**	**-0.7**
WACZ	**Wakanui South**	**2.41**	**219**	P	**Pn**	**16 08 22.4**	**-0.5**
DVHZ	**Dannevirke**	**2.46**	**43**	P	**Pn**	**16 08 22.4**	**-1.3**
WAZ	**Wanganui**	**2.47**	**19**	P	**Pn**	**16 08 25.8**	**+1.9**
TSZ	**Takapari Road**	**2.54**	**37**	P	**Pn**	**16 08 24.1**	**-0.8**
WVZ	**Waitaha Valley**	**2.57**	**247**	P	**Pn**	**16 08 25.5**	**+0.3**
LREZ	**Lake Rotokare**	**2.66**	**7**	P	**Pn**	**16 08 29.6**	**+3.1**
RPZ	**Rata Peaks**	**2.67**	**232**	Pn	**Pn**	**16 08 26.7**	**0.0**
	70nm,0.3s,baz=75,slow=2.4,SNR=178						
RPZ				Sn	**Sn**	**16 08 58.3**	**-0.3**
	27nm,0.3s,baz=153,slow=24,SNR=23						
RPZ				LR	LR	16 09 04.4	
	comp=Z,251nm,20.4s,baz=338,slow=32						
	234nm,0.4s						
RPZ	**Rata Peaks**	**2.67**	**232**	P	**Pn**	**16 08 26.5**	**-0.1**
RPZ	**Rata Peaks**	**2.67**	**232**	P	**Pn**	**16 08 26.2**	**-0.4**
NMEZ	**Namu Road**	**2.69**	**359**	P	**Pb**	**16 08 32.8**	**+0.7**
ARCZ	**Arundel**	**2.75**	**227**	P	**Pn**	**16 08 27.2**	**-0.4**
PNHZ	**Pukenui**	**2.77**	**39**	P	**Pn**	**16 08 28.9**	**-1.1**
WPHZ	**Waipukurau**	**2.77**	**43**	P	**Pn**	**16 08 27.1**	**-0.9**
KHEZ	**Kahui Hut**	**2.81**	**1**	P	**Pn**	**16 08 31.6**	**+3.0**
KHEZ	**Kahui Hut**	**2.81**	**1**	P	**Pn**	**16 08 31.8**	**+3.2**
NEZ	**North Egmont**	**2.83**	**2**	P	**Pb**	**16 08 33.5**	**-1.1**
NBEZ	**Newall Road No**	**2.83**	**359**	P	**Pn**	**16 08 32.2**	**+3.3**
PKE	**Pukeiti**	**2.91**	**0**	P	**Pn**	**16 08 32.9**	**+3.0**
DREZ	**Durham Road**	**2.92**	**4**	P	**Pb**	**16 08 36.1**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**2.94**	**244**	P	**Pn**	**16 08 30.9**	**+0.6**
PKVZ	**Pokaka**	**3.00**	**21**	P	**Pn**	**16 08 32.5**	**+1.2**
MOVZ	**Moawhango**	**3.02**	**27**	P	**Pn**	**16 08 31.4**	**-0.1**
MHEZ	**Mangahewa**	**3.04**	**5**	P	**Pb**	**16 08 36.1**	**-1.9**
VRZ	**Vera Road**	**3.04**	**12**	P	**Pn**	**16 08 33.5**	**+1.8**
WNVZ	**Wahianoa**	**3.04**	**25**	P	**Pn**	**16 08 32.7**	**+0.8**
TRVZ	**Turoa**	**3.05**	**24**	P	**Pn**	**16 08 33.1**	**+1.0**
BHHZ	**Black Hill Sta**	**3.06**	**32**	P	**Pn**	**16 08 32.1**	**0.0**
DRZ	**Dome Shelter**	**3.08**	**24**	P	**Pb**	**16 08 39.1**	**+0.2**
WHVZ	**Whangaehu Hut**	**3.08**	**24**	P	**Pn**	**16 08 33.7**	**+1.2**
FWVZ	**Far West T-bar**	**3.10**	**24**	P	**Pn**	**16 08 36.9**	**+4.6**
TUVZ	**Tukino**	**3.11**	**25**	P	**Pn**	**16 08 33.4**	**+0.6**
TMZ	**Timaru**	**3.13**	**222**	P	**Pn**	**16 08 32.5**	**-0.5**
NGZ	**Ngauruhoe**	**3.18**	**24**	P	**Pn**	**16 08 34.5**	**+0.7**
SNVZ	**South Ngauruho**	**3.19**	**24**	P	**Pb**	**16 08 39.0**	**-1.6**
KAHZ	**Kahuranaki**	**3.20**	**45**	P	**Pn**	**16 08 32.3**	**-1.6**
OTVZ	**Oturere**	**3.21**	**24**	P	**Pn**	**16 08 35.1**	**+0.9**
NNVZ	**North Ngauruho**	**3.23**	**24**	P	**Pn**	**16 08 35.3**	**+0.9**
TWVZ	**Taurewa**	**3.23**	**21**	P	**Pn**	**16 08 35.1**	**+0.7**
WTVZ	**West Tongariro**	**3.23**	**23**	P	**Pn**	**16 08 35.6**	**+1.2**
ETVZ	**East Tongariro**	**3.25**	**25**	P	**Pn**	**16 08 37.1**	**+2.4**
TMVZ	**Te Maari**	**3.27**	**25**	P	**Pn**	**16 08 35.9**	**+1.0**
FOZ	**Fox Glacier**	**3.36**	**244**	P	**Pn**	**16 08 36.3**	**+0.2**
BKZ	**Black Stump Fm**	**3.51**	**34**	P	**Pn**	**16 08 39.6**	**+1.4**
BKZ	**Black Stump Fm**	**3.51**	**34**	P	**Pn**	**16 08 37.1**	**-1.1**
LBZ	**Lake Benmore**	**3.58**	**229**	P	**Pn**	**16 08 38.5**	**-0.6**
HIZ	**Hauiti**	**3.65**	**11**	P	**Pn**	**16 08 42.4**	**+2.3**
HIZ	**Hauiti**	**3.65**	**11**	P	**Pn**	**16 08 41.7**	**+1.6**
MRHZ	**Matea Rd**	**3.77**	**31**	P	**Pn**	**16 08 40.4**	**-1.4**
ODZ	**Otahua Downs**	**3.80**	**218**	P	**Pn**	**16 08 41.7**	**-0.4**
ODZ	**Otahua Downs**	**3.80**	**218**	P	**Pn**	**16 08 41.3**	**-0.8**
WHHZ	**Waihua**	**3.92**	**41**	P	**Pn**	**16 08 46.0**	**+2.2**
MTHZ	**Maungataniwha**	**3.92**	**35**	P	**Pn**	**16 08 43.2**	**-0.7**
TLZ	**Tolley Road**	**3.96**	**18**	P	**Pn**	**16 08 45.2**	**+0.8**
ALRZ	**Allen Road**	**3.98**	**28**	P	**Pn**	**16 08 43.4**	**-1.2**
HRRZ	**Handcock Road**	**4.12**	**26**	P	**Pn**	**16 08 46.2**	**-0.3**
JCZ	**Jackson Bay**	**4.27**	**241**	P	**Pn**	**16 08 48.8**	**+0.2**
JCZ	**Jackson Bay**	**4.27**	**241**	P	**Pn**	**16 08 48.2**	**-0.4**
OMRZ	**Omania**	**4.40**	**26**	P	**Pn**	**16 08 55.1**	**+4.7**
HHSZ	**Highcliff Hill**	**4.49**	**212**	P	**Pn**	**16 08 51.3**	**-0.3**
WKZ	**Wanaka**	**4.51**	**231**	P	**Pn**	**16 08 51.0**	**-0.8**
TOZ	**Tahuroa Road**	**4.53**	**16**	P	**Pn**	**16 08 52.9**	**+0.8**
URZ	**Urewera**	**4.54**	**33**	P	**Pn**	**16 08 51.9**	**-0.3**
URZ	**Urewera**	**4.54**	**33**	P	**Pn**	**16 08 50.1**	**-2.1**
EAZ	**Earnscleugh**	**4.60**	**226**	P	**Pn**	**16 08 52.3**	**-0.7**
TGRZ	**Tauranga**	**4.72**	**23**	P	**Pn**	**16 08 55.3**	**+0.6**
TUZ	**Tuapeka**	**4.95**	**218**	P	**Pn**	**16 08 57.4**	**-0.5**
TWGZ	**Tauwhareparae**	**4.99**	**39**	P	**Pn**	**16 08 59.0**	**+0.5**
AWAZ	**Awhitu Peninsu**	**5.06**	**6**	P	**Pn**	**16 09 01.7**	**+2.2**
MKAZ	**Moumakai**	**5.08**	**11**	P	**Pn**	**16 09 00.9**	**+1.2**
MSZ	**Milford Sound**	**5.09**	**238**	P	**Pn**	**16 08 58.8**	**-1.0**
WTAZ	**Waiatarua**	**5.19**	**5**	P	**Pn**	**16 09 04.8**	**+3.5**
ETAZ	**East Tamaki Re**	**5.20**	**9**	P	**Pn**	**16 09 03.9**	**+2.5**
HAZ	**Te Kaha**	**5.25**	**35**	P	**Pn**	**16 09 00.9**	**-1.1**
MLZ	**Mavora Lakes**	**5.34**	**230**	P	**Pn**	**16 09 02.3**	**-1.0**
RVAZ	**Riverhead Bore**	**5.35**	**5**	P	**Pn**	**16 09 06.1**	**+2.7**
MBAZ	**Motutapu North**	**5.38**	**8**	P	**Pn**	**16 09 06.7**	**+2.9**
KUZ	**Kuaotunu**	**5.52**	**15**	P	**Pn**	**16 09 06.6**	**+0.8**
SYZ	**Scrubby Hill**	**5.62**	**216**	P	**Pn**	**16 09 07.8**	**+0.7**
SYZ	**Scrubby Hill**	**5.62**	**216**	P	**Pn**	**16 09 06.7**	**-0.4**
WHZ	**Wether Hill Ro**	**5.75**	**227**	P	**Pn**	**16 09 07.1**	**-1.9**
APZ	**The Paps**	**6.37**	**220**	P	**Pn**	**16 09 16.4**	**-1.0**
CTZ	**Chatham Island**	**7.11**	**106**	P	**Pn**	**16 09 27.6**	**+0.1**
CTZ	**Chatham Island**	**7.11**	**106**	P	**Pn**	**16 09 26.9**	**-0.6**
ASAR	**Alice Springs**	**37.92**	**286**	P	**P**	**16 15 00.2**	**-0.7**
	0.6nm,0.5s,baz=120,slow=6.7,SNR=19						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**40.02**	**291**	P	**P**	**16 15 16.8**	**-1.7**
	0.5nm,0.6s,baz=127,slow=8.5,SNR=11						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**48.02**	**180**	P	**P**	**16 16 26.2**	**+3.9**
	2.6nm,1.1s,baz=58,slow=3.4,SNR=3.9						
	2.6nm,1.1s						
ARCES	**ARCESS Array B**	**148.03**	**340**	PKPbc	**PKiKP**	**16 27 29.8**	**+0.3**
	2.6nm,0.8s,baz=20,slow=3.9,SNR=3.7						

*GUC **18** 16:09:53.5±0.6, 18°10S×69°85W, h96km±3km, ML3.4*

ISC 18 16:09:52.6±4.0, 18°1S±0°2×69°99W±0°10, h106km±21km, n10, σ0s63/17, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.41**	**236**	*e*P	**Pn**	**16 10 09.0**	**+0.6**
AP01				IAML		16 10 22.6	
	comp=N,2μm,0.2s						
PB16	**IPOC Station P**	**0.49**	**113**	*e*P	**Pn**	**16 10 09.5**	**-0.1**
PB16				*e*S	**Sn**	**16 10 21.3**	**-1.0**
PB16				IAML		16 10 22.3	
	comp=N,2μm,0.2s						
PB12	**IPOC Station P**	**0.57**	**215**	*e*P	**Pn**	**16 10 09.8**	**+0.2**
PB12				*e*S	**Sn**	**16 10 22.6**	**+0.2**
PB12				IAML		16 10 23.3	
	comp=E,1μm,0.3s						
MNMC	**Minye Minye**	**1.05**	**160**	*e*P	**Pn**	**16 10 14.4**	**+0.1**
MNMC				*e*S	**Sn**	**16 10 30.5**	**-0.1**
MNMC				IAML		16 10 32.5	
	comp=E,1μm,0.2s						
PSGC	**Pisagua**	**1.46**	**185↑**	*e*P	**Pn**	**16 10 18.4**	**-0.3**
PSGC				*e*S	**Sn**	**16 10 37.6**	**-0.9**
PB11	**IPOC Station P**	**1.64**	**169**	*e*P	**Pn**	**16 10 21.0**	**-0.1**
GO01	**Chusmiza**	**1.69**	**154**	*e*P	**Pn**	**16 10 22.6**	**+0.5**
GO01				*e*S	**Sn**	**16 10 45.0**	**+0.7**
GO01				IAML		16 10 47.2	
	comp=N,563nm,0.1s						
PB08	**IPOC Station P**	**2.14**	**159**	*e*P	**Pn**	**16 10 28.0**	**+0.4**
PB08				*e*S	**Sn**	**16 10 54.5**	**+0.2**
TA01	**Diego Aracena**	**2.42**	**184**	*e*P	**Pn**	**16 10 30.2**	**-0.7**
TA01				*e*S	**Sn**	**16 11 01.2**	**+1.0**
PATCX	**Punta Patache**	**2.67**	**183**	*e*P	**Pn**	**16 10 33.6**	**-0.6**

GUC 18 16:10:03.3±0.9, 21°77S×68°37W, h122km±7km, ML3.3, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.81**	**268↑**	*i*P	Pn	16 10 24.2	+0.3
PB09				*i* S	Sn	16 10 40.1	+0.5
LVC	**Limon Verde**	**0.97**	**211**	*e*P	Pn	16 10 25.2	-0.5
LVC				*e*S	Sn	16 10 42.2	-0.3
PB01	**IPOC Station P**	**1.27**	**305**	*e*P	Pn	16 10 28.3	-0.1
PB01				*e*S	Sn	16 10 47.0	-0.4
PB01				IAML		16 10 50.4	
	comp=N,417nm,0.2s						
PB03	**IPOC Station P**	**1.31**	**258↑**	*e*P	Pn	16 10 28.6	-0.3
PB03				*e*S	Sn	16 10 47.4	-0.9
PB03

MOVZ	Moawhango	2.57	27	P		Pb	16 21 27.7	-0.2
WNVZ	Wahianoa	2.59	24	P		Pb	16 21 27.9	-0.4
TRVZ	Turoa	2.60	23	P		Pb	16 21 28.3	-0.2
VRZ	Vera Road	2.60	9	P		Pn	16 21 25.8	+1.8
BHHZ	Black Hill Sta	2.61	33	P		Pb	16 21 28.9	+0.3
WHVZ	Whangaehu Hut	2.63	24	P		Pb	16 21 28.7	-0.3
FWVZ	Far West T-bar	2.64	23	P		Pb	16 21 30.4	+1.2
TUVZ	Tukino	2.66	25	P		Pb	16 21 30.9	+1.4
MHCZ	Mount Hutt	2.68	226	P		Pn	16 21 22.8	-2.3
NGZ	Ngauruhoe	2.73	23	P		Pb	16 21 30.6	0.0
SNVZ	South Ngauruho	2.73	24	P		Pb	16 21 30.2	-0.5
OTVZ	Oturere	2.76	24	P		Pb	16 21 32.3	+1.1
NNVZ	North Ngauruho	2.78	23	P		Pb	16 21 31.1	-0.4
WTVZ	West Tongariro	2.78	22	P		Pb	16 21 32.5	+0.9
WACZ	Wakanui South	2.85	217	P		Pn	16 21 24.8	-2.5
WVZ	Waitaha Valley	2.93	241	P		Pn	16 21 31.1	+2.7
BKZ	Black Stump Fm	3.07	35	P		Pb	16 21 36.2	-0.1
RPZ	Rata Peaks	3.08	228	P		Pn	16 21 28.7	-1.9
HIZ	Hauiti	3.22	9	P		Pn	16 21 34.7	+2.3
GCSZ	Gaunt Creek Bo	3.30	239	P		Pn	16 21 36.8	+3.2
TMZ	Timaru	3.57	220	P		Pn	16 21 35.3	-2.1
FOZ	Fox Glacier	3.73	239	P		Pn	16 21 39.7	+0.2
TOZ	Tahuroa Road	4.08	14	P		Pb	16 21 51.1	-2.5
ODZ	Otahua Downs	4.24	217	P		Pn	16 21 43.6	-2.9
JCZ	Jackson Bay	4.65	238	P		Pn	16 21 54.4	+2.2
WKZ	Wanaka	4.92	229	P		Pn	16 21 52.8	-3.1
EAZ	Earnscleugh	5.03	224	P		Pn	16 21 55.2	-2.1
TUZ	Tuapeka	5.40	216	P		Pn	16 22 01.2	-1.2

IDC 18 16:25:32.6±5.0, 23°.22N×94°.28E, h85km±43km, mb2.9/3, mbtmp3.2/4, Error ellipse: s-maj=116.7km s-min=26.7km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	Chiang Mai Arr	6.44	136	P		Pn	16 27 04.9	0.0
	0.6nm,0.3s,baz=311,slow=14,SNR=4.0							
MKAR	Makanchi Array	25.43	341	P		P	16 30 52.4	0.0
	0.3nm,0.6s,baz=145,slow=9.6,SNR=2.6							
	0.3nm,0.6s							
WRA	Warramunga Arr	58.03	134	P		P	16 35 17.8	+0.7
	0.5nm,1.0s,baz=323,slow=7.5,SNR=1.4							
	0.5nm,1.0s							
ASAR	Alice Springs	60.45	138	P		P	16 35 33.0	-0.7
	0.2nm,1.0s,baz=315,slow=6.5,SNR=4.5							
	0.2nm,1.0s							

*IDC **18** 16:40:45.0±3.0, 16°.76S×174°.12W, h75km±27km, mb3.4/6, mbtmp3.9/7, Error ellipse: s-maj=42.0km s-min=17.8km az=138.0*

ISC 18 16:40:50.2±1.1, 16°.8S±0°.3×174°.2W±0°.3, h124km, n8, σ0°.28/7, mb3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	Afiamalu	3.67	40	P		Pn	16 41 40.6	-4.9
	249nm,0.3s,baz=133,slow=0.6,SNR=146							
AFI				S		Sn	16 42 20.3	-8.1
	338nm,0.4s,baz=35,slow=21,SNR=6.5							
WRA	Warramunga Arr	48.80	258	P		P	16 49 22.9	-0.3
	0.3nm,0.4s,baz=96,slow=7.0,SNR=18							
	0.3nm,0.4s							
ASAR	Alice Springs	48.97	253	P		P	16 49 24.9	+0.4
	2.3nm,0.6s,baz=88,slow=8.8,SNR=77							
	2.3nm,0.6s							
VNDA	Vanda	61.95	186	P		P	16 50 56.4	-0.1
	0.6nm,0.7s,baz=17,slow=4.4,SNR=5.0							
	0.6nm,0.7s							
NVAR	Mina Array Bea	75.85	42	P		P	16 52 23.1	-0.1
	0.3nm,0.3s,baz=221,slow=7.5,SNR=3.6							
	0.3nm,0.3s							
PDAR	Pinedale Array	83.78	42	P		P	16 53 06.2	+0.2
	0.8nm,0.9s,baz=224,slow=4.1,SNR=4.8							
	0.8nm,0.9s							
ILAR	Eielson Array	83.92	11	P		P	16 53 05.8	-0.1
	0.4nm,0.9s,baz=236,slow=5.8,SNR=5.8							
	0.4nm,0.9s							
BRTR	Keskin Array B	146.70	319	PKPbc		PKPab	17 00 19.4	0.0
	1.0nm,0.7s,baz=42,slow=2.3,SNR=4.1							

*NOU **18** 16:42:33.4, 42°.08S×175°.11E, h109km, MLv3.9/5, Off E. Coast of S. Island, N.Z.*
*WEL **18** 16:42:41.7±0.3, 42°.S±4°×17°.4E±°, h10km±3km, M3.3/27, ML3.5/21, MLv3.3/27, Error ellipse: s-maj=0.0km s-min=0.0km az=155.6*

ISC 18 16:42:38.4±1.3, 42°.00S±0°.04×174°.30E±0°.03, h9km±15km, n87, σ1°.33/84, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMWZ	Cape Campbell	0.25	345	P		Pb	16 42 45.0	-0.1
BSWZ	Blackbirch Sta	0.42	311	P		Pb	16 42 48.0	0.0
TUWZ	Tuamarina	0.62	334	P		Pg	16 42 50.3	-0.2
KHZ	Kahutara	0.71	233	P		Pn	16 42 57.3	+2.8
KHZ	Kahutara	0.71	233	P		Pn	16 42 57.5	+3.0
KHZ				S		Sg	16 43 02.5	+1.2
SNZO	South Karori	0.75	24	P		Pb	16 42 53.3	-0.2
TCW	Tory Channel	0.78	359	P		Pg	16 42 52.8	-0.6
WEL	Wellington	0.79	26	P		Pb	16 42 54.4	+0.2
PLWZ	Palliser	0.83	60	P		Pn	16 42 57.2	+0.9
MSWZ	Moikau Station	0.92	51	P		Pn	16 42 58.2	+0.8
NNZ	Nelson	1.04	318	P		Pg	16 42 58.0	-0.4
PAWZ	Paruwai Farm	1.04	54	P		Pn	16 42 59.9	+0.8
CAW	Cannon Point	1.06	33	P		Pn	16 42 59.3	-0.1
THZ	Tophouse	1.07	282	P		Pn	16 43 00.9	+1.3
TRWZ	Traveller	1.20	61	P		Pb	16 43 01.9	+0.7
KIW	Kapiti Island	1.22	22	P		Pb	16 43 01.3	-0.3
DUWZ	D'Urville Isla	1.23	346	P		Pb	16 43 00.5	-1.2
MTW	Mount Morrison	1.23	48	P		Pb	16 43 02.0	+0.3
MRNZ	Matariki Terra	1.30	297	P		Pb	16 43 03.9	+1.0
OGWZ	Otaki Gorge	1.35	29	P		Pb	16 43 03.5	-0.3
GVZ	Greta Valley S	1.35	224	P		Pn	16 43 00.6	-2.8
GVZ				S		Sn	16 43 08.1	-13
TKNZ	Takaka Hill	1.39	313	P		Pn	16 43 04.3	+0.3
HOWZ	Holdsworth Sta	1.43	40	P		Pn	16 43 04.6	+0.2
TMWZ	Te Maipa	1.49	54	P		Pn	16 43 05.5	+0.2
MRZ	Mangatainoka R	1.64	36	P		Pn	16 43 07.4	0.0
AMCZ	Amberley	1.70	225	P		Pn	16 43 06.3	-1.8
LTZ	Lake Taylor	1.70	242	P		Pn	16 43 04.8	-3.4
LTZ				S		Sn	16 43 14.7	-15
TIWZ	Tintock	1.70	45	P		Pn	16 43 09.1	+0.8
QRZ	Quartz Range	1.77	311	P		Pb	16 43 10.6	-0.4
QRZ	Quartz Range	1.77	311	P		Pb	16 43 10.6	-0.4
DSZ	Denniston Nort	1.88	277	P		Pb	16 43 13.6	+0.7
DSZ	Denniston Nort	1.88	277	P		Pb	16 43 14.0	+1.1
PRWZ	Pori Road	1.91	42	P		Pn	16 43 11.3	+0.2
OHWZ	Ohakea	1.94	24	P		Pb	16 43 12.9	-1.1
POWZ	Post Office Ro	1.95	35	P		Pn	16 43 11.7	+0.1
OKCZ	Okains Bay	1.95	207	P		Pn	16 43 13.0	+1.3
BFZ	Birch Farm	1.97	49	P		Pg	16 43 16.2	+0.1
MQZ	McQueen's Vall	2.10	215	P		Pn	16 43 12.6	-1.0
OXZ	Oxford	2.13	231	P		Pn	16 43 12.4	-1.8
AKCZ	Akaroa Harbour	2.14	208	P		Pn	16 43 14.7	+0.5
DVHZ	Dannevirke	2.20	40	P		Pg	16 43 19.9	-0.7
INZ	Inchbonnie	2.24	250	P		Pn	16 43 15.0	-0.6
WAZ	Wanganui	2.30	13	P		Pb	16 43 19.3	-0.6
TSZ	Takapari Road	2.31	34	P		Pn	16 43 16.2	-0.3
RACZ	Rakaia	2.35	222	P		Pn	16 43 15.5	-1.6
WPHZ	Waipukurau	2.52	41	P		Pg	16 43 26.6	0.0
PNHZ	Pukenui	2.53	35	P		Pn	16 43 19.2	-0.4
MHCZ	Mount Hutt	2.53	232	P		Pn	16 43 17.4	-2.3
LREZ	Lake Rotokare	2.53	2	P		Pb	16 43 21.8	-2.2
NMEZ	Namu Road	2.60	353	P		Pb	16 43 24.9	-0.2
WACZ	Wakanui South	2.66	222	P		Pn	16 43 19.7	-1.6
KHEZ	Kahui Hut	2.71	355	P		Pb	16 43 25.2	-1.8
NBEZ	Newall Road No	2.74	353	P		Pb	16 43 24.7	-2.8
PKE	Pukeiti	2.81	355	P		Pb	16 43 28.4	-0.3
MOVZ	Moawhango	2.81	24	P		Pn	16 43 24.1	+0.6
PKVZ	Pokaka	2.82	17	P		Pb	16 43 27.1	-1.8
BHHZ	Black Hill Sta	2.84	29	P		Pb	16 43 28.9	-0.3
WNVZ	Wahianoa	2.84	21	P		Pb	16 43 28.4	-0.9
WVZ	Waitaha Valley	2.85	247	P		Pn	16 43 23.2	-0.7
TRVZ	Turoa	2.85	20	P		Pn	16 43 25.8	+1.5
DRZ	Dome Shelter	2.88	20	P		Pb	16 43 30.7	+0.6
WHVZ	Whangaehu Hut	2.88	20	P		Pb	16 43 29.2	-0.8
VRZ	Vera Road	2.89	7	P		Pn	16 43 26.1	+1.6
FWVZ	Far West T-bar	2.90	20	P		Pb	16 43 29.4	-0.9
TUVZ	Tukino	2.91	21	P		Pb	16 43 28.9	-1.7
RPZ	Rata Peaks	2.94	233	P		Pn	16 43 23.5	-1.8
RPZ	Rata Peaks	2.94	233	P		Pn	16 43 23.4	-1.9
NGZ	Ngauruhoe	2.98	20	P		Pb	16 43 30.1	-1.7
SNVZ	South Ngauruho	2.98	20	P		Pb	16 43 31.0	-0.8
ARCZ	Arundel	3.01	229	P		Pn	16 43 24.1	-2.1
OTVZ	Oturere	3.01	21	P		Pn	16 43 27.2	+0.8
NNVZ	North Ngauruho	3.03	20	P		Pn	16 43 28.2	+1.6
WTVZ	West Tongariro	3.04	19	P		Pb	16 43 31.5	-1.2
TWVZ	Taurewa	3.05	17	P		Pb	16 43 31.8	-1.0
ETVZ	East Tongariro	3.05	21	P		Pb	16 43 32.4	-0.5
TMVZ	Te Maari	3.07	21	P		Pb	16 43 31.6	-1.6
KRVZ	Karewarewa	3.07	20	P		Pb	16 43 32.7	-0.5
GCSZ	Gaunt Creek Bo	3.21	244	P		Pn	16 43 28.1	-0.9
BKZ	Black Stump Fm	3.28	31	P		Pb	16 43 37.1	+0.3
RATZ	Rangitukua	3.32	20	P		Pb	16 43 37.5	+0.1
HIZ	Hauiti	3.50	7	P		Pn	16 43 34.8	+1.9
MRHZ	Matea Rd	3.55	28	P		Pn	16 43 34.2	+0.6
MTHZ	Maungataniwha	3.69	33	P		Pb	16 43 44.0	+0.3
TLZ	Tolley Road	3.78	15	P		Pb	16 43 40.8	-4.5
ODZ	Otahua Downs	4.04	220	P		Pn	16 43 38.8	-1.6
TOZ	Tahuroa Road	4.36	13	P		Pn	16 43 48.1	+3.4
MKAZ	Moumakai	4.93	8	P		Pn	16 43 54.9	+2.4

*JMA **18** 16:55:29.6±0.2, 24°.N±1°×122°.4E±0°.4, h17km±3km, MV2.1/9, NW OFF ISHIGAKIJIMA IS*
*TAP **18** 16:55:30.2, 24°.07N×122°.38E, h20km, ML2.6, D*

ISC 18 16:55:30.0±1.0, 24°.03N±0°.02×122°.40E±0°.02, h20km±8km, n89, σ0°.53/146, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYNG	Yonagunijimaku	0.65	50	P		Pb	16 55 42.6	0.0
JYNG				S		Sg	16 55 52.2	+0.5
EHP	Heping Village	0.66	295	*e*P		Pn	16 55 44.0	-0.2
	baz=292							
YOJ	Yonaguni jima	0.71	52	P		Pb	16 55 43.6	0.0
	baz=55							
YOJ				S		Sn	16 55 54.7	-0.5
	baz=55							
YOJ	Yonaguni jima	0.71	52	P		Pb	16 55 43.8	+0.1
YOJ				S		Sb	16 55 53.3	+0.4
ENA	Nanau	0.72	304	*i* P		Pb	16 55 43.9	+0.1
	baz=301							
ENA				*i* S		Sg	16 55 54.1	+0.4
	baz=301							
ETL	Fush Village	0.72	281	*e*P		Pg	16 55 44.0	-0.1
	baz=277							
ETL				S		Sg	16 55 54.6	+0.8
	baz=277							
TWD	Chiawan	0.73	274	*e*P		Pb	16 55 44.0	0.0
	baz=270							
TWD				S		Sg	16 55 54.9	+0.7
	baz=270							
NACB	Ninganchiao	0.75	281	P		Pg	16 55 44.6	-0.1
	baz=278							
NACB				S		Sn	16 55 55.5	-0.6
	baz=278							
TEYL	Yanliau Villag	0.75	258	*e*P		Pn	16 55 46.2	+0.8
	baz=256							
TEYL				S		Sn	16 55 56.7	+0.5
	baz=256							
TWC	Suao	0.76	319	*i* P		Pb	16 55 44.0	-0.6
	baz=318							
TWC				*i* S		Sb	16 55 54.5	0.0
	baz=318							
ETM	Tongmen	0.83	266	P		Pg	16 55 45.9	-0.3
	baz=262							
ETM				S		Sg	16 55 57.1	-0.2
	baz=262							
ETLH	Xiulin Townshi	0.85	282	P		Pg	16 55 46.6	-0.1
	baz=279							
ETLH				S		Sn	16 55 58.9	0.0
	baz=279							
ESL	Shilin	0.91	257	P		Pb	16 55 46.4	-0.6
	baz=253							
ESL				S		Sb	16 55 58.9	+0.2
	baz=253							
EGS		0.92	333	*i* P		Pb	16 55 47.2	0.0
	baz=332							
EGS				*i* S		Sb	16 55 59.4	+0.4
	baz=332							
LATG	Datong	0.94	303	P		Pb	16 55 47.9	+0.3
	baz=300							
LATG				S		Sn	16 56 02.2	+1.1
	baz=300							
EGFH	Guangfu	0.96	248	*e*P		Pb	16 55 47.5	-0.4
	baz=245							
EGFH				*e*S		Sn	16 56 02.6	+1.3
	baz=245							
TWE	Neicheng	0.96	316	P		Pb	16 55 47.5	-0.4
	baz=315							
TWE				S		Sb	16 55 59.2	-1.0
	baz=315							
ENTT	Nioudou	0.97	309	*i* P		Pb	16 55 47.6	-0.5
	baz=307							
ENTT				*i* S		Sb	16 56 00.6	0.0
	baz=307							
NDT	Datong Townshi	0.99	305	*e*P		Pb	16 55 47.5	-0.9
	baz=303							
NNSB	Datong	1.01	293	P		Pb	16 55 48.9	0.0
	baz=291							
NNSB				S		Sb	16 56 01.9	+0.2
	baz=291							
NNS	Nan Shan	1.02	294	P		Pn	16 55 49.4	+0.1
	baz=291							
NNS				S		Sb	16 56 01.7	-0.4
	baz=291							
FUSB	Fushanzhiwuyua	1.04	315	P		Pn	16 55 49.6	+0.1
	baz=313							
FUSB				S		Sb	16 56 03.0	+0.5
	baz=313							
HGSD	Ruisui	1.04	239	P		Pb	16 55 49.0	-0.3
	baz=236							
HGSD				S		Sb	16 56 02.8	+0.3
	baz=236							
WHF	Hehuan Shan	1.04	277	*i* P		Pb	16 55 49.6	0.0
	baz=274							
WHF				S		Sb	16 56 03.3	+0.4
	baz=274							
TWB1	Santiao Chiao	1.04	339	P		Pn	16 55 49.8	+0.3
	baz=339							
TWB1				S		Sb	16 56 02.8	+0.2
	baz=339							
TIPB	Shuangxi	1.07	331	*i* P		Pb	16 55 49.8	-0.1
	baz=330							
TIPB				*i* S		Sb	16 56 02.8	-0.7
	baz=330							
FUSS	Fushou	1.07	282	*e*P		Pn	16 55 50.3	+0.1
	baz=279							
FUSS				*e*S		Sn	16 56 04.9	+0.2
	baz=279							
NWLT	Wulai	1.10	313	*e*P		Pn	16 55 50.1	-0.3
	baz=311							
NWLT				*e*S		Sb	16 56 03.9	-0.5
	baz=311							
EHY	Hungye	1.11	242	P		Pb	16 55 50.5	-0.1
	baz=239							
EHY				S		Sn	16 56 05.6	+0.3
	baz=239							
CHGB	Renai	1.12	272	P		Pn	16 55 50.8	+0.1
	baz=269							
CHGB				*e*S		Sb	16 56 04.0	-0.9
	baz=269							
YHNB	Yeheng	1.13	305	P		Pn	16 55 50.7	0.0
	baz=303							
YHNB				S		Sn	16 56 05.9	+0.2
	baz=303							
TWT	Tachien	1.14	282	P		Pg	16 55 52.9	+0.8
	baz=279							
TWT				S		Sn	16 56 06.3	+0.2
	baz=279							
NSK	Sanguang	1.15	304	*i* P		Pn	16 55 50.1	-0.9
	baz=303							
NSK				S		Sb	16 56 04.4	-1.3
	baz=303							
TDCB	Techi	1.15	281	*e*P		Pb	16 55 51.7	+0.4
	baz=279							
TDCB				*e*S		Sb	16 56 06.2	+0.3
	baz=279							
SXI1	Grass Mountain	1.16	336	P		Pn	16 55 50.6	-0.6
	baz=335							
SXI1				*e*S		Sn	16 56 06.8	+0.3
	baz=335							
WUSB	Renai	1.17	268	P		Pn	16 55 51.4	+0.1
	baz=266							
WUSB				S		Sn	16 56 07.2	+0.4
	baz=266							
NWF	Wu-fen Shan	1.18	332	P		Pg	16 55 52.8	-0.1
	baz=331							
NWF				S		Sb	16 56 06.2	-0.4
	baz=331							
VWDT	VWDT	1.18	257	*e*P		Pb	16 55 51.6	-0.1
	baz=254							
VWDT				*e*S		Sn	16 56 07.3	+0.5
	baz=254							
YULB	Yu-li	1.19	238	P		Pn	16 55 51.5	0.0
	baz=235							
YULB				*e*S		Sn	16 56 07.1	0.0
	baz=235							
EYUL	Yuli	1.20	236	*e*P		Pb	16 55 51.8	-0.2
	baz=233							
EYUL				*e*S		Sn	16 56 07.3	0.0
	baz=233							
TWA	Mucha	1.20	322	P		Pg	16 55 53.0	-0.3
	baz=321							
TWA				S		Sn	16 56 07.8	+0.4
	baz=321							
NHDH	Xindian Distri	1.22	320	P		Pn	16 55 52.4	+0.4
	baz=318							
NHDH				S		Sg	16 56 09.3	-0.4
	baz=318							
IRIF	Iriomote-Funau	1.25	76	P		Pn	16 55 52.5	+0.2
IRIF				*e*S		Sb	16 56 08.9	+0.2
TAP	Taipei	1.29	321	*e*P		Pn	16 55 52.7	-0.2
	baz=320							
TAP				*e*S		Sn	16 56 08.8	-0.9
	baz=320							
FULB	Fuli	1.31	231	*e*P		Pg	16 55 54.8	-0.4
	baz=228							
FULB				*e*S		Sg	16 56 11.5	-0.9
	baz=228							
NFF	Wufeng Townshi	1.31	297	*e*P		Pn	16 55 53.6	+0.3
	baz=295							
NFF				*e*S		Sb	16 56 10.9	+0.5
	baz=295							
SSLB	Suanglung	1.34	260	P		Pb	16 55 54.4	-0.1
	baz=257							
YM01	YM01	1.34	326	P		Pb	16 55 54.6	+0.1
	baz=325							
WCS	Beigang Elemen	1.36	271	*e*P		Pn	16 55 53.4	-0.4
	baz=269							
WCS				*e*S		Sn	16 56 11.1	-0.1
	baz=269							
SMLT	Sun Moon Lake	1.38	264	P		Pn	16 55 54.4	+0.2
	baz=262							
SMLT				S		Sn	16 56 11.9	+0.1
	baz=262							
TWS1	Kuangyinshan	1.39	320	*e*S		Sb	16 56 13.4	+0.8
	baz=319							
LIOB	Emei	1.40	296	P		Pb	16 55 55.7	+0.3
	baz=294							
NSTT	Nanjuang	1.41	295	P		Pb	16 55 56.4	+0.8
	baz=294							
NSTT				S		Sb	16 56 13.8	+0.7
	baz=294							
TYC	Yuchr	1.41	265	P		Pb	16 55 55.2	-0.4
	baz=263							
YUS	Yu-Shan	1.43	248	*e*P		Pn	16 55 55.4	+0.2
	baz=245							
TWY	Chenhua	1.44	330	*e*P		Pb	16 55 55.9	-0.1
	baz=329							
TWY				*e*S		Sn	16 56 13.2	0.0
	baz=329							
WHYT	Xinyi Township	1.45	257	*e*P		Pb	16 55 56.4	0.0
	baz=255							
EDH	Donghe	1.45	224	*e*P		Pn	16 55 55.1	0.0
	baz=222							
JKRS	Kuro-shima	1.49	82	P		Pb	16 55 57.0	0.0
JKRS				*e*S		Sb	16 56 15.8	+0.4
ELDTW	Lidau	1.52	237	*e*P		Pn	16 55 55.7	-0.4
	baz=234							
ELDTW				*e*S		Sn	16 56 14.5	-0.8
	baz=234							
WJS	Zhushan	1.54	263	*e*P		Pb	16 55 57.9	0.0
	baz=260							
ALS	Alishan	1.55	251	P		Pb	16 55 57.5	-0.6
	baz=248							
ALS				S		Sb	16 56 18.3	+0.9
	baz=248							
LDUT	Ludao	1.60	212	*e*P		Pn	16 55 57.7	+0.6
	baz=210							
LONT	Longtian	1.61	226	*e*P		Pb	16 55 59.2	+0.1
	baz=224							
JIJ	Ishigaki jima	1.63	78	P		Pn	16 55 57.7	+0.1
JIJ				*e*S		Sn	16 56 17.1	-0.9
TWGBT	Beinan	1.71	225	*e*P		Pn	16 55 59.1	+0.5
	baz=223							
TWG	Pinlang	1.71	226	*e*P		Pn	16 55 58.9	+0.2
	baz=223							
STYH	Taoyuan	1.71	240	*e*P		Pn	16 55 58.6	-0.1
	baz=238							
STYH				*e*S		Sb	16 56 21.0	-1.0
	baz=238							
WDLH	Douliu	1.73	259	*e*P		Pb	16 56 01.3	+0.1
	baz=257							
WCKO	Fanlu	1.74	251	*e*P		Pn	16 55 59.8	+0.7
	baz=248							
WCKO				*e*S		Sb	16 56 21.9	-0.9
	baz=248							
TPUB	Ta-pu	1.77	246	*e*P		Pb	16 56 01.4	-0.5
	baz=244							
TPUB				*e*S		Sb	16 56 24.2	+0.5
	baz=244							
CHN4	Tsaushan	1.79	248	*e*P		Pb	16 56 01.4	-0.7
	baz=246							
CHN4				*e*S		Sb	16 56 24.1	+0.1
	baz=246							
WTP	Ta-pu	1.81	245	*e*P		Pb	16 56 02.1	-0.4
	baz=242							
JISG	Ishigakijimahi	1.83	72	P		Pn	16 56 00.4	0.0
JISG				S		Sn	16 56 22.7	-0.2
WRL	Guolierlin Hig	1.85	266	*e*P		Pn	16 56 01.3	+0.7
	baz=264							
TWK	Hsinying	1.91	247	*e*P		Pb	16 56 03.6	-0.5
	baz=245							
CHN1	Nanshi	1.91	244	*e*P		Pb	16 56 03.7	-0.4
	baz=242							
SGST	Jiashian	1.91	241	*e*P		Pb	16 56 03.3	-0.9
	baz=239							
SSD	Sandimen	2.06	232	*e*P		Pb	16 56 05.7	-1.1
	baz=230							
TSMG	Majia	2.08	231	*e*P		Pb	16 56 06.6	-0.4
	baz=229							
MASBT	Mashibuluo	2.15	229	*e*P		Pb	16 56 06.7	-1.5
	baz=227							
LYUB	Lan-yu	2.15	201	*e*P		Pb	16 56 08.1	-0.2
	baz=199							
EAST	Anshuo	2.17	221	*e*P		Pn	16 56 05.8	+0.7
	baz=219							
TSCK	Chigu Township	2.29	248	*e*P		Pn	16 56 07.5	+0.8

PAWZ	Paruwai Farm	1.33	61	P		Pb		16 57 41.7	-0.2
KIW	Kapiti Island	1.41	33	P		Pb		16 57 43.8	+0.5
LTZ	Lake Taylor	1.41	238	P		Pb		16 57 43.8	+0.5
TRWZ	Traveller	1.49	65	P		Pn		16 57 43.6	+0.7
MTW	Mount Morrison	1.50	54	P		Pn		16 57 43.8	+0.9
OGWZ	Otaki Gorge	1.56	39	P		Pb		16 57 45.3	-0.6
DSZ	Denniston Nort	1.59	280	P		Pn		16 57 47.5	+1.1
QRZ	Quartz Range	1.59	319	P		Pb		16 57 47.1	+0.7
HOWZ	Holdsworth Sta	1.67	47	P		Pn		16 57 46.2	+0.8
TMWZ	Te Maipa	1.77	59	P		Pn		16 57 47.1	+0.4
OXZ	Oxford	1.87	226	P		Pn		16 57 49.0	+0.8
MRZ	Mangatainoka R	1.88	43	P		Pn		16 57 49.2	+1.0
MQZ	McQueen's Vall	1.90	208	P		Pn		16 57 48.6	+0.2
INZ	Inchbonnie	1.94	249	P		Pb		16 57 51.4	-0.9
RACZ	Rakaia	2.12	217	P		Pn		16 57 52.2	+1.7
WACZ	Wakanui South	2.42	218	P		Pn		16 57 56.5	+0.9
WAZ	Wanganui	2.43	20	P		Pb		16 58 01.2	+0.5
WVZ	Waitaha Valley	2.55	245	P		Pb		16 57 59.5	+2.1
RPZ	Rata Peaks	2.67	230	P		Pn		16 58 00.1	+1.0
KHEZ	Kahui Hut	2.75	2	P		Pb		16 58 07.4	+1.2
MOVZ	Moawhango	2.99	29	P		Pb		16 58 09.0	-1.2
VRZ	Vera Road	2.99	13	P		Pb		16 58 08.9	-1.3
TRVZ	Turoa	3.02	25	P		Pb		16 58 09.0	-1.9
BHHZ	Black Hill Sta	3.04	34	P		Pb		16 58 11.2	+0.1
TMZ	Timaru	3.15	221	P		Pn		16 58 06.4	+0.7
OTVZ	Oturere	3.18	26	P		Pn		16 58 08.8	+2.5
TWVZ	Taurewa	3.19	22	P		Pn		16 58 08.6	+2.2
FOZ	Fox Glacier	3.35	242	P		Pn		16 58 10.6	+2.2
LBZ	Lake Benmore	3.58	228	P		Pn		16 58 12.9	+1.3
ODZ	Otahua Downs	3.82	217	P		Pn		16 58 15.3	+0.5
WIAZ	Waiheke Island	5.33	11	P		Pn		16 58 37.7	+2.1

WEL 18 17:06:58.3±0.5, 42°S±4'×17°4E±', h5km, M3.2/33, ML3.6/11, MLv3.2/33, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.19	241	P	Pg	17 07 02.4	+0.2
KHZ				S	Sg	17 07 06.0	+1.3
BSWZ	Blackbirch Sta	0.61	8	P	Pg	17 07 09.9	-0.2
CMWZ	Cape Campbell	0.66	30	P	Pb	17 07 12.1	-0.3
GVZ	Greta Valley S	0.84	220	P	Pg	17 07 14.8	+0.3
THZ	Tophouse	0.85	311	P	Pg	17 07 14.7	+0.1
TUWZ	Tuamarina	0.90	8	P	Pg	17 07 15.3	-0.3
NNZ	Nelson	1.14	345	P	Pg	17 07 19.4	-0.8
TCW	Tory Channel	1.17	19	P	Pg	17 07 19.1	-1.7
AMCZ	Amberley	1.19	223	P	Pg	17 07 20.1	-0.9
MRNZ	Matariki Terra	1.19	320	P	Pg	17 07 21.1	-0.1
LTZ	Lake Taylor	1.20	247	P	Pg	17 07 20.2	-1.1
WEL	Wellington	1.28	36	P	Pn	17 07 20.4	-2.5
PLWZ	Palliser	1.34	56	P	Pn	17 07 20.3	-3.4
TKNZ	Takaka Hill	1.42	335	P	Pn	17 07 24.3	-0.5
MSWZ	Moikau Station	1.43	51	P	Pn	17 07 21.7	-3.3
OKCZ	Okains Bay	1.49	200	P	Pn	17 07 22.9	-2.9
DUWZ	D'Urville Isla	1.52	4	P	Pn	17 07 24.6	-1.7
CAW	Cannon Point	1.56	39	P	Pn	17 07 23.9	-2.8
PAWZ	Paruwai Farm	1.56	53	P	Pn	17 07 23.2	-3.5
DSZ	Denniston Nort	1.57	291	P	Pn	17 07 27.0	-0.4
MQZ	McQueen's Vall	1.61	210	P	Pn	17 07 24.0	-3.3
AKCZ	Akaroa Harbour	1.67	202	P	Pn	17 07 25.5	-2.8
KIW	Kapiti Island	1.69	31	P	Pn	17 07 26.3	-2.3
TRWZ	Traveller	1.71	58	P	Pn	17 07 25.0	-3.7
MTW	Mount Morrison	1.74	49	P	Pn	17 07 25.8	-3.4
QRZ	Quartz Range	1.76	328	P	Pn	17 07 29.3	-0.1
OGWZ	Otaki Gorge	1.84	35	P	Pn	17 07 27.8	-2.7
RACZ	Rakaia	1.84	220	P	Pn	17 07 27.8	-2.8
HOWZ	Holdsworth Sta	1.94	43	P	Pn	17 07 28.6	-3.3
TMWZ	Te Maipa	2.00	53	P	Pn	17 07 28.9	-3.9
MRZ	Mangatainoka R	2.15	40	P	Pn	17 07 31.5	-3.3
WACZ	Wakanui South	2.15	220	P	Pn	17 07 32.1	-2.7
RPZ	Rata Peaks	2.43	234	P	Pn	17 07 36.3	-2.4
WAZ	Wanganui	2.73	20	P	Pn	17 07 42.1	-0.6
TSZ	Takapari Road	2.80	37	P	Pn	17 07 40.3	-3.5
KHEZ	Kahui Hut	3.03	4	P	Pn	17 07 49.0	+2.0
PKVZ	Pokaka	3.26	22	P	Pn	17 07 49.3	-0.8
MOVZ	Moawhango	3.28	28	P	Pn	17 07 47.9	-2.5
VRZ	Vera Road	3.28	14	P	Pn	17 07 50.0	-0.3
WNVZ	Wahianoa	3.30	26	P	Pn	17 07 49.1	-1.7
TRVZ	Turoa	3.31	25	P	Pn	17 07 49.8	-1.2
BHHZ	Black Hill Sta	3.32	32	P	Pn	17 07 48.1	-2.9
LBZ	Lake Benmore	3.33	230	P	Pn	17 07 49.9	-1.1
WHVZ	Whangaehu Hut	3.34	25	P	Pn	17 07 49.7	-1.7
NGZ	Ngauruhoe	3.44	25	P	Pn	17 07 51.4	-1.3
OTVZ	Oturere	3.47	25	P	Pn	17 07 51.5	-1.6
NNVZ	North Ngauruho	3.48	24	P	Pn	17 07 51.9	-1.4
WTVZ	West Tongariro	3.49	24	P	Pn	17 07 52.3	-1.0
ODZ	Otahua Downs	3.54	219	P	Pn	17 07 51.1	-2.8
BKZ	Black Stump Fm	3.77	34	P	Pn	17 07 59.9	+2.7
HIZ	Hauiti	3.89	13	P	Pn	17 07 58.2	-0.6
JCZ	Jackson Bay	4.04	243	P	Pn	17 08 04.4	+3.5
TLZ	Tolley Road	4.21	19	P	Pn	17 08 01.3	-1.9
AWAZ	Awhitu Peninsu	5.29	8	P	Pn	17 08 17.5	-0.6
MKAZ	Moumakai	5.32	12	P	Pn	17 08 16.9	-1.5
ETAZ	East Tamaki Re	5.44	10	P	Pn	17 08 18.3	-0.7
MBAZ	Motutapu North	5.61	9	P	Pn	17 08 22.2	-0.2

*SCB **18** 17:11:31.9±1.4, 21°47S×66°64W, h246km±1km, ML4.6/2, MW4.1, Error ellipse: s-maj=5.0km s-min=4.8km az=0.0*
*IDC **18** 17:11:32.1±0.7, 21°39S×66°64W, h215km±6km, mb3.8/8, mbtmp4.3/14, Error ellipse: s-maj=13.1km s-min=8.8km az=122.0*
*NEIC **18** 17:11:32.7±1.5, 21°44S±0°02×66°70W±0°09, h217km±9km, mb4.6/11, ML4.7(GUC), Error ellipse: s-maj=12.4km s-min=2.3km az=77.0*
*VAO **18** 17:11:33.0±0.2, 21°22S×66°65W, h218km±3km, mb4.6*
*GUC **18** 17:11:33.4±0.8, 21°45S×66°92W, h247km±8km, ML4.7*

ISC 18 17:11:32.0±0.6, 21°38S±0°04×66°67W±0°04, h216km±5km, n176, σ1°33/205, mb4.2/9, 7C-7D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	Mochara	0.97	83	P	Pn	17 12 05.9	+2.0
MOCB				S	S	17 12 29.9	+1.4
MOCB				IAML		17 12 31.5	
	1µm,0.4s						
YJA	Yavi	1.34	127	P	Pn	17 12 08.1	+1.7
AOVT	TarijaAcel	1.84	95	P	Pn	17 12 11.7	+1.2
AF01	San Pedro de A	2.10	221		Pn	17 12 13.1	+0.1
AF01	San Pedro de A	2.10	221	*i* P	Pn	17 12 15.0	+2.0
AF01	San Pedro de A	2.10	221	P	Pn	17 12 13.7	+0.6
LVC	Limon Verde	2.41	239	P	Pn	17 12 17.3	+0.8
	79nm,0.5s,baz=49,slow=6.5,SNR=87						
LVC				S	S	17 12 51.3	+0.6
	102nm,0.4s,baz=238,slow=21,SNR=56						
LVC	Limon Verde	2.41	239		Pn	17 12 17.1	+0.7
LVC	Limon Verde	2.41	239	ǁ *i* P	Pn	17 12 17.2	+0.8
LVC				*i* S	S	17 12 51.1	+0.4
LVC	Limon Verde	2.41	239	P	Pn	17 12 17.8	+1.4
LVC	Limon Verde	2.41	239	*e*P	Pn	17 12 17.2	+0.8
LVC				*e*S	S	17 12 51.1	+0.4
PB09	IPOC Station P	2.43	260		Pn	17 12 17.7	+1.1
PB09	IPOC Station P	2.43	260	ǁ *i* P	Pn	17 12 17.5	+1.1
PB09				*e*S	S	17 12 51.0	+0.4
PB08	IPOC Station P	2.62	297		Pn	17 12 20.4	+1.7
PB08	IPOC Station P	2.62	297	⇑ *i* P	Pn	17 12 20.4	+1.7
PB08				*i* S	S	17 12 56.2	+1.3
PB08				IAML		17 13 00.2	
	comp=N,485nm,0.2s						
PB01	IPOC Station P	2.65	277		Pn	17 12 19.4	+0.8
PB01	IPOC Station P	2.65	277	ǁ *i* P	Pn	17 12 19.2	+0.6
PB01				*i* S	S	17 12 54.8	0.0
PB01				IAML		17 12 56.9	
	comp=E,818nm,0.1s						
GO01	Chusmiza	2.91	305		Pn	17 12 23.3	+1.2
GO01	Chusmiza	2.91	305	⇑ *i* P	Pn	17 12 23.4	+1.4
GO01	Chusmiza	2.91	305	P	Pn	17 12 24.0	+2.0
PB03	IPOC Station P	2.94	256		Pn	17 12 22.2	+0.2
PB03	IPOC Station P	2.94	256	*i* P	Pn	17 12 21.8	-0.2
PB03				*i* S	S	17 12 59.3	-1.5
PB03				IAML		17 13 01.1	
	comp=N,1µm,0.3s						
PB06	IPOC Station P	3.00	243		Pn	17 12 23.5	+0.9
PB06	IPOC Station P	3.00	243	*i* P	Pn	17 12 23.0	+0.3
PB06				*i* S	S	17 13 01.3	-0.7
PB06				IAML		17 13 02.9	
	comp=E,967nm,0.2s						
PB06	IPOC Station P	3.00	243	P	Pn	17 12 23.2	+0.6
PB02	IPOC Station P	3.00	270		Pn	17 12 23.0	+0.4
PB02	IPOC Station P	3.00	270	ǁ *i* P	Pn	17 12 23.1	+0.4
PB02				*i* S	S	17 13 00.6	-1.5
PB02	IPOC Station P	3.00	270	P	Pn	17 12 23.6	+0.9
PB07	IPOC Station P	3.01	263		Pn	17 12 23.1	+0.3
PB07	IPOC Station P	3.01	263	ǁ *i* P	Pn	17 12 23.3	+0.5
PB07				*i* S	S	17 13 00.8	-1.5
PB07				IAML		17 13 02.6	
	comp=N,2µm,0.2s						
PB15	IPOC Station P	3.17	234	Pn	Pn	17 12 24.9	+0.2
PB15	IPOC Station P	3.17	234	*e*P	Pn	17 12 24.7	0.0
PB15				*e*S	S	17 13 04.8	-0.9
PB15	IPOC Station P	3.17	234	P	Pn	17 12 24.6	0.0
PB11	IPOC Station P	3.22	299	Pn	Pn	17 12 25.9	+0.7
PB11	IPOC Station P	3.22	299	⇑ *i* P	Pn	17 12 26.0	+0.7
PB11				*i* S	S	17 13 06.2	-0.5
PATCX	Punta Patache	3.29	279		Pn	17 12 26.3	+0.3
PATCX	Punta Patache	3.29	279	ǁ *i* P	Pn	17 12 26.4	+0.3
PATCX				*i* S	S	17 13 06.3	-1.7
PB04	IPOC Station P	3.37	253	Pn	Pn	17 12 27.1	+0.1
PB04	IPOC Station P	3.37	253	ǁ *i* P	Pn	17 12 27.1	+0.1
PB04				*i* S	S	17 13 07.5	-2.2
TA01	Diego Aracena	3.37	283	Pn	Pn	17 12 26.8	-0.2
TA01	Diego Aracena	3.37	283	*i* P	Pn	17 12 26.7	-0.2
TA01				*i* S	S	17 13 07.7	-2.0
TA01	Diego Aracena	3.37	283	P	Pn	17 12 27.4	+0.5
TA02	Huaiquique	3.42	288		Pn	17 12 27.5	+0.1
TA02	Huaiquique	3.42	288	*i* P	Pn	17 12 27.5	+0.1
TA02	Huaiquique	3.42	288	P	Pn	17 12 27.9	+0.5
MNMC	Minye Minye	3.54	309		Pn	17 12 30.4	+1.3
MNMC	Minye Minye	3.54	309	⇑ *i* P	Pn	17 12 30.5	+1.3
MNMC				*i* S	S	17 13 14.2	+0.5
PSGC	Pisagua	3.69	298	⇑ *i* P	Pn	17 12 30.3	-0.4
PSGC				*i* S	S	17 13 14.3	-2.3
PSGCX	Pisagua	3.69	298	Pn	Pn	17 12 30.4	-0.4
PB16	IPOC Station P	4.03	318		Pn	17 12 37.3	+1.8
PB16	IPOC Station P	4.03	318	⇑ *i* P	Pn	17 12 37.5	+2.0
PB16				*i* S	S	17 13 25.9	+1.0
PB10	IPOC Station P	4.17	239	Pn	Pn	17 12 36.4	-0.1
PB10	IPOC Station P	4.17	239	*i* P	Pn	17 12 36.4	-0.1
PB10				*i* S	S	17 13 23.3	-3.8
PB12	IPOC Station P	4.40	308	Pn	Pn	17 12 38.5	-0.9
PB12	IPOC Station P	4.40	308	⇑ *i* P	Pn	17 12 38.6	-0.9
PB12				*i* S	S	17 13 29.2	-3.1
AP01	Chacalluta	4.56	310	Pn	Pn	17 12 41.3	-0.1
AP01					S	17 13 34.0	-1.9
AP01	Chacalluta	4.56	310	*i* P	Pn	17 12 41.1	-0.3
AP01				*i* S	S	17 13 33.0	-3.0
AP01	Chacalluta	4.56	310	P	Pn	17 12 42.0	+0.6
SOEJ	Jacaque	4.61	342	P	Pn	17 12 44.7	+2.2
GO02	Mina Guanaco	4.63	215	Pn	Pn	17 12 42.4	-0.1
GO02	Mina Guanaco	4.63	215	P	Pn	17 12 42.1	-0.3
GO02				IAML		17 13 37.3	
	comp=N,1µm,0.4s						
BBOE	La Paz, Chanca	4.70	345	P	Pn	17 12 45.5	+1.8
PB14	IPOC Station P	4.72	226	Pn	Pn	17 12 43.2	-0.4
BBOD	La Paz, Gloria	5.05	339	P	Pn	17 12 49.8	+1.7
LPAZ	La Paz	5.25	345	P	Pn	17 12 52.6	+2.0
	comp=N,57nm,0.5s,baz=152,slow=9.1,SNR=167						
LPAZ				S	S	17 13 53.6	+1.2
	comp=N,95nm,1.0s,baz=352,slow=16,SNR=111						
LPAZ	La Paz	5.25	345	P	Pn	17 12 52.9	+2.3
LPAZ	La Paz	5.25	345	*e*P	Pn	17 12 52.6	+2.0
LPAZ				*e*S	S	17 13 52.9	+0.4
AC02	Maricunga	5.88	202	Pn	Pn	17 12 57.7	-0.8
AC01	Pan de Azucar	5.96	216	Pn	Pn	17 12 57.1	-1.9
AC06	Mina Casimiro	6.83	209	Pn	Pn	17 13 07.8	-2.5
GO03	Copiap	6.99	207			17 13 09.8	-2.5
BBSD	Serra de San D	7.08	55	P	Pn	17 13 13.4	-0.1
BBSD	Serra de San D	7.08	55	*e*P	Pn	17 13 13.2	-0.3
BBSD				*e*S	S	17 14 29.6	-4.7
BBRB	Robore, Bolivi	7.16	66	*e*P	Pn	17 13 12.8	-1.7
BBRB				*e*S	S	17 14 31.6	-4.5
SIV	San Ignacio	7.54	46	P	Pn	17 13 19.1	-0.3
	comp=N,85nm,0.4s,baz=223,slow=12,SNR=371						
SIV				S	S	17 14 44.1	-1.1
	comp=N,5.3nm,0.4s,baz=290,slow=18,SNR=1.5						
SIV	San Ignacio	7.54	46	P	Pn	17 13 19.6	+0.2
AC04	Llanos de Chal	7.89	210	Pn	Pn	17 13 20.6	-3.1
AC05	El Transito	8.11	203	Pn	Pn	17 13 24.7	-2.1
LCO	Las Campanas	8.43	205	Pn	Pn	17 13 28.2	-2.9
CO01	Juntas del Tor	9.10	199		Pn	17 13 38.7	-1.0
PTLB	Pontes e Lacer	9.27	52	Pn	Pn	17 13 40.8	-0.9
PTLB	Pontes e Lacer	9.27	52	*e*P	Pn	17 13 41.2	-0.5
PTLB				*e*S	S	17 15 24.3	-1.7
GO04	Tololo Observa	9.52	202	Pn	Pn	17 13 42.0	-2.9
CPUP	Villa Florida	9.87	122	P	Pn	17 13 49.5	+0.1
	comp=N,2.1nm,0.8s,baz=326,slow=8.9,SNR=3.6						
CPUP	Villa Florida	9.87	122	Pn	Pn	17 13 49.0	-0.4
CO03	El Pedregal	10.09	201	Pn	Pn	17 13 49.0	-3.3
CO06	Fray Jorge	10.28	205	Pn	Pn	17 13 49.5	-5.0
ZON	Zonda	10.29	190	Pn	Pn	17 13 53.9	-0.9
AQDB	Aquidauana	10.30	87	Pn	Pn	17 13 55.6	+0.7
AQDB	Aquidauana	10.30	87	*e*P	Pn	17 13 56.1	+1.2
VILB	Vilhena	10.41	37	Pn	Pn	17 13 56.0	-0.4
VILB	Vilhena	10.41	37	*e*P	Pn	17 13 57.5	+1.1
CO02	Combarbal	10.53	201		Pn	17 13 54.5	-3.3
ETMB	Extrema	11.50	2	Pn	Pn	17 14 09.6	-0.7
ETMB	Extrema	11.50	2	*e*P	Pn	17 14 10.2	-0.1
SALV	Santo Antonio	11.74	64	*e*P	Pn	17 14 15.2	+1.9
VA03	San Esteban	11.86	196		Pn	17 14 14.9	+0.2
MCR1	Marechal Candi	12.04	107	*e*P	P	17 14 23.4	+2.3
ROC1	El Roble	12.18	198		Pn	17 14 17.6	-1.4
MT02	Curacav	12.48	198		Pn	17 14 21.4	-1.1
MT03	Universidad Ad	12.54	195	Pn	Pn	17 14 23.0	-0.3
LMEL	Las Melosas	12.81	193		Pn	17 14 26.5	-0.2
CRSM	Crissiumal (Br	13.01	120	*e*P	P	17 14 33.1	+1.9
BO04	La Punta	13.04	195		Pn	17 14 29.4	0.0
MT01	Popeta	13.08	197	P	Pn	17 14 29.0	-0.9
TRCB	Terra Rica	13.09	99	*e*P	P	17 14 34.9	+2.0
BO01	Tunca	13.54	196		Pn	17 14 34.7	-0.9
PDRB	Porto dos Gac	13.60	46	*e*P	Pn	17 14 35.7	-0.8
BO02	Sierra Bellavi	13.85	194	P	Pn	17 14 39.5	0.0
PTGB	Pitanga	13.85	107	*e*P	P	17 14 43.5	+2.2
PCMB	Pacaembu	14.35	94	*e*P	P	17 14 48.9	+2.1
ITAB	Concordia	14.48	117	P	Pn	17 14 45.4	-1.9
CLDB	Colider	14.76	47	*e*P	Pn	17 14 50.9	+0.1
CZSB	Cruzeiro do Su	14.76	336	*e*P	Pn	17 14 46.7	-4.1
ML02	Panimavida	14.93	195		Pn	17 14 51.8	-0.8
ARAG	Araguaiana, MT	15.18	71	*e*P	P	17 14 57.7	+1.8
ITRB	Iturama	15.37	87	*e*P	Pn	17 14 59.5	+1.3
PLTB	Pedras Altas	15.60	134	P	P	17 15 00.3	-0.2
PLTB				IAmb	IAmb	17 15 02.0	
	comp=Z,14nm,0.7s						
PLTB	Pedras Altas	15.60	134	*e*P	P	17 15 00.5	0.0
FRTB	Fartura	15.95	100	*e*P	P	17 15 04.9	+0.4
TIJ01	Guaruva-PR	16.69	107	*e*P	Pn	17 15 15.7	+1.6
BB19B	Bebedouro	16.93	92	*e*P	Pn	17 15 16.6	-0.1
TER01	Tubaro-SC	17.42	118	*e*P	P	17 15 20.6	+0.1
SNDB	Serra Nova Dou	17.43	60	*e*P	P	17 15 21.4	+0.7
IPMB	Ipameri, GO	17.71	82	*e*P	P	17 15 25.0	+1.2
RCLB	Rio Claro- Sao	17.80	97	*e*P	P	17 15 25.2	+0.5
NPGB	Novo Progresso	17.96	39	*e*P	P	17 15 25.9	-0.6
PET01	Itanhaem-SP	18.11	103	*e*P	P	17 15 28.4	+0.3
VAO	Valinhos	18.32	99	*e*P	P	17 15 30.9	+0.4
BDFB	Brasilia	18.59	75	P	P	17 15 34.5	+1.1
	comp=Z,12nm,0.6s,baz=251,slow=9.3,SNR=18						
BDFB	Brasilia	18.59	75	P	P	17 15 34.1	+0.7
BDFB				IAmb	IAmb	17 15 37.7	
	comp=Z,13nm,0.5s						
GO06	Curarrehue	18.61	192	P	P	17 15 33.4	0.0
GO06				IAmb	IAmb	17 15 38.1	
	comp=Z,18nm,0.7s						
MACA	Manacapuru-AM	19.02	19	P	P	17 15 36.7	-1.2
MACA				IAmb	IAmb	17 15 38.2	
	comp=Z,114nm,0.6s						
MACA	Manacapuru-AM	19.02	19	*e*P	P	17 15 36.9	-1.0
PARB	Paraibuna	19.57	100	*e*P	P	17 15 43.6	-0.2
PLCA	Paso Flores	19.58	189	P	P	17 15 43.9	+0.2
	comp=Z,1.1nm,0.4s,baz=28,slow=6.4,SNR=10						
ITTB	Itaituba	19.97	34	*e*P	P	17 15 47.4	-0.7
LL04	Puerto Octay	20.07	193	P	P	17 15 48.4	-0.6
LL04				IAmb	IAmb	17 15 54.9	
	comp=Z,31nm,1.4s						
SGCB	SÃo Gabriel d	21.13	359	*e*P	P	17 16 00.7	+0.4
MCRA	Macar, Loja	21.26	321	P	P	17 16 01.2	-0.6
BOSC	San Juan Bosco	21.46	326	P	P	17 16 04.2	+0.3
VAS01	Vassouras-RJ	21.58	97	*e*P	P	17 16 03.7	-1.3
DIAM	Diamantina, MG	21.85	86	*e*P	P	17 16 07.2	-0.5
MC01	Montes Claros	21.98	82	*e*P	P	17 16 07.7	-1.2
JANB	Januaria	22.14	77	*e*P	P	17 16 09.3	-1.1
SMTB	Santa Maria do	22.20	59	*e*P	P	17 16 10.7	-0.2
SDBA	SAO DESIDERIO	22.64	70	*e*P	P	17 16 14.1	-0.8
MALB	Monte Alegre	22.86	34	*e*P	P	17 16 16.4	-0.5
PORT	Chimborazo Vol	23.04	328	P	P	17 16 20.1	+1.0
RIB01	Linhares ES	24.72	90	*e*P	P	17 16 32.9	-0.8
GUA01	Guaratinga, BA	25.84	84	*e*P	P	17 16 43.3	-0.5
GDU01	Guandu, BA	26.91	78	*e*P	P	17 16 52.0	-1.4
MDP	Montagnes des	29.69	29	P	P	17 17 18.1	0.0
	comp=Z,3.9nm,0.5s,baz=216,slow=4.9,SNR=5.1 comp=Z,3.9nm,0.5s						
BAUV	El Baul	30.16	357	P	P	17 17 21.5	-0.6
VNA3	Neumayer Olymp	59.53	162	P	P	17 21 13.2	+0.9
VNA2	Neumayer--Watz	60.08	161	P	P	17 21 16.8	+0.8
	baz=276,slow=7.0						
SNAA	Sanae	61.72	161	P	P	17 21 28.0	+0.9
TXAR	Lajitas Array	61.74	323	P	P	17 21 28.6	+0.7
	comp=Z,0.2nm,0.4s,baz=146,slow=8.3,SNR=3.1 comp=Z,0.2nm,0.4s						
TROLL	Troll, Antarti	63.43	161	P	P	17 21 39.7	+1.2
DBIC	Dimbokro	66.71	72	P	P	17 21 59.9	-0.4
	comp=Z,12nm,0.8s,baz=237,slow=6.1,SNR=9.8 comp=Z,12nm,0.8s						
CCUT	Cedar City	73.25	323	P	P	17 22 42.1	+2.2
MVU	Marysvale	73.29	324	P	P	17 22 41.6	+1.5
MVU				IAmb	IAmb	17 22 43.2	
	comp=Z,13nm,0.9s						
PDAR	Pinedale Array	75.06	329	P	P	17 22 50.8	+0.5
	comp=Z,0.5nm,0.5s,baz=121,slow=8.5,SNR=8.4 comp=Z,0.5nm,0.5s						
ULM	Lac du Bonnet	75.85	341	P	P	17 22 53.5	-0.7
	comp=Z,3.2nm,0.5s,baz=117,slow=9.0,SNR=2.5 comp=Z,2.3nm,0.5s						
BOSA	Boshof	81.66	117	P	P	17 23 26.0	-0.6
	comp=Z,2.3nm,0.4s,baz=268,slow=4.6,SNR=12 comp=Z,2.3nm,0.4s						
MAW	Mawson	83.84	163	P	P	17 23 37.9	+1.1
	comp=Z,3.3nm,0.7s,baz=184,slow=3.6,SNR=9.4 comp=Z,3.3nm,0.7s						
ESDC	Sonsecа Array	84.30	44	P	P	17 23 39.8	+0.1
	comp=Z,1.8nm,1.0s,baz=264,slow=3.8,SNR=5.6 comp=Z,1.8nm,1.0s						
ASAR	Alice Springs	130.95	205	PKP	PKPdf	17 30 18.6	0.0
	comp=Z,0.8nm,0.5s,baz=130,slow=1.8,SNR=30						
ASAR				SKPbc	SKPbc	17 33 21.6	-0.9
	comp=Z,0.5nm,0.6s,baz=144,slow=3.6,SNR=11						
WRA	Warramunga Arr	134.08	208	PKhKP	PKPpre	17 30 15.4	
	comp=Z,0.4nm,1.0s,baz=216,slow=1.5,SNR=4.7						
WRA				PKP	PKPdf	17 30 24.4	-0.1
	comp=Z,0.6nm,0.4s,baz=152,slow=1.8,SNR=26						
WRA				SKPbc	SKPbc	17 33 32.8	-0.6
	comp=Z,0.8nm,0.9s,baz=142,slow=3.2,SNR=4.9						
ZALV	Zalesovo Beam	140.93	27	PKP	PKPdf	17 30 36.7	+0.8
	comp=Z,1.7nm,0.7s,baz=343,slow=2.0,SNR=6.4						
MAKZ	Makanchi	144.10	38		PKPab	17 30 40.6	+0.6
MK31

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.08**	**163**	P	P	17 39 36.0	-0.6
	0.8nm,0.5s,baz=342,slow=11,SNR=8.7						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.51**	**166**	P	P	17 40 10.7	+0.5
	0.1nm,0.3s,baz=342,slow=11,SNR=7.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**60.03**	**326**	P	P	17 44 48.5	-0.1
	0.1nm,0.3s,baz=133,slow=6.5,SNR=1.6						
	0.1nm,0.3s						

*IDC **18** 17:41:26.3±2.2,39.95N×20.82E,h0km,mb3.6/4, mbtmp3.6/6,ML3.0/2,MS2.9/2,Error ellipse: s-maj=42.7km s-min=28.0km az=8.0*
*TIR **18** 17:41:27.0,39.73N×20.76E,h3km,Md3.4*
*ATH **18** 17:41:27.8,39.77N×20.69E,h5km±2km,ML3.2/23,Error ellipse: s-maj=2.1km s-min=1.0km az=304.0*
*BEO **18** 17:41:27.7±0.4,39.68N×20.76E,h15km±3km,ML3.2/10*
*THE **18** 17:41:27.7,39.75N×20.74E,h12km,ML3.1/16,Error ellipse: s-maj=0.7km s-min=0.4km az=297.0*
*PDG **18** 17:41:28.2±0.6,39.78N×20.68E,h15km±1km,ML3.4/12, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
ISC 18 17:41:27.5±0.8,39.75N±0.02×20.75E±0.02,h12km±5km, n131,σ1§00/185,mb3.7/4,9C-6D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.12**	**139**	P	**Pg**	**17 41 30.2**	**-0.5**
JAN				S	**Sg**	**17 41 33.2**	**+0.3**
	13μm,0.2s						
JAN	**Janina**	**0.12**	**139**	P	**Pg**	**17 41 30.4**	**-0.3**
JAN				S	**Sg**	**17 41 33.6**	**+0.7**
JAN				AML	AML	17 41 33.8	
	comp=E,33483μm,0.4s						
JAN				AML	AML	17 41 35.0	
	comp=N,19220μm,0.1s						
IGT	**Igoumenitsa**	**0.39**	**236**	P	**Pg**	**17 41 34.6**	**-0.7**
IGT				S	**Sg**	**17 41 41.0**	**+0.6**
	comp=N,7μm,0.7s						
IGT	**Igoumenitsa**	**0.39**	**236**	*e*Pg	**Pg**	**17 41 34.8**	**-0.5**
IGT				*e*Sg	**Sg**	**17 41 41.4**	**+1.0**
IGT	**Igoumenitsa**	**0.39**	**236**	P	**Pg**	**17 41 35.0**	**-0.3**
	baz=239						
IGT				S	**Sg**	**17 41 41.5**	**+1.1**
	baz=239						
IGT	**Igoumenitsa**	**0.39**	**236**	P	**Pg**	**17 41 35.0**	**-0.3**
IGT				S	**Sg**	**17 41 40.6**	**+0.1**
IGT				AML	AML	17 41 44.9	
	comp=E,17259μm,0.6s						
IGT				AML	AML	17 41 46.0	
	comp=N,9131μm,0.8s						
LSK	**Leskovik**	**0.42**	**344**	P	**Pg**	**17 41 35.7**	**-0.2**
LSK				S	**Sb**	**17 41 41.9**	**-1.4**
	comp=N,9μm,0.5s						
LSK	**Leskovik**	**0.42**	**344**	P	**Pg**	**17 41 35.9**	**0.0**
	baz=344						
LSK				S	**Sb**	**17 41 43.0**	**-0.3**
	baz=344						
KPRO	**Kipourio**	**0.52**	**66**	P	**Pg**	**17 41 37.7**	**0.0**
KPRO				S	**Sb**	**17 41 46.1**	**+0.1**
	comp=N,4μm,0.5s						
KPRO	**Kipourio**	**0.52**	**66**	P	**Pg**	**17 41 37.7**	**0.0**
KPRO				S	**Sb**	**17 41 46.3**	**+0.2**
KPRO				AML	AML	17 41 48.2	
	comp=E,8173μm,0.5s						
KPRO				AML	AML	17 41 49.0	
	comp=N,9715μm,0.6s						
SRN	**Sarande**	**0.59**	**283**	P	**Pg**	**17 41 38.3**	**-0.8**
SRN				S	**Sb**	**17 41 47.8**	**-0.4**
SRN	**Sarande**	**0.59**	**283**	P	**Pg**	**17 41 38.5**	**-0.6**
	baz=285						
SRN				S	**Sb**	**17 41 48.2**	**+0.1**
	baz=285						
KASA	**Kassiopi**	**0.63**	**270**	P	**Pg**	**17 41 38.8**	**-0.9**
KASA				S	**Sg**	**17 41 47.2**	**-0.9**
KASA				AML	AML	17 41 49.7	
	comp=E,9021μm,0.4s						
KASA				AML	AML	17 41 52.5	
	comp=N,7898μm,0.4s						
NEST	**Nestorio**	**0.70**	**19**	P	**Pg**	**17 41 41.0**	**-0.2**
NEST				S	**Sb**	**17 41 52.1**	**+0.6**
	comp=N,1μm,0.6s						
NEST	**Nestorio**	**0.70**	**19**	P	**Pb**	**17 41 41.3**	**-0.5**
NEST				S	**Sb**	**17 41 50.8**	**-0.7**
NEST				AML	AML	17 41 54.5	
	comp=E,3740μm,0.6s						
NEST				AML	AML	17 41 59.3	
	comp=N,3312μm,0.6s						
KEK	**Kerkira**	**0.73**	**268**	P	**Pg**	**17 41 40.3**	**-1.5**
KEK	**Kerkira**	**0.73**	**268**	P	**Pg**	**17 41 40.4**	**-1.3**
KEK				AML	AML	17 41 56.5	
	comp=N,6072μm,0.6s						
KEK				AML	AML	17 41 56.7	
	comp=E,4846μm,0.3s						
KBN	**Korca**	**0.88**	**2**	P	**Pg**	**17 41 43.8**	**-0.7**
KBN				S	**Sn**	**17 41 57.6**	**-0.9**
	comp=E,2μm,0.5s						
KBN	**Korca**	**0.88**	**2**	P	**Pn**	**17 41 45.1**	**-0.6**
	baz=1.0						
KBN				S	**Sn**	**17 41 58.0**	**-0.5**
	baz=1.0						
TSLK	**Tsoukalades, L**	**0.92**	**185**	P	**Pg**	**17 41 44.3**	**-1.1**
TSLK	**Tsoukalades, L**	**0.92**	**185**	P	**Pg**	**17 41 45.3**	**-0.1**
LKD2	**Lefkada island**	**0.96**	**184**	P	**Pg**	**17 41 45.6**	**-0.4**
LKD2	**Lefkada island**	**0.96**	**184**	P	**Pg**	**17 41 45.8**	**-0.3**
LKD2				AML	AML	17 42 04.2	
	comp=N,2022μm,0.9s						
LKD2				AML	AML	17 42 05.3	
	comp=E,1607μm,0.3s						
KZN	**Kozani**	**0.96**	**54**	P	**Pg**	**17 41 45.6**	**-0.5**
KZN				S	**Sn**	**17 42 00.3**	**-0.3**
	comp=E,708nm,0.8s						
KZN	**Kozani**	**0.96**	**54**	P	**Pg**	**17 41 45.8**	**-0.3**
KZN				AML	AML	17 42 05.1	
	comp=N,2567μm,0.8s						
KZN				AML	AML	17 42 06.6	
	comp=E,1863μm,0.5s						
THL	**Klokotos Trika**	**0.99**	**100**	P	**Pg**	**17 41 45.6**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.03**	**182**	P	**Pb**	**17 41 46.9**	**-0.4**
EVGl	**Lefkada island**	**1.13**	**184**	P	**Pb**	**17 41 48.5**	**-0.5**
EVGl	**Lefkada island**	**1.13**	**184**	P	**Pb**	**17 41 49.1**	**+0.1**
FNA	**Florina**	**1.14**	**25**	P	**Pb**	**17 41 48.2**	**-1.0**
FNA				S	**Sn**	**17 42 04.5**	**-0.5**
	comp=E,470nm,0.5s						
FNA	**Florina**	**1.14**	**25**	*e*Pg	**Pb**	**17 41 49.0**	**-0.2**
FNA				*e*Sg	**Sn**	**17 42 06.4**	**+1.4**
FNA	**Florina**	**1.14**	**25**	P	**Pn**	**17 41 49.3**	**-0.1**
	baz=24						
FNA				S	**Sn**	**17 42 06.3**	**+1.3**
	baz=24						
FNA	**Florina**	**1.14**	**25**	P	**Pg**	**17 41 49.1**	**-0.4**
FNA				AML	AML	17 42 10.4	
	comp=N,2113μm,0.5s						
FNA				AML	AML	17 42 10.8	
	comp=E,2334μm,0.8s						
TYRN	**Tyrnavos**	**1.14**	**91**	P	**Pb**	**17 41 48.7**	**-0.5**
TYRN				S	**Sn**	**17 42 05.0**	**+0.1**
	comp=E,898nm,0.6s						
EVR	**Evrytania**	**1.17**	**135**	P	**Pb**	**17 41 49.3**	**-0.4**
EVR				S	**Sg**	**17 42 05.9**	**+0.7**
	comp=E,722nm,0.8s						
EVR	**Evrytania**	**1.17**	**135**	P	**Pb**	**17 41 49.5**	**-0.2**
EVR				AML	AML	17 42 11.2	
	comp=N,1727μm,0.8s						
EVR				AML	AML	17 42 13.9	
	comp=E,1159μm,0.9s						
VLO	**Vlora**	**1.20**	**307**	P	**Pg**	**17 41 52.2**	**+1.5**
	baz=308						
VLO				S	**Sn**	**17 42 09.4**	**+3.0**
	baz=308						
KTI	**Kastanea**	**1.23**	**58**	P	**Pn**	**17 41 50.3**	**-0.4**
PVO	**Paravola**	**1.28**	**152**	P	**Pn**	**17 41 51.6**	**+0.4**
PVO	**Paravola**	**1.28**	**152**	P	**Pg**	**17 41 52.5**	**+0.3**
FSK	**Fiskardo**	**1.29**	**187**	P	**Pn**	**17 41 51.4**	**0.0**
FSK				S	**Sb**	**17 42 08.8**	**+0.4**
	comp=E,715nm,0.8s						
FSK	**Fiskardo**	**1.29**	**187**	P	**Pn**	**17 41 51.6**	**+0.1**
FSK				AML	AML	17 42 11.2	
	comp=E,1508μm,0.7s						
FSK				AML	AML	17 42 12.6	
	comp=N,1287μm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKR	**Makrakomi, Fth**	**1.30**	**124**	P	**Pn**	**17 41 51.5**	**0.0**
MAKR	**Makrakomi, Fth**	**1.30**	**124**	P	**Pn**	**17 41 52.0**	**+0.5**
MAKR				AML	AML	17 42 15.1	
	comp=N,3986μm,0.9s						
MAKR				AML	AML	17 42 15.9	
	comp=E,3073μm,0.4s						
OHR	**Ohrid**	**1.36**	**2**	*e*Pg	**Pg**	**17 41 54.0**	**+0.3**
OHR				*e*Sg	**Sg**	**17 42 12.7**	**+1.2**
OHR	**Ohrid**	**1.36**	**2**	*i* Pn	**Pg**	**17 41 55.7**	**+1.9**
ANX	**Ano Chora**	**1.47**	**141**	P	**Pb**	**17 41 55.3**	**+0.4**
ANX				AML	AML	17 42 23.3	
	comp=E,1113μm,1.0s						
ANX				AML	AML	17 42 26.1	
	comp=N,1511μm,0.4s						
DMLN	**Damoulianata-K**	**1.54**	**191**	P	**Pn**	**17 41 54.4**	**-0.4**
DMLN				S	**Sn**	**17 42 14.4**	**-0.2**
	comp=N,932nm,0.6s						
VLS	**Valsamata**	**1.57**	**185**	P	**Pn**	**17 41 55.1**	**-0.2**
VLS	**Valsamata**	**1.57**	**185**	P	**Pn**	**17 41 55.2**	**-0.1**
VLS				AML	AML	17 42 19.1	
	comp=E,1018μm,0.5s						
VLS				AML	AML	17 42 21.0	
	comp=N,1084μm,0.7s						
KEF3	**Kipouria, Keph**	**1.57**	**192**	P	**Pn**	**17 41 54.6**	**-0.7**
KEF3	**Kipouria, Keph**	**1.57**	**192**	P	**Pn**	**17 41 55.0**	**-0.3**
EFP	**Efpalio**	**1.60**	**145**	P	**Pb**	**17 41 57.2**	**+0.3**
EFP				AML	AML	17 42 29.4	
	comp=N,956μm,0.6s						
EFP				AML	AML	17 42 32.3	
	comp=E,1412μm,0.7s						
SERG	**Sergoula**	**1.68**	**142**	P	**Pb**	**17 41 58.9**	**+0.5**
SERG				AML	AML	17 42 27.4	
	comp=E,955μm,0.5s						
SERG				AML	AML	17 42 31.7	
	comp=N,912μm,0.4s						
TIR	**Tirane**	**1.73**	**337**	⇓P	**Pb**	**17 41 59.3**	**0.0**
TIR				⇑S	**Sg**	**17 42 21.9**	**-1.5**
TIR	**Tirane**	**1.73**	**337**	*e*Pn	**Pb**	**17 41 59.0**	**-0.3**
TIR				*e*Sn	**Sb**	**17 42 20.6**	**-0.5**
TIR	**Tirane**	**1.73**	**337**	P	**Pb**	**17 41 59.9**	**+0.5**
	baz=338						
TIR				S	**Sg**	**17 42 23.2**	**-0.2**
	baz=338						
GRG	**Griva**	**1.75**	**46**	P	**Pn**	**17 41 57.3**	**-0.4**
GRG	**Griva**	**1.75**	**46**	P	**Pn**	**17 41 58.4**	**+0.7**
GRG				AML	AML	17 42 31.1	
	comp=N,1462μm,1.0s						
GRG				AML	AML	17 42 31.9	
	comp=E,886μm,0.9s						
AXAR	**Agios Charalam**	**1.78**	**123**	P	**Pb**	**17 41 59.9**	**-0.2**
AXAR				AML	AML	17 42 33.6	
	comp=E,1208μm,0.6s						
AXAR				AML	AML	17 42 33.8	
	comp=N,1073μm,0.6s						
RLS	**Riolos of Patr**	**1.78**	**161**	P	**Pb**	**17 41 59.8**	**-0.2**
THE	**Thessaloniki**	**1.91**	**62**	P	**Pn**	**17 41 59.0**	**-0.9**
XOR	**Xorichti**	**1.93**	**101**	P	**Pb**	**17 42 02.0**	**-0.6**
XOR				AML	AML	17 42 35.5	
	comp=E,461μm,0.7s						
XOR				AML	AML	17 42 37.2	
	comp=N,865μm,0.6s						
DRO	**Drossia**	**1.94**	**157**	P	**Pn**	**17 42 02.1**	**+1.7**
DRO				AML	AML	17 42 39.6	
	comp=E,1033μm,0.6s						
DRO				AML	AML	17 42 44.9	
	comp=N,822μm,0.6s						
NEO	**Neokhori**	**1.96**	**102**	P	**Pn**	**17 42 01.1**	**+0.4**
NEO	**Neokhori**	**1.96**	**102**	P	**Pn**	**17 42 02.1**	**+1.4**
NEO				AML	AML	17 42 36.1	
	comp=N,837μm,0.5s						
NEO				AML	AML	17 42 37.6	
	comp=E,659μm,0.8s						
HORT	**Hortiatis**	**1.99**	**64**	P	**Pn**	**17 42 01.9**	**+0.8**
LKR	**Lokris**	**2.06**	**121**	P	**Pn**	**17 42 03.2**	**+1.2**
VAY	**Valandovo**	**2.10**	**41**	*e*Pn	**Pn**	**17 42 02.7**	**+0.2**
VAY	**Valandovo**	**2.10**	**41**	*i* Pn	**Pn**	**17 42 03.4**	**+0.9**
KNT	**Kendrikon**	**2.16**	**49**	P	**Pn**	**17 42 03.1**	**-0.3**
KNT				S	**Sn**	**17 42 30.4**	**+0.2**
	comp=E,120nm,1.1s						
KNT	**Kendrikon**	**2.16**	**49**	P	**Pn**	**17 42 03.6**	**+0.2**
STIP	**Stip**	**2.23**	**29**	*i* Pn	**Pb**	**17 42 07.8**	**0.0**
SOH	**Sokhos**	**2.26**	**61**	P	**Pn**	**17 42 05.4**	**+0.6**
SOH				S	**Sn**	**17 42 33.5**	**+0.9**
	comp=E,218nm,0.7s						
SOH	**Sokhos**	**2.26**	**61**	P	**Pn**	**17 42 05.9**	**+1.1**
SOH				AML	AML	17 42 38.5	
	comp=E,686μm,0.7s						
SOH				AML	AML	17 42 39.0	
	comp=N,397μm,0.7s						
PAIG	**Paliouri**	**2.26**	**85**	P	**Pn**	**17 42 04.6**	**-0.1**
PAIG				S	**Sn**	**17 42 33.6**	**+1.0**
	comp=N,92nm,0.4s						
PAIG	**Paliouri**	**2.26**	**85**	P	**Pn**	**17 42 05.1**	**+0.4**
SKO	**Skopje**	**2.28**	**13**	*e*Pn	**Pn**	**17 42 05.7**	**+0.7**
SKO				*e*Sn	**Sn**	**17 42 34.1**	**+1.0**
SKO	**Skopje**	**2.28**	**13**	*i* Pn	**Pb**	**17 42 07.8**	**-0.9**
VIL2	**Platees**	**2.49**	**127**	P	**Pb**	**17 42 11.0**	**-1.2**
VIL2				AML	AML	17 42 54.5	
	comp=N,290μm,0.6s						
VIL2				AML	AML	17 43 01.5	
	comp=E,446μm,1.0s						
ULC	**Ulcinj**	**2.49**	**333**	*e*Pn	**Pn**	**17 42 08.1**	**+0.2**
ULC				*i* Sn	**Sn**	**17 42 39.8**	**+1.5**
OUR	**Ouranopolis**	**2.55**	**76**	P	**Pn**	**17 42 09.1**	**+0.4**
OUR				S	**Sn**	**17 42 39.7**	**+0.1**
	comp=E,185nm,0.3s						
OUR	**Ouranopolis**	**2.55**	**76**	P	**Pn**	**17 42 09.4**	**+0.7**
SRS	**Serrai**	**2.56**	**57**	P	**Pn**	**17 42 09.2**	**+0.3**
SRS	**Serrai**	**2.56**	**57**	*e*Pn	**Pn**	**17 42 09.0**	**+0.1**
SRS				*e*Sn	**Sn**	**17 42 39.9**	**-0.2**
SRS	**Serrai**	**2.56**	**57**	P	**Pn**	**17 42 09.4**	**+0.5**
BCI	**Bajram Curri**	**2.67**	**349**	P	**Pb**	**17 42 13.2**	**-2.0**
	baz=349						
BCI				S	**Sb**	**17 42 45.9**	**-2.1**
	baz=349						
KOKK	**Kokkinochori,**	**2.71**	**66**	P	**Pn**	**17 42 11.4**	**+0.6**
DRME	**Dracevica, Mon**	**2.71**	**335**	*e*Pn	**Pn**	**17 42 12.1**	**+1.2**
DRME				*i* Sn	**Sn**	**17 42 45.1**	**+1.5**
NVR	**Nevrokopi**	**2.86**	**55**	P	**Pn**	**17 42 13.5**	**+0.5**
PVY	**Plav**	**2.91**	**348**	⇑*i*Pn	**Pn**	**17 42 14.9**	**+1.2**
PVY				*i* Sn	**Sn**	**17 42 49.9**	**+1.2**
PDG	**Podgorica**	**2.91**	**338**	⇓P	**Pn**	**17 42 14.6**	**+0.9**
PDG	**Podgorica**	**2.91**	**338**	*e*Pn	**Pn**	**17 42 15.0**	**+1.3**
PDG				*e*Sn	**Sn**	**17 42 50.3**	**+1.8**
TTG	**Podgorica**	**2.91**	**338**	*e*Pn	**Pn**	**17 42 14.9**	**+1.3**
TTG				*i* Sn	**Sn**	**17 42 50.0**	**+1.5**
BUM	**Brajici-Budva**	**2.91**	**332**	*e*Pn	**Pn**	**17 42 14.1**	**+0.4**
BUM				*i* Sn	**Sn**	**17 42 49.9**	**+1.2**
CEME	**Cevo**	**3.12**	**334**	*e*Pn	**Pn**	**17 42 16.9**	**+0.3**
CEME				*i* Sn	**Sn**	**17 42 54.4**	**+0.6**
KAVA	**Kavala**	**3.13**	**65**	P	**Pn**	**17 42 16.3**	**-0.4**
BARS	**Barje**	**3.17**	**14**	*e*Pn	**Pn**	**17 42 18.5**	**+1.3**
BARS				*e*Sn	**Sn**	**17 42 55.1**	**+0.1**
IVA	**Berane**	**3.19**	**349**	*i* Pn	**Pn**	**17 42 18.8**	**+1.2**
IVA				*i* Sn	**Sn**	**17 42 56.7**	**+1.2**
HCY	**Herceg Novi**	**3.19**	**328**	*e*Pn	**Pn**	**17 42 17.1**	**-0.4**
HCY				*i* Sn	**Sn**	**17 42 56.8**	**+1.3**
MATE	**Matera**	**3.23**	**288**	⇓P	**Pn**	**17 42 16.8**	**-1.1**
KOME	**Kolasin**	**3.24**	**344**	*e*Pn	**Pn**	**17 42 19.4**	**+1.2**
KOME				*i* Sn	**Sn**	**17 42 57.9**	**+1.1**
NKME	**Niksic**	**3.31**	**336**	*e*Pn	**Pn**	**17 42 20.3**	**+1.1**
NKME				*i* Sn	**Sn**	**17 42 59.7**	**+1.3**
VTS	**Vitosha**	**3.43**	**32**	⇓P	**Pn**	**17 42 22.2**	**+1.3**
VTS	**Vitosha**	**3.43**	**32**	*e*Pn	**Pn**	**17 42 21.4**	**+0.5**
SELS	**Selova**	**3.48**	**4**	*e*Pn	**Pn**	**17 42 22.9**	**+1.4**
SJES	**Sjenica**	**3.56**	**351**	*e*Pn	**Pn**	**17 42 24.4**	**+1.7**
SJES				*e*Sn	**Sn**	**17 43 04.8**	**+0.1**
BRY	**Bratogost**	**3.56**	**333**	*e*Pn	**Pn**	**17 42 22.8**	**0.0**
BRY				*i* Sn	**Sn**	**17 43 05.0**	**+0.1**
UPM	**Unac-Piva**	**3.72**	**339**	*e*Pn	**Pn**	**17 42 26.1**	**+1.1**
UPM				*i* Sn	**Sn**	**17 43 09.7**	**+0.9**
ZAPS	**Zavoj**	**3.80**	**21**	*e*Pn	**Pn**	**17 42 27.3**	**+1.4**
IVAS	**Ivanjica**	**3.85**	**354**	*e*Pn	**Pn**	**17 42 26.7**	**0.0**
IVAS				*e*Sn	**Sn**	**17 43 11.9**	**0.0**
GRUS	**Gruza**	**4.14**	**360**	*e*Pn	**Pn**	**17 42 31.1**	**+0.6**
ZAGS	**Zajecar**	**4.21**	**15**	*e*Pn	**Pn**	**17 42 31.9**	**+0.4**
DIVS	**Divibare**	**4.38**	**353**	*e*Pn	**Pn**	**17 42 34.1**	**+0.1**
DIVS				*e*Sn	**Sn**	**17 43 23.6**	**-1.4**
TRUS	**Trudelj**	**4.48**	**357**	*e*Pn	**Pn**	**17 42 35.9**	**+0.7**
PLVB	**Pleven**	**4.65**	**37**	⇑P	**Pn**	**17 42 40.1**	**+2.5**
HERR	**Herculane**	**5.28**	**13**	⇓P	**Pn**	**17 42 47.4**	**+1.3**
FRGS	**Fruska Gora**	**5.45**	**353**	*e*Pn	**Pn**	**17 42 48.2**	**-0.4**
IDI	**Anoyia**	**5.54**	**142**	⇑P	**Pn**	**17 42 49.7**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**5.84**	**14**	⇑P	**Pn**	**17 42 55.2**	**+1.2**
BZS	**Buzias**	**5.90**	**6**	⇑P	**Pn**	**17 42 57.5**	**+2.8**
NEHR	**Nehoiu**	**7.00**	**34**	⇑P	**Pn**	**17 43 12.9**	**+3.1**
PLOR	**Plostina**	**7.48**	**33**	⇑P	**Pn**	**17 43 19.4**	**+2.9**
VRI	**Vrincioaia**	**7.53**	**34**	⇑P	**Pn**	**17 43 19.7**	**+2.6**
KEST	**Kesra**	**9.88**	**250**	Pn	**Pn**	**17 43 51.4**	**+2.0**
	comp=E,0.2nm,0.3s,baz=45,slow=14,SNR=2.0						
KEST				LR	LR	17 48 12.9	
	comp=E,62nm,18.8s,baz=230,slow=41						
	comp=E,3.7nm,0.9s						
BRTR	**Keskin Array B**	**9.93**	**86**	Pn	**Pn**	**17 43 51.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=264,slow=14,SNR=1.6						
BRTR				LR	LR	17 47 19.4	
	comp=E,60nm,19.2s,baz=312,slow=36						
	comp=E,0.5nm,0.6s						
FINES	**FINESS Array B**	**21.97**	**7**	P	**P**	**17 46 18.9**	**-2.1**
	comp=E,2.7nm,0.7s,baz=181,slow=11,SNR=4.3						
	comp=E,2.7nm,0.7s						
NB2	**NORSAR Subarra**	**22.12**	**348**	P	**P**	**17 46 21.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=154,slow=11						
NOA	**NORSAR Array B**	**22.12**	**348**	P	**P**	**17 46 21.4**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=163,slow=11,SNR=4.0						
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**44.34**	**60**	P	**P**	**17 49 35.8**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=283,slow=7.3,SNR=10						
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**44.52**	**49**	P	**P**	**17 49 39.1**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=285,slow=8.4,SNR=2.1						
	comp=Z,0.5nm,0.6s						

*UPP **18** 18:01:47.4±0.1,67.09N×20.96E,h0km,ML2.4,Explosion*
*KOLA **18** 18:01:47.1,67.01N×20.48E,h0km,ML2.2*
*IDC **18** 18:01:48.4±1.3,67.07N×21.13E,h0km,mbtmp2.9/3, ML2.0/3,Error ellipse: s-maj=23.1km s-min=9.8km az=102.0*
*HEL **18** 18:01:48.1±0.1,67.09N×20.93E,h0km,ML2.1, ML2.4(UPP),Explosion*
*BER **18** 18:01:48.1±1.4,67.11N×20.92E,h0km,ML1.6, ML2.4(UPP),Suspected explosion*
ISC 18 18:01:47.6±0.7,67.07N±0.02×20.93E±0.02,h0km,n62, σ0§97/96,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**290**	P	**Pg**	**18 01 50.6**	**+0.2**
DUNU				S	**Sg**	**18 01 52.9**	**+0.5**
DUNU	**Dundret**	**0.15**	**290**	*i* P	**Pg**	**18 01 50.6**	**+0.2**
DUNU				*i* S	**Sg**	**18 01 52.9**	**+0.5**
DUNU	**Dundret**	**0.15**	**290**	P	**Pg**	**18 01 50.6**	**+0.2**
DUNU				S	**Sg**	**18 01 52.9**	**+0.5**
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**18 02 01.0**	**-0.4**
ERTU				S	**Sg**	**18 02 11.4**	**+0.8**
ERTU	**Ertsjaerv**	**0.72**	**136**	*e*P	**Pg**	**18 02 00.7**	**-0.6**
ERTU				*e*S	**Sg**	**18 02 10.5**	**-0.1**
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**18 02 01.0**	**-0.4**
ERTU				S	**Sg**	**18 02 11.4**	**+0.8**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**18 02 03.3**	**-0.7**
PAJU				S	**Sg**	**18 02 15.2**	**+0.1**
PAJU	**Pajala**	**0.86**	**92**	*i* P	**Pg**	**18 02 03.3**	**-0.7**
PAJU				*i* S	**Sg**	**18 02 15.2**	**+0.1**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**18 02 03.3**	**-0.7**
PAJU				S	**Sg**	**18 02 15.2**	**+0.1**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**18 02 04.5**	**-0.5**
HARU	**Harads**	**0.91**	**179**	*e*P	**Pg**	**18 02 04.5**	**-0.5**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**18 02 04.5**	**-0.5**
RATU	**Laukkuluspa**	**0.92**	**326**	P	**Pg**	**18 02 04.3**	**-0.8**
RATU				S	**Sg**	**18 02 16.8**	**-0.2**
RATU	**Laukkuluspa**	**0.92**	**326**	*e*P	**Pg**	**18 02 04.3**	**-0.8**
RATU				*e*S	**Sg**	**18 02 16.8**	**-0.2**
RATU	**Laukkuluspa**	**0.92**	**326**	P	**Pg**	**18 02 04.3**	**-0.8**
RATU				S	**Sg**	**18 02 16.8**	**-0.2**
SALU	**Saltoluokta**	**0.99**	**289**	P	**Pg**	**18 02 05.9**	**-0.7**
SALU	**Saltoluokta**	**0.99**	**289**	*e*P	**Pg**	**18 02 05.9**	**-0.7**
SALU	**Saltoluokta**	**0.99**	**289**	P	**Pg**	**18 02 05.9**	**-0.7**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**18 02 06.7**	**-1.3**
LANU	**Lannavaara**	**1.06**	**22**	*e*P	**Pg**	**18 02 06.6**	**-1.3**
	baz=209						
LANU				*e*SN	**Sb**	**18 02 23.7**	**+0.3**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**18 02 06.7**	**-1.3**
NIKU	**Nikkaluokta**	**1.08**	**318**	P	**Pg**	**18 02 07.4**	**-0.9**
NIKU	**Nikkaluokta**	**1.08**	**318**	*e*P	**Pg**	**18 02 07.4**	**-0.9**
NIKU	**Nikkaluokta**	**1.08**	**318**	P	**Pg**	**18 02 07.4**	**-0.9**
KOVU	**Salmi**	**1.19**	**346**	P	**Pg**	**18 02 09.3**	**-1.1**
KOVU	**Salmi**	**1.19**	**346**	*e*P	**Pg**	**18 02 09.3**	**-1.1**
KOVU	**Salmi**	**1.19**	**346**	P	**Pg**	**18 02 09.3**	**-1.1**
KLF	**Kolari**	**1.20**	**81**	*e*P	**Pg**	**18 02 09.4**	**-1.0**
KLF				*e*SB	**Sb**	**18 02 26.9**	**-0.2**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 02 16.4**	**

comp=Z,2.3nm,0.8s
NOA NORSAR Array B 7.39 220 Pn **Pn** 18 03 36.7 **+0.1**
baz=28,slow=12,SNR=1.9
comp=Z,0.6nm,0.8s

TAP 18 18:19:26.5,23°.14N×121°.40E,h31km,ML1.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.05**	**215**	P	Pb	18 19 32.5	+0.7
CHKT	baz=207			S	Sb	18 19 36.6	+1.3
	baz=207						
FULB	**Fuli**	**0.11**	**300**	*eP*	Pn	18 19 32.3	+0.1
	baz=300						
ECS	**Chishang**	**0.17**	**254**	*eP*	Pn	18 19 33.5	+0.5
ECS	baz=254			S	Sn	18 19 38.0	+1.1
	baz=254						
ECBN	**Changbin**	**0.18**	**16**	S	Sn	18 19 39.3	+2.1
	baz=15						
EDH	**Donghe**	**0.19**	**207**	*eP*	Pb	18 19 32.3	-0.4
EDH	baz=207			S	Sn	18 19 38.0	+0.6
	baz=207						
EYUL	**Yuli**	**0.22**	**340**	*eP*	Pn	18 19 34.0	+0.4
	baz=340						
EYUL				S	Sn	18 19 38.3	+0.2
	baz=340						
TWF1	**Yuli**	**0.23**	**336**	*i* P	Pb	18 19 33.4	+0.2
	baz=337						
TWF1				*i* S	Sn	18 19 38.5	+0.1
	baz=337						
YULB	**Yu-li**	**0.27**	**340**	P	Pb	18 19 33.9	+0.2
	baz=339						
YULB				S	Sn	18 19 39.0	-0.4
	baz=339						
LONT	**Longtian**	**0.34**	**226**	*eP*	Pb	18 19 34.8	+0.2
	baz=226						
LONT				*eS*	Sn	18 19 41.5	+0.3
	baz=226						
HGSD	**Ruisui**	**0.35**	**4**	*eP*	Pb	18 19 34.9	+0.2
	baz=3.0						
HGSD				*eS*	Sn	18 19 41.4	0.0
	baz=3.0						
ELDTW	**Lidau**	**0.35**	**278**	*i* P	Pb	18 19 34.1	-0.8
	baz=277						
EHY	**Hungye**	**0.37**	**349**	*i* P	Pb	18 19 35.2	+0.2
	baz=350						
EHY				*i* S	Sn	18 19 41.8	-0.1
	baz=350						
TTN	**Taitung**	**0.45**	**211**	P	Pn	18 19 36.6	-0.2
	baz=209						
TTN				S	Sn	18 19 43.5	-0.4
	baz=209						
LDUT	**Ludao**	**0.47**	**172**	*eP*	Pb	18 19 36.7	+0.2
	baz=171						
LDUT				*eS*	Sb	18 19 43.6	+0.2
	baz=171						
EGFH	**Guangfu**	**0.52**	**3**	*eP*	Pn	18 19 38.1	+0.2
	baz=2.0						
EGFH				*eS*	Sn	18 19 46.3	+0.6
	baz=2.0						
YUS	**Yu-Shan**	**0.54**	**310**	*i* P	Pb	18 19 38.0	+0.1
	baz=310						
YUS				S	Sb	18 19 45.8	+0.1
	baz=310						
STYH	**Taoyuan**	**0.57**	**273**	*eP*	Pb	18 19 38.2	+0.1
	baz=273						
STYH				*eS*	Sn	18 19 47.2	+0.3
	baz=273						
VWDT	**VWDT**	**0.65**	**339**	P	Pn	18 19 39.9	+0.2
	baz=338						
VWDT				S	Sn	18 19 49.2	+0.3
	baz=338						
ALS	**Alishan**	**0.66**	**304**	*i* P	Pn	18 19 40.2	+0.3
	baz=304						
ALS				*i* S	Sn	18 19 50.0	+0.6
	baz=304						
ESL	**Shilin**	**0.67**	**3**	P	Pn	18 19 40.1	+0.3
	baz=3.0						
ESL				S	Sn	18 19 49.8	+0.5
	baz=3.0						
TPUB	**Ta-pu**	**0.72**	**283**	P	Pb	18 19 40.8	+0.1
	baz=282						
TPUB				*eS*	Sn	18 19 51.9	+1.3
	baz=282						
WTP	**Ta-pu**	**0.73**	**278**	P	Pb	18 19 40.9	+0.2
	baz=278						
WTP				S	Sn	18 19 51.3	+0.5
	baz=278						
WHYT	**Xinyi Township**	**0.74**	**318**	*eP*	Pb	18 19 41.8	+0.8
	baz=317						
WHYT				*eS*	Sn	18 19 52.1	+0.9
	baz=317						
SGST	**Jiashian**	**0.75**	**266**	*eP*	Pn	18 19 40.0	-1.0
	baz=265						
SGST				*eS*	Sb	18 19 50.0	-1.2
	baz=265						
SSLB	**Suanglung**	**0.76**	**328**	*eP*	Pb	18 19 41.8	+0.5
	baz=327						
SSLB				*eS*	Sn	18 19 52.1	+0.5
	baz=327						
CHN4	**Tsaushan**	**0.77**	**286**	*eP*	Pn	18 19 40.6	-0.6
	baz=285						
CHN4				S	Sn	18 19 51.8	0.0
	baz=285						
CHN5	**Tsauling**	**0.80**	**304**	*eP*	Pn	18 19 41.8	0.0
	baz=304						
CHN5				*eS*	Sn	18 19 53.1	+0.4
	baz=304						
CHN1	**Nanshi**	**0.80**	**273**	*eP*	Pb	18 19 42.7	+0.7
	baz=273						
CHN1				*eS*	Sn	18 19 53.7	+1.1
	baz=273						
TWK	**Hsinying**	**0.85**	**279**	*eP*	Pb	18 19 43.1	+0.4
	baz=278						
TWK				*eS*	Sb	18 19 54.7	+0.9
	baz=278						
WUSB	**Renai**	**0.88**	**343**	P	Pb	18 19 43.8	+0.4
	baz=343						
TYC	**Yuchr**	**0.91**	**327**	*eP*	Pn	18 19 43.4	+0.3
	baz=327						
TYC				*eS*	Sb	18 19 55.6	+0.1
	baz=327						
CHGB	**Renai**	**0.94**	**347**	*eP*	Pb	18 19 44.3	-0.1
	baz=347						
CHGB				*eS*	Sb	18 19 57.0	+0.4
	baz=347						
WHF	**Hehuan Shan**	**1.00**	**353**	*eP*	Pn	18 19 45.0	+0.1
	baz=353						

IDC 18 18:20:08.2±3.8,19°.26N×147°.16E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=155.0km s-min=25.6km az=83.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.94**	**199**	P	P	18 27 52.4	-0.2
	0.4nm,0.6s,baz=20,slow=8.2,SNR=8.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**44.58**	**197**	P	P	18 28 22.1	-0.1
	0.3nm,0.9s,baz=15,slow=11,SNR=5.4						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**59.07**	**314**	P	P	18 30 10.6	+0.3
	0.4nm,0.7s,baz=88,slow=11,SNR=2.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**61.83**	**318**	P	P	18 30 28.6	-0.4
	0.3nm,0.4s,baz=93,slow=7.6,SNR=5.2						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**86.95**	**336**	P	P	18 32 55.1	+0.2
	5.2nm,1.0s,baz=38,slow=5.3,SNR=2.1						
	5.2nm,1.0s						

IDC 18 18:31:56.0±6.0,21°.07N×122°.90E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=442.6km s-min=28.2km az=61.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.68**	**318**	P	P	18 39 46.3	-0.1
	0.7nm,0.6s,baz=107,slow=9.3,SNR=6.1						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**42.27**	**164**	P	P	18 39 50.7	-0.7
	0.4nm,0.9s,baz=345,slow=8.8,SNR=2.0						
	0.4nm,0.9s						

ASAR	**Alice Springs**	**45.74**	**166**	P	P	18 40 19.7	+0.4
	0.1nm,0.4s,baz=344,slow=7.2,SNR=4.4						
	0.1nm,0.4s						

*INET **18** 18:32:46.9±2.4, 10°.36N×85°.86W, h2km±4km, ML3.3, MW3.4*
*UCR **18** 18:32:47.6±1.5, 10°.38N×85°.95W, h19km±6km, MW3.9*
ISC 18 18:32:46.9±1.5,10°.38N±0°.04×85°.94W±0°.04,h13km±11km, n41,σ0°53/61,13D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.39**	**145**	*eP*	**Pb**	**18 32 55.5**	**-0.1**
ORTG	**Ortega, Santa**	**0.47**	**92**	*eP*	**Pb**	**18 32 57.0**	**-0.1**
DUNO	**Dulce Nombre,**	**0.53**	**125**	*eP*	**Pb**	**18 32 57.8**	**-0.3**
NICO	**Nicoya**	**0.54**	**117**	*eP*	**Pb**	**18 32 59.0**	**+0.7**
GBS3	**Finca Las Img**	**0.62**	**50**	*i*P	**Pg**	**18 32 59.4**	**+0.4**
GBS3				*eS*	**Sb**	**18 33 08.7**	**+0.5**
LAPC	**Finca la Perla**	**0.63**	**52**	*i*P	**Pb**	**18 32 59.5**	**-0.2**
GBS2	**Las Lilas**	**0.66**	**46**	*i*P	**Pg**	**18 32 60.0**	**+0.3**
GBS2				*eS*	**Sb**	**18 33 09.6**	**+0.3**
BUEV	**Buena Vista**	**0.67**	**52**	*i*P	**Pg**	**18 33 00.1**	**+0.2**
BUEV				*eS*	**Sb**	**18 33 09.9**	**+0.3**
INDI	**Punta indio, G**	**0.67**	**140**	*eP*	**Pg**	**18 32 59.9**	**0.0**
GPS3	**Bodega del ICE**	**0.67**	**57**	*i*P	**Pb**	**18 33 00.5**	**-0.1**
GPS2	**Hotel Rincn d**	**0.68**	**57**	*i*P	**Pb**	**18 33 00.6**	**-0.2**
GPS2				*eS*	**Sn**	**18 33 12.1**	**-0.8**
GB1A	**Borinquen Arri**	**0.68**	**51**	*eP*	**Pg**	**18 33 00.5**	**+0.3**
VRLE	**La Escondida,**	**0.69**	**54**	*eP*	**Pg**	**18 33 00.6**	**+0.2**
GPS1	**Guardaparques**	**0.70**	**56**	*i*P	**Pb**	**18 33 00.8**	**-0.2**
GPS1				*eS*	**Sb**	**18 33 11.9**	**+1.3**
POPE	**POPE, Guanacas**	**0.73**	**116**	*eP*	**Pg**	**18 33 01.2**	**+0.1**
LIM1	**Limonal**	**0.74**	**65**	*i*P	**Pg**	**18 33 01.5**	**+0.2**
LIM1				*eS*	**Sb**	**18 33 12.2**	**+0.3**
GUAB	**Guayabo de Bag**	**0.77**	**65**	*eP*	**Pg**	**18 33 01.8**	**0.0**
GUAB				*eS*	**Sb**	**18 33 12.8**	**+0.2**
BUAI	**Buenos Aires**	**0.77**	**50**	*eP*	**Pg**	**18 33 01.9**	**0.0**
COLC	**Colonia**	**0.77**	**69**	*eP*	**Pg**	**18 33 01.9**	**0.0**
COLC				*eS*	**Sn**	**18 33 14.1**	**-1.0**
CUI	**Cuipilapa**	**0.81**	**70**	*eP*	**Pg**	**18 33 02.6**	**0.0**
CUI				*eS*	**Sb**	**18 33 14.2**	**+0.5**
MESS	**Mesas**	**0.81**	**64**	*i*P	**Pg**	**18 33 02.5**	**-0.1**
MESS				*eS*	**Sb**	**18 33 14.1**	**+0.3**
HORNC	**Hornillas**	**0.81**	**66**	*i*P	**Pg**	**18 33 02.6**	**-0.1**
HORNC				*eS*	**Sb**	**18 33 13.9**	**0.0**
VMAR	**Armenia, Volca**	**0.92**	**62**	*eP*	**Pg**	**18 33 04.5**	**0.0**
ACAL	**Aguas Claras**	**0.92**	**74**	*i* P	**Pg**	**18 33 04.5**	**-0.2**
ACAL				*eS*	**Sb**	**18 33 17.5**	**+0.5**
JTS	**Las Juntas de**	**0.97**	**95**	*eP*	**Pg**	**18 33 04.9**	**-0.8**
PTEN	**Parque Tenorio**	**0.99**	**70**	*i* P	**Pg**	**18 33 05.7**	**-0.3**
VERA	**Finca Concepci**	**1.15**	**66**	*eP*	**Pb**	**18 33 08.6**	**0.0**
CASO	**Castillo**	**1.19**	**87**	*i*P	**Pb**	**18 33 08.9**	**-0.4**
CASO				*eS*	**Sn**	**18 33 25.6**	**+0.3**
CONN	**Concepcion**	**1.21**	**15**	*eP*	**Pn**	**18 33 09.3**	**-0.3**
CONN				*eS*	**Sn**	**18 33 26.9**	**+1.0**
CONN				IAML		18 33 33.4	
	comp=Z,657nm,0.4s						
CEDE	**Laguna Cedeo**	**1.22**	**85**	*eP*	**Pb**	**18 33 09.7**	**-0.2**
CEDE				*eS*	**Sn**	**18 33 26.6**	**+0.5**
VACR	**Volcan Arenal**	**1.24**	**86**	*eP*	**Pn**	**18 33 10.2**	**+0.1**
FORC	**Fortuna**	**1.25**	**86**	*i*eP	**Pn**	**18 33 10.1**	**0.0**
COVE	**Coope Vega, Sa**	**1.55**	**77**	*eP*	**Pn**	**18 33 14.3**	**+0.1**
ACON	**Acoyapa**	**1.74**	**25**	*eP*	**Pn**	**18 33 16.6**	**-0.3**
ACON	**Acoyapa**	**1.74**	**25**	*eP*	**Pn**	**18 33 16.5**	**-0.3**
ACON				*eS*	**Sn**	**18 33 39.5**	**+0.4**
ACON				IAML		18 33 41.1	
	comp=Z,316nm,0.7s						
BOAB	**BOACO BROADBAN**	**2.07**	**7**	*eP*	**Pn**	**18 33 21.1**	**-0.3**
BOAB				*eS*	**Sn**	**18 33 48.3**	**+1.2**
MOMN	**Momotombo**	**2.10**	**344**	*eP*	**Pn**	**18 33 21.4**	**-0.4**
MOMN				*eS*	**Sn**	**18 33 48.3**	**+0.4**
CNGN	**Cerro Negro**	**2.23**	**341**	*eP*	**Pn**	**18 33 24.8**	**+1.1**
CNGN				IAML		18 34 25.8	
	comp=Z,153nm,0.4s						
ESPN	**Las Esperanzas**	**2.41**	**42**	*eP*	**Pn**	**18 33 25.8**	**-0.3**
ESPN				IAML		18 34 20.0	
	comp=Z,114nm,0.7s						
MATN	**Matagalpa**	**2.53**	**0**	*eP*	**Pn**	**18 33 26.9**	**-0.9**
MATN				*eS*	**Sn**	**18 33 56.8**	**-1.8**
CRIN	**San Cristobal**	**2.55**	**335**	*eP*	**Pn**	**18 33 28.1**	**0.0**
CRIN				*eS*	**Sb**	**18 34 03.6**	**-0.3**
CRIN				IAML		18 34 17.0	
	comp=Z,279nm,0.4s						

*NEIC **18** 18:37:35.5±2.4, 14°.74N±0°.07×93°.30W±0°.05, h37km±51km, Error ellipse: s-maj=11.2km s-min=5.0km az=206.0*
*MEX **18** 18:37:36.5±0.8, 14°.69N×93°.31W, h23km±65km, MD4.0*
*GCG **18** 18:37:39.0±0.7, 15°.17N×92°.98W, h35km±999km, MD3.8*
ISC 18 18:37:33.1±1.7,14°.68N±0°.05×93°.36W±0°.04,h24km±16km, n30,σ1°54/49,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.03**	**8**		**Pn**	**18 37 52.4**	**+0.2**
PCIG					**Sb**	**18 38 04.6**	**-0.8**
PCIG		**1.03**	**8**	*eP*	**Pn**	**18 37 52.4**	**+0.2**
PCIG				*i* S	**Sb**	**18 38 04.6**	**-0.8**
THIG		**1.08**	**78**		**Pn**	**18 37 52.8**	**0.0**
THIG					**Sn**	**18 38 04.2**	**-2.9**
THIG		**1.08**	**78**	*eP*	**Pn**	**18 37 52.8**	**0.0**
THIG				*eS*	**Sn**	**18 38 04.2**	**-2.9**
PATR	**El Naranjo**	**1.18**	**68**	*eP*	Pn	18 37 53.6	-0.7
PATR				*eS*	**Sn**	**18 38 07.7**	**-2.0**
PAVE	**Pavencul**	**1.25**	**66**	*eP*	Pn	18 37 54.9	-0.5
PAVE				*eS*	**Sn**	**18 38 09.4**	**-2.3**
CHUJ	**Union Juarez**	**1.28**	**71**	*eP*	Pn	18 37 55.2	-0.6
CHUJ				*i* S	**Sn**	**18 38 10.6**	**-1.7**
RTAL	**Retalhuleu**	**1.62**	**95**		**Pn**	**18 38 00.8**	**+0.6**
RTAL				Sn	**Sn**	**18 38 19.5**	**-0.9**
STG3	**Santiaguito 3,**	**1.73**	**89**	*eP*	**Pn**	**18 38 02.9**	**+0.9**
STG3				*eS*	**Sn**	**18 38 21.9**	**-1.6**
SULM	**Suchitepequez,**	**1.78**	**102**	*eP*	**Pb**	**18 38 05.0**	**-0.1**
SULM				*eS*	**Sn**	**18 38 24.0**	**-0.2**
HUEH	**Huehuetenango**	**1.91**	**70**		**Pn**	**18 38 05.7**	**+1.3**
HUEH				Sn	**Sn**	**18 38 28.9**	**+1.1**
CCIG	**Comitan**	**1.98**	**36**		**Pn**	**18 38 07.0**	**+1.6**
CCIG	**Comitan**	**1.98**	**36**	*eP*	**Pn**	**18 38 07.0**	**+1.6**
CCIG				*eS*	**Sn**	**18 38 29.6**	**-0.1**
TGIG		**2.10**	**6**		**Pn**	**18 38 07.8**	**+0.9**
TGIG					**Sn**	**18 38 31.9**	**-0.5**
TGIG		**2.10**	**6**	*eP*	**Pn**	**18 38 07.8**	**+0.9**
TGIG				*eS*	**Sn**	**18 38 31.9**	**-0.5**
TGBT	**Tuxtla Gutierr**	**2.10**	**7**	*i* P	**Pn**	**18 38 09.2**	**+2.3**
TGBT				*eS*	**Sn**	**18 38 31.7**	**-0.6**
NILT	**Santiago Nilte**	**2.23**	**327**	*eP*	**Pn**	**18 38 09.5**	**+0.8**
NILT				*eS*	**Sn**	**18 38 35.3**	**-0.2**
FUG	**Fuego 3**	**2.45**	**95**	*eP*	**Pn**	**18 38 13.9**	**+2.1**
FUG				*eS*	**Sn**	**18 38 40.5**	**-0.6**
PCG	**Pacaya**	**2.68**	**96**	*eS*	**Sn**	**18 38 47.3**	**+0.4**
UXUV	**UXUV**	**2.73**	**344**	*eP*	**Pn**	**18 38 18.1**	**+2.5**
UXUV				*i* S	**Sn**	**18 38 48.2**	**+0.4**
CMIG	**Matias Romero**	**2.81**	**329**		**Pn**	**18 38 18.5**	**+1.8**
CMIG					**Sn**	**18 38 47.1**	**-2.8**
CMIG	**Matias Romero**	**2.81**	**329**	*eP*	**Pn**	**18 38 18.2**	**+1.6**
CMIG				*eS*	**Sn**	**18 38 49.5**	**-0.4**
HUIG	**Huatulco**	**2.87**	**293**		**Pn**	**18 38 18.4**	**+1.1**
HUIG					**Sn**	**18 38 48.6**	**-2.5**
HUIG	**Huatulco**	**2.87**	**293**	*eP*	**Pn**	**18 38 18.4**	**+1.1**
HUIG				*eS*	**Sn**	**18 38 48.6**	**-2.5**
NEUV	**Arroyo Zacate**	**3.82**	**322**	*eP*	**Pn**	**18 38 32.7**	**+2.2**
NEUV				*eS*	**Sn**	**18 39 13.9**	**-0.9**
MTO3	**Montecristo**	**3.88**	**94**		**Pn**	**18 38 33.0**	**+1.4**
ESQI	**Esquipulas**	**3.89**	**91**	Pn	**Pn**	**18 38 31.9**	**+0.3**
PETF	**Flores**	**4.03**	**56**		**Pn**	**18 38 33.8**	**+0.4**
TEIG	**Tepich**	**7.35**	**41**	Pn	Pn	18 39 17.3	-1.7
ORTG	**Ortega, Santa**	**8.83**	**118**	Pn	**Pn**	**18 39 42.1**	**+2.7**

WEL 18 18:49:50.5±0.3,43°.5S±2°×17°.3E±°,h5km,M3.5/36, ML3.8/18,MLv3.5/36,Error ellipse: s-maj=0.0km s-min=0.0km az=125.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.34**	**72**	P	Pg	18 49 57.0	0.0
GVZ	**Greta Valley S**	**0.45**	**187**	P	Pg	18 49 59.8	+0.5
GVZ				S	Sb	18 50 07.2	-0.9
LTZ	**Lake Taylor**	**0.67**	**247**	P	Pg	18 50 03.6	+0.2
LTZ				S	Sg	18 50 13.2	+1.1
AMCZ	**Amberley**	**0.74**	**207**	P	Pb	18 50 05.4	-0.4
THZ	**Tophouse**	**0.77**	**349**	P	Pg	18 50 05.4	+0.1
BSWZ	**Blackbirch Sta**	**0.99**	**36**	P	Pg	18 50 09.7	+0.3
OXZ	**Oxford**	**1.12**	**224**	P	Pg	18 50 11.1	-1.0
CMWZ	**Cape Campbell**	**1.13**	**47**	P	Pn	18 50 12.9	0.0
MRNZ	**Matariki Terra**	**1.15**	**347**	P	Pg	18 50 12.4	-0.2
OKCZ	**Okains Bay**	**1.20**	**182**	P	Pg	18 50 11.7	-1.9
MQZ	**McQueen's Vall**	**1.23**	**195**	P	Pg	18 50 11.4	-2.7
DSZ	**Denniston Nort**	**1.24**	**308**	P	Pg	18 50 14.3	0.0
INZ	**Inchbonnie**	**1.25**	**260**	P	Pg	18 50 13.7	-0.7
TUWZ	**Tuamarina**	**1.25**	**30**	P	Pg	18 50 14.1	-0.5
NNZ	**Nelson**	**1.32**	**9**	P	Pn	18 50 15.2	-0.4
AKCZ	**Akaroa Harbour**	**1.36**	**186**	P	Pn	18 50 13.8	-2.4
RACZ	**Rakaia**	**1.40**	**210**	P	Pn	18 50 14.7	-2.0
TKNZ	**Takaka Hill**	**1.49**	**356**	P	Pn	18 50 17.9	-0.1
MHCZ	**Mount Hutt**	**1.52**	**228**	P	Pn	18 50 16.5	-1.9
TCW	**Tory Channel**	**1.57**	**34**	P	Pn	18 50 18.4	-0.6
WACZ	**Wakanui South**	**1.70**	**213**	P	Pn	18 50 18.8	-2.0
QRZ	**Quartz Range**	**1.75**	**345**	P	Pn	18 50 21.9	+0.4
WEL	**Wellington**	**1.75**	**46**	P	Pn	18 50 20.9	-0.6
DUWZ	**D'Urville Isla**	**1.82**	**20**	P	Pn	18 50 22.7	+0.2
WVZ	**Waitaha Valley**	**1.83**	**252**	P	Pn	18 50 22.2	-0.5
PLWZ	**Palliser**	**1.86**	**60**	P	Pn	18 50 21.1	-2.0
RPZ	**Rata Peaks**	**1.92**	**231**	P	Pn	18 50 22.2	-1.7
MSWZ	**Moikau Station**	**1.94**	**56**	P	Pn	18 50 22.3	-1.9
ARCZ	**Arundel**	**2.01**	**224**	P	Pn	18 50 23.1	-2.0
CAW	**Cannon Point**	**2.03**	**47**	P	Pn	18 50 24.1	-1.3
PAWZ	**Paruwai Farm**	**2.07**	**57**	P	Pn	18 50 23.9	-2.1
KIW	**Kapiti Island**	**2.14**	**40**	P	Pn	18 50 26.1	-0.8
GCSZ	**Gaunt Creek Bo**	**2.19**	**248**	P	Pn	18 50 27.2	-0.4
MTW	**Mount Morrison**	**2.25**	**54**	P	Pn	18 50 26.2	-2.1
OGWZ	**Otaki Gorge**	**2.30**	**43**	P	Pn	18 50 27.9	-1.2
TMZ	**Timaru**	**2.41**	**219**	P	Pn	18 50 28.6	-2.0
HOWZ	**Holdsworth Sta**	**2.42**	**49**	P	Pn	18 50 29.6	-1.2
FOZ	**Fox Glacier**	**2.62**	**246**	P	Pn	18 50 33.1	-0.4
MRZ	**Mangatainoka R**	**2.62**	**46**	P	Pn	18 50 31.8	-1.8
LBZ	**Lake Benmore**	**2.83**	**228**	P	Pn	18 50 34.8	-1.6
ODZ	**Otahua Downs**	**3.09**	**214**	P	Pn	18 50 37.7	-2.3
NMEZ	**Namu Road**	**3.16**	**11**	P	Pb	18 50 44.3	-2.8
LREZ	**Lake Rotokare**	**3.21**	**18**	P	Pb	18 50 47.0	-1.0
TSZ	**Takapari Road**	**3.27**	**42**	P	Pn	18 50 40.4	-2.0
KHEZ	**Kahui Hut**	**3.29**	**12**	P	Pn	18 50 45.2	+2.4
NBEZ	**Newall Road No**	**3.30**	**10**	P	Pn	18 50 44.9	+2.1
PKE	**Pukeiti**	**3.39**	**12**	P	Pn	18 50 46.2	+2.1
JCZ	**Jackson Bay**	**3.52**	**242**	P	Pn	18 50 44.8	-1.1
VRZ	**Vera Road**	**3.62**	**21**	P	Pn	18 50 48.6	+1.5
PKVZ	**Pokaka**	**3.65**	**28**	P	Pn	18 50 48.2	+0.5
MOVZ	**Moawhango**	**3.70**	**34**	P	Pn	18 50 51.4	+3.0
WNVZ	**Wahianoa**	**3.71**	**31**	P	Pn	18 50 49.0	+0.4
TRVZ	**Turoa**	**3.71**	**31**	P	Pn	18 50 51.9	+3.2
WKZ	**Wanaka**	**3.76**	**231**	P	Pn	18 50 46.9	-2.3
HHSZ	**Highcliff Hill**	**3.82**	**207**	P	Pn	18 50 47.5	-2.5
EAZ	**Earnscleugh**	**3.86**	**224**	P	Pn	18 50 48.2	-2.3
OTVZ	**Oturere**	**3.87**	**31**	P	Pn	18 50 50.9	0.0
NNVZ	**North Ngauruho**	**3.88**	**30**	P	Pn	18 50 52.2	+1.2
WTVZ	**West Tongariro**	**3.89**	**30**	P	Pn	18 50 53.9	+2.9
TMVZ	**Te Maari**	**3.93**	**31**	P	Pn	18 50 53.2	+1.6
HIZ	**Hauiti**	**4.22**	**19**	P	Pn	18 50 56.3	+0.9
TLZ	**Tolley Road**	**4.58**	**25**	P	Pn	18 51 03.1	+2.7
MLZ	**Mavora Lakes**	**4.59**	**230**	P	Pn	18 50 58.8	-1.8
SYZ	**Scrubby Hill**	**4.92**	**214**	P	Pn	18 51 03.0	-2.0
TOZ	**Tahuroa Road**	**5.12**	**22**	P	Pn	18 51 07.7	-0.1
MWZ	**Matawai**	**5.37**	**40**	P	Pn	18 51 10.8	-0.5
AWAZ	**Awhitu Peninsu**	**5.58**	**13**	P	Pn	18 51 15.2	+1.1
MKAZ	**Moumakai**	**5.63**	**17**	P	Pn	18 51 15.2	+0.3
MBAZ	**Motutapu North**	**5.91**	**14**	P	Pn	18 51 19.7	+1.1
OUZ	**Omahuta**	**7.30**	**3**	P	Pn	18 51 39.9	+2.1

WEL 18 18:59:39.4±1.0,37°S±7°×17°9E±°,h12km,M3.4/27, ML3.7/22,MLv3.4/27,Error ellipse: s-maj=0.0km s-min=0.0km az=117.2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.99**	**226**	P	Pg	18 59 57.2	-1.3
WMGZ	**Waiomatatini S**	**1.13**	**214**	P	Pg	19 00 01.5	+0.4
WMGZ				S	Sn	19 00 16.4	+0.1
PKGZ	**Pakihiroa**	**1.35**	**221**	P	Pb	19 00 04.4	-0.2
PKGZ				S	Sb	19 00 21.5	-0.4
PUZ	**Puketiti**	**1.41**	**212**	P	Pn	19 00 05.0	+0.1
HAZ	**Te Kaha**	**1.43**	**232**	P	Pn	19 00 04.0	-1.1
HAZ				S	Sb	19 00 24.4	+0.3
TWGZ	**Tauwhareparae**	**1.62**	**217**	P	Pn	19 00 08.3	+0.4
TWGZ				S	Sn	19 00 28.4	-0.2
RUGZ	**Raukumara Rang**	**1.63**	**228**	P	Pb	19 00 08.9	-0.5
RUGZ				S	Sn	19 00 29.4	+0.4
MWZ	**Matawai**	**1.97**	**222**	P	Pn	19 00 12.8	+0.2
RAGZ	**Rawiri**	**2.15**	**221**	P	Pn	19 00 15.3	+0.1
RIGZ	**Rimuhau**	**2.15**	**212**	P	Pn	19 00 14.8	-0.3
URZ	**Urewera**	**2.16**	**230**	P	Pn	19 00 15.6	+0.4
URZ				S	Sn	19

OKCZ	**Okains Bay**	**2.23**	**205**	P		Pn	19 10 19.6	-2.6
LREZ	**Lake Rotokare**	**2.24**	**1**	P		Pg	19 10 28.0	-0.6
PNHZ	**Pukenui**	**2.28**	**39**	P		Pn	19 10 22.0	-1.0
WPHZ	**Waipukurau**	**2.29**	**45**	P		Pg	19 10 29.5	+0.1
MQZ	**McQueen's Vall**	**2.35**	**211**	P		Pn	19 10 20.8	-3.2
INZ	**Inchbonnie**	**2.38**	**244**	P		Pn	19 10 24.0	-0.4
KHEZ	**Kahui Hut**	**2.42**	**354**	P		Pb	19 10 29.6	+0.5
NBEZ	**Newall Road No**	**2.46**	**351**	P		Pg	19 10 31.5	-1.2
PKE	**Pukeiti**	**2.52**	**354**	P		Pb	19 10 32.0	+1.3
PKVZ	**Pokaka**	**2.53**	**18**	P		Pb	19 10 30.3	-0.7
MOVZ	**Moawhango**	**2.54**	**26**	P		Pb	19 10 31.0	-0.1
WNVZ	**Wahianoa**	**2.56**	**22**	P		Pb	19 10 31.5	-0.1
BHHZ	**Black Hill Sta**	**2.57**	**31**	P		Pb	19 10 29.8	-1.9
TRVZ	**Turoa**	**2.58**	**21**	P		Pb	19 10 31.7	-0.1
DRZ	**Dome Shelter**	**2.60**	**21**	P		Pb	19 10 32.6	+0.3
WHVZ	**Whangaehu Hut**	**2.60**	**22**	P		Pb	19 10 31.7	-0.5
FWVZ	**Far West T-bar**	**2.62**	**21**	P		Pb	19 10 32.7	+0.2
NGZ	**Ngauruhoe**	**2.71**	**21**	P		Pb	19 10 34.3	+0.3
SNVZ	**South Ngauruho**	**2.71**	**22**	P		Pb	19 10 34.2	+0.2
OTVZ	**Oturere**	**2.73**	**22**	P		Pn	19 10 30.1	+0.7
MHCZ	**Mount Hutt**	**2.74**	**227**	P		Pn	19 10 26.7	-2.7
NNVZ	**North Ngauruho**	**2.75**	**21**	P		Pn	19 10 30.6	+1.0
WTVZ	**West Tongariro**	**2.76**	**21**	P		Pb	19 10 34.2	-0.6
TMVZ	**Te Maari**	**2.79**	**22**	P		Pb	19 10 35.7	+0.3
KRVZ	**Karewarewa**	**2.79**	**21**	P		Pb	19 10 35.5	+0.1
WVZ	**Waitaha Valley**	**3.00**	**242**	P		Pn	19 10 32.4	-0.4
BKZ	**Black Stump Fm**	**3.02**	**34**	P		Pb	19 10 40.4	+1.1
RPZ	**Rata Peaks**	**3.14**	**229**	P		Pn	19 10 32.7	-2.1
HIZ	**Hauiti**	**3.21**	**7**	P		Pn	19 10 37.9	+2.1
ARCZ	**Arundel**	**3.23**	**225**	P		Pn	19 10 33.7	-2.4
TMZ	**Timaru**	**3.62**	**221**	P		Pn	19 10 39.0	-2.5
OMRZ	**Omania**	**3.92**	**24**	P		Pb	19 10 52.6	-2.0
ODZ	**Otahua Downs**	**4.29**	**218**	P		Pn	19 10 47.5	-3.1

*DDA **18** 19:13:52.1±0.0,39°.12N×29°.03E,h7^{km}±2^{km},ML2.0*
*ISK **18** 19:13:52.4,39°.10N×29°.01E,h10^{km},ML2.6/14*
ISC 18 19:13:52.4±0.8,39°.12N±0°.02×29°.02E±0°.02,h9^{km}±5^{km},
n27,σ0^{s}61/41,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SMAA	**Simav-Kutahya**	**0.04**	**235**	PG		**Pg**	**19 13 54.6**	**+0.3**
SMAA				SG		**Sg**	**19 13 55.9**	**+0.3**
SIMA	**Simav-Kutahya**	**0.05**	**217**	PG		**Pg**	**19 13 53.8**	**-0.6**
DEMI	**Demirci**	**0.25**	**251**	P		**Pg**	**19 13 57.7**	**+0.2**
DEMI				S		**Sg**	**19 14 01.2**	**+0.3**
GEDZ	**Gediz**	**0.31**	**104**	PG		**Pb**	**19 13 59.5**	**-0.7**
GDZ	**Gediz**	**0.36**	**95**	P		**Pg**	**19 13 58.9**	**-0.6**
GDZ				*i* AML	AML		19 14 04.0	
	comp=N,83nm,0.4s							
GDZ				*i* AML	AML		19 14 04.0	
	comp=E,108nm,0.2s							
GDZ				S		**Sg**	**19 14 04.5**	**+0.2**
USAK	**Uak-Merkez**	**0.41**	**180**	P		**Pb**	**19 14 01.1**	**-0.7**
USAK				*i* AML	AML		19 14 07.0	
	comp=N,174nm,0.4s							
USAK				*i* AML	AML		19 14 07.0	
	comp=E,117nm,0.3s							
USAK				S		**Sb**	**19 14 07.1**	**-1.0**
TVSB	**Tavsanli**	**0.47**	**46**	PG		**Pg**	**19 14 00.5**	**-1.1**
DST	**Dursunbey**	**0.57**	**327**	PG		**Pb**	**19 14 04.5**	**-0.1**
DURS	**Dursunbey**	**0.64**	**319**	P		**Pg**	**19 14 04.7**	**-0.1**
DURS				S		**Sg**	**19 14 11.5**	**-1.6**
DURS				*i* AML	AML		19 14 13.0	
	comp=E,76nm,0.4s							
DURS				*i* AML	AML		19 14 15.0	
	comp=N,85nm,0.5s							
MANT	**Manisa**	**0.73**	**210**	P		**Pg**	**19 14 06.7**	**+0.2**
MANT				S		**Sg**	**19 14 15.7**	**-0.3**
MANT				*i* AML	AML		19 14 16.0	
	comp=N,117nm,0.3s							
MANT				*i* AML	AML		19 14 16.0	
	comp=E,145nm,0.3s							
ANDZ	**Kutahya, Merke**	**0.78**	**60**	P		**Pg**	**19 14 07.2**	**-0.3**
ANDZ				S		**Sg**	**19 14 18.3**	**+0.6**
ANDZ				*i* AML	AML		19 14 22.0	
	comp=N,87nm,0.3s							
ANDZ				*i* AML	AML		19 14 22.0	
	comp=E,106nm,0.4s							
PASA	**Karahalli, USA**	**0.86**	**155**	P		**Pb**	**19 14 09.5**	**+0.1**
PASA				S		**Sb**	**19 14 21.1**	**+0.1**
PASA				*i* AML	AML		19 14 25.0	
	comp=E,102nm,0.6s							
PASA				*i* AML	AML		19 14 26.0	
	comp=N,47nm,0.4s							
ORLT	**Orhaneli**	**0.93**	**354**	PG		**Pb**	**19 14 11.0**	**+0.4**
ORLT				SG		**Sn**	**19 14 24.8**	**-0.2**
AKHS	**Akhisar**	**0.97**	**256**	P		**Pg**	**19 14 10.8**	**-0.3**
AKHS				*i* AML	AML		19 14 24.0	
	comp=E,89nm,0.2s							
AKHS				S		**Sb**	**19 14 24.0**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.04**	**284**	P		**Pg**	**19 14 11.9**	**-0.5**
STEP				S		**Sn**	**19 14 28.4**	**+0.6**
STEP				*i* AML	AML		19 14 29.0	
	comp=E,72nm,0.3s							
STEP				*i* AML	AML		19 14 30.0	
	comp=N,56nm,0.4s							
AUBOZ	**BOZOYUK**	**1.11**	**45**	PN		**Pn**	**19 14 14.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	PN		**Pn**	**19 14 16.0**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**30**	PN		**Pg**	**19 14 16.5**	**+0.1**
SHUT	**Suhut-Afyon**	**1.32**	**115**	PN		**Pg**	**19 14 17.8**	**0.0**
BORA	**Eskisehir**	**1.34**	**55**	PN		**Pb**	**19 14 17.9**	**+0.2**
BORA				SN		**Sg**	**19 14 36.4**	**+0.9**
ADVT	**Abdulvahap**	**1.42**	**23**	PN		**Pb**	**19 14 19.1**	**+0.1**
ADVT				SN		**Sg**	**19 14 38.5**	**+0.4**
YLV	**Yalova**	**1.47**	**11**	PN		**Pb**	**19 14 19.7**	**-0.1**
YLV				SN		**Sg**	**19 14 39.7**	**+0.1**
CIFT	**Cifteler, Eski**	**1.60**	**81**	PN		**Pb**	**19 14 21.7**	**-0.5**
GULT	**Gulveren**	**1.74**	**41**	PN		**Pn**	**19 14 23.7**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	PN		**Pn**	**19 14 26.9**	**+1.0**
AUSIV	**SIVRIHISAR**	**1.98**	**80**	PN		**Pn**	**19 14 27.2**	**+1.1**
AUMIH	**MIHALICIK**	**2.04**	**68**	PN		**Pb**	**19 14 28.5**	**-1.2**

*AEIC **18** 19:19:46.6±1.4,62°.63N±0°.03×150°.77W±0°.07,h84^{km}±4^{km},*
ML3.5,ML3.9/172(NEIC),Error ellipse: s-maj=4.6km
s-min=4.3km az=81.0
*NEIC **18** 19:19:46.2±1.6,62°.66N±0°.03×150°.73W±0°.05,h92^{km}±6^{km},*
Error ellipse: s-maj=4.5km s-min=3.5km az=154.0
ISC 18 19:19:45.7±0.9,62°.65N±0°.02×150°.74W±0°.03,h96^{km}±7^{km},
n288,σ0^{s}95/331,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CUT	**Chulitna**	**0.33**	**139**			**Pn**	**19 19 59.9**	**0.0**
CUT					IAML		19 20 10.6	
	comp=E,4μm,0.3s							
CUT					IAML		19 20 10.9	
	comp=N,3μm,0.7s							
CUT	**Chulitna**	**0.33**	**139**			**Sn**	**19 20 10.2**	**-0.3**
CUT	**Chulitna**	**0.33**	**139**	P		**Pn**	**19 20 00.0**	**+0.1**
	baz=318,SNR=59							
CUT				S		**Sn**	**19 20 10.0**	**-0.5**
	baz=318							
PPLA	**Purkeypile**	**0.71**	**291**			**Pn**	**19 20 03.5**	**+0.6**
PPLA	**Purkeypile**	**0.71**	**291**			**Sn**	**19 20 16.1**	**+0.3**
PPLA	**Purkeypile**	**0.71**	**291**	P		**Pn**	**19 20 03.6**	**+0.6**
	baz=110,SNR=128							
PPLA				S		**Sn**	**19 20 16.0**	**+0.2**
	baz=110							
SKT	**Skwentna**	**0.77**	**209**			**Pn**	**19 20 03.3**	**-0.1**
SKT					IAML		19 20 16.5	
	comp=E,2μm,0.6s							
SKT					IAML		19 20 18.8	
	comp=N,2μm,0.2s							
SKT	**Skwentna**	**0.77**	**209**			**Sn**	**19 20 16.2**	**-0.5**
SKT	**Skwentna**	**0.77**	**209**	P		**Pn**	**19 20 03.4**	**0.0**
	baz=29,SNR=155							
SKT				S		**Sn**	**19 20 16.4**	**-0.3**
	baz=29							
TRF	**Thorofare Moun**	**0.82**	**14**			**Pn**	**19 20 04.8**	**+0.7**
TRF					IAML		19 20 19.4	
	comp=N,2μm,0.8s							
TRF					IAML		19 20 19.4	
	comp=E,2μm,0.5s							
TRF	**Thorofare Moun**	**0.82**	**14**			**Sn**	**19 20 17.8**	**-0.1**
TRF	**Thorofare Moun**	**0.82**	**14**	P		**Pn**	**19 20 04.8**	**+0.7**
	baz=194,SNR=200							
TRF				S		**Sn**	**19 20 18.1**	**+0.2**
	baz=194							
WAT7	**Susitna Watana**	**0.89**	**77**			**Pn**	**19 20 04.9**	**+0.2**
WAT7						**Sn**	**19 20 18.6**	**-0.3**
KTH	**Kantishna Hill**	**0.91**	**355**			**Pn**	**19 20 05.6**	**+0.8**
KTH					IAML		19 20 19.9	
	comp=E,2μm,0.7s							
KTH					IAML		19 20 20.4	
	comp=N,1μm,0.7s							
KTH	**Kantishna Hill**	**0.91**	**355**			**Sn**	**19 20 19.2**	**0.0**
M22K	**Willow**	**0.95**	**162**			**Pn**	**19 20 05.4**	**+0.2**
M22K					Sn	**Sn**	**19 20 19.9**	**+0.1**
M22K	**Willow**	**0.95**	**162**	P		**Pn**	**19 20 05.6**	**+0.4**
	baz=343,SNR=66							
M22K				S		**Sn**	**19 20 19.9**	**+0.1**
	baz=343							
CAST	**Castle Rocks**	**0.98**	**322**			**Pn**	**19 20 06.0**	**+0.4**
CAST					IAML		19 20 20.7	
	comp=E,907nm,0.5s							
CAST	**Castle Rocks**	**0.98**	**322**			**Sn**	**19 20 19.9**	**-0.6**
CAST	**Castle Rocks**	**0.98**	**322**	P		**Pn**	**19 20 06.0**	**+0.4**
	baz=141,SNR=200							
CAST				S		**Sn**	**19 20 20.0**	**-0.6**
	baz=141							
WAT1	**Susitna Watana**	**1.02**	**79**			**Pn**	**19 20 06.4**	**+0.3**
WAT1	**Susitna Watana**	**1.02**	**79**	P		**Pn**	**19 20 06.4**	**+0.3**
	baz=260							
WAT1				S		**Sn**	**19 20 21.2**	**-0.2**
	baz=260							
RND	**Reindeer**	**1.14**	**48**			**Pn**	**19 20 08.1**	**+0.6**
RND					Sn	**Sn**	**19 20 23.5**	**-0.4**
SUA	**Susitna One**	**1.20**	**180**			**Pn**	**19 20 08.6**	**+0.4**
SUA					IAML		19 20 26.5	
	comp=E,2μm,0.7s							
SUA					IAML		19 20 28.2	
	comp=N,2μm,0.6s							
SUA	**Susitna One**	**1.20**	**180**			**Sn**	**19 20 26.0**	**+1.0**
SUA	**Susitna One**	**1.20**	**180**	P		**Pn**	**19 20 08.5**	**+0.4**
	baz=0.5,SNR=101							
SUA				S		**Sn**	**19 20 25.4**	**+0.4**
	baz=0.5							
GHO	**Glory Hole Cre**	**1.23**	**135**			**Pn**	**19 20 09.3**	**+0.8**
GHO					Sn	**Sn**	**19 20 26.5**	**+0.9**
GHO					IAML		19 20 30.9	
	comp=N,3μm,0.5s							
GHO					IAML		19 20 32.9	
	comp=E,2μm,0.6s							
PMR	**Palmer**	**1.31**	**144**			**Pn**	**19 20 09.7**	**+0.4**
PMR					Sn	**Sn**	**19 20 27.0**	**0.0**
PMR					IAML		19 20 30.9	
	comp=N,1μm,0.3s							
PMR					IAML		19 20 31.0	
	comp=E,2μm,0.4s							
PMR	**Palmer**	**1.31**	**144**	P		**Pn**	**19 20 09.7**	**+0.4**
	baz=325,SNR=100							
PMR				S		**Sn**	**19 20 27.1**	**0.0**
	baz=325							
MCK	**McKinley**	**1.36**	**36**			**Pn**	**19 20 10.7**	**+0.7**
MCK					Sn	**Sn**	**19 20 28.1**	**-0.2**
MCK	**McKinley**	**1.36**	**36**	P		**Pn**	**19 20 10.9**	**+1.0**
	baz=217,SNR=218							
MCK				S		**Sn**	**19 20 28.7**	**+0.4**
	baz=217							
M20K	**Styx River**	**1.36**	**236**	P		**Pn**	**19 20 10.4**	**+0.3**
	baz=55							
M20K				S		**Sn**	**19 20 28.3**	**-0.2**
	baz=55							
WAT6	**Susitna Watana**	**1.39**	**92**			**Pn**	**19 20 10.5**	**0.0**
WAT6	**Susitna Watana**	**1.39**	**92**	P		**Pn**	**19 20 10.6**	**+0.1**
	baz=274,SNR=52							
WAT6				S		**Sn**	**19 20 29.1**	**-0.1**
	baz=274							
SML	**Sawmill**	**1.41**	**126**			**Pn**	**19 20 11.0**	**+0.3**
SML					Sn	**Sn**	**19 20 30.5**	**+1.0**
SML					IAML		19 20 33.2	
	comp=N,2μm,0.4s							
SML					IAML		19 20 34.0	
	comp=E,2μm,0.6s							
SML	**Sawmill**	**1.41**	**126**	P		**Pn**	**19 20 11.2**	**+0.5**
	baz=308,SNR=138							
CHUM	**Lake Minchumin**	**1.43**	**331**			**Pn**	**19 20 11.6**	**+0.9**
CHUM						**Sn**	**19 20 30.1**	**+0.4**
CHUM	**Lake Minchumin**	**1.43**	**331**	P		**Pn**	**19 20 11.6**	**+0.9**
	baz=149,SNR=123							
CHUM				S		**Sn**	**19 20 30.0**	**+0.3**
	baz=149							
BPAW	**Bear Paw Mtn.**	**1.46**	**356**	Pn		**Pn**	**19 20 11.6**	**+0.4**
BPAW						**Sn**	**19 20 29.8**	**-0.7**
BPAW					IAML		19 20 31.2	
	comp=E,1μm,0.4s							
BPAW					IAML		19 20 31.4	
	comp=N,1μm,0.5s							
BPAW	**Bear Paw Mtn.**	**1.46**	**356**	P		**Pn**	**19 20 11.7**	**+0.5**
	baz=175,SNR=17							
BPAW				S		**Sn**	**19 20 30.0**	**-0.5**
	baz=175							
L20K	**Farewell, AK**	**1.47**	**265**	P		**Pn**	**19 20 11.7**	**+0.4**
	baz=82							
L20K				S		**Sn**	**19 20 30.5**	**-0.2**
	baz=82							
FIS	**Fire Island**	**1.54**	**171**			**Pn**	**19 20 14.4**	**+2.3**
FIS					Sn	**Sn**	**19 20 34.5**	**+2.4**
DHY	**Denali Highway**	**1.60**	**73**			**Pn**	**19 20 13.2**	**+0.1**
DHY					IAML		19 20 36.9	
	comp=E,1μm,0.4s							
DHY					IAML		19 20 38.0	
	comp=N,888nm,0.6s							
DHY	**Denali Highway**	**1.60**	**73**			**Sn**	**19 20 34.0**	**+0.2**
DHY	**Denali Highway**	**1.60**	**73**	P		**Pn**	**19 20 13.5**	**+0.4**
	baz=256,SNR=52							
DHY				S		**Sn**	**19 20 34.0**	**+0.2**
	baz=256							
SPU	**Mount Spurr**	**1.60**	**203**			**Pn**	**19 20 13.2**	**+0.2**
N20K	**Mount Spurr**	**1.62**	**206**	P		**Pn**	**19 20 13.5**	**+0.3**
	baz=25,SNR=107							
N20K				S		**Sn**	**19 20 34.6**	**+0.4**
	baz=25							
SPCR	**Spurr Chakacha**	**1.62**	**206**	P		**Pn**	**19 20 13.5**	**+0.3**
	baz=25,SNR=78							
SPCR				S		**Sn**	**19 20 34.6**	**+0.5**
	baz=25							
BWN	**Browne**	**1.63**	**20**			**Pn**	**19 20 14.4**	**+1.2**
BWN					Sn	**Sn**	**19 20 34.7**	**+0.5**
BWN					IAML		19 20 36.3	
	comp=N,616nm,0.7s							
BWN					IAML		19 20 36.5	
	comp=E,563nm,0.5s							
RC01	**Rabbit Creek A**	**1.64**	**163**	Pn		**Pn**	**19 20 13.1**	**-0.3**
RC01				Sn		**Sn**	**19 20 33.0**	**-1.5**
RC01					IAML		19 20 40.2	
	comp=E,878nm,0.5s							
RC01					IAML		19 20 40.8	
	comp=N,1μm,0.3s							
RC01	**Rabbit Creek A**	**1.64**	**163**	P		**Pn**	**19 20 13.7**	**+0.2**
	baz=344							
RC01				S		**Sn**	**19 20 34.7**	**+0.1**
	baz=344							
KNK	**Knik Glacier**	**1.65**	**138**			**Pn**	**19 20 13.7**	**+0.1**
KNK					Sn	**Sn**	**19 20 33.2**	**-1.5**
KNK					IAML		19 20 41.0	
	comp=N,2μm,0.5s							
KNK	**Knik Glacier**	**1.65**	**138**	P		**Pn**	**19 20 13.9**	**+0.4**
	baz=320,SNR=82							
M23K	**Glacier View**	**1.66**	**120**	P		**Pn**	**19 20 14.0**	**+0.3**
	baz=303,SNR=274							
K20K	**Telida**	**1.68**	**296**			**Pn**	**19 20 14.5**	**+0.5**
K20K					Sn	**Sn**	**19 20 34.9**	**-0.4**
K20K	**Telida**	**1.68**	**296**	P		**Pn**	**19 20 14.6**	**+0.7**
	baz=114							
SCM	**Sheep Creek Mo**	**1.80**	**116**			**Pn**	**19 20 15.7**	**+0.2**
SCM					Sn	**Sn**	**19 20 39.9**	**+1.7**
SCM					IAML		19 20 44.1	
	comp=E,2μm,0.6s							
SCM					IAML		19 20 45.8	
	comp=N,2μm,0.6s							
SCM	**Sheep Creek Mo**	**1.80**	**116**	P		**Pn**	**19 20 15.9**	**+0.4**
	baz=298,SNR=77							
M19K	**Big River Lodg**	**1.87**	**248**			**Pn**	**19 20 16.7**	**+0.3**
M19K					Sn	**Sn**	**19 20 39.0**	**-0.7**
M19K	**Big River Lodg**	**1.87**	**248**	P		**Pn**	**19 20 16.6**	**+0.3**
	baz=65,SNR=31							
CAPN	**Captain Cook N**	**1.90**	**186**	Pn		**Pn**	**19 20 19.4**	**+2.6**
CAPN				Sn		**Sn**	**19 20 43.5**	**+3.1**
CAPN	**Captain Cook N**	**1.90**	**186**	P		**Pn**	**19 20 19.5**	**+2.7**
	baz=6.0							
L19K	**White Mountain**	**1.97**	**258**	Pn		**Pn**	**19 20 18.4**	**+0.6**
L19K				Sn		**Sn**	**19 20 40.6**	**-1.6**
L19K					IAML		19 20 43.3	
	comp=E,1μm,0.6s							
L19K					IAML		19 20 44.2	
	comp=N,527nm,1.1s							
L19K	**White Mountain**	**1.97**	**258**	P		**Pn**	**19 20 18.2**	**+0.6**
	baz=75,SNR=51							
L19K				S		**Sn**	**19 20 42.4**	**+0.2**
	baz=75							
NEA2	**Nenana**	**2.08**	**20**			**Pn**	**19 20 19.8**	**+0.6**
NEA2	**Nenana**	**2.08**	**20**	P		**Pn**	**19 20 19.7**	**+0.6**
	baz=201,SNR=65							
NEA2				S		**Sn**	**19 20 43.6**	**-1.1**
	baz=201							
PWL	**Port Wells**	**2.13**	**147**			**Pn**	**19 20 19.9**	**+0.1**
PWL					IAML		19 20 55.0	
	comp=E,969nm,0.5s							
PWL					IAML		19 20 57.6	
	comp=N,1μm,0.5s							
PWL	**Port Wells**	**2.13**	**147**	P		**Pn**	**19 20 19.8**	**0.0**
	baz=329,SNR=21							
PWL				S		**Sn**	**19 20 44.7**	**-1.2**
	baz=329							
J20K	**Nowinta River**	**2.17**	**316**	Pn		**Pn**	**19 20 21.1**	**+0.9**
J20K					IAML		19 20 48.0	
	comp=N,449nm,0.7s							
J20K					IAML		19 20 48.4	
	comp=E,446nm,0.7s							
J20K	**Nowinta River**	**2.17**	**316**	P		**Pn**	**19 20 21.1**	**+0.9**
	baz=134,SNR=146							
SLKM	**Skilak Lake**	**2.17**	**173**			**Pn**	**19 20 20.6**	**+0.3**
WRH	**Wood River Hil**	**2.18**	**32**	Pn		**Pn**	**19 20 21.1**	**+0.7**
M24K	**Tolsona, Glenn**	**2.20**	**102**			**Pn**	**19 20 21.6**	**+0.9**
M24K	**Tolsona, Glenn**	**2.20**	**102**	P		**Pn**	**19 20 21.8**	**+1.1**
	baz=286,SNR=67							
O22K	**Cooper Landing**	**2.23**	**167**			**Pn**	**19 20 21.5**	**+0.4**
RDJH	**Redoubt Jeurge**	**2.29**	**206**			**Pn**	**19 20 22.7**	**+0.7**
MLY	**Manley**	**2.39**	**360**			**Pn**	**19 20 24.0**	**+0.8**
MLY	**Manley**	**2.39**	**360**	P		**Pn**	**19 20 23.9**	**+0.7**
	baz=180,SNR=27							
MLY				S		**Sn**	**19 20 51.1**	**-0.8**
	baz=180							
CCB	**Clear Creek Bu**	**2.39**	**32**			**Pn**	**19 20 23.8**	**+0.6**
RSO	**Redoubt South**	**2.40**	**205**			**Pn**	**19 20 24.0**	**+0.5**
TTA	**Tatalina**	**2.44**	**279**	Pn		**Pn**	**19 20 24.4**	**+0.5**
TTA					IAML		19 20 54.2	
	comp=E,372nm,0.5s							
TTA					IAML		19 20 54.8	
	comp=N,262nm,0.4s							
TTA	**Tatalina**	**2.44**	**279**	P		**Pn**	**19 20 24.4**	**+0.5**
	baz=94,SNR=108							
PAX	**Paxson**	**2.44**	**80**			**Pn**	**19 20 25.1**	**+1.2**
PAX	**Paxson**	**2.44**	**80**	P		**Pn**	**19 20 25.5**	**+1.6**
	baz=264,SNR=109							
HDA	**Harding Lake**	**2.45**	**42**			**Pn**	**19 20 24.8**	**+0.9**
HDA					IAML		19 20 53.5	
	comp=E,516nm,0.4s							
HDA					IAML		19 20 53.5	
	comp=N,417nm,0.5s							
HDA	**Harding Lake**	**2.45**	**42**	P		**Pn**	**19 20 24.8**	**+0.9**
	baz=225,SNR=608							
HDA				S		**Sn**	**19 20 52.7**	**-0.5**
	baz=225							
HDA				S		**Sn**	**19 20 52.7**	**-0.5**
	baz=225							
K24K	**Donnelly Dome**	**2.52**	**61**	P		**Pn**	**19 20 26.6**	**+1.6**
	baz=245,SNR=81							
KLU	**Klutina**	**2.55**	**115**			**Pn**	**19 20 25.2**	**-0.2**
KLU					IAML		19 21 06.2	
	comp=E,719nm,0.3s							
KLU					IAML		19 21 06.4	
	comp=N,768nm,0.8s							
KLU	**Klutina**	**2.55**	**115**	P		**Pn**	**19 20 25.2**	**-0.2**
	baz=299,SNR=125							
N19K	**Bonanza Creek**	**2.57**	**226**			**Pn**	**19 20 26.3**	**+0.7**
N19K	**Bonanza Creek**	**2.57**	**226**	P		**Pn**	**19 20 26.4**	**+0.7**
	baz=43							
MDM	**Murphy Dome**	**2.57**	**25**			**Pn**	**19 20 26.5**	**+0.9**
TCOL	**CIGO, UAF Yank**	**2.57**	**29**			**Pn**	**19 20 26.5**	**+0.9**
TCOL					IAML		19 20 58.3	
	comp=E,845nm,0.6s							
TCOL	**CIGO, UAF Yank**	**2.57**	**29**	P		**Pn**	**19 20 26.4**	**+0.9**
	baz=211,SNR=56							
COLA	**College**	**2.57**	**29**			**Pn**	**19 20 26.5**	**+1.0**
COLA	**College**	**2.57**	**29**	P		**Pn**	**19 20 26.4**	**+0.9**
	baz=211							
I23K	**Minto, Yukon-K**	**2.58**	**13**			**Pn**	**19 20 25.7**	**+0.1**
I23K	**Minto, Yukon-K**	**2.58**	**13**	P		**Pn**	**19 20 26.5**	**+0.9**
	baz=194,SNR=106							
I21K	**Tanana**	**2.59**	**348**			**Pn**	**19 20 26.6**	**+0.7**
I21K					IAML		19 20 56.9	
	comp=E,190nm,1.0s							
I21K	**Tanana**	**2.59**	**348**	P		**Pn**	**19 20 27.0**	**+1.1**
	baz=167							
HARP	**HAARP**	**2.60**	**93**	P		**Pn**	**19 20 27.2**	**+1.2**
	baz=278,SNR=27							
SEW	**Seward**	**2.63**	**166**			**Pn**	**19 20 26.8**	**+0.4**
SEW	**Seward**	**2.63**	**166**	P		**Pn**	**19 20 26.8**	**+0.4**
	baz=347							
IL31		**2.73**	**37**			**Pn**	**19 20 28.2**	**+0.6**
ILAR	**Eielson Array**	**2.73**	**37**			**Pn**	**19 20 28.3**	**+0.6**
O20K	**Slope Mountain**	**2.74**	**200**	P		**Pn**	**19 20 28.8**	**+0.9**
	baz=19							
SVW2	**Sparrevohn**	**2.77**	**238**			**Pn**	**19 20 29.1**	**+0.8**
DIV	**Divide**	**2.81**	**121**			**Pn**	**19 20 28.2**	**-0.6**
POKR	**Poker Plat Res**	**2.87**	**29**			**Pn**	**19 20 30.4**	**+0.9**
POKR	**Poker Plat Res**	**

H23K	**Yukon River**	**3.23**	**9**		**Pn**	**Pn**	**19 20 35.5 +1.2**
H23K	**Yukon River**	**3.23**	**9**	P	**Pn**	**Pn**	**19 20 35.5 +1.2**
	baz=190						
MENT	**Mentasta**	**3.24**	**82**			**Pn**	**19 20 35.7 +1.2**
MENT				IAML			19 21 33.6
	comp=E,377nm,0.9s						
P19K	**Oil Pt**	**3.25**	**203**			**Pn**	**19 20 36.0 +1.5**
P19K				IAML			19 21 28.9
	comp=E,210nm,0.5s						
P19K				IAML			19 21 28.9
	comp=N,180nm,0.5s						
P19K	**Oil Pt**	**3.25**	**203**	P		**Pn**	**19 20 36.1 +1.5**
	baz=21						
H22K	**Ishtalitna Cre**	**3.27**	**355**	P		**Pn**	**19 20 36.1 +1.2**
	baz=175,SNR=29						
SCRK	**Sand Creek**	**3.32**	**63**	Pn		**Pn**	**19 20 36.6 +0.9**
SCRK				IAML			19 21 20.3
	comp=N,293nm,0.7s						
SCRK				IAML			19 21 20.7
	comp=E,176nm,0.8s						
SCRK	**Sand Creek**	**3.32**	**63**	P		**Pn**	**19 20 36.6 +0.9**
	baz=249,SNR=104						
BMRM	**Bremner River**	**3.37**	**117**			**Pn**	**19 20 35.8 -0.5**
BMRM	**Bremner River**	**3.37**	**117**	P		**Pn**	**19 20 35.8 -0.5**
	baz=303,SNR=10						
L26K	**Log Cabin Wild**	**3.41**	**80**			**Pn**	**19 20 38.3 +1.5**
L26K				IAML			19 21 26.1
	comp=N,371nm,0.5s						
L26K				IAML			19 21 30.1
	comp=E,395nm,0.5s						
L26K	**Log Cabin Wild**	**3.41**	**80**	P		**Pn**	**19 20 38.5 +1.7**
	baz=267,SNR=99						
H24K	**Noodor Dome**	**3.43**	**20**			**Pn**	**19 20 38.0 +0.9**
H24K	**Noodor Dome**	**3.43**	**20**	P		**Pn**	**19 20 38.0 +0.9**
	baz=202						
GCSA	**Galena City Sc**	**3.45**	**310**			**Pn**	**19 20 38.5 +1.3**
GCSA	**Galena City Sc**	**3.45**	**310**	P		**Pn**	**19 20 38.5 +1.3**
	baz=125,SNR=32						
GLB	**Gilahina Butte**	**3.48**	**107**			**Pn**	**19 20 37.9 +0.1**
GLB				IAML			19 21 31.5
	comp=E,183nm,0.7s						
O18K	**Koktuh Hills**	**3.54**	**220**	Pn		**Pn**	**19 20 39.1 +0.6**
O18K	**Koktuh Hills**	**3.54**	**220**	P		**Pn**	**19 20 39.2 +0.6**
	baz=36,SNR=16						
GOAT	**Goat Mountain**	**3.54**	**123**			**Pn**	**19 20 38.6 0.0**
IMAR	**Indian Mountai**	**3.59**	**340**	Pn		**Pn**	**19 20 40.3 +1.1**
M26K	**Nabesna, AK**	**3.60**	**91**			**Pn**	**19 20 39.6 +0.3**
M26K				IAML			19 21 37.0
	comp=E,170nm,0.6s						
M26K				IAML			19 21 39.3
	comp=N,195nm,0.8s						
M26K	**Nabesna, AK**	**3.60**	**91**	P		**Pn**	**19 20 39.7 +0.4**
	baz=277						
PRP	**Porcupine Dome**	**3.67**	**36**	Pn		**Pn**	**19 20 41.4 +1.0**
PRP				IAML			19 21 33.7
	comp=E,85nm,0.6s						
PRP	**Porcupine Dome**	**3.67**	**36**	P		**Pn**	**19 20 41.3 +0.8**
	baz=221,SNR=63						
RAGM	**Ragged Mountai**	**3.69**	**125**			**Pn**	**19 20 43.1 +2.5**
J26L	**Joseph Creek**	**3.70**	**57**	P		**Pn**	**19 20 42.0 +1.2**
	baz=243						
VRDI	**Verde Repeater**	**3.73**	**109**	Pn		**Pn**	**19 20 41.0 -0.2**
VRDI				IAML			19 21 40.5
	comp=E,126nm,0.8s						
VRDI				IAML			19 21 41.1
	comp=N,180nm,0.9s						
MCARA	**McCarthy VSAT**	**3.85**	**106**			**Pn**	**19 20 42.8 +0.1**
MCARA	**McCarthy VSAT**	**3.85**	**106**	P		**Pn**	**19 20 43.0 +0.2**
	baz=293,SNR=9.4						
Q23K	**Middleton Isla**	**3.88**	**145**	Pn		**Pn**	**19 20 44.0 +1.0**
Q23K				IAML			19 22 15.0
	comp=N,259nm,1.9s						
HMT	**Hamilton**	**3.88**	**124**	Pn		**Pn**	**19 20 43.4 +0.2**
MID	**Middleton Isla**	**3.88**	**145**	Pn		**Pn**	**19 20 44.0 +1.0**
MID				IAML			19 21 32.6
	comp=N,253nm,2.3s						
P18K	**Big Mountain,**	**3.93**	**216**	Pn		**Pn**	**19 20 44.1 +0.2**
P18K	**Big Mountain,**	**3.93**	**216**	P		**Pn**	**19 20 44.4 +0.5**
	baz=32						
Q19K	**Cape Douglas,**	**4.00**	**202**			**Pn**	**19 20 46.0 +1.2**
Q19K				IAML			19 22 17.5
	comp=N,198nm,1.0s						
Q19K	**Cape Douglas,**	**4.00**	**202**	P		**Pn**	**19 20 46.4 +1.6**
	baz=20,SNR=6.8						
G21K	**Allakaket**	**4.06**	**344**	P		**Pn**	**19 20 47.0 +1.5**
	baz=162						
BERG	**Berg Lake**	**4.06**	**121**	Pn		**Pn**	**19 20 44.9 -0.7**
G23K	**Bananza Creek**	**4.09**	**4**	P		**Pn**	**19 20 47.5 +1.6**
	baz=184						
KAIM	**Kayak Island**	**4.10**	**129**	Pn		**Pn**	**19 20 44.4 -1.6**
KAIM				IAML			19 21 34.5
	comp=N,245nm,2.6s						
L27K	**Beaver Creek,**	**4.10**	**80**			**Pn**	**19 20 46.5 +0.3**
L27K				IAML			19 21 58.5
	comp=N,66nm,0.8s						
L27K	**Beaver Creek,**	**4.10**	**80**	P		**Pn**	**19 20 46.9 +0.7**
	baz=268						
M27K	**Edge Creek, AK**	**4.12**	**90**			**Pn**	**19 20 47.3 +0.8**
M27K				IAML			19 21 58.4
	comp=N,118nm,1.2s						
M27K				IAML			19 22 03.1
	comp=E,90nm,0.9s						
M27K	**Edge Creek, AK**	**4.12**	**90**	P		**Pn**	**19 20 47.5 +1.0**
	baz=278						
BCAR	**Beaver Creek A**	**4.12**	**80**	Pn		**Pn**	**19 20 46.6 +0.2**
Q20K	**Shuyak Island**	**4.14**	**192**	P		**Pn**	**19 20 47.6 +1.0**
	baz=11,SNR=8.5						
K27K	**Chicken**	**4.14**	**67**	P		**Pn**	**19 20 47.4 +0.8**
	baz=254						
H25L	**Birch Creek**	**4.21**	**28**	P		**Pn**	**19 20 49.3 +1.9**
	baz=212						
KHIT	**Khitrov Hills**	**4.21**	**118**			**Pn**	**19 20 47.4 -0.3**
O17K	**Koliganek Bris**	**4.22**	**230**	P		**Pn**	**19 20 48.5 +0.9**
	baz=44,SNR=19						
SUCK	**Suckling Hills**	**4.23**	**125**	Pn		**Pn**	**19 20 48.7 +0.8**
SUCK				IAML			19 22 02.4
	comp=E,164nm,1.6s						
I26K	**Coal Creek Min**	**4.27**	**48**	P		**Pn**	**19 20 49.5 +1.1**
	baz=235						
BALM	**Baldy**	**4.30**	**108**			**Pn**	**19 20 48.4 -0.4**
G22K	**Bettles**	**4.30**	**356**	P		**Pn**	**19 20 49.9 +1.2**
	baz=175						
G24K	**Hadweenzic Riv**	**4.30**	**18**	P		**Pn**	**19 20 49.7 +1.0**
	baz=200						
KIAG	**Kiagna River**	**4.34**	**110**			**Pn**	**19 20 48.8 -0.7**
WAX	**Waxell Ridge**	**4.37**	**117**			**Pn**	**19 20 49.8 -0.1**
N16K	**Nishlik Lake**	**4.42**	**244**	P		**Pn**	**19 20 51.1 +0.7**
	baz=57						
P17K	**Kvichak River**	**4.45**	**221**	P		**Pn**	**19 20 51.9 +1.1**
	baz=36						
ISLE	**Juniper Island**	**4.50**	**113**			**Pn**	**19 20 51.4 -0.3**
Q18K	**Katmai Hardscr**	**4.53**	**210**	P		**Pn**	**19 20 54.0 +1.9**
	baz=26,SNR=33						
SNH	**Sunshine Point**	**4.53**	**120**	Pn		**Pn**	**19 20 52.2 +0.2**
SNH				IAML			19 22 10.4
	comp=N,162nm,2.0s						
G25K	**Bearman Lake**	**4.58**	**24**	P		**Pn**	**19 20 53.8 +1.3**
	baz=208,SNR=19						
BARN	**Barnard Glacie**	**4.59**	**106**			**Pn**	**19 20 53.2 +0.3**
BARN				IAML			19 22 07.1
	comp=E,120nm,0.6s						
BARN				IAML			19 22 08.5
	comp=N,109nm,0.8s						
FYU	**Fort Yukon**	**4.59**	**29**			**Pn**	**19 20 53.7 +1.1**
FYU				IAML			19 21 35.0
	comp=N,59nm,3.8s						
FYU				IAML			19 22 24.0
	comp=E,57nm,3.0s						
COLD	**Coldfoot**	**4.60**	**3**	Pn		**Pn**	**19 20 54.0 +1.2**
COLD	**Coldfoot**	**4.60**	**3**	P		**Pn**	**19 20 54.2 +1.4**
	baz=183,SNR=44						
BAGL	**Bagley Icefiel**	**4.67**	**114**			**Pn**	**19 20 53.2 -0.5**
O16K	**Kokwok River B**	**4.70**	**233**	P		**Pn**	**19 20 54.9 +0.6**
	baz=46						
F21K	**Alatna River**	**4.73**	**347**	P		**Pn**	**19 20 56.3 +1.7**
	baz=164						
EGAK	**Eagle**	**4.76**	**59**			**Pn**	**19 20 55.9 +0.9**
EGAK				IAML			19 22 06.7
	comp=E,121nm,0.9s						
EGAK				IAML			19 22 06.8
	comp=E,108nm,0.9s						
EGAK	**Eagle**	**4.76**	**59**	P		**Pn**	**19 20 56.1 +1.1**
	baz=248,SNR=28						
YAH	**Yahtse**	**4.88**	**114**			**Pn**	**19 20 56.3 -0.6**
YAH				IAML			19 22 15.9
	comp=E,125nm,0.8s						
YUK3	**Moose Creek**	**4.89**	**96**	P		**Pn**	**19 20 57.5 +0.5**
	baz=285,SNR=54						
MESA	**MESA**	**4.90**	**117**			**Pn**	**19 20 56.4 -0.6**
MESA	**MESA**	**4.90**	**117**	P		**Pn**	**19 20 57.0 -0.1**
	baz=304,SNR=82						
F22K	**John River**	**4.91**	**354**	P		**Pn**	**19 20 58.7 +1.7**
	baz=172						
Q16K	**King Salmon**	**4.94**	**219**	P		**Pn**	**19 20 58.9 +1.5**
	baz=34						
I27K	**Kandik River**	**4.97**	**49**	P		**Pn**	**19 20 59.2 +1.2**
	baz=238,SNR=54						
F24K	**Squaw Lake**	**5.03**	**13**	P		**Pn**	**19 21 00.1 +1.4**
	baz=195						
P16K	**Nushagak River**	**5.08**	**228**	P		**Pn**	**19 21 00.5 +1.2**
	baz=41						
Q17K	**Contact Creek**	**5.09**	**212**	P		**Pn**	**19 21 00.6 +1.0**
	baz=28,SNR=11						
TABL	**Table Mountain**	**5.10**	**112**	Pn		**Pn**	**19 20 59.1 -0.7**
TABL				IAML			19 22 22.9
	comp=E,106nm,1.1s						
G26K	**Porcupine Rive**	**5.24**	**31**	P		**Pn**	**19 21 02.3 +1.0**
	baz=218						
DAWY	**Dawson**	**5.30**	**69**	Pn		**Pn**	**19 21 02.9 +0.5**
DAWY				IAML			19 22 24.1
	comp=E,52nm,0.7s						
DAWY				IAML			19 22 29.2
	comp=N,59nm,0.9s						
DAWY	**Dawson**	**5.30**	**69**	P		**Pn**	**19 21 03.1 +0.8**
	baz=260,SNR=48						
YUK8	**Steele Glacier**	**5.36**	**100**	P		**Pn**	**19 21 03.9 +0.6**
	baz=290,SNR=22						
O28M	**Mount Upton**	**5.36**	**106**	P		**Pn**	**19 21 03.7 +0.3**
	baz=295,SNR=56						
H27K	**Steamboat Moun**	**5.36**	**44**	P		**Pn**	**19 21 04.0 +0.7**
	baz=232						
F25K	**Christian Rive**	**5.41**	**21**	P		**Pn**	**19 21 04.7 +0.9**
	baz=206						
SAMH	**Samovar Hills**	**5.41**	**113**			**Pn**	**19 21 04.3 +0.4**
E23K	**Chandalar**	**5.45**	**4**	P		**Pn**	**19 21 06.4 +2.0**
	baz=185						
BMAR	**Burnt Mountain**	**5.46**	**26**	Pn		**Pn**	**19 21 05.3 +0.8**
E24K	**Your Creek**	**5.53**	**9**	P		**Pn**	**19 21 06.9 +1.5**
	baz=191						
OHAK	**Old Harbor**	**5.60**	**194**	Pn		**Pn**	**19 21 04.5 -1.8**
OHAK	**Old Harbor**	**5.60**	**194**	P		**Pn**	**19 21 05.3 -1.1**
	baz=12						
PCA	**Pinnacle**	**5.65**	**112**			**Pn**	**19 21 06.0 -1.2**
PINM	**Pinnacle**	**5.66**	**112**	P		**Pn**	**19 21 07.1 -0.2**
	baz=301,SNR=64						
M29M	**Somme Creek**	**5.69**	**87**	P		**Pn**	**19 21 08.4 +0.8**
	baz=277						
G27K	**Doyon Strip**	**5.70**	**39**	P		**Pn**	**19 21 08.6 +0.8**
	baz=227						
F26K	**Sheenjek River**	**5.77**	**26**	P		**Pn**	**19 21 10.0 +1.3**
	baz=212						
L29M	**L29M**	**5.79**	**80**	P		**Pn**	**19 21 09.8 +0.9**
	baz=271						
YUK4	**Talbot Arm**	**5.85**	**98**	P		**Pn**	**19 21 10.5 +0.5**
	baz=287,SNR=10						
J29M	**Klondike Camp**	**5.88**	**67**			**Pn**	**19 21 08.9 -1.4**
E25K	**Arctic Village**	**5.90**	**19**	P		**Pn**	**19 21 11.4 +1.0**
	baz=204						
BCPM	**Bancas Point**	**6.00**	**112**			**Pn**	**19 21 11.7 -0.1**
TOLK	**Toolik Lake Re**	**6.03**	**4**	Pn		**Pn**	**19 21 14.3 +2.0**
TOLK	**Toolik Lake Re**	**6.03**	**4**	P		**Pn**	**19 21 14.8 +2.5**
	baz=185,SNR=11						
K29M	**Barlow Dome**	**6.09**	**73**	P		**Pn**	**19 21 13.7 +0.6**
	baz=264						
I29M	**Ogilvie Camp,**	**6.10**	**58**			**Pn**	**19 21 13.8 +0.6**
YUK6	**Outpost Mounta**	**6.11**	**101**	P		**Pn**	**19 21 14.0 +0.4**
	baz=292,SNR=22						
PNL	**Peninsula**	**6.25**	**114**	P		**Pn**	**19 21 14.8 -0.4**
	baz=303,SNR=24						
O29M	**Mount Kennedy**	**6.29**	**107**	P		**Pn**	**19 21 16.3 +0.5**
	baz=297,SNR=7.2						
SII	**Sitkinak Islan**	**6.36**	**197**	Pn		**Pn**	**19 21 15.5 -1.2**
SII	**Sitkinak Islan**	**6.36**	**197**	P		**Pn**	**19 21 15.5 -1.2**
	baz=15						
M30M	**Minto, Yukon**	**6.44**	**84**			**Pn**	**19 21 17.8 0.0**
N30M	**Aishikik Lake**	**6.53**	**94**	P		**Pn**	**19 21 19.1 +0.1**
	baz=286,SNR=14						
HYT	**Haines Junctio**	**6.55**	**100**	Pn		**Pn**	**19 21 18.8 -0.6**
HYT	**Haines Junctio**	**6.55**	**100**	P		**Pn**	**19 21 20.0 +0.6**
	baz=292,SNR=14						
E27K	**Coleen River**	**6.73**	**30**	P		**Pn**	**19 21 22.6 +0.9**
	baz=219						
ANM	**Nome**	**6.80**	**293**	Pn		**Pn**	**19 21 24.2 +1.6**
D25K	**Kavik River**	**6.93**	**13**	P		**Pn**	**19 21 25.5 +1.1**
	baz=197						
P29M	**Windy Craggy**	**6.98**	**110**	Pn		**Pn**	**19 21 25.1 -0.1**
P29M	**Windy Craggy**	**6.98**	**110**	P		**Pn**	**19 21 25.6 +0.4**
	baz=301						
P30M	**Million Dollar**	**7.09**	**105**	P		**Pn**	**19 21 26.7 +0.1**
	baz=297						
EPYK	**Eagle Plains**	**7.10**	**52**			**Pn**	**19 21 27.9 +1.1**
EPYK	**Eagle Plains**	**7.10**	**52**	P		**Pn**	**19 21 27.8 +1.1**
	baz=245,SNR=8.0						
N31M	**Braeburn, Yuko**	**7.12**	**93**	Pn		**Pn**	**19 21 28.2 +1.0**
C24K	**Franklin Bluff**	**7.14**	**6**	P		**Pn**	**19 21 29.2 +1.9**
	baz=188						
CHIR	**Chirikof Islan**	**7.29**	**202**	Pn		**Pn**	**19 21 27.7 -1.8**
CHGN	**Chignik**	**7.47**	**215**	Pn		**Pn**	**19 21 31.7 -0.1**
G30M	**tAoh Zraii Nji**	**7.55**	**49**	P		**Pn**	**19 21 33.8 +0.9**
	baz=242						
C27K	**Jago River**	**7.55**	**19**	P		**Pn**	**19 21 35.1 +2.2**
	baz=205,SNR=14						
M31M	**Drury Creek, Y**	**7.60**	**86**	Pn		**Pn**	**19 21 34.3 +0.7**
C26K	**Camden Bay**	**7.66**	**15**	P		**Pn**	**19 21 36.7 +2.4**
	baz=200						
WHY	**Whitehorse**	**7.81**	**98**	Pn		**Pn**	**19 21 35.8 -0.7**
WHY	**Whitehorse**	**7.81**	**98**	P		**Pn**	**19 21 37.0 +0.5**
	baz=292,SNR=14						
TNA	**Tin City**	**8.06**	**299**	Pn		**Pn**	**19 21 40.1 +0.4**
FARO	**Faro, Yukon**	**8.07**	**85**	Pn		**Pn**	**19 21 41.1 +1.0**
BESE	**Bessie Mountai**	**8.80**	**110**	Pn		**Pn**	**19 21 49.7 -0.4**
SDPT	**Sand Point**	**8.87**	**219**	Pn		**Pn**	**19 21 53.0 +2.1**
CNBA	**Chernabura Isl**	**9.10**	**214**	Pn		**Pn**	**19 21 51.8 -2.1**
INK	**Inuvik**	**9.10**	**44**	Pn		**Pn**	**19 21 54.9 +0.9**
INK	**Inuvik**	**9.10**	**44**	P		**Pn**	**19 21 55.0 +1.1**
	baz=240,SNR=11						
JIS	**Juneau Island**	**9.18**	**111**	Pn		**Pn**	**19 21 54.4 -0.6**
SIT	**Sitka**	**9.56**	**119**	Pn		**Pn**	**19 21 59.6 -0.5**
S32K	**Killisnoo**	**9.59**	**115**	P		**Pn**	**19 22 01.5 +0.9**
	baz=310,SNR=10						
DLBC	**Dease Lake**	**11.02**	**103**	Pn		**Pn**	**19 22 20.3 +0.2**
WRAK	**Wrangell Islan**	**11.21**	**116**	Pn		**Pn**	**19 22 22.9 +0.3**
C36M	**Paulatuk**	**12.66**	**47**	Pn		**Pn**	**19 22 39.8 -2.0**
C36M	**Paulatuk**	**12.66**	**47**	P		**Pn**	**19 22 40.7 -1.1**
	baz=251						
A36M	**Sachs Harbour**	**13.43**	**35**	Pn		**Pn**	**19 22 50.4 -1.6**
DIB	**Dawson Inlet,**	**13.50**	**126**	Pn		**Pn**	**19 22 52.2 -0.8**

*IDC **18** 19:20:48.1±1.0,35.45S×107.27W,h0km,mb4.0/7, mbtmp4.0/7,MS3.7/25,Error ellipse: s-maj=33.8km s-min=24.9km az=50.0*

*GCMT **18** 19:20:55.0±0.4,35.02S±0.03×107.42W±0.02,h25km±1km, MW4.9/75,Moment Tensor Solution. s23,c26; s75,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=-0.22±.16; Mθθ=0.13±.13; Mϕϕ=0.35±.14; Mrθ=0.33±.23; Mrϕ=-2.38±.11; Mθϕ=-0.91±.28; Best double couple: M₀2.56100×10¹⁶ NP1:ϕs183.00000°,δ86.00000°,λ20.00000°. NP2: ϕs92.00000°,δ71.00000°,λ175.00000°. Principal axes: T 2.7740, Plg17.0000°, Azm49.0000°; N -0.4260, Plg70.0000°, Azm195.0000°; P -2.3480, Plg10.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 18 19:20:50.0±1.0,35.4S±0.2×107.2W±0.2,h10km,n33, σ1s06/12,mb3.9/7,MS3.8/24,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**8.46**	**347**	LR	LR	19 25 06.5	
	comp=Z,420nm,19.3s,baz=356,slow=30						
PLCA	**Paso Flores**	**29.20**	**112**	P	**P**	**19 26 51.6**	**-0.2**
	1.3nm,0.7s,baz=234,slow=7.2,SNR=4.8						
PLCA				LR	LR	19 35 27.5	
	comp=Z,126nm,21.1s,baz=273,slow=30						
	1.3nm,0.7s						
LVC	**Limon Verde**	**35.63**	**80**	LR	LR	19 38 00.7	
	comp=Z,140nm,19.2s,baz=230,slow=29						
NNA	**Nana**	**36.04**	**57**	LR	LR	19 38 45.4	
	comp=Z,139nm,18.5s,baz=204,slow=30						
ATAH	**Atahualpa**	**38.62**	**50**	LR	LR	19 40 01.2	
	comp=Z,160nm,18.1s,baz=221,slow=30						
PMSA	**Palmer Station**	**39.06**	**152**	LR	LR	19 39 57.4	
	comp=Z,238nm,18.4s,baz=238,slow=29						
LPAZ	**La Paz**	**39.67**	**72**	P	**P**	**19 28 23.1**	**+0.1**
	1.4nm,0.7s,baz=229,slow=6.0,SNR=4.1						
LPAZ				LR	LR	19 41 07.9	
	comp=Z,67nm,19.0s,baz=268,slow=31						
	1.4nm,0.7s						
CPUP	**Villa Florida**	**43.38**	**92**	LR	LR	19 42 59.1	
	comp=Z,60nm,20.1s,baz=230,slow=31						
SIV	**San Ignacio**	**45.39**	**77**	P	**P**	**19 29 08.4**	**-0.5**
	1.4nm,0.7s,baz=259,slow=4.7,SNR=5.1						
	1.4nm,0.7s						
RAR	**Rarotonga**	**47.87**	**273**	LR	LR	19 45 47.4	
	comp=Z,48nm,18.3s,baz=136,slow=31						
JTS	**Las Juntas de**	**50.09**	**29**	LR	LR	19 45 32.5	
	comp=Z,136nm,20.9s,baz=258,slow=30						
CMIG	**Matias Romero**	**53.51**	**15**	LR	LR	19 47 27.3	
	comp=Z,37nm,20.7s,baz=201,slow=30						
QSPA	**South Pole Qui**	**54.79**	**180**	LR	LR	19 49 23.0	
	comp=Z,44nm,21.5s,baz=102,slow=31						
SDV	**Santo Domingo**	**55.97**	**45**	LR	LR	19 52 39.2	
	comp=Z,76nm,18.3s,baz=226,slow=34						
VNA3	**Neumayer Olymp**	**59.26**	**158**	P	**P**	**19 30 52.2**	**+1.0**
VNA2	**Neumayer--Watz**	**60.07**	**158**	P	**P**	**19 30 57.8**	**+1.1**
	baz=271,slow=5.0						
PCRV	**Puerto La Cruz**	**60.60**	**50**	LR	LR	19 53 16.4	
	comp=Z,90nm,20.3s,slow=32						
SNAA	**Sanae**	**61.11**	**160**	P	**P**	**19 31 03.5**	**-0.4**
	0.9nm,0.8s,baz=303,slow=4.4,SNR=3.6						
SNAA				LR	LR	19 53 21.5	
	comp=Z,45nm,19.3s,baz=193,slow=32						
	0.9nm,0.8s						
RPZ	**Rata Peaks**	**61.15**	**235**	LR	LR	19 50 52.0	
	comp=Z,95nm,21.9s,baz=84,slow=30						
TXAR	**Lajitas Array**	**64.49**	**3**	P	**P**	**19 31 28.8**	**+1.9**
	0.8nm,0.8s,baz=166,slow=8.0,SNR=5.0						
TXAR				LR	LR	19 55 47.6	
	comp=Z,38nm,18.9s,baz=12,slow=32						
	0.8nm,0.8s						
MDP	**Montagnes des**	**65.12**	**63**	LR	LR	19 56 38.5	
	comp=Z,204nm,20.2s,baz=210,slow=33						
SJG	**San Juan**	**65.95**	**43**	LR	LR	19 58 01.4	
	comp=Z,23nm,18.0s,baz=240,slow=34						
MSVF	**Nonsavu**	**67.69**	**264**	LR	LR	19 55 47.7	
	comp=Z,19nm,18.5s,baz=177,slow=31						
NVAR	**Mina Array Bea**	**74.19**	**351**	P	**P**	**19 32 26.6**	**-0.2**
	2.1nm,0.9s,baz=185,slow=7.9,SNR=6.1						
	2.1nm,0.9s						
DZM	**Mont Dzumac**	**74.70**	**254**	LR	LR	19 59 24.8	
	comp=Z,113nm,20.0s,baz=26,slow=31						
PDAR	**Pinedale Array**	**77.83**	**358**	P	**P**	**19 32 46.0**	**-1.6**
	1.6nm,0.7s,baz=157,slow=4.8,SNR=7.9						
	1.6nm,0.7s						
STKA	**Stephens Creek**	**87.02**	**233**	LR	LR	20 07 02.3	
	comp=Z,62nm,18.6s,baz=198,slow=32						
CTA	**Charters Tower**	**91.23**	**244**	LR	LR	20 09 00.7	
	comp=Z,73nm,18.7s,baz=86,slow=32						
SUR	**Sutherland**	**96.80**	**138**	LR	LR	20 09 42.4	
	comp=Z,29nm,22.0s,baz=207,slow=30						
WRA	**Warramunga Arr**	**99.81**	**237**	LR	LR	20 18 40.5	
	comp=Z,59nm,18.6s,baz=144,slow=35						
AKASG	**Malin Array Be**	**145.25**	**50**	PKPbc	**PKPdf**	**19 40 27.2**	**-0.2**
	0.4nm,0.4s,baz=279,slow=3.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**151.34**	**241**	PKPbc	**PKPbc**	**19 40 44.2**	**-0.2**
	1.2nm,0.9s,baz=204,slow=2.3,SNR=6.2						
SONM	**Songino Array**	**152.21**	**307**	PKPbc	**PKPbc**	**19 40 44.6**	**-1.0**
	1.6nm,1.1s,baz=128,slow=2.4,SNR=2.4						

*NEIC **18** 19:35:23.4±1.8,51.8N±0.1×179.21W±0.07,h89km±6km, mb4.3/110,ML4.5(AEIC),Error ellipse: s-maj=17.6km s-min=5.5km az=172.0*

*IDC **18** 19:35:24.2±0.8,51.90N×179.21W,h101km±6km,mb3.7/21, mbtmp4.1/24,MS3.0/6,Error ellipse: s-maj=15.1km s-min=9.2km az=178.0*

*AEIC **18** 19:35:24.9±2.6,51.7N±0.1×179.21W±0.07,h85km±6km, Error ellipse: s-maj=16.9km s-min=5.5km az=170.0*

ISC 18 19:35:23.6±0.5,51.75N±0.08×179.24W±0.04,h100km, n193,σ1s11/193,mb4.2/56,6C-1D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.98**	**249**	Pn	**Pn**	**19 35 43.3**	**-0.5**
AMKA				Sn	**Sn**	**19 35 57.6**	**-1.4**
KIWB	**Kanaga Island**	**1.30**	**84**		**Pn**	**19 35 46.9**	**-0.6**
ADK	**Adak**	**1.59**	**84**		**Pn**	**19 35 50.4**	**-0.6**
ADK				Sn	**Sn**	**19 36 10.4**	**-1.4**
GSTR	**Great Sitkin T**	**2.00**	**79**		**Pn**	**19 35 55.6**	**-0.6**
SHEM	**Shemya Is, Ala**	**4.21**	**286**	P	**Pn**	**19 36 25.6**	**+0.1**
	231nm,0.3s,baz=71,slow=3.9,SNR=77						
SHEM				S	**Sn**	**19 37 15.3**	**+1.6**
	94nm,0.6s,baz=287,slow=13,SNR=1.5						
SMY	**Shemya**	**4.21**	**286**	Pn	**Pn**	**19 36 25.4**	**-0.1**
SMY				Sn	**Sn**	**19 37 14.5**	**+0.9**
CLES	**Cleveland East**	**5.84**	**76**	Pn	**Pn**	**19 36 47.6**	**+0.1**
NIKH	**Nikolski High**	**6.48**	**75**	Pn	**Pn**	**19 36 56.8**	**+0.5**
SPIA	**Saint Paul Isl**	**7.55**	**40**	Pn	**

comp=Z,30nm,1.1s
SEY Seymchan 18.79 318 P **P** 19 39 34.9 +0.2
comp=Z,2.1nm,0.5s,baz=97,slow=12,SNR=15
CUT Chulitna 18.84 44 P **P** 19 39 34.7 -0.6
KTH Kantishna Hill 19.02 41 P **Pn** 19 39 38.5 -0.7
KTH IAmb IAmb 19 39 43.2
comp=Z,8.5nm,0.8s
IMAR Indian Mountai 19.21 32 P **P** 19 39 39.4 +0.1
GHO Glory Hole Cre 19.23 47 P **P** 19 39 38.8 -0.9
GHO IAmb IAmb 19 40 05.0
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 19.23 39 P **Pn** 19 39 41.2 -0.5
BPAW IAmb IAmb 19 40 02.4
comp=Z,12nm,1.2s
TRF Thorofare Moun 19.23 41 P **P** 19 39 39.6 -0.2
TRF IAmb IAmb 19 40 00.9
comp=Z,13nm,1.3s
PWL Port Wells 19.25 50 P **P** 19 39 39.4 -0.4
PWL IAmb IAmb 19 39 42.9
comp=Z,16nm,0.9s
KNK Knik Glacier 19.34 48 P **P** 19 39 40.0 -0.8
KNK IAmb IAmb 19 39 46.0
comp=Z,9.1nm,0.8s
H21K Melozitna Rive 19.34 34 P **P** 19 39 39.2 -1.7
SML Sawmill 19.50 47 P **P** 19 39 42.0 -0.7
SML IAmb IAmb 19 39 51.2
comp=Z,21nm,1.2s
MCK McKinley 19.90 41 P **P** 19 39 45.9 -1.0
SCM Sheep Creek Mo 19.97 47 P **P** 19 39 47.2 -0.5
DHY Denali Highway 20.32 44 P **P** 19 39 51.2 -0.3
DHY IAmb IAmb 19 40 19.6
comp=Z,6.5nm,0.6s
KLU Klutina 20.53 49 P **P** 19 39 52.2 -1.6
KLU IAmb IAmb 19 40 19.3
comp=Z,13nm,1.1s
WRH Wood River Hil 20.54 40 P **P** 19 39 53.4 -0.3
M24K Tolsona, Glenn 20.57 47 P **P** 19 39 54.0 -0.1
H23K Yukon River 20.59 35 P **P** 19 39 54.5 +0.2
H23K IAmb IAmb 19 40 20.3
comp=Z,16nm,1.5s
MDM Murphy Dome 20.68 38 P **P** 19 39 56.1 +0.8
CCB Clear Creek Bu 20.72 39 P **P** 19 39 55.4 -0.2
BMRM Bremner River 21.05 51 P **P** 19 39 58.1 -1.2
IL31 21.13 40 P **P** 19 40 00.4 +0.4
ILAR Eielson Array 21.13 40 P **P** 19 39 59.0 -1.0
comp=Z,0.6nm,0.7s,baz=237,slow=7.9,SNR=9.3
ILAR ScP **ScP** 19 47 27.9 -1.3
comp=Z,0.4nm,0.7s,baz=249,slow=2.3,SNR=5.4
comp=Z,0.6nm,0.7s
N25K Chitina, Valde 21.18 49 P **P** 19 40 00.4 -0.3
N25K IAmb IAmb 19 40 25.2
comp=Z,15nm,1.1s
H24K Noodor Dome 21.20 36 P **P** 19 40 01.5 +0.6
GLB Gilahina Butte 21.52 49 P **P** 19 40 03.8 -0.5
GLB IAmb IAmb 19 40 45.6
comp=Z,14nm,1.3s
VRDI Verde Repeater 21.65 50 P **P** 19 40 05.3 -0.5
VRDI IAmb IAmb 19 40 33.7
comp=Z,26nm,1.4s
J25K Salcha River, 21.68 41 P **P** 19 40 04.6 -1.4
MCARA McCarthy VSAT 21.88 50 P **P** 19 40 05.6 -2.4
MCARA IAmb IAmb 19 40 36.0
comp=Z,31nm,1.4s
DOT Dot Lake 21.92 44 P **P** 19 40 07.6 -0.9
DOT IAmb IAmb 19 40 23.7
comp=Z,11nm,1.0s
SCRK Sand Creek 22.05 43 P **P** 19 40 08.2 -1.7
L26K Log Cabin Wild 22.07 45 P **P** 19 40 10.0 -0.1
L26K IAmb IAmb 19 40 51.1
comp=Z,9.5nm,1.1s
TOLK Toolik Lake Re 22.07 29 P **P** 19 40 09.8 -0.2
M27K Edge Creek, AK 22.59 47 P **P** 19 40 14.3 -1.3
M27K IAmb IAmb 19 40 45.8
comp=Z,10nm,1.1s
L27K Beaver Creek, 22.75 46 P **P** 19 40 16.4 -0.8
BCAR Beaver Creek A 22.77 46 P **P** 19 40 16.3 -1.0
BMAR Burnt Mountain 23.08 34 P **P** 19 40 20.6 +0.3
EGAK Eagle 23.45 42 P **P** 19 40 22.9 -0.8
DAWY Dawson 24.03 44 P **P** 19 40 30.0 +1.0
HYT Haines Junctio 24.48 52 P **P** 19 40 34.2 +1.0
I29M Ogilvie Camp, 24.77 41 P **P** 19 40 36.1 +0.5
M30M Minto, Yukon 24.95 48 P **P** 19 40 38.1 +0.8
INK Inuvik 27.32 35 P **P** 19 40 58.0 -0.5
comp=Z,0.4nm,0.3s,baz=225,slow=2.9,SNR=2.2
comp=Z,0.4nm,0.3s
INK Inuvik 27.32 35 P **P** 19 40 56.9 -1.6
INK IAmb IAmb 19 41 34.7
comp=Z,7.5nm,1.4s
TIXI Tiksi 30.18 330 P **P** 19 41 24.2 +0.3
comp=Z,0.9nm,0.3s,baz=22,slow=1.1,SNR=6.7
comp=Z,0.9nm,0.3s
KLR Kul'dur 30.82 285 LR LR 19 53 42.6
comp=Z,22nm,21.1s,baz=48,slow=36
A36M Sachs Harbour 30.90 29 P **P** 19 41 30.9 +0.8
A36M IAmb IAmb 19 41 58.6
comp=Z,4.0nm,0.9s
JSD Sado 32.59 262 P **P** 19 41 46.5 +1.1
USRK Ussuriysk Ar. 32.98 276 P **P** 19 41 48.4 -0.2
comp=Z,1.6nm,0.5s,baz=58,slow=9.3,SNR=5.5
comp=Z,1.6nm,0.5s
HEH HeiHe 32.99 289 *eP* **P** 19 41 47.6 -1.1
HEH pmax pmax
comp=Z,6.0nm,1.3s
HEH pmax pmax
comp=Z,47nm,5.3s
MJAR Matsushiro Arr 33.57 260 P **P** 19 41 55.0 +1.0
comp=Z,2.7nm,0.7s,baz=52,slow=6.9,SNR=7.2
comp=Z,2.7nm,0.7s
MAJO Matsushiro 33.58 260 P **P** 19 41 50.0 -3.9
MJB9 Matsu-Tunnel 33.58 260 P **P** 19 41 50.5 -3.4
H11N2 WAKE ISLAND Hy 33.75 204 T T 20 17 48.1
baz=18,slow=76,SNR=447
H11N3 WAKE ISLAND Hy 33.76 204 T T 20 17 48.7
baz=18,slow=76,SNR=620
H11N1 WAKE ISLAND Hy 33.77 204 T T 20 17 49.2
baz=18,slow=76,SNR=474
JGF Kuroka 34.71 260 P **P** 19 42 05.0 +1.1
C03A Quillayute Air 34.76 74 P **P** 19 42 03.9 -0.2
H11S1 WAKE ISLAND Hy 34.97 204 T T 20 19 18.9
baz=17,slow=76,SNR=804
H11S2 WAKE ISLAND Hy 34.99 204 T T 20 19 20.5
baz=17,slow=76,SNR=292
H11S3 WAKE ISLAND Hy 34.99 204 T T 20 19 18.3
baz=17,slow=76,SNR=295
JHS Saijyo 37.71 263 P **P** 19 42 27.3 -2.1
KSRS Korea Array 39.36 270 P **P** 19 42 44.4 +1.4
comp=Z,1.3nm,0.6s,baz=60,slow=6.7,SNR=5.5
comp=Z,1.3nm,0.6s
RES Resolute Bay 39.52 25 P **P** 19 42 43.8 -0.2
RES IAmb IAmb 19 42 59.8
comp=Z,5.7nm,1.1s
K05A Summer Lake 39.65 79 P **P** 19 42 46.3 +0.6
K05A IAmb IAmb 19 42 55.5
comp=Z,8.4nm,1.1s
I07A Izee 39.75 77 P **P** 19 42 47.5 +1.0
I07A IAmb IAmb 19 42 48.6
comp=Z,3.2nm,0.7s
EUNU Eureka 40.01 16 P **P** 19 42 48.5 +0.5
EUNU IAmb IAmb 19 43 05.3
comp=Z,9.9nm,1.4s
WVOR Wild Horse Val 41.20 78 P **P** 19 42 59.3 +1.0
WVOR IAmb IAmb 19 43 27.1
comp=Z,5.2nm,1.1s
BEKR Beckworth 41.64 83 P **P** 19 43 02.7 +0.7
PNTR Pine Nut 42.57 83 P **P** 19 43 11.1 +1.4
PNTR IAmb IAmb 19 43 36.9
comp=Z,5.6nm,0.7s
WAKR Walker 43.03 84 P **P** 19 43 13.4 0.0
BMN Battle Mountai 43.23 80 P **P** 19 43 16.1 +1.2
BMN IAmb IAmb 19 43 16.7
comp=Z,3.0nm,0.6s
BCYI Bear Canyon 43.28 73 P **P** 19 43 14.8 -0.5
BOZ Bozeman (W) 43.61 70 P **P** 19 43 18.2 +0.3
NVAR Mina Array Bea 43.78 83 P **P** 19 43 21.1 +1.7
comp=Z,1.0nm,0.6s,baz=299,slow=8.0,SNR=7.1
NVAR pP **pP** 19 43 43.7 +1.1
comp=Z,1.0nm,0.7s,baz=309,slow=7.4,SNR=3.2
NVAR ScP **ScP** 19 48 45.3 -1.2
comp=Z,0.2nm,0.3s,baz=272,slow=5.5,SNR=3.7
comp=Z,1.0nm,0.6s
ELK Elko 44.25 78 P **P** 19 43 22.5 -0.6
ELK IAmb IAmb 19 43 25.1
comp=Z,2.0nm,0.7s
YHL Hebgen Lake 44.29 71 P **P** 19 43 23.9 +0.4
YHL IAmb IAmb 19 43 48.7
comp=Z,6.8nm,1.4s
YHB Horse Butte 44.34 71 P **P** 19 43 23.9 +0.1
YHB IAmb IAmb 19 43 27.2
comp=Z,5.7nm,1.1s
DSP Deep Springs 44.65 84 P **P** 19 43 27.3 +1.3
LCH Last Change Ra 44.93 84 P **P** 19 43 29.3 +0.8
HVU Hansel Valley 45.12 75 P **P** 19 43 29.3 -0.7
HVU IAmb IAmb 19 43 31.6
comp=Z,2.9nm,0.6s
R11A Troy Canyon, C 45.50 81 P **P** 19 43 32.8 -0.3
R11A IAmb IAmb 19 44 10.2
comp=Z,5.0nm,1.5s
R11A PcP **PcP** 19 45 11.1 +0.9
TPNV Topopah Spring 45.98 83 P **P** 19 43 37.7 +1.0
TPNV IAmb IAmb 19 44 01.4
comp=Z,3.2nm,0.8s
DUG Dugway, Tooele 46.05 77 P **P** 19 43 37.9 +0.5
DUG IAmb IAmb 19 44 03.2
comp=Z,5.7nm,1.0s
SONM Songino Array 46.24 296 P **P** 19 43 39.5 +0.8
comp=Z,0.6nm,0.4s,baz=59,slow=7.9,SNR=5.3
SONM PcP **PcP** 19 45 12.5 0.0
comp=Z,1.5nm,0.6s,baz=63,slow=2.0,SNR=7.4
comp=Z,0.6nm,0.4s
PRN Pahroc Range 46.42 82 P **P** 19 43 40.4 +0.2
PRN IAmb IAmb 19 44 22.9
comp=Z,5.0nm,1.0s
PSUT Pine Spring 46.45 80 P **P** 19 43 41.3 +0.8
PSUT IAmb IAmb 19 44 09.9
comp=Z,2.8nm,0.8s
PDAR Pinedale Array 46.46 72 P **P** 19 43 40.2 -0.3
comp=Z,0.5nm,0.5s,baz=324,slow=3.3,SNR=11
PDAR pP **pP** 19 44 03.5 -0.1
comp=Z,1.7nm,0.7s,baz=310,slow=3.1,SNR=6.4
PDAR ScP **ScP** 19 48 57.0 -0.5
comp=Z,0.8nm,0.9s,baz=300,slow=2.9,SNR=4.5
comp=Z,0.5nm,0.5s
PDAR Pinedale Array 46.46 72 P **P** 19 43 40.2 -0.3
PDAR PcP **PcP** 19 45 13.9 +0.4
NLU North Lily Min 46.65 77 P **P** 19 43 41.9 -0.1
NLU IAmb IAmb 19 44 11.1
comp=Z,6.2nm,1.5s
GSC Goldstone, Bar 46.69 85 P **P** 19 43 42.8 +0.5
GSC IAmb IAmb 19 43 43.8
comp=Z,3.4nm,0.6s
HHC Hu-ho-hao-te 47.33 285 *eP* **P** 19 43 48.3 +1.1
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.4s
TMUT Trail Mountain 47.58 77 P **P** 19 43 49.1 -0.3
TMUT IAmb IAmb 19 43 51.7
comp=Z,3.9nm,0.7s
SRU San Rafael Swe 48.11 77 P **P** 19 43 54.5 +1.1
NJ2 Nanjing 48.53 271 *eP* **P** 19 43 57.0 +0.6
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
U15A North Rim 48.74 81 P **P** 19 43 59.8 +1.4
U15A IAmb IAmb 19 44 22.9
comp=Z,3.0nm,0.7s
PV21 Cone Mtn., Par 49.40 76 P **P** 19 44 03.5 +0.2
GLA Glamis 49.41 86 P **P** 19 44 04.6 +1.4
KBS Kingsbay 49.42 357 P **P** 19 44 03.2 +0.6
ESJX Sierra Juarez 49.42 88 P **P** 19 44 04.1 +0.7
ESJX IAmb IAmb 19 44 17.2
comp=Z,5.6nm,1.4s
PV23 Carpenter Ridg 49.45 77 P **P** 19 44 04.5 +0.9
PV14 Lion Creek, Pa 49.49 77 P **P** 19 44 04.6 +0.7
PV20 West Nyswonger 49.54 77 P **P** 19 44 04.4 +0.1
PV04 Paradox Valley 49.55 77 P **P** 19 44 04.7 +0.3
PV17 East Wray Mesa 49.59 77 P **P** 19 44 05.2 +0.6
PV11 David Mesa, Pa 49.63 77 P **P** 19 44 05.0 0.0
PV13 Radium Mtn., P 49.75 77 P **P** 19 44 06.6 +0.7
SPB2 Spitsbergen Ar 49.99 356 P **P** 19 44 06.6 -0.4
ZALV Zalesovo Beam 53.58 313 PcP **PcP** 19 45 39.0 -0.2
comp=Z,0.6nm,0.4s,baz=19,slow=4.9,SNR=4.2
GTA Gaotai 55.18 291 †P **P** 19 44 46.3 +0.5
GTA pP pP 19 44 50.6 -19
GTA pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 57.68 350 P **P** 19 45 02.4 -0.6
comp=Z,1.2nm,0.5s,baz=30,slow=7.1,SNR=14
comp=Z,1.2nm,0.5s
TXAR Lajitas Array 58.87 81 P **P** 19 45 12.8 +0.8
comp=Z,0.5nm,0.5s,baz=305,slow=4.5,SNR=6.8
TXAR pP **pP** 19 45 35.5 -0.5
comp=Z,0.5nm,0.5s,baz=296,slow=6.2,SNR=3.5
comp=Z,0.5nm,0.5s
WMQ Urumqi 58.91 302 *eP* **P** 19 45 13.3 +1.3
WMQ pmax pmax
comp=Z,26nm,1.1s
MKAR Makanchi Array 59.59 308 P **P** 19 45 15.1 -1.5
comp=Z,0.6nm,0.3s,baz=47,slow=5.7,SNR=26
comp=Z,0.6nm,0.3s
BVAR Bovoye Array 60.43 319 LR LR 20 12 30.7
comp=Z,21nm,18.0s,baz=321,slow=37
PZH PanZhiHua 63.01 279 P **P** 19 45 40.3 +0.2
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,6.5s
FINES FINESS Array B 65.36 347 P **P** 19 45 53.3 -1.4
comp=Z,0.6nm,0.3s,baz=9.0,slow=7.6,SNR=12
comp=Z,0.6nm,0.3s
NB2 NORSAR Subarra 67.25 355 P **P** 19 46 06.4 -0.4
comp=Z,0.4nm,0.3s,baz=5.9,slow=6.5
NOA NORSAR Array B 67.25 355 P **P** 19 46 06.5 -0.4
comp=Z,1.0nm,0.7s,baz=115,slow=4.5,SNR=11
comp=Z,1.0nm,0.7s
PMG Port Moresby 67.43 216 LR LR 20 08 38.7
comp=Z,19nm,21.8s,baz=338,slow=30
CMAR Chiang Mai Arr 70.70 275 P **P** 19 46 29.1 +0.3
comp=Z,1.3nm,0.7s,baz=28,slow=6.6,SNR=14
comp=Z,1.3nm,0.7s
TAPN Taplejung 70.82 290 *eP* **P** 19 46 29.9 +0.1
GUN Gumba 71.46 292 *eP* **P** 19 46 34.2 +0.5
comp=Z,22nm,0.3s
JIRN Jiri 71.47 291 *eP* **P** 19 46 34.3 +0.5
RAMN Ramite 71.77 290 *eP* **P** 19 46 35.6 +0.2
comp=Z,20nm,0.4s
PKI Pulchoki 71.99 292 *eP* **P** 19 46 36.9 +0.1
PKIN Phulchoki 72.00 292 *eP* **P** 19 46 37.3 +0.5
comp=Z,5.6nm,0.3s
GKN Gorkha 72.11 293 *eP* **P** 19 46 37.4 +0.1
DANN Dangsing 72.35 293 *eP* **P** 19 46 39.0 +0.1
comp=Z,6.8nm,0.3s
AKASG Malin Array Be 75.11 342 P **P** 19 46 53.5 -0.8
comp=Z,3.1nm,0.4s,baz=20,slow=6.6,SNR=14
comp=Z,3.1nm,0.4s
CLL Collm 76.80 352 *eP* **P** 19 47 06.0 +2.1
SORM Soroca 77.73 341 †P **P** 19 47 08.6 -0.6
TRPA Tarpa 78.77 345 †P **P** 19 47 14.1 -0.7
BURAR Bucovina Array 78.82 343 †P **P** 19 47 15.2 -0.1
GERES GERESS Array B 79.18 351 P **P** 19 47 16.9 -0.3
comp=Z,0.4nm,0.6s,baz=15,slow=4.1,SNR=2.0
comp=Z,0.4nm,0.6s
COVR Voineasa-Covas 80.35 342 ↓P **P** 19 47 24.5 +1.0
MLR Muntele Rosu 80.74 342 †P **P** 19 47 23.9 -1.8
GZR Gura Zlata 81.39 345 †P **P** 19 47 29.3 +0.2
WRA Warramunga Arr 82.09 223 P **P** 19 47 33.2 +0.3
comp=Z,1.2nm,0.5s,baz=31,slow=5.9,SNR=18
comp=Z,1.2nm,0.5s
BRTR Keskin Array B 84.50 335 P **P** 19 47 45.0 -0.3
comp=Z,1.8nm,0.7s,baz=38,slow=2.8,SNR=10
comp=Z,1.8nm,0.7s
ASAR Alice Springs 85.57 222 P **P** 19 47 51.5 +0.9
comp=Z,1.4nm,0.5s,baz=21,slow=5.4,SNR=25
comp=Z,1.4nm,0.5s
ESDC Sonseca Array 88.86 4 LR LR 20 27 39.5
comp=Z,19nm,20.5s,baz=266,slow=35
STKA Stephens Creek 90.09 213 P **P** 19 48 13.1 +1.2
comp=Z,2.0nm,0.6s,baz=343,slow=6.8,SNR=6.6
comp=Z,2.0nm,0.6s
H03N2 Juan Fernandez 121.51 105 T T 22 07 11.7
baz=317,slow=77,SNR=36
H03N1 Juan Fernandez 121.52 105 T T 22 07 12.1
baz=317,slow=77,SNR=28
H03N3 Juan Fernandez 121.52 105 T T 22 07 07.8
baz=317,slow=77,SNR=39
MAW Mawson 146.60 218 PKPbc **PKPab** 19 54 53.0 -0.3
comp=Z,2.3nm,0.6s,baz=129,slow=2.0,SNR=7.4
BOSA Boshof 150.53 312 PKPbc **PKPbc** 19 55 01.9 -1.6
comp=Z,3.3nm,0.6s,baz=38,slow=1.4,SNR=8.7

MAN 18 19:42:53.5, 9.19N×125.67E, h22km, mb4.0, ML2.8, MS2.4,

2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.62**	**343**	*eP*	Pb	19 43 06.1	+0.4
SCPH				*i* S	Sn	19 43 17.2	+0.9
BIPH	**Bislig**	**1.21**	**146**	↑*i* P	Pn	19 43 13.2	-1.9
BIPH				*i* S	Sn	19 43 28.7	-2.1
CGP	**Cagayan de Oro**	**1.21**	**233**	↑*i* P	Pn	19 43 13.1	-2.1
CGP				*i* S	Sn	19 43 29.6	-1.4
BUKP	**Musuan**	**1.43**	**205**	↓*i* P	Pn	19 43 18.0	-0.3
BUKP				*i* S	Sb	19 43 40.0	+2.5

*SOME **18** 19:44:27.5, 43.83N×86.35E, h5km*
*NNC **18** 19:44:40.5±5.6, 44.19N×86.13E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=39.5km s-min=32.2km az=138.0*
ISC 18 19:44:40.5±3.0, 44.1N±0.1×85.9E±0.1, h17km, n8, σ2s 41/14, 6C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.39**	**348**	*eP*	**Pb**	**19 45 36.8**	**-3.5**
	2.1nm,0.3s						
ZSN				*eS*	**Sg**	**19 46 28.5**	**-1.0**
	8.2nm,0.5s						
MK31	**Makanchi Array**	**3.69**	**317**	↓Pn	**Pn**	**19 45 39.5**	**+2.7**
	0.5nm,0.4s,baz=136,slow=14,SNR=23						
MK31				↑Pg	**Pg**	**19 45 50.8**	**-0.3**
	0.6nm,0.3s,baz=129,slow=16,SNR=6.9						
MK31				↑Sn	**Sb**	**19 46 28.9**	**-0.7**
	1.2nm,0.4s,baz=131,slow=26,SNR=13						
MK31				↑Lg	Lg	19 46 41.8	
	11nm,0.5s,baz=134,slow=28,SNR=7.2						
MAKZ	**Makanchi**	**3.85**	**315**	↑Pn	**Pn**	**19 45 41.7**	**+2.7**
	5.9nm,1.2s						
MAKZ				↓Sn	**Sn**	**19 46 28.2**	**+4.3**
	3.7nm,0.8s						
MAKZ				↑Lg	Lg	19 46 44.4	
	5.1nm,0.5s						
DJR	**Jarkent**	**4.41**	**275**	*eP*	**Pb**	**19 45 55.9**	**-1.7**
	0.8nm,0.1s						
DJR				*eS*	**Sg**	**19 47 00.8**	**-1.4**
	6.8nm,0.1s						
PDGK	**Podgornoye**	**4.73**	**262**	↑Lg	Lg	19 47 09.0	
	12nm,0.9s						
SHLS	**Shalkode**	**4.79**	**260**	*eP*	Pn	19 45 55.6	+3.6
	1.1nm,0.4s						
SHLS				*eS*	**Sb**	**19 47 00.9**	**-0.6**
	9.4nm,0.3s						
UZB	**Uzynbulak**	**5.11**	**261**	*eP*	**Pb**	**19 46 07.9**	**-1.6**
	0.9nm,0.2s						
UZB				*eS*	**Sg**	**19 47 21.7**	**-2.7**
	4.2nm,0.0s						
KPKS	**Kokpek**	**5.28**	**265**	*eP*	**Pb**	**19 46 12.3**	**-0.2**
	1.0nm,0.2s						
KPKS				*eS*	**Sg**	**19 47 28.7**	**-1.4**
	4.6nm,0.1s						

IDC 18 19:45:42.0±2.5, 1.54N×127.38E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=193.2km s-min=29.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.41**	**163**	P	P	19 50 42.5	0.0
	0.4nm,0.5s,baz=341,slow=10,SNR=6.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.84**	**166**	P	P	19 51 15.2	-0.2
	0.3nm,0.6s,baz=342,slow=8.8,SNR=2.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.72**	**326**	P	P	19 55 48.7	+0.1
	0.4nm,0.7s,baz=122,slow=7.4,SNR=2.3						
	0.4nm,0.7s						

WEL 18 19:47:45.5±0.4, 42.5S±3.7×17.3E±., h5km±3km, M3.0/26, ML3.2/13, MLv3.0/26, Error ellipse: s-maj=0.0km s-min=0.0km az=144.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.09**	**100**	P	Pg	19 47 47.8	+0.4
KHZ				S	Sg	19 47 49.9	+1.2
GVZ	**Greta Valley S**	**0.63**	**207**	P	Pb	19 47 58.8	-0.2
THZ	**Tophouse**	**0.74**	**329**	P	Pg	19 48 00.1	+0.3
BSWZ	**Blackbirch Sta**	**0.76**	**26**	P	Pg	19 47 59.9	-0.2
LTZ	**Lake Taylor**	**0.93**	**245**	P	Pg	19 48 03.3	0.0
AMCZ	**Amberley**	**0.96**	**216**	P	Pg	19 48 03.5	-0.4
TUWZ	**Tuamarina**	**1.05**	**22**	P	Pg	19 48 05.1	-0.4
MRNZ	**Matariki Terra**	**1.12**	**333**	P	Pg	19 48 06.9	+0.1
NNZ	**Nelson**	**1.18**	**359**	P	Pg	19 48 07.6	-0.5
OKCZ	**Okains Bay**	**1.35**	**191**	P	Pn	19 48 08.3	-2.6
TCW	**Tory Channel**	**1.35**	**29**	P	Pn	19 48 09.0	-1.9
DSZ	**Denniston Nort**	**1.37**	**298**	P	Pn	19 48 10.9	-0.3
OXZ	**Oxford**	**1.37**	**227**	P	Pn	19 48 08.8	-2.5
TKNZ	**Takaka Hill**	**1.41**	**346**	P	Pn	19 48 11.4	-0.3
MQZ	**McQueen's Vall**	**1.42**	**203**	P	Pn	19 48 08.7	-3.2
INZ	**Inchbonnie**	**1.50**	**257**	P	Pn	19 48 12.1	-0.8
AKCZ	**Akaroa Harbour**	**1.52**	**194**	P	Pn	19 48 10.3	-2.9
RACZ	**Rakaia**	**1.62**	**215**	P	Pn	19 48 11.9	-2.8
DUWZ	**D'Urville Isla**	**1.64**	**13**	P	Pn	19 48 15.5	+0.6
QRZ	**Quartz Range**	**1.71**	**337**	P	Pn	19 48 16.1	+0.3
MHCZ	**Mount Hutt**	**1.77**	**230**	P	Pn	19 48 14.1	-2.6
CAW	**Cannon Point**	**1.79**	**44**	P	Pn	19 48 13.8	-3.1
WACZ	**Wakanui South**	**1.93**	**216**	P	Pn	19 48 16.4	-2.5
OGWZ	**Otaki Gorge**	**2.06**	**40**	P	Pn	19 48 18.2	-2.4
WVZ	**Waitaha Valley**	**2.09**	**250**	P	Pn	19 48 20.2	-0.8
RPZ	**Rata Peaks**	**2.18**	**232**	P	Pn	19 48 19.9	-2.4
GCSZ	**Gaunt Creek Bo**	**2.45**	**247**	P	Pn	19 48 25.4	-0.6
TMZ	**Timaru**	**2.65**	**221**	P	Pn	19 48 26.3	-2.6
FOZ	**Fox Glacier**	**2.88**	**246**	P	Pn	19 48 31.5	-0.4
ANWZ	**Angora Road**	**3.01**	**51**	P	Pn	19 48 30.4	-3.3
LBZ	**Lake Benmore**	**3.08**	**229**	P	Pn	19 48 32.5	-2.3
ODZ	**Otahua Downs**	**3.32**	**216**	P	Pn	19 48 34.9	-3.1
EAZ	**Earnscleugh**	**4.11**	**225**	P	Pn	19 48 46.4	-2.4
MSZ	**Milford Sound**	**4.59**	**239**	P	Pn	19 49 00.6	+5.1
MLZ	**Mavora Lakes**	**4.84**	**230**	P	Pn	19 49 00.3	+1.3
WHZ	**Wether Hill Ro**	**5.26**	**227**	P	Pn	19 49 01.5	-3.1

*IDC **18** 19:55:08.3±44.0, 16.70S×173.89W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=839.8km s-min=165.9km az=80.0*
*NEIC **18** 19:55:10.7±1.5, 17.2S±0.2×173.8W±0.2, h10km±2km, mb4.4/15, Error ellipse: s-maj=32.3km s-min=26.4km az=359.0*
ISC 18 19:55:10.2±1.2, 17.2S±0.2×173.8W±0.1, h10km, n20, σ0s 93/20, mb4.3/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.85**	**109**	Pn	**Pn**	**19 58 26.6**	**-0.1**
BKZ	**Black Stump Fm**	**23.51**	**199**	P	**P**	**20 00 20.4**	**0.0**
BKZ				IAmb	IAmb	20 00 26.7	
	comp=Z,25nm,1.3s						
ARMA	**Armidale**	**34.13**	**241**	P	**P**	**20 01 57.0**	**+1.4**
ARMA				IAmb	IAmb	20 01 57.3	
	comp=Z,10nm,1.2s						
CTAO	**Charters Tower**	**37.91**	**259**	P	**P**	**20 02 26.7**	**-1.3**
STKA	**Stephens Creek**	**42.85**	**241**	P	**P**	**20 03 10.2**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=96,slow=11,SNR=8.4						
	comp=Z,1.1nm,0.5s						
STKA	**Stephens Creek**	**42.85**	**241**	P	**P**	**20 03 09.9**	**+1.1**
BBOO	**Buckleboo**	**47.62**	**241**	P	**P**	**20 03 47.8**	**+1.1**
WR0	**Warramunga Arr**	**48.90**	**258**	P	**P**	**20 03 56.3**	**-0.4**
WR0				IAmb	IAmb	20 04 18.9	
	comp=Z,3.3nm,1.1s						
WB0	**Warramunga Arr**	**49.06**	**258**	P	**P**	**20 03 57.2**	**-0.7**
WB0				IAmb	IAmb	20 04 04.3	
	comp=Z,9.5nm,1.4s						
WB2	**Warramunga Arr**	**49.08**	**258**	P	**P**	**20 03 57.4**	**-0.8**
WB2				IAmb	IAmb	20 04 02.2	
	comp=Z,4.5nm,1.3s						
WRAB	**Tennant Creek**	**49.08**	**258**	P	**P**	**20 03 57.0**	**-1.1**
WRAB				IAmb	IAmb	20 04 16.1	
	comp=Z,4.4nm,1.2s						
WRA	**Warramunga Arr**	**49.09**	**258**	P	**P**	**20 03 57.3**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=96,slow=7.0,SNR=11						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**49.09**	**258**	P	**P**	**20 03 57.3**	**-0.9**
AS31	**Alice Springs**	**49.22**	**253**	P	**P**	**20 03 59.1**	**-0.1**
AS31				IAmb	IAmb	20 03 59.7	
	comp=Z,1.0nm,0.6s						

ASAR	**Alice Springs**	**49.22**	**253**	P	**P**	**20 03 59.1**	**-0.1**
	comp=Z,2.8nm,0.4s,baz=90,slow=8.4,SNR=63						
	comp=Z,2.8nm,0.4s						
ASAR	**Alice Springs**	**49.22**	**253**		**P**	**20 03 58.8**	**-0.4**
FORT	**Forrest**	**54.30**	**244**	P	**P**	**20 04 37.5**	**+0.5**
JCJ	**Chichijima**	**61.31**	**315**	P	**P**	**20 05 26.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**63.44**	**241**	P	**P**	**20 05 39.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**63.44**	**241**	P	**P**	**20 05 39.7**	**-0.8**
NWAO				IAmb	IAmb	20 05 45.6	
	comp=Z,20nm,1.4s						

*JMA **18** 19:57:00.8±0.1,24°N±2°×122°9E±0°6,h69km±1km, MV2.3/14,NW OFF ISHIGAKIJIMA IS*
*TAP **18** 19:57:00.4,24°45N×122°90E,h69km,ML2.8,C*
ISC 18 19:57:01.4±1.2,24°37N±0°04×122°87E±0°02,h62km±7km, n86,σ0°92/137,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.11**	**40**	*i* P			**Pn**	**19 57 10.8**	**+0.1**
JYNG				S			**Sn**	**19 57 18.0**	**+0.6**
YOJ	**Yonaguni jima**	**0.16**	**54**	*i* P			**Pn**	**19 57 10.8**	**-0.1**
	baz=75								
YOJ				*i* S			**Sn**	**19 57 18.2**	**+0.4**
	baz=75								
YOJ	**Yonaguni jima**	**0.16**	**54**	*i* P			**Pn**	**19 57 11.0**	**+0.1**
YOJ				S			**Sn**	**19 57 18.1**	**+0.3**
IRIF	**Iriomote-Funau**	**0.79**	**92**	*i* P			**Pn**	**19 57 16.6**	**-0.2**
IRIF				S			**Sn**	**19 57 28.1**	**0.0**
HATJ	**Hateruma jima**	**0.91**	**110**	P			**Pn**	**19 57 18.7**	**+0.4**
HATJ				*eS*			**Sn**	**19 57 31.4**	**+0.5**
TWC	**Suao**	**0.96**	**285**	P			**Pn**	**19 57 18.6**	**-0.4**
	baz=280								
TWC				*eS*			**Sn**	**19 57 31.1**	**-1.0**
	baz=280								
ENA	**Nanau**	**1.03**	**273**	P			**Pn**	**19 57 20.1**	**+0.1**
	baz=275								
ENA				*eS*			**Sn**	**19 57 34.6**	**+0.9**
	baz=275								
JKRS	**Kuro-shima**	**1.05**	**97**	P			**Pn**	**19 57 20.2**	**+0.1**
JKRS				S			**Sn**	**19 57 34.6**	**+0.5**
TIPB	**Shuangxi**	**1.12**	**302**	*eP*			**Pn**	**19 57 20.6**	**-0.5**
	baz=298								
TIPB				*eS*			**Sn**	**19 57 34.9**	**-1.0**
	baz=298								
TWE	**Neicheng**	**1.15**	**288**	*eP*			**Pn**	**19 57 21.2**	**-0.2**
	baz=289								
TWE				*eS*			**Sn**	**19 57 35.8**	**-0.7**
	baz=289								
SXI1	**Grass Mountain**	**1.16**	**309**	*eP*			**Pn**	**19 57 21.5**	**-0.2**
	baz=305								
ETL	**Fush Village**	**1.16**	**260**	*eP*			**Pn**	**19 57 21.6**	**0.0**
	baz=257								
ETL				*eS*			**Sn**	**19 57 36.5**	**-0.2**
	baz=257								
JIJ	**Ishigaki jima**	**1.16**	**90**	*i* P			**Pn**	**19 57 21.1**	**-0.6**
JIJ				S			**Sn**	**19 57 35.8**	**-0.9**
NACB	**Ninganchiao**	**1.18**	**261**	P			**Pn**	**19 57 21.7**	**-0.2**
	baz=258								
NACB				*eS*			**Sn**	**19 57 36.6**	**-0.6**
	baz=258								
TWD	**Chiawan**	**1.20**	**256**	*eP*			**Pn**	**19 57 21.7**	**-0.4**
	baz=254								
ENTT	**Nioudou**	**1.22**	**283**	P			**Pn**	**19 57 22.4**	**0.0**
	baz=279								
ENTT				*eS*			**Sn**	**19 57 38.4**	**+0.3**
	baz=279								
FUSB	**Fushanzhiwuyua**	**1.23**	**289**	P			**Pn**	**19 57 22.7**	**+0.1**
	baz=285								
FUSB				*eS*			**Sn**	**19 57 38.4**	**0.0**
	baz=285								
LATG	**Datong**	**1.24**	**278**	*eP*			**Pn**	**19 57 23.1**	**+0.4**
	baz=282								
LATG				*eS*			**Sn**	**19 57 39.1**	**+0.5**
	baz=282								
NDT	**Datong Townshi**	**1.26**	**281**	*eP*			**Pn**	**19 57 21.9**	**-1.0**
	baz=283								
ETLH	**Xiulin Townshi**	**1.28**	**263**	*eP*			**Pn**	**19 57 23.1**	**-0.2**
	baz=252								
ETLH				*eS*			**Sn**	**19 57 39.4**	**-0.2**
	baz=252								
NWLT	**Wulai**	**1.31**	**288**	*eP*			**Pn**	**19 57 22.5**	**-1.2**
	baz=285								
JISG	**Ishigakijimahi**	**1.33**	**80**	*i* P			**Pn**	**19 57 23.2**	**-0.6**
JISG				S			**Sn**	**19 57 39.6**	**-1.1**
NNSB	**Datong**	**1.36**	**273**	*eP*			**Pn**	**19 57 24.5**	**+0.1**
	baz=270								
NNS	**Nan Shan**	**1.37**	**273**	*eP*			**Pn**	**19 57 23.8**	**-0.7**
	baz=260								
NNS				*eS*			**Sn**	**19 57 41.8**	**0.0**
	baz=260								
YHNB	**Yeheng**	**1.39**	**283**	*eP*			**Pn**	**19 57 25.4**	**+0.6**
	baz=279								
YHNB				*eS*			**Sn**	**19 57 43.5**	**+1.2**
	baz=279								
NSK	**Sanguang**	**1.41**	**283**	*eP*			**Pn**	**19 57 24.6**	**-0.4**
	baz=279								
NSK				*eS*			**Sn**	**19 57 41.7**	**-1.1**
	baz=279								
YM01	**YM01**	**1.41**	**303**	*eP*			**Pn**	**19 57 24.8**	**-0.2**
	baz=292								
YM01				*eS*			**Sn**	**19 57 41.5**	**-1.3**
	baz=292								
ESL	**Shilin**	**1.43**	**247**	*eP*			**Pn**	**19 57 24.4**	**-0.7**
	baz=238								
ESL				*eS*			**Sn**	**19 57 41.2**	**-1.8**
	baz=238								
WHF	**Hehuan Shan**	**1.48**	**262**	*eP*			**Pn**	**19 57 26.0**	**-0.3**
	baz=249								
WHF				*eS*			**Sn**	**19 57 43.9**	**-1.1**
	baz=249								
FUSS	**Fushou**	**1.49**	**266**	*eP*			**Pn**	**19 57 26.2**	**0.0**
	baz=263								
EGFH	**Guangfu**	**1.49**	**242**	*eP*			**Pn**	**19 57 25.7**	**-0.3**
	baz=241								
EGFH				*eS*			**Sn**	**19 57 44.7**	**+0.1**
	baz=241								
TWT	**Tachien**	**1.55**	**266**	*eP*			**Pn**	**19 57 27.8**	**+0.9**
	baz=263								
TDCB	**Techi**	**1.57**	**266**	*eP*			**Pn**	**19 57 27.7**	**+0.5**
	baz=263								
TDCB				*eS*			**Sn**	**19 57 46.2**	**-0.4**
	baz=263								
CHGB	**Renai**	**1.58**	**259**	*eP*			**Pn**	**19 57 27.3**	**-0.1**
	baz=250								
HGSD	**Ruisui**	**1.59**	**237**	*i* P			**Pn**	**19 57 26.7**	**-0.6**
	baz=236								
NFF	**Wufeng Townshi**	**1.62**	**280**	*eP*			**Pn**	**19 57 27.2**	**-0.6**
	baz=269								
NFF				*eS*			**Sn**	**19 57 47.4**	**-0.3**
	baz=269								
WUSB	**Renai**	**1.64**	**257**	P			**Pn**	**19 57 28.7**	**+0.5**
	baz=247								
WUSB				*eS*			**Sn**	**19 57 48.9**	**+0.4**
	baz=247								
EHY	**Hungye**	**1.66**	**239**	*eP*			**Pn**	**19 57 27.8**	**-0.5**
	baz=247								
JTJ	**Tarama**	**1.69**	**80**	P			**Pn**	**19 57 28.1**	**-0.6**
JTJ				*eS*			**Sn**	**19 57 48.6**	**-0.8**
VWDT	**VWDT**	**1.69**	**249**	*eP*			**Pn**	**19 57 29.1**	**+0.3**
	baz=247								
VWDT				*eS*			**Sn**	**19 57 49.6**	**+0.1**
	baz=247								
LIOB	**Emei**	**1.71**	**280**	*eP*			**Pn**	**19 57 29.9**	**+0.9**
	baz=277								
NSTT	**Nanjuang**	**1.72**	**279**	*eP*			**Pn**	**19 57 29.4**	**+0.2**
	baz=276								
NSTT				*eS*			**Sn**	**19 57 51.9**	**+1.7**
	baz=276								
YULB	**Yu-li**	**1.74**	**236**	P			**Pn**	**19 57 29.2**	**-0.2**
	baz=246								
YULB				*eS*			**Sn**	**19 57 49.5**	**-1.1**
	baz=246								
EYUL	**Yuli**	**1.75**	**235**	*eP*			**Pn**	**19 57 29.5**	**0.0**
	baz=234								
WHP	**Taichung City**	**1.76**	**267**	*eP*			**Pn**	**19 57 31.1**	**+1.4**
	baz=259								
WCS	**Beigang Elemen**	**1.81**	**261**	*eP*			**Pn**	**19 57 30.4**	**0.0**
	baz=253								
WCS				*eS*			**Sn**	**19 57 54.1**	**+1.7**
	baz=253								
SSLB	**Suanglung**	**1.84**	**252**	P			**Pn**	**19 57 30.8**	**0.0**
	baz=251								
FULB	**Fuli**	**1.86**	**231**	*eP*			**Pn**	**19 57 30.0**	**-1.0**
	baz=231								
SMLT	**Sun Moon Lake**	**1.86**	**255**	*i* P			**Pn**	**19 57 31.9**	**+0.8**
	baz=247								
SMLT				*eS*			**Sn**	**19 57 54.0**	**+0.2**
	baz=247								
TYC	**Yuchr**	**1.90**	**256**	P			**Pn**	**19 57 32.1**	**+0.6**
	baz=248								
WHYT	**Xinyi Township**	**1.96**	**250**	*eP*			**Pn**	**19 57 33.5**	**+1.1**
	baz=243								
WHYT				*eS*			**Sn**	**19 57 57.1**	**+1.1**
	baz=243								
YUS	**Yu-Shan**	**1.96**	**244**	P			**Pn**	**19 57 33.2**	**+0.4**
	baz=236								
EDH	**Donghe**	**2.00**	**226**	P			**Pn**	**19 57 32.0**	**-0.9**
	baz=221								
EDH				*eS*			**Sn**	**19 57 54.8**	**-2.1**
	baz=221								
WJS	**Zhushan**	**2.03**	**255**	*eP*			**Pn**	**19 57 35.3**	**+1.9**
	baz=248								
ELDTW	**Lidau**	**2.06**	**236**	P			**Pn**	**19 57 33.5**	**-0.4**
	baz=235								
ELDTW				*eS*			**Sn**	**19 57 56.9**	**-1.7**
	baz=235								
ALS	**Alishan**	**2.07**	**246**	P			**Pn**	**19 57 35.2**	**+1.0**
	baz=238								
ALS				*eS*			**Sn**	**19 57 59.9**	**+0.8**
	baz=238								
LDUT	**Ludao**	**2.12**	**218**	*eP*			**Pn**	**19 57 32.5**	**-2.1**
	baz=212								
JIRB	**Irabujima**	**2.15**	**77**	P			**Pn**	**19 57 35.0**	**+0.1**
JIRB				*eS*			**Sn**	**19 57 60.0**	**-0.4**
LONT	**Longtian**	**2.16**	**228**	*eP*			**Pn**	**19 57 34.5**	**-0.7**
	baz=237								
JIKM	**Ikemajima**	**2.23**	**75**	P			**Pn**	**19 57 36.5**	**+0.4**
JIKM				*eS*			**Sn**	**19 58 03.4**	**+0.9**
WDLH	**Douliu**	**2.24**	**253**	*eP*			**Pn**	**19 57 37.4**	**+1.3**
	baz=242								
WDLH				*eS*			**Sn**	**19 58 05.2**	**+2.6**
	baz=242								
TWGBT	**Beinan**	**2.25**	**227**	*eP*			**Pn**	**19 57 35.9**	**-0.5**
	baz=236								
TWGBT				*eS*			**Sn**	**19 58 01.7**	**-1.4**
	baz=236								
TWG	**Pinlang**	**2.26**	**227**	P			**Pn**	**19 57 35.8**	**-0.6**
	baz=236								
TWG				*eS*			**Sn**	**19 58 01.9**	**-1.3**
	baz=236								
STYH	**Taoyuan**	**2.26**	**239**	P			**Pn**	**19 57 36.2**	**-0.2**
	baz=238								
STYH				*eS*			**Sn**	**19 58 02.7**	**-0.5**
	baz=238								
JMJ2	**Miyako jima3**	**2.27**	**80**	P			**Pn**	**19 57 36.9**	**+0.3**
JMJ2				*eS*			**Sn**	**19 58 04.3**	**+0.9**
WCKO	**Fanlu**	**2.27**	**246**	*eP*			**Pn**	**19 57 37.4**	**+0.8**
	baz=246								
TPUB	**Ta-pu**	**2.31**	**243**	P			**Pn**	**19 57 38.6**	**+1.5**
	baz=241								
TPUB				*eS*			**Sn**	**19 58 06.5**	**+2.0**
	baz=241								
CHN4	**Tsaushan**	**2.32**	**245**	P			**Pn**	**19 57 38.2**	**+1.0**
	baz=243								
CHN4				*eS*			**Sn**	**19 58 05.6**	**+0.9**
	baz=243								
WRL	**Guolierlin Hig**	**2.33**	**259**	*eP*			**Pn**	**19 57 37.1**	**-0.2**
	baz=258								
JOGS	**Gusukube**	**2.34**	**80**	P			**Pn**	**19 57 38.9**	**+1.3**
WTP	**Ta-pu**	**2.35**	**242**	P			**Pn**	**19 57 38.7**	**+1.0**
	baz=241								
WTP				*eS*			**Sn**	**19 58 07.8**	**+2.3**
	baz=241								
TWK	**Hsinying**	**2.44**	**244**	*eP*			**Pn**	**19 57 40.4**	**+1.4**
	baz=243								
TWK				*eS*			**Sn**	**19 58 09.9**	**+2.1**
	baz=243								
CHN1	**Nanshi**	**2.45**	**242**	*eP*			**Pn**	**19 57 40.4**	**+1.4**
	baz=241								
CHN1				*eS*			**Sn**	**19 58 09.8**	**+1.9**
	baz=241								
SGST	**Jiashian**	**2.46**	**239**	*eP*			**Pn**	**19 57 39.3**	**+0.2**
	baz=245								
SGST				*eS*			**Sn**	**19 58 08.9**	**+0.9**
	baz=245								
ECL	**Taimali**	**2.49**	**225**	*eP*			**Pn**	**19 57 38.9**	**-0.7**
	baz=233								
WSL	**Shuilin Townsh**	**2.56**	**251**	*eP*			**Pn**	**19 57 40.4**	**-0.1**
	baz=251								
SSD	**Sandimen**	**2.61**	**232**	*eP*			**Pn**	**19 57 43.2**	**+2.0**
	baz=228								
TSMG	**Majia**	**2.63**	**231**	*eP*			**Pn**	**19 57 42.9**	**+1.4**
	baz=227								
MASBT	**Mashibuluo**	**2.70**	**230**	*eP*			**Pn**	**19 57 42.8**	**+0.4**
	baz=225								
EAST	**Anshuo**	**2.71**	**224**	*eP*			**Pn**	**19 57 42.4**	**-0.2**
	baz=230								
TSCK	**Chigu Township**	**2.83**	**245**	*eP*			**Pn**	**19 57 43.9**	**-0.2**
	baz=245								
SLIU	**Shizi**	**2.87**	**222**	*eP*			**Pn**	**19 57 44.8**	**+0.1**
	baz=228								
SMST	**Manzhou Townsh**	**3.00**	**219**	*eP*			**Pn**	**19 57 46.4**	**-0.1**
	baz=220								
PHUB	**P'eng-hu**	**3.14**	**255**	*eP*			**Pn**	**19 57 47.5**	**-0.8**
	baz=254								
VWUC	**VWUC**	**3.17**	**282**	*eP*			**Pn**	**19 57 47.8**	**-1.1**
	baz=280								
PTMZ	**Houxiangcun**	**3.48**	**282**	*eP*			**Pn**	**19 57 51.9**	**-1.2**
	baz=280								

*IDC **18** 20:12:45.3±2.3,43°44N×105°13W,h0km,mbtmp3.6/2, ML3.6/2,Error ellipse: s-maj=47.2km s-min=8.6km az=151.0*
*NEIC **18** 20:12:48.0±1.7,43°62N±0°01×105°15W±0°05,h0km±2km, ML3.4/80,Error ellipse: s-maj=6.7km s-min=3.0km az=69.0*
ISC 18 20:12:46.3±1.2,43°66N±0°05×105°06W±0°06,h0km,n76, σ1s27/76,Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.87**	**58**				**Pn**	**20 13 06.7**	**+0.6**
K22A	**Casper**	**1.47**	**227**				**Pn**	**20 13 12.7**	**-1.6**
K22A						IAML		20 13 36.5	
	comp=N,370nm,0.3s								
PHWY	**Pilot Hill**	**2.38**	**187**				**Pn**	**20 13 27.8**	**+0.9**
RWWY	**Rawlins**	**2.53**	**219**				**Pn**	**20 13 29.6**	**+0.7**
RWWY						IAML		20 14 06.3	
	comp=N,189nm,1.2s								
RWWY						IAML		20 14 10.8	
	comp=N,242nm,1.0s								
N23A	**Red Feather La**	**2.84**	**194**		Pn		**Pn**	**20 13 35.3**	**+2.0**
N23A						IAML		20 14 20.5	
	comp=N,173nm,0.8s								
N23A						IAML		20 15 19.7	
	comp=E,133nm,3.8s								
BRIGG	**Briggsdale**	**3.13**	**170**				**Pn**	**20 13 36.0**	**-1.1**
LAO	**LASA Array**	**3.13**	**345**				**Pn**	**20 13 38.5**	**+1.4**
RLMT	**Red Lodge**	**3.35**	**297**				**Pn**	**20 13 41.1**	**+1.0**
RLMT						IAML		20 14 49.5	
	comp=E,68nm,0.8s								
RLMT						IAML		20 15 50.3	
	comp=E,76nm,4.2s								
PD31	**Pinedale Array**	**3.41**	**256**				**Pn**	**20 13 40.8**	**-0.1**
PDAR	**Pinedale Array**	**3.41**	**256**		Pn		**Pn**	**20 13 41.6**	**+0.6**
	comp=E,4.4nm,0.3s,baz=81,slow=16,SNR=21								
PDAR					Lg		Lg	20 14 28.8	
	comp=E,16nm,0.3s,baz=76,slow=34,SNR=8.1								
	comp=E,2.1nm,0.3s								
PDAR	**Pinedale Array**	**3.41**	**256**		Pn		**Pn**	**20 13 40.9**	**-0.1**
BW06	**Boulder Array**	**3.41**	**256**				**Pn**	**20 13 40.8**	**-0.2**
OGNE	**Ogallala**	**3.52**	**139**		Pn		**Pn**	**20 13 45.1**	**+2.7**
YMP	**Mirror Lake PI**	**3.82**	**288**				**Pn**	**20 13 47.5**	**+0.8**
GCMT	**Greycliff**	**3.91**	**305**				**Pn**	**20 13 49.1**	**+1.3**
LKWY	**Lake**	**3.95**	**285**				**Pn**	**20 13 48.9**	**+0.4**
LKWY						IAML		20 14 59.5	
	comp=E,45nm,1.2s								
LKWY						IAML		20 15 00.3	
	comp=E,69nm,1.9s								
LOHW	**Long Hollow**	**4.02**	**271**				**Pn**	**20 13 49.1**	**-0.3**
LOHW						IAML		20 15 19.8	
	comp=E,39nm,0.8s								
H17A	**Grant Village**	**4.04**	**282**				**Pn**	**20 13 50.7**	**+1.0**
H17A						IAML		20 15 00.6	
	comp=E,36nm,2.4s								
H17A						IAML		20 15 03.0	
	comp=N,36nm,1.9s								
FLWY	**Flagg Ranch**	**4.10**	**278**				**Pn**	**20 13 52.2**	**+1.8**
MOOW	**Moose Ponds**	**4.12**	**273**		Pn		**Pn**	**20 13 51.5**	**+0.8**
SNOW	**Snow King Moun**	**4.14**	**269**				**Pn**	**20 13 52.4**	**+1.3**
SNOW						IAML		20 15 13.5	
	comp=N,60nm,1.2s								
YNR	**Norris Junctio**	**4.17**	**287**		Pn		**Pn**	**20 13 54.2**	**+2.6**
YNR						IAML		20 15 17.6	
	comp=E,30nm,2.3s								
YPP	**Pitchstone Pla**	**4.19**	**280**				**Pn**	**20 13 52.2**	**+0.4**
REDW	**Red Top Meadow**	**4.22**	**268**				**Pn**	**20 13 52.4**	**+0.2**
E28A	**Huff**	**4.25**	**45**				**Pn**	**20 13 54.5**	**+2.2**
O20A	**White River Ci**	**4.25**	**215**				**Pn**	**20 13 53.6**	**+1.1**
IMW	**Indian Meadow**	**4.26**	**275**				**Pn**	**20 13 54.8**	**+2.1**
IMW						IAML		20 15 05.1	
	comp=E,34nm,0.6s								
IMW						IAML		20 15 14.7	
	comp=E,27nm,0.8s								
TPAW	**Teton Pass**	**4.28**	**270**				**Pn**	**20 13 54.9**	**+1.8**
TPAW						IAML		20 15 21.4	
	comp=E,46nm,1.0s								
FXWY	**Fox Creek**	**4.33**	**272**				**Pn**	**20 13 54.3**	**+0.7**
YMR	**Madison River**	**4.36**	**285**				**Pn**	**20 13 54.8**	**+0.7**
YMR						IAML		20 15 25.6	
	comp=E,51nm,1.0s								
AHID	**Auburn Hatcher**	**4.50**	**261**				**Pn**	**20 13 55.0**	**-1.0**
AHID						IAML		20 15 13.1	
	comp=E,34nm,1.4s								
AHID						IAML		20 15 19.0	
	comp=E,46nm,0.8s								
YHB	**Horse Butte**	**4.54**	**286**				**Pn**	**20 13 55.6**	**-0.9**
YHB						IAML		20 15 13.6	
	comp=N,28nm,2.8s								
YHB						IAML		20 16 47.1	
	comp=E,28nm,4.3s								
YHL	**Hebgen Lake**	**4.55**	**287**				**Pn**	**20 13 57.5**	**+0.7**
YHL						IAML		20 15 26.0	
	comp=N,39nm,1.2s								
YHL						IAML		20 15 28.2	
	comp=E,36nm,1.7s								
RDMU	**Red Mountain**	**4.56**	**229**				**Pn**	**20 13 55.8**	**-1.0**
RDMU						IAML		20 15 15.8	
	comp=E,36nm,1.1s								
RDMU						IAML		20 15 18.4	
	comp=N,33nm,0.8s								
ECR	**Eagle Creek**	**4.64**	**265**				**Pn**	**20 13 60.0**	**+2.1**
Q24A	**Divide**	**4.70**	**181**				**Pn**	**20 14 00.3**	**+1.5**
Q24A						IAML		20 15 23.4	
	comp=N,28nm,0.7s								
Q24A						IAML		20 15 28.2	
	comp=E,35nm,1.0s								
SMCO	**Snowmass**	**4.71**	**198**				**Pn**	**20 14 01.8**	**+2.8**
SMCO						IAML		20 16 33.1	
	comp=E,35nm,4.5s								
QLMT	**Earthquake Lak**	**4.72**	**287**		Pn		**Pn**	**20 13 59.9**	**+0.9**
K31A	**O'Neill**	**4.73**	**101**		Pn		**Pn**	**20 13 59.2**	**+0.3**
DGMT	**Dagmar**	**4.84**	**7**				**Pn**	**20 14 02.4**	**+1.8**
KSCO	**Kaye Shedlock'**	**5.00**	**158**				**Pn**	**20 14 02.1**	**-0.6**
BOZ	**Bozeman (W)**	**5.07**	**295**				**Pn**	**20 14 04.5**	**+0.7**
BOZ						IAML		20 15 36.7	
	comp=E,23nm,1.4s								
BOZ						IAML		20 17 08.7	
	comp=E,26nm,4.7s								
HWUT	**Hardware Ranch**	**5.22**	**249**				**Pn**	**20 14 06.6**	**+0.8**
HWUT						IAML		20 15 34.9	
	comp=E,29nm,1.2s								
TCUT	**Toone Canyon**	**5.34**	**244**				**Pn**	**20 14 09.2**	**+1.7**
EGMT	**Eagleton**	**5.46**	**325**		Pn		**Pn**	**20 14 11.1**	**+2.2**
P18A	**Preston Nutter**	**5.60**	**226**				**Pn**	**20 14 11.6**	**+0.5**
JLU	**Jordanelle**	**5.65**	**239**				**Pn**	**20 14 12.0**	**+0.5**
MDND	**Maddock**	**5.67**	**40**				**Pn**	**20 14 13.2**	**+1.5**
HRY	**Holter Researc**	**5.67**	**305**		Pn		**Pn**	**20 14 10.9**	**-1.1**
LRM	**Limekiln Ridge**	**5.69**	**295**				**Pn**	**20 14 12.1**	**-0.3**
MCMT	**McKenzie Canyo**	**5.71**	**284**				**Pn**	**20 14 11.9**	**-0.7**
PV07	**Paradox Valley**	**5.88**	**209**				**Pn**	**20 14 14.9**	**0.0**
PV15	**Paradox Valley**	**5.91**	**207**				**Pn**	**20 14 13.6**	**-1.8**
SDCO	**Great Sand Dun**	**5.92**	**183**		Pn		**Pn**	**20 14 15.5**	**0.0**
SPUT	**South Promonto**	**5.95**	**249**				**Pn**	**20 14 16.1**	**+0.3**
P17A	**Butcher Ranch,**	**5.97**	**227**				**Pn**	**20 14 15.3**	**-0.9**
HVU	**Hansel Valley**	**5.99**	**254**				**Pn**	**20 14 16.2**	**-0.1**
PV23	**Carpenter Ridg**	**6.00**	**211**				**Pn**	**20 14 17.0**	**+0.4**
BCYI	**Bear Canyon**	**6.05**	**279**		Pn		**Pn**	**20 14 16.6**	**-0.7**
S22A	**4UR Ranch, Cre**	**6.06**	**193**				**Pn**	**20 14 16.0**	**-1.5**
PV10	**Paradox Valley**	**6.08**	**211**		Pn		**Pn**	**20 14 20.8**	**+3.1**
PV11	**David Mesa, Pa**	**6.08**	**210**				**Pn**	**20 14 18.4**	**+0.7**
ECSD	**EROS Data Cent**	**6.12**	**86**		Pn		**Pn**	**20 14 19.7**	**+1.6**
SRU	**San Rafael Swe**	**6.13**	**224**				**Pn**	**20 14 16.9**	**-1.4**
PV13	**Radium Mtn., P**	**6.19**	**209**				**Pn**	**20 14 20.0**	**+0.7**
TMUT	**Trail Mountain**	**6.35**	**229**				**Pn**	**20 14 21.9**	**+0.5**
NLU	**North Lily Min**	**6.42**	**237**		Pn		**Pn**	**20 14 23.1**	**+0.8**
BGU	**Big Grassy Mou**	**6.51**	**248**		Pn		**Pn**	**20 14 23.9**	**+0.3**
DUG	**Dugway, Tooele**	**6.74**	**242**		Pn		**Pn**	**20 14 26.4**	**-0.3**
MSU	**Marysvale**	**7.44**	**229**		Pn		**Pn**	**20 14 36.4**	**+0.1**
MVU	**Marysvale**	**7.46**	**229**		Pn		**Pn**	**20 14 36.5**	**-0.2**
MTPU	**Mount Pierson**	**7.79**	**226**		Pn		**Pn**	**20 14 41.8**	**+0.5**
ELK	**Elko**	**8.10**	**252**		Pn		**Pn**	**20 14 47.5**	**+2.2**
PSUT	**Pine Spring**	**8.38**	**235**				**Pn**	**20 14 49.8**	**+0.5**
I10CA	**LAC DU BONNET**	**8.99**	**40**		I			21 04 10.0	
	comp=E,0.1nm,1.2s,baz=220,slow=323,SNR=12								
ULM	**Lac du Bonnet**	**9.10**	**40**		Pn		**Pn**	**20 14 58.1**	**-0.7**
	comp=E,1.4nm,0.3s,baz=223,slow=11,SNR=6.5								
ULM					Sn		**Sn**	**20 16 40.6**	**-1.3**
	comp=E,0.7nm,0.3s,baz=215,slow=18,SNR=1.3								

PB08	**IPOC Station P**	**3.71**	**315**	⇑*i*P		**Pn**	**20 26 23.1**	**+1.8**
PB08				*i* S		**S**	**20 27 09.6**	**-1.0**
GO02	**Mina Guanaco**	**3.79**	**231**			**Pn**	**20 26 22.8**	**+0.8**
GO02					Sn	**S**	**20 27 10.6**	**-1.5**
GO02	**Mina Guanaco**	**3.79**	**231**	⇑*i*P		**Pn**	**20 26 22.9**	**+0.8**
GO02				*i* S		**S**	**20 27 11.8**	**-0.2**
PB10	**IPOC Station P**	**3.94**	**259**	Pn		**Pn**	**20 26 24.2**	**+0.9**
PB10						**S**	**20 27 13.0**	**-1.6**
PB10	**IPOC Station P**	**3.94**	**259**	⇑*i*P		**Pn**	**20 26 24.2**	**+0.9**
PB10				*i* S		**S**	**20 27 12.5**	**-2.0**
PATCX	**Punta Patache**	**4.04**	**298**			**Pn**	**20 26 25.6**	**+0.9**
PATCX					Sn	**S**	**20 27 15.0**	**-1.9**
PATCX	**Punta Patache**	**4.04**	**298**	*i* P		**Pn**	**20 26 25.6**	**+0.9**
PATCX				*i* S		**S**	**20 27 15.0**	**-1.9**
GO01	**Chusmiza**	**4.09**	**319**			**Pn**	**20 26 26.9**	**+1.3**
GO01	**Chusmiza**	**4.09**	**319**	*i* P		**Pn**	**20 26 26.9**	**+1.3**
PB14	**IPOC Station P**	**4.14**	**243**	Pn		**Pn**	**20 26 26.8**	**+0.7**
PB14						**S**	**20 27 17.9**	**-1.4**
TA01	**Diego Aracena**	**4.20**	**301**	Pn		**Pn**	**20 26 26.8**	**+0.5**
TA01						**S**	**20 27 17.6**	**-2.3**
TA01	**Diego Aracena**	**4.20**	**301**	*i* P		**Pn**	**20 26 26.6**	**+0.2**
TA01				*i* S		**S**	**20 27 17.3**	**-2.6**
PB11	**IPOC Station P**	**4.31**	**314**	Pn		**Pn**	**20 26 28.1**	**+0.2**
PB11	**IPOC Station P**	**4.31**	**314**	⇓*i*P		**Pn**	**20 26 28.2**	**+0.3**
PB11				*i* S		**S**	**20 27 20.1**	**-2.6**
TA02	**Huaiquique**	**4.33**	**305**			**Pn**	**20 26 28.0**	**+0.2**
MNMC	**Minye Minye**	**4.74**	**320**			**Pn**	**20 26 33.9**	**+0.8**
MNMC	**Minye Minye**	**4.74**	**320**	⇓*i*P		**Pn**	**20 26 33.8**	**+0.7**
MNMC				*i* S		**S**	**20 27 30.5**	**-1.5**
PSGC	**Pisagua**	**4.75**	**311**	*e*P		**Pn**	**20 26 32.4**	**-0.5**
PSGC				*e*S		**S**	**20 27 28.1**	**-3.7**
PSGCX	**Pisagua**	**4.75**	**311**	Pn		**Pn**	**20 26 32.5**	**-0.4**
AC02	**Maricunga**	**4.76**	**212**	Pn		**Pn**	**20 26 33.2**	**-0.1**
AC01	**Pan de Azucar**	**5.12**	**228**	Pn		**Pn**	**20 26 36.6**	**-0.5**
PB16	**IPOC Station P**	**5.33**	**326**			**Pn**	**20 26 41.8**	**+1.4**
PB16	**IPOC Station P**	**5.33**	**326**	⇓*i*P		**Pn**	**20 26 41.8**	**+1.4**
PB16				*e*S		**S**	**20 27 44.2**	**-1.0**
PB12	**IPOC Station P**	**5.58**	**317**	Pn		**Pn**	**20 26 43.1**	**+0.2**
PB12	**IPOC Station P**	**5.58**	**317**	*e*P		**Pn**	**20 26 42.1**	**-0.8**
PB12				*e*S		**S**	**20 27 45.7**	**-4.3**
AP01	**Chacalluta**	**5.77**	**319**	Pn		**Pn**	**20 26 44.4**	**-0.8**
AC06	**Mina Casimiro**	**5.82**	**218**	Pn		**Pn**	**20 26 44.6**	**-1.1**
GO03	**Copiap**	**5.94**	**216**			**Pn**	**20 26 45.5**	**-1.7**
GO03						**S**	**20 27 51.9**	**-5.8**
LPAZ	**La Paz**	**6.68**	**345**	P		**Pn**	**20 26 57.9**	**+0.9**
	comp=N,8.5nm,0.5s,baz=155,slow=8.8,SNR=30							
LPAZ				S		**S**	**20 28 12.8**	**-2.7**
	comp=N,3.0nm,0.7s,baz=273,slow=22,SNR=2.0							
LPAZ	**La Paz**	**6.68**	**345**	Pn		**Pn**	**20 26 57.2**	**+0.2**
LPAZ	**La Paz**	**6.68**	**345**	*e*P		**Pn**	**20 26 57.9**	**+0.9**
AC05	**El Transito**	**6.98**	**210**	Pn		**Pn**	**20 27 00.3**	**+0.2**
LCO	**Las Campanas**	**7.33**	**211**	Pn		**Pn**	**20 27 03.6**	**-1.0**
CO01	**Juntas del Tor**	**7.91**	**204**	Pn		**Pn**	**20 27 13.1**	**+1.4**
GO04	**Tololo Observa**	**8.36**	**208**	Pn		**Pn**	**20 27 16.6**	**-0.8**
SIV	**San Ignacio**	**8.39**	**37**	P		**Pn**	**20 27 15.1**	**-2.6**
	comp=N,4.9nm,0.6s,baz=222,slow=6.2,SNR=22							
CPUP	**Villa Florida**	**8.93**	**115**	*e*P		**Pn**	**20 27 26.0**	**+1.7**
CO06	**Fray Jorge**	**9.16**	**210**	Pn		**Pn**	**20 27 26.0**	**-1.1**
CO02	**Combarbal**	**9.35**	**205**	Pn		**Pn**	**20 27 29.5**	**-0.1**
ROC1	**El Roble**	**10.95**	**201**			**P**	**20 27 52.3**	**-0.9**
MT02	**Curacav**	**11.25**	**201**	Pn		**Pn**	**20 27 52.6**	**-0.5**
MT09	**Talagante**	**11.68**	**199**			**Pn**	**20 27 58.1**	**-0.4**
BO04	**La Punta**	**11.77**	**198**	P		**P**	**20 28 02.2**	**+0.1**
MT01	**Popeta**	**11.85**	**200**	P		**P**	**20 28 04.1**	**+1.2**
CRSM	**Crissiumal (Br**	**12.09**	**115**	*e*P		**P**	**20 28 04.8**	**-0.8**
SALV	**Santo Antonio**	**12.16**	**58**	*e*P		**P**	**20 28 06.6**	**0.0**
BO01	**Tunca**	**12.28**	**199**	P		**P**	**20 28 08.9**	**+1.2**
PTGB	**Pitanga**	**13.22**	**101**	*e*P		**P**	**20 28 19.5**	**+1.2**
ITAB	**Concordia**	**13.62**	**112**	P		**P**	**20 28 22.2**	**-0.5**
ITAB	**Concordia**	**13.62**	**112**	*e*P		**P**	**20 28 23.4**	**+0.8**
PCMB	**Pacaembu**	**14.02**	**88**	*e*P		**P**	**20 28 28.3**	**+1.1**
PDRB	**Porto dos Gac**	**14.41**	**41**	*e*P		**Pn**	**20 28 32.2**	**+0.5**
PLTB	**Pedras Altas**	**14.42**	**131**	*e*P		**P**	**20 28 30.5**	**-0.9**
ITRB	**Iturama**	**15.22**	**81**	*e*P		**Pn**	**20 28 40.3**	**-1.1**
ARAG	**Araguaiana, MT**	**15.42**	**65**	*e*P		**P**	**20 28 42.1**	**-0.5**
FRTB	**Fartura**	**15.46**	**95**	*e*P		**Pn**	**20 28 43.2**	**-1.0**
CLDB	**Colider**	**15.56**	**42**	*e*P		**Pn**	**20 28 44.7**	**-0.7**
TRQA	**Tornquist**	**15.67**	**167**	P		**Pn**	**20 28 45.5**	**-1.0**
TRQA					IAmb	IAmb	20 29 16.4	
	comp=Z,8.6nm,1.2s							
BB19B	**Bebedouro**	**16.62**	**87**	*e*P		**Pn**	**20 28 56.7**	**-1.2**
PET01	**Itanhaem-SP**	**17.55**	**99**	*e*P		**P**	**20 29 05.9**	**+0.1**
IPMB	**Ipameri, GO**	**17.66**	**78**	*e*P		**P**	**20 29 07.2**	**+0.2**
VAO	**Valinhos**	**17.86**	**94**	*e*P		**P**	**20 29 08.4**	**-0.8**
SNDB	**Serra Nova Dou**	**17.93**	**56**	*e*P		**P**	**20 29 09.2**	**-0.7**
PLCA	**Paso Flores**	**18.24**	**190**	P		**Pn**	**20 29 14.8**	**-1.8**
	comp=Z,2.0nm,0.9s,baz=29,slow=12,SNR=4.0							
PLCA	**Paso Flores**	**18.24**	**190**	P		**P**	**20 29 11.2**	**-1.9**
PLCA					IAmb	IAmb	20 29 41.0	
	comp=Z,7.3nm,1.4s							
PLCA	**Paso Flores**	**18.24**	**190**	*e*P		**P**	**20 29 11.6**	**-1.5**
BDFB	**Brasilia**	**18.70**	**71**	P		**P**	**20 29 16.6**	**-1.8**
	comp=Z,6.7nm,0.8s,baz=235,slow=13,SNR=6.7							
BDFB	**Brasilia**	**18.70**	**71**	P		**P**	**20 29 16.4**	**-2.0**
BDFB	**Brasilia**	**18.70**	**71**	*e*P		**P**	**20 29 18.8**	**+0.4**
NPGB	**Novo Progresso**	**18.89**	**36**	*e*P		**P**	**20 29 21.6**	**+1.2**
ITTB	**Itaituba**	**21.00**	**31**	*e*P		**P**	**20 29 40.8**	**-1.6**
DIAM	**Diamantina, MG**	**21.69**	**82**	*e*P		**P**	**20 29 48.9**	**-0.1**
MC01	**Montes Claros**	**21.93**	**78**	*e*P		**P**	**20 29 50.0**	**-1.1**
JANB	**Januaria**	**22.20**	**74**	*e*P		**P**	**20 29 53.0**	**-0.5**
SMTB	**Santa Maria do**	**22.71**	**55**	*e*P		**P**	**20 29 57.6**	**-0.5**
SDBA	**SAO DESIDERIO**	**22.87**	**67**	*e*P		**P**	**20 29 58.9**	**-0.7**
PRPB	**Parauapebas**	**22.96**	**46**	*e*P		**P**	**20 30 00.2**	**-0.2**
SJMB	**Sao Joao De Ma**	**23.87**	**85**	*e*P		**P**	**20 30 08.1**	**-0.5**
MALB	**Monte Alegre**	**23.89**	**31**	*e*P		**P**	**20 30 08.9**	**+0.1**
RIB01	**Linhares ES**	**24.45**	**87**	*e*P		**P**	**20 30 13.4**	**-0.6**
BOAV	**Boa Vista**	**25.67**	**14**	P		**P**	**20 30 22.1**	**-2.7**
BOAV					IAmb	IAmb	20 30 26.8	
	comp=Z,2.7nm,0.9s							
BOAV	**Boa Vista**	**25.67**	**14**	*e*P		**P**	**20 30 24.4**	**-0.4**
GUA01	**Guaratinga, BA**	**25.72**	**81**	*e*P		**P**	**20 30 25.1**	**-0.2**
MCPB	**Macapa, AP**	**26.27**	**34**	*e*P		**P**	**20 30 29.9**	**-0.3**
CMC01	**Camacan, BA**	**26.38**	**78**	*e*P		**P**	**20 30 31.3**	**0.0**
GDU01	**Guandu, BA**	**26.94**	**75**	*e*P		**P**	**20 30 35.1**	**-1.1**
RCBR	**Riachuelo**	**33.86**	**65**	P		**P**	**20 31 36.9**	**0.0**
	comp=Z,3.3nm,0.6s,baz=187,slow=21,SNR=1.0							
	comp=Z,3.3nm,0.6s							
URIC	**Uribia, Colomb**	**34.72**	**350**	P		**P**	**20 31 43.2**	**-0.9**
URIC					IAmb	IAmb	20 32 21.9	
	comp=Z,5.9nm,1.3s							
CMIG	**Matias Romero**	**48.48**	**322**	P		**P**	**20 33 39.7**	**+4.6**
	comp=Z,1.4nm,0.7s,baz=152,slow=13,SNR=2.1							
	comp=Z,1.4nm,0.7s							
SNAA	**Sanae**	**60.29**	**161**	P		**P**	**20 35 00.4**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=294,slow=12,SNR=6.0							
	comp=Z,0.7nm,0.8s							
SNAA	**Sanae**	**60.29**	**161**	P		**P**	**20 35 00.6**	**+1.5**
SNAA					IAmb	IAmb	20 35 25.7	
	comp=Z,7.2nm,1.5s							
DBIC	**Dimbokro**	**66.85**	**72**	P		**P**	**20 35 42.1**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=336,slow=3.5,SNR=2.3							
	comp=Z,3.4nm,0.8s							
PDAR	**Pinedale Array**	**76.42**	**329**	P		**P**	**20 36 42.7**	**+3.5**
	comp=Z,0.5nm,1.0s,baz=131,slow=6.5,SNR=2.0							
	comp=Z,0.5nm,1.0s							
MKAR	**Makanchi Array**	**145.21**	**39**	PKPbc		**PKiKP**	**20 44 27.3**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=357,slow=2.3,SNR=13							
PZH	**PanZhiHua**	**168.55**	**69**	PKP		**PKPdf**	**20 44 52.0**	**-2.2**

JMA ***18****20:26:22.4±0.2,23°.5N±0°.7×121°.6E±0°.9,h32km±2km,*
MV3.3/15,TAIWAN REGION
TAP ***18****20:26:24.1,23°.59N×121°.54E,h42km,ML3.7,C*
ISC 18 20:26:24.0±1.2,23°.57N±0°.02×121°.61E±0°.02,h35km±2km,
n143,σ1°08/241,3C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TEGC	**Jichi Village**	**0.15**	**336**	P		**Pn**	**20**	**26**	**31.3**	**-1.0**
	baz=353									
TEGC				S		**Sn**	**20**	**26**	**37.7**	**-1.5**
	baz=353									
HGSD	**Ruisui**	**0.18**	**245**	⇓*i*P		**Pn**	**20**	**26**	**31.7**	**-0.2**
	baz=241									
HGSD				*i* S		**Sn**	**20**	**26**	**37.4**	**-1.1**
	baz=241									
EGFH	**Guangfu**	**0.19**	**301**	⇓*i*P		**Pn**	**20**	**26**	**31.0**	**-0.8**
	baz=306									
EGFH				*e*S		**Sn**	**20**	**26**	**36.0**	**-2.3**
	baz=306									
EHY	**Hungye**	**0.27**	**256**	⇓*i*P		**Pn**	**20**	**26**	**31.5**	**-0.3**
	baz=246									
EHY					S	**Sn**	**20**	**26**	**36.6**	**-1.4**
	baz=246									
ESL	**Shilin**	**0.29**	**327**	⇓*i*P		**Pn**	**20**	**26**	**31.5**	**-0.5**
	baz=332									
ESL				*i* S		**Sn**	**20**	**26**	**36.5**	**-1.5**
	baz=332									
YULB	**Yu-li**	**0.33**	**238**	P		**Pn**	**20**	**26**	**32.1**	**-0.2**
YULB	**Yu-li**	**0.33**	**238**	⇓*i*P		**Pn**	**20**	**26**	**32.1**	**-0.2**
	baz=236									
YULB				*e*S		**Sn**	**20**	**26**	**38.0**	**-0.5**
	baz=236									
EYUL	**Yuli**	**0.34**	**230**	*e*P		**Pn**	**20**	**26**	**32.5**	**+0.1**
	baz=229									
EYUL				S		**Sn**	**20**	**26**	**38.9**	**+0.2**
	baz=229									
HWA	**Hwalien**	**0.41**	**360**	P		**Pn**	**20**	**26**	**33.8**	**+0.6**
	baz=15									
HWA				*e*S		**Sn**	**20**	**26**	**41.1**	**+1.4**
	baz=15									
VWDT	**VWDT**	**0.46**	**293**	⇓*i*P		**Pn**	**20**	**26**	**34.2**	**+0.1**
	baz=297									
VWDT				S		**Sn**	**20**	**26**	**41.1**	**0.0**
	baz=297									
FULB	**Fuli**	**0.47**	**218**	*e*P		**Pn**	**20**	**26**	**34.4**	**+0.3**
	baz=220									
FULB				S		**Sn**	**20**	**26**	**42.3**	**+1.0**
	baz=220									
TWD	**Chiawan**	**0.51**	**359**	*e*P		**Pn**	**20**	**26**	**34.0**	**-0.8**
	baz=357									
TWD				*e*S		**Sn**	**20**	**26**	**41.7**	**-0.5**
	baz=357									
CHKT	**Chengkung**	**0.52**	**205**	⇑*i*P		**Pn**	**20**	**26**	**34.7**	**-0.2**
	baz=188									
CHKT				*e*S		**Sn**	**20**	**26**	**43.2**	**+0.7**
	baz=188									
ETL	**Fush Village**	**0.59**	**1**	*e*P		**Pn**	**20**	**26**	**35.2**	**-0.8**
	baz=358									
NACB	**Ninganchiao**	**0.60**	**359**	P		**Pn**	**20**	**26**	**35.1**	**-1.0**
NACB	**Ninganchiao**	**0.60**	**359**	*e*P		**Pn**	**20**	**26**	**34.9**	**-1.3**
	baz=355									
NACB				*e*S		**Sn**	**20**	**26**	**44.3**	**-0.3**
	baz=355									
YUS	**Yu-Shan**	**0.61**	**262**	⇓*i*P		**Pn**	**20**	**26**	**36.4**	**-0.2**
	baz=259									
YUS				*e*S		**Sn**	**20**	**26**	**45.0**	**-0.3**
	baz=259									
WUSB	**Renai**	**0.61**	**313**	⇓*i*P		**Pn**	**20**	**26**	**36.1**	**-0.3**
	baz=323									
WUSB				*e*S		**Sn**	**20**	**26**	**43.9**	**-1.2**
	baz=323									
CHGB	**Renai**	**0.63**	**321**	⇓*i*P		**Pn**	**20**	**26**	**36.2**	**-0.5**
	baz=329									
CHGB				S		**Sn**	**20**	**26**	**43.9**	**-1.7**
	baz=329									
SSLB	**Suanglung**	**0.64**	**290**	P		**Pn**	**20**	**26**	**36.4**	**-0.2**
SSLB	**Suanglung**	**0.64**	**290**	⇓*i*P		**Pn**	**20**	**26**	**36.1**	**-0.6**
	baz=295									
SSLB				*e*S		**Sn**	**20**	**26**	**44.3**	**-1.2**
	baz=295									
ETLH	**Xiulin Townshi**	**0.64**	**350**	*e*P		**Pn**	**20**	**26**	**35.6**	**-1.2**
	baz=354									
ETLH				*e*S		**Sn**	**20**	**26**	**44.1**	**-1.7**
	baz=354									
WHF	**Hehuan Shan**	**0.65**	**331**	P		**Pn**	**20**	**26**	**36.2**	**-1.0**
	baz=336									
WHF				*e*S		**Sn**	**20**	**26**	**45.3**	**-1.1**
	baz=336									
EDH	**Donghe**	**0.66**	**205**	*e*P		**Pn**	**20**	**26**	**36.2**	**-0.6**
	baz=199									
EDH				*e*S		**Sn**	**20**	**26**	**45.8**	**-0.1**
	baz=199									
ELDTW	**Lidau**	**0.66**	**235**	P		**Pn**	**20**	**26**	**36.0**	**-1.1**
	baz=227									
ELDTW				S		**Sn**	**20**	**26**	**45.0**	**-1.2**
	baz=227									
WHYT	**Xinyi Township**	**0.70**	**280**	P		**Pn**	**20**	**26**	**37.5**	**0.0**
	baz=275									
WHYT				S		**Sn**	**20**	**26**	**47.6**	**+0.5**
	baz=275									
SMLT	**Sun Moon Lake**	**0.72**	**296**	⇓*i*P		**Pn**	**20**	**26**	**37.6**	**-0.1**
	baz=299									
SMLT				*e*S		**Sn**	**20**	**26**	**47.2**	**-0.4**
	baz=299									
ALS	**Alishan**	**0.74**	**266**	⇓*i*P		**Pn**	**20**	**26**	**38.3**	**+0.1**
	baz=269									
ALS				S		**Sn**	**20**	**26**	**48.3**	**-0.1**
	baz=269									
FUSS	**Fushou**	**0.75**	**334**	*e*P		**Pn**	**20**	**26**	**38.0**	**-0.4**
	baz=341									
FUSS				*e*S		**Sn**	**20**	**26**	**47.6**	**-1.0**
	baz=341									
TYC	**Yuchr**	**0.76**	**296**	⇓*i*P		**Pn**	**20**	**26**	**38.2**	**0.0**
	baz=297									
TYC				S		**Sn**	**20**	**26**	**48.2**	**-0.3**
	baz=297									
TWT	**Tachien**	**0.79**	**330**	⇑P		**Pn**	**20**	**26**	**38.7**	**0.0**
	baz=334									
TWT				*e*S		**Sn**	**20**	**26**	**48.0**	**-1.4**
	baz=334									
LONT	**Longtian**	**0.79**	**214**	*e*P		**Pn**	**20**	**26**	**37.4**	**-1.3**
	baz=200									
TDCB	**Techi**	**0.79**	**329**	⇑*i*P		**Pn**	**20**	**26**	**38.7**	**-0.1**
	baz=334									
TDCB				S		**Sn**	**20**	**26**	**48.3**	**-1.3**
	baz=334									
WCS	**Beigang Elemen**	**0.80**	**307**	*e*P		**Pn**	**20**	**26**	**37.8**	**-1.0**
	baz=314									
WCS				*e*S		**Sn**	**20**	**26**	**48.2**	**-1.3**
	baz=314									
WJS	**Zhushan**	**0.84**	**287**	*e*P		**Pn**	**20**	**26**	**40.1**	**+0.7**
	baz=287									
WJS				*e*S		**Sn**	**20**	**26**	**51.5**	**+0.9**
	baz=287									
CHN5	**Tsauling**	**0.85**	**272**	P		**Pn**	**20**	**26**	**39.0**	**-0.6**
	baz=270									
CHN5				*e*S		**Sn**	**20**	**26**	**50.5**	**-0.4**
	baz=270									
STYH	**Taoyuan**	**0.86**	**243**	*e*P		**Pn**	**20**	**26**	**38.8**	**-0.8**
	baz=234									
ENA	**Nanau**	**0.86**	**8**	*e*P		**Pn**	**20**	**26**	**39.0**	**-0.7**
	baz=2.0									
ENA				*e*S		**Sn**	**20**	**26**	**49.7**	**-1.4**
	baz=2.0									
NNSB	**Datong**	**0.88**	**347**	*e*P		**Pn**	**20**	**26**	**39.2**	**-0.8**
	baz=356									
NNSB				*e*S		**Sn**	**20**	**26**	**50.2**	**-1.4**
	baz=356									
NNS	**Nan Shan**	**0.89**	**346**	*e*P		**Pn**	**20**	**26**	**38.7**	**-1.5**
	baz=356									
NNS				*e*S		**Sn**	**20**	**26**	**49.2**	**-2.7**
	baz=356									
TWGBT	**Beinan**	**0.89**	**213**	P		**Pn**	**20**	**26**	**39.0**	**-1.0**
TWGBT	**Beinan**	**0.89**	**213**	P		**Pn**	**20**	**26**	**38.4**	**-1.7**
	baz=199									
TWGBT				*e*S		**Sn**	**20**	**26**	**50.3**	**-1.4**
	baz=199									
TWG	**Pinlang**	**0.89**	**213**	P		**Pn**	**20**	**26**	**38.5**	**-1.6**
	baz=201									
WNT	**Mingjian**	**0.90**	**290**	P		**Pn**	**20**	**26**	**40.5**	**+0.3**
	baz=290									
WNT				*e*S		**Sn**	**20**	**26**	**53.1**	**+1.2**
	baz=290									
LDUT	**Ludao**	**0.90**	**188**	P		**Pn**	**20**	**26**	**39.3**	**-0.9**
	baz=177									
LDUT				*e*S		**Sn**	**20**	**26**	**51.3**	**-0.7**
	baz=177									
TTN	**Taitung**	**0.92**	**208**	*e*P		**Pn**	**20**	**26**	**40.0**	**-0.4**
	baz=202									
TTN				*e*S		**Sn**	**20**	**26**	**52.4**	**+0.1**
	baz=202									
WHP	**Taichung City**	**0.93**	**319**	*e*P		**Pn**	**20**	**26**	**41.2**	**+0.6**
	baz=321									
WHP				*e*S		**Sn**	**20**	**26**	**54.5**	**+1.7**
	baz=321									
WCKO	**Fanlu**	**0.93**	**262**	*e*P		**Pn**	**20**	**26**	**39.1**	**-1.4**
	baz=260									
WCKO				*e*S		**Sn**	**20**	**26**	**52.9**	**+0.2**
	baz=260									
TPUB	**Ta-pu**	**0.94**	**254**	P		**Pn**	**20**	**26**	**41.6**	**+0.9**
TPUB	**Ta-pu**	**0.94**	**254**	P		**Pn**	**20**	**26**	**41.0**	**+0.4**
	baz=251									
TPUB				*e*S		**Sn**	**20**	**26**	**54.0**	**+1.1**
	baz=251									
CHN4	**Tsaushan**	**0.96**	**257**	*e*P		**Pn**	**20**	**26**	**40.6**	**-0.3**
	baz=254									
CHN4				*e*S		**Sn**	**20**	**26**	**54.5**	**+1.2**
	baz=254									
LATG	**Datong**	**0.96**	**356**	P		**Pn**	**20**	**26**	**40.3**	**-0.9**
	baz=359									
LATG					S	**Sn**	**20**	**26**	**52.9**	**-0.8**
	baz=359									
WTP	**Ta-pu**	**0.97**	**251**	P		**Pn**	**20**	**26**	**41.8**	**+0.7**
	baz=247									
WTP				*e*S		**Sn**	**20**	**26**	**54.7**	**+1.1**
	baz=247									
WDLH	**Douliu**	**0.99**	**277**	*e*P		**Pn**	**20**	**26**	**41.7**	**+0.4**
	baz=276									
WDLH				*e*S		**Sn**	**20**	**26**	**54.7**	**+0.7**
	baz=276									
TCU	**Taichung**	**1.03**	**304**	P		**Pn**	**20**	**26**	**42.9**	**+1.0**
	baz=305									
TCU				*e*S		**Sn**	**20**	**26**	**56.6**	**+1.6**
	baz=305									
CHN2	**Minshiung**	**1.04**	**268**	P		**Pn**	**20**	**26**	**43.0**	**+1.0**
	baz=266									
CHN2				*e*S		**Sn**	**20**	**26**	**57.3**	**+1.9**
	baz=266									
TWC	**Suao**	**1.06**	**12**	*e*P		**Pn**	**20**	**26**	**42.3**	**0.0**
	baz=24									
TWC				*e*S		**Sn**	**20**	**26**	**57.9**	**+2.1**
	baz=24									
SGST	**Jiashian**	**1.06**	**243**	*e*P		**Pn**	**20**	**26**	**42.4**	**+0.1**
	baz=252									
SGST				*e*S		**Sn**	**20**	**26**	**57.0**	**+1.1**
	baz=252									
ENTT	**Nioudou**	**1.07**	**358**	*e*P		**Pn**	**20**	**26**	**40.8**	**-1.7**
	baz=1.0									
ENTT				*e*S		**Sn**	**20**	**26**	**54.5**	**-1.6**
	baz=1.0									
TWK	**Hsinying**	**1.07**	**254**	P		**Pn**	**20**	**26**	**43.5**	**+0.9**
	baz=251									
TWK				*e*S		**Sn**	**20**	**26**	**57.5**	**+1.3**
	baz=251									
WCHH	**Zhanghua**	**1.09**	**298**	P		**Pn**	**20**	**26**	**44.3**	**+1.6**
	baz=298									
WCHH				*e*S		**Sn**	**20**	**26**	**59.0**	**+2.5**
	baz=298									
TWQ1	**Liyutan**	**1.09**	**316**	P		**Pn**	**20**	**26**	**43.3**	**+0.6**
	baz=317									
TWQ1				*e*S		**Sn**	**20**	**26**	**57.9**	**+1.3**
	baz=317									
CHY	**Chiayi**	**1.09**	**266**	*e*P		**Pn**	**20**	**26**	**43.1**	**+0.4**
	baz=264									
CHY				*e*S		**Sn**	**20**	**26**	**58.3**	**+1.8**
	baz=264									
YHNB	**Yeheng**	**1.11**	**349**	P		**Pn**	**20**	**26**	**43.2**	**0.0**
YHNB	**Yeheng**	**1.11**	**349**	*i* P		**Pn**	**20**	**26**	**42.9**	**-0.3**
	baz=351									
YHNB				*e*S		**Sn**	**20**	**26**	**56.4**	**-0.9**
	baz=351									
NSK	**Sanguang**	**1.12**	**348**	*e*P		**Pn**	**20**	**26**	**41.9**	**-1.4**
	baz=351									
NSK				*e*S		**Sn**	**20**	**26**	**55.8**	**-1.8**
	baz=351									
ECL	**Taimali**	**1.14**	**212**	*e*P		**Pn**	**20**	**26**	**41.8**	**-1.6**
	baz=201									
ECL				*e*S		**Sn**	**20**	**26**	**55.4**	**-2.4**
	baz=201									
NSY	**Sanyi**	**1.14**	**318**	P		**Pn**	**20**	**26**	**44.2**	**+0.7**
	baz=330									
NSY				*e*S		**Sn**	**20**	**26**	**59.8**	**+1.8**
	baz=330									
NFF	**Wufeng Townshi**	**1.15**	**337**	P		**Pn**	**20**	**26**	**43.4**	**-0.2**
	baz=343									
TWE	**Neicheng**	**1.15**	**3**	*e*P		**Pn**	**20**	**26**	**43.0**	**-0.6**
	baz=6.0									
WRL	**Guolierlin Hig**	**1.17**	**287**	P		**Pn**	**20**	**26**	**43.3**	**-0.6**
	baz=278									
WRL				*e*S	

baz=29
SCZT Fangliau 1.50 218 *e*P Pn 20 26 48.6 +0.2
baz=214
NWF Wu-fen Shan 1.50 6 *e*P Pn 20 26 48.7 +0.2
baz=8.0
NWF *e*S Sn 20 27 07.2 +0.3
baz=8.0
JYNG Yonagunijimaku 1.51 54 P Pn 20 26 49.1 +0.7
JYNG S Sn 20 27 08.0 +1.2
LAY Lan-yu 1.52 182 *e*P Pn 20 26 47.8 -0.9
baz=174
TWS1 Kuangyinshan 1.53 354 *e*P Pn 20 26 49.6 +0.8
baz=8.0
TWS1 *e*S Sn 20 27 09.4 +1.9
baz=8.0
SXI1 Grass Mountain 1.54 9 P Pn 20 26 49.5 +0.6
baz=359
SXI1 *e*S Sn 20 27 09.2 +1.5
baz=359
SLIU Shizi 1.54 209 *e*P Pn 20 26 47.8 -1.2
baz=204
WSSB Gushan 1.54 234 *e*P Pn 20 26 50.3 +1.3
baz=246
LYUB Lan-yu 1.56 181 *e*P Pn 20 26 47.3 -1.9
baz=173
YOJ Yonaguni jima 1.56 55 P Pn 20 26 50.1 +0.9
YOJ Yonaguni jima 1.56 55 *e*P Pn 20 26 49.3 +0.1
baz=56
YOJ *e*S Sn 20 27 08.4 +0.2
baz=56
YOJ Yonaguni jima 1.56 55 P Pn 20 26 49.8 +0.6
YOJ *e*S Sn 20 27 09.3 +1.1
YM01 YM01 1.57 359 *e*P Pn 20 26 48.7 -0.7
YM01 *e*S Sn 20 27 08.3 -0.2
NTST Danshui 1.59 355 P Pn 20 26 49.9 +0.2
baz=9.0
NTST *e*S Sn 20 27 10.9 +1.9
baz=9.0
SMST Manzhou Townsh 1.70 205 *e*P Pn 20 26 50.9 -0.2
baz=194
TWY Chenhua 1.70 360 *e*P Pn 20 26 51.1 0.0
baz=1.0
HEN Hengchun 1.75 207 *e*P Pn 20 26 53.0 +1.2
baz=195
TWK1 Hengchun 1.78 205 *e*P Pn 20 26 51.4 -0.9
baz=194
TWKBT Hengchun 1.78 204 *e*P Pn 20 26 51.4 -0.8
baz=194
TSEB Hengchuen, Pin 1.79 202 *e*P Pn 20 26 51.9 -0.4
baz=193
WDGT Dungji 1.81 261 *e*P Pn 20 26 52.4 -0.3
baz=259
PHUB P'eng-hu 1.87 269 *e*P Pn 20 26 53.0 -0.4
baz=267
PHUB *e*S Sn 20 27 14.3 -1.5
baz=267
PNG Penghu 1.88 270 *e*P Pn 20 26 53.2 -0.4
baz=269
PNG *e*S Sn 20 27 14.9 -1.2
baz=269
VCHM Qimei 2.03 260 *e*P Pn 20 26 54.1 -1.6
baz=259
HATJ Hateruma jima 2.07 76 P Pn 20 26 56.8 +0.6
HATJ *e*S Sn 20 27 21.4 +0.6
IRIF Iriomote-Funau 2.09 68 P Pn 20 26 56.8 +0.3
IRIF S Sn 20 27 22.4 +1.3
PCYT Pengchaiyu 2.09 12 *e*P Pn 20 26 57.0 +0.5
baz=2.0
JKRS Kuro-shima 2.30 73 P Pn 20 27 00.3 +0.9
JKRS S Sn 20 27 28.1 +1.7
VWUC VWUC 2.42 306 *e*P Pn 20 26 59.2 -1.9
baz=306
JIJ Ishigaki jima 2.45 71 *i* P Pn 20 27 01.7 +0.2
JIJ S Sn 20 27 29.6 -0.6
JISG Ishigakijimahi 2.67 67 *i* P Pn 20 27 04.6 +0.1
JISG S Sn 20 27 34.7 -0.9
PTMZ Houxiangcun 2.70 303 *e*P Pn 20 27 03.9 -1.0
baz=302
KNM Kinmen 3.02 287 *e*P Pn 20 27 09.3 0.0
baz=284
JTJ Tarama 3.02 69 P Pn 20 27 09.6 +0.3
JTJ S Sn 20 27 44.2 0.0
KNMB Chin-men Tao 3.07 287 *e*P Pn 20 27 09.1 -1.0
baz=286
MHZQ Yeshan 3.44 318 *e*P Pn 20 27 13.6 -1.4
baz=317
JIRB Irabujima 3.49 68 P Pn 20 27 15.8 +0.1
JIRB S Sn 20 27 55.2 -0.6
AXDP Jialang 3.57 292 *e*P Pn 20 27 16.1 -0.8
baz=291
JIKM Ikemajima 3.59 67 *e*P Pn 20 27 17.1 0.0
JIKM S Sn 20 27 58.0 -0.2
JMJ2 Miyako jima3 3.59 70 P Pn 20 27 17.9 +0.7
JMJ2 *e*S Sn 20 27 58.6 +0.2
JOGS Gusukube 3.67 70 P Pn 20 27 19.2 +1.0
JOGS *e*S Sn 20 28 00.7 +0.4
DSXP Dongshan 3.84 273 *e*P Pn 20 27 20.1 -0.4
baz=272

NOU ***18*** *20:36:41.5, 19°.055S×169°.65E, h211km, mb4.4/28, Vanuatu Islands*
NEIC ***18*** *20:36:42.0±1.6, 18°.8S±0°.1×169°.3E±0°.1, h196km±11km, mb4.4/22, Error ellipse: s-maj=16.6km s-min=15.5km az=137.0*
IDC ***18*** *20:36:43.4±3.0, 18°.97S×169°.34E, h212km±27km, mb3.7/12, mbtmp4.2/13, Error ellipse: s-maj=22.1km s-min=19.6km az=155.0*

ISC 18 20:36:42.4±0.6, **19°.03S**±0°.06×**169°.31E**±0°.09, **h200**km, **n72**, σ1**s46**/75, **mb4.1**/22, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**1.49**	**326**	P	**Pn**	**20 37 18.5**	**+2.5**
DVP	**Devils Point**	**1.68**	**321**	P	**Pn**	**20 37 20.0**	**+2.3**
LIFNC	**LIFOU**	**2.61**	**228**		**Pn**	**20 37 28.4**	**+0.9**
LIFNC				Sn	**Sn**	**20 37 59.9**	**-2.8**
LIFNC	**LIFOU**	**2.61**	**228**	P	**Pn**	**20 37 28.5**	**+1.1**
MARNC	**Mare, Loyalty**	**2.71**	**206**		**Pn**	**20 37 30.0**	**+1.4**
MARNC				Sn	**Sn**	**20 38 05.8**	**+0.8**
MARNC	**Mare, Loyalty**	**2.71**	**206**	P	**Pn**	**20 37 30.1**	**+1.4**
YATNC	**Mamie plateau,**	**3.77**	**216**	P	**Pn**	**20 37 41.9**	**+0.6**
DZM	**Mont Dzumac**	**4.04**	**221**	P	**Pn**	**20 37 47.0**	**+2.2**
	22nm,0.4s,baz=144,slow=20,SNR=26						
DZM				S	**Sn**	**20 38 32.6**	**-1.3**
	16nm,0.6s,baz=292,slow=23,SNR=1.6						
DZM	**Mont Dzumac**	**4.04**	**221**		**Pn**	**20 37 46.5**	**+1.8**
DZM				Sn	**Sn**	**20 38 32.5**	**-1.3**
DZM	**Mont Dzumac**	**4.04**	**221**	P	**Pn**	**20 37 47.1**	**+2.3**
OUENC	**Ouen Island, N**	**4.08**	**214**	Pn	**Pn**	**20 37 47.7**	**+2.5**
OUENC	**Ouen Island, N**	**4.08**	**214**	P	**Pn**	**20 37 46.9**	**+1.7**
ONTNC	**Ouen Toro**	**4.21**	**219**		**Pn**	**20 37 48.8**	**+2.0**
ONTNC	**Ouen Toro**	**4.21**	**219**	P	**Pn**	**20 37 49.3**	**+2.5**
KOUNC	**Koumac, New Ca**	**4.96**	**251**	Pn	**Pn**	**20 37 58.4**	**+2.1**
OUZ	**Omahuta**	**16.57**	**168**		**P**	**20 40 23.5**	**+1.0**
ARMA	**Armidale**	**19.63**	**231**	P	**P**	**20 40 56.3**	**+0.4**
ARMA				IAmb	IAmb	20 41 05.6	
	comp=Z,23nm,1.4s						
HIZ	**Hauiti**	**20.00**	**167**	P	**P**	**20 41 02.3**	**+2.6**
MXZ	**Matakaoa Point**	**20.07**	**159**	P	**P**	**20 41 01.9**	**+1.4**
CTA	**Charters Tower**	**21.75**	**263**	P	**P**	**20 41 18.7**	**+0.5**
	comp=Z,9.3nm,1.1s,baz=113,slow=7.7,SNR=1.7						
	comp=Z,9.3nm,1.1s						
CTAO	**Charters Tower**	**21.75**	**263**	P	**P**	**20 41 18.9**	**+0.6**
CTAO				IAmb	IAmb	20 41 46.1	
	comp=Z,29nm,1.5s						
SNZO	**South Karori**	**22.68**	**169**	P	**P**	**20 41 22.7**	**-4.0**
CNB	**Canberra Magne**	**23.96**	**223**	P	**P**	**20 41 40.7**	**+2.1**
CMSA	**Cobar Meteorol**	**24.66**	**235**	P	**P**	**20 41 46.1**	**+1.3**
ODZ	**Otahua Downs**	**25.96**	**178**	P	**P**	**20 41 54.1**	**-2.3**
	comp=Z,57nn,2.4s						
STKA	**Stephens Creek**	**28.01**	**237**	P	**P**	**20 42 16.1**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=64,slow=8.5,SNR=15						
	comp=Z,3.1nm,0.6s						
STKA	**Stephens Creek**	**28.01**	**237**	P	**P**	**20 42 15.8**	**+1.0**
STKA	**Stephens Creek**	**28.01**	**237**	P	**P**	**20 42 16.8**	**+2.0**
LCRK	**Leigh Creek**	**30.34**	**242**	P	**P**	**20 42 36.6**	**+1.2**
OOD	**Oodnadatta**	**31.98**	**248**	P	**P**	**20 42 51.0**	**+1.2**
BBOO	**Buckleboo**	**32.75**	**239**	P	**P**	**20 42 57.4**	**+0.9**
BBOO				IAmb	IAmb	20 42 59.5	
	comp=Z,28nm,1.4s						
BBOO	**Buckleboo**	**32.75**	**239**	P	**P**	**20 42 57.3**	**+0.8**
WR0	**Warramunga Arr**	**32.75**	**263**	P	**P**	**20 42 55.0**	**-1.7**
WB0	**Warramunga Arr**	**32.91**	**263**	P	**P**	**20 42 57.2**	**-0.8**
WB0				IAmb	IAmb	20 42 58.1	
	comp=Z,6.0nm,1.2s						
WB2	**Warramunga Arr**	**32.93**	**263**	P	**P**	**20 42 57.3**	**-1.0**
WB2				IAmb	IAmb	20 43 35.0	
	comp=Z,6.3nm,1.2s						
WRAB	**Tennant Creek**	**32.93**	**263**	P	**P**	**20 42 57.3**	**-1.0**
WRAB				IAmb	IAmb	20 42 58.0	
	comp=Z,5.1nm,1.1s						
WRAB	**Tennant Creek**	**32.93**	**263**	P	**P**	**20 42 57.5**	**-0.7**
WRA	**Warramunga Arr**	**32.94**	**263**	P	**P**	**20 42 57.8**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=81,slow=5.9,SNR=57						
	comp=Z,0.9nm,0.4s						
WRA	**Warramunga Arr**	**32.94**	**263**	P	**P**	**20 42 55.1**	**-3.3**
AS01	**Alice Springs**	**33.20**	**256**	P	**P**	**20 43 00.8**	**+0.3**
AS31	**Alice Springs**	**33.24**	**256**	P	**P**	**20 43 00.8**	**0.0**
ASAR	**Alice Springs**	**33.24**	**256**	P	**P**	**20 43 00.9**	**+0.1**
	comp=Z,9.6nm,0.4s,baz=82,slow=8.8,SNR=263						
	comp=Z,9.6nm,0.4s						
ASAR	**Alice Springs**	**33.24**	**256**	P	**P**	**20 43 00.5**	**-0.4**
MULG	**Mulgathing**	**33.80**	**244**	P	**P**	**20 43 06.3**	**+0.6**
MTN	**Manton Dam**	**37.16**	**274**	P	**P**	**20 43 33.9**	**-0.5**
MTN				IAmb	IAmb	20 44 05.3	
	comp=Z,27nn,1.4s						
WRKA	**Warakurna**	**38.37**	**254**	P	**P**	**20 43 44.7**	**+0.2**
KNRA	**Kununurra**	**38.78**	**268**	P	**P**	**20 43 47.6**	**-0.4**
KNRA	**Kununurra**	**38.78**	**268**	P	**P**	**20 43 47.2**	**-0.7**
	comp=Z,14nn,1.0s						
FORT	**Forrest**	**38.99**	**244**	P	**P**	**20 43 49.7**	**+0.2**
FORT	**Forrest**	**38.99**	**244**	P	**P**	**20 43 49.8**	**+0.2**
PSA00	**Pilbara Seismi**	**46.30**	**258**	P	**P**	**20 44 48.7**	**+0.2**
PSA00	**Pilbara Seismi**	**46.30**	**258**	P	**P**	**20 44 49.0**	**+0.5**
PSA00				IAmb	IAmb	20 45 06.9	
	comp=Z,13nm,1.1s						
MBWA	**Marble Bar**	**46.46**	**259**	P	**P**	**20 44 49.6**	**-0.1**
MBWA				IAmb	IAmb	20 45 03.7	
	comp=Z,22nn,1.3s						
MEEK	**Meekatharra**	**47.08**	**251**	P	**P**	**20 44 54.8**	**+0.3**
LUWI	**Luwuk**	**48.96**	**286**	P	**P**	**20 45 07.2**	**-1.8**
LUWI				IAmb	IAmb	20 45 32.8	
	comp=Z,17nn,0.8s						
VNDA	**Vanda**	**58.64**	**182**	P	**P**	**20 46 18.8**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=358,slow=8.1,SNR=5.6						
	comp=Z,0.6nm,0.5s						
VNDA	**Vanda**	**58.64**	**182**	P	**P**	**20 46 18.8**	**+0.7**
SBA	**Scott Base**	**58.87**	**181**	P	**P**	**20 46 21.3**	**+1.6**
QSPA	**South Pole Qui**	**71.02**	**180**	P	**P**	**20 47 37.7**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=4.5,slow=3.9,SNR=3.0						
	comp=Z,2.9nm,0.7s						
PETK	**Petropavlovsk-**	**72.54**	**353**	P	**P**	**20 47 47.0**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=147,slow=6.0,SNR=2.6						
	comp=Z,3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**78.48**	**294**	P	**P**	**20 48 22.6**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=128,slow=4.5,SNR=6.8						
	comp=Z,0.8nm,0.8s						
SONM	**Songino Array**	**87.09**	**323**	P	**P**	**20 49 05.7**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=160,slow=5.7,SNR=4.0						
	comp=Z,1.7nm,0.8s						
NVAR	**Mina Array Bea**	**88.62**	**48**	P	**P**	**20 49 13.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=235,slow=7.6,SNR=2.0						
	comp=Z,0.4nm,0.5s						
TROLL	**Troll, Antarti**	**88.75**	**184**	P	**P**	**20 49 12.8**	**-0.3**
SNAA	**Sanae**	**89.37**	**182**	P	**P**	**20 49 14.8**	**-1.1**
VNA3	**Neumayer Olymp**	**89.96**	**180**	P	**P**	**20 49 17.7**	**-0.9**
ILAR	**Eielson Array**	**90.02**	**17**	P	**P**	**20 49 16.9**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=238,slow=4.8,SNR=10						
	comp=Z,0.8nm,0.7s						
VNA2	**Neumayer--Watz**	**90.25**	**181**	P	**P**	**20 49 19.2**	**-0.7**
	baz=177,slow=5.0						
TXAR	**Lajitas Array**	**96.61**	**61**	P	**P**	**20 49 50.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=207,slow=9.8,SNR=3.6						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**101.63**	**316**	P	**Pdif**	**20 50 13.1**	**+1.2**
	comp=Z,0.2nn,0.5s,baz=89,slow=6.7,SNR=1.4						
ARCES	**ARCESS Array B**	**124.88**	**345**	PKP	**PKPdf**	**20 55 16.0**	**-1.8**
	comp=Z,3.0nm,0.9s,baz=40,slow=3.0,SNR=13						
GERES	**GERESS Array B**	**144.34**	**332**	PKP	PKPbc	20 55 52.9	-0.7
	comp=Z,0.9nm,0.6s,baz=47,slow=5.9,SNR=6.9						

IDC 18 20:37:40.3±6.1, **30°.82S**×**179°.41W**, **h0**km, **mb3.7**/2, **mbtmp3.7**/2, **Error ellipse: s-maj=245.5km s-min=55.5km az=156.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.88**	**268**	P	P	20 45 32.0	-0.5
	0.5nm,0.5s,baz=106,slow=7.4,SNR=6.5						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**42.91**	**273**	P	P	20 45 41.1	+0.2
	0.7nm,0.4s,baz=113,slow=7.7,SNR=19						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**145.11**	**339**	PKPbc	PKPbc	20 57 17.6	-0.8
	3.6nm,0.9s,baz=48,slow=2.8,SNR=9.2						

WEL 18 20:43:23.6±0.4, **42°.5S**×**17°.4E**, **h10**km±4km, **M2.7**/22, **ML2.9**/13, **MLv2.7**/22, **Error ellipse: s-maj=0.0km s-min=0.0km az=136.1, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**7**	P	Pg	20 43 27.7	+0.9
CMWZ				S	Sg	20 43 31.6	+2.6
BSWZ	**Blackbirch Sta**	**0.29**	**307**	P	Pg	20 43 29.9	+0.4
TUWZ	**Tuamarina**	**0.50**	**338**	P	Pg	20 43 33.8	+0.5
TUWZ				S	Sb	20 43 41.1	-0.7
TCW	**Tory Channel**	**0.68**	**5**	P	Pg	20 43 36.9	+0.1
KHZ	**Kahutara**	**0.71**	**222**	P	Pb	20 43 38.3	+0.1
WEL	**Wellington**	**0.74**	**36**	P	Pb	20 43 38.6	0.0
PLWZ	**Palliser**	**0.86**	**68**	P	Pb	20 43 40.4	-0.2
NNZ	**Nelson**	**0.91**	**318**	P	Pg	20 43 41.0	-0.1
MSWZ	**Moikau Station**	**0.93**	**60**	P	Pg	20 43 41.3	-0.1
THZ	**Tophouse**	**0.97**	**277**	P	Pg	20 43 42.4	+0.1
CAW	**Cannon Point**	**1.02**	**40**	P	Pg	20 43 43.1	-0.1
PAWZ	**Paruwai Farm**	**1.06**	**62**	P	Pg	20 43 42.9	-1.0
DUWZ	**D'Urville Isla**	**1.11**	**349**	P	Pg	20 43 44.3	-0.5
KIW	**Kapiti Island**	**1.16**	**28**	P	Pb	20 43 45.4	-0.3
MRNZ	**Matariki Terra**	**1.18**	**294**	P	Pg	20 43 46.4	+0.2
MTW	**Mount Morrison**	**1.23**	**54**	P	Pn	20 43 45.3	-1.6
TKNZ	**Takaka Hill**	**1.26**	**312**	P	Pn	20 43 47.2	-0.1
OGWZ	**Otaki Gorge**	**1.30**	**35**	P	Pn	20 43 47.0	-0.9
GVZ	**Greta Valley S**	**1.38**	**218**	P	Pn	20 43 47.6	-1.3
HOWZ	**Holdsworth Sta**	**1.41**	**46**	P	Pn	20 43 46.7	-2.6
TMWZ	**Te Maipa**	**1.50**	**59**	P	Pn	20 43 48.6	-2.0
MRZ	**Mangatainoka R**	**1.61**	**41**	P	Pn	20 43 50.9	-1.3
LTZ	**Lake Taylor**	**1.68**	**237**	P	Pn	20 43 52.5	-0.6
PRWZ	**Pori Road**	**1.89**	**46**	P	Pn	20 43 53.7	-2.3
BFZ	**Birch Farm**	**1.96**	**53**	P	Pn	20 43 55.8	-1.2
INZ	**Inchbonnie**	**2.20**	**247**	P	Pn	20 44 01.8	+1.6
PNHZ	**Pukenui**	**2.49**	**38**	P	Pn	20 44 02.4	-1.9
KHEZ	**Kahui Hut**	**2.60**	**357**	P	Pb	20 44 10.0	-0.3
BHHZ	**Black Hill Sta**	**2.79**	**31**	P	Pb	20 44 13.0	-0.6
NGZ	**Ngauruhoe**	**2.92**	**22**	P	Pb	20 44 14.8	-1.0
KRVZ	**Karewarewa**	**3.00**	**22**	P	Pn	20 44 13.4	+2.1
RAGZ	**Rawiri**	**4.19**	**37**	P	Pn	20 44 24.8	-2.9

IDC ***18*** *20:44:22.1±2.1, 42°.61S×173°.50E, h0km, mb3.8/3, mbtmp3.9/4, ML4.4/1, Error ellipse: s-maj=62.1km s-min=38.6km az=151.0*
NOU ***18*** *20:44:25.1, 42°.67S×173°.31E, h0km, MLv4.6/11, South Island, New Zealand*
WEL ***18*** *20:44:26.4±0.3, 43°.5S±2°.×17°.3E±°, h5km, M4.2/59, ML4.3/17, MLv4.2/59, Error ellipse: s-maj=0.0km s-min=0.0km az=119.0*

ISC 18 20:44:26.2±0.7, **42°.63S**±0°.03×**173°.28E**±0°.04, **h10**km, **n119**, σ1**s29**/122, **mb3.5**/3, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.29**	**42**	P	**Pg**	**20 44 32.1**	**+0.1**
KHZ				S	**Sg**	**20 44 36.5**	**+0.6**
GVZ	**Greta Valley S**	**0.38**	**208**	P	**Pg**	**20 44 35.3**	**+1.5**
GVZ				S	**Sb**	**20 44 42.9**	**+1.8**
AMCZ	**Amberley**	**0.72**	**220**	P	**Pg**	**20 44 41.4**	**+1.3**
LTZ	**Lake Taylor**	**0.76**	**258**	P	**Pg**	**20 44 40.1**	**-0.8**
THZ	**Tophouse**	**0.91**	**342**	P	**Pg**	**20 44 41.7**	**-2.0**
BSWZ	**Blackbirch Sta**	**1.02**	**26**	P	**Pg**	**20 44 45.0**	**-0.7**
OKCZ	**Okains Bay**	**1.10**	**188**	P	**Pg**	**20 44 47.4**	**0.0**
CMWZ	**Cape Campbell**	**1.12**	**39**	P	**Pb**	**20 44 48.3**	**+0.7**
OXZ	**Oxford**	**1.15**	**232**	P	**Pb**	**20 44 47.5**	**-0.6**
MQZ	**McQueen's Vall**	**1.17**	**203**	P	**Pb**	**20 44 47.6**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.27**	**192**	P	**Pn**	**20 44 49.4**	**-0.6**
MRNZ	**Matariki Terra**	**1.29**	**342**	P	**Pn**	**20 44 48.7**	**-1.6**
TUWZ	**Tuamarina**	**1.30**	**23**	P	**Pn**	**20 44 49.9**	**-0.5**
INZ	**Inchbonnie**	**1.36**	**265**	P	**Pn**	**20 44 50.3**	**-0.9**
RACZ	**Rakaia**	**1.38**	**217**	P	**Pn**	**20 44 50.7**	**-0.8**
DSZ	**Denniston Nort**	**1.41**	**308**	P	**Pn**	**20 44 51.2**	**-0.8**
NNZ	**Nelson**	**1.41**	**3**	P	**Pn**	**20 44 50.7**	**-1.3**
MHCZ	**Mount Hutt**	**1.54**	**234**	P	**Pn**	**20 44 52.7**	**-1.1**
TCW	**Tory Channel**	**1.60**	**28**	P	**Pn**	**20 44 54.0**	**-0.5**
TKNZ	**Takaka Hill**	**1.61**	**351**	P	**Pn**	**20 44 54.1**	**-0.6**
WACZ	**Wakanui South**	**1.68**	**218**	P	**Pn**	**20 44 54.9**	**-0.8**
WEL	**Wellington**	**1.74**	**40**	P	**Pn**	**20 44 56.1**	**-0.4**
PLWZ	**Palliser**	**1.81**	**55**	P	**Pn**	**20 44 56.6**	**-0.9**
DUWZ	**D'Urville Isla**	**1.89**	**15**	P	**Pn**	**20 44 58.5**	**0.0**
QRZ	**Quartz Range**	**1.89**	**342**	P	**Pn**	**20 44 58.3**	**-0.2**
QRZ	**Quartz Range**	**1.89**	**342**	P	**Pn**	**20 44 58.4**	**-0.1**
MSWZ	**Moikau Station**	**1.90**	**51**	P	**Pn**	**20 44 57.7**	**-1.0**
WVZ	**Waitaha Valley**	**1.92**	**256**	P	**Pn**	**20 44 58.5**	**-0.4**
RPZ	**Rata Peaks**	**1.96**	**236**	Pn	**Pn**	**20 44 58.5**	**-1.0**
	132nm,0.3s,baz=72,slow=2.3,SNR=196						
RPZ				Sn	**Sn**	**20 45 22.4**	**-1.7**
	55nm,0.3s,baz=354,slow=19,SNR=4.9						
	511nm,0.4s						
RPZ	**Rata Peaks**	**1.96**	**236**	P	**Pn**	**20 44 58.4**	**-1.0**
RPZ	**Rata Peaks**	**1.96**	**236**	P	**Pn**	**20 44 58.5**	**-1.0**
ARCZ	**Arundel**	**2.02**	**229**	P	**Pn**	**20 44 59.5**	**-0.9**
CAW	**Cannon Point**	**2.02**	**42**	P	**Pn**	**20 44 59.6**	**-0.8**
PAWZ	**Paruwai Farm**	**2.03**	**53**	P	**Pn**	**20 44 59.2**	**-1.3**
KIW	**Kapiti Island**	**2.15**	**35**	P	**Pn**	**20 45 01.6**	**-0.5**
TRWZ	**Traveller**	**2.17**	**56**	P	**Pn**	**20 45 01.5**	**-1.0**
MTW	**Mount Morrison**	**2.22**	**49**	P	**Pn**	**20 45 01.8**	**-1.2**
GCSZ	**Gaunt Creek Bo**	**2.27**	**251**	P	**Pn**	**20 45 04.2**	**+0.3**
OGWZ	**Otaki Gorge**	**2.30**	**39**	P	**Pn**	**20 45 03.3**	**-0.8**
HOWZ	**Holdsworth Sta**	**2.41**	**45**	P	**Pn**	**20 45 04.5**	**-1.1**
TMZ	**Timaru**	**2.41**	**223**	P	**Pn**	**20 45 05.5**	**-0.2**
TMWZ	**Te Maipa**	**2.47**	**53**	P	**Pn**	**20 45 05.1**	**-1.4**
MRZ	**Mangatainoka R**	**2.62**	**42**	P	**Pn**	**20 45 07.2**	**-1.3**
FOZ	**Fox Glacier**	**2.69**	**249**	P	**Pn**	**20 45 09.7**	**+0.2**
LBZ	**Lake Benmore**	**2.86**	**231**	P	**Pn**	**20 45 11.1**	**-0.8**
PRWZ	**Pori Road**	**2.89**	**45**	P	**Pn**	**20 45 11.4**	**-0.9**
POWZ	**Post Office Ro**	**2.91**	**41**	P	**Pn**	**20 45 11.6**	**-1.0**
BFZ	**Birch Farm**	**2.95**	**50**	P	**Pn**	**20 45 11.5**	**-1.6**
ODZ	**Otahua Downs**	**3.08**	**217**	P	**Pn**	**20 45 14.7**	**-0.1**
ODZ	**Otahua Downs**	**3.08**	**217**	P	**Pn**	**20 45 13.9**	**-1.0**
WAZ	**Wanganui**	**3.15**	**25**	P	**Pn**	**20 45 17.4**	**+1.6**
DVHZ	**Dannevirke**	**3.18**	**44**	P	**Pn**	**20 45 14.3**	**-2.0**
NMZ	**Namu Road**	**3.25**	**8**	P	**Pn**	**20 45 19.2**	**+2.0**
LREZ	**Lake Rotokare**	**3.28**	**15**	P	**Pn**	**20 45 19.4**	**+1.8**
KHEZ	**Kahui Hut**	**3.38**	**10**	P	**Pn**	**20 45 21.3**	**+2.2**
NBEZ	**Newall Road No**	**3.39**	**8**	P	**Pn**	**20 45 20.3**	**+1.2**
NEZ	**North Egmont**	**3.41**	**11**	P	**Pn**	**20 45 22.5**	**+2.9**
PKE	**Pukeiti**	**3.47**	**9**	P	**Pn**	**20 45 22.0**	**+1.7**
PNHZ	**Pukenui**	**3.49**	**40**	P	**Pn**	**20 45 18.7**	**-1.9**
DREZ	**Durham Road**	**3.51**	**12**	P	**Pn**	**20 45 23.9**	**+3.1**
JCZ	**Jackson Bay**	**3.58**	**245**	P	**Pn**	**20 45 21.8**	**-0.1**
JCZ	**Jackson Bay**	**3.58**	**245**	P	**Pn**	**20 45 21.3**	**-0.6**
MHEZ	**Mangahewa**	**3.64**	**13**	P	**Pn**	**20 45 26.3**	**+3.7**
VRZ	**Vera Road**	**3.68**	**18**	P	**Pn**	**20 45 24.1**	**+1.0**
PKVZ	**Pokaka**	**3.69**	**26**	P	**Pn**	**20 45 23.8**	**+0.5**
MOVZ	**Moawhango**	**3.72**	**31**	P	**Pn**	**20 45 23.1**	**-0.7**
WNVZ	**Wahianoa**	**3.74**	**29**	P	**Pn**	**20 45 24.4**	**+0.3**
TRVZ	**Turoa**	**3.74**	**28**	P	**Pn**	**20 45 24.2**	**0.0**
WHVZ	**Whangaehu Hut**	**3.77**	**28**	P	**Pn**	**20 45 24.7**	**+0.1**
BHHZ	**Black Hill Sta**	**3.78**	**35**	P	**Pn**	**20 45 24.0**	**-0.6**
HHSZ	**Highcliff Hill**	**3.78**	**210**	P	**Pn**	**20 45 24.3**	**-0.2**
FWVZ	**Far West T-bar**	**3.79**	**28**	P	**Pn**	**20 45 24.9**	**+0.1**
WKZ	**Wanaka**	**3.79**	**233**	P	**Pn**	**20 45 23.5**	**-1.2**
EAZ	**Earnscleugh**	**3.87**	**226**	P	**Pn**	**20 45 25.0**	**-0.8**
NGZ	**Ngauruhoe**	**3.87**	**28**	P	**Pn**	**20 45 26.0**	**0.0**
OTVZ	**Oturere**	**3.91**	**28**	P	**Pn**	**20 45 26.6**	**+0.2**
TWVZ	**Taurewa**	**3.91**	**25**	P	**Pn**	**20 45 26.4**	**0.0**
NNVZ	**North Ngauruho**	**3.92**	**28**	P	**Pn**	**20 45 26.8**	**+0.2**
KAHZ	**Kahuranaki**	**3.92**	**45**	P	**Pn**	**20 45 25.7**	**-0.9**
WTVZ	**West Tongariro**	**3.92**	**27**	P	**Pn**	**20 45 26.4**	**-0.2**
ETVZ	**East Tongariro**	**3.95**	**29**	P	**Pn**	**20 45 26.0**	**-0.9**
KRVZ	**Karewarewa**	**3.96**	**28**	P	**Pn**	**20 45 29.1**	**+2.0**
BKZ	**Black Stump Fm**	**4.23**	**36**	P	**Pn**	**20 45 28.8**	**-2.0**
HIZ	**Hauiti**	**4.28**	**17**	P	**Pn**	**20 45 32.6**	**+1.1**
HIZ	**Hauiti**	**4.28**	**17**	P	**Pn**	**20 45 32.2**	**+0.8**
MSZ	**Milford Sound**	**4.39**	**240**	P	**Pn**	**20 45 31.5**	**-1.4**
MLZ	**Mavora Lakes**	**4.62**	**232**	P

WRAB IAmb IAmb 20 58 55.4
comp=Z,10nm,1.3s
WRA Warramunga Arr 43.97 263 P **P** **20 58 54.3 -0.5**
comp=Z,1.3nm,0.5s,baz=97,slow=6.8,SNR=51
comp=Z,1.3nm,0.5s
KNRA Kununurra 50.07 267 P **P** **20 59 40.9 +0.3**
MBWA Marble Bar 57.17 258 P **P** **21 00 30.4 -0.1**
MBWA IAmb IAmb 21 01 05.2
comp=Z,11nm,1.0s
VNDA Vanda 57.20 185 P **P** **21 00 31.4 +1.7**
AKASG Malin Array Be 143.32 330 PKP PKPab 21 10 03.5 -0.9
comp=Z,0.6nm,0.4s,baz=35,slow=3.4,SNR=5.2
BRTR Keskin Array B 146.87 311 PKPbc **PKPbc** **21 10 15.8 +0.3**
comp=Z,0.6nm,0.8s,baz=36,slow=3.7,SNR=2.4

IDC ***18*** *20:51:57.5±2.4, 16.˚73N×148.˚76E, h0km, mb3.7/8, mbtmp3.8/9, ML4.2/1, Error ellipse: s-maj=67.5km s-min=19.7km az=87.0*
NEIC ***18*** *20:52:02.5±2.2, 16.˚7N±0.˚1×148.˚7E±0.˚1, h35km±6km, mb4.5/7, Error ellipse: s-maj=16.7km s-min=13.4km az=212.0*
ISC 18 20:52:02.1±0.9, 16.˚60N±0.˚08×148.˚6E±0.˚1, h35km, n20, σ1§49/21, mb4.0/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.70**	**231**	Pn	**Pn**	**20 53 11.3**	**+0.7**
	9.1nm,0.3s,baz=166,slow=12,SNR=6.3						
GUMO				Sn	**Sn**	**20 54 00.4**	**-3.5**
	7.0nm,0.3s,baz=65,slow=6.4,SNR=3.0						
	76nm,0.8s						
GUMO	**Guam**	**4.70**	**231**	Pn	**Pn**	**20 53 11.0**	**+0.4**
JCJ	**Chichijima**	**12.03**	**331**	Pn	**Pn**	**20 54 50.0**	**-1.2**
PATS	**Pohnpei**	**13.56**	**135**	Pn	**Pn**	**20 55 10.5**	**-1.6**
JGF	**Kuroka**	**21.43**	**334**	P	**P**	**20 56 44.6**	**-2.6**
JGF				IAmb	IAmb	20 56 53.5	
	comp=Z,17nm,1.0s						
MJAR	**Matsushiro Arr**	**21.91**	**337**	P	**P**	**20 56 51.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=166,slow=10,SNR=3.9						
	comp=Z,1.1nm,0.6s						
YHNB	**Yeheng**	**26.70**	**292**	P	**P**	**20 57 38.0**	**-0.3**
SSLB	**Suanglung**	**26.90**	**290**	P	**P**	**20 57 39.5**	**-0.6**
SSLB				IAmb	IAmb	20 58 01.8	
	comp=Z,27nm,1.5s						
KSRS	**Korea Array**	**27.66**	**323**	P	**P**	**20 57 46.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=149,slow=8.4,SNR=2.7						
	comp=Z,0.4nm,0.3s						
LUWI	**Luwuk**	**30.95**	**238**	P	**P**	**20 58 16.6**	**+0.5**
LUWI				IAmb	IAmb	20 58 22.4	
	comp=Z,18nm,1.2s						
WRAB	**Tennant Creek**	**38.92**	**202**	P	**P**	**20 59 25.8**	**+1.1**
WRAB				IAmb	IAmb	20 59 48.4	
	comp=Z,8.4nm,1.4s						
WB2	**Warramunga AR**	**38.93**	**202**	P	**P**	**20 59 25.7**	**+1.0**
WRA	**Warramunga Arr**	**38.93**	**202**	P	**P**	**20 59 27.1**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=26,slow=9.2,SNR=11						
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**42.52**	**200**	P	**P**	**20 59 55.7**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=27,slow=8.6,SNR=5.7						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**46.52**	**321**	P	**P**	**21 00 27.1**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=126,slow=7.3,SNR=1.9						
	comp=Z,0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**47.29**	**280**	P	**P**	**21 00 34.4**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=69,slow=6.4,SNR=9.4						
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**61.37**	**323**	P	**P**	**21 02 14.4**	**0.0**
	comp=Z,1.4nm,0.8s,baz=99,slow=7.7,SNR=6.5						
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**61.92**	**314**	P	**P**	**21 02 19.0**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=91,slow=6.7,SNR=2.7						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**61.92**	**314**	P	**P**	**21 02 19.4**	**+1.1**
KURK	**Kurchatov**	**64.69**	**319**	P	**P**	**21 02 36.2**	**-0.3**
KURK				IAmb	IAmb	21 02 39.4	
	comp=Z,3.8nm,1.0s						

IDC 18 20:52:46.7±39.0, 35.˚98N×72.˚35E, h324km±285km, mb3.3/1, mbtmp3.6/3, ML3.1/2, MS3.9/2, Error ellipse: s-maj=679.8km s-min=114.3km az=161.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.12**	**32**	P	P	20 55 41.6	-0.1
	0.1nm,0.3s,baz=214,slow=11,SNR=4.3						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**19.96**	**22**	P	P	20 56 55.4	-0.2
	0.4nm,0.3s,baz=213,slow=11,SNR=7.7						
	1.1nm,0.5s						
IDI	**Anoyia**	**38.28**	**283**	LR	LR	21 19 40.2	
	comp=Z,99nm,19.7s,baz=360,slow=42						
FINES	**FINESS Array B**	**38.52**	**326**	P	P	20 59 38.2	-0.2
	2.5nm,0.9s,baz=122,slow=10,SNR=1.1						
	2.5nm,0.9s						
KLR	**Kul'dur**	**44.57**	**54**	LR	LR	21 19 17.7	
	comp=Z,189nm,19.0s,baz=133,slow=36						

BJI ***18*** *20:54:45.2±0.0, 28.˚18S×176.˚97W, h9km, mb5.4/53, mB5.6/35, Ms5.0/44, Ms7 4.8/42*
NEIC ***18*** *20:54:47.0±2.8, 28.˚14S±0.˚07×177.˚0W±0.˚1, h10km±1km, mb5.5/176, Ms_20 5.1/222, Mww5.6, Error ellipse: s-maj=17.8km s-min=7.6km az=123.0*
NOU ***18*** *20:54:50.4, 28.˚80S×176.˚44W, h50km, ML5.4/115, Kermadec Islands Region*
IDC ***18*** *20:54:53.5±1.3, 28.˚16S×177.˚22W, h46km±10km, mb4.9/21, mbtmp5.2/21, MS4.8/50, Error ellipse: s-maj=13.6km s-min=9.9km az=102.0*
MOS ***18*** *20:54:54.6±1.3, 28.˚29S×177.˚49W, h39km, mb5.6/31, MS5.1/13, Error ellipse: s-maj=9.7km s-min=7.9km az=117.8*
GCMT ***18*** *20:54:56.0±0.1, 28.˚29S±0.˚01×176.˚90W±0.˚01, h51km, MW5.5/153, Moment Tensor Solution. s142,c234; s153,c274; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr1.69±.03; Mθθ0.45±.03; Mϕϕ-2.14±.03; Mrθ-1.18±.03; Mθϕ0.59±.02; Mϕr0.87±.03; Best double couple: Mo2.51300×10^17 NP1:ϕs323.00000°, δ65.00000°, λ63.00000°. NP2:ϕs194.00000°, δ36.00000°, λ134.00000°. Principal axes: T 2.4480, Plg60.0000°, Azm192.0000°; N 0.1250, Plg24.0000°, Azm336.0000°; P -2.5780, Plg16.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *20:54:57, 28.˚43S×177.˚13W, h14km, Moment Tensor Solution. Duration: 20s0 Moment tensor: Scale 10^17Nm; Mrr1.63; Mθθ0.21; Mϕϕ-1.84; Mrθ-1.82; Mθϕ0.16; Mϕr2.70; Fault plane solution: Mo3.70000×10^17 NP1: ϕs196.00000°, δ18.00000°, λ135.00000°. NP2: ϕs330.00000°, δ77.00000°, λ77.00000°. Principal axes: T 3.7791, Plg56.0000°, Azm224.0000°; N -0.1711, Plg13.0000°, Azm333.0000°; P -3.6080, Plg31.0000°, Azm71.0000°;*
ISC 18 20:54:52.6±0.5, 28.˚37S±0.˚04×177.˚18W±0.˚05, h44km±4km, n1133, σ1§84/951, mb5.5/196, MS5.1/187, 53C-22D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.09**	**216**	P	**Pn**	**20 55 14.3**	**+2.9**
	38µm,0.3s,baz=19,slow=1.9,SNR=401						
RAO				S	**Sn**	**20 55 30.3**	**+4.9**
	112µm,0.4s,baz=3.1,slow=24,SNR=17						
RAO				LR	LR	20 55 49.1	
	comp=Z,61µm,18.1s,baz=348,slow=45						
RAO	**Raoul Island**	**1.09**	**216**	Pn	**Pn**	**20 55 13.9**	**+2.4**
RAO				Sn	**Sn**	**20 55 30.1**	**+4.7**
RAO	**Raoul Island**	**1.09**	**216**	P	**Pn**	**20 55 14.9**	**+3.4**
RAO	**Raoul Island**	**1.09**	**216**	P	**Pn**	**20 55 13.9**	**+2.4**
RAO						20 55 30.1	
RIZ	**Raoul Island**	**1.09**	**217**	P	**Pn**	**20 55 14.7**	**+3.3**
RIZ				S	**Sn**	**20 55 31.4**	**+6.0**
GLKZ	**Green Lake**	**1.10**	**216**	P	**Pn**	**20 55 14.7**	**+3.1**
GLKZ				S	**Sn**	**20 55 31.1**	**+5.5**
MXZ	**Matakaoa Point**	**9.92**	**201**	Pn	Pn	20 57 07.3	-5.2
MXZ	**Matakaoa Point**	**9.92**	**201**	P	Pn	20 57 07.5	-5.0
OUZ	**Omahuta**	**10.40**	**227**		**Pn**	**20 57 22.7**	**+3.6**
NIUE	**Niue**	**11.38**	**37**	P	Pn	20 57 25.5	-7.1
	baz=11,SNR=12						
NIUE	**Niue**	**11.38**	**37**	Pn	Pn	20 57 24.2	-8.4
NIUE	**Niue**	**11.38**	**37**	P	Pn	20 57 26.1	-6.5
MSVF	**Nonsavu**	**11.46**	**336**	P	**Pn**	**20 57 36.9**	**+3.2**
	37nm,0.5s,baz=164,slow=12,SNR=15						
MSVF				LR	LR	21 01 22.7	
	comp=Z,6µm,19.2s,baz=150,slow=35						
MSVF	**Nonsavu**	**11.46**	**336**		**Pn**	**20 57 35.7**	**+2.0**
MSVF	**Nonsavu**	**11.46**	**336**	P	Pn	20 57 38.4	+4.7
MSVF	**Nonsavu**	**11.46**	**336**	P	**Pn**	**20 57 35.7**	**+2.0**
BKZ	**Black Stump Fm**	**11.98**	**204**	Pn	Pn	20 57 33.4	-7.3
BKZ	**Black Stump Fm**	**11.98**	**204**	P	Pn	20 57 36.2	-4.6
HIZ	**Hauiti**	**12.10**	**211**	Pn	**Pn**	**20 57 38.2**	**-4.1**
NGZ	**Ngauruhoe**	**12.33**	**207**	P	**P**	**20 57 56.8**	**-0.1**
BHHZ	**Black Hill Sta**	**12.43**	**205**	P	**Pn**	**20 57 43.4**	**-3.4**
VRZ	**Vera Road**	**12.65**	**210**	P	**P**	**20 57 59.4**	**-0.7**
PNHZ	**Pukenui**	**12.75**	**204**	P	**Pn**	**20 57 46.9**	**-4.3**
DVHZ	**Dannevirke**	**13.10**	**203**	P	**Pn**	**20 57 53.7**	**-2.4**
BFZ	**Birch Farm**	**13.42**	**202**	Pn	Pn	20 57 53.8	-6.6
BFZ	**Birch Farm**	**13.42**	**202**	P	**Pn**	**20 57 56.8**	**-3.5**
MRZ	**Mangatainoka R**	**13.63**	**204**	Pn	Pn	20 57 54.2	-9.0
MRZ	**Mangatainoka R**	**13.63**	**204**	P	Pn	20 57 56.7	-6.5
HOWZ	**Holdsworth Sta**	**13.86**	**204**	P	**Pn**	**20 58 02.0**	**-4.4**
OGWZ	**Otaki Gorge**	**13.92**	**205**	P	Pn	20 58 00.1	-7.0
TMWZ	**Te Maipa**	**13.92**	**202**	P	**Pn**	**20 58 03.0**	**-4.2**
KIW	**Kapiti Island**	**14.05**	**205**	P	Pn	20 58 04.1	-4.8
MTW	**Mount Morrison**	**14.10**	**203**	P	**Pn**	**20 58 06.6**	**-2.9**
CAW	**Cannon Point**	**14.21**	**205**	P	Pn	20 58 05.3	-5.7
PAWZ	**Paruwai Farm**	**14.32**	**203**	P	**Pn**	**20 58 08.7**	**-3.9**
DUWZ	**D'Urville Isla**	**14.40**	**208**	P	**Pn**	**20 58 12.1**	**-1.5**
MSWZ	**Moikau Station**	**14.41**	**203**		Pn	20 58 03.4	-10
SNZO	**South Karori**	**14.52**	**205**	Pn	Pn	20 58 04.2	-11
PLWZ	**Palliser**	**14.55**	**203**		Pn	20 58 05.4	-10
PLWZ	**Palliser**	**14.55**	**203**	P	Pn	20 58 10.0	-5.6
TCW	**Tory Channel**	**14.60**	**206**		Pn	20 58 06.0	-10
TCW	**Tory Channel**	**14.60**	**206**	P	Pn	20 58 10.9	-5.3
TUWZ	**Tuamarina**	**14.92**	**207**		Pn	20 58 10.2	-10
TUWZ	**Tuamarina**	**14.92**	**207**	P	Pn	20 58 15.2	-5.3
NNZ	**Nelson**	**14.97**	**209**		Pn	20 58 13.8	-7.3
TKNZ	**Takaka Hill**	**15.00**	**210**	P	**Pn**	**20 58 18.6**	**-3.0**
QRZ	**Quartz Range**	**15.03**	**212**	Pn	**Pn**	**20 58 18.2**	**-3.7**
QRZ	**Quartz Range**	**15.03**	**212**	P	**Pn**	**20 58 18.7**	**-3.2**
MARNC	**Mare, Loyalty**	**15.06**	**294**		**P**	**20 58 27.2**	**+0.1**
MARNC	**Mare, Loyalty**	**15.06**	**294**	P	**P**	**20 58 31.9**	**+4.9**
CMWZ	**Cape Campbell**	**15.08**	**205**		**Pn**	**20 58 20.3**	**-2.4**
CMWZ	**Cape Campbell**	**15.08**	**205**	P	**Pn**	**20 58 24.7**	**+2.1**
BSWZ	**Blackbirch Sta**	**15.19**	**206**		Pn	20 58 15.6	-8.4
AFI	**Afiamalu**	**15.24**	**20**	P	Pn	20 58 17.5	-7.4
	176nm,1.0s,baz=154,slow=6.3,SNR=10						
AFI				S	Sn	21 00 54.5	-18
	32nm,0.6s,baz=232,slow=16,SNR=1.8						
AFI	**Afiamalu**	**15.24**	**20**		Pn	20 58 16.8	-8.1
MRNZ	**Matariki Terra**	**15.38**	**210**		Pn	20 58 17.9	-8.7
MRNZ	**Matariki Terra**	**15.38**	**210**	P	**Pn**	**20 58 24.6**	**-2.0**
OUENC	**Ouen Island, N**	**15.60**	**289**	P	**Pn**	**20 58 30.2**	**+0.8**
THZ	**Tophouse**	**15.62**	**209**		Pn	20 58 22.4	-7.3
THZ	**Tophouse**	**15.62**	**209**	P	**Pn**	**20 58 26.1**	**-3.6**
KHZ	**Kahutara**	**15.91**	**206**	Pn	Pn	20 58 25.2	-8.2
KHZ	**Kahutara**	**15.91**	**206**	P	**Pn**	**20 58 28.9**	**-4.4**
ONTNC	**Ouen Toro**	**15.97**	**289**	P	**P**	**20 58 35.7**	**-1.5**
LIFNC	**LIFOU**	**16.05**	**295**	P	**Pn**	**20 58 35.9**	**+0.7**
LIFNC				IAmb	IAmb	20 58 42.4	
	comp=Z,288nm,1.2s						
LIFNC	**LIFOU**	**16.05**	**295**	P	P	20 58 45.6	+7.6
DZM	**Mont Dzumac**	**16.08**	**289**	P	**P**	**20 58 41.2**	**+2.7**
	comp=Z,48nm,1.0s,baz=107,slow=14,SNR=6.3						
DZM				LR	LR	21 03 29.8	
	comp=Z,7µm,22.0s,baz=124,slow=32						
DZM	**Mont Dzumac**	**16.08**	**289**	*e*Pn	**P**	**20 58 42.1**	**+3.6**
	comp=Z,544nm,1.4s						
DZM				*e*LR	LR	21 02 21.4	
	comp=Z,12µm,25.9s						
DZM	**Mont Dzumac**	**16.08**	**289**	P	**P**	**20 58 37.6**	**-1.0**
DSZ	**Denniston Nort**	**16.09**	**211**	Pn	Pn	20 58 27.9	-7.8
DSZ	**Denniston Nort**	**16.09**	**211**	P	**Pn**	**20 58 33.6**	**-2.0**
GVZ	**Greta Valley S**	**16.58**	**206**		Pn	20 58 31.9	-10
LTZ	**Lake Taylor**	**16.73**	**208**		Pn	20 58 33.8	-10
LTZ	**Lake Taylor**	**16.73**	**208**	P	**Pn**	**20 58 40.3**	**-3.5**
AMCZ	**Amberley**	**16.90**	**206**	P	Pn	20 58 36.5	-9.3
INZ	**Inchbonnie**	**17.03**	**210**	P	Pn	20 58 38.4	-9.0
OXZ	**Oxford**	**17.27**	**207**		Pn	20 58 41.9	-8.5
RAR	**Rarotonga**	**17.33**	**70**	P	**Pn**	**20 58 46.6**	**-4.6**
	comp=Z,105nm,0.9s,baz=233,slow=9.6,SNR=10.0						
RAR				S	Sn	21 01 42.6	-21
	comp=Z,11nm,0.4s,baz=307,slow=20,SNR=1.8						
RAR				LR	LR	21 04 06.1	
	comp=Z,3µm,19.0s,baz=224,slow=32						
RAR	**Rarotonga**	**17.33**	**70**		Pn	20 58 41.7	-10
RAR				IAmb	IAmb	20 58 53.0	
	comp=Z,423nm,1.4s						
MQZ	**McQueen's Vall**	**17.35**	**205**	P	Pn	20 58 41.2	-10
RPZ	**Rata Peaks**	**18.00**	**209**	P	**Pn**	**20 58 54.0**	**-5.4**
	comp=Z,22nm,0.7s,baz=56,slow=5.5,SNR=4.8						
RPZ				S	Sn	21 02 02.9	-16
	comp=Z,6.6nm,0.3s,baz=37,slow=15,SNR=2.0						
RPZ				LR	LR	21 05 54.8	
	comp=Z,7µm,21.9s,baz=32,slow=36						
RPZ	**Rata Peaks**	**18.00**	**209**	P	Pn	20 58 50.2	-9.2
RPZ	**Rata Peaks**	**18.00**	**209**	P	**Pn**	**20 58 57.7**	**-1.7**
FOZ	**Fox Glacier**	**18.40**	**211**	P	P	20 58 53.2	-11
KOUNC	**Koumac, New Ca**	**18.56**	**291**	P	**Pn**	**20 59 07.1**	**+0.7**
ODZ	**Otahua Downs**	**19.26**	**207**	P	P	20 59 05.6	-7.7
ODZ	**Otahua Downs**	**19.26**	**207**	P	**P**	**20 59 11.7**	**-1.6**
JCZ	**Jackson Bay**	**19.29**	**212**	P	**P**	**20 59 11.5**	**-2.3**
WKZ	**Wanaka**	**19.77**	**210**	P	**P**	**20 59 12.0**	**-6.9**
MLZ	**Mavora Lakes**	**20.59**	**211**	P	P	20 59 20.6	-7.2
MLZ				IAMs_20	IAMs_20	21 08 14.2	
	comp=Z,7µm,18.0s						
LHI	**Lord Howe Isla**	**20.82**	**255**	P	Pn	20 59 34.8	+1.6
	baz=21,SNR=21						
LHI	**Lord Howe Isla**	**20.82**	**255**	P	**P**	**20 59 26.5**	**-3.8**
LHI	**Lord Howe Isla**	**20.82**	**255**	P	Pn	20 59 35.7	+2.6
WHZ	**Wether Hill Ro**	**21.07**	**210**	P	P	20 59 23.4	-10
DCZ	**Deep Cove**	**21.10**	**212**	IAMs_20	IAMs_20	21 07 38.0	
	comp=Z,8µm,20.0s						
PYZ	**Puysegur Point**	**21.85**	**211**	IAMs_20	IAMs_20	21 08 53.5	
	comp=Z,6µm,19.0s						
TBI	**Tubuai**	**25.41**	**85**	*e*S	S	21 04 51.7	+12
	comp=Z,12µm,30.8s						
TBI				*e*LR	LR	21 06 44.0	
	comp=Z,22µm,23.2s						
TBI	**Tubuai**	**25.41**	**85**	*e*T	T	21 27 01.2	
	comp=Z,93nm,0.4s						
AUWSH	**Wavell State H**	**26.31**	**265**	P	**P**	**21 00 27.4**	**+3.2**
AUBSH	**Beerwah State**	**26.48**	**266**	P	**P**	**21 00 28.8**	**+3.0**
NTLH	**Newcastle Hard**	**27.10**	**253**	P	**P**	**21 00 33.7**	**+2.4**
ARMA	**Armidale**	**27.21**	**258**	P	**P**	**21 00 35.3**	**+2.9**
	baz=28,SNR=15						
ARMA	**Armidale**	**27.21**	**258**	P	**P**	**21 00 31.7**	**-0.8**
ARMA	**Armidale**	**27.21**	**258**	P	**P**	**21 00 35.0**	**+2.5**
PAE	**Paea**	**27.48**	**73**	*e*T	T	21 29 35.7	
	comp=Z,46nm,0.3s						
PPT2	**Papeete2**	**27.52**	**73**	*e*S	**S**	**21 05 24.0**	**+10**
	comp=Z,2µm,36.8s						
PPT2				*e*LR	LR	21 07 37.9	
	comp=Z,4µm,22.0s						
PPT2	**Papeete2**	**27.52**	**73**	*e*T	T	21 29 37.2	
	comp=Z,37nm,0.4s						
PPT	**Papeete**	**27.53**	**73**	LR	LR	21 08 39.3	
AUPHS	**Peel High Scho**	**27.81**	**257**	P	**P**	**21 00 40.2**	**+2.5**
WOLH	**Wollongong Har**	**27.85**	**249**	P	**P**	**21 00 41.1**	**+3.1**
	comp=Z,121nm,0.9s						
SYDH	**Sydney Hard Ro**	**27.93**	**251**	P	**P**	**21 00 41.9**	**+3.2**
	comp=Z,84nm,0.9s						
AUUHS	**Ulladulla High**	**28.26**	**247**	P	**P**	**21 00 45.7**	**+4.1**
EIDS	**Eidsvold**	**28.43**	**269**	P	**P**	**21 00 44.8**	**+1.6**
	baz=29,SNR=18						
EIDS	**Eidsvold**	**28.43**	**269**	P	**P**	**21 00 41.0**	**-2.2**
EIDS				IAmb	IAmb	21 00 46.4	
	comp=Z,64nm,0.9s						
EIDS	**Eidsvold**	**28.43**	**269**	P	**P**	**21 00 44.6**	**+1.4**
HNR	**Honiara**	**28.59**	**307**	P	**P**	**21 00 43.6**	**-1.1**
	comp=Z,802nm,0.4s,baz=215,slow=3.2,SNR=5.9						
HNR				LR	LR	21 10 29.5	
	comp=Z,12µm,19.9s,baz=142,slow=33						
HNR	**Honiara**	**28.59**	**307**	P	**P**	**21 00 40.2**	**-4.5**
HNR	**Honiara**	**28.59**	**307**	P	**P**	**21 00 48.5**	**+3.8**
CNB	**Canberra Magne**	**29.16**	**248**	P	**P**	**21 00 51.9**	**+2.2**
	baz=29,SNR=18						
CNB	**Canberra Magne**	**29.16**	**248**	P	**P**	**21 00 52.0**	**+2.2**
CAN	**Canberra**	**29.45**	**248**	P	**P**	**21 00 50.5**	**-1.8**
CAN				IAmb	IAmb	21 00 56.7	
	comp=Z,61nm,1.0s						
CAN	**Canberra**	**29.45**	**248**	P	**P**	**21 00 54.4**	**+2.1**
CAN	**Canberra**	**29.45**	**248**	P	**P**	**21 00 50.5**	**-1.8**
CAN				pmax	pmax		
	comp=Z,61nm,1.0s						
CAN				MLR	MLR		
	comp=Z,3µm,20.0s						
MILA	**Mila**	**29.50**	**244**	P	**P**	**21 00 54.7**	**+2.0**
	baz=30,SNR=3.3						
MILA	**Mila**	**29.50**	**244**	P	**P**	**21 00 54.3**	**+1.6**
AUDCS	**Dubbo College**	**29.70**	**254**	P	**P**	**21 00 58.4**	**+4.0**
AUSMG	**Snowy Mountain**	**29.86**	**246**	P	**P**	**21 00 57.7**	**+1.7**
RMQ	**Roma**	**30.23**	**265**	P	**P**	**21 01 01.6**	**+2.3**
	baz=30,SNR=23						
RMQ	**Roma**	**30.23**	**265**	P	**P**	**21 01 01.9**	**+2.6**
VAH	**Vaihoa**	**30.30**	**71**	*e*T	T	21 33 15.2	
	comp=Z,45nm,0.2s						
AULRC	**Lightning Ridg**	**30.45**	**259**	P	**P**	**21 01 03.2**	**+2.0**
	comp=Z,160nm,1.3s						
MOO	**Moorlands**	**32.01**	**234**	P	**P**	**21 01 16.8**	**+2.1**
	baz=32,SNR=5.7						
TAU	**Tasmania Unive**	**32.03**	**234**	P	**P**	**21 01 13.3**	**-1.6**
TAU				IAmb	IAmb	21 01 17.6	
	comp=Z,52nm,0.8s						
TAU	**Tasmania Unive**	**32.03**	**234**	IAMs_20	IAMs_20	21 11 31.5	
	comp=Z,4µm,22.0s						
TAU	**Tasmania Unive**	**32.03**	**234**	P	**P**	**21 01 16.4**	**+1.5**
TAU	**Tasmania Unive**	**32.03**	**234**	P	**P**	**21 01 13.3**	**-1.6**
TAU				pmax	pmax		
	comp=Z,52nm,0.8s						
TAU				MLR	MLR		
	comp=Z,4µm,22.0s						
CMSA	**Cobar Meteorol**	**32.23**	**255**	P	**P**	**21 01 17.8**	**+1.0**
	baz=32,SNR=58						
CMSA	**Cobar Meteorol**	**32.23**	**255**	P	**P**	**21 01 18.3**	**+1.5**
TOO	**Toolangi**	**32.46**	**244**	P	**P**	**21 01 21.6**	**+2.8**
	baz=33,SNR=8.0						
TOO	**Toolangi**	**32.46**	**244**	P	**P**	**21 01 16.8**	**-2.0**
TOO				IAmb	IAmb	21 01 22.7	
	comp=Z,61nm,1.0s						
TOO	**Toolangi**	**32.46**	**244**	P	**P**	**21 01 19.7**	**+0.9**
TOO	**Toolangi**	**32.46**	**244**	P	**P**	**21 01 16.8**	**-2.0**
TOO				pmax	pmax		
	comp=Z,61nm,1.0s						
AUMAG	**Moama Anglican**	**32.95**	**247**	P	**P**	**21 01 27.6**	**+4.6**
BRAT	**Ballarat**	**33.69**	**244**	P	**P**	**21 01 31.2**	**+1.7**
TV1H	**Townsville Har**	**34.07**	**277**	P	**P**	**21 01 36.8**	**+3.8**
	comp=Z,46nm,0.9s						
QLP	**Quilpie**	**34.18**	**264**	P	**P**	**21 01 35.5**	**+1.6**
	comp=Z,67nm,1.8s						
CTA	**Charters Tower**	**34.24**	**276**	P	**P**	**21 01 35.5**	**+1.0**
	comp=Z,44nm,0.7s,baz=106,slow=10,SNR=36						
CTA				LR	LR	21 14 11.2	
	comp=Z,3µm,18.8s,baz=112,slow=34						
	comp=Z,44nm,0.7s						
CTA	**Charters Tower**	**34.24**	**276**	P	**P**	**21 01 36.3**	**+1.8**
CTAO	**Charters Tower**	**34.24**	**276**	P	**P**	**21 01 33.8**	**-0.7**
CTAO				IAmb	IAmb	21 01 39.3	
	comp=Z,44nm,0.6s						
CTAO	**Charters Tower**	**34.24**	**276**	IAMs_20	IAMs_20	21 13 48.9	
	comp=Z,4µm,20.0s						
CTAO	**Charters Tower**	**34.24**	**276**	P	**P**	**21 01 36.0**	**+1.5**
CTAO	**Charters Tower**	**34.24**	**276**	P	**P**	**21 01 33.8**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,44nm,0.6s						
CTAO				MLR	MLR		
	comp=Z,4µm,20.0s						
ARPS	**Mount Arapiles**	**35.32**	**246**	P	**P**	**21 01 44.6**	**+1.0**
	baz=36,SNR=32						
ARPS	**Mount Arapiles**	**35.32**	**246**	P	**P**	**21 01 44.3**	**+0.7**
STKA	**Stephens Creek**	**35.68**	**254**	P	**P**	**21 01 47.5**	**+0.8**
	comp=Z,68nm,0.8s,baz=94,slow=9.5,SNR=103						
STKA				PcP	**PcP**	**21 04 13.5**	**-0.9**
	comp=Z,8.3nm,0.9s,baz=50,slow=5.0,SNR=2.3						
STKA				ScP	**ScP**	**21 07 56.4**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=127,slow=17,SNR=3.8						
STKA				LR	LR	21 15 09.3	
	comp=Z,3µm,19.1s,baz=89,slow=34						
	comp=Z,68nm,0.8s						
STKA	**Stephens Creek**	**35.68**	**254**	P	**P**	**21 01 47.4**	**+0.7**
	baz=36,SNR=69						
STKA	**Stephens Creek**	**35.68**	**254**	P	**P**	**21 01 45.9**	**-0.8**
STKA	**Stephens Creek**	**35.68**	**254**	P	**P**	**21 01 47.6**	**+0.8**
STKA	**Stephens Creek**	**35.68**	**254**	*c*	*i*P	**21 01 45.7**	**-1.0**
MTSU	**Mount Surprise**	**36.67**	**278**	P	**P**	**21 01 56.

	comp=Z,103nm,0.9s						
WRA	Warramunga Arr	44.78 270	P	P	21 03 00.7	-1.5	
WB0	Warramunga Arr	44.79 270	P	P	21 03 01.2	-1.1	
FORT	Forrest	47.29 253	P	P	21 03 20.6	-1.2	
	baz=48,SNR=93						
FORT	Forrest	47.29 253	P	P	21 03 20.3	-1.5	
FORT	Forrest	47.29 253	P	P	21 03 20.8	-1.0	
WRKA	Warakurna	48.48 261	P	P	21 03 29.4	-1.7	
	baz=49,SNR=72						
WRKA	Warakurna	48.48 261	P	P	21 03 30.0	-1.2	
KDU	Kakadu	49.31 278	P	P	21 03 36.3	-1.2	
	baz=50,SNR=11						
KDU	Kakadu	49.31 278	P	P	21 03 36.9	-0.7	
SBA	Scott Base	50.11 184	P	P	21 03 45.5	+2.7	
SBA	Scott Base	50.11 184	IAMs_20	IAMs_20	21 18 52.9		
	comp=Z,2µm,21.0s						
SBA	Scott Base	50.11 184	P	P	21 03 45.5	+2.7	
SBA			pmax	pmax			
	comp=Z,280nm,1.0s						
SBA			MLR	MLR			
	comp=Z,2µm,21.0s						
VNDA	Vanda	50.18 186	P	P	21 03 46.0	+2.6	
	comp=Z,16nm,0.9s,baz=4.9,slow=8.1,SNR=29						
VNDA			LR	LR	21 20 45.7		
	comp=Z,401nm,21.8s,baz=12,slow=31						
	comp=Z,16nm,0.9s						
VNDA	Vanda	50.18 186	P	P	21 03 44.3	+0.9	
VNDA	Vanda	50.18 186	P	P	21 03 46.0	+2.6	
MTN	Manton Dam	50.41 277	P	P	21 03 45.0	-0.9	
	baz=51,SNR=4.5						
MTN	Manton Dam	50.41 277	P	P	21 03 43.9	-2.0	
KNRA	Kununurra	51.30 272	P	P	21 03 52.4	-0.2	
	baz=52,SNR=31						
KNRA	Kununurra	51.30 272	P	P	21 03 52.1	-0.5	
KNRA	Kununurra	51.30 272	P	P	21 03 52.7	+0.1	
SRPI	Serui, Papua	51.63 292	P	P	21 03 54.0	-1.1	
	comp=Z,85nm,0.8s						
HMH	Humu'ula Sheep	52.10 26	P	P	21 03 58.5	-0.2	
KMBL	Kambalda	52.34 251	P	P	21 03 58.8	-1.5	
	baz=53,SNR=8.7						
KMBL	Kambalda	52.34 251	P	P	21 03 59.0	-1.2	
FITZ	Fitzroy Crossi	53.11 268	P	P	21 04 05.8	-0.2	
	comp=Z,0.3nm,1.0s,baz=162,slow=18,SNR=9.3						
FITZ	Fitzroy Crossi	53.11 268	P	P	21 04 08.0	+1.9	
FITZ	Fitzroy Crossi	53.11 268	P	P	21 04 11.3	+5.2	
FAKI	Fak Fak	54.34 288	P	P	21 04 12.8	-2.4	
FAKI			IAmb	IAmb	21 04 15.2		
	comp=Z,142nm,1.9s						
FAKI	Fak Fak	54.34 288	P	P	21 04 14.1	-1.0	
	comp=Z,873nmcomp=Z,24nm,0.8s						
GUMO	Guam	55.57 314	LR	LR	21 26 09.4		
	comp=Z,462nm,20.0s,baz=130,slow=34						
RKGY	Rocky Gully	55.62 246	P	P	21 04 22.1	-2.0	
	baz=56,SNR=12						
RKGY	Rocky Gully	55.62 246	P	P	21 04 23.2	-0.9	
KLBR	Kellerberrin	55.70 249	P	P	21 04 23.0	-1.8	
	baz=56,SNR=60						
KLBR	Kellerberrin	55.70 249	P	P	21 04 23.2	-1.6	
NWAO	Narrogin (SRO)	55.80 248	P	P	21 04 23.8	-1.7	
	comp=Z,32nm,1.0s,baz=355,slow=12,SNR=11						
NWAO			LR	LR	21 26 54.5		
	comp=Z,1µm,19.1s,baz=297,slow=34						
NWAO	Narrogin (SRO)	55.80 248	P	P	21 04 23.9	-1.5	
	baz=56,SNR=8.3						
NWAO			P	P	21 04 23.9	-1.5	
	baz=56,SNR=8.3						
NWAO	Narrogin (SRO)	55.80 248	P	P	21 04 23.3	-2.2	
NWAO			IAmb	IAmb	21 04 24.9		
	comp=Z,78nm,1.2s						
NWAO	Narrogin (SRO)	55.80 248	P	P	21 04 23.2	-2.2	
NWAO			IAmb	IAmb	21 04 24.9		
	comp=Z,62nm,1.2s						
NWAO	Narrogin (SRO)	55.80 248	IAMs_20	IAMs_20	21 26 15.4		
	comp=Z,2µm,19.0s						
NWAO	Narrogin (SRO)	55.80 248	P	P	21 04 24.1	-1.4	
NWAO	Narrogin (SRO)	55.80 248	P	P	21 04 24.0	-1.5	
NWAO	Narrogin (SRO)	55.80 248	P	P	21 04 23.3	-2.2	
NWAO			pmax	pmax			
	comp=Z,78nm,1.3s						
NWAO			MLR	MLR			
	comp=Z,2µm,19.0s						
SIJI	Sorong	56.29 290	LR	LR	21 27 15.8		
	comp=Z,753nm,20.6s,baz=123,slow=35						
SIJI	Sorong	56.29 290	P	P	21 04 28.1	-1.0	
	comp=Z,1µmcomp=Z,107nm,1.0s						
MEEK	Meekatharra	56.36 255	P	P	21 04 27.9	-1.7	
	baz=57,SNR=22						
MEEK	Meekatharra	56.36 255	P	P	21 04 27.8	-1.7	
BLDU	Ballidu	56.83 250	P	P	21 04 30.8	-2.0	
	baz=57,SNR=31						
BLDU	Ballidu	56.83 250	P	P	21 04 31.0	-1.8	
MUN	Mundaring	56.88 249	P	P	21 04 31.9	-1.2	
	baz=57,SNR=22						
MUN	Mundaring	56.88 249	P	P	21 04 32.0	-1.2	
PSA00	Pilbara Seismi	56.94 262		P	21 04 31.7	-2.0	
PSA00			IAmb	IAmb	21 04 33.4		
	comp=Z,77nm,1.1s						
PSA00	Pilbara Seismi	56.94 262		P	21 04 31.0	-2.7	
PSA00			IAmb	IAmb	21 04 33.5		
	comp=Z,64nm,1.4s						
PSA00	Pilbara Seismi	56.94 262	P	P	21 04 32.5	-1.2	
MBWA	Marble Bar	57.19 262		P	21 04 33.5	-2.0	
MBWA	Marble Bar	57.19 262	P	P	21 04 34.5	-1.0	
MBWA			P	P	21 04 34.5	-1.0	
MBWA	Marble Bar	57.19 262	P	P	21 04 34.4	-1.0	
MTKN	Mount Kenneth	57.25 249	P	P	21 04 36.6	+0.9	
CASY	Casey	57.27 207	P	P	21 04 34.8	-0.5	
AAI	Ambon	57.36 285	P	P	21 04 35.5	-1.2	
	comp=Z,1µmcomp=Z,30nm,0.9s						
AAI	Ambon	57.36 285	P	P	21 04 35.6	-1.2	
AAI			pmax	pmax			
	comp=Z,29nm,0.9s						
KRAI	Karang Ratu	57.38 285	P	P	21 04 35.7	-1.2	
SOEI	Soe	57.81 276	P	P	21 04 39.6	-0.4	
SOEI			IAMs_20	IAMs_20	21 28 15.2		
	comp=Z,2µm,20.0s						
SOEI	Soe	57.81 276	P	P	21 04 40.4	+0.4	
	comp=Z,1µmcomp=Z,90nm,1.1s						
SOEI	Soe	57.81 276	P	P	21 04 42.2	+2.2	
H01W1	Cape Leeuwin H	57.81 245	P	P	21 04 38.1	-1.3	
	baz=79,slow=11,SNR=5.3						
MORW	Morawa	57.82 252	P	P	21 04 38.5	-1.3	
	baz=58,SNR=13						
MORW	Morawa	57.82 252	P	P	21 04 37.4	-2.4	
MORW			IAmb	IAmb	21 04 39.3		
	comp=Z,76nm,1.1s						
MORW	Morawa	57.82 252	P	P	21 04 38.5	-1.3	
H01W2	Cape Leeuwin H	57.83 245	P	P	21 04 38.2	-1.3	
	baz=79,slow=11,SNR=5.1						
H01W3	Cape Leeuwin H	57.83 245	P	P	21 04 37.9	-1.6	
	baz=79,slow=11,SNR=8.5						
BATI	Baumata	58.13 276	LR	LR	21 28 27.6		
	comp=Z,3µm,21.9s,baz=140,slow=35						
BATI	Baumata	58.13 276	P	P	21 04 42.2	0.0	
	comp=Z,62nm,1.1s						
NLAI	Namlea	58.52 285	P	P	21 04 44.0	-0.9	
	comp=Z,2µmcomp=Z,16nm,1.0s						
LBMI	Labuha	59.56 287	P	P	21 04 51.9	-0.2	
	comp=Z,1µmcomp=Z,42nm,1.4s						
SANI	Sanana	60.09 285	P	P	21 04 54.1	-1.6	
	comp=Z,742nmcomp=Z,32nm,0.6s						
SANI	Sanana	60.09 285	P	P	21 04 54.6	-1.1	
MMRI	Maumere	60.10 276	P	P	21 04 54.9	-0.9	
MMRI			IAmb	IAmb	21 04 57.6		
	comp=Z,60nm,1.0s						
TNTI	Ternate	60.44 289	P	P	21 04 56.3	-1.7	
TNTI			IAmb	IAmb	21 05 08.8		
	comp=Z,32nm,1.0s						
BBSI	Bau Bau	61.30 280	P	P	21 05 04.1	+0.1	
	comp=Z,446nmcomp=Z,18nm,0.8s						
GIRL	Giralia	61.43 258	P	P	21 05 05.1	+0.4	
	baz=62,SNR=4.3						
GIRL	Giralia	61.43 258	P	P	21 05 02.6	-2.2	
GIRL	Giralia	61.43 258	P	P	21 05 05.3	+0.5	
QSPA	South Pole Qui	61.74 180	P	P	21 05 08.7	+2.4	
	comp=Z,143nm,0.9s,baz=40,slow=2.1,SNR=275						
QSPA			LR	LR	21 28 27.3		
	comp=Z,581nm,20.1s,baz=26,slow=32						
	comp=Z,143nm,0.9s						
QSPA	South Pole Qui	61.74 180	P	P	21 05 08.5	+2.2	
LUWI	Luwuk	63.35 284	P	P	21 05 16.0	-1.7	
LUWI			IAmb	IAmb	21 06 01.6		
	comp=Z,46nm,1.0s						
LUWI	Luwuk	63.35 284	P	P	21 05 17.1	-0.6	
	comp=Z,2µmcomp=Z,46nm,0.7s						
LUWI	Luwuk	63.35 284	P	P	21 05 20.4	+2.7	
BKSI	Bulukumba	63.51 279	P	P	21 05 17.0	-1.7	
	comp=Z,546nmcomp=Z,34nm,0.8s						
DBNI	Kabupaten Domp	63.60 275	P	P	21 05 17.2	-2.2	
	comp=Z,36nm,1.0s						
PLAI	Plampang	63.92 274	P	P	21 05 20.8	-0.7	
	comp=Z,1µmcomp=Z,114nm,1.2s						
PLAI	Plampang	63.92 274	P	P	21 05 20.9	-0.6	
BNSI	Bone	63.97 280	P	P	21 05 20.9	-0.8	
	comp=Z,440nmcomp=Z,21nm,1.1s						
KAPI	Kappang	63.98 279	LR	LR	21 34 48.8		
	comp=Z,689nm,18.6s,baz=130,slow=38						
KAPI	Kappang	63.98 279	P	P	21 05 20.1	-1.7	
KAPI			IAmb	IAmb	21 05 33.2		
	comp=Z,28nm,1.1s						
KAPI	Kappang	63.98 279	P	P	21 05 21.7	-0.1	
KAPI	Kappang	63.98 279	P	P	21 05 21.6	-0.2	
	comp=Z,646nmcomp=Z,18nm,0.8s						
KAPI	Kappang	63.98 279	P	P	21 05 20.1	-1.7	
KAPI			pmax	pmax			
	comp=Z,28nm,1.1s						
APSI	Ampana	64.38 284	P	P	21 05 23.9	-0.6	
	comp=Z,674nmcomp=Z,37nm,0.9s						
TWSI	Taliwang, Sumb	64.75 274	P	P	21 05 25.5	-1.4	
	comp=Z,1µmcomp=Z,57nm,1.0s						
MRSI	Marisa	64.85 285	P	P	21 05 25.2	-2.3	
	comp=Z,14nm,0.7s						
DAV	Davao City (W)	65.45 293	LR	LR	21 33 25.7		
	comp=Z,186nm,19.7s,baz=121,slow=35						
KLNI	Mataram	65.59 274	P	P	21 05 30.6	-1.7	
	comp=Z,56nm,1.0s						
MMSI	Mamuju	65.84 281	P	P	21 05 34.9	+0.9	
	comp=Z,14nm,0.9s						
TOLI2	Tolitoli	66.17 285	P	P	21 05 33.8	-2.3	
TOLI2	Tolitoli	66.17 285	P	P	21 05 38.3	+2.3	
SRBI	Singaraja	66.52 273	P	P	21 05 36.3	-2.0	
	comp=Z,88nm,1.9s						
MPSI	Mapaga	66.52 284	P	P	21 05 37.0	-1.3	
	comp=Z,22nm,1.4s						
JAGI	Jajag, Banyuwa	67.27 273	P	P	21 05 40.2	-2.9	
JAGI	Jajag, Banyuwa	67.27 273	P	P	21 05 41.5	-1.6	
	comp=Z,88nm,1.0s						
JAGI	Jajag, Banyuwa	67.27 273	P	P	21 05 42.3	-0.8	
	comp=Z,89nm,1.0s						
JCJ	Chichijima	67.54 321	LR	LR	21 31 25.2		
	comp=Z,542nm,21.2s,baz=147,slow=32						
GMJI	Gumukmas	67.99 272	P	P	21 05 46.3	-1.3	
	comp=Z,88nm,1.1s						
BBKI	Banjar Baru	69.01 278	P	P	21 05 53.8	-0.2	
	comp=Z,3µmcomp=Z,37nm,1.2s						
GRJI	Gresik	69.46 273	P	P	21 05 56.4	-0.4	
	comp=Z,1µmcomp=Z,104nm,1.1s						
SJI	Sawahan	69.71 272	P	P	21 05 57.8	-0.6	
	comp=Z,42nm,1.3s						
PCJI	Pacitan	70.02 271	P	P	21 06 00.3	+0.1	
	comp=Z,197nm,2.0s						
SMAI	San Martin Ant	71.04 158	P	P	21 06 04.9	-0.7	
SMAI			IAmb	IAmb	21 06 08.0		
	comp=Z,51nm,1.1s						
SMRI	Semarang	71.19 272	P	P	21 06 06.5	-0.9	
BELA	Belgrano 2	71.70 172	P	P	21 06 08.5	-0.9	
PBKI	Pangkalan Bun	72.15 277	P	P	21 06 13.2	+0.1	
	comp=Z,2µmcomp=Z,112nm,1.1s						
CTJI	Waduk Cacaban	72.32 272	P	P	21 06 14.1	0.0	
	comp=Z,98nm,1.4s						
KKM	Kota Kinabalu	72.63 287	P	P	21 06 14.7	-1.4	
KKM	Kota Kinabalu	72.63 287	P	P	21 06 15.1	-1.0	
	comp=Z,758nmcomp=Z,38nm,1.9s						
KKM	Kota Kinabalu	72.63 287	P	P	21 06 17.0	+0.9	
BBJI	Bungbulang	73.46 270	P	P	21 06 22.2	+1.2	
	comp=Z,103nm,1.3s						
LEM	Lembang	73.78 271	LR	LR	21 41 00.3		
	comp=Z,640nm,18.1s,baz=132,slow=38						
LEM	Lembang	73.78 271	P	P	21 06 23.2	+0.2	
LEM			pmax	pmax			
	comp=Z,106nm,0.9s						
PMSA	Palmer Station	73.82 156	P	P	21 06 23.2	+1.1	
	comp=Z,13nm,0.9s,baz=261,slow=1.5,SNR=3.6						
	comp=Z,13nm,0.9s						
SBUM	Sibu	74.19 282	P	P	21 06 23.6	-1.6	
SBUM			IAmb	IAmb	21 06 26.5		
	comp=Z,65nm,1.8s						
SBUM	Sibu	74.19 282	P	P	21 06 24.5	-0.7	
	comp=Z,386nmcomp=Z,18nm,1.4s						
MAW	Mawson	74.46 200	P	P	21 06 27.7	+1.9	
	comp=Z,70nm,0.9s,baz=110,slow=6.1,SNR=56						
MAW			LR	LR	21 37 51.4		
	comp=Z,1µm,19.8s,baz=118,slow=34						
	comp=Z,70nm,0.9s						
MAW	Mawson	74.46 200	P	P	21 06 27.7	+1.9	
	baz=74,SNR=49						
MAW	Mawson	74.46 200	P	P	21 06 26.7	+0.9	
CBJI	Citeko	74.64 271	P	P	21 06 25.7	-2.1	
	comp=Z,88nm,0.8s						
KSM	Kuching	75.36 280	P	P	21 06 30.0	-2.0	
KSM			IAmb	IAmb	21 06 32.7		
	comp=Z,34nm,0.9s						
KSM	Kuching	75.36 280	P	P	21 06 31.5	-0.5	
	comp=Z,811nmcomp=Z,40nm,0.9s						
KSM	Kuching	75.36 280	P	P	21 06 32.0	0.0	
JOW	Kunigami	75.84 311	LR	LR	21 37 19.4		
	comp=Z,379nm,20.4s,baz=122,slow=34						
JOW	Kunigami	75.84 311	P	P	21 06 32.5	-1.8	
JOW			IAmb	IAmb	21 06 38.5		
	comp=Z,38nm,1.0s						
JOW	Kunigami	75.84 311	P	P	21 06 36.1	+1.7	
INU	Inuyama	76.70 323	P	P	21 06 38.0	-1.0	
INU			IAmb	IAmb	21 06 55.8		
	comp=Z,58nm,1.2s						
INU	Inuyama	76.70 323	P	P	21 06 43.4	+4.4	
JGF	Kuroka	76.71 323	P	P	21 06 38.4	-0.8	
JGF			IAmb	IAmb	21 07 05.1		
	comp=Z,52nm,1.3s						
JGF	Kuroka	76.71 323	P	P	21 06 40.5	+1.3	
MJAR	Matsushiro Arr	76.99 325	P	P	21 06 41.7	+1.0	
	comp=Z,19nm,0.7s,baz=159,slow=5.6,SNR=31						
MJAR			LR	LR	21 35 41.9		
	comp=Z,188nm,21.0s,baz=141,slow=32						
	comp=Z,19nm,0.7s						
MAJO	Matsushiro	77.00 325	P	P	21 06 40.4	-0.3	
MAJO			IAmb	IAmb	21 06 47.7		
	comp=Z,33nm,0.8s						
MAJO	Matsushiro	77.00 325	P	P	21 06 42.1	+1.4	
MAJO	Matsushiro	77.00 325	*i* P	P	21 06 39.4	-1.3	
MAJO			pmax	pmax			
	comp=Z,27nm,0.8s						
MJB9	Matsu-Tunnel	77.00 325	P	P	21 06 40.5	-0.2	
MJB9			IAmb	IAmb	21 06 47.7		
	comp=Z,32nm,0.8s						
KLI	Kotabumi	77.12 271	P	P	21 06 39.9	-2.0	
	comp=Z,169nm,0.9s						
KASI	Kota Agung	77.13 271	P	P	21 06 39.9	-2.1	
	comp=Z,106nm,0.9s						
PPBI	Pangkal Pinang	77.26 274	P	P	21 06 42.3	-0.4	
	comp=Z,958nmcomp=Z,32nm,0.8s						
JSU	Suzuyama	77.65 316	P	P	21 06 44.4	-0.1	
JSU	Suzuyama	77.65 316	P	P	21 06 46.3	+1.8	
LWLI	Liwa	77.75 271	P	P	21 06 44.1	-1.5	
	comp=Z,2µmcomp=Z,230nm,0.8s						
YOJ	Yonaguni jima	77.92 306	P	P	21 06 45.6	-0.5	
YOJ	Yonaguni jima	77.92 306	P	P	21 06 45.6	-0.5	
YOJ			pmax	pmax			
	comp=Z,166nm,1.2s						
PMBI	Palembang	78.10 273	IAMs_20	IAMs_20	21 42 15.2		
	comp=Z,867nm,21.0s						
JSD	Sado	78.12 326	P	P	21 06 45.7	-1.2	
JSD	Sado	78.12 326	P	P	21 06 48.6	+1.7	
TWGBT	Beinan	78.30 304	P	P	21 06 50.1	+1.8	
TWG	Pinlang	78.31 304	P	P	21 06 45.7	-2.6	
TWG			IAmb	IAmb	21 06 53.7		
	comp=Z,22nm,0.7s						
JHS	Saijyo	78.58 320	P	P	21 06 49.1	-0.4	
JHS			IAmb	IAmb	21 06 53.6		
	comp=Z,77nm,1.1s						
JHS	Saijyo	78.58 320	P	P	21 06 51.0	+1.4	
NACB	Ninganchiao	78.75 305	P	P	21 06 49.2	-1.5	
NACB			IAmb	IAmb	21 06 55.8		
	comp=Z,26nm,0.9s						
TPUB	Ta-pu	78.92 304	P	P	21 06 49.8	-1.9	
TPUB			IAmb	IAmb	21 06 57.2		
	comp=Z,29nm,0.7s						
TPUB	Ta-pu	78.92 304	P	P	21 06 53.7	+2.0	
SSLB	Suanglung	78.98 305	P	P	21 06 49.4	-2.6	
SSLB			IAmb	IAmb	21 07 14.6		
	comp=Z,98nm,1.8s						
SSLB	Suanglung	78.98 305	P	P	21 06 54.1	+2.1	
YHNB	Yeheng	79.22 306	P	P	21 06 58.1	+4.7	
H06S1	SOCORRO T	79.29 62	T	T	22 34 13.7		
	SNR=5.6						
DSRI	Dabo	79.42 275	P	P	21 06 54.5	-0.2	
	comp=Z,920nmcomp=Z,48nm,1.6s						
KSI	Kapahiang	79.68 271	P	P	21 06 54.8	-1.4	
	comp=Z,3µmcomp=Z,218nm,0.7s						
KSI	Kapahiang	79.68 271	P	P	21 06 55.3	-0.9	
KSI			pmax	pmax			
	comp=Z,218nm,0.7s						
TROLL	Troll, Antarti	79.90 180	P	P	21 06 57.5	+1.1	
ADK	Adak	79.90 0	P	P	21 06 56.7	+0.4	
TPRI	Tanjung Pinang	80.14 276	P	P	21 06 58.6	0.0	
	comp=Z,59nm,1.5s						
SNAA	Sanae	80.16 178	P	P	21 06 58.4	+0.6	
SNAA	Sanae	80.16 178	LR	LR	21 41 31.8		
	comp=Z,228nm,18.8s,baz=188,slow=35						
SNAA	Sanae	80.16 178	P	P	21 06 57.9	+0.1	
SNAA			IAmb	IAmb	21 06 60.0		
	comp=Z,57nm,0.9s						
SNAA	Sanae	80.16 178	*ce*P	P	21 06 58.1	+0.3	
SNAA			pmax	pmax			
	comp=Z,71nm,1.0s						
MASI	Maura Aman, Be	80.22 272	P	P	21 06 58.0	-1.1	
	comp=Z,1µmcomp=Z,141nm,0.8s						
VNA3	Neumayer Olymp	80.28 176	P	P	21 06 58.8	+0.4	
VNA2	Neumayer--Watz	80.72 177	P	P	21 07 01.6	+0.9	
	baz=169,slow=5.0						
NVL	N'lazarevskaya	80.94 183	*e*P	P	21 07 02.2	+0.3	
NVL			pmax	pmax			
	comp=Z,56nm,1.2s						
NVL			MLR	MLR			
	comp=Z,716nm,20.0s						
VNA1	Neumayer--Stat	80.95 176	P	P	21 07 02.9	+1.0	
JKA	Kamikawa-asahi	80.98 332	P	P	21 07 02.6	+0.3	
JKA			IAmb	IAmb	21 07 14.0		
	comp=Z,37nm,1.0s						
ASAJ	Asahikawa	80.98 332	LR	LR	21 36 18.9		
	comp=Z,776nm,21.9s,baz=166,slow=31						
ASAJ	Asahikawa	80.98 332	P	P	21 07 02.6	+0.3	
ASAJ			pmax	pmax			
	comp=Z,37nm,1.0s						
H03S2	Juan Fernandez	80.99 123	T	T	22 36 57.9		
	baz=240,slow=74,SNR=42						
H03S1	Juan Fernandez	81.00 124	T	T	22 36 58.5		
	baz=240,slow=74,SNR=68						
H03S3	Juan Fernandez	81.01 123	T	T	22 36 58.7		
	baz=240,slow=74,SNR=75						
BTDF	Bukit Timah Da	81.01 276	P	P	21 07 02.9	-0.3	
	comp=Z,490nmcomp=Z,27nm,1.6s						
SHEM	Shemya Is, Ala	81.11 355	LR	LR	21 37 49.8		
	comp=Z,717nm,19.1s,baz=141,slow=32						
MYKOM	Kota Tinggi	81.15 277	P	P	21 07 04.1	+0.1	
	comp=Z,5µmcomp=Z,69nm,0.8s						
H03N3	Juan Fernandez	81.17 123	T	T	22 37 06.3		
	baz=245,slow=72,SNR=7.4						
H03N2	Juan Fernandez	81.17 123	T	T	22 37 05.7		
	baz=245,slow=72,SNR=23						
H03N1	Juan Fernandez	81.19 123	T	T	22 37 05.7		
	baz=245,slow=72,SNR=22						
LL02	Futaleufu	81.26 134	P	P	21 07 04.0	-0.1	
NIKH	Nikolski High	81.32 5	P	P	21 07 03.3	-0.6	
	baz=187						
QZH	Quanzhou	81.39 304	⇑*i*P	P	21 07 02.6	-2.4	
QZH			S	S	21 17 14.9	+1.9	
QZH			LR	LR			
	comp=Z,250nm,14.7s						
QZH			LR	LR			
	comp=Z,210nm,18.5s						
SDSI	Sungai Dareh	81.98 273	P	P	21 07 05.8	-2.6	
	comp=Z,21nm,0.8s						
DLV	T Lat	82.20 288	P	P	21 07 12.2	+2.5	
	comp=Z,45nm,1.1s						
UNV	Unalaska Valle	82.39 6	P	P	21 07 11.0	+1.5	
	baz=189						
SBC	Santa Barbara	82.79 45	P	P	21 07 10.8	-1.2	
	baz=228						
PDSI	Padang	82.84 273	P	P	21 07 11.2	-1.7	
	comp=Z,62nm,0.8s						
LPIG	La Paz	82.86 58	LR	LR	21 35 50.4		
	comp=Z,788nm,21.0s,baz=224,slow=30						
BKNI	Bangkinang	82.92 274	IAMs_20	IAMs_20	21 45 22.9		
	comp=Z,770nm,20.0s						
BKNI	Bangkinang	82.92 274	P	P	21 07 16.0	+2.7	
	comp=Z,118nm,0.9s						
CIS	Catalina Islan	82.92 46	P	P	21 07 13.6	+0.8	
	baz=229						
PKM	Mcpherson Peak	83.02 44	P	P	21 07 14.0	+0.4	
	baz=228						
SMMC	Simmler	83.19 44	P	P	21 07 14.8	+0.6	
	baz=228						
YSS	Yuzh-Sakhalins	83.24 334	P	P	21 07 11.6	-2.4	
YSS	Yuzh-Sakhalins	83.24 334	P	P	21 07 14.8	+0.7	
YSS	Yuzh-Sakhalins	83.24 334	*e*P	P	21 07 13.4	-0.7	
YSS			*e**PP	sP	21 07 31.4	+0.6	
YSS			*e*S	S	21 17 26.0	-5.0	
YSS			*e*SS	SS	21 22 58.5	+1.3	
YSS			pmax	pmax			
	comp=Z,60nm,1.0s						
YSS			pmax	pmax			
	comp=Z,600nm,4.8s						
KSRS	Korea Array	83.28 319	P	P	21 07 16.0	+1.5	
	comp=Z,6.3nm,0.8s,baz=137,slow=5.4,SNR=22						
	comp=Z,6.3nm,0.8s						
KSAR	Wonju Array Be	83.29 319	P	P	21 07 12.2	-2.4	
KSAR	Wonju Array Be	83.29 319	P	P	21 07 12.2	-2.4	
SSE	Sheshan	83.32 311	P	P	21 07 15.8	+0.9	
SSE			S	S	21 17 31.8	-0.7	
SSE			pmax	pmax			
	comp=Z,11nm,0.9s						
SSE			pmax	pmax			
	comp=Z,140nm,3.8s						
SSE			LR	LR			
	comp=Z,120nm,23.3s						
SSE			LR	LR			
	comp=Z,110nm,23.3s						
PLCA	Paso Flores	83.36 133	P	P	21 07 16.7	+1.4	
	comp=Z,5.5nm,0.9s,baz=236,slow=4.1,SNR=6.2						
PLCA			LR	LR	21 35 29.3		
	comp=Z,333nm,21.8s,baz=264,slow=29						
	comp=Z,5.5nm,0.9s						
PET	Petropavlovsk	83.74 346	*e*P	P	21 07 19.2	+2.7	
PET			*e*S	S	21 17 40.1	+4.4	
PET			*e*PS		21 18 35.8		
MURC	Murrieta	83.82 47	P	P	21 07 19.3	+1.8	
	baz=230						
SISI	Saibi	83.85 272	P	P	21 07 18.7	+0.6	
	comp=Z,74nm

QIZ comp=Z,330nm,19.9s LR LR
QIZ comp=Z,280nm,25.5s LR LR
QIZ comp=Z,280nm,31.9s LR LR
BELC Belle Mtn. Jos 84.85 47 P **P** 21 07 24.0 +1.2
baz=231,SNR=13
IPM Ipoh 84.91 278 P **P** 21 07 20.7 -2.8
IPM IAmb IAmb 21 07 31.0
comp=Z,38nm,0.9s
IPM Ipoh 84.91 278 P **P** 21 07 22.6 -0.8
comp=Z,632nmcomp=Z,48nm,0.9s
IPM Ipoh 84.91 278 P **P** 21 07 24.9 +1.5
BC3 Big Chuckawall 84.98 48 P **P** 21 07 25.1 +1.6
baz=231
GLA Glamis 85.02 48 P **P** 21 07 25.4 +1.8
baz=232
CWC Cottonwood Cre 85.10 44 P **P** 21 07 25.2 +1.1
baz=229
HEC Hector,Ludlow 85.16 46 P **P** 21 07 25.9 +1.7
baz=230,SNR=13
GSC Goldstone, Bar 85.16 46 P **P** 21 07 25.6 +1.3
baz=230,SNR=11
MPMC Manual Prospec 85.22 45 P **P** 21 07 26.1 +1.5
baz=230,SNR=18
TIN Tinemaha, Big 85.41 43 P **P** 21 07 27.2 +1.7
baz=229
NJ2 Nanjing 85.48 310 ⇓P **P** 21 07 27.5 +1.7
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 LR LR
comp=Z,250nm,17.5s
NJ2 LR LR
comp=Z,220nm,15.2s
NJ2 LR LR
comp=Z,340nm,20.4s
IRM Iron Mountain 85.50 47 P **P** 21 07 27.9 +2.0
baz=231
GMRC Granite Mounta 85.56 47 P **P** 21 07 28.2 +1.9
baz=231
KULM Kulim 85.62 278 P **P** 21 07 24.6 -2.4
KULM Kulim 85.62 278 P **P** 21 07 27.0 0.0
comp=Z,677nmcomp=Z,34nm,1.0s
214A Organ Pipe Nat 85.69 50 P **P** 21 07 28.9 +2.0
baz=233
TUQ Turquoise Moun 85.80 46 P **P** 21 07 28.3 +0.8
baz=231,SNR=12
CHGN Chignik 85.83 10 P **P** 21 07 29.4 +2.5
baz=196
USA0B Ussuriysk Arra 85.87 326 IAmb IAmb 21 07 29.5
comp=Z,63nm,1.6s
USA0B Ussuriysk Arra 85.87 326 *i*P **P** 21 07 26.2 -1.2
USRK Ussuriysk Ar. 85.87 326 P **P** 21 07 26.4 -1.0
comp=Z,12nm,0.8s,baz=129,slow=4.8,SNR=16
USRK LR LR 21 43 34.7
comp=Z,260nm,19.4s,baz=131,slow=34
comp=Z,12nm,0.8s
SHOC Shoshone, Teco 85.87 45 P **P** 21 07 29.6 +1.9
baz=230
RPSI Rantau Prapat 85.90 275 P **P** 21 07 26.5 -1.9
RPSI IAmb IAmb 21 07 30.9
comp=Z,58nm,1.1s
RPSI IAMs_20 IAMs_20 21 50 55.8
comp=Z,652nm,18.0s
GRAC Grapevine Rang 85.90 44 P **P** 21 07 29.3 +1.5
baz=230,SNR=11
PSI Prapat 85.95 275 P **P** 21 07 27.0 -1.8
comp=Z,650nmcomp=Z,56nm,1.6s,comp=Z,412nm,1.6s,
comp=Z,34nm,1.5s
PSI P **P** 21 07 26.9 -1.8
comp=Z,650nmcomp=Z,56nm,1.6s,comp=Z,412nm,1.6s,
comp=Z,34nm,1.5s
PSI Prapat 85.95 275 P **P** 21 07 27.8 -1.0
comp=Z,56nm,1.6s
PSI Prapat 85.95 275 P **P** 21 07 26.5 -2.3
PSI pmax pmax
comp=Z,58nm,1.1s
PSI MLR MLR
comp=Z,700nm,18.0s
YBH Yreka Blue Hor 85.99 38 LR LR 21 38 29.5
comp=Z,205nm,21.2s,baz=234,slow=30
PDMCI Parker Dam,Lak 86.24 48 P **P** 21 07 31.5 +2.0
baz=232
NVAR Mina Array Bea 86.26 42 P **P** 21 07 31.0 +1.2
comp=Z,15nm,0.9s,baz=222,slow=7.6,SNR=38
NVAR PKKPbc **PKKPbc** 21 25 29.0 0.0
comp=Z,0.7nm,0.7s,baz=103,slow=3.4,SNR=5.3
NVAR PKPPKP **P'P'df** 21 33 36.0 +3.9
comp=Z,1.3nm,0.9s,baz=132,slow=2.2,SNR=6.1
NVAR LR LR 21 37 50.2
comp=Z,1µm,21.6s,baz=259,slow=30
comp=Z,15nm,0.9s
BO02 Sierra Bellavi 86.35 128 IAmb IAmb 21 08 04.7
comp=Z,24nm,1.0s
GSI Gunungsitoli 86.42 273 P **P** 21 07 31.1 +0.1
GSI Gunungsitoli 86.42 273 P **P** 21 07 31.6 +0.6
comp=Z,2µmcomp=Z,164nm,1.0s
GSI Gunungsitoli 86.42 273 P **P** 21 07 32.6 +1.6
TYV Tymovskoe 86.49 336 *e*P **P** 21 07 33.7 +3.4
TYV pmax pmax
comp=Z,17nm,1.0s
TYV pmax pmax
comp=Z,400nm,3.8s
TPNV Topopah Spring 86.55 45 P **P** 21 07 32.9 +1.7
baz=230,SNR=15
KVN Kaiserville 86.79 42 P **P** 21 07 29.5 -2.9
KVN Kaiserville 86.79 42 P **P** 21 07 29.5 -2.9
KVN pmax pmax
comp=Z,20nm,1.1s
SII Sitkinak Islan 86.82 13 P **P** 21 07 33.4 +1.6
baz=200
TUC Tucson 87.28 51 IAMs_20 IAMs_20 21 37 00.5
comp=Z,1µm,22.0s
KCSI Kotacane, Aceh 87.30 275 P **P** 21 07 34.9 -0.3
comp=Z,37nm,0.9s
MDJ Mudanjiang 87.37 325 IAmb IAmb 21 07 39.8
comp=Z,19nm,0.8s
MDJ Mudanjiang 87.37 325 P **P** 21 07 39.0 +4.2
OHAK Old Harbor 87.61 13 IAmb IAmb 21 07 39.6
comp=Z,28nm,0.9s
OHAK Old Harbor 87.61 13 P **P** 21 07 36.2 +0.6
baz=201
WHN Wuhan 87.70 307 ⇓P **P** 21 07 38.5 +1.8
WHN S **S** 21 18 17.1 +1.4
WHN pmax pmax
comp=Z,69nm,1.0s
WHN pmax pmax
comp=Z,650nm,3.2s
WHN LR LR
comp=Z,580nm,22.2s
R11A Troy Canyon, C 87.85 44 P **P** 21 07 37.8 +0.3
baz=231
Q17K Contact Creek 88.12 11 P **P** 21 07 38.0 -0.2
baz=199,SNR=9.3
SRIT Nakonsritamara 88.12 281 IAmb IAmb 21 07 41.5
comp=Z,40nm,1.0s
SRIT Nakonsritamara 88.12 281 P **P** 21 07 40.8 +1.7
SURA Surathani 88.37 281 P **P** 21 07 42.1 +1.8
Q16K King Salmon 88.39 11 P **P** 21 07 39.7 +0.5
baz=198,SNR=5.1
Q18K Katmai Hardscr 88.64 11 P **P** 21 07 40.8 +0.2
baz=199,SNR=15
SNY Shenyang 88.69 320 ⇓P **P** 21 07 41.6 +0.5
SNY S **S** 21 18 25.6 +1.1
SNY pmax pmax
comp=Z,16nm,0.8s
SNY LR LR
comp=Z,170nm,17.1s
SNY LR LR
comp=Z,260nm,21.8s
SNY LR LR
comp=Z,340nm,24.9s
WVOR Wild Horse Val 88.70 39 IAMs_20 IAMs_20 21 38 25.1
comp=Z,905nm,22.0s
WUAZ Wupatki 88.78 48 P **P** 21 07 41.9 0.0
baz=234
GRNR Gornyy 88.81 333 ⇑*i*P **P** 21 07 42.6 +1.1
MLSI Meulaboh, Aceh 88.85 275 P **P** 21 07 42.8 +0.2
comp=Z,36nm,0.6s
P17K Kvichak River 88.92 11 P **P** 21 07 43.5 +1.8
baz=198
Q20K Shuyak Island 89.08 13 P **P** 21 07 42.7 +0.2
baz=202
TIA Tai'an 89.12 313 ⇑P **P** 21 07 43.8 +0.5
TIA pmax pmax
comp=Z,26nm,1.0s
TIA pmax pmax
comp=Z,230nm,4.9s

TIA LR LR
comp=Z,160nm,23.1s
TIA LR LR
comp=Z,180nm,31.4s
TIA LR LR
comp=Z,490nm,33.3s
Q19K Cape Douglas, 89.14 12 IAMs_20 IAMs_20 21 43 06.8
comp=Z,804nm,21.0s
Q19K Cape Douglas, 89.14 12 P **P** 21 07 42.9 +0.1
baz=200
BNX BinXian 89.26 325 ⇓P **P** 21 07 43.4 -0.3
BNX pmax pmax
comp=Z,17nm,1.3s
BNX pmax pmax
comp=Z,130nm,4.9s
P18K Big Mountain, 89.30 11 P **P** 21 07 42.2 -1.4
P18K Big Mountain, 89.30 11 P **P** 21 07 43.4 -0.3
baz=199,SNR=6.1
O17K Koliganek Bris 89.36 10 P **P** 21 07 44.3 +0.5
baz=198
J08A Circle Bar Ran 89.40 39 IAmb IAmb 21 08 03.2
comp=Z,76nm,1.8s
NAYO Nakonayok 89.42 287 P **P** 21 07 46.4 +1.3
121A Cookes Peak, D 89.48 52 P **P** 21 07 47.5 +2.2
baz=236
121A Cookes Peak, D 89.48 52 P **P** 21 07 44.4 -0.9
baz=236
ELK Elko 89.56 42 LR LR 21 39 52.8
comp=Z,1µm,21.5s,baz=234,slow=30
W18A Petrified Fore 89.63 49 P **P** 21 07 46.4 +0.4
baz=234
KLR Kul'dur 89.65 329 LR LR 21 44 15.1
comp=Z,507nm,20.2s,baz=143,slow=33
KLR Kul'dur 89.65 329 *ce*P **P** 21 07 43.8 -1.6
KLR pmax pmax
comp=Z,41nm,1.7s
NONG Nongkai 89.73 291 P **P** 21 07 47.8 +1.2
O18K Koktuh Hills 89.74 11 P **P** 21 07 45.2 -0.4
O18K IAMs_20 IAMs_20 21 42 51.7
comp=Z,603nm,18.0s
O18K Koktuh Hills 89.74 11 P **P** 21 07 46.1 +0.5
baz=199,SNR=20
N16K Nishlik Lake 89.80 9 P **P** 21 07 48.0 +2.1
baz=196
P19K Oil Pt 89.90 12 P **P** 21 07 46.7 +0.4
baz=201
O19K Port Alsworth 90.22 11 P **P** 21 07 48.6 +0.8
baz=200
ILSW Iliamna Southw 90.22 12 P **P** 21 07 47.5 -0.5
ILSW IAmb IAmb 21 07 51.6
comp=Z,73nm,1.0s
TRQA Tornquist 90.35 134 P **P** 21 07 50.1 +0.9
TRQA IAmb IAmb 21 07 51.6
comp=Z,38nm,1.4s
TRQA Tornquist 90.35 134 P **P** 21 07 50.2 +0.9
TRQA pmax pmax
comp=Z,38nm,1.5s
N18K Kilae Creek 90.42 10 P **P** 21 07 50.5 +1.7
baz=198
BRSE Bradley Lake S 90.45 13 P **P** 21 07 49.6 +0.7
baz=203,SNR=9.8
DUG Dugway, Tooele 90.68 44 P **P** 21 07 50.1 -0.6
baz=233
TX31 Lajitas Ar. Si 90.69 57 P **P** 21 07 52.9 +2.0
baz=238
TXAR Lajitas Array 90.69 57 P **P** 21 07 52.5 +1.6
comp=Z,2.6nm,1.0s,baz=220,slow=3.3,SNR=10
TXAR LR LR 21 40 47.4
comp=Z,367nm,20.2s,baz=216,slow=30
comp=Z,2.6nm,1.0s
N19K Bonanza Creek 90.77 11 IAmb IAmb 21 08 07.6
comp=Z,47nm,1.3s
N19K IAMs_20 IAMs_20 21 43 34.9
comp=Z,704nm,21.0s
N19K Bonanza Creek 90.77 11 P **P** 21 07 51.5 +1.0
baz=200
Y22A Socorro 90.84 51 P **P** 21 07 53.8 +2.2
baz=236
MFID Camas Ranch 90.91 40 IAMs_20 IAMs_20 21 39 08.6
comp=Z,935nm,22.0s
Y22D IRIS PASSCAL I 90.95 51 IAMs_20 IAMs_20 21 38 41.8
comp=Z,841nm,22.0s
BBB Bella Bella 90.97 28 LR LR 21 40 24.6
comp=Z,441nm,21.4s,baz=228,slow=30
HOPE Hope Point 90.97 158 *i*P **P** 21 07 47.8 -4.0
SEW Seward 91.05 13 P **P** 21 07 52.2 +0.5
baz=204
ENH Enshi 91.05 304 P **P** 21 07 53.5 +1.0
comp=Z,63nm,1.5s
GYA Guiyang 91.17 299 ⇑*i*P **P** 21 07 55.3 +2.0
GYA PP **PP** 21 11 27.8 -3.1
GYA SKS **SKSac** 21 18 25.3 +3.1
GYA S **ScS** 21 18 50.4 -1.1
GYA pmax pmax
comp=Z,24nm,1.7s
GYA pmax pmax
comp=Z,280nm,10.8s
GYA LR LR
comp=Z,120nm,14.2s
GYA LR LR
comp=Z,270nm,22.6s
GYA LR LR
comp=Z,320nm,24.0s
LYN LuoYang 91.27 309 *e*P **P** 21 07 54.5 +1.1
LYN S **S** 21 18 44.6 -4.2
LYN pmax pmax
comp=Z,30nm,1.6s
LYN pmax pmax
comp=Z,230nm,4.7s
LYN LR LR
comp=Z,240nm,22.0s
LYN LR LR
comp=Z,240nm,22.4s
LYN LR LR
comp=Z,490nm,23.4s
O22K Cooper Landing 91.34 13 IAMs_20 IAMs_20 21 44 06.4
comp=Z,885nm,22.0s
O22K Cooper Landing 91.34 13 P **P** 21 07 53.3 +0.3
baz=204
HNS HongShan 91.39 312 ⇑P **P** 21 07 54.8 +1.0
HNS SKS **SKSac** 21 18 20.3 -2.3
HNS S **ScS** 21 18 52.6 +0.1
HNS pmax pmax
comp=Z,27nm,0.9s
HNS LR LR
comp=Z,170nm,23.1s
HNS LR LR
comp=Z,280nm,23.0s
HNS LR LR
comp=Z,500nm,23.5s
CMIG Matias Romero 91.44 71 LR LR 21 38 54.7
comp=Z,374nm,21.6s,baz=228,slow=29
N20K Mount Spurr 91.53 12 P **P** 21 07 53.6 -0.4
baz=202
SPCR Spurr Chakacha 91.53 12 P **P** 21 07 53.8 -0.2
baz=202
MA2 Magadan 91.53 344 LR LR 21 46 42.8
comp=Z,258nm,19.3s,baz=148,slow=34
MA2 Magadan 91.53 344 *i*P **P** 21 07 53.4 -0.5
MA2 pmax pmax
comp=Z,40nm,1.2s
E09A Wood Farm, Sta 91.64 36 IAmb IAmb 21 08 13.0
comp=Z,37nm,1.1s
MVCO Mesa Verde 91.65 48 P **P** 21 07 54.2 -1.2
baz=235
ANMO Albuquerque 91.75 51 LR LR 21 40 41.5
comp=Z,936nm,22.0s,baz=225,slow=30
ANMO Albuquerque 91.75 51 P **P** 21 07 57.1 +1.3
baz=236
ANMO Albuquerque 91.75 51 P **P** 21 07 54.9 -1.0
baz=236
ANMO Albuquerque 91.75 51 *ce*P **P** 21 07 53.5 -2.4
ANMO pmax pmax
comp=Z,6.0nm,1.0s
F10A Beach Ranch, E 91.78 37 IAmb IAmb 21 08 17.5
comp=Z,32nm,0.9s
HLID Hailey 91.80 40 P **P** 21 07 55.0 -0.9
baz=232,SNR=11
M19K Big River Lodg 91.81 11 IAmb IAmb 21 08 14.8
comp=Z,38nm,1.2s
M19K IAMs_20 IAMs_20 21 44 42.5
comp=Z,695nm,21.0s
M19K Big River Lodg 91.81 11 P **P** 21 07 56.9 +1.7
baz=200
PLID Pearl Lake 91.87 38 IAmb IAmb 21 08 14.4
comp=Z,25nm,1.1s
RC01 Rabbit Creek A 91.89 13 IAMs_20 IAMs_20 21 44 34.0
comp=Z,646nm,19.0s
P18A Preston Nutter 91.93 45 IAmb IAmb 21 08 14.4
comp=Z,38nm,1.8s
GAMB Gambell 91.93 2 P **P** 21 07 56.6 +0.9
baz=185
HIN Hinchinbrook I 91.95 15 IAMs_20 IAMs_20 21 40 57.4
comp=Z,990nm,22.0s
PWL Port Wells 91.97 14 IAMs_20 IAMs_20 21 44 19.0
comp=Z,693nm,20.0s
PWL Port Wells 91.97 14 P **P** 21 07 55.9 0.0
baz=205
BJT Baijiatuau 91.98 315 IAmb IAmb 21 08 05.2
comp=Z,11nm,0.7s
BJT Baijiatuau 91.98 315 P **P** 21 07 57.5 +1.0
comp=Z,17nm,0.8s
BJI Beijing 91.98 315 P **P** 21 07 56.5 0.0
BJI S **S** 21 18 57.4 +2.5
BJI pmax pmax
comp=Z,12nm,1.4s
BJI pmax pmax
comp=Z,140nm,6.0s
L19K White Mountain 92.00 10 P **P** 21 07 57.8 +1.7
baz=199
M20K Styx River 92.00 11 IAmb IAmb 21 08 13.0
comp=Z,23nm,1.3s
M20K IAMs_20 IAMs_20 21 44 25.5
comp=Z,791nm,21.0s
M20K Styx River 92.00 11 P **P** 21 07 56.9 +0.6
baz=201
SUA Susitna One 92.04 12 P **P** 21 07 56.1 -0.3
baz=203
U33K Whale Pass 92.11 23 P **P** 21 07 56.5 -0.2
baz=218
SIT Sitka 92.13 21 P **P** 21 07 56.8 +0.1
baz=216
B08A Colville Reser 92.26 34 IAmb IAmb 21 08 15.5
comp=Z,22nm,1.5s
HEH HeiHe 92.36 328 *e*P **P** 21 07 57.8 -0.2
HEH pP **PcP** 21 08 00.4 +1.7
HEH sP pP 21 08 01.4 -8.9
HEH SKS **SKSac** 21 18 28.3 +0.8
HEH S **ScS** 21 19 01.5 +1.5
HEH pmax pmax
comp=Z,8.0nm,1.9s
HEH pmax pmax
comp=Z,230nm,6.5s
HEH LR LR
comp=Z,140nm,18.7s
HEH LR LR
comp=Z,370nm,16.8s
HEH LR LR
comp=Z,590nm,16.1s
SKT Skwentna 92.38 12 IAmb IAmb 21 08 18.8
comp=Z,27nm,1.3s
SKT IAMs_20 IAMs_20 21 45 20.3
comp=Z,865nm,21.0s
SKT Skwentna 92.38 12 P **P** 21 07 57.4 -0.4
baz=202
HMT Hamilton 92.41 16 IAMs_20 IAMs_20 21 40 42.6
comp=Z,950nm,20.0s
M22K Willow 92.43 13 IAMs_20 IAMs_20 21 44 38.2
comp=Z,744nm,20.0s
M22K Willow 92.43 13 P **P** 21 07 58.6 +0.6
baz=204
L20K Farewell, AK 92.44 11 P **P** 21 08 00.1 +2.0
baz=200
KNK Knik Glacier 92.45 13 IAMs_20 IAMs_20 21 45 08.6
comp=Z,661nm,20.0s
KNK Knik Glacier 92.45 13 P **P** 21 07 58.9 +0.7
baz=205
PMR Palmer 92.47 13 P **P** 21 07 58.9 +0.7
baz=204
TTA Tatalina 92.54 10 IAmb IAmb 21 08 05.5
comp=Z,16nm,0.9s
TTA Tatalina 92.54 10 P **P** 21 07 59.2 +0.6
baz=198
S31K Pelican 92.58 20 P **P** 21 07 59.1 +0.3
baz=215
WRAK Wrangell Islan 92.62 23 P **P** 21 07 59.3 +0.3
baz=218
GHO Glory Hole Cre 92.68 13 P **P** 21 07 58.8 -0.5
GHO IAMs_20 IAMs_20 21 44 55.8
comp=Z,770nm,22.0s
S32K Killisnoo 92.71 21 P **P** 21 07 59.5 +0.1
baz=217
DIV Divide 92.76 15 IAmb IAmb 21 08 06.1
comp=Z,28nm,1.0s
SML Sawmill 92.83 13 P **P** 21 08 00.2 +0.2
baz=205
MESA MESA 92.84 17 P **P** 21 08 00.4 +0.1
baz=210
BMRM Bremner River 92.89 15 P **P** 21 08 00.8 +0.6
baz=208
M23K Glacier View 92.94 14 P **P** 21 08 00.7 +0.3
baz=206
CUT Chulitna 93.00 12 P **P** 21 08 00.7 0.0
baz=203
S22A 4UR Ranch, Cre 93.05 48 P **P** 21 07 59.5 -2.5
baz=236
KLU Klutina 93.05 14 IAMs_20 IAMs_20 21 42 18.7
comp=Z,749nm,22.0s
KLU Klutina 93.05 14 P **P** 21 08 00.7 -0.3
baz=207
SCM Sheep Creek Mo 93.06 14 IAMs_20 IAMs_20 21 42 10.8
comp=Z,728nm,21.0s
SCM Sheep Creek Mo 93.06 14 P **P** 21 08 01.3 +0.2
baz=206
ANM Nome 93.08 5 IAMs_20 IAMs_20 21 44 37.3
comp=Z,733nm,20.0s
PNL Peninsula 93.08 18 P **P** 21 08 01.1 -0.1
baz=213
ISLE Juniper Island 93.11 16 IAMs_20 IAMs_20 21 42 15.2
comp=Z,1µm,22.0s
PPLA Purkeypile 93.11 11 P **P** 21 08 01.4 0.0
baz=202
K20K Telida 93.24 10 IAmb IAmb 21 08 05.1
comp=Z,14nm,0.8s
K20K Telida 93.24 10 P **P** 21 08 04.1 +2.3
baz=200
AHID Auburn Hatcher 93.25 42 IAMs_20 IAMs_20 21 42 00.4
comp=Z,975nm,21.0s
BCPM Bancas Point 93.26 18 IAMs_20 IAMs_20 21 41 30.0
comp=Z,909nm,22.0s
NNA Nana 93.28 105 LR LR 21 41 15.6
comp=Z,288nm,20.9s,baz=242,slow=30
NEW Newport 93.31 35 LR LR 21 42 04.9
comp=Z,770nm,21.6s,baz=216,slow=30
NEW Newport 93.31 35 IAMs_20 IAMs_20 21 41 09.3
comp=Z,1µm,22.0s
VRDI Verde Repeater 93.39 16 IAMs_20 IAMs_20 21 41 52.4
comp=Z,767nm,22.0s
CMAR Chiang Mai Arr 93.41 289 P **P** 21 08 04.8 +1.1
comp=Z,5.8nm,0.9s,baz=138,slow=3.5,SNR=36
CMAR PP **PP** 21 11 45.4 -3.2
comp=Z,1.3nm,0.9s,baz=131,slow=6.1,SNR=4.4
CMAR PKKPbc **PKKPdf** 21 25 09.5 +0.7
comp=Z,0.6nm,0.8s,baz=279,slow=4.4,SNR=5.3
comp=Z,5.8nm,0.9s
CMAR Chiang Mai Arr 93.41 289 P **P** 21 08 03.5 -0.1
CMAR Chiang Mai Arr 93.41 289 *i*P **P** 21 08 05.9 +2.3
CMAR pmax pmax
comp=Z,5.0nm,0.9s
N25K Chitina, Valde 93.45 15 IAMs_20 IAMs_20 21 41 56.2
comp=Z,756nm,22.0s
N25K Chitina, Valde 93.45 15 P **P** 21 08 03.4 +0.5
baz=208,SNR=5.2
XAN Xi'an 93.46 307 ⇑P **P** 21 08 04.0 +0.4
XAN SKS **SKSac** 21 18 32.1 -2.4
XAN S **S** 21 19 06.5 -2.0
XAN pmax pmax
comp=Z,19nm,1.2s
XAN LR LR
comp=Z,240nm,16.5s
XAN LR LR
comp=Z,280nm,22.0s
XAN LR LR
comp=Z,500nm,19.2s
O20A White River Ci 93.48 46 P **P** 21 08 03.2 -0.5
baz=235
GLB Gilahina Butte 93.49 15 IAMs_20 IAMs_20 21 41 57.1
comp=Z,706nm,22.0s
P29M Windy Craggy 93.51 19 IAMs_20 IAMs_20 21 44 13.1
comp=Z,616nm,19.0s
KMI Kunming 93.55 297 ⇑P **P** 21 08 05.4 +1.0
KMI pP PcP 21 08 08.5 +3.6
KMI S **S** 21 19 09.8 -0.2
KMI pmax pmax
comp=Z,17nm,1.2s

KMI pmax pmax
comp=Z,140nm,3.5s
KMI LR LR
comp=Z,120nm,19.6s
KMI LR LR
comp=Z,230nm,24.8s
KMI LR LR
comp=Z,240nm,24.9s
CHTO Chiang Mai 93.58 289 P P 21 08 04.6 +0.2
CHTO Chiang Mai 93.58 289 P P 21 08 04.6 +0.2
CAST Castle Rocks 93.62 11 P P 21 08 01.4 -2.1
CAST IAmb IAmb 21 08 05.7
comp=Z,23nm,0.8s
CAST Castle Rocks 93.62 11 P P 21 08 03.7 +0.2
baz=202
MCARA McCarthy VSAT 93.62 16 P P 21 08 04.4 +0.8
baz=210
WAT6 Susitna Watana 93.65 13 P P 21 08 04.3 +0.4
baz=206
BARN Barnard Glacie 93.67 16 IAmb IAmb 21 08 22.2
comp=Z,28nm,1.1s
BARN IAMs_20 IAMs_20 21 42 08.1
comp=Z,1µm,22.0s
WAT1 Susitna Watana 93.72 13 P P 21 08 04.5 +0.5
baz=205
REDW Red Top Meadow 93.75 42 IAMs_20 IAMs_20 21 41 40.6
comp=Z,1µm,22.0s
SMCO Snowmass 93.75 47 IAmb IAmb 21 08 23.6
comp=Z,12nm,0.9s
SMCO IAMs_20 IAMs_20 21 41 32.6
comp=Z,982nm,22.0s
TPAW Teton Pass 93.76 42 IAMs_20 IAMs_20 21 52 25.9
comp=Z,874nm,20.0s
PLBC Pleasant Camp 93.77 20 P P 21 08 05.1 +0.8
baz=215
MSTX Muleshoe 93.79 53 P P 21 08 06.5 +1.3
baz=238
FXWY Fox Creek 93.81 42 IAMs_20 IAMs_20 21 41 35.2
comp=Z,941nm,21.0s
SNOW Snow King Moun 93.86 42 IAMs_20 IAMs_20 21 41 35.6
comp=Z,889nm,21.0s
TNA Tin City 93.89 4 P P 21 08 05.8 +1.1
baz=188
SDCO Great Sand Dun 93.93 49 IAMs_20 IAMs_20 21 40 50.9
comp=Z,907nm,22.0s
SDCO Great Sand Dun 93.93 49 P P 21 08 06.5 +0.6
baz=237
SDCO Great Sand Dun 93.93 49 P P 21 08 05.5 -0.4
baz=237
KTH Kantishna Hill 93.94 11 P P 21 08 03.6 -1.5
KTH IAmb IAmb 21 08 08.0
comp=Z,18nm,0.8s
TRF Thorofare Moun 93.96 12 P P 21 08 03.4 -1.9
TRF Thorofare Moun 93.96 12 P P 21 08 06.0 +0.7
baz=203
J20K Nowinta River 94.00 10 IAmb IAmb 21 08 11.5
comp=Z,22nm,1.2s
J20K Nowinta River 94.00 10 P P 21 08 06.9 +1.7
baz=200
IMW Indian Meadow 94.01 42 IAMs_20 IAMs_20 21 42 20.4
comp=Z,848nm,20.0s
CHUM Lake Minchumin 94.01 11 P P 21 08 06.0 +0.7
baz=202
HARP HAARP 94.03 14 P P 21 08 06.5 +1.1
baz=208
MOOW Moose Ponds 94.03 42 IAmb IAmb 21 08 27.8
comp=Z,49nm,2.0s
MOOW IAMs_20 IAMs_20 21 42 25.3
comp=Z,955nm,21.0s
LOHW Long Hollow 94.04 42 IAmb IAmb 21 08 23.8
comp=Z,22nm,1.4s
LOHW IAMs_20 IAMs_20 21 42 37.4
comp=Z,761nm,20.0s
MSO Missoula 94.08 38 IAMs_20 IAMs_20 21 41 57.6
comp=Z,827nm,22.0s
MSO Missoula 94.08 38 P P 21 08 06.7 +0.5
baz=232
SEY Seymchan 94.17 347 *ce* P **P 21 08 05.5 -0.5**
SEY pmax pmax
comp=Z,29nm,1.0s
DHY Denali Highway 94.17 13 P P 21 08 07.5 +1.2
baz=206
BW06 Boulder Array 94.17 43 P P 21 08 06.5 -0.3
baz=235
PDAR Pinedale Array 94.17 43 P P 21 08 07.5 +0.6
comp=Z,5.5nm,0.9s,baz=193,slow=2.8,SNR=24
PDAR PKKPbc **PKKPdf 21 25 07.5 -1.4**
comp=Z,1.6nm,0.7s,baz=86,slow=4.4,SNR=14
PDAR LR LR 21 42 33.5
comp=Z,1µm,21.6s,baz=233,slow=30
comp=Z,5.5nm,0.9s
RND Reindeer 94.18 12 IAmb IAmb 21 08 23.6
comp=Z,26nm,1.1s
S34M Telegraph Cree 94.20 23 P P 21 08 07.5 +1.2
baz=219
FLWY Flagg Ranch 94.26 42 IAMs_20 IAMs_20 21 41 51.2
comp=Z,920nm,21.0s
LVC Limon Verde 94.28 118 LR LR 21 40 53.1
comp=Z,447nm,22.0s,baz=224,slow=29
XLT XiLinHaoTe 94.30 318 *eP* **P 21 08 07.0 -0.2**
XLT pP PcP 21 08 10.8 +3.2
XLT sP pP 21 08 12.9 -6.8
XLT SKS **SKSac 21 18 38.0 -0.7**
XLT S **S 21 19 15.5 0.0**
XLT sS pS 21 19 26.4 -5.1
XLT pmax pmax
comp=Z,10.0nm,1.4s
XLT pmax pmax
comp=Z,180nm,5.3s
XLT LR LR
comp=Z,270nm,19.4s
XLT LR LR
comp=Z,280nm,23.6s
ATAH Atahualpa 94.32 100 LR LR 21 41 36.9
comp=Z,608nm,20.8s,baz=238,slow=30
YUK8 Steele Glacier 94.35 17 P P 21 08 07.7 +0.4
baz=212
MCK McKinley 94.46 12 P P 21 08 06.5 -0.9
MCK IAmb IAmb 21 08 11.5
comp=Z,32nm,1.2s
MCK IAMs_20 IAMs_20 21 45 51.4
comp=Z,986nm,22.0s
MCK McKinley 94.46 12 P P 21 08 08.0 +0.5
baz=205
MCK McKinley 94.46 12 P P 21 08 06.5 -0.9
MCK pmax pmax
comp=Z,32nm,1.2s
MCK MLR MLR
comp=Z,1µm,22.0s
PAX Paxson 94.47 14 P P 21 08 06.3 -1.2
PAX Paxson 94.47 14 P P 21 08 08.5 +0.9
baz=208
PAX Paxson 94.47 14 P P 21 08 06.4 -1.2
PAX pmax pmax
comp=Z,7.0nm,0.9s
M26K Nabesna, AK 94.52 15 P P 21 08 09.5 +1.7
baz=210
HYT Haines Junctio 94.57 18 P P 21 08 08.9 +0.8
baz=214
YUK3 Moose Creek 94.59 17 P P 21 08 08.8 +0.5
baz=212,SNR=9.9
BOZ Bozeman (W) 94.62 40 IAmb IAmb 21 08 27.3
comp=Z,30nm,1.4s
BOZ IAMs_20 IAMs_20 21 41 41.7
comp=Z,676nm,22.0s
BOZ Bozeman (W) 94.62 40 P P 21 08 08.9 +0.1
baz=234
SNET Serv Nac Est T 94.62 77 IAMs_20 IAMs_20 21 40 03.6
comp=Z,861nm,21.0s
LKWY Lake 94.71 41 IAMs_20 IAMs_20 21 42 19.2
comp=Z,1µm,22.0s
M27K Edge Creek, AK 94.74 16 IAmb IAmb 21 08 27.2
comp=Z,33nm,1.4s
ZEA Zeya 94.83 331 *eP* **P 21 08 09.7 +0.4**
ZEA *e* 21 20 41.4
ZEA pmax pmax
comp=Z,10.0nm,1.5s
O30N Mendenhall 94.92 19 P P 21 08 09.8 +0.2
baz=215
ISCO Idaho Springs 94.97 47 P P 21 08 09.7 -1.0
baz=237
DLBC Dease Lake 94.98 23 LR LR 21 43 34.9
comp=Z,210nm,22.0s,baz=271,slow=31
L26K Log Cabin Wild 94.98 15 IAmb IAmb 21 08 35.5
comp=Z,18nm,1.6s
L26K Log Cabin Wild 94.98 15 P P 21 08 09.9 +0.1
baz=209

PZH PanZhiHua 95.01 297 P P 21 08 11.9 +0.9
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,5.2s
PZH LR LR
comp=Z,510nm,22.6s
PZH LR LR
comp=Z,470nm,20.0s
PZH LR LR
comp=Z,810nm,23.5s
AMTX Amarillo 95.03 53 IAMs_20 IAMs_20 21 41 47.1
comp=Z,635nm,20.0s
K24K Donnelly Dome 95.15 13 P P 21 08 10.7 +0.2
baz=207
I21K Tanana 95.27 10 IAmb IAmb 21 08 17.5
comp=Z,13nm,0.9s
I21K Tanana 95.27 10 P P 21 08 12.4 +1.4
baz=202
RIDG Independent Ri 95.28 14 IAMs_20 IAMs_20 21 43 17.6
comp=Z,836nm,22.0s
WRH Wood River Hil 95.29 12 IAmb IAmb 21 08 14.7
comp=Z,22nm,1.0s
WRH IAMs_20 IAMs_20 21 47 01.4
comp=Z,613nm,19.0s
MLY Manley 95.34 11 IAmb IAmb 21 08 28.1
comp=Z,16nm,1.4s
MLY Manley 95.34 11 P P 21 08 11.7 +0.3
baz=203
HHC Hu-ho-hao-te 95.34 314 *eP* **P 21 08 13.4 +1.3**
HHC pP PcP 21 08 18.1 +5.7
HHC SKS **SKSac 21 18 46.1 +1.6**
HHC S **ScS 21 19 28.9 +3.3**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.6s
HHC LR LR
comp=Z,250nm,13.7s
HHC LR LR
comp=Z,370nm,18.2s
N23A Red Feather La 95.36 46 P P **21 08 11.6 -0.8**
baz=237
L27K Beaver Creek, 95.36 15 IAMs_20 IAMs_20 21 43 41.6
comp=Z,714nm,22.0s
L27K Beaver Creek, 95.36 15 P P 21 08 11.4 -0.2
baz=237
R33M Jennings River 95.40 22 P P 21 08 13.9 +2.0
baz=220
HDA Harding Lake 95.45 13 P P 21 08 11.2 -0.7
HDA IAmb IAmb 21 08 14.9
comp=Z,14nm,0.7s
HDA Harding Lake 95.45 13 P P 21 08 12.2 +0.2
baz=206
CCB Clear Creek Bu 95.51 12 P P 21 08 11.2 -0.9
CCB IAmb IAmb 21 08 17.9
comp=Z,11nm,0.8s
H21K Melozitna Rive 95.59 10 IAmb IAmb 21 08 31.1
comp=Z,36nm,1.7s
H21K Melozitna Rive 95.59 10 P P 21 08 12.6 +0.1
baz=201
N31M Braeburn, Yuko 95.59 19 P P 21 08 13.2 +0.5
baz=216
MNMC Minye Minye 95.61 115 P P 21 08 13.7 -0.5
CD2 Chengdu 95.61 302 *eP* **P 21 08 15.4 +1.9**
CD2 pmax pmax
comp=Z,20nm,0.7s
M29M Sonme Creek 95.66 17 P P 21 08 14.0 +0.9
baz=214
SCRK Sand Creek 95.67 14 P P 21 08 13.5 +0.4
baz=209
I23K Minto, Yukon-K 95.68 11 P P 21 08 13.3 +0.4
baz=204
RLMT Red Lodge 95.69 41 IAMs_20 IAMs_20 21 44 24.2
comp=Z,807nm,20.0s
RLMT Red Lodge 95.69 41 P P 21 08 13.2 -0.6
baz=235
TCOL CIGO, UAF Yank 95.70 12 IAmb IAmb 21 08 18.3
comp=Z,24nm,1.1s
TCOL IAMs_20 IAMs_20 21 46 41.1
comp=Z,826nm,22.0s
TCOL CIGO, UAF Yank 95.70 12 P P 21 08 13.8 +0.8
baz=206
COLA College 95.70 12 P P 21 08 11.9 -1.1
COLA IAmb IAmb 21 08 18.3
comp=Z,23nm,1.0s
COLA College 95.70 12 IAMs_20 IAMs_20 21 46 41.1
comp=Z,760nm,21.0s
COLA College 95.70 12 P P 21 08 13.9 +0.9
baz=206
COLA College 95.70 12 P P 21 08 14.3 +1.3
comp=Z,24nm,1.0s
COLA College 95.70 12 *i* P **P 21 08 11.1 -1.9**
COLA pmax pmax
comp=Z,21nm,1.1s
MDM Murphy Dome 95.71 12 P P 21 08 11.7 -1.4
MDM IAmb IAmb 21 08 29.9
comp=Z,24nm,1.2s
MDM IAMs_20 IAMs_20 21 47 02.4
comp=Z,912nm,20.0s
IMAR Indian Mountai 95.76 9 P P 21 08 13.1 -0.2
IL31 95.79 13 P P 21 08 11.6 -1.8
ILAR Eielson Array 95.79 13 P P 21 08 13.2 -0.3
comp=Z,5.5nm,0.8s,baz=217,slow=5.0,SNR=27
ILAR PP **PP 21 11 60.0 -6.2**
comp=Z,1.1nm,1.0s,baz=223,slow=6.2,SNR=3.6
ILAR PKKPbc **PKKPbc 21 25 02.9 -2.4**
comp=Z,0.8nm,0.9s,baz=314,slow=2.1,SNR=5.1
ILAR LR LR 21 46 59.6
comp=Z,204nm,19.5s,baz=202,slow=33
comp=Z,5.5nm,0.8s
ILAR Eielson Array 95.79 13 P P 21 08 12.5 -1.0
J25K Salcha River, 95.95 13 P P 21 08 14.2 -0.1
J25K IAmb IAmb 21 08 18.1
comp=Z,12nm,1.0s
J25K Salcha River, 95.95 13 P P 21 08 14.5 +0.3
baz=207
K22A Casper 95.95 44 IAmb IAmb 21 08 37.2
comp=Z,10.0nm,0.9s
K22A Casper 95.95 44 P P 21 08 14.2 -0.8
baz=237
POKR Poker Plat Res 96.00 12 IAMs_20 IAMs_20 21 47 00.0
comp=Z,776nm,21.0s
POKR Poker Plat Res 96.00 12 P P 21 08 15.1 +0.7
baz=206
H22K Ishtalitna Cre 96.03 10 P P 21 08 14.8 +0.3
baz=203
K27K Chicken 96.14 15 IAMs_20 IAMs_20 21 43 44.2
comp=Z,638nm,21.0s
K27K Chicken 96.14 15 P P 21 08 17.1 +2.1
baz=210
M30M Minto, Yukon 96.21 18 IAMs_20 IAMs_20 21 43 28.0
comp=Z,836nm,21.0s
M30M Minto, Yukon 96.21 18 P P 21 08 17.4 +1.9
baz=215
J26L Joseph Creek 96.22 14 IAmb IAmb 21 08 20.7
comp=Z,21nm,0.8s
J26L IAMs_20 IAMs_20 21 46 43.5
comp=Z,604nm,20.0s
J26L Joseph Creek 96.22 14 P P 21 08 17.2 +1.7
baz=209
H23K Yukon River 96.27 11 IAMs_20 IAMs_20 21 47 44.2
comp=Z,715nm,20.0s
G21K Allakaket 96.29 9 P P 21 08 16.1 +0.4
baz=201
L29M L29M 96.30 17 P P 21 08 18.8 +2.9
baz=214
TGUH Tegucigalpa,Un 96.47 78 IAMs_20 IAMs_20 21 40 39.8
comp=Z,672nm,22.0s
M31M Drury Creek, Y 96.56 19 P P 21 08 18.1 +1.0
baz=217
H24K Noodoo Dome 96.57 12 P P 21 08 18.2 +1.2
baz=206
RDOG Red Dog Mine 96.72 5 IAMs_20 IAMs_20 21 57 38.3
comp=Z,704nm,20.0s
PRP Porcupine Dome 96.72 13 P P 21 08 16.9 -0.9
PRP IAmb IAmb 21 08 23.0
comp=Z,11nm,1.0s
PRP Porcupine Dome 96.72 13 P P 21 08 18.7 +0.9
baz=208
JTS Las Juntas de 96.75 82 LR LR 21 41 44.0
comp=Z,612nm,20.9s,baz=300,slow=29
JTS Las Juntas de 96.75 82 IAMs_20 IAMs_20 21 41 01.6
comp=Z,608nm,21.0s
DAWY Dawson 96.79 16 P P 21 08 17.1 -0.9
DAWY IAmb IAmb 21 08 36.0
comp=Z,18nm,1.4s

DAWY Dawson 96.79 16 P P 21 08 18.5 +0.4
baz=213
TNCH TengChong 96.86 295 P P 21 08 20.8 +1.3
TNCH SKS **SKSac 21 18 51.6 -1.7**
TNCH S **S 21 19 35.1 -3.6**
TNCH pmax pmax
comp=Z,8.0nm,1.0s
TNCH pmax pmax
comp=Z,98nm,4.3s
TNCH LR LR
comp=Z,110nm,16.1s
TNCH LR LR
comp=Z,150nm,16.3s
TNCH LR LR
comp=Z,320nm,19.8s
HKT Hockley 96.88 60 IAMs_20 IAMs_20 21 42 59.4
comp=Z,570nm,19.0s
BILL Bilibino 96.90 354 P **P 21 08 17.8 -0.6**
BILL IAmb IAmb 21 08 36.9
comp=Z,30nm,1.3s
BILL Bilibino 96.90 354 *ce* P **P 21 08 17.0 -1.4**
BILL *i* 21 08 34.8
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,329nm,19.0s
EGAK Eagle 96.99 15 IAmb IAmb 21 08 36.7
comp=Z,31nm,1.6s
EGAK IAMs_20 IAMs_20 21 44 11.7
comp=Z,871nm,22.0s
EGAK Eagle 96.99 15 P P 21 08 19.8 +0.9
baz=211
I26K Coal Creek Min 97.01 14 IAmb IAmb 21 08 36.9
comp=Z,14nm,1.2s
I26K Coal Creek Min 97.01 14 P P 21 08 18.9 -0.1
baz=210
K29M Barlow Dome 97.06 17 P P 21 08 19.4 -0.1
baz=214
EGMT Eagleton 97.08 39 IAMs_20 IAMs_20 21 45 25.9
comp=Z,648nm,20.0s
EGMT Eagleton 97.08 39 P P 21 08 19.7 -0.1
baz=235
HDC Heredia 97.36 83 IAMs_20 IAMs_20 21 41 31.6
comp=Z,843nm,22.0s
J29M Klondike Camp 97.40 16 IAMs_20 IAMs_20 21 44 08.5
comp=Z,820nm,22.0s
F22K John River 97.41 9 P Pdif 21 08 22.0 +1.2
baz=202
MND Mandalay 97.42 291 P Pdif 21 08 23.6 +1.7
comp=Z,10nm,1.3s
G24K Hadweenzic Riv 97.42 11 P Pdif 21 08 22.1 +1.2
baz=206
COLD Coldfoot 97.45 10 P Pdif 21 08 22.3 +1.4
baz=204
I27K Kandik River 97.60 14 P Pdif 21 08 23.0 +1.3
baz=211
MMPY Sheldon Lake, 97.80 20 P Pdif 21 08 23.9 +1.2
baz=220
E22K Anaktuvuk Pass 98.04 9 P Pdif 21 08 25.4 +1.8
baz=202
LZH Lanzhou 98.08 307 *eP* **P 21 08 24.4 -0.4**
LZH pP Pdif 21 08 28.0 +3.2
LZH sP pP 21 08 31.3 -5.9
LZH pmax pmax
comp=Z,7.0nm,1.0s
LZH LR LR
comp=Z,230nm,15.6s
LZH LR LR
comp=Z,220nm,15.5s
LZH LR LR
comp=Z,360nm,16.5s
F24K Squaw Lake 98.09 11 P Pdif 21 08 25.3 +1.4
baz=206
I29M Ogilvie Camp, 98.13 15 IAMs_20 IAMs_20 21 44 44.0
comp=Z,727nm,21.0s
I29M Ogilvie Camp, 98.13 15 P Pdif 21 08 24.9 +0.8
baz=214
H27K Steamboat Moun 98.15 14 P Pdif 21 08 25.0 +0.8
baz=211
RSSD Black Hills 98.27 44 P P 21 08 25.2 -0.3
RSSD IAmb IAmb 21 08 43.3
comp=Z,13nm,0.9s
RSSD Black Hills 98.27 44 P Pdif 21 08 26.4 +0.9
baz=238
RSSD Black Hills 98.27 44 P Pdif 21 08 26.0 +0.5
baz=238
RSSD Black Hills 98.27 44 P P 21 08 25.2 -0.3
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD MLR MLR
comp=Z,2µm,21.0s
E23K Chandalar 98.30 10 P Pdif 21 08 25.3 +0.4
baz=204
LPAZ La Paz 98.31 113 P Pdif 21 08 27.9 +1.1
comp=Z,0.7nm,0.6s,baz=232,slow=3.8,SNR=3.9
LPAZ PKKPbc **PKKPbc 21 24 56.5 -0.5**
comp=Z,0.5nm,0.4s,baz=13,slow=11,SNR=3.8
LPAZ LR LR 21 43 58.2
comp=Z,194nm,21.5s,baz=260,slow=30
comp=Z,0.7nm,0.6s
LPAZ La Paz 98.31 113 P Pdif 21 08 28.0 +1.1
G26K Porcupine Rive 98.32 13 P Pdif 21 08 25.8 +1.0
baz=209
LAO LASA Array 98.33 41 IAMs_20 IAMs_20 21 43 37.0
comp=Z,610nm,19.0s
LAO LASA Array 98.33 41 P Pdif 21 08 25.9 +0.4
baz=237
OK029 Liberty Lake 98.48 54 IAMs_20 IAMs_20 21 43 16.4
comp=Z,594nm,20.0s
E24K Your Creek 98.50 11 P P 21 08 25.5 -0.2
baz=205
F25K Christian Rive 98.54 12 P Pdif 21 08 27.6 +1.7
baz=208
NATX Nacogdoches 98.62 59 IAMs_20 IAMs_20 21 48 43.4
comp=Z,792nm,21.0s
G27K Doyon Strip 98.62 13 P Pdif 21 08 27.5 +1.2
baz=211
TOLK Toolik Lake Re 98.84 10 P Pdif 21 08 28.1 +0.9
baz=204
D23K Nanushuk River 98.98 9 P Pdif 21 08 29.2 +1.5
baz=203
OK030 Cody Creek RV 99.02 54 IAMs_20 IAMs_20 21 42 48.8
comp=Z,663nm,21.0s
E25K Arctic Village 99.03 11 P Pdif 21 08 28.0 -0.1
baz=208
OK052 Battle Ridge R 99.04 54 IAMs_20 IAMs_20 21 53 35.2
comp=Z,590nm,18.0s
OK053 SW of W Deep R 99.06 54 IAMs_20 IAMs_20 21 54 56.8
comp=Z,545nm,19.0s
OK050 Pawnee Station 99.10 54 IAMs_20 IAMs_20 21 46 03.9
comp=Z,658nm,22.0s
OK034 N. Norfolk Rd. 99.11 54 IAMs_20 IAMs_20 21 42 49.1
comp=Z,780nm,22.0s
OK048 Pawnee Station 99.14 54 IAMs_20 IAMs_20 21 45 47.8
comp=Z,646nm,22.0s
OK046 Pawnee Station 99.16 54 IAMs_20 IAMs_20 21 45 48.3
comp=Z,635nm,21.0s
OK044 Pawnee Station 99.22 54 IAMs_20 IAMs_20 21 53 56.1
comp=Z,584nm,20.0s
EPYK Eagle Plains 99.34 15 IAMs_20 IAMs_20 21 45 31.8
comp=Z,668nm,22.0s
YAK Yakutsk 99.65 338 LR LR 21 46 45.7
comp=Z,206nm,21.8s,baz=90,slow=31
YAK Yakutsk 99.65 338 *i* P **Pdif 21 08 29.5 -1.3**
YAK pmax pmax
comp=Z,5.0nm,0.9s
TUL1 Leonard 99.72 55 IAMs_20 IAMs_20 21 45 31.4
comp=Z,634nm,20.0s
C23K Itkillik River 99.79 9 P Pdif 21 08 33.5 +2.2
baz=203
E27K Coleen River 99.82 13 P Pdif 21 08 31.9 +0.4
baz=211
G30M tAoh Zraii Nji 99.95 15 P Pdif 21 08 33.1 +0.9
baz=216
A21K Barrow 100.46 7 IAMs_20 IAMs_20 21 51 59.2
comp=Z,550nm,20.0s
KSU1 Kansas State U 100.64 51 IAMs_20 IAMs_20 21 44 55.3
comp=Z,879nm,22.0s
CPUP Villa Florida 100.67 128 PKKPbc PKKPbc 21 24 49.1 -0.6
comp=Z,1.6nm,0.7s,baz=154,slow=6.8,SNR=2.9
C27K Jago River 100.68 11 P Pdif 21 08 33.6 -1.7
baz=210
MIAR Mount Ida 100.71 57 IAMs_20 IAMs_20 21 45 17.5
comp=Z,730nm,21.0s
C26K Camden Bay 100.73 11 P Pdif 21 08 34.4 -1.0
baz=208
F31M Tsiigehtchic 100.90 16 P Pdif 21 08 37.3 +1.1
baz=218

INK Inuvik 101.64 15 P **Pdif** **21 08 39.0 -0.6**
baz=218
ULN Ulaanbaatar 101.74 318 *i* P **Pdif** **21 08 39.2 -1.5**
ULN pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 102.11 318 P **Pdif** **21 08 43.1 +0.7**
comp=Z,0.6nm,0.5s,baz=134,slow=4.2,SNR=2.1
SONM PKKPbc **PKKPbc** **21 24 47.3 +0.4**
comp=Z,2.2nm,0.8s,baz=298,slow=3.2,SNR=4.8
GTA Gaotai 102.46 308 *eP* **Pdif** **21 08 45.3 +1.2**
GTA pP pPdif 21 08 51.1 -5.4
GTA sP sPdif 21 08 54.9 -6.2
GTA pmax pmax
comp=Z,2.0nm,1.7s
GTA pmax pmax
comp=Z,56nm,7.2s
GTA LR LR
comp=Z,160nm,19.1s
GTA LR LR
comp=Z,220nm,22.3s
GTA LR LR
comp=Z,290nm,21.1s
SHL Shillong 102.47 292 P **Pdif** **21 08 45.7 +1.2**
CCM Cathedral Cave 103.94 54 IAMs_20 IAMs_20 21 47 17.9
comp=Z,626nm,20.0s
GOMU GeErMu 104.66 303 P **Pdif** **21 08 59.4 +5.1**
GOMU SKS 21 19 29.4
GOMU LR LR
comp=Z,110nm,19.2s
GOMU LR LR
comp=Z,230nm,19.8s
GOMU LR LR
comp=Z,300nm,22.0s
PLAL Pickwick Lake 104.98 58 IAMs_20 IAMs_20 21 48 29.8
comp=Z,804nm,22.0s
LRAL Lakeview Retre 105.00 60 IAMs_20 IAMs_20 21 49 33.5
comp=Z,796nm,22.0s
AGMN Agassiz Nation 105.25 43 IAMs_20 IAMs_20 21 50 23.9
comp=Z,754nm,20.0s
WVT Waverly 105.63 57 IAMs_20 IAMs_20 21 49 02.9
comp=Z,678nm,21.0s
GOGA Godfrey 107.87 61 IAMs_20 IAMs_20 21 51 24.4
comp=Z,740nm,21.0s
TZTN Tazewell 108.98 58 IAMs_20 IAMs_20 21 51 37.6
comp=Z,576nm,22.0s
ACSO Alum Creek Sta 110.70 55 IAMs_20 IAMs_20 21 51 31.0
comp=Z,670nm,20.0s
SDDR Presa de Saban 112.41 80 IAMs_20 IAMs_20 21 50 01.2
comp=Z,530nm,22.0s
WMQ Urumqi 112.52 309 *e*PKP **PKiKP** **21 13 22.9 -1.1**
WMQ LR LR
comp=Z,360nm,21.5s
WMQ LR LR
comp=Z,390nm,25.5s
ZAA0 Zalesovo Array 116.98 319 **PKPdf** **21 13 29.4 -2.6**
ZALV Zalesovo Beam 116.98 319 PKP **PKPdf** **21 13 30.4 -1.7**
comp=Z,3.5nm,0.7s,baz=150,slow=0.7,SNR=18
ZALV Zalesovo Beam 116.98 319 **PKPdf** **21 13 30.0 -2.0**
MK31 Makanchi Array 117.00 311 **PKPdf** **21 13 30.9 -1.6**
MK31 Makanchi Array 117.00 311 *i* PKIKP **PKPdf** **21 13 31.1 -1.3**
MKAR Makanchi Array 117.00 311 PKP **PKPdf** **21 13 31.5 -0.9**
comp=Z,6.6nm,0.8s,baz=66,slow=2.9,SNR=28
MKAR Makanchi Array 117.00 311 **PKPdf** **21 13 31.1 -1.3**
MAKZ Makanchi 117.22 311 **PKPdf** **21 13 30.3 -2.5**
MAKZ Makanchi 117.22 311 ⇑PKIKP **PKPdf** **21 13 30.9 -1.9**
NRIK Noril'sk 118.07 336 PKP **PKPdf** **21 13 32.9 -0.9**
comp=Z,6.2nm,0.7s,baz=182,slow=4.4,SNR=6.6
BOSA Boshof 119.41 203 PKP **PKiKP** **21 13 38.2 +0.3**
comp=Z,7.7nm,1.0s,baz=198,slow=2.4,SNR=4.1
KSH Kashi 119.81 301 PKP **PKiKP** **21 13 38.3 +0.1**
KURK Kurchatov 120.15 315 **PKPdf** **21 13 36.8 -1.5**
KURK Kurchatov 120.15 315 P **PKPdf** **21 13 37.4 -0.9**
KURK Kurchatov 120.15 315*c* *i*PKIKP **PKPdf** **21 13 36.6 -1.7**
KURK pmax pmax
comp=Z,21nm,1.0s
NIL Nilore 120.45 294 PKPdf **PKPdf** **21 13 37.5 -2.0**
NIL Nilore 120.45 294 P **PKPdf** **21 13 38.7 -0.7**
NIL Nilore 120.45 294 PKIKP **PKPdf** **21 13 37.5 -2.0**
TKM2 Tokmak 2 120.82 305 P **PKPdf** **21 13 39.7 -0.4**
SNR=9.7
KBK Karagaybulak 121.24 305 P **PKPdf** **21 13 40.9 0.0**
SNR=6.4
CHMS Chumysh 121.44 305 P **PKPdf** **21 13 40.9 -0.2**
SNR=7.4
UCH Uchtor 121.47 304 P **PKPdf** **21 13 41.5 -0.2**
SNR=13
AAK Ala-Archa 121.56 305 PKPdf **PKPdf** **21 13 40.9 -0.6**
AAK Ala-Archa 121.56 305 P **PKPdf** **21 13 41.2 -0.3**
AAK Ala-Archa 121.56 305 *i* PKPdf **PKPdf** **21 13 40.8 -0.6**
SNR=7.1
AAK Ala-Archa 121.56 305*c* *i*PKIKP **PKPdf** **21 13 41.6 +0.1**
AAK pmax pmax
comp=Z,8.0nm,1.0s
TULEG Thule 121.64 15 **PKPdf** **21 13 38.8 -1.6**
TULEG Thule 121.64 15 *i* P **PKPdf** **21 13 38.5 -1.9**
USP Ospenovka 121.67 305 P **PKPdf** **21 13 41.3 -0.2**
SNR=5.7
AML Almayashu 122.05 304 P **PKiKP** **21 13 43.0 0.0**
SNR=12
KBL Kabul 124.06 294 PKPdf **PKPdf** **21 13 46.4 -0.2**
KBL Kabul 124.06 294 P **PKPdf** **21 13 46.8 +0.2**
KBL Kabul 124.06 294 PKIKP **PKPdf** **21 13 46.4 -0.2**
KK31 Karatay Array 124.53 305⇑ *e*PKIKP **PKPdf** **21 13 45.5 -1.5**
KK31 pmax pmax
comp=Z,16nm,0.8s
BRVK Borovoye 125.50 317 **PKPdf** **21 13 47.5 -1.0**
BRVK Borovoye 125.50 317 P **PKPdf** **21 13 48.0 -0.5**
BRVK Borovoye 125.50 317 PKIKP **PKPdf** **21 13 47.5 -1.0**
MHTO MHTO 129.71 275 P **PKPdf** **21 13 57.4 -0.1**
JMDO Jabal Madar 130.04 276 P **PKPdf** **21 13 58.6 +0.4**
SMDO Samad 130.31 277 P **PKPdf** **21 13 58.8 +0.1**
SNR=6.0
BIDO Bidbid 130.39 278 P **PKPdf** **21 13 58.7 0.0**
SNR=5.2
DAG Danmarks Havn 130.45 6 *i* P **PKPdf** **21 13 55.4 -1.9**
SUMG Summit 130.56 15 *i* P **PKPdf** **21 13 58.7 +0.6**
BSY Bisya 130.96 276 P **PKPdf** **21 13 59.3 -0.5**
HOQ Hoqain 131.12 278 P **PKPdf** **21 14 00.5 +0.4**
SNR=7.3
DMTO DMTO 131.19 269 P **PKiKP** **21 14 01.1 -0.2**
JASK Jask - Hormozg 131.29 281 P **PKiKP** **21 14 01.5 +0.1**
ARQ Araqi 131.73 277 P **PKiKP** **21 14 02.1 -0.2**
SNR=5.2
RBK Rabkut 131.77 269 P **PKiKP** **21 14 02.2 -0.3**
ARU Arti 131.96 322 **PKPdf** **21 13 59.7 -1.0**
ARU Arti 131.96 322 *i* PKIKP **PKPdf** **21 14 00.1 -0.6**
ARU 21 16 18.1
ARU MLR MLR
comp=Z,463nm,22.0s
AB31 Akbulak array 132.10 312⇑ *e*PKIKP **PKPdf** **21 14 00.3 -0.9**
AB31 pmax pmax
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 132.10 312 **PKPdf** **21 13 59.7 -1.4**
DOK Doka 132.25 270 P **PKPdf** **21 14 03.0 +0.6**
UOSS Minazif 132.48 279 PKPdf **PKPdf** **21 14 01.5 -1.2**
UOSS Minazif 132.48 279 P **PKPdf** **21 14 02.2 -0.5**
UOSS Minazif 132.48 279 *i* PKPdf **PKPdf** **21 14 01.6 -1.0**
SNR=7.0
MDH Madha 132.50 279 P **PKPdf** **21 14 02.1 -0.6**
MDH Madha 132.50 279 PKPdf **PKPdf** **21 14 01.3 -1.4**
ABTO Aybut 132.51 268 P **PKPdf** **21 14 03.2 +0.3**
HATD Hatta, Dubai 132.51 279 P **PKPdf** **21 14 02.6 -0.2**
SNR=6.3
HATD Hatta, Dubai 132.51 279 *i* PKPdf **PKPdf** **21 14 02.4 -0.3**
SNR=10
ASHO Ashiyiah 132.54 278 P **PKPdf** **21 14 02.4 -0.4**
ASHO Ashiyiah 132.54 278 *i* PKiKP **PKiKP** **21 14 04.0 0.0**
SNR=13
ALNE Al Ain 132.62 278 P **PKiKP** **21 14 04.1 0.0**
SNR=7.7
MSFE Esma-Masafi 132.64 279 *i* PKiKP **PKPdf** **21 14 03.4 +0.4**
SNR=7.6
MASF Masafi 132.64 279 P **PKPdf** **21 14 03.5 +0.5**
BANOM Banah 132.67 280 P **PKPdf** **21 14 02.5 -0.5**
UMZA Um Al Zommool 132.73 276 P **PKPdf** **21 14 03.2 0.0**
SHME Shamm 132.84 280 P **PKPdf** **21 14 03.7 +0.4**
FAQ Al Faqa, Dubai 132.96 278 P **PKPdf** **21 14 04.0 +0.5**
FAQ Al Faqa, Dubai 132.96 278 PKiKP **PKPdf** **21 14 03.5 -0.1**
NAZ Nazwa, Dubai 132.97 279 P **PKPdf** **21 14 03.9 +0.3**
NAZ Nazwa, Dubai 132.97 279 PKiKP **PKPdf** **21 14 03.8 +0.3**
ASUD Al Ashush, Dub 133.16 278 P **PKiKP** **21 14 05.2 +0.1**
GEYT Alibeck 133.32 297 PKhKP PKPpre 21 13 55.0
comp=Z,2.2nm,0.8s,baz=204,slow=11,SNR=4.5
GEYT PKP **PKPdf** **21 14 04.0 +0.1**
comp=Z,12nm,0.8s,baz=215,slow=1.8,SNR=16
GEYT SKPbc **SKPbc** **21 17 28.8 +0.2**
comp=Z,12nm,1.1s,baz=219,slow=3.8,SNR=13
MZR Muzera 134.30 275 P **PKPdf** **21 14 06.5 +0.4**
SNR=5.8
MZR Muzera 134.30 275 *i* PKPdf **PKPdf** **21 14 05.7 -0.4**
SNR=11
KIBK Kibwezi 134.44 234 IAMs_20 IAMs_20 22 11 08.4
comp=Z,451nm,18.0s
KIBK Kibwezi 134.44 234 P **PKiKP** **21 14 07.9 -0.3**
GHWR Ruwais 135.11 276 P **PKiKP** **21 14 09.2 +0.2**
JRN Qarnain Island 135.41 278 P **PKiKP** **21 14 09.5 -0.1**
KMBO Kilima Mbogo 135.85 234 PKP **PKiKP** **21 14 10.8 -0.5**
comp=Z,5.5nm,1.0s,baz=34,slow=2.9,SNR=12
KMBO SKPbc **SKPbc** **21 17 39.1 +1.3**
comp=Z,1.0nm,0.4s,baz=114,slow=2.5,SNR=5.1
KMBO Kilima Mbogo 135.85 234 IAMs_20 IAMs_20 22 05 25.1
comp=Z,465nm,21.0s
KMBO Kilima Mbogo 135.85 234 *i* PKiKP **PKPdf** **21 14 09.5 -0.1**
SNR=6.5
KIRV Kirov 136.04 327*c* *i*PKIKP **PKPdf** **21 14 08.6 +0.4**
SLWR Sila 136.18 276 P **PKiKP** **21 14 10.6 -0.7**
PRGR Permogore 136.38 332 *e*PKIKP **PKPdf** **21 14 09.3 +0.5**
PRGR pmax pmax
comp=Z,14nm,1.0s
ARA0 ARCESS Array S 136.75 349 *e* **PKPdf** **21 14 05.3 -4.0**
ARCES ARCESS Array B 136.75 349 PKhKP PKPpre 21 14 01.8
comp=Z,4.0nm,0.8s,baz=55,slow=2.0,SNR=22
ARCES SKPbc **SKPbc** **21 17 37.7 -0.7**
comp=Z,18nm,1.1s,baz=90,slow=3.8,SNR=6.5
SMRA Abu-Samra 137.12 277 P **PKPdf** **21 14 12.1 +0.8**
SHMA Al-Shehemyia 137.29 278 P **PKPdf** **21 14 11.3 -0.3**
KTK1 Kautokeino 137.60 349 *e* **PKPdf** **21 14 06.7 -4.2**
SAKB Bahrain 137.69 278 P **PKiKP** **21 14 14.2 -0.1**
ATD Arta Tunnel 139.04 254 IAMs_20 IAMs_20 22 09 15.2
comp=Z,333nm,20.0s
BELG Belogornoye 139.17 319 *i* PKIKP **PKPdf** **21 14 12.7 -1.5**
BELG pmax pmax
comp=Z,9.0nm,1.1s
H10S3 ASCENSION HYDR 139.23 153 T T 23 49 56.6
baz=204,slow=74,SNR=52
H10S2 ASCENSION HYDR 139.24 153 T T 23 49 58.2
baz=16,slow=74,SNR=30
KLMR Klimovskoe 139.29 333 *e*PKPdf PKPdf 21 14 06.1 -8.1
KLMR AMP 21 14 16.9
comp=Z,44nm,1.4s
KLMR *e*SKPbc **SKPbc** **21 17 44.8 -1.1**
KLMR Klimovskoe 139.29 333 *e*PKHKP PKPpre 21 14 06.0
KLMR pmax pmax
comp=Z,44nm,1.4s
STEI Steigen 139.71 353 *e* **PKPdf** **21 14 10.5 -4.2**
STEI IAmb IAmb 21 14 15.9
comp=Z,47nm,1.3s
FAUS Fauske 140.23 352 *e*P **PKPdf** **21 14 13.6 -2.1**
H10N3 ASCENSION HYDR 140.31 152 T T 23 51 33.1
baz=203,slow=75,SNR=56
H10N1 ASCENSION HYDR 140.31 153 T T 23 51 32.5
baz=203,slow=75,SNR=56
LODK Lodwar 140.32 237 **PKPdf** **21 14 13.4 -4.2**
LODK IAMs_20 IAMs_20 22 12 04.1
comp=Z,362nm,20.0s
H10N2 ASCENSION HYDR 140.32 153 T T 23 51 33.7
baz=203,slow=75,SNR=85
MBAR Mbarara 140.69 228 IAMs_20 IAMs_20 22 09 18.4
comp=Z,392nm,21.0s
AKT Akhty 141.34 302 *e*PKIKP **PKPdf** **21 14 17.7 -1.0**
AKT *e* 21 17 21.6
AKT pmax pmax
comp=Z,27nm,1.2s
MAK Makhachkala 141.34 304 *eP* **Pdif** **21 11 37.8 +1.1**
MAK *i* 21 14 16.6
MAK *e* 21 17 15.7
MAK *e*SS SS 21 35 45.6 -2.7
MAK pmax pmax
comp=Z,213nm,1.0s
RAYN Ar Rayn 141.46 273 IAMs_20 IAMs_20 22 10 09.4
comp=Z,514nm,22.0s
RAYN Ar Rayn 141.46 273⇑PKHKP PKPpre 21 14 13.6
MOR8 Moi Rana 141.50 352 *eP* **PKPdf** **21 14 14.7 -3.4**
VRH Novokhopyorsk 143.02 319 *e*PKIKP **PKPdf** **21 14 17.7 -3.5**
VRH pmax pmax
comp=Z,10.0nm,0.7s
MOS Moscow 143.04 328 *i* PKIKP **PKPdf** **21 14 16.5 -4.5**
NSS Namsos 143.36 353 *eP* PKPab 21 14 17.9 +0.4
NSS IAmb IAmb 21 14 24.6
comp=Z,20nm,0.9s
FINES FINESS Array B 143.47 341 PKhKP PKPpre 21 14 17.9
comp=Z,10nm,0.5s,baz=64,slow=3.7,SNR=72
GNI Garni 143.72 300 P PKPbc 21 14 21.4 +0.7
GNI Garni 143.72 300 PKPdf PKPbc 21 14 20.9 +0.2
GNI Garni 143.72 300*c* *i*PKIKP PKPbc 21 14 20.8 +0.1
GNI pmax pmax
comp=Z,51nm,1.7s
OBN Obninsk 143.88 327⇑P PKPab 21 14 19.8 +0.1
OBN Obninsk 143.88 327 PKPab 21 14 18.8 -0.9
OBN Obninsk 143.88 327 *e*PKIKP PKPab 21 14 19.1 -0.6
OBN *i* 21 14 33.7
OBN *e* 21 17 33.0
OBN pmax pmax
comp=Z,31nm,1.0s
LPSR Galich'ya Gora 143.98 322 *e*PKIKP PKPab 21 14 20.3 +0.1
LPSR pmax pmax
comp=Z,40nm,1.0s
ZEI Tsey 143.99 305 *i* PKIKP PKPab 21 14 19.7 -1.2
ZEI pmax pmax
comp=Z,34nm,1.4s
GOF Gofitskoye 144.13 309⇑ *e*PKIKP PKPbc 21 14 21.6 +0.1
VORR Voronezh 144.25 321 *e*PKIKP **PKPab** **21 14 21.4 +0.1**
VORR pmax pmax
comp=Z,114nm,2.3s
VSR Storozhevoye 144.47 320 *e*PKIKP **PKPab** **21 14 20.5 -1.6**
VSR pmax pmax
comp=Z,50nm,0.8s
KBZ Khabaz 144.53 306 PKP **PKPab** **21 14 22.6 +0.1**
comp=Z,11nm,0.9s,baz=57,slow=1.1,SNR=19
KBZ Khabaz 144.53 306 *i* PKIKP **PKPab** **21 14 21.4 -1.1**
KBZ pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 144.63 307⇑P **PKPab** **21 14 22.0 -1.1**
KIV Kislovodsk 144.63 307 **PKPab** **21 14 22.0 -1.1**
KIV Kislovodsk 144.63 307 P **PKPab** **21 14 23.2 +0.1**
KIV Kislovodsk 144.63 307 *i* PKPdf PKPbc 21 14 23.5 +0.2
SNR=7.5
KIV Kislovodsk 144.63 307 *e*PKHKP PKPpre 21 14 18.6
KIV *i* 21 14 22.4
KIV *e* 21 17 35.2
KIV *e*SS SS 21 36 20.2 -6.1
KIV pmax pmax
comp=Z,33nm,1.1s
SHA1 Shidzhatmaz 144.69 307 *i* PKIKP **PKPab** **21 14 22.5 -1.0**
NEY Neytrino 144.75 306 *i* PKIKP **PKPab** **21 14 22.7 -1.0**
TBLU Trondheim 144.77 354 *eP* **PKPab** **21 14 21.4 -1.5**
TBLU IAmb IAmb 21 14 22.4
comp=Z,101nm,1.1s
MEF Metsahovi 144.95 341 *eP* **PKPab** **21 14 23.5 -0.1**
RAF Rauma 144.95 344 *eP* PKPbc 21 14 23.8 +0.2
VSU Vasula 145.64 338 *eP* **PKPbc** **21 14 25.8 -0.1**
VSU Vasula 145.64 338 *i* PKP2 **PKPdf** **21 14 23.9 -1.6**
MOL Molde 145.65 356 *eP* **PKPdf** **21 14 24.5 -0.9**
DOMB Dombas 146.07 355 *eP* **PKPbc** **21 14 26.9 -0.3**
AKN Aaknes 146.07 356 *eP* **PKPbc** **21 14 27.0 -0.1**
MTSE Matsula 146.36 340 *eP* **PKPbc** **21 14 28.0 0.0**
FOO Floro 146.74 358 *eP* **PKPdf** **21 14 28.2 +1.0**
SOC Sochi 146.81 307*c* *i*PKP2 **PKPdf** **21 14 27.9 -0.1**
SOC *e* 21 17 57.6
SOC *e*PPP PPP 21 21 09.9
SOC *e*SS SS 21 36 42.5 -8.4
SOC pmax pmax
comp=Z,57nm,0.7s
NB2 NORSAR Subarra 146.84 353 PKPab **PKPbc** **21 14 28.7 -0.7**
baz=11,slow=2.9
NB2 NORSAR Subarra 146.84 353 PKP **PKPbc** **21 14 28.7 -0.7**
comp=Z,108nm,1.2s,baz=11,slow=2.9
NOA NORSAR Array B 146.84 353 PKPbc **PKPbc** **21 14 28.8 -0.7**
comp=Z,50nm,1.1s,baz=14,slow=4.5,SNR=37
NC602 NORSAR Array S 147.10 352 *eP* **PKPbc** **21 14 29.5 -0.6**
HYA Hoyanger 147.12 357 *eP* **PKPdf** **21 14 29.0 +1.1**
SUE Sulen 147.28 358 *eP* **PKPdf** **21 14 28.0 -0.2**
SKAR Skarslia 147.48 355 *eP* **PKPbc** **21 14 31.6 +0.3**
ASK Askoy 147.85 358 *eP* **PKPbc** **21 14 33.0 +0.9**
BER Bergen 147.94 358 *eP* **PKPbc** **21 14 32.2 -0.2**
ANN Anapa 148.02 310*c* *i*PKP2 **PKPbc** **21 14 32.4 -0.7**
ANN *e* 21 21 35.4
ANN pmax pmax
comp=Z,111nm,0.9s
MNK Minsk 148.16 332 *i* PKP **PKPbc** **21 14 33.7 +0.6**
comp=E,4.0nm,1.0s
MNK *i* PKP **PKPbc** **21 14 33.7 +0.6**
comp=N,35nm,1.1s
MNK *i* PKP **PKPbc** **21 14 33.7 +0.6**
comp=Z,110nm,0.8s,baz=225
MNK *i* PP **PP** **21 18 05.5 +4.0**
MNK *i* PPP PPP 21 21 23.3
MNK *i* SKS **SKSdf** **21 21 42.3 +7.8**
MNK *i* SKKS **SKKSdf** **21 30 41.3 +6.3**
MNK *i* SS **SS** **21 37 13.4 +8.8**
MNK *i* SSS SSS 21 42 48.0
MNK *i* LR LR 22 12 08.0
MNK *i* LRM MLR 22 17 13.4
comp=E,81nm,19.2s
MNK *i* LRM MLR 22 17 21.1
comp=Z,532nm,23.6s
MNK *i* LRM MLR 22 17 26.8
comp=N,406nm,16.6s
MNK Minsk 148.16 332 *i* PKP2 **PKPbc** **21 14 33.7 +0.6**
MNK *i* 21 18 05.5
MNK *i* PPP PPP 21 21 23.2
MNK *i* 21 30 41.3
MNK pmax pmax
comp=Z,110nm,0.8s
MNK pmax pmax
comp=N,35nm,1.0s
MNK pmax pmax
comp=E,4.0nm,1.0s
IIGN Ignalina 148.20 334 *eP* **PKPbc** **21 14 33.5 +0.2**
NACGM Naroch 148.31 333⇑ *i*PKP **PKPbc** **21 14 32.9 -0.7**
comp=Z,121nm,0.9s,baz=43
ODD1 Odda 148.35 356 *eP* **PKPbc** **21 14 33.8 +0.2**
KONO Kongsberg 148.38 353 **PKPbc** **21 14 32.3 -1.2**
KONO Kongsberg 148.38 353*c* *i*PKIKP **PKPdf** **21 14 31.6 +1.5**
KONO pmax pmax
comp=Z,120nm,1.3s
KONO Kongsberg 148.38 353 *eP* **PKPbc** **21 14 33.5 -0.1**
BLS5 Blasjo 148.85 356 *eP* **PKPbc** **21 14 35.2 +0.3**
PABE Paberze 148.90 337 **PKPbc** **21 14 34.8 -0.2**
PABE Paberze 148.90 337 *eP* **PKPbc** **21 14 35.2 +0.2**
KMY Karmoy 149.12 358 *eP* **PKPbc** **21 14 35.9 +0.4**
PBUR Paburge 149.16 339 *eP* **PKPbc** **21 14 36.0 +0.3**
HOMB Homborsund 149.84 354 *eP* **PKPbc** **21 14 37.8 +0.5**
SNART Snartemo 149.88 355 *eP* **PKPbc** **21 14 37.6 +0.3**
AKASG Malin Array Be 150.08 325 PKPbc **PKPbc** **21 14 37.5 -0.6**
comp=Z,54nm,0.8s,baz=46,slow=3.0,SNR=16
AKASG Malin Array Be 150.08 325 **PKPdf** **21 14 30.3 -2.7**
AKASG PKPbc **PKPbc** **21 14 36.8 -1.2**
AKASG Malin Array Be 150.08 325 PKHKP PKPpre 21 14 36.8
SIM Simferopol' 150.17 312*c* *i*PKP2 **PKPbc** **21 14 38.7 +0.2**
SIM *e* 21 18 09.1
SIM pmax pmax
comp=Z,99nm,0.9s
SIM pmax pmax
comp=Z,24nm,1.0s
SIM pmax pmax
comp=E,420nm,2.0s
KAC Achnashellach 150.32 9 *eP* **PKPbc** **21 14 38.5 0.0**
KPL Plockton 150.43 9 *eP* **PKPbc** **21 14 38.6 -0.1**
MCD Coleburn Disti 150.49 7 *eP* **PKPbc** **21 14 38.1 -0.8**
HWQ Hawqa 151.18 290 *eP* **PKPdf** **21 14 37.6 +2.1**
BHL Bhannes 151.43 289 *eP* **PKPbc** **21 14 40.0 -2.0**
LAWE Loch Awe, Argy 151.51 10 *eP* **PKPbc** **21 14 41.1 -0.2**
INVG Invergeldie, C 151.53 8 *eP* **PKPbc** **21 14 41.1 -0.2**
MUD Monsted U'grnd 151.56 353 *i* P **PKiKP** **21 14 42.4 +0.6**
COP Copenhagen 151.84 348 *i* P **PKiKP** **21 14 45.8 +3.4**
BSD Bornholm Skovb 151.87 345 *i* P **PKPbc** **21 14 41.2 -1.0**
SORM Soroca 152.08 322⇓P **PKPbc** **21 14 42.3 -0.6**
PURM Purcari 152.10 318⇑P **PKPbc** **21 14 42.8 -0.1**
ESY Stoneypath 152.19 7 *eP* **PKPbc** **21 14 42.7 -0.1**
BR131 Keskin Array S 152.19 302 PKPdf **PKPdf** **21 14 32.9 -4.0**
BR131 **PKPbc** **21 14 41.8 -1.8**
BR131 Keskin Array S 152.19 302 PKIKP **PKPdf** **21 14 32.9 -4.0**
BRTR Keskin Array B 152.19 302 PKP **PKPdf** **21 14 35.8 -1.1**
comp=E,0.9nm,0.9s,baz=338,slow=9.4,SNR=4.2
BRTR PKPbc **PKPbc** **21 14 42.4 -1.3**
comp=E,14nm,0.7s,baz=143,slow=4.0,SNR=60
EBL Broad Law 152.29 7 *eP* **PKPbc** **21 14 43.2 +0.1**
MILM Milestii Mici 152.51 319⇑ *i*PKP **PKPbc** **21 14 43.5 -0.3**
comp=E,90nm,1.0s
MILM Milestii Mici 152.51 319⇑P **PKPbc** **21 14 42.6 -1.2**
ANTO Ankara 152.78 303⇓P **PKPbc** **21 14 44.6 -0.2**
ANTO Ankara 152.78 303 **PKPbc** **21 14 44.5 -0.2**
ANTO Ankara 152.78 303 IAMs_20 IAMs_20 22 28 31.4
comp=Z,296nm,21.0s
NEWG New Galloway 152.79 9 *eP* **PKiKP** **21 14 45.7 +1.3**
BEL Belsk 152.97 335 *e*PKP **PKiKP** **21 14 45.3 +0.4**
LVV L'vov 153.15 329 *i* PKIKP **PKPdf** **21 14 37.1 -0.7**
LVV MLR MLR
comp=E,400nm,21.0s
LVV MLR MLR
comp=N,500nm,23.0s
LVV MLR MLR
comp=Z,600nm,23.0s
EDMD Edmundbyers 153.33 6 *eP* **PKPbc** **21 14 44.4 -1.0**
VLDR Vladesti 153.52 316⇑P **PKPbc** **21 14 45.0 -1.1**
MDUB Mudurnu 153.78 305 PKPdf **PKPdf** **21 14 36.1 -3.0**
MDUB **PKPbc** **21 14 44.9 -2.1**
TPGR Topolog 153.83 316⇓P **PKPdf** **21 14 40.1 +1.1**
CFR Carcaliu 153.84 317⇑P **PKPbc** **21 14 44.2 -2.6**
TESR Tescani 153.97 321⇑P **PKiKP** **21 14 50.5 +3.3**
BURAR Bucovina Array 154.06 324⇓P **PKPbc** **21 14 46.7 -0.7**
BURAR Bucovina Array 154.06 324 **PKPdf** **21 14 34.9 -4.4**
BURAR **PKPbc** **21 14 46.3 -1.1**
BURAR Bucovina Array 154.06 324 PKIKP **PKPdf** **21 14 34.9 -4.4**
VRI Vrincioaia 154.29 319⇑P **PKPbc** **21 14 44.9 -2.9**
PLOR Plostina 154.35 319⇑P **PKPbc** **21 14 47.9 -0.1**
BISRR Bisoca 154.49 319⇑P **PKPbc** **21 14 48.3 0.0**
KOLS Kolonicke sedl 154.59 329 *e*PKP **PKiKP** **21 14 48.5 +0.1**
OJC Ojcow 154.64 334 PKPdf **PKPdf** **21 14 36.5 -3.4**
OJC **PKPbc** **21 14 45.5 -2.9**
OJC Ojcow 154.64 334 PKIKP **PKPdf** **21 14 36.5 -3.4**
OZUR 154.70 321⇑P **PKiKP** **21 14 50.7 +2.0**
UZH Uzhgorod 154.80 329 *e*PKIKP **PKPdf** **21 14 40.0 -0.1**
UZH *e* 21 14 55.4
UZH *i* 21 15 02.1
MLR Muntele Rosu 154.96 319⇑P **PKPdf** **21 14 44.7 +4.1**
MLR Muntele Rosu 154.96 319 PKPdf **PKPdf** **21 14 38.6 -2.0**
MLR **PKPbc** **21 14 48.1 -1.3**
MLR Muntele Rosu 154.96 319 PKIKP **PKPdf** **21 14 38.6 -2.0**
CRVS Cervenica-Dubn 154.97 330 *e*PKP **PKPbc** **21 14 49.0 -0.2**
CRVS *e* 21 15 05.1
DOPR Dopca 155.00 321⇑P **PKPbc** **21 14 45.3 -4.0**
ISP Isparta 155.02 299 IAMs_20 IAMs_20 22 31 45.5
comp=Z,378nm,19.0s
TRPA Tarpa 155.05 328⇑P **PKPdf** **21 14 44.6 +4.2**
VOIR 155.50 320⇑P **PKPdf** **21 14 46.6 +5.3**
ABAH Abaujker 155.52 329 PKP **PKPdf** **21 14 42.3 +1.2**
OKC Ostrava-Krasne 155.57 336 *e*PKPAB **PKPab** **21 15 07.0 -0.2**
OKC Ostrava-Krasne 155.57 336 *e*PKP2 **PKPab** **21 15 07.0 -0.2**
UPC Upice 155.73 339 *e*PKPAB **PKPab** **21 15 07.5 -0.3**
UPC Upice 155.73 339 *e*PKP2 **PKPab** **21 15 07.5 -0.3**
DPC Dobruska-Polom 155.76 339 *e*PKPDF **PKPdf** **21 14 46.3 +4.8**
DPC *e*PKPAB sPKPbc 21 15 08.3 +0.3
ARR Arges 155.78 320⇓P **PKPdf** **21 14 41.7 0.0**
CLL Collm 155.84 344 *i* PKPdf **PKPdf** **21 14 40.6 -0.8**
comp=Z,22nm,1.9s
CLL *i* PKPdif **pPKPdf** **21 14 51.2 -3.0**
comp=Z,26nm,1.1s
CLL *i* PKPab sPKPbc 21 15 08.4 +0.3
comp=Z,29nm,0.9s
CLL *i* x x 21 15 25.0
CLL *e*PP **PP** **21 18 43.0 -1.9**
comp=Z,12nm,1.4s
CLL Collm 155.84 344 *i* PKIKP **PKPdf** **21 14 40.6 -0.8**
CLL *i* 21 15 08.4
CLL pmax pmax
comp=Z,22nm,1.9s
CLL pmax pmax
comp=Z,29nm,0.9s
CLL MLR MLR
comp=Z,500nm,22.8s
MORC Moravsky Berou 155.84 336 *e*PKP **PKPdf** **21 14 40.8 -0.8**
KRLC Kraliky 155.85 338 *e*PKPAB **PKPab** **21 15 07.2 -1.3**
KRLC Kraliky 155.85 338 *e*PKP2 **PKPab** **21 15 07.2 -1.3**
BRG Berggiesshubel 156.00 343 *e*PKP **PKPdf** **21 14 41.7 0.0**
BRG Amp 21 14 44.6
comp=Z,7.7nm,1.2s
BRG *ex* x 21 14 54.5
BRG Amp 21 14 56.0
comp=Z,13nm,1.0s
BRG *i* x x 21 15 08.5

BRG				Amp			21 15 09.9	
	comp=Z,30nm,1.1s							
BRG				*ex*	x		21 15 26.5	
BRG				Amp			21 15 28.5	
	comp=Z,30nm,1.4s							
BRG				*ex*	x		21 16 41.7	
BRG				Amp			21 16 44.3	
	comp=Z,12nm,1.3s							
BRG	**Berggiesshubel**	**156.00**	**343**	*e*PKIKP	**PKPdf**		**21 14 41.6**	**0.0**
BRG				*i*			21 15 08.4	
BRG				pmax	pmax			
	comp=Z,8.0nm,1.2s							
BRG				pmax	pmax			
	comp=Z,30nm,1.2s							
VYHS	**Vyhne**	**156.40**	**333**	*e*PKP	PKPdf		21 14 54.9	+13
VYHS				*e*			21 15 10.3	
VRAC	**Vranov**	**156.57**	**337**	⇑P	**PKPab**		**21 15 12.4**	**+0.9**
VRAC	**Vranov**	**156.57**	**337**	*e*PKP	**PKPdf**		**21 14 41.8**	**-0.7**
PRU	**Pruhonice**	**156.63**	**341**	*e*PKPAB	**PKPab**		**21 15 11.0**	**-0.7**
PRU	**Pruhonice**	**156.63**	**341**	*e*PKP2	**PKPab**		**21 15 11.0**	**-0.7**
LIC	**Lamto**	**156.76**	**160**	⇑*i*P	PKPab		21 15 00.5	-13
	comp=Z,29nm,0.7s							
KRUC	**Moravsky**	**156.85**	**337**	*e*PKP	**PKPdf**		**21 14 41.4**	**-1.4**
SURR	**Surduc**	**156.89**	**324**	⇑P	PKPdf		21 14 52.8	+10
NKC	**Novy Kostel**	**156.96**	**344**	*e*PKPAB	**PKPab**		**21 15 12.1**	**-1.1**
NKC	**Novy Kostel**	**156.96**	**344**	*e*PKP2	**PKPab**		**21 15 12.1**	**-1.1**
KIC	**Kosan Boka**	**156.97**	**160**	⇑*e*P	PKPab		21 15 00.0	-14
	comp=Z,5.7nm,0.6s							
MODS	**Modra-Piesok**	**157.10**	**335**	*e*PKP	**PKPdf**		**21 14 42.3**	**-0.9**
MODS				*e*			21 14 57.8	
MODS				*e*			21 15 14.7	
MODS	**Modra-Piesok**	**157.10**	**335**	*e*PKIKP	**PKPdf**		**21 14 42.3**	**-0.9**
MODS				*e*			21 14 57.8	
TIC	**Toumodi**	**157.16**	**160**	⇑*i*P	PKPab		21 15 02.1	-13
	comp=Z,4.5nm,0.3s							
DBIC	**Dimbokro**	**157.23**	**160**	PKP	**PKPdf**		**21 14 45.0**	**+0.6**
	comp=Z,6.8nm,1.0s,baz=142,slow=3.4,SNR=4.0							
DBIC				PKPab	**PKPab**		**21 15 14.8**	**-0.4**
	comp=Z,7.7nm,0.9s,baz=198,slow=9.8,SNR=2.8							
HERR	**Herculane**	**157.31**	**322**	⇑P	**PKPdf**		**21 14 48.8**	**+5.2**
MEM	**Membach**	**157.65**	**355**	*dx*	x		21 15 32.8	
KHC	**Kasperske Hory**	**157.68**	**341**	*e*PKPDF	**PKPdf**		**21 14 43.4**	**-0.6**
KHC				*e*PKPAB	**PKPab**		**21 15 15.9**	**-0.4**
KHC	**Kasperske Hory**	**157.68**	**341**	*e*PKIKP	**PKPdf**		**21 14 43.4**	**-0.6**
CKRC	**Cesky Krumlov**	**157.74**	**340**	*e*PKPDF	**PKPdf**		**21 14 43.5**	**-0.5**
CKRC				*e*PKPAB	**PKPab**		**21 15 16.5**	**-0.1**
SNF	**Seneffe**	**157.86**	**358**	*d*PKP	**PKPab**		**21 15 16.8**	**-0.1**
BCLA	**Clavier**	**157.89**	**356**	*d*PKP	**PKPab**		**21 15 16.8**	**-0.3**
GERES	**GERESS Array B**	**157.90**	**341**	PKP	**PKPdf**		**21 14 43.5**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=29,slow=2.2,SNR=4.3							
GERES				PKPab	**PKPab**		**21 15 14.9**	**-2.5**
	comp=Z,1.6nm,0.7s,baz=28,slow=6.3,SNR=3.5							
BHOU	**Houvegnez**	**157.91**	**355**	*d*PKP	**PKPab**		**21 15 17.3**	**+0.1**
BHOU				*dx*	x		21 15 33.5	
BGES	**Gesves**	**157.94**	**356**	*d*PKP	**PKPab**		**21 15 17.2**	**-0.2**
BGES				*dx*	x		21 15 33.6	
CONA	**Conrad Observa**	**158.00**	**336**	*e*P	**PKPdf**		**21 14 44.8**	**+0.4**
	comp=Z,8.3nm,1.7s							
CONA				*e*P	**PKPab**		**21 15 19.0**	**+1.2**
	comp=Z,32nm,1.3s							
RONA	**Rosalia, Austr**	**158.03**	**335**	*e*P	**PKPdf**		**21 14 44.4**	**-0.1**
	comp=Z,5.8nm,1.5s							
RONA				*e*P	**PKPab**		**21 15 19.1**	**+1.1**
	comp=Z,24nm,1.2s							
BMRD	**Maredsous**	**158.04**	**357**	*d*PKP	**PKPab**		**21 15 17.3**	**-0.5**
BMRD				*dx*	x		21 15 32.9	
RCHB	**Rochefort**	**158.16**	**356**	*d*PKP	**PKPab**		**21 15 18.3**	**0.0**
KARP	**Karpathos**	**158.17**	**295**	IAMs_20	IAMs_20		22 35 09.5	
	comp=Z,358nm,20.0s							
MORH	**Mrgy, Hungar**	**158.25**	**329**	⇑P	**PKPdf**		**21 14 43.6**	**-1.1**
DOU	**Dourbes**	**158.26**	**357**	*d*PKP	**PKPab**		**21 15 23.9**	**+5.2**
WLF	**Walferdange**	**158.58**	**354**	*d*PKP	**PKPab**		**21 15 18.1**	**-2.0**
WLF				*dx*	x		21 15 36.7	
MOA	**Molln**	**158.61**	**338**	*e*P	**PKPab**		**21 15 21.3**	**+0.9**
	comp=Z,16nm,1.2s							
ARSA	**Arzberg**	**158.69**	**336**	*e*P	**PKPab**		**21 15 21.5**	**+0.7**
	comp=Z,12nm,1.1s							
BIOA	**Bad Ischl, Aus**	**158.95**	**339**	*e*P	**PKPab**		**21 15 22.8**	**+0.9**
	comp=Z,28nm,0.9s,SNR=4.1							
SOKA	**Soboth**	**159.36**	**336**	*e*P	**PKPab**		**21 15 24.1**	**+0.3**
	comp=Z,20nm,1.1s							
KBA	**Koelnbreinsper**	**159.58**	**339**	*e*P	**PKPab**		**21 15 25.1**	**+0.3**
	comp=Z,22nm,1.9s							
OBKA	**Obir**	**159.68**	**336**	*e*P	**PKPab**		**21 15 25.2**	**+0.1**
	comp=Z,14nm,0.9s							
WATA	**Walderalm**	**159.86**	**342**	*i* P	**PKPab**		**21 15 26.7**	**+0.7**
	comp=Z,29nm,1.2s,SNR=5.4							
MYKA	**Terra Mystica**	**159.88**	**338**	*i* P	**PKPab**		**21 15 26.0**	**-0.1**
	comp=Z,15nm,0.9s							
WTTA	**Wattenberg**	**159.91**	**342**	*e*P	**PKPab**		**21 15 27.1**	**+0.9**
	comp=Z,25nm,1.0s,SNR=4.7							
RETA	**Reute**	**159.93**	**344**	*e*P	**PKPab**		**21 15 26.8**	**+0.7**
	comp=Z,18nm,1.1s,SNR=5.2							
MOTA	**Moosalm**	**159.98**	**343**	*e*P	**PKPdf**		**21 14 46.7**	**-0.2**
	comp=Z,6.6nm,1.3s							
MOTA				*e*P	**PKPab**		**21 15 27.0**	**+0.5**
	comp=Z,30nm,1.2s,SNR=4.5							
SQTA	**Sankt Quirin**	**160.07**	**343**	*e*P	**PKPdf**		**21 14 46.7**	**-0.3**
	comp=Z,8.8nm,1.7s							
SQTA				*e*P	**PKPab**		**21 15 27.6**	**+0.7**
	comp=Z,15nm,1.0s							
ABTA	**Abfaltersbach**	**160.13**	**340**	*i* P	**PKPab**		**21 15 27.0**	**-0.1**
	comp=Z,19nm,0.9s							
DAVA	**Damuels**	**160.32**	**346**	*e*P	**PKPdf**		**21 14 47.1**	**-0.2**
	comp=Z,9.5nm,1.6s							
DAVA				*i* P	**PKPab**		**21 15 28.5**	**+0.5**
	comp=Z,22nm,0.8s							
FETA	**Feichten**	**160.37**	**344**	*e*P	**PKPdf**		**21 14 46.0**	**-1.4**
	comp=Z,8.6nm,1.8s							
FETA				*e*P	**PKPab**		**21 15 28.9**	**+0.7**
	comp=Z,17nm,1.3s							
PVIS	**Viseu**	**164.86**	**33**	*e*PKPab	**PKPab**		**21 15 50.4**	**+2.4**
MVO	**Moncorvo**	**164.90**	**30**	*e*PKPdf	**PKPdf**		**21 14 55.1**	**+3.2**
MVO	**Moncorvo**	**164.90**	**30**	*e*PKPab	**PKPab**		**21 15 49.1**	**+0.9**
MTE	**Manteigas**	**165.28**	**33**	*e*PKPdf	**PKPdf**		**21 14 51.8**	**-0.4**
MTE	**Manteigas**	**165.28**	**33**	*e*PKPab	PKPab		21 16 02.2	+12
PCBR	**Castelo Branco**	**165.74**	**34**	*e*PKPdf	**PKPdf**		**21 14 53.5**	**+1.0**
PMRV	**Marv??o**	**166.10**	**35**	*e*PKPdf	**PKPdf**		**21 14 52.0**	**-0.8**
PMRV	**Marv??o**	**166.10**	**35**	*e*PKPab	**PKPab**		**21 15 54.9**	**+1.5**
EVO	**Evora**	**166.43**	**39**	*e*PKPdf	**PKPdf**		**21 14 54.6**	**+1.5**
PBAR	**Barrancos**	**167.22**	**38**	*e*PKPdf	**PKPdf**		**21 14 57.0**	**+3.3**
PBAR	**Barrancos**	**167.22**	**38**	*e*PKPab	**PKPab**		**21 16 03.6**	**+5.2**
ESDC	**Sonseca Array**	**167.40**	**25**	PKP	**PKPdf**		**21 14 53.4**	**-0.4**
	comp=Z,3.0nm,1.1s,baz=336,slow=3.3,SNR=8.6							
ESDC				PKPab	**PKPab**		**21 15 58.5**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=324,slow=3.2,SNR=7.1							
ESDC				PP	**PP**		**21 19 44.5**	**-2.4**
	comp=Z,2.7nm,1.1s,baz=343,slow=15,SNR=4.7							
TAM	**Tamanrasset**	**173.94**	**204**		**PKPdf**		**21 14 58.2**	**+0.2**
TAM					**PKPab**		**21 16 29.1**	**+0.4**
TAM	**Tamanrasset**	**173.94**	**204**	PKIKP	**PKPdf**		**21 14 58.2**	**+0.2**
TAM							21 16 29.1	

WEL 18 21:12:36.1,42°S±5°×17°4E±°, h16km±8km, M2.3/12, ML2.6/13, MLv2.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=129.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.24**	**255**	P	Pg	21 12 41.5	+0.1
TUWZ	**Tuamarina**	**0.29**	**322**	P	Pb	21 12 43.0	+0.1
TCW	**Tory Channel**	**0.45**	**9**	P	Pb	21 12 45.7	+0.1
WEL	**Wellington**	**0.58**	**50**	P	Pb	21 12 48.3	+0.5
NNZ	**Nelson**	**0.74**	**306**	P	Pb	21 12 50.8	+0.1
PLWZ	**Palliser**	**0.81**	**84**	P	Pn	21 12 52.5	-0.4
MSWZ	**Moikau Station**	**0.84**	**74**	P	Pn	21 12 52.9	-0.4
CAW	**Cannon Point**	**0.86**	**51**	P	Pg	21 12 53.2	+0.3
DUWZ	**D'Urville Isla**	**0.88**	**347**	P	Pg	21 12 53.2	+0.1
KHZ	**Kahutara**	**0.90**	**212**	P	Pg	21 12 53.6	0.0
THZ	**Tophouse**	**0.96**	**263**	P	Pg	21 12 54.8	+0.1
KIW	**Kapiti Island**	**0.96**	**35**	P	Pg	21 12 54.8	0.0
PAWZ	**Paruwai Farm**	**0.97**	**74**	P	Pg	21 12 55.0	+0.1
MRNZ	**Matariki Terra**	**1.10**	**283**	P	Pg	21 12 57.6	+0.3
TKNZ	**Takaka Hill**	**1.11**	**304**	P	Pg	21 12 57.9	+0.3
MTW	**Mount Morrison**	**1.11**	**64**	P	Pb	21 12 56.7	-0.2
ARCZ	**Arundel**	**3.18**	**223**	P	Pn	21 13 24.4	-1.1
MWZ	**Matawai**	**4.20**	**39**	P	Pn	21 13 39.7	+0.2

MAN 18 21:16:37.2, 10°22N×122°12E, h11km, mb4.0, ML2.8, MS2.4, 3D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**0.64**	**127**	⇓*i*P	Pg	21 16 49.7	0.0
CNOP				*eS*	Sg	21 16 57.7	-0.3
RCP	**Roxas**	**1.47**	**25**	⇓*e*P	Pn	21 17 03.0	-0.6
RCP				*eS*	Sb	21 17 23.3	+0.2
TBP	**Tagbilaran**	**1.79**	**107**	*e*P	Pn	21 17 08.6	+0.5
TBP				*i S*	Sn	21 17 31.2	+0.3
DCPH	**Dipolog City**	**2.03**	**143**	⇓*i*P	Pn	21 17 10.9	-0.4
DCPH				*i S*	Sn	21 17 37.9	+1.2

*SNET **18** 21:29:04.3±1.0, 13°.53N×90°.60W, h31km±4km, ML3.7*
*UCR **18** 21:29:04.0±1.1, 13°.53N×90°.62W, h30km±4km, ML3.6*
*GCG **18** 21:29:04.5±0.4, 13°.56N×90°.76W, h25km±7km, MD3.5*
ISC 18 21:29:04.0±2.0, 13°.50N±0°.09×90°.62W±0°.06, h31km±15km, n47, σ0°63/63, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.89**	**1**	*e*P	**Pb**	**21 29 20.7**	**-0.3**
NUBE	**Las Nubes**	**0.91**	**64**	*e*P	**Pn**	**21 29 20.6**	**-0.2**
NUBE	**Las Nubes**	**0.91**	**64**	*e*P	**Pn**	**21 29 20.6**	**-0.2**
LOAL	**Lomas de Alarc**	**0.95**	**59**	*e*P	**Pb**	**21 29 21.6**	**-0.4**
LOAL				*eS*	**Sb**	**21 29 34.1**	**-0.3**
LOAL	**Lomas de Alarc**	**0.95**	**59**	*e*P	**Pb**	**21 29 21.6**	**-0.4**
LOAL				*eS*	**Sb**	**21 29 34.1**	**-0.3**
FUG	**Fuego 3**	**0.97**	**347**	*e*P	**Pn**	**21 29 21.4**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.97**	**57**	*e*P	**Pn**	**21 29 21.5**	**+0.1**
CEVE	**Cerro Verde**	**1.02**	**71**	*e*P	**Pn**	**21 29 22.5**	**+0.1**
CEVE				*eS*	**Sb**	**21 29 37.5**	**+0.9**
CEVE				IAML		21 29 40.6	
	comp=Z,2μm,0.2s						
CEVE	**Cerro Verde**	**1.02**	**71**	*e*P	**Pn**	**21 29 22.5**	**+0.1**
CEVE				*eS*	**Sb**	**21 29 37.5**	**+0.9**
CEVE				IAML		21 29 40.6	
	comp=Z,2μm,0.2s						
RTR	**El Retiro**	**1.03**	**67**	*e*P	**Pn**	**21 29 22.8**	**+0.4**
RTR				*eS*	**Sb**	**21 29 37.9**	**+1.3**
RTR	**El Retiro**	**1.03**	**67**	*e*P	**Pn**	**21 29 22.8**	**+0.4**
RTR				*eS*	**Sb**	**21 29 37.9**	**+1.3**
SBLS	**San Blas**	**1.03**	**71**	*e*P	**Pn**	**21 29 22.5**	**0.0**
SBLS	**San Blas**	**1.03**	**71**	*e*P	**Pn**	**21 29 22.5**	**0.0**
SNJE	**San Jose**	**1.05**	**70**	*e*P	**Pn**	**21 29 22.9**	**+0.2**
SNJE				*eS*	**Sb**	**21 29 37.4**	**+0.1**
SNJE	**San Jose**	**1.05**	**70**	*e*P	**Pn**	**21 29 22.9**	**+0.2**
SNJE				*eS*	**Sb**	**21 29 37.4**	**+0.1**
NBG	**Las Nubes**	**1.11**	**14**	*e*P	**Pb**	**21 29 25.1**	**+0.2**
NBG				*eS*	**Sb**	**21 29 41.1**	**+1.9**
UNIC	**Universidad Ca**	**1.15**	**65**	*e*P	**Pn**	**21 29 24.2**	**+0.3**
UNIC	**Universidad Ca**	**1.15**	**65**	*e*P	**Pn**	**21 29 24.2**	**+0.3**
JAYA	**Jayaque - finc**	**1.15**	**82**	*e*P	**Pn**	**21 29 23.9**	**-0.2**
JAYA				*eS*	**Sn**	**21 29 38.9**	**0.0**
JAYA				IAML		21 29 40.5	
	comp=Z,2μm,0.3s						
JAYA	**Jayaque - finc**	**1.15**	**82**	*e*P	**Pn**	**21 29 23.9**	**-0.2**
JAYA				*eS*	**Sn**	**21 29 38.9**	**0.0**
JAYA				IAML		21 29 40.5	
	comp=Z,2μm,0.3s						
SULM	**Suchitepequez,**	**1.22**	**311**	*e*P	**Pn**	**21 29 25.0**	**+0.1**
PMON	**Piamonte**	**1.29**	**80**	*e*P	**Pn**	**21 29 26.3**	**+0.3**
PMON	**Piamonte**	**1.29**	**80**	*e*P	**Pn**	**21 29 26.3**	**+0.3**
BOQS	**Boqueron**	**1.32**	**80**	*e*P	**Pn**	**21 29 26.9**	**+0.3**
BOQS				*eS*	**Sb**	**21 29 44.3**	**-0.8**
BOQS	**Boqueron**	**1.32**	**80**	*e*P	**Pn**	**21 29 26.9**	**+0.3**
BOQS				*eS*	**Sb**	**21 29 44.3**	**-0.8**
UEES	**Universidad Ev**	**1.36**	**81**	*e*P	**Pn**	**21 29 27.2**	**+0.3**
UEES	**Universidad Ev**	**1.36**	**81**	*e*P	**Pn**	**21 29 27.2**	**+0.3**
SNET	**Serv Nac Est T**	**1.36**	**82**	*e*P	**Pn**	**21 29 27.0**	**+0.1**
SNET	**Serv Nac Est T**	**1.36**	**82**	*e*P	**Pn**	**21 29 27.0**	**+0.1**
MTO3	**Montecristo**	**1.52**	**54**	*e*P	**Pn**	**21 29 29.0**	**-0.2**
MTO3	**Montecristo**	**1.52**	**54**	*e*P	**Pn**	**21 29 29.0**	**-0.2**
STG3	**Santiaguito 3,**	**1.52**	**323**	⇓*e*P	**Pn**	**21 29 28.8**	**-0.4**
LFRS	**El Faro**	**1.52**	**85**	*e*P	**Pn**	**21 29 29.6**	**+0.4**
LFRS				*eS*	**Sb**	**21 29 49.6**	**-1.0**
LFRS	**El Faro**	**1.52**	**85**	*e*P	**Pn**	**21 29 29.6**	**+0.4**
LFRS				*eS*	**Sb**	**21 29 49.6**	**-1.0**
SJTE	**Alcalda de S**	**1.57**	**86**	*e*P	**Pn**	**21 29 30.4**	**+0.5**
SJTE	**Alcalda de S**	**1.57**	**86**	*e*P	**Pn**	**21 29 30.4**	**+0.5**
ESQI	**Esquipulas**	**1.63**	**50**	*e*P	**Pn**	**21 29 30.7**	**+0.1**
ESQI				*eS*	**Sb**	**21 29 51.9**	**-1.8**
PAVA	**Las Pavas**	**1.65**	**82**	*e*P	**Pn**	**21 29 31.2**	**+0.3**
PAVA	**Las Pavas**	**1.65**	**82**	*e*P	**Pn**	**21 29 31.2**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.85**	**84**	*e*P	**Pn**	**21 29 34.1**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.85**	**84**	*e*P	**Pn**	**21 29 34.1**	**+0.4**
PACA	**Pacayal**	**2.24**	**91**	*e*P	**Pn**	**21 29 40.4**	**+1.4**
PACA	**Pacayal**	**2.24**	**91**	*e*P	**Pn**	**21 29 40.4**	**+1.4**
LCND	**La Caada**	**2.67**	**94**	*e*P	**Pn**	**21 29 45.2**	**+0.4**
LCND	**La Caada**	**2.67**	**94**	*e*P	**Pn**	**21 29 45.2**	**+0.4**
CNCH	**Conchagua**	**2.72**	**94**	*e*P	**Pn**	**21 29 45.6**	**0.0**
CNCH				IAML		21 30 24.1	
	comp=Z,288nm,0.4s						
CNCH	**Conchagua**	**2.72**	**94**	*e*P	**Pn**	**21 29 45.6**	**0.0**
CNCH				IAML		21 30 24.1	
	comp=Z,288nm,0.4s						

WEL 18 21:42:58.2±0.3, 41°S±3°×17°2E±°, h5km, M3.2/23, ML3.4/13, MLv3.2/23, Error ellipse: s-maj=0.0km s-min=0.0km az=139.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	**Matariki Terra**	**0.35**	**80**	P	Pb	21 43 06.0	-0.9
MRNZ				S	Sb	21 43 11.3	-1.5
DSZ	**Denniston Nort**	**0.47**	**233**	P	Pg	21 43 07.8	+0.6
DSZ				S	Sg	21 43 14.6	+1.3
THZ	**Tophouse**	**0.54**	**124**	P	Pg	21 43 09.4	+0.7
TKNZ	**Takaka Hill**	**0.66**	**49**	P	Pg	21 43 10.8	0.0
QRZ	**Quartz Range**	**0.66**	**15**	P	Pg	21 43 10.7	-0.2
NNZ	**Nelson**	**0.85**	**74**	P	Pg	21 43 14.0	-0.5
BSWZ	**Blackbirch Sta**	**1.21**	**103**	P	Pb	21 43 21.6	0.0
TUWZ	**Tuamarina**	**1.24**	**89**	P	Pg	21 43 21.1	-0.8
LTZ	**Lake Taylor**	**1.32**	**181**	P	Pn	21 43 22.4	-1.0
DUWZ	**D'Urville Isla**	**1.39**	**62**	P	Pn	21 43 23.5	-0.8
TCW	**Tory Channel**	**1.51**	**81**	P	Pn	21 43 25.0	-0.4
GVZ	**Greta Valley S**	**1.60**	**160**	P	Pg	21 43 28.8	-0.1
OXZ	**Oxford**	**1.87**	**186**	P	Pb	21 43 32.5	-0.4
MHCZ	**Mount Hutt**	**2.14**	**194**	P	Pn	21 43 34.8	+0.2
GCSZ	**Gaunt Creek Bo**	**2.36**	**218**	P	Pn	21 43 37.1	-0.5
RPZ	**Rata Peaks**	**2.43**	**202**	P	Pn	21 43 38.8	+0.2
HOWZ	**Holdsworth Sta**	**2.49**	**78**	P	Pn	21 43 38.8	-0.7
LREZ	**Lake Rotokare**	**2.56**	**39**	P	Pn	21 43 40.8	+0.4
MRZ	**Mangatainoka R**	**2.61**	**73**	P	Pb	21 43 43.4	-2.0
ARCZ	**Arundel**	**2.62**	**198**	P	Pn	21 43 40.6	-0.6
VRZ	**Vera Road**	**3.00**	**40**	P	Pn	21 43 47.9	+1.5
TMZ	**Timaru**	**3.07**	**198**	P	Pn	21 43 47.4	+0.1
TSZ	**Takapari Road**	**3.12**	**64**	P	Pn	21 43 50.6	+2.6
PKVZ	**Pokaka**	**3.18**	**48**	P	Pn	21 43 49.3	+0.3
TRVZ	**Turoa**	**3.29**	**50**	P	Pn	21 43 52.3	+1.7
WTVZ	**West Tongariro**	**3.44**	**48**	P	Pn	21 43 54.1	+1.5
NNVZ	**North Ngauruho**	**3.44**	**49**	P	Pn	21 43 53.7	+1.1
BKZ	**Black Stump Fm**	**3.94**	**56**	P	Pn	21 43 59.2	-0.2
PUZ	**Puketiti**	**5.70**	**56**	P	Pn	21 44 23.1	-0.5
PKGZ	**Pakihiroa**	**5.71**	**53**	P	Pn	21 44 30.3	+6.6
WMGZ	**Waiomatatini S**	**5.96**	**54**	P	Pn	21 44 27.2	+0.1

IDC 18 21:43:01.6±3.3, 6°92S×149°16E, h0km, mb2.9/1, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=132.1km s-min=34.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.17**	**219**	Pn	Pn	21 43 54.8	+2.0
	16nm,0.4s,baz=55,slow=8.2,SNR=7.0						
PMG				Sn	Sn	21 44 31.8	+0.4
	11nm,0.3s,baz=52,slow=21,SNR=7.5						
WRA	**Warramunga Arr**	**19.36**	**227**	P	P	21 47 29.1	+0.1
	0.1nm,0.3s,baz=52,slow=11,SNR=8.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**22.19**	**220**	P	P	21 47 58.8	-0.9
	0.2nm,0.4s,baz=54,slow=8.9,SNR=8.5						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**147.40**	**284**	PKPbc	PKPbc	22 02 47.8	-0.8
	2μm,0.4s,baz=65,slow=3.2,SNR=24						

*DJA **18** 21:46:18.9±0.5, 0°S±4°×12°3E±°, h142km±6km, M3.9/10, MLv3.9/10*
*IDC **18** 21:46:21.0±4.5, 0°.12N×123°.54E, h181km±47km, mb3.1/4, mbtmp3.6/5, Error ellipse: s-maj=61.6km s-min=17.3km az=57.0*
ISC 18 21:46:18.0±0.9, 0°.1S±0°.1×123°.26E±0°.07, h150km, n14, σ1°01/15, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.08**	**207**	P	**Pn**	**21 46 43.6**	**+0.1**
LUWI				S	**Sn**	**21 47 01.7**	**-1.3**
MRSI	**Marisa**	**1.43**	**292**	P	**Pn**	**21 46 46.3**	**-0.5**
APSI	**Ampana**	**1.82**	**243**	P	**Pn**	**21 46 51.4**	**+0.4**
SANI	**Sanana**	**3.36**	**126**	P	**Pn**	**21 47 09.6**	**-0.4**
MPSI	**Mapaga**	**3.39**	**277**	P	**Pn**	**21 47 11.2**	**+0.9**
LBMI	**Labuha**	**4.28**	**98**	P	**Pn**	**21 47 22.3**	**+0.4**
NLAI	**Namlea**	**4.96**	**129**	P	**Pn**	**21 47 32.2**	**+1.2**
MMSI	**Mamuju**	**5.07**	**239**	P	Pn	21 47 17.4	-15
SIJI	**Sorong**	**8.04**	**96**	P	**Pn**	**21 48 11.9**	**-0.2**
	2.7nm,0.4s,baz=54,slow=3.3,SNR=3.6						
WRA	**Warramunga Arr**	**22.53**	**152**	P	**P**	**21 51 06.1**	**+0.5**
	0.6nm,0.3s,baz=334,slow=9.9,SNR=30						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**25.63**	**157**	P	**P**	**21 51 34.4**	**+0.6**
	0.2nm,0.4s,baz=330,slow=9.1,SNR=4.8						
ASAR				PcP	**PcP**	**21 55 01.1**	**+0.3**
	0.3nm,0.3s,baz=353,slow=2.0,SNR=8.3						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.16**	**309**	P	**P**	**21 52 15.8**	**+1.5**
	0.6nm,0.3s,baz=134,slow=7.1,SNR=5.4						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**58.81**	**328**	P	**P**	**21 55 59.9**	**-0.8**
	0.3nm,0.5s,baz=124,slow=8.2,SNR=6.8						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**120.68**	**285**	PKP	**PKPdf**	**22 04 51.2**	**-2.0**
	0.2nm,0.5s,baz=63,slow=3.1,SNR=2.2						

IDC 18 21:51:00.5±2.9, 4°.11S×134°.81E, h0km, mb3.8/1, mbtmp3.9/4, ML3.7/3, Error ellipse: s-maj=103.7km s-min=27.5km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.79**	**312**	Pn	Pn	21 52 13.8	-0.1
	2.1nm,0.3s,baz=58,slow=23,SNR=5.5						
SIJI				Sn	Sn	21 53 06.2	-3.9
	1.3nm,0.3s,baz=298,slow=23,SNR=1.6						
	4.4nm,0.3s						
WRA	**Warramunga Arr**	**15.74**	**182**	Pn	Pn	21 54 45.2	+1.5
	0.3nm,0.3s,baz=0.7,slow=12,SNR=19						
WRA				Sn	Sn	21 57 21.4	-18
	0.2nm,0.3s,baz=2.2,slow=23,SNR=4.1						
	2.7nm,0.7s						
ASAR	**Alice Springs**	**19.46**	**182**	P	P	21 55 28.4	-0.6
	0.4nm,0.3s,baz=5.7,slow=12,SNR=35						
ASAR				S	Sn	21 58 50.4	-19
	0.3nm,0.8s,baz=5.8,slow=28,SNR=1.9						
	2.4nm,0.5s						
MKAR	**Makanchi Array**	**68.58**	**324**	P	P	22 02 05.3	+0.1
	0.9nm,0.8s,baz=116,slow=7.2,SNR=5.3

KTHR	**Kythira**	**1.13**	**10**	P	**Pb**	**22 11 50.0**	**+1.1**
KTHR				S	**Sg**	**22 12 03.5**	**-0.8**
KTHR				AML	AML	22 12 12.6	
	comp=E,1704µm,0.6s						
KTHR				AML	AML	22 12 14.1	
	comp=N,1758µm,0.7s						
KTHA	**Kythira Island**	**1.14**	**12**	PG	**Pn**	**22 11 50.7**	**+1.6**
KTHA				SG	**Sb**	**22 12 04.9**	**+1.3**
KTHA	**Kythira Island**	**1.14**	**12**	P	**Pn**	**22 11 50.6**	**+1.5**
KTHA				S	**Sb**	**22 12 04.8**	**+1.2**
	comp=N,458nm,0.6s						
KTHA	**Kythira Island**	**1.14**	**12**	P	**Pg**	**22 11 49.7**	**+0.1**
KTHA				AML	AML	22 12 06.1	
	comp=E,1310µm,0.5s						
KTHA				AML	AML	22 12 09.7	
	comp=N,515µm,0.6s						
PRNS	**Prines Rethymn**	**1.44**	**81**	P	**Pn**	**22 11 53.4**	**+0.2**
PRNS				S	**Sb**	**22 12 10.2**	**-2.1**
	comp=N,142nm,0.6s						
MNVA	**Monemvasia**	**1.55**	**8**	P	**Pg**	**22 11 57.5**	**-0.1**
IDI	**Anoyia**	**1.75**	**85**	Pn	**Pn**	**22 11 58.5**	**+0.9**
	comp=N,2.4nm,0.3s,baz=286,slow=15,SNR=29						
IDI				Sn	**Sb**	**22 12 22.5**	**+1.2**
	comp=N,9.0nm,0.3s,baz=293,slow=16,SNR=6.9						
IDI	**Anoyia**	**1.75**	**85**	PN	**Pn**	**22 11 57.9**	**+0.4**
IDI	**Anoyia**	**1.75**	**85**	P	**Pn**	**22 11 58.4**	**+0.9**
IDI				S	**Sn**	**22 12 20.7**	**+1.1**
	comp=N,182nm,0.8s						
HRKL	**Herakleio**	**1.92**	**84**	PN	**Pn**	**22 12 00.2**	**+0.3**
MHLO	**Agia Marina, M**	**2.03**	**40**	P	**Pb**	**22 12 05.0**	**+0.6**
THT2	**Imerovigli**	**2.51**	**58**	PN	**Pn**	**22 12 07.9**	**-0.2**
ZKR	**Zakros**	**2.83**	**90**	PN	**Pn**	**22 12 12.9**	**+0.5**
APE	**Apeiranthos**	**2.95**	**49**	PN	**Pn**	**22 12 14.2**	**+0.1**
KARP	**Karpathos**	**3.62**	**82**	PN	**Pn**	**22 12 23.2**	**0.0**
ARG	**Arkhangelos**	**4.49**	**75**	PN	**Pn**	**22 12 34.9**	**-0.3**
TURN	**Turunc**	**4.73**	**68**	PN	**Pn**	**22 12 38.1**	**-0.4**
DALY	**Dalyan (Mula)**	**5.06**	**69**	PN	**Pn**	**22 12 42.5**	**-0.5**
FETY	**Fethiye**	**5.34**	**72**	PN	**Pn**	**22 12 46.1**	**-0.8**
CAME	**Cameli-Denizli**	**5.59**	**69**	PN	**Pn**	**22 12 49.4**	**-1.1**
AKAS	**Kas**	**5.67**	**77**	PN	**Pn**	**22 12 50.7**	**-0.9**
ELL	**Elmali**	**6.01**	**73**	PN	**Pn**	**22 12 55.3**	**-0.9**
BRTR	**Keskin Array B**	**9.78**	**59**	Pn	**Pn**	**22 13 45.1**	**-2.8**
	baz=246,slow=12,SNR=1.5						
	comp=N,0.6nm,0.9s						
MKAR	**Makanchi Array**	**45.42**	**56**	P	**P**	**22 19 43.1**	**-2.7**
	comp=N,0.3nm,0.4s,baz=272,slow=8.1,SNR=5.3						
	comp=N,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.43**	**46**	P	P	22 19 50.1	-3.6
	comp=N,0.4nm,0.3s,baz=278,slow=10.0,SNR=3.0						
	comp=N,0.4nm,0.3s						

WEL 18 22:13:58.0,40°S±5″×17°7E±°,h14km±7km,M2.3/13,ML2.6/14,MLv2.3/13,Error ellipse: s-maj=0.0km s-min=0.0km az=68.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.07**	**4**	P	Pg	22 14 01.2	+0.4
KAHZ	**Kahuranaki**	**0.16**	**247**	P	Pb	22 14 03.3	+0.5
PXZ	**Pawanui**	**0.34**	**208**	P	Pb	22 14 06.4	+0.6
ARHZ	**Aropaoanui**	**0.47**	**353**	P	Pb	22 14 08.5	+0.5
KWHZ	**Kaweka Forest**	**0.59**	**301**	P	Pb	22 14 10.6	+0.5
WPHZ	**Waipukurau**	**0.59**	**235**	P	Pb	22 14 10.5	+0.4
PRHZ	**Porangahau**	**0.63**	**212**	P	Pb	22 14 11.1	+0.3
NMHZ	**Naumai**	**0.67**	**342**	P	Pb	22 14 11.9	+0.5
PNHZ	**Pukenui**	**0.69**	**254**	P	Pb	22 14 12.1	+0.1
BKZ	**Black Stump Fm**	**0.72**	**321**	P	Pb	22 14 12.6	+0.2
BHHZ	**Black Hill Sta**	**0.81**	**287**	P	Pb	22 14 13.9	-0.1
MTHZ	**Maungataniwha**	**0.90**	**348**	P	Pg	22 14 15.0	-0.3
TSZ	**Takapari Road**	**0.91**	**249**	P	Pb	22 14 14.9	-0.8
MRHZ	**Matea Rd**	**1.03**	**330**	P	Pb	22 14 17.6	-0.1
MOVZ	**Moawhango**	**1.07**	**287**	P	Pb	22 14 18.3	-0.1
SNVZ	**South Ngauruho**	**1.23**	**296**	P	Pg	22 14 21.6	-0.1
MUGZ	**Murupara**	**1.27**	**349**	P	Pn	22 14 21.2	-0.2
NNVZ	**North Ngauruho**	**1.28**	**297**	P	Pg	22 14 22.4	-0.2

WEL 18 22:14:35.5±0.3,42°S±2″×17°4E±°,h5km,M3.2/35,ML3.6/12,MLv3.2/35,Error ellipse: s-maj=0.0km s-min=0.0km az=111.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**196**	P	Pg	22 14 40.0	+0.3
KHZ				S	Sg	22 14 43.6	+1.1
BSWZ	**Blackbirch Sta**	**0.54**	**21**	P	Pn	22 14 46.1	-0.9
BSWZ	**Blackbirch Sta**	**0.54**	**21**	P	Pg	22 14 46.0	+0.2
BSWZ				S	Sb	22 14 54.1	-1.3
CMWZ	**Cape Campbell**	**0.64**	**44**	P	Pn	22 14 42.7	-1.9
THZ	**Tophouse**	**0.70**	**310**	P	Pg	22 14 49.4	+0.5
TUWZ	**Tuamarina**	**0.82**	**17**	P	Pg	22 14 51.4	+0.1
GVZ	**Greta Valley S**	**0.87**	**209**	P	Pb	22 14 53.0	-0.1
NNZ	**Nelson**	**1.01**	**350**	P	Pg	22 14 54.6	-0.3
MRNZ	**Matariki Terra**	**1.04**	**321**	P	Pn	22 14 55.6	+1.1
MRNZ	**Matariki Terra**	**1.04**	**321**	P	Pg	22 14 55.7	-0.2
TCW	**Tory Channel**	**1.12**	**26**	P	Pg	22 14 56.3	-0.7
LTZ	**Lake Taylor**	**1.15**	**240**	P	Pg	22 14 56.8	-0.7
AMCZ	**Amberley**	**1.20**	**216**	P	Pg	22 14 57.6	-0.9
TKNZ	**Takaka Hill**	**1.28**	**337**	P	Pg	22 14 59.6	-0.4
PLWZ	**Palliser**	**1.38**	**63**	P	Pn	22 14 59.1	-2.4
DSZ	**Denniston Nort**	**1.43**	**289**	P	Pb	22 15 02.6	-0.1
DUWZ	**D'Urville Isla**	**1.43**	**9**	P	Pn	22 15 01.4	-0.7
MSWZ	**Moikau Station**	**1.46**	**57**	P	Pn	22 15 00.3	-2.3
CAW	**Cannon Point**	**1.55**	**45**	P	Pn	22 15 02.1	-1.7
OKCZ	**Okains Bay**	**1.56**	**195**	P	Pn	22 15 01.7	-2.3
PAWZ	**Paruwai Farm**	**1.59**	**59**	P	Pn	22 15 01.8	-2.6
OXZ	**Oxford**	**1.61**	**226**	P	Pn	22 15 02.3	-2.3
QRZ	**Quartz Range**	**1.61**	**329**	P	Pb	22 15 05.2	-0.5
MQZ	**McQueen's Vall**	**1.65**	**205**	P	Pn	22 15 02.3	-2.8
KIW	**Kapiti Island**	**1.67**	**36**	P	Pn	22 15 04.5	-0.9
INZ	**Inchbonnie**	**1.69**	**252**	P	Pn	22 15 05.1	-0.6
AKCZ	**Akaroa Harbour**	**1.74**	**197**	P	Pn	22 15 03.9	-2.5
MTW	**Mount Morrison**	**1.76**	**54**	P	Pn	22 15 04.2	-2.6
OGWZ	**Otaki Gorge**	**1.82**	**40**	P	Pn	22 15 05.9	-1.6
RACZ	**Rakaia**	**1.86**	**215**	P	Pn	22 15 05.7	-2.4
MHCZ	**Mount Hutt**	**2.00**	**228**	P	Pn	22 15 07.8	-2.3
TMWZ	**Te Maipa**	**2.03**	**58**	P	Pn	22 15 07.5	-3.0
MRZ	**Mangatainoka R**	**2.14**	**44**	P	Pn	22 15 09.8	-2.2
WACZ	**Wakanui South**	**2.16**	**216**	P	Pn	22 15 10.1	-2.1
WVZ	**Waitaha Valley**	**2.29**	**247**	P	Pn	22 15 13.3	-0.7
RPZ	**Rata Peaks**	**2.41**	**231**	P	Pn	22 15 13.7	-1.9
ARCZ	**Arundel**	**2.49**	**225**	P	Pn	22 15 14.5	-2.3
GCSZ	**Gaunt Creek Bo**	**2.66**	**244**	P	Pn	22 15 18.8	-0.2
NMEZ	**Namu Road**	**2.81**	**4**	P	Pb	22 15 26.7	+0.6
LREZ	**Lake Rotokare**	**2.81**	**12**	P	Pb	22 15 26.3	0.0
TMZ	**Timaru**	**2.89**	**220**	P	Pn	22 15 20.0	-2.2
KHEZ	**Kahui Hut**	**2.93**	**6**	P	Pb	22 15 27.5	-0.8
PKE	**Pukeiti**	**3.03**	**5**	P	Pb	22 15 30.0	+0.1
FOZ	**Fox Glacier**	**3.09**	**243**	P	Pn	22 15 24.6	-0.4
PKVZ	**Pokaka**	**3.20**	**25**	P	Pb	22 15 32.2	-0.8
VRZ	**Vera Road**	**3.21**	**16**	P	Pn	22 15 27.9	+1.4
MOVZ	**Moawhango**	**3.24**	**31**	P	Pb	22 15 32.3	-1.3
WNVZ	**Wahianoa**	**3.25**	**28**	P	Pn	22 15 27.6	+0.3
TRVZ	**Turoa**	**3.26**	**27**	P	Pb	22 15 32.7	-1.3
NGZ	**Ngauruhoe**	**3.39**	**27**	P	Pb	22 15 33.8	-2.3
ODZ	**Otahua Downs**	**3.56**	**216**	P	Pn	22 15 28.7	-2.7
HIZ	**Hauiti**	**3.82**	**15**	P	Pn	22 15 36.7	+1.7
JCZ	**Jackson Bay**	**3.99**	**241**	P	Pn	22 15 38.2	+0.7

*ROM **18** 22:16:06.4±0.0,43°S×006N±0°002×13°070E±0°004, h10km,ML2.6/31,Error ellipse: s-maj=0.3km s-min=0.2km az=80.0*

*PRU **18** 22:16:12.4±0.0,43°S×17N×13°49E,h10km*

ISC 18 22:16:05.5±0.7,43°04N±0°02×13°10E±0°02,h16km±2km, n52,σ1°42/78,10C-8D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.01**	**283**	P	**Pb**	**22 16 08.3**	**0.0**
FDMO				S	**Sb**	**22 16 09.2**	**-1.1**
FDMO				AML	AML		
	comp=E,61300µm,0.2s						
FDMO				AML	AML		
	comp=N,72150µm,0.2s						
FEMA	**Monte Fema**	**0.08**	**207**	P	**Pb**	**22 16 08.7**	**-0.1**
FEMA				S	**Sb**	**22 16 10.1**	**-1.0**
FEMA				AML	AML		
	comp=E,40400µm,0.4s						
FEMA				AML	AML		
	comp=N,34550µm,0.3s						
FEMA				AML	AML		
	comp=N,34550µm,0.3s						
FEMA				AML	AML		
	comp=E,40400µm,0.4s						
CSP1	**Cessapalombo**	**0.10**	**53**	P	**Pg**	**22 16 10.0**	**+1.0**
CSP1				S	**Sg**	**22 16 12.3**	**+1.0**
CSP1				AML	AML		
	comp=E,12100µm,1.1s						
CSP1				AML	AML		
	comp=N,8965µm,0.3s						
CSP1				AML	AML		
	comp=E,12135µm,1.1s						
CSP1				AML	AML		
	comp=N,8980µm,0.3s						
CSP1				AML	AML		
	comp=N,8970µm,0.3s						
T1256	**Bolognola (MC)**	**0.10**	**107**	P	**Pg**	**22 16 09.7**	**+0.6**
T1256				S	**Sg**	**22 16 11.9**	**+0.5**
T1256				AML	AML		
	comp=E,10825µm,0.3s						
T1256				AML	AML		
	comp=N,7830µm,1.5s						
T1256				AML	AML		
	comp=E,10815µm,0.3s						
T1256				AML	AML		
	comp=N,7115µm,1.6s						
T1256				AML	AML		
	comp=N,7830µm,1.6s						
T1256				AML	AML		
	comp=E,10955µm,0.3s						
T1256				AML	AML		
	comp=E,10825µm,0.3s						
CESI	**CESI - Serrava**	**0.15**	**258**	P	**Pg**	**22 16 10.0**	**+0.5**
CESI				S	**Sb**	**22 16 12.4**	**-0.4**
CESI				AML	AML		
	comp=E,6365µm,0.4s						
CESI				AML	AML		
	comp=N,7400µm,0.3s						
T1216	**Preci, Frazion**	**0.15**	**202**	P	**Pg**	**22 16 09.9**	**+0.3**
T1216				S	**Sb**	**22 16 12.2**	**-0.8**
T1216				AML	AML		
	comp=E,8320µm,0.2s						
T1216				AML	AML		
	comp=N,5800µm,0.3s						
T1216				AML	AML		
	comp=E,8320µm,0.3s						
T1216				AML	AML		
	comp=N,5805µm,0.3s						
SEF1	**Sefro**	**0.16**	**315**	P	**Pg**	**22 16 10.7**	**+1.1**
SEF1				S	**Sb**	**22 16 13.7**	**+0.5**
SEF1				AML	AML		
	comp=E,7770µm,1.2s						
SEF1				AML	AML		
	comp=N,5235µm,0.4s						
SEF1				AML	AML		
	comp=E,7775µm,1.2s						
SEF1				AML	AML		
	comp=N,5240µm,0.4s						
MDAR	**Monte D'Aria**	**0.16**	**11**	P	**Pg**	**22 16 11.2**	**+1.4**
MDAR				S	**Sg**	**22 16 14.5**	**+1.9**
MDAR				AML	AML		
	comp=E,3755µm,0.3s						
MDAR				AML	AML		
	comp=E,3755µm,0.3s						
MDAR				AML	AML		
	comp=N,4235µm,0.6s						
GUMA	**Gualdo di Mace**	**0.17**	**81**	P	**Pg**	**22 16 11.5**	**+1.6**
GUMA				S	**Sg**	**22 16 15.5**	**+2.7**
GUMA				AML	AML		
	comp=N,9130µm,0.6s						
GUMA				AML	AML		
	comp=E,10920µm,0.3s						
GUMA				AML	AML		
	comp=E,11600µm,0.3s						
GUMA				AML	AML		
	comp=N,9250µm,0.3s						
GUMA				AML	AML		
	comp=N,9140µm,0.6s						
T1245	**Castelsantange**	**0.19**	**160**	P	**Pb**	**22 16 10.8**	**+0.1**
T1245				S	**Sb**	**22 16 13.8**	**-0.3**
T1245				AML	AML		
	comp=N,3835µm,0.8s						
T1245				AML	AML		
	comp=E,3345µm,0.5s						
T1245				AML	AML		
	comp=E,3510µm,0.4s						
T1245				AML	AML		
	comp=N,3740µm,0.8s						
T1245				AML	AML		
	comp=E,3515µm,0.4s						
T1245				AML	AML		
	comp=N,3840µm,0.8s						
NRCA	**Norcia**	**0.20**	**177**	P	**Pg**	**22 16 10.7**	**+0.4**
NRCA				S	**Sg**	**22 16 14.0**	**+0.5**
NRCA				AML	AML		
	comp=E,3465µm,1.3s						
NRCA				AML	AML		
	comp=E,3745µm,1.3s						
NRCA				AML	AML		
	comp=E,3470µm,1.3s						
NRCA				AML	AML		
	comp=N,4030µm,0.1s						
NRCA				AML	AML		
	comp=N,3760µm,0.2s						
MMO1	**Montemonaco**	**0.21**	**129**	P	**Pg**	**22 16 11.5**	**+1.0**
MMO1				S	**Sg**	**22 16 15.1**	**+1.2**
SNTG	**Esanatoglia**	**0.25**	**332**	P	**Pb**	**22 16 12.3**	**+0.7**
SNTG				S	**Sb**	**22 16 16.9**	**+1.2**
SNTG				AML	AML		
	comp=E,2075µm,0.7s						
SNTG				AML	AML		
	comp=N,2900µm,0.6s						
SNTG				AML	AML		
	comp=N,3000µm,0.6s						
SNTG				AML	AML		
	comp=N,2900µm,0.6s						
SNTG				AML	AML		
	comp=E,1900µm,1.2s						
SNTG				AML	AML		
	comp=N,2895µm,0.6s						
T1215	**Vallo di Nera,**	**0.29**	**216**	P	**Pg**	**22 16 12.2**	**+0.5**
T1215				S	**Sg**	**22 16 16.6**	**+0.7**
T1215				AML	AML		
	comp=N,1044µm,0.5s						
T1215				AML	AML		
	comp=N,1046µm,0.5s						
T1215				AML	AML		
	comp=N,1043µm,0.5s						
T1215				AML	AML		
	comp=E,786µm,0.4s						
MNTP	**Montappone**	**0.29**	**69**	P	**Pg**	**22 16 14.0**	**+2.3**
MNTP				AML	AML		
	comp=N,1385µm,1.5s						
MNTP				AML	AML		
	comp=E,1695µm,1.4s						
MNTP				AML	AML		
	comp=N,1390µm,1.5s						
EL6	**Elcito**	**0.29**	**0**	⇑P	**Pn**	**22 16 13.4**	**-1.8**
EL6				AML	AML		
	comp=E,4025µm,0.7s						
EL6				AML	AML		
	comp=N,4695µm,0.3s						
EL6				AML	AML		
	comp=E,4030µm,0.7s						
T1241	**Roccafluvione,**	**0.30**	**126**	P	**Pb**	**22 16 13.2**	**+0.7**
T1241				S	**Sn**	**22 16 18.3**	**-3.1**
T1241				AML	AML		
	comp=E,1130µm,0.4s						
T1241				AML	AML		
	comp=N,750µm,0.7s						
T1241				AML	AML		
	comp=E,1135µm,0.4s						
ASSB	**Assisi San Ben**	**0.32**	**272**	⇑P	**Pg**	**22 16 11.6**	**-0.7**
CING	**Cingoli**	**0.35**	**12**	⇑P	**Pn**	**22 16 14.4**	**-1.5**
CING				AML	AML		
	comp=N,1410µm,0.1s						
CING				AML	AML		
	comp=E,1550µm,0.4s						
FOSV	**Fossato di Vic**	**0.36**	**317**	⇓P	**Pb**	**22 16 14.3**	**+0.8**
FOSV				AML	AML		
	comp=E,963µm,0.5s						
FOSV				AML	AML		
	comp=N,1012µm,0.2s						
FOSV				AML	AML		
	comp=E,960µm,0.5s						
FOSV				AML	AML		
	comp=N,1010µm,0.2s						
T1218	**Civita (PG)**	**0.36**	**178**	P	**Pg**	**22 16 13.6**	**+0.6**
T1218				S	**Sg**	**22 16 19.2**	**+1.1**
T1218				AML	AML		
	comp=N,1054µm,0.2s						
T1218				AML	AML		
	comp=E,819µm,0.9s						
T1218				AML	AML		
	comp=N,1055µm,0.2s						
T1218				AML	AML		
	comp=E,766µm,0.9s						
T1218				AML	AML		
	comp=N,1050µm,0.2s						
T1218				AML	AML		
	comp=N,1052µm,0.2s						
ATCC	**AVT- Casa Cast**	**0.37**	**294**	⇓P	**Pg**	**22 16 14.3**	**+1.2**
ATCC				AML	AML		
	comp=E,1325µm,0.3s						
ATCC				AML	AML		
	comp=N,2580µm,0.3s						
ATCC				AML	AML		
	comp=N,2585µm,0.3s						
T1243	**Rocca Santa Ma**	**0.42**	**143**	P	**Pb**	**22 16 15.0**	**+0.3**
LNSS	**Leonessa**	**0.43**	**186**	P	**Pg**	**22 16 14.8**	**+0.5**
LNSS				S	**Sg**	**22 16 20.9**	**+0.7**
LNSS				AML	AML		
	comp=N,888µm,0.6s						
LNSS				AML	AML		
	comp=E,280µm,0.2s						
SMA1	**SAN MARTINO**	**0.44**	**157**	P	**Pb**	**22 16 15.1**	**+0.2**
SMA1				AML	AML		
	comp=E,565µm,0.3s						
SMA1				AML	AML		
	comp=N,621µm,0.6s						
OFFI	**Offida**	**0.44**	**103**	⇓P	**Pn**	**22 16 16.9**	**-0.2**
OFFI				AML	AML		
	comp=E,706µm,0.5s						
OFFI				AML	AML		
	comp=N,1235µm,0.5s						
SSFR	**Montelago di S**	**0.46**	**330**	⇑P	**Pb**	**22 16 16.2**	**+0.9**
SSFR				S	**Sn**	**22 16 25.0**	**-0.5**
SSFR				AML	AML		
	comp=E,2420µm,0.2s						
SSFR				AML	AML		
	comp=E,2335µm,0.2s						
SSFR				AML	AML		
	comp=N,1550µm,0.2s						
SSFR				AML	AML		
	comp=N,1655µm,0.8s						
ARVD	**Arcevia**	**0.48**	**346**	⇑P	**Pn**	**22 16 16.7**	**-1.0**
ARVD				S	**Sn**	**22 16 25.0**	**-0.8**
ARVD				AML	AML		
	comp=N,560µm,0.2s						
ARVD				AML	AML		
	comp=E,600µm,0.4s						
MURB	**Monte Urbino**	**0.48**	**299**	⇑P	**Pg**	**22 16 16.4**	**+1.3**
MURB				AML	AML		
	comp=N,1530µm,0.2s						
MURB				AML	AML		
	comp=N,1645µm,0.3s						
MURB				AML	AML		
	comp=E,2680µm,0.4s						
MURB				AML	AML		
	comp=N,1530µm,0.3s						
MURB				AML	AML		
	comp=E,2595µm,0.4s						
ATFO	**Monte Foce - G**	**0.51**	**311**	⇑P	**Pb**	**22 16 17.0**	**+0.9**
ATFO				S	**Sn**	**22 16 26.0**	**-0.6**
ATFO				AML	AML		
	comp=N,371µm,0.9s						
ATFO				AML	AML		
	comp=E,418µm,0.3s						
ATFO				AML	AML		
	comp=N,372µm,0.9s						
ARRO	**Arrone**	**0.52**	**208**	P	**Pb**	**22 16 16.4**	**+0.2**
ARRO				AML	AML		
	comp=N,292µm,0.6s						
ARRO				AML	AML		
	comp=N,293µm,0.6s						
ARRO				AML	AML		
	comp=E,330µm,0.8s						
RM33	**Pellescritta (**	**0.53**	**171**	P	**Pg**	**22 16 16.6**	**+0.5**
RM33				AML	AML		
	comp=N,244µm,1.2s						
RM33				AML	AML		
	comp=E,243µm,1.4s						
CAMP	**Campotosto**	**0.55**	**155**	P	**Pb**	**22 16 16.9**	**+0.1**
CAMP				AML	AML		
	comp=N,234µm,0.6s						
CAMP				AML	AML		
	comp=E,167µm,1.1s						
TERO	**Teramo**	**0.55**	**138**	P	**Pb**	**22 16 17.3**	**+0.4**
TERO				AML	AML		
	comp=E,340µm,1.3s						
TERO				AML	AML		
	comp=N,549µm,0.5s						
FRON	**Frontone**	**0.56**	**331**	⇑P	**Pb**	**22 16 17.8**	**+1.0**
FRON				AML	AML		
	comp=N,592µm,0.3s						
FRON				AML	AML		
	comp=E,409µm,0.9s						
CESX	**Cesi**	**0.57**	**222**	⇑P	**Pb**	**22 16 17.1**	**0.0**
CESX				S	**Sb**	**22 16 26.0**	**+1.0**
CESX				AML	AML		
	comp=E,614µm,0.3s						
CESX				AML	AML		
	comp=N,658µm,1.0s						
COR1	**Corinaldo**	**0.60**	**353**	P	**Pn**	**22 16 19.8**	**+0.5**
T1247	**Pizzolo (AQ)**	**0.61**	**166**	P	**Pg**	**22 16 18.3**	**+0.8**
ATVO	**AVT- Monte Val**	**0.61**	**305**	⇓P	**Pb**	**22 16 18.6**	**+0.7**
ATVO				S	**Sn**	**22 16 29.0**	**-0.2**
ATVO				AML	AML		
	comp=E,222µm,0.5s						
ATVO				AML	AML		
	comp=N,202µm,0.7s						
ATVO				AML	AML		
	comp=E,223µm,0.5s						
MPAG	**Monte Paganucc**	**0.64**	**337**	⇑P	**Pn**	**22 16 19.6**	**-0.4**
MPAG				S	**Sn**	**22 16 32.0**	**+2.0**
MPAG				AML	AML		
	comp=N,376µm,0.4s						
MPAG				AML	AML		
	comp=E,323µm,0.8s						
PIEI	**Pieia**	**0.65**	**321**	P	**Pg**	**22 16 19.6**	**+1.3**
PIEI				S	**Sn**	**22 16 31.0**	**+1.0**
PIEI				AML	AML		
	comp=N,276µm,0.2s						
PIEI				AML	AML		
	comp=E,306µm,1.2s						
ATPI	**Pietralunga -**	**0.66**	**309**	⇓P	**Pg**	**22 16 19.6**	**+1.1**
GIGS	**Gran Sasso**	**0.68**	**149**	P	**Pg**	**22 16 19.5**	**+0.7**
GIGS				AML	AML		
	comp=N,52µm,1.2s						
GIGS				AML	AML		
	comp=E,66µm,0.5s						
GIGS				AML	AML		
	comp=N,52µm,1.2s						
NARO	**Abbazia di Nar**	**0.69**	**327**	P	**Pg**	**22 16 20.1**	**+1.1**
NARO				AML	AML		
	comp=N,154µm,0.4s						
NARO				AML	AML		
	comp=N,155µm,0.4s						
NARO				AML	AML		
	comp=E,196µm,0.3s						
FSSB	**Fossombrone**	**0.70**	**340**	⇓P	**Pn**	**22 16 20.7**	**0.0**
FSSB				S	**Sn**	**22 16 33.0**	**+1.8**
FSSB				AML	AML		
	comp=N,1615µm,0.3s						
FSSB				AML	AML		
	comp=E,1002µm,0.2s						
FIAM	**Fiamignano**	**0.77**	**179**	⇓P	**Pb**	**22 16 20.6**	**+0.2**
FIAM				AML	AML		
	comp=E,154µm,0.7s						
FIAM				AML	AML		
	comp=E,153µm,0.7s						
FIAM				AML	AML		
	comp=N,122µm,1.4s						
BADI	**Badiali**	**0.79**	**308**	P	**Pg**	**22 16 22.0**	**+1.2**
T0110	**Collepietro**	**0.95**	**148**	⇓P	**Pn**	**22 16 24.3**	**+0.1**
T0110				AML	AML		
	comp=N,289µm,1.6s						
T0110				AML	AML		
	comp=E,252µm,0.6s						
TRIF	**Trifonti**	**1.61**	**274**	P	**Pn**	**22 16 33.9**	**+0.6**
TRIF				AML	AML		
	comp=E,88µm,0.3s						
TRIF				AML	AML		

comp=N,95µm,0.2s
ABTA Abfaltersbach 3.74 354 *i* Pn **Pb 22 17 06.7 -4.3**
comp=N,0.3nm,0.1s
ABTA *i* Sn **Sb 22 17 51.0 -5.2**
comp=N,3.0nm,0.8s
SQTA Sankt Quirin 4.39 343 *i* Pn **Pb 22 17 17.6 -4.7**
comp=N,0.7nm,0.2s
KHC Kasperske Hory 6.11 3 *e*PN Pn 22 17 40.1 +5.1
KHC *e*SN **Sn 22 18 46.1 +1.6**

NEIC ***18*** *22:25:01.0±1.2, 17°.3S±0°.2×178°.47W±0°.09, h576km±10km, mb4.4/12, Error ellipse: s-maj=32.2km s-min=11.8km az=173.0*
IDC ***18*** *22:25:02.2±3.1, 17°.23S×178°.78W, h579km±20km, mb3.4/4, mbtmp4.3/5, Error ellipse: s-maj=110.0km s-min=25.9km az=139.0*
ISC 18 22:24:58.9±0.8,**17°.3S**±0°.2×**178°.6W**±0°.1,**h547**km,**n22,**
σ1§**10**/21,**mb4.3**/10,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.25**	**261**	P	P	22 26 20.2	+4.9
	58nm,0.8s,baz=101,slow=5.4,SNR=28						
NIUE	**Niue**	**8.43**	**104**	P	**P**	**22 27 02.5**	**+1.7**
OUZ	**Omahuta**	**19.20**	**200**	P	**P**	**22 28 47.6**	**0.0**
LHI	**Lord Howe Isla**	**24.75**	**231**	P	**P**	**22 29 39.9**	**+2.4**
ARMA	**Armidale**	**30.12**	**239**	P	**P**	**22 30 24.8**	**+0.1**
ARMA				IAmb	IAmb	22 30 59.9	
	comp=Z,22nm,1.4s						
COEN	**Coen**	**36.94**	**270**	P	**P**	**22 31 23.7**	**+1.5**
STKA	**Stephens Creek**	**38.80**	**240**	P	**P**	**22 31 37.1**	**+0.1**
	comp=Z,3.5nm,0.5s,baz=78,slow=8.6,SNR=13						
	comp=Z,3.5nm,0.5s						
STKA	**Stephens Creek**	**38.80**	**240**	P	**P**	**22 31 37.2**	**+0.1**
BBOO	**Buckleboo**	**43.58**	**240**	P	**P**	**22 32 14.3**	**-0.6**
BBOO				IAmb	IAmb	22 32 24.7	
	comp=Z,29nm,1.5s						
WR0	**Warramunga Arr**	**44.40**	**259**	P	**P**	**22 32 20.6**	**-0.8**
WB0	**Warramunga Arr**	**44.55**	**259**	P	**P**	**22 32 22.4**	**-0.3**
WB0				IAmb	IAmb	22 32 23.4	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**44.58**	**259**	P	**P**	**22 32 22.5**	**-0.3**
WB2				IAmb	IAmb	22 32 25.0	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**44.59**	**259**	P	**P**	**22 32 22.3**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=94,slow=6.8,SNR=65						
	comp=Z,1.8nm,0.5s						
WRA	**Warramunga Arr**	**44.59**	**259**	P	**P**	**22 32 22.4**	**-0.5**
AS31	**Alice Springs**	**44.81**	**254**		**P**	**22 32 24.6**	**0.0**
AS31				IAmb	IAmb	22 32 25.0	
	comp=Z,5.7nm,0.7s						
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**22 32 24.4**	**-0.2**
	comp=Z,20nm,0.5s,baz=88,slow=8.2,SNR=383						
	comp=Z,20nm,0.5s						
ASAR	**Alice Springs**	**44.81**	**254**		**P**	**22 32 24.6**	**0.0**
SBI	**Santa Barbara**	**75.95**	**48**	P	**P**	**22 35 50.2**	**+0.2**
DUZA	**Dulzura**	**77.12**	**50**	P	**P**	**22 35 55.3**	**-1.2**
ILAR	**Eielson Array**	**85.30**	**13**	P	**P**	**22 36 37.8**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=228,slow=5.5,SNR=1.8						
	comp=Z,0.3nm,0.9s						
SNAA	**Sanae**	**91.25**	**179**	P	**P**	**22 37 03.0**	**-2.7**
SNAA				IAmb	IAmb	22 37 04.8	
	comp=Z,4.2nm,1.3s						
GERES	**GERESS Array B**	**146.95**	**345**	PKPbc	**PKPbc**	**22 43 40.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=38,slow=2.4,SNR=5.0						

IDC ***18*** *22:32:08.7±2.0, 32°.14S×70°.94W, h0km, mb4.1/1, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=66.7km s-min=39.8km az=104.0*
GUC ***18*** *22:32:12.9±0.8, 31°.52S×71°.74W, h33km±2km, ML3.9*
ISC 18 22:32:11.0±1.3,**31°.58S**±0°.02×**71°.74W**±0°.07,**h23**km±11km,
n37,σ1§**84/46,11C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.73**	**60**	⇓*e*P	**Pn**	**22 32 26.4**	**+0.3**
CO02				*e*S	**Sn**	**22 32 35.9**	**-0.7**
CO02				IAML		22 32 39.6	
	comp=E,14µm,0.3s						
CO06	**Fray Jorge**	**0.90**	**6**	⇑*e*P	**Pb**	**22 32 28.5**	**+0.5**
CO06				*e*S	**Sb**	**22 32 40.0**	**+0.4**
CO06				IAML		22 32 41.3	
	comp=E,5µm,0.4s						
VA06	**Catapilco**	**1.05**	**159**	⇓*e*P	Pn	22 32 32.6	+2.3
VA06				*e*S	**Sn**	**22 32 47.2**	**+2.9**
VA06				IAML		22 32 50.1	
	comp=E,8µm,0.3s						
CO03	**El Pedregal**	**1.16**	**51**	*e*P	**Pb**	**22 32 32.8**	**+0.3**
CO03				*e*S	**Sn**	**22 32 47.8**	**+0.6**
CO03				IAML		22 32 51.6	
	comp=E,3µm,0.2s						
VA01	**Torpederas**	**1.45**	**177**	⇑*e*P	**Pb**	**22 32 38.5**	**+1.3**
VA01				*e*S	**Sb**	**22 32 57.9**	**+2.8**
VA01				IAML		22 33 04.1	
	comp=E,661nm,0.4s						
ROCH	**El Roble**	**1.52**	**156**	⇑*e*P	Pb	22 32 40.0	+1.4
ROCH				*e*S	**Sb**	**22 33 00.7**	**+3.1**
ROCH				IAML		22 33 04.9	
	comp=N,4µm,0.4s						
VA03	**San Esteban**	**1.56**	**140**	⇑*e*P	Pb	22 32 40.5	+1.3
VA03				*i* S	**Sb**	**22 33 01.1**	**+2.7**
VA03				IAML		22 33 04.8	
	comp=E,4µm,0.6s						
GO04	**Tololo Observa**	**1.62**	**30**	⇑*e*P	**Pb**	**22 32 39.7**	**-0.6**
GO04				*e*S	**Sb**	**22 33 00.6**	**+0.3**
GO04				IAML		22 33 09.4	
	comp=N,6µm,0.4s						
CO05	**La Serena**	**1.71**	**15**	⇑*e*P	**Pb**	**22 32 41.5**	**-0.2**
CO05				*e*S	**Sn**	**22 33 02.6**	**+2.2**
CO05				IAML		22 33 10.5	
	comp=E,1µm,0.3s						
MT02	**Curacav**	**1.75**	**163**	⇑*e*P	**Pb**	**22 32 42.5**	**+0.1**
MT02				*e*S	**Sb**	**22 33 04.5**	**+0.4**
PEL	**Peldehue**	**1.80**	**151**	⇑*e*P	**Pb**	**22 32 44.1**	**+0.8**
PEL				*e*S	**Sb**	**22 33 08.2**	**+2.8**
PEL				IAML		22 33 14.6	
	comp=E,1µm,0.5s						
MT05	**Renca**	**2.00**	**155**	⇑*e*P	**Pb**	**22 32 47.1**	**+0.4**
MT05				*e*S	**Sb**	**22 33 13.4**	**+2.3**
MT05				IAML		22 33 16.9	
	comp=E,3µm,0.3s						
VA05	**Santo Domingo**	**2.08**	**177**	⇑*e*P	**Pb**	**22 32 46.6**	**-1.4**
VA05				*e*S	**Sb**	**22 33 12.3**	**-1.0**
VA05				IAML		22 33 22.4	
	comp=E,1µm,0.6s						
VA05				IAML		22 33 23.0	
	comp=N,1µm,0.5s						
CO01	**Juntas del Tor**	**2.13**	**42**	*e*P	**Pb**	**22 32 48.4**	**-0.7**
CO01				*e*S	**Sb**	**22 33 14.9**	**-0.2**
CO01				IAML		22 33 18.9	
	comp=E,693nm,0.3s						
FCH	**Farellones**	**2.13**	**145**	⇑*e*P	**Pb**	**22 32 49.1**	**0.0**
FCH				*e*S	**Sb**	**22 33 17.5**	**+2.2**
FCH				IAML		22 33 21.5	
	comp=E,706nm,0.2s						
MT03	**Universidad Ad**	**2.18**	**152**	*e*P	**Pb**	**22 32 49.7**	**0.0**
MT03				*e*S	**Sb**	**22 33 17.8**	**+1.5**
MT03				IAML		22 33 26.6	
	comp=E,2µm,0.3s						
MT09	**Talagante**	**2.28**	**164**	*e*P	**Pb**	**22 32 50.9**	**-0.7**
MT09				*e*S	**Sb**	**22 33 20.5**	**+1.0**
MT09				IAML		22 33 30.3	
	comp=E,883nm,0.3s						
MT01	**Popeta**	**2.32**	**170**	*e*P	**Pb**	**22 32 50.5**	**-1.6**
MT01				*e*S	**Sb**	**22 33 20.4**	**+0.1**
MT01				IAML		22 33 29.7	
	comp=E,609nm,0.3s						
BO04	**La Punta**	**2.59**	**159**	*e*P	**Pb**	**22 32 55.0**	**-1.7**
BO04				*e*S	**Sb**	**22 33 27.2**	**-0.9**
BO04				IAML		22 33 34.9	
	comp=E,583nm,0.7s						
LCO	**Las Campanas**	**2.71**	**20**	*e*P	**Pn**	**22 32 54.5**	**+1.2**
LCO				*e*S	**Sn**	**22 33 27.8**	**+2.2**
BO01	**Tunca**	**2.86**	**169**	*e*P	**Pb**	**22 32 58.5**	**-2.9**
BO01				*e*S	**Sb**	**22 33 31.7**	**-4.2**
BO01				IAML		22 33 47.5	
	comp=E,163nm,0.3s						
AC05	**El Transito**	**3.01**	**25**	*e*P	**Pn**	**22 32 59.6**	**+2.2**
AC05				*e*S	**Sn**	**22 33 34.9**	**+2.1**
AC05				IAML		22 33 53.2	
	comp=N,624nm,0.4s						
H03N1	**Juan Fernandez**	**6.34**	**251**	T	T	22 40 24.6	
	baz=79,slow=72,SNR=24						
H03N3	**Juan Fernandez**	**6.35**	**251**	T	T	22 40 24.4	
	baz=79,slow=72,SNR=31						
H03N2	**Juan Fernandez**	**6.35**	**251**	T	T	22 40 25.6	
	baz=79,slow=72,SNR=24						
LVC	**Limon Verde**	**9.28**	**16**	Pn	Pn	22 34 30.0	+6.3
	comp=N,0.2nm,0.3s,baz=272,slow=16,SNR=3.0						
LVC				Sn	Sn	22 36 20.8	+13
	comp=N,0.7nm,0.3s,baz=183,slow=11,SNR=2.3						
	comp=N,4.0nm,0.8s						
CPUP	**Villa Florida**	**13.65**	**71**	Pn	**Pn**	**22 35 18.5**	**-4.7**
	comp=N,0.2nm,0.3s,baz=297,slow=2.3,SNR=1.8						
	comp=N,1.4nm,0.9s						
SIV	**San Ignacio**	**18.31**	**35**	P	**Pn**	**22 36 23.6**	**+0.1**
	baz=217,slow=16,SNR=2.5						
	comp=N,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**83.15**	**70**	P	**P**	**22 44 34.6**	**-0.9**
	comp=N,1.4nm,0.8s,baz=230,slow=3.6,SNR=9.4						
	comp=N,1.4nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**26.03**	**271**	T	T	01 10 06.1	
	baz=116,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hyl**	**26.04**	**271**	T	T	01 10 05.2	
	baz=116,slow=75,SNR=6.5						
H11S3	**WAKE ISLAND Hyl**	**26.04**	**271**	T	T	01 10 10.0	
	baz=116,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hyl**	**26.38**	**272**	T	T	01 10 34.5	
	baz=117,slow=74,SNR=6.0						
H11N1	**WAKE ISLAND Hyl**	**26.39**	**272**	T	T	01 10 37.6	
	baz=117						
H11N2	**WAKE ISLAND Hyl**	**26.39**	**272**	T	T	01 10 35.6	
	baz=117,slow=74,SNR=9.6						
BVAR	**Borovoye Array**	**145.31**	**41**	PKPbc	**PKPab**	**22 51 47.8**	**+1.4**
	comp=N,1.2nm,0.3s,baz=305,slow=2.3,SNR=14						
ZALV	**Zalesovo Beam**	**152.03**	**30**	PKPbc	**PKiKP**	**22 52 05.0**	**+0.9**
	comp=N,4.2nm,0.4s,baz=310,slow=3.1,SNR=24						

IDC ***18*** *22:46:14.2±4.2, 5°.59S×147°.87E, h166km±50km, mb3.3/2, mbtmp3.8/4, MS3.2/2, Error ellipse: s-maj=117.2km s-min=38.3km az=108.0*
NEIC ***18*** *22:46:18.9±0.7, 5°.7S±0°.1×147°.3E±0°.1, h151km±13km, mb4.3/13, Error ellipse: s-maj=18.5km s-min=14.3km az=58.0*
ISC 18 22:46:18.6±1.0,**5°.66S**±0°.09×**147°.4E**±0°.1,**h170**km,**n28,**
σ1§**37/29,mb4.2/4,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.73**	**183**	P	**Pn**	**22 47 14.9**	**-1.1**
	16nm,0.3s,baz=75,slow=20,SNR=7.8						
PMG				S	**Sn**	**22 47 58.6**	**-2.1**
	26nm,0.3s,baz=13,slow=19,SNR=14						
PMG	**Port Moresby**	**3.73**	**183**	Pn	**Pn**	**22 47 15.2**	**-0.7**
PMG					**Sn**	**22 47 58.0**	**-2.7**
PMG	**Port Moresby**	**3.73**	**183**	P	**Pn**	**22 47 15.4**	**-0.5**
COEN	**Coen**	**9.22**	**206**	Pn	**Pn**	**22 48 30.8**	**+2.6**
COEN				Sn	**Sn**	**22 50 11.3**	**+0.5**
FAKI	**Fak Fak**	**15.32**	**280**		Pn	22 49 37.6	-8.6
FAKI				IAmb	IAmb	22 49 42.1	
	comp=Z,15nm,1.2s						
KDU	**Kakadu**	**16.27**	**244**	P	**P**	**22 49 57.6**	**0.0**
MTN	**Manton Dam**	**17.54**	**245**	P	**P**	**22 50 11.8**	**+0.3**
MTN				IAmb	IAmb	22 50 21.0	
	comp=Z,43nm,1.4s						
WB0	**Warramunga Arr**	**18.87**	**221**	P	**P**	**22 50 26.1**	**+0.1**
WB0				IAmb	IAmb	22 50 27.0	
	comp=Z,5.9nm,1.1s						
WR0	**Warramunga Arr**	**18.91**	**220**	P	**P**	**22 50 26.7**	**+0.2**
WR0				IAmb	IAmb	22 50 27.4	
	comp=Z,7.6nm,1.1s						
WRAB	**Tennant Creek**	**19.02**	**221**	P	**P**	**22 50 27.7**	**+0.1**
WB2	**Warramunga Arr**	**19.02**	**221**	P	**P**	**22 50 27.8**	**+0.1**
WRA	**Warramunga Arr**	**19.03**	**221**	P	**P**	**22 50 27.8**	**0.0**
	comp=Z,1.2nm,0.3s,baz=48,slow=12,SNR=41						
WRA	**Warramunga Arr**	**19.03**	**221**	P	**P**	**22 50 26.6**	**-1.2**
KNRA	**Kununurra**	**20.80**	**240**	P	**P**	**22 50 47.1**	**+0.4**
KNRA				IAmb	IAmb	22 50 54.4	
	comp=Z,33nm,1.4s						
KNRA	**Kununurra**	**20.80**	**240**	P	**P**	**22 50 46.9**	**+0.1**
AS01	**Alice Springs**	**22.08**	**214**	P	**P**	**22 50 59.4**	**-0.7**
AS31	**Alice Springs**	**22.10**	**215**	P	**P**	**22 51 00.7**	**+0.3**
ASAR	**Alice Springs**	**22.10**	**215**	P	**P**	**22 51 00.2**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=49,slow=8.5,SNR=73						
ASAR				LR	LR	23 01 00.5	
	comp=Z,56nm,21.8s,baz=158,slow=40						
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**22.10**	**215**	P	**P**	**22 51 00.1**	**-0.3**
ARMA	**Armidale**	**24.95**	**171**	P	**P**	**22 51 27.7**	**+1.3**
ARMA				IAmb	IAmb	22 51 48.0	
	comp=Z,20nm,1.5s						
LUWI	**Luwuk**	**24.98**	**280**	P	**P**	**22 51 29.0**	**+2.3**
OUENC	**Ouen Island, N**	**25.13**	**133**	P	**P**	**22 51 29.6**	**+1.5**
WRKA	**Warakurna**	**26.56**	**222**	P	**P**	**22 51 40.4**	**-0.6**
KAPI	**Kappang**	**27.51**	**270**	LR	LR	23 05 04.2	
	comp=Z,47nm,18.1s,baz=126,slow=40						
PLAI	**Plampang**	**29.52**	**262**	P	**P**	**22 52 06.0**	**-1.3**
MSVF	**Nonsavu**	**32.28**	**114**	P	**P**	**22 52 33.4**	**+1.7**
KKM	**Kota Kinabalu**	**33.20**	**290**	P	**P**	**22 52 40.0**	**+0.2**
KKM				IAmb	IAmb	22 52 54.1	
	comp=Z,16nm,1.3s						
MKAR	**Makanchi Array**	**77.47**	**320**	P	**P**	**22 57 52.0**	**-3.3**
	comp=Z,0.4nm,0.9s,baz=96,slow=5.1,SNR=1.7						
	comp=Z,0.4nm,0.9s						

NEIC ***18*** *22:53:13.2±1.1, 18°.6S±0°.2×169°.7E±0°.1, h225km±12km, mb4.2/6, Error ellipse: s-maj=25.1km s-min=13.7km az=153.0*
IDC ***18*** *22:53:18.9±2.2, 19°.40S×169°.68E, h283km±26km, mb3.4/3, mbtmp4.1/5, Error ellipse: s-maj=76.5km s-min=20.1km az=157.0*
NOU ***18*** *22:53:24.9, 19°.63S×169°.44E, h204km, MLv4.1/9, Vanuatu Islands*
ISC 18 22:53:17.7±0.9,**19°.6S**±0°.1×**169°.83E**±0°.09,**h250**km,**n27,**
σ2§**35/27,mb4.0/5,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.41**	**319**	P	**Pn**	**22 54 07.3**	**+3.2**
MARNC	**Mare, Loyalty**	**2.54**	**221**	Pn	**Pn**	**22 54 06.4**	**+1.1**
MARNC	**Mare, Loyalty**	**2.54**	**221**	P	**Pn**	**22 54 06.5**	**+1.1**
LIFNC	**LIFOU**	**2.71**	**243**	Pn	**Pn**	**22 54 07.4**	**+0.3**
LIFNC	**LIFOU**	**2.71**	**243**	P	**Pn**	**22 54 07.6**	**+0.5**
YATNC	**Mamie plateau,**	**3.70**	**227**	P	**Pn**	**22 54 18.9**	**+0.9**
OUENC	**Ouen Island, N**	**3.98**	**224**	Pn	**Pn**	**22 54 23.0**	**+1.7**
OUENC	**Ouen Island, N**	**3.98**	**224**	P	**Pn**	**22 54 23.3**	**+2.1**
DZM	**Mont Dzumac**	**4.03**	**231**	P	**Pn**	**22 54 23.5**	**+1.6**
	32nm,0.6s,baz=60,slow=19,SNR=30						
DZM				S	**S**	**22 55 18.2**	**+5.3**
	13nm,0.7s,baz=84,slow=23,SNR=1.9						
DZM	**Mont Dzumac**	**4.03**	**231**	Pn	**Pn**	**22 54 23.2**	**+1.3**
DZM	**Mont Dzumac**	**4.03**	**231**	P	**Pn**	**22 54 23.6**	**+1.6**
ONTNC	**Ouen Toro**	**4.17**	**229**	Pn	**Pn**	**22 54 25.5**	**+2.1**
ONTNC	**Ouen Toro**	**4.17**	**229**	P	**Pn**	**22 54 25.5**	**+2.1**
KOUNC	**Koumac, New Ca**	**5.30**	**258**	Pn	**Pn**	**22 54 38.5**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.30**	**258**	P	**Pn**	**22 54 38.4**	**+1.2**
MSVF	**Nonsavu**	**8.01**	**78**	P	**Pn**	**22 55 14.3**	**+3.0**
	8.8nm,0.5s,baz=274,slow=15,SNR=7.5						
EIDS	**Eidsvold**	**18.25**	**248**	P	**P**	**22 57 12.9**	**-0.3**
EIDS				IAmb	IAmb	22 57 19.6	
	comp=Z,25nm,1.4s						
ARMA	**Armidale**	**19.69**	**233**	P	**P**	**22 57 29.2**	**+0.6**
ARMA				IAmb	IAmb	22 57 32.9	
	comp=Z,12nm,1.1s						
CMWZ	**Cape Campbell**	**22.42**	**171**	P	P	22 58 02.9	+7.4
STKA	**Stephens Creek**	**28.14**	**239**	P	**P**	**22 58 45.5**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=52,slow=8.8,SNR=7.5						
	comp=Z,2.1nm,0.5s						
WB2	**Warramunga Arr**	**33.35**	**263**	P	**P**	**22 59 29.9**	**-2.9**
WB2				IAmb	IAmb	23 00 07.8	
	comp=Z,6.5nm,1.4s						
WRA	**Warramunga Arr**	**33.36**	**263**	P	**P**	**22 59 29.9**	**-3.0**
	comp=Z,0.4nm,0.4s,baz=98,slow=8.0,SNR=16						
	comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**33.36**	**263**	P	**P**	**22 59 29.9**	**-3.0**
AS31	**Alice Springs**	**33.59**	**257**	P	**P**	**22 59 32.6**	**-2.2**
AS31				IAmb	IAmb	22 59 33.5	
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**33.59**	**256**	P	**P**	**22 59 32.5**	**-2.3**
	comp=Z,2.6nm,0.6s,baz=86,slow=9.2,SNR=45						
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**33.59**	**256**	P	**P**	**22 59 32.3**	**-2.5**
TAOE	**Nuku Hiva Isla**	**49.49**	**85**	P	**P**	**23 01 40.5**	**-3.1**

NOU ***18*** *22:57:56.5, 41°.96S×174°.57E, h7km, MLv4.0/7, Cook Strait, New Zealand*
WEL ***18*** *22:57:58.5±0.4, 42°.5S±3°×17°.4E±°, h9km±4km, M3.6/18, ML3.9/18, MLv3.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=137.7*
ISC 18 22:57:57.9±1.2,**41°.79S**±0°.03×**174°.37E**±0°.03,**h14**km±10km,
n90,σ1§**26/91,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.12**	**292**	P	**Pg**	**22 58 01.2**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.38**	**282**	P	**Pg**	**22 58 05.3**	**-0.2**
TUWZ	**Tuamarina**	**0.48**	**319**	P	**Pg**	**22 58 07.1**	**-0.4**
TUWZ				S	**Sb**	**22 58 13.6**	**-1.5**
SNZO	**South Karori**	**0.55**	**28**	P	**Pb**	**22 58 09.5**	**+0.3**
TCW	**Tory Channel**	**0.59**	**353**	P	**Pg**	**22 58 09.2**	**-0.2**
WEL	**Wellington**	**0.59**	**31**	P	**Pb**	**22 58 10.3**	**+0.3**
PLWZ	**Palliser**	**0.70**	**72**	P	**Pb**	**22 58 13.5**	**+1.5**
MSWZ	**Moikau Station**	**0.76**	**61**	P	**Pb**	**22 58 14.3**	**+1.4**
CAW	**Cannon Point**	**0.86**	**38**	P	**Pb**	**22 58 15.2**	**+0.5**
KHZ	**Kahutara**	**0.87**	**224**	P	**Pg**	**22 58 15.8**	**+0.9**
PAWZ	**Paruwai Farm**	**0.90**	**63**	P	**Pb**	**22 58 16.3**	**+1.0**
NNZ	**Nelson**	**0.94**	**308**	P	**Pg**	**22 58 15.1**	**-1.0**
KIW	**Kapiti Island**	**1.02**	**24**	P	**Pg**	**22 58 17.4**	**-0.1**
DUWZ	**D'Urville Isla**	**1.05**	**341**	P	**Pg**	**22 58 17.0**	**-1.0**
MTW	**Mount Morrison**	**1.06**	**54**	P	**Pg**	**22 58 18.4**	**0.0**
TRWZ	**Traveller**	**1.07**	**69**	P	**Pg**	**22 58 18.3**	**-0.2**
THZ	**Tophouse**	**1.09**	**271**	P	**Pg**	**22 58 18.5**	**-0.5**
OGWZ	**Otaki Gorge**	**1.15**	**32**	P	**Pb**	**22 58 19.8**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.25**	**44**	P	**Pn**	**22 58 20.9**	**0.0**
MRNZ	**Matariki Terra**	**1.27**	**288**	P	**Pn**	**22 58 21.6**	**+0.3**
TKNZ	**Takaka Hill**	**1.30**	**305**	P	**Pn**	**22 58 21.5**	**-0.2**
TMWZ	**Te Maipa**	**1.34**	**60**	P	**Pn**	**22 58 21.9**	**-0.3**
MRZ	**Mangatainoka R**	**1.46**	**39**	P	**Pn**	**22 58 23.9**	**+0.1**
GVZ	**Greta Valley S**	**1.53**	**220**	P	**Pn**	**22 58 23.7**	**-1.1**
QRZ	**Quartz Range**	**1.69**	**304**	P	**Pb**	**22 58 28.6**	**-0.1**
QRZ	**Quartz Range**	**1.69**	**304**	P	**Pb**	**22 58 28.0**	**-0.7**
PRWZ	**Pori Road**	**1.73**	**45**	P	**Pn**	**22 58 27.3**	**-0.3**
OHWZ	**Ohakea**	**1.74**	**25**	P	**Pn**	**22 58 29.3**	**-0.3**
POWZ	**Post Office Ro**	**1.76**	**38**	P	**Pn**	**22 58 27.9**	**0.0**
BFZ	**Birch Farm**	**1.80**	**53**	P	**Pn**	**22 58 27.6**	**-0.9**
LTZ	**Lake Taylor**	**1.84**	**237**	P	**Pn**	**22 58 29.1**	**0.0**
AMCZ	**Amberley**	**1.88**	**222**	P	**Pn**	**22 58 28.9**	**-0.6**
DSZ	**Denniston Nort**	**1.92**	**271**	P	**Pn**	**22 58 30.9**	**+0.7**
DVHZ	**Dannevirke**	**2.02**	**43**	P	**Pn**	**22 58 30.8**	**-0.8**
WAZ	**Wanganui**	**2.09**	**13**	P	**Pb**	**22 58 35.6**	**0.0**
TSZ	**Takapari Road**	**2.11**	**35**	P	**Pn**	**22 58 32.6**	**-0.3**
OKCZ	**Okains Bay**	**2.15**	**206**	P	**Pn**	**22 58 32.5**	**-0.9**
MQZ	**McQueen's Vall**	**2.29**	**213**	P	**Pn**	**22 58 33.7**	**-1.5**
OXZ	**Oxford**	**2.30**	**228**	P	**Pb**	**22 58 40.3**	**+1.1**
LREZ	**Lake Rotokare**	**2.33**	**1**	P	**Pb**	**22 58 39.3**	**-0.4**
WPHZ	**Waipukurau**	**2.34**	**43**	P	**Pn**	**22 58 35.2**	**-0.7**
AKCZ	**Akaroa Harbour**	**2.34**	**207**	P	**Pn**	**22 58 35.0**	**-0.9**
PNHZ	**Pukenui**	**2.34**	**37**	P	**Pn**	**22 58 35.4**	**-0.6**
INZ	**Inchbonnie**	**2.36**	**246**	P	**Pn**	**22 58 36.3**	**+0.1**
NMEZ	**Namu Road**	**2.41**	**351**	P	**Pb**	**22 58 41.5**	**+0.5**
KHEZ	**Kahui Hut**	**2.51**	**354**	P	**Pb**	**22 58 41.5**	**-1.3**
KHEZ	**Kahui Hut**	**2.51**	**354**	P	**Pb**	**22 58 41.6**	**-1.2**
RACZ	**Rakaia**	**2.53**	**220**	P	**Pn**	**22 58 37.2**	**-1.4**
NBEZ	**Newall Road No**	**2.55**	**351**	P	**Pb**	**22 58 41.4**	**-2.1**
MOVZ	**Moawhango**	**2.61**	**24**	P	**Pn**	**22 58 40.2**	**+0.5**
PKVZ	**Pokaka**	**2.61**	**17**	P	**Pn**	**22 58 41.6**	**+1.8**
PKE	**Pukeiti**	**2.61**	**354**	P	**Pb**	**22 58 43.4**	**-1.2**
WHVZ	**Wahianoa**	**2.64**	**21**	P	**Pn**	**22 58 41.3**	**+1.1**
TRVZ	**Turoa**	**2.65**	**20**	P	**Pn**	**22 58 42.2**	**+1.7**
WHVZ	**Whangaehu Hut**	**2.68**	**21**	P	**Pn**	**22 58 41.5**	**+0.7**
DRZ	**Dome Shelter**	**2.68**	**20**	P	**Pb**	**22 58 46.7**	**+0.9**
VRZ	**Vera Road**	**2.68**	**7**	P	**Pn**	**22 58 42.7**	**+2.1**
FWVZ	**Far West T-bar**	**2.69**	**20**	P	**Pn**	**22 58 42.4**	**+1.4**
MHCZ	**Mount Hutt**	**2.70**	**229**	P	**Pn**	**22 58 39.5**	**-1.4**
TUVZ	**Tukino**	**2.71**	**22**	P	**Pn**	**22 58 42.2**	**+1.0**
KAHZ	**Kahuranaki**	**2.76**	**44**	P	**Pn**	**22 58 40.3**	**-1.4**
NGZ	**Ngauruhoe**	**2.78**	**20**	P	**Pn**	**22 58 43

NVS				Sg	**Sg**	**23 11 17.5**	**-1.5**
NVSII	**Novosibirsk**	**5.44**	**316**	Sg	**Sg**	**23 11 16.7**	**-2.2**
MK31	**Makanchi Array**	**6.51**	**232**	Pn	**Pn**	**23 10 02.6**	**+2.4**
	4.7nm,0.6s,baz=62,slow=12,SNR=70						
MK31				⇑Pg	**Pg**	**23 10 24.3**	**-4.6**
	4.7nm,0.6s,baz=60,slow=14,SNR=5.3						
MK31				⇑Lg	Lg	23 11 49.3	
	4.8nm,0.7s,baz=57,slow=15,SNR=7.6						
MAKZ	**Makanchi**	**6.66**	**233**	⇑Pn	**Pn**	**23 10 06.7**	**+4.5**
	2.5nm,0.8s						
MAKZ				⇑Pg	**Pg**	**23 10 28.7**	**-3.0**
	4.3nm,0.7s						
MAKZ				⇑Lg	Lg	23 11 52.8	
	7.4nm,1.1s						
KURBB	**Kurchatov Arra**	**7.11**	**271**	⇑Pn	**Pn**	**23 10 12.2**	**+3.9**
	1.6nm,0.6s						
KURBB				⇓Pg	**Pb**	**23 10 24.7**	**-3.1**
	3.0nm,0.7s						
KURBB				⇓Sn	**Sn**	**23 11 34.7**	**+5.7**
	11nm,0.7s						
KURBB				⇑Lg	Lg	23 12 06.2	
	25nm,0.8s						

IDC ***18*** *23:17:42.3±1.4,0.˚14N×17.˚61W, h0km, mb3.7/1, mbtmp4.4/4, ML4.4/3, MS3.8/21, Error ellipse: s-maj=51.1km s-min=35.4km az=158.0*

NEIC ***18*** *23:17:45.2±1.9,0.˚40N±0.˚08×17.˚66W±0.˚10, h10km±1km, mb4.9/27, Error ellipse: s-maj=16.7km s-min=13.9km az=85.0*

ISC 18 23:17:44.7±0.5,**0.˚50N**±0.˚08×**17.˚69W**±0.˚07,**h10**km,**n58, s**19**45**/39,**mb5.0**/15,**MS3.9**/19,**3C, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**9.01**	**158**	Pn		**Pn**	**23 19 53.1**	**-1.9**
MBO	**M'Bour**	**13.82**	**3**	Pn		**Pn**	**23 21 00.9**	**+0.1**
LIC	**Lamto**	**13.86**	**66**	⇑*i*P		**P**	**23 21 07.8**	**-2.0**
	18nm,0.4s							
TIC	**Toumodi**	**14.04**	**64**	⇑*i*P		**Pn**	**23 21 06.3**	**+2.4**
	32nm,0.2s							
BBTS	**Babate**	**14.12**	**5**	Pn		**Pn**	**23 21 07.6**	**+2.7**
	2.6nm,0.3s,baz=158,slow=23,SNR=14							
BBTS				Sn		**Sn**	**23 23 37.3**	**-4.4**
	1.5nm,0.3s,baz=140,slow=23,SNR=1.5							
BBTS				LR		LR	23 25 40.1	
	comp=Z,636nm,20.8s,baz=210,slow=33							
	12nm,0.3s							
KIC	**Kosan Boka**	**14.17**	**65**	⇑*e*P		**Pn**	**23 21 06.2**	**+0.5**
	16nm,0.3s							
DBIC	**Dimbokro**	**14.20**	**64**	Pn		**Pn**	**23 21 05.2**	**-0.8**
	3.2nm,0.3s,baz=255,slow=13,SNR=40							
DBIC				Sn		Sn	23 23 30.1	-14
	0.8nm,0.3s,baz=140,slow=19,SNR=2.0							
DBIC				LR		LR	23 25 27.0	
	comp=Z,306nm,19.7s,baz=238,slow=32							
	10nm,0.4s							
DBIC	**Dimbokro**	**14.20**	**64**			**Pn**	**23 21 05.6**	**-0.4**
RCBR	**Riachuelo**	**19.24**	**251**	P		**P**	**23 22 07.0**	**-2.4**
	0.3nm,0.3s,baz=100,slow=21,SNR=0.8							
	3.0nm,0.4s							
RCBR	**Riachuelo**	**19.24**	**251**	P		**P**	**23 22 06.8**	**-2.6**
SHEL	**Horse Pasture**	**20.17**	**145**	P		P	23 22 10.2	-9.4
SHEL				IAmb		IAmb	23 22 19.4	
	comp=Z,125nm,1.3s							
TAM	**Tamanrasset**	**31.63**	**44**	P		**P**	**23 24 08.7**	**+0.3**
TAM				IAmb		IAmb	23 24 15.5	
	comp=Z,11nm,1.5s							
BDFB	**Brasilia**	**33.97**	**241**	LR		LR	23 38 01.3	
	comp=Z,81nm,19.1s,baz=194,slow=36							
MDP	**Montagnes des**	**35.19**	**278**	LR		LR	23 36 37.9	
	comp=Z,95nm,21.3s,baz=101,slow=32							
PESTR	**Estremoz**	**39.29**	**12**	P		**P**	**23 25 14.4**	**+0.5**
PESTR				IAmb		IAmb	23 25 24.1	
	comp=Z,14nm,1.3s							
TSUM	**Tsumeb**	**39.77**	**121**	LR		LR	23 38 19.0	
	comp=Z,148nm,20.9s,baz=334,slow=31							
MTE	**Manteigas**	**40.77**	**12**	P		**P**	**23 25 26.3**	**+0.1**
MTE				IAmb		IAmb	23 25 46.8	
	comp=Z,26nm,1.3s							
BOAV	**Boa Vista**	**42.85**	**273**	P		**P**	**23 25 42.4**	**-1.2**
BOAV				IAmb		IAmb	23 25 48.3	
	comp=Z,9.5nm,1.2s							
KEST	**Kesra**	**43.14**	**33**	LR		LR	23 44 44.0	
	comp=Z,397nm,20.3s,baz=280,slow=37							
TOSP	**Speyside**	**43.87**	**286**	P		**P**	**23 25 52.0**	**+0.2**
TOSP				IAmb		IAmb	23 26 02.7	
	comp=Z,28nm,1.1s							
PTLB	**Pontes e Lacer**	**43.90**	**247**	P		**P**	**23 25 54.4**	**+2.4**
PTLB				IAmb		IAmb	23 26 08.2	
	comp=Z,2.9nm,1.3s							
SIV	**San Ignacio**	**45.84**	**247**	LR		LR	23 43 31.7	
	comp=Z,139nm,20.7s,baz=102,slow=34							
CPUP	**Villa Florida**	**46.59**	**232**	LR		LR	23 44 40.6	
	comp=Z,128nm,18.1s,baz=55,slow=35							
MBAR	**Mbarara**	**48.44**	**91**	P		**P**	**23 26 29.5**	**+1.4**
MBAR				IAmb		IAmb	23 26 41.1	
	comp=Z,7.8nm,1.1s							
ETMB	**Extrema**	**49.36**	**257**	P		**P**	**23 26 35.5**	**+0.7**
ETMB				IAmb		IAmb	23 26 59.9	
	comp=Z,2.2nm,1.0s							
SJVI	**Gifft Hill Sch**	**49.49**	**294**	P		**P**	**23 26 35.4**	**-0.5**
SJVI				IAmb		IAmb	23 26 39.4	
	comp=Z,33nm,1.4s							
HUMP	**Col San Antoni**	**50.43**	**293**	P		**P**	**23 26 43.5**	**+0.5**
HUMP				IAmb		IAmb	23 26 49.0	
	comp=Z,27nm,1.4s							
SJG	**San Juan**	**50.70**	**293**	LR		LR	23 43 23.2	
	comp=Z,85nm,21.6s,baz=78,slow=30							
LPAZ	**La Paz**	**52.47**	**249**	LR		LR	23 47 53.5	
	comp=Z,58nm,20.3s,baz=56,slow=35							
LODK	**Lodwar**	**53.09**	**86**	P		**P**	**23 27 04.9**	**+1.8**
SDV	**Santo Domingo**	**53.36**	**281**	LR		LR	23 48 52.1	
	comp=Z,46nm,18.3s,baz=94,slow=35							
LVC	**Limon Verde**	**54.87**	**242**	LR		LR	23 51 06.1	
	comp=Z,43nm,18.5s,baz=206,slow=37							
URIC	**Uribia, Colomb**	**55.02**	**284**	P		**P**	**23 27 17.8**	**+0.8**
URIC				IAmb		IAmb	23 27 39.8	
	comp=Z,10nm,1.3s							
VRAC	**Vranov**	**56.82**	**26**	LR		LR	23 54 09.4	
	comp=Z,94nm,18.1s,baz=162,slow=38							
MLR	**Muntele Rosu**	**58.99**	**34**	LR		LR	23 55 20.4	
	comp=Z,117nm,18.7s,baz=183,slow=38							
NNA	**Nana**	**60.00**	**256**	LR		LR	23 52 59.6	
	comp=Z,75nm,18.5s,baz=66,slow=35							
COHC	**Cochancay**	**61.62**	**267**	P		**P**	**23 28 03.1**	**0.0**
MCRA	**Macar, Loja**	**62.39**	**265**	P		**P**	**23 28 09.5**	**+1.0**
MCRA				IAmb		IAmb	23 28 28.5	
	comp=Z,6.4nm,1.2s							
PLCA	**Paso Flores**	**63.05**	**223**	LR		LR	23 51 41.7	
	comp=Z,64nm,21.6s,baz=69,slow=32							
TOKA	**Tokat**	**63.06**	**44**	P		**P**	**23 28 12.8**	**+0.4**
AKASG	**Malin Array Be**	**63.83**	**31**	LR		LR	23 58 10.2	
	comp=Z,83nm,18.1s,baz=203,slow=38							
HFS	**Hagfors**	**64.23**	**17**	LR		LR	23 58 02.5	
	comp=Z,76nm,18.7s,baz=143,slow=38							
NOA	**NORSAR Array B**	**64.30**	**15**	LR		LR	23 57 12.6	
	comp=Z,82nm,19.7s,baz=185,slow=37							
FSCY	**Frank Sound, G**	**64.89**	**291**	P		**P**	**23 28 23.8**	**-1.0**
NHSC	**New Hope**	**66.89**	**306**	P		**P**	**23 28 38.0**	**+0.6**
NHSC				IAmb		IAmb	23 28 41.2	
	comp=Z,15nm,0.8s							
FINES	**FINESS Array B**	**69.23**	**21**	LR		LR	23 57 57.4	
	comp=Z,109nm,21.9s,baz=210,slow=35							
X51A	**Calhoun**	**71.02**	**306**	P		**P**	**23 29 02.8**	**-0.4**
X51A				IAmb		IAmb	23 29 23.6	
	comp=Z,29nm,1.5s							
O44A	**Mansfield**	**75.05**	**311**	P		**P**	**23 29 26.3**	**-0.6**
CCM	**Cathedral Cave**	**76.77**	**309**			**P**	**23 29 36.6**	**-0.2**
CCM				IAmb		IAmb	23 29 39.5	
	comp=Z,10nm,0.6s							
UALR	**University of**	**77.12**	**305**	P		**P**	**23 29 39.3**	**+0.5**
UALR				IAmb		IAmb	23 29 47.8	
	comp=Z,18nm,1.3s							
L40A	**Anamosa**	**77.47**	**313**	P		**P**	**23 29 41.2**	**+0.5**
L40A				IAmb		IAmb	23 29 50.9	
	comp=Z,26nm,1.2s							
KIRV	**Kirov**	**77.81**	**30**	LR		LR	00 04 48.3	
	comp=Z,64nm,21.1s,baz=227,slow=36							
F36A	**Milaca**	**79.79**	**316**	P		**P**	**23 29 52.5**	**-0.9**
OK048	**Pawnee Station**	**81.05**	**307**	P		**P**	**23 30 00.7**	**+0.3**
F33A	**5 Mile Ranch,**	**81.70**	**316**	P		**P**	**23 30 03.8**	**+0.2**
TXAR	**Lajitas Array**	**86.24**	**299**	P		**P**	**23 30 28.7**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=97,slow=7.4,SNR=1.9							
	comp=Z,0.3nm,0.7s							

ASAR	**Alice Springs**	**144.09**	**132**	PKP	**PKPab**		**23 37 18.8**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=228,slow=2.5,SNR=5.8							
WRA	**Warramunga Arr**	**146.49**	**127**	PKPbc	**PKPdf**		**23 37 25.2**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=239,slow=2.8,SNR=12							

BJI ***18*** *23:22:45.6±0.0,41.˚00N×22.˚80E, h5km, mb4.6/41, mB5.1/24, Ms4.8/23, Ms7 4.4/24*

IDC ***18*** *23:22:46.0±0.4,40.˚92N×22.˚68E, h0km, mb4.5/33, mbtmp4.5/48, ML4.2/11, MS4.2/74, Error ellipse: s-maj=8.3km s-min=7.1km az=35.0*

SKO ***18*** *23:22:47.0,40.˚98N×22.˚74E, h15km*

PRU ***18*** *23:22:46.5±0.0,40.˚91N×22.˚53E, h0km, M4.9*

SOF ***18*** *23:22:46.8,40.˚95N×22.˚75E, h2km, MD5.1*

ISK ***18*** *23:22:47.2,40.˚97N×22.˚75E, h7km, ML5.1/66*

PDG ***18*** *23:22:47.9±0.6,40.˚99N×22.˚68E, h14km, MD4.7/6, ML4.7/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

MOS ***18*** *23:22:47.4±1.0,41.˚00N×22.˚66E, h18km, mb4.9/50, MS4.3/19, Error ellipse: s-maj=3.0km s-min=2.2km az=98.3*

THE ***18*** *23:22:48.0,40.˚97N×22.˚76E, h8km, ML4.7/30, Error ellipse: s-maj=0.6km s-min=0.3km az=5.0*

ATH ***18*** *23:22:48.2,40.˚98N×22.˚74E, h5km, Mw4.8, Moment Tensor Solution. s7 Moment tensor: Mrr=1.24; Mθθ=1.90; Mϕϕ=0.66; Mrθ=0.41; Mθϕ=-0.32; Mϕr=-0.90; Fault plane solution: NP1:ϕs307.00000°, δ63.00000°, λ-51.00000°. NP2:ϕs66.00000°, δ46.00000°, λ-141.00000°.*

TIR ***18*** *23:22:48.0,40.˚91N×22.˚74E, h0km±3km, Ml5.0*

NEIC ***18*** *23:22:48.8,41.˚03N×22.˚70E, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.93; Mθθ-1.30; Mϕϕ 0.37; Mrθ-0.55; Mθϕ 0.62; Mϕr-0.63; Fault plane solution: M₀1.56000×10¹⁶ NP1:ϕs256.29000°, δ63.22000°, λ47.63000°. NP2:ϕs140.01000°, δ48.74000°, λ143.17000°. Principal axes: T 1.5686, Plg52.0000°, Azm116.0000°; N -0.0133, Plg37.0000°, Azm279.0000°; P -1.5553, Plg8.0000°, Azm15.0000°;*

NEIC ***18*** *23:22:48.6±1.2,41.˚02N±0.˚05×22.˚71E±0.˚05, h10km±1km, mb4.9/268, Mwr4.7/27, ML4.7(THE) Error ellipse: s-maj=8.4km s-min=6.2km az=166.0*

MED_RC ***18*** *23:22:48.0±0.2,40.˚98N×22.˚86E, h12km, MW4.9/22, Moment Tensor Solution. Mantle waves: s22,c40; Duration: 1s2 Moment tensor: Scale 10¹⁶Nm; Mrr-2.54±.17; Mθθ 3.39±.10; Mϕϕ-0.85±.10; Mrθ 0.44±.17; Mθϕ-0.81±.07; Mϕr-0.64±.37; Best double couple: M₀3.17000×10¹⁶ NP1:ϕs296.00000°, δ52.00000°, λ-68.00000°. NP2:ϕs83.00000°, δ43.00000°, λ-116.00000°. Principal axes: T 3.5900, Plg5.0000°, Azm11.0000°; N -0.8300, Plg17.0000°, Azm103.0000°; P -2.7600, Plg72.0000°, Azm265.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

BEO ***18*** *23:22:48.6±0.3,41.˚04N×22.˚74E, h10km±1km, ML4.8/23*

GCMT ***18*** *23:22:48.6±0.2,40.˚90N±0.˚01×22.˚85E±0.˚02, h17km, MW5.0/113, Moment Tensor Solution. s35,c40; s113,c188; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.39±.17; Mθθ 4.20±.12; Mϕϕ-0.81±.09; Mrθ 0.81±.21; Mθϕ-0.76±.06; Mϕr-1.84±.28; Best double couple: M₀4.41800×10¹⁶ NP1:ϕs302.00000°, δ58.00000°, λ-60.00000°. NP2:ϕs74.00000°, δ43.00000°, λ-129.00000°. Principal axes: T 4.4720, Plg8.0000°, Azm11.0000°; N -0.1080, Plg25.0000°, Azm105.0000°; P -4.3640, Plg63.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

GII ***18*** *23:22:49.3±0.0,40.˚96N×22.˚76E, h8km*

CFUSG ***18*** *23:22:52.7,41.˚20N×22.˚99E, h18km, Greece Magtype MSH 4.2 from 6 stations*

ISC 18 23:22:48.0±0.7,**40.˚97N**±0.˚01×**22.˚74E**±0.˚01,**h11**km±4km, **n1423,** σ**1**§**25**/1526,**mb4.9**/224,**MS4.2**/76,**65C-45D, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.22**	**33**	PG		**Pg**	**23 22 52.3**	**-0.4**
KNT				SG		**Sg**	**23 22 55.9**	**0.0**
KNT	**Kendrikon**	**0.22**	**33**	P		**Pg**	**23 22 52.3**	**-0.4**
KNT				S		**Sg**	**23 22 55.5**	**-0.4**
	591µm,0.1s							
KNT	**Kendrikon**	**0.22**	**33**	*i* Pg		**Pg**	**23 22 52.3**	**-0.4**
KNT				*i* Sg		**Sg**	**23 22 55.8**	**-0.1**
KNT	**Kendrikon**	**0.22**	**33**	P		**Pg**	**23 22 52.3**	**-0.4**
KNT				S		**Sg**	**23 22 55.5**	**-0.4**
KNT				AML	AML		23 22 55.6	
KNT				AML	AML		23 22 55.7	
KNT	**Kendrikon**	**0.22**	**33**	*e*P		**Pg**	**23 22 52.3**	**-0.4**
KNT				*e*S		**Sg**	**23 22 55.8**	**-0.1**
GRG	**Griva**	**0.26**	**266**	PG		**Pg**	**23 22 52.9**	**-0.4**
GRG				SG		**Sg**	**23 22 57.3**	**+0.4**
GRG	**Griva**	**0.26**	**266**	P		**Pg**	**23 22 53.2**	**-0.1**
GRG				S		**Sg**	**23 22 57.2**	**+0.4**
	346µm,0.3s							
GRG	**Griva**	**0.26**	**266**	*i* Pg		**Pg**	**23 22 53.3**	**-0.1**
GRG				*i* Sg		**Sg**	**23 22 58.0**	**+1.1**
GRG	**Griva**	**0.26**	**266**	P		**Pg**	**23 22 53.3**	**-0.1**
GRG				S		**Sg**	**23 22 56.4**	**-0.4**
GRG				AML	AML		23 22 58.1	
GRG				AML	AML		23 22 58.5	
GRG	**Griva**	**0.26**	**266**	P		**Pg**	**23 22 53.2**	**-0.1**
GRG				S		**Sg**	**23 22 57.2**	**+0.4**
VAY	**Valandovo**	**0.37**	**340**	*e*Pg		**Pg**	**23 22 55.3**	**-0.1**
VAY				*e*Sg		**Sg**	**23 23 00.4**	**+0.1**
VAY	**Valandovo**	**0.37**	**340**	⇑*i*Pg		**Pg**	**23 22 55.5**	**+0.1**
VAY				*i* Sg		**Sg**	**23 23 01.1**	**+0.8**
VAY				eLg	Lg		23 23 01.4	
	comp=E,194µm,0.4s							
VAY				eLg	Lg		23 23 01.4	
	comp=N,191µm,0.6s							
VAY	**Valandovo**	**0.37**	**340**	*i* P		**Pg**	**23 22 55.4**	**+0.1**
VAY				*e*S		**Sg**	**23 23 01.1**	**+0.8**
THE	**Thessaloniki**	**0.38**	**153**	P		**Pg**	**23 22 55.4**	**-0.2**
THE				S		**Sg**	**23 23 00.5**	**-0.2**
	comp=N,119µm,0.3s							
THE	**Thessaloniki**	**0.38**	**153**	⇑*i*Pg		**Pg**	**23 22 55.4**	**-0.2**
THE				*i* Sg		**Sg**	**23 23 00.8**	**+0.1**
THE	**Thessaloniki**	**0.38**	**153**	P		**Pg**	**23 22 55.5**	**-0.2**
	baz=148							
THE				S		**Sg**	**23 23 00.4**	**-0.3**
	baz=148							
THE	**Thessaloniki**	**0.38**	**153**	P		**Pg**	**23 22 55.5**	**-0.1**
THE				S		**Sg**	**23 23 00.2**	**-0.5**
THE				AML	AML		23 23 01.4	
THE				AML	AML		23 23 02.6	
THE	**Thessaloniki**	**0.38**	**153**	*i* P		**Pg**	**23 22 55.4**	**-0.1**
THE				*i* S		**Sg**	**23 23 00.7**	**+0.1**
HORT	**Hortiatis**	**0.47**	**144**	PG		**Pg**	**23 22 56.6**	**-0.6**
HORT				SG		**Sg**	**23 23 02.9**	**-0.4**
HORT	**Hortiatis**	**0.47**	**144**	P		**Pg**	**23 22 56.8**	**-0.4**
HORT				S		**Sg**	**23 23 03.0**	**-0.4**
	comp=N,87µm,0.5s							
HORT	**Hortiatis**	**0.47**	**144**	P		**Pg**	**23 22 57.3**	**+0.2**
HORT				S		**Sg**	**23 23 03.2**	**-0.1**
HORT				AML	AML		23 23 06.0	
HORT				AML	AML		23 23 06.4	
SOH	**Sokhos**	**0.49**	**108**	P		**Pg**	**23 22 57.6**	**0.0**
SOH				S		**Sg**	**23 23 04.6**	**+0.5**
	comp=N,128µm,0.4s							
SOH	**Sokhos**	**0.49**	**108**	*i* Pg		**Pg**	**23 22 57.7**	**0.0**
SOH				*i* Sg		**Sb**	**23 23 05.2**	**-0.8**
SOH	**Sokhos**	**0.49**	**108**	P		**Pg**	**23 22 57.6**	**0.0**
SOH				S		**Sg**	**23 23 04.8**	**+0.7**
SOH				AML	AML		23 23 06.4	
SOH				AML	AML		23 23 09.9	
SOH	**Sokhos**	**0.49**	**108**	*i* P		**Pg**	**23 22 57.7**	**0.0**
SOH				*i* S		**Sb**	**23 23 05.1**	**-0.8**
SRS	**Serrai**	**0.66**	**77**	P		**Pg**	**23 23 00.5**	**-0.3**
SRS				S		**Sg**	**23 23 09.3**	**-0.2**
	comp=N,84µm,0.6s							
SRS	**Serrai**	**0.66**	**77**	*e*Pg		**Pg**	**23 23 00.7**	**-0.1**
SRS				*e*Sg		**Sg**	**23 23 09.4**	**-0.1**
SRS	**Serrai**	**0.66**	**77**	*i* Pg		**Pg**	**23 23 00.6**	**-0.3**
SRS				*i* Sg		**Sg**	**23 23 10.1**	**+0.6**
SRS	**Serrai**	**0.66**	**77**	P		**Pg**	**23 23 00.8**	**-0.1**
SRS				S		**Sg**	**23 23 09.3**	**-0.2**
SRS				AML	AML		23 23 11.7	
SRS				AML	AML		23 23 15.1	

SRS	**Serrai**	**0.66**	**77**	*e*P		**Pg**	23 23 09.4	+6.0
KTI	**Kastanea**	**0.75**	**219**	P		**Pg**	**23 23 02.0**	**-0.5**
STIP	**Stip**	**0.83**	**330**	*i* Pg		**Pg**	**23 23 03.1**	**-1.0**
STIP				*i* Sg		**Sg**	**23 23 14.4**	**-0.6**
STIP				eLg	Lg		23 23 14.4	
	comp=E,27µm,0.4s							
STIP				eLg	Lg		23 23 15.9	
	comp=N,23µm,0.5s							
NVR	**Nevrokopi**	**0.93**	**66**	P		**Pg**	**23 23 05.4**	**-0.5**
NVR				S		**Sb**	**23 23 18.5**	**-0.1**
	comp=N,56µm,0.7s							
NVR	**Nevrokopi**	**0.93**	**66**	P		**Pg**	**23 23 05.9**	**0.0**
NVR				S		**Sg**	**23 23 18.2**	**+0.2**
NVR				AML	AML		23 23 20.0	
	comp=N,90191µm,0.5s							
NVR				AML	AML		23 23 21.9	
	comp=E,86751µm,0.5s							
KKB	**Krupnik**	**0.93**	**16**	*i* P		**Pg**	**23 23 05.2**	**-0.7**
KKB	**Krupnik**	**0.93**	**16**	P		**Pg**	**23 23 05.1**	**-0.8**
KKB				S		**Sg**	**23 23 17.9**	**-0.1**
MMB	**Musomiste**	**0.96**	**50**	*i* P		**Pg**	**23 23 06.1**	**-0.5**
MMB	**Musomiste**	**0.96**	**50**	P		**Pb**	**23 23 07.0**	**+0.1**
MMB				S		**Sb**	**23 23 19.7**	**0.0**
KOKK	**Kokkinochori,**	**0.97**	**99**	P		**Pg**	**23 23 05.9**	**0.8**
KOKK				S		**Sb**	**23 23 20.3**	**+0.6**
	comp=E,21µm,0.6s							
KOKK	**Kokkinochori,**	**0.97**	**99**	P		**Pg**	**23 23 06.5**	**-0.2**
KOKK				S		**Sb**	**23 23 20.1**	**+0.4**
KZN	**Kozani**	**0.99**	**228**	P		**Pg**	**23 23 05.8**	**-1.4**
KZN				S		**Sb**	**23 23 21.1**	**+0.6**
	comp=E,31µm,0.6s							
KZN	**Kozani**	**0.99**	**228**	P		**Pg**	**23 23 06.6**	**-0.6**
KZN				S		**Sb**	**23 23 20.6**	**+0.1**
KZN				AML	AML		23 23 24.9	
	comp=N,49246µm,0.7s							
KZN				AML	AML		23 23 26.3	
	comp=E,72696µm,0.5s							
KZN	**Kozani**	**0.99**	**228**	P		**Pg**	**23 23 05.8**	**-1.4**
KZN				S		**Sb**	**23 23 21.1**	**+0.6**
FNA	**Florina**	**1.05**	**260**	PG		**Pg**	**23 23 07.6**	**-0.7**
FNA				SG		**Sg**	**23 23 22.0**	**+0.1**
FNA	**Florina**	**1.05**	**260**			**Pg**	**23 23 07.4**	**-0.8**
FNA	**Florina**	**1.05**	**260**	P		**Pg**	**23 23 07.3**	**-1.0**
FNA				S		**Sn**	**23 23 23.7**	**+0.1**
	comp=E,47µm,0.7s							
FNA	**Florina**	**1.05**	**260**	*e*Pg		**Pg**	**23 23 07.4**	**-0.8**
FNA				*e*Sg		**Sb**	**23 23 22.2**	**0.0**
FNA	**Florina**	**1.05**	**260**	⇓*i*Pg		**Pg**	**23 23 07.3**	**-1.0**
FNA	**Florina**	**1.05**	**260**	P		**Pg**	**23 23 07.7**	**-0.5**
	baz=264							
FNA				S		**Sn**	**23 23 23.7**	**+0.1**
	baz=264							
FNA	**Florina**	**1.05**	**260**	P		**Pg**	**23 23 07.5**	**-0.8**
FNA				S		**Sb**	**23 23 22.2**	**0.0**
FNA				AML	AML		23 23 26.4	
	comp=N,89814µm,0.7s							
FNA				AML	AML		23 23 27.7	
	comp=E,96647µm,0.8s							
FNA	**Florina**	**1.05**	**260**	P		**Pg**	**23 23 07.4**	**-0.8**
OUR	**Ouranopolis**	**1.14**	**124**	PN		**Pb**	**23 23 09.2**	**-0.6**
OUR				SN		**Sn**	**23 23 25.7**	**+0.1**
OUR	**Ouranopolis**	**1.14**	**124**	P		**Pb**	**23 23 09.1**	**-0.7**
OUR				S		**Sn**	**23 23 25.7**	**+0.1**
	comp=E,66µm,0.7s							
OUR	**Ouranopolis**	**1.14**	**124**	P		**Pb**	**23 23 09.6**	**-0.2**
OUR				S		**Sn**	**23 23 25.8**	**+0.1**
OUR				AML	AML		23 23 27.6	
OUR				AML	AML		23 23 28.8	
OUR	**Ouranopolis**	**1.14**	**124**	P		**Pb**	**23 23 09.1**	**-0.7**
OUR				S		**Sn**	**23 23 25.7**	**+0.1**
KVLA	**Kavala**	**1.25**	**91**	P		**Pn**	**23 23 11.4**	**-0.1**
KVLA				S		**Sn**	**23 23 28.6**	**+0.3**
KVLA				AML	AML		23 23 29.7	
	comp=N,72124µm,0.6s							
KVLA				AML	AML		23 23 31.4	
	comp=E,64749µm,0.5s							
PAIG	**Paliouri**	**1.27**	**145**	P		**Pn**	**23 23 10.5**	**-1.2**
PAIG				S		**Sg**	**23 23 29.1**	**+0.2**
	comp=E,31µm,0.9s							
PAIG	**Paliouri**	**1.27**	**145**	P		**Pn**	**23 23 11.6**	**-0.1**
PAIG				S		**Sg**	**23 23 29.0**	**+0.1**
PAIG				AML	AML		23 23 31.4	
	comp=N,68897µm,0.7s							
PAIG				AML	AML		23 23 34.0	
	comp=E,50354µm,0.4s							
PAIG	**Paliouri**	**1.27**	**145**	P		**Pn**	**23 23 10.5**	**-1.2**
PAIG				S		**Sg**	**23 23 29.1**	**+0.2**
TYRN	**Tyrnavos**	**1.32**	**197**	P		**Pn**	**23 23 12.1**	**-0.4**
TYRN				S		**Sn**	**23 23 30.2**	**+0.1**
	comp=E,39µm,0.6s							
TYRN	**Tyrnavos**	**1.32**	**197**	P		**Pn**	**23 23 12.3**	**-0.1**
TYRN				AML	AML		23 23 33.0	
	comp=N,69245µm,0.5s							
TYRN				AML	AML		23 23 34.3	
LRSO	**Larissa Observ**	**1.33**	**192**	P		**Pn**	**23 23 12.1**	**-0.5**
LRSO				S		**Sb**	**23 23 30.1**	**+0.1**
	comp=N,64µm,0.6s							
LRSO	**Larissa Observ**	**1.33**	**192**	P		**Pn**	**23 23 12.6**	**0.0**
LRSO				S		**Sg**	**23 23 30.6**	**-0.2**
LRSO				AML	AML		23 23 35.0	
LRS

comp=N,17µm,0.5s
THAS Thassos island 1.55 103 P Pn 23 23 14.9 -0.7
THAS S Sn 23 23 35.4 -0.3
THAS AML AML 23 23 38.5
comp=N,34591µm,0.6s
THAS AML AML 23 23 39.4
comp=E,27834µm,0.3s
XOR Xorichti 1.64 168 P Pn 23 23 16.4 -0.5
XOR S Sn 23 23 38.1 0.0
comp=E,24µm,0.5s
XOR Xorichti 1.64 168 P Pn 23 23 16.7 -0.3
XOR AML AML 23 23 39.6
comp=E,48690µm,0.5s
XOR AML AML 23 23 40.2
comp=N,47244µm,0.6s
RZN Rozhen 1.65 64 P Pg 23 23 19.3 -0.4
VTS Vitosha 1.68 13 Pn Pn 23 23 16.7 -0.9
VTS Vitosha 1.68 13 ePg Pn 23 23 17.6 0.0
VTS eSg Sn 23 23 39.1 -0.2
VTS Vitosha 1.68 13 *i* Pn Pn 23 23 17.2 -0.4
VTS *i* Sn Sn 23 23 39.3 0.0
VTS Vitosha 1.68 13 P Pg 23 23 20.1 -0.3
VTS Vitosha 1.68 13 P Pn 23 23 16.7 -0.9
NEO Neokhori 1.71 167 P Pn 23 23 17.2 -0.6
NEO S Sn 23 23 39.2 -0.5
comp=N,18µm,0.3s
NEO Neokhori 1.71 167 P Pn 23 23 17.5 -0.3
NEO AML AML 23 23 40.5
comp=E,35779µm,0.4s
NEO AML AML 23 23 41.7
comp=N,36306µm,0.3s
SOF Sofiya 1.77 14 P Pb 23 23 20.2 -0.3
SOF S Sg 23 23 46.9 +2.0
LSK Leskovik 1.83 244 P Pn 23 23 19.9 +0.4
LSK S Sb 23 23 44.1 -0.4
comp=N,17µm,1.3s
LSK Leskovik 1.83 244 P Pb 23 23 20.6 -0.9
baz=246
LSK S Sg 23 23 45.7 -1.1
baz=246
LSK AMP
comp=E,44nm,0.7s,baz=246
PLD Plovdiv 1.86 52 PN Pn 23 23 20.3 +0.4
PLD Plovdiv 1.86 52 ePn Pb 23 23 21.0 -1.0
PLD eSn Sn 23 23 44.0 +0.7
PLD Plovdiv 1.86 52 *i* Pn Pb 23 23 21.2 -0.8
PLD *i* Sn Sg 23 23 49.5 +1.7
PLD Plovdiv 1.86 52 P Pg 23 23 23.6 -0.1
PLD Plovdiv 1.86 52 eP Pb 23 23 21.0 -1.0
PLD eS Sn 23 23 44.0 +0.7
PGB Panagyurishte 1.90 34 P Pb 23 23 23.1 +0.3
PGB Panagyurishte 1.90 34 P Pn 23 23 20.4 -0.1
PGB S Sg 23 23 49.0 -0.2
JAN Janina 1.95 228 P Pn 23 23 21.0 -0.2
JAN Janina 1.95 228 P Pn 23 23 21.7 +0.5
JAN Janina 1.95 228 P Pn 23 23 21.1 -0.2
BARS Barje 1.97 340 ePn Pn 23 23 21.0 -0.4
BARS Barje 1.97 340 *i* Pn Pn 23 23 21.0 -0.4
BARS *i* Sn Sg 23 23 50.5 -0.8
MAKR Makrakomi, Fth 2.01 194 P Pn 23 23 22.3 +0.3
MAKR S Sn 23 23 48.0 +0.7
comp=E,18µm,0.8s
MAKR Makrakomi, Fth 2.01 194 P Pn 23 23 22.6 +0.5
ALNA Alonissos 2.02 154 P Pn 23 23 21.6 -0.5
ALNA AML AML 23 23 51.9
comp=E,13979µm,0.9s
ALNA AML AML 23 24 02.6
comp=N,20592µm,1.2s
RDO Rodhopi 2.12 84 PN Pn 23 23 24.3 +0.8
RDO Rodhopi 2.12 84 Pn Pn 23 23 22.8 -0.7
RDO Rodhopi 2.12 84 P Pn 23 23 23.2 -0.3
RDO Rodhopi 2.12 84 P Pn 23 23 23.6 +0.1
RDO AML AML 23 24 00.5
comp=E,23276µm,0.6s
RDO AML AML 23 24 03.5
comp=N,33757µm,0.5s
KDZ Kurdzhali 2.13 71 PN Pn 23 23 23.2 -0.4
KDZ Kurdzhali 2.13 71 P Pn 23 23 23.9 +0.3
KDZ Kurdzhali 2.13 71 P Pn 23 23 23.1 -0.5
KDZ S Sb 23 23 53.8 +0.7
EVR Evrytania 2.18 200 P Pn 23 23 24.5 +0.2
EVR Evrytania 2.18 200 P Pn 23 23 24.7 +0.3
SMTH Samothraki Isl 2.18 102 P Pn 23 23 23.7 -0.6
SMTH Samothraki Isl 2.18 102 P Pn 23 23 23.7 -0.6
SMTH AML AML 23 24 00.5
comp=N,6700µm,0.5s
SMTH AML AML 23 24 11.2
comp=E,9787µm,0.8s
TIR Tirane 2.20 281 ⇓P Pn 23 23 24.8 +0.2
TIR Tirane 2.20 281 Pn Pn 23 23 24.1 -0.5
TIR Tirane 2.20 281 P Pn 23 23 25.1 +0.5
TIR Tirane 2.20 281 ePn Pn 23 23 25.4 +0.8
TIR eSn Sn 23 23 52.7 +0.8
TIR Tirane 2.20 281 *i* Pn Pn 23 23 25.6 +1.0
TIR Tirane 2.20 281 P Pb 23 23 26.3 -1.6
baz=283
TIR S Sb 23 23 56.5 +1.3
baz=283
TIR AMP
comp=E,24nm,1.4s,baz=283
TIR Tirane 2.20 281 P Pn 23 23 24.1 -0.5
AXAR Agios Charalam 2.21 182 P Pn 23 23 24.6 -0.1
AXAR S Sn 23 23 53.3 +1.3
comp=E,10µm,1.1s
AXAR Agios Charalam 2.21 182 P Pn 23 23 24.8 +0.1
ZAPS Zavoj 2.30 358 ePn Pn 23 23 26.7 +0.7
IGT Igoumenitsa 2.34 233 P Pn 23 23 28.1 +1.6
IGT Igoumenitsa 2.34 233 *i* Pn Pb 23 23 28.9 -1.4
IGT Igoumenitsa 2.34 233 P Pn 23 23 28.2 +1.6
IGT AML AML 23 24 09.6
comp=N,7138µm,1.2s
IGT AML AML 23 24 09.8
comp=E,12833µm,1.4s
IGT Igoumenitsa 2.34 233 P Pn 23 23 28.1 +1.6
DIM Dimitrovgrad 2.36 62 P Pb 23 23 28.7 -1.8
SRN Sarande 2.36 243 P Pb 23 23 28.7 -1.9
SRN Sarande 2.36 243 P Pb 23 23 29.4 -1.2
baz=245
SRN S Sb 23 23 58.7 -1.0
baz=245
SRN AMP
comp=E,19nm,1.4s,baz=245
BCI Bajram Curri 2.44 306 P Pn 23 23 28.6 +0.7
baz=307
BCI S Sb 23 24 02.2 +0.1
baz=307
BCI AMP
comp=E,32nm,1.5s,baz=307
ANX Ano Chora 2.46 195 P Pn 23 23 28.7 +0.5
ANX S Sn 23 23 58.8 +0.4
comp=E,11µm,0.5s
ANX Ano Chora 2.46 195 P Pn 23 23 28.9 +0.6
KASA Kassiopi 2.47 241 P Pn 23 23 29.4 +1.2
DLFA Delphi 2.50 184 P Pn 23 23 29.0 +0.3
VLO Vlora 2.52 259 Pn Pn 23 23 30.2 +1.3
VLO Vlora 2.52 259 P Pn 23 23 31.0 +2.1
VLO Vlora 2.52 259 P Pb 23 23 31.9 -1.4
baz=261
VLO S Sb 23 24 02.0 -2.2
baz=261
VLO Vlora 2.52 259 P Pn 23 23 30.2 +1.3
GADA Gvkgeada 2.53 107 PN Pn 23 23 29.9 +0.8
PVO Paravola 2.53 202 P Pn 23 23 30.2 +1.0
SELS Selova 2.55 332 ePn Pn 23 23 28.5 -0.9
SELS eSn Sn 23 23 59.9 -0.5
KYMI Kymi, Euboea I 2.56 155 P Sn 23 23 29.6 0.0
KYMI S Sn 23 24 01.2 +0.5
comp=E,3µm,1.3s
KEK Kerkira 2.58 242 Pn Pn 23 23 31.1 +1.3
KEK Kerkira 2.58 242 P Pn 23 23 31.1 +1.3
KEK Kerkira 2.58 242 P Pn 23 23 31.1 +1.3
ENEZ Enez 2.60 94 PN Pn 23 23 30.8 +0.7
ENEZ Enez 2.60 94 P Pn 23 23 30.1 0.0
SERG Sergoula 2.61 192 P Pn 23 23 30.4 +0.1
SERG S Sn 23 24 02.5 +0.5
comp=E,6µm,1.1s
SERG Sergoula 2.61 192 P Pn 23 23 30.5 +0.3
EFP Efpalio 2.62 194 P Pn 23 23 30.5 +0.1
EFP Efpalio 2.62 194 P Pn 23 23 30.5 +0.1
PVY Plav 2.63 309 ePn Pn 23 23 30.9 +0.2
PVY *i* Sn Sn 23 24 02.6 -0.1
TSLK Tsoukalades, L 2.68 217 P Pn 23 23 33.2 +2.0
TSLK Tsoukalades, L 2.68 217 P Pn 23 23 32.6 +1.4

LKD2 Lefkada island 2.71 217 P Pn 23 23 33.4 +1.8
LKD2 Lefkada island 2.71 217 P Pn 23 23 33.3 +1.7
NYDR Nydri-Lefkada 2.75 215 P Pn 23 23 33.8 +1.7
BOVS Bovan 2.77 344 *e*Pn Pn 23 23 31.6 -0.8
BOZC Bozcaada 2.77 113 PN Pn 23 23 33.1 +0.7
PLVB Pleven 2.79 29 ⇑P Pb 23 23 35.9 -2.0
VIL2 Platees 2.79 171 P Pn 23 23 33.9 +1.2
ULC Ulcinj 2.81 292 *i* Pn Pn 23 23 33.3 +0.4
ULC *i* Sn Sn 23 24 06.6 -0.2
VILL Villia 2.84 171 P Pn 23 23 33.1 -0.3
EVGI Lefkada island 2.85 215 P Pn 23 23 34.9 +1.4
EVGI Lefkada island 2.85 215 P Pn 23 23 35.2 +1.8
IVA Berane 2.85 313 *e*Pn Pn 23 23 33.8 +0.2
IVA *i* Sn Sn 23 24 07.7 -0.2
ZAGS Zajecar 2.86 353 *e*Pn Pn 23 23 33.2 -0.5
ZAGS eSn Sn 23 24 07.1 -1.0
ERIK Erikli-Kesan 2.88 95 PN Pn 23 23 34.8 +0.9
GELI Tayfur-Gelibol 2.90 100 PN Pn 23 23 35.1 +1.0
DRME Dracevica, Mon 2.93 296 *e*Pn Pn 23 23 36.1 +1.5
DRME Dracevica, Mon 2.93 296 ⇓*i*Pn Pn 23 23 35.0 +0.4
DRME *i* Sn Sn 23 24 09.6 -0.2
THAL Thalero 2.93 181 P Pn 23 23 34.5 -0.2
THAL Thalero 2.93 181 P Pn 23 23 35.4 +0.7
UKOP Uzunkopru-Edir 2.95 86 PN Pn 23 23 35.9 +1.1
PVL Pavlikeni 2.96 40 P Pb 23 23 40.5 -0.3
SIGR SIGRI 2.97 125 PN Pn 23 23 36.0 +0.9
SIGR SIGRI 2.97 125 P Pn 23 23 35.6 +0.5
SIGR SIGRI 2.97 125 P Pn 23 23 35.8 +0.6
EZN Ezine 2.97 112 P Pn 23 23 36.2 +1.1
EZN Ezine 2.97 112 P Pn 23 23 35.1 0.0
EZN S Sn 23 24 12.2 +1.5
comp=E,4µm,0.8s
EZN Ezine 2.97 112 P Pn 23 23 35.7 +0.6
PDG Podgorica 2.99 300 ⇑S Sn 23 24 09.2 -2.0
PDG Podgorica 2.99 300 Pn Pn 23 23 36.3 +0.9
PDG Podgorica 2.99 300 *e*Pn Pn 23 23 36.8 +1.4
PDG *e*Sn Sn 23 24 11.3 +0.1
TTG Podgorica 2.99 300 *e*Pn Pn 23 23 35.8 +0.4
TTG *i* Sn Sn 23 24 10.9 -0.3
LOUT Loutraki 2.99 176 P Pn 23 23 35.3 -0.1
LOUT Loutraki 2.99 176 P Pn 23 23 35.7 +0.3
FSK Fiskardo 3.02 214 P Pn 23 23 37.0 +1.1
FSK Fiskardo 3.02 214 P Pn 23 23 37.3 +1.5
DION Dionisos Attik 3.04 162 P Pn 23 23 36.4 +0.3
DION Dionisos Attik 3.04 162 P Pn 23 23 36.5 +0.4
PTL Penteli 3.05 163 P Pn 23 23 36.5 +0.2
PTL Penteli 3.05 163 P Pn 23 23 36.4 +0.2
PTL AML AML 23 24 12.3
comp=N,4056µm,0.8s
PTL AML AML 23 24 25.1
comp=E,3223µm,0.8s
KOME Kolasin 3.05 309 ⇓*i*Pn Pn 23 23 36.7 +0.3
KOME *i* Sn Sn 23 24 12.5 -0.4
RLS Riolos of Patr 3.07 199 P Pn 23 23 38.1 +1.5
SJES Sjenica 3.08 319 *e*Pn Pn 23 23 37.1 +0.4
BAIL Bailesti 3.08 8 ⇑P Pn 23 23 38.5 +1.9
ATH Athens Observa 3.09 166 P Pn 23 23 37.1 +0.3
ATH Athens Observa 3.09 166 P Pn 23 23 37.3 +0.5
ATH Athens Observa 3.09 166 P Pn 23 23 37.1 +0.3
ATHU Athens Univers 3.11 165 P Pn 23 23 37.3 +0.2
ATHU Athens Univers 3.11 165 P Pn 23 23 37.3 +0.2
LPK Lapseki 3.12 105 PN Pn 23 23 38.2 +1.0
DRO Drossia 3.12 195 P Pn 23 23 38.2 +0.9
DRO S Sn 23 24 15.7 +1.1
comp=E,6µm,1.1s
DRO Drossia 3.12 195 P Pn 23 23 38.8 +1.6
EDRB Edirne 3.13 73 PN Pn 23 23 38.8 +1.4
EDRB Edirne 3.13 73 P Pn 23 23 37.4 0.0
BUM Brajici-Budva 3.17 296 ⇑*i*Pn Pn 23 23 38.4 +0.4
BUM *i* Sn Sn 23 24 15.3 -0.6
VLY Voula,Athens 3.22 165 P Pn 23 23 38.9 +0.3
VLY Voula,Athens 3.22 165 P Pn 23 23 38.6 0.0
IVAS Ivanjica 3.23 324 *e*Pn Pn 23 23 38.3 -0.5
JMB Yambol 3.24 61 PN Pn 23 23 39.9 +1.0
JMB Yambol 3.24 61 P Pn 23 23 39.5 +0.6
JMB Yambol 3.24 61 P Pn 23 23 39.9 +1.0
KEF4 Livadi, Kephal 3.25 214 P Pn 23 23 38.9 -0.1
KEF4 Livadi, Kephal 3.25 214 P Pn 23 23 39.0 0.0
VLS Valsamata 3.25 211 P Pn 23 23 39.8 +0.8
VLS Valsamata 3.25 211 P Pn 23 23 39.6 +0.6
VLS Valsamata 3.25 211 P Pn 23 23 39.8 +0.8
CEME Cevo 3.26 300 ⇑*i*Pn Pn 23 23 39.6 +0.4
CEME *i* Sn Sn 23 24 17.5 -0.6
VLAD Vladila 3.26 22 ⇑P Pn 23 23 42.2 +3.0
GRUS Gruza 3.27 333 *e*Pn Pn 23 23 38.9 -0.5
DMLN Damoulianata-K 3.29 215 P Pn 23 23 40.3 +0.8
SZH Strazhica 3.30 45 P Pb 23 23 43.3 -3.3
PUNG Punghina 3.31 2 ⇓P Pn 23 23 39.9 +0.2
ZIMR 3.31 35 ⇓P Pn 23 23 43.0 +3.1
KEF3 Kipouria, Keph 3.33 214 P Pn 23 23 40.4 +0.3
KEF3 Kipouria, Keph 3.33 214 P Pn 23 23 40.2 +0.1
NKME Niksic 3.35 304 *e*Pn Pn 23 23 40.8 +0.4
NKME *i* Sn Sn 23 24 19.5 -0.7
RKY Sarkoy-Tekirda 3.38 93 PN Pn 23 23 41.9 +1.1
SCTE Santa Cesarea 3.38 256 Pn Pn 23 23 41.2 +0.4
SCTE Santa Cesarea 3.38 256 P Pn 23 23 38.9 -0.1
PLE Pljevlja 3.43 314 ⇑*i*Pn Pn 23 23 41.9 +0.3
PLE *i* Sn Sn 23 24 21.5 -0.8
HCY Herceg Novi 3.50 296 *e*Pn Pn 23 23 43.7 +1.2
HCY Herceg Novi 3.50 296 *e*Pn Pn 23 23 42.9 +0.4
HCY *i* Sn Sn 23 24 23.3 -0.7
KRBG Karabiga-Canak 3.51 98 PN Pn 23 23 43.9 +1.3
KUBS Kucevo 3.52 347 *e*Pn Pn 23 23 40.9 -1.9
KUBS eSn Sn 23 24 21.9 -2.6
LTHK Lithakia 3.58 205 P Pn 23 23 45.0 +1.5
UPM Unac-Piva 3.62 309 *e*Pn Pn 23 23 45.6 +1.3
UPM Unac-Piva 3.62 309 ⇓*i*Pn Pn 23 23 44.6 +0.3
UPM *i* Sn Sn 23 24 26.1 -1.0
TKR Tekirdag 3.63 88 PN Pn 23 23 45.3 +1.1
PHSR Pinarhisar 3.66 78 PN Pn 23 23 45.9 +1.2
TRUS Trudelj 3.68 333 *e*Pn Pn 23 23 44.2 -0.7
BRY Bratogost 3.68 303 *e*Pn Pn 23 23 46.8 +1.8
BRY Bratogost 3.68 303 *e*Pn Pn 23 23 43.9 +0.3
BRY *i* Sn Sn 23 24 27.4 -1.1
DJES Djerdap 3.69 358 ⇑P Pn 23 23 46.3 +1.1
DJES Djerdap 3.69 358 Pn Pn 23 23 44.6 -0.5
MRMT Marmara Adasi 3.71 94 PN Pn 23 23 46.2 +0.9
TREB Trebinje 3.71 299 *e*Pn Pn 23 23 46.9 +1.5
DIVS Divibare 3.72 328 Pn Pn 23 23 45.3 -0.3
DIVS Divibare 3.72 328 *e*Pn Pn 23 23 45.2 -0.4
DIVS Divibare 3.72 328 *e*Pn Pn 23 23 45.2 -0.4
CRLT Corlu 3.78 86 PN Pn 23 23 47.6 +1.3
BBLS Lazići 3.80 321 *e*Pn Pn 23 23 46.6 0.0
BBLS Lazići 3.80 321 *e*Pn Pn 23 23 46.6 0.0
RAZG Razgrad 3.81 46 ⇑P Pn 23 23 50.0 +3.2
ITM Ithomi 3.84 190 PN Pn 23 23 48.7 +1.5
ITM Ithomi 3.84 190 Pn Pn 23 23 48.3 +1.1
ITM Ithomi 3.84 190 P Pn 23 23 48.1 +0.9
MDVR Moldovita 3.88 349 ⇓P Pn 23 23 47.4 -0.3
GONE Gonen-Balikesi 3.88 102 PN Pn 23 23 49.0 +1.3
HERR Herculane 3.91 357 ⇓P Pn 23 23 47.8 -0.3
HUMR Humele 3.92 24 ⇓P Pn 23 23 50.6 +2.5
EDC Edincik 3.95 97 PN Pn 23 23 49.9 +1.3
EDC Edincik 3.95 97 P Pn 23 23 49.8 +1.2
URLA Izmir 3.96 130 PN Pn 23 23 49.9 +1.1
PRD Provadia 4.12 56 P Pn 23 23 51.8 +0.9
SLVT Silivri 4.14 85 PN Pn 23 23 52.9 +1.6
BALB Balikesir 4.15 107 PN Pn 23 23 52.6 +1.2
BALB Balikesir 4.15 107 Pn Pn 23 23 51.5 +0.1
BUC1 Bucharest 4.15 35 P Pb 23 24 00.2 -0.9
BEO Beograd 4.18 337 P Pn 23 23 51.8 0.0
HAPS Han Pijesak,BI 4.18 319 *e*Pn Pn 23 23 52.2 +0.2
BLCB Balcova 4.21 127 PN Pn 23 23 53.8 +1.6
BLCB Balcova 4.21 127 P Pn 23 23 53.3 +1.1
STON Ston 4.21 298 *e*Pn Pn 23 23 52.0 -0.2
CTYL Yalikoy Yolu 4.21 81 PN Pn 23 23 53.8 +1.5
STFAR Stefanesti-Arg 4.21 22 ⇑P Pn 23 23 54.1 +1.8
TEKS Tekeris 4.28 328 *e*Pn Pn 23 23 51.6 -1.6
TEKS Tekeris 4.28 328 *e*Pn Pn 23 23 52.0 -1.2
TEKS eSn Sn 23 24 41.3 -1.9
KCTX Karacabey (Bur 4.33 98 PN Pn 23 23 55.3 +1.4
CTKS Kestanelik-??a 4.37 85 PN Pn 23 23 55.8 +1.5
GZR Gura Zlata 4.42 0 ⇑P Pn 23 23 55.8 +0.7
APE Apeiranthos 4.46 150 PN Pn 23 23 56.8 +1.0
APE Apeiranthos 4.46 150 P Pn 23 23 56.1 +0.3
APE Apeiranthos 4.46 150 P Pn 23 23 55.9 +0.1
APE Apeiranthos 4.46 150*c* *i*P Pn 23 23 54.8 -1.0
MHLO Agia Marina, M 4.47 163 P Pn 23 23 55.9 +0.1
AVCI Avcilar-stanb 4.53 88 PN Pn 23 23 58.1 +1.5
LOT Lotru 4.54 9 ⇑P Pn 23 23 57.6 +0.9

LOT Lotru 4.54 9 PN Pn 23 23 58.4 +1.6
SMG Samos 4.55 134 P Pn 23 23 57.8 +0.9
BLJ Bijeljina 4.58 327 *e*Pn Pn 23 23 56.6 -0.7
MATE Matera 4.59 268 ⇑P Pn 23 23 57.4 -0.1
ARR Arges 4.60 17 ⇓P Pn 23 23 59.8 +2.1
DST Dursunbey 4.70 105 PN Pn 23 24 00.9 +1.9
DST Dursunbey 4.70 105 P Pn 23 24 00.9 +1.9
FRGS Fruska Gora 4.70 334 *e*Pn Pn 23 23 58.0 -0.9
FRGS Fruska Gora 4.70 334 *e*Pn Pn 23 23 58.0 -0.9
KTHR Kythira 4.71 177 P Pn 23 24 00.7 +1.6
MDNY Mudanya-Bursa 4.71 95 PN Pn 23 24 01.1 +2.0
KTHA Kythira Island 4.72 177 PN Pn 23 24 00.9 +1.7
KTHA Kythira Island 4.72 177 P Pn 23 24 00.5 +1.3
SECR 4.74 30 ⇓P Pn 23 24 02.1 +2.7
KLYT Kilyos 4.77 85 PN Pn 23 24 01.5 +1.6
VOIR 4.77 20 ⇓P Pn 23 24 00.9 +0.9
VOIR 4.77 20 P Pn 23 24 00.8 +0.9
GCAM G?zelcaml? 4.78 132 PN Pn 23 24 01.8 +1.8
ISK Istanbul-Kandi 4.78 87 PN Pn 23 24 01.8 +1.7
ISK Istanbul-Kandi 4.78 87 P Pn 23 24 01.0 +1.0
ISK Istanbul-Kandi 4.78 87 P Pn 23 24 01.7 +1.7
KAVV Kandilli-Istan 4.78 87 PN Pn 23 24 02.1 +2.0
ORLT Orhaneli 4.78 99 PN Pn 23 24 02.1 +2.0
SURR Surduc 4.80 355 ⇑P Pn 23 23 59.9 -0.4
PSN Preselentsi 4.86 54 P Pn 23 24 02.2 +1.1
ICOR Ion Corvin 4.88 48 ⇓P Pn 23 24 05.3 +3.8
DEV Deva 4.91 1 ⇑P Pn 23 24 03.8 +2.0
DEV Deva 4.91 1 P Pn 23 24 03.7 +2.0
TIP Timpagrande 4.93 251 ⇓P Pn 23 24 03.0 +0.9
TIP Timpagrande 4.93 251 Pn Pn 23 24 01.7 -0.5
GEMT Gemlik 4.93 94 PN Pn 23 24 04.1 +2.0
AMMR Amara 4.96 41 ⇑P Pn 23 24 04.6 +2.1
SAP3 Santorini-Thir 4.97 155 P Pn 23 24 04.0 +1.4
ISR Istrita 4.99 33 P Pn 23 24 04.4 +1.4
THT2 Imerovigli 4.99 154 PN Pn 23 24 04.6 +1.6
THT2 Imerovigli 4.99 154 P Pn 23 24 03.9 +0.9
AYDB Zeytinkoy-Aydi 5.00 126 PN Pn 23 24 04.8 +1.6
THR3 Thira Island, 5.01 155 P Pn 23 24 03.1 -0.1
PGOR Pogoanele 5.02 37 ⇑P Pn 23 24 05.4 +2.1
THR8 Santorini-Mono 5.04 154 P Pn 23 24 04.1 +0.5
THR9 Santorini-Faro 5.04 155 P Pn 23 24 03.9 +0.2
YLV Yalova 5.05 92 PN Pn 23 24 05.8 +1.9
THR6 Thira Island, 5.06 155 P Pn 23 24 04.6 +0.7
MLR Muntele Rosu 5.08 26 ⇓P Pn 23 24 05.8 +2.5
MLR Muntele Rosu 5.08 26 Pn Pn 23 24 05.6 +1.2
comp=E,9.1nm,0.3s,baz=209,slow=5.3,SNR=60
MLR Lg Lg 23 25 31.2
comp=E,31nm,0.8s,baz=255,slow=19.1,SNR=4.7
MLR LR LR 23 26 43.0
comp=E,5µm,18.2s,baz=274,slow=46
comp=E,134nm,0.7s
MLR Muntele Rosu 5.08 26 Pn 23 24 03.8 -0.5
ANKY Antikythira Is 5.12 175 P Pn 23 24 06.2 +1.5
MANT Manisa 5.12 117 Pn Pn 23 24 06.2 +1.2
SMAA Simav-Kutahya 5.14 109 PN Pn 23 24 06.9 +1.8
SRKY Kupres RS 5.15 309 *e*Pn Pn 23 24 06.1 +0.9
SIMA Simav-Kutahya 5.15 109 PN Pn 23 24 06.9 +1.7
NEHR Nehoiu 5.15 29 ⇓P Pn 23 24 07.2 +2.0
KULA Kula-Manisa 5.18 116 PN Pn 23 24 07.9 +2.2
KULA Kula-Manisa 5.18 116 P Pn 23 24 07.5 +1.8
SILT Sile 5.22 86 PN Pn 23 24 08.3 +2.2
HRT Hereke 5.25 89 PN Pn 23 24 08.9 +2.3
HRT Hereke 5.25 89 P Pn 23 24 08.8 +2.2
MFTR Murfatlar 5.28 51 ⇑P Pn 23 24 10.7 +3.9
BODT Bodrum 5.28 136 PN Pn 23 24 08.5 +1.5
BODT Bodrum 5.28 136 P Pn 23 24 07.2 +0.2
TLBR Topalu 5.29 46 ⇑P Pn 23 24 09.8 +2.8
MDB Medias 5.30 12 ⇑P Pn 23 24 09.0 +1.8
MDB Medias 5.30 12 P Pn 23 24 09.0 +1.8
SGRT San Giovanni R 5.32 281 Pn Pn 23 24 06.4 -1.2
ADVT Abdulvahap 5.35 94 PN Pn 23 24 09.7 +1.9
SIRR Siria 5.35 352 ⇑P Pn 23 24 07.9 0.0
DOPR Dopca 5.35 20 ⇑P Pn 23 24 10.1 +2.2
KOSK Kos Island 5.36 141 PN Pn 23 24 10.0 +2.0
TVSB Tavsanli 5.37 104 PN Pn 23 24 09.0 +0.8
MLSB Milas 5.37 132 PN Pn 23 24 10.1 +1.9
CUC Castrocucco 5.37 262 Pn Pn 23 24 09.2 +1.0
GRER 5.38 34 ⇓P Pn 23 24 11.5 +3.2
MGRS Mrkonjic Grad 5.40 311 *e*Pn Pn 23 24 08.6 0.0
BISRR Bisoca 5.41 31 ⇑P Pn 23 24 11.2 +2.5
TIRR Tirgusor 5.44 48 Pn Pn 23 24 09.0 0.0
TIRR Tirgusor 5.44 48 P Pn 23 24 09.0 0.0
CAVI Cavuskoy 5.46 96 PN Pn 23 24 11.9 +2.5
GEDZ Gediz 5.47 108 PN Pn 23 24 11.7 +2.1
COVR Voineasa-Covas 5.48 26 ⇑P Pn 23 24 11.7 +2.0
BLY Banja Luka 5.56 315 *e*Pn Pn 23 24 11.5 +0.8
AMBH Ambrzfalva 5.57 345 ⇓P Pn 23 24 11.4 +0.6
AMBH Ambrzfalva 5.57 345 P Pn 23 24 11.0 +0.2
OZUR 5.58 22 ⇑P Pn 23 24 12.3 +1.3
IMMV Iera Moni Meta 5.59 170 PN Pn 23 24 13.2 +2.0
IMMV Iera Moni Meta 5.59 170 P Pn 23 24 12.5 +1.3
PLOR Plostina 5.64 29 ⇑P Pn 23 24 14.1 +2.1
PLOR Plostina 5.64 29 P Pn 23 24 13.3 +1.3
AUBOZ BOZOYUK 5.67 98 PN Pn 23 24 14.6 +2.3
DAT Datca 5.68 137 PN Pn 23 24 14.9 +2.4
VRI Vrincioaia 5.69 29 ⇓P Pn 23 24 14.5 +2.0
VRI Vrincioaia 5.69 29 PN Pn 23 24 15.1 +2.6
VRI Vrincioaia 5.69 29 P Pn 23 24 13.9 +1.4
TPGR Topolog 5.70 45 ⇑P Pn 23 24 15.1 +2.5
ODBI Odobesti 5.73 32 ⇓P Pn 23 24 16.0 +3.0
SAUV Serdivan-Sakar 5.76 90 PN Pn 23 24 15.9 +2.4
A050A Klekovaca 5.76 310 *e*Pn Pn 23 24 15.0 +1.4
CFR Carcaliu 5.77 41 P Pn 23 24 14.2 +0.6
CFR pmax pmax
comp=Z,236nm,1.3s
PRNS Prines Rethymn 5.77 166 P Pn 23 24 15.3 +1.7
CJR Cluj-Napoca 5.77 6 ⇑P Pn 23 24 15.1 +1.3
CJR Cluj-Napoca 5.77 6 P Pn 23 24 15.0 +1.3
YER Yerkesik 5.77 130 PN Pn 23 24 16.0 +2.3
YER Yerkesik 5.77 130 P Pn 23 24 14.9 +1.2
YER Yerkesik 5.77 130 P Pn 23 24 15.6 +1.9
KNDR Palaiochora Ch 5.78 172 PN Pn 23 24 16.0 +2.2
KNDR Palaiochora Ch 5.78 172 P Pn 23 24 14.6 +0.8
PANC Panciu 5.85 32 ⇑P Pn 23 24 17.6 +2.8
IZVR Izvoarele 5.86 37 ⇓P Pn 23 24 16.6 +1.8
A051A Mrakovica 5.88 315 *e*Pn Pn 23 24 15.7 +0.5
SLCR Slobozia Conac 5.89 37 ⇓P Pn 23 24 17.7 +2.4
IDI Anoyia 5.92 163 ⇓P Pn 23 24 19.4 +3.6
IDI Anoyia 5.92 163 Pn Pn 23 24 16.7 +0.9
comp=Z,8.2nm,0.3s,baz=8.3,slow=13,SNR=56
IDI Sn Sn 23 25 23.3 -0.4
comp=Z,1.6nm,0.3s,baz=14,slow=13,SNR=1.3
comp=Z,43nm,0.5s
IDI Anoyia 5.92 163 PN Pn 23 24 18.5 +2.7
IDI Anoyia 5.92 163 Pn Pn 23 24 16.9 +1.1
IDI Anoyia 5.92 163 P Pn 23 24 17.4 +1.6
GULT Gulveren 5.93 93 PN Pn 23 24 18.3 +2.3
CEL Celeste 5.94 245 Pn 23 24 15.8 -0.2
HRKL Herakleio 5.95 161 PN Pn 23 24 18.5 +2.4
HRKL Herakleio 5.95 161 P Pn 23 24 16.4 +0.3
PRIJ Prijedor 5.96 314 *e*Pn Pn 23 24 17.4 +1.2
BORA Eskisehir 5.99 98 PN Pn 23 24 19.1 +2.4
BORA Eskisehir 5.99 98 Pn Pn 23 24 17.2 +0.5
TURN Turunc 6.00 133 PN Pn 23 24 19.1 +2.3
MORH Mrgy, Hungar 6.02 332 P Pn 23 24 16.7 -0.4
SCTR Scanteiesti 6.06 37 ⇑P Pn 23 24 20.3 +2.6
GHRR 6.11 32 ⇑P Pn 23 24 21.7 +3.4
KOVH Kovagototos 6.12 328 P Pn 23 24 18.2 -0.2
KOVH S Sn 23 25 28.4 -0.1
BORR Bors 6.15 354 ⇑P Pn 23 24 19.9 +0.1
VARL Varlezi 6.17 35 ⇑P Pn 23 24 22.6 +3.5
APMY Acipayam-Deniz 6.18 122 PN Pn 23 24 21.9 +2.6
PAOL Paolisi 6.18 273 Pn 23 24 19.9 +0.6
DALY Dalyan (Mula) 6.20 130 PN Pn 23 24 22.2 +2.6
GVD Gavdhos 6.22 170 PN Pn 23 24 22.4 +2.6
GVD Gavdhos 6.22 170 P Pn 23 24 21.7 +1.9
TESR Tescani 6.22 26 ⇓P Pn 23 24 22.3 +2.6
ARCR ARCALIA 6.22 10 ⇑P Pn 23 24 21.9 +2.1
VLDR Vladesti 6.23 37 ⇑P Pn 23 24 22.5 +2.6
ARG Arkhangelos 6.35 137 PN Pn 23 24 24.2 +2.6
ARG Arkhangelos 6.35 137 Pn Pn 23 24 23.2 +1.6
ARG Arkhangelos 6.35 137 P Pn 23 24 23.2 +1.6
BIR Birlad 6.37 32 ⇑P Pn 23 24 24.6 +2.8
BIR Birlad 6.37 32 P Pn 23 24 24.6 +2.8
ESKT Eskisehir 6.37 101 PN Pn 23 24 24.8 +2.8
BASM Basmaki-Afyon 6.43 116 PN Pn 23 24 25.0 +2.3
KARP Karpathos 6.44 146 PN Pn 23 24 25.4 +2.5
KARP Karpathos 6.44 146 Pn Pn 23 24 22.2 -0.6
LTVH Ltavrtes, Hu 6.44 355 ⇓P Pn 23 24 23.4 +0.7
LTVH Ltavrtes, Hu 6.44 355 P Pn 23 24 23.2 +0.5

MDUB Mudurnu 6.45 92 PN **Pn** **23 24 24.2 +1.2**
MDUB Mudurnu 6.45 92 Pn **Pn** **23 24 22.8 -0.2**
ZKR Zakros 6.46 154 PN **Pn** **23 24 25.5 +2.4**
SHUT Suhut-Afyon 6.49 109 PN **Pn** **23 24 26.2 +2.6**
CAME Cameli-Denizli 6.51 126 PN **Pn** **23 24 26.5 +2.6**
GIRR Girov 6.56 23 ⇑P **Pn** **23 24 26.6 +2.0**
BSZH Besenyszg 6.57 345 ⇑P **Pn** **23 24 25.0 +0.4**
BSZH Besenyszg 6.57 345 P **Pn** **23 24 25.4 +0.8**
CIFT Cifteler, Eski 6.58 101 PN **Pn** **23 24 27.1 +2.3**
KDZE Karadeniz Ereo 6.58 84 PN **Pn** **23 24 27.6 +2.8**
FETY Fethiye 6.58 129 PN **Pn** **23 24 27.3 +2.5**
BMR Baia Mare 6.72 4 ⇑P **Pn** **23 24 27.2 +0.5**
BMR Baia Mare 6.72 4 P **Pn** **23 24 27.4 +0.7**
BMR pmax pmax
comp=Z,221nm,0.9s
AUMIH MIHALICIK 6.76 97 PN **Pn** **23 24 29.9 +2.5**
LEOM Leova 6.79 34 ⇑P **Pn** **23 24 30.6 +3.0**
LEOM Leova 6.79 34 P **Pn** **23 24 29.0 +1.4**
ISP Isparta 6.80 115 Pn **Pn** **23 24 28.4 +0.5**
ISP Isparta 6.80 115 *i* P **Pn** **23 24 29.9 +2.0**
YUVA Yuva-Kibriscik 6.83 92 PN **Pn** **23 24 30.3 +2.0**
BURAR Bucovina Array 6.87 14 ⇑P **Pn** **23 24 30.8 +1.9**
BURAR Bucovina Array 6.87 14 Pn **Pn** **23 24 29.0 +0.1**
BURAR Bucovina Array 6.87 14 P **Pn** **23 24 30.7 +1.9**
TIH Tihany 6.88 331 P **Pn** **23 24 29.2 +0.4**
SVRH Sivrihisar-ESK 6.89 100 PN **Pn** **23 24 31.7 +2.5**
BUR08 Bucovina Ar. S 6.90 14 Pn **Pn** **23 24 29.2 0.0**
AUSIV SIVRIHISAR 6.91 100 PN **Pn** **23 24 31.9 +2.5**
PTJ Puntijarka 6.97 317 P **Pn** **23 24 30.3 +0.1**
BEHE Becsehely 6.99 324 P **Pn** **23 24 28.7 -1.7**
BEHE S **Sn** **23 25 48.3 -1.5**
ELL Elmali 7.00 125 PN **Pn** **23 24 33.3 +2.6**
ELL Elmali 7.00 125 Pn **Pn** **23 24 32.8 +2.1**
ELL Elmali 7.00 125 P **Pn** **23 24 32.8 +2.1**
BUD Budapest 7.03 339 P **Pn** **23 24 30.8 -0.1**
BUD S **Sn** **23 25 49.1 -1.7**
BUD Budapest 7.03 339 P **Pn** **23 24 31.4 +0.5**
IAS Iasi 7.12 28 ⇓P **Pn** **23 24 35.0 +2.9**
IAS Iasi 7.12 28 P **Pn** **23 24 34.9 +2.9**
IAS pmax pmax
comp=Z,399nm,0.8s
GCIS Gornji Cirnik 7.12 316 *i* Pn **Pn** **23 24 32.2 +0.1**
AQU L'Aquila 7.13 284 Pn **Pn** **23 24 32.1 -0.2**
AQU L'Aquila 7.13 284 P **Pn** **23 24 32.1 -0.2**
KORT Korkueli 7.13 121 PN **Pn** **23 24 34.7 +2.2**
CAMP Campotosto 7.15 286 Pn **Pn** **23 24 32.5 -0.2**
CSKK Cskako 7.15 335 P **Pn** **23 24 32.7 +0.1**
CSKK S **Sn** **23 25 53.0 -0.8**
TRPA Tarpa 7.16 359 ⇑P **Pn** **23 24 32.7 0.0**
TRPA Tarpa 7.16 359 P **Pn** **23 24 32.1 -0.6**
AKAS Kas 7.16 129 PN **Pn** **23 24 35.3 +2.4**
AKAS Kas 7.16 129 Pn **Pn** **23 24 34.3 +1.4**
PSZ Piszkesteto 7.24 345 ⇑P **Pn** **23 24 34.0 +0.2**
PSZ Piszkesteto 7.24 345 Pn **Pn** **23 24 33.4 -0.4**
PSZ Piszkesteto 7.24 345 P **Pn** **23 24 34.4 +0.6**
PSZ Piszkesteto 7.24 345 P **Pn** **23 24 33.4 -0.4**
MPLH Magyarpolny 7.24 331 P **Pn** **23 24 34.4 +0.6**
MPLH S **Sn** **23 25 51.8 -4.1**
SUTC Sutluce-Ispart 7.30 116 PN **Pn** **23 24 37.6 +2.8**
KIZT Kizilcal 7.33 104 PN **Pn** **23 24 38.5 +3.3**
VAE Valguarnera 7.35 244 Pn **Pn** **23 24 36.0 +0.6**
comp=Z,14nm,0.8s,baz=103,slow=4.8,SNR=4.0
VAE Sn **Sn** **23 25 59.5 +0.7**
comp=Z,0.6nm,0.3s,baz=45,slow=12,SNR=2.3
MILM Milestii Mici 7.38 34 *e*P **Pn** **23 24 38.8 +3.1**
comp=Z,30nm,0.4s
MILM Milestii Mici 7.38 34 *e*PP Pb 23 24 49.0 -7.1
MILM *e*S **Sn** **23 26 03.0 +3.6**
MILM *e*L L 23 26 49.0
MILM LqM 23 27 40.0
comp=Z,4μm,13.0s
MILM LRM MLR 23 28 37.0
comp=Z,6μm,9.8s
MILM Milestii Mici 7.38 34 ⇑P **Pn** **23 24 39.1 +3.4**
MILM Milestii Mici 7.38 34 *e*P **Pn** **23 24 39.0 +3.3**
MILM *e*S **Sn** **23 26 03.0 +3.6**
MILM pmax pmax
comp=Z,30nm,0.4s
MILM MLR MLR
comp=Z,6μm,9.8s
ANTB Antalya 7.39 121 PN **Pn** **23 24 38.3 +2.5**
ABAH Abaujker 7.40 352 P **Pn** **23 24 35.5 -0.4**
NRCA Norcia 7.42 288 Pn **Pn** **23 24 36.0 -0.4**
KIS Kishinev 7.45 34 *e*P **Pn** **23 24 40.0 +3.4**
KIS Kishinev 7.45 34 *e*PP Pb 23 24 49.0 -8.2
KIS *e*L L 23 28 12.0
KIS LRM MLR 23 28 40.0
comp=Z,3μm,8.7s
KIS Kishinev 7.45 34 *e*P **Pn** **23 24 40.0 +3.4**
KIS *e* 23 25 57.0
KIS MLR MLR
comp=Z,2μm,8.0s
FDMO Fiordimonte 7.48 289 Pn **Pn** **23 24 36.8 -0.3**
RAFF Raffo Rosso 7.51 243 Pn **Pn** **23 24 35.9 -1.7**
EGYH Egyhazaskeszo 7.52 331 P **Pn** **23 24 39.0 +1.4**
SRO Srobarova 7.54 337 *e*PN **Pn** **23 24 39.0 +1.2**
SRO Srobarova 7.54 337 *e*P **Pn** **23 24 39.0 +1.2**
UZH Uzhgorod 7.66 358 *e*P **Pn** **23 24 39.7 +0.1**
UZH *e*S **Sn** **23 26 07.6 +1.2**
UZH MLR MLR
comp=Z,360nm,10.0s
KECS Kecovo 7.68 349 *e*PN **Pn** **23 24 39.2 -0.6**
KECS Kecovo 7.68 349 *e*P **Pn** **23 24 39.2 -0.6**
CEY Cerknica 7.70 311 *e*Pn **Pn** **23 24 41.3 +1.1**
BR231 Keskin MP Arra 7.74 95 Pn **Pn** **23 24 42.4 +1.5**
ANTO Ankara 7.75 95 Pn **Pn** **23 24 42.2 +1.3**
ANTO Ankara 7.75 95 P **Pn** **23 24 42.2 +1.3**
CESX Cesi 7.77 285 Pn **Pn** **23 24 40.8 -0.2**
MURB Monte Urbino 7.93 290 Pn **Pn** **23 24 43.9 +0.5**
KOLS Kolonicke sedl 7.97 358 *e*PN **Pn** **23 24 44.2 +0.4**
KOLS Kolonicke sedl 7.97 358 *e*P **Pn** **23 24 44.2 +0.4**
SOKA Soboth 7.97 318 *i* Pn **Pn** **23 24 43.8 -0.1**
comp=Z,61nm,0.9s,SNR=18
CRVS Cervenica-Dubn 7.98 354 *e*PN **Pn** **23 24 44.1 +0.1**
CRVS Cervenica-Dubn 7.98 354 *e*P **Pn** **23 24 44.1 +0.1**
JAVS Javornik 8.00 311 *i* Pn **Pn** **23 24 45.0 +0.6**
VYHS Vyhne 8.02 341 *e*PN **Pn** **23 24 45.4 +1.0**
VYHS Vyhne 8.02 341 *e*P **Pn** **23 24 45.4 +1.0**
SOP Sopron 8.04 329 P **Pn** **23 24 45.8 +1.1**
SOP S **Sn** **23 26 10.2 -5.3**
SOP Sopron 8.04 329 P **Pn** **23 24 45.1 +0.4**
SOP pmax pmax
comp=Z,76nm,0.8s
OBKA Obir 8.11 316 *e*Pn **Pn** **23 24 45.7 -0.1**
OBKA Obir 8.11 316 *i* Pn **Pn** **23 24 46.3 +0.5**
comp=Z,22nm,0.4s,SNR=8.6
CLTB Caltabellotta 8.13 248 Pn **Pn** **23 24 48.1 +2.0**
ARSA Arzberg 8.14 323 *i* Pn **Pn** **23 24 46.0 -0.2**
comp=Z,37nm,0.4s,SNR=27
ARSA *e*Sn **Sn** **23 26 18.2 0.0**
comp=Z,72nm,0.4s
RONA Rosalia, Austr 8.15 328 *i* Pn **Pn** **23 24 47.5 +1.1**
comp=Z,30nm,0.4s,SNR=24
SORM Soroca 8.20 27 P **Pn** **23 24 51.3 +4.3**
ZST Bratislava 8.26 333 *e*PN **Pn** **23 24 48.8 +1.0**
ZST *e*SN **Sn** **23 26 15.6 -5.5**
ZST Bratislava 8.26 333 *e*P **Pn** **23 24 48.8 +1.0**
ZST *e* 23 26 15.6
ILGA Ilgaz 8.30 86 Pn **Pn** **23 24 48.1 -0.5**
SABO M.te Sabotino 8.32 310 Pn **Pn** **23 24 49.4 +0.8**
LATE Laterza 8.33 285 Pn **Pn** **23 24 48.7 -0.1**
MODS Modra-Piesok 8.36 334 *e*PN **Pn** **23 24 50.3 +1.2**
MODS *e*SN **Sn** **23 26 18.1 -5.4**
MODS Modra-Piesok 8.36 334 *e*P **Pn** **23 24 50.3 +1.2**
MODS *e* 23 26 18.1
BR131 Keskin Array S 8.42 95 Pn **Pn** **23 24 50.8 +0.7**
BR131 Keskin Array S 8.42 95 *i* P **Pn** **23 24 51.0 +0.9**
BRTR Keskin Array B 8.42 95 Pn **Pn** **23 24 51.4 +1.2**
comp=Z,1.5nm,0.3s,baz=268,slow=11,SNR=28
BRTR LR LR 23 28 49.8
comp=Z,3μm,21.5s,baz=274,slow=43
comp=Z,7.2nm,0.5s
BRTR Keskin Array B 8.42 95 Pn **Pn** **23 24 50.6 +0.5**
SMOL Smolenice 8.43 335 *e*P **Pn** **23 24 52.4 +2.3**
SMOL *e* 23 26 18.2
STHS Stebnicka Huta 8.51 353 *e*PN **Pn** **23 24 53.0 +1.8**
STHS Stebnicka Huta 8.51 353 *e*P **Pn** **23 24 53.0 +1.8**
CONA Conrad Observa 8.51 327 *i* Pn **Pn** **23 24 51.8 +0.5**
comp=Z,12nm,0.3s,SNR=12
CONA *e*Sn **Sn** **23 26 27.1 -0.4**
comp=Z,23nm,0.5s
ROBS Robic 8.52 311 *i* Pn **Pn** **23 24 51.4 +0.1**

PRED Cave del Predi 8.60 313 Pn **Pn** **23 24 52.2 -0.3**
MYKA Terra Mystica 8.67 314 *i* Pn **Pn** **23 24 54.1 +0.6**
comp=Z,24nm,0.5s,SNR=17
SEV Sevastopol' 8.79 62 *e*P **Pn** **23 24 55.8 +0.7**
SEV Pm 23 25 07.7
comp=Z,64nm,0.5s
SEV *e*S **Sn** **23 26 30.7 -3.5**
SEV Sm 23 26 39.8
comp=N,47nm,0.6s
SEV Sm 23 26 39.9
comp=E,73nm,0.8s
SEV Sevastopol' 8.79 62 *e*P **Pn** **23 24 55.8 +0.7**
SEV *e*S **Sn** **23 26 30.7 -3.5**
SEV pmax pmax
comp=Z,64nm,0.5s
SEV smax smax
comp=N,47nm,0.6s
SEV smax smax
comp=E,73nm,0.8s
LVV L'vov 8.89 5 *e*P Pn 23 25 02.9 +6.5
LVV *e*S **Sn** **23 26 40.5 +3.9**
LVV MLR MLR
comp=E,4μm,7.5s
LVV MLR MLR
comp=N,2μm,6.7s
LVV MLR MLR
comp=Z,2μm,7.1s
OSSC Osservatorio P 8.90 290 Pn **Pn** **23 24 56.7 +0.1**
STAL STALIGIAL 8.99 309 Pn **Pn** **23 24 57.6 -0.2**
CLUD Cludinico 9.00 311 Pn **Pn** **23 24 57.8 -0.1**
MAUC Maruska 9.08 339 *e*PN **Pn** **23 24 58.8 -0.2**
YAL Yalta 9.10 64 *e*P **Pn** **23 25 00.6 +1.3**
YAL Pm 23 25 11.6
comp=Z,38nm,0.4s
YAL *e*S **Sn** **23 26 39.2 -2.6**
YAL Sm 23 26 41.7
comp=N,4.0nm,0.2s
YAL Sm 23 26 41.7
comp=E,87nm,0.8s
KBA Koelnbreinsper 9.11 315 *e*Pn **Pn** **23 25 00.1 +0.5**
comp=E,37nm,0.7s,SNR=22
KBA Koelnbreinsper 9.11 315 P **Pn** **23 25 00.4 +0.8**
KBA pmax pmax
comp=Z,92nm,1.1s
MOA Molln 9.16 321 *e*Pn **Pn** **23 25 01.1 +0.9**
comp=Z,30nm,0.6s,SNR=16
MOA *e*Sn **Sn** **23 26 45.6 +2.3**
comp=Z,121nm,0.7s
CIMO Cimolais 9.17 309 Pn **Pn** **23 24 59.7 -0.7**
TEOL Teolo 9.20 302 Pn **Pn** **23 24 59.9 -0.7**
SIM Simferopol' 9.24 61 *e*P **Pn** **23 24 59.7 -1.5**
SIM Pm 23 25 13.5
comp=Z,64nm,0.4s
SIM *e*S **Sn** **23 26 39.8 -5.3**
SIM Sm 23 26 51.0
comp=N,188nm,0.9s
SIM Sm 23 26 51.0
comp=E,47nm,0.8s
SIM Simferopol' 9.24 61 *e*P **Pn** **23 24 59.7 -1.5**
SIM *e*S **Sn** **23 26 39.8 -5.3**
SIM pmax pmax
comp=Z,64nm,0.4s
SIM smax smax
comp=N,188nm,0.9s
SIM smax smax
comp=E,47nm,0.8s
KRUC Moravsky 9.25 333 *e*PN **Pn** **23 25 00.9 -0.4**
KRUC *e*SN **Sn** **23 26 44.0 -1.3**
KRUC Moravsky 9.25 333 P **Pn** **23 25 01.4 +0.1**
KRUC pmax pmax
comp=Z,41nm,0.8s
ZCCA Zocca 9.30 295 Pn **Pn** **23 25 02.6 +0.5**
ALU Alushta 9.34 63 *e*P **Pn** **23 25 03.2 +0.7**
ALU Pm 23 25 15.7
comp=Z,42nm,0.5s
ALU *e*S **Sn** **23 26 43.4 -4.1**
ALU Sm 23 26 49.2
comp=N,26nm,0.5s
ALU Sm 23 26 49.2
comp=E,54nm,0.7s
ALU Alushta 9.34 63 *e*P **Pn** **23 25 03.2 +0.7**
ALU *e*S **Sn** **23 26 43.4 -4.1**
ALU pmax pmax
comp=Z,42nm,0.5s
ALU smax smax
comp=N,26nm,0.5s
ALU smax smax
comp=E,54nm,0.7s
BIOA Bad Ischl, Aus 9.36 319 *i* Pn **Pn** **23 25 03.8 +1.0**
comp=E,15nm,0.4s,SNR=25
BIOA Sn **Sn** **23 26 48.1 +0.1**
comp=E,30nm,0.4s
ABTA Abfaltersbach 9.37 311 *i* Pn **Pn** **23 25 03.6 +0.5**
comp=E,79nm,0.6s,SNR=46
VRAC Vranov 9.39 335 ⇓P **Pn** **23 25 03.9 +0.6**
VRAC Vranov 9.39 335 Pn **Pn** **23 25 03.9 +0.6**
comp=E,1.1nm,0.3s,baz=147,slow=13,SNR=12
VRAC Sn **Sn** **23 26 48.3 -0.7**
comp=E,1.4nm,0.3s,baz=117,slow=8.6,SNR=4.7
VRAC LR LR 23 29 49.4
comp=E,768nm,19.4s,baz=165,slow=45
comp=E,12nm,0.6s
VRAC Vranov 9.39 335 *e*PN **Pn** **23 25 03.0 -0.3**
VRAC *e*SN **Sn** **23 26 47.8 -1.1**
OKC Ostrava-Krasne 9.43 342 *e*PN **Pn** **23 25 05.5 +1.7**
OKC AMS AMS 23 29 10.0
comp=E,3μm,10.7s
OKC Ostrava-Krasne 9.43 342 *e*P **Pn** **23 25 05.5 +1.7**
OKC MLR MLR
comp=Z,3μm,10.7s
OJC Ojcow 9.47 348 Pn **Pn** **23 25 03.2 -1.2**
OJC Ojcow 9.47 348 P **Pn** **23 25 03.2 -1.2**
CTI Castel Tesino 9.52 306 Pn **Pn** **23 25 04.6 -0.5**
CTI Castel Tesino 9.52 306 P **Pn** **23 25 04.6 -0.5**
MORC Moravsky Berou 9.53 339 ⇑P **Pn** **23 25 05.0 -0.2**
MORC Moravsky Berou 9.53 339 Pn **Pn** **23 25 05.3 +0.1**
MORC Moravsky Berou 9.53 339 *e*PN **Pn** **23 25 05.5 +0.3**
MORC Moravsky Berou 9.53 339 P **Pn** **23 25 05.3 +0.1**
VLC Villacollemand 9.65 293 Pn **Pn** **23 25 07.2 +0.2**
TREC Trest 9.77 331 *e*PN **Pn** **23 25 09.4 +0.9**
TREC AMS AMS 23 29 10.0
comp=Z,4μm,8.6s
TREC Trest 9.77 331 *e*P **Pn** **23 25 09.4 +0.9**
TREC MLR MLR
comp=Z,4μm,8.6s
SUDU Sudak 9.80 62 *e*P Pn 23 25 03.0 -6.0
SUDU Pm 23 25 15.2
comp=Z,24nm,0.3s
SUDU *e*S **Sn** **23 26 53.5 -5.5**
SUDU Sm 23 27 02.7
comp=N,221nm,0.6s
SUDU Sm 23 27 02.8
comp=E,39nm,0.6s
SUDU Sudak 9.80 62 *e*P Pn 23 25 03.0 -6.0
SUDU *e*S **Sn** **23 26 53.5 -5.5**
SUDU pmax pmax
comp=Z,24nm,0.3s
SUDU smax smax
comp=N,221nm,0.6s
SUDU smax smax
comp=E,39nm,0.6s
CKRC Cesky Krumlov 9.86 326 *e*PN **Pn** **23 25 10.7 +1.0**
CKRC AMS AMS 23 28 50.0
comp=E,4μm,11.2s
PRMA PARMA 9.88 297 Pn **Pn** **23 25 09.0 -0.9**
KRLC Kraliky 10.01 337 *e*PN **Pn** **23 25 12.3 +0.5**
KRLC AMS AMS 23 29 50.0
comp=E,4μm,8.9s
KRLC Kraliky 10.01 337 *e*P **Pn** **23 25 12.3 +0.5**
KRLC MLR MLR
comp=Z,4μm,8.9s
FEO Feodosiya 10.11 62 *e*P **Pn** **23 25 16.6 +3.5**
FEO Pm 23 25 25.8
comp=Z,12nm,0.3s
FEO *e*S **Sn** **23 27 04.8 -1.7**
FEO Sm 23 27 14.4
comp=N,172nm,0.8s
FEO Sm 23 27 14.5
comp=E,9.0nm,0.4s
FEO Feodosiya 10.11 62 *e*P **Pn** **23 25 16.6 +3.5**
FEO *e*S **Sn** **23 27 04.8 -1.7**
FEO pmax pmax
comp=Z,12nm,0.3s
FEO smax smax
comp=N,172nm,0.8s

FEO smax smax
comp=E,9.0nm,0.4s
GEC2 GERESS Array S 10.14 324 Pn **Pn** **23 25 14.1 +0.4**
GEC2 GERESS Array S 10.14 324 P **Pn** **23 25 14.7 +1.0**
GEC2 pmax pmax
comp=Z,29nm,1.2s
GERES GERESS Array B 10.14 324 Pn **Pn** **23 25 14.4 +0.8**
comp=Z,1.6nm,0.3s,baz=142,slow=14,SNR=36
GERES Sn **Sn** **23 27 07.8 +0.3**
comp=Z,0.8nm,0.3s,baz=133,slow=26,SNR=1.8
GERES LR LR 23 30 14.2
comp=Z,348nm,18.1s,baz=146,slow=44
comp=Z,7.3nm,0.6s
WTTA Wattenberg 10.16 312 *e*Pn **Pn** **23 25 14.6 +0.7**
comp=Z,116nm,1.1s,SNR=59
WTTA *e*Sn **Sn** **23 27 09.4 +1.5**
comp=Z,47nm,0.7s
WTTA Wattenberg 10.16 312 P **Pn** **23 25 14.9 +1.0**
WTTA pmax pmax
comp=Z,170nm,1.1s
WATA Walderalm 10.23 312 *i* Pn **Pn** **23 25 15.5 +0.6**
comp=Z,97nm,0.8s,SNR=76
WATA *e*Sn **Sn** **23 27 09.8 +0.1**
comp=Z,39nm,0.8s
CSS Mathiatis 10.29 122 **Pn** **23 25 17.6 +1.9**
MSSA Maissana 10.30 293 Pn **Pn** **23 25 15.3 -0.5**
SQTA Sankt Quirin 10.38 311 *i* Pn **Pn** **23 25 17.9 +1.0**
comp=Z,94nm,1.0s,SNR=62
SQTA *e*Sn **Sn** **23 27 12.7 -0.5**
comp=Z,34nm,1.0s
PGF Pioggiola 10.39 283 P **Pn** **23 25 18.9 +1.8**
PGF pmax pmax
comp=Z,50nm,1.2s
DPC Dobruska-Polom 10.39 337 *e*PN **Pn** **23 25 17.5 +0.5**
DPC AMS AMS 23 30 00.0
comp=Z,3μm,8.7s
DPC Dobruska-Polom 10.39 337 *e*P **Pn** **23 25 17.5 +0.5**
DPC MLR MLR
comp=Z,3μm,8.7s
KHC Kasperske Hory 10.41 325 **Pn** **23 25 17.8 +0.5**
KHC Kasperske Hory 10.41 325 *e*PN **Pn** **23 25 18.0 +0.7**
KHC *ex* x 23 25 29.5
KHC *ex* x 23 27 29.5
KHC AMS AMS 23 29 30.0
comp=Z,4μm,9.8s
KHC Kasperske Hory 10.41 325 *i* P **Pn** **23 25 18.0 +0.7**
TOKA Tokat 10.46 89 **Pn** **23 25 20.3 +2.2**
BOB Bobbio (Coli) 10.47 296 P **Pn** **23 25 22.4 +4.3**
BOB pmax pmax
comp=Z,77nm,0.8s
MOTA Moosalm 10.50 311 *i* Pn **Pn** **23 25 19.2 +0.6**
comp=Z,150nm,0.8s,SNR=79
MOTA *e*Sn **Sn** **23 27 14.4 -2.0**
comp=Z,30nm,0.7s
FETA Feichten 10.55 309 *e*Pn **Pn** **23 25 20.5 +1.1**
comp=Z,48nm,0.9s,SNR=27
FETA *e*Sn **Sn** **23 27 16.8 -0.7**
comp=Z,16nm,0.7s
OSTC Ostas 10.61 337 *e*PN **Pn** **23 25 21.4 +1.5**
OSTC AMS AMS 23 29 40.0
comp=Z,3μm,9.8s
UPC Upice 10.62 336 AMS AMS 23 30 10.0
comp=Z,3μm,8.8s
UPC Upice 10.62 336 P Pn 23 25 25.0 +4.8
UPC pmax pmax
comp=Z,24nm,1.2s
AK05 Malin Array Si 10.64 23 Pn **Pn** **23 25 21.3 +0.8**
PRU Pruhonice 10.69 330 *e*PN **Pn** **23 25 21.9 +0.9**
PRU *e*SN **Sn** **23 27 20.7 +0.1**
PRU AMS AMS 23 29 30.0
comp=Z,4μm,9.7s
PRU Pruhonice 10.69 330 *e*P **Pn** **23 25 21.9 +0.9**
PRU *e*S **Sn** **23 27 20.7 +0.1**
PRU MLR MLR
comp=Z,4μm,9.7s
AKASG Malin Array Be 10.72 23 Pn **Pn** **23 25 21.4 -0.1**
comp=Z,2.4nm,0.3s,baz=210,slow=12,SNR=13
AKASG Lg Lg 23 28 30.5
baz=192,slow=30
comp=Z,3.3nm,0.5s
AKASG Malin Array Be 10.72 23 **Pn** **23 25 22.2 +0.7**
AKASG Malin Array Be 10.72 23 P **Pn** **23 25 22.2 +0.7**
AKBB Malin Array Si 10.72 23 **Pn** **23 25 21.6 +0.1**
AKBB Malin Array Si 10.72 23 *ce*P **Pn** **23 25 22.8 +1.3**
AKBB pmax pmax
comp=Z,36nm,0.9s
WET Wettzell 10.73 323 P **Pn** **23 25 22.9 +1.2**
WET pmax pmax
comp=Z,20nm,0.8s
RETA Reutte 10.78 311 *e*Pn **Pn** **23 25 22.6 +0.3**
comp=Z,12nm,0.5s,SNR=8.8
KSP Ksiaz 10.84 338 P **Pn** **23 25 26.7 +3.6**
KSP pmax pmax
comp=Z,18nm,1.8s
FUR Furstenfeldbru 10.88 315 P **Pn** **23 25 25.2 +1.5**
FUR pmax pmax
comp=Z,54nm,0.8s
DAVOX Davos/Dischmat 10.94 306 Pn **Pn** **23 25 24.8 +0.1**
comp=Z,3.8nm,0.3s,baz=124,slow=13,SNR=72
DAVOX Sn **Sn** **23 27 25.8 -1.4**
comp=Z,0.6nm,0.3s,baz=303,slow=17,SNR=2.0
DAVOX Lg Lg 23 28 34.6
baz=354,slow=20
DAVOX LR LR 23 29 46.8
comp=Z,2μm,20.4s,baz=113,slow=38
comp=Z,46nm,0.7s
PVCC Panska Ves 11.12 332 AMS AMS 23 29 50.0
comp=Z,3μm,9.1s
PVCC Panska Ves 11.12 332 P **Pn** **23 25 26.8 -0.2**
PVCC pmax pmax
comp=Z,31nm,1.2s
TUE Stuetta 11.14 304 **Pn** **23 25 27.4 0.0**
DAVA Damuels 11.18 309 *e*Pn **Pn** **23 25 28.2 +0.2**
comp=Z,34nm,0.8s
DAVA *e*Sn **Sn** **23 27 34.3 +1.2**
comp=Z,24nm,0.6s
ANN Anapa 11.44 66 *e*P **Pn** **23 25 29.6 -1.7**
ANN *e*S **Sn** **23 27 37.0 -2.0**
ANN pmax pmax
comp=Z,28nm,1.1s
ANN MLR MLR
comp=Z,1μm,12.0s
LLS Linth-Limmern 11.51 305 P **Pn** **23 25 34.5 +2.1**
LLS pmax pmax
comp=Z,53nm,1.1s
SAOF Saorge 11.61 290 P **Pn** **23 25 35.6 +1.9**
SAOF pmax pmax
comp=Z,28nm,1.1s
BRG Berggiesshubel 11.63 331 Amp 23 30 34.0
comp=E,2.9nm,8.2s
BRG Berggiesshubel 11.63 331 *e*P Pn 23 25 40.1 +6.2
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG MLR MLR
comp=Z,3μm,10.7s
BRG MLR MLR
comp=N,1μm,8.7s
BRG MLR MLR
comp=E,3μm,8.2s
BRG Berggiesshubel 11.63 331 *e*P Pn 23 25 40.2 +6.3
BRG Berggiesshubel 11.63 331 Amp 23 25 43.5
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 11.63 331 *ex* x 23 26 50.2
BRG Berggiesshubel 11.63 331 *ex* x 23 29 32.3
BRG Berggiesshubel 11.63 331 Amp 23 30 11.9
comp=Z,62nm,1.7s
BRG Berggiesshubel 11.63 331 Amp 23 30 26.0
comp=Z,2.9nm,10.7s
BRG Berggiesshubel 11.63 331 Amp 23 30 29.0
comp=N,1.4nm,8.7s
SBF Sospel 11.68 289 *e*P **Pn** **23 25 33.9 -0.7**
SBF pmax pmax
comp=Z,21nm,0.7s
NKC Novy Kostel 11.72 326 AMS AMS 23 30 20.0
comp=Z,4μm,8.9s
NKC Novy Kostel 11.72 326 P **Pn** **23 25 35.1 -0.1**
NKC pmax pmax
comp=Z,19nm,1.3s
KEST Kesra 11.74 248 Pn **Pn** **23 25 34.3 -1.3**
comp=Z,25nm,1.3s,baz=54,slow=22,SNR=2.1
KEST LR LR 23 31 35.0
comp=Z,644nm,18.1s,baz=354,slow=45
KEST Kesra 11.74 248 **Pn** **23 25 37.0 +1.4**
MMK Mattmark 11.86 300 P **Pn** **23 25 37.5 +0.1**
MMK pmax pmax
comp=Z,20nm,1.2s

GAZ **Gaziantep** 11.87 104 Pn **Pn** **23 25 38.7 +1.4**
GRA1 **Grafenberg Arr** 11.89 321 **Pn** **23 25 37.3 -0.2**
GRF **Grafenberg Arr** 11.89 321 P **Pn** **23 25 37.3 -0.2**
GRFO **Grafenberg** 11.89 321 Pn **Pn** **23 25 37.3 -0.2**
GRFO **Grafenberg** 11.89 321 P **Pn** **23 25 37.3 -0.2**
ISO **Isola** 12.00 291 P **Pn** **23 25 39.3 +0.2**
ISO pmax pmax
comp=Z,19nm,1.5s
PZZ **Stroppo** 12.02 292 P **Pn** **23 25 39.6 +0.2**
PZZ pmax pmax
comp=Z,31nm,1.0s
SLE **Schleitheim** 12.24 308 P **Pn** **23 25 41.4 -0.9**
SLE pmax pmax
comp=Z,53nm,1.2s
MBDF **Montbardon** 12.30 293 *e*P **Pn** **23 25 41.9 -1.4**
MBDF pmax pmax
comp=Z,17nm,0.9s
CLL **Collm** 12.33 330 Pn **Pn** **23 25 43.3 -0.2**
CLL **Collm** 12.33 330 *i* Pn **Pn** **23 25 42.9 -0.6**
comp=Z,24nm,1.4s
CLL *e*Sn Sn 23 27 35.0 -26
CLL *ex* x 23 28 00.0
CLL *e*Sg 23 29 22.0
comp=Z,113nm,1.8s
CLL *e*Sgmax 23 29 30.0
comp=N,2μm,21.6s
CLL *e*Sgmax 23 29 30.0
comp=E,3μm,18.4s
CLL *e*Sgmax 23 29 30.0
comp=Z,700nm,25.6s
CLL *e*Lmax 23 31 09.0
CLL **Collm** 12.33 330 *i* P **Pn** **23 25 42.9 -0.6**
CLL pmax pmax
comp=Z,24nm,1.4s
RRL **Rocca Remolon** 12.33 294 P **Pn** **23 25 45.1 +1.3**
RRL pmax pmax
comp=Z,33nm,1.1s
STU **Stuttgart** 12.36 314 Pn **Pn** **23 25 43.0 -0.9**
STU **Stuttgart** 12.36 314 P **Pn** **23 25 43.0 -0.9**
MOX **Moxa** 12.38 325 P **Pn** **23 25 44.0 -0.3**
MOX pmax pmax
comp=Z,26nm,1.5s
SENIN **Lac Senin/Sane** 12.40 301 Pn **Pn** **23 25 43.5 -1.2**
BNI **Bardonecchia** 12.44 294 Pn **Pn** **23 25 44.3 -0.8**
BNI **Bardonecchia** 12.44 294 P **Pn** **23 25 47.4 +2.2**
BNI pmax pmax
comp=Z,130nm,1.7s
LPL **La Plagne** 12.52 297 *e*P **Pn** **23 25 46.1 -0.2**
LPL pmax pmax
comp=Z,93nm,1.4s
BFO **Black Forest** 12.61 310 Pn **Pn** **23 25 44.9 -2.5**
BFO **Black Forest** 12.61 310 P **Pn** **23 25 45.8 -1.6**
RSL **Roselend** 12.64 297 P **Pn** **23 25 49.0 +1.1**
RSL pmax pmax
comp=Z,57nm,0.9s
SOC **Sochi** 12.84 73 *e*P **Pn** **23 25 50.9 +0.4**
SOC *e* 23 28 15.9
SOC MLR MLR
comp=Z,241nm,14.0s
MMAI **Mount Meron Ar** 12.86 124 Pn **Pn** **23 25 51.5 +0.7**
comp=Z,1.5nm,0.3s,baz=307,slow=11,SNR=12
MMAI LR LR 23 31 47.6
comp=Z,1μm,18.9s,baz=179,slow=42
comp=Z,25nm,0.9s
NATI **Neve Ativ** 12.91 122 Pn **Pn** **23 25 53.1 +1.7**
ORIF **Oris-en-Rattie** 12.96 293 P **Pn** **23 25 52.0 -0.3**
ORIF pmax pmax
comp=Z,18nm,0.7s
ECH **Echery** 13.24 308 Pn **Pn** **23 25 53.5 -2.5**
ECH **Echery** 13.24 308 P **Pn** **23 25 53.5 -2.5**
CABF **La Chapelle** 13.28 301 *e*P **Pn** **23 25 54.7 -1.8**
CABF pmax pmax
comp=Z,38nm,0.9s
HMDT **Nahal Hemdat** 13.45 126 Pn **Pn** **23 26 00.7 +1.8**
KOPT **Kop Dagi** 13.55 88 Pn **Pn** **23 26 02.9 +2.4**
TNS **Taunus Mts** 13.60 318 P **Pn** **23 26 02.6 +1.7**
TNS pmax pmax
comp=Z,31nm,0.9s
KZIT **Kziot** 13.77 133 Pn **Pn** **23 26 04.8 +1.5**
VIVF **Saint-Julien-l** 13.79 292 *e*P **Pn** **23 26 01.2 -2.3**
VIVF pmax pmax
comp=Z,8.0nm,0.6s
MNK **Minsk** 13.96 13 *i* P **Pn** **23 26 04.5 -1.3**
comp=E,3.0nm,1.1s
MNK *i* P **Pn** **23 26 04.5 -1.3**
comp=N,35nm,0.8s
MNK *i* P **Pn** **23 26 04.5 -1.3**
comp=Z,17nm,0.8s,baz=196
MNK *i* PP **PnPn** **23 26 12.4 -1.3**
MNK *i* PPP PPP 23 26 20.0
MNK *i* S **Sn** **23 28 40.4 -0.3**
MNK *i* SS **SnSn** **23 28 54.0 +0.9**
MNK *i* SSS SSS 23 29 06.5
MNK *i* LQ LQ 23 30 09.8
MNK *i* LR LR 23 31 19.4
MNK *i* LRM MLR 23 32 06.7
comp=E,108nm,14.7s
MNK *i* LRM MLR 23 32 07.6
comp=Z,1μm,17.9s
MNK *i* LRM MLR 23 32 16.9
comp=N,666nm,14.1s
MNK **Minsk** 13.96 13 *i* P **Pn** **23 26 04.4 -1.3**
MNK *i* S **Sn** **23 28 40.4 -0.3**
MNK pmax pmax
comp=N,35nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK MLR MLR
comp=E,108nm,15.0s
MNK MLR MLR
comp=Z,1μm,18.0s
MNK MLR MLR
comp=N,666nm,14.0s
GHAJ **Ghor Haditha** 14.15 129 P **P** **23 26 13.9 -2.1**
NACGM **Naroch** 14.20 10 *e*P **Pn** **23 26 10.4 +1.5**
comp=Z,21nm,0.9s,baz=192
ASF **Jabal al Asfar** 14.36 123 Pn **Pn** **23 26 12.3 +0.9**
comp=Z,0.2nm,0.3s,baz=297,slow=23,SNR=5.3
comp=Z,4.0nm,0.7s
MARD **Mardin** 14.47 99 **P** **23 26 18.6 -1.0**
ZFRI **Zfri** 14.48 132 Pn **Pn** **23 26 13.9 +1.0**
WLF **Walferdange** 14.52 312 *d*P **Pn** **23 26 15.1 +1.7**
PRNI **Paran** 14.53 133 Pn **Pn** **23 26 14.6 +0.9**
PABE **Paberze** 14.56 3 Pn **Pn** **23 26 14.7 +0.7**
PABE **Paberze** 14.56 3 *e*P **Pn** **23 26 15.1 +1.1**
HRFI **Mount Harif** 14.79 134 Pn **Pn** **23 26 18.8 +1.5**
MBRI **Mt Berech** 14.92 135 Pn **Pn** **23 26 19.9 +0.9**
BHOU **Houvegnez** 14.96 314 *d*P **Pn** **23 26 21.3 +1.9**
SHA1 **Shidzhatmaz** 14.98 73 *i* P **Pn** **23 26 22.1 +2.2**
KIV **Kislovodsk** 15.02 72 P **P** **23 26 24.7 -1.1**
KIV **Kislovodsk** 15.02 72 *e*P **Pn** **23 26 20.4 +0.1**
KIV *e*S **Sn** **23 29 08.2 +1.6**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,171nm,13.0s
BTNL **Ternell** 15.02 315 *dx* **P** **23 26 23.5 -2.2**
KVAR **Kislovodsk Arr** 15.03 72 Pn **Pn** **23 26 21.8 +1.4**
baz=276,slow=19
comp=Z,4.5nm,1.1s
EIL **Elat** 15.03 135 Pn **Pn** **23 26 21.1 +0.6**
comp=Z,0.4nm,0.3s,baz=312,slow=6.7,SNR=7.0
comp=Z,12nm,0.9s
EIL **Elat** 15.03 135 Pn **Pn** **23 26 21.6 +1.1**
MEM **Membach** 15.10 315 *dx* **P** **23 26 28.2 +1.6**
KBZ **Khabaz** 15.15 73 Pn **P** **23 26 25.2 -1.9**
comp=Z,8.4nm,1.1s,baz=282,slow=9.3,SNR=6.2
KBZ LR LR 23 34 25.0
comp=Z,267nm,18.4s,baz=290,slow=46
RCHB **Rochefort** 15.29 313 *d*P **Pn** **23 26 23.7 -0.1**
RCHB *dx* x 23 26 39.5
BSTI **Sart Tilman** 15.32 315 *dx* **P** **23 26 30.6 +1.6**
BEBN **Eben Emael** 15.38 315 *d*P **Pn** **23 26 24.8 -0.2**
BCLA **Clavier** 15.38 314 *dx* **P** **23 26 31.1 +1.4**
comp=Z,32nm,1.2s
GOF **Gofitskoye** 15.39 68 *e*P **Pn** **23 26 26.2 +1.0**
GOF *e*S **Sn** **23 29 09.9 -5.7**
GOF pmax pmax
comp=Z,22nm,0.6s
KARS **Kars** 15.41 85 P **P** **23 26 30.9 +0.7**
KARS **Kars** 15.41 85 P **P** **23 26 30.9 +0.7**
KARS pmax pmax
comp=Z,190nm,1.2s

BSEG **Bad Segeberg** 15.42 331 P **P** **23 26 30.5 +0.5**
BSEG pmax pmax
comp=Z,38nm,1.7s
BGES **Gesves** 15.48 313 *dx* **P** **23 26 31.7 +1.0**
ONI **Oni** 15.54 77 P **P** **23 26 33.4 +1.9**
ONI **Oni** 15.54 77 P **P** **23 26 33.4 +1.9**
ONI pmax pmax
comp=Z,54nm,1.2s
VORR **Voronezh** 15.58 41 *e*P **Pn** **23 26 29.1 +1.6**
VORR pmax pmax
comp=Z,30nm,0.5s
DOU **Dourbes** 15.61 312 *d*P **Pn** **23 26 27.4 -0.5**
comp=Z,18nm,1.1s
BMRD **Maredsous** 15.62 313 *dx* **P** **23 26 31.6 -0.7**
CAF **Calviac** 15.64 291 *e*P **Pn** **23 26 28.7 +0.3**
CAF pmax pmax
comp=Z,42nm,1.0s
NCK **Nalchik** 15.65 74 *i* P **P** **23 26 31.6 -1.1**
NCK pmax pmax
comp=Z,29nm,1.0s
ZEI **Tsey** 15.86 76 *e*P **P** **23 26 33.5 -1.8**
ZEI pmax pmax
comp=Z,57nm,1.0s
LUNU **Lund** 15.89 340 *i* P **Pn** **23 26 33.4 +1.8**
SNF **Seneffe** 15.99 313 *dx* **P** **23 26 37.9 +1.6**
CLF **Chambon-Foret** 16.20 303 P **P** **23 26 38.1 -0.5**
DEL **Delary** 16.55 343 *i* P **P** **23 26 43.0 +0.5**
GNI **Garni** 16.74 86 Pn **P** **23 26 46.2 +1.2**
comp=Z,9.2nm,1.1s,baz=203,slow=23,SNR=15
GNI **Garni** 16.74 86 P **P** **23 26 46.6 +1.6**
GNI **Garni** 16.74 86 *ce*P **P** **23 26 45.4 +0.5**
GNI pmax pmax
comp=Z,121nm,1.7s
EPF **Esparros** 16.77 284 *e*P **P** **23 26 46.1 +0.9**
EPF pmax pmax
comp=Z,15nm,1.0s
OBN **Obninsk** 16.85 28 Lg Lg 23 31 45.1
comp=Z,0.9nm,0.3s,baz=76,slow=22,SNR=1.8
OBN **Obninsk** 16.85 28 *e*P **Pn** **23 26 43.3 -0.5**
OBN *e*S **Sn** **23 29 52.8 +1.9**
OBN pmax pmax
comp=Z,54nm,1.2s
OBN MLR MLR
comp=Z,803nm,15.0s
GROC **Groznyy** 17.25 75 P **Pn** **23 26 48.7 -0.2**
GROC *e*S **Sn** **23 30 01.7 +1.0**
GROC pmax pmax
comp=Z,18nm,0.5s
MFF **Saint Martin d** 17.43 296 *e*P **Pn** **23 26 50.5 -0.6**
MFF pmax pmax
comp=Z,35nm,1.1s
ETSF **Etsaut** 17.43 284 *e*P **P** **23 26 53.0 +0.5**
ETSF pmax pmax
comp=Z,13nm,0.8s
VSU **Vasula** 17.69 7 *e*P **P** **23 26 59.4 +4.3**
VSU **Vasula** 17.69 7 *i* P **P** **23 26 56.8 +1.7**
VSU pmax pmax
comp=Z,191nm,1.0s
MOS **Moscow** 17.72 29 *e*P **Pn** **23 26 53.8 -0.8**
MOS *e*SS **Sn** **23 30 14.5 +2.7**
MOS pmax pmax
comp=Z,69nm,1.1s
MOS MLR MLR
comp=Z,800nm,16.0s
SJPF **Ste Jean** 17.92 285 *e*P **P** **23 27 00.3 +2.5**
SJPF pmax pmax
comp=Z,39nm,1.2s
GRR **Gorron** 18.30 302 *e*P **Pn** **23 27 01.1 -0.7**
GRR pmax pmax
comp=Z,82nm,1.2s
MAK **Makhachkala** 18.51 76 *e*P **P** **23 27 00.9 -3.3**
MAK *e*S **Sn** **23 30 28.2 -2.9**
MAK pmax pmax
comp=Z,267nm,1.5s
MAK MLR MLR
comp=Z,434nm,12.0s
AKT **Akhty** 18.79 80 *e*P **Pn** **23 27 09.4 +1.4**
AKT pmax pmax
comp=Z,9.0nm,0.7s
MEF **Metsahovi** 19.30 3 *e*P **Pn** **23 27 17.3 +3.5**
QUIF **Quistinic** 19.70 299 *e*P **P** **23 27 17.3 +0.1**
QUIF pmax pmax
comp=Z,132nm,1.4s
ROSF **Rostrenen** 19.85 300 *e*P **P** **23 27 19.3 +0.4**
ROSF pmax pmax
comp=Z,66nm,1.2s
HFS **Hagfors** 19.99 347 P **P** **23 27 20.9 +0.6**
comp=Z,6.7nm,0.7s,baz=171,slow=10,SNR=13
HFS LR LR 23 35 22.4
comp=Z,346nm,19.3s,baz=160,slow=38
comp=Z,6.7nm,0.7s
RAF **Rauma** 20.09 359 *e*P Pn 23 27 23.6 +0.5
GUD **Guadarrama** 20.34 278 P Pn 23 27 25.9 -0.6
ESBB **Sonseca Array** 20.38 275 P **P** **23 27 24.3 -0.5**
ESBB IAmb IAmb 23 27 30.2
comp=Z,45nm,1.0s
ESDC **Sonseca Array** 20.38 275 P **P** **23 27 24.7 -0.1**
comp=Z,33nm,0.9s,baz=71,slow=10,SNR=33
ESDC LR LR 23 36 41.8
comp=Z,562nm,18.6s,baz=87,slow=41
comp=Z,33nm,0.9s
KONO **Kongsberg** 20.42 341 *ce*P Pn 23 27 27.3 +0.2
KONO pmax pmax
comp=Z,49nm,1.7s
KONO **Kongsberg** 20.42 341 *e*P Pn 23 27 26.1 -1.0
BELG **Belogornoye** 20.43 48 P **P** **23 27 25.6 +0.5**
comp=Z,147nm,1.1s,baz=61,slow=1.1,SNR=28
BELG LR LR 23 36 19.2
comp=Z,737nm,18.3s,baz=314,slow=40
comp=Z,147nm,1.1s
BELG **Belogornoye** 20.43 48 *i* P Pn 23 27 26.9 -0.3
BELG pmax pmax
comp=Z,24nm,1.1s
FINES **FINESS Array B** 20.60 5 P **P** **23 27 25.9 -1.0**
comp=Z,16nm,1.0s,baz=154,slow=8.1,SNR=11
FINES LR LR 23 35 10.8
comp=Z,523nm,20.7s,baz=177,slow=36
comp=Z,16nm,1.0s
FINES **FINESS Array B** 20.60 5 P **P** **23 27 27.4 +0.5**
FINES **FINESS Array B** 20.60 5 P **P** **23 27 27.4 +0.5**
PAB **San Pablo** 20.70 275 P **P** **23 27 27.5 -0.8**
PAB **San Pablo** 20.70 275 P **P** **23 27 27.5 -0.8**
PAB pmax pmax
comp=Z,19nm,0.8s
NC602 **NORSAR Array S** 20.95 345 P **P** **23 27 29.5 -1.3**
NC602 IAmb IAmb 23 27 33.8
comp=Z,89nm,1.1s
NC602 **NORSAR Array S** 20.95 345 *e*P **P** **23 27 29.8 -1.0**
NORES **NORESS Array B** 20.95 345 P Pn 23 27 33.0 -0.3
NORES pmax pmax
comp=Z,3.0nm,0.7s
BLS5 **Blasjo** 21.10 337 *e*P **P** **23 27 33.2 +0.8**
NAO01 **NORSAR Array S** 21.19 344 P **P** **23 27 32.2 -1.1**
NAO01 IAmb IAmb 23 27 43.4
comp=Z,35nm,0.9s
NC405 **NORSAR Array S** 21.27 345 P **P** **23 27 32.9 -1.2**
NB201 **NORSAR Array S** 21.29 345 P **P** **23 27 33.6 -0.8**
NB201 IAmb IAmb 23 27 37.7
comp=Z,73nm,1.1s
NB2 **NORSAR Subarra** 21.30 344 P **P** **23 27 33.0 -1.5**
baz=152,slow=10
NB2 **NORSAR Subarra** 21.30 344 P **P** **23 27 33.0 -1.5**
comp=Z,67nm,1.4s,baz=152,slow=10
NOA **NORSAR Array B** 21.30 344 P **P** **23 27 33.6 -0.9**
comp=Z,13nm,0.9s,baz=150,slow=11,SNR=26
NOA LR LR 23 36 15.9
comp=Z,384nm,20.1s,baz=160,slow=38
comp=Z,13nm,0.9s
NBO00 **NORSAR Array S** 21.38 344 P **P** **23 27 34.6 -0.8**
NBO00 IAmb IAmb 23 27 50.8
comp=Z,40nm,1.1s
NC303 **NORSAR Array S** 21.44 345 P **P** **23 27 35.8 -0.2**
NC303 IAmb IAmb 23 27 43.1
comp=Z,63nm,1.1s
NC204 **NORSAR Array S** 21.61 344 P **P** **23 27 36.7 -1.1**
NC204 IAmb IAmb 23 27 45.0
comp=Z,65nm,1.1s
SKAR **Skarslia** 21.64 341 *e*P **P** **23 27 37.4 -0.9**
PBRG **Braganca** 22.09 282 *e*P **P** **23 27 43.6 +0.4**
comp=Z,91nm,1.6s
BER **Bergen** 22.21 337 *e*P **P** **23 27 45.0 +0.8**
EKA **Eskdalemuir Ar** 22.29 319 P **P** **23 27 44.0 -1.2**
comp=Z,16nm,0.8s,baz=112,slow=10,SNR=20
EKA LR LR 23 38 49.8
comp=Z,472nm,18.5s,baz=118,slow=43
comp=Z,16nm,0.8s

EKA **Eskdalemuir Ar** 22.29 319 P **P** **23 27 44.0 -1.2**
MVO **Moncorvo** 22.40 280 *e*P **P** **23 27 47.7 +1.1**
comp=Z,81nm,1.1s
KLMR **Klimovskoe** 22.41 22 *e*P **P** **23 27 45.5 -0.9**
KLMR *e*P **P** **23 27 45.5 -0.9**
KLMR *e*P **P** **23 27 45.5 -0.9**
KLMR AMP 23 27 53.6
comp=Z,82nm,1.0s
KLMR S **S** **23 31 49.1 -3.2**
KLMR S **S** **23 31 49.1 -3.2**
KLMR LQ LQ 23 35 07.6
KLMR LQ LQ 23 35 07.6
KLMR LR LR 23 36 24.9
KLMR AMP 23 37 46.4
comp=Z,1μm,7.7s
KLMR **Klimovskoe** 22.41 22 *e*P **P** **23 27 45.4 -0.9**
KLMR S **S** **23 31 49.1 -3.2**
KLMR pmax pmax
comp=Z,82nm,1.0s
KLMR MLR MLR
comp=Z,1μm,8.0s
HYA **Hoyanger** 22.61 339 *e*P **P** **23 27 49.4 +0.9**
DOMB **Dombas** 22.66 343 *e*P **P** **23 27 49.1 0.0**
MTE **Manteigas** 22.92 279 *e*P **P** **23 27 53.5 +1.4**
comp=Z,71nm,1.8s
MTE **Manteigas** 22.92 279 P **P** **23 27 51.6 -0.5**
POLO **Lamas de Olo** 22.93 281 *e*P **P** **23 27 58.5 +6.2**
comp=Z,31nm,1.5s
PCBR **Castelo Branco** 22.99 277 *e*P **P** **23 27 53.8 +1.1**
comp=Z,100nm,1.4s
PMRV **Marv??o** 23.02 276 *e*P **P** **23 27 53.6 +0.6**
comp=Z,129nm,1.5s
PCAB **Cabril** 23.05 282 *e*P **P** **23 27 53.5 +0.1**
comp=Z,66nm,1.5s
PBAR **Barrancos** 23.07 273 *e*P **P** **23 27 54.0 +0.4**
comp=Z,133nm,1.9s
PVIS **Viseu** 23.12 279 *e*P **P** **23 27 53.6 -0.6**
comp=Z,46nm,1.9s
PGAV **Gavieira, Arco** 23.20 283 *e*P **P** **23 27 53.8 -1.2**
comp=Z,155nm,1.5s
TAM **Tamanrasset** 23.21 224 P **P** **23 27 55.2 -0.1**
TAM IAmb IAmb 23 27 59.7
comp=Z,29nm,1.0s
TAM **Tamanrasset** 23.21 224 P **P** **23 27 55.2 -0.1**
TAM pmax pmax
comp=Z,29nm,1.0s
AKN **Aaknes** 23.25 341 *e*P **P** **23 27 55.1 -0.1**
MDT **Midelt** 23.27 258 P **P** **23 27 54.6 -1.1**
comp=Z,9.0nm,0.9s,baz=92,slow=11,SNR=14
comp=Z,9.0nm,0.9s
PESTR **Estremoz** 23.30 275 *e*P **P** **23 27 55.7 -0.3**
comp=Z,90nm,1.5s
PESTR **Estremoz** 23.30 275 P **P** **23 27 55.2 -0.8**
PTO **Porto** 23.57 281 *e*P **P** **23 27 59.2 +0.6**
comp=Z,82nm,1.6s
COI **Coimbra** 23.61 278 P **P** **23 27 58.4 -0.6**
COI **Coimbra** 23.61 278 P **P** **23 27 58.4 -0.6**
COI pmax pmax
comp=Z,68nm,0.9s
EVO **Evora** 23.71 274 *e*P **P** **23 27 59.9 -0.1**
comp=Z,31nm,1.2s
PMTG **Montargil** 23.73 276 *e*P **P** **23 27 59.6 -0.6**
comp=Z,110nm,1.2s
PBEJ **Beja** 23.74 273 *e*P **P** **23 28 00.3 0.0**
comp=Z,50nm,1.3s
PVAQ **Vaqueiros** 23.81 271 *e*P **P** **23 28 03.2 +2.2**
comp=Z,60nm,1.6s
PVAQ **Vaqueiros** 23.81 271 P **P** **23 28 00.6 -0.4**
PCVE **Castro Verde** 23.99 272 *e*P **P** **23 28 01.6 -1.0**
comp=Z,56nm,1.5s
PSBE **So Bento** 24.05 277 *e*P **P** **23 28 03.4 +0.1**
comp=Z,106nm,1.3s
MESJ **Messejana** 24.06 273 *e*P **P** **23 28 02.9 -0.4**
MESJ IAmb IAmb 23 28 07.2
comp=Z,34nm,1.2s
MESJ **Messejana** 24.06 273 *e*P **P** **23 28 03.0 -0.4**
comp=Z,44nm,1.5s
MESJ **Messejana** 24.06 273 *e*P **P** **23 28 02.9 -0.4**
MESJ pmax pmax
comp=Z,34nm,1.2s
PNCL **Nicolau / Gran** 24.22 273 *e*P **P** **23 28 04.8 0.0**
comp=Z,32nm,1.0s
KIRV **Kirov** 24.38 35 P **P** **23 28 05.8 -0.3**
comp=Z,20nm,0.9s,baz=60,slow=3.5,SNR=13
KIRV LR LR 23 38 04.6
comp=Z,861nm,19.4s,baz=234,slow=38
comp=Z,20nm,0.9s
KIRV **Kirov** 24.38 35 *ce*P **P** **23 28 06.1 +0.1**
NSS **Namsos** 24.41 349 *e*P **P** **23 28 05.6 -0.7**
NSS IAmb IAmb 23 28 10.8
comp=Z,17nm,0.9s
PFVI **Vila Bisbo** 24.74 271 *e*P **P** **23 28 07.3 -2.2**
comp=Z,72nm,1.8s
PRGR **Permogore** 24.90 26 *e*P **P** **23 28 10.6 -0.1**
PRGR pmax pmax
comp=Z,28nm,0.8s
AVE **Averroes** 25.14 262 P **P** **23 28 13.1 -0.1**
AVE IAmb IAmb 23 28 15.6
comp=Z,40nm,1.1s
RAYN **Ar Rayn** 25.83 125 P **P** **23 28 20.6 +1.1**
RAYN pmax pmax
comp=Z,13nm,1.2s
ABKAR **Akbulak array** 27.30 60 P **P** **23 28 32.7 +0.1**
GEYT **Alibeck** 27.37 85 P **P** **23 28 33.7 +0.4**
comp=Z,8.8nm,1.0s,baz=265,slow=10.0,SNR=8.2
GEYT LR LR 23 41 43.0
comp=Z,204nm,19.4s,baz=315,slow=42
comp=Z,8.8nm,1.0s
GEYT **Alibeck** 27.37 85 P **P** **23 28 33.9 +0.5**
GYA0B **ALIBECK ARRAY** 27.37 85 P **P** **23 28 34.0 +0.6**
GYA0B IAmb IAmb 23 28 38.4
comp=Z,22nm,1.1s
ARU **Arti** 27.84 44 P **P** **23 28 36.9 -0.5**
comp=Z,2.8nm,0.6s,baz=273,slow=7.4,SNR=8.2
ARU LR LR 23 41 22.3
comp=Z,224nm,19.9s,baz=263,slow=40
comp=Z,2.8nm,0.6s
ARU **Arti** 27.84 44 P **P** **23 28 36.8 -0.5**
ARU **Arti** 27.84 44 P **P** **23 28 37.3 0.0**
ARU S **S** **23 33 21.7 +1.4**
ARU MLR MLR
comp=Z,728nm,12.0s
KTK1 **Kautekeino** 28.10 0 *e*P **P** **23 28 40.7 +1.2**
ARCES **ARCESS Array B** 28.66 2 P **P** **23 28 43.9 -0.6**
comp=Z,1.5nm,0.7s,baz=178,slow=5.7,SNR=8.8
ARCES LR LR 23 40 01.8
comp=Z,430nm,18.5s,baz=196,slow=36
comp=Z,1.5nm,0.7s
SVE **Sverdlovsk** 29.06 44 *e*P **P** **23 28 48.7 +0.5**
SVE *e*S **S** **23 33 45.9 +6.6**
SVE pmax pmax
comp=Z,25nm,1.3s
SVE MLR MLR
comp=Z,1μm,11.0s
HRA **Herat** 31.75 89 P **P** **23 29 13.4 +1.0**
HRA IAmb IAmb 23 29 18.1
comp=Z,19nm,1.1s
UOSS **Minazif** 32.07 109 P **P** **23 29 15.4 +0.3**
UOSS IAmb IAmb 23 29 18.0
comp=Z,13nm,1.1s
TORD **Torodi Ar. Bea** 33.28 220 P **P** **23 29 24.5 -1.2**
comp=Z,9.9nm,1.0s,baz=34,slow=9.8,SNR=2.1
TORD LR LR 23 45 56.4
comp=Z,247nm,18.4s,baz=24,slow=42
comp=Z,9.9nm,1.0s
BRVK **Borovoye** 33.97 53 P **P** **23 29 32.1 +0.7**
BRVK IAmb IAmb 23 29 35.8
comp=Z,17nm,1.0s
BRVK **Borovoye** 33.97 53 *ce*P **P** **23 29 32.5 +1.1**
BRVK pmax pmax
comp=Z,19nm,1.0s
JMIC **Jan Mayen** 33.97 342 LR LR 23 43 54.8
comp=Z,244nm,18.9s,baz=60,slow=37
BVAR **Borovoye Array** 34.03 53 LR LR 23 45 10.8
comp=Z,237nm,19.1s,baz=276,slow=39
BORG **Borgarnes** 34.57 328 LR LR 23 43 48.5
comp=Z,293nm,18.0s,baz=121,slow=36
WSAR **Wadi Sarin** 34.86 109 LR LR 23 47 50.0
comp=Z,175nm,18.7s,baz=322,slow=43
KK31 **Karatay Array** 35.17 70 P **P** **23 29 42.2 +0.3**
KK31 **Karatay Array** 35.17 70 P **P** **23 29 42.2 +0.3**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KKAR **Karatay Array** 35.17 70 P **P** **23 29 42.0 +0.1**
KKAR **Karatay Array** 35.17 70 P **P** **23 29 42.0 +0.1**
KKAR pmax pmax

comp=Z,7.0nm,1.0s
CHGR Chuyangaron 35.41 78 P **P** **23 29 44.8 +0.7**
CHGR Chuyangaron 35.41 78 P **P** **23 29 44.8 +0.7**
CHGR pmax pmax
comp=Z,36nm,1.1s
GAR Garm 36.16 77 P **P** **23 29 51.3 +0.7**
BTK Batken 36.20 75 P **P** **23 29 51.0 +0.2**
BTK IAmb IAmb 23 29 55.5
comp=Z,21nm,1.1s
BTK Batken 36.20 75 P **P** **23 29 51.1 +0.2**
BTK pmax pmax
comp=Z,21nm,1.2s
KBL Kabul 36.82 85 P **P** **23 29 57.1 +0.7**
KBL Kabul 36.82 85 P **P** **23 29 57.1 +0.7**
KBL pmax pmax
comp=Z,6.0nm,0.8s
DRK Karamyk 37.09 76 P **P** **23 29 58.4 -0.3**
BTLS Baital 37.23 66 *eP* **P** **23 30 03.0 +3.6**
SPITS Spitsbergen Ar 37.41 358 LR LR 23 47 12.9
comp=Z,351nm,18.1s,baz=142,slow=39
SGDS Sogindy 38.00 69 *eP* **P** **23 30 06.6 +0.5**
SGDS pmax pmax
comp=Z,22nm,3.5s
AAK Ala-Archa 38.12 70 LR LR 23 49 03.1
comp=Z,251nm,18.0s,baz=311,slow=41
AAK Ala-Archa 38.12 70 P **P** **23 30 07.8 +0.5**
AAK Ala-Archa 38.12 70 *ce*P **P** **23 30 09.4 +2.2**
AAK pmax pmax
comp=Z,37nm,2.5s
ROSA Rosais 38.76 284 P **P** **23 30 11.5 -0.9**
LODK Lodwar 39.08 160 P **P** **23 30 15.5 +0.2**
BOOM Boomskoye usch 39.19 70 P **P** **23 30 18.8 +2.6**
BOOM Boomskoye usch 39.19 70 P **P** **23 30 18.8 +2.6**
KURBB Kurchatov Arra 39.22 56 LR LR 23 50 39.2
comp=Z,182nm,18.4s,baz=279,slow=43
KURK Kurchatov 39.27 56 P **P** **23 30 16.9 +0.4**
KURK Kurchatov 39.27 56 *ce*P **P** **23 30 17.4 +0.9**
KURK pmax pmax
comp=Z,23nm,2.5s
DAG Danmarks Havn 39.96 346 *i* P **P** **23 30 19.9 -2.1**
DAG IAmb IAmb 23 30 22.3
comp=Z,2.9nm,0.8s
KSH Kashi 40.13 74 P **P** **23 30 24.0 -0.1**
KSH pP pP 23 30 26.6 -0.8
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=Z,410nm,13.7s
KSH LR LR
comp=Z,280nm,13.7s
KSH LR LR
comp=Z,390nm,15.1s
NIL Nilore 40.37 84 P **P** **23 30 26.6 +0.6**
NIL IAmb IAmb 23 30 31.2
comp=Z,31nm,1.0s
NIL Nilore 40.37 84 P **P** **23 30 26.6 +0.6**
NIL pmax pmax
comp=Z,31nm,1.0s
TARG Taragay, Kyrgy 40.74 70 P **P** **23 30 29.9 +0.5**
TARG Taragay, Kyrgy 40.74 70 P **P** **23 30 29.9 +0.5**
TARG pmax pmax
comp=Z,16nm,1.1s
KPKS Kokpek 40.84 67 *eP* **P** **23 30 30.4 +0.5**
KPKS pmax pmax
comp=Z,22nm,2.7s
UZB Uzynbulak 41.17 68 *eP* **P** **23 30 37.3 +4.7**
SHLS Shalkode 41.48 67 *eP* **P** **23 30 37.0 +1.9**
SHLS pmax pmax
comp=Z,14nm,1.9s
MBAR Mbarara 42.02 168 LR LR 23 49 39.8
comp=Z,209nm,18.6s,baz=338,slow=38
MBAR Mbarara 42.02 168 P **P** **23 30 40.2 +0.5**
MBAR Mbarara 42.02 168 *ce*P **P** **23 30 41.3 +1.5**
MBAR pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 42.10 223 P **P** **23 30 40.1 -0.2**
comp=Z,21nm,0.9s,baz=34,slow=8.6,SNR=13
DBIC LR LR 23 49 18.6
comp=Z,252nm,19.5s,baz=32,slow=38
comp=Z,21nm,0.9s
DBIC Dimbokro 42.10 223 P **P** **23 30 39.7 -0.6**
DBIC IAmb IAmb 23 30 40.9
comp=Z,26nm,0.9s
MAKZ Makanchi 42.20 61 P **P** **23 30 41.9 +1.0**
MAKZ Makanchi 42.20 61 P **P** **23 30 41.9 +1.0**
MAKZ pmax pmax
comp=Z,10.0nm,1.2s
TIC Toumodi 42.21 224 ⇓ *eP* **P** **23 30 40.7 -0.5**
comp=Z,3.8nm,0.3s
KIC Kosan Boka 42.31 223 ⇑ *i* P **P** **23 30 42.0 0.0**
comp=Z,10nm,0.5s
MK31 Makanchi Array 42.42 61 P **P** **23 30 43.0 +0.4**
MK31 Makanchi Array 42.42 61 *i* P **P** **23 30 43.2 +0.6**
MKAR Makanchi Array 42.42 61 P **P** **23 30 43.2 +0.6**
comp=Z,4.6nm,0.6s,baz=284,slow=5.3,SNR=54
MKAR LR LR 23 50 36.6
comp=Z,202nm,18.9s,baz=295,slow=39
comp=Z,4.6nm,0.6s
MKAR Makanchi Array 42.42 61 P **P** **23 30 42.8 +0.2**
ZAA0 Zalesovo Array 42.57 51 P **P** **23 30 43.7 0.0**
ZAA0 IAmb IAmb 23 30 46.9
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 42.57 51 P **P** **23 30 44.0 +0.3**
comp=Z,18nm,0.7s,baz=277,slow=8.5,SNR=44
ZALV LR LR 23 50 33.5
comp=Z,342nm,18.1s,baz=278,slow=39
comp=Z,18nm,0.7s
LIC Lamto 42.57 223 ⇓ *i* P **P** **23 30 43.8 -0.3**
comp=Z,62nm,0.6s
SUMG Summit 42.88 337 *i* P **P** **23 30 45.1 -1.4**
SUMG IAmb IAmb 23 30 47.5
comp=Z,3.6nm,0.9s
BBTS Babate 42.98 244 LR LR 23 51 01.5
comp=Z,301nm,18.8s,baz=50,slow=40
NRIK Noril'sk 43.53 28 P **P** **23 30 52.8 +1.5**
comp=Z,2.2nm,0.6s,baz=242,slow=10.0,SNR=5.4
NRIK LR LR 23 50 45.7
comp=Z,412nm,19.7s,baz=264,slow=38
comp=Z,2.2nm,0.6s
NRIK Noril'sk 43.53 28 P **P** **23 30 52.1 +0.9**
NRIK Noril'sk 43.53 28 *ce*P **P** **23 30 52.2 +0.9**
NRIK pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 43.94 159 P **P** **23 30 55.7 +0.3**
comp=Z,1.5nm,0.8s,baz=327,slow=5.3,SNR=3.1
KMBO LR LR 23 51 50.8
comp=Z,130nm,18.6s,baz=273,slow=40
comp=Z,1.5nm,0.8s
DGZ Jazzator, Alta 45.01 56 *i* P **P** **23 31 04.6 +1.0**
DGZ pmax pmax
comp=Z,1.0nm,0.2s
SFJD Kangerlussuaq 46.70 329 LR LR 23 51 12.8
comp=Z,210nm,18.1s,baz=91,slow=36
WMQ Urumqi 46.94 64 *eP* **P** **23 31 20.1 +1.3**
WMQ pP sP 23 31 24.0 +0.5
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ LR LR
comp=Z,490nm,19.7s
WMQ LR LR
comp=Z,620nm,14.7s
WMQ LR LR
comp=Z,200nm,20.5s
DANN Dangsing 50.81 84 *eP* **P** **23 31 48.4 -0.6**
comp=Z,61nm,0.9s
TULEG Thule 50.94 342 P **P** **23 31 47.4 -1.5**
TULEG IAmb IAmb 23 31 49.5
comp=Z,17nm,1.1s
TULEG Thule 50.94 342 *i* P **P** **23 31 47.3 -1.6**
TULEG IAmb IAmb 23 31 48.9
comp=Z,3.8nm,0.8s
KOLN Koldanda 50.99 85 *eP* **P** **23 31 49.5 -0.7**
comp=Z,9.2nm,1.6s
GKN Gorkha 51.65 84 *eP* **P** **23 31 54.2 -0.9**
comp=Z,67nm,1.2s
DMN Daman 52.21 84 *eP* **P** **23 31 59.2 -0.2**
KKN Kakani 52.25 84 *eP* **P** **23 31 58.7 -0.9**
PKIN Phulchoki 52.45 84 *eP* **P** **23 32 00.6 -0.6**
PKI Pulchoki 52.46 84 *eP* **P** **23 32 00.8 -0.6**
GUN Gumba 52.63 83 *eP* **P** **23 32 01.9 -0.8**
comp=Z,86nm,1.1s
JIRN Jiri 53.00 83 *eP* **P** **23 32 04.5 -0.9**
EUNU Eureka 53.13 348 P **P** **23 32 05.7 +0.4**
RAMN Ramite 53.69 84 *eP* **P** **23 32 09.6 -0.7**
FRB Frobisher Bay 54.73 327 LR LR 23 56 47.3
comp=Z,262nm,19.0s,baz=77,slow=37

GOMU GeErMu 55.07 70 P **P** **23 32 25.0 +4.6**
GOMU pP sP 23 32 28.0 +2.9
GOMU sP pP 23 32 29.1 +5.3
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU pmax pmax
comp=Z,53nm,4.3s
GOMU LR LR
comp=Z,110nm,15.6s
GOMU LR LR
comp=Z,120nm,15.0s
GOMU LR LR
comp=Z,74nm,15.5s
LSA Lhasa 55.64 79 P **P** **23 32 24.3 -0.4**
LSA Lhasa 55.64 79 P **P** **23 32 24.3 -0.4**
LSA pmax pmax
comp=Z,5.0nm,0.9s
LSZ Lusaka 56.19 174 LR LR 23 58 25.2
comp=Z,220nm,20.5s,baz=354,slow=38
LSZ Lusaka 56.19 174 P **P** **23 32 28.2 0.0**
LSZ Lusaka 56.19 174 P **P** **23 32 28.2 0.0**
LSZ pmax pmax
comp=Z,25nm,1.0s
TIXI Tiksi 56.43 21 P **P** **23 32 28.6 -0.5**
comp=Z,0.9nm,0.3s,baz=238,slow=0.4,SNR=8.6
TIXI LR LR 00 00 20.3
comp=Z,986nm,18.3s,baz=50,slow=40
comp=Z,0.9nm,0.3s
TIXI Tiksi 56.43 21 P **P** **23 32 29.0 -0.1**
TIXI Tiksi 56.43 21 *ce*P **P** **23 32 30.1 +0.9**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
GTA Gaotai 57.03 64 ⇑ P **P** **23 32 34.3 +0.2**
GTA pP sP 23 32 38.3 -0.5
GTA pmax pmax
comp=Z,3.0nm,0.6s
SONM Songino Array 57.38 53 P **P** **23 32 35.4 -1.1**
comp=Z,1.8nm,0.7s,baz=310,slow=9.5,SNR=5.0
comp=Z,1.8nm,0.7s
SONM Songino Array 57.38 53 P **P** **23 32 36.0 -0.5**
SONM Songino Array 57.38 53 P **P** **23 32 36.0 -0.5**
SONM pmax pmax
comp=Z,4.0nm,0.9s
RES Resolute Bay 57.56 344 LR LR 23 56 48.7
comp=Z,182nm,20.0s,baz=74,slow=36
RES Resolute Bay 57.56 344 P **P** **23 32 37.1 -0.1**
RES Resolute Bay 57.56 344 P **P** **23 32 37.1 -0.1**
RES pmax pmax
comp=Z,6.0nm,1.1s
SCHQ Schefferville 57.59 317 P **P** **23 32 36.9 -0.8**
comp=Z,7.5nm,0.8s,baz=58,slow=5.9,SNR=6.7
comp=Z,7.5nm,0.8s
ULN Ulaanbaatar 57.76 52 P **P** **23 32 39.2 0.0**
ULN Ulaanbaatar 57.76 52 P **P** **23 32 39.1 -0.1**
comp=Z,20nm,1.1s
ULN Ulaanbaatar 57.76 52 *ce*P **P** **23 32 40.4 +1.2**
ULN pmax pmax
comp=Z,13nm,2.5s
SHL Shillong 58.41 82 P **P** **23 32 44.0 -0.1**
SHL IAmb IAmb 23 32 47.5
comp=Z,19nm,1.1s
SHL Shillong 58.41 82 P **P** **23 32 44.0 -0.1**
SHL pmax pmax
comp=Z,19nm,1.1s
BRDH Bariadhala 59.86 85 LR LR 00 05 18.5
comp=Z,220nm,19.0s,baz=280,slow=43
TSUM Tsumeb 60.06 186 LR LR 00 00 40.1
comp=Z,354nm,19.9s,baz=334,slow=38
TSUM Tsumeb 60.06 186 P **P** **23 32 55.7 +0.5**
LZH Lanzhou 61.45 66 *eP* **P** **23 33 05.3 +0.5**
LZH sP sP 23 33 13.6 +4.0
LZH pmax pmax
comp=Z,14nm,0.9s
LZH LR LR
comp=Z,300nm,16.2s
LZH LR LR
comp=Z,260nm,17.8s
LZH LR LR
comp=Z,270nm,18.7s
YAK Yakutsk 61.83 31 LR LR 00 02 05.9
comp=Z,282nm,19.9s,baz=270,slow=38
OPO Ambohidratompo 63.45 154 LR LR 00 00 55.1
comp=Z,94nm,21.2s,baz=182,slow=36
PKME Peaks-Kenny Pk 63.67 308 P **P** **23 33 18.1 -1.1**
baz=58
ABPO Ambohimpanom 63.87 154 **P** **23 33 21.2 +0.2**
ABPO IAmb IAmb 23 33 32.0
comp=Z,8.0nm,1.1s
ABPO Ambohimpanom 63.87 154 P **P** **23 33 21.2 +0.2**
ABPO pmax pmax
comp=Z,8.0nm,1.2s
HHC Hu-ho-hao-te 64.06 58 *eP* **P** **23 33 22.8 +0.7**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,200nm,4.9s
HHC LR LR
comp=Z,500nm,12.7s
HHC LR LR
comp=Z,290nm,15.5s
HHC LR LR
comp=Z,560nm,13.5s
CD2 Chengdu 64.18 71 *eP* **P** **23 33 21.8 -1.2**
HIA Hailar 64.34 46 P **P** **23 33 24.6 +1.0**
HIA IAmb IAmb 23 33 27.7
comp=Z,6.1nm,0.9s
HIA Hailar 64.34 46 P **P** **23 33 24.7 +1.0**
HIA pmax pmax
comp=Z,6.0nm,0.9s
A36M Sachs Harbour 65.10 350 P **P** **23 33 28.4 +0.3**
A36M IAmb IAmb 23 33 30.7
comp=Z,11nm,0.9s
A36M Sachs Harbour 65.10 350 P **P** **23 33 27.7 -0.5**
baz=26
XLT XiLinHaoTe 65.20 53 *eP* **P** **23 33 29.5 +0.1**
XLT pP sP 23 33 34.3 +0.1
XLT sP pP 23 33 35.3 +2.4
XLT PcP **PcP** **23 33 59.9 -2.0**
XLT PcS 23 38 04.3
XLT sS sS 23 42 26.9 +8.7
XLT pmax pmax
comp=Z,5.0nm,1.2s
XLT pmax pmax
comp=Z,200nm,5.1s
XLT LR LR
comp=Z,46nm,21.1s
XLT LR LR
comp=Z,410nm,18.1s
XLT LR LR
comp=Z,250nm,15.6s
PZH PanZhiHua 65.21 76 P **P** **23 33 28.9 -0.9**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.1s
ZEA Zeya 65.62 39 *eP* P 23 33 41.2 +9.3
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
LBTB Lobatse 65.70 177 LR LR 00 04 32.1
comp=Z,232nm,18.9s,baz=360,slow=38
LBTB Lobatse 65.70 177 P **P** **23 33 33.2 +0.5**
LBTB Lobatse 65.70 177 P **P** **23 33 33.2 +0.5**
LBTB pmax pmax
comp=Z,17nm,1.1s
XAN Xi'an 66.06 65 ⇓ P **P** **23 33 34.6 -0.5**
XAN pP sP 23 33 40.8 +1.0
XAN sP pP 23 33 44.8 +6.3
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN LR LR
comp=Z,180nm,14.4s
XAN LR LR
comp=Z,270nm,15.1s
XAN LR LR
comp=Z,250nm,20.6s
KMI Kunming 66.73 76 ⇓ P **P** **23 33 38.5 -1.3**
KMI pP pP 23 33 42.8 -0.4
KMI pmax pmax
comp=Z,8.0nm,0.9s
LONY Lake Ozonia 67.15 310 P **P** **23 33 41.1 -0.8**
baz=54
C36M Paulatuk 67.30 348 P **P** **23 33 42.4 +0.1**

C36M Paulatuk 67.30 348 P **P** **23 33 42.3 +0.1**
baz=27
BJI Beijing 67.44 56 P **P** **23 33 43.8 +0.1**
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI pmax pmax
comp=Z,61nm,4.9s
BJT Baijiatuau 67.44 56 P **P** **23 33 43.0 -0.7**
BJT Baijiatuau 67.44 56 P **P** **23 33 43.0 -0.7**
BJT pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 67.64 84 P **P** **23 33 44.4 -0.9**
CHTO IAmb IAmb 23 33 49.4
comp=Z,12nm,1.1s
CHTO Chiang Mai 67.64 84 P **P** **23 33 44.4 -0.9**
CHTO pmax pmax
comp=Z,12nm,1.2s
HEH HeiHe 67.81 42 *eP* **P** **23 33 45.1 -0.8**
HEH pmax pmax
comp=Z,12nm,1.1s
HEH pmax pmax
comp=Z,200nm,4.0s
CMAR Chiang Mai Arr 67.86 84 P **P** **23 33 45.4 -1.3**
comp=Z,1.4nm,0.3s,baz=308,slow=7.3,SNR=18
CMAR LR LR 00 10 02.2
comp=Z,61nm,18.9s,baz=305,slow=42
comp=Z,1.4nm,0.3s
BILL Bilibino 67.90 14 *eP* **P** **23 33 47.8 +1.6**
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,130nm,17.0s
LYN LuoYang 68.18 63 ⇑ P **P** **23 33 49.0 +0.5**
LYN pmax pmax
comp=Z,170nm,7.9s
PHRA Phrae 68.80 84 P **P** **23 33 51.7 -0.8**
C26K Camden Bay 69.05 355 P **P** **23 33 54.0 +0.7**
baz=10.0
C27K Jago River 69.27 355 P **P** **23 33 55.2 +0.5**
baz=11
BOSA Boshof 69.28 178 P **P** **23 33 53.4 -1.8**
comp=Z,13nm,1.1s,baz=346,slow=6.8,SNR=5.9
BOSA LR LR 00 06 39.9
comp=Z,305nm,18.9s,baz=0.5,slow=38
comp=Z,13nm,1.1s
BOSA Boshof 69.28 178 P **P** **23 33 55.8 +0.5**
BOSA IAmb IAmb 23 33 56.5
comp=Z,10nm,1.1s
BOSA Boshof 69.28 178 P **P** **23 33 55.8 +0.5**
BOSA pmax pmax
comp=Z,10.0nm,1.1s
C23K Itkillik River 69.40 358 P **P** **23 33 55.7 +0.3**
baz=5.4
BINY Binghamton 69.40 308 P **P** **23 33 55.6 -0.4**
baz=53
INK Inuvik 69.59 351 LR LR 00 06 20.9
comp=Z,113nm,18.9s,baz=348,slow=38
INK Inuvik 69.59 351 P **P** **23 33 56.4 -0.3**
INK IAmb IAmb 23 33 57.7
comp=Z,9.0nm,1.1s
INK Inuvik 69.59 351 P **P** **23 33 55.8 -0.9**
baz=19
INK Inuvik 69.59 351 P **P** **23 33 56.4 -0.3**
INK pmax pmax
comp=Z,9.0nm,1.2s
KSPA Keystone Colle 69.66 308 P **P** **23 33 57.4 -0.1**
KSPA IAmb IAmb 23 33 59.4
comp=Z,8.8nm,0.8s
SADO Sadowa 69.67 312 LR LR 00 03 55.0
comp=Z,288nm,19.5s,baz=32,slow=35
SADO Sadowa 69.67 312 P **P** **23 33 57.8 +0.2**
D25K Kavik River 69.73 356 P **P** **23 33 57.8 +0.2**
baz=8.8
D23K Nanushuk River 70.27 357 P **P** **23 34 01.7 +0.9**
baz=5.3
F31M Tsiigehtchic 70.44 351 P **P** **23 34 02.1 +0.2**
baz=19
E27K Coleen River 70.53 354 P **P** **23 34 03.7 +1.2**
baz=12
TOLK Toolik Lake Re 70.56 357 P **P** **23 34 02.6 0.0**
baz=6.2
KLR Kul'dur 70.63 41 P **P** **23 34 03.1 -0.3**
comp=Z,2.0nm,0.7s,baz=346,slow=7.0,SNR=4.6
KLR LR LR 00 09 07.2
comp=Z,243nm,19.9s,baz=308,slow=39
comp=Z,2.0nm,0.7s
N58A Sunbury 70.66 308 P **P** **23 34 04.6 +0.9**
N58A IAmb IAmb 23 34 18.8
comp=Z,8.5nm,1.0s
CN2 Changchun 70.73 48 P **P** **23 34 04.4 +0.3**
CN2 S S 23 43 09.3 -9.2
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
WVNY West Valley, N 70.82 310 P **P** **23 34 04.5 -0.2**
E25K Arctic Village 70.87 355 P **P** **23 34 05.1 +0.5**
baz=9.3
RCBR Riachuelo 70.97 244 LR LR 00 06 07.7
comp=Z,121nm,19.0s,baz=183,slow=37
MA2 Magadan 71.04 25 LR LR 00 08 03.3
comp=Z,184nm,19.5s,baz=308,slow=38
E24K Your Creek 71.07 357 P **P** **23 34 07.0 +1.2**
baz=7.0
E23K Chandalar 71.14 357 P **P** **23 34 07.6 +1.3**
baz=6.1
G30M tAoh Zraii Nji 71.18 351 P **P** **23 34 06.7 +0.2**
baz=17
F26K Sheenjek River 71.20 355 P **P** **23 34 07.4 +0.7**
baz=10
YKA Yellowknife Ar 71.34 341 P **P** **23 34 07.9 +0.5**
comp=Z,8.9nm,0.7s,baz=32,slow=5.7,SNR=31
YKA LR LR 00 06 09.5
comp=Z,163nm,18.4s,baz=2.0,slow=36
comp=Z,8.9nm,0.7s
F25K Christian Rive 71.40 355 P **P** **23 34 08.8 +1.0**
baz=9.3
E46A Sault Ste Mari 71.48 316 P **P** **23 34 08.9 +0.2**
E46A IAmb IAmb 23 34 09.8
comp=Z,10nm,0.8s
SSPA Standing Stone 71.49 308 P **P** **23 34 09.0 +0.3**
SSPA IAmb IAmb 23 34 10.2
comp=Z,16nm,0.9s
SSPA Standing Stone 71.49 308 P **P** **23 34 09.5 +0.8**
baz=52
M55A Ridgway 71.49 309 P **P** **23 34 09.2 +0.4**
F24K Squaw Lake 71.60 356 P **P** **23 34 10.4 +1.4**
baz=7.5
SDMD Soldier's Deli 71.61 306 P **P** **23 34 08.1 -1.5**
F22K John River 71.78 358 P **P** **23 34 11.3 +1.2**
baz=4.1
ERPA Erie 71.80 310 P **P** **23 34 10.4 -0.2**
baz=51
EPYK Eagle Plains 71.82 351 IAmb IAmb 23 34 11.6
comp=Z,9.4nm,0.8s
EPYK Eagle Plains 71.82 351 P **P** **23 34 10.8 +0.5**
baz=16
WHN Wuhan 71.82 65 ⇑ P P 23 34 16.8 +5.9
G27K Doyon Strip 71.88 354 P **P** **23 34 11.9 +1.2**
baz=12
G26K Porcupine Rive 71.91 354 P **P** **23 34 12.1 +1.3**
baz=11
COLD Coldfoot 71.99 357 IAmb IAmb 23 34 13.5
comp=Z,13nm,1.1s
COLD Coldfoot 71.99 357 P **P** **23 34 11.6 +0.2**
baz=5.6,SNR=9.2
F21K Alatna River 72.09 358 P **P** **23 34 13.2 +1.2**
baz=3.0
G25K Bearman Lake 72.25 355 P **P** **23 34 14.3 +1.5**
baz=8.8
G22K Bettles 72.34 358 P **P** **23 34 14.3 +0.9**
baz=4.6
FYU Fort Yukon 72.39 355 P **P** **23 34 15.0 +1.3**
G24K Hadweenzic Riv 72.39 356 P **P** **23 34 15.1 +1.4**
baz=7.8
H27K Steamboat Moun 72.44 353 P **P** **23 34 15.6 +1.5**
baz=12
G23K Bananza Creek 72.50 357 P **P** **23 34 16.0 +1.5**
baz=5.8
M53A WI Miller and 72.63 310 P **P** **23 34 15.4 -0.2**
baz=50

GLMI Grayling 72.65 315 P P 23 34 15.1 -0.6
baz=49
CBN Corbin Frederi 72.69 306 P P 23 34 15.4 -0.5
baz=51
H25L Birch Creek 72.73 355 P P 23 34 16.4 +0.7
baz=9.1
G21K Allakaket 72.80 358 P P 23 34 17.0 +0.8
baz=3.0
I29M Ogilvie Camp, 72.97 352 P P 23 34 17.5 +0.3
I29M Ogilvie Camp, 72.97 352 P P 23 34 17.1 -0.2
baz=15,SNR=19
SUR Sutherland 73.01 182 LR LR 00 08 21.1
comp=Z,309nm,19.6s,baz=6.0,slow=38
I27K Kandik River 73.06 353 P P 23 34 18.5 +0.7
baz=12,SNR=14
N53A Lisbon 73.12 310 P P 23 34 18.7 +0.1
O54A Avella 73.25 309 P P 23 34 19.4 +0.1
O54A IAmb IAmb 23 34 21.0
comp=Z,13nm,0.8s
MCWV Mont Chateau 73.27 308 P P 23 34 20.1 +0.7
MCWV Mont Chateau 73.27 308 P P 23 34 19.9 +0.5
baz=50
H24K Noodor Dome 73.27 356 P P 23 34 20.0 +1.0
baz=7.4
H23K Yukon River 73.37 357 P P 23 34 20.5 +0.9
H23K IAmb IAmb 23 34 22.4
comp=Z,9.7nm,1.0s
H23K Yukon River 73.37 357 P P 23 34 20.2 +0.6
baz=6.1
H22K Ishtalitna Cre 73.37 357 P P 23 34 20.8 +1.2
baz=4.7
PRP Porcupine Dome 73.45 355 P P 23 34 20.8 +0.6
PRP IAmb IAmb 23 34 22.5
comp=Z,12nm,1.2s
PRP Porcupine Dome 73.45 355 P P 23 34 20.5 +0.3
baz=9.2
TNA Tin City 73.48 5 P P 23 34 19.7 -0.4
baz=352
I26K Coal Creek Min 73.48 354 P P 23 34 20.3 +0.1
I26K IAmb IAmb 23 34 22.4
comp=Z,7.8nm,0.8s
I26K Coal Creek Min 73.48 354 P P 23 34 21.4 +1.2
baz=11
FFC Flin Flon 73.62 330 P P 23 34 21.5 +0.3
FFC IAmb IAmb 23 34 23.3
comp=Z,8.3nm,0.9s
FFC Flin Flon 73.62 330 P P 23 34 21.5 +0.3
FFC pmax pmax
comp=Z,8.0nm,0.9s
H21K Melozitna Rive 73.65 358 P P 23 34 22.3 +1.1
H21K Melozitna Rive 73.65 358 P P 23 34 22.8 +1.6
baz=3.5
O53A New Philadelph 73.70 309 P P 23 34 21.5 -0.5
O53A New Philadelph 73.70 309 P P 23 34 22.1 +0.2
baz=50
J47A Sunmer 73.81 313 P P 23 34 23.0 +0.5
EGAK Eagle 73.83 353 P P 23 34 22.4 +0.2
EGAK Eagle 73.83 353 P P 23 34 22.0 -0.2
baz=13
N51A Ashland 73.94 310 P P 23 34 23.8 +0.4
N51A IAmb IAmb 23 34 24.5
comp=Z,19nm,1.0s
NJ2 Nanjing 73.95 61 eP P 23 34 25.0 +1.5
NJ2 pmax pmax
comp=Z,11nm,0.5s
POKR Poker Plat Res 73.97 356 P P 23 34 24.1 +1.1
POKR IAmb IAmb 23 34 25.3
comp=Z,15nm,1.0s
POKR Poker Plat Res 73.97 356 P P 23 34 22.4 -0.7
baz=7.7,SNR=6.0
I23K Minto, Yukon-K 74.03 357 P P 23 34 24.4 +1.0
I23K IAmb IAmb 23 34 30.2
comp=Z,9.4nm,0.9s
I23K Minto, Yukon-K 74.03 357 P P 23 34 22.9 -0.5
baz=6.2
USRK Ussuriysk Ar. 74.08 45 LR LR 00 09 03.3
comp=Z,145nm,18.6s,baz=322,slow=38
I21K Tanana 74.10 358 P P 23 34 24.9 +1.1
baz=4.2
MDM Murphy Dome 74.17 356 P P 23 34 24.7 +0.5
MDM IAmb IAmb 23 34 26.3
comp=Z,20nm,1.0s
MLY Manley 74.21 357 P P 23 34 24.4 -0.2
MLY IAmb IAmb 23 34 27.0
comp=Z,16nm,1.1s
MLY Manley 74.21 357 P P 23 34 24.3 -0.2
baz=5.1
IL31 74.28 355 P P 23 34 25.4 +0.6
ILAR Eielson Array 74.28 355 P P 23 34 25.5 +0.6
comp=Z,2.7nm,0.8s,baz=1.4,slow=5.1,SNR=26
ILAR LR LR 00 09 07.8
comp=Z,62nm,19.3s,baz=15,slow=37
comp=Z,2.7nm,0.8s
Q54A Coxs Mills 74.29 308 P P 23 34 25.4 0.0
Q54A IAmb IAmb 23 34 36.6
comp=Z,14nm,1.1s
P53A Whipple 74.30 309 P P 23 34 25.7 +0.3
J26L Joseph Creek 74.31 354 P P 23 34 26.0 +0.8
J26L IAmb IAmb 23 34 26.9
comp=Z,13nm,0.8s
J26L Joseph Creek 74.31 354 P P 23 34 25.3 +0.1
baz=11
R55A Marlinton 74.31 307 P P 23 34 25.9 +0.3
R55A IAmb IAmb 23 34 27.3
comp=Z,16nm,0.9s
J25K Salcha River, 74.34 355 P P 23 34 25.7 +0.4
J25K Salcha River, 74.34 355 P P 23 34 25.5 +0.2
baz=9.3
DAWY Dawson 74.35 352 P P 23 34 26.4 +1.0
DAWY Dawson 74.35 352 P P 23 34 24.6 -0.8
baz=14,SNR=12
K29M Barlow Dome 74.36 351 P P 23 34 25.2 -0.3
baz=15
ULM Lac du Bonnet 74.45 324 P P 23 34 26.0 -0.2
comp=Z,12nm,0.7s,baz=40,slow=6.0,SNR=7.6
ULM LR LR 00 06 44.2
comp=Z,199nm,18.0s,baz=290,slow=35
comp=Z,12nm,0.7s
ULM Lac du Bonnet 74.45 324 P P 23 34 26.0 -0.2
NEA2 Nenana 74.58 356 P P 23 34 27.2 +0.6
NEA2 IAmb IAmb 23 34 28.4
comp=Z,14nm,1.0s
NEA2 Nenana 74.58 356 P P 23 34 25.7 -0.9
baz=6.4
ANM Nome 74.61 4 P P 23 34 25.5 -1.2
baz=354
P52A Corning 74.64 309 P P 23 34 27.9 +0.5
baz=49
HDA Harding Lake 74.64 355 P P 23 34 27.1 +0.1
HDA IAmb IAmb 23 34 28.4
comp=Z,16nm,0.9s
HDA Harding Lake 74.64 355 P P 23 34 26.7 -0.3
baz=8.1
WRH Wood River Hil 74.65 356 P P 23 34 27.4 +0.4
WRH IAmb IAmb 23 34 28.6
comp=Z,15nm,0.9s
K27K Chicken 74.65 353 P P 23 34 28.1 +1.0
K27K Chicken 74.65 353 P P 23 34 27.1 +0.1
baz=12
MMPY Sheldon Lake, 74.66 348 P P 23 34 27.4 +0.2
baz=20,SNR=9.2
ACSO Alum Creek Sta 74.74 310 P P 23 34 27.9 -0.1
ACSO IAmb IAmb 23 34 29.2
comp=Z,14nm,0.9s
ACSO Alum Creek Sta 74.74 310 P P 23 34 28.1 +0.1
baz=49
SCRK Sand Creek 74.86 354 P P 23 34 29.2 +0.8
SCRK Sand Creek 74.86 354 P P 23 34 28.7 +0.3
baz=10,SNR=7.2
GAMB Gambell 74.96 7 P P 23 34 28.8 0.0
baz=349
L29M L29M 75.14 351 P P 23 34 30.3 +0.4
baz=15
BPAW Bear Paw Mtn. 75.15 357 P P 23 34 30.4 +0.5
BPAW IAmb IAmb 23 34 31.3
comp=Z,14nm,0.9s
BPAW Bear Paw Mtn. 75.15 357 P P 23 34 29.9 -0.1
baz=4.9
J20K Nowinta River 75.16 359 IAmb IAmb 23 34 36.7
comp=Z,10nm,1.0s
J20K Nowinta River 75.16 359 P P 23 34 29.8 -0.2
baz=2.5
RIDG Independent Ri 75.16 354 P P 23 34 30.6 +0.5
RIDG Independent Ri 75.16 354 P P 23 34 29.4 -0.7
baz=9.7
K24K Donnelly Dome 75.17 355 P P 23 34 30.4 +0.3
baz=9.0

TGTN Hyland Airport 75.17 346 P P 23 34 30.9 +0.7
baz=22,SNR=6.5
DOT Dot Lake 75.19 354 P P 23 34 27.8 -2.4
HILA High Level 75.33 340 P P 23 34 31.3 +0.2
FARO Faro, Yukon 75.35 349 P P 23 34 32.3 +1.1
FARO IAmb IAmb 23 34 34.0
comp=Z,21nm,1.2s
FARO Faro, Yukon 75.35 349 P P 23 34 31.6 +0.5
baz=18,SNR=12
R53A Hurricane 75.38 308 IAmb IAmb 23 34 33.1
comp=Z,14nm,0.9s
FLDN Fort Liard 75.40 343 P P 23 34 31.7 +0.3
baz=26
CHUM Lake Minchumin 75.41 358 P P 23 34 31.1 -0.3
baz=3.9
MCK McKinley 75.43 356 P P 23 34 32.0 +0.4
MCK McKinley 75.43 356 P P 23 34 31.9 +0.4
baz=6.5,SNR=7.1
MCK McKinley 75.43 356 P P 23 34 32.0 +0.4
MCK pmax pmax
comp=Z,28nm,1.2s
M30M Minto, Yukon 75.49 350 P P 23 34 32.8 +0.8
baz=16
M31M Drury Creek, Y 75.53 349 P P 23 34 33.3 +1.1
M31M IAmb IAmb 23 34 34.8
comp=Z,18nm,1.0s
M31M Drury Creek, Y 75.53 349 P P 23 34 32.8 +0.6
baz=18,SNR=10
BCAR Beaver Creek A 75.57 353 P P 23 34 33.3 +0.8
L27K Beaver Creek, 75.58 353 P P 23 34 33.4 +1.0
L27K IAmb IAmb 23 34 34.9
comp=Z,12nm,0.8s
L27K Beaver Creek, 75.58 353 P P 23 34 33.0 +0.6
baz=12
KOTAN Kotaneelee Air 75.62 344 P P 23 34 32.2 -0.5
baz=25
U56A King 75.72 306 P P 23 34 33.4 -0.4
U56A IAmb IAmb 23 34 35.2
comp=Z,12nm,0.9s
Q51A Peebles 75.75 309 P P 23 34 33.9 +0.1
Q51A IAmb IAmb 23 34 34.8
comp=Z,11nm,0.8s
L26K Log Cabin Wild 75.75 354 P P 23 34 34.3 +0.9
L26K IAmb IAmb 23 34 35.9
comp=Z,10nm,1.0s
L26K Log Cabin Wild 75.75 354 P P 23 34 33.7 +0.3
baz=11,SNR=5.9
TRF Thorofare Moun 75.77 357 P P 23 34 33.8 +0.1
baz=5.5
M29M Somme Creek 75.82 351 P P 23 34 35.0 +1.0
baz=15
MENT Mentasta 75.87 354 P P 23 34 34.8 +0.7
MENT IAmb IAmb 23 34 39.2
comp=Z,7.4nm,0.8s
CAST Castle Rocks 75.87 358 IAmb IAmb 23 34 36.4
comp=Z,15nm,0.9s
CAST Castle Rocks 75.87 358 P P 23 34 33.7 -0.4
baz=4.0
O48B Farmland 75.97 311 P P 23 34 35.7 +0.6
baz=48
PAX Paxson 75.97 354 P P 23 34 34.7 -0.1
PAX IAmb IAmb 23 34 36.2
comp=Z,11nm,1.2s
PAX Paxson 75.97 354 P P 23 34 34.9 +0.1
baz=9.2
PAX Paxson 75.97 354 P P 23 34 34.7 -0.1
PAX pmax pmax
comp=Z,11nm,1.2s
K20K Telida 75.98 359 P P 23 34 35.6 +1.0
K20K IAmb IAmb 23 34 41.9
comp=Z,17nm,1.1s
K20K Telida 75.98 359 P P 23 34 35.8 +1.0
baz=2.5
DHY Denali Highway 76.00 355 P P 23 34 35.3 +0.3
DHY Denali Highway 76.00 355 P P 23 34 35.5 +0.5
baz=7.7,SNR=9.4
BVCY Beaver Creek 76.11 352 P P 23 34 36.4 +0.8
baz=13,SNR=12
P49A Miami Univ. Ec 76.20 311 P P 23 34 36.1 -0.3
baz=48
KSAR Wonju Array Be 76.23 52 P P 23 34 36.3 -0.3
KSAR Wonju Array Be 76.23 52 P P 23 34 36.3 -0.3
KSRS Korea Array 76.25 52 P P 23 34 36.3 -0.4
comp=Z,2.9nm,0.8s,baz=316,slow=5.3,SNR=9.5
KSRS LR LR 00 11 28.9
comp=Z,196nm,18.3s,baz=300,slow=38
comp=Z,2.9nm,0.8s
M27K Edge Creek, AK 76.27 353 P P 23 34 37.7 +1.1
M27K IAmb IAmb 23 34 38.7
comp=Z,13nm,1.1s
M27K Edge Creek, AK 76.27 353 P P 23 34 37.6 +1.0
baz=12
M26K Nabesna, AK 76.33 353 P P 23 34 37.8 +1.0
M26K IAmb IAmb 23 34 39.1
comp=Z,17nm,1.1s
M26K Nabesna, AK 76.33 353 P P 23 34 37.4 +0.6
baz=11
N32M Quiet Lake 76.34 348 P P 23 34 37.2 +0.4
baz=19
SJVI Gifft Hill Sch 76.38 282 P P 23 34 37.4 -0.4
PPLA Purkeypile 76.40 358 P P 23 34 38.0 +0.7
PPLA IAmb IAmb 23 34 39.0
comp=Z,16nm,0.9s
PPLA Purkeypile 76.40 358 P P 23 34 36.6 -0.7
baz=4.0
N31M Braeburn, Yuko 76.41 350 P P 23 34 37.5 +0.2
N31M Braeburn, Yuko 76.41 350 P P 23 34 37.2 0.0
baz=17,SNR=7.0
TTA Tatalina 76.44 359 P P 23 34 37.5 +0.1
baz=1.0
U54A Nelsons Funny 76.48 307 P P 23 34 38.1 0.0
U54A IAmb IAmb 23 34 39.4
comp=Z,14nm,0.8s
WAT6 Susitna Watana 76.51 355 P P 23 34 37.8 -0.1
baz=7.4
HARP HAARP 76.51 354 P P 23 34 37.3 -0.5
baz=9.4
V55A Taylorsville 76.55 306 P P 23 34 38.2 -0.2
V55A IAmb IAmb 23 34 39.6
comp=Z,15nm,1.1s
N30M Aishikik Lake 76.61 350 P P 23 34 37.9 -0.5
baz=16
YUK3 Moose Creek 76.70 352 P P 23 34 38.2 -0.9
baz=13,SNR=10
LIRD Liard River Hi 76.71 344 P P 23 34 39.1 +0.2
baz=24,SNR=7.0
R50A Paris 76.81 309 P P 23 34 40.0 +0.1
R50A IAmb IAmb 23 34 48.2
comp=Z,9.6nm,1.1s
CUT Chulitna 76.82 357 P P 23 34 38.7 -0.7
baz=5.4
L20K Farewell, AK 76.86 358 P P 23 34 39.8 0.0
baz=2.6
YUK4 Talbot Arm 76.91 351 P P 23 34 38.7 -1.6
baz=14
JFWS Jewell Farm 76.94 316 P P 23 34 40.3 -0.2
baz=46
SFIN Lafayette 76.98 312 P P 23 34 40.3 -0.5
baz=47
WHY Whitehorse 77.08 349 P P 23 34 40.9 -0.2
WHY IAmb IAmb 23 34 42.5
comp=Z,9.2nm,1.1s
WHY Whitehorse 77.08 349 P P 23 34 39.9 -1.2
baz=17,SNR=6.2
KMSC Kings Mountain 77.09 305 P P 23 34 41.1 -0.4
KMSC IAmb IAmb 23 34 42.4
comp=Z,7.8nm,0.9s
KMSC Kings Mountain 77.09 305 P P 23 34 41.9 +0.4
baz=49
O30N Mendenhall 77.14 350 P P 23 34 40.8 -0.6
baz=16,SNR=5.3
L19K White Mountain 77.17 359 P P 23 34 42.7 +1.2
L19K White Mountain 77.17 359 P P 23 34 41.4 -0.2
baz=1.9
P33M Teslin, Yukon 77.19 348 P P 23 34 42.4 +0.7
P33M Teslin, Yukon 77.19 348 P P 23 34 41.3 -0.4
baz=19
SCM Sheep Creek Mo 77.23 355 P P 23 34 41.3 -0.6
baz=7.7
N25K Chitina, Valde 77.25 354 P P 23 34 40.7 -1.4
baz=9.8
YUK6 Outpost Mounta 77.27 351 P P 23 34 41.4 -0.9
baz=15,SNR=5.7
HYT Haines Junctio 77.28 350 P P 23 34 43.2 +1.0
HYT IAmb IAmb 23 34 44.4
comp=Z,15nm,1.0s
HYT Haines Junctio 77.28 350 P P 23 34 41.5 -0.8
baz=15,SNR=8.1
SKT Skwentna 77.29 357 P P 23 34 42.0 -0.1
SKT Skwentna 77.29 357 P P 23 34 41.5 -0.6
baz=4.5
M23K Glacier View 77.29 355 P P 23 34 42.6 +0.4
baz=7.4
HUMP Col San Antoni 77.30 283 P P 23 34 42.4 -0.5
HUMP IAmb IAmb 23 34 44.9
comp=Z,15nm,1.0s
SML Sawmill 77.31 356 P P 23 34 43.0 +0.7
baz=6.9
MCARA McCarthy VSAT 77.34 353 P P 23 34 43.4 +1.0
MCARA McCarthy VSAT 77.34 353 P P 23 34 43.8 +1.4
baz=11
GCPR Guaynabo City 77.36 283 P P 23 34 43.3 +0.1
GHO Glory Hole Cre 77.38 356 P P 23 34 43.0 +0.2
M20K Styx River 77.44 358 P P 23 34 43.5 +0.4
M20K IAmb IAmb 23 34 44.4
comp=Z,15nm,0.9s
M20K Styx River 77.44 358 P P 23 34 42.7 -0.4
baz=3.2
M19K Big River Lodg 77.45 359 P P 23 34 44.0 +1.0
baz=2.2
M22K Willow 77.46 357 P P 23 34 43.3 +0.2
M22K Willow 77.46 357 P P 23 34 44.1 +1.1
baz=5.5
KLU Klutina 77.47 354 P P 23 34 43.2 -0.1
KLU IAmb IAmb 23 34 44.5
comp=Z,14nm,1.0s
KLU Klutina 77.47 354 P P 23 34 43.8 +0.5
baz=8.8
BLO Bloomington 77.48 311 P P 23 34 43.0 -0.6
BLO Bloomington 77.48 311 P P 23 34 43.0 -0.6
BLO pmax pmax
comp=Z,16nm,0.9s
YSS Yuzh-Sakhalins 77.50 37 eP P 23 34 43.9 +0.3
TZTN Tazewell 77.51 308 P P 23 34 44.5 +0.7
baz=48
SJG San Juan 77.54 283 LR LR 00 09 07.8
comp=Z,26nm,18.2s,baz=38,slow=36
PMR Palmer 77.57 356 P P 23 34 44.6 +0.9
baz=6.3
PAULI Pauline 77.60 305 P P 23 34 44.3 -0.1
PAULI IAmb IAmb 23 34 45.7
comp=Z,8.6nm,0.7s
R33M Jennings River 77.65 347 P P 23 34 45.6 +1.2
baz=20
O28M Mount Upton 77.65 352 P P 23 34 44.6 0.0
baz=13
KNK Knik Glacier 77.71 356 P P 23 34 44.8 +0.3
baz=6.8
PSI Prapat 77.74 97 P P 23 34 47.8 +2.2
PSI Prapat 77.74 97 P P 23 34 45.8 +0.2
PSI pmax pmax
comp=Z,6.0nm,0.8s
SUA Susitna One 77.78 357 P P 23 34 45.3 +0.3
baz=5.0
RPSI Rantau Prapat 77.81 97 P P 23 34 45.8 +0.1
RPSI IAmb IAmb 23 34 49.2
comp=Z,6.4nm,0.8s
P30M Million Dollar 77.88 350 P P 23 34 46.3 +0.7
baz=16
BMRM Bremner River 77.89 354 P P 23 34 45.8 +0.2
BMRM Bremner River 77.89 354 P P 23 34 45.6 0.0
baz=9.8
O29M Mount Kennedy 77.92 351 P P 23 34 45.9 +0.1
baz=14
P32M Atlin 77.92 348 P P 23 34 45.9 +0.1
baz=18,SNR=5.5
T50A Nancy 77.96 309 P P 23 34 46.7 +0.4
T50A IAmb IAmb 23 34 47.1
comp=Z,8.7nm,0.9s
WCI Wyandotte Cave 77.99 310 P P 23 34 46.2 -0.3
WCI IAmb IAmb 23 34 47.1
comp=Z,10nm,0.9s
WCI Wyandotte Cave 77.99 310 P P 23 34 46.8 +0.3
baz=47
WCI Wyandotte Cave 77.99 310 P P 23 34 46.2 -0.3
WCI pmax pmax
comp=Z,10.0nm,0.9s
HDIL Hopedale 78.08 314 P P 23 34 47.4 +0.5
baz=46
N20K Mount Spurr 78.09 358 P P 23 34 47.3 +0.5
baz=3.9
SPCR Spurr Chakacha 78.09 358 P P 23 34 47.4 +0.6
baz=3.9
RC01 Rabbit Creek A 78.11 356 P P 23 34 46.9 +0.2
baz=5.8
BG3 Lake Jocassee 78.17 306 P P 23 34 47.8 +0.3
TKL Tuckaleechee C 78.24 307 LR LR 00 09 35.0
comp=Z,157nm,18.8s,baz=62,slow=36
PWL Port Wells 78.26 356 P P 23 34 48.4 +0.8
baz=6.9
Q32M Nakina River 78.28 347 P P 23 34 48.9 +0.9
baz=19
SKAG Skagway 78.29 349 P P 23 34 48.4 +0.7
baz=17
PINM Pinnacle 78.32 351 P P 23 34 48.5 +0.5
baz=13
DLBC Dease Lake 78.38 346 LR LR 00 09 07.8
comp=Z,118nm,21.5s,baz=322,slow=36
DLBC Dease Lake 78.38 346 P P 23 34 48.3 -0.1
DLBC Dease Lake 78.38 346 P P 23 34 49.3 +1.0
baz=21
MESA MESA 78.42 352 P P 23 34 49.4 +0.7
baz=12
PLBC Pleasant Camp 78.44 349 P P 23 34 49.0 +0.4
baz=16
P29M Windy Craggy 78.46 350 P P 23 34 49.7 +0.9
baz=15
CAPN Captain Cook N 78.49 357 P P 23 34 49.4 +0.6
baz=4.7
V51A Loudon 78.49 308 IAmb IAmb 23 35 01.5
comp=Z,10.0nm,1.1s
N19K Bonanza Creek 78.54 359 P P 23 34 49.4 +0.2
baz=2.2
PETK Petropavlovsk- 78.55 26 LR LR 00 12 07.2
comp=Z,139nm,19.9s,baz=313,slow=38
BGLC Bering Glacier 78.61 353 P P 23 34 49.4 0.0
baz=11
PNL Peninsula 78.64 351 P P 23 34 50.2 +0.5
baz=14
N18K Kilae Creek 78.69 359 P P 23 34 50.6 +0.6
baz=1.1
MCPB Macapa, AP 78.78 260 eP P 23 34 52.2 +1.0
RSO Redoubt South 78.85 358 P P 23 34 51.8 +0.7
U49A Red Boiling Sp 78.86 309 P P 23 34 51.3 0.0
U49A IAmb IAmb 23 34 52.0
comp=Z,9.6nm,0.9s
WAPA Wapiti River 78.88 339 P P 23 34 50.5 -0.6
KAIM Kayak Island 78.90 353 P P 23 34 50.5 -0.6
baz=9.9
N16K Nishlik Lake 78.90 1 P P 23 34 50.8 -0.3
baz=359
SEW Seward 79.07 356 P P 23 34 51.4 -0.6
baz=6.0
S34M Telegraph Cree 79.08 346 P P 23 34 52.5 +0.4
baz=20
O19K Port Alsworth 79.16 359 P P 23 34 51.7 -0.8
baz=2.3
R32K Eaglecrest 79.31 348 P P 23 34 53.6 +0.3
baz=17
T47A Sharon Grove 79.31 310 P P 23 34 53.3 -0.5
T47A IAmb IAmb 23 34 54.6
comp=Z,15nm,0.8s
E28A Huff 79.33 324 P P 23 34 53.8 0.0
CLTN Cedars of Leba 79.47 309 P P 23 34 54.5 -0.1
W50A Signal Mountai 79.47 308 P P 23 34 55.4 +0.7
W50A IAmb IAmb 23 34 56.3
comp=Z,14nm,0.8s
BRSE Bradley Lake S 79.50 357 P P 23 34 54.7 +0.3
baz=5.0
O18K Koktuh Hills 79.52 359 P P 23 34 55.1 +0.6
O18K Koktuh Hills 79.52 359 P P 23 34 55.5 +1.0
baz=1.6
ASAJ Asahikawa 79.53 39 LR LR 00 12 13.2
comp=Z,162nm,18.4s,baz=336,slow=37
Q23K Middleton Isla 79.55 354 P P 23 34 54.1 -0.5
baz=8.4
GOGA Godfrey 79.56 305 P P 23 34 55.1 0.0
baz=48
ECSD EROS Data Cent 79.58 320 P P 23 34 55.2 +0.1
baz=42
O17K Koliganek Bris 79.61 360 P P 23 34 54.7 -0.2
baz=0.1
Y52A Lilburn 79.62 306 P P 23 34 54.9 -0.6
Y52A IAmb IAmb 23 34 57.1

comp=Z,12nm,0.8s
O16K Kokwok River B 79.79 0 P **P** **23 34 55.1 -0.8**
baz=359
T35M Bob Quinn 79.79 345 P **P** **23 34 55.9 -0.1**
baz=20
FPAL Fort Paine 80.10 307 P **P** **23 34 58.1 0.0**
FPAL IAmb IAmb 23 34 59.5
comp=Z,12nm,1.1s
WVT Waverly 80.32 310 P **P** **23 34 58.6 -0.7**
baz=46
Q20K Shuyak Island 80.69 357 P **P** **23 35 00.2 -0.6**
baz=3.7
152A Waverly Hall 80.83 305 P **P** **23 35 01.8 -0.3**
152A IAmb IAmb 23 35 03.4
comp=Z,12nm,1.1s
CCM Cathedral Cave 80.91 313 P **P** **23 35 02.2 -0.2**
CCM IAmb IAmb 23 35 03.2
comp=Z,11nm,0.8s
CCM Cathedral Cave 80.91 313 P **P** **23 35 01.2 -1.2**
baz=44
CCM Cathedral Cave 80.91 313 P **P** **23 35 02.2 -0.2**
CCM pmax pmax
comp=Z,11nm,0.8s
X48A Hartselle 81.02 308 P **P** **23 35 02.5 -0.5**
X48A IAmb IAmb 23 35 04.0
comp=Z,11nm,0.8s
Y49A Blount Mountai 81.05 307 P **P** **23 35 03.2 0.0**
Y49A IAmb IAmb 23 35 04.0
comp=Z,9.3nm,0.9s
Q17K Contact Creek 81.12 359 P **P** **23 35 02.5 -0.8**
baz=1.1
PLAL Pickwick Lake 81.27 309 P **P** **23 35 03.7 -0.7**
PLAL IAmb IAmb 23 35 04.8
comp=Z,8.9nm,0.9s
R40A Maddies Statio 81.30 314 P **P** **23 35 04.7 +0.2**
R40A IAmb IAmb 23 35 05.7
comp=Z,17nm,0.9s
MALB Monte Alegre 81.42 260 *e*P **P** **23 35 06.7 +1.3**
LAO LASA Array 81.60 327 P **P** **23 35 07.0 +1.0**
LAO IAmb IAmb 23 35 16.5
comp=Z,20nm,1.1s
LAO LASA Array 81.60 327 P **P** **23 35 06.0 0.0**
baz=36
DWPF Disney Wildern 81.81 300 P **P** **23 35 07.0 -0.3**
baz=48
EGMT Eagleton 81.91 330 P **P** **23 35 08.1 +0.5**
EGMT Eagleton 81.91 330 P **P** **23 35 07.5 -0.1**
baz=34
LRAL Lakeview Retre 81.97 307 P **P** **23 35 08.2 +0.1**
LRAL IAmb IAmb 23 35 09.4
comp=Z,16nm,0.9s
LRAL Lakeview Retre 81.97 307 P **P** **23 35 07.8 -0.3**
baz=46
OHAK Old Harbor 82.11 358 P **P** **23 35 08.2 -0.1**
baz=3.0
LCAR Lake Charles 82.28 312 P **P** **23 35 09.7 +0.1**
LCAR IAmb IAmb 23 35 11.0
comp=Z,9.3nm,1.1s
WALA Waterton Lakes 82.54 333 P **P** **23 35 11.1 +0.2**
WALA IAmb IAmb 23 35 13.0
comp=Z,10.0nm,1.1s
SII Sitkinak Islan 82.80 358 P **P** **23 35 11.5 -0.5**
baz=2.4
MJAR Matsushiro Arr 82.82 47 P **P** **23 35 13.0 +0.5**
comp=Z,1.2nm,0.6s,baz=300,slow=5.8,SNR=6.2
MJAR LR LR 00 14 01.4
comp=Z,123nm,18.6s,baz=338,slow=37
comp=Z,1.2nm,0.6s
KSU1 Kansas State U 83.02 317 P **P** **23 35 13.3 -0.2**
KSU1 Kansas State U 83.02 317 P **P** **23 35 13.4 -0.1**
baz=42
BOAV Boa Vista 83.35 267 P **P** **23 35 16.1 +0.6**
BOAV IAmb IAmb 23 35 17.3
comp=Z,9.3nm,1.1s
BOAV Boa Vista 83.35 267 *e*P **P** **23 35 16.5 +1.0**
SHEM Shemya Is, Ala 83.43 17 LR LR 00 18 22.7
comp=Z,89nm,18.4s,baz=296,slow=40
WHAR Wooly Hollow 83.48 312 P **P** **23 35 15.8 -0.1**
JOW Kunigami 83.57 60 P **P** **23 35 15.5 -1.0**
comp=Z,5.4nm,0.3s,baz=342,slow=2.1,SNR=4.3
JOW LR LR 00 15 25.5
comp=Z,100nm,18.6s,baz=334,slow=38
comp=Z,5.4nm,0.3s
HHAR Hobbs 83.68 313 P **P** **23 35 17.0 +0.1**
HHAR IAmb IAmb 23 35 26.3
comp=Z,11nm,1.1s
LLLB Lillooet 83.68 338 P **P** **23 35 18.1 +1.4**
LLLB IAmb IAmb 23 35 20.7
comp=Z,8.4nm,1.0s
GCMT Greycliff 83.72 329 P **P** **23 35 17.1 0.0**
U38A Gravette 83.81 314 P **P** **23 35 17.1 -0.4**
U38A IAmb IAmb 23 35 18.8
comp=Z,13nm,1.1s
BBB Bella Bella 83.83 342 LR LR 00 12 33.0
comp=Z,114nm,19.5s,baz=32,slow=36
RLMT Red Lodge 84.11 328 P **P** **23 35 20.3 +1.0**
RLMT Red Lodge 84.11 328 P **P** **23 35 19.1 -0.1**
baz=34
ITTB Itaituba 84.18 259 *e*P **P** **23 35 20.9 +1.2**
MSO Missoula 84.45 332 P **P** **23 35 20.7 -0.1**
MSO Missoula 84.45 332 P **P** **23 35 20.8 -0.1**
baz=31
T35A Sooner Cattle 84.60 315 P **P** **23 35 21.5 -0.1**
R32A Long Quarter, 84.61 318 P **P** **23 35 21.7 0.0**
BOZ Bozeman (W) 84.64 330 P **P** **23 35 22.1 +0.2**
BOZ Bozeman (W) 84.64 330 P **P** **23 35 22.3 +0.4**
baz=33
BOZ Bozeman (W) 84.64 330 P **P** **23 35 22.1 +0.2**
BOZ pmax pmax
comp=Z,5.0nm,1.2s
MIAR Mount Ida 84.74 312 P **P** **23 35 22.2 -0.1**
MIAR IAmb IAmb 23 35 23.6
comp=Z,15nm,1.1s
MIAR Mount Ida 84.74 312 P **P** **23 35 22.9 +0.5**
baz=43
MIAR Mount Ida 84.74 312 P **P** **23 35 22.2 -0.1**
MIAR pmax pmax
comp=Z,15nm,1.2s
LRM Limekiln Ridge 84.76 330 P **P** **23 35 21.3 -1.3**
YMP Mirror Lake Pl 84.78 328 P **P** **23 35 22.5 -0.2**
YMP IAmb IAmb 23 35 34.2
comp=Z,9.2nm,1.2s
BAUV El Baul 84.80 277 IAmb IAmb 23 35 37.9
comp=Z,11nm,1.1s
TUL1 Leonard 84.96 314 P **P** **23 35 22.9 -0.6**
TUL1 Leonard 84.96 314 P **P** **23 35 23.2 -0.3**
baz=42
K22A Casper 84.98 325 P **P** **23 35 23.0 -0.7**
K22A IAmb IAmb 23 35 27.6
comp=Z,6.9nm,1.0s
K22A Casper 84.98 325 P **P** **23 35 22.1 -1.5**
baz=36
YNR Norris Junctio 85.01 329 P **P** **23 35 25.1 +1.3**
YNR IAmb IAmb 23 35 43.8
comp=Z,9.4nm,1.2s
C09A Chrisman Ranch 85.09 335 P **P** **23 35 24.2 +0.3**
BLOK Blackwell 85.09 316 P **P** **23 35 24.1 0.0**
BLOK IAmb IAmb 23 35 38.3
comp=Z,10nm,0.8s
YHL Hebgen Lake 85.09 329 P **P** **23 35 24.1 -0.2**
YHL IAmb IAmb 23 35 30.6
comp=Z,8.1nm,1.1s
OK044 Pawnee Station 85.16 315 P **P** **23 35 24.9 +0.4**
YMR Madison River 85.16 329 P **P** **23 35 25.0 +0.4**
YMR IAmb IAmb 23 35 27.9
comp=Z,14nm,1.2s
OK045 Pawnee Station 85.17 315 P **P** **23 35 24.2 -0.3**
YHB Horse Butte 85.18 329 P **P** **23 35 25.0 +0.3**
YHB IAmb IAmb 23 35 39.4
comp=Z,5.7nm,0.9s
OK048 Pawnee Station 85.20 315 P **P** **23 35 24.9 +0.3**
QLMT Earthquake Lak 85.21 329 P **P** **23 35 25.8 +1.0**
UNV Unalaska Valle 85.22 5 P **P** **23 35 24.9 +0.6**
UNV Unalaska Valle 85.22 5 P **P** **23 35 23.6 -0.7**
baz=353
H17A Grant Village 85.24 328 P **P** **23 35 26.0 +1.0**
H17A IAmb IAmb 23 35 41.6
comp=Z,12nm,1.1s
H17A Grant Village 85.24 328 P **P** **23 35 23.6 -1.4**
baz=34
QUOK Quay 85.26 315 P **P** **23 35 25.1 +0.2**
QUOK IAmb IAmb 23 35 29.4
comp=Z,16nm,1.1s
OK034 N. Norfolk Rd. 85.38 315 P **P** **23 35 25.4 -0.1**
DEOK Depew 85.39 315 P **P** **23 35 25.5 -0.1**
DEOK IAmb IAmb 23 35 36.2
comp=Z,13nm,0.8s
OK053 SW of W Deep R 85.42 315 P **P** **23 35 25.3 -0.4**
OK053 IAmb IAmb 23 35 30.1
comp=Z,9.0nm,0.9s
YPP Pitchstone Pla 85.43 329 P **P** **23 35 27.2 +1.2**
YPP IAmb IAmb 23 35 30.4
comp=Z,8.7nm,1.2s
OK052 Battle Ridge R 85.44 315 P **P** **23 35 26.6 +0.7**
OK052 IAmb IAmb 23 35 39.4
comp=Z,11nm,1.0s
OK033 Mehan 85.48 315 P **P** **23 35 26.5 +0.4**
OK033 IAmb IAmb 23 35 30.1
comp=Z,9.8nm,1.0s
OK030 Cody Creek RV 85.48 315 P **P** **23 35 25.9 -0.1**
OK031 S. Brethren Rd 85.49 315 P **P** **23 35 25.4 -0.7**
OK031 IAmb IAmb 23 35 27.2
comp=Z,13nm,1.0s
FLWY Flagg Ranch 85.55 328 P **P** **23 35 27.1 +0.6**
PHWY Pilot Hill 85.60 324 IAmb IAmb 23 35 40.7
comp=Z,7.0nm,1.1s
NPGB Novo Progresso 85.67 257 *e*P **P** **23 35 27.4 +0.1**
X37A Clayton 85.71 313 P **P** **23 35 27.6 +0.4**
X37A IAmb IAmb 23 35 28.9
comp=Z,12nm,1.1s
MCMT McKenzie Canyo 85.75 330 P **P** **23 35 27.8 +0.3**
IMW Indian Meadow 85.80 328 P **P** **23 35 28.8 +0.9**
IMW IAmb IAmb 23 35 42.8
comp=Z,6.3nm,0.9s
MOOW Moose Ponds 85.84 328 P **P** **23 35 28.7 +0.7**
LOHW Long Hollow 85.90 328 P **P** **23 35 28.6 +0.3**
URIC Uribia, Colomb 85.96 282 P **P** **23 35 28.5 -0.2**
FXWY Fox Creek 86.05 328 P **P** **23 35 28.7 -0.3**
BW06 Boulder Array 86.18 327 P **P** **23 35 29.2 -0.5**
BW06 Boulder Array 86.18 327 P **P** **23 35 28.5 -1.2**
baz=34
E09A Wood Farm, Sta 86.18 334 P **P** **23 35 29.6 +0.3**
E09A IAmb IAmb 23 35 33.8
comp=Z,10nm,1.1s
PD31 Pinedale Array 86.18 327 P **P** **23 35 29.8 +0.1**
PDAR Pinedale Array 86.18 327 P **P** **23 35 28.2 -1.4**
comp=Z,0.5nm,0.7s,baz=35,slow=5.4,SNR=4.2
PDAR LR LR 00 16 16.1
comp=Z,100nm,20.5s,baz=35,slow=37
comp=Z,0.5nm,0.7s
PDAR Pinedale Array 86.18 327 P **P** **23 35 29.1 -0.6**
BDFB Brasilia 86.25 246 P **P** **23 35 30.6 +0.5**
comp=Z,5.3nm,0.8s,baz=74,slow=2.4,SNR=6.4
comp=Z,5.3nm,0.8s
F10A Beach Ranch, E 86.34 333 P **P** **23 35 30.3 +0.1**
BCYI Bear Canyon 86.40 330 P **P** **23 35 30.9 +0.1**
SDV Santo Domingo 86.78 279 LR LR 00 10 58.2
comp=Z,34nm,18.7s,baz=74,slow=33
SDV Santo Domingo 86.78 279 P **P** **23 35 33.8 +0.8**
SDV Santo Domingo 86.78 279 *e*P **P** **23 35 32.9 -0.1**
MACA Manacapuru-AM 87.09 263 P **P** **23 35 34.9 +0.6**
MACA IAmb IAmb 23 35 36.4
comp=Z,21nm,0.9s
MACA Manacapuru-AM 87.09 263 *e*P **P** **23 35 36.0 +1.8**
O20A White River Ci 87.78 325 P **P** **23 35 35.9 -1.6**
baz=35
RDMU Red Mountain 88.00 326 P **P** **23 35 37.8 -0.8**
RDMU IAmb IAmb 23 35 55.9
comp=Z,5.8nm,1.0s
P18A Preston Nutter 89.07 326 P **P** **23 35 43.7 0.0**
S22A 4UR Ranch, Cre 89.09 322 P **P** **23 35 42.6 -1.2**
S22A 4UR Ranch, Cre 89.09 322 P **P** **23 35 42.8 -1.1**
baz=36
PV22 Blue Mesa, Par 89.34 324 P **P** **23 35 43.8 -1.1**
PV22 IAmb IAmb 23 35 58.2
comp=Z,9.8nm,1.2s
PV07 Paradox Valley 89.35 324 P **P** **23 35 44.6 -0.4**
PV07 IAmb IAmb 23 36 02.6
comp=Z,6.7nm,1.1s
PV15 Paradox Valley 89.36 324 P **P** **23 35 44.6 -0.4**
PV15 IAmb IAmb 23 35 58.0
comp=Z,6.6nm,1.1s
PV21 Cone Mtn., Par 89.40 324 P **P** **23 35 44.7 -0.5**
PV21 IAmb IAmb 23 35 50.8
comp=Z,4.7nm,1.0s
PINE Pine Mountain 89.50 335 P **P** **23 35 46.3 +0.8**
PV23 Carpenter Ridg 89.50 324 P **P** **23 35 45.0 -0.7**
PV23 IAmb IAmb 23 35 50.0
comp=Z,6.9nm,1.0s
PV04 Paradox Valley 89.50 324 P **P** **23 35 45.3 -0.3**
PV12 Saucer Basin, 89.52 324 P **P** **23 35 45.8 +0.1**
PV12 IAmb IAmb 23 35 59.8
comp=Z,7.3nm,1.0s
PV01 Paradox Valley 89.57 324 P **P** **23 35 45.3 -0.7**
PV11 David Mesa, Pa 89.57 324 P **P** **23 35 45.5 -0.5**
PV11 IAmb IAmb 23 35 50.4
comp=Z,12nm,1.2s
PV14 Lion Creek, Pa 89.58 324 P **P** **23 35 45.6 -0.4**
PV14 IAmb IAmb 23 35 55.2
comp=Z,5.5nm,1.0s
PV20 West Nyswonger 89.58 324 P **P** **23 35 46.2 +0.2**
PV20 IAmb IAmb 23 35 51.6
comp=Z,4.3nm,0.8s
PV16 Nyswonger Mesa 89.58 324 P **P** **23 35 45.5 -0.5**
PV16 IAmb IAmb 23 36 03.8
comp=Z,6.8nm,1.1s
PV03 Paradox Valley 89.59 324 P **P** **23 35 46.3 +0.2**
PV03 IAmb IAmb 23 36 00.0
comp=Z,5.4nm,1.1s
PV17 East Wray Mesa 89.62 324 P **P** **23 35 45.3 -0.9**
PV17 IAmb IAmb 23 35 46.5
comp=Z,5.8nm,1.0s
PV18 Skein Mesa, Pa 89.63 324 P **P** **23 35 46.0 -0.2**
PV18 IAmb IAmb 23 35 46.6
comp=Z,7.6nm,1.2s
PV13 Radium Mtn., P 89.66 324 P **P** **23 35 45.8 -0.7**
BUCK Buck Mountain 89.78 336 P **P** **23 35 47.1 +0.4**
SGCB SEo Gabriel d 89.91 270 *e*P **P** **23 35 48.8 +1.2**
ELK Elko 90.15 329 LR LR 00 19 02.2
comp=Z,114nm,19.1s,baz=36,slow=37
MVCO Mesa Verde 90.30 323 P **P** **23 35 49.8 +0.3**
baz=35
MVU Marysvale 90.84 326 P **P** **23 35 52.1 +0.2**
ANMO Albuquerque 91.18 320 LR LR 00 18 02.8
comp=Z,185nm,18.9s,baz=44,slow=36
MTPU Mount Pierson 91.22 326 P **P** **23 35 54.3 +0.4**
JCJ Chichijima 92.06 51 P **P** **23 35 59.1 +1.7**
comp=Z,52nm,0.6s,baz=330,slow=20,SNR=1.2
NVAR Mina Amy Bea 93.33 330 P **P** **23 36 03.4 -0.1**
comp=Z,0.5nm,0.5s,baz=76,slow=3.5,SNR=3.8
comp=Z,0.5nm,0.5s
TXAR Lajitas Array 94.25 315 P **P** **23 36 07.2 -0.4**
comp=Z,0.9nm,0.8s,baz=53,slow=5.0,SNR=6.0
TXAR LR LR 00 18 24.2
comp=Z,177nm,18.4s,baz=36,slow=35
comp=Z,0.9nm,0.8s
DAV Davao City (W) 95.00 76 LR LR 00 26 33.0
comp=Z,51nm,18.3s,baz=6.5,slow=40
SIV San Ignacio 95.76 254 LR LR 00 22 06.8
comp=Z,68nm,18.5s,baz=90,slow=37
KAPI Kappang 98.56 89 LR LR 00 29 21.2
comp=Z,37nm,18.3s,baz=287,slow=40
ZAIG Zacatecas 98.78 310 P **P** **23 36 26.2 -2.3**
CPUP Villa Florida 99.84 244 LR LR 00 23 56.6
comp=Z,151nm,18.5s,baz=45,slow=37
WRA Warramunga Arr 118.93 92 PKP **PKPdf** **23 41 34.5 -2.5**
comp=Z,0.5nm,1.2s,baz=306,slow=2.2,SNR=1.6
ASAR Alice Springs 120.76 96 PKP **PKPdf** **23 41 38.4 -2.1**
comp=Z,0.2nm,0.4s,baz=289,slow=1.2,SNR=5.7

ROM 18 23:23:51.5±0.0,43.015N±0.002×13.071E±0.004, h9km, ML2.4/28, Error ellipse: s-maj=0.3km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**30**	P		Pg	23 23 53.3	0.0
FDMO				S		Sg	23 23 54.1	-0.3
FDMO				AML		AML		
	comp=N,18900μm,0.2s							
FDMO				AML		AML		
	comp=E,30350μm,0.2s							
FDMO				AML		AML		
	comp=N,18950μm,0.2s							
FEMA	**Monte Fema**	**0.06**	**196**	P		Pg	23 23 53.9	+0.3
FEMA				S		Sg	23 23 55.2	+0.2
FEMA				AML		AML		
	comp=N,13350μm,0.4s							
FEMA				AML		AML		
	comp=E,12400μm,0.9s							
T1219	**Muccia, Frazio**	**0.06**	**311**	P		Pg	23 23 53.9	+0.3
T1219				S		Sg	23 23 55.2	+0.2
T1219				AML		AML		
	comp=E,2025μm,1.1s							
T1219				AML		AML		
	comp=N,3750μm,0.3s							
T1219				AML		AML		
	comp=E,1983μm,0.3s							
T1219				AML		AML		
	comp=N,3550μm,0.3s							
T1219				AML		AML		
	comp=N,3550μm,0.3s							
T1219				AML		AML		
	comp=E,2025μm,1.1s							
T1219				AML		AML		
	comp=E,1980μm,0.3s							
T1219				AML		AML		
	comp=N,3745μm,0.3s							
T1256	**Bolognola (MC)**	**0.11**	**94**	P		Pg	23 23 54.7	+0.3
T1256				S		Sg	23 23 56.8	+0.5
T1256				AML		AML		
	comp=N,2660μm,0.2s							
T1256				AML		AML		
	comp=N,2420μm,0.2s							
T1256				AML		AML		
	comp=E,3730μm,0.3s							
T1256				AML		AML		
	comp=N,2660μm,0.2s							
T1256				AML		AML		
	comp=E,3800μm,0.3s							
CESI	**CESI - Serrava**	**0.12**	**265**	P		Pg	23 23 55.1	+0.7
CESI				S		Sg	23 23 57.4	+1.0
CESI				AML		AML		
	comp=N,2730μm,0.3s							
CESI				AML		AML		
	comp=E,2970μm,0.2s							
CSP1	**Cessapalombo**	**0.12**	**52**	P		Pg	23 23 54.9	+0.4
CSP1				S		Sg	23 23 57.1	+0.5
CSP1				AML		AML		
	comp=E,3090μm,1.1s							
CSP1				AML		AML		
	comp=N,3780μm,0.3s							
CSP1				AML		AML		
	comp=E,3086μm,1.1s							
CSP1				AML		AML		
	comp=N,3785μm,0.3s							
CSP1				AML		AML		
	comp=E,3084μm,1.1s							
T1216	**Preci, Frazion**	**0.13**	**197**	P		Pg	23 23 55.1	+0.6
T1216				S		Sg	23 23 57.7	+1.2
T1216				AML		AML		
	comp=E,3505μm,0.2s							
T1216				AML		AML		
	comp=N,2335μm,0.2s							
T1216				AML		AML		
	comp=E,3506μm,0.2s							
T1216				AML		AML		
	comp=N,2334μm,0.2s							
SEF1	**Sefro**	**0.16**	**326**	P		Pg	23 23 55.6	+0.6
SEF1				S		Sg	23 23 58.5	+1.1
SEF1				AML		AML		
	comp=E,4190μm,0.3s							
SEF1				AML		AML		
	comp=N,5225μm,0.3s							
SEF1				AML		AML		
	comp=E,4190μm,0.3s							
SEF1				AML		AML		
	comp=N,5225μm,0.3s							
T1245	**Castelsantange**	**0.18**	**151**	P		Pg	23 23 55.9	+0.5
T1245				S		Sg	23 23 59.2	+1.2
T1245				AML		AML		
	comp=E,2075μm,1.4s							
T1245				AML		AML		
	comp=N,2825μm,1.2s							
T1245				AML		AML		
	comp=E,2040μm,1.4s							
T1245				AML		AML		
	comp=E,2080μm,1.4s							
T1245				AML		AML		
	comp=N,2820μm,1.2s							
T1245				AML		AML		
	comp=N,2665μm,1.2s							
NRCA	**Norcia**	**0.18**	**170**	P		Pg	23 23 56.0	+0.6
NRCA				S		Sg	23 23 59.3	+1.3
NRCA				AML		AML		
	comp=E,2940μm,0.2s							
NRCA				AML		AML		
	comp=N,2265μm,0.2s							
NRCA				AML		AML		
	comp=N,2270μm,0.2s							
NRCA				AML		AML		
	comp=E,3080μm,0.2s							
NRCA				AML		AML		
	comp=E,2940μm,0.2s							
NRCA				AML		AML		
	comp=N,2425μm,0.2s							
GUMA	**Gualdo di Mace**	**0.20**	**76**	P		Pg	23 23 56.5	+0.8
GUMA				S		Sg	23 24 00.3	+1.8
GUMA				AML		AML		
	comp=N,3905μm,0.3s							
GUMA				AML		AML		
	comp=N,3905μm,0.3s							
GUMA				AML		AML		
	comp=E,6230μm,0.2s							
GUMA				AML		AML		
	comp=E,4345μm,0.2s							
GUMA				AML		AML		
	comp=N,3185μm,0.3s							
MMO1	**Montemonaco**	**0.22**	**122**	P		Pg	23 23 56.6	+0.5
MMO1				S		Sg	23 24 00.3	+1.2
SNTG	**Esanatoglia**	**0.26**	**338**	P		Pg	23 23 57.3	+0.6
SNTG				S		Sb	23 24 01.6	-1.4
SNTG				AML		AML		
	comp=E,1810μm,0.1s							
SNTG				AML		AML		
	comp=N,1765μm,0.2s							
SNTG				AML		AML		
	comp=N,1810μm,0.2s							
SNTG				AML		AML		
	comp=E,1820μm,0.1s							
SNTG				AML		AML		
	comp=E,1815μm,0.1s							
ASSB	**Assisi San Ben**	**0.30**	**275**	P		Pg	23 23 58.2	+0.6
ASSB				S		Sb	23 24 03.3	-1.0
ASSB				AML		AML		
	comp=E,1450μm,0.3s							
ASSB				AML		AML		
	comp=N,1104μm,0.4s							
EL6	**Elcito**	**0.32**	**4**	P		Pg	23 23 58.3	+0.4
EL6				S		Sb	23 24 03.5	-1.2
EL6				AML		AML		
	comp=E,1508μm,0.2s							
EL6				AML		AML		
	comp=N,1790μm,0.2s							
EL6				AML		AML		
	comp=E,1507μm,0.2s							
T1218	**Civita (PG)**	**0.35**	**175**	P		Pg	23 23 58.9	+0.5
T1218				S		Sb	23 24 04.6	-1.0
T1218				AML		AML		
	comp=E,753μm,0.1s							
T1218				AML		AML		
	comp=N,679μm,1.4s							
T1218				AML		AML		
	comp=E,752μm,0.1s							
T1218				AML		AML		
	comp=N,680μm,1.4s							
ATCC	**AVT- Casa Cast**	**0.36**	**298**	P		Pg	23 23 59.2	+0.6
ATCC				S		Sb	23 24 05.4	-0.5
ATCC				AML		AML		
	comp=E,1068μm,0.1s							
ATCC				AML		AML		
	comp=N,1035μm,0.2s							
ATCC				AML		AML		
	comp=N,1036μm,0.2s							
ATCC				AML		AML		
	comp=E,1068μm,0.1s							
FOSV	**Fossato di Vic**	**0.36**	**321**	P		Pg	23 23 59.1	+0.5
FOSV				S		Sb	23 24 05.1	-0.8
FOSV				AML		AML		
	comp=E,509μm,0.9s							
FOSV				AML		AML		
	comp=N,472μm,0.4s							
CING	**Cingoli**	**0.37**	**14**	P		Pg	23 23 59.3	+0.4
CING				S		Sb	23 24 05.5	-0.8
CING				AML		AML		
	comp=E,544μm,0.4s							
CING				AML		AML		
	comp=N,544μm,0.1s							

LNSS	**Leonessa**	**0.41**	**183**	P	Pg	23 23 60.0 +0.3
LNSS				S	Sb	23 24 07.0 -0.5
LNSS				AML	AML	
	comp=E,201µm,0.2s					
LNSS				AML	AML	
	comp=N,448µm,0.7s					
T1243	**Rocca Santa Ma**	**0.42**	**139**	P	Pg	23 24 00.1 +0.3
T1243				S	Sb	23 24 07.2 -0.6
OFFI	**Offida**	**0.46**	**100**	P	Pb	23 24 02.0 +0.2
MURB	**Monte Urbino**	**0.47**	**302**	P	Pg	23 24 01.3 +0.6
MURB				AML	AML	
	comp=E,1122µm,0.8s					
MURB				AML	AML	
	comp=N,615µm,0.1s					
MURB				AML	AML	
	comp=N,710µm,0.8s					
MURB				AML	AML	
	comp=E,1118µm,0.8s					
MURB				AML	AML	
	comp=E,901µm,0.3s					
MURB				AML	AML	
	comp=N,614µm,0.1s					
SSFR	**Montelago di S**	**0.47**	**333**	P	Pg	23 24 01.1 +0.4
SSFR				S	Sb	23 24 09.1 -0.1
SSFR				AML	AML	
	comp=E,1145µm,1.0s					
SSFR				AML	AML	
	comp=N,1190µm,0.2s					
SSFR				AML	AML	
	comp=N,1135µm,0.2s					
SSFR				AML	AML	
	comp=E,1014µm,0.7s					
ARRO	**Arrone**	**0.49**	**207**	P	Pg	23 24 01.6 +0.6
ARRO				AML	AML	
	comp=E,186µm,1.6s					
ARRO				AML	AML	
	comp=N,188µm,0.2s					
ARRO				AML	AML	
	comp=E,204µm,1.3s					
ARRO				AML	AML	
	comp=N,188µm,0.2s					
ARVD	**Arcevia**	**0.49**	**349**	P	Pg	23 24 01.5 +0.4
ARVD				S	Sb	23 24 09.4 -0.3
ARVD				AML	AML	
	comp=E,398µm,0.1s					
ARVD				AML	AML	
	comp=N,299µm,1.2s					
ATFO	**Monte Foce - G**	**0.51**	**314**	P	Pg	23 24 01.9 +0.5
ATFO				AML	AML	
	comp=E,308µm,1.2s					
ATFO				AML	AML	
	comp=E,406µm,1.2s					
ATFO				AML	AML	
	comp=N,295µm,1.6s					
RM33	**Pellescritta (**	**0.52**	**168**	P	Pg	23 24 01.7 +0.2
RM33				AML	AML	
	comp=E,348µm,1.2s					
RM33				AML	AML	
	comp=N,188µm,1.3s					
RM33				AML	AML	
	comp=E,479µm,1.0s					
RM33				AML	AML	
	comp=N,234µm,1.5s					
RM33				AML	AML	
	comp=N,202µm,1.1s					
RM33				AML	AML	
	comp=E,347µm,1.2s					
PP3	**Marolino**	**0.54**	**47**	P	Pb	23 24 03.2 +0.2
CAMP	**Campotosto**	**0.54**	**152**	P	Pg	23 24 02.1 +0.1
CAMP				AML	AML	
	comp=N,174µm,1.4s					
CAMP				AML	AML	
	comp=E,313µm,1.3s					
CESX	**Cesi**	**0.54**	**222**	P	Pg	23 24 02.2 +0.2
CESX				AML	AML	
	comp=N,370µm,1.3s					
CESX				AML	AML	
	comp=E,313µm,0.3s					
TERO	**Teramo**	**0.56**	**135**	P	Pg	23 24 02.4 +0.1
TERO				AML	AML	
	comp=E,314µm,1.0s					
TERO				AML	AML	
	comp=N,238µm,0.8s					
TERO				AML	AML	
	comp=E,312µm,1.1s					
TERO				AML	AML	
	comp=N,240µm,0.5s					
TERO				AML	AML	
	comp=N,240µm,0.9s					
TERO				AML	AML	
	comp=E,312µm,1.1s					
TERO				AML	AML	
	comp=N,249µm,0.9s					
FRON	**Frontone**	**0.56**	**333**	P	Pg	23 24 02.7 +0.2
FRON				AML	AML	
	comp=E,228µm,0.5s					
FRON				AML	AML	
	comp=N,312µm,0.6s					
FRON				AML	AML	
	comp=E,228µm,0.5s					
FRON				AML	AML	
	comp=N,361µm,0.6s					
T1247	**Pizzolo (AQ)**	**0.60**	**164**	S	Sb	23 24 14.0 +1.2
ATVO	**AVT- Monte Val**	**0.61**	**307**	P	Pg	23 24 03.6 +0.3
ATVO				AML	AML	
	comp=E,276µm,0.6s					
ATVO				AML	AML	
	comp=E,284µm,1.2s					
ATVO				AML	AML	
	comp=N,364µm,0.6s					
COR1	**Corinaldo**	**0.62**	**355**	P	Pb	23 24 04.5 -0.1
PIEI	**Pieia**	**0.65**	**323**	P	Pg	23 24 04.2 +0.1
PIEI				AML	AML	
	comp=E,208µm,0.5s					
PIEI				AML	AML	
	comp=N,128µm,0.7s					
PIEI				AML	AML	
	comp=E,208µm,0.5s					
PIEI				AML	AML	
	comp=N,132µm,1.2s					
MPAG	**Monte Paganucc**	**0.65**	**340**	P	Pb	23 24 04.7 -0.5
MPAG				AML	AML	
	comp=E,341µm,0.6s					
MPAG				AML	AML	
	comp=N,257µm,1.1s					
MPAG				AML	AML	
	comp=E,342µm,0.6s					
MPAG				AML	AML	
	comp=N,304µm,0.9s					
GIGS	**Gran Sasso**	**0.67**	**147**	P	Pg	23 24 04.6 +0.1
GIGS				AML	AML	
	comp=N,102µm,1.2s					
GIGS				AML	AML	
	comp=E,108µm,1.0s					
GIGS				AML	AML	
	comp=N,102µm,1.2s					
NARO	**Abbazia di Nar**	**0.69**	**329**	P	Pg	23 24 05.0 +0.1
NARO				AML	AML	
	comp=E,144µm,1.2s					
NARO				AML	AML	
	comp=N,154µm,1.6s					
FSSB	**Fossombrone**	**0.71**	**343**	P	Pb	23 24 05.7 -0.4
FSSB				AML	AML	
	comp=N,591µm,0.4s					
FSSB				AML	AML	
	comp=E,468µm,0.3s					
FSSB				AML	AML	
	comp=N,592µm,0.4s					
FIAM	**Fiamignano**	**0.75**	**177**	P	Pg	23 24 05.9 0.0
FIAM				AML	AML	
	comp=E,288µm,1.0s					
FIAM				AML	AML	
	comp=N,216µm,0.8s					
FIAM				AML	AML	
	comp=N,276µm,0.6s					
FIAM				AML	AML	
	comp=E,388µm,0.8s					
BADI	**Badiali**	**0.78**	**310**	S	Sn	23 24 20.0 -0.6
FAGN	**Fagnano**	**0.84**	**153**	P	Pg	23 24 08.0 +0.3
FAGN				AML	AML	
	comp=N,436µm,1.2s					
FAGN				AML	AML	
	comp=E,716µm,0.6s					
FAGN				AML	AML	
	comp=N,490µm,1.5s					
SRES	**S.Oreste - Sor**	**0.88**	**208**	S	Sn	23 24 23.0 -0.1
T0110	**Collepietro**	**0.95**	**146**	P	Pg	23 24 09.4 -0.3
T0110				AML	AML	
	comp=E,476µm,0.8s					
T0110				AML	AML	
	comp=N,402µm,1.0s					

NEIC ***18*** *23:46:04.5±1.9, 17°.33S±0°.08×174°.33W±0°.10, h84km±11km, mb4.4/13, Error ellipse: s-maj=13.8km s-min=11.3km az=59.0*

IDC ***18*** *23:46:05.7±4.4, 17°.18S×174°.37W, h87km±31km, mb3.8/5, mbtmp4.2/6, MS3.4/1, Error ellipse: s-maj=127.1km s-min=19.4km az=143.0*

ISC 18 23:46:05.7±0.6, 17°.26S±0°.07×174°.11W±0°.09, h100km, n26, σ1s77/20, mb4.2/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**4.01**	**34**	P		**Pn**		**23 47 06.5**	**+1.2**
	36nm,0.3s,baz=104,slow=1.6,SNR=17								
AFI				S		**Sn**		**23 47 49.0**	**-2.3**
	218nm,0.3s,baz=146,slow=23,SNR=18								
AFI	**Afiamalu**	**4.01**	**34**	Pn		**Pn**		**23 47 06.6**	**+1.4**
AFI				Sn		**Sn**		**23 47 48.7**	**-2.6**
NIUE	**Niue**	**4.37**	**115**	Pn		**Pn**		**23 47 11.2**	**+1.3**
NIUE				Sn		**Sn**		**23 47 56.6**	**-3.1**
MSVF	**Nonsavu**	**7.50**	**265**	Pn		Pn		23 47 47.7	-4.8
LIFNC	**LIFOU**	**17.98**	**256**	P		P		23 50 03.9	-4.6
TARA	**Tarawa**	**22.48**	**324**	P		**P**		**23 50 54.1**	**-2.9**
BKZ	**Black Stump Fm**	**23.32**	**199**	P		**P**		**23 51 05.5**	**+0.5**
BKZ				IAmb		IAmb		23 51 08.1	
	comp=Z,16nm,1.2s								
PMG	**Port Moresby**	**38.43**	**277**	LR		LR		00 08 22.1	
	comp=Z,51nm,18.8s,baz=48,slow=35								
STKA	**Stephens Creek**	**42.54**	**241**	P		**P**		**23 53 51.5**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=97,slow=8.1,SNR=5.2								
	comp=Z,2.9nm,0.7s								
STKA	**Stephens Creek**	**42.54**	**241**	P		P		23 53 49.5	-2.2
BBOO	**Buckleboo**	**47.31**	**241**	P		**P**		**23 54 28.5**	**-1.0**
WR0	**Warramunga Arr**	**48.59**	**258**	P		P		23 54 35.9	-3.7
WR0				IAmb		IAmb		23 55 00.2	
	comp=Z,7.6nm,1.2s								
WB0	**Warramunga Arr**	**48.75**	**259**	P		P		23 54 39.1	-1.7
WB0				IAmb		IAmb		23 54 40.3	
	comp=Z,4.4nm,0.9s								
WB2	**Warramunga Arr**	**48.77**	**258**	P		**P**		**23 54 39.7**	**-1.2**
WB2				IAmb		IAmb		23 55 15.7	
	comp=Z,7.5nm,1.4s								
WRA	**Warramunga Arr**	**48.78**	**258**	P		**P**		**23 54 40.1**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=97,slow=6.9,SNR=9.6								
	comp=Z,1.3nm,0.5s								
WRA	**Warramunga Arr**	**48.78**	**258**	P		P		23 54 37.8	-3.2
AS31	**Alice Springs**	**48.91**	**253**	P		P		23 54 40.3	-1.7
AS31				IAmb		IAmb		23 54 42.0	
	comp=Z,2.1nm,0.8s								
ASAR	**Alice Springs**	**48.91**	**253**	P		**P**		**23 54 41.5**	**-0.6**
	comp=Z,6.4nm,0.5s,baz=87,slow=8.5,SNR=60								
	comp=Z,6.4nm,0.5s								
ASAR	**Alice Springs**	**48.91**	**253**	P		P		23 54 40.1	-1.9
VNDA	**Vanda**	**61.47**	**186**	P		**P**		**23 56 10.5**	**-0.8**
QSPA	**South Pole Qui**	**72.80**	**180**	P		**P**		**23 57 23.1**	**-0.2**
QSPA				IAmb		IAmb		23 58 01.7	
	comp=Z,2.1nm,0.8s								
PDAR	**Pinedale Array**	**84.09**	**42**	P		**P**		**23 58 27.5**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=222,slow=2.0,SNR=5.9								
	comp=Z,0.5nm,0.7s								
ILAR	**Eielson Array**	**84.39**	**11**	P		**P**		**23 58 27.6**	**+1.2**
	comp=Z,1.1nm,1.0s,baz=242,slow=6.6,SNR=9.9								
	comp=Z,1.1nm,1.0s								
SNAA	**Sanae**	**91.10**	**177**	P		**P**		**23 58 59.1**	**+0.2**
SNAA				IAmb		IAmb		23 59 02.2	
	comp=Z,5.4nm,1.5s								
BRTR	**Keskin Array B**	**147.13**	**319**	PKPbc		**PKPdf**		**00 05 38.2**	**+2.8**
	comp=Z,1.2nm,0.9s,baz=142,slow=4.2,SNR=4.8								
GERES	**GERESS Array B**	**147.86**	**350**	PKPbc		**PKPbc**		**00 05 40.5**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=32,slow=8.1,SNR=3.9								

SKO 19 00:12:01.8, 40°.98N×22°.74E, h10km, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KNT	**Kendrikon**	**0.22**	**33**	*i*	Pg	Pg		00 12 06.0	-0.3
KNT				*i*	Sg	Sg		00 12 09.3	-0.1
GRG	**Griva**	**0.26**	**265**	*i*	Pg	Pg		00 12 07.1	+0.1
GRG				*i*	Sg	Sg		00 12 11.1	+0.5
VAY	**Valandovo**	**0.36**	**339**	*i*	Pg	Pg		00 12 09.3	+0.3
VAY				*i*	Sg	Sg		00 12 14.2	+0.3
VAY				*i*	Lg	Lg		00 12 14.3	
	comp=N,25nm,0.3s								
VAY				*i*	Lg	Lg		00 12 14.6	
	comp=E,11nm,0.2s								
SOH	**Sokhos**	**0.49**	**109**	*i*	Pg	Pg		00 12 11.6	+0.2
SRS	**Serrai**	**0.66**	**78**	*i*	Pg	Pg		00 12 14.5	0.0
SRS				*i*	Sg	Sg		00 12 23.5	+0.3
STIP	**Stip**	**0.83**	**330**	*i*	Pg	Pg		00 12 17.9	+0.2
STIP				*i*	Sg	Sg		00 12 27.4	-1.1

ATH 19 00:12:15.4, 39°.69N×20°.77E, h13km±2km, ML1.7/3, Error ellipse: s-maj=2.2km s-min=1.0km az=163.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JAN	**Janina**	**0.07**	**118**	P		Pg		00 12 17.6	-0.6
JAN				S		Sg		00 12 20.4	+0.3
JAN				AML		AML		00 12 20.9	
	comp=E,1515µm,0.2s								
JAN				AML		AML		00 12 21.3	
	comp=N,732µm,0.2s								
IGT	**Igoumenitsa**	**0.38**	**246**	P		Pg		00 12 22.4	-0.6
IGT				S		Sg		00 12 28.6	+0.5
IGT				AML		AML		00 12 30.6	
	comp=N,270µm,0.2s								
IGT				AML		AML		00 12 32.2	
	comp=E,423µm,0.3s								
KPRO	**Kipourio**	**0.53**	**59**	P		Pg		00 12 25.1	-0.7
KPRO				S		Sg		00 12 32.8	0.0
KEK	**Kerkira**	**0.75**	**272**	P		Pg		00 12 30.1	-0.1
KEK				S		Sg		00 12 40.1	+0.1
KEK				AML		AML		00 12 43.7	
	comp=N,110µm,0.4s								
KEK				AML		AML		00 12 45.2	
	comp=E,125µm,0.2s								
NEST	**Nestorio**	**0.76**	**16**	P		Pg		00 12 29.7	-0.4
NEST				S		Sb		00 12 40.5	-0.3
THL	**Klokotos Trika**	**0.97**	**97**	P		Pb		00 12 33.7	-0.4
MAKR	**Makrakomi, Fth**	**1.25**	**122**	P		Pn		00 12 38.5	-0.1

SKO 19 00:35:07.5, 40°.92N×22°.73E, h15km, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GRG	**Griva**	**0.25**	**278**	*i*	Pg	Pb		00 35 14.0	+0.3
GRG				*i*	Sg	Sb		00 35 18.1	+0.1
KNT	**Kendrikon**	**0.27**	**28**	↑*i*	Pg	Pg		00 35 13.1	-0.2
KNT				*i*	Sg	Sg		00 35 16.4	-0.9
THE	**Thessaloniki**	**0.34**	**148**	*i*	Pg	Pb		00 35 16.2	+1.1
VAY	**Valandovo**	**0.42**	**343**	*i*	Pg	Pg		00 35 16.1	+0.2
VAY				*i*	Sg	Sg		00 35 21.5	-0.1
VAY				*i*	Lg	Lg		00 35 21.6	
	comp=N,18nm,0.3s								
VAY				*i*	Lg	Lg		00 35 21.7	
	comp=E,15nm,0.3s								
SOH	**Sokhos**	**0.48**	**102**	*i*	Pg	Pb		00 35 18.6	+1.0
SOH				*i*	Sg	Sb		00 35 25.8	+1.2
SRS	**Serrai**	**0.68**	**73**	*i*	Pg	Pb		00 35 21.5	+0.4
SRS				*i*	Sg	Sb		00 35 30.8	+0.5
STIP	**Stip**	**0.88**	**332**	*i*	Pg	Pb		00 35 23.9	-0.4
STIP				*i*	Sg	Sb		00 35 34.5	-1.4

THE ***19*** *00:35:48.2, 39°.72N×20°.74E, h19km±2km, ML2.1/7, Error ellipse: s-maj=2.7km s-min=0.6km az=148.0*

ATH 19 00:35:49.3, 39°.78N×20°.73E, h11km±3km, ML2.0/7, Error ellipse: s-maj=3.7km s-min=1.2km az=287.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JAN	**Janina**	**0.15**	**142**	P		Pg		00 35 51.6	-1.2
JAN				S		Sg		00 35 54.8	-0.5
	2µm,0.2s								
JAN	**Janina**	**0.15**	**142**	P		Pg		00 35 51.7	-1.1
JAN				S		Sg		00 35 54.5	-0.8
JAN				AML		AML		00 35 55.1	
	comp=N,2788µm,0.2s								
JAN				AML		AML		00 35 55.6	
	comp=E,4186µm,0.2s								
LSK	**Leskovik**	**0.38**	**345**	P		Pg		00 35 56.5	-0.4
LSK				S		Sb		00 36 04.2	0.0
	comp=E,332nm,0.7s								
IGT	**Igoumenitsa**	**0.39**	**231**	P		Pg		00 35 55.8	-1.3
IGT				S		Sg		00 36 01.9	-0.4
	comp=E,322nm,0.3s								
IGT	**Igoumenitsa**	**0.39**	**231**	P		Pg		00 35 56.0	-1.1
IGT				S		Sg		00 36 02.3	0.0
IGT				AML		AML		00 36 05.3	
	comp=N,504µm,0.2s								
IGT				AML		AML		00 36 05.5	
	comp=E,548µm,0.2s								
KPRO	**Kipourio**	**0.52**	**70**	P		Pg		00 35 59.0	-0.4
KPRO				S		Sb		00 36 07.2	-0.9
	comp=E,262nm,0.4s								
KPRO	**Kipourio**	**0.52**	**70**	P		Pg		00 35 59.0	-0.4
KPRO				S		Sg		00 36 06.2	-0.1
KPRO				AML		AML		00 36 08.6	
	comp=E,694µm,0.5s								
KPRO				AML		AML		00 36 10.7	
	comp=N,354µm,0.3s								
SRN	**Sarande**	**0.57**	**280**	P		Pg		00 35 59.1	-1.3
SRN				S		Sb		00 36 08.8	-0.6
	comp=N,328nm,0.2s								
KASA	**Kassiopi**	**0.61**	**267**	P		Pg		00 36 00.0	-1.1
KASA				S		Sb		00 36 10.2	-0.4
KASA				AML		AML		00 36 11.8	
	comp=N,384µm,0.3s								
KASA				AML		AML		00 36 12.3	
	comp=E,373µm,0.3s								
NEST	**Nestorio**	**0.68**	**21**	P		Pg		00 36 02.1	-0.4
NEST				S		Sb		00 36 12.3	-0.5
	comp=E,42nm,0.5s								
NEST	**Nestorio**	**0.68**	**21**	P		Pg		00 36 02.2	-0.3
KEK	**Kerkira**	**0.72**	**265**	P		Pg		00 36 01.5	-1.7
KEK				S		Sg		00 36 12.7	+0.1
	comp=E,82nm,0.5s								
KEK	**Kerkira**	**0.72**	**265**	P		Pg		00 36 01.6	-1.7
KEK				S		Sg		00 36 13.2	+0.5
KEK				AML		AML		00 36 17.2	
	comp=N,162µm,0.5s								
KEK				AML		AML		00 36 19.2	
	comp=E,200µm,0.3s								
TSLK	**Tsoukalades, L**	**0.95**	**183**	P		Pg		00 36 07.2	-0.4
LKD2	**Lefkada island**	**0.99**	**183**	P		Pg		00 36 07.4	-1.0
EVR	**Evrytania**	**1.20**	**135**	P		Pb		00 36 10.4	-1.8
EVR				AML		AML		00 36 35.9	
	comp=E,64µm,0.6s								
EVR				AML		AML		00 36 38.3	
	comp=N,64µm,0.5s								
MAKR	**Makrakomi, Fth**	**1.33**	**125**	P		Pn		00 36 13.3	-0.5
MAKR				S		Sg		00 36 32.2	+0.1
MAKR				AML		AML		00 36 37.2	
	comp=N,172µm,0.5s								
MAKR				AML		AML		00 36 40.3	
	comp=E,153µm,0.4s								

WEL 19 00:46:37.3±0.3, 42°.S±2°×17°.4E±°, h5km, M3.4/13, ML3.9/13, MLv3.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KHZ	**Kahutara**	**0.23**	**176**	P		P	Pg	00 46 42.2	+0.4
KHZ				S		S	Sg	00 46 45.8	+1.0
BSWZ	**Blackbirch Sta**	**0.54**	**30**	P		P	Pg	00 46 47.9	+0.3
BSWZ				S		S	Sg	00 46 56.0	+1.3
THZ	**Tophouse**	**0.62**	**313**	P		P	Pg	00 46 49.7	+0.4
CMWZ	**Cape Campbell**	**0.68**	**50**	P		P	Pb	00 46 51.0	-0.5
TUWZ	**Tuamarina**	**0.82**	**23**	P		P	Pg	00 46 53.0	0.0
GVZ	**Greta Valley S**	**0.86**	**204**	P		P	Pb	00 46 54.3	-0.4
MRNZ	**Matariki Terra**	**0.97**	**324**	P		P	Pg	00 46 56.2	+0.3
NNZ	**Nelson**	**0.97**	**354**	P		P	Pg	00 46 55.6	-0.3
LTZ	**Lake Taylor**	**1.10**	**237**	P		P	Pg	00 46 57.5	-0.8
TCW	**Tory Channel**	**1.13**	**30**	P		P	Pg	00 46 58.0	-0.8
AMCZ	**Amberley**	**1.18**	**213**	P		P	Pg	00 46 59.2	-0.6
TKNZ	**Takaka Hill**	**1.23**	**340**	P		P	Pg	00 47 00.4	-0.4
WEL	**Wellington**	**1.30**	**46**	P		P	Pn	00 47 00.5	-1.5
DSZ	**Denniston Nort**	**1.35**	**288**	P		P	Pn	00 47 03.0	+0.1
DUWZ	**D'Urville Isla**	**1.42**	**12**	P		P	Pn	00 47 03.1	-0.6
PLWZ	**Palliser**	**1.44**	**65**	P		P	Pn	00 47 01.4	-2.6
MSWZ	**Moikau Station**	**1.50**	**60**	P		P	Pn	00 47 02.4	-2.6
QRZ	**Quartz Range**	**1.55**	**331**	P		P	Pn	00 47 05.8	+0.3
OKCZ	**Okains Bay**	**1.57**	**192**	P		P	Pn	00 47 03.2	-2.6
OXZ	**Oxford**	**1.58**	**223**	P		P	Pn	00 47 03.3	-2.6
CAW	**Cannon Point**	**1.58**	**48**	P		P	Pn	00 47 04.0	-2.0
INZ	**Inchbonnie**	**1.63**	**250**	P		P	Pn	00 47 05.0	-0.7
PAWZ	**Paruwai Farm**	**1.64**	**61**	P		P	Pn	00 47 04.0	-2.8
MQZ	**McQueen's Vall**	**1.65**	**202**	P		P	Pn	00 47 03.5	-3.3
KIW	**Kapiti Island**	**1.69**	**39**	P		P	Pn	00 47 06.0	-1.4
AKCZ	**Akaroa Harbour**	**1.74**	**195**	P		P	Pn	00 47 05.3	-2.9
TRWZ	**Traveller**	**1.80**	**65**	P		P	Pn	00 47 06.0	-3.0
MTW	**Mount Morrison**	**1.81**	**56**	P		P	Pn	00 47 06.1	-2.9
RACZ	**Rakaia**	**1.84**	**213**	P		P	Pn	00 47 06.5	-3.1
OGWZ	**Otaki Gorge**	**1.85**	**43**	P		P	Pn	00 47 07.6	-1.9
MHCZ	**Mount Hutt**	**1.97**	**226**	P		P	Pn	00 47 08.6	-2.7
HOWZ	**Holdsworth Sta**	**1.98**	**50**	P		P	Pn	00 47 10.5	-0.8
TMWZ	**Te Maipa**	**2.08**	**60**	P		P	Pn	00 47 09.6	-3.2
WACZ	**Wakanui South**	**2.14**	**214**	P		P	Pn	00 47 10.8	-2.8
MRZ	**Mangatainoka R**	**2.17**	**46**	P		P	Pn	00 47 11.6	-2.5
RPZ	**Rata Peaks**	**2.37**	**229**	P		P	Pn	00 47 14.8	-2.0
GCSZ	**Gaunt Creek Bo**	**2.61**	**243**	P		P	Pn	00 47 19.5	-0.6
TSZ	**Takapari Road**	**2.81**	**42**	P		P	Pb	00 47 27.2	-0.8
TMZ	**Timaru**	**2.86**	**219**	P		P	Pn	00 47 21.5	-2.1
KHEZ	**Kahui Hut**	**2.91**	**8**	P		P	Pb	00 47 27.7	-2.1
NBEZ	**Newall Road No**	**2.93**	**5**	P		P	Pb	00 47 28.7	-1.2
VRZ	**Vera Road**	**3.20**	**18**	P		P	Pn	00 47 29.3	+1.1
HIZ	**Hauiti**	**3.81**	**16**	P		P	Pn	00 47 38.4	+1.8
JCZ	**Jackson Bay**	**3.94**	**240**	P		P	Pn	00 47 39.5	+1.0

MEX ***19*** *00:46:48.7±1.0, 14°.62N×92°.35W, h75km±10km, MD4.4*

NEIC ***19*** *00:46:49.1±2.9, 14°.61N±0°.05×92°.44W±0°.03, h58km±10km, mb4.1/18, Md4.4/62(MEX), Error ellipse: s-maj=7.4km s-min=3.6km az=165.0*

IDC ***19*** *00:46:49.5±1.8, 14°.78N×92°.26W, h72km±17km, mb3.6/6, mbtmp3.8/9, MS3.1/8, Error ellipse: s-maj=42.0km s-min=12.0km az=42.0*

INET ***19*** *00:46:51.2±3.1, 14°.63N×92°.27W, h29km±28km, ML4.2, MW4.1*

GCG ***19*** *00:46:52.9±0.6, 14°.74N×92°.10W, h42km±20km, MD4.2*

ISC 19 00:46:48.6±0.7, 14°.65N±0°.05×92°.44W±0°.04, h64km±8km, n119, σ1s83/175, mb4.0/8, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
THIG		**0.30**	**33**				**Sn**	**00 47 07.2**	**+0.4**
THIG		**0.30**	**33**	*i*	P		**Pn**	**00 46 59.0**	**-0.1**
THIG				*i*	S		**Sn**	**00 47 07.8**	**+0.9**
PATR	**El Naranjo**	**0.50**	**23**	*i*	P		**Pn**	**00 47 00.4**	**-0.7**
PATR				*i*	S		**Sn**	**00 47 10.1**	**-0.2**
CHUJ	**Union Juarez**	**0.54**	**36**	*i*	P		**Pn**	**00 47 01.0**	**-0.6**
CHUJ				*i*	S		**Sn**	**00 47 10.4**	**-0.6**
PAVE	**Pavencul**	**0.59**	**25**	*i*	P		**Pn**	**00 47 01.8**	**-0.3**
PAVE				*i*	S		**Sn**	**00 47 12.0**	**0.0**
RTAL	**Retalhuleu**	**0.73**	**100**				**Pn**	**00 47 02.5**	**-0.9**
RTAL						Sn	**Sn**	**00 47 13.6**	**-0.8**
STG3	**Santiaguito 3,**	**0.84**	**86**	‖	*i*P		**Pn**	**00 47 04.5**	**-0.4**
SULM	**Suchitepequez,**	**0.91**	**112**	*e*	P		**Pn**	**00 47 06.0**	**+0.3**
HUEH	**Huehuetenango**	**1.12**	**54**				**Pn**	**00 47 09.1**	**+0.6**
HUEH				

NBG	**Las Nubes**	**2.02**	**92**	*eP*	**Pn**	**00 47 21.8**	**+1.1**
TGIG		**2.21**	**343**		**Pn**	**00 47 24.2**	**+1.1**
TGIG					**Sn**	**00 47 54.9**	**+5.4**
TGIG		**2.21**	**343**	*eP*	**Pn**	**00 47 23.4**	**+0.3**
TGIG				*eS*	**Sn**	**00 47 54.9**	**+5.4**
MRL	**Marmol**	**2.69**	**81**	*eP*	**Pn**	**00 47 30.1**	**+0.3**
NILT	**Santiago Nilte**	**2.83**	**312**	*eP*	**Pn**	**00 47 31.4**	**0.0**
NILT				*eS*	**Sn**	**00 48 04.8**	**+0.3**
MTO3	**Montecristo**	**2.99**	**94**		**Pn**	**00 47 32.7**	**-1.1**
MTO3				Sn	**Sn**	**00 48 13.5**	**+5.0**
MTO3	**Montecristo**	**2.99**	**94**	*eP*	**Pn**	**00 47 32.7**	**-1.1**
MTO3				IAML		00 48 23.5	
	comp=Z,115nm,0.6s						
ESQI	**Esquipulas**	**3.00**	**91**		**Pn**	**00 47 34.4**	**+0.6**
ESQI				Sn	**Sn**	**00 48 07.7**	**-0.9**
UXUV	**UXUV**	**3.12**	**328**	*eP*	**Pn**	**00 47 35.1**	**-0.3**
UXUV				*eS*	**Sn**	**00 48 12.7**	**+1.3**
SNET	**Serv Nac Est T**	**3.25**	**107**	Pn	**Pn**	**00 47 37.1**	**-0.2**
SNET					**Sn**	**00 48 15.2**	**+0.3**
PETF	**Flores**	**3.34**	**47**		**Pn**	**00 47 38.5**	**+0.1**
PETF	**Flores**	**3.34**	**47**	*eP*	**Pn**	**00 47 38.2**	**-0.2**
PETF				IAML		00 48 39.4	
	comp=Z,197nm,0.4s						
CMIG	**Matias Romero**	**3.38**	**316**	P	**Pn**	**00 47 39.2**	**+0.2**
	comp=Z,15nm,0.3s,baz=140,slow=9.9,SNR=36						
CMIG				S	**Sn**	**00 48 20.2**	**+2.3**
	comp=Z,59nm,0.4s,baz=78,slow=15,SNR=7.9						
CMIG	**Matias Romero**	**3.38**	**316**		**Pn**	**00 47 39.6**	**+0.6**
CMIG					**Sn**	**00 48 19.1**	**+1.2**
CMIG	**Matias Romero**	**3.38**	**316**	*eP*	**Pn**	**00 47 39.6**	**+0.6**
CMIG				*eS*	**Sn**	**00 48 19.1**	**+1.2**
HUIG	**Huatulco**	**3.71**	**288**		**Pn**	**00 47 42.5**	**-1.0**
HUIG					**Sn**	**00 48 21.5**	**-4.6**
HUIG	**Huatulco**	**3.71**	**288**	*eP*	**Pn**	**00 47 42.5**	**-1.0**
HUIG				*eS*	**Sn**	**00 48 21.5**	**-4.6**
NEUV	**Arroyo Zacate**	**4.44**	**314**	*eP*	**Pn**	**00 47 54.7**	**+1.3**
NEUV				*eS*	**Sn**	**00 48 44.2**	**+0.3**
SCIG	**Sabancuy**	**4.45**	**15**	*eP*	**Pn**	**00 47 52.9**	**-0.7**
SCIG				*eS*	**Sn**	**00 48 39.3**	**-4.9**
PMUV	**Sontecomapan**	**4.65**	**327**	*eS*	**Sn**	**00 48 44.7**	**-4.4**
PEIG	**Puerto Escondi**	**4.74**	**287**		**Pn**	**00 47 56.8**	**-0.8**
PEIG					**Sn**	**00 48 51.3**	**+0.1**
PEIG	**Puerto Escondi**	**4.74**	**287**	*eP*	**Pn**	**00 47 56.8**	**-0.8**
PEIG				*eS*	**Sn**	**00 48 51.3**	**+0.1**
OXIG	**Oaxaca**	**4.78**	**301**		**Pn**	**00 48 01.0**	**+2.6**
OXIG					**Sn**	**00 48 51.9**	**-0.7**
VHO	**Vista Hermosa**	**4.79**	**301**	*eP*	**Pn**	**00 48 01.0**	**+2.6**
VHO				*eS*	**Sn**	**00 48 51.9**	**-0.7**
TGUH	**Tegucigalpa,Un**	**5.04**	**96**	Pn	**Pn**	**00 48 01.0**	**-0.7**
YOIG	**Yosondua**	**5.39**	**295**		**Pn**	**00 48 08.1**	**+1.5**
YOIG					**Sn**	**00 49 06.8**	**-0.7**
YOIG	**Yosondua**	**5.39**	**295**	*eP*	**Pn**	**00 48 08.1**	**+1.5**
YOIG				*eS*	**Sn**	**00 49 06.8**	**-0.7**
CRIN	**San Cristobal**	**5.58**	**110**		**Pn**	**00 48 09.8**	**+0.7**
CRIN	**San Cristobal**	**5.58**	**110**	*eP*	**Pn**	**00 48 11.1**	**+1.9**
CRIN				*eS*	**Sn**	**00 49 11.6**	**-0.5**
CRIN				IAML		00 49 29.9	
	comp=Z,253nm,0.5s						
TOIG	**Toxpalan**	**5.61**	**308**		**Pn**	**00 48 11.3**	**+1.7**
TOIG					**Sn**	**00 49 11.5**	**-1.2**
TOIG	**Toxpalan**	**5.61**	**308**	*eP*	**Pn**	**00 48 11.3**	**+1.7**
TOIG				*eS*	**Sn**	**00 49 11.5**	**-1.2**
TXIG	**Tlaxiaco**	**5.74**	**297**		**Pn**	**00 48 13.8**	**+2.3**
TXIG					**Sn**	**00 49 15.5**	**-0.8**
TXIG	**Tlaxiaco**	**5.74**	**297**	*eP*	**Pn**	**00 48 13.8**	**+2.3**
TXIG				*eS*	**Sn**	**00 49 15.5**	**-0.8**
PNIG	**Pinotepa**	**5.75**	**288**		**Pn**	**00 48 12.2**	**+0.8**
PNIG					**Sn**	**00 49 14.9**	**-1.3**
PNIG	**Pinotepa**	**5.75**	**288**	*eP*	**Pn**	**00 48 12.2**	**+0.8**
PNIG				*eS*	**Sn**	**00 49 14.9**	**-1.3**
CNGN	**Cerro Negro**	**5.97**	**110**		**Pn**	**00 48 14.4**	**-0.1**
CNGN	**Cerro Negro**	**5.97**	**110**	*eP*	**Pn**	**00 48 14.9**	**+0.4**
CNGN				*eS*	**Sn**	**00 49 21.2**	**-0.4**
CNGN				IAML		00 49 33.3	
	comp=Z,120nm,0.5s						
TPIG	**Tehuac#an**	**6.03**	**309**		**Pn**	**00 48 15.5**	**+0.1**
TPIG					**Sn**	**00 49 24.1**	**+1.0**
TPIG	**Tehuac#an**	**6.03**	**309**	*eP*	**Pn**	**00 48 15.5**	**+0.1**
TPIG				*eS*	**Sn**	**00 49 24.1**	**+1.0**
MOMN	**Momotombo**	**6.15**	**111**	*eP*	**Pn**	**00 48 16.9**	**0.0**
MOMN				*eS*	**Sn**	**00 49 22.9**	**-3.1**
JAUV	**Jalcomulco**	**6.28**	**319**	*eP*	**Pn**	**00 48 16.7**	**-1.9**
JAUV				*eS*	**Sn**	**00 49 24.6**	**-4.4**
FTIG	**Fresnillo de T**	**6.36**	**301**		**Pn**	**00 48 21.0**	**+1.2**
FTIG					**Sn**	**00 49 27.6**	**-3.5**
FTIG	**Fresnillo de T**	**6.36**	**301**	*eP*	**Pn**	**00 48 21.0**	**+1.2**
FTIG				*eS*	**Sn**	**00 49 27.6**	**-3.5**
MGIG	**Malinaltepec**	**6.49**	**294**		**Pn**	**00 48 20.3**	**-1.4**
MGIG					**Sn**	**00 49 33.9**	**-0.6**
MGIG	**Malinaltepec**	**6.49**	**294**	*eP*	**Pn**	**00 48 20.3**	**-1.4**
MGIG				*eS*	**Sn**	**00 49 33.9**	**-0.6**
MATN	**Matagalpa**	**6.55**	**104**		**Pn**	**00 48 21.7**	**-0.8**
MATN	**Matagalpa**	**6.55**	**104**	*eP*	**Pn**	**00 48 20.9**	**-1.6**
TLIG	**Tlapa**	**6.56**	**297**	Pn	**Pn**	**00 48 22.4**	**-0.2**
TLIG	**Tlapa**	**6.56**	**297**	*eP*	**Pn**	**00 48 24.6**	**+2.0**
TLIG				*eS*	**Sn**	**00 49 35.8**	**-0.4**
CRIG	**Cruz Grande**	**6.77**	**289**		Pn	00 48 21.0	-4.4
CRIG					**Sn**	**00 49 40.5**	**-0.6**
CRIG	**Cruz Grande**	**6.77**	**289**	*eP*	Pn	00 48 21.0	-4.4
CRIG				*eS*	**Sn**	**00 49 40.5**	**-0.6**
TEIG	**Tepich**	**6.82**	**35**		**Pn**	**00 48 24.5**	**-1.5**
BOAB	**BOACO BROADBAN**	**6.94**	**108**		**Pn**	**00 48 27.7**	**+0.1**
DAIG	**Los Arroyos**	**7.33**	**290**		**Pn**	**00 48 31.5**	**-1.6**
DAIG					**Sn**	**00 49 54.3**	**-0.6**
DAIG	**Los Arroyos**	**7.33**	**290**	*eP*	**Pn**	**00 48 31.5**	**-1.6**
DAIG				*eS*	**Sn**	**00 49 54.3**	**-0.6**
CXUV	**Coxquihui**	**7.37**	**319**	*eP*	**Pn**	**00 48 34.4**	**+0.8**
CXUV				*eS*	**Sn**	**00 49 49.7**	**-6.1**
PPM	**Popocatepetl**	**7.38**	**307**	*eP*	**Pn**	**00 48 35.9**	**+1.8**
PPM				*eS*	**Sn**	**00 49 56.0**	**-0.7**
PPIG	**Popocatepetl**	**7.38**	**307**		**Pn**	**00 48 35.9**	**+1.8**
PPIG					**Sn**	**00 49 56.0**	**-0.7**
ACON	**Acoyapa**	**7.55**	**110**	Pn	**Pn**	**00 48 36.4**	**+0.3**
YAIG	**Yautepec**	**7.61**	**304**		**Pn**	**00 48 39.3**	**+2.4**
YAIG					**Sn**	**00 50 03.8**	**+2.0**
YAIG	**Yautepec**	**7.61**	**304**	*eP*	**Pn**	**00 48 39.3**	**+2.4**
YAIG				*eS*	**Sn**	**00 50 03.8**	**+2.0**
MEIG	**Mezcala**	**7.63**	**296**		**Pn**	**00 48 38.6**	**+1.5**
MEIG					**Sn**	**00 50 03.5**	**+1.3**
MEIG	**Mezcala**	**7.63**	**296**	*eP*	**Pn**	**00 48 38.6**	**+1.5**
MEIG				*eS*	**Sn**	**00 50 03.5**	**+1.3**
PLIG	**Platanillo**	**7.73**	**300**		**Pn**	**00 48 40.7**	**+2.1**
PLIG					**Sn**	**00 50 00.6**	**-4.1**
PLIG	**Platanillo**	**7.73**	**300**	*eP*	**Pn**	**00 48 40.7**	**+2.1**
PLIG				*eS*	**Sn**	**00 50 00.6**	**-4.1**
ORTG	**Ortega, Santa**	**8.04**	**121**		**Pn**	**00 48 42.9**	**+0.1**
ARIG	**Puente Sto Nin**	**8.40**	**296**		**Pn**	**00 48 44.8**	**-3.0**
ARIG					**Sn**	**00 50 18.5**	**-2.7**
ARIG	**Puente Sto Nin**	**8.40**	**296**	*eP*	**Pn**	**00 48 44.8**	**-3.0**
ARIG				*eS*	**Sn**	**00 50 18.5**	**-2.7**
JTS	**Las Juntas de**	**8.50**	**120**	P	**Pn**	**00 48 50.0**	**+1.0**
	comp=Z,5.1nm,0.3s,baz=20,slow=16,SNR=7.0						
JTS				S	**Sn**	**00 50 22.8**	**-0.6**
	comp=Z,3.0nm,0.4s,baz=215,slow=18,SNR=1.8						
JTS	**Las Juntas de**	**8.50**	**120**	Pn	**Pn**	**00 48 51.0**	**+1.9**
JACO	**JACO, Garabito**	**9.08**	**122**	Pn	**Pn**	**00 48 59.6**	**+2.7**
RIMA	**Rio Macho**	**9.68**	**119**		**Pn**	**00 49 05.9**	**+0.5**
SRBA	**San Rafael, Bu**	**10.38**	**120**	Pn	**Pn**	**00 49 15.8**	**+0.8**
SOR	**Soroa**	**12.05**	**46**	Pn	**Pn**	**00 49 36.9**	**-0.6**
TXAR	**Lajitas Array**	**17.92**	**326**	P	**P**	**00 50 53.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=134,slow=10,SNR=2.7						
TXAR				LR	LR	00 57 19.1	
	comp=Z,23nm,20.8s,baz=125,slow=35						
250A	**Grady**	**18.14**	**17**	P	**Pn**	**00 50 58.1**	**+2.0**
250A				IAmb	IAmb	00 50 59.8	
	comp=Z,22nm,1.1s						
146A	**Union**	**18.16**	**9**	P	**Pn**	**00 50 58.8**	**+2.5**
Z47A	**Carrollton**	**18.89**	**11**	P	**P**	**00 51 03.7**	**-0.1**
Z47A				IAmb	IAmb	00 51 23.1	
	comp=Z,17nm,1.1s						
LRAL	**Lakeview Retre**	**18.96**	**14**	P	**P**	**00 51 04.8**	**+0.3**
LRAL				IAmb	IAmb	00 51 11.0	
	comp=Z,11nm,1.2s						
MIAR	**Mount Ida**	**19.83**	**357**	P	**P**	**00 51 15.4**	**+1.2**
MIAR				IAmb	IAmb	00 51 18.7	
	comp=Z,9.0nm,0.9s						
Y49A	**Blount Mountai**	**19.88**	**15**	P	**Pn**	**00 51 17.1**	**+0.2**
X48A	**Hartselle**	**20.30**	**13**	P	**P**	**00 51 21.2**	**+2.0**
GOGA	**Godfrey**	**20.37**	**22**	P	**P**	**00 51 21.8**	**+1.8**
FPAL	**Fort Paine**	**20.74**	**16**	P	**P**	**00 51 22.5**	**-1.5**
CPCT	**Cooper Cave**	**21.89**	**18**	P	**P**	**00 51 35.5**	**-0.8**
CPCT				IAmb	IAmb	00 52 03.0	
	comp=Z,11nm,1.4s						
SDV	**Santo Domingo**	**22.09**	**103**	LR	LR	01 00 24.2	
	comp=Z,36nm,21.8s,baz=266,slow=37						
TKL	**Tuckaleechee C**	**22.31**	**19**	P	**P**	**00 51 39.4**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=213,slow=13,SNR=2.6						
TKL				LR	LR	01 01 08.4	
	comp=Z,31nm,19.5s,baz=189,slow=39						
	comp=Z,1.4nm,0.7s						
TKL	**Tuckaleechee C**	**22.31**	**19**	P	**P**	**00 51 40.0**	**-0.9**
TKL				IAmb	IAmb	00 52 21.5	
	comp=Z,14nm,1.4s						
ATAH	**Atahualpa**	**25.74**	**146**	P	**P**	**00 52 13.5**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=348,slow=14,SNR=1.7						
	comp=Z,1.5nm,0.5s						
SADO	**Sadowa**	**32.07**	**18**	LR	LR	01 06 53.8	
	comp=Z,37nm,19.9s,baz=212,slow=38						
ELK	**Elko**	**32.72**	**327**	LR	LR	01 08 57.8	
	comp=Z,46nm,19.5s,baz=360,slow=41						
NVAR	**Mina Array Bea**	**32.90**	**321**	P	**P**	**00 53 18.7**	**+1.7**
	comp=Z,1.9nm,0.7s,baz=126,slow=9.2,SNR=8.2						
	comp=Z,1.9nm,0.7s						
ETMB	**Extrema**	**35.59**	**132**	P	**P**	**00 53 38.9**	**-1.4**
ETMB				IAmb	IAmb	00 53 57.0	
	comp=Z,6.4nm,0.9s						
J08A	**Circle Bar Ran**	**36.27**	**327**	P	**P**	**00 53 47.2**	**+1.4**
PLID	**Pearl Lake**	**36.30**	**331**	P	**P**	**00 53 46.6**	**+0.3**
PLID				IAmb	IAmb	00 53 47.5	
	comp=Z,1.3nm,0.7s						
F10A	**Beach Ranch, E**	**37.54**	**331**	P	**P**	**00 53 57.0**	**+0.4**
YBH	**Yreka Blue Hor**	**37.59**	**322**	LR	LR	01 11 35.8	
	comp=Z,34nm,19.0s,baz=1.5,slow=40						
SCHQ	**Schefferville**	**44.76**	**21**	LR	LR	01 14 03.2	
	comp=Z,60nm,18.6s,baz=219,slow=37						
YKA	**Yellowknife Ar**	**50.30**	**347**	P	**P**	**00 55 36.5**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=160,slow=7.6,SNR=4.6						
	comp=Z,0.5nm,0.5s						
INK	**Inuvik**	**59.70**	**344**	P	**P**	**00 56 45.5**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=129,slow=8.4,SNR=5.6						
	comp=Z,1.2nm,0.6s						
RES	**Resolute Bay**	**60.05**	**359**	LR	LR	01 24 34.1	
	comp=Z,30nm,18.6s,baz=26,slow=38						
ILAR	**Eielson Array**	**62.08**	**337**	P	**P**	**00 57 01.8**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=116,slow=5.3,SNR=12						
	comp=Z,1.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**145.24**	**341**	PKPbc	**PKPbc**	**01 06 18.7**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=343,slow=4.2,SNR=12						

WEL 19 00:47:00.4±0.3, 42°S±2°×17°4E±°, h5km, M3.6/24, ML3.9/12, MLv3.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=102.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.23**	**178**	P	Pg	00 47 05.5	+0.5
KHZ				S	Sg	00 47 09.0	+0.9
BSWZ	**Blackbirch Sta**	**0.54**	**29**	P	Pg	00 47 11.2	+0.5
THZ	**Tophouse**	**0.62**	**312**	P	Pg	00 47 13.0	+0.6
TUWZ	**Tuamarina**	**0.81**	**23**	P	Pg	00 47 16.4	+0.3
TUWZ				S	Sb	00 47 27.8	-0.5
GVZ	**Greta Valley S**	**0.86**	**205**	P	Pb	00 47 17.5	-0.5
MRNZ	**Matariki Terra**	**0.97**	**323**	P	Pb	00 47 19.6	-0.1
NNZ	**Nelson**	**0.97**	**353**	P	Pg	00 47 19.0	0.0
LTZ	**Lake Taylor**	**1.10**	**237**	P	Pg	00 47 20.8	-0.8
TCW	**Tory Channel**	**1.12**	**30**	P	Pg	00 47 21.5	-0.4
AMCZ	**Amberley**	**1.19**	**213**	P	Pg	00 47 22.6	-0.5
WEL	**Wellington**	**1.29**	**46**	P	Pn	00 47 24.0	-1.1
DSZ	**Dennistoun Nort**	**1.36**	**288**	P	Pb	00 47 26.2	-0.1
DUWZ	**D'Urville Isla**	**1.41**	**12**	P	Pn	00 47 26.7	-0.1
PLWZ	**Palliser**	**1.43**	**65**	P	Pn	00 47 24.8	-2.2

*NEIC **19** 00:53:01.9±1.6, 22°3S±0°1×179°4W±0°1, h590km±11km, mb4.3/19, Error ellipse: s-maj=20.4km s-min=18.2km az=138.0*
*IDC **19** 00:53:11.1±32.0, 21°99S×178°91E, h559km±336km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=907.6km s-min=102.5km az=90.0*
ISC 19 00:53:01.2±0.7, 22°4S±0°1×179°46W±0°10, h579km, n32, σ1°35/32, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.19**	**333**	P	**P**	**00 54 36.1**	**+1.6**
	8.9nm,0.3s,baz=150,slow=15,SNR=26						
MSVF	**Nonsavu**	**5.19**	**333**	P	**P**	**00 54 36.0**	**+1.5**
RAO	**Raoul Island**	**6.98**	**169**	P	**P**	**00 54 48.0**	**-1.9**
NIUE	**Niue**	**9.51**	**71**	P	**P**	**00 55 14.7**	**0.0**
AFI	**Afiamalu**	**11.15**	**42**	P	**P**	**00 55 32.0**	**+0.6**
MARNC	**Mare, Loyalty**	**11.65**	**272**	P	**P**	**00 55 34.8**	**-1.5**
DZM	**Mont Dzumac**	**13.06**	**269**	P	**P**	**00 55 51.6**	**+0.7**
CMWZ	**Cape Campbell**	**20.03**	**194**	P	**P**	**00 56 58.6**	**+2.7**
BSWZ	**Blackbirch Sta**	**20.07**	**195**	P	**P**	**00 56 56.2**	**-0.1**
ARMA	**Armidale**	**27.05**	**247**	P	**P**	**00 57 59.7**	**+1.1**
ARMA				IAmb	IAmb	00 58 41.9	
	comp=Z,18nm,1.4s						
CTAO	**Charters Tower**	**32.00**	**268**	P	**P**	**00 58 41.6**	**+0.3**
CTAO				IAmb	IAmb	00 59 03.7	
	comp=Z,21nm,1.4s						
TOO	**Toolangi**	**33.70**	**235**	P	**P**	**00 58 56.1**	**+0.7**
TOO				IAmb	IAmb	00 59 11.2	
	comp=Z,9.3nm,1.1s						
STKA	**Stephens Creek**	**35.77**	**246**	P	**P**	**00 59 13.2**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=93,slow=5.8,SNR=4.5						
	comp=Z,1.9nm,0.5s						
STKA	**Stephens Creek**	**35.77**	**246**	P	**P**	**00 59 13.2**	**+0.6**
BBOO	**Buckleboo**	**40.51**	**245**	P	**P**	**00 59 50.9**	**-0.1**
BBOO				IAmb	IAmb	01 00 13.4	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**42.79**	**259**	P	**P**	**01 00 09.4**	**+0.2**
ASAR	**Alice Springs**	**42.80**	**259**	P	**P**	**01 00 09.3**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=95,slow=8.2,SNR=25						
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**42.80**	**259**	P	**P**	**01 00 08.7**	**-0.5**
WR0	**Warramunga Arr**	**42.84**	**264**	P	**P**	**01 00 08.8**	**-0.8**
WR0				IAmb	IAmb	01 00 33.9	
	comp=Z,4.9nm,1.1s						
WB0	**Warramunga Arr**	**43.02**	**265**	P	**P**	**01 00 10.6**	**-0.3**
WB0				IAmb	IAmb	01 00 12.0	
	comp=Z,3.8nm,0.8s						
WB2	**Warramunga Arr**	**43.02**	**264**	P	**P**	**01 00 10.5**	**-0.5**
WB2				IAmb	IAmb	01 00 11.3	
	comp=Z,5.0nm,0.9s						
WRAB	**Tennant Creek**	**43.02**	**264**	P	**P**	**01 00 07.9**	**-3.0**
WRAB				IAmb	IAmb	01 00 25.7	
	comp=Z,5.3nm,0.6s						
WRA	**Warramunga Arr**	**43.03**	**264**	P	**P**	**01 00 10.4**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=99,slow=8.3,SNR=70						
	comp=Z,0.9nm,0.3s						
WRA	**Warramunga Arr**	**43.03**	**264**	P	**P**	**01 00 10.6**	**-0.4**
FORT	**Forrest**	**47.32**	**248**	P	**P**	**01 00 43.4**	**-0.2**
FORT				IAmb	IAmb	01 00 50.6	
	comp=Z,16nm,1.2s						
MTN	**Manton Dam**	**47.86**	**273**	P	**P**	**01 00 47.7**	**-0.1**
MTN				IAmb	IAmb	01 00 52.7	
	comp=Z,39nm,1.5s						
KNRA	**Kununurra**	**49.21**	**268**	P	**P**	**01 00 58.0**	**+0.2**
VNDA	**Vanda**	**55.92**	**185**	P	**P**	**01 01 46.3**	**+1.7**
MMRI	**Maumere**	**57.50**	**274**	P	**P**	**01 01 54.6**	**-1.9**
ISLE	**Juniper Island**	**88.01**	**17**	P	**P**	**01 04 46.5**	**-3.6**
PCA	**Pinnacle**	**88.18**	**18**	P	**P**	**01 04 52.0**	**+1.1**
CAST	**Castle Rocks**	**88.19**	**12**	P	**P**	**01 04 50.1**	**-0.7**
CAST				IAmb	IAmb	01 05 23.5	
	comp=Z,2.8nm,1.2s						

WEL 19 00:55:28.0±0.3, 41°S±4°×17°5E±°, h23km±3km, M3.4/45, ML3.6/25, MLv3.4/45, Error ellipse: s-maj=0.0km s-min=0.0km az=164.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WEL	**Wellington**	**0.13**	**117**	P	Pn	00 55 34.5	-0.1
WEL				S	Sb	00 55 38.7	+2.8
TCW	**Tory Channel**	**0.25**	**273**	P	Pn	00 55 35.3	-0.9
TCW				S	Sn	00 55 40.1	-1.4
CAW	**Cannon Point**	**0.36**	**71**	P	Pn	00 55 37.4	-0.4
CAW				S	Sn	00 55 44.3	0.0
KIW	**Kapiti Island**	**0.43**	**32**	P	Pn	00 55 38.5	-0.3
KIW				S	Sn	00 55 45.6	-0.2
MSWZ	**Moikau Station**	**0.52**	**112**	P	Pn	00 55 39.3	-0.6
MSWZ				S	Sn	00 55 47.6	-0.5
TUWZ	**Tuamarina**	**0.54**	**248**	P	Pb	00 55 38.7	-0.1
OGWZ	**Otaki Gorge**	**0.59**	**46**	P	Pn	00 55 40.9	0.0
PLWZ	**Palliser**	**0.59**	**126**	P	Pb	00 55 40.4	+0.6
CMWZ	**Cape Campbell**	**0.60**	**210**	P	Pn	00 55 40.8	-0.3
CMWZ				S	Sn	00 55 50.3	+0.1
PAWZ	**Paruwai Farm**	**0.63**	**105**	P	Pb	00 55 41.0	+0.5
DUWZ	**D'Urville Isla**	**0.67**	**309**	P	Pn	00 55 42.1	0.0
MTW	**Mount Morrison**	**0.68**	**85**	P	Pn	00 55 41.8	-0.3
BSWZ	**Blackbirch Sta**	**0.74**	**228**	P	Pb	00 55 42.0	-0.2
HOWZ	**Holdsworth Sta**	**0.76**	**65**	P	Pn	00 55 43.3	+0.1
TRWZ	**Traveller**	**0.83**	**102**	P	Pb	00 55 43.7	0.0
MRZ	**Mangatainoka R**	**0.92**	**53**	P	Pn	00 55 45.8	+0.3
NNZ	**Nelson**	**0.93**	**270**	P	Pn	00 55 45.5	-0.1
TMWZ	**Te Maipa**	**0.97**	**83**	P	Pb	00 55 45.7	-0.4
TIWZ	**Tintock**	**1.06**	**65**	P	Pn	00 55 47.3	-0.1
OHWZ	**Ohakea**	**1.15**	**28**	P	Pb	00 55 50.6	+1.4
POWZ	**Post Office Ro**	**1.21**	**47**	P	Pn	00 55 49.6	+0.1
PRWZ	**Pori Road**	**1.23**	**57**	P	Pn	00 55 49.7	0.0
CPWZ	**Castlepoint**	**1.24**	**76**	P	Pb	00 55 50.3	-0.4
TKNZ	**Takaka Hill**	**1.26**	**278**	P	Pn	00 55 50.5	+0.3
BFZ	**Birch Farm**	**1.35**	**67**	P	Pn	00 55 50.6	-0.8
THZ	**Tophouse**	**1.39**	**247**	P	Pn	00 55 52.2	+0.2
MRNZ	**Matariki Terra**	**1.41**	**262**	P	Pn	00 55 52.9	+0.7
WAZ	**Wanganui**	**1.50**	**11**	P	Pb	00 55 55.9	+0.8
DVHZ	**Dannevirke**	**1.50**	**52**	P	Pn	00 55 52.9	-0.6
TSZ	**Takapari Road**	**1.55**	**42**	P	Pn	00 55 54.2	0.0
ANWZ	**Angora Road**	**1.61**	**62**	P	Pn	00 55 54.1	-0.8
QRZ	**Quartz Range**	**1.62**	**284**	P	Pb	00 55 56.4	-0.8
LREZ	**Lake Rotokare**	**1.77**	**355**	P	Pb	00 55 59.6	-0.2
PNHZ	**Pukenui**	**1.78**	**43**	P	Pn	00 55 57.1	-0.3
PRHZ	**Porangahau**	**1.81**	**59**	P	Pn	00 55 56.7	-1.1
WPHZ	**Waipukurau**	**1.81**	**51**	P	Pn	00 55 57.3	-0.4
NMEZ	**Namu Road**	**1.90**	**343**	P	Pb	00 56 01.3	-0.5
KHEZ	**Kahui Hut**	**1.98**	**346**	P	Pb	00 56 02.7	-0.7
NEZ	**North Egmont**	**1.99**	**348**	P	Pb	00 56 03.3	+0.3
MOVZ	**Moawhango**	**2.02**	**26**	P	Pn	00 56 01.2	+0.6
NBEZ	**Newall Road No**	**2.04**	**344**	P	Pb	00 56 03.2	-1.1
WNVZ	**Wahianoa**	**2.04**	**22**	P	Pb	00 56 04.4	0.0
TRVZ	**Turoa**	**2.05**	**21**	P	Pb	00 56 04.4	-0.3
WHVZ	**Whangaehu Hut**	**2.08**	**21**	P	Pn	00 56 01.8	+0.2
PKE	**Pukeiti**	**2.08**	**347**	P	Pb	00 56 04.5	-0.6
PXZ	**Pawanui**	**2.09**	**56**	P	Pn	00 56 00.1	-1.4
FWVZ	**Far West T-bar**	**2.10**	**20**	P	Pb	00 56 05.5	0.0
VRZ	**Vera Road**	**2.10**	**3**	P	Pb	00 56 04.5	-0.9
NGZ	**Ngauruhoe**	**2.18**	**21**	P	Pb	00 56 07.7	+0.9
OTVZ	**Oturere**	**2.21**	**22**	P	Pb	00 56 07.5	+0.2
NNVZ	**North Ngauruho**	**2.23**	**21**	P	Pb	00 56 07.1	-0.6
WTVZ	**West Tongariro**	**2.24**	**20**	P	Pb	00 56 06.6	-1.2
KAHZ	**Kahuranaki**	**2.24**	**51**	P	Pn	00 56 02.6	-1.1
TWVZ	**Taurewa**	**2.24**	**17**	P	Pb	00 56 06.7	-1.2
ETVZ	**East Tongariro**

MBWA	**Marble Bar**	**45.83**	**254**	P	**P**	**01 15 19.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**49.07**	**239**	P	**P**	**01 15 42.5**	**-1.9**
NWAO				IAmb	IAmb	01 15 57.0	
	comp=Z,22nm,1.3s						
MORW	**Morawa**	**49.58**	**244**	P	**P**	**01 15 48.0**	**-0.3**
MORW				IAmb	IAmb	01 15 57.2	
	comp=Z,9.3nm,1.2s						
VNDA	**Vanda**	**63.11**	**181**	P	**P**	**01 17 23.1**	**0.0**
	comp=Z,2.5nm,0.6s,baz=355,slow=7.7,SNR=23						
	comp=Z,2.5nm,0.6s						
VNDA	**Vanda**	**63.11**	**181**		**P**	**01 17 22.4**	**-0.7**
SBA	**Scott Base**	**63.38**	**180**		**P**	**01 17 25.8**	**+0.9**
SBA				IAmb	IAmb	01 17 26.8	
	comp=Z,7.6nm,0.8s						
KSAR	**Wonju Array Be**	**63.68**	**326**	P	**P**	**01 17 26.6**	**-0.8**
KS19	**Wonju Array Si**	**63.73**	**326**	P	**P**	**01 17 27.7**	**-0.1**
KS19				IAmb	IAmb	01 17 47.1	
	comp=Z,4.5nm,0.9s						
CASY	**Casey**	**63.84**	**202**	P	**P**	**01 17 28.0**	**0.0**
QSPA	**South Pole Qui**	**75.54**	**180**	P	**P**	**01 18 39.1**	**-0.6**
MAW	**Mawson**	**82.20**	**202**	P	**P**	**01 19 16.7**	**+0.9**
	comp=Z,4.3nm,0.6s,baz=117,slow=7.1,SNR=11						
	comp=Z,4.3nm,0.6s						
SONM	**Songino Array**	**82.44**	**323**	P	**P**	**01 19 19.0**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=130,slow=5.4,SNR=5.0						
	comp=Z,0.7nm,0.4s						
IMAR	**Indian Mountai**	**85.27**	**15**	P	**P**	**01 19 31.1**	**-0.2**
ISA	**Isabella, Lake**	**85.82**	**52**	P	**P**	**01 19 34.1**	**-0.7**
ISA				IAmb	IAmb	01 19 36.4	
	comp=Z,7.2nm,1.4s						
HDA	**Harding Lake**	**85.94**	**18**	P	**P**	**01 19 34.7**	**+0.1**
HDA				IAmb	IAmb	01 19 36.0	
	comp=Z,11nm,0.9s						
ILAR	**Eielson Array**	**86.22**	**18**	P	**P**	**01 19 35.8**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=236,slow=5.0,SNR=19						
	comp=Z,1.5nm,0.8s						
ILAR	**Eielson Array**	**86.22**	**18**	P	**P**	**01 19 35.5**	**-0.5**
BELA	**Belgrano 2**	**86.95**	**175**	P	**P**	**01 19 37.4**	**-2.1**
TROLL	**Troll, Antarti**	**93.12**	**185**	P	**P**	**01 20 07.9**	**-0.7**
SNAA	**Sanae**	**93.81**	**183**	P	**P**	**01 20 10.2**	**-1.5**
VNA3	**Neumayer Olymp**	**94.46**	**181**	P	**P**	**01 20 13.0**	**-1.6**
VNA2	**Neumayer--Watz**	**94.73**	**182**	P	**P**	**01 20 14.5**	**-1.3**
	baz=175,slow=5.6						
VNA1	**Neumayer--Stat**	**95.03**	**181**	P	**P**	**01 20 15.8**	**-1.3**
MKAR	**Makanchi Array**	**97.19**	**316**	P	**P**	**01 20 28.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=90,slow=6.5,SNR=12						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**97.19**	**316**	P	**P**	**01 20 27.4**	**0.0**
ZAA0	**Zalesovo Array**	**97.33**	**324**	P	**P**	**01 20 25.4**	**-2.4**
ZAA0				IAmb	IAmb	01 20 28.4	
	comp=Z,1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**97.33**	**324**	P	**P**	**01 20 27.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=123,slow=5.6,SNR=5.0						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**97.33**	**324**	P	**P**	**01 20 25.4**	**-2.4**
ARCES	**ARCESS Array B**	**120.07**	**346**	PKP	**PKPdf**	**01 25 44.2**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=69,slow=2.0,SNR=60						
FINES	**FINESS Array B**	**125.58**	**338**	PKP	**PKPdf**	**01 25 55.0**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=101,slow=1.5,SNR=8.9						
NB2	**NORSAR Subarra**	**130.45**	**345**	SKPa		01 29 12.0	
	baz=38,slow=4.8						
NB2	**NORSAR Subarra**	**130.45**	**345**	SKPa		01 29 12.0	
	comp=Z,13nm,1.2s,baz=38,slow=4.8						
NOA	**NORSAR Array B**	**130.45**	**345**	PKP	**PKPdf**	**01 26 04.4**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=35,slow=2.2,SNR=1.8						
GERES	**GERESS Array B**	**139.53**	**333**	PKP	**PKPdf**	**01 26 23.5**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=324,slow=4.8,SNR=1.9						
TIP	**Timpagrande**	**144.41**	**319**	PKPdf	**PKPab**	**01 26 30.7**	**+1.5**
CESX	**Cesi**	**144.62**	**327**	PKPdf	**PKPab**	**01 26 30.9**	**+1.1**
BNI	**Bardonecchia**	**145.47**	**336**	PKPbc	**PKPdf**	**01 26 33.9**	**+1.6**
KEST	**Kesra**	**151.16**	**321**	PKPbc	**PKPbc**	**01 26 49.0**	**+1.2**
	comp=Z,7.5nm,1.0s,baz=170,slow=3.0,SNR=6.2						
ESDC	**Sonseca Array**	**153.81**	**345**	PKPbc	**PKPbc**	**01 26 51.7**	**-1.7**
	comp=Z,0.4nm,0.9s,baz=9.7,slow=3.8,SNR=2.1						

OMAN 19 01:14:01.9±0.4, 20.80N×61.52E, h36km±89km, mb4.4/1, ml2.8/6, Error ellipse: s-maj=14.2km s-min=8.5km az=289.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBK	**Wadi Bani Khal**	**2.98**	**308**	P	Pn	01 14 45.8	-0.9
WBK				S	Sn	01 15 21.2	-0.1
MHTO	**MHTO**	**3.33**	**274**	P	Pn	01 14 51.0	-0.5
	SNR=8.5						
MHTO				S	Sn	01 15 30.5	+0.7
JMDO	**Jabal Madar**	**3.55**	**297**	P	Pn	01 14 55.0	+0.5
	SNR=23						
JMDO				S	Sn	01 15 35.9	+0.7
DQM	**DQM**	**3.84**	**258**	P	Pn	01 14 58.0	-0.5
	SNR=32						
DQM				S	Sn	01 15 43.3	+1.0
SMDO	**Samad**	**3.93**	**306**	P	Pn	01 15 00.7	+0.8
SMDO				S	Sn	01 15 44.6	-0.3
BIDO	**Bidbid**	**4.15**	**311**	P	Pn	01 15 03.0	+0.2
BSY	**Bisya**	**4.46**	**297**	P	Pn	01 15 07.7	+0.7
BSY				S	Sn	01 15 58.4	+0.6
HOQ	**Hoqain**	**4.79**	**306**	P	Pn	01 15 11.9	+0.4
HOQ				S	Sn	01 16 06.7	+1.0
ARQ	**Araqi**	**5.28**	**299**	P	Pn	01 15 18.6	+0.3
	SNR=5.8						
ARQ				S	Sn	01 16 18.7	+0.7
UMZA	**Um Al Zommool**	**6.21**	**289**	P	Pn	01 15 31.4	+0.3
UMZA				S	Sn	01 16 41.2	+0.3

IDC 19 01:34:15.4±2.6, 2.88N×128.44E, h0km, mb3.3/3, mbtmp3.4/3, 1C, Error ellipse: s-maj=181.6km s-min=27.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**5.66**	**339**	*eP*	Pg	01 36 07.7	+3.6
BIPH				*i* S	Sn	01 36 13.4	-33
WRA	**Warramunga Arr**	**23.41**	**166**	P	P	01 39 26.0	-0.2
	0.6nm,0.4s,baz=345,slow=10.0,SNR=9.7						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.91**	**169**	P	P	01 39 57.5	-1.0
	0.1nm,0.4s,baz=354,slow=7.4,SNR=1.4						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**59.23**	**325**	P	P	01 44 19.6	+1.0
	0.3nm,0.6s,baz=119,slow=7.4,SNR=2.0						
	0.3nm,0.6s						

*SKO **19** 01:44:19.1, 40.98N×22.74E, h15km*
*THE **19** 01:44:20.1, 40.97N×22.76E, h7km±1km, ML3.1/17, Error ellipse: s-maj=1.3km s-min=0.6km az=347.0*
*ATH **19** 01:44:20.3, 40.98N×22.76E, h6km±1km, ML3.0/19, Error ellipse: s-maj=1.5km s-min=0.7km az=10.0*
*SOF **19** 01:44:20.2, 41.01N×22.76E, h3km, MD3.4*
*BEO **19** 01:44:20.7±0.4, 41.05N×22.76E, h9km±2km, ML2.8/12*

ISC 19 01:44:20.0±0.8, 40.98N±0.02×22.76E±0.01, h12km±6km, n116, σ0s91/151, 13C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNT	**Kendrikon**	**0.21**	**30**	P	**Pg**	**01 44 24.4**	**-0.2**
KNT				S	**Sg**	**01 44 27.6**	**-0.2**
	28μm,0.2s						
KNT	**Kendrikon**	**0.21**	**30**	*i* Pg	**Pg**	**01 44 24.5**	**-0.2**
KNT				*i* Sg	**Sg**	**01 44 27.7**	**0.0**
KNT	**Kendrikon**	**0.21**	**30**	P	**Pg**	**01 44 24.5**	**-0.2**
KNT				S	**Sg**	**01 44 27.6**	**-0.2**
GRG	**Griva**	**0.27**	**265**	P	**Pg**	**01 44 25.5**	**-0.2**
GRG				S	**Sg**	**01 44 29.5**	**0.0**
	14μm,0.3s						
GRG	**Griva**	**0.27**	**265**	*i* Pg	**Pg**	**01 44 25.5**	**-0.2**
GRG				*i* Sg	**Sg**	**01 44 29.4**	**0.0**
GRG	**Griva**	**0.27**	**265**	P	**Pg**	**01 44 25.5**	**-0.2**
GRG				S	**Sg**	**01 44 29.5**	**0.0**
GRG				AML	AML	01 44 29.9	
	comp=N,24128μm,0.2s						
GRG				AML	AML	01 44 29.9	
	comp=E,23856μm,0.3s						
VAY	**Valandovo**	**0.37**	**337**	*eP*	**Pg**	**01 44 27.4**	**-0.1**
VAY				*eSg*	**Sg**	**01 44 32.7**	**+0.3**
VAY	**Valandovo**	**0.37**	**337**	*i* Pg	**Pg**	**01 44 27.8**	**+0.3**
VAY				*i* Sg	**Sg**	**01 44 33.0**	**+0.6**
VAY				*eLg*	Lg	01 44 33.3	
	comp=N,2μm,0.4s						
VAY				*eLg*	Lg	01 44 33.3	
	comp=E,4μm,0.4s						
THE	**Thessaloniki**	**0.38**	**156**	P	**Pg**	**01 44 27.4**	**-0.2**
THE				S	**Sg**	**01 44 32.2**	**-0.5**
	comp=E,4μm,0.5s						
THE	**Thessaloniki**	**0.38**	**156**	*i* Pg	**Pg**	**01 44 27.5**	**-0.2**
THE				*i* Sg	**Sg**	**01 44 32.6**	**-0.2**
THE	**Thessaloniki**	**0.38**	**156**	P	**Pg**	**01 44 27.5**	**-0.2**
THE				S	**Sg**	**01 44 32.5**	**-0.3**
THE				AML	AML	01 44 33.8	
	comp=N,8174μm,0.5s						
THE				AML	AML	01 44 34.1	
	comp=E,6276μm,0.3s						
HORT	**Hortiatis**	**0.46**	**146**	P	**Pg**	**01 44 28.9**	**-0.2**
HORT				S	**Sg**	**01 44 35.8**	**+0.5**
	comp=E,2μm,0.3s						
HORT	**Hortiatis**	**0.46**	**146**	P	**Pg**	**01 44 29.0**	**-0.2**
HORT				S	**Sg**	**01 44 35.6**	**+0.3**
HORT				AML	AML	01 44 37.2	
	comp=N,3680μm,0.4s						
HORT				AML	AML	01 44 38.0	
	comp=E,5534μm,0.3s						
SOH	**Sokhos**	**0.48**	**109**	P	**Pg**	**01 44 29.6**	**+0.1**
SOH				S	**Sg**	**01 44 36.4**	**+0.6**
	comp=E,3μm,0.4s						
SOH	**Sokhos**	**0.48**	**109**	*i* Pg	**Pg**	**01 44 29.8**	**+0.3**
SOH				*i* Sg	**Sb**	**01 44 36.5**	**-0.9**
SOH	**Sokhos**	**0.48**	**109**	P	**Pg**	**01 44 29.6**	**+0.1**
SOH				S	**Sg**	**01 44 36.2**	**+0.4**
SOH				AML	AML	01 44 37.3	
	comp=E,5795μm,0.5s						
SOH				AML	AML	01 44 37.3	
	comp=N,6786μm,0.3s						
SRS	**Serrai**	**0.65**	**77**	P	**Pg**	**01 44 32.6**	**0.0**
SRS				S	**Sg**	**01 44 41.0**	**-0.1**
	comp=N,1μm,0.4s						
SRS	**Serrai**	**0.65**	**77**	*eP*	**Pg**	**01 44 32.5**	**0.0**
SRS				*eSg*	**Sg**	**01 44 41.0**	**-0.1**
SRS	**Serrai**	**0.65**	**77**	*i* Pg	**Pg**	**01 44 32.6**	**0.0**
SRS				*i* Sg	**Sb**	**01 44 41.7**	**-0.5**
SRS	**Serrai**	**0.65**	**77**	P	**Pg**	**01 44 32.6**	**0.0**
SRS				S	**Sg**	**01 44 41.0**	**-0.1**
SRS				AML	AML	01 44 46.9	
	comp=N,2644μm,0.4s						
SRS				AML	AML	01 44 47.3	
	comp=E,1903μm,0.3s						
KTI	**Kastanea**	**0.76**	**220**	P	**Pg**	**01 44 34.3**	**-0.5**
STIP	**Stip**	**0.83**	**329**	*i* Pg	**Pg**	**01 44 35.3**	**-0.9**
STIP				*i* Sg	**Sg**	**01 44 46.1**	**-1.0**
NVR	**Nevrokopi**	**0.91**	**66**	P	**Pb**	**01 44 37.4**	**-0.4**
NVR				S	**Sb**	**01 44 50.1**	**+0.2**
	comp=E,665nm,0.5s						
NVR	**Nevrokopi**	**0.91**	**66**	P	**Pb**	**01 44 37.4**	**-0.4**
NVR				S	**Sb**	**01 44 49.7**	**-0.2**
NVR				AML	AML	01 44 51.1	
	comp=N,1292μm,0.4s						
NVR				AML	AML	01 44 53.8	
	comp=E,1295μm,0.2s						
KKB	**Krupnik**	**0.92**	**15**	P	**Pg**	**01 44 37.3**	**-0.5**
MMB	**Musomiste**	**0.95**	**50**	P	**Pb**	**01 44 38.4**	**-0.1**
KOKK	**Kokkinochori,**	**0.95**	**99**	P	**Pg**	**01 44 37.9**	**-0.5**
KOKK				S	**Sb**	**01 44 51.2**	**+0.1**
	comp=E,320nm,0.4s						
KOKK	**Kokkinochori,**	**0.95**	**99**	P	**Pg**	**01 44 37.9**	**-0.5**
KZN	**Kozani**	**1.01**	**228**	P	**Pg**	**01 44 38.6**	**-0.8**
KZN				S	**Sb**	**01 44 53.8**	**+1.1**
	comp=E,860nm,0.5s						
KZN	**Kozani**	**1.01**	**228**	P	**Pg**	**01 44 38.7**	**-0.8**
KZN				AML	AML	01 44 56.7	
	comp=N,1383μm,0.4s						
KZN				AML	AML	01 44 57.3	
	comp=E,2051μm,0.5s						
FNA	**Florina**	**1.07**	**260**	P	**Pb**	**01 44 39.5**	**-0.9**
FNA				S	**Sg**	**01 44 54.2**	**-0.3**
	comp=E,470nm,0.4s						
FNA	**Florina**	**1.07**	**260**	*eP*	**Pb**	**01 44 39.3**	**-1.1**
FNA				*eSg*	**Sg**	**01 44 53.9**	**-0.6**
FNA	**Florina**	**1.07**	**260**	*i* Pg	**Pb**	**01 44 39.6**	**-0.9**
FNA	**Florina**	**1.07**	**260**	P	**Pb**	**01 44 39.5**	**-0.9**
FNA				AML	AML	01 44 58.0	
	comp=N,935μm,0.5s						
FNA				AML	AML	01 44 58.4	
	comp=E,940μm,0.3s						
OUR	**Ouranopolis**	**1.13**	**124**	P	**Pb**	**01 44 41.5**	**-0.1**
OUR				S	**Sn**	**01 44 57.8**	**+0.6**
	comp=E,1μm,0.5s						
OUR	**Ouranopolis**	**1.13**	**124**	P	**Pb**	**01 44 41.4**	**-0.1**
OUR				AML	AML	01 44 59.5	
	comp=E,2784μm,0.4s						
OUR				AML	AML	01 44 59.9	
	comp=N,2645μm,0.5s						
KVLA	**Kavala**	**1.23**	**91**	P	**Pb**	**01 44 43.2**	**-0.1**
PAIG	**Paliouri**	**1.27**	**146**	P	**Pn**	**01 44 43.1**	**-0.4**
PAIG				S	**Sb**	**01 44 59.8**	**-0.2**
	comp=N,570nm,0.4s						
PAIG	**Paliouri**	**1.27**	**146**	P	**Pn**	**01 44 43.2**	**-0.4**
PAIG				AML	AML	01 45 05.2	
	comp=E,1050μm,0.3s						
PAIG				AML	AML	01 45 06.2	
	comp=N,1228μm,0.5s						
KAVA	**Kavala**	**1.33**	**89**	P	**Pb**	**01 44 44.6**	**-0.3**
KAVA				S	**Sg**	**01 45 02.3**	**-0.6**
	comp=N,1μm,0.5s						
KAVA	**Kavala**	**1.33**	**89**	P	**Pn**	**01 44 44.4**	**0.0**
LRSO	**Larissa Observ**	**1.34**	**192**	P	**Pn**	**01 44 44.8**	**+0.3**
SKO	**Skopje**	**1.40**	**315**	*eP*	**Pn**	**01 44 45.3**	**-0.1**
SKO				*eSg*	**Sn**	**01 45 03.3**	**-0.5**
SKO	**Skopje**	**1.40**	**315**	*i* Pn	**Pb**	**01 44 46.2**	**0.0**
NEST	**Nestorio**	**1.42**	**247**	P	**Pn**	**01 44 46.1**	**+0.4**
NEST	**Nestorio**	**1.42**	**247**	P	**Pn**	**01 44 46.1**	**+0.4**
KPRO	**Kipourio**	**1.48**	**227**	P	**Pn**	**01 44 46.7**	**+0.2**
KPRO				AML	AML	01 45 17.2	
	comp=E,695μm,0.7s						
KPRO				AML	AML	01 45 18.0	
	comp=N,508μm,0.7s						
OHR	**Ohrid**	**1.49**	**276**	*eP*	**Pn**	**01 44 47.4**	**+0.7**
OHR				*eSg*	**Sg**	**01 45 08.4**	**+0.5**
OHR	**Ohrid**	**1.49**	**276**	*i* Pn	**Pn**	**01 44 47.3**	**+0.7**
OHR				*i* Sg	**Sg**	**01 45 08.3**	**+0.4**
OHR				*eLg*	Lg	01 45 09.1	
	comp=N,71nm,0.7s						
OHR				*eLg*	Lg	01 45 10.0	
	comp=E,66nm,0.5s						
THL	**Klokotos Trika**	**1.52**	**202**	P	**Pn**	**01 44 47.1**	**+0.1**
THL				S	**Sb**	**01 45 09.0**	**+1.5**
	comp=E,370nm,0.7s						
THL	**Klokotos Trika**	**1.52**	**202**	P	**Pn**	**01 44 47.2**	**+0.1**
THL				AML	AML	01 45 11.7	
	comp=E,908μm,0.8s						
THL				AML	AML	01 45 14.4	
	comp=N,569μm,0.6s						
BOSS	**Bosilegrad**	**1.53**	**352**	*eP*	**Pb**	**01 44 48.4**	**+0.1**
BOSS				*eSg*	**Sn**	**01 45 06.4**	**-0.6**
THAS	**Thassos island**	**1.54**	**103**	P	**Pn**	**01 44 47.2**	**-0.1**
THAS				S	**Sg**	**01 45 09.2**	**-0.3**
	comp=N,430nm,0.4s						
THAS	**Thassos island**	**1.54**	**103**	P	**Pn**	**01 44 47.1**	**-0.1**
THAS				AML	AML	01 45 13.9	
	comp=N,702μm,0.4s						
THAS				AML	AML	01 45 14.2	
	comp=E,1012μm,0.3s						
RZN	**Rozhen**	**1.64**	**64**	P	**Pg**	**01 44 51.0**	**-0.5**
XOR	**Xorichti**	**1.65**	**168**	P	**Pn**	**01 44 48.2**	**-0.6**
XOR				AML	AML	01 45 11.3	
	comp=E,899μm,0.4s						
XOR				AML	AML	01 45 11.8	
	comp=N,628μm,0.5s						
VTS	**Vitosha**	**1.68**	**12**	*eP*	**Pn**	**01 44 49.9**	**+0.6**
VTS				*eSg*	**Sn**	**01 45 10.5**	**-0.3**
VTS	**Vitosha**	**1.68**	**12**	*i* Pn	**Pb**	**01 44 50.9**	**0.0**
VTS	**Vitosha**	**1.68**	**12**	P	**Pg**	**01 44 51.5**	**-0.7**
NEO	**Neokhori**	**1.71**	**168**	P	**Pn**	**01 44 49.2**	**-0.5**
NEO				S	**Sn**	**01 45 10.6**	**-0.9**
	comp=N,468nm,0.4s						
NEO	**Neokhori**	**1.71**	**168**	P	**Pn**	**01 44 49.3**	**-0.4**
NEO				AML	AML	01 45 13.7	
	comp=E,943μm,0.4s						
NEO				AML	AML	01 45 17.4	
	comp=N,929μm,0.4s						
PLD	**Plovdiv**	**1.84**	**52**	P	**Pg**	**01 44 56.1**	**+0.7**
PGB	**Panagyurishte**	**1.89**	**33**	P	**Pb**	**01 44 54.8**	**+0.3**
BARS	**Barje**	**1.96**	**339**	*eP*	**Pn**	**01 44 52.8**	**-0.4**
BARS	**Barje**	**1.96**	**339**	*i* Pn	**Pn**	**01 44 53.4**	**+0.2**
JAN	**Janina**	**1.97**	**228**	P	**Pn**	**01 44 53.1**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.02**	**194**	P	**Pn**	**01 44 54.3**	**+0.3**
MAKR				S	**Sn**	**01 45 20.2**	**+1.0**
	comp=N,508nm,0.5s						
MAKR	**Makrakomi, Fth**	**2.02**	**194**	P	**Pn**	**01 44 54.3**	**+0.3**
MAKR				AML	AML	01 45 21.5	
	comp=E,1009μm,0.3s						
MAKR				AML	AML	01 45 22.4	
	comp=N,838μm,0.4s						
RDO	**Rodhopi**	**2.11**	**85**	P	**Pn**	**01 44 55.5**	**+0.3**
RDO	**Rodhopi**	**2.11**	**85**	P	**Pn**	**01 44 55.4**	**+0.3**
KDZ	**Kurdzhali**	**2.11**	**71**	P	**Pb**	**01 44 57.2**	**-1.1**
SMTH	**Samothraki Isl**	**2.17**	**103**	P	**Pn**	**01 44 56.2**	**+0.2**
EVR	**Evrytania**	**2.19**	**200**	P	**Pn**	**01 44 57.1**	**+0.8**
EVR				AML	AML	01 45 39.3	
	comp=E,302μm,0.5s						
EVR				AML	AML	01 45 45.5	
	comp=N,337μm,1.0s						
AXAR	**Agios Charalam**	**2.21**	**182**	P	**Pn**	**01 44 56.4**	**-0.2**
TIR	**Tirane**	**2.21**	**280**	⇑P	**Pb**	**01 45 00.1**	**+0.1**
TIR	**Tirane**	**2.21**	**280**	*e*Pn	**Pn**	**01 44 58.3**	**+1.7**
TIR	**Tirane**	**2.21**	**280**	*i* Pn	**Pb**	**01 44 59.7**	**-0.3**
ZAPS	**Zavoj**	**2.29**	**358**	*e*Pn	**Pn**	**01 44 59.1**	**+1.4**
DIM	**Dimitrovgrad**	**2.34**	**62**	P	**Pb**	**01 45 03.0**	**+0.8**
IGT	**Igoumenitsa**	**2.35**	**233**	P	**Pn**	**01 45 00.0**	**+1.5**
ANX	**Ano Chora**	**2.47**	**195**	P	**Pn**	**01 45 00.7**	**+0.5**
ANX				AML	AML	01 45 34.5	
	comp=N,529μm,0.4s						
ANX				AML	AML	01 45 36.0	
	comp=E,313μm,0.4s						
MPEP	**Malo Peshtene**	**2.48**	**17**	P	**Pb**	**01 45 02.6**	**-2.0**
PVO	**Paravola**	**2.54**	**202**	P	**Pn**	**01 45 02.1**	**+1.0**
SELS	**Selova**	**2.55**	**332**	*e*Pn	**Pn**	**01 45 00.7**	**-0.5**
KYMI	**Kymi, Euboea I**	**2.56**	**156**	P	**Pn**	**01 45 01.1**	**-0.3**
KEK	**Kerkira**	**2.59**	**242**	P	**Pn**	**01 45 03.4**	**+1.7**
SERG	**Sergoula**	**2.62**	**192**	P	**Pn**	**01 45 02.3**	**+0.1**
SERG				AML	AML	01 45 35.8	
	comp=N,176μm,0.4s						
SERG				AML	AML	01 45 39.6	
	comp=E,193μm,0.5s						
EFP	**Efpalio**	**2.63**	**195**	P	**Pn**	**01 45 02.7**	**+0.4**
PLVB	**Pleven**	**2.77**	**29**	⇑P	**Pg**	**01 45 12.7**	**-0.5**
PLVB				⇑S	**Sb**	**01 45 43.9**	**+0.4**
VIL2	**Platees**	**2.79**	**172**	P	**Pn**	**01 45 05.2**	**+0.7**
ULC	**Ulcinj**	**2.82**	**292**	*i* Pn	**Pn**	**01 45 07.6**	**+2.7**
EVGI	**Lefkada island**	**2.86**	**215**	P	**Pn**	**01 45 07.2**	**+1.8**
PDG	**Podgorica**	**3.00**	**300**	⇑P	**Pn**	**01 45 05.5**	**-1.8**
PDG	**Podgorica**	**3.00**	**300**	*e*Pn	**Pn**	**01 45 09.4**	**+2.1**
FSK	**Fiskardo**	**3.03**	**215**	P	**Pn**	**01 45 08.4**	**+0.5**
SJES	**Sjenica**	**3.08**	**319**	*e*Pn	**Pn**	**01 45 09.2**	**+0.6**
DRO	**Drossia**	**3.13**	**195**	P	**Pn**	**01 45 10.8**	**+1.6**
IVAS	**Ivanjica**	**3.23**	**324**	*e*Pn	**Pn**	**01 45 10.1**	**-0.6**
VLAD	**Vladila**	**3.25**	**21**	⇓P	**Pb**	**01 45 15.5**	**-2.2**
GRUS	**Gruza**	**3.28**	**333**	*e*Pn	**Pn**	**01 45 10.7**	**-0.5**
TRUS	**Trudelj**	**3.68**	**333**	*e*Pn	**Pn**	**01 45 16.5**	**-0.2**
DIVS	**Divibare**	**3.73**	**328**	*e*Pn	**Pn**	**01 45 17.4**	**-0.1**
RAZG	**Razgrad**	**3.80**	**46**	⇑P	**Pg**	**01 45 30.1**	**-2.6**
RAZG				⇓S	**Sb**	**01 46 15.4**	**+2.5**
MDVR	**Moldovita**	**3.88**	**349**	⇓P	**Pn**	**01 45 17.6**	**-1.9**
HERR	**Herculane**	**3.91**	**356**	⇑P	**Pn**	**01 45 19.6**	**-0.2**
GZR	**Gura Zlata**	**4.41**	**0**	⇑P	**Pn**	**01 45 27.5**	**+0.6**
LOT	**Lotru**	**4.53**	**9**	⇓P	**Pn**	**01 45 29.8**	**+1.3**
VOIR		**4.76**	**20**	⇓P	**Pn**	**01 45 35.2**	**+3.6**
SURR	**Surduc**	**4.79**	**355**	⇓P	**Pn**	**01 45 31.8**	**-0.2**
MLR	**Muntele Rosu**	**5.07**	**26**	⇓P	Pn	01 45 41.0	+4.9
NEHR	**Nehoiu**	**5.14**	**29**	⇓P	Pn	01 45 42.7	+5.9
DOPR	**Dopca**	**5.34**	**20**	⇑P	Pn	01 45 44.5	+4.9
BISRR	**Bisoca**	**5.40**	**31**	⇓P	Pn	01 45 46.3	+5.9
COVR	**Voineasa-Covas**	**5.47**	**26**	⇑P	**Pn**	**01 45 45.9**	**+4.5**
PLOR	**Plostina**	**5.63**	**29**	⇑P	Pn	01 45 48.7	+5.1
VRI	**Vrincioaia**	**5.67**	**29**	⇓P	Pn	01 45 49.5	+5.3

*DDA **19** 01:46:23.6±0.0, 35.26N×27.77E, h3km±1km, ML2.3*
*ISK **19** 01:46:26.7, 35.32N×27.78E, h6km, ML2.5/14*
*THE **19** 01:46:28.8, 35.43N×27.78E, h0km±2km, ML2.3/3, Error ellipse: s-maj=6.8km s-min=1.8km az=137.0*
*ATH **19** 01:46:28.0, 35.45N×27.78E, h26km±2km, ML2.3/3, Error ellipse: s-maj=4.4km s-min=1.8km az=331.0*

ISC 19 01:46:28.1±1.5, 35.39N±0.06×27.79E±0.04, h8km±10km, n33, σ1s05/52, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.54**	**287**	PG	**Pg**	**01 46 38.4**	**-0.1**
KARP				SG	**Sg**	**01 46 45.8**	**+0.3**
KARP	**Karpathos**	**0.54**	**287**	P	**Pg**	**01 46 38.3**	**-0.1**
KARP				S	**Sb**	**01 46 47.3**	**-0.3**
	832nm,0.3s						
KARP	**Karpathos**	**0.

*JMA **19** 01:50:40.4±0.6,44°N±3°×14°9E±°, h30km, MV4.3/13, SE OFF ETOROFU*
*SKHL **19** 01:50:41.6±0.7, 44°.00N×149°.40E, h51km±4km, mb4.8/6*
*NEIC **19** 01:50:43.0±2.2, 44°.2N±0°.1×149°.4E±0°.1, h35km±8km, mb4.4/8, Error ellipse: s-maj=20.7km s-min=14.7km az=164.0*
*MOS **19** 01:50:43.9±1.0, 44°.28N×149°.02E, h52km, mb4.3/4, Error ellipse: s-maj=14.9km s-min=10.9km az=19.8*
*IDC **19** 01:50:51.5±4.4, 45°.30N×148°.59E, h51km±33km, mb3.6/12, mbtmp3.9/14, ML3.1/2, Error ellipse: s-maj=44.9km s-min=19.8km az=169.0*

ISC 19 01:50:42.1±0.8, 44°.11N±0°.07×149°.37E±0°.09, h37km±2km, n70, σ1§29/77, mb4.2/19, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.55**	**317**	*e*P		**Pn**		**01 51 07.0**	**-0.1**
KUR					AMB		AMB	01 51 11.1	
	190nm,0.3s								
KUR					AMB		AMB	01 51 11.1	
	200nm,0.3s								
KUR					AMB		AMB	01 51 11.1	
	290nm,0.3s								
KUR				*e*S			**Sn**	**01 51 26.6**	**+0.6**
KUR					A		A	01 51 37.1	
	420nm,0.4s								
KUR					A		A	01 51 37.1	
	250nm,0.4s								
KUR	**Kuril'sk**	**1.55**	**317**	*ce*PN			**Pn**	**01 51 07.0**	**-0.1**
KUR					pmax		pmax		
	comp=Z,287nm,0.4s								
KUR					pmax		pmax		
	comp=E,200nm,0.2s								
KUR					pmax		pmax		
	comp=N,194nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.53**	**269**	*e*P			**Pn**	**01 51 20.0**	**-0.6**
YUK					AMB		AMB	01 51 20.3	
	comp=N,170nm,0.2s								
YUK				*e*S			**Sn**	**01 51 48.3**	**-1.8**
YUK					A		A	01 51 54.0	
	comp=N,330nm,0.3s								
YUK					A		A	01 51 54.0	
	comp=N,430nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.53**	**269**	*e*PN			**Pn**	**01 51 18.8**	**-1.8**
YUK				*e*S			**Sn**	**01 51 51.1**	**+1.0**
YUK					smax		smax		
	comp=E,425nm,0.3s								
YUK					smax		smax		
	comp=N,326nm,0.2s								
NEM2	**Nemuro 2**	**2.73**	**255**	*e*P			**Pn**	**01 51 23.4**	**0.0**
NEM2				*e*S			**Sn**	**01 51 54.9**	**-0.2**
NMR	**Nemuro--Hokkai**	**2.74**	**256**	*i*P			**Pn**	**01 51 23.2**	**-0.3**
NMR					AMB		AMB	01 51 24.3	
	comp=N,40nm,0.2s								
NMR				*e*S			**Sn**	**01 51 53.7**	**-1.7**
NMR					A		A	01 51 57.8	
	comp=N,220nm,0.3s								
NMR					A		A	01 51 57.8	
	comp=N,130nm,0.3s								
NMR	**Nemuro--Hokkai**	**2.74**	**256**	*i*PN			**Pn**	**01 51 23.5**	**0.0**
NMR				*i* S			**Sn**	**01 51 55.0**	**-0.4**
RUSJ	**Misakicho**	**2.97**	**271**	*e*PN			**Pn**	**01 51 25.3**	**-1.3**
JRA	**Rausu**	**3.07**	**268**	*e*P			**Pn**	**01 51 29.5**	**+1.6**
JRA				*e*S			**Sn**	**01 52 06.2**	**+2.8**
JNK	**Nakash**	**3.41**	**263**	*e*P			**Pn**	**01 51 33.2**	**+0.6**
JNK				*e*S			**Sn**	**01 52 12.2**	**+0.5**
AKK	**Akkeshi**	**3.47**	**253**	*e*P			**Pn**	**01 51 34.6**	**+1.1**
AKK					AMB		AMB	01 51 36.6	
	comp=N,50nm,0.2s								
AKK				*e*S			**Sn**	**01 52 12.6**	**-0.7**
AKK					A		A	01 52 16.2	
	comp=N,80nm,0.2s								
AKK					A		A	01 52 16.2	
	comp=N,190nm,0.2s								
JAK	**Akkeshi**	**3.58**	**253**	*e*P			**Pn**	**01 51 35.3**	**+0.3**
JAK				*e*S			**Sn**	**01 52 16.1**	**+0.2**
JTKR	**Abashiri--Toko**	**3.94**	**270**	*e*P			**Pn**	**01 51 41.7**	**+1.7**
JAR	**Ashorobuto**	**4.14**	**261**	*e*P			**Pn**	**01 51 43.8**	**+1.1**
JAR				*e*S			**Sn**	**01 52 31.2**	**+1.2**
JOB	**Onbets**	**4.21**	**255**	*e*P			**Pn**	**01 51 44.3**	**+0.7**
JOB				*e*S			**Sn**	**01 52 32.0**	**+0.6**
JCH	**Churui**	**4.63**	**253**	*e*P			**Pn**	**01 51 49.9**	**+0.4**
JCH				*e*S			**Sn**	**01 52 42.2**	**+0.3**
JEM	**Erimo**	**5.01**	**247**	Pn			**Pn**	**01 51 52.9**	**-1.7**
ERM	**Erimo**	**5.01**	**247**	Pn			**Pn**	**01 51 57.2**	**+2.5**
ERM	**Erimo**	**5.01**	**247**	PN			**Pn**	**01 51 57.2**	**+2.5**
JNBK	**Urakawa-nobuka**	**5.17**	**252**	*e*P			**Pn**	**01 51 57.6**	**+0.7**
JNBK				*e*S			**Sn**	**01 52 55.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.45**	**304**	Pn			**Pn**	**01 52 01.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.45**	**304**	*e*P			**Pn**	**01 52 01.5**	**+0.9**
YSS					AMB		AMB	01 52 02.7	
	comp=N,20nm,0.3s								
JANG	**Nango**	**6.92**	**240**	*e*S			**Sn**	**01 53 33.7**	**-4.8**
JTM	**Tenmabayashi**	**6.98**	**244**				**Pn**	**01 52 22.3**	**+0.6**
PETK	**Petropavlovsk-**	**10.55**	**28**	P			**Pn**	**01 53 09.7**	**-0.9**
	comp=N,0.1nm,0.3s,baz=211,slow=13,SNR=1.4								
	comp=N,1.6nm,0.8s								
USRK	**Ussuriysk Ar.**	**12.49**	**276**	P			**Pn**	**01 53 38.7**	**+1.6**
	comp=N,0.6nm,0.3s,baz=91,slow=15,SNR=1.9								
	comp=N,1.4nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**28.38**	**143**	T			T	02 27 43.1	
	baz=333,slow=75,SNR=16								
H11N1	**WAKE ISLAND Hy**	**28.39**	**143**	T			T	02 27 43.2	
	baz=333,slow=75,SNR=13								
H11N3	**WAKE ISLAND Hy**	**28.39**	**143**	T			T	02 27 46.1	
	baz=333,slow=75,SNR=12								
TIXI	**Tiksi**	**29.35**	**347**	P			**P**	**01 56 37.5**	**-3.5**
	comp=N,0.9nm,0.6s,baz=259,slow=0.8,SNR=5.0								
	comp=N,0.9nm,0.6s								
H11S1	**WAKE ISLAND Hy**	**29.38**	**145**	T			T	02 28 57.3	
	baz=333,slow=76,SNR=12								
H11S3	**WAKE ISLAND Hy**	**29.39**	**145**	T			T	02 28 59.0	
	baz=333,slow=76,SNR=9.5								
H11S2	**WAKE ISLAND Hy**	**29.40**	**145**	T			T	02 29 03.2	
	baz=333,slow=76,SNR=11								
SONM	**Songino Array**	**29.81**	**293**	P			**P**	**01 56 44.0**	**-1.5**
	comp=N,1.1nm,0.7s,baz=63,slow=7.3,SNR=4.9								
	comp=N,1.1nm,0.7s								
SONM	**Songino Array**	**29.81**	**293**	P			**P**	**01 56 44.0**	**-1.5**
IMAR	**Indian Mountai**	**37.44**	**34**	P			**P**	**01 57 52.5**	**+1.1**
ILAR	**Eielson Array**	**40.24**	**37**	P			**P**	**01 58 17.9**	**+3.0**
	comp=N,0.5nm,0.8s,baz=276,slow=8.9,SNR=1.4								
	comp=N,0.5nm,0.8s								
ZALV	**Zalesovo Beam**	**42.06**	**307**	P			**P**	**01 58 28.3**	**-1.6**
	comp=N,0.5nm,0.4s,baz=102,slow=6.7,SNR=2.5								
	comp=N,0.5nm,0.4s								
INK	**Inuvik**	**45.27**	**31**	P			**P**	**01 58 56.2**	**+0.7**
	comp=N,0.5nm,0.5s,baz=313,slow=12,SNR=1.9								
	comp=N,0.5nm,0.5s								
MK31	**Makanchi Array**	**45.84**	**298**	P			**P**	**01 59 00.6**	**+0.3**
MK31					IAmb		IAmb	01 59 01.8	
	comp=Z,3.8nm,0.9s								
MK31	**Makanchi Array**	**45.84**	**298**	P			**P**	**01 59 00.6**	**+0.3**
MK31					pmax		pmax		
	comp=Z,4.0nm,1.0s								
MKAR	**Makanchi Array**	**45.84**	**298**	P			**P**	**01 59 00.4**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=77,slow=9.2,SNR=15								
	comp=Z,2.6nm,0.8s								
MKAR	**Makanchi Array**	**45.84**	**298**	P			**P**	**01 59 00.9**	**+0.6**
MKAR	**Makanchi Array**	**45.84**	**298**	*e*P			**P**	**01 59 00.9**	**+0.6**
MKAR	**Makanchi Array**	**45.84**	**298**	P			**P**	**01 59 00.9**	**+0.6**
KURK	**Kurchatov**	**46.65**	**304**	P			**P**	**01 59 06.2**	**-0.4**
KURK	**Kurchatov**	**46.65**	**304**	*e*P			**P**	**01 59 06.2**	**-0.4**
KURK	**Kurchatov**	**46.65**	**304**	P			**P**	**01 59 06.2**	**-0.4**
KURK					pmax		pmax		
	comp=Z,1.0nm,0.8s								
SHL	**Shillong**	**49.66**	**268**	P			**P**	**01 59 31.7**	**+1.3**
SHL	**Shillong**	**49.66**	**268**	P			**P**	**01 59 31.7**	**+1.3**
BOOM	**Boomskoye usch**	**51.78**	**296**	P			**P**	**01 59 47.4**	**+1.2**
BOOM					IAmb		IAmb	01 59 48.5	
	comp=Z,8.0nm,1.1s								
BOOM	**Boomskoye usch**	**51.78**	**296**	P			**P**	**01 59 47.4**	**+1.2**
KK31	**Karatay Array**	**54.96**	**299**	P			**P**	**02 00 08.6**	**-0.7**
KK31	**Karatay Array**	**54.96**	**299**	P			**P**	**02 00 08.6**	**-0.7**
KK31					pmax		pmax		
	comp=Z,2.0nm,0.9s								
KKAR	**Karatay Array**	**54.96**	**299**	P			**P**	**02 00 09.7**	**+0.4**
KKAR	**Karatay Array**	**54.96**	**299**	P			**P**	**02 00 09.9**	**+0.6**
KKAR					IAmb		IAmb	02 00 10.7	
	comp=Z,2.1nm,0.9s								
KKAR	**Karatay Array**	**54.96**	**299**	P			**P**	**02 00 09.7**	**+0.4**
KKAR					pmax		pmax		
	comp=Z,2.0nm,0.9s								
ABKAR	**Akbulak array**	**58.08**	**309**	P			**P**	**02 00 32.0**	**+0.6**
NIL	**Nilore**	**58.22**	**288**	P			**P**	**02 00 32.2**	**-0.4**
NIL	**Nilore**	**58.22**	**288**	P			**P**	**02 00 32.2**	**-0.4**
FINES	**FINESS Array B**	**65.27**	**334**	P			**P**	**02 01 19.3**	**-0.2**
	comp=Z,2.7nm,0.5s,baz=29,slow=5.2,SNR=30								
	comp=Z,2.7nm,0.5s								
ELS	**Elsinore Mount**	**69.57**	**63**	P			**P**	**02 01 47.0**	**-0.3**
ELS					IAmb		IAmb	02 01 50.1	
	comp=Z,3.9nm,1.1s								
NB2	**NORSAR Subarra**	**69.83**	**340**	P			**P**	**02 01 47.8**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**69.83**	**340**	P			**P**	**02 01 48.5**	**0.0**
	comp=Z,4.0nm,0.9s,baz=31,slow=6.1,SNR=14								
	comp=Z,4.0nm,0.9s								
KBZ	**Khabaz**	**70.75**	**313**	P			**P**	**02 01 55.5**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=65,slow=9.2,SNR=6.2								
	comp=Z,2.5nm,0.8s								
CLL	**Collm**	**77.72**	**334**	*i* P			**P**	**02 02 35.2**	**+0.5**
	comp=Z,4.0nm,0.7s								
BRTR	**Keskin Array B**	**78.44**	**315**	P			**P**	**02 02 39.5**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=32,slow=3.8,SNR=2.3								
	comp=Z,0.5nm,0.8s								
GERES	**GERESS Array B**	**79.61**	**332**	P			**P**	**02 02 45.5**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=52,slow=6.4,SNR=3.7								
	comp=Z,0.4nm,0.7s								
TXAR	**Laitbas Array**	**81.11**	**58**	P			P	02 03 02.3	+8.5
	comp=Z,0.4nm,0.6s,baz=292,slow=4.8,SNR=3.5								
	comp=Z,0.4nm,0.6s								
PLCA	**Paso Flores**	**150.54**	**97**	PKPbc			**PKPab**	**02 10 37.6**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=330,slow=8.1,SNR=1.8								

SKHL 19 01:52:46.2±0.2, 43°.90N×149°.20E, h30km±2km, mb4.2/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.64**	**325**	*e*P			Pn	01 53 13.0	+0.1
KUR					AMB		AMB	01 53 13.3	
	100nm,0.3s								
KUR				*e*S			Sn	01 53 33.0	0.0
KUR					A		A	01 53 39.7	
	160nm,0.5s								
KUR					A		A	01 53 39.7	
	300nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**2.41**	**274**	*e*P			Pn	01 53 24.3	+0.7
YUK					AMB		AMB	01 53 25.0	
	80nm,0.3s								
YUK				*e*S			Sn	01 53 51.3	-0.8
YUK					A		A	01 53 52.1	
	160nm,0.3s								
YUK					A		A	01 53 52.1	
	130nm,0.3s								
NMR	**Nemuro--Hokkai**	**2.58**	**259**	*e*P			Pn	01 53 26.0	+0.2
NMR					AMB		AMB	01 53 27.0	
	20nm,0.3s								
NMR				*e*S			Sn	01 53 56.0	-0.1
NMR					A		A	01 54 00.1	
	40nm,0.2s								
NMR					A		A	01 54 00.1	
	30nm,0.2s								
AKK	**Akkeshi**	**3.29**	**256**	*e*P			Pn	01 53 36.8	+1.1
AKK					AMB		AMB	01 53 37.4	
	20nm,0.4s								
AKK				*e*S			Sn	01 54 14.3	+0.5
AKK					A		A	01 54 19.2	
	30nm,0.3s								
AKK					A		A	01 54 19.2	
	30nm,0.3s								

*IDC **19** 01:53:25.8±0.4, 1°.56N×125°.87E, h0km, mb4.7/35, mbtmp4.7/37, ML4.5/2, MS3.4/11, Error ellipse: s-maj=21.1km s-min=10.0km az=69.0*
*NEIC **19** 01:53:29.2±2.0, 1°.83N±0°.05×126°.35E±0°.03, h24km±4km, mb4.9/65, Error ellipse: s-maj=7.9km s-min=4.2km az=180.0*
*BJI **19** 01:53:30.8±0.0, 1°.80N×126°.30E, h45km, mb4.8/47, mB4.9/31, Ms4.3/16, Ms7 4.0/16*
*DJA **19** 01:53:33.0±0.2, 2°.N±2°×12°6E±°, h61km±3km, M4.8/39, mb5.1/39, mB5.3/20, MLv4.9/18, Mw(mB)4.7/20, MwMwp4.9/2, Mwp5.2/2*

ISC 19 01:53:32.2±0.3, 1°.68N±0°.04×126°.32E±0°.05, h47km, n295, σ1§60/297, mb4.8/79, MS3.5/15, 7C-7D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**131**		Pn		**Pn**	**01 53 54.8**	**-0.2**
TNTI					Sn		**Sn**	**01 54 12.4**	**+0.3**
TNTI	**Ternate**	**1.38**	**131**		P		**Pn**	**01 53 54.9**	**-0.1**
TNTI	**Ternate**	**1.38**	**131**		P		**Pn**	**01 53 55.4**	**+0.4**
GAMI	**Galela, Maluku**	**1.47**	**84**		P		**Pn**	**01 53 57.1**	**+0.8**
SGSI	**Sangihe**	**2.15**	**338**		P		**Pn**	**01 54 05.9**	**+0.3**
LBMI	**Labuha**	**2.58**	**153**		P		**Pn**	**01 54 12.5**	**+1.0**
GTOI	**Gorontalo**	**3.47**	**253**		P		**Pn**	**01 54 24.4**	**+0.7**
SANI	**Sanana**	**3.72**	**185**		P		**Pn**	**01 54 26.3**	**-0.8**
SANI	**Sanana**	**3.72**	**185**		P		**Pn**	**01 54 26.7**	**-0.4**
LUWI	**Luwuk**	**4.46**	**233**		Pn		**Pn**	**01 54 38.3**	**+1.0**
LUWI	**Luwuk**	**4.46**	**233**		P		**Pn**	**01 54 38.6**	**+1.3**
LUWI	**Luwuk**	**4.46**	**233**		P		**Pn**	**01 54 39.5**	**+2.2**
MRSI	**Marisa**	**4.54**	**255**		P		**Pn**	**01 54 38.8**	**+0.4**
GSPH	**General Santos**	**4.59**	**343**	*i* P			**Pn**	**01 54 39.4**	**+0.2**
GSPH				*i* S			**Sn**	**01 55 30.8**	**-0.6**
NLAI	**Namlea**	**4.94**	**171**		P		**Pn**	**01 54 44.3**	**+0.3**
APSI	**Ampana**	**5.33**	**241**		P		**Pn**	**01 54 50.8**	**+1.5**
	4.6nm11µm908nm,0.6s								
KRAI	**Karang Ratu**	**5.38**	**157**		P		**Pn**	**01 54 53.1**	**+3.2**
	1.1nm6µm252nm,0.5s								
DAV	**Davao City (W)**	**5.41**	**352**		Pn		**Pn**	**01 54 46.9**	**-3.4**
	59nm,0.3s,baz=213,slow=17,SNR=1.3								
DAV							Sn		**Sn**	**01 55 54.8**	**+3.4**
	77nm,0.3s,baz=79,slow=21,SNR=3.5								
DAV							LR		LR	01 57 11.6	
	comp=Z,519nm,18.1s,baz=230,slow=41								
	250nm,0.4s								
DAV	**Davao City (W)**	**5.41**	**352**		Pn		**Pn**	**01 54 46.2**	**-4.1**
KCP	**Kidapawan**	**5.44**	**347**	*i* P			**Pn**	**01 54 52.4**	**+1.6**
KCP				*i* S			**Sn**	**01 55 54.2**	**+2.1**
SIJI	**Sorong**	**5.55**	**117**		Pn		**Pn**	**01 54 53.8**	**+1.4**
	3.4nm,0.3s,baz=10,slow=10,SNR=7.7								
SIJI							LR		LR	01 57 20.8	
	comp=Z,691nm,20.1s,baz=266,slow=40								
	27nm,0.6s								
SIJI	**Sorong**	**5.55**	**117**		P		**Pn**	**01 54 54.2**	**+1.9**
	0.1nm833nm37nm,1.1s								
TOLI2	**Tolitoli**	**5.57**	**264**		Pn		**Pn**	**01 54 50.9**	**-1.6**
TOLI2	**Tolitoli**	**5.57**	**264**		P		**Pn**	**01 54 51.7**	**-0.8**
MSAI	**Masohi**	**5.63**	**152**		P		**Pn**	**01 54 56.1**	**+2.7**
	0.2nm2µm30nm,0.5s								
AAI	**Ambon**	**5.65**	**161**		P		**Pn**	**01 54 55.5**	**+1.9**
	0.6nm127nm,0.7s								
CTBH	**Cotabato--PC H**	**5.88**	**339**	*e*P			**Pn**	**01 54 58.5**	**+1.6**
BIPH	**Bislig**	**6.46**	**0**	*e*P			**Pn**	**01 55 06.4**	**+1.6**
BIPH				*i* S			**Sn**	**01 56 17.4**	**+0.1**
MPSI	**Mapaga**	**6.56**	**258**	P			**Pn**	**01 55 08.0**	**+1.9**
	0.4nm2µm110nm,1.0s								
CGP	**Cagayan de Oro**	**6.93**	**347**	*e*P			Pn	01 55 22.1	+11
CGP				*e*S			**Sn**	**01 56 34.8**	**+6.1**
KKSI	**Kolaka, Sulawe**	**7.45**	**219**	P			**Pn**	**01 55 18.7**	**+0.3**
	1.1nm3µm208nm,0.4s								
FAKI	**Fak Fak**	**7.48**	**128**		Pn		**Pn**	**01 55 18.6**	**-0.1**
FAKI	**Fak Fak**	**7.48**	**128**		P		**Pn**	**01 55 22.2**	**+3.4**
	0.2nm753nm63nm,0.8s								
BBSI	**Bau Bau**	**8.04**	**208**		P		**Pn**	**01 55 28.0**	**+1.5**
	21µm848nm99nm,0.7s								
GHBP	**Garcia Hernand**	**8.15**	**346**	*e*P			Pn	01 55 32.7	+4.7
MYLDM	**Lahad Datu**	**8.55**	**294**		Pn		**Pn**	**01 55 34.8**	**+1.4**
MYLDM	**Lahad Datu**	**8.55**	**294**		P		**Pn**	**01 55 35.0**	**+1.6**
	4µm475nm,1.2s								
MMSI	**Mamuju**	**8.59**	**240**		P		**Pn**	**01 55 36.1**	**+2.1**
	43nm,0.7s								
TABP	**Talibon, Bohol**	**8.59**	**347**	*e*P			**Pn**	**01 55 37.8**	**+3.8**
SPSI	**Sidrap Palu**	**8.62**	**229**	P			**Pn**	**01 55 35.4**	**+1.0**
	1µm97nm,0.5s								
BNSI	**Bone**	**8.66**	**226**	P			**Pn**	**01 55 35.7**	**+0.7**
	892nm72nm,0.8s								
PMSI	**Majene**	**9.02**	**235**	P			**Pn**	**01 55 41.1**	**+1.2**
	0.1nm84nm,1.3s								
BKSI	**Bulukumba**	**9.31**	**222**	P			**Pn**	**01 55 45.2**	**+1.3**
	840nm89nm,0.6s								
KAPI	**Kappang**	**9.34**	**225**	Pn			**Pn**	**01 55 44.8**	**+0.5**
KAPI	**Kappang**	**9.34**	**225**	P			**Pn**	**01 55 45.0**	**+0.7**
	589nm43nm,0.5s								
KAPI	**Kappang**	**9.34**	**225**	P			**Pn**	**01 55 46.0**	**+1.7**
BSSI	**Bau Bau, Buton**	**9.71**	**217**	P			**Pn**	**01 55 50.6**	**+1.3**
	1µm93nm,0.5s								
BKB	**Balikpapan**	**9.87**	**253**		Pn		**Pn**	**01 55 49.9**	**-1.6**
KKM	**Kota Kinabalu**	**10.98**	**294**		Pn		**Pn**	**01 56 06.4**	**-0.4**
KKM	**Kota Kinabalu**	**10.98**	**294**		P		**Pn**	**01 56 08.2**	**+1.4**
	1µm93nm,0.6s								
KKM	**Kota Kinabalu**	**10.98**	**294**		P		**Pn**	**01 56 09.0**	**+2.2**
SOEI	**Soe**	**11.54**	**190**		Pn		**Pn**	**01 56 13.8**	**-0.7**
SOEI	**Soe**	**11.54**	**190**		P		**Pn**	**01 56 17.0**	**+2.5**
	136nm,0.8s								
PLAI	**Plampang**	**13.47**	**219**		P		**P**	**01 56 52.7**	**+3.8**
PLAI	**Plampang**	**13.47**	**219**		P		**Pn**	**01 56 43.7**	**+2.9**
TWSI	**Taliwang, Sumb**	**13.98**	**222**		P		**Pn**	**01 56 49.9**	**+2.1**
	100nm,1.0s								
SBUM	**Sibu**	**14.12**	**273**		Pn		**Pn**	**01 56 48.9**	**-0.7**
SBUM	**Sibu**	**14.12**	**273**		P		**Pn**	**01 56 51.0**	**+1.5**
	372nm36nm,0.8s								
KLNI	**Mataram**	**14.30**	**225**		P		**Pn**	**01 56 54.2**	**+2.1**
	85nm,0.8s								
KMMI	**Kalianget**	**15.07**	**235**		P		**Pn**	**01 57 03.8**	**+1.6**
	104nm,0.8s								
RTBI	**Rangdo, Negare**	**15.17**	**228**		P		**P**	**01 57 13.0**	**+5.2**
MTN	**Manton Dam**	**15.20**	**162**		P		**Pn**	**01 57 01.9**	**-1.9**
	baz=15,SNR=42								
MTN	**Manton Dam**	**15.20**	**162**		Pn		**Pn**	**01 57 02.1**	**-1.7**
MTN					IAmb		IAmb	01 57 18.0	
	comp=Z,62nm,0.9s								
KDU	**Kakadu**	**15.52**	**157**		P		**Pn**	**01 57 05.4**	**-2.6**
	baz=16,SNR=31								
JAGI	**Jajag, Banyuwa**	**15.77**	**230**				**Pn**	**01 57 11.7**	**+0.4**
JAGI					IAmb		IAmb	01 57 19.1	
	comp=Z,52nm,0.7s								
JAGI	**Jajag, Banyuwa**	**15.77**	**230**		P		**Pn**	**01 57 12.3**	**+1.0**
KSM	**Kuching**	**16.01**	**270**		Pn		**Pn**	**01 57 12.1**	**-2.2**
KSM	**Kuching**	**16.01**	**270**		P		**P**	**01 57 19.8**	**+2.7**
GMJI	**Gumukmas**	**16.20**	**232**		P		**P**	**01 57 18.8**	**-0.5**
	comp=Z,66nm,0.9s								
KNRA	**Kununurra**	**17.41**	**172**		P		**Pn**	**01 57 31.0**	**-0.8**
	baz=17,SNR=21								
KNRA	**Kununurra**	**17.41**	**172**		Pn		**Pn**	**01 57 29.5**	**-2.3**
KNRA					IAmb		IAmb	01 57 32.5	
	comp=Z,85nm,0.8s								
KNRA	**Kununurra**	**17.41**	**172**		P		**Pn**	**01 57 31.0**	**-0.8**
BBJI	**Bungbulang**	**20.72**	**244**		P		Pn	01 58 11.4	-0.4
TWG	**Pinlang**	**21.63**	**347**		P		**P**	**01 58 14.7**	**-3.8**
TWG					IAmb		IAmb	01 58 18.6	
	comp=Z,26nm,0.6s								
GUMO	**Guam**	**21.83**	**56**		LR		LR	02 06 53.9	
	comp=Z,45nm,18.2s,baz=238,slow=36								
DSRI	**Dabo**	**21.85**	**265**		P		P	01 58 35.2	+14
YULB	**Yu-li**	**22.13**	**348**		P		**P**	**01 58 19.8**	**-4.2**
TPUB	**Ta-pu**	**22.19**	**346**		P		**P**	**01 58 21.9**	**-2.7**
TPUB					IAmb		IAmb	01 58 28.9	
	comp=Z,52nm,0.7s								
TPUB	**Ta-pu**	**22.19**	**346**		P		**P**	**01 58 22.8**	**-1.8**
MYKOM	**Kota Tinggi**	**22.46**	**271**		P		**P**	**01 58 26.1**	**-1.6**
BTDF	**Bukit Timah Da**	**22.54**	**270**		P		**P**	**01 58 28.3**	**-0.2**
	comp=Z,19nm,0.8s								
SSLB	**Suanglung**	**22.59**	**347**		P		**P**	**01 58 26.3**	**-2.5**
SSLB	**Suanglung**	**22.59**	**347**		P		**P**	**01 58 28.3**	**-0.6**
COEN	**Coen**	**22.81**	**133**		P		**P**	**01 58 29.7**	**-1.5**
	baz=23,SNR=11								
COEN	**Coen**	**22.81**	**133**		P		**P**	**01 58 29.6**	**-1.7**
COEN	**Coen**	**22.81**	**133**		P		**P**	**01 58 29.8**	**-1.5**
WRAB	**Tennant Creek**	**22.88**	**160**		P		**P**	**01 58 30.8**	**-1.1**
WRAB	**Tennant Creek**	**22.88**	**160**		P		**P**	**01 58 30.9**	**-1.0**
WRA	**Warramunga Arr**	**22.88**	**160**		P		**P**	**01 58 30.4**	**-1.5**
	comp=Z,82nm,0.8s,baz=336,slow=11,SNR=264								
WRA					PcP		**PcP**	**02 02 22.3**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=311,slow=2.5,SNR=3.0								
WRA					S		**S**	**02 02 37.0**	**-1.4**
	comp=Z,9.8nm,0.8s,baz=337,slow=19,SNR=9.4								
	comp=Z

KMBL	**Kambalda**	**33.13**	**187**	P		**P**	**02 00 03.5**	**-0.5**
	baz=33,SNR=7.9							
KMBL	**Kambalda**	**33.13**	**187**	P		**P**	**02 00 03.7**	**-0.3**
	comp=Z,50nm,1.2s							
BLDU	**Ballidu**	**33.39**	**195**	P		**P**	**02 00 05.8**	**-0.6**
	baz=34,SNR=9.0							
BLDU	**Ballidu**	**33.39**	**195**	P		**P**	**02 00 05.7**	**-0.6**
LCRK	**Leigh Creek**	**33.90**	**161**	P		**P**	**02 00 11.0**	**+0.3**
KLBR	**Kellerberrin**	**34.07**	**193**	P		**P**	**02 00 12.0**	**-0.2**
	baz=34,SNR=22							
KLBR	**Kellerberrin**	**34.07**	**193**	P		**P**	**02 00 11.7**	**-0.5**
PZH	**PanZhiHua**	**34.16**	**318**	P		**P**	**02 00 14.8**	**+1.6**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.9s							
PZH					pmax	pmax		
	comp=Z,100nm,4.7s							
MUN	**Mundaring**	**34.82**	**195**	P		**P**	**02 00 18.4**	**-0.3**
	baz=35,SNR=4.9							
MUN	**Mundaring**	**34.82**	**195**	P		**P**	**02 00 18.1**	**-0.6**
HNR	**Honiara**	**35.26**	**109**	LR		LR	02 16 00.4	
	comp=Z,1µm,18.9s,baz=306,slow=38							
NWAO	**Narrogin (SRO)**	**35.47**	**193**	P		**P**	**02 00 24.3**	**0.0**
	baz=36,SNR=10							
NWAO					P	**P**	**02 00 24.3**	**0.0**
	baz=36,SNR=10							
NWAO	**Narrogin (SRO)**	**35.47**	**193**	P		**P**	**02 00 23.4**	**-0.9**
NWAO					IAmb	IAmb	02 00 25.0	
	comp=Z,19nm,0.7s							
NWAO	**Narrogin (SRO)**	**35.47**	**193**	P		**P**	**02 00 23.4**	**-0.9**
NWAO					IAmb	IAmb	02 00 25.0	
	comp=Z,15nm,0.7s							
NWAO	**Narrogin (SRO)**	**35.47**	**193**	P		**P**	**02 00 24.3**	**0.0**
TNCH	**TengChong**	**35.48**	**313**	*e*P		**P**	**02 00 24.8**	**+0.1**
TNCH					pP	sP	02 00 40.0	-2.1
BBOO	**Buckleboo**	**35.52**	**166**	P		**P**	**02 00 24.2**	**-0.4**
	baz=36,SNR=83							
BBOO	**Buckleboo**	**35.52**	**166**	P		**P**	**02 00 24.0**	**-0.7**
BBOO	**Buckleboo**	**35.52**	**166**	P		**P**	**02 00 24.2**	**-0.4**
KSAR	**Wonju Array Be**	**35.62**	**2**	P		**P**	**02 00 23.4**	**-2.1**
KSRS	**Korea Array**	**35.63**	**2**	P		**P**	**02 00 26.8**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=179,slow=9.9,SNR=10.0							
	comp=Z,1.9nm,0.5s							
EIDS	**Eidsvold**	**36.02**	**140**	P		**P**	**02 00 28.7**	**-0.4**
EIDS					IAmb	IAmb	02 00 37.3	
	comp=Z,34nm,1.7s							
XAN	**Xi'an**	**36.08**	**335**	⇓P		**P**	**02 00 27.8**	**-1.7**
XAN					pP	pP	02 00 40.4	-1.2
XAN					sP	sP	02 00 47.0	0.0
XAN					pmax	pmax		
	comp=Z,16nm,1.1s							
XAN					LR	LR		
	comp=Z,180nm,15.8s							
XAN					LR	LR		
	comp=Z,180nm,17.9s							
XAN					LR	LR		
	comp=Z,200nm,17.9s							
CD2	**Chengdu**	**36.08**	**326**	*e*P		**P**	**02 00 28.8**	**-0.8**
WHYH	**Whyalla**	**36.12**	**164**	P		**P**	**02 00 29.7**	**-0.1**
STKA	**Stephens Creek**	**36.38**	**158**	P		**P**	**02 00 32.3**	**+0.3**
	comp=Z,18nm,0.6s,baz=329,slow=8.3,SNR=55							
	comp=Z,18nm,0.6s							
STKA	**Stephens Creek**	**36.38**	**158**	P		**P**	**02 00 31.8**	**-0.3**
	baz=36,SNR=36							
STKA	**Stephens Creek**	**36.38**	**158**	P		**P**	**02 00 30.8**	**-1.3**
STKA	**Stephens Creek**	**36.38**	**158**	P		**P**	**02 00 32.2**	**+0.1**
MJAR	**Matsushiro Arr**	**36.39**	**16**	P		**P**	**02 00 34.2**	**+2.1**
	comp=Z,2.6nm,0.8s,baz=179,slow=9.6,SNR=4.5							
MJAR					LR	LR	02 15 29.2	
	comp=Z,20nm,20.6s,baz=198,slow=36							
	comp=Z,2.6nm,0.8s							
MJB9	**Matsu-Tunnel**	**36.40**	**16**	P		**P**	**02 00 30.3**	**-1.9**
MJB9					IAmb	IAmb	02 00 42.8	
	comp=Z,12nm,1.0s							
HTT	**Hallett**	**36.89**	**162**	P		**P**	**02 00 36.6**	**+0.1**
	baz=37,SNR=23							
HTT	**Hallett**	**36.89**	**162**	P		**P**	**02 00 36.9**	**+0.5**
HNS	**HongShan**	**37.12**	**345**	⇓P		**P**	**02 00 40.8**	**+2.5**
HNS					pmax	pmax		
	comp=Z,10.0nm,0.5s							
RKGY	**Rocky Gully**	**37.15**	**193**	P		**P**	**02 00 40.1**	**+1.6**
	baz=37,SNR=12							
RKGY	**Rocky Gully**	**37.15**	**193**	P		**P**	**02 00 39.9**	**+1.4**
CMSA	**Cobar Meteorol**	**37.81**	**152**	P		**P**	**02 00 44.2**	**0.0**
BJT	**Baijiatuau**	**39.27**	**348**	P		**P**	**02 00 55.1**	**-1.2**
BJI	**Beijing**	**39.28**	**348**	P		**P**	**02 00 56.9**	**+0.5**
BJI					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ARMA	**Armidale**	**40.01**	**145**	P		**P**	**02 01 03.6**	**+0.8**
	baz=40,SNR=11							
ARMA	**Armidale**	**40.01**	**145**	P		**P**	**02 01 02.3**	**-0.5**
ARMA					IAmb	IAmb	02 01 04.5	
	comp=Z,17nm,0.8s							
ARMA	**Armidale**	**40.01**	**145**	P		**P**	**02 01 03.6**	**+0.8**
LZH	**Lanzhou**	**40.08**	**331**	⇑P		**P**	**02 01 03.3**	**0.0**
LZH					pP	pP	02 01 13.5	-2.0
LZH					sP	sP	02 01 20.8	-0.1
LZH					pmax	pmax		
	comp=Z,23nm,1.2s							
LZH					LR	LR		
	comp=Z,250nm,15.2s							
LZH					LR	LR		
	comp=Z,190nm,14.6s							
LZH					LR	LR		
	comp=Z,290nm,18.1s							
SHL	**Shillong**	**40.80**	**309**	P		**P**	**02 01 06.8**	**-2.6**
SHL					IAmb	IAmb	02 01 18.0	
	comp=Z,13nm,0.8s							
ARPS	**Mount Arapiles**	**40.88**	**161**	P		**P**	**02 01 10.4**	**+0.7**
	baz=41,SNR=45							
ARPS	**Mount Arapiles**	**40.88**	**161**	P		**P**	**02 01 10.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**41.22**	**343**	*e*P		**P**	**02 01 13.9**	**+1.3**
HHC					pmax	pmax		
	comp=Z,24nm,0.8s							
HHC					pmax	pmax		
	comp=Z,150nm,6.2s							
MGCD	**Mangrove Creek**	**41.84**	**148**	P		**P**	**02 01 17.9**	**+0.2**
CN2	**Changchun**	**41.95**	**359**	*e*P		P	02 01 12.6	-5.8
CN2					*e*sP	sP	02 01 35.3	-0.7
BRAT	**Ballarat**	**42.30**	**159**	P		**P**	**02 01 22.4**	**+1.1**
CAN	**Canberra**	**42.48**	**152**	P		**P**	**02 01 22.8**	**-0.2**
CAN					IAmb	IAmb	02 01 29.1	
	comp=Z,97nm,1.9s							
CAN	**Canberra**	**42.48**	**152**	P		**P**	**02 01 23.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**42.64**	**6**	P		**P**	**02 01 26.4**	**+2.4**
	comp=Z,4.2nm,0.6s,baz=172,slow=7.1,SNR=5.1							
	comp=Z,4.2nm,0.6s							
CNB	**Canberra Magne**	**42.65**	**152**	P		**P**	**02 01 24.0**	**-0.3**
	baz=43,SNR=5.4							
CNB	**Canberra Magne**	**42.65**	**152**	P		**P**	**02 01 25.2**	**+0.9**
TOO	**Toolangi**	**42.90**	**157**	P		**P**	**02 01 27.2**	**+1.0**
	baz=43,SNR=5.7							
TOO	**Toolangi**	**42.90**	**157**	P		**P**	**02 01 25.5**	**-0.8**
TOO					IAmb	IAmb	02 01 29.4	
	comp=Z,49nm,1.8s							
TOO	**Toolangi**	**42.90**	**157**	P		**P**	**02 01 27.4**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**42.95**	**64**	T		T	02 48 29.2	
	baz=252,slow=76							
H11S2	**WAKE ISLAND Hy**	**42.97**	**64**	T		T	02 48 34.5	
	baz=252,slow=76							
H11S1	**WAKE ISLAND Hy**	**42.97**	**64**	T		T	02 48 32.5	
	baz=252,slow=76							
XLT	**XiLinHaoTe**	**43.02**	**349**	*e*P		**P**	**02 01 29.0**	**+1.8**
XLT					pP	pwP	02 01 42.1	+0.5
XLT					sP	sP	02 01 47.5	+2.7
XLT					S	**S**	**02 07 50.5**	**+0.9**
XLT					sS	sS	02 08 08.6	-1.5
XLT					SS	**SS**	**02 10 58.3**	**-4.8**
XLT					pmax	pmax		
	comp=Z,17nm,0.7s							
XLT					pmax	pmax		
	comp=Z,140nm,10.8s							
LSA	**Lhasa**	**43.51**	**313**	P		**P**	**02 01 30.3**	**-1.6**
H11N1	**WAKE ISLAND Hy**	**43.52**	**63**	T		T	02 49 12.7	
	baz=250							
H11N2	**WAKE ISLAND Hy**	**43.53**	**63**	T		T	02 48 57.8	
	baz=250							
H11N3	**WAKE ISLAND Hy**	**43.54**	**63**	T		T	02 49 07.2	
	baz=250							
ASAJ	**Asahikawa**	**44.66**	**17**	LR		LR	02 18 39.2	
	comp=Z,40nm,21.1s,baz=192,slow=34							
TAPN	**Taplejung**	**44.93**	**308**	*e*P		**P**	**02 01 42.3**	**-0.8**
	comp=Z,5.4nm,0.3s							
GOMU	**GeErMu**	**45.06**	**323**	P		**P**	**02 01 44.0**	**0.0**
GOMU					pmax	pmax		
	comp=Z,6.0nm,1.0s							
GOMU					pmax	pmax		
	comp=Z,74nm,5.9s							
RAMN	**Ramite**	**45.62**	**307**	*e*P		**P**	**02 01 47.3**	**-1.2**
	comp=Z,30nm,0.8s							
PALK	**Pallekele**	**45.80**	**278**	LR		LR	02 22 11.4	
	comp=Z,68nm,19.7s,baz=217,slow=38							
JIRN	**Jiri**	**46.27**	**308**	*e*P		**P**	**02 01 53.0**	**-0.7**
	comp=Z,21nm,0.4s							
GUN	**Gumba**	**46.63**	**308**	*e*P		**P**	**02 01 55.8**	**-0.7**
	comp=Z,27nm,0.4s							
PKI	**Pulchoki**	**46.85**	**307**	*e*P		**P**	**02 01 56.9**	**-1.3**
	comp=Z,11nm,0.5s							
PKIN	**Phulchoki**	**46.86**	**307**	*e*P		**P**	**02 01 57.0**	**-1.3**
	comp=Z,10.0nm,0.4s							
DMN	**Daman**	**47.11**	**307**	*e*P		**P**	**02 01 59.1**	**-1.1**
	comp=Z,14nm,0.6s							
GKN	**Gorkha**	**47.65**	**307**	*e*P		**P**	**02 02 02.9**	**-1.4**
	comp=Z,11nm,0.4s							
HIA	**Hailar**	**47.75**	**354**	P		**P**	**02 02 03.1**	**-1.4**
HIA					IAmb	IAmb	02 02 07.6	
	comp=Z,32nm,1.5s							
HEH	**HeiHe**	**48.41**	**1**	*e*P		**P**	**02 02 10.9**	**+1.4**
HEH					pmax	pmax		
	comp=Z,12nm,0.7s							
HEH					pmax	pmax		
	comp=Z,210nm,4.4s							
DANN	**Dangsing**	**48.50**	**307**	*e*P		**P**	**02 02 09.7**	**-1.3**
	comp=Z,54nm,0.6s							
ULN	**Ulaanbaatar**	**48.94**	**343**	P		**P**	**02 02 12.8**	**-1.1**
SONM	**Songino Array**	**49.11**	**342**	P		**P**	**02 02 14.8**	**-0.3**
	comp=Z,4.6nm,0.9s,baz=163,slow=8.1,SNR=11							
SONM					PcP	**PcP**	**02 03 39.4**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=150,slow=4.9,SNR=4.0							
SONM					LR	LR	02 24 60.0	
	comp=Z,44nm,20.7s,baz=176,slow=39							
	comp=Z,4.6nm,0.9s							
SONM	**Songino Array**	**49.11**	**342**	P		**P**	**02 02 13.5**	**-1.7**
WMQ	**Urumqi**	**54.18**	**326**	*e*P		**P**	**02 02 53.3**	**+0.3**
WMQ					sP	sP	02 03 12.3	+1.4
WMQ					PP	**PP**	**02 05 00.9**	**+5.8**
WMQ					pmax	pmax		
	comp=Z,15nm,0.9s							
WMQ					LR	LR		
	comp=Z,280nm,24.3s							
WMQ					LR	LR		
	comp=Z,32nm,18.9s							
PETK	**Petropavlovsk-**	**57.47**	**22**	P		**P**	**02 03 18.4**	**+2.0**
	comp=Z,2.2nm,0.7s,baz=202,slow=5.3,SNR=8.8							
	comp=Z,3.2nm,0.7s							
MK31	**Makanchi Array**	**59.01**	**326**	P		**P**	**02 03 25.3**	**-2.0**
MK31					IAmb	IAmb	02 03 30.9	
	comp=Z,9.8nm,1.1s							
MKAR	**Makanchi Array**	**59.01**	**326**	P		**P**	**02 03 26.0**	**-1.3**
	comp=Z,4.5nm,0.4s,baz=122,slow=7.3,SNR=94							
	comp=Z,4.5nm,0.4s							
MKAR	**Makanchi Array**	**59.01**	**326**	P		**P**	**02 03 25.3**	**-2.0**
MAKZ	**Makanchi**	**59.19**	**326**	P		**P**	**02 03 27.0**	**-1.5**
MAKZ					IAmb	IAmb	02 03 32.2	
	comp=Z,14nm,0.9s							
ZAA0	**Zalesovo Array**	**62.23**	**334**	P		**P**	**02 03 47.3**	**-1.6**
ZALV	**Zalesovo Beam**	**62.23**	**334**	P		**P**	**02 03 47.5**	**-1.5**
	comp=Z,2.5nm,0.5s,baz=140,slow=5.8,SNR=10							
	comp=Z,2.5nm,0.5s							
ZALV	**Zalesovo Beam**	**62.23**	**334**	P		P	**02 03 47.3**	**-1.7**
KURBB	**Kurchatov Arra**	**63.25**	**328**	P		**P**	**02 03 54.9**	**-0.9**
	comp=Z,6.5nm,0.5s,baz=129,slow=6.3,SNR=48							
	comp=Z,6.5nm,0.5s							
KURK	**Kurchatov**	**63.25**	**328**	P		P	**02 03 54.8**	**-1.0**
BVAR	**Borovoye Array**	**68.81**	**328**	P		**P**	**02 04 30.5**	**-1.0**
	comp=Z,4.0nm,0.5s,baz=141,slow=11,SNR=16							
	comp=Z,4.0nm,0.5s							
WSAR	**Wadi Sarin**	**68.88**	**294**	LR		LR	02 34 57.0	
	comp=Z,17nm,21.8s,baz=91,slow=36							
BRVK	**Borovoye**	**68.89**	**328**	P		**P**	**02 04 31.2**	**-0.8**
TIXI	**Tiksi**	**69.89**	**1**	P		**P**	**02 04 36.0**	**-1.8**
TIXI					IAmb	IAmb	02 04 40.9	
	comp=Z,13nm,1.1s							
NRIK	**Noril'sk**	**72.31**	**347**	P		**P**	**02 04 52.8**	**+0.3**
	comp=Z,14nm,0.6s,baz=121,slow=5.4,SNR=18							
	comp=Z,14nm,0.6s							
NRIK	**Noril'sk**	**72.31**	**347**	P		**P**	**02 04 50.9**	**-1.6**
NRIK					IAmb	IAmb	02 04 55.4	
	comp=Z,14nm,0.7s							
ARU	**Arti**	**76.45**	**328**	P		**P**	**02 05 15.6**	**-1.2**
	comp=Z,5.8nm,0.6s,baz=91,slow=2.3,SNR=12							
	comp=Z,5.8nm,0.6s							
ARU	**Arti**	**76.45**	**328**	P		**P**	**02 05 15.7**	**-1.1**
ARU					IAmb	IAmb	02 05 18.4	
	comp=Z,13nm,1.0s							
ABPO	**Ambohimpanom**	**80.24**	**251**	P		**P**	**02 05 38.8**	**0.0**
ABPO					IAmb	IAmb	02 05 43.7	
	comp=Z,14nm,1.1s							
RAYN	**Ar Rayn**	**80.91**	**293**	P		**P**	**02 05 40.1**	**-2.0**
VOI	**Vohitsoka**	**80.91**	**248**	P		**P**	**02 05 41.3**	**-1.0**
VOI					IAmb	IAmb	02 05 49.1	
	comp=Z,11nm,0.9s							
VNDA	**Vanda**	**81.45**	**173**	P		**P**	**02 05 44.1**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=317,slow=6.4,SNR=38							
	comp=Z,4.1nm,0.6s							
VNDA	**Vanda**	**81.45**	**173**	P		**P**	**02 05 44.0**	**+0.2**
MAW	**Mawson**	**81.70**	**200**	P		**P**	**02 05 44.3**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=67,slow=7.7,SNR=2.5							
	comp=Z,2.6nm,0.7s							
MAW	**Mawson**	**81.70**	**200**	P		P	**02 05 45.2**	**-0.1**
KIRV	**Kirov**	**81.76**	**329**	P		**P**	**02 05 45.4**	**-0.3**
	comp=Z,9.8nm,0.6s,baz=331,slow=4.7,SNR=5.3							
	comp=Z,9.8nm,0.6s							
BELG	**Belogornoye**	**81.78**	**323**	P		**P**	**02 05 45.2**	**-0.8**
	comp=Z,21nm,0.6s,baz=308,slow=4.2,SNR=8.9							
	comp=Z,21nm,0.6s							
GNI	**Garni**	**82.48**	**310**	P		**P**	**02 05 49.0**	**-1.3**
	comp=Z,4.2nm,0.9s,baz=356,slow=20,SNR=2.4							
	comp=Z,4.2nm,0.9s							
GNI	**Garni**	**82.48**	**310**	LR		LR	02 15 06.6	
	comp=Z,50nm,18.8s,baz=67,slow=42							
GNI	**Garni**	**82.48**	**310**	P		**P**	**02 05 48.7**	**-1.5**
GNI					IAmb	IAmb	02 06 06.2	
	comp=Z,12nm,0.9s							
GNI	**Garni**	**82.48**	**310**	P		**P**	**02 05 49.0**	**-1.3**
OHAK	**Old Harbor**	**83.39**	**33**	P		**P**	**02 05 52.9**	**-1.4**
ONI	**Oni**	**83.61**	**312**	P		**P**	**02 05 55.1**	**-0.9**
ONI					IAmb	IAmb	02 06 11.1	
	comp=Z,13nm,1.0s							
KARS	**Kars**	**83.78**	**311**	P		**P**	**02 05 56.7**	**-0.3**
KBZ	**Khabaz**	**84.09**	**314**	P		**P**	**02 05 57.3**	**-0.9**
	comp=Z,5.2nm,0.9s,baz=158,slow=7.2,SNR=8.0							
	comp=Z,5.2nm,0.9s							
KVAR	**Kislovodsk Arr**	**84.25**	**314**	P		**P**	**02 05 58.5**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=40,slow=13,SNR=1.4							
	comp=Z,1.8nm,0.7s							
IMAR	**Indian Mountai**	**84.37**	**24**	P		**P**	**02 06 00.0**	**+0.8**
CAST	**Castle Rocks**	**84.74**	**27**	P		**P**	**02 06 00.3**	**-0.8**
CAST					IAmb	IAmb	02 06 08.3	
	comp=Z,12nm,1.7s							
BRLK	**Bradley Lake**	**84.92**	**30**			**P**	**02 06 00.6**	**-1.5**
BRLK					IAmb	IAmb	02 06 05.1	
	comp=Z,11nm,0.8s							
SUA	**Susitna One**	**85.15**	**29**	P		**P**	**02 06 04.1**	**+0.7**
KLMR	**Klimovskoe**	**86.98**	**331**	*e*P		**P**	**02 06 11.3**	**-0.9**
KLMR					AMP		02 06 13.5	
	comp=Z,8.0nm,0.5s							
ILAR	**Eielson Array**	**87.12**	**25**	P		**P**	**02 06 14.0**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=249,slow=4.6,SNR=7.3							
	comp=Z,0.4nm,0.6s							
GAZ	**Gaziantep**	**88.29**	**307**	P		**P**	**02 06 18.2**	**-0.9**
OBN	**Obninsk**	**88.50**	**325**	P		**P**	**02 06 19.9**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=79,slow=15,SNR=4.5							
	comp=Z,3.4nm,0.6s							
OBN	**Obninsk**	**88.50**	**325**	P		P	**02 06 19.0**	**-0.5**
ASF	**Jabal al Asfar**	**88.63**	**302**	P		**P**	**02 06 20.4**	**-0.5**
	comp=Z,12nm,1.0s,baz=95,slow=3.0,SNR=8.5							
	comp=Z,12nm,1.0s							
KMBO	**Kilima Mbogo**	**89.10**	**269**	P		**P**	**02 06 23.6**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=60,slow=4.0,SNR=2.0							
	comp=Z,1.7nm,0.4s							
KMBO	**Kilima Mbogo**	**89.10**	**269**	P		**P**	**02 06 24.0**	**+0.3**
KMBO					IAmb	IAmb	02 06 27.6	
	comp=Z,6.9nm,1.1s							
BCAR	**Beaver Creek A**	**89.38**	**27**	P		**P**	**02 06 24.1**	**+0.5**
MMAI	**Mount Meron Ar**	**89.87**	**303**	P		**P**	**02 06 26.6**	**0.0**
	comp=Z,1.8nm,0.5s,baz=91,slow=7.5,SNR=8.1							
	comp=Z,1.8nm,0.5s							
EIL	**Elat**		**90.37**	**300**	P		**P**	**02 06 27.9**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=25,slow=3.5,SNR=5.1							
	comp=Z,4.8nm,0.8s							
BR131	**Keskin Array S**	**91.01**	**310**	IAmb		IAmb	02 06 34.4	
	comp=Z,7.0nm,1.2s							
BRTR	**Keskin Array B**	**91.01**	**310**	P		**P**	**02 06 30.1**	**-1.8**
	comp=Z,1.9nm,0.9s,baz=96,slow=4.2,SNR=10.0							
	comp=Z,1.9nm,0.9s							
BRTR	**Keskin Array B**	**91.01**	**310**	P		**P**	**02 06 29.8**	**-2.1**
ARCES	**ARCESS Array B**	**92.22**	**340**	P		**P**	**02 06 37.5**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=74,slow=5.2,SNR=7.2							
	comp=Z,3.2nm,0.8s							
MDUB	**Mudurnu**	**92.83**	**310**	P		**P**	**02 06 38.8**	**-1.5**
AKASG	**Malin Array Be**	**93.22**	**321**	P		**P**	**02 06 40.7**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=67,slow=4.7,SNR=4.3							
	comp=Z,1.6nm,0.7s							
FINES	**FINESS Array B**	**93.44**	**332**	P		**P**	**02 06 42.5**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=48,slow=6.1,SNR=10							
	comp=Z,3.2nm,0.8s							
MNK	**Minsk**	**93.55**	**325**	*i* P		**P**	**02 06 44.2**	**+1.1**
	comp=E,1.0nm,0.8s							
MNK				*i* P		**P**	**02 06 44.2**	**+1.1**
	comp=N,9.0nm,0.8s							
MNK				*i* P		**P**	**02 06 44.2**	**+1.1**
	comp=Z,10.0nm,0.8s,baz=82							
MNK				*i* pP		**pwP**	**02 06 58.9**	**+0.2**
MNK				*i* sP		**sP**	**02 07 04.7**	**+3.1**
MNK				*i* PP		PP	02 09 53.4	-35
MNK				*i* PPP		PPP	02 13 04.9	
MNK				*i* SKS		SKiKP	02 15 23.9	+24
MNK				*i* S		**SKSac**	**02 17 13.9**	**+0.2**
MNK				*i* sS		**S**	**02 17 42.9**	**-5.0**
MNK				*i* PS		PS	02 19 45.1	+38
MNK				*i* SSS		SSS	02 26 41.0	
NACGM	**Naroch**	**94.13**	**325**	*e*P		**P**	**02 06 44.8**	**-0.9**
	comp=Z,11nm,0.8s,baz=81							
MLR	**Muntele Rosu**	**96.08**	**316**	P		**P**	**02 06 54.1**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=108,slow=6.4,SNR=2.1							
MLR					LR	LR	02 57 10.2	
	comp=Z,30nm,19.1s,baz=78,slow=40							
	comp=Z,1.8nm,0.7s							
BURAR	**Bucovina Array**	**96.25**	**318**	IAmb		IAmb	02 07 02.4	
	comp=Z,5.4nm,0.9s							
BUR08	**Bucovina Ar. S**	**96.26**	**318**	P		**P**	**02 06 54.9**	**-0.9**
BUR08				IAmb		IAmb	02 07 03.5	
	comp=Z,4.6nm,0.8s							
NOA	**NORSAR Array B**	**100.43**	**333**	P		**Pdif**	**02 07 14.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=70,slow=4.3,SNR=3.3							
TORD	**Torodi Ar. Bea**	**123.14**	**287**	PKP		**PKPdf**	**02 12 24.6**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=58,slow=2.0,SNR=18							
TXAR	**Lajitas Array**	**123.16**	**53**	PKP		**PKiKP**	**02 12 26.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=270,slow=2.5,SNR=4.4							
KIC	**Kosan Boka**	**130.50**	**280**	⇓*i*PKIKP		**PKiKP**	**02 12 41.3**	**+1.6**
	comp=Z,3.7nm,0.4s							
DBIC	**Dimbokro**	**130.57**	**280**	PKP		**PKPdf**	**02 12 38.5**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=105,slow=6.1,SNR=4.8							
TIC	**Toumodi**	**130.74**	**280**	⇓*i*PKIKP		**PKiKP**	**02 12 41.8**	**+1.6**
	comp=Z,4.1nm,0.3s							
LIC	**Lamto**	**130.80**	**280**	⇑*i*PKIKP		**PKiKP**	**02 12 41.6**	**+1.3**
	comp=Z,16nm,0.4s							
PLCA	**Paso Flores**	**138.23**	**161**	PKP		**PKiKP**	**02 12 55.1**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=239,slow=6.2,SNR=5.0							
VA03	**San Esteban**	**145.25**	**155**	PKPbc		**PKPbc**	**02 13 03.6**	**-1.6**
CO02	**Combarbal**	**146.37**	**153**	PKPbc		**PKPdf**	**02 13 08.0**	**+0.5**
ZOL	**Zonda**	**147.08**	**156**	PKPbc		**PKPdf**	**02 13 07.9**	**-0.7**
LCO	**Las Campanas**	**148.34**	**151**	PKPbc		**PKPdf**	**02 13 12.3**	**+1.3**
AC06	**Mina Casimiro**	**149.87**	**149**	PKPbc		**PKPbc**	**02 13 16.1**	**-1.9**
CPUP	**Villa Florida**	**155.24**	**172**	PKP		**PKPdf**	**02 13 23.1**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=149,slow=1.4,SNR=0.8							
LPAZ	**La Paz**	**159.67**	**136**	PKP		**PKPdf**	**02 13 29.4**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=49,slow=4.6,SNR=4.1							
LPAZ					PKPab	**PKPab**	**02 14 08.2**	**+2.1**
	comp=Z,6.0nm,1.3s,baz=14,slow=3.2,SNR=3.9							

IDC ***19*** *02:01:19.9±0.9, 38.67°N×70.20°E, h0km, mb4.0/16, mbtmp4.0/19, ML4.2/3, MS3.4/16, Error ellipse: s-maj=22.0km s-min=13.4km az=167.0*
SOME ***19*** *02:01:20.0, 38.77°N×69.87°E, h20km, MS3.9*
BJI ***19*** *02:01:21.2±0.0, 38.72°N×69.82°E, h24km, mb4.1/9, mB4.5/3, ML4.2/2, Ms4.0/5, Ms7 3.7/5*
NEIC ***19*** *02:01:22.6±2.9, 38.81°N±0.04×70.21°E±0.05, h10km±1km, mb4.2/7, Error ellipse: s-maj=7.7km s-min=6.6km az=131.0*
MOS ***19*** *02:01:22.9±1.6, 38.82°N×70.05E, h21km, mb4.4/13, Error ellipse: s-maj=6.8km s-min=3.5km az=66.6*
NNC ***19*** *02:01:24.9±2.2, 39.00°N×69.78E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=18.4km s-min=12.5km az=178.0*

ISC 19 02:01:22.6±0.4, **38.87**N±0.

SNR=21
UCH Uchtor 4.77 44 *i* PN **Pn** **02 02 35.3 +0.6**
AAK Ala-Archa 5.05 40 P Pn 02 02 43.7 +5.5
SNR=58
AAK Ala-Archa 5.05 40 Pn **Pn** **02 02 41.5 +3.3**
23nm,0.3s,baz=226,slow=11,SNR=71
AAK Sn **Sn** **02 03 43.6 +7.0**
8.7nm,0.3s,baz=176,slow=15,SNR=1.5
AAK Lg Lg 02 03 59.5
3.4nm,0.3s,baz=268,slow=12,SNR=3.7
AAK LR LR 02 05 08.4
comp=Z,266nm,21.9s,baz=227,slow=44
77nm,0.4s
AAK Ala-Archa 5.05 40 Pn **Pn** **02 02 41.6 +3.4**
AAK Ala-Archa 5.05 40 PN **Pn** **02 02 41.6 +3.4**
KBK Karagaybulak 5.30 43 P **Pn** **02 02 45.6 +3.9**
SNR=46
KBK Karagaybulak 5.30 43 *i* PN **Pn** **02 02 42.4 +0.7**
CHMS Chumysh 5.45 39 P **Pn** **02 02 47.0 +3.5**
SNR=54
CHMS Chumysh 5.45 39 ⇑Pn **Pn** **02 02 46.8 +3.2**
74nm,0.6s
CHMS ⇑Sn **Sb** **02 03 55.0 -7.8**
142nm,1.0s
CHMS ⇑Lg Lg 02 04 17.6
192nm,1.3s
CHMS Chumysh 5.45 39 *i* PN **Pn** **02 02 46.7 +3.2**
CHMS pmax pmax
comp=Z,74nm,0.5s
USP Ospenovka 5.53 36 P **Pn** **02 02 48.0 +3.3**
SNR=32
USP Ospenovka 5.53 36 ⇓*i* PN **Pn** **02 02 45.6 +0.9**
SGDS Sogindy 5.73 36 *e*P **Pg** **02 03 11.9 -0.5**
comp=Z,34nm,0.5s
SGDS *e*S **Sg** **02 04 29.4 +2.7**
comp=Z,66nm,0.9s
SGDS Sogindy 5.73 36 *e*Pn **Pn** **02 02 50.4 +2.9**
baz=38
SGDS *e*Sn **Sn** **02 03 59.8 +6.6**
baz=38
SGDS Sogindy 5.73 36 Pg **Pg** **02 03 08.0 -4.4**
comp=Z,33nm,1.0s
SGDS Lg Lg 02 04 21.8
comp=Z,49nm,1.1s
SGDS Sogindy 5.73 36 *e*PN **Pn** **02 02 50.4 +2.9**
SGDS *e* 02 03 59.7
BOOM Boomskoye usch 5.75 49 Pn **Pn** **02 02 50.7 +2.8**
BOOM Boomskoye usch 5.75 49 PN **Pn** **02 02 50.7 +2.8**
ULHL Ulahol 5.79 52 P Pn 02 02 54.7 +6.2
SNR=15
ULHL Ulahol 5.79 52 *i* PN **Pn** **02 02 48.9 +0.4**
NIL Nilore 5.81 153 Pn **Pn** **02 02 51.8 +3.2**
NIL Nilore 5.81 153 PN **Pn** **02 02 51.8 +3.2**
TKM2 Tokmak 2 5.83 44 P Pn 02 02 54.6 +5.6
SNR=19
TKM2 Tokmak 2 5.83 44 ⇓Pn **Pn** **02 02 51.7 +2.7**
comp=Z,43nm,0.5s
TKM2 ⇓Sn **Sn** **02 04 03.4 +7.6**
comp=Z,86nm,1.2s
TKM2 ⇑Lg Lg 02 04 29.1
comp=Z,139nm,1.1s
TKM2 Tokmak 2 5.83 44 PN **Pn** **02 02 51.6 +2.7**
TKM2 02 04 03.3
KST Kastek 6.11 45 *e*P **Pg** **02 03 17.8 -1.9**
comp=Z,29nm,0.8s
KST *e*S **Sg** **02 04 39.0 +0.1**
comp=Z,82nm,0.8s
KST Kastek 6.11 45 Pg **Pg** **02 03 17.8 -1.9**
comp=Z,29nm,0.8s
KST Lg Lg 02 04 38.9
comp=Z,82nm,0.8s
DGS Degeres 6.14 43 *e*P **Pg** **02 03 18.9 -1.4**
comp=Z,48nm,0.9s
DGS *e*S **Sg** **02 04 40.6 +0.9**
comp=Z,52nm,0.7s
DGS Degeres 6.14 43 Pg **Pg** **02 03 18.9 -1.4**
comp=Z,48nm,0.9s
DGS Lg Lg 02 04 40.7
comp=Z,52nm,0.7s
THW Thamme Wali 6.21 167 P **Pn** **02 02 55.7 +1.6**
MTBS Maitube 6.43 47 *e*P **Pg** **02 03 25.7 0.0**
comp=Z,22nm,0.2s
MTBS *e*S **Sg** **02 04 51.8 +2.9**
comp=Z,36nm,0.3s
TARG Taragay, Kyrgy 6.58 62 Pn **Pn** **02 02 59.6 +0.3**
TARG Taragay, Kyrgy 6.58 62 PN **Pn** **02 02 59.7 +0.3**
TNSS Tian-Shan 6.67 49 *e*P **Pg** **02 03 28.8 -1.6**
comp=Z,19nm,0.6s
TNSS *e*S **Sg** **02 04 58.0 +1.2**
comp=Z,26nm,0.8s
TNSS Tian-Shan 6.67 49 *e*Pn Pn 02 03 06.0 +5.2
baz=52
TNSS *i* Pg Pb 02 03 24.1 +5.3
baz=52
TNSS *e*Lg Lg 02 04 56.1
baz=52
TNSS Tian-Shan 6.67 49 Pg **Pg** **02 03 28.8 -1.6**
comp=Z,19nm,0.6s
TNSS Lg Lg 02 04 58.0
comp=Z,26nm,0.8s
TNSS Tian-Shan 6.67 49 *e*PN Pn 02 03 05.9 +5.2
TNSS *i* 02 03 24.0
AAA Alma-Ata 6.76 48 *e*Pn Pn 02 03 07.5 +5.9
baz=50
AAA *e*Lg Lg 02 04 58.4
baz=50
AAA Alma-Ata 6.76 48 *e*PN Pn 02 03 07.4 +5.8
KNDC Almaty 6.79 48 ⇓Pn Pn 02 03 08.5 +6.5
comp=Z,64nm,0.6s
KNDC ⇑Lg Lg 02 05 09.6
comp=Z,321nm,1.0s
KNDC Almaty 6.79 48 PN Pn 02 03 08.5 +6.5
MDOK Medeo 6.81 49 ⇑Pn Pn 02 03 08.1 +5.7
comp=Z,56nm,1.0s
MDOK ⇓Lg Lg 02 05 01.3
comp=Z,102nm,1.1s
MDOK Medeo 6.81 49 PN Pn 02 03 08.0 +5.7
BTLS Baital 6.85 24 *e*P **Pg** **02 03 31.3 -2.3**
BTLS *e*S **Sg** **02 05 01.6 -0.7**
BTLS Baital 6.85 24 Pg **Pg** **02 03 31.3 -2.3**
BTLS Lg Lg 02 05 01.5
KUU Kurty 6.89 41 *e*P **Pg** **02 03 33.4 -1.1**
comp=Z,24nm,0.7s
KUU *e*S **Sg** **02 05 05.7 +1.9**
comp=Z,76nm,0.8s
KUU Kurty 6.89 41 *e*Pn **Pn** **02 03 04.3 +1.0**
baz=44
KUU *e*Lg Lg 02 05 01.2
baz=44
KUU Kurty 6.89 41 Pg **Pg** **02 03 33.4 -1.1**
comp=Z,24nm,0.7s
KUU Lg Lg 02 05 05.7
comp=Z,76nm,0.8s
KUU Kurty 6.89 41 *e*PN **Pn** **02 03 04.3 +1.0**
KTBS Karatobe 6.95 44 *e*P **Pg** **02 03 34.3 -1.3**
comp=Z,23nm,1.1s
KTBS *e*S **Sg** **02 05 07.7 +2.1**
comp=Z,67nm,0.6s
KTBS Karatobe 6.95 44 Pg **Pg** **02 03 34.3 -1.3**
comp=Z,23nm,1.1s
KTBS Lg Lg 02 05 07.7
comp=Z,67nm,0.6s
CHKK Chushkaly 7.21 44 *e*Pn **Pn** **02 03 11.3 +3.5**
baz=46
CHKK Chushkaly 7.21 44 *e*P **Pn** **02 03 11.2 +3.5**
HRA Herat 7.71 237 Pn **Pn** **02 03 15.7 +0.9**
KPKS Kokpek 7.96 52 *e*Pn **Pn** **02 03 20.0 +1.9**
baz=54
KPKS *e*Lg Lg 02 05 36.0
baz=54
KPKS Kokpek 7.96 52 *e*P **Pn** **02 03 20.0 +1.9**
UZB Uzynbulak 8.01 55 *e*Pn **Pn** **02 03 21.9 +3.0**
baz=57
UZB *e*Lg Lg 02 05 37.3
baz=57
UZB Uzynbulak 8.01 55 *e*P **Pn** **02 03 21.9 +3.0**
PDGK Podgornoye 8.40 55 ⇑Pn **Pn** **02 03 24.4 +0.2**
comp=Z,21nm,1.1s
PDGK ⇓Lg Lg 02 05 52.3
comp=Z,64nm,1.3s
PDGK Podgornoye 8.40 55 P **Pn** **02 03 24.3 +0.2**
TDK Taldyqorghan 8.73 43 *e*Pn **Pn** **02 03 29.3 +0.7**
baz=45
TDK Taldyqorghan 8.73 43 *e*P **Pn** **02 03 29.2 +0.7**
GEYT Alibeck 9.42 268 Pn **Pn** **02 03 36.6 -1.4**
comp=Z,1.3nm,0.3s,baz=95,slow=12,SNR=9.3
GEYT Sn **Sn** **02 05 22.0 -1.8**
comp=Z,4.0nm,0.3s,baz=110,slow=21,SNR=7.7
GEYT LR LR 02 08 03.7
comp=Z,155nm,20.1s,baz=91,slow=42
comp=Z,2.8nm,0.4s
GEYT Alibeck 9.42 268 Pn **Pn** **02 03 37.1 -0.9**
GYA0B ALIBECK ARRAY 9.42 268 Pn **Pn** **02 03 38.0 -0.1**
OTUK Ortayu 9.52 9 ⇓Pn **Pn** **02 03 41.9 +2.5**
comp=Z,11nm,1.1s
OTUK ⇑Lg Lg 02 06 22.7
comp=Z,180nm,1.2s
OTUK Ortayu 9.52 9 P **Pn** **02 03 41.8 +2.5**
BRZS Berezniki 11.27 9 *e*Pn **Pn** **02 04 03.1 -0.2**
baz=9.7
BRZS *e*Lg Lg 02 07 18.6
baz=9.7
BRZS Berezniki 11.27 9 *e*P **Pn** **02 04 03.1 -0.2**
MKAR Makanchi Array 11.96 45 Lg Lg 02 07 44.4
comp=Z,0.2nm,0.3s,baz=238,slow=23,SNR=2.3
MKAR LR LR 02 08 31.3
comp=Z,43nm,19.2s,baz=189,slow=36
AB31 Akbulak array 12.66 328 ⇑Pn **Pn** **02 04 22.4 +0.1**
comp=Z,4.1nm,0.4s,baz=135,slow=13,SNR=194
AB31 ⇓Sn **Sn** **02 06 37.7 -5.4**
comp=Z,41nm,0.8s,baz=147,slow=24,SNR=16
AB31 Akbulak array 12.66 328 *e*P **Pn** **02 04 22.4 +0.1**
AB31 *i* 02 06 37.6
ABKAR Akbulak array 12.66 328 **Pn** **02 04 22.8 +0.5**
KURBB Kurchatov Arra 13.19 24 Lg Lg 02 08 24.6
comp=Z,0.1nm,0.3s,baz=338,slow=20,SNR=3.6
AKTO Aktyubinsk 14.37 327 ⇑Pn **Pn** **02 04 47.4 +1.8**
comp=Z,26nm,0.8s
AKTO ⇑Sn **Sn** **02 07 24.1 -0.6**
comp=Z,33nm,1.1s
AKTO Aktyubinsk 14.37 327 P **Pn** **02 04 47.4 +1.8**
AKTO 02 07 24.0
DGZ Jazzator, Alta 16.45 43 *i* P **P** **02 05 18.4 +2.5**
DGZ pmax pmax
comp=Z,13nm,0.9s
AKT Akhty 17.25 286 *e*P **P** **02 05 26.6 +1.8**
AKT *e*S **S** **02 08 40.8 -3.3**
AKT pmax pmax
comp=Z,6.0nm,0.8s
AKT smax smax
comp=N,5.0nm,0.5s
AKT smax smax
comp=E,8.0nm,0.4s
MAK Makhachkala 17.51 291 *e*P **Pn** **02 05 23.0 -3.4**
MAK *e*S **Sn** **02 08 36.1 -5.1**
MAK pmax pmax
comp=Z,295nm,1.6s
MAK MLR MLR
comp=Z,400nm,14.0s
ZAA0 Zalesovo Array 18.14 29 **Pn** **02 05 33.2 -0.8**
ZALV Zalesovo Beam 18.14 29 Pn **Pn** **02 05 33.6 -0.4**
comp=Z,1.7nm,0.3s,baz=214,slow=11,SNR=22
comp=Z,5.9nm,0.5s
ZALV Zalesovo Beam 18.14 29 **Pn** **02 05 33.5 -0.6**
ZALV Zalesovo Beam 18.14 29 *i* P **P** **02 05 34.5 +0.2**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
GROC Groznyy 18.78 291 P **P** **02 05 39.1 -2.4**
GROC *e*S **Sn** **02 09 12.2 +0.3**
GROC pmax pmax
comp=Z,13nm,0.6s
SVE Sverdlovsk 19.01 344 *e*P **P** **02 05 42.9 -1.0**
SVE *e*S **Sn** **02 09 12.8 -4.5**
ARU Arti 19.15 340 Sn **Sn** **02 09 15.7 -4.9**
baz=139,slow=19,SNR=6.6
ARU Lg Lg 02 11 44.9
baz=195,slow=20,SNR=3.5
ARU LR LR 02 13 54.7
comp=Z,169nm,18.9s,baz=171,slow=39
ARU Arti 19.15 340 *i* P **Pn** **02 05 47.5 +1.2**
ARU pmax pmax
comp=Z,9.0nm,1.0s
GOMU GeErMu 19.80 90 P **Pn** **02 05 53.9 -0.8**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,79nm,4.7s
GOMU LR LR
comp=Z,91nm,9.2s
GOMU LR LR
comp=Z,110nm,11.8s
GOMU LR LR
comp=Z,80nm,10.1s
ZEI Tsey 20.14 290 *e*P **P** **02 05 52.9 -3.7**
ZEI pmax pmax
comp=Z,16nm,1.3s
BELG Belogornoye 20.60 318 LR LR 02 15 37.2
comp=Z,42nm,18.2s,baz=177,slow=41
KBZ Khbaz 20.93 292 LR LR 02 16 13.7
comp=Z,165nm,19.7s,baz=66,slow=42
KIV Kislovodsk 21.10 293 *e*P **P** **02 06 07.1 +0.3**
KIV *e*S **S** **02 10 01.5 +0.2**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,81nm,14.0s
SHA1 Shidzhatmaz 21.10 292 *e*P P 02 05 59.4 -7.7
SHL Shillong 22.67 119 P **P** **02 06 22.2 -1.7**
SHL IAmb IAmb 02 06 41.5
comp=Z,7.5nm,0.9s
SHL Shillong 22.67 119 P **P** **02 06 22.2 -1.7**
SHL pmax pmax
comp=Z,7.0nm,0.9s
GTA Gaotai 23.05 79 *e*P **P** **02 06 28.5 +0.8**
GTA pP sP 02 06 32.8 -1.1
GTA sP pP 02 06 35.5 +3.5
GTA pmax pmax
comp=Z,9.0nm,1.4s
KIRV Kirov 23.79 333 P **P** **02 06 37.0 +2.3**
comp=Z,9.6nm,0.5s,baz=130,slow=7.9,SNR=4.0
comp=Z,9.6nm,0.5s
RAYN Ar Rayn 25.87 241 P **P** **02 06 55.6 +1.4**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
ZAK Zakamensk 26.08 53 *e*P **P** **02 06 58.9 +3.0**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
OBN Obninsk 27.67 317 *i* P **P** **02 07 11.5 +1.5**
OBN *i* 02 07 53.5
OBN pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 27.69 59 P **P** **02 07 10.3 -0.2**
comp=Z,0.9nm,0.8s,baz=256,slow=12,SNR=3.5
comp=Z,0.9nm,0.8s
SONM Songino Array 27.69 59 *e*P P 02 07 17.5 +7.1
SONM pmax pmax
comp=Z,1.0nm,1.0s
BR131 Keskin Array S 28.07 283 P **P** **02 07 15.8 +1.8**
BR131 IAmb IAmb 02 07 18.5
comp=Z,6.7nm,1.2s
BR131 Keskin Array S 28.07 283 P **P** **02 07 15.8 +1.8**
BR131 pmax pmax
comp=Z,7.0nm,1.3s
BRTR Keskin Array B 28.07 283 P **P** **02 07 16.1 +2.1**
comp=Z,1.2nm,0.9s,baz=86,slow=6.1,SNR=4.2
comp=Z,1.2nm,0.9s
BRTR Keskin Array B 28.07 283 *i* P **P** **02 07 17.2 +3.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
MMAI Mount Meron Ar 28.54 269 LR LR 02 21 55.8
comp=Z,33nm,19.3s,baz=283,slow=43
EIL Elat 30.27 263 LR LR 02 21 08.0
comp=Z,49nm,18.3s,baz=14,slow=39
AKASG Malin Array Be 30.91 306 P **P** **02 07 40.3 +1.5**
comp=Z,0.2nm,0.3s,baz=78,slow=8.3,SNR=5.7
comp=Z,0.2nm,0.3s
HARR Harsova 31.68 294 ⇓P P 02 07 58.0 +12
NRIK Noril'sk 31.95 12 *i* P **P** **02 07 50.3 +2.6**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
MNK Minsk 32.31 313 *i* P **P** **02 07 50.1 -1.1**
comp=E,1.0nm,0.9s
MNK *i* P **P** **02 07 50.1 -1.1**
comp=N,27nm,0.9s,baz=101
comp=Z,7.0nm,0.9s
MNK *i* PP **PnPn** **02 08 56.0 -1.5**
MNK *i* PPP PPP 02 09 05.6
MNK *i* PcP **PcP** **02 10 34.9 -3.9**
MNK *i* S **S** **02 13 03.9 -0.4**
MNK *i* SS **SS** **02 15 18.4 -4.5**
MNK *i* LR LR 02 20 51.9
MNK *i* LRM MLR 02 23 06.3
comp=Z,117nm,15.5s
MNK *i* LRM MLR 02 23 10.2
comp=E,20nm,15.5s
MNK *i* LRM MLR 02 23 30.4
comp=N,228nm,15.8s
MNK Minsk 32.31 313 *i* P **P** **02 07 50.0 -1.1**
MNK *i* PPP PPP 02 09 05.5
MNK *i* 02 10 34.9
MNK *i* S **S** **02 13 03.9 -0.4**
MNK *i* SS **SS** **02 15 18.4 -4.5**
MNK *i* 02 18 13.3
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=N,27nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=Z,117nm,15.0s
MNK MLR MLR
comp=E,20nm,15.0s
MNK MLR MLR
comp=N,228nm,16.0s
PLOR Plostina 32.50 297 ⇑P **P** **02 07 55.7 +2.8**
COVR Voineasa-Covas 32.81 297 ⇓P **P** **02 08 00.3 +4.7**
MLR Muntele Rosu 33.02 296 P **P** **02 07 59.6 +2.0**
comp=N,6.3nm,0.9s,baz=138,slow=4.1,SNR=5.8
MLR LR LR 02 23 46.6
comp=N,62nm,19.8s,baz=86,slow=40
comp=N,6.3nm,0.9s
LVV L'vov 34.18 304 *e*P **P** **02 08 04.9 -2.6**
LVV *e* 02 08 15.0
FINES FINESS Array B 35.11 325 P **P** **02 08 16.2 +0.8**
comp=N,5.6nm,0.9s,baz=123,slow=8.4,SNR=7.1
FINES LR LR 02 22 42.2
comp=N,98nm,18.9s,baz=33,slow=36
comp=N,5.6nm,0.9s
FINES FINESS Array B 35.11 325 *e*P **P** **02 08 16.9 +1.6**
FINES pmax pmax
comp=Z,6.0nm,0.9s
VTS Vitosha 35.32 291 P **P** **02 08 20.0 +2.4**
VTS IAmb IAmb 02 08 23.0
comp=Z,4.1nm,0.9s
VTS Vitosha 35.32 291 P **P** **02 08 20.0 +2.4**
VTS pmax pmax
comp=Z,4.0nm,0.9s
BZS Buzias 36.03 297 ⇓P **P** **02 08 28.0 +4.6**
ARCES ARCESS Array B 38.67 337 P **P** **02 08 45.4 -0.1**
comp=Z,4.0nm,0.8s,baz=98,slow=6.6,SNR=4.3
ARCES LR LR 02 24 20.9
comp=Z,57nm,19.7s,baz=340,slow=36
comp=Z,4.0nm,0.8s
VRAC Vranov 39.04 303 LR LR 02 29 06.7
comp=Z,94nm,19.6s,baz=70,slow=42
GERES GERESS Array B 40.98 303 LR LR 02 29 45.9
comp=Z,79nm,20.0s,baz=32,slow=41
HEH HeiHe 41.45 55 *e*P **P** **02 09 08.8 -0.1**
HEH pmax pmax
comp=Z,5.0nm,0.7s
HEH pmax pmax
comp=Z,140nm,6.1s
NB2 NORSAR Subarra 42.05 322 P **P** **02 09 14.4 +0.7**
comp=Z,5.0nm,1.0s,baz=94,slow=8.6
NOA NORSAR Array B 42.05 322 P **P** **02 09 14.6 +0.9**
comp=Z,1.6nm,0.7s,baz=101,slow=7.9,SNR=5.9
comp=Z,1.6nm,0.7s
YAK Yakutsk 42.50 37 *i* P **P** **02 09 21.6 +4.4**
YAK pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 43.88 23 P **P** **02 09 28.8 +0.6**
TIXI Tiksi 43.88 23 *i* P **P** **02 09 32.2 +4.0**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
KSRS Korea Array 44.86 73 P **P** **02 09 35.5 -1.0**
comp=Z,0.7nm,0.4s,baz=293,slow=6.3,SNR=4.7
comp=Z,0.7nm,0.4s
ESDC Sonseca Array 55.72 296 P **P** **02 10 59.2 +0.4**
comp=Z,1.5nm,0.9s,baz=58,slow=7.6,SNR=6.7
comp=Z,1.5nm,0.9s
BILL Bilibino 56.82 27 *i* P **P** **02 11 06.3 +0.1**
BILL MLR MLR
comp=Z,43nm,15.0s
SUMG Summit 58.58 340 *i* P P 02 11 25.0 +6.0
TORD Torodi Ar. Bea 65.06 267 P **P** **02 12 02.9 -0.1**
comp=Z,1.2nm,0.8s,baz=40,slow=6.0,SNR=8.0
comp=Z,1.2nm,0.8s
INK Inuvik 71.69 9 P **P** **02 12 44.4 +0.8**
comp=Z,1.7nm,0.7s,baz=346,slow=4.2,SNR=8.2
comp=Z,1.7nm,0.7s
ILAR Eielson Array 72.71 16 P **P** **02 12 48.6 -1.2**
comp=Z,0.4nm,0.7s,baz=326,slow=4.7,SNR=4.6
comp=Z,0.4nm,0.7s
LBTB Lobatse 75.95 221 LR LR 02 48 06.5
comp=Z,43nm,19.0s,baz=49,slow=37
YKA Yellowknife Ar 76.91 2 P **P** **02 13 26.2 +0.9**
comp=Z,0.3nm,0.4s,baz=352,slow=5.7,SNR=2.5
comp=Z,0.3nm,0.4s
BOSA Boshof 79.09 219 LR LR 02 50 13.4
comp=Z,28nm,18.1s,baz=18,slow=37
WRA Warramunga Arr 83.87 122 P **P** **02 13 50.2 -2.0**
comp=Z,0.4nm,0.6s,baz=326,slow=4.9,SNR=5.8
comp=Z,0.4nm,0.6s
ASAR Alice Springs 86.22 124 P **P** **02 14 02.5 -1.5**
comp=Z,0.3nm,0.6s,baz=322,slow=4.3,SNR=3.1
comp=Z,0.3nm,0.6s

MAN 19 02:03:28.0, 13.59N×120.83E, h10km, mb3.7, ML2.5, MS1.9, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.59**	**284**	⇑*e*P		Pb	02 03 40.0	-0.4
LUBP				*e*S		Sn	02 03 52.2	+0.1
MACP	**Maragondon, Ca**	**0.68**	**351**	⇑*e*P		Pg	02 03 40.9	-0.2
MACP				*e*S		Sn	02 03 54.7	+0.5
SJMP	**San Jose**	**1.16**	**166**	⇑*e*P		Pb	02 03 49.0	-1.1

WEL ***19*** *02:06:00.5±0.3, 42.2°S×174.3°E, h5km, M3.2/34, ML3.5/13, MLv3.2/34, Error ellipse: s-maj=0.0km s-min=0.0km az=130.3*

NOU ***19*** *02:06:20.2, 41.08°S×174.79°E, h0km, MLv3.4/5, Cook Strait, New Zealand*

ISC 19 02:05:59.8±1.0, 42.42°S±0.04°×173.52°E±0.05, h20km±6km, n61, σ1.8 21/57, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.01**	**85**	P		**Pg**	**02 06 03.3**	**+0.1**
KHZ				S		**Sg**	**02 06 05.6**	**+0.1**
GVZ	**Greta Valley S**	**0.66**	**213**	P		**Pn**	**02 06 14.5**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.75**	**21**	P		**Pg**	**02 06 14.4**	**-0.2**
THZ	**Tophouse**	**0.80**	**325**	P		**Pb**	**02 06 14.4**	**-0.6**
CMWZ	**Cape Campbell**	**0.84**	**38**	P		**Pn**	**02 06 17.4**	**+0.8**
AMCZ	**Amberley**	**0.99**	**220**	P		**Pg**	**02 06 19.8**	**+0.6**
LTZ	**Lake Taylor**	**0.99**	**248**	P		**Pb**	**02 06 18.7**	**+0.3**
TUWZ	**Tuamarina**	**1.03**	**18**	P		**Pb**	**02 06 19.3**	**+0.2**
NNZ	**Nelson**	**1.20**	**355**	P		**Pn**	**02 06 21.8**	**+0.3**
TCW	**Tory Channel**	**1.33**	**25**	P		**Pn**	**02 06 23.5**	**+0.3**
SNZO	**South Karori**	**1.41**	**39**	P		**Pn**	**02 06 24.8**	**+0.4**
MQZ	**McQueen's Vall**	**1.44**	**206**	P		**Pn**	**02 06 24.3**	**-0.5**
TKNZ	**Takaka Hill**	**1.45**	**343**	P		**Pb**	**02 06 26.3**	**+0.2**
DSZ	**Denniston Nort**	**1.45**	**297**	P		**Pb**	**02 06 25.7**	**-0.4**
WEL	**Wellington**	**1.47**	**40**	P		**Pn**	**02 06 25.7**	**+0.6**
PLWZ	**Palliser**	**1.54**	**57**	P		**Pn**	**02 06 26.1**	**-0.2**
INZ	**Inchbonnie**	**1.57**	**258**	P		**Pb**	**02 06 27.7**	**-0.5**
MSWZ	**Moikau Station**	**1.63**	**53**	P		**Pn**	**02 06 27.3**	**-0.1**
DUWZ	**D'Urville Isla**	**1.64**	**11**	P		**Pn**	**02 06 28.6**	**+1.0**
RACZ	**Rakaia**	**1.66**	**217**	P		**Pn**	**02 06 27.5**	**-0.2**
CAW	**Cannon Point**	**1.75**	**42**	P		**Pn**	**02 06 29.1**	**+0.1**
QRZ	**Quartz Range**	**1.76**	**335**	P		**Pn**	**02 06 26.2**	**-2.9**
PAWZ	**Paruwai Farm**	**1.76**	**55**	P		**Pn**	**02 06 28.9**	**-0.3**
MHCZ	**Mount Hutt**	**1.82**	**232**	P		Pn	02 06 22.5	-7.6
KIW	**Kapiti Island**	**1.87**	**34**	P		**Pn**	**02 06 31.1**	**+0.4**
TRWZ	**Traveller**	**1.91**	**58**	P		**Pn**	**02 06 30.9**	**-0.4**
MTW	**Mount Morrison**	**1.94**	**50**	P		**Pn**	**02 06 31.3**	**-0.4**
WACZ	**Wakanui South**	**1.96**	**218**	P		Pn	02 06 24.7	-7.3
OGWZ	**Otaki Gorge**	**2.02**	**38**	P		**Pn**	**02 06 32.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**2.13**	**45**	P		**Pn**	**02 06 34.0**	**-0.3**
WVZ	**Waitaha Valley**	**2.16**	**251**	P		Pn	02 06 28.5	-6.1
TMWZ	**Te Maipa**	**2.20**	**54**	P		**Pn**	**02 06 34.6**	**-0.7**
RPZ	**Rata Peaks**	**2.23**	**234**	P		Pn	02 06 28.3	-7.3
ARCZ	**Arundel**	**2.30**	**228**	P		Pn	02 06 29.3	-7.4
MRZ	**Mangatainoka R**	**2.34**	**42**	P		**Pn**	**02 06 36.7**	**-0.4**

WAZ	Wanganui	2.88	23	P		Pn	02 06 46.8	+2.2
TSZ	Takapari Road	2.99	39	P		Pn	02 06 45.4	-0.7
KHEZ	Kahui Hut	3.14	7	P		Pb	02 06 53.6	-1.4
KHEZ	Kahui Hut	3.14	7	P		Pn	02 06 51.7	+3.4
NEZ	North Egmont	3.17	8	P		Pb	02 06 54.5	-1.1
PNHZ	Pukenui	3.21	40	P		Pn	02 06 48.3	-1.0
DREZ	Durham Road	3.27	9	P		Pn	02 06 48.9	-1.0
MHEZ	Mangahewa	3.39	11	P		Pn	02 06 48.8	-2.8
PKVZ	Pokaka	3.42	24	P		Pn	02 06 53.4	+1.4
VRZ	Vera Road	3.42	16	P		Pn	02 06 54.0	+2.0
MOVZ	Moawhango	3.45	30	P		Pn	02 06 52.9	+0.4
WNVZ	Wahianoa	3.46	28	P		Pn	02 06 54.0	+1.2
OTVZ	Oturere	3.63	27	P		Pn	02 06 56.1	+1.0
NNVZ	North Ngauruho	3.65	27	P		Pn	02 06 56.2	+0.9
WTVZ	West Tongariro	3.65	26	P		Pn	02 06 56.0	+0.6
ETVZ	East Tongariro	3.67	28	P		Pn	02 06 56.5	+0.8
TMVZ	Te Maari	3.69	27	P		Pn	02 06 56.6	+0.8
KWHZ	Kaweka Forest	3.71	37	P		Pn	02 06 58.6	+2.5
BKZ	Black Stump Fm	3.95	36	P		Pn	02 07 00.3	+0.9
BKZ	Black Stump Fm	3.95	36	P		Pn	02 06 57.9	-1.5
HIZ	Hauiti	4.03	15	P		Pn	02 07 02.7	+2.3
HIZ	Hauiti	4.03	15	P		Pn	02 07 02.2	+1.8
URZ	Urewera	4.97	35	P		Pn	02 07 12.8	-0.6
AWAZ	Awhitu Peninsu	5.42	10	P		Pn	02 07 21.2	+1.7
MKAZ	Moumakai	5.45	14	P		Pn	02 07 20.6	+0.7
ETAZ	East Tamaki Re	5.56	12	P		Pn	02 07 22.2	+0.8

IDC 19 02:21:39.0±18.0, 20°24S×178°28W, h527km±62km, mb3.3/4, mbtmp4.2/5, Error ellipse: s-maj=368.6km s-min=113.0km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.27	305	P	P	02 23 01.5	-0.1
	11nm,0.4s,baz=255,slow=23,SNR=23						
CTA	Charters Tower	33.26	264	P	P	02 27 33.3	+0.6
	2.0nm,0.4s,baz=90,slow=11,SNR=2.1 2.0nm,0.4s						
STKA	Stephens Creek	37.67	244	P	P	02 28 08.9	-0.4
	1.3nm,0.6s,baz=52,slow=7.8,SNR=3.5 1.3nm,0.6s						
ASAR	Alice Springs	44.32	257	P	P	02 29 02.2	-0.1
	3.8nm,0.5s,baz=95,slow=7.6,SNR=70 3.8nm,0.5s						
WRA	Warramunga Arr	44.38	262	P	P	02 29 02.5	-0.3
	1.8nm,0.3s,baz=97,slow=7.6,SNR=78 1.8nm,0.3s						

WEL 19 02:27:48.7±0.3, 42°S±3°×17°3E±°, h5km, M3.2/25, ML3.6/13, MLv3.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=133.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.15	61	P	Pg	02 27 52.0	+0.3
KHZ				S	Sg	02 27 54.4	+0.8
GVZ	Greta Valley S	0.54	207	P	Pb	02 28 00.1	-0.5
THZ	Tophouse	0.80	335	P	Pg	02 28 04.5	+0.4
THZ				S	Sg	02 28 15.1	+0.5
LTZ	Lake Taylor	0.86	250	P	Pg	02 28 05.7	+0.4
BSWZ	Blackbirch Sta	0.86	26	P	Pg	02 28 05.6	+0.4
AMCZ	Amberley	0.87	217	P	Pb	02 28 06.1	-0.1
CMWZ	Cape Campbell	0.97	41	P	Pn	02 28 09.0	-0.1
TUWZ	Tuamarina	1.14	22	P	Pg	02 28 10.3	-0.3
MRNZ	Matariki Terra	1.18	337	P	Pb	02 28 11.5	-0.1
OKCZ	Okains Bay	1.25	190	P	Pg	02 28 10.6	-2.2
OXZ	Oxford	1.29	229	P	Pn	02 28 11.2	-2.1
MQZ	McQueen's Vall	1.32	203	P	Pn	02 28 11.2	-2.7
DSZ	Dennistion Nort	1.38	302	P	Pn	02 28 14.4	-0.3
AKCZ	Akaroa Harbour	1.42	193	P	Pn	02 28 12.7	-2.6
INZ	Inchbonnie	1.44	260	P	Pn	02 28 14.7	-0.8
TCW	Tory Channel	1.45	28	P	Pn	02 28 13.8	-1.8
RACZ	Rakaia	1.53	216	P	Pn	02 28 14.2	-2.5
MHCZ	Mount Hutt	1.68	231	P	Pn	02 28 16.6	-2.2
WACZ	Wakanui South	1.83	217	P	Pn	02 28 18.4	-2.5
CAW	Cannon Point	1.88	43	P	Pn	02 28 19.3	-2.2
WVZ	Waitaha Valley	2.02	252	P	Pn	02 28 22.8	-0.7
RPZ	Rata Peaks	2.09	233	P	Pn	02 28 22.6	-1.9
OGWZ	Otaki Gorge	2.15	40	P	Pn	02 28 22.8	-2.4
ARCZ	Arundel	2.17	227	P	Pn	02 28 23.1	-2.3
GCSZ	Gaunt Creek Bo	2.38	249	P	Pn	02 28 28.3	-0.1
MRZ	Mangatainoka R	2.47	43	P	Pn	02 28 26.9	-2.7
TMZ	Timaru	2.56	221	P	Pn	02 28 28.9	-2.0
LBZ	Lake Benmore	2.99	230	P	Pn	02 28 35.6	-1.3
ODZ	Otahua Downs	3.23	217	P	Pn	02 28 37.4	-2.7

IDC 19 02:28:51.2±2.6, 41°77S×174°06E, h0km, mb3.4/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=50.5km s-min=40.1km az=109.0
WEL 19 02:28:54.2±0.3, 42°S±3°×17°4E±°, h14km±2km, M3.7/45, ML3.9/19, MLv3.7/45, Error ellipse: s-maj=0.0km s-min=0.0km az=130.8
ISC 19 02:28:53.9±1.1, 41°86S±0°04×174°22E±0°03, h19km±4km, n72, σ1°9 09/74, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11	356	P	Pg	02 28 57.7	-0.1
CMWZ				S	Sg	02 29 00.6	+0.1
BSWZ	Blackbirch Sta	0.30	298	P	Pb	02 29 00.4	-0.1
TUWZ	Tuamarina	0.47	334	P	Pb	02 29 03.0	-0.6
TCW	Tory Channel	0.65	4	P	Pg	02 29 05.7	-0.9
WEL	Wellington	0.70	36	P	Pb	02 29 07.6	+0.2
KHZ	Kahutara	0.76	222	P	Pn	02 29 10.8	+1.3
PLWZ	Palliser	0.82	70	P	Pb	02 29 10.3	+0.8
MSWZ	Moikau Station	0.89	61	P	Pb	02 29 11.3	+0.7
NNZ	Nelson	0.90	315	P	Pb	02 29 10.7	-0.1
CAW	Cannon Point	0.98	41	P	Pg	02 29 12.4	-0.5
THZ	Tophouse	0.99	275	P	Pg	02 29 13.3	+0.2
PAWZ	Paruwai Farm	1.02	63	P	Pb	02 29 13.0	+0.1
DUWZ	D'Urville Isla	1.08	348	P	Pb	02 29 13.5	-0.3
KIW	Kapiti Island	1.12	28	P	Pb	02 29 14.5	-0.1
MTW	Mount Morrison	1.19	54	P	Pb	02 29 15.1	-0.5
TRWZ	Traveller	1.19	68	P	Pn	02 29 15.1	-0.3
MRNZ	Matariki Terra	1.19	292	P	Pg	02 29 16.8	-0.1
TKNZ	Takaka Hill	1.25	310	P	Pb	02 29 17.1	+0.2
OGWZ	Otaki Gorge	1.26	35	P	Pn	02 29 16.6	+0.2
HOWZ	Holdsworth Sta	1.36	46	P	Pn	02 29 18.0	+0.2
GVZ	Greta Valley S	1.42	218	P	Pn	02 29 19.7	+1.1
TMWZ	Te Maipa	1.46	60	P	Pn	02 29 18.8	-0.4
MRZ	Mangatainoka R	1.57	41	P	Pn	02 29 20.6	-0.1
QRZ	Quartz Range	1.64	308	P	Pb	02 29 23.5	+0.1
LTZ	Lake Taylor	1.72	237	P	Pn	02 29 24.0	+1.2
AMCZ	Amberley	1.76	221	P	Pn	02 29 24.0	+0.8
CPWZ	Castlepoint	1.76	58	P	Pg	02 29 29.3	+1.5
DSZ	Dennistion Nort	1.81	273	P	Pb	02 29 26.2	-0.2
PRWZ	Pori Road	1.85	46	P	Pg	02 29 29.3	-0.2
POWZ	Post Office Ro	1.87	39	P	Pn	02 29 24.9	+0.1
BFZ	Birch Farm	1.92	53	P	Pg	02 29 31.0	+0.2
OKCZ	Okains Bay	2.06	204	P	Pn	02 29 27.7	+0.3
DVHZ	Dannevirke	2.14	44	P	Pg	02 29 33.8	-1.2
WAZ	Wanganui	2.18	16	P	Pb	02 29 33.4	+0.8
MQZ	McQueen's Vall	2.18	211	P	Pn	02 29 28.7	-0.3
OXZ	Oxford	2.18	227	P	Pn	02 29 29.3	+0.2
TSZ	Takapari Road	2.23	37	P	Pb	02 29 34.1	+0.6
AKCZ	Akaroa Harbour	2.24	205	P	Pn	02 29 30.0	+0.2
INZ	Inchbonnie	2.24	246	P	Pn	02 29 31.3	+1.5
LREZ	Lake Rotokare	2.40	3	P	Pb	02 29 37.4	+1.1
KHEZ	Kahui Hut	2.56	356	P	Pb	02 29 40.0	+0.8
MHCZ	Mount Hutt	2.58	229	P	Pn	02 29 34.4	-0.2
NBEZ	Newall Road No	2.60	354	P	Pg	02 29 41.4	-2.3
PKVZ	Pokaka	2.70	19	P	Pb	02 29 41.5	-0.1
MOVZ	Moawhango	2.71	26	P	Pb	02 29 41.2	-0.5
WACZ	Wakanui South	2.73	219	P	Pn	02 29 36.8	+0.3
WNVZ	Wahianoa	2.73	23	P	Pb	02 29 42.9	+0.7
TRVZ	Turoa	2.75	22	P	Pb	02 29 42.8	+0.4
VRZ	Vera Road	2.76	9	P	Pb	02 29 42.2	-0.3
WHVZ	Whangaehu Hut	2.77	22	P	Pb	02 29 42.9	+0.1
FWVZ	Far West T-bar	2.79	22	P	Pb	02 29 43.1	-0.1
WVZ	Waitaha Valley	2.85	244	P	Pb	02 29 42.8	-1.4
NGZ	Ngauruhoe	2.88	22	P	Pb	02 29 44.8	+0.2
SNVZ	South Ngauruho	2.88	23	P	Pb	02 29 45.5	+0.8
NNVZ	North Ngauruho	2.92	22	P	Pb	02 29 45.5	+0.1
WTVZ	West Tongariro	2.93	21	P	Pb	02 29 45.4	0.0
ETVZ	East Tongariro	2.94	23	P	Pb	02 29 45.4	-0.4
TMVZ	Te Maari	2.96	23	P	Pb	02 29 45.9	-0.2
KRVZ	Karewarewa	2.96	22	P	Pb	02 29 46.6	+0.6
NTVZ	North Tongarir	2.97	22	P	Pb	02 29 46.1	-0.1
RPZ	Rata Peaks	2.98	230	Pn	Pn	02 29 39.9	-0.2
	7.3nm,0.3s,baz=51,slow=13,SNR=1.5						
RPZ				Sn	Sn	02 30 14.8	-0.5
	6.5nm,0.3s,baz=17,slow=17,SNR=9.6 18nm,0.4s						
GCSZ	Gaunt Creek Bo	3.23	242	P	Pn	02 29 45.8	+2.4
HIZ	Hauiti	3.37	8	P	Pb	02 29 50.2	-2.7
TMZ	Timaru	3.46	222	P	Pn	02 29 47.1	+0.5
LBZ	Lake Benmore	3.89	228	P	Pn	02 29 53.8	+1.2
TOZ	Tahuroa Road	4.23	14	P	Pn	02 30 01.3	+4.0
JCZ	Jackson Bay	4.56	239	P	Pn	02 30 06.3	+4.3
MKAZ	Moumakai	4.80	9	P	Pn	02 30 06.9	+1.9
HHSZ	Highcliff Hill	4.81	212	P	Pn	02 30 05.3	+0.2
ASAR	Alice Springs	38.04	286	P	P	02 36 10.4	-0.6
	0.2nm,0.3s,baz=125,slow=6.9,SNR=8.2 0.2nm,0.3s						
WRA	Warramunga Arr	40.12	291	P	P	02 36 27.1	-1.3
	0.2nm,0.3s,baz=127,slow=8.5,SNR=8.5 0.2nm,0.3s						
TORD	Torodi Ar. Bea	150.67	195	PKPbc	PKPbc	02 48 45.3	+0.4
	0.9nm,1.0s,baz=151,slow=2.3,SNR=3.4						

BJI 19 02:47:56.6±0.0, 33°61N×135°84E, h40km, mb4.9/84, mB5.1/62, Ms4.8/87, Ms7 4.5/81
MOS 19 02:47:59.4±1.0, 33°79N×135°39E, h41km, mb5.3/67, MS4.5/15, Error ellipse: s-maj=6.2km s-min=3.7km az=111.6
IDC 19 02:48:01.8±0.3, 33°81N×135°35E, h49km±2km, mb4.5/37, mbtmp4.8/43, MS4.3/76, Error ellipse: s-maj=8.8km s-min=7.7km az=74.0
NIED 19 02:48:01.5, 33°84N×135°46E, h51km, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr-3.71; Mθθ-4.66; Mϕϕ8.37; Mrθ2.66; Mθϕ-6.28; Mϕr0.26; Fault plane solution: Mo9.75000×10^16 NP1: ϕs200.00000°, δ68.00000°, λ-19.00000°. NP2: ϕs297.00000°, δ73.00000°, λ-157.00000°.
NEIC 19 02:48:01.7±1.4, 33°81N±0°06×135°42E±0°06, h42km, mb5.2/268, Mww5.3 Error ellipse: s-maj=8.9km s-min=6.9km az=155.0
JMA 19 02:48:01.5±0.1, 33°8N±0°2×135°5E±0°2, h51km, MD5.4/32, MW5.3/32, CENTRAL WAKAYAMA PREF
JMA Felt IV J1 at CENTRAL WAKAYAMA PREF .
GCMT 19 02:48:02.8±0.1, 33°75N±0°01×135°35E±0°01, h53km±1km, MW5.3/139, Moment Tensor Solution. s107,c154; s139,c230; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.34±.02; Mθθ-0.77±.02; Mϕϕ1.11±.02; Mrθ0.27±.02; Mθϕ-0.87±.02; Mϕr0.02±.02; Best double couple: Mo1.32300×10^17 NP1:ϕs192.00000°, δ58.00000°, λ-30.00000°. NP2: ϕs299.00000°, δ65.00000°, λ-143.00000°. Principal axes: T 1.5063, Plg4.0000°, Azm64.0000°; N -0.5645, Plg47.0000°, Azm330.0000°; P -0.9417, Plg43.0000°, Azm158.0000°;
ISC 19 02:48:01.6±0.2, 33°80N±0°03×135°48E±0°02, h47km±1km, h47km:pP-P, n1179, σ1933/1060, mb5.2/283, MS4.4/97, 55C-52D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	Minabe	0.11	298	⇓P	Pn	02 48 09.3	+0.2
JWM				⇓eS	Sn	02 48 15.1	+0.7
JWM	Minabe	0.11	298	A	A	02 48 09.3	
	comp=E,748nm,0.9s,comp=E,881nm,0.4s						
JTNC	Tanabenakahech	0.12	78	P	Pn	02 48 09.6	+0.4
JTNC				eS	Sn	02 48 15.3	+0.8
JTNC	Tanabenakahech	0.12	78	A	A	02 48 09.6	
	comp=E,673nm,1.2s,comp=E,662nm,0.9s						
JWKM	Wakayamakushim	0.42	146	⇓P	Pn	02 48 12.1	+0.4
JWKM				⇓eS	Sn	02 48 20.0	+1.2
JWKM	Wakayamakushim	0.42	146	A	A	02 48 12.1	
	comp=E,211nm,0.2s,comp=E,681nm,2.2s						
JWY	Kouya	0.43	13	⇓P	Pn	02 48 11.8	-0.2
JWY				⇓eS	Sn	02 48 19.0	-0.3
JWY	Kouya	0.43	13	A	A	02 48 11.8	
	comp=E,1μm,2.7s,comp=E,652nm,0.8s						
JMMH	Miemihama	0.46	87	P	Pn	02 48 12.4	+0.2
JMMH				eS	Sn	02 48 20.4	+0.7
JMMH	Miemihama	0.46	87	A	A	02 48 12.4	
	comp=E,622nm,2.4s,comp=E,1μm,1.3s						
JNTK	Naratenkawa	0.58	35	eP	Pn	02 48 13.4	-0.4
JNTK				eS	Sn	02 48 21.9	-0.6
JNTK	Naratenkawa	0.58	35	A	A	02 48 13.4	
	comp=E,506nm,0.3s,comp=E,352nm,1.5s						
JKN2	Miekihoku	0.80	56	P	Pn	02 48 16.5	0.0
JKN2				eS	Sn	02 48 27.3	-0.1
JKN2	Miekihoku	0.80	56	A	A	02 48 16.5	
	comp=E,382nm,1.6s,comp=E,298nm,2.1s						
JAWN	Awajishima-nag	0.84	326	⇓P	Pn	02 48 16.6	-0.5
JAWN				⇓eS	Sn	02 48 27.8	-0.6
JAWN	Awajishima-nag	0.84	326	A	A	02 48 16.6	
	comp=E,129nm,3.6s,comp=E,386nm,1.4s						
JAI	Aioi	0.85	270	P	Pn	02 48 16.8	-0.4
JAI				eS	Sn	02 48 28.4	-0.4
JAI	Aioi	0.85	270	A	A	02 48 16.8	
	comp=E,216nm,0.3s,comp=E,201nm,1.8s						
JHE	Heguri	0.87	11	⇓P	Pn	02 48 17.0	-0.6
JHE				⇓eS	Sn	02 48 28.3	-0.9
JHE	Heguri	0.87	11	A	A	02 48 17.0	
	comp=E,430nm,5.3s,comp=E,449nm,1.9s						
JMIK	Miki	1.07	341	A	A	02 48 19.8	
	comp=E,109nm,0.4s,comp=E,256nm,1.1s						
TTO1	TONANKAI O.B.S	1.10	99	A	A	02 48 21.2	
	comp=E,458nm,1.9s,comp=E,551nm,3.0s						
JMAF	Mimaanabuki	1.13	283	A	A	02 48 21.0	
	comp=E,95nm,1.3s,comp=E,242nm,2.9s						
JIE	Ise	1.18	59	A	A	02 48 21.8	
	comp=E,207nm,2.8s,comp=E,154nm,0.9s						
MRT2	Murotomisaki 2	1.19	250	A	A	02 48 22.2	
	comp=E,77nm,5.1s,comp=E,64nm,2.3s						
TSUJ	Tsu 2	1.20	40	A	A	02 48 21.9	
	comp=E,328nm,1.3s,comp=E,231nm,1.5s						
TTO2	TONANKAI O.B.S	1.29	92	A	A	02 48 23.8	
	comp=E,428nm,1.2s,comp=E,357nm,1.1s						
JMN	Monobe	1.33	268	Pn	Pn	02 48 23.3	-0.5
JMN	Monobe	1.33	268	P	Pn	02 48 23.4	-0.4
JMN	Monobe	1.33	268	A	A	02 48 24.1	
	comp=E,143nm,1.6s,comp=E,76nm,1.3s						
JJS	Sakaide	1.41	295	A	A	02 48 24.9	
	comp=E,88nm,1.8s,comp=E,160nm,1.2s						
JWT	Wachi	1.48	358	A	A	02 48 25.7	
	comp=E,79nm,4.6s,comp=E,39nm,1.4s						
JEG	Eigenji	1.54	29	A	A	02 48 26.6	
	comp=E,98nm,1.0s,comp=E,79nm,0.8s						
JAD	Aida	1.57	317	A	A	02 48 27.1	
	comp=E,87nm,1.7s,comp=E,84nm,2.4s						
TTO3	TONANKAI O.B.S	1.60	87	A	A	02 48 28.1	
	comp=E,450nm,2.0s,comp=E,379nm,2.5s						
JAA	Atsumi	1.61	58	A	A	02 48 28.0	
	comp=E,183nm,0.8s,comp=E,339nm,1.0s						
JKHR	Kochiharuno	1.67	261	A	A	02 48 29.0	
	comp=E,62nm,2.0s,comp=E,57nm,1.2s						
TTO4	TONANKAI O.B.S	1.73	82	A	A	02 48 29.9	
	comp=E,243nm,1.7s,comp=E,321nm,1.6s						
JFM	Mihama	1.78	13	A	A	02 48 30.0	
	comp=E,128nm,2.4s,comp=E,111nm,1.7s						
JKY	Yasaka	1.85	351	A	A	02 48 31.0	
	comp=E,100nm,4.1s,comp=E,37nm,3.9s						
JICN	Ichinomiyachia	1.88	37	A	A	02 48 31.5	
	comp=E,353nm,0.6s,comp=E,374nm,0.5s						
JKSM	Kasumi	1.91	340	A	A	02 48 31.8	
	comp=E,48nm,1.4s,comp=E,35nm,2.0s						
TTO5	TONANKAI O.B.S	1.92	76	A	A	02 48 32.5	
	comp=E,592nm,2.1s,comp=E,434nm,1.5s						
INU	Inuyama	2.00	39	Pn	Pn	02 48 32.8	-0.2
INU	Inuyama	2.00	39	P	Pn	02 48 34.8	+1.8
JSSY	Shinshiroyabe	2.02	56	A	A	02 48 33.7	
	comp=E,71nm,3.4s,comp=E,175nm,1.7s						
JET	Tanbara	2.02	270	A	A	02 48 33.9	
	comp=E,41nm,3.2s,comp=E,64nm,3.8s						
JKU	Kubokawa	2.07	257	A	A	02 48 34.7	
	comp=E,28nm,1.4s,comp=E,55nm,2.1s						
JYTA	Yamagatataniai	2.07	30	A	A	02 48 34.2	
	comp=E,139nm,3.1s,comp=E,160nm,5.0s						
JAO	Obara	2.08	45	A	A	02 48 34.4	
	comp=E,139nm,1.9s,comp=E,121nm,1.7s						
JKR	Kurayoshi	2.09	320	A	A	02 48 34.4	
	comp=E,50nm,2.6s,comp=E,52nm,2.8s						
JJG	Jouge	2.10	294	A	A	02 48 34.8	
	comp=E,57nm,3.1s,comp=E,93nm,3.1s						
HMMJ	Hamamatsu 2	2.14	60	A	A	02 48 35.4	
	comp=E,66nm,1.4s,comp=E,132nm,1.7s						
JKKS	Kakegawashinom	2.29	65	A	A	02 48 37.6	
	comp=E,198nm,1.8s,comp=E,128nm,2.2s						
JHS	Saijyo	2.29	302	Pn	Pn	02 48 36.5	-0.4
JHS	Saijyo	2.29	302	P	Pn	02 48 37.4	+0.5
JHS	Saijyo	2.29	302	A	A	02 48 37.4	
	comp=E,43nm,3.7s,comp=E,77nm,3.5s						
JGF	Kuroka	2.38	40		Pn	02 48 37.8	-0.3
JGF	Kuroka	2.38	40	P	Pn	02 48 38.5	+0.4
JGF	Kuroka	2.38	40	A	A	02 48 38.6	
	comp=E,43nm,1.2s,comp=E,60nm,1.1s						
JSG	Sagara	2.41	68	A	A	02 48 39.4	
	comp=E,139nm,2.1s,comp=E,181nm,1.7s						
JTO	Tosashimizu	2.42	248	A	A	02 48 39.8	
	comp=E,20nm,4.5s,comp=E,15nm,3.6s						
UWA2	Uwa jima 2	2.45	257	A	A	02 48 40.1	
	comp=E,23nm,1.9s,comp=E,21nm,2.1s						
JHM	Kurahashi	2.47	279	A	A	02 48 40.2	
	comp=E,43nm,2.2s,comp=E,80nm,4.7s						
JNA	Nagahama	2.51	265	A	A	02 48 40.9	
	comp=E,15nm,1.5s,comp=E,32nm,3.1s						
JNY	Yasuok	2.51	51	A	A	02 48 40.7	
	comp=E,92nm,0.8s,comp=E,134nm,0.9s						
JKG	Kaga	2.57	16	A	A	02 48 41.3	
	comp=E,104nm,4.1s,comp=E,91nm,1.2s						
SHZ3	Shizuoka 3	2.59	60	A	A	02 48 41.9	
	comp=E,93nm,1.2s,comp=E,101nm,1.1s						
JNM	Ikuma	2.63	311	A	A	02 48 42.2	
	comp=E,85nm,2.2s,comp=E,58nm,3.1s						
JHT	Toyohira	2.67	290	A	A	02 48 42.9	
	comp=E,34nm,3.1s,comp=E,72nm,2.8s						
JISK	Izumosakaura	2.75	309	A	A	02 48 43.9	
	comp=E,58nm,1.5s,comp=E,72nm,2.1s						
JGT2	ShimaneMisato	2.76	298	A	A	02 48 44.0	
	comp=E,33nm,3.5s,comp=E,74nm,3.5s						
JGN	Niukaw	2.85	31	A	A	02 48 45.3	
	comp=E,37nm,4.3s,comp=E,51nm,4.1s						
JIZS	Izushimoda	2.96	71	A	A	02 48 47.3	
	comp=E,24nm,1.6s,comp=E,26nm,2.4s						
JFNN	Fujinakano	3.00	61	A	A	02 48 47.6	
	comp=E,136nm,2.9s,comp=E,104nm,3.0s						
JNT	Takato	3.02	46	A	A	02 48 47.7	
	comp=E,26nm,1.2s,comp=E,39nm,2.3s						
JHIK	Hikimi	3.03	285	A	A	02 48 48.0	
	comp=E,37nm,2.1s,comp=E,64nm,3.2s						
JKO	Kozu shima	3.07	82	A	A	02 48 48.8	
	comp=E,50nm,2.8s,comp=E,40nm,2.6s						
JOI	OKI	3.09	324	A	A	02 48 48.5	
	comp=E,40nm,1.8s,comp=E,40nm,1.5s						
JHTM	Izuhatsuma	3.14	67	A	A	02 48 49.8	
	comp=E,87nm,1.2s,comp=E,107nm,0.7s						
JSKK	Shikinejimakit	3.15	79	A	A	02 48 50.0	
	comp=E,59nm,1.5s,comp=E,41nm,1.5s						
JUS	Usuki	3.20	259	A	A	02 48 50.7	
	comp=E,20nm,2.3s,comp=E,19nm,2.2s						
JNIO	Niijimaoohara	3.20	79	A	A	02 48 50.7	
	comp=E,59nm,3.1s,comp=E,81nm,2.2s						
JKI	Kunimi	3.26	268	A	A	02 48 51.4	
	comp=E,21nm,1.3s,comp=E,45nm,4.6s						
JJH	Hakui	3.30	19	A	A	02 48 51.5	
	comp=E,39nm,2.3s,comp=E,25nm,3.5s						
JOD2	Odawara 2	3.32	63	A	A	02 48 52.2	
	comp=E,31nm,2.9s,comp=E,40nm,1.7s						
JNG	Nsakai	3.38	39	A	A	02 48 52.8	
	comp=E,31nm,4.3s,comp=E,55nm,1.7s						
JMYK	Miyake Tsubota	3.40	84	A	A	02 48 53.5	
	comp=E,25nm,2.6s,comp=E,31nm,1.8s						
JIM2	Oshima 3	3.40	73	A	A	02 48 53.5	
	comp=E,29nm,1.2s,comp=E,37nm,2.2s						
JMKN	Mikurajimanish	3.43	87	A	A	02 48 54.0	
	comp=E,15nm,0.3s,comp=E,20nm,3.2s						
JBEP	Beppuamama	3.43	263	A	A	02 48 53.8	
	comp=E,48nm,1.8s,comp=E,44nm,1.4s						
JHHC	Hyugahichiya	3.49	248	A	A	02 48 54.9	
	comp=E,10.0nm,2.0s,comp=E,8.0nm,2.7s						
MAJO	Matsushiro	3.54	38	Pn	Pn	02 48 54.1	+0.1
MAJO	Matsushiro	3.54	38	P	Pn	02 48 54.7	+0.6
MAJO	Matsushiro	3.54	38	P	Pn	02 48 54.1	+0.1
MJAR	Matsushiro Arr	3.54	38	P	Pn	02 48 54.3	+0.2
	235nm,0.6s,baz=229,slow=13,SNR=239						
MJAR				S	Sn	02 49 42.8	+8.2
	939nm,0.6s,baz=103,slow=29,SNR=7.9						
MJAR				LR	LR	02 50 35.5	
	comp=Z,7μm,21.9s,baz=206,slow=43						
MJB9	Matsu-Tunnel	3.54	38	Pn	Pn	02 48 54.1	+0.1
JSGW	Sagamiharawaka	3.56	59	A	A	02 48 55.6	
	comp=E,26nm,1.5s,comp=E,35nm,2.6s						
JKIT	Kitakata	3.57	252	A	A

JUR Ureshino 4.67 263 A A 02 49 11.3
comp=E,10.0nm,3.0s,comp=E,8.0nm,1.9s
JIHU Itakohorinouch 4.68 61 A A 02 49 11.3
comp=E,79nm,2.2s,comp=E,65nm,2.9s
JII Iki 4.78 272 A A 02 49 12.8
comp=E,29nm,2.1s,comp=E,16nm,2.4s
JSD Sado 4.80 27 Pn **Pn** **02 49 11.5 +0.2**
JSD Sado 4.80 27 P **Pn** **02 49 13.0 +1.7**
JSU Suzuyama 4.81 243 Pn **Pn** **02 49 11.7 +0.2**
JSU Suzuyama 4.81 243 P **Pn** **02 49 12.1 +0.6**
JSB Shiboa 4.82 48 A A 02 49 13.0
comp=E,37nm,2.6s,comp=E,36nm,3.2s
CHOJ Chosi 4.82 65 A A 02 49 13.3
comp=E,11nm,2.0s,comp=E,14nm,5.2s
JHYU Hitachinakayam 4.90 57 A A 02 49 14.3
comp=E,15nm,4.9s,comp=E,19nm,2.9s
JFY Yanaizu 4.99 43 A A 02 49 15.4
comp=E,13nm,2.3s,comp=E,12nm,3.9s
JHO Hitachi 5.03 55 A A 02 49 16.1
comp=E,11nm,2.6s,comp=E,8.0nm,3.5s
JTSM Tsushimamitsus 5.08 278 A A 02 49 16.9
comp=E,13nm,2.3s,comp=E,20nm,2.2s
JNS Sasagawa 5.08 37 A A 02 49 16.7
comp=E,9.0nm,4.7s,comp=E,8.0nm,3.1s
JTU Tsushima 5.09 280 Pn **Pn** **02 49 14.3 -1.0**
JTU Tsushima 5.09 280 P **Pn** **02 49 14.6 -0.7**
JTU Tsushima 5.09 280 A A 02 49 17.0
comp=E,8.0nm,4.9s,comp=E,21nm,3.3s
JFFD Fukushimafurud 5.29 50 A A 02 49 19.8
comp=E,9.0nm,2.8s,comp=E,10.0nm,2.3s
JAW Awa shima 5.56 32 A A 02 49 23.4
comp=E,9.0nm,5.3s,comp=E,7.0nm,3.6s
JYAR Yonezawaarcadi 5.59 41 A A 02 49 23.8
comp=E,9.0nm,5.2s,comp=E,11nm,5.0s
JFU Fukue jima 2 5.75 260 A A 02 49 26.4
comp=E,4.0nm,3.7s,comp=E,5.0nm,3.2s
JYS Shirataka 5.77 39 A A 02 49 26.3
comp=E,9.0nm,2.2s,comp=E,10.0nm,5.0s
JMST Minamisoumatoc 5.89 47 A A 02 49 28.1
comp=E,8.0nm,4.1s,comp=E,8.0nm,3.1s
JMM Marumori 5.93 45 **Pn** **02 49 27.6 +0.8**
JMM Marumori 5.93 45 P **Pn** **02 49 28.6 +1.8**
JOU Okura 6.20 41 A A 02 49 32.3
comp=E,9.0nm,1.9s,comp=E,7.0nm,2.0s
JYYZ Yamagatayuza 6.33 33 A A 02 49 34.0
comp=E,16nm,3.0s,comp=E,21nm,4.2s
JYK Kaneyama 6.45 36 A A 02 49 35.8
comp=E,4.0nm,4.8s,comp=E,4.0nm,3.9s
JOFO Osakifurukawao 6.50 41 A A 02 49 36.6
comp=E,32nm,3.4s,comp=E,40nm,3.1s
TJN Taejon 7.13 293 Pn **Pn** **02 49 42.5 -0.8**
TJN Taejon 7.13 293 P **Pn** **02 49 43.7 +0.4**
TJN Taejon 7.13 293 *i* P **Pn** **02 49 43.2 -0.1**
KSRS Korea Array 7.15 303 P **Pn** **02 49 44.0 +0.4**
69nm,0.4s,baz=123,slow=14,SNR=168
KSRS S **Sn** **02 51 01.4 -2.0**
93nm,0.8s,baz=123,slow=23,SNR=12
KSRS LR LR 02 52 33.1
comp=Z,2μm,20.4s,baz=120,slow=38
KSRS Korea Array 7.15 303 P **Pn** **02 49 44.0 +0.4**
KSAR Wonju Array Be 7.17 303 Pn **Pn** **02 49 43.2 -0.7**
KSAR Wonju Array Be 7.17 303 P **Pn** **02 49 43.2 -0.7**
KS19 Wonju Array Si 7.21 303 **Pn** **02 49 43.8 -0.7**
JOM Ohasama 7.34 38 A A 02 49 48.2
comp=E,6.0nm,4.8s,comp=E,3.0nm,5.5s
JSZI Iwateshizukuis 7.38 35 A A 02 49 48.7
comp=E,11nm,2.4s,comp=E,10.0nm,3.2s
JTH Tanohata 7.99 38 A A 02 49 57.1
comp=E,4.0nm,3.4s,comp=E,3.0nm,3.2s
INCN Inchon 8.08 300 **Pn** **02 49 56.0 -0.4**
INCN Inchon 8.08 300 P **Pn** **02 49 56.6 +0.2**
INCN Inchon 8.08 300 P **Pn** **02 49 56.6 +0.2**
INCN Inchon 8.08 300 P **Pn** **02 49 56.0 -0.4**
JCJ Chichijima 8.84 137 P **Pn** **02 50 07.2 +0.4**
31nm,0.3s,baz=345,slow=20,SNR=15
JCJ LR LR 02 53 15.9
comp=Z,2μm,21.6s,baz=326,slow=35
JOW Kunigami 9.32 224 P **Pn** **02 50 13.8 +0.4**
193nm,0.3s,baz=58,slow=11,SNR=188
JOW Kunigami 9.32 224 Pn **Pn** **02 50 13.2 -0.2**
JOW Kunigami 9.32 224 P **Pn** **02 50 14.2 +0.9**
MSHR Mys Shultsa 9.40 340 *ce* P **Pn** **02 50 14.5 +0.1**
MSHR pmax pmax
comp=Z,71nm,0.8s
ERM Erimo 10.20 34 **Pn** **02 50 25.8 +0.5**
ERM Erimo 10.20 34 P **Pn** **02 50 26.2 +0.9**
ERM Erimo 10.20 34 P **Pn** **02 50 25.8 +0.5**
JEM Erimo 10.20 34 P **Pn** **02 50 26.5 +1.2**
USA0B Ussuriysk Arra 10.74 346 **Pn** **02 50 32.8 +0.2**
USA0B Ussuriysk Arra 10.74 346 P **Pn** **02 50 32.8 +0.2**
USRK Ussuriysk Ar. 10.74 346 P **Pn** **02 50 34.0 +1.3**
comp=Z,119nm,0.9s,baz=163,slow=10,SNR=42
USRK S **Sn** **02 52 32.0 +0.7**
comp=Z,8.3nm,0.7s,baz=156,slow=26,SNR=2.2
USRK LR LR 02 54 32.4
comp=Z,2μm,18.0s,baz=160,slow=36
USRK Ussuriysk Ar. 10.74 346 **Pn** **02 50 33.3 +0.7**
TEY Ternei 11.26 4 ⇑ *eP* **Pn** **02 50 43.2 +3.4**
TEY pmax pmax
comp=N,200nm,2.5s
TEY pmax pmax
comp=Z,100nm,2.5s
TEY pmax pmax
comp=N,70nm,1.2s
TEY pmax pmax
comp=Z,60nm,1.2s
ASAJ Asahikawa 11.70 26 LR LR 02 55 19.3
comp=Z,2μm,21.0s,baz=229,slow=37
ASAJ Asahikawa 11.70 26 P **Pn** **02 50 44.4 -1.4**
JKA Kamikawa-asahi 11.70 26 **Pn** **02 50 44.4 -1.4**
MDJ Mudanjiang 11.72 339 Pn **Pn** **02 50 47.8 +1.7**
MDJ Mudanjiang 11.72 339 P **Pn** **02 50 49.3 +3.1**
MDJ pP 02 50 57.0
MDJ S **Sn** **02 52 59.3 +3.8**
MDJ sS 02 53 12.0
MDJ pmax pmax
comp=Z,76nm,2.1s
MDJ pmax pmax
comp=Z,1μm,4.1s
MDJ LR LR
comp=Z,1μm,11.9s
MDJ LR LR
comp=Z,970nm,10.7s
MDJ LR LR
comp=Z,1μm,15.3s
MDJ Mudanjiang 11.72 339 P **Pn** **02 50 49.6 +3.4**
SNY Shenyang 12.35 314 ⇓ P Pn 02 50 59.9 +5.2
SNY S **Sn** **02 53 17.3 +6.5**
SNY SS **S** **02 53 34.5 -2.4**
SNY pmax pmax
comp=Z,68nm,1.3s
SNY pmax pmax
comp=Z,430nm,5.7s
SNY LR LR
comp=Z,2μm,10.2s
SNY LR LR
comp=Z,2μm,9.4s
SNY LR LR
comp=Z,1μm,8.6s
SSE Sheshan 12.37 261 P **Pn** **02 50 55.5 +0.5**
SSE S **Sn** **02 53 15.8 +4.5**
SSE pmax pmax
comp=Z,37nm,1.1s
SSE pmax pmax
comp=Z,340nm,8.1s
SSE LR LR
comp=Z,2μm,19.2s
SSE LR LR
comp=Z,1μm,19.4s
CN2 Changchun 12.68 325 *eP* **Pn** **02 51 01.0 +1.9**
CN2 PP **P** **02 51 12.8 +3.5**
CN2 S **Sn** **02 53 20.8 +2.0**
CN2 pmax pmax
comp=Z,70nm,1.4s
CN2 pmax pmax
comp=Z,700nm,5.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,1μm,16.0s
BNX BinXian 13.44 335 ⇓ P **Pn** **02 51 10.8 +1.3**
BNX pP **P** **02 51 18.8 +1.1**
BNX PP **PnPn** **02 51 22.0 +4.5**
BNX sP 02 51 24.6
BNX S **Sn** **02 53 40.6 +3.3**
BNX sS **S** **02 53 51.3 -7.8**
BNX pmax pmax
comp=Z,23nm,1.2s
BNX pmax pmax
comp=Z,700nm,6.4s
BNX LR LR
comp=Z,880nm,12.4s
BNX LR LR
comp=Z,950nm,11.5s
BNX LR LR
comp=Z,1μm,19.2s
NJ2 Nanjing 14.07 267 ⇑ *i* P **Pn** **02 51 18.6 +0.4**
NJ2 sP P 02 51 37.8 +13
NJ2 S **Sn** **02 53 53.5 +0.6**
NJ2 sS **S** **02 54 14.3 +2.1**
NJ2 pmax pmax
comp=Z,68nm,1.3s
NJ2 pmax pmax
comp=Z,520nm,3.5s
NJ2 LR LR
comp=Z,3μm,16.6s
NJ2 LR LR
comp=Z,1μm,15.6s
NJ2 LR LR
comp=Z,2μm,17.9s
YSS Yuzh-Sakhalins 14.26 21 **Pn** **02 51 18.6 -2.0**
YSS Yuzh-Sakhalins 14.26 21 P **Pn** **02 51 19.5 -1.1**
YSS Yuzh-Sakhalins 14.26 21 *ce* P **Pn** **02 51 18.0 -2.6**
YSS *eS* **Sn** **02 53 56.0 -1.2**
YSS pmax pmax
comp=Z,130nm,0.9s
YSS MLR MLR
comp=Z,2μm,12.0s
YSS MLR MLR
comp=N,1μm,10.0s
KUR Kuril'sk 14.88 36 *eP* **Pn** **02 51 30.9 +2.1**
KUR *eS* **Sn** **02 54 15.9 +3.6**
KUR MLR MLR
comp=Z,2μm,16.0s
KUR MLR MLR
comp=N,4μm,14.0s
TIA Tai'an 15.23 284 ⇑ P **Pn** **02 51 34.4 +0.8**
TIA pmax pmax
comp=N,62nm,1.7s
TIA pmax pmax
comp=N,870nm,3.7s
TIA LR LR
comp=N,1μm,13.5s
TIA LR LR
comp=N,2μm,18.2s
TIA LR LR
comp=N,2μm,17.7s
YHNB Yeheng 15.29 237 Pn **Pn** **02 51 33.2 -1.2**
KLR Kul'dur 15.67 351 P **Pn** **02 51 40.5 +1.4**
comp=N,45nm,0.9s,baz=163,slow=11,SNR=38
KLR S **Sn** **02 54 33.6 +2.1**
comp=N,2.4nm,0.8s,baz=54,slow=22,SNR=1.0
KLR LR LR 02 57 39.3
comp=N,2μm,18.9s,baz=166,slow=37
KLR Kul'dur 15.67 351 *ce* P **Pn** **02 51 40.1 +1.0**
KLR pmax pmax
comp=Z,64nm,1.0s
UGL Uglegorsk 16.04 16 *eP* **Pn** **02 51 41.8 -2.0**
UGL pmax pmax
comp=Z,200nm,1.0s
SSLB Suanglung 16.15 236 Pn **Pn** **02 51 41.7 -3.7**
SSLB Suanglung 16.15 236 P **Pn** **02 51 46.0 +0.5**
BJT Baijiatuao 16.63 297 **Pn** **02 51 51.8 +0.4**
BJT Baijiatuao 16.63 297 P **Pn** **02 51 52.2 +0.8**
BJT Baijiatuao 16.63 297 P **Pn** **02 51 51.8 +0.4**
BJT pmax pmax
comp=Z,89nm,1.0s
BJI Beijing 16.63 298 P **P** **02 51 52.8 -0.4**
BJI S **Sn** **02 54 57.0 +2.0**
BJI pmax pmax
comp=Z,52nm,1.5s
BJI LR LR
comp=Z,3μm,25.5s
BJI LR LR
comp=Z,1μm,26.6s
BJI LR LR
comp=Z,2μm,21.6s
TPUB Ta-pu 16.70 235 P **Pn** **02 51 52.8 +0.5**
GRNR Gornyy 16.98 2 ⇓ *i* P **Pn** **02 51 54.6 -1.0**
GRNR *eS* **Sn** **02 55 03.9 +0.7**
GRNR pmax pmax
comp=E,2.0nm,0.7s
GRNR pmax pmax
comp=Z,7.0nm,0.8s
GRNR smax smax
comp=N,20nm,0.5s
GRNR MLR MLR
comp=E,520nm,16.0s
GRNR MLR MLR
comp=Z,1μm,16.0s
GRNR MLR MLR
comp=N,780nm,14.0s
QZH Quanzhou 17.14 243 ⇑ *i* P **Pn** **02 51 57.0 -0.8**
QZH S **Sn** **02 55 10.8 +3.3**
QZH pmax pmax
comp=N,59nm,1.8s
QZH LR LR
comp=N,1μm,19.9s
QZH LR LR
comp=N,1μm,18.9s
QZH LR LR
comp=N,730nm,18.5s
HNS HongShan 17.27 288 ⇑ P **P** **02 52 00.0 -0.2**
HNS pP **pP** **02 52 10.3 -0.8**
HNS PP **sP** **02 52 17.9 +0.9**
HNS S **Sn** **02 55 11.5 +1.1**
HNS sS **S** **02 55 24.8 +7.4**
HNS SS SnSn 02 55 40.1 +16
HNS pmax pmax
comp=N,26nm,1.4s
HNS pmax pmax
comp=N,360nm,3.5s
HNS LR LR
comp=N,1μm,12.4s
HNS LR LR
comp=N,2μm,12.8s
HNS LR LR
comp=N,2μm,17.9s
HEH HeiHe 17.48 343 *eP* **Pn** **02 52 01.4 -0.5**
HEH pP **pP** **02 52 13.1 -0.4**
HEH PP **sP** **02 52 17.8 -1.8**
HEH S **Sn** **02 55 15.0 -0.5**
HEH SS **SnSn** **02 55 40.6 +11**
HEH pmax pmax
comp=N,72nm,1.1s
HEH pmax pmax
comp=N,620nm,6.0s
HEH LR LR
comp=N,950nm,17.7s
HEH LR LR
comp=N,1μm,16.6s
HEH LR LR
comp=N,2μm,18.8s
TYV Tymovskoe 17.85 15 *eP* **Pn** **02 52 04.8 -1.5**
TYV *eS* **Sn** **02 55 21.8 -2.4**
TYV pmax pmax
comp=Z,300nm,1.3s
TYV pmax pmax
comp=Z,193nm,1.0s
TYV smax smax
comp=N,400nm,3.5s
TYV smax smax
comp=E,600nm,3.5s
XLT XiLinHaoTe 18.13 310 ⇑ *i* P **Pn** **02 52 10.5 +0.6**
XLT pP pP 02 52 20.0 -0.7
XLT sP sP 02 52 26.1 -0.6
XLT S **Sn** **02 55 29.9 -1.4**
XLT pmax pmax
comp=E,59nm,0.9s
XLT pmax pmax
comp=E,460nm,6.6s
XLT LR LR
comp=E,1μm,12.2s
XLT LR LR
comp=E,810nm,13.1s
WHN Wuhan 18.17 266 ⇑ P **Pn** **02 52 11.4 +0.9**
WHN S **S** **02 55 39.9 +4.0**
WHN pmax pmax
comp=E,440nm,1.2s
WHN pmax pmax
comp=E,3μm,4.1s
WHN LR LR
comp=E,2μm,13.4s
WHN LR LR
comp=E,1μm,8.9s
WHN LR LR
comp=E,5μm,17.7s
LYN LuoYang 19.05 279 ⇑ *i* P **Pn** **02 52 20.9 -0.1**
LYN pP pP 02 52 32.3 +1.5
LYN sP sP 02 52 36.5 -0.3
LYN PP **PnPn** **02 52 39.8 +5.3**
LYN S **Sn** **02 55 51.6 -1.9**
LYN pmax pmax
comp=E,90nm,1.3s
LYN pmax pmax
comp=E,1μm,4.3s
LYN LR LR
comp=E,2μm,19.0s
LYN LR LR
comp=E,2μm,21.8s
TIY Taiyuan 19.09 288 *eP* **Pn** **02 52 22.8 +1.2**
TIY S **Sn** **02 55 57.4 +2.7**
TIY pmax pmax
comp=E,840nm,5.1s
HIA Hailar 19.37 328 P **P** **02 52 22.9 -0.4**
HIA lAmb lAmb 02 52 37.5
comp=Z,283nm,1.3s
HIA Hailar 19.37 328 P **Pn** **02 52 24.5 -0.3**
HIA Hailar 19.37 328 P **P** **02 52 22.9 -0.4**
HIA pmax pmax
comp=Z,283nm,1.3s
HHC Hu-ho-hao-te 20.24 297 *eP* Pn 02 52 34.8 -0.4
HHC pP pP 02 52 45.1 +1.1
HHC S **S** **02 56 14.5 -3.0**
HHC pmax pmax
comp=Z,250nm,1.0s
HHC pmax pmax
comp=Z,750nm,6.9s
HHC LR LR
comp=Z,2μm,12.1s
HHC LR LR
comp=Z,3μm,11.1s
HHC LR LR
comp=Z,2μm,12.7s
ZEA Zeya 20.77 346 *eP* **P** **02 52 36.3 -2.2**
ZEA *e* 02 56 50.2
ZEA pmax pmax
comp=E,100nm,1.9s
ZEA pmax pmax
comp=N,200nm,2.0s
ZEA pmax pmax
comp=Z,400nm,1.7s
ZEA pmax pmax
comp=E,30nm,1.6s
ZEA pmax pmax
comp=N,70nm,1.2s
ZEA pmax pmax
comp=Z,120nm,1.4s
ZEA MLR MLR
comp=E,300nm,12.0s
ZEA MLR MLR
comp=N,800nm,14.0s
ZEA MLR MLR
comp=Z,700nm,16.0s
BTO Baotou 21.34 296 *eP* **P** **02 52 45.6 +0.8**
BTO S **S** **02 56 39.9 +0.6**
BTO LR LR
comp=Z,15μm,19.0s
BTO LR LR
comp=Z,7μm,19.2s
GUMO Guam 21.85 155 P **P** **02 52 49.2 -1.1**
comp=Z,99nm,0.9s,baz=7.9,slow=19,SNR=5.7
comp=Z,99nm,0.9s
GUMO Guam 21.85 155 P **P** **02 52 50.1 -0.2**
GUMO Guam 21.85 155 P **P** **02 52 50.1 -0.2**
GUMO pmax pmax
comp=Z,1μm,1.8s
XAN Xi'an 22.02 278 ⇓ P **P** **02 52 54.3 +2.2**
XAN pP pP 02 53 06.1 +2.9
XAN sP sP 02 53 12.8 +3.7
XAN S **S** **02 56 51.3 -1.1**
XAN sS Sn 02 57 07.8 +2.8
XAN SS **SnSn** **02 57 30.3 +10**
XAN pmax pmax
comp=Z,73nm,1.3s
XAN pmax pmax
comp=Z,290nm,3.6s
XAN LR LR
comp=Z,2μm,19.2s
XAN LR LR
comp=Z,1μm,22.7s
XAN LR LR
comp=Z,2μm,20.6s
ENH Enshi 22.29 268 P **P** **02 52 54.1 -0.9**
ENH Enshi 22.29 268 P **P** **02 52 57.1 +2.1**
SKR Severo-Kuril's 22.64 36 *eP* **P** **02 52 59.7 +1.2**
SKR pmax pmax
comp=Z,133nm,1.0s
SKR pmax pmax
comp=Z,300nm,4.6s
SKR MLR MLR
comp=Z,1μm,16.0s
PEA0B Petropavlovsk- 24.98 33 P **P** **02 53 21.0 +0.4**
PEA0B lAmb lAmb 02 53 35.7
comp=Z,81nm,1.1s
PEA0B Petropavlovsk- 24.98 33 *ce* P **P** **02 53 22.3 +1.7**
PETK Petropavlovsk- 24.98 33 P **P** **02 53 20.9 +0.3**
comp=Z,28nm,0.9s,baz=224,slow=5.5,SNR=30
PETK LR LR 03 03 06.0
comp=Z,889nm,20.4s,baz=225,slow=36
comp=Z,28nm,0.9s
PETK Petropavlovsk- 24.98 33 P **P** **02 53 21.0 +0.3**
PET Petropavlovsk 25.36 34 P **P** **02 53 24.5 +0.4**
PET lAmb lAmb 02 53 27.3
comp=Z,77nm,1.0s
PET Petropavlovsk 25.36 34 P **P** **02 53 25.8 +1.8**
PET Petropavlovsk 25.36 34 ⇓ *i* P **P** **02 53 26.5 +2.5**
PET *i* S **S** **02 57 47.3 +0.3**
PET pmax pmax
comp=Z,114nm,1.0s
PET pmax pmax
comp=Z,300nm,7.9s
PET MLR MLR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 25.52 312 P **P** **02 53 25.3 -0.5**
ULN lAmb lAmb 02 53 43.3
comp=Z,84nm,1.3s
ULN Ulaanbaatar 25.52 312 P **P** **02 53 25.6 -0.1**
ULN Ulaanbaatar 25.52 312 P **P** **02 53 24.7 -1.1**
comp=Z,3μmcomp=Z,184nm,0.9s
ULN Ulaanbaatar 25.52 312 *ce* P **P** **02 53 25.5 -0.3**
ULN pmax pmax
comp=Z,63nm,1.3s
GYA Guiyang 25.91 261 ⇑ P **P** **02 53 31.8 +2.3**
GYA pP pP 02 53 43.1 +1.4
GYA S **S** **02 57 58.9 +2.3**
GYA sS sS 02 58 11.1 -6.2
GYA pmax pmax
comp=Z,41nm,1.1s
GYA pmax pmax
comp=Z,410nm,3.5s
GYA LR LR
comp=Z,920nm,12.5s
GYA LR LR
comp=Z,1μm,19.8s
GYA LR LR
comp=Z,2μm,18.1s
SONM Songino Array 25.91 311 P **P** **02 53 29.2 -0.2**
comp=Z,29nm,0.8s,baz=122,slow=9.2,SNR=102
SONM PcP **PcP** **02 56 58.0 +0.9**
comp=Z,1.8nm,0.7s,baz=136,slow=2.3,SNR=3.3
SONM LR LR 03 05 05.4
comp=Z,353nm,18.0s,baz=104,slow=40
comp=Z,29nm,0.8s
SONM Songino Array 25.91 311 P **P** **02 53 27.8 -1.6**
LZH Lanzhou 25.97 284 ⇓ P **P** **02 53 30.1 0.0**
LZH pP pP 02 53 41.6 -0.6
LZH sP sP 02 53 48.1 +0.2
LZH S **S** **02 57 54.0 -3.5**
LZH sS sS 02 58 13.1 -5.1
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,170nm,5.1s
LZH LR LR
comp=Z,3μm,15.6s

LZH LR LR
comp=Z,1µm,15.9s
LZH LR LR
comp=Z,1µm,18.1s
CD2 Chengdu 26.89 273 P **P** **02 53 38.1 -0.2**
CD2 sP sP 02 53 53.9 -2.2
CD2 S **S** **02 58 17.3 +5.4**
CD2 sS sS 02 58 32.4 -0.2
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,410nm,5.3s
CD2 LR LR
comp=Z,1µm,6.4s
CD2 LR LR
comp=Z,1µm,7.8s
CD2 LR LR
comp=Z,410nm,5.3s
QIZ Qiongzhong 27.16 244 P **P** **02 53 44.9 +4.2**
QIZ sP **sP** **02 54 00.3 +1.8**
QIZ S **S** **02 58 17.4 +1.2**
QIZ sS **sS** **02 58 35.0 -1.9**
QIZ LR LR
comp=Z,770nm,22.3s
QIZ LR LR
comp=Z,810nm,15.9s
QIZ LR LR
comp=Z,810nm,18.3s
MA2 Magadan 27.70 17 P **P** **02 53 45.3 +0.2**
comp=Z,18nm,0.8s,baz=198,slow=11,SNR=5.1
MA2 LR LR 03 05 21.7
comp=Z,732nm,20.0s,baz=202,slow=38
comp=Z,18nm,0.8s
BOD Bodaibo 28.06 335 *e*P **P** **02 53 46.5 -1.9**
BOD pmax pmax
comp=Z,37nm,1.6s
DAV Davao City (W) 28.13 201 LR LR 03 04 11.7
comp=Z,885nm,21.3s,baz=40,slow=34
YAK Yakutsk 28.50 354 P **P** **02 53 50.9 -1.2**
comp=Z,6.2nm,0.4s,baz=165,slow=19,SNR=6.2
YAK LR LR 03 05 23.2
comp=Z,2µm,19.0s,baz=185,slow=37
comp=Z,6.2nm,0.4s
YAK Yakutsk 28.50 354 P **P** **02 53 50.9 -1.2**
YAK IAmb IAmb 02 54 05.2
comp=Z,52nm,1.0s
YAK Yakutsk 28.50 354 *e*P **P** **02 53 51.0 -1.1**
YAK *e**PP **pP** **02 54 00.6 -4.0**
YAK *e*PPP PPP 02 54 59.4
YAK *e* 02 57 01.5
YAK *e*S **S** **02 58 37.5 +1.2**
YAK *e**SS **sS** **02 58 53.1 -4.0**
YAK *e*SS **SnSn** **02 59 59.4 +1.0**
YAK pmax pmax
comp=Z,46nm,1.0s
YAK pmax pmax
comp=N,38nm,1.3s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,64nm,1.4s
YAK pmax pmax
comp=N,64nm,1.6s
YAK pmax pmax
comp=E,204nm,3.3s
YAK smax smax
comp=E,235nm,3.2s
YAK smax smax
comp=N,126nm,2.8s
YAK MLR MLR
comp=Z,2µm,19.0s
YAK MLR MLR
comp=N,1µm,18.0s
YAK MLR MLR
comp=E,237nm,18.0s
ZAK Zakamensk 28.78 315 *e*P **P** **02 53 58.8 +3.8**
ZAK pmax pmax
comp=Z,18nm,1.2s
GTA Gaotai 29.04 292 ⇑P **P** **02 53 57.9 +0.4**
GTA pP pP 02 54 11.6 +1.8
GTA sP sP 02 54 18.8 +3.4
GTA S **S** **02 58 41.6 -4.2**
GTA sS sS 02 59 03.5 -3.0
GTA pmax pmax
comp=Z,8.0nm,0.7s
GTA pmax pmax
comp=Z,66nm,6.0s
GTA LR LR
comp=Z,1µm,17.1s
GTA LR LR
comp=Z,680nm,16.7s
GTA LR LR
comp=Z,750nm,20.7s
KMI Kunming 29.69 262 ⇓P **P** **02 54 03.3 -0.1**
KMI sP pP 02 54 17.3 +1.6
KMI S **S** **02 58 51.3 -4.9**
KMI sS sS 02 59 18.8 +1.8
KMI pmax pmax
comp=Z,15nm,0.9s
KMI pmax pmax
comp=Z,270nm,9.3s
KMI LR LR
comp=Z,660nm,18.6s
KMI LR LR
comp=Z,2µm,18.5s
KMI LR LR
comp=Z,2µm,17.7s
PZH PanZhiHua 29.96 265 ⇓P **P** **02 54 05.5 -0.2**
PZH pP **pP** **02 54 18.8 +0.8**
PZH PP **PP** **02 55 10.0 -3.9**
PZH S **S** **02 58 56.5 -3.9**
PZH sS **sS** **02 59 19.8 -1.4**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,140nm,4.7s
PZH LR LR
comp=Z,4µm,20.6s
PZH LR LR
comp=Z,3µm,22.4s
PZH LR LR
comp=Z,3µm,21.7s
SEY Seymchan 31.04 15 P **P** **02 54 15.1 +0.4**
comp=Z,5.1nm,0.7s,baz=198,slow=6.4,SNR=8.6
SEY pP **pP** **02 54 26.4 -0.8**
comp=Z,12nm,0.8s,baz=215,slow=6.2,SNR=8.6
comp=Z,5.1nm,0.7s
SEY Seymchan 31.04 15 *ce*P **P** **02 54 15.4 +0.8**
SEY pmax pmax
comp=Z,31nm,2.5s
H11N2 WAKE ISLAND Hy 31.21 109 T T 03 26 51.7
baz=303,slow=75,SNR=94
H11N1 WAKE ISLAND Hy 31.22 109 T T 03 26 52.6
baz=303,slow=75,SNR=112
H11N3 WAKE ISLAND Hy 31.23 109 T T 03 26 53.5
baz=303,slow=75,SNR=124
H11S3 WAKE ISLAND Hy 31.74 111 T T 03 27 30.4
baz=304,slow=75,SNR=124
H11S1 WAKE ISLAND Hy 31.74 111 T T 03 27 35.4
baz=304,slow=75,SNR=118
H11S2 WAKE ISLAND Hy 31.75 111 T T 03 27 31.7
baz=304,slow=75,SNR=152
MYLDM Lahad Datu 32.55 213 P **P** **02 54 29.2 +0.8**
MYLDM IAmb IAmb 02 54 31.9
comp=Z,48nm,1.2s
MYLDM Lahad Datu 32.55 213 P **P** **02 54 30.2 +1.8**
comp=Z,37nm,1.1s
GAMI Galela, Maluku 32.60 194 P **P** **02 54 28.6 -0.2**
NONG Nongkai 32.86 250 P **P** **02 54 32.4 +1.3**
KKM Kota Kinabalu 32.89 217 P **P** **02 54 31.5 +0.1**
KKM IAmb IAmb 02 54 45.7
comp=Z,52nm,1.6s
TNCH TengChong 33.21 265 *e*P **P** **02 54 35.8 +1.4**
TNCH PP **PP** **02 55 46.6 -3.5**
TNCH S **S** **02 59 54.4 +3.1**
TNCH pmax pmax
comp=Z,74nm,0.7s
TNCH pmax pmax
comp=Z,220nm,3.0s
TNCH LR LR
comp=Z,710nm,14.1s
TNCH LR LR
comp=Z,810nm,17.6s
TNCH LR LR
comp=Z,1µm,21.4s
GOMU GeErMu 33.23 286 P **P** **02 54 34.1 -0.5**
GOMU pmax pmax
comp=Z,16nm,0.9s
GOMU pmax pmax
comp=Z,72nm,3.9s
GOMU LR LR
comp=Z,950nm,18.4s
GOMU LR LR
comp=Z,510nm,20.0s
GOMU LR LR
comp=Z,860nm,20.7s
SHEM Shemya Is, Ala 33.37 44 LR LR 03 10 04.4
comp=Z,171nm,19.8s,baz=274,slow=40
TNTI Ternate 33.72 195 P **P** **02 54 39.0 +0.4**
comp=Z,33nm,1.0s
SIJI Sorong 34.71 187 LR LR 03 06 37.0
comp=Z,449nm,21.2s,baz=26,slow=32
SIJI Sorong 34.71 187 P **P** **02 54 46.9 -0.2**
comp=Z,1µmcomp=Z,23nm,1.2s
GTOI Gorontalo 35.00 202 P **P** **02 54 48.7 -0.9**
comp=Z,12nm,1.2s
RKPI Ransiki, Papua 35.14 182 P **P** **02 54 50.6 -0.2**
TOLI2 Tolitoli 35.31 206 P **P** **02 54 51.9 -0.5**
TOLI2 IAmb IAmb 02 54 53.3
comp=Z,54nm,1.6s
TOLI2 Tolitoli 35.31 206 P **P** **02 54 52.2 -0.1**
MRSI Marisa 35.49 204 P **P** **02 54 54.1 +0.2**
comp=Z,47nm,1.3s
SMPI Sarmi 35.73 174 P **P** **02 54 53.1 -2.8**
CHTO Chiang Mai 35.78 255 P **P** **02 54 56.5 +0.1**
CHTO Chiang Mai 35.78 255 P **P** **02 54 56.5 +0.1**
CHTO pmax pmax
comp=Z,88nm,1.7s
CMAR Chiang Mai Arr 35.97 254 P **P** **02 54 58.0 0.0**
comp=Z,3.7nm,0.6s,baz=46,slow=7.9,SNR=16
CMAR sP **sP** **02 55 14.7 -1.2**
comp=Z,3.6nm,0.8s,baz=52,slow=7.2,SNR=3.3
CMAR PcP **PcP** **02 57 24.0 0.0**
comp=Z,2.3nm,0.4s,baz=40,slow=1.1,SNR=7.4
CMAR LR LR 03 10 43.5
comp=Z,643nm,19.8s,baz=65,slow=38
comp=Z,3.7nm,0.6s
CMAR Chiang Mai Arr 35.97 254 *ce*P **P** **02 54 58.7 +0.7**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
MPSI Mapaga 36.35 207 P **P** **02 55 01.3 +0.1**
comp=Z,910nmcomp=Z,32nm,1.2s
NAYO Nakonayok 36.48 246 P **P** **02 55 04.6 +2.2**
MND Mandalay 36.50 262 P **P** **02 55 03.3 +0.8**
FAKI Fak Fak 36.64 185 P **P** **02 55 03.5 -0.3**
FAKI Fak Fak 36.64 185 P **P** **02 55 03.6 -0.1**
comp=Z,2µmcomp=Z,64nm,1.3s
FAKI Fak Fak 36.64 185 P **P** **02 55 03.7 0.0**
SANI Sanana 36.76 196 P **P** **02 55 03.2 -1.5**
comp=Z,757nmcomp=Z,44nm,1.3s
SANI Sanana 36.76 196 P **P** **02 55 03.6 -1.1**
APSI Ampana 36.89 203 P **P** **02 55 05.5 -0.3**
comp=Z,735nmcomp=Z,54nm,1.2s
MSAI Masohi 37.45 191 P **P** **02 55 12.4 +1.8**
comp=Z,892nmcomp=Z,15nm,1.2s
KRAI Karang Ratu 37.52 192 P **P** **02 55 13.0 +1.9**
comp=Z,9µmcomp=Z,74nm,1.5s
LSA Lhasa 37.70 276 P **P** **02 55 14.0 +0.8**
AAI Ambon 37.91 192 P **P** **02 55 15.1 +0.7**
comp=Z,5µmcomp=Z,87nm,0.9s
SBUM Sibu 38.01 220 P **P** **02 55 15.5 +0.2**
SBUM Sibu 38.01 220 P **P** **02 55 15.8 +0.5**
comp=Z,164nmcomp=Z,11nm,1.4s
TIXI Tiksi 38.08 357 P **P** **02 55 14.7 -0.6**
comp=Z,30nm,1.0s,baz=42,slow=0.0,SNR=48
TIXI PcP **PcP** **02 57 29.1 -0.4**
comp=Z,9.4nm,1.0s,baz=65,slow=0.0,SNR=3.1
TIXI LR LR 03 11 36.5
comp=Z,1µm,19.8s,baz=39,slow=37
comp=Z,30nm,1.0s
TIXI Tiksi 38.08 357 P **P** **02 55 13.6 -1.7**
TIXI IAmb IAmb 02 55 15.7
comp=Z,32nm,1.0s
TIXI PcP **PcP** **02 57 29.3 -0.2**
TIXI Tiksi 38.08 357 *ce*P **P** **02 55 14.0 -1.3**
TIXI pmax pmax
comp=Z,47nm,1.3s
TIXI Tiksi 38.08 357 P **P** **02 55 14.3 -1.0**
TIXI pP **pP** **02 55 27.0 -1.0**
TIXI sP **sP** **02 55 34.0 +0.4**
WMQ Urumqi 38.09 300 *e*P **P** **02 55 16.5 +0.6**
WMQ PcP **PcP** **02 57 25.8 -4.4**
WMQ S **S** **03 01 02.3 -3.1**
WMQ sS sS 03 01 26.3 -0.2
WMQ pmax pmax
comp=Z,61nm,1.1s
WMQ LR LR
comp=Z,2µm,29.7s
WMQ LR LR
comp=Z,540nm,21.3s
WMQ LR LR
comp=Z,610nm,19.1s
WMQ Urumqi 38.09 300 P **P** **02 55 17.5 +1.6**
BNDI Bandanaira 38.47 189 P **P** **02 55 19.3 +0.1**
comp=Z,125nm,0.7s
DGZ Jazzator, Alta 38.50 309 *i* P **P** **02 55 19.7 +0.3**
DGZ pmax pmax
comp=Z,14nm,0.9s
SHL Shillong 38.52 270 P **P** **02 55 18.9 -0.9**
SHL PcP **PcP** **02 57 31.4 -0.6**
SHL Shillong 38.52 270 P **P** **02 55 20.0 +0.1**
SNR=6.6
SHL Shillong 38.52 270 P **P** **02 55 18.9 -0.9**
SHL 02 57 31.4
SHL pmax pmax
comp=Z,27nm,1.1s
BILL Bilibino 38.55 18 P **P** **02 55 19.6 +0.3**
BILL IAmb IAmb 02 55 34.0
comp=Z,60nm,1.0s
BILL Bilibino 38.55 18 *i* P **P** **02 55 19.0 -0.3**
BILL *i* 02 55 33.0
BILL *i* 02 56 53.6
BILL *i* 02 57 29.5
BILL pmax pmax
comp=Z,19nm,1.0s
BILL MLR MLR
comp=Z,525nm,18.0s
KSM Kuching 39.86 222 P **P** **02 55 30.0 -0.9**
KSM Kuching 39.86 222 P **P** **02 55 31.9 +1.1**
comp=Z,760nmcomp=Z,47nm,1.1s
KSM Kuching 39.86 222 P **P** **02 55 32.4 +1.6**
BRDH Barahala 39.91 266 LR LR 03 14 59.8
comp=Z,2µm,18.1s,baz=58,slow=41
KKSI Kolaka, Sulawe 39.96 202 P **P** **02 55 32.4 +0.8**
comp=Z,110nm,0.5s
ZSN Zaisan 40.07 305 *e*P **P** **02 55 31.8 -0.5**
comp=Z,9.0nm,0.7s,baz=306
ZSN Zaisan 40.07 305 *e*P **P** **02 55 31.8 -0.5**
ZSN pmax pmax
comp=Z,9.0nm,0.7s
PMSI Majene 40.26 206 P **P** **02 55 34.4 +0.3**
comp=Z,3µmcomp=Z,61nm,0.5s
SPSI Sidrap Palu 40.38 205 P **P** **02 55 36.9 +1.8**
comp=Z,15nm,0.8s
ZAA0 Zalesovo Array 40.66 315 P **P** **02 55 36.8 -0.2**
ZALV Zalesovo Beam 40.66 315 P **P** **02 55 36.5 -0.6**
comp=Z,1.6nm,0.5s,baz=101,slow=7.5,SNR=13
ZALV pP **pP** **02 55 48.6 -1.1**
comp=Z,4.3nm,0.7s,baz=101,slow=7.7,SNR=6.6
ZALV PcP **PcP** **02 57 37.9 -0.1**
comp=Z,6.2nm,0.7s,baz=106,slow=4.1,SNR=7.5
ZALV LR LR 03 13 16.6
comp=Z,493nm,18.5s,baz=96,slow=37
comp=Z,1.6nm,0.5s
ZALV Zalesovo Beam 40.66 315 *i* P **P** **02 55 37.5 +0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
BNSI Bone 40.67 204 P **P** **02 55 38.1 +0.6**
comp=Z,433nmcomp=Z,17nm,0.6s
KRVT Keravat (AS076 41.00 154 LR LR 03 11 22.2
comp=Z,150nm,20.7s,baz=125,slow=34
SURA Surathani 41.05 242 P **P** **02 55 43.3 +2.6**
TAPN Taplejung 41.33 274 *e*P **P** **02 55 43.1 -0.2**
KAPI Kappang 41.37 204 LR LR 03 10 37.4
comp=Z,150nm,21.6s,baz=20,slow=33
KAPI Kappang 41.37 204 P **P** **02 55 43.3 +0.1**
KAPI IAmb IAmb 02 55 45.5
comp=Z,48nm,1.3s
KAPI Kappang 41.37 204 P **P** **02 55 43.8 +0.5**
KAPI Kappang 41.37 204 P **P** **02 55 44.3 +1.1**
comp=Z,566nmcomp=Z,33nm,1.5s
KAPI Kappang 41.37 204 P **P** **02 55 43.7 +0.5**
KAPI Kappang 41.37 204 P **P** **02 55 43.3 +0.1**
KAPI pmax pmax
comp=Z,48nm,1.3s
KAPI Kappang 41.37 204 P **P** **02 55 43.7 +0.5**
SRIT Nakonsritamara 41.45 241 P **P** **02 55 43.9 -0.1**
SRIT Nakonsritamara 41.45 241 P **P** **02 55 46.4 +2.4**
comp=Z,105nm,1.1s
BKSI Bulukumba 41.53 203 P **P** **02 55 44.0 -0.5**
comp=Z,33nm,0.8s
SKLT Songkhla 41.69 238 P **P** **02 55 48.0 +2.1**
comp=Z,39nm,1.4s
ODAN Odare 41.77 274 *e*P **P** **02 55 47.2 +0.4**
MK31 Makanchi Array 41.83 304 P **P** **02 55 46.1 -0.7**
MK31 IAmb IAmb 02 55 48.6
comp=Z,32nm,0.7s
MK31 Makanchi Array 41.83 304 *d i*P **P** **02 55 46.7 -0.1**
MKAR Makanchi Array 41.83 304 P **P** **02 55 46.4 -0.4**
comp=Z,33nm,0.6s,baz=92,slow=9.2,SNR=233
MKAR PcP **PcP** **02 57 41.6 -0.5**
comp=Z,3.4nm,0.8s,baz=77,slow=2.6,SNR=3.0
MKAR S **S** **03 01 59.5 -1.7**
comp=Z,0.6nm,0.9s,baz=225,slow=22,SNR=1.9
MKAR LR LR 03 14 03.2
comp=Z,654nm,19.9s,baz=102,slow=37
comp=Z,33nm,0.6s
MKAR Makanchi Array 41.83 304 *ce*P **P** **02 55 46.9 +0.1**
MKAR pmax pmax
comp=Z,34nm,0.6s
MAKZ Makanchi 42.04 304 P **P** **02 55 48.4 -0.1**
MAKZ IAmb IAmb 02 55 50.4
comp=Z,45nm,0.8s
MAKZ Makanchi 42.04 304 ⇓P **P** **02 55 48.6 +0.1**
MAKZ Makanchi 42.04 304 P **P** **02 55 48.7 +0.2**
RAMN Ramite 42.40 274 *e*P **P** **02 55 51.5 -0.4**
comp=Z,79nm,1.1s
JIRN Jiri 42.48 275 *e*P **P** **02 55 52.5 -0.3**
comp=Z,235nm,1.5s
GUN Gumba 42.65 276 *e*P **P** **02 55 53.8 -0.3**
KULM Kulim 42.99 237 P **P** **02 55 56.3 -0.3**
KULM Kulim 42.99 237 P **P** **02 55 57.9 +1.4**
comp=Z,705nmcomp=Z,38nm,1.4s
PKI Pulchoki 43.16 276 *e*P **P** **02 55 57.4 -0.8**
PKIN Phulchoki 43.17 276 *e*P **P** **02 55 58.0 -0.2**
KKN Kakani 43.19 276 *e*P **P** **02 55 57.8 -0.5**
IPM Ipoh 43.32 235 IAmb IAmb 02 56 00.9
comp=Z,49nm,0.9s
IPM Ipoh 43.32 235 P **P** **02 55 59.6 +0.4**
MYKOM Kota Tinggi 43.45 230 P **P** **02 56 00.8 +0.6**
GKN Gorkha 43.65 277 *e*P **P** **02 56 01.3 -0.6**
SHLS Shalkode 44.11 299 *e*P **P** **02 56 02.1 -3.3**
comp=Z,19nm,0.9s,baz=299
SHLS Shalkode 44.11 299 *e*P **P** **02 56 02.1 -3.3**
SHLS pmax pmax
comp=Z,19nm,0.9s
KURK Kurchatov 44.21 310 P **P** **02 56 05.1 -0.8**
KURK IAmb IAmb 02 56 20.0
comp=Z,45nm,0.9s
KURK Kurchatov 44.21 310 P **P** **02 56 05.6 -0.3**
KURK Kurchatov 44.21 310 *ce*P **P** **02 56 05.3 -0.6**
KURK pmax pmax
comp=Z,50nm,1.3s
KURK Kurchatov 44.21 310 P **P** **02 56 05.1 -0.8**
KURK pP **pP** **02 56 18.2 -0.5**
DANN Dangsing 44.25 277 *e*P **P** **02 56 06.4 -0.5**
comp=Z,32nm,0.5s
KURBB Kurchatov Arra 44.27 310 LR LR 03 15 25.5
comp=Z,410nm,18.8s,baz=66,slow=37
NRIK Noril'sk 44.30 338 P **P** **02 56 05.4 -1.0**
comp=Z,6.6nm,0.8s,baz=128,slow=9.1,SNR=7.7
NRIK PcP **PP** **02 57 50.0 -0.1**
comp=Z,26nm,0.9s,baz=126,slow=3.1,SNR=8.9
NRIK LR LR 03 15 27.0
comp=Z,629nm,20.1s,baz=108,slow=37
comp=Z,6.6nm,0.8s
NRIK Noril'sk 44.30 338 P **P** **02 56 06.0 -0.4**
NRIK Noril'sk 44.30 338 *ce*P **P** **02 56 05.9 -0.4**
NRIK pmax pmax
comp=Z,16nm,1.1s
PMG Port Moresby 44.38 163 LR LR 03 11 47.2
comp=Z,143nm,20.5s,baz=281,slow=32
UZB Uzynbulak 44.43 299 *e*P **P** **02 56 06.6 -1.4**
comp=Z,15nm,1.4s,baz=299
UZB Uzynbulak 44.43 299 *e*P **P** **02 56 06.6 -1.4**
UZB pmax pmax
comp=Z,15nm,1.4s
KOLN Koldanda 44.59 277 *e*P **P** **02 56 09.2 -0.3**
comp=Z,16nm,1.9s
SOEI Soe 44.60 196 P **P** **02 56 09.0 -0.5**
SOEI Soe 44.60 196 P **P** **02 56 08.9 -0.5**
comp=Z,1µmcomp=Z,62nm,0.8s
SOEI Soe 44.60 196 P **P** **02 56 09.0 -0.5**
KPKS Kokpek 44.64 300 *e*P **P** **02 56 09.1 -0.5**
comp=Z,14nm,0.8s,baz=300
KPKS Kokpek 44.64 300 *e*P **P** **02 56 09.1 -0.5**
KPKS pmax pmax
comp=Z,14nm,0.8s
TDK Taldyqorghan 44.66 302 *e*P **P** **02 56 06.4 -3.3**
baz=302
TDK Taldyqorghan 44.66 302 *e*P **P** **02 56 06.3 -3.3**
ZHN Zhinishke 44.85 299 *e*P **P** **02 56 09.9 -1.5**
baz=300
ZHN Zhinishke 44.85 299 *e*P **P** **02 56 09.9 -1.5**
DBNI Kabupaten Domp 45.11 204 P **P** **02 56 12.9 -0.5**
comp=Z,48nm,2.0s
BATI Baumata 45.18 197 LR LR 03 14 36.0
comp=Z,194nm,19.7s,baz=14,slow=35
BATI Baumata 45.18 197 P **P** **02 56 13.4 -0.6**
comp=Z,82nm,0.6s
PLAI Plampang 45.60 205 P **P** **02 56 16.0 -1.3**
comp=Z,45nm,0.6s
TWSI Taliwang, Sumb 45.84 206 P **P** **02 56 18.6 -0.6**
comp=Z,50nm,1.2s
KLNI Mataram 45.84 207 P **P** **02 56 19.5 +0.3**
comp=Z,3µmcomp=Z,147nm,1.5s
MDOK Medeo 45.86 300 *e*P **P** **02 56 19.3 -0.1**
baz=300
MDOK Medeo 45.86 300 *e*P **P** **02 56 19.2 -0.1**
AAA Alma-Ata 45.95 300 *e*P **P** **02 56 19.7 -0.3**
baz=300
AAA Alma-Ata 45.95 300 *e*P **P** **02 56 19.7 -0.3**
PSI Prapat 45.97 236 P **P** **02 56 20.4 0.0**
comp=Z,15nm,0.9s
PSI Prapat 45.97 236 P **P** **02 56 20.9 +0.5**
ABJI Asem Bagus 46.01 210 P **P** **02 56 22.3 +1.8**
comp=Z,77nm,1.2s
KUU Kurty 46.26 301 *e*P **P** **02 56 21.5 -0.8**
comp=Z,40nm,1.2s,baz=301
KUU Kurty 46.26 301 *e*P **P** **02 56 21.5 -0.8**
KUU pmax pmax
comp=Z,40nm,1.2s
KDU Kakadu 46.31 184 P **P** **02 56 22.0 -0.8**
RTBI Rangdo, Negare 46.33 209 P **P** **02 56 22.9 -0.1**
comp=Z,225nm,1.5s
BKNI Bangkinang 46.38 231 P **P** **02 56 23.8 +0.3**
MTN Manton Dam 46.56 186 P **P** **02 56 24.0 -0.8**
MTN Manton Dam 46.56 186 P **P** **02 56 24.3 -0.5**
ULHL Ulahol 46.59 299 P **P** **02 56 26.2 +1.0**
SNR=11
MLSI Meulaboh, Aceh 46.71 240 P **P** **02 56 27.1 +1.0**
comp=Z,63nm,0.7s
BOOM Boomskoye usch 46.77 299 P **P** **02 56 26.6 0.0**
BOOM Boomskoye usch 46.77 299 P **P** **02 56 26.6 0.0**
BOOM pmax pmax
comp=Z,19nm,1.0s
TKM2 Tokmak 2 46.95 300 P **P** **02 56 29.2 +1.2**
SNR=35
MNSI Mandailing Nat 46.99 233 P **P** **02 56 29.0 +0.7**
SJI Sawahan 47.03 213 P **P** **02 56 29.4 +0.8**
comp=Z,37nm,0.5s
SDSI Sungai Dareh 47.08 230 P **P** **02 56 29.7 +0.7**
comp=Z,2µmcomp=Z,54nm,1.1s
KSH Kashi 47.33 295 P **P** **02 56 34.6 +3.7**
KSH sP sP 02 56 52.3 +3.1
KSH S **S** **03 03 25.4 +4.1**
KSH pmax pmax
comp=Z,44nm,0.8s
KSH LR LR
comp=Z,1µm,21.1s
KSH LR LR
comp=Z,400nm,19.1s
KSH LR LR
comp=Z,580nm,17.9s
KBK Karagaybulak 47.47 299 P **P** **02 56 33.2 +1.3**
SNR=25
CHMS Chumysh 47.55 300 P **P** **02 56 33.3 +0.9**
SNR=8.4

SGDS	**Sogindy**		47.56	300	*e*P		P		02 56 31.8	-0.7
	comp=Z,9.4nm,1.1s,baz=300										
SGDS	**Sogindy**		47.56	300	*e*P		P		02 56 31.8	-0.7
SGDS					pmax		pmax				
	comp=Z,9.0nm,1.1s										
USP	**Ospenovka**		47.68	300	P		P		02 56 34.3	+0.8
	SNR=20										
AAK	**Ala-Archa**		47.80	299	P		P		02 56 35.4	+0.8
	SNR=12										
AAK	**Ala-Archa**		47.80	299	P		P		02 56 35.0	+0.5
AAK					IAmb		IAmb		02 56 36.5		
	comp=Z,17nm,0.8s										
AAK	**Ala-Archa**		47.80	299	P		P		02 56 35.2	+0.7
AAK	**Ala-Archa**		47.80	299	*i* P		P		02 56 35.4	+0.8
	SNR=13										
AAK	**Ala-Archa**		47.80	299	*ce*P		P		02 56 35.3	+0.8
AAK					pmax		pmax				
	comp=Z,17nm,0.7s										
AAK	**Ala-Archa**		47.80	299	P		P		02 56 35.3	+0.8
UCH	**Uchtor**		47.86	299	P		P		02 56 36.5	+1.1
	SNR=28										
GSI	**Gunungsitoli**		47.98	236	P		P		02 56 35.8	-0.1
GSI	**Gunungsitoli**		47.98	236	P		P		02 56 35.6	-0.4
	comp=Z,3µmcomp=Z,191nm,1.2s										
BRZS	**Berezniki**		48.04	309	*e*P		P		02 56 35.0	-1.2
	comp=Z,9.9nm,1.2s,baz=310										
BRZS	**Berezniki**		48.04	309	*e*P		P		02 56 34.9	-1.2
BRZS					pmax		pmax				
	comp=Z,10.0nm,1.2s										
COEN	**Coen**		48.05	170	P		P		02 56 36.3	-0.1
COEN	**Coen**		48.05	170	P		P		02 56 37.0	+0.6
MASI	**Maura Aman, Be**		48.29	227	P		P		02 56 39.3	+0.9
	comp=Z,70nm,0.9s										
EKS2	**Erkin-Say**		48.31	300	P		P		02 56 39.3	+0.8
	SNR=12										
AML	**Almayashu**		48.48	299	P		P		02 56 41.6	+1.5
	SNR=61										
HNR	**Honiara**		48.88	147	LR		LR		03 15 41.5		
	comp=Z,3µm,21.8s,baz=332,slow=34										
BVAR	**Borovoye Array**		49.22	314	LR		LR		03 18 37.0		
	comp=Z,592nm,21.6s,baz=85,slow=37										
BRVK	**Borovoye**		49.28	314	P		P		02 56 45.1	-0.5
BRVK	**Borovoye**		49.28	314	P		P		02 56 45.6	+0.1
BRVK	**Borovoye**		49.28	314	*ce*P		P		02 56 45.5	-0.1
BRVK					pmax		pmax				
	comp=Z,20nm,1.3s										
BRVK	**Borovoye**		49.28	314	P		P		02 56 45.4	-0.1
BRVK					pP		pP		02 56 59.0	+0.4
BRVK					sP		sP		02 57 04.2	+0.1
N16K	**Nishlik Lake**		49.43	36	P		P		02 56 47.2	+0.6
	baz=268										
KNRA	**Kununurra**		49.61	189	P		P		02 56 48.3	0.0
KNRA	**Kununurra**		49.61	189	P		P		02 56 48.3	0.0
	comp=Z,233nm,0.6s										
O16K	**Kokwok River B**		49.76	38	P		P		02 56 49.3	+0.3
	baz=270										
DZA	**Taraz**		50.03	300	*e*P		P		02 56 51.7	+0.2
	baz=300										
DZA	**Taraz**		50.03	300	*e*P		P		02 56 51.6	+0.2
KK31	**Karatay Array**		50.58	301	P		P		02 56 55.8	+0.2
KK31	**Karatay Array**		50.58	301	P		P		02 56 55.8	+0.2
KK31					pmax		pmax				
	comp=Z,48nm,1.0s										
KKAR	**Karatay Array**		50.58	301	P		P		02 56 55.8	+0.2
KKAR	**Karatay Array**		50.58	301	P		P		02 56 55.8	+0.2
KKAR					pmax		pmax				
	comp=Z,48nm,1.0s										
TTA	**Tatalina**		50.81	33	P		P		02 56 58.2	+1.1
TTA					IAmb		IAmb		02 57 12.3		
	comp=Z,24nm,1.1s										
TTA	**Tatalina**		50.81	33	P		P		02 56 57.2	+0.1
	baz=269										
TTA	**Tatalina**		50.81	33	P		P		02 56 58.2	+1.1
TTA					pmax		pmax				
	comp=Z,24nm,1.1s										
N18K	**Kilae Creek**		50.86	36	P		P		02 56 57.3	-0.1
	baz=271										
NIL	**Nilore**		51.02	288	P		P		02 56 59.4	+0.4
NIL	**Nilore**		51.02	288	P		P		02 56 59.4	+0.4
NIL					pmax		pmax				
	comp=Z,78nm,1.1s										
NIL	**Nilore**		51.02	288	P		P		02 57 00.0	+1.0
NIL					pP		pP		02 57 13.6	+1.6
IUG	**Iuzhnay**		51.13	300	*e*P		P		02 56 59.9	0.0
	baz=300										
IUG	**Iuzhnay**		51.13	300	*e*P		P		02 56 59.9	0.0
P18K	**Big Mountain,**		51.22	38	P		P		02 56 59.2	-1.0
P18K					IAmb		IAmb		02 57 15.5		
	comp=Z,36nm,1.2s										
L19K	**White Mountain**		51.34	34	P		P		02 57 01.4	+0.4
	baz=270										
Q18K	**Katmai Hardscr**		51.37	39	P		P		02 57 01.4	0.0
	baz=273										
N19K	**Bonanza Creek**		51.54	36	P		P		02 57 02.0	-0.7
	baz=272										
M19K	**Big River Lodg**		51.56	35	P		P		02 57 02.9	+0.2
	baz=271										
O19K	**Port Alsworth**		51.65	37	P		P		02 57 03.1	-0.1
	baz=272										
J20K	**Nowinta River**		51.67	32	IAmb		IAmb		02 57 19.1		
	comp=Z,42nm,1.1s										
J20K	**Nowinta River**		51.67	32	P		P		02 57 03.6	+0.2
	baz=269										
K20K	**Telida**		51.70	33	P		P		02 57 04.0	+0.4
	baz=270										
L20K	**Farewell, AK**		51.79	34	P		P		02 57 04.2	-0.2
	baz=271										
IMAR	**Indian Mountai**		51.88	29	P		P		02 57 06.2	+1.2
G21K	**Allakaket**		51.99	29	P		P		02 57 06.1	+0.3
	baz=268										
F21K	**Alatna River**		52.03	28	P		P		02 57 06.3	+0.2
	baz=268										
P19K	**Oil Pt**		52.22	37	P		P		02 57 07.8	+0.1
	baz=274										
H21K	**Melozitna Rive**		52.26	30	IAmb		IAmb		02 57 23.4		
	comp=Z,41nm,1.4s										
H21K	**Melozitna Rive**		52.26	30	P		P		02 57 07.8	0.0
	baz=270										
OHAK	**Old Harbor**		52.39	41	P		P		02 57 08.1	-0.8
	baz=276										
CHUM	**Lake Minchumin**		52.48	32	P		P		02 57 09.8	+0.4
	baz=271										
F22K	**John River**		52.54	28	P		P		02 57 10.2	+0.4
	baz=269										
PPLA	**Purkeypile**		52.56	33	P		P		02 57 11.0	+0.8
	baz=272										
CAST	**Castle Rocks**		52.59	33	P		P		02 57 10.9	+0.6
CAST					IAmb		IAmb		02 57 26.0		
	comp=Z,24nm,1.0s										
CAST	**Castle Rocks**		52.59	33	P		P		02 57 10.1	-0.2
	baz=272										
I21K	**Tanana**		52.60	30	IAmb		IAmb		02 57 26.2		
	comp=Z,33nm,1.1s										
I21K	**Tanana**		52.60	30	P		P		02 57 09.1	-1.2
	baz=271										
N20K	**Mount Spurr**		52.63	35	P		P		02 57 09.8	-0.9
	baz=273										
SPCR	**Spurr Chakacha**		52.63	35	P		P		02 57 09.8	-0.9
	baz=273										
Q20K	**Shuyak Island**		52.73	39	P		P		02 57 10.2	-1.1
	baz=275										
SIMJ	**Simiganj**		52.79	296	P		P		02 57 12.7	+0.4
SIMJ					pP		pP		02 57 25.8	+0.6
SIMJ					sP		sP		02 57 31.2	+0.5
G22K	**Bettles**		52.79	28	P		P		02 57 10.6	-1.1
	baz=270										
H22K	**Ishtalitna Cre**		52.85	30	P		P		02 57 11.9	-0.2
	baz=271										
BPAW	**Bear Paw Mtn.**		53.05	32	P		P		02 57 12.7	-1.0
	baz=272										
MLY	**Manley**		53.13	31	IAmb		IAmb		02 57 30.0		
	comp=Z,29nm,1.1s										
MLY	**Manley**		53.13	31	P		P		02 57 14.0	-0.3
	baz=272,SNR=5.6										
D23K	**Nanushuk River**		53.13	26	P		P		02 57 14.0	-0.2
	baz=269										
C23K	**Itkillik River**		53.18	25	P		P		02 57 14.0	-0.5
	baz=268										
HYBB	**Hyderabad (bro**		53.23	267	‖*e*P		P		02 57 15.8	+0.1
COLD	**Coldfoot**		53.30	28	P		P		02 57 14.9	-0.5
	baz=271										
SUA	**Susitna One**		53.32	35	P		P		02 57 15.7	-0.1
	baz=274										
G23K	**Bananza Creek**		53.38	29	P		P		02 57 14.7	-1.4
	baz=271										
TRF	**Thorofare Moun**		53.40	33	P		P		02 57 15.3	-1.1
	baz=273										
WRAB	**Tennant Creek**		53.44	181	P		P		02 57 16.7	-0.2
WRAB	**Tennant Creek**		53.44	181	P		P		02 57 16.7	-0.2
	comp=Z,70nm,1.5s										
WRAB	**Tennant Creek**		53.44	181	*i* P		P		02 57 16.9	0.0
WRAB					pmax		pmax				
	comp=Z,68nm,0.9s										
WRAB	**Tennant Creek**		53.44	181	P		P		02 57 16.5	-0.5
WRAB					pP		pP		02 57 30.9	+0.8
WRAB					sP		sP		02 57 36.5	+1.1
WRA	**Warramunga Arr**		53.45	181	P		P		02 57 16.1	-0.9
	comp=Z,34nm,0.5s,baz=355,slow=7.8,SNR=876										
WRA					pP		pP		02 57 30.7	+0.6
	comp=Z,33nm,0.8s,baz=0.3,slow=7.7,SNR=12										
WRA					PcP		PcP		02 58 23.5	-0.1
	comp=Z,5.4nm,0.5s,baz=353,slow=4.2,SNR=5.3										
WRA					LR		LR		03 19 00.9		
	comp=Z,152nm,20.5s,baz=354,slow=35										
	comp=Z,34nm,0.5s										
WRA	**Warramunga Arr**		53.45	181	P		P		02 57 15.9	-1.1
WRA	**Warramunga Arr**		53.45	181	*i* P		P		02 57 16.3	-0.7
WRA					pmax		pmax				
	comp=Z,40nm,0.5s										
WB1	**Warramunga Ar.**		53.47	181	P		P		02 57 16.9	-0.2
CUT	**Chulitna**		53.47	34	P		P		02 57 15.6	-1.1
	baz=274										
E23K	**Chandalar**		53.52	27	P		P		02 57 17.8	+0.6
	baz=271										
TOLK	**Toolik Lake Re**		53.53	26	P		P		02 57 16.8	-0.3
	baz=270										
H23K	**Yukon River**		53.60	30	IAmb		IAmb		02 57 33.8		
	comp=Z,48nm,1.1s										
H23K	**Yukon River**		53.60	30	P		P		02 57 18.3	+0.6
	baz=272,SNR=7.6										
I23K	**Minto, Yukon-K**		53.71	30	P		P		02 57 17.3	-1.1
	baz=273										
RC01	**Rabbit Creek A**		53.84	36	P		P		02 57 19.2	-0.2
	baz=276										
C24K	**Franklin Bluff**		53.84	25	P		P		02 57 19.5	+0.2
	baz=270										
NEA2	**Nenana**		53.86	31	P		P		02 57 20.6	+1.0
	baz=274,SNR=5.8										
E24K	**Your Creek**		53.94	27	P		P		02 57 22.0	+1.8
	baz=272										
MCK	**McKinley**		53.98	32	IAmb		IAmb		02 57 35.3		
	comp=Z,19nm,1.0s										
MCK	**McKinley**		53.98	32	P		P		02 57 21.0	+0.5
	baz=274										
KBL	**Kabul**		54.03	291	P		P		02 57 21.8	+0.2
KBL	**Kabul**		54.03	291	P		P		02 57 22.0	+0.4
	SNR=26										
KBL	**Kabul**		54.03	291	P		P		02 57 21.8	+0.2
KBL					pmax		pmax				
	comp=Z,55nm,1.0s										
RND	**Reindeer**		54.04	33	IAmb		IAmb		02 57 35.6		
	comp=Z,26nm,0.9s										
PMR	**Palmer**		54.08	35	IAmb		IAmb		02 57 35.5		
	comp=Z,23nm,0.9s										
PMR	**Palmer**		54.08	35	P		P		02 57 20.6	-0.5
	baz=276										
GHO	**Glory Hole Cre**		54.16	35	IAmb		IAmb		02 57 36.7		
	comp=Z,34nm,0.9s										
F24K	**Squaw Lake**		54.19	27	P		P		02 57 22.5	+0.5
	baz=273										
QIS	**Mount Isa**		54.19	175	P		P		02 57 22.1	-0.3
MDM	**Murphy Dome**		54.20	31	P		P		02 57 22.6	+0.5
WAT1	**Susitna Watana**		54.23	33	P		P		02 57 22.3	-0.1
	baz=276										
H24K	**Noodor Dome**		54.29	30	IAmb		IAmb		02 57 40.3		
	comp=Z,32nm,1.3s										
H24K	**Noodor Dome**		54.29	30	P		P		02 57 23.1	+0.4
	baz=274										
WRH	**Wood River Hil**		54.30	31	IAmb		IAmb		02 57 39.3		
	comp=Z,23nm,1.0s										
TCOL	**CIGO, UAF Yank**		54.36	31	P		P		02 57 23.2	0.0
	baz=274										
COLA	**College**		54.37	31	P		P		02 57 23.7	+0.5
	baz=274										
COLA	**College**		54.37	31	P		P		02 57 25.2	+2.0
COLA	**College**		54.37	31	*i* P		P		02 57 24.6	+1.4
COLA					pmax		pmax				
	comp=Z,13nm,1.1s										
COLA	**College**		54.37	31	P		P		02 57 25.0	+1.8
COLA					pP		pP		02 57 37.3	+0.9
SVE	**Sverdlovsk**		54.39	319	*e*P		P		02 57 24.3	+0.7
SVE					pmax		pmax				
	comp=Z,46nm,1.1s										
G24K	**Hadweenzic Riv**		54.40	28	P		P		02 57 24.5	+1.0
	baz=274										
KNK	**Knik Glacier**		54.42	35	P		P		02 57 24.2	+0.5
	baz=276										
SML	**Sawmill**		54.44	35	P		P		02 57 24.6	+0.7
	baz=276										
POKR	**Poker Plat Res**		54.52	30	P		P		02 57 25.4	+1.0
	baz=275,SNR=10										
PWL	**Port Wells**		54.54	36	P		P		02 57 24.7	+0.1
	baz=277										
CTAO	**Charters Tower**		54.56	168	P		P		02 57 25.1	0.0
CTAO					IAmb		IAmb		02 57 26.6		
	comp=Z,39nm,1.4s										
CTAO	**Charters Tower**		54.56	168	P		P		02 57 25.1	0.0
CTAO					pmax		pmax				
	comp=Z,39nm,1.4s										
WAT6	**Susitna Watana**		54.63	34	P		P		02 57 25.5	+0.1
	baz=276										
D25K	**Kavik River**		54.67	25	P		P		02 57 25.9	+0.4
	baz=273										
DHY	**Denali Highway**		54.74	33			S		03 05 08.4	+5.2
DHY	**Denali Highway**		54.74	33	IAmb		IAmb		02 57 40.9		
	comp=Z,18nm,1.0s										
DHY	**Denali Highway**		54.74	33	P		P		02 57 25.6	-0.5
	baz=276										
IL31			54.79	31	P		P		02 57 26.6	+0.4
IL31					IAmb		IAmb		02 57 42.3		
	comp=Z,18nm,0.9s										
ILAR	**Eielson Array**		54.79	31	P		P		02 57 26.0	-0.3
	comp=Z,5.2nm,0.8s,baz=269,slow=5.2,SNR=57										
ILAR					pP		pP		02 57 39.4	-0.2
	comp=Z,8.8nm,0.9s,baz=271,slow=5.7,SNR=11										
ILAR					LR		LR		03 22 19.6		
	comp=Z,283nm,20.3s,baz=268,slow=38										
	comp=Z,5.2nm,0.8s										
HDA	**Harding Lake**		54.79	31	IAmb		IAmb		02 57 40.6		
	comp=Z,29nm,0.9s										
HDA	**Harding Lake**		54.79	31	P		P		02 57 26.7	+0.4
	baz=276,SNR=7.7										
SCM	**Sheep Creek Mo**		54.91	34	IAmb		IAmb		02 57 42.3		
	comp=Z,35nm,0.9s										
SCM	**Sheep Creek Mo**		54.91	34	P		P		02 57 27.7	+0.4
	baz=277										
G25K	**Bearman Lake**		54.93	28	P		P		02 57 27.4	+0.1
	baz=275										
E25K	**Arctic Village**		55.03	27	P		P		02 57 29.0	+0.9
	baz=274										
F25K	**Christian Rive**		55.05	27	P		P		02 57 29.3	+1.1
	baz=275										
C26K	**Camden Bay**		55.15	24	P		P		02 57 30.0	+1.2
	baz=274										
PRP	**Porcupine Dome**		55.28	30	P		P		02 57 30.9	+0.8
	baz=276,SNR=9.3										
K24K	**Donnelly Dome**		55.37	32	P		P		02 57 30.5	-0.1
	baz=277										
J25K	**Salcha River,**		55.45	31	P		P		02 57 31.0	-0.2
	baz=277										
BMAR	**Burnt Mountain**		55.47	27	P		P		02 57 32.6	+1.4
C27K	**Jago River**		55.59	25	P		P		02 57 33.2	+1.2
	baz=275										
ARU	**Arti**		55.59	319	LR		LR		03 23 26.8		
	comp=Z,282nm,21.2s,baz=84,slow=38										
ARU	**Arti**		55.59	319	P		P		02 57 31.8	-0.3
ARU					IAmb		IAmb		02 57 47.2		
	comp=Z,24nm,0.9s										
ARU	**Arti**		55.59	319	*c* P		P		02 57 31.9	-0.3
ARU					*PP		pP		02 57 42.8	-2.6
ARU									02 58 26.2		
ARU					S		S		03 05 16.9	+2.5
ARU					SS		SS		03 08 57.8	-1.6
ARU					pmax		pmax				
	comp=Z,26nm,1.5s										
ARU	**Arti**		55.59	319	P		P		02 57 31.5	-0.7
ARU					pP		pP		02 57 44.5	-0.9
F26K	**Sheenjek River**		55.61	27	P		P		02 57 33.7	+1.5
	baz=276										
KLU	**Klutina**		55.62	35			S		03 05 17.4	+2.6
KLU	**Klutina**		55.62	35	P		P		02 57 33.1	+0.7
	baz=278										
PAX	**Paxson**		55.62	33			S		03 05 19.6	+4.9
PAX	**Paxson**		55.62	33	P		P		02 57 33.1	+0.6
	baz=278										
G26K	**Porcupine Rive**		55.83	28	P		P		02 57 34.9	+1.2
	baz=277,SNR=7.8										
HARP	**HAARP**		55.84	34	P		P		02 57 34.6	+0.7
	baz=279										
SCRK	**Sand Creek**		56.13	32	P		P		02 57 36.6	+0.4
SCRK					IAmb		IAmb		02 57 50.7		
	comp=Z,27nm,1.0s										
SCRK	**Sand Creek**		56.13	32	P		P		02 57 36.7	+0.6
	baz=278,SNR=20										
DOT	**Dot Lake**		56.15	32	IAmb		IAmb		02 57 50.6		
	comp=Z,16nm,0.9s										
J26L	**Joseph Creek**		56.24	31	P		P		02 57 37.1	+0.2
	baz=278										
I26K	**Coal Creek Min**		56.30	30	P		P		02 57 36.7	-0.4
	baz=278										
ABKAR	**Akbulak array**		56.32	310	P		P		02 57 37.0	-0.6
ABKAR					IAmb		IAmb		02 57 38.3		
	comp=Z,20nm,0.8s										
BMRM	**Bremner River**		56.33	35	IAmb		IAmb		02 57 52.9		
	comp=Z,24nm,0.9s										
BMRM	**Bremner River**		56.33	35	P		P		02 57 37.8	+0.2
	baz=280										
E27K	**Coleen River**		56.51	26	P		P		02 57 39.7	+1.1
	baz=278										
L26K	**Log Cabin Wild**		56.57	33	IAmb		IAmb		02 57 54.7		
	comp=Z,28nm,1.1s										
L26K	**Log Cabin Wild**		56.57	33	P		P		02 57 39.8	+0.7
	baz=280,SNR=7.6										
POO	**Poona**		56.61	271	*e*P		P		02 57 33.0	-7.1
MBWA	**Marble Bar**		56.67	198	P		P		02 57 40.2	-0.1
MBWA					IAmb		IAmb		02 57 41.2		
	comp=Z,20nm,0.8s										
MBWA	**Marble Bar**		56.67	198	P		P		02 57 40.0	-0.2
MBWA	**Marble Bar**		56.67	198	P		P		02 57 40.1	-0.1
MBWA	**Marble Bar**		56.67	198	P		P		02 57 39.6	-0.6
G27K	**Doyon Strip**		56.68	28	P		P		02 57 40.5	+0.6
	baz=279										
H27K	**Steamboat Moun**		56.82	29	P		P		02 57 41.4	+0.5
	baz=279										
M26K	**Nabesna, AK**		56.83	33	IAmb		IAmb		02 57 56.6		
	comp=Z,36nm,1.1s										
M26K	**Nabesna, AK**		56.83	33	P		P		02 57 41.4	+0.3
	baz=280										
I27K	**Kandik River**		56.88	29	P		P		02 57 41.5	+0.1
	baz=280										
PALK	**Pallekele**		56.90	255	LR		LR		03 22 36.9		
	comp=Z,289nm,21.9s,baz=159,slow=36										
PALK	**Pallekele**		56.90	255	P		P		02 57 42.4	+0.3
PALK	**Pallekele**		56.90	255	P		P		02 57 42.9	+0.7
PALK	**Pallekele**		56.90	255	P		P		02 57 42.4	+0.3
PALK					pmax		pmax				
	comp=Z,55nm,1.2s										
K27K	**Chicken**		56.96	31	IAmb		IAmb		02 57 57.3		
	comp=Z,27nm,1.0s										
K27K	**Chicken**		56.96	31	P		P		02 57 41.9	+0.1
	baz=280										
MCARA	**McCarthy VSAT**		57.01	35	IAmb		IAmb		02 57 58.9		
	comp=Z,32nm,1.0s										
MCARA	**McCarthy VSAT**		57.01	35	P		P		02 57 42.7	+0.5
	baz=281										
PSA00	**Pilbara Seismi**		57.04	197	P		P		02 57 42.5	-0.3
PSA00					IAmb		IAmb		02 57 43.8		
	comp=Z,22nm,0.8s										
AS01	**Alice Springs**		57.16	182	P		P		02 57 43.7	0.0
AS31	**Alice Springs**		57.16	182	P		P		02 57 43.5	-0.2
AS31					IAmb		IAmb		02 57 46.0		
	comp=Z,11nm,0.6s										
ASAR	**Alice Springs**		57.16	182	P		P		02 57 43.8	+0.1
	comp=Z,14nm,0.6s,baz=12,slow=13,SNR=196										
ASAR					pP		pP		02 57 58.1	+1.2
	comp=Z,19nm,0.8s,baz=9.0,slow=13,SNR=14										
ASAR					PcP		PcP		02 58 38.1	+0.2
	comp=Z,2.4nm,0.5s,baz=2.6,slow=4.1,SNR=1.0										
ASAR					LR		LR		03 21 44.6		
	comp=Z,125nm,19.2s,baz=1.0,slow=35										
ASAR					PKP2bc				03 27 44.1		
	comp=Z,2.8nm,0.9s,baz=168,slow=1.7,SNR=12										
ASAR					PKP2ab				03 27 59.7		
	comp=Z,1.7nm,1.0s,baz=174,slow=1.6,SNR=4.1										
	comp=Z,14nm,0.6s										
EGAK	**Eagle**		57.22	30	IAmb		IAmb		02 57 59.6		
	comp=Z,49nm,1.9s										
EGAK	**Eagle**		57.22	30	P		P		02 57 43.8	+0.2
	baz=280,SNR=8.4										
L27K	**Beaver Creek,**		57.24	32	IAmb		IAmb		02 57 59.6		
	comp=Z,26nm,1.0s										
L27K	**Beaver Creek,**		57.24	32	P		P		02 57 44.5	+0.6
	baz=281,SNR=11										
BCAR	**Beaver Creek A**		57.26	32	P		P		02 57 45.6	+1.6
M27K	**Edge Creek, AK**		57.35	33	IAmb		IAmb		02 58 00.3		
	comp=Z,27nm,0.9s										
M27K	**Edge Creek, AK**		57.35	33	P		P		02 57 45.5	+0.7
	baz=281										
BARN	**Barnard Glacie**		57.72	35	IAmb		IAmb		02 58 02.9	

N31M	**Braeburn, Yuko**	60.36	34	P		P	02 58 07.0	+1.4	
	baz=287,SNR=5.2								
O30N	**Mendenhall**	60.43	34	P		P	02 58 06.1	0.0	
	baz=287								
QLP	**Quilpie**	60.62	171	P		P	02 58 08.7	+1.1	
EIDS	**Eidsvold**	60.68	164	P		P	02 58 07.8	-0.2	
EIDS				IAmb		IAmb	02 58 09.6		
	comp=Z,16nm,0.8s								
PLBC	**Pleasant Camp**	60.68	36	P		P	02 58 08.1	+0.4	
	baz=287,SNR=5.7								
M31M	**Drury Creek, Y**	60.78	32	IAmb		IAmb	02 58 24.1		
	comp=Z,14nm,0.9s								
M31M	**Drury Creek, Y**	60.78	32	P		P	02 58 09.0	+0.5	
	baz=288,SNR=7.6								
PRGR	**Permogore**	60.82	327	*e*P		P	02 58 07.8	-0.8	
PRGR				*e*			02 58 50.2		
PRGR				pmax		pmax			
	comp=Z,15nm,1.1s								
A36M	**Sachs Harbour**	61.03	21	P		P	02 58 10.3	+0.5	
A36M	**Sachs Harbour**	61.03	21	P		P	02 58 10.0	+0.2	
	baz=290								
WHY	**Whitehorse**	61.03	34	P		P	02 58 10.8	+0.6	
WHY				IAmb		IAmb	02 58 26.2		
	comp=Z,21nm,0.9s								
WHY	**Whitehorse**	61.03	34	P		P	02 58 10.9	+0.7	
	baz=288,SNR=9.9								
GEYT	**Alibeck**	61.12	298	P		P	02 58 11.1	0.0	
	comp=Z,11nm,0.9s,baz=75,slow=2.2,SNR=19								
GEYT				pP		pP	02 58 24.6	+0.1	
	comp=Z,15nm,0.9s,baz=42,slow=2.4,SNR=9.1								
GEYT				LR		LR	03 26 13.3		
	comp=Z,347nm,21.5s,baz=73,slow=38								
	comp=Z,11nm,0.9s								
GEYT	**Alibeck**	61.12	298	IAmb		IAmb	02 58 30.6		
	comp=Z,17nm,1.0s								
GYA0B	**ALIBECK ARRAY**	61.12	298	IAmb		IAmb	02 58 30.6		
	comp=Z,16nm,0.9s								
SKAG	**Skagway**	61.19	36	P		P	02 58 11.6	+0.5	
	baz=286								
FARO	**Faro, Yukon**	61.24	32	P		P	02 58 12.5	+0.9	
FARO				IAmb		IAmb	02 58 27.2		
	comp=Z,32nm,1.0s								
FARO	**Faro, Yukon**	61.24	32	P		P	02 58 12.2	+0.6	
	baz=288,SNR=11								
OOD	**Oodnadatta**	61.25	180	P		P	02 58 12.2	+0.3	
RMQ	**Roma**	61.26	166	P		P	02 58 13.6	+1.6	
INKA	**Innaminka**	61.40	175	P		P	02 58 13.4	+0.5	
N32M	**Quiet Lake**	61.70	33	P		P	02 58 15.7	+1.0	
	baz=289								
P32M	**Atlin**	61.92	35	P		P	02 58 16.9	+0.7	
	baz=289								
SIT	**Sitka**	61.96	38	P		P	02 58 17.0	+0.6	
	baz=290								
R32K	**Eaglecrest**	61.97	37	P		P	02 58 17.6	+1.1	
	baz=290								
MMPY	**Sheldon Lake,**	62.03	32	P		P	02 58 18.1	+1.2	
	baz=290,SNR=6.9								
P33M	**Teslin, Yukon**	62.14	34	IAmb		IAmb	02 58 33.6		
	comp=Z,29nm,1.1s								
P33M	**Teslin, Yukon**	62.14	34	P		P	02 58 18.8	+1.1	
	baz=290								
C36M	**Paulatuk**	62.35	23	P		P	02 58 19.7	+0.9	
	baz=292								
SPA0	**Spitsbergen Ar**	62.73	348	*e*P		P	02 58 21.7	+0.4	
SPA0				IAmb		IAmb	02 58 25.1		
	comp=Z,128nm,1.8s								
SPITS	**Spitsbergen Ar**	62.73	348	P		P	02 58 20.9	-0.3	
	comp=Z,8.4nm,0.8s,baz=76,slow=6.1,SNR=5.2								
SPITS				LR		LR	03 27 00.3		
	comp=Z,697nm,19.9s,baz=10.0,slow=37								
	comp=Z,8.4nm,0.8s								
BELG	**Belogornoye**	62.83	317	LR		LR	03 27 49.5		
	comp=Z,328nm,18.2s,baz=134,slow=38								
BELG	**Belogornoye**	62.83	317	*i* P		P	02 58 21.6	-0.7	
BELG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
Q32M	**Nakina River**	62.84	36	P		P	02 58 23.8	+1.3	
	baz=291								
DZM	**Mont Dzumac**	62.90	148	LR		LR	03 23 07.1		
	comp=Z,197nm,21.9s,baz=22,slow=33								
DZM	**Mont Dzumac**	62.90	148	*e*LR		LR	03 17 10.5		
	comp=Z,549nm,23.1s								
R33M	**Jennings River**	63.30	35	P		P	02 58 26.2	+0.7	
	baz=292								
U33K	**Whale Pass**	63.43	39	P		P	02 58 27.4	+1.2	
	baz=292								
ALE	**Alert**	63.59	3	P		P	02 58 27.6	+0.6	
ALE				pP		pP	02 58 40.6	+0.2	
APA	**Apatity**	63.61	335	⇓*i* P		P	02 58 32.5	+5.3	
APA				pmax		pmax			
	comp=Z,13nm,1.0s								
APA				MLR		MLR			
	comp=Z,1μm,16.0s								
CRAG	**Craig**	63.67	39	P		P	02 58 29.2	+1.4	
	baz=292								
WRAK	**Wrangell Islan**	63.72	38	P		P	02 58 28.2	+0.1	
	baz=292								
TGTN	**Hyland Airport**	63.74	32	P		P	02 58 29.3	+1.0	
	baz=293,SNR=13								
MULG	**Mulgathing**	63.75	181	P		P	02 58 28.7	+0.2	
S34M	**Telegraph Cree**	63.78	36	P		P	02 58 29.9	+1.5	
	baz=292								
KLMR	**Klimovskoe**	63.87	327	*e*P		P	02 58 27.3	-1.7	
KLMR				*e*pP		pP	02 58 40.5	-1.9	
KLMR				AMP			02 58 46.9		
	comp=Z,36nm,1.6s								
KLMR				*e*PP		PP	03 00 46.8	-2.6	
KLMR				LR		LR	03 22 50.0		
KLMR	**Klimovskoe**	63.87	327	*e*P		P	02 58 27.3	-1.7	
KLMR				*e**PP		pP	02 58 40.5	-1.9	
KLMR				*e*			03 00 46.8		
KLMR				pmax		pmax			
	comp=Z,36nm,1.6s								
NOR	**Nord**	63.94	356	*i* P		P	02 58 22.4	-6.8	
NOR				IAmb		IAmb	02 58 29.8		
	comp=Z,1.4nm,0.6s								
LCRK	**Leigh Creek**	63.95	177	P		P	02 58 30.7	+0.9	
AULRC	**Lightning Ridg**	63.99	168	P		P	02 58 32.4	+2.3	
	comp=Z,37nm,1.9s								
WTLY	**Watson Lake, Y**	64.05	34	P		P	02 58 31.4	+1.1	
	baz=293								
DLBC	**Dease Lake**	64.12	36	P		P	02 58 31.9	+1.1	
	comp=Z,4.4nm,0.8s,baz=326,slow=8.1,SNR=8.4								
DLBC				pP		pP	02 58 45.4	+1.0	
	comp=Z,7.9nm,0.9s,baz=271,slow=5.1,SNR=7.2								
	comp=Z,4.4nm,0.8s								
DLBC	**Dease Lake**	64.12	36	P		P	02 58 31.9	+1.1	
DLBC	**Dease Lake**	64.12	36	P		P	02 58 32.1	+1.3	
	baz=293								
T35M	**Bob Quinn**	64.58	37	P		P	02 58 34.3	+0.6	
	baz=293								
FORT	**Forrest**	64.61	187	P		P	02 58 33.6	-0.5	
FORT	**Forrest**	64.61	187	P		P	02 58 34.3	+0.2	
MORW	**Morawa**	65.17	199	IAmb		IAmb	02 58 38.7		
	comp=Z,18nm,1.0s								
MORW	**Morawa**	65.17	199	P		P	02 58 37.6	-0.2	
HAMF	**Hammerfest**	65.24	340	*e*P		P	02 58 37.5	-0.3	
ARA0	**ARCESS Array S**	65.28	339	*e*P		P	02 58 37.9	-0.2	
ARCES	**ARCESS Array B**	65.28	339	P		P	02 58 37.8	-0.3	
	comp=Z,5.9nm,0.5s,baz=62,slow=9.0,SNR=37								
ARCES				pP		pP	02 58 51.8	+0.2	
	comp=Z,16nm,1.1s,baz=60,slow=7.8,SNR=4.2								
ARCES				LR		LR	03 31 28.7		
	comp=Z,401nm,18.7s,baz=58,slow=40								
	comp=Z,5.9nm,0.5s								
MSVF	**Nonsavu**	65.36	135	LR		LR	03 22 47.3		
	comp=Z,116nm,18.4s,baz=39,slow=32								
STKA	**Stephens Creek**	65.58	174	P		P	02 58 40.5	+0.1	
	comp=Z,19nm,0.6s,baz=346,slow=6.8,SNR=100								
STKA				pP		pP	02 58 54.9	+1.1	
	comp=Z,12nm,0.8s,baz=312,slow=5.3,SNR=6.8								
STKA				LR		LR	03 25 34.6		
	comp=Z,283nm,21.1s,baz=359,slow=34								
	comp=Z,19nm,0.6s								
STKA	**Stephens Creek**	65.58	174	P		P	02 58 40.6	+0.3	
STKA	**Stephens Creek**	65.58	174	P		P	02 58 40.8	+0.4	
STKA	**Stephens Creek**	65.58	174	*i* P		P	02 58 41.6	+1.2	
LIRD	**Liard River Hi**	65.58	34	P		P	02 58 41.2	+1.0	
	baz=295,SNR=8.3								
ARMA	**Armidale**	65.67	165	P		P	02 58 41.4	+0.2	
ARMA				IAmb		IAmb	02 58 59.5		
	comp=Z,19nm,1.1s								
CMSA	**Cobar Meteorol**	65.69	170	P		P	02 58 42.0	+0.9	
KOTAN	**Kotaneelee Air**	66.20	33	P		P	02 58 44.4	+0.2	
	baz=297								
KTK1	**Kautokeino**	66.24	339	*e*P		P	02 58 44.5	+0.3	
KTK1				IAmb		IAmb	02 58 45.8		
	comp=Z,309nm,2.4s								
BBOO	**Buckleboo**	66.25	179	P		P	02 58 45.0	+0.3	
BBOO				IAmb		IAmb	02 58 46.3		
	comp=Z,23nm,0.8s								
BBOO	**Buckleboo**	66.25	179	P		P	02 58 44.8	+0.1	
JASK	**Jask - Hormozg**	66.34	286	P		P	02 58 47.0	+1.3	
WHYH	**Whyalla**	66.50	178	P		P	02 58 47.3	+1.0	
MAK	**Makhachkala**	66.57	307	*e*P		P	02 58 43.7	-3.1	
MAK				*e*S		S	03 07 30.3	-4.1	
MAK				pmax		pmax			
	comp=Z,204nm,1.2s								
MAK				MLR		MLR			
	comp=Z,588nm,13.0s								
VRH	**Novokhopyorsk**	66.67	317	*e*P		P	02 58 45.6	-1.7	
VRH				pmax		pmax			
	comp=Z,40nm,0.7s								
JETT	**Jettan, Norway**	66.77	340	*e*P		P	02 58 47.8	0.0	
JETT				IAmb		IAmb	02 58 49.9		
	comp=Z,69nm,1.2s								
AUDCS	**Dubbo College**	66.83	168	P		P	02 58 49.8	+1.4	
RES	**Resolute Bay**	66.88	13	LR		LR	03 29 06.2		
	comp=Z,121nm,21.8s,baz=344,slow=37								
RES	**Resolute Bay**	66.88	13	IAmb		IAmb	02 59 02.7		
	comp=Z,24nm,1.1s								
MOS	**Moscow**	66.90	322	*e*P		P	02 58 47.8	-0.9	
MOS				*e*			02 59 14.8		
WSAR	**Wadi Sarin**	66.95	283	LR		LR	03 31 30.5		
	comp=Z,142nm,20.2s,baz=78,slow=39								
HTT	**Hallett**	66.95	177	P		P	02 58 50.4	+1.2	
WBK	**Wadi Bani Khal**	66.97	282	P		P	02 58 50.6	+0.8	
AKT	**Akhty**	67.05	305	*e*P		P	02 58 49.8	-0.3	
AKT				*e*			02 59 03.7		
AKT				*e*			02 59 15.1		
AKT				pmax		pmax			
	comp=Z,23nm,0.6s								
TRO	**Tromso**	67.15	340	*e*P		P	02 58 50.1	+0.1	
BIDO	**Bidbid**	67.22	284	P		P	02 58 52.5	+1.1	
	SNR=5.4								
SMDO	**Samad**	67.51	283	P		P	02 58 54.1	+0.9	
	SNR=5.6								
BANOM	**Banah**	67.57	287	P		P	02 58 54.3	+0.8	
BANOM	**Banah**	67.57	287	P		P	02 58 54.1	+0.5	
GROC	**Groznyy**	67.60	308	*e*P		P	02 58 53.8	+0.4	
LPSR	**Galich'ya Gora**	67.61	319	*e*P		P	02 58 51.9	-1.4	
LPSR				pmax		pmax			
	comp=Z,30nm,0.8s								
SHME	**Shamm**	67.64	287	P		P	02 58 54.9	+1.0	
SHME	**Shamm**	67.64	287	P		P	02 58 54.5	+0.6	
OBN	**Obninsk**	67.72	322	LR		LR	03 31 30.7		
	comp=Z,144nm,18.0s,baz=64,slow=39								
OBN	**Obninsk**	67.72	322	P		P	02 58 52.8	-1.1	
OBN				IAmb		IAmb	02 58 54.8		
	comp=Z,29nm,1.1s								
OBN	**Obninsk**	67.72	322	*i* P		P	02 58 52.8	-1.1	
OBN				*i*			02 59 06.0		
OBN				*i*			02 59 12.3		
OBN				pmax		pmax			
	comp=Z,23nm,1.1s								
OBN				MLR		MLR			
	comp=Z,587nm,17.0s								
BBB	**Bella Bella**	67.73	41	P		P	02 58 54.8	+0.8	
	comp=Z,7.3nm,0.7s,baz=243,slow=11,SNR=1.6								
BBB				LR		LR	03 25 56.9		
	comp=Z,114nm,21.8s,baz=310,slow=34								
	comp=Z,7.3nm,0.7s								
JMDO	**Jabal Madar**	67.79	283	P		P	02 58 55.4	+0.4	
HOQ	**Hoqain**	67.86	284	P		P	02 58 55.9	+0.6	
	SNR=6.5								
MDH	**Madha**	67.86	286	P		P	02 58 53.6	-1.7	
VORR	**Voronezh**	67.88	318	*e*P		P	02 58 53.8	-1.2	
VORR				pmax		pmax			
	comp=Z,30nm,0.4s								
MASF	**Masafi**	67.94	286	P		P	02 58 57.0	+1.2	
MSFE	**Esma-Masafi**	67.94	286	P		P	02 58 56.4	+0.5	
UOSS	**Minazif**	68.10	286	P		P	02 58 56.2	-0.6	
UOSS	**Minazif**	68.10	286	P		P	02 58 56.1	-0.8	
UOSS	**Minazif**	68.10	286	P		P	02 58 56.9	0.0	
VSR	**Storozhevoye**	68.11	318	*e*P		P	02 58 55.4	-1.0	
VSR				pmax		pmax			
	comp=Z,40nm,0.6s								
HATD	**Hatta, Dubai**	68.22	286	P		P	02 58 59.0	+1.4	
	SNR=6.7								
HATD	**Hatta, Dubai**	68.22	286	*i* P		P	02 58 57.9	+0.4	
	SNR=8.5								
ASHO	**Ashiyiah**	68.34	286	P		P	02 58 59.1	+0.7	
	SNR=8.2								
ASHO	**Ashiyiah**	68.34	286	*i* P		P	02 58 59.1	+0.7	
	SNR=11								
BSY	**Bisya**	68.34	283	P		P	02 58 59.3	+0.9	
	SNR=5.9								
NAZ	**Nazwa, Dubai**	68.52	286	P		P	02 59 00.3	+0.8	
DAG	**Danmarks Havn**	68.52	354	*i* P		P	02 58 57.8	-0.8	
DAG				IAmb		IAmb	02 58 59.2		
	comp=Z,7.8nm,0.7s								
NWAO	**Narrogin (SRO)**	68.55	196	LR		LR	03 29 25.9		
	comp=Z,79nm,21.6s,baz=280,slow=36								
NWAO	**Narrogin (SRO)**	68.55	196	P		P	02 58 58.9	-0.4	
NWAO				IAmb		IAmb	02 59 14.0		
	comp=Z,67nm,1.6s								
NWAO	**Narrogin (SRO)**	68.55	196	P		P	02 58 58.7	-0.6	
NWAO	**Narrogin (SRO)**	68.55	196	P		P	02 58 59.0	-0.3	
NWAO	**Narrogin (SRO)**	68.55	196	P		P	02 58 58.8	-0.4	
NWAO	**Narrogin (SRO)**	68.55	196	P		P	02 58 58.9	-0.4	
NWAO				pmax		pmax			
	comp=Z,67nm,1.6s								
NWAO	**Narrogin (SRO)**	68.55	196	P		P	02 58 58.5	-0.7	
MHTO	**MHTO**	68.56	281	P		P	02 58 59.5	-0.3	
	SNR=7.5								
ARQ	**Araqi**	68.61	284	P		P	02 59 00.4	+0.4	
	SNR=9.6								
FAQ	**Al Faqa, Dubai**	68.69	286	P		P	02 59 00.8	+0.3	
FAQ	**Al Faqa, Dubai**	68.69	286	P		P	02 59 00.3	-0.2	
ALNE	**Al Ain**	68.89	285	P		P	02 59 02.4	+0.6	
	SNR=11								
ALNE	**Al Ain**	68.89	285	*i* P		P	02 59 02.2	+0.5	
	SNR=6.4								
NEEM	**North Greenlan**	68.95	2	*i* P		P	02 58 59.5	-2.1	
ASUD	**Al Ashush, Dub**	68.95	286	P		P	02 59 02.7	+0.5	
ASUD	**Al Ashush, Dub**	68.95	286	P		P	02 59 02.7	+0.5	
YKA	**Yellowknife Ar**	68.98	28	P		P	02 59 02.2	+0.5	
	comp=Z,6.3nm,0.9s,baz=297,slow=6.5,SNR=14								
YKA				pP		pP	02 59 15.6	+0.3	
	comp=Z,10nm,1.0s,baz=295,slow=6.4,SNR=8.8								
	comp=Z,6.3nm,0.9s								
ZEI	**Tsey**	69.03	308	*e*P		P	02 59 00.9	-1.7	
ZEI				pmax		pmax			
	comp=Z,10.0nm,0.9s								
AFI	**Afiamalu**	69.07	124	LR		LR	03 25 12.0		
	comp=Z,84nm,20.6s,baz=206,slow=32								
KBZ	**Khabaz**	69.25	309	P		P	02 59 03.4	-0.2	
	comp=Z,15nm,0.9s,baz=50,slow=7.9,SNR=26								
KBZ				pP		pP	02 59 17.1	-0.1	
	comp=Z,21nm,0.9s,baz=70,slow=2.5,SNR=10								
KBZ				LR		LR	03 33 54.8		
	comp=Z,277nm,18.1s,baz=69,slow=40								
	comp=Z,15nm,0.9s								
KBZ	**Khabaz**	69.25	309	*c*eP		P	02 59 03.7	0.0	
KBZ				pmax		pmax			
	comp=Z,15nm,0.9s								
STEI	**Steigen**	69.26	340	*e*P		P	02 59 03.0	-0.3	
STEI				IAmb		IAmb	02 59 03.7		
	comp=Z,27nm,0.7s								
KVAR	**Kislovodsk Arr**	69.28	310	LR		LR	03 30 26.5		
	comp=Z,303nm,20.5s,baz=290,slow=37								
KIV	**Kislovodsk**	69.29	310	⇑P		P	02 59 03.8	-0.2	
KIV	**Kislovodsk**	69.29	310	P		P	02 59 03.9	-0.2	
KIV				IAmb		IAmb	02 59 22.2		
	comp=Z,33nm,1.0s								
KIV	**Kislovodsk**	69.29	310	P		P	02 59 05.3	+1.3	
KIV	**Kislovodsk**	69.29	310	*e*P		P	02 59 04.0	0.0	
KIV				*e*S		S	03 08 08.6	+1.5	
KIV				pmax		pmax			
	comp=Z,29nm,1.1s								
KIV				MLR		MLR			
	comp=Z,142nm,17.0s								
KIV	**Kislovodsk**	69.29	310	P		P	02 59 04.7	+0.7	
KIV				pP		pP	02 59 17.9	+0.4	
FIA1	**FINESS Array S**	69.35	331	IAmb		IAmb	02 59 05.0		
	comp=Z,34nm,1.1s								
FINES	**FINESS Array B**	69.35	331	P		P	02 59 03.0	-1.0	
	comp=Z,22nm,0.8s,baz=66,slow=5.8,SNR=90								
FINES				pP		pP	02 59 17.1	-0.4	
	comp=Z,15nm,0.8s,baz=70,slow=8.3,SNR=7.0								
FINES				LR		LR	03 30 21.5		
	comp=Z,192nm,18.7s,baz=50,slow=37								
	comp=Z,22nm,0.8s								
FINES	**FINESS Array B**	69.35	331	P		P	02 59 03.8	-0.2	
FINES	**FINESS Array B**	69.35	331	*c*eP		P	02 59 03.4	-0.6	
FINES				pmax		pmax			
	comp=Z,22nm,0.8s								
SHA1	**Shidzhatmaz**	69.41	309	*i* P		P	02 59 05.5	+0.6	
DQM	**DQM**	69.43	281	P		P	02 59 04.6	-0.6	
FAUS	**Fauske**	69.60	339	*e*P		P	02 59 05.2	-0.1	
FAUS				IAmb		IAmb	02 59 05.8		
	comp=Z,21nm,0.7s								
GNI	**Garni**	69.67	305	LR		LR	03 32 11.9		
	comp=Z,192nm,20.7s,baz=76,slow=38								
GNI	**Garni**	69.67	305	P		P	02 59 06.2	-0.3	
GNI				IAmb		IAmb	02 59 23.1		
	comp=Z,21nm,1.1s								
GNI	**Garni**	69.67	305	P		P	02 59 07.6	+1.0	
GNI	**Garni**	69.67	305	*c*eP		P	02 59 07.4	+0.8	
GNI				pmax		pmax			
	comp=Z,16nm,1.3s								
GNI	**Garni**	69.67	305	P		P	02 59 07.3	+0.7	
ARPS	**Mount Arapiles**	70.45	175	P		P	02 59 11.4	+0.5	
KARS	**Kars**	70.57	306	P		P	02 59 12.5	+0.5	
KARS	**Kars**	70.57	306	P		P	02 59 12.5	+0.5	
KARS				pmax		pmax			
	comp=Z,195nm,1.8s								
MOR8	**Moi Rana**	70.64	338	*e*P		P	02 59 10.1	-1.7	
MOR8				IAmb		IAmb	02 59 11.8		
	comp=Z,28nm,0.9s								
VSU	**Vasula**	70.71	328	*e*P		P	02 59 11.9	-0.4	
MEF	**Metsahovi**	70.72	330	*e*P		P	02 59 11.7	-0.6	
JRN	**Qarnain Island**	70.78	288	P		P	02 59 11.9	-1.4	
MZR	**Muzera**	71.22	285	P		P	02 59 15.8	-0.3	
	SNR=8.3								
MZR	**Muzera**	71.22	285	*i* P		P	02 59 15.6	-0.5	
	SNR=13								
RAF	**Rauma**	71.31	332	*e*P		P	02 59 15.8	-0.1	
SOC	**Sochi**	71.36	310	*e*P		P	02 59 14.3	-2.3	
SOC				*e*			03 01 52.7		
SOC				*e*PPP		PPP	03 03 38.1		
SOC				*e*S		S	03 08 30.1	-1.0	
SOC				*e*SS		SS	03 13 07.9	+2.5	
SOC				pmax		pmax			
	comp=Z,27nm,0.9s								
SOC				MLR		MLR			
	comp=Z,208nm,18.0s								
BRAT	**Ballarat**	71.42	173	P		P	02 59 18.1	+1.4	
TOO	**Toolangi**	71.61	172	P		P	02 59 18.1	+0.2	
TOO	**Toolangi**	71.61	172	P		P	02 59 19.3	+1.3	
TOO	**Toolangi**	71.61	172	P		P	02 59 18.1	+0.2	
TOO				pmax		pmax			
	comp=Z,86nm,1.7s								
MTSE	**Matsula**	71.83	329	*e*P		P	02 59 18.9	-0.2	
SLWR	**Sila**	72.12	287	P		P	02 59 21.3	-0.2	
ANN	**Anapa**	72.19	312	*e*P		P	02 59 20.8	-0.7	
ANN				pmax		pmax			
	comp=Z,40nm,0.9s								
ANN				MLR		MLR			
	comp=Z,484nm,20.0s								
MNK	**Minsk**	72.37	324	*i* P		P	02 59 21.5	-0.9	
	comp=E,2.0nm,0.8s								
MNK				*i* P		P	02 59 21.5	-0.9	
	comp=N,13nm,0.8s								
MNK				*i* P		P	02 59 21.5	-0.9	
	comp=Z,15nm,0.8s,baz=56								
MNK				*i* PcP		PcP	02 59 39.1	-1.1	
MNK				*i* PP		PP	03 02 02.4	-0.8	
MNK				*i* PPP		PPP	03 03 46.8		
MNK				*i* S		S	03 08 43.4	+1.1	
MNK				*i* SS		SS	03 13 22.9	+2.7	
MNK				*i* LQ		LQ	03 26 18.2		
MNK				*i* LR		LR	03 27 53.0		
MNK				*i* LRM		MLR	03 33 54.0		
	comp=E,59nm,18.1s								
MNK				*i* LRM		MLR	03 33 57.8		
	comp=Z,428nm,18.1s								
MNK				*i* LRM		MLR	03 34 28.8		
	comp=N,605nm,18.1s								
MNK	**Minsk**	72.37	324	*i* P		P	02 59 21.5	-0.9	
MNK				*i*			02 59 39.0		
MNK				*i*			03 02 02.4		
MNK				*i* PPP		PPP	03 03 46.8		
MNK				*i* S		S	03 08 43.3	+1.1	
MNK				*i* SS		SS	03 13 22.9	+2.7	
MNK				pmax		pmax			
	comp=E,2.0nm,0.8s								
MNK				pmax		pmax			
	comp=Z,15nm,0.8s								
MNK				pmax		pmax			
	comp=N,13nm,0.8s								
MNK				MLR		MLR			
	comp=E,59nm,18.0s								
MNK				MLR		MLR			
	comp=Z,428nm,18.0s								
MNK				MLR		MLR			
	comp=N,605nm,18.0s								
SMRA	**Abu-Samra**	72.48	288	P		P	02 59 23.3	-0.3	
NSS	**Namsos**	72.52	338	*e*P		P	02 59 24.2	+1.1	
DMTO	**DMTO**	72.66	280	P		P	02 59 24.3	-0.4	
NACGM	**Naroch**	72.67	325	*e*P		P	02 59 22.8	-1.4	
	comp=Z,26nm,0.9s,baz=56								
DOK	**Doka**	72.87	281	P		P	02 59 25.9	-0.1	
SLIT	**Slitere, Latvi**	73.12	329	*e*P		P	02 59 26.3	-0.5	
RBK	**Rab

comp=Z,40nm,0.9s
MILM eL L 03 35 15.0
MILM LRM MLR 03 35 40.0
comp=Z,650nm,16.5s
MILM Milestii Mici 76.15 317 ⇓P P **02 59 44.2 -0.3**
MILM Milestii Mici 76.15 317 ⇓P P **02 59 44.2 -0.3**
E09A Wood Farm, Sta 76.22 43 IAmb IAmb 03 00 01.2
comp=Z,48nm,1.4s
ILGA Ilgaz 76.47 310 P P **02 59 46.2 -0.7**
ILGA IAmb IAmb 03 00 02.2
comp=Z,33nm,0.8s
RAO Raoul Island 76.66 139 LR LR 03 28 15.3
comp=Z,59nm,20.4s,baz=154,slow=32
K05A Summer Lake 76.72 47 IAmb IAmb 03 00 05.0
comp=Z,44nm,1.2s
WALA Waterton Lakes 77.05 39 IAmb IAmb 03 00 05.7
comp=Z,29nm,1.4s
VLDR Vladesti 77.18 317 ⇑P P **02 59 50.7 +0.3**
BR131 Keskin Array S 77.25 309 IAmb IAmb 03 00 05.8
comp=Z,20nm,1.1s
BRTR Keskin Array B 77.25 309 P P **02 59 50.8 -0.3**
comp=Z,5.1nm,0.8s,baz=96,slow=2.9,SNR=20
BRTR pP **pP 03 00 04.0 -0.9**
comp=Z,8.3nm,0.9s,baz=105,slow=4.2,SNR=10.0
BRTR LR LR 03 37 39.1
comp=Z,164nm,20.7s,baz=58,slow=39
comp=Z,5.1nm,0.8s
BRTR Keskin Array B 77.25 309 *ce*P P **02 59 51.0 -0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
RAYN Ar Rayn 77.29 290 P P **02 59 51.4 0.0**
RAYN Ar Rayn 77.29 290 *i* P P **02 59 51.9 +0.5**
SNR=20
RAYN Ar Rayn 77.29 290 P P **02 59 51.3 -0.2**
RAYN pmax pmax
comp=Z,31nm,1.1s
CFR Carcaliu 77.53 316 ⇑P P **02 59 52.4 0.0**
CFR Carcaliu 77.53 316 ⇑P P **02 59 52.4 0.0**
TPGR Topolog 77.56 316 ⇓P P **02 59 52.5 -0.1**
TESR Tescani 77.60 318 ⇓P P **02 59 52.7 0.0**
BMO Blue Mountains 77.65 44 IAmb IAmb 03 00 10.3
comp=Z,79nm,2.0s
PANC Panciu 77.69 317 ⇓P P **02 59 54.3 +1.0**
ANTO Ankara 77.71 310 P P **02 59 52.4 -1.2**
ANTO Ankara 77.71 310 P P **02 59 53.6 0.0**
ANTO Ankara 77.71 310 P P **02 59 52.4 -1.2**
ANTO pmax pmax
comp=Z,10.0nm,0.9s
BURAR Bucovina Array 77.72 319 ⇓P P **02 59 53.5 -0.1**
BURAR Bucovina Array 77.72 319 P P **02 59 53.3 -0.3**
BURAR Bucovina Array 77.72 319 ⇓P P **02 59 53.5 -0.1**
ODBI Odobesti 77.81 317 ⇓P P **02 59 55.5 +1.6**
J08A Circle Bar Ran 77.83 46 IAmb IAmb 03 00 10.8
comp=Z,17nm,0.8s
VRI Vrincioaia 77.93 317 ⇑P P **02 59 56.1 +1.5**
VRI Vrincioaia 77.93 317 ⇑P P **02 59 56.1 +1.5**
PLOR Plostina 77.99 317 ⇓P P **02 59 56.8 +1.8**
PLOR Plostina 77.99 317 ⇓P P **02 59 56.8 +1.8**
WVOR Wild Horse Val 78.26 47 IAmb IAmb 03 00 13.1
comp=Z,23nm,1.2s
PLID Pearl Lake 78.27 43 P P **02 59 56.5 -0.3**
OZUR 78.32 318 ⇓P P **02 59 57.8 +0.9**
ICOR Ion Corvin 78.35 316 ⇑P P **02 59 57.4 +0.5**
MSO Missoula 78.38 41 P P **02 59 56.6 -0.6**
baz=307
KOLS Kolonicke sedl 78.47 322 *e*P P **02 59 56.3 -1.3**
KOLS Kolonicke sedl 78.47 322 *e*P P **02 59 56.3 -1.3**
MLR Muntele Rosu 78.60 317 ⇓P P **02 59 58.2 -0.3**
MLR Muntele Rosu 78.60 317 LR LR 03 37 38.7
comp=Z,593nm,18.9s,baz=60,slow=38
MLR Muntele Rosu 78.60 317 ⇓P P **02 59 58.2 -0.3**
DOPR Dopca 78.62 318 ⇓P P **02 59 59.6 +1.1**
STHS Stebnicka Huta 78.69 323 *e*P P **02 59 59.3 +0.5**
STHS Stebnicka Huta 78.69 323 *e*P P **02 59 59.3 +0.5**
STHS pmax pmax
comp=Z,5.0nm,0.8s
TRPA Tarpa 78.83 321 ⇑P P **03 00 00.1 +0.6**
OJC Ojcow 78.90 324 *e*P P **02 59 57.0 -2.9**
CRVS Cervenica-Dubn 78.91 322 *e*P P **03 00 00.3 +0.3**
CRVS Cervenica-Dubn 78.91 322 *e*P P **03 00 00.3 +0.3**
FFC Flin Flon 78.98 30 P P **03 00 00.1 -0.1**
FFC Flin Flon 78.98 30 P P **03 00 00.1 -0.1**
FFC pmax pmax
comp=Z,16nm,1.1s
ASF Jabal al Asfar 79.16 301 LR LR 03 38 31.7
comp=Z,154nm,21.6s,baz=85,slow=38
BORA Eskisehir 79.19 311 P P **03 00 00.9 -0.9**
PAHR Pah Rah Range 79.37 49 IAmb IAmb 03 00 18.9
comp=Z,23nm,1.0s
ARR Arges 79.41 318 ⇑P P **03 00 04.0 +1.2**
SFJD Kangerlussuaq 79.42 2 LR LR 03 34 59.3
comp=Z,156nm,21.8s,baz=342,slow=36
MMAI Mount Meron Ar 79.75 303 LR LR 03 40 26.4
comp=Z,93nm,18.0s,baz=273,slow=40
EGMT Eagleton 79.86 38 IAmb IAmb 03 00 26.1
comp=Z,43nm,1.1s
EGMT Eagleton 79.86 38 P P **03 00 04.6 -0.6**
baz=310
YERR Yerington 79.87 50 IAmb IAmb 03 00 21.9
comp=Z,25nm,1.0s
HLID Hailey 80.09 44 P P **03 00 07.0 +0.3**
baz=308,SNR=5.4
KSP Ksiaz 80.17 326 *e*P P **03 00 07.6 +0.9**
MORC Moravsky Berou 80.29 324 ⇑P P **03 00 08.1 +0.6**
MORC Moravsky Berou 80.29 324 *e*P P **03 00 08.1 +0.6**
MORC Moravsky Berou 80.29 324 ⇑P P **03 00 08.1 +0.6**
PSZ Piszkesteto 80.34 322 ⇑P P **03 00 09.2 +1.4**
PSZ Piszkesteto 80.34 322 P P **03 00 07.9 +0.1**
PSZ Piszkesteto 80.34 322 P P **03 00 08.6 +0.7**
PSZ Piszkesteto 80.34 322 ⇑P P **03 00 09.2 +1.4**
BOZ Bozeman (W) 80.40 41 P P **03 00 07.9 -0.4**
baz=309
GZR Gura Zlata 80.42 319 ⇑P P **03 00 08.8 +0.5**
GZR Gura Zlata 80.42 319 ⇑P P **03 00 08.8 +0.5**
KRLC Kraliky 80.46 325 *e*P P **03 00 08.8 +0.4**
KRLC Kraliky 80.46 325 *e*P P **03 00 08.8 +0.4**
DPC Dobruska-Polom 80.49 325 *e*P P **03 00 09.5 +0.9**
DPC *ep*P **pP 03 00 23.0 +0.7**
DPC Dobruska-Polom 80.49 325 *e*P P **03 00 09.5 +0.9**
DPC *e**PP **pP 03 00 23.0 +0.7**
VYHS Vyhne 80.50 323 *e*P P **03 00 09.5 +0.9**
VYHS Vyhne 80.50 323 *e*P P **03 00 09.5 +0.9**
VYHS pmax pmax
comp=Z,17nm,1.4s
RYN Ryan 80.54 50 P P **03 00 09.4 +0.2**
SURR Surduc 80.55 319 ⇓P P **03 00 09.0 +0.1**
KVN Kaiserville 80.56 49 IAmb IAmb 03 00 25.7
comp=Z,30nm,1.0s
PLVB Pleven 80.63 316 ⇓P P **03 00 10.1 +0.7**
NVAR Mina Array Bea 80.79 50 P P **03 00 12.1 +1.4**
comp=Z,3.4nm,0.7s,baz=292,slow=4.8,SNR=13
NVAR pP **pP 03 00 25.2 +0.6**
comp=Z,11nm,0.9s,baz=287,slow=5.2,SNR=12
comp=Z,3.4nm,0.7s
BZS Buzias 80.91 319 ⇓P P **03 00 10.8 0.0**
BZS Buzias 80.91 319 ⇓P P **03 00 10.8 0.0**
FRB Frobisher Bay 80.93 11 LR LR 03 41 30.2
comp=Z,116nm,18.0s,baz=350,slow=40
VRAC Vranov 81.06 325 ⇓P P **03 00 11.5 -0.1**
VRAC Vranov 81.06 325 LR LR 03 39 08.3
comp=Z,496nm,19.6s,baz=52,slow=38
VRAC Vranov 81.06 325 *e*P P **03 00 12.4 +0.8**
VRAC Vranov 81.06 325 ⇓P P **03 00 11.5 -0.1**
PVCC Panska Ves 81.19 326 *e*P P **03 00 13.0 +0.8**
PVCC Panska Ves 81.19 326 *e*P P **03 00 13.0 +0.8**
SMOL Smolenice 81.19 324 *e*P P **03 00 13.9 +1.6**
SMOL pmax pmax
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 81.23 327 *e*P P **03 00 12.9 +0.5**
BRG Amp 03 00 13.8
comp=Z,13nm,1.1s
BRG pP **pP 03 00 26.5 +0.3**
BRG Amp 03 00 27.3
comp=Z,9.7nm,1.1s
BRG Berggiesshubel 81.23 327 *e*P P **03 00 12.9 +0.5**
BRG 03 00 26.4
BRG pmax pmax
comp=Z,13nm,1.2s
BRG pmax pmax
comp=Z,10.0nm,1.1s
ELK Elko 81.31 47 P P **03 00 15.0 +1.6**
KRUC Moravsky 81.33 324 *e*P P **03 00 13.6 +0.6**
CLL Collm 81.35 328 P P **03 00 12.6 -0.4**
CLL IAmb IAmb 03 00 14.6
comp=Z,31nm,1.0s
CLL Collm 81.35 328 ⇑ *i*P P **03 00 13.2 +0.1**
comp=Z,31nm,1.0s
CLL *i* pP **pP 03 00 26.1 -0.7**
comp=Z,32nm,1.0s
CLL L L 03 40 00.0
comp=Z,300nm,20.8s
CLL Collm 81.35 328 ⇑ *i*P P **03 00 13.2 +0.1**
CLL *i* 03 00 26.1
CLL pmax pmax
comp=Z,31nm,1.0s
MODS Modra-Piesok 81.36 324 *e*P P **03 00 14.3 +1.1**
MODS Modra-Piesok 81.36 324 *e*P P **03 00 14.3 +1.1**
ZST Bratislava 81.56 323 *e*P P **03 00 15.7 +1.5**
ZST Bratislava 81.56 323 *e*P P **03 00 15.7 +1.5**
PRU Pruhonice 81.57 326 *e*P P **03 00 14.8 +0.5**
PRU *ep*P **pP 03 00 28.8 +0.7**
PRU Pruhonice 81.57 326 *e*P P **03 00 14.8 +0.5**
PRU *e**PP **pP 03 00 28.8 +0.7**
TREC Trest 81.60 325 *e*P P **03 00 15.3 +0.8**
TREC *ep*P **pP 03 00 28.2 -0.1**
TREC AMS AMS 03 39 00.0
comp=Z,700nm,19.2s
TREC Trest 81.60 325 *e*P P **03 00 15.3 +0.8**
TREC *e**PP **pP 03 00 28.2 -0.1**
TREC MLR MLR
comp=Z,700nm,19.2s
H17A Grant Village 81.74 41 IAmb IAmb 03 00 35.5
comp=Z,49nm,1.4s
H17A Grant Village 81.74 41 P P **03 00 13.8 -1.8**
baz=310
VES Vestal, Richgr 81.80 52 P P **03 00 14.7 -1.0**
baz=306
PKM Mcpherson Peak 81.87 53 P P **03 00 15.3 -1.0**
baz=306
LCH Last Change Ra 81.92 50 P P **03 00 17.0 +0.4**
EIL Elat 81.94 300 LR LR 03 42 25.7
comp=Z,134nm,18.9s,baz=60,slow=40
RLMT Red Lodge 81.98 40 P P **03 00 16.3 -0.5**
baz=311
MORH Mrgy, Hungar 82.10 321 ⇑P P **03 00 17.2 +0.1**
MORH Mrgy, Hungar 82.10 321 P P **03 00 17.3 +0.3**
CWC Cottonwood Cre 82.11 51 P P **03 00 16.4 -1.1**
baz=306
HVU Hansel Valley 82.14 45 IAmb IAmb 03 00 34.3
comp=Z,15nm,0.8s
SOP Sopron 82.18 323 P P **03 00 17.7 +0.2**
SNOW Snow King Moun 82.24 42 P P **03 00 19.4 +1.2**
GRAC Grapevine Rang 82.24 51 IAmb IAmb 03 00 34.5
comp=Z,22nm,1.0s
GRAC Grapevine Rang 82.24 51 P P **03 00 17.4 -0.6**
baz=307
RONA Rosalia, Austr 82.30 323 *e*P P **03 00 19.4 +1.2**
comp=Z,14nm,0.9s,SNR=5.5
RONA *e*P **pP 03 00 32.3 +0.2**
comp=Z,11nm,0.9s
ISA Isabella, Lake 82.31 52 P P **03 00 18.2 -0.3**
baz=306
DGMT Dagmar 82.33 35 P P **03 00 18.8 +0.4**
baz=314
CONA Conrad Observa 82.36 324 *e*P P **03 00 19.8 +1.3**
comp=Z,18nm,1.2s,SNR=8.0
CONA *e*P **pP 03 00 32.5 +0.1**
comp=Z,14nm,0.9s
NKC Novy Kostel 82.36 327 *e*P P **03 00 19.4 +1.0**
NKC Novy Kostel 82.36 327 *e*P P **03 00 19.4 +1.0**
RAR Rarotonga 82.40 122 LR LR 03 29 00.7
comp=Z,164nm,21.9s,baz=294,slow=30
KOVH Kovagotottos 82.47 321 P P **03 00 18.1 -1.0**
CKRC Cesky Krumlov 82.49 325 *e*P P **03 00 19.7 +0.6**
LAO LASA Array 82.54 38 P P **03 00 19.5 0.0**
baz=312
R11A Troy Canyon, C 82.56 49 IAmb IAmb 03 00 36.3
comp=Z,21nm,1.1s
R11A Troy Canyon, C 82.56 49 P P **03 00 20.1 +0.3**
baz=308
KHC Kasperske Hory 82.62 326 IAmb IAmb 03 00 21.3
comp=Z,20nm,1.0s
KHC Kasperske Hory 82.62 326 *e*P P **03 00 19.7 -0.1**
KHC *ep*P **pP 03 00 33.1 -0.6**
KHC Kasperske Hory 82.62 326 *e*P P **03 00 19.7 -0.1**
KHC *e**PP **pP 03 00 33.1 -0.6**
MPMC Manual Prospec 82.72 51 P P **03 00 20.5 -0.3**
baz=307,SNR=6.1
GERES GERESS Array B 82.76 326 P P **03 00 20.3 -0.3**
comp=Z,6.6nm,0.8s,baz=49,slow=4.1,SNR=46
GERES LR LR 03 40 21.3
comp=Z,376nm,20.1s,baz=59,slow=38
comp=Z,6.6nm,0.8s
GERES GERESS Array B 82.76 326 P P **03 00 20.0 -0.6**
WCT Wildcat Mounta 82.84 50 IAmb IAmb 03 00 37.5
comp=Z,28nm,1.4s
FURC Furnace Creek, 82.88 51 P P **03 00 21.9 +0.6**
baz=307
SPR3 Spring Creek 3 82.93 47 IAmb IAmb 03 00 39.9
comp=Z,55nm,1.7s
LRMC Laurel Mtn Rad 82.94 52 P P **03 00 21.9 0.0**
baz=307
HWUT Hardware Ranch 82.95 44 IAmb IAmb 03 00 38.5
comp=Z,33nm,1.2s
TPNV Topopah Spring 82.98 50 P P **03 00 22.1 0.0**
TPNV IAmb IAmb 03 00 38.3
comp=Z,26nm,0.9s
TPNV Topopah Spring 82.98 50 P P **03 00 22.4 +0.3**
baz=307,SNR=5.8
TPNV Topopah Spring 82.98 50 P P **03 00 22.1 0.0**
TPNV pmax pmax
comp=Z,26nm,0.9s
ARSA Arzberg 82.99 324 *i* P P **03 00 22.2 +0.5**
comp=Z,8.2nm,0.8s
ARSA *e*P **pP 03 00 35.2 -0.4**
comp=Z,16nm,1.1s
EDW2 Edwards Air Fo 83.08 53 P P **03 00 22.9 +0.4**
baz=307,SNR=6.1
DUG Dugway, Tooele 83.11 46 IAmb IAmb 03 00 39.3
comp=Z,22nm,0.9s
DUG Dugway, Tooele 83.11 46 P P **03 00 23.4 +0.7**
baz=309
GWY Greenwater Val 83.17 51 IAmb IAmb 03 00 39.1
comp=Z,22nm,0.9s
MOA Molln 83.19 325 *i* P P **03 00 23.6 +0.8**
comp=Z,15nm,1.0s
MOA *i* P **pP 03 00 36.7 +0.1**
comp=Z,16nm,0.9s
GRFO Grafenberg 83.31 327 P P **03 00 24.0 +0.7**
GRFO Grafenberg 83.31 327 P P **03 00 24.0 +0.7**
GRFO pmax pmax
comp=Z,59nm,1.0s
BW06 Boulder Array 83.35 42 P P **03 00 23.8 -0.3**
baz=311
PDAR Pinedale Array 83.35 42 P P **03 00 24.3 +0.3**
comp=Z,1.7nm,0.7s,baz=300,slow=1.5,SNR=15
comp=Z,1.7nm,0.7s
TCUT Toone Canyon 83.36 44 IAmb IAmb 03 00 40.6
comp=Z,26nm,0.8s
PSUT Pine Spring 83.51 48 IAmb IAmb 03 00 41.2
comp=Z,18nm,1.0s
SHOC Shoshone, Teco 83.60 51 P P **03 00 24.1 -1.1**
baz=307
BIOA Bad Ischl, Aus 83.60 325 *e*P P **03 00 25.5 +0.6**
comp=Z,29nm,1.2s,SNR=7.4
BIOA *e*P **pP 03 00 38.4 -0.4**
comp=Z,26nm,0.9s
GSC Goldstone, Bar 83.61 52 IAmb IAmb 03 00 41.3
comp=Z,19nm,1.1s
GSC Goldstone, Bar 83.61 52 P P **03 00 23.9 -1.4**
baz=307
SOKA Soboth 83.63 323 *e*P P **03 00 25.8 +0.7**
comp=Z,47nm,1.0s,SNR=13
SOKA *i* P **pP 03 00 38.6 -0.4**
comp=Z,43nm,0.9s
JLU Jordanelle 83.66 45 P P **03 00 26.3 +0.6**
BFSC Mount Baldy Ra 83.69 53 P P **03 00 25.4 -0.4**
baz=307
SHPR Sheep Range 83.95 50 P P **03 00 27.5 +0.4**
OBKA Obir 83.98 323 *e*P P **03 00 27.0 0.0**
comp=Z,6.3nm,0.8s
TUQ Turquoise Moun 84.11 51 P P **03 00 27.4 -0.4**
baz=308
KBA Koelnbreinsper 84.18 324 *i* P P **03 00 27.8 -0.2**
comp=Z,11nm,0.8s
HEC Hector,Ludlow 84.21 52 P P **03 00 27.6 -0.7**
baz=308
PDG Podgorica 84.27 318 ⇑P P **03 00 29.0 +0.6**
PDG Podgorica 84.27 318 IAmb IAmb 03 00 45.9
comp=Z,30nm,1.0s
MYKA Terra Mystica 84.35 324 *e*P P **03 00 28.5 -0.3**
comp=Z,11nm,0.9s
MURC Murrieta 84.38 53 P P **03 00 28.5 -0.6**
baz=307
EKA Eskdalemuir Ar 84.42 338 LR LR 03 44 01.6
comp=Z,136nm,18.1s,baz=38,slow=40
KBN Korca 84.59 316 IAmb IAmb 03 00 31.5
comp=Z,42nm,1.3s
V12A Nelson 84.62 50 P P **03 00 30.9 +0.5**
TMUT Trail Mountain 84.64 46 IAmb IAmb 03 00 47.2
comp=Z,28nm,1.6s
GMRC Granite Mounta 84.67 51 P P **03 00 29.9 -0.9**
baz=308,SNR=5.6
RDMU Red Mountain 84.78 44 IAmb IAmb 03 00 47.7
comp=Z,30nm,1.0s
ULM Lac du Bonnet 84.80 30 P P **03 00 30.0 -0.9**
comp=Z,9.6nm,1.0s,baz=270,slow=6.1,SNR=3.6
comp=Z,9.6nm,1.0s
ULM Lac du Bonnet 84.80 30 P P **03 00 29.6 -1.3**
ULM IAmb IAmb 03 00 48.5
comp=Z,31nm,1.1s
ABTA Abfaltersbach 84.81 325 *e*P P **03 00 30.3 -0.8**
comp=Z,16nm,1.1s,SNR=5.4
ABTA *e*P **pP 03 00 43.8 -1.3**
comp=Z,15nm,0.8s
BTNL Ternell 84.83 330 *d*P P **03 00 30.1 -1.0**
WATA Walderalm 84.84 325 *e*P P **03 00 31.1 -0.3**
comp=Z,8.4nm,0.6s
WATA *e*P **pP 03 00 44.3 -1.0**
comp=Z,14nm,0.9s
LCMT Little Creek M 84.84 48 IAmb IAmb 03 00 50.3
comp=Z,18nm,1.0s
MTPU Mount Pierson 84.85 47 IAmb IAmb 03 00 49.0
comp=Z,28nm,1.0s
PFO Pinyon Flats O 84.86 53 P P **03 00 31.6 -0.1**
PFO IAmb IAmb 03 00 47.5
comp=Z,23nm,1.0s
PFO Pinyon Flats O 84.86 53 P P **03 00 31.5 -0.1**
baz=308,SNR=6.7
PFO Pinyon Flats O 84.86 53 P P **03 00 31.6 -0.1**
PFO pmax pmax
comp=Z,23nm,1.0s
WTTA Wattenberg 84.86 325 *i* P P **03 00 31.5 0.0**
comp=Z,18nm,1.3s
WTTA *e*P **pP 03 00 44.8 -0.6**
comp=Z,19nm,0.9s
MEM Membach 84.87 330 *d*P P **03 00 32.9 +1.7**
TPFO Pinon Flats 84.87 53 P P **03 00 31.8 0.0**
baz=308,SNR=6.9
PMD Palm Desert 84.89 53 IAmb IAmb 03 00 47.4
comp=Z,18nm,0.9s
Q16A Castle Valley 84.90 46 IAmb IAmb 03 00 48.7
comp=Z,24nm,1.0s
BELC Belle Mtn. Jos 84.93 52 P P **03 00 31.9 -0.2**
baz=308
MDND Maddock 84.94 34 P P **03 00 31.9 +0.2**
baz=317
MOTA Moosalm 85.06 326 *e*P P **03 00 32.2 -0.2**
comp=Z,13nm,1.1s
MOTA *e*P **pP 03 00 46.5 +0.2**
comp=Z,12nm,1.0s
STAL STALIGIAL 85.06 324 IAmb IAmb 03 00 47.7
comp=Z,26nm,0.9s
SQTA Sankt Quirin 85.09 326 *e*P P **03 00 32.7 +0.1**
comp=Z,9.0nm,0.8s
SQTA *e*P **pP 03 00 46.8 +0.3**
comp=Z,12nm,0.8s
RETA Reutte 85.11 326 *i* P P **03 00 33.1 +0.5**
comp=Z,21nm,1.0s,SNR=5.5
RETA *e*P **pP 03 00 46.0 -0.5**
comp=Z,23nm,1.0s
CIMO Cimolais 85.16 324 IAmb IAmb 03 00 46.1
comp=Z,15nm,0.9s
BCLA Clavier 85.30 331 *d*P P **03 00 33.1 -0.3**
MONP2 Monument Peak 85.32 53 P P **03 00 32.8 -1.3**
baz=308,SNR=5.5
IRM Iron Mountain 85.39 52 P P **03 00 33.5 -0.8**
baz=308
BGES Gesves 85.42 331 *d*pP pP 03 00 46.0 -1.8
RSSD Black Hills 85.42 39 P P **03 00 33.7 -0.8**
baz=314
FETA Feichten 85.47 326 *i* P P **03 00 34.1 -0.4**
comp=Z,17nm,1.0s
FETA *e*P **pP 03 00 47.7 -0.7**
comp=Z,24nm,1.0s
IDI Anoyia 85.48 310 LR LR 03 44 20.1
comp=Z,58nm,19.4s,baz=78,slow=40
BC3 Big Chuckawall 85.50 52 P P **03 00 34.9 0.0**
baz=308
WLF Walferdange 85.53 330 *d*P P **03 00 34.5 -0.1**
RCHB Rochefort 85.54 330 *d*P P **03 00 34.0 -0.6**
BFO Black Forest 85.60 328 P P **03 00 35.0 0.0**
BFO Black Forest 85.60 328 P P **03 00 35.0 0.0**
BFO pmax pmax
comp=Z,47nm,1.3s
BMRD Maredsous 85.61 331 *d*P P **03 00 34.6 -0.3**
BMRD *dp*P **pP 03 00 47.9 -0.9**
DAVA Damuels 85.67 326 *e*P P **03 00 35.5 0.0**
comp=Z,37nm,1.1s,SNR=9.4
DAVA *e*P **pP 03 00 48.7 -0.7**
comp=Z,49nm,1.1s
IKP In-Ko-Pah, Jac 85.68 53 P P **03 00 35.5 -0.2**
baz=308,SNR=5.1
SWSC Sam W. Stewart 85.70 53 P P **03 00 35.3 -0.4**
baz=308
RMX La Rumorosa 85.73 53 P P **03 00 36.8 +0.7**
RMX IAmb IAmb 03 00 55.0
comp=Z,17nm,1.1s
CTI Castel Tesino 85.73 325 IAmb IAmb 03 00 49.3
comp=Z,16nm,0.9s
U15A North Rim 85.80 48 IAmb IAmb 03 00 54.2
comp=Z,27nm,1.2s
O20A White River Ci 85.83 44 IAmb IAmb 03 00 52.5
comp=Z,19nm,1.1s
O20A White River Ci 85.83 44 P P **03 00 35.0 -1.5**
baz=312
PDMCI Parker Dam,Lak 85.96 51 P P **03 00 36.5 -0.5**
baz=309
DAVOX Davos/Dischmat 86.04 326 LR LR 03 43 57.3
comp=Z,343nm,18.9s,baz=48,slow=39
ECH Echery 86.20 328 IAmb IAmb 03 00 55.6
comp=Z,21nm,1.2s
GLA Glamis 86.28 52 P P **03 00 37.9 -0.8**
baz=308
PV21 Cone Mtn., Par 86.44 45 P P **03 00 40.2 +0.6**
TUE Stuetta 86.51 326 P P **03 00 40.2 +0.4**
N23A Red Feather La 86.61 42 P P **03 00 39.6 -0.8**
baz=313
WUAZ Wupatki 86.95 49 P P **03 00 41.9 -0.1**
WUAZ IAmb IAmb 03 00 59.2
comp=Z,14nm,1.1s
WUAZ Wupatki 86.95 49 P P **03 00 40.7 -1.4**
baz=310
SMCO Snowmass 87.19 44 P P **03 00 43.9 +0.4**
SMCO IAmb IAmb 03 01 00.1
comp=Z,12nm,1.1s
PMOR Pomariorio Ree 87.50 110 *e*T T 04 37 02.8
comp=Z,13nm,0.2s
MVCO Mesa Verde 87.61 46 IAmb IAmb 03 01 01.9
comp=Z,17nm,1.2s
MVCO Mesa Verde 87.61 46 P P **03 00 44.3 -1.0**
baz=312
PPT Papeete 87.70 113 LR LR 03 36 04.5
comp=Z,68nm,18.3s,baz=304,slow=33
PPT2 Papeete2 87.71 113 *e*LR LR 03 28 40.5
comp=Z,287nm,25.5s
PPT2 *e*LR LR 03 28 40.6
comp=Z,371nm,25.2s
S22A 4UR Ranch, Cre 88.24 45 P P **03 00 47.6 -0.7**
baz=313
214A Organ Pipe Nat 88.30 52 P P **03 00 47.1 -1.3**
baz=310
Q24A Divide 88.38 43 P P **03 00 45.8 -3.3**
baz=314
BNI Bardonecchia 88.81 326 IAmb IAmb 03 00 51.5
comp=Z,32nm,1.7s
SDCO Great Sand Dun 89.01 44 P P **03 00 50.9 -1.1**
baz=313
ECSD EROS Data Cent 89.40 35 P P **03 00 53.1 -0.2**
baz=319
SCHQ Schefferville 89.67 13 LR LR 03 44 27.1
comp=Z,272nm,20.0s,baz=4.0,slow=38
KSCO Kaye Shedlock' 89.75 41 P P **03 00 54.8 -0.5**
baz=315
T25A Trinidad 90.06 44 P P **03 00 55.6 -1.2**
baz=314
TAOE Nuku Hiva Isla 90.23 100 *e*LR LR 03 29 50.8
comp=Z,480nm,26.2s

ANMO	**Albuquerque**	**90.35**	**46**	P		**P**	**03 00 59.1**	**+0.9**	
	comp=Z,1.6nm,0.8s,baz=288,slow=3.2,SNR=7.9								
ANMO				pP		**pP**	**03 01 14.3**	**+2.0**	
	comp=Z,3.6nm,0.9s,baz=221,slow=2.0,SNR=5.5								
ANMO				LR		LR	03 40 31.1		
	comp=Z,82nm,19.4s,baz=337,slow=35								
	comp=Z,1.6nm,0.8s								
ANMO	**Albuquerque**	**90.35**	**46**	P		**P**	**03 00 57.8**	**-0.4**	
	baz=313								
ANMO	**Albuquerque**	**90.35**	**46**	*ce*P		**P**	**03 00 56.7**	**-1.5**	
ANMO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
121A	**Cookes Peak, D**	**91.16**	**49**	P		**P**	**03 01 00.8**	**-1.1**	
	baz=312								
TBI	**Tubuai**	**91.20**	**117**	*e*LR		LR	03 30 17.0		
	comp=Z,1μm,25.2s								
TBI				*e*LR		LR	03 30 17.0		
	comp=Z,4μm,25.8s								
TBI	**Tubuai**	**91.20**	**117**	*e*T		T	04 41 48.0		
	comp=Z,4.5nm,0.2s								
SCIA	**State Center**	**92.40**	**34**	P		**P**	**03 01 05.8**	**-1.5**	
	baz=321								
AMTX	**Amarillo**	**93.22**	**44**	P		**P**	**03 01 09.6**	**-1.7**	
	baz=316								
MSTX	**Muleshoe**	**93.23**	**45**	P		**P**	**03 01 09.3**	**-2.1**	
	baz=315								
GLMI	**Grayling**	**93.69**	**27**	P		**P**	**03 01 11.0**	**-2.2**	
	baz=328								
KEST	**Kesra**	**94.45**	**319**	LR		LR	03 48 22.8		
	comp=Z,182nm,18.4s,baz=308,slow=38								
L44A	**Lake County Fo**	**94.56**	**31**	P		**P**	**03 01 16.2**	**-1.0**	
	baz=325								
WMOK	**Wichita Mounta**	**94.97**	**42**	P		**P**	**03 01 17.0**	**-2.3**	
	baz=318								
LPIG	**La Paz**	**95.01**	**57**	LR		LR	03 34 54.9		
	comp=Z,70nm,21.4s,baz=275,slow=30								
SADO	**Sadowa**	**95.72**	**24**	LR		LR	03 48 13.1		
	comp=Z,123nm,18.6s,baz=3.5,slow=38								
TX31	**Lajitas Ar. Si**	**95.92**	**49**	P		**P**	**03 01 23.6**	**-0.2**	
TX32	**Lajitas Array**	**95.92**	**49**	IAmb		IAmb	03 01 40.2		
	comp=Z,15nm,1.3s								
TXAR	**Lajitas Array**	**95.92**	**49**	P		**P**	**03 01 24.1**	**+0.3**	
	comp=Z,1.1nm,0.8s,baz=325,slow=4.4,SNR=6.5								
TXAR				pP		**pP**	**03 01 39.1**	**+1.2**	
	comp=Z,5.0nm,0.8s,baz=284,slow=3.6,SNR=12								
TXAR				LR		LR	03 39 03.8		
	comp=Z,110nm,21.8s,baz=274,slow=32								
	comp=Z,1.1nm,0.8s								
HPIG		**96.28**	**52**	P		**P**	**03 01 26.1**	**+0.5**	
HPIG				IAmb		IAmb	03 01 42.2		
	comp=Z,10nm,1.1s								
KMBO	**Kilima Mbogo**	**97.46**	**274**	P		**P**	**03 01 30.6**	**-0.6**	
	comp=Z,0.7nm,0.4s,baz=24,slow=20,SNR=2.6								
KMBO				LR		LR	03 49 24.6		
	comp=Z,67nm,18.2s,baz=91,slow=38								
	comp=Z,0.7nm,0.4s								
ESDC	**Sonseca Array**	**97.83**	**330**	P		**P**	**03 01 31.4**	**-0.8**	
	comp=Z,0.5nm,0.7s,baz=18,slow=4.3,SNR=5.2								
	comp=Z,0.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**115.86**	**309**	PKP		**PKPdf**	**03 06 36.9**	**-2.8**	
	comp=Z,2.0nm,0.5s,baz=53,slow=1.1,SNR=21								
TORD				PP		**PP**	**03 07 42.1**	**-0.8**	
	comp=Z,1.3nm,0.9s,baz=35,slow=5.4,SNR=4.2								
TORD				PKKPbc		**PKKPbc**	**03 17 11.1**	**+1.1**	
	comp=Z,0.3nm,0.5s,baz=242,slow=3.6,SNR=2.0								
BOSA	**Boshof**	**121.12**	**255**	PKP		**PKPdf**	**03 06 47.6**	**-1.9**	
	comp=Z,6.6nm,0.7s,baz=94,slow=2.6,SNR=15								
QSPA	**South Pole Qui**	**123.55**	**180**			**PKPdf**	**03 06 52.8**	**-0.2**	
DBIC	**Dimbokro**	**124.95**	**309**	PKP		**PKPdf**	**03 06 56.1**	**-1.0**	
	comp=Z,7.1nm,0.5s,baz=42,slow=2.0,SNR=16								
TIC	**Toumodi**	**125.07**	**309**	↓*i*PKP1		**PKPdf**	**03 06 57.0**	**-0.5**	
	comp=Z,6.5nm,0.3s								
KIC	**Kosan Boka**	**125.11**	**309**	↑*i*PKP1		**PKPdf**	**03 06 57.3**	**-0.2**	
	comp=Z,8.3nm,0.4s								
LIC	**Lamto**	**125.40**	**309**	↑*i*PKP1		**PKPdf**	**03 06 57.8**	**-0.3**	
	comp=Z,16nm,0.5s								
SDV	**Santo Domingo**	**130.84**	**35**	PKPdf		**PKPdf**	**03 07 08.3**	**-0.3**	
SDV	**Santo Domingo**	**130.84**	**35**	*e*P		**PKPdf**	**03 07 09.0**	**+0.4**	
BELA	**Belgrano 2**	**135.61**	**183**			**PKiKP**	**03 07 16.9**	**-0.1**	
SNAA	**Sanae**	**136.22**	**198**	P		PKPpre	03 07 01.9		
SNAA	**Sanae**	**136.22**	**198**	PKPdf		**PKPdf**	**03 07 16.4**	**-0.4**	
SNAA	**Sanae**	**136.22**	**198**	PKIKP		**PKPdf**	**03 07 16.4**	**-0.4**	
VNA2	**Neumayer--Watz**	**137.83**	**197**	P		PKPpre	03 07 07.6		
	baz=115,slow=3.9								
VNA3	**Neumayer Olymp**	**138.15**	**196**	P		PKPpre	03 07 08.4		
VNA1	**Neumayer--Stat**	**138.23**	**197**	P		PKPpre	03 07 09.4		
SGCB	**S&o Gabriel d**	**140.40**	**37**	*e*P		**PKPdf**	**03 07 26.8**	**+0.6**	
SMAI	**San Martin Ant**	**143.26**	**166**	PKPdf		**PKPdf**	**03 07 29.8**	**+0.2**	
CZSB	**Cruzeiro do Su**	**143.27**	**51**	PKPdf		PKPbc	03 07 28.4	0.0	
NNA	**Nana**	**143.40**	**61**	PKPdf		PKPbc	03 07 28.6	-0.2	
NNA	**Nana**	**143.40**	**61**	PKIKP		PKPbc	03 07 28.6	-0.2	
TEFE	**Tefe**	**144.51**	**36**	*e*P		PKPbc	03 07 32.3	+0.2	
MACA	**Manacapuru-AM**	**145.99**	**30**	PKPbc		**PKPdf**	**03 07 36.3**	**+0.3**	
MACA	**Manacapuru-AM**	**145.99**	**30**	*e*P		**PKPdf**	**03 07 36.1**	**0.0**	
MCPB	**Macapa, AP**	**146.00**	**14**	*e*P		**PKPab**	**03 07 37.9**	**+0.5**	
PMSA	**Palmer Station**	**146.78**	**165**	PKPbc		**PKPab**	**03 07 38.5**	**-0.4**	
PB12	**IPOC Station P**	**152.45**	**63**			**PKPbc**	**03 07 52.8**	**-0.4**	
LPAZ	**La Paz**	**152.52**	**56**	PKP		**PKPdf**	**03 07 46.4**	**-0.8**	
	comp=Z,3.5nm,1.1s,baz=356,slow=4.4,SNR=6.7								
LPAZ				PKPbc		**PKiKP**	**03 07 54.6**	**+0.3**	
	comp=Z,6.2nm,0.9s,baz=11,slow=7.7,SNR=18								
VILB	**Vilhena**	**154.82**	**38**			**PKPbc**	**03 07 56.4**	**-2.0**	
PLCA	**Paso Flores**	**158.21**	**116**	PKPab		**PKPab**	**03 08 25.7**	**-1.9**	
	comp=Z,2.2nm,0.9s,baz=240,slow=8.1,SNR=2.4								
BDFB	**Brasilia**	**161.65**	**11**	PKPab		**PKPab**	**03 08 42.2**	**-0.8**	
	comp=Z,2.4nm,0.7s,baz=328,slow=13,SNR=1.8								

*JMA **19** 02:48:02.0±0.3,24°N±1°×121°9E±0°.8, h63km±2km,*
TAIWAN REGION
*TAP **19** 02:48:04.4, 24°.36N×121°.93E, h28km, ML2.8, B*
ISC 19 02:48:04.7±0.9,24°.35N±0°.02×121°.95E±0°.02, h28km±6km, n70, σ0s73/111, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EWUT	**Wuta**	**0.18**	**301**	*e*P		**Pb**	**02 48 08.9**	**-1.5**
	baz=301							
EHP	**Heping Village**	**0.19**	**258**	*e*P		**Pb**	**02 48 10.3**	**-0.3**
	baz=251							
ENA	**Nanau**	**0.20**	**292**	*i* P		**Pb**	**02 48 10.6**	**-0.1**
	baz=291							
ENA				*i* S		**Sb**	**02 48 15.0**	**+0.2**
	baz=291							
TWC	**Suao**	**0.27**	**341**	*i* P		**Pb**	**02 48 11.5**	**-0.1**
	baz=345							
TWC				*i* S		**Sb**	**02 48 16.6**	**+0.3**
	baz=345							
ETL	**Fush Village**	**0.35**	**237**	P		**Pb**	**02 48 12.3**	**-0.4**
	baz=233							
ETL				*e*S		**Sn**	**02 48 20.1**	**0.0**
	baz=233							
NACB	**Ninganchiao**	**0.37**	**241**	P		**Pb**	**02 48 12.3**	**-0.6**
NACB	**Ninganchiao**	**0.37**	**241**	P		**Pb**	**02 48 12.3**	**-0.6**
	baz=238							
NACB				S		**Sb**	**02 48 19.7**	**+1.1**
	baz=238							
TWD	**Chiawan**	**0.42**	**230**	*i* P		**Pb**	**02 48 13.4**	**-0.4**
	baz=226							
TWD				*i* S		**Sn**	**02 48 21.4**	**-0.4**
	baz=226							
LATG	**Datong**	**0.43**	**296**	P		**Pb**	**02 48 13.5**	**-0.5**
	baz=295							
LATG				S		**Sn**	**02 48 21.6**	**-0.5**
	baz=295							
TWE	**Neicheng**	**0.45**	**325**	*i* P		**Pb**	**02 48 14.0**	**-0.2**
	baz=327							
TWE				*i* S		**Sb**	**02 48 21.3**	**+0.6**
	baz=327							
ETLH	**Xiulin Townshi**	**0.45**	**251**	P		**Pb**	**02 48 14.0**	**-0.3**
	baz=249							
ETLH				*e*S		**Sb**	**02 48 21.3**	**+0.5**
	baz=249							
ILA	**Ilan**	**0.45**	**336**	S		**Sb**	**02 48 22.0**	**+1.3**
	baz=338							
ENTT	**Nioudou**	**0.45**	**310**	*i* P		**Pb**	**02 48 12.9**	**-1.4**
	baz=310							
ENTT				*i* S		**Sb**	**02 48 20.6**	**-0.2**
	baz=310							
NDT	**Datong Townshi**	**0.47**	**302**	*e*P		**Pb**	**02 48 13.1**	**-1.5**
	baz=302							
HWA	**Hwalien**	**0.49**	**220**	*e*P		**Pb**	**02 48 15.2**	**+0.4**
	baz=216							
HWA				*e*S		**Sn**	**02 48 24.5**	**+1.1**
	baz=216							
EGS		**0.49**	**358**	*i* P		**Pb**	**02 48 14.9**	**0.0**
	baz=1.0							
EGS				*i* S		**Sb**	**02 48 23.1**	**+1.2**
	baz=1.0							
NNSB	**Datong**	**0.52**	**279**	P		**Pb**	**02 48 15.0**	**-0.5**
	baz=277							
NNSB				S		**Sb**	**02 48 22.7**	**-0.1**
	baz=277							
FUSB	**Fushanzhiwuyua**	**0.52**	**321**	P		**Pb**	**02 48 15.2**	**-0.3**
	baz=322							
FUSB				S		**Sb**	**02 48 23.1**	**+0.3**
	baz=322							
NNS	**Nan Shan**	**0.53**	**280**	*i* P		**Pb**	**02 48 14.3**	**-1.3**
	baz=278							
NNS				*i* S		**Sb**	**02 48 22.0**	**-1.1**
	baz=278							
NWLT	**Wulai**	**0.59**	**316**	*i* P		**Pb**	**02 48 15.2**	**-1.3**
	baz=316							
NWLT				*i* S		**Sb**	**02 48 24.1**	**-0.4**
	baz=316							
YHNB	**Yeheng**	**0.61**	**301**	P		**Pb**	**02 48 16.7**	**-0.2**
YHNB	**Yeheng**	**0.61**	**301**	P		**Pb**	**02 48 16.8**	**-0.2**
	baz=301							
YHNB				S		**Sb**	**02 48 25.2**	**0.0**
	baz=301							
NSK	**Sanguang**	**0.63**	**301**	*i* P		**Pb**	**02 48 15.9**	**-1.3**
	baz=301							
NSK				*i* S		**Sb**	**02 48 24.3**	**-1.4**
	baz=301							
TIPB	**Shuangxi**	**0.63**	**350**	P		**Pb**	**02 48 16.9**	**-0.3**
	baz=351							
TIPB				S		**Sb**	**02 48 26.1**	**+0.4**
	baz=351							
FUSS	**Fushou**	**0.65**	**261**	*i* P		**Pb**	**02 48 17.4**	**-0.3**
	baz=259							
FUSS				S		**Sb**	**02 48 27.1**	**+0.5**
	baz=259							
TWB1	**Santiao Chiao**	**0.66**	**3**	P		**Pb**	**02 48 17.1**	**-0.5**
	baz=5.0							
TWB1				S		**Sb**	**02 48 27.0**	**+0.6**
	baz=5.0							
WHF	**Hehuan Shan**	**0.66**	**252**	*i* P		**Pb**	**02 48 17.3**	**-0.6**
	baz=250							
WHF				*i* S		**Sb**	**02 48 27.0**	**+0.1**
	baz=250							
TWA	**Mucha**	**0.71**	**332**	*i* P		**Pb**	**02 48 18.8**	**+0.3**
	baz=333							
TWA				*i* S		**Sn**	**02 48 29.3**	**+0.3**
	baz=333							
TWT	**Tachien**	**0.71**	**262**	P		**Pb**	**02 48 19.0**	**+0.3**
	baz=260							
TWT				S		**Sb**	**02 48 28.9**	**+0.7**
	baz=260							
ESL	**Shilin**	**0.71**	**221**	P		**Pb**	**02 48 17.7**	**-0.9**
	baz=219							
ESL				*e*S		**Sb**	**02 48 28.5**	**+0.5**
	baz=219							
NHDH	**Xindian Distri**	**0.72**	**328**	*i* P		**Pb**	**02 48 19.0**	**+0.3**
	baz=328							
NHDH				S		**Sn**	**02 48 29.9**	**+0.7**
	baz=328							
TDCB	**Techi**	**0.73**	**262**	P		**Pb**	**02 48 18.7**	**-0.2**
	baz=261							
TDCB				S		**Sb**	**02 48 28.0**	**-0.6**
	baz=261							
NWF	**Wu-fen Shan**	**0.73**	**348**	P		**Pb**	**02 48 19.1**	**+0.1**
	baz=349							
NWF				S		**Sn**	**02 48 29.8**	**+0.2**
	baz=349							
SXI1	**Grass Mountain**	**0.74**	**355**	P		**Pb**	**02 48 18.9**	**-0.2**
	baz=356							
SXI1				*e*S		**Sn**	**02 48 30.2**	**+0.3**
	baz=356							
TATO	**Taipei**	**0.75**	**326**	P		**Pb**	**02 48 19.6**	**+0.4**
CHGB	**Renai**	**0.77**	**248**	P		**Pb**	**02 48 19.2**	**-0.4**
	baz=246							
CHGB				*e*S		**Sn**	**02 48 30.9**	**+0.3**
	baz=246							
NFF	**Wufeng Townshi**	**0.81**	**290**	P		**Pb**	**02 48 20.1**	**-0.2**
	baz=290							
NFF				S		**Sb**	**02 48 30.5**	**-0.3**
	baz=290							
EGFH	**Guangfu**	**0.83**	**215**	*e*P		**Pb**	**02 48 20.8**	**+0.3**
	baz=213							
EGFH				*e*S		**Sn**	**02 48 33.5**	**+1.6**
	baz=213							
WUSB	**Renai**	**0.84**	**245**	P		**Pb**	**02 48 19.7**	**-1.1**
	baz=243							
WUSB				*e*S		**Sb**	**02 48 31.9**	**+0.1**
	baz=243							
YM01	**YM01**	**0.86**	**337**	*e*S		**Sn**	**02 48 33.4**	**+0.6**
	baz=337							
TWS1	**Kuangyinshan**	**0.89**	**327**	*e*P		**Pb**	**02 48 20.3**	**-1.2**
	baz=328							
LIOB	**Emei**	**0.90**	**289**	P		**Pb**	**02 48 21.9**	**+0.2**
	baz=288							
LIOB				*e*S		**Sn**	**02 48 34.4**	**+0.8**
	baz=288							
NSTT	**Nanjuang**	**0.91**	**288**	P		**Pb**	**02 48 22.0**	**+0.2**
	baz=287							
NSTT				S		**Sb**	**02 48 33.8**	**+0.2**
	baz=287							
JYNG	**Yonaguni jima**	**0.91**	**84**	P		**Pb**	**02 48 21.0**	**-1.0**
JYNG				S		**Sb**	**02 48 33.8**	**0.0**
NCUH	**Zhongli**	**0.93**	**312**	*e*P		**Pb**	**02 48 21.1**	**-1.1**
	baz=311							
NCUH				*e*S		**Sb**	**02 48 33.8**	**-0.4**
	baz=311							
VWDT	**VWDT**	**0.95**	**231**	P		**Pb**	**02 48 21.8**	**-0.7**
	baz=229							
VWDT				*e*S		**Sb**	**02 48 35.0**	**+0.3**
	baz=229							
YOJ	**Yonaguni jima**	**0.97**	**83**	P		**Pb**	**02 48 22.1**	**-0.9**
YOJ	**Yonaguni jima**	**0.97**	**83**	P		**Pb**	**02 48 21.6**	**-1.4**
	baz=83							
YOJ				S		**Sb**	**02 48 35.0**	**-0.5**
	baz=83							
YOJ	**Yonaguni jima**	**0.97**	**83**	P		**Pb**	**02 48 21.8**	**-1.2**
YOJ				S		**Sb**	**02 48 35.5**	**0.0**
HGSD	**Ruisui**	**0.98**	**209**	*e*P		**Pb**	**02 48 23.1**	**+0.1**
	baz=208							
WCS	**Beigang Elemen**	**0.99**	**253**	*e*P		**Pb**	**02 48 22.3**	**-1.0**
	baz=251							
WCS				*e*S		**Sb**	**02 48 36.0**	**+0.1**
	baz=251							
SMLT	**Sun Moon Lake**	**1.07**	**244**	*e*P		**Pn**	**02 48 22.7**	**-1.2**
	baz=242							
SMLT				*e*S		**Sb**	**02 48 36.9**	**-1.3**
	baz=242							
SSLB	**Suanglung**	**1.07**	**239**	P		**Pn**	**02 48 23.5**	**-0.4**
SSLB	**Suanglung**	**1.07**	**239**	*e*P		**Pn**	**02 48 23.4**	**-0.4**
	baz=237							
TYC	**Yuchr**	**1.09**	**246**	*e*P		**Pn**	**02 48 24.6**	**+0.4**
	baz=244							
YULB	**Yu-li**	**1.13**	**212**	P		**Pn**	**02 48 25.4**	**+0.7**
YULB	**Yu-li**	**1.13**	**212**	*e*P		**Pn**	**02 48 23.1**	**-1.6**
	baz=210							
EYUL	**Yuli**	**1.15**	**210**	*e*P		**Pb**	**02 48 26.2**	**+0.1**
	baz=208							
WHYT	**Xinyi Township**	**1.20**	**237**	*e*P		**Pn**	**02 48 25.8**	**+0.1**
	baz=236							
YUS	**Yu-Shan**	**1.25**	**227**	*e*P		**Pn**	**02 48 26.6**	**-0.2**
	baz=225							
FULB	**Fuli**	**1.29**	**208**	*e*P		**Pn**	**02 48 26.4**	**-0.6**
	baz=206							
ALS	**Alishan**	**1.34**	**232**	*e*P		**Pn**	**02 48 28.4**	**+0.6**
	baz=230							
ELDTW	**Lidau**	**1.44**	**217**	*e*P		**Pn**	**02 48 28.3**	**-0.7**
	baz=215							
CHN4	**Tsaushan**	**1.59**	**232**	*e*P		**Pn**	**02 48 31.6**	**+0.6**
	baz=230							
STYH	**Taoyuan**	**1.59**	**223**	*e*P		**Pn**	**02 48 30.7**	**-0.4**
	baz=221							
TPUB	**Ta-pu**	**1.60**	**229**	P		**Pb**	**02 48 32.8**	**-0.8**
TPUB	**Ta-pu**	**1.60**	**229**	*e*P		**Pn**	**02 48 31.9**	**+0.7**
	baz=228							
CHN1	**Nanshi**	**1.74**	**229**	*e*P		**Pn**	**02 48 34.5**	**+1.4**
	baz=227							
JKRS	**Kuro-shima**	**1.88**	**93**	*e*S		**Sn**	**02 48 58.3**	**+0.4**
JISG	**Ishigakijimahi**	**2.17**	**83**	*e*S		**Sn**	**02 49 06.3**	**+1.5**

*IDC **19** 03:07:05.8±8.7,53°.88N×168°.88E, h0km, mb3.4/2,*
mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=270.6km
s-min=30.5km az=164.0
*KRSC **19** 03:07:10.5±1.7,54°.34N×167°.93E, h16km±24km, ML4.0*
ISC 19 03:07:10.3±1.7,54°.5N±0°.1×168°.3E±0°.1, h10km, n29,
σ1s74/29, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**1.52**	**300**	*e*P		**Pn**	**03 07 35.3**	**-2.2**
BKI				*e*S		**Sn**	**03 07 54.7**	**-2.7**
KBTR	**Krutoberegovo**	**3.57**	**301**	*e*P		**Pn**	**03 08 04.8**	**-0.9**
SMKR	**Semkarok**	**4.41**	**301**	*e*P		**Pn**	**03 08 19.3**	**+2.0**
BDR	**Baidarnaya**	**4.54**	**300**	*e*P		**Pn**	**03 08 21.8**	**+2.8**
SRKR	**Sorokina**	**4.59**	**301**	*e*P		**Pn**	**03 08 22.6**	**+2.8**
TUMD	**Tumrok D**	**4.62**	**282**	*e*P		**Pn**	**03 08 21.9**	**+1.8**
TUMR	**Tumrok**	**4.77**	**283**	*e*P		**Pn**	**03 08 23.6**	**+1.4**
KMNR	**Kamenistaya**	**4.79**	**289**	*e*P		**Pn**	**03 08 25.3**	**+2.7**
SPN	**Mys Shipunski**	**5.08**	**258**	*e*P		**Pn**	**03 08 26.3**	**-0.2**
SPN				*e*S		**Sn**	**03 09 23.2**	**-2.0**
SDLR	**Sedlovina**	**5.69**	**262**	*e*P		**Pn**	**03 08 35.2**	**+0.4**
SMAR	**Somma**	**5.74**	**262**	*e*P		**Pn**	**03 08 36.5**	**+0.9**
UGLR	**Uglovaya**	**5.74**	**261**	*e*P		**Pn**	**03 08 36.6**	**+1.0**
KRER	**Koryakskii**	**5.76**	**262**	*e*P		**Pn**	**03 08 37.0**	**+1.1**
KRER				*e*S		**Sn**	**03 09 41.6**	**-0.4**
AVH	**Avacha**	**5.77**	**262**	*e*P		**Pn**	**03 08 37.3**	**+1.3**
KOK	**Koryaka**	**5.83**	**262**	*e*P		**Pn**	**03 08 37.4**	**+0.7**
GNL	**Ganaly**	**6.13**	**267**	*e*P		**Pn**	**03 08 42.8**	**+1.8**
RUS	**Russkaya**	**6.18**	**255**	*e*P		**Pn**	**03 08 41.5**	**0.0**
KRMR	**Karymshinskiy**	**6.25**	**259**	*e*P		**Pn**	**03 08 43.8**	**+1.3**
KRMR				*e*S		**Sn**	**03 09 52.0**	**-2.0**
MTVR	**Mutnovka**	**6.35**	**256**	*e*P		**Pn**	**03 08 45.1**	**+1.1**
MTVR				*e*S		**Sn**	**03 09 54.3**	**-2.2**
GRL	**Gorelyy**	**6.38**	**257**	*e*P		**Pn**	**03 08 45.4**	**+1.0**
PETK	**Petropavlovsk-**	**6.42**	**262**	Pn		**Pn**	**03 08 45.4**	**+0.6**
	1.0nm,0.3s,baz=93,slow=18,SNR=43							
PETK					Sn	**Sn**	**03 09 59.0**	**+1.0**
	baz=88,slow=20							
	2.3nm,0.4s							
ILAR	**Eielson Array**	**24.35**	**47**	P		**P**	**03 12 26.2**	**-1.8**
	0.4nm,0.6s,baz=257,slow=8.0,SNR=7.3							
	0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**34.70**	**182**	T		T	03 50 38.9	
	baz=1.7,slow=76,SNR=751							
H11N3	**WAKE ISLAND Hy**	**34.71**	**182**	T		T	03 50 39.9	
	baz=1.7,slow=76,SNR=648							
H11N1	**WAKE ISLAND Hy**	**34.71**	**182**	T		T	03 50 45.6	
	baz=1.7,slow=76,SNR=510							
H11S1	**WAKE ISLAND Hy**	**35.92**	**183**	T		T	03 52 11.9	
	baz=2.0,slow=76,SNR=207							
H11S3	**WAKE ISLAND Hy**	**35.93**	**183**	T		T	03 52 17.7	
	baz=2.0,slow=76,SNR=172							
H11S2	**WAKE ISLAND Hy**	**35.93**	**183**	T		T	03 52 14.0	
	baz=2.0,slow=76,SNR=293							
MKAR	**Makanchi Array**	**51.83**	**299**	P		**P**	**03 16 19.9**	**+1.7**
	0.5nm,0.8s,baz=44,slow=7.5,SNR=3.4							
	0.5nm,0.8s							

*WEL **19** 03:08:00,42°.31S×173°.85E, h10km, ML4.2, Mw4.1,*
Moment Tensor Solution. s5 Moment tensor: Scale 10^15
Nm; Mrr0.58; Mθθ-0.45; Mϕϕ-0.13; Mrθ0.78; Mrϕ-1.56;
Mθϕ-0.34; Fault plane solution: M0 1.85000×10^15 NP1:
ϕs187.00000°, δ60.00000°, λ19.00000°. NP2:ϕs88.00000°,
δ74.00000°, λ149.00000°. Principal axes: T -191.2700,
Plg33.0000°, Azm44.0000°; N 179.5400, Plg55.0000°,
Azm243.0000°; P 11.7400, Plg9.0000°, Azm140.0000°;
*NOU **19** 03:08:08.5, 42°.405S×174°.01E, h6km, MLv4.5/12, Off E.*
Coast of S. Island, N.Z.
*IDC **19** 03:08:10.9±2.2, 42°.11S×173°.20E, h0km, mb3.6/2,*
mbtmp3.6/3, ML3.7/1, MS2.9/1, Error ellipse: s-maj=48.4km
s-min=33.6km az=110.0
*WEL **19** 03:08:11.0±0.4, 42°.5S±3°×17°.4E±°, h5km, M4.1/41,*
ML4.4/12, MLv4.1/41, Error ellipse: s-maj=0.0km
s-min=0.0km az=121.1
ISC 19 03:08:08.6±1.1, 42°.38S±0°.03×173°.99E±0°.04, h16km±8km,
n95, σ1s30/101, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHZ	**Kahutara**	**0.33**	**264**	P		**Pg**	**03 08 15.6**	**+0.2**
KHZ				S		**Sg**	**03 08 19.9**	**-0.3**
CMWZ	**Cape Campbell**	**0.66**	**15**	P		**Pn**	**03 08 23.9**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.67**	**353**	P		**Pg**	**03 08 21.9**	**+0.1**
BSWZ				S		**Sb**	**03 08 31.1**	**0.0**
GVZ	**Greta Valley S**	**0.91**	**230**	P		**Pn**	**03 08 27.9**	**+1.1**
GVZ				S		**Sn**	**03 08 41.2**	**+1.6**
TUWZ	**Tuamarina**	**0.95**	**358**	P		**Pg**	**03 08 23.3**	**+0.2**
TUWZ				S		**Sg**	**03 08 40.1**	**+0.6**
THZ	**Tophouse**	**1.01**	**307**	P		**Pb**	**03 08 27.0**	**-0.8**
THZ				S		**Sb**	**03 08 38.7**	**-2.3**
TCW	**Tory Channel**	**1.19**	**11**	P		**Pb**	**03 08 31.1**	**+0.2**
SNZO	**South Karori**	**1.20**	**27**	P		**Pn**	**03 08 31.0**	**+0.3**
WEL	**Wellington**	**1.25**	**28**	P		**Pb**	**03 08 32.4**	**+0.7**
PLWZ	**Palliser**	**1.25**	**50**	P		**Pb**	**03 08 32.3**	**+0.5**
NNZ	**Nelson**	**1.25**	**339**	P		**Pn**	**03 08 31.3**	**-0.1**
AMCZ	**Amberley**	**1

MTHZ Maungataniwha 4.14 33 P Pn 03 09 12.5 +1.2
JCZ Jackson Bay 4.16 244 P Pn 03 09 12.9 +1.4
URZ Urewera 4.76 31 P Pn 03 09 19.6 -0.1
URZ Urewera 4.76 31 P Pn 03 09 18.2 -1.5
TOZ Tahuroa Road 4.79 15 P Pn 03 09 21.2 +1.2
RUGZ Raukumara Rang 5.24 34 P Pn 03 09 25.8 -0.6
AWAZ Awhitu Peninsu 5.34 6 P Pn 03 09 29.4 +1.8
MKAZ Moumakai 5.35 10 P Pn 03 09 28.9 +1.1
SYZ Scrubby Hill 5.41 218 P Pn 03 09 29.9 +1.3
HAZ Te Kaha 5.46 33 P Pn 03 09 28.4 -0.9
ETAZ East Tamaki Re 5.47 8 P Pn 03 09 31.1 +1.6
WMGZ Waiomatatini S 5.68 38 P Pn 03 09 31.5 -0.8
KUZ Kuaotunu 5.79 14 P Pn 03 09 34.9 +1.1
CTZ Chatham Island 7.02 104 P Pn 03 09 52.2 +1.6
OUZ Omahuta 7.16 357 P Pn 03 09 55.0 +2.4
ASAR Alice Springs 38.02 287 P P 03 15 25.7 -0.4
0.3nm,0.7s,baz=124,slow=6.8,SNR=8.3
0.3nm,0.7s
WRA Warramunga Arr 40.14 291 P P 03 15 43.3 -0.6
1.2nm,0.8s,baz=136,slow=6.9,SNR=7.0
1.2nm,0.8s
TORD Torodi Ar. Bea 150.11 195 PKPbc PKPab 03 28 05.0 +0.3
1.0nm,1.0s,baz=163,slow=2.2,SNR=1.9
BRTR Keskin Array B 150.16 278 PKPbc PKiKP 03 27 59.9 +0.5
0.6nm,0.9s,baz=122,slow=5.0,SNR=2.6

WEL 19 03:09:41.0±0.3, 42°S×3°×17°4E±°, h14km±3km, M3.5/26, ML3.7/19, MLv3.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=149.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11	234	P	Pb	03 09 45.4	+0.5
CMWZ				S	Sb	03 09 48.6	+1.0
BSWZ	Blackbirch Sta	0.34	265	P	Pb	03 09 48.6	-0.3
BSWZ				S	Sb	03 09 54.5	+0.3
TUWZ	Tuamarina	0.39	311	P	Pb	03 09 49.7	0.0
TUWZ				S	Sb	03 09 55.6	+0.1
TCW	Tory Channel	0.48	355	P	Pb	03 09 51.2	0.0
WEL	Wellington	0.52	39	P	Pb	03 09 52.2	+0.3
PLWZ	Palliser	0.70	81	P	Pb	03 09 55.6	+0.5
MSWZ	Moikau Station	0.74	69	P	Pb	03 09 56.3	+0.6
CAW	Cannon Point	0.80	44	P	Pb	03 09 57.1	+0.4
NNZ	Nelson	0.85	303	P	Pb	03 09 57.8	+0.2
PAWZ	Paruwai Farm	0.88	70	P	Pg	03 09 58.0	0.0
KIW	Kapiti Island	0.93	28	P	Pg	03 09 59.0	0.0
DUWZ	D'Urville Isla	0.94	341	P	Pg	03 09 59.3	+0.2
KHZ	Kahutara	0.94	219	P	Pb	03 09 58.8	-0.2
MTW	Mount Morrison	1.03	59	P	Pb	03 10 00.1	-0.4
TRWZ	Traveller	1.06	75	P	Pb	03 10 00.3	-0.9
THZ	Tophouse	1.07	265	P	Pg	03 10 01.5	-0.1
OGWZ	Otaki Gorge	1.07	36	P	Pn	03 10 01.6	-0.1
HOWZ	Holdsworth Sta	1.19	49	P	Pn	03 10 02.6	-0.7
MRNZ	Matariki Terra	1.22	283	P	Pb	03 10 04.0	+0.2
TKNZ	Takaka Hill	1.22	302	P	Pb	03 10 03.8	-0.1
TMWZ	Te Maipa	1.31	64	P	Pn	03 10 03.7	-1.2
MRZ	Mangatainoka R	1.39	43	P	Pn	03 10 05.5	-0.5
TIWZ	Tintock	1.48	53	P	Pn	03 10 06.5	-0.9
GVZ	Greta Valley S	1.60	216	P	Pn	03 10 07.5	-1.5
QRZ	Quartz Range	1.61	302	P	Pb	03 10 10.1	-0.4
PRWZ	Pori Road	1.68	48	P	Pn	03 10 09.0	-0.9

DJA 19 03:14:57.6±0.3, 4°S±3°×13°4E±°, h10km, M4.4/10, mb4.4/8, mB5.3/1, MLv4.5/10, Mw(mB)4.7/1
IDC 19 03:14:58.0±1.1, 4.89°S×133.57°E, h0km, mb4.0/5, mbtmp3.9/9, ML3.4/4, Error ellipse: s-maj=64.9km s-min=19.5km az=68.0
ISC 19 03:14:56.7±0.8, 4°54S±0.06°×134°43E±0.09, h10km, n20, σ3°25/22, mb3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.71	307	P	Pn	03 15 40.3	0.0
RKPI	Ransiki, Papua	3.02	355	P	Pn	03 15 42.5	-2.1
MWPI	Manokwari, Pap	3.61	354	P	Pn	03 15 52.9	+0.2
BNDI	Bandanaira	4.51	270	P	Pn	03 16 08.5	+3.4
SAUI	Saumlaki	4.62	222	P	Pn	03 16 09.7	+3.1
SIJI	Sorong	4.82	319	Pn	Pn	03 16 09.9	+0.5
	2.5nm,0.3s,baz=205,slow=22,SNR=7.1						
SIJI				Sn	Sn	03 16 59.3	-6.1
	1.4nm,0.3s,baz=129,slow=24,SNR=1.8						
	6.0nm,0.2s						
SIJI	Sorong	4.82	319	P	Pn	03 16 09.8	+0.4
SWI	Sorong	4.83	319	P	Pn	03 16 09.4	-0.1
SMPI	Sarmi	4.97	59	P	Pn	03 16 12.8	+1.3
MSAI	Masohi	5.61	282	P	Pn	03 16 21.2	+0.9
	0.1nm8.8nm,0.8s						
KRAI	Karang Ratu	6.14	281	P	Pn	03 16 29.1	+1.6
	1.1nm26nm,0.8s						
SANI	Sanana	8.78	286	P	Pn	03 17 07.1	+3.3
	15nm,0.6s						
WRA	Warramunga Arr	15.31	180	Pn	Pn	03 18 32.6	-0.4
	0.1nm,0.3s,baz=4.4,slow=13,SNR=3.0						
WRA				Sn	Sn	03 21 15.8	-7.0
	0.1nm,0.3s,baz=3.9,slow=23,SNR=3.0						
	0.3nm,0.6s						
ASAR	Alice Springs	19.02	181	P	P	03 19 19.6	+0.7
	baz=4.8,slow=10,SNR=2.5						
ASAR				S	Sn	03 22 45.8	-7.0
	0.5nm,0.7s,baz=3.8,slow=29,SNR=3.0						
	4.2nm,0.6s						
CTA	Charters Tower	19.27	144	P	Pn	03 19 26.3	+3.6
	0.3nm,0.3s,baz=329,slow=11,SNR=1.9						
	4.1nm,0.7s						
STKA	Stephens Creek	28.01	167	P	P	03 20 48.9	+0.9
	0.4nm,0.2s,baz=343,slow=20,SNR=3.6						
	0.4nm,0.2s						
MKAR	Makanchi Array	68.70	324	P	P	03 26 01.7	+1.2
	1.4nm,0.8s,baz=111,slow=7.9,SNR=7.4						
	1.4nm,0.8s						
ZALV	Zalesovo Beam	71.43	332	P	P	03 26 19.5	+2.4
	0.4nm,0.4s,baz=145,slow=5.3,SNR=2.5						
	0.4nm,0.4s						
GEYT	Alibeck	82.04	309	P	P	03 27 18.1	+0.5
	1.7nm,0.6s,baz=115,slow=6.5,SNR=2.5						
	1.7nm,0.6s						
ILAR	Eielson Array	89.27	25	P	P	03 28 00.0	+7.2
	0.6nm,0.9s,baz=258,slow=4.5,SNR=3.1						
	0.6nm,0.9s						

NOU 19 03:22:09.2, 42.47°S×173.98°E, h4km, MLv3.9/8, South Island, New Zealand
WEL 19 03:22:10.9±0.5, 42°S±3°×17°4E±°, h8km±3km, M3.3/25, ML3.6/16, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=124.1
ISC 19 03:22:09.8±1.1, 42°39S±0.04°×173°98E±0.04, h21km, n73, σ1°39/72, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.33	265	P	Pb	03 22 16.3	-0.6
KHZ	Kahutara	0.33	265	P	Pb	03 22 16.3	-0.6
KHZ				S	Sb	03 22 20.2	-1.5
CMWZ	Cape Campbell	0.66	15	P	Pb	03 22 24.2	+1.5
BSWZ	Blackbirch Sta	0.68	353	P	Pb	03 22 22.2	-0.7
BSWZ				S	Sb	03 22 31.0	-0.9
GVZ	Greta Valley S	0.91	230	P	Pb	03 22 28.2	+1.4
TUWZ	Tuamarina	0.96	358	P	Pb	03 22 27.7	+0.1
THZ	Tophouse	1.02	307	P	Pb	03 22 27.3	-1.5
TCW	Tory Channel	1.20	11	P	Pn	03 22 31.5	+0.2
SNZO	South Karori	1.20	27	P	Pn	03 22 32.2	+0.9
WEL	Wellington	1.25	28	P	Pn	03 22 32.9	+0.9
PLWZ	Palliser	1.25	50	P	Pn	03 22 32.9	+0.8
NNZ	Nelson	1.25	339	P	Pn	03 22 31.8	-0.3
AMCZ	Amberley	1.26	231	P	Pn	03 22 33.1	+1.0
LTZ	Lake Taylor	1.32	252	P	Pn	03 22 33.5	+0.4
MRNZ	Matariki Terra	1.35	317	P	Pn	03 22 33.4	0.0
MSWZ	Moikau Station	1.35	45	P	Pn	03 22 34.2	+0.7
PAWZ	Paruwai Farm	1.47	48	P	Pn	03 22 35.7	+0.6
OKCZ	Okains Bay	1.50	207	P	Pn	03 22 36.3	+0.8
CAW	Cannon Point	1.51	33	P	Pn	03 22 36.3	+0.7
TKNZ	Takaka Hill	1.55	330	P	Pn	03 22 36.6	+0.4
DUWZ	D'Urville Isla	1.58	358	P	Pn	03 22 36.8	+0.2
TRWZ	Traveller	1.61	53	P	Pn	03 22 37.5	+0.5
MQZ	McQueen's Vall	1.64	216	P	Pn	03 22 37.4	0.0
MTW	Mount Morrison	1.67	43	P	Pn	03 22 38.2	+0.4
KIW	Kapiti Island	1.68	25	P	Pn	03 22 38.7	+0.8
AKCZ	Akaroa Harbour	1.68	208	P	Pn	03 22 38.7	+0.7
OXZ	Oxford	1.71	236	P	Pn	03 22 38.4	0.0
DSZ	Denniston Nort	1.74	291	P	Pn	03 22 39.5	+0.6
OGWZ	Otaki Gorge	1.80	30	P	Pn	03 22 40.2	+0.5
HOWZ	Holdsworth Sta	1.88	38	P	Pn	03 22 41.0	+0.3
QRZ	Quartz Range	1.90	325	P	Pn	03 22 42.2	+1.2
QRZ	Quartz Range	1.90	325	P	Pn	03 22 41.9	+0.9
RACZ	Rakaia	1.90	225	P	Pn	03 22 41.2	+0.2
INZ	Inchbonnie	1.91	259	P	Pn	03 22 41.5	+0.4
TMWZ	Te Maipa	1.92	49	P	Pn	03 22 41.4	+0.2
MRZ	Mangatainoka R	2.10	35	P	Pn	03 22 43.9	+0.2
MHCZ	Mount Hutt	2.11	236	P	Pn	03 22 43.7	-0.2
WACZ	Wakanui South	2.21	225	P	Pn	03 22 45.4	+0.2
BFZ	Birch Farm	2.41	46	P	Pn	03 22 47.7	-0.3
WVZ	Waitaha Valley	2.49	253	P	Pn	03 22 49.7	+0.7
RPZ	Rata Peaks	2.52	237	P	Pn	03 22 49.6	0.0
RPZ	Rata Peaks	2.52	237	P	Pn	03 22 49.6	0.0
ARCZ	Arundel	2.58	232	P	Pn	03 22 50.3	0.0
ANWZ	Angora Road	2.69	45	P	Pn	03 22 51.9	+0.1
WAZ	Wanganui	2.74	16	P	Pn	03 22 54.9	+2.4
TSZ	Takapari Road	2.76	33	P	Pn	03 22 52.8	-0.1
GCSZ	Gaunt Creek Bo	2.84	250	P	Pn	03 22 55.3	+1.3
LREZ	Lake Rotokare	2.94	6	P	Pb	03 22 59.6	-1.9
TMZ	Timaru	2.95	226	P	Pn	03 22 55.9	+0.5
PNHZ	Pukenui	2.98	35	P	Pn	03 22 55.5	-0.4
KHEZ	Kahui Hut	3.09	0	P	Pn	03 23 01.4	+4.0
KHEZ	Kahui Hut	3.09	0	P	Pn	03 23 01.3	+4.0
MOVZ	Moawhango	3.27	25	P	Pn	03 23 00.7	+0.9
WNVZ	Wahianoa	3.29	22	P	Pn	03 23 02.8	+2.6
TRVZ	Turoa	3.31	22	P	Pn	03 23 03.0	+2.5
VRZ	Vera Road	3.31	10	P	Pn	03 23 02.4	+2.0
FWVZ	Far West T-bar	3.35	21	P	Pb	03 23 07.0	-1.6
ETVZ	East Tongariro	3.50	23	P	Pn	03 23 08.0	+4.9
TMVZ	Te Maari	3.52	22	P	Pn	03 23 04.5	+1.1
ODZ	Otahua Downs	3.59	221	P	Pn	03 23 04.4	+0.6
ODZ	Otahua Downs	3.59	221	P	Pn	03 23 04.4	+0.2
BKZ	Black Stump Fm	3.74	31	P	Pb	03 23 13.6	-1.6
HIZ	Hauiti	3.93	10	P	Pn	03 23 11.2	+2.4
HIZ	Hauiti	3.93	10	P	Pn	03 23 10.8	+2.0
JCZ	Jackson Bay	4.16	244	P	Pn	03 23 13.7	+1.6
JCZ	Jackson Bay	4.16	244	P	Pn	03 23 15.6	+3.5
ALRZ	Allen Road	4.22	26	P	Pn	03 23 20.0	+7.1
MKRZ	Makatiti	4.65	25	P	Pn	03 23 22.8	+3.9
TOZ	Tahuroa Road	4.79	15	P	Pn	03 23 21.8	+1.0
AWAZ	Awhitu Peninsu	5.34	6	P	Pn	03 23 29.8	+1.6
MKAZ	Moumakai	5.35	10	P	Pn	03 23 29.3	+0.9
MBAZ	Motutapu North	5.66	7	P	Pn	03 23 38.8	+6.3
CTZ	Chatham Island	7.01	104	P	Pn	03 23 52.4	+1.2

NOU 19 03:28:57.0, 42.47°S×173.95°E, h6km, MLv3.8/8, South Island, New Zealand
WEL 19 03:28:58.3±0.5, 42°S±3°×17°4E±°, h5km, M3.3/35, ML3.6/14, MLv3.3/35, Error ellipse: s-maj=0.0km s-min=0.0km az=124.5
ISC 19 03:28:57.7±1.1, 42°37S±0.04°×173°97E±0.04, h21km, n65, σ1°32/66, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.32	262	P	Pb	03 29 03.9	-0.7
KHZ	Kahutara	0.32	262	P	Pb	03 29 03.7	-0.8
KHZ				S	Sb	03 29 08.1	-1.3
CMWZ	Cape Campbell	0.65	17	P	Pb	03 29 09.5	-0.9
BSWZ	Blackbirch Sta	0.66	354	P	Pb	03 29 09.9	-0.7
BSWZ				S	Sb	03 29 18.5	-0.8
GVZ	Greta Valley S	0.91	229	P	Pb	03 29 15.9	+1.2
TUWZ	Tuamarina	0.94	359	P	Pb	03 29 15.2	-0.1
THZ	Tophouse	1.00	307	P	Pb	03 29 14.8	-1.4
TCW	Tory Channel	1.18	11	P	Pn	03 29 19.0	0.0
SNZO	South Karori	1.20	28	P	Pn	03 29 19.8	+0.7
NNZ	Nelson	1.23	339	P	Pn	03 29 18.9	-0.8
WEL	Wellington	1.24	29	P	Pn	03 29 20.1	+0.3
PLWZ	Palliser	1.25	51	P	Pn	03 29 20.5	+0.5
AMCZ	Amberley	1.26	230	P	Pn	03 29 20.7	+0.8
LTZ	Lake Taylor	1.32	251	P	Pn	03 29 21.0	+0.2
MRNZ	Matariki Terra	1.33	317	P	Pn	03 29 20.9	0.0
MSWZ	Moikau Station	1.35	46	P	Pn	03 29 21.7	+0.3
PAWZ	Paruwai Farm	1.47	48	P	Pn	03 29 23.1	+0.1
OKCZ	Okains Bay	1.50	206	P	Pn	03 29 23.9	+0.5
CAW	Cannon Point	1.51	33	P	Pn	03 29 23.8	+0.3
TKNZ	Takaka Hill	1.54	330	P	Pn	03 29 24.3	+0.4
DUWZ	D'Urville Isla	1.57	359	P	Pn	03 29 24.4	+0.1
TRWZ	Traveller	1.61	53	P	Pn	03 29 25.0	+0.1
MQZ	McQueen's Vall	1.64	215	P	Pn	03 29 25.0	-0.3
KIW	Kapiti Island	1.67	25	P	Pn	03 29 26.3	+0.7
MTW	Mount Morrison	1.67	44	P	Pn	03 29 25.7	0.0
AKCZ	Akaroa Harbour	1.69	207	P	Pn	03 29 26.4	+0.5
OXZ	Oxford	1.71	235	P	Pn	03 29 25.7	-0.5
DSZ	Denniston Nort	1.73	291	P	Pn	03 29 27.1	+0.6
OGWZ	Otaki Gorge	1.80	31	P	Pn	03 29 23.7	-3.8
HOWZ	Holdsworth Sta	1.88	39	P	Pn	03 29 28.8	+0.3
QRZ	Quartz Range	1.88	325	P	Pn	03 29 30.0	+1.4
QRZ	Quartz Range	1.88	325	P	Pn	03 29 29.6	+1.0
INZ	Inchbonnie	1.90	258	P	Pn	03 29 28.9	+0.2
RACZ	Rakaia	1.90	224	P	Pn	03 29 28.8	-0.1
TMWZ	Te Maipa	1.92	49	P	Pn	03 29 28.9	-0.2
MRZ	Mangatainoka R	2.10	36	P	Pn	03 29 31.5	-0.1
MHCZ	Mount Hutt	2.11	236	P	Pn	03 29 31.2	-0.5
WACZ	Wakanui South	2.21	224	P	Pn	03 29 33.0	0.0
BFZ	Birch Farm	2.41	46	P	Pn	03 29 35.3	-0.5
WVZ	Waitaha Valley	2.48	252	P	Pn	03 29 37.3	+0.5
RPZ	Rata Peaks	2.52	237	P	Pn	03 29 37.4	0.0
RPZ	Rata Peaks	2.52	237	P	Pn	03 29 37.2	-0.2
ARCZ	Arundel	2.58	231	P	Pn	03 29 38.1	-0.1
WAZ	Wanganui	2.73	17	P	Pn	03 29 42.3	+2.1
TSZ	Takapari Road	2.76	34	P	Pn	03 29 40.4	-0.2
GCSZ	Gaunt Creek Bo	2.84	249	P	Pn	03 29 42.9	+1.2
LREZ	Lake Rotokare	2.93	7	P	Pb	03 29 49.1	0.0
TMZ	Timaru	2.95	226	P	Pn	03 29 43.7	+0.4
PNHZ	Pukenui	2.98	35	P	Pn	03 29 43.0	-0.7
KHEZ	Kahui Hut	3.08	1	P	Pn	03 29 49.2	+4.1
KHEZ	Kahui Hut	3.08	1	P	Pn	03 29 48.9	+3.8
MOVZ	Moawhango	3.26	25	P	Pn	03 29 48.0	+0.4
WNVZ	Wahianoa	3.29	23	P	Pn	03 29 50.1	+2.1
VRZ	Vera Road	3.30	11	P	Pn	03 29 49.9	+1.9
WHVZ	Whangaehu Hut	3.32	22	P	Pn	03 29 51.2	+2.6
LBZ	Lake Benmore	3.41	233	P	Pn	03 29 51.4	+1.7
ODZ	Otahua Downs	3.59	221	P	Pn	03 29 52.2	+0.1
ODZ	Otahua Downs	3.59	221	P	Pn	03 29 52.1	-0.1
HIZ	Hauiti	3.92	10	P	Pn	03 29 58.1	+1.6
HIZ	Hauiti	3.92	10	P	Pn	03 29 58.3	+1.7
URZ	Urewera	4.76	31	P	Pn	03 30 11.3	+3.2
MKAZ	Moumakai	5.34	10	P	Pn	03 30 16.9	+0.8
WTAZ	Waiatarua	5.45	5	P	Pn	03 30 15.4	-2.3
WHZ	Wether Hill Ro	5.58	229	P	Pn	03 30 23.4	+4.0
CTZ	Chatham Island	7.03	104	P	Pn	03 30 39.7	+0.3

BUL 19 03:31:25.6±4.4, 18°24S×35°15E, h10km, MD5.1
EAF 19 03:31:27.2±6.3, 18°21S×35°05E, h10km, MD4.5
PRE 19 03:31:30.1±3.4, 18°42S×34°72E, h10km, mb4.2, ML4.4
IDC 19 03:31:30.8±0.7, 18°58S×34°66E, h0km, mb4.1/15, mbtmp4.2/23, ML4.5/6, MS3.3/5, Error ellipse: s-maj=19.2km s-min=18.1km az=173.0
NEIC 19 03:31:33.4±2.3, 18°49S±0°08×34°85E±0°09, h10km±1km, mb4.6/18, Error ellipse: s-maj=14.8km s-min=13.4km az=99.0
ISC 19 03:31:32.4±0.3, 18°42S±0°05×34°59E±0°05, h10km, n116, σ1°95/128, mb4.5/29, 3C, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUSN	Musina, Limpop	5.87	228	eP	Pn	03 33 02.0	+2.4
MUSN				eS	Sn	03 34 04.6	-2.4
MUSN				IAML		03 34 35.9	
	comp=Z,625nm,0.6s						
MUSN	Musina, Limpop	5.87	228	*i* S	Sn	03 34 09.3	+2.3
MUSN	Musina, Limpop	5.87	228	*i* S	Sn	03 34 09.3	+2.3
MOPA	Mopani	5.88	210	*e*P	Pn	03 33 01.1	+1.3
MOPA				eS	Sn	03 34 05.7	-1.6
MOPA				IAML		03 34 47.3	
	comp=Z,218nm,0.7s						
MOPA	Mopani	5.88	210	*i* P	Pn	03 33 01.0	+1.3
MOPA				*i* S	Sn	03 34 12.9	+5.6
MOPA	Mopani	5.88	210	*i* P	Pn	03 33 01.0	+1.3
MOPA				*i* S	Sn	03 34 12.9	+5.6
LSZ	Lusaka	6.88	296	Pn	Pn	03 33 14.1	+0.6
	comp=Z,61nm,0.6s,baz=125,slow=13,SNR=58						
LSZ				Sn	Sn	03 34 32.4	+0.4
	comp=Z,15nm,0.3s,baz=202,slow=18,SNR=6.0						
LSZ				Lg	Lg	03 35 02.2	
	comp=Z,43nm,0.3s,baz=24,slow=21,SNR=8.1						
LSZ	Lusaka	6.88	296	Pn	Pn	03 33 16.4	+2.9
LSZ	Lusaka	6.88	296	*e*P	Pn	03 33 14.5	+1.0
LSZ				eS	Sn	03 34 30.4	-1.6
LSZ				IAML		03 35 18.4	
	comp=Z,4μm,0.6s						
LSZ	Lusaka	6.88	296	*i* P	Pn	03 33 10.0	-3.5
LSZ				*i* S	Sn	03 34 29.2	-2.8
LSZ	Lusaka	6.88	296	*i* P	Pn	03 33 10.0	-3.5
LSZ				*i* S	Sn	03 34 29.2	-2.8
MMAL	MMAL	8.21	202	*e*P	Pn	03 33 32.7	+0.9
MMAL				eS	Sn	03 35 03.0	-1.8
MMAL				IAML		03 36 02.6	
	comp=Z,100nm,0.6s						
LEPH	Lephalale, Lim	8.33	228	*e*P	Pn	03 33 33.4	0.0
LEPH				eS	Sn	03 35 03.9	-3.8
LEPH				IAML		03 35 53.0	
	comp=Z,384nm,0.6s						
CRLN	Carolina, Mapu	8.64	208	*e*P	Pn	03 33 39.1	+1.3
POGA	Pongola	9.27	196	Pn	Pn	03 33 46.9	+0.7
POGA	Pongola	9.27	196	*e*P	Pn	03 33 47.8	+1.6
SLR	Silverton	9.34	218	*e*P	Pn	03 33 48.6	+1.3
HRAO	HartRAO	9.80	219	*e*P	Pn	03 33 54.3	+0.6
NWCL	Newcastle	10.23	204	*e*P	Pn	03 33 57.2	-2.3
WDLM	Western Deep L	10.36	218	*e*P	Pn	03 34 02.5	+1.2
LBTB	Lobatse	10.62	230	Pn	Pn	03 34 04.4	-0.4
	comp=Z,3.6nm,0.3s,baz=48,slow=14,SNR=35						
LBTB				Sn	Sn	03 35 57.2	-6.8
	comp=Z,3.0nm,0.3s,baz=62,slow=1.8,SNR=5.5						
LBTB				Lg	Lg	03 36 56.0	
	comp=Z,7.3nm,0.3s,baz=170,slow=22,SNR=8.1						
LBTB				LR	LR	03 37 50.5	
	comp=Z,122nm,20.1s,baz=52,slow=36						
	comp=Z,14nm,0.5s						
LBTB	Lobatse	10.62	230	Pn	Pn	03 34 07.0	+2.2
LBTB	Lobatse	10.62	230	*e*P	Pn	03 34 05.7	+0.8
PRYS	Parys	10.78	217	*e*P	Pn	03 34 06.3	-0.7
SNKL	Senekal, Frees	11.63	211	*e*P	Pn	03 34 18.1	-0.6
OPO	Ambohidratompo	11.96	93	Pn	Pn	03 34 22.0	-1.2
	comp=Z,0.2nm,0.3s,baz=266,slow=14,SNR=14						
OPO				Sn	Sn	03 36 23.7	-13
	comp=Z,0.2nm,0.3s,baz=203,slow=12,SNR=2.5						
	comp=Z,9.6nm,0.6s						
VOI	Vohitsoka	11.97	109	Pn	Pn	03 34 19.0	-4.4
ABPO	Ambohimpanom	11.99	95	Pn	Pn	03 34 20.2	-3.5
KSTD	Kokstad	13.06	201	*e*P	Pn	03 34 38.8	+0.7
BOSA	Boshof	13.27	218	Pn	Pn	03 34 39.2	-1.8
	comp=Z,1.7nm,0.3s,baz=50,slow=14,SNR=36						
BOSA				Sn	Sn	03 36 59.3	-9.5
	comp=Z,1.4nm,0.3s,baz=216,slow=6.0,SNR=4.7						
BOSA				Lg	Lg	03 38 20.8	
	comp=Z,3.3nm,0.3s,baz=134,slow=20,SNR=4.7						
BOSA				LR	LR	03 39 14.6	
	comp=Z,36nm,18.9s,baz=192,slow=35						
	comp=Z,11nm,0.6s						
BOSA	Boshof	13.27	218	*e*P	Pn	03 34 39.7	-1.3
BOSA	Boshof	13.27	218	*i* P	Pn	03 34 40.0	-1.1
BOSA				*i* S	Sn	03 37 11.5	+2.8
BOSA	Boshof	13.27	218	*i* P	Pn	03 34 40.0	-1.1
BOSA				*i* S	Sn	03 37 11.5	+2.8
SBV	Sambava	15.54	74	*e*P	P	03 35 19.5	+3.4
PKA	Prieska	15.55	222	*e*P	Pn	03 35 09.9	-2.0
TSUM	Tsumeb	16.12	265	Pn	Pn	03 35 19.4	0.0
	comp=Z,4.7nm,0.5s,baz=98,slow=13,SNR=6.0						
TSUM				Sn	Sn	03 38 11.4	-7.0
	comp=Z,0.5nm,0.3s,baz=110,slow=18,SNR=2.5						
TSUM				Lg	Lg	03 39 54.9	
	comp=Z,1.6nm,0.3s,baz=238,slow=1.5,SNR=4.3						
TSUM				LR	LR	03 40 52.1	
	comp=Z,134nm,18.3s,baz=76,slow=35						
TSUM	Tsumeb	16.12	265	Pn	Pn	03 35 20.5	+1.1
KEIM	Keimoes	16.13	228	*e*P	Pn	03 35 17.9	-1.6
KIBK	Kibwezi	16.34	12	Pn	Pn	03 35 21.6	-0.5
SOE	Somerset East	16.38	208	*e*P	P	03 35 24.5	-1.0
ROOI	Rooidraai Farm	17.18	213	*e*P	P	03 35 33.5	-0.8
KMBO	Kilima Mbogo	17.38	9	Pn	P	03 35 37.8	+1.0
	comp=Z,0.6nm,0.3s,baz=187,slow=15,SNR=15						
KMBO				Lg	Lg	03 40 36.8	
	comp=Z,0.1nm,0.3s,baz=68,slow=16,SNR=4.8						
	comp=Z,4.4nm,0.7s						
KMBO	Kilima Mbogo	17.38	9		P	03 35 37.4	+0.6
MBAR	Mbarara	18.11	348	Pn	P	03 35 47.9

WMQ	**Urumqi**	**78.71**	**36**	*eP*	**P**	**03 43 36.0**	**+1.0**
KURK	**Kurchatov**	**78.96**	**27**	P	**P**	**03 43 35.4**	**-0.8**
KURK				IAmb	IAmb	03 43 43.5	
	comp=Z,6.6nm,1.1s						
PZH	**PanZhiHua**	**78.99**	**57**	P	**P**	**03 43 36.8**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
VNDA	**Vanda**	**79.54**	**170**	P	**P**	**03 43 38.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=202,slow=5.4,SNR=2.7						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**79.88**	**356**	P	**P**	**03 43 42.6**	**+1.7**
	comp=Z,7.0nm,1.1s,baz=127,slow=6.1,SNR=1.0						
	comp=Z,7.0nm,1.1s						
NOA	**NORSAR Array B**	**81.39**	**349**	P	**P**	**03 43 51.4**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=152,slow=5.0,SNR=4.0						
	comp=Z,0.9nm,0.8s						
ZAA0	**Zalesovo Array**	**83.93**	**27**	P	**P**	**03 44 03.9**	**+1.5**
ZAA0				IAmb	IAmb	03 44 09.6	
	comp=Z,4.5nm,1.2s						
ZALV	**Zalesovo Beam**	**83.93**	**27**	P	**P**	**03 44 02.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=234,slow=6.9,SNR=2.7						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**83.93**	**27**	P	**P**	**03 44 02.8**	**+0.4**
LZH	**Lanzhou**	**84.94**	**50**	*eP*	**P**	**03 44 08.3**	**+0.1**
LZH				sP	sP	03 44 16.0	+3.3
LZH				pmax	pmax		
	comp=Z,19nm,0.8s						
TOLI2	**Tolitoli**	**86.73**	**88**	P	**P**	**03 44 15.6**	**-1.8**
ARCES	**ARCESS Array B**	**87.95**	**357**	P	**P**	**03 44 22.5**	**+0.5**
	comp=Z,5.8nm,1.1s,baz=177,slow=6.1,SNR=1.7						
	comp=Z,5.8nm,1.1s						
ASAR	**Alice Springs**	**90.89**	**115**	P	**P**	**03 44 36.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=253,slow=4.5,SNR=5.7						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**90.89**	**115**	P	**P**	**03 44 34.9**	**-2.1**
HHC	**Hu-ho-hao-te**	**92.43**	**48**	*eP*	**P**	**03 44 43.1**	**-0.6**
HHC				pmax	pmax		
	comp=Z,29nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,6.0s						
WRA	**Warramunga Arr**	**92.57**	**112**	P	**P**	**03 44 44.5**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=250,slow=2.3,SNR=5.2						
	comp=Z,1.1nm,1.0s						
HVU	**Hansel Valley**	**143.75**	**317**	PKPdf	**PKPdf**	**03 51 06.7**	**-1.6**
TMUT	**Trail Mountain**	**143.84**	**312**	PKPdf	**PKPdf**	**03 51 08.2**	**-0.5**
W18A	**Petrified Fore**	**144.30**	**305**	PKPdf	**PKPdf**	**03 51 09.4**	**-0.1**
BMO	**Blue Mountains**	**144.73**	**325**	PKPdf	**PKPdf**	**03 51 09.7**	**-0.1**
MSU	**Marysvale**	**144.86**	**312**	PKPbc	**PKPdf**	**03 51 09.7**	**-0.7**
319A	**Douglas**	**144.94**	**299**	PKPbc	**PKPab**	**03 51 09.2**	**-0.5**
TCRU	**Three Creeks R**	**145.01**	**312**	PKPbc	**PKPdf**	**03 51 09.9**	**-0.7**
MTPU	**Mount Pierson**	**145.06**	**311**	PKPbc	**PKPdf**	**03 51 11.4**	**+0.5**
U15A	**North Rim**	**145.79**	**308**	PKPbc	**PKPab**	**03 51 12.4**	**-0.6**
ELK	**Elko**	**145.87**	**317**	PKPbc	**PKPab**	**03 51 13.0**	**-0.1**
TUC	**Tucson**	**145.96**	**301**	PKPbc	**PKPbc**	**03 51 12.4**	**-0.5**
PSUT	**Pine Spring**	**146.03**	**313**	PKPbc	**PKPab**	**03 51 12.8**	**-0.9**
SPR3	**Spring Creek 3**	**146.14**	**314**	PKPbc	**PKPab**	**03 51 14.0**	**-0.2**
PRN	**Pahroc Range**	**147.38**	**312**	PKPbc	**PKPab**	**03 51 17.9**	**-0.9**
W13A	**Hualapai Mount**	**147.50**	**307**	PKPbc	**PKPbc**	**03 51 16.8**	**-0.7**
SHPR	**Sheep Range**	**147.86**	**310**	PKPbc	**PKPbc**	**03 51 18.5**	**+0.1**
V12A	**Nelson**	**147.97**	**309**	PKPbc	**PKiKP**	**03 51 18.9**	**-1.5**
GWY	**Greenwater Val**	**149.10**	**311**	PKPbc	**PKPbc**	**03 51 20.8**	**-0.8**
NVAR	**Mina Array Bea**	**149.11**	**316**	PKPbc	**PKPbc**	**03 51 20.2**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=75,slow=1.0,SNR=7.5						
QSM	**Queen of Sheba**	**149.34**	**311**	PKPbc	**PKiKP**	**03 51 22.5**	**-0.7**
BEKR	**Beckworth**	**149.60**	**320**	PKPbc	**PKPbc**	**03 51 21.5**	**-1.2**

IDC 19 03:31:52.8±14.0, 3°92S×140°92E, h0km, mb3.7/2, mbtmp3.8/3, ML3.7/1, MS3.3/3, Error ellipse: s-maj=211.9km s-min=90.5km az=1.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.90**	**163**	LR	LR	03 42 06.3	
	comp=Z,138nm,19.2s,baz=84,slow=36						
WRA	**Warramunga Arr**	**17.17**	**201**	Pn	P	03 35 55.6	-0.5
	0.3nm,0.3s,baz=24,slow=12,SNR=13						
WRA				LR	LR	03 43 20.3	
	comp=Z,123nm,19.1s,baz=340,slow=40						
	2.7nm,0.9s						
ASAR	**Alice Springs**	**20.77**	**198**	P	P	03 36 34.7	-0.9
	1.6nm,0.7s,baz=29,slow=11,SNR=29						
ASAR				LR	LR	03 43 51.5	
	comp=Z,40nm,19.9s,baz=343,slow=35						
	1.6nm,0.7s						
STKA	**Stephens Creek**	**27.82**	**179**	P	P	03 37 44.3	+0.3
	0.7nm,0.4s,baz=346,slow=9.9,SNR=3.7						
	0.7nm,0.4s						

IDC 19 03:34:55.8±3.7, 18°64N×121°28E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=317.4km s-min=28.6km az=61.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.43**	**161**	P	P	03 42 35.9	-0.2
	0.1nm,0.5s,baz=339,slow=9.8,SNR=1.1						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**42.50**	**320**	P	P	03 42 52.8	-0.2
	1.9nm,1.0s,baz=99,slow=9.3,SNR=5.3						
	1.9nm,1.0s						
ASAR	**Alice Springs**	**43.82**	**163**	P	P	03 43 03.9	+0.1
	0.2nm,0.8s,baz=346,slow=7.8,SNR=1.1						
	0.2nm,0.8s						

DJA 19 03:55:20.1±0.4, 0°S±4°×12°4E±°, h58km±28km, M4.0/13, mB4.8/1, MLv4.0/13, Mw(mB)4.1/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.54**	**234**	P	Pn	03 55 46.3	+1.1
MRSI	**Marisa**	**2.17**	**286**	P	Pn	03 55 53.3	-0.5
APSI	**Ampana**	**2.49**	**252**	P	Pn	03 55 59.1	+0.8
SANI	**Sanana**	**2.73**	**134**	P	Pn	03 55 59.9	-1.7
TNTI	**Ternate**	**3.47**	**75**	P	Pn	03 56 12.0	+0.4
LBMI	**Labuha**	**3.52**	**98**	P	Pn	03 56 12.0	-0.3
MPSI	**Mapaga**	**4.15**	**277**	P	Pn	03 56 20.1	-0.9
NLAI	**Namlea**	**4.35**	**135**	P	Pn	03 56 23.1	-0.7
SPSI	**Sidrap Palu**	**5.70**	**228**	P	Pn	03 56 43.7	+1.5

*AZER **19** 03:58:05.3±1.2, 37°.11N×44°.48E, h10km, Error ellipse: s-maj=11.6km s-min=7.9km az=2.0*
*ISK **19** 03:58:05.2, 37°.11N×44°.48E, h7km, ML3.6/10*
*ISN **19** 03:58:06.8±1.6, 37°.46N×44°.27E, h6km±999km, ML3.3*
*TEH **19** 03:58:07.8, 37°.45N×44°.60E, h6km, ML3.3*

ISC 19 03:58:08.5±0.8, 37°39N±0°.02×44°47E±0.02, h10km, n60, σ2°25/80, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.70**	**258**	PG	**Pg**	**03 58 19.1**	**-3.1**
CUKT				SG	**Sg**	**03 58 29.8**	**-1.6**
MAHB	**Mahabad**	**1.17**	**122**	*ePg*	**Pb**	**03 58 28.0**	**-2.9**
MAHB				*e*		03 58 51.3	
	comp=Z,12μm,0.6s						
IAZR	**Azarshahr**	**1.23**	**76**	*ePg*	**Pn**	**03 58 29.7**	**-2.4**
IAZR				*eSg*	**Sb**	**03 58 44.1**	**-4.1**
IAZR				*e*		03 58 59.6	
	comp=Z,27μm,0.6s						
ISHB	**Shabestar**	**1.27**	**45**	*ePg*	**Pn**	**03 58 29.2**	**-3.4**
ISHB				*e*		03 58 38.0	
	comp=Z,11μm,0.4s						
VANB	**Van**	**1.47**	**325**	PN	**Pn**	**03 58 34.9**	**-0.4**
VANB				SN	**Sg**	**03 58 56.8**	**+0.9**
VANB	**Van**	**1.47**	**325**	*ePn*	**Pn**	**03 58 34.4**	**-0.9**
AKDM	**Akdamar-Van**	**1.50**	**309**	PN	**Pb**	**03 58 36.3**	**-0.4**
AKDM				SN	**Sg**	**03 58 58.3**	**+1.3**
AKDM	**Akdamar-Van**	**1.50**	**309**	*ePn*	**Pb**	**03 58 36.0**	**-0.7**
ITBZ	**Tabriz**	**1.57**	**57**	*ePn*	**Pn**	**03 58 34.3**	**-2.4**
ITBZ				*e*		03 58 37.6	
	comp=Z,4μm,0.3s						
IMRD	**Marand**	**1.64**	**36**	*ePn*	**Pn**	**03 58 36.7**	**-0.9**
IMRD				*e*		03 59 14.2	
	comp=Z,6μm,0.6s						
CLDR	**Caldiran**	**1.80**	**346**	PN	**Pb**	**03 58 40.9**	**-0.9**
CLDR				SN	**Sg**	**03 59 07.7**	**+1.2**
CLDR	**Caldiran**	**1.80**	**346**	*ePg*	**Pg**	**03 58 42.6**	**-0.5**
ORD	**Ordubad**	**1.95**	**38**	*ePn*	**Pb**	**03 58 44.2**	**+0.1**
ORD	**Ordubad**	**1.95**	**38**	P	**Pb**	**03 58 44.3**	**+0.1**
ORD				S	**Sg**	**03 59 16.1**	**+5.0**
IBST	**Bostanabad**	**1.95**	**80**	*ePn*	**Pn**	**03 58 41.7**	**-0.2**
NAX	**Nakhchivan**	**1.95**	**24**	*ePn*	**Pb**	**03 58 43.8**	**-0.4**
NAX	**Nakhchivan**	**1.95**	**24**	P	**Pb**	**03 58 43.9**	**-0.4**
NAX				S	**Sg**	**03 59 16.9**	**+5.6**
IKRK	**Kirkuk**	**1.99**	**183**	*ePn*	**Pb**	**03 58 45.0**	**+0.1**
IKRK				*eSn*	**Sg**	**03 59 11.0**	**-1.6**
IKRK				AML	AML	03 59 18.5	
	comp=E,532nm,0.7s						
IKRK				AML	AML	03 59 18.7	
	comp=N,541nm,0.5s						
TVRZ	**Varzaqan**	**2.06**	**57**	*ePn*	**Pn**	**03 58 42.9**	**-0.5**
SBZ	**Shahbuz**	**2.17**	**23**	*ePn*	**Pb**	**03 58 47.8**	**-0.2**
SBZ	**Shahbuz**	**2.17**	**23**	P	**Pb**	**03 58 47.8**	**-0.2**
SBZ				S	**Sg**	**03 59 22.9**	**+4.4**
IHSH	**Hashtrud**	**2.23**	**91**	*ePn*	**Pn**	**03 58 45.9**	**+0.1**
IHSH				*e*		03 58 53.1	
	comp=Z,2μm,0.2s						
IHRS	**Heris**	**2.24**	**65**	*ePn*	**Pn**	**03 58 45.8**	**-0.1**
MLAZ	**Malazgirt-MUS**	**2.31**	**320**	PN	**Pn**	**03 58 47.9**	**+1.1**
MLAZ	**Malazgirt-MUS**	**2.31**	**320**	*ePn*	**Pb**	**03 58 48.6**	**-1.8**
HYR	**Heyderabad**	**2.34**	**7**	*ePn*	**Pb**	**03 58 48.4**	**-2.5**
HYR	**Heyderabad**	**2.34**	**7**	P	**Pb**	**03 58 48.5**	**-2.5**
HYR				S	**Sg**	**03 59 24.4**	**+0.6**
AGRB	**Hanur-Agry**	**2.47**	**332**	PN	**Pb**	**03 58 50.8**	**-2.3**
AGRB	**Hanur-Agry**	**2.47**	**332**	*ePn*	**Pb**	**03 58 52.0**	**-1.1**
ISRB	**Sarab**	**2.58**	**79**	*ePn*	**Pn**	**03 58 51.2**	**+0.7**
TASB	**TASBURUN-IGDIR**	**2.59**	**356**	PN	**Pb**	**03 58 52.8**	**-2.4**
TASB	**TASBURUN-IGDIR**	**2.59**	**356**	*ePn*	**Pb**	**03 58 54.3**	**-0.9**
GNI	**Garni**	**2.76**	**4**	PN	**Pb**	**03 58 55.2**	**-2.9**
VRTB	**Varto-Mus**	**2.96**	**308**	PN	**Pn**	**03 58 56.8**	**+1.1**
IDHR	**Dehrash**	**3.10**	**149**	*ePn*	**Pn**	**03 58 59.5**	**+1.7**
ILIN	**Lien**	**3.19**	**140**	*ePn*	**Pn**	**03 59 00.4**	**+1.4**
MAZI	**Mazidag**	**3.20**	**272**	PN	**Pn**	**03 58 57.8**	**-1.3**
LRK	**Lerik**	**3.30**	**67**	P	**Pb**	**03 59 03.7**	**-3.6**
LRK				S	**Sg**	**03 59 50.9**	**-3.7**
YRD	**Yardimli**	**3.34**	**62**	P	**Pb**	**03 59 05.9**	**-2.1**
YRD				S	**Sg**	**03 59 52.6**	**-3.2**
BNGB	**Bingl**	**3.38**	**299**	PN	**Pn**	**03 59 02.6**	**+1.0**
GDB	**GEDABAY**	**3.47**	**16**	P	**Pn**	**03 59 05.7**	**+2.9**
GDB				S	**Sb**	**03 59 52.0**	**-0.5**
DYBB	**Diyarbakir**	**3.48**	**281**	PN	**Pn**	**03 59 02.5**	**-0.3**
IGHG	**Ghaleghazi**	**3.50**	**150**	*ePn*	**Pn**	**03 59 04.9**	**+1.6**
GANJ	**Ganja**	**3.55**	**23**	P	**Pn**	**03 59 06.6**	**+2.8**
GANJ				S	**Sb**	**03 59 53.5**	**-1.2**
GLBA	**Clilabad**	**3.59**	**58**	P	**Pb**	**03 59 08.2**	**-4.0**
GLBA				S	**Sb**	**03 59 57.9**	**+2.1**
ASTR	**Astara**	**3.61**	**70**	P	**Pb**	**03 59 07.9**	**-4.5**
ASTR				S	**Sb**	**03 59 58.5**	**+2.3**
LKRN	**Lenkeran, Azer**	**3.65**	**68**	P	**Pb**	**03 59 13.1**	**0.0**
LKRN				S	**Sb**	**03 59 59.6**	**+2.3**
YEDI	**Yedisu-Bingol**	**3.70**	**305**	PN	**Pn**	**03 59 07.1**	**+1.2**
KER	**Kermanshah**	**3.70**	**143**	*ePn*	**Pn**	**03 59 07.4**	**+1.5**
QZX	**Qazax, Azerbai**	**3.73**	**11**	P	**Pn**	**03 59 08.6**	**+2.4**
QZX				S	**Sb**	**03 59 56.8**	**-2.9**
KCHF	**Cheshme Sefid,**	**3.75**	**145**	*ePn*	**Pn**	**03 59 08.3**	**+1.7**
IBZA	**Bozab**	**4.01**	**136**	*ePn*	**Pn**	**03 59 11.6**	**+1.3**
IKOM	**Komasi**	**4.05**	**142**	*ePn*	**Pn**	**03 59 12.4**	**+1.6**
BHD	**Baghdad**	**4.12**	**181**	*ePn*	**Pn**	**03 59 14.0**	**+2.5**
BHD				*eSn*	**Sn**	**04 00 03.0**	**+3.4**
IBDR	**Badra**	**4.44**	**164**	*ePn*	**Pn**	**03 59 18.0**	**+2.1**
IBDR				*eSn*	**Sn**	**04 00 12.0**	**+4.4**
IBDR				AML	AML	04 00 35.7	
	comp=E,40nm,1.2s						
IBDR				AML	AML	04 00 52.2	
	comp=N,33nm,0.6s						
HSAM	**Samen**	**4.62**	**132**	*ePn*	**Pn**	**03 59 20.3**	**+1.6**
IDOB	**Doab**	**4.70**	**139**	*ePn*	**Pn**	**03 59 22.0**	**+2.3**
IKFM	**Kafar-mosalman**	**4.74**	**143**	*ePn*	**Pn**	**03 59 22.0**	**+1.9**
IKMR	**Kamar-syah**	**5.01**	**139**	*ePn*	**Pn**	**03 59 25.5**	**+1.7**
IPIR	**Pirpir**	**7.06**	**130**	*ePn*	**Pn**	**03 59 53.7**	**+1.5**

MAN 19 04:04:51.3, 10°63N×123°83E, h3km, mb3.9, ML2.7, MS2.3, 3C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABP	**Talibon, Bohol**	**0.73**	**137**	*iP*	Pg	04 05 05.5	+0.2
TABP				*eS*	Sn	04 05 50.8	+31
GUIM	**Jordan**	**1.22**	**270**	*iP*	Pg	04 05 14.0	-0.7
GUIM				*eS*	Sn	04 05 43.1	+11
CNOP	**Candoni, Negro**	**1.42**	**236**	*iP*	Pn	04 05 17.5	-0.5
CNOP				*eS*	Sn	04 05 37.3	+0.1

*NEIC **19** 04:05:26.4±2.6, 1°90S±0°05×77°96W±0°09, h164km±8km, mb4.1/7, Error ellipse: s-maj=13.6km s-min=7.3km az=83.0*
*IDC **19** 04:05:27.8±2.2, 1°86S×77°85W, h158km±23km, mb3.4/6, mbtmp4.0/11, MS3.5/1, Error ellipse: s-maj=21.1km s-min=15.4km az=77.0*
*VAO **19** 04:05:34.5±1.3, 1°65S×77°27W, h191km, mb3.9*

ISC 19 04:05:26.4±0.6, 1°91S±0°05×77°82W±0°08, h150km, n45, σ1°69/48, mb3.7/7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PORT	**Chimborazo Vol**	**1.05**	**295**	Pn	**Pn**	**04 05 53.0**	**+0.7**
CHSH	**Refugio Sur-Vo**	**1.13**	**291**		**Pn**	**04 05 53.0**	**0.0**
SLOR	**San Lorenzo -**	**1.35**	**330**		**Pn**	**04 05 56.0**	**+0.9**
BOSC	**San Juan Bosco**	**1.41**	**209**		**Pn**	**04 05 56.4**	**+1.1**
COHC	**Cochancay**	**1.54**	**249**	Pn	**Pn**	**04 05 55.9**	**-0.6**
PULU	**Pululahua**	**2.03**	**340**		**Pn**	**04 06 02.5**	**+0.1**
IMBA	**Imbabura, San**	**2.20**	**350**		**Pn**	**04 06 05.7**	**+1.3**
TULM	**Tulcn-Chalpat**	**2.60**	**1**		**Pn**	**04 06 11.5**	**+2.1**
ARNL	**Arenillas**	**2.78**	**234**		**Pn**	**04 06 08.6**	**-2.4**
MCRA	**Macar, Loja**	**3.25**	**221**	Pn	**Pn**	**04 06 15.1**	**-2.0**
ATAH	**Atahualpa**	**5.23**	**186**	P	**Pn**	**04 06 45.3**	**+2.0**
	26nm,0.6s,baz=18,slow=14,SNR=36						
ATAH				S	**Sn**	**04 07 44.9**	**+1.7**
	19nm,0.4s,baz=72,slow=19,SNR=6.1						
ATAH				LR	LR	04 09 14.2	
	comp=Z,502nm,21.3s,baz=277,slow=43						
PRAC	**Prado**	**6.30**	**28**	Pn	**Pn**	**04 06 57.0**	**-0.3**
CZSB	**Cruzeiro do Su**	**7.71**	**139**	Pn	**Pn**	**04 07 17.0**	**+1.0**
TBTG	**Tabatinga, AM**	**8.21**	**106**		**Pn**	**04 07 22.6**	**-0.2**
TBTG	**Tabatinga, AM**	**8.21**	**106**	*eP*	**Pn**	**04 07 23.4**	**+0.6**
NNA	**Nana**	**10.06**	**175**	P	**Pn**	**04 07 51.0**	**+3.6**
	5.9nm,0.4s,baz=355,slow=11,SNR=2.2						
NNA				S	**Sn**	**04 09 32.5**	**-6.4**
	6.0nm,0.3s,baz=262,slow=23,SNR=2.6						
SGCB	**SEo Gabriel d**	**10.93**	**81**	*eP*	**Pn**	**04 07 57.6**	**-1.2**
SDV	**Santo Domingo**	**12.89**	**34**	P	**Pn**	**04 08 26.0**	**+1.5**
	3.7nm,0.4s,baz=167,slow=15,SNR=4.2						
SDV	**Santo Domingo**	**12.89**	**34**		**Pn**	**04 08 23.7**	**-0.9**
SDV	**Santo Domingo**	**12.89**	**34**	*eP*	**Pn**	**04 08 25.0**	**+0.5**
ETMB	**Extrema**	**13.96**	**125**		**Pn**	**04 08 36.9**	**-1.0**
BAUV	**El Baul**	**14.53**	**42**	Pn	**Pn**	**04 08 44.3**	**-0.8**
MACA	**Manacapuru-AM**	**17.16**	**95**	P	**P**	**04 09 14.8**	**-1.9**
MACA				IAmb	IAmb	04 09 22.1	
	comp=Z,7.8nm,0.6s						
MACA	**Manacapuru-AM**	**17.16**	**95**	*eP*	**P**	**04 09 16.1**	**-0.5**
LPAZ	**La Paz**	**17.18**	**147**	P	**Pn**	**04 09 20.3**	**+2.1**
	comp=Z,2.6nm,0.9s,baz=321,slow=14,SNR=6.2						
LPAZ				S	**Sn**	**04 12 30.1**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=20,slow=19,SNR=1.7						
LPAZ	**La Paz**	**17.18**	**147**		**P**	**04 09 14.8**	**-2.7**
LPAZ	**La Paz**	**17.18**	**147**	*eP*	**Pn**	**04 09 20.9**	**+2.6**
PCRV	**Puerto La Cruz**	**17.78**	**47**	P	**P**	**04 09 24.8**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=315,slow=7.1,SNR=2.1						
BOAV	**Boa Vista**	**17.81**	**76**	*eP*	**P**	**04 09 23.3**	**-0.5**
PB16	**IPOC Station P**	**18.25**	**154**	P	**P**	**04 09 28.6**	**-0.6**
PB16				IAmb	IAmb	04 09 33.5	
	comp=Z,7.4nm,0.8s						
GO01	**Chusmiza**	**19.57**	**155**	P	**P**	**04 09 42.0**	**-1.3**
GO01				IAmb	IAmb	04 09 47.5	
	comp=Z,8.6nm,0.9s						
PB08	**IPOC Station P**	**20.00**	**156**	P	**P**	**04 09 47.5**	**-0.5**
PB08				IAmb	IAmb	04 10 05.6	
	comp=Z,5.9nm,0.8s						
SIV	**San Ignacio**	**21.64**	**131**	P	**P**	**04 10 06.7**	**+1.7**
	comp=Z,2.1nm,0.7s,baz=307,slow=9.6,SNR=12						
	comp=Z,2.1nm,0.7s						
ITTB	**Itaituba**	**22.18**	**97**	*eP*	**P**	**04 10 11.2**	**+0.5**
BBSD	**Serra de San D**	**22.73**	**133**	*eP*	**P**	**04 10 18.5**	**+2.6**
NPGB	**Novo Progresso**	**22.96**	**104**	*eP*	**P**	**04 10 18.3**	**+0.3**
MALB	**Monte Alegre**	**23.54**	**90**	*eP*	**P**	**04 10 22.8**	**-0.6**
CLDB	**Colider**	**23.61**	**113**	*eP*	**P**	**04 10 24.5**	**+0.6**
MDP	**Montagnes des**	**26.09**	**74**	P	**P**	**04 10 46.5**	**0.0**
	comp=Z,4.2nm,0.7s,baz=253,slow=10,SNR=6.6						
	comp=Z,4.2nm,0.7s						
PLCA	**Paso Flores**	**39.20**	**171**	P	**P**	**04 12 41.7**	**+1.7**
	comp=Z,2.7nm,0.9s,baz=338,slow=9.9,SNR=5.5						
	comp=Z,2.7nm,0.9s						
KS20	**Mayfield South**	**43.03**	**337**	P	**P**	**04 13 10.5**	**-0.8**
ANMO	**Albuquerque**	**45.43**	**326**	P	**P**	**04 13 30.7**	**0.0**
ANMO				IAmb	IAmb	04 13 32.0	
	comp=Z,1.7nm,0.7s						
PDAR	**Pinedale Array**	**52.88**	**331**	P	**P**	**04 14 27.5**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=125,slow=7.8,SNR=1.9						
	comp=Z,0.1nm,0.4s						
NVAR	**Mina Array Bea**	**54.79**	**321**	P	**P**	**04 14 41.6**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=137,slow=9.4,SNR=2.7						
	comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**82.92**	**336**	P	**P**	**04 17 33.4**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=135,slow=4.3,SNR=7.4						
	comp=Z,0.5nm,0.7s						

MAN 19 04:05:52.0, 8°44N×125°72E, h29km, mb3.8, ML2.5, MS2.0, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.68**	**112**	*iP*	Pb	04 06 04.7	-0.8
BIPH				*i* S	Sb	04 06 14.1	-0.5
BUKP	**Musuan**	**0.86**	**230**	*eP*	Pn	04 06 08.2	-0.1
BUKP				*eS*	Sn	04 06 22.1	+2.2
CGP	**Cagayan de Oro**	**1.02**	**271**	*eP*	Pn	04 06 09.3	-1.0
CGP				*eS*	Sb	04 06 24.3	+0.2
GLSP	**General Luna,**	**1.39**	**17**	*eP*	Pn	04 06 15.7	+0.1
GLSP				*eS*	Sn	04 06 33.3	+0.3

WEL 19 04:07:27.6±0.3, 42°S±2°×17°4E±°, h5km, M2.9/31, ML3.1/19, MLv2.9/31, Error ellipse: s-maj=0.0km s-min=0.0km az=122.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.34**	**209**	P	Pg	04 07 34.8	+0.6
KHZ				S	Sg	04 07 39.7	+1.0
BSWZ	**Blackbirch Sta**	**0.41**	**12**	P	Pg	04 07 36.0	+0.5
BSWZ				S	Sb	04 07 42.4	-1.4
CMWZ	**Cape Campbell**	**0.50**	**43**	P	Pb	04 07 38.5	-0.4
TUWZ	**Tuamarina**	**0.70**	**11**	P	Pg	04 07 41.5	+0.5
THZ	**Tophouse**	**0.73**	**299**	P	Pg	04 07 41.6	+0.1
NNZ	**Nelson**	**0.94**	**342**	P	Pg	04 07 45.5	-0.1
TCW	**Tory Channel**	**0.98**	**23**	P	Pg	04 07 46.3	-0.1
GVZ	**Greta Valley S**	**1.01**	**212**	P	Pb	04 07 47.7	+0.2
MRNZ	**Matariki Terra**	**1.04**	**313**	P	Pg	04 07 47.7	+0.2
WEL	**Wellington**	**1.12**	**43**	P	Pb	04 07 49.5	0.0
TKNZ	**Takaka Hill**	**1.24**	**331**	P	Pg	04 07 51.1	-0.2
PLWZ	**Palliser**	**1.24**	**64**	P	Pg	04 07 50.4	-1.0
MSWZ	**Moikau Station**	**1.31**	**58**	P	Pn	04 07 51.5	-1.1
DUWZ	**D'Urville Isla**	**1.32**	**5**	P	Pn	04 07 52.2	-0.5
AMCZ	**Amberley**	**1.34**	**217**	P	Pn	04 07 51.9	-1.0
CAW	**Cannon Point**	**1.41**	**45**	P	Pn	04 07 53.1	-0.7
PAWZ	**Paruwai Farm**	**1.45**	**60**	P	Pn	04 07 53.0	-1.4
DSZ	**Denniston Nort**	**1.50**	**284**	P	Pb	04 07 56.2	+0.2
KIW	**Kapiti Island**	**1.52**	**35**	P	Pn	04 07 55.1	-0.3
QRZ	**Quartz Range**	**1.59**	**324**	P	Pb	04 07 57.2	-0.1
TRWZ	**Traveller**	**1.61**	**64**	P	Pn	04 07 55.1	-1.6
MTW	**Mount Morrison**	**1.62**	**54**	P	Pn	04 07 55.3	-1.4
OGWZ	**Otaki Gorge**	**1.68**	**40**	P	Pn	04 07 56.9	-0.7
OKCZ	**Okains Bay**	**1.69**	**198**	P	Pn	04 07 56.1	-1.6
OXZ	**Oxford**	**1.75**	**226**	P	Pn	04 07 57.3	-1.3
MQZ	**McQueen's Vall**	**1.

RAHZ	Arahi	2.16 181	P	Pn	04 10 48.7	+2.2
KNZ	Kokohu	2.31 169	P	Pn	04 10 49.7	+2.0
WHHZ	Waihua	2.32 178	P	Pn	04 10 50.2	+2.4
NMHZ	Naumai	2.35 186	P	Pn	04 10 50.7	+2.5
RATZ	Rangitukua	2.36 206	P	Pn	04 10 50.4	+2.1
WCZ	Waipu Caves	2.38 289	P	Pn	04 10 50.0	+1.6
RITZ	Rihia Road	2.43 204	P	Pn	04 10 51.1	+2.2
BKZ	Black Stump Fm	2.46 191	P	Pn	04 10 50.4	+1.3
BKZ	Black Stump Fm	2.46 191	P	Pn	04 10 50.5	+1.3
MHGZ	Mahia Peninsul	2.48 166	P	Pn	04 10 51.7	+2.5
ARHZ	Aropaoanui	2.51 182	P	Pn	04 10 51.9	+2.4
HIZ	Hauiti	2.51 225	P	Pn	04 10 53.0	+3.4
HIZ	Hauiti	2.51 225	P	Pn	04 10 52.8	+3.3
TMVZ	Te Maari	2.61 205	P	Pn	04 10 52.7	+2.1
ETVZ	East Tongariro	2.62 205	P	Pn	04 10 52.8	+2.1
WTVZ	West Tongariro	2.65 207	P	Pn	04 10 53.1	+2.1
NNVZ	North Ngauruho	2.65 206	P	Pn	04 10 53.2	+2.1
OTVZ	Oturere	2.67 205	P	Pn	04 10 51.5	+0.3
TWVZ	Taurewa	2.67 209	P	Pn	04 10 53.2	+2.1
SNVZ	South Ngauruho	2.69 205	P	Pn	04 10 53.6	+2.2
NGZ	Ngauruhoe	2.70 206	P	Pn	04 10 53.7	+2.2
MCHZ	McNeill Hill	2.71 187	P	Pn	04 10 53.7	+2.3
KWHZ	Kaweka Forest	2.72 191	P	Pn	04 10 53.5	+1.9
TUVZ	Tukino	2.76 204	P	Pn	04 10 54.1	+2.0
FWVZ	Far West T-bar	2.79 206	P	Pn	04 10 54.2	+1.8
WHVZ	Whangaehu Hut	2.80 205	P	Pn	04 10 54.5	+2.0
TRVZ	Turoa	2.83 205	P	Pn	04 10 54.9	+2.0
WNVZ	Wahianoa	2.83 205	P	Pn	04 10 54.6	+1.8
MOVZ	Moawhango	2.86 202	P	Pn	04 10 54.3	+1.3
PKVZ	Pokaka	2.89 208	P	Pn	04 10 55.4	+2.1
CKHZ	Cape Kidnapper	2.90 181	P	Pn	04 10 55.3	+2.0
VRZ	Vera Road	3.01 217	P	Pn	04 10 57.4	+3.0
KAHZ	Kahuranaki	3.04 183	P	Pn	04 10 56.8	+2.1
PNHZ	Pukenui	3.24 193	P	Pn	04 10 58.0	+1.3
OUZ	Omahuta	3.24 297	P	Pn	04 10 58.7	+1.9
OUZ	Omahuta	3.24 297	P	Pn	04 10 56.5	-0.3
PXZ	Pawanui	3.28 183	P	Pn	04 10 58.8	+1.8
WPHZ	Waipukurau	3.35 189	P	Pn	04 10 59.5	+1.7
TSZ	Takapari Road	3.42 195	P	Pn	04 10 59.8	+1.2
WAZ	Wanganui	3.43 209	P	Pn	04 11 00.8	+2.1
NEZ	North Egmont	3.46 223	P	Pn	04 11 02.5	+3.3
KHEZ	Kahui Hut	3.53 223	P	Pn	04 11 03.3	+3.5
PRHZ	Porangahau	3.53 186	P	Pn	04 11 01.3	+1.6
ANWZ	Angora Road	3.73 188	P	Pn	04 11 03.5	+1.6
POWZ	Post Office Ro	3.78 196	P	Pn	04 11 03.8	+1.4
PRWZ	Pori Road	3.90 193	P	Pn	04 11 05.6	+1.9
BFZ	Birch Farm	3.98 190	P	Pn	04 11 05.6	+1.0
BFZ	Birch Farm	3.98 190	P	Pn	04 11 05.9	+1.3
MRZ	Mangatainoka R	4.08 197	P	Pn	04 11 06.5	+0.8
TIWZ	Tintock	4.13 193	P	Pn	04 11 08.4	+2.1
HOWZ	Holdsworth Sta	4.32 196	P	Pn	04 11 09.3	+0.9
OGWZ	Otaki Gorge	4.33 200	P	Pn	04 11 09.2	+0.7
KIW	Kapiti Island	4.45 202	P	Pn	04 11 10.7	+0.8
TMWZ	Te Maipa	4.45 192	P	Pn	04 11 11.4	+1.5
MTW	Mount Morrison	4.58 195	P	Pn	04 11 12.0	+0.7
CAW	Cannon Point	4.63 200	P	Pn	04 11 12.4	+0.5
DUWZ	D'Urville Isla	4.75 211	P	Pn	04 11 13.8	+0.5
TRWZ	Traveller	4.77 193	P	Pn	04 11 15.1	+1.6
PAWZ	Paruwai Farm	4.80 195	P	Pn	04 11 14.6	+0.7
MSWZ	Moikau Station	4.88 197	P	Pn	04 11 15.2	+0.4
WEL	Wellington	4.88 201	P	Pn	04 11 15.7	+1.0
TCW	Tory Channel	4.97 206	P	Pn	04 11 15.6	-0.2
PLWZ	Palliser	5.02 196	P	Pn	04 11 17.2	+0.7
TUWZ	Tuamarina	5.28 207	P	Pn	04 11 19.9	+0.4
NNZ	Nelson	5.32 212	P	Pn	04 11 20.4	+0.4
TKNZ	Takaka Hill	5.36 216	P	Pn	04 11 20.6	+0.1
QRZ	Quartz Range	5.42 223	P	Pn	04 11 21.3	+0.2
CMWZ	Cape Campbell	5.47 203	P	Pn	04 11 22.4	+0.7
MRNZ	Matariki Terra	5.75 215	P	Pn	04 11 25.8	+0.8
DSZ	Denniston Nort	6.47 218	P	Pn	04 11 34.8	+1.0
INZ	Inchbonnie	7.39 214	P	Pn	04 11 45.9	+0.9
OKCZ	Okains Bay	7.62 203	P	Pn	04 11 49.0	+1.2
MQZ	McQueen's Vall	7.74 205	P	Pn	04 11 49.6	+0.4
MHCZ	Mount Hutt	7.99 210	P	Pn	04 11 53.0	+0.6
WACZ	Wakanui South	8.23 208	P	Pn	04 11 56.1	+0.9
TMZ	Timaru	8.92 209	P	Pn	04 12 04.9	+1.1
ODZ	Otahua Downs	9.62 209	P	Pn	04 12 13.9	+1.5

IDC 19 04:17:56.9±2.9,3°97S×153°73E,h0km±,mb3.7/2,
mbtmp3.7/2,Error ellipse: s-maj=67.8km s-min=48.7km
az=148.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.73**	**259**	Pn	Pn	04 18 28.3	0.0
	34nm,0.3s,baz=326,slow=1.6,SNR=14						
KRVT				Sn	Sn	04 18 46.0	-5.1
	56nm,0.3s,baz=126,slow=13,SNR=8.5						
WRA	**Warramunga Arr**	**24.68**	**228**	P	P	04 23 19.9	-0.1
	1.7nm,0.7s,baz=53,slow=9.5,SNR=24						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**27.38**	**223**	P	P	04 23 44.4	0.0
	0.3nm,0.4s,baz=60,slow=8.4,SNR=5.1						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.91**	**290**	PKPbc	PKPbc	04 37 52.4	-0.3
	0.5nm,0.8s,baz=60,slow=2.4,SNR=3.9						

*IDC **19** 04:20:50.9±0.7,5°.32S×153°.94E,h164km±5km,mb4.4/20,*
mbtmp4.8/21,MS3.4/5,Error ellipse: s-maj=11.0km
s-min=7.9km az=86.0
*NEIC **19** 04:20:50.4±1.3,5°.27S±0°.09×154°.09E±0°.10,h157km±5km,*
mb4.7/99,Error ellipse: s-maj=14.2km s-min=12.5km
az=91.0
*DJA **19** 04:20:52.5±0.6,5°S±4°×15°4E±°,h170km±5km,M4.9/24,*
mB5.2/7,mb4.7/24,MLv5.2/2,Mw(mB)4.6/7
ISC 19 04:20:49.3±0.3,5°25S±0°05×154°16E±0°06,h150km,n200,
σ1§45/186,mb4.7/86,6C-3D,Bougainville-Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.25**	**298**	Pn	**Pn**	**04 21 27.9**	**+0.5**
RABL	**Rabaul**	**2.25**	**298**	P	**Pn**	**04 21 28.3**	**+0.9**
KRVT	**Keravat (AS076**	**2.33**	**294**	P	**Pn**	**04 21 28.8**	**+0.5**
	287nm,0.3s,baz=272,slow=1.6,SNR=38						
KRVT				S	**Sn**	**04 21 57.4**	**-1.0**
	1μm,0.4s,baz=62,slow=21,SNR=14						
KRVT				LR	LR	04 22 32.7	
	comp=Z,238nm,18.5s,baz=327,slow=47						
PMG	**Port Moresby**	**8.08**	**239**	P	**Pn**	**04 22 47.0**	**+3.3**
	155nm,0.8s,baz=26,slow=7.6,SNR=26						
PMG				S	**Sn**	**04 24 16.3**	**+2.4**
	71nm,0.8s,baz=103,slow=22,SNR=2.9						
PMG	**Port Moresby**	**8.08**	**239**	Pn	**Pn**	**04 22 44.0**	**+0.2**
PMG	**Port Moresby**	**8.08**	**239**	P	**Pn**	**04 22 44.7**	**+0.9**
	0.7nm2μm236nm,0.9s						
PMG	**Port Moresby**	**8.08**	**239**	P	**Pn**	**04 22 47.1**	**+3.3**
PATS	**Pohnpei**	**12.70**	**19**	Pn	**Pn**	**04 23 44.3**	**-0.4**
COEN	**Coen**	**13.86**	**231**	Pn	**Pn**	**04 23 59.8**	**+0.3**
COEN	**Coen**	**13.86**	**231**	P	**P**	**04 24 04.3**	**+1.4**
TV1H	**Townsville Har**	**15.67**	**207**	P	**Pn**	**04 24 23.0**	**+1.0**
SMPI	**Sarmi**	**15.76**	**281**	P	**Pn**	**04 24 23.7**	**+0.5**
	115nm,1.2s						
CTA	**Charters Tower**	**16.64**	**207**	P	**Pn**	**04 24 34.8**	**+0.9**
	18nm,0.7s,baz=27,slow=12,SNR=22						
CTA				LR	LR	04 30 25.4	
	comp=Z,117nm,18.7s,baz=76,slow=35						
CTA	**Charters Tower**	**16.64**	**207**	P	**Pn**	**04 24 35.3**	**+1.4**
CTAO	**Charters Tower**	**16.64**	**207**	P	**P**	**04 24 34.0**	**+0.4**
CTAO				IAmb	IAmb	04 24 36.3	
	comp=Z,24nm,0.8s						
CTAO	**Charters Tower**	**16.64**	**207**	P	**Pn**	**04 24 35.2**	**+1.4**
KOUNC	**Koumac, New Ca**	**18.11**	**148**	P	**P**	**04 24 50.1**	**+0.3**
KOUNC				IAmb	IAmb	04 24 58.9	
	comp=Z,32nm,0.9s						
KOUNC	**Koumac, New Ca**	**18.11**	**148**	P	**P**	**04 24 51.4**	**+1.6**
EIDS	**Eidsvold**	**20.22**	**188**	P	**P**	**04 25 12.2**	**-0.4**
EIDS	**Eidsvold**	**20.22**	**188**	P	**P**	**04 25 13.7**	**+1.0**
DZM	**Mont Dzumac**	**20.52**	**146**	P	**P**	**04 25 17.0**	**+1.1**
	comp=Z,26nm,0.7s,baz=291,slow=7.5,SNR=24						
	comp=Z,26nm,0.7s						
DZM	**Mont Dzumac**	**20.52**	**146**	P	**P**	**04 25 16.1**	**+0.2**
DZM				IAmb	IAmb	04 25 17.5	
	comp=Z,25nm,0.7s						
DZM	**Mont Dzumac**	**20.52**	**146**	P	**P**	**04 25 17.1**	**+1.2**
QIS	**Mount Isa**	**20.78**	**222**	P	**P**	**04 25 18.3**	**-0.4**
GUMO	**Guam**	**20.87**	**334**	P	**P**	**04 25 20.8**	**+1.2**
	comp=Z,43nm,0.5s,baz=163,slow=17,SNR=2.2						
	comp=Z,43nm,0.5s						
OUENC	**Ouen Island, N**	**21.01**	**146**	P	**P**	**04 25 23.3**	**+2.2**

RMQ	**Roma**	**21.74**	**193**	P	**P**	**04 25 29.7**	**+0.8**
FAKI	**Fak Fak**	**21.98**	**275**	P	**P**	**04 25 34.1**	**+2.6**
	comp=Z,20nm,0.9s						
QLP	**Quilpie**	**23.24**	**203**	P	**P**	**04 25 43.3**	**0.0**
MTN	**Manton Dam**	**23.95**	**250**	P	**P**	**04 25 49.3**	**-0.5**
WRAB	**Tennant Creek**	**24.18**	**231**	P	**P**	**04 25 50.6**	**-1.4**
WRAB				IAmb	IAmb	04 25 53.1	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**24.18**	**231**	P	**P**	**04 25 51.2**	**-0.7**
WB2	**Warramunga Arr**	**24.18**	**231**	P	**P**	**04 25 51.2**	**-0.8**
WB2				IAmb	IAmb	04 25 53.2	
	comp=Z,19nm,0.9s						
WRA	**Warramunga Arr**	**24.19**	**231**	P	**P**	**04 25 51.3**	**-0.8**
	comp=Z,8.6nm,0.4s,baz=56,slow=10,SNR=104						
WRA				pP	**pP**	**04 26 21.4**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=54,slow=12,SNR=3.9						
WRA				PcP	**PcP**	**04 29 28.3**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=40,slow=2.7,SNR=0.9						
WRA				S	**S**	**04 29 55.5**	**-4.1**
	comp=Z,1.5nm,0.9s,baz=53,slow=15,SNR=4.5						
	comp=Z,8.6nm,0.4s						
WRA	**Warramunga Arr**	**24.19**	**231**	P	**P**	**04 25 50.7**	**-1.3**
ARMA	**Armidale**	**25.15**	**185**	P	**P**	**04 26 00.9**	**+0.1**
ARMA	**Armidale**	**25.15**	**185**	P	**P**	**04 26 01.7**	**+1.0**
INKA	**Innaminka**	**25.75**	**208**	P	**P**	**04 26 06.0**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**26.63**	**27**	T	T	04 54 43.7	
	baz=208,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**26.64**	**27**	T	T	04 54 46.5	
	baz=208,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**26.65**	**27**	T	T	04 54 59.4	
	baz=208,slow=76,SNR=57						
AS01	**Alice Springs**	**26.73**	**225**	P	**P**	**04 26 14.5**	**-0.5**
AS31	**Alice Springs**	**26.76**	**225**	P	**P**	**04 26 14.4**	**-0.8**
ASAR	**Alice Springs**	**26.76**	**225**	P	**P**	**04 26 14.1**	**-1.2**
	comp=Z,2.0nm,0.4s,baz=56,slow=8.8,SNR=25						
ASAR				pP	**pP**	**04 26 47.5**	**+3.0**
	comp=Z,3.3nm,0.8s,baz=58,slow=9.4,SNR=3.9						
ASAR				PcP	**PcP**	**04 29 33.5**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=60,slow=2.9,SNR=4.1						
ASAR				S	**S**	**04 30 35.9**	**-4.4**
	comp=Z,2.3nm,0.7s,baz=51,slow=14,SNR=7.0						
	comp=Z,2.0nm,0.4s						
KNRA	**Kununurra**	**27.01**	**245**	P	**P**	**04 26 16.3**	**-1.1**
KNRA				IAmb	IAmb	04 26 31.3	
	comp=Z,36nm,1.5s						
KNRA	**Kununurra**	**27.01**	**245**	P	**P**	**04 26 15.4**	**-2.1**
MGCD	**Mangrove Creek**	**27.96**	**185**	P	**P**	**04 26 29.5**	**+3.7**
	comp=Z,20nm,0.9s						
OOD	**Oodnadatta**	**28.49**	**216**	P	**P**	**04 26 31.3**	**+0.8**
STKA	**Stephens Creek**	**28.99**	**202**	P	**P**	**04 26 33.9**	**-1.0**
	comp=Z,3.8nm,0.5s,baz=345,slow=12,SNR=8.8						
STKA				LR	LR	04 38 07.0	
	comp=Z,66nm,18.3s,baz=28,slow=36						
	comp=Z,3.8nm,0.5s						
STKA	**Stephens Creek**	**28.99**	**202**	P	**P**	**04 26 34.3**	**-0.7**
STKA	**Stephens Creek**	**28.99**	**202**	P	**P**	**04 26 34.2**	**-0.7**
LCRK	**Leigh Creek**	**29.22**	**209**	P	**P**	**04 26 38.6**	**+1.6**
	comp=Z,20nm,1.1s						
MULG	**Mulgathing**	**31.29**	**215**	P	**P**	**04 26 54.0**	**-1.2**
HTT	**Hallett**	**31.42**	**205**	P	**P**	**04 26 56.3**	**-0.1**
WRKA	**Warakurna**	**31.67**	**229**	P	**P**	**04 26 56.9**	**-1.8**
BBOO	**Buckleboo**	**32.21**	**209**	P	**P**	**04 27 02.2**	**-1.0**
BBOO				IAmb	IAmb	04 27 06.4	
	comp=Z,18nm,1.3s						
BBOO	**Buckleboo**	**32.21**	**209**	P	**P**	**04 27 03.4**	**+0.2**
APSI	**Ampana**	**32.74**	**276**	P	**P**	**04 27 07.7**	**-0.5**
	comp=Z,26nm,0.8s						
ARPS	**Mount Arapiles**	**33.34**	**198**	P	**P**	**04 27 12.8**	**-0.2**
TOLI2	**Tolitoli**	**33.94**	**280**	P	**P**	**04 27 17.6**	**-0.9**
MPSI	**Mapaga**	**34.67**	**278**	P	**P**	**04 27 23.6**	**-1.2**
	comp=Z,30nm,0.7s						
FORT	**Forrest**	**35.32**	**221**	P	**P**	**04 27 28.3**	**-1.9**
FORT	**Forrest**	**35.32**	**221**	P	**P**	**04 27 29.3**	**-0.9**
RAO	**Raoul Island**	**35.59**	**135**	LR	LR	04 40 36.5	
	comp=Z,54nm,20.2s,baz=184,slow=33						
MBWA	**Marble Bar**	**36.94**	**241**	P	**P**	**04 27 41.5**	**-2.6**
PSA00	**Pilbara Seismi**	**36.98**	**241**	P	**P**	**04 27 43.0**	**-1.5**
PSA00				IAmb	IAmb	04 27 44.1	
	comp=Z,9.9nm,0.7s						
PSA00	**Pilbara Seismi**	**36.98**	**241**	P	**P**	**04 27 43.3**	**-1.2**
MOO	**Moorlands**	**37.55**	**188**	P	**P**	**04 27 49.4**	**+0.5**
TAU	**Tasmania Unive**	**37.99**	**188**	P	**P**	**04 27 52.3**	**-0.3**
TAU				IAmb	IAmb	04 28 03.6	
	comp=Z,13nm,0.8s						
TAU	**Tasmania Unive**	**37.99**	**188**	P	**P**	**04 27 53.7**	**+1.1**
BKZ	**Black Stump Fm**	**39.35**	**152**	P	**P**	**04 28 03.6**	**-0.5**
KMBL	**Kambalda**	**39.89**	**225**	P	**P**	**04 28 07.5**	**-1.1**
MEEK	**Meekatharra**	**40.03**	**234**	P	**P**	**04 28 08.6**	**-1.2**
BFZ	**Birch Farm**	**40.46**	**154**	P	**P**	**04 28 13.3**	**+0.1**
JCZ	**Jackson Bay**	**40.75**	**164**	P	**P**	**04 28 17.1**	**+1.5**
RPZ	**Rata Peaks**	**41.10**	**161**	P	**P**	**04 28 18.5**	**+0.2**
	comp=Z,45nm,0.6s,baz=320,slow=2.4,SNR=24						
	comp=Z,45nm,0.6s						
RPZ	**Rata Peaks**	**41.10**	**161**	P	**P**	**04 28 19.2**	**+0.8**
ODZ	**Otahua Downs**	**42.17**	**163**	P	**P**	**04 28 27.1**	**+0.1**
SBUM	**Sibu**	**42.59**	**279**	P	**P**	**04 28 30.1**	**-0.8**
SBUM	**Sibu**	**42.59**	**279**	P	**P**	**04 28 31.2**	**+0.3**
	comp=Z,7.7nm,1.0s						
KLBR	**Kellerberrin**	**43.00**	**228**	P	**P**	**04 28 32.3**	**-1.7**
MORW	**Morawa**	**43.13**	**232**	P	**P**	**04 28 33.0**	**-2.1**
MORW				IAmb	IAmb	04 28 34.0	
	comp=Z,22nm,1.3s						
MORW	**Morawa**	**43.13**	**232**	P	**P**	**04 28 33.6**	**-1.5**
NACB	**Ninganchiao**	**43.16**	**314**	P	**P**	**04 28 35.2**	**0.0**
BLDU	**Ballidu**	**43.31**	**230**	P	**P**	**04 28 35.0**	**-1.5**
TPUB	**Ta-pu**	**43.33**	**312**	P	**P**	**04 28 36.6**	**-0.1**
TPUB				IAmb	IAmb	04 28 37.3	
	comp=Z,21nm,0.7s						
JNU	**Nakatsue**	**44.09**	**332**	P	**P**	**04 28 42.7**	**0.0**
MJAR	**Matsushiro Arr**	**44.17**	**341**	P	**P**	**04 28 41.3**	**-1.9**
	comp=Z,3.1nm,0.8s,baz=168,slow=9.8,SNR=4.7						
	comp=Z,3.1nm,0.8s						
KSM	**Kuching**	**44.31**	**277**	P	**P**	**04 28 44.2**	**-0.5**
KSM	**Kuching**	**44.31**	**277**	P	**P**	**04 28 44.5**	**-0.2**
	comp=Z,606nmcomp=Z,60nm,0.8s						
JHS	**Saijyo**	**44.67**	**335**	P	**P**	**04 28 47.2**	**0.0**
QZH	**Quanzhou**	**45.80**	**313**	⇑iP	**P**	**04 28 56.9**	**+0.7**
QZH				pmax	pmax		
	comp=Z,37nm,0.7s						
KSRS	**Korea Array**	**49.02**	**332**	P	**P**	**04 29 21.0**	**+0.1**
	comp=Z,12nm,0.9s,baz=147,slow=8.6,SNR=40						
	comp=Z,12nm,0.9s						
INCN	**Inchon**	**49.65**	**331**	P	**P**	**04 29 25.5**	**-0.2**
NJ2	**Nanjing**	**50.05**	**320**	*e*P	**P**	**04 29 32.3**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WHN	**Wuhan**	**52.12**	**316**	⇓P	**P**	**04 29 45.6**	**+1.3**
WHN				pmax	pmax		
	comp=Z,110nm,1.4s						
USRK	**Ussuriysk Ar.**	**53.12**	**340**	P	**P**	**04 29 52.3**	**+1.0**
	comp=Z,6.2nm,0.7s,baz=165,slow=4.9,SNR=10						
	comp=Z,6.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.12**	**340**	P	**P**	**04 29 50.9**	**-0.4**
ENH	**Enshi**	**55.46**	**312**	P	**P**	**04 30 08.1**	**-0.5**
BNX	**BinXian**	**56.09**	**338**	⇓P	**P**	**04 30 12.8**	**0.0**
BNX				pmax	pmax		
	comp=Z,20nm,0.8s						
BNX				pmax	pmax		
	comp=Z,97nm,4.4s						
HNS	**HongShan**	**56.12**	**322**	⇑P	**P**	**04 30 13.4**	**+0.2**
HNS				pmax	pmax		
	comp=Z,16nm,0.9s						
BJI	**Beijing**	**57.02**	**326**	P	**P**	**04 30 21.9**	**+2.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KLR	**Kul'dur**	**57.66**	**343**	P	**P**	**04 30 24.4**	**+0.6**
	comp=Z,9.9nm,0.8s,baz=165,slow=3.7,SNR=24						
KLR				PcP	**sP**	**04 31 13.5**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=171,slow=7.9,SNR=4.3						
	comp=Z,9.9nm,0.8s						
XAN	**Xi'an**	**57.88**	**316**	⇑P	**P**	**04 30 25.8**	**+0.1**
XAN				pP	pwP	04 31 04.0	-1.2
XAN				sP	PcP	04 31 21.1	+4.6
XAN				pmax	pmax		
	comp=Z,31nm,0.7s						
PETK	**Petropavlovsk-**	**58.22**	**3**	P	**P**	**04 30 28.3**	**+0.7**
	comp=Z,10nm,0.8s,baz=176,slow=8.9,SNR=10.0						
	comp=Z,10nm,0.8s						
PETK	**Petropavlovsk-**	**58.22**	**3**	P	**P**	**04 30 27.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**59.30**	**295**	P	**P**	**04 30 36.4**	**+0.7**
	comp=Z,9.2nm,0.8s,baz=109,slow=5.0,SNR=40						
CMAR				pP	**pwP**	**04 31 14.7**	**-0.9**
	comp=Z,5.0nm,0.7s,baz=120,slow=5.3,SNR=3.6						
	comp=Z,9.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.30**	**295**	P	**P**	**04 30 35.6**	**-0.1**

CHTO	**Chiang Mai**	**59.41**	**295**	P	**P**	**04 30 35.8**	**-0.6**
CHTO				IAmb	IAmb	04 30 38.0	
	comp=Z,19nm,1.2s						
PZH	**PanZhiHua**	**59.74**	**305**	P	**P**	**04 30 39.3**	**+0.5**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
XLT	**XiLinHaoTe**	**59.75**	**329**	*e*P	**P**	**04 30 38.8**	**+0.4**
XLT				S	**S**	**04 38 35.8**	**-1.9**
XLT				sS	sS	04 39 40.8	+3.6
XLT				pmax	pmax		
	comp=Z,49nm,0.7s						
XLT				pmax	pmax		
	comp=Z,180nm,4.1s						
HEH	**HeiHe**	**59.92**	**340**	*e*P	**P**	**04 30 38.8**	**-0.6**
HEH				pmax	pmax		
	comp=Z,20nm,0.7s						
HEH				pmax	pmax		
	comp=Z,120nm,4.4s						
HHC	**Hu-ho-hao-te**	**60.21**	**324**	*e*P	**P**	**04 30 44.8**	**+3.1**
HHC				pmax	pmax		
	comp=Z,36nm,0.9s						
HHC				pmax	pmax		
	comp=Z,170nm,4.7s						
HIA	**Hailar**	**62.00**	**335**	P	**P**	**04 30 53.4**	**-0.1**
HIA				IAmb	IAmb	04 30 55.4	
	comp=Z,14nm,1.0s						
GTA	**Gaotai**	**66.91**	**317**	⇑P	**P**	**04 31 26.8**	**+1.1**
GTA				pmax	pmax		
	comp=Z,25nm,1.0s						
ULN	**Ulaanbaatar**	**67.10**	**328**	P	**P**	**04 31 27.2**	**+0.4**
ULN				IAmb	IAmb	04 31 28.7	
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**67.10**	**328**	P	**P**	**04 31 27.2**	**+0.4**
	comp=Z,56nm,1.0s						
SONM	**Songino Array**	**67.43**	**327**	P	**P**	**04 31 29.6**	**+0.8**
	comp=Z,6.0nm,0.6s,baz=140,slow=5.4,SNR=37						
SONM				pP	**pwP**	**04 32 09.4**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=146,slow=5.5,SNR=1.4						
	comp=Z,6.0nm,0.6s						
SONM	**Songino Array**	**67.43**	**327**	P	**P**	**04 31 29.3**	**+0.4**
SONM				IAmb	IAmb	04 31 30.7	
	comp=Z,19nm,1.4s						
UNV	**Unalaska Valle**	**67.47**	**24**	P	**P**	**04 31 30.4**	**+1.7**
SHL	**Shillong**	**67.70**	**300**	P	**P**	**04 31 31.0**	**-0.1**
GOMU	**GeErMu**	**69.07**	**312**	P	**P**	**04 31 41.3**	**+1.7**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,77nm,5.5s						
LSA	**Lhasa**	**69.61**	**304**	P	**P**	**04 31 42.0**	**-1.2**
LSA	**Lhasa**	**69.61**	**304**	P	**P**	**04 31 44.0**	**+0.8**
LSA				pmax	pmax		
	comp=Z,27nm,0.8s						
VNDA	**Vanda**	**72.34**	**178**	P	**P**	**04 31 58.5**	**+0.3**
	comp=Z,8.6nm,0.6s,baz=333,slow=6.8,SNR=78						
	comp=Z,8.6nm,0.6s						
VNDA	**Vanda**	**72.34**	**178**	P	**P**	**04 31 57.9**	**-0.3**
VNDA				IAmb	IAmb	04 31 59.3	
	comp=Z,11nm,0.8s						
SBA	**Scott Base**	**72.86**	**177**	P	**P**	**04 32 01.5**	**+0.3**
SBA				IAmb	IAmb	04 32 03.6	
	comp=Z,15nm,1.1s						
CHIR	**Chirikof Islan**	**73.46**	**27**	P	**P**	**04 32 05.4**	**+0.3**
BILL	**Bilibino**	**73.62**	**5**	P	**P**	**04 32 06.1**	**+0.4**
BILL				IAmb	IAmb	04 32 07.4	
	comp=Z,16nm,0.9s						
OHAK	**Old Harbor**	**75.34**	**27**	P	**P**	**04 32 16.2**	**+0.4**
OHAK				IAmb	IAmb	04 32 17.9	
	comp=Z,15nm,0.8s						
WMQ	**Urumqi**	**76.99**	**317**	*e*P	**P**	**04 32 25.1**	**-0.6**
WMQ				PcP	**PcP**	**04 32 34.4**	**-1.6**
WMQ				PP	**PP**	**04 35 28.8**	**+7.7**
WMQ				pmax	pmax		
	comp=Z,23nm

NRIK	**Noril'sk**	**86.83**	**341**	IAmb	IAmb	04 33 17.8
	comp=Z,5.0nm,0.7s					
YBH	**Yreka Blue Hor**	**88.34**	**48**	LR	LR	05 08 18.8
	comp=Z,40nm,19.0s,baz=326,slow=32					
INK	**Inuvik**	**88.39**	**21**	IAmb	IAmb	04 33 24.7
	comp=Z,9.1nm,1.1s					
KK31	**Karatay Array**	**88.92**	**313**	P	**P**	**04 33 26.4 -0.5**
KKAR	**Karatay Array**	**88.92**	**313**	P	**P**	**04 33 25.9 -1.0**
KBL	**Kabul**	**88.93**	**305**	P	**P**	**04 33 26.0 -1.4**
KBL				IAmb	IAmb	04 33 26.8
	comp=Z,5.7nm,0.9s					
BRVK	**Borovoye**	**90.48**	**323**	P	**P**	**04 33 32.6 -1.3**
BRVK				IAmb	IAmb	04 33 33.6
	comp=Z,12nm,1.5s					
NVAR	**Mina Array Bea**	**91.29**	**52**	P	**P**	**04 33 39.2 +0.8**
	comp=Z,0.7nm,0.8s,baz=251,slow=8.2,SNR=4.9					
	comp=Z,0.7nm,0.8s					
TROLL	**Troll, Antarti**	**100.72**	**189**	P	**Pdif**	**04 34 19.3 -1.0**
SNAA	**Sanae**	**101.76**	**187**	P	**Pdif**	**04 34 24.3 -0.6**
VNA3	**Neumayer Olymp**	**102.31**	**185**	P	**Pdif**	**04 34 27.5 -2.4**
VNA2	**Neumayer--Watz**	**102.99**	**186**	P	**Pdif**	**04 34 29.2 -1.1**
	baz=322,slow=1.6					
AKASG	**Malin Array Be**	**115.65**	**325**	PKP	**PKiKP**	**04 39 12.1 -1.6**
	comp=Z,1.0nm,0.5s,baz=52,slow=2.3,SNR=5.8					
BRTR	**Keskin Array B**	**116.31**	**312**	PKP	**PKPdf**	**04 39 14.6 -1.6**
	comp=Z,0.3nm,0.5s,baz=78,slow=4.2,SNR=1.8					
NOA	**NORSAR Array B**	**117.79**	**341**	PKP	**PKPdf**	**04 39 16.2 -1.4**
	comp=Z,0.5nm,0.9s,baz=75,slow=1.8,SNR=1.5					
GERES	**GERESS Array B**	**125.14**	**329**	PKP	**PKPdf**	**04 39 31.6 -0.6**
	comp=Z,0.9nm,0.5s,baz=79,slow=2.1,SNR=13					
LPAZ	**La Paz**	**133.01**	**118**	PKP	**PKPdf**	**04 39 48.1 -0.6**
	comp=Z,1.2nm,0.6s,baz=259,slow=4.6,SNR=8.6					
TAM	**Tamanrasset**	**145.06**	**303**		**PKPbc**	**04 40 07.3 -2.3**
BOAV	**Boa Vista**	**145.28**	**93**	PKPbc	**PKPdf**	**04 40 08.9 -1.4**
BDFB	**Brasilia**	**149.78**	**134**	PKPbc	**PKPdf**	**04 40 21.4 +3.6**
	comp=Z,3.4nm,0.4s,baz=149,slow=1.8,SNR=11					
TORD	**Torodi Ar. Bea**	**151.74**	**288**	PKPbc	**PKPdf**	**04 40 24.7 +3.9**
	comp=Z,1.5nm,0.4s,baz=44,slow=2.7,SNR=20					
TORD				PKPab	**PKPab**	**04 40 35.7 -0.8**
	comp=Z,9.1nm,0.7s,baz=76,slow=4.5,SNR=22					
KIC	**Kosan Boka**	**158.98**	**274**	*iP*	**PKPab**	**04 41 06.9 -0.8**
	comp=Z,4.5nm,0.4s					
DBIC	**Dimbokro**	**159.09**	**275**	PKPab	**PKPab**	**04 41 07.1 -1.0**
	comp=Z,5.6nm,0.6s,baz=108,slow=4.6,SNR=7.9					
TIC	**Toumodi**	**159.25**	**275**	*iP*	**PKPab**	**04 41 08.2 -0.6**
	comp=Z,19nm,0.5s					
LIC	**Lamto**	**159.27**	**274**	*iP*	**PKPab**	**04 41 05.4 -3.5**
	comp=Z,9.1nm,0.6s					

MAN 19 04:45:52.5, 10°43N×124°78E, h5km, mb4.1, ML2.9, MS2.5, 6C-6D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.30**	**165**	*eP*	**Pb**	04 45 59.5	-0.9
MSLP				*eS*	Sb	04 46 04.9	-0.8
TABP	**Talibon, Bohol**	**0.55**	**233**	*iP*	Pg	04 46 02.9	-0.3
TABP				*i S*	Sg	04 46 10.2	-0.2
OCLP	**Ormoc**	**0.64**	**345**	*eP*	Pb	04 46 05.8	-0.5
OCLP				*eS*	Sn	04 46 18.3	-0.6
LLP	**Lapu-Lapu**	**0.81**	**262**	*iP*	Pg	04 46 07.5	-0.6
LLP				*i S*	Sg	04 46 18.8	+0.2
GHBP	**Garcia Hernand**	**0.91**	**210**	*eP*	Pg	04 46 10.0	-0.1
GHBP				*i S*	Sg	04 46 22.3	+0.4
SCPH	**Surigao**	**0.95**	**132**	*eP*	Pb	04 46 11.3	-0.2
SCPH				*i S*	Sg	04 46 23.7	+0.6
TBP	**Tagbilaran**	**1.16**	**231**	*eP*	Pg	04 46 13.6	-1.3
TBP				*eS*	Sg	04 46 29.3	-0.7
GLSP	**General Luna,**	**1.47**	**116**	*eP*	Pn	04 46 18.5	-1.3
GLSP				*eS*	Sb	04 46 39.6	+0.2
LSIP	**Lazi, Siquijor**	**1.71**	**221**	*iP*	Pn	04 46 23.4	+0.3
LSIP				*eS*	Sb	04 46 46.5	+0.1
CGP	**Cagayan de Oro**	**1.96**	**182**	*eP*	Pg	04 46 34.3	+4.1
CGP				*eS*	Sn	04 46 48.6	-2.9
RCP	**Roxas**	**2.29**	**300**	*eP*	Pn	04 46 31.6	+0.5
RCP				*eS*	Sn	04 47 00.5	+0.7
DCPH	**Dipolog City**	**2.31**	**218**	*eP*	Pn	04 46 29.2	-2.1
DCPH				*eS*	Sg	04 47 06.2	-0.7
MATI	**Mati**	**3.75**	**157**	*eP*	Pb	04 46 59.8	+0.4

NEIC 19 04:52:47.8±2.4, 18°.52N±0°.09×145°.8E±0°.3, h206km±14km, mb4.2/6, Error ellipse: s-maj=44.7km s-min=9.9km az=100.0
IDC 19 04:52:50.2±8.8, 18°.51N×145°.34E, h232km±57km, mb3.1/2, mbtmp3.9/3, Error ellipse: s-maj=156.5km s-min=44.4km az=125.0
ISC 19 04:52:47.5±1.0, **18°.62N**±0°.09×**145°.6E**±0°.3, **h200**km, **n13,** σ1§**56**/15, **mb4.0**/6, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.06**	**188**	P	**Pn**	**04 54 04.9**	**+2.2**
	121nm,0.9s,baz=277,slow=5.0,SNR=2.6						
GUMO				S	**Sn**	**04 55 03.4**	**+1.4**
	48nm,0.3s,baz=233,slow=22,SNR=5.5						
GUMO	**Guam**	**5.06**	**188**	Pn	**Pn**	**04 54 03.0**	**+0.3**
GUMO				Sn	**Sn**	**04 55 01.6**	**-0.5**
MTN	**Manton Dam**	**34.38**	**206**	P	**P**	**04 59 14.3**	**-1.5**
KNRA	**Kununurra**	**37.92**	**207**	P	**P**	**04 59 45.9**	**+0.2**
KNRA				IAmb	IAmb	04 59 54.5	
	comp=Z,19nm,1.3s						
WB2	**Warramunga Arr**	**39.89**	**197**	P	**P**	**05 00 00.9**	**-1.2**
WB2				IAmb	IAmb	05 00 18.3	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**39.90**	**197**	P	**P**	**05 00 00.7**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=17,slow=8.6,SNR=25						
	comp=Z,0.8nm,0.3s						
WRA	**Warramunga Arr**	**39.90**	**197**	P	**P**	**05 00 00.4**	**-1.7**
ASAR	**Alice Springs**	**43.56**	**196**	P	**P**	**05 00 29.1**	**-2.7**
	comp=Z,0.4nm,0.7s,baz=25,slow=7.2,SNR=4.7						
	comp=Z,0.4nm,0.7s						
KURK	**Kurchatov**	**61.29**	**318**	P	**P**	**05 02 41.6**	**0.0**
KURK				IAmb	IAmb	05 02 44.7	
	comp=Z,7.7nm,1.2s						
BMAR	**Burnt Mountain**	**65.21**	**24**	P	**P**	**05 03 08.0**	**+0.9**
BRVK	**Borovoye**	**66.56**	**320**	P	**P**	**05 03 17.9**	**+2.0**
BRVK				IAmb	IAmb	05 03 25.7	
	comp=Z,4.5nm,1.3s						
ABKAR	**Akbulak array**	**73.35**	**317**	P	**P**	**05 03 57.5**	**+0.1**
LPAZ	**La Paz**	**147.73**	**91**	PKPbc	**PKPbc**	**05 12 09.1**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=280,slow=1.3,SNR=3.0						

NNC 19 04:55:21.6±2.6, 38°.52N×69°.87E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=19.8km s-min=16.3km az=172.0
ISC 19 04:55:21.6±2.6, **38°.8N**±0°.2×**70°.34E**±0°.09, **h17**km, **n10,** σ2§**08**/11, **2C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.37**	**356**	Pg	**Pg**	**04 56 28.1**	**+2.0**
	356nm,0.6s						
IUG				Lg	Lg	04 57 15.4	
	3µm,0.9s						
KK31	**Karatay Array**	**4.32**	**2**	*↑*Pn	Pn	04 56 33.3	+6.8
	2.6nm,0.4s,baz=194,slow=15,SNR=49						
KK31				↓Pg	**Pg**	**04 56 45.2**	**+1.0**
	2.8nm,0.3s,baz=184,slow=16,SNR=12						
KK31				↓Sn	**Sb**	**04 57 29.2**	**+0.3**
	11nm,0.5s						
KK31				↓Lg	Lg	04 57 46.1	
	11nm,0.5s,baz=181,slow=32,SNR=5.3						
MRKS	**Merke**	**4.53**	**28**	Pg	**Pg**	**04 56 50.9**	**+2.7**
	16nm,0.8s						
MRKS				Lg	Lg	04 57 54.4	
	42nm,0.5s						
TKM2	**Tokmak 2**	**5.74**	**42**	*↑*Pn	Pn	04 56 54.3	+8.1
	3.0nm,0.5s						
TKM2				↓Sn	**Sb**	**04 58 08.2**	**-1.8**
	17nm,0.7s						
KST	**Kastek**	**6.02**	**43**	Pg	**Pg**	**04 57 18.4**	**+1.5**
	3.5nm,0.7s						
KST				Lg	Lg	04 58 41.1	
	12nm,0.7s						
KUU	**Kurty**	**6.81**	**40**	Pg	**Pg**	**04 57 34.1**	**+2.1**
	1.9nm,0.1s						
KUU				Lg	Lg	04 59 07.8	
	11nm,0.6s						
BTLS	**Baital**	**6.84**	**23**	Pg	**Pg**	**04 57 35.7**	**+3.3**
	3.8nm,0.6s						
BTLS				Lg	Lg	04 59 11.5	
	6.2nm,0.4s						
AB31	**Akbulak array**	**12.85**	**328**	P	**Pn**	**04 58 22.8**	**-0.6**
	1.0nm,0.4s,baz=143,slow=12,SNR=35						
AKTO	**Aktyubinsk**	**14.56**	**327**	↓P	**Pn**	**04 58 47.7**	**+1.0**
	1.8nm,0.8s						
NB2	**NORSAR Subarra**	**42.25**	**322**	P	**P**	**05 03 13.3**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=94,slow=8.6						

WEL 19 05:01:22.9±0.4, **42°S**±4°×**17°4E**±°, **h5**km, **M2.5**/20, **ML2.7**/16, **MLv2.5**/20, **Error ellipse: s-maj=0.0km s-min=0.0km az=168.7, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**261**	P	Pg	05 01 26.2	+0.5
BSWZ	**Blackbirch Sta**	**0.39**	**272**	P	Pg	05 01 30.6	+0.1
BSWZ				S	Sg	05 01 37.1	+1.5
TUWZ	**Tuamarina**	**0.45**	**311**	P	Pg	05 01 31.4	-0.2
TUWZ				S	Sb	05 01 39.2	-1.2
WEL	**Wellington**	**0.52**	**32**	P	Pb	05 01 33.8	-0.7
TCW	**Tory Channel**	**0.52**	**350**	P	Pg	05 01 33.4	+0.4
PLWZ	**Palliser**	**0.66**	**76**	P	Pb	05 01 36.8	-0.2
MSWZ	**Moikau Station**	**0.71**	**64**	P	Pb	05 01 37.7	0.0
CAW	**Cannon Point**	**0.80**	**39**	P	Pg	05 01 38.5	+0.3
PAWZ	**Paruwai Farm**	**0.84**	**66**	P	Pb	05 01 39.7	-0.4
NNZ	**Nelson**	**0.92**	**303**	P	Pg	05 01 39.9	-0.7
KHZ	**Kahutara**	**0.94**	**223**	S	Sb	05 01 54.1	-0.3
KIW	**Kapiti Island**	**0.95**	**24**	P	Pg	05 01 40.9	-0.2
DUWZ	**D'Urville Isla**	**0.99**	**339**	P	Pg	05 01 42.0	+0.1
MTW	**Mount Morrison**	**1.00**	**56**	P	Pg	05 01 42.0	-0.1
TRWZ	**Traveller**	**1.02**	**72**	P	Pg	05 01 41.8	-0.7
OGWZ	**Otaki Gorge**	**1.08**	**33**	P	Pg	05 01 43.3	-0.2
THZ	**Tophouse**	**1.12**	**268**	P	Pg	05 01 44.2	-0.2
MRNZ	**Matariki Terra**	**1.27**	**284**	P	Pg	05 01 46.8	-0.5
TMWZ	**Te Maipa**	**1.28**	**62**	P	Pg	05 01 45.5	-2.0
MRZ	**Mangatainoka R**	**1.39**	**40**	P	Pn	05 01 47.6	-1.4
QRZ	**Quartz Range**	**1.67**	**302**	P	Pn	05 01 53.3	+0.5
DSZ	**Denniston Nort**	**1.94**	**269**	P	Pn	05 01 57.5	+0.9
ANWZ	**Angora Road**	**2.02**	**52**	P	Pg	05 02 03.9	+2.4

IDC 19 05:02:12.9±2.8, 41°.75S×175°.47E, h0km, mb3.4/2, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=51.0km s-min=46.9km az=120.0
NOU 19 05:02:24.8, 41°.71S×174°.40E, h0km, MLv4.1/8, Cook Strait, New Zealand
WEL 19 05:02:24.1±0.3, 42°.S±3°×17°4E±°, h5km, M3.7/51, ML4.0/21, MLv3.7/51, Error ellipse: s-maj=0.0km s-min=0.0km az=152.5
ISC 19 05:02:23.7±1.0, **41°.73S**±0°.04×**174°.39E**±0°.02, **h18**km±4km, **n89,** σ1§**35**/94, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**263**	P	**Pg**	**05 02 27.6**	**-0.1**
CMWZ				S	**Sg**	**05 02 31.3**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.39**	**273**	P	**Pg**	**05 02 31.7**	**0.0**
BSWZ				S	**Sb**	**05 02 37.8**	**+0.1**
TUWZ	**Tuamarina**	**0.45**	**312**	P	**Pg**	**05 02 32.3**	**-0.6**
TUWZ				S	**Sg**	**05 02 38.7**	**-0.5**
SNZO	**South Karori**	**0.48**	**29**	P	**Pg**	**05 02 33.1**	**-0.8**
TCW	**Tory Channel**	**0.53**	**351**	P	**Pg**	**05 02 33.5**	**-0.8**
WEL	**Wellington**	**0.53**	**32**	P	**Pg**	**05 02 34.2**	**-0.1**
PLWZ	**Palliser**	**0.67**	**76**	P	**Pg**	**05 02 38.0**	**+1.1**
MSWZ	**Moikau Station**	**0.72**	**64**	P	**Pg**	**05 02 38.3**	**+0.5**
CAW	**Cannon Point**	**0.81**	**39**	P	**Pb**	**05 02 39.0**	**-0.2**
PAWZ	**Paruwai Farm**	**0.85**	**66**	P	**Pg**	**05 02 40.8**	**+0.4**
NNZ	**Nelson**	**0.92**	**304**	P	**Pb**	**05 02 40.6**	**-0.5**
KHZ	**Kahutara**	**0.93**	**223**	P	**Pn**	**05 02 42.3**	**+0.5**
KIW	**Kapiti Island**	**0.95**	**24**	P	**Pb**	**05 02 41.5**	**-0.3**
DUWZ	**D'Urville Isla**	**1.00**	**339**	P	**Pb**	**05 02 42.2**	**-0.2**
DUWZ				P	**Pb**	**05 02 42.3**	**-0.2**
MTW	**Mount Morrison**	**1.01**	**56**	P	**Pb**	**05 02 43.2**	**+0.5**
TRWZ	**Traveller**	**1.03**	**71**	P	**Pb**	**05 02 43.1**	**+0.1**
OGWZ	**Otaki Gorge**	**1.09**	**33**	P	**Pb**	**05 02 43.8**	**-0.3**
THZ	**Tophouse**	**1.11**	**268**	P	**Pn**	**05 02 45.2**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.19**	**46**	P	**Pn**	**05 02 45.7**	**+0.2**
MRNZ	**Matariki Terra**	**1.27**	**285**	P	**Pb**	**05 02 47.7**	**+0.5**
TKNZ	**Takaka Hill**	**1.28**	**303**	P	**Pb**	**05 02 47.2**	**-0.1**
TMWZ	**Te Maipa**	**1.29**	**61**	P	**Pn**	**05 02 46.7**	**-0.2**
MRZ	**Mangatainoka R**	**1.40**	**40**	P	**Pn**	**05 02 48.6**	**+0.3**
TIWZ	**Tintock**	**1.48**	**50**	P	**Pn**	**05 02 49.8**	**+0.3**
GVZ	**Greta Valley S**	**1.59**	**219**	P	**Pn**	**05 02 51.6**	**+0.6**
CPWZ	**Castlepoint**	**1.59**	**59**	P	**Pb**	**05 02 52.5**	**-0.1**
QRZ	**Quartz Range**	**1.67**	**302**	P	**Pb**	**05 02 54.1**	**+0.2**
QRZ	**Quartz Range**	**1.67**	**302**	P	**Pb**	**05 02 53.8**	**-0.1**
PRWZ	**Pori Road**	**1.68**	**46**	P	**Pn**	**05 02 52.1**	**-0.1**
POWZ	**Post Office Ro**	**1.70**	**38**	P	**Pn**	**05 02 52.8**	**+0.3**
BFZ	**Birch Farm**	**1.75**	**54**	P	**Pn**	**05 02 52.6**	**-0.6**
DSZ	**Denniston Nort**	**1.94**	**269**	P	**Pb**	**05 02 57.4**	**-1.1**
DVHZ	**Dannevirke**	**1.96**	**44**	P	**Pb**	**05 02 55.5**	**-0.7**
WAZ	**Wanganui**	**2.03**	**13**	P	**Pb**	**05 03 00.9**	**+0.9**
TSZ	**Takapari Road**	**2.05**	**36**	P	**Pn**	**05 02 57.5**	**+0.2**
PRHZ	**Porangahau**	**2.24**	**50**	P	**Pn**	**05 03 01.2**	**+1.2**
LREZ	**Lake Rotokare**	**2.27**	**0**	P	**Pb**	**05 03 04.9**	**+0.8**
PNHZ	**Pukenui**	**2.28**	**38**	P	**Pb**	**05 03 00.1**	**-0.3**
WPHZ	**Waipukurau**	**2.28**	**44**	P	**Pb**	**05 03 03.2**	**-1.1**
NMEZ	**Namu Road**	**2.35**	**350**	P	**Pb**	**05 03 05.6**	**0.0**
INZ	**Inchbonnie**	**2.40**	**245**	P	**Pn**	**05 03 04.3**	**+2.1**
KHEZ	**Kahui Hut**	**2.45**	**353**	P	**Pb**	**05 03 06.5**	**-0.8**
KHEZ	**Kahui Hut**	**2.45**	**353**	P	**Pb**	**05 03 07.1**	**-0.2**
NEZ	**North Egmont**	**2.47**	**355**	P	**Pb**	**05 03 08.1**	**+0.5**
NBEZ	**Newall Road No**	**2.50**	**351**	P	**Pb**	**05 03 06.8**	**-1.2**
MOVZ	**Moawhango**	**2.54**	**25**	P	**Pn**	**05 03 06.2**	**+2.0**
PKVZ	**Pokaka**	**2.55**	**17**	P	**Pb**	**05 03 09.3**	**+0.3**
PKE	**Pukeiti**	**2.56**	**353**	P	**Pb**	**05 03 08.3**	**-0.7**
WNVZ	**Wahianoa**	**2.57**	**21**	P	**Pb**	**05 03 07.9**	**-1.5**
TRVZ	**Turoa**	**2.59**	**20**	P	**Pb**	**05 03 09.5**	**-0.2**
DRZ	**Dome Shelter**	**2.61**	**20**	P	**Pb**	**05 03 11.6**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.61**	**21**	P	**Pn**	**05 03 07.5**	**+2.2**
VRZ	**Vera Road**	**2.62**	**6**	P	**Pb**	**05 03 08.5**	**-1.6**
FWVZ	**Far West T-bar**	**2.63**	**20**	P	**Pb**	**05 03 10.4**	**0.0**
KAHZ	**Kahuranaki**	**2.71**	**45**	P	**Pb**	**05 03 11.1**	**-0.5**
NGZ	**Ngauruhoe**	**2.72**	**20**	P	**Pb**	**05 03 11.1**	**-0.8**
SNVZ	**South Ngauruho**	**2.72**	**21**	P	**Pb**	**05 03 13.1**	**+1.2**
OTVZ	**Oturere**	**2.75**	**21**	P	**Pb**	**05 03 11.7**	**-0.7**
NNVZ	**North Ngauruho**	**2.76**	**20**	P	**Pb**	**05 03 10.3**	**-2.4**
WTVZ	**West Tongariro**	**2.77**	**20**	P	**Pb**	**05 03 12.8**	**0.0**
KWHZ	**Kaweka Forest**	**2.78**	**35**	P	**Pg**	**05 03 15.2**	**-1.8**
ETVZ	**East Tongariro**	**2.78**	**22**	P	**Pb**	**05 03 12.5**	**-0.5**
TMVZ	**Te Maari**	**2.80**	**21**	P	**Pn**	**05 03 09.8**	**+2.1**
KRVZ	**Karewarewa**	**2.80**	**20**	P	**Pb**	**05 03 14.4**	**+1.1**
KATZ	**Kakaramea**	**2.93**	**20**	P	**Pb**	**05 03 16.7**	**+1.2**
RITZ	**Rihia Road**	**2.97**	**23**	P	**Pb**	**05 03 16.2**	**0.0**
WVZ	**Waitaha Valley**	**3.02**	**242**	P	**Pn**	**05 03 12.2**	**+1.6**
BKZ	**Black Stump Fm**	**3.02**	**33**	P	**Pn**	**05 03 14.1**	**+3.3**
RPZ	**Rata Peaks**	**3.16**	**230**	Pn	**Pn**	**05 03 12.5**	**-0.1**
	2.5nm,0.3s,baz=150,slow=24,SNR=8.7						
RPZ				Sn	**Sb**	**05 03 59.2**	**+1.8**
	4.9nm,0.3s,baz=14,slow=15,SNR=1.4						
	13nm,0.4s						
HIZ	**Hauiti**	**3.24**	**6**	P	**Pn**	**05 03 17.1**	**+3.5**
HIZ	**Hauiti**	**3.24**	**6**	P	**Pb**	**05 03 17.5**	**-3.1**
MRHZ	**Matea Rd**	**3.29**	**29**	P	**Pb**	**05 03 22.4**	**+0.9**
GCSZ	**Gaunt Creek Bo**	**3.40**	**241**	P	**Pn**	**05 03 18.2**	**+2.5**
MTHZ	**Maungataniwha**	**3.43**	**34**	P	**Pb**	**05 03 23.4**	**-0.6**
TMZ	**Timaru**	**3.63**	**222**	P	**Pn**	**05 03 18.7**	**-0.3**
FOZ	**Fox Glacier**	**3.82**	**240**	P	**Pn**	**05 03 23.4**	**+1.7**
URZ	**Urewera**	**4.05**	**32**	P	**Pn**	**05 03 27.3**	**+2.5**
URZ	**Urewera**	**4.05**	**32**	P	**Pn**	**05 03 25.7**	**+0.9**
LBZ	**Lake Benmore**	**4.07**	**228**	P	**Pn**	**05 03 25.8**	**+0.8**
TOZ	**Tahuroa Road**	**4.09**	**12**	P	**Pn**	**05 03 28.9**	**+3.6**
ODZ	**Otahua Downs**	**4.29**	**218**	P	**Pn**	**05 03 27.0**	**-1.0**
MKAZ	**Moumakai**	**4.66**	**8**	P	**Pn**	**05 03 35.7**	**+2.5**
JCZ	**Jackson Bay**	**4.74**	**239**	P	**Pn**	**05 03 37.6**	**+3.3**
JCZ	**Jackson Bay**	**4.74**	**239**	P	**Pn**	**05 03 35.1**	**+0.8**
KUZ	**Kuaotunu**	**5.09**	**12**	P	**Pn**	**05 03 41.0**	**+2.0**
CTZ	**Chatham Island**	**6.92**	**110**	P	**Pn**	**05 04 07.5**	**+3.4**
ASAR	**Alice Springs**	**38.13**	**285**	P	**P**	**05 09 39.6**	**-2.2**
	0.2nm,0.4s,baz=119,slow=6.7,SNR=5.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.20**	**290**	P	**P**	**05 09 58.0**	**-1.2**
	0.3nm,0.4s,baz=126,slow=8.4,SNR=5.5						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.82**	**195**	PKPab	**PKPbc**	**05 22 14.9**	**-0.5**
	0.3nm,0.6s,baz=189,slow=2.5,SNR=2.9						

CRAAG 19 05:13:38.5, 34°.78N×6°.28E, Ml3.3
CNRM 19 05:13:44.0, 34°.91N×5°.49E, h0km
ISC 19 05:13:41.6±3.9, **34°.9N**±0°.2×**5°.9E**±0°.2, **h10**km, **n6,** σ1§**78**/7,

Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**1.25**	**21**	P	Pn	05 14 01.8	-3.6
SET	**Setif**	**1.36**	**345**	P	**Pn**	**05 14 08.0**	**+1.3**
FIGM	**Figuig**	**6.54**	**247**	P	**Pn**	**05 15 17.9**	**-0.2**
FIGM				S	**Sn**	**05 16 31.2**	**-1.6**
TAF	**Taforalt**	**6.79**	**272**	P	**Pn**	**05 15 19.5**	**-1.9**
JBK	**JBK**	**6.96**	**268**	P	**Pn**	**05 15 24.0**	**+0.1**
JBK				S	**Sn**	**05 16 44.4**	**+1.2**
MD31	**MD31**	**9.05**	**260**	P	**Pn**	**05 15 54.1**	**+1.8**

WEL 19 05:34:21.4±0.4, **42°S**±3°×**17°3E**±°, **h5**km, **M2.9**/11, **ML3.1**/9, **MLv2.9**/11, **Error ellipse: s-maj=0.0km s-min=0.0km az=168.4, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.22**	**237**	P	Pg	05 34 26.4	+0.6
THZ				S	Sg	05 34 29.6	+0.9
MRNZ	**Matariki Terra**	**0.38**	**309**	P	Pb	05 34 30.0	-0.7
MRNZ				S	Sb	05 34 35.9	-1.1
NNZ	**Nelson**	**0.46**	**22**	P	Pg	05 34 30.9	+0.6
BSWZ	**Blackbirch Sta**	**0.55**	**98**	P	Pb	05 34 33.4	-0.1
TKNZ	**Takaka Hill**	**0.63**	**347**	P	Pb	05 34 34.0	+0.5
TUWZ	**Tuamarina**	**0.63**	**70**	P	Pg	05 34 33.8	+0.2
KHZ	**Kahutara**	**0.82**	**160**	P	Pg	05 34 37.4	+0.2
QRZ	**Quartz Range**	**0.94**	**330**	P	Pb	05 34 39.5	0.0
TCW	**Tory Channel**	**0.95**	**63**	P	Pg	05 34 39.4	-0.3
DSZ	**Denniston Nort**	**1.01**	**264**	P	Pg	05 34 40.9	0.0
DUWZ	**D'Urville Isla**	**1.02**	**35**	P	Pg	05 34 40.5	-0.5
WEL	**Wellington**	**1.27**	**74**	P	Pg	05 34 41.7	-4.0
GVZ	**Greta Valley S**	**1.32**	**184**	P	Pg	05 34 47.1	+0.2
CAW	**Cannon Point**	**1.54**	**70**	P	Pn	05 34 46.5	-3.0
KIW	**Kapiti Island**	**1.54**	**60**	P	Pn	05 34 49.0	-0.6
AMCZ	**Amberley**	**1.57**	**193**	P	Pn	05 34 50.5	+0.4
PLWZ	**Palliser**	**1.58**	**88**	P	Pn	05 34 45.4	-4.7
MSWZ	**Moikau Station**	**1.59**	**82**	P	Pn	05 34 45.7	-4.5
INZ	**Inchbonnie**	**1.67**	**229**	P	Pn	05 34 51.7	+0.4
PAWZ	**Paruwai Farm**	**1.73**	**82**	P	Pn	05 34 48.4	-3.8
OGWZ	**Otaki Gorge**	**1.73**	**62**	P	Pn	05 34 51.2	-1.0
MTW	**Mount Morrison**	**1.83**	**75**	P	Pn	05 34 50.6	-3.0
TRWZ	**Traveller**	**1.92**	**83**	P	Pn	05 34 54.2	-4.2
HOWZ	**Holdsworth Sta**	**1.93**	**68**	P	Pn	05 34 54.2	-0.8
MRZ	**Mangatainoka R**	**2.08**	**63**	P	Pn	05 34 56.1	-0.9
OKCZ	**Okains Bay**	**2.08**	**182**	P	Pn	05 34 56.8	-0.2
MQZ	**McQueen's Vall**	**2.09**	**190**	P	Pn	05 34 55.9	-1.2
TMWZ	**Te Maipa**	**2.13**	**76**	P	Pn	05 34 54.0	-3.6
RACZ	**Rakaia**	**2.21**	**199**	P	Pn	05 34 57.9	-0.9
MHCZ	**Mount Hutt**	**2.22**	**211**	P	Pn	05 34 58.6	-0.4
AKCZ	**Akaroa Harbour**	**2.23**	**184**	P	Pn	05 34 58.4	-0.7
WVZ	**Waitaha Valley**	**2.29**	**231**	P	Pn	05 35 00.7	+0.9
PRWZ	**Pori Road**	**2.39**	**64**	P	Pn	05 35

URZ	Urewera	2.47	17	P		Pn	05 46 14.5	-1.3
TKNZ	Takaka Hill	2.49	260	P		Pn	05 46 16.0	-0.2
MWZ	Matawai	2.51	25	P		Pn	05 46 14.4	-2.1
MRNZ	Matariki Terra	2.71	252	P		Pn	05 46 18.5	-0.8
THZ	Tophouse	2.73	244	P		Pn	05 46 17.7	-1.8
QRZ	Quartz Range	2.79	265	P		Pn	05 46 23.0	+2.7
RUGZ	Raukumara Rang	2.90	24	P		Pn	05 46 20.5	-1.3
OKCZ	Okains Bay	3.87	216	P		Pn	05 46 32.0	-3.2
AKCZ	Akaroa Harbour	4.06	216	P		Pn	05 46 35.3	-2.4
TMZ	Timaru	5.37	224	P		Pn	05 46 53.5	-2.2
CTZ	Chatham Island	6.17	123	P		Pn	05 47 05.0	-1.8
RIZ	Raoul Island	12.33	25	P		Pn	05 48 34.6	+3.4

NOU ***19*** *05:50:51.1, 42˚.58S×173˚.59E, h0km, MLv4.0/8, South Island, New Zealand*

WEL ***19*** *05:50:52.9±0.4, 42˚.5±3˚×17˚.3E±˚, h5km±2km, M3.5/39, ML3.8/12, MLv3.5/39, Error ellipse: s-maj=0.0km s-min=0.0km az=140.0*

ISC 19 05:50:52.1±1.1, 42˚.50S±0˚.03×173˚.59E±0˚.04, h9km±8km, n68, σ1§09/70, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.09	337	P		Pg	05 50 54.3	-0.1
KHZ				S		Sg	05 50 55.9	-0.2
GVZ	Greta Valley S	0.62	221	P		Pg	05 51 05.7	+1.6
GVZ				S		Sb	05 51 15.4	+1.5
BSWZ	Blackbirch Sta	0.81	15	P		Pg	05 51 07.6	-0.1
CMWZ	Cape Campbell	0.88	32	P		Pb	05 51 10.6	+1.0
THZ	Tophouse	0.90	325	P		Pg	05 51 07.9	-1.4
AMCZ	Amberley	0.96	225	P		Pg	05 51 11.0	+0.4
LTZ	Lake Taylor	1.01	253	P		Pg	05 51 10.6	-0.9
TUWZ	Tuamarina	1.10	14	P		Pg	05 51 13.0	-0.3
MRNZ	Matariki Terra	1.26	330	P		Pg	05 51 14.7	-1.6
OKCZ	Okains Bay	1.28	197	P		Pn	05 51 15.7	-0.5
NNZ	Nelson	1.29	353	P		Pg	05 51 15.3	-1.6
MQZ	McQueen's Vall	1.39	209	P		Pn	05 51 16.2	-1.3
TCW	Tory Channel	1.39	22	P		Pn	05 51 16.8	-0.8
OXZ	Oxford	1.41	234	P		Pn	05 51 16.4	-1.5
SNZO	South Karori	1.45	35	P		Pn	05 51 18.2	-0.3
AKCZ	Akaroa Harbour	1.46	200	P		Pn	05 51 17.7	-0.9
WEL	Wellington	1.50	36	P		Pn	05 51 18.6	-0.5
DSZ	Denniston Nort	1.53	299	P		Pn	05 51 18.7	-0.9
TKNZ	Takaka Hill	1.54	342	P		Pn	05 51 19.5	-0.3
PLWZ	Palliser	1.55	54	P		Pn	05 51 18.8	-1.1
INZ	Inchbonnie	1.60	261	P		Pn	05 51 20.0	-0.5
RACZ	Rakaia	1.62	220	P		Pn	05 51 19.4	-1.4
MSWZ	Moikau Station	1.65	49	P		Pn	05 51 20.2	-1.0
DUWZ	D'Urville Isla	1.72	9	P		Pn	05 51 21.5	-0.7
PAWZ	Paruwai Farm	1.77	51	P		Pn	05 51 21.6	-1.3
CAW	Cannon Point	1.78	39	P		Pn	05 51 22.1	-0.9
MHCZ	Mount Hutt	1.80	235	P		Pn	05 51 21.7	-1.6
QRZ	Quartz Range	1.85	334	P		Pn	05 51 24.2	+0.2
QRZ	Quartz Range	1.85	334	P		Pn	05 51 24.0	0.0
KIW	Kapiti Island	1.92	32	P		Pn	05 51 24.4	-0.5
TRWZ	Traveller	1.92	56	P		Pn	05 51 23.4	-1.4
WACZ	Wakanui South	1.93	221	P		Pn	05 51 23.8	-1.2
MTW	Mount Morrison	1.96	47	P		Pn	05 51 24.1	-1.4
OGWZ	Otaki Gorge	2.06	36	P		Pn	05 51 25.9	-0.9
HOWZ	Holdsworth Sta	2.16	43	P		Pn	05 51 27.8	-0.4
WVZ	Waitaha Valley	2.17	254	P		Pn	05 51 28.0	-0.4
TMWZ	Te Maipa	2.21	52	P		Pn	05 51 27.4	-1.6
RPZ	Rata Peaks	2.22	236	P		Pn	05 51 28.2	-0.8
RPZ	Rata Peaks	2.22	236	P		Pn	05 51 27.7	-1.4
ARCZ	Arundel	2.28	230	P		Pn	05 51 28.2	-1.7
MRZ	Mangatainoka R	2.37	40	P		Pn	05 51 29.7	-1.4
GCSZ	Gaunt Creek Bo	2.53	250	P		Pn	05 51 44.5	+1.6
NBEZ	Newall Road No	3.24	4	P		Pn	05 51 44.2	+1.2
ODZ	Otahua Downs	3.32	219	P		Pn	05 51 43.3	-0.8
ODZ	Otahua Downs	3.32	219	P		Pn	05 51 42.6	-1.6
MOVZ	Moawhango	3.50	29	P		Pn	05 51 47.8	+1.1
TUVZ	Tukino	3.59	27	P		Pn	05 51 48.1	+0.1
OTVZ	Oturere	3.69	26	P		Pn	05 51 49.9	+0.5
ETVZ	East Tongariro	3.73	26	P		Pn	05 51 49.9	0.0
TMVZ	Te Maari	3.74	26	P		Pn	05 51 50.2	+0.1
JCZ	Jackson Bay	3.84	244	P		Pn	05 51 51.0	-0.5
JCZ	Jackson Bay	3.84	244	P		Pn	05 51 51.0	-0.5
BKZ	Black Stump Fm	4.00	34	P		Pn	05 51 54.1	+0.6
HIZ	Hauiti	4.10	14	P		Pn	05 51 55.9	+1.0
HIZ	Hauiti	4.10	14	P		Pn	05 51 55.5	+0.6
TOZ	Tahuroa Road	4.99	18	P		Pn	05 52 06.5	-0.5
AWAZ	Awhitu Peninsu	5.49	9	P		Pn	05 52 14.3	+0.3
MKAZ	Moumakai	5.53	13	P		Pn	05 52 14.0	-0.5
ETAZ	East Tamaki Re	5.64	11	P		Pn	05 52 16.4	+0.4
MBAZ	Motutapu North	5.81	10	P		Pn	05 52 19.0	+0.6

MOS ***19*** *06:01:20.5±1.1, 43˚.12N×146˚.29E, h51km, mb4.6/10, Error ellipse: s-maj=10.2km s-min=6.4km az=95.3*

NIED ***19*** *06:01:21.9, 43˚.14N×146˚.18E, h50km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.38; Mθθ-0.49; Mφφ-0.89; Mrθ0.69; Mθφ-1.10; Mφr-0.60; Fault plane solution: M₀1.87000×10¹⁵ NP1:φ₁67.00000°, δ52.00000°, λ131.00000°. NP2:φ₂192.00000°, δ53.00000°, λ50.00000°.*

JMA ***19*** *06:01:21.9±0.1, 43˚.1N±0˚.5×146˚.2E±0˚.8, h50km, MD4.3/40, MV4.8/40, OFF NEMURO PENINSULA*

JMA Felt III J1 at OFF NEMURO PENINSULA .

IDC ***19*** *06:01:22.8±3.2, 43˚.20N×146˚.16E, h52km±29km, mb3.8/16, mbtmp4.0/18, ML2.9/2, MS3.1/9, Error ellipse: s-maj=19.3km s-min=16.2km az=152.0*

SKHL ***19*** *06:01:22.4±0.1, 43˚.20N×146˚.10E, h61km±5km, mb5.4/14*

NEIC ***19*** *06:01:22.6±1.5, 43˚.21N±0˚.05×146˚.2E±0˚.1, h43km±8km, mb4.5/44, Error ellipse: s-maj=14.2km s-min=6.9km az=97.0*

ISC 19 06:01:22.0±0.8, 43˚.18N±0˚.05×146˚.19E±0˚.05, h48km±6km, n308, σ1§10/311, mb4.5/51, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.38	300	*i* P		Pn	06 01 31.9	+0.2
NEM2				*e*S		Sn	06 01 38.8	+0.2
NEM2	Nemuro 2	0.38	300	A		A	06 01 31.9	
	comp=E,29nm,0.8s,comp=E,56nm,0.5s							
NMR	Nemuro--Hokkai	0.39	300	*i* P		Pn	06 01 31.9	+0.1
NMR				AMB		AMB	06 01 32.2	
	12μm,0.4s							
NMR				*i* S		Sn	06 01 39.0	+0.2
NMR				A		A	06 01 39.2	
	44μm,0.5s							
NMR				A		A	06 01 39.2	
	42μm,0.5s							
NMR	Nemuro--Hokkai	0.39	300	⇓*i* PN		Pn	06 01 31.9	+0.1
NMR				*i* S		Sn	06 01 38.8	0.0
JKHN	Kushirohamanak	0.76	263	*i* P		Pn	06 01 36.6	+0.2
JKHN				*e*S		Sn	06 01 47.7	+0.8
JKHN	Kushirohamanak	0.76	263	A		A	06 01 36.6	
	comp=E,35nm,0.3s,comp=E,58nm,0.5s							
YUK	Yuzh-Kuril'sk	0.89	345	*i* P		Pn	06 01 38.2	0.0
YUK				AMB		AMB	06 01 39.0	
	1μm,0.3s							
YUK				AMB		AMB	06 01 39.0	
	2μm,0.3s							
YUK				AMB		AMB	06 01 39.0	
	6μm,0.3s							
YUK				*i* S		Sn	06 01 50.1	+0.1
YUK				A		A	06 01 51.3	
	9μm,0.4s							
YUK				A		A	06 01 51.3	
	14μm,0.4s							
YUK	Yuzh-Kuril'sk	0.89	345	*d i* PN		Pn	06 01 38.2	0.0
YUK				*i* S		Sn	06 01 50.1	+0.1
YUK				pmax		pmax		
	comp=N,1μm,0.2s							
YUK				pmax		pmax		
	comp=Z,6μm,0.2s							
YUK				pmax		pmax		
	comp=E,2μm,0.1s							
YUK				smax		smax		
	comp=N,9μm,0.3s							
YUK				smax		smax		
	comp=E,14μm,0.2s							
AKK	Akkeshi	1.00	261	*i* P		Pn	06 01 39.5	-0.2
AKK				AMB		AMB	06 01 39.8	
	comp=E,610nm,0.2s							
AKK				*i* S		Sn	06 01 52.2	-0.4
AKK				A		A	06 01 54.1	
	comp=E,14μm,0.5s							
AKK				A		A	06 01 54.1	
	comp=E,12μm,0.5s							
JNSB	Nemuroshibetsu	1.05	305	*i* P		Pn	06 01 40.6	+0.2
JNSB	Nemuroshibetsu	1.05	305	A		A	06 01 40.6	
	comp=E,7.0nm,1.1s,comp=E,9.0nm,3.9s							
JRA	Rausu	1.08	315	P		Pn	06 01 41.5	+0.6
JRA				*e*S		Sn	06 01 55.5	+0.8
JRA	Rausu	1.08	315	A		A	06 01 41.5	
	comp=E,6.0nm,0.3s,comp=E,5.0nm,0.8s							
JAK	Akkeshi	1.11	261	P		Pn	06 01 41.0	-0.1
JAK				*e*S		Sn	06 01 55.1	-0.2
JAK	Akkeshi	1.11	261	A		A	06 01 41.0	
	comp=E,20nm,0.3s,comp=E,19nm,0.3s							
JNK	Nakash	1.15	291	*i* P		Pn	06 01 41.6	-0.1
JNK				*e*S		Sn	06 01 55.9	-0.3
JNK	Nakash	1.15	291	A		A	06 01 41.6	
	comp=E,15nm,0.6s,comp=E,11nm,1.1s							
RUSJ	Misakicho	1.15	324	⇓*i* PN		Pn	06 01 42.5	+0.8
RUSJ				*i* S		Sn	06 01 58.3	+1.9
JOB	Onbets	1.75	262	P		Pn	06 01 50.0	+0.1
JOB				*e*S		Sn	06 02 10.6	-0.3
JAR	Ashorobuto	1.77	275	*e*P		Pn	06 01 50.6	+0.4
JAR				*e*S		Sn	06 02 12.0	+0.4
JAR	Ashorobuto	1.77	275	A		A	06 01 50.6	
	comp=E,8.0nm,0.9s,comp=E,10.0nm,0.5s							
JTKR	Abashiri--Toko	1.84	296	*i* P		Pn	06 01 52.3	+1.2
JTKR				*e*S		Sn	06 02 14.9	+1.8
KUR	Kuril'sk	2.38	30	*e*P		Pn	06 01 59.8	+1.2
KUR				AMB		AMB	06 02 01.0	
	comp=E,200nm,0.2s							
KUR				AMB		AMB	06 02 01.0	
	comp=E,410nm,0.2s							
KUR				*i* S		Sn	06 02 27.7	+1.1
KUR				A		A	06 02 32.7	
	comp=E,980nm,0.5s							
KUR				A		A	06 02 32.7	
	comp=E,700nm,0.5s							
KUR	Kuril'sk	2.38	30	*e*PN		Pn	06 02 00.0	+1.4
KUR				*e*S		Sn	06 02 27.7	+1.1
KUR				pmax		pmax		
	comp=E,203nm,0.3s							
KUR				pmax		pmax		
	comp=Z,410nm,0.3s							
KUR				smax		smax		
	comp=N,984nm,0.5s							
KUR				smax		smax		
	comp=E,698nm,0.5s							
JEM	Erimo	2.52	244			Pn	06 02 03.0	+2.6
ERM	Erimo	2.52	244			Pn	06 02 01.9	+1.4
ERM	Erimo	2.52	244	*i* PN		Pn	06 02 02.4	+1.9
JKA	Kamikawa-asahi	2.77	291			Pn	06 02 05.6	+1.7
JKA	Kamikawa-asahi	2.77	291	*e*P		Pn	06 02 05.6	+1.7
ASAJ	Asahikawa	2.77	291	LR		LR	06 03 23.2	
	comp=E,231nm,19.6s,baz=98,slow=44							
ASAJ	Asahikawa	2.77	291	PN		Pn	06 02 05.6	+1.7
YSS	Yuzh-Sakhalins	4.49	328			Pn	06 02 26.9	-0.5
YSS	Yuzh-Sakhalins	4.49	328	*e*P		Pn	06 02 29.0	+1.5
YSS				AMB		AMB	06 02 29.7	
	comp=E,40nm,0.6s							
YSS				*e*S		Sn	06 03 18.7	+0.3
YSS				A		A	06 04 16.0	
	comp=E,300nm,18.0s							
YSS	Yuzh-Sakhalins	4.49	328	*e*PN		Pn	06 02 28.9	+1.5
YSS				*e*S		Sn	06 03 19.2	+0.8
YSS				pmax		pmax		
	comp=Z,40nm,0.6s							
JTM	Tenmabayashi	4.50	240	Pn		Pn	06 02 27.1	-0.5
JMM	Marumori	6.71	220			Pn	06 02 55.3	-2.7
TEY	Ternei	7.14	288	*e*P		Pn	06 03 06.7	+2.8
TEY				AMB		AMB	06 03 10.6	
	comp=Z,10.0nm,0.6s							
JSD	Sado	7.92	232			Pn	06 03 13.3	-1.2
TYV	Tymovskoe	8.06	344	*e*P		Pn	06 03 18.4	+2.0
TYV				AMB		AMB	06 03 20.7	
	comp=Z,10.0nm,0.5s							
TYV				*e*S		Sn	06 04 43.8	-2.2
TYV				A		A	06 04 59.4	
	comp=Z,10.0nm,0.3s							
TYV				A		A	06 04 59.4	
	comp=Z,10.0nm,0.3s							
MAJO	Matsushiro	9.03	225	Pn		Pn	06 03 29.2	-0.5
MAJO	Matsushiro	9.03	225	*i* PN		Pn	06 03 29.8	+0.1
MJAR	Matsushiro Arr	9.03	225	P		Pn	06 03 31.1	+1.3
	comp=Z,0.1nm,0.3s,baz=28,slow=15,SNR=2.7							
	comp=Z,0.8nm,0.3s							
KHBR	Khabarovsk	9.40	308	*e*P		Pn	06 03 34.6	-0.1
KHBR				AMB		AMB	06 03 35.1	
	comp=Z,10.0nm,0.3s							
GRNR	Gornyy	10.10	322	*e*P		Pn	06 03 45.2	+0.8
GRNR				AMB		AMB	06 03 51.8	
	comp=Z,10.0nm,0.3s							
GRNR				AMS		AMS	06 07 32.7	
	comp=Z,200nm,16.0s							
GRNR				AMS		AMS	06 07 32.7	
	comp=Z,300nm,16.0s							
GRNR				AMS		AMS	06 07 32.7	
	comp=Z,100nm,16.0s							
SKR	Severo-Kuril's	10.12	39	*e*P		Pn	06 03 46.5	+2.0
SKR				AMB		AMB	06 03 52.5	
	comp=Z,30nm,0.4s							
USRK	Ussuriysk Ar.	10.34	281	LR		LR	06 07 55.7	
	comp=Z,63nm,20.9s,baz=288,slow=38							
OKH	Okha	10.60	349	*e*P		Pn	06 03 52.0	+0.9
OKH				AMB		AMB	06 03 52.9	
	comp=Z,50nm,0.6s							
OKH				AMS		AMS	06 09 03.0	
	comp=Z,200nm,20.0s							
PAU	Pauzhetka	10.98	37	*e*P		Pn	06 03 58.6	+2.3
PAU				AMB		AMB	06 04 00.3	
	comp=Z,30nm,0.6s							
KLR	Kul'dur	11.68	306	P		Pn	06 04 10.8	+4.8
	comp=Z,2.2nm,0.8s,baz=112,slow=15,SNR=5.7							
KLR				LR		LR	06 08 57.2	
	comp=Z,43nm,21.4s,baz=38,slow=39							
KLR	Kul'dur	11.68	306	*i* P		Pn	06 04 08.6	+2.6
KLR	Kul'dur	11.68	306	*i* PN		Pn	06 04 08.6	+2.6
KLR				pmax		pmax		
	comp=Z,3.0nm,1.1s							
PEA0B	Petropavlovsk-	12.55	34	Pn		Pn	06 04 17.6	-0.1
PEA0B	Petropavlovsk-	12.55	34	PN		Pn	06 04 17.6	-0.1
PETK	Petropavlovsk-	12.55	34	P		Pn	06 04 17.7	0.0
	comp=Z,0.4nm,0.3s,baz=182,slow=12,SNR=14							
PETK				LR		LR	06 08 42.4	
	comp=Z,50nm,21.3s,baz=206,slow=35							
	comp=Z,4.5nm,0.9s							
PETK	Petropavlovsk-	12.55	34	Pn		Pn	06 04 17.0	-0.7
PET	Petropavlovsk	12.88	36	AMS		AMS	06 11 53.6	
	comp=Z,200nm,17.0s							
KSRS	Korea Array	15.05	254	LR		LR	06 11 02.1	
	comp=Z,30nm,19.1s,baz=70,slow=38							
ZEA	Zeya	16.36	317	*i* P		Pn	06 05 05.8	-2.4
ZEA				AMB		AMB	06 05 07.7	
	comp=Z,10.0nm,0.4s							
MA2	Magadan	16.66	8	LR		LR	06 11 02.3	
	comp=Z,36nm,20.7s,baz=335,slow=35							
MA2	Magadan	16.66	8	P		P	06 05 14.4	+0.7
MA2				IAmb		IAmb	06 05 31.0	
	comp=Z,91nm,1.5s							
MA2	Magadan	16.66	8	P		P	06 05 14.4	+0.7
MA2				pmax		pmax		
	comp=Z,91nm,1.5s							
SEY	Seymchan	20.12	8	P		P	06 05 51.8	+0.3
	comp=Z,1.1nm,0.3s,baz=189,slow=9.8,SNR=4.0							
	comp=Z,1.1nm,0.3s							
SEY	Seymchan	20.12	8	*i* P		P	06 05 51.9	+0.3
SEY				pmax		pmax		
	comp=Z,4.0nm,1.0s							
BJI	Beijing	22.60	272	P		P	06 06 16.6	-1.9
BJI				pmax		pmax		
	comp=Z,5.0nm,1.1s							
HNS	HongShan	24.61	267	⇑P		P	06 06 41.3	+3.6
HNS				pmax		pmax		
	comp=Z,11nm,0.6s							
HHC	Hu-ho-hao-te	25.72	277	*e*P		P	06 06 49.0	+1.1
HHC				pmax		pmax		
	comp=Z,17nm,0.8s							
HHC				pmax		pmax		
	comp=Z,210nm,4.9s							
BILL	Bilibino	27.11	16	*i* P		P	06 06 58.3	-1.7
BILL				pmax		pmax		
	comp=Z,2.0nm,1.2s							
BILL				MLR		MLR		
	comp=Z,25nm,15.0s							
SONM	Songino Array	28.05	294	P		P	06 07 09.2	+0.3
	comp=Z,0.7nm,0.4s,baz=82,slow=8.2,SNR=5.2							
	comp=Z,0.7nm,0.4s							
SONM	Songino Array	28.05	294	P		P	06 07 08.7	-0.1
H11N2	WAKE ISLAND Hy	29.14	137	T		T	06 38 07.4	
	baz=328,slow=76,SNR=2587							
H11N1	WAKE ISLAND Hy	29.16	137	T		T	06 38 10.6	
	baz=328,slow=76,SNR=3033							
H11N3	WAKE ISLAND Hy	29.16	137	T		T	06 38 11.1	
	baz=328,slow=76,SNR=2205							
TIXI	Tiksi	29.78	349	LR		LR	06 19 28.0	
	comp=Z,42nm,20.0s,baz=34,slow=36							
TIXI	Tiksi	29.78	349	*i* P		P	06 07 24.1	+0.4
TIXI	Tiksi	29.78	349	*i* P		P	06 07 24.1	+0.4
TIXI				pmax		pmax		
	comp=Z,1.0nm,1.2s							
H11S1	WAKE ISLAND Hy	30.09	138	T		T	06 39 20.1	
	baz=329,slow=76,SNR=7311							
H11S3	WAKE ISLAND Hy	30.09	138	T		T	06 39 24.8	
	baz=329,slow=76,SNR=6045							
H11S2	WAKE ISLAND Hy	30.10	138	T		T	06 39 21.4	
	baz=329,slow=76,SNR=3745							
LZH	Lanzhou	33.09	272	*e*P		P	06 07 52.8	-0.6
LZH				pP		pP	06 07 56.0	-10
LZH				pmax		pmax		
	comp=Z,14nm,1.1s							
O17K	Koliganek Bris	37.70	44	P		P	06 08 31.9	-0.6
	baz=270							
TTA	Tatalina	38.32	39	P		P	06 08 37.0	-0.8
	baz=267							
Q17K	Contact Creek	38.36	46	P		P	06 08 37.9	-0.4
	baz=273							
SVW2	Sparrevohn	38.46	42	P		P	06 08 40.0	+1.1
SVW2				IAmb		IAmb	06 09 19.6	
	comp=Z,14nm,1.3s							
CHIR	Chirikof Islan	38.70	50	P		P	06 08 38.8	-2.2
	baz=276							
Q18K	Katmai Hardscr	38.80	46	P		P	06 08 39.5	-2.4
	baz=273							
O19K	Port Alsworth	39.09	43	P		P	06 08 44.3	+0.1
	baz=272							
K20K	Telida	39.22	38	P		P	06 08 46.2	+1.0
	baz=268							
J20K	Nowinta River	39.22	37	P		P	06 08 45.8	+0.6
J20K				IAmb		IAmb	06 08 46.8	
	comp=Z,7.2nm,0.8s							
J20K	Nowinta River	39.22	37	P		P	06 08 46.2	+1.0
	baz=267,SNR=5.8							
A21K	Barrow	39.36	25	P		P	06 08 45.9	-0.4
A21K	Barrow	39.36	25	P		P	06 08 46.6	+0.3
	baz=256							
Q19K	Cape Douglas,	39.49	45	P		P	06 08 47.7	+0.1
IMAR	Indian Mountai	39.51	34	P		P	06 08 48.0	+0.4
PZH	PanZhiHua	39.59	260	P		P	06 08 50.8	+1.9
PZH				pmax		pmax		
	comp=Z,10.0nm,1.3s							
PZH				pmax		pmax		
	comp=Z,100nm,4.7s							
M20K	Styx River	39.63	40	P		P	06 08 49.9	+1.1
	baz=271							
G21K	Allakaket	39.66	33	P		P	06 08 49.2	+0.3
	baz=265							
F21K	Alatna River	39.74	32	P		P	06 08 49.5	0.0
	baz=264							
OHAK	Old Harbor	39.83	48	P		P	06 08 50.2	-0.2
OHAK	Old Harbor	39.83	48	P		P	06 08 49.6	-0.8
	baz=276							
H21K	Melozitna Rive	39.88	34	P		P	06 08 50.9	+0.3
H21K				IAmb		IAmb	06 08 52.0	
	comp=Z,6.6nm,0.6s							
H21K	Melozitna Rive	39.88	34	P		P	06 08 51.1	+0.4
	baz=266							
CHUM	Lake Minchumin	40.01	37	P		P	06 08 50.9	-0.9
	baz=269							
N20K	Mount Spurr	40.09	41	P		P	06 08 52.2	-0.4
	baz=272							
DGZ	Jazzator, Alta	40.10	300	*i* P		P	06 08 55.1	+2.2
DGZ				pmax		pmax		
	comp=Z,1.0nm,1.2s							
CAST	Castle Rocks	40.11	38	P		P	06 08 53.6	+0.9
CAST				IAmb		IAmb	06 08 54.5	
	comp=Z,5.3nm,0.7s							
CAST	Castle Rocks	40.11	38	P		P	06 08 53.4	+0.7
	baz=270							
SPU	Mount Spurr	40.17	41	P		P	06 08 54.7	+1.5
I21K	Tanana	40.19	35	P		P	06 08 52.7	-0.6
	baz=268							
F22K	John River	40.27	32	P		P	06 08 54.1	+0.2
	baz=265							
H22K	Ishtalitna Cre	40.48	34	P		P	06 08 56.2	+0.5
	baz=268,SNR=6.5							
G22K	Bettles	40.48	33	P		P	06 08 56.1	+0.5
	baz=266							
BPAW	Bear Paw Mtn.	40.60	37	P		P	06 08 57.4	+0.7
BPAW				IAmb		IAmb	06 09 11.7	
	comp=Z,11nm,1.4s							
BPAW	Bear Paw Mtn.	40.60	37	P		P	06 08 57.1	+0.4
	baz=270							
CAPN	Captain Cook N	40.63	42	P		P	06 08 54.4	-2.5
	baz=274							
KTH	Kantishna Hill	40.63	38	P		P	06 08 58.3	+1.3
KTH				IAmb		IAmb	06 09 01.2	
	comp=Z,12nm,1.0s							
CNPM	China Poot	40.68	44	P		P	06 08 58.1	+0.7
MLY	Manley	40.72	35	P		P	06 08 59.1	+1.4
MLY	Manley	40.72	35	P		P	06 08 57.7	0.0
	baz=269							
ZALV	Zalesovo Beam	40.79	307	P		P	06 08 58.9	+0.6
	comp=Z,0.3nm,0.3s,baz=98,slow=7.4,SNR=1.8							
ZALV				PcP		PcP	06 10 58.6	+0.1
	comp=Z,1.6nm,0.5s,baz=67,slow=3.9,SNR=8.4							
	comp=Z,1.3nm,0.3s							
TRF	Thorofare Moun	40.92	38	P		P	06 09 00.8	+1.3
TRF				IAmb		IAmb	06 09 30.7	
	comp=Z,12nm,1.3s							
D23K	Nanushuk River	40.96	29	P		P	06 08 60.0	+0.4
	baz=265							
COLD	Coldfoot	41.01	32	P		P	06 09 00.3	+0.3
	baz=267							
G23K	Bananza Creek	41.06	33	P		P	06 09 00.8	+0.4
	baz=268			

WAT6	**Susitna Watana**	42.12	39	P		P	06 09 09.6 +0.3
	baz=275						
DHY	**Denali Highway**	42.25	38	P		P	06 09 10.1 -0.4
	baz=274						
IL31		42.36	36	P		P	06 09 11.0 -0.1
ILAR	**Eielson Array**	42.36	36	P		P	06 09 11.3 +0.3
	comp=Z,1.2nm,0.4s,baz=276,slow=9.6,SNR=33						
	comp=Z,1.2nm,0.4s						
D25K	**Kavik River**	42.52	29	P		P	06 09 12.4 +0.1
	baz=268						
G25K	**Bearman Lake**	42.61	33	P		P	06 09 13.1 +0.1
	baz=271						
H25L	**Birch Creek**	42.74	34	P		P	06 09 14.5 +0.4
	baz=272						
F25K	**Christian Rive**	42.78	32	P		P	06 09 15.3 +0.8
	baz=271						
E25K	**Arctic Village**	42.80	31	P		P	06 09 15.2 +0.6
	baz=270						
PRP	**Porcupine Dome**	42.90	35	P		P	06 09 15.9 +0.3
PRP	**Porcupine Dome**	42.90	35	P		P	06 09 15.9 +0.3
	baz=273,SNR=7.8						
K24K	**Donnelly Dome**	42.91	37	P		P	06 09 15.4 -0.2
	baz=275						
FYU	**Fort Yukon**	42.97	33	P		P	06 09 17.4 +1.4
J25K	**Salcha River,**	43.02	36	P		P	06 09 16.6 0.0
	baz=274						
C26K	**Camden Bay**	43.05	28	P		P	06 09 17.0 +0.5
	baz=269						
F26K	**Sheenjek River**	43.35	31	P		P	06 09 20.2 +1.1
	baz=272						
C27K	**Jago River**	43.46	29	P		P	06 09 20.8 +0.8
	baz=270,SNR=9.1						
G26K	**Porcupine Rive**	43.52	33	P		P	06 09 21.4 +1.0
	baz=273,SNR=7.0						
SCRK	**Sand Creek**	43.68	37	P		P	06 09 21.6 -0.3
SCRK	**Sand Creek**	43.68	37	P		P	06 09 21.8 -0.1
	baz=276						
N25K	**Chitina, Valde**	43.70	40	P		P	06 09 24.6 +2.6
N25K				IAmb		IAmb	06 09 35.4
	comp=Z,16nm,1.4s						
J26L	**Joseph Creek**	43.81	36	P		P	06 09 22.4 -0.5
J26L	**Joseph Creek**	43.81	36	P		P	06 09 22.2 -0.7
	baz=276						
I26K	**Coal Creek Min**	43.90	35	P		P	06 09 23.7 +0.2
	baz=276						
L26K	**Log Cabin Wild**	44.08	38	P		P	06 09 25.9 +0.8
L26K				IAmb		IAmb	06 09 27.1
	comp=Z,5.0nm,0.7s						
L26K	**Log Cabin Wild**	44.08	38	P		P	06 09 25.8 +0.8
	baz=278,SNR=5.1						
MKAR	**Makanchi Array**	44.23	298	P		P	06 09 26.4 0.0
	comp=Z,0.7nm,0.6s,baz=72,slow=7.7,SNR=6.4						
MKAR				PcP		PcP	06 11 10.4 +0.1
	comp=Z,0.4nm,0.5s,baz=57,slow=2.2,SNR=2.3						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	44.23	298	P		P	06 09 25.5 -0.9
MKAR	**Makanchi Array**	44.23	298	*e*P		P	06 09 29.8 +3.4
MKAR	**Makanchi Array**	44.23	298	*i* P		P	06 09 29.8 +3.4
MKAR				pmax		pmax	
	comp=Z,1.0nm,0.5s						
E27K	**Coleen River**	44.28	31	P		P	06 09 26.7 +0.2
	baz=274						
VRDI	**Verde Repeater**	44.30	41	P		P	06 09 27.3 +0.3
VRDI				IAmb		IAmb	06 10 09.6
	comp=Z,16nm,1.4s						
M26K	**Nabesna, AK**	44.33	39	P		P	06 09 27.6 +0.6
	baz=279						
G27K	**Doyon Strip**	44.37	33	P		P	06 09 28.1 +0.8
	baz=275						
H27K	**Steamboat Moun**	44.48	33	P		P	06 09 29.0 +0.8
	baz=276						
I27K	**Kandik River**	44.51	34	P		P	06 09 29.7 +1.3
	baz=277						
K27K	**Chicken**	44.51	37	P		P	06 09 28.9 +0.5
K27K				IAmb		IAmb	06 09 29.9
	comp=Z,3.7nm,0.6s						
K27K	**Chicken**	44.51	37	P		P	06 09 28.7 +0.3
	baz=278						
L27K	**Beaver Creek,**	44.76	38	P		P	06 09 31.2 +0.8
	baz=279						
BCAR	**Beaver Creek A**	44.78	38	P		P	06 09 31.5 +0.9
EGAK	**Eagle**	44.81	35	P		P	06 09 30.5 -0.2
	baz=278						
M27K	**Edge Creek, AK**	44.85	39	P		P	06 09 31.6 +0.3
	baz=280						
MESA	**MESA**	45.22	42	P		P	06 09 34.5 +0.1
	baz=282						
KURK	**Kurchatov**	45.27	304	*e*P		P	06 09 35.2 +0.6
KURK	**Kurchatov**	45.27	304	*i* P		P	06 09 35.2 +0.6
KURK				pmax		pmax	
	comp=Z,5.0nm,1.5s						
YAH	**Yahtse**	45.28	42	P		P	06 09 36.0 +1.1
BVCY	**Beaver Creek**	45.31	39	P		P	06 09 35.4 +0.6
	baz=280						
TABL	**Table Mountain**	45.56	42	P		P	06 09 37.9 +0.8
YUK3	**Moose Creek**	45.62	40	P		P	06 09 37.7 +0.3
	baz=281						
DAWY	**Dawson**	45.67	36	P		P	06 09 38.2 +0.5
DAWY	**Dawson**	45.67	36	P		P	06 09 38.1 +0.5
	baz=280						
I29M	**Ogilvie Camp,**	45.91	34	P		P	06 09 40.4 +0.8
I29M				IAmb		IAmb	06 09 42.1
	comp=Z,8.2nm,0.9s						
I29M	**Ogilvie Camp,**	45.91	34	P		P	06 09 40.3 +0.8
	baz=280,SNR=13						
EPYK	**Eagle Plains**	46.38	33	P		P	06 09 44.4 +1.1
EPYK	**Eagle Plains**	46.38	33	P		P	06 09 44.1 +0.9
	baz=280,SNR=9.1						
M29M	**Somme Creek**	46.40	38	P		P	06 09 44.1 +0.7
	baz=282						
L29M	**L29M**	46.41	37	P		P	06 09 44.6 +1.1
	baz=282						
G30M	**tAoh Zraii Nji**	46.47	32	P		P	06 09 44.5 +0.5
	baz=280						
K29M	**Barlow Dome**	46.53	36	P		P	06 09 44.7 +0.2
	baz=282						
HYT	**Haines Junctio**	47.22	40	P		P	06 09 51.6 +1.6
HYT	**Haines Junctio**	47.22	40	P		P	06 09 51.2 +1.3
	baz=284,SNR=12						
INK	**Inuvik**	47.25	30	P		P	06 09 50.3 +0.5
INK				IAmb		IAmb	06 09 51.3
	comp=Z,6.1nm,1.0s						
INK	**Inuvik**	47.25	30	P		P	06 09 50.6 +0.7
	baz=281,SNR=5.0						
INK	**Inuvik**	47.25	30	P		P	06 09 50.3 +0.5
INK				pmax		pmax	
	comp=Z,6.0nm,1.0s						
F31M	**Tsiigehtchic**	47.34	31	P		P	06 09 51.4 +0.9
	baz=282,SNR=8.0						
P29M	**Windy Craggy**	47.41	42	P		P	06 09 51.9 +0.6
P29M	**Windy Craggy**	47.41	42	P		P	06 09 53.7 +2.3
	baz=285,SNR=7.6						
P30M	**Million Dollar**	47.66	41	P		P	06 09 54.3 +1.0
	baz=286						
N31M	**Braeburn, Yuko**	47.86	39	P		P	06 09 56.6 +1.8
N31M				IAmb		IAmb	06 09 57.0
	comp=Z,5.1nm,0.8s						
N31M	**Braeburn, Yuko**	47.86	39	P		P	06 09 56.3 +1.5
	baz=285						
O30N	**Mendenhall**	47.90	40	P		P	06 09 54.9 -0.2
	baz=286						
PLBC	**Pleasant Camp**	48.13	42	P		P	06 09 57.3 +0.4
	baz=287						
M31M	**Drury Creek, Y**	48.30	38	P		P	06 09 59.1 +0.9
M31M				IAmb		IAmb	06 09 59.9
	comp=Z,2.9nm,0.7s						
M31M	**Drury Creek, Y**	48.30	38	P		P	06 09 58.9 +0.7
	baz=286						
WHY	**Whitehorse**	48.51	40	P		P	06 10 00.7 +0.8
	baz=287						
SKAG	**Skagway**	48.64	42	P		P	06 10 02.3 +1.5
SKAG				IAmb		IAmb	06 10 17.4
	comp=Z,7.7nm,1.1s						
FARO	**Faro, Yukon**	48.77	38	P		P	06 10 02.6 +0.8
FARO				IAmb		IAmb	06 10 03.6
	comp=Z,2.8nm,0.7s						
FARO	**Faro, Yukon**	48.77	38	P		P	06 10 02.4 +0.7
	baz=286						
A36M	**Sachs Harbour**	49.18	24	P		P	06 10 05.2 +0.5
	baz=285						
BRVK	**Borovoye**	49.37	310	*i* P		P	06 10 07.4 +1.0
BRVK	**Borovoye**	49.37	310	*i* P		P	06 10 07.4 +1.0
BRVK				pmax		pmax	
	comp=Z,1.0nm,0.9s						
MMPY	**Sheldon Lake,**	49.58	37	P		P	06 10 07.3 -0.7
	baz=288						
P33M	**Teslin, Yukon**	49.62	40	P		P	06 10 08.2 -0.2
	baz=288						
BOOM	**Boomskoye usch**	50.08	295	P		P	06 10 12.9 +0.7
BOOM				IAmb		IAmb	06 10 30.7
	comp=Z,2.8nm,0.8s						
BOOM	**Boomskoye usch**	50.08	295	P		P	06 10 12.9 +0.7
BOOM				pmax		pmax	
	comp=Z,3.0nm,0.8s						
C36M	**Paulatuk**	50.31	27	P		P	06 10 13.1 -0.2
	baz=288						
R33M	**Jennings River**	50.77	41	P		P	06 10 16.3 -0.8
	baz=290						
S34M	**Telegraph Cree**	51.22	43	P		P	06 10 21.4 +1.1
	baz=292						
EUNU	**Eureka**	53.55	10	P		P	06 10 36.5 -0.9
EUNU				IAmb		IAmb	06 10 37.5
	comp=Z,5.9nm,0.7s						
ARU	**Arti**	54.28	317	*i* P		P	06 10 42.3 -0.7
ARU	**Arti**	54.28	317	*d* P		P	06 10 42.3 -0.7
ARU				*PP		pP	06 10 55.3 -0.9
ARU							06 11 43.8
ARU							06 12 45.9
ARU				S		S	06 18 17.7 +0.8
ARU				SS		SS	06 21 54.6 -4.1
ARU				pmax		pmax	
	comp=Z,32nm,3.8s						
ABKAR	**Akbulak array**	56.87	309	P		P	06 11 02.3 +0.7
ABKAR	**Akbulak array**	56.87	309	P		P	06 11 01.9 +0.2
ARCES	**ARCESS Array B**	59.54	339	P		P	06 11 19.9 -0.1
	comp=Z,4.4nm,0.9s,baz=31,slow=7.2,SNR=5.8						
	comp=Z,4.4nm,0.9s						
BELG	**Belogornoye**	61.83	317	*i* P		P	06 11 38.4 +2.6
BELG				pmax		pmax	
	comp=Z,1.0nm,1.0s						
NEW	**Newport**	63.24	48	P		P	06 11 45.6 +0.2
	baz=306						
WRA	**Warramunga Arr**	63.74	192	P		P	06 11 48.5 -0.3
	comp=Z,0.2nm,0.7s,baz=9.7,slow=6.8,SNR=1.4						
	comp=Z,0.2nm,0.7s						
SUMG	**Summit**	64.50	2	*i* P		P	06 11 52.0 -1.7
FINES	**FINESS Array B**	65.06	333	P		P	06 11 56.7 -0.3
	comp=Z,2.0nm,0.4s,baz=40,slow=9.4,SNR=20						
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	65.06	333	*i* P		P	06 11 56.9 -0.1
FINES				pmax		pmax	
	comp=Z,2.0nm,0.3s						
OBN	**Obninsk**	65.36	323	*i* P		P	06 11 58.9 -0.1
OBN	**Obninsk**	65.36	323	*i* P		P	06 11 58.9 -0.1
OBN				*i*			06 12 29.5
OBN				pmax		pmax	
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	67.47	192	P		P	06 12 12.9 +0.1
	comp=Z,0.2nm,0.7s,baz=8.2,slow=6.8,SNR=1.8						
	comp=Z,0.2nm,0.7s						
BOZ	**Bozeman (W)**	67.84	48	P		P	06 12 15.6 +0.3
	baz=310						
NVAR	**Mina Array Bea**	68.48	57	P		P	06 12 20.1 +0.6
	comp=Z,1.1nm,0.7s,baz=286,slow=6.3,SNR=7.3						
	comp=Z,1.1nm,0.7s						
KIV	**Kislovodsk**	69.62	311	*e*P		P	06 12 26.9 +0.6
KIV	**Kislovodsk**	69.62	311	*e*P		P	06 12 26.9 +0.6
KIV				pmax		pmax	
	comp=Z,6.0nm,0.9s						
KBZ	**Khabaz**	69.65	311	P		P	06 12 27.3 +1.0
	comp=Z,3.1nm,0.8s,baz=42,slow=4.5,SNR=7.0						
	comp=Z,3.1nm,0.8s						
KBZ	**Khabaz**	69.65	311	*e*P		P	06 12 27.1 +0.8
KBZ	**Khabaz**	69.65	311	*i* P		P	06 12 27.1 +0.8
KBZ				pmax		pmax	
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	69.88	338	P		P	06 12 27.1 -0.4
	comp=Z,1.6nm,0.6s,baz=33,slow=6.2						
NOA	**NORSAR Array B**	69.88	338	P		P	06 12 27.2 -0.3
	comp=Z,2.7nm,0.8s,baz=34,slow=6.0,SNR=9.9						
	comp=Z,2.7nm,0.8s						
HFS	**Hagfors**	69.94	337	LR		LR	06 50 31.3
	comp=Z,41nm,18.1s,baz=296,slow=42						
NORES	**NORESS Array B**	70.05	338	P		P	06 12 30.7 +2.3
ISA	**Isabella, Lake**	70.10	60	P		P	06 12 29.0 -0.4
	baz=309						
MPMC	**Manual Prospec**	70.47	59	P		P	06 12 31.8 +0.1
	baz=310						
FURC	**Furnace Creek,**	70.60	58	P		P	06 12 32.8 +0.6
	baz=310						
DUG	**Dugway, Tooele**	70.65	53	P		P	06 12 33.2 +0.5
	baz=311						
TPNV	**Topopah Spring**	70.67	57	P		P	06 12 32.9 0.0
	baz=310						
BW06	**Boulder Array**	70.81	49	P		P	06 12 33.6 -0.2
	baz=312						
PDAR	**Pinedale Array**	70.81	49	P		P	06 12 34.0 +0.2
	comp=Z,0.8nm,0.7s,baz=282,slow=2.5,SNR=8.4						
	comp=Z,0.8nm,0.7s						
EDW2	**Edwards Air Fo**	70.90	60	P		P	06 12 34.3 0.0
	baz=310						
SNCC	**San Nicolas Is**	70.96	62	P		P	06 12 34.3 -0.2
	baz=310						
GSC	**Goldstone, Bar**	71.38	59	P		P	06 12 37.0 -0.1
	baz=310						
BFSC	**Mount Baldy Ra**	71.53	60	P		P	06 12 37.9 -0.1
	baz=310						
AKASG	**Malin Array Be**	71.62	323	P		P	06 12 37.8 -0.4
	comp=Z,1.4nm,0.4s,baz=41,slow=6.4,SNR=17						
	comp=Z,1.4nm,0.4s						
AKASG	**Malin Array Be**	71.62	323	*i* P		P	06 12 37.7 -0.4
AKASG				pmax		pmax	
	comp=Z,2.0nm,0.4s						
HEC	**Hector,Ludlow**	71.98	59	P		P	06 12 41.1 +0.4
	baz=310						
K22A	**Casper**	72.55	48	P		P	06 12 44.3 +0.2
	baz=313						
TPFO	**Pinon Flats**	72.70	60	P		P	06 12 44.4 -0.7
	baz=311						
O20A	**White River Ci**	73.31	50	P		P	06 12 48.9 +0.2
	baz=313						
IKP	**In-Ko-Pah, Jac**	73.54	61	P		P	06 12 49.3 -0.7
	baz=311						
N23A	**Red Feather La**	74.07	49	P		P	06 12 52.2 -1.0
	baz=314						
MVCO	**Mesa Verde**	75.15	53	P		P	06 12 59.4 -0.1
	baz=313						
BUR08	**Bucovina Ar. S**	75.66	323	P		P	06 13 02.5 +0.4
BURAR	**Bucovina Array**	75.68	323	P		P	06 13 02.4 +0.2
BURAR	**Bucovina Array**	75.68	323	P		P	06 13 02.4 +0.2
BURAR				pmax		pmax	
	comp=Z,3.0nm,0.9s						
STHS	**Stebnicka Huta**	75.95	327	*e*P		P	06 13 03.1 -0.5
STHS	**Stebnicka Huta**	75.95	327	*e*P		P	06 13 03.1 -0.5
SDCO	**Great Sand Dun**	76.50	51	P		P	06 13 05.9 -1.4
	baz=315						
ECSD	**EROS Data Cent**	76.86	41	P		P	06 13 08.3 -0.5
	baz=318						
TUC	**Tucson**	77.11	58	P		P	06 13 09.8 -0.8
	baz=313						
CLL	**Collm**	77.50	332	*e*P		P	06 13 12.0 -0.2
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	77.50	332	*i* P		P	06 13 15.8 +3.6
CLL				pmax		pmax	
	comp=Z,4.0nm,0.8s						
VYHS	**Vyhne**	77.65	327	*e*P		P	06 13 10.8 -2.4
VYHS	**Vyhne**	77.65	327	*e*P		P	06 13 10.8 -2.4
VRAC	**Vranov**	77.86	329	LR		LR	06 52 31.5
	comp=Z,56nm,18.1s,baz=26,slow=39						
SCHQ	**Schefferville**	78.39	19	P		P	06 13 17.1 -0.1
	comp=Z,5.3nm,0.9s,baz=315,slow=7.1,SNR=2.6						
	comp=Z,5.3nm,0.9s						
EKA	**Eskdalemuir Ar**	78.47	343	P		P	06 13 17.7 +0.2
121A	**Cookes Peak, D**	78.80	56	P		P	06 13 19.5 -0.5
	baz=314						
TUL1	**Leonard**	83.16	46	P		P	06 13 43.1 +0.2
	baz=320						
TX31	**Lajitas Ar. Si**	83.55	56	P		P	06 13 45.8 +0.6
TX31				IAmb		IAmb	06 13 46.9
	comp=Z,5.0nm,0.8s						
TXAR	**Lajitas Array**	83.55	56	P		P	06 13 45.9 +0.7
	comp=Z,1.8nm,0.7s,baz=308,slow=4.2,SNR=11						
	comp=Z,1.8nm,0.7s						
TXAR	**Lajitas Array**	83.55	56			P	06 13 45.7 +0.5
CCM	**Cathedral Cave**	83.82	42	P		P	06 13 45.8 -0.5
	baz=322						
MIAR	**Mount Ida**	85.37	46	P		P	06 13 53.8 -0.4
	baz=321						
WCI	**Wyandotte Cave**	86.03	39	P		P	06 13 55.1 -2.3
	baz=325						
O53A	**New Philadelph**	86.57	34	P		P	06 13 58.4 -1.6
	baz=328						
NATX	**Nacogdoches**	86.93	48	P		P	06 14 00.6 -1.4
	baz=320						
TROLL	**Troll, Antarti**	146.22	199	PKPbc		PKPab	06 20 56.6 -0.2
SNAA	**Sanae**	147.70	198	PKPbc		PKPbc	06 21 00.2 +0.1
VNA2	**Neumayer--Watz**	149.24	197	PKPbc		PKiKP	06 21 04.7 -0.5
	baz=131,slow=2.3						
VNA3	**Neumayer Olymp**	149.44	195	PKPbc		PKPbc	06 21 04.9 +0.4
VNA1	**Neumayer--Stat**	149.63	197	PKPbc		PKiKP	06 21 05.5 -0.4
PLCA	**Paso Flores**	152.71	98	PKPbc		PKiKP	06 21 13.7 +0.3
	comp=Z,0.8nm,0.8s,baz=226,slow=6.9,SNR=3.1						

ATH ***19*** *06:10:47.9, 38.72N×20.62E, h9km±4km, ML1.5/2, Error ellipse: s-maj=4.4km s-min=1.0km az=99.0*
THE 19 06:10:48.0, 38.71N×20.60E, h3km±1km, ML1.5/5, Error ellipse: s-maj=1.6km s-min=0.2km az=271.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRAG	**Dragano-Lefkad**	0.03	216	P		Pg	06 10 48.7 -0.1
DRAG				S		Sg	06 10 49.5 +0.2
NYDR	**Nydri-Lefkada**	0.08	88	P		Pg	06 10 49.5 -0.1
NYDR				S		Sg	06 10 50.8 +0.2
	660nm,0.1s						
LKD2	**Lefkada island**	0.09	30	P		Pg	06 10 49.7 -0.1
LKD2				S		Sg	06 10 51.3 +0.2
	482nm,0.1s						
LKD2	**Lefkada island**	0.09	30	P		Pg	06 10 49.7 -0.1
LKD2				S		Sg	06 10 51.5 +0.4
LKD2				AML		AML	06 10 51.6
	comp=N,1032μm,0.1s						
LKD2				AML		AML	06 10 51.7
	comp=E,855μm,0.1s						
EVGI	**Lefkada island**	0.10	154	P		Pg	06 10 50.1 +0.1
EVGI				S		Sg	06 10 51.6 +0.3
	comp=E,1μm,0.1s						
EVGI	**Lefkada island**	0.10	154	P		Pg	06 10 50.1 +0.2
EVGI				S		Sg	06 10 51.8 +0.5
TSLK	**Tsoukalades, L**	0.12	21	P		Pg	06 10 50.4 0.0
TSLK				S		Sg	06 10 52.5 +0.4
	comp=E,350nm,0.3s						
TSLK	**Tsoukalades, L**	0.12	21	P		Pg	06 10 50.5 +0.1
TSLK				S		Sg	06 10 52.9 +0.8
TSLK				AML		AML	06 10 53.1
	comp=N,778μm,0.3s						
TSLK				AML		AML	06 10 53.2
	comp=E,615μm,0.3s						
FSK	**Fiskardo**	0.25	187	P		Pg	06 10 52.8 0.0
FSK				S		Sg	06 10 56.7 +0.6
	comp=E,68nm,0.1s						
FSK	**Fiskardo**	0.25	187	P		Pg	06 10 52.8 0.0
FSK				S		Sg	06 10 57.4 +1.3
VLS	**Valsamata**	0.53	181	P		Pg	06 10 57.4 -0.8
VLS				S		Sg	06 11 06.1 +1.0
PVO	**Paravola**	0.73	97	P		Pg	06 11 01.8 -0.2

CNRM ***19*** *06:11:06.0, 35.63N×6.06W, h54km, ml2.7*
MDD ***19*** *06:11:07.3±0.4, 35.68N×6.04W, h60km±7km, Mb3.3/29, Error ellipse: s-maj=3.2km s-min=2.1km az=1.0*
SFS ***19*** *06:11:07.0, 35.69N×6.02W, h64km, ML2.8, W. ESTRECHO GIBRALTAR*
INMG ***19*** *06:11:08.0±1.6, 35.66N×6.09W, h28km±7km, ML2.3, Error ellipse: s-maj=3.8km s-min=2.8km az=27.0*
ISC 19 06:11:05.3±1.2, 35.69N±0.03×6.02W±0.03, h75km±9km, n70, σ1.9 66/129, 26C-6D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECEU	**Ceuta**	0.56	68	P		Pn	06 11 19.2 0.0
ECEU				S		Sn	06 11 28.8 -0.6
CEU	**Ceuta**	0.56	68	P		Pn	06 11 19.2 0.0
CEU				S		Sn	06 11 28.4 -1.1
CHEFC	**Chefchaouen**	0.80	136	P		Pn	06 11 22.9 +1.0
CHEFC				S		Sn	06 11 32.5 -1.7
EJIF	**Jimena Fronter**	0.88	30	P		Pn	06 11 23.4 +0.7
EJIF				S		Sn	06 11 36.6 +1.0
ESPR	**Espera**	1.18	6	P		Pn	06 11 27.5 +1.1
ESPR				⇑*i*Vmb_V			06 11 27.7
	169nm,SNR=2.1						
ESPR				S		Sn	06 11 42.6 +0.5
EMIJ	**Mijas**	1.33	49	P		Pn	06 11 28.6 +0.3
EMIJ				⇑*i*Vmb_V			06 11 29.7
	82nm,SNR=0.8						
EMIJ				S		Sn	06 11 44.8 -0.9
EMAL	**Malaga-Limoner**	1.67	50	P		Pn	06 11 33.9 +1.2
EMAL				S		Sn	06 11 53.2 -0.3
PALE	**Palemas**	1.76	105	P		Pn	06 11 36.9 +2.9
PALE				S		Sn	06 11 54.8 -0.9
EGOR	**Sierra Gorda,**	2.09	47	P		Pn	06 11 40.9 +2.4
EGOR				⇑*i*Vmb_V			06 11 41.7
	44nm,SNR=0.6						
EGOR				S		Sn	06 12 06.1 +2.4
EMIN	**Mina Concepcio**	2.14	346	⇓P		Pn	06 11 39.7 +0.8
EMIN				⇑*i*Vmb_V			06 11 39.8
	174nm,SNR=2.1						
EMIN				S		Sn	06 12 03.0 -1.6
EGRO	**El Granado**	2.19	328	P		Pn	06 11 40.5 +0.9
EGRO				⇑*i*Vmb_V			06 11 40.7
	606nm,SNR=7.1						
EGRO				S		Sn	06 12 04.8 -0.9
PVAQ	**Vaqueiros**	2.19	322	⇓*i*Pn		Pn	06 11 40.5 +0.9
PVAQ				*e*Sn		Sn	06 12 05.2 -0.6
PVAQ				A		A	06 12 05.9
	36nm,0.2s						
PVAQ	**Vaqueiros**	2.19	322	P		Pn	06 11 40.5 +0.9
PVAQ				S		Sn	06 12 05.7 -0.2
LCRM	**LCR**	2.22	154	P		Pn	06 11 39.9 -0.3
ELGU	**Los Guajares,**	2.26	58	P		Pn	06 11 40.6 -0.1
ELGU				⇑*i*Vmb_V			06 11 42.2
	44nm,SNR=0.6						
ELGU				S		Sn	06 12 07.8 +0.1
ECAB	**El Cabril**	2.43	11	P		Pn	06 11 43.7 +0.8
ECAB				⇑*i*Vmb_V			06 11 44.8
	75nm,SNR=1.0						
ECAB				S		Sn	06 12 10.1 -1.6
PCVE	**Castro Verde**	2.53	321	*e*Pn		Pn	06 11 45.2 +1.0
PCVE				*e*Sn		Sn	06 12 13.5 -0.5
PCVE				A		A	06 12 19.9
	5.2nm,0.2s						
EQUE	**Quentar**	2.57	53	⇑*i*Vmb_V			06 11 46.7
	90nm,SNR=1.1						
EQUE				S		Sn	06 12 17.0 +1.8
PBAR	**Barrancos**	2.61	342	*e*Pn		Pn	06 11 46.3 +1.0
PBAR				*e*Sn		Sn	06 12 15.7 -0.3
PBAR				A		A	06 12 17.3
	4.6nm,0.2s						
AVE	**Averroes**	2.65	206	P		Pn	06 11 46.1 +0.2
AVE				S		Sn	06 12 15.9 -1.1
MORF	**Marmelete**	2.66	308	*e*P		Pn	06 11 46.7 +0.6
MORF				*e*S	

PTEO					A	A	06 12 23.6		
	comp=E,8.1nm,0.3s								
MD31	**MD31**	**3.00**	**159**		P	**Pn**	**06 11 50.9**	**+0.2**	
MD31					S	**Sn**	**06 12 23.1**	**-2.6**	
JBK	**JBK**	**3.14**	**115**		P	**Pn**	**06 11 53.3**	**+0.6**	
JBK					S	**Sn**	**06 12 27.5**	**-1.7**	
PNCL	**Nicolau / Gran**	**3.14**	**321**	⇓	*e*Pn	**Pn**	**06 11 53.7**	**+1.2**	
PNCL					*e*Sn	**Sn**	**06 12 27.9**	**-1.1**	
PNCL					A	A	06 12 30.5		
	comp=E,6.3nm,0.6s								
EBAD	**Badajoz**	**3.16**	**346**		P	**Pn**	**06 11 54.1**	**+1.3**	
EBAD				⇑	*i*Vmb_V		06 11 55.6		
	comp=E,243nm,SNR=2.6								
EBAD					S	**Sn**	**06 12 27.8**	**-1.5**	
EQES	**Quesada**	**3.17**	**47**		P	**Pn**	**06 11 55.3**	**+2.2**	
EQES				⇑	*i*Vmb_V		06 11 56.9		
	comp=E,58nm,SNR=0.6								
EQES					S	**Sn**	**06 12 29.4**	**-0.4**	
EVO	**Evora**	**3.25**	**331**		P	**Pn**	**06 11 55.2**	**+1.2**	
EVO					S	**Sn**	**06 12 31.0**	**-0.6**	
EVO	**Evora**	**3.25**	**331**	⇓	*e*Pn	**Pn**	**06 11 55.3**	**+1.2**	
EVO					*e*Sn	**Sn**	**06 12 30.6**	**-1.0**	
EVO					A	A	06 12 32.1		
	comp=E,10nm,0.1s								
ENIJ	**Nijar**	**3.33**	**66**	⇑	*i*Vmb_V		06 11 57.4		
	comp=E,30nm,SNR=0.4								
ENIJ					S	**Sn**	**06 12 33.6**	**0.0**	
PESTR	**Estremoz**	**3.41**	**339**		*e*Pn	**Pn**	**06 11 57.5**	**+1.3**	
PESTR					*e*Sn	**Sn**	**06 12 34.9**	**-0.6**	
PESTR					A	A	06 12 51.3		
	comp=E,2.0nm,1.1s								
PESTR	**Estremoz**	**3.41**	**339**		P	**Pn**	**06 11 58.1**	**+1.9**	
SRHM	**Skhour des Reh**	**3.57**	**206**		P	Pn	06 12 04.7	+6.2	
PMTG	**Montargil**	**3.80**	**333**		*e*Pn	**Pn**	**06 12 02.8**	**+1.3**	
PMTG					*e*Sn	**Sn**	**06 12 44.3**	**-0.7**	
PACT	**Alcochete**	**3.81**	**325**		*e*Pn	**Pn**	**06 12 03.4**	**+1.9**	
PACT					*e*Sn	**Sn**	**06 12 46.5**	**+1.5**	
PMRV	**Marv??o**	**3.89**	**344**		*e*Pn	**Pn**	**06 12 04.1**	**+1.4**	
PMRV					*e*Sn	**Sn**	**06 12 46.6**	**-0.5**	
PMRV					A	A	06 12 47.6		
	comp=E,3.2nm,0.2s								
ELOR	**Lorca, Murcia**	**3.95**	**59**	⇑	*i*Vmb_V		06 12 06.7		
	comp=E,114nm,SNR=0.6								
ELOR					S	**Sn**	**06 12 48.9**	**+0.3**	
PAB	**San Pablo**	**4.07**	**19**		P	**Pn**	**06 12 07.3**	**+2.1**	
PAB				⇑	*i*Vmb_V		06 12 09.1		
	comp=E,38nm,SNR=0.4								
PAB					S	**Sn**	**06 12 48.4**	**-3.3**	
EZAR	**Zarzadilla de**	**4.10**	**57**		P	**Pn**	**06 12 07.7**	**+2.0**	
EZAR				⇑	*i*Vmb_V		06 12 09.0		
	comp=E,12nm,SNR=0.1								
EZAR					S	**Sn**	**06 12 52.0**	**-0.4**	
PMAFR	**Mafra**	**4.17**	**322**		*e*Pn	**Pn**	**06 12 08.2**	**+1.7**	
PMAFR					*e*Sn	**Sn**	**06 12 52.5**	**-1.5**	
PMAFR					A	A	06 13 09.8		
	comp=E,17nm,0.7s								
ESDC	**Sonseca Array**	**4.30**	**22**		P	**Pn**	**06 12 10.4**	**+2.1**	
ESDC				⇑	*i*Vmb_V		06 12 11.4		
	comp=E,24nm,SNR=0.4								
ESDC					S	**Sn**	**06 12 54.1**	**-3.1**	
PCBR	**Castelo Branco**	**4.30**	**345**		*e*Pn	**Pn**	**06 12 10.0**	**+1.7**	
PCBR					*e*Sn	**Sn**	**06 12 54.9**	**-2.3**	
PCBR					A	A	06 12 56.8		
	comp=E,3.3nm,0.4s								
EPLA	**Plasencia**	**4.37**	**359**		P	**Pn**	**06 12 11.1**	**+1.9**	
EPLA				⇑	*i*Vmb_V		06 12 11.8		
	comp=E,214nm,SNR=1.7								
EPLA					S	**Sn**	**06 12 56.7**	**-2.2**	
PSBE	**So Bento**	**4.41**	**331**		*e*Pn	**Pn**	**06 12 11.4**	**+1.6**	
PSBE					*e*Sn	**Sn**	**06 12 58.8**	**-1.1**	
PSBE					A	A	06 13 02.7		
	comp=E,7.7nm,0.8s								
ETOB	**Tobarra**	**4.63**	**49**		P	**Pn**	**06 12 13.7**	**+0.8**	
ETOB				⇑	*i*Vmb_V		06 12 14.7		
	comp=E,95nm,SNR=0.8								
ETOB					S	**Sn**	**06 13 02.6**	**-2.8**	
OUK	**Oukaimeden**	**4.73**	**200**		P	**Pn**	**06 12 14.2**	**-0.4**	
PCAS	**Casmilo, Conde**	**4.78**	**336**		*e*Pn	**Pn**	**06 12 16.8**	**+2.0**	
PCAS					*e*Sn	**Sn**	**06 13 07.4**	**-1.4**	
PCAS					A	A	06 13 09.6		
	comp=E,3.9nm,0.9s								
MTE	**Manteigas**	**4.85**	**346**		*e*Pn	**Pn**	**06 12 17.7**	**+1.8**	
MTE					*e*Sn	**Sn**	**06 13 09.5**	**-1.3**	
MTE					A	A	06 13 14.2		
	comp=E,3.4nm,0.5s								
GUD	**Guadarrama**	**5.16**	**16**		P	**Pn**	**06 12 22.0**	**+1.9**	
GUD				⇑	*i*Vmb_V		06 12 23.3		
	comp=E,48nm,SNR=0.5								
GUD					S	**Sn**	**06 13 14.5**	**-3.8**	
PVIS	**Viseu**	**5.23**	**344**		*e*Pn	**Pn**	**06 12 23.2**	**+2.2**	
PVIS					*e*Sn	**Sn**	**06 13 18.8**	**-1.2**	
PVIS					A	A	06 13 35.0		
	comp=E,3.1nm,0.7s								
MVO	**Moncorvo**	**5.52**	**352**		*e*Pn	**Pn**	**06 12 27.0**	**+2.0**	
MVO					*e*Sn	**Sn**	**06 13 25.5**	**-1.7**	
MVO					A	A	06 13 37.5		
	comp=E,3.2nm,0.6s								
ECHE	**Chera**	**5.59**	**44**	⇑	*i*Vmb_V		06 12 28.5		
	comp=E,125nm,SNR=1.0								
ECHE					S	**Sn**	**06 13 25.2**	**-3.5**	
PVRL	**Vila Real**	**5.73**	**347**		*e*Pn	**Pn**	**06 12 29.8**	**+1.9**	
PVRL					*e*Sn	**Sn**	**06 13 29.7**	**-2.6**	
PVRL					A	A	06 13 32.6		
	comp=E,3.4nm,0.5s								
POLO	**Lamas de Olo**	**5.84**	**347**		*e*Pn	**Pn**	**06 12 31.6**	**+2.2**	
POLO					*e*Sn	**Sn**	**06 13 33.2**	**-1.8**	
POLO					A	A	06 13 34.5		
	comp=E,1.3nm,0.4s								
ETOR	**Torete**	**6.00**	**30**		P	**Pn**	**06 12 32.8**	**+1.3**	
ETOR				⇑	*i*Vmb_V		06 12 33.4		
	comp=E,221nm,SNR=1.9								
ETOR					S	**Sn**	**06 13 34.8**	**-3.9**	
PBRG	**Braganca**	**6.13**	**355**		*e*Pn	**Pn**	**06 12 34.7**	**+1.4**	
PBRG					*e*Sn	**Sn**	**06 13 39.2**	**-2.8**	
PBRG					A	A	06 14 01.8		
	comp=E,2.0nm,0.6s								
PCAB	**Cabril**	**6.21**	**346**		*e*Pn	**Pn**	**06 12 36.6**	**+2.2**	
PCAB					*e*Sn	**Sn**	**06 13 40.9**	**-3.1**	
ECAL	**Calabor**	**6.27**	**355**		P	**Pn**	**06 12 37.3**	**+2.1**	
ECAL				⇑	*i*Vmb_V		06 12 38.7		
	comp=E,88nm,SNR=0.3								
ECAL					S	**Sn**	**06 13 43.5**	**-1.9**	
ELOB	**Lobios**	**6.37**	**346**		P	**Pn**	**06 12 38.5**	**+1.8**	
ELOB				⇑	*i*Vmb_V		06 12 38.9		
	comp=E,210nm,SNR=0.8								
ELOB					S	**Sn**	**06 13 45.3**	**-2.6**	
EMOS	**Mosqueruela**	**6.40**	**42**	⇑	*i*Vmb_V		06 12 39.2		
	comp=E,106nm,SNR=0.6								
EMOS					S	**Sn**	**06 13 44.7**	**-4.1**	
PGAV	**Gavieira, Arco**	**6.51**	**345**		*e*Pn	**Pn**	**06 12 40.6**	**+2.1**	
PGAV					*e*Sn	**Sn**	**06 13 49.1**	**-2.2**	
EAGO	**Agolada(Pontev**	**7.28**	**348**		P	**Pn**	**06 12 51.4**	**+2.4**	
EAGO				⇑	*i*Vmb_V		06 12 52.0		
	comp=E,139nm,SNR=0.6								

IDC 19 06:16:40.1±1.3, 28°45N×103°20E, h0km, mb3.5/4, mbtmp3.6/5, ML4.6/1, MS3.8/1, Error ellipse: s-maj=62.5km s-min=23.4km az=65.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.69**	**202**	Pn		Pn	06 19 14.8	+0.3
	1.3nm,0.3s,baz=360,slow=18,SNR=20							
CMAR				Sn		Sn	06 20 59.6	-15
	baz=358,slow=30							
	2.2nm,0.3s							
MKAR	**Makanchi Array**	**24.56**	**324**	P		P	06 22 01.9	+0.3
	1.2nm,0.9s,baz=132,slow=12,SNR=5.2							
	1.2nm,0.9s							
ZALV	**Zalesovo Beam**	**28.81**	**337**	P		P	06 22 39.4	-0.3
	0.2nm,0.4s,baz=126,slow=7.3,SNR=1.2							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**56.74**	**144**	P		P	06 26 26.1	+0.2
	0.5nm,0.7s,baz=329,slow=7.7,SNR=3.4							
	0.5nm,0.7s							
ARCES	**ARCESS Array B**	**59.36**	**336**	LR		LR	06 54 11.5	
	comp=Z,79nm,18.2s,baz=92,slow=38							
ASAR	**Alice Springs**	**59.66**	**147**	P		P	06 26 46.0	-0.4
	0.3nm,0.7s,baz=330,slow=5.4,SNR=1.7							
	0.3nm,0.7s							

MAN 19 06:25:29.3, 10°13N×124°71E, h20km, mb3.8, ML2.5, MS2.1, 2C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.15**	**90**	⇑	*e*P	Pb	06 25 34.9	+1.1
MSLP					*e*S	Sb	06 25 40.1	+3.2
TABP	**Talibon, Bohol**	**0.37**	**264**	⇓	*i*P	Pb	06 25 38.2	+0.9
TABP					*i* S	Sn	06 25 45.5	-0.7
GHBP	**Garcia Hernand**	**0.63**	**217**	⇓	*e*P	Pn	06 25 45.5	+2.3
GHBP					*i* S	Sn	06 25 57.6	+4.9
OCLP	**Ormoc**	**0.92**	**354**	⇑	*e*P	Pn	06 25 52.1	+4.9
OCLP					*e*S	Sn	06 26 03.2	+3.5

NEIC ***19*** *06:37:01.9±1.6, 34°81S±0°02×71°6W±0°1, h49km±9km, mb4.3/6, ML4.1(GUC), Error ellipse: s-maj=13.8km s-min=2.6km az=91.0*

GUC ***19*** *06:37:02.3±0.7, 34°81S×71°58W, h62km±3km, ML4.1*

ISC 19 06:37:02.4±0.8, 34°81S±0°03×71°60W±0°05, h58km±7km, n52, σ0°89/64, mb4.3/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.34**	**233**	Pn		**Pn**	**06 37 12.6**	**-0.1**
GO05	**Huala**	**0.34**	**233**	*e*P		**Pn**	**06 37 12.7**	**-0.1**
GO05				*i* S		**Sn**	**06 37 20.3**	**+0.2**
BO03	**Pichilemu**	**0.43**	**316**	*e*P		**Pn**	**06 37 13.8**	**+0.3**
BO03				*i* S		**Sn**	**06 37 22.0**	**+0.5**
BO01	**Tunca**	**0.59**	**46**	Pn		**Pn**	**06 37 14.7**	**-0.6**
BO01	**Tunca**	**0.59**	**46**	*e*P		**Pn**	**06 37 15.2**	**-0.1**
BO01				*i* S		**Sn**	**06 37 24.5**	**-0.2**
BO01				IAML			06 37 25.7	
	comp=N,5μm,0.3s							
BO02	**Sierra Bellavi**	**0.67**	**89**			**Pn**	**06 37 15.8**	**-0.5**
BO02	**Sierra Bellavi**	**0.67**	**89**	*e*P		**Pn**	**06 37 16.1**	**-0.2**
BO02				*i* S		**Sn**	**06 37 26.1**	**-0.4**
BO02				IAML			06 37 27.0	
	comp=N,12μm,0.2s							
ML02	**Panimavida**	**0.96**	**171**	Pn		**Pn**	**06 37 19.7**	**-0.3**
ML02	**Panimavida**	**0.96**	**171**	*e*P		**Pn**	**06 37 20.1**	**+0.2**
ML02				*i* S		**Sn**	**06 37 33.5**	**+0.6**
MT01	**Popeta**	**0.98**	**17**			**Pn**	**06 37 20.1**	**-0.1**
MT01	**Popeta**	**0.98**	**17**	*e*P		**Pn**	**06 37 20.5**	**+0.3**
MT01				*i* S		**Sn**	**06 37 34.0**	**+0.6**
MT01				IAML			06 37 34.9	
	comp=E,13μm,0.2s							
MT09	**Talagante**	**1.15**	**26**	Pn		**Pn**	**06 37 22.2**	**-0.3**
MT09	**Talagante**	**1.15**	**26**	*e*P		**Pn**	**06 37 22.5**	**+0.1**
MT09				*i* S		**Sn**	**06 37 37.9**	**+0.5**
MT09				IAML			06 37 39.5	
	comp=N,10μm,0.2s							
VA05	**Santo Domingo**	**1.15**	**359**			**Pn**	**06 37 21.5**	**-0.9**
VA05	**Santo Domingo**	**1.15**	**359**	*e*P		**Pn**	**06 37 21.9**	**-0.4**
VA05				*i* S		**Sn**	**06 37 37.5**	**+0.4**
VA05				IAML			06 37 39.8	
	comp=N,5μm,0.2s							
BO04	**La Punta**	**1.16**	**45**			**Pn**	**06 37 21.8**	**-0.7**
BO04	**La Punta**	**1.16**	**45**	*e*P		**Pn**	**06 37 22.2**	**-0.3**
BO04				*i* S		**Sn**	**06 37 38.0**	**+0.6**
LMEL	**Las Melosas**	**1.50**	**51**			**Pn**	**06 37 26.9**	**-0.3**
LMEL	**Las Melosas**	**1.50**	**51**	*e*P		**Pn**	**06 37 27.4**	**+0.2**
LMEL				*i* S		**Sn**	**06 37 46.9**	**+1.1**
MT05	**Renca**	**1.58**	**27**			**Pn**	**06 37 28.1**	**-0.1**
MT05	**Renca**	**1.58**	**27**	*e*P		**Pn**	**06 37 28.4**	**+0.2**
MT05				*i* S		**Sn**	**06 37 48.5**	**+0.8**
MT05				IAML			06 37 57.0	
	comp=E,4μm,0.3s							
MT02	**Curacav**	**1.59**	**14**			**Pn**	**06 37 28.3**	**0.0**
MT02	**Curacav**	**1.59**	**14**	*e*P		**Pn**	**06 37 28.3**	**0.0**
MT02				*i* S		**Sn**	**06 37 48.7**	**+0.9**
MT03	**Universidad Ad**	**1.59**	**35**	Pn		**Pn**	**06 37 28.1**	**-0.3**
VA01	**Torpederas**	**1.78**	**359**			**Pn**	**06 37 29.9**	**-0.9**
VA01	**Torpederas**	**1.78**	**359**	*e*P		**Pn**	**06 37 30.6**	**-0.3**
VA01				*i* S		**Sn**	**06 37 53.5**	**+1.1**
ROC1	**El Roble**	**1.89**	**15**			**Pn**	**06 37 32.8**	**+0.2**
ROCH	**El Roble**	**1.90**	**15**	*e*P		**Pn**	**06 37 33.1**	**+0.4**
ROCH				*i* S		**Sn**	**06 37 57.0**	**+1.5**
ROCH				IAML			06 38 03.0	
	comp=N,3μm,0.3s							
VA03	**San Esteban**	**2.22**	**23**			**Pn**	**06 37 37.7**	**+0.8**
VA06	**Catapilco**	**2.25**	**6**	Pn		**Pn**	**06 37 36.8**	**-0.6**
CO02	**Combarbal**	**3.63**	**8**	Pn		**Pn**	**06 37 55.5**	**-0.7**
CO03	**El Pedregal**	**4.03**	**11**	Pn		**Pn**	**06 38 00.9**	**-0.9**
CO06	**Fray Jorge**	**4.12**	**360**			**Pn**	**06 38 01.4**	**-1.5**
GO04	**Tololo Observa**	**4.67**	**9**			**Pn**	**06 38 09.3**	**-1.3**
GO06	**Curarrehue**	**4.77**	**179**	Pn		**Pn**	**06 38 12.9**	**+1.1**
LR03	**Panguipulli**	**4.85**	**187**			**Pn**	**06 38 13.8**	**+0.9**
CO05	**La Serena**	**4.88**	**4**			**Pn**	**06 38 11.0**	**-2.3**
CO01	**Juntas del Tor**	**4.98**	**15**			**Pn**	**06 38 15.1**	**+0.2**
PLCA	**Paso Flores**	**5.97**	**172**	Pn		**Pn**	**06 38 29.8**	**+1.5**
AC05	**El Transito**	**6.06**	**11**	Pn		**Pn**	**06 38 27.9**	**-1.7**
LL04	**Puerto Octay**	**6.13**	**186**			**Pn**	**06 38 29.0**	**-1.4**
AC04	**Llanos de Chal**	**6.60**	**4**			**Pn**	**06 38 34.6**	**-2.2**
AC02	**Maricunga**	**8.22**	**16**	Pn		**Pn**	**06 38 57.2**	**-2.3**
AC01	**Pan de Azucar**	**8.67**	**6**	Pn		**Pn**	**06 39 05.4**	**+0.1**
PB09	**IPOC Station P**	**13.13**	**10**	Pn		Pn	06 39 58.2	-8.1
PB02	**IPOC Station P**	**13.52**	**7**	Pn		Pn	06 40 05.4	-6.1
EFI	**East Falkland**	**19.48**	**154**	P		**P**	**06 41 24.6**	**+0.3**
EFI				IAmb		IAmb	06 41 39.7	
	comp=Z,49nm,1.4s							
ETMB	**Extrema**	**25.36**	**12**	P		**P**	**06 42 25.5**	**+1.3**
ETMB				IAmb		IAmb	06 42 50.2	
	comp=Z,9.0nm,1.5s							
ESPZ	**Base Esperanza**	**30.02**	**167**	P		**P**	**06 43 05.8**	**+0.4**
BOAV	**Boa Vista**	**38.44**	**18**	P		**P**	**06 44 17.9**	**-0.7**
BOAV				IAmb		IAmb	06 44 43.4	
	comp=Z,5.1nm,1.3s							
SNAA	**Sanae**	**50.70**	**158**	P		**P**	**06 45 54.4**	**-1.5**
QSPA	**South Pole Qui**	**55.43**	**180**	P		**P**	**06 46 31.2**	**+0.4**
QSPA				IAmb		IAmb	06 46 34.1	
	comp=Z,5.7nm,1.4s							

PDG ***19*** *06:38:08.5±0.4, 41°18N×15°16E, h18km, ML3.6/12, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*

ROM ***19*** *06:38:08.5±0.1, 41°147N±0°005×15°128E±0°006, h18km, ML3.1/58, Error ellipse: s-maj=0.7km s-min=0.1km az=40.0*

ISC 19 06:38:08.9±0.8, 41°15N±0°02×15°14E±0°02, h17km±4km, n116, σ0°87/142, 11C-6D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BIOG	**Biogem**	**0.05**	**352**	⇑	P	**Pg**	**06 38 11.9**	**-0.1**
BIOG					S	**Sg**	**06 38 15.9**	**+1.8**
BIOG					AML	AML		
	comp=E,66300μm,0.6s							
BIOG					AML	AML		
	comp=N,68900μm,0.5s							
BIOG					AML	AML		
	comp=N,70500μm,1.6s							
BIOG					AML	AML		
	comp=E,67500μm,0.5s							
BIOG					AML	AML		
	comp=E,66300μm,0.6s							
BIOG					AML	AML		
	comp=N,70500μm,0.4s							
BIOG					AML	AML		
	comp=N,68900μm,0.5s							
MRB1	**Monte Rocchett**	**0.13**	**258**	⇓	P	**Pb**	**06 38 12.3**	**-0.6**
MRB1					S	**Sg**	**06 38 15.6**	**+0.2**
MRB1					AML	AML		
MRB1					AML	AML		
	comp=N,59100μm,0.4s							
MRB1					AML	AML		
MRB1					AML	AML		
	comp=N,61250μm,0.4s							
MRB1					AML	AML		
MRB1					AML	AML		
CAFE	**Carife**	**0.14**	**150**	⇑	P	**Pb**	**06 38 12.7**	**-0.5**
CAFE					S	**Sg**	**06 38 16.2**	**+0.5**
CAFE					AML	AML		
	comp=E,35150μm,0.2s							
CAFE					AML	AML		
	comp=E,34000μm,0.2s							
CAFE					AML	AML		
	comp=N,17000μm,0.3s							
CAFE					AML	AML		
	comp=N,17800μm,0.3s							
SGTA	**Sant Agata di**	**0.17**	**96**	P		**Pb**	**06 38 13.4**	**-0.2**
SGTA				S		**Sb**	**06 38 17.4**	**+0.5**
SGTA				AML		AML		
	comp=E,32400μm,0.7s							
SGTA				AML		AML		
	comp=N,22550μm,0.5s							
SGTA				AML		AML		
	comp=E,32400μm,0.8s							
SGTA				AML		AML		
	comp=N,22600μm,0.5s							
SGTA				AML		AML		
	comp=N,22600μm,1.5s							
SGTA				AML		AML		
	comp=N,22550μm,1.5s							
SGTA				AML		AML		
	comp=E,33550μm,0.8s							
RSF3	**Rocca San Feli**	**0.19**	**172**	P		**Pg**	**06 38 12.9**	**-0.7**
RSF3				S		**Sg**	**06 38 16.4**	**-0.3**
MOCO	**Biccari - m.te**	**0.22**	**3**	⇓	P	**Pb**	**06 38 14.1**	**-0.4**
MOCO					S	**Sg**	**06 38 17.2**	**-0.3**
MOCO					AML	AML		
	comp=N,4170μm,0.4s							
MOCO					AML	AML		
	comp=E,6485μm,0.8s							
MOCO					AML	AML		
	comp=E,6490μm,0.8s							
MOCO					AML	AML		
	comp=E,6480μm,0.8s							
MOCO					AML	AML		
	comp=N,4245μm,0.4s							
MOCO					AML	AML		
	comp=N,4165μm,0.4s							
SNAL	**S. Angelo Dei**	**0.23**	**167**	⇓	P	**Pg**	**06 38 13.7**	**-0.6**
SNAL					S	**Sb**	**06 38 18.3**	**-0.3**
SNAL					AML	AML		
	comp=E,12250μm,0.6s							
SNAL					AML	AML		
	comp=N,12180μm,0.8s							
SNAL					AML	AML		
	comp=N,12145μm,0.8s							
SNAL					AML	AML		
	comp=N,12850μm,0.7s							
SNAL					AML	AML		
	comp=E,12650μm,0.6s							
SNAL					AML	AML		
	comp=N,12850μm,1.3s							
SNAL					AML	AML		
	comp=N,12145μm,1.2s							
LIO3	**Lioni**	**0.26**	**173**	P		**Pg**	**06 38 14.0**	**-0.6**
LIO3				S		**Sg**	**06 38 18.6**	**+0.1**
PSB1	**Pescosannita**	**0.26**	**286**	⇑	P	**Pg**	**06 38 13.9**	**-0.7**
PSB1					S	**Sg**	**06 38 18.3**	**-0.3**
PSB1					AML	AML		
	comp=E,6835μm,1.3s							
PSB1					AML	AML		
	comp=N,3965μm,0.7s							
PSB1					AML	AML		
	comp=E,7235μm,1.3s							
PSB1					AML	AML		
	comp=E,6830μm,1.3s							
PSB1					AML	AML		
	comp=N,3970μm,0.7s							
PSB1					AML	AML		
	comp=N,4170μm,0.7s							
PSB1					AML	AML		
	comp=E,6830μm,0.7s							
PSB1					AML	AML		
	comp=E,7235μm,0.7s							
MCRV	**Calabrutti - M**	**0.37**	**177**	P		**Pg**	**06 38 15.7**	**-0.9**
MCRV				S		**Sg**	**06 38 21.6**	**-0.2**
MCRV				AML		AML		
	comp=E,5250μm,0.5s							
MCRV				AML		AML		
	comp=E,5250μm,1.5s							
MCRV				AML		AML		
	comp=N,10550μm,0.1s							
VITU	**Vitulano (BN)**	**0.39**	**275**	P		**Pg**	**06 38 16.1**	**-0.7**
VITU				S		**Sb**	**06 38 23.1**	**0.0**
VITU				AML		AML		
	comp=E,6250μm,0.5s							
VITU				AML		AML		
	comp=E,1595μm,0.6s							
VITU				AML		AML		
	comp=E,1600μm,0.6s							
VITU				AML		AML		
	comp=N,5225μm,0.2s							
VITU				AML		AML		
	comp=E,1600μm,1.4s							
VITU				AML		AML		
	comp=N,5015μm,0.3s							
RDM3	**Ruvo Del Monte**	**0.41**	**133**	P		**Pb**	**06 38 17.4**	**-0.2**
SACR	**S. Croce Del S**	**0.41**	**307**	P		**Pg**	**06 38 16.4**	**-0.9**
SACR				S		**Sg**	**06 38 22.6**	**-0.4**
SACR				AML		AML		
	comp=E,1600μm,1.2s							
SACR				AML		AML		
	comp=N,1510μm,0.4s							
SACR				AML		AML		
	comp=E,1605μm,1.2s							
SACR				AML		AML		
	comp=E,1660μm,1.2s							
SACR				AML		AML		
	comp=N,1514μm,0.4s							
SACR				AML		AML		
	comp=N,1560μm,0.4s							
SACR				AML		AML		
	comp=E,1660μm,0.8s							
SACR				AML		AML		
	comp=E,1605μm,0.8s							
VULT	**Monte Vulture**	**0.41**	**119**	P		**Pg**	**06 38 17.1**	**-0.2**
VULT				S		**Sb**	**06 38 24.1**	**+0.3**
VULT				AML		AML		
	comp=E,9745μm,1.1s							
VULT				AML		AML		
	comp=N,17750μm,0.5s							
VULT				AML		AML		
	comp=N,16950μm,0.5s							
VULT				AML		AML		
	comp=E,10265μm,1.1s							
VULT				AML		AML		
	comp=E,9745μm,0.9s							
VULT				AML		AML		
	comp=E,10265μm,0.9s							
PAOL	**Paolisi**	**0.45**	**255**	P		**Pg**	**06 38 17.4**	**-0.6**
PAOL				AML		AML		
	comp=E,3075μm,0.5s							
PAOL				AML		AML		
	comp=N,2970μm,0.4s							
PAOL				AML		AML		
	comp=E,3190μm,0.5s							
PAOL				AML		AML		
	comp=N,3195μm,0.4s							
PAOL				AML		AML		
	comp=E,3075μm,1.5s							
PAOL				AML		AML		
	comp=E,3190μm,1.5s							
PAOL				AML		AML		
	comp=N,2975μm,0.4s							
MRLC	**Muro Lucano**	**0.47**	**146**	P		**Pg**	**06 38 17.7**	**-0.8**
MRLC				AML		AML		
	comp=E,1535μm,1.3s							

MELA				AML	AML		
	comp=E,2990µm,1.5s						
MELA				AML	AML		
	comp=N,4880µm,0.5s						
MELA				AML	AML		
	comp=N,5200µm,0.5s						
MELA				AML	AML		
	comp=N,4880µm,0.5s						
MELA				AML	AML		
	comp=E,3160µm,1.5s						
MELA				AML	AML		
	comp=E,2985µm,1.5s						
BSSO	**Busso**	**0.57**	**314**	⇑P	**Pg**	**06 38 19.1**	**-1.1**
BSSO				S	**Sb**	**06 38 28.5**	**+0.2**
BSSO				AML	AML		
	comp=E,1325µm,0.4s						
BSSO				AML	AML		
	comp=N,964µm,0.8s						
BSSO				AML	AML		
	comp=N,412µm,0.7s						
BSSO				AML	AML		
	comp=E,566µm,0.4s						
BSSO				AML	AML		
	comp=N,413µm,0.7s						
BSSO				AML	AML		
	comp=E,1320µm,0.4s						
BSSO				AML	AML		
	comp=N,964µm,0.8s						
BSSO				AML	AML		
	comp=E,1320µm,1.6s						
BSSO				AML	AML		
	comp=E,566µm,1.6s						
VBKN	**Vesuvio Bunker**	**0.63**	**239**	P	**Pg**	**06 38 21.0**	**-0.3**
VBKN				AML	AML		
	comp=E,9805µm,0.7s						
VBKN				AML	AML		
	comp=N,10300µm,0.7s						
VBKN				AML	AML		
	comp=E,9805µm,1.3s						
VVDG	**Vesuvio Valle**	**0.63**	**240**	P	**Pb**	**06 38 21.3**	**-0.2**
CRTO	**Cratere Ovest,**	**0.64**	**239**	P	**Pb**	**06 38 21.5**	**-0.2**
CRTO				AML	AML		
CRTO				AML	AML		
VTIR	**Vesuvio Tirone**	**0.64**	**238**	AML	AML		
	comp=E,3520µm,1.0s						
VTIR				AML	AML		
	comp=N,2950µm,0.4s						
VTIR				AML	AML		
	comp=N,2950µm,1.6s						
VARP	**Vesuvio Array**	**0.65**	**239**	P	**Pg**	**06 38 21.4**	**-0.2**
PALZ	**Palazzo San Ge**	**0.65**	**108**	P	**Pg**	**06 38 20.3**	**-1.4**
PALZ				AML	AML		
	comp=N,4065µm,0.7s						
PALZ				AML	AML		
	comp=E,2720µm,1.3s						
PALZ				AML	AML		
	comp=N,4065µm,1.3s						
PALZ				AML	AML		
	comp=E,2720µm,0.7s						
CDRU	**Civita di Ruta**	**0.67**	**169**	P	**Pb**	**06 38 20.7**	**-1.6**
CDRU				AML	AML		
	comp=E,1745µm,0.4s						
CDRU				AML	AML		
	comp=N,1225µm,0.2s						
CDRU				AML	AML		
	comp=N,1225µm,1.8s						
APRC	**Apricena**	**0.68**	**26**	P	**Pg**	**06 38 21.1**	**-1.0**
APRC				S	**Sb**	**06 38 31.6**	**+0.2**
APRC				AML	AML		
	comp=N,3640µm,0.6s						
APRC				AML	AML		
	comp=E,3315µm,0.3s						
APRC				AML	AML		
	comp=N,3640µm,1.4s						
ACER	**Acerenza**	**0.71**	**121**	P	**Pb**	**06 38 21.8**	**-1.0**
ACER				AML	AML		
	comp=N,3710µm,0.6s						
ACER				AML	AML		
	comp=E,2455µm,0.9s						
ACER				AML	AML		
	comp=E,2610µm,0.9s						
ACER				AML	AML		
	comp=N,3820µm,0.6s						
ACER				AML	AML		
	comp=E,2455µm,1.1s						
ACER				AML	AML		
	comp=E,2610µm,1.1s						
PZUN	**Potenza**	**0.71**	**135**	P	**Pg**	**06 38 22.9**	**0.0**
PIGN	**Pignataro Magg**	**0.73**	**274**	P	**Pb**	**06 38 22.4**	**-0.7**
PIGN				AML	AML		
	comp=E,1880µm,1.4s						
PIGN				AML	AML		
	comp=N,2205µm,0.6s						
PIGN				AML	AML		
	comp=E,1885µm,1.4s						
PIGN				AML	AML		
	comp=N,2210µm,0.6s						
PIGN				AML	AML		
	comp=N,2020µm,0.6s						
PIGN				AML	AML		
	comp=E,2020µm,1.5s						
PIGN				AML	AML		
	comp=E,1885µm,0.6s						
PIGN				AML	AML		
	comp=E,2020µm,0.5s						
VAGA	**Valle Agricola**	**0.73**	**291**	P	**Pb**	**06 38 22.5**	**-0.7**
VAGA				AML	AML		
	comp=E,1022µm,0.7s						
VAGA				AML	AML		
	comp=N,1755µm,0.5s						
VAGA				AML	AML		
	comp=E,1073µm,0.7s						
VAGA				AML	AML		
	comp=N,1825µm,0.5s						
VAGA				AML	AML		
	comp=E,1023µm,0.7s						
SGRT	**San Giovanni R**	**0.75**	**37**	P	**Pb**	**06 38 22.3**	**-1.3**
SGRT				AML	AML		
	comp=E,5725µm,1.1s						
SGRT				AML	AML		
	comp=N,4605µm,0.5s						
TRIV	**Trivento**	**0.76**	**324**	AML	AML		
	comp=N,1145µm,0.3s						
TRIV				AML	AML		
	comp=E,1350µm,0.6s						
TRIV				AML	AML		
	comp=E,1350µm,1.4s						
MRVN	**Minervino Murg**	**0.80**	**96**	P	**Pb**	**06 38 23.5**	**-0.9**
MRVN				AML	AML		
	comp=E,1660µm,1.5s						
MRVN				AML	AML		
	comp=N,1895µm,1.0s						
MRVN				AML	AML		
	comp=E,1660µm,0.5s						
MSAG	**Monte S. Angel**	**0.80**	**46**	P	**Pg**	**06 38 24.1**	**-0.4**
MSAG				AML	AML		
	comp=N,12000µm,0.9s						
MSAG				AML	AML		
	comp=E,6310µm,0.3s						
MSAG				AML	AML		
	comp=N,11750µm,0.9s						
MSAG				AML	AML		
	comp=E,5745µm,0.3s						
MSAG				AML	AML		
	comp=N,11750µm,1.1s						
MSAG				AML	AML		
	comp=N,12000µm,1.1s						
MIDA	**Miranda**	**0.83**	**307**	P	**Pb**	**06 38 22.7**	**-2.1**
MIDA				AML	AML		
	comp=E,1048µm,1.0s						
MIDA				AML	AML		
	comp=E,1136µm,1.0s						
MIDA				AML	AML		
	comp=E,1048µm,1.0s						
MIDA				AML	AML		
	comp=N,1042µm,0.4s						
MIDA				AML	AML		
	comp=N,1123µm,0.3s						
CMPR	**Campora**	**0.84**	**172**	P	**Pb**	**06 38 24.8**	**-0.3**
CMPR				AML	AML		
	comp=E,1384µm,1.3s						
CMPR				AML	AML		
	comp=N,1375µm,0.3s						
CMPR				AML	AML		
	comp=E,1384µm,0.7s						
SLCN	**Sala Consilina**	**0.85**	**154**	P	**Pg**	**06 38 25.1**	**-0.3**
SLCN				AML	AML		
	comp=E,2095µm,0.3s						
SLCN				AML	AML		
	comp=N,1495µm,0.3s						
SLCN				AML	AML		
	comp=N,1605µm,0.3s						
SLCN				AML	AML		
	comp=E,2090µm,0.3s						
SLCN				AML	AML		
	comp=N,1490µm,0.3s						
SLCN				AML	AML		
	comp=E,2235µm,0.3s						
FRES	**Fresagrandinar**	**0.89**	**337**	P	**Pn**	**06 38 26.2**	**-0.5**
FRES				AML	AML		
	comp=E,692µm,0.4s						
FRES				AML	AML		
	comp=N,488µm,0.8s						
FRES				AML	AML		
	comp=N,488µm,1.2s						
FRES				AML	AML		
	comp=E,692µm,1.6s						
RNI2	**Rionero Sannit**	**0.92**	**307**	P	**Pb**	**06 38 24.7**	**-1.9**
RNI2				AML	AML		
	comp=E,1220µm,0.7s						
RNI2				AML	AML		
	comp=N,970µm,1.2s						
RNI2				AML	AML		
	comp=N,1012µm,1.2s						
RNI2				AML	AML		
	comp=E,1186µm,0.7s						
PTRP	**Pietrapertosa**	**0.94**	**132**	P	**Pb**	**06 38 26.3**	**-0.5**
PTRP				AML	AML		
	comp=N,854µm,0.8s						
PTRP				AML	AML		
	comp=E,1155µm,0.7s						
MODR	**Mondragone**	**0.95**	**270**	P	**Pb**	**06 38 26.2**	**-0.7**
MODR				AML	AML		
	comp=E,1325µm,0.5s						
MODR				AML	AML		
	comp=N,1195µm,0.5s						
CERA	**Filignano**	**0.95**	**298**	P	**Pn**	**06 38 27.7**	**+0.1**
CERA				AML	AML		
	comp=E,1051µm,1.2s						
CERA				AML	AML		
	comp=E,1093µm,1.2s						
CERA				AML	AML		
	comp=N,1060µm,0.6s						
CERA				AML	AML		
	comp=N,1030µm,0.6s						
MCEL	**Monticello**	**0.97**	**149**	AML	AML		
	comp=N,944µm,0.5s						
MCEL				AML	AML		
	comp=E,750µm,1.6s						
MCEL				AML	AML		
	comp=N,960µm,0.5s						
MCEL				AML	AML		
	comp=N,942µm,0.5s						
MCEL				AML	AML		
	comp=E,754µm,1.6s						
MTSN	**Montesano sull**	**1.00**	**152**	P	**Pn**	**06 38 27.7**	**-0.5**
MTSN				AML	AML		
	comp=E,823µm,0.5s						
MTSN				AML	AML		
	comp=N,874µm,0.7s						
TREM	**Isole Tremiti**	**1.01**	**16**	P	**Pg**	**06 38 28.1**	**-0.4**
TREM				AML	AML		
	comp=N,2010µm,0.5s						
TREM				AML	AML		
	comp=E,1985µm,1.6s						
TREM				AML	AML		
	comp=E,1985µm,0.4s						
IOCA	**Ischia Osserva**	**1.02**	**247**	P	**Pg**	**06 38 29.1**	**+0.4**
AG11	**Viggiano (PZ)**	**1.02**	**143**	P	**Pb**	**06 38 26.8**	**-1.4**
MGR	**Morigerati**	**1.06**	**163**	P	**Pb**	**06 38 28.4**	**-0.4**
MGR				AML	AML		
	comp=E,888µm,0.6s						
MGR				AML	AML		
	comp=N,752µm,0.4s						
SIRI	**Monte Sirino -**	**1.12**	**150**	P	**Pn**	**06 38 29.4**	**-0.4**
SIRI				AML	AML		
	comp=E,570µm,0.4s						
SIRI				AML	AML		
	comp=N,712µm,0.6s						
SIRI				AML	AML		
	comp=N,700µm,1.0s						
SIRI				AML	AML		
	comp=E,586µm,0.4s						
SIRI				AML	AML		
	comp=N,700µm,1.0s						
MIGL	**Miglionico**	**1.13**	**119**	P	**Pn**	**06 38 29.3**	**-0.6**
MIGL				AML	AML		
	comp=N,1805µm,0.5s						
MIGL				AML	AML		
	comp=E,1705µm,1.4s						
MIGL				AML	AML		
	comp=E,1705µm,0.6s						
AMUR	**Altamura**	**1.13**	**102**	P	**Pn**	**06 38 29.3**	**-0.7**
AMUR				S	**Sg**	**06 38 45.0**	**-0.6**
AMUR				AML	AML		
	comp=N,1600µm,0.3s						
AMUR				AML	AML		
	comp=N,1450µm,0.4s						
AMUR				AML	AML		
	comp=N,1600µm,1.7s						
SCHR	**S. Chirico Rap**	**1.19**	**143**	P	**Pn**	**06 38 30.3**	**-0.5**
SCHR				AML	AML		
	comp=N,303µm,0.5s						
SCHR				AML	AML		
	comp=E,420µm,0.4s						
SCHR				AML	AML		
	comp=E,420µm,1.6s						
POFI	**Posta Fibreno**	**1.21**	**298**	P	**Pn**	**06 38 30.7**	**-0.5**
POFI				AML	AML		
	comp=E,315µm,0.4s						
POFI				AML	AML		
	comp=N,280µm,1.1s						
POFI				AML	AML		
	comp=N,280µm,0.9s						
POFI				AML	AML		
	comp=E,310µm,0.4s						
POFI				AML	AML		
	comp=N,274µm,1.0s						
CUC	**Castrocucco**	**1.27**	**156**	AML	AML		
	comp=E,536µm,1.0s						
CUC				AML	AML		
	comp=E,661µm,1.0s						
CUC				AML	AML		
	comp=N,350µm,0.8s						
CUC				AML	AML		
	comp=N,432µm,0.8s						
CUC				AML	AML		
	comp=N,350µm,1.2s						
CUC				AML	AML		
	comp=N,432µm,1.2s						
LRP	**Arpino**	**1.27**	**293**	P	**Pg**	**06 38 33.4**	**+0.1**
LRP				AML	AML		
	comp=E,270µm,0.4s						
LRP				AML	AML		
	comp=N,286µm,0.7s						
MATE	**Matera**	**1.29**	**112**	⇑P	**Pn**	**06 38 31.7**	**-0.4**
MATE	**Matera**	**1.29**	**112**	P	**Pn**	**06 38 31.6**	**-0.5**
MATE				S	**Sg**	**06 38 49.8**	**-0.7**
MATE				AML	AML		
	comp=N,962µm,1.6s						
MATE				AML	AML		
	comp=N,962µm,0.4s						
MATE				AML	AML		
	comp=E,673µm,0.5s						
VVLD	**Villa Vallelon**	**1.35**	**303**	P	**Pn**	**06 38 32.8**	**-0.2**
VVLD				AML	AML		
	comp=N,350µm,1.6s						
VVLD				AML	AML		
	comp=N,350µm,0.4s						
VVLD				AML	AML		
	comp=E,431µm,0.7s						
LTRZ	**Laterza**	**1.39**	**113**	P	**Pn**	**06 38 33.1**	**-0.4**
GIUL	**Giuliano Di Ro**	**1.48**	**287**	P	**Pn**	**06 38 33.7**	**-1.1**
GIUL				AML	AML		
	comp=E,160µm,0.5s						
GIUL				AML	AML		
	comp=N,150µm,0.8s						
T0110	**Collepietro**	**1.48**	**317**	P	**Pb**	**06 38 35.6**	**-0.3**
T0110				AML	AML		
	comp=E,710µm,1.4s						
T0110				AML	AML		
	comp=N,888µm,0.4s						
T0110				AML	AML		
	comp=E,710µm,0.6s						
NOCI	**Noci**	**1.50**	**103**	P	**Pb**	**06 38 35.3**	**-1.0**
GUAR	**Guarcino**	**1.52**	**296**	P	**Pn**	**06 38 35.2**	**-0.1**
PTQR	**Pietraquaria**	**1.57**	**304**	P	**Pb**	**06 38 37.3**	**-0.1**
SALB	**San Lorenzo Be**	**1.57**	**144**	P	**Pb**	**06 38 36.8**	**-0.8**
SALB				AML	AML		
	comp=N,192µm,0.7s						
SALB				AML	AML		
	comp=E,242µm,0.9s						
SALB				AML	AML		
	comp=E,259µm,0.9s						
SALB				AML	AML		
	comp=N,194µm,0.7s						
FAGN	**Fagnano**	**1.61**	**314**	P	**Pb**	**06 38 38.4**	**+0.1**
FAGN				AML	AML		
	comp=N,562µm,0.5s						
FAGN				AML	AML		
	comp=E,902µm,0.6s						
LATB	**Latina**	**1.68**	**282**	P	**Pn**	**06 38 36.3**	**-1.1**
CET2	**Cetraro**	**1.74**	**159**	P	**Pn**	**06 38 37.9**	**-0.4**
CET2				AML	AML		
	comp=N,556µm,0.8s						
CET2				AML	AML		
	comp=E,689µm,0.8s						
TAR1	**Taranto**	**1.74**	**110**	AML	AML		
	comp=E,757µm,0.6s						
TAR1				AML	AML		
	comp=N,644µm,0.4s						
TERO	**Teramo**	**1.86**	**323**	P	**Pb**	**06 38 41.9**	**-0.6**
FIAM	**Fiamignano**	**1.88**	**307**	P	**Pb**	**06 38 41.7**	**-1.1**
T1246	**Crognaleto (TE**	**1.89**	**320**	P	**Pb**	**06 38 41.9**	**-1.0**
CAR1	**CAROLEI**	**2.07**	**156**	AML	AML		
	comp=E,206µm,0.6s						
CAR1				AML	AML		
	comp=N,168µm,0.5s						
NRCA	**Norcia**	**2.26**	**319**	AML	AML		
	comp=E,483µm,0.1s						
NRCA				AML	AML		
	comp=N,452µm,0.1s						
TIP	**Timpagrande**	**2.33**	**147**	⇑P	**Pb**	**06 38 51.6**	**+1.2**
T1256	**Bolognola (MC)**	**2.34**	**323**	AML	AML		
	comp=E,176µm,0.7s						
T1256				AML	AML		
	comp=N,158µm,0.7s						
T1256				AML	AML		
	comp=N,158µm,1.3s						
T1219	**Muccia, Frazio**	**2.48**	**321**	AML	AML		
	comp=N,135µm,1.5s						
T1219				AML	AML		
	comp=E,119µm,1.6s						
STON	**Ston**	**2.57**	**47**	*e*Pn	**Pn**	**06 38 48.7**	**-1.0**
HCY	**Herceg Novi**	**2.82**	**62**	*e*Pn	**Pn**	**06 38 53.6**	**+0.4**
HCY	**Herceg Novi**	**2.82**	**62**	⇓*i*Pn	**Pn**	**06 38 53.6**	**+0.4**
HCY				*i* Sn	**Sn**	**06 39 28.3**	**+1.5**
TREB	**Trebinje**	**2.86**	**56**	*e*Pn	**Pn**	**06 38 53.8**	**+0.1**
BUM	**Brajici-Budva**	**3.03**	**67**	*e*Pn	**Pn**	**06 38 56.5**	**+0.3**
BUM				*i* Sn	**Sn**	**06 39 33.5**	**+1.3**
BRY	**Bratogost**	**3.08**	**54**	*e*Pn	**Pn**	**06 38 57.0**	**+0.2**
BRY	**Bratogost**	**3.08**	**54**	⇑*i*Pn	**Pn**	**06 38 57.1**	**+0.2**
BRY				*i* Sn	**Sn**	**06 39 34.5**	**+1.2**
CEME	**Cevo**	**3.15**	**62**	*e*Pn	**Pn**	**06 38 58.1**	**+0.4**
CEME				*i* Sn	**Sn**	**06 39 36.2**	**+1.3**
DRME	**Dracevica, Mon**	**3.20**	**70**	*e*Pn	**Pn**	**06 38 58.9**	**+0.5**
DRME	**Dracevica, Mon**	**3.20**	**70**	*e*Pn	**Pn**	**06 38 58.9**	**+0.5**
DRME				*i* Sn	**Sn**	**06 39 37.6**	**+1.4**
NKME	**Niksic**	**3.27**	**59**	*e*Pn	**Pn**	**06 38 59.8**	**+0.4**
NKME				*i* Sn	**Sn**	**06 39 39.2**	**+1.3**
PDG	**Podgorica**	**3.33**	**66**	⇑P	**Pn**	**06 38 59.5**	**-0.6**
TTG	**Podgorica**	**3.33**	**66**	⇓*i*Pn	**Pn**	**06 39 00.7**	**+0.5**
TTG				*i* Sn	**Sn**	**06 39 40.7**	**+1.4**
UPM	**Unac-Piva**	**3.47**	**53**	*e*Pn	**Pn**	**06 39 02.5**	**+0.3**
UPM				*i* Sn	**Sn**	**06 39 44.1**	**+1.1**
A050A	**Klekovaca**	**3.48**	**17**	*e*Pn	**Pn**	**06 39 03.2**	**+0.9**
MGRS	**Mrkonjic Grad**	**3.56**	**23**	*e*Pn	**Pn**	**06 39 05.0**	**+1.6**
KOME	**Kolasin**	**3.67**	**61**	*e*Pn	**Pn**	**06 39 05.4**	**+0.4**
KOME				*i* Sn	**Sn**	**06 39 49.1**	**+1.1**
PLE	**Pljevlja**	**3.83**	**54**	*e*Pn	**Pn**	**06 39 07.6**	**+0.4**
PLE				*i* Sn	**Sn**	**06 39 52.8**	**+0.9**
PVY	**Plav**	**3.88**	**67**	*e*Pn	**Pn**	**06 39 08.2**	**+0.4**
PVY				*i* Sn	**Sn**	**06 39 53.9**	**+0.9**
BLY	**Banja Luka**	**3.90**	**22**	*e*Pn	**Pn**	**06 39 07.9**	**0.0**
IVA	**Berane**	**3.94**	**63**	⇑*i*Pn	**Pn**	**06 39 09.0**	**+0.4**
IVA				*i* Sn	**Sn**	**06 39 55.3**	**+0.9**
HAPS	**Han Pijesak,Bl**	**4.06**	**43**	*e*Pn	**Pn**	**06 39 11.0**	**+0.7**
A051A	**Mrakovica**	**4.07**	**18**	*e*Pn	**Pn**	**06 39 11.0**	**+0.6**
CEY	**Cerknica**	**4.61**	**354**	*e*Pn	**Pn**	**06 39 20.8**	**+3.0**
DIVS	**Divibare**	**4.63**	**49**	*e*Pn	**Pn**	**06 39 17.7**	**-0.5**
OBKA	**Obir**	**5.37**	**356**	*e*Pn	**Pn**	**06 39 27.3**	**-1.0**
OBKA	**Obir**	**5.37**	**356**	*i* Pn	**Pn**	**06 39 28.3**	**-0.1**
	comp=E,0.9nm,0.1s						
SOKA	**Soboth**	**5.53**	**359**	*i* Pn	**Pn**	**06 39 30.0**	**-0.4**
	comp=E,0.3nm,0.1s						
ABTA	**Abfaltersbach**	**5.91**	**342**	*i* Pn	**Pn**	**06 39 37.6**	**+2.0**
	comp=E,0.3nm,0.1s						
ABTA				*i* Sn	**Sn**	**06 40 43.9**	**+0.9**
	comp=E,1.5nm,0.2s						
BZS	**Buzias**	**6.49**	**44**	⇑P	**Pn**	**06 39 41.9**	**-1.7**
HERR	**Herculane**	**6.50**	**53**	⇓P	**Pn**	**06 39 44.3**	**+0.5**
FETA	**Feichten**	**6.67**	**333**	*i* Pn	**Pn**	**06 39 48.8**	**+2.6**
	comp=E,0.6nm,0.3s						
FETA				*i* Sn	**Sn**	**06 41 01.9**	**0.0**
	comp=E,2.8nm,0.7s						
SQTA	**Sankt Quirin**	**6.69**	**336**	*i* Pn	**Pn**	**06 39 48.3**	**+1.9**
	comp=E,2.1nm,0.3s						
SQTA				*i* Sn	**Sn**	**06 41 02.6**	**+0.2**
	comp=E,5.2nm,0.4s						
MOA	**Molln**	**6.72**	**355**	*i* Pn	**Pn**	**06 39 47.1**	**+0.3**
	comp=E,1.1nm,0.2s						
MOA				*i* Sn	**Sn**	**06 41 03.1**	**0.0**
	comp=E,1.3nm,0.3s						
GZR	**Gura Zlata**	**7.00**	**50**	⇑P	**Pn**	**06 39 50.5**	**-0.2**
VYHS	**Vyhne**	**7.79**	**18**	*e*PG	**Pn**	**06 40 02.4**	**+0.9**

JMA ***19*** *06:48:22.2±0.5, 32˚N±4˚×13˚8E±˚, h376km, MV3.1/29, NEAR TORISHIMA IS*
IDC ***19*** *06:48:23.2±2.2, 32˚03N×138˚25E, h381km±42km, mb2.9/3, mbtmp3.7/6, Error ellipse: s-maj=80.7km s-min=25.4km az=61.0*
ISC 19 06:48:23.2±1.1, 32˚0N±0˚1×138˚2E±0˚1, h380km, n12, σ0s59/13, mb2.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**2.69**	**332**	*e*P		**Pn**	**06 49 22.5**	**+0.4**
JKN2	**Miekihoku**	**2.75**	**324**	*e*P		**Pn**	**06 49 22.5**	**-0.2**
JTNC	**Tanabenakahech**	**2.84**	**310**	*e*P		**Pn**	**06 49 22.9**	**-0.6**
BSO3	**Boso 3**	**3.36**	**34**	*e*S		**S**	**06 50 19.2**	**-0.4**
BSO1	**Boso 1**	**3.48**	**40**	*e*P		**Pn**	**06 49 29.1**	**+0.8**
BSO1				*e*S		**S**	**06 50 20.3**	**-0.9**
JHU	**Hanno**	**3.91**	**13**	*e*P		**Pn**	**06 49 32.7**	**-0.3**
MJAR	**Matsushiro Arr**	**4.50**	**360**	P		**Pn**	**06 49 38.6**	**-0.3**
	6.0nm,0.7s,baz=176,slow=11,SNR=9.0							
KSRS	**Korea Array**	**10.06**	**305**	P		**Pn**	**06 50 42.0**	**+0.3**
	1.2nm,0.5s,baz=123,slow=12,SNR=4.4							
USRK	**Ussuriysk Ar.**	**13.11**	**340**	P		**P**	**06 51 16.4**	**+1.0**
	1.9nm,0.5s,baz=151,slow=10.0,SNR=2.6							
MKAR	**Makanchi Array**	**44.74**	**306**	P		**P**	**06 56 00.0**	**-0.4**
	0.4nm,0.6s,baz=91,slow=10,SNR=2.5							
	0.4nm,0.6s							
WRA	**Warramunga Arr**	**51.81**	**185**	P		**P**	**06 56 53.6**	**-0.3**
	1.6nm,0.3s,baz=2.9,slow=7.6,SNR=7.7							
	1.6nm,0.3s							
ASAR	**Alice Springs**	**55.53**	**185**	P		**P**	**06 57 20.8**	**+0.2**
	0.2nm,0.5s,baz=7.8,slow=14,SNR=1.7							
	0.2nm,0.5s							

SNET ***19*** *06:56:12.7±1.1, 13˚36N×90˚42W, h16km±6km, ML3.2*
GCG ***19*** *06:56:14.8±0.3, 13˚66N×90˚57W, h45km±22km, MD3.6*
ISC 19 06:56:13.0±3.1, 13˚5N±0˚1×90˚53W±0˚07, h31km±20km, n16, σ0s43/26, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.82**	**62**	*e*P		**Pn**	**06 56 28.1**	**-0.5**
NUBE				*e*S		**Sb**	**06 56 39.5**	**-0.2**
NUBE				IAML			06 56 40.9	
	comp=Z,765nm,0.3s							
PCG	**Pacaya**	**0.88**	**355**	*e*P		**Pn**	**06 56 29.5**	**+0.1**
PCG				*e*S		**Sn**	**06 56 41.1**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.88**	**55**	*e*P		**Pn**	**06 56 28.8**	**-0.5**
SLOZ				*i* P		**Pn**	**06 56 28.8**	**-0.5**
SLOZ				*e*S		**Sb**	**06 56 41.7**	**+0.4**
SLOZ				IAML			06 56 43.8	

	comp=Z,662nm,0.3s								
CEVE	**Cerro Verde**	**0.93**	**70**	*e*P		**Pn**	**06 56 29.9**	**-0.3**
FUG	**Fuego 3**	**0.98**	**342**	*e*P		**Pn**	**06 56 30.6**	**-0.1**
NBG	**Las Nubes**	**1.08**	**9**	*e*P		**Pn**	**06 56 32.6**	**+0.3**
CEDA	**San Andres**	**1.14**	**75**	*e*P		**Pn**	**06 56 32.3**	**-0.5**
CEDA				*e*S		**Sn**	**06 56 47.3**	**-0.1**
CEDA				IAML			06 56 50.7	
	comp=Z,694nm,0.3s								
UEES	**Universidad Ev**	**1.27**	**81**	*e*P		**Pn**	**06 56 34.6**	**0.0**
SJTE	**Alcalda de S**	**1.48**	**86**	*e*P		**Pn**	**06 56 37.3**	**-0.3**
SJTE				*e*S		**Sn**	**06 56 56.4**	**+0.5**
SJTE				IAML			06 57 00.5	
	comp=Z,172nm,0.2s								
STG3	**Santiaguito 3,**	**1.56**	**320**	*e*P		**Pn**	**06 56 38.9**	**+0.1**
STG3				*e*S		**Sn**	**06 56 57.7**	**-0.4**
COEG	**Centro de Oper**	**1.60**	**86**	*e*P		**Pn**	**06 56 38.9**	**-0.4**
COEG				*e*S		**Sn**	**06 56 59.9**	**+0.9**
COEG				IAML			06 57 06.6	
	comp=Z,400nm,0.3s								
SCLA	**Alcaldia de Sa**	**1.76**	**84**	*e*P		**Pn**	**06 56 40.8**	**-0.6**
ALJI	**Alcalda de J**	**1.91**	**95**	*e*P		**Pn**	**06 56 43.1**	**-0.3**
ALJI				*e*S		**Sn**	**06 57 07.0**	**+0.5**
ALJI				IAML			06 57 10.3	
	comp=Z,196nm,0.2s								
PQSS	**Presa 15 de Se**	**1.91**	**87**	*e*P		**Pn**	**06 56 43.1**	**-0.4**
COEB	**Comit de Eme**	**1.94**	**90**	*e*P		**Pn**	**06 56 43.6**	**-0.4**
COEB				*e*S		**Sn**	**06 57 07.7**	**+0.3**
COEB				IAML			06 57 14.6	
	comp=Z,217nm,0.2s								
LCND	**La Caada**	**2.57**	**94**	*e*P		**Pn**	**06 56 52.6**	**0.0**

*IDC **19** 06:57:46.4±2.4, 39°.89N×51°.52E, h0km, mb4.2/1, mbtmp3.7/5, ML3.6/4, MS2.8/1, Error ellipse: s-maj=63.3km s-min=24.4km az=25.0*
*TEH **19** 06:57:49.6, 40°.44N×51°.99E, h10km, ML3.8*
*AZER **19** 06:57:53.1±0.1, 40°.30N×51°.99E, h55km±.34km, Error ellipse: s-maj=3.3km s-min=1.3km az=273.0*

ISC 19 06:57:53.4±1.1, **40°.47N**±0°.06×**52°.03E**±0°.06, **h49**km, **n64,** σ1**$55**/84, **Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**2.45**	**285**	*e*Pn	**Pn**	**06 58 32.0**	**+1.1**
SIZA	**Siyzn**	**2.45**	**285**	Pn	**Pn**	**06 58 33.3**	**+2.3**
SIZA				Sn	**Sn**	**06 59 02.8**	**+3.1**
QUBA	**Quba, Azerbaij**	**2.82**	**289**	Pn	**Pn**	**06 58 37.8**	**+1.8**
QUBA				Sn	**Sn**	**06 59 11.2**	**+2.5**
QUB	**Quba**	**2.92**	**289**	*e*Pn	**Pn**	**06 58 36.8**	**-0.6**
IML	**Ismayilli**	**2.94**	**277**	*e*Pn	**Pn**	**06 58 38.2**	**+0.5**
IML	**Ismayilli**	**2.94**	**277**	Pn	**Pn**	**06 58 38.9**	**+1.2**
IML				Sn	**Sn**	**06 59 14.1**	**+2.3**
XNQ	**Khinaliq**	**3.03**	**285**	*e*Pn	**Pn**	**06 58 40.1**	**+1.1**
XNQ	**Khinaliq**	**3.03**	**285**	Pn	**Pn**	**06 58 40.4**	**+1.4**
XNQ				Sn	**Sn**	**06 59 15.5**	**+1.4**
QSAR	**Qusar**	**3.03**	**291**	*e*Pn	**Pn**	**06 58 39.3**	**+0.4**
QSAR	**Qusar**	**3.03**	**291**	Pn	**Pn**	**06 58 40.5**	**+1.6**
QSAR				Sn	**Sn**	**06 59 16.1**	**+2.2**
GLBA	**Clilabad**	**3.06**	**247**	*e*Pn	**Pn**	**06 58 40.0**	**+0.8**
GLBA	**Clilabad**	**3.06**	**247**	Pn	**Pn**	**06 58 40.2**	**+1.1**
GLBA				Sn	**Sn**	**06 59 15.7**	**+1.2**
ASTR	**Astara**	**3.15**	**234**	*e*Pn	**Pn**	**06 58 40.8**	**+0.4**
ASTR	**Astara**	**3.15**	**234**	Pn	**Pn**	**06 58 40.8**	**+0.4**
ASTR				Sn	**Sn**	**06 59 16.4**	**-0.4**
QBL	**Gabala**	**3.22**	**280**	*e*Pn	**Pn**	**06 58 41.1**	**-0.4**
QBL	**Gabala**	**3.22**	**280**	Pn	**Pn**	**06 58 42.2**	**+0.7**
QBL				Sn	**Sn**	**06 59 20.0**	**+1.4**
GAS1	**Astara - Iran**	**3.23**	**231**	*e*Pn	**Pn**	**06 58 42.2**	**+0.7**
GAS1				*e*		06 59 20.1	
	comp=Z,1μm,0.2s						
YRD	**Yardimli**	**3.31**	**243**	*e*Pn	**Pn**	**06 58 42.7**	**-0.1**
YRD	**Yardimli**	**3.31**	**243**	Pn	**Pn**	**06 58 42.8**	**-0.1**
YRD				Sn	**Sn**	**06 59 19.7**	**-1.3**
LRK	**Lerik**	**3.38**	**238**	*e*Pn	**Pn**	**06 58 44.0**	**+0.2**
LRK	**Lerik**	**3.38**	**238**	Pn	**Pn**	**06 58 44.0**	**+0.2**
LRK				Sn	**Sn**	**06 59 21.7**	**-1.2**
BLQ	**Beylaqan**	**3.51**	**259**	*e*Pn	**Pn**	**06 58 44.8**	**-0.6**
BLQ	**Beylaqan**	**3.51**	**259**	Sn	**Sn**	**06 59 25.1**	**-0.5**
BRDA	**Brd**	**3.71**	**268**	*e*Pn	**Pn**	**06 58 48.5**	**+0.4**
BRDA	**Brd**	**3.71**	**268**	Pn	**Pn**	**06 58 48.5**	**+0.4**
BRDA				Sn	**Sn**	**06 59 30.2**	**-0.3**
SEKA	**Sheki**	**3.73**	**283**	*e*Pn	**Pn**	**06 58 48.7**	**+0.1**
SEKA	**Sheki**	**3.73**	**283**	Pn	**Pn**	**06 58 49.7**	**+1.1**
SEKA				Sn	**Sn**	**06 59 31.1**	**-0.2**
QRD	**Qoradiz**	**3.75**	**256**	Sn	**Sn**	**06 59 32.2**	**+0.5**
GIDE	**GILAN DEYLAMAN**	**3.91**	**206**	*e*Pn	**Pn**	**06 58 50.7**	**-0.4**
KLST	**Kelardasht - M**	**4.02**	**191**	*e*Pn	**Pn**	**06 58 52.6**	**-0.1**
KLST				*e*		06 59 40.6	
	comp=Z,1μm,0.2s						
IMND	**Minoodasht**	**4.16**	**140**	*e*Pn	**Pn**	**06 58 54.9**	**+0.6**
IMND				*e*		06 59 43.9	
	comp=Z,1μm,0.2s						
IGLO	**Ghaloghah**	**4.21**	**160**	*e*Pn	**Pn**	**06 58 55.3**	**+0.1**
MRVT	**Maraveh tapeh**	**4.23**	**130**	*e*Pn	**Pn**	**06 58 56.0**	**+0.6**
MRVT				*e*		06 58 56.2	
	comp=Z,99nm,0.2s						
ZKTA	**Zakatala**	**4.25**	**288**	Sn	**Sn**	**06 59 43.7**	**-0.1**
IGZV	**Ghazvin**	**4.32**	**200**	*e*Pn	**Pn**	**06 58 58.0**	**+1.2**
GANJ	**Ganja**	**4.35**	**274**	Pn	**Pn**	**06 58 56.5**	**-0.4**
GANJ				Sn	**Sn**	**06 59 45.0**	**-1.4**
IHRS	**Heris**	**4.42**	**242**	*e*Pn	**Pn**	**06 58 59.2**	**+1.1**
LGD	**Lagodekhi**	**4.57**	**289**	P	**Pn**	**06 59 01.2**	**+1.2**
LGD				S	**Sn**	**06 59 53.5**	**+1.6**
ZNJK	**Zanjan**	**4.61**	**216**	*e*Pn	**Pn**	**06 59 00.6**	**-0.2**
CHTH	**Charan**	**4.61**	**189**	*e*Pn	**Pn**	**06 59 01.1**	**+0.3**
GDB	**GEDABAY**	**4.78**	**275**	Pn	**Pn**	**06 59 02.5**	**-0.5**
GDB				Sn	**Sn**	**06 59 55.4**	**-1.8**
DAMV	**Damavand**	**4.84**	**181**	*e*Pn	**Pn**	**06 59 04.3**	**+0.4**
IFIR	**Firoozkooh**	**4.86**	**173**	*e*Pn	**Pn**	**06 59 06.0**	**+1.8**
IDMV	**Damavand**	**4.89**	**180**	*e*		06 59 07.6	
	comp=Z,900nm,0.2s						
IDMV				*e*Pn	**Pn**	**06 59 06.6**	**+2.0**
ORD	**Ordubad**	**4.90**	**254**	Pn	**Pn**	**06 59 06.0**	**+1.4**
ORD				Sn	**Sn**	**06 59 59.7**	**-0.4**
QZX	**Qazax, Azerbai**	**5.09**	**279**	Pn	**Pn**	**06 59 06.9**	**-0.1**
QZX				Sn	**Sn**	**07 00 03.6**	**-0.9**
ILAS	**Lasjerd**	**5.14**	**171**	*e*Pn	**Pn**	**06 59 09.3**	**+1.3**
IMRD	**Marand**	**5.19**	**252**	*e*Pn	**Pn**	**06 59 10.1**	**+1.5**
IMRD				*e*		06 59 11.0	
	comp=Z,836nm,0.2s						
IANJ	**Anjilo**	**5.22**	**163**	*e*Pn	**Pn**	**06 59 11.0**	**+1.9**
GEYT	**Alibeck**	**5.37**	**116**	Pn	**Pn**	**06 59 10.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=291,slow=16,SNR=7.1						
GEYT				Sn	**Sn**	**07 00 08.7**	**-2.8**
	comp=Z,1.5nm,0.3s,baz=276,slow=20,SNR=2.6						
	comp=Z,1.8nm,0.3s						
SHRO	**Shahrood**	**5.46**	**144**	*e*Pn	**Pn**	**06 59 12.3**	**-0.1**
SHTL	**Shatili**	**5.60**	**295**	P	**Pn**	**06 59 15.1**	**+0.9**
SHTL				S	**Sn**	**07 00 16.1**	**-1.2**
PNSH	**Pansheti**	**5.96**	**294**	P	**Pn**	**06 59 20.1**	**+0.9**
IEMG	**Emamgholi**	**6.00**	**118**	*e*Pn	**Pn**	**06 59 19.5**	**-0.3**
IAKL	**Akhelmad**	**6.54**	**124**	*e*Pn	**Pn**	**06 59 28.2**	**+1.0**
IKRD	**Kardeh**	**6.93**	**120**	*e*Pn	**Pn**	**06 59 33.9**	**+1.4**
KBZ	**Khabaz**	**7.53**	**299**	Pn	**Pn**	**06 59 39.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=96,slow=7.1,SNR=8.2						
KBZ				Sn	**Sn**	**07 00 58.5**	**-5.8**
	comp=Z,0.7nm,0.3s,baz=126,slow=18,SNR=6.8						
	comp=Z,0.8nm,0.4s						
KVAR	**Kislovodsk Arr**	**7.75**	**300**	Pn	**Pn**	**06 59 42.6**	**-1.1**
	baz=176,slow=13						
KVAR				Sn	**Sn**	**07 01 03.3**	**-6.7**
	baz=163,slow=17						
	comp=Z,2.4nm,0.4s						
TABS	**Tabas**	**7.93**	**148**	*e*Pn	**Pn**	**06 59 46.7**	**+0.5**
TKDS	**Koohdasht(Taba**	**7.97**	**148**	*e*Pn	**Pn**	**06 59 48.0**	**+1.3**
TPRV	**Parvadeh(Tabas**	**8.32**	**152**	*e*Pn	**Pn**	**06 59 53.1**	**+1.7**
AKASG	**Malin Array Be**	**18.88**	**310**	P	**P**	**07 02 07.8**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=101,slow=8.8,SNR=7.1						
	comp=Z,1.3nm,0.5s						
IDI	**Anoyia**	**21.99**	**265**	LR	LR	07 13 49.8	
	comp=Z,25nm,19.2s,baz=265,slow=45						
FINES	**FINESS Array B**	**26.28**	**332**	P	**P**	**07 03 25.4**	**+1.6**
	comp=Z,3.5nm,0.9s,baz=135,slow=11,SNR=6.0						
	comp=Z,3.5nm,0.9s						

WEL 19 07:10:35.5±0.3, **42°S**±2°×**17°4E**±°, **h5**km, **M2.9**/35, **ML3.2**/12, **MLv2.9**/35, **Error ellipse: s-maj=0.0km s-min=0.0km az=116.9, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**205**	P	Pg	07 10 38.5	+0.4
KHZ				S	Sg	07 10 41.1	+1.3
BSWZ	**Blackbird Sta**	**0.62**	**19**	P	Pg	07 10 47.3	-0.1
CMWZ	**Cape Campbell**	**0.71**	**39**	P	Pb	07 10 50.0	-0.4
THZ	**Tophouse**	**0.75**	**316**	P	Pg	07 10 50.3	+0.3
GVZ	**Greta Valley S**	**0.79**	**212**	P	Pb	07 10 51.4	-0.3
TUWZ	**Tuamarina**	**0.91**	**16**	P	Pg	07 10 52.7	-0.3
LTZ	**Lake Taylor**	**1.10**	**244**	P	Pg	07 10 56.4	-0.2
NNZ	**Nelson**	**1.10**	**351**	P	Pg	07 10 56.0	-0.6
MRNZ	**Matariki Terra**	**1.10**	**325**	P	Pb	07 10 57.0	-0.1
AMCZ	**Amberley**	**1.12**	**219**	P	Pg	07 10 56.1	-1.0
TCW	**Tory Channel**	**1.20**	**25**	P	Pg	07 10 57.0	-1.5
WEL	**Wellington**	**1.34**	**41**	P	Pn	07 10 58.8	-2.0
TKNZ	**Takaka Hill**	**1.36**	**339**	P	Pn	07 11 00.9	-0.3
PLWZ	**Palliser**	**1.43**	**60**	P	Pn	07 10 59.1	-3.0
DSZ	**Denniston Nort**	**1.46**	**292**	P	Pn	07 11 02.4	-0.2
OKCZ	**Okains Bay**	**1.48**	**196**	P	Pn	07 10 59.9	-2.9
MSWZ	**Moikau Station**	**1.51**	**55**	P	Pn	07 11 00.2	-3.0
DUWZ	**D'Urville Isla**	**1.52**	**9**	P	Pn	07 11 03.2	-0.2
MQZ	**McQueen's Vall**	**1.57**	**206**	P	Pn	07 11 00.8	-3.2
CAW	**Cannon Point**	**1.62**	**43**	P	Pn	07 11 02.2	-2.5
PAWZ	**Paruwai Farm**	**1.64**	**56**	P	Pn	07 11 01.6	-3.4
AKCZ	**Akaroa Harbour**	**1.65**	**198**	P	Pn	07 11 02.2	-3.0
INZ	**Inchbonnie**	**1.66**	**255**	P	Pn	07 11 04.3	-0.9
QRZ	**Quartz Range**	**1.68**	**331**	P	Pn	07 11 06.1	+0.5
KIW	**Kapiti Island**	**1.74**	**35**	P	Pn	07 11 04.5	-1.9
RACZ	**Rakaia**	**1.79**	**217**	P	Pn	07 11 04.1	-2.9
MTW	**Mount Morrison**	**1.82**	**52**	P	Pn	07 11 04.5	-3.0
OGWZ	**Otaki Gorge**	**1.89**	**39**	P	Pn	07 11 06.0	-2.5
MHCZ	**Mount Hutt**	**1.94**	**230**	P	Pn	07 11 06.6	-2.6
HOWZ	**Holdsworth Sta**	**2.00**	**46**	P	Pn	07 11 06.1	-4.0
WACZ	**Wakanui South**	**2.09**	**218**	P	Pn	07 11 08.6	-2.6
MRZ	**Mangatainoka R**	**2.21**	**43**	P	Pn	07 11 10.3	-2.6
RPZ	**Rata Peaks**	**2.35**	**232**	P	Pn	07 11 12.5	-2.2
ARCZ	**Arundel**	**2.42**	**226**	P	Pn	07 11 13.5	-2.4
GCSZ	**Gaunt Creek Bo**	**2.62**	**246**	P	Pn	07 11 18.1	-0.4
TMZ	**Timaru**	**2.82**	**222**	P	Pn	07 11 18.9	-2.3
FOZ	**Fox Glacier**	**3.05**	**245**	P	Pn	07 11 23.8	-0.5
LBZ	**Lake Benmore**	**3.25**	**229**	P	Pn	07 11 25.4	-1.8
ODZ	**Otahua Downs**	**3.48**	**217**	P	Pn	07 11 27.6	-2.8
TWVZ	**Taurewa**	**3.52**	**24**	P	Pn	07 11 26.8	-4.1

*IDC **19** 07:19:34.7±1.3, 20°.88S×178°.72W, h566km±12km, mb3.6/15, mbtmp4.5/17, Error ellipse: s-maj=16.9km s-min=10.7km az=146.0*
*NEIC **19** 07:19:34.4±2.0, 20°.9S×178°.6W±0°.1, h565km±.9km, mb4.5/36, Error ellipse: s-maj=17.1km s-min=15.7km az=122.0*

ISC 19 07:19:34.8±0.4, **20°.82S**±0°.08×**178°.61W**±0°.07, **h579**km, **n124,** σ1$47/134, **mb4.4**/32, **21C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.40**	**314**	P	**P**	**07 21 01.1**	**-0.8**
	70nm,0.4s,baz=120,slow=2.2,SNR=78						
MSVF	**Nonsavu**	**4.40**	**314**	P	**P**	**07 21 00.6**	**-1.3**
NIUE	**Niue**	**8.35**	**80**	P	**P**	**07 21 36.2**	**-0.7**
AFI	**Afiamalu**	**9.47**	**45**	P	**P**	**07 21 45.1**	**-3.0**
	26nm,0.6s,baz=41,slow=12,SNR=6.7						
AFI				S	**S**	**07 23 30.3**	**-7.1**
	17nm,0.5s,baz=42,slow=22,SNR=3.1						
AFI	**Afiamalu**	**9.47**	**45**	P	**P**	**07 21 45.3**	**-2.8**
MARNC	**Mare, Loyalty**	**12.48**	**265**	P	**P**	**07 22 16.7**	**-1.7**
DZM	**Mont Daumac**	**13.97**	**262**	P	**P**	**07 22 32.3**	**-1.4**
	9.8nm,0.8s,baz=89,slow=12,SNR=2.8						
OUZ	**Omahuta**	**15.90**	**204**	P	**P**	**07 22 51.1**	**-0.9**
GVZ	**Greta Valley S**	**23.17**	**196**	P	**P**	**07 23 54.7**	**-2.9**
ARMA	**Armidale**	**28.41**	**244**	P	**P**	**07 24 43.9**	**-0.2**
ARMA				IAmb	IAmb	07 25 01.3	
	comp=Z,24nm,1.5s						
CAN	**Canberra**	**31.86**	**236**	P	**P**	**07 25 13.0**	**-0.5**
CAN				IAmb	IAmb	07 25 45.4	
	comp=Z,16nm,1.3s						
CTA	**Charters Tower**	**32.89**	**265**	P	**P**	**07 25 22.4**	**0.0**
	comp=Z,6.3nm,0.5s,baz=90,slow=10,SNR=23						
	comp=Z,6.3nm,0.5s						
CTAO	**Charters Tower**	**32.89**	**265**	P	**P**	**07 25 22.3**	**-0.2**
CTAO				IAmb	IAmb	07 25 23.0	
	comp=Z,8.7nm,0.6s						
PMG	**Port Moresby**	**34.86**	**284**	P	**P**	**07 25 39.6**	**+0.6**
	comp=Z,17nm,0.5s,baz=86,slow=9.7,SNR=4.2						
	comp=Z,17nm,0.5s						
PMG	**Port Moresby**	**34.86**	**284**	P	**P**	**07 25 39.1**	**+0.1**
COEN	**Coen**	**37.03**	**274**	P	**P**	**07 25 56.5**	**-0.4**
COEN				IAmb	IAmb	07 25 58.4	
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**37.13**	**244**	P	**P**	**07 25 57.1**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=86,slow=12,SNR=16						
STKA				PcP	**PcP**	**07 28 02.4**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=104,slow=4.2,SNR=3.0						
	comp=Z,2.1nm,0.4s						
STKA	**Stephens Creek**	**37.13**	**244**	P	**P**	**07 25 57.4**	**0.0**
BBOO	**Buckleboo**	**41.89**	**244**	P	**P**	**07 26 34.6**	**-1.0**
BBOO				IAmb	IAmb	07 26 39.9	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**43.88**	**257**	P	**P**	**07 26 50.8**	**-0.5**
ASAR	**Alice Springs**	**43.89**	**257**	P	**P**	**07 26 50.9**	**-0.4**
	comp=Z,7.4nm,0.5s,baz=94,slow=8.0,SNR=150						
ASAR				PcP	**PcP**	**07 28 24.8**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=102,slow=3.9,SNR=15						
ASAR				ScP	**ScP**	**07 31 25.4**	**+3.9**
	comp=Z,0.6nm,0.7s,baz=107,slow=4.3,SNR=5.2						
ASAR				S	**S**	**07 32 39.7**	**-1.8**
	comp=Z,1.9nm,1.0s,baz=94,slow=15,SNR=10						
	comp=Z,7.4nm,0.5s						
WB2	**Warramunga Arr**	**43.98**	**262**	P	**P**	**07 26 50.8**	**-1.2**
WB2				IAmb	IAmb	07 26 52.2	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**43.99**	**262**	P	**P**	**07 26 51.4**	**-0.7**
	comp=Z,3.4nm,0.2s,baz=97,slow=7.1,SNR=239						
WRA				PcP	**PcP**	**07 28 25.2**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=92,slow=3.8,SNR=5.8						
WRA				S	**S**	**07 32 39.8**	**-3.1**
	comp=Z,0.4nm,0.7s,baz=99,slow=12,SNR=3.0						
	comp=Z,3.4nm,0.2s						
WRA	**Warramunga Arr**	**43.99**	**262**	P	**P**	**07 26 50.0**	**-2.1**
SIJI	**Sorong**	**52.77**	**285**	P	**P**	**07 27 57.9**	**+0.7**
	baz=78,slow=7.8						
PSA00	**Pilbara Seismi**	**57.04**	**257**	P	**P**	**07 28 25.6**	**-1.3**
PSA00				IAmb	IAmb	07 28 27.1	
	comp=Z,15nm,0.9s						
MBWA	**Marble Bar**	**57.22**	**258**	P	**P**	**07 28 27.1**	**-1.0**
MBWA				IAmb	IAmb	07 28 28.0	
	comp=Z,13nm,0.7s						
SBA	**Scott Base**	**57.52**	**184**	P	**P**	**07 28 30.4**	**+1.2**
VNDA	**Vanda**	**57.54**	**185**	P	**P**	**07 28 29.9**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=4.3,slow=8.1,SNR=15						
VNDA				ScP	**ScP**	**07 32 21.9**	**+2.5**
	comp=Z,1.5nm,0.9s,baz=320,slow=2.9,SNR=8.5						
	comp=Z,0.8nm,0.4s						
VNDA	**Vanda**	**57.54**	**185**	P	**P**	**07 28 29.8**	**+0.5**
GIRL	**Giralia**	**61.91**	**255**	P	**P**	**07 28 59.7**	**+0.4**
QSPA	**South Pole Qui**	**69.25**	**180**	P	**P**	**07 29 44.0**	**-0.3**
MJAR	**Matsushiro Arr**	**70.13**	**324**	P	**P**	**07 29 50.7**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=156,slow=11,SNR=4.1						
	comp=Z,2.0nm,0.6s						
JHS	**Saijyo**	**71.97**	**320**	P	**P**	**07 30 02.1**	**+1.4**
JHS				IAmb	IAmb	07 30 03.7	
	comp=Z,19nm,1.1s						
ADK	**Adak**	**72.41**	**1**	P	**P**	**07 30 03.3**	**+0.5**
JKA	**Kamikawa-asahi**	**73.73**	**332**	P	**P**	**07 30 12.8**	**+2.3**
JKA				IAmb	IAmb	07 30 13.6	
	comp=Z,10nm,0.8s						
UNV	**Unalaska Valle**	**75.09**	**7**	P	**P**	**07 30 17.2**	**-0.7**
PETK	**Petropavlovsk-**	**76.43**	**346**	P	**P**	**07 30 26.4**	**+1.1**
	comp=Z,5.9nm,0.7s,baz=147,slow=8.3,SNR=7.1						
	comp=Z,5.9nm,0.7s						
KSRS	**Korea Array**	**76.75**	**319**	P	**P**	**07 30 28.4**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=120,slow=7.2,SNR=2.0						
	comp=Z,0.4nm,0.4s						
SMAI	**San Martin Ant**	**78.52**	**159**	P	**P**	**07 30 37.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**78.91**	**326**	P	**P**	**07 30 40.9**	**+2.1**
	comp=Z,2.8nm,0.6s,baz=144,slow=4.7,SNR=4.8						
	comp=Z,2.8nm,0.6s						
BELA	**Belgrano 2**	**79.32**	**173**	P	**P**	**07 30 39.5**	**-1.1**
OHAK	**Old Harbor**	**80.59**	**14**	P	**P**	**07 30 48.0**	**+0.7**
OHAK				IAmb	IAmb	07 31 09.8	
	comp=Z,20nm,1.3s						
YBH	**Yreka Blue Hor**	**80.90**	**39**	P	**P**	**07 30 52.0**	**+2.5**
YBH				IAmb	IAmb	07 30 52.6	
	comp=Z,8.3nm,0.9s						
NVAR	**Mina Array Bea**	**81.65**	**44**	P	**P**	**07 30 55.0**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=224,slow=8.2,SNR=12						

	comp=Z,1.5nm,0.6s								
TPNV	**Topopah Spring**	**82.17**	**46**	P		**P**	**07 30 57.5**	**+1.4**
ILSW	**Iliamna Southw**	**83.15**	**13**	P		**P**	**07 31 00.8**	**+0.4**
ILSW				IAmb		IAmb	07 31 01.6	
	comp=Z,21nm,0.8s								
U15A	**North Rim**	**84.60**	**48**	P		**P**	**07 31 10.2**	**+1.8**
U15A				IAmb		IAmb	07 31 11.2	
	comp=Z,5.0nm,0.7s								
CAST	**Castle Rocks**	**86.50**	**12**	P		**P**	**07 31 15.6**	**-0.9**
CAST				IAmb		IAmb	07 31 16.9		
	comp=Z,6.6nm,0.8s								
F10A	**Beach Ranch, E**	**86.61**	**38**	P		**P**	**07 31 18.8**	**+1.3**
F10A				IAmb		IAmb	07 31 19.5		
	comp=Z,10.0nm,0.8s								
TRF	**Thorofare Moun**	**86.88**	**12**	P		**P**	**07 31 18.7**	**+0.2**
TROLL	**Troll, Antarti**	**87.41**	**180**	P		**P**	**07 31 20.4**	**-0.6**
TXAR	**Lajitas Array**	**87.71**	**58**	P		**P**	**07 31 25.1**	**+2.0**
	comp=Z,2.1nm,0.9s,baz=262,slow=3.8,SNR=11								
	comp=Z,2.1nm,0.9s								
VNA3	**Neumayer Olymp**	**87.86**	**176**	P		**P**	**07 31 21.8**	**-1.2**
M27K	**Edge Creek, AK**	**87.87**	**16**	P		**P**	**07 31 24.9**	**+1.8**
M27K				IAmb		IAmb	07 31 26.2		
	comp=Z,12nm,1.1s								
WRH	**Wood River Hil**	**88.24**	**13**	P		**P**	**07 31 24.7**	**+0.2**
VNA2	**Neumayer--Watz**	**88.30**	**177**	P		**P**	**07 31 24.8**	**-0.1**
	baz=176,slow=3.9								
VNA1	**Neumayer--Stat**	**88.53**	**177**	P		**P**	**07 31 24.1**	**-1.9**
ILAR	**Eielson Array**	**88.75**	**13**	P		**P**	**07 31 27.2**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=217,slow=5.2,SNR=42								
	comp=Z,1.5nm,0.4s								
J25K	**Salcha River,**	**88.94**	**14**	P		**P**	**07 31 28.6**	**+0.6**
J25K				IAmb		IAmb	07 31 29.3		
	comp=Z,5.3nm,0.9s								
M30M	**Minto, Yukon**	**89.45**	**18**	P		**P**	**07 31 31.5**	**+1.2**
M30M				IAmb		IAmb	07 31 32.3		
	comp=Z,10.0nm,1.1s								
PDAR	**Pinedale Array**	**89.59**	**43**	P		**P**	**07 31 32.9**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=218,slow=3.5,SNR=23								
	comp=Z,2.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P		**P**	**07 31 34.2**	**+1.8**
	comp=Z,1.7nm,0.3s,baz=125,slow=2.9,SNR=8.9								
	comp=Z,1.7nm,0.3s								
ZALV	**Zalesovo Beam**	**110.38**	**321**	PKiKP	**PKiKP**	**07 37 01.2**	**-0.3**		
	comp=Z,0.4nm,0.3s,baz=90,slow=1.5,SNR=4.2								
MKAR	**Makanchi Array**	**111.00**	**313**	PKiKP	**PKiKP**	**07 37 02.6**	**-0.4**		
	comp=Z,0.4nm,0.4s,baz=284,slow=0.3,SNR=9.3								
KURBB	**Kurchatov Arra**	**113.89**	**317**	PKiKP	**PKiKP**	**07 37 08.0**	**-0.3**		
	comp=Z,1.1nm,0.6s,baz=94,slow=1.7,SNR=15								
ARCES	**ARCESS Array B**	**129.13**	**349**	PKP	**PKPdf**	**07 37 37.5**	**+0

BSO1				S		S	07 27 48.8	-0.3
JHU	**Hanno**	**2.91**	**18**	P		**Pn**	07 27 04.3	-0.6
JHU				S		**S**	07 27 48.9	-3.0
JWT	**Wachi**	**3.19**	**314**	P		**Pn**	07 27 06.0	-1.5
MJAR	**Matsushiro Arr**	**3.45**	**0**	P		**Pn**	07 27 09.0	-0.9
	22nm,0.6s,baz=178,slow=9.7,SNR=48							
MAT	**Matsushiro**	**3.45**	**0**	P		**Pn**	07 27 09.1	-0.8
JYT	**Yasato**	**3.54**	**27**	P		**Pn**	07 27 09.7	-1.1
JYT				S		**S**	07 27 58.0	-4.6
JMN	**Monobe**	**3.67**	**281**	P		**Pn**	07 27 10.5	-1.6
JHO	**Hitachi**	**4.03**	**28**	P		**Pn**	07 27 14.4	-1.2
JHO				S		**S**	07 28 06.3	-5.1
JFK	**Kawauchi**	**4.80**	**26**	P		**Pn**	07 27 22.9	-0.9
JCJ	**Chichijima**	**6.89**	**149**	P		**Pn**	07 27 45.5	-2.2
	17nm,0.3s,baz=343,slow=12,SNR=6.2							
JCJ				S		**S**	07 29 05.6	-4.3
	22nm,0.3s,baz=294,slow=22,SNR=9.9							
WRA	**Warramunga Arr**	**52.85**	**185**	P		**P**	07 34 50.0	+2.6
	0.6nm,0.4s,baz=355,slow=7.3,SNR=19							
	0.6nm,0.4s							
ILAR	**Eielson Array**	**54.23**	**31**	P		**P**	07 35 00.0	+3.2
	0.5nm,0.8s,baz=248,slow=5.3,SNR=6.0							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**56.58**	**185**	P		**P**	07 35 16.8	+2.9
	0.3nm,0.5s,baz=18,slow=11,SNR=11							
	0.3nm,0.5s							

WEL ***19*** *07:32:00,41.83S×174.30E,h13km,ML4.0,Mw4.2, Moment Tensor Solution. s5 Moment tensor: Scale 10^{15} Nm; M_{rr}1.03; $M_{\theta\theta}$0.94; $M_{\phi\phi}$-1.97; $M_{r\theta}$0.92; $M_{\theta\phi}$-0.54; $M_{\phi r}$-0.88; Fault plane solution: $M_0$2.20000×10^{15} NP1: ϕ_s46.00000°,δ48.00000°,λ152.00000°. NP2: ϕ_s155.00000°,δ70.00000°,λ46.00000°. Principal axes: T 215.8200, Plg46.0000°, Azm20.0000°; N 8.1300, Plg41.0000°, Azm173.0000°; P -223.9500, Plg13.0000°, Azm276.0000°;*

NOU ***19*** *07:32:07.9,42.03S×174.58E,h8km,MLv4.6/9, Off E. Coast of S. Island, N.Z.*

WEL ***19*** *07:32:09.4±0.3,42.3S±3.3×17.4E±.,h13km±3km,M4.1/56, ML4.2/21,MLv4.1/56,Error ellipse: s-maj=0.0km s-min=0.0km az=147.2*

NEIC ***19*** *07:32:10.1,41.79S×174.25E,h20km,Moment Tension Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.26; $M_{\theta\theta}$1.72; $M_{\phi\phi}$-1.98; $M_{r\theta}$0.85; $M_{\theta\phi}$-0.71; $M_{\phi r}$-0.35; Fault plane solution: $M_0$2.20000×10^{15} NP1:ϕ_s147.95000°, δ76.82000°,λ21.23000°. NP2:ϕ_s52.89000°,δ69.36000°, λ165.90000°. Principal axes: T 2.2590, Plg24.0000°, Azm12.0000°; N -0.1247, Plg65.0000°, Azm178.0000°; P -2.1344, Plg5.0000°, Azm279.0000°;*

NEIC ***19*** *07:32:10.0±1.5,41.80S±0.02×174.28E±0.04,h18km±3km, mb4.2/4,Mwr4.2/29 Error ellipse: s-maj=3.9km s-min=2.7km az=108.0*

ISC 19 07:32:09.5±0.9,41.85S±0.03×174.32E±0.02,h15km±6km, n134,σ1s13/140,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**321**		**Pb**	**07 32 13.2**	**-0.4**
CMWZ				Sg	**Sg**	**07 32 16.4**	**+0.9**
CMWZ	**Cape Campbell**	**0.13**	**321**	P	**Pb**	**07 32 13.2**	**-0.4**
CMWZ				S	**Sg**	**07 32 16.7**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.36**	**292**		**Pg**	**07 32 16.2**	**-0.7**
BSWZ				Sg	**Sg**	**07 32 21.7**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.36**	**292**	P	**Pg**	**07 32 16.5**	**-0.3**
BSWZ				S	**Sg**	**07 32 22.0**	**+0.2**
TUWZ	**Tuamarina**	**0.50**	**326**		**Pg**	**07 32 18.5**	**-1.0**
TUWZ				Sg	**Sg**	**07 32 25.8**	**-0.5**
TUWZ	**Tuamarina**	**0.50**	**326**	P	**Pg**	**07 32 19.2**	**-0.3**
TUWZ				S	**Sg**	**07 32 26.1**	**-0.2**
SNZO	**South Karori**	**0.61**	**28**		**Pg**	**07 32 21.3**	**-0.2**
SNZO	**South Karori**	**0.61**	**28**	P	**Pb**	**07 32 22.2**	**+0.4**
TCW	**Tory Channel**	**0.64**	**357**		**Pg**	**07 32 21.3**	**-0.7**
TCW	**Tory Channel**	**0.64**	**357**	P	**Pg**	**07 32 21.5**	**-0.5**
WEL	**Wellington**	**0.66**	**31**	P	**Pb**	**07 32 22.8**	**+0.1**
PLWZ	**Palliser**	**0.75**	**69**		**Pn**	**07 32 25.3**	**-0.3**
PLWZ	**Palliser**	**0.75**	**69**	P	**Pg**	**07 32 25.1**	**+1.0**
KHZ	**Kahutara**	**0.81**	**225**		**Pg**	**07 32 26.1**	**+0.8**
KHZ					**Sn**	**07 32 38.3**	**+0.2**
KHZ	**Kahutara**	**0.81**	**225**	P	**Pg**	**07 32 26.1**	**+0.8**
MSWZ	**Moikau Station**	**0.82**	**59**		**Pn**	**07 32 26.3**	**-0.2**
MSWZ	**Moikau Station**	**0.82**	**59**	P	**Pg**	**07 32 26.2**	**+0.7**
CAW	**Cannon Point**	**0.93**	**37**	P	**Pb**	**07 32 27.6**	**+0.3**
NNZ	**Nelson**	**0.95**	**311**		**Pb**	**07 32 26.8**	**-0.7**
NNZ	**Nelson**	**0.95**	**311**	P	**Pb**	**07 32 26.9**	**-0.7**
PAWZ	**Paruwai Farm**	**0.95**	**61**	P	**Pb**	**07 32 27.7**	**0.0**
THZ	**Tophouse**	**1.06**	**274**	Pn	**Pb**	**07 32 29.5**	**-0.1**
THZ	**Tophouse**	**1.06**	**274**	P	**Pb**	**07 32 29.5**	**-0.1**
KIW	**Kapiti Island**	**1.08**	**24**	P	**Pb**	**07 32 29.8**	**+0.1**
DUWZ	**D'Urville Isla**	**1.09**	**344**	P	**Pb**	**07 32 29.5**	**-0.5**
TRWZ	**Traveller**	**1.12**	**67**	P	**Pn**	**07 32 29.9**	**-0.7**
MTW	**Mount Morrison**	**1.12**	**53**	P	**Pn**	**07 32 30.0**	**-0.6**
OGWZ	**Otaki Gorge**	**1.21**	**32**	P	**Pn**	**07 32 31.7**	**-0.2**
MRNZ	**Matariki Terra**	**1.25**	**290**		**Pn**	**07 32 32.3**	**-0.2**
MRNZ	**Matariki Terra**	**1.25**	**290**	P	**Pn**	**07 32 32.6**	**+0.2**
TKNZ	**Takaka Hill**	**1.31**	**308**	Pn	**Pn**	**07 32 32.2**	**-1.0**
TKNZ	**Takaka Hill**	**1.31**	**308**	P	**Pn**	**07 32 33.1**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.31**	**44**	P	**Pn**	**07 32 32.6**	**-0.6**
TMWZ	**Te Maipa**	**1.39**	**58**	P	**Pn**	**07 32 33.4**	**-1.0**
GVZ	**Greta Valley S**	**1.47**	**220**	Pn	**Pn**	**07 32 35.4**	**-0.1**
GVZ	**Greta Valley S**	**1.47**	**220**	P	**Pn**	**07 32 35.1**	**-0.3**
MRZ	**Mangatainoka R**	**1.52**	**39**	Pn	**Pn**	**07 32 35.4**	**-0.7**
MRZ	**Mangatainoka R**	**1.52**	**39**	P	**Pn**	**07 32 35.5**	**-0.6**
TIWZ	**Tintock**	**1.59**	**48**	P	**Pn**	**07 32 36.6**	**-0.5**
QRZ	**Quartz Range**	**1.69**	**307**	Pn	**Pb**	**07 32 39.3**	**+0.7**
QRZ	**Quartz Range**	**1.69**	**307**	P	**Pb**	**07 32 40.2**	**+0.1**
QRZ	**Quartz Range**	**1.69**	**307**	P	**Pb**	**07 32 39.3**	**-0.9**
CPWZ	**Castlepoint**	**1.70**	**57**	P	**Pn**	**07 32 37.9**	**-0.6**
LTZ	**Lake Taylor**	**1.78**	**238**	Pn	**Pn**	**07 32 39.3**	**-0.5**
LTZ	**Lake Taylor**	**1.78**	**238**	P	**Pn**	**07 32 39.6**	**-0.2**
PRWZ	**Pori Road**	**1.79**	**45**	P	**Pn**	**07 32 39.2**	**-0.7**
OHWZ	**Ohakea**	**1.81**	**25**	P	**Pn**	**07 32 41.1**	**+1.1**
AMCZ	**Amberley**	**1.81**	**222**	Pn	**Pn**	**07 32 39.7**	**-0.4**
AMCZ	**Amberley**	**1.81**	**222**	P	**Pn**	**07 32 39.5**	**-0.6**
POWZ	**Post Office Ro**	**1.82**	**37**	P	**Pn**	**07 32 39.7**	**-0.5**
BFZ	**Birch Farm**	**1.86**	**52**	P	**Pn**	**07 32 39.8**	**-1.0**
DSZ	**Denniston Nort**	**1.88**	**272**	Pn	**Pn**	**07 32 41.6**	**+0.4**
DSZ	**Denniston Nort**	**1.88**	**272**	P	**Pn**	**07 32 42.2**	**+1.0**
DVHZ	**Dannevirke**	**2.08**	**43**	P	**Pn**	**07 32 43.4**	**-0.5**
OKCZ	**Okains Bay**	**2.09**	**206**	P	**Pn**	**07 32 42.8**	**-1.2**
ANWZ	**Angora Road**	**2.14**	**50**	P	**Pn**	**07 32 44.2**	**-0.4**
WAZ	**Wanganui**	**2.15**	**14**	P	**Pn**	**07 32 46.5**	**+1.7**
TSZ	**Takapari Road**	**2.18**	**35**	P	**Pn**	**07 32 44.4**	**-0.8**
MQZ	**McQueen's Vall**	**2.23**	**213**	P	**Pn**	**07 32 44.4**	**-1.4**
OXZ	**Oxford**	**2.24**	**228**	Pn	**Pn**	**07 32 45.8**	**-0.2**
OXZ	**Oxford**	**2.24**	**228**	P	**Pn**	**07 32 45.1**	**-0.9**
AKCZ	**Akaroa Harbour**	**2.27**	**207**	P	**Pn**	**07 32 45.7**	**-0.8**
INZ	**Inchbonnie**	**2.31**	**247**	Pn	**Pn**	**07 32 46.9**	**0.0**
INZ	**Inchbonnie**	**2.31**	**247**	P	**Pn**	**07 32 46.9**	**0.0**
LREZ	**Lake Rotokare**	**2.39**	**2**	P	**Pb**	**07 32 51.6**	**-0.5**
WPHZ	**Waipukurau**	**2.40**	**43**	P	**Pn**	**07 32 47.7**	**-0.5**
PNHZ	**Pukenui**	**2.40**	**37**	P	**Pn**	**07 32 47.1**	**-1.2**
NMEZ	**Namu Road**	**2.46**	**352**	P	**Pb**	**07 32 51.9**	**-1.4**
RACZ	**Rakaia**	**2.47**	**220**	P	**Pn**	**07 32 48.1**	**-1.1**
KHEZ	**Kahui Hut**	**2.56**	**355**	P	**Pb**	**07 32 54.2**	**-1.0**
KHEZ	**Kahui Hut**	**2.56**	**355**	P	**Pb**	**07 32 53.1**	**-2.0**
NEZ	**North Egmont**	**2.58**	**356**	P	**Pb**	**07 32 54.1**	**-1.4**
NBEZ	**Newall Road No**	**2.60**	**352**	P	**Pb**	**07 32 53.6**	**-2.2**
MHCZ	**Mount Hutt**	**2.64**	**229**	P	**Pn**	**07 32 50.3**	**-1.2**
DREZ	**Durham Road**	**2.66**	**358**	P	**Pb**	**07 32 54.9**	**-1.9**
PKE	**Pukeiti**	**2.66**	**354**	P	**Pb**	**07 32 54.8**	**-2.0**
MOVZ	**Moawhango**	**2.67**	**25**	P	**Pn**	**07 32 52.2**	**+0.2**
PKVZ	**Pokaka**	**2.67**	**17**	P	**Pn**	**07 32 53.3**	**+1.3**
WNVZ	**Wahianoa**	**2.70**	**22**	P	**Pn**	**07 32 53.0**	**+0.5**
TRVZ	**Turoa**	**2.71**	**21**	P	**Pn**	**07 32 53.3**	**+0.5**
DRZ	**Dome Shelter**	**2.74**	**21**	P	**Pn**	**07 32 55.2**	**+2.0**
WHVZ	**Whangaehu Hut**	**2.74**	**21**	P	**Pn**	**07 32 53.7**	**+0.6**
VRZ	**Vera Road**	**2.74**	**7**	P	**Pn**	**07 32 54.4**	**+1.5**
FWVZ	**Far West T-bar**	**2.75**	**20**	P	**Pn**	**07 32 54.2**	**+0.9**
MHEZ	**Mangahewa**	**2.77**	**0**	P	**Pb**	**07 32 56.9**	**-1.8**
TUVZ	**Tukino**	**2.77**	**22**	P	**Pn**	**07 32 53.9**	**+0.4**
WACZ	**Wakanui South**	**2.78**	**220**	P	**Pn**	**07 32 52.3**	**-1.1**
KAHZ	**Kahuranaki**	**2.82**	**44**	P	**Pn**	**07 32 52.0**	**-2.1**
NGZ	**Ngauruhoe**	**2.84**	**21**	P	**Pn**	**07 32 55.1**	**+0.6**
OTVZ	**Oturere**	**2.87**	**21**	P	**Pn**	**07 32 55.6**	**+0.7**
NNVZ	**North Ngauruho**	**2.89**	**20**	P	**Pn**	**07 32 55.8**	**+0.8**
WTVZ	**West Tongariro**	**2.90**	**20**	P	**Pn**	**07 32 55.8**	**+0.7**
ETVZ	**East Tongariro**	**2.91**	**22**	P	**Pn**	**07 32 55.9**	**+0.5**
WVZ	**Waitaha Valley**	**2.92**	**244**	P	**Pn**	**07 32 55.1**	**-0.2**
TMVZ	**Te Maari**	**2.93**	**22**	P	**Pn**	**07 32 55.8**	**+0.2**
KRVZ	**Karewarewa**	**2.93**	**21**	P	**Pn**	**07 32 57.7**	**+2.1**
NTVZ	**North Tongarir**	**2.93**	**21**	P	**Pn**	**07 32 56.4**	**+0.8**
RPZ	**Rata Peaks**	**3.04**	**231**	Pn	**Pn**	**07 32 56.5**	**-0.6**
RPZ	**Rata Peaks**	**3.04**	**231**	P	**Pn**	**07 32 56.0**	**-1.1**
RPZ	**Rata Peaks**	**3.04**	**231**	P	**Pn**	**07 32 56.3**	**-0.8**
ARCZ	**Arundel**	**3.12**	**227**	P	**Pn**	**07 32 57.6**	**-0.5**
BKZ	**Black Stump Fm**	**3.15**	**32**	P	**Pn**	**07 32 57.7**	**-0.9**
BKZ	**Black Stump Fm**	**3.15**	**32**	P	**Pn**	**07 32 57.1**	**-1.5**
RATZ	**Rangitukua**	**3.18**	**21**	P	**Pb**	**07 33 04.6**	**-1.1**
GCSZ	**Gaunt Creek Bo**	**3.29**	**242**	P	**Pn**	**07 33 00.8**	**+0.3**
HIZ	**Hauiti**	**3.36**	**7**	Pn	**Pn**	**07 33 01.8**	**+0.4**
HIZ	**Hauiti**	**3.36**	**7**	P	**Pn**	**07 33 03.3**	**+1.9**
HIZ	**Hauiti**	**3.36**	**7**	P	**Pn**	**07 33 02.7**	**+1.4**
TMZ	**Timaru**	**3.51**	**223**	P	**Pn**	**07 33 02.7**	**-0.8**
TLZ	**Tolley Road**	**3.64**	**15**	P	**Pn**	**07 33 07.0**	**+1.7**
FOZ	**Fox Glacier**	**3.72**	**242**	P	**Pn**	**07 33 06.0**	**-0.4**
LBZ	**Lake Benmore**	**3.95**	**229**	Pn	**Pn**	**07 33 08.8**	**-0.7**
LBZ	**Lake Benmore**	**3.95**	**229**	P	**Pn**	**07 33 08.8**	**-0.7**
ODZ	**Otahua Downs**	**4.17**	**219**	P	**Pn**	**07 33 11.8**	**-0.7**
ODZ	**Otahua Downs**	**4.17**	**219**	P	**Pn**	**07 33 11.1**	**-1.4**
URZ	**Urewera**	**4.17**	**32**	P	**Pn**	**07 33 11.4**	**-1.2**
KMRZ	**Kaimai**	**4.19**	**18**	P	**Pb**	**07 33 18.9**	**-3.9**
TOZ	**Tahuroa Road**	**4.21**	**13**	P	**Pn**	**07 33 14.4**	**+1.3**
JCZ	**Jackson Bay**	**4.63**	**239**	P	**Pn**	**07 33 20.3**	**+1.3**
JCZ	**Jackson Bay**	**4.63**	**239**	P	**Pn**	**07 33 17.7**	**-1.2**
MKAZ	**Moumakai**	**4.78**	**8**	P	**Pn**	**07 33 21.0**	**+0.1**
AWAZ	**Awhitu Peninsu**	**4.78**	**3**	P	**Pn**	**07 33 22.6**	**+1.6**
ETAZ	**East Tamaki Re**	**4.91**	**6**	P	**Pn**	**07 33 24.2**	**+1.4**
WTAZ	**Waiatarua**	**4.91**	**2**	P	**Pn**	**07 33 25.6**	**+2.8**
MBAZ	**Motutapu North**	**5.09**	**5**	P	**Pn**	**07 33 28.7**	**+3.5**
MSZ	**Milford Sound**	**5.46**	**237**	P	**Pn**	07 33 35.1	+5.0
OUZ	**Omahuta**	**6.64**	**355**	Pn	**Pn**	**07 33 45.5**	**-1.0**
OUZ	**Omahuta**	**6.64**	**355**	P	**Pn**	**07 33 48.0**	**+1.5**
OUZ	**Omahuta**	**6.64**	**355**	P	**Pn**	**07 33 50.2**	**+3.7**
CTZ	**Chatham Island**	**6.93**	**109**	P	**Pn**	**07 33 50.2**	**-0.2**
VNDA	**Vanda**	**36.15**	**185**	P	**P**	**07 39 11.8**	**+1.2**
WRA	**Warramunga Arr**	**40.19**	**290**	P	**P**	**07 39 45.3**	**0.0**
WB0	**Warramunga Arr**	**40.27**	**291**	P	**P**	**07 39 43.8**	**-2.1**
WB0				IAmb	IAmb	07 40 08.6	
	comp=Z,7.0nm,1.4s						
QSPA	**South Pole Qui**	**48.28**	**180**	P	**P**	**07 40 51.2**	**+1.5**
QSPA				IAmb	IAmb	07 41 01.1	
	comp=Z,2.3nm,0.9s						

ROM 19 07:37:02.9±0.1,42.758N±0.004×13.243E±0.005, h10km,ML1.7/2,Error ellipse: s-maj=0.4km s-min=0.1km az=59.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.11**	**338**	P	Pg	07 37 06.3	+0.5
T1245				S	Sg	07 37 08.8	+1.1
NRCA	**Norcia**	**0.12**	**309**	P	Pg	07 37 06.4	+0.5
NRCA				S	Sg	07 37 08.9	+0.9
T1218	**Civita (PG)**	**0.13**	**227**	P	Pg	07 37 06.5	+0.5
T1218				S	Sg	07 37 09.2	+1.0
T1218				AML	AML		
	comp=N,396μm,0.9s						
T1218				AML	AML		
	comp=E,333μm,0.2s						
T1218				AML	AML		
	comp=N,396μm,0.6s						
T1218				AML	AML		
	comp=E,364μm,0.2s						
T1218				AML	AML		
	comp=N,396μm,0.9s						
T1218				AML	AML		
	comp=N,396μm,0.9s						
SMA1	**SAN MARTINO**	**0.14**	**152**	P	Pg	07 37 06.7	+0.4
SMA1				S	Sg	07 37 09.4	+0.8
T1243	**Rocca Santa Ma**	**0.16**	**112**	P	Pg	07 37 06.9	+0.4
T1243				S	Sg	07 37 10.3	+1.2
T1241	**Roccafluvione,**	**0.17**	**55**	P	Pg	07 37 07.1	+0.5
T1241				S	Sg	07 37 10.3	+1.1
T1216	**Preci, Frazion**	**0.21**	**309**	P	Pg	07 37 07.7	+0.3
T1216				S	Sg	07 37 11.4	+1.1
LNSS	**Leonessa**	**0.21**	**224**	P	Pg	07 37 07.9	+0.4
LNSS				S	Sg	07 37 11.8	+1.3
T1256	**Bolognola (MC)**	**0.25**	**357**	P	Pg	07 37 08.4	+0.3
T1256				S	Sg	07 37 12.7	+1.1

GEN ***19*** *07:37:24.5,44.32N×10.84E,h10km±1km,Ml1.8*

ROM 19 07:37:24.6±0.2,44.314N±0.008×10.841E±0.006, h18km±1km,ML1.7/1,Error ellipse: s-maj=0.7km s-min=0.5km az=171.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCCA	**Zocca**	**0.10**	**69**	P	Pg	07 37 28.3	-0.2
ZCCA	**Zocca**	**0.10**	**69**	P	Pg	07 37 28.2	-0.2
ZCCA				S	Sg	07 37 31.8	+0.8
ZCCA				END			
GSCL	**Gusciola**	**0.18**	**281**	P	Pb	07 37 29.0	+0.2
GSCL				S	Sb	07 37 31.6	0.0
GSCL	**Gusciola**	**0.18**	**281**	P	Pb	07 37 29.0	+0.2
GSCL				END			
FNVD	**Fontana Vidola**	**0.25**	**126**	P	Pg	07 37 30.2	-0.2
FNVD				S	Sg	07 37 34.8	+0.5
BDI	**Bagni Di Lucca**	**0.31**	**215**	P	Pg	07 37 31.4	+0.1
BDI				S	Sb	07 37 36.4	+0.3
BDI	**Bagni Di Lucca**	**0.31**	**215**	P	Pg	07 37 31.4	+0.1
BDI				S	Sb	07 37 36.4	+0.3
BDI				END			
MTCR	**Monte La Croce**	**0.31**	**158**	P	Pb	07 37 31.5	-0.1
MTCR				S	Sb	07 37 36.6	+0.4
MTCR	**Monte La Croce**	**0.31**	**158**	P	Pb	07 37 31.5	-0.1
MTCR				S	Sb	07 37 36.4	+0.2
SARO	**Sassorosso**	**0.34**	**248**	P	Pg	07 37 32.0	+0.1
SARO				S	Sb	07 37 37.2	-0.1
SARO	**Sassorosso**	**0.34**	**248**	P	Pg	07 37 32.0	+0.1
SARO				S	Sb	07 37 37.2	-0.1
SARO				END			
VLC	**Villacollemand**	**0.36**	**245**	P	Pb	07 37 32.4	-0.1
VLC				S	Sb	07 37 37.8	-0.1
CARD	**Cardoso**	**0.39**	**222**	P	Pg	07 37 32.6	0.0
CARD				S	Sb	07 37 38.7	+0.1
CARD	**Cardoso**	**0.39**	**222**	P	Pg	07 37 32.6	0.0
CARD				S	Sb	07 37 38.8	+0.2
CARD				END			
MPPT	**Montemurlo**	**0.40**	**153**	P	Pg	07 37 33.0	+0.1
MPPT				S	Sb	07 37 39.3	+0.3
MTRZ	**Monterenzio**	**0.45**	**82**	P	Pg	07 37 33.8	-0.1
MAIM	**Mastiano**	**0.47**	**212**	P	Pg	07 37 34.0	-0.1
MAIM				S	Sb	07 37 41.6	+0.6
MAIM	**Mastiano**	**0.47**	**212**	P	Pg	07 37 34.0	-0.1
MAIM				S	Sb	07 37 41.8	+0.8
MAIM				AML	AML		
	comp=E,94μm,0.6s						
MAIM				AML	AML		
	comp=N,152μm,0.4s						
MAIM				END			
EQUI	**Equi**	**0.52**	**254**	P	Pg	07 37 33.9	-1.1
EQUI				S	Sb	07 37 42.6	+0.4
EQUI	**Equi**	**0.52**	**254**	P	Pb	07 37 35.6	+0.5
EQUI				S	Sb	07 37 42.6	+0.4
PII	**Pisa**	**0.64**	**201**	P	Pb	07 37 37.0	0.0
RUFI	**Rufina**	**0.68**	**134**	P	Pg	07 37 37.9	0.0
RUFI				S	Sn	07 37 48.9	-0.4

IDC 19 07:43:05.6±4.0,53.46N×90.80E,h0km,mbtmp2.7/3, ML2.0/3,Error ellipse: s-maj=38.3km s-min=25.8km az=32.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.59**	**280**	I		08 04 40.0	
	baz=92,slow=343,SNR=3.4						
ZALV	**Zalesovo Beam**	**3.59**	**280**	Pn	Pn	07 44 04.1	+1.7
	0.2nm,0.3s,baz=95,slow=16,SNR=1.9						
ZALV				Sn	Sn	07 44 48.0	+2.5
	0.1nm,0.3s,baz=101,slow=22,SNR=2.4						
ZALV				Lg	Lg	07 44 59.4	
	0.7nm,0.3s,baz=91,slow=28,SNR=6.9						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**8.08**	**254**	Pn	Pn	07 45 04.2	+0.1
	baz=66,slow=15,SNR=4.6						
KURBB				Sn	Sn	07 46 33.8	-2.3
	baz=67,slow=26,SNR=2.3						
KURBB				Lg	Lg	07 47 22.6	
	baz=63,slow=33,SNR=3.4						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**8.62**	**223**	Pn	Pn	07 45 11.8	+0.2
	0.1nm,0.3s,baz=36,slow=13,SNR=2.2						
MKAR				Sn	Sn	07 46 44.5	-5.0
	baz=36,slow=24,SNR=2.5						
	0.4nm,0.6s						

WEL 19 07:49:43.6±1.5,41.5S±4.×17.6E±.,h13km±8km,M1.5/6, ML1.9/7,MLv1.5/6,Error ellipse: s-maj=0.0km s-min=0.0km az=117.9,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRWZ	**Traveller**	**0.07**	**195**	P	Pg	07 49 46.8	+0.5
TRWZ				S	Sg	07 49 49.2	+1.0
PAWZ	**Paruwai Farm**	**0.22**	**257**	P	Pb	07 49 49.3	-0.1
PAWZ				S	Sb	07 49 54.0	+0.6
MTW	**Mount Morrison**	**0.24**	**318**	P	Pb	07 49 49.5	-0.2
MTW				S	Sb	07 49 54.2	+0.5
TMWZ	**Te Maipa**	**0.26**	**31**	P	Pb	07 49 50.3	+0.1
TMWZ				S	Sb	07 49 55.6	+1.0
MSWZ	**Moikau Station**	**0.36**	**257**	P	Pb	07 49 51.7	-0.1
PLWZ	**Palliser**	**0.42**	**235**	P	Pb	07 49 52.7	-0.1
PLWZ				S	Sb	07 50 00.5	+1.5
CAW	**Cannon Point**	**0.54**	**295**	P	Pb	07 49 55.1	+0.3
THZ	**Tophouse**	**2.15**	**258**	P	Pn	07 50 17.1	-2.0
MRNZ	**Matariki Terra**	**2.22**	**267**	P	Pn	07 50 18.2	-1.9

WEL 19 07:50:03.6±0.4,43.3S±3.×17.3E±.,h5km,M3.0/19,ML3.2/8, MLv3.0/19,Error ellipse: s-maj=0.0km s-min=0.0km az=142.5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**50**	P	Pg	07 50 06.2	-0.3
KHZ				S	Sg	07 50 08.4	+0.2
GVZ	**Greta Valley S**	**0.53**	**210**	P	Pg	07 50 14.3	+0.5
GVZ				S	Sb	07 50 22.8	-0.5
THZ	**Tophouse**	**0.83**	**334**	P	Pg	07 50 19.4	0.0
AMCZ	**Amberley**	**0.86**	**219**	P	Pg	07 50 20.4	+0.3
LTZ	**Lake Taylor**	**0.87**	**251**	P	Pg	07 50 20.3	+0.1
BSWZ	**Blackbirch Sta**	**0.87**	**25**	P	Pb	07 50 21.3	+0.2
OKCZ	**Okains Bay**	**1.24**	**191**	P	Pg	07 50 25.4	-1.9
OXZ	**Oxford**	**1.29**	**230**	P	Pn	07 50 26.4	-1.8
NNZ	**Nelson**	**1.29**	**360**	P	Pb	07 50 28.6	+0.3
MQZ	**McQueen's Vall**	**1.31**	**204**	P	Pn	07 50 25.4	-3.1
DSZ	**Denniston Nort**	**1.41**	**302**	P	Pn	07 50 29.2	-0.7
AKCZ	**Akaroa Harbour**	**1.41**	**194**	P	Pn	07 50 27.2	-2.6
INZ	**Inchbonnie**	**1.45**	**261**	P	Pn	07 50 29.5	-1.0
RACZ	**Rakaia**	**1.52**	**217**	P	Pn	07 50 29.0	-2.5
MHCZ	**Mount Hutt**	**1.68**	**232**	P	Pn	07 50 31.5	-2.1
WACZ	**Wakanui South**	**1.83**	**218**	P	Pn	07 50 33.1	-2.5
WVZ	**Waitaha Valley**	**2.03**	**253**	P	Pn	07 50 37.8	-0.7
RPZ	**Rata Peaks**	**2.09**	**234**	P	Pn	07 50 37.3	-2.2
ARCZ	**Arundel**	**2.16**	**228**	P	Pn	07 50 38.2	-2.1
GCSZ	**Gaunt Creek Bo**	**2.39**	**249**	P	Pn	07 50 42.9	-0.5
TMZ	**Timaru**	**2.55**	**222**	P	Pn	07 50 43.5	-2.2
FOZ	**Fox Glacier**	**2.81**	**247**	P	Pn	07 50 49.1	-0.1
LBZ	**Lake Benmore**	**3.00**	**230**	P	Pn	07 50 50.1	-1.6
ODZ	**

BSWZ	Blackbirch Sta	0.40	333	P	Pg	08 08 43.1	-0.8
BSWZ				S	Sg	08 08 47.5	-1.9
KHZ	Kahutara	0.56	231	P	Pn	08 08 48.8	-0.2
KHZ	Kahutara	0.56	231	P	Pn	08 08 48.7	-0.2
KHZ				S	Sn	08 08 57.4	-0.4
TUWZ	Tuamarina	0.65	348	P	Pg	08 08 48.2	-0.4
TUWZ				S	Sg	08 08 56.1	-1.2
TCW	Tory Channel	0.86	8	P	Pg	08 08 52.4	-0.2
SNZO	South Karori	0.87	30	P	Pn	08 08 54.0	+0.7
WEL	Wellington	0.92	32	P	Pn	08 08 55.0	+1.0
THZ	Tophouse	0.95	288	P	Pb	08 08 53.6	-0.3
PLWZ	Palliser	0.98	60	P	Pn	08 08 56.0	+1.1
NNZ	Nelson	1.01	327	P	Pb	08 08 54.1	-0.8
MSWZ	Moikau Station	1.07	53	P	Pg	08 08 56.9	+0.4
CAW	Cannon Point	1.19	37	P	Pg	08 08 58.7	-0.2
PAWZ	Paruwai Farm	1.20	55	P	Pg	08 08 58.5	+0.5
GVZ	Greta Valley S	1.21	221	P	Pg	08 08 59.3	+0.2
MRNZ	Matariki Terra	1.22	303	P	Pb	08 08 58.3	-0.1
DUWZ	D'Urville Isla	1.27	353	P	Pb	08 08 59.0	-0.4
KIW	Kapiti Island	1.34	27	P	Pb	08 09 00.8	+0.3
TKNZ	Takaka Hill	1.35	320	P	Pn	08 09 00.0	+0.1
TRWZ	Traveller	1.35	61	P	Pb	08 09 00.7	0.0
MTW	Mount Morrison	1.38	49	P	Pb	08 09 00.8	-0.3
OGWZ	Otaki Gorge	1.48	33	P	Pb	08 09 02.5	-0.3
LTZ	Lake Taylor	1.54	242	P	Pb	08 09 03.9	-0.1
AMCZ	Amberley	1.55	224	P	Pb	08 09 03.9	-0.2
HOWZ	Holdsworth Sta	1.57	42	P	Pn	08 09 03.4	+0.5
TMWZ	Te Maipa	1.64	55	P	Pn	08 09 04.2	+0.3
QRZ	Quartz Range	1.72	316	P	Pb	08 09 06.6	-0.4
QRZ	Quartz Range	1.72	316	P	Pb	08 09 06.4	-0.6
DSZ	Denniston Nort	1.76	280	P	Pb	08 09 07.3	-0.3
MRZ	Mangatainoka R	1.78	39	P	Pn	08 09 06.4	+0.5
OKCZ	Okains Bay	1.83	205	P	Pn	08 09 07.4	+0.9
MQZ	McQueen's Vall	1.96	213	P	Pn	08 09 08.3	0.0
OXZ	Oxford	1.98	230	P	Pn	08 09 09.0	+0.4
AKCZ	Akaroa Harbour	2.01	206	P	Pn	08 09 09.9	+0.9
PRWZ	Pori Road	2.06	43	P	Pn	08 09 10.0	+0.4
OHWZ	Ohakea	2.07	26	P	Pb	08 09 11.9	-0.9
POWZ	Post Office Ro	2.08	37	P	Pb	08 09 10.4	+0.5
INZ	Inchbonnie	2.09	251	P	Pn	08 09 11.5	+1.4
RACZ	Rakaia	2.21	221	P	Pn	08 09 12.0	+0.3
WAZ	Wanganui	2.40	16	P	Pb	08 09 17.0	-1.6
TSZ	Takapari Road	2.44	35	P	Pn	08 09 15.2	+0.2
WACZ	Wakanui South	2.51	221	P	Pn	08 09 16.4	+0.6
LREZ	Lake Rotokare	2.61	5	P	Pb	08 09 22.5	+0.4
NMEZ	Namu Road	2.66	356	P	Pb	08 09 22.9	0.0
WPHZ	Waipukurau	2.66	42	P	Pn	08 09 19.2	+1.3
PNHZ	Pukenui	2.67	37	P	Pn	08 09 17.9	-0.1
WVZ	Waitaha Valley	2.69	247	P	Pn	08 09 19.7	+1.4
KHEZ	Kahui Hut	2.77	358	P	Pb	08 09 23.5	-1.2
KHEZ	Kahui Hut	2.77	358	P	Pb	08 09 23.5	-1.4
RPZ	Rata Peaks	2.79	233	P	Pn	08 09 20.4	+0.7
RPZ	Rata Peaks	2.79	233	P	Pn	08 09 20.4	+0.7
NEZ	North Egmont	2.79	360	P	Pb	08 09 24.2	-1.1
NBEZ	Newall Road No	2.80	356	P	Pb	08 09 24.2	-1.2
ARCZ	Arundel	2.86	228	P	Pn	08 09 21.6	+0.9
PKE	Pukeiti	2.87	358	P	Pb	08 09 25.2	-1.5
PXZ	Pawanui	2.91	46	P	Pn	08 09 22.8	+1.5
PKVZ	Pokaka	2.93	19	P	Pn	08 09 23.7	+2.0
MOVZ	Moawhango	2.93	26	P	Pn	08 09 22.5	+0.8
WNVZ	Wahianoa	2.96	23	P	Pn	08 09 23.7	+1.6
TRVZ	Turoa	2.97	22	P	Pn	08 09 24.2	+1.8
VRZ	Vera Road	2.98	10	P	Pn	08 09 24.8	+2.6
MHEZ	Mangahewa	2.99	3	P	Pb	08 09 27.9	-0.7
DRZ	Dome Shelter	3.00	22	P	Pb	08 09 28.4	-0.6
WHVZ	Whangaehu Hut	3.00	22	P	Pn	08 09 24.3	+1.6
FWVZ	Far West T-bar	3.01	22	P	Pn	08 09 24.9	+1.9
TUVZ	Tukino	3.03	23	P	Pn	08 09 24.6	+1.5
GCSZ	Gaunt Creek Bo	3.06	245	P	Pn	08 09 25.1	+1.6
KAHZ	Kahuranaki	3.08	44	P	Pn	08 09 22.9	-0.9
NGZ	Ngauruhoe	3.10	22	P	Pn	08 09 25.7	+1.6
OTVZ	Oturere	3.13	23	P	Pb	08 09 28.8	-2.3
NNVZ	North Ngauruho	3.15	22	P	Pn	08 09 25.3	+0.6
WTVZ	West Tongariro	3.15	21	P	Pn	08 09 26.7	+1.9
ETVZ	East Tongariro	3.17	23	P	Pn	08 09 26.7	+1.6
TMVZ	Te Maari	3.19	23	P	Pn	08 09 26.6	+1.3
KRVZ	Karewarewa	3.19	22	P	Pb	08 09 33.1	+1.1
TMZ	Timaru	3.25	223	P	Pn	08 09 26.5	+0.5
BKZ	Black Stump Fm	3.42	33	P	Pb	08 09 32.8	-3.1
BKZ	Black Stump Fm	3.42	33	P	Pn	08 09 27.7	-0.7
FOZ	Fox Glacier	3.49	244	P	Pn	08 09 31.0	+1.8
HIZ	Hauiti	3.59	9	P	Pn	08 09 33.4	+2.7
HIZ	Hauiti	3.59	9	P	Pn	08 09 33.1	+2.3
NMHZ	Naumai	3.60	35	P	Pn	08 09 30.6	-0.4
LBZ	Lake Benmore	3.69	230	P	Pn	08 09 32.5	+0.7
MTHZ	Maungataniwha	3.82	34	P	Pn	08 09 34.1	+0.1
TLZ	Tolley Road	3.89	17	P	Pb	08 09 40.3	-3.6
ODZ	Otahua Downs	3.90	219	P	Pn	08 09 35.3	+0.3
ODZ	Otahua Downs	3.90	219	P	Pn	08 09 35.1	+0.1
JCZ	Jackson Bay	4.39	241	P	Pn	08 09 43.3	+1.5
JCZ	Jackson Bay	4.39	241	P	Pn	08 09 43.1	+1.3
URZ	Urewera	4.44	32	P	Pn	08 09 42.8	+0.4
URZ	Urewera	4.44	32	P	Pn	08 09 41.8	-0.5
TOZ	Tahuroa Road	4.46	14	P	Pn	08 09 44.1	+1.5
HHSZ	Highcliff Hill	4.58	212	P	Pn	08 09 45.3	+1.0
WKZ	Wanaka	4.63	232	P	Pn	08 09 45.2	+0.2
EAZ	Earnscleugh	4.71	226	P	Pn	08 09 46.4	+0.3
AWAZ	Awhitu Peninsu	5.01	5	P	Pn	08 09 53.2	+3.0
MKAZ	Moumakai	5.02	10	P	Pn	08 09 51.7	+1.4
ETAZ	East Tamaki Re	5.14	7	P	Pn	08 09 54.1	+2.0
RVAZ	Riverhead Bore	5.30	4	P	Pn	08 09 58.0	+3.9
MBAZ	Motutapu North	5.33	7	P	Pn	08 09 57.9	+3.4
SYZ	Scrubby Hill	5.72	217	P	Pn	08 10 01.7	+1.8
SYZ	Scrubby Hill	5.72	217	P	Pn	08 10 01.5	+1.6
OUZ	Omahuta	6.85	356	P	Pn	08 10 19.0	+3.6
OUZ	Omahuta	6.85	356	P	Pn	08 10 19.5	+4.0
CTZ	Chatham Island	7.00	107	P	Pn	08 10 18.5	+0.9
CTZ	Chatham Island	7.00	107	P	Pn	08 10 18.3	+0.8
ASAR	Alice Springs	38.02	286	P	P	08 15 52.6	-0.6
	0.5nm,0.5s,baz=129,slow=7.3,SNR=19 0.5nm,0.5s						
WRA	Warramunga Arr	40.12	291	P	P	08 16 09.8	-1.0
	0.5nm,0.4s,baz=128,slow=8.3,SNR=8.4 0.5nm,0.4s						
ARCES	ARCESS Array B	148.04	340	PKPbc	PKPdf	08 28 17.1	+1.2
	3.6nm,1.1s,baz=39,slow=5.9,SNR=3.5						
TORD	Torodi Ar. Bea	150.44	195	PKPbc	PKiKP	08 28 28.5	+1.0
	0.6nm,0.4s,baz=126,slow=1.2,SNR=5.4						
FINES	FINESS Array B	152.74	326	PKPbc	PKPbc	08 28 30.3	-0.3
	1.5nm,0.7s,baz=57,slow=5.1,SNR=4.7						

IDC ***19*** *08:18:29.0±3.9, 44°.36N×149°.53E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=114.9km s-min=37.2km az=1.0*

SKHL ***19*** *08:18:30.2±0.1, 44°.00N×149°.70E, h69km±4km, mb4.5/6*

JMA ***19*** *08:18:31.6±0.8, 44°.N±3°×14°.9E±°, h30km, MV3.9/15, SE OFF ETOROFU*

ISC 19 08:18:32.4±1.2, 43°.91N±0°.08×149°.53E±0°.09, h38km, n28, σ1°44/35, mb4.0/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.78	319	eP		Pn	08 18 58.6	-1.9
KUR				AMB	AMB	AMB	08 19 02.7	
	90nm,0.3s							
KUR				AMB	AMB	AMB	08 19 02.7	
	100nm,0.3s							
KUR				AMB	AMB	AMB	08 19 02.7	
	160nm,0.3s							
KUR				eS		Sn	08 19 20.0	-1.8
KUR				A	A	A	08 19 28.9	
	220nm,0.5s							
KUR				A	A	A	08 19 28.9	
	520nm,0.5s							
YUK	Yuzh-Kuril'sk	2.65	274	eP		Pn	08 19 12.2	-0.3
YUK				AMB	AMB	AMB	08 19 12.5	
	70nm,0.4s							
YUK				eS		Sn	08 19 43.1	-0.3
YUK				A	A	A	08 19 47.5	
	130nm,0.5s							
YUK				A	A	A	08 19 47.5	
	270nm,0.5s							
NEM2	Nemuro 2	2.80	260	eP		Pn	08 19 14.8	+0.2
NEM2				eS		Sn	08 19 46.6	-0.5
NMR	Nemuro--Hokkai	2.81	260	eP		Pn	08 19 15.0	+0.3
NMR				AMB	AMB	AMB	08 19 15.4	
	30nm,0.2s							
NMR				eS		Sn	08 19 46.7	-0.6
NMR				A	A	A	08 19 49.1	
	100nm,0.3s							
NMR				A	A	A	08 19 49.1	
	70nm,0.3s							
JRA	Rausu	3.18	272	eP		Pn	08 19 21.1	+1.3
JNK	Nakash	3.50	266	eP		Pn	08 19 25.4	+1.2
JNK				eS		Sn	08 20 04.6	+0.3
AKK	Akkeshi	3.53	257	eP		Pn	08 19 25.2	+0.6
AKK				AMB	AMB	AMB	08 19 29.7	
	20nm,0.2s							
AKK				eS		Sn	08 20 05.5	+0.5
AKK				A	A	A	08 20 10.5	
	90nm,0.4s							
AKK				A	A	A	08 20 10.5	
	120nm,0.4s							
JAK	Akkeshi	3.63	257	eP		Pn	08 19 26.7	+0.6
JAK				eS		Sn	08 20 07.4	-0.2
JTKR	Abashiri--Toko	4.06	273	eP		Pn	08 19 33.3	+1.4
JAR	Ashorobuto	4.23	264	eP		Pn	08 19 35.5	+1.2
JAR				eS		Sn	08 20 22.9	+0.7
JOB	Onbets	4.27	258	eP		Pn	08 19 36.5	+1.7
JOB				eS		Sn	08 20 23.2	0.0
JCH	Churui	4.69	256	eP		Pn	08 19 41.6	+1.1
JCH				eS		Sn	08 20 32.9	-0.7
JKK2	Kamakawa 2	4.90	272	eP		Pn	08 19 43.7	+0.2
JNBK	Urakawa-nobuka	5.22	254	eP		Pn	08 19 48.0	+0.2
JNBK				eS		Sn	08 20 44.3	-2.5
JANG	Nango	6.92	242	eP		Pn	08 20 10.9	-0.3
JANG				eS		Sn	08 21 24.9	-3.8
JTH	Tanohata	6.96	238	eP		Pn	08 20 11.3	-0.4
JTH				eS		Sn	08 21 24.8	-4.7
H11N2	WAKE ISLAND Hy	28.15	143	T	T		08 55 33.2	
	baz=334,slow=76,SNR=6.4							
H11N1	WAKE ISLAND Hy	28.16	143	T	T		08 55 31.4	
	baz=334,slow=76,SNR=5.5							
H11N3	WAKE ISLAND Hy	28.17	143	T	T		08 55 38.2	
	baz=334,slow=76,SNR=7.6							
H11S1	WAKE ISLAND Hy	29.15	145	T	T		08 56 48.7	
	baz=335,slow=76,SNR=8.1							
H11S3	WAKE ISLAND Hy	29.16	145	T	T		08 56 49.2	
	baz=335,slow=76,SNR=3.6							
H11S2	WAKE ISLAND Hy	29.17	145	T	T		08 56 50.0	
	baz=335,slow=76,SNR=6.8							
SONM	Songino Array	30.00	293	P	P		08 24 37.9	+0.6
	0.8nm,0.9s,baz=86,slow=7.2,SNR=2.5 0.8nm,0.9s							
MKAR	Makanchi Array	46.03	298	P	P		08 26 52.3	+0.3
	1.9nm,0.8s,baz=74,slow=9.0,SNR=11 1.9nm,0.8s							
FINES	FINESS Array B	65.50	334	P	P		08 29 10.9	-0.3
	1.6nm,0.5s,baz=37,slow=7.1,SNR=11 1.6nm,0.5s							
NB2	NORSAR Subarra	70.06	340	P	P		08 29 39.6	-0.4
	comp=Z,0.9nm,0.6s,baz=30,slow=6.5							
NOA	NORSAR Array B	70.06	340	P	P		08 29 39.9	-0.1
	comp=Z,1.6nm,0.7s,baz=31,slow=6.2,SNR=6.9 comp=Z,1.6nm,0.7s							
TXAR	Lajitas Array	81.12	58	P	P		08 30 45.2	+1.2
	comp=Z,0.3nm,0.6s,baz=324,slow=4.5,SNR=2.7 comp=Z,0.3nm,0.6s							

WEL 19 08:31:10.4±0.6, 42°S±3°×17°4E±°, h5km, M2.6/15, ML2.9/12, MLv2.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=116.8, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.30	32	P		Pg	08 31 17.0	+0.8
BSWZ	Blackbirch Sta	0.30	342	P		Pg	08 31 16.6	+0.3
BSWZ				S		Sg	08 31 20.8	+0.5
KHZ	Kahutara	0.54	220	P		Pg	08 31 20.7	0.0
TUWZ	Tuamarina	0.58	356	P		Pg	08 31 21.6	+0.1
TCW	Tory Channel	0.82	15	P		Pg	08 31 25.7	-0.4
THZ	Tophouse	0.85	286	P		Pg	08 31 27.0	+0.2
NNZ	Nelson	0.92	329	P		Pg	08 31 27.6	-0.3
MRNZ	Matariki Terra	1.11	303	P		Pg	08 31 31.8	+0.1
GVZ	Greta Valley S	1.20	216	P		Pg	08 31 33.0	-0.4
DUWZ	D'Urville Isla	1.20	357	P		Pg	08 31 32.7	-0.7
OGWZ	Otaki Gorge	1.48	37	P		Pn	08 31 36.4	-1.2
LTZ	Lake Taylor	1.50	238	P		Pn	08 31 37.2	-0.8
DSZ	Denniston Nort	1.66	278	P		Pb	08 31 41.1	-0.4
OKCZ	Okains Bay	1.85	202	P		Pn	08 31 41.1	-1.7
MQZ	McQueen's Vall	1.97	210	P		Pn	08 31 42.1	-2.2
INZ	Inchbonnie	2.03	248	P		Pn	08 31 44.9	-0.3
RACZ	Rakaia	2.20	218	P		Pn	08 31 45.4	-2.1
MHCZ	Mount Hutt	2.35	229	P		Pn	08 31 47.7	-2.0
WACZ	Wakanui South	2.50	219	P		Pn	08 31 49.8	-1.9
ARCZ	Arundel	2.84	226	P		Pn	08 31 54.4	-2.0

WEL 19 08:31:41.6±1.7, 40°S±11°×17°8E±°, h33km, M2.9/18, ML3.1/13, MLv2.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=139.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CKHZ	Cape Kidnapper	1.14	303	P		Pb	08 32 02.3	-0.4
CKHZ	Cape Kidnapper	1.14	303	P		Pb	08 32 02.2	-0.5
PXZ	Pawanui	1.15	282	P		Pb	08 32 02.2	-0.6
PXZ	Pawanui	1.15	282	P		Pb	08 32 02.3	-0.5
PXZ				S		Sb	08 32 17.2	-0.2
MHGZ	Mahia Peninsul	1.17	344	P		Pn	08 32 01.1	-0.6
KAHZ	Kahuranaki	1.21	293	P		Pn	08 32 02.4	+0.2
KAHZ	Kahuranaki	1.21	293	P		Pn	08 32 02.2	0.0
PRHZ	Porangahau	1.29	270	P		Pn	08 32 03.8	+0.6
PRHZ				S		Sn	08 32 18.9	-0.5
KNZ	Kokohu	1.35	338	P		Pn	08 32 03.5	-0.6
KNZ				S		Sn	08 32 21.8	+0.8
ANWZ	Angora Road	1.42	262	S		Sn	08 32 21.7	-0.8
ARHZ	Aropaoanui	1.44	315	P		Pn	08 32 06.4	+1.1
WHHZ	Waihua	1.47	325	P		Pn	08 32 06.0	+0.3
MCHZ	McNeill Hill	1.50	303	P		Pn	08 32 07.5	+1.3
RIGZ	Rimuhau	1.63	345	P		Pn	08 32 07.6	-0.4
NMHZ	Naumai	1.66	315	P		Pn	08 32 09.1	+0.6
NMHZ	Naumai	1.66	315	P		Pn	08 32 08.7	+0.3
RAHZ	Arahi	1.67	325	P		Pn	08 32 08.4	0.0
PNHZ	Pukenui	1.67	282	P		Pn	08 32 08.8	+0.4
BKZ	Black Stump Fm	1.80	308	P		Pn	08 32 10.4	+0.1
CNGZ	Carnagh Static	1.80	357	P		Pn	08 32 09.9	-0.4
MTHZ	Maungataniwha	1.83	321	P		Pn	08 32 10.6	-0.2
MTHZ	Maungataniwha	1.83	321	P		Pn	08 32 10.4	-0.4
MWZ	Matawai	2.04	342	P		Pn	08 32 12.7	-0.9
MRHZ	Matea Rd	2.06	314	P		Pn	08 32 15.4	+1.5
MUGZ	Murupara	2.17	326	P		Pn	08 32 15.4	+0.1
URZ	Urewera	2.23	335	P		Pn	08 32 16.0	-0.2
MTW	Mount Morrison	2.31	247	P		Pn	08 32 13.3	-4.0
RUGZ	Raukumara Rang	2.37	348	P		Pn	08 32 16.7	-1.4
KRVZ	Karewarewa	2.38	299	P		Pn	08 32 16.5	-1.9
WMGZ	Waiomatatini S	2.46	2	P		Pn	08 32 17.7	-1.7
TARZ	Mount Tarawera	2.48	325	P		Pn	08 32 20.9	+1.1
HAZ	Te Kaha	2.56	350	P		Pn	08 32 19.8	-0.9
OPRZ	Ohinepanea	2.80	330	P		Pn	08 32 24.4	+0.5

WEL 19 08:32:20.7±0.4, 42°S±3°×17°4E±°, h9km±3km, M3.3/32, ML3.5/19, MLv3.3/32, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.27	337	P		Pg	08 32 26.6	+0.4
BSWZ				S		Sg	08 32 31.0	+1.2
TUWZ	Tuamarina	0.54	354	P		Pg	08 32 31.6	+0.5
KHZ	Kahutara	0.57	218	P		Pg	08 32 32.4	+0.6
TCW	Tory Channel	0.78	14	P		Pg	08 32 35.8	+0.1
THZ	Tophouse	0.86	283	P		Pb	08 32 37.1	-0.1
WEL	Wellington	0.88	40	P		Pb	08 32 38.7	+0.5
NNZ	Nelson	0.89	327	P		Pg	08 32 37.6	-0.2
PLWZ	Palliser	1.01	67	P		Pn	08 32 39.8	-0.2
MSWZ	Moikau Station	1.07	60	P		Pg	08 32 40.8	-0.5
MRNZ	Matariki Terra	1.10	301	P		Pg	08 32 41.8	0.0
CAW	Cannon Point	1.16	43	P		Pb	08 32 42.5	-0.5
DUWZ	D'Urville Isla	1.17	356	P		Pb	08 32 42.6	-0.4
PAWZ	Paruwai Farm	1.21	62	P		Pb	08 32 42.5	-1.3
TKNZ	Takaka Hill	1.23	319	P		Pb	08 32 43.8	-0.3
GVZ	Greta Valley S	1.24	216	P		Pn	08 32 42.2	-2.1
KIW	Kapiti Island	1.29	32	P		Pn	08 32 44.9	-0.1
OGWZ	Otaki Gorge	1.44	37	P		Pn	08 32 46.3	-0.7
LTZ	Lake Taylor	1.53	237	P		Pn	08 32 47.5	-0.8
AMCZ	Amberley	1.58	219	P		Pn	08 32 47.5	-1.4
QRZ	Quartz Range	1.60	315	P		Pb	08 32 50.1	-0.3
DSZ	Denniston Nort	1.67	277	P		Pn	08 32 50.9	+0.7
MRZ	Mangatainoka R	1.76	43	P		Pn	08 32 50.8	-0.5
OKCZ	Okains Bay	1.89	202	P		Pn	08 32 51.2	-2.1
OXZ	Oxford	2.00	226	P		Pn	08 32 52.7	-2.0
MQZ	McQueen's Vall	2.01	210	P		Pn	08 32 51.9	-2.9
INZ	Inchbonnie	2.05	247	P		Pn	08 32 55.2	-0.3
AKCZ	Akaroa Harbour	2.07	203	P		Pn	08 32 53.6	-2.1
RACZ	Rakaia	2.24	218	P		Pn	08 32 55.7	-2.3
MHCZ	Mount Hutt	2.39	228	P		Pn	08 32 58.0	-2.1
LREZ	Lake Rotokare	2.52	7	P		Pb	08 33 06.5	+0.3
WACZ	Wakanui South	2.54	218	P		Pn	08 32 59.9	-2.3
WVZ	Waitaha Valley	2.67	244	P		Pn	08 33 03.5	-0.3
KHEZ	Kahui Hut	2.67	360	P		Pb	08 33 08.1	-0.6
NBEZ	Newall Road No	2.70	358	P		Pb	08 33 08.9	-0.2
RPZ	Rata Peaks	2.79	230	P		Pn	08 33 04.0	-1.6
ARCZ	Arundel	2.88	226	P		Pn	08 33 04.9	-1.9
VRZ	Vera Road	2.89	11	P		Pb	08 33 11.0	-1.5
GCSZ	Gaunt Creek Bo	3.04	242	P		Pn	08 33 09.5	+0.5
TMZ	Timaru	3.27	221	P		Pn	08 33 10.1	-2.1
HIZ	Hauiti	3.51	11	P		Pn	08 33 19.2	+3.8
ODZ	Otahua Downs	3.94	217	P		Pn	08 33 18.8	-2.5
JCZ	Jackson Bay	4.38	239	P		Pn	08 33 26.8	-0.7

WEL 19 08:51:30.8±0.3, 42°S±3°×17°4E±°, h9km±2km, M3.5/49, ML3.7/24, MLv3.5/49, Error ellipse: s-maj=0.0km s-min=0.0km az=147.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	202	P		Pg	08 51 33.5	+0.7
BSWZ	Blackbirch Sta	0.28	265	P		Pg	08 51 36.8	+0.5
BSWZ				S		Sb	08 51 41.5	-1.2
TUWZ	Tuamarina	0.35	319	P		Pg	08 51 38.3	+0.7
TCW	Tory Channel	0.48	3	P		Pg	08 51 40.6	+0.5
WEL	Wellington	0.57	44	P		Pb	08 51 42.5	-0.3
PLWZ	Palliser	0.77	81	P		Pb	08 51 46.6	+0.3
MSWZ	Moikau Station	0.80	70	P		Pb	08 51 47.0	+0.2
NNZ	Nelson	0.81	306	P		Pb	08 51 46.3	0.0
CAW	Cannon Point	0.85	47	P		Pb	08 51 47.5	-0.2
KHZ	Kahutara	0.90	216	P		Pb	08 51 48.5	0.0
DUWZ	D'Urville Isla	0.92	345	P		Pg	08 51 48.3	-0.1
PAWZ	Paruwai Farm	0.94	71	P		Pb	08 51 49.1	-0.1
KIW	Kapiti Island	0.97	31	P		Pg	08 51 49.4	0.0
THZ	Tophouse	1.00	266	P		Pg	08 51 49.9	-0.1
MTW	Mount Morrison	1.08	61	P		Pb	08 51 51.1	-0.5
OGWZ	Otaki Gorge	1.12	39	P		Pg	08 51 51.9	-0.3
TRWZ	Traveller	1.12	75	P		Pg	08 51 51.4	-0.9
MRNZ	Matariki Terra	1.15	284	P		Pg	08 51 52.9	0.0
TKNZ	Takaka Hill	1.17	304	P		Pb	08 51 52.8	-0.4
HOWZ	Holdsworth Sta	1.24	51	P		Pn	08 51 53.7	-0.6
TMWZ	Te Maipa	1.37	65	P		Pn	08 51 54.8	-1.2
MRZ	Mangatainoka R	1.44	45	P		Pn	08 51 56.4	-0.6
QRZ	Quartz Range	1.56	303	P		Pb	08 51 59.3	-0.4
GVZ	Greta Valley S	1.56	215	P		Pn	08 51 55.7	-3.0
PRWZ	Pori Road	1.73	50	P		Pn	08 52 00.5	-0.5
POWZ	Post Office Ro	1.74	42	P		Pn	08 52 00.9	-0.1
LTZ	Lake Taylor	1.83	233	P		Pn	08 52 01.5	-0.8
DSZ	Denniston Nort	1.83	268	P		Pn	08 52 03.1	+0.7
AMCZ	Amberley	1.90	218	P		Pn	08 52 01.6	-1.7
DVHZ	Dannevirke	2.01	47	P		Pg	08 52 10.4	+1.1
WAZ	Wanganui	2.02	16	P		Pg	08 52 08.9	-0.5
TSZ	Takapari Road	2.09	39	P		Pn	08 52 05.0	-0.7
OKCZ	Okains Bay	2.21	203	P		Pn	08 52 06.2	-2.4
LREZ	Lake Rotokare	2.23	3	P		Pb	08 52 11.1	-0.1
OXZ	Oxford	2.31	224	P		Pb	08 52 13.1	+0.6
PNHZ	Pukenui	2.31	41	P		Pn	08 52 08.3	-0.8
INZ	Inchbonnie	2.32	243	P		Pn	08 52

SAMP eS Sn 09 26 10.4 +4.4
SMPP San Manuel, Pa 3.00 188⇑ eP Pn 09 25 56.5 +1.9
BALP Baler 3.41 173⇑ eP Pn 09 26 02.5 +2.3
BALP eS Sn 09 26 43.0 +3.7
PCPH Palayan 3.56 180⇑ eP Pn 09 26 04.4 +2.2
PCPH eS Sn 09 26 56.1 +13
TWGBT Beinan 3.66 359 P Pn 09 26 03.6 -0.1
TWG Pinlang 3.66 359 Pn 09 26 03.2 -0.5
TWG Sn Sn 09 26 42.0 -3.6
TPUB Ta-pu 4.17 354 Pn Pn 09 26 09.9 -0.7
TPUB Ta-pu 4.17 354 P Pn 09 26 09.5 -1.1
YULB Yu-li 4.24 2 Pn 09 26 11.7 +0.1
YULB Yu-li 4.24 2 P Pn 09 26 11.5 -0.1
SSLB Suanglung 4.63 358 Pn Pn 09 26 16.6 -0.3
SSLB Suanglung 4.63 358 P Pn 09 26 16.9 -0.1
224nm,1.1s
MACP Maragondon, Ca 4.86 185⇑ eP Pn 09 26 22.8 +2.6
TGY Tagaytay City 5.01 182⇑ eP Pn 09 26 35.9 +14
TGY eS Sn 09 27 43.0 +24
LQP Lukban 5.01 175⇑ eP Pn 09 26 21.2 -1.2
NACB Ninganchiao 5.03 5 Pn 09 26 22.9 +0.5
NACB Ninganchiao 5.03 5 P Pn 09 26 22.4 -0.1
150nm,0.7s
LUBP Lubang 5.44 189⇑ eP Pn 09 26 32.9 +4.8
LUBP i S Sn 09 27 30.1 +0.7
YHNB Yeheng 5.51 2 Pn 09 26 29.9 +0.8
YHNB Yeheng 5.51 2 P Pn 09 26 30.7 +1.6
YOJ Yonaguni jima 5.58 18 Pn Pn 09 26 31.4 +1.3
YOJ Yonaguni jima 5.58 18 P Pn 09 26 32.3 +2.3
TATO Taipei 5.82 3 Pn Pn 09 26 33.1 -0.2
TATO Taipei 5.82 3 P Pn 09 26 37.4 +4.1
KNMB Chin-men Tao 5.87 335 Pn 09 26 31.6 -2.4
QZH Quanzhou 6.23 338⇑ iPn Pn 09 26 37.0 -2.0
QZH Sn Sn 09 27 42.8 -6.1
QZH smax smax
comp=N,120nm,0.4s
QZH smax smax
comp=E,120nm,0.4s
QZH LR LR
comp=N,670nm,13.8s
QZH LR LR
comp=E,440nm,13.1s
QZH LR LR
comp=Z,630nm,12.0s
JMJ Miyako jima 2 6.85 34 P Pn 09 26 49.9 +2.5
HKPS Hong Kong Po S 7.24 297 Pn Pn 09 26 50.6 -2.1
JOW Kunigami 10.10 39 Pn Pn 09 27 32.6 +0.6
5.7nm,0.3s,baz=135,slow=18,SNR=12
JOW Sn Sn 09 29 24.0 -0.1
1.0nm,0.3s,baz=150,slow=20,SNR=1.7
JOW Kunigami 10.10 39 P Pn 09 27 34.4 +2.4
QIZ Qiongzhong 10.66 271 Pn 09 27 37.1 -2.6
QIZ Qiongzhong 10.66 271 P Pn 09 27 37.3 -2.4
QIZ S Sn 09 29 35.3 -2.5
QIZ pmax pmax
comp=Z,34nm,0.6s
QIZ LR LR
comp=N,660nm,15.9s
QIZ LR LR
comp=E,630nm,23.1s
QIZ LR LR
comp=Z,750nm,18.3s
DAV Davao City (W) 12.76 160 LR LR 09 33 56.9
comp=Z,1μm,18.4s,baz=5.0,slow=43
WHN Wuhan 12.90 333 P Pn 09 28 09.0 -1.3
NJ2 Nanjing 13.02 351 eP P 09 28 24.4 +2.9
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 LR LR
comp=N,410nm,13.7s
NJ2 LR LR
comp=E,410nm,14.7s
NJ2 LR LR
comp=Z,660nm,17.5s
MYLDM Lahad Datu 14.11 191 Pn Pn 09 28 26.1 -0.7
MYLDM Lahad Datu 14.11 191 P P 09 28 31.2 -2.4
comp=Z,23nm,1.0s
GYA Guiyang 15.18 301⇑ iP Pn 09 28 41.6 +0.4
GYA pmax pmax
comp=Z,29nm,1.0s
GYA LR LR
comp=Z,730nm,13.2s
GYA LR LR
comp=Z,640nm,13.8s
GYA LR LR
comp=Z,1μm,13.6s
ENH Enshi 15.30 319 Pn 09 28 41.8 -0.9
JNU Nakatsue 16.44 30 Pn 09 28 56.4 -0.9
JNU IAmb IAmb 09 29 10.8
comp=Z,45nm,0.9s
LYN LuoYang 17.17 335 ⇑P P 09 29 08.1 +0.6
LYN PP sP 09 29 22.6 +1.1
LYN pmax pmax
comp=Z,10.0nm,1.0s
LYN pmax pmax
comp=Z,180nm,3.5s
LYN LR LR
comp=Z,430nm,17.7s
LYN LR LR
comp=Z,120nm,14.1s
LYN LR LR
comp=Z,390nm,21.1s
KMI Kunming 18.03 293 ⇑P P 09 29 17.8 +0.4
KMI sP sP 09 29 33.3 +1.7
KMI pmax pmax
comp=Z,17nm,1.1s
KMI pmax pmax
comp=Z,220nm,4.4s
KMI LR LR
comp=Z,420nm,12.4s
KMI LR LR
comp=Z,760nm,14.1s
KMI LR LR
comp=Z,900nm,14.4s
XAN Xi'an 18.39 326 ⇓P Pn 09 29 22.4 +1.0
XAN pP pwP 09 29 33.3 -0.7
XAN S S 09 32 49.3 +0.2
XAN pmax pmax
comp=Z,9.0nm,1.3s
XAN pmax pmax
comp=Z,220nm,8.8s
XAN LR LR
comp=Z,620nm,16.5s
XAN LR LR
comp=Z,340nm,16.5s
XAN LR LR
comp=Z,630nm,15.1s
GTOI Gorontalo 18.48 174 P Pn 09 29 24.5 +1.9
comp=Z,156nmcomp=Z,7.5nm,1.0s
SBUM Sibu 18.73 209 P P 09 29 24.3 -0.6
SBUM Sibu 18.73 209 P P 09 29 25.1 +0.2
comp=Z,11nm,1.5s
HNS HongShan 19.04 344 ⇑P Pn 09 29 31.3 +2.2
HNS pP pP 09 29 39.4 +2.1
HNS PP sP 09 29 49.4 +7.3
HNS pmax pmax
comp=Z,14nm,1.0s
HNS LR LR
comp=Z,240nm,15.3s
HNS LR LR
comp=Z,380nm,17.3s
HNS LR LR
comp=Z,510nm,17.3s
JHS Saijyo 19.05 32 P Pn 09 29 29.1 -0.2
KSAR Wonju Array Be 19.17 17 P P 09 29 29.1 -0.5
KSRS Korea Array 19.20 17 P P 09 29 29.4 -0.3
comp=Z,0.8nm,0.3s,baz=198,slow=11,SNR=29
KSRS LR LR 09 37 47.0
comp=Z,277nm,19.6s,baz=205,slow=40
comp=Z,5.5nm,0.6s
KS19 Wonju Array Si 19.23 16 P P 09 29 29.3 -0.8
PZH PanZhiHua 19.29 296 P Pn 09 29 33.3 +0.9
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
PHRA Phrae 19.78 272 P 09 29 35.3 -1.1
KSM Kuching 20.50 212 P P 09 29 43.4 -0.8
KSM Kuching 20.50 212 P P 09 29 43.6 -0.6
comp=Z,15nm,1.2s
JCJ Chichijima 20.91 64 LR LR 09 36 15.7
comp=Z,201nm,21.6s,baz=233,slow=32
CHTO Chiang Mai 20.97 273 P 09 29 47.8 -1.5
CMAR Chiang Mai Arr 21.00 272 P P 09 29 51.1 +1.4
comp=Z,2.3nm,0.6s,baz=71,slow=9.6,SNR=15

CMAR PcP PcP 09 33 56.5 +0.7
comp=Z,1.7nm,0.4s,baz=70,slow=0.3,SNR=9.7
CMAR LR LR 09 38 48.7
comp=Z,317nm,18.2s,baz=90,slow=39
comp=Z,2.3nm,0.6s
CMAR Chiang Mai Arr 21.00 272 P P 09 29 48.5 -1.2
BJI Beijing 21.26 349 P P 09 29 52.4 +0.2
BJI S S 09 33 47.3 +1.1
BJI pmax pmax
comp=Z,150nm,4.0s
BJI LR LR
comp=Z,390nm,17.7s
BJI LR LR
comp=Z,240nm,20.3s
BJI LR LR
comp=Z,370nm,18.2s
INU Inuyama 21.41 38 P P 09 29 55.3 +1.5
INU IAmb IAmb 09 30 06.3
comp=Z,47nm,0.9s
TNCH TengChong 21.73 290 eP P 09 29 58.3 +0.7
TNCH pP pP 09 30 08.4 +1.4
TNCH S S 09 33 50.3 -5.8
TNCH pmax pmax
comp=Z,83nm,0.4s
TNCH pmax pmax
comp=Z,210nm,4.2s
TNCH LR LR
comp=Z,710nm,17.1s
TNCH LR LR
comp=Z,990nm,15.3s
TNCH LR LR
comp=Z,830nm,17.1s
JGF Kuroka 21.79 38 P P 09 29 58.0 +0.1
JGF IAmb IAmb 09 30 08.7
comp=Z,34nm,0.9s
PMSI Majene 22.60 186 P P 09 30 08.5 +1.7
comp=Z,36nm,1.2s
LZH Lanzhou 22.73 322 eP P 09 30 10.3 +2.2
LZH pP pP 09 30 15.8 -1.8
LZH sP pwP 09 30 22.1 +0.8
LZH S S 09 34 14.9 +0.8
LZH sS Sn 09 34 22.5 -7.8
LZH SS SnSn 09 34 56.4 +10
LZH pmax pmax
comp=Z,16nm,1.0s
LZH LR LR
comp=Z,450nm,15.6s
LZH LR LR
comp=Z,360nm,15.7s
LZH LR LR
comp=Z,560nm,15.9s
MJAR Matsushiro Arr 22.94 37 P P 09 30 09.0 -1.2
comp=Z,2.8nm,0.7s,baz=220,slow=9.7,SNR=4.5
comp=Z,2.8nm,0.7s
HHC Hu-ho-hao-te 23.14 341 eP P 09 30 13.1 +0.9
HHC S S 09 34 21.8 +1.0
HHC SS SnSn 09 35 01.1 +4.6
HHC pmax pmax
comp=Z,44nm,0.8s
HHC pmax pmax
comp=Z,200nm,4.8s
HHC LR LR
comp=Z,860nm,14.6s
HHC LR LR
comp=Z,390nm,14.4s
HHC LR LR
comp=Z,1μm,15.2s
BTO Baotou 23.42 338 eP P 09 30 27.8 +13
BTO S Sn 09 34 36.5 -10
BTO LR LR
comp=N,1μm,18.8s
BTO LR LR
comp=E,910nm,20.8s
GUMO Guam 23.44 100 LR LR 09 37 18.8
comp=E,333nm,22.0s,baz=286,slow=32
KAPI Kappang 24.04 183 LR LR 09 40 18.6
comp=E,198nm,19.6s,baz=2.5,slow=38
XLT XiLinHaoTe 25.05 351 eP P 09 30 31.3 +1.4
XLT pP pP 09 30 40.4 +0.2
XLT sP pwP 09 30 44.1 0.0
XLT pmax pmax
comp=E,17nm,0.9s
JMM Marumori 25.35 39 P P 09 30 31.7 -0.9
JMM IAmb IAmb 09 30 41.7
comp=Z,29nm,0.9s
USRK Ussuriysk Ar. 26.60 18 P P 09 30 44.2 +0.3
comp=Z,5.5nm,0.7s,baz=198,slow=9.2,SNR=7.6
USRK LR LR 09 40 58.0
comp=Z,108nm,21.7s,baz=189,slow=36
comp=Z,5.5nm,0.7s
USRK Ussuriysk Ar. 26.60 18 P P 09 30 44.0 +0.1
BNX BinXian 27.03 10 ⇑P P 09 30 48.3 +0.5
BNX pmax pmax
comp=Z,7.0nm,0.9s
BNX pmax pmax
comp=Z,83nm,4.9s
JTM Tenmabayashi 27.52 34 P P 09 30 55.3 +3.1
BRDH Bariadhala 27.73 282 LR LR 09 43 48.6
comp=Z,537nm,18.6s,baz=93,slow=40
GOMU GeErMu 28.70 312 P P 09 31 06.1 +2.9
GOMU pP pP 09 31 09.6 -4.1
GOMU S S 09 35 56.0 +6.2
GOMU sS sS 09 36 09.5 +1.2
GOMU pmax pmax
comp=Z,4.0nm,0.6s
GOMU pmax pmax
comp=Z,57nm,7.2s
GOMU LR LR
comp=Z,270nm,16.7s
GOMU LR LR
comp=Z,380nm,15.7s
GOMU LR LR
comp=Z,480nm,18.2s
BATI Baumata 29.27 175 LR LR 09 43 48.2
comp=Z,221nm,21.3s,baz=335,slow=39
ASAJ Asahikawa 30.72 31 LR LR 09 44 05.4
comp=Z,118nm,21.1s,baz=254,slow=37
ULN Ulaanbaatar 30.86 341 P P 09 31 23.4 +1.5
comp=Z,40nm,1.7s
SONM Songino Array 31.03 341 P P 09 31 24.9 +1.4
comp=Z,2.9nm,0.8s,baz=163,slow=8.7,SNR=14
SONM LR LR 09 45 12.3
comp=Z,356nm,18.2s,baz=179,slow=39
comp=Z,2.9nm,0.8s
SONM Songino Array 31.03 341 P P 09 31 24.7 +1.3
KLR Kul'dur 31.22 13 P P 09 31 25.4 +0.5
comp=Z,6.9nm,0.8s,baz=233,slow=7.4,SNR=17
KLR PcP PcP 09 34 18.8 -0.1
comp=Z,0.5nm,0.2s,baz=324,slow=3.7,SNR=4.0
KLR LR LR 09 45 12.8
comp=Z,273nm,21.0s,baz=193,slow=39
comp=Z,6.9nm,0.8s
HEH HeiHe 31.45 8 eP P 09 31 27.3 +0.4
HEH pmax pmax
comp=Z,7.0nm,1.3s
WMQ Urumqi 37.25 319 eP P 09 32 20.5 +3.2
WMQ pP pP 09 32 24.9 -3.0
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ LR LR
comp=Z,290nm,18.1s
WMQ LR LR
comp=Z,400nm,14.1s
WMQ LR LR
comp=Z,150nm,15.1s
PMG Port Moresby 38.26 136 LR LR 09 47 32.1
comp=Z,58nm,20.5s,baz=312,slow=36
KRVT Keravat (AS076 38.32 124 LR LR 09 46 23.3
comp=Z,235nm,19.5s,baz=53,slow=34
WB0 Warramunga Arr 40.80 161 P P 09 32 43.3 -3.8
WRAB Tennant Creek 40.94 161 P P 09 32 44.9 -3.4
WRAB pP pP 09 32 54.1 -5.6
WRA Warramunga Arr 40.95 161 P P 09 32 44.8 -3.5
comp=Z,1.0nm,0.5s,baz=342,slow=9.1,SNR=25
WRA PcP PcP 09 34 47.7 -0.5
comp=Z,2.5nm,0.9s,baz=337,slow=3.4,SNR=7.2
comp=Z,1.0nm,0.5s
WB2 Warramunga Arr 40.95 161 P P 09 32 44.8 -3.5
PALK Pallekele 40.97 259 LR LR 09 49 46.1
comp=Z,184nm,19.2s,baz=161,slow=36
MK31 Makanchi Array 42.03 320 P P 09 32 55.3 -1.6
MKAR Makanchi Array 42.03 320 P P 09 32 58.8 +1.8
comp=Z,3.3nm,0.7s,baz=112,slow=10,SNR=23
MKAR PcP PcP 09 34 51.7 +0.2
comp=Z,3.0nm,0.8s,baz=117,slow=4.9,SNR=4.4
MKAR LR LR 09 51 29.5
comp=Z,117nm,20.6s,baz=91,slow=38

comp=Z,3.3nm,0.7s
MKAR Makanchi Array 42.03 320 P P 09 32 56.2 -0.7
MAKZ Makanchi 42.22 320 P P 09 32 57.0 -1.5
MAKZ IAmb IAmb 09 33 15.7
comp=Z,15nm,1.2s
MAKZ Makanchi 42.22 320 P P 09 33 00.4 +1.9
MAKZ pP pP 09 33 08.0 -1.2
TARG Taragay, Kyrgy 43.03 311 P P 09 33 04.2 -1.5
H11S3 WAKE ISLAND Hy 43.05 83 T T 10 18 50.9
baz=280,slow=75,SNR=106
H11S1 WAKE ISLAND Hy 43.06 83 T T 10 18 51.8
baz=280,slow=75,SNR=39
H11S2 WAKE ISLAND Hy 43.06 83 T T 10 19 00.8
baz=280,slow=75,SNR=43
H11N1 WAKE ISLAND Hy 43.07 81 T T 10 18 49.4
baz=277,slow=75,SNR=247
H11N2 WAKE ISLAND Hy 43.08 81 T T 10 18 49.1
baz=277,slow=75,SNR=121
H11N3 WAKE ISLAND Hy 43.09 81 T T 10 18 50.7
baz=277,slow=75,SNR=161
YAK Yakutsk 43.27 6 LR LR 09 52 58.7
comp=Z,122nm,19.9s,baz=91,slow=39
YAK Yakutsk 43.27 6 P P 09 33 06.2 -0.5
YAK IAmb IAmb 09 33 07.6
comp=Z,14nm,0.7s
KSH Kashi 43.75 308 P P 09 33 15.3 +4.1
KSH sP sP 09 33 28.8 +2.4
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH LR LR
comp=Z,180nm,13.7s
KSH LR LR
comp=Z,300nm,16.7s
KSH LR LR
comp=Z,450nm,17.9s
PEA0B Petropavlovsk- 44.14 31 P P 09 33 14.3 +0.5
PETK Petropavlovsk- 44.14 31 P P 09 33 13.7 -0.2
comp=Z,4.0nm,0.7s,baz=321,slow=0.3,SNR=7.7
PETK LR LR 09 52 31.3
comp=Z,69nm,19.8s,baz=227,slow=37
comp=Z,4.0nm,0.7s
AS31 Alice Springs 44.34 163 P P 09 33 15.2 -0.6
ASAR Alice Springs 44.34 163 P P 09 33 13.1 -2.7
comp=Z,1.1nm,0.4s,baz=342,slow=7.0,SNR=23
comp=Z,1.1nm,0.4s
ASAR Alice Springs 44.34 163 P P 09 33 15.7 -0.1
ZAA0 Zalesovo Array 44.50 330 P P 09 33 15.9 -0.8
ZALV Zalesovo Beam 44.50 330 P P 09 33 17.6 +0.9
comp=Z,2.6nm,0.7s,baz=107,slow=8.6,SNR=13
ZALV LR LR 09 53 01.4
comp=Z,232nm,19.0s,baz=118,slow=38
comp=Z,2.6nm,0.7s
ZALV Zalesovo Beam 44.50 330 P P 09 33 16.0 -0.7
PET Petropavlovsk 44.56 32 P P 09 33 16.6 -0.6
NIL Nilore 44.86 299 P P 09 33 19.4 -0.6
AAK Ala-Archa 45.65 311 LR LR 09 54 46.7
comp=Z,237nm,20.2s,baz=100,slow=39
AAK Ala-Archa 45.65 311 P P 09 33 26.1 -0.2
MA2 Magadan 45.68 21 LR LR 09 53 08.7
comp=Z,114nm,21.9s,baz=207,slow=37
KURK Kurchatov 46.00 323 P P 09 33 27.4 -1.2
KURK IAmb IAmb 09 33 44.9
comp=Z,15nm,1.1s
KURK Kurchatov 46.00 323 P P 09 33 29.8 +1.2
KURK pP pP 09 33 37.7 -1.6
KURBB Kurchatov Arra 46.00 323 P P 09 33 30.0 +1.3
comp=Z,4.4nm,0.7s,baz=121,slow=7.9,SNR=32
comp=Z,4.4nm,0.7s
CTA Charters Tower 46.12 146 LR LR 09 51 42.6
comp=Z,128nm,21.9s,baz=266,slow=35
HNR Honiara 47.66 123 LR LR 09 52 00.9
comp=Z,1μm,19.7s,baz=331,slow=34
BTK Batken 47.74 307 P P 09 33 41.8 -0.8
BTK IAmb IAmb 09 33 59.2
comp=Z,5.3nm,0.8s
GAR Garm 47.94 306 P P 09 33 43.5 -0.8
KBL Kabul 48.42 299 P P 09 33 47.3 -0.8
KBL IAmb IAmb 09 33 58.5
comp=Z,9.2nm,1.1s
KK31 Karatay Array 48.60 311 P P 09 33 48.7 -0.4
KK31 IAmb IAmb 09 33 51.6
comp=Z,6.1nm,1.0s
KKAR Karatay Array 48.60 311 P P 09 33 48.4 -0.7
KKAR IAmb IAmb 09 33 51.6
comp=Z,6.1nm,1.0s
CHGR Chuyangaron 48.79 305 P P 09 33 49.3 -1.4
CHGR IAmb IAmb 09 34 00.6
comp=Z,9.2nm,0.7s
BVAR Borovoye Array 51.59 323 P P 09 34 13.0 +1.4
comp=Z,3.7nm,0.8s,baz=110,slow=13,SNR=12
BVAR PcP PcP 09 35 24.9 -0.2
comp=Z,3.5nm,0.7s,baz=106,slow=4.8,SNR=6.9
BVAR LR LR 09 58 33.5
comp=Z,127nm,18.8s,baz=114,slow=39
comp=Z,3.7nm,0.8s
BRVK Borovoye 51.67 323 P P 09 34 11.4 -0.7
BRVK IAmb IAmb 09 34 14.6
comp=Z,6.6nm,0.8s
BRVK Borovoye 51.67 323 P P 09 34 13.6 +1.5
BRVK pP pP 09 34 21.5 -2.1
TIXI Tiksi 52.71 3 LR LR 09 59 39.8
comp=Z,112nm,18.1s,baz=28,slow=39
TIXI Tiksi 52.71 3 P P 09 34 19.0 -0.6
TIXI Tiksi 52.71 3 P P 09 34 19.0 -0.6
SHEM Shemya Is, Ala 52.78 38 LR LR 09 54 07.6
comp=Z,25nm,21.6s,baz=292,slow=33
BBOO Buckleboo 53.60 164 P P 09 34 25.6 -1.0
BBOO IAmb IAmb 09 34 46.6
comp=Z,12nm,0.8s
NRIK Noril'sk 54.25 346 P P 09 34 31.9 +1.1
comp=Z,2.0nm,0.7s,baz=126,slow=7.1,SNR=33
comp=Z,2.0nm,0.7s
NRIK Noril'sk 54.25 346 P P 09 34 31.2 +0.3
STKA Stephens Creek 54.39 159 P P 09 34 30.4 -2.0
comp=Z,1.6nm,0.8s,baz=12,slow=7.4,SNR=3.0
comp=Z,1.6nm,0.8s
BILL Bilibino 56.45 19 P P 09 34 47.0 +0.2
ABKAR Akbulak array 56.98 317 P P 09 34 52.1 +1.2
ABKAR IAmb IAmb 09 35 07.9
comp=Z,8.3nm,1.1s
GEYT Alibeck 57.39 303 P P 09 34 55.6 +1.6
comp=Z,1.0nm,0.4s,baz=215,slow=4.8,SNR=2.0
comp=Z,1.0nm,0.4s
WSAR Wadi Sarin 58.02 286 LR LR 10 03 01.9
comp=Z,52nm,18.9s,baz=136,slow=39
ARU Arti 59.13 325 LR LR 10 02 26.6
comp=Z,118nm,19.0s,baz=92,slow=38
ARU Arti 59.13 325 P P 09 35 06.2 +0.4
ARU Arti 59.13 325 P P 09 35 06.2 +0.4
DZM Mont Dzumac 60.34 131 LR LR 09 57 21.6
comp=Z,125nm,21.7s,baz=266,slow=32
DZM Mont Dzumac 60.34 131 eLR LR 09 53 07.3
comp=Z,189nm,21.9s
KIRV Kirov 64.34 327 LR LR 10 05 56.9
comp=Z,192nm,18.3s,baz=95,slow=38
BELG Belogornoye 65.03 320 LR LR 10 05 38.5
comp=Z,61nm,18.6s,baz=160,slow=37
MSVF Nonsavu 66.86 120 LR LR 10 00 18.3
comp=Z,86nm,20.9s,baz=175,slow=32
GNI Garni 67.67 306 LR LR 10 10 38.9
comp=Z,60nm,19.8s,baz=102,slow=40
KBZ Khabaz 68.63 310 LR LR 10 10 16.3
comp=Z,122nm,18.9s,baz=66,slow=39
KLMR Klimovskoe 69.40 329 eP P 09 36 10.0 -2.9
KLMR AMP 09 36 28.3
comp=Z,45nm,2.0s
KLMR LR LR 10 06 21.5
RAYN Ar Rayn 69.82 289 P P 09 36 15.9 -0.4
RAYN IAmb IAmb 09 36 17.4
comp=Z,8.2nm,0.9s
RAYN Ar Rayn 69.82 289 P P 09 36 16.3 0.0
TTA Tatalina 69.91 29 P P 09 36 16.8 +0.6
TTA IAmb IAmb 09 36 17.6
comp=Z,17nm,1.4s
GURO Guroymak-BITLI 69.96 305 P P 09 36 16.2 -0.8
O18K Koktuh Hills 70.50 32 P P 09 36 20.5 +0.8
J20K Nowinta River 70.67 28 IAmb IAmb 09 36 22.7
comp=Z,9.3nm,1.1s
IMAR Indian Mountai 70.72 26 P P 09 36 21.3 +0.3
H21K Melozitna Rive 71.13 26 IAmb IAmb 09 36 25.4
comp=Z,12nm,1.0s
I21K Tanana 71.52 26 IAmb IAmb 09 36 27.8
comp=Z,11nm,1.1s
CAST Castle Rocks 71.65 28 P P 09 36 27.4 +0.7
PPLA Purkeypile 71.66 29 P P 09 36 27.3 +0.4
PPLA IAmb IAmb 09 36 47.7

	comp=Z,18nm,1.4s						
OHAK	**Old Harbor**	**71.76**	**35**	P	**P**	**09 36 27.1**	**-0.3**
OHAK				IAmb	IAmb	09 36 27.7	
	comp=Z,8.9nm,0.8s						
MLY	**Manley**	**72.06**	**26**	IAmb	IAmb	09 36 30.7	
	comp=Z,10nm,1.0s						
BPAW	**Bear Paw Mtn.**	**72.06**	**27**	IAmb	IAmb	09 36 30.6	
	comp=Z,16nm,1.1s						
SKT	**Skwentna**	**72.07**	**30**	IAmb	IAmb	09 36 40.2	
	comp=Z,18nm,1.4s						
MCK	**McKinley**	**73.01**	**28**	IAmb	IAmb	09 36 36.0	
	comp=Z,14nm,0.9s						
RND	**Reindeer**	**73.09**	**28**	IAmb	IAmb	09 36 35.7	
	comp=Z,14nm,1.0s						
MDM	**Murphy Dome**	**73.12**	**26**	P	**P**	**09 36 35.8**	**+0.4**
MDM				IAmb	IAmb	09 36 36.8	
	comp=Z,13nm,1.0s						
H24K	**Noodor Dome**	**73.13**	**25**	IAmb	IAmb	09 36 37.4	
	comp=Z,12nm,1.1s						
PMR	**Palmer**	**73.25**	**30**	P	**P**	**09 36 35.4**	**-0.8**
PMR				IAmb	IAmb	09 36 36.2	
	comp=Z,16nm,1.0s						
ILAR	**Eielson Array**	**73.72**	**27**	P	**P**	**09 36 37.5**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=276,slow=6.1,SNR=18						
	comp=Z,1.6nm,0.8s						
AFI	**Afiamalu**	**73.78**	**111**	LR	LR	10 03 17.4	
	comp=Z,57nm,18.8s,baz=172,slow=31						
BMAR	**Burnt Mountain**	**74.14**	**24**	P	**P**	**09 36 42.5**	**+1.1**
ARCES	**ARCESS Array B**	**74.18**	**339**	P	**P**	**09 36 41.6**	**0.0**
	comp=Z,3.9nm,0.7s,baz=69,slow=6.6,SNR=13						
ARCES				LR	LR	10 13 10.5	
	comp=Z,103nm,19.2s,baz=130,slow=39						
	comp=Z,3.9nm,0.7s						
ARCES	**ARCESS Array B**	**74.18**	**339**	P	**P**	**09 36 42.0**	**+0.5**
ARCES				IAmb	IAmb	09 37 10.1	
	comp=Z,16nm,1.4s						
SPITS	**Spitsbergen Ar**	**74.38**	**348**	LR	LR	10 14 04.2	
	comp=Z,94nm,18.2s,baz=39,slow=39						
PAX	**Paxson**	**74.68**	**28**	IAmb	IAmb	09 36 45.0	
	comp=Z,12nm,1.3s						
KLU	**Klutina**	**74.78**	**30**	IAmb	IAmb	09 36 46.6	
	comp=Z,16nm,1.1s						
I26K	**Coal Creek Min**	**75.16**	**26**	IAmb	IAmb	09 36 48.0	
	comp=Z,9.6nm,0.9s						
MENT	**Mentasta**	**75.47**	**28**	IAmb	IAmb	09 36 59.2	
	comp=Z,12nm,1.2s						
L26K	**Log Cabin Wild**	**75.61**	**28**	IAmb	IAmb	09 36 50.8	
	comp=Z,7.2nm,1.1s						
FINES	**FINESS Array B**	**75.77**	**330**	P	**P**	**09 36 50.8**	**0.0**
	comp=Z,3.3nm,0.9s,baz=90,slow=5.7,SNR=4.7						
FINES				LR	LR	10 14 05.6	
	comp=Z,87nm,20.3s,baz=56,slow=39						
	comp=Z,3.3nm,0.9s						
GLB	**Gilahina Butte**	**75.78**	**30**	IAmb	IAmb	09 36 52.1	
	comp=Z,12nm,1.0s						
K27K	**Chicken**	**75.92**	**27**	IAmb	IAmb	09 36 53.4	
	comp=Z,16nm,1.1s						
M26K	**Nabesna, AK**	**75.92**	**29**	IAmb	IAmb	09 36 53.0	
	comp=Z,10.0nm,0.8s						
EGAK	**Eagle**	**76.11**	**26**	IAmb	IAmb	09 36 53.5	
	comp=Z,9.5nm,1.1s						
L27K	**Beaver Creek,**	**76.28**	**28**	IAmb	IAmb	09 36 55.6	
	comp=Z,5.9nm,0.9s						
BCAR	**Beaver Creek A**	**76.30**	**28**	P	**P**	**09 36 53.9**	**+0.1**
AKASG	**Malin Array Be**	**76.61**	**319**	P	**P**	**09 36 55.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=61,slow=6.8,SNR=7.4						
AKASG				LR	LR	10 15 33.6	
	comp=Z,60nm,18.6s,baz=66,slow=39						
	comp=Z,0.6nm,0.5s						
BARN	**Barnard Glacie**	**76.89**	**30**	IAmb	IAmb	09 36 58.8	
	comp=Z,10nm,1.0s						
DAWY	**Dawson**	**77.05**	**26**	P	**P**	**09 36 58.7**	**+0.6**
DAWY				IAmb	IAmb	09 36 59.3	
	comp=Z,8.0nm,1.0s						
I29M	**Ogilvie Camp,**	**77.11**	**25**	IAmb	IAmb	09 36 59.5	
	comp=Z,14nm,1.3s						
INK	**Inuvik**	**77.91**	**22**	P	**P**	**09 37 02.6**	**-0.2**
HYT	**Haines Junctio**	**78.89**	**29**	P	**P**	**09 37 09.5**	**+1.0**
HYT				IAmb	IAmb	09 37 10.3	
	comp=Z,15nm,1.1s						
A36M	**Sachs Harbour**	**78.94**	**17**	P	**P**	**09 37 08.3**	**0.0**
N31M	**Braeburn, Yuko**	**79.45**	**28**	IAmb	IAmb	09 37 13.3	
	comp=Z,14nm,1.1s						
EUNU	**Eureka**	**79.91**	**5**	P	**P**	**09 37 13.9**	**+0.3**
EUNU				IAmb	IAmb	09 37 22.5	
	comp=Z,8.3nm,1.1s						
BURAR	**Bucovina Array**	**79.97**	**317**	P	**P**	**09 37 15.0**	**+0.5**
WHY	**Whitehorse**	**80.16**	**29**	P	**P**	**09 37 16.1**	**+0.8**
WHY				IAmb	IAmb	09 37 17.1	
	comp=Z,8.8nm,0.9s						
FARO	**Faro, Yukon**	**80.25**	**27**	IAmb	IAmb	09 37 17.1	
	comp=Z,12nm,1.0s						
C36M	**Paulatuk**	**80.56**	**19**	IAmb	IAmb	09 37 17.0	
	comp=Z,9.4nm,0.8s						
DAG	**Danmarks Havn**	**81.32**	**351**	*i* P	**P**	**09 37 20.0**	**-1.1**
HFS	**Hagfors**	**81.92**	**331**	LR	LR	10 17 46.7	
	comp=Z,127nm,18.1s,baz=62,slow=38						
NB2	**NORSAR Subarra**	**82.64**	**333**	P	**P**	**09 37 27.6**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=62,slow=5.3						
NOA	**NORSAR Array B**	**82.64**	**333**	P	**P**	**09 37 27.3**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=62,slow=5.2,SNR=4.0						
NOA				LR	LR	10 17 23.5	
	comp=Z,205nm,19.2s,baz=70,slow=38						
	comp=Z,1.5nm,0.8s						
DLBC	**Dease Lake**	**83.31**	**30**	LR	LR	10 16 13.6	
	comp=Z,41nm,19.4s,baz=322,slow=37						
RES	**Resolute Bay**	**83.63**	**9**	LR	LR	10 20 18.4	
	comp=Z,30nm,18.1s,baz=12,slow=40						
RES	**Resolute Bay**	**83.63**	**9**	P	**P**	**09 37 33.4**	**+0.2**
RES				IAmb	IAmb	09 37 42.0	
	comp=Z,9.9nm,0.9s						
KMBO	**Kilima Mbogo**	**84.57**	**267**	LR	LR	10 13 18.9	
	comp=Z,59nm,20.6s,baz=88,slow=34						
VRAC	**Vranov**	**84.77**	**320**	LR	LR	10 19 58.3	
	comp=Z,60nm,20.2s,baz=58,slow=39						
GERES	**GERESS Array B**	**86.69**	**321**	P	**P**	**09 37 49.9**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=64,slow=3.1,SNR=4.4						
GERES				LR	LR	10 20 47.9	
	comp=Z,44nm,19.3s,baz=69,slow=38						
	comp=Z,0.7nm,0.8s						
RAR	**Rarotonga**	**87.17**	**113**	LR	LR	10 07 58.6	
	comp=Z,27nm,21.2s,baz=298,slow=30						
YKA	**Yellowknife Ar**	**87.63**	**23**	P	**P**	**09 37 53.3**	**+0.1**
	comp=Z,8.4nm,0.8s,baz=310,slow=4.9,SNR=23						
	comp=Z,8.4nm,0.8s						
BORG	**Borgarnes**	**91.55**	**345**	LR	LR	10 22 45.8	
	comp=Z,31nm,18.2s,baz=23,slow=38						
EKA	**Eskdalemuir Ar**	**92.11**	**332**	LR	LR	10 22 41.4	
	comp=Z,99nm,18.2s,baz=48,slow=37						
SFJD	**Kangerlussuaq**	**93.90**	**357**	LR	LR	10 21 47.2	
	comp=Z,27nm,18.7s,baz=20,slow=36						
PPT2	**Papeete2**	**94.99**	**107**	*e*LR	LR	10 09 11.0	
	comp=Z,103nm,24.5s						
TBI	**Tubuai**	**96.87**	**112**	*e*LR	LR	10 10 03.3	
	comp=Z,1μm,27.0s						
TBI				*e*LR	LR	10 10 04.0	
	comp=Z,459nm,28.8s						
LSZ	**Lusaka**	**97.58**	**256**	LR	LR	10 20 41.6	
	comp=Z,65nm,18.3s,baz=150,slow=34						
VNDA	**Vanda**	**99.34**	**172**	LR	LR	10 27 51.4	
	comp=Z,54nm,18.1s,baz=318,slow=38						
TAOE	**Nuku Hiva Isla**	**101.06**	**96**	*e*LR	LR	10 11 59.5	
	comp=Z,116nm,24.0s						
TXAR	**Lajitas Array**	**115.28**	**43**	PKP	**PKPdf**	**09 43 47.4**	**0.0**
	comp=Z,0.7nm,0.7s,baz=10,slow=1.4,SNR=6.8						
TROLL	**Troll, Antarti**	**116.76**	**198**	PKPdf	**PKPdf**	**09 43 48.6**	**-0.3**
SNAA	**Sanae**	**118.44**	**197**	PKPdf	**PKPdf**	**09 43 50.9**	**-1.1**
VNA2	**Neumayer--Watz**	**120.09**	**197**	PKPdf	**PKPdf**	**09 43 54.4**	**-0.7**
	baz=80,slow=1.0						
VNA3	**Neumayer Olymp**	**120.54**	**197**	PKPdf	**PKPdf**	**09 43 55.2**	**-0.8**
TKL	**Tuckaleechee C**	**120.61**	**23**	PKP	**PKPdf**	**09 43 56.8**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=190,slow=4.3,SNR=5.6						
SDV	**Santo Domingo**	**149.84**	**24**	PKPbc	**PKPbc**	**09 44 56.0**	**-0.4**
	comp=Z,13nm,0.7s,baz=332,slow=4.0,SNR=3.6						

WEL 19 09:32:26.5±0.5, 42°S±3°×17°4E±°, h10km±3km, M3.4/42, ML3.8/13, MLv3.4/42, Error ellipse: s-maj=0.0km s-min=0.0km az=118.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**234**	P	Pg	09 32 31.6	+0.8
KHZ				S	Sg	09 32 35.2	+1.5
BSWZ	**Blackbirch Sta**	**0.58**	**8**	P	Pb	09 32 38.6	-0.3
CMWZ	**Cape Campbell**	**0.64**	**32**	P	Pg	09 32 39.0	+0.1
THZ	**Tophouse**	**0.83**	**309**	P	Pb	09 32 43.1	0.0
GVZ	**Greta Valley S**	**0.86**	**218**	P	Pg	09 32 43.4	+0.2
TUWZ	**Tuamarina**	**0.87**	**9**	P	Pg	09 32 42.4	-1.0
NNZ	**Nelson**	**1.11**	**345**	P	Pb	09 32 47.7	-0.2
TCW	**Tory Channel**	**1.15**	**20**	P	Pb	09 32 43.5	-5.0
MRNZ	**Matariki Terra**	**1.17**	**320**	P	Pn	09 32 49.2	+0.2
AMCZ	**Amberley**	**1.20**	**223**	P	Pb	09 32 48.1	-1.3
LTZ	**Lake Taylor**	**1.21**	**246**	P	Pb	09 32 48.5	-1.0
WEL	**Wellington**	**1.26**	**37**	P	Pn	09 32 44.7	-5.5
PLWZ	**Palliser**	**1.33**	**57**	P	Pn	09 32 48.4	-2.9
TKNZ	**Takaka Hill**	**1.40**	**334**	P	Pb	09 32 52.5	-0.2
MSWZ	**Moikau Station**	**1.42**	**52**	P	Pn	09 32 49.1	-3.3
DUWZ	**D'Urville Isla**	**1.50**	**5**	P	Pn	09 32 51.8	-1.7
OKCZ	**Okains Bay**	**1.52**	**200**	P	Pn	09 32 51.6	-2.3
CAW	**Cannon Point**	**1.54**	**40**	P	Pn	09 32 49.7	-4.4
PAWZ	**Paruwai Farm**	**1.54**	**54**	P	Pn	09 32 51.5	-2.6
DSZ	**Denniston Nort**	**1.56**	**290**	P	Pn	09 32 54.7	+0.3
MQZ	**McQueen's Vall**	**1.63**	**210**	P	Pn	09 32 52.5	-2.8
OXZ	**Oxford**	**1.64**	**230**	P	Pn	09 32 53.4	-2.0
KIW	**Kapiti Island**	**1.67**	**31**	P	Pn	09 32 51.8	-4.1
TRWZ	**Traveller**	**1.69**	**59**	P	Pn	09 32 53.5	-2.7
AKCZ	**Akaroa Harbour**	**1.70**	**201**	P	Pn	09 32 54.1	-2.2
MTW	**Mount Morrison**	**1.73**	**49**	P	Pn	09 32 54.0	-2.7
QRZ	**Quartz Range**	**1.73**	**327**	P	Pn	09 32 57.5	+0.7
INZ	**Inchbonnie**	**1.77**	**255**	P	Pn	09 32 56.4	-0.9
OGWZ	**Otaki Gorge**	**1.81**	**36**	P	Pn	09 32 54.2	-3.7
RACZ	**Rakaia**	**1.86**	**219**	P	Pn	09 32 56.3	-2.3
HOWZ	**Holdsworth Sta**	**1.92**	**44**	P	Pn	09 32 53.8	-5.5
TMWZ	**Te Maipa**	**1.99**	**54**	P	Pn	09 32 57.5	-2.7
MHCZ	**Mount Hutt**	**2.03**	**232**	P	Pn	09 32 58.8	-2.1
MRZ	**Mangatainoka R**	**2.13**	**40**	P	Pn	09 32 59.7	-2.5
WACZ	**Wakanui South**	**2.17**	**220**	P	Pn	09 33 00.7	-2.1
WVZ	**Waitaha Valley**	**2.36**	**250**	P	Pn	09 33 04.7	-0.7
RPZ	**Rata Peaks**	**2.44**	**224**	P	Pn	09 33 04.7	-1.8
ARCZ	**Arundel**	**2.51**	**228**	P	Pn	09 33 05.6	-2.0
WAZ	**Wanganui**	**2.70**	**20**	P	Pn	09 33 10.6	+0.6
GCSZ	**Gaunt Creek Bo**	**2.73**	**247**	P	Pn	09 33 09.7	-0.7
TSZ	**Takapari Road**	**2.78**	**37**	P	Pn	09 33 08.7	-2.5
LREZ	**Lake Rotokare**	**2.87**	**10**	P	Pn	09 33 13.6	+1.2
TMZ	**Timaru**	**2.90**	**223**	P	Pn	09 33 10.9	-2.0
PRHZ	**Porangahau**	**2.96**	**48**	P	Pn	09 33 12.1	-1.6
KHEZ	**Kahui Hut**	**3.00**	**4**	P	Pb	09 33 17.4	-2.8
NBEZ	**Newall Road No**	**3.02**	**2**	P	Pb	09 33 18.3	-2.1
FOZ	**Fox Glacier**	**3.15**	**246**	P	Pn	09 33 15.7	-0.6
PKVZ	**Pokaka**	**3.23**	**22**	P	Pn	09 33 17.4	-0.1
MOVZ	**Moawhango**	**3.25**	**28**	P	Pn	09 33 16.3	-1.4
VRZ	**Vera Road**	**3.26**	**14**	P	Pn	09 33 18.0	+0.3
WNVZ	**Wahianoa**	**3.27**	**26**	P	Pn	09 33 17.5	-0.6
TRVZ	**Turoa**	**3.28**	**25**	P	Pn	09 33 18.2	-0.1
WHVZ	**Whangaehu Hut**	**3.31**	**25**	P	Pn	09 33 17.8	-0.9
TUVZ	**Tukino**	**3.35**	**26**	P	Pn	09 33 18.7	-0.4
NGZ	**Ngauruhoe**	**3.41**	**25**	P	Pn	09 33 20.9	+0.9
OTVZ	**Oturere**	**3.44**	**25**	P	Pn	09 33 21.9	+1.4
NNVZ	**North Ngauruho**	**3.46**	**25**	P	Pn	09 33 21.4	+0.7
WTVZ	**West Tongariro**	**3.47**	**24**	P	Pn	09 33 21.6	+0.9
ETVZ	**East Tongariro**	**3.48**	**26**	P	Pn	09 33 21.6	+0.6
TMVZ	**Te Maari**	**3.50**	**26**	P	Pn	09 33 21.1	-0.1
ODZ	**Otahua Downs**	**3.56**	**218**	P	Pn	09 33 19.6	-2.3
HIZ	**Hauiti**	**3.87**	**13**	P	Pn	09 33 26.5	+0.4
TLZ	**Tolley Road**	**4.19**	**19**	P	Pn	09 33 30.3	-0.2
TOZ	**Tahuroa Road**	**4.75**	**17**	P	Pn	09 33 37.7	-0.5
AWAZ	**Awhitu Peninsu**	**5.27**	**8**	P	Pn	09 33 45.8	+0.4
MKAZ	**Moumakai**	**5.29**	**12**	P	Pn	09 33 45.3	-0.4
ETAZ	**East Tamaki Re**	**5.41**	**10**	P	Pn	09 33 47.6	+0.3
MBAZ	**Motutapu North**	**5.59**	**9**	P	Pn	09 33 50.5	+0.8

WEL 19 09:37:57.3±0.4, 42°S±3°×17°4E±°, h10km±2km, M3.4/45, ML3.7/16, MLv3.4/45, Error ellipse: s-maj=0.0km s-min=0.0km az=119.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.18**	**331**	P	Pb	09 38 02.1	-0.6
BSWZ				S	Sg	09 38 05.3	+1.4
CMWZ	**Cape Campbell**	**0.21**	**53**	P	Pb	09 38 02.6	-0.5
CMWZ				S	Sg	09 38 07.1	+2.5
TUWZ	**Tuamarina**	**0.45**	**355**	P	Pb	09 38 06.6	-0.6
KHZ	**Kahutara**	**0.64**	**212**	P	Pb	09 38 10.4	-0.1
TCW	**Tory Channel**	**0.70**	**18**	P	Pg	09 38 10.6	-0.1
NNZ	**Nelson**	**0.80**	**325**	P	Pg	09 38 12.9	+0.2
THZ	**Tophouse**	**0.82**	**277**	P	Pb	09 38 13.4	-0.2
WEL	**Wellington**	**0.83**	**45**	P	Pb	09 38 13.5	-0.2
PLWZ	**Palliser**	**0.99**	**73**	P	Pg	09 38 15.1	-1.3
MRNZ	**Matariki Terra**	**1.04**	**297**	P	Pb	09 38 17.5	+0.2
MSWZ	**Moikau Station**	**1.05**	**64**	P	Pg	09 38 16.0	-1.3
DUWZ	**D'Urville Isla**	**1.07**	**357**	P	Pb	09 38 17.3	-0.6
CAW	**Cannon Point**	**1.11**	**47**	P	Pb	09 38 17.5	-1.0
TKNZ	**Takaka Hill**	**1.14**	**317**	P	Pb	09 38 18.8	-0.3
PAWZ	**Paruwai Farm**	**1.18**	**66**	P	Pb	09 38 17.6	-2.1
KIW	**Kapiti Island**	**1.23**	**35**	P	Pn	09 38 19.6	-0.8
GVZ	**Greta Valley S**	**1.30**	**213**	P	Pn	09 38 20.3	-1.2
MTW	**Mount Morrison**	**1.34**	**58**	P	Pn	09 38 19.8	-2.1
TRWZ	**Traveller**	**1.36**	**70**	P	Pn	09 38 19.8	-2.4
OGWZ	**Otaki Gorge**	**1.38**	**40**	P	Pn	09 38 21.3	-1.2
HOWZ	**Holdsworth Sta**	**1.50**	**50**	P	Pn	09 38 22.3	-2.0
QRZ	**Quartz Range**	**1.52**	**313**	P	Pb	09 38 25.2	-0.2
LTZ	**Lake Taylor**	**1.57**	**234**	P	Pn	09 38 24.3	-0.8
TMWZ	**Te Maipa**	**1.62**	**62**	P	Pn	09 38 23.5	-2.3
AMCZ	**Amberley**	**1.64**	**217**	P	Pn	09 38 24.2	-1.8
DSZ	**Denniston Nort**	**1.64**	**274**	P	Pn	09 38 26.8	+0.6
MRZ	**Mangatainoka R**	**1.70**	**45**	P	Pn	09 38 25.2	-1.7
OHWZ	**Ohakea**	**1.94**	**31**	P	Pn	09 38 30.6	+0.4
OKCZ	**Okains Bay**	**1.97**	**200**	P	Pn	09 38 28.3	-2.4
PRWZ	**Pori Road**	**1.99**	**49**	P	Pn	09 38 28.8	-2.1
POWZ	**Post Office Ro**	**2.00**	**43**	P	Pn	09 38 29.5	-1.5
OXZ	**Oxford**	**2.05**	**224**	P	Pn	09 38 29.3	-2.3
INZ	**Inchbonnie**	**2.07**	**245**	P	Pn	09 38 31.8	-0.3
MQZ	**McQueen's Vall**	**2.08**	**208**	P	Pn	09 38 29.1	-3.0
AKCZ	**Akaroa Harbour**	**2.15**	**201**	P	Pn	09 38 30.8	-2.3
WAZ	**Wanganui**	**2.25**	**20**	P	Pn	09 38 35.4	+1.0
DVHZ	**Dannevirke**	**2.27**	**47**	P	Pb	09 38 39.0	+0.6
RACZ	**Rakaia**	**2.30**	**216**	P	Pn	09 38 32.8	-2.3
TSZ	**Takapari Road**	**2.35**	**40**	P	Pn	09 38 33.9	-2.0
LREZ	**Lake Rotokare**	**2.43**	**8**	P	Pn	09 38 38.4	+1.8
MHCZ	**Mount Hutt**	**2.44**	**226**	P	Pn	09 38 35.1	-1.9
PNHZ	**Pukenui**	**2.58**	**41**	P	Pn	09 38 36.8	-2.2
KHEZ	**Kahui Hut**	**2.58**	**0**	P	Pb	09 38 42.4	-1.2
WPHZ	**Waipukurau**	**2.59**	**47**	P	Pn	09 38 37.2	-2.0
NEZ	**North Egmont**	**2.60**	**2**	P	Pn	09 38 41.4	+2.0
WACZ	**Wakanui South**	**2.60**	**217**	P	Pn	09 38 36.9	-2.4
NBEZ	**Newall Road No**	**2.60**	**358**	P	Pn	09 38 41.2	+1.8
PKE	**Pukeiti**	**2.68**	**360**	P	Pb	09 38 43.2	-2.0
WVZ	**Waitaha Valley**	**2.69**	**242**	P	Pn	09 38 40.7	+0.1
PKVZ	**Pokaka**	**2.78**	**22**	P	Pn	09 38 42.3	+0.5
MOVZ	**Moawhango**	**2.81**	**29**	P	Pn	09 38 41.1	-1.1
VRZ	**Vera Road**	**2.81**	**12**	P	Pn	09 38 43.2	+1.1
WNVZ	**Wahianoa**	**2.82**	**26**	P	Pn	09 38 42.4	-0.1
TRVZ	**Turoa**	**2.83**	**25**	P	Pn	09 38 43.7	+1.0
RPZ	**Rata Peaks**	**2.84**	**229**	P	Pn	09 38 41.1	-1.5
PXZ	**Pawanui**	**2.85**	**51**	P	Pb	09 38 48.1	0.0
WHVZ	**Whangaehu Hut**	**2.86**	**26**	P	Pn	09 38 43.3	+0.2
FWVZ	**Far West T-bar**	**2.87**	**25**	P	Pn	09 38 44.0	+0.8
TUVZ	**Tukino**	**2.90**	**26**	P	Pn	09 38 43.3	-0.2
ARCZ	**Arundel**	**2.93**	**224**	P	Pn	09 38 41.8	-2.0
NGZ	**Ngauruhoe**	**2.96**	**25**	P	Pb	09 38 48.6	-1.5
OTVZ	**Oturere**	**2.99**	**26**	P	Pb	09 38 48.8	-1.9
NNVZ	**North Ngauruho**	**3.01**	**25**	P	Pb	09 38 49.3	-1.6
TWVZ	**Taurewa**	**3.01**	**22**	P	Pn	09 38 46.4	+1.4
WTVZ	**West Tongariro**	**3.01**	**24**	P	Pb	09 38 49.5	-1.5
KAHZ	**Kahuranaki**	**3.02**	**47**	P	Pn	09 38 42.0	-3.0
ETVZ	**East Tongariro**	**3.03**	**26**	P	Pn	09 38 45.2	-0.1
TMVZ	**Te Maari**	**3.05**	**26**	P	Pn	09 38 45.5	0.0
GCSZ	**Gaunt Creek Bo**	**3.07**	**241**	P	Pn	09 38 48.1	+2.4
MCHZ	**McNeill Hill**	**3.18**	**41**	P	Pn	09 38 44.9	-2.4
TMZ	**Timaru**	**3.33**	**220**	P	Pn	09 38 46.9	-2.4
HIZ	**Hauiti**	**3.42**	**11**	P	Pn	09 38 51.9	+1.3
FOZ	**Fox Glacier**	**3.50**	**240**	P	Pn	09 38 51.2	-0.4
LBZ	**Lake Benmore**	**3.75**	**227**	P	Pn	09 38 53.5	-1.6
ODZ	**Otahua Downs**	**4.00**	**216**	P	Pn	09 38 55.7	-2.8
LIRZ	**Lichensteins R**	**4.28**	**26**	P	Pn	09 39 07.3	+4.9
TOZ	**Tahuroa Road**	**4.30**	**16**	P	Pn	09 39 02.2	-0.4
URZ	**Urewera**	**4.33**	**35**	P	Pn	09 39 00.1	-3.0
JCZ	**Jackson Bay**	**4.41**	**238**	P	Pn	09 39 04.5	+0.3
AWAZ	**Awhitu Peninsu**	**4.83**	**6**	P	Pn	09 39 12.0	+2.0
MKAZ	**Moumakai**	**4.85**	**11**	P	Pn	09 39 11.2	+1.0
ETAZ	**East Tamaki Re**	**4.97**	**9**	P	Pn	09 39 13.9	+2.1

*JMA **19** 09:41:34.3±0.1, 32°.5N±0°.3×129°.2E±0°.1, h5km±2km, MD4.2/38, MV4.3/38, SW OFF KYUSHU*

JMA Felt II J1 at SW OFF KYUSHU .
*NIED **19** 09:41:34.3, 32°.50N×129°.22E, h5km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr=0.09; Mθθ=1.51; Mφφ=-1.42; Mrθ=0.10; Mrφ=0.76; Mθφ=0.45; Fault plane solution: M0=1.72000×10^15 NP1: φs=121.00000°, δ75.00000°, λ-6.00000°. NP2: φs=212.00000°, δ85.00000°, λ-165.00000°.*
*IDC **19** 09:41:35.9±1.1, 32°.66N×129°.27E, h0km, mb3.5/5, mbtmp3.6/7, ML3.0/2, MS3.1/5 Error ellipse: s-maj=33.0km s-min=16.7km az=77.0*

ISC 19 09:41:36.3±0.8, 32°.49N±0°.06×129°.25E±0°.04, h11km, n37, σ1s91/17, mb3.5/5, 6D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFU	**Fukue jima 2**	**0.45**	**291**	*i* P	**Pg**	**09 41 42.9**	**-2.3**
JFU				⇓S	**Sg**	**09 41 48.6**	**-2.5**
JFU	**Fukue jima 2**	**0.45**	**291**	A	A	09 41 42.9	
	comp=E,9.0nm,0.6s,comp=E,32nm,1.9s						
NGSJ	**Nagasakinomoza**	**0.48**	**73**	*i* P	**Pg**	**09 41 44.2**	**-1.6**
NGSJ	**Nagasakinomoza**	**0.48**	**73**	A	A	09 41 44.2	
	comp=E,4.0nm,5.2s,comp=E,5.0nm,2.8s						
JHD	**Hondo**	**0.75**	**92**	*i* P	**Pg**	**09 41 49.5**	**-1.3**
JHD	**Hondo**	**0.75**	**92**	A	A	09 41 49.5	
	comp=E,7.0nm,1.1s,comp=E,8.0nm,1.0s						
JUR	**Ureshino**	**0.84**	**44**	*i* P	**Pg**	**09 41 50.9**	**-1.6**
JUR	**Ureshino**	**0.84**	**44**	A	A	09 41 50.9	
	comp=E,14nm,0.9s,comp=E,10.0nm,1.1s						
JSJ	**Shimokoshiki**	**0.90**	**154**	*i* P	Pg	09 41 51.0	-2.7
JSJ				eS	**Sg**	**09 42 03.0**	**-2.5**
JSJ	**Shimokoshiki**	**0.90**	**154**	A	A	09 41 51.0	
	comp=E,22nm,0.9s,comp=E,14nm,0.4s						
JTA	**Tamana**	**1.18**	**66**	*i* P	**Pb**	**09 41 56.6**	**-2.1**
JTA	**Tamana**	**1.18**	**66**	A	A	09 41 56.6	
	comp=E,5.0nm,6.0s,comp=E,5.0nm,1.5s						
JZO	**Okuchi**	**1.20**	**107**	S	**Sb**	**09 42 14.4**	**-0.1**
JZO	**Okuchi**	**1.20**	**107**	A	A	09 42 14.4	
	comp=E,8.0nm,1.3s,comp=E,14nm,1.6s						
JIU3	**Izumi3**	**1.32**	**87**	A	A	09 41 59.4	
	comp=E,3.0nm,6.7s,comp=E,4.0nm,2.9s						
JFI	**Itaya**	**1.34**	**45**	A	A	09 41 59.5	
	comp=E,11nm,1.2s,comp=E,11nm,1.6s						
JII	**Iki**	**1.36**	**17**	A	A	09 41 59.7	
	comp=E,25nm,1.4s,comp=E,17nm,0.7s						
JSU	**Suzuyama**	**1.42**	**134**	A	A	09 42 00.8	
	comp=E,5.0nm,1.0s,comp=E,8.0nm,1.3s				

MKAZ	**Moumakai**	**4.80**	**10**	P	Pn	10 08 23.3	+2.0
ETAZ	**East Tamaki Re**	**4.92**	**7**	P	Pn	10 08 24.3	+1.4

BJI ***19*** *10:18:28.3±0.0,2.98S×141.40E, h20km, mb4.9/45, mB4.9/24, Ms4.6/6, Ms7 4.2/6*
IDC ***19*** *10:18:29.5±0.6,2.75S×141.11E, h0km, mb4.4/18, mbtmp4.5/21, ML4.4/3, MS3.6/35, Error ellipse: s-maj=21.0km s-min=12.5km az=83.0*
DJA ***19*** *10:18:30.5±0.3,3.3S×4.14×1E., h10km, M4.9/37, mB5.3/10, mb4.9/37, MLv5.3/6, Mw(mB)4.7/10*
NEIC ***19*** *10:18:31.0±1.1,2.84S±0.02×141.08E±0.07, h10km±1km, mb4.8/70, Error ellipse: s-maj=12.4km s-min=3.8km az=81.0*

ISC 19 10:18:32.6±0.3, 2.90S±0.04×141.07E±0.06, h23km, n199, σ1°41/164, mb4.8/67, MS3.6/32, 4C-6D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**2.52**	**291**	P		**Pn**		**10 19 12.7**	**+0.5**
WAMI	**Wamena**	**2.55**	**247**	P		**Pn**		**10 19 13.6**	**+1.1**
SRPI	**Serui, Papua**	**4.93**	**282**	P		**Pn**		**10 19 46.5**	**+1.2**
	1.5nm5µm413nm,0.9s								
MANU	**Manus Island**	**6.35**	**82**			**Pn**		**10 20 03.3**	**-1.6**
RKPI	**Ransiki, Papua**	**7.02**	**281**	P		**Pn**		**10 20 15.8**	**+1.7**
	2.0nm12µm103nm,0.7s								
MWPI	**Manokwari, Pap**	**7.29**	**285**	P		**Pn**		**10 20 19.4**	**+1.6**
	0.3nm88nm,0.7s								
FAKI	**Fak Fak**	**8.81**	**270**	Pn		**Pn**		**10 20 38.1**	**-0.5**
FAKI	**Fak Fak**	**8.81**	**270**	P		**Pn**		**10 20 40.0**	**+1.4**
	50nm,0.7s								
PMG	**Port Moresby**	**8.86**	**137**	Pn		**Pn**		**10 20 42.2**	**+3.0**
	2.2nm,0.3s,baz=319,slow=10,SNR=6.3								
PMG				LR		LR		10 25 04.5	
	comp=Z,603nm,19.4s,baz=337,slow=44								
PMG	**Port Moresby**	**8.86**	**137**			**Pn**		**10 20 39.7**	**+0.4**
PMG	**Port Moresby**	**8.86**	**137**	P		**Pn**		**10 20 40.8**	**+1.5**
	73nm,1.1s								
PMG	**Port Moresby**	**8.86**	**137**	P		Pn		10 20 45.9	+6.6
SIJI	**Sorong**	**10.00**	**281**	Pn		**Pn**		**10 20 58.4**	**+3.4**
	9.2nm,0.3s,baz=215,slow=22,SNR=19								
SIJI				LR		LR		10 25 52.2	
	comp=Z,766nm,20.0s,baz=70,slow=44								
SIJI	**Sorong**	**10.00**	**281**	P		**Pn**		**10 20 58.2**	**+3.2**
	29nm,0.6s								
KRVT	**Keravat (AS076**	**11.03**	**98**	LR		LR		10 24 45.4	
	comp=Z,640nm,20.3s,baz=63,slow=34								
COEN	**Coen**	**11.18**	**169**	Pn		**Pn**		**10 21 10.8**	**-0.4**
KRAI	**Karang Ratu**	**12.66**	**268**	P		**Pn**		**10 21 33.7**	**+2.3**
	28nm,1.3s								
AAI	**Ambon**	**12.88**	**266**	P		**Pn**		**10 21 34.5**	**+0.1**
	55nm,0.6s								
KDU	**Kakadu**	**12.92**	**221**	P		**Pn**		**10 21 34.2**	**-0.7**
LBMI	**Labuha**	**13.74**	**279**	P		**Pn**		**10 21 48.3**	**+2.1**
	1µm132nm,1.0s								
MTN	**Manton Dam**	**13.94**	**224**	Pn		**Pn**		**10 21 47.6**	**-1.3**
MTN	**Manton Dam**	**13.94**	**224**	P		**Pn**		**10 21 47.5**	**-1.3**
NLAI	**Namlea**	**13.95**	**268**	P		**Pn**		**10 21 50.7**	**+1.6**
	19nm,0.5s								
SANI	**Sanana**	**15.09**	**273**	P		**Pn**		**10 22 04.1**	**-0.4**
	35nm,0.9s								
GUMO	**Guam**	**16.81**	**13**	LR		LR		10 28 02.0	
	comp=Z,126nm,20.4s,baz=170,slow=34								
GUMO	**Guam**	**16.81**	**13**	Pn		**Pn**		**10 22 22.9**	**-3.8**
KNRA	**Kununurra**	**17.55**	**223**	P		**Pn**		**10 22 35.5**	**-0.4**
KNRA				IAmb		IAmb		10 22 45.1	
	comp=Z,54nm,0.6s								
KNRA	**Kununurra**	**17.55**	**223**	P		**Pn**		**10 22 36.2**	**+0.3**
QIS	**Mount Isa**	**17.61**	**185**	P		**P**		**10 22 38.1**	**+0.6**
CTA	**Charters Tower**	**17.82**	**164**	P		**P**		**10 22 41.0**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=338,slow=11,SNR=1.6								
CTA				LR		LR		10 30 45.9	
	comp=Z,260nm,18.0s,baz=342,slow=41								
	comp=Z,2.9nm,0.6s								
CTAO	**Charters Tower**	**17.82**	**164**	P		**Pn**		**10 22 39.7**	**+0.4**
WB0	**Warramunga Arr**	**17.99**	**201**	P		**Pn**		**10 22 40.5**	**-0.8**
SOEI	**Soe**	**18.02**	**247**	P		**Pn**		**10 22 40.4**	**-1.5**
SOEI	**Soe**	**18.02**	**247**	P		**Pn**		**10 22 42.8**	**+0.9**
	comp=Z,1µmcomp=Z,141nm,0.7s								
SOEI	**Soe**	**18.02**	**247**	P		**Pn**		**10 22 41.3**	**-0.6**
WR0	**Warramunga Arr**	**18.11**	**200**	P		**Pn**		**10 22 43.4**	**+0.6**
WR0				IAmb		IAmb		10 22 55.2	
	comp=Z,35nm,0.8s								
WRAB	**Tennant Creek**	**18.16**	**201**	P		**Pn**		**10 22 42.9**	**-0.5**
WRAB				IAmb		IAmb		10 23 06.1	
	comp=Z,33nm,0.7s								
WRAB	**Tennant Creek**	**18.16**	**201**	P		**P**		**10 22 44.8**	**+1.2**
WB2	**Warramunga Arr**	**18.16**	**201**	P		**Pn**		**10 22 43.5**	**+0.1**
WB2				IAmb		IAmb		10 23 00.7	
	comp=Z,40nm,0.7s								
WRA	**Warramunga Arr**	**18.17**	**201**	P		**P**		**10 22 44.6**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=21,slow=13,SNR=62								
WRA				S		**Sn**		**10 25 57.8**	**-8.0**
	comp=Z,9.3nm,0.9s,baz=15,slow=21,SNR=5.2								
WRA				LR		LR		10 30 35.1	
	comp=Z,362nm,19.2s,baz=7.5,slow=40								
	comp=Z,10nm,0.5s								
WRA	**Warramunga Arr**	**18.17**	**201**	P		**Pn**		**10 22 42.2**	**-1.3**
DAV	**Davao City (W)**	**18.36**	**303**	LR		LR		10 29 35.9	
	comp=Z,161nm,18.1s,baz=166,slow=36								
GTOI	**Gorontalo**	**18.39**	**281**	P		**Pn**		**10 22 48.3**	**+2.0**
	comp=Z,223nmcomp=Z,22nm,1.0s								
BATI	**Baumata**	**18.74**	**246**	P		**Pn**		**10 22 51.7**	**+1.1**
	comp=Z,10nm,0.3s,baz=92,slow=5.1,SNR=11								
	comp=Z,85nm,0.6s								
BATI	**Baumata**	**18.74**	**246**	P		**Pn**		**10 22 51.6**	**+1.0**
	comp=Z,99nm,0.6s								
MRSI	**Marisa**	**19.41**	**280**	P		**P**		**10 22 57.8**	**+0.4**
	comp=Z,24nm,0.5s								
HNR	**Honiara**	**19.85**	**110**	P		**P**		**10 23 02.6**	**+0.4**
	comp=Z,1µm,0.4s,baz=225,slow=11,SNR=4.2								
HNR				LR		LR		10 31 22.1	
	comp=Z,4µm,18.1s,baz=292,slow=39								
HNR	**Honiara**	**19.85**	**110**	P		**P**		**10 23 01.4**	**-0.8**
TOLI2	**Tolitoli**	**20.67**	**281**	P		**P**		**10 23 10.4**	**-0.7**
TOLI2	**Tolitoli**	**20.67**	**281**	P		Pn		10 23 13.7	+0.2
BSSI	**Bau Bau, Buton**	**20.76**	**260**	P		**P**		**10 23 12.3**	**+0.2**
	comp=Z,2µmcomp=Z,144nm,1.0s								
BNSI	**Bone**	**20.97**	**265**	P		**P**		**10 23 16.4**	**+2.0**
	comp=Z,36nm,0.9s								
BKSI	**Bulukumba**	**21.03**	**263**	P		**P**		**10 23 16.4**	**+1.4**
	comp=Z,35nm,0.7s								
SPSI	**Sidrap Palu**	**21.29**	**267**	P		**P**		**10 23 19.4**	**+1.6**
	comp=Z,31nm,0.8s								
KAPI	**Kappang**	**21.37**	**264**	P		**P**		**10 23 20.1**	**+1.5**
	comp=Z,5.0nm,0.2s,baz=186,slow=19,SNR=1.6								
KAPI				LR		LR		10 33 29.7	
	comp=Z,114nm,19.3s,baz=81,slow=42								
	comp=Z,5.0nm,0.2s								
MPSI	**Mapaga**	**21.40**	**278**	P		**P**		**10 23 19.0**	**0.0**
	comp=Z,1µmcomp=Z,10nm,0.7s								
AS01	**Alice Springs**	**21.76**	**198**	P		**P**		**10 23 24.5**	**+1.7**
AS31	**Alice Springs**	**21.77**	**198**	P		**P**		**10 23 23.3**	**+0.4**
ASAR	**Alice Springs**	**21.78**	**198**	P		**P**		**10 23 24.0**	**+1.0**
	comp=Z,9.5nm,0.6s,baz=26,slow=11,SNR=64								
ASAR				S		**S**		**10 27 23.6**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=13,slow=26,SNR=5.9								
ASAR				LR		LR		10 32 22.2	
	comp=Z,378nm,19.9s,baz=18,slow=38								
	comp=Z,9.5nm,0.6s								
ASAR	**Alice Springs**	**21.78**	**198**	P		**P**		**10 23 22.8**	**-0.2**
PMSI	**Majene**	**22.13**	**268**	P		**P**		**10 23 28.7**	**+1.9**
	comp=Z,47nm,1.1s								
MMSI	**Mamuju**	**22.13**	**270**	P		**P**		**10 23 29.8**	**+2.9**
	comp=Z,276nmcomp=Z,24nm,0.9s								
MYLDM	**Lahad Datu**	**23.93**	**290**	P		**P**		**10 23 43.9**	**-1.3**
MYLDM				IAmb		IAmb		10 24 12.4	
	comp=Z,20nm,0.9s								
MYLDM	**Lahad Datu**	**23.93**	**290**	P		**P**		**10 23 46.6**	**+1.4**
	comp=Z,27nm,1.2s								
EIDS	**Eidsvold**	**24.33**	**158**	P		**P**		**10 23 49.0**	**+0.3**
EIDS	**Eidsvold**	**24.33**	**158**	P		**P**		**10 23 52.0**	**+3.2**
RMQ	**Roma**	**24.59**	**163**	P		**P**		**10 23 53.6**	**+2.5**
WRKA	**Warakurna**	**25.21**	**208**	P		**P**		**10 23 57.1**	**+0.2**
OOD	**Oodnadatta**	**25.28**	**191**	P		**P**		**10 23 58.9**	**+1.5**
KLNI	**Mataram**	**25.44**	**257**	P		**P**		**10 24 02.5**	**+3.5**
	comp=Z,46nm,0.9s								
KKM	**Kota Kinabalu**	**26.36**	**290**	P		**P**		**10 24 06.1**	**-1.4**
KKM				IAmb		IAmb		10 24 16.3	
	comp=Z,21nm,0.9s								
KKM	**Kota Kinabalu**	**26.36**	**290**	P		**P**		**10 24 08.7**	**+1.2**
	comp=Z,27nm,0.9s								
MBWA	**Marble Bar**	**27.58**	**227**	P		**P**		**10 24 17.4**	**-0.8**
MBWA				IAmb		IAmb		10 24 46.0	
	comp=Z,22nm,1.2s								
PSA00	**Pilbara Seismi**	**27.75**	**226**	P		**P**		**10 24 19.6**	**-0.2**
STKA	**Stephens Creek**	**28.83**	**179**	P		**P**		**10 24 30.8**	**+1.6**
	comp=Z,1.2nm,0.4s,baz=337,slow=7.6,SNR=4.6								
STKA				LR		LR		10 37 29.2	
	comp=Z,400nm,18.4s,baz=13,slow=39								
	comp=Z,1.2nm,0.4s								
STKA	**Stephens Creek**	**28.83**	**179**	P		**P**		**10 24 30.9**	**+1.6**
ARMA	**Armidale**	**29.14**	**161**	P		**P**		**10 24 31.9**	**-0.2**
SBUM	**Sibu**	**29.32**	**280**	P		**P**		**10 24 31.0**	**-2.9**
JCJ	**Chichijima**	**29.84**	**2**	LR		LR		10 34 06.7	
	comp=Z,59nm,20.6s,baz=137,slow=32								
BBOO	**Buckleboo**	**30.12**	**188**	P		**P**		**10 24 40.8**	**+0.1**
BBOO						IAmb	IAmb	10 25 00.5	
	comp=Z,17nm,1.1s								
FORT	**Forrest**	**30.33**	**203**	P		**P**		**10 24 43.3**	**+0.7**
KSM	**Kuching**	**31.05**	**278**	P		**P**		**10 24 47.0**	**-2.2**
LIFNC	**LIFOU**	**31.08**	**127**	P		**P**		**10 24 48.1**	**-1.2**
DZM	**Mont Dzumac**	**31.15**	**130**	LR		LR		10 36 55.8	
	comp=Z,185nm,20.1s,baz=234,slow=35								
DZM	**Mont Dzumac**	**31.15**	**130**	*e*LR		LR		10 33 02.2	
	comp=Z,230nm,23.0s								
JOW	**Kunigami**	**32.04**	**338**	LR		LR		10 34 52.3	
	comp=Z,147nm,21.6s,baz=126,slow=31								
H11S3	**WAKE ISLAND Hy**	**32.99**	**49**	T		T		10 59 30.8	
	baz=232,slow=75,SNR=4188								
H11S2	**WAKE ISLAND Hy**	**33.00**	**49**	T		T		10 59 30.7	
	baz=232,slow=75,SNR=2906								
H11S1	**WAKE ISLAND Hy**	**33.01**	**49**	T		T		10 59 31.2	
	baz=232,slow=75,SNR=2349								
CAN	**Canberra**	**33.09**	**168**	P		**P**		**10 25 06.6**	**-0.2**
LEM	**Lembang**	**33.55**	**262**	LR		LR		10 41 04.0	
	comp=Z,113nm,18.2s,baz=52,slow=40								
H11N1	**WAKE ISLAND Hy**	**33.89**	**47**	T		T		11 00 44.8	
	baz=229,slow=76,SNR=125								
H11N2	**WAKE ISLAND Hy**	**33.91**	**47**	T		T		11 00 45.9	
	baz=229,slow=76,SNR=121								
H11N3	**WAKE ISLAND Hy**	**33.91**	**47**	T		T		11 00 45.2	
	baz=229,slow=76,SNR=62								
TOO	**Toolangi**	**34.74**	**174**	P		**P**		**10 25 21.1**	**-0.1**
TOO						IAmb	IAmb	10 25 38.3	
	comp=Z,15nm,1.1s								
MORW	**Morawa**	**35.26**	**220**	IAmb		IAmb		10 25 40.0	
	comp=Z,26nm,1.2s								
JNU	**Nakatsue**	**37.10**	**346**	P		**P**		**10 25 40.5**	**-0.9**
JNU						IAmb	IAmb	10 26 00.1	
	comp=Z,32nm,1.4s								
NWAO	**Narrogin (SRO)**	**37.30**	**214**	P		**P**		**10 25 43.4**	**+0.3**
NWAO						IAmb	IAmb	10 26 03.8	
	comp=Z,32nm,1.2s								
MJAR	**Matsushiro Arr**	**39.33**	**356**	P		**P**		**10 25 58.4**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=172,slow=9.5,SNR=4.3								
	comp=Z,2.0nm,0.7s								
NJ2	**Nanjing**	**40.66**	**330**	*e*P		**P**		**10 26 14.5**	**+3.3**
NJ2						pmax	pmax		
	comp=Z,9.0nm,0.5s								
JSD	**Sado**	**40.81**	**357**	P		**P**		**10 26 11.6**	**-0.8**
JSD						IAmb	IAmb	10 26 12.6	
	comp=Z,45nm,1.3s								
WHN	**Wuhan**	**41.91**	**324**	⇑P		**P**		**10 26 22.8**	**+1.3**
KSAR	**Wonju Array Be**	**41.97**	**344**	P		**P**		**10 26 21.1**	**-0.7**
KSRS	**Korea Array**	**41.97**	**344**	P		**P**		**10 26 21.4**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=168,slow=8.3,SNR=7.9								
KSRS				LR		LR		10 40 56.6	
	comp=Z,65nm,21.8s,baz=175,slow=32								
	comp=Z,1.8nm,0.7s								
RPSI	**Rantau Prapat**	**42.49**	**277**	P		**P**		**10 26 25.1**	**-1.4**
RPSI						IAmb	IAmb	10 26 31.9	
	comp=Z,24nm,1.2s								
PHRA	**Phrae**	**45.48**	**299**	P		**P**		**10 26 49.7**	**-0.7**
LYN	**LuoYang**	**45.94**	**327**	⇓P		**P**		**10 26 53.8**	**-0.1**
LYN						pmax	pmax		
	comp=Z,20nm,0.6s								
LYN				LR		LR			
	comp=Z,130nm,22.4s								
LYN				LR		LR			
	comp=Z,140nm,17.7s								
KMI	**Kunming**	**46.45**	**309**	⇓P		**P**		**10 26 56.5**	**-1.8**
KMI						pmax	pmax		
	comp=Z,8.0nm,1.3s								
CMAR	**Chiang Mai Arr**	**46.58**	**299**	P		**P**		**10 26 59.2**	**0.0**
	comp=Z,2.7nm,0.5s,baz=119,slow=6.1,SNR=19								
CMAR				LR		LR		10 44 38.2	
	comp=Z,24nm,21.7s,baz=115,slow=34								
	comp=Z,2.7nm,0.5s								
CMAR	**Chiang Mai Arr**	**46.58**	**299**	P		**P**		**10 26 58.6**	**-0.6**
CHTO	**Chiang Mai**	**46.72**	**299**	P		**P**		**10 26 59.8**	**-0.5**
CHTO						IAmb	IAmb	10 27 07.2	
	comp=Z,10nm,1.4s								
JKA	**Kamikawa-asahi**	**46.83**	**2**	P		**P**		**10 27 00.6**	**0.0**
ASAJ	**Asahikawa**	**46.83**	**2**	LR		LR		10 51 13.5	
	comp=Z,25nm,18.5s,baz=176,slow=42								
HNS	**HongShan**	**46.98**	**331**	⇓P		**P**		**10 27 01.6**	**-0.3**
HNS						pmax	pmax		
	comp=Z,21nm,0.9s								
USA0B	**Ussuriysk Arra**	**47.59**	**351**	P		**P**		**10 27 07.1**	**+0.5**
USA0B						IAmb	IAmb	10 27 15.8	
	comp=Z,7.8nm,0.9s								
USRK	**Ussuriysk Ar.**	**47.59**	**351**	P		**P**		**10 27 06.1**	**-0.5**
	comp=Z,6.9nm,0.8s,baz=161,slow=7.4,SNR=17								
USRK				LR		LR		10 44 10.0	
	comp=Z,69nm,20.9s,baz=188,slow=32								
	comp=Z,6.9nm,0.8s								
USRK	**Ussuriysk Ar.**	**47.59**	**351**	P		**P**		**10 27 06.7**	**+0.1**
XAN	**Xi'an**	**47.61**	**323**	⇓P		**P**		**10 27 06.6**	**-0.4**
XAN						pmax	pmax		
	comp=Z,26nm,1.2s								
BKZ	**Black Stump Fm**	**48.37**	**143**	P		**P**		**10 27 12.2**	**-0.7**
MDJ	**Mudanjiang**	**48.41**	**349**	P		**P**		**10 27 11.9**	**-1.0**
MDJ						IAmb	IAmb	10 27 14.1	
	comp=Z,14nm,0.9s								
BJT	**Baijiatuau**	**48.43**	**334**	P		**P**		**10 27 12.0**	**-1.2**
BJT						IAmb	IAmb	10 27 13.0	
	comp=Z,8.3nm,1.0s								
RPZ	**Rata Peaks**	**48.56**	**151**	LR		LR		10 48 03.1	
	comp=Z,149nm,18.1s,baz=284,slow=36								
YSS	**Yuzh-Sakhalins**	**49.66**	**2**	P		**P**		**10 27 22.3**	**-0.2**
BNX	**BinXian**	**49.93**	**348**	⇓P		**P**		**10 27 24.0**	**-0.5**
BNX						pmax	pmax		
	comp=Z,30nm,0.9s								
BNX						pmax	pmax		
	comp=Z,180nm,3.6s								
HHC	**Hu-ho-hao-te**	**51.20**	**331**	*e*P		**P**		**10 27 37.3**	**+2.9**
HHC						pmax	pmax		
	comp=Z,17nm,0.9s								
HHC						pmax	pmax		
	comp=Z,170nm,4.6s								
HHC				LR		LR			
	comp=Z,180nm,14.0s								
HHC				LR		LR			
	comp=Z,250nm,12.7s								
HHC				LR		LR			
	comp=Z,320nm,13.3s								
LZH	**Lanzhou**	**52.07**	**322**	*e*P		**P**		**10 27 40.4**	**-0.7**
LZH						pP	pP	10 27 48.4	0.0
LZH						sP	sP	10 27 51.5	+0.4
LZH						pmax	pmax		
	comp=Z,26nm,1.0s								
KLR	**Kul'dur**	**52.55**	**352**	P		**P**		**10 27 43.6**	**-0.5**
	comp=Z,6.2nm,0.8s,baz=180,slow=5.9,SNR=13								
KLR				LR		LR		10 48 38.2	
	comp=Z,31nm,18.8s,baz=172,slow=34								
	comp=Z,6.2nm,0.8s								
HEH	**HeiHe**	**54.23**	**349**	*e*P		**P**		**10 27 55.6**	**-0.9**
HEH						pmax	pmax		
	comp=Z,8.0nm,1.1s								
HEH						pmax	pmax		
	comp=Z,130nm,3.6s								
GTA	**Gaotai**	**56.64**	**322**	⇑P		**P**		**10 28 15.0**	**+0.8**
GTA						pP	pP	10 28 18.8	-2.7
GTA						sP	sP	10 28 22.1	-2.3
GTA						pmax	pmax		
	comp=Z,15nm,0.9s								
PETK	**Petropavlovsk-**	**57.53**	**12**	P		**P**		**10 28 20.0**	**-0.1**
	comp=Z,6.7nm,0.8s,baz=160,slow=4.4,SNR=13								
	comp=Z,6.7nm,0.8s								
GOMU	**GeErMu**	**58.06**	**316**	P		**P**		**10 28 27.6**	**+3.0**
GOMU						pP	pP	10 28 31.3	-0.6
GOMU						sP	sP	10 28 32.3	-2.5
GOMU						pmax	pmax		
	comp=Z,2.0nm,0.6s								
GOMU						pmax	pmax		
	comp=Z,42nm,5.6s								
SONM	**Songino Array**	**58.92**	**333**	P		**P**		**10 28 30.1**	**0.0**
	comp=Z,1.8nm,0.6s,baz=153,slow=8.0,SNR=12								
SONM				LR		LR		10 53 25.5	
	comp=Z,97nm,20.8s,baz=144,slow=36								
	comp=Z,1.8nm,0.6s								
SONM	**Songino Array**	**58.92**	**333**	P		**P**		**10 28 30.5**	**+0.4**
RAR	**Rarotonga**	**60.28**	**113**	LR		LR		10 51 44.9	
	comp=Z,28nm,20.4s,baz=277,slow=33								
PALK	**Pallekele**	**61.08**	**280**	LR		LR		10 56 38.9	
	comp=Z,43nm,18.7s,baz=213,slow=38								
SHEM	**Shemya Is, Ala**	**62.01**	**22**	LR		LR		10 49 05.9	
	comp=Z,45nm,21.1s,baz=244,slow=30								
MA2	**Magadan**	**62.76**	**6**	LR		LR		10 55 13.2	
	comp=Z,20nm,19.4s,baz=103,slow=35								
YAK	**Yakutsk**	**65.34**	**354**	P		**P**		**10 29 12.4**	**-0.2**
WMQ	**Urumqi**	**66.63**	**321**	*e*P		**P**		**10 29 22.4**	**+0.9**
WMQ					pP		pP	10 29 29.8	+0.8
WMQ					PcP		**PcP**	**10 29 52.9**	**+2.3**
WMQ					pmax		pmax		
	comp=Z,10.0nm,1.1s								
PPT	**Papeete**	**69.45**	**108**	LR		LR		10 57 01.5	
	comp=Z,35nm,18.8s,baz=278,slow=33								
PPT2	**Papeete2**	**69.45**	**108**	*e*LR		LR		10 50 46.8	
	comp=Z,116nm,27.2s								
PPT2				*e*LR		LR		10 50 46.9	
	comp=Z,101nm,23.8s								
MK31	**Makanchi Array**	**71.39**	**322**	P		**P**		**10 29 51.0**	**0.0**
MK31						IAmb	IAmb	10 29 52.2	
	comp=Z,9.8nm,1.1s								
MKAR	**Makanchi Array**	**71.39**	**322**	P		**P**		**10 29 51.4**	**+0.4**
	comp=Z,5.7nm,0.7s,baz=92,slow=9.0,SNR=44								
MKAR				LR		LR		11 00 04.8	
	comp=Z,22nm,21.7s,baz=138,slow=35								
	comp=Z,5.7nm,0.7s								
MKAR	**Makanchi Array**	**71.39**	**322**	P		**P**		**10 29 51.1**	**+0.1**
MAKZ	**Makanchi**	**71.59**	**322**	P		**P**		**10 29 52.2**	**0.0**
KSH	**Kashi**	**72.93**	**313**	P		**P**		**10 30 01.4**	**+0.9**
KSH					pmax		pmax		
	comp=Z,7.0nm,0.6s								
ZAA0	**Zalesovo Array**	**73.29**	**329**	P		**P**		**10 30 01.0**	**-1.2**
ZALV	**Zalesovo Beam**	**73.29**	**329**	P		**P**		**10 30 01.4**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=106,slow=5.3,SNR=12								
ZALV				LR		LR		11 02 37.2	
	comp=Z,54nm,18.9s,baz=126,slow=36								
	comp=Z,1.7nm,0.4s								
ZALV	**Zalesovo Beam**	**73.29**	**329**	P		**P**		**10 30 01.2**	**-0.9**
NIL	**Nilore**	**73.33**	**306**	P		**P**		**10 30 02.8**	**-0.1**
TIXI	**Tiksi**	**74.84**	**356**	LR		LR		11 00 33.4	
	comp=Z,20nm,21.1s,baz=246,slow=34								
TIXI	**Tiksi**	**74.84**	**356**	P		**P**		**10 30 11.1**	**+0.3**
AAK	**Ala-Archa**	**74.98**	**315**	LR		LR		11 05 48.5	
	comp=Z,17nm,20.6s,baz=122,slow=38								
KURK	**Kurchatov**	**75.23**	**324**	P		**P**		**10 30 13.6**	**+0.1**
KURK						IAmb	IAmb	10 30 14.2	
	comp=Z,6.1nm,0.8s								
VNDA	**Vanda**	**75.39**	**175**	P		**P**		**10 30 15.2**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=317,slow=6.6,SNR=11								
VNDA				LR		LR		11 04 58.8	
	comp=Z,74nm,18.2s,baz=338,slow=37								
	comp=Z,1.1nm,0.7s								
VNDA	**Vanda**	**75.39**	**175**	P		**P**		**10 30 15.7**	**+1.8**
GAR	**Garm**	**76.99**	**311**	P		**P**		**10 30 23.7**	**-0.2**
CHGR	**Chuyangaron**	**77.79**	**310**	P		**P**		**10 30 27.9**	**-0.5**
CHGR						IAmb	IAmb	10 30 37.1	
	comp=Z,14nm,1.0s								
KK31	**Karatay Array**	**77.92**	**315**	P		**P**		**10 30 28.6**	**-0.4**
KKAR	**Karatay Array**	**77.92**	**315**	P		**P**		**10 30 28.4**	**-0.5**
KKAR	**Karatay Array**	**77.92**	**315**	P		**P**		**10 30 28.6**	**-0.4**
KKAR						IAmb	IAmb	10 30 46.6	
	comp=Z,5.0nm,1.4s								
TAOE	**Nuku Hiva Isla**	**78.48**	**98**	*e*LR		LR		10 54 57.0	
	comp=Z,68nm,35.9s								
NRIK	**Noril'sk**	**80.57**	**343**	P		**P**		**10 30 43.0**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=106,slow=4.6,SNR=5.8		

BSWZ	**Blackbirch Sta**	**0.38**	**286**	P	**Pg**	**10**	**35**	**24.1**	**0.0**
BSWZ				S	**Sg**	**10**	**35**	**29.3**	**-0.2**
TUWZ	**Tuamarina**	**0.50**	**321**	P	**Pg**	**10**	**35**	**25.6**	**-0.7**
TUWZ				S	**Sg**	**10**	**35**	**31.7**	**-1.4**
SNZO	**South Karori**	**0.57**	**27**	P	**Pb**	**10**	**35**	**28.0**	**+0.5**
TCW	**Tory Channel**	**0.61**	**354**	P	**Pg**	**10**	**35**	**27.6**	**-0.8**
TCW				S	**Sg**	**10**	**35**	**34.9**	**-1.6**
WEL	**Wellington**	**0.61**	**30**	P	**Pb**	**10**	**35**	**28.9**	**+0.6**
PLWZ	**Palliser**	**0.71**	**70**	P	**Pn**	**10**	**35**	**32.0**	**+0.6**
MSWZ	**Moikau Station**	**0.78**	**59**	P	**Pn**	**10**	**35**	**33.0**	**+0.8**
KHZ	**Kahutara**	**0.85**	**225**	P	**Pn**	**10**	**35**	**33.8**	**+0.5**
KHZ	**Kahutara**	**0.85**	**225**	P	**Pn**	**10**	**35**	**34.6**	**+1.3**
CAW	**Cannon Point**	**0.89**	**37**	P	**Pg**	**10**	**35**	**33.8**	**+0.2**
PAWZ	**Paruwai Farm**	**0.91**	**62**	P	**Pn**	**10**	**35**	**34.6**	**+0.6**
NNZ	**Nelson**	**0.95**	**309**	P	**Pb**	**10**	**35**	**33.6**	**-0.5**
KIW	**Kapiti Island**	**1.04**	**23**	P	**Pb**	**10**	**35**	**35.8**	**+0.1**
DUWZ	**D'Urville Isla**	**1.07**	**342**	P	**Pb**	**10**	**35**	**35.5**	**-0.6**
TRWZ	**Traveller**	**1.08**	**68**	P	**Pb**	**10**	**35**	**36.7**	**+0.4**
MTW	**Mount Morrison**	**1.08**	**53**	P	**Pb**	**10**	**35**	**36.7**	**+0.4**
THZ	**Tophouse**	**1.09**	**272**	P	**Pn**	**10**	**35**	**37.0**	**+0.4**
OGWZ	**Otaki Gorge**	**1.17**	**32**	P	**Pn**	**10**	**35**	**38.2**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.27**	**44**	P	**Pn**	**10**	**35**	**39.2**	**+0.3**
MRNZ	**Matariki Terra**	**1.27**	**289**	P	**Pb**	**10**	**35**	**39.9**	**+0.3**
TKNZ	**Takaka Hill**	**1.31**	**306**	P	**Pn**	**10**	**35**	**40.2**	**+0.5**
TMWZ	**Te Maipa**	**1.35**	**59**	P	**Pn**	**10**	**35**	**40.2**	**+0.1**
MRZ	**Mangatainoka R**	**1.48**	**39**	P	**Pn**	**10**	**35**	**42.2**	**+0.4**
GVZ	**Greta Valley S**	**1.51**	**220**	P	**Pn**	**10**	**35**	**43.4**	**+1.0**
TIWZ	**Tintock**	**1.55**	**48**	P	**Pn**	**10**	**35**	**43.1**	**+0.2**
QRZ	**Quartz Range**	**1.70**	**305**	P	**Pb**	**10**	**35**	**46.5**	**-0.4**
QRZ	**Quartz Range**	**1.70**	**305**	P	**Pb**	**10**	**35**	**46.4**	**-0.5**
PRWZ	**Pori Road**	**1.75**	**44**	P	**Pn**	**10**	**35**	**45.7**	**0.0**
OHWZ	**Ohakea**	**1.77**	**24**	P	**Pb**	**10**	**35**	**47.6**	**-0.4**
POWZ	**Post Office Ro**	**1.78**	**37**	P	**Pn**	**10**	**35**	**46.3**	**+0.3**
LTZ	**Lake Taylor**	**1.83**	**237**	P	**Pn**	**10**	**35**	**47.6**	**+0.9**
AMCZ	**Amberley**	**1.85**	**222**	P	**Pn**	**10**	**35**	**47.6**	**+0.5**
DSZ	**Dennistn Nort**	**1.91**	**271**	P	**Pn**	**10**	**35**	**49.2**	**+1.3**
WAZ	**Wanganui**	**2.12**	**13**	P	**Pb**	**10**	**35**	**53.0**	**-1.0**
OKCZ	**Okains Bay**	**2.13**	**206**	P	**Pn**	**10**	**35**	**51.2**	**+0.3**
TSZ	**Takapari Road**	**2.13**	**35**	P	**Pn**	**10**	**35**	**50.9**	**-0.1**
MQZ	**McQueen's Vall**	**2.27**	**213**	P	**Pn**	**10**	**35**	**52.3**	**-0.4**
OXZ	**Oxford**	**2.28**	**228**	P	**Pn**	**10**	**35**	**52.8**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.31**	**207**	P	**Pn**	**10**	**35**	**53.6**	**+0.2**
INZ	**Inchbonnie**	**2.35**	**246**	P	**Pn**	**10**	**35**	**54.8**	**+1.0**
LREZ	**Lake Rotokare**	**2.36**	**1**	P	**Pb**	**10**	**35**	**57.1**	**-1.0**
WPHZ	**Waipukurau**	**2.36**	**43**	P	**Pn**	**10**	**35**	**53.6**	**-0.4**
PNHZ	**Pukenui**	**2.36**	**37**	P	**Pn**	**10**	**35**	**53.7**	**-0.3**
RACZ	**Rakaia**	**2.51**	**220**	P	**Pn**	**10**	**35**	**55.7**	**-0.4**
KHEZ	**Kahui Hut**	**2.54**	**354**	P	**Pb**	**10**	**36**	**00.0**	**-1.2**
KHEZ	**Kahui Hut**	**2.54**	**354**	P	**Pb**	**10**	**35**	**59.8**	**-1.4**
NEZ	**North Egmont**	**2.55**	**355**	P	**Pn**	**10**	**36**	**00.6**	**-1.0**
NBEZ	**Newall Road No**	**2.58**	**351**	P	**Pn**	**10**	**35**	**59.5**	**+2.5**
PXZ	**Pawanui**	**2.60**	**48**	P	**Pn**	**10**	**35**	**55.9**	**-1.4**
DREZ	**Durham Road**	**2.63**	**357**	P	**Pb**	**10**	**36**	**01.5**	**-1.3**
MOVZ	**Moawhango**	**2.63**	**24**	P	**Pn**	**10**	**35**	**58.2**	**+0.4**
PKVZ	**Pokaka**	**2.63**	**17**	P	**Pn**	**10**	**35**	**59.5**	**+1.6**
PKE	**Pukeiti**	**2.64**	**354**	P	**Pb**	**10**	**36**	**02.2**	**-0.7**
WNVZ	**Wahianoa**	**2.66**	**21**	P	**Pn**	**10**	**35**	**59.5**	**+1.2**
TRVZ	**Turoa**	**2.67**	**20**	P	**Pn**	**10**	**35**	**59.8**	**+1.3**
MHCZ	**Mount Hutt**	**2.68**	**229**	P	**Pn**	**10**	**35**	**58.0**	**-0.4**
DRZ	**Dome Shelter**	**2.70**	**20**	P	**Pn**	**10**	**36**	**00.2**	**+1.2**
WHVZ	**Whangaehu Hut**	**2.70**	**21**	P	**Pn**	**10**	**36**	**00.3**	**+1.4**
VRZ	**Vera Road**	**2.71**	**7**	P	**Pn**	**10**	**36**	**00.9**	**+2.1**
FWVZ	**Far West T-bar**	**2.72**	**20**	P	**Pb**	**10**	**36**	**04.7**	**+0.3**
TUVZ	**Tukino**	**2.73**	**22**	P	**Pb**	**10**	**36**	**04.9**	**+0.3**
KAHZ	**Kahuranaki**	**2.78**	**44**	P	**Pn**	**10**	**35**	**58.7**	**-1.2**
NGZ	**Ngauruhoe**	**2.80**	**20**	P	**Pb**	**10**	**36**	**05.9**	**+0.1**
WACZ	**Wakanui South**	**2.82**	**220**	P	**Pn**	**10**	**35**	**58.6**	**-0.4**
OTVZ	**Oturere**	**2.83**	**21**	P	**Pb**	**10**	**36**	**06.7**	**+0.4**
NNVZ	**North Ngauruho**	**2.85**	**20**	P	**Pb**	**10**	**36**	**06.0**	**-0.7**
WTVZ	**West Tongariro**	**2.86**	**20**	P	**Pb**	**10**	**36**	**07.3**	**+0.6**
ETVZ	**East Tongariro**	**2.87**	**21**	P	**Pb**	**10**	**36**	**06.4**	**-0.6**
TMVZ	**Te Maari**	**2.89**	**21**	P	**Pb**	**10**	**36**	**06.8**	**-0.4**
KRVZ	**Karewarewa**	**2.89**	**20**	P	**Pb**	**10**	**36**	**07.8**	**+0.5**
WVZ	**Waitaha Valley**	**2.96**	**244**	P	**Pn**	**10**	**36**	**04.0**	**+1.7**
RPZ	**Rata Peaks**	**3.09**	**231**	P	**Pn**	**10**	**36**	**04.2**	**+0.2**
RPZ	**Rata Peaks**	**3.09**	**231**	P	**Pn**	**10**	**36**	**04.1**	**+0.1**
BKZ	**Black Stump Fm**	**3.11**	**32**	P	**Pn**	**10**	**36**	**03.5**	**-0.8**
ARCZ	**Arundel**	**3.16**	**227**	P	**Pn**	**10**	**36**	**05.2**	**+0.1**
HIZ	**Hauiti**	**3.32**	**7**	P	**Pn**	**10**	**36**	**09.5**	**+2.2**
HIZ	**Hauiti**	**3.32**	**7**	P	**Pn**	**10**	**36**	**09.2**	**+1.9**
GCSZ	**Gaunt Creek Bo**	**3.33**	**242**	P	**Pn**	**10**	**36**	**09.0**	**+1.6**
TMZ	**Timaru**	**3.55**	**223**	P	**Pn**	**10**	**36**	**10.2**	**-0.2**
TOZ	**Tahuroa Road**	**4.18**	**13**	P	**Pn**	**10**	**36**	**20.6**	**+1.6**
ODZ	**Otahua Downs**	**4.21**	**219**	P	**Pn**	**10**	**36**	**20.1**	**+0.7**
ODZ	**Otahua Downs**	**4.27**	**219**	P	**Pn**	**10**	**36**	**18.9**	**-0.5**
JCZ	**Jackson Bay**	**4.67**	**239**	P	**Pn**	**10**	**36**	**28.4**	**+2.6**
MKAZ	**Moumakai**	**4.75**	**8**	P	**Pn**	**10**	**36**	**27.8**	**+1.0**
AWAZ	**Awhitu Peninsu**	**4.75**	**3**	P	**Pn**	**10**	**36**	**29.0**	**+2.1**
CTZ	**Chatham Island**	**6.91**	**109**	P	**Pn**	**10**	**36**	**57.9**	**+1.4**

*IDC **19** 11:18:39.9±1.4,4˚46S×145˚34E,h0km,mb4.0/6, mbtmp4.1/10,ML3.9/3,MS3.6/3,Error ellipse: s-maj=32.2km s-min=24.7km az=133.0*
*NEIC **19** 11:18:49.7±1.4,4˚83S±0˚06×145˚7E±0˚2,h74km±12km, mb4.1/15,Error ellipse: s-maj=30.7km s-min=8.6km az=83.0*

ISC 19 11:18:46.7±0.8,**4˚73S**±0˚08×**145˚5E**±0˚1,**h43**km,**n39**, σ1§**11**/38,**mb4.3**/8,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.93**	**160**	Pn	**Pn**	**11 19 57.6**	**-0.7**
	26nm,0.3s,baz=22,slow=6.8,SNR=26						
PMG				Sn	**Sn**	**11 20 52.7**	**-1.5**
	26nm,0.3s,baz=317,slow=19,SNR=9.6						
PMG				LR	LR	11 22 09.9	
	comp=Z,203nm,18.1s,baz=358,slow=40						
PMG	**Port Moresby**	**4.93**	**160**		**Pn**	**11 19 58.5**	**+0.2**
PMG	**Port Moresby**	**4.93**	**160**	P	**Pn**	**11 19 58.9**	**+0.6**
PMG	**Port Moresby**	**4.93**	**160**	P	**Pn**	**11 19 58.6**	**+0.2**
KRVT	**Keravat (AS076**	**6.53**	**87**	Pn	**Pn**	**11 20 19.6**	**-0.7**
	1.8nm,0.3s,baz=343,slow=19,SNR=1.2						
	14nm,0.6s						
COEN	**Coen**	**9.45**	**194**		**Pn**	**11 21 02.1**	**+1.8**
CTA	**Charters Tower**	**15.28**	**177**	Pn	**Pn**	**11 22 21.1**	**+1.5**
	0.2nm,0.3s,baz=351,slow=19,SNR=1.4						
	2.5nm,0.7s						
CTAO	**Charters Tower**	**15.28**	**177**	P	**P**	**11 22 24.2**	**+0.3**
CTAO				IAmb	IAmb	11 22 39.7	
	comp=Z,18nm,1.3s						
MTN	**Manton Dam**	**16.31**	**239**	P	**P**	**11 22 34.0**	**-1.3**
MTN				IAmb	IAmb	11 23 05.6	
	comp=Z,23nm,1.4s						
GUMO	**Guam**	**18.21**	**358**	P	**Pn**	**11 22 57.8**	**+1.3**
WB0	**Warramunga Arr**	**18.45**	**215**	P	**Pn**	**11 22 59.3**	**0.0**
WB0				IAmb	IAmb	11 23 01.3	
	comp=Z,6.3nm,0.8s						
WR0	**Warramunga Arr**	**18.52**	**214**	P	**Pn**	**11 22 59.2**	**-0.9**
WR0				IAmb	IAmb	11 23 01.9	
	comp=Z,6.4nm,0.7s						
WRAB	**Tennant Creek**	**18.60**	**215**	P	**Pn**	**11 23 00.8**	**-0.3**
WRAB				IAmb	IAmb	11 23 03.3	
	comp=Z,6.2nm,0.8s						
WRAB	**Tennant Creek**	**18.60**	**215**	P	**Pn**	**11 23 00.9**	**-0.3**
WB2	**Warramunga Arr**	**18.61**	**215**	P	**Pn**	**11 22 59.9**	**-1.4**
WB2				IAmb	IAmb	11 23 03.1	
	comp=Z,7.4nm,0.7s						
WRA	**Warramunga Arr**	**18.62**	**215**	P	**P**	**11 22 59.5**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=32,slow=10,SNR=52						
	comp=Z,3.7nm,0.6s						
WRA	**Warramunga Arr**	**18.62**	**215**	P	**P**	**11 22 59.6**	**-1.2**
KNRA	**Kununurra**	**19.71**	**235**	P	**Pn**	**11 23 14.1**	**-0.4**
KNRA				IAmb	IAmb	11 23 37.8	
	comp=Z,12nm,1.0s						
AS01	**Alice Springs**	**21.87**	**210**	P	**P**	**11 23 36.7**	**+0.7**
AS31	**Alice Springs**	**21.89**	**210**	P	**P**	**11 23 36.0**	**-0.3**
ASAR	**Alice Springs**	**21.89**	**210**	P	**P**	**11 23 35.8**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=38,slow=10,SNR=27						
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**21.89**	**210**	P	**P**	**11 23 35.3**	**-1.0**
BATI	**Baumata**	**22.31**	**255**	P	**P**	**11 23 39.6**	**-1.3**
	comp=Z,9.7nm,0.5s,baz=98,slow=14,SNR=2.0						
	comp=Z,9.7nm,0.5s						
INKA	**Innaminka**	**23.33**	**191**	P	**P**	**11 23 51.7**	**+0.5**
AULRC	**Lightning Ridg**	**24.68**	**175**	P	**P**	**11 24 03.9**	**+0.2**
	comp=Z,32nm,1.4s						
OOD	**Oodnadatta**	**24.76**	**201**	P	**P**	**11 24 04.6**	**+0.1**
WRKA	**Warakurna**	**26.09**	**218**	P	**P**	**11 24 16.5**	**-0.1**
STKA	**Stephens Creek**	**27.25**	**187**	P	**P**	**11 24 26.4**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=355,slow=9.4,SNR=14						
	comp=Z,3.9nm,0.6s						

STKA	**Stephens Creek**	**27.25**	**187**	P	**P**	**11**	**24**	**25.8**	**-1.1**
STKA	**Stephens Creek**	**27.25**	**187**	P	**P**	**11**	**24**	**26.9**	**-0.1**
BBOO	**Buckleboo**	**29.29**	**196**	P	**P**	**11**	**24**	**44.5**	**-0.7**
FORT	**Forrest**	**30.68**	**210**	P	**P**	**11**	**24**	**56.7**	**-0.7**
FORT				IAmb	IAmb	11	25	15.8	
	comp=Z,11nm,1.0s								
VNDA	**Vanda**	**73.26**	**176**	P	**P**	**11**	**30**	**15.9**	**+2.9**
	comp=Z,0.2nm,0.6s,baz=73,slow=14,SNR=1.7								
	comp=Z,0.2nm,0.6s								
VNDA	**Vanda**	**73.26**	**176**	P	**P**	**11**	**30**	**11.4**	**-1.7**
VNDA				IAmb	IAmb	11	30	31.1	
	comp=Z,5.4nm,1.5s								
BOOM	**Boomskoye usch**	**78.32**	**315**	P	**P**	**11**	**30**	**42.5**	**-0.4**
ILAR	**Eielson Array**	**84.92**	**23**	P	**P**	**11**	**31**	**15.9**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=260,slow=5.2,SNR=2.7								
	comp=Z,0.4nm,0.9s								
QSPA	**South Pole Qui**	**85.23**	**180**	P	**P**	**11**	**31**	**21.2**	**+2.5**
	comp=Z,2.4nm,1.1s,baz=346,slow=12,SNR=2.3								
	comp=Z,2.4nm,1.1s								
YBH	**Yreka Blue Hor**	**94.46**	**49**	LR	LR	12	09	05.0	
	comp=Z,50nm,18.5s,baz=344,slow=32								
NEW	**Newport**	**98.43**	**42**	LR	LR	12	07	38.9	
	comp=Z,28nm,21.3s,baz=282,slow=30								

WEL 19 11:22:34.9±0.3,**43˚S**±2˚×**17˚2E**±˚,**h5**km,**M3.5**/29, **ML3.6**/18,**MLv3.5**/29,**Error ellipse: s-maj=0.0km s-min=0.0km az=110.0,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.17**	**249**	P	Pg	11 22 38.9	+0.6
LTZ				S	Sg	11 22 41.6	+1.0
GVZ	**Greta Valley S**	**0.47**	**122**	P	Pb	11 22 44.8	-0.8
AMCZ	**Amberley**	**0.47**	**166**	P	Pb	11 22 45.2	-0.4
OXZ	**Oxford**	**0.69**	**209**	P	Pb	11 22 48.8	-0.6
INZ	**Inchbonnie**	**0.77**	**269**	P	Pg	11 22 49.9	+0.2
KHZ	**Kahutara**	**0.83**	**69**	P	Pg	11 22 51.3	+0.4
MQZ	**McQueen's Vall**	**0.99**	**173**	P	Pg	11 22 53.2	-0.7
THZ	**Tophouse**	**1.01**	**18**	P	Pg	11 22 53.3	-0.8
RACZ	**Rakaia**	**1.04**	**194**	P	Pg	11 22 54.3	-0.4
MHCZ	**Mount Hutt**	**1.05**	**220**	P	Pg	11 22 54.8	-0.3
OKCZ	**Okains Bay**	**1.08**	**158**	P	Pg	11 22 55.2	-0.5
DSZ	**Dennistn Nort**	**1.10**	**332**	P	Pg	11 22 56.1	+0.2
AKCZ	**Akaroa Harbour**	**1.19**	**165**	P	Pg	11 22 56.5	-1.2
WACZ	**Wakanui South**	**1.31**	**201**	P	Pn	11 22 58.1	-1.7
MRNZ	**Matariki Terra**	**1.34**	**9**	P	Pn	11 22 59.6	-0.6
WVZ	**Waitaha Valley**	**1.34**	**254**	P	Pn	11 23 00.1	0.0
BSWZ	**Blackbirch Sta**	**1.44**	**46**	P	Pn	11 23 01.7	+0.1
RPZ	**Rata Peaks**	**1.45**	**226**	P	Pn	11 23 00.4	-1.3
ARCZ	**Arundel**	**1.56**	**218**	P	Pn	11 23 01.7	-1.6
NNZ	**Nelson**	**1.64**	**24**	P	Pn	11 23 04.3	0.0
TUWZ	**Tuamarina**	**1.68**	**40**	P	Pn	11 23 03.7	-1.2
GCSZ	**Gaunt Creek Bo**	**1.69**	**249**	P	Pn	11 23 05.3	+0.2
TKNZ	**Takaka Hill**	**1.72**	**12**	P	Pn	11 23 06.0	+0.5
QRZ	**Quartz Range**	**1.89**	**1**	P	Pn	11 23 07.6	-0.3
TMZ	**Timaru**	**1.98**	**212**	P	Pn	11 23 07.5	-1.6
FOZ	**Fox Glacier**	**2.12**	**247**	P	Pn	11 23 11.2	+0.2
DUWZ	**D'Urville Isla**	**2.20**	**30**	P	Pn	11 23 13.0	+0.9
LBZ	**Lake Benmore**	**2.36**	**224**	P	Pn	11 23 13.1	-1.2
ODZ	**Otahua Downs**	**2.68**	**209**	P	Pn	11 23 16.9	-1.8
JCZ	**Jackson Bay**	**3.02**	**242**	P	Pn	11 23 23.2	-0.3
MRZ	**Mangatainoka R**	**3.10**	**49**	P	Pn	11 23 22.7	-1.6
EAZ	**Earnscleugh**	**3.40**	**221**	P	Pn	11 23 26.9	-1.7
LREZ	**Lake Rotokare**	**3.56**	**25**	P	Pb	11 23 36.6	-1.8
NBEZ	**Newall Road No**	**3.60**	**17**	P	Pn	11 23 34.3	+3.0
KHEZ	**Kahui Hut**	**3.61**	**19**	P	Pb	11 23 35.4	-3.8
TSZ	**Takapari Road**	**3.73**	**46**	P	Pn	11 23 31.3	-1.8
TUZ	**Tuapeka**	**3.83**	**211**	P	Pn	11 23 32.9	-1.5
VRZ	**Vera Road**	**3.98**	**26**	P	Pn	11 23 38.8	+2.2
SYZ	**Scrubby Hill**	**4.50**	**211**	P	Pn	11 23 42.2	-1.5
HIZ	**Hauiti**	**4.57**	**24**	P	Pn	11 23 47.0	+2.3
TLZ	**Tolley Road**	**4.96**	**29**	P	Pn	11 23 54.2	+4.1
TOZ	**Tahuroa Road**	**5.49**	**26**	P	Pn	11 23 59.2	+1.9
MKAZ	**Moumakai**	**5.97**	**21**	P	Pn	11 24 07.8	+3.9

*IDC **19** 11:26:00.4±0.5,1˚10S×127˚24E,h0km,mb4.5/24, mbtmp4.4/27,ML4.2/3,MS3.3/11,Error ellipse: s-maj=17.8km s-min=11.3km az=72.0*
*NEIC **19** 11:26:02.9±1.7,1˚03S±0˚06×127˚46E±0˚08,h10km±1km, mb4.8/29,Error ellipse: s-maj=13.0km s-min=9.9km az=73.0*
*DJA **19** 11:26:03.6±0.4,1˚S±2˚×127˚7E±˚,h12km±3km,M4.4/28, mB5.0/7,mb4.8/28,MLv4.4/19,Mw(mB)4.3/7*

ISC 19 11:26:02.4±0.3,**1˚09S**±0˚04×**127˚37E**±0˚05,**h10**km,**n140,** σ1§**63**/139,**mb4.7**/46,**MS3.3**/8,**2C-1D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.47**	**16**	P	**Pb**	**11 26 12.3**	**-0.5**
SANI	**Sanana**	**1.68**	**236**	P	**Pn**	**11 26 31.3**	**-0.6**
SANI	**Sanana**	**1.68**	**236**	P	**Pn**	**11 26 31.5**	**-0.4**
TNTI	**Ternate**	**1.85**	**360**		**Pn**	**11 26 34.2**	**-0.1**
TNTI	**Ternate**	**1.85**	**360**	P	**Pn**	**11 26 34.5**	**+0.2**
TNTI	**Ternate**	**1.85**	**360**	P	**Pb**	**11 26 35.0**	**-1.4**
NLAI	**Namlea**	**2.15**	**187**	P	**Pn**	**11 26 39.1**	**+0.7**
KRAI	**Karang Ratu**	**2.44**	**155**	P	**Pb**	**11 26 45.4**	**-1.0**
AAI	**Ambon**	**2.70**	**162**	P	**Pn**	**11 26 48.8**	**+2.8**
MSAI	**Masohi**	**2.73**	**145**	P	**Pb**	**11 26 49.8**	**-1.5**
GAMI	**Galela, Maluku**	**2.94**	**8**	P	**Pn**	**11 26 51.1**	**+1.8**
SIJI	**Sorong**	**3.90**	**87**	Pn	**Pn**	**11 27 03.5**	**+1.0**
	8.1nm,0.3s,baz=265,slow=7.3,SNR=16						
SIJI				Sn	**Sn**	**11 27 48.8**	**+0.5**
	3.1nm,0.3s,baz=229,slow=23,SNR=1.4						
SIJI				LR	LR	11 28 51.2	
	comp=Z,382nm,22.0s,baz=247,slow=42						
	34nm,0.7s						
SIJI	**Sorong**	**3.90**	**87**	P	**Pn**	**11 27 03.2**	**+0.7**
BNDI	**Bandanaira**	**4.24**	**143**	P	**Pn**	**11 27 08.1**	**+0.9**
LUWI	**Luwuk**	**4.60**	**271**	Pn	**Pn**	**11 27 12.9**	**+0.8**
LUWI	**Luwuk**	**4.60**	**271**	P	**Pn**	**11 27 12.8**	**+0.7**
LUWI	**Luwuk**	**4.60**	**271**	P	**Pn**	**11 27 12.9**	**+0.8**
SGSI	**Sangihe**	**5.09**	**339**	P	**Pn**	**11 27 21.1**	**+2.2**
	1.2nm108nm,0.5s						
FAKI	**Fak Fak**	**5.20**	**110**	Pn	**Pn**	**11 27 20.1**	**-0.3**
FAKI	**Fak Fak**	**5.20**	**110**	P	**Pn**	**11 27 19.9**	**-0.4**
	0.2nm60nm,0.8s						
FAKI	**Fak Fak**	**5.20**	**110**	P	**Pn**	**11 27 20.6**	**+0.3**
MRSI	**Marisa**	**5.65**	**286**	P	**Pn**	**11 27 26.1**	**-0.5**
	0.4nm755nm63nm,0.6s						
APSI	**Ampana**	**5.73**	**272**	P	**Pn**	**11 27 29.0**	**+1.4**
	5.1nm16μm1μm,0.4s						
TOLI2	**Tolitoli**	**6.95**	**288**	Pn	**Pn**	**11 27 46.0**	**+1.6**
TOLI2	**Tolitoli**	**6.95**	**288**	P	**Pn**	**11 27 46.6**	**+2.2**
MPSI	**Mapaga**	**7.61**	**281**	P	**Pn**	**11 27 55.7**	**+2.2**
	0.1nm23nm,0.7s						
BNSI	**Bone**	**7.97**	**246**	P	**Pn**	**11 28 00.4**	**+2.0**
	20nm,0.6s						
SPSI	**Sidrap Palu**	**8.11**	**249**	P	**Pn**	**11 28 02.9**	**+2.5**
	3μm225nm,0.5s						
BKSI	**Bulukumba**	**8.37**	**240**	P	**Pn**	**11 28 07.9**	**+4.0**
	680nm64nm,0.6s						
BSSI	**Bau Bau, Buton**	**8.50**	**234**	P	**Pn**	**11 28 08.9**	**+3.1**
	54nm,0.7s						
KAPI	**Kappang**	**8.55**	**243**	Pn	**Pn**	**11 28 05.0**	**-1.4**
	3.4nm,0.3s,baz=152,slow=8.5,SNR=4.1						
KAPI				Sn	**Sn**	**11 29 39.5**	**-3.5**
	2.8nm,0.3s,baz=127,slow=20,SNR=2.0						
KAPI				LR	LR	11 31 10.0	
	comp=Z,111nm,20.9s,baz=78,slow=37						
	4.2nm,0.5s						
KAPI	**Kappang**	**8.55**	**243**	Pn	**Pn**	**11 28 09.5**	**+3.1**
KAPI	**Kappang**	**8.55**	**243**	P	**Pn**	**11 28 09.3**	**+2.9**
	472nm48nm,0.7s						
KAPI	**Kappang**	**8.55**	**243**	P	**Pn**	**11 28 10.5**	**+4.1**
MMSI	**Mamuju**	**8.61**	**259**	P	**Pn**	**11 28 09.1**	**+1.9**
	28nm,0.6s						
PMSI	**Majene**	**8.78**	**254**	P	**Pn**	**11 28 11.9**	**+2.3**
	1μm106nm,0.8s						
MYLDM	**Lahad Datu**	**10.84**	**305**	Pn	**Pn**	**11 28 41.4**	**+3.6**
MYLDM	**Lahad Datu**	**10.84**	**305**	P	**Pn**	**11 28 40.4**	**+2.7**
	35nm,0.7s						
MTN	**Manton Dam**	**12.26**	**162**	Pn	**Pn**	**11 28 58.5**	**+1.4**
MTN	**Manton Dam**	**12.26**	**162**	P	**Pn**	**11 28 58.9**	**+1.7**
KDU	**Kakadu**	**12.58**	**157**	P	**Pn**	**11 29 01.0**	**-0.6**
KNRA	**Kununurra**	**14.56**	**175**	Pn	**Pn**	**11 29 29.9**	**+1.2**
KSM	**Kuching**	**17.25**	**278**	Pn	**Pn**	**11 30 03.9**	**+0.2**
KSM	**Kuching**	**17.25**	**278**	P	**Pn**	**11 30 03.6**	**-0.1**
	13nm,0.9s						
KSM	**Kuching**	**17.25**	**278**	P	**Pn**	**11 30 05.4**	**+1.7**
	13nm,0.9s						
WB0	**Warramunga Arr**	**19.79**	**160**	P	**P**	**11 30 33.0**	**-0.2**

WRAB	**Tennant Creek**	**19.93**	**160**	P	**P**	**11**	**30**	**33.9**	**-0.7**
WRAB				IAmb	IAmb	11	30	39.3	
	comp=Z,12nm,0.6s								
WRAB	**Tennant Creek**	**19.93**	**160**	P	**P**	**11**	**30**	**34.2**	**-0.4**
WRA	**Warramunga Arr**	**19.93**	**160**	P	**P**	**11**	**30**	**33.8**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=340,slow=12,SNR=43								
WRA				S	**S**	**11**	**34**	**12.3**	**-6.9**
	comp=Z,0.6nm,0.7s,baz=346,slow=22,SNR=3.0								
WRA				LR	LR	11	39	22.0	
	comp=Z,72nm,18.6s,baz=29,slow=40								
	comp=Z,5.1nm,0.4s								
WRA	**Warramunga Arr**	**19.93**	**160**	P	**P**	**11**	**30**	**34.8**	**+0.1**
WB2	**Warramunga Arr**	**19.94**	**160**	P	**P**	**11**	**30**	**35.0**	**+0.3**
WR0	**Warramunga Arr**	**20.02**	**160**	P	**P**	**11**	**30**	**35.5**	**-0.1**
COEN	**Coen**	**20.19**	**130**		Pn	**11**	**30**	**39.1**	**-0.3**
COEN				IAmb	IAmb	11	30	40.5	
	comp=Z,57nm,0.9s								
COEN	**Coen**	**20.19**	**130**	P	Pn	**11**	**30**	**39.6**	**+0.2**
LEM	**Lembang**	**20.51**	**253**	P	**P**	**11**	**30**	**40.6**	**-0.5**
	comp=Z,11nm,0.4s,baz=80,slow=17,SNR=1.7								
	comp=Z,11nm,0.4s								
PPBI	**Pangkal Pinang**	**21.25**	**267**	P	**P**	**11**	**30**	**50.3**	**+1.2**
	comp=Z,20nm,0.7s								
PMG	**Port Moresby**	**21.35**

MKAR Makanchi Array 61.88 327 P **P** 11 36 22.0 -0.1
KSH Kashi 61.93 317 P **P** 11 36 23.8 +1.0
KSH pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 62.06 326 P **P** 11 36 23.2 -0.1
BOOM Boomskoye usch 63.37 320 P **P** 11 36 32.3 -0.1
ZALV Zalesovo Beam 65.16 334 P **P** 11 36 42.3 -1.3
comp=Z,3.7nm,0.9s,baz=127,slow=4.7,SNR=9.1
comp=Z,3.7nm,0.9s
ZALV Zalesovo Beam 65.16 334 P **P** 11 36 42.2 -1.4
GAR Garm 65.68 314 P **P** 11 36 47.7 +0.2
KURK Kurchatov 66.14 328 P **P** 11 36 49.7 -0.3
KK31 Karatay Array 67.21 318 P **P** 11 36 56.7 -0.3
KK31 IAmb IAmb 11 36 57.7
comp=Z,5.3nm,0.9s
KKAR Karatay Array 67.21 318 P **P** 11 36 56.9 -0.1
KKAR Karatay Array 67.21 318 P **P** 11 36 57.4 +0.4
KKAR IAmb IAmb 11 36 57.7
comp=Z,5.3nm,0.9s
BVAR Borovoye Array 71.70 328 P **P** 11 37 23.9 -0.7
comp=Z,6.1nm,0.9s,baz=131,slow=8.1,SNR=20
comp=Z,6.1nm,0.9s
BRVK Borovoye 71.77 328 P **P** 11 37 24.8 -0.3
BRVK IAmb IAmb 11 37 25.3
comp=Z,9.3nm,1.1s
TIXI Tiksi 72.63 0 P **P** 11 37 28.7 -1.1
TIXI IAmb IAmb 11 37 29.6
comp=Z,3.6nm,0.4s
GEYT Alibeck 74.43 310 P **P** 11 37 40.6 -0.5
comp=Z,3.5nm,0.7s,baz=108,slow=4.8,SNR=5.1
comp=Z,3.5nm,0.7s
NRIK Noril'sk 75.24 346 P **P** 11 37 44.5 -0.5
comp=Z,9.4nm,0.7s,baz=124,slow=6.7,SNR=6.9
comp=Z,9.4nm,0.7s
NRIK Noril'sk 75.24 346 P **P** 11 37 44.7 -0.4
NRIK IAmb IAmb 11 37 45.7
comp=Z,9.8nm,0.8s
NRIK Noril'sk 75.24 346 *ce* **P** 11 37 44.9 -0.2
NRIK Noril'sk 75.24 346 pmax pmax
comp=Z,11nm,0.8s
ABKAR Akbulak array 76.28 321 P **P** 11 37 50.7 -0.8
ABKAR Akbulak array 76.28 321 P **P** 11 37 51.0 -0.5
ABKAR IAmb IAmb 11 37 51.6
comp=Z,6.8nm,1.0s
VNDA Vanda 78.59 173 P **P** 11 38 03.2 -0.7
comp=Z,0.8nm,0.7s,baz=314,slow=9.1,SNR=5.7
comp=Z,0.8nm,0.7s
VNDA Vanda 78.59 173 P **P** 11 38 04.0 +0.1
VNDA IAmb IAmb 11 40 29.0
comp=Z,8.5nm,1.8s
ARU Arti 79.34 328 P **P** 11 38 06.8 -1.6
comp=Z,5.2nm,0.7s,baz=87,slow=2.8,SNR=6.2
comp=Z,5.2nm,0.7s
OPO Ambohidratompo 80.35 251 P **P** 11 38 13.5 -1.4
comp=Z,1.8nm,0.7s,baz=359,slow=11,SNR=3.6
comp=Z,1.8nm,0.7s
BELG Belogornoye 84.60 323 P **P** 11 38 33.8 -2.3
comp=Z,22nm,0.9s,baz=192,slow=1.4,SNR=6.0
comp=Z,22nm,0.9s
QSPA South Pole Qui 88.84 180 P **P** 11 38 55.6 -1.1
comp=Z,4.6nm,0.9s,baz=352,slow=3.7,SNR=13
comp=Z,4.6nm,0.9s
QSPA South Pole Qui 88.84 180 P **P** 11 38 56.2 -0.5
QSPA IAmb IAmb 11 39 00.8
comp=Z,5.3nm,0.9s
ILAR Eielson Array 89.16 25 P **P** 11 38 56.4 -1.6
comp=Z,0.5nm,0.8s,baz=247,slow=5.3,SNR=2.0
comp=Z,0.5nm,0.8s
ARCES ARCESS Array B 95.17 340 P **P** 11 39 23.5 -2.3
comp=Z,2.9nm,0.9s,baz=81,slow=6.7,SNR=1.4
comp=Z,2.9nm,0.9s

*NEIC **19** 11:28:30.8±1.4, 17°.82N±0°.02×100°.19W±0°.05, h51km±8km, mb3.9/21, Md4.3/130(MEX), Error ellipse: s-maj=7.5km s-min=3.3km az=96.0*
*MEX **19** 11:28:31.1±0.7, 17°.83N×100°.21W, h64km±6km, MD4.3*
*IDC **19** 11:28:34.5±1.2, 18°.06N×99°.78W, h92km±7km, mb3.4/7, mbtmp3.7/10, MS3.1/6, Error ellipse: s-maj=27.7km s-min=12.9km az=26.0*
ISC 19 11:28:30.4±0.6, 17°.85N±0°.02×100°.16W±0°.02, h58km±4km, n143, σ2ᵗ37/234, mb3.9/10, MS3.1/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARIG	**Puente Sto Nin**	**0.47**	**338**			**Pn**	**11 28 41.9**	**-0.1**
ARIG						**Sn**	**11 28 50.1**	**-0.2**
ARIG	**Puente Sto Nin**	**0.47**	**338**	*i* P		**Pn**	**11 28 41.9**	**-0.1**
ARIG				*i* S		**Sn**	**11 28 50.1**	**-0.2**
MEIG	**Mezcala**	**0.52**	**81**			**Pn**	**11 28 42.6**	**0.0**
MEIG						**Sn**	**11 28 51.5**	**+0.1**
MEIG	**Mezcala**	**0.52**	**81**	*e*P		**Pn**	**11 28 42.6**	**0.0**
MEIG				*i* S		**Sn**	**11 28 51.5**	**+0.1**
ATYC	**Atoyac**	**0.68**	**202**	*e*P		**Pn**	**11 28 43.2**	**-1.2**
ATYC				*e*S		**Sn**	**11 28 54.0**	**-0.5**
CAIG	**El Cayaco**	**0.80**	**187**			**Pn**	**11 28 45.0**	**-0.8**
CAIG						**Sn**	**11 28 56.2**	**-0.9**
CAIG	**El Cayaco**	**0.80**	**187**	*i* P		**Pn**	**11 28 45.0**	**-0.8**
CAIG				*e*S		**Sn**	**11 28 56.2**	**-0.9**
PLIG	**Platanillo**	**0.83**	**49**			**Pn**	**11 28 46.8**	**+0.4**
PLIG						**Sn**	**11 28 58.6**	**+0.6**
PLIG	**Platanillo**	**0.83**	**49**	*i* P		**Pn**	**11 28 46.8**	**+0.4**
PLIG				*i* S		**Sn**	**11 28 58.6**	**+0.6**
DAIG	**Los Arroyos**	**0.95**	**149**			**Pn**	**11 28 47.6**	**-0.2**
DAIG						**Sn**	**11 29 00.7**	**+0.1**
DAIG	**Los Arroyos**	**0.95**	**149**	*i* P		**Pn**	**11 28 47.6**	**-0.2**
DAIG				*i* S		**Sn**	**11 29 00.7**	**+0.1**
VNTA	**La Mica**	**0.98**	**160**	*e*P		**Pn**	**11 28 47.2**	**-1.0**
VNTA				*e*S		**Sn**	**11 29 00.4**	**-0.9**
ACP2	**Acapulco**	**1.00**	**165**			**Pn**	**11 28 47.2**	**-1.2**
ACP2						**Sn**	**11 29 01.0**	**-0.7**
ACP2	**Acapulco**	**1.00**	**165**	*e*P		**Pn**	**11 28 47.2**	**-1.2**
ACP2				*e*S		**Sn**	**11 29 01.0**	**-0.7**
TEJU	**Tejupilco**	**1.05**	**0**	*e*P		**Pn**	**11 28 48.8**	**-0.4**
TEJU				*e*S		**Sn**	**11 29 02.5**	**-0.7**
MAVM	**Malinalco, Edo**	**1.27**	**30**			Pn	11 28 59.0	+6.8
MAVM						**Sn**	**11 29 14.9**	**+6.4**
MAVM	**Malinalco, Edo**	**1.27**	**30**	*i* P		Pn	11 28 59.0	+6.8
MAVM				*e*S		**Sn**	**11 29 14.9**	**+6.4**
YAIG	**Yautepec**	**1.45**	**46**			**Pn**	**11 28 54.7**	**+0.2**
YAIG						**Sn**	**11 29 10.2**	**-2.5**
YAIG	**Yautepec**	**1.45**	**46**	*e*P		**Pn**	**11 28 54.7**	**+0.2**
YAIG				*i* S		**Sn**	**11 29 10.2**	**-2.5**
CRIG	**Cruz Grande**	**1.48**	**138**			**Pn**	**11 28 54.7**	**-0.1**
CRIG						**Sn**	**11 29 08.6**	**-4.5**
CRIG	**Cruz Grande**	**1.48**	**138**	*i* P		**Pn**	**11 28 54.7**	**-0.1**
CRIG				*e*S		**Sn**	**11 29 08.6**	**-4.5**
TOVM	**TOLUCA**	**1.50**	**18**			**Pn**	**11 28 55.8**	**+0.3**
TOVM						**Sn**	**11 29 11.3**	**-2.9**
TOVM	**TOLUCA**	**1.50**	**18**	*e*P		**Pn**	**11 28 55.8**	**+0.3**
TOVM				*e*S		**Sn**	**11 29 11.3**	**-2.9**
HMTT	**Tlapaneco**	**1.53**	**92**			**Pn**	**11 28 55.9**	**+0.3**
HMTT						**Sn**	**11 29 14.6**	**+0.2**
HMTT	**Tlapaneco**	**1.53**	**92**	*e*P		**Pn**	**11 28 55.9**	**+0.3**
HMTT				*e*S		**Sn**	**11 29 14.6**	**+0.2**
TLIG	**Tlapa**	**1.55**	**100**			**Pn**	**11 28 56.0**	**+0.2**
TLIG	**Tlapa**	**1.55**	**100**	*e*P		**Pn**	**11 28 56.9**	**+1.1**
TLIG				*i* S		**Sn**	**11 29 13.1**	**-1.8**
UON	**La Union**	**1.58**	**275**	*e*P		**Pn**	**11 28 57.3**	**+1.2**
UON				*e*S		**Sn**	**11 29 15.0**	**-0.6**
MGIG	**Malinaltepec**	**1.58**	**112**			**Pn**	**11 28 57.1**	**+0.8**
MGIG						**Sn**	**11 29 13.7**	**-2.2**
MGIG	**Malinaltepec**	**1.58**	**112**	*e*P		**Pn**	**11 28 57.1**	**+0.8**
MGIG				*e*S		**Sn**	**11 29 13.7**	**-2.2**
INVM	**La Marquesa**	**1.62**	**27**	*i* P		**Pn**	**11 28 57.3**	**+0.2**
INVM				*e*S		**Sn**	**11 29 14.5**	**-2.5**
AOVM	**Tlapan**	**1.62**	**29**	*i* P		**Pn**	**11 28 57.7**	**+0.5**
AOVM				*e*S		**Sn**	**11 29 17.1**	**-0.2**
TLVM	**San Miguel Top**	**1.66**	**35**	*e*P		**Pn**	**11 28 58.2**	**+0.6**
TLVM				*e*S		**Sn**	**11 29 14.5**	**-3.6**
XCVM	**Xochimilco**	**1.72**	**35**	*e*P		**Pn**	**11 28 58.8**	**+0.5**
XCVM				*e*S		**Sn**	**11 29 17.6**	**-1.6**
CJVM	**Cuajimalpa**	**1.72**	**29**	*i* P		**Pn**	**11 28 59.3**	**+0.9**
CJVM				*e*S		**Sn**	**11 29 16.4**	**-3.1**
MPVM	**San Francisco**	**1.73**	**39**	*e*P		**Pn**	**11 28 58.6**	**+0.1**
MPVM				*e*S		**Sn**	**11 29 16.2**	**-3.5**
CNCY	**Coyoacan**	**1.74**	**32**	*e*P		**Pn**	**11 28 58.9**	**+0.3**
CNCY				*e*S		**Sn**	**11 29 17.8**	**-2.0**
CUIG	**Ciudad Univers**	**1.75**	**32**			**Pn**	**11 28 59.5**	**+0.8**
CUIG						**Sn**	**11 29 14.7**	**-5.3**
UNM	**Universidad Na**	**1.75**	**32**			**Pn**	**11 28 59.6**	**+1.0**
UNM	**Universidad Na**	**1.75**	**32**	*e*P		**Pn**	**11 28 59.3**	**+0.6**
UNM				*e*P			11 28 59.5	
UNM				*e*S		**Sn**	**11 29 14.7**	**-5.3**
UNM				*e*S			11 29 15.7	
COVM	**Coyoacan**	**1.78**	**32**	*e*P		**Pn**	**11 28 58.3**	**-0.8**
COVM				*e*P			11 28 59.9	
COVM				*e*S		**Sn**	**11 29 17.2**	**-3.5**
COVM				*e*S			11 29 17.4	
BJVM	**Benito Juarez**	**1.79**	**32**	*i* P		**Pn**	**11 28 59.9**	**+0.6**
BJVM				*e*S		**Sn**	**11 29 16.6**	**-4.5**
MHVM	**Bosque de Chap**	**1.80**	**30**	*e*P		**Pn**	**11 29 00.1**	**+0.7**
MHVM				*e*S		**Sn**	**11 29 22.9**	**+1.6**
AMVM	**AMECAMECA**	**1.83**	**45**			**Pn**	**11 29 00.2**	**+0.4**
AMVM						**Sn**	**11 29 18.2**	**-3.8**
AMVM	**AMECAMECA**	**1.83**	**45**	*e*P		**Pn**	**11 29 00.2**	**+0.4**
AMVM				*e*S		**Sn**	**11 29 20.9**	**-1.1**
THVM	**De Xico**	**1.84**	**38**	*e*P		**Pn**	**11 29 00.7**	**+0.7**
THVM				*e*S		**Sn**	**11 29 18.8**	**-3.5**
APVM	**Azcapotzalco**	**1.87**	**29**	*i* P		**Pn**	**11 29 00.7**	**+0.4**
APVM				*e*S		**Sn**	**11 29 24.8**	**+1.8**
PPIG	**Popocatepetl**	**1.90**	**50**			**Pn**	**11 29 01.6**	**+0.7**
PPIG						**Sn**	**11 29 20.3**	**-3.7**
PPM	**Popocatepetl**	**1.90**	**50**	*i* P		**Pn**	**11 29 01.6**	**+0.7**
PPM				*e*S		**Sn**	**11 29 20.3**	**-3.7**
GMVM	**Gustavo A Made**	**1.92**	**31**	*i* P		**Pn**	**11 29 01.1**	**+0.1**
GMVM				*e*S		**Sn**	**11 29 18.5**	**-5.7**
AZVM	**Cuida Lopez Ma**	**1.92**	**26**	*e*		Pn	11 29 12.4	+11
AZVM				*e*			11 29 29.3	
FTIG	**Fresnillo de T**	**1.93**	**88**			**Pn**	**11 29 02.3**	**+1.2**
FTIG						**Sn**	**11 29 21.9**	**-2.5**
FTIG	**Fresnillo de T**	**1.93**	**88**	*e*P		**Pn**	**11 29 02.3**	**+1.2**
FTIG				*e*S		**Sn**	**11 29 21.9**	**-2.5**
TXVM	**Universitario**	**1.97**	**37**	*e*P		**Pn**	**11 29 00.9**	**-0.9**
TXVM				*e*S		**Sn**	**11 29 21.4**	**-4.2**
PTVM	**Pico Tres Padr**	**2.00**	**30**			**Pn**	**11 29 02.4**	**+0.2**
PTVM						**Sn**	**11 29 19.6**	**-6.6**
PTVM	**Pico Tres Padr**	**2.00**	**30**	*e*P		**Pn**	**11 29 02.4**	**+0.2**
PTVM				*e*S		**Sn**	**11 29 19.6**	**-6.6**
MOIG	**Morelia**	**2.07**	**332**			**Pn**	**11 29 03.7**	**+0.7**
MOIG	**Morelia**	**2.07**	**332**	*e*P		**Pn**	**11 29 04.0**	**+1.0**
MOIG				*e*S		**Sn**	**11 29 26.7**	**-1.1**
ACIG	**Acambay**	**2.14**	**7**			**Pn**	**11 29 04.4**	**+0.4**
ACIG						**Sn**	**11 29 22.8**	**-6.7**
ACIG	**Acambay**	**2.14**	**7**	*e*P		**Pn**	**11 29 04.4**	**+0.4**
ACIG				*e*S		**Sn**	**11 29 22.8**	**-6.7**
ZUVM	**ZUMPANGO**	**2.22**	**27**			**Pn**	**11 29 05.3**	**+0.1**
ZUVM						**Sn**	**11 29 23.6**	**-8.0**
ZUVM	**ZUMPANGO**	**2.22**	**27**	*e*P		**Pn**	**11 29 05.3**	**+0.1**
ZUVM				*e*S		**Sn**	**11 29 23.6**	**-8.0**
PHPU	**Puebla**	**2.24**	**57**			**Pn**	**11 29 05.6**	**+0.2**
PHPU						**Sn**	**11 29 33.3**	**+1.4**
PHPU	**Puebla**	**2.24**	**57**	*e*P		**Pn**	**11 29 05.6**	**+0.2**
PHPU				*e*S		**Sn**	**11 29 33.3**	**+1.4**
HLIG	**Huajuapan de L**	**2.25**	**90**			**Pn**	**11 29 06.9**	**+1.5**
HLIG						**Sn**	**11 29 27.8**	**-4.4**
HLIG	**Huajuapan de L**	**2.25**	**90**	*e*P		**Pn**	**11 29 06.9**	**+1.5**
HLIG				*e*S		**Sn**	**11 29 27.8**	**-4.4**
TXIG	**Tlaxiaco**	**2.36**	**104**			**Pn**	**11 29 08.6**	**+1.6**
TXIG						**Sn**	**11 29 35.0**	**0.0**
TXIG	**Tlaxiaco**	**2.36**	**104**	*e*P		**Pn**	**11 29 08.6**	**+1.6**
TXIG				*e*S		**Sn**	**11 29 35.0**	**0.0**
PNIG	**Pinotepa**	**2.42**	**126**			**Pn**	**11 29 08.1**	**+0.4**
PNIG						**Sn**	**11 29 42.0**	**+5.8**
PNIG	**Pinotepa**	**2.42**	**126**	*e*P		**Pn**	**11 29 08.1**	**+0.4**
PNIG				*e*S		**Sn**	**11 29 39.0**	**+2.8**
DHIG	**Demacu**	**2.66**	**23**			**Pn**	**11 29 11.0**	**-0.2**
DEIG	**Demacu**	**2.67**	**23**	*i* P		**Pn**	**11 29 11.0**	**-0.2**
YOIG	**Yosondua**	**2.69**	**111**			**Pn**	**11 29 13.1**	**+1.6**
YOIG						**Sn**	**11 29 41.0**	**-2.0**
YOIG	**Yosondua**	**2.69**	**111**	*e*P		**Pn**	**11 29 13.1**	**+1.6**
YOIG				*e*S		**Sn**	**11 29 41.0**	**-2.0**
TPIG	**Tehuac#an**	**2.72**	**77**			**Pn**	**11 29 10.5**	**-1.4**
TPIG						**Sn**	**11 29 47.7**	**+3.9**
TPIG	**Tehuac#an**	**2.72**	**77**	*e*P		**Pn**	**11 29 10.5**	**-1.4**
TPIG				*i* S		**Sn**	**11 29 47.7**	**+3.9**
JRQG	**Juriquilla Cam**	**2.86**	**355**	*e*P		**Pn**	**11 29 13.9**	**+0.1**
JRQG				*i* S		**Sn**	**11 29 45.8**	**-1.3**
TOIG	**Toxpalan**	**2.96**	**85**			**Pn**	**11 29 16.5**	**+1.5**
TOIG						**Sn**	**11 29 54.3**	**+4.8**
TOIG	**Toxpalan**	**2.96**	**85**	*e*P		**Pn**	**11 29 16.5**	**+1.5**
TOIG				*i* S		**Sn**	**11 29 54.3**	**+4.8**
MMIG	**Aquila**	**3.06**	**279**			**Pn**	**11 29 14.9**	**-1.4**
MMIG						**Sn**	**11 29 45.2**	**-6.6**
MMIG	**Aquila**	**3.06**	**279**	*i* P		**Pn**	**11 29 14.9**	**-1.4**
MMIG				*e*S		**Sn**	**11 29 45.2**	**-6.6**
CXUV	**Coxquihui**	**3.36**	**46**	*e*P		**Pn**	**11 29 20.7**	**+0.2**
CXUV				*e*S		**Sn**	**11 29 59.9**	**+0.8**
CXUV				*e*S			11 30 00.1	
OXIG	**Oaxaca**	**3.36**	**103**			**Pn**	**11 29 22.4**	**+1.7**
OXIG						**Sn**	**11 29 55.0**	**-4.5**
VHO	**Vista Hermosa**	**3.36**	**103**	*e*P		**Pn**	**11 29 22.4**	**+1.7**
VHO				*e*S		**Sn**	**11 29 55.0**	**-4.5**
PEIG	**Puerto Escondi**	**3.42**	**122**			**Pn**	**11 29 22.6**	**+1.3**
PEIG						**Sn**	**11 29 57.1**	**-3.6**
PEIG	**Puerto Escondi**	**3.42**	**122**	*e*P		**Pn**	**11 29 22.6**	**+1.3**
PEIG				*e*S		**Sn**	**11 29 57.1**	**-3.6**
JAUV	**Jalcomulco**	**3.53**	**64**	*e*P		**Pn**	**11 29 24.7**	**+1.9**
JAUV				*e*S		**Sn**	**11 30 04.8**	**+1.5**
COIG	**Colima**	**3.60**	**292**	*e*P		**Pn**	**11 29 24.8**	**+0.9**
COIG				*e*S		**Sn**	**11 30 05.0**	**-0.2**
JUBC	**Volcan de Coli**	**3.63**	**298**	*e*P		**Pn**	**11 29 26.9**	**+2.5**
JUBC				*e*S		**Sn**	**11 30 07.6**	**+1.3**
EZ5V		**3.64**	**297**			**Sn**	**11 30 09.6**	**+3.1**
EZ5V		**3.64**	**297**	*e*P		**Pn**	**11 29 28.1**	**+3.5**
EZ5V				*e*S		**Sn**	**11 30 09.6**	**+3.1**
MNGA	**Volcan de Coli**	**3.65**	**297**	*e*P		**Pn**	**11 29 25.7**	**+1.0**
MNGA				*e*S		**Sn**	**11 30 08.3**	**+1.6**
INCO	**Volcan de Coli**	**3.67**	**298**	*e*P		**Pn**	**11 29 27.2**	**+2.2**
INCO				*e*S		**Sn**	**11 30 07.3**	**+0.1**
CDAR	**Ciudad de Arme**	**3.81**	**287**	*e*P		**Pn**	**11 29 27.5**	**+0.8**
CDAR				*e*S		**Sn**	**11 30 08.4**	**-1.8**
R15V		**3.86**	**291**			**Pn**	**11 29 28.9**	**+1.6**
R15V		**3.86**	**291**	*e*P		**Pn**	**11 29 28.9**	**+1.6**
R15V				*e*S		**Sn**	**11 30 13.6**	**+2.1**
RPIG	**Rio Verde**	**4.02**	**2**	*e*P		**Pn**	**11 29 29.4**	**-0.2**
RPIG				*e*S		**Sn**	**11 30 16.7**	**+1.1**
NEUV	**Arroyo Zacate**	**4.16**	**91**	*e*P		**Pn**	**11 29 32.9**	**+1.5**
NEUV				*e*S		**Sn**	**11 30 16.2**	**-2.5**
CIHU	**Emiliano Zapat**	**4.56**	**289**	*e*P		**Pn**	**11 29 37.2**	**+0.2**
CIHU				*e*S		**Sn**	**11 30 26.1**	**-2.6**
CIHU				*i* S			11 30 26.4	
AAIG	**Aguscalientes**	**4.60**	**333**			**Pn**	**11 29 38.8**	**+1.1**
AAIG	**Aguscalientes**	**4.60**	**333**	*e*P		**Pn**	**11 29 38.8**	**+1.1**
AAIG				*e*S		**Sn**	**11 30 29.3**	**-0.7**
CMIG	**Matias Romero**	**5.09**	**98**	P		**Pn**	**11 29 45.8**	**+1.5**
	1.9nm,0.3s,baz=277,slow=15,SNR=15							
CMIG				S		**Sn**	**11 30 38.4**	**-3.4**
	30nm,0.6s,baz=306,slow=14,SNR=9.1							
ESTA	**Talpa de Allen**	**5.10**	**301**	*e*P		**Pn**	**11 29 46.6**	**+2.1**
ESTA				*e*S		**Sn**	**11 30 42.4**	**+0.3**
ZAIG	**Zacatecas**	**5.39**	**336**			**Pn**	**11 29 49.5**	**+0.9**
TXAR	**Lajitas Array**	**11.88**	**345**	P		**Pn**	**11 31 19.4**	**+2.3**
	0.8nm,0.9s,baz=155,slow=15,SNR=3.9							
TXAR				LR		LR	11 35 13.9	
	comp=Z,56nm,21.3s,baz=126,slow=34							
ABTX	**Abilene, Hawle**	**14.72**	**2**			**Pn**	**11 31 56.3**	**+0.9**
CLN7	**Carlsbad 7**	**14.87**	**348**	P		**Pn**	**11 31 59.7**	**+2.3**
HTMS	**Hat Mesa**	**14.90**	**349**	P		**Pn**	**11 31 59.8**	**+2.1**
Z38A	**Mt. Pleasant**	**16.04**	**16**	P		**P**	**11 32 15.1**	**+0.4**
Z38A						IAmb	IAmb	11 32 16.8
	comp=Z,13nm,0.8s							
ORTG	**Ortega, Santa**	**16.08**	**116**			**P**	**11 32 15.8**	**+0.5**
ORTG						IAmb	IAmb	11 32 36.8
	comp=Z,16nm,1.0s							
MSTX	**Muleshoe**	**16.23**	**352**	P		**Pn**	**11 32 15.6**	**+0.9**
WMOK	**Wichita Mounta**	**16.87**	**4**	P		**P**	**11 32 24.4**	**+0.5**
AMTX	**Amarillo**	**17.02**	**356**	P		**Pn**	**11 32 25.4**	**+0.7**
AMTX						IAmb	IAmb	11 32 25.7
	comp=Z,7.5nm,0.7s							
MIAR	**Mount Ida**	**17.64**	**18**	P		**P**	**11 32 33.4**	**+1.0**
MIAR						IAmb	IAmb	11 32 52.9
	comp=Z,9.7nm,1.2s							
ANMO	**Albuquerque**	**17.93**	**343**	P		**P**	**11 32 36.3**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=142,slow=12,SNR=4.8							
ANMO				LR		LR	11 39 05.2	
	comp=Z,37nm,21.8s,baz=135,slow=35							
ANMO	**Albuquerque**	**17.93**	**343**	P		**Pn**	**11 32 38.0**	**+2.1**
TUL1	**Leonard**	**18.41**	**11**	P		**P**	**11 32 41.6**	**+0.7**
WHAR	**Wooly Hollow**	**18.73**	**20**	P		**P**	**11 32 45.5**	**+1.0**
X18A	**Snowflake**	**18.77**	**334**	P		**Pn**	**11 32 46.5**	**+0.4**
LRAL	**Lakeview Retre**	**19.21**	**36**	P		**P**	**11 32 50.1**	**+0.5**
LRAL						IAmb	IAmb	11 32 50.6
	comp=Z,7.2nm,1.4s							
U38A	**Gravette**	**19.21**	**14**	P		**P**	**11 32 49.6**	**-0.1**
U38A						IAmb	IAmb	11 32 50.6
	comp=Z,7.7nm,1.1s							
T35A	**Sooner Cattle**	**19.27**	**9**	P		**P**	**11 32 50.0**	**-0.3**
FCAR	**Ozark Folk Cen**	**19.34**	**20**	P		**P**	**11 32 51.8**	**+0.8**
FCAR						IAmb	IAmb	11 32 55.2
	comp=Z,5.7nm,0.9s							
SDCO	**Great Sand Dun**	**20.37**	**348**	P		Pn	11 33 04.9	-0.2
S22A	**4UR Ranch, Cre**	**20.67**	**345**	P		**P**	**11 33 08.0**	**+2.1**
WVT	**Waverly**	**21.23**	**29**	P		**P**	**11 33 11.1**	**-0.4**
WVT						IAmb	IAmb	11 33 12.0
	comp=Z,7.6nm,1.2s							
GOGA	**Godfrey**	**21.56**	**41**	P		**P**	**11 33 16.4**	**+1.3**
GOGA						IAmb	IAmb	11 33 18.3
	comp=Z,4.2nm,0.8s							
W52A	**Murphy**	**22.45**	**37**	P		**P**	**11 33 25.6**	**+1.0**
TKL	**Tuckaleechee C**	**22.94**	**36**	P		**P**	**11 33 27.1**	**-2.6**
	comp=Z,3.1nm,0.9s,baz=202,slow=11,SNR=4.9							
	comp=Z,3.1nm,0.9s							
TKL	**Tuckaleechee C**	**22.94**	**36**	P		**P**	**11 33 29.7**	**0.0**
TKL						IAmb	IAmb	11 33 30.7
	comp=Z,8.7nm,1.1s							
BG3	**Lake Jocassee**	**22.96**	**39**	P		**P**	**11 33 29.9**	**-0.1**
BG3						IAmb	IAmb	11 33 31.5
	comp=Z,7.8nm,0.9s							
NVAR	**Mina Array Bea**	**25.92**	**326**	P		**P**	**11 33 58.1**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=184,slow=12,SNR=2.4							
NVAR				pP		**sP**	**11 34 19.6**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=150,slow=10,SNR=7.2							
	comp=Z,0.5nm,0.5s							
PDAR	**Pinedale Array**	**26.09**	**344**	P		**P**	**11 33 58.8**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=142,slow=12,SNR=5.3							
PDAR				pP		**sP**	**11 34 21.0**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=155,slow=11,SNR=6.5							
PDAR				LR		LR	11 45 34.2	
	comp=Z,75nm,21.1s,baz=202,slow=39							
	comp=Z,0.3nm,0.5s							
ELK	**Elko**	**26.26**	**333**	LR		LR	11 44 03.9	
	comp=Z,67nm,20.0s,baz=166,slow=35							
SDV	**Santo Domingo**	**30.04**	**103**	LR		LR	11 48 36.6	
	comp=Z,36nm,18.5s,baz=65,slow=40							
NNA	**Nana**	**37.53**	**141**	LR		LR	11 48 32.7	
	comp=Z,18nm,18.3s,baz=240,slow=32							
SCHQ	**Schefferville**	**44.86**	**27**	P		**P**	**11 36 35.6**	**-3.2**
	comp=Z,1.4nm,0.6s,baz=227,slow=18,SNR=1.6							
	comp=Z,1.4nm,0.6s							
YKA	**Yellowknife Ar**	**45.73**	**351**	P		**P**	**11 36 44.4**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=162,slow=6.8,SNR=2.5							
YKA				pP		**sP**	**11 37 06.0**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=160,slow=7.1,SNR=4.6							
	comp=Z,0.9nm,0.7s							
ILAR	**Eielson Array**	**56.29**	**338**	P		**P**	**11 38 05.4**	**+0.6**
	comp=Z,1.1nm,1.0s,baz=152,slow=5.8,SNR=6.3							
ILAR				pP		**sP**	**11 38 26.7**	**-0.4**
	comp=Z,3.2nm,1.1s,baz=135,slow=5.1,SNR=9.9							
	comp=Z,1.1nm,1.0s							
SEY	**Seymchan**	**81.94**	**334**	P		**P**	**11 40 44.5**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=72,slow=16,SNR=1.3							
	comp=Z,1.5nm,0.9s							
STKA	**Stephens Creek**	**122.92**	**243**	PKP		**PKPdf**	**11 47 20.2**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=87,slow=6.6,SNR=3.4							
WRA	**Warramunga Arr**	**128.58**	**258**	PKP		**PKPdf**	**11 47 31.9**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=79,slow=2.2,SNR=11					

MLR	Muntele Rosu	0.44	243	⇑P	Pn	11 30 59.7	-0.9	IAS	Iasi	1.67	25	⇓P	Pn	11 31 10.2	-0.6	SEV	Sevastopol'	5.19	100 ⇓*i*P	Pn	11 31 54.4	-1.2
MLR				⇑S	Sn	11 31 15.4	-1.0	IAS				⇓S	Sn	11 31 33.0	-1.6	SEV			Pm		11 31 54.5	
MLR	Muntele Rosu	0.44	243 P		Pn	11 30 59.6	-1.0	IAS	Iasi	1.67	25	⇓P	Pn	11 31 10.2	-0.6		comp=Z,29nm,0.3s					
	927nm,0.3s,baz=351,slow=13,SNR=2146							IAS				⇓S	Sn	11 31 33.0	-1.6	SEV			⇑*i*P	Pn	11 32 00.6	+5.0
MLR				S	Sn	11 31 14.8	-1.7	PRAR	RASCA	1.68	353	⇑P	Pn	11 31 10.2	-0.8	SEV	Sevastopol'	5.19	100 P	Pn	11 31 54.4	-1.2
	701nm,0.4s,baz=121,slow=19,SNR=12							PRAR	RASCA	1.68	353	⇑P	Pn	11 31 10.2	-0.8	SEV			Pm		11 31 54.5	
GRER		0.45	133 ⇑P		Pn	11 30 59.2	-1.3	RMVG	GOVORA	1.70	248	⇑S	Sn	11 31 33.9	-1.4	SEV	Sevastopol'	5.19	100 ⇓*i*P	Pn	11 31 54.4	-1.2
GRER				⇓S	Sn	11 31 14.6	-1.6	RMVG	GOVORA	1.70	248	⇑S	Sn	11 31 33.9	-1.4	SEV			pmax	pmax		
GRER		0.45	133 ⇑P		Pn	11 30 59.2	-1.3	CVDA	Cernavoda	1.74	141	⇑P	Pn	11 31 10.8	-0.8		comp=Z,29nm,0.3s					
GRER				⇓S	Sn	11 31 14.6	-1.6	CVDA				⇑S	Sn	11 31 33.7	-2.3	AK13	Malin Array Si	5.21	18 P	Pn	11 31 54.3	-1.5
PANC	Panciu	0.48	68 ⇑P		Pn	11 31 00.2	-0.4	CVDA	Cernavoda	1.74	141	⇑P	Pn	11 31 10.8	-0.8	AK06	Malin Array Si	5.22	19 P	Pn	11 31 54.6	-1.2
PANC				⇑S	Sn	11 31 15.6	-0.9	CVDA				⇑S	Sn	11 31 33.7	-2.3	AK14	Malin Array Si	5.24	18 P	Pn	11 31 54.8	-1.3
PANC	Panciu	0.48	68 ⇑P		Pn	11 31 00.2	-0.4	CVD1	Cernavoda-Powe	1.76	141	⇑P	Pn	11 31 10.9	-0.9	AK10	Malin Array Si	5.24	19 P	Pn	11 31 54.9	-1.3
PANC				⇑S	Sn	11 31 15.6	-0.9	CVD1				⇑S	Sn	11 31 33.8	-2.6	AK05	Malin Array Si	5.25	19 P	Pn	11 31 55.0	-1.3
ISR	Istrita	0.57	178 ⇑P		Pn	11 31 00.5	-0.7	CVD1	Cernavoda-Powe	1.76	141	⇑P	Pn	11 31 10.9	-0.9	AK09	Malin Array Si	5.26	20 P	Pn	11 31 55.2	-1.3
ISR				⇓S	Sn	11 31 16.3	-1.2	CVD1				⇑S	Sn	11 31 33.8	-2.6	AK08	Malin Array Si	5.28	19 P	Pn	11 31 55.2	-1.4
ISR	Istrita	0.57	178 ⇑P		Pn	11 31 00.5	-0.7	COPA	Copaceanca	1.81	211	⇑P	Pn	11 31 11.1	-1.3	AK16	Malin Array Si	5.28	18 P	Pn	11 31 55.3	-1.3
ISR				⇓S	Sn	11 31 16.3	-1.2	COPA				⇑S	Sn	11 31 34.7	-2.7	AK17	Malin Array Si	5.28	18 P	Pn	11 31 55.4	-1.3
OZUR		0.65	309 ⇑P		Pn	11 31 00.4	-1.2	COPA	Copaceanca	1.81	211	⇑P	Pn	11 31 11.1	-1.3	AK02	Malin Array Si	5.29	19 P	Pn	11 31 55.5	-1.2
OZUR		0.65	309 ⇑P		Pn	11 31 00.4	-1.2	COPA				⇑S	Sn	11 31 34.7	-2.7	AK11	Malin Array Si	5.30	19 P	Pn	11 31 55.6	-1.3
SECR		0.73	206 ⇑P		Pn	11 31 00.8	-1.3	ICOR	Ion Corvin	1.82	149	⇓P	Pn	11 31 11.9	-0.7	AK18	Malin Array Si	5.32	18 P	Pn	11 31 55.8	-1.3
SECR				⇓S	Sn	11 31 17.8	-1.3	ICOR				⇓S	Sn	11 31 35.4	-2.3	AK01	Malin Array Si	5.32	19 P	Pn	11 31 55.9	-1.3
SECR		0.73	206 ⇑P		Pn	11 31 00.8	-1.3	ICOR	Ion Corvin	1.82	149	⇓P	Pn	11 31 11.9	-0.7	AK20	Malin Array Si	5.32	17 P	Pn	11 31 55.8	-1.4
SECR				⇓S	Sn	11 31 17.8	-1.3	ICOR				⇓S	Sn	11 31 35.4	-2.3	AKASG	Malin Array Be	5.33	19 P	Pn	11 31 55.8	-1.6
GHRR		0.73	59 ⇑P		Pn	11 31 01.5	-0.5	TIRR	Tirgusor	1.83	132	⇑P	Pn	11 31 11.6	-1.0		comp=Z,5.3nm,0.3s,baz=203,slow=12,SNR=62					
GHRR				⇓S	Sn	11 31 18.6	-0.5	TIRR				⇑S	Sn	11 31 35.4	-2.4	AKASG			S	Sn	11 32 53.6	-4.3
GHRR		0.73	59 ⇑P		Pn	11 31 01.5	-0.5	TIRR	Tirgusor	1.83	132	⇑P	Pn	11 31 11.6	-1.0		comp=Z,1.2nm,0.3s,baz=198,slow=22,SNR=7.7					
GHRR				⇓S	Sn	11 31 18.6	-0.5	TIRR				⇑S	Sn	11 31 35.4	-2.4	AKASG	Malin Array Be	5.33	19 *i*P	Pn	11 31 54.5	-2.8
TUDR		0.82	96 ⇑P		Pn	11 31 01.8	-0.9	LOT	Lotru	1.94	264	⇓P	Pn	11 31 13.3	-0.7	AKASG			pmax	pmax		
TUDR				⇓S	Sn	11 31 18.8	-1.4	LOT				⇓S	Sn	11 31 39.5	-0.9		comp=Z,8.0nm,0.3s					
TUDR		0.82	96 ⇓P		Pn	11 31 01.8	-0.9	LOT	Lotru	1.94	264	⇓P	Pn	11 31 13.3	-0.7	AKBB	Malin Array Si	5.33	19 P	Pn	11 31 56.0	-1.3
TUDR				⇓S	Sn	11 31 18.8	-1.4	LOT				⇓S	Sn	11 31 39.5	-0.9	AKBB	Malin Array Si	5.33	19*c* *i*P	Pn	11 31 56.1	-1.3
TESR	Tescani	0.83	7 ⇑P		Pn	11 31 01.8	-1.0	MILM	Milestii Mici	2.01	52 *e*P		Pn	11 31 13.4	-1.3	AK04	Malin Array Si	5.34	18 P	Pn	11 31 56.1	-1.3
TESR	Tescani	0.83	7 ⇑P		Pn	11 31 01.8	-1.0		200nm,0.2s							SIM	Simferopol'	5.42	95 *e*P	Pn	11 31 55.9	-2.6
TESR	Tescani	0.83	7 P		Pn	11 31 01.8	-1.0	MILM				*i* S	Sn	11 31 38.4	-3.3	SIM			*e*S	Sn	11 32 57.0	-3.0
TESR				S	Sn	11 31 18.8	-1.6		900nm,0.3s							SIM			pmax	pmax		
DOPR	Dopca	0.83	290 ⇑P		Pn	11 31 01.9	-0.9	MILM	Milestii Mici	2.01	52 ⇓P		Pn	11 31 14.1	-0.6		comp=Z,17nm,0.7s					
DOPR				⇓S	Sn	11 31 19.1	-1.3	MILM	Milestii Mici	2.01	52 ⇓P		Pn	11 31 14.1	-0.6	SIM			smax	smax		
DOPR	Dopca	0.83	290 ⇑P		Pn	11 31 01.9	-0.9	MILM	Milestii Mici	2.01	52 m			11 30 58.1			comp=N,71nm,1.1s					
DOPR				⇓S	Sn	11 31 19.1	-1.3	MILM				P	Pn	11 31 13.4	-1.3	ALU	Alushta	5.67	97 Pm		11 32 00.7	
PLAR	PLOIESTI	0.85	204 ⇓P		Pn	11 31 02.5	-0.5	MILM				Pm		11 31 14.0			comp=Z,13nm,0.3s					
PLAR	PLOIESTI	0.85	204 ⇓P		Pn	11 31 02.5	-0.5	MILM				S	Sn	11 31 38.4	-3.3	ALU			⇑*i*P	Pn	11 32 04.5	+2.6
PGOR	Pogoanele	0.85	157 ⇑P		Pn	11 31 02.4	-0.5	MILM				Sm		11 31 38.6		ALU	Alushta	5.67	97 P	Pn	11 32 00.6	-1.3
PGOR	Pogoanele	0.85	157 ⇑P		Pn	11 31 02.4	-0.5	MILM	Milestii Mici	2.01	52 *d* *i*P		Pn	11 31 14.0	-0.7	ALU			Pm		11 32 00.7	
SLCR	Slobozia Conac	0.89	96 ⇑P		Pn	11 31 02.5	-0.7	MILM				*i* S	Sn	11 31 38.4	-3.3	ALU	Alushta	5.67	97 ⇑*i*P	Pn	11 32 00.6	-1.3
SLCR				⇓S	Sn	11 31 19.7	-1.4	MILM				pmax	pmax			ALU			pmax	pmax		
SLCR	Slobozia Conac	0.89	96 ⇑P		Pn	11 31 02.5	-0.7		comp=Z,620nm,0.3s								comp=Z,13nm,0.3s					
SLCR				⇑S	Sn	11 31 19.7	-1.4	MILM				pmax	pmax			VYHS	Vyhne	5.94	301 *e*P	Pn	11 32 06.6	+1.1
IZVR	Izvoarele	0.90	99 ⇓P		Pn	11 31 02.2	-1.0		comp=N,900nm,0.3s							VYHS	Vyhne	5.94	301 *e*P	Pn	11 32 06.7	+1.2
IZVR				⇓S	Sn	11 31 19.7	-1.5	MILM				pmax	pmax			SUDU	Sudak	6.04	95 Pm		11 32 06.3	
IZVR	Izvoarele	0.90	99 ⇓P		Pn	11 31 02.2	-1.0		comp=E,400nm,0.2s								comp=Z,20nm,0.3s					
IZVR				⇓S	Sn	11 31 19.7	-1.5	MFTR	Murfatlar	2.03	137 ⇑P		Pn	11 31 14.0	-1.0	SUDU	Sudak	6.04	95 P	Pn	11 32 04.5	-2.4
SCHL	Schela	0.95	101 ⇓P		Pn	11 31 02.8	-0.8	MFTR				⇓S	Sn	11 31 40.0	-2.1	SUDU			Pm		11 32 06.3	
SCHL				⇓S	Sn	11 31 20.3	-1.6	MFTR	Murfatlar	2.03	137 ⇑P		Pn	11 31 14.0	-1.0	SUDU	Sudak	6.04	95 ⇑*i*P	Pn	11 32 04.5	-2.4
SCHL	Schela	0.95	101 ⇓P		Pn	11 31 02.8	-0.8	MFTR				⇓S	Sn	11 31 40.0	-2.1	SUDU			pmax	pmax		
SCHL				⇓S	Sn	11 31 20.3	-1.6	KIS	Kishinev	2.06	50 ⇓*i*P		Pn	11 31 14.8	-0.5		comp=Z,20nm,0.3s					
VARL	Varlezi	0.96	77 ⇑P		Pn	11 31 03.2	-0.6		comp=E,230nm,0.1s							GERES	GERESS Array B	9.26	295 P	Pn	11 32 48.4	-1.5
VARL				⇑S	Sn	11 31 20.7	-1.5	KIS				⇑*i*S	Sn	11 31 40.6	-2.2		comp=Z,0.8nm,0.9s,baz=119,slow=13,SNR=4.9					
VARL	Varlezi	0.96	77 ⇑P		Pn	11 31 03.2	-0.6		comp=E,900nm,0.4s							KHC	Kasperske Hory	9.42	296 ⇓*e*P	Pn	11 32 52.5	+0.5
VARL				⇑S	Sn	11 31 20.7	-1.5	KIS	Kishinev	2.06	50 ⇓P		Pn	11 31 14.9	-0.5	KHC			pmax	pmax		
BIR	Birlad	0.97	53 ⇓S		Sn	11 31 21.2	-1.1	KIS	Kishinev	2.06	50 ⇓P		Pn	11 31 14.9	-0.5		comp=Z,3.0nm,1.3s					
BIR	Birlad	0.97	53 ⇓S		Sn	11 31 21.2	-1.1	KIS	Kishinev	2.06	50 P		Pn	11 31 14.8	-0.5	OBN	Obninsk	11.40	31 *i*P	Pn	11 33 16.9	-1.0
SULR		1.03	190 ⇑P		Pn	11 31 03.7	-0.7	KIS				Pm		11 31 15.0		OBN			pmax	pmax		
SULR				⇓S	Sn	11 31 21.6	-1.6	KIS				S	Sn	11 31 40.6	-2.2		comp=Z,7.0nm,1.0s					
SULR		1.03	190 ⇑P		Pn	11 31 03.7	-0.7	KIS				Sm		11 31 40.8		KBZ	Khabaz	11.83	94 P	Pn	11 33 24.0	+0.3
SULR				⇓S	Sn	11 31 21.6	-1.6	KIS				m		11 31 41.5			comp=Z,0.5nm,0.5s,baz=309,slow=18,SNR=1.2					
SCTR	Scanteiesti	1.04	90 ⇑P		Pn	11 31 04.1	-0.4	KIS	Kishinev	2.06	50 *d* *i*P		Pn	11 31 14.8	-0.5	FINES	FINESS Array B	15.79	359 P	Pn	11 34 10.2	-3.5
SCTR				⇓S	Sn	11 31 22.0	-1.4	KIS				*i* S	Sn	11 31 40.6	-2.2		comp=Z,5.8nm,1.0s,baz=160,slow=13,SNR=8.0					
SCTR	Scanteiesti	1.04	90 ⇑P		Pn	11 31 04.1	-0.4	KIS				pmax	pmax			FINES	FINESS Array B	15.79	359 *i* P	Pn	11 34 13.8	+0.2
SCTR				⇓S	Sn	11 31 22.0	-1.4		comp=Z,230nm,0.2s								comp=Z,4.0nm,0.9s					
VOIR		1.06	257 ⇑P		Pn	11 31 03.5	-1.3	KIS				smax	smax			HFS	Hagfors	16.35	337 P	Pn	11 34 19.0	-1.6
VOIR				⇑S	Sn	11 31 21.8	-2.0		comp=N,1μm,0.3s								comp=Z,5.4nm,1.1s,baz=151,slow=6.4,SNR=1.9					
VOIR		1.06	257 ⇑P		Pn	11 31 03.5	-1.3	KIS				smax	smax			NOA	NORSAR Array B	17.80	335 P	P	11 34 34.8	-1.9
VOIR				⇑S	Sn	11 31 21.8	-2.0		comp=E,1μm,0.4s								comp=Z,0.7nm,0.7s,baz=147,slow=12,SNR=2.4					
VOIR		1.06	257 P		Pn	11 31 03.5	-1.3	BURAR	Bucovina Array	2.12	336 ⇓P		Pn	11 31 17.0	+0.9	EKA	Eskdalemuir Ar	21.04	308 P	P	11 35 11.9	+0.2
TATR	Tatarca	1.08	94 ⇑P		Pn	11 31 04.5	-0.4	BURAR	Bucovina Array	2.12	336 ⇓P		Pn	11 31 17.0	+0.9		comp=Z,0.7nm,0.7s,baz=98,slow=10,SNR=1.2					
TATR				⇓S	Sn	11 31 22.7	-1.3	RAZG	Razgrad	2.12	180 ⇑P		Pn	11 31 14.9	-1.3		comp=Z,0.7nm,0.7s					
TATR	Tatarca	1.08	94 ⇑P		Pn	11 31 04.5	-0.4	RAZG				⇓S	Sn	11 31 41.2	-2.9	ARU	Arti	22.62	50 LR	LR	11 45 27.0	
TATR				⇓S	Sn	11 31 22.7	-1.3	RAZG	Razgrad	2.12	180 ⇑P		Pn	11 31 14.9	-1.3		comp=Z,44nm,21.4s,baz=126,slow=39					
VLDR	Vladesti	1.11	82 ⇓P		Pn	11 31 04.7	-0.4	RAZG				⇓S	Sn	11 31 41.2	-2.9	ARU	Arti	22.62	50*c* *i*P	P	11 35 31.3	+3.4
VLDR				⇓S	Sn	11 31 23.2	-1.3	TSCT	Constanta Port	2.16	134 ⇓P		Pn	11 31 15.7	-0.8	ARU			pmax	pmax	11 36 04.4	
VLDR	Vladesti	1.11	82 ⇓P		Pn	11 31 04.7	-0.4	TSCT				⇓S	Sn	11 31 42.5	-2.2		comp=Z,10.0nm,1.5s					
VLDR				⇓S	Sn	11 31 23.2	-1.3	TSCT	Constanta Port	2.16	134 ⇓P		Pn	11 31 15.7	-0.8	ARCES	ARCESS Array B	23.91	359 P	P	11 35 38.4	-1.2
GISR	Galati	1.11	102 ⇑P		Pn	11 31 04.6	-0.6	TSCT				⇓S	Sn	11 31 42.5	-2.2		comp=Z,2.2nm,0.8s,baz=182,slow=9.9,SNR=1.6					
GISR				⇑S	Sn	11 31 23.1	-1.4	ZIMR		2.19	202 ⇑P		Pn	11 31 15.6	-1.3		comp=Z,2.2nm,0.8s					
GISR	Galati	1.11	102 ⇑P		Pn	11 31 04.6	-0.6	ZIMR		2.19	202 ⇑P		Pn	11 31 15.6	-1.3	ZALV	Zalesovo Beam	37.54	56 P	P	11 37 39.6	+0.4
GISR				⇑S	Sn	11 31 23.1	-1.4	EFOR	EFORIE	2.21	136 ⇑S		Sn	11 31 43.8	-2.0		comp=Z,1.3nm,0.5s,baz=288,slow=9.9,SNR=4.4					
MTUR	Matau	1.12	246 ⇑P		Pn	11 31 04.6	-0.8	EFOR	EFORIE	2.21	136 ⇑S		Sn	11 31 43.8	-2.0		comp=Z,1.3nm,0.5s					
MTUR	Matau	1.12	246 ⇑P		Pn	11 31 04.6	-0.8	VLAD	Vladila	2.26	222 ⇓P		Pn	11 31 16.1	-1.6	MKAR	Makanchi Array	37.90	68 P	P	11 37 42.5	0.0
GIUM	Giurgiulesti	1.21	99 ⇓P		Pn	11 31 05.8	-0.3	VLAD	Vladila	2.26	222 ⇓P		Pn	11 31 16.1	-1.6		comp=Z,0.2nm,0.4s,baz=280,slow=8.3,SNR=1.0					
GIUM				⇓S	Sn	11 31 25.0	-1.2	TSSL	Sulina	2.33	102 ⇑P		Pn	11 31 18.2	-0.3		comp=Z,0.2nm,0.4s					
GIUM	Giurgiulesti	1.21	99 ⇓P		Pn	11 31 05.8	-0.3	TSSL				⇓S	Sn	11 31 47.1	-1.2	KMBO	Kilima Mbogo	47.58	165 ⇑*e*P	P	11 39 04.7	+3.8
GIUM				⇓S	Sn	11 31 25.0	-1.2	TSSL	Sulina	2.33	102 ⇑P		Pn	11 31 18.2	-0.3	SONM	Songino Array	52.41	57 P	P	11 39 37.3	+0.4
GIUM	Giurgiulesti	1.21	99 P		Pn	11 31 05.7	-0.3	TSSL				⇓S	Sn	11 31 47.1	-1.2		comp=Z,0.6nm,0.5s,baz=301,slow=8.9,SNR=5.3					
GIUM				S	Sn	11 31 24.9	-1.2	PSN	Preselentsi	2.34	149 P		Pn	11 31 18.0	-0.7		comp=Z,0.6nm,0.5s					
JOSR	Joseni	1.23	326 ⇓P		Pn	11 31 05.0	-1.3	MANR	Mangalia	2.39	141 ⇑P		Pn	11 31 17.9	-1.3	RES	Resolute Bay	53.81	344 LR	LR	12 02 55.2	
JOSR	Joseni	1.23	326 ⇓P		Pn	11 31 05.0	-1.3	MANR	Mangalia	2.39	141 ⇑P		Pn	11 31 17.9	-1.3		comp=Z,41nm,19.4s,baz=358,slow=36					
AMRR	Amara	1.23	151 ⇑P		Pn	11 31 05.6	-0.7	SZH	Strazhica	2.46	190 P		Pn	11 31 19.2	-1.0	CMAR	Chiang Mai Arr	64.83	89 *i* P	P	11 41 05.6	+2.6
AMRR				⇑S	Sn	11 31 25.2	-1.3	PURM	Purcari	2.48	69 ⇓P		Pn	11 31 19.9	-0.5	YKA	Yellowknife Ar	67.77	342 P	P	11 41 20.0	-1.0
AMRR	Amara	1.23	151 ⇑P		Pn	11 31 05.6	-0.7	PURM	Purcari	2.48	69 ⇓P		Pn	11 31 19.9	-0.5		comp=Z,0.3nm,0.5s,baz=12,slow=6.0,SNR=2.0					
AMRR				⇓S	Sn	11 31 25.2	-1.3	DEV	Deva	2.53	276 ⇓P		Pn	11 31 20.4	-0.6		comp=Z,0.3nm,0.5s					
LEHL	Lehliu	1.24	170 ⇑P		Pn	11 31 05.6	-0.8	DEV	Deva	2.53	276 ⇓P		Pn	11 31 20.4	-0.6	PDAR	Pinedale Array	83.64	329 P	P	11 42 52.1	+0.2
LEHL				⇓S	Sn	11 31 25.8	-0.9	MARR	Marisel-Cluj	2.55	294 ⇑P		Pn	11 31 20.3	-1.1		comp=Z,0.2nm,0.6s,baz=46,slow=5.2,SNR=2.0					
LEHL	Lehliu	1.24	170 ⇑P		Pn	11 31 05.6	-0.8	MARR	Marisel-Cluj	2.55	294 ⇑P		Pn	11 31 20.3	-1.1		comp=Z,0.2nm,0.6s					
LEHL				⇓S	Sn	11 31 25.8	-0.9	SRE	Strehaia	2.55	247 ⇓P		Pn	11 31 20.0	-1.3							
CFR	Carcaliu	1.25	114 ⇑P		Pn	11 31 05.6	-0.9	SRE				⇓S	Sn	11 31 51.1	-2.2							
CFR				⇓S	Sn	11 31 25.4	-1.5	SRE	Strehaia	2.55	247 ⇓P		Pn	11 31 20.0	-1.3							
CFR	Carcaliu	1.25	114 ⇑P		Pn	11 31 05.6	-0.9	SRE				⇓S	Sn	11 31 51.1	-2.2							
CFR				⇑S	Sn	11 31 25.4	-1.5	PRD	Provadia	2.57	165 P		Pn	11 31 21.0	-0.5							
GIRR	Girov	1.26	360 ⇓P		Pn	11 31 06.3	-0.3	PVL	Pavlikeni	2.61	199 P		Pn	11 31 22.2	+0.1							
GIRR	Girov	1.26	360 ⇓P		Pn	11 31 06.3	-0.3	GZR	Gura Zlata	2.64	265 ⇓P		Pn	11 31 21.6	-0.9							
INCR	INCERC-Sediu C	1.27	191 ⇑P		Pn	11 31 05.7	-1.0	GZR				⇓S	Sn	11 31 55.4	0.0							
INCR				⇑S	Sn	11 31 25.7	-1.6	GZR	Gura Zlata	2.64	265 ⇓P		Pn	11 31 21.6	-0.9							
INCR	INCERC-Sediu C	1.27	191 ⇑P		Pn	11 31 05.7	-1.0	GZR				⇓S	Sn	11 31 55.4	0.0							
INCR				⇑S	Sn	11 31 25.7	-1.6	KALB	Balgarevo	2.66	149 ⇑P		Pn	11 31 22.1	-0.6							
BIZ	Bicaz	1.28	347 ⇓S		Sn	11 31 27.4	-0.1	KALB	Balgarevo	2.66	149 ⇑P		Pn	11 31 22.1	-0.6							
BIZ	Bicaz	1.28	347 ⇓S		Sn	11 31 27.4	-0.1	PLVB	Pleven	2.67	211 ⇓P		Pn	11 31 21.4	-1.4							
ARR	Arges	1.36	257 ⇑P		Pn	11 31 06.7	-0.9	PLVB	Pleven	2.67	211 ⇓P		Pn	11 31 21.4	-1.4							
ARR				⇑S	Sn	11 31 28.0	-0.9	ROIA	ROIAK	2.67	166 P		Pn	11 31 22.0	-0.8							
ARR	Arges	1.36	257 ⇑P		Pn	11 31 06.7	-0.9	SORM	Soroca	2.75	27 ⇓P		Pn	11 31 22.7	-1.0							
ARR				⇑S	Sn	11 31 28.0	-0.9	SORM	Soroca	2.75	27 ⇓P		Pn	11 31 22.7	-1.0							
STFAR	Stefanesti-Arg	1.37	233 ⇑P		Pn	11 31 06.4	-1.4	SORM	Soroca	2.75	27 P		Pn	11 31 22.3	-1.4							
STFAR	Stefanesti-Arg	1.37	233 ⇑P		Pn	11 31 06.4	-1.4	BAIL	Bailesti	2.80	235 ⇑P		Pn	11 31 23.1	-1.3							
BUC1	Bucharest	1.39	194 ⇑P		Pn	11 31 06.9	-1.0	BAIL	Bailesti	2.80	235 ⇑P		Pn	11 31 23.1	-1.3							
BUC1				⇓S	Sn	11 31 27.6	-1.7	KMPD	K-Podol'skiy	2.87	359 *e*P		Pn	11 31 22.9	-2.4							
BUC1	Bucharest	1.39	194 ⇑P		Pn	11 31 06.9	-1.0	KMPD	K-Podol'skiy	2.87	359 P		Pn	11 31 23.8	-1.4							
BUC1				⇓S	Sn	11 31 27.6	-1.7	RMGR	Halanga-Turnu	2.89	251 ⇑P		Pn	11 31 24.0	-1.5							
BUC1	Bucharest	1.39	194 P		Pn	11 31 07.1	-0.7	RMGR	Halanga-Turnu	2.89	251 ⇑P		Pn	11 31 24.0	-1.5							
HARR	Harsova	1.42	134 ⇑P		Pn	11 31 07.2	-0.9	NDNU	Novodnistrovsk	2.96	11 *e*P		Pn	11 31 24.9	-1.5							
HARR	Harsova	1.42	134 ⇑P		Pn	11 31 07.2	-0.9	NDNU				Pm		11 31 25.9								
LEOM	Leova	1.44	56 ⇓P		Pn	11 31 08.0	-0.4	NDNU				Sm		11 32 03.9								
LEOM				⇓S	Sn	11 31 29.3	-0.9	HERR	Herculane	3.00	256 ⇓P		Pn	11 31 25.0	-1.9							
LEOM	Leova	1.44	56 ⇓P		Pn	11 31 08.0	-0.4	HERR	Herculane	3.00	256 ⇓P		Pn	11 31 25.0	-1.9							
LEOM				⇓S	Sn	11 31 29.3	-0.9	DJES	Djerdap	3.00	251 ⇓P		Pn	11 31 25.0	-2.0							
LEOM	Leova	1.44	56 P		Pn	11 31 07.9	-0.4	DJES	Djerdap	3.00	251 ⇓P		Pn	11 31 25.0	-2.0							
LEOM				S	Sn	11 31 28.8	-1.4	MPEP	Malo Peshtene	3.06	221 *i* P		Pn	11 31 26.3	-1.4							
LEOM	Leova	1.44	56 *e*P		Pn	11 31 07.9	-0.4	SURR	Surduc	3.07	273 ⇓P		Pn	11 31 26.9	-0.9							
LEOM				*e*S	Sn	11 31 28.8	-1.4	SURR				⇑S	Sn	11 32 04.8	-0.2							
SGRR	Singureni	1.52	195 ⇑P		Pn	11 31 08.0	-1.2	SURR	Surduc	3.07	273 ⇓P		Pn	11 31 26.9	-0.9							
SGRR				⇑S	Sn	11 31 29.2	-2.6	SURR				⇑S	Sn	11 32 04.8	-0.2							
SGRR	Singureni	1.52	195 ⇑P		Pn	11 31 08.0	-1.2	CEI	Carei	3.43	307 ⇓P		Pn	11 31 31.8	-0.5							
SGRR				⇑S	Sn	11 31 29.2	-2.6	CEI	Carei	3.43	307 ⇓P		Pn	11 31 31.8	-0.5							
RASA	Rasa	1.54	163 ⇓P		Pn	11 31 08.5	-1.0	SIRR	Siria	3.43	281 ⇓P		Pn	11 31 31.5	-0.9							
RASA				⇓S	Sn	11 31 30.9	-1.4	SIRR	Siria	3.43	281 ⇓P		Pn	11 31 31.5	-0.9							
RASA	Rasa	1.54	163 ⇓P		Pn	11 31 08.5	-1.0	BZS	Buzias	3.43	271 ⇓P		Pn	11 31 31.1	-1.3							
RASA				⇓S	Sn	11 31 30.9	-1.4	BZS	Buzias	3.43	271 ⇓P		Pn	11 31 31.1	-1.3		

	comp=E,19000µm,0.7s						
T1256					AML	AML	
	comp=N,14750µm,0.6s						
NRCA	**Norcia**	**0.16**	**161**	⇑P	Pg	11 37 11.1	+0.4
NRCA				S	Sg	11 37 14.1	+1.3
NRCA				AML	AML		
	comp=E,18850µm,1.4s						
NRCA				AML	AML		
	comp=N,16550µm,0.7s						
NRCA				AML	AML		
	comp=N,16550µm,0.7s						
NRCA				AML	AML		
	comp=E,20750µm,1.4s						
NRCA				AML	AML		
	comp=N,17800µm,0.7s						
CSP1	**Cessapalombo**	**0.16**	**47**	⇑P	Pg	11 37 11.1	+0.3
CSP1				S	Sg	11 37 14.2	+1.2
CSP1				AML	AML		
	comp=E,14300µm,0.9s						
CSP1				AML	AML		
	comp=E,14250µm,0.9s						
CSP1				AML	AML		
	comp=N,18950µm,0.6s						
T1245	**Castelsantange**	**0.16**	**140**	P	Pg	11 37 11.2	+0.4
T1245				S	Sg	11 37 14.2	+1.2
SEF1	**Sefro**	**0.18**	**337**	P	Pg	11 37 11.5	+0.4
SEF1				S	Sg	11 37 14.8	+1.4
SEF1				AML	AML		
	comp=N,9600µm,1.3s						
SEF1				AML	AML		
	comp=E,11460µm,1.3s						
SEF1				AML	AML		
	comp=N,9595µm,1.3s						
SEF1				AML	AML		
	comp=E,11475µm,1.3s						
MMO1	**Montemonaco**	**0.22**	**112**	⇓P	Pg	11 37 12.2	+0.3
MMO1				S	Sg	11 37 16.2	+1.3
GUMA	**Gualdo di Mace**	**0.23**	**69**	⇑P	Pg	11 37 12.8	+0.8
GUMA				S	Sg	11 37 17.3	+2.3
GUMA				AML	AML		
	comp=E,25700µm,0.4s						
GUMA				AML	AML		
	comp=N,20650µm,0.5s						
GUMA				AML	AML		
	comp=E,25700µm,0.4s						
GUMA				AML	AML		
	comp=N,20700µm,0.5s						
GUMA				AML	AML		
	comp=E,23850µm,0.5s						
GUMA				AML	AML		
	comp=N,26100µm,0.5s						
SNTG	**Esanatoglia**	**0.28**	**345**	⇓P	Pg	11 37 13.8	+0.8
SNTG				AML	AML		
	comp=E,1955µm,0.7s						
SNTG				AML	AML		
	comp=N,1870µm,0.8s						
SNTG				AML	AML		
	comp=N,2000µm,0.8s						
SNTG				AML	AML		
	comp=E,1885µm,0.7s						
SNTG				AML	AML		
	comp=E,1960µm,0.7s						
SNTG				AML	AML		
	comp=N,1865µm,0.8s						
ASSB	**Assisi San Ben**	**0.29**	**282**	⇑P	Pg	11 37 13.3	+0.1
T1241	**Roccafluvione,**	**0.31**	**114**	P	Pg	11 37 13.8	+0.3
T1241				AML	AML		
	comp=E,5185µm,0.5s						
T1241				AML	AML		
	comp=N,3970µm,0.9s						
T1241				AML	AML		
	comp=E,5160µm,1.2s						
T1241				AML	AML		
	comp=N,3775µm,0.9s						
T1241				AML	AML		
	comp=N,3965µm,0.9s						
T1218	**Civita (PG)**	**0.32**	**170**	⇓P	Pg	11 37 13.9	+0.2
T1218				AML	AML		
	comp=E,4075µm,0.4s						
T1218				AML	AML		
	comp=N,6160µm,0.3s						
T1218				AML	AML		
	comp=E,3965µm,0.4s						
T1218				AML	AML		
	comp=E,3970µm,0.4s						
T1218				AML	AML		
	comp=N,5980µm,0.3s						
EL6	**Elcito**	**0.35**	**7**	⇑P	Pg	11 37 14.5	+0.1
ATCC	**AVT- Casa Cast**	**0.36**	**305**	P	Pg	11 37 14.6	+0.1
FOSV	**Fossato di Vic**	**0.38**	**327**	⇓P	Pg	11 37 15.0	+0.3
FOSV				AML	AML		
	comp=E,2040µm,0.9s						
FOSV				AML	AML		
	comp=N,3030µm,0.4s						
LNSS	**Leonessa**	**0.38**	**180**	⇑P	Pg	11 37 15.1	+0.3
LNSS				AML	AML		
	comp=E,3245µm,0.4s						
LNSS				AML	AML		
	comp=N,4465µm,1.3s						
CING	**Cingoli**	**0.41**	**16**	⇓P	Pg	11 37 15.6	+0.2
CING				AML	AML		
	comp=N,1745µm,0.2s						
CING				AML	AML		
	comp=E,3740µm,0.5s						
SMA1	**SAN MARTINO**	**0.41**	**148**	S	Sb	11 37 23.0	-1.0
T1243	**Rocca Santa Ma**	**0.41**	**134**	⇑P	Pg	11 37 15.6	+0.2
ARRO	**Arrone**	**0.45**	**207**	⇑P	Pg	11 37 16.8	+0.6
ARRO				AML	AML		
	comp=N,2230µm,0.2s						
ARRO				AML	AML		
	comp=E,2520µm,0.8s						
ARRO				AML	AML		
	comp=N,2235µm,0.2s						
MURB	**Monte Urbino**	**0.47**	**307**	⇑P	Pg	11 37 17.0	+0.3
MURB				S	Sb	11 37 26.0	+0.2
MURB				AML	AML		
	comp=E,5045µm,0.2s						
MURB				AML	AML		
	comp=N,6520µm,0.9s						
MURB				AML	AML		
	comp=E,5430µm,0.2s						
MURB				AML	AML		
	comp=N,6525µm,0.9s						
MURB				AML	AML		
	comp=N,6355µm,1.0s						
OFFI	**Offida**	**0.47**	**95**	⇑P	Pb	11 37 18.0	-0.4
OFFI				AML	AML		
	comp=E,4165µm,0.6s						
OFFI				AML	AML		
	comp=N,5920µm,0.5s						
RM33	**Pellescritta (**	**0.49**	**165**	⇓P	Pg	11 37 16.9	0.0
RM33				S	Sb	11 37 26.0	-0.2
RM33				AML	AML		
	comp=E,2525µm,0.3s						
RM33				AML	AML		
	comp=N,1580µm,0.5s						
RM33				AML	AML		
	comp=E,2520µm,0.3s						
RM33				AML	AML		
	comp=N,1575µm,0.5s						
RM33				AML	AML		
	comp=N,1600µm,0.5s						
RM33				AML	AML		
	comp=E,2470µm,0.3s						
SSFR	**Montelago di S**	**0.49**	**337**	⇑P	Pg	11 37 17.4	+0.4
SSFR				AML	AML		
	comp=E,2585µm,0.8s						
SSFR				AML	AML		
	comp=N,2350µm,0.1s						
SSFR				AML	AML		
	comp=N,2105µm,0.1s						
SSFR				AML	AML		
	comp=E,2590µm,0.8s						
CESX	**Cesi**	**0.50**	**223**	P	Pg	11 37 17.2	0.0
CESX				AML	AML		
	comp=E,3195µm,0.5s						
CESX				AML	AML		
	comp=N,3215µm,0.4s						
ATFO	**Monte Foce - G**	**0.52**	**318**	⇓P	Pg	11 37 18.0	+0.5
ATFO				AML	AML		
	comp=N,1190µm,1.2s						
ATFO				AML	AML		
	comp=E,1660µm,0.5s						
ARVD	**Arcevia**	**0.52**	**352**	⇑P	Pg	11 37 17.6	+0.1
ARVD				S	Sb	11 37 27.0	-0.1
ARVD				AML	AML		
	comp=E,1126µm,0.6s						
ARVD				AML	AML		
	comp=N,742µm,1.1s						
ARVD				AML	AML		
	comp=N,742µm,1.1s						
CAMP	**Campotosto**	**0.52**	**149**	⇑P	Pg	11 37 17.5	-0.1
CAMP				AML	AML		
	comp=N,866µm,1.1s						
CAMP				AML	AML		
	comp=E,932µm,0.9s						
TERO	**Teramo**	**0.55**	**131**	⇑P	Pg	11 37 17.6	-0.4
TERO				S	Sb	11 37 28.0	+0.1
TERO				AML	AML		
	comp=E,1815µm,0.6s						
TERO				AML	AML		
	comp=N,1855µm,0.6s						
TERO				AML	AML		
	comp=E,1890µm,0.6s						
TERO				AML	AML		
	comp=N,1785µm,0.6s						
FRON	**Frontone**	**0.58**	**337**	⇑P	Pg	11 37 18.8	+0.1
FRON				AML	AML		
	comp=N,1214µm,1.2s						
FRON				AML	AML		
	comp=N,1210µm,1.2s						
FRON				AML	AML		
	comp=E,770µm,0.9s						
ATVO	**AVT- Monte Val**	**0.61**	**311**	⇓P	Pg	11 37 19.2	-0.1
ATVO				S	Sb	11 37 30.0	+0.2
ATVO				AML	AML		
	comp=E,1094µm,1.3s						
ATVO				AML	AML		
	comp=N,890µm,0.4s						
COR1	**Corinaldo**	**0.65**	**357**	P	Pb	11 37 20.9	-0.6
GIGS	**Gran Sasso**	**0.66**	**144**	⇓P	Pg	11 37 19.9	-0.3
GIGS				AML	AML		
	comp=E,370µm,0.7s						
GIGS				AML	AML		
	comp=N,298µm,0.7s						
ATPI	**Pietralunga -**	**0.66**	**315**	P	Pg	11 37 20.2	0.0
ATPI				AML	AML		
	comp=E,786µm,1.2s						
ATPI				AML	AML		
	comp=N,876µm,1.2s						
ATPI				AML	AML		
	comp=E,786µm,1.2s						
ATPI				AML	AML		
	comp=N,875µm,1.2s						
TRTR	**Tortoreto Alta**	**0.66**	**105**	⇑P	Pb	11 37 21.6	0.0
TRTR				AML	AML		
	comp=E,4150µm,0.7s						
TRTR				AML	AML		
	comp=N,3670µm,1.2s						
PIEI	**Pieia**	**0.67**	**326**	P	Pg	11 37 20.1	-0.2
PIEI				S	Sb	11 37 32.0	+0.6
PIEI				AML	AML		
	comp=E,732µm,0.3s						
PIEI				AML	AML		
	comp=N,557µm,0.4s						
ATMI	**Monte Miggiano**	**0.67**	**302**	⇑P	Pb	11 37 21.9	+0.2
ATMI				AML	AML		
	comp=E,2535µm,0.5s						
ATMI				AML	AML		
	comp=N,2350µm,1.3s						
MPAG	**Monte Paganucc**	**0.68**	**342**	P	Pg	11 37 21.0	+0.4
MPAG				S	Sb	11 37 33.0	+1.2
MPAG				AML	AML		
	comp=E,746µm,0.4s						
MPAG				AML	AML		
	comp=N,634µm,0.9s						
MPAG				AML	AML		
	comp=E,745µm,0.4s						
MGAB	**Montegabbione**	**0.69**	**265**	⇑P	Pg	11 37 20.7	0.0
NARO	**Abbazia di Nar**	**0.71**	**332**	P	Pg	11 37 20.8	-0.4
NARO				S	Sb	11 37 33.0	+0.3
NARO				AML	AML		
	comp=N,511µm,0.6s						
NARO				AML	AML		
	comp=E,435µm,0.6s						
FIAM	**Fiamignano**	**0.71**	**176**	⇑P	Pg	11 37 20.9	-0.3
FIAM				AML	AML		
	comp=E,964µm,1.2s						
FIAM				AML	AML		
	comp=N,780µm,0.6s						
FIAM				AML	AML		
	comp=E,964µm,1.2s						
FIAM				AML	AML		
	comp=N,780µm,0.6s						
FSSB	**Fossombrone**	**0.74**	**345**	⇓P	Pg	11 37 21.8	+0.1
FSSB				S	Sn	11 37 35.0	-1.4
FSSB				AML	AML		
	comp=E,1595µm,0.3s						
FSSB				AML	AML		
	comp=N,2625µm,1.5s						
BADI	**Badiali**	**0.79**	**312**	P	Pg	11 37 22.7	+0.1
BADI				S	Sb	11 37 36.0	+1.2
PE3	**Peglio**	**0.82**	**331**	⇑P	Pg	11 37 22.2	-1.0
PE3				AML	AML		
	comp=N,7µm,0.7s						
PE3				AML	AML		
	comp=E,6µm,0.7s						
FAGN	**Fagnano**	**0.82**	**151**	P	Pg	11 37 23.2	0.0
FAGN				AML	AML		
	comp=E,1765µm,0.6s						
FAGN				AML	AML		
	comp=N,1255µm,1.4s						
VCEL	**Villa Celiera**	**0.83**	**135**	⇓P	Pg	11 37 23.1	-0.4
VCEL				AML	AML		
	comp=E,1435µm,0.5s						
VCEL				AML	AML		
	comp=N,1317µm,1.3s						
VCEL				AML	AML		
	comp=N,1316µm,1.3s						
VCEL				AML	AML		
	comp=E,1440µm,0.5s						
SACS	**San Casciano d**	**0.84**	**261**	⇑P	Pb	11 37 25.3	+0.5
CAFI	**Castiglion Fio**	**0.86**	**294**	⇓P	Pb	11 37 24.7	-0.3
CAFI				AML	AML		
	comp=E,1020µm,0.7s						
CAFI				AML	AML		
	comp=N,786µm,0.6s						
CAFI				AML	AML		
	comp=E,1035µm,0.8s						
CAFI				AML	AML		
	comp=E,1022µm,0.7s						
CAFI				AML	AML		
	comp=N,820µm,0.6s						
CAFI				AML	AML		
	comp=N,786µm,0.6s						
T0110	**Collepietro**	**0.93**	**144**	⇑P	Pg	11 37 24.7	-0.7
T0110				AML	AML		
	comp=E,1335µm,0.5s						
T0110				AML	AML		
	comp=N,955µm,0.6s						
MTCE	**Montecelio**	**0.98**	**193**	⇓P	Pg	11 37 25.8	-0.6
MTCE				AML	AML		
	comp=E,688µm,0.4s						
MTCE				AML	AML		
	comp=N,570µm,0.9s						
CERT	**Cerreto**	**1.03**	**183**	⇓P	Pg	11 37 26.8	-0.5
CERT				AML	AML		
	comp=E,924µm,0.5s						
CERT				AML	AML		
	comp=N,553µm,1.4s						
VVLD	**Villa Vallelon**	**1.19**	**159**	P	Pg	11 37 29.4	-0.9
VVLD				AML	AML		
	comp=E,384µm,1.0s						
VVLD				AML	AML		
	comp=N,478µm,1.1s						
TOLF	**Tolfa**	**1.20**	**220**	P	Pg	11 37 30.4	-0.1
TOLF				AML	AML		
	comp=E,334µm,0.8s						
TOLF				AML	AML		
	comp=N,364µm,0.6s						
RUFI	**Rufina**	**1.41**	**308**	⇓P	Pg	11 37 35.3	+0.8
PIGN	**Pignataro Magg**	**1.97**	**154**	⇑P	Pg	11 37 45.5	+0.2
PGF	**Pioggiola**	**3.01**	**263**	*e*P	Pn	11 37 56.3	+0.3
MYKA	**Terra Mystica**	**3.67**	**6**	*i* Pn	Pn	11 38 04.7	-0.4
	comp=N,1.3nm,0.2s						
MYKA				*i* Sn	Sn	11 38 50.2	+1.4
	comp=N,2.0nm,0.2s						
ABTA	**Abfaltersbach**	**3.78**	**354**	*i* Pn	Pn	11 38 07.5	+0.9
	comp=N,6.2nm,0.7s						
SBF	**Sospel**	**4.18**	**284**	*e*P	Pn	11 38 13.4	+1.4
SBF				*e*Sn	Sn	11 38 56.0	-5.3
	comp=N,3.2nm,0.2s						
FETA	**Feichten**	**4.36**	**339**	*i* Pn	Pn	11 38 17.0	+2.4
	comp=N,1.4nm,0.4s						
FETA				*e*Sn	Sn	11 39 08.4	+2.5
	comp=N,2.6nm,0.6s						
WTTA	**Wattenberg**	**4.40**	**347**	*i* Pn	Pn	11 38 16.3	+1.1
	comp=N,2.0nm,0.2s						
WTTA				*e*Sn	Sn	11 39 09.9	+3.1
	comp=N,9.9nm,0.5s						
SQTA	**Sankt Quirin**	**4.43**	**344**	*i* Pn	Pn	11 38 17.5	+1.9
	comp=N,1.2nm,0.2s						
SQTA				*e*Sn	Sn	11 39 09.3	+1.6
	comp=N,6.2nm,0.6s						
MOTA	**Moosalm**	**4.57**	**343**	*i* Pn	Pn	11 38 20.2	+2.7
	comp=N,0.6nm,0.2s						
MOA	**Molln**	**4.94**	**10**	*i* Pn	Pn	11 38 23.7	+1.2
	comp=N,1.7nm,0.3s						
MOA				*i* Sn	Sn	11 39 22.0	+1.9
	comp=N,1.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.52**	**293**	*e*P	Pn	11 38 32.5	+2.0
SMRF	**Simiane la Rot**	**5.52**	**283**	*e*P	Pn	11 38 32.2	+1.7
SMRF				*e*Sn	Sn	11 39 27.9	-6.5
	comp=N,0.7nm,0.1s						
KHC	**Kasperske Hory**	**6.16**	**3**	*e*PN	Pn	11 38 39.5	+0.3
KHC				*e*SN	Sn	11 39 48.9	-1.2
HINF	**Hinteralfeld**	**6.51**	**320**	*e*P	Pn	11 38 46.0	+2.0
CDF	**Champ du Feu**	**6.77**	**325**	*e*P	Pn	11 38 48.3	+0.7
CDF				*e*Sn	Sn	11 39 57.8	-7.3
	comp=N,1.1nm,0.3s						
LASF	**Ste Croix**	**6.77**	**282**	*e*P	Pn	11 38 52.8	+5.3
HAU	**Haudompre**	**6.88**	**319**	*e*P	Pn	11 38 50.7	+1.6
PAGF	**Fort de Pagny**	**7.56**	**320**	*e*P	Pn	11 39 00.7	+2.3
SFTF	**Sexfontaines**	**7.67**	**316**	*e*Sn	Sn	11 40 19.3	-7.8
	comp=N,2.3nm,0.2s						
MEZF	**Maizieres J'vi**	**7.85**	**317**	*e*Sn	Sn	11 40 23.6	-8.1
	comp=N,2.2nm,0.3s						
SAVF	**Savonnieres en**	**7.89**	**318**	*e*P	Pn	11 39 05.3	+2.3

WEL 19 11:37:34.3±0.7, 42°S±5″×17°3E±°, h5km, M2.4/8, MLv2.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=141.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**58**	P	Pg	11 37 37.3	+0.2
KHZ				S	Sg	11 37 39.9	+1.0
GVZ	**Greta Valley S**	**0.54**	**208**	P	Pg	11 37 45.2	+0.4
THZ	**Tophouse**	**0.81**	**334**	P	Pg	11 37 49.9	0.0
LTZ	**Lake Taylor**	**0.87**	**250**	P	Pg	11 37 50.7	-0.4
CMWZ	**Cape Campbell**	**0.96**	**40**	P	Pb	11 37 53.3	-0.2
MRNZ	**Matariki Terra**	**1.19**	**337**	P	Pg	11 37 57.0	-0.1
OKCZ	**Okains Bay**	**1.26**	**191**	P	Pg	11 37 55.9	-2.6
MQZ	**McQueen's Vall**	**1.33**	**203**	P	Pn	11 37 56.3	-3.2
DSZ	**Denniston Nort**	**1.39**	**302**	P	Pn	11 37 59.7	-0.7
TKNZ	**Takaka Hill**	**1.49**	**348**	P	Pn	11 38 02.1	+0.3
QRZ	**Quartz Range**	**1.78**	**339**	P	Pn	11 38 06.1	+0.3
CAW	**Cannon Point**	**1.87**	**43**	P	Pn	11 38 04.8	-2.2
MTW	**Mount Morrison**	**2.07**	**51**	P	Pn	11 38 08.1	-1.6
MTVZ	**Mangateitei**	**3.48**	**28**	P	Pb	11 38 34.2	-2.3

*NOU **19** 11:38:09.3, 42°54S×173°57E, h0km, MLv4.3/12, South Island, New Zealand*
*NEIC **19** 11:38:09.4±1.0, 42°.57S±0°.05×173°.86E±0°.07, h20km±8km, mb4.1/7, Error ellipse: s-maj=10.1km s-min=4.0km az=130.0*
*WEL **19** 11:38:10.0±0.5, 42°S±3°×17°4E±°, h5km, M3.8/41, ML4.1/13, MLv3.8/41, Error ellipse: s-maj=0.0km s-min=0.0km az=128.8*

ISC 19 11:38:08.4±1.3, 42°.52S±0°.03×173°.77E±0°.04, h7km±10km, n126, σ1§26/128, mb4.0/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**301**		**Pg**	**11 38 11.9**	**-0.5**
KHZ	**Kahutara**	**0.20**	**301**	P	**Pg**	**11 38 11.9**	**-0.5**
KHZ	**Kahutara**	**0.20**	**301**	P	**Pg**	**11 38 11.8**	**-0.6**
KHZ				S	**Sg**	**11 38 14.6**	**-0.5**
GVZ	**Greta Valley S**	**0.70**	**230**		**Pg**	**11 38 23.9**	**+2.0**
GVZ	**Greta Valley S**	**0.70**	**230**	P	**Pg**	**11 38 24.0**	**+2.0**
GVZ				S	**Sb**	**11 38 35.4**	**+2.4**
BSWZ	**Blackbirch Sta**	**0.81**	**6**		**Pg**	**11 38 24.7**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.81**	**6**	P	**Pg**	**11 38 24.8**	**+0.9**
CMWZ	**Cape Campbell**	**0.84**	**23**		**Pb**	**11 38 26.6**	**+1.3**
CMWZ	**Cape Campbell**	**0.84**	**23**	P	**Pb**	**11 38 26.9**	**+1.6**
THZ	**Tophouse**	**0.99**	**319**	Pn	**Pg**	**11 38 27.4**	**-0.1**
THZ	**Tophouse**	**0.99**	**319**	P	**Pg**	**11 38 27.4**	**-0.1**
AMCZ	**Amberley**	**1.05**	**231**		**Pg**	**11 38 29.6**	**+0.9**
AMCZ	**Amberley**	**1.05**	**231**	P	**Pg**	**11 38 29.5**	**+0.9**
TUWZ	**Tuamarina**	**1.09**	**7**		**Pg**	**11 38 29.8**	**+0.4**
TUWZ	**Tuamarina**	**1.09**	**7**	P	**Pg**	**11 38 29.9**	**+0.5**
LTZ	**Lake Taylor**	**1.14**	**256**	Pn	**Pg**	**11 38 30.3**	**0.0**
LTZ	**Lake Taylor**	**1.14**	**256**	P	**Pg**	**11 38 30.2**	**0.0**
OKCZ	**Okains Bay**	**1.31**	**203**	P	**Pn**	**11 38 33.1**	**-0.1**
NNZ	**Nelson**	**1.33**	**347**		**Pg**	**11 38 33.2**	**-0.8**
NNZ	**Nelson**	**1.33**	**347**	P	**Pg**	**11 38 33.4**	**-0.5**
MRNZ	**Matariki Terra**	**1.35**	**326**		**Pg**	**11 38 33.9**	**-0.3**
MRNZ	**Matariki Terra**	**1.35**	**326**	P	**Pg**	**11 38 34.0**	**-0.3**
TCW	**Tory Channel**	**1.36**	**16**		**Pn**	**11 38 33.4**	**-0.5**
TCW	**Tory Channel**	**1.36**	**16**	P	**Pn**	**11 38 33.4**	**-0.5**
SNZO	**South Karori**	**1.39**	**30**		**Pn**	**11 38 33.9**	**-0.4**
WEL	**Wellington**	**1.44**	**31**	P	**Pn**	**11 38 34.7**	**-0.3**
MQZ	**McQueen's Vall**	**1.44**	**214**		**Pn**	**11 38 34.1**	**-0.9**
MQZ	**McQueen's Vall**	**1.44**	**214**	P	**Pn**	**11 38 33.8**	**-1.2**
PLWZ	**Palliser**	**1.46**	**50**	Pn	**Pn**	**11 38 34.6**	**-0.6**
PLWZ	**Palliser**	**1.46**	**50**	P	**Pn**	**11 38 34.4**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.49**	**205**	P	**Pn**	**11 38 35.3**	**-0.5**
OXZ	**Oxford**	**1.51**	**237**		**Pn**	**11 38 35.2**	**-0.7**
OXZ	**Oxford**	**1.51**	**237**	P	**Pn**	**11 38 34.9**	**-1.0**
MSWZ	**Moikau Station**	**1.56**	**46**	Pn	**Pn**	**11 38 35.8**	**-0.8**
MSWZ	**Moikau Station**	**1.56**	**46**	P	**Pn**	**11 38 35.8**	**-0.8**
TKNZ	**Takaka Hill**	**1.60**	**337**		**Pn**	**11 38 37.7**	**+0.4**
TKNZ	**Takaka Hill**	**1.60**	**337**	P	**Pn**	**11 38 37.9**	**+0.7**
DSZ	**Denniston Nort**	**1.66**	**297**		**Pn**	**11 38 38.4**	**+0.4**
DSZ	**Denniston Nort**	**1.66**	**297**	P	**Pn**	**11 38 38.0**	**0.0**
PAWZ	**Paruwai Farm**	**1.68**	**48**	P	**Pn**	**11 38 37.3**	**-1.0**
RACZ	**Rakaia**	**1.70**	**224**	P	**Pn**	**11 38 37.5**	**-1.0**
CAW	**Cannon Point**	**1.71**	**35**	P	**Pn**	**11 38 38.2**	**-0.5**
DUWZ	**D'Urville Isla**	**1.72**	**4**	P	**Pn**	**11 38 39.3**	**+0.5**
INZ	**Inchbonnie**	**1.73**	**262**		**Pn**	**11 38 39.0**	**+0.1**
INZ	**Inchbonnie**	**1.73**	**262**	P	**Pn**	**11 38 38.8**	**-0.2**
TRWZ	**Traveller**	**1.81**	**53**	P	**Pn**	**11 38 39.4**	**-0.8**
KIW	**Kapiti Island**	**1.86**	**28**	P	**Pn**	**11 38 40.6**	**-0.2**
MTW	**Mount Morrison**	**1.88**	**44**	P	**Pn**	**11 38 39.8**	**-1.1**
MHCZ	**Mount Hutt**	**1.91**	**237**	P	**Pn**	**11 38 40.3**	**-1.2**
QRZ	**Quartz Range**	**1.93**	**331**		**Pn**	**11 38 42.9**	**+1.2**
QRZ	**Quartz Range**	**1.93**	**331**	P	**Pn**	**11 38 43.1**	**+1.4**
QRZ	**Quartz Range**	**1.93**	**331**	P	**Pn**	**11 38 42.8**	**+1.1**
OGWZ	**Otaki Gorge**	**2.00**	**32**	P	**Pn**	**11 38 42.0**	**-0.6**
WAC	**Wakanui South**	**2.01**	**224**	P	**Pn**	**11 38 41.9**	**-0.8**
HOWZ	**Holdsworth Sta**	**2.08**	**39**	P	**Pn**	**11 38 42.8**	**-0.9**
TMWZ	**Te Maipa**	**2.12**	**49**	P	**Pn**	**11 38 43.1**	**-1.2**
MRZ	**Mangatainoka R**	**2.30**	**37**	Pn	**Pn**	**11 38 46.1**	**-0.7**
MRZ	**Mangatainoka R**	**2.30**	**37**	P	**Pn**	**11 38 45.8**	**-1.0**
WVZ	**Waitaha Valley**	**2.30**	**255**	P	**Pn**	**11 38 46.8**	**0.0**
RPZ	**Rata Peaks**	**2.32**	**238**	Pn	**Pn**	**11 38 46.2**	**-0.9**
RPZ	**Rata Peaks**	**2.32**	**238**	P	**Pn**	**11 38 46.1**	**-1.0**
RPZ	**Rata Peaks**	**2.32**	**238**	P	**Pn**	**11 38 46.1**	**-1.0**
ARCZ	**Arundel**	**2.37**	**232**	P	**Pn**	**11 38 46.9**	**-0.9**
BFZ	**Birch Farm**	**2.61**	**46**		**Pn**	**11 38 50.3**	**-0.8**
BFZ	**Birch Farm**	**2.61**	**46**	P	**Pn**	**11 38 49.8**	**-1.3**
GCSZ	**Gaunt Creek Bo**	**2.65**	**251**	P	**Pn**	**11 38 51.9**	**+0.2**
TMZ	**Timaru**	**2.74**	**226**	P	**Pn**	**11 38 52.3**	**-0.6**
DVHZ	**Dannevirke**	**2.86**	**40**	P	**Pb**	**11 38 59.6**	**-0.1**
WAZ	**Wanganui**	**2.91**	**19**	P	**Pn**	**11 38 57.1**	**+1.9**
TSZ	**Takapari Road**	**2.96**	**35**	P	**Pn**	**11 38 54.6**	**-1.3**
FOZ	**Fox Glacier**	**3.07**	**249**		**Pn**	**11 38 57.6**	**+0.2**
FOZ	**Fox Glacier**	**3.07**	**249**	P	**Pn**	**11 38 57.8**	**+0.4**
LREZ	**Lake Rotokare**	**3.09**	**9**	P	**Pb**	**11 39 02.0**	**-1.8**
LBZ	**Lake Benmore**	**3.21**	**233**		**Pn**	**11 38 59.0**	**-0.3**
LBZ	**Lake Benmore**	**3.21**	**233**	P	**Pn**	**11 38 58.8**	**-0.5**
KHEZ	**Kahui Hut**	**3.23**	**3**	P	**Pn**	**11 39 02.1**	**+2.5**
KHEZ	**Kahui Hut**	**3.23**	**3**	P	**Pn**	**11 39 02.5**	**+2.9**
NBEZ	**Newall Road No**	**3.25**	**1**	P	**Pn**	**11 39 02.4**	**+2.6**
ODZ	**

NGZ	**Ngauruhoe**	**3.62**	**23**	P		**Pn**	**11 39 06.6**	**+1.6**
NNVZ	**North Ngauruho**	**3.66**	**23**	P		**Pn**	**11 39 07.4**	**+1.8**
BKZ	**Black Stump Fm**	**3.93**	**33**			**Pn**	**11 39 09.2**	**-0.2**
BKZ	**Black Stump Fm**	**3.93**	**33**	P		**Pn**	**11 39 11.3**	**+2.0**
BKZ	**Black Stump Fm**	**3.93**	**33**	P		**Pn**	**11 39 08.0**	**-1.3**
JCZ	**Jackson Bay**	**3.96**	**245**	P		**Pn**	**11 39 09.1**	**-0.6**
JCZ	**Jackson Bay**	**3.96**	**245**	P		**Pn**	**11 39 09.3**	**-0.4**
HIZ	**Hauiti**	**4.08**	**12**	Pn		**Pn**	**11 39 12.5**	**+1.1**
HIZ	**Hauiti**	**4.08**	**12**	P		**Pn**	**11 39 13.2**	**+1.9**
HIZ	**Hauiti**	**4.08**	**12**	P		**Pn**	**11 39 12.4**	**+1.1**
WKZ	**Wanaka**	**4.15**	**235**			**Pn**	**11 39 11.7**	**-0.6**
WKZ	**Wanaka**	**4.15**	**235**	P		**Pn**	**11 39 11.3**	**-1.0**
EAZ	**Earnscleugh**	**4.21**	**228**	P		**Pn**	**11 39 12.1**	**-1.0**
MTHZ	**Maungataniwha**	**4.34**	**34**	P		**Pn**	**11 39 18.9**	**+4.0**
TLZ	**Tolley Road**	**4.40**	**18**	P		**Pn**	**11 39 16.7**	**+1.0**
TUZ	**Tuapeka**	**4.54**	**219**	P		**Pn**	**11 39 17.0**	**-0.6**
URZ	**Urewera**	**4.96**	**32**	P		**Pn**	**11 39 26.1**	**+2.8**
TOZ	**Tahuroa Road**	**4.96**	**16**	P		**Pn**	**11 39 23.5**	**+0.1**
MLZ	**Mavora Lakes**	**4.98**	**233**			**Pn**	**11 39 22.8**	**-0.8**
MLZ	**Mavora Lakes**	**4.98**	**233**	P		**Pn**	**11 39 22.2**	**-1.4**
SYZ	**Scrubby Hill**	**5.21**	**218**	P		**Pn**	**11 39 27.5**	**+0.8**
WHZ	**Wether Hill Ro**	**5.38**	**229**	Pn		**Pn**	**11 39 29.4**	**+0.4**
AWAZ	**Awhitu Peninsu**	**5.49**	**7**	P		**Pn**	**11 39 31.6**	**+1.0**
MKAZ	**Moumakai**	**5.51**	**12**	P		**Pn**	**11 39 31.1**	**+0.1**
DCZ	**Deep Cove**	**5.61**	**236**	Pn		**Pn**	**11 39 31.7**	**-0.5**
ETAZ	**East Tamaki Re**	**5.63**	**9**	P		**Pn**	**11 39 33.2**	**+0.6**
RVAZ	**Riverhead Bore**	**5.77**	**6**	P		**Pn**	**11 39 35.5**	**+1.0**
MBAZ	**Motutapu North**	**5.81**	**9**	P		**Pn**	**11 39 36.9**	**+1.9**
WIAZ	**Waiheke Island**	**5.81**	**11**	P		**Pn**	**11 39 36.1**	**+1.0**
CTZ	**Chatham Island**	**7.14**	**103**	P		**Pn**	**11 39 57.3**	**+4.1**
OUZ	**Omahuta**	**7.29**	**359**	Pn		**Pn**	**11 39 56.6**	**+1.3**
OUZ	**Omahuta**	**7.29**	**359**	P		**Pn**	**11 39 57.4**	**+2.1**
TOO	**Toolangi**	**22.16**	**273**	P		**P**	**11 43 04.5**	**-0.4**
TOO					IAmb	IAmb	11 43 33.3	
	comp=Z,7.1nm,1.2s							
AS31	**Alice Springs**	**37.90**	**287**	P		**P**	**11 45 26.2**	**-0.2**
AS31					IAmb	IAmb	11 46 10.1	
	comp=Z,0.8nm,1.1s							
ASAR	**Alice Springs**	**37.90**	**287**	P		**P**	**11 45 25.1**	**-1.3**
WB2	**Warramunga Arr**	**40.04**	**292**	P		**P**	**11 45 43.4**	**-0.9**
WB2					IAmb	IAmb	11 45 56.5	
	comp=Z,8.1nm,1.5s							
WRA	**Warramunga Arr**	**40.05**	**292**	P		**P**	**11 45 44.1**	**-0.2**
WB0	**Warramunga Arr**	**40.13**	**292**	P		**P**	**11 45 44.2**	**-0.9**
WB0					IAmb	IAmb	11 45 44.3	
	comp=Z,4.2nm,1.1s							
KNRA	**Kununurra**	**46.82**	**291**	P		**P**	**11 46 35.4**	**-3.6**
KNRA					IAmb	IAmb	11 46 56.9	
	comp=Z,18nm,1.3s							
MTN	**Manton Dam**	**47.22**	**296**	P		**P**	**11 46 41.3**	**-0.9**

*ANF **19** 11:38:54.9±0.6,36˚.41N×98˚.73W,h7km,ML3.5/9, Error ellipse: s-maj=6.9km s-min=6.0km az=147.0*
*TUL **19** 11:38:54.1±1.0,36˚.45N±0˚.01×98˚.78W±0˚.02,h7km±7km, ML3.0,mb_Lg2.9/42(NEIC), Error ellipse: s-maj=2.6km s-min=1.9km az=105.0*
*NEIC **19** 11:38:54.5±1.1,36˚.44N±0˚.01×98˚.76W±0˚.02,h7km±7km, Error ellipse: s-maj=2.7km s-min=2.0km az=105.0*
ISC 19 11:38:54.3±1.0,**36˚.42N**±0˚.03×**98˚.75W**±0˚.03,**h6**km±11km, **n66,σ0°52/55,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.20**	**258**	Pg	**Pg**	**11 38 58.3**	**-0.1**
U32A				Sg	**Sg**	**11 39 01.4**	**+0.3**
U32A	**Winter Ranch,** baz=70	**0.20**	**258**	P	**Pg**	**11 38 58.2**	**-0.1**
U32A	baz=70			S	**Sg**	**11 39 01.5**	**+0.3**
OK035	**E0210 Rd and N**	**0.29**	**7**	Pg	**Pg**	**11 38 59.6**	**-0.3**
OK035				Sg	**Sg**	**11 39 04.1**	**+0.3**
OK032	**Salt Plains WL**	**0.58**	**49**	Pg	**Pg**	**11 39 05.5**	**0.0**
OK032				Sg	**Sg**	**11 39 13.2**	**+0.1**
CROK	**Carrier**	**0.63**	**82**	Pg	**Pg**	**11 39 06.5**	**+0.2**
CROK				Sg	**Sg**	**11 39 15.0**	**+0.5**
ELIS	**Ellis County**	**0.65**	**237**		**Pg**	**11 39 06.3**	**-0.4**
CSTR	**Hydro, Custer**	**0.78**	**176**		**Pg**	**11 39 09.5**	**+0.3**
GC02	**Grant County #**	**0.84**	**59**	Pg	**Pg**	**11 39 10.1**	**-0.3**
KAN10	**Anthony SW Sta**	**0.88**	**37**		**Pg**	**11 39 10.8**	**-0.3**
KAN05	**Bluff City Nor**	**0.98**	**46**		**Pg**	**11 39 12.9**	**-0.3**
OK029	**Liberty Lake**	**1.22**	**120**	Pn	**Pb**	**11 39 17.2**	**-0.6**
BLOK	**Blackwell**	**1.28**	**74**	Pn	**Pn**	**11 39 18.0**	**-0.7**
OK025	**Westminster Rd**	**1.42**	**126**		**Pn**	**11 39 20.5**	**-0.2**
OK050	**Pawnee Station**	**1.43**	**91**		**Pn**	**11 39 20.1**	**-0.6**
OK048	**Pawnee Station**	**1.46**	**90**		**Pn**	**11 39 20.7**	**-0.4**
OK045	**Pawnee Station**	**1.48**	**88**		**Pn**	**11 39 21.5**	**+0.1**
OK046	**Pawnee Station**	**1.49**	**90**		**Pn**	**11 39 21.7**	**+0.1**
OK033	**Mehan**	**1.52**	**104**		**Pn**	**11 39 21.8**	**-0.1**
OK051	**E0350 and S346**	**1.55**	**86**		**Pn**	**11 39 22.1**	**-0.2**
OK044	**Pawnee Station**	**1.58**	**91**		**Pn**	**11 39 23.1**	**+0.2**
FNO	**Franklin**	**1.60**	**136**		**Pb**	**11 39 24.1**	**-0.2**
OK031	**S. Brethren Rd**	**1.62**	**106**		**Pn**	**11 39 23.7**	**+0.3**
OK052	**Battle Ridge R**	**1.64**	**105**		**Pn**	**11 39 23.9**	**+0.4**
OK053	**SW of W Deep R**	**1.64**	**104**		**Pn**	**11 39 24.0**	**+0.4**
OK030	**Cody Creek RV**	**1.67**	**107**		**Pn**	**11 39 24.5**	**+0.4**
QUOK	**Quay**	**1.67**	**98**		**Pn**	**11 39 24.7**	**+0.6**
WMOK	**Wichita Mounta**	**1.68**	**181**	Pn	**Pn**	**11 39 23.9**	**-0.3**
WMOK	**Wichita Mounta** baz=0.1	**1.68**	**181**	P	**Pn**	**11 39 23.7**	**-0.5**
WMOK	baz=0.1			S	**Sb**	**11 39 47.2**	**+0.1**
OK034	**N. Norfolk Rd.**	**1.70**	**103**		**Pn**	**11 39 25.0**	**+0.5**
T35A	**Sooner Cattle**	**1.87**	**74**		**Pn**	**11 39 27.3**	**+0.5**
T35B	**Sooner Cattle** baz=256	**1.87**	**74**	P	**Pn**	**11 39 26.9**	**+0.1**
T35B	baz=256			S	**Sb**	**11 39 52.9**	**+0.5**
DEOK	**Depew**	**1.92**	**107**		**Pn**	**11 39 28.3**	**+0.9**
X34A	**Smith Ranch, M**	**1.97**	**157**		**Pb**	**11 39 29.9**	**-0.6**
R32A	**Long Quarter,**	**2.00**	**1**		**Pn**	**11 39 29.3**	**+0.7**
R32A	**Long Quarter,** baz=182	**2.00**	**1**	P	**Pn**	**11 39 29.5**	**+0.9**
R32A	baz=182			S	**Sb**	**11 39 56.1**	**-0.1**
TUL1	**Leonard**	**2.45**	**101**		**Pn**	**11 39 35.5**	**+0.7**
TUL1	comp=Z,31nm,1.1s			IAmb_Lg		11 40 11.1	
TUL1	**Leonard** baz=283	**2.45**	**101**	P	**Pn**	**11 39 35.1**	**+0.3**
CBKS	**Cedar Bluff**	**2.51**	**342**		**Pn**	**11 39 36.7**	**+1.0**
CBKS	comp=Z,34nm,0.7s			IAmb_Lg		11 40 16.7	
CBKS	**Cedar Bluff** baz=162	**2.51**	**342**	P	**Pn**	**11 39 34.8**	**-0.9**
CBKS	baz=162			S	**Sb**	**11 40 10.8**	**-0.2**
LOOK	**Love County** comp=Z,19nm,0.8s	**2.75**	**152**	IAmb_Lg		11 40 26.5	
AMTX	**Amarillo** comp=Z,39nm,0.7s	**2.83**	**238**	IAmb_Lg		11 40 28.5	
AMTX	**Amarillo** baz=56	**2.83**	**238**	S	**Sb**	**11 40 21.9**	**+1.5**
X37A	**Clayton** comp=Z,42nm,0.8s	**3.31**	**123**	IAmb_Lg		11 40 48.6	
X37A	**Clayton** baz=305	**3.31**	**123**	P	**Pn**	**11 39 46.7**	**+0.1**
U38A	**Gravette**	**3.52**	**88**		**Pn**	**11 39 49.2**	**-0.3**
U38A	comp=Z,27nm,1.1s			IAmb_Lg		11 40 53.9	
ABTX	**Abilene, Hawle**	**3.86**	**191**		**Pn**	**11 39 53.2**	**-1.0**
ABTX	**Abilene, Hawle** baz=10	**3.86**	**191**	P	**Pn**	**11 39 54.3**	**+0.1**
HHAR	**Hobbs**	**3.89**	**91**	Pn	**Pn**	**11 39 54.0**	**-0.6**
KSCO	**Kaye Shedlock'** comp=Z,30nm,0.7s	**4.01**	**311**	IAmb_Lg		11 41 08.2	
MSTX	**Muleshoe** comp=Z,21nm,0.8s	**4.10**	**235**	IAmb_Lg		11 41 12.4	
S39A	**Bolivar** comp=Z,32nm,0.8s	**4.53**	**72**	IAmb_Lg		11 41 20.6	
T25A	**Trinidad** comp=Z,24nm,0.9s	**4.60**	**281**	IAmb_Lg		11 41 25.7	
MIAR	**Mount Ida**	**4.62**	**112**	Pn	**Pn**	**11 40 05.0**	**+0.4**
BGNE	**Belgrade** comp=Z,25nm,0.8s	**5.00**	**5**	IAmb_Lg		11 41 45.9	
P38A	**Dawn** comp=Z,14nm,0.7s	**5.22**	**51**	IAmb_Lg		11 41 49.4	
MGMO	**Mountain Grove** comp=Z,15nm,1.1s	**5.26**	**80**	IAmb_Lg		11 41 45.2	
WHAR	**Wooly Hollow** comp=Z,13nm,0.8s	**5.37**	**100**	IAmb_Lg		11 41 46.7	
R40A	**Maddies Statio** comp=Z,13nm,0.7s	**5.49**	**68**	IAmb_Lg		11 41 56.6	
JCT	**Junction City** comp=Z,24nm,1.2s	**5.99**	**189**	IAmb_Lg		11 42 14.3	
K31A	**O'Neill** comp=Z,20nm,0.8s	**6.19**	**360**	IAmb_Lg		11 42 23.6	
CCM	**Cathedral Cave** comp=Z,18nm,0.8s	**6.21**	**73**	IAmb_Lg		11 42 16.5	
PHWY	**Pilot Hill** comp=Z,9.8nm,0.9s	**7.15**	**315**	IAmb_Lg		11 42 40.0	
N23A	**Red Feather La** comp=Z,11nm,0.7s	**7.18**	**311**	IAmb_Lg		11 42 47.7	
S44A	**Carbondale** comp=Z,13nm,0.9s	**7.70**	**78**	IAmb_Lg		11 43 00.1	
Q44A	**Meyer Farm, Va** comp=Z,17nm,0.8s	**8.11**	**69**	IAmb_Lg		11 43 22.3	
RSSD	**Black Hills** comp=Z,10nm,1.1s	**8.68**	**334**	IAmb_Lg		11 43 33.9	

*IDC **19** 11:42:05.8±0.6,54˚.62N×164˚.18E,h0km,mb4.0/26, mbtmp4.0/29,ML4.8/2,MS3.2/7, Error ellipse: s-maj=17.7km s-min=10.9km az=157.0*
*KRSC **19** 11:42:05.5±1.7,54˚.42N×164˚.28E,h48km±24km,ML4.6*
*MOS **19** 11:42:08.8±0.9,54˚.49N×164˚.21E,h41km,mb4.4/3, Error ellipse: s-maj=6.0km s-min=5.2km az=92.0*
*NEIC **19** 11:42:10.3±1.8,54˚.5N±0˚.2×164˚.3E±0˚.1,h29km±5km, mb4.4/33, Error ellipse: s-maj=24.0km s-min=8.5km az=179.0*
ISC 19 11:42:06.1±3.0,**54˚.45N**±0˚.04×**164˚.35E**±0˚.04,**h5**km±20km, **n175,σ1°69/202,mb4.4/45,MS3.4/5,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.21**	**51**	*e*P	**Pb**	**11 42 29.2**	**-0.1**
BKI				*e*S	**Sb**	**11 42 43.8**	**-1.4**
BKI	**Bering**	**1.21**	**51**	PN	**Pb**	**11 42 29.2**	**-0.1**
BKI				S	**Sb**	**11 42 43.8**	**-1.4**
KBTR	**Krutoberegovo**	**1.96**	**334**	*e*P	**Pn**	**11 42 37.7**	**-2.3**
KBTR				*e*S	**Sn**	**11 43 00.3**	**-4.7**
KBTR	**Krutoberegovo**	**1.96**	**334**	PN	**Pn**	**11 42 37.7**	**-2.3**
KBTR				S	**Sn**	**11 43 00.3**	**-4.7**
KBG	**Krutoberegovo**	**2.04**	**333**	*e*P	**Pn**	**11 42 38.9**	**-2.0**
KBG				*e*S	**Sn**	**11 43 02.4**	**-4.3**
KBG	**Krutoberegovo**	**2.04**	**333**	PN	**Pn**	**11 42 38.9**	**-2.0**
KBG				S	**Sn**	**11 43 02.4**	**-4.3**
TUMD	**Tumrok D**	**2.40**	**290**	*e*P	**Pn**	**11 42 45.7**	**-0.4**
TUMD				*e*S	**Sn**	**11 43 14.4**	**-1.4**
ZLN	**Zelenaya**	**2.56**	**309**	*e*P	**Pn**	**11 42 49.0**	**+0.7**
ZLN				*e*S	**Sn**	**11 43 20.2**	**+0.3**
ZLN	**Zelenaya**	**2.56**	**309**	PN	**Pn**	**11 42 49.0**	**+0.7**
ZLN				S	**Sn**	**11 43 20.2**	**+0.3**
TUMR	**Tumrok**	**2.56**	**291**	*e*P	**Pn**	**11 42 48.4**	**0.0**
TUMR	**Tumrok**	**2.56**	**291**	PN	**Pn**	**11 42 48.4**	**0.0**
BZGR	**Bezymyannyi-Gr**	**2.57**	**307**	*e*P	**Pn**	**11 42 48.5**	**+0.1**
BZGR				*e*S	**Sn**	**11 43 19.4**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**2.57**	**307**	PN	**Pn**	**11 42 48.5**	**+0.1**
BZGR				S	**Sn**	**11 43 19.4**	**-0.6**
CIRR	**Tsirk**	**2.65**	**310**	*e*P	**Pn**	**11 42 50.2**	**+0.7**
CIRR	**Tsirk**	**2.65**	**310**	PN	**Pn**	**11 42 50.2**	**+0.7**
LGNR	**Loginova**	**2.65**	**309**	*e*P	**Pn**	**11 42 50.8**	**+1.1**
LGNR	**Loginova**	**2.65**	**309**	PN	**Pn**	**11 42 50.8**	**+1.1**
BZMR	**Bezymyannaya**	**2.66**	**305**	*e*P	**Pn**	**11 42 49.4**	**-0.3**
BZMR	**Bezymyannaya**	**2.66**	**305**	PN	**Pn**	**11 42 49.4**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.67**	**306**	*e*P	**Pn**	**11 42 50.1**	**+0.2**
BZWR				*e*S	**Sn**	**11 43 22.5**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.67**	**306**	PN	**Pn**	**11 42 50.1**	**+0.2**
BZWR				S	**Sn**	**11 43 22.5**	**-0.3**
SMKR	**Semkarok**	**2.69**	**324**	*e*P	**Pn**	**11 42 49.0**	**-1.0**
SMKR	**Semkarok**	**2.69**	**324**	PN	**Pn**	**11 42 49.0**	**-1.0**
KMNR	**Kamenistaya**	**2.70**	**301**	*e*P	**Pn**	**11 42 50.0**	**-0.2**
KMNR	**Kamenistaya**	**2.70**	**301**	PN	**Pn**	**11 42 50.0**	**-0.2**
KIRR	**Kirishev**	**2.74**	**305**	*e*P	**Pn**	**11 42 50.9**	**+0.1**
KIRR	**Kirishev**	**2.74**	**305**	PN	**Pn**	**11 42 50.9**	**+0.1**
BDR	**Baidarnaya**	**2.77**	**321**	*e*P	**Pn**	**11 42 50.6**	**-0.6**
BDR				*e*S	**Sn**	**11 43 23.7**	**-1.3**
BDR	**Baidarnaya**	**2.77**	**321**	PN	**Pn**	**11 42 50.6**	**-0.6**
BDR				S	**Sn**	**11 43 23.7**	**-1.3**
KRSR	**Krestovskiy**	**2.79**	**311**	*e*P	**Pn**	**11 42 51.0**	**-0.4**
KRSR				*e*S	**Sn**	**11 43 24.3**	**-1.2**
KRSR	**Krestovskiy**	**2.79**	**311**	PN	**Pn**	**11 42 51.0**	**-0.4**
KRSR				S	**Sn**	**11 43 24.3**	**-1.2**
KPT	**Kopyto**	**2.81**	**304**	*e*P	**Pn**	**11 42 51.6**	**-0.1**
KPT	**Kopyto**	**2.81**	**304**	PN	**Pn**	**11 42 51.6**	**-0.1**
KLY	**Klyuchi**	**2.81**	**313**	*e*P	**Pn**	**11 42 49.8**	**-1.8**
KLY				*e*S	**Sn**	**11 43 22.1**	**-3.8**
KLY	**Klyuchi**	**2.81**	**313**	PN	**Pn**	**11 42 49.8**	**-1.8**
KLY				S	**Sn**	**11 43 22.1**	**-3.8**
SRKR	**Sorokina**	**2.85**	**322**	*e*P	**Pn**	**11 42 51.6**	**-0.6**
SRKR	**Sorokina**	**2.85**	**322**	PN	**Pn**	**11 42 51.6**	**-0.6**
SPN	**Mys Shipunski**	**2.90**	**244**	*e*P	**Pn**	**11 42 51.7**	**-1.2**
SPN				*e*S	**Sn**	**11 43 23.1**	**-5.0**
SPN	**Mys Shipunski**	**2.90**	**244**	PN	**Pn**	**11 42 51.7**	**-1.2**
SPN				S	**Sn**	**11 43 23.1**	**-5.0**
NLC	**Nalytchevo**	**3.23**	**249**	*e*P	**Pn**	**11 42 56.6**	**-0.8**
NLC				*e*S	**Sn**	**11 43 32.0**	**-4.1**
NLC	**Nalytchevo**	**3.23**	**249**	PN	**Pn**	**11 42 56.6**	**-0.8**
NLC				S	**Sn**	**11 43 32.0**	**-4.1**
SRDR	**Sredinnyy**	**3.23**	**307**	*e*P	**Pn**	**11 42 57.5**	**0.0**
SRDR	**Sredinnyy**	**3.23**	**307**	PN	**Pn**	**11 42 57.5**	**0.0**
SDLR	**Sedlovina**	**3.44**	**252**	*e*P	**Pn**	**11 43 00.2**	**-0.2**
SDLR	**Sedlovina**	**3.44**	**252**	PN	**Pn**	**11 43 00.2**	**-0.2**
SMAR	**Somma**	**3.49**	**252**	*e*P	**Pn**	**11 43 01.0**	**-0.2**
SMAR	**Somma**	**3.49**	**252**	PN	**Pn**	**11 43 01.0**	**-0.2**
UGLR	**Uglovaya**	**3.50**	**251**	*e*P	**Pn**	**11 43 01.2**	**0.0**
UGLR				*e*S	**Sn**	**11 43 41.6**	**-1.4**
UGLR	**Uglovaya**	**3.50**	**251**	PN	**Pn**	**11 43 01.2**	**0.0**
UGLR				S	**Sn**	**11 43 41.6**	**-1.4**
KRER	**Koryakskii**	**3.51**	**253**	*e*P	**Pn**	**11 43 01.5**	**+0.1**
KRER				*e*S	**Sn**	**11 43 40.5**	**-2.8**
KRER	**Koryakskii**	**3.51**	**253**	PN	**Pn**	**11 43 01.5**	**+0.1**
KRER				S	**Sn**	**11 43 40.5**	**-2.8**
AVH	**Avacha**	**3.53**	**253**	*e*P	**Pn**	**11 43 01.7**	**+0.2**
AVH				*e*S	**Sn**	**11 43 41.1**	**-2.5**
AVH	**Avacha**	**3.53**	**253**	PN	**Pn**	**11 43 01.7**	**+0.2**
AVH				S	**Sn**	**11 43 41.1**	**-2.5**
KOK	**Koryaka**	**3.57**	**253**	*e*P	**Pn**	**11 43 02.2**	**0.0**
KOK	**Koryaka**	**3.57**	**253**	PN	**Pn**	**11 43 02.2**	**0.0**
DALK	**Dalny**	**3.61**	**249**	*e*P	**Pn**	**11 43 02.1**	**-0.5**
DALK				*e*S	**Sn**	**11 43 40.9**	**-4.7**
DALK	**Dalny**	**3.61**	**249**	PN	**Pn**	**11 43 02.1**	**-0.5**
PET	**Petropavlovsk**	**3.67**	**249**		**Pn**	**11 43 03.2**	**-0.3**
PET	**Petropavlovsk**	**3.67**	**249**	*e*P	**Pn**	**11 43 03.3**	**-0.1**
PET	**Petropavlovsk**	**3.67**	**249**	*e*PN	**Pn**	**11 43 03.1**	**-0.3**
PET	comp=Z,74nm,0.4s			pmax	pmax		
PET	comp=Z,500nm,14.0s			MLR	MLR		
PET	comp=Z,300nm,15.0s			MLR	MLR		
GNL	**Ganaly**	**3.85**	**261**	*e*P	**Pn**	**11 43 06.6**	**+0.6**
GNL	**Ganaly**	**3.85**	**261**	PN	**Pn**	**11 43 06.6**	**+0.6**
RUS	**Russkaya**	**4.03**	**242**	*e*P	**Pn**	**11 43 07.9**	**-0.5**
RUS				*e*S	**Sn**	**11 43 51.7**	**-4.2**
RUS	**Russkaya**	**4.03**	**242**	PN	**Pn**	**11 43 07.9**	**-0.5**
KRMR	**Karymshinskiy**	**4.04**	**249**	*e*P	**Pn**	**11 43 08.5**	**0.0**
KRMR				*e*S	**Sn**	**11 43 53.0**	**-3.1**
KRMR	**Karymshinskiy**	**4.04**	**249**	PN	**Pn**	**11 43 08.5**	**0.0**
PEA0B	**Petropavlovsk-**	**4.17**	**254**	Pn	**Pn**	**11 43 10.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.17**	**254**	PN	**Pn**	**11 43 10.9**	**+0.6**
PETK	**Petropavlovsk-** comp=Z,23nm,0.5s,baz=82,slow=19,SNR=284	**4.17**	**254**	Pn	**Pn**	**11 43 10.1**	**-0.2**
PETK	comp=Z,7.2nm,0.3s,baz=42,slow=28,SNR=7.0			Sn	**Sn**	**11 43 57.7**	**-1.6**
PETK	**Petropavlovsk-**	**4.17**	**254**	Pn	**Pn**	**11 43 10.2**	**-0.1**
MTVR	**Mutnovka**	**4.18**	**244**	*e*P	**Pn**	**11 43 10.8**	**+0.3**
MTVR				*e*S	**Sn**	**11 43 55.8**	**-3.9**
MTVR	**Mutnovka**	**4.18**	**244**	PN	**Pn**	**11 43 10.8**	**+0.3**
GRL	**Gorelyy**	**4.20**	**246**	*e*P	**Pn**	**11 43 11.2**	**+0.4**
GRL	**Gorelyy**	**4.20**	**246**	PN	**Pn**	**11 43 11.2**	**+0.4**
APC	**Apacha**	**4.54**	**253**	*e*P	**Pn**	**11 43 17.1**	**+1.8**
APC	**Apacha**	**4.54**	**253**	PN	**Pn**	**11 43 17.1**	**+1.8**
KDTR	**Khodutka, Kamc**	**4.61**	**237**	*e*P	**Pn**	**11 43 15.7**	**-0.6**
KDTR				*e*S	**Sn**	**11 44 03.8**	**-6.4**
KDTR	**Khodutka, Kamc**	**4.61**	**237**	PN	**Pn**	**11 43 15.7**	**-0.6**
OSSR	**Ossora**	**4.86**	**352**	*e*P	**Pn**	**11 43 19.5**	**-0.2**
OSSR	**Ossora**	**4.86**	**352**	PN	**Pn**	**11 43 19.5**	**-0.2**
PAU	**Pauzhetka**	**5.45**	**240**	*e*P	**Pn**	**11 43 28.3**	**+0.5**
PAU	**Pauzhetka**	**5.45**	**240**	PN	**Pn**	**11 43 28.3**	**+0.5**
SHEM	**Shemya Is, Ala** comp=Z,8.7nm,0.3s,baz=243,slow=14,SNR=13	**6.06**	**103**	Pn	**Pn**	**11 43 36.5**	**+0.3**
SHEM	comp=Z,4.9nm,0.3s,baz=241,slow=21,SNR=9.6			Sn	**Sn**	**11 44 42.0**	**-3.9**
SHEM	comp=Z,159nm,21.1s,baz=314,slow=37			LR	LR	11 45 52.2	
SMY	**Shemya** comp=Z,20nm,0.3s	**6.06**	**103**	Pn	**Pn**	**11 43 38.1**	**+1.9**
SMY	**Shemya**	**6.06**	**103**	PN	**Pn**	**11 43 38.1**	**+1.9**
SKR	**Severo-Kuril's**	**6.28**	**236**	*e*P	**Pn**	**11 43 38.7**	**-0.5**
SKR	**Severo-Kuril's**	**6.28**	**236**	*e*PN	**Pn**	**11 43 41.3**	**+2.1**
SKR	comp=Z,9.0nm,0.4s			pmax	pmax		
MA2	**Magadan** comp=Z,44nm,19.1s,baz=120,slow=35	**9.00**	**310**	LR	LR	11 47 13.4	
JKA	**Kamikawa-asahi**	**17.48**	**243**	P	**Pn**	**11 46 09.9**	**-0.5**
ASAJ	**Asahikawa**	**17.48**	**243**	P	**Pn**	**11 46 10.0**	**-0.4**
ASAJ	comp=Z,29nm,1.2s			pmax	pmax		
ERM	**Erimo**	**18.72**	**237**	P	**P**	**11 46 23.4**	**-1.9**
ERM	comp=Z,43nm,1.2s			IAmb	IAmb	11 46 54.2	
ERM	**Erimo**	**18.72**	**237**	P	**P**	**11 46 23.4**	**-1.9**
ERM	comp=Z,43nm,1.3s			pmax	pmax		
YAK	**Yakutsk** comp=Z,0.2nm,0.3s,baz=76,slow=12,SNR=2.7	**19.55**	**307**	P	**P**	**11 46 33.3**	**-0.9**
	comp=Z,6.4nm,0.4s						
KLR	**Kul'dur** comp=Z,1.9nm,0.7s,baz=71,slow=8.4,SNR=6.0	**20.68**	**269**	P	**P**	**11 46 44.7**	**-2.0**
	comp=Z,1.9nm,0.7s						
N18K	**Kilae Creek**	**21.94**	**57**	P	**P**	**11 47 01.3**	**+1.1**
N18K	comp=Z,24nm,1.5s			IAmb	IAmb	11 47 13.9	
N19K	**Bonanza Creek**	**22.63**	**57**	P	**P**	**11 47 10.5**	**+2.9**
M19K	**Big River Lodg**	**22.65**	**54**	P	**P**	**11 47 07.8**	**0.0**
K20K	**Telida**	**22.85**	**50**	P	**P**	**11 47 10.5**	**+0.7**
K20K	comp=Z,17nm,1.4s			IAmb	IAmb	11 47 24.0	
J20K	**Nowinta River**	**22.88**	**48**	P	**P**	**11 47 11.0**	**+0.9**
J20K	comp=Z,17nm,1.4s			IAmb	IAmb	11 47 23.3	
TIXI	**Tiksi** comp=Z,0.5nm,0.3s,baz=181,slow=0.1,SNR=6.3	**22.98**	**332**	P	**P**	**11 47 08.0**	**-3.1**
	comp=Z,0.5nm,0.3s						
TIXI	**Tiksi**	**22.98**	**332**	P	**P**	**11 47 08.0**	**-3.1**
JMM	**Marumori**	**23.09**	**234**	P	**P**	**11 47 14.8**	**+2.3**
USRK	**Ussuriysk Ar.** comp=Z,1.3nm,0.5s,baz=44,slow=9.4,SNR=1.3	**23.25**	**257**	P	**P**	**11 47 13.5**	**-0.6**
	comp=Z,1.3nm,0.5s						
IMAR	**Indian Mountai**	**23.28**	**44**	P	**P**	**11 47 15.1**	**+0.9**
H21K	**Melozitna Rive**	**23.62**	**45**	P	**P**	**11 47 19.4**	**+1.8**
H21K	comp=Z,14nm,1.2s			IAmb	IAmb	11 47 31.8	
OHAK	**Old Harbor**	**23.67**	**66**	P	**P**	**11 47 18.0**	**-0.1**
OHAK	comp=Z,25nm,1.4s			IAmb	IAmb	11 47 38.0	
CAST	**Castle Rocks**	**23.75**	**50**	P	**P**	**11 47 21.0**	**+2.1**
JSD	**Sado**	**24.18**	**238**	P	**P**	**11 47 26.6**	**+3.5**
CNPM	**China Poot**	**24.36**	**60**	P	**P**	**11 47 25.3**	**+0.7**
SUA	**Susitna One**	**24.40**	**55**	P	**P**	**11 47 25.7**	**+0.6**
SUA	comp=Z,17nm,1.0s			IAmb	IAmb	11 47 37.9	
COLD	**Coldfoot**	**24.88**	**41**	P	**P**	**11 47 30.1**	**+0.9**
MCK	**McKinley**	**25.16**	**50**	P	**P**	**11 47 33.1**	**+1.2**
MCK	comp=Z,13nm,1.2s			IAmb	IAmb	11

comp=Z,0.4nm,0.6s
AAK Ala-Archa 56.70 298 P **P** **11 51 49.4 -1.1**
comp=Z,1.2nm,0.6s,baz=80,slow=12,SNR=5.2
comp=Z,1.2nm,0.6s
KK31 Karatay Array 58.39 301 P **P** **11 52 02.8 +0.6**
KK31 Karatay Array 58.39 301 P **P** **11 52 02.8 +0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 58.39 301 P **P** **11 52 02.3 +0.1**
KKAR Karatay Array 58.39 301 P **P** **11 52 02.3 +0.1**
ABKAR Akbulak array 58.80 312 P **P** **11 52 05.4 +0.5**
ABKAR IAmb IAmb 11 52 06.0
comp=Z,5.7nm,1.2s
FINES FINESS Array B 59.83 338 P **P** **11 52 11.1 -0.7**
comp=Z,7.8nm,1.0s,baz=48,slow=15,SNR=4.3
comp=Z,7.8nm,1.0s
CMAR Chiang Mai Arr 60.91 261 P **P** **11 52 21.4 +1.6**
comp=Z,1.0nm,0.4s,baz=18,slow=7.5,SNR=6.2
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 62.90 346 P **P** **11 52 32.2 -0.4**
comp=Z,1.6nm,0.7s,baz=19,slow=6.9
NOA NORSAR Array B 62.90 346 P **P** **11 52 32.1 -0.6**
comp=Z,0.7nm,0.6s,baz=2.4,slow=6.0,SNR=3.2
comp=Z,0.7nm,0.6s
SCHQ Schefferville 63.24 30 P **P** **11 52 34.1 -0.9**
comp=Z,2.8nm,0.4s,baz=346,slow=2.7,SNR=4.0
comp=Z,2.8nm,0.4s
TX31 Lajitas Ar. Si 67.79 70 P **P** **11 53 06.7 +1.8**
TX32 Lajitas Array 67.79 70 P **P** **11 53 06.7 +1.8**
TX32 IAmb IAmb 11 53 07.7
comp=Z,4.7nm,1.2s
TXAR Lajitas Array 67.79 70 P **P** **11 53 06.0 +1.1**
comp=Z,1.9nm,0.6s,baz=298,slow=5.1,SNR=22
comp=Z,1.9nm,0.6s
AKASG Malin Array Be 68.69 331 P **P** **11 53 08.9 -1.2**
comp=Z,0.6nm,0.5s,baz=30,slow=6.7,SNR=3.2
AKASG LR LR 12 25 24.1
comp=Z,24nm,19.7s,baz=226,slow=38
comp=Z,0.6nm,0.5s
CLL Collm 71.92 342 *i* P **P** **11 53 32.1 +2.3**
GERES GERESS Array B 74.14 340 P **P** **11 53 43.1 -0.1**
comp=Z,0.4nm,0.7s,baz=48,slow=7.9,SNR=4.1
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 78.43 209 P **P** **11 54 07.6 0.0**
comp=Z,0.7nm,0.6s,baz=21,slow=5.9,SNR=9.7
comp=Z,0.7nm,0.6s
ASAR Alice Springs 82.09 208 P **P** **11 54 27.1 -0.1**
comp=Z,1.8nm,1.0s,baz=19,slow=5.0,SNR=9.8
comp=Z,1.8nm,1.0s
ESDC Sonseca Array 85.71 351 P **P** **11 54 45.6 -0.2**
comp=Z,0.7nm,0.7s,baz=350,slow=5.0,SNR=4.4
comp=Z,0.7nm,0.7s
JTS Las Juntas de 93.39 67 LR LR 12 41 20.6
comp=Z,19nm,18.1s,baz=332,slow=38

IDC 19 11:44:49.8±1.2, 1°09'S×127°26'E, h0km, mb3.5/3, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=36.8km s-min=21.6km az=55.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.01**	**87**	Pn	Pn	11 45 54.6	+1.9
	1.5nm,0.3s,baz=210,slow=20,SNR=4.5						
SIJI				Sn	Sn	11 46 40.2	-0.2
	0.4nm,0.3s,baz=207,slow=22,SNR=1.7						
	3.0nm,0.3s						
WRA	**Warramunga Arr**	**19.98**	**160**	P	P	11 49 22.8	-1.2
	0.1nm,0.3s,baz=342,slow=12,SNR=9.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**23.35**	**164**	P	P	11 50 00.5	+0.5
	0.6nm,0.6s,baz=346,slow=11,SNR=10						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**61.82**	**327**	P	P	11 55 11.4	+0.7
	0.3nm,0.4s,baz=118,slow=8.0,SNR=7.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**66.08**	**328**	P	P	11 55 37.5	-1.1
	0.3nm,0.4s,baz=125,slow=5.8,SNR=4.1						
	0.3nm,0.4s						

WEL 19 11:46:30.8±0.3, 42°S±2°×174°E±°, h5km, M3.1/35, ML3.4/13, MLv3.1/35, Error ellipse: s-maj=0.0km s-min=0.0km az=112.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**184**	P	Pg	11 46 36.5	+0.6
KHZ				S	Sg	11 46 40.5	+1.2
BSWZ	**Blackbirch Sta**	**0.50**	**28**	P	Pg	11 46 40.6	+0.2
BSWZ				S	Sg	11 46 48.2	+1.2
THZ	**Tophouse**	**0.63**	**309**	P	Pg	11 46 43.4	+0.5
CMWZ	**Cape Campbell**	**0.64**	**50**	P	Pb	11 46 43.7	-0.7
TUWZ	**Tuamarina**	**0.78**	**22**	P	Pg	11 46 45.9	+0.1
GVZ	**Greta Valley S**	**0.90**	**205**	P	Pg	11 46 48.4	+0.3
NNZ	**Nelson**	**0.95**	**352**	P	Pg	11 46 48.8	-0.2
MRNZ	**Matariki Terra**	**0.97**	**321**	P	Pg	11 46 49.6	+0.2
TCW	**Tory Channel**	**1.09**	**30**	P	Pg	11 46 50.7	-1.0
LTZ	**Lake Taylor**	**1.14**	**236**	P	Pg	11 46 51.9	-0.8
TKNZ	**Takaka Hill**	**1.21**	**338**	P	Pg	11 46 53.6	-0.4
AMCZ	**Amberley**	**1.22**	**213**	P	Pg	11 46 52.7	-1.5
WEL	**Wellington**	**1.26**	**46**	P	Pg	11 46 52.6	-2.3
DSZ	**Denniston Nort**	**1.37**	**287**	P	Pg	11 46 56.9	-0.1
DUWZ	**D'Urville Isla**	**1.38**	**11**	P	Pn	11 46 56.1	-0.7
PLWZ	**Palliser**	**1.40**	**66**	P	Pn	11 46 54.1	-2.9
MSWZ	**Moikau Station**	**1.46**	**60**	P	Pn	11 46 55.2	-2.7
QRZ	**Quartz Range**	**1.54**	**329**	P	Pn	11 46 59.2	+0.3
CAW	**Cannon Point**	**1.54**	**48**	P	Pn	11 46 56.8	-2.1
PAWZ	**Paruwai Farm**	**1.60**	**62**	P	Pn	11 46 56.8	-2.9
OKCZ	**Okains Bay**	**1.61**	**193**	P	Pn	11 46 57.3	-2.6
OXZ	**Oxford**	**1.62**	**223**	P	Pn	11 46 57.5	-2.5
KIW	**Kapiti Island**	**1.65**	**38**	P	Pn	11 46 58.8	-1.6
INZ	**Inchbonnie**	**1.67**	**249**	P	Pn	11 46 59.8	-0.9
MQZ	**McQueen's Vall**	**1.69**	**203**	P	Pn	11 46 57.1	-3.8
MTW	**Mount Morrison**	**1.76**	**56**	P	Pn	11 46 59.1	-2.9
AKCZ	**Akaroa Harbour**	**1.78**	**195**	P	Pn	11 46 59.5	-2.8
OGWZ	**Otaki Gorge**	**1.81**	**43**	P	Pn	11 47 00.5	-2.1
RACZ	**Rakaia**	**1.88**	**213**	P	Pn	11 47 00.9	-2.8
HOWZ	**Holdsworth Sta**	**1.93**	**50**	P	Pn	11 47 02.2	-2.2
MHCZ	**Mount Hutt**	**2.01**	**226**	P	Pn	11 47 02.9	-2.5
TMWZ	**Te Maipa**	**2.04**	**60**	P	Pn	11 47 02.5	-3.3
MRZ	**Mangatainoka R**	**2.13**	**46**	P	Pn	11 47 04.5	-2.6
WACZ	**Wakanui South**	**2.19**	**215**	P	Pn	11 47 04.9	-2.9
WVZ	**Waitaha Valley**	**2.28**	**245**	P	Pn	11 47 08.2	-0.8
RPZ	**Rata Peaks**	**2.41**	**229**	P	Pn	11 47 08.8	-2.2
ARCZ	**Arundel**	**2.50**	**224**	P	Pn	11 47 10.0	-2.2
GCSZ	**Gaunt Creek Bo**	**2.65**	**243**	P	Pn	11 47 13.4	-0.8
TSZ	**Takapari Road**	**2.77**	**42**	P	Pb	11 47 21.4	+0.5
KHEZ	**Kahui Hut**	**2.88**	**7**	P	Pg	11 47 24.7	-1.3
TMZ	**Timaru**	**2.90**	**219**	P	Pn	11 47 15.1	-2.6
PRHZ	**Porangahau**	**2.99**	**52**	P	Pg	11 47 33.8	+5.7
PNHZ	**Pukenui**	**3.00**	**43**	P	Pb	11 47 25.3	+0.5
VRZ	**Vera Road**	**3.16**	**17**	P	Pn	11 47 22.9	+1.7
PKVZ	**Pokaka**	**3.17**	**26**	P	Pb	11 47 26.7	-1.0
MOVZ	**Moawhango**	**3.21**	**32**	P	Pb	11 47 27.6	-0.8
WNVZ	**Wahianoa**	**3.22**	**29**	P	Pb	11 47 28.7	+0.1
TRVZ	**Turoa**	**3.23**	**29**	P	Pb	11 47 29.2	+0.4
WHVZ	**Whangaehu Hut**	**3.26**	**29**	P	Pb	11 47 29.7	+0.4
PXZ	**Pawanui**	**3.28**	**51**	P	Pg	11 47 33.1	-0.6
NGZ	**Ngauruhoe**	**3.36**	**28**	P	Pb	11 47 32.1	+1.1
NNVZ	**North Ngauruho**	**3.40**	**28**	P	Pb	11 47 32.3	+0.6
WTVZ	**West Tongariro**	**3.41**	**28**	P	Pn	11 47 23.4	-1.4
ODZ	**Otahua Downs**	**3.58**	**215**	P	Pn	11 47 24.0	-3.0
HIZ	**Hauiti**	**3.77**	**16**	P	Pb	11 47 36.1	-1.8

---

*JMA **19** 11:46:45.2±0.2, 23°.0N±0°.5×120°.8E±0°.7, h0km, MV3.4/11, TAIWAN REGION*
*TAP **19** 11:46:46.2, 23°.18N×120°.69E, h8km, ML3.5, C*
ISC 19 11:46:46.9±0.8, 23°.15N±0°.01×120°.71E±0°.01, h7km±5km, n119, σ1801/213, 14C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYT	**Tauyuan**	**0.05**	**72**	⇓ *i*	P	**Pg**	**11 46 48.8**	**+0.3**
	baz=106						
STYT				*i*	S	**Sg**	**11 46 50.5**	**+0.8**
	baz=106						
STYH	**Taoyuan**	**0.07**	**70**	P		**Pg**	**11 46 48.0**	**-0.7**
	baz=98						
STYH				S		**Sg**	**11 46 49.7**	**-0.3**
	baz=98						
WTP	**Ta-pu**	**0.13**	**318**	⇑	*i* P	**Pg**	**11 46 49.1**	**-0.7**
	baz=316						
WTP					*i* S	**Sg**	**11 46 51.1**	**-0.6**
	baz=316						
SGST	**Jiashian**	**0.13**	**240**	⇑	*i* P	**Pg**	**11 46 48.9**	**-0.8**
	baz=222						
SGST					*i* S	**Sg**	**11 46 52.4**	**+0.7**
	baz=222						
TPUB	**Ta-pu**	**0.17**	**334**	⇑	*i* P	**Pg**	**11 46 49.9**	**-0.4**
	baz=336						
TPUB					S	**Sg**	**11 46 52.8**	**0.0**
	baz=336						
CHN1	**Nanshi**	**0.17**	**283**	⇓	*i* P	**Pg**	**11 46 50.2**	**-0.1**
	baz=272						
CHN1					*i* S	**Sg**	**11 46 53.1**	**+0.3**
	baz=272						
CHN4	**Tsaushan**	**0.23**	**332**	⇑	*i* P	**Pg**	**11 46 50.3**	**-1.2**
	baz=340						
CHN4					*i* S	**Sg**	**11 46 54.4**	**-0.1**
	baz=340						
TWK	**Hsinying**	**0.23**	**300**	⇓	*i* P	**Pg**	**11 46 51.5**	**-0.1**
	baz=296						
TWK					*i* S	**Sg**	**11 46 55.5**	**+0.7**
	baz=296						
ELDTW	**Lidau**	**0.29**	**82**	⇓	*i* P	**Pb**	**11 46 53.4**	**-1.0**
	baz=89						
ELDTW					*i* S	**Sb**	**11 46 58.0**	**-1.4**
	baz=89						
WCKO	**Fanlu**	**0.30**	**342**	⇑	P	**Pg**	**11 46 50.7**	**-2.2**
	baz=343						
CHN3	**Shinhua**	**0.32**	**257**	P		**Pb**	**11 46 54.8**	**-0.1**
	baz=251						
CHN3				S		**Sb**	**11 47 01.7**	**+1.3**
	baz=251						
SCST	**Cishan**	**0.33**	**217**	*e* P		**Pb**	**11 46 54.4**	**-0.6**
	baz=198						
SCST				*e* S		**Sb**	**11 47 02.7**	**+2.2**
	baz=198						
SHHT	**Tainan City**	**0.35**	**249**	P		**Pb**	**11 46 54.9**	**-0.6**
	baz=243						
SHHT				S		**Sb**	**11 47 02.6**	**+1.4**
	baz=243						
ALS	**Alishan**	**0.37**	**14**	⇑	*i* P	**Pg**	**11 46 54.2**	**0.0**
	baz=21						
ALS					*i* S	**Sg**	**11 46 59.6**	**+0.4**
	baz=21						
SSHA	**Shanhua**	**0.39**	**268**	*e* P		**Pb**	**11 46 56.1**	**+0.1**
	baz=276						
SSHA				*e* S		**Sb**	**11 47 04.0**	**+1.8**
	baz=276						
SSD	**Sandimen**	**0.41**	**190**	⇑	*i* P	**Pb**	**11 46 55.6**	**-0.7**
	baz=174						
SSD				S		**Sb**	**11 47 01.5**	**-1.3**
	baz=174						
YUS	**Yu-Shan**	**0.41**	**33**	P		**Pg**	**11 46 55.1**	**+0.2**
	baz=40						
YUS					*i* S	**Sg**	**11 47 01.0**	**+0.6**
	baz=40						
TWM1	**Shoushan**	**0.42**	**219**	⇑	*i* P	**Pn**	**11 46 57.2**	**-2.1**
	baz=201						
CHY	**Chiayi**	**0.43**	**323**	*e* P		**Pg**	**11 46 55.7**	**+0.4**
	baz=325						
CHY				*e* S		**Sb**	**11 47 02.9**	**-0.7**
	baz=325						
CHN2	**Minshiung**	**0.44**	**331**	*e* P		**Pb**	**11 46 56.3**	**-0.6**
	baz=333						
CHN2				*e* S		**Sb**	**11 47 03.3**	**-0.4**
	baz=333						
TSMG	**Majia**	**0.45**	**188**	*e* P		**Pb**	**11 46 56.2**	**-0.8**
	baz=173						
CHN5	**Tsauling**	**0.45**	**356**	P		**Pg**	**11 46 54.5**	**-1.1**
	baz=10.0						
CHN5				*e* S		**Sg**	**11 47 02.2**	**+0.7**
	baz=10.0						
ICHU	**Yijhu**	**0.45**	**298**	*e* P		**Pb**	**11 46 56.2**	**-0.8**
	baz=298						
ICHU				S		**Sb**	**11 47 04.4**	**+0.4**
	baz=298						
TAI1	**Yung-k'ang**	**0.46**	**256**	*e* P		**Pn**	**11 46 57.9**	**-1.8**
	baz=268						
TAI1				*e* S		**Sb**	**11 47 07.2**	**+3.1**
	baz=268						
LONT	**Longtian**	**0.46**	**122**	*e* P		**Pb**	**11 46 56.8**	**-0.5**
	baz=123						
LONT				S		**Sb**	**11 47 04.2**	**0.0**
	baz=123						
TWG	**Pinlang**	**0.47**	**134**	⇓	*i* P	**Pb**	**11 46 57.3**	**-0.1**
	baz=133						
TWG					*i* S	**Sb**	**11 47 04.6**	**+0.1**
	baz=133						
ECS	**Chishang**	**0.47**	**96**	*e* P		**Pb**	**11 46 57.1**	**-0.4**
	baz=99						
ECS				*e* S		**Sb**	**11 47 04.7**	**0.0**
	baz=99						
SCLT	**Jiali**	**0.47**	**273**	*e* P		**Pb**	**11 46 57.4**	**-0.2**
	baz=271						
SCLT				*e* S		**Sb**	**11 47 07.1**	**+2.4**
	baz=271						
TWGBT	**Beinan**	**0.47**	**134**	⇓	*i* P	**Pb**	**11 46 57.2**	**-0.3**
	baz=133						
TWGBT					S	**Sb**	**11 47 04.3**	**-0.4**
	baz=133						
CHN8	**Yiju**	**0.50**	**293**	*e* P		**Pb**	**11 46 57.1**	**-0.8**
	baz=294						
CHN8				*e* S		**Sb**	**11 47 05.7**	**+0.3**
	baz=294						
MASBT	**Mashibuluo**	**0.54**	**187**	⇑	*i* P	**Pb**	**11 46 58.0**	**-0.6**
	baz=177						
MASBT				*e* S		**Sb**	**11 47 06.2**	**-0.4**
	baz=177						
FULB	**Fuli**	**0.54**	**85**	P		**Pb**	**11 46 58.6**	**0.0**
	baz=80						
FULB				S		**Sb**	**11 47 07.4**	**+0.8**
	baz=80						
WGK	**Gukeng**	**0.55**	**346**	P		**Pb**	**11 46 58.1**	**-0.7**
	baz=350						
WGK				*e* S		**Sb**	**11 47 06.9**	**0.0**
	baz=350						
WDLH	**Douliu**	**0.56**	**344**	*e* P		**Pb**	**11 46 58.5**	**-0.5**
	baz=347						
WDLH				*e* S		**Sb**	**11 47 07.1**	**-0.1**
	baz=347						
WHYT	**Xinyi Township**	**0.56**	**14**	*e* P		**Pg**	**11 46 57.5**	**-0.2**
	baz=23						
WHYT				*e* S		**Sg**	**11 47 05.4**	**+0.3**
	baz=23						
TTN	**Taitung**	**0.56**	**134**	*e* P		**Pn**	**11 46 59.9**	**-1.4**
	baz=134						
TTN				*e* S		**Sn**	**11 47 09.1**	**-1.7**
	baz=134						
TSCK	**Chigu Township**	**0.57**	**270**	*e* P		**Pb**	**11 46 57.8**	**-1.4**
	baz=283						
EDH	**Donghe**	**0.58**	**108**	P		**Pn**	**11 46 59.3**	**-2.2**
	baz=118						
EDH				S		**Sb**	**11 47 07.5**	**-0.2**
	baz=118						
TWF1	**Yuli**	**0.58**	**69**	P		**Pb**	**11 46 58.7**	**-0.6**
	baz=73						
TWF1				*e* S		**Sb**	**11 47 06.1**	**-1.6**
	baz=73						
WSL	**Shuilin Townsh**	**0.58**	**310**	*e* P		**Pg**	**11 46 57.4**	**-0.6**
	baz=310						
ECL	**Taimali**	**0.59**	**158**	⇑	*i* P	**Pb**	**11 46 59.1**	**-0.4**
	baz=148						
ECL				*e* S		**Sb**	**11 47 06.9**	**-1.2**
	baz=148						
YULB	**Yu-li**	**0.59**	**66**	⇑	*i* P	**Pb**	**11 46 58.7**	**-0.8**
	baz=70						
YULB				S		**Sg**	**11 47 06.2**	**+0.1**
	baz=70						
EYUL	**Yuli**	**0.60**	**70**	*e* P		**Pb**	**11 46 58.9**	**-0.7**
	baz=74						
EYUL				*e* S		**Sb**	**11 47 06.5**	**-1.7**
	baz=74						
CHKT	**Chengkung**	**0.61**	**94**	P		**Pn**	**11 47 00.3**	**-1.6**
	baz=97						
CHKT				S		**Sn**	**11 47 10.7**	**-1.1**
	baz=97						
WSSB	**Gushan**	**0.65**	**219**	*e* P		**Pn**	**11 47 02.4**	**-0.1**
	baz=233						
WSSB				*e* S		**Sn**	**11 47 15.0**	**+1.9**
	baz=233						
WSF	**Szhu**	**0.66**	**318**	*e* P		**Pg**	**11 46 59.5**	**-0.1**
	baz=319						
WSF				*e* S		**Sb**	**11 47 09.5**	**-0.6**
	baz=319						
EHY	**Hungye**	**0.67**	**58**	P		**Pb**	**11 47 00.0**	**-0.8**
	baz=66						
EHY				S		**Sg**	**11 47 08.9**	**+0.4**
	baz=66						
WJS	**Zhushan**	**0.67**	**2**	P		**Pb**	**11 47 00.4**	**-0.5**
	baz=5.0						
WJS				*e* S		**Sg**	**11 47 09.8**	**+1.3**
	baz=5.0						
SSLB	**Suanglung**	**0.68**	**19**	⇑	*i* P	**Pg**	**11 46 59.4**	**-0.5**
	baz=30						
SSLB					S	**Sg**	**11 47 09.3**	**+0.6**
	baz=30						
VWDT	**VWDT**	**0.72**	**33**	P		**Pg**	**11 47 00.8**	**0.0**
	baz=39						
VWDT				*e* S		**Sb**	**11 47 11.1**	**-0.7**
	baz=39						
WNT	**Mingjian**	**0.73**	**358**	*e* P		**Pb**	**11 47 01.4**	**-0.4**
	baz=2.0						
WNT				*e* S		**Sb**	**11 47 11.9**	**-0.1**
	baz=2.0						
HGSD	**Ruisui**	**0.74**	**62**	P		**Pb**	**11 47 02.0**	**-0.1**
	baz=72						
HGSD				S		**Sb**	**11 47 12.9**	**+0.5**
	baz=72						
SMLT	**Sun Moon Lake**	**0.75**	**13**	⇑	*i* P	**Pg**	**11 47 01.5**	**+0.1**
	baz=26						
SMLT					*i* S	**Sb**	**11 47 13.4**	**+0.6**
	baz=26						
TYC	**Yuchr**	**0.77**	**10**	P		**Pb**	**11 47 02.1**	**-0.4**
	baz=23						
TYC				S		**Sb**	**11 47 13.4**	**+0.3**
	baz=23						
EAST	**Anshuo**	**0.77**	**170**	*e* P		**Pn**	**11 47 02.5**	**-1.7**
	baz=161						
EAST				*e* S		**Sn**	**11 47 15.2**	**-0.8**
	baz=161						
SCZT	**Fangliau**	**0.78**	**186**	*e* P		**Pn**	**11 47 02.3**	**-1.9**
	baz=172						
SCZT				*e* S		**Sn**	**11 47 16.8**	**+0.8**
	baz=172						
WRL	**Guolierlin Hig**	**0.81**	**338**	*e* P		**Pg**	**11 47 01.1**	**-1.3**
	baz=328						
WRL				*e* S		**Sg**	**11 47 13.4**	**+0.4**
	baz=328						
WTCT	**Ta-ch'eng**	**0.81**	**331**	*e* S		**Sg**	**11 47 14.1**	**+1.0**
	baz=334						
TAWH	**Dawu Township**	**0.82**	**168**	*e* P		**Pb**	**11 47 02.3**	**-1.2**
	baz=171						
EGFH	**Guangfu**	**0.84**	**52**	P		**Pb**	**11 47 03.5**	**-0.2**
	baz=64						
EGFH				*e* S		**Sb**	**11 47 15.3**	**+0.1**
	baz=64						
LDUT	**Ludao**	**0.85**	**124**	*e* P		**Pn**	**11 47 04.1**	**-1.0**
	baz=123						
LDUT				*e* S		**Sn**	**11 47 16.7**	**-1.1**
	baz=123						
WUSB	**Renai**	**0.92**	**24**	*e* P		**Pg**	**11 47 03.7**	**-0.9**
	baz=34						
WUSB				*e* S		**Sb**	**11 47 17.4**	**-0.3**
	baz=34						
WCS	**Beigang Elemen**	**0.92**	**12**	*e* P		**Pg**	**11 47 03.7**	**-0.9**
	baz=15						
WCS				*e* S		**Sg**	**11 47 16.4**	**-0.3**
	baz=15						
SLIU	**Shizi**	**0.93**	**175**	*e* P		**Pn**	**11 47 05.0**	**-1.4**
	baz=171						
SLIU				*e* S		**Sn**	**11 47 21.7**	**+1.8**
	baz=171						
WCHH	**Zhanghua**	**0.94**	**352**	*e* P		**Pb**	**11 47 05.1**	**-0.3**
	baz=355						
WCHH				*e* S		**Sb**	**11 47 18.2**	**+0.1**
	baz=355						
ESL	**Shilin**	**0.94**	**45**	P		**Pb**	**11 47 05.0**	**-0.5**
	baz=49						
ESL				*e* S		**Sb**	**11 47 17.9**	**-0.2**
	baz=49						
WDGT	**Dungji**	**0.97**	**277**	P		**Pg**	**11 47 04.9**	**-0.7**
	baz=278						
WDGT				*e* S		**Sb**	**11 47 18.3**	**-0.7**
	baz=278						
TCU	**Taichung**	**0.99**	**358**	*e* P		**Pb**	**11 47 06.4**	**0.0**
	baz=2.0						
TCU				*e* S		**Sb**	**11 47 20.1**	**+0.4**
	baz=2.0						
CHGB	**Renai**	**1.00**	**25**	⇑	P	**Pg**	**11 47 05.5**	**-0.7**
	baz=36						
CHGB				*e* S		**Sb**	**11 47 20.3**	**+0.1**
	baz=36						
PHUB	**P'eng-hu**	**1.11**	**289**	*e* P		**Pg**	**11 47 06.5**	**-1.6**
	baz=291						
PHUB				*e* S		**Sg**	**11 47 20.7**	**-1.8**
	baz=291						
WHF	**Hehuan Shan**	**1.12**	**27**	*e* P		**Pg**	**11 47 07.8**	**-0.6**
	baz=31						
WHF				*e* S		**Sb**	**11 47 24.0**	**+0.4**
	baz=31						
SMST	**Manzhou Townsh**	**1.13**	**174**	*e* P		**Pn**	**11 47 09.5**	**+0.4**
	baz=169						
SMST				*e* S		**Sn**	**11 47 26.9**	**+2.1**
	baz=169						
HEN	**Hengchun**	**1.14**	**179**	*e* P		**Pn**	**11 47 09.9**	**+0.8**
	baz=167						
HEN				*e* S		**Sn**	**11 47 29.4**	**+4.4**
	baz=167						
PNG	**Penghu**	**1.14**	**292**	*e* P		**Pg**	**11 47 07.2**	**-1.5**
	baz=293						
PNG				*e* S		**Sg**	**11 47 22.1**	**-1.5**
	baz=293						
WHP	**Taichung City**	**1.15**	**11**	*e* P		**Pb**	**11 47 08.8**	**-0.2**
	baz=25						
WHP				*e* S		**Sn**	**11 47 25.9**	**+0.5**
	baz=25						
HWA	**Hwalien**	**1.17**	**45**	*e* P		**Pn**	**11 47 09.8**	**+0.3**
	baz=48						
HWA				*e* S		**Sn**	**11 47 26.7**	**+1.0**
	baz=48						
TDCB	**Techi**	**1.18**	**20**	*e* P		**Pb**	**11 47 08.7**	**-0.7**
	baz=24						
TDCB				*e* S		**Sg**	**11 47 24.7**	**0.0**
	baz=24						
VCHM	**Qimei**	**1.18**	**273**	*e* P		**Pg**	**11 47 08.1**	**-1.4**
	baz=273						
TWT	**Tachien**	**1.18**	**21**	*e* P		**Pg**	**11 47 09.3**	**-0.3**
	baz=24						
TWT				*e* S		**Sn**	**11 47 26.3**	**-0.1**
	baz=24						
TWQ1	**Liyutan**	**1.20**	**3**	*e* P		**Pg**	**11 47 09.5**	**-0.3**
	baz=7.0						
TWQ1				*e* S		**Sn**	**11 47 27.6**	**+1.1**
	baz=7.0						
WDJ	**Dajia District**	**1.20**	**357**	*e* P		**Pb**	**11 47 09.7**	**-0.1**
	baz=1.0						
WDJ				*e* S		**Sn**	**11 47 26.7**	**+0.2**
	baz=1.0						
FUSS	**Fushou**	**1.20**	**24**	*e* P		**Pg**	**11 47 08.7**	**-1.3**
	baz=27						
FUSS				*e* S		**Sg**	**11 47 25.1**	**-0.4**
	baz=27						
TWK1	**Hengchun**	**1.20**	**176**	*e* P		**Pn**	**11 47 11.5**	**+1.5**
	baz=189						
TWKBT	**Hengchun**	**1.21**	**175**	*e* P		**Pn**	**11 47 11.3**	**+1.2**
	baz=189						
TWD	**Chiawan**	**1.23**	**41**	*e* P		**Pn**	**11 47 10.3**	**-0.2**
	baz=44						
TWD				*e* S		**Sb**	**11 47 27.1**	**+0.5**
	baz=44						
TSEB	**Hengchuen, Pin**	**1.25**	**172**	*e* P		**Pn**	**11 47 12.4**	**+1.6**
	baz=185						
NSY	**Sanyi**	**1.26**	**2**	*e* P		**Pb**	**11 47 11.0**	**0.0**
	baz=353						
NSY				*e* S		**Sn**	**11 47 28.9**	**+0.8**
	baz=353						
ETLH	**Xiulin Townshi**	**1.27**	**34**	*

NSTT	**Nanjuang**	**1.50**	**10**	*e*P	**Pb**	**11 47 14.7**	**-0.3**
	baz=2.0						
NSTT				*e*S	**Sb**	**11 47 34.9**	**+0.6**
	baz=2.0						
LIOB	**Emei**	**1.52**	**11**	*e*P	**Pb**	**11 47 14.9**	**-0.5**
	baz=353						
NFF	**Wufeng Townshi**	**1.52**	**14**	*e*P	**Pn**	**11 47 13.7**	**-0.9**
	baz=359						
LATG	**Datong**	**1.57**	**28**	*e*P	**Pn**	**11 47 15.3**	**+0.1**
	baz=20						
LATG				*e*S	**Sn**	**11 47 36.5**	**+0.6**
	baz=20						
ENA	**Nanau**	**1.59**	**36**	*e*P	**Pg**	**11 47 16.5**	**-0.8**
	baz=55						
NDT	**Datong Townshi**	**1.62**	**27**	*e*P	**Pn**	**11 47 14.6**	**-1.3**
	baz=18						
NSK	**Sanguang**	**1.63**	**21**	*e*P	**Pn**	**11 47 15.7**	**-0.4**
	baz=26						
YHNB	**Yeheng**	**1.63**	**22**	*e*P	**Pb**	**11 47 16.9**	**-0.5**
	baz=25						
YHNB				*e*S	**Sb**	**11 47 38.4**	**+0.2**
	baz=25						
ENTT	**Nioudou**	**1.68**	**28**	*e*P	**Pn**	**11 47 17.1**	**+0.5**
	baz=20						
TWC	**Suao**	**1.79**	**35**	*e*P	**Pb**	**11 47 20.0**	**0.0**
	baz=48						
TWC				*e*S	**Sg**	**11 47 44.9**	**+0.4**
	baz=48						
FUSB	**Fushanzhiwuyua**	**1.79**	**26**	*e*P	**Pb**	**11 47 20.0**	**-0.1**
	baz=19						
FUSB				*e*S	**Sg**	**11 47 44.4**	**-0.2**
	baz=19						
TWE	**Neicheng**	**1.79**	**29**	*e*P	**Pg**	**11 47 20.4**	**-0.9**
	baz=32						
TWE				*e*S	**Sg**	**11 47 44.2**	**-0.4**
	baz=32						
TWA	**Mucha**	**1.99**	**24**	*e*P	**Pg**	**11 47 24.3**	**-0.7**
	baz=28						
TIPB	**Shuangxi**	**2.08**	**29**	*e*P	**Pb**	**11 47 23.5**	**-1.5**
	baz=14						
VWUC	**VWUC**	**2.17**	**328**	*e*P	**Pn**	**11 47 21.9**	**-1.4**
	baz=327						
SXI1	**Grass Mountain**	**2.21**	**29**	*e*P	**Pb**	**11 47 27.8**	**+0.6**
	baz=15						
JYNG	**Yonagunijimaku**	**2.42**	**57**	*e*P	**Pn**	**11 47 27.6**	**+0.7**
JYNG				*e*S	**Sn**	**11 47 58.7**	**+1.9**
YOJ	**Yonaguni jima**	**2.48**	**58**	*e*P	**Pn**	**11 47 28.1**	**+0.4**
	baz=74						
YOJ	**Yonaguni jima**	**2.48**	**58**	P	**Pn**	**11 47 28.3**	**+0.7**
YOJ				*e*S	**Sn**	**11 47 59.8**	**+1.6**
HATJ	**Hateruma jima**	**2.98**	**72**	P	**Pn**	**11 47 35.2**	**+0.7**
HATJ				S	**Sn**	**11 48 11.4**	**+0.9**
IRIF	**Iriomote-Funau**	**3.01**	**66**	P	**Pn**	**11 47 35.5**	**+0.6**
IRIF				S	**Sn**	**11 48 12.9**	**+1.6**
JKRS	**Kuro-shima**	**3.21**	**70**	P	**Pn**	**11 47 39.2**	**+1.5**
JKRS				S	**Sn**	**11 48 18.1**	**+1.9**
JIJ	**Ishigaki jima**	**3.37**	**68**	P	**Pn**	**11 47 41.2**	**+1.3**
JIJ				S	**Sn**	**11 48 22.2**	**+2.1**
JISG	**Ishigakijimahi**	**3.59**	**66**	P	**Pn**	**11 47 44.1**	**+1.1**
JISG				S	**Sn**	**11 48 27.4**	**+1.7**
JTJ	**Tarama**	**3.94**	**67**	P	**Pn**	**11 47 49.1**	**+1.3**
JTJ				S	**Sn**	**11 48 36.1**	**+1.8**

MAN 19 11:59:57.9, 17°.35N×121°.22E, h16km, mb3.6, ML2.3, MS1.7, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMP	**Sagada Mountai**	**0.40**	**229⇑**	*e*P	Pb	12 00 07.2	+0.5
SAMP				*e*S	Sn	12 00 17.1	+0.9
PACPP	**Pamplona Cagay**	**1.11**	**7⇑**	*e*P	Pb	12 00 16.9	-1.8
PACPP				*e*S	Sg	12 00 34.5	+0.6
SGCP	**Gonzaga**	**1.19**	**41⇑**	*e*P	Pn	12 00 18.9	-0.9

*GCMT **19** 12:00:55.2±0.4, 6.°60S±0.°03×129.°84E±0.°04, h202km±5km, MW4.9/66, Moment Tensor Solution. s17,c22; s66,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_T0.10±.16; $M_{\theta\theta}$-2.09±.17; $M_{\phi\phi}$2.00±.20; $M_{r\theta}$0.92±.12; $M_{\theta\phi}$1.45±.15; $M_{r\phi}$1.69±.15; Best double couple: $M_0$3.06700×10^{16} NP1:ϕ_s65.00000°,δ77.00000°,λ29.00000°. NP2: ϕ_s328.00000°,δ62.00000°,λ166.00000°. Principal axes: T 3.5150, Plg29.0000°, Azm290.0000°; N -0.8890, Plg59.0000°, Azm86.0000°; P -2.6190, Plg10.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **19** 12:00:56.4±0.1, 7.°5S±1×13.°0E±, h172km±2km, M4.9/81, mB5.4/41, mb5.1/81, MLv5.5/18, Mw(mB)4.8/41, MwMwp4.7/4, Mwp5.1/4*

*IDC **19** 12:00:56.5±1.4, 6.°57S×129.°83E, h175km±12km, mb4.2/20, mbtmp4.8/25, MS3.4/13, Error ellipse: s-maj=13.6km s-min=9.0km az=78.0*

*NEIC **19** 12:00:57.2±1.6, 6.°54S±0.°06×129.°87E±0.°08, h169km±5km, mb5.0/59, Error ellipse: s-maj=11.7km s-min=8.0km az=73.0*

ISC 19 12:00:55.7±0.5, 6.°60S±0.°03×129.°85E±0.°04, h167km±4km, n418, σ1$51/429, mb4.9/78, 6C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.99**	**134**	Pn	**Pn**	**12 01 33.0**	**+1.3**
SAUI	**Saumlaki**	**1.99**	**134**	P	**Pn**	**12 01 32.9**	**+1.1**
SAUI				S	**Sn**	**12 02 00.3**	**+0.6**
SAUI	**Saumlaki**	**1.99**	**134**	P	**Pn**	**12 01 32.9**	**+1.1**
BNDI	**Bandanaira**	**2.06**	**2**	P	**Pn**	**12 01 34.7**	**+2.2**
BNDI	**Bandanaira**	**2.06**	**2**	P	**Pn**	**12 01 34.6**	**+2.1**
AAI	**Ambon**	**3.33**	**330**	P	**Pn**	**12 01 49.9**	**+2.1**
AAI				S	**Sn**	**12 02 30.5**	**+2.1**
MSAI	**Masohi**	**3.36**	**344**	P	**Pn**	**12 01 50.7**	**+2.5**
MSAI				S	**Sn**	**12 02 32.0**	**+2.9**
KRAI	**Karang Ratu**	**3.56**	**336**	P	**Pn**	**12 01 54.2**	**+3.4**
NLAI	**Namlea**	**4.31**	**320**	P	**Pn**	**12 02 04.5**	**+4.0**
NLAI				S	Sn	12 03 01.0	+10
FAKI	**Fak Fak**	**4.37**	**33**	Pn	**Pn**	**12 02 00.2**	**-1.0**
FAKI	**Fak Fak**	**4.37**	**33**	P	**Pn**	**12 01 59.8**	**-1.4**
FAKI	**Fak Fak**	**4.37**	**33**	P	**Pn**	**12 02 00.0**	**-1.2**
SIJI	**Sorong**	**5.86**	**14**	P	**Pn**	**12 02 19.6**	**-1.1**
	485nm,0.4s,baz=222,slow=7.7,SNR=328						
SIJI				S	**Sn**	**12 03 21.1**	**-6.5**
	334nm,0.2s,baz=173,slow=23,SNR=16						
SIJI	**Sorong**	**5.86**	**14**	P	**Pn**	**12 02 19.2**	**-1.6**
	5.8nm54μm482nm,0.4s						
SANI	**Sanana**	**5.93**	**319**	P	**Pn**	**12 02 24.0**	**+2.3**
	1.2nm3μm3μm400nm,0.8s						
SANI	**Sanana**	**5.93**	**319**	P	**Pn**	**12 02 24.3**	**+2.6**
MTN	**Manton Dam**	**6.34**	**169**	P	**Pn**	**12 02 26.2**	**-0.8**
	baz=6.3,SNR=164						
MTN				S	**Sn**	**12 03 34.2**	**-4.6**
	baz=6.3						
MTN	**Manton Dam**	**6.34**	**169**		**Pn**	**12 02 26.6**	**-0.4**
MTN	**Manton Dam**	**6.34**	**169**	P	**Pn**	**12 02 26.6**	**-0.4**
SOEI	**Soe**	**6.35**	**240**	Pn	**Pn**	**12 02 29.0**	**+1.6**
SOEI	**Soe**	**6.35**	**240**	P	**Pn**	**12 02 28.0**	**+0.6**
	6.1nm6μm505nm,0.7s						
SOEI	**Soe**	**6.35**	**240**	P	**Pn**	**12 02 28.5**	**+1.1**
LBMI	**Labuha**	**6.37**	**338**	P	**Pn**	**12 02 29.3**	**+1.9**
	6.2nm12μm1μm,0.9s						
KDU	**Kakadu**	**6.58**	**157**	P	**Pn**	**12 02 29.2**	**-1.1**
	baz=6.6,SNR=1000						
KDU	**Kakadu**	**6.58**	**157**	P	**Pn**	**12 02 29.6**	**-0.7**
RKPI	**Ransiki, Papua**	**6.64**	**41**	P	**Pn**	**12 02 31.1**	**0.0**
	30nm2μm104μm8μm,0.8s						
MWPI	**Manokwari, Pap**	**7.01**	**37**	P	**Pn**	**12 02 35.8**	**-0.2**
	9.7nm30μm2μm,0.8s						
BATI	**Baumata**	**7.09**	**239**	P	**Pn**	**12 02 37.7**	**+0.7**
	397nm,0.4s,baz=98,slow=7.1,SNR=86						
BATI				S	**Sn**	**12 03 51.4**	**-5.5**
	649nm,0.7s,baz=342,slow=20,SNR=1.4						
BATI				LR	LR	12 05 06.3	
	comp=Z,405nm,19.9s,baz=60,slow=35						
BATI	**Baumata**	**7.09**	**239**	P	**Pn**	**12 02 37.5**	**+0.4**
	3.3nm9μm674nm,0.8s						
BBSI	**Bau Bau**	**7.32**	**278**	P	**Pn**	**12 02 43.9**	**+3.8**
	1.1nm3μm349nm,1.0s						
TNTI	**Ternate**	**7.73**	**341**	Pn	**Pn**	**12 02 46.6**	**+1.1**
TNTI	**Ternate**	**7.73**	**341**	P	**Pn**	**12 02 46.3**	**+0.8**
	0.4nm1μm105nm,0.6s						
TNTI	**Ternate**	**7.73**	**341**	P	**Pn**	**12 02 46.8**	**+1.3**
MMRI	**Maumere**	**7.81**	**254**	Pn	**Pn**	**12 02 48.1**	**+1.6**
MMRI	**Maumere**	**7.81**	**254**	P	**Pn**	**12 02 48.3**	**+1.7**
	0.8nm2μm101nm,0.7s						
MMRI	**Maumere**	**7.81**	**254**	P	**Pn**	**12 02 48.5**	**+1.9**
SRPI	**Serui, Papua**	**7.92**	**54**	P	**Pn**	**12 02 47.7**	**-0.3**
	3.4nm14μm483nm,0.6s						
KKSI	**Kolaka, Sulawe**	**8.51**	**286**	P	**Pn**	**12 02 58.0**	**+2.2**
	16μm43nm,1.1s						
GAMI	**Galela, Maluku**	**8.63**	**346**	P	**Pn**	**12 03 00.2**	**+2.8**
	118nm,1.1s						
LUWI	**Luwuk**	**8.96**	**308**	Pn	**Pn**	**12 03 04.5**	**+2.7**
LUWI	**Luwuk**	**8.96**	**308**	P	**Pn**	**12 03 04.1**	**+2.3**
	4μm419nm,1.1s						
LUWI	**Luwuk**	**8.96**	**308**	P	**Pn**	**12 03 05.4**	**+3.6**
KNRA	**Kununurra**	**9.09**	**187**	P	**Pn**	**12 03 01.7**	**-1.8**
	baz=9.1,SNR=947						
KNRA				S	Sn	12 04 35.3	-9.3
	baz=9.1						
KNRA	**Kununurra**	**9.09**	**187**		**Pn**	**12 03 02.0**	**-1.4**
KNRA	**Kununurra**	**9.09**	**187**	P	**Pn**	**12 03 01.9**	**-1.5**
WAMI	**Wamena**	**9.23**	**73**	P	**Pn**	**12 03 06.4**	**+1.1**
BSSI	**Bau Bau, Buton**	**9.31**	**272**	P	**Pn**	**12 03 08.0**	**+1.6**
	1μm70nm,1.1s						
BKSI	**Bulukumba**	**9.76**	**277**	P	**Pn**	**12 03 13.9**	**+1.6**
	715nm100nm,0.7s						
BNSI	**Bone**	**9.94**	**282**	P	**Pn**	**12 03 17.9**	**+3.2**
	1μm161nm,0.8s						
APSI	**Ampana**	**9.94**	**304**	P	**Pn**	**12 03 16.7**	**+2.0**
	5μm478nm,1.2s						
SMPI	**Sarmi**	**9.95**	**63**	P	**Pn**	**12 03 13.3**	**-1.5**
	2μm135nm,1.2s						
KAPI	**Kappang**	**10.17**	**278**	P	**Pn**	**12 03 19.8**	**+2.1**
	28nm,1.0s,baz=101,slow=8.4,SNR=8.4						
KAPI	**Kappang**	**10.17**	**278**	P	**Pn**	**12 03 19.3**	**+1.6**
	663nm70nm,1.1s						
KAPI	**Kappang**	**10.17**	**278**	P	**Pn**	**12 03 20.9**	**+3.2**
SPSI	**Sidrap Palu**	**10.37**	**284**	P	**Pn**	**12 03 22.3**	**+1.9**
	3μm372nm,0.6s						
MRSI	**Marisa**	**10.57**	**311**	P	**Pn**	**12 03 24.9**	**+2.0**
	7μm951nm,1.0s						
MMPI	**Merauke**	**10.61**	**101**	P	**Pn**	**12 03 21.7**	**-1.8**
	15nm,1.2s						
SGSI	**Sangihe**	**11.09**	**337**	P	**Pn**	**12 03 32.0**	**+2.3**
	4μm166nm,0.7s						
PMSI	**Majene**	**11.31**	**285**	P	**Pn**	**12 03 35.3**	**+2.6**
	3μm371nm,0.8s						
DBNI	**Kabupaten Domp**	**11.59**	**260**	P	**Pn**	**12 03 37.8**	**+1.5**
	60nm,0.5s						
TOLI2	**Tolitoli**	**11.85**	**310**	Pn	**Pn**	**12 03 41.7**	**+2.0**
TOLI2	**Tolitoli**	**11.85**	**310**	P	**Pn**	**12 03 42.6**	**+2.9**
PLAI	**Plampang**	**12.17**	**259**	P	**Pn**	**12 03 41.1**	**-2.6**
	1μm112nm,0.6s						
PLAI	**Plampang**	**12.17**	**259**	P	**Pn**	**12 03 43.7**	**0.0**
TWSI	**Taliwang, Sumb**	**13.03**	**260**	P	**Pn**	**12 03 55.2**	**+0.5**
	61nm,0.7s						
KLNI	**Mataram**	**13.76**	**262**	P	**P**	**12 04 05.6**	**-1.5**
	75nm,0.7s						
WB0	**Warramunga Arr**	**13.82**	**162**	Pn	**Pn**	**12 04 01.8**	**-2.9**
WRAB	**Tennant Creek**	**13.96**	**162**	Pn	**Pn**	**12 04 03.0**	**-3.5**
WRAB	**Tennant Creek**	**13.96**	**162**	P	**Pn**	**12 04 03.6**	**-2.9**
BKB	**Balikpapan**	**13.96**	**292**	P	**P**	**12 04 11.2**	**+1.9**
	5μm305nm,1.1s						
BKB	**Balikpapan**	**13.96**	**292**	P	**P**	**12 04 11.4**	**+2.1**
WRA	**Warramunga Arr**	**13.97**	**162**	P	**Pn**	**12 04 03.1**	**-3.5**
	26nm,0.8s,baz=335,slow=14,SNR=131						
WRA				S	Sn	12 06 29.8	-12
	43nm,0.4s,baz=342,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**13.97**	**162**	Pn	**Pn**	**12 04 03.5**	**-3.1**
WB2	**Warramunga Arr**	**13.97**	**162**	Pn	**Pn**	**12 04 03.5**	**-3.1**
WB1	**Warramunga Ar.**	**13.98**	**162**	P	**Pn**	**12 04 03.6**	**-3.2**
WR0	**Warramunga Arr**	**14.04**	**162**	Pn	**Pn**	**12 04 04.1**	**-3.5**
DAV	**Davao City (W)**	**14.23**	**343**	S	**S**	**12 06 51.8**	**-2.1**
	193nm,0.4s,baz=156,slow=19,SNR=1.6						
DAV				LR	LR	12 10 56.3	
	comp=Z,131nm,19.4s,baz=84,slow=42						
SRBI	**Singaraja**	**14.59**	**263**	P	**Pn**	**12 04 15.2**	**+0.8**
	80nm,1.0s						
IGBI	**Denpasar**	**14.74**	**260**	P	**P**	**12 04 17.2**	**-0.7**
	2μm89nm,0.6s						
COEN	**Coen**	**15.01**	**120**	P	**Pn**	**12 04 17.2**	**-2.3**
	baz=15,SNR=24						
COEN				S	Sn	12 06 53.6	-13
	baz=15						
COEN	**Coen**	**15.01**	**120**		**Pn**	**12 04 18.7**	**-0.9**
COEN	**Coen**	**15.01**	**120**	P	**Pn**	**12 04 19.6**	**0.0**
BBKI	**Banjar Baru**	**15.27**	**281**	P	**P**	**12 04 25.7**	**+1.8**
	8μm747nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.67**	**262**	Pn	**Pn**	**12 04 26.2**	**-1.5**
JAGI	**Jajag, Banyuwa**	**15.67**	**262**	P	**Pn**	**12 04 25.9**	**-1.8**
	96nm,1.0s						
JAGI	**Jajag, Banyuwa**	**15.67**	**262**	P	**Pn**	**12 04 26.7**	**-1.0**
KMMI	**Kalianget**	**15.78**	**267**	P	**P**	**12 04 31.9**	**+2.4**
	173nm,0.7s						
MTKI	**Mutu Teweh, K**	**15.94**	**290**	P	**P**	**12 04 33.1**	**+1.8**
	150nm,0.9s						
MYLDM	**Lahad Datu**	**16.28**	**316**	P	**Pn**	**12 04 37.5**	**+2.3**
	820nm64nm,1.0s						
GMJI	**Gumukmas**	**16.35**	**263**	P	**Pn**	**12 04 36.6**	**+0.6**
	42nm,0.6s						
QIS	**Mount Isa**	**16.80**	**147**	P	**Pn**	**12 04 41.1**	**-0.2**
	baz=17,SNR=55						
QIS	**Mount Isa**	**16.80**	**147**	P	**Pn**	**12 04 41.4**	**+0.1**
GRJI	**Gresik**	**17.25**	**268**	P	**Pn**	**12 04 48.1**	**+1.3**
	145nm,0.9s						
PMG	**Port Moresby**	**17.37**	**100**	P	**Pn**	**12 04 48.9**	**+0.7**
	56nm,0.9s,baz=246,slow=15,SNR=9.1						
PMG				S	**S**	**12 07 54.3**	**-5.2**
	24nm,0.8s,baz=206,slow=21,SNR=6.8						
PMG				LR	LR	12 12 35.3	
	comp=Z,188nm,18.1s,baz=290,slow=40						
PMG	**Port Moresby**	**17.37**	**100**	P	**Pn**	**12 04 49.9**	**+1.7**
	71nm,0.9s						
PMG	**Port Moresby**	**17.37**	**100**	P	**Pn**	**12 04 50.3**	**+2.1**
PMG	**Port Moresby**	**17.37**	**100**	P	**Pn**	**12 04 50.4**	**+2.2**
AS31	**Alice Springs**	**17.41**	**167**	P	**Pn**	**12 04 48.4**	**-0.3**
ASAR	**Alice Springs**	**17.41**	**167**	P	**Pn**	**12 04 48.4**	**-0.3**
	66nm,0.6s,baz=330,slow=9.8,SNR=811						
ASAR				S	**S**	**12 07 55.5**	**-4.8**
	28nm,0.8s,baz=355,slow=29,SNR=7.3						
ASAR				LR	LR	12 12 20.2	
	comp=Z,132nm,21.0s,baz=334,slow=39						
AS01	**Alice Springs**	**17.42**	**167**	P	**Pn**	**12 04 48.4**	**-0.4**
MBWA	**Marble Bar**	**17.48**	**213**	P	**Pn**	**12 04 48.9**	**-0.5**
MBWA	**Marble Bar**	**17.48**	**213**	P	**Pn**	**12 04 49.3**	**-0.2**
MBWA	**Marble Bar**	**17.48**	**213**	P	**Pn**	**12 04 49.2**	**-0.2**
PSA00	**Pilbara Seismi**	**17.75**	**212**	P	**Pn**	**12 04 52.4**	**-0.4**
PSA00	**Pilbara Seismi**	**17.75**	**212**	P	**Pn**	**12 04 52.3**	**-0.4**
PWJI	**Pagerwojo**	**17.95**	**264**	P	**P**	**12 04 53.1**	**-0.3**
	76nm,0.9s						
SJI	**Sawahan**	**17.98**	**265**	P	**Pn**	**12 04 54.7**	**-0.8**
	75nm,0.7s						
MANU	**Manus Island**	**18.04**	**76**	P	**Pn**	**12 04 58.1**	**+1.9**
MTSU	**Mount Surprise**	**18.18**	**130**	P	**Pn**	**12 04 57.4**	**-0.4**
	baz=18,SNR=27						
MTSU	**Mount Surprise**	**18.18**	**130**	P	**Pn**	**12 04 57.7**	**-0.1**
NGJI	**Ngawi**	**18.27**	**266**	P	**Pn**	**12 04 59.3**	**+0.5**
	96nm,1.4s						
WRKA	**Warakurna**	**18.40**	**184**	P	**P**	**12 04 59.1**	**+0.9**
	baz=18,SNR=381						
WRKA	**Warakurna**	**18.40**	**184**	P	**P**	**12 04 59.0**	**+0.8**
KKM	**Kota Kinabalu**	**18.51**	**312**	P	**Pn**	**12 05 01.1**	**-0.7**
KKM	**Kota Kinabalu**	**18.51**	**312**	P	**P**	**12 05 00.2**	**+0.6**
	694nm60nm,1.3s						
KKM	**Kota Kinabalu**	**18.51**	**312**	P	**Pn**	**12 05 00.9**	**-0.9**
PCJI	**Pacitan**	**18.58**	**264**	P	**P**	**12 04 58.9**	**-1.4**
	166nm,1.3s						
UGM	**Wanagama**	**19.21**	**265**	P	**P**	**12 05 07.0**	**-0.2**
UGM	**Wanagama**	**19.21**	**265**	P	**P**	**12 05 07.6**	**+0.4**
	189nm,1.5s						
SBUM	**Sibu**	**19.76**	**296**	P	**Pn**	**12 05 15.3**	**-1.1**
SBUM	**Sibu**	**19.76**	**296**	P	**Pn**	**12 05 15.1**	**-1.3**
	873nm79nm,1.2s						
CTJI	**Waduk Cacaban**	**20.52**	**268**	P	**P**	**12 05 20.3**	**-0.9**
	55nm,1.1s						
CTA	**Charters Tower**	**20.82**	**132**	P	**P**	**12 05 25.5**	**+1.3**
	14nm,0.7s,baz=297,slow=8.7,SNR=15						
CTA				S	**S**	**12 09 15.1**	**+7.6**
	3.8nm,0.6s,baz=215,slow=19,SNR=1.1						
	14nm,0.7s						
CTA	**Charters Tower**	**20.82**	**132**	P	**P**	**12 05 25.6**	**+1.3**
CTAO	**Charters Tower**	**20.82**	**132**	P	**P**	**12 05 25.2**	**+0.9**
KSM	**Kuching**	**21.09**	**292**	P	**P**	**12 05 26.6**	**-0.6**
KSM	**Kuching**	**21.09**	**292**	P	**P**	**12 05 27.7**	**+0.5**
	40nm,0.9s						
KSM	**Kuching**	**21.09**	**292**	P	**P**	**12 05 28.1**	**+0.9**
OOD	**Oodnadatta**	**21.80**	**166**	P	**P**	**12 05 34.2**	**-0.4**
GIRL	**Giralia**	**21.93**	**222**	P	**P**	**12 05 37.1**	**+1.1**
	baz=22,SNR=6.0						
GIRL	**Giralia**	**21.93**	**222**	P	**P**	**12 05 37.4**	**+1.4**
BBJI	**Bungbulang**	**22.05**	**266**	P	**P**	**12 05 37.7**	**+0.4**
LEM	**Lembang**	**22.08**	**268**	P	**P**	**12 05 36.9**	**-0.8**
	141nm,0.8s,baz=59,slow=6.9,SNR=19						
LEM				LR	LR	12 16 01.5	
	comp=Z,84nm,19.7s,baz=91,slow=41						
	141nm,0.8s						
LEM	**Lembang**	**22.08**	**268**	P	**P**	**12 05 38.3**	**+0.5**
	179nm,0.9s						
MEEK	**Meekatharra**	**22.62**	**207**	P	**P**	**12 05 42.9**	**+0.3**
	baz=23,SNR=19						
MEEK	**Meekatharra**	**22.62**	**207**	P	**P**	**12 05 43.0**	**+0.4**
CBJI	**Citeko**	**22.85**	**269**	P	**P**	**12 05 44.9**	**+0.1**
	232nm,1.0s						
SKJI	**Sukabumi**	**23.13**	**268**	P	**P**	**12 05 47.7**	**+0.3**
	2μm210nm,0.8s						
INKA	**Innaminka**	**23.44**	**155**	P	**P**	**12 05 51.2**	**+1.2**
MULG	**Mulgathing**	**23.89**	**171**	P	**P**	**12 05 54.7**	**+0.6**
PPBI	**Pangkal Pinang**	**24.04**	**279**	P	**P**	**12 05 56.5**	**+0.8**
	26μm36nm,0.4s						
FORT	**Forrest**	**24.12**	**184**	P	**P**	**12 05 56.7**	**+0.6**
	baz=24,SNR=51						
FORT	**Forrest**	**24.12**	**184**	P	**P**	**12 05 56.8**	**+0.6**
FORT	**Forrest**	**24.12**	**184**	P	**P**	**12 05 56.7**	**+0.6**
QLP	**Quilpie**	**24.14**	**147**	P	**P**	**12 05 57.2**	**+0.8**
	baz=24,SNR=15						
QLP	**Quilpie**	**24.14**	**147**	P	**P**	**12 05 57.3**	**+0.8**
LCRK	**Leigh Creek**	**25.00**	**163**	P	**P**	**12 06 04.8**	**+0.7**
KASI	**Kota Agung**	**25.23**	**271**	P	**P**	**12 06 06.5**	**+0.1**
	74nm,1.0s						
KMBL	**Kambalda**	**25.75**	**196**	P	**P**	**12 06 11.4**	**+0.5**
	baz=26,SNR=25						
KMBL	**Kambalda**	**25.75**	**196**	P	**P**	**12 06 11.4**	**+0.5**
MORW	**Morawa**	**25.88**	**209**	P	**P**	**12 06 13.2**	**+1.0**
	baz=26,SNR=3.0						
MORW	**Morawa**	**25.88**	**209**	P	**P**	**12 06 14.2**	**+2.1**
MORW				IAmb	IAmb	12 06 55.3	
	comp=Z,38nm,0.9s						
DSRI	**Dabo**	**25.93**	**283**	P	**P**	**12 06 15.1**	**+2.3**
	comp=Z,682nmcomp=Z,39nm,1.2s						
TPRI	**Tanjung Pinang**	**26.35**	**286**	P	**P**	**12 06 19.5**	**+3.0**
	comp=Z,75nm,0.9s						
BBOO	**Buckleboo**	**26.72**	**168**	P	**P**	**12 06 19.6**	**+0.1**
	baz=27,SNR=32						
BBOO	**Buckleboo**	**26.72**	**168**	P	**P**	**12 06 19.8**	**+0.2**
RMQ	**Roma**	**26.75**	**140**	P	**P**	**12 06 21.1**	**+1.1**
	baz=27,SNR=5.2						
RMQ	**Roma**	**26.75**	**140**	P	**P**	**12 06 20.8**	**+0.8**
MYKOM	**Kota Tinggi**	**27.26**	**287**	P	**P**	**12 06 27.2**	**+2.5**
MYKOM				IAmb	IAmb	12 06 28.5	
	comp=Z,32nm,0.7s						
MYKOM	**Kota Tinggi**	**27.26**	**287**	P	**P**	**12 06 25.1**	**+0.5**
	comp=Z,458nmcomp=Z,44nm,0.9s						
WHYH	**Whyalla**	**27.27**	**166**	P	**P**	**12 06 24.9**	**+0.4**
KLBR	**Kellerberrin**	**27.32**	**203**	P	**P**	**12 06 25.7**	**+0.7**
	baz=27,SNR=9.1						
KLBR	**Kellerberrin**	**27.32**	**203**	P	**P**	**12 06 25.8**	**+0.8**
STKA	**Stephens Creek**	**27.44**	**158**	P	**P**	**12 06 26.2**	**+0.1**
	comp=Z,20nm,0.5s,baz=334,slow=9.1,SNR=82						
STKA				LR	LR	12 18 52.9	
	comp=Z,116nm,18.8s,baz=357,slow=39						
	comp=Z,20nm,0.5s						
STKA	**Stephens Creek**	**27.44**	**158**	P	**P**	**12 06 26.6**	**+0.5**
	baz=28,SNR=43						
STKA	**Stephens Creek**	**27.44**	**158**	P	**P**	**12 06 26.6**	**+0.5**
HTT	**Hallett**	**28.00**	**164**	P	**P**	**12 06 31.6**	**+0.6**
	baz=28,SNR=15						
HTT	**Hallett**	**28.00**	**164**	P	**P**	**12 06 31.8**	**+0.7**
MUN	**Mundaring**	**28.28**	**205**	P	**P**	**12 06 34.5**	**+1.0**
	baz=28,SNR=3.2						
AULRC	**Lightning Ridg**	**28.43**	**145**	P	**P**	**12 06 35.6**	**+0.7**
NWAO	**Narrogin (SRO)**	**28.71**	**202**	P	**P**	**12 06 37.1**	**-0.2**
	comp=Z,9.0nm,0.7s,baz=116,slow=15,SNR=12						
	comp=Z,9.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**28.71**	**202**	P	**P**	**12 06 38.0**	**+0.7**
NWAO				IAmb	IAmb	12 07 28.7	
	comp=Z,25nm,0.8s						
NWAO	**Narrogin (SRO)**	**28.71**	**202**	P	**P**	**12 06 37.5**	**+0.3**
NWAO				IAmb	IAmb	12 07 28.7	
	comp

WHN pmax pmax
comp=Z,38nm,0.7s
NJ2 Nanjing 39.84 345 *e*P **P 12 08 14.6 +1.7**
NJ2 pmax pmax
comp=Z,14nm,0.5s
KMI Kunming 41.11 321 ⇑P **P 12 08 24.3 +0.6**
KMI pmax pmax
comp=Z,19nm,1.2s
ENH Enshi 41.54 333 P **P 12 08 25.8 -1.1**
ENH IAmb IAmb 12 08 27.5
comp=Z,21nm,0.7s
ENH Enshi 41.54 333 P **P 12 08 26.9 0.0**
ENH Enshi 41.54 333 P **P 12 08 26.6 -0.3**
PZH PanZhiHua 42.72 322 ⇓P **P 12 08 36.8 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
MJAR Matsushiro Arr 43.62 10 P **P 12 08 42.6 -1.0**
comp=Z,3.9nm,0.8s,baz=183,slow=9.1,SNR=7.3
MJAR ScP **ScP 12 14 01.3 -2.7**
comp=Z,1.5nm,0.7s,baz=171,slow=5.1,SNR=2.8
comp=Z,3.9nm,0.8s
TNCH TengChong 43.79 317 *e*P **P 12 08 48.4 +3.0**
TNCH pP pwP 12 09 25.3 -1.1
TNCH pmax pmax
comp=Z,72nm,0.4s
KSRS Korea Array 43.86 358 P **P 12 08 45.4 0.0**
comp=Z,2.3nm,0.6s,baz=174,slow=8.9,SNR=14
KSRS PcP **PcP 12 10 29.0 +0.3**
comp=Z,1.1nm,0.7s,baz=179,slow=4.1,SNR=1.5
comp=Z,2.3nm,0.6s
CD2 Chengdu 44.88 328 *e*P **P 12 08 55.6 +1.8**
XAN Xi'an 45.01 335 ⇑P **P 12 08 54.0 -0.7**
XAN pP pP 12 09 22.9 -7.2
XAN sP pwP 12 09 36.3 0.0
XAN PcP **PcP 12 10 33.6 +0.7**
XAN ScP **ScP 12 14 09.1 -0.7**
XAN pmax pmax
comp=Z,30nm,0.7s
XAN Xi'an 45.01 335 P **P 12 08 54.0 -0.7**
HNS HongShan 46.00 343 ⇑P **P 12 09 02.4 +0.1**
HNS pmax pmax
comp=Z,26nm,1.1s
BJT Baijiatuao 48.07 346 P **P 12 09 18.5 +0.2**
BJT IAmb IAmb 12 09 19.3
comp=Z,18nm,0.7s
BJT Baijiatuao 48.07 346 P **P 12 09 18.8 +0.5**
BJI Beijing 48.09 346 P **P 12 09 18.6 +0.1**
BJI pP **pP 12 09 52.6 -1.7**
BJI PcP **PcP 12 10 44.6 +1.1**
BJI pmax pmax
comp=Z,26nm,0.7s
SHL Shillong 48.82 312 P **P 12 09 24.1 -0.4**
SHL Shillong 48.82 312 P **P 12 09 24.1 -0.4**
LZH Lanzhou 48.98 332 ⇑P **P 12 09 26.5 +0.9**
LZH pP pP 12 09 56.8 -4.7
LZH sP sP 12 10 26.1 +6.6
LZH pmax pmax
comp=Z,48nm,0.9s
HHC Hu-ho-hao-te 50.12 342 *e*P P 12 09 38.9 +4.9
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.7s
USRK Ussuriysk Ar. 50.60 2 P **P 12 09 37.5 +0.1**
comp=Z,6.3nm,0.6s,baz=181,slow=7.3,SNR=14
comp=Z,6.3nm,0.6s
USRK Ussuriysk Ar. 50.60 2 P **P 12 09 37.8 +0.4**
PALK Pallekele 50.92 285 P **P 12 09 40.0 -0.5**
WKZ Wanaka 51.08 145 P **P 12 09 42.2 +1.1**
LBZ Lake Benmore 51.50 144 P **P 12 09 45.3 +1.1**
LBZ IAmb IAmb 12 10 13.1
comp=Z,117nm,1.7s
RPZ Rata Peaks 51.64 142 LR LR 12 33 44.2
comp=Z,144nm,18.2s,baz=265,slow=38
ASAJ Asahikawa 51.77 12 LR LR 12 31 46.8
comp=Z,18nm,20.9s,baz=200,slow=36
LSA Lhasa 51.80 316 P **P 12 09 48.1 +0.8**
ODAN Odare 52.88 311 *e*P **P 12 09 55.3 +0.3**
ODAN Odare 52.88 311 *e*P **P 12 09 55.5 +0.5**
TAPN Taplejung 52.91 312 *e*P **P 12 09 55.3 +0.1**
comp=Z,76nm,0.4s
RAMN Ramite 53.52 310 *e*P **P 12 10 00.0 +0.3**
comp=Z,179nm,0.5s
GTA Gaotai 53.55 331 ⇑P **P 12 10 00.3 +0.8**
GTA pP pP 12 10 35.8 -0.3
GTA sP sP 12 10 52.6 -1.3
GTA pmax pmax
comp=Z,27nm,1.0s
GOMU GeErMu 53.78 325 P **P 12 10 02.0 +0.5**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU pmax pmax
comp=Z,36nm,5.3s
JIRN Jiri 54.21 311 *e*P **P 12 10 04.8 0.0**
comp=Z,54nm,0.5s
GUN Gumba 54.57 311 *e*P **P 12 10 07.6 +0.2**
comp=Z,124nm,0.5s
PKI Pulchoki 54.75 310 *e*P **P 12 10 08.2 -0.5**
comp=Z,39nm,0.5s
PKIN Phulchoki 54.76 310 *e*P **P 12 10 08.3 -0.4**
comp=Z,37nm,0.5s
KKN Kakani 54.96 311 *e*P **P 12 10 09.9 -0.1**
KKN Kakani 54.96 311 *e*P **P 12 10 10.1 +0.1**
KKN Kakani 54.96 311 *e*P **P 12 10 10.2 +0.2**
DMN Daman 55.00 310 *e*P **P 12 10 10.3 -0.1**
comp=Z,42nm,0.4s
GKN Gorkha 55.56 310 *e*P **P 12 10 14.2 0.0**
comp=Z,94nm,0.4s
KLR Kul'dur 55.62 2 LR LR 12 35 58.0
comp=Z,15nm,18.7s,baz=254,slow=38
PCHI Peechi 55.92 287 *e*P **P 12 10 16.3 -0.5**
HYBB Hyderabad (bro 56.00 296⇑*e*P **P 12 10 16.5 -0.9**
HYBB IVmB_BB 12 10 16.8
comp=Z,157nm,0.8s
DANN Dangsing 56.40 310 *e*P **P 12 10 20.2 -0.2**
comp=Z,19nm,0.4s
HEH HeiHe 56.66 358 *e*P **P 12 10 21.6 +0.3**
HEH pmax pmax
comp=Z,14nm,1.0s
HEH pmax pmax
comp=Z,120nm,5.2s
ULN Ulaanbaatar 57.84 342 P **P 12 10 31.2 +1.3**
ULN IAmb IAmb 12 10 31.9
comp=Z,20nm,0.7s
ULN Ulaanbaatar 57.84 342 P **P 12 10 31.2 +1.3**
ULN Ulaanbaatar 57.84 342 P **P 12 10 30.6 +0.7**
comp=Z,119nm,0.7s
ULN Ulaanbaatar 57.84 342 P **P 12 10 31.0 +1.1**
ULN pP **pwP 12 11 10.6 -2.4**
ULN pwP **PcP 12 11 15.5 -5.0**
SONM Songino Array 58.01 342 P **P 12 10 31.6 +0.5**
comp=Z,3.9nm,0.4s,baz=158,slow=6.9,SNR=28
comp=Z,3.9nm,0.4s
SONM Songino Array 58.01 342 P **P 12 10 32.3 +1.2**
MNCI Minicoy 58.52 284 P **P 12 10 35.4 +0.3**
DRV Dumont d'Urvil 60.38 175 P **P 12 10 47.5 +0.7**
POO Poona 60.59 295 *ex* x 12 10 41.0
WMQ Urumqi 62.98 327 *e*P **P 12 11 05.8 +1.1**
WMQ pP pwP 12 11 45.8 -2.6
WMQ sP sP 12 12 05.3 +5.2
WMQ pmax pmax
comp=Z,62nm,0.7s
PETK Petropavlovsk- 63.99 18 P **P 12 11 11.5 +0.4**
comp=Z,2.0nm,0.6s,baz=175,slow=6.7,SNR=7.1
comp=Z,2.0nm,0.6s
NIL Nilore 66.84 311 P **P 12 11 29.5 -0.4**
NIL IAmb IAmb 12 11 31.1
comp=Z,21nm,1.1s
NIL Nilore 66.84 311 P **P 12 11 29.9 0.0**
ZSN Zaisan 66.85 329 *e*P **P 12 11 29.1 -0.5**
comp=Z,9.0nm,0.8s,baz=328
SHLS Shalkode 67.31 322 *e*P **P 12 11 30.9 -1.8**
comp=Z,15nm,1.1s,baz=322
TARG Taragay, Kyrgy 67.56 320 P **P 12 11 35.7 +1.0**
UZB Uzynbulak 67.57 322 *e*P **P 12 11 34.9 +0.5**
baz=321
KSH Kashi 67.62 317 P **P 12 11 35.8 +1.0**
KSH pmax pmax
comp=Z,17nm,0.8s
MK31 Makanchi Array 67.81 327 P **P 12 11 36.6 +0.9**
MKAR Makanchi Array 67.81 327 P **P 12 11 36.6 +1.0**
comp=Z,75nm,0.5s,baz=120,slow=8.2,SNR=600
KPKS Kokpek 67.95 322 *e*P **P 12 11 37.0 +0.3**
comp=Z,13nm,0.6s,baz=322
MAKZ Makanchi 67.99 327 P **P 12 11 37.6 +0.8**
MAKZ Makanchi 67.99 327 P **P 12 11 37.6 +0.8**
YAK Yakutsk 68.42 360 P **P 12 11 39.8 +0.6**
YAK Yakutsk 68.42 360 P **P 12 11 39.5 +0.4**
CCD Concordia, Ant 68.56 182 P **P 12 11 41.4 +1.0**
MDOK Medeo 68.79 321 *e*P **P 12 11 42.3 +0.2**
baz=321
AAA Alma-Ata 68.90 321 *e*P **P 12 11 43.0 +0.4**
baz=321
TDK Taldyqorghan 68.97 324 *e*P **P 12 11 42.9 -0.1**
baz=323
BOOM Boomskoye usch 69.14 320 P **P 12 11 44.5 +0.2**
BOOM IAmb IAmb 12 11 46.4
comp=Z,29nm,0.8s
CHKK Chushkaly 69.20 322 *e*P **P 12 11 44.3 -0.1**
baz=321
TKM2 Tokmak 2 69.58 320 P **P 12 11 48.1 +1.1**
SNR=35
KUU Kurty 69.62 322 *e*P **P 12 11 47.4 +0.5**
baz=321
KBK Karagaybulak 69.86 320 P **P 12 11 50.1 +1.4**
SNR=5.8
UCH Uchtor 69.92 319 P **P 12 11 50.7 +1.3**
SNR=38
SHEM Shemya Is, Ala 69.99 27 LR LR 12 36 54.3
comp=Z,22nm,20.9s,baz=32,slow=31
AAK Ala-Archa 70.14 320 P **P 12 11 51.7 +1.3**
SNR=36
AAK Ala-Archa 70.14 320 P **P 12 11 51.7 +1.3**
AAK IAmb IAmb 12 11 52.7
comp=Z,32nm,0.8s
AAK Ala-Archa 70.14 320 P **P 12 11 52.0 +1.6**
AAK Ala-Archa 70.14 320 *i* P **P 12 11 51.4 +1.1**
SNR=46
AAK Ala-Archa 70.14 320 P **P 12 11 51.7 +1.3**
CHMS Chumysh 70.15 320 P **P 12 11 51.0 +0.8**
SNR=10
KBL Kabul 70.39 310 P **P 12 11 53.1 +1.0**
KBL Kabul 70.39 310 P **P 12 11 52.7 +0.6**
SNR=6.4
AML Almayashu 70.41 319 P **P 12 11 53.7 +1.5**
SNR=57
USP Ospenovka 70.45 320 P **P 12 11 53.0 +1.0**
SNR=73
SGDS Sogindy 70.46 321 *e*P **P 12 11 52.1 0.0**
comp=Z,7.6nm,0.5s,baz=320
EKS2 Erkin-Say 70.61 320 P **P 12 11 54.8 +1.6**
SNR=44
ZAA0 Zalesovo Array 71.16 334 P **P 12 11 55.7 -0.3**
ZALV Zalesovo Beam 71.16 334 P **P 12 11 55.3 -0.7**
comp=Z,12nm,0.7s,baz=119,slow=5.0,SNR=56
comp=Z,12nm,0.7s
GAR Garm 71.28 315 P **P 12 11 57.9 +0.7**
BTK Batken 71.38 316 P **P 12 11 58.5 +0.7**
BTK IAmb IAmb 12 11 59.7
comp=Z,96nm,1.9s
BTLS Baital 71.61 322 *e*P **P 12 11 59.3 +0.3**
comp=Z,5.7nm,0.4s,baz=321
CHGR Chuyangaron 71.95 314 P **P 12 12 01.8 +0.5**
KURK Kurchatov 72.10 329 P **P 12 12 02.2 +0.5**
KURK IAmb IAmb 12 12 03.3
comp=Z,65nm,1.4s
KURK Kurchatov 72.10 329 P **P 12 12 02.4 +0.7**
DZA Taraz 72.31 319 *e*P **P 12 12 02.8 -0.4**
baz=318
IUG Iuzhnay 72.83 318 *e*P **P 12 12 07.3 +0.9**
baz=317
VNDA Vanda 72.86 173 P **P 12 12 05.9 +0.1**
comp=Z,3.8nm,0.8s,baz=325,slow=5.9,SNR=25
comp=Z,3.8nm,0.8s
VNDA Vanda 72.86 173 P **P 12 12 06.8 +1.0**
KK31 Karatay Array 72.94 319 P **P 12 12 07.9 +1.0**
KK31 IAmb IAmb 12 12 08.7
comp=Z,30nm,1.1s
KKAR Karatay Array 72.94 319 P **P 12 12 07.7 +0.7**
KKAR Karatay Array 72.94 319 P **P 12 12 07.6 +0.7**
KKAR IAmb IAmb 12 12 08.7
comp=Z,30nm,1.1s
SBA Scott Base 73.75 172 P **P 12 12 12.7 +1.6**
NGCH Negor - Chabah 73.88 299 P **P 12 12 14.3 +1.6**
BRZS Berezniki 74.90 326 *e*P **P 12 12 17.6 -0.5**
baz=325
WBK Wadi Bani Khal 75.10 295 P **P 12 12 20.8 +0.9**
MAW Mawson 75.27 201 P **P 12 12 20.6 +0.7**
comp=Z,2.3nm,0.6s,baz=40,slow=16,SNR=2.7
comp=Z,2.3nm,0.6s
MAW Mawson 75.27 201 P **P 12 12 20.8 +0.9**
MHTO MHTO 75.64 294 P **P 12 12 23.0 +0.1**
SNR=8.4
DQM DQM 75.80 292 P **P 12 12 24.2 +0.3**
JMDO Jamal Madar 75.82 295 P **P 12 12 24.7 +0.7**
SMDO Samad 76.03 296 P **P 12 12 25.9 +0.7**
BIDO Bidbid 76.07 296 P **P 12 12 26.6 +1.2**
SNR=6.4
BSY Bisya 76.72 295 P **P 12 12 29.8 +0.7**
HOQ Hoqain 76.81 296 P **P 12 12 30.5 +0.9**
SNR=6.2
JASK Jask - Hormozg 76.86 298 P **P 12 12 32.0 +2.2**
ARQ Araqi 77.46 296 P **P 12 12 33.7 +0.5**
SOHO SOHO 77.63 296 P **P 12 12 34.5 +0.4**
SOHO SOHO 77.63 296 *i* P **P 12 12 34.3 +0.3**
SNR=14
BRVK Borovoye 77.72 328 P **P 12 12 33.1 -0.8**
DMTO DMTO 77.75 290 P **P 12 12 35.0 +0.2**
TIXI Tiksi 78.09 360 P **P 12 12 35.4 -0.2**
MDH Madha 78.10 297 P **P 12 12 36.3 -0.3**
MDH Madha 78.10 297 *i* P **P 12 12 36.2 -0.5**
SNR=6.5
UOSS Minazif 78.11 297 P **P 12 12 37.0 +0.3**
UOSS IAmb IAmb 12 12 37.7
comp=Z,17nm,0.8s
UOSS Minazif 78.11 297 P **P 12 12 37.1 +0.3**
UOSS Minazif 78.11 297 *i* P **P 12 12 36.8 +0.1**
SNR=8.1
HATD Hatta, Dubai 78.14 297 P **P 12 12 37.8 +0.9**
HATD Hatta, Dubai 78.14 297 *i* P **P 12 12 37.5 +0.6**
SNR=10
ASHO Ashiyiah 78.18 297 P **P 12 12 37.9 +0.8**
ASHO Ashiyiah 78.18 297 *i* P **P 12 12 37.7 +0.5**
SNR=9.4
MSFE Esma-Masafi 78.24 298 *i* P **P 12 12 38.5 +1.0**
SNR=18
MASF Masafi 78.24 298 P **P 12 12 38.9 +1.4**
SNR=6.1
BANOM Banah 78.24 298 P **P 12 12 38.6 +1.1**
BANOM Banah 78.24 298 *i* P **P 12 12 38.4 +0.9**
SNR=10.0
ALNE Al Ain 78.31 296 P **P 12 12 38.8 +1.0**
SNR=5.7
ALNE Al Ain 78.31 296 P **P 12 12 38.6 +0.7**
RBK Rabkut 78.41 289 P **P 12 12 39.3 +0.8**
SHME Shamm 78.41 298 P **P 12 12 39.5 +1.2**
SHME Shamm 78.41 298 *i* P **P 12 12 39.3 +0.9**
SNR=11
UMZA Um Al Zommool 78.55 295 P **P 12 12 39.3 +0.2**
NAZ Nazwa, Dubai 78.59 297 P **P 12 12 40.3 +0.9**
NAZ Nazwa, Dubai 78.59 297 P **P 12 12 40.1 +0.7**
FAQ Al Faqa, Dubai 78.60 297 P **P 12 12 40.1 +0.7**
FAQ Al Faqa, Dubai 78.60 297 *i* P **P 12 12 39.8 +0.4**
SNR=12
DOK Doka 78.69 290 P **P 12 12 39.9 0.0**
SBV Sambava 78.73 258 P **P 12 12 40.9 +0.6**
ASUD Al Ashush, Dub 78.81 297 P **P 12 12 41.8 +1.3**
ASUD Al Ashush, Dub 78.81 297 *i* P **P 12 12 41.6 +1.0**
SNR=5.6
ABTO Aybut 79.23 289 P **P 12 12 43.6 +0.5**
GEYT Alibeck 79.84 310 P **P 12 12 46.4 +0.5**
comp=Z,13nm,0.7s,baz=151,slow=3.4,SNR=20
comp=Z,13nm,0.7s
GEYT Alibeck 79.84 310 P **P 12 12 46.5 +0.6**
GYA0B ALIBECK ARRAY 79.84 310 P **P 12 12 46.4 +0.5**
GYA0B IAmb IAmb 12 12 47.8
comp=Z,16nm,0.8s
MZWR Madinat Zayed 79.92 295 P **P 12 12 47.2 +0.6**
NRIK Noril'sk 81.13 346 P **P 12 12 52.0 -0.1**
comp=Z,2.8nm,0.5s,baz=122,slow=9.6,SNR=5.7
comp=Z,2.8nm,0.5s
NRIK Noril'sk 81.13 346 P **P 12 12 52.9 +0.9**
VOI Vohitsoka 81.15 249 P **P 12 12 54.1 +0.7**
VOI IAmb IAmb 12 14 56.1
comp=Z,58nm,1.8s
VOI Vohitsoka 81.15 249 P **P 12 12 54.0 +0.7**
ABKAR Akbulak array 82.10 322 P **P 12 12 57.7 +0.1**
SMRA Abu-Samra 82.85 296 P **P 12 13 02.5 +0.5**
SHMA Al-Shehemyia 82.93 297 P **P 12 13 02.7 +0.4**
SAKB Bahrain 83.33 297 P **P 12 13 05.2 +0.8**
QSPA South Pole Qui 83.38 180 P **P 12 13 03.7 -0.3**
ARU Arti 85.28 328 P **P 12 13 13.1 -0.6**
comp=Z,13nm,0.7s,baz=138,slow=2.5,SNR=4.9
comp=Z,13nm,0.7s
ARU Arti 85.28 328 P **P 12 13 13.0 -0.6**
RAYN Ar Rayn 87.44 294 P **P 12 13 25.5 +0.6**
RAYN Ar Rayn 87.44 294 P **P 12 13 26.1 +1.1**
RAYN Ar Rayn 87.44 294 *i* P **P 12 13 25.6 +0.6**
SNR=39
BELG Belogornoye 90.45 323 P **P 12 13 37.0 -1.2**
comp=Z,7.3nm,0.7s,baz=73,slow=20,SNR=2.6
comp=Z,7.3nm,0.7s
GEVA Gevas 91.53 308 P **P 12 13 44.9 +1.1**
GEVA IAmb IAmb 12 13 46.4
comp=Z,14nm,1.1s
KBZ Khabaz 92.31 314 P **P 12 13 46.5 -0.6**
comp=Z,1.6nm,0.8s,baz=90,slow=8.6,SNR=3.5
comp=Z,1.6nm,0.8s
GURO Guroymak-BITLI 92.36 308 P **P 12 13 48.6 +0.9**
GURO IAmb IAmb 12 13 49.6
comp=Z,6.8nm,0.7s
KMBO Kilima Mbogo 92.45 269 P **P 12 13 47.1 -1.6**
comp=Z,0.8nm,0.3s,baz=114,slow=7.7,SNR=3.9
comp=Z,0.8nm,0.3s
ILAR Eielson Array 93.05 25 P **P 12 13 47.9 -2.2**
comp=Z,0.6nm,0.7s,baz=262,slow=4.3,SNR=9.6
comp=Z,0.6nm,0.7s
TROLL Troll, Antarti 94.51 194 P **P 12 13 58.8 +1.9**
ARCES ARCESS Array B 101.15 340 P **Pdif 12 14 24.6 -2.0**
comp=Z,5.5nm,1.0s,baz=79,slow=4.7,SNR=1.7
AKASG Malin Array Be 101.80 320 P **Pdif 12 14 28.5 -1.3**
comp=Z,0.2nm,0.3s,baz=66,slow=6.1,SNR=1.3
GERES GERESS Array B 112.02 320 PKiKP **PKiKP 12 19 10.1 -1.2**
comp=Z,0.6nm,0.5s,baz=90,slow=2.7,SNR=7.3
DAVOX Davos/Dischmat 115.08 319 PKiKP **PKiKP 12 19 16.1 -1.4**
comp=Z,1.5nm,0.5s,baz=15,slow=12,SNR=2.7
PDAR Pinedale Array 116.71 45 PKP **PKPdf 12 19 20.3 -0.4**
comp=Z,0.4nm,0.7s,baz=207,slow=1.7,SNR=4.2
EKA Eskdalemuir Ar 118.74 332 PKP **PKPdf 12 19 23.2 -0.7**
comp=Z,0.3nm,0.4s,baz=34,slow=3.4,SNR=1.3
ESDC Sonseca Array 127.11 316 PKP **PKPdf 12 19 40.7 +0.2**
comp=Z,0.8nm,0.9s,baz=21,slow=4.4,SNR=2.9
TORD Torodi Ar. Bea 128.58 282 PKP **PKPdf 12 19 42.2 -1.7**
comp=Z,1.4nm,0.7s,baz=78,slow=1.5,SNR=7.4
SCHQ Schefferville 130.07 13 SKPbc **SKPab 12 22 51.3 -1.5**
comp=Z,15nm,0.8s,baz=2.4,slow=2.5,SNR=8.7
DBIC Dimbokro 135.02 273 PKP **PKPdf 12 19 54.5 -1.6**
comp=Z,2.2nm,0.5s,baz=358,slow=2.6,SNR=4.4
DBIC SKPbc **SKPbc 12 23 09.5 -1.9**
comp=Z,6.3nm,0.8s,baz=92,slow=3.2,SNR=7.4
CPUP Villa Florida 146.54 168 PKPbc **PKPab 12 20 19.0 -0.4**
comp=Z,2.3nm,0.7s,baz=194,slow=1.8,SNR=4.1
CPUP SKPbc **SKPbc 12 23 40.5 -0.9**
comp=Z,2.4nm,0.6s,baz=215,slow=0.4,SNR=5.0
LPAZ La Paz 151.13 142 PKPbc **PKPbc 12 20 31.1 +0.2**
comp=Z,1.1nm,0.5s,baz=169,slow=3.1,SNR=2.8
LPAZ La Paz 151.13 142 *e*P **PKPbc 12 20 29.8 -1.1**

UPA ***19*** *12:02:23.0±0.7,8°.35N×82°.85W,h4km±2km,MW3.7*
UCR ***19*** *12:02:24.5±1.9,8°.42N×83°.00W,h9km±5km,MW3.9*
ISC 19 12:02:17.1±2.7,8°.1N±0°.1×82°.90W±0°.06,h14km±11km,n20,
s0°73/28,1C-1D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CCOL	**Caracol de Cor**	**0.34**	**347**	*e*P		**Pb**	**12 02 25.7**	**+0.9**
CCOL				*e*S		**Sg**	**12 02 29.1**	**+0.4**
CDITO	**Canoas**	**0.49**	**3**	*e*P		**Pb**	**12 02 27.9**	**+0.4**
CDITO				*e*S		**Sg**	**12 02 32.6**	**-0.9**
CDITO	**Canoas**	**0.49**	**3**	*e*P		**Pb**	**12 02 28.0**	**+0.4**
CDITO				*e*S		**Sg**	**12 02 32.1**	**-1.4**
DVD	**David**	**0.57**	**51**⇑	*e*P		**Pn**	**12 02 31.6**	**+0.9**
DVD				*e*S		**Sn**	**12 02 38.8**	**-1.2**
BCO2	**Palmira**	**0.73**	**30**	*e*P		**Pn**	**12 02 33.4**	**+0.2**
BCO2				*e*S		**Sb**	**12 02 42.0**	**+0.3**
BRU2	**Volcan**	**0.74**	**16**	⇓*i*P		**Pn**	**12 02 33.0**	**-0.2**
BRU2				*e*S		**Sg**	**12 02 41.2**	**-0.1**
EDSV	**San Vito**	**0.74**	**354**	*e*P		**Pn**	**12 02 32.5**	**-0.7**
EDPN	**Palmar Norte**	**1.04**	**328**	*e*P		**Pn**	**12 02 37.2**	**0.0**
EDBA	**Buenos Aires**	**1.14**	**341**	*e*P		**Pg**	**12 02 39.7**	**+0.5**
SRBA	**San Rafael, Bu**	**1.23**	**338**	*e*P		**Pb**	**12 02 40.2**	**-0.1**
CNI2	**El Empalme, Bo**	**1.40**	**18**	*e*P		**Pg**	**12 02 43.7**	**-0.4**
CNI2				*e*S		**Sn**	**12 02 59.6**	**-0.9**
PEZE	**Perez Zeledon,**	**1.51**	**329**	*e*P		**Pb**	**12 02 45.2**	**+0.3**
EDDO	**Dominical**	**1.51**	**321**	*e*P		**Pg**	**12 02 46.6**	**+0.5**
CDM	**Cerro de Muert**	**1.70**	**330**	*e*P		**Pb**	**12 02 48.4**	**0.0**
LCR2	**La Lucha 2**	**1.98**	**327**	*e*P		**Pb**	**12 02 53.2**	**+0.2**
BATAN	**Batan**	**2.06**	**347**	*e*P		**Pb**	**12 02 54.6**	**+0.3**
BATAN	**Batan**	**2.06**	**347**	*e*P		**Pb**	**12 02 54.7**	**+0.3**
BATAN				*e*S		**Sn**	**12 03 18.0**	**+1.2**
HDC	**Heredia**	**2.26**	**328**	*e*P		**Pb**	**12 02 58.9**	**+1.2**
JACO	**JACO, Garabito**	**2.35**	**312**	*e*P		**Pb**	**12 02 58.5**	**-0.7**
POPE	**POPE, Guanacas**	**3.06**	**310**	*e*P		**Pb**	**12 03 10.4**	**-0.9**

WEL 19 12:09:46.6,42°S±4°×17°4E±°,h8km±6km,M2.3/12,
ML2.5/16,MLv2.3/12,Error ellipse: s-maj=0.0km
s-min=0.0km az=130.4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**246**	P		Pg	12 09 49.8	+0.6
BSWZ	**Blackbirch Sta**	**0.36**	**268**	P		Pb	12 09 54.5	-0.7
BSWZ	**Blackbirch Sta**	**0.36**	**268**	P		Pb	12 09 54.7	-0.5
TUWZ	**Tuamarina**	**0.41**	**311**	P		Pb	12 09 56.0	-0.1
TCW	**Tory Channel**	**0.49**	**353**	P		Pb	12 09 57.4	0.0
WEL	**Wellington**	**0.52**	**37**	P		Pb	12 09 58.1	+0.2
PLWZ	**Palliser**	**0.69**	**79**	P		Pb	12 10 01.5	+0.7
MSWZ	**Moikau Station**	**0.73**	**67**	P		Pb	12 10 02.1	+0.7
CAW	**Cannon Point**	**0.80**	**42**	P		Pb	12 10 02.8	+0.2
PAWZ	**Paruwai Farm**	**0.86**	**69**	P		Pn	12 10 04.6	-0.5
NNZ	**Nelson**	**0.88**	**303**	P		Pb	12 10 04.4	+0.4
KIW	**Kapiti Island**	**0.94**	**27**	P		Pb	12 10 05.5	+0.5
KHZ	**Kahutara**	**0.94**	**220**	P		Pb	12 10 05.4	+0.3
DUWZ	**D'Urville Isla**	**0.96**	**340**	P		Pn	12 10 06.2	-0.1
MTW	**Mount Morrison**	**1.02**	**58**	P		Pb	12 10 06.7	+0.3
TRWZ	**Traveller**	**1.04**	**74**	P		Pn	12 10 09.0	+1.5
OGWZ	**Otaki Gorge**	**1.08**	**35**	P		Pn	12 10 08.0	+0.1
THZ	**Tophouse**	**1.09**	**266**	P		Pn	12 10 08.4	+0.3
HOWZ	**Holdsworth Sta**	**1.19**	**48**	P		Pg	12 10 09.3	0.0
MRNZ	**Matariki Terra**	**1.24**	**284**	P		Pg	12 10 11.3	+1.0
TMWZ	**Te Maipa**	**1.30**	**63**	P		Pn	12 10 10.3	-0.7
MRZ	**Mangatainoka R**	**1.39**	**42**	P		Pn	12 10 11.8	-0.5
QRZ	**Quartz Range**	**1.63**	**302**	P		Pg	12 10 17.7	-0.1
DSZ	**Denniston Nort**	**1.91**	**268**	P		Pg	12 10 23.0	-0.2

WEL 19 12:17:37.8±0.3,42°S±3°×17°4E±°,h5km,M3.2/23,
ML3.5/12,MLv3.2/23,Error ellipse: s-maj=0.0km
s-min=0.0km az=126.3,South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**184**	P		Pg	12 17 42.2	+0.7
KHZ				S		Sg	12 17 45.6	+1.4
BSWZ	**Blackbirch Sta**	**0.56**	**25**	P		Pg	12 17 48.8	+0.3
THZ	**Tophouse**	**0.67**	**313**	P		Pg	12 17 51.2	+0.6
CMWZ	**Cape Campbell**	**0.68**	**46**	P		Pb	12 17 51.7	-0.4
GVZ	**Greta Valley S**	**0.84**	**207**	P		Pg	12 17 54.2	+0.3
TUWZ	**Tuamarina**	**0.84**	**20**	P		Pg	12 17 54.1	+0.2
NNZ	**Nelson**	**1.01**	**352**	P		Pg	12 17 57.1	-0.1
MRNZ	**Matariki Terra**	**1.02**	**324**	P		Pg	12 17 57.5	+0.2
LTZ	**Lake Taylor**	**1.10**	**239**	P		Pg	12 17 58.3	-0.6
TCW	**Tory Channel**	**1.15**	**28**	P		Pg	12 17 58.5	-1.2
TKNZ	**Takaka Hill**	**1.27**	**339**	P		Pg	12 18 01.7	-0.4
WEL	**Wellington**	**1.30**	**44**	P		Pn	12 18 00.4	-2.2
DUWZ	**D'Urville Isla**	**1.45**	**11**	P		Pn	12 18 03.2	-1.4
MSWZ	**Moikau Station**	**1.50**	**58**	P		Pn	12 18 02.2	-3.1
OXZ	**Oxford**	**1.57**	**225**	P		Pn	12 18 03.6	-2.7
CAW	**Cannon Point**	**1.59**	**46**	P		Pn	12 18 04.0	-2.5
PAWZ	**Paruwai Farm**	**1.63**	**60**	P		Pn	12 18 03.8	-3.4
INZ	**Inchbonnie**	**1.64**	**252**	P		Pn	12 18 06.0	-1.3
KIW	**Kapiti Island**	**1.70**	**37**	P		Pn	12 18 06.0	-2.1
RACZ	**Rakaia**	**1.83**	**214**	P		Pn	12 18 06.6	-3.2
OGWZ	**Otaki Gorge**	**1.85**	**41**	P		Pn	12 18 07.7	-2.5
MHCZ	**Mount Hutt**	**1.96**	**228**	P		Pn	12 18 08.9	-2.8
HOWZ	**Holdsworth Sta**	**1.98**	**49**	P		Pn	12 18 08.8	-3.1
TMWZ	**Te Maipa**	**2.07**	**58**	P		Pn	12 18 09.5	-3.7
WACZ	**Wakanui South**	**2.13**	**216**	P		Pn	12 18 10.9	-3.0
MRZ	**Mangatainoka R**	**2.18**	**45**	P		Pn	12 18 11.6	-3.0

WVZ	**Waitaha Valley**	**2.25**	**247**	P	Pn	12 18 14.2	-1.4
RPZ	**Rata Peaks**	**2.37**	**230**	P	Pn	12 18 14.9	-2.4
ARCZ	**Arundel**	**2.45**	**225**	P	Pn	12 18 16.1	-2.4
GCSZ	**Gaunt Creek Bo**	**2.62**	**244**	P	Pn	12 18 19.6	-1.0
TSZ	**Takapari Road**	**2.82**	**41**	P	Pn	12 18 18.7	-4.8
TMZ	**Timaru**	**2.85**	**220**	P	Pn	12 18 21.5	-2.4
FOZ	**Fox Glacier**	**3.05**	**243**	P	Pn	12 18 25.6	-1.0
MTVZ	**Mangateitei**	**3.19**	**28**	P	Pn	12 18 29.9	+1.3
VRZ	**Vera Road**	**3.23**	**17**	P	Pn	12 18 29.1	0.0
PKVZ	**Pokaka**	**3.23**	**25**	P	Pn	12 18 28.4	-0.8
ODZ	**Otahua Downs**	**3.53**	**216**	P	Pn	12 18 29.7	-3.4
HIZ	**Hauiti**	**3.83**	**15**	P	Pn	12 18 37.4	-0.1

IDC ***19*** *12:37:18.5±2.0, 44˚.29S×39˚.02E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=62.4km s-min=34.4km az=147.0*

ISC 19 12:37:19.6±2.3**, 44˚.2S**±0˚.4×**38˚.9E**±0˚.3**, h10**km**, n8,** σ0§**26**/6**, mb4.0**/5**, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**33.99**	**202**	P	**P**	**12 44 03.3**	**+0.2**
	1.9nm,0.9s,baz=51,slow=6.5,SNR=7.5 1.9nm,0.9s						
QSPA	**South Pole Qui**	**45.99**	**180**	P	**P**	**12 45 42.5**	**-0.2**
	2.0nm,1.1s,baz=264,slow=5.8,SNR=6.4 2.0nm,1.1s						
H10S2	**ASCENSION HYDR**	**58.03**	**290**	T	T	13 49 52.5	
	baz=134,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**58.04**	**290**	T	T	13 49 53.7	
	baz=86,slow=74,SNR=32						
STKA	**Stephens Creek**	**76.65**	**121**	P	**P**	**12 49 10.9**	**+0.2**
	1.0nm,0.7s,baz=243,slow=12,SNR=3.5 1.0nm,0.7s						
ASAR	**Alice Springs**	**77.29**	**111**	P	**P**	**12 49 14.2**	**-0.3**
	0.8nm,0.9s,baz=221,slow=5.0,SNR=4.7 0.8nm,0.9s						
WRA	**Warramunga Arr**	**80.12**	**108**	P	**P**	**12 49 30.1**	**+0.1**
	0.6nm,0.9s,baz=219,slow=4.8,SNR=4.6 0.6nm,0.9s						
TXAR	**Lajitas Array**	**146.85**	**256**	PKPbc	**PKPbc**	**12 57 02.1**	**-0.1**
	0.5nm,0.7s,baz=142,slow=4.6,SNR=5.4						

NEIC ***19*** *12:39:03.8±2.9, 7˚.1S±0˚.1×127˚.19E±0˚.08, h288km±14km, mb4.4/3, Error ellipse: s-maj=21.0km s-min=8.2km az=156.0*

IDC ***19*** *12:39:05.5±6.1, 7˚.41S×126˚.95E, h274km±69km, mb2.9/1, mbtmp3.8/3, Error ellipse: s-maj=140.8km s-min=22.2km az=65.0*

ISC 19 12:39:03.3±0.9**, 7˚.24S**±0˚.09×**127˚.29E**±0˚.08**, h250**km**, n23,** σ1§**52**/24**, mb4.4/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.90**	**230**	Pn	**Pn**	**12 40 08.2**	**+2.1**
SOEI	**Soe**	**3.90**	**230**	P	**Pn**	**12 40 08.6**	**+2.5**
SAUI	**Saumlaki**	**4.05**	**101**	Pn	**Pn**	**12 40 11.2**	**+3.5**
FAKI	**Fak Fak**	**6.54**	**49**	Pn	**Pn**	**12 40 38.3**	**0.0**
MTN	**Manton Dam**	**6.74**	**146**		**Pn**	**12 40 41.5**	**+0.8**
MTN	**Manton Dam**	**6.74**	**146**	P	**Pn**	**12 40 41.5**	**+0.8**
KDU	**Kakadu**	**7.45**	**137**	P	**Pn**	**12 40 49.9**	**+0.2**
KNRA	**Kununurra**	**8.51**	**170**		**Pn**	**12 41 03.6**	**+0.5**
WB0	**Warramunga Arr**	**14.24**	**152**	P	**Pn**	**12 42 14.1**	**-0.4**
WRAB	**Tennant Creek**	**14.36**	**152**	P	**Pn**	**12 42 15.3**	**-0.7**
WRAB	**Tennant Creek**	**14.36**	**152**	P	**Pn**	**12 42 15.2**	**-0.7**
WRA	**Warramunga Arr**	**14.37**	**152**	P	**Pn**	**12 42 15.1**	**-1.0**
	0.4nm,0.3s,baz=322,slow=12,SNR=27						
WRA				S	**S**	**12 44 52.9**	**-2.2**
	2.0nm,0.9s,baz=325,slow=21,SNR=7.9						
WRA	**Warramunga Arr**	**14.37**	**152**	P	**Pn**	**12 42 14.2**	**-1.8**
WB2	**Warramunga Arr**	**14.37**	**152**	P	**Pn**	**12 42 15.5**	**-0.5**
WR0	**Warramunga Arr**	**14.47**	**152**	P	**Pn**	**12 42 16.7**	**-0.6**
AS31	**Alice Springs**	**17.53**	**159**	P	**P**	**12 42 52.7**	**+1.8**
AS31				IAmb	IAmb	12 42 56.4	
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**17.53**	**159**	P	**P**	**12 42 52.5**	**+1.5**
	comp=Z,4.2nm,0.5s,baz=340,slow=12,SNR=83						
ASAR				S	**S**	**12 45 59.2**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=346,slow=25,SNR=4.7						
AS01	**Alice Springs**	**17.55**	**159**	P	**P**	**12 42 52.8**	**+1.7**
WRKA	**Warakurna**	**17.73**	**177**	P	**P**	**12 42 55.0**	**+1.9**
MEEK	**Meekatharra**	**20.99**	**202**	P	**P**	**12 43 28.0**	**+0.1**
	comp=Z,16nm,1.8s						
OUENC	**Ouen Island, N**	**40.95**	**116**	P	**P**	**12 46 21.4**	**-0.7**
OUENC				IAmb	IAmb	12 46 41.0	
	comp=Z,52nm,1.2s						
MKAR	**Makanchi Array**	**66.97**	**328**	P	**P**	**12 49 28.5**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=115,slow=5.1,SNR=2.1 comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**82.74**	**180**	P	P	12 50 55.2	-4.0
QSPA				IAmb	IAmb	12 50 59.4	
	comp=Z,9.7nm,1.3s						

IDC ***19*** *12:41:53.8±1.1, 44˚.23S×38˚.93E, h0km, mb4.1/4, mbtmp4.1/5, ML3.5/1, Error ellipse: s-maj=33.9km s-min=30.1km az=43.0*

ISC 19 12:41:55.6±1.1**, 44˚.2S**±0˚.2×**38˚.9E**±0˚.3**, h10**km**, n9,** σ0§**97**/7**, mb4.2**/4**, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**19.04**	**320**	P	**Pn**	**12 46 18.7**	**+0.1**
	0.1nm,0.3s,baz=162,slow=13,SNR=2.3 6.7nm,1.0s						
SNAA	**Sanae**	**34.01**	**202**	P	**P**	**12 48 39.7**	**+0.5**
	2.8nm,0.9s,baz=53,slow=7.5,SNR=7.1 2.8nm,0.9s						
QSPA	**South Pole Qui**	**45.99**	**180**	P	**P**	**12 50 18.2**	**-0.5**
	4.0nm,1.1s,baz=269,slow=17,SNR=8.9 4.0nm,1.1s						
H10S2	**ASCENSION HYDR**	**58.05**	**290**	T	T	13 54 23.6	
	baz=134,slow=74,SNR=29						
H10S3	**ASCENSION HYDR**	**58.07**	**290**	T	T	13 54 24.8	
	baz=86,slow=74,SNR=41						
ASAR	**Alice Springs**	**77.27**	**111**	P	**P**	**12 53 50.5**	**+0.2**
	1.7nm,0.9s,baz=209,slow=5.7,SNR=12 1.7nm,0.9s						
WRA	**Warramunga Arr**	**80.09**	**108**	P	**P**	**12 54 06.0**	**+0.1**
	1.4nm,1.0s,baz=222,slow=4.5,SNR=6.7 1.4nm,1.0s						
TXAR	**Lajitas Array**	**146.88**	**256**	PKPbc	**PKPdf**	**13 01 37.3**	**+1.0**
	2.2nm,0.9s,baz=142,slow=6.2,SNR=12						
ANMO	**Albuquerque**	**151.94**	**263**	PKPbc	**PKPbc**	**13 01 49.3**	**-1.5**
	0.7nm,0.4s,baz=133,slow=4.4,SNR=5.7						

IDC ***19*** *12:42:32.4±1.6, 44˚.13S×38˚.75E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=52.3km s-min=39.2km az=147.0*

ISC 19 12:42:33.3±1.7**, 44˚.0S**±0˚.3×**38˚.6E**±0˚.3**, h10**km**, n8,** σ0§**51**/6**, mb4.0**/4**, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**12 49 17.9**	**+0.4**
	2.6nm,1.1s,baz=67,slow=8.5,SNR=3.7 2.6nm,1.1s						
QSPA	**South Pole Qui**	**46.17**	**180**	P	**P**	**12 50 57.4**	**-0.4**
	2.4nm,1.0s,baz=252,slow=19,SNR=6.8 2.4nm,1.0s						
H10S2	**ASCENSION HYDR**	**57.77**	**291**	T	T	13 55 05.4	
	baz=136						
H10S3	**ASCENSION HYDR**	**57.79**	**291**	T	T	13 55 01.9	
	baz=84						
ASAR	**Alice Springs**	**77.55**	**111**	P	**P**	**12 54 29.9**	**+0.4**
	1.1nm,0.9s,baz=216,slow=6.0,SNR=4.3 1.1nm,0.9s						
WRA	**Warramunga Arr**	**80.37**	**108**	P	**P**	**12 54 45.0**	**-0.1**
	1.0nm,1.0s,baz=223,slow=4.5,SNR=2.5 1.0nm,1.0s						
TXAR	**Lajitas Array**	**146.70**	**257**	PKPbc	**PKPab**	**13 02 16.9**	**+0.3**
	0.9nm,1.0s,baz=139,slow=5.9,SNR=2.3						
ANMO	**Albuquerque**	**151.74**	**263**	PKPbc	**PKPbc**	**13 02 27.6**	**-0.5**
	0.2nm,0.3s,baz=115,slow=14,SNR=1.1						

IDC ***19*** *12:47:00.6±0.4, 44˚.14S×39˚.06E, h0km, mb4.4/22, mbtmp4.4/24, ML3.6/2, MS4.2/55, Error ellipse: s-maj=16.8km s-min=13.0km az=68.0*

BJI ***19*** *12:47:02.0±0.0, 44˚.20S×39˚.00E, h10km, mb5.3/10, mB5.3/4, Ms5.0/2, Ms7 4.8/2*

GCMT ***19*** *12:47:03.1±0.3, 44˚.21S±0˚.02×39˚.13E±0˚.04, h16km±1km, MW5.0/96, Moment Tensor Solution. s21,c27; s96,c121; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.38±.21; Mθθ2.85±.14; Mθθ0.53±.12; Mrθ-2.01±.39; Mrθ-0.61±.08; Mrr0.63±.42; Best double couple: Mo3.82300×10¹⁶ NP1:φs106.00000°, δ62.00000°, λ-88.00000°. NP2: φs282.00000°, δ28.00000°, λ-93.00000°. Principal axes: T 3.6320, Plg17.0000°, Azm195.0000°; N 0.3860, Plg1.0000°, Azm285.0000°; P -4.0150, Plg73.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *12:47:05.1±2.2, 44˚.21S±0˚.09×39˚.1E±0˚.2, h16km±3km, mb5.1/54 Error ellipse: s-maj=16.1km s-min=13.6km az=78.0*

ISC 19 12:47:02.9±0.3**, 44˚.21S**±0˚.07×**38˚.99E**±0˚.08**, h10**km**, n224,** σ0§**90**/198**, mb4.8**/43**, MS4.2**/58**, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**15.55**	**313**	Pn	**Pn**	**12 50 43.1**	**+0.8**
SOE				IAmb	IAmb	12 50 50.6	
	comp=Z,185nm,2.0s						
POGA	**Pongola**	**17.82**	**338**	P	**P**	**12 51 14.1**	**+2.4**
SUR	**Sutherland**	**18.48**	**304**	P	**P**	**12 51 17.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=144,slow=13,SNR=6.2						
SUR				LR	LR	12 57 12.9	
	comp=Z,484nm,18.9s,baz=142,slow=33 comp=Z,9.6nm,0.8s						
SUR	**Sutherland**	**18.48**	**304**	P	**P**	**12 51 19.6**	**+0.5**
BOSA	**Boshof**	**19.05**	**320**	P	**P**	**12 51 25.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=146,slow=13,SNR=5.4						
BOSA				LR	LR	12 57 25.1	
	comp=Z,949nm,20.3s,baz=154,slow=33 comp=Z,4.8nm,0.8s						
BOSA	**Boshof**	**19.05**	**320**	P	**Pn**	**12 51 26.3**	**+0.1**
LBTB	**Lobatse**	**22.04**	**326**	P	**Pn**	**12 51 56.8**	**-1.1**
	comp=Z,8.4nm,0.9s,baz=147,slow=10,SNR=6.8						
LBTB				LR	LR	12 59 15.9	
	comp=Z,842nm,19.4s,baz=160,slow=33 comp=Z,8.4nm,0.9s						
LBTB	**Lobatse**	**22.04**	**326**	P	**P**	**12 51 58.0**	**+0.2**
LBTB				IAmb	IAmb	12 52 08.5	
	comp=Z,149nm,1.7s						
VOI	**Vohitsoka**	**23.16**	**19**	P	**P**	**12 52 09.5**	**-0.2**
ABPO	**Ambohimpanom**	**26.05**	**18**	P	**P**	**12 52 36.0**	**-0.7**
ABPO				IAmb	IAmb	12 52 54.5	
	comp=Z,71nm,1.6s						
OPO	**Ambohidratompo**	**26.47**	**18**	P	**P**	**12 52 39.1**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=179,slow=11,SNR=2.2 comp=Z,1.5nm,0.5s						
MAW	**Mawson**	**26.64**	**160**	P	**P**	**12 52 41.3**	**-0.1**
	comp=Z,6.0nm,1.0s,baz=310,slow=10,SNR=4.3						
MAW				LR	LR	13 00 31.5	
	comp=Z,568nm,21.9s,baz=324,slow=30 comp=Z,6.0nm,1.0s						
MAW	**Mawson**	**26.64**	**160**	P	**P**	**12 52 43.3**	**+1.9**
TSUM	**Lusaka**	**30.27**	**339**	LR	LR	13 04 12.3	
	comp=Z,387nm,19.3s,baz=167,slow=34						
TSUM	**Tsumeb**	**30.70**	**317**	LR	LR	13 04 47.1	
	comp=Z,644nm,18.5s,baz=152,slow=35						
TROLL	**Troll, Antarti**	**32.84**	**200**	P	**P**	**12 53 37.2**	**+0.7**
TROLL	**Troll, Antarti**	**32.84**	**200**	PcP	**PcP**	**12 56 21.4**	**+0.5**
SNAA	**Sanae**	**34.03**	**202**	P	**P**	**12 53 47.1**	**+0.3**
SNAA	**Sanae**	**34.03**	**202**	PcP	**PcP**	**12 56 23.9**	**-0.2**
SNAA	**Sanae**	**34.03**	**202**	P	**P**	**12 53 47.1**	**+0.3**
	comp=Z,12nm,0.9s,baz=71,slow=6.1,SNR=38						
SNAA				LR	LR	13 05 20.2	
	comp=Z,539nm,21.3s,baz=132,slow=32 comp=Z,12nm,0.9s						
SNAA	**Sanae**	**34.03**	**202**	P	**P**	**12 53 47.9**	**+1.1**
SNAA				IAmb	IAmb	12 53 49.0	
	comp=Z,22nm,1.0s						
VNA2	**Neumayer--Watz**	**34.98**	**205**	P	**P**	**12 53 55.2**	**+0.3**
	baz=50,slow=9.7						
VNA2	**Neumayer--Watz**	**34.98**	**205**	PcP	**PcP**	**12 56 25.1**	**-1.7**
VNA1	**Neumayer--Stat**	**35.13**	**205**	P	**P**	**12 53 57.1**	**+1.0**
VNA3	**Neumayer Olymp**	**35.79**	**205**	P	**P**	**12 54 02.5**	**+0.7**
VNA3	**Neumayer Olymp**	**35.79**	**205**	PcP	**PcP**	**12 56 29.2**	**0.0**
KMBO	**Kilima Mbogo**	**42.93**	**357**	P	**P**	**12 54 59.6**	**-2.6**
	comp=Z,1.0nm,0.4s,baz=111,slow=6.1,SNR=1.6						
KMBO				LR	LR	13 10 44.5	
	comp=Z,606nm,20.2s,baz=109,slow=33 comp=Z,1.0nm,0.4s						
BELA	**Belgrano 2**	**43.78**	**197**	P	**P**	**12 55 08.4**	**+0.3**
MBAR	**Mbarara**	**44.04**	**348**	LR	LR	13 13 03.1	
	comp=Z,602nm,18.3s,baz=154,slow=36						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**12 55 25.1**	**-1.1**
	comp=Z,6.6nm,1.0s,baz=252,slow=2.7,SNR=17						
QSPA				LR	LR	13 12 48.8	
	comp=Z,484nm,21.9s,baz=246,slow=34 comp=Z,6.6nm,1.0s						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**12 55 25.8**	**-0.4**
QSPA				IAmb	IAmb	12 55 31.5	
	comp=Z,22nm,1.2s						
LODK	**Lodwar**	**47.53**	**355**	P	**P**	**12 55 40.0**	**+1.5**
LODK				IAmb	IAmb	12 55 51.2	
	comp=Z,22nm,1.9s						
VNDA	**Vanda**	**53.60**	**167**	P	**P**	**12 56 22.7**	**-0.9**
	comp=Z,4.2nm,1.2s,baz=249,slow=7.6,SNR=11						
VNDA				LR	LR	13 17 38.4	
	comp=Z,295nm,19.6s,baz=225,slow=34 comp=Z,4.2nm,1.2s						
VNDA	**Vanda**	**53.60**	**167**	P	**P**	**12 56 24.6**	**+1.0**
ATD	**Arta Tunnel**	**55.58**	**5**	LR	LR	13 19 19.2	
	comp=Z,210nm,18.7s,baz=144,slow=35						
PMSA	**Palmer Station**	**56.06**	**210**	LR	LR	13 15 10.0	
	comp=Z,324nm,21.3s,baz=92,slow=30						
H10S2	**ASCENSION HYDR**	**58.08**	**290**	T	T	13 59 51.7	
	baz=134,slow=74,SNR=22						
H10S3	**ASCENSION HYDR**	**58.10**	**290**	T	T	13 59 53.0	
	baz=86,slow=74,SNR=33						
NWAO	**Narrogin (SRO)**	**60.05**	**108**	P	**P**	**12 57 10.9**	**+0.9**
MORW	**Morawa**	**61.51**	**104**	P	**P**	**12 57 19.6**	**-0.4**
PALK	**Palaken**	**63.56**	**47**	LR	LR	13 18 04.5	
	comp=Z,263nm,21.6s,baz=315,slow=29						
DBIC	**Dimbokro**	**64.22**	**310**	P	**P**	**12 57 35.9**	**-2.2**
	comp=Z,4.2nm,0.9s,baz=150,slow=10,SNR=5.2						
DBIC				LR	LR	13 23 06.7	
	comp=Z,102nm,18.9s,baz=161,slow=34 comp=Z,4.2nm,0.9s						
PSA00	**Pilbara Seismi**	**68.87**	**100**	P	**P**	**12 58 08.9**	**+1.0**
WSAR	**Wadi Sarin**	**69.49**	**19**	LR	LR	13 23 30.0	
	comp=Z,305nm,20.1s,baz=210,slow=32						
LEM	**Lembang**	**69.98**	**80**	LR	LR	13 21 24.0	
	comp=Z,95nm,20.5s,baz=187,slow=30						
BBOO	**Buckleboo**	**72.53**	**119**	P	**P**	**12 58 30.4**	**+0.4**
TAM	**Tamanrasset**	**73.38**	**328**	P	**P**	**12 58 36.5**	**+1.3**
TAM				IAmb	IAmb	12 58 37.8	
	comp=Z,29nm,1.9s						
EIL	**Elat**	**73.61**	**356**	LR	LR	13 27 17.9	
	comp=Z,138nm,21.9s,baz=240,slow=33						
PLCA	**Paso Flores**	**74.40**	**228**	P	**P**	**12 58 40.3**	**-0.8**
	comp=Z,5.5nm,1.1s,baz=141,slow=6.0,SNR=6.3						
PLCA				LR	LR	13 24 26.7	
	comp=Z,104nm,20.1s,baz=145,slow=30 comp=Z,5.5nm,1.1s						
PLCA	**Paso Flores**	**74.40**	**228**	P	**P**	**12 58 41.1**	**+0.1**
PLCA				IAmb	IAmb	12 58 42.3	
	comp=Z,27nm,1.6s						
TOO	**Toolangi**	**74.95**	**128**	P	**P**	**12 58 45.3**	**+1.0**
TOO				IAmb	IAmb	12 58 46.0	
	comp=Z,21nm,1.1s						
RCBR	**Riachuelo**	**75.14**	**276**	LR	LR	13 25 02.6	
	comp=Z,57nm,18.5s,baz=310,slow=30						
CPUP	**Villa Florida**	**76.38**	**247**	P	**P**	**12 58 52.5**	**0.0**
	comp=Z,3.5nm,1.0s,baz=124,slow=7.5,SNR=4.6						
CPUP				LR	LR	13 26 13.9	
	comp=Z,83nm,18.2s,baz=152,slow=31 comp=Z,3.5nm,1.0s						
STKA	**Stephens Creek**	**76.60**	**121**	P	**P**	**12 58 53.1**	**-0.6**
	comp=Z,6.9nm,0.8s,baz=242,slow=4.5,SNR=20						
STKA				LR	LR	13 26 41.2	
	comp=Z,101nm,18.9s,baz=206,slow=31 comp=Z,6.9nm,0.8s						
STKA	**Stephens Creek**	**76.60**	**121**	P	**P**	**12 58 53.2**	**-0.5**
BDFB	**Brasilia**	**77.15**	**261**	P	**P**	**12 58 56.6**	**-0.5**
	comp=Z,4.4nm,0.7s,baz=138,slow=14,SNR=5.1 comp=Z,4.4nm,0.7s						
ASAR	**Alice Springs**	**77.24**	**111**	P	**P**	**12 58 57.1**	**-0.4**
	comp=Z,8.3nm,0.8s,baz=217,slow=5.4,SNR=68						
ASAR				LR	LR	13 26 40.9	
	comp=Z,110nm,21.6s,baz=211,slow=31 comp=Z,8.3nm,0.8s						

ASAR	**Alice Springs**	**77.24**	**111**	P	**P**	**12 58 57.3**	**-0.2**
AS31	**Alice Springs**	**77.24**	**111**	P	**P**	**12 58 57.4**	**-0.1**
BBTS	**Babate**	**77.34**	**305**	LR	LR	13 29 58.1	
	comp=Z,66nm,20.6s,baz=121,slow=33						
AQDB	**Aquidauana**	**79.25**	**252**	P	**P**	**12 59 09.6**	**+0.9**
KAPI	**Kappang**	**79.90**	**87**	LR	LR	13 29 55.8	
	comp=Z,44nm,18.5s,baz=240,slow=32						
WRA	**Warramunga Arr**	**80.06**	**108**	P	**P**	**12 59 12.3**	**-0.7**
	comp=Z,4.9nm,0.9s,baz=220,slow=4.2,SNR=36						
WRA				LR	LR	13 29 44.0	
	comp=Z,182nm,18.5s,baz=220,slow=32 comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**80.06**	**108**	P	**P**	**12 59 13.0**	**-0.1**
WB2	**Warramunga Arr**	**80.07**	**108**	P	**P**	**12 59 13.2**	**+0.1**
WB2				IAmb	IAmb	12 59 19.5	
	comp=Z,19nm,1.1s						
WRAB	**Tennant Creek**	**80.08**	**108**	P	**P**	**12 59 13.2**	**+0.1**
WRAB				IAmb	IAmb	12 59 14.1	
	comp=Z,24nm,1.2s						
MT02	**Curacav**	**80.10**	**233**	P	**P**	**12 59 13.4**	**+0.3**
MT02				IAmb	IAmb	13 00 33.9	
	comp=Z,57nm,1.8s						
IDI	**Anoyia**	**80.16**	**348**	LR	LR	13 34 43.3	
	comp=Z,113nm,21.9s,baz=166,slow=36						
WR0	**Warramunga Arr**	**80.19**	**108**	P	**P**	**12 59 13.2**	**-0.6**
WR0				IAmb	IAmb	12 59 14.6	
	comp=Z,16nm,1.2s						
WB0	**Warramunga Arr**	**80.22**	**108**	P	**P**	**12 59 14.0**	**+0.1**
WB0				IAmb	IAmb	12 59 14.7	
	comp=Z,17nm,1.2s						
ELL	**Elmali**	**81.00**	**353**	P	**P**	**12 59 19.8**	**+2.2**
CO03	**El Pedregal**	**81.60**	**235**	P	**P**	**12 59 21.4**	**+0.2**
CO03				IAmb	IAmb	12 59 23.8	
	comp=Z,14nm,0.9s						
CO01	**Juntas del Tor**	**81.87**	**236**	P	**P**	**12 59 23.5**	**+0.7**
CO01				IAmb	IAmb	12 59 25.0	
	comp=Z,17nm,1.0s						
BRDH	**Bariadhala**	**82.15**	**48**	LR	LR	13 31 08.4	
	comp=Z,202nm,20.1s,baz=264,slow=32						
GEVA	**Gevas**	**82.22**	**3**	P	**P**	**12 59 26.1**	**+2.0**
RPZ	**Rata Peaks**	**82.58**	**147**	LR	LR	13 32 30.7	
	comp=Z,163nm,18.3s,baz=240,slow=33						
AC05	**El Transito**	**82.81**	**237**	P	**P**	**12 59 28.2**	**+0.6**
AC05				IAmb	IAmb	12 59 30.1	
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**82.93**	**56**	P	**P**	**12 59 27.1**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=225,slow=5.6,SNR=12						
CMAR				LR	LR	13 29 56.4	
	comp=Z,73nm,21.0s,baz=235,slow=31 comp=Z,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**82.93**	**56**	P	**P**	**12 59 27.6**	**-0.4**
LCO	**Las Campanas**	**82.94**	**236**	P	**P**	**12 59 29.1**	**+0.7**
LCO				IAmb	IAmb	12 59 30.7	
	comp=Z,19nm,0.9s						
DMN	**Daman**	**82.99**	**40**	*e*P	**P**	**12 59 28.8**	**+0.3**
DANN	**Dangsing**	**83.01**	**39**	*e*P	**P**	**12 59 27.5**	**-1.1**
	comp=Z,182nm,1.6s						
PKI	**Pulchoki**	**83.10**	**40**	*e*P	**P**	**12 59 29.0**	**-0.1**
	comp=Z,113nm,1.4s						
PKIN	**Phulchoki**	**83.10**	**40**	*e*P	**P**	**12 59 28.4**	**-0.6**
GKN	**Gorkha**	**83.11**	**40**	*e*P	**P**	**12 59 28.5**	**-0.4**
	comp=Z,123nm,1.4s						
RAMN	**Ramite**	**83.13**	**42**	*e*P	**P**	**12 59 28.9**	**-0.3**
	comp=Z,216nm,1.5s						
CHTO	**Chiang Mai**	**83.20**	**56**	P	**P**	**12 59 28.7**	**-0.7**
JIRN	**Jiri**	**83.54**	**41**	*e*P	**P**	**12 59 31.8**	**+0.4**
	comp=Z,156nm,1.2s						
NIL	**Nilore**	**83.54**	**28**	P	**P**	**12 59 31.5**	**+0.6**
AC02	**Maricunga**	**83.56**	**239**	P	**P**	**12 59 32.8**	**+0.7**
GEYT	**Alibeck**	**83.57**	**15**	P	**P**	**12 59 29.3**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=278,slow=4.2,SNR=1.4						
GEYT				LR	LR	13 34 17.6	
	comp=Z,96nm,19.3s,baz=180,slow=34 comp=Z,0.9nm,0.4s						
GEYT	**Alibeck**	**83.57**	**15**	P	**P**	**12 59 30.4**	**-0.5**
GEYT				IAmb	IAmb	12 59 31.6	
	comp=Z,17nm,1.6s						
GYA0B	**ALIBECK ARRAY**	**83.57**	**15**	P	**P**	**12 59 30.4**	**-0.5**
GYA0B				IAmb	IAmb	12 59 32.4	
	comp=Z,7.0nm,0.9s						
GUN	**Gumba**	**83.60**	**41**	*e*P	**P**	**12 59 31.8**	**+0.1**
	comp=Z,244nm,1.2s						
BRTR	**Keskin Array B**	**83.69**	**356**	P	**P**	**12 59 30.9**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=179,slow=7.4,SNR=5.5						
BRTR				LR	LR	13 37 01.5	
	comp=Z,81nm,18.6s,baz=136,slow=36 comp=Z,1.1nm,0.8s						
AC04	**Llanos de Chal**	**83.75**	**237**	P	**P**	**12 59 32.7**	**+0.4**
AC04				IAmb	IAmb	12 59 33.6	
	comp=Z,28nm,1.4s						
AC06	**Mina Casimiro**	**83.93**	**238**	P	**P**	**12 59 33.2**	**-0.1**
AC06				IAmb	IAmb	12 59 34.2	
	comp=Z,12nm,0.9s						
KEST	**Kesra**	**84.00**	**336**	P	**P**	**12 59 33.6**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=77,slow=16,SNR=4.1						
KEST				LR	LR	13 36 40.1	
	comp=Z,220nm,21.5s,baz=150,slow=36 comp=Z,4.2nm,0.8s						
TAPN	**Taplejung**	**84.00**	**42**	*

	comp=Z,85nm,18.0s,baz=158,slow=39							
PMG	**Port Moresby**	**96.22**	**109**	LR	LR	13 39 24.8		
	comp=Z,82nm,19.8s,baz=248,slow=33							
BELG	**Belogornoye**	**96.51**	**5**	LR	LR	13 44 19.2		
	comp=Z,170nm,21.4s,baz=147,slow=36							
WMQ	**Urumqi**	**97.81**	**33**	*e*P	Pdif	13 00 39.0	+0.9	
WMQ				pmax	pmax			
	comp=Z,15nm,0.7s							
MKAR	**Makanchi Array**	**98.35**	**28**	P	**P**	**13 00 39.5**	**-0.9**	
	comp=Z,0.7nm,0.9s,baz=193,slow=5.6,SNR=3.7							
MKAR				LR	LR	13 42 01.4		
	comp=Z,42nm,19.2s,baz=248,slow=34							
	comp=Z,0.7nm,0.9s							
DZM	**Mont Dzumac**	**98.40**	**132**	*e*LR	LR	13 32 38.0		
	comp=Z,190nm,24.2s							
OBN	**Obninsk**	**98.97**	**359**	LR	LR	13 45 38.7		
	comp=Z,11nm,20.7s,baz=188,slow=36							
NNA	**Nana**	**99.39**	**243**	LR	LR	13 41 31.8		
	comp=Z,103nm,20.5s,baz=160,slow=33							
TBI	**Tubuai**	**112.33**	**172**	*e*LR	LR	13 39 05.9		
	comp=Z,710nm,39.5s							
TBI				*e*LR	LR	13 39 06.0		
	comp=Z,2μm,21.5s							
PPT2	**Papeete2**	**118.01**	**171**	*e*LR	LR	13 41 43.9		
	comp=Z,114nm,22.2s							
PPT2				*e*LR	LR	13 41 44.1		
	comp=Z,153nm,37.5s							
TAOE	**Nuku Hiva Isla**	**127.18**	**181**	*e*SS	SS	13 25 16.4	+3.0	
	comp=Z,107nm,27.2s							
TAOE	**Nuku Hiva Isla**	**127.18**	**181**	*e*LR	LR	13 45 58.7		
	comp=Z,155nm,26.4s							
TIXI	**Tiksi**	**131.19**	**25**	PKPdf	**PKiKP**	**13 06 14.4**	**-0.3**	
EUNU	**Eureka**	**139.18**	**347**		**PKPdf**	**13 06 27.5**	**-1.1**	
HHAR	**Hobbs**	**143.63**	**274**		**PKPdf**	**13 06 36.8**	**-1.0**	
JFWS	**Jewell Farm**	**143.67**	**286**	PKPdf	PKPbc	13 06 35.7	+0.6	
JFWS	**Jewell Farm**	**143.67**	**286**	P	PKPbc	13 06 35.2	0.0	
	baz=110							
S39A	**Bolivar**	**143.82**	**276**		PKPbc	13 06 35.8	+0.1	
BILL	**Bilibino**	**143.87**	**31**	PKPdf	PKPbc	13 06 35.6	+0.6	
U38A	**Gravette**	**144.02**	**274**	PKPdf	PKPbc	13 06 37.0	+0.6	
WHTX	**Lake Whitney,**	**144.02**	**265**		PKPbc	13 06 37.0	+0.5	
WHTX	**Lake Whitney,**	**144.02**	**265**	P	PKPbc	13 06 37.0	+0.5	
	baz=123							
I40A	**Norwalk**	**144.25**	**288**		**PKPab**	**13 06 36.8**	**+0.3**	
Z35A	**Perchaven, San**	**144.58**	**267**		PKPbc	13 06 38.6	+0.4	
TUL1	**Leonard**	**144.79**	**272**	P	**PKPab**	**13 06 38.9**	**+0.2**	
	baz=118							
JCT	**Junction City**	**144.86**	**261**	PKPdf	**PKPab**	**13 06 39.4**	**+0.2**	
JCT	**Junction City**	**144.86**	**261**	P	PKPbc	13 06 39.5	+0.3	
	baz=125							
N38A	**Joes South For**	**145.00**	**281**		**PKPbc**	**13 06 39.2**	**-0.2**	
DEOK	**Depew**	**145.26**	**272**		**PKPbc**	**13 06 40.0**	**-0.3**	
K38A	**Parkersburg**	**145.33**	**285**		**PKPab**	**13 06 40.9**	**+0.4**	
T35A	**Sooner Cattle**	**145.76**	**273**		**PKPbc**	**13 06 42.2**	**+0.3**	
ABTX	**Abilene, Hawle**	**145.92**	**264**	PKPdf	**PKPdf**	**13 06 42.2**	**+0.4**	
ABTX	**Abilene, Hawle**	**145.92**	**264**	P	**PKPbc**	**13 06 43.0**	**+0.5**	
	baz=122							
SPMN	**Marine on St.**	**146.13**	**289**	P	**PKPbc**	**13 06 43.3**	**+0.5**	
	baz=106							
I37A	**Lemond, Waseca**	**146.20**	**287**	PKPdf	**PKPbc**	**13 06 43.4**	**+0.3**	
WMOK	**Wichita Mounta**	**146.38**	**268**	P	**PKPbc**	**13 06 43.7**	**-0.1**	
	baz=119							
KSU1	**Kansas State U**	**146.75**	**277**	P	**PKPbc**	**13 06 44.8**	**+0.1**	
	baz=114							
TXAR	**Lajitas Array**	**146.92**	**256**	PKPbc	**PKPbc**	**13 06 45.3**	**-0.4**	
	comp=Z,8.3nm,0.9s,baz=137,slow=6.4,SNR=56							
TXAR	**Lajitas Array**	**146.92**	**256**		**PKPbc**	**13 06 45.2**	**-0.5**	
TX31	**Lajitas Ar. Si**	**146.92**	**256**		**PKPbc**	**13 06 46.3**	**+0.6**	
TX32	**Lajitas Array**	**146.92**	**256**		**PKPbc**	**13 06 45.6**	**0.0**	
ECSD	**EROS Data Cent**	**148.34**	**285**		**PKPbc**	**13 06 48.6**	**-0.3**	
ECSD	**EROS Data Cent**	**148.34**	**285**	P	**PKPbc**	**13 06 49.1**	**+0.2**	
	baz=107							
AMTX	**Amarillo**	**148.53**	**266**		**PKPbc**	**13 06 48.7**	**-1.1**	
AMTX	**Amarillo**	**148.53**	**266**	P	**PKPbc**	**13 06 49.5**	**-0.3**	
	baz=119							
F33A	**5 Mile Ranch,**	**148.66**	**289**		**PKPbc**	**13 06 49.8**	**+0.1**	
CLNB	**Carlsbad**	**148.75**	**260**		**PKPbc**	**13 06 50.4**	**-0.1**	
CLNB				PKPab	**pPKPab**	**13 06 55.9**	**-0.9**	
CLN7	**Carlsbad 7**	**148.78**	**261**		**PKPbc**	**13 06 50.8**	**+0.2**	
MSTX	**Muleshoe**	**148.86**	**264**		**PKPbc**	**13 06 50.1**	**-0.6**	
MSTX	**Muleshoe**	**148.86**	**264**	P	**PKPbc**	**13 06 51.2**	**+0.4**	
	baz=121							
AGMN	**Agassiz Nation**	**148.87**	**294**		**PKPbc**	**13 06 49.9**	**-0.2**	
AGMN	**Agassiz Nation**	**148.87**	**294**	P	**PKPbc**	**13 06 50.3**	**+0.2**	
	baz=100							
CBKS	**Cedar Bluff**	**148.87**	**275**	P	**PKPbc**	**13 06 50.5**	**0.0**	
	baz=114							
ULM	**Lac du Bonnet**	**149.15**	**297**	PKPbc	**PKPbc**	**13 06 50.3**	**-0.5**	
	comp=Z,19nm,0.8s,baz=117,slow=2.5,SNR=17							
ULM	**Lac du Bonnet**	**149.15**	**297**	PKPbc	**PKPbc**	**13 06 50.8**	**0.0**	
SUSD	**Miller**	**150.16**	**285**	P	**PKPbc**	**13 06 53.7**	**+0.3**	
	baz=105							
A36M	**Sachs Harbour**	**151.13**	**350**	P	**PKPbc**	**13 06 54.6**	**-0.3**	
	baz=24							
MDND	**Maddock**	**151.27**	**292**	P	**PKPbc**	**13 06 55.9**	**-0.1**	
	baz=98							
OGNE	**Ogallala**	**151.30**	**277**	P	**PKiKP**	**13 06 57.3**	**+0.4**	
	baz=110							
T25A	**Trinidad**	**151.54**	**268**	P	**PKiKP**	**13 06 57.9**	**+0.2**	
	baz=116							
121A	**Cookes Peak, D**	**151.65**	**257**	P	**PKiKP**	**13 06 58.5**	**+0.5**	
	baz=124							
ANMO	**Albuquerque**	**151.98**	**263**	PKP	**PKPdf**	**13 06 51.3**	**-0.5**	
	comp=Z,0.4nm,0.3s,baz=140,slow=13,SNR=3.7							
ANMO				PKPbc	**PKPbc**	**13 06 57.8**	**-0.5**	
	comp=Z,4.6nm,0.9s,baz=145,slow=3.9,SNR=16							
ANMO	**Albuquerque**	**151.98**	**263**	PKPdf	**PKPdf**	**13 06 51.5**	**-0.2**	
ANMO					**PKPbc**	**13 06 58.4**	**+0.1**	
ANMO	**Albuquerque**	**151.98**	**263**	P	**PKiKP**	**13 06 59.1**	**+0.4**	
	baz=120							
319A	**Douglas**	**152.03**	**254**		**PKiKP**	**13 06 58.9**	**+0.1**	
SDCO	**Great Sand Dun**	**152.58**	**269**		**PKiKP**	**13 06 59.9**	**0.0**	
SDCO				PKPab	**PKPab**	**13 07 10.7**	**+0.4**	
SDCO	**Great Sand Dun**	**152.58**	**269**	P	**PKiKP**	**13 07 00.5**	**+0.6**	
	baz=115							
S22A	**4UR Ranch, Cre**	**153.53**	**268**		**PKPbc**	**13 06 58.7**	**-3.1**	
S22A				PKPab	**PKPab**	**13 07 15.5**	**+1.2**	
S22A	**4UR Ranch, Cre**	**153.53**	**268**	P	**PKiKP**	**13 07 02.8**	**+0.9**	
	baz=115							
TUC	**Tucson**	**153.61**	**254**	PKPdf	**PKPdf**	**13 06 52.9**	**-1.2**	
TUC				PKPab	**pPKPab**	**13 07 16.0**	**-1.0**	
RSSD	**Black Hills**	**153.62**	**283**		**PKPdf**	**13 06 52.7**	**-1.2**	
C23K	**Itkillik River**	**153.85**	**8**	P	**PKiKP**	**13 07 02.2**	**+1.0**	
	baz=344							
C24K	**Franklin Bluff**	**154.12**	**6**	P	**PKiKP**	**13 07 03.0**	**+1.3**	
	baz=347							
SMCO	**Snowmass**	**154.21**	**271**		**PKiKP**	**13 07 03.6**	**+0.2**	
SMCO				PKPab	**PKPab**	**13 07 18.4**	**+1.1**	
D25K	**Kavik River**	**154.67**	**4**	P	**PKiKP**	**13 07 03.5**	**+0.6**	
	baz=351							
INK	**Inuvik**	**155.53**	**353**	PKP	**PKPdf**	**13 06 54.1**	**-1.3**	
	comp=Z,1.7nm,1.0s,baz=91,slow=2.9,SNR=2.1							
F22K	**John River**	**155.90**	**11**	P	**PKPdf**	**13 06 56.8**	**+0.8**	
	baz=340							
YKA	**Yellowknife Ar**	**156.13**	**329**	PKP	**PKPdf**	**13 06 53.1**	**-3.3**	
	comp=Z,0.8nm,0.8s,baz=28,slow=1.5,SNR=1.8							
YKA				PKPab	**PKPab**	**13 07 23.5**	**-0.7**	
	comp=Z,1.6nm,0.7s,baz=52,slow=4.6,SNR=5.8							
G22K	**Bettles**	**156.54**	**10**	P	**PKPdf**	**13 06 57.7**	**+0.9**	
	baz=341							
BMAR	**Burnt Mountain**	**156.65**	**3**	PKPdf	**PKPdf**	**13 06 57.8**	**+0.8**	
BMAR				PKPab	**pPKPab**	**13 07 27.8**	**-1.1**	
P18A	**Preston Nutter**	**156.73**	**269**		**PKPdf**	**13 06 57.4**	**-1.0**	
P18A				PKPab	**PKPab**	**13 07 28.1**	**+0.1**	
SRU	**San Rafael Swe**	**156.74**	**268**		**PKPdf**	**13 06 58.4**	**+0.1**	
SRU					**PKPab**	**13 07 28.9**	**+1.0**	
IMAR	**Indian Mountai**	**157.09**	**13**	PKPdf	**PKPdf**	**13 06 57.6**	**0.0**	
IMAR				PKPab	**PKPab**	**13 07 28.4**	**+0.2**	
PDAR	**Pinedale Array**	**157.20**	**277**	PKP	**PKPdf**	**13 06 58.5**	**-0.3**	
	comp=Z,0.3nm,0.7s,baz=126,slow=4.6,SNR=2.5							
PDAR				PKPab	**PKPab**	**13 07 29.2**	**-0.6**	
	comp=Z,1.6nm,0.9s,baz=104,slow=6.3,SNR=7.7							
PDAR	**Pinedale Array**	**157.20**	**277**		**PKPdf**	**13 06 58.3**	**-0.5**	
PDAR					**PKPab**	**13 07 29.8**	**0.0**	
G25K	**Bearman Lake**	**157.22**	**5**	P	**PKPdf**	**13 06 55.9**	**-1.8**	
	baz=350							
TMUT	**Trail Mountain**	**157.30**	**268**		**PKPdf**	**13 07 00.1**	**+1.0**	
TMUT				PKPab	**PKPab**	**13 07 31.5**	**+1.1**	
G27K	**Doyon Strip**	**157.34**	**1**	P	**PKPdf**	**13 06 58.7**	**+0.7**	
	baz=359							
MSU	**Marysvale**	**157.69**	**265**	PKPdf	**PKPdf**	**13 07 00.4**	**+0.9**	
MSU				PKPab	**PKPab**	**13 07 32.8**	**+0.8**	
GCMT	**Greycliff**	**157.85**	**285**	PKPdf	**PKPdf**	**13 06 59.8**	**+0.4**	
GCMT					**PKPab**	**13 07 33.7**	**+1.3**	
JLU	**Jordanelle**	**157.94**	**271**		**PKPdf**	**13 07 00.3**	**+0.5**	
JLU				PKPab	**pPKPab**	**13 07 34.6**	**-0.9**	
H24K	**Noodor Dome**	**158.00**	**8**	P	**PKPdf**	**13 07 00.1**	**+1.3**	
	baz=347							
LOHW	**Long Hollow**	**158.14**	**279**	PKPdf	**PKPdf**	**13 06 59.3**	**-0.6**	
LOHW					**PKPab**	**13 07 34.8**	**+1.0**	
DUG	**Dugway, Tooele**	**158.78**	**269**		**PKPdf**	**13 07 01.1**	**+0.4**	
DUG					**PKPab**	**13 07 37.1**	**+0.6**	
DUG	**Dugway, Tooele**	**158.78**	**269**	P	**PKPdf**	**13 07 01.3**	**+0.6**	
	baz=110							
EGAK	**Eagle**	**159.39**	**0**	PKPdf	**PKPdf**	**13 07 01.6**	**+1.2**	
EGAK					**PKPab**	**13 07 38.9**	**+0.7**	
J25K	**Salcha River,**	**159.41**	**5**	PKPdf	**PKPdf**	**13 07 01.4**	**+0.8**	
J25K					**PKPab**	**13 07 39.0**	**+0.6**	
CAST	**Castle Rocks**	**159.73**	**14**		**PKPdf**	**13 07 02.2**	**+1.3**	
CAST				PKPab	**pPKPab**	**13 07 40.5**	**-1.8**	
ELK	**Elko**	**160.71**	**269**	PKPab	**PKPab**	**13 07 44.8**	**-0.2**	
	comp=Z,2.0nm,0.8s,baz=101,slow=3.0,SNR=8.2							
NVAR	**Mina Array Bea**	**162.02**	**259**	PKPab	**PKPab**	**13 07 50.9**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=128,slow=5.5,SNR=4.9							

*WEL **19** 12:49:42.9±0.3, 42°.11S±0°.03×173°.81E±0°.03, h17km, MS4.0/17, MLv3.9/47, Error ellipse: s-maj=0.0km s-min=0.0km az=128.0*
*NOU **19** 12:49:43.4, 42°.225×173°.89E, h20km, MLv4.3/11, South Island, New Zealand*
ISC 19 12:49:42.9±0.9, 42°.11S±0°.03×173°.81E±0°.03, h17km, n103, σ1§53/106, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.36**	**213**	P	**Pb**	**12 49 51.9**	**+1.0**
KHZ	**Kahutara**	**0.36**	**213**	P	**Pb**	**12 49 51.8**	**+0.9**
KHZ				S	**Sb**	**12 49 58.1**	**+1.8**
BSWZ	**Blackbirch Sta**	**0.40**	**7**	P	**Pg**	**12 49 50.4**	**-0.7**
BSWZ				S	**Sg**	**12 49 55.9**	**-0.7**
CMWZ	**Cape Campbell**	**0.47**	**40**	P	**Pb**	**12 49 53.5**	**+0.8**
TUWZ	**Tuamarina**	**0.69**	**8**	P	**Pg**	**12 49 55.5**	**-0.9**
TUWZ				S	**Sg**	**12 50 04.7**	**-0.8**
THZ	**Tophouse**	**0.76**	**297**	P	**Pb**	**12 49 56.1**	**-1.5**
NNZ	**Nelson**	**0.95**	**340**	P	**Pb**	**12 49 59.2**	**-1.7**
TCW	**Tory Channel**	**0.97**	**21**	P	**Pb**	**12 50 00.3**	**-0.8**
GVZ	**Greta Valley S**	**1.03**	**214**	P	**Pg**	**12 50 03.2**	**+0.4**
SNZO	**South Karori**	**1.04**	**40**	P	**Pb**	**12 50 02.8**	**+0.3**
MRNZ	**Matariki Terra**	**1.06**	**312**	P	**Pb**	**12 50 01.6**	**-1.2**
WEL	**Wellington**	**1.09**	**41**	P	**Pb**	**12 50 03.6**	**+0.2**
PLWZ	**Palliser**	**1.21**	**64**	P	**Pn**	**12 50 04.7**	**-0.3**
TKNZ	**Takaka Hill**	**1.25**	**329**	P	**Pn**	**12 50 04.6**	**-1.0**
MSWZ	**Moikau Station**	**1.28**	**58**	P	**Pn**	**12 50 05.8**	**-0.2**
DUWZ	**D'Urville Isla**	**1.31**	**4**	P	**Pn**	**12 50 05.5**	**-0.9**
LTZ	**Lake Taylor**	**1.32**	**239**	P	**Pn**	**12 50 07.0**	**+0.4**
AMCZ	**Amberley**	**1.36**	**218**	P	**Pn**	**12 50 07.4**	**+0.3**
CAW	**Cannon Point**	**1.38**	**44**	P	**Pn**	**12 50 07.2**	**-0.1**
PAWZ	**Paruwai Farm**	**1.41**	**59**	P	**Pn**	**12 50 07.3**	**-0.5**
KIW	**Kapiti Island**	**1.50**	**34**	P	**Pn**	**12 50 09.1**	**+0.2**
DSZ	**Denniston Nort**	**1.54**	**283**	P	**Pn**	**12 50 10.1**	**+0.5**
TRWZ	**Traveller**	**1.58**	**64**	P	**Pn**	**12 50 09.4**	**-0.6**
MTW	**Mount Morrison**	**1.59**	**54**	P	**Pn**	**12 50 09.4**	**-0.8**
QRZ	**Quartz Range**	**1.61**	**323**	P	**Pn**	**12 50 10.6**	**+0.1**
QRZ	**Quartz Range**	**1.61**	**323**	P	**Pn**	**12 50 10.5**	**0.0**
OGWZ	**Otaki Gorge**	**1.65**	**39**	P	**Pn**	**12 50 10.9**	**-0.2**
OKCZ	**Okains Bay**	**1.70**	**199**	P	**Pn**	**12 50 11.8**	**0.0**
HOWZ	**Holdsworth Sta**	**1.76**	**47**	P	**Pn**	**12 50 12.0**	**-0.7**
OXZ	**Oxford**	**1.78**	**226**	P	**Pn**	**12 50 12.3**	**-0.6**
MQZ	**McQueen's Vall**	**1.81**	**208**	P	**Pn**	**12 50 12.2**	**-0.9**
INZ	**Inchbonnie**	**1.86**	**250**	P	**Pn**	**12 50 14.4**	**+0.5**
AKCZ	**Akaroa Harbour**	**1.88**	**200**	P	**Pn**	**12 50 14.1**	**-0.1**
MRZ	**Mangatainoka R**	**1.97**	**43**	P	**Pn**	**12 50 14.8**	**-0.6**
RACZ	**Rakaia**	**2.03**	**217**	P	**Pn**	**12 50 15.4**	**-0.8**
TIWZ	**Tintock**	**2.05**	**50**	P	**Pb**	**12 50 21.5**	**+1.8**
MHCZ	**Mount Hutt**	**2.18**	**229**	P	**Pn**	**12 50 17.6**	**-0.8**
OHWZ	**Ohakea**	**2.22**	**31**	P	**Pb**	**12 50 22.6**	**+0.1**
PRWZ	**Pori Road**	**2.25**	**47**	P	**Pg**	**12 50 25.3**	**-0.8**
POWZ	**Post Office Ro**	**2.27**	**41**	P	**Pb**	**12 50 25.2**	**+1.8**
BFZ	**Birch Farm**	**2.32**	**53**	P	**Pb**	**12 50 24.1**	**-0.2**
WACZ	**Wakanui South**	**2.33**	**218**	P	**Pn**	**12 50 19.7**	**-0.7**
WVZ	**Waitaha Valley**	**2.46**	**246**	P	**Pn**	**12 50 22.5**	**+0.2**
WAZ	**Wanganui**	**2.52**	**21**	P	**Pn**	**12 50 25.4**	**+2.2**
DVHZ	**Dannevirke**	**2.54**	**45**	P	**Pg**	**12 50 30.7**	**-0.9**
RPZ	**Rata Peaks**	**2.58**	**231**	P	**Pn**	**12 50 23.6**	**-0.3**
RPZ	**Rata Peaks**	**2.58**	**231**	P	**Pn**	**12 50 23.4**	**-0.5**
ANWZ	**Angora Road**	**2.60**	**51**	P	**Pb**	**12 50 28.4**	**-0.6**
TSZ	**Takapari Road**	**2.62**	**39**	P	**Pn**	**12 50 23.5**	**-0.9**
ARCZ	**Arundel**	**2.66**	**226**	P	**Pn**	**12 50 24.2**	**-0.8**
LREZ	**Lake Rotokare**	**2.69**	**10**	P	**Pn**	**12 50 28.2**	**+2.9**
NMEZ	**Namu Road**	**2.70**	**1**	P	**Pb**	**12 50 31.3**	**+0.7**
KHEZ	**Kahui Hut**	**2.82**	**3**	P	**Pb**	**12 50 30.8**	**-2.0**
GCSZ	**Gaunt Creek Bo**	**2.83**	**244**	P	**Pn**	**12 50 27.9**	**+0.6**
NBEZ	**Newall Road No**	**2.84**	**1**	P	**Pn**	**12 50 30.5**	**+3.1**
PNHZ	**Pukenui**	**2.84**	**40**	P	**Pb**	**12 50 31.3**	**-1.9**
NEZ	**North Egmont**	**2.85**	**4**	P	**Pb**	**12 50 34.1**	**+0.8**
PKE	**Pukeiti**	**2.92**	**3**	P	**Pn**	**12 50 31.5**	**+3.0**
MTVZ	**Mangateitei**	**3.00**	**25**	P	**Pn**	**12 50 36.2**	**+0.3**
PKVZ	**Pokaka**	**3.05**	**23**	P	**Pn**	**12 50 33.2**	**+2.8**
TMZ	**Timaru**	**3.06**	**221**	P	**Pn**	**12 50 29.6**	**-0.8**
MHEZ	**Mangahewa**	**3.06**	**8**	P	**Pn**	**12 50 37.0**	**+4.2**
VRZ	**Vera Road**	**3.07**	**14**	P	**Pn**	**12 50 33.5**	**+2.9**
MOVZ	**Moawhango**	**3.08**	**29**	P	**Pn**	**12 50 34.2**	**+3.4**
WNVZ	**Wahianoa**	**3.10**	**27**	P	**Pn**	**12 50 34.5**	**+3.4**
TRVZ	**Turoa**	**3.10**	**26**	P	**Pn**	**12 50 34.8**	**+3.6**
DRZ	**Dome Shelter**	**3.13**	**26**	P	**Pb**	**12 50 37.9**	**-0.3**
WHVZ	**Whangaehu Hut**	**3.13**	**26**	P	**Pn**	**12 50 33.3**	**+1.6**
FWVZ	**Far West T-bar**	**3.15**	**25**	P	**Pn**	**12 50 35.5**	**+3.6**
TUVZ	**Tukino**	**3.17**	**27**	P	**Pb**	**12 50 39.1**	**+0.3**
NGZ	**Ngauruhoe**	**3.23**	**26**	P	**Pn**	**12 50 36.6**	**+3.6**
FOZ	**Fox Glacier**	**3.26**	**243**	P	**Pn**	**12 50 33.8**	**+0.6**
OTVZ	**Oturere**	**3.27**	**26**	P	**Pb**	**12 50 39.2**	**-1.3**
KAHZ	**Kahuranaki**	**3.28**	**46**	P	**Pn**	**12 50 31.9**	**-1.6**
NNVZ	**North Ngauruho**	**3.28**	**25**	P	**Pn**	**12 50 37.5**	**+3.9**
WTVZ	**West Tongariro**	**3.29**	**25**	P	**Pb**	**12 50 39.2**	**-1.6**
ETVZ	**East Tongariro**	**3.31**	**27**	P	**Pb**	**12 50 40.5**	**-0.7**
KRVZ	**Karewarewa**	**3.32**	**25**	P	**Pb**	**12 50 41.9**	**+0.5**
TMVZ	**Te Maari**	**3.32**	**26**	P	**Pb**	**12 50 40.6**	**-0.8**
LBZ	**Lake Benmore**	**3.49**	**228**	P	**Pn**	**12 50 36.1**	**-0.3**
BKZ	**Black Stump Fm**	**3.58**	**36**	P	**Pn**	**12 50 38.7**	**+1.0**
HIZ	**Hauiti**	**3.68**	**13**	P	**Pn**	**12 50 41.8**	**+2.8**
HIZ	**Hauiti**	**3.68**	**13**	P	**Pn**	**12 50 40.9**	**+1.9**
ODZ	**Otahua Downs**	**3.73**	**217**	P	**Pn**	**12 50 38.9**	**-0.7**
ODZ	**Otahua Downs**	**3.73**	**217**	P	**Pn**	**12 50 38.5**	**-1.1**
MTHZ	**Maungataniwha**	**3.99**	**36**	P	**Pn**	**12 50 43.5**	**+0.1**
TLZ	**Tolley Road**	**4.00**	**20**	P	**Pb**	**12 50 51.0**	**-2.0**
JCZ	**Jackson Bay**	**4.17**	**240**	P	**Pn**	**12 50 46.4**	**+0.6**
JCZ	**Jackson Bay**	**4.17**	**240**	P	**Pn**	**12 50 45.4**	**-0.4**
EAZ	**Earnscleugh**	**4.51**	**225**	P	**Pn**	**12 50 50.0**	**-0.5**
TOZ	**Tahuroa Road**	**4.56**	**17**	P	**Pn**	**12 50 54.1**	**+3.0**
URZ	**Urewera**	**4.60**	**34**	P	**Pn**	**12 50 50.8**	**-0.9**
TUZ	**Tuapeka**	**4.88**	**217**	P	**Pn**	**12 50 54.8**	**-0.6**
AWAZ	**Awhitu Peninsu**	**5.08**	**8**	P	**Pn**	**12 50 59.6**	**+1.4**
MKAZ	**Moumakai**	**5.11**	**12**	P	**Pn**	**12 51 00.0**	**+1.4**
ETAZ	**East Tamaki Re**	**5.22**	**10**	P	**Pn**	**12 51 01.6**	**+1.4**
MLZ	**Mavora Lakes**	**5.25**	**230**	P	**Pn**	**12 51 00.4**	**-0.2**
RVAZ	**Riverhead Bore**	**5.37**	**7**	P	**Pn**	**12 51 05.2**	**+3.0**
MBAZ	**Motutapu North**	**5.40**	**9**	P	**Pn**	**12 51 05.7**	**+3.1**
SYZ	**Scrubby Hill**	**5.55**	**216**	P	**Pn**	**12 51 04.2**	**-0.4**
SYZ	**Scrubby Hill**	**5.55**	**216**	P	**Pn**	**12 51 04.4**	**-0.2**
OUZ	**Omahuta**	**6.88**	**359**	P	**Pn**	**12 51 25.3**	**+2.3**
CTZ	**Chatham Island**	**7.21**	**106**	P	**Pn**	**12 51 26.0**	**-1.5**

MAN 19 12:52:55.4, 18°.69N×119°.95E, h14km, mb4.4, ML3.2, MS3.0, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACPP	**Pamplona Cagay**	**1.35**	**99**	*e*P	Pn	12 53 18.6	-1.2
SAMP	**Sagada Mountai**	**1.84**	**150**	*e*P	Pn	12 53 26.4	-0.2
SAMP				*e*S	Sn	12 53 50.5	+0.8
SGCP	**Gonzaga**	**2.04**	**102**	*e*P	Pb	12 53 31.0	-1.2

*NEIC **19** 12:53:57.8±1.3, 18°.79N±0°.10×145°.5E±0°.2, h160km±2km, mb4.2/19, Error ellipse: s-maj=28.3km s-min=14.1km az=94.0*
*IDC **19** 12:54:00.8±1.9, 18°.67N×145°.66E, h201km±18km, mb3.4/8, mbtmp4.0/11, MS3.5/2, Error ellipse: s-maj=29.4km s-min=12.0km az=90.0*
ISC 19 12:53:56.0±0.6, 18°.83N±0°.06×145°.7E±0°.2, h150km, n45, σ1§65/39, mb4.1/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.27**	**189**	P	**Pn**	**12 55 17.3**	**+4.2**
	100nm,1.0s,baz=18,slow=19,SNR=1.5						
GUMO				S	**Sn**	**12 56 16.3**	**+3.1**
	59nm,0.3s,baz=17,slow=19,SNR=7.3						
JCJ	**Chichijima**	**8.83**	**339**	P	Pn	12 56 07.2	+6.7
	49nm,1.1s,baz=140,slow=13,SNR=1.6						
JCJ				S	**Sn**	**12 57 42.0**	**+3.4**
	40nm,0.8s,baz=61,slow=19,SNR=2.2						
MJAR	**Matsushiro Arr**	**18.83**	**341**	P	**P**	**12 58 06.5**	**+2.2**
	1.7nm,1.0s,baz=153,slow=14,SNR=1.8						
JNU	**Nakatsue**	**19.45**	**320**	P	**P**	**12 58 08.8**	**-2.3**
H11S3	**WAKE ISLAND Hy**	**19.91**	**88**	T	T	13 19 26.6	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**19.92**	**88**	T	T	13 19 22.5	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**19.93**	**88**	T	T	13 19 41.3	
	baz=275						
H11N1	**WAKE ISLAND Hy**	**20.04**	**84**	T	T	13 20 03.5	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**20.05**	**84**	T	T	13 19 59.3	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**20.06**	**84**	T	T	13 20 00.4	
	baz=266						
MTN	**Manton Dam**	**34.59**	**206**	P	**P**	**13 00 30.1**	**-0.6**
KNRA	**Kununurra**	**38.12**	**207**	P	**P**	**13 01 00.4**	**-0.3**
WB0	**Warramunga Arr**	**39.93**	**197**	P	**P**	**13 01 14.9**	**-0.8**
WB0				IAmb	IAmb	13 01 30.0	
	comp=Z,4.2nm,1.1s						
WR0	**Warramunga Arr**	**40.07**	**196**	P	**P**	**13 01 16.1**	**-0.8**
WRAB	**Tennant Creek**	**40.10**	**197**	P	**P**	**13 01 16.3**	**-0.8**
WB2	**Warramunga Arr**	**40.10**	**197**	P	**P**	**13 01 16.8**	**-0.3**
WB2				IAmb	IAmb	13 01 20.6	
	comp=Z,7.1nm,1.3s						
WRA	**Warramunga Arr**	**40.11**	**197**	P	**P**	**13 01 16.1**	**-1.1**
	comp=Z,1.4nm,0.3s,baz

comp=Z,2.9nm,1.0s
LPAZ La Paz 48.09 309 P **P** **13 37 10.9 +1.5**
comp=Z,3.0nm,0.4s,baz=144,slow=6.4,SNR=16
comp=Z,3.0nm,0.4s
LPAZ La Paz 48.09 309 P **P** **13 37 10.8 +1.5**
LPAZ IAmb IAmb 13 37 13.6
comp=Z,4.0nm,0.6s
H10N1 ASCENSION HYDR 49.00 22 T T 14 30 50.3
baz=192,slow=74
H10N3 ASCENSION HYDR 49.00 22 T T 14 30 49.7
baz=192
H10N2 ASCENSION HYDR 49.01 22 T T 14 30 51.5
baz=192,slow=74
LBTB Lobatse 50.90 78 P **P** **13 37 30.1 0.0**
comp=Z,2.7nm,0.7s,baz=213,slow=9.1,SNR=3.7
comp=Z,2.7nm,0.7s
FINES FINESS Array B 124.64 29 PKP **PKPdf** **13 47 26.9 -0.2**
comp=Z,4.6nm,1.0s,baz=202,slow=2.6,SNR=6.3
CMAR Chiang Mai Arr 127.43 114 PKP **PKPdf** **13 47 34.1 +0.3**
comp=Z,0.3nm,0.3s,baz=222,slow=1.2,SNR=4.2
KURBB Kurchatov Arra 138.92 66 PKP **PKPdf** **13 47 53.4 -0.9**
comp=Z,0.1nm,0.4s,baz=224,slow=2.5,SNR=1.4
ZALV Zalesovo Beam 143.95 65 PKP **PKPab** **13 48 01.1 +0.5**
comp=Z,0.9nm,0.7s,baz=228,slow=3.7,SNR=2.3
ILAR Eielson Array 147.90 313 PKPbc PKP **PKPbc** **13 48 12.7 0.0**
comp=Z,2.1nm,0.7s,baz=124,slow=1.9,SNR=19
SONM Songino Array 152.87 88 PKPbc **PKPbc** **13 48 24.9 -0.5**
comp=Z,0.8nm,0.5s,baz=210,slow=3.3,SNR=5.1

---

*IDC **19** 13:29:14.0±3.0,37.5°S×142.9°E,h0km,mb3.4/3,*
mbtmp3.3/4,ML2.3/1,MS3.3/1,Error ellipse: s-maj=67.0km
s-min=36.8km az=62.0
*JMA **19** 13:29:21.8±0.1,37.5°N±0.3×141.6°E±0.7,h45km±1km,*
MV3.5/40,E OFF FUKUSHIMA PREF
JMA Felt I J1 at E OFF FUKUSHIMA PREF.
ISC 19 13:29:19.7±1.9,37.47°N±0.05×141.68°E±0.08,h25km±12km,
n21,σ0°97/25,mb3.4/3,13D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.65**	**261**	⇓P	**Pn**	**13 29 33.5**	**+0.2**
JFK				⇓S	**Sb**	**13 29 41.6**	**+0.6**
JMST	**Minamisoumatoc**	**0.68**	**293**	⇓*i*P	**Pn**	**13 29 34.0**	**+0.3**
JMST				⇓S	**Sn**	**13 29 42.5**	**-1.0**
JMM	**Marumori**	**0.81**	**300**	⇓*i*P	**Pn**	**13 29 36.0**	**+0.5**
JMM				⇓S	**Sn**	**13 29 46.0**	**-0.7**
JIKH	**Ishinomakikobu**	**0.86**	**349**	⇓*i*P	**Pn**	**13 29 37.4**	**+1.2**
JIKH				⇓*e*S	**Sn**	**13 29 48.1**	**+0.1**
JFFD	**Fukushimafurud**	**0.97**	**247**	⇓*i*P	**Pb**	**13 29 37.9**	**+0.1**
JFFD				⇓S	**Sb**	**13 29 49.0**	**-1.1**
JIO	**Ouri**	**1.02**	**345**	⇓*i*P	**Pn**	**13 29 39.6**	**+1.2**
JIO				⇓S	**Sn**	**13 29 51.9**	**0.0**
JOU	**Okura**	**1.20**	**319**	P	**Pb**	**13 29 41.9**	**+0.1**
JOU				S	**Sn**	**13 29 57.0**	**+0.5**
JHO	**Hitachi**	**1.23**	**226**	⇓P	**Pn**	**13 29 41.2**	**-0.1**
JYS	**Shirataka**	**1.48**	**301**	*i* P	**Pb**	**13 29 46.0**	**-0.5**
JYS				S	**Sb**	**13 30 04.3**	**-0.6**
JMK	**Ichinoseki**	**1.53**	**346**	*i* P	**Pb**	**13 29 47.2**	**0.0**
JMK				*e*S	**Sb**	**13 30 05.8**	**-0.3**
JFY	**Yanaizu**	**1.57**	**268**	*i* P	**Pn**	**13 29 46.9**	**+0.8**
MJAR	**Matsushiro Arr**	**2.93**	**253**	Pn	**Pn**	**13 30 06.3**	**+1.6**
	0.3nm,0.3s,baz=78,slow=16,SNR=20						
MJAR				Sn	**Sn**	**13 30 41.9**	**+2.9**
	0.2nm,0.3s,baz=88,slow=21,SNR=4.8						
	1.5nm,0.3s						
SONM	**Songino Array**	**27.72**	**303**	P	**P**	**13 35 05.9**	**-0.2**
	0.3nm,0.6s,baz=107,slow=9.8,SNR=2.1						
SONM				LR	LR	13 47 19.2	
	comp=Z,62nm,18.4s,baz=174,slow=39						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.19**	**122**	T	T	14 05 22.6	
	baz=314,slow=75,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	14 05 23.3	
	baz=314,slow=75,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**28.21**	**122**	T	T	14 05 24.1	
	baz=314,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	14 06 17.5	
	baz=316,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	14 06 17.3	
	baz=316,slow=76,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**28.94**	**124**	T	T	14 06 19.0	
	baz=316,slow=76,SNR=4.9						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**13 37 25.3**	**-0.3**
	0.5nm,0.8s,baz=94,slow=9.1,SNR=3.0						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**57.52**	**188**	P	**P**	**13 39 06.2**	**-0.8**
	0.2nm,0.5s,baz=6.8,slow=7.4,SNR=1.7						
	0.2nm,0.5s						

---

*TIR **19** 13:37:21.9,41.89N×20.16E,h2km,Md2.5,Ml2.1*
*BEO **19** 13:37:23.6±0.3,41.92N×20.20E,h12km±4km,ML2.1/11*
*PDG **19** 13:37:23.2±0.1,41.89N×20.13E,h9km,ML2.7/12,Error*
ellipse: s-maj=0.1km s-min=0.1km az=0.0
*SKO **19** 13:37:24.1,41.90N×20.14E,h12km*
ISC 19 13:37:23.5±1.0,41.90N±0.02×20.15E±0.02,h11km±9km,
n35,σ0°84/63,6C-4D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCI	**Bajram Curri**	**0.47**	**353**	P	**Pg**	**13 37 32.1**	**-0.6**
	baz=352						
BCI				S	**Sb**	**13 37 40.1**	**-0.6**
	baz=352						
TIR	**Tirane**	**0.59**	**201**	*e*Pg	**Pg**	**13 37 34.7**	**-0.2**
TIR				*e*Sg	**Sg**	**13 37 43.6**	**+0.8**
TIR	**Tirane**	**0.59**	**201**	*i* Pg	**Pg**	**13 37 35.1**	**+0.2**
TIR				*i* Sg	**Sb**	**13 37 43.9**	**-0.3**
TIR	**Tirane**	**0.59**	**201**	P	**Pg**	**13 37 34.8**	**-0.2**
	baz=203						
TIR				S	**Sg**	**13 37 43.4**	**+0.6**
	baz=203						
TIR				AMP			
	comp=E,0.6nm,0.5s,baz=203						
ULC	**Ulcinj**	**0.67**	**276**	*e*Pg	**Pg**	**13 37 35.6**	**-1.0**
ULC				*i* Sg	**Sg**	**13 37 46.1**	**+0.7**
PVY	**Plav**	**0.71**	**349**	⇑*i*Pg	**Pg**	**13 37 36.6**	**-0.6**
PVY				*i* Sg	**Sb**	**13 37 47.8**	**+0.2**
DRME	**Dracevica, Mon**	**0.77**	**292**	⇓*i*Pg	**Pg**	**13 37 37.4**	**-1.0**
DRME				*i* Sg	**Sb**	**13 37 49.5**	**+0.2**
PDG	**Podgorica**	**0.85**	**309**	*e*Pg	**Pg**	**13 37 39.2**	**-0.6**
PDG				*e*Sg	**Sb**	**13 37 52.5**	**+1.0**
PDG	**Podgorica**	**0.85**	**309**	*i* Pg	**Pg**	**13 37 39.0**	**-0.9**
TTG	**Podgorica**	**0.85**	**309**	⇑*i*Pg	**Pg**	**13 37 38.9**	**-0.9**
TTG				*i* Sg	**Sb**	**13 37 52.3**	**+0.8**
OHR	**Ohrid**	**0.93**	**148**	*e*Pg	**Pg**	**13 37 40.5**	**-0.9**
OHR				*e*Sg	**Sb**	**13 37 53.7**	**-0.3**
OHR	**Ohrid**	**0.93**	**148**	*i* Pg	**Pg**	**13 37 40.7**	**-0.7**
OHR				*i* Sg	**Sb**	**13 37 54.5**	**+0.5**
OHR				*e*Lg	Lg	13 37 54.8	
	comp=E,54nm,0.9s						
OHR				*e*Lg	Lg	13 37 55.9	
	comp=N,81nm,0.8s						
SKO	**Skopje**	**0.97**	**85**	*e*Pg	**Pg**	**13 37 41.7**	**-0.4**
SKO				*e*Sg	**Sg**	**13 37 53.9**	**-0.9**
SKO	**Skopje**	**0.97**	**85**	*i* Pg	**Pg**	**13 37 42.1**	**-0.1**
SKO				*i* Sg	**Sg**	**13 37 54.5**	**-0.2**
IVA	**Berane**	**0.99**	**349**	⇓*i*Pg	**Pg**	**13 37 41.6**	**-0.9**
IVA				*i* Sg	**Sn**	**13 37 57.3**	**0.0**
BUM	**Brajici-Budva**	**1.01**	**294**	⇑*i*Pg	**Pg**	**13 37 41.9**	**-1.1**
BUM				*i* Sg	**Sn**	**13 37 57.7**	**-0.2**
KOME	**Kolasin**	**1.06**	**334**	⇓*i*Pg	**Pb**	**13 37 42.9**	**-0.9**
KOME				*i* Sg	**Sn**	**13 37 59.6**	**+0.6**
CEME	**Cevo**	**1.12**	**306**	⇑*i*Pg	**Pb**	**13 37 43.8**	**-1.0**
CEME				*i* Sg	**Sn**	**13 38 01.4**	**+1.0**
NKME	**Niksic**	**1.24**	**315**	*e*Pg	**Pn**	**13 37 46.1**	**-0.6**
NKME				*i* Sg	**Sg**	**13 38 05.5**	**+2.2**
HCY	**Herceg Novi**	**1.34**	**294**	⇑*i*Pg	**Pn**	**13 37 48.0**	**-0.1**
HCY				*i* Sg	**Sg**	**13 38 08.9**	**+2.2**
SJES	**Sjenica**	**1.36**	**355**	*e*Pg	**Pn**	**13 37 48.8**	**+0.3**
SJES				*e*Sg	**Sn**	**13 38 06.9**	**+0.2**
FNA	**Florina**	**1.45**	**140**	*e*Pg	**Pn**	**13 37 49.4**	**-0.3**
FNA				*e*Sg	**Sb**	**13 38 09.0**	**0.0**
FNA	**Florina**	**1.45**	**140**	*i* Pg	**Pb**	**13 37 50.1**	**-0.4**
FNA				*i* Sg	**Sb**	**13 38 09.4**	**+0.4**
FNA	**Florina**	**1.45**	**140**	P	**Pn**	**13 37 49.5**	**-0.2**
	baz=139						
FNA				S	**Sg**	**13 38 10.2**	**0.0**
	baz=139						
SELS	**Selova**	**1.50**	**28**	*e*Pg	**Pn**	**13 37 49.8**	**-0.5**
SELS				*e*Sg	**Sn**	**13 38 09.5**	**-0.4**
PLE	**Pljevlja**	**1.53**	**339**	⇓*i*Pg	**Pb**	**13 37 51.7**	**-0.2**
PLE				*i* Sg	**Sg**	**13 38 14.7**	**+1.9**
BARS	**Barje**	**1.54**	**53**	*e*Pg	**Pn**	**13 37 50.6**	**-0.2**
BARS				*e*Sg	**Sn**	**13 38 10.0**	**-0.8**
BARS	**Barje**	**1.54**	**53**	*i* Pn	**Pn**	**13 37 51.0**	**+0.2**
STIP	**Stip**	**1.54**	**97**	*i* Pn	**Pg**	**13 37 55.3**	**+2.3**
BRY	**Bratogost**	**1.55**	**311**	⇑*i*Pg	**Pb**	**13 37 52.0**	**-0.3**
BRY				*i* Sg	**Sg**	**13 38 15.1**	**+1.6**
IVAS	**Ivanjica**	**1.67**	**0**	*e*Pg	**Pn**	**13 37 52.9**	**+0.2**
IVAS				*e*Sg	**Sb**	**13 38 15.2**	**-0.2**
VAY	**Valandovo**	**1.91**	**107**	*i* Pn	**Pb**	**13 37 58.7**	**+0.4**
GRUS	**Gruza**	**2.03**	**12**	*e*Pn	**Pn**	**13 37 57.3**	**-0.3**
BBLS	**Lazići**	**2.04**	**345**	*e*Pn	**Pn**	**13 37 58.0**	**+0.3**
DIVS	**Divibare**	**2.20**	**357**	*e*Pn	**Pn**	**13 37 58.7**	**-1.3**

MAN 19 13:40:41.4,18.63N×120.17E,h1km,mb3.8,ML2.5,MS2.0,
1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Gonzaga**	**1.82**	**102**	⇑*e*P	Pb	13 41 15.6	+0.1

---

*GUC **19** 14:02:09.0±0.6,21.22S×67.67W,h198km±8km,ML3.3*
*SCB **19** 14:02:11.0±0.9,21.25S×67.54W,h163km,ML3.0/2,*
MW4.4,Error ellipse: s-maj=4.8km s-min=3.2km az=0.0
ISC 19 14:02:07.8±2.1,21.22S±0.05×67.53W±0.05,
h176km±19km,n24,σ1°12/40,7C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.69**	**250**	*e*P	**Pn**	**14 02 42.9**	**+1.3**
MOCB	**Mochara**	**1.77**	**91**	P	**Pn**	**14 02 43.7**	**+1.1**
MOCB				S	**Sn**	**14 03 06.5**	**-3.0**
MOCB				IAML		14 03 13.3	
	57nm,0.4s						
PB01	**IPOC Station P**	**1.83**	**275**	*e*P	**Pn**	**14 02 43.5**	**+0.5**
PB01				*i* S	**Sn**	**14 03 10.7**	**+0.5**
PB01				IAML		14 03 13.4	
	comp=E,76nm,0.2s						
PB08	**IPOC Station P**	**1.86**	**305**	⇑*i*P	**Pn**	**14 02 45.0**	**+1.4**
PB08				*i* S	**Sn**	**14 03 12.4**	**+1.2**
PB08				IAML		14 03 14.8	
	comp=N,70nm,0.2s						
YJA	**Yavi**	**2.10**	**117**	P	**Pn**	**14 02 47.0**	**+0.8**
GO01	**Chusmiza**	**2.19**	**314**	P	**Pn**	**14 02 47.9**	**+0.6**
PB02	**IPOC Station P**	**2.21**	**267**	⇑*i*P	**Pn**	**14 02 47.7**	**+0.6**
PB02				*i* S	**Sn**	**14 03 17.1**	**-0.3**
PB02				IAML		14 03 18.7	
	comp=E,116nm,0.1s						
PB02	**IPOC Station P**	**2.21**	**267**	P	**Pn**	**14 02 47.6**	**+0.6**
PB02				S	**Sn**	**14 03 14.6**	**-2.8**
PB02				IAML		14 03 18.8	
	comp=E,78nm,0.4s						
PB03	**IPOC Station P**	**2.22**	**248**	⇑*i*P	**Pn**	**14 02 48.0**	**+0.7**
PB03				*i* S	**Sn**	**14 03 17.4**	**-0.5**
PB03				IAML		14 03 18.6	
	comp=E,90nm,0.2s						
PB07	**IPOC Station P**	**2.25**	**257**	*e*P	**Pn**	**14 02 47.9**	**+0.3**
PB07				*i* S	**Sn**	**14 03 17.8**	**-0.6**
PB07				IAML		14 03 19.1	
	comp=N,89nm,0.1s						
HMBC	**Humberstone**	**2.40**	**293**	*e*P	**Pn**	**14 02 49.3**	**0.0**
HMBC				*i* S	**Sn**	**14 03 20.7**	**-0.6**
HMBC				IAML		14 03 22.4	
	comp=E,154nm,0.2s						
PB06	**IPOC Station P**	**2.40**	**232**	⇑*i*P	**Pn**	**14 02 49.9**	**+0.6**
PB06				*i* S	**Sn**	**14 03 21.7**	**+0.2**
PB11	**IPOC Station P**	**2.46**	**306**	⇓*i*P	**Pn**	**14 02 50.4**	**+0.3**
PB11				*i* S	**Sn**	**14 03 22.2**	**-0.7**
PB11				IAML		14 03 23.5	
	comp=N,203nm,0.1s						
PATCX	**Punta Patache**	**2.48**	**279**	⇑*i*P	**Pn**	**14 02 50.4**	**+0.3**
PATCX				*i* S	**Sn**	**14 03 22.2**	**-0.8**
PATCX				IAML		14 03 23.5	
	comp=N,108nm,0.2s						
TA01	**Diego Aracena**	**2.56**	**284**	*e*P	**Pn**	**14 02 50.8**	**-0.2**
TA01				*i* S	**Sn**	**14 03 22.7**	**-1.9**
TA01				IAML		14 03 24.1	
	comp=E,72nm,0.2s						
TA01	**Diego Aracena**	**2.56**	**284**	P	**Pn**	**14 02 51.0**	**0.0**
PB15	**IPOC Station P**	**2.67**	**222**	⇑*i*P	**Pn**	**14 02 54.4**	**+1.9**
PB15				*i* S	**Sn**	**14 03 27.8**	**+0.5**
PB15	**IPOC Station P**	**2.67**	**222**	P	**Pn**	**14 02 53.0**	**+0.5**
PB04	**IPOC Station P**	**2.67**	**245**	*e*P	**Pn**	**14 02 52.8**	**+0.3**
PB04				*i* S	**Sn**	**14 03 25.9**	**-1.3**
PB04	**IPOC Station P**	**2.67**	**245**	P	**Pn**	**14 02 53.4**	**+0.9**
MNMC	**Minye Minye**	**2.84**	**317**	⇑*i*P	**Pn**	**14 02 55.8**	**+1.0**
MNMC				*i* S	**Sn**	**14 03 31.0**	**-0.2**
MNMC				IAML		14 03 32.9	
	comp=N,146nm,0.3s						
PSGC	**Pisagua**	**2.92**	**303**	*i* P	**Pn**	**14 02 55.2**	**-0.3**
PSGC				*i* S	**Sn**	**14 03 30.7**	**-1.8**
GO02	**Mina Guanaco**	**4.36**	**205**	P	**Pn**	**14 03 13.7**	**0.0**
LPAZ	**La Paz**	**4.94**	**353**	P	**Pn**	**14 03 23.0**	**+1.4**

---

*IDC **19** 14:02:14.6±1.1,44.16S×38.91E,h0km,mb3.9/5,*
mbtmp4.0/7,ML3.7/2,MS3.6/17,Error ellipse:
s-maj=34.7km s-min=25.2km az=50.0
ISC 19 14:02:15.9±1.1,44.2S±0.2×38.8E±0.2,h10km,n21,
σ0°51/8,mb4.0/5,MS3.5/16,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.35**	**304**	P	**Pn**	**14 06 30.6**	**-0.1**
	0.2nm,0.3s,baz=148,slow=15,SNR=3.1						
	14nm,1.1s						
BOSA	**Boshof**	**18.93**	**320**	P	**P**	**14 06 37.3**	**+0.3**
	0.2nm,0.3s,baz=155,slow=13,SNR=2.7						
BOSA				LR	LR	14 12 36.5	
	comp=Z,120nm,21.4s,baz=165,slow=33						
	4.8nm,1.0s						
LBTB	**Lobatse**	**21.93**	**326**	LR	LR	14 14 06.8	
	comp=Z,131nm,21.7s,baz=180,slow=32						
MAW	**Mawson**	**26.74**	**160**	LR	LR	14 15 57.9	
	comp=Z,94nm,20.8s,baz=18,slow=31						
LSZ	**Lusaka**	**30.17**	**339**	LR	LR	14 18 42.5	
	comp=Z,106nm,20.3s,baz=178,slow=33						
TSUM	**Tsumeb**	**30.57**	**318**	LR	LR	14 19 48.2	
	comp=Z,99nm,19.4s,baz=150,slow=34						
SNAA	**Sanae**	**34.05**	**202**	P	**P**	**14 09 00.3**	**+0.5**
	2.0nm,1.0s,baz=69,slow=2.0,SNR=4.8						
SNAA				LR	LR	14 21 15.8	
	comp=Z,68nm,18.7s,baz=8.5,slow=34						
	2.0nm,1.0s						
MBAR	**Mbarara**	**43.95**	**348**	LR	LR	14 28 25.8	
	comp=Z,105nm,18.1s,baz=96,slow=36						
QSPA	**South Pole Qui**	**46.07**	**180**	P	**P**	**14 10 39.1**	**-0.5**
	2.7nm,0.8s,baz=245,slow=6.6,SNR=10						
QSPA				LR	LR	14 28 01.3	
	comp=Z,82nm,21.7s,baz=279,slow=34						
	2.7nm,0.8s						
VNDA	**Vanda**	**53.69**	**167**	P	**P**	**14 11 37.5**	**+0.2**
	0.9nm,1.0s,baz=245,slow=6.6,SNR=4.5						
VNDA				LR	LR	14 32 51.5	
	comp=Z,75nm,18.5s,baz=266,slow=34						
	0.9nm,1.0s						
DBIC	**Dimbokro**	**64.09**	**310**	LR	LR	14 37 35.7	
	comp=Z,25nm,19.8s,baz=42,slow=33						
TORD	**Torodi Ar. Bea**	**66.29**	**320**	LR	LR	14 41 27.5	
	comp=Z,36nm,18.6s,baz=216,slow=36						
WSAR	**Wadi Sarin**	**69.47**	**19**	LR	LR	14 37 25.0	
	comp=Z,42nm,21.7s,baz=196,slow=30						
EIL	**Elat**	**73.55**	**356**	LR	LR	14 42 53.8	
	comp=Z,14nm,21.2s,baz=245,slow=33						
ASAR	**Alice Springs**	**77.36**	**111**	P	**P**	**14 14 11.4**	**+0.3**
	1.2nm,0.9s,baz=222,slow=4.8,SNR=9.8						
	1.2nm,0.9s						
IDI	**Anoyia**	**80.07**	**348**	LR	LR	14 49 43.7	
	comp=Z,21nm,20.4s,baz=202,slow=36						
WRA	**Warramunga Arr**	**80.19**	**108**	P	**P**	**14 14 26.5**	**-0.2**
	1.1nm,1.0s,baz=211,slow=4.5,SNR=4.6						
	1.1nm,1.0s						
GNI	**Garni**	**84.08**	**5**	LR	LR	14 53 25.3	
	comp=Z,23nm,18.3s,baz=144,slow=36						
MDT	**Midelt**	**86.23**	**325**	LR	LR	14 53 07.4	
	comp=Z,65nm,18.3s,baz=150,slow=35						
ESDC	**Sonseca Array**	**91.93**	**328**	LR	LR	14 56 29.1	
	comp=Z,64nm,18.1s,baz=136,slow=35						
TXAR	**Lajitas Array**	**146.83**	**256**	PKPbc	**PKPab**	**14 21 58.9**	**-0.7**
	1.1nm,0.8s,baz=134,slow=5.2,SNR=8.5						

---

*NOU **19** 14:17:12.7,41.97S×174.59E,h14km,MLv3.9/9,Cook*
Strait, New Zealand
*WEL **19** 14:17:14.0±0.3,42.2°S±3.3°×17.4E±.°,h10km±3km,M3.5/45,*
ML3.6/22,MLv3.5/45,Error ellipse: s-maj=0.0km
s-min=0.0km az=148.2
ISC 19 14:17:12.4±1.1,41.87S±0.04×174.37E±0.04,h15km±9km,
n86,σ1°14/88,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.17**	**316**	P	**Pg**	**14 17 17.1**	**+0.5**
CMWZ				S	**Sg**	**14 17 19.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.40**	**293**	P	**Pg**	**14 17 20.5**	**0.0**
BSWZ				S	**Sg**	**14 17 25.6**	**-0.4**
TUWZ	**Tuamarina**	**0.54**	**324**	P	**Pg**	**14 17 22.3**	**-0.9**
TUWZ				S	**Sg**	**14 17 28.0**	**-2.4**
SNZO	**South Karori**	**0.61**	**25**	P	**Pb**	**14 17 25.2**	**+0.4**
WEL	**Wellington**	**0.66**	**27**	P	**Pb**	**14 17 26.1**	**+0.5**
TCW	**Tory Channel**	**0.66**	**354**	P	**Pg**	**14 17 24.5**	**-0.9**
PLWZ	**Palliser**	**0.73**	**66**	P	**Pn**	**14 17 29.3**	**+1.1**
MSWZ	**Moikau Station**	**0.80**	**56**	P	**Pn**	**14 17 30.3**	**+1.0**
KHZ	**Kahutara**	**0.82**	**228**	P	**Pn**	**14 17 31.4**	**+1.9**
KHZ	**Kahutara**	**0.82**	**228**	P	**Pn**	**14 17 31.4**	**+1.9**
CAW	**Cannon Point**	**0.93**	**35**	P	**Pb**	**14 17 30.9**	**+0.8**
PAWZ	**Paruwai Farm**	**0.93**	**59**	P	**Pn**	**14 17 32.0**	**+0.9**
NNZ	**Nelson**	**0.99**	**311**	P	**Pb**	**14 17 30.3**	**-1.0**
KIW	**Kapiti Island**	**1.09**	**22**	P	**Pb**	**14 17 33.0**	**0.0**
TRWZ	**Traveller**	**1.10**	**65**	P	**Pn**	**14 17 34.0**	**+0.7**
THZ	**Tophouse**	**1.10**	**275**	P	**Pn**	**14 17 33.6**	**+0.5**
MTW	**Mount Morrison**	**1.11**	**51**	P	**Pn**	**14 17 34.0**	**+0.6**
DUWZ	**D'Urville Isla**	**1.12**	**342**	P	**Pn**	**14 17 32.3**	**-1.1**
OGWZ	**Otaki Gorge**	**1.21**	**30**	P	**Pn**	**14 17 35.5**	**+0.6**
MRNZ	**Matariki Terra**	**1.29**	**291**	P	**Pn**	**14 17 36.7**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.30**	**42**	P	**Pn**	**14 17 36.6**	**+0.5**
TKNZ	**Takaka Hill**	**1.35**	**308**	P	**Pn**	**14 17 37.1**	**+0.3**
TMWZ	**Te Maipa**	**1.38**	**57**	P	**Pn**	**14 17 37.6**	**+0.4**
MRZ	**Mangatainoka R**	**1.51**	**38**	P	**Pn**	**14 17 39.5**	**+0.5**
TIWZ	**Tintock**	**1.58**	**47**	P	**Pn**	**14 17 40.1**	**+0.2**
CPWZ	**Castlepoint**	**1.68**	**56**	P	**Pn**	**14 17 42.0**	**+0.7**
QRZ	**Quartz Range**	**1.73**	**306**	P	**Pn**	**14 17 43.4**	**+1.4**
QRZ	**Quartz Range**	**1.73**	**306**	P	**Pn**	**14 17 43.4**	**+1.4**
PRWZ	**Pori Road**	**1.79**	**43**	P	**Pn**	**14 17 43.0**	**+0.2**
LTZ	**Lake Taylor**	**1.80**	**239**	P	**Pn**	**14 17 42.0**	**-1.0**
POWZ	**Post Office Ro**	**1.82**	**36**	P	**Pn**	**14 17 43.7**	**+0.6**
AMCZ	**Amberley**	**1.82**	**224**	P	**Pn**	**14 17 44.2**	**+1.0**
BFZ	**Birch Farm**	**1.85**	**51**	P	**Pn**	**14 17 43.4**	**-0.2**
DSZ	**Denniston Nort**	**1.92**	**273**	P	**Pn**	**14 17 46.1**	**+1.5**
DVHZ	**Dannevirke**	**2.08**	**42**	P	**Pn**	**14 17 46.5**	**-0.3**
OKCZ	**Okains Bay**	**2.09**	**207**	P	**Pn**	**14 17 48.1**	**+1.1**
ANWZ	**Angora Road**	**2.12**	**49**	P	**Pn**	**14 17 47.5**	**+0.1**
WAZ	**Wanganui**	**2.16**	**13**	P	**Pn**	**14 17 50.0**	**+2.1**
TSZ	**Takapari Road**	**2.17**	**34**	P	**Pn**	**14 17 48.1**	**0.0**
MQZ	**McQueen's Vall**	**2.23**	**214**	P	**Pn**	**14 17 49.2**	**+0.4**
OXZ	**Oxford**	**2.25**	**229**	P	**Pn**	**14 17 49.7**	**+0.5**
AKCZ	**Akaroa Harbour**	**2.27**	**208**	P	**Pn**	**14 17 50.6**	**+1.1**
INZ	**Inchbonnie**	**2.33**	**248**	P	**Pn**	**14 17 53.0**	**+2.7**
PNHZ	**Pukenui**	**2.40**	**36**	P	**Pn**	**14 17 51.1**	**-0.1**
LREZ	**Lake Rotokare**	**2.41**	**1**	P	**Pb**	**14 17 54.5**	**-0.9**
RACZ	**Rakaia**	**2.48**	**221**	P	**Pn**	**14 17 52.6**	**+0.3**
NMEZ	**Namu Road**	**2.48**	**351**	P	**Pb**	**14 17 56.3**	**-0.4**
KHEZ	**Kahui Hut**	**2.59**	**354**	P	**Pb**	**14 17 57.4**	**-1.2**
KHEZ	**Kahui Hut**	**2.59**	**354**	P	**Pb**	**14 17 57.3**	**-1.2**
MTVZ	**Mangateitei**	**2.62**	**19**	P	**Pn**	**14 17 56.6**	**+2.3**
NBEZ	**Newall Road No**	**2.63**	**352**	P	**Pb**	**14 17 57.8**	**-1.4**
PXZ	**Pawanui**	**2.63**	**47**	P	**Pn**	**14 17 53.4**	**-1.0**
MHCZ	**Mount Hutt**	**2.65**	**230**	P	**Pn**	**14 17 54.8**	**+0.1**
MOVZ	**Moawhango**	**2.68**	**24**	P	**Pn**	**14 17 55.7**	**+0.6**
PKVZ	**Pokaka**	**2.68**	**16**	P	**Pn**	**14 17 56.8**	**+1.6**
WNVZ	**Wahianoa**	**2.71**	**21**	P	**Pn**	**14 17 56.8**	**+1.2**
TRVZ	**Turoa**	**2.72**	**20**	P	**Pn**	**14 17 57.4**	**+1.6**
WHVZ	**Whangaehu Hut**	**2.75**	**20**	P	**Pn**	**14 17 57.3**	**+1.1**
VRZ	**Vera Road**	**2.76**	**6**	P	**Pn**	**14 17 58.1**	**+2.0**
FWVZ	**Far West T-bar**	**2.76**	**19**	P	**Pb**	**14

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.07**	**346**	*i* P	Pb	14 41 11.9	-0.2
JMJ2				*e*S	Sb	14 41 14.8	-0.1
JOGS	**Gusukube**	**0.10**	**33**	*i* P	Pb	14 41 12.2	-0.1
JOGS				S	Sb	14 41 15.5	+0.2
JIRB	**Irabujima**	**0.22**	**314**	*e*P	Pb	14 41 13.5	-0.1
JIRB				*e*S	Sb	14 41 17.1	-0.3
JIKM	**Ikemajima**	**0.26**	**340**	*e*P	Pb	14 41 14.1	-0.2
JIKM				*e*S	Sb	14 41 18.6	0.0
JTJ	**Tarama**	**0.59**	**267**	*e*S	Sb	14 41 27.6	+0.2
JISG	**Ishigakijimahi**	**0.95**	**265**	*e*P	Pb	14 41 25.1	-0.6

WEL 19 14:41:36.5±0.4, 42°S±3°×17°4E±°, h5km, M2.4/15, ML2.6/12, MLv2.4/15, Error ellipse: s-maj=0.0km s-min=0.0km az=126.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.31**	**11**	P	Pg	14 41 43.0	+0.5
BSWZ				S	Sg	14 41 48.2	+1.6
CMWZ	**Cape Campbell**	**0.41**	**49**	P	Pb	14 41 45.4	-0.8
KHZ	**Kahutara**	**0.44**	**206**	P	Pg	14 41 45.3	+0.4
TUWZ	**Tuamarina**	**0.60**	**10**	P	Pg	14 41 48.4	+0.3
TUWZ				S	Sb	14 41 57.4	-0.9
THZ	**Tophouse**	**0.71**	**291**	P	Pg	14 41 50.4	+0.3
NNZ	**Nelson**	**0.86**	**339**	P	Pg	14 41 52.9	-0.1
TCW	**Tory Channel**	**0.89**	**24**	P	Pg	14 41 53.1	-0.3
MRNZ	**Matariki Terra**	**1.00**	**308**	P	Pg	14 41 55.8	+0.2
WEL	**Wellington**	**1.04**	**45**	P	Pg	14 41 56.3	0.0
GVZ	**Greta Valley S**	**1.10**	**211**	P	Pg	14 41 57.2	-0.3
GVZ	**Greta Valley S**	**1.10**	**211**	P	Pg	14 41 57.6	+0.1
DUWZ	**D'Urville Isla**	**1.22**	**4**	P	Pg	14 41 58.6	-1.3
DUWZ	**D'Urville Isla**	**1.22**	**4**	P	Pg	14 41 59.1	-0.8
MSWZ	**Moikau Station**	**1.25**	**61**	P	Pg	14 41 58.3	-2.0
CAW	**Cannon Point**	**1.32**	**47**	P	Pn	14 41 59.9	-1.6
LTZ	**Lake Taylor**	**1.36**	**236**	P	Pn	14 42 01.4	-0.8
KIW	**Kapiti Island**	**1.43**	**36**	P	Pn	14 42 02.4	-0.6
DSZ	**Denniston Nort**	**1.51**	**280**	P	Pb	14 42 04.9	-0.2
QRZ	**Quartz Range**	**1.53**	**321**	P	Pn	14 42 04.8	+0.4
MTW	**Mount Morrison**	**1.54**	**56**	P	Pn	14 42 02.1	-2.5
OGWZ	**Otaki Gorge**	**1.59**	**41**	P	Pn	14 42 04.2	-1.0
HOWZ	**Holdsworth Sta**	**1.71**	**50**	P	Pg	14 42 08.9	-0.3
OKCZ	**Okains Bay**	**1.78**	**197**	P	Pn	14 42 05.9	-2.0
MQZ	**McQueen's Vall**	**1.88**	**206**	P	Pn	14 42 06.1	-3.1
MRZ	**Mangatainoka R**	**1.91**	**45**	P	Pn	14 42 07.7	-1.9

TAP ***19*** *14:41:40.0, 24°.14N×122°.74E, h13km, ML2.9, D*
JMA ***19*** *14:41:40.7±0.1, 24°N±1°×122°.8E±0°.4, h25km±2km, MV2.7/14, NW OFF ISHIGAKIJIMA IS*
ISC 19 14:41:38.9±1.1, 24°06N±0°.02×122°76E±0°.02, h11km±9km, n107, s0°64/181, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**24**	P	**Pb**	**14 41 48.0**	**-0.6**
JYNG				S	**Sg**	**14 41 53.0**	**0.0**
YOJ	**Yonaguni jima**	**0.46**	**30**	P	**Pb**	**14 41 48.8**	**-0.4**
YOJ	**Yonaguni jima** baz=37	**0.46**	**30**	⇑P	**Pb**	**14 41 48.7**	**-0.4**
YOJ				S	**Sg**	**14 41 54.5**	**+0.3**
YOJ	**Yonaguni jima** baz=37	**0.46**	**30**	P	**Pb**	**14 41 48.7**	**-0.5**
YOJ				S	**Sg**	**14 41 54.2**	**0.0**
IRIF	**Iriomote-Funau**	**0.93**	**73**	P	**Pb**	**14 41 57.3**	**+0.2**
IRIF				S	**Sb**	**14 42 09.6**	**+0.1**
HATJ	**Hateruma jima**	**0.96**	**90**	P	**Pn**	**14 41 58.1**	**-0.2**
HATJ				S	**Sb**	**14 42 10.9**	**+0.6**
TWC	**Suao** baz=289	**0.99**	**304**	*i* P	**Pg**	**14 41 57.8**	**-0.2**
TWC				*i* S	**Sg**	**14 42 10.1**	**-0.8**
ENA	**Nanau** baz=288	**0.99**	**292**	⇓*i* P	**Pb**	**14 41 58.3**	**0.0**
ENA				*i* S	**Sb**	**14 42 11.3**	**-0.1**
ETL	**Fush Village** baz=271	**1.04**	**276**	P	**Pn**	**14 41 59.8**	**+0.3**
TWD	**Chiawan** baz=267	**1.06**	**271**	*i* P	**Pn**	**14 41 59.8**	**+0.1**
TWD				*i* S	**Sn**	**14 42 15.1**	**+0.5**
NACB	**Ninganchiao** baz=267	**1.07**	**276**	P	**Pn**	**14 42 00.4**	**+0.5**
NACB	**Ninganchiao** baz=252	**1.07**	**276**	P	**Pn**	**14 41 60.0**	**+0.1**
NACB				S	**Sn**	**14 42 15.4**	**+0.7**
EGS	baz=252	**1.08**	**316**	*i* P	**Pn**	**14 42 00.4**	**+0.3**
EGS	baz=325			*i* S	**Sb**	**14 42 13.4**	**-0.5**
ILA	**Ilan** baz=325	**1.16**	**308**	S	**Sn**	**14 42 17.2**	**+0.3**
JKRS	**Kuro-shima**	**1.16**	**81**	P	**Pg**	**14 42 01.5**	**+0.2**
JKRS				S	**Sn**	**14 42 17.0**	**0.0**
ETLH	**Xiulin Townshi** baz=273	**1.17**	**277**	P	**Pg**	**14 42 02.4**	**+0.9**
ETLH				S	**Sn**	**14 42 18.7**	**+1.3**
TWB1	**Santiao Chiao** baz=337	**1.18**	**324**	P	**Pg**	**14 42 01.8**	**+0.3**
TWB1				S	**Sb**	**14 42 15.8**	**-0.7**
TWE	**Neicheng** baz=318	**1.19**	**304**	*i* P	**Pn**	**14 42 01.5**	**0.0**
TWE				*i* S	**Sb**	**14 42 16.9**	**-0.1**
LATG	**Datong** baz=290	**1.22**	**293**	P	**Pg**	**14 42 02.2**	**-0.2**
LATG				S	**Sn**	**14 42 18.4**	**-0.2**
ENTT	**Nioudou** baz=296	**1.23**	**298**	*i* P	**Pn**	**14 42 01.4**	**-0.8**
ENTT				*i* S	**Sb**	**14 42 17.3**	**-0.8**
ESL	**Shilin** baz=241	**1.23**	**259**	S	**Sn**	**14 42 19.9**	**+1.0**
TIPB	**Shuangxi** baz=316	**1.24**	**317**	*i* P	**Pb**	**14 42 02.3**	**-0.2**
TIPB				*i* S	**Sb**	**14 42 18.0**	**-0.5**
NDT	**Datong Townshi** baz=293	**1.25**	**296**	*e*P	**Pn**	**14 42 01.5**	**-1.0**
NDT				*e*S	**Sb**	**14 42 17.9**	**-1.0**
FUSB	**Fushanzhiwuyua** baz=316	**1.27**	**303**	S	**Sg**	**14 42 20.4**	**+0.5**
EGFH	**Guangfu** baz=248	**1.28**	**253**	P	**Pn**	**14 42 03.0**	**+0.3**
EGFH				S	**Sn**	**14 42 19.9**	**+0.1**
JIJ	**Ishigaki jima** baz=248	**1.30**	**76**	P	**Pn**	**14 42 02.9**	**-0.3**
JIJ				*e*S	**Sb**	**14 42 19.4**	**-0.8**
NNSB	**Datong** baz=283	**1.30**	**287**	P	**Pb**	**14 42 03.7**	**+0.1**
NNSB				S	**Sg**	**14 42 21.1**	**+0.1**
SXI1	**Grass Mountain** baz=339	**1.30**	**322**	P	**Pb**	**14 42 03.2**	**-0.3**
SXI1				S	**Sg**	**14 42 20.9**	**-0.1**
NNS	**Nan Shan** baz=284	**1.32**	**287**	*i* P	**Pn**	**14 42 03.5**	**+0.1**
NNS				*i* S	**Sb**	**14 42 20.1**	**-0.6**
NWF	**Wu-fen Shan** baz=318	**1.34**	**319**	*i* P	**Pb**	**14 42 03.8**	**-0.4**
NWF				S	**Sg**	**14 42 22.2**	**0.0**
HGSD	**Ruisui** baz=241	**1.34**	**245**	P	**Pn**	**14 42 03.3**	**-0.4**
HGSD				S	**Sb**	**14 42 20.8**	**-0.6**
NWLT	**Wulai** baz=318	**1.35**	**302**	*i* P	**Pb**	**14 42 04.2**	**0.0**
NWLT				S	**Sb**	**14 42 21.1**	**-0.5**
WHF	**Hehuan Shan** baz=270	**1.36**	**274**	*i* P	**Pb**	**14 42 04.9**	**+0.1**
WHF				S	**Sg**	**14 42 24.1**	**+1.1**
FUSS	**Fushou** baz=274	**1.39**	**278**	P	**Pg**	**14 42 05.9**	**+0.2**
FUSS				S	**Sg**	**14 42 24.8**	**+1.0**
YHNB	**Yeheng** baz=274	**1.40**	**296**	P	**Pg**	**14 42 06.0**	**+0.2**
YHNB	**Yeheng** baz=294	**1.40**	**296**	P	**Pg**	**14 42 05.8**	**0.0**
YHNB				S	**Sg**	**14 42 23.3**	**-0.6**
TWA	**Mucha** baz=327	**1.41**	**311**	P	**Pb**	**14 42 05.4**	**+0.1**
TWA				*i* S	**Sg**	**14 42 23.4**	**-0.8**
NSK	**Sanguang** baz=294	**1.41**	**296**	*i* P	**Pn**	**14 42 04.9**	**+0.2**
NSK				S	**Sn**	**14 42 23.1**	**-0.3**
EHY	**Hungye** baz=243	**1.42**	**248**	*i* P	**Pn**	**14 42 04.6**	**-0.2**
EHY				S	**Sn**	**14 42 23.4**	**-0.1**
NHDH	**Xindian Distri** baz=325	**1.44**	**309**	P	**Pg**	**14 42 07.0**	**+0.4**
NHDH				S	**Sg**	**14 42 24.4**	**-0.8**
CHGB	**Renai** baz=267	**1.45**	**270**	P	**Pb**	**14 42 05.9**	**-0.1**
CHGB				S	**Sg**	**14 42 25.4**	**-0.1**
TWT	**Tachien** baz=274	**1.46**	**278**	*i* P	**Pg**	**14 42 07.3**	**+0.3**
TWT				*i* S	**Sg**	**14 42 26.2**	**+0.4**
TATO	**Taipei**	**1.47**	**309**	P	**Pg**	**14 42 08.2**	**+1.0**
TDCB	**Techi** baz=274	**1.47**	**278**	P	**Pg**	**14 42 07.0**	**-0.2**
TDCB				S	**Sg**	**14 42 26.1**	**-0.3**
YULB	**Yu-li**	**1.49**	**244**	P	**Pn**	**14 42 05.8**	**+0.1**
YULB	**Yu-li** baz=240	**1.49**	**244**	P	**Pn**	**14 42 06.0**	**+0.3**
YULB				S	**Sn**	**14 42 24.9**	**-0.3**
EYUL	**Yuli** baz=238	**1.50**	**242**	*e*P	**Pn**	**14 42 05.8**	**+0.1**
EYUL				*e*S	**Sn**	**14 42 25.7**	**+0.4**
WUSB	**Renai** baz=264	**1.50**	**268**	P	**Pb**	**14 42 06.6**	**-0.3**
WUSB				S	**Sg**	**14 42 26.9**	**-0.3**
VWDT	**VWDT** baz=255	**1.51**	**259**	P	**Pb**	**14 42 06.7**	**-0.3**
VWDT				S	**Sb**	**14 42 26.2**	**+0.1**
JISG	**Ishigakijimahi**	**1.51**	**69**	P	**Pn**	**14 42 05.6**	**-0.4**
JISG				S	**Sn**	**14 42 24.6**	**-1.2**
YM01	**YM01** baz=315	**1.53**	**315**	*e*P	**Pg**	**14 42 08.1**	**-0.2**
YM01				*e*S	**Sb**	**14 42 26.4**	**-0.4**
FULB	**Fuli** baz=219	**1.59**	**238**	*e*P	**Pn**	**14 42 06.5**	**-0.6**
FULB				*e*S	**Sn**	**14 42 28.3**	**+0.6**
CHKT	**Chengkung** baz=215	**1.59**	**233**	*e*P	**Pn**	**14 42 07.2**	**+0.1**
CHKT				S	**Sn**	**14 42 26.2**	**-1.5**
NFF	**Wufeng Townshi** baz=298	**1.60**	**291**	*e*P	**Pn**	**14 42 08.5**	**-0.1**
NFF				*e*S	**Sb**	**14 42 28.5**	**-0.3**
TWY	**Chenhua** baz=319	**1.60**	**319**	P	**Pn**	**14 42 07.0**	**-0.3**
TWY				*e*S	**Sb**	**14 42 28.1**	**-0.7**
WHP	**Taichung City** baz=275	**1.67**	**278**	*e*P	**Pg**	**14 42 11.3**	**+0.4**
WHP				*e*S	**Sb**	**14 42 31.7**	**+0.9**
SSLB	**Suanglung**	**1.67**	**261**	P	**Pb**	**14 42 09.6**	**-0.2**
SSLB	**Suanglung** baz=257	**1.67**	**261**	*e*P	**Pb**	**14 42 09.6**	**-0.2**
SSLB				S	**Sn**	**14 42 29.9**	**+0.2**
WCS	**Beigang Elemen** baz=267	**1.69**	**270**	*e*P	**Pn**	**14 42 08.2**	**-0.2**
WCS				*e*S	**Sg**	**14 42 32.8**	**-0.3**
LIOB	**Emei** baz=289	**1.69**	**291**	*e*P	**Pb**	**14 42 10.4**	**+0.3**
NSTT	**Nanjuang** baz=288	**1.70**	**290**	*e*P	**Pg**	**14 42 11.0**	**-0.5**
NSTT				*e*S	**Sg**	**14 42 33.9**	**+0.3**
SMLT	**Sun Moon Lake** baz=261	**1.71**	**264**	*e*P	**Pb**	**14 42 10.8**	**+0.4**
SMLT				*e*S	**Sg**	**14 42 33.1**	**-0.8**
EDH	**Donghe** baz=216	**1.72**	**231**	*e*P	**Pn**	**14 42 08.4**	**-0.4**
EDH				S	**Sn**	**14 42 29.9**	**-0.9**
TYC	**Yuchr** baz=262	**1.74**	**265**	*e*P	**Pb**	**14 42 10.8**	**-0.1**
YUS	**Yu-Shan** baz=248	**1.75**	**251**	*e*P	**Pn**	**14 42 10.4**	**+0.8**
YUS				*e*S	**Sn**	**14 42 31.1**	**-1.1**
WHYT	**Xinyi Township** baz=240	**1.78**	**259**	*e*P	**Pb**	**14 42 11.5**	**-0.1**
WHYT				*e*S	**Sb**	**14 42 34.2**	**+0.3**
ELDTW	**Lidau** baz=239	**1.81**	**242**	*e*P	**Pn**	**14 42 10.6**	**+0.4**
LDUT	**Ludao** baz=218	**1.82**	**221**	*e*P	**Pn**	**14 42 09.9**	**-0.3**
LDUT				S	**Sn**	**14 42 32.6**	**-0.6**
TWQ1	**Liyutan** baz=277	**1.83**	**279**	*e*P	**Pn**	**14 42 11.2**	**+0.8**
ALS	**Alishan** baz=250	**1.87**	**253**	*e*P	**Pn**	**14 42 12.3**	**+1.2**
ALS				*e*S	**Sn**	**14 42 35.3**	**+0.4**
JTJ	**Tarama**	**1.87**	**72**	P	**Pb**	**14 42 12.6**	**-0.6**
JTJ				S	**Sn**	**14 42 34.8**	**+0.4**
WJS	**Zhushan** baz=260	**1.87**	**263**	*e*P	**Pb**	**14 42 13.7**	**+0.5**
LONT	**Longtian** baz=220	**1.88**	**233**	*e*P	**Pn**	**14 42 11.0**	**-0.1**
LONT				*e*S	**Sn**	**14 42 35.5**	**+0.6**
WNT	**Mingjian** baz=262	**1.90**	**265**	*e*P	**Pb**	**14 42 14.1**	**+0.4**
WNT				*e*S	**Sb**	**14 42 38.1**	**+0.6**
TWGBT	**Beinan** baz=219	**1.97**	**232**	*e*P	**Pn**	**14 42 12.7**	**+0.3**
TWGBT				*e*S	**Sn**	**14 42 36.5**	**-0.6**
TWG	**Pinlang** baz=219	**1.98**	**232**	*e*P	**Pn**	**14 42 13.2**	**+0.8**
TWG				*e*S	**Sn**	**14 42 36.6**	**-0.6**
STYH	**Taoyuan** baz=231	**2.02**	**244**	*e*P	**Pn**	**14 42 13.0**	**0.0**
STYH				*e*S	**Sn**	**14 42 38.9**	**+0.7**
WDLH	**Douliu** baz=258	**2.06**	**260**	*e*P	**Pb**	**14 42 15.9**	**-0.5**
WDLH				*e*S	**Sb**	**14 42 43.2**	**+1.1**
WCKO	**Fanlu** baz=250	**2.06**	**253**	*e*P	**Pb**	**14 42 15.3**	**-1.1**
WCKO				*e*S	**Sb**	**14 42 41.1**	**-1.1**
TPUB	**Ta-pu**	**2.09**	**249**	P	**Pb**	**14 42 16.2**	**-0.7**
TPUB	**Ta-pu** baz=246	**2.09**	**249**	*e*P	**Pb**	**14 42 16.1**	**-0.8**
TPUB				*e*S	**Sb**	**14 42 43.3**	**+0.3**
CHN4	**Tsaushan** baz=248	**2.10**	**251**	*e*P	**Pn**	**14 42 15.4**	**+1.3**
CHN4				*e*S	**Sb**	**14 42 43.3**	**0.0**
WTP	**Ta-pu** baz=245	**2.12**	**248**	*e*P	**Pb**	**14 42 16.9**	**-0.6**
WTP				*e*S	**Sb**	**14 42 44.0**	**+0.1**
WRL	**Guolierlin Hig** baz=264	**2.18**	**266**	*e*P	**Pb**	**14 42 16.9**	**-1.5**
WRL				*e*S	**Sb**	**14 42 45.1**	**-0.4**
ECL	**Taimali** baz=226	**2.20**	**229**	*e*P	**Pn**	**14 42 17.0**	**+1.5**
ECL				*e*S	**Sn**	**14 42 42.0**	**-0.8**
SGST	**Jiashian** baz=230	**2.22**	**244**	*e*P	**Pb**	**14 42 17.8**	**-1.3**
SGST				*e*S	**Sb**	**14 42 45.8**	**-0.8**
CHN1	**Nanshi** baz=245	**2.22**	**247**	*e*P	**Pb**	**14 42 18.2**	**-1.0**
CHN1				*e*S	**Sb**	**14 42 46.9**	**+0.3**
TWK	**Hsinying** baz=247	**2.22**	**250**	*e*P	**Pb**	**14 42 18.1**	**-1.1**
TWK				*e*S	**Sb**	**14 42 46.2**	**-0.6**
JIRB	**Irabujima**	**2.33**	**70**	P	**Pn**	**14 42 18.5**	**+1.2**
JIRB				S	**Sn**	**14 42 46.6**	**+0.6**
SSD	**Sandimen** baz=226	**2.35**	**237**	*e*P	**Pb**	**14 42 20.8**	**-0.5**
TSMG	**Majia** baz=224	**2.36**	**236**	*e*P	**Pb**	**14 42 20.1**	**-1.5**
WSL	**Shuilin Townsh** baz=256	**2.38**	**258**	*e*P	**Pn**	**14 42 18.8**	**+0.9**
SCST	**Cishan** baz=239	**2.38**	**241**	*e*P	**Pb**	**14 42 21.7**	**-0.1**
EAST	**Anshuo** baz=225	**2.42**	**227**	*e*P	**Pn**	**14 42 19.1**	**+0.6**
MASBT	**Mashibuluo** baz=224	**2.42**	**234**	*e*P	**Pn**	**14 42 19.9**	**+1.4**
TAWH	**Dawu Township** baz=236	**2.42**	**225**	*e*P	**Pn**	**14 42 18.7**	**+0.2**
JIKM	**Ikemajima**	**2.43**	**69**	*e*P	**Pn**	**14 42 19.3**	**+0.7**
JIKM				S	**Sn**	**14 42 49.0**	**+0.7**
JMJ2	**Miyako jima3**	**2.44**	**73**	S	**Sn**	**14 42 49.5**	**+0.8**
SLIU	**Shizi** baz=224	**2.57**	**225**	*e*P	**Pn**	**14 42 21.3**	**+0.7**
SCZT	**Fangliau** baz=221	**2.58**	**230**	*e*P	**Pn**	**14 42 21.6**	**+0.9**
TSCK	**Chigu Township** baz=249	**2.61**	**250**	*e*P	**Pn**	**14 42 22.0**	**+0.9**
SMST	**Manzhou Townsh** baz=221	**2.69**	**221**	*e*P	**Pn**	**14 42 22.9**	**+0.7**
WDGT	**Dungji** baz=254	**2.95**	**255**	*e*P	**Pn**	**14 42 27.5**	**+1.7**
PHUB	**P'eng-hu** baz=259	**2.97**	**260**	*e*P	**Pn**	**14 42 27.6**	**+1.6**
PNG	**Penghu** baz=260	**2.97**	**261**	*e*P	**Pn**	**14 42 27.1**	**+1.0**
VWUC	**VWUC** baz=287	**3.15**	**288**	*e*P	**Pn**	**14 42 29.3**	**+0.7**
PTMZ	**Houxiangcun** baz=287	**3.45**	**287**	*e*P	**Pn**	**14 42 32.8**	**+0.2**

WEL 19 14:42:22.5±0.6, 39°S±4°×17°7E±°, h27km±5km, M2.4/12, ML2.6/13, MLv2.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=88.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.19**	**199**	P	Pn	14 42 29.8	+0.2
CKHZ				S	Sb	14 42 35.4	+3.2
ARHZ	**Aropaoanui**	**0.25**	**329**	P	Pn	14 42 30.2	-0.2
ARHZ				S	Sb	14 42 35.9	+2.6
MCHZ	**McNeill Hill**	**0.36**	**275**	P	Pn	14 42 32.0	0.0
MCHZ				S	Sn	14 42 39.1	+0.9
KAHZ	**Kahuranaki**	**0.39**	**215**	P	Pn	14 42 32.5	+0.2
WHHZ	**Waihua**	**0.40**	**8**	P	Pn	14 42 32.5	0.0
NMHZ	**Naumai**	**0.47**	**324**	P	Pn	14 42 33.4	-0.1
NMHZ				S	Sn	14 42 41.4	+0.5
RAHZ	**Arahi**	**0.56**	**354**	P	Pn	14 42 35.0	+0.2
BKZ	**Black Stump Fm**	**0.60**	**301**	P	Pn	14 42 35.1	-0.2
MHGZ	**Mahia Peninsul**	**0.66**	**61**	P	Pn	14 42 35.9	-0.2
MTHZ	**Maungataniwha**	**0.67**	**338**	P	Pn	14 42 36.2	-0.1
MRHZ	**Matea Rd**	**0.86**	**318**	P	Pn	14 42 39.3	+0.4
PPHZ	**Porangahau**	**0.89**	**207**	P	Pn	14 42 38.2	-1.0
MUGZ	**Murupara**	**1.04**	**343**	P	Pb	14 42 41.8	-0.1

IDC 19 14:42:23.9±1.2, 14°36S×66°22E, h0km, mb3.8/8, mbtmp3.8/8, MS3.6/18, Error ellipse: s-maj=39.1km s-min=24.8km az=31.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H** baz=222, slow=76, SNR=725	**9.07**	**43**	T	T	14 53 48.5	
H08S2	**Diego Garcia H** baz=222, slow=76, SNR=766	**9.08**	**43**	T	T	14 53 49.2	
H08S3	**Diego Garcia H** baz=222, slow=76, SNR=865	**9.09**	**43**	T	T	14 53 50.0	
LSZ	**Lusaka** comp=Z,130nm,21.1s,baz=140,slow=33	**36.75**	**264**	LR	LR	15 02 46.4	
MBAR	**Mbarara** comp=Z,89nm,20.6s,baz=134,slow=33	**37.65**	**288**	LR	LR	15 02 50.6	
WSAR	**Wadi Sarin** comp=Z,42nm,19.8s,baz=191,slow=32	**38.10**	**349**	LR	LR	15 02 50.2	
LBTB	**Lobatse** comp=Z,119nm,19.5s,baz=5.0,slow=33	**39.55**	**248**	LR	LR	15 04 06.3	
BOSA	**Boshof** comp=Z,87nm,18.4s,baz=140,slow=33	**40.46**	**243**	LR	LR	15 04 23.0	
BRDH	**Bariadhala** comp=Z,131nm,18.3s,baz=259,slow=36	**44.44**	**34**	LR	LR	15 09 18.0	
SUR	**Sutherland** comp=Z,46nm,21.9s,baz=60,slow=32	**45.00**	**238**	LR	LR	15 06 47.4	
CMAR	**Chiang Mai Arr** 0.5nm,0.8s,baz=234,slow=7.7,SNR=6.1	**45.86**	**46**	P	P	14 50 48.6	+0.4
CMAR	comp=Z,47nm,18.8s,baz=225,slow=35 0.5nm,0.8s			LR	LR	15 08 51.1	
TSUM	**Tsumeb** comp=Z,159nm,18.3s,baz=142,slow=35	**46.70**	**257**	LR	LR	15 09 46.3	
H01W3	**Cape Leeuwin H** baz=283,slow=75,SNR=35	**47.60**	**124**	T	T	15 41 52.9	
H01W2	**Cape Leeuwin H** baz=283,slow=75,SNR=28	**47.60**	**124**	T	T	15 41 53.1	
H01W1	**Cape Leeuwin H** baz=283,slow=75,SNR=36	**47.62**	**124**	T	T	15 41 52.2	
MAW	**Mawson** comp=Z,52nm,22.0s,baz=60,slow=29	**53.25**	**182**	LR	LR	15 08 29.7	
KAPI	**Kappang** comp=Z,49nm,21.2s,baz=250,slow=32	**53.47**	**86**	LR	LR	15 10 57.6	
BATI	**Baumata** comp=Z,67nm,20.5s,baz=158,slow=32	**56.17**	**93**	LR	LR	15 12 20.9	
AAK	**Ala-Archa** comp=Z,34nm,18.2s,baz=190,slow=34	**57.22**	**7**	LR	LR	15 14 24.2	
MKAR	**Makanchi Array** 0.8nm,0.9s,baz=195,slow=8.5,SNR=2.4 0.8nm,0.9s	**62.56**	**12**	P	P	14 52 49.2	-0.3
ASAR	**Alice Springs** 0.8nm,0.9s,baz=273,slow=6.1,SNR=9.0	**64.17**	**110**	P	P	14 53 00.5	-0.3
ASAR	comp=Z,69nm,18.5s,baz=275,slow=34 0.8nm,0.9s			LR	LR	15 18 43.1	
WRA	**Warramunga Arr** 1.2nm,0.9s,baz=268,slow=5.8,SNR=10 1.2nm,0.9s	**64.96**	**106**	P	P	14 53 06.0	+0.1
SIJI	**Sorong** comp=Z,22nm,18.1s,baz=195,slow=36	**65.64**	**84**	LR	LR	15 22 19.5	
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=111,slow=2.5,SNR=2.8 0.3nm,0.6s	**69.49**	**290**	P	P	14 53 35.0	+0.2
ZALV	**Zalesovo Beam** 1.2nm,0.8s,baz=223,slow=5.5,SNR=6.4 1.2nm,0.8s	**69.87**	**12**	P	P	14 53 35.6	-0.6
SONM	**Songino Array** 1.0nm,0.9s,baz=226,slow=5.5,SNR=6.0 1.0nm,0.9s	**71.53**	**27**	P	P	14 53 47.1	+0.3
JOW	**Kunigami** comp=Z,24nm,21.1s,baz=292,slow=34	**72.83**	**56**	LR	LR	15 23 03.0	
CTA	**Charters Tower** comp=Z,57nm,21.2s,baz=260,slow=33	**76.01**	**107**	LR	LR	15 24 25.4	
PMG	**Port Moresby** comp=Z,27nm,21.2s,baz=19,slow=32	**79.01**	**97**	LR	LR	15 24 49.2	
ESDC	**Sonseca Array** 1.4nm,0.9s,baz=106,slow=4.5,SNR=5.8 1.4nm,0.9s	**84.44**	**313**	P	P	14 54 58.4	-0.2
PDAR	**Pinedale Array** 1.0nm,0.7s,baz=52,slow=1.6,SNR=9.1	**151.46**	**353**	PKPbc	PKiKP	15 02 20.8	-0.1

WEL 19 15:05:12.8, 42˚S±6˚×17˚4E±˚, h15km±8km, M2.6/12, ML2.4/12, MLv2.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=129.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.10	230	P	Pg	15 05 16.5	+0.4
BSWZ	Blackbirch Sta	0.33	265	P	Pb	15 05 20.1	-0.2
TUWZ	Tuamarina	0.38	313	P	Pb	15 05 21.2	0.0
TCW	Tory Channel	0.48	357	P	Pb	15 05 22.8	-0.1
WEL	Wellington	0.53	41	P	Pb	15 05 23.9	+0.2
PLWZ	Palliser	0.72	81	P	Pb	15 05 27.3	+0.2
MSWZ	Moikau Station	0.75	69	P	Pb	15 05 28.1	+0.4
CAW	Cannon Point	0.81	45	P	Pb	15 05 29.0	+0.4
NNZ	Nelson	0.84	304	P	Pg	15 05 29.3	+0.1
MTW	Mount Morrison	1.04	60	P	Pb	15 05 31.9	-0.6
THZ	Tophouse	1.06	265	P	Pn	15 05 33.1	0.0
OGWZ	Otaki Gorge	1.08	37	P	Pb	15 05 33.3	0.0
MRNZ	Matariki Terra	1.20	283	P	Pb	15 05 35.4	+0.2
MRZ	Mangatainoka R	1.40	43	P	Pn	15 05 37.2	-0.6
TWVZ	Taurewa	2.75	19	P	Pn	15 05 54.5	-2.0
ARCZ	Arundel	3.23	225	P	Pn	15 06 01.1	-1.8

*IDC **19** 15:05:53.1±1.4, 42˚37S×173˚14E, h0km, mb3.8/4, mbtmp3.9/5, ML4.6/1, MS3.4/1, Error ellipse: s-maj=40.9km s-min=28.0km az=60.0*

*NOU **19** 15:05:53.6, 42˚72S×173˚47E, h5km, MLv4.3/12, South Island, New Zealand*

*WEL **19** 15:05:55.3±0.3, 42˚S±2˚×17˚3E±˚, h5km, M3.9/47, ML4.2/14, MLv3.9/47, Error ellipse: s-maj=0.0km s-min=0.0km az=130.4*

ISC 19 15:05:54.7±0.6, 42˚56S±0˚03×173˚27E±0˚03, h10km, n102, σ1§15/105, mb3.7/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.24	55	P	Pg	15 06 00.0	+0.3
KHZ	Kahutara	0.24	55	P	Pg	15 06 00.0	+0.3
KHZ				S	Sg	15 06 04.4	+1.4
GVZ	Greta Valley S	0.45	203	P	Pg	15 06 05.1	+1.6
GVZ				S	Sb	15 06 13.3	+1.8
AMCZ	Amberley	0.77	216	P	Pb	15 06 11.0	+0.8
LTZ	Lake Taylor	0.77	253	P	Pg	15 06 09.6	0.0
LTZ				S	Sb	15 06 20.2	-0.6
THZ	Tophouse	0.84	341	P	Pg	15 06 10.0	-0.9
BSWZ	Blackbirch Sta	0.95	28	P	Pg	15 06 13.2	+0.1
OKCZ	Okains Bay	1.18	187	P	Pn	15 06 16.6	-0.8
OXZ	Oxford	1.19	229	P	Pb	15 06 16.6	-0.8
MRNZ	Matariki Terra	1.22	341	P	Pb	15 06 17.1	-0.7
TUWZ	Tuamarina	1.23	24	P	Pb	15 06 17.9	-0.1
MQZ	McQueen's Vall	1.24	201	P	Pn	15 06 16.6	-1.5
NNZ	Nelson	1.34	3	P	Pn	15 06 19.2	-0.3
AKCZ	Akaroa Harbour	1.34	191	P	Pn	15 06 18.7	-0.9
DSZ	Dennistone Nort	1.36	306	P	Pb	15 06 19.7	-0.6
INZ	Inchbonnie	1.36	262	P	Pn	15 06 19.4	-0.3
RACZ	Rakaia	1.44	215	P	Pn	15 06 20.0	-0.8
TKNZ	Takaka Hill	1.54	351	P	Pb	15 06 22.4	-0.9
TCW	Tory Channel	1.54	30	P	Pn	15 06 22.3	0.0
MHCZ	Mount Hutt	1.58	231	P	Pn	15 06 22.0	-1.0
SNZO	South Karori	1.64	41	P	Pn	15 06 23.9	+0.3
WEL	Wellington	1.69	42	P	Pn	15 06 24.2	-0.2
WACZ	Wakanui South	1.74	217	P	Pn	15 06 24.1	-0.9
PLWZ	Palliser	1.77	57	P	Pn	15 06 24.6	-0.9
QRZ	Quartz Range	1.82	342	P	Pn	15 06 27.1	-1.0
QRZ	Quartz Range	1.82	342	P	Pb	15 06 26.6	-1.4
DUWZ	D'Urville Isla	1.82	16	P	Pb	15 06 27.5	-0.6
MSWZ	Moikau Station	1.86	53	P	Pn	15 06 25.8	-0.9
WVZ	Waitaha Valley	1.94	254	P	Pn	15 06 27.6	0.0
CAW	Cannon Point	1.97	43	P	Pn	15 06 27.7	-0.5
PAWZ	Paruwai Farm	1.99	55	P	Pn	15 06 27.3	-1.2
RPZ	Rata Peaks	1.99	234	Pn	Pn	15 06 27.9	-0.7
	200nm,0.3s,baz=91,slow=2.6,SNR=752						
RPZ				Sn	Sn	15 06 52.3	-1.3
	92nm,0.3s,baz=165,slow=23,SNR=23 599nm,0.3s						
RPZ	Rata Peaks	1.99	234	P	Pn	15 06 28.0	-0.5
RPZ	Rata Peaks	1.99	234	P	Pn	15 06 27.8	-0.7
ARCZ	Arundel	2.07	227	P	Pn	15 06 28.6	-0.9
KIW	Kapiti Island	2.09	36	P	Pn	15 06 29.8	0.0
TRWZ	Traveller	2.14	58	P	Pn	15 06 30.1	-0.4
MTW	Mount Morrison	2.17	51	P	Pn	15 06 30.2	-0.8
OGWZ	Otaki Gorge	2.25	40	P	Pn	15 06 31.5	-0.5
GCSZ	Gaunt Creek Bo	2.29	250	P	Pn	15 06 32.7	+0.1
HOWZ	Holdsworth Sta	2.36	46	P	Pn	15 06 32.7	-0.8
TMWZ	Te Maipa	2.43	54	P	Pn	15 06 33.6	-1.0
TMZ	Timaru	2.46	221	P	Pn	15 06 34.0	-1.0
MRZ	Mangatainoka R	2.56	43	P	Pn	15 06 35.4	-1.0
FOZ	Fox Glacier	2.71	248	P	Pn	15 06 38.6	+0.3
PRWZ	Pori Road	2.85	46	P	Pn	15 06 39.9	-0.3
LBZ	Lake Benmore	2.90	230	P	Pn	15 06 40.2	-0.8
BFZ	Birch Farm	2.91	51	P	Pn	15 06 40.7	-0.4
WAZ	Wanganui	3.08	25	P	Pn	15 06 45.5	+2.1
ODZ	Otahua Downs	3.13	216	P	Pn	15 06 43.2	-0.9
ODZ	Otahua Downs	3.13	216	P	Pn	15 06 43.0	-1.1
NMEZ	Namu Road	3.17	9	P	Pb	15 06 48.5	-2.7
LREZ	Lake Rotokare	3.21	16	P	Pn	15 06 47.3	+2.1
TSZ	Takapari Road	3.21	40	P	Pn	15 06 44.1	-1.2
KHEZ	Kahui Hut	3.31	10	P	Pn	15 06 49.4	+2.8
KHEZ	Kahui Hut	3.31	10	P	Pn	15 06 48.5	+1.9
NBEZ	Newall Road No	3.31	8	P	Pn	15 06 48.5	+1.8
PKE	Pukeiti	3.40	9	P	Pn	15 06 50.5	+2.6
JCZ	Jackson Bay	3.61	244	P	Pn	15 06 50.4	-0.4
JCZ	Jackson Bay	3.61	244	P	Pn	15 06 50.3	-0.5
VRZ	Vera Road	3.61	19	P	Pn	15 06 52.4	+1.7
PKVZ	Pokaka	3.62	26	P	Pn	15 06 52.0	+1.0
MOVZ	Moawhango	3.66	32	P	Pn	15 06 52.3	+0.8
WNVZ	Wahianoa	3.67	29	P	Pn	15 06 52.5	+0.7
TRVZ	Turoa	3.68	29	P	Pn	15 06 52.5	+0.6
WHVZ	Whangaehu Hut	3.71	29	P	Pn	15 06 53.0	+0.7
FWVZ	Far West T-bar	3.72	28	P	Pn	15 06 53.1	+0.6
NGZ	Ngauruhoe	3.81	28	P	Pn	15 06 54.2	+0.6
WKZ	Wanaka	3.83	232	P	Pn	15 06 52.5	-1.3
HHSZ	Highcliff Hill	3.84	209	P	Pn	15 06 52.8	-1.1
NNVZ	North Ngauruho	3.85	28	P	Pn	15 06 55.4	+1.1
KAHZ	Kahuranaki	3.87	46	P	Pn	15 06 53.5	-0.9
EAZ	Earnscleugh	3.92	226	P	Pn	15 06 53.8	-1.2
BKZ	Black Stump Fm	4.17	37	P	Pn	15 06 57.0	-1.5
BKZ	Black Stump Fm	4.17	37	P	Pn	15 06 56.7	-1.8
HIZ	Hauiti	4.21	17	P	Pn	15 07 00.7	+1.7
HIZ	Hauiti	4.21	17	P	Pn	15 07 00.3	+1.2
TUZ	Tuapeka	4.29	216	P	Pn	15 06 59.4	-0.6
MSZ	Milford Sound	4.42	240	P	Pn	15 06 59.8	-2.1
MTHZ	Maungataniwha	4.59	37	P	Pn	15 07 04.4	+0.2
MLZ	Mavora Lakes	4.66	231	P	Pn	15 07 03.7	-1.5
SYZ	Scrubby Hill	4.96	215	P	Pn	15 07 08.9	-0.3
SYZ	Scrubby Hill	4.96	215	P	Pn	15 07 08.8	-0.4
TOZ	Tahuroa Road	5.11	20	P	Pn	15 07 11.8	+0.4
RIGZ	Rimuhau	5.14	43	P	Pn	15 07 13.5	+1.7
URZ	Urewera	5.20	36	P	Pn	15 07 11.7	-0.8
URZ	Urewera	5.20	36	P	Pn	15 07 11.6	-0.9
AWAZ	Awhitu Peninsu	5.58	11	P	Pn	15 07 19.1	+1.2
MKAZ	Moumakai	5.63	16	P	Pn	15 07 18.9	+0.3
WTAZ	Waiatarua	5.71	11	P	Pn	15 07 21.3	+1.8
ETAZ	East Tamaki Re	5.74	13	P	Pn	15 07 21.0	+1.0
RVAZ	Riverhead Bore	5.87	10	P	Pn	15 07 22.9	+1.2
MBAZ	Motutapu North	5.91	13	P	Pn	15 07 23.8	+1.4
OUZ	Omahuta	7.33	2	P	Pn	15 07 44.3	+2.5
VNDA	Vanda	35.39	184	LR	LR	15 24 01.9	
	comp=Z,54nm,20.1s,baz=276,slow=31						
ASAR	Alice Springs	37.56	287	P	P	15 13 08.0	-1.3
	0.4nm,0.5s,baz=127,slow=7.2,SNR=19 0.4nm,0.5s						
WRA	Warramunga Arr	39.72	292	P	P	15 13 26.0	-1.5
	0.7nm,0.9s,baz=129,slow=8.6,SNR=5.1 0.7nm,0.9s						
QSPA	South Pole Qui	47.57	180	P	P	15 14 32.2	+1.9
	1.9nm,0.8s,baz=27,slow=7.4,SNR=9.4 1.9nm,0.8s						
CMAR	Chiang Mai Arr	91.30	294	P	P	15 19 00.9	+0.2
	0.2nm,0.3s,baz=150,slow=3.8,SNR=0.9 0.2nm,0.3s						
ARCES	ARCESS Array B	148.28	339	PKPbc	PKPdf	15 25 37.9	+1.5
	3.8nm,0.9s,baz=38,slow=4.6,SNR=1.5						
BRTR	Keskin Array B	149.67	278	PKPbc	PKPbc	15 25 43.7	-0.8
	0.7nm,0.8s,baz=90,slow=5.8,SNR=2.7						
TORD	Torodi Ar. Bea	149.80	196	PKPbc	PKPbc	15 25 44.9	-0.4
	24nm,0.4s,baz=169,slow=1.5,SNR=17						

*IDC **19** 15:13:59.8±1.0, 7˚27S×125˚14E, h468km±11km, mb3.0/4, mbtmp4.0/7, Error ellipse: s-maj=27.4km s-min=11.1km az=69.0*

*DJA **19** 15:14:00.3±0.3, 7˚S±3˚×12˚5E±˚, h458km±4km, M3.9/13, mb4.2/13, mB4.3/7, MLv4.2/13, Mw(mB)3.5/7, MwMwp5.5/1, Mwp5.7/1*

ISC 19 15:13:59.3±0.6, 7˚20S±0˚06×125˚30E±0˚07, h450km, n48, σ1§67/57, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.74	202	P	P	15 15 06.6	+2.0
SOEI				S	S	15 15 58.6	+1.0
SOEI	Soe	2.74	202	P	P	15 15 06.6	+2.0
BBSI	Bau Bau	3.20	302	P	P	15 15 10.9	+2.9
BBSI				S	S	15 16 05.8	+2.2
MMRI	Maumere	3.35	245	P	P	15 15 09.4	+0.3
MMRI				S	S	15 16 05.4	-0.3
BATI	Baumata	3.40	208	P	P	15 15 11.1	+1.6
	250nm,0.4s,baz=79,slow=3.0,SNR=89						
BATI				S	S	15 16 07.4	+1.0
	137nm,0.5s,baz=235,slow=2.2,SNR=4.7						
BATI	Baumata	3.40	208	P	P	15 15 11.2	+1.7
BATI				S	S	15 16 08.0	+1.6
NLAI	Namlea	4.33	25	P	P	15 15 20.3	+2.9
NLAI				S	S	15 16 23.6	+2.7
AAI	Ambon	4.53	40	P	P	15 15 22.2	+2.9
BSSI	Bau Bau, Buton	4.89	282	P	P	15 15 24.0	+1.3
KRAI	Karang Ratu	4.94	39	P	P	15 15 24.8	+1.6
SANI	Sanana	5.16	8	P	P	15 15 26.9	+1.5
	0.2nm558nm44nm,0.6s						
SANI	Sanana	5.16	8	P	P	15 15 27.2	+1.8
LUWI	Luwuk	6.62	337	P	P	15 15 41.9	+1.8
	0.2nm2µm56nm,0.6s						
LUWI	Luwuk	6.62	337	P	P	15 15 42.3	+2.2
LBMI	Labuha	6.88	19	P	P	15 15 45.0	+2.1
	0.1nm33nm,1.0s						
APSI	Ampana	7.23	330	P	P	15 15 48.8	+2.2
	0.1nm35nm,0.8s						
PLAI	Plampang	7.62	257	P	P	15 15 50.0	-0.8
	0.2nm30nm,1.2s						
MTN	Manton Dam	8.03	135	P	P	15 15 56.8	+1.8
GTOI	Gorontalo	8.11	344	P	P	15 15 59.6	+3.5
	502nm51nm,0.7s						
TNTI	Ternate	8.18	15	P	P	15 15 57.6	+0.8
	38nm,0.7s						
MRSI	Marisa	8.33	336	P	P	15 16 00.3	+1.9
	65nm,0.6s						
TWSI	Taliwang, Sumb	8.48	259	P	P	15 16 00.6	+0.6
	14nm,1.4s						
SIJI	Sorong	8.66	44	P	P	15 16 03.3	+1.3
	8.6nm,0.3s,baz=196,slow=14,SNR=14						
SIJI				S	S	15 17 38.7	-4.0
	3.7nm,0.6s,baz=197,slow=19,SNR=2.1						
SIJI	Sorong	8.66	44	P	P	15 16 03.4	+1.4
	357nm13nm,0.5s						
KNRA	Kununurra	9.08	158	P	P	15 16 07.9	+1.4
TOLI2	Tolitoli	9.41	331	P	P	15 16 11.5	+1.4
MBWA	Marble Bar	14.88	201	P	P	15 17 08.9	-0.4
WRAB	Tennant Creek	15.40	146	P	P	15 17 15.4	+0.6
WRA	Warramunga Arr	15.40	146	P	P	15 17 14.8	-0.1
	1.0nm,0.3s,baz=321,slow=12,SNR=42						
WRA				S	S	15 19 54.9	-1.4
	0.7nm,0.7s,baz=318,slow=21,SNR=4.0						
WRKA	Warakurna	17.97	171	P	P	15 17 41.8	0.0
ASAR	Alice Springs	18.34	154	P	P	15 17 46.0	+0.5
	4.6nm,0.7s,baz=342,slow=14,SNR=152						
ASAR				S	S	15 20 49.0	-1.7
	3.0nm,1.0s,baz=346,slow=22,SNR=16						
AS01	Alice Springs	18.36	154	P	P	15 17 46.4	+0.8
QIS	Mount Isa	19.19	135	P	P	15 17 54.3	+0.9
MEEK	Meekatharra	20.35	197	P	P	15 18 03.6	-0.4
OOD	Oodnadatta	22.72	156	P	P	15 18 26.2	+0.8
FORT	Forrest	23.60	174	P	P	15 18 33.6	+0.4
MULG	Mulgathing	24.39	161	P	P	15 18 40.9	+0.6
BLDU	Ballidu	24.65	198	P	P	15 18 42.3	-0.3
LCRK	Leigh Creek	26.11	154	P	P	15 18 56.4	+0.8
BBOO	Buckleboo	27.37	160	P	P	15 19 07.1	+0.4
STKA	Stephens Creek	28.87	150	P	P	15 19 20.4	+0.4
	0.7nm,0.3s,baz=349,slow=9.4,SNR=3.4 0.7nm,0.3s						
HTT	Hallett	28.99	156	P	P	15 19 22.0	+1.0
ARPS	Mount Arapiles	33.07	155	P	P	15 19 57.2	+1.1
KSRS	Korea Array	44.49	3	P	P	15 21 29.1	-0.1
	0.6nm,0.8s,baz=180,slow=8.4,SNR=4.5 0.6nm,0.8s						
MKAR	Makanchi Array	65.92	329	P	P	15 23 58.5	-1.0
	1.0nm,0.4s,baz=126,slow=7.5,SNR=33 1.0nm,0.4s						
ZALV	Zalesovo Beam	69.78	336	P	P	15 24 20.9	-2.0
	0.7nm,0.5s,baz=146,slow=5.6,SNR=3.2 0.7nm,0.5s						
TORD	Torodi Ar. Bea	124.27	281	PKP	PKPdf	15 32 04.3	-2.7
	0.3nm,0.7s,baz=77,slow=3.1,SNR=15						
LPAZ	La Paz	153.14	150	PKPab	PKPab	15 33 20.6	+0.2
	0.7nm,0.7s,baz=232,slow=3.6,SNR=3.7						

IDC 19 15:19:18.4±1.6, 1˚96S×141˚06E, h0km, mb3.5/3, mbtmp3.6/4, ML3.6/1, MS3.0/1, Error ellipse: s-maj=78.2km s-min=26.1km az=100.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.04	200	P	P	15 23 42.1	-0.2
	0.2nm,0.3s,baz=24,slow=12,SNR=11 1.3nm,0.6s						
ASAR	Alice Springs	22.66	197	P	P	15 24 21.8	+0.2
	0.8nm,0.6s,baz=28,slow=11,SNR=14 0.8nm,0.6s						
JCJ	Chichijima	28.91	2	LR	LR	15 34 59.4	
	comp=Z,29nm,20.0s,baz=332,slow=32						
MKAR	Makanchi Array	70.65	321	P	P	15 30 35.6	-0.4
	0.7nm,0.9s,baz=101,slow=8.2,SNR=4.5 0.7nm,0.9s						
ILAR	Eielson Array	84.19	24	P	P	15 31 51.8	+0.4
	0.3nm,0.6s,baz=251,slow=5.6,SNR=4.7 0.3nm,0.6s						

JMA 19 15:25:22.8±0.2, 38˚8N±0˚6×14˚2E±˚, h39km±2km, MV1.1/23, E OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.48	305	P	Pn	15 25 33.3	+0.1
OFUJ				S	Sn	15 25 40.7	+0.1
JKMT	Kesennumamotoy	0.55	271	P	Pn	15 25 34.0	-0.2
JKMT				*eS*	Sn	15 25 41.8	-0.4
JIO	Ouri	0.74	242	P	Pn	15 25 36.2	-0.4
JIO				S	Sn	15 25 45.8	-0.9
JMK	Ichinoseki	0.76	281	*eP*	Pn	15 25 37.3	+0.3
JMK				*eS*	Sn	15 25 47.1	-0.3
JOM	Ohasama	0.96	314	*eS*	Sn	15 25 52.6	+0.5

*JMA **19** 15:26:08.7±0.2, 40˚1N±0˚3×142˚9E±0˚8, h17km±1km, MD4.0/39, MV4.2/39, NE OFF IWATE PREF*

*NIED **19** 15:26:08.7, 40˚11N×142˚94E, h17km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.55; Mθθ0.04; Mϕϕ -0.60; Mrθ0.50; Mθϕ -0.21; Mϕr0.88; Fault plane solution: M₀1.18000×10¹⁵ NP1: ϕs182.00000°, δ17.00000°, λ65.00000°. NP2:ϕs28.00000°, δ75.00000°, λ97.00000°.*

*MOS **19** 15:26:09.4±0.8, 40˚08N×143˚08E, h44km, mb4.8/4 Error ellipse: s-maj=13.2km s-min=7.3km az=82.4*

*NEIC **19** 15:26:11.4±2.7, 40˚10N±0˚07×143˚05E±0˚04, h57km±11km, mb4.4/9, Error ellipse: s-maj=11.3km s-min=1.4km az=155.0*

*IDC **19** 15:26:12.5±3.1, 40˚04N×142˚97E, h52km±27km, mb3.5/13, mbtmp3.9/16, ML3.3/3, MS3.3/9, Error ellipse: s-maj=27.0km s-min=16.1km az=85.0*

ISC 19 15:26:08.3±2.4, 40˚07N±0˚04×143˚05E±0˚05, h23km±17km, n84, σ1§60/84, mb4.1/20, MS3.4/7, 1C-13D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.92	262	*iP*	Pn	15 26 24.8	-0.9
JTH				S	Sb	15 26 36.0	-1.2
JKEN	Kujiedanarisaw	1.03	278	P	Pn	15 26 26.1	-1.2
MIYJ	Miyakonagasawa	1.07	243	P	Pn	15 26 27.3	-0.5
JANG	Nango	1.21	285	*iP*	Pn	15 26 29.0	-0.8
JANG				*eS*	Sn	15 26 43.9	-1.6
JKZ	Kuzumaki	1.32	267	P	Pn	15 26 31.0	-0.4
OFUJ	Ofunato	1.45	227	*i* P	Pn	15 26 33.9	+0.8
OFUJ				*eS*	Sn	15 26 52.4	+0.9
JOM	Ohasama	1.48	247	*iP*	Pn	15 26 33.8	+0.3
JOM	Ohasama	1.48	247	A	A	15 26 33.8	
	comp=E,3.0nm,0.3s,comp=E,4.0nm,0.2s						
JARK	Aomorirokkasho	1.58	307	*iP*	Pn	15 26 35.4	+0.5
JARK				*eS*	Sn	15 26 54.4	-0.3
JSZI	Iwateshizukuis	1.64	259	A	A	15 26 36.2	
	comp=E,8.0nm,1.9s,comp=E,6.0nm,1.5s						
JTM	Tenmabayashi	1.67	296				
JTM	Tenmabayashi	1.67	296	*iP*	Pn	15 26 36.5	+0.4
JTM				S	Sn	15 26 36.8	+0.7
JMK	Ichinoseki	1.80	232	*i* P	Pn	15 26 57.2	+0.3
JMK				*eS*	Sb	15 26 39.4	+1.5
JAH	Hinai	1.85	274	*i* P	Pn	15 27 02.3	-0.3
ERM	Erimo	1.94	2		Pn	15 26 39.4	+0.8
ERM	Erimo	1.94	2	P	Pn	15 26 41.5	+1.6
JEM	Erimo	1.94	2	*eP*	Pn	15 26 41.5	+1.6
JEM				*eS*	Sn	15 26 41.0	+1.1
JRG	Rokugo	1.98	251	P	Pn	15 27 04.2	+0.6
JRG	Rokugo	1.98	251	A	A	15 26 42.2	+1.9
	comp=E,3.0nm,0.8s,comp=E,2.0nm,1.4s					15 26 42.2	
JOT	Ohata	2.00	311	*i* P	Pn	15 26 41.5	+0.7
JMM	Marumori	2.82	219		Pn	15 26 53.5	+1.7
NMR	Nemuro--Hokkai	3.86	30	*iP*	Pn	15 27 06.5	+0.3
NMR				*i* S	Sn	15 27 48.0	-2.8
JKA	Kamikawa-asahi	4.05	355	Pn	Pn	15 27 11.0	+2.1
ASAJ	Asahikawa	4.06	355	LR	LR	15 28 19.0	
	comp=Z,24nm,21.3s,baz=193,slow=31						
ASAJ	Asahikawa	4.06	355	P	Pn	15 27 11.0	+2.1
JSD	Sado	4.24	243		Pn	15 27 12.8	+1.4
RUSJ	Misakicho	4.35	21	*eP*	Pn	15 27 14.1	+1.2
RUSJ				*eS*	Sn	15 28 03.2	+0.3
YUK	Yuzh-Kuril'sk	4.48	27	*d iP*	Pn	15 27 15.7	+1.0
YUK				*i* S	Sn	15 28 03.3	-2.8
YUK				pmax	pmax		
	comp=N,83nm,0.2s						
YUK				pmax	pmax		
	comp=E,38nm,0.2s						
YUK				pmax	pmax		
	comp=Z,189nm,0.2s						
YUK				smax	smax		
	comp=E,276nm,0.2s						
YUK				smax	smax		
	comp=N,683nm,0.3s						
MAJO	Matsushiro	5.18	229		Pn	15 27 27.4	+2.9
MAJO	Matsushiro	5.18	229	P	Pn	15 27 27.4	+2.9
MJAR	Matsushiro Arr	5.18	229	P	Pn	15 27 27.1	+2.7
	comp=N,0.3nm,0.3s,baz=33,slow=14,SNR=21						
MJAR				S	Sn	15 28 19.6	-4.0
	comp=N,1.4nm,0.5s,baz=86,slow=25,SNR=0.8						
MJAR				LR	LR	15 29 40.4	
	comp=N,177nm,21.0s,baz=83,slow=41 comp=N,5.8nm,0.6s						
MJB9	Matsu-Tunnel	5.18	229		Pn	15 27 27.4	+2.9
KUR	Kuril'sk	6.26	33	*eP*	Pn	15 27 41.0	+1.8
KUR				*i* S	Sn	15 28 47.4	-2.6
KUR				pmax	pmax		
	comp=Z,35nm,1.1s						
KUR				smax	smax		
	comp=N,50nm,0.4s						
KUR				smax	smax		
	comp=E,91nm,0.4s						
JGF	Kuroka	6.34	227		Pn	15 27 43.6	+3.3
INU	Inuyama	6.71	227	Pn	Pn	15 27 47.7	+2.3
JHJ	Hachijo jima 2	7.42	202	P	Pn	15 27 56.5	+1.4
	comp=E,3.4nm,0.3s,baz=56,slow=14,SNR=1.7						
JHJ				S	Sn	15 29 15.1	-3.5
	comp=E,179nm,0.9s,baz=252,slow=20,SNR=1.9 comp=E,124nm,0.9s						
USRK	Ussuriysk Ar.	9.19	300	P	Pn	15 28 22.9	+3.5
	comp=E,0.4nm,0.3s,baz=112,slow=14,SNR=3.4						
USRK				LR	LR	15 31 46.0	
	comp=E,184nm,18.5s,baz=101,slow=36 comp=E,3.7nm,0.7s						
JHS	Saijyo	9.37	240	Pn	Pn	15 28 21.9	0.0
KSRS	Korea Array	12.09	262	P	Pn	15 29 05.9	+6.8
	comp=E,1.4nm,1.1s,baz=73,slow=14,SNR=2.1						
YAK	Yakutsk	23.44	344	*eP*	P	15 31 14.7	-0.9
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SEY	Seymchan	23.57	11	P	P	15 31 17.7	+0.9
	comp=Z,2.3nm,0.7s,baz=198,slow=11,SNR=5.5 comp=Z,2.3nm,0.7s						
SONM	Songino Array	27.30	299	P	P	15 31 51.8	+0.6
	comp=Z,0.8nm,0.4s,baz=91,slow=8.9,SNR=8.0						
SONM				LR	LR	15 43 12.0	
	comp=Z,87nm,18.5s,baz=115,slow=37 comp=Z,0.8nm,0.4s						
SONM	Songino Array	27.30	299	P	P	15 31 50.3	-0.9
H11N2	WAKE ISLAND Hy	28.80	128	T	T	16 02 41.9	
	baz=319,slow=75						
H11N1	WAKE ISLAND Hy	28.81	128	T	T	16 02 34.8	
	baz=319,slow=75						
H11N3	WAKE ISLAND Hy	28.82	128	T	T	16 02 45.4	
	baz=319,slow=75						
H11S1	WAKE ISLAND Hy	29.62	130	T	T	16 04 09.0	
	baz=321,slow=76						
H11S3	WAKE ISLAND Hy	29.62	130	T	T	16 03 54.2	
	baz=321,slow=76						
H11S2	WAKE ISLAND Hy	29.

ASAR	**Alice Springs**	**63.98**	**189**	P		**P**	**15 36 40.6**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=6.2,slow=6.9,SNR=6.3							
	comp=Z,0.2nm,0.6s							
ASAR	**Alice Springs**	**63.98**	**189**	P		**P**	**15 36 37.4**	**-2.3**
FINES	**FINESS Array B**	**66.73**	**332**	P		**P**	**15 36 57.5**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=42,slow=4.5,SNR=7.9							
FINES				LR		LR	16 09 18.0	
	comp=Z,17nm,18.2s,baz=318,slow=39							
	comp=Z,1.6nm,0.7s							
KBZ	**Khabaz**	**69.90**	**311**	P		**P**	**15 37 18.5**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=72,slow=3.2,SNR=3.7							
	comp=Z,2.4nm,0.9s							
NB2	**NORSAR Subarra**	**71.88**	**338**	P		**P**	**15 37 29.9**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**71.88**	**338**	P		**P**	**15 37 29.7**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=37,slow=5.9,SNR=4.7							
	comp=Z,1.6nm,0.8s							
AKASG	**Malin Array Be**	**72.68**	**322**	P		**P**	**15 37 34.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=43,slow=6.8,SNR=4.2							
	comp=Z,0.4nm,0.5s							
PDAR	**Pinedale Array**	**74.64**	**47**	LR		LR	16 14 19.6	
	comp=Z,12nm,18.1s,baz=355,slow=39							
BRTR	**Keskin Array B**	**77.79**	**312**	P		**P**	**15 38 04.9**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=22,slow=2.1,SNR=2.2							
	comp=Z,0.7nm,0.8s							
PPT	**Papeete**	**84.88**	**118**	LR		LR	16 11 07.0	
	comp=Z,25nm,19.5s,baz=211,slow=32							

WEL 19 15:39:05.0±0.5, 42.5°S±3°×17.4°E±°, h10km±4km, M2.3/10, ML2.5/12, MLv2.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=78.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**181**	P	Pg	15 39 09.6	+1.2
CMWZ				S	Sg	15 39 12.5	+1.7
TUWZ	**Tuamarina**	**0.26**	**309**	P	Pb	15 39 11.4	-0.4
TUWZ				S	Sb	15 39 16.0	-0.4
BSWZ	**Blackbirch Sta**	**0.28**	**245**	P	Pg	15 39 11.1	+0.5
BSWZ				S	Sb	15 39 16.1	-0.9
TCW	**Tory Channel**	**0.39**	**7**	P	Pb	15 39 13.4	-0.6
TCW				S	Sb	15 39 19.3	-0.7
WEL	**Wellington**	**0.52**	**53**	P	Pb	15 39 15.6	-0.5
NNZ	**Nelson**	**0.73**	**301**	P	Pg	15 39 19.4	+0.3
PLWZ	**Palliser**	**0.78**	**88**	P	Pb	15 39 20.6	-0.1
MSWZ	**Moikau Station**	**0.80**	**77**	P	Pb	15 39 20.7	-0.2
CAW	**Cannon Point**	**0.81**	**53**	P	Pb	15 39 20.8	-0.3
DUWZ	**D'Urville Isla**	**0.82**	**344**	P	Pb	15 39 21.3	-0.1
KIW	**Kapiti Island**	**0.90**	**36**	P	Pg	15 39 22.2	-0.1
PAWZ	**Paruwai Farm**	**0.94**	**77**	P	Pb	15 39 23.2	-0.1
THZ	**Tophouse**	**1.00**	**260**	P	Pg	15 39 23.7	-0.5
OGWZ	**Otaki Gorge**	**1.06**	**43**	P	Pg	15 39 25.0	-0.3
MTW	**Mount Morrison**	**1.06**	**66**	P	Pg	15 39 24.6	-0.8
MRNZ	**Matariki Terra**	**1.11**	**280**	P	Pg	15 39 26.4	0.0
MRZ	**Mangatainoka R**	**1.39**	**48**	P	Pn	15 39 29.6	-0.8

*WEL **19** 15:39:16.2±0.3, 43°S±2°×17°3E±°, h5km, M3.7/35, ML3.9/17, MLv3.7/35, Error ellipse: s-maj=0.0km s-min=0.0km az=102.2*
*NOU **19** 15:39:16.5, 42.83S×173.00E, h15km, MLv4.1/7, South Island, New Zealand*
ISC 19 15:39:16.6±0.9, 42.69S±0.03×172.93E±0.03, h15km, n86, σ1s34/87, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.29**	**165**	P	**Pg**	**15 39 23.4**	**+0.6**
GVZ	**Greta Valley S**	**0.29**	**165**	P	**Pg**	**15 39 23.4**	**+0.6**
GVZ				S	**Sg**	**15 39 29.2**	**+2.2**
LTZ	**Lake Taylor**	**0.49**	**259**	P	**Pg**	**15 39 25.9**	**-0.6**
LTZ	**Lake Taylor**	**0.49**	**259**	P	**Pg**	**15 39 25.8**	**-0.6**
KHZ	**Kahutara**	**0.52**	**59**	P	**Pg**	**15 39 26.8**	**-0.1**
AMCZ	**Amberley**	**0.53**	**203**	P	**Pg**	**15 39 28.0**	**+0.9**
AMCZ	**Amberley**	**0.53**	**203**	P	**Pg**	**15 39 28.0**	**+0.9**
OXZ	**Oxford**	**0.92**	**225**	P	**Pb**	**15 39 34.1**	**-0.1**
OXZ	**Oxford**	**0.92**	**225**	P	**Pb**	**15 39 34.1**	**-0.1**
THZ	**Tophouse**	**0.92**	**359**	P	**Pb**	**15 39 32.9**	**-1.4**
MQZ	**McQueen's Vall**	**1.04**	**191**	P	**Pb**	**15 39 35.5**	**-0.8**
MQZ	**McQueen's Vall**	**1.04**	**191**	P	**Pb**	**15 39 35.9**	**-0.4**
OKCZ	**Okains Bay**	**1.04**	**175**	P	**Pb**	**15 39 36.1**	**-0.3**
OKCZ	**Okains Bay**	**1.04**	**175**	P	**Pb**	**15 39 36.0**	**-0.3**
INZ	**Inchbonnie**	**1.10**	**268**	P	**Pb**	**15 39 36.5**	**-0.8**
INZ	**Inchbonnie**	**1.10**	**268**	P	**Pb**	**15 39 36.4**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.19**	**181**	P	**Pn**	**15 39 37.8**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.19**	**181**	P	**Pn**	**15 39 37.9**	**-0.8**
RACZ	**Rakaia**	**1.19**	**209**	P	**Pn**	**15 39 37.9**	**-0.8**
RACZ	**Rakaia**	**1.19**	**209**	P	**Pn**	**15 39 37.9**	**-0.8**
BSWZ	**Blackbirch Sta**	**1.20**	**36**	P	**Pn**	**15 39 38.9**	**+0.1**
DSZ	**Denniston Nort**	**1.26**	**318**	P	**Pn**	**15 39 39.5**	**-0.2**
MRNZ	**Matariki Terra**	**1.29**	**354**	P	**Pn**	**15 39 39.7**	**-0.4**
MHCZ	**Mount Hutt**	**1.31**	**229**	P	**Pn**	**15 39 39.4**	**-1.0**
MHCZ	**Mount Hutt**	**1.31**	**229**	P	**Pn**	**15 39 39.3**	**-1.0**
TUWZ	**Tuamarina**	**1.47**	**31**	P	**Pn**	**15 39 43.1**	**+0.6**
WACZ	**Wakanui South**	**1.49**	**212**	P	**Pn**	**15 39 41.9**	**-0.8**
NNZ	**Nelson**	**1.51**	**13**	P	**Pn**	**15 39 43.0**	**0.0**
TKNZ	**Takaka Hill**	**1.65**	**1**	P	**Pn**	**15 39 45.4**	**+0.3**
WVZ	**Waitaha Valley**	**1.66**	**256**	P	**Pn**	**15 39 45.2**	**+0.1**
RPZ	**Rata Peaks**	**1.71**	**233**	P	**Pn**	**15 39 45.2**	**-0.8**
RPZ	**Rata Peaks**	**1.71**	**233**	P	**Pn**	**15 39 45.2**	**-0.8**
ARCZ	**Arundel**	**1.80**	**225**	P	**Pn**	**15 39 46.3**	**-0.7**
QRZ	**Quartz Range**	**1.88**	**351**	P	**Pn**	**15 39 49.3**	**+1.1**
QRZ	**Quartz Range**	**1.88**	**351**	P	**Pn**	**15 39 48.9**	**+0.7**
WEL	**Wellington**	**1.96**	**45**	P	**Pn**	**15 39 49.1**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.01**	**251**	P	**Pn**	**15 39 50.2**	**+0.2**
DUWZ	**D'Urville Isla**	**2.02**	**22**	P	**Pn**	**15 39 51.6**	**+1.4**
TMZ	**Timaru**	**2.20**	**219**	P	**Pn**	**15 39 51.8**	**-0.8**
CAW	**Cannon Point**	**2.24**	**46**	P	**Pn**	**15 39 52.7**	**-0.5**
KIW	**Kapiti Island**	**2.35**	**40**	P	**Pn**	**15 39 54.6**	**0.0**
TRWZ	**Traveller**	**2.42**	**59**	P	**Pn**	**15 39 54.9**	**-0.8**
FOZ	**Fox Glacier**	**2.43**	**249**	P	**Pn**	**15 39 56.1**	**+0.3**
OGWZ	**Otaki Gorge**	**2.51**	**43**	P	**Pn**	**15 39 56.4**	**-0.4**
LBZ	**Lake Benmore**	**2.62**	**229**	P	**Pn**	**15 39 57.7**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.63**	**48**	P	**Pb**	**15 40 05.1**	**+1.7**
TMWZ	**Te Maipa**	**2.71**	**55**	P	**Pn**	**15 39 58.2**	**-1.5**
MRZ	**Mangatainoka R**	**2.83**	**45**	P	**Pn**	**15 40 00.4**	**-1.0**
ODZ	**Otahua Downs**	**2.88**	**214**	P	**Pn**	**15 40 00.8**	**-1.1**
ODZ	**Otahua Downs**	**2.88**	**214**	P	**Pn**	**15 40 00.9**	**-1.0**
PRWZ	**Pori Road**	**3.12**	**48**	P	**Pn**	**15 40 04.2**	**-1.1**
WAZ	**Wanganui**	**3.31**	**29**	P	**Pn**	**15 40 09.8**	**+1.9**
JCZ	**Jackson Bay**	**3.33**	**244**	P	**Pn**	**15 40 07.6**	**-0.6**
JCZ	**Jackson Bay**	**3.33**	**244**	P	**Pn**	**15 40 07.6**	**-0.6**
NMEZ	**Namu Road**	**3.35**	**13**	P	**Pb**	**15 40 12.4**	**-3.2**
DVHZ	**Dannevirke**	**3.41**	**47**	P	**Pn**	**15 40 07.3**	**-1.9**
LREZ	**Lake Rotokare**	**3.41**	**20**	P	**Pb**	**15 40 13.7**	**-3.0**
TSZ	**Takapari Road**	**3.48**	**42**	P	**Pn**	**15 40 08.9**	**-1.3**
KHEZ	**Kahui Hut**	**3.49**	**14**	P	**Pn**	**15 40 14.1**	**+3.7**
NBEZ	**Newall Road No**	**3.49**	**12**	P	**Pn**	**15 40 13.6**	**+3.3**
PKE	**Pukeiti**	**3.58**	**13**	P	**Pn**	**15 40 14.2**	**+2.6**
EAZ	**Earnscleugh**	**3.65**	**225**	P	**Pn**	**15 40 11.6**	**-0.9**
VRZ	**Vera Road**	**3.82**	**22**	P	**Pn**	**15 40 17.0**	**+2.2**
PKVZ	**Pokaka**	**3.85**	**29**	P	**Pn**	**15 40 16.3**	**+0.9**
MOVZ	**Moawhango**	**3.91**	**34**	P	**Pn**	**15 40 16.1**	**-0.1**
WNVZ	**Wahianoa**	**3.92**	**32**	P	**Pn**	**15 40 16.7**	**+0.4**
TRVZ	**Turoa**	**3.92**	**31**	P	**Pn**	**15 40 16.8**	**+0.3**
WHVZ	**Whangaehu Hut**	**3.95**	**31**	P	**Pn**	**15 40 17.2**	**+0.3**
FWVZ	**Far West T-bar**	**3.96**	**31**	P	**Pn**	**15 40 17.4**	**+0.4**
TUZ	**Tuapeka**	**4.03**	**215**	P	**Pn**	**15 40 16.8**	**-1.0**
NGZ	**Ngauruhoe**	**4.05**	**31**	P	**Pn**	**15 40 18.8**	**+0.6**
WTVZ	**West Tongariro**	**4.10**	**30**	P	**Pn**	**15 40 19.5**	**+0.7**
MSZ	**Milford Sound**	**4.14**	**240**	P	**Pn**	**15 40 17.3**	**-1.9**
KAHZ	**Kahuranaki**	**4.15**	**47**	P	**Pn**	**15 40 17.6**	**-1.8**
HIZ	**Hauiti**	**4.42**	**20**	P	**Pn**	**15 40 25.7**	**+2.6**
HIZ	**Hauiti**	**4.42**	**20**	P	**Pn**	**15 40 24.1**	**+1.0**
BKZ	**Black Stump Fm**	**4.43**	**39**	P	**Pn**	**15 40 23.4**	**+0.1**
MTHZ	**Maungataniwha**	**4.85**	**39**	P	**Pn**	**15 40 27.1**	**-1.9**
TOZ	**Tahuroa Road**	**5.33**	**23**	P	**Pn**	**15 40 35.4**	**-0.1**
URZ	**Urewera**	**5.45**	**37**	P	**Pn**	**15 40 35.6**	**-1.7**
AWAZ	**Awhitu Peninsu**	**5.77**	**14**	P	**Pn**	**15 40 43.3**	**+1.6**
MKAZ	**Moumakai**	**5.83**	**18**	P	**Pn**	**15 40 43.3**	**+0.8**
ETAZ	**East Tamaki Re**	**5.93**	**16**	P	**Pn**	**15 40 45.3**	**+1.5**
MBAZ	**Motutapu North**	**6.10**	**15**	P	**Pn**	**15 40 49.4**	**+3.2**
WIAZ	**Waiheke Island**	**6.13**	**17**	P	**Pn**	**15 40 48.4**	**+1.8**
OUZ	**Omahuta**	**7.47**	**4**	P	**Pn**	**15 41 07.4**	**+2.4**

IDC 19 15:46:23.3±1.5, 2.39S×139.59E, h0km, mb3.5/3, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=47.2km s-min=27.1km az=97.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**8.45**	**280**	Pn	Pn	15 48 27.9	+0.8
	0.8nm,0.3s,baz=142,slow=19,SNR=4.2						
SIJI				Sn	Sn	15 49 59.5	-3.8
	0.3nm,0.3s,baz=319,slow=19,SNR=1.4						
	3.3nm,0.4s						
WRA	**Warramunga Arr**	**18.19**	**196**	P	Pn	15 50 36.4	-1.0
	0.2nm,0.3s,baz=14,slow=12,SNR=9.6						
WRA				S	Sn	15 53 50.8	-10
	0.7nm,1.0s,baz=13,slow=24,SNR=2.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**21.86**	**194**	P	P	15 51 18.1	+0.4
	0.4nm,0.4s,baz=15,slow=11,SNR=21						
ASAR				S	S	15 55 18.0	-2.4
	0.3nm,0.7s,baz=16,slow=24,SNR=4.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**70.07**	**322**	P	P	15 57 36.9	-0.4
	0.6nm,0.8s,baz=102,slow=7.9,SNR=2.3						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**85.18**	**24**	P	P	15 59 01.5	+0.2
	0.5nm,0.9s,baz=263,slow=5.1,SNR=6.0						
	0.5nm,0.9s						

DJA 19 15:52:05.4±0.4, 3°S±4°×12°8E±°, h12km±6km, M3.9/12, mb4.2/4, mb4.8/2, MLv3.7/12, Mw(mB)4.1/2, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**0.45**	**134**	P	Pb	15 52 15.2	-0.1
KRAI				S	Sg	15 52 20.6	+0.2
AAI	**Ambon**	**0.69**	**170**	P	Pg	15 52 19.1	+0.2
MSAI	**Masohi**	**0.92**	**112**	P	Pb	15 52 23.6	+0.2
NLAI	**Namlea**	**1.00**	**256**	P	Pn	15 52 25.3	+0.1
SANI	**Sanana**	**2.28**	**294**	P	Pn	15 52 41.9	-1.0
SANI				S	Sn	15 53 09.0	-2.0
LBMI	**Labuha**	**2.41**	**346**	P	Pn	15 52 46.3	+1.5
SIJI	**Sorong**	**3.83**	**57**	P	Pn	15 53 05.0	+0.7
FAKI	**Fak Fak**	**4.17**	**89**	P	Pn	15 53 08.6	-0.4
LUWI	**Luwuk**	**5.64**	**290**	P	Pn	15 53 29.4	+0.3
	0.1nm628nm22nm,0.8s						
APSI	**Ampana**	**6.74**	**288**	P	Pn	15 53 46.3	+2.0
	0.3nm870nm55nm,0.5s						

*IDC **19** 15:59:03.3±5.5, 12.78S×166.84E, h236km±53km, mb3.4/6, mbtmp3.9/7, Error ellipse: s-maj=37.6km s-min=26.3km az=159.0*
ISC 19 15:58:59.8±1.1, 12.7S±0.1×166.9E±0.2, h200km, n8, σ1s67/9, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.30**	**183**	P	**Pn**	**16 01 12.8**	**+2.7**
	8.0nm,1.0s,baz=45,slow=21,SNR=1.3						
DZM				S	**Sn**	**16 02 51.8**	**-2.5**
	8.2nm,0.9s,baz=268,slow=14,SNR=2.0						
STKA	**Stephens Creek**	**30.05**	**227**	P	**P**	**16 04 50.6**	**+0.4**
	1.2nm,0.8s,baz=51,slow=13,SNR=3.1						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**32.00**	**253**	P	**P**	**16 05 07.1**	**-0.5**
	0.7nm,0.5s,baz=85,slow=9.1,SNR=14						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**33.08**	**246**	P	**P**	**16 05 16.3**	**-0.7**
	1.3nm,0.7s,baz=71,slow=10.0,SNR=28						
	1.3nm,0.7s						
VNDA	**Vanda**	**64.84**	**181**	P	**P**	**16 09 16.0**	**-0.8**
	0.3nm,0.6s,baz=8.1,slow=7.9,SNR=2.1						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**84.75**	**18**	P	**P**	**16 11 10.4**	**-0.6**
	1.1nm,0.5s,baz=230,slow=5.1,SNR=51						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**95.50**	**317**	P	**P**	**16 12 02.8**	**+0.8**
	0.9nm,1.0s,baz=96,slow=6.5,SNR=1.8						
	0.9nm,1.0s						
ARCES	**ARCESS Array B**	**118.23**	**346**	PKP	**PKPdf**	**16 17 21.8**	**-0.7**
	8.8nm,1.1s,baz=100,slow=2.1,SNR=3.8						

RSNC 19 16:20:14.9±1.6, 8.91N×73.58W, h120km±9km, ML3.4, Mw3.7,4C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL1C	**La Loma 1 Cana**	**0.63**	**2**	*iP*	Pn	16 20 33.7	0.0
LL1C				*eS*	Sn	16 20 48.0	0.0
LL1C				IAML		16 20 53.8	
	comp=Z,1μm,0.3s						
LL5C	**La Loma 5 El P**	**0.85**	**350**	*eP*	Pn	16 20 34.9	-0.6
LL5C				*eS*	Sn	16 20 50.0	-1.2
LL5C				IAML		16 20 50.1	
	comp=Z,537nm,0.2s						
ARGC	**Ariguani, Magd**	**1.15**	**325**	*iP*	Pn	16 20 39.0	+0.4
ARGC				*eS*	Sn	16 20 56.7	+0.3
ARGC				IAML		16 21 00.7	
	comp=Z,309nm,0.2s						
PAMC	**Pamplona, Colo**	**1.78**	**151**	*eP*	Pn	16 20 46.4	+0.2
PAMC				*eS*	Sn	16 21 10.2	+0.2
PAMC				IAML		16 21 13.1	
	comp=Z,175nm,0.6s						
BRRC	**Barranca, Sant**	**1.79**	**184**	*iP*	Pn	16 20 45.1	-0.8
BRRC				*eS*	Sn	16 21 07.8	-1.7
BRRC				IAML		16 21 12.2	
	comp=Z,345nm,0.5s						
SJCC	**San Jacinto, C**	**1.86**	**302**	*iP*	Pn	16 20 46.9	+0.1
SJCC				*eS*	Sn	16 21 09.6	-1.5
SJCC				IAML		16 21 11.0	
	comp=Z,192nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.89**	**222**	*eP*	Pn	16 20 46.9	-0.2
ZARC				*eS*	Sn	16 21 12.1	+0.5
ZARC				IAML		16 21 17.2	
	comp=Z,305nm,0.5s						
CRJC	**Cerrejon, Guaj**	**2.21**	**18**	*eP*	Pn	16 20 50.3	-0.8
CRJC				*eS*	Sn	16 21 16.4	-2.3
UREC	**San Jos de Ur**	**2.25**	**239**	*eP*	Pn	16 20 50.6	-1.0
UREC				*eS*	Sn	16 21 16.8	-2.9
UREC				IAML		16 21 27.6	
	comp=Z,186nm,0.2s						
BARC	**Barichara**	**2.33**	**170**	*eP*	Pn	16 20 52.4	-0.4
BARC				*eS*	Sn	16 21 20.7	-1.2
BARC				IAML		16 21 25.0	
	comp=Z,516nm,0.3s						
PTBC	**PUERTO BERRIO,**	**2.51**	**200**	*eP*	Pn	16 20 55.0	+0.1
PTBC				*eS*	Sn	16 21 25.7	+0.1
PTBC				IAML		16 21 30.8	
	comp=Z,232nm,0.3s						
LCBC	**Los crdobas,**	**2.76**	**269**	*eP*	Pn	16 20 57.4	-0.7
LCBC				*eS*	Sn	16 21 29.9	-1.3
LCBC				IAML		16 21 33.1	
	comp=Z,79nm,0.3s						
TAMC	**Tame, Arauca**	**3.03**	**144**	*eP*	Pn	16 21 01.8	+0.1
TAMC				*eS*	Sn	16 21 36.6	-1.1
TAMC				IAML		16 21 39.5	
	comp=Z,68nm,0.4s						
URIC	**Uribia, Colomb**	**3.18**	**29**	*eP*	Pn	16 21 02.7	-0.9
URIC				*eS*	Sn	16 21 38.7	-2.6
URIC				IAML		16 21 48.3	
	comp=Z,71nm,0.3s						
NORC	**Norcasia**	**3.56**	**201**	*eP*	Pn	16 21 08.4	-0.3
NORC				*eS*	Sn	16 21 51.9	+1.5
NORC				IAML		16 22 00.2	
	comp=Z,88nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.87**	**219**	*eP*	Pn	16 21 14.1	+1.1
CBOC				*eS*	Sn	16 22 06.4	+8.6
CBOC				IAML		16 22 11.3	
	comp=Z,70nm,0.6s						
CHIC	**Chingaza**	**4.25**	**182**	*eP*	Pn	16 21 19.2	+1.0
CHIC				*eS*	Sn	16 22 10.6	+3.3
CHIC				IAML		16 22 22.4	
	comp=Z,23nm,0.4s						
PTAC	**Punta Ardita,**	**4.54**	**248**	*eP*	Pn	16 21 21.9	+0.1
PTAC				*eS*	Sn	16 22 13.2	-0.4
PTAC				IAML		16 22 15.1	
	comp=Z,19nm,0.4s						
ANIL	**Santa Ana**	**4.75**	**203**	*eP*	Pn	16 21 30.6	+5.8
ANIL				*eS*	Sn	16 22 23.9	+4.8
ANIL				IAML		16 22 36.2	
	comp=Z,110nm,0.4s						
ORTC	**Ortega, Tolima**	**5.24**	**199**	*eP*	Pn	16 21 33.3	+2.2
ORTC				*eS*	Sn	16 22 37.1	+6.6
ORTC				IAML		16 22 47.2	
	comp=Z,31nm,0.8s						
YOTC	**Yotoco, Valle**	**5.61**	**210**	*eP*	Pn	16 21 37.2	+1.0
YOTC				*eS*	Sn	16 22 37.5	-2.1
BCIP	**Isla Barro Col**	**6.19**	**273**	*eP*	Pn	16 21 58.3	+14
BCIP				*eS*	Sn	16 22 49.0	-4.5
BCIP				IAML		16 22 54.6	
	comp=Z,8.2nm,0.6s						

IDC 19 16:20:59.9±2.1, 1.03S×127.57E, h0km, mb3.1/2, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=158.9km s-min=27.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.93**	**161**	P	P	16 25 33.4	-0.2
	baz=340,slow=12,SNR=2.1						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**23.33**	**165**	P	P	16 26 10.1	+0.1
	0.2nm,0.9s,baz=345,slow=11,SNR=4.7						
	0.2nm,0.9s						
MKAR	**Makanchi Array**	**61.94**	**326**	P	P	16 31 21.5	-0.1
	0.1nm,0.3s,baz=124,slow=7.4,SNR=4.9						
	0.1nm,0.3s						

*IDC **19** 16:25:33.0±1.9, 21.28S×179.51W, h602km±21km, mb2.6/4, mbtmp3.6/5, Error ellipse: s-maj=39.9km s-min=27.0km az=167.0*
ISC 19 16:25:32.5±1.0, 21.4S±0.2×179.4W±0.2, h604km, n10, σ1s30/10, mb3.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**326**	P	**P**	**16 27 01.1**	**+0.1**
	18nm,0.4s,baz=189,slow=13,SNR=24						
ASAR	**Alice Springs**	**43.05**	**258**	P	**P**	**16 32 40.9**	**0.0**
	0.2nm,0.3s,baz=92,slow=7.6,SNR=9.1						
ASAR				ScP	**ScP**	**16 37 13.1**	**+1.8**
	0.3nm,0.7s,baz=103,slow=4.1,SNR=6.6						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.19**	**263**	P	**P**	**16 32 41.4**	**-0.6**
	0.3nm,0.3s,baz=96,slow=7.2,SNR=22						
	0.3nm,0.3s						
VNDA	**Vanda**	**56.91**	**185**	P	**P**	**16 34 22.2**	**+1.4**
	0.5nm,0.9s,baz=352,slow=7.1,SNR=1.9						
	0.5nm,0.9s						
TROLL	**Troll, Antarti**	**86.83**	**181**	P	**P**	**16 37 12.6**	**-1.1**
SNAA	**Sanae**	**87.14**	**179**	P	**P**	**16 37 13.6**	**-1.5**
VNA3	**Neumayer Olymp**	**87.33**	**177**	P	**P**	**16 37 14.5**	**-1.4**
VNA2	**Neumayer--Watz**	**87.75**	**177**	P	**P**	**16 37 17.0**	**-0.9**
TXAR	**Lajitas Array**	**88.64**	**58**	P	**P**	**16 37 23.1**	**+0.2**
	0.4nm,0.9s,baz=217,slow=7.4,SNR=3.8						
	0.4nm,0.9s						
AKASG	**Malin Array Be**	**143.14**	**329**	PKhKP	PKPpre	16 43 55.1	
	0.3nm,0.4s,baz=42,slow=4.1,SNR=1.8						

*IDC **19** 16:25:55.6±7.0, 7.56S×155.85E, h67km±52km, mb3.3/6, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=51.7km s-min=25.7km az=102.0*
ISC 19 16:25:52.5±1.3, 7.6S±0.2×156.0E±0.2, h44km, n7, σ1s04/8, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**5.13**	**310**	P	**Pn**	**16 27 06.5**	**-0.4**
	3.8nm,0.3s,baz=112,slow=3.6,SNR=2.3						
KRVT				S	**Sn**	**16 28 06.1**	**+1.1**
	35nm,0.6s,baz=60,slow=8.1,SNR=2.1						
	37nm,0.6s						
WRA	**Warramunga Arr**	**24.28**	**238**	P	**P**	**16 31 06.5**	**+0.6**
	1.1nm,1.0s,baz=61,slow=9.2,SNR=5.8						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**26.50**	**231**	P	**P**	**16 31 26.7**	**+0.6**
	0.4nm,1.0s,baz=58,slow=10,SNR=4.9						
	0.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**61.94**	**296**	P	**P**	**16 36 07.7**	**-0.6**
	1.1nm,0.7s,baz=122,slow=5.2,SNR=11						
	1.1nm,0.7s						
SONM	**Songino Array**	**70.40**	**327**	P	**P**	**16 37 01.5**	**-0.7**
	0.5nm,0.8s,baz=134,slow=7.2,SNR=2.5						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**83.61**	**21**	P	**P**	**16 38 17.2**	**+1.3**
	0.3nm,0.7s,baz=238,slow=5.0,SNR=2.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**84.53**	**319**	P	**P**	**16 38 20.3**	**-0.8**
	0.4nm,0.7s,baz=91,slow=6.2,SNR=1.4						
	0.4nm,0.7s						

*IDC **19**

baz=301
LATG eS Sb 16 29 34.3 0.0
baz=301
HGSD Ruisui 1.01 244 eP Pn 16 29 21.2 -0.3
baz=240
HGSD eS Sb 16 29 34.7 +0.5
baz=240
ILA Ilan 1.03 324 P Pn 16 29 21.5 -0.1
baz=310
ILA eS Sg 16 29 33.9 -0.2
baz=310
TWE Neicheng 1.04 319 eP Pn 16 29 21.7 -0.2
baz=315
TWE eS Sg 16 29 34.4 -0.2
baz=315
ENTT Nioudou 1.05 312 eP Pg 16 29 20.8 -0.3
baz=307
NDT Datong Townshi 1.06 309 eP Pg 16 29 19.6 -1.8
baz=304
NNSB Datong 1.07 298 P Pn 16 29 22.7 +0.4
baz=292
NNSB S Sn 16 29 37.2 -0.2
baz=292
NNSH Datong 1.07 298 eP Pb 16 29 21.7 0.0
baz=292
NNSH eS Sb 16 29 36.1 +0.2
baz=292
WHF Hehuan Shan 1.08 281 P Pn 16 29 22.7 0.0
baz=263
WHF S Sn 16 29 37.1 -0.9
baz=263
ECBN Changbin 1.08 235 P Pg 16 29 21.6 -0.1
baz=232
ECBN eS Sg 16 29 36.0 +0.2
baz=232
NNS Nan Shan 1.08 298 P Pb 16 29 21.9 0.0
baz=293
NNS eS Sb 16 29 36.3 0.0
baz=293
EHY Hungye 1.09 247 eP Pn 16 29 22.6 +0.1
baz=243
EHY S Sn 16 29 37.2 -0.7
baz=243
FUSB Fushanzhiwuyua 1.12 317 P Pn 16 29 23.0 +0.1
baz=313
FUSB eS Sb 16 29 37.1 -0.2
baz=313
FUSS Fushou 1.12 286 eP Pn 16 29 23.8 +0.6
baz=281
FUSS eS Sn 16 29 39.2 +0.4
baz=281
TWB1 Santiao Chiao 1.14 340 eP Pn 16 29 23.3 +0.1
baz=354
TWB1 eS Sg 16 29 36.8 -0.9
baz=354
CHGB Renai 1.15 277 P Pn 16 29 23.8 +0.3
baz=259
CHGB eS Sn 16 29 39.2 -0.3
baz=259
YULB Yu-li 1.16 243 P Pn 16 29 23.9 +0.4
YULB Yu-li 1.16 243 P Pn 16 29 23.7 +0.2
baz=239
YULB eS Sn 16 29 39.2 -0.4
baz=239
TIPB Shuangxi 1.17 332 P Pn 16 29 23.9 +0.3
baz=329
TIPB S Sb 16 29 38.4 -0.3
baz=329
EYUL Yuli 1.17 240 eP Pn 16 29 24.1 +0.6
baz=236
EYUL eS Sn 16 29 40.1 +0.5
baz=236
TWT Tachien 1.18 286 eP Pn 16 29 24.9 +1.0
baz=267
TWT eS Sn 16 29 40.9 +0.6
baz=267
TWF1 Yuli 1.18 241 P Pn 16 29 24.2 +0.5
baz=237
TWF1 S Sn 16 29 40.2 +0.1
baz=237
NWLT Wulai 1.19 315 eP Pg 16 29 23.6 -0.2
baz=311
NWLT eS Sg 16 29 38.1 -1.0
baz=311
VWDT VWDT 1.19 262 P Pn 16 29 24.3 +0.6
baz=257
VWDT eS Sn 16 29 40.2 +0.1
baz=257
WUSB Renai 1.19 273 P Pn 16 29 24.5 +0.5
baz=268
WUSB eS Sn 16 29 40.4 -0.1
baz=268
TDCB Techi 1.20 286 eP Pn 16 29 24.9 +0.8
baz=270
YHNB Yeheng 1.20 308 P Pn 16 29 25.2 +1.1
YHNB Yeheng 1.20 308 P Pn 16 29 24.8 +0.7
baz=290
YHNB eS Sb 16 29 39.2 -0.5
baz=290
NSK Sanguang 1.22 307 eP Pb 16 29 24.1 -0.2
baz=303
NSK eS Sb 16 29 38.5 -1.7
baz=303
SXI1 Grass Mountain 1.26 337 P Pg 16 29 25.1 0.0
baz=350
SXI1 eS Sb 16 29 41.0 -0.3
baz=350
IRIF Iriomote-Funau 1.26 71 P Pg 16 29 25.6 +0.5
IRIF eS Sn 16 29 42.1 +0.1
FULB Fuli 1.27 235 P Pn 16 29 25.0 0.0
baz=220
FULB eS Sg 16 29 41.9 +0.1
baz=220
HATJ Hateruma jima 1.27 84 P Pg 16 29 26.7 +1.3
HATJ S Sn 16 29 42.6 +0.4
NWF Wu-fen Shan 1.27 333 eP Pg 16 29 25.5 +0.1
baz=330
NWF eS Sb 16 29 41.4 -0.4
baz=330
WFSB Wu-fen Shan 1.27 333 eP Pg 16 29 25.7 +0.3
baz=330
WFSB eS Sb 16 29 41.2 -0.5
baz=330
CHKT Chengkung 1.28 230 eP Pn 16 29 24.8 -0.3
baz=226
CHKT eS Sb 16 29 40.7 -1.1
baz=226
TWA Mucha 1.29 324 eP Pg 16 29 26.7 +0.9
baz=321
TWA eS Sn 16 29 42.5 -0.2
baz=321
NHDH Xindian Distri 1.31 322 eP Pg 16 29 27.1 +1.1
baz=318
NHDH eS Sn 16 29 44.8 +1.7
baz=318
TATO Taipei 1.34 321 P Pg 16 29 27.8 +1.1
TATO Taipei 1.34 321 P Pg 16 29 27.4 +0.7
baz=301
TATO eS Sb 16 29 42.6 -1.0
baz=301
WPL Puli Township 1.34 274 eP Pg 16 29 26.7 0.0
baz=270
TNOU National Taiwa 1.35 334 P Pb 16 29 26.2 -0.2
baz=332
TNOU S Sb 16 29 42.9 -0.9
baz=332
SSLB Suanglung 1.35 264 P Pg 16 29 27.2 +0.3
SSLB Suanglung 1.35 264 eP Pb 16 29 26.6 +0.1
baz=260
DPDB Guoxing 1.37 274 P Pg 16 29 27.4 +0.2
baz=270
TAP1 Taipei 1.37 324 eP Pg 16 29 28.4 +1.2
baz=320
TAP1 eS Sg 16 29 45.1 +0.1
baz=320
NFF Wufeng Townshi 1.38 301 eP Pg 16 29 27.1 -0.3
baz=296
NFF eS Sg 16 29 46.4 +1.1
baz=296
ECS Chishang 1.38 233 P Pg 16 29 27.5 0.0
baz=219
ECS eS Sg 16 29 46.2 +0.7
baz=219
WCS Beigang Elemen 1.39 275 eP Pn 16 29 26.6 +0.1
baz=271
WHP Taichung City 1.39 285 eP Pg 16 29 28.5 +0.8
baz=270
SMLT Sun Moon Lake 1.39 268 eP Pg 16 29 27.6 -0.1
baz=254
SMLT eS Sg 16 29 46.7 +0.9
baz=254
EDH Donghe 1.40 227 eP Pn 16 29 26.6 -0.2
baz=214
EDH eS Sb 16 29 43.6 -1.8
baz=214
YUS Yu-Shan 1.42 252 eP Pg 16 29 28.3 +0.1
baz=248
YUS eS Sb 16 29 46.2 -0.1
baz=248
TYC Yuchr 1.43 269 eP Pg 16 29 28.1 -0.3
baz=265
YM01 YM01 1.43 327 eP Pb 16 29 27.9 0.0
baz=325
YM01 eS Sg 16 29 46.5 -0.6
baz=325
NJD Zhudong 1.45 304 P Pg 16 29 29.6 +0.7
baz=299
WHYT Xinyi Township 1.46 261 eP Pg 16 29 28.8 -0.1
baz=244
WHYT eS Sb 16 29 47.2 +0.2
baz=244
YM08 YM08 1.46 329 eP Pb 16 29 27.8 -0.5
baz=326
LIOB Emei 1.46 299 P Pg 16 29 29.8 +0.8
baz=295
LIOB eS Sg 16 29 48.0 -0.1
baz=295
NSTT Nanjuang 1.47 298 eP Pg 16 29 29.7 +0.5
baz=294
NSTT eS Sg 16 29 48.6 +0.4
baz=294
TWS1 Kuangyinshan 1.48 322 eP Pg 16 29 29.1 -0.2
baz=337
TWS1 eS Sg 16 29 49.2 +0.7
baz=337
JKRS Kuro-shima 1.48 78 P Pg 16 29 29.6 +0.1
JKRS eS Sb 16 29 48.5 +0.8
ELDTW Lidau 1.49 240 P Pn 16 29 28.2 +0.2
baz=237
ELDTW S Sn 16 29 46.9 -0.8
baz=237
ANP Anpu 1.49 327 eP Pg 16 29 29.7 +0.1
baz=324
NTST Danshui 1.51 324 eP Pg 16 29 29.4 -0.5
baz=338
NTST eS Sg 16 29 49.6 0.0
baz=338
NCU National Centr 1.52 313 P Pg 16 29 30.0 -0.2
baz=309
NCU eS Sg 16 29 50.1 0.0
baz=309
NCUH Zhongli 1.52 313 eP Pg 16 29 30.1 -0.2
baz=309
NCUH eS Sg 16 29 50.3 +0.3
baz=309
LDUT Ludao 1.53 215 P Pn 16 29 28.4 -0.1
baz=213
LDUT eS Sn 16 29 46.7 -1.9
baz=213
TWY Chenhua 1.53 331 eP Pb 16 29 29.4 -0.2
baz=329
TWY eS Sb 16 29 49.2 +0.2
baz=329
ALS Alishan 1.54 254 eP Pg 16 29 30.4 -0.2
baz=250
ALS eS Sg 16 29 50.2 -0.4
baz=250
WJS Zhushan 1.55 266 eP Pg 16 29 31.4 +0.6
baz=262
WJS eS Sg 16 29 51.7 +0.8
baz=262
TWQ1 Liyutan 1.56 286 eP Pg 16 29 31.2 +0.4
baz=281
TWQ1 eS Sg 16 29 51.9 +0.7
baz=281
SBCB Hsinchu 1.56 303 P Pg 16 29 31.1 +0.2
baz=299
SBCB eS Sg 16 29 52.4 +1.2
baz=299
LONT Longtian 1.57 229 eP Pn 16 29 29.5 +0.4
baz=218
LONT eS Sn 16 29 49.3 -0.2
baz=218
WWF Wufeng 1.58 274 eP Pg 16 29 30.8 -0.4
baz=270
HSN Hsinchu 1.58 303 eP Pb 16 29 30.7 +0.3
baz=301
HSN eS Sg 16 29 52.7 +1.0
baz=301
NSY Sanyi 1.59 288 eP Pg 16 29 31.9 +0.4
baz=283
NSY eS Sg 16 29 53.0 +0.9
baz=283
WNT Mingjian 1.59 268 eP Pg 16 29 31.7 +0.3
baz=264
WNT eS Sg 16 29 52.8 +0.7
baz=264
NJN Zhunan 1.60 298 eP Pg 16 29 31.7 +0.1
baz=294
NMLH Miaoli 1.60 292 eP Pg 16 29 31.9 +0.2
baz=288
NMLH eS Sg 16 29 52.9 +0.3
baz=288
TCU Taichung 1.61 278 eP Pg 16 29 32.3 +0.5
baz=273
TCU eS Sg 16 29 53.8 +1.1
baz=273
JIJ Ishigaki jima 1.63 74 P Pb 16 29 30.9 -0.3
JIJ S Sn 16 29 51.7 +0.6
NHW Xinwu Township 1.64 311 eP Pb 16 29 31.6 +0.1
baz=307
NHW eS Sb 16 29 52.4 0.0
baz=307
TWGBT Beinan 1.66 228 P Pn 16 29 30.8 +0.5
TWGBT Beinan 1.66 228 eP Pn 16 29 30.5 +0.2
baz=237
TWG Pinlang 1.66 228 P Pn 16 29 30.6 +0.2
baz=238
TWG eS Sn 16 29 51.2 -0.7
baz=238
WDJ Dajia District 1.68 285 eP Pg 16 29 32.8 -0.3
baz=280
WDJ eS Sg 16 29 54.4 -0.5
baz=280
STYH Taoyuan 1.69 244 eP Pn 16 29 30.2 -0.5
baz=230
STYT Tauyuan 1.71 244 P Pb 16 29 32.4 -0.3
baz=231
STYT S Sb 16 29 54.2 -0.1
baz=231
WCHH Zhanghua 1.71 275 eP Pg 16 29 34.3 +0.6
baz=271
PCYT Pengchaiyu 1.72 349 eP Pn 16 29 31.4 +0.3
baz=348
WCKO Fanlu 1.74 254 eP Pn 16 29 31.7 +0.3
baz=250
WCKO eS Sb 16 29 55.2 +0.2
baz=250
WDLH Douliu 1.74 262 eP Pg 16 29 34.5 +0.2
baz=258
WDLH eS Sg 16 29 56.8 -0.1
baz=258
TPUB Ta-pu 1.76 249 P Pb 16 29 34.1 +0.6
TPUB Ta-pu 1.76 249 eP Pb 16 29 33.8 +0.3
baz=246
TPUB eS Sg 16 29 57.1 -0.5
baz=246
CHN4 Tsaushan 1.77 251 eP Pb 16 29 33.6 -0.1
baz=248
CHN4 eS Sb 16 29 56.9 +0.8
baz=248
WTP Ta-pu 1.79 248 eP Pb 16 29 34.4 +0.3
baz=234
WTP eS Sg 16 29 58.1 -0.5
baz=234
CHN2 Minshiung 1.83 258 eP Pg 16 29 35.6 -0.4
baz=254
CHN2 eS Sg 16 30 00.3 +0.6
baz=254
JISG Ishigakijimahi 1.84 69 P Pn 16 29 33.5 +0.7
JISG S Sn 16 29 55.6 -0.8
WRL Guolierlin Hig 1.87 269 eP Pb 16 29 34.9 -0.4
baz=280
WRL eS Sb 16 29 59.8 +0.9
baz=280
CHY Chiayi 1.88 257 eP Pb 16 29 36.1 +0.5
baz=253
CHY eS Sg 16 30 00.3 -1.1
baz=253
SGST Jiashian 1.89 244 eP Pb 16 29 34.7 -0.9
baz=231
SGST eS Sb 16 30 00.0 +0.6
baz=231
CHN1 Nanshi 1.89 247 eP Pb 16 29 36.2 +0.5
baz=244
CHN1 eS Sb 16 30 00.4 +0.9
baz=244
TWK Hsinying 1.89 250 eP Pb 16 29 36.1 +0.3
baz=246
TWK eS Sg 16 30 00.7 -1.1
baz=246
ECL Taimali 1.90 226 eP Pn 16 29 33.3 -0.3
baz=223
ECL eS Sn 16 29 56.5 -1.1
baz=223
WTCT Ta-ch'eng 1.96 268 P Pb 16 29 36.9 +0.1
baz=278
WTCT S Sg 16 30 02.9 -1.1
baz=278
SSD Sandimen 2.02 235 eP Pn 16 29 36.6 +1.3
baz=225
SSD eS Sb 16 30 03.0 -0.3
baz=225
WSF Szhu 2.04 262 eP Pb 16 29 38.0 -0.1
baz=258
WSF eS Sb 16 30 04.7 +1.1
baz=258
TSMG Majia 2.04 233 eP Pb 16 29 37.9 -0.3
baz=223
ICHU Yijhu 2.04 254 P Pb 16 29 38.3 0.0
baz=250
ICHU S Sb 16 30 05.0 +1.0
baz=250
LAY Lan-yu 2.05 203 eP Pn 16 29 35.9 +0.1
baz=202
LAY eS Sn 16 29 59.3 -2.2
baz=202
WSL Shuilin Townsh 2.05 259 eP Pb 16 29 37.1 -1.3
baz=255
WSL eS Sb 16 30 03.5 -0.5
baz=255
SCST Cishan 2.06 240 eP Pg 16 29 39.8 -0.6
baz=225
SCST eS Sg 16 30 06.9 -0.1
baz=225
CHN3 Shinhua 2.07 246 eP Pg 16 29 40.4 -0.3
baz=243
CHN3 eS Sg 16 30 07.6 +0.1
baz=243
LYUB Lan-yu 2.07 202 eP Pn 16 29 35.1 -0.9
baz=201
MASBT Mashibuluo 2.11 232 eP Pn 16 29 37.9 +1.4
baz=223
MASBT eS Sn 16 30 03.5 +0.6
baz=223
TAW Tawu 2.11 222 eP Pn 16 29 37.3 +0.9
baz=230
TAW eS Sn 16 30 02.5 -0.4
baz=230
CHN8 Yiju 2.11 254 P Pb 16 29 38.9 -0.5
baz=250
CHN8 S Sb 16 30 06.2 +0.4
baz=250
SHHT Tainan City 2.11 245 eP Pb 16 29 39.9 +0.4
baz=241
SHHT eS Sg 16 30 08.0 -0.8
baz=241
SSHA Shanhua 2.11 248 eS Sg 16 30 07.9 -0.9
baz=245
EAST Anshuo 2.12 223 eP Pn 16 29 37.2 +0.6
baz=222
TAWH Dawu Township 2.12 222 eP Pn 16 29 37.1 +0.4
baz=229
TAWH eS Sn 16 30 01.9 -1.4
baz=229
TWM1 Shoushan 2.14 239 eP Pg 16 29 41.2 -0.8
baz=236
TWM1 eS Sg 16 30 09.6 -0.3
baz=236
SGLT Jiouru 2.14 236 eP Pb 16 29 40.6 +0.6
baz=233
SGLT eS Sb 16 30 08.5 -1.4
baz=233
SCLT Jiali 2.18 250 eS Sb 16 30 08.2 +0.5
baz=246
JTJ Tarama 2.20 71 eS Sn 16 30 05.8 +0.7
SLIU Shizi 2.27 221 eP Pn 16 29 39.3 +0.6
baz=229
SCZT Fangliau 2.27 227 eP Pb 16 29 41.7 -0.5
baz=225
TSCK Chigu Township 2.28 250 P Pn 16 29 40.3 +1.4
baz=247
TSCK S Sn 16 30 08.8 +1.6
baz=247
WSSB Gushan 2.37 237 eP Pb 16 29 43.4 -0.4
baz=235
WSSB eS Sb 16 30 14.3 +1.1
baz=235
SMST Manzhou Townsh 2.40 218 eP Pn 16 29 41.7 +1.1
baz=216
SMST eS Sn 16 30 10.2 +0.1
baz=216
TSEB Hengchuen, Pin 2.46 215 eP Pb 16 29 43.9 -1.6
baz=223
TSEB eS Sn 16 30 13.8 +2.2
baz=223
HEN Hengchun 2.47 219 eP Pb 16 29 44.3 -1.3
baz=218
TWKBT Hengchun 2.48 217 eP Pn 16 29 42.9 +1.3
baz=215
TWKBT eS Sn 16 30 14.2 +2.2
baz=215
TWK1 Hengchun 2.48 217 eP Pn 16 29 42.9 +1.3
baz=215
TWK1 eS Sn 16 30 13.5 +1.5
baz=215
WDGT Dungji 2.62 256 eP Pn 16 29 45.1 +1.6
baz=252
WDGT eS Sn 16 30 17.0 +1.5
baz=252
PHUB P'eng-hu 2.64 261 eP Pn 16 29 45.5 +1.6
baz=257
PHUB eS Sn 16 30 17.1 +1.0
baz=257
PNG Penghu 2.65 263 P Pn 16 29 45.5 +1.6
baz=258
PNG eS Sn 16 30 17.5 +1.2
baz=258
VCHM Qimei 2.84 256 eP Pn 16 29 47.6 +1.0
baz=252
VCHM eS Sn 16 30 22.8 +1.9
baz=252
VWUC VWUC 2.91 292 P Pn 16 29 48.0 +0.6
baz=288
MATB Ma-tsu 3.15 315 eP Pn 16 29 51.3 +0.5
baz=311
PTMZ Houxiangcun 3.20 291 P Pn 16 29 52.1 +0.6
baz=287
LYJJ Jianjiangzhen 3.55 318 eP Pn 16 29 57.6 +1.4
baz=301
XPSS Dashiqiu 3.60 326 P Pn 16 29 57.4 +0.4
baz=323
XPSS eS Sn 16 30 38.8 -0.9
baz=323
KNM Kinmen 3.67 278 eP Pn 16 30 00.4 +2.4
baz=275
KNMB Chin-men Tao 3.72 279 eP Pn 16 29 59.0 +0.3
baz=276
MHZQ Yeshan 3.76 306 eP Pn 16 29 59.1 0.0
baz=302
AXDP Jialang 4.17 284 eP Pn 16 30 05.5 +0.6
baz=281
ZPLA Ao Xicun 4.27 271 eP Pn 16 30 07.1 +0.8
baz=269
DSXP Dongshan 4.58 268 eP Pn 16 30 11.6 +1.1
baz=266
SXFK Yanhouchang 4.97 301 eP Pn 16 30 16.0 +0.1
baz=296
PACPP Pamplona Cagay 5.54 191↑eP Pn 16 30 24.4 +0.7
PACPP eS Sn 16 31 25.4 -2.1
JOW Kunigami 6.03 60 Pn Pn 16 30 29.8 -0.6
0.5nm,0.3s,baz=225,slow=8.6,SNR=1.7
JOW Sn Sn 16 31 36.1 -3.5
baz=239,slow=19

	2.1nm,0.3s							
JOW	**Kunigami**	**6.03**	**60**	P		**Pn**	**16 30 30.4**	**0.0**
KSRS	**Korea Array**	**14.28**	**18**	LR		LR	16 39 04.0	
	comp=Z,30nm,18.0s,baz=220,slow=43							
JCJ	**Chichijima**	**18.11**	**76**	LR		LR	16 38 56.0	
	comp=Z,18nm,21.5s,baz=194,slow=33							
SONM	**Songino Array**	**27.05**	**336**	P		**P**	**16 34 43.3**	**-0.5**
	0.8nm,0.7s,baz=148,slow=9.6,SNR=6.5							
	0.8nm,0.7s							
MKAR	**Makanchi Array**	**39.30**	**316**	P		**P**	**16 36 30.0**	**-0.3**
	1.3nm,0.9s,baz=104,slow=9.9,SNR=5.4							
	1.3nm,0.9s							
MA2	**Magadan**	**40.79**	**22**	LR		LR	16 54 38.6	
	comp=Z,28nm,18.1s,baz=166,slow=38							
ZALV	**Zalesovo Beam**	**41.07**	**327**	P		**P**	**16 36 43.5**	**-1.3**
	0.6nm,0.5s,baz=118,slow=8.8,SNR=2.6							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**45.13**	**164**	P		**P**	**16 37 18.3**	**+0.2**
	0.9nm,0.7s,baz=344,slow=8.8,SNR=7.8							
	0.9nm,0.7s							
ASAR	**Alice Springs**	**48.61**	**166**	P		**P**	**16 37 46.5**	**+1.2**
	0.6nm,0.8s,baz=342,slow=7.3,SNR=16							
	0.6nm,0.8s							
BRTR	**Keskin Array B**	**74.23**	**307**	P		**P**	**16 40 38.8**	**0.0**
	1.1nm,0.9s,baz=20,slow=3.9,SNR=4.5							
	1.1nm,0.9s							
EIL	**Elat**	**76.48**	**297**	LR		LR	17 18 40.0	
	comp=Z,22nm,19.5s,baz=88,slow=39							
RAO	**Raoul Island**	**78.01**	**130**	LR		LR	17 12 00.6	
	comp=Z,140nm,18.1s,baz=94,slow=33							

*PRE **19** 16:37:57.9±2.1,22.07S×24.53E,h5km,ML2.5*
*EAF **19** 16:37:58.3±3.6,21.85S×24.47E,h10km,MD4.3*
*BUL **19** 16:37:59.5±1.5,21.88S×24.69E,h10km,MD4.9*
*NAM **19** 16:38:14.4±1.3,22.08S×23.47E,h0km±94km,MD4.8*

ISC 19 16:37:56.5±0.8,21.85S±0.05×24.49E±0.05,h10km,n28, σ3°48/49,Botswana

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
LBTB	**Lobatse**	**3.31**	**162**	*eP*		**Pn**	**16 38 47.5**	**-1.1**
LBTB				*eS*		**Sn**	**16 39 26.4**	**-1.6**
LBTB				IAML			16 39 50.9	
	comp=Z,9.6nm,0.3s							
LBTB	**Lobatse**	**3.31**	**162**	*i* Pg		**Pb**	**16 38 56.5**	**+1.1**
LBTB				*i* Sg		**Sb**	**16 39 39.7**	**+3.9**
LBTB	**Lobatse**	**3.31**	**162**	*i* Pg		**Pb**	**16 38 56.5**	**+1.1**
LBTB				*i* Sg		**Sb**	**16 39 39.7**	**+3.9**
LEPH	**Lephalale, Lim**	**3.65**	**124**	*eP*		**Pn**	**16 38 54.5**	**+1.3**
LEPH				*eS*		**Sn**	**16 39 35.0**	**-1.3**
LEPH				IAML			16 39 53.4	
	comp=Z,26nm,0.4s							
GAMM	**Gam**	**3.77**	**294**	*i* P		Pn	16 38 49.9	-4.9
GAMM				*i* S		Sn	16 39 17.0	-22
KSR	**Koster**	**4.55**	**151**	*eS*		**Sn**	**16 39 55.9**	**-2.9**
KSR				IAML			16 40 24.0	
	comp=Z,14nm,0.5s							
MUSN	**Musina, Limpop**	**5.00**	**96**	*eP*		**Pn**	**16 39 15.4**	**+3.6**
MUSN				*eS*		**Sn**	**16 40 07.3**	**-2.5**
MUSN				IAML			16 40 38.5	
	comp=Z,15nm,0.3s							
MUSN	**Musina, Limpop**	**5.00**	**96**	*i* P		**Pn**	**16 39 10.8**	**-1.0**
MUSN				*i* S		**Sn**	**16 40 04.7**	**-5.1**
MUSN	**Musina, Limpop**	**5.00**	**96**	*i* P		**Pn**	**16 39 10.8**	**-1.0**
MUSN				*i* S		**Sn**	**16 40 04.7**	**-5.1**
SWZ	**Schweizer**	**5.36**	**172**	*eS*		**Sn**	**16 40 14.7**	**-4.0**
SWZ				IAML			16 40 46.3	
	comp=Z,9.9nm,0.5s							
KANON	**KANO**	**5.42**	**298**	*i* P		**Pn**	**16 39 19.7**	**+2.1**
KANON				*i* S		Sn	16 40 05.0	-15
PRYS	**Parys**	**5.69**	**153**	*eP*		**Pn**	**16 39 20.9**	**-0.4**
PRYS				*eS*		**Sn**	**16 40 20.5**	**-6.3**
PRYS				IAML			16 41 07.0	
	comp=Z,6.4nm,0.5s							
HOCHN	**Hochfeld**	**6.18**	**272**	*i* P		Pn	16 39 33.3	+5.2
HOCHN				*i* S		**Sn**	**16 40 32.0**	**-6.9**
MOPA	**Mopani**	**6.59**	**106**	*eP*		**Pn**	**16 39 34.7**	**+1.1**
MOPA				*eS*		**Sn**	**16 40 46.7**	**-2.2**
MOPA				IAML			16 41 28.4	
	comp=Z,5.6nm,0.4s							
MOPA	**Mopani**	**6.59**	**106**	*i* P		**Pn**	**16 39 36.1**	**+2.5**
MOPA				*i* S		**Sn**	**16 40 49.2**	**+0.3**
MOPA	**Mopani**	**6.59**	**106**	*i* P		**Pn**	**16 39 36.1**	**+2.5**
MOPA				*i* S		**Sn**	**16 40 49.2**	**+0.3**
BOSA	**Boshof**	**6.77**	**174**	*eP*		**Pn**	**16 39 34.6**	**-1.5**
BOSA				*eS*		**Sn**	**16 40 46.6**	**-6.7**
BOSA				IAML			16 41 33.1	
	comp=Z,3.9nm,0.4s							
BOSA	**Boshof**	**6.77**	**174**	*i* P		**Pn**	**16 39 37.7**	**+1.6**
BOSA				*i* S		**Sn**	**16 40 51.0**	**-2.3**
BOSA	**Boshof**	**6.77**	**174**	*i* P		**Pn**	**16 39 37.7**	**+1.6**
BOSA				*i* S		**Sn**	**16 40 51.0**	**-2.3**
TSUM	**Tsumeb**	**6.98**	**291**	*eP*		**Pn**	**16 39 43.8**	**+4.7**
TSUM				*eS*		**Sn**	**16 41 01.4**	**+2.8**
SNKL	**Senekal, Frees**	**7.05**	**156**	*eP*		**Pn**	**16 39 42.1**	**+2.0**
SNKL				*eS*		**Sn**	**16 40 54.1**	**-6.3**
SNKL				IAML			16 41 59.6	
	comp=Z,8.1nm,0.6s							
LSZ	**Lusaka**	**7.42**	**29**	*i* P		**Pn**	**16 39 45.8**	**+0.7**
LSZ				*i* S		**Sn**	**16 41 04.2**	**-5.3**
LSZ	**Lusaka**	**7.42**	**29**	*i* P		**Pn**	**16 39 45.8**	**+0.7**
LSZ				*i* S		**Sn**	**16 41 04.2**	**-5.3**
CHIPN	**CHIPINGE**	**7.79**	**80**	*i* P		**Pn**	**16 39 53.2**	**+3.1**
CHIPN				*i* S		**Sn**	**16 41 17.4**	**-1.1**
CHIPN	**CHIPINGE**	**7.79**	**80**	*i* P		**Pn**	**16 39 53.2**	**+3.1**
CHIPN				*i* S		**Sn**	**16 41 17.4**	**-1.1**
GRAF	**Camdeboo Natio**	**10.39**	**180**	*eP*		**Pn**	**16 40 23.5**	**-2.2**
GRAF				*eS*		**Sn**	**16 42 15.5**	**-6.7**
GRAF				IAML			16 43 32.1	
	comp=Z,3.7nm,0.7s							
FRAZ	**Fraserburg**	**10.40**	**195**	*eP*		**Pn**	**16 40 26.4**	**+0.5**
FRAZ				*eS*		**Sn**	**16 42 16.1**	**-6.7**
FRAZ				IAML			16 43 28.9	
	comp=Z,2.1nm,0.6s							
GRAN	**Grantham**	**10.61**	**191**	*eP*		**Pn**	**16 40 29.3**	**+0.6**
GRAN				*eS*		Sn	16 42 18.8	-8.9
GRAN				IAML			16 43 36.1	
	comp=Z,3.2nm,0.5s							

MAN 19 16:42:12.7,6.98N×124.26E,h42km,mb3.6,ML2.3,MS1.7, 4C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
CTBH	**Cotabato--PC H**	**0.24**	**358**	*iP*		Pn	16 42 22.1	+1.5
CTBH				*i* S		Sn	16 42 28.8	+2.8
SKMP	**Bagumbayan, Su**	**0.54**	**148**	*eP*		Pn	16 42 25.5	+1.5
BUKP	**Musuan**	**1.20**	**42**	*eP*		Pn	16 42 33.7	+0.6
BUKP				*eS*		Sn	16 42 59.9	+12
PAGZ	**Pagadian**	**1.22**	**315**	*eP*		Pn	16 42 33.6	+0.3
PAGZ				*eS*		Sn	16 42 49.9	+1.2

MAN 19 16:44:17.9,6.37N×126.67E,h26km,mb4.1,ML2.9,MS2.6, 2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
MATI	**Mati**	**0.70**	**324**	*eP*		Pn	16 44 32.1	-0.1
MATI				*eS*		Sn	16 44 43.2	+0.9
DDMP	**Don Marcelino,**	**0.99**	**255**	*eP*		Pn	16 44 35.1	-1.0
DDMP				*eS*		Sb	16 44 48.6	-0.5
KCP	**Kidapawan**	**1.69**	**292**	*iP*		Pn	16 44 46.0	+0.1
KCP				*i* S		Sn	16 45 03.9	-2.9
GSPH	**General Santos**	**1.73**	**261**	*eP*		Pn	16 44 44.0	-2.5
BIPH	**Bislig**	**1.83**	**350**	*eP*		Pn	16 44 48.5	+0.8
BIPH				*i* S		Sb	16 45 12.0	-1.2

*IDC **19** 16:56:00.8±4.9,37.21N×71.88E,h182km±44km,mb3.3/5, mbtmp3.8/7,MS3.0/1,Error ellipse: s-maj=50.0km s-min=21.9km az=160.0*
*NNC **19** 16:56:07.2±13.0,37.73N×72.10E,h198km±158km,mb2.8, mpv3.6,Error ellipse: s-maj=143.3km s-min=67.8km az=171.0*

ISC 19 16:56:01.6±0.8,37.38N±0.08×71.94E±0.08,h200km,n25, σ2°66/24,mb3.4/5,4C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
AML	**Almayashu**	**4.94**	**15**	P		**Pn**	**16 57 16.7**	**+1.2**
	SNR=28							
UCH	**Uchtor**	**5.23**	**21**	P		**Pn**	**16 57 20.7**	**+1.4**
	SNR=34							
EKS2	**Erkin-Say**	**5.46**	**14**	P		**Pn**	**16 57 24.6**	**+2.6**
	SNR=25							
AAK	**Ala-Archa**	**5.61**	**20**	P		**Pn**	**16 57 25.6**	**+1.8**
	SNR=7.4							
KK31	**Karatay Array**	**5.82**	**350**	⇑Pn		**Pn**	**16 57 27.9**	**+1.4**
	3.0nm,0.3s,baz=162,slow=11,SNR=82							
KK31				⇑Sn		**Sn**	**16 58 30.5**	**-3.1**
	23nm,0.4s,baz=169,slow=23,SNR=5.8							
USP	**Ospenovka**	**6.20**	**18**	P		**Pn**	**16 57 33.0**	**+1.6**
	SNR=6.3							
TKM2	**Tokmak 2**	**6.20**	**26**	⇑Pn		**Pn**	**16 57 32.3**	**+0.7**
	3.3nm,0.6s							
TKM2				⇓Sn		**Sn**	**16 58 36.7**	**-6.3**
	5.0nm,0.6s							
GEYT	**Alibeck**	**10.97**	**277**	P		P	16 58 32.9	-6.9
	1.2nm,0.3s,baz=100,slow=8.8,SNR=12							
GEYT				S		**Sn**	**17 00 30.5**	**-5.3**
	1.9nm,0.5s,baz=107,slow=19,SNR=3.0							
DANN	**Dangsing**	**13.40**	**129**	*eP*		**P**	**16 59 02.6**	**-4.5**
	23nm,0.4s							
GKN	**Gorkha**	**14.19**	**128**	*eP*		**P**	**16 59 13.2**	**-2.5**
	19nm,0.3s							
AB31	**Akbulak array**	**14.71**	**328**	⇓P		**P**	**16 59 23.2**	**+2.1**
	1.5nm,0.6s,baz=149,slow=11,SNR=8.8							
DMN	**Daman**	**14.76**	**127**	*eP*		**P**	**16 59 21.2**	**-1.0**
	15nm,0.3s							
PKIN	**Phulchoki**	**14.97**	**127**	*eP*		**P**	**16 59 23.3**	**-1.2**
	20nm,0.4s							
PKI	**Pulchoki**	**14.98**	**127**	*eP*		**P**	**16 59 23.3**	**-1.4**
	20nm,0.5s							
GUN	**Gumba**	**15.05**	**125**	*eP*		**P**	**16 59 24.2**	**-1.3**
	20nm,0.4s							
JIRN	**Jiri**	**15.43**	**125**	*eP*		**P**	**16 59 29.6**	**0.0**
	34nm,0.5s							
RAMN	**Ramite**	**16.18**	**126**	*eP*		**P**	**16 59 39.6**	**+1.3**
	23nm,0.5s							
AKTO	**Aktyubinsk**	**16.42**	**327**	⇑P		**Pn**	**16 59 42.9**	**+2.1**
	4.2nm,0.6s							
ZALV	**Zalesovo Beam**	**18.81**	**24**	P		**Pn**	**17 00 07.6**	**-1.2**
	1.3nm,0.3s,baz=211,slow=11,SNR=13							
SONM	**Songino Array**	**27.22**	**56**	P		**P**	**17 01 29.4**	**+2.4**
	0.2nm,0.6s,baz=250,slow=7.5,SNR=2.0							
	0.2nm,0.6s							
BRTR	**Keskin Array B**	**29.89**	**286**	LR		LR	17 15 43.9	
	comp=Z,31nm,21.6s,baz=187,slow=40							
FINES	**FINESS Array B**	**37.18**	**325**	P		P	17 02 55.0	+1.9
	5.6nm,1.1s,baz=98,slow=10.0,SNR=1.2							
	5.6nm,1.1s							
ARCES	**ARCESS Array B**	**40.62**	**337**	P		P	17 03 23.8	+2.3
	3.8nm,1.0s,baz=123,slow=9.9,SNR=1.6							
	3.8nm,1.0s							
NOA	**NORSAR Array B**	**44.14**	**322**	P		**P**	**17 03 51.6**	**+1.6**
	1.2nm,0.9s,baz=116,slow=8.0,SNR=1.9							
	1.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**66.49**	**269**	P		**P**	**17 06 30.5**	**+0.5**
	0.1nm,0.4s,baz=69,slow=5.1,SNR=1.6							
	0.1nm,0.4s							

*TRN **19** 17:04:14.3,17.07N×62.45W,h180km,MD3.9*
*IDC **19** 17:04:16.3±1.0,16.82N×62.63W,h161km±15km,mb3.2/3, mbtmp3.8/5,Error ellipse: s-maj=55.9km s-min=12.8km az=27.0*

ISC 19 17:04:16.7±0.8,16.94N±0.06×62.56W±0.07,h166km±7km, n38,σ1°07/59,mb3.6/3,2D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
MBFL	**Flemmings, Mon**	**0.38**	**120**	*eP*		**Pn**	**17 04 39.5**	**0.0**
MBFL				*eS*		**Sn**	**17 04 58.3**	**+1.6**
SEUS	**St. Eustatius**	**0.69**	**324**	*eP*		**Pn**	**17 04 41.8**	**+1.0**
SEUS				*eS*		**Sn**	**17 05 00.1**	**+0.7**
ANDO	**Antigua, Disas**	**0.71**	**76**	*eP*		**Pn**	**17 04 41.1**	**+0.1**
ANDO				*eS*		**Sn**	**17 04 59.1**	**-0.5**
ANBD	**Bethesda, Anti**	**0.76**	**82**	⇓*iP*		**Pn**	**17 04 41.3**	**0.0**
ANBD				*eS*		**Sn**	**17 04 59.4**	**-0.7**
ANWB	**Willy Bob**	**1.03**	**45**	*eP*		**Pn**	**17 04 43.8**	**+0.6**
ANWB				*eS*		**Sn**	**17 05 03.1**	**-0.6**
ABD	**La Joyeuse, An**	**1.12**	**114**	⇓*iP*		**Pn**	**17 04 44.0**	**0.0**
ABD				*eS*		**Sn**	**17 05 04.5**	**-0.5**
SMRT	**St. Maarten**	**1.21**	**336**	*eP*		**Pn**	**17 04 44.7**	**-0.1**
SMRT				*eS*		**Sn**	**17 05 05.0**	**-1.5**
CBE	**Ff, Capester**	**1.25**	**133**	*eP*		**Pn**	**17 04 45.1**	**-0.1**
CBE				*eS*		**Sn**	**17 05 09.3**	**+2.1**
TBG	**Guadaloupe-3**	**1.39**	**141**	*eP*		**Pn**	**17 04 46.7**	**+0.3**
TBG				*eS*		**Sn**	**17 05 04.0**	**-5.4**
TDBA	**Terre de Bas,**	**1.40**	**141**	*eP*		**Pn**	**17 04 46.8**	**+0.3**
H05N1	**Guadeloupe/Mar**	**1.56**	**113**	P		**Pn**	**17 04 47.6**	**-0.6**
H05N1				S		**Sn**	**17 05 11.3**	**-1.1**
	SNR=1733							
MDCT	**Cottage Hill,**	**1.68**	**141**	*eP*		**Pn**	**17 04 49.4**	**+0.1**
DSLB	**Salisbury**	**1.85**	**144**	*eP*		**Pn**	**17 04 50.9**	**-0.3**
DSLB				*eS*		**Sn**	**17 05 19.4**	**+1.6**
DLPL	**La Plaine**	**2.03**	**142**	*eP*		**Pn**	**17 04 53.4**	**+0.2**
DLPL				*eS*		**Sn**	**17 05 22.6**	**+1.1**
PCM	**Pelee Case Pet**	**2.48**	**148**	*eP*		**Pn**	**17 04 57.9**	**-0.4**
SVN	**Savane Anatole**	**2.48**	**147**	*eP*		**Pn**	**17 04 58.1**	**-0.3**
CXM	**Morne La Croix**	**2.50**	**148**	*eP*		**Pn**	**17 04 58.2**	**-0.6**
BAMF	**Morne Balai**	**2.51**	**147**	*eP*		**Pn**	**17 04 58.4**	**-0.4**
GBMF	**Grand Be**	**2.52**	**148**	*eP*		**Pn**	**17 04 58.4**	**-0.5**
PML	**Morne Lenard**	**2.52**	**148**	*eP*		**Pn**	**17 04 59.2**	**+0.3**
FDF	**Fort de France**	**2.58**	**148**	*eP*		**Pn**	**17 04 59.2**	**-0.4**
FDF				*eS*		**Sn**	**17 05 33.7**	**+0.8**
ILAM	**Ilet Lapin Mar**	**2.69**	**143**	*eP*		**Pn**	**17 05 00.3**	**-0.6**
ILAM				*eS*		**Sn**	**17 05 34.7**	**-0.6**
ZAM	**Aeronautique**	**2.77**	**148**	*eP*		**Pn**	**17 05 01.6**	**-0.3**
BIM	**Bigot**	**2.80**	**149**	*eP*		**Pn**	**17 05 01.9**	**-0.4**
BIM				*eS*		**Sn**	**17 05 38.0**	**+0.3**
LPMF	**Morne Lapointe**	**2.80**	**147**	*eP*		**Pn**	**17 05 01.7**	**-0.6**
MVM	**Montagne Vaucl**	**2.86**	**146**	*eP*		**Pn**	**17 05 03.1**	**+0.1**
MPOM	**Morne Pois Mar**	**2.97**	**146**	*eP*		**Pn**	**17 05 03.8**	**-0.5**
MPOM				*eS*		**Sn**	**17 05 41.4**	**+0.1**
H05S1	**Guadeloupe/Mar**	**3.00**	**146**	P		**Pn**	**17 05 04.0**	**-0.7**
H05S1				S		**Sn**	**17 05 41.2**	**-0.7**
SLBI	**Saint Lucia, B**	**3.27**	**152**	*eP*		**Pn**	**17 05 07.4**	**-0.8**
SLBI				*eS*		**Sn**	**17 05 48.5**	**+0.3**
SLB	**Belfond**	**3.42**	**155**	*eP*		**Pn**	**17 05 10.6**	**+0.6**
SLB				*eS*		**Sn**	**17 05 50.4**	**-1.2**
MCLT	**Moule a Chique**	**3.57**	**154**	*eP*		**Pn**	**17 05 11.9**	**0.0**
MCLT				*eS*		**Sn**	**17 05 54.9**	**0.0**
SJG	**San Juan**	**3.62**	**289**	P		**Pn**	**17 05 11.2**	**-1.3**
	23nm,0.4s,baz=101,slow=7.3,SNR=15							
SJG				S		**Sn**	**17 05 55.3**	**-0.7**
	6.5nm,0.3s,baz=343,slow=20,SNR=1.4							
SFAN	**Fancy Village**	**3.78**	**159**	*e*		**Pn**	**17 05 16.1**	**+1.5**
SVB	**Belmont**	**3.86**	**161**	*eP*		**Pn**	**17 05 16.1**	**+0.5**
MDP	**Montagnes des**	**15.26**	**139**	P		**Pn**	**17 07 41.9**	**-1.7**
	1.6nm,0.4s,baz=303,slow=18,SNR=2.1							
PDAR	**Pinedale Array**	**47.42**	**313**	P		**P**	**17 12 35.3**	**+0.6**
	0.8nm,0.5s,baz=119,slow=10,SNR=11							
	0.8nm,0.5s							
YKA	**Yellowknife Ar**	**58.01**	**334**	P		**P**	**17 13 52.4**	**+0.6**
	0.6nm,0.7s,baz=107,slow=6.6,SNR=2.3							
	0.6nm,0.7s							
ILAR	**Eielson Array**	**72.41**	**333**	P		**P**	**17 15 24.9**	**+0.5**
	0.2nm,0.5s,baz=95,slow=5.0,SNR=5.7							
	0.2nm,0.5s							

*IDC **19** 17:05:45.1±0.7,44.22S×38.79E,h0km,mb4.0/9, mbtmp4.0/11,ML3.8/2,MS3.7/27,Error ellipse: s-maj=26.9km s-min=18.7km az=49.0*
*NEIC **19** 17:05:46.3±1.9,44.15S±0.1×38.6E±0.1,h10km±2km, mb4.3/10,Error ellipse: s-maj=21.4km s-min=16.2km az=345.0*

ISC 19 17:05:46.5±0.6,44.07S±0.10×38.8E±0.1,h10km,n49, σ1°37/26,mb4.2/11,MS3.7/25,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
SOE	**Somerset East**	**15.32**	**313**	Pn		**Pn**	**17 09 19.4**	**-3.5**
POGA	**Pongola**	**17.62**	**339**			**Pn**	**17 09 52.5**	**+0.3**
POGA					IAmb	IAmb	17 10 03.7	
	comp=Z,15nm,1.2s							
SUR	**Sutherland**	**18.25**	**304**	P		**Pn**	**17 09 59.5**	**-0.6**
SUR					LR	LR	17 15 42.4	
	comp=Z,148nm,18.2s,baz=156,slow=32							
	comp=Z,7.2nm,0.9s							
SUR	**Sutherland**	**18.25**	**304**			**Pn**	**17 09 59.0**	**-1.1**
SUR					IAmb	IAmb	17 10 29.9	
	comp=Z,45nm,1.5s							
BOSA	**Boshof**	**18.83**	**321**	P		**P**	**17 10 07.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=160,slow=13,SNR=5.6							
BOSA					LR	LR	17 16 06.0	
	comp=Z,224nm,20.5s,baz=174,slow=33							
	comp=Z,1.7nm,0.6s							
BOSA	**Boshof**	**18.83**	**321**	P		**Pn**	**17 10 07.9**	**+0.8**
LBTB	**Lobatse**	**21.83**	**326**	P		**P**	**17 10 39.2**	**+0.1**
	comp=Z,10nm,1.1s,baz=178,slow=10,SNR=4.5							
LBTB					LR	LR	17 17 57.7	
	comp=Z,202nm,19.6s,baz=179,slow=33							
	comp=Z,10nm,1.1s							
LBTB	**Lobatse**	**21.83**	**326**	P		**P**	**17 10 38.3**	**-0.8**
LBTB					IAmb	IAmb	17 11 03.6	
	comp=Z,15nm,1.2s							
VOI	**Vohitsoka**	**23.08**	**19**	P		**P**	**17 10 50.4**	**-2.1**
VOI					IAmb	IAmb	17 11 13.2	
	comp=Z,27nm,1.5s							
MAW	**Mawson**	**26.84**	**160**	LR		LR	17 19 28.2	
	comp=Z,116nm,21.6s,baz=320,slow=31							
TSUM	**Tsumeb**	**30.47**	**318**	LR		LR	17 23 28.2	
	comp=Z,150nm,18.9s,baz=153,slow=35							
TROLL	**Troll, Antarti**	**32.91**	**200**	P		**P**	**17 12 20.6**	**-0.1**
SNAA	**Sanae**	**34.10**	**202**	P		**P**	**17 12 30.0**	**-1.0**
SNAA	**Sanae**	**34.10**	**202**	P		**P**	**17 12 30.0**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=81,slow=6.5,SNR=5.4							
SNAA					LR	LR	17 23 30.5	
	comp=Z,127nm,19.6s,baz=14,slow=31							
	comp=Z,1.4nm,0.9s							
SNAA	**Sanae**	**34.10**	**202**	P		**P**	**17 12 29.7**	**-1.2**
SNAA					IAmb	IAmb	17 12 35.9	
	comp=Z,2.7nm,1.0s							
VNA2	**Neumayer--Watz**	**35.04**	**204**	P		**P**	**17 12 39.8**	**+0.8**
	baz=45,slow=6.5							
KMBO	**Kilima Mbogo**	**42.77**	**358**	LR		LR	17 28 57.1	
	comp=Z,135nm,21.2s,baz=89,slow=32							
MBAR	**Mbarara**	**43.86**	**348**	LR		LR	17 31 46.7	
	comp=Z,176nm,18.4s,baz=158,slow=36							
QSPA	**South Pole Qui**	**46.15**	**180**	P		**P**	**17 14 09.2**	**-1.7**
	comp=Z,4.0nm,1.0s,baz=270,slow=2.9,SNR=14							
QSPA					LR	LR	17 31 43.1	
	comp=Z,92nm,20.7s,baz=253,slow=34							
	comp=Z,4.0nm,1.0s							
QSPA	**South Pole Qui**	**46.15**	**180**	P		**P**	**17 14 09.4**	**-1.5**
SBA	**Scott Base**	**54.31**	**168**	P		**P**	**17 15 14.7**	**+2.3**
SBA					IAmb	IAmb	17 15 31.5	
	comp=Z,9.7nm,1.4s							
ATD	**Arta Tunnel**	**55.45**	**5**	LR		LR	17 38 14.2	
	comp=Z,40nm,18.3s,baz=11,slow=35							
H10S2	**ASCENSION HYDR**	**57.87**	**291**	T		T	18 18 12.1	
	baz=136,slow=74,SNR=24							
H10S3	**ASCENSION HYDR**	**57.88**	**291**	T		T	18 18 13.4	
	baz=84,slow=74,SNR=39							
PALK	**Pallekele**	**63.59**	**48**	LR		LR	17 36 10.8	
	comp=Z,94nm,19.5s,baz=288,slow=29							
TORD	**Torodi Ar. Bea**	**66.19**	**320**	P		**P**	**17 16 36.3**	**+1.9**
	comp=Z,1.5nm,1.2s,baz=126,slow=3.7,SNR=3.4							
	comp=Z,1.5nm,1.2s							
WSAR	**Wadi Sarin**	**69.41**	**20**	LR		LR	17 42 24.5	
	comp=Z,42nm,19.6s,baz=189,slow=32							
EIL	**Elat**	**73.46**	**357**	LR		LR	17 48 10.2	
	comp=Z,32nm,18.9s,baz=224,slow=35							
CPUP	**Villa Florida**	**76.28**	**247**	P		**P**	**17 17 35.9**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=90,slow=2.0,SNR=3.8							
CPUP					LR	LR	17 44 54.7	
	comp=Z,37nm,18.0s,baz=214,slow=31							
	comp=Z,1.8nm,0.8s							
MMAI	**Mount Meron Ar**	**76.77**	**357**	LR		LR	17 52 05.7	
	comp=Z,36nm,18.4s,baz=128,slow=36							
STKA	**Stephens Creek**	**76.83**	**122**	P		**P**	**17 17 37.5**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=183,slow=6.8,SNR=4.3							
	comp=Z,1.7nm,0.7s							
STKA	**Stephens Creek**	**76.83**	**122**	P		**P**	**17 17 37.7**	**-0.9**
ASAR	**Alice Springs**	**77.45**	**111**	P		**P**	**17 17 42.0**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=225,slow=5.7,SNR=12							
	comp=Z,1.2nm,0.8s							
ASAR	**Alice Springs**	**77.45**	**111**	P		**P**	**17 17 41.8**	**-0.5**
IDI	**Anoyia**	**79.98**	**349**	LR		LR	17 53 37.9	
	comp=Z,35nm,21.4s,baz=180,slow=36							
WRA	**Warramunga Arr**	**80.27**	**108**	P		**P**	**17 17 57.5**	**-0.3**
	comp

WRA	**Warramunga Arr**	**46.33**	**262**	P	**P**	17 15 09.1 -0.5
KNRA	**Kununurra**	**52.44**	**266**	P	**P**	17 15 57.1 +0.7
KNRA				IAmb	IAmb	17 15 57.2
	comp=Z,9.8nm,0.8s					
MBWA	**Marble Bar**	**59.49**	**257**	P	**P**	17 16 45.3 -1.5
MBWA				IAmb	IAmb	17 17 01.3
	comp=Z,16nm,1.3s					
NWAO	**Narrogin (SRO)**	**59.70**	**243**	P	**P**	17 16 46.2 -1.9
DAV	**Davao City (W)**	**63.79**	**290**	LR	LR	17 41 36.6
	comp=Z,194nm,20.1s,baz=203,slow=33					
CASY	**Casey**	**64.13**	**206**	P	**P**	17 17 17.3 0.0
QSPA	**South Pole Qui**	**68.89**	**180**	P	**P**	17 17 50.7 +2.8
	comp=Z,1.3nm,0.7s,baz=20,slow=1.3,SNR=8.4					
	comp=Z,1.3nm,0.7s					
QSPA	**South Pole Qui**	**68.89**	**180**	P	**P**	17 17 50.7 +2.8
TXAR	**Lajitas Array**	**85.89**	**57**	P	P	17 19 28.8 +5.2
	comp=Z,0.5nm,0.8s,baz=215,slow=4.4,SNR=4.4					
	comp=Z,0.5nm,0.8s					
ILAR	**Eielson Array**	**88.59**	**12**	P	**P**	17 19 39.0 +3.3
	comp=Z,0.5nm,0.9s,baz=218,slow=5.7,SNR=1.9					
	comp=Z,0.5nm,0.9s					
CLL	**Collm**	**149.12**	**349**	*e*(PKPab)	**PKPab**	17 26 36.0 +0.3

*IDC **19** 17:08:39.2±1.4,0.°97S×134.°02E,h0km,mb3.5/4, mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=31.9km s-min=22.5km az=55.0*

ISC 19 17:08:43.2±1.2,1.°0S±0.°2×134.°0E±0.°1,h27km,n6,σ0.39/7, mb3.6/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.77**	**272**	Pn	**Pn**	**17 09 25.4**	**-0.4**
	7.7nm,0.3s,baz=104,slow=1.5,SNR=123						
SIJI				Sn	**Sn**	**17 09 58.9**	**+0.5**
	12nm,0.3s,baz=103,slow=18,SNR=3.9						
	23nm,0.2s						
WRA	**Warramunga Arr**	**18.84**	**179**	P	**P**	**17 13 00.9**	**-0.3**
	0.2nm,0.3s,baz=357,slow=12,SNR=8.8						
	0.7nm,0.5s						
CTA	**Charters Tower**	**22.43**	**149**	P	**P**	**17 13 40.5**	**+0.4**
	4.7nm,0.9s,baz=342,slow=10.0,SNR=2.2						
	4.7nm,0.9s						
ASAR	**Alice Springs**	**22.54**	**180**	P	**P**	**17 13 41.3**	**0.0**
	0.5nm,0.7s,baz=11,slow=11,SNR=7.9						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**65.61**	**324**	P	**P**	**17 19 25.0**	**+0.1**
	0.5nm,0.8s,baz=107,slow=9.7,SNR=3.0						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**86.24**	**25**	P	**P**	**17 21 22.1**	**0.0**
	0.4nm,1.0s,baz=250,slow=5.4,SNR=1.1						
	0.4nm,1.0s						

*WEL **19** 17:24:12.7±0.9,40.°5S±5.°1×17.°4E±.°,h188km±7km, M3.2/66, MLv3.2/66,Error ellipse: s-maj=0.0km s-min=0.0km az=121.6*

*NOU **19** 17:24:13.7,40.°53S×174.°15E,h157km,MLv3.8/9,Cook Strait, New Zealand*

ISC 19 17:24:08.7±1.7,40.°08S±0.°06×173.°50E±0.°06, h218km±10km,n107,σ1.18/111,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.79**	**156**	P	**Pn**	**17 24 40.3**	**+1.2**
NBEZ	**Newall Road No**	**0.86**	**19**	P	**Pn**	**17 24 41.0**	**+1.4**
NBEZ				S	**Sn**	**17 25 02.6**	**-1.0**
KHEZ	**Kahui Hut**	**0.88**	**27**	P	**Pn**	**17 24 41.3**	**+1.5**
KHEZ	**Kahui Hut**	**0.88**	**27**	P	**Pn**	**17 24 41.3**	**+1.5**
KHEZ				S	**Sn**	**17 25 02.7**	**-1.3**
NEZ	**North Egmont**	**0.93**	**30**	P	**Pn**	**17 24 41.7**	**+1.6**
PKE	**Pukeiti**	**0.96**	**23**	P	**Pn**	**17 24 41.7**	**+1.5**
TKNZ	**Takaka Hill**	**1.03**	**203**	P	**Pn**	**17 24 41.8**	**+1.2**
TKNZ				S	**Sn**	**17 25 03.0**	**-2.6**
QRZ	**Quartz Range**	**1.05**	**225**	P	**Pn**	**17 24 41.8**	**+1.2**
QRZ	**Quartz Range**	**1.05**	**225**	P	**Pn**	**17 24 41.9**	**+1.3**
NNZ	**Nelson**	**1.14**	**185**	P	**Pn**	**17 24 42.5**	**+1.3**
NNZ				S	**Sn**	**17 25 04.3**	**-2.4**
WAZ	**Wanganui**	**1.19**	**74**	P	**Pn**	**17 24 43.4**	**+1.8**
WAZ				S	**Sn**	**17 25 06.6**	**-0.6**
TCW	**Tory Channel**	**1.27**	**153**	P	**Pn**	**17 24 43.8**	**+1.6**
KIW	**Kapiti Island**	**1.32**	**126**	P	**Pn**	**17 24 43.8**	**+1.2**
VRZ	**Vera Road**	**1.36**	**46**	P	**Pn**	**17 24 43.8**	**+0.8**
TUWZ	**Tuamarina**	**1.39**	**166**	P	**Pn**	**17 24 44.8**	**+1.8**
OHWZ	**Ohakea**	**1.39**	**96**	P	**Pn**	**17 24 44.8**	**+1.7**
MRNZ	**Matariki Terra**	**1.43**	**203**	P	**Pn**	**17 24 44.8**	**+1.4**
OGWZ	**Otaki Gorge**	**1.47**	**120**	P	**Pn**	**17 24 45.0**	**+1.3**
WEL	**Wellington**	**1.54**	**142**	P	**Pn**	**17 24 45.6**	**+1.3**
CAW	**Cannon Point**	**1.57**	**131**	P	**Pn**	**17 24 45.8**	**+1.3**
PKVZ	**Pokaka**	**1.63**	**61**	P	**Pn**	**17 24 46.2**	**+0.9**
BSWZ	**Blackbirch Sta**	**1.65**	**170**	P	**Pn**	**17 24 47.1**	**+1.8**
MRZ	**Mangatainoka R**	**1.69**	**111**	P	**Pn**	**17 24 46.6**	**+1.0**
HOWZ	**Holdsworth Sta**	**1.74**	**179**	P	**Pn**	**17 24 47.1**	**+1.0**
THZ	**Tophouse**	**1.74**	**195**	P	**Pn**	**17 24 47.6**	**+1.5**
POWZ	**Post Office Ro**	**1.76**	**101**	P	**Pn**	**17 24 47.3**	**+1.0**
TRVZ	**Turoa**	**1.76**	**64**	P	**Pn**	**17 24 47.5**	**+0.9**
WNVZ	**Wahianoa**	**1.78**	**66**	P	**Pn**	**17 24 47.7**	**+1.0**
FWVZ	**Far West T-bar**	**1.79**	**63**	P	**Pn**	**17 24 47.8**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.80**	**64**	P	**Pn**	**17 24 48.0**	**+1.0**
TWVZ	**Taurewa**	**1.81**	**57**	P	**Pn**	**17 24 47.6**	**+0.7**
TUVZ	**Tukino**	**1.85**	**65**	P	**Pn**	**17 24 48.6**	**+1.3**
NGZ	**Ngauruhoe**	**1.86**	**61**	P	**Pn**	**17 24 48.3**	**+0.9**
MOVZ	**Moawhango**	**1.86**	**69**	P	**Pn**	**17 24 48.0**	**+0.6**
MTW	**Mount Morrison**	**1.86**	**126**	P	**Pn**	**17 24 48.2**	**+1.0**
MSWZ	**Moikau Station**	**1.88**	**136**	P	**Pn**	**17 24 48.7**	**+1.3**
WTVZ	**West Tongariro**	**1.88**	**60**	P	**Pn**	**17 24 48.6**	**+1.0**
TSZ	**Takapari Road**	**1.89**	**90**	P	**Pn**	**17 24 48.4**	**+0.9**
HIZ	**Hauiti**	**1.89**	**34**	P	**Pn**	**17 24 48.5**	**+1.0**
HIZ	**Hauiti**	**1.89**	**34**	P	**Pn**	**17 24 48.6**	**+1.0**
NNVZ	**North Ngauruho**	**1.89**	**60**	P	**Pn**	**17 24 48.7**	**+1.0**
PRWZ	**Pori Road**	**1.94**	**105**	P	**Pn**	**17 24 49.4**	**+1.4**
TIWZ	**Tintock**	**1.94**	**112**	P	**Pn**	**17 24 49.2**	**+1.1**
ETVZ	**East Tongariro**	**1.95**	**62**	P	**Pn**	**17 24 49.5**	**+1.2**
PAWZ	**Paruwai Farm**	**1.95**	**132**	P	**Pn**	**17 24 49.1**	**+1.0**
TMVZ	**Te Maari**	**1.96**	**61**	P	**Pn**	**17 24 49.8**	**+1.5**
PLWZ	**Palliser**	**1.99**	**139**	P	**Pn**	**17 24 49.8**	**+1.3**
DVHZ	**Dannevirke**	**2.05**	**97**	P	**Pn**	**17 24 49.9**	**+0.8**
PNHZ	**Pukenui**	**2.08**	**86**	P	**Pn**	**17 24 50.4**	**+1.0**
TMWZ	**Te Maipa**	**2.08**	**120**	P	**Pn**	**17 24 50.6**	**+1.1**
DSZ	**Denniston Nort**	**2.10**	**217**	P	**Pn**	**17 24 51.2**	**+1.6**
TRWZ	**Traveller**	**2.12**	**129**	P	**Pn**	**17 24 50.8**	**+1.1**
WPHZ	**Waipukurau**	**2.25**	**90**	P	**Pn**	**17 24 52.3**	**+1.1**
KHZ	**Kahutara**	**2.33**	**179**	P	**Pn**	**17 24 53.1**	**+1.3**
PRHZ	**Porangahau**	**2.41**	**95**	P	**Pn**	**17 24 54.1**	**+1.4**
BKZ	**Black Stump Fm**	**2.48**	**69**	P	**Pn**	**17 24 54.3**	**+0.6**
BKZ	**Black Stump Fm**	**2.48**	**69**	P	**Pn**	**17 24 54.2**	**+0.6**
MCHZ	**McNeill Hill**	**2.54**	**76**	P	**Pn**	**17 24 54.8**	**+0.5**
MRHZ	**Matea Rd**	**2.58**	**62**	P	**Pn**	**17 24 55.1**	**+0.4**
PXZ	**Pawanui**	**2.58**	**90**	P	**Pn**	**17 24 55.8**	**+1.2**
KAHZ	**Kahuranaki**	**2.61**	**85**	P	**Pn**	**17 24 56.6**	**+1.6**
NMHZ	**Naumai**	**2.74**	**70**	P	**Pn**	**17 24 58.3**	**+1.8**
CKHZ	**Cape Kidnapper**	**2.78**	**82**	P	**Pn**	**17 24 58.3**	**+1.5**
ARHZ	**Aropaoanui**	**2.82**	**74**	P	**Pn**	**17 24 58.5**	**+1.3**
LTZ	**Lake Taylor**	**2.85**	**199**	P	**Pn**	**17 24 59.0**	**+1.4**
MTHZ	**Maungataniwha**	**2.86**	**66**	P	**Pn**	**17 24 58.4**	**+0.6**
GVZ	**Greta Valley S**	**2.90**	**187**	P	**Pn**	**17 24 59.2**	**+1.0**
RAHZ	**Arahi**	**3.01**	**68**	P	**Pn**	**17 25 00.6**	**+1.1**
WHHZ	**Waihua**	**3.05**	**72**	P	**Pn**	**17 25 01.4**	**+1.5**
INZ	**Inchbonnie**	**3.06**	**210**	P	**Pn**	**17 25 01.2**	**+1.3**
RTZ	**Ruatahuna**	**3.07**	**63**	P	**Pn**	**17 25 00.8**	**+0.6**
AMCZ	**Amberley**	**3.15**	**191**	P	**Pn**	**17 25 02.1**	**+1.1**
URZ	**Urewera**	**3.34**	**58**	P	**Pn**	**17 25 03.5**	**+0.2**
URZ	**Urewera**	**3.34**	**58**	P	**Pn**	**17 25 03.3**	**+0.1**
KNZ	**Kokohu**	**3.39**	**73**	P	**Pn**	**17 25 04.7**	**+0.9**
OXZ	**Oxford**	**3.42**	**198**	P	**Pn**	**17 25 04.9**	**+0.8**
MHGZ	**Mahia Peninsul**	**3.53**	**76**	P	**Pn**	**17 25 07.0**	**+1.5**
RIGZ	**Rimuhau**	**3.58**	**69**	P	**Pn**	**17 25 07.0**	**+0.9**
MWZ	**Matawai**	**3.58**	**62**	P	**Pn**	**17 25 06.3**	**+0.2**
WVZ	**Waitaha Valley**	**3.64**	**214**	P	**Pn**	**17 25 07.7**	**+1.1**
OKCZ	**Okains Bay**	**3.65**	**185**	P	**Pn**	**17 25 07.3**	**+0.4**
MQZ	**McQueen's Vall**	**3.67**	**190**	P	**Pn**	**17 25 07.0**	**-0.1**
MHCZ	**Mount Hutt**	**3.74**	**202**	P	**Pn**	**17 25 09.0**	**+1.0**
TKGZ	**Te Karaka**	**3.75**	**65**	P	**Pn**	**17 25 08.9**	**+0.8**
KUZ	**Kuaotunu**	**3.76**	**28**	P	Pn	17 25 16.0	+7.7
RACZ	**Rakaia**	**3.78**	**195**	P	**Pn**	**17 25 09.3**	**+1.0**
AKCZ	**Akaroa Harbour**	**3.81**	**186**	P	**Pn**	**17 25 09.9**	**+1.1**
RUGZ	**Raukumara Rang**	**3.88**	**58**	P	**Pn**	**17 25 09.5**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**4.01**	**215**	P	**Pn**	**17 25 12.3**	**+1.1**
WACZ	**Wakanui South**	**4.05**	**197**	P	**Pn**	**17 25 12.9**	**+1.2**
RPZ	**Rata Peaks**	**4.06**	**206**	P	**Pn**	**17 25 13.1**	**+1.2**
RPZ	**Rata Peaks**	**4.06**	**206**	P	**Pn**	**17 25 12.9**	**+1.1**
HAZ	**Te Kaha**	**4.07**	**57**	P	**Pn**	**17 25 11.6**	**-0.4**
PKGZ	**Pakihiroa**	**4.18**	**60**	P	**Pn**	**17 25 13.6**	**+0.2**
PUZ	**Puketiti**	**4.21**	**63**	P	**Pn**	**17 25 13.8**	**+0.1**
ARCZ	**Arundel**	**4.23**	**203**	P	**Pn**	**17 25 14.8**	**+0.8**
FOZ	**Fox Glacier**	**4.41**	**217**	P	**Pn**	**17 25 16.8**	**+0.7**
WMGZ	**Waiomatatini S**	**4.45**	**61**	P	**Pn**	**17 25 16.6**	**-0.1**
MXZ	**Matakaoa Point**	**4.52**	**58**	P	**Pn**	**17 25 17.6**	**+0.1**
MXZ	**Matakaoa Point**	**4.52**	**58**	P	**Pn**	**17 25 17.9**	**+0.3**
TMZ	**Timaru**	**4.68**	**203**	P	**Pn**	**17 25 20.5**	**+1.1**
LBZ	**Lake Benmore**	**4.95**	**209**	P	**Pn**	**17 25 23.7**	**+0.7**
JCZ	**Jackson Bay**	**5.31**	**220**	P	**Pn**	**17 25 28.5**	**+1.0**
ODZ	**Otahua Downs**	**5.39**	**202**	P	**Pn**	**17 25 29.8**	**+1.5**
ODZ	**Otahua Downs**	**5.39**	**202**	P	**Pn**	**17 25 29.6**	**+1.3**
WKZ	**Wanaka**	**5.79**	**214**	P	**Pn**	**17 25 33.7**	**+0.3**
MSZ	**Milford Sound**	**6.17**	**220**	P	**Pn**	**17 25 39.9**	**+1.6**

WEL 19 17:27:06.8±0.4,42.°5S±4.°×17.°4E±.°,h15km±3km,M2.5/15, ML2.8/22,MLv2.5/15,Error ellipse: s-maj=0.0km s-min=0.0km az=143.8,South Coast

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**24**	P	Pg	17 27 10.4	+0.9
CMWZ				S	Sg	17 27 13.3	+2.0
BSWZ	**Blackbirch Sta**	**0.25**	**286**	P	Pb	17 27 13.0	+0.1
TUWZ	**Tuamarina**	**0.40**	**332**	P	Pb	17 27 15.8	+0.3
TUWZ				S	Sb	17 27 22.1	+0.6
TCW	**Tory Channel**	**0.57**	**6**	P	Pb	17 27 18.6	+0.1
TCW				S	Sb	17 27 27.1	+0.6
WEL	**Wellington**	**0.66**	**41**	P	Pb	17 27 20.4	+0.4
KHZ	**Kahutara**	**0.80**	**217**	P	Pb	17 27 22.8	+0.5
PLWZ	**Palliser**	**0.82**	**75**	P	Pb	17 27 22.9	+0.1
NNZ	**Nelson**	**0.83**	**312**	P	Pg	17 27 23.4	+0.5
MSWZ	**Moikau Station**	**0.87**	**66**	P	Pg	17 27 23.9	+0.2
CAW	**Cannon Point**	**0.94**	**44**	P	Pn	17 27 25.2	-0.2
THZ	**Tophouse**	**0.96**	**271**	P	Pn	17 27 25.9	+0.1
DUWZ	**D'Urville Isla**	**1.00**	**348**	P	Pg	17 27 26.1	0.0
PAWZ	**Paruwai Farm**	**1.01**	**67**	P	Pb	17 27 25.4	-0.5
KIW	**Kapiti Island**	**1.07**	**31**	P	Pg	17 27 27.3	0.0
MRNZ	**Matariki Terra**	**1.14**	**289**	P	Pg	17 27 29.1	+0.3
MTW	**Mount Morrison**	**1.16**	**58**	P	Pn	17 27 27.7	-0.8
TRVZ	**Traveller**	**1.19**	**72**	P	Pn	17 27 27.5	-1.3
TKNZ	**Takaka Hill**	**1.19**	**308**	P	Pb	17 27 29.1	+0.1
OGWZ	**Otaki Gorge**	**1.21**	**38**	P	Pn	17 27 29.2	0.0
HOWZ	**Holdsworth Sta**	**1.33**	**49**	P	Pn	17 27 30.6	-0.3
TMWZ	**Te Maipa**	**1.44**	**63**	P	Pn	17 27 31.1	-1.3
MRZ	**Mangatainoka R**	**1.53**	**43**	P	Pn	17 27 33.4	-0.2
QRZ	**Quartz Range**	**1.58**	**307**	P	Pb	17 27 35.9	+0.3

*IDC **19** 17:27:43.7±2.4,42.°47S×173.°34E,h0km,mb3.4/3, mbtmp3.4/4,ML3.6/1,MS3.6/1,Error ellipse: s-maj=43.4km s-min=29.0km az=72.0*

*WEL **19** 17:27:46.4±0.3,42.°5S±2.°×17.°3E±.°,h5km,M3.7/46, ML3.9/18,MLv3.7/46,Error ellipse: s-maj=0.0km s-min=0.0km az=119.5*

ISC 19 17:27:46.1±0.7,42.°37S±0.°03×173.°19E±0.°03,h15km,n74, σ1.71/77,mb3.1/3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**101**	P	**Pb**	**17 27 52.6**	**0.0**
KHZ				S	**Sb**	**17 27 57.5**	**+0.6**
GVZ	**Greta Valley S**	**0.61**	**190**	P	**Pn**	**17 27 59.7**	**-0.6**
GVZ				S	**Sn**	**17 28 09.6**	**-0.2**
THZ	**Tophouse**	**0.64**	**341**	P	**Pg**	**17 27 57.9**	**-0.8**
THZ				S	**Sg**	**17 28 05.3**	**-1.8**
LTZ	**Lake Taylor**	**0.79**	**238**	P	**Pg**	**17 28 01.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.83**	**38**	P	**Pg**	**17 28 02.4**	**+0.1**
AMCZ	**Amberley**	**0.90**	**206**	P	**Pn**	**17 28 04.9**	**+0.7**
CMWZ	**Cape Campbell**	**0.98**	**51**	P	**Pn**	**17 28 06.4**	**+1.1**
MRNZ	**Matariki Terra**	**1.02**	**342**	P	**Pb**	**17 28 04.7**	**-0.7**
TUWZ	**Tuamarina**	**1.09**	**31**	P	**Pb**	**17 28 06.6**	**-0.1**
NNZ	**Nelson**	**1.16**	**7**	P	**Pn**	**17 28 07.0**	**-0.7**
DSZ	**Denniston Nort**	**1.20**	**301**	P	**Pn**	**17 28 08.4**	**0.0**
OXZ	**Oxford**	**1.28**	**221**	P	**Pb**	**17 28 09.7**	**-0.1**
INZ	**Inchbonnie**	**1.33**	**254**	P	**Pb**	**17 28 10.6**	**-0.2**
TKNZ	**Takaka Hill**	**1.34**	**353**	P	**Pn**	**17 28 10.7**	**+0.3**
OKCZ	**Okains Bay**	**1.36**	**184**	P	**Pb**	**17 28 11.4**	**+0.1**
MQZ	**McQueen's Vall**	**1.39**	**196**	P	**Pn**	**17 28 10.9**	**0.0**
TCW	**Tory Channel**	**1.42**	**36**	P	**Pn**	**17 28 11.7**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.52**	**188**	P	**Pn**	**17 28 13.1**	**+0.3**
RACZ	**Rakaia**	**1.56**	**209**	P	**Pn**	**17 28 13.6**	**+0.3**
WEL	**Wellington**	**1.60**	**48**	P	**Pb**	**17 28 14.9**	**-0.5**
QRZ	**Quartz Range**	**1.62**	**342**	P	**Pb**	**17 28 15.4**	**-0.2**
DUWZ	**D'Urville Isla**	**1.66**	**20**	P	**Pb**	**17 28 15.7**	**-0.7**
MHCZ	**Mount Hutt**	**1.66**	**225**	P	**Pn**	**17 28 15.0**	**+0.3**
PLWZ	**Palliser**	**1.74**	**63**	P	**Pn**	**17 28 16.0**	**+0.2**
MSWZ	**Moikau Station**	**1.81**	**59**	P	**Pn**	**17 28 17.0**	**+0.3**
WACZ	**Wakanui South**	**1.86**	**212**	P	**Pn**	**17 28 17.6**	**+0.2**
CAW	**Cannon Point**	**1.89**	**49**	P	**Pn**	**17 28 18.5**	**+0.7**
WVZ	**Waitaha Valley**	**1.94**	**248**	P	**Pb**	**17 28 20.0**	**-1.1**
PAWZ	**Paruwai Farm**	**1.94**	**60**	P	**Pn**	**17 28 18.6**	**0.0**
KIW	**Kapiti Island**	**1.98**	**41**	P	**Pn**	**17 28 20.3**	**+1.2**
RPZ	**Rata Peaks**	**2.06**	**229**	Pn	**Pn**	**17 28 20.5**	**+0.2**
	21nm,0.3s,baz=54,slow=2.9,SNR=40						
RPZ				Sn	**Sn**	**17 28 46.4**	**+0.7**
	10nm,0.3s,baz=317,slow=19,SNR=12						
	48nm,0.3s						
RPZ	**Rata Peaks**	**2.06**	**229**	P	**Pn**	**17 28 20.7**	**+0.5**
TRWZ	**Traveller**	**2.10**	**63**	P	**Pn**	**17 28 20.6**	**-0.2**
MTW	**Mount Morrison**	**2.11**	**56**	P	**Pn**	**17 28 20.8**	**-0.1**
OGWZ	**Otaki Gorge**	**2.15**	**45**	P	**Pn**	**17 28 22.1**	**+0.8**
ARCZ	**Arundel**	**2.16**	**222**	P	**Pn**	**17 28 22.0**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.28**	**51**	P	**Pn**	**17 28 23.2**	**0.0**
GCSZ	**Gaunt Creek Bo**	**2.31**	**245**	P	**Pb**	**17 28 25.5**	**-1.9**
MRZ	**Mangatainoka R**	**2.48**	**47**	P	**Pn**	**17 28 26.0**	**+0.1**
TMZ	**Timaru**	**2.57**	**218**	P	**Pn**	**17 28 27.6**	**+0.4**
FOZ	**Fox Glacier**	**2.73**	**244**	P	**Pn**	**17 28 29.6**	**+2.2**
PRWZ	**Pori Road**	**2.77**	**50**	P	**Pn**	**17 28 29.8**	**-0.1**
WAZ	**Wanganui**	**2.94**	**28**	P	**Pb**	**17 28 37.8**	**-0.4**
LBZ	**Lake Benmore**	**2.98**	**226**	P	**Pn**	**17 28 33.5**	**+0.7**
NMEZ	**Namu Road**	**3.00**	**10**	P	**Pb**	**17 28 37.6**	**-1.5**
LREZ	**Lake Rotokare**	**3.05**	**18**	P	**Pb**	**17 28 39.6**	**-0.4**
TSZ	**Takapari Road**	**3.12**	**43**	P	**Pn**	**17 28 37.3**	**+2.6**
KHEZ	**Kahui Hut**	**3.13**	**12**	P	**Pb**	**17 28 38.8**	**-2.8**
NBEZ	**Newall Road No**	**3.14**	**10**	P	**Pb**	**17 28 38.5**	**-3.0**
PKE	**Pukeiti**	**3.23**	**11**	P	**Pb**	**17 28 40.2**	**-2.9**
ODZ	**Otahua Downs**	**3.25**	**214**	P	**Pn**	**17 28 36.2**	**-0.3**
VRZ	**Vera Road**	**3.45**	**21**	P	**Pb**	**17 28 43.8**	**-3.2**
MOVZ	**Moawhango**	**3.54**	**34**	P	**Pb**	**17 28 45.4**	**-3.0**
WNVZ	**Wahianoa**	**3.55**	**32**	P	**Pb**	**17 28 44.9**	**-3.7**
TRVZ	**Turoa**	**3.55**	**31**	P	**Pb**	**17 28 46.7**	**-2.1**
WHVZ	**Whangaehu Hut**	**3.58**	**31**	P	**Pn**	**17 28 45.1**	**+3.8**
JCZ	**Jackson Bay**	**3.64**	**241**	P	**Pn**	**17 28 43.7**	**+1.7**
NGZ	**Ngauruhoe**	**3.68**	**31**	P	**Pb**	**17 28 45.5**	**+3.0**
NGZ				P	Pb	17 28 46.1	-4.8
OTVZ	**Oturere**	**3.71**	**31**	P	**Pb**	**17 28 48.9**	**-2.6**
EAZ	**Earnscleugh**	**4.01**	**223**	P	**Pn**	**17 28 47.0**	**+0.1**
HIZ	**Hauiti**	**4.05**	**19**	P	**Pn**	**17 28 50.3**	**+2.7**
TOZ	**Tahuroa Road**	**4.96**	**22**	P	**Pn**	**17 29 03.2**	**+3.2**
AWAZ	**Awhitu Peninsu**	**5.42**	**12**	P	**Pn**	**17 29 09.1**	**+2.8**
MKAZ	**Moumakai**	**5.47**	**17**	P	**Pn**	**17 29 09.2**	**+2.2**
ETAZ	**East Tamaki Re**	**5.57**	**15**	P	**Pn**	**17 29 10.9**	**+2.5**
RVAZ	**Riverhead Bore**	**5.69**	**11**	P	**Pn**	**17 29 13.0**	**+2.9**
MBAZ	**Motutapu North**	**5.75**	**14**	P	**Pn**	**17 29 14.2**	**+3.4**
WIAZ	**Waiheke Island**	**5.77**	**16**	P	**Pn**	**17 29 13.7**	**+2.6**
KUZ	**Kuaotunu**	**5.95**	**20**	P	**Pn**	**17 29 15.8**	**+2.3**
OUZ	**Omahuta**	**7.14**	**3**	P	**Pn**	**17 29 34.0**	**+4.0**
VNDA	**Vanda**	**35.57**	**184**	P	**P**	**17 34 41.3**	**-1.0**
	0.9nm,0.6s,baz=63,slow=2.3,SNR=12						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**37.44**	**287**	P	**P**	**17 35 01.1**	**+2.2**
	0.3nm,0.8s,baz=129,slow=7.3,SNR=5.7						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**39.59**	**292**	P	**P**	**17 35 16.9**	**0.0**
	0.4nm,0.8s,baz=129,slow=8.4,SNR=9.5						
	0.4nm,0.8s						
KRVT	**Keravat (AS076**	**42.33**	**328**	LR	LR	17 51 36.3	
	comp=Z,63nm,18.6s,baz=58,slow=34						

*JMA **19** 17:30:23.2±0.3,26.°N±2.°×12.°4E±.°,h174km,MV3.3/25,NW OFF MIYAKOJIMA ISLAND*

*IDC **19** 17:30:24.7±4.9,26.°22N×124.°84E,h218km±61km,mb3.0/6, mbtmp3.6/7,Error ellipse: s-maj=80.3km s-min=15.5km az=64.0*

ISC 19 17:30:22.5±0.8,26.°08N±0.°09×124.°48E±0.°06, h193km±10km,n36,σ1.27/53,mb3.2/6,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.35**	**149**	P	**Pn**	**17 30 55.4**	**+1.2**
JIKM				*e*S	**Sn**	**17 31 19.1**	**+0.3**
JIRB	**Irabujima**	**1.40**	**153**	P	**Pn**	**17 30 55.5**	**+0.8**
JIRB				S	**Sn**	**17 31 18.8**	**-0.8**
JTJ	**Tarama**	**1.45**	**172**	P	**Pn**	**17 30 55.8**	**+0.6**
JTJ				S	**Sn**	**17 31 19.6**	**-0.9**
JMJ	**Miyako jima 2**	**1.46**	**149**	P	**Pn**	**17 30 57.4**	**+2.1**
JISG	**Ishigakijimahi**	**1.50**	**186**	P	**Pn**	**17 30 55.9**	**+0.3**
JISG				S	**Sn**	**17 31 19.7**	**-1.5**
JMJ2	**Miyako jima3**	**1.54**	**150**	P	**Pn**	**17 30 56.8**	**+0.8**
JMJ2				*e*S	**Sn**	**17 31 22.0**	**0.0**
JOGS	**Gusukube**	**1.56**	**147**	P	**Pn**	**17 30 57.6**	**+1.4**
JIJ	**Ishigaki jima**	**1.74**	**190**	P	**Pn**	**17 30 57.7**	**-0.1**
JIJ				S	**Sn**	**17 31 22.6**	**-2.7**
IRIF	**Iriomote-Funau**	**1.86**	**201**	P	**Pn**	**17 30 58.9**	**-0.2**
IRIF				S	**Sn**	**17 31 26.2**	**-1.4**
JKRS	**Kuro-shima**	**1.88**	**193**	P	**Pn**	**17 30 59.5**	**+0.2**
JKRS				S	**Sn**	**17 31 26.0**	**-1.9**
YOJ	**Yonaguni jima**	**2.09**	**220**	P	**Pn**	**17 31 02.0**	**+0.6**
YOJ	**Yonaguni jima**	**2.09**	**220**	P	**Pn**	**17 31 01.7**	**+0.3**
YOJ				S	**Sn**	**17 31 31.1**	**-0.6**
JKE	**Kume jima 2**	**2.09**	**83**	P	**Pn**	**17 31 02.7**	**+1.2**
HATJ	**Hateruma jima**	**2.10**	**197**	*e*S	**Sn**	**17 31 30.0**	**-2.0**
JYNG	**Yonagunijimaku**	**2.13**	**221**	P	**Pn**	**17 31 01.9**	**0.0**
JYNG				S	**Sn**	**17 31 31.9**	**-0.6**
JAGN	**Aguni-jima**	**2.53**	**78**	P	**Pn**	**17 31 07.2**	**+0.9**
JAGN				*e*S	**Sn**	**17 31 40.2**	**-0.2**
TATO	**Taipei**	**2.92**	**248**	P	Pn	17 31 14.0	+3.2
JJT3	**Tamagusuku3**	**2.97**	**88**	P	**

SIJI **Sorong** 6.86 130 P Pn 17 38 03.7 +0.2
0.6nm4µm98nm,0.7s
MPSI **Mapaga** 6.86 243 P Pn 17 38 04.2 +0.7
0.8nm3µm202nm,0.9s
LLP **Lapu-Lapu** 7.03 344⇑ eP Pn 17 38 06.0 +0.2
LLP eS Sn 17 39 27.9 +3.6
CNOP **Candoni, Negro** 7.08 332⇑ eP Pn 17 38 07.2 +0.7
KRAI **Karang Ratu** 7.22 160 P Pn 17 38 09.1 +0.7
4.0nm18µm700nm,0.5s
MSAI **Masohi** 7.44 157 P Pn 17 38 12.4 +1.0
0.4nm1µm92nm,0.8s
AAI **Ambon** 7.51 163 P Pn 17 38 12.0 -0.3
3.3nm12µm643nm,0.4s
MYLDM **Lahad Datu** 7.64 283 Pn Pn 17 38 16.2 +2.2
MYLDM Sn Sn 17 39 38.8 -0.3
MYLDM **Lahad Datu** 7.64 283 P Pn 17 38 17.3 +3.2
2.0nm2µm248nm,0.9s
JAP **San Jose, Anti** 8.21 331⇓ eP Pn 17 38 23.6 +1.7
RCP **Roxas** 8.60 338⇓ eP Pn 17 38 29.1 +2.0
KKSI **Kolaka, Sulawe** 8.79 210 P Pn 17 38 30.9 +1.1
1µm108nm,0.7s
FAKI **Fak Fak** 8.96 136 Pn Pn 17 38 32.6 +0.5
FAKI **Fak Fak** 8.96 136 P Pn 17 38 32.6 +0.5
2µm216nm,1.0s
FAKI **Fak Fak** 8.96 136 P Pn 17 38 33.2 +1.1
CNP **Catarman** 9.01 352⇑ eP Pn 17 38 34.3 +1.5
MMSI **Mamuju** 9.39 229 P Pn 17 38 42.6 +4.6
1µm144nm,0.9s
BBSI **Bau Bau** 9.59 201 P Pn 17 38 41.8 +1.1
20µm82nm,1.0s
RKPI **Ransiki, Papua** 9.60 121 P Pn 17 38 43.2 +2.4
2µm231nm,0.9s
SPSI **Sidrap Palu** 9.70 220 P Pn 17 38 45.2 +3.1
962nm110nm,0.8s
BNSI **Bone** 9.83 217 P Pn 17 38 47.5 +3.6
807nm99nm,0.8s
PMSI **Majene** 9.94 225 P Pn 17 38 49.9 +4.5
2µm212nm,1.7s
KKM **Kota Kinabalu** 10.05 285 Pn Pn 17 38 48.4 +1.4
KKM **Kota Kinabalu** 10.05 285 P Pn 17 38 50.4 +3.4
600nm46nm,0.5s
KKM **Kota Kinabalu** 10.05 285 P Pn 17 38 50.5 +3.4
BKB **Balikpapan** 10.26 242 Pn 17 38 50.7 +1.0
BKB **Balikpapan** 10.26 242 P Pn 17 38 52.5 +2.8
2µm200nm,1.0s
BKB **Balikpapan** 10.26 242 P Pn 17 38 53.0 +3.3
199nm,0.9s
KAPI **Kappang** 10.53 216 P Pn 17 38 51.5 -2.0
20nm,0.9s,baz=31,slow=8.3,SNR=17
KAPI S Sn 17 40 51.3 +1.8
13nm,0.6s,baz=51,slow=23,SNR=1.3
KAPI **Kappang** 10.53 216 Pn Pn 17 38 54.0 +0.5
KAPI **Kappang** 10.53 216 P Pn 17 38 55.6 +2.1
751nm114nm,1.0s
KAPI **Kappang** 10.53 216 P Pn 17 38 56.2 +2.7
126nm,1.0s
BKSI **Bulukumba** 10.57 214 P Pn 17 38 55.6 +1.6
570nm53nm,1.1s
BSSI **Bau Bau, Buton** 11.07 210 P Pn 17 39 03.7 +2.9
1µm165nm,0.7s
LQP **Lukban** 11.39 338⇓ eP Pn 17 39 08.7 +3.4
SRPI **Serui, Papua** 11.57 117 P Pn 17 39 09.4 +1.9
3µm93nm,0.7s
TGY **Tagaytay City** 11.62 335 eP Pn 17 39 02.7 -5.5
MTKI **Muara Teweh, K** 11.94 248 P Pn 17 39 15.8 +3.3
5µm404nm,0.8s
SAUI **Saumlaki** 12.61 155 Pn Pn 17 39 19.2 -2.2
MMRI **Maumere** 12.65 197 P 17 39 28.1 -1.3
MMRI **Maumere** 12.65 197 P P 17 39 26.5 -2.8
2µm239nm,1.0s
BBKI **Banjar Baru** 13.13 238 P P 17 39 31.9 -2.7
260nm,1.5s
SOEI **Soe** 13.31 187 Pn Pn 17 39 33.5 +2.7
SOEI **Soe** 13.31 187 P Pn 17 39 33.4 +2.7
73nm,0.7s
SBUM **Sibu** 13.79 266 Pn 17 39 39.1 +2.3
SBUM **Sibu** 13.79 266 P P 17 39 39.5 -2.4
228nm17nm,0.8s
BATI **Baumata** 13.85 190 P Pn 17 39 39.1 +1.5
24nm,0.5s,baz=308,slow=17,SNR=3.5
BATI S S 17 42 25.6 +0.1
85nm,0.8s,baz=104,slow=19,SNR=6.6
BATI LR LR 17 45 51.4
comp=Z,131nm,19.9s,baz=207,slow=41
BATI **Baumata** 13.85 190 P Pn 17 39 39.3 +1.7
1µm164nm,0.6s
SMPI **Sarmi** 13.85 113 P Pn 17 39 39.1 +1.4
47nm,0.9s
DBNI **Kabupaten Domp** 14.20 213 P Pn 17 39 43.6 +1.5
108nm,0.8s
PLAI **Plampang** 14.76 214 P Pn 17 39 50.6 +1.3
2µm311nm,0.9s
PLAI **Plampang** 14.76 214 P P 17 39 51.3 -1.4
TWSI **Taliwang, Sumb** 15.20 217 P P 17 39 58.0 +0.4
1µm224nm,0.8s
KLNI **Mataram** 15.44 220 P P 17 40 01.0 +0.7
3µm238nm,0.5s
PACPP **Pamplona Cagay** 15.51 343⇑ eP P 17 40 01.1 +0.1
PBKI **Pangkalan Bun** 15.59 247 P P 17 40 02.4 +0.4
38µm275nm,0.7s
SRBI **Singaraja** 15.77 223 P P 17 40 03.6 -0.3
77nm,0.8s
KSM **Kuching** 15.79 263 P P 17 40 03.8 -0.5
KSM **Kuching** 15.79 263 P P 17 40 06.2 +2.0
38nm,0.8s
KSM **Kuching** 15.79 263 P P 17 40 06.5 +2.3
KMMI **Kalianget** 15.95 229 P P 17 40 06.4 +0.4
93nm,1.0s
RTBI **Rangdo, Negare** 16.23 223 P P 17 40 10.8 +1.8
144nm,0.7s
IGBI **Denpasar** 16.35 221 P P 17 40 13.9 +3.5
3µm127nm,0.5s
JAGI **Jajag, Banyuwa** 16.78 225 P P 17 40 15.9 +0.8
JAGI **Jajag, Banyuwa** 16.78 225 P P 17 40 18.0 +2.9
2µm91nm,0.6s
JAGI **Jajag, Banyuwa** 16.78 225 P P 17 40 17.3 +2.2
GRJI **Gresik** 17.01 232 P P 17 40 20.4 +2.7
99nm,0.8s
MTN **Manton Dam** 17.06 163 P Pn 17 40 15.6 -2.3
baz=17,SNR=60
MTN **Manton Dam** 17.06 163 P Pn 17 40 15.3 -2.7
MTN Sn 17 43 26.5 -1.1
MTN **Manton Dam** 17.06 163 P Pn 17 40 15.9 -2.0
GMJI **Gumukmas** 17.15 227 P P 17 40 21.1 +1.9
132nm,1.0s
KDU **Kakadu** 17.36 158 P P 17 40 19.2 -2.3
baz=17,SNR=18
KDU **Kakadu** 17.36 158 P P 17 40 19.2 -2.3
SJI **Sawahan** 18.07 232 P P 17 40 28.7 -0.8
277nm,0.8s
NGJI **Ngawi** 18.09 233 P Pn 17 40 32.0 +1.5
180nm,0.8s
SMRI **Semarang** 18.74 236 P P 17 40 37.4 +0.6
SMRI **Semarang** 18.74 236 P Pn 17 40 38.8 +0.5
86nm,0.7s
SMRI **Semarang** 18.74 236 P Pn 17 40 38.7 +0.5
PCJI **Pacitan** 18.81 232 P P 17 40 36.9 -0.6
105nm,0.8s
UGM **Wanagama** 19.16 234 P P 17 40 40.2 -1.2
KNRA **Kununurra** 19.29 172 P P 17 40 42.8 +0.2
baz=19,SNR=183
KNRA **Kununurra** 19.29 172 P P 17 40 42.8 +0.2
KNRA **Kununurra** 19.29 172 P P 17 40 43.5 +0.9
YOGI **Yogyakarta** 19.29 234 P Pn 17 40 44.8 0.0
286nm,0.7s
TWG **Pinlang** 19.75 346 P P 17 40 43.9 -3.8
CTJI **Waduk Cacaban** 19.77 238 P P 17 40 48.7 +0.8
84nm,0.8s
YULB **Yu-li** 20.25 347 P P 17 40 48.7 -4.4
TPUB **Ta-pu** 20.32 346 P P 17 40 50.4 -3.4
TPUB **Ta-pu** 20.32 346 P P 17 40 51.0 -2.8
PPBI **Pangkal Pinang** 20.63 254 P Pn 17 41 00.1 -0.3
32nm,1.2s
SSLB **Suanglung** 20.71 347 P P 17 40 54.7 -3.3
SSLB **Suanglung** 20.71 347 P P 17 40 55.2 -2.8
NACB **Ninganchiao** 20.95 349 P P 17 40 57.3 -3.3
YOJ **Yonaguni jima** 21.00 352 P P 17 40 59.0 -2.1
LEM **Lembang** 21.03 241 P P 17 41 01.1 -0.6
48nm,0.9s,baz=359,slow=20,SNR=9.7
48nm,0.9s
LEM **Lembang** 21.03 241 P P 17 41 03.7 +2.1
50nm,0.8s
GUMO **Guam** 21.16 61 LR LR 17 48 04.4
comp=Z,105nm,22.0s,baz=154,slow=33
BBJI **Bungbulang** 21.31 239 P P 17 41 05.6 +1.0
YHNB **Yeheng** 21.48 348 P P 17 41 04.0 -2.3

FITZ **Fitzroy Crossi** 21.50 181 P P 17 41 05.8 -0.6
baz=157,slow=17,SNR=1.7
FITZ **Fitzroy Crossi** 21.50 181 P P 17 41 05.2 -1.2
CBJI **Citeko** 21.51 243 P P 17 41 09.0 +2.3
76nm,0.8s
DSRI **Dabo** 21.76 260 P P 17 41 10.9 +1.5
705nm23nm,0.8s
QIZ **Qiongzhong** 22.05 316 P P 17 41 12.6 +0.3
QIZ pP pP 17 41 30.9 -0.2
QIZ S S 17 45 07.3 -2.3
QIZ sS sS 17 45 41.8 +0.4
QIZ LR LR
comp=N,280nm,17.1s
QIZ LR LR
comp=E,240nm,18.3s
QIZ LR LR
comp=Z,210nm,19.1s
MYKOM **Kota Tinggi** 22.18 266 P P 17 41 13.6 -0.1
MYKOM **Kota Tinggi** 22.18 266 P P 17 41 15.1 +1.4
13nm,0.8s
BLSI **Bandar Lampung** 22.52 247 P P 17 41 19.7 +2.3
JOW **Kunigami** 23.27 5 P P 17 41 23.8 -0.7
24nm,0.6s,baz=184,slow=11,SNR=13
24nm,0.6s
JOW **Kunigami** 23.27 5 P P 17 41 24.3 -0.2
JOW **Kunigami** 23.27 5 P P 17 41 25.2 +0.7
KASI **Kota Agung** 23.27 247 P P 17 41 28.1 +3.4
54nm,0.8s
LWLI **Liwa** 23.49 249 P P 17 41 29.7 +2.9
2µm72nm,0.7s
MNAI **Manna** 24.31 251 P P 17 41 35.1 +1.0
COEN **Coen** 24.35 136 P P 17 41 34.8 +0.5
baz=24,SNR=59
COEN **Coen** 24.35 136 P P 17 41 34.5 +0.1
COEN **Coen** 24.35 136 P P 17 41 35.0 +0.6
KSI **Kapahiang** 24.44 253 P P 17 41 38.1 +2.8
45nm,0.8s
MASI **Maura Aman, Be** 24.64 255 P P 17 41 41.5 +4.4
52nm,1.2s
PMG **Port Moresby** 24.71 122 P P 17 41 38.7 +1.0
20nm,0.7s,baz=285,slow=16,SNR=9.5
20nm,0.7s
PMG **Port Moresby** 24.71 122 P P 17 41 39.2 +1.5
42nm,1.2s
PMG **Port Moresby** 24.71 122 P P 17 41 39.1 +1.4
PMG **Port Moresby** 24.71 122 P P 17 41 39.4 +1.7
WRAB **Tennant Creek** 24.73 161 P P 17 41 37.6 -0.2
WRAB **Tennant Creek** 24.73 161 P P 17 41 38.3 +0.5
WRA **Warramunga Arr** 24.73 161 P P 17 41 37.2 -0.6
131nm,0.8s,baz=343,slow=10,SNR=449
WRA PcP PcP 17 45 13.9 +1.4
0.8nm,0.5s,baz=325,slow=2.9,SNR=2.3
WRA S S 17 45 57.6 +4.6
11nm,0.9s,baz=343,slow=19,SNR=10
WRA ScP ScP 17 48 42.6 0.0
0.8nm,0.8s,baz=301,slow=1.4,SNR=4.1
WRA **Warramunga Arr** 24.73 161 P P 17 41 37.0 -0.8
WB2 **Warramunga Arr** 24.74 161 P P 17 41 37.8 -0.1
WR0 **Warramunga Arr** 24.82 161 P P 17 41 38.2 -0.3
SDSI **Sungai Dareh** 24.94 260 P P 17 41 42.9 +3.1
12nm,0.8s
EGSI **Enggano, Bengk** 25.27 250 P P 17 41 45.4 +2.6
56nm,0.7s
MBWA **Marble Bar** 25.30 194 P P 17 41 43.3 +0.4
MBWA IAmb IAmb 17 42 16.0
comp=Z,38nm,1.0s
MBWA **Marble Bar** 25.30 194 P P 17 41 43.5 +0.6
KULM **Kulim** 25.32 275 P P 17 41 43.6 +0.4
KULM **Kulim** 25.32 275 P P 17 41 46.9 +3.6
comp=Z,30nm,1.1s
PSA00 **Pilbara Seismi** 25.67 193 P P 17 41 46.5 +0.3
PSA00 IAmb IAmb 17 41 51.3
comp=Z,28nm,0.8s
PSA00 **Pilbara Seismi** 25.67 193 P P 17 41 47.0 +0.7
MNSI **Mandailing Nat** 26.52 265 P P 17 41 56.5 +2.4
comp=Z,78nm,0.9s
PSI **Prapat** 27.03 269 P P 17 42 01.3 +2.5
comp=Z,9.2nm,1.4s
RABL **Rabaul** 27.26 106 P P 17 42 01.0 +0.2
RABL IAmb IAmb 17 42 05.7
comp=Z,60nm,0.6s
RABL **Rabaul** 27.26 106 P P 17 42 03.3 +2.5
QIS **Mount Isa** 27.42 151 P P 17 42 02.9 +0.8
baz=27,SNR=26
QIS **Mount Isa** 27.42 151 P P 17 42 03.1 +1.0
JCJ **Chichijima** 28.09 32 P P 17 42 07.7 -0.3
comp=Z,33nm,0.6s,baz=264,slow=10,SNR=5.4
JCJ **Chichijima** 28.09 32 P P 17 42 08.2 +0.2
MTSU **Mount Surprise** 28.11 141 P P 17 42 09.9 +1.6
baz=28,SNR=6.2
MTSU **Mount Surprise** 28.11 141 P P 17 42 09.9 +1.6
AS31 **Alice Springs** 28.12 164 P P 17 42 08.4 +0.1
ASAR **Alice Springs** 28.12 164 P P 17 42 08.4 +0.1
comp=Z,8.4nm,0.6s,baz=337,slow=6.8,SNR=241
ASAR PcP PcP 17 45 21.5 +1.1
comp=Z,1.1nm,0.4s,baz=355,slow=2.3,SNR=2.1
ASAR S S 17 46 45.6 -0.7
comp=Z,3.3nm,0.9s,baz=352,slow=21,SNR=5.3
ASAR ScP ScP 17 48 53.1 +0.5
comp=Z,1.9nm,0.6s,baz=340,slow=2.9,SNR=4.9
comp=Z,8.4nm,0.6s
ASAR **Alice Springs** 28.12 164 P P 17 42 08.3 +0.1
ASAR S 17 46 45.2 -1.2
AS01 **Alice Springs** 28.13 164 P P 17 42 08.9 +0.5
JSU **Suzuyama** 28.14 8 P P 17 42 08.9 +0.5
JSU IAmb IAmb 17 42 14.7
comp=Z,67nm,1.8s
GIRL **Giralia** 28.44 203 P P 17 42 11.5 +0.4
GSI **Gunungsitoli** 28.47 266 P P 17 42 11.1 -0.4
GSI IAmb IAmb 17 42 54.4
comp=Z,47nm,1.3s
WRKA **Warakurna** 28.49 176 P P 17 42 12.3 +0.7
baz=29,SNR=85
WRKA **Warakurna** 28.49 176 P P 17 42 13.0 +1.4
PHRA **Phrae** 29.26 302 P P 17 42 17.8 -0.7
JNU **Nakatsue** 29.79 8 P P 17 42 23.6 +0.6
CMAR **Chiang Mai Arr** 30.33 301 P P 17 42 26.7 -1.3
comp=Z,0.7nm,0.4s,baz=112,slow=7.7,SNR=6.6
CMAR ScP ScP 17 49 01.0 +1.3
comp=Z,3.3nm,0.7s,baz=155,slow=2.3,SNR=17
comp=Z,0.7nm,0.4s
CHTO **Chiang Mai** 30.49 302 P P 17 42 30.2 +0.9
CTAO **Charters Tower** 30.78 140 P P 17 42 31.8 -0.1
CTAO IAmb IAmb 17 42 34.7
comp=Z,34nm,1.3s
MEEK **Meekatharra** 30.83 193 P P 17 42 32.5 +0.3
baz=31,SNR=17
MEEK **Meekatharra** 30.83 193 P P 17 42 32.7 +0.4
JMN **Monobe** 30.93 13 P P 17 42 32.7 -0.3
JMN IAmb IAmb 17 43 11.8
comp=Z,79nm,1.5s
JTU **Tsushima** 31.00 5 P P 17 42 33.3 -0.2
KMI **Kunming** 31.00 316 ⇓P P 17 42 34.3 +0.3
KMI pmax pmax
comp=Z,8.0nm,0.7s
JHS **Saijyo** 32.00 11 P P 17 42 41.8 -0.7
JHS IAmb IAmb 17 43 06.8
comp=Z,44nm,1.4s
OOD **Oodnadatta** 32.52 164 P P 17 42 47.7 +0.7
INU **Inuyama** 33.27 17 P P 17 42 53.1 -0.3
INU IAmb IAmb 17 43 27.5
comp=Z,15nm,0.7s
INU **Inuyama** 33.27 17 P P 17 42 55.7 +2.3
INU sP sP 17 43 26.8 +1.0
JGF **Kuroka** 33.60 17 P P 17 42 57.0 +0.5
JGF IAmb IAmb 17 43 30.9
comp=Z,57nm,1.7s
MORW **Morawa** 33.79 196 P P 17 42 58.7 +0.6
baz=34,SNR=3.8
MORW **Morawa** 33.79 196 P P 17 42 58.0 -0.1
MORW IAmb IAmb 17 43 01.1
comp=Z,99nm,1.9s
KSRS **Korea Array** 33.80 3 P P 17 42 57.6 -0.4
comp=Z,5.8nm,0.8s,baz=177,slow=9.8,SNR=21
comp=Z,5.8nm,0.8s
KS19 **Wonju Array Si** 33.85 3 P P 17 42 57.2 -1.3
KS19 IAmb IAmb 17 43 31.2
comp=Z,78nm,1.7s
FORT **Forrest** 34.18 177 P P 17 43 02.1 +0.7
baz=34,SNR=19
FORT **Forrest** 34.18 177 P P 17 43 00.6 -0.8
FORT IAmb IAmb 17 43 31.0
comp=Z,31nm,0.7s
FORT **Forrest** 34.18 177 P P 17 43 03.2 +1.8
INKA **Innaminka** 34.20 156 P P 17 43 02.9 +1.3

XAN **Xi'an** 34.26 334 P P 17 43 06.5 +4.3
XAN pP pP 17 43 29.4 +4.9
XAN sP sP 17 43 41.3 +5.4
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN LR LR
comp=Z,150nm,22.0s
XAN LR LR
comp=Z,210nm,19.9s
CD2 **Chengdu** 34.37 325 eP P 17 43 03.3 +0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MULG **Mulgathing** 34.50 168 P P 17 43 05.1 +0.9
MJAR **Matsushiro Arr** 34.72 17 P P 17 43 04.7 -1.4
comp=Z,1.1nm,0.7s,baz=181,slow=9.8,SNR=9.5
MJAR LR LR 17 56 28.6
comp=Z,28nm,21.1s,baz=212,slow=35
comp=Z,1.1nm,0.7s
MAJO **Matsushiro** 34.73 17 P P 17 43 04.4 -1.7
MAJO IAmb IAmb 17 43 33.0
comp=Z,59nm,2.0s
MJB9 **Matsu-Tunnel** 34.73 17 P P 17 43 04.7 -1.5
QLP **Quilpie** 34.76 151 P P 17 43 07.1 +0.6
baz=35,SNR=12
QLP **Quilpie** 34.76 151 P P 17 43 07.0 +0.6
KMBL **Kambalda** 34.93 186 P P 17 43 08.5 +0.6
baz=35,SNR=31
KMBL **Kambalda** 34.93 186 P P 17 43 08.7 +0.8
BLDU **Ballidu** 35.09 194 P P 17 43 09.2 -0.1
baz=35,SNR=21
HNS **HongShan** 35.26 344 ⇓P P 17 43 21.3 +11
HNS pmax pmax
comp=Z,9.0nm,1.0s
LCRK **Leigh Creek** 35.76 162 P P 17 43 16.2 +1.2
KLBR **Kellerberrin** 35.80 192 P P 17 43 15.4 +0.1
baz=36,SNR=33
HNR **Honiara** 36.21 111 P P 17 43 18.0 -1.1
HNR IAmb IAmb 17 43 20.7
comp=Z,51nm,0.9s
HNR **Honiara** 36.21 111 P P 17 43 19.1 -0.1
HNR pP pP 17 43 39.1 -2.0
MUN **Mundaring** 36.52 194 P P 17 43 21.7 +0.2
baz=37,SNR=14
JMM **Marumori** 36.76 20 P P 17 43 22.7 -0.7
JMM IAmb IAmb 17 43 49.8
comp=Z,59nm,1.2s
RMQ **Roma** 37.09 145 P P 17 43 27.2 +0.8
baz=37,SNR=12
RMQ **Roma** 37.09 145 P P 17 43 27.2 +0.8
NWAO **Narrogin (SRO)** 37.20 192 P P 17 43 27.8 +0.5
baz=37,SNR=19
NWAO P P 17 43 27.8 +0.5
baz=37,SNR=19
NWAO **Narrogin (SRO)** 37.20 192 P P 17 43 27.5 +0.3
NWAO IAmb IAmb 17 44 02.5
comp=Z,64nm,1.6s
NWAO **Narrogin (SRO)** 37.20 192 P P 17 43 27.6 +0.3
NWAO IAmb IAmb 17 44 02.5
comp=Z,51nm,1.6s
BBOO **Buckleboo** 37.39 166 P P 17 43 29.6 +0.7
baz=38,SNR=111
BBOO **Buckleboo** 37.39 166 P P 17 43 29.1 +0.3
BBOO S 17 49 06.0 -3.7
BBOO **Buckleboo** 37.39 166 P P 17 43 29.4 +0.6
BJI **Beijing** 37.41 348 P P 17 43 28.6 -0.3
BJI pmax pmax
comp=Z,5.0nm,0.8s
EIDS **Eidsvold** 37.66 141 P P 17 43 32.0 +0.8
baz=38,SNR=6.6
EIDS **Eidsvold** 37.66 141 P P 17 43 31.6 +0.3
EIDS IAmb IAmb 17 43 32.7
comp=Z,24nm,0.8s
EIDS **Eidsvold** 37.66 141 P P 17 43 31.9 +0.6
WHYH **Whyalla** 37.99 164 P P 17 43 34.8 +0.9
STKA **Stephens Creek** 38.22 158 P P 17 43 36.5 +0.7
comp=Z,28nm,0.7s,baz=333,slow=8.4,SNR=81
STKA S S 17 49 21.8 -0.6
comp=Z,1.3nm,0.7s,baz=64,slow=22,SNR=2.3
STKA LR LR 18 00 06.2
comp=Z,48nm,18.0s,baz=16,slow=37
comp=Z,28nm,0.7s
STKA **Stephens Creek** 38.22 158 P P 17 43 36.8 +0.9
baz=38,SNR=55
STKA **Stephens Creek** 38.22 158 P P 17 43 36.3 +0.5
STKA **Stephens Creek** 38.22 158 P P 17 43 37.1 +1.3
LZH **Lanzhou** 38.30 330 eP P 17 43 36.9 +0.2
LZH pP pP 17 44 00.0 +0.8
LZH pmax pmax
comp=Z,18nm,1.3s
HTT **Hallett** 38.75 163 P P 17 43 41.8 +1.5
baz=39,SNR=26
HTT **Hallett** 38.75 163 P P 17 43 41.8 +1.5
AULRC **Lightning Ridg** 38.98 149 P P 17 43 42.9 +0.7
HHC **Hu-ho-hao-te** 39.35 343 eP P 17 43 46.6 +1.2
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.0s
SHL **Shillong** 39.40 307 P P 17 43 44.2 -1.8
SHL IAmb IAmb 17 44 15.4
comp=Z,23nm,0.6s
CMSA **Cobar Meteorol** 39.60 153 P P 17 43 48.7 +1.4
baz=40,SNR=14
CMSA **Cobar Meteorol** 39.60 153 P P 17 43 48.8 +1.4
CN2 **Changchun** 40.10 359 eP P 17 43 52.9 +1.6
CN2 ePP PnPn 17 45 27.9 -2.0
CN2 eS S 17 49 49.6 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s
AUWSH **Wavell State H** 40.34 141 P P 17 43 54.8 +1.3
USA0B **Ussuriysk Arra** 40.84 7 P P 17 43 57.0 -0.4
USA0B IAmb IAmb 17 44 12.4
comp=Z,78nm,1.8s
USRK **Ussuriysk Ar.** 40.84 7 P P 17 43 57.2 -0.2
comp=Z,8.4nm,0.6s,baz=156,slow=4.4,SNR=13
comp=Z,8.4nm,0.6s
USRK **Ussuriysk Ar.** 40.84 7 P P 17 43 57.6 +0.2
MDJ **Mudanjiang** 41.04 4 P P 17 43 59.0 -0.1
MDJ IAmb IAmb 17 45 20.1
comp=Z,126nm,2.0s
MDJ **Mudanjiang** 41.04 4 P P 17 44 00.4 +1.3
MDJ **Mudanjiang** 41.04 4 P P 17 44 00.4 +1.3
MDJ pP pP 17 44 21.5 +0.2
MDJ sP sP 17 44 31.3 -1.1
XLT **XiLinHaoTe** 41.14 349 eP P 17 44 06.8 +6.8
XLT pP sP 17 44 32.4 -1.5
XLT pmax pmax
comp=Z,8.0nm,0.8s
AUDCS **Dubbo College** 41.56 151 P P 17 44 05.3 +1.7
ARMA **Armidale** 41.72 146 P P 17 44 07.0 +2.1
baz=42,SNR=25
ARMA **Armidale** 41.72 146 P P 17 44 06.5 +1.5
ARMA IAmb IAmb 17 44 07.7
comp=Z,34nm,0.8s
ARMA **Armidale** 41.72 146 P P 17 44 06.8 +1.8
BNX **BinXian** 42.05 1 ⇓P P 17 44 08.3 +1.0
BNX pmax pmax
comp=Z,7.0nm,0.7s
BNX pmax pmax
comp=Z,83nm,4.3s
ARPS **Mount Arapiles** 42.74 161 P P 17 44 14.7 +1.7
baz=43,SNR=33
ARPS **Mount Arapiles** 42.74 161 P P 17 44 14.4 +1.4
GTA **Gaotai** 42.89 330 eP P 17 44 16.8 +2.4
GTA pmax pmax
comp=Z,2.0nm,0.7s
ASAJ **Asahikawa** 43.00 18 LR LR 18 04 23.5
comp=Z,29nm,19.6s,baz=162,slow=39
JKA **Kamikawa-asahi** 43.00 18 P P 17 44 15.0 0.0
JKA IAmb IAmb 17 45 37.1
comp=Z,80nm,1.7s
AUMAG **Moama Anglican** 43.16 158 P P 17 44 18.9 +2.5
BRAT **Ballarat** 44.15 159 P P 17 44 26.6 +2.3
CAN **Canberra** 44.27 153 P P 17 44 27.0 +1.6
CAN IAmb IAmb 17 44 28.2
comp=Z,15nm,0.7s
CAN **Canberra** 44.27 153 P P 17 44 27.7 +2.2
CAN **Canberra** 44.27 153 P P 17 44 27.4 +1.9
CNB **Canberra Magne** 44.44 152 P P 17 44 28.7 +2.0
baz=44,SNR=7.7
TOO **Toolangi** 44.73 158 P P 17 44 31.6 +2.5
baz=45,SNR=7.5
TOO **Toolangi** 44.73 158 P P 17 44 30.2 +1.1
TOO IAmb IAmb 17 44 32.3
comp=Z,30nm,1.4s

TOO	**Toolangi**	**44.73**	**158**	P		**P**	**17 44 31.4**	**+2.3**
AUSMG	**Snowy Mountain**	**45.02**	**154**	P		**P**	**17 44 33.7**	**+2.3**
MILA	**Mila**	**45.79**	**154**	P		**P**	**17 44 39.6**	**+2.2**
	baz=46,SNR=4.5							
KLR	**Kul'dur**	**45.79**	**5**	P		**P**	**17 44 35.6**	**-1.5**
	comp=Z,1.9nm,0.4s,baz=231,slow=5.3,SNR=8.4							
	comp=Z,1.9nm,0.4s							
HEH	**HeiHe**	**46.57**	**1**	*e*P		**P**	**17 44 42.8**	**-0.4**
HEH				pmax		pmax		
	comp=Z,13nm,0.9s							
HEH				pmax		pmax		
	comp=Z,140nm,4.8s							
DZM	**Mont Dzumac**	**47.03**	**125**	P		**P**	**17 44 48.6**	**+1.2**
DZM				IAmb		IAmb	17 45 06.0	
	comp=Z,37nm,1.2s							
SONM	**Songino Array**	**47.25**	**342**	P		**P**	**17 44 47.2**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=158,slow=10,SNR=5.4							
SONM				LR		LR	18 05 03.3	
	comp=Z,47nm,21.8s,baz=173,slow=36							
	comp=Z,0.9nm,0.6s							
SONM	**Songino Array**	**47.25**	**342**	P		**P**	**17 44 48.0**	**-0.8**
TAU	**Tasmania Unive**	**50.09**	**160**	P		**P**	**17 45 10.1**	**-0.3**
WMQ	**Urumqi**	**52.46**	**326**	*e*P		**P**	**17 45 30.4**	**+2.2**
MSVF	**Nonsavu**	**55.51**	**114**	P		**P**	**17 45 49.1**	**-1.8**
PEA0B	**Petropavlovsk-**	**55.89**	**23**	P		**P**	**17 45 53.0**	**+0.1**
PETK	**Petropavlovsk-**	**55.89**	**23**	P		**P**	**17 45 51.4**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=253,slow=3.8,SNR=1.4							
PETK				LR		LR	18 09 23.1	
	comp=Z,13nm,20.8s,baz=176,slow=35							
	comp=Z,2.6nm,0.9s							
PETK	**Petropavlovsk-**	**55.89**	**23**	P		**P**	**17 45 52.1**	**-0.8**
MK31	**Makanchi Array**	**57.29**	**326**	P		**P**	**17 46 01.6**	**-1.3**
MK31				IAmb		IAmb	17 46 33.8	
	comp=Z,48nm,1.6s							
MKAR	**Makanchi Array**	**57.29**	**326**	P		**P**	**17 46 01.1**	**-1.9**
	comp=Z,1.5nm,0.5s,baz=120,slow=8.1,SNR=22							
MKAR				ScP		**ScP**	**17 50 49.7**	**+2.6**
	comp=Z,1.6nm,0.5s,baz=105,slow=6.2,SNR=12							
MKAR				LR		LR	18 11 38.8	
	comp=Z,66nm,20.1s,baz=152,slow=37							
	comp=Z,1.5nm,0.5s							
MKAR	**Makanchi Array**	**57.29**	**326**	P		**P**	**17 46 01.4**	**-1.6**
MAKZ	**Makanchi**	**57.48**	**326**	P		**P**	**17 46 03.7**	**-0.6**
MAKZ				IAmb		IAmb	17 46 32.1	
	comp=Z,58nm,1.4s							
YAK	**Yakutsk**	**58.43**	**2**	P		**P**	**17 46 11.4**	**+0.9**
YAK				IAmb		IAmb	17 46 16.8	
	comp=Z,27nm,0.8s							
YAK	**Yakutsk**	**58.43**	**2**	P		**P**	**17 46 11.3**	**+0.8**
YAK				pP		**pP**	**17 46 32.6**	**-1.5**
AAK	**Ala-Archa**	**60.00**	**318**	LR		LR	18 14 43.3	
	comp=Z,42nm,20.4s,baz=120,slow=38							
ZALV	**Zalesovo Beam**	**60.42**	**333**	P		**P**	**17 46 22.8**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=140,slow=6.9,SNR=4.8							
	comp=Z,0.5nm,0.3s							
PYZ	**Puysegur Point**	**61.19**	**149**	P		**P**	**17 46 28.1**	**-1.7**
FOZ	**Fox Glacier**	**61.21**	**145**	P		**P**	**17 46 29.1**	**-0.8**
QRZ	**Quartz Range**	**61.24**	**141**	P		**P**	**17 46 30.0**	**-0.3**
MLZ	**Mavora Lakes**	**61.42**	**147**	P		**P**	**17 46 32.9**	**+1.4**
KURBB	**Kurchatov Arra**	**61.50**	**328**	P		**P**	**17 46 29.8**	**-2.0**
	comp=Z,1.8nm,0.6s,baz=128,slow=6.2,SNR=15							
	comp=Z,1.8nm,0.6s							
KURK	**Kurchatov**	**61.51**	**328**	P		**P**	**17 46 30.6**	**-1.2**
KURK				IAmb		IAmb	17 47 20.5	
	comp=Z,12nm,0.7s							
KURK	**Kurchatov**	**61.51**	**328**	P		**P**	**17 46 31.8**	**-0.1**
KURK				pP		**pP**	**17 46 56.3**	**+0.1**
WHZ	**Wether Hill Ro**	**61.67**	**148**	P		**P**	**17 46 32.2**	**-0.9**
MRNZ	**Matariki Terra**	**61.71**	**141**	P		**P**	**17 46 34.2**	**+0.8**
LBZ	**Lake Benmore**	**61.94**	**145**	P		**P**	**17 46 35.5**	**+0.6**
ODZ	**Otahua Downs**	**62.61**	**146**			**S**	**17 54 56.0**	**-3.7**
KKAR	**Karatay Array**	**62.87**	**317**	P		**P**	**17 46 40.1**	**-1.1**
BKZ	**Black Stump Fm**	**62.94**	**138**	P		**P**	**17 46 42.3**	**+0.6**
BKZ				IAmb		IAmb	17 47 15.2	
	comp=Z,101nm,1.9s							
MQZ	**McQueen's Vall**	**62.97**	**144**	P		**P**	**17 46 41.3**	**-0.4**
SHEM	**Shemya Is, Ala**	**63.01**	**31**	LR		LR	18 13 11.2	
	comp=Z,14nm,19.4s,baz=337,slow=35							
PLWZ	**Palliser**	**63.37**	**140**	P		**P**	**17 46 43.8**	**-0.7**
WSAR	**Wadi Sarin**	**67.82**	**294**	LR		LR	18 21 31.8	
	comp=Z,29nm,18.4s,baz=146,slow=40							
TIXI	**Tiksi**	**68.05**	**1**	LR		LR	18 19 08.9	
	comp=Z,29nm,20.2s,baz=76,slow=38							
TIXI	**Tiksi**	**68.05**	**1**	P		**P**	**17 47 13.4**	**-0.6**
TIXI	**Tiksi**	**68.05**	**1**	P		**P**	**17 47 13.7**	**-0.2**
GEYT	**Alibeck**	**70.44**	**309**	P		**P**	**17 47 28.9**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=163,slow=1.5,SNR=2.3							
GEYT				LR		LR	18 23 06.6	
	comp=Z,21nm,18.3s,baz=168,slow=40							
	comp=Z,0.8nm,0.4s							
NRIK	**Noril'sk**	**70.44**	**346**	P		**P**	**17 47 28.8**	**0.0**
	comp=Z,3.7nm,0.6s,baz=118,slow=6.5,SNR=2.5							
	comp=Z,3.7nm,0.6s							
NRIK	**Noril'sk**	**70.44**	**346**	P		**P**	**17 47 28.1**	**-0.7**
CASY	**Casey**	**70.54**	**187**	P		**P**	**17 47 29.6**	**+0.3**
CASY				IAmb		IAmb	17 48 00.1	
	comp=Z,65nm,1.7s							
DRV	**Dumont d'Urvil**	**70.76**	**174**	P		**P**	**17 47 31.3**	**+0.7**
DRV				pP		**pwP**	**17 47 57.5**	**-0.6**
ABKAR	**Akbulak array**	**71.83**	**321**	P		**P**	**17 47 36.2**	**-1.3**
ABKAR	**Akbulak array**	**71.83**	**321**	P		**P**	**17 47 35.9**	**-1.6**
ABKAR				IAmb		IAmb	17 48 24.6	
	comp=Z,4.8nm,0.8s							
UNV	**Unalaska Valle**	**74.00**	**35**	P		**P**	**17 47 50.6**	**+0.4**
ARU	**Arti**	**74.70**	**328**	LR		LR	18 22 57.0	
	comp=Z,37nm,19.5s,baz=78,slow=37							
SDPT	**Sand Point**	**77.77**	**34**	P		**P**	**17 48 11.4**	**-0.3**
MWH	**Moku'aweowe**	**77.92**	**71**	P		**P**	**17 48 12.2**	**-1.6**
TTA	**Tatalina**	**81.41**	**27**	P		**P**	**17 48 32.9**	**+1.6**
OHAK	**Old Harbor**	**82.02**	**33**	P		**P**	**17 48 36.9**	**+2.4**
OHAK				IAmb		IAmb	17 49 55.8	
	comp=Z,27nm,1.3s							
K20K	**Telida**	**82.34**	**27**	P		**P**	**17 48 39.0**	**+2.9**
	baz=263							
KBZ	**Khabaz**	**82.57**	**313**	P		**P**	**17 48 37.0**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=112,slow=5.4,SNR=1.2							
	comp=Z,0.3nm,0.4s							
N20K	**Mount Spurr**	**82.97**	**29**	P		**P**	**17 48 41.9**	**+2.4**
	baz=264							
G21K	**Allakaket**	**82.99**	**23**	P		**P**	**17 48 43.9**	**+4.5**
	baz=263							
H21K	**Melozitna Rive**	**83.17**	**24**	P		**P**	**17 48 42.7**	**+2.3**
	baz=264							
CAST	**Castle Rocks**	**83.24**	**27**	P		**P**	**17 48 42.7**	**+1.9**
VNDA	**Vanda**	**83.33**	**173**	P		**P**	**17 48 41.0**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=330,slow=6.9,SNR=16							
	comp=Z,1.4nm,0.5s							
VNDA	**Vanda**	**83.33**	**173**	P		**P**	**17 48 41.8**	**+0.9**
SUA	**Susitna One**	**83.69**	**29**	P		**P**	**17 48 43.9**	**+0.7**
SUA				IAmb		IAmb	17 48 54.0	
	comp=Z,10nm,0.7s							
G22K	**Bettles**	**83.82**	**23**	P		**P**	**17 48 46.9**	**+3.2**
	baz=264							
MLY	**Manley**	**83.97**	**25**	P		**P**	**17 48 45.6**	**+1.0**
MLY	**Manley**	**83.97**	**25**	P		**P**	**17 48 47.6**	**+3.0**
	baz=265							
RC01	**Rabbit Creek A**	**84.15**	**29**	P		**P**	**17 48 46.2**	**+0.8**
RC01				IAmb		IAmb	17 50 32.8	
	comp=Z,28nm,1.4s							
D23K	**Nanushuk River**	**84.32**	**21**	P		P	17 48 51.3	+5.1
	baz=265							
COLD	**Coldfoot**	**84.36**	**23**	P		**P**	**17 48 48.4**	**+2.0**
COLD	**Coldfoot**	**84.36**	**23**	P		**P**	**17 48 50.0**	**+3.6**
	baz=266							
G23K	**Bananza Creek**	**84.39**	**23**	P		**P**	**17 48 50.4**	**+3.8**
	baz=266							
C23K	**Itkillik River**	**84.42**	**20**	P		**P**	**17 48 50.0**	**+3.4**
	baz=265							
H23K	**Yukon River**	**84.53**	**24**	P		**P**	**17 48 50.9**	**+3.6**
	baz=266							
E23K	**Chandalar**	**84.64**	**22**	P		**P**	**17 48 50.5**	**+2.5**
	baz=266							
MCK	**McKinley**	**84.67**	**26**	P		**P**	**17 48 49.7**	**+1.6**
MCK				IAmb		IAmb	17 49 41.7	
	comp=Z,23nm,1.4s							
TOLK	**Toolik Lake Re**	**84.70**	**21**	P		**P**	**17 48 48.5**	**+0.3**
TOLK	**Toolik Lake Re**	**84.70**	**21**	P		P	17 48 53.1	+5.0
	baz=266							
KNK	**Knik Glacier**	**84.78**	**29**	P		**P**	**17 48 49.3**	**+0.6**
KNK				IAmb		IAmb	17 49 33.5	
	comp=Z,42nm,1.6s							
PWL	**Port Wells**	**84.83**	**29**	P		**P**	**17 48 49.5**	**+0.6**
SML	**Sawmill**	**84.86**	**28**	P		**P**	**17 48 50.5**	**+1.4**
SML				IAmb		IAmb	17 49 42.2	
	comp=Z,16nm,1.2s							
H24K	**Noodor Dome**	**85.21**	**24**	P		**P**	**17 48 51.8**	**+1.1**
ILAR	**Eielson Array**	**85.60**	**25**	P		**P**	**17 48 52.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=246,slow=5.0,SNR=7.7							
	comp=Z,0.4nm,0.6s							
F25K	**Christian Rive**	**86.13**	**23**	P		**P**	**17 48 58.7**	**+3.4**
	baz=270							
E25K	**Arctic Village**	**86.16**	**22**	P		**P**	**17 48 58.8**	**+3.3**
	baz=270							
C27K	**Jago River**	**86.82**	**21**	P		**P**	**17 49 01.6**	**+3.1**
	baz=272							
BRTR	**Keskin Array B**	**89.57**	**310**	P		**P**	**17 49 09.4**	**-3.0**
	comp=Z,0.7nm,0.7s,baz=103,slow=9.3,SNR=3.0							
	comp=Z,0.7nm,0.7s							
ARCES	**ARCESS Array B**	**90.37**	**340**	P		**P**	**17 49 12.9**	**-2.5**
	comp=Z,4.5nm,0.8s,baz=23,slow=4.1,SNR=7.0							
	comp=Z,4.5nm,0.8s							
MAYO	**Mayo, Yukon**	**90.47**	**26**	P		**P**	**17 49 14.2**	**-1.8**
AKASG	**Malin Array Be**	**91.57**	**321**	LR		LR	18 34 48.4	
	comp=Z,20nm,18.3s,baz=249,slow=38							
FINES	**FINESS Array B**	**91.65**	**332**	P		**P**	**17 49 20.5**	**-0.9**
	comp=Z,4.4nm,1.0s,baz=90,slow=1.9,SNR=7.0							
	comp=Z,4.4nm,1.0s							
QSPA	**South Pole Qui**	**93.44**	**180**	P		**P**	**17 49 30.0**	**+0.3**
QSPA				IAmb		IAmb	17 50 27.5	
	comp=Z,14nm,1.6s							
MLR	**Muntele Rosu**	**94.52**	**316**	LR		LR	18 36 42.2	
	comp=Z,21nm,18.2s,baz=204,slow=38							
NB2	**NORSAR Subarra**	**98.63**	**333**	P		**P**	**17 49 52.1**	**-1.2**
	baz=68,slow=4.6							
NB2	**NORSAR Subarra**	**98.63**	**333**	P		**P**	**17 49 52.1**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=68,slow=4.6							
NOA	**NORSAR Array B**	**98.63**	**333**	P		**P**	**17 49 51.0**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=69,slow=4.7,SNR=4.2							
NOA				LR		LR	18 40 55.6	
	comp=Z,16nm,18.4s,baz=200,slow=39							
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**122.30**	**52**	PKP		**PKPdf**	**17 55 09.7**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=211,slow=11,SNR=2.1							
PLCA	**Paso Flores**	**140.08**	**160**	PKP		**PKPdf**	**17 55 40.9**	**-2.1**
	comp=Z,0.8nm,0.9s,baz=153,slow=2.3,SNR=1.3							

NOU ***19*** *17:37:22.3, 42.43S×173.92E, h12km, MLv4.0/8, South Island, New Zealand*
WEL ***19*** *17:37:23.6±0.4, 42.5±3.3°×17.4±1.1°, h11km±2km, M3.3/42, ML3.6/17, MLv3.3/42, Error ellipse: s-maj=0.0km s-min=0.0km az=121.4*

ISC 19 17:37:22.9±1.1, 42.37S±0.04×173.88E±0.04, h21km, n71, σ0 82/73, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**259**	P	**Pb**	**17 37 29.1**	**0.0**
KHZ	**Kahutara**	**0.26**	**259**	P	**Pb**	**17 37 29.1**	**0.0**
KHZ				S	**Sb**	**17 37 33.1**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.65**	**360**	P	**Pb**	**17 37 34.8**	**-0.9**
BSWZ				S	**Sb**	**17 37 43.2**	**-1.0**
CMWZ	**Cape Campbell**	**0.66**	**22**	P	**Pb**	**17 37 37.1**	**+1.3**
GVZ	**Greta Valley S**	**0.87**	**226**	P	**Pn**	**17 37 40.8**	**+0.9**
TUWZ	**Tuamarina**	**0.94**	**3**	P	**Pb**	**17 37 40.2**	**-0.2**
THZ	**Tophouse**	**0.95**	**309**	P	**Pb**	**17 37 39.4**	**-1.2**
TCW	**Tory Channel**	**1.19**	**14**	P	**Pn**	**17 37 44.0**	**-0.3**
NNZ	**Nelson**	**1.21**	**342**	P	**Pn**	**17 37 43.7**	**-0.8**
AMCZ	**Amberley**	**1.22**	**228**	P	**Pn**	**17 37 45.3**	**+0.7**
SNZO	**South Karori**	**1.22**	**30**	P	**Pn**	**17 37 45.1**	**+0.4**
LTZ	**Lake Taylor**	**1.26**	**250**	P	**Pn**	**17 37 45.6**	**+0.3**
WEL	**Wellington**	**1.27**	**32**	P	**Pn**	**17 37 45.5**	**+0.1**
MRNZ	**Matariki Terra**	**1.28**	**319**	P	**Pn**	**17 37 45.3**	**-0.2**
PLWZ	**Palliser**	**1.30**	**53**	P	**Pn**	**17 37 45.8**	**0.0**
MSWZ	**Moikau Station**	**1.39**	**48**	P	**Pn**	**17 37 47.0**	**-0.1**
OKCZ	**Okains Bay**	**1.48**	**204**	P	**Pn**	**17 37 49.2**	**+0.8**
TKNZ	**Takaka Hill**	**1.50**	**332**	P	**Pn**	**17 37 48.7**	**+0.1**
PAWZ	**Paruwai Farm**	**1.52**	**50**	P	**Pn**	**17 37 48.5**	**-0.3**
CAW	**Cannon Point**	**1.54**	**36**	P	**Pn**	**17 37 49.0**	**0.0**
DUWZ	**D'Urville Isla**	**1.56**	**1**	P	**Pn**	**17 37 49.5**	**+0.1**
MQZ	**McQueen's Vall**	**1.61**	**214**	P	**Pn**	**17 37 50.0**	**-0.1**
TRWZ	**Traveller**	**1.66**	**55**	P	**Pn**	**17 37 50.3**	**-0.4**
OXZ	**Oxford**	**1.66**	**234**	P	**Pn**	**17 37 50.6**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.67**	**205**	P	**Pn**	**17 37 51.6**	**+0.7**
DSZ	**Denniston Nort**	**1.67**	**291**	P	**Pn**	**17 37 51.4**	**+0.5**
KIW	**Kapiti Island**	**1.69**	**27**	P	**Pn**	**17 37 51.3**	**+0.1**
MTW	**Mount Morrison**	**1.71**	**46**	P	**Pn**	**17 37 51.0**	**-0.4**
OGWZ	**Otaki Gorge**	**1.82**	**32**	P	**Pn**	**17 37 52.8**	**-0.2**
INZ	**Inchbonnie**	**1.84**	**258**	P	**Pn**	**17 37 53.6**	**+0.4**
QRZ	**Quartz Range**	**1.84**	**326**	P	**Pn**	**17 37 54.4**	**+1.1**
QRZ	**Quartz Range**	**1.84**	**326**	P	**Pn**	**17 37 53.9**	**+0.6**
RACZ	**Rakaia**	**1.87**	**223**	P	**Pn**	**17 37 53.5**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.91**	**40**	P	**Pn**	**17 37 53.8**	**-0.4**
TMWZ	**Te Maipa**	**1.96**	**51**	P	**Pn**	**17 37 54.4**	**-0.5**
MHCZ	**Mount Hutt**	**2.06**	**235**	P	**Pn**	**17 37 56.0**	**-0.3**
MRZ	**Mangatainoka R**	**2.13**	**37**	P	**Pn**	**17 37 56.6**	**-0.5**
WACZ	**Wakanui South**	**2.17**	**223**	P	**Pn**	**17 37 57.8**	**+0.1**
PRWZ	**Pori Road**	**2.40**	**42**	P	**Pn**	**17 38 03.1**	**+2.3**
WVZ	**Waitaha Valley**	**2.42**	**252**	P	**Pn**	**17 38 01.8**	**+0.6**
RPZ	**Rata Peaks**	**2.47**	**236**	P	**Pn**	**17 38 02.0**	**0.0**
RPZ	**Rata Peaks**	**2.47**	**236**	P	**Pn**	**17 38 01.9**	**0.0**
ARCZ	**Arundel**	**2.53**	**231**	P	**Pn**	**17 38 02.9**	**+0.1**
DVHZ	**Dannevirke**	**2.69**	**41**	P	**Pn**	**17 38 04.6**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.78**	**249**	P	**Pn**	**17 38 07.2**	**+1.0**
TSZ	**Takapari Road**	**2.79**	**35**	P	**Pn**	**17 38 05.5**	**-0.8**
TMZ	**Timaru**	**2.91**	**225**	P	**Pn**	**17 38 07.9**	**0.0**
KHEZ	**Kahui Hut**	**3.07**	**2**	P	**Pn**	**17 38 11.4**	**+1.2**
NBEZ	**Newall Road No**	**3.10**	**360**	P	**Pn**	**17 38 12.8**	**+2.3**
FOZ	**Fox Glacier**	**3.21**	**247**	P	**Pn**	**17 38 13.1**	**+1.1**
PKVZ	**Pokaka**	**3.27**	**20**	P	**Pn**	**17 38 14.1**	**+1.2**
MOVZ	**Moawhango**	**3.28**	**26**	P	**Pn**	**17 38 12.8**	**-0.3**
WNVZ	**Wahianoa**	**3.30**	**24**	P	**Pn**	**17 38 14.5**	**+1.0**
VRZ	**Vera Road**	**3.31**	**12**	P	**Pn**	**17 38 14.7**	**+1.4**
TRVZ	**Turoa**	**3.31**	**23**	P	**Pn**	**17 38 14.4**	**+0.7**
WHVZ	**Whangaehu Hut**	**3.34**	**23**	P	**Pn**	**17 38 15.4**	**+1.3**
LBZ	**Lake Benmore**	**3.37**	**232**	P	**Pn**	**17 38 14.4**	**+0.1**
NGZ	**Ngauruhoe**	**3.44**	**23**	P	**Pn**	**17 38 17.5**	**+2.0**
NNVZ	**North Ngauruho**	**3.49**	**23**	P	**Pn**	**17 38 17.4**	**+1.4**
ODZ	**Otahua Downs**	**3.56**	**220**	P	**Pn**	**17 38 17.0**	**+0.1**
ODZ	**Otahua Downs**	**3.56**	**220**	P	**Pn**	**17 38 16.7**	**-0.2**
HIZ	**Hauiti**	**3.92**	**11**	P	**Pn**	**17 38 23.5**	**+1.7**
HIZ	**Hauiti**	**3.92**	**11**	P	**Pn**	**17 38 23.2**	**+1.4**
JCZ	**Jackson Bay**	**4.10**	**244**	P	**Pn**	**17 38 24.7**	**+0.3**
JCZ	**Jackson Bay**	**4.10**	**244**	P	**Pn**	**17 38 24.6**	**+0.3**
EAZ	**Earnscleugh**	**4.38**	**228**	P	**Pn**	**17 38 28.3**	**+0.2**
TOZ	**Tahuroa Road**	**4.79**	**16**	P	**Pn**	**17 38 34.2**	**+0.4**
AWAZ	**Awhitu Peninsu**	**5.33**	**7**	P	**Pn**	**17 38 42.1**	**+0.9**
MKAZ	**Moumakai**	**5.35**	**11**	P	**Pn**	**17 38 41.7**	**+0.3**
ETAZ	**East Tamaki Re**	**5.47**	**9**	P	**Pn**	**17 38 44.0**	**+0.9**
CTZ	**Chatham Island**	**7.09**	**104**	P	**Pn**	**17 39 05.7**	**+0.3**

GUC 19 17:42:46.4±0.8, 32.80S×70.17W, h105km±3km, ML3.5, 12C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA03	**San Esteban**	**0.32**	**277**	⇑*i* P	Pn	17 43 02.5	+0.7
VA03				*i* S	Sn	17 43 14.7	+1.3
VA03				IAML		17 43 15.6	
	comp=E,6μm,0.2s						
FCH	**Farellones**	**0.54**	**191**	⇑*i* P	Pn	17 43 04.0	+0.6
FCH				*i* S	Sn	17 43 17.3	+1.2
FCH				IAML		17 43 19.8	
	comp=N,2μm,0.2s						
PEL	**Peldehue**	**0.55**	**232**	*i* P	Pn	17 43 03.2	0.0
PEL				*i* S	Sn	17 43 17.2	+1.4
PEL				IAML		17 43 18.6	
	comp=E,1μm,0.3s						
ROCH	**El Roble**	**0.73**	**256**	⇑*i* P	Pn	17 43 05.8	+1.0
ROCH				*i* S	Sn	17 43 20.2	+1.6
ROCH				IAML		17 43 21.5	
	comp=E,2μm,0.5s						
MT03	**Universidad Ad**	**0.75**	**202**	⇑*i* P	Pn	17 43 05.9	+1.0
MT03				*i* S	Sn	17 43 20.6	+1.9
MT03				IAML		17 43 24.4	
	comp=E,2μm,0.2s						
MT05	**Renca**	**0.76**	**219**	⇑*i* P	Pn	17 43 06.0	+1.1
MT05				*i* S	Sn	17 43 20.7	+1.9
MT05				IAML		17 43 22.0	
	comp=N,3μm,0.3s						
MT02	**Curacav**	**0.93**	**240**	⇑*i* P	Pn	17 43 07.3	+0.8
MT02				*e*S	Sn	17 43 23.1	+1.4
VA06	**Catapilco**	**0.98**	**284**	⇑*i* P	Pn	17 43 07.7	+0.7
VA06				*i* S	Sn	17 43 23.6	+1.1
VA06				IAML		17 43 29.4	
	comp=N,1μm,0.5s						
LMEL	**Las Melosas**	**1.04**	**181**	⇑*i* P	Pn	17 43 08.8	+0.9
LMEL				IAML		17 43 31.3	
	comp=N,965nm,0.2s						
MT09	**Talagante**	**1.19**	**215**	⇑*i* P	Pn	17 43 10.3	+0.8
MT09				*i* S	Sn	17 43 28.4	+1.6
MT09				IAML		17 43 30.2	
	comp=N,2μm,0.1s						
BO04	**La Punta**	**1.24**	**197**	⇑*i* P	Pn	17 43 11.0	+1.1
BO04				*i* S	Sn	17 43 29.4	+1.7
BO04				IAML		17 43 31.9	
	comp=E,1μm,0.3s						
VA01	**Torpederas**	**1.26**	**259**	*i* P	Pn	17 43 10.9	+0.8
MT01	**Popeta**	**1.39**	**220**	⇑*i* P	Pn	17 43 12.2	+0.5
MT01				*i* S	Sn	17 43 31.5	+0.7
MT01				IAML		17 43 34.6	
	comp=N,504nm,0.1s						
VA05	**Santo Domingo**	**1.48**	**234**	*i* P	Pn	17 43 13.5	+0.8
VA05				*i* S	Sn	17 43 34.3	+1.7
VA05				IAML		17 43 37.0	
	comp=N,569nm,0.5s						
CO02	**Combarbal**	**1.74**	**336**	*i* P	Pn	17 43 17.2	+1.1
CO02				*i* S	Sn	17 43 40.3	+1.8
CO02				IAML		17 43 42.0	
	comp=N,1μm,0.2s						
BO01	**Tunca**	**1.76**	**205**	⇑*i* P	Pn	17 43 16.6	+0.5
BO01				*i* S	Sn	17 43 39.7	+0.9
BO01				IAML		17 43 40.7	
	comp=N,229nm,0.2s						
CO03	**El Pedregal**	**2.00**	**347**	*i* P	Pn	17 43 20.9	+1.5
CO03				*i* S	Sn	17 43 46.8	+2.3
CO03				IAML		17 43 51.1	
	comp=E,359nm,0.2s						
BO02	**Sierra Bellavi**	**2.05**	**194**	*e*P	Pn	17 43 21.1	+1.2
BO02				*i* S	Sn	17 43 47.3	+1.8
BO02				IAML		17 43 50.0	
	comp=N,610nm,0.2s						
BO03	**Pichilemu**	**2.26**	**221**	*e*P	Pn	17 43 22.1	-0.3
BO03				IAML		17 43 59.0	
	comp=N,122nm,0.4s						
CO06	**Fray Jorge**	**2.46**	**329**	*e*P	Pn	17 43 26.1	+0.9
CO06				*i* S	Sn	17 43 55.7	+0.9
CO06				IAML		17 44 06.9	
	comp=N,199nm,0.3s						
GO05	**Huala**	**2.64**	**213**	*i* P	Pn	17 43 27.3	-0.3
GO05				IAML		17 44 08.2	
	comp=E,93nm,0.2s						
GO04	**Tololo Observa**	**2.67**	**348**	*e*P	Pn	17 43 29.0	+0.8
CO01	**Juntas del Tor**	**2.82**	**1**	*e*P	Pn	17 43 31.7	+1.6
AC05	**El Transito**	**3.95**	**359**	*e*P	Pn	17 43 46.3	+1.1

TEH ***19*** *18:00:06.2, 30.74N×50.48E, h17km, ML3.7*
OMAN ***19*** *18:00:11.9±0.3, 30.34N×50.88E, h10km, mb5.5/8, Error ellipse: s-maj=7.9km s-min=5.2km az=241.0*

ISC 19 18:00:05.4±0.8, 30.69N±0.04×50.56E±0.04, h10km, n81, σ2 17/102, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.28**	**252**	*e*Pg	**Pg**	**18 00 11.6**	**+0.6**
ABEH				*e*Sg	**Sg**	**18 00 16.8**	**+2.0**
ABEH				*e*		18 00 24.6	
	comp=Z,72μm,0.4s						
KLNJ	**Kolanjah**	**0.94**	**70**	*e*Pg	**Pg**	**18 00 24.6**	**+1.0**
KLNJ				*e*		18 00 42.9	
	comp=Z,24μm,0.3s

TABS	**Tabas**	**6.30**	**60**	*e*Pn	**Pn**	**18 01 40.8**	**+2.4**
SLWR	**Sila**	**6.67**	**171**	P	**Pn**	**18 01 44.0**	**+0.6**
SLWR				S	**Sn**	**18 02 58.4**	**-1.0**
SHME	**Shamm**	**6.75**	**132**	P	**Pn**	**18 01 45.4**	**+0.9**
SHME				S	**Sn**	**18 02 57.9**	**-3.5**
BANOM	**Banah** SNR=15	**6.94**	**132**	P	**Pn**	**18 01 47.0**	**-0.1**
BANOM				S	**Sn**	**18 03 02.8**	**-3.3**
SHRO	**Shahrood**	**6.98**	**39**	*e*Pn	**Pn**	**18 01 49.9**	**+2.1**
ASUD	**Al Ashush, Dub** SNR=11	**7.37**	**144**	P	**Pn**	**18 01 55.0**	**+1.9**
ASUD				S	**Sn**	**18 03 15.2**	**-1.6**
MDH	**Madha**	**7.38**	**135**	P	**Pn**	**18 01 52.8**	**-0.5**
MDH				S	**Sn**	**18 03 13.1**	**-4.0**
FAQ	**Al Faqa, Dubai**	**7.41**	**142**	P	**Pn**	**18 01 54.8**	**+1.2**
FAQ				S	**Sn**	**18 03 16.1**	**-1.7**
BSRN	**Basiran**	**7.44**	**78**	*e*Pn	**Pn**	**18 01 56.7**	**+2.6**
MZWR	**Madinat Zayed**	**7.50**	**156**	P	**Pn**	**18 01 56.0**	**+1.1**
MZWR				S	**Sn**	**18 03 17.8**	**-2.3**
UOSS	**Minazif**	**7.59**	**138**	P	**Pn**	**18 01 56.4**	**+0.3**
UOSS				S	**Sn**	**18 03 19.6**	**-2.7**
HATD	**Hatta, Dubai**	**7.64**	**138**	P	**Pn**	**18 01 57.9**	**+1.0**
HATD				S	**Sn**	**18 03 21.4**	**-2.2**
ASHO	**Ashiyiah** SNR=7.9	**7.71**	**140**	P	**Pn**	**18 01 58.0**	**+0.2**
ASHO				S	**Sn**	**18 03 23.2**	**-2.2**
JASK	**Jask - Hormozg**	**8.03**	**125**	P	**Pn**	**18 02 03.0**	**+0.8**
JASK				S	**Sn**	**18 03 29.8**	**-3.3**
ALNE	**Al Ain**	**8.06**	**144**	P	**Pn**	**18 02 03.4**	**+0.9**
ALNE				S	**Sn**	**18 03 30.8**	**-2.9**
MZR	**Muzera** SNR=15	**8.09**	**161**	P	**Pn**	**18 02 03.5**	**+0.6**
MZR				S	**Sn**	**18 03 30.6**	**-3.9**
MRVT	**Maraveh tapeh**	**8.32**	**32**	*e*Pn	**Pn**	**18 02 08.2**	**+2.0**
UMZA	**Um Al Zommool**	**8.94**	**152**	P	**Pn**	**18 02 15.7**	**+1.0**
UMZA				S	**Sn**	**18 03 50.4**	**-5.0**
ARQ	**Araqi**	**9.05**	**143**	P	**Pn**	**18 02 17.0**	**+0.9**
ARQ				S	**Sn**	**18 03 54.1**	**-4.0**
HOQ	**Hoqain**	**9.28**	**138**	P	**Pn**	**18 02 17.5**	**-1.9**
HOQ				S	**Sn**	**18 03 59.0**	**-4.9**
BSY	**Bisya**	**9.89**	**142**	P	**Pn**	**18 02 28.5**	**+0.9**
BSY				S	**Sn**	**18 04 13.1**	**-5.6**
SMDO	**Samad**	**10.12**	**137**	P	**Pn**	**18 02 33.5**	**+2.6**
SMDO				S	**Sn**	**18 04 20.5**	**-4.0**
JMDO	**Jabal Madar**	**10.68**	**139**	P	**Pn**	**18 02 40.1**	**+1.5**
NGCH	**Negor - Chabah**	**10.74**	**117**	P	**Pn**	**18 02 40.8**	**+1.5**
WBK	**Wadi Bani Khal**	**11.01**	**135**	P	**Pn**	**18 02 43.3**	**+0.3**
WBK				S	**Sn**	**18 04 41.0**	**-5.3**
MHTO	**MHTO** SNR=5.5	**11.73**	**144**	P	**Pn**	**18 02 54.0**	**+1.1**
DQM	**DQM**	**12.43**	**148**	P	**Pn**	**18 03 01.1**	**-1.3**
DOK	**Doka** SNR=6.0	**12.45**	**164**	P	**Pn**	**18 03 03.0**	**+0.3**

MAN 19 18:10:56.5,9.92N×124.04E, h34km, mb3.8, ML2.5, MS2.0, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.28**	**218**	*e*P	Pb	18 11 05.2	+1.0
TBP				*e*S	Sb	18 11 09.5	+0.2
TABP	**Talibon, Bohol**	**0.34**	**59**	⇑*i*P	Pn	18 11 06.3	+1.3
TABP				*i* S	Sb	18 11 11.8	+1.2
GHBP	**Garcia Hernand**	**0.40**	**136**	⇑*i*P	Pn	18 11 07.4	+1.4
GHBP				*e*S	Sn	18 11 14.1	+2.1
MSLP	**Maasin**	**0.84**	**75**	⇑*e*P	Pb	18 11 12.5	-0.2
MSLP				*e*S	Sb	18 11 29.8	+6.1

*DJA **19** 18:11:09.4±0.8, 10.2°S×122.1°E, h19km±7km, M4.5/25, mb4.8/19, mB4.9/9, MLv4.8/25, Mw(mB)4.2/9*
*IDC **19** 18:11:10.4±1.0, 9.49S×117.92E, h56km±6km, mb4.0/9, mbtmp4.3/11, MS3.3/9, Error ellipse: s-maj=28.0km s-min=12.5km az=41.0*
*NEIC **19** 18:11:11.3±2.6, 9.60S±0.07×117.80E±0.02, h64km±8km, mb4.4/32, Error ellipse: s-maj=9.8km s-min=2.3km az=192.0*

ISC 19 18:11:10.2±0.6, 9.63S±0.05×117.89E±0.04, h54km±5km, n127, σ1§86/135, mb4.4/18, MS3.3/6, 1C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.80**	**352**	P	**Pn**	**18 11 25.2**	**-0.3**
PLAI				S	**Sn**	**18 11 35.7**	**-1.0**
PLAI	**Plampang**	**0.80**	**352**	P	**Pn**	**18 11 25.6**	**+0.1**
DBNI	**Kabupaten Domp**	**1.19**	**20**	P	**Pn**	**18 11 31.7**	**+1.0**
DBNI				S	**Sn**	**18 11 47.3**	**+1.4**
TWSI	**Taliwang, Sumb**	**1.33**	**311**	P	**Pn**	**18 11 32.6**	**0.0**
TWSI				S	**Sn**	**18 11 48.1**	**-1.2**
KLNI	**Mataram**	**2.14**	**304**	P	**Pn**	**18 11 44.4**	**+0.8**
KLNI				S	**Sn**	**18 12 10.2**	**+1.2**
DNP	**Denpasar**	**2.81**	**289**	P	**Pn**	**18 11 54.6**	**+1.9**
DNP				S	**Sn**	**18 12 27.5**	**+2.0**
IGBI	**Denpasar**	**2.83**	**286**	P	**Pn**	**18 11 53.7**	**+0.7**
SRBI	**Singaraja**	**3.06**	**300**	P	**Pn**	**18 11 57.7**	**+1.6**
SRBI				S	**Sn**	**18 12 32.4**	**+0.8**
RTBI	**Rangdo, Negare**	**3.14**	**291**	P	**Pn**	**18 11 59.1**	**+1.9**
RTBI				S	**Sn**	**18 12 37.6**	**+4.1**
BYJI	**Banyuwangi**	**3.77**	**292**	P	**Pn**	**18 12 07.8**	**+2.0**
JAGI	**Jajag, Banyuwa**	**3.87**	**287**	Pn	**Pn**	**18 12 07.2**	**-0.1**
JAGI				Sn	**Sn**	**18 12 47.5**	**-4.0**
JAGI	**Jajag, Banyuwa**	**3.87**	**287**	P	**Pn**	**18 12 07.5**	**+0.2**
JAGI	**Jajag, Banyuwa**	**3.87**	**287**	P	**Pn**	**18 12 08.5**	**+1.2**
ABJI	**Asem Bagus**	**4.05**	**296**	P	**Pn**	**18 12 12.2**	**+2.5**
BSSI	**Bau Bau, Buton**	**4.31**	**37**	P	**Pn**	**18 12 15.4**	**+2.0**
MMRI	**Maumere**	**4.40**	**77**	Pn	**Pn**	**18 12 16.5**	**+1.9**
MMRI	**Maumere**	**4.40**	**77**	P	**Pn**	**18 12 17.5**	**+2.9**
MMRI	**Maumere**	**4.40**	**77**	P	**Pn**	**18 12 17.7**	**+3.1**
GMJI	**Gumukmas**	**4.60**	**287**	P	**Pn**	**18 12 17.6**	**+0.4**
KMMI	**Kalianget**	**4.65**	**303**	P	**Pn**	**18 12 21.3**	**+3.3**
BKSI	**Bulukumba**	**4.81**	**27**	P	**Pn**	**18 12 22.2**	**+2.0**
KAPI	**Kappang** 39nm,0.3s,baz=202,slow=9.5,SNR=38	**4.94**	**22**	P	**Pn**	**18 12 23.4**	**+1.4**
KAPI	137nm,0.3s,baz=143,slow=22,SNR=26			S	**Sn**	**18 13 17.8**	**0.0**
KAPI	comp=Z,254nm,19.2s,baz=281,slow=44			LR	LR	18 14 44.2	
KAPI	**Kappang**	**4.94**	**22**	Pn	**Pn**	**18 12 23.9**	**+2.0**
KAPI				Sn	**Sn**	**18 13 16.0**	**-1.8**
KAPI	**Kappang** 0.8nm2µm96nm,0.7s	**4.94**	**22**	P	**Pn**	**18 12 23.8**	**+1.9**
KAPI	**Kappang**	**4.94**	**22**	P	**Pn**	**18 12 24.6**	**+2.7**
KRKI	**Karangkates** 1.6nm2µm60nm,0.5s	**5.57**	**285**	P	**Pn**	**18 12 32.5**	**+1.9**
BNSI	**Bone** 0.3nm807nm76nm,0.7s	**5.64**	**23**	P	**Pn**	**18 12 35.7**	**+4.2**
BATI	**Baumata** 30nm,0.3s,baz=339,slow=1.5,SNR=20	**5.71**	**96**	P	**Pn**	**18 12 34.4**	**+1.8**
BATI	32nm,0.4s,baz=37,slow=24,SNR=1.4			S	**Sn**	**18 13 37.5**	**+0.5**
BATI	**Baumata** 0.5nm74nm,0.5s	**5.71**	**96**	P	**Pn**	**18 12 34.4**	**+1.8**
SPSI	**Sidrap Palu** 0.2nm505nm54nm,0.6s	**5.92**	**18**	P	**Pn**	**18 12 37.9**	**+2.4**
PMSI	**Majene**	**6.17**	**10**	P	**Pn**	**18 12 41.1**	**+2.2**
BBSI	**Bau Bau** 0.2nm594nm64nm,0.8s	**6.20**	**49**	P	**Pn**	**18 12 42.3**	**+3.1**
PWJI	**Pagerwojo**	**6.22**	**284**	P	**Pn**	**18 12 41.3**	**+1.7**
SOEI	**Soe**	**6.29**	**92**	Pn	**Pn**	**18 12 42.1**	**+1.6**
SOEI	**Soe** 0.5nm1µm85nm,0.8s	**6.29**	**92**	P	**Pn**	**18 12 42.6**	**+2.1**
SOEI	**Soe**	**6.29**	**92**	P	**Pn**	**18 12 42.6**	**+2.1**
SJI	**Sawahan** 0.7nm52nm,0.8s	**6.34**	**287**	P	**Pn**	**18 12 42.8**	**+1.5**
KKSI	**Kolaka, Sulawe** 0.3nm927nm95nm,0.6s	**6.58**	**35**	P	**Pn**	**18 12 47.9**	**+3.5**
PCJI	**Pacitan** 0.9nm92nm,1.3s	**6.79**	**282**	P	**Pn**	**18 12 48.5**	**+1.2**
MMSI	**Mamuju** 0.1nm266nm17nm,0.5s	**6.96**	**8**	P	**Pn**	**18 12 54.4**	**+4.6**
UGM	**Wanagama**	**7.48**	**283**	Pn	**Pn**	**18 12 57.9**	**+1.1**
UGM	**Wanagama** 1.3nm239nm,1.9s	**7.48**	**283**	P	**Pn**	**18 12 58.6**	**+1.8**
UGM	**Wanagama**	**7.48**	**283**	P	**Pn**	**18 12 59.7**	**+2.9**
BBJI	**Bungbulang**	**10.36**	**281**	P	**Pn**	**18 13 35.3**	**-0.9**
SANI	**Sanana** 601nm18nm,0.4s	**11.02**	**47**	P	**Pn**	**18 13 48.6**	**+3.3**
TOLI2	**Tolitoli**	**11.05**	**15**	Pn	**Pn**	**18 13 48.5**	**+2.8**
MBWA	**Marble Bar**	**11.60**	**171**	Pn	**Pn**	**18 13 50.5**	**-2.7**
MBWA	**Marble Bar**	**11.60**	**171**	P	**Pn**	**18 13 51.0**	**-2.2**
PSA00	**Pilbara Seismi**	**12.03**	**171**	Pn	**Pn**	**18 13 56.5**	**-2.5**
PSA00	**Pilbara Seismi**	**12.03**	**171**	Pn	**Pn**	**18 13 57.9**	**-1.1**
PSA00	**Pilbara Seismi**	**12.03**	**171**	P	**Pn**	**18 13 57.0**	**-2.0**
KNRA	**Kununurra**	**12.19**	**121**	Pn	**Pn**	**18 14 00.0**	**-1.2**
KNRA	**Kununurra**	**12.19**	**121**	P	**Pn**	**18 14 00.1**	**-1.2**
SBUM	**Sibu**	**13.26**	**334**	Pn	**Pn**	**18 14 13.8**	**-2.0**
MTN	**Manton Dam**	**13.37**	**105**	Pn	**Pn**	**18 14 13.8**	**-3.6**
MTN	**Manton Dam**	**13.37**	**105**	P	**Pn**	**18 14 15.6**	**-1.8**
GIRL	**Giralia**	**13.41**	**195**	Pn	**Pn**	**18 14 15.1**	**-2.7**
GIRL	**Giralia**	**13.41**	**195**	P	**Pn**	**18 14 15.4**	**-2.5**
KKM	**Kota Kinabalu**	**15.66**	**354**		**P**	**18 14 52.3**	**+1.5**
FAKI	**Fak Fak**	**15.74**	**66**	Pn	**Pn**	**18 14 46.3**	**-2.4**
FAKI	comp=Z,21nm,1.0s			IAmb	IAmb	18 14 59.6	
FAKI	**Fak Fak** comp=Z,25nm,1.3s	**15.74**	**66**	P	**Pn**	**18 14 48.2**	**-0.4**
FAKI	**Fak Fak**	**15.74**	**66**	P	**Pn**	**18 14 49.8**	**+1.2**
SIJI	**Sorong** comp=Z,87nm,19.0s,baz=222,slow=39	**15.90**	**58**	LR	LR	18 21 26.7	
MEEK	**Meekatharra**	**16.93**	**178**	P	**Pn**	**18 15 02.8**	**-0.8**
WRKA	**Warakurna**	**18.24**	**148**	P	**Pn**	**18 15 20.7**	**+1.0**
WB0	**Warramunga Arr**	**18.86**	**124**	P	**P**	**18 15 26.5**	**+0.4**
WRA	**Warramunga Arr** comp=Z,3.3nm,0.5s,baz=297,slow=14,SNR=25	**18.90**	**125**	P	**P**	**18 15 26.3**	**-0.2**
WRA	comp=Z,0.6nm,0.5s,baz=236,slow=24,SNR=3.3			S	S	18 18 44.8	-14
WRA	comp=Z,103nm,18.3s,baz=274,slow=36			LR	LR	18 22 31.3	
WRA	**Warramunga Arr**	**18.90**	**125**	P	**P**	**18 15 26.2**	**-0.4**
WRAB	**Tennant Creek**	**18.91**	**125**	P	**P**	**18 15 24.5**	**-2.1**
WRAB	comp=Z,15nm,1.1s			IAmb	IAmb	18 15 29.9	
WRAB	**Tennant Creek**	**18.91**	**125**	P	**Pn**	**18 15 27.7**	**0.0**
WB2	**Warramunga Arr**	**18.91**	**125**	P	**P**	**18 15 26.4**	**-0.2**
WR0	**Warramunga Arr**	**19.08**	**124**	P	**P**	**18 15 27.8**	**-0.6**
WR0	comp=Z,12nm,0.8s			IAmb	IAmb	18 15 31.9	
MORW	**Morawa**	**19.42**	**185**	P	**Pn**	**18 15 35.0**	**+1.3**
MORW	comp=Z,25nm,1.2s			IAmb	IAmb	18 15 38.8	
MORW	**Morawa**	**19.42**	**185**	P	**Pn**	**18 15 33.9**	**+0.2**
AS31	**Alice Springs**	**20.71**	**134**	P	**P**	**18 15 47.4**	**+1.2**
ASAR	**Alice Springs** comp=Z,14nm,1.0s,baz=311,slow=10,SNR=91	**20.71**	**134**	P	**P**	**18 15 47.0**	**+0.8**
ASAR	comp=Z,1.5nm,0.9s,baz=311,slow=23,SNR=4.9			S	**S**	**18 19 28.2**	**-6.4**
ASAR	**Alice Springs**	**20.71**	**134**	P	**P**	**18 15 47.0**	**+0.8**
AS01	**Alice Springs**	**20.74**	**134**	P	**P**	**18 15 48.0**	**+1.4**
BLDU	**Ballidu**	**20.91**	**183**	P	Pn	18 15 51.6	+0.3
NWAO	**Narrogin (SRO)** comp=Z,14nm,0.9s	**23.20**	**181**	P	**P**	**18 16 13.7**	**+1.3**
NWAO	comp=Z,17nm,0.9s			IAmb	IAmb	18 16 44.0	
NWAO	**Narrogin (SRO)**	**23.20**	**181**	P	**P**	**18 16 14.9**	**+2.4**
NWAO	comp=Z,2.0nm,0.3s			IAmb	IAmb	18 16 44.0	
OOD	**Oodnadatta**	**24.65**	**140**	P	**P**	**18 16 27.1**	**+1.2**
COEN	**Coen**	**25.11**	**102**	P	**P**	**18 16 31.1**	**+0.8**
COEN	comp=Z,24nm,1.4s			IAmb	IAmb	18 16 51.2	
COEN	**Coen**	**25.11**	**102**	P	**P**	**18 16 33.4**	**+3.1**
MULG	**Mulgathing**	**25.49**	**146**	P	**P**	**18 16 35.4**	**+1.8**
BBOO	**Buckleboo**	**28.52**	**147**	P	**P**	**18 17 01.1**	**+0.3**
BBOO	comp=Z,14nm,1.4s			IAmb	IAmb	18 17 23.7	
CTA	**Charters Tower** comp=Z,63nm,18.7s,baz=252,slow=38	**29.27**	**114**	LR	LR	18 29 45.7	
STKA	**Stephens Creek** comp=Z,1.7nm,0.5s,baz=314,slow=5.2,SNR=6.2 comp=Z,1.7nm,0.5s	**31.19**	**139**	P	**P**	**18 17 25.4**	**+1.0**
STKA	**Stephens Creek**	**31.19**	**139**	P	**P**	**18 17 25.7**	**+1.4**
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.3s,baz=141,slow=6.3,SNR=5.8	**33.59**	**326**	P	**P**	**18 17 45.7**	**+0.2**
CMAR	comp=Z,0.6nm,0.7s,baz=165,slow=1.7,SNR=4.2			PcP	**PcP**	**18 20 25.7**	**+0.7**
CMAR	comp=Z,46nm,19.6s,baz=140,slow=38 comp=Z,0.2nm,0.3s			LR	LR	18 32 08.8	
TOO	**Toolangi**	**37.32**	**143**	P	**P**	**18 18 20.2**	**+2.8**
TOO	comp=Z,9.1nm,1.4s			IAmb	IAmb	18 18 28.8	
ENH	**Enshi**	**40.48**	**349**	P	**P**	**18 18 42.8**	**-1.1**
ENH	comp=Z,4.8nm,0.8s			IAmb	IAmb	18 18 46.0	
PALK	**Pallekele** comp=Z,58nm,18.0s,baz=238,slow=38	**40.67**	**293**	LR	LR	18 36 38.8	
H08S2	**Diego Garcia H** baz=95,slow=75,SNR=5.7	**44.91**	**269**	T	T	19 07 30.6	
H08S3	**Diego Garcia H** baz=95,slow=75,SNR=4.0	**44.92**	**269**	T	T	19 07 35.2	
H08S1	**Diego Carcia H** baz=95,slow=75,SNR=3.4	**44.92**	**269**	T	T	19 07 41.0	
KSRS	**Korea Array** comp=Z,3.8nm,0.9s,baz=191,slow=8.6,SNR=8.9	**47.77**	**11**	P	**P**	**18 19 40.8**	**-1.2**
KSRS	comp=Z,12nm,19.8s,baz=165,slow=36 comp=Z,3.8nm,0.9s			LR	LR	18 39 19.1	
MAJO	**Matsushiro**	**49.74**	**21**	P	**P**	**18 19 56.4**	**-0.8**
MJAR	**Matsushiro Arr** comp=Z,4.0nm,0.8s,baz=192,slow=7.7,SNR=13 comp=Z,4.0nm,0.8s	**49.74**	**21**	P	**P**	**18 19 54.9**	**-2.3**
MJB9	**Matsu-Tunnel**	**49.74**	**21**	P	**P**	**18 19 57.3**	**+0.1**
JSD	**Sado**	**51.10**	**21**	P	**P**	**18 20 06.8**	**-0.6**
GTA	**Gaotai**	**51.60**	**342**	⇑Pn	**P**	**18 20 12.8**	**+1.5**
GTA				sP	pP	18 20 19.8	-5.3
GTA	comp=Z,3.0nm,1.0s			pmax	pmax		
JMM	**Marumori**	**51.88**	**23**	P	**P**	**18 20 11.8**	**-1.4**
MDJ	**Mudanjiang**	**55.02**	**10**	P	**P**	**18 20 36.5**	**+0.4**
USA0B	**Ussuriysk Arra**	**55.08**	**12**	P	**P**	**18 20 36.2**	**-0.3**
USRK	**Ussuriysk Ar.** comp=Z,5.6nm,0.7s,baz=192,slow=7.3,SNR=11	**55.08**	**12**	P	**P**	**18 20 36.3**	**-0.2**
USRK	comp=Z,4.0nm,0.6s,baz=190,slow=6.3,SNR=5.8 comp=Z,5.6nm,0.7s			pP	**pP**	**18 20 51.6**	**+0.9**
JKA	**Kamikawa-asahi**	**57.99**	**21**	P	**P**	**18 20 55.8**	**-1.5**
AMCZ	**Amberley**	**58.03**	**135**	P	**P**	**18 20 58.5**	**+0.8**
SONM	**Songino Array** comp=Z,2.2nm,0.6s,baz=167,slow=8.3,SNR=21	**58.11**	**351**	P	**P**	**18 20 57.0**	**-1.2**
SONM	comp=Z,1.4nm,0.6s,baz=169,slow=8.4,SNR=6.5 comp=Z,2.2nm,0.6s			pP	**pP**	**18 21 12.8**	**+0.4**
SONM	**Songino Array**	**58.11**	**351**	P	**P**	**18 20 57.7**	**-0.5**
SONM	comp=Z,2.0nm,0.6s			IAmb	IAmb	18 20 58.6	
HEH	**HeiHe**	**60.20**	**7**	*e*P	**P**	**18 21 11.8**	**-0.7**
HEH	comp=Z,8.0nm,0.6s			pmax	pmax		
HEH	comp=Z,110nm,3.8s			pmax	pmax		
BOOM	**Boomskoye usch**	**64.49**	**327**	P	**P**	**18 21 41.8**	**+0.3**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.4s,baz=151,slow=6.3,SNR=12	**64.52**	**334**	P	**P**	**18 21 40.8**	**-0.7**
MKAR	comp=Z,2.5nm,0.9s,baz=154,slow=6.4,SNR=2.9 comp=Z,0.9nm,0.4s			pP	**pP**	**18 21 56.2**	**+0.6**
MKAR	**Makanchi Array**	**64.52**	**334**	P	**P**	**18 21 41.0**	**-0.5**
MAKZ	**Makanchi**	**64.67**	**334**	P	**P**	**18 21 40.8**	**-1.6**
GAR	**Garm**	**65.53**	**321**	P	**P**	**18 21 48.0**	**-0.3**
GAR	comp=Z,5.8nm,1.0s			IAmb	IAmb	18 22 18.0	
KKAR	**Karatay Array**	**67.92**	**324**	P	**P**	**18 22 02.3**	**-1.0**
AFI	**Afiamalu** comp=Z,68nm,21.5s,baz=149,slow=34	**68.78**	**101**	LR	LR	18 50 23.3	
ZAA0	**Zalesovo Array**	**69.24**	**340**	P	**P**	**18 22 09.8**	**-1.4**
ZAA0	comp=Z,2.8nm,1.1s			IAmb	IAmb	18 22 29.6	
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.5s,baz=146,slow=5.8,SNR=7.6	**69.24**	**340**	P	**P**	**18 22 09.7**	**-1.6**
ZALV	comp=Z,1.9nm,0.6s,baz=152,slow=5.5,SNR=6.9 comp=Z,1.1nm,0.5s			pP	**pP**	**18 22 24.5**	**-1.1**
GEYT	**Alibeck** comp=Z,14nm,18.2s,baz=185,slow=39	**73.09**	**314**	LR	LR	18 58 52.0	
ABKAR	**Akbulak array**	**77.45**	**325**	P	**P**	**18 22 59.1**	**-0.6**
ABKAR	**Akbulak array**	**77.45**	**325**	P	**P**	**18 22 59.3**	**-0.4**
TIXI	**Tiksi**	**81.43**	**3**	P	**P**	**18 23 19.6**	**-1.2**
TIXI	comp=Z,4.7nm,0.8s			IAmb	IAmb	18 23 20.7	
BRTR	**Keskin Array B** comp=Z,0.4nm,0.5s,baz=16,slow=9.4,SNR=3.6	**91.70**	**310**	PP	**PP**	**18 27 52.4**	**+0.9**
FINES	**FINESS Array B** comp=Z,6.7nm,1.0s,baz=43,slow=6.3,SNR=3.8	**99.25**	**331**	P	**Pdif**	**18 24 45.1**	**-0.7**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.5s,baz=306,slow=2.1,SNR=7.8	**115.21**	**24**	PKP	**PKPdf**	**18 29 45.3**	**+0.1**

*NNC **19** 18:12:10.2±1.3, 41.55N×79.12E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.0km s-min=5.8km az=160.0*
*SOME **19** 18:12:11.7, 41.50N×78.95E, h5km*
*KRNET **19** 18:12:12.3±0.1, 41.55N×78.95E, mb2.6*

ISC 19 18:12:10.0±2.2, 41.52N±0.08×78.87E±0.05, h16km±10km, n35, σ1§17/61, 8C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=82	**0.82**	**285**	⇑*i*P	**Pn**	**18 12 29.2**	**-0.1**
TARG	baz=82			⇑*i*S	**Sn**	**18 12 41.6**	**+0.2**
ANVS	**Anan'yevo** baz=23	**1.54**	**325**	⇓*i*P	**Pg**	**18 12 41.4**	**-0.3**
ANVS	baz=23			⇓*i*S	**Sg**	**18 13 03.3**	**+1.5**
UZB	**Uzynbulak** 1.9nm,0.1s	**1.63**	**4**	*e*P	**Pg**	**18 12 42.8**	**-0.5**
UZB	18nm,0.3s			*e*S	**Sg**	**18 13 05.8**	**+1.3**
UZB	**Uzynbulak** 1.0nm,0.1s	**1.63**	**4**	P	**Pn**	**18 12 39.1**	**-1.0**
UZB	18nm,0.3s			S	**Sn**	**18 13 00.9**	**+0.1**
ZHN	**Zhinishke** 16nm,0.3s	**1.68**	**349**	*e*P	**Pb**	**18 12 42.4**	**-0.2**
ZHN	100nm,0.3s			*e*S	**Sb**	**18 13 04.4**	**+1.0**
ZHN	**Zhinishke** 17nm,0.2s	**1.68**	**349**	P	**Pn**	**18 12 41.2**	**+0.4**
ZHN	100nm,0.3s			S	**Sb**	**18 13 04.4**	**+1.0**
SHLS	**Shalkode** 21nm,0.2s	**1.69**	**15**	*e*P	**Pg**	**18 12 45.6**	**+1.1**
SHLS	108nm,0.6s			*e*S	**Sg**	**18 13 10.2**	**+3.6**
SHLS	**Shalkode** 21nm,0.3s	**1.69**	**15**	P	**Pn**	**18 12 41.4**	**+0.4**
SHLS	108nm,0.6s			S	**Sb**	**18 13 04.7**	**+0.8**
PDGK	**Podgornoye** 5.3nm,0.5s	**1.86**	**14**	P	**Pn**	**18 12 42.4**	**-0.9**
PDGK	21nm,0.4s			S	**Sn**	**18 13 06.5**	**-0.1**
PDGK	**Podgornoye** 11nm,0.5s	**1.86**	**14**	⇑Pn	**Pn**	**18 12 42.6**	**-0.8**
PDGK	34nm,0.6s			⇑Sn	**Sn**	**18 13 06.3**	**-0.3**
KPKS	**Kokpek** 14nm,0.2s	**1.95**	**356**	*e*P	**Pb**	**18 12 46.9**	**-0.3**
KPKS	98nm,0.4s			*e*S	**Sb**	**18 13 12.2**	**+1.0**
KPKS	**Kokpek** 10.0nm,0.2s	**1.95**	**356**	Pg	**Pb**	**18 12 46.2**	**-0.9**
KPKS	98nm,0.4s			Lg	Lg	18 13 12.9	
KURS	**Kuram** 5.7nm,0.3s	**2.03**	**345**	*e*P	**Pb**	**18 12 49.3**	**+0.8**
KURS	16nm,0.4s			*e*S	**Sg**	**18 13 16.2**	**-1.1**
KURS	**Kuram** 7.1nm,0.2s	**2.03**	**345**	Pg	**Pb**	**18 12 48.0**	**-0.5**
KURS	16nm,0.4s			Lg	Lg	18 13 16.2	
TNSS	**Tian-Shan** 7.2nm,0.3s	**2.08**	**317**	*e*P	**Pg**	**18 12 51.5**	**-0.4**
TNSS	14nm,0.5s			*e*S	**Sg**	**18 13 20.1**	**+1.2**
TNSS	**Tian-Shan** 10nm,0.3s	**2.08**	**317**	Pg	**Pb**	**18 12 50.2**	**+0.7**
TNSS	14nm,0.5s			Lg	Lg	18 13 20.1	
ULHL	**Ulahol** baz=90	**2.09**	**291**	⇑*i*P	**Pg**	**18 12 51.7**	**-0.4**
ULHL	baz=90			⇑*i*S	**Sg**	**18 13 20.1**	**+0.8**
MDOK	**Medeo** 5.1nm,0.2s	**2.12**	**321**	*e*P	**Pg**	**18 12 52.2**	**-0.6**
MDOK	36nm,0.6s			*e*S	**Sg**	**18 13 20.9**	**+0.6**
MDOK	**Medeo** 3.3nm,0.4s	**2.12**	**321**	⇓Pn	**Pb**	**18 12 50.0**	**-0.2**
MDOK	5.9nm,0.2s			Pg	**Pg**	**18 12 50.5**	**-2.2**
MDOK	36nm,0.6s			Lg	Lg	18 13 20.3	
MDOK	9.6nm,0.4s			Sn	**Sg**	**18 13 21.1**	**+0.8**
BOOM	**Boomskoye usch** baz=94	**2.39**	**295**	⇓*i*P	**Pb**	**18 12 55.5**	**+0.8**
BOOM	baz=94			⇓*i*S	**Sg**	**18 13 27.0**	**-1.7**
KST	**Kastek** 4.8nm,0.6s	**2.64**	**306**	*e*P	**Pg**	**18 13 01.6**	**-1.0**
KST	50nm,0.7s			*e*S	**Sg**	**18 13 37.0**	**+0.2**
KST	**Kastek** 4.4nm,0.5s	**2.64**	**306**	Pg	**Pb**	**18 12 59.8**	**+0.9**
KST	50nm,0.7s			Lg	Lg	18 13 36.5	
CHKK	**Chushkaly** 2.0nm,0.2s	**2.71**	**330**	*e*P	**Pg**	**18 13 02.1**	**-1.8**
CHKK	117nm,0.4s			*e*S	**Sg**	**18 13 38.4**	**-0.7**
CHKK	**Chushkaly** 11nm,0.2s	**2.71**	**330**	Pg	**Pb**	**18 13 00.8**	**+0.7**
CHKK	117nm,0.4s			Lg	Lg	18 13 38.4	
KTBS	**Karatobe** 4.1nm,0.3s	**2.72**	**324**	*e*P	**Pg**	**18 13 02.2**	**-1.9**
KTBS	38nm,0.4s			*e*S	**Sg**	**18 13 38.2**	**-1.2**
KTBS	**Karatobe** 3.1nm,0.3s	**2.72**	**324**	Pg	**Pb**	**18 13 00.8**	**+0.6**
KTBS	38nm,0.4s			Lg	Lg	18 13 38.2	
TKM2	**Tokmak 2** baz=0.0	**2.80**	**301**	⇑*i*P	**Pb**	**18 13 01.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.54**	**288**	P	**P**	**18 14 19.5**	**+2.3**
	24nm,0.3s,baz=140,slow=16,SNR=58						
MSVF				S	**S**	**18 15 33.1**	**+4.6**
	58nm,1.2s,baz=125,slow=19,SNR=7.9						
MSVF	**Nonsavu**	**4.54**	**288**	P	**P**	**18 14 19.2**	**+2.1**
NIUE	**Niue**	**7.08**	**90**	P	**P**	**18 14 39.6**	**+0.4**
NIUE					S	18 16 20.4	+12
AFI	**Afiamalu**	**7.54**	**47**	P	**P**	**18 14 43.6**	**-0.1**
	94nm,0.5s,baz=239,slow=18,SNR=23						
AFI				S	**S**	**18 16 14.3**	**-2.9**
	76nm,0.4s,baz=224,slow=23,SNR=12						
AFI	**Afiamalu**	**7.54**	**47**	P	**P**	**18 14 43.4**	**-0.4**
AFI					**S**	**18 16 13.8**	**-3.4**
RAO	**Raoul Island**	**10.02**	**183**	P	**P**	**18 15 06.2**	**-1.7**
FUNA	**Funafuti**	**11.11**	**342**		**P**	**18 15 20.6**	**+1.3**
MARNC	**Mare, Loyalty**	**13.84**	**258**	P	**P**	**18 15 45.9**	**-1.3**
MARNC	**Mare, Loyalty**	**13.84**	**258**	P	**P**	**18 15 46.2**	**-1.0**
LIFNC	**LIFOU**	**14.51**	**261**	P	**P**	**18 15 51.9**	**-2.1**
OUENC	**Ouen Island, N**	**15.06**	**255**	P	**P**	**18 15 57.2**	**-2.1**
DZM	**Mont Dzumac**	**15.38**	**257**	P	**P**	**18 16 01.5**	**-1.0**
	22nm,0.6s,baz=84,slow=19,SNR=18						
DZM	**Mont Dzumac**	**15.38**	**257**	P	**P**	**18 16 01.9**	**-0.7**
DZM	**Mont Dzumac**	**15.38**	**257**	P	**P**	**18 16 03.0**	**+0.5**
ONTNC	**Ouen Toro**	**15.40**	**256**	P	**P**	**18 16 03.7**	**+1.0**
RAR	**Rarotonga**	**16.68**	**100**	P	**P**	**18 16 15.6**	**+0.9**
	18nm,0.7s,baz=236,slow=7.3,SNR=4.0						
RAR	**Rarotonga**	**16.68**	**100**	P	**P**	**18 16 14.6**	**-0.1**
KOUNC	**Koumac, New Ca**	**17.27**	**262**	P	**P**	**18 16 21.0**	**+1.0**
KOUNC	**Koumac, New Ca**	**17.27**	**262**	P	**P**	**18 16 21.1**	**+1.2**
OUZ	**Omahuta**	**17.83**	**205**	P	**P**	**18 16 26.1**	**+1.2**
KUZ	**Kuaotunu**	**18.49**	**198**	P	**P**	**18 16 31.8**	**+0.9**
MXZ	**Matakaoa Point**	**18.67**	**191**	P	**P**	**18 16 32.3**	**-0.2**
HIZ	**Hauiti**	**20.38**	**198**	P	**P**	**18 16 48.2**	**+0.2**
BKZ	**Black Stump Fm**	**20.58**	**194**	P	**P**	**18 16 47.8**	**-2.1**
CTZ	**Chatham Island**	**24.47**	**179**	P	**P**	**18 17 26.4**	**+2.0**
LHI	**Lord Howe Isla**	**24.46**	**235**	P	**P**	**18 17 23.9**	**-0.8**
JCZ	**Jackson Bay**	**27.36**	**202**	P	**P**	**18 17 49.8**	**-0.2**
WKZ	**Wanaka**	**27.94**	**201**	P	**P**	**18 17 53.0**	**-2.0**
WHZ	**Wether Hill Ro**	**29.24**	**201**	P	**P**	**18 18 05.7**	**-0.5**
ARMA	**Armidale**	**30.14**	**242**	P	**P**	**18 18 14.5**	**+0.2**
ARMA				IAmb	IAmb	18 18 15.4	
	comp=Z,12nm,0.7s						
ARMA	**Armidale**	**30.14**	**242**	P	**P**	**18 18 14.7**	**+0.3**
RMQ	**Roma**	**31.94**	**251**	P	**P**	**18 18 29.9**	**+0.2**
CNB	**Canberra Magne**	**33.41**	**234**	P	**P**	**18 18 42.5**	**+0.4**
CAN	**Canberra**	**33.70**	**235**	P	**P**	**18 18 44.2**	**-0.2**
CAN	**Canberra**	**33.70**	**235**	P	**P**	**18 18 44.7**	**+0.3**
CAN	**Canberra**	**33.70**	**235**	P	**P**	**18 18 44.4**	**0.0**
CAN				PP	**pwP**	**18 20 24.0**	**+0.5**
CTA	**Charters Tower**	**34.19**	**262**	P	**P**	**18 18 48.6**	**-0.1**
	comp=Z,34nm,0.8s,baz=95,slow=9.2,SNR=18						
	comp=Z,34nm,0.8s						
CTAO	**Charters Tower**	**34.19**	**262**	P	**P**	**18 18 48.7**	**-0.1**
CTAO				IAmb	IAmb	18 18 49.6	
	comp=Z,37nm,0.9s						
CTAO	**Charters Tower**	**34.19**	**262**	P	**P**	**18 18 48.2**	**-0.5**
CTAO				sP	**sP**	**18 21 30.8**	**+2.6**
CMSA	**Cobar Meteorol**	**35.36**	**242**	P	**P**	**18 18 58.4**	**+0.1**
PMG	**Port Moresby**	**35.61**	**281**	P	**P**	**18 19 01.4**	**+0.8**
	comp=Z,67nm,0.9s,baz=84,slow=5.6,SNR=13						
	comp=Z,67nm,0.9s						
PMG	**Port Moresby**	**35.61**	**281**	P	**P**	**18 19 00.8**	**+0.2**
PMG	**Port Moresby**	**35.61**	**281**	P	**P**	**18 19 01.1**	**+0.5**
	comp=Z,872nmcomp=Z,102nm,1.0s						
PMG	**Port Moresby**	**35.61**	**281**	P	**P**	**18 19 01.1**	**+0.5**
QLP	**Quilpie**	**35.98**	**251**	P	**P**	**18 19 03.5**	**0.0**
MTSU	**Mount Surprise**	**36.22**	**265**	P	**P**	**18 19 05.4**	**-0.2**
TOO	**Toolangi**	**37.11**	**233**	P	**P**	**18 19 12.8**	**+0.2**
TOO				IAmb	IAmb	18 19 13.7	
	comp=Z,27nm,0.7s						
TOO	**Toolangi**	**37.11**	**233**	P	**P**	**18 19 12.8**	**+0.2**
COEN	**Coen**	**38.07**	**272**	P	**P**	**18 19 21.0**	**+0.3**
COEN				IAmb	IAmb	18 19 21.9	
	comp=Z,32nm,0.8s						
COEN	**Coen**	**38.07**	**272**	P	**P**	**18 19 21.0**	**+0.3**
STKA	**Stephens Creek**	**38.86**	**243**	P	**P**	**18 19 27.2**	**+0.4**
	comp=Z,25nm,0.6s,baz=92,slow=10.0,SNR=53						
	comp=Z,25nm,0.6s						
STKA	**Stephens Creek**	**38.86**	**243**	P	**P**	**18 19 27.3**	**+0.4**
STKA	**Stephens Creek**	**38.86**	**243**	P	**P**	**18 19 27.3**	**+0.4**
INKA	**Innaminka**	**39.16**	**249**	P	**P**	**18 19 30.2**	**+0.9**
ARPS	**Mount Arapiles**	**39.67**	**235**	P	**P**	**18 19 33.1**	**-0.2**
QIS	**Mount Isa**	**40.36**	**261**	P	**P**	**18 19 38.2**	**-0.9**
BBOO	**Buckleboo**	**43.62**	**242**	P	**P**	**18 20 04.2**	**-0.3**
WR0	**Warramunga Arr**	**45.15**	**261**	P	**P**	**18 20 15.2**	**-1.3**
WR0				IAmb	IAmb	18 20 16.7	
	comp=Z,78nm,1.6s						
WB0	**Warramunga Arr**	**45.31**	**261**	P	**P**	**18 20 16.8**	**-0.9**
WB2	**Warramunga Arr**	**45.33**	**261**	P	**P**	**18 20 16.6**	**-1.2**
WB2				IAmb	IAmb	18 20 17.7	
	comp=Z,74nm,1.3s						
WRAB	**Tennant Creek**	**45.33**	**261**	P	**P**	**18 20 16.8**	**-1.0**
WRAB				IAmb	IAmb	18 20 17.6	
	comp=Z,58nm,1.3s						
WRAB	**Tennant Creek**	**45.33**	**261**	P	**P**	**18 20 16.8**	**-1.0**
WRA	**Warramunga Arr**	**45.34**	**261**	P	**P**	**18 20 16.9**	**-1.0**
	comp=Z,20nm,0.6s,baz=97,slow=8.2,SNR=75						
WRA				S	**S**	**18 26 14.3**	**-3.5**
	comp=Z,2.2nm,0.8s,baz=96,slow=13,SNR=7.4						
	comp=Z,20nm,0.6s						
WRA	**Warramunga Arr**	**45.34**	**261**	P	**P**	**18 20 16.3**	**-1.6**
AS31	**Alice Springs**	**45.36**	**255**	P	**P**	**18 20 17.8**	**-0.3**
AS31				IAmb	IAmb	18 20 18.8	
	comp=Z,19nm,1.1s						
ASAR	**Alice Springs**	**45.36**	**255**	P	**P**	**18 20 17.6**	**-0.4**
	comp=Z,51nm,0.7s,baz=87,slow=8.6,SNR=204						
ASAR				S	**S**	**18 26 15.2**	**-3.1**
	comp=Z,7.0nm,0.9s,baz=91,slow=15,SNR=27						
	comp=Z,51nm,0.7s						
SMPI	**Sarmi**	**46.20**	**286**	P	**P**	**18 20 24.3**	**-0.2**
	comp=Z,38nm,1.6s						
MTN	**Manton Dam**	**49.72**	**269**	P	**P**	**18 20 49.8**	**-0.8**
MTN				PcP	**PcP**	**18 22 02.6**	**+1.3**
FORT	**Forrest**	**50.32**	**246**	P	**P**	**18 20 53.9**	**-0.9**
SAUI	**Saumlaki**	**50.91**	**275**	P	**P**	**18 20 58.3**	**-1.1**
KNRA	**Kununurra**	**51.31**	**265**	P	**P**	**18 21 01.6**	**-0.6**
KNRA				PcP	**PcP**	**18 22 05.4**	**-1.8**
FAKI	**Fak Fak**	**51.76**	**282**	P	**P**	**18 21 05.3**	**-0.2**
FAKI				IAmb	IAmb	18 21 16.1	
	comp=Z,28nm,1.1s						
SIJI	**Sorong**	**53.45**	**284**	P	**P**	**18 21 17.6**	**0.0**
	comp=Z,114nm,0.7s,baz=114,slow=5.1,SNR=62						
SIJI	**Sorong**	**53.45**	**284**	P	**P**	**18 21 17.1**	**-0.5**
	comp=Z,1μmcomp=Z,109nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.76**	**261**	P	**P**	**18 21 19.4**	**-0.3**
DRV	**Dumont d'Urvil**	**54.75**	**199**	P	**P**	**18 21 25.6**	**-0.2**
KRAI	**Karang Ratu**	**55.19**	**280**	P	**P**	**18 21 29.6**	**-0.2**
	comp=Z,26nm,0.8s						
AAI	**Ambon**	**55.25**	**279**	P	**P**	**18 21 29.4**	**-0.8**
	comp=Z,32nm,1.1s						
NLAI	**Namlea**	**56.43**	**279**	P	**P**	**18 21 38.2**	**-0.1**
	comp=Z,18nm,0.7s						
LBMI	**Labuha**	**57.01**	**282**	P	**P**	**18 21 41.6**	**-0.7**
	comp=Z,50nm,0.9s						
SOEI	**Soe**	**57.02**	**271**	P	**P**	**18 21 43.4**	**+0.8**
SOEI	**Soe**	**57.02**	**271**	P	**P**	**18 21 43.2**	**+0.7**
	comp=Z,113nm,0.8s						
BATI	**Baumata**	**57.47**	**270**	P	**P**	**18 21 45.9**	**+0.4**
	comp=Z,34nm,0.7s						
SANI	**Sanana**	**57.89**	**280**	P	**P**	**18 21 47.2**	**-1.1**
	comp=Z,37nm,1.0s						
PSA00	**Pilbara Seismi**	**58.50**	**256**	P	**P**	**18 21 51.5**	**-0.9**
PSA00				IAmb	IAmb	18 21 52.4	
	comp=Z,28nm,0.8s						
MBWA	**Marble Bar**	**58.68**	**256**	P	**P**	**18 21 52.8**	**-0.7**
MBWA				IAmb	IAmb	18 21 53.6	
	comp=Z,39nm,1.3s						
MBWA	**Marble Bar**	**58.68**	**256**	P	**P**	**18 21 52.4**	**-1.1**
SBA	**Scott Base**	**59.20**	**184**	P	**P**	**18 21 58.0**	**+2.1**
SBA	**Scott Base**	**59.20**	**184**	P	**P**	**18 21 58.0**	**+2.1**
VNDA	**Vanda**	**59.24**	**185**	P	**P**	**18 21 57.4**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=350,slow=7.0,SNR=17						
	comp=Z,3.9nm,0.9s						
VNDA	**Vanda**	**59.24**	**185**	P	**P**	**18 21 57.0**	**+0.7**
VNDA	**Vanda**	**59.24**	**185**	P	**P**	**18 21 57.2**	**+0.9**
MMRI	**Maumere**	**59.26**	**271**	P	**P**	**18 21 56.8**	**-0.8**
MMRI				IAmb	IAmb	18 21 57.5	
	comp=Z,34nm,0.8s						
MMRI	**Maumere**	**59.26**	**271**	P	**P**	**18 21 56.5**	**-1.0**
	comp=Z,40nm,0.9s						
LUWI	**Luwuk**	**61.25**	**280**	P	**P**	**18 22 10.3**	**-0.4**
LUWI				IAmb	IAmb	18 22 11.4	
	comp=Z,23nm,0.7s						
LUWI	**Luwuk**	**61.25**	**280**	P	**P**	**18 22 10.6**	**0.0**
	comp=Z,40nm,1.0s						
SPSI	**Sidrap Palu**	**63.05**	**275**	P	**P**	**18 22 20.6**	**-1.7**
	comp=Z,21nm,1.1s						
CCD	**Concordia, Ant**	**63.85**	**194**	P	**P**	**18 22 26.9**	**+0.1**
MPSI	**Mapaga**	**64.42**	**280**	P	**P**	**18 22 30.4**	**-0.6**
	comp=Z,21nm,0.8s						
CASY	**Casey**	**65.36**	**205**	P	**P**	**18 22 35.9**	**-0.1**
CASY				IAmb	IAmb	18 23 15.3	
	comp=Z,105nm,1.9s						
JAGI	**Jajag, Banyuwa**	**66.95**	**269**	P	**P**	**18 22 44.8**	**-2.1**
JAGI				IAmb	IAmb	18 22 46.1	
	comp=Z,49nm,1.0s						
MAJO	**Matsushiro**	**69.50**	**323**	P	**P**	**18 23 00.5**	**-1.3**
MAJO				IAmb	IAmb	18 23 35.5	
	comp=Z,59nm,2.0s						
MJB9	**Matsu-Tunnel**	**69.51**	**323**	P	**P**	**18 23 01.3**	**-0.5**
MJB9				IAmb	IAmb	18 23 20.5	
	comp=Z,60nm,1.9s						
KKM	**Kota Kinabalu**	**69.97**	**284**	P	**P**	**18 23 05.0**	**-0.2**
KKM				IAmb	IAmb	18 24 02.4	
	comp=Z,26nm,1.2s						
UGM	**Wanagama**	**70.55**	**268**	P	**P**	**18 23 07.5**	**-1.0**
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**18 23 10.0**	**+0.5**
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	18 23 09.7	-6.2
KSM	**Kuching**	**73.78**	**277**	P	**P**	**18 23 26.1**	**-1.1**
PETK	**Petropavlovsk-**	**75.17**	**345**	P	**P**	**18 23 33.6**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=131,slow=6.4,SNR=7.6						
	comp=Z,3.2nm,0.8s						
SMAI	**San Martin Ant**	**79.62**	**159**	P	**P**	**18 23 58.4**	**+0.5**
SMAI				IAmb	IAmb	18 23 59.9	
	comp=Z,26nm,0.9s						
NVAR	**Mina Array Bea**	**79.71**	**43**	P	**P**	**18 24 00.4**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=222,slow=10,SNR=5.4						
	comp=Z,1.3nm,0.6s						
BELA	**Belgrano 2**	**80.77**	**173**	P	**P**	**18 24 03.2**	**-0.6**
TUC	**Tucson**	**81.75**	**52**	P	**P**	**18 24 08.5**	**-1.2**
MAW	**Mawson**	**82.96**	**200**	P	**P**	**18 24 15.0**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=185,slow=16,SNR=2.0						
	comp=Z,2.5nm,0.7s						
TRF	**Thorofare Moun**	**85.07**	**12**	P	**P**	**18 24 24.8**	**-0.7**
TRF				IAmb	IAmb	18 24 25.2	
	comp=Z,43nm,1.8s						
TXAR	**Lajitas Array**	**85.89**	**57**	P	**P**	**18 24 32.0**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=218,slow=6.7,SNR=28						
	comp=Z,2.2nm,0.7s						
TXAR	**Lajitas Array**	**85.89**	**57**	P	**P**	**18 24 31.8**	**+1.6**
ILAR	**Eielson Array**	**86.94**	**13**	P	**P**	**18 24 33.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=231,slow=5.1,SNR=20						
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**87.64**	**43**	P	**P**	**18 24 38.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=207,slow=2.4,SNR=8.3						
	comp=Z,0.9nm,0.7s						
HHC	**Hu-ho-hao-te**	**88.85**	**314**	*e*P	**P**	**18 24 46.8**	**+3.0**
HHC				pmax	pmax		
	comp=Z,58nm,0.9s						
HHC				pmax	pmax		
	comp=Z,270nm,5.5s						
TROLL	**Troll, Antarti**	**89.02**	**180**	P	**P**	**18 24 44.0**	**-0.2**
SNAA	**Sanae**	**89.28**	**178**	P	**P**	**18 24 44.8**	**-0.5**
SNAA	**Sanae**	**89.28**	**178**	P	**P**	**18 24 44.6**	**-0.7**
VNA3	**Neumayer Olymp**	**89.39**	**176**	P	**P**	**18 24 45.4**	**-0.3**
PLCA	**Paso Flores**	**89.76**	**133**	P	**P**	**18 24 48.8**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=219,slow=20,SNR=2.1						
	comp=Z,1.3nm,0.8s						
VNA2	**Neumayer--Watz**	**89.84**	**177**	P	**P**	**18 24 47.8**	**0.0**
	baz=184,slow=4.2						
VNA1	**Neumayer--Stat**	**90.06**	**176**	P	**P**	**18 24 48.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**90.20**	**289**	P	**P**	**18 24 51.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=115,slow=3.2,SNR=4.6						
	comp=Z,0.5nm,0.7s						
PZH	**PanZhiHua**	**90.59**	**298**	P	**P**	**18 24 52.8**	**+0.6**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
MKAR	**Makanchi Array**	**110.71**	**314**	PKiKP	**PKiKP**	**18 30 17.1**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=130,slow=0.3,SNR=8.4						
BOSA	**Boshof**	**127.66**	**205**	PKP	**PKPdf**	**18 30 51.1**	**-0.4**
	comp=Z,3.6nm,1.0s,baz=228,slow=12,SNR=2.5						
ARCES	**ARCESS Array B**	**127.75**	**350**	PKP	**PKPdf**	**18 30 49.1**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=14,slow=1.0,SNR=11						
FINES	**FINESS Array B**	**134.68**	**344**	PKP	**PKPdf**	**18 31 03.7**	**+0.3**
	comp=Z,4.6nm,1.0s,baz=318,slow=7.7,SNR=3.5						
AKASG	**Malin Array Be**	**142.14**	**332**	PKhKP	PKPpre	18 31 12.8	
	comp=Z,0.8nm,0.4s,baz=42,slow=4.2,SNR=6.4						
STHS	**Stebnicka Huta**	**146.34**	**338**	*e*PKP	**PKPab**	**18 31 29.5**	**0.0**
BRTR	**Keskin Array B**	**146.36**	**314**	PKPbc	**PKPbc**	**18 31 26.7**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=144,slow=4.6,SNR=7.8						
KOLS	**Kolonicke sedl**	**146.36**	**336**	*e*PKP	**PKPbc**	**18 31 27.7**	**+0.6**
OSTC	**Ostas**	**146.89**	**344**	*e*PKP	**PKiKP**	**18 31 29.4**	**-1.0**
CLL	**Collm**	**146.92**	**348**	*i* PKPbc	**PKPbc**	**18 31 28.5**	**0.0**
	comp=Z,11nm,1.1s						
CLL				*i* PKPab	**PKPab**	**18 31 31.8**	**+0.1**
	comp=Z,7.0nm,0.9s						
DPC	**Dobruska-Polom**	**147.05**	**344**	*e*PKP	**PKPbc**	**18 31 29.3**	**+0.3**
DPC				*e*PKPAB	**PKPab**	**18 31 32.8**	**+0.4**
MORC	**Moravsky Berou**	**147.23**	**342**	*e*PKP	**PKPdf**	**18 31 25.6**	**-0.6**
PRU	**Pruhonice**	**147.83**	**345**	*e*PKP	**PKPbc**	**18 31 31.1**	**+0.2**
NKC	**Novy Kostel**	**148.06**	**348**	*e*PKPAB	**PKPab**	**18 31 40.5**	**+4.1**
KHC	**Kasperske Hory**	**148.86**	**346**	*e*PKP	**PKPbc**	**18 31 33.6**	**0.0**
CKRC	**Cesky Krumlov**	**148.97**	**345**	*e*PKP	**PKPbc**	**18 31 33.8**	**0.0**
GERES	**GERESS Array B**	**149.10**	**346**	PKPbc	**PKPbc**	**18 31 33.8**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=73,slow=1.8,SNR=14						
CONA	**Conrad Observa**	**149.38**	**342**	*i* P	**PKiKP**	**18 31 35.4**	**-0.4**
	comp=Z,6.2nm,0.8s						
RONA	**Rosalia, Austr**	**149.46**	**342**	*i* P	**PKiKP**	**18 31 35.5**	**-0.3**
	comp=Z,7.4nm,0.6s						
MOA	**Molln**	**149.88**	**344**	*i* P	**PKPbc**	**18 31 36.0**	**0.0**
	comp=Z,2.2nm,0.6s						
BIOA	**Bad Ischl, Aus**	**150.19**	**345**	*i* P	**PKPbc**	**18 31 36.5**	**-0.3**
	comp=Z,3.9nm,0.8s						
SOKA	**Soboth**	**150.75**	**342**	*i* P	**PKPbc**	**18 31 37.7**	**-0.5**
	comp=Z,5.9nm,0.9s						
WATA	**Walderalm**	**150.99**	**347**	*i* P	**PKPbc**	**18 31 38.6**	**-0.2**
	comp=Z,3.4nm,0.5s						
WTTA	**Wattenberg**	**151.05**	**347**	*i* P	**PKPbc**	**18 31 39.0**	**0.0**
	comp=Z,6.2nm,0.5s						
MOTA	**Moosalm**	**151.08**	**348**	*i* P	**PKPbc**	**18 31 38.7**	**-0.3**
	comp=Z,5.0nm,0.8s						
SQTA	**Sankt Quirin**	**151.18**	**348**	*i* P	**PKPbc**	**18 31 39.1**	**-0.1**
	comp=Z,5.5nm,0.6s						
ABTA	**Abfaltersbach**	**151.34**	**346**	*e*P	**PKPbc**	**18 31 38.9**	**-0.6**
	comp=Z,8.1nm,0.6s,SNR=7.3						
FETA	**Feichten**	**151.46**	**348**	*i* P	**PKiKP**	**18 31 39.9**	**-0.2**
	comp=Z,3.7nm,0.7s						

IDC ***19*** *18:28:02.7±3.1,30.55N×141.79E,h0km,mb3.3/3, mbtmp3.3/5,ML2.6/2,Error ellipse: s-maj=124.1km s-min=24.7km az=72.0*
JMA ***19*** *18:28:02.1±0.3,30.7N±1.0×14.2E±°,h50km,MV3.6/24, NEAR TORISHIMA IS*

ISC 19 18:28:01.2±1.2,30.81N±0.06×142.9E±0.2,h30km,n14, σ2.93/20,mb3.4/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.46**	**312**	*e*S	**Sn**	**18 29 29.6**	**-3.4**
CBIJ	**Chichi jima**	**3.75**	**189**	P	**Pn**	**18 28 57.1**	**+0.1**
CBIJ				*e*S	**Sn**	**18 29 37.1**	**-3.0**
JCJ	**Chichijima**	**3.75**	**189**	Pn	**Pn**	**18 28 56.8**	**-0.2**
	1.7nm,0.3s,baz=356,slow=21,SNR=9.2						
JCJ				Sn	**Sn**	**18 29 35.9**	**-4.2**
	5.3nm,0.3s,baz=293,slow=22,SNR=5.6						
	14nm,0.6s						
JOD2	**Odawara 2**	**5.46**	**326**	*e*P	**Pn**	**18 29 21.4**	**+0.8**
JOD2				*e*S	**Sn**	**18 30 22.0**	**-0.3**
JHU	**Hanno**	**5.85**	**330**	*e*P	**Pn**	**18 29 27.3**	**+1.3**
JHU				*e*S	**Sn**	**18 30 28.8**	**-3.3**
JHO	**Hitachi**	**6.09**	**342**	P	**Pn**	**18 29 30.0**	**+0.7**
JHO				*e*S	**Sn**	**18 30 33.6**	**-4.3**
JRY	**Ryogami san**	**6.16**	**329**	*e*P	**Pn**	**18 29 31.9**	**+1.7**
JAG	**Ashikaga**	**6.28**	**334**	*e*P	**Pn**	**18 29 32.7**	**+0.9**
JFK	**Kawauchi**	**6.75**	**346**	S	**Sn**	**18 30 49.4**	**-4.7**
MJAR	**Matsushiro Arr**	**6.91**	**327**	Pn	**Pn**	**18 29 41.4**	**+0.9**
	baz=160,slow=12,SNR=4.3						
MJAR				Sn	**Sn**	**18 30 54.7**	**-3.3**
	baz=255,slow=11,SNR=0.8						
	1.5nm,0.8s						
JMK	**Ichinoseki**	**8.24**	**351**	S	**Sn**	**18 31 27.3**	**-3.4**
KURBB	**Kurchatov Arra**	**50.93**	**112**	P	**P**	**18 37 01.6**	**+2.0**
	0.4nm,0.8s,baz=92,slow=7.4,SNR=2.7						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**51.12**	**190**	P	**P**	**18 37 03.4**	**+2.1**
	0.3nm,0.6s,baz=7.0,slow=7.8,SNR=2.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**54.84**	**190**	P	**P**	**18 37 33.0**	**+4.3**
	0.2nm,0.8s,baz=6.6,slow=6.0,SNR=1.5						
	0.2nm,0.8s						

IDC ***19*** *18:39:43.0±0.8,44.19S×38.77E,h0km,mb4.0/7, mbtmp4.1/9,ML3.7/2,MS3.6/6,Error ellipse: s-maj=28.6km s-min=20.6km az=53.0*
NEIC ***19*** *18:39:44.3±1.4,44.10S±0.08×38.4E±0.2,h10km±2km, mb4.5/14,Error ellipse: s-maj=23.5km s-min=6.2km az=300.0*

ISC 19 18:39:44.2±0.6,44.07S±0.10×38.7E±0.1,h10km,n32, σ1.900/27,mb4.3/11,MS3.5/4,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**15.28**	**314**	P	**Pn**	**18 43 21.8**	**+1.8**
SOE				IAmb	IAmb	18 43 29.2	
	comp=Z,24nm,1.0s						
POGA	**Pongola**	**17.60**	**339**		**Pn**	**18 43 48.7**	**-0.8**
SUR	**Sutherland**	**18.20**	**304**	P	**P**	**18 43 58.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=120,slow=20,SNR=2.2						
SUR				LR	LR	18 50 07.2	
	comp=Z,111nm,18.9s,baz=156,slow=34						
	comp=Z,9.4nm,1.0s						
SUR	**Sutherland**	**18.20**	**304**	P	**Pn**	**18 43 55.5**	**-1.6**
SUR				IAmb	IAmb	18 43 59.1	
	comp=Z,52nm,1.4s						
BOSA	**Boshof**	**18.79**	**321**	P	**Pn**	**18 44 06.4**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=161,slow=12,SNR=5.9						
BOSA				LR	LR	18 50 12.6	
	comp=Z,188nm,19.3s,baz=188,slow=33						
	comp=Z,3.5nm,0.8s						
BOSA	**Boshof**	**18.79**	**321**	P	**P**	**18 44 03.8**	**+0.1**
LBTB	**Lobatse**	**21.79**	**326**	P	**P**	**18 44 37.3**	**+1.0**
	comp=Z,5.7nm,1.0s,baz=159,slow=13,SNR=4.0						
LBTB				LR	LR	18 52 03.4	
	comp=Z,156nm,18.7s,baz=178,slow=34						
	comp=Z,5.7nm,1.0s						
LBTB	**Lobatse**	**21.79**	**326**	P	**P**	**18 44 35.2**	**-1.1**
PAF	**Port-aux-Franc**	**22.17**	**115**	P	**P**	**18 44 41.4**	**+1.3**
VOI	**Vohitsoka**	**23.10**	**20**	P	**P**	**18 44 49.8**	**-0.5**
VOI				IAmb	IAmb	18 44 57.5	
	comp=Z,16nm,1.2s						
MAW	**Mawson**	**26.86**	**160**	LR	LR	18 53 54.9	
	comp=Z,137nm,19.3s,baz=332,slow=32						
LSZ	**Lusaka**	**30.05**	**339**	LR	LR	18 56 21.4	
	comp=Z,102nm,20.8s,baz=168,slow=33						
TSUM	**Tsumeb**	**30.43**	**318**	LR	LR	18 57 25.3	
	comp=Z,138nm,19.2s,baz=147,slow=35						
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**18 46 29.5**	**+1.1**
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**18 46 28.2**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=71,slow=5.6,SNR=7.7						
	comp=Z,2.8nm,0.9s						
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**18 46 28.0**	**-0.3**
SNAA				IAmb	IAmb	18 46 30.5	
	comp=Z,6.5nm,1.1s						
VNA2	**Neumayer--Watz**	**35.01**	**204**	P	**P**	**18 46 36.9**	**+0.5**
	baz=54,slow=8.6		

comp=Z,6.6nm,1.2s
H10S2 ASCENSION HYDR 57.81 291 T T 19 52 11.3
baz=135,slow=74,SNR=12
H10S3 ASCENSION HYDR 57.82 291 T T 19 52 13.2
baz=85,slow=74,SNR=31
NWAO Narrogin (SRO) 60.33 108 P **P** **18 49 52.9 -0.2**
NWAO Narrogin (SRO) 60.33 108 P **P** **18 49 52.2 -1.0**
NWAO IAmb IAmb 18 50 25.5
comp=Z,41nm,1.4s
STKA Stephens Creek 76.88 122 P **P** **18 51 35.9 -0.6**
comp=Z,2.3nm,0.9s,baz=292,slow=4.7,SNR=4.1
comp=Z,2.3nm,0.9s
ASAR Alice Springs 77.51 111 P **P** **18 51 40.4 +0.1**
comp=Z,1.6nm,0.8s,baz=220,slow=5.1,SNR=12
comp=Z,1.6nm,0.8s
ASAR Alice Springs 77.51 111 P **P** **18 51 40.2 0.0**
WRA Warramunga Arr 80.33 108 P **P** **18 51 55.9 +0.1**
comp=Z,0.9nm,0.9s,baz=216,slow=4.7,SNR=6.2
comp=Z,0.9nm,0.9s
WB2 Warramunga Arr 80.34 108 P **P** **18 51 57.3 +1.5**
WB2 IAmb IAmb 18 52 14.4
comp=Z,6.0nm,1.2s
CMAR Chiang Mai Arr 83.05 56 P **P** **18 52 10.5 +0.6**
comp=Z,0.4nm,0.7s,baz=216,slow=5.9,SNR=4.3
comp=Z,0.4nm,0.7s
TXAR Lajitas Array 146.72 257 PKPbc **PKPab** **18 59 26.8 -0.7**
comp=Z,1.3nm,0.8s,baz=131,slow=5.5,SNR=5.5

---

*ANF **19** 18:41:44.5±2.4, 52.06N×174.82W, h147km±12km, ML4.3/2, Error ellipse: s-maj=24.5km s-min=10.6km az=71.0*
*NEIC **19** 18:41:45.7±2.0, 52.5N±0.1×174.8W±0.1, h150km±7km, mb4.4/164, ML4.1(AEIC), Error ellipse: s-maj=16.1km s-min=8.2km az=162.0*
*AEIC **19** 18:41:47.3±3.6, 52.2N±0.1×174.73W±0.10, h146km±6km, Error ellipse: s-maj=16.8km s-min=8.0km az=165.0*
*IDC **19** 18:41:47.5±1.5, 52.69N×174.92W, h165km±13km, mb3.7/23, mbtmp4.2/27, Error ellipse: s-maj=12.7km s-min=8.9km az=159.0*
ISC 19 18:41:45.3±0.7, 52.50N±0.07×174.81W±0.04, h153km±6km, n423, σ1°01/441, mb4.3/64, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.30**	**243**		**Pn**	**18 42 12.9**	**-0.2**
ADK				Sn	**Sn**	**18 42 33.0**	**-1.3**
ADK	**Adak**	**1.30**	**243**	P	**Pn**	**18 42 13.2**	**+0.1**
KIWB	**Kanaga Island**	**1.58**	**247**		**Pn**	**18 42 16.0**	**+0.1**
CLES	**Cleveland East**	**3.01**	**82**	Pn	**Pn**	**18 42 33.5**	**+0.6**
NIKH	**Nikolski High**	**3.65**	**80**		**Pn**	**18 42 41.4**	**+0.3**
NIKH	**Nikolski High**	**3.65**	**80**	P	**Pn**	**18 42 41.6**	**+0.5**
NIKH	baz=263,SNR=5.9			S	**Sn**	**18 43 23.2**	**-1.1**
NIKH	baz=263 **Nikolski High**	**3.65**	**80**	P	**Pn**	**18 42 41.0**	**0.0**
AMKA	**Amchitka**	**3.81**	**255**	Pn	**Pn**	**18 42 43.1**	**0.0**
AMKA				Sn	**Sn**	**18 43 24.9**	**-3.1**
UNV	**Unalaska Valle**	**5.18**	**72**	Pn	**Pn**	**18 43 02.1**	**+1.1**
UNV	**Unalaska Valle**	**5.18**	**72**	P	**Pn**	**18 43 02.4**	**+1.4**
UNV	baz=257,SNR=10			S	**Sn**	**18 44 00.6**	**+0.5**
SPIA	baz=257 **Saint Paul Isl**	**5.38**	**28**	Pn	**Pn**	**18 43 06.8**	**+3.2**
AKUT	**Akutan**	**5.66**	**70**	Pn	**Pn**	**18 43 09.0**	**+1.6**
SHEM	**Shemya Is, Ala**	**6.76**	**276**	P	**Pn**	**18 43 21.6**	**-0.4**
SMY	32nm,0.9s,baz=133,slow=18,SNR=1.6 **Shemya**	**6.76**	**276**	Pn	**Pn**	**18 43 21.8**	**-0.2**
FALS	**False Pass**	**7.17**	**66**	Pn	**Pn**	**18 43 26.4**	**-1.1**
FALS	**False Pass**	**7.17**	**66**	P	**Pn**	**18 43 28.0**	**+0.6**
S12K	baz=255 **Black Hills**	**8.15**	**62**	P	**Pn**	**18 43 41.7**	**+1.1**
SDPT	baz=251 **Sand Point**	**8.93**	**66**	Pn	**Pn**	**18 43 49.9**	**-0.9**
SDPT	**Sand Point**	**8.93**	**66**	P	**Pn**	**18 43 50.2**	**-0.7**
SDPT	baz=257			S	**Sn**	**18 45 24.5**	**-5.4**
CNBA	baz=257 **Chernabura Isl**	**9.34**	**70**	Pn	**Pn**	**18 43 54.7**	**-1.6**
CHNA	**Chernabura Isl**	**9.34**	**69**	P	**Pn**	**18 43 54.8**	**-1.5**
CHGN	baz=261,SNR=7.6 **Chignik**	**10.29**	**62**	Pn	**Pn**	**18 44 08.5**	**-0.3**
CHIR	**Chirikof Islan**	**11.72**	**66**	Pn	**Pn**	**18 44 25.1**	**-2.6**
CHIR	**Chirikof Islan**	**11.72**	**66**	P	**Pn**	**18 44 25.3**	**-2.4**
Q16K	baz=261 **King Salmon**	**11.97**	**52**	P	**Pn**	**18 44 33.0**	**+2.1**
Q17K	baz=246 **Contact Creek**	**12.19**	**54**	P	**Pn**	**18 44 35.2**	**+1.3**
O17K	baz=249 **Koliganek Bris**	**12.25**	**47**	P	**Pn**	**18 44 37.4**	**+2.9**
P17K	baz=241 **Kvichak River**	**12.29**	**50**	P	**P**	**18 44 39.1**	**-1.8**
SII	baz=244 **Sitkinak Islan**	**12.64**	**63**		**Pn**	**18 44 37.6**	**-2.0**
SII	**Sitkinak Islan**	**12.64**	**63**	P	**Pn**	**18 44 38.4**	**-1.1**
SII	baz=260 **Sitkinak Islan**	**12.64**	**63**	P	**Pn**	**18 44 38.9**	**-0.6**
Q18K	**Katmai Hardscr**	**12.76**	**53**	P	**Pn**	**18 44 42.5**	**+1.4**
P18K	baz=249 **Big Mountain,**	**12.93**	**50**	Pn	**Pn**	**18 44 43.4**	**+0.1**
ANM	**Nome**	**13.04**	**18**	Pn	**Pn**	**18 44 45.1**	**+0.4**
O18K	**Koktuh Hills**	**13.13**	**48**	Pn	**Pn**	**18 44 47.2**	**+1.3**
O18K	**Koktuh Hills**	**13.13**	**48**	P	**Pn**	**18 44 44.1**	**-1.8**
N18K	baz=244 **Kilae Creek**	**13.22**	**44**	P	**Pn**	**18 44 48.5**	**+1.6**
N18K	**Kilae Creek**	**13.22**	**44**	P	**Pn**	**18 44 46.7**	**-0.3**
OHAK	baz=240 **Old Harbor**	**13.25**	**61**	Pn	**Pn**	**18 44 45.7**	**-1.6**
OHAK	**Old Harbor**	**13.25**	**61**	P	**Pn**	**18 44 46.3**	**-0.9**
Q19K	baz=258,SNR=8.4 **Cape Douglas,**	**13.52**	**53**	Pn	**Pn**	**18 44 51.9**	**+1.0**
Q19K	**Cape Douglas,**	**13.52**	**53**	P	**Pn**	**18 44 50.9**	**+0.1**
O19K	baz=250 **Port Alsworth**	**13.69**	**48**	P	**P**	**18 44 56.4**	**-0.1**
O19K	**Port Alsworth**	**13.69**	**48**	P	**P**	**18 44 55.1**	**-1.3**
N19K	baz=244 **Bonanza Creek**	**13.89**	**45**	P	**P**	**18 44 59.3**	**+0.5**
N19K	**Bonanza Creek**	**13.89**	**45**	P	**P**	**18 44 59.0**	**+0.2**
P19K	baz=242 **Oil Pt**	**13.97**	**51**		**P**	**18 44 59.3**	**-0.4**
P19K	**Oil Pt**	**13.97**	**51**	P	**P**	**18 45 00.3**	**+0.6**
Q20K	baz=248 **Shuyak Island**	**14.05**	**55**	P	**Pn**	**18 44 56.6**	**-0.8**
ILSW	baz=254 **Iliamna Southw**	**14.14**	**49**	Pn	**Pn**	**18 44 59.8**	**+1.1**
O20K	**Slope Mountain**	**14.42**	**49**	P	**Pn**	**18 45 02.7**	**+0.5**
TTA	baz=248 **Tatalina**	**14.43**	**36**		**P**	**18 45 04.6**	**-0.2**
TTA	**Tatalina**	**14.43**	**36**	P	**P**	**18 45 06.0**	**+1.2**
L19K	baz=232,SNR=5.7 **White Mountain**	**14.43**	**40**		**P**	**18 45 05.0**	**+0.2**
L19K	**White Mountain**	**14.43**	**40**	P	**P**	**18 45 05.9**	**+1.2**
M19K	baz=237,SNR=12 **Big River Lodg**	**14.47**	**41**	P	**P**	**18 45 05.5**	**+0.4**
M19K	**Big River Lodg**	**14.47**	**41**	P	**P**	**18 45 05.3**	**+0.1**
RSO	baz=238 **Redoubt South**	**14.51**	**48**	P	**Pn**	**18 45 02.5**	**-0.9**
HOM	**Homer**	**14.73**	**52**	P	**Pn**	**18 45 07.2**	**+1.3**
CNPM	**China Poot**	**14.89**	**53**	P	**P**	**18 45 09.2**	**-0.6**
M20K	**Styx River**	**14.97**	**43**	P	**P**	**18 45 12.6**	**+1.8**
M20K	**Styx River**	**14.97**	**43**	P	**P**	**18 45 10.8**	**0.0**
L20K	baz=241 **Farewell, AK**	**14.98**	**40**	P	**P**	**18 45 11.6**	**+0.8**
N20K	baz=237 **Mount Spurr**	**15.05**	**46**	P	**P**	**18 45 11.4**	**-0.3**
SPCR	baz=244 **Spurr Chakacha**	**15.05**	**46**	P	**P**	**18 45 12.8**	**+1.1**
SPU	baz=244 **Mount Spurr**	**15.11**	**46**	P	**P**	**18 45 13.5**	**+1.2**
BRLK	**Bradley Lake**	**15.13**	**52**		**Pn**	**18 45 11.6**	**+0.6**
BRLK	comp=Z,12nm,0.8s			IAmb	IAmb	18 45 13.4	
BRSE	**Bradley Lake S**	**15.19**	**52**	P	**Pn**	**18 45 12.3**	**+0.6**
GCSA	baz=252 **Galena City Sc**	**15.34**	**30**	P	**P**	**18 45 15.0**	**+0.3**
K20K	baz=225,SNR=5.8 **Telida**	**15.39**	**37**	P	**P**	**18 45 16.2**	**+0.8**
K20K	**Telida**	**15.39**	**37**	P	**P**	**18 45 15.2**	**-0.2**
SKT	baz=234 **Skwentna**	**15.69**	**44**	P	**P**	**18 45 20.3**	**+1.7**
SKT	comp=Z,12nm,0.8s			IAmb	IAmb	18 45 53.1	
SKT	**Skwentna** baz=243,SNR=9.5	**15.69**	**44**	P	**P**	**18 45 20.9**	**+2.2**

SUA	**Susitna One**	**15.80**	**46**	P	**P**	**18 45 21.1**	**+1.0**
SUA	comp=Z,12nm,1.0s			IAmb	IAmb	18 45 39.0	
SUA	**Susitna One** baz=246	**15.80**	**46**	P	**P**	**18 45 20.4**	**+0.3**
J20K	**Nowinta River**	**15.86**	**34**	P	**P**	**18 45 21.8**	**+1.3**
J20K	**Nowinta River** baz=232	**15.86**	**34**	P	**P**	**18 45 21.3**	**+0.8**
PPLA	**Purkeypile**	**15.86**	**40**	P	**P**	**18 45 22.7**	**+2.0**
PPLA	comp=Z,23nm,0.9s			IAmb	IAmb	18 45 59.0	
PPLA	**Purkeypile** baz=239,SNR=7.4	**15.86**	**40**	P	**P**	**18 45 21.5**	**+0.8**
O22K	**Cooper Landing**	**15.91**	**50**		**Pn**	**18 45 20.8**	**+0.3**
SEW	**Seward**	**15.92**	**51**	P	**Pn**	**18 45 21.1**	**+0.4**
SEW	comp=Z,12nm,0.9s			IAmb	IAmb	18 45 23.6	
SEW	**Seward** baz=252	**15.92**	**51**	P	**Pn**	**18 45 20.1**	**-0.5**
RC01	**Rabbit Creek A**	**16.11**	**48**	P	**Pn**	**18 45 22.9**	**-0.1**
RC01	comp=Z,15nm,1.2s			IAmb	IAmb	18 45 36.2	
RC01	**Rabbit Creek A** baz=249	**16.11**	**48**	P	**P**	**18 45 23.6**	**+0.2**
CAST	**Castle Rocks**	**16.17**	**39**	P	**P**	**18 45 25.8**	**+1.8**
CAST	comp=Z,11nm,0.9s			IAmb	IAmb	18 45 35.2	
CAST	**Castle Rocks** baz=238,SNR=17	**16.17**	**39**	P	**P**	**18 45 26.7**	**+2.7**
CUT	**Chulitna**	**16.41**	**43**	P	**Pn**	**18 45 27.7**	**+1.2**
CUT	comp=Z,38nm,1.3s			IAmb	IAmb	18 45 36.5	
CUT	**Chulitna** baz=244	**16.41**	**43**	P	**Pn**	**18 45 27.0**	**+0.5**
PEA0B	**Petropavlovsk-**	**16.60**	**283**	P	**Pn**	**18 45 30.3**	**+1.4**
PETK	**Petropavlovsk-**	**16.60**	**283**	P	**Pn**	**18 45 29.1**	**+0.2**
PETK	comp=Z,1.7nm,0.6s,baz=94,slow=15,SNR=13 **Petropavlovsk-**	**16.60**	**283**	P	**Pn**	**18 45 30.1**	**+1.2**
RDOG	**Red Dog Mine**	**16.63**	**16**	P	**Pn**	**18 45 30.9**	**+1.7**
RDOG	comp=Z,7.5nm,0.6s			IAmb	IAmb	18 45 56.3	
PWL	**Port Wells**	**16.68**	**49**	P	**P**	**18 45 28.5**	**-1.1**
PWL	comp=Z,33nm,1.4s			IAmb	IAmb	18 45 54.3	
PWL	**Port Wells** baz=251	**16.68**	**49**	P	**P**	**18 45 28.6**	**-1.0**
KTH	**Kantishna Hill**	**16.69**	**39**	P	**Pn**	**18 45 30.8**	**+0.8**
GHO	**Glory Hole Cre**	**16.73**	**46**	P	**P**	**18 45 30.0**	**-0.2**
KNK	**Knik Glacier**	**16.81**	**48**	P	**P**	**18 45 29.8**	**-1.2**
KNK	comp=Z,18nm,1.3s			IAmb	IAmb	18 45 33.8	
KNK	**Knik Glacier** baz=250	**16.81**	**48**	P	**P**	**18 45 30.3**	**-0.7**
TRF	**Thorofare Moun**	**16.88**	**40**		**Pn**	**18 45 33.8**	**+1.2**
TRF	**Thorofare Moun** baz=241	**16.88**	**40**	P	**Pn**	**18 45 33.7**	**+1.2**
BPAW	**Bear Paw Mtn.**	**16.95**	**37**		**Pn**	**18 45 34.7**	**+1.6**
BPAW	comp=Z,18nm,0.6s			IAmb	IAmb	18 45 40.3	
BPAW	**Bear Paw Mtn.** baz=238,SNR=15	**16.95**	**37**	P	**Pn**	**18 45 35.5**	**+2.4**
SML	**Sawmill**	**17.00**	**46**	P	**P**	**18 45 33.4**	**+0.2**
SML	**Sawmill** baz=248	**17.00**	**46**	P	**Pn**	**18 45 34.4**	**+0.6**
IMAR	**Indian Mountai**	**17.15**	**30**	P	**Pn**	**18 45 36.5**	**+1.1**
I21K	**Tanana**	**17.21**	**34**	P	**Pn**	**18 45 36.7**	**+0.5**
I21K	**Tanana** baz=233	**17.21**	**34**	P	**Pn**	**18 45 38.1**	**+1.9**
H21K	**Melozitna Rive**	**17.23**	**32**	P	**Pn**	**18 45 37.1**	**+0.6**
H21K	comp=Z,12nm,0.7s			IAmb	IAmb	18 45 40.4	
H21K	**Melozitna Rive** baz=230	**17.23**	**32**	P	**Pn**	**18 45 37.8**	**+1.3**
M23K	**Glacier View** baz=249	**17.27**	**47**	P	**Pn**	**18 45 36.7**	**-0.2**
WAT1	**Susitna Watana** baz=245	**17.31**	**43**	P	**P**	**18 45 35.8**	**-0.7**
HIN	**Hinchinbrook I**	**17.42**	**52**	P	**Pn**	**18 45 38.8**	**+0.1**
RND	**Reindeer**	**17.43**	**41**	P	**P**	**18 45 38.2**	**+0.3**
RND	comp=Z,15nm,0.6s			IAmb	IAmb	18 45 41.2	
SCM	**Sheep Creek Mo**	**17.46**	**47**	P	**P**	**18 45 37.8**	**-0.4**
SCM	**Sheep Creek Mo** baz=250	**17.46**	**47**	P	**Pn**	**18 45 39.3**	**+0.1**
WAT6	**Susitna Watana** baz=247,SNR=5.3	**17.55**	**44**	P	**Pn**	**18 45 40.3**	**-0.1**
MLY	**Manley**	**17.55**	**35**	P	**P**	**18 45 39.4**	**+0.2**
MLY	comp=Z,22nm,1.0s			IAmb	IAmb	18 45 43.0	
MLY	**Manley** baz=236,SNR=26	**17.55**	**35**	P	**Pn**	**18 45 41.2**	**+0.9**
MCK	**McKinley**	**17.55**	**40**	P	**P**	**18 45 39.3**	**+0.2**
MCK	comp=Z,17nm,0.8s			IAmb	IAmb	18 45 42.8	
MCK	**McKinley** baz=242,SNR=10	**17.55**	**40**	P	**Pn**	**18 45 40.1**	**-0.2**
BWN	**Browne**	**17.56**	**38**	P	**Pn**	**18 45 40.3**	**0.0**
G21K	**Allakaket**	**17.58**	**29**	P	**Pn**	**18 45 41.1**	**+0.5**
EYAK	baz=227,SNR=15 **Cordova Ski Ar**	**17.82**	**52**	P	**Pn**	**18 45 43.1**	**-0.3**
EYAK	comp=Z,18nm,1.3s			IAmb	IAmb	18 45 45.8	
H22K	**Ishtalitna Cre** baz=232,SNR=16	**17.84**	**32**	P	**Pn**	**18 45 45.0**	**+1.3**
DHY	**Denali Highway**	**17.90**	**43**	P	**P**	**18 45 43.3**	**+0.2**
DHY	**Denali Highway** baz=246,SNR=27	**17.90**	**43**	P	**Pn**	**18 45 44.5**	**0.0**
NEA2	**Nenana**	**17.92**	**38**	P	**P**	**18 45 44.0**	**+0.8**
NEA2	comp=Z,12nm,1.0s			IAmb	IAmb	18 45 49.9	
NEA2					**PcP**	**18 50 10.6**	**-0.5**
NEA2	**Nenana** baz=239,SNR=8.3	**17.92**	**38**	P	**P**	**18 45 43.1**	**-0.1**
DIV	**Divide**	**17.95**	**50**	P	**P**	**18 45 43.8**	**+0.2**
DIV	comp=Z,18nm,1.2s			IAmb	IAmb	18 46 10.1	
KLU	**Klutina**	**17.99**	**49**	P	**P**	**18 45 43.4**	**-0.6**
KLU	**Klutina** baz=253	**17.99**	**49**	P	**Pn**	**18 45 45.4**	**-0.2**
BILL	**Bilibino**	**18.05**	**337**	P	**P**	**18 45 43.4**	**-1.2**
BILL	comp=Z,23nm,1.2s			IAmb	IAmb	18 45 48.0	
M24K	**Tolsona, Glenn**	**18.06**	**47**	P	**P**	**18 45 44.2**	**-0.6**
M24K	comp=Z,37nm,1.4s			IAmb	IAmb	18 45 55.1	
M24K	**Tolsona, Glenn** baz=251	**18.06**	**47**	P	**Pn**	**18 45 46.8**	**+0.3**
F21K	**Alatna River** baz=226	**18.08**	**27**	P	**Pn**	**18 45 46.5**	**0.0**
I23K	**Minto, Yukon-K**	**18.10**	**36**	P	**P**	**18 45 45.3**	**+0.2**
I23K	**Minto, Yukon-K** baz=238,SNR=7.8	**18.10**	**36**	P	**Pn**	**18 45 47.9**	**+1.2**
WRH	**Wood River Hil**	**18.23**	**39**	P	**P**	**18 45 46.8**	**+0.3**
WRH	comp=Z,8.9nm,0.6s			IAmb	IAmb	18 45 50.9	
H23K	**Yukon River**	**18.41**	**34**	P	**P**	**18 45 49.2**	**+0.7**
H23K	comp=Z,22nm,0.8s			IAmb	IAmb	18 45 52.5	
H23K	**Yukon River** baz=236	**18.41**	**34**	P	**Pn**	**18 45 50.4**	**-0.1**
MDM	**Murphy Dome**	**18.42**	**37**	P	**P**	**18 45 48.7**	**+0.2**
MDM	comp=Z,11nm,0.6s			IAmb	IAmb	18 45 55.4	
CCB	**Clear Creek Bu**	**18.42**	**38**	P	**P**	**18 45 48.6**	**0.0**
CCB	comp=Z,12nm,0.5s			IAmb	IAmb	18 45 53.0	
BMRM	**Bremner River**	**18.46**	**51**	P	**P**	**18 45 49.4**	**+0.3**
BMRM	comp=Z,18nm,1.2s			IAmb	IAmb	18 45 54.5	
BMRM	**Bremner River** baz=256	**18.46**	**51**	P	**P**	**18 45 49.4**	**+0.3**
TCOL	**CIGO, UAF Yank**	**18.51**	**38**	P	**P**	**18 45 49.5**	**-0.1**
TCOL	comp=Z,14nm,0.8s			IAmb	IAmb	18 45 57.5	
TCOL	**CIGO, UAF Yank** baz=241	**18.51**	**38**	P	**Pn**	**18 45 51.9**	**+0.4**
COLA	**College**	**18.51**	**38**	P	**P**	**18 45 50.0**	**+0.4**
COLA	comp=Z,15nm,0.8s			IAmb	IAmb	18 45 57.4	
COLA	**College** baz=241	**18.51**	**38**	P	**Pn**	**18 45 51.7**	**+0.1**
COLA	**College**	**18.51**	**38**	P	**Pn**	**18 45 50.9**	**-0.7**
HARP	**HAARP** baz=251,SNR=5.3	**18.61**	**46**	P	**Pn**	**18 45 52.9**	**+0.1**
N25K	**Chitina, Valde**	**18.63**	**49**	P	**P**	**18 45 50.6**	**-0.4**
N25K	**Chitina, Valde**	**18.63**	**49**	P	**P**	**18 45 51.2**	**+0.3**

	baz=254						
HDA	**Harding Lake**	**18.64**	**39**	P	**P**	**18 45 51.2**	**+0.2**
HDA	**Harding Lake**	**18.64**	**39**	P	**P**	**18 45 50.3**	**-0.7**
F22K	baz=243,SNR=37 **John River**	**18.64**	**28**	P	**P**	**18 45 51.5**	**+0.5**
PAX	baz=227 **Paxson**	**18.66**	**44**	P	**P**	**18 45 51.6**	**+0.3**
PAX	comp=Z,12nm,0.4s			IAmb	IAmb	18 45 55.3	
PAX	**Paxson**	**18.66**	**44**	P	**Pn**	**18 45 52.8**	**-0.8**
SUCK	baz=249,SNR=12 **Suckling Hills**	**18.68**	**54**	P	**P**	**18 45 52.1**	**+0.7**
G23K	**Bananza Creek**	**18.77**	**31**	P	**Pn**	**18 45 55.4**	**+0.7**
POKR	baz=233,SNR=16 **Poker Plat Res**	**18.79**	**37**	P	**P**	**18 45 51.5**	**-1.1**
POKR	comp=Z,16nm,0.6s			IAmb	IAmb	18 45 56.2	
POKR	**Poker Plat Res**	**18.79**	**37**	P	**P**	**18 45 53.6**	**+1.0**
IL31	baz=241,SNR=10	**18.83**	**38**	P	**P**	**18 45 52.2**	**-0.8**
IL31	comp=Z,9.5nm,0.4s			IAmb	IAmb	18 45 57.1	
ILAR	**Eielson Array**	**18.83**	**38**	P	**P**	**18 45 52.0**	**-1.0**
ILAR	comp=Z,4.0nm,0.5s,baz=236,slow=9.8,SNR=104			S	**S**	**18 49 16.4**	**-2.4**
ILAR	comp=Z,0.8nm,0.8s,baz=234,slow=18,SNR=5.5			ScP	**ScP**	**18 53 32.1**	**-1.7**
ILAR	comp=Z,0.5nm,0.5s,baz=272,slow=3.4,SNR=10 **Eielson Array**	**18.83**	**38**	P	**P**	**18 45 52.1**	**-0.9**
K24K	**Donnelly Dome**	**18.85**	**42**	P	**Pn**	**18 45 54.7**	**-0.9**
GLB	baz=246,SNR=30 **Gilahina Butte**	**18.95**	**50**		**P**	**18 45 53.7**	**-0.8**
H24K	**Noodor Dome**	**19.00**	**35**	P	**P**	**18 45 55.4**	**+0.5**
H24K	**Noodor Dome**	**19.00**	**35**	P	**Pn**	**18 45 57.2**	**-0.1**
COLD	baz=238 **Coldfoot**	**19.04**	**30**	P	**P**	**18 45 56.0**	**+0.7**
COLD	comp=Z,11nm,0.6s			IAmb	IAmb	18 46 01.8	
COLD	**Coldfoot**	**19.04**	**30**	P	**Pn**	**18 45 57.1**	**-0.6**
VRDI	baz=231,SNR=16 **Verde Repeater**	**19.07**	**50**	P	**P**	**18 45 55.0**	**-0.8**
SNH	**Sunshine Point**	**19.16**	**54**	P	**P**	**18 45 56.1**	**-0.6**
WAX	**Waxell Ridge**	**19.20**	**53**	P	**P**	**18 45 56.7**	**-0.4**
WAX	comp=Z,24nm,1.3s			IAmb	IAmb	18 46 00.0	
RIDG	**Independent Ri**	**19.21**	**42**	P	**P**	**18 45 57.3**	**+0.1**
RIDG	**Independent Ri**	**19.21**	**42**	P	**P**	**18 45 58.0**	**+0.8**
MCARA	baz=248 **McCarthy VSAT**	**19.30**	**50**	P	**P**	**18 45 58.7**	**+0.5**
MCARA	comp=Z,14nm,1.1s			IAmb	IAmb	18 46 29.5	
J25K	**Salcha River,**	**19.34**	**40**	P	**P**	**18 45 58.1**	**-0.6**
J25K	comp=Z,17nm,0.8s			IAmb	IAmb	18 46 04.1	
J25K	**Salcha River,** baz=245	**19.34**	**40**	P	**P**	**18 45 58.7**	**+0.1**
ISLE	**Juniper Island**	**19.47**	**53**	P	**P**	**18 45 59.8**	**-0.4**
ISLE	comp=Z,16nm,1.2s			IAmb	IAmb	18 46 01.6	
DOT	**Dot Lake**	**19.50**	**43**	P	**P**	**18 46 00.3**	**-0.1**
M26K	**Nabesna, AK**	**19.57**	**47**	P	**P**	**18 46 00.9**	**-0.3**
M26K	**Nabesna, AK** baz=254	**19.57**	**47**	P	**P**	**18 46 01.1**	**0.0**
G24K	**Hadweenzic Riv** baz=237	**19.60**	**33**	P	**P**	**18 46 02.3**	**+1.0**
L26K	**Log Cabin Wild**	**19.60**	**45**	P	**P**	**18 46 00.9**	**-0.4**
L26K	comp=Z,12nm,0.8s			IAmb	IAmb	18 46 07.4	
L26K	**Log Cabin Wild** baz=252,SNR=15	**19.60**	**45**	P	**P**	**18 46 03.0**	**+1.7**
SCRK	**Sand Creek**	**19.65**	**42**	P	**P**	**18 46 02.6**	**+0.5**
SCRK	**Sand Creek** baz=248,SNR=54	**19.65**	**42**	P	**P**	**18 46 02.9**	**+0.9**
PRP	**Porcupine Dome**	**19.68**	**37**	P	**P**	**18 46 01.9**	**-0.5**
PRP	**Porcupine Dome** baz=242,SNR=6.1	**19.68**	**37**	P	**Pn**	**18 46 04.1**	**-1.3**
YAH	**Yahtse**	**19.73**	**53**	P	**P**	**18 46 03.1**	**+0.1**
YAH	comp=Z,37nm,1.5s			IAmb	IAmb	18 46 21.3	
E23K	**Chandalar** baz=230	**19.74**	**28**	P	**P**	**18 46 04.2**	**+1.2**
BARN	**Barnard Glacie**	**19.88**	**51**	P	**P**	**18 46 03.5**	**-1.2**
F24K	**Squaw Lake** baz=234,SNR=52	**19.93**	**31**	P	**Pn**	**18 46 07.6**	**-0.6**
J26L	**Joseph Creek**	**20.01**	**41**	P	**P**	**18 46 06.2**	**+0.3**
J26L	**Joseph Creek** baz=248,SNR=37	**20.01**	**41**	P	**P**	**18 46 07.1**	**+1.2**
TABL	**Table Mountain**	**20.03**	**53**	P	**P**	**18 46 06.5**	**+0.2**
D23K	**Nanushuk River** baz=227	**20.05**	**26**	P	**P**	**18 46 07.8**	**+1.6**
M27K	**Edge Creek, AK**	**20.06**	**48**	P	**P**	**18 46 07.0**	**+0.4**
M27K	comp=Z,9.8nm,1.0s			IAmb	IAmb	18 46 13.2	
M27K	**Edge Creek, AK** baz=255	**20.06**	**48**	P	**P**	**18 46 08.0**	**+1.5**
E24K	**Your Creek** baz=232	**20.08**	**29**	P	**P**	**18 46 08.4**	**+1.8**
G25K	**Bearman Lake** baz=239	**20.09**	**34**	P	**P**	**18 46 07.4**	**+0.8**
TOLK	**Toolik Lake Re**	**20.13**	**27**	P	**P**	**18 46 08.7**	**+1.6**
TOLK	**Toolik Lake Re** baz=229,SNR=13	**20.13**	**27**	P	**P**	**18 46 08.3**	**+1.3**
SEY	**Seymchan**	**20.16**	**314**	P	**P**	**18 46 06.8**	**-0.5**
L27K	comp=Z,2.2nm,0.6s,baz=87,slow=17,SNR=2.2 **Beaver Creek,**	**20.27**	**46**	P	**P**	**18 46 08.5**	**-0.2**
L27K	comp=Z,5.4nm,0.4s			IAmb	IAmb	18 46 16.2	
L27K	**Beaver Creek,** baz=254,SNR=7.7	**20.27**	**46**	P	**P**	**18 46 10.0**	**+1.4**
BCAR	**Beaver Creek A**	**20.29**	**46**	P	**P**	**18 46 08.8**	**-0.1**
PCA	**Pinnacle**	**20.43**	**55**	P	**P**	**18 46 09.8**	**-0.5**
PCA	comp=Z,28nm,1.3s			IAmb	IAmb	18 46 39.4	
K27K	**Chicken**	**20.46**	**43**	P	**P**	**18 46 11.1**	**+0.5**
K27K	**Chicken** baz=251	**20.46**	**43**	P	**P**	**18 46 12.0**	**+1.5**
I26K	**Coal Creek Min**	**20.49**	**39**	P	**P**	**18 46 09.9**	**-0.9**
I26K	comp=Z,18nm,0.8s			IAmb	IAmb	18 46 48.3	
I26K	**Coal Creek Min** baz=246,SNR=8.1	**20.49**	**39**	P	**P**	**18 46 11.8**	**+1.0**
BVCY	**Beaver Creek** baz=256,SNR=10	**20.54**	**48**	P	**P**	**18 46 13.4**	**+1.9**
O28M	**Mount Upton** baz=262	**20.55**	**53**	P	**P**	**18 46 12.9**	**+1.0**
A21K	**Barrow**	**20.57**	**17**	P	**P**	**18 46 13.2**	**+1.6**
YUK3	**Moose Creek** baz=259,SNR=8.0	**20.59**	**50**	P	**P**	**18 46 13.6**	**+1.4**
C23K	**Itkillik River** baz=225	**20.67**	**24**	P	**P**	**18 46 14.7**	**+1.9**
F25K	**Christian Rive** baz=237	**20.68**	**32**	P	**P**	**18 46 14.8**	**+1.8**
PNL	**Peninsula**	**20.82**	**56**	P	**P**	**18 46 14.1**	**-0.4**
BMAR	**Burnt Mountain**	**20.95**	**33**	P	**P**	**18 46 17.2**	**+1.4**
G26K	**Porcupine Rive** baz=242	**20.98**	**35**	P	**P**	**18 46 16.8**	**+0.7**
E25K	**Arctic Village** baz=236,SNR=21	**21.00**	**31**	P	**P**	**18 46 17.8**	**+1.5**
C24K	**Franklin Bluff** baz=228	**21.

J29M					IAmb	IAmb	18 47 06.7	
	comp=Z,18nm,1.1s							
J29M	**Klondike Camp**	**22.19**	**43**	P	**P**		**18 46 29.7**	**+0.8**
	baz=255							
C26K	**Camden Bay**	**22.23**	**27**	P	**P**		**18 46 30.7**	**+1.7**
	baz=234							
E27K	**Coleen River**	**22.31**	**33**	P	**P**		**18 46 30.5**	**+0.5**
	baz=242							
K29M	**Barlow Dome**	**22.34**	**45**	P	**P**		**18 46 30.2**	**-0.2**
	baz=257							
C27K	**Jago River**	**22.40**	**28**	P	**P**		**18 46 31.7**	**+0.9**
	baz=236							
I29M	**Ogilvie Camp,**	**22.41**	**41**	P	**P**		**18 46 30.8**	**-0.2**
I29M					IAmb	IAmb	18 46 32.5	
	comp=Z,11nm,0.7s							
I29M	**Ogilvie Camp,**	**22.41**	**41**	P	**P**		**18 46 31.6**	**+0.6**
	baz=252,SNR=19							
M30M	**Minto, Yukon**	**22.42**	**48**	P	**P**		**18 46 29.8**	**-1.3**
M30M	**Minto, Yukon**	**22.42**	**48**	P	**P**		**18 46 30.8**	**-0.3**
	baz=261							
EPYK	**Eagle Plains**	**23.34**	**39**	P	**P**		**18 46 39.6**	**0.0**
EPYK					IAmb	IAmb	18 46 42.0	
	comp=Z,10nm,0.8s							
EPYK	**Eagle Plains**	**23.34**	**39**	P	**P**		**18 46 39.4**	**-0.2**
	baz=252,SNR=9.8							
G30M	**tAoh Zraii Nji**	**23.72**	**38**	P	**P**		**18 46 43.9**	**+0.9**
	baz=251							
F31M	**Tsiigehtchic**	**24.78**	**37**	P	**P**		**18 46 52.1**	**-0.4**
	baz=253							
INK	**Inuvik**	**25.12**	**35**	P	**P**		**18 46 55.5**	**-0.1**
	comp=Z,5.6nm,0.3s,baz=219,slow=6.6,SNR=72							
	comp=Z,5.6nm,0.3s							
INK	**Inuvik**	**25.12**	**35**	P	**P**		**18 46 55.8**	**+0.3**
INK					IAmb	IAmb	18 46 57.6	
	comp=Z,6.2nm,0.5s							
INK	**Inuvik**	**25.12**	**35**	P	**P**		**18 46 56.7**	**+1.1**
	baz=252,SNR=8.9							
DIB	**Dawson Inlet,**	**25.31**	**71**	P	**P**		**18 46 58.4**	**+0.9**
C36M	**Paulatuk**	**28.70**	**35**	P	**P**		**18 47 27.1**	**-0.4**
C36M					IAmb	IAmb	18 47 28.9	
	comp=Z,6.9nm,0.9s							
C36M	**Paulatuk**	**28.70**	**35**	P	**P**		**18 47 28.1**	**+0.5**
	baz=260							
A36M	**Sachs Harbour**	**28.90**	**29**	P	**P**		**18 47 30.5**	**+1.2**
A36M	**Sachs Harbour**	**28.90**	**29**	P	**P**		**18 47 30.2**	**+0.9**
	baz=254,SNR=14							
ERM	**Erimo**	**29.99**	**267**	P	**P**		**18 47 40.5**	**+1.3**
ERM	**Erimo**	**29.99**	**267**	P	**P**		**18 47 40.4**	**+1.2**
TIXI	**Tiksi**	**30.91**	**329**	P	**P**		**18 47 46.4**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=159,slow=0.7,SNR=2.9							
TIXI					ScP	**ScP**	**18 54 04.9**	**-2.7**
	comp=Z,1.5nm,0.9s,baz=132,slow=0.3,SNR=4.3							
	comp=Z,1.0nm,0.3s							
LLLB	**Lillooet**	**32.36**	**72**	P	**P**		**18 48 00.6**	**+0.6**
LLLB					IAmb	IAmb	18 48 43.2	
	comp=Z,8.6nm,1.3s							
YKA	**Yellowknife Ar**	**32.66**	**48**	P	**P**		**18 48 02.9**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=297,slow=9.2,SNR=12							
YKA					PcP	**PcP**	**18 50 44.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=284,slow=3.3,SNR=7.0							
	comp=Z,2.1nm,0.6s							
YKA	**Yellowknife Ar**	**32.66**	**48**	P	**P**		**18 48 02.5**	**+0.2**
B08A	**Colville Reser**	**34.84**	**74**	P	**P**		**18 48 21.9**	**+0.4**
B08A					IAmb	IAmb	18 48 24.0	
	comp=Z,6.2nm,0.7s							
H04A	**Detroit Lake**	**34.98**	**81**	P	**P**		**18 48 23.0**	**+0.2**
H04A					IAmb	IAmb	18 48 57.9	
	comp=Z,9.1nm,1.2s							
USRK	**Ussuriysk Ar.**	**35.59**	**278**	PcP	**PcP**		**18 50 53.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=49,slow=6.6,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**35.67**	**210**	T	T		19 25 51.7	
	baz=20,slow=74							
H11N3	**WAKE ISLAND Hy**	**35.68**	**210**	T	T		19 27 13.5	
	baz=20,slow=74							
H11N1	**WAKE ISLAND Hy**	**35.69**	**210**	T	T		19 27 14.3	
	baz=20							
HAWA	**Hanford**	**35.69**	**77**	P	**P**		**18 48 29.7**	**+1.0**
HAWA					IAmb	IAmb	18 48 31.4	
	comp=Z,7.1nm,0.7s							
NEW	**Newport**	**36.19**	**73**	P	**P**		**18 48 32.9**	**-0.1**
NEW	**Newport**	**36.19**	**73**	P	**P**		**18 48 33.5**	**+0.5**
	baz=299,SNR=7.9							
PINE	**Pine Mountain**	**36.22**	**82**	P	**P**		**18 48 32.9**	**-0.6**
MJAR	**Matsushiro Arr**	**36.38**	**263**	P	**P**		**18 48 35.2**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=6.5,slow=11,SNR=6.9							
	comp=Z,0.7nm,0.4s							
MAJO	**Matsushiro**	**36.38**	**263**	P	**P**		**18 48 35.0**	**+0.3**
MAJO					IAmb	IAmb	18 48 36.9	
	comp=Z,18nm,1.5s							
MJB9	**Matsu-Tunnel**	**36.38**	**263**	P	**P**		**18 48 35.9**	**+1.2**
MJB9					IAmb	IAmb	18 48 37.9	
	comp=Z,18nm,1.5s							
K05A	**Summer Lake**	**36.84**	**83**	P	**P**		**18 48 40.0**	**+1.2**
K05A					IAmb	IAmb	18 48 45.5	
	comp=Z,9.2nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**36.88**	**210**	T	T		19 28 10.2	
	baz=20,slow=76,SNR=129							
H11S2	**WAKE ISLAND Hy**	**36.90**	**210**	T	T		19 28 17.0	
	baz=20,slow=76,SNR=122							
H11S3	**WAKE ISLAND Hy**	**36.90**	**210**	T	T		19 28 17.1	
	baz=20,slow=76,SNR=45							
I07A	**Izee**	**36.93**	**80**	P	**P**		**18 48 41.1**	**+1.7**
I07A					IAmb	IAmb	18 49 15.0	
	comp=Z,10.0nm,1.4s							
JGF	**Kuroka**	**37.52**	**263**	P	**P**		**18 48 45.4**	**+1.0**
JGF					IAmb	IAmb	18 48 46.4	
	comp=Z,9.5nm,0.9s							
RES	**Resolute Bay**	**37.69**	**25**	P	**P**		**18 48 45.1**	**-0.1**
RES					IAmb	IAmb	18 48 49.1	
	comp=Z,11nm,1.4s							
BMO	**Blue Mountains**	**37.83**	**78**	P	**P**		**18 48 48.0**	**+1.1**
WVOR	**Wild Horse Val**	**38.38**	**82**	P	**P**		**18 48 53.2**	**+1.7**
WVOR					IAmb	IAmb	18 48 54.5	
	comp=Z,5.4nm,0.8s							
MSO	**Missoula**	**38.77**	**73**	P	**P**		**18 48 55.6**	**+0.8**
MSO					IAmb	IAmb	18 48 56.1	
	comp=Z,5.7nm,0.5s							
MSO	**Missoula**	**38.77**	**73**	P	**P**		**18 48 55.0**	**+0.2**
	baz=301,SNR=5.5							
PAHR	**Pah Rah Range**	**39.54**	**86**	P	**P**		**18 49 01.2**	**-0.1**
PAHR					IAmb	IAmb	18 49 04.3	
	comp=Z,5.7nm,0.8s							
HLID	**Hailey**	**40.27**	**78**	P	**P**		**18 49 08.7**	**+1.3**
HLID	**Hailey**	**40.27**	**78**	P	**P**		**18 49 07.6**	**+0.3**
	baz=305							
BCYI	**Bear Canyon**	**40.45**	**76**	P	**P**		**18 49 08.9**	**0.0**
MCMT	**McKenzie Canyo**	**40.49**	**75**	P	**P**		**18 49 09.5**	**+0.3**
EGMT	**Eagleton**	**40.57**	**69**	P	**P**		**18 49 09.4**	**-0.1**
EGMT					IAmb	IAmb	18 49 13.7	
	comp=Z,6.8nm,0.9s							
EGMT	**Eagleton**	**40.57**	**69**	P	**P**		**18 49 09.5**	**-0.1**
	baz=302							
BOZ	**Bozeman (W)**	**40.79**	**74**	P	**P**		**18 49 12.1**	**+0.7**
BOZ	**Bozeman (W)**	**40.79**	**74**	P	**P**		**18 49 11.9**	**+0.4**
	baz=303,SNR=6.7							
JCJ	**Chichijima**	**40.79**	**249**	P	**P**		**18 49 12.2**	**+0.7**
JCJ	**Chichijima**	**40.79**	**249**	P	**P**		**18 49 12.6**	**+1.1**
NVAR	**Mina Array Bea**	**40.99**	**87**	P	**P**		**18 49 15.4**	**+2.1**
	comp=Z,3.0nm,0.7s,baz=294,slow=7.5,SNR=10							
	comp=Z,3.0nm,0.7s							
QLMT	**Earthquake Lak**	**41.33**	**74**	P	**P**		**18 49 17.0**	**+1.0**
ELK	**Elko**	**41.43**	**82**	P	**P**		**18 49 18.4**	**+1.5**
YHL	**Hebgen Lake**	**41.46**	**74**	P	**P**		**18 49 17.3**	**+0.1**
YHL					IAmb	IAmb	18 49 19.7	
	comp=Z,6.0nm,0.9s							
YHB	**Horse Butte**	**41.51**	**74**	P	**P**		**18 49 18.4**	**+0.9**
YHB					IAmb	IAmb	18 49 19.4	
	comp=Z,4.0nm,0.6s							
GCMT	**Greycliff**	**41.83**	**72**	P	**P**		**18 49 20.6**	**+0.7**
YNR	**Norris Junctio**	**41.84**	**74**	P	**P**		**18 49 20.9**	**+0.8**
YNR					IAmb	IAmb	18 49 22.8	
	comp=Z,7.7nm,1.2s							
DSP	**Deep Springs**	**41.87**	**88**	P	**P**		**18 49 21.1**	**+1.0**
TPH	**Tonopah**	**41.88**	**87**	P	**P**		**18 49 21.3**	**+0.8**
H17A	**Grant Village**	**42.08**	**74**	P	**P**		**18 49 23.6**	**+1.5**
H17A					IAmb	IAmb	18 49 26.1	
	comp=Z,4.6nm,0.7s							
H17A	**Grant Village**	**42.08**	**74**	P	**P**		**18 49 23.2**	**+1.1**
	baz=305,SNR=5.6							
FLWY	**Flagg Ranch**	**42.19**	**75**	P	**P**		**18 49 25.2**	**+2.2**
FLWY					IAmb	IAmb	18 49 28.4	
	comp=Z,9.0nm,1.3s							
HVU	**Hansel Valley**	**42.30**	**79**	P	**P**		**18 49 24.8**	**+1.0**
TPAW	**Teton Pass**	**42.38**	**76**	P	**P**		**18 49 26.3**	**+1.7**
RLMT	**Red Lodge**	**42.43**	**73**	P	**P**		**18 49 25.7**	**+0.7**
RLMT					IAmb	IAmb	18 49 27.6	
	comp=Z,6.4nm,0.8s							
RLMT					PcP	**PcP**	**18 51 15.5**	**+0.4**
RLMT	**Red Lodge**	**42.43**	**73**	P	**P**		**18 49 25.1**	**+0.2**
	baz=304,SNR=6.4							
BGU	**Big Grassy Mou**	**42.66**	**80**	P	**P**		**18 49 27.8**	**+1.1**
ISA	**Isabella, Lake**	**42.67**	**90**	P	**P**		**18 49 27.9**	**+1.1**
ISA	**Isabella, Lake**	**42.67**	**90**	P	**P**		**18 49 27.5**	**+0.7**
	baz=311							
R11A	**Troy Canyon, C**	**42.70**	**85**	P	**P**		**18 49 27.8**	**+0.7**
R11A					PcP	**PcP**	**18 51 16.8**	**+0.8**
R11A	**Troy Canyon, C**	**42.70**	**85**	P	**P**		**18 49 28.3**	**+1.1**
	baz=309,SNR=7.2							
S11A	**Rachel**	**43.05**	**86**	P	**P**		**18 49 30.9**	**+0.9**
SPR3	**Spring Creek 3**	**43.05**	**83**	P	**P**		**18 49 30.5**	**+0.3**
SPR3					IAmb	IAmb	18 49 36.5	
	comp=Z,2.0nm,0.7s							
WCT	**Wildcat Mounta**	**43.06**	**88**	P	**P**		**18 49 31.7**	**+1.8**
TPNV	**Topopah Spring**	**43.19**	**87**	P	**P**		**18 49 31.5**	**+0.4**
TPNV					IAmb	IAmb	18 49 34.4	
	comp=Z,8.9nm,0.9s							
TPNV	**Topopah Spring**	**43.19**	**87**	P	**P**		**18 49 31.6**	**+0.5**
	baz=310,SNR=6.8							
DUG	**Dugway, Tooele**	**43.23**	**81**	P	**P**		**18 49 32.1**	**+0.7**
DUG	**Dugway, Tooele**	**43.23**	**81**	P	**P**		**18 49 31.8**	**+0.5**
	baz=308							
GWY	**Greenwater Val**	**43.43**	**88**	P	**P**		**18 49 33.7**	**+0.7**
QSM	**Queen of Sheba**	**43.45**	**89**	P	**P**		**18 49 34.0**	**+1.0**
EDW2	**Edwards Air Fo**	**43.48**	**91**	P	**P**		**18 49 34.0**	**+0.7**
	baz=312							
PRN	**Pahroc Range**	**43.63**	**86**	P	**P**		**18 49 34.0**	**-0.5**
PRN					IAmb	IAmb	18 49 37.5	
	comp=Z,5.9nm,0.8s							
BW06	**Boulder Array**	**43.63**	**76**	P	**P**		**18 49 34.4**	**-0.2**
BW06					IAmb	IAmb	18 49 36.3	
	comp=Z,5.4nm,0.7s							
BW06					PcP	**PP**	**18 51 19.4**	**+0.4**
BW06	**Boulder Array**	**43.63**	**76**	P	**P**		**18 49 33.8**	**-0.8**
	baz=306,SNR=11							
PD31	**Pinedale Array**	**43.63**	**76**	P	**P**		**18 49 34.9**	**+0.2**
PD31					IAmb	IAmb	18 49 36.3	
	comp=Z,4.8nm,0.8s							
PDAR	**Pinedale Array**	**43.63**	**76**	P	**P**		**18 49 35.1**	**+0.5**
	comp=Z,4.0nm,0.4s,baz=304,slow=3.6,SNR=81							
PDAR					PcP	**PP**	**18 51 19.7**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=208,slow=1.5,SNR=3.3							
	comp=Z,4.0nm,0.4s							
PSUT	**Pine Spring**	**43.64**	**84**	P	**P**		**18 49 34.4**	**-0.3**
NLU	**North Lily Min**	**43.83**	**81**	P	**P**		**18 49 36.9**	**+0.7**
GSC	**Goldstone, Bar**	**43.93**	**89**	P	**P**		**18 49 37.2**	**+0.3**
GSC					IAmb	IAmb	18 49 40.2	
	comp=Z,7.0nm,1.1s							
GSC	**Goldstone, Bar**	**43.93**	**89**	P	**P**		**18 49 37.5**	**+0.6**
	baz=312,SNR=5.6							
HEC	**Hector,Ludlow**	**44.53**	**89**	P	**P**		**18 49 42.6**	**+0.9**
	baz=312							
CCUT	**Cedar City**	**44.56**	**84**	P	**P**		**18 49 41.9**	**-0.2**
MVU	**Marysvale**	**44.65**	**82**	P	**P**		**18 49 42.7**	**-0.1**
ELS	**Elsinore Mount**	**44.66**	**92**	P	**P**		**18 49 43.1**	**+0.4**
MSU	**Marysvale**	**44.67**	**82**	P	**P**		**18 49 42.8**	**-0.2**
NRIK	**Noril'sk**	**44.68**	**330**	P	**P**		**18 49 42.3**	**0.0**
	comp=Z,2.8nm,0.5s,baz=88,slow=7.2,SNR=3.7							
	comp=Z,2.8nm,0.5s							
NRIK	**Noril'sk**	**44.68**	**330**	P	**P**		**18 49 42.1**	**-0.2**
TMUT	**Trail Mountain**	**44.76**	**81**	P	**P**		**18 49 43.9**	**+0.1**
TMUT					IAmb	IAmb	18 49 46.6	
	comp=Z,5.4nm,0.8s							
RDMU	**Red Mountain**	**44.95**	**78**	P	**P**		**18 49 44.1**	**-1.0**
RDMU					IAmb	IAmb	18 49 47.4	
	comp=Z,4.8nm,0.8s							
GMRC	**Granite Mounta**	**44.97**	**89**	P	**P**		**18 49 45.1**	**-0.1**
	baz=312							
Q16A	**Castle Valley**	**45.02**	**81**	P	**P**		**18 49 46.9**	**+1.2**
KNB	**Kanab**	**45.24**	**84**	P	**P**		**18 49 49.5**	**+2.1**
SRU	**San Rafael Swe**	**45.29**	**81**	P	**P**		**18 49 47.5**	**-0.3**
SRU					PcP	**PcP**	**18 51 25.4**	**+0.6**
BELC	**Belle Mtn. Jos**	**45.29**	**90**	P	**P**		**18 49 48.6**	**+0.8**
	baz=313							
K22A	**Casper**	**45.49**	**74**	P	**P**		**18 49 47.5**	**-1.8**
	baz=307							
IRM	**Iron Mountain**	**45.71**	**89**	P	**P**		**18 49 51.7**	**+0.7**
	baz=312							
U15A	**North Rim**	**45.94**	**85**	P	**P**		**18 49 53.7**	**+0.7**
U15A					IAmb	IAmb	18 49 55.9	
	comp=Z,6.1nm,0.6s							
U15A					PcP	**PcP**	**18 51 28.8**	**+1.5**
O20A	**White River Ci**	**46.02**	**78**	P	**P**		**18 49 53.5**	**0.0**
O20A					IAmb	IAmb	18 49 54.8	
	comp=Z,6.6nm,0.6s							
O20A					PcP	**PcP**	**18 51 26.8**	**-0.5**
O20A	**White River Ci**	**46.02**	**78**	P	**P**		**18 49 53.8**	**+0.4**
	baz=309,SNR=5.2							
RSSD	**Black Hills**	**46.05**	**71**	P	**P**		**18 49 53.7**	**0.0**
RSSD					IAmb	IAmb	18 49 54.6	
	comp=Z,4.5nm,0.5s							
RSSD					PcP	**PcP**	**18 51 26.8**	**-0.7**
RSSD	**Black Hills**	**46.05**	**71**	P	**P**		**18 49 53.7**	**0.0**
	baz=307							
GLA	**Glamis**	**46.66**	**90**	P	**P**		**18 49 57.4**	**-0.9**
	baz=313							
PV11	**David Mesa, Pa**	**46.80**	**80**	P	**P**		**18 49 59.8**	**+0.2**
PV11					PcP	**PcP**	**18 51 30.9**	**+0.8**
PV07	**Paradox Valley**	**46.85**	**80**	P	**P**		**18 49 58.7**	**-1.3**
N23A	**Red Feather La**	**46.91**	**76**	P	**P**		**18 50 01.3**	**+0.8**
N23A	**Red Feather La**	**46.91**	**76**	P	**P**		**18 50 00.5**	**0.0**
	baz=309							
PV13	**Radium Mtn., P**	**46.92**	**80**	P	**P**		**18 50 01.2**	**+0.6**
PV15	**Paradox Valley**	**47.01**	**80**	P	**P**		**18 50 01.4**	**+0.1**
PV15					IAmb	IAmb	18 50 02.9	
	comp=Z,7.5nm,1.2s							
WUAZ	**Wupatki**	**47.10**	**85**	P	**P**		**18 50 03.1**	**+1.2**
WUAZ					IAmb	IAmb	18 50 04.7	
	comp=Z,6.1nm,0.8s							
WUAZ	**Wupatki**	**47.10**	**85**	P	**P**		**18 50 03.2**	**+1.3**
	baz=312,SNR=5.2							
MVCO	**Mesa Verde**	**47.73**	**81**	P	**P**		**18 50 06.8**	**0.0**
	baz=311							
SONM	**Songino Array**	**48.33**	**298**	P	**P**		**18 50 10.5**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=54,slow=7.7,SNR=3.6							
SONM					ScP	**ScP**	**18 55 13.7**	**-1.7**
	comp=Z,1.0nm,0.9s,baz=46,slow=4.3,SNR=3.8							
	comp=Z,0.5nm,0.7s							
S22A	**4UR Ranch, Cre**	**48.39**	**79**	P	**P**		**18 50 12.5**	**+0.5**
	baz=311							
SDCO	**Great Sand Dun**	**49.19**	**78**	P	**P**		**18 50 18.8**	**+0.8**
SDCO	**Great Sand Dun**	**49.19**	**78**	P	**P**		**18 50 18.1**	**+0.1**
	baz=311							
TUC	**Tucson**	**49.63**	**88**	P	**P**		**18 50 21.3**	**0.0**
TUC					IAmb	IAmb	18 50 23.9	
	comp=Z,4.0nm,0.8s							
TUC	**Tucson**	**49.63**	**88**	P	**P**		**18 50 21.4**	**+0.2**
	baz=314							
LENM	**Lemitar**	**50.69**	**83**	P	**P**		**18 50 30.8**	**+1.6**
SBM	**South Baldy**	**50.69**	**83**	P	**P**		**18 50 31.1**	**+1.6**
BGNE	**Belgrade**	**51.13**	**70**	P	**P**		**18 50 31.4**	**-0.9**
	baz=310							
CBKS	**Cedar Bluff**	**51.90**	**74**	P	**P**		**18 50 37.5**	**-0.5**
	baz=311							
SFJD	**Kangerlussuaq**	**53.66**	**24**	P	**P**		**18 50 49.6**	**-0.8**
	comp=Z,7.2nm,0.6s,baz=56,slow=5.2,SNR=2.8							
	comp=Z,7.2nm,0.6s							
KAN13	**South Haven SW**	**54.44**	**74**	P	**P**		**18 50 55.6**	**-0.9**
WMOK	**Wichita Mounta**	**55.22**	**77**	P	**P**		**18 51 02.4**	**+0.2**
	baz=314							
P40A	**Paris**	**55.86**	**68**	P	**P**		**18 51 05.8**	**-0.9**
TX31	**Lajitas Ar. Si**	**56.07**	**85**	P	**P**		**18 51 08.5**	**+0.1**
TX31					PcP	**PcP**	**18 52 05.7**	**+1.0**
TX32	**Lajitas Array**	**56.07**	**85**	P	**P**		**18 51 08.0**	**-0.5**
TX32					IAmb	IAmb	18 51 10.3	
	comp=Z,5.8nm,1.1s							
TX32					PcP	**PcP**	**18 52 06.0**	**+1.2**
TXAR	**Lajitas Array**	**56.07**	**85**	P	**P**		**18 51 09.4**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=298,slow=4.8,SNR=29							
TXAR					PcP	**PcP**	**18 52 06.2**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=302,slow=0.9,SNR=7.7							
	comp=Z,2.2nm,0.6s							
R40A	**Maddies Statio**	**56.58**	**69**	P	**P**		**18 51 10.4**	**-1.5**
CCM	**Cathedral Cave**	**57.33**	**69**	P	**P**		**18 51 15.2**	**-1.9**
	baz=314							
ARCES	**ARCESS Array B**	**57.38**	**352**	P	**P**		**18 51 17.0**	**0.0**
	comp=Z,5.8nm,0.9s,baz=7.6,slow=7.8,SNR=11							
ARCES					PcP	**PcP**	**18 52 09.2**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=41,slow=3.9,SNR=4.7							
	comp=Z,5.8nm,0.9s							
FCAR	**Ozark Folk Cen**	**58.33**	**71**	P	**P**		**18 51 22.6**	**-1.5**
MIAR	**Mount Ida**	**58.43**	**73**	P	**P**		**18 51 24.2**	**-0.6**
MIAR	**Mount Ida**	**58.43**	**73**	P	**P**		**18 51 24.4**	**-0.4**
	baz=315,SNR=5.1							
833A	**Chaparral WMA,**	**59.39**	**82**	P	**P**		**18 51 31.6**	**+0.1**
	baz=317							
KURBB	**Kurchatov Arra**	**60.10**	**315**	P	**P**		**18 51 35.3**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=45,slow=6.9,SNR=2.8							
	comp=Z,0.4nm,0.5s							
WMQ	**Urumqi**	**60.77**	**305**	*e*P	P		18 51 45.8	+5.0
WMQ					pmax	pmax		
	comp=Z,12nm,0.7s							
OXF	**Oxford**	**60.87**	**70**	P	**P**		**18 51 40.7**	**-0.8**
OXF	**Oxford**	**60.87**	**70**	P	**P**		**18 51 41.1**	**-0.4**
	baz=316							
MKAR	**Makanchi Array**	**61.23**	**310**	P	**P**		**18 51 43.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=47,slow=6.2,SNR=8.3							
	comp=Z,0.3nm,0.3s							
LRAL	**Lakeview Retre**	**63.32**	**70**	P	**P**		**18 51 56.4**	**-1.5**
	baz=317							
GOGA	**Godfrey**	**65.06**	**67**	P	**P**		**18 52 06.3**	**-2.9**
	baz=318							
FINES	**FINESS Array B**	**65.19**	**349**	P	**P**		**18 52 09.3**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=14,slow=7.1,SNR=13							
	comp=Z,2.0nm,0.7s							
PZH	**PanZhiHua**	**65.56**	**282**	P	**P**		**18 52 13.8**	**+1.2**
PZH					pmax	pmax		
	comp=Z,6.0nm,0.7s							
PZH					pmax	pmax		
	comp=Z,100nm,4.8s							
NB2	**NORSAR Subarra**	**66.71**	**357**	P	**P**		**18 52 19.7**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=5.7,slow=6.9							
NOA	**NORSAR Array B**	**66.71**	**357**	P	**P**		**18 52 19.6**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=1.2,slow=5.9,SNR=18							
	comp=Z,1.9nm,0.7s							
SLIT	**Slitere, Latvi**	**69.35**	**350**	*e*P	**P**		**18 52 35.7**	**0.0**
SIJI	**Sorong**	**69.63**	**240**	P	**P**		**18 52 39.1**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=66,slow=12,SNR=4.4							
	comp=Z,9.2nm,0.6s							
VSVD	**Vaisvydziai**	**70.78**	**349**	*e*P	**P**		**18 52 44.8**	**+0.2**
IIGN	**Ignalina**	**71.11**	**347**	*e*P	**P**		**18 52 46.8**	**+0.3**
PABE	**Paberze**	**71.25**	**349**	*e*P	**P**		**18 52 47.1**	**-0.2**
BSD	**Bornholm Skovb**	**72.45**	**354**	*e*P	**P**		**18 52 54.5**	**0.0**
CMAR	**Chiang Mai Arr**	**73.32**	**279**	P	**P**		**18 53 00.9**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=36,slow=5.4,SNR=4.1							
	comp=Z,0.2nm,0.4s							
AKASG	**Malin Array Be**	**75.19**	**344**	P	**P**		**18 53 09.4**	**-1.0**
	comp=Z,3.1nm,0.4s,baz=18,slow=6.2,SNR=19							
	comp=Z,3.1nm,0.4s							
CLL	**Collm**	**76.36**	**355**	*i* P	**P**		**18 53 17.4**	**+0.3**
	comp=Z,5.0nm,0.7s							
GERES	**GERESS Array B**	**78.78**	**354**	P	**P**		**18 53 30.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=32,slow=5.2,SNR=5.9							
	comp=Z,0.8nm,0.6s							
RAO	**Raoul Island**	**81.44**	**183**	P	**P**		**18 53 47.2**	**+2.4**
	comp=Z,331nm,0.5s,baz=311,slow=20,SNR=4.3							
WRA	**Warramunga Arr**	**84.56**	**227**	P	**P**		**18 54 00.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=33,slow=5.7,SNR=11							
	comp=Z,0.7nm,0.5s							
BRTR	**Keskin Array B**	**84.88**	**338**	P	**P**		**18 54 02.8**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=348,slow=1.1,SNR=4.4							
	comp=Z,0.7nm,0.8s							
ESDC	**Sonseca Array**	**87.86**	**7**	P	**P**		**18 54 17.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=343,slow=3.9,SNR=4.3							
	comp=Z,0.6nm,0.7s							
ASAR	**Alice Springs**	**88.01**	**226**	P	**P**		**18 54 18.8**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=29,slow=5.1,SNR=17							
	comp=Z,1.3nm,0.7s							
QSPA	**South Pole Qui**	**142.26**	**180**	PKP	**PKPdf**		**19 00 58.2**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=57,slow=2.9,SNR=5.9							
QSPA		

1.5nm,0.5s,baz=342,slow=11,SNR=19
1.5nm,0.5s

ASAR Alice Springs 26.58 165 P **P** **18 56 49.6 +0.4**
0.2nm,0.3s,baz=346,slow=7.9,SNR=2.2
0.2nm,0.3s

HNR Honiara 34.99 110 P **P** **18 58 00.2 -3.2**
570nm,0.4s,baz=201,slow=8.6,SNR=5.0

SONM Songino Array 48.81 342 P **P** **18 59 57.6 +1.7**
0.1nm,0.3s,baz=159,slow=8.1,SNR=1.5
0.1nm,0.3s

MKAR Makanchi Array 58.88 326 P **P** **19 01 09.1 -0.2**
0.3nm,0.4s,baz=119,slow=7.6,SNR=7.5
0.3nm,0.4s

KURBB Kurchatov Arra 63.09 328 P **P** **19 01 38.9 +1.2**
0.4nm,0.5s,baz=130,slow=6.3,SNR=6.1
0.4nm,0.5s

BVAR Borovoye Array 68.67 327 P **P** **19 02 15.1 +1.6**
1.0nm,0.9s,baz=111,slow=7.9,SNR=3.7
1.0nm,0.9s

WEL ***19*** *18:51:44.5±0.3, 42°S±3°×17°4E±°, h10km±2km, M3.9/66, ML4.0/25, MLv3.9/66, Error ellipse: s-maj=0.0km s-min=0.0km az=141.3*

NOU ***19*** *18:51:44.1, 41°90S×174°44E, h13km, MLv4.2/11, Cook Strait, New Zealand*

ISC 19 18:51:44.1±1.1, **41°79S**±0°03×**174°31E**±0°03, **h19**km±3km, **n106**, σ1**s16**/110, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**297**	P	**Pg**	**18 51 47.7**	**-0.1**
CMWZ				S	**Sg**	**18 51 50.2**	**0.0**
BSWZ	**Blackbirch Sta**	**0.33**	**282**	P	**Pg**	**18 51 51.1**	**-0.1**
BSWZ				S	**Sg**	**18 51 55.9**	**-0.3**
TUWZ	**Tuamarina**	**0.45**	**322**	P	**Pb**	**18 51 52.9**	**-0.5**
TUWZ				S	**Sb**	**18 51 59.0**	**-0.8**
SNZO	**South Karori**	**0.56**	**32**	P	**Pb**	**18 51 55.8**	**+0.6**
TCW	**Tory Channel**	**0.58**	**357**	P	**Pb**	**18 51 55.2**	**-0.3**
TCW				S	**Sb**	**18 52 02.9**	**-0.3**
WEL	**Wellington**	**0.61**	**35**	P	**Pb**	**18 51 56.7**	**+0.7**
PLWZ	**Palliser**	**0.74**	**73**	P	**Pb**	**18 51 59.9**	**+1.5**
MSWZ	**Moikau Station**	**0.80**	**63**	P	**Pb**	**18 52 00.9**	**+1.6**
KHZ	**Kahutara**	**0.85**	**222**	P	**Pb**	**18 52 02.0**	**+1.7**
KHZ	**Kahutara**	**0.85**	**222**	P	**Pb**	**18 52 01.9**	**+1.7**
CAW	**Cannon Point**	**0.89**	**40**	P	**Pb**	**18 52 01.5**	**+0.6**
NNZ	**Nelson**	**0.90**	**309**	P	**Pg**	**18 52 00.9**	**-0.8**
PAWZ	**Paruwai Farm**	**0.93**	**65**	P	**Pg**	**18 52 02.5**	**+0.3**
DUWZ	**D'Urville Isla**	**1.03**	**343**	P	**Pg**	**18 52 03.1**	**-1.0**
KIW	**Kapiti Island**	**1.03**	**26**	P	**Pb**	**18 52 03.6**	**+0.3**
THZ	**Tophouse**	**1.05**	**271**	P	**Pg**	**18 52 04.2**	**-0.3**
MTW	**Mount Morrison**	**1.09**	**55**	P	**Pg**	**18 52 04.7**	**-0.7**
TRWZ	**Traveller**	**1.10**	**70**	P	**Pb**	**18 52 04.6**	**0.0**
OGWZ	**Otaki Gorge**	**1.17**	**34**	P	**Pb**	**18 52 06.1**	**+0.5**
MRNZ	**Matariki Terra**	**1.23**	**288**	P	**Pg**	**18 52 07.3**	**-0.5**
TKNZ	**Takaka Hill**	**1.26**	**306**	P	**Pn**	**18 52 07.3**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.27**	**46**	P	**Pn**	**18 52 07.2**	**+0.3**
TMWZ	**Te Maipa**	**1.37**	**61**	P	**Pn**	**18 52 08.2**	**0.0**
MRZ	**Mangatainoka R**	**1.48**	**41**	P	**Pn**	**18 52 10.2**	**+0.5**
GVZ	**Greta Valley S**	**1.51**	**218**	P	**Pn**	**18 52 10.8**	**+0.6**
TWZ	**Tintock**	**1.56**	**50**	P	**Pb**	**18 52 10.8**	**-0.1**
QRZ	**Quartz Range**	**1.65**	**305**	P	**Pb**	**18 52 14.0**	**+0.1**
QRZ	**Quartz Range**	**1.65**	**305**	P	**Pb**	**18 52 13.9**	**+0.1**
CPWZ	**Castlepoint**	**1.67**	**59**	P	**Pn**	**18 52 12.7**	**+0.4**
OHWZ	**Ohakea**	**1.75**	**26**	P	**Pb**	**18 52 15.5**	**-0.1**
PRWZ	**Pori Road**	**1.76**	**46**	P	**Pn**	**18 52 13.6**	**+0.1**
POWZ	**Post Office Ro**	**1.78**	**39**	P	**Pn**	**18 52 14.3**	**+0.4**
LTZ	**Lake Taylor**	**1.81**	**236**	P	**Pn**	**18 52 15.0**	**+0.7**
BFZ	**Birch Farm**	**1.83**	**54**	P	**Pn**	**18 52 14.2**	**-0.4**
BFZ	**Birch Farm**	**1.83**	**54**	P	**Pn**	**18 52 14.0**	**-0.5**
AMCZ	**Amberley**	**1.85**	**221**	P	**Pn**	**18 52 15.0**	**+0.2**
DSZ	**Denniston Nort**	**1.88**	**270**	P	**Pn**	**18 52 16.7**	**+1.5**
DVHZ	**Dannevirke**	**2.04**	**44**	P	**Pn**	**18 52 17.1**	**-0.5**
WAZ	**Wanganui**	**2.09**	**14**	P	**Pb**	**18 52 20.9**	**-0.6**
TSZ	**Takapari Road**	**2.13**	**36**	P	**Pn**	**18 52 18.8**	**+0.1**
OKCZ	**Okains Bay**	**2.14**	**205**	P	**Pn**	**18 52 18.7**	**-0.2**
MQZ	**McQueen's Vall**	**2.27**	**212**	P	**Pn**	**18 52 19.8**	**-0.9**
OXZ	**Oxford**	**2.28**	**227**	P	**Pn**	**18 52 20.1**	**-0.6**
AKCZ	**Akaroa Harbour**	**2.33**	**206**	P	**Pn**	**18 52 20.9**	**-0.4**
INZ	**Inchbonnie**	**2.33**	**245**	P	**Pn**	**18 52 22.3**	**+1.0**
LREZ	**Lake Rotokare**	**2.33**	**2**	P	**Pb**	**18 52 25.1**	**-0.3**
PNHZ	**Pukenui**	**2.36**	**38**	P	**Pn**	**18 52 21.6**	**-0.2**
WPHZ	**Waipukurau**	**2.36**	**44**	P	**Pn**	**18 52 21.6**	**-0.2**
NMEZ	**Namu Road**	**2.39**	**352**	P	**Pb**	**18 52 27.2**	**+0.7**
KHEZ	**Kahui Hut**	**2.50**	**355**	P	**Pb**	**18 52 27.4**	**-1.0**
KHEZ	**Kahui Hut**	**2.50**	**355**	P	**Pb**	**18 52 28.0**	**-0.4**
RACZ	**Rakaia**	**2.51**	**219**	P	**Pn**	**18 52 23.2**	**-0.8**
NBEZ	**Newall Road No**	**2.54**	**352**	P	**Pb**	**18 52 27.4**	**-1.6**
MTVZ	**Mangateitei**	**2.56**	**21**	P	**Pn**	**18 52 26.8**	**+2.2**
DREZ	**Durham Road**	**2.60**	**358**	P	**Pb**	**18 52 29.3**	**-0.7**
PKE	**Pukeiti**	**2.60**	**354**	P	**Pb**	**18 52 28.2**	**-1.9**
PKVZ	**Pokaka**	**2.62**	**18**	P	**Pn**	**18 52 27.4**	**+2.0**
MOVZ	**Moawhango**	**2.62**	**25**	P	**Pn**	**18 52 26.2**	**+0.7**
WNVZ	**Wahianoa**	**2.65**	**22**	P	**Pn**	**18 52 27.5**	**+1.5**
TRVZ	**Turoa**	**2.66**	**21**	P	**Pn**	**18 52 27.8**	**+1.6**
MHZ	**Mount Hutt**	**2.67**	**223**	P	**Pn**	**18 52 28.5**	**-0.7**
VRZ	**Vera Road**	**2.68**	**7**	P	**Pn**	**18 52 28.8**	**+2.5**
DRZ	**Dome Shelter**	**2.68**	**21**	P	**Pb**	**18 52 32.7**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.68**	**22**	P	**Pn**	**18 52 27.9**	**+1.4**
FWVZ	**Far West T-bar**	**2.70**	**21**	P	**Pn**	**18 52 28.6**	**+1.9**
TUVZ	**Tukino**	**2.72**	**23**	P	**Pn**	**18 52 29.4**	**+2.5**
KAHZ	**Kahuranaki**	**2.79**	**45**	P	**Pn**	**18 52 26.6**	**-1.1**
NGZ	**Ngauruhoe**	**2.79**	**21**	P	**Pn**	**18 52 29.5**	**+1.7**
SNVZ	**South Ngauruho**	**2.79**	**22**	P	**Pb**	**18 52 34.2**	**+0.8**
OTVZ	**Oturere**	**2.82**	**22**	P	**Pb**	**18 52 35.3**	**+1.4**
WACZ	**Wakanui South**	**2.82**	**219**	P	**Pn**	**18 52 27.4**	**-0.7**
NNVZ	**North Ngauruho**	**2.83**	**21**	P	**Pn**	**18 52 30.3**	**+1.8**
WTVZ	**West Tongariro**	**2.84**	**21**	P	**Pn**	**18 52 31.3**	**+2.7**
TWVZ	**Taurewa**	**2.85**	**18**	P	**Pn**	**18 52 30.6**	**+2.0**
ETVZ	**East Tongariro**	**2.85**	**22**	P	**Pb**	**18 52 34.8**	**+0.3**
KWHZ	**Kaweka Forest**	**2.86**	**35**	P	**Pn**	**18 52 28.5**	**-0.2**
TMVZ	**Te Maari**	**2.87**	**22**	P	**Pn**	**18 52 30.3**	**+1.3**
WVZ	**Waitaha Valley**	**2.94**	**243**	P	**Pn**	**18 52 31.4**	**+1.6**
RPZ	**Rata Peaks**	**3.06**	**230**	P	**Pn**	**18 52 31.6**	**-0.2**
RPZ	**Rata Peaks**	**3.08**	**230**	P	**Pn**	**18 52 31.5**	**-0.2**
BKZ	**Black Stump Fm**	**3.10**	**33**	P	**Pn**	**18 52 33.7**	**+1.6**
BKZ	**Black Stump Fm**	**3.10**	**33**	P	**Pn**	**18 52 31.4**	**-0.7**
RATZ	**Rangitukua**	**3.12**	**21**	P	**Pb**	**18 52 39.6**	**+0.6**
ARCZ	**Arundel**	**3.16**	**226**	P	**Pn**	**18 52 32.3**	**-0.5**
NMHZ	**Naumai**	**3.29**	**36**	P	**Pn**	**18 52 34.8**	**+0.1**
HIZ	**Hauiti**	**3.30**	**7**	P	**Pn**	**18 52 37.3**	**+2.6**
HIZ	**Hauiti**	**3.30**	**7**	P	**Pn**	**18 52 37.1**	**+2.3**
GCSZ	**Gaunt Creek Bo**	**3.32**	**241**	P	**Pn**	**18 52 36.9**	**+1.9**
MRHZ	**Matea Rd**	**3.36**	**29**	P	**Pn**	**18 52 35.5**	**-0.1**
MTHZ	**Maungataniwha**	**3.51**	**34**	P	**Pn**	**18 52 36.5**	**-1.2**
TMZ	**Timaru**	**3.55**	**222**	P	**Pn**	**18 52 37.6**	**-0.6**
TLZ	**Tolley Road**	**3.58**	**16**	P	**Pb**	**18 52 46.0**	**-0.8**
FOZ	**Fox Glacier**	**3.75**	**241**	P	**Pn**	**18 52 42.5**	**+1.6**
LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	**18 52 44.5**	**+0.3**
URZ	**Urewera**	**4.13**	**32**	P	**Pn**	**18 52 46.5**	**+0.4**
TOZ	**Tahuroa Road**	**4.15**	**13**	P	**Pn**	**18 52 48.3**	**+1.8**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	**18 52 46.6**	**-0.7**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	**18 52 46.3**	**-1.0**
TGRZ	**Tauranga**	**4.32**	**21**	P	**Pn**	**18 52 50.9**	**+2.1**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**18 52 54.7**	**+1.2**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**18 52 55.0**	**+1.6**
MKAZ	**Moumakai**	**4.72**	**8**	P	**Pn**	**18 52 55.7**	**+1.4**
AWAZ	**Awhitu Peninsu**	**4.72**	**3**	P	**Pn**	**18 52 56.7**	**+2.4**
ETAZ	**East Tamaki Re**	**4.85**	**6**	P	**Pn**	**18 52 58.4**	**+2.3**
CTZ	**Chatham Island**	**6.96**	**109**	P	**Pn**	**18 53 24.5**	**-0.4**
	46nm,1.4s						
CTZ	**Chatham Island**	**6.96**	**109**	P	**Pn**	**18 53 24.8**	**-0.1**

DJA ***19*** *18:53:20.4±0.2, 9°S±2°×11°3E±°, h10km, M4.5/18, mb4.6/11, mB5.0/1, MLv4.4/18, Mw(mB)4.3/1*

IDC ***19*** *18:53:23.3±0.7, 9°11S×113°38E, h45km±5km, mb3.7/16, mbtmp3.9/18, ML4.2/3, MS2.9/2, Error ellipse: s-maj=21.1km s-min=10.9km az=39.0*

NEIC ***19*** *18:53:24.0±1.9, 9°32S±0°10×113°21E±0°02, h57km±9km, mb4.2/21, Error ellipse: s-maj=14.0km s-min=2.9km az=177.0*

ISC 19 18:53:23.2±0.6, **9°38S**±0°06×**113°22E**±0°04, **h52**km±6km, **n107**, σ1**s55**/117, **mb4.1**/23, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.12**	**12**	P	**Pn**	**18 53 41.9**	**-0.7**
JAGI	**Jajag, Banyuwa**	**1.29**	**46**		**Pn**	**18 53 44.6**	**-0.3**
JAGI				Sn	**Sn**	**18 54 00.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.29**	**46**	P	**Pn**	**18 53 44.7**	**-0.3**
JAGI				S	**Sn**	**18 54 00.6**	**-0.5**
JAGI	**Jajag, Banyuwa**	**1.29**	**46**	P	**Pn**	**18 53 45.4**	**+0.5**
JAGI	**Jajag, Banyuwa**	**1.29**	**46**	P	**Pn**	**18 53 45.4**	**+0.5**
KRKI	**Karangkates**	**1.43**	**328**	P	**Pn**	**18 53 47.1**	**+0.3**
KRKI				S	**Sn**	**18 54 05.2**	**+0.7**
BYJI	**Banyuwangi**	**1.61**	**44**	P	**Pn**	**18 53 50.8**	**+1.5**
BYJI				S	**Sn**	**18 54 11.7**	**+2.7**
ABJI	**Asem Bagus**	**1.87**	**33**	P	**Pn**	**18 53 55.3**	**+2.6**
ABJI				S	**Sn**	**18 54 19.0**	**+3.8**
RTBI	**Rangdo, Negare**	**1.93**	**62**	P	**Pn**	**18 53 54.6**	**+0.9**
RTBI				S	**Sn**	**18 54 18.3**	**+1.4**
IGBI	**Denpasar**	**1.98**	**74**	P	**Pn**	**18 53 54.4**	**+0.1**
IGBI				S	**Sn**	**18 54 19.5**	**+1.5**
DNP	**Denpasar**	**2.09**	**71**	P	**Pn**	**18 53 56.9**	**+1.1**
DNP				S	**Sn**	**18 54 22.3**	**+1.7**
SJI	**Sawahan**	**2.17**	**319**	P	**Pn**	**18 53 57.4**	**+0.4**
PCJI	**Pacitan**	**2.33**	**300**	P	**Pn**	**18 53 58.6**	**-0.5**
SRBI	**Singaraja**	**2.35**	**57**	P	**Pn**	**18 54 00.1**	**+0.7**
KMMI	**Kalianget**	**2.43**	**18**	P	**Pn**	**18 54 02.6**	**+2.1**
GRJI	**Gresik**	**2.55**	**343**	P	**Pn**	**18 54 04.3**	**+2.1**
NGJI	**Ngawi**	**2.65**	**319**	P	**Pn**	**18 54 07.1**	**+3.7**
KLNI	**Mataram**	**3.00**	**72**	P	**Pn**	**18 54 08.6**	**+0.3**
UGM	**Wanagama**	**3.04**	**298**		**Pn**	**18 54 09.9**	**+1.0**
UGM				Sn	**Sn**	**18 54 43.9**	**0.0**
UGM	**Wanagama**	**3.04**	**298**	P	**Pn**	**18 54 09.8**	**+1.0**
UGM	**Wanagama**	**3.04**	**298**	P	**Pn**	**18 54 10.5**	**+1.6**
UGM	**Wanagama**	**3.04**	**298**	P	**Pn**	**18 54 10.4**	**+1.6**
BWJI	**Bawean**	**3.55**	**351**	P	**Pn**	**18 54 17.3**	**+1.5**
SMRI	**Semarang**	**3.59**	**310**	Pn	**Pn**	**18 54 16.6**	**+0.2**
TWSI	**Taliwang, Sumb**	**3.67**	**80**	P	**Pn**	**18 54 18.2**	**+0.7**
PLAI	**Plampang**	**4.54**	**83**	P	**Pn**	**18 54 30.6**	**+1.2**
PLAI	**Plampang**	**4.54**	**83**	P	**Pn**	**18 54 30.9**	**+1.5**
DBNI	**Kabupaten Domp**	**5.11**	**81**	P	**Pn**	**18 54 40.4**	**+3.2**
	0.4nm1µm57nm,0.5s						
BBJI	**Bungbulang**	**5.83**	**289**	P	**Pn**	**18 54 47.8**	**+0.6**
LEM	**Lembang**	**6.10**	**294**	P	**Pn**	**18 54 52.3**	**+1.4**
	2.5nm,0.3s,baz=124,slow=22,SNR=1.9						
LEM				S	**Sn**	**18 56 02.2**	**+2.7**
	35nm,1.0s,baz=2.8,slow=20,SNR=2.1						
	7.8nm,0.6s						
XMI	**Christmas Isla**	**7.49**	**261**	P	**Pn**	**18 55 09.1**	**-0.9**
KAPI	**Kapiangan**	**7.80**	**57**	P	**Pn**	**18 55 11.2**	**-2.9**
	1.4nm,0.3s,baz=1.8,slow=20,SNR=1.9						
	3.6nm,0.4s						
KAPI	**Kappang**	**7.80**	**57**	Pn	**Pn**	**18 55 11.0**	**-3.1**
KAPI	**Kappang**	**7.80**	**57**	P	Pn	18 55 19.1	+5.0
BSSI	**Bau Bau, Buton**	**7.89**	**66**	P	**Pn**	**18 55 16.1**	**+0.7**
	0.2nm44nm,1.2s						
BKSI	**Bulukumba**	**7.95**	**60**	P	**Pn**	**18 55 17.2**	**+1.1**
	22nm,0.8s						
BNSI	**Bone**	**8.44**	**55**	P	**Pn**	**18 55 26.7**	**+3.8**
	14nm,1.1s						
MMRI	**Maumere**	**8.94**	**86**		**Pn**	**18 55 27.8**	**-2.0**
MMRI	**Maumere**	**8.94**	**86**	P	**Pn**	**18 55 30.3**	**+0.5**
KASI	**Kota Agung**	**9.46**	**293**	P	**Pn**	**18 55 38.3**	**+1.5**
	30nm,1.0s						
BATI	**Baumata**	**10.33**	**95**	P	**Pn**	**18 55 48.6**	**-0.2**
	10nm,0.3s,baz=292,slow=0.6,SNR=19						
BATI				S	**Sn**	**18 57 40.0**	**-3.2**
	10nm,0.6s,baz=18,slow=23,SNR=2.1						
BATI	**Baumata**	**10.33**	**95**	P	**Pn**	**18 55 50.1**	**+1.3**
	30nm,0.5s						
SOEI	**Soe**	**10.90**	**93**		**Pn**	**18 55 55.2**	**-1.5**
SOEI	**Soe**	**10.90**	**93**	P	**Pn**	**18 55 57.8**	**+1.0**
	18nm,1.3s						
SOEI	**Soe**	**10.90**	**93**	P	**Pn**	**18 55 58.1**	**+1.3**
	19nm,1.3s						
KSM	**Kuching**	**11.16**	**345**	Pn	**Pn**	**18 56 01.4**	**+1.2**
MNAI	**Manna**	**11.34**	**295**	Pn	**Pn**	**18 56 02.4**	**-0.2**
MNAI	**Manna**	**11.34**	**295**	P	**Pn**	**18 56 02.6**	**0.0**
	169nm,1.1s						
MNAI	**Manna**	**11.34**	**295**	P	**Pn**	**18 56 02.9**	**+0.3**
EGSI	**Enggano, Bengk**	**11.56**	**289**	P	**Pn**	**18 56 04.2**	**-1.5**
	70nm,1.5s						
SBUM	**Sibu**	**11.79**	**355**	Pn	**Pn**	**18 56 12.4**	**+3.7**
TOLI2	**Tolitoli**	**12.86**	**36**	Pn	**Pn**	**18 56 26.3**	**+2.9**
GIRL	**Giralia**	**13.23**	**176**	Pn	Pn	18 56 24.8	-3.6
GIRL	**Giralia**	**13.23**	**176**	P	Pn	18 56 25.5	-2.8
MBWA	**Marble Bar**	**13.29**	**153**	Pn	Pn	18 56 24.5	-4.7
MBWA	**Marble Bar**	**13.29**	**153**	P	**P**	**18 56 24.5**	**-2.6**
PSA00	**Pilbara Seismi**	**13.70**	**153**	Pn	Pn	18 56 29.1	-5.7
PSA00	**Pilbara Seismi**	**13.70**	**153**	P	**P**	**18 56 29.6**	**-0.8**
KKM	**Kota Kinabalu**	**15.61**	**11**	Pn	**Pn**	**18 56 56.3**	**-3.7**
KKM				IAmb	IAmb	18 57 07.8	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**16.41**	**114**	P	**Pn**	**18 57 09.8**	**-0.4**
KNRA				IAmb	IAmb	18 57 41.5	
	comp=Z,32nm,1.4s						
KNRA	**Kununurra**	**16.41**	**114**	P	**Pn**	**18 57 11.5**	**+1.4**
MEEK	**Meekatharra**	**17.91**	**164**	P	**P**	**18 57 27.7**	**-1.0**
MTN	**Manton Dam**	**17.91**	**103**	P	**P**	**18 57 29.1**	**+0.3**
RPSI	**Rantau Prapat**	**18.62**	**309**	P	**P**	**18 57 36.3**	**-0.2**
KDU	**Kakadu**	**19.18**	**102**	P	**P**	**18 57 42.7**	**0.0**
MORW	**Morawa**	**19.77**	**173**	P	**P**	**18 57 50.3**	**+1.3**
FAKI	**Fak Fak**	**19.97**	**72**	P	**P**	**18 57 49.4**	**-1.9**
FAKI				IAmb	IAmb	18 57 59.2	
	comp=Z,17nm,0.9s						
DAV	**Davao City (W)**	**20.46**	**37**	LR	LR	19 06 34.4	
	comp=Z,23nm,20.6s,baz=207,slow=39						
WB0	**Warramunga Arr**	**22.92**	**119**	P	**P**	**18 58 22.2**	**-0.8**
WRA	**Warramunga Arr**	**22.95**	**120**	P	**P**	**18 58 23.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=300,slow=11,SNR=12						
	comp=Z,0.6nm,0.3s						
WRA	**Warramunga Arr**	**22.95**	**120**	P	**P**	**18 58 21.9**	**-1.4**
WRAB	**Tennant Creek**	**22.95**	**120**	P	**P**	**18 58 23.3**	**0.0**
WRAB				IAmb	IAmb	18 58 44.1	
	comp=Z,5.6nm,1.0s						
WRAB	**Tennant Creek**	**22.95**	**120**	P	**P**	**18 58 24.7**	**+1.4**
WB2	**Warramunga Arr**	**22.96**	**120**	P	**P**	**18 58 23.2**	**-0.2**
WB2				IAmb	IAmb	18 58 51.1	
	comp=Z,8.4nm,1.4s						
WR0	**Warramunga Arr**	**23.13**	**119**	P	**P**	**18 58 23.5**	**-1.5**
WR0				IAmb	IAmb	18 58 28.5	
	comp=Z,13nm,1.5s						
ASAR	**Alice Springs**	**24.35**	**128**	P	**P**	**18 58 36.7**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=303,slow=8.4,SNR=18						
ASAR				pP	**pP**	**18 58 50.8**	**+2.0**
	comp=Z,1.3nm,0.5s,baz=301,slow=8.5,SNR=7.1						
ASAR				PcP	**PcP**	**19 02 16.8**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=304,slow=1.9,SNR=2.4						
ASAR				ScP	**ScP**	**19 05 52.1**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=346,slow=3.3,SNR=3.0						
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**24.35**	**128**	P	**P**	**18 58 35.8**	**-0.6**
AS31	**Alice Springs**	**24.35**	**128**	P	**P**	**18 58 36.6**	**+0.2**
FORT	**Forrest**	**25.39**	**149**	P	**P**	**18 58 45.9**	**+0.1**
OOD	**Oodnadatta**	**28.00**	**134**	P	**P**	**18 59 10.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**31.04**	**333**	P	**P**	**18 59 36.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=179,slow=8.1,SNR=1.9						
	comp=Z,0.3nm,0.3s						
BBOO	**Buckleboo**	**31.44**	**141**	P	**P**	**18 59 39.6**	**-0.1**
STKA	**Stephens Creek**	**34.54**	**135**	P	**P**	**19 00 08.3**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=292,slow=7.6,SNR=6.8						
	comp=Z,2.1nm,0.7s						
STKA	**Stephens Creek**	**34.54**	**135**	P	**P**	**19 00 08.3**	**+1.5**
STKA	**Stephens Creek**	**34.54**	**135**	P	**P**	**19 00 08.7**	**+1.9**
KSRS	**Korea Array**	**48.58**	**16**	LR	LR	19 26 29.7	
	comp=Z,19nm,18.0s,baz=240,slow=41						
MJAR	**Matsushiro Arr**	**51.37**	**26**	P	**P**	**19 02 21.1**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=185,slow=10.0,SNR=2.2						
	comp=Z,0.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**55.98**	**16**	P	**P**	**19 02 55.3**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=192,slow=3.8,SNR=6.5						
	comp=Z,1.2nm,0.4s						
ULN	**Ulaanbaatar**	**57.25**	**355**	P	**P**	**19 03 04.2**	**-1.2**
ULN				IAmb	IAmb	19 03 22.6	
	comp=Z,5.1nm,1.5s						
SONM	**Songino Array**	**57.28**	**355**	P	**P**	**19 03 05.5**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=175,slow=9.2,SNR=9.3						
SONM				pP	**pP**	**19 03 18.1**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=177,slow=8.0,SNR=5.7						
	comp=Z,0.6nm,0.3s						
SONM	**Songino Array**	**57.28**	**355**	P	**P**	**19 03 05.0**	**-0.6**
SONM				IAmb	IAmb	19 03 06.7	
	comp=Z,2.9nm,1.2s						
KLR	**Kul'dur**	**60.59**	**14**	P	**P**	**19 03 27.4**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=228,slow=3.7,SNR=2.3						
	comp=Z,0.5nm,0.5s						
MK31	**Makanchi Array**	**62.35**	**337**	P	**P**	**19 03 40.5**	**+0.2**
MKAR	**Makanchi Array**	**62.35**	**337**	P	**P**	**19 03 40.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=156,slow=7.5,SNR=10						
MKAR				pP	**pP**	**19 03 52.8**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=150,slow=7.3,SNR=4.4						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**62.35**	**337**	P	**P**	**19 03 39.2**	**-1.1**
KURBB	**Kurchatov Arra**	**66.92**	**337**	P	**P**	**19 04 08.9**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=168,slow=4.8,SNR=3.3						
KURBB				pP	**pP**	**19 04 22.2**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=154,slow=6.0,SNR=8.5						
	comp=Z,0.3nm,0.8s						
ZAA0	**Zalesovo Array**	**67.51**	**342**	P	**P**	**19 04 12.5**	**-1.1**
ZAA0				IAmb	IAmb	19 04 27.9	
	comp=Z,2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**67.51**	**342**	P	**P**	**19 04 12.8**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=118,slow=5.9,SNR=5.0						
ZALV				pP	**pP**	**19 04 25.9**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=145,slow=5.0,SNR=7.9						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**67.51**	**342**	P	**P**	**19 04 12.3**	**-1.4**
BVAR	**Borovoye Array**	**72.05**	**334**	pP	pP	19 04 54.4	-1.2
	comp=Z,0.6nm,0.7s,baz=125,slow=7.4,SNR=3.4						
PETK	**Petropavlovsk-**	**72.82**	**26**	P	**P**	**19 04 45.3**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=238,slow=8.3,SNR=1.8						
	comp=Z,2.4nm,0.9s						
ABKAR	**Akbulak array**	**74.67**	**327**	P	**P**	**19 04 56.7**	**-0.4**
ABKAR				IAmb	IAmb	19 04 58.1	
	comp=Z,2.3nm,0.9s						
ABKAR	**Akbulak array**	**74.67**	**327**	P	**P**	**19 04 57.0**	**-0.1**
MA2	**Magadan**	**75.00**	**19**	P	**P**	**19 04 57.8**	**-1.0**
	comp=Z,10nm,1.1s,baz=164,slow=20,SNR=1.3						
	comp=Z,10nm,1.1s						
TIXI	**Tiksi**	**81.52**	**5**	P	**P**	**19 05 33.2**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=268,slow=0.8,SNR=7.9						
	comp=Z,1.2nm,0.3s						
BRTR	**Keskin Array B**	**88.02**	**311**	P	**P**	**19 06 08.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=72,slow=4.7,SNR=1.3						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**89.06**	**197**	P	**P**	**19 06 14.9**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=218,slow=4.6,SNR=1.8						
	comp=Z,0.8nm,0.8s						

IDC ***19*** *18:56:03.9±0.8, 44°15S×38°74E, h0km, mb4.2/8, mbtmp4.2/10, ML3.5/2, MS4.0/39, Error ellipse: s-maj=26.8km s-min=20.4km

comp=Z,102nm,21.8s,baz=245,slow=31
CMAR Chiang Mai Arr 83.03 56 P **P 19 08 31.7 +2.2**
comp=Z,0.5nm,0.8s,baz=222,slow=5.6,SNR=5.9
CMAR LR LR 19 39 16.0
comp=Z,27nm,21.6s,baz=205,slow=31
comp=Z,0.5nm,0.8s
GEYT Alibeck 83.56 15 LR LR 19 43 41.7
comp=Z,64nm,19.5s,baz=168,slow=34
BRTR Keskin Array B 83.62 356 LR LR 19 46 15.8
comp=Z,48nm,18.6s,baz=144,slow=36
KEST Kesra 83.88 336 LR LR 19 45 51.9
comp=Z,128nm,20.9s,baz=116,slow=36
VAE Valguarnera 84.19 341 LR LR 19 45 34.3
comp=Z,77nm,19.9s,baz=162,slow=35
SIV San Ignacio 85.88 252 LR LR 19 41 54.5
comp=Z,41nm,18.5s,baz=172,slow=32
MDT Midelt 86.20 325 LR LR 19 47 07.2
comp=Z,147nm,19.0s,baz=148,slow=36
LVC Limon Verde 86.36 242 LR LR 19 40 38.4
comp=Z,68nm,19.9s,baz=222,slow=31
LPAZ La Paz 90.42 247 LR LR 19 44 47.4
comp=Z,54nm,18.3s,baz=110,slow=32
ESDC Sonseca Array 91.91 328 LR LR 19 51 20.6
comp=Z,143nm,18.6s,baz=136,slow=36
DAVOX Davos/Dischmat 94.08 341 LR LR 19 52 45.2
comp=Z,90nm,21.7s,baz=120,slow=36
MDP Montagnes des 94.52 273 LR LR 19 48 36.6
comp=Z,39nm,18.1s,baz=36,slow=33
VRAC Vranov 95.08 346 LR LR 19 58 37.5
comp=Z,29nm,18.1s,baz=152,slow=40
BELG Belogornoye 96.47 5 LR LR 19 53 34.5
comp=Z,86nm,21.2s,baz=126,slow=36
MKAR Makanchi Array 98.38 29 LR LR 19 50 47.4
comp=Z,36nm,18.7s,baz=132,slow=33
DZM Mont Dzumac 98.56 132 eLR LR 19 41 33.3
comp=Z,135nm,26.4s
TBI Tubuai 112.41 172 eLR LR 19 47 57.9
comp=Z,512nm,34.5s
PPT2 Papeete2 118.09 171 eLR LR 19 50 35.4
comp=Z,73nm,23.5s
TXAR Lajitas Array 146.77 256 PKPbc **PKPab 19 15 48.2 +0.8**
comp=Z,1.6nm,0.7s,baz=134,slow=6.1,SNR=20

*DNK **19** 19:12:12.9±1.2,51°.37N×16°.03E,h14km±45km,ML2.5*
*IPEC **19** 19:12:14.2±0.2,51°.54N×16°.24E,h1km,ML2.8/4, Error ellipse: s-maj=1.7km s-min=1.1km az=26.0*
*PRU **19** 19:12:15.7±0.0,51°.48N×16°.11E,h0km*
*IDC **19** 19:12:15.8±0.7,51°.40N×16°.11E,h0km,mb3.6/1, mbtmp3.4/7,ML2.8/6, Error ellipse: s-maj=10.7km s-min=6.2km az=114.0*
*BGR **19** 19:12:15.9±0.5,51°.45N×16°.09E,h1km,ML3.0/12, Error ellipse: s-maj=5.6km s-min=2.2km az=23.0*
*VIE **19** 19:12:17.1±0.7,51°.33N×15°.98E,h0km,mb2.6/6,ml2.9/7, Error ellipse: s-maj=6.3km s-min=3.2km az=47.0 77 km WNW of Wroclaw Suspected Mining induced.*

ISC 19 19:12:13.6±0.6,51°.56N±0°.03×16°.13E±0°.02,h0km,n61, σ1s29/124,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**172**	*i* Pg	**Pg**	**19 12 27.9**	**+0.6**
KSP				*e*Sg	**Sg**	**19 12 36.6**	**-0.1**
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**19 12 28.0**	**+0.6**
KSP				*e*Sg	**Sg**	**19 12 36.1**	**-0.6**
OSTC	**Ostas**	**1.00**	**177**	*e*PG	**Pg**	**19 12 33.3**	**+0.6**
OSTC				*e*SG	**Sg**	**19 12 45.1**	**-0.6**
	comp=Z,85nm,0.4s						
UPC	**Upice**	**1.05**	**184**	*e*PG	**Pg**	**19 12 33.9**	**+0.2**
UPC				*e*SG	**Sg**	**19 12 47.0**	**-0.3**
	comp=Z,147nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**19 12 36.8**	**0.0**
DPC				*e*SG	**Sg**	**19 12 51.2**	**-1.3**
	comp=Z,71nm,0.5s						
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*Pg	**Pg**	**19 12 36.8**	**0.0**
DPC				*e*Sg	**Sg**	**19 12 51.3**	**-1.3**
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pb**	**19 12 41.3**	**+0.3**
PVCC				*e*SG	**Sb**	**19 13 00.0**	**+0.3**
	comp=Z,221nm,0.2s						
BRG	**Berggiesshubel**	**1.54**	**244**	Pn	**Pn**	**19 12 42.2**	**0.0**
BRG				Pg	**Pg**	**19 12 44.2**	**+1.2**
BRG				Sg	**Sg**	**19 13 04.0**	**+1.1**
BRG				Amp		19 13 05.1	
	comp=Z,151nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**244**	*e*Pn	**Pn**	**19 12 42.3**	**0.0**
BRG				*e*Pg	**Pb**	**19 12 43.3**	**+0.4**
BRG				*e*Sg	**Sg**	**19 13 04.0**	**+1.1**
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pb**	**19 12 43.1**	**+0.1**
KRLC				*e*SG	**Sg**	**19 13 01.6**	**-1.4**
	comp=Z,74nm,0.4s						
FBE	**Freiberg**	**1.86**	**251**	*e*Pn	**Pn**	**19 12 47.3**	**+0.6**
FBE				*e*Pg	**Pg**	**19 12 49.6**	**+0.5**
FBE				*e*Sg	**Sg**	**19 13 13.6**	**+0.4**
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**19 12 46.3**	**-0.5**
PRU				*e*PG	**Pb**	**19 12 48.5**	**0.0**
PRU				*e*SG	**Sb**	**19 13 12.2**	**-0.2**
	comp=Z,56nm,0.3s						
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**19 12 48.6**	**+0.3**
	comp=Z,7.0nm,0.4s						
CLL				*i* Pg	**Pb**	**19 12 51.2**	**+0.8**
CLL				*i* x	x	19 12 55.7	
CLL				*i* Sg	**Sg**	**19 13 18.1**	**+1.1**
	comp=Z,45nm,0.4s						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**19 12 48.5**	**+0.3**
CLL				*e*Pg	**Pg**	**19 12 51.5**	**+0.2**
CLL				*e*Sg	**Sb**	**19 13 16.3**	**+0.8**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**19 12 48.7**	**+0.2**
MORC				*e*Sg	**Sb**	**19 13 16.1**	**0.0**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*PN	**Pn**	**19 12 48.4**	**-0.2**
MORC				*e*SG	**Sn**	**19 13 15.1**	**+0.8**
MORC	**Moravsky Berou** baz=335	**2.00**	**153**	*e*Pn	**Pn**	**19 12 48.4**	**-0.2**
MORC				*e*Sg	**Sn**	**19 13 15.1**	**+0.8**
	comp=Z,57nm,0.5s,baz=335						
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*SG	**Sb**	**19 13 20.2**	**-0.2**
	comp=Z,82nm,0.8s						
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*Pg	**Pg**	**19 12 55.8**	**+1.1**
OKC				*e*Sg	**Sb**	**19 13 20.8**	**+0.3**
VRAC	**Vranov**	**2.27**	**172**	Pg	**Pn**	**19 12 53.6**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=349,slow=16,SNR=14						
VRAC				Lg	Lg	19 13 22.1	
	comp=Z,2.8nm,0.3s,baz=73,slow=20,SNR=4.4						
VRAC	**Vranov**	**2.27**	**172**	*e*PN	**Pn**	**19 12 52.5**	**+0.1**
VRAC				*e*SG	**Sb**	**19 13 24.7**	**+0.7**
VRAC	**Vranov** baz=354	**2.27**	**172**	*e*Pn	**Pn**	**19 12 54.4**	**+0.1**
VRAC				*e*Sg	**Sb**	**19 13 24.7**	**+0.7**
	comp=Z,46nm,0.5s,baz=354						
KRUC	**Moravsky**	**2.50**	**176**	*e*PN	**Pn**	**19 12 55.5**	**0.0**
KRUC				*e*SG	**Sb**	**19 13 32.0**	**+1.3**
KRUC	**Moravsky** baz=358	**2.50**	**176**	*e*Pn	**Pn**	**19 12 55.5**	**0.0**
KRUC				*e*Sg	**Sb**	**19 13 32.0**	**+1.3**
	comp=Z,54nm,0.9s,baz=358						
TANN	**Tannenbergstha**	**2.59**	**245**	*e*Pn	**Pn**	**19 12 57.2**	**+0.5**
TANN				*e*Pg	**Pg**	**19 13 03.5**	**+0.4**
TANN				*e*Sg	**Sb**	**19 13 35.3**	**+2.2**
WERD	**Werda**	**2.66**	**247**	*e*Pn	**Pn**	**19 12 58.6**	**+0.9**
WERD				*e*Pg	**Pg**	**19 13 05.7**	**+1.2**
WERD				*e*Sg	**Sg**	**19 13 38.9**	**-0.1**
OJC	**Ojcow**	**2.68**	**119**	*e*Pg	**Pg**	**19 13 03.8**	**-1.1**
OJC				*e*Sg	**Sg**	**19 13 38.5**	**-1.1**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**19 12 59.2**	**+1.2**
NKC				*e*PG	**Pg**	**19 13 04.8**	**-0.1**
NKC				*e*SG	**Sg**	**19 13 40.9**	**+1.2**
	comp=Z,87nm,0.3s						
JAVC	**Velka Javorina** baz=342	**2.88**	**159**	*e*Pn	**Pn**	**19 13 00.7**	**0.0**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**19 13 01.7**	**+0.3**
KHC				*e*PG	**Pb**	**19 13 07.8**	**+1.2**
KHC				*e*SN	**Sn**	**19 13 36.6**	**-0.7**
KHC				*e*SG	**Sg**	**19 13 46.5**	**-1.1**
	comp=Z,26nm,0.4s						
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**19 13 03.0**	**+0.9**
CKRC				*e*PG	**Pb**	**19 13 08.7**	**+1.2**
CKRC				*e*SG	**Sb**	**19 13 46.6**	**+2.2**
	comp=Z,26nm,0.6s						
MOX	**Moxa**	**2.99**	**254**	*e*Pg	**Pg**	**19 13 11.3**	**+0.5**
MOX				*e*Sg	**Sg**	**19 13 48.3**	**-1.3**
MANZ	**Manzenberg**	**3.00**	**240**	*e*Pn	**Pn**	**19 13 03.5**	**+1.1**
MANZ				*e*Pg	**Pg**	**19 13 12.0**	**+1.0**
MANZ				*e*Sg	**Sg**	**19 13 48.6**	**-1.2**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Sg	**Sg**	**19 13 51.0**	**-1.3**
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Sg	**Sb**	**19 13 51.5**	**+2.6**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**19 13 04.7**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=33,slow=13,SNR=42						
GERES				Pg	**Pb**	**19 13 11.1**	**+0.9**
	comp=Z,4.4nm,0.3s,baz=35,slow=16,SNR=26						
GERES				Sn	**Sn**	**19 13 41.5**	**-0.9**
	comp=Z,3.6nm,0.3s,baz=31,slow=27,SNR=6.9						
GERES				Lg	Lg	19 13 51.3	
	comp=Z,7.7nm,0.3s,baz=32,slow=26,SNR=4.9						
	comp=Z,2.8nm,0.4s						
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PG	**Pg**	**19 13 16.9**	**+0.7**
MODS				*e*SG	**Sg**	**19 13 57.5**	**-1.1**
ZST	**Bratislava**	**3.42**	**169**	*e*SG	**Sg**	**19 14 02.9**	**-0.5**
VYHS	**Vyhne**	**3.53**	**149**	*e*PN	**Pn**	**19 13 10.0**	**+0.4**
VYHS				*e*PG	**Pg**	**19 13 22.0**	**+0.9**
VYHS				*e*SG	**Sg**	**19 14 07.6**	**+0.8**
CONA	**Conrad Observa**	**3.64**	**183**	*i* Pn	**Pn**	**19 13 12.3**	**+1.1**
	comp=Z,1.4nm,0.2s,SNR=5.4						
CONA				*e*Sg	**Sg**	**19 14 09.0**	**-1.3**
	comp=Z,20nm,0.4s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**19 13 12.0**	**+1.0**
BSD				*i* S	**Sn**	**19 13 53.6**	**-1.0**
BSD				IAML		19 13 57.5	
	comp=Z,4.8nm,0.3s						
MOA	**Molln**	**3.90**	**199**	*i* Pn	**Pn**	**19 13 15.6**	**+0.8**
	comp=Z,1.1nm,0.2s,SNR=7.8						
MOA				*e*Sg	**Sg**	**19 14 17.6**	**-1.3**
	comp=Z,18nm,0.5s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	**Pn**	**19 13 15.6**	**+0.8**
STHS				*e*PG	**Pg**	**19 13 30.8**	**+2.5**
STHS				*e*SG	**Sg**	**19 14 23.6**	**+4.7**
KECS	**Kecovo**	**4.16**	**136**	*e*PN	**Pn**	**19 13 18.6**	**+0.3**
BIOA	**Bad Ischl, Aus**	**4.20**	**204**	*i* Pn	**Pn**	**19 13 19.0**	**+0.2**
	comp=Z,1.2nm,0.2s						
ARSA	**Arzberg**	**4.33**	**186**	*e*Pn	**Pn**	**19 13 20.8**	**+0.2**
	comp=Z,1.4nm,0.3s						
ARSA				Sg	**Sg**	**19 14 29.8**	**-2.7**
	comp=Z,15nm,0.5s						
LUNU	**Lund**	**4.39**	**340**	*i* P	**Pn**	**19 13 21.3**	**0.0**
LUNU				*i* S	**Sn**	**19 14 12.0**	**-1.0**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PN	**Pn**	**19 13 28.1**	**+1.9**
KOLS				*e*PG	**Pg**	**19 13 46.8**	**+2.5**
BLEU	**Blekinge**	**4.76**	**358**	*i* P	**Pn**	**19 13 28.0**	**+1.5**
BLEU				*i* S	**Sn**	**19 14 21.3**	**-1.0**
BJUU	**Bjuv**	**4.89**	**339**	*i* P	**Pn**	**19 13 28.2**	**0.0**
BJUU				*i* S	**Sn**	**19 14 24.1**	**-1.3**
DEL	**Delary**	**5.10**	**346**	*i* P	**Pn**	**19 13 30.9**	**-0.3**
DEL				*i* S	**Sn**	**19 14 29.1**	**-1.6**
MOTA	**Moosalm**	**5.34**	**220**	*i* Pn	**Pn**	**19 13 34.7**	**+0.1**
	comp=Z,0.9nm,0.2s						
RETA	**Reutte**	**5.37**	**223**	*i* Pn	**Pn**	**19 13 34.8**	**-0.2**
	comp=Z,1.9nm,0.3s						
RETA				*i* Sn	**Sn**	**19 14 36.7**	**-0.8**
	comp=Z,1.9nm,0.4s						
SQTA	**Sankt Quirin**	**5.40**	**218**	*e*Pn	**Pn**	**19 13 36.4**	**+1.0**
	comp=Z,1.6nm,0.2s,SNR=5.2						
DAVOX	**Davos/Dischmat**	**6.30**	**223**	Pn	**Pn**	**19 13 47.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=44,slow=9.8,SNR=1.8						
DAVOX				Lg	Lg	19 15 31.9	
	comp=Z,0.3nm,0.3s,baz=18,slow=20,SNR=1.9						
	comp=Z,1.7nm,0.5s						
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**19 14 15.6**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=282,slow=12,SNR=6.0						
AKASG				Sn	**Sn**	**19 15 45.0**	**-4.0**
	comp=Z,0.6nm,0.3s,baz=315,slow=18,SNR=2.0						
AKASG				Lg	Lg	19 16 39.0	
	comp=Z,0.3nm,0.3s,baz=278,slow=27,SNR=1.7						
	comp=Z,0.5nm,0.4s						
HFS	**Hagfors**	**8.71**	**352**	Pn	**Pn**	**19 14 21.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=170,slow=19,SNR=1.2						
HFS				Sn	**Sn**	**19 15 59.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=211,slow=23,SNR=1.8						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**19 14 55.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=3.6						
FINES				Sn	**Sn**	**19 16 57.5**	**-5.8**
	comp=Z,0.2nm,0.3s,baz=216,slow=19,SNR=1.1						
	comp=Z,3.4nm,0.9s						
EKA	**Eskdalemuir Ar** baz=99,slow=14	**12.10**	**296**	Pn	**Pn**	**19 15 05.3**	**-1.7**
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**19 16 29.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=7.3						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**42.19**	**69**	P	**P**	**19 20 11.1**	**+3.4**
	comp=Z,0.9nm,0.9s,baz=310,slow=7.9,SNR=1.9						
	comp=Z,0.9nm,0.9s						

WEL 19 19:19:33.6±0.3,43°.3S±2°×177°.3E±°,h5km±2km,M3.5/30, ML3.8/18,MLv3.5/30,Error ellipse: s-maj=0.0km s-min=0.0km az=109.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.35**	**151**	P	Pg	19 19 40.9	+0.5
GVZ				S	Sg	19 19 46.5	+1.5
LTZ	**Lake Taylor**	**0.41**	**253**	P	Pg	19 19 42.3	+0.7
AMCZ	**Amberley**	**0.53**	**192**	P	Pb	19 19 44.9	-0.5
KHZ	**Kahutara**	**0.60**	**66**	P	Pg	19 19 45.2	+0.1
OXZ	**Oxford**	**0.87**	**220**	P	Pb	19 19 51.3	+0.1
THZ	**Tophouse**	**0.90**	**5**	P	Pg	19 19 50.5	-0.4
INZ	**Inchbonnie**	**1.00**	**266**	P	Pg	19 19 52.9	0.0
MQZ	**McQueen's Vall**	**1.05**	**186**	P	Pg	19 19 52.4	-1.3
OKCZ	**Okains Bay**	**1.08**	**170**	P	Pg	19 19 53.2	-1.1
RACZ	**Rakaia**	**1.17**	**204**	P	Pg	19 19 54.9	-1.2
DSZ	**Denniston Nort**	**1.18**	**321**	P	Pg	19 19 56.3	+0.1
AKCZ	**Akaroa Harbour**	**1.21**	**176**	P	Pg	19 19 55.0	-1.9
BSWZ	**Blackbirch Sta**	**1.24**	**40**	P	Pg	19 19 56.7	-0.7
MHCZ	**Mount Hutt**	**1.25**	**226**	P	Pg	19 19 56.0	-1.7
MRNZ	**Matariki Terra**	**1.26**	**358**	P	Pg	19 19 57.2	-0.6
CMWZ	**Cape Campbell**	**1.39**	**49**	P	Pn	19 19 59.9	+0.2
WACZ	**Wakanui South**	**1.46**	**209**	P	Pn	19 19 58.7	-2.0
TUWZ	**Tuamarina**	**1.50**	**35**	P	Pn	19 20 00.7	-0.5
NNZ	**Nelson**	**1.51**	**17**	P	Pn	19 20 00.6	-0.7
WVZ	**Waitaha Valley**	**1.57**	**254**	P	Pn	19 20 01.8	-0.5
TKNZ	**Takaka Hill**	**1.63**	**4**	P	Pn	19 20 02.7	-0.4
RPZ	**Rata Peaks**	**1.66**	**230**	P	Pn	19 20 02.2	-1.3
ARCZ	**Arundel**	**1.75**	**222**	P	Pn	19 20 03.1	-1.6
QRZ	**Quartz Range**	**1.85**	**253**	P	Pn	19 20 06.8	+0.8
GCSZ	**Gaunt Creek Bo**	**1.93**	**249**	P	Pn	19 20 07.1	-0.1
DUWZ	**D'Urville Isla**	**2.04**	**25**	P	Pn	19 20 08.9	+0.3
PLWZ	**Palliser**	**2.12**	**60**	P	Pn	19 20 07.5	-2.4
TMZ	**Timaru**	**2.16**	**217**	P	Pn	19 20 08.9	-1.5
MSWZ	**Moikau Station**	**2.21**	**56**	P	Pn	19 20 08.9	-2.1
PAWZ	**Paruwai Farm**	**2.34**	**58**	P	Pn	19 20 10.3	-2.5
FOZ	**Fox Glacier**	**2.36**	**247**	P	Pn	19 20 13.3	+0.3
TRWZ	**Traveller**	**2.49**	**60**	P	Pn	19 20 13.8	-1.1
OGWZ	**Otaki Gorge**	**2.56**	**45**	P	Pn	19 20 14.0	-1.8
MRZ	**Mangatainoka R**	**2.88**	**47**	P	Pn	19 20 17.9	-2.4

IDC 19 19:21:25.9±2.9,3°.21S×135°.39E,h0km,mb3.6/2, mbtmp3.5/4,ML2.9/2,MS3.3/1,Error ellipse: s-maj=85.1km s-min=28.4km az=70.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.74**	**299**	Pn	Pn	19 22 37.9	-0.7
	0.7nm,0.3s,baz=225,slow=22,SNR=11						
SIJI				Sn	Sn	19 23 25.8	-8.6
	0.4nm,0.3s,baz=173,slow=23,SNR=1.5						
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**16.66**	**183**	Pn	Pn	19 25 22.0	+1.0
	baz=3.8,slow=12,SNR=5.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**20.38**	**184**	P	P	19 26 04.0	-0.5
	1.8nm,0.7s,baz=7.0,slow=11,SNR=25						
	1.8nm,0.7s						
SONM	**Songino Array**	**56.82**	**337**	LR	LR	19 56 27.7	
	comp=Z,24nm,18.8s,baz=185,slow=37						
MKAR	**Makanchi Array**	**68.20**	**324**	P	P	19 32 28.6	+0.3
	0.8nm,1.0s,baz=119,slow=6.7,SNR=1.3						
	0.8nm,1.0s						

MAN 19 19:22:21.9,8°.37N×126°.66E,h19km,mb3.8,ML2.6,MS2.1, 2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.34**	**238**	*i*↓*e*P	Pn	19 22 31.6	-0.3
BIPH				*i* S	Sn	19 22 41.6	+3.2
GLSP	**General Luna,**	**1.50**	**340**	*i*↑*e*P	Pn	19 22 47.2	-0.7
GLSP				*e*S	Sb	19 23 07.9	-0.1
BUKP	**Musuan**	**1.65**	**253**	*i*↑*e*P	Pg	19 22 55.4	+1.6
BUKP				*e*S	Sg	19 23 22.2	+6.8
CGP	**Cagayan de Oro**	**1.94**	**273**	*i*↓*e*P	Pg	19 23 00.5	+1.1
CGP				*e*S	Sg	19 23 28.5	+3.8

*WEL **19** 19:27:33.2±0.3,42°.3S±3°×177°.4E±°,h13km±3km,M3.5/52, ML3.7/24,MLv3.5/52,Error ellipse: s-maj=0.0km s-min=0.0km az=147.5*
*NOU **19** 19:27:33.0,41°.81S×174°.49E,h13km,MLv4.0/11,Cook Strait, New Zealand*

ISC 19 19:27:32.5±1.6,41°.76S±0°.03×174°.39E±0°.03,h13km±16km, n95,σ1s04/98,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**276**	P	**Pb**	**19 27 37.3**	**+0.4**
CMWZ				S	**Sb**	**19 27 40.5**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.39**	**277**	P	**Pb**	**19 27 40.9**	**-0.4**
BSWZ				S	**Sb**	**19 27 46.7**	**-0.4**
TUWZ	**Tuamarina**	**0.47**	**315**	P	**Pb**	**19 27 42.2**	**-0.5**
TUWZ				S	**Sb**	**19 27 48.6**	**-1.0**
SNZO	**South Karori**	**0.51**	**28**	P	**Pb**	**19 27 43.9**	**+0.5**
WEL	**Wellington**	**0.56**	**31**	P	**Pb**	**19 27 44.6**	**+0.5**
TCW	**Tory Channel**	**0.56**	**351**	P	**Pb**	**19 27 43.8**	**-0.4**
PLWZ	**Palliser**	**0.68**	**74**	P	**Pb**	**19 27 47.8**	**+1.5**
MSWZ	**Moikau Station**	**0.73**	**62**	P	**Pn**	**19 27 48.7**	**+0.1**
CAW	**Cannon Point**	**0.83**	**38**	P	**Pb**	**19 27 49.5**	**+0.7**
PAWZ	**Paruwai Farm**	**0.87**	**64**	P	**Pb**	**19 27 50.4**	**+1.0**
KHZ	**Kahutara**	**0.91**	**224**	P	**Pb**	**19 27 51.2**	**+1.1**
KHZ	**Kahutara**	**0.91**	**224**	P	**Pb**	**19 27 51.0**	**+0.9**
NNZ	**Nelson**	**0.94**	**305**	P	**Pg**	**19 27 50.3**	**-0.3**
KIW	**Kapiti Island**	**0.98**	**24**	P	**Pb**	**19 27 51.7**	**+0.3**
DUWZ	**D'Urville Isla**	**1.02**	**340**	P	**Pg**	**19 27 52.0**	**-0.3**
MTW	**Mount Morrison**	**1.03**	**54**	P	**Pb**	**19 27 52.6**	**+0.3**
TRWZ	**Traveller**	**1.04**	**70**	P	**Pb**	**19 27 52.7**	**+0.3**
THZ	**Tophouse**	**1.11**	**270**	P	**Pb**	**19 27 53.6**	**-0.1**
OGWZ	**Otaki Gorge**	**1.11**	**32**	P	**Pb**	**19 27 54.1**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.21**	**45**	P	**Pn**	**19 27 55.0**	**-0.2**
MRNZ	**Matariki Terra**	**1.28**	**286**	P	**Pb**	**19 27 56.3**	**-0.1**
TKNZ	**Takaka Hill**	**1.30**	**304**	P	**Pn**	**19 27 56.5**	**+0.1**
TMWZ	**Te Maipa**	**1.31**	**60**	P	**Pn**	**19 27 56.1**	**-0.4**
MRZ	**Mangatainoka R**	**1.42**	**40**	P	**Pn**	**19 27 58.0**	**0.0**
TIWZ	**Tintock**	**1.50**	**49**	P	**Pn**	**19 27 58.6**	**-0.5**
GVZ	**Greta Valley S**	**1.57**	**219**	P	**Pn**	**19 28 00.2**	**+0.1**
QRZ	**Quartz Range**	**1.69**	**303**	P	**Pb**	**19 28 02.8**	**-0.6**
QRZ	**Quartz Range**	**1.69**	**303**	P	**Pb**	**19 28 02.7**	**-0.6**
PRWZ	**Pori Road**	**1.70**	**45**	P	**Pn**	**19 28 01.5**	**-0.4**
OHWZ	**Ohakea**	**1.71**	**25**	P	**Pb**	**19 28 03.4**	**-0.3**
POWZ	**Post Office Ro**	**1.72**	**38**	P	**Pn**	**19 28 02.0**	**-0.2**
BFZ	**Birch Farm**	**1.77**	**53**	P	**Pn**	**19 28 02.0**	**-0.8**
BFZ	**Birch Farm**	**1.77**	**53**	P	**Pn**	**19 28 01.8**	**-1.0**
LTZ	**Lake Taylor**	**1.87**	**236**	P	**Pn**	**19 28 04.1**	**-0.2**
AMCZ	**Amberley**	**1.91**	**222**	P	**Pg**	**19 28 10.4**	**+1.2**
DSZ	**Denniston Nort**	**1.93**	**270**	P	**Pn**	**19 28 05.7**	**+0.5**
DVHZ	**Dannevirke**	**1.99**	**43**	P	**Pn**	**19 28 04.9**	**-1.0**
WAZ	**Wanganui**	**2.06**	**13**	P	**Pb**	**19 28 08.9**	**-0.8**
TSZ	**Takapari Road**	**2.08**	**35**	P	**Pn**	**19 28 06.7**	**-0.4**
OKCZ	**Okains Bay**	**2.19**	**206**	P	**Pn**	**19 28 07.5**	**-1.2**
LREZ	**Lake Rotokare**	**2.30**	**0**	P	**Pb**	**19 28 14.4**	**+0.5**
WPHZ	**Waipukurau**	**2.30**	**43**	P	**Pn**	**19 28 09.3**	**-0.9**
PNHZ	**Pukenui**	**2.30**	**37**	P	**Pn**	**19 28 09.6**	**-0.6**
MQZ	**McQueen's Vall**	**2.32**	**213**	P	**Pn**	**19 28 08.9**	**-1.6**
OXZ	**Oxford**	**2.33**	**227**	P	**Pn**	**19 28 11.4**	**+0.7**
AKCZ	**Akaroa Harbour**	**2.37**	**207**	P	**Pn**	**19 28 10.0**	**-1.2**
NMEZ	**Namu Road**	**2.38**	**350**	P	**Pb**	**19 28 15.3**	**0.0**
INZ	**Inchbonnie**	**2.39**	**245**	P	**Pn**	**19 28 11.5**	**+0.1**
KHEZ	**Kahui Hut**	**2.48**	**353**	P	**Pb**	**19 28 15.0**	**-2.1**
KHEZ	**Kahui Hut**	**2.48**	**353**	P	**Pb**	**19 28 15.7**	**-1.2**
MTVZ	**Mangateitei**	**2.52**	**19**	P	**Pn**	**19 28 15.0**	**+1.8**
NBEZ	**Newall Road No**	**2.52**	**351**	P	**Pn**	**19 28 15.4**	**+2.1**
MOVZ	**Moawhango**	**2.57**	**24**	P	**Pn**	**19 28 14.1**	**+0.1**
**DRE

TNTI	**Ternate**	**4.38 186**			Pn	19 32 03.5	-3.7	
TNTI	**Ternate**	**4.38 186**	P		Pn	19 32 05.7	-1.5	
TNTI	**Ternate**	**4.38 186**	P		Pn	19 32 05.7	-1.5	
CGP	**Cagayan de Oro**	**4.54 316** ⇑	*i*	P	**Pn**	**19 32 10.5**	**+1.2**	
CGP			*i*	S	**Sn**	**19 33 00.3**	**-0.5**	
GLSP	**General Luna,**	**4.91 340** ⇑	*e*	P	**Pn**	**19 32 13.2**	**-1.1**	
GLSP			*e*	S	Sn	19 32 58.3	-12	
SCPH	**Surigao**	**5.16 333**	*e*	P	**Pn**	**19 32 19.6**	**+1.8**	
SCPH			*e*	S	**Sn**	**19 33 12.0**	**-4.0**	
PAGZ	**Pagadian**	**5.19 301** ⇑	*e*	P	**Pn**	**19 32 19.3**	**+1.2**	
DCPH	**Dipolog City**	**5.62 307** ⇑	*e*	P	**Pn**	**19 32 26.1**	**+2.0**	
GHBP	**Garcia Hernand**	**5.66 322** ⇓	*i*	P	**Pn**	**19 32 25.3**	**+0.7**	
GHBP			*i*	S	**Sn**	**19 33 28.0**	**-0.3**	
LSIP	**Lazi, Siquijor**	**5.76 313** ⇓	*i*	P	**Pn**	**19 32 26.8**	**+0.8**	
LSIP			*i*	S	**Sn**	**19 33 30.4**	**-0.3**	
LBMI	**Labuha**	**5.77 184**	P		Pn	19 32 25.1	-1.0	
	0.7nm1µm79nm,0.7s							
MSLP	**Maasin**	**5.77 329** ⇑	*e*	P	**Pn**	**19 32 25.8**	**-0.3**	
MSLP			*e*	S	**Sn**	**19 33 31.2**	**+0.3**	
TBP	**Tagbilaran**	**6.00 319**	*e*	P	**Pn**	**19 32 29.4**	**+0.2**	
TBP			*i*	S	**Sn**	**19 33 35.0**	**-1.6**	
TABP	**Talibon, Bohol**	**6.02 325** ⇓	*i*	P	**Pn**	**19 32 29.4**	**-0.1**	
TABP			*i*	S	**Sn**	**19 33 33.3**	**-3.8**	
LLP	**Lapu-Lapu**	**6.41 323** ⇓	*e*	P	**Pn**	**19 32 35.5**	**+0.5**	
LLP			*e*	S	**Sn**	**19 33 44.5**	**-2.3**	
GTOI	**Gorontalo**	**6.60 227**	P		Pn	19 32 35.7	-1.8	
	0.1nm598nm45nm,0.8s							
GTOI			S		Sn	19 33 44.6	-6.8	
	0.1nm598nm45nm,0.8s							
SIJI	**Sorong**	**6.89 150**	P		Pn	19 32 37.8	-3.6	
	24nm,0.5s,baz=320,slow=12,SNR=27							
SIJI			S		Sn	19 33 48.9	-9.5	
	11nm,0.3s,baz=0.9,slow=23,SNR=2.4							
SIJI	**Sorong**	**6.89 150**	P		Pn	19 32 38.2	-3.2	
	0.2nm2µm35nm,0.6s							
SIJI			S		Sn	19 33 48.8	-10	
	0.2nm2µm35nm,0.6s							
CNOP	**Candoni, Negro**	**6.95 312** ⇑	*e*	P	**Pn**	**19 32 44.0**	**+1.7**	
SANI	**Sanana**	**7.40 195**	P		Pn	19 32 44.3	-4.1	
	0.3nm908nm17nm,0.8s							
SANI			S		Sn	19 33 59.4	-12	
	0.3nm908nm17nm,0.8s							
SANI	**Sanana**	**7.40 195**	P		Pn	19 32 44.0	-4.4	
MRSI	**Marisa**	**7.52 232**	P		Pn	19 32 48.9	-1.1	
	1.2nm4µm258nm,0.5s							
MRSI			S		Sn	19 34 07.3	-6.6	
	1.2nm4µm258nm,0.5s							
CNP	**Catarman**	**7.96 337** ⇑	*e*	P	**Pn**	**19 32 52.4**	**-3.6**	
CNP			*e*	S	**Sn**	**19 34 17.6**	**-6.9**	
LUWI	**Luwuk**	**7.98 220**	Pn		Pn	19 32 54.9	-1.5	
LUWI	**Luwuk**	**7.98 220**	P		**Pn**	**19 32 57.5**	**+1.1**	
	0.6nm1µm117nm,0.7s							
LUWI	**Luwuk**	**7.98 220**	P		**Pn**	**19 32 56.9**	**+0.5**	
JAP	**San Jose, Anti**	**8.07 314** ⇓	*e*	P	**Pn**	**19 32 59.8**	**+2.2**	
RCP	**Roxas**	**8.13 322** ⇓	*e*	P	**Pn**	**19 33 00.1**	**+1.8**	
TOLI2	**Tolitoli**	**8.13 241**	Pn		Pn	19 32 54.4	-3.9	
TOLI2	**Tolitoli**	**8.13 241**	P		Pn	19 32 55.5	-2.9	
APSI	**Ampana**	**8.65 226**	P		**Pn**	**19 33 08.7**	**+3.2**	
FAKI	**Fak Fak**	**9.14 151**			Pn	19 33 07.7	-4.6	
FAKI	**Fak Fak**	**9.14 151**	P		Pn	19 33 08.4	-3.9	
MPSI	**Mapaga**	**9.28 239**	P		**Pn**	**19 33 16.9**	**+2.8**	
MYLDM	**Lahad Datu**	**9.32 271**	Pn		**Pn**	**19 33 13.5**	**-1.1**	
MYLDM	**Lahad Datu**	**9.32 271**	P		**Pn**	**19 33 15.8**	**+1.1**	
LQP	**Lukban**	**10.86 325** ⇓	*e*	P	Pn	19 33 28.1	-7.8	
SRPI	**Serui, Papua**	**10.90 130**	P		**Pn**	**19 33 39.1**	**+2.8**	
KKM	**Kota Kinabalu**	**11.62 275**	Pn		**Pn**	**19 33 43.4**	**-2.8**	
KKM	**Kota Kinabalu**	**11.62 275**	P		**Pn**	**19 33 48.6**	**+2.4**	
BKB	**Balikpapan**	**12.67 240**	Pn		Pn	19 33 58.6	-1.8	
KAPI	**Kappang**	**12.95 219**	P		Pn	19 34 01.4	-2.7	
	2.5nm,0.5s,baz=46,slow=21,SNR=1.4							
KAPI			LR		LR	19 39 20.0		
	comp=Z,95nm,19.3s,baz=29,slow=39							
SMPI	**Sarmi**	**12.96 123**	P		**Pn**	**19 34 05.6**	**+1.3**	
PACPP	**Pamplona Cagay**	**14.67 335** ⇓	*e*	P	**P**	**19 34 32.6**	**+1.4**	
SOEI	**Soe**	**15.24 194**	Pn		Pn	19 34 31.0	-3.3	
SOEI	**Soe**	**15.24 194**	P		P	19 34 47.0	+9.3	
	26nm,0.8s							
SOEI	**Soe**	**15.24 194**	P		Pn	19 34 32.3	-2.0	
BATI	**Baumata**	**15.82 195**	P		**Pn**	**19 34 41.1**	**-0.5**	
	16nm,0.6s,baz=45,slow=2.5,SNR=8.3							
BATI			LR		LR	19 41 30.1		
	comp=Z,96nm,18.7s,baz=60,slow=40							
SBUM	**Sibu**	**15.83 261**			**Pn**	**19 34 41.5**	**-0.2**	
PLAI	**Plampang**	**17.15 216**	P		**Pn**	**19 34 58.7**	**+0.6**	
KSM	**Kuching**	**17.90 259**			**P**	**19 35 06.1**	**-0.9**	
KSM			IAmb		IAmb	19 35 07.9		
	comp=Z,45nm,0.7s							
KSM	**Kuching**	**17.90 259**	P		**P**	**19 35 07.1**	**+0.1**	
MTN	**Manton Dam**	**18.18 170**	P		P	19 35 06.3	-3.8	
GUMO	**Guam**	**18.74 62**	P		**Pn**	**19 35 17.5**	**0.0**	
	comp=Z,82nm,0.8s,baz=175,slow=22,SNR=2.2							
GUMO			LR		LR	19 41 10.3		
	comp=Z,89nm,18.7s,baz=120,slow=32							
YULB	**Yu-li**	**19.20 341**	P		**Pn**	**19 35 21.6**	**-1.2**	
YULB	**Yu-li**	**19.20 341**	P		**Pn**	**19 35 23.3**	**+0.4**	
JAGI	**Jajag, Banyuwa**	**19.24 225**	P		**P**	**19 35 19.6**	**-2.1**	
JAGI			IAmb		IAmb	19 35 28.9		
	comp=Z,63nm,1.4s							
JAGI	**Jajag, Banyuwa**	**19.24 225**	P		**P**	**19 35 23.4**	**+1.7**	
TPUB	**Ta-pu**	**19.34 340**	P		**P**	**19 35 21.0**	**-1.8**	
TPUB			IAmb		IAmb	19 35 28.0		
	comp=Z,27nm,0.9s							
SSLB	**Suanglung**	**19.68 341**	P		**P**	**19 35 25.3**	**-1.2**	
SSLB			IAmb		IAmb	19 35 42.4		
	comp=Z,39nm,1.5s							
SSLB	**Suanglung**	**19.68 341**	P		**Pn**	**19 35 29.6**	**+1.1**	
YOJ	**Yonaguni jima**	**19.75 347**	P		**Pn**	**19 35 30.8**	**+1.5**	
YHNB	**Yeheng**	**20.38 343**	P		Pn	19 35 38.6	+1.9	
KNRA	**Kununurra**	**20.72 178**	P		P	19 35 35.0	-2.8	
KNRA			IAmb		IAmb	19 35 37.0		
	comp=Z,29nm,0.7s							
JOW	**Kunigami**	**21.56 1**	P		**P**	**19 35 48.6**	**+1.9**	
	comp=Z,5.0nm,0.4s,baz=272,slow=26,SNR=4.5							
	comp=Z,5.0nm,0.4s							
QIZ	**Qiongzhong**	**22.33 310**	P		**P**	**19 35 53.6**	**-1.5**	
QIZ			IAmb		IAmb	19 35 56.5		
	comp=Z,23nm,0.8s							
QIZ	**Qiongzhong**	**22.33 310**	P		**P**	**19 35 53.6**	**-1.5**	
QIZ			S		**S**	**19 39 56.0**	**-0.2**	
QIZ			sS		**sS**	**19 40 18.1**	**-0.2**	
QIZ			pmax		pmax			
	comp=Z,30nm,1.2s							
QIZ			LR		LR			
	comp=Z,160nm,18.3s							
QIZ			LR		LR			
	comp=Z,130nm,19.1s							
QIZ			LR		LR			
	comp=Z,190nm,19.5s							
LEM	**Lembang**	**23.45 240**	P		**P**	**19 36 06.7**	**+0.1**	
	comp=Z,29nm,0.7s,baz=103,slow=21,SNR=7.1							
	comp=Z,29nm,0.7s							
UBPT	**Khong Chiam**	**24.19 296**	P		**P**	**19 36 11.6**	**-1.5**	
MYKOM	**Kota Tinggi**	**24.19 263**	P		**P**	**19 36 11.6**	**-1.5**	
MYKOM			IAmb		IAmb	19 36 13.8		
	comp=Z,18nm,0.7s							
COEN	**Coen**	**24.32 141**	P		**P**	**19 36 11.3**	**-2.9**	
COEN	**Coen**	**24.32 141**	P		**P**	**19 36 13.2**	**-1.0**	
WB0	**Warramunga Arr**	**25.59 166**	P		P	19 36 22.4	-3.2	
WB0			IAmb		IAmb	19 36 27.0		
	comp=Z,14nm,0.4s							
WRAB	**Tennant Creek**	**25.74 166**	P		**P**	**19 36 24.8**	**-2.2**	
	comp=Z,12nm,1.2s							
JCJ	**Chichijima**	**25.74 31**	P		**P**	**19 36 27.1**	**+0.1**	
	comp=Z,28nm,0.6s,baz=291,slow=16,SNR=2.0							
JCJ			LR		LR	19 45 04.5		
	comp=Z,37nm,21.3s,baz=196,slow=33							
	comp=Z,28nm,0.6s							
JCJ	**Chichijima**	**25.74 31**	P		**P**	**19 36 26.9**	**-0.1**	
WRA	**Warramunga Arr**	**25.75 166**	P		**P**	**19 36 24.6**	**-2.5**	
	comp=Z,5.1nm,0.6s,baz=345,slow=10.0,SNR=112							
WRA			PcP		**PcP**	**19 39 55.1**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=339,slow=2.4,SNR=4.1							
WRA			ScP		**ScP**	**19 43 28.4**	**-0.6**	
	comp=Z,0.5nm,0.7s,baz=337,slow=2.9,SNR=6.2							
	comp=Z,5.1nm,0.6s							
WRA	**Warramunga Arr**	**25.75 166**	P		P	19 36 23.4	-3.7	
WR0	**Warramunga Arr**	**25.81 165**	P		P	19 36 24.4	-3.3	
KULM	**Kulim**	**27.10 272**	P		**P**	**19 36 37.6**	**-1.8**	
KULM			IAmb		IAmb	19 36 39.0		
	comp=Z,14nm,0.7s							
MBWA	**Marble Bar**	**27.34 197**	P		P	19 36 38.6	-2.9	
PSA00	**Pilbara Seismi**	**27.70 196**	P		P	19 36 41.3	-3.3	
PSA00			IAmb		IAmb	19 36 59.8		
	comp=Z,22nm,1.3s							
QIS	**Mount Isa**	**28.04 156**	P		P	19 36 45.6	-2.1	
	comp=Z,25nm,0.9s							
QIS	**Mount Isa**	**28.04 156**	P		P	19 36 45.8	-1.9	
NJ2	**Nanjing**	**28.05 344**	*e*	P	P	19 36 54.9	+7.2	
NJ2			pmax		pmax			
	comp=Z,7.0nm,0.5s							
MTSU	**Mount Surprise**	**28.27 145**	P		**P**	**19 36 50.1**	**+0.3**	
	comp=Z,4.8nm,1.5s							
AS31	**Alice Springs**	**29.25 169**	P		P	19 36 56.1	-2.3	
ASAR	**Alice Springs**	**29.25 169**	P		P	19 36 56.1	-2.3	
	comp=Z,6.2nm,0.5s,baz=354,slow=7.9,SNR=258							
ASAR			PcP		**PcP**	**19 40 03.4**	**-0.7**	
	comp=Z,3.2nm,0.4s,baz=347,slow=2.4,SNR=23							
ASAR			ScP		**ScP**	**19 43 39.1**	**-0.5**	
	comp=Z,1.1nm,0.8s,baz=352,slow=3.2,SNR=8.1							
ASAR			LR		LR	19 51 03.1		
	comp=Z,99nm,19.0s,baz=320,slow=41							
	comp=Z,6.2nm,0.5s							
ASAR	**Alice Springs**	**29.25 169**	P		P	19 36 56.3	-2.1	
AS01	**Alice Springs**	**29.26 169**	P		P	19 36 56.4	-2.1	
	comp=Z,13nm,0.6s							
JHJ	**Hachijo jima 2**	**29.96 20**	LR		LR	19 47 52.3		
	comp=Z,44nm,19.8s,baz=142,slow=34							
WRKA	**Warakurna**	**30.02 179**	P		P	19 37 03.3	-1.9	
	comp=Z,9.0nm,0.6s							
PHRA	**Phrae**	**30.05 299**	P		**P**	**19 37 05.5**	**-0.2**	
ENH	**Enshi**	**30.40 327**	P		**P**	**19 37 08.2**	**-0.3**	
ENH			IAmb		IAmb	19 37 11.8		
	comp=Z,12nm,0.7s							
GSI	**Gunungsitoli**	**30.47 264**	P		P	19 37 06.8	-2.6	
LHMI	**Lhok Sumawe**	**30.78 272**	P		**P**	**19 37 11.3**	**-0.9**	
CTA	**Charters Tower**	**30.93 145**	P		**P**	**19 37 12.5**	**-0.8**	
	comp=Z,3.6nm,0.7s,baz=262,slow=17,SNR=1.9							
CTA			LR		LR	19 50 38.2		
	comp=Z,107nm,18.8s,baz=278,slow=38							
	comp=Z,3.6nm,0.7s							
CTAO	**Charters Tower**	**30.93 145**	P		P	19 37 12.3	-1.0	
CTAO			IAmb		IAmb	19 37 15.2		
	comp=Z,25nm,1.4s							
CTAO	**Charters Tower**	**30.93 145**	P		**P**	**19 37 13.8**	**+0.5**	
	comp=Z,13nm,1.9s							
CM31	**Chiang Mai Arr**	**31.17 298**	P		**P**	**19 37 15.3**	**-0.2**	
CM31			IAmb		IAmb	19 37 16.7		
	comp=Z,12nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.17 298**	P		**P**	**19 37 15.7**	**+0.2**	
	comp=Z,9.1nm,0.6s,baz=104,slow=7.1,SNR=116							
CMAR			ScP		**ScP**	**19 43 45.9**	**-0.1**	
	comp=Z,1.5nm,1.0s,baz=141,slow=1.6,SNR=9.2							
CMAR			LR		LR	19 51 01.4		
	comp=Z,19nm,19.3s,baz=115,slow=38							
	comp=Z,9.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.17 298**	P		**P**	**19 37 15.4**	**-0.1**	
KMI	**Kunming**	**31.22 312** ⇓	P		**P**	**19 37 17.3**	**+1.2**	
KMI			pP		pP	19 37 31.8	+0.9	
KMI			sP		pwP	19 37 36.8	-4.1	
KMI			pmax		pmax			
	comp=Z,14nm,1.1s							
CHTO	**Chiang Mai**	**31.30 298**	P		**P**	**19 37 16.4**	**-0.2**	
KSRS	**Korea Array**	**32.15 0**	P		**P**	**19 37 24.6**	**+0.9**	
	comp=Z,0.8nm,0.6s,baz=179,slow=9.2,SNR=5.0							
	comp=Z,0.8nm,0.6s							
MJAR	**Matsushiro Arr**	**32.65 16**	P		**P**	**19 37 29.1**	**+0.8**	
	comp=Z,0.8nm,0.7s,baz=173,slow=7.9,SNR=2.4							
MJAR			PcP		**PcP**	**19 40 13.0**	**+0.1**	
	comp=Z,0.8nm,0.6s,baz=209,slow=3.5,SNR=2.9							
MJAR			LR		LR	19 49 06.2		
	comp=Z,70nm,21.9s,baz=204,slow=33							
	comp=Z,0.8nm,0.7s							
PZH	**PanZhiHua**	**32.75 313**	P		**P**	**19 37 29.9**	**+0.5**	
PZH			pmax		pmax			
	comp=Z,10.0nm,0.8s							
PZH			pmax		pmax			
	comp=Z,100nm,4.3s							
OOD	**Oodnadatta**	**33.62 167**	P		P	19 37 34.7	-2.0	
	comp=Z,12nm,1.0s							
XAN	**Xi'an**	**33.69 331** ⇑	P		**P**	**19 37 37.8**	**+0.4**	
XAN			pP		pP	19 37 48.8	-3.2	
XAN			pmax		pmax			
	comp=Z,33nm,0.7s							
XAN			LR		LR			
	comp=Z,150nm,13.7s							
XAN			LR		LR			
	comp=Z,160nm,16.5s							
HNS	**HongShan**	**34.27 341** ⇑	P		**P**	**19 37 43.0**	**+0.7**	
HNS			pmax		pmax			
	comp=Z,10.0nm,0.9s							
INKA	**Innaminka**	**34.99 160**	P		P	19 37 46.4	-2.2	
	comp=Z,16nm,0.8s							
HNR	**Honiara**	**35.11 114**	LR		LR	19 50 20.8		
	comp=Z,727nm,20.8s,baz=213,slow=33							
QLP	**Quilpie**	**35.31 154**	P		P	19 37 49.0	-2.4	
	comp=Z,24nm,1.1s							
FORT	**Forrest**	**35.73 180**	P		P	19 37 52.5	-2.4	
FORT			IAmb		IAmb	19 38 16.1		
	comp=Z,18nm,0.9s							
MULG	**Mulgathing**	**35.74 171**	P		P	19 37 53.0	-2.0	
	comp=Z,9.0nm,1.5s							
MORW	**Morawa**	**35.88 198**	P		P	19 37 54.2	-2.0	
MORW			IAmb		IAmb	19 38 26.6		
	comp=Z,29nm,1.4s							
BJI	**Beijing**	**36.29 345**	P		**P**	**19 38 02.8**	**+3.2**	
BJI			pmax		pmax			
	comp=Z,8.0nm,0.8s							
LCRK	**Leigh Creek**	**36.77 165**	P		P	19 38 02.2	-1.6	
	comp=Z,49nm,0.8s							
EIDS	**Eidsvold**	**37.81 144**	P		P	19 38 11.0	-1.7	
EIDS			IAmb		IAmb	19 38 52.0		
	comp=Z,16nm,1.2s							
LZH	**Lanzhou**	**37.88 328**	*e*	P	**P**	**19 38 16.9**	**+3.5**	
LZH			pP		pwP	19 38 33.8	-5.5	
LZH			sP		sP	19 38 40.6	+5.1	
LZH			pmax		pmax			
	comp=Z,23nm,1.0s							
HHC	**Hu-ho-hao-te**	**38.43 340**	*e*	P	**P**	**19 38 21.5**	**+3.7**	
HHC			pmax		pmax			
	comp=Z,20nm,0.8s							
HHC			pmax		pmax			
	comp=Z,170nm,5.6s							
BBOO	**Buckleboo**	**38.55 169**	P		P	19 38 16.8	-2.1	
BBOO			IAmb		IAmb	19 38 17.9		
	comp=Z,10nm,0.8s							
BBOO	**Buckleboo**	**38.55 169**	P		P	19 38 16.8	-2.0	
	comp=Z,19nm,1.6s							
USRK	**Ussuriysk Ar.**	**39.05 5**	P		**P**	**19 38 24.4**	**+1.5**	
	comp=Z,1.2nm,0.4s,baz=170,slow=7.4,SNR=7.2							
	comp=Z,1.2nm,0.4s							
BRDH	**Bariadhala**	**39.07 300**	P		**P**	**19 38 24.7**	**+1.4**	
	comp=Z,98nm,0.4s,baz=148,slow=22,SNR=5.0							
STKA	**Stephens Creek**	**39.09 161**	P		P	19 38 21.6	-1.7	
	comp=Z,22nm,0.8s,baz=337,slow=8.7,SNR=54							
STKA			LR		LR	19 55 35.0		
	comp=Z,56nm,20.6s,baz=26,slow=38							
	comp=Z,22nm,0.8s							
STKA	**Stephens Creek**	**39.09 161**	P		P	19 38 21.6	-1.7	
NWAO	**Narrogin (SRO)**	**39.20 194**	P		P	19 38 22.3	-1.9	
NWAO			IAmb		IAmb	19 38 23.5		
	comp=Z,20nm,1.0s							
HTT	**Hallett**	**39.78 165**	P		P	19 38 27.2	-2.0	
	comp=Z,7.1nm,2.2s							
SHL	**Shillong**	**39.97 304**	P		**P**	**19 38 30.7**	**-0.4**	
ASAJ	**Asahikawa**	**40.91 16**	LR		LR	19 54 50.1		
	comp=Z,32nm,19.6s,baz=74,slow=35							
ARMA	**Armidale**	**42.06 149**	P		P	19 38 46.9	-1.1	
LSA	**Lhasa**	**42.38 309**	P		**P**	**19 38 51.5**	**+0.4**	
LSA	**Lhasa**	**42.38 309**	P		**P**	**19 38 52.1**	**+1.0**	
LSA			pmax		pmax			
	comp=Z,8.0nm,0.6s							
GTA	**Gaotai**	**42.48 327** ⇓	P		**P**	**19 38 52.3**	**+0.9**	
GTA			pmax		pmax			
	comp=Z,3.0nm,0.6s							
TAPN	**Taplejung**	**44.11 305**	*e*	P	**P**	**19 39 05.2**	**+0.3**	
	comp=Z,45nm,0.5s							
RAMN	**Ramite**	**44.88 303**	*e*	P	**P**	**19 39 11.2**	**+0.2**	
	comp=Z,81nm,0.7s							
CAN	**Canberra**	**44.91 155**	P		P	19 39 09.8	-0.9	
CAN			IAmb		IAmb	19 39 11.3		
	comp=Z,13nm,1.0s							
JIRN	**Jiri**	**45.48 304**	*e*	P	**P**	**19 39 16.1**	**+0.2**	
	comp=Z,97nm,0.6s							
TOO	**Toolangi**	**45.57 160**	P		P	19 39 14.5	-1.5	
TOO			IAmb		IAmb	19 39 49.3		
	comp=Z,16nm,1.4s							
GUN	**Gumba**	**45.83 304**	*e*	P	**P**	**19 39 18.8**	**+0.2**	
	comp=Z,94nm,0.6s							
PKI	**Pulchoki**	**46.09 304**	*e*	P	**P**	**19 39 20.3**	**-0.3**	
	comp=Z,30nm,0.7s							
PKIN	**Phulchoki**	**46.10 304**	*e*	P	**P**	**19 39 20.3**	**-0.4**	
	comp=Z,28nm,0.7s							
ULN	**Ulaanbaatar**	**46.14 341**	P		**P**	**19 39 20.8**	**+0.3**	
SONM	**Songino Array**	**46.33 340**	P		**P**	**19 39 22.6**	**+0.7**	
	comp=Z,1.2nm,0.7s,baz=153,slow=9.8,SNR=7.3							
SONM			PcP		**PcP**	**19 40 55.2**	**-0.9**	
	comp=Z,0.5nm,0.8s,baz=166,slow=2.8,SNR=1.3							
	comp=Z,1.2nm,0.7s							
SONM	**Songino Array**	**46.33 340**	P		**P**	**19 39 22.1**	**+0.1**	
DMN	**Daman**	**46.36 304**	*e*	P	**P**	**19 39 22.4**	**-0.2**	
	comp=Z,44nm,0.8s							
DZM	**Mont Dzumac**	**46.46 127**	P		**P**	**19 39 22.3**	**-1.0**	
	comp=Z,11nm,0.6s,baz=262,slow=10,SNR=11							
	comp=Z,11nm,0.6s							
DZM	**Mont Dzumac**	**46.46 127**	P		**P**	**19 39 22.1**	**-1.2**	
GKN	**Gorkha**	**46.88 304**	*e*	P	**P**	**19 39 26.3**	**-0.3**	
	comp=Z,30nm,0.7s							
DANN	**Dangsing**	**47.73 304**	*e*	P	**P**	**19 39 33.4**	**0.0**	
	comp=Z,149nm,0.6s							
WMQ	**Urumqi**	**52.23 324**	*e*	P	**P**	**19 40 08.4**	**+1.5**	
WMQ			pmax		pmax			
	comp=Z,13nm,1.3s							
PEA0B	**Petropavlovsk-**	**53.69 22**	P		**P**	**19 40 18.4**	**+0.9**	
PETK	**Petropavlovsk-**	**53.69 22**	P		**P**	**19 40 18.3**	**+0.9**	
	comp=Z,4.6nm,0.8s,baz=181,slow=4.2,SNR=10							
	comp=Z,4.6nm,0.8s							
PETK	**Petropavlovsk-**	**53.69 22**	P		**P**	**19 40 18.9**	**+1.4**	
MK31	**Makanchi Array**	**57.05 324**	P		**P**	**19 40 42.8**	**+1.1**	
MK31			IAmb		IAmb	19 40 58.3		
	comp=Z,20nm,1.4s							
MKAR	**Makanchi Array**	**57.05 324**	P		**P**	**19 40 42.7**	**+1.0**	
	comp=Z,3.9nm,0.4s,baz=117,slow=7.1,SNR=76							
MKAR			LR		LR	20 06 25.9		
	comp=Z,28nm,20.4s,baz=117,slow=37							
	comp=Z,3.9nm,0.4s							
MKAR	**Makanchi Array**	**57.05 324**	P		**P**	**19 40 42.3**	**+0.6**	
MAKZ	**Makanchi**	**57.24 324**	P		**P**	**19 40 43.8**	**+0.7**	
KSH	**Kashi**	**57.85 314**	P		**P**	**19 40 49.3**	**+1.7**	
KSH			pmax		pmax			
	comp=Z,5.0nm,0.5s							
NIL	**Nilore**	**57.96 307**	P		**P**	**19 40 48.1**	**-0.3**	
NIL			IAmb		IAmb	19 40 49.9		
	comp=Z,13nm,0.8s							
BOOM	**Boomskoye usch**	**59.04 317**	P		**P**	**19 40 56.1**	**+0.2**	
ZAA0	**Zalesovo Array**	**59.85 332**	P		**P**	**19 41 00.7**	**-0.3**	
ZALV	**Zalesovo Beam**	**59.85 332**	P		**P**	**19 41 00.8**	**-0.2**	
	comp=Z,2.5nm,0.4s,baz=123,slow=7.0,SNR=12							
	comp=Z,2.5nm,0.4s							
ZALV	**Zalesovo Beam**	**59.85 332**	P		**P**	**19 41 00.4**	**-0.5**	
AAK	**Ala-Archa**	**60.08 317**	P		**P**	**19 41 03.8**	**+0.8**	
	comp=Z,2.0nm,0.4s,baz=178,slow=13,SNR=4.5							
	comp=Z,2.0nm,0.4s							
AAK	**Ala-Archa**	**60.08 317**	P		**P**	**19 41 03.2**	**+0.2**	
AAK			IAmb		IAmb	19 41 16.2		
	comp=Z,3.9nm,0.9s							
DRK	**Karamyk**	**60.86 313**	P		**P**	**19 41 08.1**	**-0.5**	
DRK			IAmb		IAmb	19 41 10.7		
	comp=Z,8.8nm,0.6s							
KURK	**Kurchatov**	**61.16 327**	P		**P**	**19 41 10.3**	**+0.3**	
KURBB	**Kurchatov Arra**	**61.16 327**	P		**P**	**19 41 10.5**	**+0.4**	
	comp=Z,5.0nm,0.5s,baz=128,slow=6.7,SNR=44							
	comp=Z,5.0nm,0.5s							
KBL	**Kabul**	**61.57 307**	P		**P**	**19 41 12.0**	**-1.4**	
KBL			IAmb		IAmb	19 41 23.6		
	comp=Z,6.9nm,0.9s							
BTK	**Batken**	**61.76 313**	P		**P**	**19 41 14.3**	**-0.1**	
BTK			IAmb		IAmb	19 41 16.0		
	comp=Z,4.7nm,0.7s							
GAR	**Garm**	**61.80 312**	P		**P**	**19 41 14.3**	**-0.4**	
WKZ	**Wanaka**	**61.91 148**	P		P	19 41 12.5	-2.6	
LBZ	**Lake Benmore**	**62.24 147**	P		P	19 41 15.9	-1.4	
CHGR	**Chuyangaron**	**62.57 311**	P		**P**	**19 41 19.9**	**0.0**

RIGZ	**Rimuhau**	**0.63**	**240**	P		Pb	19 46 08.4	0.0
MWZ	**Matawai**	**0.74**	**274**	P		Pb	19 46 10.1	0.0
RUGZ	**Raukumara Rang**	**0.75**	**304**	P		Pb	19 46 10.4	0.0
HAZ	**Te Kaha**	**0.83**	**320**	P		Pb	19 46 11.9	+0.2
MXZ	**Matakaoa Point**	**0.84**	**352**	P		Pb	19 46 11.6	-0.3
URZ	**Urewera**	**1.07**	**277**	P		Pb	19 46 16.6	+0.8

NOU ***19*** *19:47:00.9, 41°.82S × 174°.43E, h9km, MLv4.1/12, Cook Strait, New Zealand*
WEL ***19*** *19:47:01.2±0.3, 42°.S±2°.× 17°.4E±°, h9km±2km, M3.8/65, ML3.9/21, MLv3.8/65, Error ellipse: s-maj=0.0km s-min=0.0km az=137.7*

ISC 19 19:47:00.9±1.0**, 41°.77S**±0°.03×**174°.28E**±0°.03**, h20**km±4km**, n109**, σ1°.35**/115, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**289**	P	**Pg**	**19 47 04.5**	**0.0**
CMWZ	**Cape Campbell**	**0.05**	**289**	P	**Pg**	**19 47 04.2**	**-0.3**
CMWZ				S	**Sg**	**19 47 07.2**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.31**	**279**	P	**Pg**	**19 47 07.2**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.31**	**279**	P	**Pg**	**19 47 07.2**	**-0.5**
BSWZ				S	**Sg**	**19 47 11.9**	**-0.5**
TUWZ	**Tuamarina**	**0.42**	**323**	P	**Pg**	**19 47 08.2**	**-1.4**
TUWZ	**Tuamarina**	**0.42**	**323**	P	**Pg**	**19 47 08.3**	**-1.4**
TCW	**Tory Channel**	**0.56**	**360**	P	**Pb**	**19 47 10.5**	**-1.5**
TCW				S	**Sb**	**19 47 17.1**	**-2.3**
SNZO	**South Karori**	**0.56**	**35**	P	**Pb**	**19 47 11.5**	**-0.5**
WEL	**Wellington**	**0.60**	**38**	P	**Pb**	**19 47 12.5**	**-0.3**
WEL				S	**Sb**	**19 47 20.6**	**-0.2**
PLWZ	**Palliser**	**0.76**	**75**	P	**Pn**	**19 47 49.9**	**+0.4**
PLWZ				S	**Sn**	**19 47 29.1**	**+1.7**
MSWZ	**Moikau Station**	**0.81**	**65**	P	**Pg**	**19 47 17.3**	**+0.5**
KHZ	**Kahutara**	**0.85**	**220**	P	**Pn**	**19 47 19.2**	**+1.4**
KHZ	**Kahutara**	**0.85**	**220**	P	**Pn**	**19 47 18.7**	**+0.9**
KHZ	**Kahutara**	**0.85**	**220**	P	**Pn**	**19 47 19.1**	**+1.4**
NNZ	**Nelson**	**0.87**	**309**	P	**Pb**	**19 47 16.3**	**-1.1**
CAW	**Cannon Point**	**0.89**	**42**	P	**Pb**	**19 47 17.3**	**-0.3**
PAWZ	**Paruwai Farm**	**0.94**	**66**	P	**Pn**	**19 47 19.3**	**+0.2**
DUWZ	**D'Urville Isla**	**1.00**	**344**	P	**Pb**	**19 47 18.3**	**-1.3**
KIW	**Kapiti Island**	**1.02**	**28**	P	**Pb**	**19 47 19.2**	**-0.7**
THZ	**Tophouse**	**1.03**	**270**	P	**Pb**	**19 47 20.4**	**+0.3**
THZ	**Tophouse**	**1.03**	**270**	P	**Pb**	**19 47 20.4**	**+0.3**
MTW	**Mount Morrison**	**1.10**	**57**	P	**Pn**	**19 47 21.3**	**+0.1**
TRWZ	**Traveller**	**1.12**	**71**	P	**Pn**	**19 47 21.6**	**+0.1**
OGWZ	**Otaki Gorge**	**1.16**	**36**	P	**Pn**	**19 47 21.8**	**-0.3**
MRNZ	**Matariki Terra**	**1.20**	**287**	P	**Pn**	**19 47 23.0**	**+0.4**
TKNZ	**Takaka Hill**	**1.23**	**306**	P	**Pn**	**19 47 22.9**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.27**	**47**	P	**Pn**	**19 47 23.6**	**0.0**
TMWZ	**Te Maipa**	**1.38**	**62**	P	**Pn**	**19 47 25.0**	**-0.1**
MRZ	**Mangatainoka R**	**1.48**	**42**	P	**Pn**	**19 47 26.6**	**+0.2**
GVZ	**Greta Valley S**	**1.51**	**217**	P	**Pb**	**19 47 28.1**	**-0.3**
GVZ	**Greta Valley S**	**1.51**	**217**	P	**Pb**	**19 47 28.1**	**-0.3**
TIWZ	**Tintock**	**1.56**	**51**	P	**Pn**	**19 47 27.6**	**-0.1**
QRZ	**Quartz Range**	**1.62**	**305**	P	**Pn**	**19 47 29.5**	**+1.1**
QRZ	**Quartz Range**	**1.62**	**305**	P	**Pn**	**19 47 29.3**	**+1.0**
CPWZ	**Castlepoint**	**1.68**	**60**	P	**Pg**	**19 47 33.9**	**+0.6**
OHWZ	**Ohakea**	**1.75**	**27**	P	**Pb**	**19 47 32.0**	**-0.3**
PRWZ	**Pori Road**	**1.76**	**47**	P	**Pn**	**19 47 30.2**	**-0.1**
POWZ	**Post Office Ro**	**1.77**	**40**	P	**Pn**	**19 47 30.8**	**+0.2**
LTZ	**Lake Taylor**	**1.80**	**235**	P	**Pn**	**19 47 31.9**	**+0.9**
BFZ	**Birch Farm**	**1.84**	**55**	P	**Pn**	**19 47 30.7**	**-0.7**
BFZ	**Birch Farm**	**1.84**	**55**	P	**Pn**	**19 47 30.6**	**-0.8**
DSZ	**Denniston Nort**	**1.85**	**270**	P	**Pb**	**19 47 33.5**	**-0.7**
AMCZ	**Amberley**	**1.85**	**220**	P	**Pn**	**19 47 32.2**	**+0.6**
DVHZ	**Dannevirke**	**2.05**	**45**	P	**Pn**	**19 47 33.5**	**-0.7**
WWZ	**Wanganui**	**2.08**	**15**	P	**Pn**	**19 47 37.6**	**-0.4**
TSZ	**Takapari Road**	**2.13**	**37**	P	**Pn**	**19 47 35.4**	**0.0**
OXZ	**Oxford**	**2.27**	**226**	P	**Pn**	**19 47 36.7**	**-0.7**
LREZ	**Lake Rotokare**	**2.31**	**2**	P	**Pb**	**19 47 40.9**	**-0.9**
PNHZ	**Pukenui**	**2.35**	**39**	P	**Pn**	**19 47 37.9**	**-0.6**
WPHZ	**Waipukurau**	**2.36**	**45**	P	**Pn**	**19 47 39.1**	**+0.5**
NMEZ	**Namu Road**	**2.37**	**352**	P	**Pb**	**19 47 43.3**	**+0.4**
KHEZ	**Kahui Hut**	**2.48**	**355**	P	**Pb**	**19 47 44.1**	**-0.7**
KHEZ	**Kahui Hut**	**2.48**	**355**	P	**Pb**	**19 47 43.7**	**-1.1**
NEZ	**North Egmont**	**2.50**	**357**	P	**Pb**	**19 47 44.1**	**-1.0**
NBEZ	**Newall Road No**	**2.52**	**353**	P	**Pb**	**19 47 43.7**	**-1.7**
MTVZ	**Mangateitei**	**2.54**	**21**	P	**Pb**	**19 47 45.2**	**-0.8**
DREZ	**Durham Road**	**2.58**	**359**	P	**Pb**	**19 47 47.0**	**+0.6**
PKE	**Pukeiti**	**2.58**	**355**	P	**Pb**	**19 47 45.0**	**-1.5**
PKVZ	**Pokaka**	**2.60**	**19**	P	**Pn**	**19 47 44.8**	**+2.9**
MOVZ	**Moawhango**	**2.61**	**26**	P	**Pn**	**19 47 42.4**	**+0.3**
WNVZ	**Wahianoa**	**2.63**	**23**	P	**Pn**	**19 47 44.6**	**+2.1**
TRVZ	**Turoa**	**2.65**	**22**	P	**Pn**	**19 47 44.4**	**+1.7**
VRZ	**Vera Road**	**2.66**	**8**	P	**Pn**	**19 47 45.1**	**+2.4**
MHCZ	**Mount Hutt**	**2.67**	**228**	P	**Pn**	**19 47 42.9**	**+0.1**
DRZ	**Dome Shelter**	**2.67**	**22**	P	**Pn**	**19 47 48.7**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.67**	**22**	P	**Pn**	**19 47 44.3**	**+1.2**
MHEZ	**Mangahewa**	**2.69**	**1**	P	**Pb**	**19 47 50.0**	**+1.7**
FWVZ	**Far West T-bar**	**2.69**	**22**	P	**Pn**	**19 47 44.8**	**+1.5**
TUVZ	**Tukino**	**2.71**	**23**	P	**Pb**	**19 47 48.6**	**-0.2**
NGZ	**Ngauruhoe**	**2.78**	**22**	P	**Pb**	**19 47 49.1**	**-0.9**
SNVZ	**South Ngauruho**	**2.78**	**22**	P	**Pb**	**19 47 49.9**	**-0.1**
KAHZ	**Kahuranaki**	**2.79**	**46**	P	**Pn**	**19 47 43.7**	**-0.7**
OTVZ	**Oturere**	**2.81**	**23**	P	**Pb**	**19 47 49.9**	**-0.6**
WACZ	**Wakanui South**	**2.82**	**219**	P	**Pn**	**19 47 45.0**	**+0.1**
NNVZ	**North Ngauruho**	**2.82**	**22**	P	**Pn**	**19 47 47.2**	**+2.2**
WTVZ	**West Tongariro**	**2.83**	**21**	P	**Pb**	**19 47 50.8**	**0.0**
TWVZ	**Taurewa**	**2.83**	**19**	P	**Pb**	**19 47 49.3**	**-1.6**
ETVZ	**East Tongariro**	**2.84**	**23**	P	**Pb**	**19 47 50.4**	**-0.7**
TMVZ	**Te Maari**	**2.86**	**23**	P	**Pn**	**19 47 46.5**	**+0.9**
TMVZ				P	**Pb**	**19 47 50.7**	**-0.7**
KRVZ	**Karewarewa**	**2.86**	**22**	P	**Pb**	**19 47 51.5**	**+0.1**
WVZ	**Waitahia Valley**	**2.93**	**242**	P	**Pb**	**19 47 50.8**	**-1.7**
KATZ	**Kakaramea**	**2.99**	**22**	P	**Pb**	**19 47 53.5**	**-0.1**
RITZ	**Rihia Road**	**3.04**	**24**	P	**Pb**	**19 47 53.7**	**-0.6**
RPZ	**Rata Peaks**	**3.07**	**230**	P	**Pn**	**19 47 48.9**	**+0.5**
RPZ	**Rata Peaks**	**3.07**	**230**	P	**Pn**	**19 47 48.6**	**+0.2**
BKZ	**Black Stump Fm**	**3.10**	**34**	P	**Pn**	**19 47 47.8**	**-1.0**
BKZ				P	**Pb**	**19 47 56.1**	**+0.7**
RATZ	**Rangitukua**	**3.11**	**22**	P	**Pb**	**19 47 55.0**	**-0.6**
ARCZ	**Arundel**	**3.15**	**225**	P	**Pn**	**19 47 49.9**	**+0.4**
HIZ	**Hauiti**	**3.28**	**8**	P	**Pn**	**19 47 53.8**	**+2.6**
HIZ	**Hauiti**	**3.28**	**8**	P	**Pn**	**19 47 53.6**	**+2.4**
GCSZ	**Gaunt Creek Bo**	**3.31**	**241**	P	**Pb**	**19 47 57.2**	**-1.6**
MRHZ	**Matea Rd**	**3.35**	**30**	P	**Pb**	**19 47 59.4**	**-0.3**
TMZ	**Timaru**	**3.55**	**221**	P	**Pn**	**19 47 55.7**	**+0.8**
TLZ	**Tolley Road**	**3.56**	**16**	P	**Pn**	**19 47 59.3**	**+4.1**
FOZ	**Fox Glacier**	**3.74**	**246**	P	**Pn**	**19 47 59.5**	**+1.6**
RAGZ	**Rawiri**	**4.05**	**37**	P	**Pb**	**19 48 08.2**	**-3.5**
URZ	**Urewera**	**4.12**	**33**	P	**Pn**	**19 48 03.3**	**+0.5**
TOZ	**Tahuroa Road**	**4.14**	**14**	P	**Pn**	**19 48 06.0**	**+3.0**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	**19 48 04.0**	**0.0**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	**19 48 03.9**	**-0.1**
RUGZ	**Raukumara Rang**	**4.61**	**36**	P	**Pn**	**19 48 08.6**	**-1.0**
JCZ	**Jackson Bay**	**4.65**	**238**	P	**Pn**	**19 48 14.2**	**+4.1**
JCZ	**Jackson Bay**	**4.65**	**238**	P	**Pn**	**19 48 14.5**	**+4.5**
AWAZ	**Awhitu Peninsu**	**4.70**	**4**	P	**Pn**	**19 48 12.9**	**+2.1**
MKAZ	**Moumakai**	**4.71**	**9**	P	**Pn**	**19 48 13.7**	**+2.9**
ETAZ	**East Tamaki Re**	**4.83**	**6**	P	**Pn**	**19 48 14.7**	**+2.2**
WIAZ	**Waiheke Island**	**5.01**	**8**	P	Pn	19 48 20.0	+5.0
KUZ	**Kuaotunu**	**5.14**	**13**	P	**Pn**	**19 48 18.8**	**+2.1**
CTZ	**Chatham Island**	**6.98**	**109**	P	**Pn**	**19 48 42.4**	**+0.3**

UCR 19 19:51:18.4±1.6**, 9°.42N**×**84°.10W**, **h28**km±2km**, MW3.8, 3C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.29**	**126**	*eP*	Pb	19 51 25.5	0.0
LCR2	**La Lucha 2**	**0.33**	**17**	*eP*	Pb	19 51 26.2	-0.1
LCR2				*eS*	Sn	19 51 32.7	-0.9
CDM	**Cerro de Muert**	**0.36**	**69**	*eP*	Pb	19 51 27.2	+0.3
CDM				*eS*	Sn	19 51 34.4	-0.1
OCM	**Ochomogo**	**0.49**	**16**	*eP*	Pb	19 51 28.4	-0.3
SJS	**Escuela Geolog**	**0.51**	**5**	*eP*	Pb	19 51 28.9	-0.2
HDC	**Heredia**	**0.57**	**359**	*eP*	Pb	19 51 29.8	-0.3
HDC3	**Heredia 3**	**0.57**	**359**	*eP*	Pb	19 51 29.8	-0.3
JACO	**JACO, Garabito**	**0.60**	**293**	*eP*	Pb	19 51 29.2	-1.2
HAYA	**Volcan Irazu**	**0.61**	**25**	*eP*	Pb	19 51 30.6	-0.2
VTRT	**Volcan Turrial**	**0.65**	**28**	*eP*	Pb	19 51 31.1	-0.4
VTCV	**VTCV, Calle Va**	**0.67**	**34**	*eP*	Pb	19 51 31.4	-0.3
VTUN	**Crater Central**	**0.68**	**29**	*eP*	Pb	19 51 31.7	-0.3
VTUC	**Crater, Volcan**	**0.68**	**29**	*eP*	Pb	19 51 31.7	-0.4
SRBA	**San Rafael, Bu**	**0.76**	**105**	*eP*	Pb	19 51 32.5	-0.6
MRVA	**Moravia de Chi**	**0.76**	**58**	*eP*	Pb	19 51 32.9	-0.3
CRPO	**Crater poas**	**0.78**	**351**	*eP*	Pb	19 51 32.6	-0.9
EDPN	**Palmar Norte**	**0.78**	**126**	*eP*	Pb	19 51 32.6	-0.8
EDBA	**Buenos Aires**	**0.86**	**108**	*eP*	Pn	19 51 33.5	-1.1
LAFE	**Finca La Fe, P**	**0.88**	**296**	*eP*	Pn	19 51 33.4	-1.7
RIFO	**Rio Frio, Sara**	**0.91**	**11**	*eP*	Pn	19 51 34.5	-0.8
BATAN	**Batan**	**0.98**	**47**	*eP*	Pn	19 51 36.4	+0.1
POTG	**Potrero Grande**	**1.04**	**111**	*eP*	Pn	19 51 36.7	-0.5
FORC	**Fortuna**	**1.18**	**332**	*eP*	Pn	19 51 39.0	-0.1
CASO	**Castillo**	**1.18**	**328**	*eP*	Pn	19 51 38.9	-0.3
CASO				*eS*	Sb	19 51 55.2	0.0
JTS	**Las Juntas de**	**1.20**	**316**	*eP*	Pn	19 51 38.4	-1.1
CEDE	**Laguna Cedeo**	**1.21**	**331**	*eP*	Pn	19 51 39.7	+0.1
CEDE				*eS*	Sb	19 51 56.3	+0.3
EDSV	**San Vito**	**1.27**	**118**	*eP*	Pn	19 51 40.9	+0.5
COVE	**Coope Vega, Sa**	**1.32**	**347**	*eP*	Pn	19 51 40.8	-0.3
INDI	**Punta indio, G**	**1.45**	**288**	*eP*	Pn	19 51 39.9	-2.9
CCOL	**Caracol de Cor**	**1.50**	**132**	*eP*	Pn	19 51 44.3	+0.8
ACAL	**Aguas Claras**	**1.51**	**323**	*eP*	Pn	19 51 43.7	0.0
ACAL				*eS*	Sb	19 52 04.3	-0.5
BRU2	**Volcan**	**1.53**	**114**	*eP*	Pn	19 51 43.7	-0.3
PTEN	**Parque Tenorio**	**1.55**	**326**	*iP*	Pn	19 51 45.2	+0.9
CUI	**Cuipilapa**	**1.61**	**320**	*eP*	Pn	19 51 44.7	-0.5
CUI				*eS*	Sn	19 52 05.5	+0.5
COLC	**Colonia**	**1.64**	**319**	*eP*	Pn	19 51 45.5	0.0
HORNC	**Hornillas**	**1.66**	**320**	*eP*	Pn	19 51 45.2	-0.6
HORNC				*eS*	Sn	19 52 06.4	+0.1
GUAB	**Guayabo de Bag**	**1.69**	**319**	*eP*	Pn	19 51 46.7	+0.5
MESS	**Mesas**	**1.69**	**321**	*eP*	Pn	19 51 45.7	-0.6
MESS				*eS*	Sn	19 52 07.4	+0.3
SAJU	**San Juanillo,**	**1.71**	**292**	*eP*	Pn	19 51 47.3	+0.9
GPS3	**Bodega del ICE**	**1.82**	**317**	*eP*	Pn	19 51 48.9	+1.0
GPS1	**Guardaparques**	**1.82**	**318**	*eP*	Pn	19 51 49.0	+1.0
LAPC	**Finca la Perla**	**1.87**	**316**	*eP*	Pn	19 51 47.9	-0.8
BUEV	**Buena Vista**	**1.88**	**317**	*eP*	Pn	19 51 49.4	+0.6
BUAI	**Buenos Aires**	**1.89**	**320**	*eP*	Pn	19 51 50.0	+1.2
GB1A	**Borinquen Arri**	**1.89**	**317**	*eP*	Pn	19 51 48.6	-0.2
GBS3	**Finca Las Img**	**1.90**	**315**	*eP*	Pn	19 51 49.6	+0.6
GBS2	**Las Lilas**	**1.94**	**317**	*eP*	Pn	19 51 50.2	+0.7

NEIC ***19*** *19:55:52.1±2.1, 2°.04S±0°.04×79°.78W±0°.05, h77km±6km, mb4.4/27, Error ellipse: s-maj=7.7km s-min=5.7km az=102.0*
IGQ ***19*** *19:55:53±0.3, 2°.S±2°.× 8°.0W±°, h56km*
IDC ***19*** *19:55:56.4±2.9, 2°.18S × 79°.60W, h131km±35km, mb3.2/5, mbtmp4.1/9, MS3.0/3, Error ellipse: s-maj=27.0km s-min=22.9km az=129.0*

ISC 19 19:55:51.6±0.6**, 2°.01S**±0°.03×**79°.82W**±0°.04**, h78**km±5km**, n133, σ1°.12/137, mb4.3**/14**, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYE3	**Ecuador-Guayaq**	**0.16**	**209**	S	**Sn**	**19 56 11.0**	**-0.4**
GYE3	**Ecuador-Guayaq**	**0.16**	**209**	P	**Pn**	**19 56 03.0**	**0.0**
AMIL	**Milagro (Trans**	**0.26**	**118**	S	**Sn**	**19 56 13.0**	**+0.9**
AMIL	**Milagro (Trans**	**0.26**	**118**	P	**Pn**	**19 56 04.0**	**+0.9**
AOLM	**OLMEDO, CENTRO**	**0.72**	**328**	S	**Sn**	**19 56 20.0**	**+1.0**
AOLM				P	**Pn**	**19 56 07.0**	**-0.4**
COHC	**Cochancay**	**0.72**	**128**		**Pn**	**19 56 06.8**	**-0.5**
COHC				Sn	**Sn**	**19 56 18.0**	**-1.1**
COHC	**Cochancay**	**0.72**	**128**	P	**Pn**	**19 56 06.0**	**-1.3**
MORR	**Playas El Morr**	**0.81**	**220**	P	**Pn**	**19 56 10.0**	**+1.7**
PPLP	**Puerto Lpez**	**1.06**	**296**	P	**Pn**	**19 56 11.0**	**-0.3**
CHSH	**Refugio Sur-Vo**	**1.08**	**62**	Pn	**Pn**	**19 56 12.4**	**+0.3**
CHSH	**Refugio Sur-Vo**	**1.08**	**62**	P	**Pn**	**19 56 12.0**	**-0.1**
TAMH	**Tambohuasha Ch**	**1.14**	**66**	P	**Pn**	**19 56 13.0**	**+0.3**
PORT	**Chimborazo Vol**	**1.18**	**62**	Pn	**Pn**	**19 56 13.8**	**+0.5**
PORT				Sn	**Sn**	**19 56 30.6**	**+1.0**
PORT	**Chimborazo Vol**	**1.18**	**62**	P	**Pn**	**19 56 13.0**	**-0.3**
ACUE	**Ecuador-Cuenca**	**1.24**	**136**	P	**Pn**	**19 56 14.0**	**+0.2**
IGUA	**Igualata**	**1.29**	**66**	P	**Pn**	**19 56 15.0**	**+0.3**
BIL2	**Estacion Bilba**	**1.43**	**67**	P	**Pn**	**19 56 16.0**	**-0.2**
BMAS	**Tigal station**	**1.44**	**69**	P	**Pn**	**19 56 16.0**	**-0.3**
BBIL	**Ulba Tungurahu**	**1.45**	**67**	P	**Pn**	**19 56 17.0**	**+0.5**
TUYU	**Q. Yuibug Volc**	**1.45**	**69**	P	**Pn**	**19 56 17.0**	**+0.4**
ISPT	**Isla de la Pla**	**1.46**	**301**	P	**Pn**	**19 56 17.0**	**+0.7**
BPAT	**Tungurahua Vol**	**1.48**	**70**	P	**Pn**	**19 56 17.0**	**0.0**
RETU	**Refugio**	**1.48**	**68**	P	**Pn**	**19 56 18.0**	**+0.9**
POND	**Pondoa**	**1.49**	**67**	P	**Pn**	**19 56 17.0**	**0.0**
BRUN	**Tungurahua Vol**	**1.52**	**67**	P	**Pn**	**19 56 18.0**	**+0.6**
BULB	**Ulba Tungurahu**	**1.52**	**68**	P	**Pn**	**19 56 20.0**	**+2.5**
ARNL	**Arenillas**	**1.54**	**189**	Pn	**Pn**	**19 56 18.2**	**+0.8**
ARNL				Sn	**Sn**	**19 56 37.4**	**+0.5**
ARNL	**Arenillas**	**1.54**	**189**	P	**Pn**	**19 56 18.0**	**+0.6**
ILLI	**Illinizas Sur**	**1.69**	**40**	P	**Pn**	**19 56 20.0**	**+0.2**
BOSC	**San Juan Bosco**	**1.74**	**130**		**Pn**	**19 56 22.4**	**+2.2**
BOSC	**San Juan Bosco**	**1.74**	**130**	P	**Pn**	**19 56 22.0**	**+1.8**
PAST	**Pastocalle**	**1.76**	**42**	P	**Pn**	**19 56 22.0**	**+1.3**
SRAM	**San Ramn-Vol**	**1.77**	**45**	P	**Pn**	**19 56 22.0**	**+1.2**
SLOR	**San Lorenzo -**	**1.84**	**46**		**Pn**	**19 56 23.5**	**+1.7**
SLOR	**San Lorenzo -**	**1.84**	**46**	P	**Pn**	**19 56 23.0**	**+1.3**
PIAT	**Ana Tenorio**	**1.86**	**57**	P	**Pn**	**19 56 23.0**	**+1.1**
BMOR	**Cotopaxi Volca**	**1.87**	**47**	P	**Pn**	**19 56 23.0**	**+0.8**
VCES	**Cotopaxi**	**1.87**	**50**	P	**Pn**	**19 56 23.0**	**+0.8**
APSY	**Ecuador-Napo A**	**1.87**	**57**	P	**Pn**	**19 56 23.0**	**+0.9**
PUYO	**Puyo, Santa Ro**	**1.87**	**74**	P	**Pn**	**19 56 23.0**	**+1.2**
CAMI	**Rancho Maria**	**1.87**	**45**	P	**Pn**	**19 56 24.0**	**+1.8**
BNAS	**Cotopaxi Volca**	**1.89**	**45**	P	**Pn**	**19 56 24.0**	**+1.5**
SUCR	**Mariscal Sucre**	**1.90**	**44**	P	**Pn**	**19 56 24.0**	**+1.4**
NAS2	**Nasa**	**1.92**	**45**	P	**Pn**	**19 56 24.0**	**+1.2**
BREF	**Cotopaxi Volca**	**1.92**	**46**	P	**Pn**	**19 56 24.0**	**+1.0**
MAG1	**Magdalena**	**1.93**	**1**	P	**Pn**	**19 56 23.0**	**+0.5**
BTAM	**Cotopaxi Volca**	**1.95**	**47**	P	**Pn**	**19 56 24.0**	**+0.7**
BVC2	**Cotopaxi Volca**	**1.95**	**46**	P	**Pn**	**19 56 25.0**	**+1.7**
TAMB	**Tambo**	**1.96**	**48**	P	**Pn**	**19 56 25.0**	**+1.6**
VC1	**Cotopaxi 1**	**1.97**	**46**	P	**Pn**	**19 56 25.0**	**+1.5**
TOMA	**Boca Toma-Volc**	**2.05**	**43**	P	**Pn**	**19 56 26.0**	**+1.5**
JUA2	**San Juan 2**	**2.16**	**34**	P	**Pn**	**19 56 27.0**	**+0.9**
ANTG	**Antisana-Guama**	**2.17**	**46**	P	**Pn**	**19 56 27.0**	**+0.8**
ANTM	**Antisana-La Mi**	**2.17**	**47**	P	**Pn**	**19 56 27.0**	**+0.8**
GGPC	**Guagua Pichinc**	**2.20**	**34**	P	**Pn**	**19 56 28.0**	**+1.4**
TERV	**Terraza Guagua**	**2.20**	**34**	P	**Pn**	**19 56 27.0**	**+0.4**
PINO	**Pino**	**2.21**	**33**	P	**Pn**	**19 56 28.0**	**+1.2**
ANTS	**Antisana-Sarah**	**2.23**	**48**	P	**Pn**	**19 56 28.0**	**+0.8**
BV15	**Puerto Quito-O**	**2.24**	**16**	P	**Pn**	**19 56 26.0**	**-0.7**
ARDO	**Archidona, Ten**	**2.26**	**63**	P	**Pn**	**19 56 27.0**	**0.0**
ANTI	**Antisana**	**2.27**	**47**	P	**Pn**	**19 56 28.0**	**+0.3**
AMCR	**Ecuador-Macara**	**2.34**	**183**	P	**Pn**	**19 56 29.0**	**+0.9**
MCRA	**Macar, Loja**	**2.34**	**183**	Pn	**Pn**	**19 56 28.7**	**+0.6**
MCRA	**Macar, Loja**	**2.34**	**183**	P	**Pn**	**19 56 29.0**	**+0.9**
PULU	**Pululahua**	**2.42**	**33**	Pn	**Pn**	**19 56 30.9**	**+1.5**
PULU	**Pululahua**	**2.42**	**33**	P	**Pn**	**19 56 30.0**	**+0.6**
PAC1	**Pacto, Paraso**	**2.49**	**24**	P	**Pn**	**19 56 30.0**	**-0.2**
CUSE	**Cuicocha Este**	**2.71**	**32**	P	**Pn**	**19 56 34.0**	**+0.6**
CAYR	**Refugio Cayamb**	**2.71**	**42**	P	**Pn**	**19 56 35.0**	**+1.4**
CUSW	**Cuicocha Oeste**	**2.72**	**33**	P	**Pn**	**19 56 35.0**	**+1.5**
CUIC	**Cuicocha-Domo**	**2.73**	**32**	P	**Pn**	**19 56 35.0**	**+1.4**
CAYA	**Cayambe**	**2.77**	**42**	P	**Pn**	**19 56 35.0**	**+0.8**
PTGL	**Punta Galera**	**2.78**	**356**	P	**Pn**	**19 56 35.0**	**+1.0**
IMBA	**Imbabura, San**	**2.79**	**36**	Pn	**Pn**	**19 56 36.5**	**+2.0**
IMBA	**Imbabura, San**	**2.79**	**36**	P	**Pn**	**19 56 37.0**	**+2.4**
URCU	**Urcuqui**	**2.90**	**33**	P	**Pn**	**19 56 37.0**	**+1.1**
REVS	**Reventador Sur**	**2.91**	**49**	P	**Pn**	**19 56 37.0**	**+1.1**
ZUMB	**Zumba**	**2.91**	**167**	P	**Pn**	**19 56 38.0**	**+2.1**
REVN	**San Rafael**	**2.92**	**49**	P	**Pn**	**19 56 37.0**	**+0.9**
YAHU	**Yahuarcocha**	**2.94**	**36**	P	**Pn**	**19 56 38.0**	**+1.5**
BONI	**La Bonita**	**3.36**	**43**	P	**Pn**	**19 56 43.0**	**+1.0**
CHMA	**Chilma**	**3.36**	**32**	P	**Pn**	**19 56 42.0**	**0.0**
CHL1	**Volcn Chiles**	**3.36**	**34**	P	**Pn**	**19 56 43.0**	**+0.7**
ECEN	**Cerro Negro**	**3.37**	**33**	P	**Pn**	**19 56 43.0**	**+0.5**
CHL2	**Volcn Chiles**	**3.38**	**34**	P	**Pn**	**19 56 43.0**	**+0.4**
TULM	**Tulcn-Chalpat**	**3.39**	**37**	Pn	**Pn**	**19 56 44.2**	**+1.5**
SNLR	**San Lorenzo-Es**	**3.43**	**17**	P	**Pn**	**19 56 43.0**	**+0.3**
TUMC	**Tumaco**	**3.97**	**16**	Pn	**Pn**	**19 56 50.2**	**+0.2**
TUMC	**Tumaco**	**3.97**	**16**	P	**Pn**	**19 56 50.0**	**-0.1**
BBAC	**Balboa, Cauca**	**4.76**	**33**	P	**Pn**	**19 57 01.0**	**-0.2**
ATAH	**Atahualpa**	**5.28**	**164**	P	**Pn**	**19 57 11.0**	**+2.6**
	20nm,0.4s,baz=1.4,slow=10,SNR=20						
ATAH				S	**Sn**	**19 58 09.5**	**+1.3**
	66nm,0.6s,baz=3.4,slow=17,SNR=2.6						
FLOC	**Florencia**	**5.49**	**49**	P	**Pn**	**19 57 10.0**	**-0.9**
PRAC	**Prado**	**7.53**	**41**	Pn	**Pn**	**19 57 37.8**	**-1.0**
CZSB	**Cruzeiro do Su**	**9.08**	**129**	Pn	**Pn**	**19 57 59.1**	**-0.8**
NNA	**Nana**	**10.34**	**164**	P	**Pn**	**19 58 17.5**	**+0.4**
	10nm,0.4s,baz=302,slow=8.3,SNR=4.0						
NNA	**Nana**	**10.34**	**164**	Pn	**Pn**	**19 58 17.3**	**+0.1**
SDV	**Santo Domingo**	**14.18**	**40**	P	**Pn**	**19 59 12.6**	**+3.6**
	10nm,0.4s,baz=227,slow=9.6,SNR=10						
SDV				LR	LR	20 05 55.3	
	comp=Z,31nm,20.2s,baz=204,slow=42						
SDV	**Santo Domingo**	**14.18**	**40**	Pn	**Pn**	**19 59 09.4**	**+0.4**
ETMB	**Extrema**	**15.59**	**120**	Pn	**Pn**	**19 59 24.9**	**-2.1**
ETMB				IAmb	IAmb	19 59 41.2	
	comp=Z,3.7nm,0.7s						
URIC	**Uribia, Colomb**	**15.69**	**30**	Pn	**Pn**	**19 59 26.8**	**-1.4**
URIC			

	comp=E,1154µm,0.6s						
STIA	**Sitia Lasithi**	**1.31**	**296**	P	**Pb**	**20 18 50.9**	**+0.3**
STIA				S	**Sg**	**20 19 09.9**	**+1.7**
STIA				AML	AML	20 19 27.7	
	comp=N,1060µm,0.7s						
STIA				AML	AML	20 19 29.6	
	comp=E,1070µm,0.8s						
ARG	**Arkhangelos**	**1.65**	**17**	PN	**Pb**	**20 18 55.5**	**-0.7**
ARG	**Arkhangelos**	**1.65**	**17**	P	**Pg**	**20 18 56.9**	**-0.5**
ARG				AML	AML	20 19 40.7	
	comp=N,662µm,1.1s						
ARG				AML	AML	20 19 45.4	
	comp=E,633µm,1.1s						
NIS1	**Nisyros Isl.**	**1.98**	**352**	PN	**Pn**	**20 19 00.7**	**+1.4**
NIS1	**Nisyros Isl.**	**1.98**	**352**	P	**Pb**	**20 19 01.4**	**-0.5**
NISR	**Nisiros**	**2.00**	**351**	P	**Pb**	**20 19 01.3**	**-0.8**
NISR				AML	AML	20 19 47.1	
	comp=N,336µm,0.9s						
NISR				AML	AML	20 19 50.3	
	comp=E,352µm,0.8s						
DAT	**Datca**	**2.09**	**1**	PN	**Pn**	**20 19 01.8**	**+1.0**
HRKL	**Herakleio**	**2.11**	**289**	PN	**Pb**	**20 19 04.1**	**0.0**
KOSK	**Kos Island**	**2.16**	**348**	PN	**Pn**	**20 19 02.8**	**+1.1**
TURN	**Turunc**	**2.21**	**15**	PN	**Pn**	**20 19 03.8**	**+1.4**
TURN	**Turunc**	**2.21**	**15**	P	**Pn**	**20 19 03.6**	**+1.2**
TURN				S	**Sn**	**20 19 31.6**	**+1.9**
TURN				*i* AML	AML	20 19 57.0	
	comp=E,32nm,0.8s						
KSL	**Kastellorizon**	**2.25**	**47**	P	**Pb**	**20 19 05.2**	**-1.3**
IDI	**Anoyia**	**2.27**	**287**	Pn	**Pb**	**20 19 05.2**	**-1.6**
	comp=E,1.2nm,0.3s,baz=107,slow=16,SNR=8.4						
IDI				Sn	**Sn**	**20 19 31.9**	**+0.7**
	comp=E,3.7nm,0.3s,baz=100,slow=18,SNR=8.2						
IDI	**Anoyia**	**2.27**	**287**	PN	**Pb**	**20 19 06.3**	**-0.5**
IDI	**Anoyia**	**2.27**	**287**	P	**Pb**	**20 19 05.8**	**-1.0**
IDI				AML	AML	20 19 35.4	
	comp=E,80µm,0.6s						
IDI				AML	AML	20 20 05.6	
	comp=N,157µm,0.7s						
SIVA	**Sivas**	**2.27**	**280**	P	**Pb**	**20 19 05.6**	**-1.3**
AKAS	**Kas**	**2.32**	**46**	PN	**Pb**	**20 19 05.7**	**-2.1**
AKAS	**Kas**	**2.32**	**46**	P	**Pn**	**20 19 05.0**	**+0.9**
AKAS				S	**Sn**	**20 19 34.1**	**+1.5**
AKAS				*i* AML	AML	20 19 39.0	
	comp=N,45nm,0.4s						
AKAS				*i* AML	AML	20 19 48.0	
	comp=N,70nm,1.0s						
DALY	**Dalyan (Mula)**	**2.36**	**22**	PN	**Pn**	**20 19 05.7**	**+1.3**
FETY	**Fethiye**	**2.36**	**32**	PN	**Pn**	**20 19 05.9**	**+1.4**
BODT	**Bodrum**	**2.43**	**356**	PN	**Pn**	**20 19 06.7**	**+1.3**
YER	**Yerkesik**	**2.56**	**13**	PN	**Pn**	**20 19 08.7**	**+1.4**
MLSB	**Milas**	**2.66**	**4**	PN	**Pn**	**20 19 09.5**	**+0.9**
CAME	**Cameli-Denizli**	**2.71**	**31**	PN	**Pn**	**20 19 10.7**	**+1.2**
AKUM	**Antalya-Kumluc**	**2.84**	**53**	P	**Pn**	**20 19 13.0**	**+2.0**
AKUM				S	**Sb**	**20 19 48.0**	**-3.3**
GVDS	**Gavdos**	**2.84**	**275**	PN	**Pb**	**20 19 15.3**	**-1.3**
GVD	**Gavdhos**	**2.85**	**275**	PN	**Pb**	**20 19 14.9**	**-1.7**
GVD	**Gavdhos**	**2.85**	**275**	P	**Pn**	**20 19 13.2**	**+2.0**
ELL	**Elmali**	**2.86**	**42**	PN	**Pn**	**20 19 13.4**	**+2.0**
CAEL	**Denizli, Camel**	**2.87**	**30**	P	**Pn**	**20 19 14.1**	**+2.4**
APE	**Apeiranthos**	**2.92**	**327**	PN	**Pn**	**20 19 14.4**	**+2.1**
AYDN	**Tasoluk**	**3.03**	**5**	P	**Pn**	**20 19 14.8**	**+1.0**
IMMV	**Iera Moni Meta**	**3.03**	**287**	PN	**Pb**	**20 19 17.3**	**-2.5**
IMMV	**Iera Moni Meta**	**3.03**	**287**	P	**Pn**	**20 19 16.1**	**+2.5**
IMMV				AML	AML	20 20 13.4	
	comp=N,160µm,1.4s						
IMMV				AML	AML	20 20 15.7	
	comp=E,96µm,0.6s						
TAVA	**DENIZLI_Tavas**	**3.04**	**21**	P	**Pn**	**20 19 15.4**	**+1.5**
GCAM	**G?zelcami?**	**3.07**	**356**	PN	**Pn**	**20 19 15.9**	**+1.7**
GOLH	**Golhisar**	**3.07**	**32**	P	**Pn**	**20 19 17.1**	**+2.8**
APMY	**Acipayam-Deniz**	**3.17**	**26**	PN	**Pn**	**20 19 17.3**	**+1.6**
KNDR	**Palaiochora Ch**	**3.22**	**282**	PN	**Pb**	**20 19 20.9**	**-2.1**
AYDB	**Zeytinkoy-Aydi**	**3.31**	**5**	PN	**Pn**	**20 19 19.2**	**+1.5**
GAZI	**Gazipasa**	**4.21**	**66**	P	**Pn**	**20 19 31.3**	**+1.3**
USAK	**Uak-Merkez**	**4.24**	**16**	P	**Pn**	**20 19 30.8**	**+0.4**
SEDI	**Konya, Seydise**	**4.42**	**49**	P	**Pn**	**20 19 36.8**	**+3.9**
DOGA	**KONYA_Doganhis**	**4.80**	**43**	P	**Pn**	**20 19 41.5**	**+3.3**
KKBE	**Karaman, Kazim**	**5.08**	**58**	P	**Pn**	**20 19 45.3**	**+3.3**
KKBE				S	**Sn**	**20 20 42.2**	**+1.4**
MMAI	**Mount Meron Ar**	**6.74**	**102**	Pn	**Pn**	**20 20 07.7**	**+2.9**
	comp=E,0.9nm,0.3s,baz=305,slow=10,SNR=5.0						
MMAI				Sn	**Sn**	**20 21 23.0**	**+1.4**
	comp=E,0.6nm,0.3s,baz=265,slow=29,SNR=1.7						
	comp=E,0.7nm,0.4s						
BRTR	**Keskin Array B**	**7.04**	**42**	Pn	**Pn**	**20 20 09.9**	**+1.1**
	comp=E,0.1nm,0.3s,baz=219,slow=15,SNR=2.4						
BRTR				Sn	**Sn**	**20 21 29.5**	**+0.6**
	comp=E,0.1nm,0.3s,baz=213,slow=21,SNR=3.5						
	comp=E,0.6nm,0.5s						
EIL	**Elat**	**8.00**	**126**	Pn	Pn	20 20 25.7	+3.7
	comp=E,0.3nm,0.3s,baz=251,slow=2.3,SNR=6.1						
EIL				Sn	**Sn**	**20 21 50.4**	**-2.1**
	comp=E,0.3nm,0.3s,baz=359,slow=18,SNR=1.4						
	comp=E,2.7nm,0.6s						
KOLS	**Kolonicke sedl**	**14.81**	**346**	*e*PG	**Pn**	**20 21 52.8**	**-2.3**
KOLS				*e*SN		20 22 17.1	
KOLS				*e*LG	Lg	20 22 38.7	
ESDC	**Sonseca Array**	**25.53**	**291**	P	**P**	**20 23 54.0**	**-0.4**
	comp=E,0.2nm,0.5s,baz=85,slow=9.0,SNR=5.2						
	comp=E,0.2nm,0.5s						
FINES	**FINESS Array B**	**26.84**	**358**	P	**P**	**20 24 04.9**	**-1.1**
	comp=E,3.8nm,1.0s,baz=157,slow=14,SNR=6.7						
	comp=E,3.8nm,1.0s						
ARCES	**ARCESS Array B**	**34.97**	**359**	P	**P**	**20 25 16.7**	**-0.8**
	comp=E,2.2nm,0.8s,baz=173,slow=8.2,SNR=1.7						
	comp=E,2.2nm,0.8s						
MKAR	**Makanchi Array**	**42.44**	**56**	P	**P**	**20 26 21.9**	**+1.4**
	comp=E,0.7nm,0.7s,baz=269,slow=8.6,SNR=6.0						
	comp=E,0.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**43.91**	**357**	P	**P**	**20 26 32.7**	**+0.7**
	comp=E,7.9nm,0.9s,baz=138,slow=11,SNR=1.5						
	comp=E,7.9nm,0.9s						
ZALV	**Zalesovo Beam**	**43.96**	**46**	P	**P**	**20 26 33.6**	**+0.9**
	comp=E,0.4nm,0.5s,baz=290,slow=8.6,SNR=2.0						
	comp=E,0.4nm,0.5s						

MAN 19 20:18:49.3, 9°.34N×123°.06E, h1km, mb3.8, ML2.5, MS2.0, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSIP	**Lazi, Siquijor**	**0.60**	**110**	*i*P	Pg	20 19 01.1	+0.3
LSIP				*e*S	Sb	20 19 10.2	-1.3
CNOP	**Candoni, Negro**	**0.64**	**319**	*e*P	Pg	20 19 02.0	+0.4
CNOP				*e*S	Sb	20 19 12.6	-0.3
GUIM	**Jordan**	**1.36**	**340**	*e*P	Pg	20 19 15.0	-0.5
GUIM				*e*S	Sn	20 19 34.6	+0.4

*VIE **19** 20:21:00.5±0.6, 49°.76N×18°.64E, h0km, mb2.4/1, ml2.6/2, Error ellipse: s-maj=6.5km s-min=5.1km az=163.0 29 km ESE of Ostrava Suspected Mining induced.*
*PRU **19** 20:21:01.8±0.0, 49°.88N×18°.52E, h0km, Mining Induced Event Csm, E=5.0e+05*
*IPEC **19** 20:21:02.2±0.3, 49°.85N×18°.55E, h1km, ML2.3/4, Error ellipse: s-maj=2.1km s-min=1.7km az=68.0*

ISC 19 20:21:00.5±0.8, 49°.85N±0°.03×18°.56E±0°.02, h0km, n28, σ0°81/51, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.27**	**268**	*e*PG	**Pb**	**20 21 07.7**	**-0.5**
OKC				*e*SG	**Sg**	**20 21 10.6**	**+1.4**
	comp=Z,83nm,0.5s						
MORC	**Moravsky Berou**	**0.67**	**264**	*e*PG	**Pb**	**20 21 15.2**	**+0.2**
MORC				*e*SG	**Sg**	**20 21 22.7**	**+0.8**
MORC	**Moravsky Berou**	**0.67**	**264**	*e*Pg	**Pb**	**20 21 15.1**	**+0.1**
	baz=83						
MORC				*e*Sg	**Sg**	**20 21 22.6**	**+0.7**
	63nm,0.5s,baz=83						
MAUC	**Maruska**	**0.68**	**225**	*e*PG	**Pb**	**20 21 14.9**	**-0.3**
OJC	**Ojcow**	**0.88**	**64**	*e*Pg	**Pg**	**20 21 15.8**	**-1.6**
OJC				*e*Sg	**Sg**	**20 21 28.2**	**-0.6**
JAVC	**Velka Javorina**	**1.15**	**211**	*e*Pg	**Pn**	**20 21 24.5**	**+0.6**
	baz=30						
KRLC	**Kraliky**	**1.17**	**282**	*e*PG	**Pg**	**20 21 23.3**	**+0.3**
KRLC				*e*SG	**Sb**	**20 21 38.9**	**-0.6**
	comp=Z,39nm,0.3s						
VYHS	**Vyhne**	**1.36**	**172**	*e*PG	**Pn**	**20 21 27.1**	**+0.3**
VYHS				*e*SG	**Sn**	**20 21 45.9**	**+0.3**
VYHS				*e*LG	Lg	20 21 50.2	
VRAC	**Vranov**	**1.39**	**248**	*e*PG	**Pb**	**20 21 28.0**	**+0.6**
VRAC				*e*SG	**Sb**	**20 21 45.7**	**0.0**
VRAC	**Vranov**	**1.39**	**248**	*e*Pg	**Pb**	**20 21 27.9**	**+0.6**
	baz=66						
VRAC				*e*Sg	**Sb**	**20 21 45.7**	**0.0**
	34nm,0.4s,baz=66						
DPC	**Dobruska-Polom**	**1.53**	**290**	*e*PG	**Pb**	**20 21 29.7**	**0.0**
DPC				*e*SG	**Sn**	**20 21 50.0**	**+0.3**
	comp=Z,25nm,0.3s						
KRUC	**Moravsky**	**1.62**	**242**	*e*PG	**Pb**	**20 21 31.2**	**0.0**
KRUC				*e*SG	**Sg**	**20 21 52.7**	**+0.2**
KRUC	**Moravsky**	**1.62**	**242**	*e*Pg	**Pb**	**20 21 31.2**	**0.0**
	baz=60						
KRUC				*e*Sg	**Sg**	**20 21 52.7**	**+0.2**
	20nm,0.3s,baz=60						
OSTC	**Ostas**	**1.67**	**296**	*e*PG	**Pb**	**20 21 32.3**	**+0.2**
OSTC				*e*SG	**Sg**	**20 21 54.6**	**+0.5**
	comp=Z,24nm,0.5s						
MODS	**Modra-Piesok**	**1.70**	**210**	*e*PG	**Pb**	**20 21 32.7**	**+0.1**
KSP	**Ksiaz**	**1.76**	**305**	*e*Pg	**Pn**	**20 21 33.0**	**+0.7**
KSP				*e*Sg	**Sb**	**20 21 56.4**	**0.0**
UPC	**Upice**	**1.77**	**293**	*e*PG	**Pb**	**20 21 34.0**	**+0.2**
UPC				*e*SG	**Sg**	**20 21 57.0**	**+0.3**
STHS	**Stebnicka Huta**	**1.79**	**103**	*e*PN	**Pg**	**20 21 35.7**	**+0.8**
STHS				*e*LG	Lg	20 22 03.6	
KECS	**Kecovo**	**1.86**	**137**	*e*PN	**Pb**	**20 21 35.0**	**-0.3**
KECS				*e*LG	Lg	20 21 59.6	
CRVS	**Cervenica-Dubn**	**2.12**	**115**	*e*PN	**Pg**	**20 21 41.5**	**+0.5**
PRU	**Pruhonice**	**2.60**	**275**	*e*PG	**Pb**	**20 21 48.4**	**+0.4**
PRU				*e*SG	**Sb**	**20 22 21.6**	**+1.1**
	comp=Z,7.2nm,0.4s						
CONA	**Conrad Observa**	**2.62**	**224**	*i* Pn	**Pn**	**20 21 44.4**	**+0.3**
	1.9nm,0.3s						
CONA				*e*Sn	**Sn**	**20 22 16.4**	**-0.2**
	1.7nm,0.2s						
PVCC	**Panska Ves**	**2.66**	**286**	*e*SG	**Sg**	**20 22 25.8**	**0.0**
	comp=Z,16nm,0.4s						
CKRC	**Cesky Krumlov**	**2.97**	**251**	*e*PN	**Pn**	**20 21 51.0**	**+2.2**
CKRC				*e*PG	**Pg**	**20 21 56.5**	**-0.8**
CKRC				*e*SG	**Sg**	**20 22 34.0**	**-1.8**
	comp=Z,9.0nm,0.5s						
BRG	**Berggiesshubel**	**3.13**	**291**	Pg	**Pg**	**20 21 59.1**	**-1.4**
BRG				Sg	**Sg**	**20 22 40.6**	**-0.5**
BRG				Amp		20 22 42.4	
	comp=Z,7.0nm,0.6s						
KHC	**Kasperske Hory**	**3.33**	**259**	*e*PN	**Pn**	**20 21 54.5**	**+0.7**
KHC				*e*PG	**Pg**	**20 22 02.5**	**-1.8**
KHC				*e*SG	**Sg**	**20 22 45.6**	**-1.8**
	comp=Z,7.4nm,0.4s						
MOA	**Molln**	**3.47**	**236**	*i* Pn	**Pn**	**20 21 55.7**	**0.0**
	comp=Z,0.3nm,0.1s						
MOA				*i* Sn	**Sn**	**20 22 36.2**	**-1.4**
	comp=Z,4.0nm,0.5s						
CLL	**Collm**	**3.83**	**295**	*e*Pg	**Pg**	**20 22 14.0**	**0.0**
CLL				*i* Sg	**Sg**	**20 23 03.5**	**-0.1**
	comp=Z,7.0nm,0.6s						

*IDC **19** 20:25:54.3±4.4, 9°.54S×107°.53E, h0km, mb3.6/6, mbtmp3.6/6, MS3.3/2, Error ellipse: s-maj=194.8km s-min=23.1km az=49.0*

ISC 19 20:25:58.2±0.9, 9°.54S±0°.09×107°.55E±0°.08, h23km, n17, σ0°81/13, mb3.7/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**2.04**	**244**	P	**Pn**	**20 26 31.0**	**-0.2**
BBJI	**Bungbulang**	**2.06**	**3**	P	**Pn**	**20 26 31.8**	**+0.3**
UGM	**Wanagama**	**3.35**	**61**	P	**Pn**	**20 26 48.1**	**-1.1**
JAGI	**Jajag, Banyuwa**	**6.61**	**81**	P	**Pn**	**20 27 33.6**	**-0.4**
MNAI	**Manna**	**6.87**	**318**	P	**Pn**	**20 27 37.3**	**-0.3**
PLAI	**Plampang**	**10.12**	**87**	P	**Pn**	**20 28 24.0**	**+1.8**
TOLI2	**Tolitoli**	**16.90**	**52**	P	**Pn**	**20 29 53.2**	**-0.2**
WRA	**Warramunga Arr**	**27.85**	**115**	P	**P**	**20 31 45.8**	**-0.5**
	0.2nm,0.8s,baz=286,slow=12,SNR=1.9						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**28.82**	**122**	P	**P**	**20 31 55.1**	**+0.2**
	0.2nm,0.9s,baz=300,slow=8.9,SNR=1.5						
	0.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.09**	**343**	P	**P**	**20 31 56.6**	**-0.6**
	0.5nm,0.3s,baz=178,slow=8.1,SNR=4.5						
	0.5nm,0.3s						
H08S2	**Diego Garcia H**	**34.71**	**270**	T	T	21 09 50.9	
	baz=95						
H08S3	**Diego Garcia H**	**34.72**	**270**	T	T	21 09 43.6	
	baz=95						
H08S1	**Diego Garcia H**	**34.72**	**270**	T	T	21 09 40.1	
	baz=95						
KSRS	**Korea Array**	**50.49**	**21**	LR	LR	20 59 35.8	
	comp=Z,21nm,18.1s,baz=215,slow=40						
SONM	**Songino Array**	**57.13**	**359**	P	**P**	**20 35 43.1**	**+0.1**
	0.4nm,0.6s,baz=182,slow=8.1,SNR=4.0						
SONM				LR	LR	21 04 46.8	
	comp=Z,35nm,18.1s,baz=184,slow=41						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**60.44**	**340**	P	**P**	**20 36 06.0**	**+0.1**
	1.3nm,0.5s,baz=147,slow=7.8,SNR=16						
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**66.11**	**346**	P	**P**	**20 36 42.3**	**-1.0**
	0.3nm,0.3s,baz=172,slow=5.4,SNR=2.2						
	0.3nm,0.3s						

IDC 19 20:35:19.0±2.5, 17°.57S×178°.84W, h610km±20km, mb2.5/4, mbtmp3.5/5, Error ellipse: s-maj=115.3km s-min=24.8km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.97**	**266**	P	P	20 36 38.9	-0.1
	12nm,0.4s,baz=90,slow=20,SNR=8.9						
WRA	**Warramunga Arr**	**44.29**	**259**	P	P	20 42 36.5	-0.1
	0.3nm,0.8s,baz=97,slow=8.4,SNR=1.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**44.48**	**254**	P	P	20 42 38.0	0.0
	0.7nm,0.6s,baz=89,slow=8.7,SNR=15						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**85.66**	**13**	P	P	20 46 53.5	-0.5
	0.1nm,0.4s,baz=223,slow=4.9,SNR=5.4						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**86.17**	**58**	P	P	20 46 57.6	+0.3
	0.4nm,0.7s,baz=226,slow=6.5,SNR=4.4						
	0.4nm,0.7s						

*UCR **19** 20:39:55.9±1.1, 10°.46N×85°.44W, h53km±3km, MW3.7*
*INET **19** 20:39:56.2±1.0, 10°.45N×85°.41W, h51km±4km, ML3.2*

ISC 19 20:39:55.8±1.5, 10°.46N±0°.04×85°.45W±0°.05, h56km±8km, n42, σ0°45/51, 5C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTG	**Ortega, Santa**	**0.09**	**185**	*e*P	**Pn**	**20 40 04.3**	**-0.2**
ORTG				*e*S	**Sn**	**20 40 10.6**	**+0.1**
ORTG	**Ortega, Santa**	**0.09**	**185**	*e*P	**Pn**	**20 40 04.1**	**-0.3**
ORTG				*e*S	**Sn**	**20 40 10.6**	**+0.1**
ORTG				IAML		20 40 10.9	
	comp=N,1µm,0.3s						
HZTE	**Horizontes, Gu**	**0.29**	**331**	*e*P	**Pn**	**20 40 05.7**	**+0.3**
HZTE				*e*S	**Sn**	**20 40 13.2**	**+0.8**
HZTE	**Horizontes, Gu**	**0.29**	**331**	*e*P	**Pn**	**20 40 05.7**	**+0.3**
HZTE				*e*S	**Sn**	**20 40 13.2**	**+0.8**
HZTE				IAML		20 40 14.0	
	comp=E,2µm,0.4s						
GPS3	**Bodega del ICE**	**0.31**	**16**	*i* P	**Pn**	**20 40 05.4**	**-0.3**
GPS3				*i* S	**Sn**	**20 40 12.8**	**+0.1**
LAPC	**Finca la Perla**	**0.31**	**3**	*i* P	**Pn**	**20 40 05.3**	**-0.4**
GBS3	**Finca Las Img**	**0.32**	**359**	*i* P	**Pn**	**20 40 05.5**	**-0.3**
GUAB	**Guayabo de Bag**	**0.33**	**41**	*i* P	**Pn**	**20 40 05.4**	**-0.5**
GPS1	**Guardaparques**	**0.33**	**17**	*i* P	**Pn**	**20 40 05.6**	**-0.3**
BUEV	**Buena Vista**	**0.34**	**7**	*i* P	**Pn**	**20 40 05.7**	**-0.4**
CUI	**Cuipilapa**	**0.35**	**55**	*i* P	**Pn**	**20 40 05.6**	**-0.4**
GB1A	**Borinquen Arri**	**0.36**	**8**	*i* P	**Pn**	**20 40 05.9**	**-0.3**
HORNC	**Hornillas**	**0.37**	**46**	*i* P	**Pn**	**20 40 05.7**	**-0.5**
DUNO	**Dulce Nombre,**	**0.38**	**186**	*e*P	**Pn**	**20 40 06.0**	**-0.2**
GBS2	**Las Lilas**	**0.38**	**360**	*i* S	**Sn**	**20 40 13.9**	**+0.1**
MESS	**Mesas**	**0.38**	**42**	*i* P	**Pn**	**20 40 06.0**	**-0.4**
BUAI	**Buenos Aires**	**0.43**	**16**	*i* P	**Pn**	**20 40 06.9**	**0.0**
ACAL	**Aguas Claras**	**0.45**	**67**	*i* P	**Pn**	**20 40 06.7**	**-0.3**
SAJU	**San Juanillo,**	**0.46**	**213**	*e*P	**Pn**	**20 40 06.6**	**-0.4**
SAJU				*e*S	**Sn**	**20 40 15.6**	**+0.4**
VMAR	**Armenia, Volca**	**0.49**	**43**	*e*P	**Pn**	**20 40 07.2**	**-0.2**
VMAR				*e*S	**Sn**	**20 40 16.5**	**+0.8**
JTS	**Las Juntas de**	**0.52**	**108**	*e*P	**Pn**	**20 40 07.1**	**-0.6**
JTS				*e*S	**Sn**	**20 40 16.3**	**+0.1**
JTS	**Las Juntas de**	**0.52**	**108**	*e*P	**Pn**	**20 40 07.4**	**-0.3**
PTEN	**Parque Tenorio**	**0.52**	**61**	*i*P	**Pn**	**20 40 07.5**	**-0.3**
INDI	**Punta indio, G**	**0.59**	**185**	*e*P	**Pn**	**20 40 07.9**	**-0.6**
VERA	**Finca Concepci**	**0.70**	**55**	*e*P	**Pn**	**20 40 09.7**	**-0.1**
CEDE	**Laguna Cedeo**	**0.74**	**88**	*i*P	**Pn**	**20 40 10.3**	**-0.1**
LAFE	**Finca La Fe, P**	**0.84**	**140**	*e*P	**Pn**	**20 40 11.1**	**-0.5**
LAFE	**Finca La Fe, P**	**0.84**	**140**	*e*P	**Pn**	**20 40 10.9**	**-0.7**
LAFE				*e*S	**Sn**	**20 40 22.3**	**-0.8**
COVE	**Coope Vega, Sa**	**1.06**	**76**	*e*P	**Pn**	**20 40 13.9**	**-0.7**
JACO	**JACO, Garabito**	**1.11**	**135**	*e*P	**Pn**	**20 40 15.4**	**+0.2**
JACO	**JACO, Garabito**	**1.11**	**135**	*e*P	**Pn**	**20 40 15.4**	**+0.2**
CONN	**Concepcion**	**1.11**	**351**	*e*P	**Pn**	**20 40 14.8**	**-0.5**
HDC	**Heredia**	**1.39**	**109**	*e*P	**Pn**	**20 40 19.3**	**+0.2**
HDC3	**Heredia 3**	**1.39**	**109**	*e*P	**Pn**	**20 40 19.1**	**0.0**
ACON	**Acoyapa**	**1.53**	**10**	*e*P	**Pn**	**20 40 20.7**	**-0.2**
LCR2	**La Lucha 2**	**1.59**	**116**	*e*P	**Pn**	**20 40 21.9**	**0.0**
HAYA	**Volcan Irazu**	**1.65**	**106**	*e*P	**Pn**	**20 40 23.2**	**+0.4**
CDM	**Cerro de Muert**	**1.89**	**118**	*e*P	**Pn**	**20 40 27.0**	**+0.9**
HUEN		**2.00**	**339**	*e*P	**Pn**	**20 40 27.2**	**-0.1**
ESPN	**Las Esperanzas**	**2.06**	**33**	*e*P	**Pn**	**20 40 27.4**	**-0.7**
SRBA	**San Rafael, Bu**	**2.39**	**120**	*e*P	**Pn**	**20 40 33.2**	**+0.5**
MATN	**Matagalpa**	**2.50**	**349**	*e*P	**Pn**	**20 40 33.5**	**-0.7**

WEL 19 20:42:22.7±0.3, 43°.3S±3°.1×17°.3E±°, h5km, M2.8/16, ML3.0/14, MLv2.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=138.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**70**	P	Pg	20 42 29.0	-0.1
KHZ				S	Sg	20 42 34.3	+0.8
GVZ	**Greta Valley S**	**0.44**	**188**	P	Pg	20 42 32.0	+0.7
GVZ				S	Sb	20 42 39.7	-0.2
LTZ	**Lake Taylor**	**0.67**	**248**	P	Pg	20 42 35.8	+0.1
LTZ				S	Sb	20 42 45.6	-1.1
AMCZ	**Amberley**	**0.73**	**208**	P	Pb	20 42 37.7	-0.3
THZ	**Tophouse**	**0.78**	**348**	P	Pg	20 42 37.4	-0.4
BSWZ	**Blackbirch Sta**	**0.99**	**35**	P	Pg	20 42 41.7	0.0
OXZ	**Oxford**	**1.12**	**225**	P	Pg	20 42 43.5	-0.7
CMWZ	**Cape Campbell**	**1.13**	**47**	P	Pn	20 42 45.0	-0.1
MRNZ	**Matariki Terra**	**1.16**	**346**	P	Pg	20 42 44.2	-0.8
OKCZ	**Okains Bay**	**1.19**	**182**	P	Pg	20 42 44.5	-1.1
MQZ	**McQueen's Vall**	**1.22**	**196**	P	Pg	20 42 43.9	-2.3
INZ	**Inchbonnie**	**1.25**	**261**	P	Pg	20 42 45.9	-0.9
TUWZ	**Tuamarina**	**1.26**	**29**	P	Pg	20 42 46.3	-0.6
NNZ	**Nelson**	**1.33**	**8**	P	Pn	20 42 47.7	-0.2
AKCZ	**Akaroa Harbour**	**1.35**	**186**	P	Pn	20 42 46.1	-2.2
RACZ	**Rakaia**	**1.40**	**211**	P	Pn	20 42 47.1	-1.7
TKNZ	**Takaka Hill**	**1.50**	**355**	P	Pb	20 42 50.8	-0.3
MHCZ	**Mount Hutt**	**1.52**	**228**	P	Pn	20 42 49.2	-1.4
TCW	**Tory Channel**	**1.58**	**34**	P	Pn	20 42 50.6	-0.8
WACZ	**Wakanui South**	**1.69**	**213**	P	Pn	20 42 51.3	-1.7
QRZ	**Quartz Range**	**1.76**	**345**	P	Pn	20 42 54.2	+0.3
DUWZ	**D'Urville Isla**	**1.83**	**19**	P	Pn	20 42 55.8	+0.9
WVZ	**Waitaha Valley**	**1.84**	**252**	P	Pn	20 42 54.6	-0.3
PLWZ	**Palliser**	**1.86**	**60**	P	Pn	20 42 53.2	-2.0
RPZ	**Rata Peaks**	**1.92**	**231**	P	Pn	20 42 54.8	-1.3
MSWZ	**Moikau Station**	**1.94**	**56**	P	Pn	20 42 54.4	-1.9
ARCZ	**Arundel**	**2.00**	**224**	P	Pn	20 42 55.7	-1.6
CAW	**Cannon Point**	**2.04**	**46**	P	Pn	20 42 56.3	-1.4
GCSZ	**Gaunt Creek Bo**	**2.20**	**248**	P	Pn	20 43 00.4	+0.5
OGWZ	**Otaki Gorge**	**2.30**	**43**	P	Pn	20 42 60.0	-1.3
TMZ	**Timaru**	**2.41**	**219**	P	Pn	20 43 01.2	-1.6
FOZ	**Fox Glacier**	**2.62**	**246**	P	Pn	20 43 05.9

CAPV				*e*S		**Sg**	**20 47 43.6 +1.3**
PAMC	**Pamplona, Colo**	**0.51**	**248**	*i*P		**Pg**	**20 47 40.1 -0.9**
PAMC				*e*S		**Sg**	**20 47 46.1 -1.7**
PAMC				IAML			20 47 46.5
	comp=Z,310nm,0.1s						
TAMC	**Tame, Arauca**	**1.17**	**159**	*e*P		**Pn**	**20 47 55.2 +0.5**
TAMC				*e*S		**Sb**	**20 48 11.5 +1.6**
TAMC				IAML			20 48 15.4
	comp=Z,121nm,0.2s						
BARC	**Barichara**	**1.34**	**226**	*e*P		**Pn**	**20 47 55.1 -2.0**
BARC				*e*S		**Sb**	**20 48 11.7 -3.1**
BARC				IAML			20 48 20.3
	comp=Z,228nm,0.9s						
BRRC	**Barranca, Sant**	**1.54**	**254**	*e*P		**Pn**	**20 47 59.3 -0.4**
BRRC				*e*S		**Sn**	**20 48 18.7 -1.7**
BRRC				IAML			20 48 21.8
	comp=Z,94nm,0.1s						
SOCV	**Socops**	**1.54**	**61**	*e*P		**Pn**	**20 48 01.2 +1.4**
SOCV				*e*S		**Sg**	**20 48 22.4 +1.5**
LL1C	**La Loma 1 Cana**	**2.39**	**327**	*e*P		**Pn**	**20 48 12.9 +1.4**
LL1C				*e*S		**Sg**	**20 48 47.1 -1.0**
PTBC	**PUERTO BERRIO,**	**2.43**	**246**	*e*P		**Pn**	**20 48 12.1 +0.1**
PTBC				*e*S		**Sn**	**20 48 41.8 -0.6**
PTBC				IAML			20 48 46.1
	comp=Z,77nm,0.2s						
MCQV	**Machiques**	**2.52**	**353**	*e*P		**Pn**	**20 48 14.4 +1.1**
ZARC	**Zaragoza, Cauc**	**2.62**	**269**	*e*P		**Pn**	**20 48 15.0 +0.5**
ZARC				*e*S		**Sn**	**20 48 47.0 0.0**
ZARC				IAML			20 48 54.3
	comp=Z,40nm,0.6s						
ARGC	**Ariguani, Magd**	**3.06**	**319**	*e*P		**Pn**	**20 48 21.5 +0.9**
ARGC				*e*S		**Sn**	**20 48 56.0 -1.9**
ARGC				IAML			20 49 14.6
	comp=Z,15nm,0.4s						
CHIC	**Chingaza**	**3.25**	**208**	*e*P		**Pn**	**20 48 25.6 +1.9**
CHIC				*e*S		**Sn**	**20 49 05.7 +2.4**
CHIC				IAML			20 49 25.5
	comp=Z,9.3nm,0.5s						
NORC	**Norcasia**	**3.28**	**234**	*e*P		**Pn**	**20 48 24.1 +0.3**
NORC				*e*S		**Sn**	**20 49 06.7 +3.3**
NORC				IAML			20 49 12.4
	comp=Z,33nm,0.5s						
UREC	**San Jos de Ur**	**3.29**	**274**	*e*P		**Pn**	**20 48 25.5 +1.6**
UREC				*e*S		**Sn**	**20 49 07.0 +3.4**
UREC				IAML			20 49 10.8
	comp=Z,28nm,0.3s						
CURV	**Curarigua**	**3.33**	**42**	*e*P		**Pn**	**20 48 25.9 +1.5**
CURV				*e*S		**Sn**	**20 49 03.2 -1.4**
CRJC	**Cerrejon, Guaj**	**3.52**	**349**	*e*P		**Pn**	**20 48 26.8 -0.4**
CRJC				*e*S		**Sn**	**20 49 11.5 +2.0**
CRJC				IAML			20 49 21.6
	comp=Z,33nm,0.2s						
DABV	**Dabajuro**	**3.71**	**25**	*e*P		**Pn**	**20 48 30.2 +0.6**
DABV				*e*S		**Sn**	**20 49 12.7 -1.4**
SJCC	**San Jacinto, C**	**3.75**	**309**	*e*P		**Pn**	**20 48 32.0 +1.7**
SJCC				*e*S		**Sn**	**20 49 17.2 +2.2**
SJCC				IAML			20 49 34.1
	comp=Z,19nm,0.5s						
SIQV	**Siquisique**	**3.91**	**37**	*e*P		**Pn**	**20 48 32.6 +0.3**
SIQV				*e*S		**Sn**	**20 49 17.3 -1.6**
URIC	**Uribia, Colomb**	**4.15**	**3**	*e*P		**Pn**	**20 48 34.8 -0.8**
URIC				*e*S		**Sn**	**20 49 21.6 -3.1**
URIC				IAML			20 49 51.9
	comp=Z,15nm,0.4s						
MAPV	**Macapo**	**4.37**	**58**	*e*P		**Pn**	**20 48 39.4 +0.8**
MAPV				*e*S		**Sn**	**20 49 27.3 -2.9**
BAUV	**El Baul**	**4.37**	**71**	*e*P		**Pn**	**20 48 38.7 +0.1**
BAUV				*e*S		**Sn**	**20 49 28.7 -1.5**

WEL **19** *20:48:00,41.68S×174.28E,h14km,ML4.6,Mw4.3, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}2.91; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-2.57; $M_{r\theta}$-0.69; $M_{\theta\phi}$-2.00; $M_{\phi r}$0.91; Fault plane solution: M_o3.57000×10^{15} NP1: ϕ_s232.00000°,δ46.00000°,λ122.00000°. NP2: ϕ_s10.00000°,δ53.00000°,λ61.00000°. Principal axes: T -376.9600, Plg67.0000°, Azm219.0000°; N 39.3900, Plg23.0000°, Azm28.0000°; P 337.5700, Plg4.0000°, Azm120.0000°;*

IDC **19** *20:48:50.2±0.9,41.46S×174.35E,h0km,mb4.1/6, mbtmp4.1/7,ML4.2/1,MS3.3/7 Error ellipse: s-maj=33.4km s-min=23.0km az=69.0*

NOU **19** *20:48:52.7,41.90S×174.47E,h4km,MLv4.8/13,Cook Strait, New Zealand*

NEIC **19** *20:48:53.7±2.1,41.75S±0.03×174.35E±0.03,h16km±3km, mb4.7/13,Mwr4.3/27,Error ellipse: s-maj=5.0km s-min=1.0km az=147.0*

NEIC **19** *20:48:54,41.75S×174.34E,h14km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.37; $M_{\theta\theta}$-0.61; $M_{\phi\phi}$-2.76; $M_{r\theta}$-0.56; $M_{\theta\phi}$-1.77; $M_{\phi r}$0.82; Fault plane solution: M_o3.71000×10^{15} NP1:ϕ_s224.28000°, δ43.53000°,λ112.39000°. NP2:ϕ_s14.68000°,δ50.44000°, λ70.11000°. Principal axes: T 3.6403, Plg74.0000°, Azm222.0000°; N 0.1411, Plg15.0000°, Azm28.0000°; P -3.7814, Plg4.0000°, Azm119.0000°;*

WEL **19** *20:48:54.3±0.3,42.3S×174.7E,h12km±3km,M4.6/35, ML4.9/18,MLv4.6/35 Error ellipse: s-maj=0.0km s-min=0.0km az=144.7*

ISC 19 20:48:54.2±0.5,41.73S±0.03×174.31E±0.03,h22km±2km, n121,σ1ᵗ0.07/128,mb4.4/13,MS3.4/6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**251**		**Pb**	**20 48 57.8**	**-0.5**
CMWZ				Sg	**Sb**	**20 49 00.8**	**-0.2**
CMWZ	**Cape Campbell**	**0.07**	**251**	P	**Pb**	**20 48 57.8**	**-0.5**
CMWZ				S	**Sb**	**20 49 00.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.32**	**272**		**Pb**	**20 49 01.4**	**+0.1**
BSWZ				Sg	**Sb**	**20 49 07.2**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.32**	**272**	P	**Pb**	**20 49 01.5**	**+0.1**
BSWZ				S	**Sb**	**20 49 06.8**	**+0.6**
TUWZ	**Tuamarina**	**0.40**	**317**		**Pb**	**20 49 02.6**	**0.0**
TUWZ				Sg	**Sb**	**20 49 08.7**	**+0.3**
TUWZ	**Tuamarina**	**0.40**	**317**	P	**Pb**	**20 49 02.7**	**0.0**
TUWZ				S	**Sb**	**20 49 08.9**	**+0.5**
SNZO	**South Karori**	**0.51**	**36**	Pg	**Pb**	**20 49 04.7**	**+0.2**
SNZO				Sg	**Sb**	**20 49 12.2**	**+0.7**
SNZO	**South Karori**	**0.51**	**36**	P	**Pb**	**20 49 04.9**	**+0.4**
TCW	**Tory Channel**	**0.52**	**358**		**Pb**	**20 49 04.5**	**-0.1**
TCW				Sg	**Sb**	**20 49 11.5**	**-0.1**
TCW	**Tory Channel**	**0.52**	**358**	P	**Pb**	**20 49 05.7**	**-0.1**
WEL	**Wellington**	**0.56**	**38**	P	**Pb**	**20 49 05.7**	**+0.3**
WEL				S	**Sb**	**20 49 13.8**	**+0.9**
PLWZ	**Palliser**	**0.73**	**78**	Pg	**Pb**	**20 49 09.1**	**+0.9**
PLWZ	**Palliser**	**0.73**	**78**	P	**Pb**	**20 49 09.1**	**+0.9**
MSWZ	**Moikau Station**	**0.77**	**67**		**Pb**	**20 49 09.7**	**+0.8**
MSWZ	**Moikau Station**	**0.77**	**67**	P	**Pn**	**20 49 09.8**	**+0.1**
CAW	**Cannon Point**	**0.84**	**43**	P	**Pn**	**20 49 10.4**	**-0.3**
NNZ	**Nelson**	**0.86**	**306**		**Pn**	**20 49 10.7**	**-0.2**
NNZ	**Nelson**	**0.86**	**306**	P	**Pn**	**20 49 10.8**	**-0.2**
KHZ	**Kahutara**	**0.90**	**219**		**Pb**	**20 49 12.1**	**+1.0**
KHZ	**Kahutara**	**0.90**	**219**	P	**Pb**	**20 49 12.2**	**+1.2**
PAWZ	**Paruwai Farm**	**0.91**	**68**	P	**Pn**	**20 49 11.7**	**+0.1**
DUWZ	**D'Urville Isla**	**0.97**	**342**	P	**Pn**	**20 49 12.3**	**-0.1**
KIW	**Kapiti Island**	**0.98**	**28**	P	**Pn**	**20 49 12.7**	**+0.2**
THZ	**Tophouse**	**1.05**	**267**		**Pb**	**20 49 14.4**	**+0.7**
THZ	**Tophouse**	**1.05**	**267**	P	**Pb**	**20 49 14.6**	**+0.9**
MTW	**Mount Morrison**	**1.06**	**58**	P	**Pn**	**20 49 13.9**	**+0.2**
TRWZ	**Traveller**	**1.09**	**73**	P	**Pn**	**20 49 14.0**	**-0.1**
OGWZ	**Otaki Gorge**	**1.12**	**36**	P	**Pn**	**20 49 15.2**	**+0.7**
MRNZ	**Matariki Terra**	**1.21**	**285**		**Pb**	**20 49 17.2**	**+0.8**
MRNZ	**Matariki Terra**	**1.21**	**285**	P	**Pb**	**20 49 17.5**	**+1.1**
TKNZ	**Takaka Hill**	**1.23**	**304**		**Pb**	**20 49 17.1**	**+0.5**
TKNZ	**Takaka Hill**	**1.23**	**304**	P	**Pb**	**20 49 17.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.23**	**48**	P	**Pn**	**20 49 16.7**	**+0.6**
TMWZ	**Te Maipa**	**1.34**	**63**	P	**Pn**	**20 49 17.4**	**-0.1**
MRZ	**Mangatainoka R**	**1.43**	**43**	Pn	**Pn**	**20 49 19.1**	**+0.3**
MRZ	**Mangatainoka R**	**1.43**	**43**	P	**Pn**	**20 49 19.6**	**+0.8**
TIWZ	**Tintock**	**1.52**	**52**	P	**Pn**	**20 49 20.0**	**-0.1**
GVZ	**Greta Valley S**	**1.56**	**217**	Pn	**Pn**	**20 49 20.5**	**0.0**
GVZ	**Greta Valley S**	**1.56**	**217**	P	**Pn**	**20 49 21.2**	**+0.6**
QRZ	**Quartz Range**	**1.61**	**303**		**Pb**	**20 49 23.5**	**+0.3**
QRZ	**Quartz Range**	**1.61**	**303**	P	**Pb**	**20 49 23.9**	**+0.7**
QRZ	**Quartz Range**	**1.61**	**303**	P	**Pb**	**20 49 23.7**	**+0.5**
OHWZ	**Ohakea**	**1.70**	**27**	P	**Pb**	**20 49 24.6**	**-0.2**
PRWZ	**Pori Road**	**1.72**	**48**	P	**Pn**	**20 49 22.9**	**+0.1**
POWZ	**Post Office Ro**	**1.73**	**40**	P	**Pn**	**20 49 23.7**	**+0.7**
BFZ	**Birch Farm**	**1.80**	**55**	Pn	**Pn**	**20 49 23.1**	**-0.8**
BFZ	**Birch Farm**	**1.80**	**55**	P	**Pn**	**20 49 23.5**	**-0.3**
LTZ	**Lake Taylor**	**1.84**	**234**	Pn	**Pn**	**20 49 25.1**	**+0.6**
LTZ	**Lake Taylor**	**1.84**	**234**	P	**Pn**	**20 49 25.3**	**+0.8**
DSZ	**Denniston Nort**	**1.87**	**269**		**Pn**	**20 49 26.6**	**+1.7**
DSZ	**Denniston Nort**	**1.87**	**269**	P	**Pb**	**20 49 27.2**	**-0.5**
AMCZ	**Amberley**	**1.90**	**220**		**Pn**	**20 49 25.2**	**0.0**
AMCZ	**Amberley**	**1.90**	**220**	P	**Pn**	**20 49 25.2**	**0.0**
DVHZ	**Dannevirke**	**2.00**	**45**	P	**Pn**	**20 49 26.5**	**-0.1**
WAZ	**Wanganui**	**2.04**	**15**	P	**Pb**	**20 49 31.5**	**+1.0**
ANWZ	**Angora Road**	**2.07**	**53**	P	**Pn**	**20 49 27.3**	**-0.2**
TSZ	**Takapari Road**	**2.08**	**38**	P	**Pn**	**20 49 28.2**	**+0.4**
OXZ	**Oxford**	**2.32**	**226**		**Pn**	**20 49 30.3**	**-0.7**
MQZ	**McQueen's Vall**	**2.32**	**211**		**Pn**	**20 49 29.8**	**-1.2**
INZ	**Inchbonnie**	**2.35**	**244**		**Pn**	**20 49 31.9**	**+0.5**
KHEZ	**Kahui Hut**	**2.44**	**355**	P	**Pb**	**20 49 36.9**	**-0.5**
BKZ	**Black Stump Fm**	**3.05**	**34**	Pn	**Pn**	**20 49 40.6**	**-0.5**
RPZ	**Rata Peaks**	**3.11**	**229**	Pn	**Pn**	**20 49 41.8**	**-0.1**
	22nm,0.3s,baz=139,slow=1.2,SNR=24						
RPZ				Sn	**Sn**	**20 50 17.9**	**-0.5**
	16nm,0.3s,baz=162,slow=20,SNR=6.2						
RPZ				LR	LR	20 50 46.0	
	comp=Z,200nm,21.5s,baz=40,slow=35						
	48nm,0.4s						
RPZ	**Rata Peaks**	**3.11**	**229**		**Pn**	**20 49 41.5**	**-0.4**
RPZ	**Rata Peaks**	**3.11**	**229**	P	**Pn**	**20 49 42.1**	**+0.2**
HIZ	**Hauiti**	**3.24**	**8**	Pn	**Pn**	**20 49 45.4**	**+1.8**
HIZ	**Hauiti**	**3.24**	**8**	P	**Pn**	**20 49 46.9**	**+3.3**
FOZ	**Fox Glacier**	**3.77**	**240**		**Pn**	**20 49 51.4**	**+0.4**
LBZ	**Lake Benmore**	**4.02**	**227**		**Pn**	**20 49 53.9**	**-0.5**
URZ	**Urewera**	**4.08**	**33**	P	**Pn**	**20 49 55.8**	**+0.7**
ODZ	**Otahua Downs**	**4.26**	**218**		**Pn**	**20 49 56.2**	**-1.4**
ODZ	**Otahua Downs**	**4.26**	**218**	P	**Pn**	**20 49 57.4**	**-0.2**
JCZ	**Jackson Bay**	**4.69**	**238**	P	**Pn**	**20 50 04.8**	**+1.2**
WKZ	**Wanaka**	**4.95**	**229**		**Pn**	**20 50 06.3**	**-0.9**
KUZ	**Kuaotunu**	**5.09**	**13**	P	**Pn**	**20 50 12.9**	**+3.8**
MXZ	**Matakaoa Point**	**5.18**	**38**		**Pn**	**20 50 08.7**	**-1.6**
MXZ	**Matakaoa Point**	**5.18**	**38**	P	**Pn**	**20 50 11.1**	**+0.8**
MLZ	**Mavora Lakes**	**5.78**	**229**	Pn	**Pn**	**20 50 18.0**	**-0.7**
OUZ	**Omahuta**	**6.52**	**355**	Pn	**Pn**	**20 50 30.8**	**+2.1**
OUZ	**Omahuta**	**6.52**	**355**	P	**Pn**	**20 50 31.8**	**+3.1**
CTZ	**Chatham Island**	**6.98**	**110**	P	**Pn**	**20 50 34.2**	**-0.8**
DZM	**Mont Dzumac**	**20.68**	**339**	LR	LR	21 01 34.1	
	comp=Z,116nm,19.1s,baz=24,slow=37						
BBOO	**Buckleboo**	**31.50**	**274**	P	**P**	**20 55 14.1**	**-0.3**
BBOO				IAmb	IAmb	20 55 40.6	
	comp=Z,6.6nm,1.1s						
CTA	**Charters Tower**	**32.08**	**304**	LR	LR	21 07 38.7	
	comp=Z,62nm,20.4s,baz=86,slow=35						
VNDA	**Vanda**	**36.27**	**185**	P	**P**	**20 55 56.1**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=27,slow=8.8,SNR=2.3						
	comp=Z,0.6nm,0.9s						
VNDA	**Vanda**	**36.27**	**185**	P	**P**	**20 55 56.7**	**+1.4**
AS31	**Alice Springs**	**38.06**	**285**	P	**P**	**20 56 10.4**	**-0.7**
ASAR	**Alice Springs**	**38.06**	**285**	P	**P**	**20 56 10.3**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=124,slow=6.7,SNR=32						
ASAR				PcP	**PcP**	**20 58 24.7**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=124,slow=4.3,SNR=2.7						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**38.06**	**285**	P	**P**	**20 56 10.1**	**-1.0**
PPT	**Papeete**	**39.13**	**63**	LR	LR	21 11 22.8	
	comp=Z,28nm,18.0s,baz=188,slow=35						
WR0	**Warramunga Arr**	**39.98**	**291**	P	**P**	**20 56 26.7**	**-0.5**
PMG	**Port Moresby**	**40.10**	**316**	LR	LR	21 14 09.3	
	comp=Z,88nm,18.2s,baz=14,slow=38						
WB2	**Warramunga Arr**	**40.12**	**290**	P	**P**	**20 56 27.9**	**-0.5**
WB2				IAmb	IAmb	20 56 29.3	
	comp=Z,6.1nm,0.8s						
WRA	**Warramunga Arr**	**40.13**	**290**	P	**P**	**20 56 27.9**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=126,slow=8.3,SNR=9.6						
WRA				PcP	**PcP**	**20 58 31.3**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=131,slow=2.5,SNR=1.8						
	comp=Z,5.2nm,0.9s						
KNRA	**Kununurra**	**46.92**	**290**	P	**P**	**20 57 22.9**	**-0.2**
MTN	**Manton Dam**	**47.24**	**295**	P	**P**	**20 57 25.6**	**0.0**
MORW	**Morawa**	**48.30**	**266**	P	**P**	**20 57 33.4**	**-0.4**
QSPA	**South Pole Qui**	**48.40**	**180**	P	**P**	**20 57 36.7**	**+2.4**
	comp=Z,3.7nm,0.9s,baz=73,slow=8.6,SNR=16						
	comp=Z,3.7nm,0.9s						
QSPA	**South Pole Qui**	**48.40**	**180**	P	**P**	**20 57 36.9**	**+2.6**
QSPA				IAmb	IAmb	20 57 39.6	
	comp=Z,10nm,1.3s						
PSA00	**Pilbara Seismi**	**49.66**	**276**	P	**P**	**20 57 43.5**	**-0.8**
PSA00				IAmb	IAmb	20 58 09.6	
	comp=Z,21nm,1.4s						
MBWA	**Marble Bar**	**49.99**	**277**	P	**P**	**20 57 45.7**	**-1.1**
MBWA				IAmb	IAmb	20 57 52.5	
	comp=Z,20nm,1.2s						
SIJI	**Sorong**	**56.15**	**305**	LR	LR	21 23 20.0	
	comp=Z,35nm,18.7s,baz=127,slow=37						
BELA	**Belgrano 2**	**59.36**	**173**	P	**P**	**20 58 54.8**	**+0.8**
BELA				IAmb	IAmb	20 59 11.1	
	comp=Z,5.2nm,1.2s						
TROLL	**Troll, Antarti**	**66.42**	**183**	P	**P**	**20 59 43.0**	**+1.9**
SNAA	**Sanae**	**66.89**	**181**	P	**P**	**20 59 45.8**	**+1.7**
SNAA	**Sanae**	**66.89**	**181**	P	**P**	**20 59 45.5**	**+1.4**
SNAA				IAmb	IAmb	20 59 46.5	
	comp=Z,11nm,1.4s						
VNA3	**Neumayer Olymp**	**67.31**	**179**	P	**P**	**20 59 48.3**	**+1.7**
VNA2	**Neumayer--Watz**	**67.65**	**179**	P	**P**	**20 59 50.9**	**+2.1**
	baz=163,slow=5.3						
VNA1	**Neumayer--Stat**	**67.92**	**179**	P	**P**	**20 59 52.6**	**+2.1**
KSRS	**Korea Array**	**89.46**	**325**	P	**P**	**21 01 47.0**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=142,slow=6.2,SNR=2.3						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.67**	**293**	P	**P**	**21 02 00.3**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=147,slow=3.6,SNR=3.8						
CMAR				LR	LR	21 47 15.3	
	comp=Z,14nm,18.8s,baz=105,slow=38						
	comp=Z,1.1nm,0.6s						
PZH	**PanZhiHua**	**95.35**	**301**	P	**P**	**21 02 18.8**	**+2.1**
PZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
HHC	**Hu-ho-hao-te**	**99.90**	**317**	*e*P	**Pdif**	**21 02 39.0**	**+2.2**
YKA	**Yellowknife Ar**	**118.33**	**30**	PKP	**PKPdf**	**21 07 37.0**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=263,slow=2.2,SNR=5.3						
MKAR	**Makanchi Array**	**119.99**	**308**	PKP	**PKPdf**	**21 07 42.0**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=131,slow=2.1,SNR=1.9						
KURBB	**Kurchatov Arra**	**124.00**	**310**	PKP	**PKPdf**	**21 07 49.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=113,slow=1.7,SNR=3.5						
KBZ	**Khabaz**	**144.65**	**290**	PKP	**PKPab**	**21 08 27.1**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=157,slow=3.2,SNR=4.0						
DBIC	**Dimbokro**	**145.08**	**181**	PKPbc	**PKPdf**	**21 08 30.2**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=176,slow=4.1,SNR=5.2						
ARCES	**ARCESS Array B**	**147.77**	**340**	PKPbc	**PKPbc**	**21 08 35.1**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=11,slow=0.7,SNR=7.2						
BRTR	**Keskin Array B**	**150.30**	**279**	PKPbc	**PKPbc**	**21 08 43.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=123,slow=5.3,SNR=6.8						
FINES	**FINESS Array B**	**152.53**	**327**	PKPbc	**PKPbc**	**21 08 46.0**	**-1.6**
	comp=Z,3.3nm,1.0s,baz=46,slow=5.5,SNR=8.4						

TAP 19 20:57:26.5,23.11N×120.43E,h17km,ML0.7,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHN3	**Shinhua**	**0.06**	**241**	P	Pg	20 57 30.5	+0.9
	baz=240						
CHN3				S	Sg	20 57 32.5	+0.8
	baz=240						
SHHT	**Tainan City**	**0.11**	**220**	*e*S	Sg	20 57 31.9	-0.5
	baz=219						
CHN1	**Nanshi**	**0.12**	**51**	*i* P	Pb	20 57 30.5	+0.1
	baz=50						
CHN1				*i* S	Sb	20 57 33.5	+0.4
	baz=50						
SSHA	**Shanhua**	**0.13**	**283**	*e*S	Sb	20 57 34.1	+0.9
	baz=283						
SGST	**Jiashian**	**0.15**	**100**	P	Pb	20 57 31.2	+0.3
	baz=99						
SGST				S	Sb	20 57 34.7	+0.9
	baz=99						
TWK	**Hsinying**	**0.17**	**20**	*e*P	Pg	20 57 31.1	+0.2
	baz=23						
TWK				S	Sb	20 57 35.4	+1.0
	baz=23						
TAI1	**Yung-k'ang**	**0.19**	**250**	P	Pb	20 57 31.5	-0.1
	baz=248						
TAI1				*e*S	Sb	20 57 36.1	+1.1
	baz=248						
WTP	**Ta-pu**	**0.22**	**51**	P	Pb	20 57 32.7	+0.6
	baz=53						
WTP				*i* S	Sb	20 57 36.6	+0.7
	baz=53						
SCLT	**Jiali**	**0.22**	**288**	*e*P	Pg	20 57 31.5	-0.1
	baz=287						
SCLT				*e*S	Sb	20 57 36.3	+0.4
	baz=287						
TPUB	**Ta-pu**	**0.27**	**44**	*e*P	Pb	20 57 32.9	-0.1
	baz=44						
TWM1	**Shoushan**	**0.28**	**180**	P	Pb	20 57 33.4	+0.2
	baz=178						
TWM1				S	Sb	20 57 38.2	+0.5
	baz=178						
CHN4	**Tsaushan**	**0.29**	**32**	*e*P	Pb	20 57 33.3	+0.1
	baz=32						
STYH	**Taoyuan**	**0.33**	**79**	*e*P	Pb	20 57 33.9	0.0
	baz=77						

GII **19** *21:14:13.8±0.0,36.46N×41.80E,h2km,mb4.4/2,MD4.2/2*

AZER **19** *21:14:23.0±1.5,36.23N×40.03E,h10km, Error ellipse: s-maj=38.2km s-min=13.9km az=139.0*

IDC **19** *21:14:25.4±1.3,35.93N×40.87E,h0km,mb3.2/2, mbtmp3.3/7,ML3.1/4,MS2.6/2, Error ellipse: s-maj=21.1km s-min=14.1km az=135.0*

GRAL **19** *21:14:26.6±0.5,38.96N×35.09E,h33km±999km,MD4.4*

ISK **19** *21:14:28.0,36.00N×40.87E,h12km,ML4.2/40*

DDA **19** *21:14:28.5±0.0,36.04N×40.91E,h22km±1km,MW4.2*

ISC 19 21:14:26.2±0.8,35.86N±0.04×40.81E±0.03,h10km,n101, σ2ᵗ33/111,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARD	**Mardin**	**1.45**	**359**	P	**Pb**	**21 14 52.3**	**-1.1**
MARD				S	**Sg**	**21 15 10.5**	**-2.4**
MARD				*i* AML	AML	21 15 13.0	
	comp=N,4μm,0.5s						
MARD				*i* AML	AML	21 15 16.0	
	comp=E,4μm,0.7s						
MIDY	**Mardin/Midyat-**	**1.61**	**17**	P	**Pb**	**21 14 54.9**	**-1.2**
MIDY				S	**Sb**	**21 15 14.7**	**-1.9**
MIDY				*i* AML	AML	21 15 20.0	
	comp=N,2μm,0.5s						
MIDY				*i* AML	AML	21 15 21.0	
	comp=E,2μm,0.4s						
MAZI	**Mazidag**	**1.62**	**350**	PN	**Pn**	**21 14 54.4**	**-0.6**
MAZI				SN	**Sb**	**21 15 15.3**	**-1.6**
SANL	**SANLIURFA_Merk**	**1.97**	**312**	P	**Pb**	**21 15 00.3**	**-1.8**
SANL				S	**Sn**	**21 15 23.2**	**-1.2**
SANL				*i* AML	AML	21 15 26.0	
	comp=N,1μm,0.6s						
SANL				*i* AML	AML	21 15 34.0	
	comp=E,1μm,0.8s						
BTMN	**Batman**	**2.06**	**10**	P	**Pb**	**21 15 01.8**	**-1.9**
BTMN				S	**Sb**	**21 15 26.7**	**-2.8**
BTMN				*i* AML	AML	21 15 34.0	
	comp=E,659nm,0.5s						
DIYA	**Diyarbakir**	**2.13**	**345**	P	**Pb**	**21 15 03.5**	**-1.5**
DIYA				S	**Sb**	**21 15 29.9**	**-1.6**
DIYA				*i* AML	AML	21 15 31.0	
	comp=E,880nm,0.3s						
DIYA				*i* AML	AML	21 15 33.0	
	comp=N,1μm,0.3s						
DYBB	**Diyarbakir**	**2.16**	**346**	PN	**Pb**	**21 15 03.3**	**-2.1**
DYBB				SN	**Sn**	**21 15 28.5**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.31**	**8**	PN	**Pn**	**21 15 04.8**	**+0.5**
PERV	**Siirt/Pervari-**	**2.50**	**33**	P	**Pn**	**21 15 09.2**	**-2.4**
PERV				S	**Sb**	**21 15 40.6**	**-1.7**
PERV				*i* AML	AML	21 15 57.0	
	comp=N,3μm,0.5s						
HANI	**Diyarbakir_Han**	**2.57**	**353**	P	**Pn**	**21 15 09.0**	**+1.0**
CUKT	**Cukurca**	**2.64**	**58**	PN	**Pn**	**21 15 09.5**	**+0.5**
BLIS	**Bitlis-Merkez**	**2.75**	**22**	P	**Pn**	**21 15 11.3**	**+0.7**
GURO	**Guroymak-BITLI**	**2.86**	**20**	PN	**Pn**	**21 15 12.8**	**+0.8**
HAKT	**HAKKARI**	**2.88**	**53**	P	**Pn**	**21 15 12.4**	**+0.1**
HAKT				S	**Sn**	**21 15 47.9**	**+0.7**
HAKT				*i* AML	AML	21 16 04

OFRI	**Ofer**	**5.81**	**238**	Pn		**Pn**	**21 15 55.4**	**+3.0**
GULA	**Gulagac**	**5.81**	**297**	PN		Pn	21 15 56.8	+4.3
YESY	**Yesilyurt**	**5.99**	**291**	PN		Pn	21 15 59.3	+4.4
CSS	**Mathiatis**	**6.17**	**264**	PN		Pn	21 16 03.2	+5.8
GDB	**GEDABAY**	**6.22**	**37**	P		**Pn**	**21 15 57.2**	**-0.9**
GDB				S		**Sn**	**21 17 11.8**	**+2.4**
GHAJ	**Ghor Haditha**	**6.31**	**225**	Pn		**Pn**	**21 16 01.3**	**+2.1**
GANJ	**Ganja**	**6.45**	**41**	P		**Pn**	**21 16 00.3**	**-1.0**
GANJ				S		**Sn**	**21 17 16.5**	**+1.5**
CORM	**Corum**	**6.51**	**313**	PN		**Pn**	**21 16 06.1**	**+3.9**
LRK	**Lerik**	**6.62**	**63**	P		**Pn**	**21 16 07.0**	**+3.3**
LRK				S		Sn	21 17 27.6	+8.4
KAMT	**Kaman**	**6.63**	**304**	PN		**Pn**	**21 16 07.9**	**+4.1**
YRD	**Yardimli**	**6.66**	**61**	P		**Pn**	**21 16 05.3**	**+1.1**
YRD				S		Sn	21 17 28.2	+8.0
BRTR	**Keskin Array B**	**6.87**	**306**	Pn		**Pn**	**21 16 08.0**	**+1.0**
	baz=122,slow=18,SNR=3.4							
BRTR				Lg		Lg	21 18 07.3	
	baz=120,slow=26							
BRTR				LR		LR	21 19 35.1	
	comp=Z,37nm,18.8s,baz=119,slow=45							
	0.5nm,0.7s							
GAZI	**Gazipasa**	**6.89**	**276**	PN		Pn	21 16 12.3	+5.0
ZFRI	**Zfri**	**7.09**	**223**	Pn		**Pn**	**21 16 12.9**	**+2.9**
PRNI	**Paran**	**7.34**	**223**	Pn		**Pn**	**21 16 16.2**	**+2.7**
EIL	**Eilat**	**7.90**	**220**	Pn		**Pn**	**21 16 24.2**	**+3.1**
	0.2nm,0.3s,baz=32,slow=15,SNR=2.6							
EIL				Lg		Lg	21 18 38.9	
	1.6nm,0.3s,baz=42,slow=16,SNR=2.5							
	2.5nm,0.7s							
KBZ	**Khabaz**	**8.02**	**11**	LR		LR	21 20 06.3	
	comp=Z,52nm,21.9s,baz=215,slow=43							
WSAR	**Wadi Sarin**	**19.92**	**124**	P		**P**	**21 18 58.1**	**0.0**
	0.2nm,0.3s,baz=254,slow=22,SNR=1.5							
WSAR				S		S	21 22 30.1	-12
	3.7nm,0.8s,baz=192,slow=20,SNR=2.3							
	1.6nm,0.6s							
GERES	**GERESS Array B**	**23.72**	**312**	P		**P**	**21 19 38.2**	**-0.1**
	0.1nm,0.5s,baz=119,slow=11,SNR=1.5							
	0.1nm,0.5s							
MKAR	**Makanchi Array**	**32.66**	**57**	P		**P**	**21 20 59.4**	**+1.1**
	1.0nm,0.8s,baz=266,slow=8.1,SNR=5.2							
	1.0nm,0.8s							

WEL ***19*** *21:21:32.5±0.3, 42°.2×17°.4E±°, h5km, M3.7/54, ML4.0/18, MLv3.7/54, Error ellipse: s-maj=0.0km s-min=0.0km az=124.1*
NOU ***19*** *21:21:32.1, 42°.30S×173°.93E, h15km, MLv4.1/12, South Island, New Zealand*
ISC 19 21:21:31.9±0.9, 42°.12S±0°.03×173°.79E±0°.03, h10km, n87, σ1§50/89, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.35**	**212**	P	**Pg**	**21 21 40.0**	**+1.2**
KHZ	**Kahutara**	**0.35**	**212**	P	**Pg**	**21 21 40.1**	**+1.2**
KHZ				S	**Sg**	**21 21 45.7**	**+2.2**
BSWZ	**Blackbirch Sta**	**0.41**	**9**	P	**Pg**	**21 21 40.5**	**+0.5**
BSWZ				S	**Sb**	**21 21 46.4**	**-1.1**
CMWZ	**Cape Campbell**	**0.49**	**41**	P	**Pb**	**21 21 43.1**	**+0.5**
TUWZ	**Tuamarina**	**0.70**	**10**	P	**Pb**	**21 21 45.8**	**-0.3**
THZ	**Tophouse**	**0.75**	**298**	P	**Pb**	**21 21 46.2**	**-0.9**
NNZ	**Nelson**	**0.95**	**341**	P	**Pg**	**21 21 49.7**	**-0.5**
TCW	**Tory Channel**	**0.98**	**22**	P	**Pg**	**21 21 50.6**	**-0.1**
GVZ	**Greta Valley S**	**1.01**	**213**	P	**Pg**	**21 21 52.3**	**+0.8**
MRNZ	**Matariki Terra**	**1.05**	**313**	P	**Pb**	**21 21 51.8**	**-0.4**
SNZO	**South Karori**	**1.06**	**41**	P	**Pb**	**21 21 52.8**	**+0.5**
WEL	**Wellington**	**1.11**	**42**	P	**Pb**	**21 21 53.6**	**+0.5**
PLWZ	**Palliser**	**1.23**	**64**	P	**Pn**	**21 21 54.5**	**-0.7**
TKNZ	**Takaka Hill**	**1.25**	**330**	P	**Pb**	**21 21 55.0**	**-0.6**
MSWZ	**Moikau Station**	**1.30**	**58**	P	**Pn**	**21 21 55.6**	**-0.6**
LTZ	**Lake Taylor**	**1.30**	**239**	P	**Pn**	**21 21 56.4**	**+0.1**
DUWZ	**D'Urville Isla**	**1.32**	**4**	P	**Pn**	**21 21 56.2**	**-0.2**
AMCZ	**Amberley**	**1.35**	**218**	P	**Pn**	**21 21 56.6**	**-0.2**
CAW	**Cannon Point**	**1.39**	**44**	P	**Pn**	**21 21 57.2**	**-0.2**
PAWZ	**Paruwai Farm**	**1.43**	**60**	P	**Pn**	**21 21 57.1**	**-0.9**
KIW	**Kapiti Island**	**1.51**	**34**	P	**Pn**	**21 21 59.3**	**+0.2**
DSZ	**Denniston Nort**	**1.53**	**283**	P	**Pg**	**21 22 00.4**	**-0.8**
TRWZ	**Traveller**	**1.59**	**64**	P	**Pn**	**21 21 59.1**	**-1.1**
QRZ	**Quartz Range**	**1.60**	**323**	P	**Pb**	**21 22 01.0**	**-0.6**
QRZ	**Quartz Range**	**1.60**	**323**	P	**Pb**	**21 22 00.9**	**-0.6**
MTW	**Mount Morrison**	**1.60**	**54**	P	**Pn**	**21 21 59.4**	**-0.9**
OGWZ	**Otaki Gorge**	**1.66**	**39**	P	**Pn**	**21 22 01.0**	**-0.1**
OKCZ	**Okains Bay**	**1.69**	**198**	P	**Pn**	**21 22 00.8**	**-0.7**
OXZ	**Oxford**	**1.77**	**226**	P	**Pn**	**21 22 01.6**	**-1.0**
HOWZ	**Holdsworth Sta**	**1.78**	**47**	P	**Pn**	**21 22 01.9**	**-0.8**
MQZ	**McQueen's Vall**	**1.79**	**207**	P	**Pn**	**21 22 01.4**	**-1.5**
INZ	**Inchbonnie**	**1.84**	**250**	P	**Pn**	**21 22 03.7**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.87**	**200**	P	**Pn**	**21 22 03.4**	**-0.6**
TMWZ	**Te Maipa**	**1.87**	**58**	P	**Pn**	**21 22 02.8**	**-1.2**
MRZ	**Mangatainoka R**	**1.98**	**43**	P	**Pn**	**21 22 04.8**	**-0.7**
RACZ	**Rakaia**	**2.01**	**216**	P	**Pn**	**21 22 04.8**	**-1.2**
TIWZ	**Tintock**	**2.07**	**50**	P	**Pb**	**21 22 10.7**	**+1.2**
MHCZ	**Mount Hutt**	**2.16**	**228**	P	**Pn**	**21 22 06.9**	**-1.1**
PRWZ	**Pori Road**	**2.27**	**47**	P	**Pn**	**21 22 08.5**	**-1.0**
POWZ	**Post Office Ro**	**2.28**	**42**	P	**Pn**	**21 22 09.3**	**-0.3**
WACZ	**Wakanui South**	**2.32**	**217**	P	**Pn**	**21 22 08.9**	**-1.2**
BFZ	**Birch Farm**	**2.34**	**53**	P	**Pn**	**21 22 08.8**	**-1.6**
BFZ	**Birch Farm**	**2.34**	**53**	P	**Pn**	**21 22 08.7**	**-1.8**
WVZ	**Waitaha Valley**	**2.45**	**246**	P	**Pn**	**21 22 10.3**	**-1.6**
DVHZ	**Dannevirke**	**2.55**	**45**	P	**Pn**	**21 22 11.9**	**-1.5**
RPZ	**Rata Peaks**	**2.56**	**231**	P	**Pn**	**21 22 12.6**	**-0.9**
RPZ	**Rata Peaks**	**2.56**	**231**	P	**Pn**	**21 22 12.7**	**-0.8**
TSZ	**Takapari Road**	**2.63**	**39**	P	**Pb**	**21 22 20.1**	**+1.0**
ARCZ	**Arundel**	**2.65**	**225**	P	**Pn**	**21 22 13.5**	**-1.1**
LREZ	**Lake Rotokare**	**2.70**	**10**	P	**Pb**	**21 22 19.8**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**2.82**	**244**	P	**Pn**	**21 22 17.7**	**+0.7**
KHEZ	**Kahui Hut**	**2.83**	**4**	P	**Pb**	**21 22 20.2**	**-2.3**
KHEZ	**Kahui Hut**	**2.83**	**4**	P	**Pb**	**21 22 20.7**	**-1.8**
NBEZ	**Newall Road No**	**2.85**	**1**	P	**Pb**	**21 22 20.6**	**-2.2**
NEZ	**North Egmont**	**2.85**	**5**	P	**Pb**	**21 22 22.4**	**-0.6**
PNHZ	**Pukenui**	**2.86**	**40**	P	**Pn**	**21 22 16.4**	**-1.2**
PKE	**Pukeiti**	**2.92**	**3**	P	**Pb**	**21 22 22.0**	**-2.2**
TMZ	**Timaru**	**3.04**	**221**	P	**Pn**	**21 22 19.0**	**-1.1**
PKVZ	**Pokaka**	**3.06**	**23**	P	**Pn**	**21 22 23.6**	**+3.1**
VRZ	**Vera Road**	**3.08**	**14**	P	**Pb**	**21 22 24.7**	**-2.1**
MOVZ	**Moawhango**	**3.09**	**29**	P	**Pb**	**21 22 24.7**	**-2.3**
WNVZ	**Wahianoa**	**3.11**	**27**	P	**Pn**	**21 22 23.5**	**+2.3**
TRVZ	**Turoa**	**3.12**	**26**	P	**Pn**	**21 22 24.6**	**+3.2**
WHVZ	**Whangaehu Hut**	**3.15**	**26**	P	**Pb**	**21 22 25.1**	**-2.9**
FWVZ	**Far West T-bar**	**3.16**	**26**	P	**Pb**	**21 22 26.8**	**-1.5**
TUVZ	**Tukino**	**3.18**	**27**	P	**Pb**	**21 22 27.5**	**-1.1**
FOZ	**Fox Glacier**	**3.25**	**243**	P	**Pn**	**21 22 24.4**	**+1.6**
NGZ	**Ngauruhoe**	**3.25**	**26**	P	**Pb**	**21 22 28.0**	**-1.8**
NNVZ	**North Ngauruho**	**3.29**	**26**	P	**Pb**	**21 22 29.6**	**-0.8**
TWVZ	**Taurewa**	**3.29**	**23**	P	**Pb**	**21 22 28.6**	**-1.8**
LBZ	**Lake Benmore**	**3.47**	**228**	P	**Pn**	**21 22 28.4**	**-1.7**
BKZ	**Black Stump Fm**	**3.60**	**36**	P	**Pn**	**21 22 29.6**	**+1.9**
HIZ	**Hauiti**	**3.69**	**13**	P	**Pn**	**21 22 31.9**	**+2.8**
HIZ	**Hauiti**	**3.69**	**13**	P	**Pn**	**21 22 31.8**	**+2.8**
ODZ	**Otahua Downs**	**3.71**	**217**	P	**Pn**	**21 22 28.1**	**-1.2**
ODZ	**Otahua Downs**	**3.71**	**217**	P	**Pn**	**21 22 27.8**	**-1.5**
TLZ	**Tolley Road**	**4.01**	**20**	P	**Pb**	**21 22 39.1**	**-3.6**
JCZ	**Jackson Bay**	**4.15**	**240**	P	**Pn**	**21 22 35.1**	**-0.3**
JCZ	**Jackson Bay**	**4.15**	**240**	P	**Pn**	**21 22 35.6**	**+0.1**
EAZ	**Earnscleugh**	**4.50**	**225**	P	**Pn**	**21 22 39.1**	**-1.0**
URZ	**Urewera**	**4.62**	**35**	P	**Pn**	**21 22 43.1**	**+1.4**
TUZ	**Tuapeka**	**4.87**	**217**	P	**Pn**	**21 22 44.2**	**-0.9**
CNGZ	**Carnagh Statio**	**4.96**	**44**	P	**Pn**	**21 22 46.6**	**+0.2**
AWAZ	**Awhitu Peninsu**	**5.09**	**8**	P	**Pn**	**21 22 50.1**	**+1.9**
MKAZ	**Moumakai**	**5.12**	**12**	P	**Pn**	**21 22 51.9**	**+3.3**
ETAZ	**East Tamaki Re**	**5.23**	**10**	P	**Pn**	**21 22 53.2**	**+3.0**
OUZ	**Omahuta**	**6.89**	**359**	P	**Pn**	**21 23 15.4**	**+2.5**

IDC ***19*** *21:23:37.0±3.1, 22°.29N×143°.52E, h97km±27km, mb3.4/7, mbtmp3.7/9, Error ellipse: s-maj=47.5km s-min=17.4km az=85.0*
ISC 19 21:23:39.1±1.1, 22°.4N±0°.1×143°.5E±0°.3, h118km, n13, σ1§00/11, mb3.6/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.87**	**346**	P	**Pn**	**21 24 49.3**	**-0.9**
	26nm,0.5s,baz=112,slow=15,SNR=12						
JCJ				S	**Sn**	**21 25 44.6**	**-1.0**
	39nm,0.4s,baz=255,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**14.86**	**343**	P	**Pn**	**21 27 02.9**	**-0.4**
	0.7nm,0.6s,baz=161,slow=8.3,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**22.10**	**96**	T	T	21 51 13.9	
	baz=284						
H11S1	**WAKE ISLAND Hy**	**22.11**	**96**	T	T	21 51 12.1	
	baz=284						
H11S2	**WAKE ISLAND Hy**	**22.11**	**96**	T	T	21 51 09.9	
	baz=284						
KLR	**Kul'dur**	**28.39**	**344**	P	**P**	**21 29 23.7**	**+1.5**
	0.8nm,0.5s,baz=167,slow=14,SNR=1.9						
	0.8nm,0.5s						
PETK	**Petropavlovsk-**	**32.58**	**16**	P	**P**	**21 29 59.9**	**+0.8**
	2.6nm,0.8s,baz=221,slow=12,SNR=1.7						
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**42.97**	**193**	P	**P**	**21 31 26.2**	**-0.5**
	0.2nm,0.3s,baz=13,slow=8.7,SNR=13						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.67**	**192**	P	**P**	**21 31 55.4**	**-0.6**
	0.2nm,0.6s,baz=22,slow=6.3,SNR=1.9						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**53.87**	**321**	P	**P**	**21 32 50.3**	**+0.5**
	0.4nm,0.4s,baz=92,slow=10,SNR=1.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**54.45**	**312**	P	**P**	**21 32 55.7**	**+1.4**
	0.4nm,0.5s,baz=95,slow=7.6,SNR=6.8						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**82.71**	**335**	P	**P**	**21 35 48.9**	**-0.5**
	1.5nm,0.8s,baz=62,slow=4.9,SNR=6.6						
	1.5nm,0.8s						
PLCA	**Paso Flores**	**145.99**	**131**	PKPbc	**PKPbc**	**21 43 04.7**	**-0.6**
	1.1nm,0.9s,baz=258,slow=4.7,SNR=1.7						

IDC 19 21:35:29.7±1.4, 30°.83S×59°.30E, h0km, mb3.7/4, mbtmp3.7/4, MS3.7/3, Error ellipse: s-maj=60.2km s-min=31.0km az=4.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**26.16**	**31**	T	T	22 07 50.4	
	baz=204						
H08S2	**Diego Garcia H**	**26.16**	**31**	T	T	22 07 56.7	
	baz=204						
H08S3	**Diego Garcia H**	**26.18**	**31**	T	T	22 07 52.0	
	baz=204						
LBTB	**Lobatse**	**30.27**	**273**	P	P	21 41 42.7	0.0
	0.7nm,0.4s,baz=167,slow=18,SNR=1.0						
	0.7nm,0.4s						
LSZ	**Lusaka**	**32.41**	**291**	LR	LR	21 53 48.2	
	comp=Z,64nm,18.2s,baz=150,slow=34						
H01W2	**Cape Leeuwin H**	**45.76**	**110**	T	T	22 32 41.0	
	baz=258						
H01W3	**Cape Leeuwin H**	**45.76**	**110**	T	T	22 32 29.5	
	baz=258						
H01W1	**Cape Leeuwin H**	**45.77**	**110**	T	T	22 32 29.5	
	baz=258						
CMAR	**Chiang Mai Arr**	**62.08**	**43**	P	P	21 45 52.4	0.0
	0.7nm,0.6s,baz=229,slow=9.3,SNR=7.5						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**65.61**	**104**	P	P	21 46 15.7	-0.1
	0.2nm,0.6s,baz=243,slow=6.1,SNR=4.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**67.55**	**100**	P	P	21 46 28.4	+0.1
	0.5nm,0.7s,baz=243,slow=5.8,SNR=8.8						
	0.5nm,0.7s						
MDT	**Midelt**	**87.51**	**311**	LR	LR	22 26 31.0	
	comp=Z,37nm,18.9s,baz=152,slow=35						
ESDC	**Sonseca Array**	**91.47**	**316**	LR	LR	22 31 49.8	
	comp=Z,56nm,18.2s,baz=120,slow=37						

NEIC ***19*** *21:43:29.9±1.3, 0°.01N±0°.07×122°.21E±0°.07, h243km±4km, mb4.4/28, Error ellipse: s-maj=11.5km s-min=8.5km az=48.0*
IDC ***19*** *21:43:31.1±1.2, 0°.02S×122°.28E, h261km±12km, mb3.7/17, mbtmp4.3/19, Error ellipse: s-maj=16.1km s-min=6.8km az=72.0*
DJA ***19*** *21:43:32.1±0.3, 0°.3S±3°×12°.2E±°, h218km±3km, M4.2/18, mb4.5/11, mB4.6/5, MLv4.3/18, Mw(mB)3.8/5*
ISC 19 21:43:29.6±0.5, 0°.05S±0°.05×122°.18E±0°.06, h245km±5km, n105, σ1§24/118, mb4.2/34, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.57**	**335**	P	**Pn**	**21 44 01.7**	**-0.5**
MRSI				S	**S**	**21 44 25.5**	**-2.3**
APSI	**Ampana**	**1.01**	**212**	P	**Pn**	**21 44 04.6**	**+0.4**
APSI				S	**S**	**21 44 29.2**	**-2.1**
GTOI	**Gorontalo**	**1.07**	**51**	P	**Pn**	**21 44 04.7**	**+0.2**
GTOI				S	**S**	**21 44 31.4**	**-0.5**
LUWI	**Luwuk**	**1.15**	**149**	Pn	**Pn**	**21 44 05.5**	**+0.5**
LUWI					**S**	**21 44 31.6**	**-1.2**
LUWI	**Luwuk**	**1.15**	**149**	P	**Pn**	**21 44 05.4**	**+0.4**
LUWI				S	**S**	**21 44 31.5**	**-1.4**
LUWI	**Luwuk**	**1.15**	**149**	P	**Pn**	**21 44 05.8**	**+0.8**
TOLI2	**Tolitoli**	**1.81**	**309**	Pn	**Pn**	**21 44 09.9**	**-0.1**
TOLI2				Sn	**S**	**21 44 39.6**	**-2.2**
TOLI2	**Tolitoli**	**1.81**	**309**	P	**Pn**	**21 44 10.2**	**+0.2**
MPSI	**Mapaga**	**2.32**	**279**	P	**Pn**	**21 44 14.5**	**-0.2**
MPSI				S	**S**	**21 44 48.2**	**-1.9**
KKSI	**Kolaka, Sulawe**	**4.13**	**187**	P	**Pn**	**21 44 35.9**	**+1.1**
MMSI	**Mamuju**	**4.20**	**231**	P	**Pn**	**21 44 38.4**	**+2.8**
SANI	**Sanana**	**4.29**	**118**	P	**Pn**	**21 44 36.2**	**-0.5**
SANI	**Sanana**	**4.29**	**118**	P	**Pn**	**21 44 36.9**	**+0.2**
SPSI	**Sidrap Palu**	**4.58**	**212**	P	**Pn**	**21 44 40.5**	**+0.4**
SGKI	**Sangatta, Kali**	**4.60**	**264**	P	**Pn**	**21 44 41.7**	**+1.2**
BNSI	**Bone**	**4.80**	**206**	P	**Pn**	**21 44 45.0**	**+2.2**
TNTI	**Ternate**	**5.25**	**81**	Pn	**Pn**	**21 44 47.8**	**-0.5**
TNTI	**Ternate**	**5.25**	**81**	P	**Pn**	**21 44 48.2**	**-0.1**
	37nm,0.8s						
LBMI	**Labuha**	**5.35**	**96**	P	**Pn**	**21 44 49.3**	**-0.3**
	1.2nm938nm56nm,0.7s						
BBSI	**Bau Bau**	**5.42**	**176**	P	**Pn**	**21 44 51.9**	**+1.4**
	0.3nm730nm86nm,0.9s						
BKB	**Balikpapan**	**5.42**	**257**		**Pn**	**21 44 51.6**	**+1.1**
BKB	**Balikpapan**	**5.42**	**257**	P	**Pn**	**21 44 52.2**	**+1.7**
	0.5nm2µm158nm,0.9s						
KAPI	**Kappang**	**5.50**	**206**	P	**Pn**	**21 44 52.3**	**+0.8**
	107nm,0.7s,baz=16,slow=5.5,SNR=62						
KAPI	**Kappang**	**5.50**	**206**	Pn	**Pn**	**21 44 52.1**	**+0.6**
KAPI	**Kappang**	**5.50**	**206**	P	**Pn**	**21 44 52.0**	**+0.6**
	0.5nm1µm153nm,1.0s						
KAPI	**Kappang**	**5.50**	**206**	P	**Pn**	**21 44 52.3**	**+0.8**
	169nm,1.0s						
BSSI	**Bau Bau, Buton**	**6.29**	**196**	P	**Pn**	**21 45 04.2**	**+2.9**
	0.2nm68nm,1.0s						
MYLDM	**Lahad Datu**	**6.36**	**325**	P	**Pn**	**21 45 04.3**	**+2.1**
	0.2nm28nm,0.7s						
DAV	**Davao City (W)**	**7.84**	**26**	P	**Pn**	**21 45 24.9**	**+4.0**
	146nm,0.3s,baz=207,slow=2.3,SNR=4.0						
KKM	**Kota Kinabalu**	**8.49**	**316**	Pn	**Pn**	**21 45 30.7**	**+1.4**
MMRI	**Maumere**	**8.53**	**180**	Pn	**Pn**	**21 45 30.3**	**+0.6**
SIJI	**Sorong**	**9.12**	**95**	P	**Pn**	**21 45 38.4**	**+1.2**
	8.1nm,0.5s,baz=246,slow=10,SNR=7.9						
BIPH	**Bislig**	**9.17**	**27**	P	**Pn**	**21 45 40.0**	**+2.2**
DBNI	**Kabupaten Domp**	**9.24**	**205**	P	**Pn**	**21 45 40.1**	**+1.3**
	56nm,1.1s						
PLAI	**Plampang**	**9.77**	**207**	P	**Pn**	**21 45 48.0**	**+2.6**
	73nm,0.8s						
PLAI	**Plampang**	**9.77**	**207**	P	**Pn**	**21 45 47.3**	**+1.9**
	74nm,0.8s						
SOEI	**Soe**	**9.87**	**168**	Pn	**Pn**	**21 45 48.8**	**+2.1**
SOEI	**Soe**	**9.87**	**168**	P	**P**	**21 45 55.0**	**+2.0**
	64nm,0.8s						
BATI	**Baumata**	**10.20**	**172**	P	**Pn**	**21 45 52.9**	**+2.1**
	104nm,0.6s,baz=16,slow=19,SNR=30						
BATI	**Baumata**	**10.20**	**172**	P	**Pn**	**21 45 53.0**	**+2.1**
FAKI	**Fak Fak**	**10.46**	**106**	Pn	**Pn**	**21 45 53.6**	**-0.5**
JAGI	**Jajag, Banyuwa**	**11.58**	**224**	P	**P**	**21 46 11.0**	**-0.9**
	62nm,1.4s						
MTN	**Manton Dam**	**15.51**	**145**	P	**Pn**	**21 46 56.0**	**-0.2**
MTN	**Manton Dam**	**15.51**	**145**	P	**Pn**	**21 46 56.4**	**+0.2**
	42nm,0.5s						
KDU	**Kakadu**	**16.18**	**141**	P	**Pn**	**21 47 03.9**	**-0.3**
	17nm,1.4s						
KNRA	**Kununurra**	**16.84**	**158**	P	**P**	**21 47 10.3**	**+0.4**
KNRA	**Kununurra**	**16.84**	**158**	P	**P**	**21 47 10.9**	**+0.9**
	42nm,1.0s						
WB0	**Warramunga Arr**	**22.96**	**149**	P	**P**	**21 48 12.3**	**-0.6**
WB0					IAmb IAmb	21 48 13.7	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**23.08**	**150**	P	**P**	**21 48 13.5**	**-0.6**
	comp=Z,6.9nm,0.7s,baz=326,slow=11,SNR=178						
WRA				PcP	**PcP**	**21 51 54.2**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=300,slow=1.8,SNR=1.7						
WRA				S	**S**	**21 52 06.5**	**-0.1**
	comp=Z,3.3nm,1.1s,baz=324,slow=18,SNR=7.6						
WRA				ScP	**ScP**	**21 55 07.9**	**-2.2**
	comp=Z,0.8nm,1.0s,baz=334,slow=3.2,SNR=3.4						
	comp=Z,6.9nm,0.7s						
WRA	**Warramunga Arr**	**23.08**	**150**	P	**P**	**21 48 13.0**	**-1.1**
WR0	**Warramunga Arr**	**23.20**	**149**	P	**P**	**21 48 14.7**	**-0.4**
YULB	**Yu-li**	**23.31**	**358**	P	**P**	**21 48 16.5**	**+0.4**
YULB				IAmb	IAmb	21 48 21.2	
	comp=Z,9.7nm,0.7s						
SSLB	**Suanglung**	**23.72**	**357**		**P**	**21 48 20.7**	**+0.8**
SSLB				IAmb	IAmb	21 48 25.1	
	comp=Z,20nm,0.8s						
COEN	**Coen**	**24.96**	**124**	P	**P**	**21 48 30.8**	**-0.3**
COEN				IAmb	IAmb	21 48 33.6	
	comp=Z,16nm,1.2s						
COEN	**Coen**	**24.96**	**124**	P	**P**	**21 48 32.2**	**+1.1**
	comp=Z,11nm,1.1s						
WRKA	**Warakurna**	**25.54**	**167**	P	**P**	**21 48 36.4**	**+0.1**
	comp=Z,9.7nm,2.2s						
AS31	**Alice Springs**	**26.09**	**155**	P	**P**	**21 48 41.0**	**-0.3**
ASAR	**Alice Springs**	**26.09**	**155**	P	**P**	**21 48 41.2**	**0.0**
	comp=Z,2.5nm,0.6s,baz=343,slow=14,SNR=86						
ASAR				PcP	**PcP**	**21 52 01.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=336,slow=2.3,SNR=7.3						
ASAR				S	**S**	**21 52 52.1**	**-2.2**
	comp=Z,2.5nm,0.9s,baz=338,slow=17,SNR=14						
ASAR				ScP	**ScP**	**21 55 17.2**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=358,slow=2.2,SNR=3.0						
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**26.09**	**155**	P	**P**	**21 48 41.0**	**-0.2**
QIS	**Mount Isa**	**26.57**	**141**	P	**P**	**21 48 45.8**	**+0.3**
	comp=Z,8.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.32**	**310**	P	**P**	**21 49 11.8**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=137,slow=6.9,SNR=14						
	comp=Z,1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.32**	**310**	P	**P**	**21 49 09.7**	**-0.1**
CHTO	**Chiang Mai**	**29.53**	**311**	P	**P**	**21 49 12.4**	**+0.7**
JCJ	**Chichijima**	**33.14**	**34**	P	**P**	**21 49 42.2**	**-0.9**
	comp=Z,55nm,0.5s,baz=270,slow=23,SNR=10						
JCJ	**Chichijima**	**33.14**	**34**	P	**P**	**21 49 42.0**	**-1.1**
TNCH	**TengChong**	**33.84**	**319**	P	**P**	**21 49 51.3**	**+1.8**
TNCH				pmax	pmax		
	comp=Z,80nm,5.0s						
BBOO	**Buckleboo**	**35.12**	**159**	P	**P**	**21 49 59.8**	**-0.3**
BBOO				IAmb	IAmb	21 50 10.4	
	comp=Z,15nm,1.2s						
JMN	**Monobe**	**35.35**	**17**	P	**P**	**21 50 01.1**	**-1.0**
STKA	**Stephens Creek**	**36.60**	**152**	P	**P**	**21 50 13.0**	**+0.4**
	comp=Z,5.6nm,0.5s,baz=325,slow=8.4,SNR=21						
	comp=Z,5.6nm,0.5s						
STKA	**Stephens Creek**	**36.60**	**152**	P	**P**	**21 50 12.8**	**+0.2**
KSRS	**Korea Array**	**37.69**	**7**	P	**P**	**21 50 20.1**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=185,slow=8.3,SNR=3.6						
	comp=Z,1.0nm,0.7s						
JGF	**Kuroka**	**38.18**	**20**	P	**P**	**21 50 24.7**	**-1.1**
JGF				IAmb	IAmb	21 50 26.5	
	comp=Z,11nm,1.1s						
MJAR	**Matsushiro Arr**	**39.33**	**21**	P	**P**	**21 50 34.3**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=199,slow=8.7,SNR=8.0						
	comp=Z

MXZ	Matakaoa Point	4.72 199	Pn		Pn	22 16 44.0 +1.6
MXZ	Matakaoa Point	4.72 199	P		Pn	22 16 44.8 +2.4
WMGZ	Waiomatatini S	4.94 197	P		Pn	22 16 48.1 +2.8
WMGZ			S		Sn	22 17 43.6 +2.5
HAZ	Te Kaha	5.06 203	P		Pn	22 16 49.8 +2.9
HAZ			S		Sn	22 17 44.0 -0.1
WIZ	White Island	5.07 209	P		Pn	22 16 50.4 +3.3
PKGZ	Pakihiroa	5.09 200	P		Pn	22 16 49.8 +2.3
PKGZ			S		Sn	22 17 40.3 -4.7
KUZ	Kuaotunu	5.20 224	P		Pn	22 16 55.1 +6.3
PUZ	Puketiti	5.21 198	P		Pn	22 16 49.8 +0.7
PUZ			S		Sn	22 17 46.9 -1.1
RUGZ	Raukumara Rang	5.28 203	P		Pn	22 16 52.4 +2.2
RUGZ			S		Sn	22 17 48.0 -1.7
TWGZ	Tauwhareparae	5.39 199	P		Pn	22 16 53.8 +2.3
TWGZ			S		Sn	22 17 54.1 +1.9
OPRZ	Ohinepanea	5.61 211	P		Pn	22 16 57.0 +2.6
TKGZ	Te Karaka	5.67 199	P		Pn	22 16 57.0 +1.7
TKGZ			S		Sn	22 17 59.8 +0.9
MARZ	Manawahe	5.67 210	P		Pn	22 16 59.3 +4.0
URZ	Urewera	5.74 205	P		Pn	22 16 57.8 +1.6
ETAZ	East Tamaki Re	5.81 227	P		Pn	22 17 04.2 +7.1
OUZ	Omahuta	5.90 247	P		Pn	22 17 05.6 +7.2
OUZ	Omahuta	5.90 247	P		Pn	22 17 05.8 +7.4
RIGZ	Rimuhau	5.94 199	P		Pn	22 16 59.6 +0.6
RIGZ			S		Sn	22 18 02.9 -2.7
TOZ	Tahuroa Road	6.02 219	P		Pn	22 17 05.4 +5.3
MUGZ	Murupara	6.06 207	P		Pn	22 17 02.3 +1.8
RTZ	Ruatahuna	6.10 205	P		Pn	22 17 01.9 +0.7
HRRZ	Handcock Road	6.18 210	P		Pn	22 17 04.8 +2.6
KNZ	Kokohu	6.26 199	P		Pn	22 17 03.4 +0.1
MHGZ	Mahia Peninsul	6.33 197	P		Pn	22 17 04.5 +0.3
MTHZ	Maungataniwha	6.36 205	P		Pn	22 17 05.7 +1.0
WHHZ	Waihua	6.44 201	P		Pn	22 17 06.2 +0.5
NMHZ	Naumai	6.59 204	P		Pn	22 17 08.5 +0.6
ARHZ	Aropaoanui	6.68 202	P		Pn	22 17 09.0 0.0
BKZ	Black Stump Fm	6.77 206	P		Pn	22 17 10.3 +0.1
BKZ	Black Stump Fm	6.77 206	P		Pn	22 17 10.2 +0.1
MCHZ	McNeill Hill	6.94 203	P		Pn	22 17 12.4 -0.1
HIZ	Hauiti	6.95 218	P		Pn	22 17 16.8 +4.2
HIZ	Hauiti	6.95 218	P		Pn	22 17 17.3 +4.7
KWHZ	Kaweka Forest	7.02 205	P		Pn	22 17 13.8 +0.1
TMVZ	Te Maari	7.03 210	P		Pn	22 17 15.0 +1.1
ETVZ	East Tongariro	7.05 210	P		Pn	22 17 20.1 +6.0
OTVZ	Oturere	7.09 210	P		Pn	22 17 16.0 +1.3
SNVZ	South Ngauruho	7.12 210	P		Pn	22 17 15.8 +0.7
KAHZ	Kahuranaki	7.21 201	P		Pn	22 17 15.3 -0.9
FWVZ	Far West T-bar	7.21 210	P		Pn	22 17 17.5 +1.0
WNVZ	Wahianoa	7.25 210	P		Pn	22 17 18.0 +1.0
MOVZ	Moawhango	7.26 209	P		Pn	22 17 16.4 -0.5
MTVZ	Mangateitei	7.36 210	P		Pn	22 17 16.5 -1.8
PNHZ	Pukenui	7.53 204	P		Pn	22 17 18.5 -2.1
PRHZ	Porangahau	7.71 201	P		Pn	22 17 21.0 -2.0
WAZ	Wanganui	7.87 211	P		Pn	22 17 17.9 -7.3
DVHZ	Dannevirke	7.89 203	P		Pn	22 17 23.3 -2.2
BFZ	Birch Farm	8.21 202	P		Pn	22 17 27.3 -2.5
BFZ	Birch Farm	8.21 202	P		Pn	22 17 27.3 -2.5
TIWZ	Tintock	8.41 203	P		Pn	22 17 30.6 -2.0
MRZ	Mangatainoka R	8.41 205	P		Pn	22 17 30.0 -2.6
OGWZ	Otaki Gorge	8.70 206	P		Pn	22 17 33.5 -2.9
TMWZ	Te Maipa	8.71 202	P		Pn	22 17 33.5 -3.1
KIW	Kapiti Island	8.84 207	P		Pn	22 17 35.1 -3.2
MTW	Mount Morrison	8.88 204	P		Pn	22 17 34.9 -4.0
CAW	Cannon Point	8.99 206	P		Pn	22 17 36.8 -3.6
TRWZ	Traveller	9.04 202	P		Pn	22 17 37.9 -3.2
PAWZ	Paruwai Farm	9.11 204	P		Pn	22 17 38.3 -3.8
DUWZ	D'Urville Isla	9.22 210	P		Pn	22 17 40.9 -2.3
MSWZ	Moikau Station	9.20 204	P		Pn	22 17 40.1 -3.1
PLWZ	Palliser	9.33 204	P		Pn	22 17 41.1 -4.0
TCW	Tory Channel	9.38 209	P		Pn	22 17 41.6 -4.1
TUWZ	Tuamarina	9.71 209	P		Pn	22 17 45.9 -4.1
CTZ	Chatham Island	10.90 168	P		Pn	22 18 08.4 +2.2
RPZ	Rata Peaks	12.80 212	P		P	22 18 36.8 -1.9
	12nm,0.5s,baz=28,slow=3.2,SNR=6.4					
RPZ			S		Sn	22 20 40.6 -12
	22nm,0.5s,baz=307,slow=22,SNR=10.0					
RPZ	Rata Peaks	12.80 212	P		Pn	22 18 31.3 -0.4
ODZ	Otahua Downs	14.05 209	P		Pn	22 18 47.0 -0.9
JCZ	Jackson Bay	14.13 216	P		Pn	22 18 46.5 -2.6
MSVF	Nonsavu	15.43 352	P		P	22 19 07.8 -0.4
	18nm,0.7s,baz=163,slow=6.5,SNR=11					
MSVF	Nonsavu	15.43 352	P		P	22 19 06.5 -1.7
MSVF			IAmb		IAmb	22 19 09.9
	comp=Z,20nm,0.7s					
DZM	Mont Dzumac	16.43 309	P		P	22 19 23.5 +4.4
	comp=Z,17nm,1.0s,baz=125,slow=18,SNR=4.1					
RAR	Rarotonga	21.32 61	LR		LR	22 26 17.8
	comp=Z,34nm,21.2s,baz=278,slow=30					
ARMA	Armidale	24.45 269	P		P	22 20 47.4 +4.3
EIDS	Eidsvold	26.53 279	P		P	22 21 03.8 +1.9
TOO	Toolangi	28.60 251	P		P	22 21 21.9 +1.6
CMSA	Cobar Meteorol	29.16 264	P		P	22 21 28.2 +2.9
	comp=Z,16nm,0.8s					
PPT	Papeete	31.21 68	LR		LR	22 33 29.4
	comp=Z,43nm,18.4s,baz=202,slow=34					
STKA	Stephens Creek	32.50 261	P		P	22 21 58.0 +3.3
	comp=Z,1.0nm,0.4s,baz=106,slow=10.0,SNR=3.9					
	comp=Z,1.0nm,0.4s					
CTA	Charters Tower	32.89 285	P		P	22 22 00.2 +2.0
	comp=Z,8.0nm,0.5s,baz=111,slow=10,SNR=16					
	comp=Z,8.0nm,0.5s					
CTA	Charters Tower	32.89 285	P		P	22 22 01.0 +2.8
CTAO	Charters Tower	32.89 285	P		P	22 22 00.1 +1.9
CTAO			IAmb		IAmb	22 22 01.4
	comp=Z,9.5nm,0.7s					
CTAO	Charters Tower	32.89 285	P		P	22 22 00.8 +2.6
INKA	Innaminka	34.33 268	P		P	22 22 13.7 +3.1
	comp=Z,47nm,1.4s					
HTT	Hallett	34.39 258	P		P	22 22 12.1 +1.0
LCRK	Leigh Creek	35.66 263	P		P	22 22 23.7 +1.7
BBOO	Buckleboo	36.87 258	P		P	22 22 31.9 -0.4
BBOO			IAmb		IAmb	22 22 33.5
	comp=Z,14nm,1.3s					
BBOO	Buckleboo	36.87 258	P		P	22 22 32.5 +0.2
QIS	Mount Isa	38.13 279	P		P	22 22 47.6 +4.5
COEN	Coen	38.69 291	P		P	22 22 49.4 +1.6
COEN			IAmb		IAmb	22 22 50.1
	comp=Z,10nm,0.8s					
COEN	Coen	38.69 291	P		P	22 22 49.7 +1.9
MULG	Mulgathing	39.16 261	P		P	22 22 52.2 +0.7
AS01	Alice Springs	41.52 271	P		P	22 23 12.2 +1.0
AS31	Alice Springs	41.56 271	P		P	22 23 12.0 +0.6
ASAR	Alice Springs	41.56 271	P		P	22 23 12.1 +0.6
	comp=Z,3.9nm,0.4s,baz=108,slow=7.6,SNR=63					
ASAR			PcP		PcP	22 25 05.2 -1.8
	comp=Z,0.6nm,0.5s,baz=110,slow=4.9,SNR=1.5					
ASAR			ScP		ScP	22 28 38.2 -10
	comp=Z,0.3nm,0.7s,baz=122,slow=4.0,SNR=2.2					
ASAR			S		S	22 29 15.1 -5.1
	comp=Z,0.7nm,0.9s,baz=112,slow=17,SNR=4.9					
	comp=Z,3.9nm,0.4s					
ASAR	Alice Springs	41.56 271	P		P	22 23 11.8 +0.3
WR0	Warramunga Arr	42.62 276	P		P	22 23 20.6 +0.6
WR0			IAmb		IAmb	22 23 21.6
	comp=Z,9.6nm,0.9s					
WRAB	Tennant Creek	42.79 276	P		P	22 23 22.3 +0.8
WRA	Warramunga Arr	42.80 276	P		P	22 23 21.8 +0.3
	comp=Z,6.1nm,0.4s,baz=117,slow=7.9,SNR=124					
WRA			ScP		ScP	22 28 44.3 -8.7
	comp=Z,1.1nm,0.9s,baz=118,slow=4.2,SNR=5.7					
WRA			S		S	22 29 33.2 -5.2
	comp=Z,1.2nm,0.9s,baz=114,slow=15,SNR=4.2					
	comp=Z,6.1nm,0.4s					
WRA	Warramunga Arr	42.80 276	P		P	22 23 21.2 -0.3
FORT	Forrest	43.97 258	P		P	22 23 30.6 -0.2
FORT			IAmb		IAmb	22 23 32.8
	comp=Z,18nm,0.8s					
FORT	Forrest	43.97 258	P		P	22 23 30.9 +0.1
SBA	Scott Base	45.24 184	P		P	22 23 43.1 +2.8
SBA			IAmb		IAmb	22 23 47.2
	comp=Z,19nm,1.2s					
VNDA	Vanda	45.27 186	P		P	22 23 42.8 +2.3
	comp=Z,1.8nm,0.6s,baz=4.9,slow=8.1,SNR=16					
	comp=Z,1.8nm,0.6s					
VNDA	Vanda	45.27 186	P		P	22 23 42.8 +2.3
VNDA			IAmb		IAmb	22 23 45.3
	comp=Z,8.5nm,1.4s					
WRKA	Warakurna	45.73 266	P		P	22 23 45.2 +0.3
KDU	Kakadu	48.00 283	P		P	22 24 02.9 +0.3
KNRA	Kununurra	49.49 278	P		P	22 24 14.1 +0.1
CASY	Casey	52.06 209	P		P	22 24 32.4 -0.2
MORW	Morawa	54.37 256	P		P	22 24 49.1 -1.1
QSPA	South Pole Qui	57.01 180	P		P	22 25 10.7 +2.1
	comp=Z,30nm,0.6s,baz=20,slow=0.9,SNR=105					
QSPA			ScP		ScP	22 29 47.7 -5.3
	comp=Z,2.5nm,1.1s,baz=60,slow=4.5,SNR=4.0					
	comp=Z,30nm,0.6s					
QSPA	South Pole Qui	57.01 180	P		P	22 25 10.0 +1.4
BELA	Belgrano 2	67.31 172	P		P	22 26 17.2 +0.1
BELA			IAmb		IAmb	22 26 22.2
	comp=Z,5.6nm,0.9s					
SMAI	San Martin Ant	67.49 158	P		P	22 26 18.8 +0.6
SMAI			IAmb		IAmb	22 26 23.2
	comp=Z,12nm,1.4s					
MAW	Mawson	69.25 201	P		P	22 26 29.6 +0.4
	comp=Z,8.0nm,0.9s,baz=86,slow=8.9,SNR=5.9					
	comp=Z,8.0nm,0.9s					
MAW	Mawson	69.25 201	P		P	22 26 29.4 +0.2
TROLL	Troll, Antarti	75.17 181	P		P	22 27 05.1 +0.5
SNAA	Sanae	75.49 179	P		P	22 27 06.7 +0.4
SNAA	Sanae	75.49 179	P		P	22 27 06.8 +0.4
SNAA			IAmb		IAmb	22 27 09.7
	comp=Z,27nm,1.1s					
VNA3	Neumayer Olymp	75.71 177	P		P	22 27 07.9 +0.3
VNA2	Neumayer--Watz	76.12 177	P		P	22 27 10.5 +0.6
	baz=177,slow=5.3					
VNA1	Neumayer--Stat	76.36 177	P		P	22 27 13.5 +2.3
H03S2	Juan Fernandez	80.21 124	T		T	23 56 19.0
	baz=236,slow=74,SNR=30					
H03S1	Juan Fernandez	80.22 124	T		T	23 56 29.8
	baz=236,slow=74,SNR=26					
H03S3	Juan Fernandez	80.23 124	T		T	23 56 31.8
	baz=236,slow=74,SNR=27					
H03N3	Juan Fernandez	80.42 124	T		T	23 56 25.6
	baz=240,slow=72,SNR=37					
H03N2	Juan Fernandez	80.42 124	T		T	23 56 24.0
	baz=240,slow=72,SNR=34					
H03N1	Juan Fernandez	80.44 124	T		T	23 56 33.1
	baz=240,slow=72,SNR=41					
PLCA	Paso Flores	81.75 134	P		P	22 27 42.2 +1.0
	comp=Z,1.6nm,0.7s,baz=242,slow=2.4,SNR=5.3					
	comp=Z,1.6nm,0.7s					
PLCA	Paso Flores	81.75 134	P		P	22 27 41.7 +0.4
PLCA			IAmb		IAmb	22 28 09.3
	comp=Z,16nm,1.5s					
PEA0B	Petropavlovsk-	88.07 347	P		P	22 28 12.1 -0.1
PETK	Petropavlovsk-	88.07 347	P		P	22 28 12.5 +0.3
	comp=Z,3.0nm,0.7s,baz=129,slow=7.1,SNR=8.9					
	comp=Z,3.0nm,0.7s					
PETK	Petropavlovsk-	88.07 347	P		P	22 28 11.2 -0.9
NVAR	Mina Array Bea	91.23 44	P		P	22 28 28.1 +0.5
	comp=Z,1.1nm,0.7s,baz=222,slow=7.3,SNR=3.6					
	comp=Z,1.1nm,0.7s					
TXAR	Lajitas Array	95.09 58	P		P	22 28 44.8 -0.7
	comp=Z,0.5nm,1.0s,baz=235,slow=3.2,SNR=2.9					
	comp=Z,0.5nm,1.0s					
MKAR	Makanchi Array	118.34 309	PKP		PKPdf	22 34 07.0 -1.9
	comp=Z,3.9nm,1.3s,baz=128,slow=2.7,SNR=2.3					
ARCES	ARCESS Array B	140.88 346	PKiKP		PKPpre	22 34 44.4
	comp=Z,1.0nm,0.6s,baz=56,slow=1.6,SNR=1.0					
KBZ	Khabaz	145.28 300	PKPbc		PKPdf	22 34 58.2 -1.0
	comp=Z,0.9nm,0.6s,baz=90,slow=5.1,SNR=3.8					
FINES	FINESS Array B	147.11 337	PKPbc		PKPdf	22 35 01.9 +0.1
	comp=Z,2.9nm,0.5s,baz=26,slow=5.8,SNR=24					
NB2	NORSAR Subarra	151.15 349	PKP		PKPbc	22 35 13.9 -0.4
	comp=Z,1.0nm,0.5s,baz=16,slow=4.1					
NOA	NORSAR Array B	151.15 349	PKPbc		PKPbc	22 35 12.8 -1.5
	comp=Z,0.6nm,0.4s,baz=15,slow=4.1,SNR=6.1					
AKASG	Malin Array Be	152.43 318	PKPbc		PKPbc	22 35 16.1 -1.3
	comp=Z,0.3nm,0.3s,baz=45,slow=2.5,SNR=2.6					
BRTR	Keskin Array B	152.43 293	PKPbc		PKPbc	22 35 16.8 -1.3
	comp=Z,0.8nm,0.5s,baz=120,slow=3.7,SNR=9.7					
LIC	Lamto	152.81 168⇑	*i*PKP1		PKiKP	22 35 21.2 +1.6
	comp=Z,14nm,0.2s					
KIC	Kosan Boka	152.99 169⇑	*i*PKP1		PKiKP	22 35 21.8 +1.8
	comp=Z,9.4nm,0.3s					
TIC	Toumodi	153.22 168⇓	*i*PKP1		PKiKP	22 35 22.1 +1.6
	comp=Z,12nm,0.4s					
DBIC	Dimbokro	153.27 169	PKPbc		PKiKP	22 35 21.6 +1.1
	comp=Z,3.0nm,0.4s,baz=181,slow=2.2,SNR=17					
DBIC			PKPab		PKPab	22 35 35.0 +2.5
	comp=Z,5.5nm,0.7s,baz=198,slow=5.3,SNR=7.0					

TAP ***19*** *22:30:50.6,21.31N×121.83E,h172km,ML3.5,D*
MAN ***19*** *22:30:53.5,20.86N×120.45E,h1km,mb4.0,ML2.8,MS2.4*

ISC 19 22:30:49.3±1.7,21.23N±0.04×121.87E±0.09,
h169km±11km,n68,σ1s39/100,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu	0.81	341	*i* P		Pn	22 31 15.2	+0.8
	baz=342							
LYUB				*i* S		Sn	22 31 33.3	-0.7
	baz=342							
LAY	Lan-yu	0.86	340	*i* P		Pn	22 31 15.3	+0.5
	baz=341							
LAY				*e*S		Sn	22 31 33.6	-1.0
	baz=341							
TSEB	Hengchuen, Pin	1.12	306	*e*P		Pn	22 31 19.6	+2.8
	baz=299							
TSEB				*e*S		Sn	22 31 39.6	+1.6
	baz=299							
TWKBT	Hengchun	1.21	306	*e*P		Pn	22 31 19.1	+1.5
	baz=301							
TWKBT				*e*S		Sn	22 31 39.1	-0.3
	baz=301							
TWK1	Hengchun	1.22	306	*e*P		Pn	22 31 19.4	+1.7
	baz=301							
TWK1				*e*S		Sn	22 31 39.5	-0.1
	baz=301							
SMST	Manzhou Townsh	1.24	309	*e*P		Pn	22 31 19.0	+1.1
	baz=310							
SMST				*e*S		Sn	22 31 39.7	-0.2
	baz=310							
HEN	Hengchun	1.31	306	*e*P		Pn	22 31 20.2	+1.8
	baz=304							
HEN				*e*S		Sn	22 31 40.1	-0.9
	baz=304							
SLIU	Shizi	1.40	315	*e*P		Pn	22 31 20.2	+0.9
	baz=320							
SLIU				*e*S		Sn	22 31 41.9	-0.6
	baz=320							
TAWH	Dawu Township	1.43	320	*e*P		Pn	22 31 19.5	-0.1
	baz=322							
TAW	Tawu	1.44	321	*e*P		Pn	22 31 20.1	+0.4
	baz=315							
TAW				*e*S		Sn	22 31 41.6	-1.6
	baz=315							
LDUT	Ludao	1.48	345	*e*P		Pn	22 31 19.9	-0.2
	baz=349							
LDUT				*e*S		Sn	22 31 43.9	-0.1
	baz=349							
EAST	Anshuo	1.49	320	*e*P		Pn	22 31 21.1	+0.8
	baz=320							
EAST				*e*S		Sn	22 31 42.9	-1.3
	baz=320							
ECL	Taimali	1.60	328	P		Pn	22 31 21.6	+0.3
	baz=325							
ECL				*e*S		Sn	22 31 43.2	-3.0
	baz=325							
SCZT	Fangliau	1.63	314	P		Pn	22 31 22.7	+1.1
	baz=317							
SCZT				*e*S		Sn	22 31 46.0	-0.6
	baz=317							
TTN	Taitung	1.66	336	*e*P		Pn	22 31 22.5	+0.6
	baz=335							
TWGBT	Beinan	1.74	335	*e*P		Pn	22 31 23.2	+0.4
	baz=329							
TWGBT				*e*S		Sn	22 31 46.2	-2.5
	baz=329							
TWG	Pinlang	1.75	335	P		Pn	22 31 23.2	+0.4
	baz=329							
TWG				S		Sn	22 31 46.3	-2.6
	baz=329							
MASBT	Mashibuluo	1.79	320	*i* P		Pn	22 31 24.5	+1.2
	baz=322							
MASBT				*e*S		Sn	22 31 47.4	-2.3
	baz=322							
LONT	Longtian	1.80	338	*e*P		Pn	22 31 23.9	+0.5
	baz=332							
LONT				*e*S		Sn	22 31 48.8	-1.1
	baz=332							
EDH	Donghe	1.81	343	P		Pn	22 31 24.0	+0.6
	baz=337							
EDH				*e*S		Sn	22 31 48.6	-1.4
	baz=337							
TSMG	Majia	1.86	322	P		Pn	22 31 25.2	+1.2
	baz=327							
TSMG				*e*S		Sn	22 31 49.8	-1.1
	baz=327							
SSD	Sandimen	1.90	323	P		Pn	22 31 25.5	+1.0
	baz=328							
SSD				*e*S		Sn	22 31 50.1	-1.6
	baz=328							
CHKT	Chengkung	1.92	346	*e*P		Pn	22 31 25.6	+1.0
	baz=352							
CICP	Calayan Island	1.99	191⇑	*e*P		Pn	22 31 26.3	+0.8
CICP					*e*S	Sn	22 31 51.2	-2.3
FULB	Fuli	2.03	345	*e*P		Pn	22 31 27.2	+1.3
	baz=341							
FULB				*e*S		Sn	22 31 54.8	+0.4
	baz=341							
WSSB	Gushan	2.05	313	*e*P		Pn	22 31 28.4	+2.2
	baz=312							
TWM1	Shoushan	2.08	320	*e*P		Pn	22 31 27.4	+0.9
	baz=326							
TWM1				*e*S		Sn	22 31 58.1	+2.8
	baz=326							
SCST	Cishan	2.08	322	*e*P		Pn	22 31 28.3	+1.8
	baz=329							
ELDTW	Lidau	2.10	338	*e*P		Pn	22 31 27.5	+0.6
	baz=341							
EYUL	Yuli	2.17	346	*e*P		Pn	22 31 29.4	+1.9
	baz=347							
STYH	Taoyuan	2.18	332	*e*P		Pn	22 31 27.9	+0.3
	baz=327							
STYH				*e*S		Sn	22 31 55.4	-2.0
	baz=327							
SGST	Jiashian	2.20	327	P		Pn	22 31 28.3	+0.5
	baz=327							
SGST				*e*S		Sn	22 31 55.2	-2.5
	baz=327							
YULB	Yu-li	2.21	346	*e*P		Pn	22 31 28.5	+0.5
	baz=347							
HGSD	Ruisui	2.29	350	*e*P		Pn	22 31 29.0	+0.2
	baz=353							
HGSD				*e*S		Sn	22 32 00.1	+0.5
	baz=353							
CHN1	Nanshi	2.31	328	*e*P		Pn	22 31 30.8	+1.7
	baz=327							
CHN1				*e*S		Sn	22 31 58.4	-1.7
	baz=327							
EHY	Hungye	2.32	347	*e*P		Pn	22 31 29.9	+0.7
	baz=348							
WTP	Ta-pu	2.32	330	*e*P		Pn	22 31 30.4	+1.1
	baz=330							
WTP				*e*S		Sn	22 31 59.0	-1.3
	baz=330							
TPUB	Ta-pu	2.36	331	P		Pn	22 31 30.9	+1.2
	baz=331							
TPUB				*e*S		Sn	22 31 59.3	-1.8
	baz=331							
TWK	Hsinying	2.40	328	*e*P		Pn	22 31 31.6	+1.4
	baz=328							
CHN4	Tsaushan	2.42	331	*e*P		Pn	22 31 30.6	+0.2
	baz=331							
CHN4				*e*S		Sn	22 32 00.7	-1.6
	baz=331							
ALS	Alishan	2.47	337	*e*P		Pn	22 31 32.8	+1.4
	baz=337							
SCLT	Jiali	2.48	321	*e*P		Pn	22 31 31.9	+0.8
	baz=321							
TSCK	Chigu Township	2.53	319	*e*P		Pn	22 31 32.0	+0.4
	baz=312							
TSCK				*e*S		Sn	22 32 02.2	-2.3
	baz=312							
VWDT	VWDT	2.60	345	*e*P		Pn	22 31 34.8	+2.3
	baz=353							
CHN5	Tsauling	2.60	335	*e*P		Pn	22 31 32.5	-0.1
	baz=335							
CHY	Chiayi	2.62	330	*e*P		Pn	22 31 33.5	+0.7
	baz=329							
WHYT	Xinyi Township	2.63	339	*e*P		Pn	22 31 33.9	+1.0
	baz=339							
SSLB	Suanglung	2.68	342	*e*P		Pn	22 31 34.4	+0.8
	baz=335							
SSLB				*e*S		Sn	22 32 06.8	-1.2
	baz=335							
WSL	Shuilin Townsh	2.74	327	*e*P		Pn	22 31 33.9	-0.3
	baz=326							
SMLT	Sun Moon Lake	2.79	341	*e*P		Pn	22 31 36.0	+1.0
	baz=335							
PACPP	Pamplona Cagay	2.80	190⇑	*e*P		Pn	22 31 36.3	+1.3
PACPP				*i* S		Sn	22 32 08.9	-1.7
TYC	Yuchr	2.82	341	*e*P		Pn	22 31 36.1	+0.9
	baz=341							
WUSB	Renai	2.83	346	*e*P		Pn	22 31 37.2	+1.7
	baz=352							
TWD	Chiawan	2.85	355	*e*P		Pn	22 31 35.2	-0.3
	baz=1.0							
WNT	Mingjian	2.85	338	*e*P		Pn	22 31 36.7	+1.1
	baz=345							
WDGT	Dungji	2.88	315	*e*P		Pn	22 31 37.2	+1.3
	baz=314							
CHGB	Renai	2.89	347	*e*P		Pn	22 31 38.1	+1.9
	baz=347							
NACB	Ninganchiao	2.94	355	*e*P		Pn	22 31 38.2	+1.6
	baz=1.0							
WCS	Beigang Elemen	2.95	343	*e*P		Pn	22 31 37.2	+0.4
	baz=337							
WHF	Hehuan Shan	2.95	349	*e*P		Pn	22 31 39.4	+2.1
	baz=350							
SGCP	Gonzaga	2.98	177⇑	*e*P		Pn	22 31 44.4	+7.2
ETLH	Xiulin Townshi	2.98	353	*e*P		Pn	22 31 39.4	+2.1
	baz=354							
WRL	Guolierlin Hig	3.00	333	*e*P		Pn	22 31 36.5	-0.8
	baz=338							
PHUB	P'eng-hu	3.11	317	*e*P		Pn	22 31 38.9	+0.1
	baz=317							
PNG	Penghu	3.16	318	*e*P		Pn	22 31 40.4	+0.9
	baz=317							
NNSB	Datong	3.21	352	*e*P		Pn	22 31 42.3	+2.1
	baz=356							
LATG	Datong	3.30	354	*e*P		Pn	22 31 43.3	+2.0
	baz=355							
YHNB	Yeheng	3.45	352	*e*P		Pn	22 31 44.4	+1.3
	baz=353							

IDC ***19*** *22:42:18.4±7.2,21.02S×177.96W,h486km±47km,mb3.3/3,*
mbtmp4.2/4,Error ellipse: s-maj=124.3km s-min=29.4km
az=134.0

**ISC 19 22:42:20.4±2.6,20.9S±0.3×178.2W±0.4,h

ZAHL	**Zahle**	**0.72**	**34**	*e*P		**Pg**	**22 49 20.3**	**+0.2**
OFRI	**`Ofer**	**0.73**	**209**	Pg		**Pg**	**22 49 20.4**	**0.0**
OFRI				Sg		**Sn**	**22 49 31.1**	**-0.8**
MMLI	**Mount Malkishu**	**0.82**	**179**	Pg		**Pb**	**22 49 21.7**	**0.0**
MMLI				Sg		**Sg**	**22 49 33.1**	**0.0**
HMDT	**Nahal Hemdat**	**1.01**	**174**	Pg		**Pn**	**22 49 25.3**	**+0.1**
HMDT				Sg		**Sg**	**22 49 39.3**	**+0.3**
HWQ	**Hawqa**	**1.11**	**24**	*e*P		**Pg**	**22 49 27.4**	**-0.1**

*GRAL **19** 22:53:01.1±0.3, 3°.19N×35°.38E, h2^{km}±4^{km}, MD2.8*
*GII **19** 22:53:01.6±0.3, 33°.25N×35°.42E, h5^{km}, Mm2.0/4*
ISC 19 22:53:01.9±1.0, **33°.26N**±0°.03×**35°.41E**±0°.04, **h12**^{km}±8^{km}, **n17**, σ0**s58**/27, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.22**	**104**	Pg	**Pg**	**22 53 06.3**	**-0.3**
GEM				Sg	**Sg**	**22 53 10.1**	**+0.4**
MMC7	**Mount Meron ar**	**0.24**	**184**	Pg	**Pg**	**22 53 06.7**	**-0.3**
MMA0B	**Mount Meron ar**	**0.25**	**182**	Pg	**Pg**	**22 53 06.8**	**-0.3**
MMA0B				Sg	**Sg**	**22 53 11.0**	**+0.3**
HNTI	**Hanita**	**0.27**	**228**	Pg	**Pg**	**22 53 07.1**	**-0.4**
HNTI				Sg	**Sg**	**22 53 12.1**	**+0.9**
NATI	**Neve Ativ**	**0.27**	**90**	Pg	**Pg**	**22 53 07.4**	**-0.1**
NATI				Sg	**Sg**	**22 53 11.7**	**+0.4**
RCY	**Rachaya**	**0.42**	**57**	*e*P	**Pg**	**22 53 09.9**	**-0.4**
RCY				*e*S	**Sg**	**22 53 16.4**	**+0.3**
KSHT	**Keshet**	**0.44**	**130**	Pg	**Pb**	**22 53 10.8**	**-0.8**
DQRL	**Deir Qamar**	**0.46**	**17**	*e*P	**Pg**	**22 53 10.8**	**-0.2**
DQRL				*e*S	**Sg**	**22 53 17.9**	**+0.8**
BLGI	**Bet Lehem HaGe**	**0.56**	**199**	Pg	**Pg**	**22 53 12.3**	**-0.5**
BHL	**Bhannes**	**0.67**	**18**	*e*P	**Pg**	**22 53 14.5**	**-0.5**
BHL				*e*S	**Sb**	**22 53 24.6**	**-0.3**
ZAHL	**Zahle**	**0.71**	**34**	*e*P	**Pg**	**22 53 15.3**	**-0.4**
OFRI	**`Ofer**	**0.73**	**209**	Pg	**Pg**	**22 53 15.4**	**-0.7**
MMLI	**Mount Malkishu**	**0.82**	**179**	Pg	**Pg**	**22 53 17.3**	**-0.5**
MMLI				Sg	**Sg**	**22 53 28.5**	**-0.1**
HMDT	**Nahal Hemdat**	**1.01**	**174**	Pg	**Pb**	**22 53 20.6**	**-0.8**
HMDT				Sg	**Sb**	**22 53 34.8**	**+0.2**
HWQ	**Hawqa**	**1.10**	**24**	*e*P	**Pb**	**22 53 22.3**	**-0.7**
YTIR	**Yattir**	**1.91**	**188**	Pn	**Pn**	**22 53 34.8**	**+0.4**
YTIR				Sn	**Sn**	**22 53 59.5**	**+1.1**
PRNI	**Paran**	**2.92**	**187**	Pn	**Pn**	**22 53 48.8**	**+0.6**

*MAN **19** 23:01:12.9, 3°.69N×123°.17E, h569^{km}, mb5.4, ML4.4, MS4.7*
*DJA **19** 23:01:13.9±0.2, 4°.N±2°×12°.3E±°, h546^{km}±2^{km}, M4.5/79, mb4.8/79, mB5.1/30, MLv5.1/18, Mw(mB)4.4/30, MwMwp5.6/1, Mwp5.8/1*
*IDC **19** 23:01:14.1±0.7, 3°.63N×122°.97E, h555^{km}±7^{km}, mb3.9/35, mbtmp4.8/39, Error ellipse: s-maj=11.1km s-min=6.2km az=71.0*
*NEIC **19** 23:01:14.3±1.3, 3°.65N±0°.08×122°.95E±0°.09, h551^{km}±7^{km}, mb4.7/103, Error ellipse: s-maj=13.2km s-min=11.6km az=85.0*
ISC 19 23:01:13.9±0.4, **3°.65N**±0°.04×**122°.96E**±0°.05, **h552**^{km}±5^{km}, **n386**, σ1**s07**/411, **mb4.6**/96, **21C-7D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.56**	**89**	P	**P**	**23 02 25.2**	**-1.3**
GTOI	**Gorontalo**	**3.00**	**179**	P	**P**	**23 02 27.0**	**-2.1**
MRSI	**Marisa**	**3.32**	**198**	P	**P**	**23 02 30.2**	**-0.9**
TOLI2	**Tolitoli**	**3.34**	**221**	P	**P**	**23 02 30.2**	**-1.0**
TOLI2	**Tolitoli**	**3.34**	**221**	P	**P**	**23 02 30.3**	**-1.0**
DDMP	**Don Marcelino,**	**3.66**	**48**⇑	*e*P	**P**	**23 02 32.4**	**-1.1**
DDMP				*e*S	**S**	**23 03 37.6**	**-0.6**
CTBH	**Cotabato--PC H**	**3.77**	**20**⇑	*i*P	**P**	**23 02 34.5**	**+0.2**
KCP	**Kidapawan**	**3.95**	**32**⇓	*i*P	**P**	**23 02 35.0**	**-0.6**
KCP				*i*S	**S**	**23 03 38.7**	**-3.4**
PAGZ	**Pagadian**	**4.19**	**6**⇑	*e*P	**P**	**23 02 38.0**	**+0.6**
PAGZ				*e*S	**S**	**23 03 45.8**	**+0.5**
DAV	**Davao City (W)**	**4.28**	**37**	P	**P**	**23 02 39.1**	**+1.1**
	1μm,0.8s,baz=114,slow=0.8,SNR=48						
DAV				S	**S**	**23 03 47.1**	**+0.5**
	637nm,0.6s,baz=227,slow=22,SNR=8.8						
DAV	**Davao City (W)**	**4.28**	**37**	P	**P**	**23 02 38.6**	**+0.6**
DAV	**Davao City (W)**	**4.28**	**37**	P	**P**	**23 02 39.3**	**+1.3**
MPSI	**Mapaga**	**4.50**	**223**	P	**P**	**23 02 38.9**	**-0.9**
MATI	**Mati**	**4.63**	**45**⇑	*e*P	**P**	**23 02 41.3**	**+0.5**
MATI				*e*S	**S**	**23 03 50.1**	**-1.6**
LUWI	**Luwuk**	**4.67**	**182**		**P**	**23 02 39.2**	**-1.9**
LUWI	**Luwuk**	**4.67**	**182**	P	**P**	**23 02 39.2**	**-1.9**
LUWI	**Luwuk**	**4.67**	**182**	P	**P**	**23 02 39.3**	**-1.9**
BUKP	**Musuan**	**4.69**	**26**⇑	*e*P	**P**	**23 02 43.8**	**+0.5**
BUKP				*e*S	**S**	**23 03 53.8**	**+1.1**
MYLDM	**Lahad Datu**	**4.70**	**289**	P	**P**	**23 02 42.0**	**+0.6**
MYLDM	**Lahad Datu**	**4.70**	**289**	P	**P**	**23 02 42.4**	**+1.0**
APSI	**Ampana**	**4.72**	**196**	P	**P**	**23 02 40.5**	**-1.1**
DCPH	**Dipolog City**	**4.91**	**4**⇑	*e*P	**P**	**23 02 43.4**	**+0.2**
DCPH				*e*S	S	23 03 44.1	-12
CGP	**Cagayan de Oro**	**5.07**	**20**⇓	*e*P	P	23 02 52.9	+8.4
GAMI	**Galela, Maluku**	**5.14**	**110**	P	**P**	**23 02 43.0**	**-2.1**
	5.0nm20μm584nm,0.8s						
TNTI	**Ternate**	**5.25**	**123**		**P**	**23 02 44.5**	**-1.5**
TNTI	**Ternate**	**5.25**	**123**	P	**P**	**23 02 44.8**	**-1.2**
	2.7nm6μm527nm,0.8s						
TNTI	**Ternate**	**5.25**	**123**	P	**P**	**23 02 45.3**	**-0.7**
LSIP	**Lazi, Siquijor**	**5.48**	**7**⇑	*e*P	**P**	**23 02 47.6**	**-0.4**
LSIP				*i*S	**S**	**23 04 01.9**	**-3.0**
BIPH	**Bislig**	**5.63**	**37**⇑	*e*P	**S**	**23 02 48.2**	**-1.1**
BIPH				*i*S	**S**	**23 04 01.6**	**-5.6**
TBP	**Tagbilaran**	**6.07**	**8**⇑	*i*P	**P**	**23 02 53.2**	**0.0**
GHBP	**Garcia Hernand**	**6.09**	**13**⇑	*e*P	**P**	**23 02 53.4**	**0.0**
GHBP				*e*S	**S**	**23 04 15.3**	**+0.5**
LBMI	**Labuha**	**6.22**	**133**	P	**P**	**23 02 54.0**	**-0.7**
	6.1nm4μm268nm,0.8s						
SANI	**Sanana**	**6.42**	**152**	P	**P**	**23 02 53.9**	**-2.6**
	2.5nm3μm53nm,0.5s						
SANI	**Sanana**	**6.42**	**152**	P	**P**	**23 02 54.4**	**-2.1**
TABP	**Talibon, Bohol**	**6.54**	**12**⇑	*i*P	**P**	**23 02 57.1**	**-0.5**
TABP				*e*S	**S**	**23 04 20.2**	**-1.9**
LLP	**Lapu-Lapu**	**6.70**	**8**⇑	*e*P	**P**	**23 02 58.2**	**-0.8**
LLP				*e*S	**S**	**23 04 22.7**	**-2.4**
MSLP	**Maasin**	**6.71**	**16**⇑	*e*P	**P**	**23 02 59.2**	**0.0**
MSLP				*e*S	**S**	**23 04 27.5**	**+2.2**
GLSP	**General Luna,**	**6.85**	**27**⇑	*e*P	**P**	**23 03 00.3**	**-0.3**
GLSP				*e*S	**S**	**23 04 26.4**	**-1.4**
GUIM	**Jordan**	**6.94**	**357**⇑	*e*P	**P**	**23 03 00.8**	**-0.6**
GUIM				*e*S	**S**	**23 04 27.6**	**-1.7**
JAP	**San Jose, Anti**	**7.12**	**352**⇓	*e*P	**P**	**23 03 03.9**	**+0.8**
KKM	**Kota Kinabalu**	**7.13**	**290**		**P**	**23 03 02.3**	**-1.1**
KKM	**Kota Kinabalu**	**7.13**	**290**	P	**P**	**23 03 02.7**	**-0.7**
	1.0nm3μm202nm,1.0s						
KKM	**Kota Kinabalu**	**7.13**	**290**	P	**P**	**23 03 02.6**	**-0.8**
MMSI	**Mamuju**	**7.49**	**213**	P	**P**	**23 03 09.8**	**+3.0**
	0.2nm544nm50nm,0.5s						
BKB	**Balikpapan**	**7.78**	**231**	P	**P**	**23 03 10.1**	**+0.4**
BKB	**Balikpapan**	**7.78**	**231**	P	**P**	**23 03 10.4**	**+0.8**
	1.0nm2μm273nm,0.8s						
BKB	**Balikpapan**	**7.78**	**231**	P	**P**	**23 03 07.9**	**-1.7**
RCP	**Roxas**	**7.86**	**358**⇓	*e*P	**P**	**23 03 09.0**	**-1.3**
KKSI	**Kolaka, Sulawe**	**7.88**	**190**	P	**P**	**23 03 12.3**	**+1.7**
	0.5nm2μm159nm,1.0s						
NLAI	**Namlea**	**8.00**	**149**	P	**P**	**23 03 12.7**	**+1.0**
	1.2nm4μm318nm,0.8s						
SPSI	**Sidrap Palu**	**8.21**	**203**	P	**P**	**23 03 13.4**	**-0.5**
	2μm280nm,0.7s						
BNSI	**Bone**	**8.49**	**200**	P	**P**	**23 03 18.0**	**+1.3**
	1μm131nm,1.0s						
KRAI	**Karang Ratu**	**8.80**	**142**	P	**P**	**23 03 21.5**	**+1.8**
	297nm,0.9s						
AAI	**Ambon**	**8.97**	**144**	P	**P**	**23 03 22.4**	**+0.9**
	2μm241nm,0.9s						
BBSI	**Bau Bau**	**9.09**	**182**	P	**P**	**23 03 23.1**	**+0.5**
	961nm104nm,1.0s						
MSAI	**Masohi**	**9.16**	**139**	P	**P**	**23 03 24.3**	**+0.9**
	1μm41nm,0.6s						
KAPI	**Kappang**	**9.19**	**200**	P	**P**	**23 03 24.5**	**+0.9**
	68nm,0.8s,baz=359,slow=11,SNR=34						
KAPI				S	**S**	**23 05 09.7**	**-0.4**
	7.2nm,0.8s,baz=199,slow=17,SNR=8.4						
KAPI	**Kappang**	**9.19**	**200**		**P**	**23 03 24.2**	**+0.6**
KAPI	**Kappang**	**9.19**	**200**	P	**P**	**23 03 24.9**	**+1.3**
	671nm84nm,0.9s						
KAPI	**Kappang**	**9.19**	**200**	P	**P**	**23 03 25.0**	**+1.3**
MTKI	**Muara Teweh, K**	**9.27**	**241**	P	**P**	**23 03 26.5**	**+2.0**
	64nm,1.0s						
BKSI	**Bulukumba**	**9.36**	**198**	P	**P**	**23 03 26.8**	**+1.4**
	384nm45nm,0.8s						
SIJI	**Sorong**	**9.44**	**118**	P	**P**	**23 03 26.6**	**+0.4**
	18nm,0.5s,baz=311,slow=6.6,SNR=13						
SIJI				S	**S**	**23 05 13.9**	**-0.9**
	13nm,1.0s,baz=147,slow=21,SNR=7.3						
SIJI	**Sorong**	**9.44**	**118**	P	**P**	**23 03 26.6**	**+0.4**
	36nm,1.1s						
BSSI	**Bau Bau, Buton**	**10.04**	**194**	P	**P**	**23 03 31.0**	**-1.3**
	70nm,0.9s						
JCNP	**Jose Panganiba**	**10.57**	**359**⇑	*e*P	**P**	**23 03 37.2**	**-0.5**
BNDI	**Bandanaira**	**10.68**	**139**	P	**P**	**23 03 39.5**	**+0.6**
	9μm708nm,1.1s						
BNDI	**Bandanaira**	**10.68**	**139**	P	**P**	**23 03 39.7**	**+0.8**
BBKI	**Banjar Baru**	**10.76**	**229**	P	**P**	**23 03 43.0**	**+3.2**
	20μm40nm,0.4s						
SBUM	**Sibu**	**10.79**	**264**	P	**P**	**23 03 41.0**	**+0.9**
SBUM	**Sibu**	**10.79**	**264**	P	**P**	**23 03 40.7**	**+0.6**
	506nm42nm,1.1s						
FAKI	**Fak Fak**	**11.35**	**125**	P	**P**	**23 03 45.6**	**-0.1**
FAKI	**Fak Fak**	**11.35**	**125**	P	**P**	**23 03 46.1**	**+0.3**
	1μm121nm,1.2s						
FAKI	**Fak Fak**	**11.35**	**125**	P	**P**	**23 03 46.2**	**+0.4**
MMRI	**Maumere**	**12.23**	**183**	P	**P**	**23 03 54.2**	**-0.7**
MMRI	**Maumere**	**12.23**	**183**	P	**P**	**23 03 54.8**	**-0.1**
	88nm,0.6s						
DBNI	**Kabupaten Domp**	**12.94**	**201**	P	**P**	**23 04 01.3**	**-0.9**
	22nm,1.1s						
PBKI	**Pangkalan Bun**	**12.94**	**241**	P	**P**	**23 04 02.2**	**0.0**
	7μm130nm,1.2s						
SOEI	**Soe**	**13.38**	**174**	P	**P**	**23 04 06.1**	**-0.9**
SOEI	**Soe**	**13.38**	**174**	P	**P**	**23 04 06.2**	**-0.7**
	2μm150nm,0.8s						
SOEI	**Soe**	**13.38**	**174**	P	**P**	**23 04 06.8**	**-0.1**
PLAI	**Plampang**	**13.43**	**203**	P	**P**	**23 04 05.8**	**-1.5**
	965nm51nm,0.7s						
PLAI	**Plampang**	**13.43**	**203**	P	**P**	**23 04 07.4**	**+0.1**
TWSI	**Taliwang, Sumb**	**13.72**	**206**	P	**P**	**23 04 09.6**	**-0.7**
	39nm,1.1s						
BATI	**Baumata**	**13.79**	**177**	P	**P**	**23 04 10.6**	**-0.4**
	596nm,0.7s,baz=342,slow=0.2,SNR=129						
BATI				S	**S**	**23 06 36.6**	**-0.1**
	20nm,0.3s,baz=165,slow=22,SNR=10						
BATI	**Baumata**	**13.79**	**177**	P	**P**	**23 04 10.1**	**-0.9**
	6μm679nm,0.8s						
KLNI	**Mataram**	**13.81**	**210**	P	**P**	**23 04 10.3**	**-1.0**
	21nm,0.7s						
SAUI	**Saumlaki**	**14.24**	**144**	P	**P**	**23 04 14.6**	**-1.1**
ABJI	**Asem Bagus**	**14.32**	**217**	P	P	23 04 24.2	+7.7
JAGI	**Jajag, Banyuwa**	**14.91**	**216**	P	**P**	**23 04 22.4**	**0.0**
JAGI	**Jajag, Banyuwa**	**14.91**	**216**	P	**P**	**23 04 22.5**	**0.0**
GMJI	**Gumukmas**	**15.18**	**219**	P	**P**	**23 04 23.9**	**-1.4**
	117nm,1.7s						
NGJI	**Ngawi**	**15.86**	**226**	P	**P**	**23 04 32.1**	**-0.1**
	61nm,0.9s						
SJI	**Sawahan**	**15.90**	**225**	P	**P**	**23 04 31.3**	**-1.3**
	103nm,0.8s						
PWJI	**Pagerwojo**	**16.08**	**224**	P	**P**	**23 04 33.1**	**-1.1**
	56nm,0.9s						
PCJI	**Pacitan**	**16.64**	**225**	P	**P**	**23 04 38.6**	**-0.8**
	52nm,0.9s						
SMPI	**Sarmi**	**16.71**	**109**	P	**P**	**23 04 39.1**	**-0.9**
	105nm,0.6s						
UGM	**Wanagama**	**16.91**	**227**	P	**P**	**23 04 41.3**	**-0.6**
UGM	**Wanagama**	**16.91**	**227**	P	**P**	**23 04 41.0**	**-0.9**
	162nm,1.3s						
UGM	**Wanagama**	**16.91**	**227**	P	**P**	**23 04 42.4**	**+0.5**
YOGI	**Yogyakarta**	**17.02**	**228**	P	**P**	**23 04 41.9**	**-0.9**
	88nm,1.6s						
CTJI	**Waduk Cacaban**	**17.36**	**232**	P	**P**	**23 04 47.0**	**+1.0**
	2μm207nm,1.0s						
SCJI	**Gunung Srandil**	**17.78**	**231**	P	**P**	**23 04 48.9**	**-0.9**
	87nm,0.9s						
PPBI	**Pangkal Pinang**	**17.78**	**251**	P	**P**	**23 04 49.7**	**-0.2**
	4μm47nm,0.8s						
MTN	**Manton Dam**	**18.29**	**154**	P	**P**	**23 04 54.4**	**-0.1**
MTN	**Manton Dam**	**18.29**	**154**	P	**P**	**23 04 55.6**	**+1.2**
LEM	**Lembang**	**18.52**	**236**	P	**P**	**23 04 56.6**	**-0.1**
	140nm,0.8s,baz=53,slow=8.1,SNR=22						
LEM	**Lembang**	**18.52**	**236**	P	**P**	**23 04 56.7**	**-0.1**
	172nm,1.0s						
TPRI	**Tanjung Pinang**	**18.62**	**262**	P	**P**	**23 04 58.0**	**+0.5**
	168nm,0.9s						
KDU	**Kakadu**	**18.78**	**150**	P	**P**	**23 04 59.1**	**+0.2**
DSRI	**Dabo**	**18.83**	**258**	P	**P**	**23 04 58.6**	**-0.8**
	49nm,1.1s						
BBJI	**Bungbulang**	**18.85**	**234**	P	**P**	**23 04 59.8**	**+0.1**
CBJI	**Citeko**	**18.95**	**238**	P	**P**	**23 05 02.1**	**+1.6**
	245nm,1.1s						
TWGBT	**Beinan**	**19.14**	**355**	P	**P**	**23 05 02.7**	**+0.6**
TWG	**Pinlang**	**19.14**	**355**	P	**P**	**23 05 01.8**	**-0.4**
MYKOM	**Kota Tinggi**	**19.18**	**265**	P	**P**	**23 05 02.9**	**+0.3**
MYKOM	**Kota Tinggi**	**19.18**	**265**	P	**P**	**23 05 03.3**	**+0.7**
	99nm,0.9s						
SBJI	**Serang**	**19.41**	**240**	P	**P**	**23 05 06.3**	**+1.6**
	192nm,1.1s						
TPUB	**Ta-pu**	**19.66**	**354**	P	**P**	**23 05 08.5**	**+1.6**
TPUB	**Ta-pu**	**19.66**	**354**	P	**P**	**23 05 08.7**	**+1.8**
YULB	**Yu-li**	**19.69**	**355**	P	**P**	**23 05 06.3**	**-0.8**
YULB				IAmb	IAmb	23 05 09.7	
	comp=Z,19nm,0.8s						
YULB	**Yu-li**	**19.69**	**355**	P	**P**	**23 05 07.4**	**+0.3**
KNRA	**Kununurra**	**20.04**	**164**	P	**P**	**23 05 10.7**	**+0.3**
KNRA	**Kununurra**	**20.04**	**164**	P	**P**	**23 05 10.7**	**+0.3**
SSLB	**Suanglung**	**20.11**	**355**	P	**P**	**23 05 11.3**	**+0.4**
SSLB	**Suanglung**	**20.11**	**355**	P	**P**	**23 05 12.4**	**+1.4**
NACB	**Ninganchiao**	**20.45**	**356**	P	**P**	**23 05 14.2**	**+0.2**
NACB				IAmb	IAmb	23 05 26.2	
	comp=Z,51nm,1.5s						
KASI	**Kota Agung**	**20.57**	**244**	P	**P**	**23 05 14.9**	**-0.4**
	comp=Z,2μmcomp=Z,218nm,0.9s						
YOJ	**Yonaguni jima**	**20.69**	**0**	P	**P**	**23 05 16.2**	**+0.1**
YOJ	**Yonaguni jima**	**20.69**	**0**	P	**P**	**23 05 17.2**	**+1.1**
LWLI	**Liwa**	**20.76**	**246**	P	**P**	**23 05 17.1**	**0.0**
	comp=Z,340nm,0.9s						
YHNB	**Yeheng**	**20.95**	**356**	P	**P**	**23 05 18.0**	**-0.6**
YHNB				IAmb	IAmb	23 05 39.9	
	comp=Z,56nm,1.4s						
YHNB	**Yeheng**	**20.95**	**356**	P	**P**	**23 05 18.5**	**-0.1**
MNAI	**Manna**	**21.52**	**248**	P	**P**	**23 05 23.6**	**-0.2**
MNAI	**Manna**	**21.52**	**248**	P	**P**	**23 05 24.1**	**+0.3**
MASI	**Maura Aman, Be**	**21.78**	**252**	P	**P**	**23 05 25.9**	**-0.3**
	comp=Z,91nm,0.9s						
IPM	**Ipoh**	**21.90**	**273**	P	**P**	**23 05 26.5**	**-0.8**
IPM				IAmb	IAmb	23 05 28.1	
	comp=Z,20nm,0.7s						
IPM	**Ipoh**	**21.90**	**273**	P	**P**	**23 05 27.6**	**+0.4**
SDSI	**Sungai Dareh**	**22.00**	**258**	P	**P**	**23 05 27.4**	**-0.7**
	comp=Z,24nm,1.2s						
BKNI	**Bangkinang**	**22.16**	**262**	P	**P**	**23 05 30.3**	**+0.8**
	comp=Z,2μmcomp=Z,198nm,0.8s						
KULM	**Kulim**	**22.30**	**275**	P	**P**	**23 05 30.4**	**-0.4**
KULM				IAmb	IAmb	23 05 31.8	
	comp=Z,24nm,1.1s						
PDSI	**Padang**	**22.94**	**259**	P	**P**	**23 05 36.9**	**+0.3**
	comp=Z,25nm,1.0s						
JOW	**Kunigami**	**23.60**	**12**	P	**P**	**23 05 42.7**	**+0.5**
	comp=Z,6.0nm,0.4s,baz=219,slow=6.2,SNR=6.0						
	comp=Z,6.0nm,0.4s						
JOW	**Kunigami**	**23.60**	**12**	P	**P**	**23 05 42.1**	**-0.1**
JOW				IAmb	IAmb	23 05 53.2	
	comp=Z,22nm,1.3s						
JOW	**Kunigami**	**23.60**	**12**	P	**P**	**23 05 43.1**	**+0.9**
SRIT	**Nakonsritamara**	**23.73**	**283**	P	**P**	**23 05 43.7**	**+0.1**
SRIT				IAmb	IAmb	23 05 45.0	
	comp=Z,32nm,0.8s						
PSI	**Prapat**	**24.02**	**269**	P	**P**	**23 05 45.8**	**-0.4**
	comp=Z,22nm,1.1s						
RPSI	**Rantau Prapat**	**24.02**	**268**	P	**P**	**23 05 45.5**	**-0.6**
RPSI				IAmb	IAmb	23 05 47.1	
	comp=Z,31nm,1.0s						
SISI	**Saibi**	**24.37**	**259**	P	**P**	**23 05 47.9**	**-1.3**
	comp=Z,62nm,0.7s						
MBWA	**Marble Bar**	**24.86**	**187**	P	**P**	**23 05 52.6**	**-0.8**
MBWA				IAmb	IAmb	23 05 53.7	
	comp=Z,20nm,0.7s						
MBWA	**Marble Bar**	**24.86**	**187**	P	**P**	**23 05 52.8**	**-0.6**
KCSI	**Kotacane, Aceh**	**25.14**	**271**	P	**P**	**23 05 55.3**	**-0.8**
	comp=Z,55nm,0.9s						
PSA00	**Pilbara Seismi**	**25.25**	**187**	P	**P**	**23 05 56.3**	**-0.6**
PSA00				IAmb	IAmb	23 05 57.3	
	comp=Z,29nm,0.8s						
PSA00	**Pilbara Seismi**	**25.25**	**187**	P	**P**	**23 05 56.4**	**-0.5**
GSI	**Gunungsitoli**	**25.47**	**265**	P	**P**	**23 05 57.8**	**-1.2**
GSI	**Gunungsitoli**	**25.47**	**265**	P	**P**	**23 05 57.6**	**-1.4**
	comp=Z,101nm,0.8s						
GSI	**Gunungsitoli**	**25.47**	**265**	P	**P**	**23 05 58.2**	**-0.8**
WB0	**Warramunga Arr**	**25.84**	**155**	P	**P**	**23 06 01.5**	**-0.6**
WRAB	**Tennant Creek**	**25.97**	**155**	P	**P**	**23 06 03.0**	**-0.3**
WRA	**Warramunga Arr**	**25.98**	**155**	P	**P**	**23 06 02.6**	**-0.7**
	comp=Z,56nm,0.8s,baz=336,slow=9.6,SNR=536						
WRA				ScP	**ScP**	**23 12 00.7**	**-0.2**
	comp=Z,7.7nm,0.7s,baz=342,slow=3.2,SNR=26						
	comp=Z,56nm,0.8s						
WRA	**Warramunga Arr**	**25.98**	**155**	P	**P**	**23 06 01.6**	**-1.7**
WR0	**Warramunga Arr**	**26.08**	**155**	P	**P**	**23 06 03.4**	**-0.7**
COEN	**Coen**	**26.61**	**132**	P	**P**	**23 06 08.2**	**-0.8**
COEN				IAmb	IAmb	23 06 08.9	
	comp=Z,11nm,0.7s						
COEN	**Coen**	**26.61**	**132**	P	**P**	**23 06 08.4**	**-0.5**
PHRA	**Phrae**	**26.69**	**305**	P	**P**	**23 06 10.2**	**+0.6**
PMG	**Port Moresby**	**27.38**	**118**	P	**P**	**23 06 15.9**	**+0.2**
	comp=Z,45nm,0.8s,baz=302,slow=7.7,SNR=11						
	comp=Z,45nm,0.8s						
PMG	**Port Moresby**	**27.38**	**118**	P	**P**	**23 06 15.4**	**-0.3**
PMG	**Port Moresby**	**27.38**	**118**	P	**P**	**23 06 15.9**	**+0.2**
	comp=Z,58nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.73**	**304**	P	**P**	**23 06 19.5**	**+0.8**
	comp=Z,5.7nm,0.8s,baz=124,slow=7.3,SNR=43						
CMAR				PcP	**PcP**	**23 09 18.2**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=126,slow=1.7,SNR=7.9						
CMAR				ScP	**ScP**	**23 12 05.7**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=141,slow=2.1,SNR=5.6						
	comp=Z,5.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.73**	**304**	P	**P**	**23 06 19.1**	**+0.4**
CHTO	**Chiang Mai**	**27.90**	**305**	P	**P**	**23 06 20.2**	**0.0**
CHTO				IAmb	IAmb	23 06 21.8	
	comp=Z,17nm,0.9s						
NJ2	**Nanjing**	**28.51**	**353**	*e*P	**P**	**23 06 28.1**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI	**Kunming**	**28.88**	**320**	⇑P	**P**	**23 06 31.1**	**+2.2**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WRKA	**Warakurna**	**28.98**	**170**	P	**P**	**23 06 29.5**	**-0.1**
QIS	**Mount Isa**	**29.08**	**146**	P	**P**	**23 06 31.1**	**+0.6**
AS31	**Alice Springs**	**29.17**	**159**	P	**P**	**23 06 31.0**	**-0.2**
AS31				IAmb	IAmb	23 06 32.1	
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**29.17**	**159**	P	**P**	**23 06 31.4**	**+0.2**
	comp=Z,18nm,0.4s,baz=340,slow=7.1,SNR=421						
ASAR				S	**S**	**23 10 44.0**	**-1.3**
	comp=Z,6.3nm,0.9s,baz=345,slow=18,SNR=12						
ASAR				ScP	**ScP**	**23 12 10.7**	**-0.2**
	comp=Z,6.3nm,0.8s,baz=348,slow=2.8,SNR=21						
	comp=Z,18nm,0.4s						
ASAR	**Alice Springs**	**29.17**	**159**	P	**P**	**23 06 31.2**	**-0.1**
AS01	**Alice Springs**	**29.19**	**159**	P	**P**	**23 06 31.5**	**+0.1**
KRVT	**Keravat (AS076**	**30.09**	**105**	P	**P**	**23 06 39.1**	**-0.2**
	comp=Z,38nm,0.6s,baz=156,slow=3.7,SNR=4.4						
	comp=Z,38nm,0.6s						
MTSU	**Mount Surprise**	**30.20**	**136**	P	**P**	**23 06 41.1**	**+1.0**
RABL	**Rabaul**	**30.20**	**105**	P	**P**	**23 06 38.5**	**-1.7**
RABL	**Rabaul**	**30.20**	**105**	P	**P**	**23 06 39.2**	**-1.1**
MEEK	**Meekatharra**	**30.40**	**188**	P	**P**	**23 06 41.4**	**-0.4**
PZH	**PanZhiHua**	**

GTA PcS **PcS** 23 13 47.9 -1.8
GTA pmax pmax
comp=Z,14nm,0.9s
GOMU GeErMu 41.50 325 P **P** 23 08 14.8 +1.1
GOMU pmax pmax
comp=Z,6.0nm,1.1s
GOMU pmax pmax
comp=Z,77nm,5.3s
RAMN Ramite 41.77 307 *eP* **P** 23 08 16.7 +0.8
comp=Z,109nm,0.8s
PALK Pallekele 42.21 277 P **P** 23 08 19.2 -0.1
PALK IAmb IAmb 23 08 27.7
comp=Z,43nm,1.4s
JIRN Jiri 42.41 308 *eP* **P** 23 08 21.8 +0.7
PKIN Phulchoki 43.00 307 *eP* **P** 23 08 25.6 0.0
comp=Z,12nm,0.3s
ARMA Armidale 43.57 143 P **P** 23 08 31.9 +2.2
ARMA IAmb IAmb 23 08 33.2
comp=Z,41nm,0.8s
ARMA Armidale 43.57 143 P **P** 23 08 32.5 +2.8
GKN Gorkha 43.80 308 *eP* **P** 23 08 31.8 +0.2
comp=Z,108nm,0.9s
ARPS Mount Arapiles 43.90 158 P **P** 23 08 33.1 +1.1
DANN Dangsing 44.64 308 *eP* **P** 23 08 38.7 +0.4
comp=Z,217nm,0.7s
MGCD Mangrove Creek 45.31 146 P **P** 23 08 45.8 +2.9
SYDH Sydney Hard Ro 45.53 147 P **P** 23 08 47.3 +2.8
CAN Canberra 45.82 150 P **P** 23 08 48.5 +1.6
CAN Canberra 45.82 150 P **P** 23 08 48.9 +2.0
CNB Canberra Magne 46.00 150 P **P** 23 08 50.2 +1.9
KLR Kul'dur 46.03 8 P **P** 23 08 48.0 -0.1
comp=Z,0.5nm,0.3s,baz=218,slow=12,SNR=2.3
TOO Toolangi 46.05 155 P **P** 23 08 49.9 +1.4
TOO IAmb IAmb 23 08 51.3
comp=Z,25nm,1.1s
TOO Toolangi 46.05 155 P **P** 23 08 50.6 +2.1
ULN Ulaanbaatar 46.13 345 P **P** 23 08 49.4 +0.3
ULN Ulaanbaatar 46.13 345 P **P** 23 08 50.0 +0.9
comp=Z,43nm,0.8s
SONM Songino Array 46.27 345 P **P** 23 08 50.8 +0.6
comp=Z,6.6nm,0.8s,baz=157,slow=8.7,SNR=54
SONM PcP **PcP** 23 10 13.8 -0.4
comp=Z,1.9nm,0.8s,baz=161,slow=3.6,SNR=6.1
SONM ScP **ScP** 23 13 15.4 +0.2
comp=Z,1.9nm,1.0s,baz=153,slow=3.3,SNR=5.4
comp=Z,6.6nm,0.8s
SONM Songino Array 46.27 345 P **P** 23 08 50.8 +0.6
HEH HeiHe 46.59 4 *eP* **P** 23 08 52.8 +0.5
HEH pmax pmax
comp=Z,7.0nm,0.6s
HEH pmax pmax
comp=Z,130nm,4.0s
KOUNC Koumac, New Ca 47.13 122 P **P** 23 08 57.8 +0.9
LHI Lord Howe Isla 49.02 138 P **P** 23 09 11.9 +1.0
LHI IAmb IAmb 23 09 13.0
comp=Z,44nm,0.9s
DZM Mont Dzumac 49.60 123 P **P** 23 09 15.4 0.0
comp=Z,8.5nm,0.9s,baz=264,slow=20,SNR=5.6
comp=Z,8.5nm,0.9s
DZM Mont Dzumac 49.60 123 P **P** 23 09 15.4 0.0
DZM IAmb IAmb 23 09 25.4
comp=Z,17nm,1.0s
DZM Mont Dzumac 49.60 123 P **P** 23 09 15.9 +0.5
MNCI Minicoy 49.82 278 P **P** 23 09 16.7 -0.3
GLAD Gladstone 49.97 155 P **P** 23 09 18.9 +1.3
POO Poona 50.23 291 *ex* x 23 09 12.0
WMQ Urumqi 50.70 327 *eP* **P** 23 09 24.1 +1.1
WMQ pmax pmax
comp=Z,22nm,0.7s
TAU Tasmania Unive 51.31 157 P **P** 23 09 28.1 +0.8
TAU IAmb IAmb 23 10 02.1
comp=Z,27nm,1.1s
NIL Nilore 55.03 309 P **P** 23 09 54.1 0.0
TARG Taragay, Kyrgy 55.34 320 P **P** 23 09 57.6 +1.1
KSH Kashi 55.48 317 P **P** 23 09 58.1 +0.9
KSH PcP **PcP** 23 10 50.3 +1.3
KSH pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 55.53 327 P **P** 23 09 57.9 +0.6
MKAR Makanchi Array 55.53 327 P **P** 23 09 57.9 +0.6
comp=Z,15nm,0.4s,baz=124,slow=7.9,SNR=415
MKAR PcP **PcP** 23 10 49.0 +0.1
comp=Z,7.8nm,0.6s,baz=126,slow=3.8,SNR=12
MKAR ScP **ScP** 23 13 55.2 +0.1
comp=Z,1.5nm,0.7s,baz=120,slow=5.7,SNR=4.7
comp=Z,15nm,0.4s
MAKZ Makanchi 55.70 327 P **P** 23 09 59.0 +0.6
MAKZ IAmb IAmb 23 09 59.8
comp=Z,19nm,0.6s
TKM2 Tokmak 2 57.35 320 P **P** 23 10 11.0 +0.9
SNR=11
UCH Uchtor 57.72 319 P **P** 23 10 14.7 +1.7
SNR=18
AAK Ala-Archa 57.93 319 P **P** 23 10 14.4 +0.5
AAK Ala-Archa 57.93 319 P **P** 23 10 14.9 +0.9
AML Almayashu 58.22 318 P **P** 23 10 17.4 +1.2
SNR=20
USP Ospenovka 58.22 320 P **P** 23 10 16.5 +0.7
SNR=24
DRK Karamyk 58.37 315 P **P** 23 10 16.5 -0.7
DRK IAmb IAmb 23 10 17.8
comp=Z,20nm,0.8s
EKS2 Erkin-Say 58.41 319 P **P** 23 10 18.4 +1.2
SNR=5.9
YAK Yakutsk 58.46 4 P **P** 23 10 15.0 -1.9
comp=Z,5.4nm,0.5s,baz=355,slow=1.4,SNR=8.3
comp=Z,5.4nm,0.5s
YAK Yakutsk 58.46 4 P **P** 23 10 16.6 -0.3
YAK IAmb IAmb 23 10 18.4
comp=Z,16nm,0.7s
KBL Kabul 58.61 309 P **P** 23 10 18.3 -0.5
KBL IAmb IAmb 23 10 19.7
comp=Z,20nm,0.8s
ZAA0 Zalesovo Array 59.00 335 P **P** 23 10 20.1 -0.6
ZALV Zalesovo Beam 59.00 335 P **P** 23 10 20.1 -0.6
comp=Z,6.2nm,0.6s,baz=122,slow=5.6,SNR=37
comp=Z,6.2nm,0.6s
ZALV Zalesovo Beam 59.00 335 P **P** 23 10 19.9 -0.9
BTK Batken 59.30 315 P **P** 23 10 23.1 0.0
KURK Kurchatov 59.83 329 P **P** 23 10 26.2 -0.1
KURK IAmb IAmb 23 10 27.4
comp=Z,42nm,0.8s
CHGR Chuyangaron 59.95 313 P **P** 23 10 27.4 -0.1
CHGR IAmb IAmb 23 10 28.6
comp=Z,42nm,1.0s
KK31 Karatay Array 60.76 318 P **P** 23 10 32.6 -0.1
KKAR Karatay Array 60.76 318 P **P** 23 10 32.5 -0.2
TAS Tashkent 60.86 316 P **P** 23 10 33.5 +0.2
DCZ Deep Cove 62.70 146 P **P** 23 10 45.9 +0.7
JCZ Jackson Bay 62.78 144 P **P** 23 10 47.3 +1.4
HRA Herat 63.95 307 P **P** 23 10 53.2 -0.5
NGZ Ngauruhoe 64.47 137 P P 23 11 10.5 +14
TUVZ Tukino 64.55 137 P P 23 11 11.2 +14
BKZ Black Stump Fm 65.08 136 P **P** 23 11 01.2 +0.7
BKZ IAmb IAmb 23 11 02.5
comp=Z,38nm,0.9s
BKZ Black Stump Fm 65.08 136 P **P** 23 11 01.5 +1.0
BKZ Black Stump Fm 65.08 136 P **P** 23 11 01.4 +0.8
URZ Urewera 65.09 135 P **P** 23 11 01.5 +0.9
URZ Urewera 65.09 135 P **P** 23 11 01.3 +0.8
NMHZ Naumai 65.26 136 P **P** 23 11 03.6 +1.9
HAZ Te Kaha 65.34 135 P **P** 23 11 02.7 +0.6
RUGZ Raukumara Rang 65.36 135 P **P** 23 11 02.7 +0.3
RAHZ Arahi 65.37 136 P **P** 23 11 04.2 +1.8
RAGZ Rawiri 65.41 135 P **P** 23 11 03.6 +0.9
MWZ Matawai 65.42 135 P **P** 23 11 03.4 +0.7
BRVK Borovoye 65.44 328 P **P** 23 11 02.1 -0.3
BRVK IAmb IAmb 23 11 03.5
comp=Z,22nm,1.1s
MXZ Matakaoa Point 65.63 134 P **P** 23 11 04.7 +0.8
MXZ Matakaoa Point 65.63 134 P **P** 23 11 02.7 -1.2
RIGZ Rimuhau 65.75 135 P **P** 23 11 05.5 +0.8
WMGZ Waiomatatini S 65.82 134 P **P** 23 11 05.9 +0.7
CNGZ Carnagh Statio 65.96 135 P **P** 23 11 07.0 +1.0
HATD Hatta, Dubai 67.47 295 P **P** 23 11 15.4 -0.2
ASHO Ashiyiah 67.52 295 P **P** 23 11 17.1 +1.1
SHME Shamm 67.61 297 P **P** 23 11 16.3 -0.1
ALNE Al Ain 67.73 294 P **P** 23 11 17.3 +0.1
TIXI Tiksi 68.01 2 P **P** 23 11 17.5 -0.5
comp=Z,6.0nm,0.7s,baz=207,slow=0.2,SNR=6.9
comp=Z,6.0nm,0.7s
TIXI Tiksi 68.01 2 P **P** 23 11 17.5 -0.5
GEYT Alibeck 68.03 309 P **P** 23 11 19.2 +0.4
comp=Z,9.9nm,0.8s,baz=151,slow=6.4,SNR=21
comp=Z,9.9nm,0.8s

GYA0B ALIBECK ARRAY 68.03 309 P **P** 23 11 18.8 0.0
GYA0B IAmb IAmb 23 11 20.3
comp=Z,13nm,0.8s
ASUD Al Ashush, Dub 68.17 295 P **P** 23 11 20.2 +0.3
NRIK Noril'sk 69.64 347 P **P** 23 11 28.1 +0.3
comp=Z,10nm,0.7s,baz=135,slow=5.7,SNR=15
comp=Z,10nm,0.7s
NRIK Noril'sk 69.64 347 P **P** 23 11 27.9 +0.1
MZR Muzera 69.70 293 *i* P **P** 23 11 29.0 -0.1
SNR=6.4
ABKAR Akbulak array 69.85 322 P **P** 23 11 29.1 -0.3
ABKAR Akbulak array 69.85 322 P **P** 23 11 29.1 -0.3
ABKAR IAmb IAmb 23 11 30.2
comp=Z,10nm,0.8s
ARU Arti 73.01 328 P **P** 23 11 46.5 -1.3
ARU IAmb IAmb 23 11 47.9
comp=Z,12nm,0.8s
RAYN Ar Rayn 77.06 293 P **P** 23 12 11.0 -0.2
RAYN Ar Rayn 77.06 293 *i* P **P** 23 12 10.7 -0.4
SNR=18
ABPO Ambohimpanom 77.75 250 P **P** 23 12 14.6 -0.6
VOI Vohitsoka 78.58 247 P **P** 23 12 19.2 -0.2
VOI IAmb IAmb 23 12 19.5
comp=Z,19nm,0.7s
GNI Garni 78.65 310 P **P** 23 12 19.3 -0.2
comp=Z,5.7nm,0.9s,baz=63,slow=9.0,SNR=2.4
comp=Z,5.7nm,0.9s
ONI Oni 79.81 312 P **P** 23 12 26.3 +0.8
KARS Kars 79.95 310 P **P** 23 12 26.9 +0.5
KARS IAmb IAmb 23 12 28.3
comp=Z,53nm,0.9s
KBZ Khabaz 80.31 314 P **P** 23 12 27.6 -0.2
comp=Z,5.6nm,0.9s,baz=170,slow=4.8,SNR=8.9
comp=Z,5.6nm,0.9s
KIV Kislovodsk 80.47 314 P **P** 23 12 28.7 -0.2
GURO Guroymak-BITLI 80.64 308 P **P** 23 12 30.7 +0.7
GURO IAmb IAmb 23 12 31.9
comp=Z,18nm,0.9s
MAW Mawson 82.40 200 P **P** 23 12 36.8 -1.3
comp=Z,3.3nm,0.9s,baz=327,slow=9.8,SNR=2.3
comp=Z,3.3nm,0.9s
MAW Mawson 82.40 200 P **P** 23 12 37.9 -0.2
KLMR Klimovskoe 83.63 331 *eP* **P** 23 12 42.5 -1.9
KLMR AMP 23 12 45.4
comp=Z,44nm,1.5s
VNDA Vanda 83.84 172 P **P** 23 12 45.3 +0.1
comp=Z,1.3nm,0.6s,baz=317,slow=6.3,SNR=14
comp=Z,1.3nm,0.6s
VNDA Vanda 83.84 172 P **P** 23 12 45.6 +0.4
IMAR Indian Mountai 83.94 24 P **P** 23 12 46.5 +0.6
GAZ Gaziantep 84.43 307 P **P** 23 12 48.8 -0.2
GAZ IAmb IAmb 23 12 50.4
comp=Z,16nm,1.0s
CAST Castle Rocks 84.49 27 P **P** 23 12 49.7 +1.0
ASF Jabal al Asfar 84.75 302 P **P** 23 12 51.5 +0.9
comp=Z,15nm,0.8s,baz=78,slow=3.0,SNR=17
comp=Z,15nm,0.8s
SBA Scott Base 84.79 172 P **P** 23 12 51.0 +1.2
KIBK Kibwezi 85.08 267 P **P** 23 12 52.5 -0.2
KIBK IAmb IAmb 23 12 54.4
comp=Z,14nm,1.2s
KMBO Kilima Mbogo 85.79 269 P **P** 23 12 57.0 +0.7
comp=Z,5.6nm,0.9s,baz=56,slow=7.0,SNR=14
comp=Z,5.6nm,0.9s
KMBO Kilima Mbogo 85.79 269 P **P** 23 12 55.6 -0.7
KMBO IAmb IAmb 23 12 58.2
comp=Z,13nm,1.2s
KMBO Kilima Mbogo 85.79 269 *i* P **P** 23 12 56.8 +0.5
SNR=8.1
H24K Nelson Dome 86.35 24 P **P** 23 12 58.7 +1.1
ILAR Eielson Array 86.79 25 P **P** 23 12 59.4 -0.3
comp=Z,0.2nm,0.6s,baz=227,slow=6.0,SNR=4.5
BRTR Keskin Array B 87.17 309 P **P** 23 13 01.2 -1.0
comp=Z,1.4nm,0.8s,baz=120,slow=5.8,SNR=7.3
comp=Z,1.4nm,0.8s
LODK Lodwar 87.40 273 P **P** 23 13 03.6 0.0
BMAR Burnt Mountain 87.60 23 P **P** 23 13 03.9 +0.5
CSS Mathiatis 87.63 305 P **P** 23 13 03.8 -0.4
CSS IAmb IAmb 23 13 05.1
comp=Z,14nm,0.9s
BCAR Beaver Creek A 89.16 27 P **P** 23 13 11.7 +0.9
ARCES ARCESS Array B 89.22 340 P **P** 23 13 09.3 -1.6
comp=Z,5.0nm,0.9s,baz=79,slow=6.5,SNR=8.4
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 89.22 340 P **P** 23 13 09.7 -1.1
AKASG Malin Array Be 89.57 321 P **P** 23 13 11.8 -1.1
comp=Z,1.5nm,0.7s,baz=66,slow=4.8,SNR=6.0
comp=Z,1.5nm,0.7s
SPITS Spitsbergen Ar 89.82 349 P **P** 23 13 13.0 -0.5
comp=Z,13nm,0.8s,baz=90,slow=7.5,SNR=8.4
comp=Z,13nm,0.8s
FINES FINESS Array B 90.11 332 P **P** 23 13 14.3 -0.8
comp=Z,4.1nm,0.6s,baz=61,slow=5.4,SNR=22
comp=Z,4.1nm,0.6s
INK Inuvik 91.60 21 P **P** 23 13 21.9 +0.1
comp=Z,1.8nm,0.6s,baz=116,slow=5.0,SNR=3.6
comp=Z,1.8nm,0.6s
BURAR Bucovina Array 92.55 318 P **P** 23 13 26.4 -0.4
BURAR IAmb IAmb 23 13 27.9
comp=Z,5.5nm,0.8s
BUR08 Bucovina Ar. S 92.55 318 P **P** 23 13 26.7 -0.2
BUR08 IAmb IAmb 23 13 27.6
comp=Z,6.0nm,0.9s
QSPA South Pole Qui 93.56 180 P **P** 23 13 29.2 -1.8
comp=Z,0.3nm,0.5s,baz=357,slow=1.7
comp=Z,0.3nm,0.5s
LSZ Lusaka 95.55 255 P **P** 23 13 39.7 -1.5
comp=Z,1.2nm,0.3s,baz=89,slow=3.4,SNR=7.1
comp=Z,1.2nm,0.3s
HFS Hagfors 96.32 332 P **P** 23 13 42.1 -1.4
comp=Z,1.7nm,0.7s,baz=108,slow=5.3,SNR=9.4
comp=Z,1.7nm,0.7s
NB2 NORSAR Subarra 97.16 333 P Pdif 23 13 45.5 -1.8
baz=68,slow=4.4
NB2 NORSAR Subarra 97.16 333 P Pdif 23 13 45.5 -1.8
comp=Z,1.3nm,0.8s,baz=68,slow=4.4
NOA NORSAR Array B 97.16 333 P Pdif 23 13 45.9 -1.5
comp=Z,0.8nm,0.6s,baz=68,slow=4.7,SNR=3.9
comp=Z,0.8nm,0.6s
GERES GERESS Array B 99.79 321 P **Pdif** 23 13 58.3 -1.1
comp=Z,0.6nm,0.8s,baz=347,slow=5.5,SNR=4.1
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 113.85 40 PKKPab PKKPab 23 29 42.8 -1.9
comp=Z,0.5nm,0.6s,baz=117,slow=5.4,SNR=5.4
SCHQ Schefferville 121.16 7 PKP **PKiKP** 23 19 04.8 +0.3
comp=Z,2.6nm,0.5s,baz=136,slow=5.9,SNR=2.6
TXAR Lajitas Array 124.58 50 PKKPbc PKKPbc 23 28 56.4 -0.9
comp=Z,0.4nm,0.8s,baz=131,slow=5.2,SNR=5.3
KIC Kosan Boka 126.85 281 *i* P **PKiKP** 23 19 16.8 -0.1
comp=Z,2.4nm,0.3s
DBIC Dimbokro 126.91 281 PKP **PKPdf** 23 19 15.3 -1.1
comp=Z,1.8nm,0.8s,baz=106,slow=3.7,SNR=4.2
TIC Toumodi 127.08 281 ⇑ *i* P **PKPdf** 23 19 14.0 -2.8
comp=Z,4.8nm,0.2s
LIC Lamto 127.15 281 ⇑ *i* P **PKPdf** 23 19 16.5 -0.4
comp=Z,9.2nm,0.5s

IDC 19 23:02:31.1±2.6, 2°33S×126°33E, h0km, mb3.7/1, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=63.4km s-min=38.4km az=99.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.14**	**74**	Pn	Pn	23 03 49.9	+0.4
	1.1nm,0.3s,baz=245,slow=14,SNR=2.2						
SIJI				Sn	Sn	23 04 37.1	-13
	0.6nm,0.3s,baz=276,slow=21,SNR=2.1						
	9.8nm,0.6s						
WRA	**Warramunga Arr**	**19.17**	**156**	P	P	23 06 55.6	-0.9
	1.5nm,0.5s,baz=341,slow=12,SNR=0.9						
ASAR	**Alice Springs**	**22.44**	**162**	P	P	23 07 32.4	+0.5
	1.3nm,0.4s,baz=335,slow=7.5,SNR=4.2						
	1.3nm,0.4s						
TXAR	**Lajitas Array**	**125.49**	**55**	PKP	PKPdf	23 21 34.9	-0.3
	0.7nm,0.8s,baz=238,slow=1.7,SNR=7.6						

*GRAL **19** 23:06:35.1±0.3, 33°15N×35°35E, h0km±5km, MD2.9*
*GII **19** 23:06:36.3±0.2, 33°25N×35°43E, h10km, MD1.7/5, Mm2.0/4*

ISC 19 23:06:36.2±1.0, 33°26N±0°03×35°43E±0°04, h18km±3km, n16, σ0°65/27, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEM	**Giv'at Ha'Em**	**0.20**	**105**	Pg	**Pb**	**23 06 41.1**	**0.0**

GEM Sg **Sg** 23 06 45.0 +0.3
MMA0B Mount Meron ar 0.25 185 Pg **Pb** 23 06 41.6 -0.5
MMA0B Sg **Sb** 23 06 45.7 -0.3
NATI Neve Ativ 0.26 90 Pg **Pb** 23 06 42.1 -0.2
NATI Sg **Sg** 23 06 46.1 0.0
HNTI Hanita 0.28 230 Pg **Pg** 23 06 42.0 -0.4
HNTI Sg **Sg** 23 06 46.7 0.0
QRWL Qaraoun 0.35 37 *eP* **Pb** 23 06 43.7 -0.4
RCY Rachaya 0.41 56 *eP* **Pb** 23 06 44.6 -0.6
RCY *eS* **Sb** 23 06 51.7 +0.5
DQRL Deir Qamar 0.46 15 *eP* **Pb** 23 06 45.5 -0.4
DQRL *eS* **Sb** 23 06 53.4 +1.0
BLGI Bet Lehem HaGe 0.56 201 Pg **Pg** 23 06 47.2 -0.3
BHL Bhannes 0.67 16 *eP* **Pb** 23 06 49.3 0.0
BHL *eS* **Sn** 23 06 59.8 -1.1
ZAHL Zahle 0.70 33 *eP* **Pb** 23 06 50.2 +0.2
OFRI `Ofer 0.74 210 Pg **Pg** 23 06 50.2 -0.6
OFRI Sg **Sb** 23 07 01.9 +1.5
MMLI Mount Malkishu 0.82 180 Pg **Pg** 23 06 51.7 -0.7
MMLI Sg **Sb** 23 07 02.8 0.0
HMDT Nahal Hemdat 1.01 175 Pg **Pb** 23 06 55.2 0.0
HMDT Sg **Sb** 23 07 09.0 +0.8
HWQ Hawqa 1.10 23 *eP* **Pn** 23 06 57.2 +0.3
YTIR Yattir 1.91 188 Pn **Pn** 23 07 08.0 0.0
YTIR Sn **Sb** 23 07 34.8 +0.6
PRNI Paran 2.93 187 Pn **Pn** 23 07 23.1 +1.2

*IDC **19** 23:09:27.9±2.0, 35°79N×140°94E, h48km±18km, mb3.8/13, mbtmp4.0/19, ML3.4/4, MS3.2/10, Error ellipse: s-maj=22.4km s-min=8.4km az=69.0*
*NIED **19** 23:09:27.6, 35°90N×140°86E, h42km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.08; Mθθ-0.27; Mφφ-0.81; Mrθ0.21; Mrφ-0.57; Mθφ1.87; Fault plane solution: M0.2.19000×10¹⁵ NP1: φs231.00000°, δ19.00000°, λ128.00000°. NP2: φs11.00000°, δ75.00000°, λ78.00000°.*
*NEIC **19** 23:09:27.4, 35°84N×141°06E, h47km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.41; Mθθ-0.39; Mφφ-1.02; Mrθ-0.17; Mrφ-0.65; Mθφ1.30; Fault plane solution: M0 1.93000×10¹⁵ NP1: φs229.62000°, δ29.75000°, λ127.28000°. NP2: φs8.37000°, δ66.74000°, λ70.90000°. Principal axes: T 2.0489, Plg63.0000°, Azm247.0000°; N -0.2566, Plg17.0000°, Azm16.0000°; P -1.7923, Plg20.0000°, Azm113.0000°;*
*JMA **19** 23:09:27.6±0.2, 35°9N±0°4×140°9E±0°8, h42km±1km, MV3.6/40, NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .
*NEIC **19** 23:09:27.4±1.0, 35°84N±0°06×141°06E±0°10, h43km±7km, mb4.5/26, Mwr4.1/19, Error ellipse: s-maj=11.5km s-min=8.3km az=98.0*

ISC 19 23:09:27.4±0.8, 35°85N±0°04×140°93E±0°06, h42km±6km, n86, σ0°98/80, mb4.3/26, MS3.4/6, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.16**	**202**	P	**Pn**	**23 09 34.9**	**+0.3**
CHOJ				*eS*	**Sn**	**23 09 40.6**	**+0.9**
JIHU	**Itakohorinouch**	**0.35**	**289**	⇓P	**Pn**	**23 09 36.2**	**-0.2**
JIHU				⇓S	**Sn**	**23 09 42.8**	**+0.1**
JSMT	**Sammumatsuo**	**0.45**	**242**	⇓P	**Pn**	**23 09 38.0**	**+0.5**
JSMT				⇓S	**Sn**	**23 09 44.8**	**+0.1**
JHYU	**Hitachinakayam**	**0.56**	**330**	⇓P	**Pn**	**23 09 38.5**	**-0.5**
JHYU				⇓S	**Sn**	**23 09 46.8**	**-0.5**
JYT	**Yasato**	**0.71**	**302**	⇓P	**Pn**	**23 09 40.0**	**-1.0**
JYT				⇓S	**Sn**	**23 09 49.0**	**-1.7**
JHO	**Hitachi**	**0.81**	**339**	⇓P	**Pn**	**23 09 41.8**	**-0.7**
BSO4	**Boso 4**	**0.99**	**210**	P	**Pn**	**23 09 46.6**	**+1.9**
BSO3	**Boso 3**	**1.10**	**198**	P	**Pn**	**23 09 47.6**	**+1.4**
BSO1	**Boso 1**	**1.20**	**178**	*i* P	**Pn**	**23 09 48.0**	**+0.8**
JAG	**Ashikaga**	**1.33**	**296**	⇓P	**Pn**	**23 09 48.7**	**-0.8**
JMM	**Marumori**	**2.01**	**357**		**Pn**	**23 09 59.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.31**	**288**	P	**Pn**	**23 10 03.3**	**+0.3**
	5.4nm,0.3s,baz=97,slow=8.9,SNR=157						
MJAR				S	**Sn**	**23 10 31.3**	**+1.2**
	32nm,0.5s,baz=265,slow=32,SNR=5.6						
MJAR				LR	LR	23 11 06.2	
	comp=Z,469nm,21.0s,baz=168,slow=42						
	39nm,0.4s						
MAJO	**Matsushiro**	**2.31**	**288**		**Pn**	**23 10 03.8**	**+0.8**
MJB9	**Matsu-Tunnel**	**2.31**	**288**		**Pn**	**23 10 04.5**	**+1.5**
JHJ2	**Mitsune**	**2.89**	**199**	Pn	**Pn**	**23 10 11.7**	**+0.8**
JHJ	**Hachijo jima 2**	**2.89**	**200**	P	**Pn**	**23 10 10.2**	**-0.7**
	31nm,0.3s,baz=100,slow=23,SNR=15						
JHJ				S	**Sn**	**23 10 43.7**	**-0.7**
	233nm,0.3s,baz=124,slow=22,SNR=12						
	55nm,0.3s						
JGF	**Kuroka**	**2.92**	**266**		**Pn**	**23 10 13.5**	**+2.1**
JSD	**Sado**	**3.06**	**316**		**Pn**	**23 10 15.3**	**+2.1**
INU	**Inuyama**	**3.23**	**262**		**Pn**	**23 10 16.9**	**+1.3**
JTM	**Tenmabayashi**	**4.93**	**1**	Pn	**Pn**	**23 10 40.3**	**+1.4**
JMN	**Monobe**	**6.18**	**252**	Pn	**Pn**	**23 10 57.6**	**+1.5**
ERM	**Erimo**	**6.39**	**15**	Pn	**Pn**	**23 10 58.0**	**-1.0**
JHS	**Saijyo**	**6.44**	**265**	Pn	**Pn**	**23 11 02.5**	**+2.8**
JKA	**Kamikawa-asahi**	**8.35**	**8**	Pn	**Pn**	**23 11 24.2**	**-1.7**
JCJ	**Chichijima**	**8.80**	**173**	P	**Pn**	**23 11 30.1**	**-2.1**
	21nm,0.3s,baz=4.9,slow=21,SNR=16						
JCJ				S	Sn	23 13 00.6	-9.3
	26nm,0.3s,baz=276,slow=23,SNR=5.9						
JCJ	**Chichijima**	**8.80**	**173**	Pn	**Pn**	**23 11 30.0**	**-2.1**
KSRS	**Korea Array**	**10.57**	**283**	P	**Pn**	**23 11 56.2**	**-0.1**
	0.7nm,0.5s,baz=96,slow=13,SNR=1.7						
KSRS				LR	LR	23 16 02.8	
	comp=Z,74nm,20.5s,baz=90,slow=37						
USRK	**Ussuriysk Ar.**	**10.79**	**323**	P	**Pn**	**23 12 01.4**	**+2.2**
	0.2nm,0.3s,baz=132,slow=18,SNR=1.9						
	3.3nm,0.8s						
JOW	**Kunigami**	**14.06**	**234**	LR	LR	23 18 02.9	
	comp=Z,48nm,19.2s,baz=300,slow=37						
KLR	**Kul'dur**	**14.97**	**336**	P	**Pn**	**23 12 55.7**	**-0.3**
	0.1nm,0.3s,baz=160,slow=15,SNR=2.1						
KLR				LR	LR	23 18 33.5	
	comp=Z,51nm,19.4s,baz=161,slow=36						
	1.2nm,0.8s						
ULN	**Ulaanbaatar**	**27.72**	**306**	P	**P**	**23 15 11.9**	**0.0**
H11N2	**WAKE ISLAND Hy**	**27.91**	**118**	T	T	23 44 17.2	
	baz=311,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.91**	**118**	T	T	23 44 20.0	
	baz=311,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	23 44 28.1	
	baz=311						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**23 15 15.1**	**-0.5**
	1.5nm,0.6s,baz=106,slow=9.2,SNR=11						
SONM				LR	LR	23 26 12.5	
	comp=Z,45nm,20.6s,baz=170,slow=36						
	1.5nm,0.6s						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**23 15 14.6**	**-1.0**
H11S1	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	23 45 16.4	
	baz=312,slow=75,SNR=63						
H11S3	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	23 45 08.1	
	baz=312,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	23 45 11.2	
	baz=312,slow=75,SNR=30						
TIXI	**Tiksi**	**36.41**	**354**	P	**P**	**23 16 27.2**	**-0.2**
	1.0nm,0.3s,baz=173,slow=0.5,SNR=4.5						
	1.0nm,0.3s						
TIXI	**Tiksi**	**36.41**	**354**	P	**P**	**23 16 27.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**40.83**	**256**	LR	LR	23 35 07.4	
	comp=Z,29nm,19.6s,baz=210,slow=38						
ZAA0	**Zalesovo Array**	**42.43**	**313**	P	**P**	**23 17 17.4**	**-0.5**
ZALV	**Zalesovo Beam**	**42.43**	**313**	P	**P**	**23 17 17.9**	**+0.1**
	1.5nm,0.5s,baz=99,slow=8.5,SNR=9.4						
	1.5nm,0.5s						
ZALV	**Zalesovo Beam**	**42.43**	**313**	P	**P**	**23 17 17.6**	**-0.2**
MK31	**Makanchi Array**	**44.43**	**303**	P	**P**	**23 17 34.2**	**+0.1**
MK31				IAmb	IAmb	23 17 35.0	
	comp=Z,7.4nm,0.8s						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**23 17 34.2**	**+0.1**
	comp=Z,4.4nm,0.6s,baz=87,slow=8.6,SNR=33						
MKAR				LR	LR	23 36 46.9	
	comp=Z,44nm,18.6s,baz=70,slow=37						
	comp=Z,4.4nm,0.6s						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**23 17 34.0**	**0.0**
MAKZ	**Makanchi**	**44.64**	**303**	P	**P**	**23 17 35.5**	**-0.2**
MAKZ				IAmb	IAmb	23 17 43.9	
	comp=Z,16nm,1.2s						
KURK	**Kurchatov**	**46.36**	**309**	P	**P**	**23 17 49.0**	**-0.3**
KURK				IAmb	IAmb	23 17 49.8	
	comp=Z,8.2nm,0.8s						
MLY	**Manley**	**49.05**	**31**	P	**P**	**23 18 11.1**	**+1.0**

MLY					IAmb	IAmb	23 18 21.3	
	comp=Z,4.1nm,1.5s							
MTN	**Manton Dam**	**49.31**	**193**		P	**P**	**23 18 11.4**	**-1.0**
BOOM	**Boomskoye usch**	**49.73**	**299**		P	**P**	**23 18 15.7**	**+0.1**
GHO	**Glory Hole Cre**	**49.89**	**36**		P	**P**	**23 18 18.2**	**+1.7**
GHO					IAmb	IAmb	23 18 28.7	
	comp=Z,14nm,1.4s							
ILAR	**Eielson Array**	**50.70**	**32**		P	**P**	**23 18 24.1**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=269,slow=5.9,SNR=9.2							
	comp=Z,0.6nm,0.7s							
AAK	**Ala-Archa**	**50.72**	**299**		LR	LR	23 40 02.6	
	comp=Z,43nm,19.6s,baz=116,slow=36							
BVAR	**Borovoye Array**	**51.09**	**313**		LR	LR	23 41 06.1	
	comp=Z,41nm,18.4s,baz=312,slow=37							
BRVK	**Borovoye**	**51.14**	**313**		P	**P**	**23 18 25.7**	**-0.2**
BRVK					IAmb	IAmb	23 18 27.5	
	comp=Z,3.1nm,1.0s							
BMRM	**Bremner River**	**52.03**	**37**		P	**P**	**23 18 32.1**	**-0.4**
BMRM					IAmb	IAmb	23 18 56.0	
	comp=Z,14nm,1.4s							
KNRA	**Kununurra**	**52.53**	**195**		P	**P**	**23 18 36.1**	**-0.4**
KKAR	**Karatay Array**	**53.39**	**301**		P	**P**	**23 18 42.4**	**-0.4**
KKAR	**Karatay Array**	**53.39**	**301**		P	**P**	**23 18 42.8**	**0.0**
KKAR					IAmb	IAmb	23 18 47.8	
	comp=Z,6.3nm,1.3s							
BTK	**Batken**	**54.13**	**297**		P	**P**	**23 18 48.2**	**-0.2**
BTK					IAmb	IAmb	23 18 54.0	
	comp=Z,6.1nm,1.4s							
GAR	**Garm**	**54.86**	**296**		P	**P**	**23 18 53.6**	**-0.1**
GAR					IAmb	IAmb	23 19 09.4	
	comp=Z,2.9nm,0.6s							
INK	**Inuvik**	**55.61**	**27**		P	**P**	**23 18 59.9**	**+1.4**
WB0	**Warramunga Arr**	**55.66**	**187**		P	**P**	**23 18 59.0**	**-0.4**
WB0					IAmb	IAmb	23 19 01.1	
	comp=Z,6.2nm,1.1s							
CHGR	**Chuyangaron**	**55.83**	**296**		P	**P**	**23 19 00.4**	**-0.3**
WRA	**Warramunga Arr**	**55.84**	**188**		P	**P**	**23 19 00.4**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=0.8,slow=7.6,SNR=22							
	comp=Z,0.9nm,0.3s							
WRA	**Warramunga Arr**	**55.84**	**188**		P	**P**	**23 19 00.1**	**-0.6**
ARU	**Arti**	**56.99**	**319**		P	**P**	**23 19 08.5**	**0.0**
ABKAR	**Akbulak array**	**58.41**	**311**		P	**P**	**23 19 18.4**	**-0.2**
ABKAR	**Akbulak array**	**58.41**	**311**		P	**P**	**23 19 18.3**	**-0.2**
ABKAR					IAmb	IAmb	23 19 18.8	
	comp=Z,2.3nm,0.5s							
ASAR	**Alice Springs**	**59.57**	**187**		P	**P**	**23 19 27.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=12,slow=8.1,SNR=8.5							
	comp=Z,0.6nm,0.6s							
ASAR	**Alice Springs**	**59.57**	**187**		P	**P**	**23 19 25.6**	**-1.3**
FORT	**Forrest**	**67.38**	**192**		P	**P**	**23 20 18.5**	**+0.3**
FINES	**FINESS Array B**	**69.68**	**332**		P	**P**	**23 20 32.5**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=46,slow=8.2,SNR=5.5							
	comp=Z,2.6nm,0.8s							
KBZ	**Khabaz**	**71.38**	**311**		P	**P**	**23 20 43.1**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=127,slow=5.1,SNR=3.1							
	comp=Z,1.8nm,0.8s							
KIV	**Kislovodsk**	**71.39**	**311**		P	**P**	**23 20 43.5**	**+0.3**
KIV					IAmb	IAmb	23 21 09.0	
	comp=Z,3.4nm,0.8s							
AKASG	**Malin Array Be**	**74.99**	**322**		P	**P**	**23 21 04.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=47,slow=6.1,SNR=8.6							
	comp=Z,0.9nm,0.6s							
HFS	**Hagfors**	**75.00**	**336**		P	**P**	**23 21 04.7**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=7.1,slow=5.8,SNR=1.3							
	comp=Z,3.2nm,0.9s							
NOA	**NORSAR Array B**	**75.12**	**337**		P	**P**	**23 21 05.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=52,slow=5.2,SNR=1.5							
NOA					LR	LR	23 56 55.2	
	comp=Z,18nm,20.4s,baz=30,slow=38							
	comp=Z,0.5nm,0.7s							
GERES	**GERESS Array B**	**83.51**	**328**		P	**P**	**23 21 50.6**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=52,slow=6.4,SNR=3.1							
	comp=Z,0.2nm,0.5s							
H03N2	**Juan Fernandez**	**147.27**	**98**		T	T	02 13 44.5	
	baz=290,slow=76,SNR=4.4							
H03N3	**Juan Fernandez**	**147.28**	**98**		T	T	02 13 45.5	
	baz=290,slow=76,SNR=3.2							
H03N1	**Juan Fernandez**	**147.29**	**98**		T	T	02 13 20.7	
	baz=290,slow=76,SNR=5.4							
LPAZ	**La Paz**	**147.62**	**61**		PKPbc	**PKPdf**	**23 29 05.8**	**0.0**
	comp=Z,1.0nm,0.4s,baz=339,slow=19,SNR=12							

*IDC **19** 23:33:37.6±1.7,34˙.03N×25˙.98E,h0km,mb3.8/6,*
mbtmp3.7/10,ML3.6/4,MS4.1/4, Error ellipse:
s-maj=34.1km s-min=14.1km az=35.0
*ISK **19** 23:33:37.5,33˙.95N×25˙.97E,h8km,ML3.4/24*
*NEIC **19** 23:33:37.4±1.2,33˙.88N±0˙.07×25˙.81E±0˙.07,h10km±2km,*
mb4.4/5, Error ellipse: s-maj=12.5km s-min=9.7km
az=202.0
*ATH **19** 23:33:38.1,33˙.91N×25˙.82E,h8km±2km,ML3.0/6, Error*
ellipse: s-maj=4.9km s-min=2.9km az=315.0
*THE **19** 23:33:38.7,33˙.96N×25˙.89E,h0km±2km,ML2.8/5, Error*
ellipse: s-maj=6.6km s-min=1.3km az=160.0

ISC 19 23:33:37.1±1.8,33˚92N±0˙06×25˚90E±0˙04,h5km±11km,
n78,σ1s22/86,mb3.9/8,MS4.2/4,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chapan**	**1.10**	**353**	P	**Pb**	**23 33 58.6**	**+0.1**
FRMA				S	**Sn**	**23 34 14.5**	**-0.1**
	248nm,0.5s						
FRMA	**Ierapetra Chapan**	**1.10**	**353**	P	**Pb**	**23 33 58.5**	**-0.1**
FRMA				S	**Sn**	**23 34 14.2**	**-0.4**
FRMA				AML	AML	23 34 23.8	
	comp=N,1647µm,0.5s						
FRMA				AML	AML	23 34 26.3	
	comp=E,1269µm,0.5s						
ZKR	**Zakros**	**1.22**	**12**	PN	**Pb**	**23 34 00.4**	**-0.2**
ZKR				SN	**Sn**	**23 34 17.2**	**-0.4**
ZKR	**Zakros**	**1.22**	**12**	P	**Pb**	**23 34 00.1**	**-0.5**
ZKR				S	**Sn**	**23 34 17.9**	**+0.3**
	comp=E,458nm,0.7s						
ZKR	**Zakros**	**1.22**	**12**	P	**Pn**	**23 34 00.7**	**-0.1**
ZKR				S	**Sn**	**23 34 17.5**	**0.0**
ZKR				AML	AML	23 34 20.0	
	comp=N,632µm,0.6s						
ZKR				AML	AML	23 34 22.3	
	comp=E,1174µm,0.5s						
STIA	**Sitia Lasithi**	**1.29**	**7**	P	**Pg**	**23 34 01.8**	**0.0**
STIA				S	**Sn**	**23 34 20.2**	**+0.9**
STIA	**Sitia Lasithi**	**1.29**	**7**	P	**Pg**	**23 34 01.7**	**0.0**
STIA				S	**Sn**	**23 34 18.8**	**-0.4**
STIA				AML	AML	23 34 35.5	
	comp=E,1441µm,0.9s						
STIA				AML	AML	23 34 37.0	
	comp=N,1438µm,0.8s						
SIVA	**Sivas**	**1.42**	**321**	P	**Pn**	**23 34 03.1**	**-0.4**
SIVA				AML	AML	23 34 34.8	
	comp=E,2457µm,0.6s						
SIVA				AML	AML	23 34 37.4	
	comp=N,1379µm,0.6s						
TMBK	**Timbaki Herakl**	**1.48**	**321**	P	**Pn**	**23 34 04.2**	**-0.1**
TMBK				AML	AML	23 34 37.0	
	comp=N,1443µm,0.8s						
TMBK				AML	AML	23 34 42.9	
	comp=E,963µm,1.2s						
IDI	**Anoyia**	**1.60**	**329**	Pg	**Pn**	**23 34 05.5**	**-0.6**
	comp=E,3.1nm,0.3s,baz=141,slow=23,SNR=29						
IDI				Lg	Lg	23 34 27.8	
	comp=E,11nm,0.3s,baz=0.5,slow=17,SNR=7.8						
IDI				LR	LR	23 34 59.5	
	comp=E,146nm,19.9s,baz=178,slow=53						
IDI	**Anoyia**	**1.60**	**329**	P	**Pn**	**23 34 05.6**	**-0.4**
IDI				S	**Sg**	**23 34 28.3**	**-0.2**
	comp=E,162nm,0.5s						
IDI	**Anoyia**	**1.60**	**329**	P	**Pn**	**23 34 05.1**	**-1.0**
IDI				AML	AML	23 34 37.4	
	comp=N,360µm,0.6s						
IDI				AML	AML	23 34 45.6	
	comp=E,288µm,0.5s						
GVD	**Gavdhos**	**1.76**	**302**	PN	**Pb**	**23 34 09.5**	**-0.3**
GVD	**Gavdhos**	**1.76**	**302**	P	**Pb**	**23 34 09.4**	**-0.3**
GVD				S	**Sb**	**23 34 31.9**	**-0.3**
	comp=E,280nm,0.6s						
KARP	**Karpathos**	**1.92**	**32**	PN	**Pn**	**23 34 10.8**	**+0.3**
KARP				SN	**Sn**	**23 34 34.9**	**-0.2**
KARP	**Karpathos**	**1.92**	**32**		**Pn**	**23 34 11.6**	**+1.1**
KARP	**Karpathos**	**1.92**	**32**	P	**Pb**	**23 34 11.8**	**-0.8**
KARP				S	**Sb**	**23 34 36.5**	**-0.5**
	comp=E,215nm,0.8s						
KARP	**Karpathos**	**1.92**	**32**	P	**Pn**	**23 34 11.5**	**+1.1**
IMMV	**Iera Moni Meta**	**2.21**	**315**	PN	**Pn**	**23 34 15.7**	**+1.4**
SANT	**Santorini**	**2.47**	**352**	Pn	**Pn**	**23 34 17.8**	**-0.2**
NIS1	**Nisyros Isl.**	**2.87**	**21**	PN	**Pn**	**23 34 23.4**	**-0.1**
ARG	**Arkhangelos**	**2.93**	**38**	PN	**Pn**	**23 34 25.0**	**+0.8**
ARG	**Arkhangelos**	**2.93**	**38**	Pn	**Pn**	**23 34 25.9**	**+1.7**
DAT	**Datca**	**3.12**	**26**	PN	**Pn**	**23 34 27.7**	**+0.8**
APE	**Apeiranthos**	**3.16**	**355**	PN	**Pn**	**23 34 28.6**	**+1.2**
TURN	**Turunc**	**3.43**	**33**	PN	**Pn**	**23 34 32.0**	**+0.9**
DALY	**Dalyan (Mula)**	**3.66**	**37**	PN	**Pn**	**23 34 35.3**	**+1.0**
FETY	**Fethiye**	**3.75**	**43**	PN	**Pn**	**23 34 36.7**	**+1.1**
AKAS	**Kas**	**3.81**	**52**	PN	**Pn**	**23 34 37.5**	**+1.0**
AKAS	**Kas**	**3.81**	**52**		**Pn**	**23 34 37.1**	**+0.6**
CAME	**Cameli-Denizli**	**4.10**	**42**	PN	**Pn**	**23 34 42.1**	**+1.7**
ELL	**Elmali**	**4.32**	**48**	PN	**Pn**	**23 34 44.9**	**+1.4**
ELL	**Elmali**	**4.32**	**48**		**Pn**	**23 34 45.5**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**4.33**	**21**	PN	**Pn**	**23 34 44.7**	**+1.1**
APMY	**Acipayam-Deniz**	**4.49**	**37**	PN	**Pn**	**23 34 47.4**	**+1.6**
ITM	**Ithomi**	**4.59**	**316**	Pn	**Pn**	**23 34 47.0**	**-0.1**
KORT	**Korkueli**	**4.75**	**48**	PN	**Pn**	**23 34 51.1**	**+1.6**
ANTB	**Antalya**	**4.89**	**51**	PN	**Pn**	**23 34 53.2**	**+2.1**
SUTC	**Sutluce-Ispart**	**5.46**	**48**	PN	**Pn**	**23 35 01.2**	**+2.1**
GAZI	**Gazipasa**	**5.74**	**64**	PN	**Pn**	**23 35 04.9**	**+2.0**
LEF	**Lefka**	**5.89**	**76**	PN	**Pn**	**23 35 06.7**	**+1.8**
HDMB	**Hadim**	**6.17**	**59**	PN	**Pn**	**23 35 11.1**	**+2.1**
CSS	**Mathiatis**	**6.22**	**78**	PN	**Pn**	**23 35 11.9**	**+2.4**
CSS	**Mathiatis**	**6.22**	**78**	Pn	**Pn**	**23 35 09.5**	**0.0**
TEKE	**Tekeli-Mersin**	**6.32**	**67**	PN	**Pn**	**23 35 12.5**	**+1.7**
AKKU	**Akkuyu-Mersin**	**6.66**	**68**	PN	**Pn**	**23 35 17.6**	**+2.1**
IKL	**Isikli**	**6.79**	**68**	PN	**Pn**	**23 35 19.5**	**+2.3**
KEK	**Kerkira**	**7.57**	**322**	Pn	**Pn**	**23 35 27.9**	**-0.2**
FNA	**Florina**	**7.74**	**334**	Pn	**Pn**	**23 35 29.9**	**-0.5**
MMAI	**Mount Meron Ar**	**7.99**	**94**	Sn	**Sn**	**23 37 01.6**	**-3.0**
	baz=236,slow=16						
GHAJ	**Ghor Haditha**	**8.56**	**105**	Pn	**Pn**	**23 35 42.8**	**+1.2**
EIL	**Elat**	**8.79**	**116**	Pn	**Pn**	**23 35 45.3**	**+0.6**
	comp=E,0.8nm,0.3s,baz=243,slow=11,SNR=5.0						
EIL				Sn	**Sn**	**23 37 23.1**	**-1.0**
	comp=E,0.6nm,0.3s,baz=108,slow=22,SNR=2.5						
	comp=E,1.9nm,0.4s						
TIP	**Timpagrande**	**9.04**	**308**	Pn	**Pn**	**23 35 47.9**	**-0.3**
RAFF	**Raffo Rosso**	**9.96**	**293**	Pn	**Pn**	**23 35 59.0**	**-1.8**
VAE	**Valguarnera**	**10.00**	**294**	Pn	**Pn**	**23 36 03.6**	**+2.2**
	comp=E,0.5nm,0.3s,baz=150,slow=22,SNR=1.5						
	comp=E,5.5nm,0.6s						
CUC	**Castrocucco**	**10.09**	**310**	Pn	**Pn**	**23 36 02.1**	**-0.5**
SGRT	**San Giovanni R**	**11.20**	**317**	Pn	**Pn**	**23 36 15.3**	**-2.5**
AKASG	**Malin Array Be**	**16.95**	**7**	Pn	**Pn**	**23 37 35.4**	**+0.7**
	comp=E,0.5nm,0.3s,baz=195,slow=9.5,SNR=3.6						
	comp=E,0.2nm,0.3s						
GERES	**GERESS Array B**	**17.46**	**332**	P	**Pn**	**23 37 41.2**	**-0.1**
	comp=E,0.1nm,0.3s,baz=155,slow=12,SNR=2.1						
	comp=E,0.2nm,0.4s						
SENIN	**Lac Senin/Sane**	**18.83**	**317**	P	**P**	**23 37 56.8**	**-1.0**
SENIN				IAmb	IAmb	23 38 00.9	
	comp=Z,16nm,1.1s						
ESDC	**Sonseca Array**	**24.53**	**292**	P	**P**	**23 38 58.9**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=88,slow=9.6,SNR=1.9						
	comp=Z,0.5nm,0.8s						
FINES	**FINESS Array B**	**27.54**	**0**	P	**P**	**23 39 23.2**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=166,slow=13,SNR=7.8						
	comp=Z,0.6nm,0.3s						
FINES	**FINESS Array B**	**27.54**	**0**	P	**P**	**23 39 22.1**	**-2.2**
ARCES	**ARCESS Array B**	**35.67**	**360**	P	**P**	**23 40 34.4**	**-1.3**
	comp=Z,3.3nm,1.1s,baz=168,slow=10.0,SNR=1.5						
	comp=Z,3.3nm,1.1s						
KURK	**Kurchatov**	**41.50**	**50**	P	**P**	**23 41 25.1**	**+0.2**
MAKZ	**Makanchi**	**43.74**	**56**	P	**P**	**23 41 42.2**	**-1.1**
MK31	**Makanchi Array**	**43.95**	**56**	P	**P**	**23 41 44.8**	**-0.2**
MK31				IAmb	IAmb	23 42 13.6	
	comp=Z,14nm,1.4s						
MKAR	**Makanchi Array**	**43.95**	**56**	P	**P**	**23 41 46.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=264,slow=6.8,SNR=6.6						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**43.95**	**56**	P	**P**	**23 41 44.9**	**-0.1**
ZAA0	**Zalesovo Array**	**45.43**	**45**	P	**P**	**23 41 56.5**	**0.0**
ZAA0				IAmb	IAmb	23 41 57.5	
	comp=Z,7.0nm,1.4s						
ZALV	**Zalesovo Beam**	**45.43**	**45**	P	**P**	**23 41 57.0**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=265,slow=8.8,SNR=9.8						
	comp=Z,1.7nm,0.4s						
ZALV	**Zalesovo Beam**	**45.43**	**45**	P	**P**	**23 41 56.1**	**-0.4**
SONM	**Songino Array**	**59.80**	**50**	P	**P**	**23 43 44.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=275,slow=7.8,SNR=2.1						
	comp=Z,0.3nm,0.6s						
INK	**Inuvik**	**76.93**	**352**	LR	LR	00 23 00.9	
	comp=Z,305nm,18.0s,baz=218,slow=39						
ILAR	**Eielson Array**	**81.47**	**357**	LR	LR	00 23 02.6	
	comp=Z,149nm,19.3s,baz=218,slow=36						
NEW	**Newport**	**91.75**	**336**	LR	LR	00 34 03.5	
	comp=Z,37nm,19.1s,baz=300,slow=40						
PDAR	**Pinedale Array**	**93.48**	**329**	LR	LR	00 33 18.3	
	comp=Z,44nm,18.3s,baz=321,slow=38						
TXAR	**Lajitas Array**	**101.06**	**317**	P	**Pdif**	**23 47 30.8**	**+2.4**
	comp=Z,1.4nm,0.7s,baz=49,slow=2.9,SNR=20						

*PGC **19** 23:37:02.8±2.5,55˙.29N×134˙.83W,h15km,ML2.7/7,*
199km Sse of Sitka, Ak Southeastern Alaska
*NEIC **19** 23:37:02.9±1.5,55˙.38N±0˙.02×134˙.75W±0˙.09,h16km±6km,*
Error ellipse: s-maj=7.4km s-min=3.5km az=90.0
*AEIC **19** 23:37:03.0±3.0,55˙.38N±0˙.03×134˙.9W±0˙.1,h24km±8km,*
Error ellipse: s-maj=9.2km s-min=3.6km az=77.0

ISC 19 23:37:02.5±2.3,55˚37N±0˙04×134˚77W±0˙06,h9km±15km,
n29,σ1s17/42,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**0.94**	**83**	Pn	**Pb**	**23 37 20.9**	**-0.1**
CRAG				Sn	**Sb**	**23 37 33.7**	**+0.1**
LIB	**Langara Island**	**1.49**	**138**	Pn	**Pn**	**23 37 28.3**	**-1.2**
LIB				Sg	**Sn**	**23 37 48.8**	**-0.3**
LIB	**Langara Island**	**1.49**	**138**	Pn	**Pn**	**23 37 28.3**	**-1.2**
LIB				Sg	**Sn**	**23 37 48.8**	**-0.3**
SIT	**Sitka**	**1.72**	**350**	Pn	**Pn**	**23 37 31.0**	**-1.6**
WRAK	**Wrangell Islan**	**1.72**	**51**	Pn	**Pn**	**23 37 32.4**	**-0.3**
WRAK				Sn	**Sn**	**23 37 53.2**	**-1.5**
WRAK				IAML		23 38 03.3	
	61nm,0.5s						
WRAK				IAML		23 38 09.1	
	55nm,0.4s						
NDB	**Naden**	**1.77**	**142**	Pn	**Pn**	**23 37 32.8**	**-0.6**
NDB				Sg	**Sn**	**23 37 56.5**	**+0.4**
NDB	**Naden**	**1.77**	**142**	Pn	**Pn**	**23 37 32.8**	**-0.6**
NDB				Sg	**Sn**	**23 37 56.5**	**+0.4**
DIB	**Dawson Inlet,**	**2.55**	**147**	Pn	**Pn**	**23 37 42.8**	**-1.3**
DIB				IAML		23 38 34.2	
	comp=E,66nm,3.5s						
DIB				IAML		23 39 13.6	
	comp=N,43nm,2.9s						
DIB	**Dawson Inlet,**	**2.55**	**147**	Pn	**Pn**	**23 37 43.4**	**-0.7**
DIB				Sn	**Sn**	**23 38 12.1**	**-3.1**
DIB				Sg	**Sb**	**23 38 20.5**	**+0.5**
RUBB	**Prince Rupert**	**2.81**	**110**	Pn	**Pn**	**23 37 46.9**	**-0.8**
RUBB				IAML		23 38 33.4	
	comp=N,28nm,2.3s						
RUBB				IAML		23 38 34.0	
	comp=E,29nm,2.8s						
RUBB	**Prince Rupert**	**2.81**	**110**	Pn	**Pn**	**23 37 47.5**	**-0.1**
RUBB				Pg	**Pb**	**23 37 54.6**	**+1.7**
RUBB				Sn	**Sn**	**23 38 20.2**	**-1.4**
RUBB				Sg	**Sb**	**23 38 30.7**	**+3.3**
HG1B	**Mitchell Dam**	**2.89**	**146**	Sg	**Sb**	**23 38 30.9**	**+1.3**
HG1B	**Mitchell Dam**	**2.89**	**146**	Sg	**Sb**	**23 38 30.9**	**+1.3**
JIS	**Juneau Island**	**2.92**	**4**	Pn	**Pn**	**23 37 49.0**	**-0.1**
JIS				IAML		23 38 35.5	
	comp=E,19nm,0.9s						
T35M	**Bob Quinn**	**3.00**	**56**	Sg	**Sg**	**23 38 38.3**	**-0.5**
GRNB	**Grenville Isla**	**3.19**	**117**	Pn	**Pn**	**23 37 52.1**	**-0.8**
GRNB				IAML		23 39 01.8	
	comp=N,37nm,4.1s						
GRNB	**Grenville Isla**	**3.19**	**117**	Pn	**Pn**	**23 37 52.0**	**-0.8**
GRNB				Sg	**Sg**	**23 38 43.3**	**-1.5**
S34M	**Telegraph Cree**	**3.25**	**37**	Sg	**Sg**	**23 38 45.7**	**-0.9**
BNB	**Barry Inlet**	**3.32**	**146**	Pn	**Pn**	**23 37 54.1**	**-0.5**
BNB	**Barry Inlet**	**3.32**	**146**	Pn	**Pn**	**23 37 54.1**	**-0.5**
BNB				Sg	**Sb**	**23 38 44.0**	**+2.0**
DLBC	**Dease Lake**	**4.03**	**38**	Pn	**Pn**	**23 38 04.3**	**-0.1**
DLBC				IAML		23 38 49.3	
	comp=N,10nm,4.3s						
DLBC				IAML		23 39 08.8	
	comp=E,12nm,4.8s						
DLBC	**Dease Lake**	**4.03**	**38**	Sg	**Sg**	**23 39 11.4**	**-0.2**
P33M	**Teslin, Yukon**	**4.97**	**11**	Pn	**Pn**	**23 38 17.8**	**+0.5**
WHY	**Whitehorse**	**5.30**	**359**	Pn	**Pn**	**23 38 21.2**	**-0.8**
PCA	**Pinnacle**	**5.58**	**330**	Pn	**Pn**	**23 38 25.9**	**+0.2**
TABL	**Table Mountain**	**6.11**	**329**	Pn	**Pn**	**23 38 33.0**	**-0.2**
ISLE	**Juniper Island**	**6.61**	**326**	Pn	**Pn**	**23 38 39.7**	**-0.2**
BARN	**Barnard Glacie**	**6.76**	**330**	Pn	**Pn**	**23 38 43.2**	**+1.1**
VRDI	**Verde Repeater**	**7.44**	**326**	Pn	**Pn**	**23 38 52.1**	**+0.7**

*HLW **19** 23:37:22.1,33˙.53N×35˙.45E,h10km±26km,Md3.2*
*ISK **19** 23:37:23.3,33˙.27N×35˙.31E,h9km,ML3.4/26*
*JSO **19** 23:37:24.7±0.7,33˚.N±5˚×3˚.5E±˚,h1km±3km,MLv3.5/20*
*GRAL **19** 23:37:25.7±0.3,33˙.25N×35˙.41E,h4km±1km,MD3.6*
*NIC **19** 23:37:25.4±0.0,33˙.34N×35˙.47E,h26km±3km,Ml3.4/8*
*GII **19** 23:37:25.0±0.0,33˙.24N×35˙.42E,h5km,MD3.3/5,Mm3.3/5*

ISC 19 23:37:24.9±0.9,33˚29N±0˙02×35˚39E±0˙03,h14km±7km,
n94,σ0s81/125,1D,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.24**	**109**	P	**Pg**	**23 37 29.9**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.24**	**109**	Pg	**Pg**	**23 37 29.9**	**-0.2**
GEM				Sg	**Sg**	**23 37 33.6**	**0.0**
MMC7	**Mount Meron ar**	**0.27**	**180**	Pg	**Pg**	**23 37 30.2**	**-0.4**
MMA0B	**Mount Meron ar**	**0.27**	**178**	Pg	**Pg**	**23 37 30.4**	**-0.3**
MMA0B				Sg	**Sg**	**23 37 34.2**	**-0.4**
HNTI	**Hanita**	**0.27**	**222**	P	**Pg**	**23 37 30.7**	**0.0**
HNTI	**Hanita**	**0.27**	**222**	Pg	**Pg**	**23 37 30.7**	**0.0**
HNTI				Sg	**Sg**	**23 37 35.4**	**+0.8**
NATI	**Neve Ativ**	**0.29**	**95**	P	**Pg**	**23 37 30.8**	**-0.2**
NATI	**Neve Ativ**	**0.29**	**95**	Pg	**Pg**	**23 37 30.9**	**-0.1**
NATI				Sg	**Sb**	**23 37 35.2**	**-1.4**
QRWL	**Qaraoun**	**0.36**	**43**	*e*P	**Pb**	**23 37 32.4**	**-0.7**
RCY	**Rachaya**	**0.43**	**61**	*e*P	**Pg**	**23 37 33.4**	**-0.1**
RCY				*e*S	**Sg**	**23 37 39.2**	**-0.1**
DQRL	**Deir Qamar**	**0.44**	**20**	*e*P	**Pg**	**23 37 34.1**	**+0.3**
DQRL				*e*S	**Sb**	**23 37 40.3**	**-0.8**
KSHT	**Keshet**	**0.47**	**131**	Pg	**Pg**	**23 37 34.0**	**-0.2**
BLGI	**Bet Lehem HaGe**	**0.58**	**197**	P	**Pg**	**23 37 36.0**	**-0.2**
BLGI	**Bet Lehem HaGe**	**0.58**	**197**	Pg	**Pg**	**23 37 36.0**	**-0.2**
BLGI				Sg	**Sg**	**23 37 44.5**	**+0.6**
BEYL	**Beirut**	**0.59**	**8**	*e*P	**Pb**	**23 37 36.9**	**-0.2**
SHMJ	**Saham**	**0.64**	**151**	P	**Pg**	**23 37 37.1**	**-0.3**
BHL	**Bhannes**	**0.65**	**20**	*e*P	**Pb**	**23 37 37.9**	**-0.3**
BHL				*e*S	**Sb**	**23 37 47.1**	**-0.1**
ZAHL	**Zahle**	**0.70**	**36**	*e*P	**Pg**	**23 37 38.6**	**0.0**
OFRI	**`Ofer**	**0.75**	**207**	P	**Pg**	**23 37 39.0**	**-0.5**
OFRI	**`Ofer**	**0.75**	**207**	Pg	**Pg**	**23 37 39.0**	**-0.5**
OFRI				Sg	**Sg**	**23 37 50.0**	**+0.7**
MMLI	**Mount Malkishu**	**0.85**	**178**	PG	**Pg**	**23 37 40.4**	**-1.0**
MMLI				SG	**Sg**	**23 37 51.6**	**-0.9**
MMLI	**Mount Malkishu**	**0.85**	**178**	P	**Pg**	**23 37 40.3**	**-1.1**
MMLI				AML	AML	23 37 51.1	
	5.1nm,0.3s						
MMLI				AML	AML	23 37 51.1	
	5.1nm,0.3s						
MMLI				AML	AML	23 37 51.5	
	2.4nm,0.2s						
MMLI				AML	AML	23 37 51.5	
	2.4nm,0.2s						
MMLI				S	**Sg**	**23 37 51.6**	**-0.9**
MMLI	**Mount Malkishu**	**0.85**	**178**	Pg	**Pg**	**23 37 40.4**	**-1.0**
MMLI				Sg	**Sg**	**23 37 52.0**	**-0.5**
HMDT	**Nahal Hemdat**	**1.04**	**174**	P	**Pg**	**23 37 43.9**	**-1.1**
HMDT	**Nahal Hemdat**	**1.04**	**174**	Pg	**Pg**	**23 37 43.7**	**-1.3**
HMDT				Sg	**Sg**	**23 37 58.0**	**-0.5**
SLTI	**Sal'it**	**1.08**	**196**	P	**Pg**	**23 37 44.8**	**-1.1**
SLTI	**Sal'it**	**1.08**	**196**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKMS				S	Sn	23 38 50.2	+0.7
TAHT	Tahtakopru-Hat	3.15	12	PN	Pn	23 38 15.2	+1.0
AKKU	Akkuyu-Mersin	3.24	333	PN	Pn	23 38 15.5	+0.1
HRFI	Mount Harif	3.25	185	Pn	Pn	23 38 16.1	+0.5
HRFI				Sn	Sn	23 38 55.9	+1.7
IKL	Isikli	3.26	335	PN	Pn	23 38 15.9	+0.2
KIZK	Mersin	3.35	343	PN	Pn	23 38 17.1	+0.3
TEKE	Tekeli-Mersin	3.41	327	PN	Pn	23 38 17.8	+0.1
OSC1	CSNet OBS 1	3.45	275	P	Pn	23 38 18.7	+0.5
OSC1				S	Sn	23 38 59.6	+0.8
MBRI	Mt Berech	3.51	187	P	Pn	23 38 20.8	+1.7
TEVE	Tevekalti-Mers	3.52	334	PN	Pn	23 38 19.9	+0.5
EIL	Elat	3.63	186	P	Pb	23 38 28.8	0.0
EIL	Elat	3.63	186	Pn	Pn	23 38 21.3	+0.6
MERS	Mersin	3.64	349	PN	Pn	23 38 21.7	+0.7
GAZI	Gazipasa	3.88	320	PN	Pn	23 38 24.8	+0.6
KARA	Karaisali	3.97	356	PN	Pn	23 38 26.4	+0.9
SUZ	Suez	4.07	213	P	Pn	23 38 27.3	+0.5
	baz=212						
HBST	Basata	4.10	188	P	Pn	23 38 28.7	+1.5
	baz=189						
GAZ	Gaziantep	4.15	21	PN	Pn	23 38 29.3	+1.3
KOZT	Kozan	4.20	5	PN	Pn	23 38 29.8	+1.2
KRMN	Karaman	4.25	336	PN	Pn	23 38 30.0	+0.6
HDMB	Hadim	4.37	328	PN	Pn	23 38 31.4	+0.2
CMRD	Camardi-Nigde	4.38	356	PN	Pn	23 38 32.7	+1.6
KMRS	Kahramanmaras	4.38	16	PN	Pn	23 38 32.6	+1.4
KOT	Kottamia	4.52	223	P	Pn	23 38 33.7	+0.6
	baz=222						
ZAF	Zafarana	4.68	212	P	Pn	23 38 35.1	0.0
	baz=212						
ZAF				S	Sn	23 39 29.5	+0.3
	baz=212						
YESY	Yesilyurt	4.68	344	PN	Pn	23 38 36.4	+1.1
GLL	Jalalah	4.86	221	P	Pn	23 38 38.0	+0.3
	baz=220						
HKAT	Jabal Katrina	4.90	195	P	Pn	23 38 38.6	+0.2
	baz=195						
HSAF	As Saff	4.91	223	P	Pn	23 38 39.0	+0.6
	baz=222						
TR2	Tor 2	5.09	197	P	Pn	23 38 41.3	+0.4
	baz=197						
GULA	Gulagac	5.13	350	PN	Pn	23 38 43.1	+1.6
SARI	SarD1z-Kayseri	5.18	9	PN	Pn	23 38 43.5	+1.3
SUTC	Sutluce-Ispart	5.51	321	PN	Pn	23 38 47.9	+1.2
KORT	Korkueli	5.55	313	PN	Pn	23 38 48.2	+1.0
AKAS	Kas	5.59	303	PN	Pn	23 38 48.9	+1.0
ELL	Elmali	5.67	309	PN	Pn	23 38 49.9	+1.0
APMY	Acipayam-Deniz	6.49	312	PN	Pn	23 39 01.8	+1.6
DALY	Dalyan (Mula)	6.55	304	PN	Pn	23 39 01.8	+0.9

*SKHL **19** 23:45:12.1±0.4, 44.°20N×149.°50E, h40km±3km, mb4.6/8*
*MOS **19** 23:45:12.9±1.0, 44.°22N×149.°34E, h37km, mb4.3/2, Error ellipse: s-maj=11.9km s-min=9.9km az=74.3*
*JMA **19** 23:45:13.3±0.8, 45°N±3°×14°9E±°, h30km, MV4.1/13, SE OFF ETOROFU*
*IDC **19** 23:45:15.4±3.5, 44.°31N×149.°18E, h42km±31km, mb3.4/12, mbtmp3.6/14, ML2.2/2, MS2.6/1, Error ellipse: s-maj=24.2km s-min=20.0km az=118.0*
ISC 19 23:45:13.3±2.8, **44.°14N**±0.°06×**149.°35E**±0.°07, **h29**km±19km, **n51**, σ**1.s41**/57, **mb3.6**/12, **2C-1D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.52	317	eP	Pn	23 45 37.6	-0.9
KUR				AMB	AMB	23 45 38.3	
	220nm,0.5s						
KUR				AMB	AMB	23 45 38.3	
	140nm,0.5s						
KUR				AMB	AMB	23 45 38.3	
	590nm,0.5s						
KUR				iS	Sn	23 45 56.4	-1.0
KUR				A	A	23 45 58.9	
	2μm,0.5s						
KUR				A	A	23 45 58.9	
	2μm,0.5s						
KUR	Kuril'sk	1.52	317	ePN	Pn	23 45 37.6	-0.9
KUR				eS	Sn	23 45 56.0	-1.4
KUR				pmax	pmax		
	comp=N,224nm,0.5s						
KUR				pmax	pmax		
	comp=E,140nm,0.5s						
KUR				pmax	pmax		
	comp=Z,689nm,0.5s						
KUR				smax	smax		
	comp=N,2μm,0.5s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
YUK	Yuzh-Kuril'sk	2.51	269	eP	Pn	23 45 52.6	+0.4
YUK				AMB	AMB	23 45 54.4	
	comp=E,50nm,0.3s						
YUK				AMB	AMB	23 45 54.4	
	comp=E,210nm,0.3s						
YUK				eS	Sn	23 46 23.0	+1.2
YUK				A	A	23 46 31.5	
	comp=E,560nm,0.5s						
YUK				A	A	23 46 31.5	
	comp=E,590nm,0.5s						
YUK	Yuzh-Kuril'sk	2.51	269	PN	Pn	23 45 52.4	+0.2
YUK				S	Sb	23 46 27.1	-1.1
YUK				pmax	pmax		
	comp=Z,210nm,0.2s						
YUK				pmax	pmax		
	comp=N,48nm,0.1s						
YUK				smax	smax		
	comp=E,593nm,0.5s						
YUK				smax	smax		
	comp=N,558nm,0.3s						
NEM2	Nemuro 2	2.72	255	eP	Pn	23 45 55.2	+0.1
NEM2				eS	Sn	23 46 26.1	-0.9
NMR	Nemuro--Hokkai	2.73	255	iP	Pn	23 45 55.2	0.0
NMR				AMB	AMB	23 45 57.4	
	comp=N,30nm,0.2s						
NMR				iS	Sn	23 46 26.5	-0.7
NMR				A	A	23 46 28.9	
	comp=N,50nm,0.2s						
NMR				A	A	23 46 28.9	
	comp=N,70nm,0.2s						
NMR	Nemuro--Hokkai	2.73	255	ePN	Pn	23 45 55.0	-0.2
NMR				S	Sn	23 46 26.3	-0.9
RUSJ	Misakicho	2.95	271	PN	Pn	23 45 59.4	+1.2
RUSJ				S	Sn	23 46 35.1	+2.4
JRA	Rausu	3.05	268	eP	Pn	23 46 01.0	+1.4
JNK	Nakash	3.39	262	eP	Pn	23 46 05.2	+0.9
AKK	Akkeshi	3.46	253	eP	Pn	23 46 05.6	+0.4
AKK				AMB	AMB	23 46 08.9	
	comp=N,20nm,0.2s						
AKK				eS	Sn	23 46 46.0	+0.8
AKK				A	A	23 46 59.7	
	comp=N,70nm,0.4s						
AKK				A	A	23 46 59.7	
	comp=N,160nm,0.4s						
JAK	Akkeshi	3.57	253	eP	Pn	23 46 07.0	+0.4
JTKR	Abashiri--Toko	3.92	269	eP	Pn	23 46 13.4	+1.8
JAR	Ashorobuto	4.13	260	eP	Pn	23 46 16.0	+1.6
JOB	Onbets	4.20	255	eP	Pn	23 46 16.5	+1.2
JCH	Churui	4.62	253	eP	Pn	23 46 22.1	+1.0
ERM	Erimo	5.01	247	dePN	Pn	23 46 28.8	+2.4
JNBK	Urakawa-nobuka	5.17	251	eP	Pn	23 46 29.7	+1.1
JNBK				eS	Sn	23 47 27.7	+0.5
YSS	Yuzh-Sakhalins	5.42	304	eP	Pn	23 46 33.7	+1.6
YSS				AMB	AMB	23 46 35.0	
	comp=N,20nm,0.4s						
YSS				eS	Sn	23 47 34.0	+0.6
YSS				A	A	23 47 39.5	
	comp=N,30nm,0.5s						
YSS				A	A	23 47 39.5	
	comp=N,40nm,0.5s						
YSS	Yuzh-Sakhalins	5.42	304	ePN	Pn	23 46 33.7	+1.6
YSS				eS	Sn	23 47 36.4	+3.0
YSS				smax	smax		
	comp=E,40nm,0.6s						
JANG	Nango	6.92	240	eS	Sn	23 48 05.1	-5.4
PEA0B	Petropavlovsk-	10.53	29⇑	ePN	Pn	23 47 42.3	+0.1
PETK	Petropavlovsk-	10.53	29	P	Pn	23 47 41.6	-0.6
	comp=E,0.2nm,0.3s,baz=197,slow=11,SNR=7.3						
	comp=E,2.0nm,0.7s						
MJAR	Matsushiro Arr	11.38	232	P	Pn	23 47 55.5	+1.5
	baz=62,slow=13,SNR=1.2						
	comp=E,0.2nm,0.3s						
KLR	Kul'dur	13.10	299	LR	LR	23 53 18.9	
	comp=E,26nm,20.4s,baz=118,slow=37						
SEY	Seymchan	18.91	4	eP	P	23 49 31.8	+0.4
SEY	Seymchan	18.91	4⇑	eP	P	23 49 31.8	+0.4
SEY				pmax	pmax		
	comp=Z,6.0nm,1.5s						
H11N2	WAKE ISLAND Hy	28.41	143	T	T	00 22 07.6	
	baz=333,slow=76,SNR=32						
H11N1	WAKE ISLAND Hy	28.42	143	T	T	00 22 10.3	
	baz=333,slow=76,SNR=27						
H11N3	WAKE ISLAND Hy	28.43	143	T	T	00 22 11.5	
	baz=333,slow=76,SNR=34						
H11S1	WAKE ISLAND Hy	29.41	145	T	T	00 23 27.3	
	baz=334,slow=76,SNR=30						
H11S3	WAKE ISLAND Hy	29.42	145	T	T	00 23 29.5	
	baz=334,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	29.43	145	T	T	00 23 29.5	
	baz=334,slow=76,SNR=29						
SONM	Songino Array	29.79	292	P	P	23 51 16.8	-0.7
	comp=Z,0.3nm,0.3s,baz=85,slow=8.2,SNR=5.6						
	comp=Z,0.3nm,0.3s						
NRIK	Noril'sk	39.68	331	P	P	23 52 42.6	+0.3
	comp=Z,0.9nm,0.4s,baz=23,slow=7.7,SNR=1.6						
	comp=Z,0.9nm,0.4s						
ILAR	Eielson Array	40.23	37	P	P	23 52 47.5	+0.4
	comp=Z,0.2nm,0.5s,baz=268,slow=7.8,SNR=5.0						
	comp=Z,0.2nm,0.5s						
ILAR	Eielson Array	40.23	37	eP	P	23 52 49.0	+2.0
ZALV	Zalesovo Beam	42.03	307	P	P	23 53 01.0	-0.9
	comp=Z,0.4nm,0.3s,baz=86,slow=6.8,SNR=2.3						
ZALV				PcP	PcP	23 54 56.2	-0.2
	comp=Z,0.4nm,0.2s,baz=90,slow=4.3,SNR=3.9						
	comp=Z,0.4nm,0.3s						
MKAR	Makanchi Array	45.81	298	P	P	23 53 31.1	-1.2
	comp=Z,1.0nm,0.7s,baz=67,slow=7.1,SNR=7.3						
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	45.81	298	iP	P	23 53 32.5	+0.1
MKAR	Makanchi Array	45.81	298	iP	P	23 53 32.5	+0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	65.23	196	P	P	23 55 53.2	+1.1
	comp=Z,0.3nm,0.7s,baz=9.8,slow=6.1,SNR=1.9						
	comp=Z,0.3nm,0.7s						
FINES	FINESS Array B	65.24	334	P	P	23 55 50.6	-1.1
	comp=Z,2.4nm,0.9s,baz=90,slow=3.8,SNR=5.2						
	comp=Z,2.4nm,0.9s						
FINES	FINESS Array B	65.24	334	iP	P	23 55 52.4	+0.7
FINES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ASAR	Alice Springs	68.94	195	P	P	23 56 17.1	+1.5
	comp=Z,0.1nm,0.4s,baz=12,slow=5.9,SNR=1.9						
	comp=Z,0.1nm,0.4s						
NB2	NORSAR Subarra	69.80	340	P	P	23 56 18.5	-2.1
	comp=Z,1.1nm,0.7s,baz=31,slow=6.5						
NOA	NORSAR Array B	69.80	340	P	P	23 56 18.4	-2.1
	comp=Z,0.4nm,0.5s,baz=31,slow=6.6,SNR=7.6						
	comp=Z,0.4nm,0.5s						
AKASG	Malin Array Be	72.19	325	P	P	23 56 34.1	-1.1
	comp=Z,0.4nm,0.3s,baz=37,slow=6.1,SNR=4.9						
	comp=Z,0.4nm,0.3s						
AKASG	Malin Array Be	72.19	325	iP	P	23 56 34.4	-0.8
GERES	GERESS Array B	79.58	332	P	P	23 57 17.2	-0.3
	comp=Z,0.2nm,0.3s,baz=44,slow=6.1,SNR=4.3						
	comp=Z,0.2nm,0.3s						
TXAR	Lajitas Array	81.11	58	P	P	23 57 26.7	+0.6
	comp=Z,0.3nm,0.6s,baz=309,slow=4.1,SNR=5.1						
	comp=Z,0.3nm,0.6s						

*IDC **19** 23:48:20.7±0.7, 44.°13S×39.°27E, h0km, mb4.1/9, mbtmp4.1/10, ML3.6/1, MS4.0/43, Error ellipse: s-maj=29.5km s-min=18.1km az=61.0*
*NEIC **19** 23:48:22.9±0.8, 44.°15S±0.°07×39.°0E±0.°2, h10km±1km, mb4.6/19, Error ellipse: s-maj=27.4km s-min=10.7km az=76.0*
*GCMT **19** 23:48:22.9±0.4, 44.°14S±0.°03×39.°12E±0.°06, h14km±1km, MW4.8/72, Moment Tensor Solution. s9,c10; s72,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.03±.20; Mθθ1.65±.13; Mφφ0.38±.11; Mrθ-0.62±.25; Mθφ-0.09±.06; Mφr0.26±.31; Best double couple: M0 1.95800×10^16 NP1:φs99.00000°,δ55.00000°,λ-85.00000°. NP2: φs270.00000°,δ36.00000°,λ-98.00000°. Principal axes: T 1.7630, Plg10.0000°, Azm185.0000°; N 0.3920, Plg4.0000°, Azm276.0000°; P -2.1540, Plg79.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 23:48:22.5±0.6, **44.°11S**±0.°09×**39.°1E**±0.°1, **h10**km, **n69**, σ**0.s64**/32, **mb4.4**/13, **MS4.0**/44, **Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	Pongola	17.77	338		Pn	23 52 29.9	0.0
POGA				IAmb	IAmb	23 52 42.4	
	comp=Z,32nm,1.5s						
SUR	Sutherland	18.50	303	P	Pn	23 52 39.8	+0.6
	comp=Z,0.2nm,0.3s,baz=157,slow=13,SNR=2.1						
SUR				LR	LR	23 58 12.5	
	comp=Z,320nm,19.8s,baz=150,slow=32						
	comp=Z,15nm,1.2s						
BOSA	Boshof	19.04	320	LR	LR	23 58 44.7	
	comp=Z,553nm,20.1s,baz=157,slow=33						
BOSA	Boshof	19.04	320	P	P	23 52 44.2	-0.6
LBTB	Lobatse	22.02	326	P	P	23 53 17.5	+0.4
	comp=Z,2.6nm,0.9s,baz=174,slow=9.6,SNR=2.3						
LBTB				LR	LR	00 00 35.7	
	comp=Z,460nm,19.5s,baz=152,slow=33						
	comp=Z,2.6nm,0.9s						
LBTB	Lobatse	22.02	326	P	P	23 53 16.6	-0.5
VOI	Vohitsoka	23.04	18	P	P	23 53 28.2	+0.2
VOI				IAmb	IAmb	23 53 44.1	
	comp=Z,27nm,1.4s						
MAW	Mawson	26.70	160	LR	LR	00 01 50.9	
	comp=Z,325nm,21.5s,baz=328,slow=30						
LSZ	Lusaka	30.21	339	P	P	23 54 33.3	0.0
	comp=Z,1.0nm,0.3s,baz=148,slow=6.4,SNR=1.4						
LSZ				LR	LR	00 05 31.8	
	comp=Z,217nm,19.1s,baz=160,slow=34						
	comp=Z,1.0nm,0.3s						
TROLL	Troll, Antarti	32.96	200	P	P	23 54 56.9	-0.2
SNAA	Sanae	34.16	202	P	P	23 55 08.8	+1.4
SNAA	Sanae	34.16	202	P	P	23 55 07.5	+0.1
	comp=Z,4.7nm,0.9s,baz=81,slow=5.7,SNR=13						
SNAA				LR	LR	00 07 15.2	
	comp=Z,248nm,18.1s,baz=20,slow=33						
	comp=Z,4.7nm,0.9s						
SNAA	Sanae	34.16	202	P	P	23 55 06.9	-0.5
SNAA				IAmb	IAmb	23 55 09.7	
	comp=Z,9.7nm,1.1s						
VNA2	Neumayer--Watz	35.11	205	P	P	23 55 16.1	+0.6
	baz=58,slow=8.1						
KMBO	Kilima Mbogo	42.84	357	LR	LR	00 12 04.2	
	comp=Z,336nm,20.1s,baz=100,slow=33						
MBAR	Mbarara	43.96	348	P	P	23 56 29.1	-0.9
	comp=Z,2.0nm,0.2s,baz=183,slow=15,SNR=1.3						
MBAR				LR	LR	00 14 22.8	
	comp=Z,346nm,18.3s,baz=150,slow=36						
	comp=Z,2.0nm,0.2s						
QSPA	South Pole Qui	46.10	180	P	P	23 56 45.0	-1.5
	comp=Z,2.7nm,1.0s,baz=252,slow=4.9,SNR=3.8						
QSPA				LR	LR	00 14 18.6	
	comp=Z,230nm,21.1s,baz=249,slow=34						
	comp=Z,2.7nm,1.0s						
QSPA	South Pole Qui	46.10	180	P	P	23 56 46.2	-0.3
QSPA				IAmb	IAmb	23 56 48.9	
	comp=Z,11nm,1.4s						
VNDA	Vanda	53.68	167	P	P	23 57 43.2	-0.6
	comp=Z,0.3nm,0.6s,baz=282,slow=14,SNR=2.8						
VNDA				LR	LR	00 18 17.0	
	comp=Z,180nm,21.9s,baz=224,slow=34						
	comp=Z,0.3nm,0.6s						
VNDA	Vanda	53.68	167	P	P	23 57 44.9	+1.2
VNDA				IAmb	IAmb	23 57 58.0	
	comp=Z,7.7nm,1.4s						
SBA	Scott Base	54.21	168	P	P	23 57 48.3	+0.6
SBA				IAmb	IAmb	23 57 59.2	
	comp=Z,16nm,1.5s						
ATD	Arta Tunnel	55.48	4	LR	LR	00 20 00.4	
	comp=Z,122nm,19.2s,baz=158,slow=34						
PMSA	Palmer Station	56.19	210	LR	LR	00 16 40.8	
	comp=Z,227nm,20.6s,baz=110,slow=30						
NWAO	Narrogin (SRO)	59.99	108	LR	LR	00 19 23.1	
	comp=Z,86nm,21.4s,baz=44,slow=31						
PALK	Pallekele	63.43	47	LR	LR	00 19 44.7	
	comp=Z,116nm,20.4s,baz=305,slow=30						
DBIC	Dimbokro	64.23	310	LR	LR	00 25 57.1	
	comp=Z,64nm,18.1s,baz=172,slow=35						
WSAR	Wadi Sarin	69.37	19	LR	LR	00 24 49.5	
	comp=Z,177nm,20.1s,baz=199,slow=32						
EIL	Elat	73.53	356	LR	LR	00 33 25.3	
	comp=Z,42nm,18.0s,baz=238,slow=37						
PLCA	Paso Flores	74.54	228	LR	LR	00 24 54.9	
	comp=Z,90nm,21.7s,baz=167,slow=29						
RCBR	Riachuelo	75.22	276	LR	LR	00 25 08.7	
	comp=Z,34nm,18.7s,baz=307,slow=29						
STKA	Stephens Creek	76.57	121	P	P	00 00 12.4	-0.7
	comp=Z,1.0nm,0.5s,baz=259,slow=3.9,SNR=4.8						
	comp=Z,1.0nm,0.5s						
STKA	Stephens Creek	76.57	121	P	P	00 00 13.7	+0.5
STKA				IAmb	IAmb	00 00 19.6	
	comp=Z,3.2nm,1.3s						
ASAR	Alice Springs	77.18	110	P	P	00 00 16.6	-0.2
	comp=Z,1.8nm,0.8s,baz=218,slow=5.0,SNR=13						
ASAR				LR	LR	00 28 32.3	
	comp=Z,64nm,20.7s,baz=156,slow=31						
	comp=Z,1.8nm,0.8s						
ASAR	Alice Springs	77.18	110	P	P	00 00 16.9	+0.2
AS31	Alice Springs	77.18	110	P	P	00 00 16.5	-0.2
BBTS	Babate	77.36	305	LR	LR	00 33 09.2	
	comp=Z,46nm,18.1s,baz=116,slow=35						
BATI	Baumata	79.07	94	LR	LR	00 29 00.5	
	comp=Z,86nm,20.8s,baz=223,slow=31						
WRA	Warramunga Arr	80.00	108	P	P	00 00 31.4	-0.9
	comp=Z,1.0nm,0.8s,baz=223,slow=4.7,SNR=7.5						
WRA				LR	LR	00 31 39.2	
	comp=Z,143nm,18.1s,baz=229,slow=32						
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	80.00	108	P	P	00 00 32.6	+0.3
WB2	Warramunga Arr	80.01	108	P	P	00 00 32.9	+0.6
IDI	Anoyia	80.08	348	LR	LR	00 36 13.8	
	comp=Z,78nm,20.8s,baz=186,slow=36						
WB0	Warramunga Arr	80.16	108	P	P	00 00 33.1	0.0
WB0				IAmb	IAmb	00 00 39.8	
	comp=Z,8.7nm,1.2s						
CMAR	Chiang Mai Arr	82.79	56	LR	LR	00 33 43.4	
	comp=Z,44nm,18.1s,baz=220,slow=33						
NIL	Nilore	83.41	28	P	P	00 00 50.6	+0.8
NIL				IAmb	IAmb	00 01 02.7	
	comp=Z,6.4nm,1.1s						
GEYT	Alibeck	83.46	15	LR	LR	00 35 55.0	
	comp=Z,60nm,18.9s,baz=172,slow=34						
AC02	Maricunga	83.69	239	P	P	00 00 52.4	+0.1
KEST	Kesra	83.95	336	LR	LR	00 40 17.9	
	comp=Z,113nm,18.0s,baz=315,slow=37						
GNI	Garni	84.03	4	LR	LR	00 36 53.6	
	comp=Z,101nm,21.9s,baz=174,slow=35						
VAE	Valguarnera	84.25	340	LR	LR	00 37 41.5	
	comp=Z,56nm,21.7s,baz=146,slow=35						
SHL	Shillong	84.49	46	P	P	00 00 55.7	0.0
SIV	San Ignacio	86.14	252	LR	LR	00 34 14.9	
	comp=Z,57nm,18.2s,baz=104,slow=32						
MDT	Midelt	86.32	324	LR	LR	00 39 16.1	
	comp=Z,134nm,20.3s,baz=153,slow=35						
LVC	Limon Verde	86.61	242	LR	LR	00 33 21.5	
	comp=Z,60nm,19.7s,baz=182,slow=31						
KBZ	Khabaz	87.52	3	LR	LR	00 40 12.1	
	comp=Z,53nm,19.7s,baz=66,slow=36						
MLR	Muntele Rosu	89.98	351	LR	LR	00 44 05.2	
	comp=Z,74nm,19.8s,baz=203,slow=37						
LPAZ	La Paz	90.68	247	LR	LR	00 37 28.9	
	comp=Z,60nm,18.1s,baz=107,slow=32						
AAK	Ala-Archa	91.99	25	LR	LR	00 39 20.3	
	comp=Z,85nm,19.4s,baz=216,slow=33						
ESDC	Sonseca Array	92.01	328	LR	LR	00 43 58.9	
	comp=Z,158nm,18.4s,baz=135,slow=36						
DAVOX	Davos/Dischmat	94.13	340	LR	LR	00 45 25.4	
	comp=Z,68nm,21.4s,baz=92,slow=36						
MDP	Montagnes des	94.78	272	LR	LR	00 37 31.6	
	comp=Z,47nm,19.4s,baz=20,slow=31						
VRAC	Vranov	95.11	345	LR	LR	00 49 48.0	
	comp=Z,32nm,18.6s,baz=165,slow=39						
BELG	Belogornoye	96.41	5	LR	LR	00 45 27.7	
	comp=Z,88nm,22.0s,baz=165,slow=36						
MKAR	Makanchi Array	98.22	28	LR	LR	00 45 40.6	
	comp=Z,31nm,18.8s,baz=48,slow=35						
DZM	Mont Dzumac	98.39	132	eLR	LR	00 33 54.5	
	comp=Z,109nm,24.3s						
NNA	Nana	99.52	243	LR	LR	00 43 21.5	
	comp=Z,72nm,18.9s,baz=36,slow=33						
TBI	Tubuai	112.41	171	eLR	LR	00 40 07.2	
	comp=Z,766nm,39.8s						
PPT2	Papeete2	118.08	171	eLR	LR	00 42 45.2	
	comp=Z,100nm,28.2s						
PPT2				eLR	LR	00 42 45.4	
	comp=Z,153nm,36.8s						
TXAR	Lajitas Array	147.04	256	PKPbc	PKPbc	00 08 05.2	-0.4
	comp=Z,1.0nm,0.8s,baz=137,slow=5.4,SNR=8.8						
ULM	Lac du Bonnet	149.19	298	PKPbc	PKPbc	00 08 10.7	+0.2
	comp=Z,3.6nm,0.7s,baz=128,slow=5.5,SNR=3.7						

*WEL **19** 23:50:10.7±0.3, 42°S±3°×17°4E±°, h5km, M3.7/48, ML3.9/24, MLv3.7/48, Error ellipse: s-maj=0.0km s-min=0.0km az=158.6*
*NEIC **19** 23:50:10.8±1.1, 41.°65S±0.°03×174.°36E±0.°02, h18km±4km, mb4.0/3, Error ellipse: s-maj=4.6km s-min=1.3km az=149.0*
ISC 19 23:50:10.1±0.9, **41.°70S**±0.°03×**174.°40E**±0.°02, **h18**km±3km, **n97**, σ**0.s95**/103, **mb4.3**/3, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.15	249	Pg	Pb	23 50 14.2	-0.1
CMWZ				Sg	Sg	23 50 17.7	+0.7
CMWZ	Cape Campbell	0.15	249	P	Pb	23 50 14.3	-0.1
CMWZ				S	Sg	23 50 18.4	+1.3
BSWZ	Blackbirch Sta	0.39	267		Pg	23 50 18.4	+0.3
BSWZ				Sg	Sb	23 50 24.2	0.0
BSWZ	Blackbirch Sta	0.39	267	P	Pg	23 50 18.4	+0.3
BSWZ				S	Sb	23 50 24.5	+0.3
TUWZ	Tuamarina	0.43	308		Pg	23 50 18.8	0.0
TUWZ				Sg	Sb	23 50 25.1	-0.3
TUWZ	Tuamarina	0.43	308	P	Pg	23 50 18.9	0.0
TUWZ				S	Sb	23 50 25.2	-0.3
SNZO	South Karori	0.45	31	Pg	Pb	23 50 19.6	+0.1
SNZO				Sg	Sb	23 50 26.1	+0.2
TCW	Tory Channel	0.49	350		Pg	23 50 19.9	-0.2
TCW				Sg	Sb	23 50 26.4	-0.7
TCW	Tory Channel	0.49	350	P	Pg	23 50 19.9	-0.1
WEL	Wellington	0.50	34	P	Pb	23 50 20.6	+0.2
PLWZ	Palliser	0.66	79	Pg	Pg	23 50 24.2	+1.2
PLWZ	Palliser	0.66	79	P	Pn	23 50 24.3	-0.2
MSWZ	Moikau Station	0.70	67	Pg	Pg	23 50 24.3	+0.5
MSWZ	Moikau Station	0.70	67	P	Pg	23 50 24.7	+0.8
CAW	Cannon Point	0.78	41	P	Pb	23 50 25.3	+0.2
PAWZ	Paruwai Farm	0.84	68	P	Pg	23 50 27.1	+0.7
NNZ	Nelson	0.90	302		Pb	23 50 27.1	-0.1
NNZ	Nelson	0.90	302	P	Pb	23 50 27.1	-0.1
KIW	Kapiti Island	0.92	25	P	Pb	23 50 27.7	+0.1
KHZ	Kahutara	0.96	221	Pn	Pg	23 50 29.4	+0.6
KHZ	Kahutara	0.96	221	P	Pg	23 50 29.5	+0.8
DUWZ	D'Urville Isla	0.96	338	P	Pb	23 50 28.2	-0.1
MTW	Mount Morrison	0.99	57	P	Pg	23 50 29.6	+0.3
TRWZ	Traveller	1.01	73	P	Pn	23 50 29.8	+0.3
OGWZ	Otaki Gorge	1.06	34	P	Pn	23 50 30.0	0.0
THZ	Tophouse	1.12	266		Pn	23 50 31.2	+0.2
THZ	Tophouse	1.12	266	P	Pg	23 50 31.4	-0.3
HOWZ	Holdsworth Sta	1.16	47	P	Pb	23 50 32.2	+0.6
MRNZ	Matariki Terra	1.27	283		Pg	23 50 34.2	-0.3
MRNZ	Matariki Terra	1.27	283	P	Pg	23 50 34.4	-0.1
TKNZ	Takaka Hill	1.27	301		Pb	23 50 33.7	+0.2
TKNZ	Takaka Hill	1.27	301	P	Pb	23 50 33.6	+0.2
TMWZ	Te Maipa	1.27	63	P	Pn	23 50 33.3	+0.3
MRZ	Mangatainoka R	1.37	41		Pb	23 50 35.0	-0.1
MRZ	Mangatainoka R	1.37	41	P	Pb	23 50 35.2	0.0
TIWZ	Tintock	1.45	51	P	Pb	23 50 36.6	-0.1
CPWZ	Castlepoint	1.57	61	P	Pb	23 50 38.5	-0.2
GVZ	Greta Valley S	1.62	218		Pn	23 50 38.3	+0.5
GVZ	Greta Valley S	1.62	218	P	Pn	23 50 38.4	+0.5
OHWZ	Ohakea	1.65	25	P	Pg	23 50 41.5	-0.2
PRWZ	Pori Road	1.65	47	P	Pn	23 50 38.8	+0.6
QRZ	Quartz Range	1.66	301		Pb	23 50 40.2	+0.1
QRZ	Quartz Range	1.66	301	P	Pb	23 50 40.5	+0.5
POWZ	Post Office Ro	1.67	39	P	Pb	23 50 39.5	-0.7
BFZ	Birch Farm	1.73	55		Pn	23 50 39.0	-0.3
BFZ	Birch Farm	1.73	55	P	Pn	23 50 39.2	-0.1
LTZ	Lake Taylor	1.91	235		Pn	23 50 42.5	+0.6
LTZ	Lake Taylor	1.91	235	P	Pn	23 50 42.5	+0.6
DVHZ	Dannevirke	1.94	44	P	Pn	23 50 42.1	0.0
DSZ	Denniston Nort	1.94	268		Pn	23 50 43.4	+1.1

DSZ	**Denniston Nort**	**1.94**	**268**	P	**Pb**	**23 50 43.8**	**-1.2**
AMCZ	**Amberley**	**1.96**	**221**	Pn	**Pn**	**23 50 42.6**	**+0.1**
AMCZ	**Amberley**	**1.96**	**221**	P	**Pb**	**23 50 44.9**	**-0.4**
WAZ	**Wanganui**	**1.99**	**13**	P	**Pb**	**23 50 46.6**	**+0.8**
ANWZ	**Angora Road**	**2.00**	**53**	P	**Pn**	**23 50 43.1**	**+0.1**
TSZ	**Takapari Road**	**2.02**	**36**	P	**Pb**	**23 50 45.3**	**-1.1**
LREZ	**Lake Rotokare**	**2.23**	**0**	P	**Pb**	**23 50 50.2**	**+0.3**
PNHZ	**Pukenui**	**2.25**	**38**	P	**Pn**	**23 50 46.8**	**+0.4**
WPHZ	**Waipukurau**	**2.25**	**44**	P	**Pn**	**23 50 48.2**	**+1.8**
OKCZ	**Okains Bay**	**2.25**	**205**	P	**Pn**	**23 50 46.0**	**-0.5**
MQZ	**McQueen's Vall**	**2.38**	**212**	Pn	**Pn**	**23 50 47.8**	**-0.5**
OXZ	**Oxford**	**2.38**	**226**		**Pn**	**23 50 47.7**	**-0.6**
KHEZ	**Kahui Hut**	**2.42**	**353**	P	**Pb**	**23 50 52.6**	**-0.5**
INZ	**Inchbonnie**	**2.42**	**244**		**Pn**	**23 50 49.7**	**+0.9**
MTVZ	**Mangateitei**	**2.45**	**20**	P	Pg	23 50 55.5	-1.6
NBEZ	**Newall Road No**	**2.46**	**350**	P	**Pb**	**23 50 53.0**	**-0.8**
MOVZ	**Moawhango**	**2.51**	**25**	P	**Pn**	**23 50 52.2**	**+2.1**
PKVZ	**Pokaka**	**2.51**	**17**	P	**Pb**	**23 50 55.4**	**+0.7**
PKE	**Pukeiti**	**2.52**	**353**	P	**Pb**	**23 50 54.4**	**-0.4**
WNVZ	**Wahianoa**	**2.54**	**22**	P	**Pn**	**23 50 52.5**	**+1.9**
TRVZ	**Turoa**	**2.55**	**21**	P	**Pb**	**23 50 53.8**	**-1.7**
DRZ	**Dome Shelter**	**2.58**	**21**	P	**Pb**	**23 50 57.5**	**+1.5**
WHVZ	**Whangaehu Hut**	**2.58**	**21**	P	**Pn**	**23 50 53.5**	**+2.3**
VRZ	**Vera Road**	**2.58**	**6**	P	**Pb**	**23 50 54.3**	**-1.6**
FWVZ	**Far West T-bar**	**2.59**	**20**	P	**Pb**	**23 50 55.4**	**-0.8**
TUVZ	**Tukino**	**2.61**	**22**	P	**Pb**	**23 50 54.4**	**-2.0**
KAHZ	**Kahuranaki**	**2.68**	**46**	P	**Pn**	**23 50 52.0**	**-0.3**
NGZ	**Ngauruhoe**	**2.68**	**20**	P	**Pb**	**23 50 58.8**	**+1.1**
SNVZ	**South Ngauruho**	**2.68**	**21**	P	**Pb**	**23 50 58.9**	**+1.2**
OTVZ	**Oturere**	**2.71**	**21**	P	**Pb**	**23 50 58.0**	**-0.2**
NNVZ	**North Ngauruho**	**2.73**	**20**	P	**Pb**	**23 50 56.4**	**-2.0**
WTVZ	**West Tongariro**	**2.73**	**20**	P	**Pb**	**23 50 59.9**	**+1.3**
TWVZ	**Taurewa**	**2.74**	**17**	P	**Pb**	**23 50 59.6**	**+0.9**
KWHZ	**Kaweka Forest**	**2.75**	**35**	P	Pg	23 51 01.2	-1.6
TMVZ	**Te Maari**	**2.77**	**22**	P	**Pb**	**23 50 55.8**	**+2.1**
KRVZ	**Karewarewa**	**2.77**	**21**	P	**Pb**	**23 51 00.3**	**+1.2**
NTVZ	**North Tongarir**	**2.77**	**21**	P	**Pb**	**23 50 56.2**	**+2.4**
BKZ	**Black Stump Fm**	**2.99**	**33**		**Pn**	**23 50 56.6**	**-0.1**
BKZ	**Black Stump Fm**	**2.99**	**33**	P	**Pn**	**23 50 58.1**	**+1.3**
RPZ	**Rata Peaks**	**3.18**	**230**		**Pn**	**23 50 59.2**	**-0.1**
HIZ	**Hauiti**	**3.20**	**6**	P	**Pn**	**23 51 02.4**	**+2.9**
LBZ	**Lake Benmore**	**4.09**	**228**	Pn	**Pn**	**23 51 12.3**	**+0.5**
ODZ	**Otahua Downs**	**4.32**	**218**	Pn	**Pn**	**23 51 14.7**	**-0.2**
AWAZ	**Awhitu Peninsu**	**4.63**	**2**	P	**Pn**	**23 51 22.3**	**+3.1**
WRA	**Warramunga Arr**	**40.19**	**290**	P	**P**	**23 57 45.1**	**-0.4**
WRA				IAmb	IAmb	23 57 46.7	
	comp=Z,0.1nm,0.9s						
WB0	**Warramunga Arr**	**40.27**	**290**	P	**P**	**23 57 45.4**	**-0.7**
WB0				IAmb	IAmb	23 57 56.4	
	comp=Z,11nm,1.4s						
SNAA	**Sanae**	**66.92**	**181**	P	**P**	**00 01 01.6**	**+0.6**
SNAA				IAmb	IAmb	00 01 06.9	
	comp=Z,4.9nm,1.4s						

*SOME **19** 23:51:18.3,39˙10N×74˙90E,h10km*
*NNC **19** 23:51:20.6±2.2,39˙19N×74˙79E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=16.8km s-min=10.3km az=157.0
ISC 19 23:51:16.6±2.6,38˙7N±0˙1×74˙95E±0˙07,h20km,n31,
σ1§63/43,2C-2D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.27**	**6**	⇑Pn	**Pn**	**23 52 21.9**	**+1.2**
	9.2nm,0.6s						
TKM2				⇑Sn	**Sn**	**23 53 09.4**	**-0.6**
	21nm,0.7s						
MRKS	**Merke**	**4.27**	**343**	*e*P	**Pb**	**23 52 29.5**	**-1.6**
	6.3nm,0.4s						
MRKS				*e*S	**Sb**	**23 53 20.6**	**-1.6**
	15nm,0.4s						
MRKS	**Merke**	**4.27**	**343**	Pg	Pn	23 52 26.1	+5.5
	1.9nm,0.1s						
MRKS				Lg	Lg	23 53 14.7	
	15nm,0.4s						
KST	**Kastek**	**4.43**	**10**	*e*P	**Pb**	**23 52 30.6**	**-3.2**
	6.4nm,0.4s						
KST				*e*S	**Sb**	**23 53 22.8**	**-4.1**
	27nm,0.9s						
KST	**Kastek**	**4.43**	**10**	Pg	**Pb**	**23 52 30.6**	**-3.2**
	6.4nm,0.4s						
KST				Lg	Lg	23 53 22.8	
	27nm,0.9s						
MTBS	**Maitube**	**4.59**	**14**	*e*P	**Pb**	**23 52 36.6**	**+0.1**
	2.0nm,0.2s						
MTBS				*e*S	**Sb**	**23 53 32.7**	**+1.3**
	12nm,0.3s						
DGS	**Degeres**	**4.61**	**8**	*e*P	**Pb**	**23 52 35.7**	**-1.1**
	9.8nm,0.4s						
DGS				*e*S	**Sb**	**23 53 31.4**	**-0.5**
	13nm,0.7s						
DGS	**Degeres**	**4.61**	**8**	Pg	**Pb**	**23 52 35.7**	**-1.1**
	9.9nm,0.7s						
DGS				Lg	Lg	23 53 31.4	
	13nm,0.8s						
TNSS	**Tian-Shan**	**4.61**	**19**	*e*P	**Pb**	**23 52 36.3**	**-0.8**
	5.3nm,0.3s						
TNSS				*e*S	**Sb**	**23 53 32.5**	**+0.1**
	7.7nm,0.2s						
TNSS	**Tian-Shan**	**4.61**	**19**	Pg	**Pb**	**23 52 36.3**	**-0.8**
	5.3nm,0.3s						
TNSS				Lg	Lg	23 53 32.5	
	7.7nm,0.2s						
MDOK	**Medeo**	**4.76**	**19**	*e*P	**Pb**	**23 52 39.4**	**0.0**
	5.9nm,0.4s						
MDOK				*e*S	**Sb**	**23 53 37.9**	**+1.6**
	9.5nm,1.0s						
MDOK	**Medeo**	**4.76**	**19**	Pg	**Pb**	**23 52 39.4**	**0.0**
	5.9nm,0.4s						
MDOK				Lg	Lg	23 53 37.9	
	9.5nm,1.0s						
SGDS	**Sogindy**	**4.78**	**357**	*e*P	**Pb**	**23 52 39.3**	**-0.4**
	7.2nm,0.7s						
SGDS				*e*S	**Sb**	**23 53 37.4**	**+0.6**
	9.7nm,1.0s						
SGDS	**Sogindy**	**4.78**	**357**	Pg	**Pb**	**23 52 39.3**	**-0.4**
	7.2nm,0.7s						
SGDS				Lg	Lg	23 53 37.4	
	9.7nm,1.0s						
KRBS	**Karabastau**	**5.05**	**6**	*e*P	**Pb**	**23 52 43.6**	**-0.6**
	6.2nm,0.6s						
KRBS				*e*S	**Sb**	**23 53 45.4**	**+0.9**
	11nm,0.6s						
KRBS	**Karabastau**	**5.05**	**6**	Pg	**Pb**	**23 52 43.6**	**-0.6**
	6.2nm,0.6s						
KRBS				Lg	Lg	23 53 45.4	
	11nm,0.6s						
IUG	**Iuzhnay**	**5.11**	**314**	*e*P	**Pb**	**23 52 45.3**	**-0.1**
	18nm,1.1s						
IUG				*e*S	**Sb**	**23 53 48.2**	**+1.8**
	27nm,0.8s						
IUG	**Iuzhnay**	**5.11**	**314**	Pg	**Pb**	**23 52 45.3**	**-0.1**
	18nm,1.1s						
IUG				Lg	Lg	23 53 48.2	
	27nm,0.8s						
KTBS	**Karatobe**	**5.20**	**14**	*e*P	**Pb**	**23 52 47.2**	**+0.4**
	9.4nm,0.5s						
KTBS				*e*S	**Sb**	**23 53 51.2**	**+2.4**
	15nm,0.9s						
KTBS	**Karatobe**	**5.20**	**14**	Pg	**Pb**	**23 52 47.2**	**+0.4**
	9.4nm,0.5s						
KTBS				Lg	Lg	23 53 51.2	
	15nm,0.9s						
KUU	**Kurty**	**5.32**	**11**	*e*P	**Pb**	**23 52 48.8**	**-0.1**
	6.2nm,0.6s						
KUU				*e*S	**Sb**	**23 53 53.5**	**+1.2**
	19nm,0.7s						
KUU	**Kurty**	**5.32**	**11**	Pg	**Pb**	**23 52 48.8**	**-0.1**
	6.2nm,0.6s						
KUU				Lg	Lg	23 53 53.5	
	19nm,0.7s						
CHKK	**Chushkaly**	**5.40**	**16**	*e*P	**Pb**	**23 52 49.5**	**-0.7**
	2.9nm,0.1s						
CHKK				*e*S	**Sb**	**23 53 55.5**	**+1.0**
	6.2nm,0.4s						
CHKK	**Chushkaly**	**5.40**	**16**	Pg	**Pb**	**23 52 49.5**	**-0.7**
	2.9nm,0.1s						
CHKK				Lg	Lg	23 53 55.5	
	6.2nm,0.4s						
KK31	**Karatay Array**	**5.56**	**324**	Pn	**Pn**	**23 52 38.6**	**+0.4**
	0.7nm,0.3s,baz=138,slow=16,SNR=36						
KK31				⇓Sn	**Sn**	**23 53 39.5**	**-2.0**
	4.6nm,0.6s,baz=142,slow=25						
SHLS	**Shalkode**	**5.63**	**36**	*e*P	Pb	23 52 59.9	+5.6
	6.8nm,0.4s						
SHLS				*e*S	Sb	23 54 13.3	+12
	6.7nm,0.7s						
SHLS	**Shalkode**	**5.63**	**36**	Pg	Pb	23 52 59.9	+5.6
	6.8nm,0.4s						
SHLS				Lg	Lg	23 54 13.3	
	6.7nm,0.7s						
BTLS	**Baital**	**6.40**	**354**	*e*P	**Pb**	**23 53 09.0**	**+1.7**
	0.8nm,0.1s						
BTLS				*e*S	**Sb**	**23 54 28.3**	**+5.0**
	3.7nm,1.0s						
BTLS	**Baital**	**6.40**	**354**	Pg	**Pb**	**23 53 06.9**	**-0.3**
	0.8nm,0.1s						
BTLS				Lg	Lg	23 54 25.7	
	3.7nm,1.0s						
AB31	**Akbulak array**	**15.09**	**319**	P	**Pn**	**23 54 46.4**	**-2.1**
	0.7nm,0.4s,baz=64,slow=7.3,SNR=25						
AKTO	**Aktyubinsk**	**16.80**	**320**	⇓P	**Pn**	**23 55 11.7**	**+1.1**
	1.2nm,0.8s						

*IDC **20** 00:03:51.6±7.1,35˙24N×25˙77E,h0km,mb3.9/2,*
mbtmp3.8/3,ML3.1/1,Error ellipse: s-maj=123.4km
s-min=56.6km az=21.0
*ISK **20** 00:04:08.7,36˙09N×26˙39E,h88km,ML3.0/28*
*HLW **20** 00:04:09.7,35˙71N×26˙65E,h9km±21km,Md4.0*
*ATH **20** 00:04:10.1,36˙10N×26˙36E,h81km±5km,ML3.4/9,Error*
ellipse: s-maj=5.2km s-min=1.4km az=203.0
*DDA **20** 00:04:10.9±0.0,36˙48N×26˙61E,h13km±3km,MW3.3*
*THE **20** 00:04:10.8,36˙09N×26˙39E,h80km±4km,ML3.1/11,Error*
ellipse: s-maj=4.2km s-min=0.8km az=255.0
*GII **20** 00:04:14.2±0.4,35˙52N×26˙88E,h40km,MD3.3/3*
ISC 20 00:04:07.9±0.9,35˙99N±0˙04×26˙49E±0˙04,h95km±7km,
n103,σ1§93/140,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.70**	**129**	PG	**Pn**	**00 04 27.5**	**+2.5**
KARP				SG	**Sn**	**00 04 39.9**	**+2.2**
KARP	**Karpathos**	**0.70**	**129**	P	**Pn**	**00 04 27.2**	**+2.3**
KARP				S	**Sn**	**00 04 39.7**	**+2.0**
KARP	**Karpathos**	**0.70**	**129**	P	**Pn**	**00 04 27.3**	**+2.3**
KARP				AML	AML	00 04 40.1	
	comp=E,20172μm,0.3s						
KARP				AML	AML	00 04 40.5	
	comp=N,18808μm,0.3s						
NISR	**Nisiros**	**0.81**	**40**	P	**Pn**	**00 04 26.6**	**+0.7**
NIS1	**Nisyros Isl.**	**0.82**	**42**	PG	**Pn**	**00 04 26.9**	**+0.8**
NIS1	**Nisyros Isl.**	**0.82**	**42**	P	**Pn**	**00 04 27.1**	**+1.0**
NIS1	**Nisyros Isl.**	**0.82**	**42**	P	**Pn**	**00 04 27.1**	**+1.0**
STIA	**Sitia Lasithi**	**0.85**	**202**	P	**Pn**	**00 04 28.1**	**+1.7**
STIA				S	**Sn**	**00 04 41.2**	**+1.0**
STIA	**Sitia Lasithi**	**0.85**	**202**	P	**Pn**	**00 04 28.1**	**+1.7**
STIA				S	**Sn**	**00 04 41.3**	**+1.0**
STIA				AML	AML	00 04 42.4	
	comp=N,3413μm,0.3s						
STIA				AML	AML	00 04 43.3	
	comp=E,3026μm,0.2s						
KOSK	**Kos Island**	**0.85**	**27**	PG	**Pn**	**00 04 27.0**	**+0.6**
KOSK				SG	**Sn**	**00 04 40.1**	**-0.1**
ZKR	**Zakros**	**0.90**	**194**	PG	**Pn**	**00 04 29.1**	**+2.1**
ZKR				SG	**Sn**	**00 04 43.3**	**+2.1**
ZKR	**Zakros**	**0.90**	**194**	P	**Pn**	**00 04 29.1**	**+2.1**
ZKR				S	**Sn**	**00 04 43.1**	**+1.9**
	comp=E,452nm,0.2s						
ZKR	**Zakros**	**0.90**	**194**	P	**Pn**	**00 04 29.0**	**+2.1**
ZKR				S	**Sn**	**00 04 43.0**	**+1.9**
ZKR				AML	AML	00 04 45.3	
	comp=N,659μm,0.3s						
ZKR				AML	AML	00 04 45.4	
	comp=E,1139μm,0.2s						
SANT	**Santorini**	**0.91**	**295**	P	**Pn**	**00 04 26.9**	**-0.2**
SANT				S	**Sn**	**00 04 39.0**	**-2.4**
	comp=E,430nm,0.5s						
THR8	**Santorini-Mono**	**0.92**	**297**	P	**Pn**	**00 04 26.9**	**-0.1**
THR6	**Thira Island,**	**0.95**	**293**	P	**Pn**	**00 04 27.5**	**+0.1**
SFIR	**Foira Santorin**	**0.96**	**297**	P	**Pn**	**00 04 27.7**	**+0.2**
SFIR				S	**Sn**	**00 04 40.3**	**-1.9**
	comp=E,1μm,0.6s						
THT2	**Imerovigli**	**0.97**	**297**	PG	**Pn**	**00 04 27.8**	**+0.2**
THT2	**Imerovigli**	**0.97**	**297**	P	**Pn**	**00 04 27.8**	**+0.2**
THR3	**Thira Island,**	**0.97**	**296**	P	**Pn**	**00 04 27.7**	**+0.1**
THR9	**Santorini-Faro**	**0.98**	**292**	P	**Pn**	**00 04 28.2**	**+0.4**
CMBO	**Columbo, Santo**	**1.00**	**299**	P	**Pn**	**00 04 27.9**	**0.0**
CMBO				S	**Sn**	**00 04 40.1**	**-2.8**
	comp=E,2μm,0.3s						
CMBO	**Columbo, Santo**	**1.00**	**299**	P	**Pn**	**00 04 27.9**	**0.0**
CMBO				S	**Sn**	**00 04 40.2**	**-2.8**
CMBO				AML	AML	00 04 42.0	
	comp=N,3786μm,0.4s						
CMBO				AML	AML	00 04 42.2	
	comp=E,3897μm,0.4s						
THR5	**Thira Island,**	**1.01**	**295**	P	**Pn**	**00 04 28.3**	**+0.2**
SAP3	**Santorini-Thir**	**1.02**	**296**	P	**Pn**	**00 04 28.4**	**+0.2**
SAP3				S	**Sn**	**00 04 41.9**	**-1.6**
	comp=E,850nm,0.5s						
DAT	**Datca**	**1.15**	**50**	PN	**Pn**	**00 04 31.1**	**+1.3**
DAT	**Datca**	**1.15**	**50**	P	**Pn**	**00 04 31.0**	**+1.3**
FRMA	**Ierapetra Chan**	**1.16**	**212**	P	**Pn**	**00 04 31.6**	**+1.9**
FRMA				S	**Sn**	**00 04 47.2**	**+1.1**
	comp=E,322nm,0.3s						
FRMA	**Ierapetra Chan**	**1.16**	**212**	P	**Pn**	**00 04 31.5**	**+1.9**
FRMA				S	**Sn**	**00 04 46.9**	**+0.8**
FRMA				AML	AML	00 04 49.8	
	comp=E,2108μm,0.3s						
FRMA				AML	AML	00 04 50.7	
	comp=N,1666μm,0.4s						
BODT	**Bodrum**	**1.26**	**32**	PN	**Pn**	**00 04 30.9**	**0.0**
BODT	**Bodrum**	**1.26**	**32**	P	**Pn**	**00 04 30.9**	**0.0**
BODT				S	**Sn**	**00 04 47.1**	**-1.2**
HRKL	**Herakleio**	**1.32**	**239**	PN	**Pn**	**00 04 32.8**	**+1.2**
HRKL	**Herakleio**	**1.32**	**239**	P	**Pn**	**00 04 32.6**	**+1.0**
HRKL				S	**Sn**	**00 04 49.3**	**-0.3**
	comp=N,1μm,0.4s						
HRKL	**Herakleio**	**1.32**	**239**	P	**Pn**	**00 04 32.6**	**+1.0**
HRKL				AML	AML	00 04 54.2	
	comp=N,7240μm,0.5s						
HRKL				AML	AML	00 04 55.7	
	comp=E,9012μm,0.4s						
APE	**Apeiranthos**	**1.32**	**325**	PN	**Pn**	**00 04 31.6**	**-0.1**
APE				SN	**Sn**	**00 04 47.9**	**-1.9**
APE	**Apeiranthos**	**1.32**	**325**	P	**Pn**	**00 04 31.7**	**-0.1**
APE				S	**Sn**	**00 04 47.7**	**-2.1**
	comp=E,270nm,0.4s						
APE	**Apeiranthos**	**1.32**	**325**	P	**Pn**	**00 04 31.7**	**-0.1**
KSTL	**Kastelli Herak**	**1.34**	**240**	P	**Pn**	**00 04 31.5**	**-0.4**
KSTL				AML	AML	00 04 48.4	
	comp=N,4840μm,0.4s						
KSTL				AML	AML	00 04 50.0	
	comp=E,1503μm,0.3s						
ARG	**Arkhangelos**	**1.34**	**80**	PN	**Pn**	**00 04 34.3**	**+2.3**
ARG	**Arkhangelos**	**1.34**	**80**	P	**Pn**	**00 04 34.3**	**+2.3**
ARG	**Arkhangelos**	**1.34**	**80**	P	**Pn**	**00 04 34.3**	**+2.3**
ARG				AML	AML	00 04 53.5	
	comp=E,901μm,0.2s						
ARG				AML	AML	00 04 54.5	
	comp=N,504μm,0.3s						
IDI	**Anoyia**	**1.48**	**242**	PN	**Pn**	**00 04 34.8**	**+1.1**
IDI	**Anoyia**	**1.48**	**242**	P	**Pn**	**00 04 34.3**	**+0.6**
IDI				S	**Sn**	**00 04 52.5**	**-0.7**
	comp=N,580nm,0.2s						
IDI	**Anoyia**	**1.48**	**242**	P	**Pn**	**00 04 34.3**	**+0.6**
IDI				S	**Sn**	**00 04 52.0**	**-1.2**
IDI				AML	AML	00 04 53.6	
	comp=E,1264μm,0.2s						
IDI				AML	AML	00 04 53.9	
	comp=N,1045μm,0.2s						
MLSB	**Milas**	**1.66**	**38**	PN	**Pn**	**00 04 37.3**	**+1.3**
MLSB				SN	**Sn**	**00 04 58.2**	**+0.9**
TMBK	**Timbaki Herakl**	**1.68**	**237**	P	**Pn**	**00 04 37.6**	**+1.5**
SMG	**Samos**	**1.73**	**9**	P	**Pn**	**00 04 37.5**	**+0.6**
SMG	**Samos**	**1.73**	**9**	P	**Pn**	**00 04 37.5**	**+0.6**
GCAM	**G?zelcaml?**	**1.81**	**19**	PN	**Pn**	**00 04 38.9**	**+1.2**
YER	**Yerkesik**	**1.84**	**51**	PN	**Pn**	**00 04 40.3**	**+2.0**
YER	**Yerkesik**	**1.84**	**51**	P	**Pn**	**00 04 40.8**	**+2.5**
DALY	**Dalyan (Mula)**	**1.93**	**64**	PN	**Pn**	**00 04 41.7**	**+2.4**
MULA	**Mugla, Merkez-**	**1.94**	**49**	P	**Pn**	**00 04 41.5**	**+2.0**
DGB	**zmir**	**2.08**	**9**	P	**Pn**	**00 04 40.3**	**-1.0**
IMMV	**Iera Moni Meta**	**2.11**	**256**	P	**Pn**	**00 04 42.2**	**+0.5**
IMMV				S	**Sn**	**00 05 06.3**	**-1.2**
	comp=N,258nm,0.4s						
FETY	**Fethiye**	**2.19**	**72**	PN	**Pn**	**00 04 44.6**	**+1.8**
ZEYE	**Izmir, Urla-Ze**	**2.24**	**0**	P	**Pn**	**00 04 43.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**30**	PN	**Pn**	**00 04 45.1**	**+1.4**
GVDS	**Gavdos**	**2.27**	**240**	P	**Pn**	**00 04 46.1**	**+2.3**
GVD	**Gavdhos**	**2.27**	**240**	P	**Pn**	**00 04 45.9**	**+2.0**
GVD				S	**Sn**	**00 05 13.0**	**+1.6**
	comp=N,752nm,0.4s						
GVD	**Gavdhos**	**2.27**	**240**	P	**Pn**	**00 04 46.1**	**+2.2**
URLA	**Izmir**	**2.36**	**2**	PN	**Pn**	**00 04 44.6**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.44**	**52**	P	**Pn**	**00 04 48.7**	**+2.6**
TAVA				S	**Sn**	**00 05 16.5**	**+1.0**
TAVA				*i* AML	AML	00 05 20.0	
	comp=N,9.8nm,0.6s						
TAVA				*i* AML	AML	00 05 21.0	
	comp=N,13nm,0.4s						
CAME	**Cameli-Denizli**	**2.46**	**66**	PN	**Pn**	**00 04 49.1**	**+2.7**
KSL	**Kastellorizon**	**2.51**	**86**	P	**Pn**	**00 04 49.6**	**+2.6**
AKAS	**Kas**	**2.54**	**84**	PN	**Pn**	**00 04 49.2**	**+1.8**
CAEL	**Denizli, Camel**	**2.54**	**63**	P	**Pn**	**00 04 49.8**	**+2.2**
APMY	**Acipayam-Deniz**	**2.70**	**56**	PN	**Pn**	**00 04 51.9**	**+2.3**
KTHR	**Kythira**	**2.83**	**276**	P	**Pn**	**00 04 51.7**	**+0.4**
ELL	**Elmali**	**2.86**	**74**	PN	**Pn**	**00 04 54.7**	**+2.9**
VLI	**Veliai**	**2.96**	**285**	P	**Pn**	**00 04 53.3**	**+0.4**
MANT	**Manisa**	**2.99**	**33**	P	**Pn**	**00 04 55.4**	**+1.8**
KULA	**Kula-Manisa**	**3.06**	**34**	PN	**Pn**	**00 04 55.9**	**+1.6**
AKUM	**Antalya-Kumluc**	**3.14**	**83**	P	**Pn**	**00 04 57.7**	**+2.4**
AKUM				S	**Sn**	**00 05 31.9**	**0.0**
AKUM				*i* AML	AML	00 05 36.0	
	comp=N,26nm,0.3s						
AKUM				*i* AML	AML	00 05 38.0	
	comp=N,24nm,0.3s						
SIGR	**SIGRI**	**3.25**	**351**	PN	**Pn**	**00 04 57.4**	**+0.5**
SIGR	**SIGRI**	**3.25**	**351**	P	**Pn**	**00 04 57.3**	**+0.4**
KORT	**Korkueli**	**3.27**	**71**	PN	**Pn**	**00 04 59.9**	**+2.6**
BRDR	**BURDUR-Merkez**	**3.33**	**58**	P	**Pn**	**00 05 00.0**	**+2.0**
USAK	**Uak-Merkez**	**3.38**	**36**	P	**Pn**	**00 05 01.4**	**+2.7**
BASM	**Basmaki-Afyon**	**3.44**	**55**	PN	**Pn**	**00 05 01.6**	**+2.1**
ANTB	**Antalya**	**3.48**	**74**	PN	**Pn**	**00 05 02.6**	**+2.7**
BCK	**Bucak**	**3.60**	**65**	PN	**Pn**	**00 05 04.3**	**+2.6**
SIMA	**Simav-Kutahya**	**3.67**	**32**	PN	**Pn**	**00 05 04.0**	**+1.4**
SLUM	**Salum**	**4.61**	**194**	P	**Pn**	**00 05 16.3**	**+1.0**
	baz=197						
BRTR	**Keskin Array B**	**6.77**	**54**	Pn	**Pn**	**00 05 46.9**	**+2.1**
	comp=N,0.3nm,0.3s,baz=233,slow=17,SNR=11						
BRTR				Sn	**Sn**	**00 07 00.2**	**-0.2**
	comp=N,0.1nm,0.3s,baz=215,slow=21,SNR=2.3						
	comp=N,1.3nm,0.5s						
SWA2		**6.79**	**188**	P	**Pn**	**00 05 45.6**	**+0.8**
	baz=190						
SWA2				S	**Sn**	**00 06 56.0**	**-4.6**
	baz=190						
HMYD	**Mayadein**	**7.16**	**148**	P	**Pn**	**00 05 50.9**	**+0.9**
	baz=148						
HSAF	**As Saff**	**7.65**	**145**	P	**Pn**	**00 05 57.0**	**+0.3**
	baz=144						
GLL	**Jalalah**	**7.76**	**144**	P	**Pn**	**00 05 58.6**	**+0.4**
	baz=143						
MMA0B	**Mount Meron ar**	**7.94**	**109**	Pn	**Pn**	**00 06 01.3**	**+0.7**
MMA0B				Sn	**Sn**	**00 07 25.6**	**-3.1**
GEM	**Giv'at Ha'Em**	**8.06**	**108**	Pn	**Pn**	**00 06 02.5**	**+0.4**
GEM				Sn	**Sn**	**00 07 28.1**	**-3.5**
SUZ	**Suez**	**8.13**	**137**	P	**Pn**	**00 06 04.6**	**+1.5**
	baz=136						
KZIT	**Kziot**	**8.33**	**125**	Pn	**Pn**	**00 06 06.2**	**+0.3**
KZIT				Sn	**Sn**	**00 07 32.6**	**-5.6**
HMDT	**Nahal Hemdat**	**8.37**	**114**	Pn	**Pn**	**00 06 06.8**	**+0.4**
HMDT				Sn	**Sn**	**00 07 36.4**	**-2.8**
YTIR	**Yattir**	**8.54**	**120**	Pn	**Pn**	**00 06 09.0**	**+0.1**
YTIR				Sn	**Sn**	**00 07 40.1**	**-3.5**
HFRF	**Wahat Farafira**	**8.95**	**170**	P	**Pn**	**00 06 14.6**	**+0.2**
	baz=170						
KRMI	**Paran Flat**	**9.06**	**128**	Pn	**Pn**	**00 06 15.6**	**-0.2**
KRMI				Sn	Sn	00 07 49.9	-6.2
PRNI	**Paran**	**9.09**	**126**	Pn	**Pn**	**00 06 16.5**	**+0.3**
PRNI				Sn	**Sn**	**00 07 51.4**	**-5.3**
HRFI	**Mount Harif**	**9.31**	**127**	Pn	**Pn**	**00 06 20.8**	**+1.5**
HRFI				Sn	**Sn**	**00 07 57.4**	**-4.9**
MBRI	**Mt Berech**	**9.40**	**129**	Pn	**Pn**	**00 06 20.2**	**-0.3**
MBRI				Sn	**Sn**	**00 07 59.4**	**-5.0**
EIL	**Elat**	**9.51**	**129**	Pn	**Pn**	**00 06 21.3**	**-0.6**
EIL				Sn	**Sn**	**00 08 01.4**	**-5.5**
FINES	**FINESS Array B**	**25.47**	**360**	P	**P**	**00 09 27.8**	**+1.0**
	comp=N,4.8nm,1.1s,baz=172,slow=11,SNR=3.6						
	comp=N,4.8nm,1.1s						
MKAR	**Makanchi Array**	**42.41**	**57**	P	**P**	**00 11 55.1**	**+2.1**
	comp=N,0.4n

baz=232
K20K Telida 15.12 32 P Pn 00 09 58.5 +2.4
baz=226
SKT Skwentna 15.17 39 Pn 00 09 53.6 -3.1
SKT IAmb IAmb 00 10 14.1
comp=Z,15nm,1.4s
GCSA Galena City Sc 15.33 25 P Pn 00 10 00.1 +1.4
baz=217
PPLA Purkeypile 15.47 35 P Pn 00 10 03.9 +3.2
baz=231
J20K Nowinta River 15.68 29 P Pn 00 10 09.0 +5.7
baz=224
CAST Castle Rocks 15.84 34 P Pn 00 10 07.3 +2.0
CAST Castle Rocks 15.84 34 P Pn 00 10 06.3 +0.9
baz=230,SNR=6.8
PWL Port Wells 15.94 45 Pn Pn 00 10 03.0 -3.7
PWL IAmb IAmb 00 10 25.1
comp=Z,12nm,0.9s
GHO Glory Hole Cre 16.11 42 Pn Pn 00 10 07.5 -1.5
KNK Knik Glacier 16.14 43 Pn Pn 00 10 09.7 +0.4
KNK IAmb IAmb 00 10 24.7
comp=Z,24nm,1.5s
KTH Kantishna Hill 16.33 35 P Pn 00 10 12.9 +1.2
KTH IAmb IAmb 00 10 33.8
comp=Z,32nm,1.3s
SML Sawmill 16.37 42 Pn Pn 00 10 10.1 -2.2
SML Sawmill 16.37 42 P Pn 00 10 12.8 +0.5
SML pmax pmax
comp=Z,14nm,1.1s
TRF Thorofare Moun 16.49 35 P Pn 00 10 12.4 -1.6
baz=233
M23K Glacier View 16.62 43 P Pn 00 10 15.0 -0.5
baz=242,SNR=5.9
BPAW Bear Paw Mtn. 16.65 33 Pn 00 10 14.8 -1.0
BPAW IAmb IAmb 00 10 40.0
comp=Z,15nm,1.0s
BPAW Bear Paw Mtn. 16.65 33 P Pn 00 10 13.5 -2.3
baz=230
WAT1 Susitna Watana 16.80 39 P Pn 00 10 17.2 -0.5
baz=238
SCM Sheep Creek Mo 16.81 43 Pn 00 10 16.8 -1.1
SCM IAmb IAmb 00 10 42.6
comp=Z,32nm,1.2s
SCM Sheep Creek Mo 16.81 43 P Pn 00 10 17.6 -0.3
baz=243
SCM Sheep Creek Mo 16.81 43 P Pn 00 10 16.8 -1.1
SCM pmax pmax
comp=Z,31nm,1.2s
I21K Tanana 17.05 29 P Pn 00 10 19.6 -1.1
baz=226
IMAR Indian Mountai 17.12 25 Pn 00 10 21.7 0.0
H21K Melozitna Rive 17.14 27 P Pn 00 10 23.0 +1.0
H21K Melozitna Rive 17.14 27 P Pn 00 10 24.2 +2.2
baz=223
MCK McKinley 17.15 36 Pn 00 10 22.5 +0.4
MCK IAmb IAmb 00 10 39.2
comp=Z,23nm,1.5s
MCK McKinley 17.15 36 P Pn 00 10 21.3 -0.7
baz=235
MCK McKinley 17.15 36 P Pn 00 10 22.5 +0.4
MCK pmax pmax
comp=Z,23nm,1.5s
KLU Klutina 17.27 45 Pn Pn 00 10 21.3 -2.3
MLY Manley 17.33 31 P Pn 00 10 26.0 +1.6
MLY Manley 17.33 31 P Pn 00 10 23.2 -1.2
baz=228,SNR=7.9
DHY Denali Highway 17.38 39 P Pn 00 10 23.8 -1.3
baz=239
M24K Tolsona, Glenn 17.42 43 Pn 00 10 24.9 -0.6
M24K IAmb IAmb 00 10 34.6
comp=Z,50nm,1.2s
M24K Tolsona, Glenn 17.42 43 P Pn 00 10 27.2 +1.8
baz=244
G21K Allakaket 17.59 25 P Pn 00 10 26.2 -1.4
baz=220
BMRM Bremner River 17.67 47 P Pn 00 10 30.7 +2.1
baz=249
H22K Ishtalitna Cre 17.73 28 P Pn 00 10 29.4 +0.2
baz=225
WRH Wood River Hil 17.88 35 Pn Pn 00 10 29.5 -1.6
N25K Chitina, Valde 17.90 45 Pn Pn 00 10 30.1 -1.4
N25K Chitina, Valde 17.90 45 P Pn 00 10 31.3 -0.1
baz=248
HARP HAARP 17.97 43 P Pn 00 10 32.1 -0.3
baz=244
CCB Clear Creek Bu 18.08 34 P Pn 00 10 31.4 -2.1
PAX Paxson 18.10 41 Pn Pn 00 10 31.4 -2.5
PAX Paxson 18.10 41 P Pn 00 10 32.1 -1.8
baz=242
PAX Paxson 18.10 41 P Pn 00 10 31.4 -2.5
PAX pmax pmax
comp=Z,9.0nm,1.3s
MDM Murphy Dome 18.12 33 Pn 00 10 32.8 -1.3
F21K Alatna River 18.15 23 P Pn 00 10 35.7 +1.3
baz=219
GLB Gilahina Butte 18.19 46 P Pn 00 10 33.2 -1.9
COLA College 18.20 34⇑ *e*P Pn 00 10 34.8 -0.2
COLA pmax pmax
comp=Z,3.0nm,0.9s
H23K Yukon River 18.23 30 P P 00 10 36.7 +1.0
HDA Harding Lake 18.25 36 P P 00 10 34.6 -1.3
HDA IAmb IAmb 00 10 41.7
comp=Z,21nm,0.8s
HDA Harding Lake 18.25 36 P P 00 10 34.8 -1.0
baz=236,SNR=15
VRDI Verde Repeater 18.28 47 P P 00 10 34.8 -1.6
VRDI IAmb IAmb 00 10 53.3
comp=Z,18nm,1.2s
IL31 18.48 35 P P 00 10 36.7 -1.6
ILAR Eielson Array 18.48 35 P P 00 10 36.3 -2.0
comp=Z,0.3nm,0.3s,baz=231,slow=10,SNR=12
comp=Z,2.0nm,0.8s
ILAR Eielson Array 18.48 35 P P 00 10 36.5 -1.8
ILAR Eielson Array 18.48 35 P P 00 10 36.5 -1.8
POKR Poker Plat Res 18.48 33 P P 00 10 38.3 -0.1
baz=234
MCARA McCarthy VSAT 18.53 47 P P 00 10 37.1 -1.8
MCARA McCarthy VSAT 18.53 47 P P 00 10 39.1 +0.2
baz=250
ISLE Juniper Island 18.61 49 P P 00 10 39.1 -0.9
ISLE IAmb IAmb 00 11 05.7
comp=Z,14nm,1.0s
PETK Petropavlovsk- 18.67 287 P P 00 10 39.6 -1.0
comp=Z,0.5nm,0.3s,baz=84,slow=14,SNR=4.5
PETK LR LR 00 17 33.2
comp=Z,128nm,20.2s,baz=93,slow=36
comp=Z,8.6nm,0.9s
G23K Bananza Creek 18.69 27 P P 00 10 41.8 +1.1
baz=226
F22K John River 18.69 24 P P 00 10 42.3 +1.6
baz=220
H24K Noodor Dome 18.77 31 P P 00 10 40.6 -1.0
H24K Noodor Dome 18.77 31 P P 00 10 42.9 +1.2
baz=231
M26K Nabesna, AK 18.90 44 P P 00 10 43.7 +0.6
baz=248
J25K Salcha River, 18.94 36 P P 00 10 41.6 -1.9
baz=238
DOT Dot Lake 18.97 40 P P 00 10 42.5 -1.3
L26K Log Cabin Wild 18.99 42 P P 00 10 43.2 -0.8
baz=245
BARN Barnard Glacie 19.06 48 P P 00 10 44.9 -0.1
BARN IAmb IAmb 00 10 56.9
comp=Z,10nm,0.6s
SCRK Sand Creek 19.15 39 P P 00 10 45.0 -0.9
SCRK Sand Creek 19.15 39 P P 00 10 42.7 -3.2
baz=242
M27K Edge Creek, AK 19.37 44 P P 00 10 48.5 +0.2
M27K Edge Creek, AK 19.37 44 P P 00 10 47.5 -0.8
baz=249
PRP Porcupine Dome 19.37 34 P P 00 10 47.2 -1.1
PRP Porcupine Dome 19.37 34 P P 00 10 46.7 -1.6
baz=236,SNR=5.1
G24K Hadweenzic Riv 19.44 29 P P 00 10 50.8 +1.9
baz=230
PINM Pinnacle 19.49 52 P P 00 10 49.3 -0.3
baz=257
J26L Joseph Creek 19.56 38 P P 00 10 49.1 -1.2
baz=241
L27K Beaver Creek, 19.64 43 P P 00 10 49.0 -2.2
baz=248
BCAR Beaver Creek A 19.66 43 P 00 10 51.9 +0.5
O28M Mount Upton 19.68 50 P P 00 10 52.5 +0.7
baz=256
BILL Bilibino 19.70 335 P P 00 10 48.5 -3.2
BILL IAmb IAmb 00 10 54.2
comp=Z,34nm,0.8s
BILL Bilibino 19.70 335 *de*P P 00 10 48.4 -3.3
BILL pmax pmax
comp=Z,2.0nm,0.1s
BILL MLR MLR
comp=Z,188nm,15.0s
E23K Chandalar 19.76 25 P P 00 10 51.4 -1.0
baz=224,SNR=5.8
YUK3 Moose Creek 19.82 47 P P 00 10 53.2 -0.1
baz=253
PNL Peninsula 19.84 53 P P 00 10 53.1 -0.1
baz=260
F24K Squaw Lake 19.86 27 P P 00 10 53.1 -0.3
baz=228
K27K Chicken 19.93 40 P P 00 10 54.6 +0.4
K27K Chicken 19.93 40 P P 00 10 55.3 +1.1
baz=245
YUK8 Steele Glacier 20.00 48 P P 00 10 56.1 +0.8
baz=255
E24K Your Creek 20.07 26 P P 00 10 56.3 +0.5
baz=226
I26K Coal Creek Min 20.10 36 P P 00 10 54.8 -1.3
I26K IAmb IAmb 00 11 11.3
comp=Z,12nm,1.0s
I26K Coal Creek Min 20.10 36 P P 00 10 55.2 -0.9
baz=240
D23K Nanushuk River 20.17 22 P P 00 10 56.6 -0.2
baz=220,SNR=16
TOLK Toolik Lake Re 20.19 24 P P 00 10 56.3 -0.8
TOLK IAmb IAmb 00 11 03.3
comp=Z,23nm,0.9s
TOLK Toolik Lake Re 20.19 24 P P 00 10 56.0 -1.1
baz=223,SNR=13
O29M Mount Kennedy 20.36 52 P P 00 11 00.4 +1.4
baz=259
YUK4 Talbot Arm 20.54 49 P P 00 11 01.9 +0.8
baz=256
F25K Christian Rive 20.56 29 P P 00 11 01.5 +0.4
baz=231
YUK6 Outpost Mounta 20.59 50 P P 00 11 01.7 +0.1
baz=257
EGAK Eagle 20.61 38 P P 00 11 01.4 -0.2
EGAK IAmb IAmb 00 11 03.3
comp=Z,12nm,0.6s
EGAK Eagle 20.61 38 P P 00 11 01.6 -0.1
baz=244,SNR=12
P29M Windy Craggy 20.66 54 P P 00 11 04.4 +2.1
P29M Windy Craggy 20.66 54 P P 00 11 04.0 +1.8
baz=262
G26K Porcupine Rive 20.76 31 P P 00 11 02.2 -1.0
baz=235
BMAR Burnt Mountain 20.79 30 P P 00 11 03.4 -0.2
I27K Kandik River 20.81 36 P P 00 11 03.5 -0.3
baz=242
C23K Itkillik River 20.85 21 P P 00 11 05.0 +0.9
baz=219
M29M Somme Creek 20.91 46 P P 00 11 04.8 -0.2
baz=253
E25K Arctic Village 20.92 28 P P 00 11 04.8 -0.2
baz=230,SNR=13
HYT Haines Junctio 20.97 50 P P 00 11 06.7 +1.0
HYT IAmb IAmb 00 11 09.4
comp=Z,16nm,0.8s
HYT Haines Junctio 20.97 50 P P 00 11 06.7 +1.0
baz=259,SNR=12
DAWY Dawson 21.03 41 P P 00 11 05.5 -0.7
DAWY Dawson 21.03 41 P P 00 11 06.2 0.0
baz=248
F26K Sheenjek River 21.08 29 P P 00 11 06.2 -0.5
baz=233
P30M Million Dollar 21.12 52 P P 00 11 09.0 +1.8
baz=261
H27K Steamboat Moun 21.15 34 P P 00 11 07.5 0.0
baz=240
C24K Franklin Bluff 21.20 22 P P 00 11 07.7 -0.2
baz=222,SNR=6.4
L29M L29M 21.25 44 P P 00 11 09.2 +0.7
baz=252
S31K Pelican 21.30 59 P P 00 11 10.5 +1.5
baz=267
N30M Aishikik Lake 21.30 49 P P 00 11 09.8 +0.7
baz=258
PLBC Pleasant Camp 21.33 54 P P 00 11 10.1 +0.6
baz=263,SNR=9.9
G27K Doyon Strip 21.39 33 P P 00 11 09.8 -0.3
baz=239
D25K Kavik River 21.49 25 P P 00 11 11.0 -0.1
baz=227
O30N Mendenhall 21.65 51 P P 00 11 14.0 +1.1
baz=260
K29M Barlow Dome 21.73 42 P P 00 11 13.8 0.0
baz=251
SIT Sitka 21.77 61 P P 00 11 14.4 +0.2
baz=270
SKAG Skagway 21.86 55 P P 00 11 15.8 +0.7
SKAG IAmb IAmb 00 11 32.5
comp=Z,18nm,0.9s
SKAG Skagway 21.86 55 P P 00 11 16.0 +0.9
baz=264
I29M Ogilvie Camp, 21.95 38 P P 00 11 14.1 -2.0
I29M IAmb IAmb 00 11 18.4
comp=Z,9.1nm,0.8s
I29M Ogilvie Camp, 21.95 38 P P 00 11 15.2 -0.8
baz=247
E27K Coleen River 22.15 30 P P 00 11 16.6 -1.6
baz=236
SEY Seymchan 22.18 315 P P 00 11 18.9 +0.4
comp=Z,7.4nm,0.8s,baz=113,slow=9.5,SNR=9.4
comp=Z,7.4nm,0.8s
SEY Seymchan 22.18 315⇑ *e*P P 00 11 17.7 -0.8
SEY pmax pmax
comp=Z,8.0nm,0.9s
WHY Whitehorse 22.22 51 P P 00 11 21.2 +2.1
WHY IAmb IAmb 00 11 40.8
comp=Z,17nm,1.3s
C26K Camden Bay 22.27 24 P P 00 11 18.8 -0.6
baz=228,SNR=12
C27K Jago River 22.40 26 P P 00 11 20.2 -0.6
baz=230
MA2 Magadan 22.40 306 LR LR 00 19 58.2
comp=Z,108nm,18.2s,baz=100,slow=37
P32M Atlin 22.69 54 P P 00 11 23.0 -1.1
baz=266
M31M Drury Creek, Y 22.70 47 P P 00 11 22.4 -1.7
baz=259
EPYK Eagle Plains 22.95 36 P P 00 11 25.4 -1.4
EPYK IAmb IAmb 00 11 47.4
comp=Z,24nm,1.4s
EPYK Eagle Plains 22.95 36 P P 00 11 25.3 -1.4
baz=246,SNR=5.6
N32M Quiet Lake 23.15 50 P P 00 11 27.9 -0.9
baz=263
FARO Faro, Yukon 23.18 48 P P 00 11 29.0 -0.1
baz=260
P33M Teslin, Yukon 23.19 53 P P 00 11 29.8 +0.5
P33M IAmb IAmb 00 11 44.9
comp=Z,11nm,1.0s
G30M tAoh Zraii Nji 23.38 35 P P 00 11 29.7 -1.3
baz=246
V35K Ketchikan 23.97 65 P P 00 11 37.9 +1.0
baz=277
R33M Jennings River 24.08 55 P P 00 11 40.9 +2.9
baz=269
MMPY Sheldon Lake, 24.20 47 P P 00 11 39.9 +0.8
baz=261,SNR=12
F31M Tsiigehtchic 24.45 35 P P 00 11 40.5 -0.6
baz=248
DLBC Dease Lake 24.58 57 P P 00 11 45.0 +2.5
comp=Z,5.3nm,0.7s,baz=48,slow=4.2,SNR=9.6
DLBC Dease Lake 24.58 57 P P 00 11 44.0 +1.5
DLBC IAmb IAmb 00 11 57.3
comp=Z,8.1nm,0.8s
DLBC Dease Lake 24.58 57 P P 00 11 43.3 +0.8
baz=272
INK Inuvik 24.85 33 P P 00 11 44.4 -0.4
comp=Z,6.7nm,0.6s,baz=237,slow=9.5,SNR=27
comp=Z,6.7nm,0.6s
INK Inuvik 24.85 33 P P 00 11 44.5 -0.3
INK IAmb IAmb 00 11 45.6
comp=Z,22nm,1.2s
INK Inuvik 24.85 33 P P 00 11 44.2 -0.6
baz=246,SNR=11
INK Inuvik 24.85 33 P P 00 11 44.5 -0.3
INK pmax pmax
comp=Z,22nm,1.3s
TGTN Hyland Airport 25.50 50 P P 00 11 52.1 +1.4
baz=266,SNR=9.4
LIRD Liard River Hi 26.57 55 P P 00 12 02.2 +1.7
baz=273
KOTAN Kotaneelee Air 27.57 53 P P 00 12 10.7 +1.3
baz=273
WRGLY Wrigley 27.82 46 P P 00 12 11.9 +0.3
baz=268
C36M Paulatuk 28.44 33 P P 00 12 17.1 +0.1
baz=256
A36M Sachs Harbour 28.84 28 P P 00 12 19.8 -0.8
A36M IAmb IAmb 00 12 32.7
comp=Z,7.1nm,0.8s
A36M Sachs Harbour 28.84 28 P P 00 12 20.7 +0.1
baz=250
YKA Yellowknife Ar 31.90 48 P P 00 12 48.2 +0.5
comp=Z,2.5nm,0.8s,baz=275,slow=8.0,SNR=7.7
YKA LR LR 00 27 50.9
comp=Z,192nm,18.5s,baz=270,slow=40
comp=Z,2.5nm,0.8s
YKA Yellowknife Ar 31.90 48 *i* P P 00 12 49.2 +1.5
YKA pmax pmax
comp=Z,2.0nm,0.8s
YAK Yakutsk 32.62 312 LR LR 00 26 47.8
comp=Z,219nm,18.1s,baz=89,slow=38
YAK Yakutsk 32.62 312⇑ *e*P P 00 12 52.3 -1.7
YAK pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 32.70 330 P P 00 12 53.2 -1.4
comp=Z,1.1nm,0.3s,baz=104,slow=0.0,SNR=2.9
TIXI PcP PcP 00 15 39.7 -0.1
comp=Z,2.8nm,1.0s,baz=208,slow=0.7,SNR=6.8
TIXI LR LR 00 27 30.4
comp=Z,92nm,19.0s,baz=40,slow=39
comp=Z,1.1nm,0.3s
YBH Yreka Blue Hor 34.48 87 LR LR 00 25 49.1
comp=Z,122nm,18.4s,baz=306,slow=34
NEW Newport 34.66 73 P P 00 13 12.9 +0.9
NEW IAmb IAmb 00 13 26.3
comp=Z,8.6nm,0.9s
NEW Newport 34.66 73 P P 00 13 13.2 +1.2
baz=296
NEW Newport 34.66 73 P P 00 13 12.9 +0.9
NEW pmax pmax
comp=Z,9.0nm,0.9s
KLR Kul'dur 35.34 289 P P 00 13 17.1 -0.7
comp=Z,3.2nm,0.7s,baz=69,slow=8.6,SNR=10
KLR LR LR 00 29 40.1
comp=Z,52nm,18.2s,baz=67,slow=40
comp=Z,3.2nm,0.7s
KLR Kul'dur 35.34 289⇑ *e*P P 00 13 16.6 -1.2
KLR pmax pmax
comp=Z,7.0nm,1.3s
H11N2 WAKE ISLAND Hy 35.90 216 T T 00 51 49.9
baz=26,slow=75
H11N3 WAKE ISLAND Hy 35.90 216 T T 00 51 59.6
baz=26,slow=75
H11N1 WAKE ISLAND Hy 35.91 216 T T 00 52 02.9
baz=26
ZEA Zeya 36.09 298 *e*P P 00 13 23.4 -0.7
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=E,200nm,15.0s
H11S1 WAKE ISLAND Hy 37.09 215 T T 00 53 01.6
baz=23
H11S2 WAKE ISLAND Hy 37.10 215 T T 00 52 53.6
baz=23,slow=74
H11S3 WAKE ISLAND Hy 37.11 215 T T 00 52 55.7
baz=23,slow=74
MSO Missoula 37.23 74 P P 00 13 32.1 -2.0
baz=299
HEH HeiHe 37.42 293 *e*P P 00 13 33.9 -1.6
HEH pmax pmax
comp=Z,26nm,0.9s
HEH pmax pmax
comp=Z,110nm,4.8s
RES Resolute Bay 37.76 25 LR LR 00 33 54.1
comp=Z,217nm,18.4s,baz=350,slow=44
RES Resolute Bay 37.76 25 P P 00 13 37.3 -0.8
RES IAmb IAmb 00 14 02.2
comp=Z,5.8nm,1.3s
RES Resolute Bay 37.76 25 P P 00 13 37.3 -0.8
RES pmax pmax
comp=Z,6.0nm,1.3s
MJAR Matsushiro Arr 38.18 267 P P 00 13 41.9 -0.2
comp=Z,1.4nm,0.7s,baz=70,slow=6.8,SNR=2.2
MJAR LR LR 00 28 53.0
comp=Z,94nm,20.3s,baz=55,slow=35
comp=Z,1.4nm,0.7s
MAJO Matsushiro 38.18 267⇑ *e*P P 00 13 41.7 -0.5
MAJO pmax pmax
comp=Z,5.0nm,0.9s
HLID Hailey 38.62 79 P P 00 13 45.8 -0.2
baz=302
MCMT McKenzie Canyo 38.90 76 P P 00 13 48.9 +0.5
EGMT Eagleton 39.13 70 P P 00 13 49.3 -0.8
baz=299
NVAR Mina Array Bea 39.15 88 P P 00 13 49.9 -0.6
comp=Z,0.2nm,0.4s,baz=292,slow=4.8,SNR=2.4
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 39.15 88 P P 00 13 52.1 +1.6
ELK Elko 39.69 83 LR LR 00 28 49.7
comp=Z,90nm,20.3s,baz=304,slow=34
GCMT Greycliff 40.31 73 P P 00 14 00.6 +0.6
H17A Grant Village 40.51 75 P P 00 14 03.0 +1.2
baz=302
ISA Isabella, Lake 40.77 92 P P 00 14 05.8 +2.1
baz=310
R11A Troy Canyon, C 40.89 86 P P 00 14 05.8 +0.8
baz=307
RLMT Red Lodge 40.90 74 P P 00 14 04.9 -0.1
baz=302
TPNV Topopah Spring 41.34 88 P P 00 14 10.3 +1.7
baz=309
DUG Dugway, Tooele 41.51 82 P P 00 14 12.0 +2.0
DUG IAmb IAmb 00 14 25.3
comp=Z,8.7nm,1.2s
DUG Dugway, Tooele 41.51 82 P P 00 14 10.8 +0.8
baz=306
DUG Dugway, Tooele 41.51 82 P P 00 14 12.0 +2.0
DUG pmax pmax
comp=Z,9.0nm,1.2s
PRN Phroc Range 41.80 87 P P 00 14 13.9 +1.5
BW06 Boulder Array 42.02 77 P P 00 14 14.6 +0.3
baz=304
PD31 Pinedale Array 42.02 77 P P 00 14 14.9 +0.7
PD31 IAmb IAmb 00 14 28.8
comp=Z,12nm,1.4s
PDAR Pinedale Array 42.02 77 P P 00 14 14.6 +0.3
comp=Z,2.3nm,0.8s,baz=301,slow=4.4,SNR=16
comp=Z,2.3nm,0.8s
JCJ Chichijima 42.25 253 LR LR 00 29 05.2
comp=Z,40nm,21.4s,baz=27,slow=32
HIA Hailar 42.27 295 P P 00 14 15.2 -0.6
HIA Hailar 42.27 295 P P 00 14 15.3 -0.6
HIA pmax pmax
comp=Z,16nm,0.9s
LCMT Little Creek M 43.18 86 P P 00 14 25.1 +1.5
LCMT IAmb IAmb 00 14 31.3
comp=Z,12nm,1.4s
SRU San Rafael Swe 43.57 82 P P 00 14 28.2 +1.4
SRU IAmb IAmb 00 14 42.2
comp=Z,5.2nm,0.9s
SRU San Rafael Swe 43.57 82 P P 00 14 28.2 +1.4
SRU pmax pmax
comp=Z,5.0nm,0.9s
KSRS Korea Array 44.03 276 P P 00 14 30.7 +0.5
comp=Z,0.7nm,0.4s,baz=57,slow=7.4,SNR=2.4
comp=Z,0.7nm,0.4s
U15A North Rim 44.14 86 P P 00 14 33.0 +1.6
U15A IAmb IAmb 00 14 45.5
comp=Z,7.6nm,1.1s
PDMCI Parker Dam,Lak 44.35 90 P P 00 14 35.5 +2.7
baz=311
O20A White River Ci 44.36 79 P P 00 14 33.9 +0.8
O20A IAmb IAmb 00 14 46.1
comp=Z,13nm,1.1s
O20A White River Ci 44.36 79 P P 00 14 33.3 +0.2
baz=307
WUAZ Wupatki 45.29 86 P P 00 14 41.1 +0.5
WUAZ IAmb IAmb 00 14 54.3
comp=Z,4.8nm,0.8s
WUAZ Wupatki 45.29 86 P P 00 14 40.9 +0.4
baz=310
MVCO Mesa Verde 46.00 82 P P 00 14 46.5 +0.3
baz=309
NRIK Noril'sk 46.45 331⇑ *e*P P 00 14 49.3 +0.3
NRIK pmax pmax
comp=Z,5.0nm,1.0s

AGMN	**Agassiz Nation**	**46.92**	**62**	P		**P**		**00 14 52.9**	**-0.1**
	baz=304								
SDCO	**Great Sand Dun**	**47.51**	**80**	P		**P**		**00 14 58.4**	**+0.3**
	baz=309								
TUC	**Tucson**	**47.77**	**89**	P		**P**		**00 14 59.8**	**-0.1**
	baz=312								
T25A	**Trinidad**	**48.57**	**80**	P		**P**		**00 15 07.6**	**+1.4**
	baz=310								
ULN	**Ulaanbaatar**	**50.08**	**300**	P		P		00 15 14.8	-2.7
ULN				IAmb		IAmb		00 15 18.4	
	comp=Z,4.5nm,0.8s								
ULN	**Ulaanbaatar**	**50.08**	**300**	*de*P		**P**		**00 15 17.7**	**+0.2**
ULN				pmax		pmax			
	comp=Z,13nm,2.5s								
SONM	**Songino Array**	**50.45**	**300**	P		**P**		**00 15 20.2**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=54,slow=7.5,SNR=15								
	comp=Z,2.2nm,0.8s								
SONM	**Songino Array**	**50.45**	**300**	P		**P**		**00 15 20.0**	**-0.3**
SONM				IAmb		IAmb		00 15 21.0	
	comp=Z,3.6nm,1.0s								
DAG	**Danmarks Havn**	**50.83**	**8**	*i* P		P		00 15 21.0	-1.6
HHC	**Hu-ho-hao-te**	**51.83**	**290**	*e*P		**P**		**00 15 31.0**	**+0.3**
HHC				pmax		pmax			
	comp=Z,16nm,0.9s								
HHC				pmax		pmax			
	comp=Z,160nm,5.2s								
SUMG	**Summit**	**52.00**	**16**	*i* P		**P**		**00 15 31.0**	**-0.9**
HNS	**HongShan**	**52.17**	**285**	⇑P		**P**		**00 15 34.1**	**+0.9**
HNS				pmax		pmax			
	comp=Z,16nm,1.0s								
LPIG	**La Paz**	**53.85**	**96**	LR		LR		00 35 07.4	
	comp=Z,33nm,19.1s,baz=24,slow=32								
TX31	**Lajitas Ar. Si**	**54.26**	**86**	P		**P**		**00 15 49.1**	**+0.3**
TXAR	**Lajitas Array**	**54.26**	**86**	P		**P**		**00 15 49.2**	**+0.4**
	comp=Z,1.5nm,1.0s,baz=298,slow=5.0,SNR=9.5								
	comp=Z,1.5nm,1.0s								
TXAR	**Lajitas Array**	**54.26**	**86**	P		**P**		**00 15 48.9**	**+0.2**
SCO	**Scoresbysund**	**56.35**	**12**	*i* P		P		00 15 58.3	-4.8
ZALV	**Zalesovo Beam**	**57.03**	**317**	P		**P**		**00 16 06.9**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=36,slow=5.5,SNR=6.3								
ZALV				PcP		**PcP**		**00 17 03.5**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=56,slow=3.7,SNR=4.1								
	comp=Z,1.8nm,0.9s								
ZALV	**Zalesovo Beam**	**57.03**	**317**	*i* P		**P**		**00 16 09.6**	**+1.4**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SCHQ	**Schefferville**	**57.05**	**42**	P		**P**		**00 16 07.8**	**-0.6**
	comp=Z,7.3nm,0.8s,baz=312,slow=9.8,SNR=5.1								
	comp=Z,7.3nm,0.8s								
SCHQ	**Schefferville**	**57.05**	**42**	P		**P**		**00 16 08.1**	**-0.2**
XAN	**Xi'an**	**57.91**	**286**	P		**P**		**00 16 14.8**	**0.0**
XAN				pP		sP		00 16 21.8	+4.3
XAN				sP		pwP		00 16 25.6	+3.6
XAN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
XAN				LR		LR			
	comp=E,160nm,16.5s								
XAN				LR		LR			
	comp=Z,170nm,17.9s								
ARCES	**ARCESS Array B**	**58.58**	**353**	P		**P**		**00 16 17.4**	**-1.5**
	comp=Z,6.6nm,1.1s,baz=8.7,slow=4.6,SNR=6.2								
	comp=Z,6.6nm,1.1s								
DGZ	**Jazzator, Alta**	**58.81**	**312**	⇑*e*P		**P**		**00 16 19.6**	**-1.4**
DGZ				pmax		pmax			
	comp=Z,4.0nm,1.2s								
LVZ	**Lovozero**	**59.26**	**349**	P		P		00 16 21.8	-1.8
LVZ	**Lovozero**	**59.26**	**349**	P		P		00 16 21.8	-1.8
LVZ				pmax		pmax			
	comp=Z,36nm,1.1s								
LZH	**Lanzhou**	**59.51**	**291**	*e*P		**P**		**00 16 27.9**	**+1.9**
LZH				sP		pwP		00 16 38.6	+5.4
LZH				pmax		pmax			
	comp=Z,12nm,1.3s								
SSPA	**Standing Stone**	**61.67**	**60**	P		**P**		**00 16 39.2**	**-1.3**
	baz=315								
KURK	**Kurchatov**	**62.00**	**317**	P		**P**		**00 16 41.5**	**-1.0**
KURK	**Kurchatov**	**62.00**	**317**	*ce*P		**P**		**00 16 41.9**	**-0.6**
KURK				pmax		pmax			
	comp=Z,11nm,0.8s								
KURBB	**Kurchatov Arra**	**62.11**	**317**	P		**P**		**00 16 42.8**	**-0.5**
	comp=Z,7.6nm,0.8s,baz=40,slow=7.2,SNR=40								
	comp=Z,7.6nm,0.8s								
WMQ	**Urumqi**	**62.87**	**307**	*e*P		**P**		**00 16 47.8**	**-0.7**
WMQ				pP		pwP		00 16 59.6	+3.8
WMQ				pmax		pmax			
	comp=Z,13nm,1.3s								
WMQ				LR		LR			
	comp=N,200nm,19.9s								
WMQ				LR		LR			
	comp=E,160nm,23.3s								
WMQ				LR		LR			
	comp=Z,120nm,23.5s								
MK31	**Makanchi Array**	**63.29**	**312**	P		**P**		**00 16 50.5**	**-0.8**
MK31				IAmb		IAmb		00 16 58.9	
	comp=Z,8.8nm,1.4s								
MK31	**Makanchi Array**	**63.29**	**312**	P		**P**		**00 16 50.5**	**-0.8**
MK31				pmax		pmax			
	comp=Z,9.0nm,1.4s								
MKAR	**Makanchi Array**	**63.29**	**312**	P		**P**		**00 16 50.5**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=49,slow=6.6,SNR=14								
	comp=Z,1.6nm,0.8s								
MKAR	**Makanchi Array**	**63.29**	**312**	P		**P**		**00 16 50.0**	**-1.3**
MKAR	**Makanchi Array**	**63.29**	**312**	*i* P		**P**		**00 16 51.2**	**-0.1**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
PRGR	**Permogore**	**63.31**	**341**	*e*P		P		00 16 49.3	-1.8
PRGR				pmax		pmax			
	comp=Z,9.0nm,0.8s								
MAKZ	**Makanchi**	**63.42**	**312**	P		**P**		**00 16 51.2**	**-0.9**
MAKZ	**Makanchi**	**63.42**	**312**	P		**P**		**00 16 51.2**	**-0.9**
MAKZ				pmax		pmax			
	comp=Z,24nm,1.5s								
BVAR	**Borovoye Array**	**63.51**	**323**	P		**P**		**00 16 52.8**	**+0.3**
	comp=Z,13nm,0.6s,baz=44,slow=6.9,SNR=66								
	comp=Z,13nm,0.6s								
BRVK	**Borovoye**	**63.52**	**323**	P		**P**		**00 16 52.2**	**-0.4**
BRVK	**Borovoye**	**63.52**	**323**	*c* P		**P**		**00 16 52.6**	**0.0**
BRVK				pmax		pmax			
	comp=Z,15nm,1.0s								
GOMU	**GeErMu**	**64.60**	**297**	P		**P**		**00 17 03.1**	**+2.7**
GOMU				pP		sP		00 17 06.8	+3.7
GOMU				sP		pP		00 17 07.8	+5.4
GOMU				PP		PP		00 19 37.1	+15
ARU	**Arti**	**64.67**	**332**	P		**P**		**00 16 59.5**	**-0.6**
ARU	**Arti**	**64.67**	**332**	*d* P		**P**		**00 17 00.1**	**0.0**
ARU				pmax		pmax			
	comp=Z,19nm,1.7s								
KIRV	**Kirov**	**65.23**	**338**	⇓*e*P		**P**		**00 17 02.7**	**-1.0**
FINES	**FINESS Array B**	**66.47**	**351**	P		**P**		**00 17 11.1**	**-0.6**
	comp=Z,5.0nm,1.0s,baz=354,slow=6.4,SNR=5.9								
	comp=Z,5.0nm,1.0s								
FINES	**FINESS Array B**	**66.47**	**351**	P		**P**		**00 17 10.8**	**-0.9**
NC303	**NORSAR Array S**	**67.56**	**358**	P		**P**		**00 17 18.1**	**-0.5**
PZH	**PanZhiHua**	**67.62**	**285**	P		**P**		**00 17 20.1**	**+0.4**
PZH				pmax		pmax			
	comp=Z,7.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,90nm,5.3s								
NB2	**NORSAR Subarra**	**67.75**	**358**	P		**P**		**00 17 19.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=1.2,slow=6.5								
NOA	**NORSAR Array B**	**67.75**	**358**	P		**P**		**00 17 19.6**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=1.7,slow=7.2,SNR=6.1								
NOA				LR		LR		00 46 28.9	
	comp=Z,12nm,20.4s,baz=340,slow=36								
	comp=Z,1.0nm,0.5s								
BOOM	**Boomskoye usch**	**69.50**	**313**	P		**P**		**00 17 31.9**	**+0.6**
BOOM	**Boomskoye usch**	**69.50**	**313**	P		**P**		**00 17 31.9**	**+0.6**
BOOM				pmax		pmax			
	comp=Z,19nm,1.1s								
AAK	**Ala-Archa**	**70.04**	**314**	P		**P**		**00 17 35.5**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=51,slow=21,SNR=3.7								
	comp=Z,4.1nm,0.7s								
AAK	**Ala-Archa**	**70.04**	**314**	*ce*P		**P**		**00 17 36.0**	**+1.4**
AAK				pmax		pmax			
	comp=Z,9.0nm,1.3s								
ABKAR	**Akbulak array**	**70.35**	**327**	P		**P**		**00 17 36.0**	**-0.1**
ABKAR	**Akbulak array**	**70.35**	**327**	P		**P**		**00 17 35.9**	**-0.2**
OBN	**Obninsk**	**71.14**	**343**	*e*P		**P**		**00 17 39.8**	**-1.0**
OBN				*e**PP		**pP**		**00 17 44.7**	**+2.0**
OBN				*e**SP		**sP**		**00 17 46.6**	**+3.1**
OBN				*e*				00 17 59.4	
OBN				*e*PPP		PPP		00 21 56.6	
OBN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
OBN				MLR		MLR			
	comp=Z,45nm,15.0s								

BELG	**Belogornoye**	**71.26**	**336**	⇑*e*P		**P**		**00 17 40.2**	**-1.4**
BELG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KK31	**Karatay Array**	**71.41**	**317**	P		**P**		**00 17 42.5**	**-0.2**
KK31				IAmb		IAmb		00 17 43.8	
	comp=Z,3.9nm,0.9s								
KK31	**Karatay Array**	**71.41**	**317**	P		**P**		**00 17 42.5**	**-0.2**
KK31				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KKAR	**Karatay Array**	**71.41**	**317**	P		**P**		**00 17 42.2**	**-0.5**
KKAR	**Karatay Array**	**71.41**	**317**	P		**P**		**00 17 42.2**	**-0.5**
KSH	**Kashi**	**71.83**	**311**	P		**P**		**00 17 48.9**	**+3.4**
KSH				pmax		pmax			
	comp=Z,8.0nm,0.7s								
PABE	**Paberze**	**72.53**	**351**	P		**P**		**00 17 48.5**	**-0.7**
BTK	**Batken**	**73.75**	**315**	P		**P**		**00 17 56.6**	**-0.2**
BTK				IAmb		IAmb		00 17 59.0	
	comp=Z,6.8nm,1.1s								
BTK	**Batken**	**73.75**	**315**	P		**P**		**00 17 56.6**	**-0.2**
BTK				pmax		pmax			
	comp=Z,7.0nm,1.1s								
SHL	**Shillong**	**74.18**	**291**	P		**P**		**00 17 58.8**	**-0.8**
SHL	**Shillong**	**74.18**	**291**	P		**P**		**00 17 58.8**	**-0.8**
SHL				pmax		pmax			
	comp=Z,13nm,1.4s								
CMAR	**Chiang Mai Arr**	**75.35**	**281**	P		**P**		**00 18 06.6**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=30,slow=6.2,SNR=4.4								
CMAR				LR		LR		00 52 28.1	
	comp=Z,20nm,21.2s,baz=75,slow=37								
	comp=Z,3.0nm,0.3s								
CHGR	**Chuyangaron**	**75.63**	**315**	P		**P**		**00 18 07.5**	**-0.3**
CHGR	**Chuyangaron**	**75.63**	**315**	P		**P**		**00 18 07.5**	**-0.3**
CHGR				pmax		pmax			
	comp=Z,20nm,1.1s								
AKASG	**Malin Array Be**	**76.59**	**346**	P		**P**		**00 18 11.1**	**-1.7**
	comp=Z,3.2nm,0.8s,baz=18,slow=5.9,SNR=8.4								
AKASG				LR		LR		00 57 04.1	
	comp=Z,31nm,18.1s,baz=78,slow=40								
	comp=Z,3.2nm,0.8s								
AKASG	**Malin Array Be**	**76.59**	**346**	*i* P		**P**		**00 18 12.1**	**-0.7**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
AKBB	**Malin Array Si**	**76.59**	**346**	⇓*e*P		**P**		**00 18 11.4**	**-1.4**
NIL	**Nilore**	**77.84**	**309**	P		**P**		**00 18 20.3**	**+0.1**
NIL	**Nilore**	**77.84**	**309**	P		**P**		**00 18 20.3**	**+0.1**
NIL				pmax		pmax			
	comp=Z,8.0nm,0.9s								
BRG	**Berggiesshubel**	**77.85**	**356**	Amp				00 18 21.7	
	comp=Z,7.7nm,1.1s								
BRG	**Berggiesshubel**	**77.85**	**356**	*e*P		**P**		**00 18 20.5**	**+0.6**
BRG				pmax		pmax			
	comp=Z,8.0nm,1.1s								
BRG	**Berggiesshubel**	**77.85**	**356**	*e*P		**P**		**00 18 20.5**	**+0.6**
OSTC	**Ostas**	**78.06**	**355**	*e*P		**P**		**00 18 21.0**	**-0.1**
OSTC				*ex*		x		00 18 34.2	
DPC	**Dobruska-Polom**	**78.26**	**355**	*e*P		**P**		**00 18 22.6**	**+0.3**
DPC				*ex*		x		00 18 33.5	
DPC	**Dobruska-Polom**	**78.26**	**355**	*e*P		**P**		**00 18 22.6**	**+0.3**
DPC				*e*				00 18 33.5	
KRLC	**Kraliky**	**78.50**	**354**	*e*P		**P**		**00 18 23.5**	**-0.1**
KRLC				*ex*		x		00 18 35.2	
KRLC	**Kraliky**	**78.50**	**354**	*e*P		**P**		**00 18 23.5**	**-0.1**
KRLC				*e*				00 18 35.2	
NKC	**Novy Kostel**	**78.55**	**357**	*e*P		**P**		**00 18 24.2**	**+0.4**
NKC	**Novy Kostel**	**78.55**	**357**	*e*P		**P**		**00 18 24.2**	**+0.4**
PRU	**Pruhonice**	**78.71**	**356**	*e*P		**P**		**00 18 24.4**	**-0.3**
PRU	**Pruhonice**	**78.71**	**356**	*e*P		**P**		**00 18 24.4**	**-0.3**
KBL	**Kabul**	**79.09**	**313**	P		**P**		**00 18 25.9**	**-1.5**
KBL				IAmb		IAmb		00 18 28.7	
	comp=Z,7.8nm,1.2s								
KBL	**Kabul**	**79.09**	**313**	P		**P**		**00 18 25.9**	**-1.5**
KBL				pmax		pmax			
	comp=Z,8.0nm,1.3s								
MAUC	**Maruska**	**79.14**	**354**	*e*P		**P**		**00 18 26.8**	**-0.3**
KHC	**Kasperske Hory**	**79.61**	**356**	*e*P		**P**		**00 18 29.6**	**-0.1**
KHC				*ex*		x		00 18 42.0	
KHC	**Kasperske Hory**	**79.61**	**356**	⇑*e*P		**P**		**00 18 29.2**	**-0.5**
KHC				pmax		pmax			
	comp=Z,19nm,1.3s								
CKRC	**Cesky Krumlov**	**79.89**	**356**	*e*P		**P**		**00 18 31.1**	**-0.1**
GERES	**GERESS Array B**	**79.89**	**356**	P		**P**		**00 18 31.2**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=20,slow=4.3,SNR=16								
	comp=Z,1.7nm,0.8s								
BUR08	**Bucovina Ar. S**	**80.13**	**348**	P		**P**		**00 18 32.0**	**-0.7**
BUR08				IAmb		IAmb		00 18 36.8	
	comp=Z,3.8nm,1.1s								
BURAR	**Bucovina Array**	**80.16**	**348**	P		**P**		**00 18 32.1**	**-0.7**
BURAR				IAmb		IAmb		00 18 33.9	
	comp=Z,2.5nm,0.9s								
KIV	**Kislovodsk**	**80.32**	**336**	P		**P**		**00 18 32.8**	**-0.9**
KIV	**Kislovodsk**	**80.32**	**336**	*e*P		**P**		**00 18 31.8**	**-1.9**
KIV				pmax		pmax			
	comp=Z,11nm,1.0s								
KBZ	**Khabaz**	**80.47**	**335**	P		**P**		**00 18 34.5**	**+0.1**
	comp=Z,4.8nm,0.9s,baz=75,slow=2.1,SNR=7.9								
	comp=Z,4.8nm,0.9s								
KBZ	**Khabaz**	**80.47**	**335**	⇑*e*P		**P**		**00 18 33.8**	**-0.6**
KBZ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
NCK	**Nalchik**	**80.51**	**335**	⇓*e*P		**P**		**00 18 33.2**	**-1.4**
NCK				pmax		pmax			
	comp=Z,15nm,0.9s								
CONA	**Conrad Observa**	**80.70**	**355**	*e*P		**P**		**00 18 36.8**	**+1.2**
	comp=Z,6.6nm,1.0s								
GEYT	**Alibeck**	**80.81**	**322**	P		**P**		**00 18 36.9**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=329,slow=5.5,SNR=4.8								
GEYT				LR		LR		00 58 09.8	
	comp=Z,51nm,18.9s,baz=133,slow=38								
	comp=Z,2.9nm,0.9s								
BIOA	**Bad Ischl, Aus**	**81.04**	**356**	*e*P		**P**		**00 18 38.4**	**+1.0**
	comp=Z,9.3nm,1.4s								
ZEI	**Tsey**	**81.08**	**334**	*e*P		**P**		**00 18 38.0**	**0.0**
ZEI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ARSA	**Arzberg**	**81.39**	**355**	*e*P		**P**		**00 18 40.4**	**+1.1**
	comp=Z,7.7nm,1.0s								
MOTA	**Moosalm**	**81.47**	**358**	*e*P		**P**		**00 18 40.7**	**+0.9**
	comp=Z,9.3nm,1.2s								
SQTA	**Sankt Quirin**	**81.59**	**358**	*e*P		**P**		**00 18 41.6**	**+1.2**
	comp=Z,8.4nm,1.0s								
KBA	**Koelnbreinsper**	**81.67**	**356**	*e*P		**P**		**00 18 42.4**	**+1.5**
	comp=Z,9.2nm,0.8s								
FETA	**Feichten**	**81.80**	**358**	*e*P		**P**		**00 18 42.9**	**+1.3**
	comp=Z,5.0nm,0.9s								
SOKA	**Soboth**	**81.99**	**355**	*e*P		**P**		**00 18 43.6**	**+1.1**
	comp=Z,7.6nm,1.0s								
FUORN	**Ofenpass-Fuorn**	**82.21**	**359**	P		**P**		**00 18 44.0**	**+0.1**
FUORN				IAmb		IAmb		00 19 01.9	
	comp=Z,8.6nm,1.2s								
TEOL	**Teolo**	**83.44**	**358**	P		**P**		**00 18 49.7**	**-0.3**
OSSC	**Osservatorio P**	**85.28**	**358**	P		**P**		**00 18 59.1**	**-0.3**
BRTR	**Keskin Array B**	**86.45**	**341**	P		**P**		**00 19 05.5**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=19,slow=3.5,SNR=7.5								
	comp=Z,1.5nm,0.7s								
BRTR	**Keskin Array B**	**86.45**	**341**	*i* P		**P**		**00 19 06.5**	**+1.1**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
RDO	**Rodhopi**	**86.47**	**347**	P		**P**		**00 19 05.1**	**-0.1**
ESDC	**Sonseca Array**	**88.54**	**9**	P		**P**		**00 19 15.0**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=0.4,slow=5.6,SNR=5.1								
	comp=Z,1.5nm,0.9s								
ESDC	**Sonseca Array**	**88.54**	**9**	P		**P**		**00 19 15.2**	**-0.1**
ESDC				IAmb		IAmb		00 19 16.3	
	comp=Z,2.0nm,1.1s								
ASAR	**Alice Springs**	**88.73**	**228**	P		**P**		**00 19 16.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=19,slow=5.5,SNR=6.4								
	comp=Z,0.4nm,0.5s								
ASAR	**Alice Springs**	**88.73**	**228**	P		**P**		**00 19 18.4**	**+2.2**
ASAR	**Alice Springs**	**88.73**	**228**	P		**P**		**00 19 18.4**	**+2.2**
STKA	**Stephens Creek**	**92.62**	**218**	P		**P**		**00 19 34.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=11,slow=16,SNR=1.7								
	comp=Z,0.5nm,0.3s								
STKA	**Stephens Creek**	**92.62**	**218**	P		**P**		**00 19 34.0**	**-0.1**

*IDC **20** 00:10:16.9±0.7,24.˚13N×123.˚27E, h0km, mb3.8/12, mbtmp3.8/13, ML2.9/1, MS3.4/4, Error ellipse: s-maj=26.5km s-min=15.9km az=70.0*
*NEIC **20** 00:10:20.9±1.5, 24.˚07N±0.˚06×123.˚30E±0.˚07, h23km±6km, mb4.2/12, Error ellipse: s-maj=9.6km s-min=8.6km az=222.0*
*JMA **20** 00:10:21.3±0.2,24.˚1N±1.˚0×123.˚3E±0.˚5, h30km±2km, MV3.9/9, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.

*NIED **20** 00:10:21.3,24.˚08N×123.˚27E, h30km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.15; $M_{\theta\theta}$=1.15; $M_{\phi\phi}$=1.30; $M_{r\theta}$=0.01; $M_{r\phi}$=-0.93; $M_{\theta\phi}$=0.54; Fault plane solution: M_0=1.62000×10^{15} NP1: ϕ_s=295.00000˚, δ=74.00000˚, λ=175.00000˚. NP2: ϕ_s=27.00000˚, δ=85.00000˚, λ=17.00000˚.*

ISC 20 00:10:21.2±1.0, 24.˚09N±0.˚05×123.˚28E±0.˚03, h28km±7km, n67, σ0.˚79/70, mb4.0/18, MS3.6/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**327**	Pg		**Pb**		**00 10 30.8**	**+0.1**
YOJ				Sg		**Sb**		**00 10 37.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.45**	**327**	P		**Pn**		**00 10 31.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.45**	**327**	P		**Pb**		**00 10 30.8**	**+0.1**
YOJ				S		**Sb**		**00 10 36.9**	**-0.1**
JYNG	**Yonagunijimaku**	**0.47**	**320**	P		**Pb**		**00 10 31.1**	**0.0**
JYNG				S		**Sb**		**00 10 37.8**	**0.0**
IRIF	**Iriomote-Funau**	**0.48**	**59**	P		**Pb**		**00 10 31.4**	**+0.1**
IRIF				*e*S		**Sb**		**00 10 38.5**	**+0.4**
HATJ	**Hateruma jima**	**0.48**	**93**	P		**Pb**		**00 10 31.0**	**-0.2**
HATJ				S		**Sb**		**00 10 38.4**	**+0.3**
JKRS	**Kuro-shima**	**0.69**	**77**	P		**Pn**		**00 10 34.9**	**-0.2**
JKRS				*e*S		**Sn**		**00 10 44.7**	**-0.2**
JIJ	**Ishigaki jima**	**0.84**	**71**	P		**Pb**		**00 10 36.6**	**-0.6**
JIJ				S		**Sb**		**00 10 47.9**	**-0.2**
JISG	**Ishigakijimahi**	**1.07**	**62**	P		**Pb**		**00 10 40.1**	**-0.3**
JISG				*e*S		**Sb**		**00 10 53.8**	**-0.9**
JTJ	**Tarama**	**1.41**	**67**	P		**Pn**		**00 10 45.3**	**+0.2**
JTJ				*e*S		**Sn**		**00 11 03.0**	**+0.1**
NACB	**Ninganchiao**	**1.54**	**274**			**Pn**		**00 10 46.8**	**-0.1**
NACB	**Ninganchiao**	**1.54**	**274**	P		**Pn**		**00 10 47.4**	**+0.5**
YHNB	**Yeheng**	**1.83**	**289**	Pn		**Pn**		**00 10 51.8**	**+0.9**
YHNB	**Yeheng**	**1.83**	**289**	P		**Pb**		**00 10 53.2**	**-0.9**
TATO	**Taipei**	**1.85**	**299**	Pn		**Pn**		**00 10 51.3**	**+0.1**
TATO	**Taipei**	**1.85**	**299**	P		**Pn**		**00 10 52.3**	**+1.1**
YULB	**Yu-li**	**1.94**	**250**	Pn		**Pn**		**00 10 52.0**	**-0.4**
YULB	**Yu-li**	**1.94**	**250**	P		**Pn**		**00 10 52.3**	**-0.1**
JMJ	**Miyako jima 2**	**1.98**	**68**	P		**Pb**		**00 10 57.9**	**+1.4**
SSLB	**Suanglung**	**2.15**	**263**	Pn		**Pn**		**00 10 56.2**	**+1.0**
SSLB	**Suanglung**	**2.15**	**263**	P		**Pn**		**00 10 56.8**	**+1.5**
TWGBT	**Beinan**	**2.38**	**238**	P		**Pn**		**00 10 58.2**	**-0.3**
TWG	**Pinlang**	**2.38**	**239**	Pn		**Pn**		**00 10 57.7**	**-0.8**
TPUB	**Ta-pu**	**2.55**	**253**	Pn		**Pn**		**00 11 02.3**	**+1.5**
TPUB	**Ta-pu**	**2.55**	**253**	P		**Pn**		**00 11 02.7**	**+1.9**
KNMB	**Chin-men Tao**	**4.48**	**276**	Pn		**Pn**		**00 11 27.8**	**+0.5**
JOW	**Kunigami**	**5.28**	**58**	Pn		**Pn**		**00 11 37.8**	**-0.6**
	0.9nm,0.3s,baz=321,slow=29,SNR=10								
JOW				Sn		**Sn**		**00 12 40.4**	**+2.1**
	0.7nm,0.3s,baz=227,slow=24,SNR=0.9								
	5.9nm,0.6s								
JOW	**Kunigami**	**5.28**	**58**	Pn		**Pn**		**00 11 38.1**	**-0.2**
KSRS	**Korea Array**	**13.91**	**16**	LR		LR		00 19 21.5	
	comp=Z,61nm,18.3s,baz=190,slow=39								
GUMO	**Guam**	**22.91**	**113**	LR		LR		00 22 18.1	
	comp=Z,32nm,19.7s,baz=118,slow=31								
SONM	**Songino Array**	**27.24**	**335**	P		**P**		**00 16 02.9**	**-0.1**
	0.8nm,0.8s,baz=152,slow=11,SNR=5.5								
	0.8nm,0.8s								
SONM	**Songino Array**	**27.24**	**335**	P		**P**		**00 16 03.5**	**+0.5**
MK31	**Makanchi Array**	**39.75**	**315**	P		**P**		**00 17 50.8**	**-0.7**
MK31				IAmb		IAmb		00 18 20.0	
	comp=Z,11nm,1.4s								
MKAR	**Makanchi Array**	**39.75**	**315**	P		**P**		**00 17 51.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=97,slow=10,SNR=8.6								
MKAR				PcP		**PcP**		**00 19 59.6**	**+2

FDMO					AML	AML			
	comp=N,394μm,0.2s								
CSP1	**Cessapalombo**	**0.12**	**20**	⇑P	Pg		00 16 06.4	+0.5	
CSP1				S	Sg		00 16 08.7	+0.8	
CSP1				AML	AML				
	comp=E,222μm,0.3s								
CSP1				AML	AML				
	comp=N,200μm,0.8s								
T1219	**Muccia, Frazio**	**0.13**	**304**	P	Pg		00 16 06.5	+0.4	
T1219				S	Sg		00 16 09.0	+0.8	
T1245	**Castelsantange**	**0.13**	**168**	⇓P	Pg		00 16 06.5	+0.4	
T1245				S	Sg		00 16 09.2	+0.9	
T1245				AML	AML				
	comp=E,340μm,0.6s								
T1245				AML	AML				
	comp=E,304μm,1.0s								
T1245				AML	AML				
	comp=N,502μm,0.4s								
T1245				AML	AML				
	comp=E,368μm,0.6s								
T1245				AML	AML				
	comp=N,501μm,0.4s								
T1245				AML	AML				
	comp=N,590μm,0.4s								
T1245				AML	AML				
	comp=E,367μm,0.6s								
T1245				AML	AML				
	comp=E,434μm,0.6s								
T1216	**Preci, Frazion**	**0.14**	**226**	⇓P	Pg		00 16 06.7	+0.5	
NRCA	**Norcia**	**0.15**	**190**	⇓P	Pg		00 16 07.0	+0.5	
NRCA				AML	AML				
	comp=E,1585μm,0.1s								
NRCA				AML	AML				
	comp=N,806μm,0.8s								
NRCA				AML	AML				
	comp=N,849μm,0.1s								
NRCA				AML	AML				
	comp=E,1775μm,0.1s								
NRCA				AML	AML				
	comp=N,806μm,0.8s								
MMO1	**Montemonaco**	**0.15**	**123**	P	Pg		00 16 07.0	+0.5	
CESI	**CESI - Serrava**	**0.18**	**277**	P	Pg		00 16 08.0	+1.0	
CESI				AML	AML				
	comp=N,136μm,0.3s								
CESI				AML	AML				
	comp=E,92μm,1.6s								
T1241	**Roccafluvione,**	**0.24**	**122**	⇓P	Pg		00 16 08.9	+0.9	
SNTG	**Esanatoglia**	**0.31**	**330**	⇑P	Pg		00 16 10.1	+0.8	
T1218	**Civita (PG)**	**0.32**	**185**	⇑P	Pg		00 16 09.4	-0.1	
T1243	**Rocca Santa Ma**	**0.36**	**143**	⇓P	Pg		00 16 10.8	+0.6	
ASSB	**Assisi San Ben**	**0.37**	**279**	P	Pb		00 16 11.1	-0.7	
SMA1	**SAN MARTINO**	**0.38**	**159**	⇑P	Pg		00 16 11.0	+0.4	
SMA1				AML	AML				
	comp=E,82μm,0.2s								
SMA1				AML	AML				
	comp=N,54μm,0.2s								

*IDC **20** 00:18:48.1±1.3,9.˚76S×114.˚02E,h0km,mb3.7/7, mbtmp3.9/10,ML4.0/3,MS3.3/4,Error ellipse: s-maj=41.2km s-min=17.2km az=47.0*
*NEIC **20** 00:18:53.5±1.6,9.˚84S±0.˚07×114.˚14E±0.˚05,h44km±10km, mb4.0/8,Error ellipse: s-maj=10.6km s-min=6.4km az=184.0*
*DJA **20** 00:18:54.9±1.0,10˚S±4˚×11˚4E±˚,h17km±9km,M4.1/12, MLv4.1/12*

ISC 20 00:18:50.5±1.5**,9˚.86S**±0˚.06×**114˚.08E**±0˚.04**, h23**km±12km, n46,**σ1s**74/51**, mb3.8**/10, MS3.3**/3, South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.39**	**3**			**Pb**	**00 19 16.0**	**+0.2**
JAGI					Sn	**Sb**	**00 19 32.6**	**-0.5**
JAGI	**Jajag, Banyuwa**	**1.39**	**3**		P	**Pb**	**00 19 16.5**	**+0.7**
JAGI					S	**Sb**	**00 19 32.0**	**-1.1**
IGBI	**Denpasar**	**1.48**	**45**		P	**Pb**	**00 19 17.3**	**0.0**
IGBI					S	**Sb**	**00 19 35.4**	**-0.3**
DNP	**Denpasar**	**1.62**	**43**		P	**Pb**	**00 19 20.3**	**+0.5**
DNP					S	**Sb**	**00 19 39.8**	**0.0**
RTBI	**Rangdo, Negare**	**1.63**	**31**		P	**Pb**	**00 19 20.3**	**+0.3**
RTBI					S	**Sb**	**00 19 39.6**	**-0.6**
BYJI	**Banyuwangi**	**1.66**	**9**		P	**Pb**	**00 19 21.1**	**+0.6**
GMJI	**Gumukmas**	**1.70**	**338**		P	**Pb**	**00 19 21.1**	**-0.1**
GMJI					S	**Sb**	**00 19 41.2**	**-0.9**
ABJI	**Asem Bagus**	**2.06**	**4**		P	**Pb**	**00 19 27.6**	**+0.3**
SRBI	**Singaraja**	**2.09**	**32**		P	**Pb**	**00 19 27.1**	**-0.7**
SRBI					S	**Sb**	**00 19 52.0**	**-1.4**
KLNI	**Mataram**	**2.45**	**54**		P	**Pn**	**00 19 31.4**	**+2.3**
PWJI	**Pagerwojo**	**2.90**	**309**		P	**Pb**	**00 19 40.3**	**-1.3**
PWJI					S	**Sb**	**00 20 13.4**	**-3.3**
TWSI	**Taliwang, Sumb**	**2.98**	**68**		P	**Pn**	**00 19 38.9**	**+2.5**
SJI	**Sawahan**	**3.12**	**313**		P	**Pb**	**00 19 44.4**	**-0.9**
PLAI	**Plampang**	**3.79**	**75**		P	**Pn**	**00 19 50.1**	**+2.5**
UGM	**Wanagama**	**4.02**	**299**		Pn	**Pn**	**00 19 53.1**	**+2.4**
DBNI	**Kabupaten Domp**	**4.39**	**72**		P	**Pn**	**00 19 59.1**	**+3.3**
KAPI	**Kappang**	**7.40**	**50**		Pn	**Pn**	**00 20 38.3**	**+1.1**
	1.6nm,0.3s,baz=136,slow=15,SNR=2.1								
KAPI					Sn	**Sn**	**00 21 57.7**	**-2.9**
	0.7nm,0.3s,baz=104,slow=20,SNR=1.4								
KAPI					LR	LR	00 23 56.2		
	comp=Z,104nm,19.4s,baz=287,slow=42 4.5nm,0.2s								
BATI	**Baumata**	**9.44**	**93**		Pn	**Pn**	**00 21 06.3**	**+1.0**
	1.7nm,0.3s,baz=249,slow=21,SNR=1.6								
BATI					Sn	**Sn**	**00 22 44.7**	**-6.1**
	0.7nm,0.3s,baz=219,slow=20,SNR=1.2 4.5nm,0.3s								
SOEI	**Soe**	**10.04**	**90**		Pn	**Pn**	**00 21 13.0**	**-0.5**
MBWA	**Marble Bar**	**12.48**	**155**		Pn	**Pn**	**00 21 45.1**	**-1.7**
GIRL	**Giralia**	**12.71**	**179**		Pn	**Pn**	**00 21 50.1**	**+0.2**
KNRA	**Kununurra**	**15.44**	**113**		Pn	**Pn**	**00 22 26.6**	**-0.4**
SlJI	**Sorong**	**19.29**	**63**		P	**P**	**00 23 14.5**	**+0.5**
	0.6nm,0.3s,baz=272,slow=9.9,SNR=2.3 4.8nm,0.6s								
FAKI	**Fak Fak**	**19.32**	**70**		P	**P**	**00 23 12.9**	**-1.4**
FAKI					IAmb	IAmb	00 23 35.6		
	comp=Z,9.4nm,1.0s								
WB0	**Warramunga Arr**	**21.94**	**119**		P	**P**	**00 23 43.3**	**+0.6**
WB0					IAmb	IAmb	00 24 09.5		
	comp=Z,3.9nm,0.9s								
WRA	**Warramunga Arr**	**21.97**	**119**		P	**P**	**00 23 44.4**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=294,slow=12,SNR=18								
WRA					S	**S**	**00 27 40.6**	**-3.9**
	comp=Z,0.5nm,0.9s,baz=263,slow=20,SNR=3.2 comp=Z,0.6nm,0.5s								
WRA	**Warramunga Arr**	**21.97**	**119**		P	**P**	**00 23 43.8**	**+0.8**
ASAR	**Alice Springs**	**23.38**	**128**		P	**P**	**00 23 59.6**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=303,slow=8.4,SNR=20 comp=Z,0.7nm,0.5s								
ASAR	**Alice Springs**	**23.38**	**128**		P	**P**	**00 23 57.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.86**	**332**		P	**P**	**00 25 14.4**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=163,slow=6.6,SNR=2.2 comp=Z,1.0nm,0.3s								
PMG	**Port Moresby**	**32.61**	**92**		LR	LR	00 42 51.1		
	comp=Z,64nm,19.4s,baz=174,slow=44								
STKA	**Stephens Creek**	**33.59**	**135**		P	**P**	**00 25 31.9**	**+2.8**
	comp=Z,0.9nm,0.4s,baz=317,slow=9.5,SNR=6.2 comp=Z,0.9nm,0.4s								
STKA	**Stephens Creek**	**33.59**	**135**		P	**P**	**00 25 30.3**	**+1.1**
H08S2	**Diego Garcia H**	**41.15**	**270**		T	T	01 10 05.7		
	baz=96								
H08S3	**Diego Garcia H**	**41.16**	**270**		T	T	01 09 50.8		
	baz=96								
H08S1	**Diego Carcia H**	**41.16**	**270**		T	T	01 10 19.4		
	baz=96								
KSRS	**Korea Array**	**48.83**	**15**		LR	LR	00 52 14.0		
	comp=Z,26nm,18.2s,baz=60,slow=41								
SONM	**Songino Array**	**57.85**	**354**		P	**P**	**00 28 41.1**	**+0.6**
	comp=Z,0.7nm,1.0s,baz=173,slow=8.2,SNR=2.4 comp=Z,0.7nm,1.0s								
KLR	**Kul'dur**	**60.86**	**13**		LR	LR	00 57 15.5		
	comp=Z,50nm,18.8s,baz=239,slow=38								
MK31	**Makanchi Array**	**63.14**	**336**		P	**P**	**00 29 16.5**	**0.0**
MKAR	**Makanchi Array**	**63.14**	**336**		P	**P**	**00 29 17.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=146,slow=7.2,SNR=8.2 comp=Z,0.3nm,0.4s								
MKAR	**Makanchi Array**	**63.14**	**336**		P	**P**	**00 29 16.3**	**-0.2**
ZALV	**Zalesovo Beam**	**68.23**	**342**		P	**P**	**00 29 48.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=166,slow=7.5,SNR=1.6 comp=Z,0.2nm,0.3s								
ABKAR	**Akbulak array**	**75.54**	**327**		P	**P**	**00 30 32.5**	**-0.7**
ABKAR	**Akbulak array**	**75.54**	**327**		P	**P**	**00 30 32.6**	**-0.5**
ABKAR					IAmb	IAmb	00 30 41.4		
	comp=Z,1.7nm,0.8s								
QSPA	**South Pole Qui**	**80.14**	**180**		P	**P**	**00 31 00.2**	**+1.5**
QSPA					IAmb	IAmb	00 31 13.6		
	comp=Z,3.4nm,1.4s								

*VAO **20** 00:48:59.8±0.7,17˚.52S×70˚.45W,h108km,mb4.0*
*NEIC **20** 00:49:00.4±1.5,17˚.62S±0˚.04×70˚.50W±0˚.06,h107km±7km, mb4.2/16,ML4.3(ARE),Error ellipse: s-maj=9.8km s-min=4.3km az=59.0*
*IDC **20** 00:49:01.3±2.1,17˚.65S×70˚.24W,h112km±18km,mb3.6/10, mbtmp4.0/13,Error ellipse: s-maj=24.5km s-min=12.5km az=100.0*

ISC 20 00:48:59.4±0.5**, 17˚.53S**±0˚.05×**70˚.39W**±0˚.07**, h95**km**, n102,** σ1s**76/99, mb3.9**/13**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.84**	**177**			**Pn**	**00 49 19.6**	**+1.8**
AP01					Sn	**Sn**	**00 49 33.7**	**+2.2**
PB12	**IPOC Station P**	**1.08**	**177**			**Pn**	**00 49 21.4**	**+0.8**
PB12					Sn	**Sn**	**00 49 37.7**	**+1.3**
PB16	**IPOC Station P**	**1.16**	**134**			**Pn**	**00 49 24.2**	**+2.2**
PB16					Sn	**Sn**	**00 49 41.5**	**+2.7**
MNMC	**Minye Minye**	**1.76**	**155**			**Pn**	**00 49 30.3**	**+1.2**
PSGCX	**Pisagua**	**2.07**	**173**		Pn	**Pn**	**00 49 33.3**	**+0.4**
PB11	**IPOC Station P**	**2.33**	**163**		Pn	**Pn**	**00 49 36.9**	**+0.6**
GO01	**Chusmiza**	**2.41**	**152**			**Pn**	**00 49 40.3**	**+2.6**
LPAZ	**La Paz**	**2.49**	**61**	P		**Pn**	**00 49 42.5**	**+3.7**
	249nm,0.5s,baz=247,slow=9.2,SNR=1316								
LPAZ	**La Paz**	**2.49**	**61**		Pn	**Pn**	**00 49 42.7**	**+3.9**
TA02	**Huaiquique**	**2.74**	**175**			**Pn**	**00 49 41.7**	**+0.1**
PB08	**IPOC Station P**	**2.85**	**156**			**Pn**	**00 49 45.4**	**+1.9**
TA01	**Diego Aracena**	**3.03**	**176**		Pn	**Pn**	**00 49 45.7**	**+0.3**
PATCX	**Punta Patacha**	**3.28**	**176**			**Pn**	**00 49 48.8**	**-0.1**
PB01	**IPOC Station P**	**3.60**	**166**			**Pn**	**00 49 53.1**	**-0.1**
PB02	**IPOC Station P**	**3.80**	**173**			**Pn**	**00 49 56.0**	**0.0**
PB07	**IPOC Station P**	**4.20**	**174**			**Pn**	**00 50 01.6**	**+0.1**
PB09	**IPOC Station P**	**4.38**	**166**		Pn	**Pn**	**00 50 04.9**	**+1.0**
PB03	**IPOC Station P**	**4.54**	**173**			**Pn**	**00 50 05.7**	**-0.3**
PB04	**IPOC Station P**	**4.79**	**177**		Pn	**Pn**	**00 50 08.7**	**-0.7**
PB06	**IPOC Station P**	**5.21**	**172**			**Pn**	**00 50 14.5**	**-0.6**
LVC	**Limon Verde**	**5.24**	**165**	P		**Pn**	**00 50 16.5**	**+0.7**
	9.0nm,0.3s,baz=344,slow=9.3,SNR=33								
LVC					S	**Sn**	**00 51 11.5**	**-3.6**
	58nm,0.3s,baz=223,slow=23,SNR=33								
LVC	**Limon Verde**	**5.24**	**165**			**Pn**	**00 50 16.7**	**+0.9**
LVC	**Limon Verde**	**5.24**	**165**	*eP*		**Pn**	**00 50 16.7**	**+0.9**
PB15	**IPOC Station P**	**5.72**	**171**	Pn		**Pn**	**00 50 21.5**	**-0.5**
PB10	**IPOC Station P**	**5.96**	**181**			**Pn**	**00 50 23.5**	**-1.6**
PB14	**IPOC Station P**	**7.06**	**180**			**Pn**	**00 50 38.4**	**-2.1**
GO02	**Mina Guanaco**	**7.63**	**175**			**Pn**	**00 50 46.9**	**-1.4**
AC01	**Pan de Azucar**	**8.58**	**181**	Pn		**Pn**	**00 50 58.0**	**-2.9**
ETMB	**Extrema**	**8.67**	**28**	Pn		**Pn**	**00 51 02.2**	**0.0**
ETMB	**Extrema**	**8.67**	**28**	*eP*		**Pn**	**00 51 02.2**	**0.0**
SIV	**San Ignacio**	**9.05**	**82**	P		**Pn**	**00 51 06.8**	**-0.6**
	14nm,0.5s,baz=270,slow=9.4,SNR=109								
AC02	**Maricunga**	**9.34**	**173**	Pn		**Pn**	**00 51 10.2**	**-1.3**
AC06	**Mina Casimiro**	**9.78**	**180**	Pn		**Pn**	**00 51 14.4**	**-2.8**
VILB	**Vilhena**	**10.83**	**67**	Pn		**Pn**	**00 51 31.7**	**0.0**
PTLB	**Pontes e Lacer**	**10.99**	**81**	Pn		**Pn**	**00 51 33.5**	**-0.2**
PTLB	**Pontes e Lacer**	**10.99**	**81**	*eP*		**Pn**	**00 51 33.7**	**0.0**
AC05	**El Transito**	**11.26**	**179**	Pn		**Pn**	**00 51 33.7**	**-3.7**
SALV	**Santo Antonio**	**14.17**	**86**	*eP*		**Pn**	**00 52 17.7**	**+1.9**
AQDB	**Aquiduana**	**14.20**	**104**	*eP*		**Pn**	**00 52 17.4**	**+1.2**
PDRB	**Porto dos Gac**	**14.47**	**68**	*eP*		**Pn**	**00 52 18.2**	**-1.5**
CLDB	**Colider**	**15.61**	**67**	*eP*		**Pn**	**00 52 35.0**	**+0.8**
MT09	**Talagante**	**16.19**	**182**	P		**P**	**00 52 41.6**	**-1.3**
MT09					IAmb	IAmb	00 53 08.6		
	comp=Z,12nm,1.3s								
MT01	**Popeta**	**16.29**	**183**			**P**	**00 52 42.4**	**-1.4**
BO01	**Tunca**	**16.80**	**182**			**Pn**	**00 52 47.7**	**-1.2**
MACA	**Manacapuru-AM**	**17.16**	**35**	P		**Pn**	**00 52 53.5**	**0.0**
MACA					IAmb	IAmb	00 52 54.2		
	comp=Z,15nm,0.3s								
MACA	**Manacapuru-AM**	**17.16**	**35**	*eP*		**Pn**	**00 52 53.3**	**-0.1**
ITQB	**Itaqui**	**17.45**	**136**	*eP*		**P**	**00 52 55.4**	**-1.3**
H03N1	**Juan Fernandez**	**17.60**	**204**	P		**Pn**	**00 53 02.7**	**+4.4**
	baz=110,slow=13,SNR=13								
H03N1					T	T	01 10 46.7		
	baz=27,slow=73,SNR=366								
H03N2	**Juan Fernandez**	**17.61**	**204**	P		**Pn**	**00 53 03.3**	**+4.9**
	baz=110,slow=13,SNR=7.2								
H03N2					T	T	01 10 46.4		
	baz=27,slow=73,SNR=30								
SGCB	**São Gabriel d**	**17.61**	**11**	*eP*		**P**	**00 52 57.9**	**-0.6**
H03N3	**Juan Fernandez**	**17.62**	**204**	P		**Pn**	**00 53 02.8**	**+4.2**
	baz=110,slow=13,SNR=16								
H03N3					T	T	01 10 45.4		
	baz=27,slow=73,SNR=304								
H03S3	**Juan Fernandez**	**17.94**	**204**	P		**Pn**	**00 53 06.9**	**+4.5**
	baz=184,slow=75,SNR=5.8								
H03S1	**Juan Fernandez**	**17.95**	**204**	P		**Pn**	**00 53 07.2**	**+4.6**
	baz=184,slow=75,SNR=4.6								
H03S2	**Juan Fernandez**	**17.95**	**204**	P		**Pn**	**00 53 08.1**	**+5.5**
	baz=184,slow=75,SNR=6.8								
NPGB	**Nova Progresso**	**17.99**	**56**	*eP*		**P**	**00 53 03.0**	**+0.2**
CRSM	**Crissiumal (Br**	**18.05**	**126**	*eP*		**P**	**00 53 03.2**	**-0.1**
PTGB	**Pitanga**	**18.52**	**116**	*eP*		**Pn**	**00 53 09.2**	**-0.7**
SNDB	**Serra Nova Dou**	**19.27**	**76**	*eP*		**P**	**00 53 16.3**	**-0.4**
ITTB	**Itaituba**	**19.42**	**49**	*eP*		**P**	**00 53 17.6**	**-0.7**
ITAB	**Concordia**	**19.43**	**123**	P		**P**	**00 53 17.1**	**-1.2**
ITAB					IAmb	IAmb	00 53 19.7		
	comp=Z,32nm,1.4s								
ITAB	**Concordia**	**19.43**	**123**	*eP*		**P**	**00 53 18.1**	**-0.3**
PLTB	**Pedras Altas**	**20.78**	**136**	P		**P**	**00 53 31.4**	**-1.6**
PLTB					IAmb	IAmb	00 53 32.6		
	comp=Z,6.2nm,0.7s								
PLTB	**Pedras Altas**	**20.78**	**136**	*eP*		**P**	**00 53 32.0**	**-1.0**
IPMB	**Ipameri, GO**	**21.13**	**95**	*eP*		**P**	**00 53 37.3**	**+0.5**
BDFB	**Brasilia**	**21.52**	**88**	P		**P**	**00 53 41.8**	**+0.7**
	comp=Z,3.5nm,0.4s,baz=269,slow=8.9,SNR=14 comp=Z,3.5nm,0.4s								
BDFB	**Brasilia**	**21.52**	**88**	P		**P**	**00 53 41.8**	**+0.7**
BDFB					IAmb	IAmb	00 53 51.1		
	comp=Z,9.5nm,1.3s								
BDFB	**Brasilia**	**21.52**	**88**	*eP*		**P**	**00 53 41.0**	**-0.1**
TRQA	**Tornquist**	**21.74**	**162**	P		**P**	**00 53 43.3**	**+0.1**
GO06	**Curarrehue**	**22.00**	**182**	P		**P**	**00 53 44.7**	**-1.3**
GO06					IAmb	IAmb	00 53 48.7		
	comp=Z,4.8nm,0.8s								
BOAV	**Boa Vista**	**22.06**	**27**	P		**P**	**00 53 46.0**	**-0.7**
BOAV					IAmb	IAmb	00 53 48.8		
	comp=Z,6.3nm,0.8s								
BOAV	**Boa Vista**	**22.06**	**27**	*eP*		**P**	**00 53 46.5**	**-0.2**
MALB	**Monte Alegre**	**22.22**	**47**	*eP*		**P**	**00 53 47.9**	**-0.4**
PLCA	**Paso Flores**	**23.12**	**180**	P		**P**	**00 53 57.8**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=351,slow=9.9,SNR=14 comp=Z,3.0nm,0.8s								
PLCA	**Paso Flores**	**23.12**	**180**	P		**P**	**00 53 57.3**	**-0.1**
MCPB	**Macapa, AP**	**24.83**	**49**	*eP*		**P**	**00 54 12.4**	**-0.6**
SDBA	**SAO DESIDERIO**	**25.13**	**82**	*eP*		**P**	**00 54 15.7**	**-0.2**
JANB	**Januaria**	**25.14**	**88**	*eP*		**P**	**00 54 15.8**	**-0.2**
BAUV	**El Baul**	**26.41**	**5**	P		**P**	**00 54 26.8**	**-0.5**
BAUV					IAmb	IAmb	00 54 28.3		
	comp=Z,12nm,1.0s								
MDP	**Montagnes des**	**28.51**	**40**	P		**P**	**00 54 44.9**	**-1.2**
	comp=Z,4.2nm,0.8s,baz=209,slow=4.4,SNR=7.2 comp=Z,4.2nm,0.8s								
CRPR	**Cabo Rojo, PR**	**35.46**	**5**	P		**P**	**00 55 47.1**	**+0.3**
CELP	**Cerrillos**	**35.58**	**6**	P		**P**	**00 55 48.1**	**+0.3**
TXAR	**Lajitas Array**	**56.59**	**325**	P		**P**	**00 58 32.8**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=134,slow=7.7,SNR=2.2 comp=Z,0.3nm,0.8s								
SNAA	**Sanae**	**66.47**	**161**	P		**P**	**00 59 37.7**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=279,slow=8.3,SNR=8.7 comp=Z,0.9nm,0.7s								
SNAA	**Sanae**	**66.47**	**161**	P		**P**	**00 59 38.3**	**-0.2**
DBIC	**Dimbokro**	**69.02**	**76**	P		**P**	**00 59 54.2**	**-1.2**
	comp=Z,5.5nm,1.1s,baz=272,slow=6.8,SNR=5.0 comp=Z,5.5nm,1.1s								
DBIC	**Dimbokro**	**69.02**	**76**	P		**P**	**00 59 54.4**	**-1.0**
DBIC					IAmb	IAmb	00 59 58.9		
	comp=Z,7.1nm,1.1s								
PDAR	**Pinedale Array**	**69.99**	**330**	P		**P**	**01 00 02.6**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=121,slow=8.8,SNR=2.0 comp=Z,0.2nm,0.4s								
QSPA	**South Pole Qui**	**72.64**	**180**	P		**P**	**01 00 17.0**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=207,slow=3.4,SNR=1.6 comp=Z,1.0nm,0.6s								
ESDC	**Sonseca Array**	**84.02**	**45**	P		**P**	**01 01 18.1**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=233,slow=6.1,SNR=1.9 comp=Z,0.6nm,1.0s								
YKA	**Yellowknife Ar**	**87.00**	**341**	P		**P**	**01 01 34.3**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=137,slow=4.7,SNR=6.8 comp=Z,1.4nm,0.7s								
H11N3	**WAKE ISLAND Hyd**	**25.88**	**282**	T		T	03 26 06.2		
	baz=98,slow=75,SNR=4.4								
H11N2	**WAKE ISLAND Hyd**	**25.89**	**282**	T		T	03 26 04.4		
	baz=98,slow=75,SNR=5.2								
H11N1	**WAKE ISLAND Hyd**	**25.89**	**282**	T		T	03 26 02.3		
	baz=98,slow=75,SNR=3.8								
H11S2	**WAKE ISLAND Hyd**	**25.89**	**280**	T		T	03 26 12.5		
	baz=100								
H11S1	**WAKE ISLAND Hyd**	**25.90**	**280**	T		T	03 26 13.2		
	baz=100,slow=74								
H11S3	**WAKE ISLAND Hyd**	**25.91**	**280**	T		T	03 26 12.5		
	baz=100,slow=74								
ASAR	**Alice Springs**	**132.68**	**211**	PKP		**PKPdf**	**01 08 03.9**	**-0.2**	
	comp=Z,0.4nm,0.6s,baz=133,slow=1.9,SNR=2.4								
ZALV	**Zalesovo Beam**	**138.89**	**22**	PKP		**PKPdf**	**01 08 14.9**	**+0.4**	
	comp=Z,0.4nm,0.5s,baz=307,slow=0.7,SNR=2.2								
MKAR	**Makanchi Array**	**143.12**	**32**	PKP	PKPbc		01 08 20.1	+0.6	
	comp=Z,1.4nm,1.1s,baz=317,slow=2.8,SNR=2.0								
MJAR	**Matsushiro Arr**	**148.44**	**313**	PKPbc		**PKPbc**	**01 08 34.2**	**-1.2**	
	comp=Z,0.9nm,0.6s,baz=124,slow=1.8,SNR=2.6								
SONM	**Songino Array**	**149.66**	**4**	PKPbc		**PKiKP**	**01 08 39.0**	**-0.2**	
	comp=Z,0.7nm,0.6s,baz=337,slow=0.5,SNR=4.3								
PZH	**PanZhiHua**	**168.47**	**38**	PKP		**PKPdf**	**01 08 53.3**	**-2.6**	

*IDC **20** 00:51:25.4±0.9,44˚.10S×39˚.18E,h0km,mb4.1/8, mbtmp4.1/9,ML3.4/1,MS4.0/22,Error ellipse: s-maj=32.9km s-min=19.9km az=65.0*

ISC 20 00:51:26.7±0.8**, 44˚.1S**±0˚.1×**39˚.2E**±0˚.2**, h10**km**, n35,** σ0s**95/11, mb4.1/8, MS4.1/23, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.51**	**303**		LR	LR	01 01 33.6	
	comp=Z,201nm,21.5s,baz=148,slow=33							
BOSA	**Boshof**	**19.04**	**320**	P		**P**	**00 55 48.5**	**-0.5**
	0.1nm,0.3s,baz=172,slow=14,SNR=3.9							
BOSA					LR	LR	01 01 46.9	
	comp=Z,388nm,21.2s,baz=148,slow=33 8.1nm,1.1s							
LBTB	**Lobatse**	**22.02**	**325**	P		**P**	**00 56 21.3**	**0.0**
	4.3nm,1.0s,baz=137,slow=19,SNR=2.5							
LBTB					LR	LR	01 03 47.6	
	comp=Z,299nm,18.4s,baz=156,slow=34 4.3nm,1.0s							
MAW	**Mawson**	**26.71**	**160**	LR		LR	01 05 09.1	
	comp=Z,227nm,21.9s,baz=318,slow=31							
LSZ	**Lusaka**	**30.21**	**339**	P		**P**	**00 57 38.6**	**+1.1**
	0.8nm,0.3s,baz=140,slow=7.9,SNR=1.1							
LSZ					LR	LR	01 08 45.1	
	comp=Z,193nm,18.4s,baz=174,slow=34 0.8nm,0.3s							
TSUM	**Tsumeb**	**30.69**	**317**	LR		LR	01 09 08.6	
	comp=Z,244nm,18.6s,baz=148,slow=35							
SNAA	**Sanae**	**34.18**	**202**	P		**P**	**00 58 12.3**	**+0.5**
	3.2nm,1.0s,baz=62,slow=5.7,SNR=5.5 3.2nm,1.0s							
KMBO	**Kilima Mbogo**	**42.82**	**357**	LR		LR	01 14 37.7	
	comp=Z,276nm,21.3s,baz=96,slow=32							
MBAR	**Mbarara**	**43.95**	**348**	LR		LR	01 17 37.1	
	comp=Z,305nm,18.1s,baz=152,slow=36							
QSPA	**South Pole Qui**	**46.11**	**180**	P		**P**	**00 59 50.8**	**0.0**
	6.2nm,1.1s,baz=248,slow=6.0,SNR=7.5 6.2nm,1.1s							
VNDA	**Vanda**	**53.69**	**167**	P		**P**	**01 00 48.3**	**+0.3**
	2.0nm,1.2s,baz=252,slow=10.0,SNR=4.1 2.0nm,1.2s							
PMSA	**Palmer Station**	**56.21**	**210**	LR		LR	01 19 20.3	
	comp=Z,148nm,21.2s,baz=89,slow=30							
**H10

MRKS					S		Sg	00 52 58.6	+1.2
	37nm,0.4s								
EKS2	**Erkin-Say**	1.88		31	⇓*i*P		Pg	00 52 36.1	-0.1
	baz=32								
EKS2					⇓*i*S		Sg	00 53 01.9	+1.3
	baz=32								
UCH	**Uchtor**	1.93		52	⇑*i*P		Pg	00 52 37.4	+0.2
	baz=52								
UCH					⇑*i*S		Sg	00 53 04.2	+1.8
	baz=52								
DZA	**Taraz**	2.01	336		*e*P		Pg	00 52 38.3	-0.4
	baz=37								
DZA					*e*S		Sg	00 53 05.7	+0.8
	baz=37								
DZA	**Taraz**	2.01	336		*e*P		Pg	00 52 38.3	-0.4
	17nm,0.1s								
DZA					*e*S		Sg	00 53 05.6	+0.8
	36nm,0.3s								
DZA	**Taraz**	2.01	336		Pg		Pg	00 52 38.3	-0.4
	17nm,0.1s								
DZA					Lg		Lg	00 53 05.6	
	36nm,0.3s								
IUG	**Iuzhnay**	2.12	302		*e*P		Pg	00 52 40.0	-0.8
	7.3nm,0.3s								
IUG					*e*S		Sg	00 53 08.7	+0.5
	75nm,0.3s								
IUG	**Iuzhnay**	2.12	302		Pg		Pg	00 52 40.0	-0.8
	7.3nm,0.3s								
IUG					Lg		Lg	00 53 08.7	
	75nm,0.3s								
KK31	**Karatay Array**	2.50	325		⇓Pn		Pb	00 52 44.4	-0.1
	1.2nm,0.5s,baz=134,slow=13,SNR=29								
KK31					⇓Lg		Lg	00 53 19.8	
	1.9nm,0.3s,baz=137,slow=30,SNR=12								
KKAR	**Karatay Array**	2.50	325		⇑*e*P		Pb	00 52 44.5	0.0
	baz=26								
KKAR					⇑*i*S		Sb	00 53 16.4	+1.4
	baz=26								
CHMS	**Chumysh**	2.58		41	⇑Pg		Pg	00 52 49.6	0.0
	2.1nm,0.5s								
CHMS					⇑Lg		Lg	00 53 22.9	
	7.6nm,0.7s								
GAR	**Garm**	2.64	219		⇑*i*P		Pb	00 52 45.8	-1.1
	baz=19								
GAR					⇑*i*S		Sb	00 53 18.7	-0.3
	baz=19								
SGDS	**Sogindy**	2.88		33	*e*P		Pg	00 52 54.1	-1.2
	1.9nm,0.4s								
SGDS					*e*S		Sg	00 53 32.8	+0.1
	5.1nm,0.4s								
SGDS	**Sogindy**	2.88		33	Pg		Pg	00 52 54.1	-1.2
	1.9nm,0.4s								
SGDS					Lg		Lg	00 53 32.8	
	5.1nm,0.4s								
TKM2	**Tokmak 2**	2.99		51	⇑Pn		Pb	00 52 52.6	-0.3
	2.3nm,0.7s								
TKM2					⇑Lg		Lg	00 53 36.0	
	3.2nm,0.5s								
KST	**Kastek**	3.27		52	*e*P		Pg	00 53 01.4	-1.4
	1.4nm,0.1s								
KST					*e*S		Sg	00 53 45.5	+0.2
	6.8nm,0.4s								
KST	**Kastek**	3.27		52	Pg		Pg	00 53 01.4	-1.4
	1.4nm,0.1s								
KST					Lg		Lg	00 53 45.5	
	6.8nm,0.4s								
DGS	**Degeres**	3.29		47	*e*P		Pg	00 53 01.6	-1.5
	1.3nm,0.5s								
DGS					*e*S		Sg	00 53 45.8	+0.1
	3.7nm,0.6s								
DGS	**Degeres**	3.29		47	Pg		Pg	00 53 01.6	-1.5
	1.3nm,0.5s								
DGS					Lg		Lg	00 53 45.8	
	3.7nm,0.6s								
KRBS	**Karabastau**	3.55		41	*e*P		Pg	00 53 05.6	-2.5
	0.7nm,0.4s								
KRBS					*e*S		Sg	00 53 52.5	-1.6
	2.0nm,0.5s								
KRBS	**Karabastau**	3.55		41	Pg		Pg	00 53 05.6	-2.5
	0.7nm,0.4s								
KRBS					Lg		Lg	00 53 52.5	
	2.0nm,0.5s								
KTBS	**Karatobe**	4.10		48	*e*P		Pg	00 53 16.1	-2.4
	0.4nm,0.2s								
KTBS					*e*S		Sg	00 54 10.6	-1.0
	4.1nm,0.3s								
KTBS	**Karatobe**	4.10		48	Pg		Pg	00 53 16.1	-2.4
	0.4nm,0.2s								
KTBS					Lg		Lg	00 54 10.6	
	4.1nm,0.3s								
BTLS	**Baital**	4.14		16	*e*P		Pg	00 53 18.4	-1.0
	0.8nm,0.2s								
BTLS					*e*S		Sg	00 54 14.7	+1.6
	3.7nm,0.4s								
BTLS	**Baital**	4.14		16	Pg		Pg	00 53 18.4	-1.0
	0.8nm,0.2s								
BTLS					Lg		Lg	00 54 14.7	
	3.7nm,0.4s								

WEL 20 00:53:48.3±0.8, 42°S±3°×17°4E±°, h5km, M2.9/13, ML3.0/7, MLv2.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=105.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	0.18	241	P	Pg	00 53 52.3	+0.4
KHZ				S	Sg	00 53 56.1	+1.8
GVZ	**Greta Valley S**	0.83	219	P	Pg	00 54 04.5	+0.2
GVZ				S	Sb	00 54 16.9	+0.2
THZ	**Tophouse**	0.85	312	P	Pg	00 54 04.6	+0.1
AMCZ	**Amberley**	1.17	223	P	Pg	00 54 09.4	-1.5
LTZ	**Lake Taylor**	1.19	247	P	Pg	00 54 09.6	-1.4
OKCZ	**Okains Bay**	1.48	200	P	Pn	00 54 12.5	-3.2
DSZ	**Denniston Nort**	1.56	291	P	Pn	00 54 17.0	+0.2
MQZ	**McQueen's Vall**	1.60	210	P	Pn	00 54 13.6	-3.6
OXZ	**Oxford**	1.61	231	P	Pn	00 54 14.5	-2.8
AKCZ	**Akaroa Harbour**	1.66	201	P	Pn	00 54 15.1	-3.1
INZ	**Inchbonnie**	1.75	256	P	Pn	00 54 18.0	-1.4
RACZ	**Rakaia**	1.83	220	P	Pn	00 54 17.2	-3.2
MHCZ	**Mount Hutt**	2.01	232	P	Pn	00 54 19.8	-3.0
WACZ	**Wakanui South**	2.14	220	P	Pn	00 54 21.7	-3.0
ARCZ	**Arundel**	2.48	228	P	Pn	00 54 26.6	-2.8
DVHZ	**Dannevirke**	2.72	43	P	Pn	00 54 33.1	+0.4
TMZ	**Timaru**	2.87	223	P	Pn	00 54 31.9	-2.8
WNVZ	**Wahianoa**	3.31	26	P	Pn	00 54 41.4	+0.5

WEL 20 00:53:52.9±0.4, 42°S±3°×17°4E±°, h11km±2km, M2.6/19, ML2.9/16, MLv2.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=22.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	0.09	64	P	Pg	00 53 56.4	+0.8
CMWZ				S	Sg	00 53 59.3	+1.9
BSWZ	**Blackbirch Sta**	0.18	294	P	Pb	00 53 57.6	-0.7
BSWZ				S	Sg	00 54 01.2	+1.6
TUWZ	**Tuamarina**	0.38	342	P	Pb	00 54 01.1	-0.5
TCW	**Tory Channel**	0.59	13	P	Pg	00 54 04.6	+0.2
WEL	**Wellington**	0.71	45	P	Pb	00 54 07.4	+0.1
NNZ	**Nelson**	0.79	316	P	Pb	00 54 08.5	-0.1
PLWZ	**Palliser**	0.89	76	P	Pg	00 54 10.2	+0.1
MSWZ	**Moikau Station**	0.94	67	P	Pb	00 54 11.2	0.0
CAW	**Cannon Point**	1.00	47	P	Pb	00 54 12.3	+0.2
DUWZ	**D'Urville Isla**	1.00	352	P	Pg	00 54 11.9	-0.2
PAWZ	**Paruwai Farm**	1.08	68	P	Pb	00 54 12.9	-0.7
MRNZ	**Matariki Terra**	1.08	291	P	Pn	00 54 14.6	+0.6
KIW	**Kapiti Island**	1.11	34	P	Pb	00 54 13.9	-0.2
TKNZ	**Takaka Hill**	1.14	311	P	Pg	00 54 15.0	+0.1
TKNZ	**Takaka Hill**	1.14	311	P	Pg	00 54 14.9	0.0
MTW	**Mount Morrison**	1.23	60	P	Pn	00 54 14.9	-1.1
OGWZ	**Otaki Gorge**	1.26	40	P	Pn	00 54 16.2	-0.2
HOWZ	**Holdsworth Sta**	1.39	51	P	Pn	00 54 17.3	-0.9
TMWZ	**Te Maipa**	1.51	64	P	Pn	00 54 18.4	-1.5
QRZ	**Quartz Range**	1.53	309	P	Pn	00 54 19.8	-0.3
MRZ	**Mangatainoka R**	1.59	45	P	Pn	00 54 20.2	-0.7

*SOME **20** 00:54:43.6, 41°.88N×81°.58E, h10km*
*NNC **20** 00:54:45.9±0.7, 41°.85N×81°.46E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=5.5km s-min=3.6km az=161.0*
ISC 20 00:54:48.4±1.9, 41°.91N±0°.09×81°.26E±0°.06, h10km, n44, σ2§11/68, 6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	1.82	314	*e*P	Pn	00 55 17.7	-2.2
	12nm,0.1s						
SHLS				*e*S	Sn	00 55 42.5	-0.5
	47nm,0.3s						
SHLS	**Shalkode**	1.82	314	P	Pn	00 55 17.7	-2.2
	12nm,0.1s						
SHLS				S	Sn	00 55 42.5	-0.5
	47nm,0.3s						
PDGK	**Podgornoye**	1.92	318	Pg	Pb	00 55 23.1	-0.5
	8.3nm,0.3s						
PDGK				Lg	Lg	00 55 51.6	
PDGK	**Podgornoye**	1.92	318	⇓Pn	Pb	00 55 22.8	-0.8
	22nm,0.8s						
PDGK				⇑Sn	Sg	00 55 50.6	+0.4
	84nm,0.6s						
UZB	**Uzynbulak**	2.06	307	*e*P	Pb	00 55 26.1	+0.2
	7.2nm,0.2s						
UZB				*e*S	Sg	00 55 56.5	+1.8
	32nm,0.2s						
UZB	**Uzynbulak**	2.06	307	Pg	Pb	00 55 26.1	+0.2
	7.2nm,0.2s						
UZB				Lg	Lg	00 55 56.5	
	32nm,0.2s						
ZHN	**Zhinishke**	2.43	302	*e*P	Pb	00 55 32.9	+0.6
	14nm,0.3s						
ZHN				*e*S	Sg	00 56 08.3	+1.7
	26nm,0.3s						
ZHN	**Zhinishke**	2.43	302	Pg	Pb	00 55 32.9	+0.6
	14nm,0.3s						
ZHN				Lg	Lg	00 56 08.3	
	26nm,0.3s						
KPKS	**Kokpek**	2.45	310	*e*P	Pb	00 55 33.0	+0.4
	12nm,0.2s						
KPKS				*e*S	Sg	00 56 08.3	+1.2
	62nm,0.2s						
KPKS	**Kokpek**	2.45	310	Pg	Pb	00 55 33.0	+0.4
	12nm,0.2s						
KPKS				Lg	Lg	00 56 08.3	
	62nm,0.2s						
DJR	**Jarkent**	2.64	337	*e*P	Pb	00 55 35.6	-0.3
	4.4nm,0.3s						
DJR				*e*S	Sg	00 56 12.9	-0.4
	35nm,0.3s						
DJR	**Jarkent**	2.64	337	Pg	Pb	00 55 35.6	-0.3
	4.4nm,0.3s						
DJR				Lg	Lg	00 56 12.9	
	35nm,0.3s						
KURS	**Kuram**	2.77	306	*e*P	Pb	00 55 38.3	+0.3
	8.7nm,0.7s						
KURS				*e*S	Sg	00 56 17.5	+0.3
	18nm,0.8s						
KURS	**Kuram**	2.77	306	Pg	Pb	00 55 38.3	+0.3
	8.7nm,0.7s						
KURS				Lg	Lg	00 56 17.5	
	18nm,0.8s						
MDOK	**Medeo**	3.35	293	*e*P	Pg	00 55 49.7	-2.9
	6.4nm,0.8s						
MDOK				*e*S	Sg	00 56 37.2	+1.2
	16nm,0.7s						
MDOK	**Medeo**	3.35	293	Pg	Pb	00 55 48.8	+0.8
	5.5nm,0.6s						
MDOK				Pg	Pg	00 55 49.7	-2.9
	6.4nm,0.8s						
MDOK				Lg	Lg	00 56 37.2	
	16nm,0.7s						
MDOK				⇓Lg	Lg	00 56 37.4	
	20nm,0.8s						
TNSS	**Tian-Shan**	3.38	291	*e*P	Pg	00 55 50.6	-2.6
	3.1nm,0.4s						
TNSS				*e*S	Sg	00 56 38.6	+1.6
	11nm,0.4s						
TNSS	**Tian-Shan**	3.38	291	Pg	Pg	00 55 50.6	-2.6
	3.1nm,0.4s						
TNSS				Lg	Lg	00 56 38.6	
	11nm,0.4s						
ARXS	**Arharly**	3.41	314	*e*P	Pb	00 55 50.0	+1.1
	5.8nm,0.3s						
ARXS				*e*S	Sg	00 56 37.8	+0.1
	28nm,0.6s						
ARXS	**Arharly**	3.41	314	Pg	Pb	00 55 50.0	+1.1
	5.8nm,0.3s						
ARXS				Lg	Lg	00 56 37.8	
	28nm,0.6s						
AAA	**Alma-Ata**	3.46	293	*e*P	Pg	00 55 52.1	-2.5
	15nm,0.2s						
AAA				*e*S	Sg	00 56 41.6	+2.2
	31nm,0.1s						
AAA	**Alma-Ata**	3.46	293	Pg	Pg	00 55 52.1	-2.5
	15nm,0.2s						
AAA				Lg	Lg	00 56 41.6	
	31nm,0.1s						
TDK	**Taldyqorghan**	3.72	327	*e*P	Pb	00 55 55.4	+1.3
	10nm,0.2s						
TDK				*e*S	Sg	00 56 46.9	-0.9
	32nm,0.4s						
TDK	**Taldyqorghan**	3.72	327	Pg	Pb	00 55 55.4	+1.3
	10nm,0.2s						
TDK				Lg	Lg	00 56 46.8	
	32nm,0.4s						
MTBS	**Maitube**	3.77	290	*e*P	Pg	00 55 57.6	-3.0
	3.1nm,0.2s						
MTBS				*e*S	Sg	00 56 50.7	+1.3
	7.5nm,0.3s						
MTBS	**Maitube**	3.77	290	Pg	Pg	00 55 57.6	-3.0
	3.1nm,0.2s						
MTBS				Lg	Lg	00 56 50.7	
	7.5nm,0.3s						
KTBS	**Karatobe**	3.81	300	*e*P	Pg	00 55 58.4	-3.1
	4.0nm,0.5s						
KTBS				*e*S	Sg	00 56 52.0	+1.2
	20nm,0.5s						
KTBS	**Karatobe**	3.81	300	Pg	Pg	00 55 58.4	-3.1
	4.0nm,0.5s						
KTBS				Lg	Lg	00 56 52.0	
	20nm,0.5s						
KST	**Kastek**	4.08	288	*e*P	Pg	00 56 03.0	-3.5
	4.8nm,0.3s						
KST				*e*S	Sg	00 57 00.1	+0.8
	12nm,0.6s						
KST	**Kastek**	4.08	288	Pg	Pg	00 56 03.0	-3.5
	4.8nm,0.3s						
KST				Lg	Lg	00 57 00.0	
	12nm,0.6s						
KUU	**Kurty**	4.12	300	*e*P	Pg	00 56 03.9	-3.3
	2.7nm,0.4s						
KUU				*e*S	Sg	00 57 01.8	+1.2
	8.9nm,0.7s						
KUU	**Kurty**	4.12	300	Pg	Pg	00 56 03.9	-3.3
	2.7nm,0.4s						
KUU				Lg	Lg	00 57 01.8	
	8.9nm,0.7s						
DGS	**Degeres**	4.26	290	*e*P	Pg	00 56 07.2	-2.8
	3.6nm,0.7s						
DGS				*e*S	Sg	00 57 07.4	+2.2
	6.8nm,0.3s						
DGS	**Degeres**	4.26	290	Pg	Pg	00 56 07.2	-2.8
	3.6nm,0.7s						
DGS				Lg	Lg	00 57 07.4	
	6.8nm,0.3s						
TKM2	**Tokmak 2**	4.31	285	⇑Pn	Pn	00 56 56.5	+2.3
	1.3nm,0.3s						
TKM2				⇓Lg	Lg	00 57 09.1	
	11nm,1.0s						
KRBS	**Karabastau**	4.48	295	*e*P	Pg	00 56 10.6	-3.5
	1.8nm,0.4s						
KRBS				*e*S	Sg	00 57 13.1	+1.0
	5.4nm,0.3s						
KRBS	**Karabastau**	4.48	295	Pg	Pg	00 56 10.6	-3.5
	1.8nm,0.4s						
KRBS				Lg	Lg	00 57 13.1	
	5.4nm,0.3s						
MAKZ	**Makanchi**	4.92	6	⇑Pn	Pn	00 56 02.3	-0.1
	0.4nm,0.1s						
MAKZ				⇑Sn	Sn	00 57 02.0	+2.6
	0.8nm,0.2s						
MAKZ				⇓Lg	Lg	00 57 23.6	
	0.8nm,0.2s						
MK31	**Makanchi Array**	4.93	8	Pn	Pn	00 56 01.2	-1.3
	1.3nm,0.6s,baz=184,slow=13,SNR=35						
MK31				⇑Pg	Pb	00 56 15.4	+0.5
	2.1nm,0.7s,baz=190,slow=16,SNR=2.7						
MK31				⇓Sn	Sn	00 57 01.3	+1.5
	5.6nm,0.8s,baz=189,slow=25,SNR=3.9						
MK31				⇑Lg	Lg	00 57 22.9	
	9.5nm,0.8s,baz=186,slow=30,SNR=4.7						
SGDS	**Sogindy**	5.12	290	*e*P	Pg	00 56 23.3	-3.2
	1.6nm,0.3s						
SGDS				*e*S	Sg	00 57 35.0	+2.3
	3.6nm,0.4s						
SGDS	**Sogindy**	5.12	290	Pg	Pg	00 56 23.3	-3.2
	1.6nm,0.3s						
SGDS				Lg	Lg	00 57 35.0	
	3.6nm,0.4s						
ZSN	**Zaisan**	6.10	24	*e*P	Pb	00 56 34.0	-0.7
	1.7nm,0.4s						
ZSN				*e*S	Sb	00 57 53.5	+5.7
	5.5nm,0.5s						
ZSN	**Zaisan**	6.10	24	Pg	Pb	00 56 34.0	-0.7
	1.7nm,0.4s						
ZSN				Lg	Lg	00 57 53.5	
	5.5nm,0.5s						
KK31	**Karatay Array**	8.03	282	⇓Lg	Lg	00 59 05.9	
	1.7nm,0.8s,baz=90,slow=26,SNR=3.6						

*IDC **20** 00:55:01.9±2.2, 6°.27S×150°.34E, h53km±21km, mb3.8/9, mbtmp4.2/12, ML3.1/2, MS3.8/25, Error ellipse: s-maj=25.1km s-min=15.6km az=108.0*
*NEIC **20** 00:55:01.6±1.4, 6°.25S±0°.10×150°.3E±0°.1, h47km±3km, mb4.6/17, Error ellipse: s-maj=19.9km s-min=8.4km az=130.0*
ISC 20 00:55:00.4±0.5, 6°26S±0°.07×150°.29E±0°.08, h35km, n77, σ1§40/63, mb4.4/18, MS3.8/22, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	2.60	42	P	Pn	00 55 41.2	+1.2
	355nm,0.4s,baz=31,slow=2.8,SNR=25						
KRVT				S	Sn	00 56 09.3	-1.2
	505nm,0.4s,baz=288,slow=12,SNR=6.5						
KRVT				LR	LR	00 56 32.8	
	comp=Z,364nm,19.8s,baz=352,slow=35						
RABL	**Rabaul**	2.78	42	Pn	Pn	00 55 43.2	+0.7
RABL				Sn	Sn	00 56 16.8	+2.0
PMG	**Port Moresby**	4.40	225	P	Pn	00 56 06.9	+2.1
	16nm,0.3s,baz=63,slow=4.0,SNR=26						
PMG				S	Sn	00 56 55.8	+1.0
	217nm,0.6s,baz=80,slow=23,SNR=12						
	69nm,0.5s						
PMG	**Port Moresby**	4.40	225	Pn	Pn	00 56 06.2	+1.5
PMG				Sn	Sn	00 56 51.9	-2.9
PMG	**Port Moresby**	4.40	225	P	Pn	00 56 07.5	+2.8
HNR	**Honiara**	10.07	109	LR	LR	01 00 44.7	
	comp=Z,3μm,20.9s,baz=282,slow=34						
COEN	**Coen**	10.37	222	Pn	Pn	00 57 27.1	+0.4
COEN	**Coen**	10.37	222	P	Pn	00 57 28.1	+1.4
MTSU	**Mount Surprise**	13.16	206	P	Pn	00 58 06.8	+1.9
CTA	**Charters Tower**	14.29	196	P	Pn	00 58 21.9	+1.5
	0.2nm,0.3s,baz=159,slow=7.6,SNR=1.8						
CTA				LR	LR	01 03 48.0	
	comp=Z,338nm,18.3s,baz=42,slow=37						
	5.5nm,1.0s						
CTAO	**Charters Tower**	14.29	196	Pn	Pn	00 58 19.2	-1.1
QIS	**Mount Isa**	17.59	215	P	P	00 59 05.0	+1.3
EIDS	**Eidsvold**	19.01	178	P	P	00 59 19.6	+0.3
EIDS				IAmb	IAmb	00 59 22.9	
	comp=Z,21nm,1.1s						
EIDS	**Eidsvold**	19.01	178	P	P	00 59 20.9	+1.6
MTN	**Manton Dam**	19.98	249	P	P	00 59 29.2	-0.7
MTN				IAmb	IAmb	00 59 31.2	
	comp=Z,26nm,0.8s						
RMQ	**Roma**	20.16	184	P	P	00 59 33.9	+2.0
GUMO	**Guam**	20.44	345	LR	LR	01 05 55.1	
	comp=Z,316nm,21.7s,baz=108,slow=32						
WB0	**Warramunga Arr**	20.46	228	P	P	00 59 35.0	-0.3
WRAB	**Tennant Creek**	20.60	227	P	P	00 59 37.1	+0.4
WB2	**Warramunga Arr**	20.61	227	P	P	00 59 36.5	-0.3
WB2				IAmb	IAmb	00 59 38.3	
	comp=Z,32nm,0.8s						
WRA	**Warramunga Arr**	20.61	227	P	P	00 59 37.1	+0.2
	comp=Z,20nm,0.5s,baz=50,slow=10,SNR=192						
WRA				PcP	PcP	01 03 45.7	-1.2
	comp=Z,0.7nm,0.9s,baz=56,slow=2.0,SNR=4.6						
WRA				LR	LR	01 08 06.1	
	comp=Z,261nm,18.9s,baz=45,slow=38						
	comp=Z,20nm,0.5s						
WRA	**Warramunga Arr**	20.61	227	P	P	00 59 35.6	-1.3
QLP	**Quilpie**	21.02	195	P	P	00 59 42.9	+1.8
DZM	**Mont Dzumac**	22.15	137	P	P	00 59 53.5	0.0
	comp=Z,8.1nm,0.8s,baz=226,slow=21,SNR=6.6						
	comp=Z,8.1nm,0.8s						
DZM	**Mont Dzumac**	22.15	137	P	P	00 59 53.4	0.0
DZM				IAmb	IAmb	00 59 54.9	
	comp=Z,56nm,1.5s						
DZM	**Mont Dzumac**	22.15	137	P	P	00 59 54.1	+0.7
KNRA	**Kununurra**	23.09	244	P	P	01 00 02.2	-1.1
KNRA	**Kununurra**	23.09	244	P	P	01 00 03.2	-0.1
AS31	**Alice Springs**	23.40	221	P	P	01 00 06.2	-0.2
ASAR	**Alice Springs**	23.40	221	P	P	01 00 06.2	-0.2
	comp=Z,5.1nm,0.7s,baz=57,slow=9.0,SNR=42						
ASAR				PcP	PcP	01 03 51.5	-0.9
	comp=Z,0.6nm,0.8s,baz=57,slow=3.4,SNR=1.9						
ASAR				S	S	01 04 20.3	+2.9
	comp=Z,2.0nm,1.1s,baz=45,slow=26,SNR=5.2						
ASAR				LR	LR	01 09 20.9	
	comp=Z,242nm,20.7s,baz=38,slow=37						
	comp=Z,5.1nm,0.7s						
ASAR	**Alice Springs**	23.40	221	P	P	01 00 05.8	-0.7
ARMA	**Armidale**	24.06	177	P	P	01 00 12.1	-0.5
ARMA				IAmb	IAmb	01 00 15.7	
	comp=Z,36nm,1.3s						
ARMA	**Armidale**	24.06	177	P	P	01 00 13.9	+1.3
OOD	**Oodnadatta**	25.51	211	P	P	01 00 25.9	+0.2
CMSA	**Cobar Meteorol**	25.51	189	P	P	01 00 25.5	-0.2
STKA	**Stephens Creek**	26.75	197	P	P	01 00 36.6	-0.2
	comp=Z,6.6nm,0.8s,baz=27,slow=14,SNR=9.5						
STKA				LR	LR	01 11 42.6	
	comp=Z,369nm,18.5s,baz=26,slow=37						
	comp=Z,6.6nm,0.8s						
STKA	**Stephens Creek**	26.75	197	P	P	01 00 35.7	-1.2
BBOO	**Buckleboo**	29.55	205	P	P	01 01 00.5	-1.4
BBOO				IAmb	IAmb	01 01 02.3	
	comp=Z,5.0nm,0.8s						
KAPI	**Kappang**	30.41	271	P	P	01 01 05.2	-4.5
FORT	**Forrest**	32.09	218	P	P	01 01 23.0	-1.3
MBWA	**Marble Bar**	33.08	240	P	P	01 01 31.9	-1.2
MBWA				IAmb	IAmb	01 01 34.5	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	33.14	240	P	P	01 01 32.5	-1.1
PSA00				IAmb	IAmb	01 01 34.3	
	comp=Z,14nm,1.1s						
JCJ	**Chichijima**	34.08	347	LR	LR	01 15 03.2	
	comp=Z,72nm,19.1s,baz=198,slow=35						
JOW	**Kunigami**	39.21	328	LR	LR	01 15 55.7	
	comp=Z,123nm,20.6s,baz=104,slow=32						
NWAO	**Narrogin (SRO)**	40.59	225

SONM Songino Array 66.26 329 P P 01 05 46.3 +1.1
comp=Z,0.4nm,0.5s,baz=138,slow=4.9,SNR=8.0
SONM LR LR 01 37 15.2
comp=Z,49nm,18.1s,baz=136,slow=38
comp=Z,0.4nm,0.5s
SONM Songino Array 66.26 329 P P 01 05 45.0 -0.1
YAK Yakutsk 69.93 350 LR LR 01 35 36.3
comp=Z,22nm,21.9s,baz=89,slow=35
WMQ Urumqi 75.14 318 *e*P **P 01 06 40.3 +1.0**
WMQ pP pP 01 06 52.5 +2.3
WMQ pmax pmax
comp=Z,19nm,0.9s
MK31 Makanchi Array 79.80 320 P **P 01 07 03.9 -1.3**
MK31 IAmb IAmb 01 07 21.0
comp=Z,5.6nm,1.2s
MKAR Makanchi Array 79.80 320 P **P 01 07 04.0 -1.1**
comp=Z,0.9nm,0.9s,baz=108,slow=6.7,SNR=2.2
comp=Z,0.9nm,0.9s
MKAR Makanchi Array 79.80 320 P **P 01 07 04.6 -0.6**
ZALV Zalesovo Beam 80.99 327 P **P 01 07 11.3 -0.1**
comp=Z,0.5nm,0.6s,baz=102,slow=5.0,SNR=2.8
comp=Z,0.5nm,0.6s
ZALV Zalesovo Beam 80.99 327 P **P 01 07 11.6 +0.2**
ILAR Eielson Array 84.45 23 P **P 01 07 26.9 -2.2**
comp=Z,0.6nm,0.9s,baz=249,slow=5.5,SNR=4.5
comp=Z,0.6nm,0.9s
BVAR Borovoye Array 88.91 324 LR LR 01 48 08.9
comp=Z,42nm,19.0s,baz=203,slow=36
BBB Bella Bella 89.77 38 LR LR 01 40 12.4
comp=Z,55nm,20.7s,baz=240,slow=30
DLBC Dease Lake 89.92 31 LR LR 01 41 20.9
comp=Z,90nm,20.4s,baz=307,slow=31
YBH Yreka Blue Hor 91.89 48 LR LR 01 46 16.3
comp=Z,67nm,18.0s,baz=176,slow=34
ARU Arti 96.13 326 LR LR 01 51 29.8
comp=Z,78nm,20.8s,baz=128,slow=35
RPN Rapa Nui 96.34 118 LR LR 01 44 34.3
comp=Z,42nm,19.7s,baz=320,slow=31
CLL Collm 122.88 330 *e*PKPdf **PKPdf 01 13 52.0 -0.9**
GERES GERESS Array B 123.94 327 PKP **PKPdf 01 13 54.3 -0.9**
comp=Z,0.3nm,0.6s,baz=79,slow=2.9,SNR=3.7
BDFB Brasilia 151.68 140 PKPbc **PKPbc 01 14 52.0 -0.4**
comp=Z,1.6nm,0.5s,baz=218,slow=6.5,SNR=3.6

NEIC ***20*** *00:58:10.4±1.6,61.4°42S±0.5°×56.9°W±0.1,h10km±1km, mb5.1/80,Error ellipse: s-maj=12.8km s-min=3.1km az=134.0*

GCMT ***20*** *00:58:14.4±0.3,61.4°45S±0.0°×57.1°05W±0.0°06,h34km±2km, MW5.0/73,Moment Tensor Solution. s27,c34; s73,c91; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.88±.19; Mθθ=2.52±.14; Mφφ 1.64±.20; Mrθ=-2.20±.17; Mθφ=0.12±.14; Mφr=1.44±.23; Best double couple: M=3.39800×10¹⁶ NP1:φ=234.00000°,δ81.00000°,λ56.00000°. NP2: φ=130.00000°,δ35.00000°,λ163.00000°. Principal axes: T 3.0870, Plg44.0000°, Azm111.0000°; N 0.6250, Plg33.0000°, Azm240.0000°; P -3.7090, Plg28.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***20*** *00:58:15.4±1.2,61.38S×56.9W,h51km±9km,mb4.3/14, mbtmp4.5/16,MS4.3/23 Error ellipse: s-maj=18.3km s-min=11.8km az=81.0*

ISC 20 00:58:09.7±0.3,61.44S±0.04×57.06W±0.06,h10km,n258,
σ1§92/240,mb5.1/51,MS4.4/30,4C-1D,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**4.61**	**220**	P	**Pn**	**00 59 23.4**	**+4.0**
	166nm,0.6s,baz=31,slow=9.8,SNR=51						
PMSA				S	**Sb**	**01 00 22.6**	**-3.5**
	224nm,0.8s,baz=77,slow=19,SNR=2.1						
PMSA	**Palmer Station**	**4.61**	**220**	Pn	**Pn**	**00 59 22.0**	**+2.7**
USHA	**Ushuaia**	**8.94**	**313**	P	**Pn**	**01 00 21.2**	**+2.6**
	15nm,0.4s,baz=229,slow=0.3,SNR=2.0						
USHA				S	**Sn**	**01 01 58.3**	**-0.9**
	12nm,0.3s,baz=47,slow=4.2,SNR=7.8						
USHA				LR	LR	01 03 09.1	
	comp=Z,5μm,21.7s,baz=180,slow=33						
EFI	**East Falkland**	**9.80**	**356**	Pn	**Pn**	**01 00 32.7**	**+2.1**
MG02	**Cerro Sombrero**	**10.89**	**317**		**Pn**	**01 00 47.5**	**+2.1**
GO10	**Punta Arenas**	**11.21**	**312**		**Pn**	**01 00 52.0**	**+2.1**
HOPE	**Hope Point**	**13.04**	**66**	Pn	**Pn**	**01 01 16.0**	**+1.2**
GO09	**Cerro Castillo**	**13.21**	**314**		**Pn**	**01 01 17.4**	**+0.2**
BELA	**Belgrano 2**	**18.00**	**165**	P	**P**	**01 02 21.6**	**+1.5**
COYC	**Coyhaique**	**18.15**	**324**	P	**P**	**01 02 23.3**	**+1.4**
AY01	**Puyuhuapi**	**19.37**	**325**	P	**P**	**01 02 36.0**	**+0.7**
LL02	**Futaleuf**	**20.30**	**327**	P	**P**	**01 02 47.0**	**+1.6**
LL02				IAmb	IAmb	01 02 49.2	
	comp=Z,81nm,1.1s						
VNA3	**Neumayer Olymp**	**20.77**	**138**	P	Pn	01 02 53.7	+1.0
VNA3				S	**S**	**01 06 39.8**	**-1.9**
VNA1	**Neumayer--Stat**	**21.20**	**136**	P	**P**	**01 02 58.8**	**+3.8**
VNA2	**Neumayer--Watz**	**21.49**	**137**	P	**P**	**01 03 01.4**	**+3.2**
	baz=279,slow=11						
VNA2				S	**S**	**01 06 54.4**	**-1.7**
PLCA	**Paso Flores**	**22.31**	**332**	P	**P**	**01 03 07.8**	**+0.7**
	comp=Z,24nm,1.1s,baz=165,slow=11,SNR=15						
PLCA				ScP	**ScP**	**01 10 34.1**	**-5.4**
	comp=Z,1.6nm,0.9s,baz=165,slow=8.6,SNR=2.6						
PLCA				LR	LR	01 11 56.3	
	comp=Z,1μm,18.6s,baz=188,slow=37						
	comp=Z,24nm,1.1s						
PLCA	**Paso Flores**	**22.31**	**332**	P	**P**	**01 03 07.2**	**+0.1**
PLCA				IAmb	IAmb	01 03 22.8	
	comp=Z,62nm,1.2s						
PLCA	**Paso Flores**	**22.31**	**332**	*e*P	**P**	**01 03 08.6**	**+1.4**
LL04	**Puerto Octay**	**22.58**	**329**	P	**P**	**01 03 09.7**	**-0.3**
SNAA	**Sanae**	**22.96**	**139**	P	**P**	**01 03 16.7**	**+2.9**
SNAA	**Sanae**	**22.96**	**139**	P	**P**	**01 03 16.4**	**+2.5**
	comp=Z,34nm,0.9s,baz=267,slow=8.5,SNR=60						
SNAA				ScP	**ScP**	**01 10 35.8**	**-4.9**
	comp=Z,1.9nm,1.0s,baz=347,slow=7.2,SNR=3.4						
SNAA				LR	LR	01 11 19.0	
	comp=Z,951nm,19.0s,baz=316,slow=34						
	comp=Z,34nm,0.9s						
SNAA	**Sanae**	**22.96**	**139**	P	**P**	**01 03 13.7**	**-0.1**
SNAA				IAmb	IAmb	01 03 19.1	
	comp=Z,53nm,1.0s						
TRQA	**Tornquist**	**23.61**	**350**	P	**P**	**01 03 21.5**	**+1.0**
TRQA				IAmb	IAmb	01 03 24.5	
	comp=Z,74nm,0.9s						
GO06	**Curarrehue**	**23.61**	**331**	P	**P**	**01 03 20.5**	**-0.2**
GO06				IAmb	IAmb	01 03 35.1	
	comp=Z,52nm,0.9s						
TROLL	**Troll, Antarti**	**24.62**	**140**	P	**P**	**01 03 32.5**	**+2.7**
ML02	**Paninavida**	**27.26**	**334**	P	**P**	**01 03 54.8**	**+0.9**
BO02	**Sierra Bellavi**	**28.07**	**335**	P	**P**	**01 04 01.3**	**+0.1**
BO02				IAmb	IAmb	01 04 19.9	
	comp=Z,40nm,1.1s						
GO05	**Huala**	**28.10**	**333**	P	**P**	**01 04 01.8**	**+0.4**
BO01	**Tunca**	**28.52**	**335**	P	**P**	**01 04 05.0**	**-0.1**
BO01				IAmb	IAmb	01 04 22.2	
	comp=Z,42nm,1.1s						
QSPA	**South Pole Qui**	**28.79**	**180**	P	**P**	**01 04 09.2**	**+1.7**
	comp=Z,20nm,0.9s,baz=167,slow=2.9,SNR=38						
QSPA				PcP	**PcP**	**01 07 17.0**	**+0.2**
	comp=Z,7.0nm,0.9s,baz=283,slow=8.7,SNR=3.1						
QSPA				ScP	**ScP**	**01 10 53.0**	**-4.8**
	comp=Z,1.1nm,0.9s,baz=113,slow=12,SNR=1.6						
	comp=Z,20nm,0.9s						
QSPA	**South Pole Qui**	**28.79**	**180**	P	**P**	**01 04 08.0**	**+0.5**
QSPA				IAmb	IAmb	01 04 32.0	
	comp=Z,46nm,0.9s						
BO04	**La Punta**	**28.82**	**336**	P	**P**	**01 04 07.6**	**-0.2**
BO04				IAmb	IAmb	01 04 21.4	
	comp=Z,44nm,1.1s						
MT01	**Popeta**	**29.06**	**335**	P	**P**	**01 04 10.0**	**0.0**
MT01				IAmb	IAmb	01 04 35.2	
	comp=Z,46nm,1.1s						
MT09	**Talagante**	**29.09**	**336**	P	**P**	**01 04 10.4**	**0.0**
MT05	**Renca**	**29.42**	**336**	P	**P**	**01 04 13.1**	**-0.1**
MT02	**Curacav**	**29.63**	**336**	P	**P**	**01 04 14.3**	**-0.7**
MT02				IAmb	IAmb	01 04 33.5	
	comp=Z,38nm,0.8s						
PLTB	**Pedras Altas**	**29.77**	**6**	P	**P**	**01 04 16.8**	**+0.6**
PLTB				IAmb	IAmb	01 04 19.1	
	comp=Z,25nm,1.1s						
PLTB	**Pedras Altas**	**29.77**	**6**	*e*P	**P**	**01 04 18.5**	**+2.2**
ROC1	**El Roble**	**29.88**	**336**	P	**P**	**01 04 17.0**	**-0.4**
ROC1				IAmb	IAmb	01 05 06.6	
	comp=Z,18nm,0.8s						

VA03	**San Esteban**	**29.99**	**337**	P	**P**	**01 04 18.4**	**0.0**
ZON	**Zonda**	**30.85**	**340**	P	**P**	**01 04 25.2**	**-0.7**
ZON				IAmb	IAmb	01 04 40.7	
	comp=Z,32nm,1.2s						
CO02	**Combarbal**	**31.59**	**337**	P	**P**	**01 04 32.3**	**-0.2**
ITQB	**Itaqui**	**31.77**	**1**	P	**P**	**01 04 34.1**	**+0.3**
ITQB				IAmb	IAmb	01 04 36.4	
	comp=Z,30nm,0.9s						
ITQB	**Itaqui**	**31.77**	**1**	*e*P	**P**	**01 04 35.3**	**+1.4**
CO03	**El Pedregal**	**31.89**	**337**	P	**P**	**01 04 35.8**	**+0.7**
CO03				IAmb	IAmb	01 04 49.3	
	comp=Z,23nm,1.1s						
CO01	**Juntas del Tor**	**32.62**	**339**	P	**P**	**01 04 42.4**	**+0.7**
LCO	**Las Campanas**	**33.67**	**338**	P	**P**	**01 04 50.8**	**0.0**
LCO				IAmb	IAmb	01 05 05.3	
	comp=Z,36nm,1.1s						
AC05	**El Transito**	**33.77**	**339**	P	**P**	**01 04 51.7**	**+0.1**
AC05				IAmb	IAmb	01 05 12.2	
	comp=Z,41nm,1.1s						
ITAB	**Concordia**	**34.36**	**8**	P	**P**	**01 04 57.1**	**+0.6**
AC04	**Llanos de Chal**	**34.53**	**338**	P	**P**	**01 04 58.2**	**+0.3**
CPUP	**Villa Florida**	**35.10**	**360**	P	**P**	**01 05 03.7**	**+0.8**
	comp=Z,10.0nm,1.1s,baz=180,slow=7.5,SNR=10.0						
CPUP				PcP	**PcP**	**01 07 34.3**	**0.0**
	comp=Z,3.0nm,1.0s,baz=344,slow=12,SNR=2.4						
CPUP				LR	LR	01 20 07.7	
	comp=Z,217nm,18.5s,baz=183,slow=38						
	comp=Z,10.0nm,1.1s						
CPUP	**Villa Florida**	**35.10**	**360**	P	**P**	**01 05 03.5**	**+0.6**
AC06	**Mina Casimiro**	**35.23**	**339**	P	**P**	**01 05 04.9**	**+0.8**
AC06				IAmb	IAmb	01 05 18.0	
	comp=Z,33nm,1.1s						
AC02	**Maricunga**	**35.54**	**341**	P	**P**	**01 05 08.3**	**+1.0**
AC02				IAmb	IAmb	01 05 22.8	
	comp=Z,45nm,1.1s						
AC01	**Pan de Azucar**	**36.45**	**339**	P	**P**	**01 05 15.3**	**+0.8**
AC01				IAmb	IAmb	01 05 29.4	
	comp=Z,43nm,1.1s						
MCR1	**Marechal Candi**	**37.02**	**5**	*e*P	**P**	**01 05 21.4**	**+2.1**
GO02	**Mina Guanaco**	**37.25**	**341**	P	**P**	**01 05 22.6**	**+0.9**
PB14	**IPOC Station P**	**37.91**	**340**	P	**P**	**01 05 28.4**	**+1.1**
SBA	**Scott Base**	**38.41**	**194**	P	**P**	**01 05 33.2**	**+2.6**
PB15	**IPOC Station P**	**39.15**	**342**	P	**P**	**01 05 38.3**	**+0.6**
PB15				IAmb	IAmb	01 05 58.4	
	comp=Z,48nm,1.3s						
VNDA	**Vanda**	**39.23**	**192**	P	**P**	**01 05 39.0**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=136,slow=7.0,SNR=8.3						
VNDA				PcP	**PcP**	**01 07 47.0**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=276,slow=4.2,SNR=4.3						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**39.23**	**192**	P	**P**	**01 05 39.8**	**+2.3**
LVC	**Limon Verde**	**39.66**	**343**	LR	LR	01 22 59.6	
	comp=Z,658nm,19.0s,baz=204,slow=38						
LVC	**Limon Verde**	**39.66**	**343**	P	**P**	**01 05 41.5**	**-0.5**
LVC	**Limon Verde**	**39.66**	**343**	*e*P	**P**	**01 05 43.8**	**+1.8**
PCMB	**Pacaembu**	**40.01**	**8**	*e*P	**P**	**01 05 46.4**	**+1.9**
AQDB	**Aquidauana**	**40.94**	**2**	P	**P**	**01 05 52.4**	**+0.2**
PB01	**IPOC Station P**	**41.28**	**342**	P	**P**	**01 05 55.6**	**+0.5**
PB01				IAmb	IAmb	01 05 58.3	
	comp=Z,36nm,1.2s						
ITRB	**Iturama**	**41.96**	**9**	*e*P	**P**	**01 06 02.2**	**+1.6**
PB11	**IPOC Station P**	**42.57**	**342**	P	**P**	**01 06 05.8**	**+0.1**
PB11				IAmb	IAmb	01 06 25.1	
	comp=Z,32nm,1.1s						
BBRB	**Robore, Bolivi**	**43.16**	**356**	*e*P	**P**	**01 06 10.3**	**0.0**
MNMC	**Minye Minye**	**43.18**	**343**	P	**P**	**01 06 11.9**	**+1.1**
MNMC				IAmb	IAmb	01 06 14.2	
	comp=Z,34nm,1.1s						
PB12	**IPOC Station P**	**43.79**	**342**	P	**P**	**01 06 16.7**	**+1.1**
PB12				IAmb	IAmb	01 06 18.6	
	comp=Z,36nm,1.0s						
IPMB	**Ipameri, GO**	**43.86**	**12**	*e*P	**P**	**01 06 17.9**	**+1.8**
MAW	**Mawson**	**44.10**	**151**	P	**P**	**01 06 18.8**	**+1.5**
	comp=Z,21nm,0.9s,baz=222,slow=9.4,SNR=14						
MAW				LR	LR	01 24 12.2	
	comp=Z,1μm,20.9s,baz=214,slow=35						
	comp=Z,21nm,0.9s						
MAW	**Mawson**	**44.10**	**151**	P	**P**	**01 06 18.6**	**+1.3**
BBSD	**Serra de San D**	**44.27**	**355**	*e*P	**P**	**01 06 20.3**	**+1.0**
SIV	**San Ignacio**	**45.48**	**355**	LR	LR	01 27 29.6	
	comp=Z,548nm,18.2s,baz=193,slow=39						
SALV	**Santo Antonio**	**45.49**	**2**	*e*P	**P**	**01 06 31.1**	**+2.2**
LPAZ	**La Paz**	**45.78**	**345**	P	**P**	**01 06 32.0**	**0.0**
	comp=Z,1.9nm,0.7s,baz=150,slow=8.7,SNR=7.5						
LPAZ				PcP	**PcP**	**01 08 10.3**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=166,slow=4.2,SNR=2.1						
LPAZ				ScP	**ScP**	**01 11 57.0**	**-5.1**
	comp=Z,1.2nm,0.8s,baz=232,slow=8.4,SNR=2.8						
LPAZ				LR	LR	01 27 16.7	
	comp=Z,405nm,18.7s,baz=148,slow=38						
	comp=Z,1.9nm,0.7s						
LPAZ	**La Paz**	**45.78**	**345**	P	**P**	**01 06 33.0**	**+1.0**
LPAZ	**La Paz**	**45.78**	**345**	*e*P	**P**	**01 06 34.1**	**+2.1**
ARAG	**Araguaiana, MT**	**45.83**	**7**	*e*P	**P**	**01 06 32.9**	**+1.3**
PTLB	**Pontes e Lacer**	**45.95**	**357**	P	**P**	**01 06 32.9**	**+0.3**
PTLB				IAmb	IAmb	01 06 35.1	
	comp=Z,17nm,1.0s						
PTLB	**Pontes e Lacer**	**45.95**	**357**	*e*P	**P**	**01 06 34.3**	**+1.7**
BDFB	**Brasilia**	**46.19**	**12**	P	**P**	**01 06 34.7**	**0.0**
	comp=Z,9.4nm,0.8s,baz=220,slow=2.3,SNR=10						
BDFB				LR	LR	01 24 13.5	
	comp=Z,362nm,20.1s,baz=147,slow=34						
	comp=Z,9.4nm,0.8s						
BDFB	**Brasilia**	**46.19**	**12**	P	**P**	**01 06 35.3**	**+0.6**
BDFB	**Brasilia**	**46.19**	**12**	*e*P	**P**	**01 06 36.7**	**+2.0**
GUA01	**Guaratinga, BA**	**46.46**	**23**	*e*P	**P**	**01 06 38.5**	**+1.8**
VILB	**Vilhena**	**48.46**	**356**	P	**P**	**01 06 53.0**	**+0.7**
VILB				IAmb	IAmb	01 06 54.8	
	comp=Z,61nm,1.0s						
VILB	**Vilhena**	**48.46**	**356**	*e*P	**P**	**01 06 54.3**	**+2.1**
RPN	**Rapa Nui**	**48.71**	**290**	LR	LR	01 21 48.4	
	comp=Z,277nm,21.7s,baz=142,slow=29						
PDRB	**Porto dos Gac**	**49.74**	**0**	*e*P	**P**	**01 07 02.6**	**+0.6**
SDBA	**SAO DESIDERIO**	**49.74**	**16**	*e*P	**P**	**01 07 03.6**	**+1.5**
CLDB	**Colider**	**50.48**	**2**	*e*P	**P**	**01 07 09.0**	**+1.3**
NNA	**Nana**	**51.43**	**335**	LR	LR	01 25 59.8	
	comp=Z,179nm,21.7s,baz=166,slow=32						
ETMB	**Extrema**	**51.96**	**349**	P	**P**	**01 07 19.3**	**+0.6**
ETMB				IAmb	IAmb	01 07 21.1	
	comp=Z,20nm,1.2s						
ETMB	**Extrema**	**51.96**	**349**	*e*P	**P**	**01 07 19.9**	**+1.1**
CASY	**Casey**	**52.26**	**174**	P	**P**	**01 07 22.2**	**+1.8**
CASY				IAmb	IAmb	01 07 25.1	
	comp=Z,52nm,1.4s						
NPGB	**Novo Progresso**	**54.29**	**2**	*e*P	**P**	**01 07 36.3**	**+0.4**
CZSB	**Cruzeiro do Su**	**54.84**	**341**	P	**P**	**01 07 40.6**	**+0.7**
CZSB				IAmb	IAmb	01 07 42.5	
	comp=Z,39nm,0.8s						
CZSB	**Cruzeiro do Su**	**54.84**	**341**	*e*P	**P**	**01 07 41.3**	**+1.3**
PRPB	**Parauapebas**	**55.41**	**9**	*e*P	**P**	**01 07 44.2**	**+0.2**
SUR	**Sutherland**	**56.44**	**97**	P	**P**	**01 07 51.3**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=190,slow=14,SNR=1.1						
SUR				PcP	**PcP**	**01 08 48.9**	**+0.5**
	comp=Z,5.8nm,0.8s,baz=190,slow=6.1,SNR=1.7						
SUR				LR	LR	01 27 00.7	
	comp=Z,347nm,21.5s,baz=204,slow=31						
	comp=Z,4.3nm,0.9s						
SUR	**Sutherland**	**56.44**	**97**	P	**P**	**01 07 52.2**	**+0.7**
ATAH	**Atahualpa**	**56.47**	**334**	LR	LR	01 28 51.0	
	comp=Z,174nm,22.0s,baz=168,slow=32						
ITTB	**Itaituba**	**56.95**	**2**	*e*P	**P**	**01 07 55.7**	**+0.7**
RCBR	**Riachuelo**	**57.70**	**25**	P	**P**	**01 08 00.7**	**+0.4**
TBTG	**Tabatinga, AM**	**57.93**	**345**	P	**P**	**01 08 01.3**	**-0.6**
TBTG				IAmb	IAmb	01 08 55.5	
	comp=Z,19nm,0.6s						
MACA	**Manacapuru-AM**	**58.20**	**356**	P	**P**	**01 08 03.7**	**-0.1**
MACA				IAmb	IAmb	01 08 18.4	
	comp=Z,24nm,1.0s						
MACA	**Manacapuru-AM**	**58.20**	**356**	*e*P	**P**	**01 08 04.8**	**+1.0**
SOE	**Somerset East**	**58.42**	**101**	P	**P**	**01 08 05.2**	**-0.2**
ROSB	**Rosrio**	**59.21**	**15**	*e*P	**P**	**01 08 12.5**	**+1.7**
MCRA	**Macar, Loja**	**59.48**	**333**	P	**P**	**01 08 12.9**	**+0.2**
BOSC	**San Juan Bosco**	**60.36**	**335**	P	**P**	**01 08 19.2**	**+0.2**
BOSC				IAmb	IAmb	01 08 21.3	
	comp=Z,20nm,1.1s						
H10S2	**ASCENSION HYDR**	**60.91**	**50**	T	T	02 15 32.1	
	baz=18,slow=74,SNR=30						
H10S3	**ASCENSION HYDR**	**60.91**	**50**	T	T	02 15 32.1	
	baz=202,slow=74,SNR=240						
MCPB	**Macapa, AP**	**61.04**	**6**	*e*P	**P**	**01 08 25.0**	**+1.7**
COHC	**Cochancay**	**61.18**	**334**	P	**P**	**01 08 25.6**	**+1.3**
SGCB	**São Gabriel d**	**61.63**	**349**	*e*P	**P**	**01 08 26.8**	**-0.5**
BOSA	**Boshof**	**61.69**	**98**	P	**P**	**01 08 27.4**	**-0.4**
	comp=Z,7.0nm,0.8s,baz=204,slow=6.7,SNR=13						
	comp=Z,7.0nm,0.8s						

BOSA	**Boshof**	**61.69**	**98**	P	**P**	**01 08 27.6**	**-0.2**
BOSA				IAmb	IAmb	01 08 28.9	
	comp=Z,11nm,0.9s						
BOSA	**Boshof**	**61.69**	**98**	*i* P	**P**	**01 08 29.5**	**+1.6**
BOSA	**Boshof**	**61.69**	**98**	*i* P	**P**	**01 08 29.5**	**+1.6**
H10N3	**ASCENSION HYDR**	**61.99**	**49**	T	T	02 16 52.7	
	baz=201,slow=75,SNR=1248						
H10N1	**ASCENSION HYDR**	**62.00**	**49**	T	T	02 16 53.0	
	baz=201,slow=75,SNR=954						
H10N2	**ASCENSION HYDR**	**62.01**	**49**	T	T	02 16 54.0	
	baz=201,slow=75,SNR=1012						
BOAV	**Boa Vista**	**63.71**	**356**	P	**P**	**01 08 41.5**	**+0.3**
BOAV				IAmb	IAmb	01 08 59.7	
	comp=Z,18nm,1.5s						
BOAV	**Boa Vista**	**63.71**	**356**	*e*P	**P**	**01 08 43.8**	**+2.6**
TULM	**Tulcn-Chalpat**	**63.99**	**337**	P	**P**	**01 08 44.3**	**+0.6**
LBTB	**Lobatse**	**64.88**	**96**	P	**P**	**01 08 49.0**	**-0.1**
LBTB				IAmb	IAmb	01 08 50.0	
	comp=Z,24nm,1.1s						
LBTB	**Lobatse**	**64.88**	**96**	*i* P	**P**	**01 08 49.3**	**+0.3**
LBTB	**Lobatse**	**64.88**	**96**	*i* P	**P**	**01 08 49.3**	**+0.3**
TSUM	**Tsumeb**	**65.98**	**86**	P	**P**	**01 08 55.8**	**-0.5**
TSUM				IAmb	IAmb	01 09 10.9	
	comp=Z,16nm,1.2s						
MUSN	**Musina, Limpop**	**69.23**	**98**	*i* P	**P**	**01 09 17.7**	**+1.1**
MUSN	**Musina, Limpop**	**69.23**	**98**	*i* P	**P**	**01 09 17.7**	**+1.1**
BAUV	**El Baul**	**70.69**	**348**	P	**P**	**01 09 26.5**	**+1.1**
BAUV				IAmb	IAmb	01 09 27.5	
	comp=Z,21nm,0.9s						
TBI	**Tubuai**	**70.91**	**256**	*e*LR	LR	01 31 02.5	
	comp=Z,3μm,23.2s						
TBI				*e*LR	LR	01 31 02.8	
	comp=Z,738nm,24.5s						
TBI	**Tubuai**	**70.91**	**256**	*e*T	T	02 26 50.9	
	comp=Z,4.1nm,0.3s						
SDV	**Santo Domingo**	**70.91**	**346**	LR	LR	01 41 28.0	
	comp=Z,209nm,22.0s,baz=173,slow=37						
PCRV	**Puerto La Cruz**	**71.64**	**352**	LR	LR	01 42 31.1	
	comp=Z,379nm,21.7s,slow=37						
LSZ	**Lusaka**	**74.45**	**93**	P	**P**	**01 09 48.2**	**0.0**
LSZ				IAmb	IAmb	01 09 49.7	
	comp=Z,19nm,0.8s						
MEH	**Mehetia**	**74.96**	**260**	*e*T	T	02 31 44.0	
	comp=Z,21nm,0.2s						
PAE	**Papea**	**75.86**	**259**	*e*T	T	02 32 47.5	
	comp=Z,0.8nm,0.2s						
PPT2	**Papeete2**	**75.92**	**259**	*e*LR	LR	01 33 22.0	
	comp=Z,216nm,27.5s						
PPT2				*e*LR	LR	01 33 22.3	
	comp=Z,176nm,25.0s						
VOI	**Vohitsoka**	**77.38**	**112**	P	**P**	**01 10 05.4**	**+0.5**
LIC	**Lamto**	**78.49**	**53**	⇑*i* P	**P**	**01 10 13.2**	**+2.4**
	comp=Z,4.6nm,0.3s						
KIC	**Kosan Boka**	**78.73**	**53**	⇓*i* P	**P**	**01 10 13.0**	**+0.9**
	comp=Z,1.9nm,0.3s						
TIC	**Toumodi**	**78.98**	**53**	⇑*i* P	**P**	**01 10 09.8**	**-3.2**
	comp=Z,6.3nm,0.3s						
DBIC	**Dimbokro**	**78.97**	**53**	P	**P**	**01 10 13.5**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=192,slow=2.5,SNR=4.0						
	comp=Z,3.7nm,0.9s						
DBIC	**Dimbokro**	**78.97**	**53**	P	**P**	**01 10 13.3**	**-0.1**
TAOE	**Nuku Hiva Isla**	**78.97**	**272**	*e*LR	LR	01 34 47.4	
	comp=Z,446nm,26.0s						
SMRT	**St. Maarten**	**79.36**	**354**	P	**P**	**01 10 15.5**	**+0.1**
CELP	**Cerrillos**	**79.60**	**351**	P	**P**	**01 10 16.1**	**-0.7**
SJG	**San Juan**	**79.61**	**351**	LR	LR	01 47 09.2	
	comp=Z,207nm,20.9s,baz=156,slow=37						
HUMP	**Col San Antoni**	**79.62**	**352**	P	**P**	**01 10 16.7**	**-0.1**
HUMP				IAmb	IAmb	01 12 23.9	
	comp=Z,37nm,1.2s						
TOO	**Toolangi**	**79.64**	**198**	P	**P**	**01 10 17.1**	**+0.1**
BBTS	**Babate**	**82.36**	**39**	LR	LR	01 41 36.6	
	comp=Z,116nm,19.6s,baz=186,slow=32						
CMIG	**Matias Romero**	**83.86**	**324**	LR	LR	01 40 56.6	
	comp=Z,182nm,20.4s,baz=196,slow=30						
BBOO	**Buckleboo**	**85.48**	**191**	P	**P**	**01 10 46.7**	**-0.7**
BBOO				IAmb	IAmb	01 12 42.9	
	comp=Z,24nm,1.6s						
ARMA	**Armidale**	**85.55**	**205**	P	**P**	**01 10 47.6**	**-0.3**
STKA	**Stephens Creek**	**85.79**	**196**	P	**P**	**01 10 48.4**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=155,slow=8.1,SNR=6.2						
STKA				LR	LR	01 47 40.1	
	comp=Z,117nm,18.6s,baz=194,slow=34						
	comp=Z,1.6nm,0.6s						
STKA	**Stephens Creek**	**85.79**	**196**	P	**P**	**01 10 48.4**	**-0.6**
NWAO	**

MCK	**McKinley** baz=128	**142.41**	**313**	P		**PKPdf**	**01 17 37.2 -3.7**
N19K	**Bonanza Creek** baz=128	**142.64**	**307**	P		**PKPdf**	**01 17 37.3 -4.2**
G26K	**Porcupine Rive** baz=128	**142.68**	**320**	P		**PKPdf**	**01 17 38.2 -3.1**
TRF	**Thorofare Moun** baz=128	**142.71**	**312**	P		**PKPdf**	**01 17 38.6 -3.0**
POKR	**Poker Plat Res** baz=128	**142.74**	**316**	P		**PKPdf**	**01 17 38.1 -3.3**
E27K	**Coleen River** baz=128	**142.78**	**322**	P		**PKPdf**	**01 17 38.1 -3.4**
M20K	**Styx River** baz=128	**142.78**	**309**	P		**PKPdf**	**01 17 38.3 -3.5**
O17K	**Koliganek Bris** baz=128	**143.01**	**304**	P		PKPab	01 17 38.3 +0.9
ARCES	**ARCESS Array B** comp=Z,3.3nm,0.5s,baz=215,slow=2.6,SNR=31	**143.04**	**35**	PKhKP		PKPpre	01 17 37.8
H24K	**Noodor Dome** baz=126	**143.32**	**316**	P		PKPbc	01 17 40.3 +0.6
CAST	**Castle Rocks** baz=127	**143.33**	**311**	P		PKPab	01 17 39.4 +0.8
BPAW	**Bear Paw Mtn.** baz=127	**143.35**	**313**	P		PKPab	01 17 39.7 +1.0
F25K	**Christian Rive** baz=126	**143.65**	**320**	P		PKPbc	01 17 41.9 +1.2
CHUM	**Lake Minchumin** baz=126	**143.69**	**312**	P		PKPbc	01 17 41.3 +0.5
G24K	**Hadweenzic Riv** baz=126	**143.70**	**318**	P		PKPbc	01 17 41.6 +0.9
MLY	**Manley** baz=126	**143.81**	**314**	P		PKPab	01 17 41.1 +0.6
E25K	**Arctic Village** baz=125	**143.93**	**320**	P		PKPbc	01 17 42.4 +0.9
KSH	**Kashi**	**144.04**	**106**	PKP		PKPab	01 17 40.8 -1.4
C27K	**Jago River** baz=125	**144.25**	**323**	P		PKPbc	01 17 43.4 +1.1
F24K	**Squaw Lake** baz=125	**144.31**	**319**	P		PKPbc	01 17 43.7 +1.1
I21K	**Tanana** baz=125	**144.33**	**314**	P		**PKPab**	**01 17 43.1 +0.7**
J20K	**Nowinta River**	**144.52**	**312**			**PKPab**	**01 17 43.8 +0.8**
J20K	**Nowinta River** baz=125	**144.52**	**312**	P		**PKPab**	**01 17 43.4 +0.3**
H22K	**Ishtalitna Cre** baz=124	**144.53**	**315**	P		**PKPab**	**01 17 43.6 +0.5**
G23K	**Bananza Creek** baz=124	**144.54**	**317**	P		PKPbc	01 17 44.5 +1.2
C26K	**Camden Bay** baz=124	**144.76**	**323**	P		PKPbc	01 17 44.9 +1.0
E24K	**Your Creek** baz=124	**144.81**	**319**	P		PKPbc	01 17 45.1 +0.9
D25K	**Kavik River** baz=123	**144.86**	**322**	P		**PKPab**	**01 17 44.5 +0.2**
H21K	**Melozitna Rive** baz=124	**144.88**	**314**	P		**PKPab**	**01 17 45.0 +0.6**
COLD	**Coldfoot**	**144.89**	**317**			**PKPdf**	**01 17 45.6 +0.5**
COLD	**Coldfoot** baz=124	**144.89**	**317**	P		**PKPdf**	**01 17 45.6 +0.5**
AML	**Almayashu** SNR=23	**145.03**	**101**	P		PKPbc	01 17 46.6 +0.4
G22K	**Bettles** baz=123	**145.15**	**317**	P		**PKPbc**	**01 17 46.0 +0.8**
E23K	**Chandalar** baz=123	**145.16**	**319**	P		**PKPbc**	**01 17 46.1 +0.7**
JOW	**Kunigami**	**145.21**	**188**			**PKPbc**	**01 17 46.1 -0.6**
IMAR	**Indian Mountai**	**145.39**	**314**			**PKPdf**	**01 17 46.7 +0.7**
TOLK	**Toolik Lake Re**	**145.46**	**320**			**PKPdf**	**01 17 46.5 +0.3**
TOLK	**Toolik Lake Re** baz=122	**145.46**	**320**	P		**PKPdf**	**01 17 46.9 +0.7**
EKS2	**Erkin-Say** SNR=11	**145.48**	**100**	P		**PKPbc**	**01 17 47.6 +0.4**
UCH	**Uchtor** SNR=14	**145.49**	**101**	P		**PKPdf**	**01 17 48.2 +0.7**
G21K	**Allakaket** baz=122	**145.59**	**315**	P		**PKPbc**	**01 17 47.6 +1.0**
F22K	**John River** baz=122	**145.68**	**317**	P		**PKPbc**	**01 17 47.9 +1.0**
C24K	**Franklin Bluff** baz=121	**145.76**	**322**	P		**PKPbc**	**01 17 47.7 +0.6**
AAK	**Ala-Archa** SNR=8.4	**145.80**	**101**	P		**PKPbc**	**01 17 48.5 +0.3**
AAK	**Ala-Archa**	**145.80**	**101**			**PKPdf**	**01 17 48.0 +0.2**
F21K	**Alatna River** baz=122	**145.96**	**316**	P		**PKPab**	**01 17 49.1 +0.7**
D23K	**Nanushuk River** baz=121	**145.97**	**320**	P		**PKPbc**	**01 17 48.9 +1.1**
KBK	**Karagaybulak** SNR=10	**146.03**	**101**	P		**PKPdf**	**01 17 45.5 -2.7**
CHMS	**Chumysh** SNR=6.8	**146.20**	**101**	P		**PKPbc**	**01 17 49.8 +0.4**
C23K	**Itkillik River** baz=120	**146.39**	**321**	P		**PKPbc**	**01 17 49.6 +0.6**
TKM2	**Tokmak 2** SNR=5.8	**146.54**	**102**	P		**PKPdf**	**01 17 50.1 +1.1**
TARG	**Taragay, Kyrgy**	**146.65**	**105**			**PKPdf**	**01 17 49.7 +0.2**
CD2	**Chengdu**	**146.97**	**149**	PKPbc		**PKPdf**	**01 17 51.3 +1.4**
ARU	**Arti**	**147.63**	**69**			**PKPdf**	**01 17 50.6 +0.5**
WHN	**Wuhan**	**148.59**	**166**	⇑PKPbc		**PKPbc**	**01 17 55.8 -0.4**
GOMU	**GeErMu**	**149.15**	**132**	PKPbc		**PKPbc**	**01 17 58.3 +0.3**
GOMU	comp=Z,92nm,6.4s			AMB		AMB	
XAN	**Xi'an**	**151.14**	**155**	PKPbc		**PKPbc**	**01 18 01.4 -1.0**
XAN	comp=Z,190nm,17.2s			LR		LR	
XAN	comp=Z,230nm,19.9s			LR		LR	
LZH	**Lanzhou**	**151.90**	**146**	*e*PKPbc		**PKPdf**	**01 17 54.8 -3.0**
LZH				pPKP		PKPbc	01 18 04.1 -0.2
LYN	**LuoYang**	**152.27**	**161**	*e*PKPbc		**PKPdf**	**01 18 01.8 +3.6**
LYN				PP		PP	01 21 54.9 +8.1
LYN	comp=Z,250nm,19.1s			LR		LR	
LYN	comp=Z,180nm,18.1s			LR		LR	
LYN	comp=Z,320nm,20.6s			LR		LR	
MK31	**Makanchi Array**	**152.59**	**104**			**PKPbc**	**01 18 03.8 -1.5**
MKAR	**Makanchi Array** comp=Z,5.1nm,0.8s,baz=211,slow=1.7,SNR=21	**152.59**	**104**	PKPbc		**PKPbc**	**01 18 03.9 -1.4**
MKAR	comp=Z,2.6nm,0.5s,baz=213,slow=2.1,SNR=12			PKPab		**PKPab**	**01 18 14.1 -1.8**
WMQ	**Urumqi**	**152.77**	**114**	*e*PKPbc		**PKPdf**	**01 18 00.9 +2.2**
WMQ	comp=Z,100nm,27.5s			LR		LR	
MJAR	**Matsushiro Arr** comp=Z,3.1nm,0.8s,baz=163,slow=2.8,SNR=7.6	**153.28**	**208**	PKPbc		**PKPbc**	**01 18 06.5 -0.6**
MJAR	comp=Z,4.1nm,0.8s,baz=159,slow=5.2,SNR=8.8			PKPab		**PKPab**	**01 18 18.1 -0.9**
GTA	**Gaotai**	**153.76**	**137**	*e*P		**PKPbc**	**01 18 08.4 +0.2**
GTA				pP		pPKPbc	01 18 12.3 +0.8
GTA				sP		sPKPbc	01 18 15.3 +2.7
GTA	comp=Z,4.0nm,0.8s			pmax		pmax	
KSRS	**Korea Array** comp=Z,1.6nm,0.7s,baz=173,slow=2.8,SNR=4.3	**155.79**	**190**	PKPbc		PKPdf	01 18 12.7 +10
KSRS	comp=Z,1.3nm,0.8s,baz=158,slow=3.5,SNR=2.4			PKPab		**PKPab**	**01 18 29.0 -0.6**
KSRS	**Korea Array**	**155.79**	**190**			**PKPab**	**01 18 29.0 -0.6**
HHC	**Hu-ho-hao-te**	**158.25**	**156**	*e*PKP		**PKPdf**	**01 18 02.4 -3.8**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=243,slow=1.6,SNR=1.7	**158.56**	**93**	PKP		**PKPdf**	**01 18 04.1 -1.9**
ZALV	comp=Z,0.7nm,0.4s,baz=248,slow=2.5,SNR=4.0			PKPab		**PKPab**	**01 18 39.9 -1.3**
USRK	**Ussuriysk Ar.** comp=Z,1.3nm,0.2s,baz=228,slow=0.6,SNR=4.9	**161.92**	**201**	PKPab		**PKPab**	**01 18 55.9 -0.2**
XLT	**XiLinHaoTe**	**161.97**	**164**	⇑*i*PKP		**PKPdf**	**01 18 13.6 +3.4**
XLT				SS		SS	01 42 59.5 +0.6
XLT	comp=Z,130nm,5.0s			AMB		AMB	
XLT	comp=Z,25nm,17.4s			LR		LR	
XLT	comp=Z,190nm,22.0s			LR		LR	
XLT	comp=Z,210nm,17.3s			LR		LR	
SONM	**Songino Array** comp=Z,2.2nm,0.9s,baz=201,slow=4.6,SNR=9.7	**163.42**	**138**	PKPab		**PKPab**	**01 19 02.1 -0.7**

*DJA **20** 00:59:56.3±0.2,9.7°S±3.7°×11.8°E±.1°,h121km±3km, M4.5/21, mb4.7/10,mB5.1/3, MLv4.5/21, Mw(mB)4.5/3*
*IDC **20** 01:00:01.3±2.2,8.29°S×118.84°E,h184km±19km, mb3.4/6, mbtmp3.8/8, MS3.5/2, Error ellipse: s-maj=33.9km s-min=8.4km az=55.0*
ISC 20 00:59:56.3±0.7,**8.66S**±0.07×**118.36E**±0.05,**h152**km,**n43,**
σ1s76/49,**mb3.8**/6,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DBNI	**Kabupaten Domp**	**0.17**	**345**	P		**Pn**	**01 00 14.1**	**-2.7**
DBNI				S		**Sn**	**01 00 27.1**	**-5.3**
PLAI	**Plampang**	**0.60**	**254**	P		**Pn**	**01 00 16.2**	**-2.2**
PLAI				S		**Sn**	**01 00 30.8**	**-4.4**
PLAI	**Plampang**	**0.60**	**254**	P		**Pn**	**01 00 16.5**	**-1.9**
TWSI	**Taliwang, Sumb**	**1.46**	**267**	P		**Pn**	**01 00 24.1**	**-1.5**
TWSI				S		**Sn**	**01 00 44.7**	**-3.3**
KLNI	**Mataram**	**2.25**	**276**	P		**Pn**	**01 00 33.2**	**-1.3**
DNP	**Denpasar**	**3.11**	**270**	P		**Pn**	**01 00 45.6**	**+0.4**
SRBI	**Singaraja**	**3.16**	**280**	P		**Pn**	**01 00 45.6**	**-0.2**
IGBI	**Denpasar**	**3.18**	**267**	P		**Pn**	**01 00 45.8**	**-0.2**
IGBI				S		**Sn**	**01 01 23.1**	**-1.4**
BSSI	**Bau Bau, Buton**	**3.28**	**40**	P		**Pn**	**01 00 46.4**	**-0.9**
RTBI	**Rangdo, Negare**	**3.38**	**273**	P		**Pn**	**01 00 48.4**	**-0.3**
BKSI	**Bulukumba**	**3.75**	**28**	P		**Pn**	**01 00 53.1**	**-0.4**
MMRI	**Maumere**	**3.84**	**90**	P		**Pn**	**01 00 54.6**	**+0.1**
KAPI	**Kappang** 10nm,0.4s,baz=184,slow=12,SNR=5.1	**3.88**	**21**	P		**Pn**	**01 00 54.3**	**-0.9**
KAPI	40nm,0.8s,baz=170,slow=23,SNR=12			S		**Sn**	**01 01 38.1**	**-2.7**
KAPI	**Kappang**	**3.88**	**21**	P		**Pn**	**01 00 54.9**	**-0.2**
BYJI	**Banyuwangi**	**3.98**	**276**	P		**Pn**	**01 00 56.6**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.16**	**272**	P		**Pn**	**01 00 57.4**	**-1.4**
JAGI	**Jajag, Banyuwa**	**4.16**	**272**	P		**Pn**	**01 00 57.6**	**-1.2**
ABJI	**Asem Bagus**	**4.17**	**282**	P		**Pn**	**01 00 59.7**	**+0.8**
BNSI	**Bone**	**4.58**	**22**	P		**Pn**	**01 01 05.8**	**+1.6**
SPSI	**Sidrap Palu**	**4.87**	**17**	P		**Pn**	**01 01 10.0**	**+1.8**
GMJI	**Gumukmas**	**4.88**	**274**	P		**Pn**	**01 01 06.5**	**-1.6**
BBSI	**Bau Bau** 0.1nm34nm,1.0s	**5.24**	**53**	P		**Pn**	**01 01 14.0**	**+1.0**
BATI	**Baumata** 127nm,0.4s,baz=315,slow=3.4,SNR=36	**5.46**	**107**	P		**Pn**	**01 01 15.9**	**0.0**
BATI	104nm,0.4s,baz=37,slow=23,SNR=8.6			S		**Sn**	**01 02 15.1**	**-2.9**
BATI	**Baumata** 0.6nm2μm139nm,0.4s	**5.46**	**107**	P		**Pn**	**01 01 15.9**	**0.0**
SOEI	**Soe** 2.6nm2μm123nm,0.5s	**5.94**	**101**	P		**Pn**	**01 01 21.7**	**-0.6**
SOEI	**Soe**	**5.94**	**101**	P		**Pn**	**01 01 22.4**	**+0.1**
GRJI	**Gresik** 0.3nm67nm,1.2s	**6.08**	**286**	P		**Pn**	**01 01 25.2**	**+1.1**
PWJI	**Pagerwojo** 0.3nm45nm,0.5s	**6.51**	**275**	P		**Pn**	**01 01 30.6**	**+0.6**
SJI	**Sawahan** 0.3nm86nm,0.9s	**6.59**	**278**	P		**Pn**	**01 01 32.1**	**+1.1**
PCJI	**Pacitan** 0.3nm70nm,1.3s	**7.12**	**273**	P		**Pn**	**01 01 37.4**	**-0.6**
UGM	**Wanagama** 0.6nm105nm,1.5s	**7.79**	**275**	P		**Pn**	**01 01 46.7**	**-0.3**
MTN	**Manton Dam**	**13.22**	**109**	P		**Pn**	**01 02 58.1**	**-0.3**
KDU	**Kakadu**	**14.44**	**107**	P		**Pn**	**01 03 13.5**	**-0.2**
DAV	**Davao City (W)** comp=Z,95nm,18.4s,baz=294,slow=41	**17.21**	**25**	LR		LR	01 11 21.7
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=303,slow=12,SNR=17	**19.10**	**128**	P		**Pn**	**01 04 08.8**	**-1.2**
WRA	1.7nm,0.6s,baz=300,slow=25,SNR=5.4			S		**Sn**	**01 07 36.5**	**+0.2**
ASAR	**Alice Springs** 2.0nm,0.5s,baz=309,slow=9.1,SNR=22	**21.07**	**137**	P		**P**	**01 04 31.1**	**+2.3**
ASAR	0.1nm,0.6s,baz=314,slow=24,SNR=1.2 2.0nm,0.5s			S		**S**	**01 08 13.8**	**-1.0**
STKA	**Stephens Creek** 1.0nm,0.4s,baz=347,slow=16,SNR=3.4 1.0nm,0.4s	**31.61**	**140**	P		**P**	**01 06 07.1**	**+2.1**
HHC	**Hu-ho-hao-te**	**49.66**	**353**	*e*P		P	01 08 40.8	+8.1
SONM	**Songino Array** 0.6nm,0.4s,baz=169,slow=9.7,SNR=5.5 0.6nm,0.4s	**57.24**	**350**	P		**P**	**01 09 27.4**	**-0.5**
MKAR	**Makanchi Array** 1.2nm,0.8s,baz=148,slow=5.7,SNR=9.4	**63.87**	**333**	P		**P**	**01 10 12.9**	**+0.2**
MKAR	comp=Z,56nm,18.6s,baz=58,slow=40 1.2nm,0.8s			LR		LR	01 42 10.0	
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=148,slow=4.2,SNR=6.1 0.8nm,0.5s	**68.50**	**339**	P		**P**	**01 10 41.5**	**-0.5**
VNDA	**Vanda** 0.4nm,0.4s,baz=315,slow=8.4,SNR=6.6 0.4nm,0.4s	**72.42**	**171**	P		**P**	**01 11 09.0**	**+3.6**
CPUP	**Villa Florida** 4.3nm,1.2s,baz=178,slow=5.2,SNR=5.9	**144.96**	**187**	PKPbc		**PKiKP**	**01 19 19.2**	**-0.9**

WEL 20 01:02:54.3±0.7,**42°S**±4°×**17°4E**±°,**h5**km,**M3.3**/37, **ML3.6**/13,**MLv3.3**/37,**Error ellipse: s-maj=0.0km s-min=0.0km az=120.9,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**248**	P		Pg	01 02 59.3	+0.2
KHZ				S		Sg	01 03 04.3	+2.0
BSWZ	**Blackbirch Sta**	**0.61**	**2**	P		Pg	01 03 05.8	-0.1
BSWZ				S		Sg	01 03 15.0	+1.1
CMWZ	**Cape Campbell**	**0.64**	**26**	P		Pb	01 03 07.4	-0.5
GVZ	**Greta Valley S**	**0.88**	**223**	P		Pb	01 03 11.7	-0.3
TUWZ	**Tuamarina**	**0.90**	**5**	P		Pg	01 03 11.1	-0.4
TUWZ				S		Sb	01 03 25.2	+0.7
THZ	**Tophouse**	**0.90**	**308**	P		Pg	01 03 11.2	-0.3
TCW	**Tory Channel**	**1.16**	**16**	P		Pg	01 03 14.7	-1.8
TCW				S		Sg	01 03 31.6	+0.1
NNZ	**Nelson**	**1.16**	**342**	P		Pg	01 03 15.6	-0.9
AMCZ	**Amberley**	**1.23**	**226**	P		Pg	01 03 16.4	-1.4
MRNZ	**Matariki Terra**	**1.23**	**318**	P		Pg	01 03 17.7	-0.2
WEL	**Wellington**	**1.25**	**34**	P		Pg	01 03 16.0	-2.2
LTZ	**Lake Taylor**	**1.25**	**248**	P		Pg	01 03 17.2	-1.1
PLWZ	**Palliser**	**1.29**	**55**	P		Pn	01 03 16.0	-3.0
MSWZ	**Moikau Station**	**1.39**	**50**	P		Pn	01 03 17.1	-3.2
TKNZ	**Takaka Hill**	**1.45**	**332**	P		Pn	01 03 20.8	-0.4
PAWZ	**Paruwai Farm**	**1.51**	**52**	P		Pn	01 03 18.6	-3.4
OKCZ	**Okains Bay**	**1.51**	**202**	P		Pn	01 03 19.5	-2.6
CAW	**Cannon Point**	**1.52**	**37**	P		Pn	01 03 19.6	-2.5
DUWZ	**D'Urville Isla**	**1.52**	**2**	P		Pn	01 03 21.3	-0.9
DSZ	**Denniston Nort**	**1.63**	**290**	P		Pn	01 03 23.3	-0.4
MQZ	**McQueen's Vall**	**1.64**	**212**	P		Pn	01 03 20.7	-3.0
TRWZ	**Traveller**	**1.66**	**57**	P		Pn	01 03 20.8	-3.3
KIW	**Kapiti Island**	**1.67**	**29**	P		Pn	01 03 21.8	-2.3
OXZ	**Oxford**	**1.67**	**232**	P		Pn	01 03 22.3	-1.8
AKCZ	**Akaroa Harbour**	**1.69**	**204**	P		Pn	01 03 21.8	-2.7
QRZ	**Quartz Range**	**1.79**	**326**	P		Pn	01 03 26.3	+0.4
OGWZ	**Otaki Gorge**	**1.80**	**34**	P		Pn	01 03 23.4	-2.6
INZ	**Inchbonnie**	**1.82**	**256**	P		Pn	01 03 25.1	-1.1
RACZ	**Rakaia**	**1.88**	**221**	P		Pn	01 03 24.6	-2.4
HOWZ	**Holdsworth Sta**	**1.90**	**42**	P		Pn	01 03 24.4	-2.9
MHCZ	**Mount Hutt**	**2.06**	**233**	P		Pn	01 03 27.4	-2.2
MRZ	**Mangatainoka R**	**2.11**	**39**	P		Pn	01 03 27.4	-2.9
WACZ	**Wakanui South**	**2.19**	**222**	P		Pn	01 03 28.9	-2.4
WVZ	**Waitahu Valley**	**2.41**	**251**	P		Pn	01 03 33.4	-1.0
RPZ	**Rata Peaks**	**2.48**	**235**	P		Pn	01 03 33.4	-1.9
ARCZ	**Arundel**	**2.54**	**229**	P		Pn	01 03 34.0	-2.2
GCSZ	**Gaunt Creek Bo**	**2.77**	**248**	P		Pn	01 03 38.2	-1.1
TMZ	**Timaru**	**2.92**	**224**	P		Pn	01 03 39.5	-1.9
VRZ	**Vera Road**	**3.27**	**13**	P		Pn	01 03 46.0	-0.2
WNVZ	**Wahianoa**	**3.28**	**25**	P		Pn	01 03 46.0	-0.5
TRVZ	**Turoa**	**3.29**	**24**	P		Pn	01 03 46.3	-0.3
WHVZ	**Whangaehu Hut**	**3.31**	**24**	P		Pn	01 03 46.7	-0.3
LBZ	**Lake Benmore**	**3.37**	**231**	P		Pn	01 03 47.0	-0.6
KRVZ	**Karewarewa**	**3.50**	**24**	P		Pn	01 03 46.9	-2.6
ODZ	**Otahua Downs**	**3.58**	**219**	P		Pn	01 03 47.9	-2.5
BKZ	**Black Stump Fm**	**3.74**	**33**	P		Pn	01 03 56.1	+3.4
HIZ	**Hauiti**	**3.88**	**12**	P		Pn	01 03 54.2	-0.4
MKAZ	**Moumakai**	**5.31**	**11**	P		Pn	01 04 12.8	-1.4

GUC 20 01:28:34.0±0.7,**23°98S×67°15W,h222**km±11km,**ML3.5, 7C,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.12**	**310**	⇑*i*P		Pn	01 29 15.7	-0.2
LVC				*i* S		S	01 29 46.7	-1.6
PB15	**IPOC Station P**	**2.27**	**289**	⇑*i*P		Pn	01 29 17.5	+0.4
PB15				*i* S		S	01 29 50.4	-0.2
GO02	**Mina Guanaco**	**2.52**	**242**	⇑*i*P		Pn	01 29 19.8	0.0
GO02				*i* S		S	01 29 55.2	-0.3
GO02	comp=N,279nm,0.3s			IAML			01 29 56.5	
PB06	**IPOC Station P**	**2.56**	**299**	⇑*i*P		Pn	01 29 20.6	+0.4
PB06				*i* S		S	01 29 55.2	-1.0
PB06	comp=N,79nm,0.4s			IAML			01 29 57.0	
PB09	**IPOC Station P**	**2.91**	**318**	*i* P		Pn	01 29 24.6	+0.5
PB09				*i* S		S	01 30 02.7	-0.3
PB09	comp=E,32nm,0.4s			IAML			01 30 05.7	
PB03	**IPOC Station P**	**3.08**	**308**	*e*P		Pn	01 29 26.1	+0.1
PB03				*i* S		S	01 30 04.6	-1.8
PB10	**IPOC Station P**	**3.16**	**278**	⇑*i*P		Pn	01 29 27.2	+0.6
PB10				*i* S		S	01 30 06.9	-0.8
PB04	**IPOC Station P**	**3.21**	**300**	⇑*i*P		Pn	01 29 27.7	+0.2
PB04				*i* S		S	01 30 08.0	-1.2
PB07	**IPOC Station P**	**3.38**	**311**	⇑*i*P		Pn	01 29 29.5	0.0
PB07				*i* S		S	01 30 11.0	-1.8
PB01	**IPOC Station P**	**3.64**	**323**	*i* P		Pn	01 29 32.1	-0.3
PB01				*i* S		S	01 30 15.9	-2.3
PB02	**IPOC Station P**	**3.67**	**316**	*i* P		Pn	01 29 32.5	-0.3
PB02				*i* S		S	01 30 16.7	-2.2
AC01	**Pan de Azucar**	**3.80**	**235**	*e*P		Pn	01 29 33.2	-1.0
AC01				*e*S		S	01 30 18.9	-2.6
PATCX	**Punta Patache**	**4.20**	**318**	*e*P		Pn	01 29 38.9	-0.3
PATCX				*e*S		S	01 30 27.6	-2.8
PB08	**IPOC Station P**	**4.25**	**334**	*e*P		Pn	01 29 40.5	+0.4
PB08				*e*S		S	01 30 31.0	-1.0
HMBC	**Humberstone**	**4.48**	**325**	*e*P		Pn	01 29 41.1	-1.5
HMBC				*e*S		S	01 30 33.1	-3.6
GO01	**Chusmiza**	**4.69**	**336**	*e*P		Pn	01 29 46.1	+0.4
GO01				*e*S		S	01 30 41.2	-0.9
PSGC	**Pisagua**	**5.17**	**327**	*e*P		Pn	01 29 49.5	-1.7
PSGC				*i* S		S	01 30 46.6	-5.6
MNMC	**Minye Minye**	**5.34**	**334**	*e*P		Pn	01 29 53.4	-0.1
MNMC				*e*S		S	01 30 53.4	-3.1

IDC 20 01:41:22.0±2.7,**2.25N×127.24E,h0**km,**mb3.4**/3, **mbtmp3.4**/3,**Error ellipse: s-maj=226.8km s-min=28.2km az=67.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=341,slow=10,SNR=11 0.5nm,0.4s	**23.13**	**163**	P		P	01 46 28.1	-1.9
ASAR	**Alice Springs** 0.3nm,0.6s,baz=345,slow=11,SNR=5.5 0.3nm,0.6s	**26.57**	**166**	P		P	01 47 03.8	+1.8
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=120,slow=8.5,SNR=1.2 0.5nm,0.8s	**59.05**	**326**	P		P	01 51 23.9	-0.1

*PDG **20** 01:41:52.9±0.5,42.64N×13.21E,h12km,ML3.7/12,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*ROM **20** 01:41:52.3±0.1,42.638N±0.003×13.219E±0.005, h11km,ML3.2/95,Error ellipse: s-maj=0.4km s-min=0.2km az=241.0*
*LDG **20** 01:41:53.2±0.1,42.54N×13.19E,h11km,Ml3.1/16,Error ellipse: s-maj=5.3km s-min=3.1km az=33.0*
*STR **20** 01:41:53.6±2.5,42°N±21°×1°3E±2°0,h10km,MLv3.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=41.3, preliminary*
*PRU **20** 01:41:54.7±0.0,42.69N×13.56E,h10km*
ISC 20 01:41:52.9±0.8,**42.63N**±0.02×**13.18E**±0.02,**h12**km±4km, **n218,σ1s78**/275,**57C-47D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1218	**Civita (PG)**	**0.06**	**309**	P		**Pg**	**01 41 55.3**	**-0.2**
T1218				S		**Sg**	**01 41 57.1**	**-0.3**
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
T1218				AML		AML		
LNSS	**Leonessa**	**0.11**	**255**	P		**Pg**	**01 41 56.1**	**+0.1**
LNSS				S		**Sg**	**01 41 59.1**	**+0.8**
LNSS	comp=N,32250μm,0.1s			AML		AML		
LNSS	comp=E,8645μm,1.6s			AML		AML		
SMA1	**SAN MARTINO**	**0.11**	**90**	P		**Pg**	**01 41 55.6**	**-0.5**
SMA1				S		**Sg**	**01 41 57.6**	**-0.8**
SMA1				AML		AML		
SMA1				AML		AML		
CAMP	**Campotosto**	**0.19**	**119**	P		**Pg**	**01 41 56.7**	**-0.5**
CAMP				S		**Sg**	**01 41 59.9**	**-0.4**
CAMP	comp=E,10470μm,1.0s			AML		AML		
CAMP	comp=N,9680μm,0.6s			AML		AML		
NRCA	**Norcia**	**0.21**	**346**	⇑P		**Pg**	**01 41 57.2**	**-0.3**
NRCA				S		**Sg**	**01 42 00.6**	**-0.1**
NRCA	comp=N,41950μm,0.2s			AML		AML		
NRCA	comp=E,69750μm,0.2s			AML		AML		
NRCA	comp=N,44650μm,0.2s			AML		AML		
NRCA	comp=N,41900μm,0.2s			AML		AML		
NRCA	comp=E,63250μm,0.2s			AML		AML		
T1243	**Rocca Santa Ma**	**0.21**	**72**	⇑P		**Pg**	**01 41 56.7**	**-0.8**
T1243				S		**Sg**	**01 41 59.7**	**-0.9**
T1247	**Pizzolo (AQ)**	**0.21**	**155**	⇑P		**Pg**	**01 41 57.4**	**-0.1**
T1247				S		**Sg**	**01 42 01.0**	**+0.4**
T1247	comp=E,10495μm,0.3s			AML		AML		
T1247	comp=N,10550μm,0.7s			AML		AML		
T1245	**Castelsantange**	**0.23**	**1**	⇓P		**Pg**	**01 41 57.5**	**-0.4**
T1245				S		**Sg**	**01 42 01.2**	**0.0**
T1245	comp=N,37600μm,0.6s			AML		AML		
T1245	comp=E,37950μm,0.3s			AML		AML		
T1245	comp=E,38000μm,0.4s			AML		AML		
T1245	comp=N,37600μm,0.6s			AML		AML		
T1245	comp=E,38000μm,0.3s			AML		AML		
T1245	comp=N,35350μm,1.1s			AML		AML		
T1216	**Preci, Frazion**	**0.29**	**335**	P		**Pg**	**01 41 58.4**	**-0.4**
T1216				S		**Sg**	**01 42 03.2**	**+0.4**
T1216	comp=E,14

	comp=N,12850µm,1.0s								
TERO				AML	AML				
	comp=E,15450µm,0.8s								
AQU	**L'Aquila**	**0.32**	**149**	P	**Pg**	**01 41 59.1**	**-0.3**		
AQU				AML	AML				
	comp=E,4315µm,1.6s								
AQU				AML	AML				
	comp=N,4300µm,0.3s								
AQU				AML	AML				
	comp=E,4310µm,1.6s								
AQU				AML	AML				
	comp=E,4270µm,0.6s								
AQU				AML	AML				
	comp=N,4520µm,0.3s								
GIGS	**Gran Sasso**	**0.34**	**122**	P	**Pg**	**01 41 59.0**	**-0.8**		
GIGS				S	**Sg**	**01 42 04.1**	**-0.3**		
GIGS				AML	AML				
	comp=E,2650µm,0.2s								
GIGS				AML	AML				
	comp=N,2350µm,0.3s								
FIAM	**Fiamignano**	**0.37**	**187**	⇑P	**Pg**	**01 42 00.2**	**0.0**		
FIAM				AML	AML				
	comp=E,3800µm,0.3s								
FIAM				AML	AML				
	comp=N,3675µm,0.5s								
T1256	**Bolognola (MC)**	**0.38**	**5**	⇑P	**Pg**	**01 41 60.0**	**-0.6**		
T1256				S	**Sg**	**01 42 06.1**	**+0.5**		
T1256				AML	AML				
	comp=N,5570µm,0.8s								
T1256				AML	AML				
	comp=N,5310µm,0.8s								
T1256				AML	AML				
	comp=N,5570µm,0.8s								
T1256				AML	AML				
	comp=E,5450µm,0.5s								
T1256				AML	AML				
	comp=E,5465µm,1.3s								
FDMO	**Fiordimonte**	**0.41**	**350**	⇑P	**Pg**	**01 42 00.6**	**-0.5**		
FDMO				S	**Sg**	**01 42 07.0**	**+0.4**		
FDMO				AML	AML				
	comp=N,4715µm,0.4s								
FDMO				AML	AML				
	comp=E,3575µm,1.0s								
FDMO				AML	AML				
	comp=N,4710µm,0.4s								
CESI	**CESI - Serrava**	**0.42**	**332**	⇑P	**Pg**	**01 42 01.0**	**-0.3**		
CESI				S	**Sg**	**01 42 07.9**	**+0.8**		
CESI				AML	AML				
	comp=N,8110µm,1.1s								
CESI				AML	AML				
	comp=E,4960µm,1.0s								
T1219	**Muccia, Frazio**	**0.44**	**343**	⇑P	**Pg**	**01 42 01.1**	**-0.5**		
T1219				S	**Sg**	**01 42 08.1**	**+0.5**		
T1219				AML	AML				
	comp=E,5215µm,0.2s								
T1219				AML	AML				
	comp=N,4905µm,0.6s								
T1219				AML	AML				
	comp=E,5420µm,0.2s								
T1219				AML	AML				
	comp=N,4900µm,0.6s								
T1219				AML	AML				
	comp=N,4910µm,0.6s								
T1219				AML	AML				
	comp=E,5220µm,0.2s								
T1219				AML	AML				
	comp=N,4905µm,0.6s								
T1219				AML	AML				
	comp=N,4900µm,0.6s								
T1219				AML	AML				
	comp=E,5420µm,0.2s								
CESX	**Cesi**	**0.44**	**267**	⇑P	**Pg**	**01 42 01.5**	**-0.1**		
CESX				AML	AML				
	comp=E,5800µm,0.3s								
CESX				AML	AML				
	comp=N,6140µm,0.3s								
GUMA	**Gualdo di Mace**	**0.45**	**15**	⇑P	**Pg**	**01 42 01.5**	**-0.3**		
GUMA				S	**Sb**	**01 42 08.8**	**-0.6**		
GUMA				AML	AML				
	comp=N,25350µm,0.5s								
GUMA				AML	AML				
	comp=E,24900µm,0.3s								
GUMA				AML	AML				
	comp=N,25750µm,0.3s								
GUMA				AML	AML				
	comp=E,32400µm,0.3s								
CSP1	**Cessapalombo**	**0.46**	**2**	P	**Pg**	**01 42 01.5**	**-0.6**		
CSP1				S	**Sg**	**01 42 08.8**	**+0.6**		
CSP1				AML	AML				
	comp=E,4375µm,0.5s								
CSP1				AML	AML				
	comp=N,5600µm,0.3s								
CSP1				AML	AML				
	comp=E,4385µm,0.5s								
CSP1				AML	AML				
	comp=N,5595µm,0.3s								
CSP1				AML	AML				
	comp=E,4380µm,0.5s								
CSP1				AML	AML				
	comp=N,5605µm,0.3s								
FAGN	**Fagnano**	**0.47**	**141**	⇑P	**Pg**	**01 42 01.5**	**-0.7**		
FAGN				AML	AML				
	comp=E,10025µm,0.3s								
FAGN				AML	AML				
	comp=N,9475µm,0.4s								
OFFI	**Offida**	**0.48**	**51**	⇑P	**Pg**	**01 42 02.3**	**0.0**		
OFFI				AML	AML				
	comp=E,22800µm,0.3s								
OFFI				AML	AML				
	comp=N,20950µm,0.5s								
VCEL	**Villa Celiera**	**0.54**	**116**	⇑P	**Pg**	**01 42 02.6**	**-0.9**		
VCEL				AML	AML				
	comp=N,8455µm,0.4s								
VCEL				AML	AML				
	comp=N,8460µm,0.4s								
VCEL				AML	AML				
	comp=E,11150µm,0.5s								
SEF1	**Sefro**	**0.54**	**342**	S	**Sb**	**01 42 13.0**	**+0.9**		
MNTP	**Montappone**	**0.55**	**23**	⇓P	**Pg**	**01 42 03.4**	**-0.2**		
MNTP				AML	AML				
	comp=E,15600µm,0.2s								
MNTP				AML	AML				
	comp=N,12850µm,0.2s								
MNTP				AML	AML				
	comp=N,12900µm,0.2s								
MNTP				AML	AML				
	comp=E,15600µm,0.2s								
ASSB	**Assisi San Ben**	**0.56**	**317**	⇑P	**Pg**	**01 42 03.5**	**-0.5**		
ASSB				AML	AML				
	comp=E,4800µm,0.4s								
ASSB				AML	AML				
	comp=N,5960µm,0.2s								
TRTR	**Tortoreto Alta**	**0.57**	**72**	⇑P	**Pg**	**01 42 04.2**	**+0.2**		
TRTR				AML	AML				
	comp=E,10700µm,0.4s								
TRTR				AML	AML				
	comp=N,8910µm,0.7s								
TRTR				AML	AML				
	comp=E,10750µm,0.4s								
T0110	**Collepietro**	**0.60**	**132**	⇑P	**Pg**	**01 42 03.5**	**-1.0**		
T0110				AML	AML				
	comp=N,4625µm,0.4s								
T0110				AML	AML				
	comp=E,6010µm,0.4s								
PTQR	**Pietraquaria**	**0.63**	**165**	⇑P	**Pg**	**01 42 04.8**	**-0.3**		
PTQR				AML	AML				
	comp=E,572µm,1.6s								
PTQR				AML	AML				
	comp=N,536µm,1.1s								
SRES	**S.Oreste - Sor**	**0.63**	**232**	⇑P	**Pg**	**01 42 04.8**	**-0.4**		
SRES				AML	AML				
	comp=N,1045µm,0.4s								
SRES				AML	AML				
	comp=E,1010µm,0.6s								
SNTG	**Esanatoglia**	**0.65**	**344**	⇑P	**Pg**	**01 42 04.7**	**-0.8**		
SNTG				AML	AML				
	comp=E,1625µm,1.3s								
SNTG				AML	AML				
	comp=E,1570µm,1.3s								
SNTG				AML	AML				
	comp=N,1570µm,0.5s								
SNTG				AML	AML				
	comp=N,1620µm,0.5s								
SNTG				AML	AML				
	comp=E,1630µm,1.3s								
ATCC	**AVT- Casa Cast**	**0.68**	**325**	⇑P	**Pg**	**01 42 05.6**	**-0.6**		
ATCC				AML	AML				
	comp=E,3875µm,0.7s								
ATCC				AML	AML				
	comp=N,3385µm,0.2s								
ATCC				AML	AML				
	comp=E,3880µm,0.7s								
MTCE	**Montecelio**	**0.69**	**208**	⇑P	**Pg**	**01 42 05.6**	**-0.7**		
MTCE				AML	AML				
	comp=E,1285µm,0.7s								
MTCE				AML	AML				
	comp=N,962µm,0.6s								
CERT	**Cerreto**	**0.70**	**192**	⇓P	**Pg**	**01 42 05.8**	**-0.7**		
CERT				AML	AML				
	comp=E,1975µm,0.5s								
CERT				AML	AML				
	comp=N,1365µm,0.5s								
EL6	**Elcito**	**0.70**	**355**	⇑P	**Pg**	**01 42 05.7**	**-0.8**		
EL6				AML	AML				
	comp=E,3145µm,1.3s								
EL6				AML	AML				
	comp=E,3150µm,1.3s								
EL6				AML	AML				
	comp=N,3155µm,0.1s								
FOSV	**Fossato di Vic**	**0.73**	**335**	⇓P	**Pg**	**01 42 06.4**	**-0.7**		
FOSV				AML	AML				
	comp=N,1835µm,1.2s								
FOSV				AML	AML				
	comp=E,1455µm,1.1s								
CING	**Cingoli**	**0.74**	**1**	⇑P	**Pg**	**01 42 06.4**	**-1.0**		
CING				AML	AML				
	comp=E,2990µm,0.4s								
CING				AML	AML				
	comp=N,2440µm,0.3s								
MURB	**Monte Urbino**	**0.79**	**323**	⇑P	**Pg**	**01 42 07.9**	**-0.4**		
MURB				AML	AML				
	comp=E,6520µm,0.2s								
MURB				AML	AML				
	comp=N,9675µm,0.3s								
MURB				AML	AML				
	comp=E,6525µm,0.2s								
MURB				AML	AML				
	comp=E,7055µm,0.2s								
MURB				AML	AML				
	comp=N,9910µm,0.3s								
MURB				AML	AML				
	comp=N,9680µm,0.3s								
RCAV	**Rocca di Cave**	**0.80**	**193**	⇑P	**Pg**	**01 42 08.8**	**+0.4**		
RCAV				AML	AML				
	comp=N,2150µm,0.4s								
RCAV				AML	AML				
	comp=E,1775µm,0.4s								
PP3	**Marolino**	**0.81**	**23**	⇓P	**Pg**	**01 42 08.5**	**-0.1**		
PP3				AML	AML				
	comp=N,10400µm,0.5s								
PP3				AML	AML				
	comp=E,7780µm,0.5s								
PP3				AML	AML				
	comp=N,10460µm,0.4s								
PP3				AML	AML				
	comp=E,7230µm,0.5s								
PP3				AML	AML				
	comp=N,10420µm,0.5s								
PP3				AML	AML				
	comp=E,7775µm,0.5s								
PP3				AML	AML				
	comp=N,10455µm,0.4s								
VVLD	**Villa Vallelon**	**0.83**	**157**	⇓P	**Pg**	**01 42 08.5**	**-0.4**		
VVLD				AML	AML				
	comp=E,886µm,1.1s								
VVLD				AML	AML				
	comp=N,918µm,0.4s								
MGAB	**Montegabbione**	**0.84**	**290**	⇑P	**Pg**	**01 42 08.7**	**-0.4**		
MGAB				AML	AML				
	comp=E,4165µm,0.9s								
MGAB				AML	AML				
	comp=E,4220µm,0.9s								
MGAB				AML	AML				
	comp=N,3205µm,0.7s								
MGAB				AML	AML				
	comp=N,3360µm,0.4s								
SSFR	**Montelago di S**	**0.86**	**340**	⇑P	**Pg**	**01 42 08.8**	**-0.7**		
SSFR				S	**Sn**	**01 42 24.0**	**+0.7**		
SSFR				AML	AML				
	comp=E,2705µm,0.2s								
SSFR				AML	AML				
	comp=N,3065µm,0.2s								
SSFR				AML	AML				
	comp=E,2870µm,1.4s								
SSFR				AML	AML				
	comp=N,2825µm,0.3s								
ATFO	**Monte Foce - G**	**0.86**	**329**	P	**Pg**	**01 42 08.9**	**-0.7**		
ATFO				AML	AML				
	comp=N,1141µm,0.5s								
ATFO				AML	AML				
	comp=E,1350µm,0.3s								
ARVD	**Arcevia**	**0.88**	**349**	⇓P	**Pg**	**01 42 09.0**	**-0.9**		
ARVD				S	**Sn**	**01 42 24.0**	**+0.1**		
ARVD				AML	AML				
	comp=N,1395µm,1.0s								
ARVD				AML	AML				
	comp=E,1235µm,0.9s								
VIVA	**Pratoni del Vi**	**0.93**	**199**	P	**Pb**	**01 42 11.6**	**+0.6**		
VIVA				AML	AML				
	comp=E,2970µm,0.3s								
VIVA				AML	AML				
	comp=N,2725µm,0.5s								
ATVO	**AVT- Monte Val**	**0.94**	**323**	P	**Pg**	**01 42 10.0**	**-1.0**		
ATVO				AML	AML				
	comp=N,750µm,0.6s								
ATVO				AML	AML				
	comp=E,964µm,0.8s								
ATVO				AML	AML				
	comp=N,751µm,0.6s								
FRON	**Frontone**	**0.95**	**340**	⇑P	**Pg**	**01 42 10.2**	**-0.9**		
FRON				AML	AML				
	comp=E,1610µm,0.5s								
FRON				AML	AML				
	comp=N,1685µm,0.4s								
CAFR	**Castel Frentan**	**0.95**	**115**	P	**Pg**	**01 42 10.3**	**-1.0**		
CAFR				AML	AML				
	comp=E,873µm,0.6s								
CAFR				AML	AML				
	comp=N,1315µm,0.4s								
SACS	**San Casciano d**	**0.96**	**284**	⇑P	**Pg**	**01 42 11.1**	**-0.4**		
SACS				AML	AML				
	comp=E,1256µm,0.5s								
SACS				AML	AML				
	comp=N,1116µm,0.8s								
SACS				AML	AML				
	comp=N,1122µm,0.8s								
SACS				AML	AML				
	comp=E,1220µm,0.5s								
AOI	**Ancona**	**0.97**	**18**	P	**Pg**	**01 42 10.8**	**-0.8**		
AOI				S	**Sn**	**01 42 27.0**	**+1.0**		
AOI				AML	AML				
	comp=N,1700µm,1.1s								
AOI				AML	AML				
	comp=E,1660µm,0.3s								
ATMI	**Monte Miggiano**	**0.97**	**317**	⇓P	**Pg**	**01 42 11.2**	**-0.4**		
ATMI				AML	AML				
	comp=E,4170µm,0.5s								
ATMI				AML	AML				
	comp=N,2985µm,0.4s								
POFI	**Posta Fibreno**	**0.99**	**156**	⇓P	**Pn**	**01 42 14.1**	**+1.5**		
POFI				AML	AML				
	comp=E,992µm,0.5s								
POFI				AML	AML				
	comp=N,420µm,0.5s								
ATPI	**Pietralunga -**	**1.00**	**325**	⇓P	**Pg**	**01 42 11.3**	**-0.8**		
COR1	**Corinaldo**	**1.01**	**353**	⇓P	**Pg**	**01 42 12.3**	**0.0**		
COR1				AML	AML				
	comp=N,3350µm,0.5s								
COR1				AML	AML				
	comp=E,1485µm,0.6s								
LATE	**Laterza**	**1.02**	**269**	⇑P	**Pg**	**01 42 12.5**	**+0.1**		
LAV9	**Lanuvio**	**1.02**	**201**	⇓P	**Pn**	**01 42 13.8**	**+0.9**		
LAV9				AML	AML				
	comp=N,2405µm,0.4s								
LAV9				AML	AML				
	comp=N,2585µm,0.4s								
LAV9				AML	AML				
	comp=E,2650µm,0.4s								
LAV9				AML	AML				
	comp=E,2835µm,0.4s								
PIEI	**Pieia**	**1.02**	**333**	⇑P	**Pg**	**01 42 11.5**	**-1.1**		
PIEI				AML	AML				
	comp=E,1070µm,0.2s								
PIEI				AML	AML				
	comp=N,904µm,0.4s								
TOLF	**Tolfa**	**1.04**	**237**	⇑P	**Pb**	**01 42 12.0**	**-0.9**		
TOLF				AML	AML				
	comp=N,528µm,1.0s								
TOLF				AML	AML				
	comp=E,864µm,0.5s								
MPAG	**Monte Paganucc**	**1.04**	**343**	⇓P	**Pg**	**01 42 12.4**	**-0.7**		
MPAG				S	**Sn**	**01 42 30.0**	**+2.1**		
MPAG				AML	AML				
	comp=E,1004µm,0.5s								
MPAG				AML	AML				
	comp=N,1330µm,1.6s								
MPAG				AML	AML				
	comp=E,1007µm,0.5s								
MPAG				AML	AML				
	comp=N,918µm,1.6s								
MPAG				AML	AML				
	comp=E,1216µm,1.0s								
GIUL	**Giuliano Di Ro**	**1.07**	**177**	P	**Pb**	**01 42 10.4**	**-3.0**		
NARO	**Abbazia di Nar**	**1.07**	**336**	⇓P	**Pb**	**01 42 12.5**	**-0.8**		
NARO				AML	AML				
	comp=N,698µm,0.8s								
NARO				AML	AML				
	comp=E,752µm,0.7s								
FSSB	**Fossombrone**	**1.10**	**345**	⇓P	**Pb**	**01 42 13.3**	**-0.5**		
FSSB				AML	AML				
	comp=E,2665µm,0.4s								
FSSB				AML	AML				
	comp=N,2560µm,0.4s								
BADI	**Badiali**	**1.11**	**322**	⇓P	**Pb**	**01 42 13.6**	**-0.5**		
MCIV	**Monte Civitell**	**1.12**	**278**	P	**Pb**	**01 42 14.2**	**0.0**		
MCIV				AML	AML				
	comp=E,467µm,0.9s								
MCIV				AML	AML				
	comp=N,452µm,0.5s								
CAFI	**Castiglion Fio**	**1.13**	**308**	⇓P	**Pb**	**01 42 14.5**	**+0.1**		
CAFI				AML	AML				
	comp=E,856µm,0.5s								
CAFI				AML	AML				
	comp=N,862µm,0.5s								
CAFI				AML	AML				
	comp=E,844µm,0.5s								
CAFI				AML	AML				
	comp=N,850µm,0.5s								
SF04	**Casetta**	**1.14**	**281**	⇓P	**Pb**	**01 42 15.2**	**+0.7**		
PE3	**Peglio**	**1.18**	**335**	⇓P	**Pb**	**01 42 14.9**	**-0.3**		
CERA	**Filignano**	**1.21**	**149**	⇓P	**Pg**	**01 42 16.9**	**+0.9**		
CERA				AML	AML				
	comp=E,474µm,1.4s								
CERA				AML	AML				
	comp=N,666µm,0.9s								
SF01	**Poggio Pratacc**	**1.21**	**279**	⇑P	**Pn**	**01 42 15.7**	**+0.1**		
MIDA	**Miranda**	**1.27**	**141**	⇓P	**Pn**	**01 42 15.0**	**-1.5**		
MIDA				AML	AML				
	comp=E,488µm,0.8s								
MIDA				AML	AML				
	comp=N,478µm,1.5s								
MIDA				AML	AML				
	comp=N,468µm,1.6s								
MIDA				AML	AML				
	comp=E,503µm,0.8s								
ARCI	**Arcidosso**	**1.28**	**281**	⇑P	**Pn**	**01 42 17.2**	**+0.6**		
ARCI				AML	AML				
	comp=E,200µm,0.8s								
ARCI				AML	AML				
	comp=N,176µm,1.6s								
FRES	**Fresagrandinar**	**1.28**	**120**	⇓P	**Pg**	**01 42 18.0**	**+0.4**		
FRES				AML	AML				
	comp=N,243µm,1.2s								
FRES				AML	AML				
	comp=E,427µm,1.0s								
PESA	**Pesaro**	**1.33**	**349**	⇑P	**Pg**	**01 42 18.6**	**+0.1**		
PESA				AML	AML				
	comp=N,954µm,0.9s								
PESA				AML	AML				
	comp=E,1006µm,1.6s								
TRIV	**Trivento**	**1.33**	**130**	⇓P	**Pg**	**01 42 19.2**	**+0.7**		
TRIV				AML	AML				
	comp=E,551µm,0.7s								
TRIV				AML	AML				
	comp=N,464µm,1.2s								
CRE	**Caprese Michel**	**1.34**	**318**	⇑P	**Pn**	**01 42 17.8**	**+0.4**		
CRE				AML	AML				
	comp=E,453µm,0.2s								
CRE				AML	AML				
	comp=N,545µm,0.3s								
VAGA	**Valle Agricola**	**1.45**	**147**	⇑P	**Pg**	**01 42 21.3**	**+0.6**		
VAGA				AML	AML				
	comp=N,297µm,0.6s								
VAGA				AML	AML				
	comp=E,244µm,0.7s								
MAON	**Monte Argentar**	**1.53**	**263**	⇓P	**Pn**	**01 42 20.1**	**+0.2**		
MAON				AML	AML				
	comp=E,186µm,0.5s								
MAON				AML	AML				
	comp=N,142µm,1.6s								
ASQU	**Asqua**	**1.55**	**319**	⇓P	**Pb**	**01 42 21.7**	**+0.2**		
ASQU				AML	AML				
	comp=E,312µm,0.7s								
ASQU				AML	AML				
	comp=N,338µm,0.3s								
OSSC	**Osservatorio P**	**1.68**	**303**	P	**Pn**	**01 42 23.3**	**+1.3**		
OSSC				AML	AML				
	comp=N,144µm,0.6s								
OSSC				AML	AML				
	comp=E,152µm,0.9s								
CASP	**Castiglione de**	**1.71**	**276**	⇑P	**Pn**	**01 42 22.4**	**-0.1**		
CASP				AML	AML				
	comp=E,84µm,0.4s								
CASP				AML	AML				
	comp=N,88µm,1.3s								
MELA	**Melanico ??? S**	**1.72**	**122**	⇑P	**Pn**	**01 42 23.3**	**+0.8**		
MELA				AML	AML				
	comp=N,704µm,1.0s								
MELA				AML	AML				
	comp=N,726µm,0.9s								
MELA				AML	AML				
	comp=E,672µm,0.7s								
MELA				AML	AML				
	comp=E,668µm,0.7s								
TRIF	**Trifonti**	**1.74**	**287**	⇑P	**Pn**	**01 42 23.6**	**+0.7**		
TRIF				AML	AML				
	comp=E,165µm,1.4s								
TRIF				AML	AML				
	comp=N,154µm,0.5s								
TREM	**Isole Tremiti**	**1.80**	**106**	⇓P	**Pb**	**01 42 24.9**	**-0.8**		
TREM				AML	AML				
	comp=N,1020µm,1.6s								
TREM				AML	AML				
	comp=E,812µm,0.7s								
BRIS	**BRISIGHELLA**	**1.95**	**322**	⇑P	**Pb**	**01 42 29.5**	**+1.3**		
APRC	**Apricena**	**1.96**	**116**	⇑P	**Pn**	**01 42 27.0**	**+1.1**		
APRC				S	**Sb**	**01 42 54.0**	**+1.1**		
APRC				AML	AML				
	comp=N,403µm,0.3s								
APRC				AML	AML				
	comp=E,344µm,1.5s								
SGRT	**San Giovanni R**	**2.10**	**114**	⇓P	**Pn**	**01 42 29.1**	**+1.2**		
SGRT				S	**Sb**	**01 42 57.0**	**+0.2**		
SGRT				AML	AML				
	comp=E,346µm,0.5s								
SGRT				AML	AML				
	comp=N,322µm,0.8s								
MTCR	**Monte La Croce**	**2.12**	**312**	P	**Pn**	**01 42 28.9**	**+0.7**		
MTCR				S	**Sn**	**01 42 55.0**	**+0.5**		
SGTA	**Sant Agata di**	**2.21**	**132**	⇓P	**Pb**	**01 42 32.5**	**-0.3**		
PII	**Pisa**	**2.23**	**300**	⇑P	**Pb**	**01 42 34.0**	**+1.0**		
PII				S	**Sb**	**01 42 60.0**	**-0.5**		
BRJN	**Brijuni**	**2.31**	**10**	S	**Sn**	**01 42 60.0**	**+1.0**		
MAIM	**Mastiano**	**2.35**	**304**	⇓P	**Pn**	**01 42 32.6**	**+1.4**		
MAIM				AML	AML				
	comp=E,115µm,0.3s								
MAIM				AML	AML				
	comp=N,154µm,0.3s								
CARD	**Cardoso**	**2.41**	**306**	S	**Sn**	**01 43 03.0**	**+1.4**		
CAPA	**Cerignola FG**	**2.46**	**126**	⇑P	**Pn**	**01 42 34.1**	**+1.4**		
CAPA				AML	AML				
	comp=N,302µm,1.6s								
CAPA				AML	AML				
	comp=E,292µm,1.4s								
HVAR	**Hvar**	**2.46**	**76**	⇓P	**Pn**	**01 42 33.2**	**+0.4**		
MORSI	**Morsiglia**	**2.83**	**278**	P	**Pn**	**01 42 39.0**	**+1.2**		
SMPL	**Sampolo**	**2.94**	**261**	P	**Pn**	**01 42 39.8**	**+0.5**		
A050A	**Klekovaca**	**3.06**	**52**	eP	**Pn**	**01 42 41.1**	**0.0**		
AMUR	**Altamura**	**3.09**	**123**	⇑P	**Pn**	**01 42 43.3**	**+1.9**		
AMUR				AML	AML				

comp=E,95µm,1.5s
AMUR AML AML
comp=N,88µm,0.7s
PGF Pioggiola 3.09 270 *e*Pn **Pn** 01 42 40.9 -0.6
PGF Pioggiola 3.09 270 *e*P **Pn** 01 42 43.6 +2.1
PGF *e*Sn **Sn** 01 43 15.9 -2.5
comp=N,69nm,1.3s
PGF Pioggiola 3.09 270 P **Pn** 01 42 42.8 +1.3
CEY Cerknica 3.23 16 *e*Pn **Pn** 01 42 43.2 -0.2
STON Ston 3.34 84 *e*Pn **Pn** 01 42 44.0 -0.8
STON Ston 3.34 84 ⇓P **Pn** 01 42 44.3 -0.4
AJAC Base Areonaval 3.35 259 P **Pn** 01 42 46.5 +1.5
MGRS Mrkonjic Grad 3.35 57 *e*Pn **Pn** 01 42 46.8 +1.7
ROVR Rover Verones 3.38 334 S **Sn** 01 43 26.0 +0.5
CGRP Cima Grappa 3.40 343 ⇓P **Pn** 01 42 47.2 +1.4
CGRP AML AML
comp=E,188µm,0.5s
CGRP AML AML
comp=N,169µm,0.5s
LTRZ Laterza 3.40 125 ⇓P **Pn** 01 42 47.5 +1.9
NOCI Noci 3.44 121 ⇓P **Pn** 01 42 47.7 +1.4
NOCI S **Sn** 01 43 30.0 +3.1
NOCI AML AML
comp=E,67µm,0.4s
NOCI AML AML
comp=N,79µm,1.6s
LJU Ljubljana 3.55 15 ⇓P **Pn** 01 42 48.7 +1.0
LJU AML AML
comp=N,738µm,1.3s
LJU AML AML
comp=E,474µm,0.3s
DOSS Dosso del Somm 3.55 337 ⇓P **Pn** 01 42 49.5 +1.6
DOSS AML AML
comp=E,86µm,0.7s
DOSS AML AML
comp=N,69µm,1.4s
CTI Castel Tesino 3.59 343 P **Pn** 01 42 48.7 +0.3
CTI AML AML
comp=E,166µm,0.5s
CTI AML AML
comp=N,146µm,0.7s
BLY Banja Luka 3.59 53 *e*Pn **Pn** 01 42 49.5 +1.2
A051A Mrakovica 3.60 47 *e*Pn **Pn** 01 42 48.7 +0.3
STAL STALIGIAL 3.64 355 ⇑P **Pn** 01 42 50.3 +1.2
STAL AML AML
comp=E,182µm,1.3s
STAL AML AML
comp=N,141µm,0.2s
LUSI Trento, Gardas 3.69 335 ⇓P **Pn** 01 42 50.9 +1.1
LUSI AML AML
comp=E,92µm,0.4s
LUSI AML AML
comp=N,157µm,1.2s
GAGG Gaggia 3.80 336 ⇓P **Pn** 01 42 53.4 +2.0
GAGG AML AML
comp=N,63µm,1.5s
GAGG AML AML
comp=E,100µm,0.8s
TREB Trebinje 3.81 87 *e*Pn **Pn** 01 42 51.9 +0.6
MABI Malga Bissina 3.92 332 P **Pn** 01 42 54.2 +1.2
MABI AML AML
comp=N,49µm,1.0s
MABI AML AML
comp=E,43µm,1.6s
ACOM Acomizza, Ital 3.92 3 ⇑P **Pn** 01 42 54.1 +1.1
ACOM AML AML
comp=E,113µm,1.3s
ACOM AML AML
comp=N,75µm,0.3s
ZOU Zoufplan 3.93 358 ⇓P **Pn** 01 42 54.9 +1.7
HCY Herceg Novi 3.93 91 *e*Pn **Pn** 01 42 53.5 +0.5
HCY Herceg Novi 3.93 91 *e*Pn **Pn** 01 42 53.9 +0.9
HCY *i* Sn **Sn** 01 43 40.6 +1.6
BRY Bratogost 3.95 84 *e*Pn **Pn** 01 42 53.6 +0.2
BRY Bratogost 3.95 84 ⇓*i*Pn **Pn** 01 42 54.3 +0.9
BRY *i* Sn **Sn** 01 43 41.2 +1.4
OBKA Obir 4.00 14 *e*Pn **Pn** 01 42 53.7 -0.3
OBKA Obir 4.00 14 *i* Pn **Pn** 01 42 53.6 -0.3
comp=N,1.4nm,0.2s
MYKA Terra Mystica 4.01 5 *e*Pn **Pn** 01 42 54.7 +0.5
comp=N,1.7nm,0.2s
MDI Monti di Nese 4.01 323 ⇓P **Pn** 01 42 55.2 +1.0
MDI AML AML
comp=E,63µm,0.3s
MDI AML AML
comp=N,68µm,1.6s
KOSI Kohlern 4.04 342 ⇓P **Pn** 01 42 57.0 +2.4
BOSI Bolzano 4.09 342 ⇑P **Pb** 01 43 05.7 +1.0
APPI Appiano 4.09 341 ⇑P **Pn** 01 42 57.1 +1.8
APPI AML AML
comp=E,81µm,1.5s
APPI AML AML
comp=N,110µm,0.4s
ABTA Abfaltersbach 4.14 354 *e*Pn **Pn** 01 42 57.3 +1.3
comp=N,3.3nm,0.2s,SNR=39
BRES Bressanone 4.20 346 ⇓P **Pn** 01 42 58.9 +2.0
BRES S **Sn** 01 43 49.0 +3.1
CEME Cevo 4.24 89 ⇑*i*Pn **Pn** 01 42 58.3 +1.1
CEME *i* Sn **Sn** 01 43 48.0 +1.4
BUM Brajici-Budva 4.24 93 ⇑*i*Pn **Pn** 01 42 58.4 +1.1
BUM *i* Sn **Sn** 01 43 48.2 +1.5
UPM Unac-Piva 4.24 80 ⇑*i*Pn **Pn** 01 42 58.4 +1.0
UPM *i* Sn **Sn** 01 43 48.2 +1.2
VSL Villasalto 4.25 224 ⇑P **Pn** 01 42 59.1 +1.7
NKME Niksic 4.26 86 *e*Pn **Pn** 01 42 58.6 +1.1
NKME *i* Sn **Sn** 01 43 48.6 +1.5
SOKA Soboth 4.26 17 *i* Pn **Pn** 01 42 57.9 +0.4
comp=N,0.6nm,0.2s
SAOF Saorge 4.32 290 P **Pn** 01 42 58.9 +0.6
SBF Sospel 4.37 288 *e*Pn **Pn** 01 42 58.6 -0.5
SBF Sospel 4.37 288 *e*P **Pn** 01 43 02.0 +2.9
SBF *e*Sn **Sn** 01 43 47.3 -2.7
comp=N,25nm,0.7s
RISI Rein 4.39 350 ⇓P **Pn** 01 43 00.9 +1.5
RISI AML AML
comp=E,124µm,0.4s
RISI AML AML
comp=N,164µm,1.6s
MUGIO Muggio 4.43 319 ⇑P **Pn** 01 43 01.9 +2.0
MUGIO AML AML
comp=E,38µm,0.6s
MUGIO AML AML
comp=N,39µm,1.2s
TURF col de Turini 4.43 290 P **Pn** 01 42 59.8 -0.3
KBA Koelnbreinsper 4.45 1 *e*Pn **Pn** 01 43 00.9 +0.6
comp=N,2.2nm,0.2s,SNR=7.8
HAPS Han Pijesak,Bl 4.45 69 *e*Pn **Pn** 01 43 01.7 +1.5
DRME Dracevica, Mon 4.47 94 *e*Pn **Pn** 01 43 01.6 +1.2
DRME Dracevica, Mon 4.47 94 ⇓*i*Pn **Pn** 01 43 01.5 +1.2
DRME *i* Sn **Sn** 01 43 53.6 +1.4
PDG Podgorica 4.49 91 ⇓P **Pn** 01 43 02.2 +1.5
PDG AML AML
comp=E,64µm,0.3s
PDG AML AML
comp=N,83µm,0.3s
TTG Podgorica 4.49 91 ⇑*i*Pn **Pn** 01 43 01.9 +1.2
TTG *i* Sn **Sn** 01 43 54.3 +1.5
ULC Ulcinj 4.55 96 ⇓*i*Pn **Pn** 01 43 02.6 +1.1
ULC *i* Sn **Sn** 01 43 55.6 +1.4
KOME Kolasin 4.67 85 *e*Pn **Pn** 01 43 04.3 +1.1
KOME *i* Sn **Sn** 01 43 58.5 +1.1
BBLS Lazići 4.71 73 *e*Pn **Pn** 01 43 01.8 -2.0
CALF Calern 4.71 286 P **Pn** 01 43 05.1 +1.3
CALF S **Sn** 01 44 02.1 +3.7
FETA Feichten 4.72 339 *i* Pn **Pn** 01 43 06.7 +2.7
comp=N,1.9nm,0.3s,SNR=6.9
WTTA Wattenberg 4.76 347 *e*Pn **Pn** 01 43 06.9 +2.4
comp=N,2.0nm,0.2s,SNR=7.2
SQTA Sankt Quirin 4.80 344 *e*Pn **Pn** 01 43 07.7 +2.7
comp=N,1.8nm,0.2s,SNR=17
WATA Walderalm 4.84 347 *e*Pn **Pn** 01 43 08.5 +2.9
comp=N,2.8nm,0.2s,SNR=9.5
ARSA Arzberg 4.91 19 *e*Pn **Pn** 01 43 06.0 -0.4
comp=N,0.7nm,0.2s
MOTA Moosalm 4.94 343 *i* Pn **Pn** 01 43 09.5 +2.5
comp=N,3.2nm,0.3s,SNR=5.6
LMR La Mourre 4.95 280 *e*Pn **Pn** 01 43 06.2 -0.7
LMR La Mourre 4.95 280 *e*P **Pn** 01 43 09.8 +2.9
LMR *e*Sn **Sn** 01 44 00.3 -3.7
comp=N,1.3nm,0.3s
IVA Berane 4.95 85 *e*Pn **Pn** 01 43 08.2 +1.2
IVA *i* Sn **Sn** 01 44 05.2 +1.0
SURF Saint Ours 4.98 294 P **Pn** 01 43 10.0 +2.4
PVY Plav 5.00 88 *e*Pn **Pn** 01 43 09.0 +1.2
PVY *i* Sn **Sn** 01 44 06.5 +0.9
JAUF Jausiers 5.01 293 P **Pn** 01 43 10.1 +2.2
BIOA Bad Ischl, Aus 5.07 4 *e*Pn **Pn** 01 43 09.7 +1.0
comp=N,2.4nm,0.3s
TRIGF Trigance 5.08 285 P **Pn** 01 43 10.8 +2.0
MBDF Montbardon 5.10 296 *e*Pn **Pn** 01 43 09.1 -0.1
MBDF Montbardon 5.10 296 *e*P **Pn** 01 43 12.3 +3.1
MBDF *e*Sn **Sn** 01 44 05.2 -2.8
CREF Crivoux 5.13 294 P **Pn** 01 43 14.3 +4.6
RETA Reutte 5.15 341 *e*Pn **Pn** 01 43 12.3 +2.5
comp=N,3.8nm,0.4s
DIVS Divibare 5.18 71 *e*Pn **Pn** 01 43 10.2 0.0
DAVA Damuels 5.21 334 *e*Pn **Pn** 01 43 13.0 +2.3
comp=N,3.2nm,0.4s
MOA Molln 5.28 8 *e*Pn **Pn** 01 43 12.3 +0.8
comp=N,1.0nm,0.2s
FRGS Fruska Gora 5.42 60 *e*Pn **Pn** 01 43 13.0 -0.4
LPL La Plagne 5.47 304 *e*Pn **Pn** 01 43 13.4 -0.9
LPL La Plagne 5.47 304 *e*P **Pn** 01 43 17.4 +3.1
RONA Rosalia, Austr 5.53 22 *e*Pn **Pn** 01 43 14.8 -0.1
comp=N,0.6nm,0.2s
CONA Conrad Observa 5.62 19 *i* Pn **Pn** 01 43 16.5 +0.2
comp=N,1.6nm,0.2s,SNR=4.2
SMRF Simiane la Rot 5.71 286 *e*P **Pn** 01 43 20.4 +2.9
SMRF *e*Sn **Sn** 01 44 18.2 -4.7
comp=N,1.0nm,0.4s
ORIF Oris-en-Rattie 5.76 296 *e*P **Pn** 01 43 21.8 +3.6
ORIF *e*Sn **Sn** 01 44 20.2 -4.0
comp=N,1.5nm,0.4s
CKRC Cesky Krumlov 6.24 7 *e*PN **Pn** 01 43 24.5 -0.2
CKRC *e*SN **Sn** 01 44 32.4 -3.5
MODS Modra-Piesok 6.42 25 *e*PN **Pn** 01 43 30.2 +3.0
CABF La Chapelle 6.44 311 *e*P **Pn** 01 43 31.5 +4.0
KHC Kasperske Hory 6.51 2 *e*PN **Pn** 01 43 29.4 +1.0
KHC *e*SN **Sn** 01 44 39.0 -3.5
VIVF Saint-Julien-l 6.55 293 *e*P **Pn** 01 43 32.7 +3.7
HINF Hinteralfeld 6.84 321 *e*Pn **Pn** 01 43 32.0 -1.0
HINF Hinteralfeld 6.84 321 *e*P **Pn** 01 43 37.1 +4.1
HINF *e*Sn **Sn** 01 44 46.9 -3.9
comp=N,9.0nm,0.7s
LASF Ste Croix 6.95 285 *e*P **Pn** 01 43 38.5 +4.1
VYHS Vyhne 7.08 32 *e*PN **Pn** 01 43 39.6 +3.4
CDF Champ du Feu 7.11 326 *e*Pn **Pn** 01 43 35.6 -1.1
CDF Champ du Feu 7.11 326 *e*P **Pn** 01 43 40.5 +3.8
CDF *e*Sn **Sn** 01 44 53.9 -3.6
comp=N,22nm,1.2s
HAU Haudompre 7.21 320 *e*Pn **Pn** 01 43 38.1 0.0
HAU Haudompre 7.21 320 *e*P **Pn** 01 43 42.4 +4.3
HAU *e*Sn **Sn** 01 44 55.4 -4.5
comp=N,9.8nm,0.4s
PRU Pruhonice 7.42 7 *e*PN **Pn** 01 43 40.1 -0.7
PRU *e*SN **Sn** 01 45 00.9 -4.0
NKC Novy Kostel 7.62 356 *e*SN **Sn** 01 45 07.6 -2.3
SMF Signal de Mont 7.78 304 *e*Pn **Pn** 01 43 44.6 -1.2
SMF *e*Sn **Sn** 01 45 08.4 -5.3
comp=N,1.2nm,0.2s
SFTF Sexfontaines 7.99 317 *e*Pn **Pn** 01 43 48.8 +0.1
MTLF Montolieu 8.07 279 *e*P **Pn** 01 43 54.6 +4.8
LOR Lormes 8.07 308 *e*Pn **Pn** 01 43 49.5 -0.4
LOR *e*Sn **Sn** 01 45 15.8 -5.2
comp=N,26nm,1.2s
AVF Avril sur Loir 8.14 304 *e*Pn **Pn** 01 43 50.7 0.0
SSF Saint Saulge 8.18 306 *e*Pn **Pn** 01 43 50.2 -1.0
SSF *e*Sn **Sn** 01 45 18.2 -5.3
comp=N,1.0nm,0.3s
MEZF Maizieres J'vi 8.18 319 *e*Pn **Pn** 01 43 50.0 -1.3
SAVF Savonnieres en 8.22 319 *e*Pn **Pn** 01 43 51.4 -0.5
CAF Calviac 8.37 290 *e*Pn **Pn** 01 43 53.6 -0.3
CAF *e*Sn **Sn** 01 45 22.1 -6.1
comp=N,12nm,1.0s
TCF Toulx Ste Croi 8.65 299 *e*Sn **Sn** 01 45 29.5 -5.8
comp=N,1.8nm,0.2s
RJF Les Rejaudoux 8.83 292 *e*Pn **Pn** 01 43 58.7 -1.5
LFF La Frestale 9.29 289 *e*P Pn 01 44 11.4 +4.9
GIVF Givet 9.44 325 *e*P **Pn** 01 44 12.6 +4.1
EPF Esparros 9.45 277 *e*P **Pn** 01 44 11.9 +3.2

*NEIC **20** 01:44:57.1±1.3,43.9°S±0.1°×39.7°E±0.2,h10km±1km, mb4.6/13,Error ellipse: s-maj=27.3km s-min=16.7km az=245.0*

*IDC **20** 01:44:58.2±0.7,44.14°S×38.85°E,h0km,mb4.2/10, mbtmp4.2/11,ML3.2/1,MS4.2/18,Error ellipse: s-maj=26.5km s-min=18.7km az=65.0*

*GCMT **20** 01:44:59.1±0.3,44.03°S±0.02×38.93°E±0.05,h12km, MW4.9/88,Moment Tensor Solution. s12,c12; s88,c108; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.10±.08; Mθθ1.97±.07; Mϕϕ0.12±.09; Mrθ1.70±.31; Mϕϕ-0.26±.07; Mϕr-1.01±.41; Best double couple: Mo2.84500×10^16^ NP1:ϕs293.00000°,δ67.00000°,λ-79.00000°. NP2: ϕs86.00000°,δ25.00000°,λ-114.00000°. Principal axes: T 2.7280, Plg21.0000°, Azm14.0000°; N 0.2320, Plg10.0000°, Azm109.0000°; P -2.9610, Plg66.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 01:44:57.6±0.6,43.91S±0.09×39.5E±0.1,h10km,n43, σ1s76/28,mb4.3/13,MS4.3/17,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOE	**Somerset East**	**15.60**	**311**	Pn	**Pn**	**01 48 37.7**	**+0.1**
SOE				IAmb	IAmb	01 48 39.4	
	comp=Z,81nm,1.5s						
POGA	**Pongola**	**17.67**	**337**	Pn	**Pn**	**01 49 02.6**	**-1.3**
SUR	**Sutherland**	**18.60**	**302**	LR	LR	01 54 44.3	
	comp=Z,463nm,21.4s,baz=138,slow=32						
BOSA	**Boshof**	**19.04**	**319**	P	**Pn**	**01 49 21.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=168,slow=10,SNR=4.0						
BOSA				LR	LR	01 55 08.1	
	comp=Z,798nm,21.5s,baz=154,slow=32						
	comp=Z,6.0nm,1.0s						
BOSA	**Boshof**	**19.04**	**319**	P	**P**	**01 49 19.1**	**-0.9**
LBTB	**Lobatse**	**21.99**	**325**	P	**P**	**01 49 53.3**	**+1.4**
	comp=Z,6.4nm,0.9s,baz=160,slow=12,SNR=6.1						
LBTB				LR	LR	01 57 00.0	
	comp=Z,724nm,20.7s,baz=152,slow=33						
	comp=Z,6.4nm,0.9s						
LBTB	**Lobatse**	**21.99**	**325**	P	**P**	**01 49 52.0**	**+0.1**
LBTB				IAmb	IAmb	01 49 53.8	
	comp=Z,15nm,1.1s						
VOI	**Vohitsoka**	**22.77**	**18**	P	**P**	**01 49 56.7**	**-3.6**
VOI				IAmb	IAmb	01 50 13.4	
	comp=Z,43nm,1.5s						
ABPO	**Ambohimpanom**	**25.66**	**17**	P	**P**	**01 50 26.5**	**-1.3**
ABPO				IAmb	IAmb	01 50 41.9	
	comp=Z,23nm,1.4s						
MAW	**Mawson**	**26.81**	**160**	LR	LR	01 58 40.9	
	comp=Z,512nm,21.1s,baz=324,slow=31						
LSZ	**Lusaka**	**30.11**	**338**	P	**P**	**01 51 09.4**	**+1.8**
	comp=Z,1.4nm,0.4s,baz=205,slow=7.7,SNR=4.6						
LSZ				LR	LR	02 01 57.3	
	comp=Z,362nm,19.7s,baz=158,slow=34						
	comp=Z,1.4nm,0.4s						
LSZ	**Lusaka**	**30.11**	**338**	P	**P**	**01 51 07.7**	**+0.1**
LSZ				IAmb	IAmb	01 51 10.2	
	comp=Z,11nm,1.3s						
TSUM	**Tsumeb**	**30.71**	**316**	LR	LR	02 02 31.0	
	comp=Z,537nm,19.9s,baz=149,slow=34						
TSUM	**Tsumeb**	**30.71**	**316**	P	**P**	**01 51 13.3**	**+0.5**
TROLL	**Troll, Antarti**	**33.23**	**200**	P	**P**	**01 51 34.1**	**-0.5**
SNAA	**Sanae**	**34.44**	**202**	P	**P**	**01 51 45.2**	**+0.2**
SNAA	**Sanae**	**34.44**	**202**	P	**P**	**01 51 45.3**	**+0.3**
	comp=Z,5.1nm,1.2s,baz=54,slow=4.9,SNR=5.7						
SNAA				LR	LR	02 03 22.6	
	comp=Z,364nm,18.8s,baz=25,slow=32						
	comp=Z,5.1nm,1.2s						
SNAA	**Sanae**	**34.44**	**202**	P	**P**	**01 51 44.6**	**-0.3**
VNA2	**Neumayer--Watz**	**35.39**	**204**	P	**P**	**01 51 53.4**	**+0.2**
	baz=39,slow=6.3						
VNA1	**Neumayer--Stat**	**35.55**	**205**	P	**P**	**01 51 55.2**	**+0.8**
MBAR	**Mbarara**	**43.82**	**347**	LR	LR	02 10 59.2	
	comp=Z,611nm,18.3s,baz=154,slow=36						
QSPA	**South Pole Qui**	**46.30**	**180**	P	**P**	**01 53 22.3**	**-1.0**
	comp=Z,4.1nm,0.9s,baz=226,slow=4.8,SNR=9.9						
QSPA				LR	LR	02 10 45.1	
	comp=Z,398nm,21.8s,baz=250,slow=34						
	comp=Z,4.1nm,0.9s						
QSPA	**South Pole Qui**	**46.30**	**180**	P	**P**	**01 53 22.4**	**-0.8**
QSPA				IAmb	IAmb	01 53 26.0	
	comp=Z,7.4nm,1.1s						

VNDA Vanda 53.82 167 LR LR 02 15 45.5
comp=Z,319nm,18.9s,baz=220,slow=34
SBA Scott Base 54.36 168 P **P** **01 54 23.4** **-0.5**
SBA IAmb IAmb 01 54 33.2
comp=Z,5.2nm,1.1s
PMSA Palmer Station 56.49 210 LR LR 02 14 34.7
comp=Z,290nm,19.2s,baz=110,slow=32
WSAR Wadi Sarin 69.10 19 LR LR 02 21 47.6
comp=Z,186nm,19.6s,baz=199,slow=32
STKA Stephens Creek 76.47 121 P **P** **01 56 51.0** **+3.3**
comp=Z,2.2nm,0.8s,baz=307,slow=10,SNR=2.5
comp=Z,2.2nm,0.8s
CPUP Villa Florida 76.81 246 P **P** **01 56 47.7** **-1.9**
comp=Z,2.9nm,1.1s,baz=155,slow=8.7,SNR=3.0
CPUP LR LR 02 24 24.3
comp=Z,69nm,18.2s,baz=144,slow=31
comp=Z,2.9nm,1.1s
ASAR Alice Springs 77.03 110 P **P** **01 56 54.9** **+3.9**
comp=Z,1.2nm,0.9s,baz=224,slow=4.3,SNR=11
comp=Z,1.2nm,0.9s
ASAR Alice Springs 77.03 110 P **P** **01 56 48.2** **-2.8**
AS31 Alice Springs 77.03 110 P **P** **01 56 49.2** **-1.8**
WRA Warramunga Arr 79.83 108 P P 01 57 11.2 +4.7
comp=Z,1.8nm,0.9s,baz=216,slow=4.3,SNR=4.6
comp=Z,1.8nm,0.9s
CMAR Chiang Mai Arr 82.48 56 P P 01 57 25.8 +5.4
comp=Z,1.3nm,0.2s,baz=221,slow=4.8,SNR=5.5
comp=Z,1.3nm,0.2s
RPZ Rata Peaks 82.64 147 LR LR 02 31 46.5
comp=Z,119nm,18.8s,baz=286,slow=34
BRTR Keskin Array B 83.42 355 P **P** **01 57 27.9** **+2.9**
comp=Z,0.9nm,1.0s,baz=138,slow=6.3,SNR=4.1
BRTR LR LR 02 32 56.4
comp=Z,82nm,21.4s,baz=148,slow=34
comp=Z,0.9nm,1.0s
SHL Shillong 84.18 46 P **P** **01 57 27.8** **-1.4**
CTA Charters Tower 87.72 116 LR LR 02 30 11.1
comp=Z,118nm,19.0s,baz=261,slow=31
LPAZ La Paz 90.98 246 LR LR 02 33 28.7
comp=Z,68nm,18.6s,baz=119,slow=32
DZM Mont Dzumac 98.34 132 LR LR 02 34 51.3
comp=Z,128nm,18.8s,baz=214,slow=30
DZM Mont Dzumac 98.34 132 *e*LR LR 02 31 10.3
comp=Z,194nm,25.0s
PPT2 Papeete2 118.24 170 *e*LR LR 02 40 13.1
comp=Z,148nm,35.5s
PPT2 *e*LR LR 02 40 13.4
comp=Z,129nm,22.8s
TXAR Lajitas Array 147.32 256 PKPbc **PKPab** **02 04 42.8** **-0.6**
comp=Z,1.8nm,0.9s,baz=133,slow=6.1,SNR=13

*NEIC **20** 01:47:03.9±1.0,60.24°N±0.05°×153.2°W±0.1°,h154km±3km, Error ellipse: s-maj=8.0km s-min=7.4km az=89.0*

*AEIC **20** 01:47:05.4±0.9,60.25°N±0.05°×153.16°W±0.10°, h149km±5km,ML3.1,ML3.4/118(NEIC),Error ellipse: s-maj=7.8km s-min=7.0km az=207.0*

ISC 20 01:47:04.2±1.6,60.26°N±0.05°×153.17°W±0.06, h151km±9km,n208,σ0s60/193,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILSW	**Iliamna Southw**	**0.28**	**178**		**Pn**	**01 47 25.0**	**-0.1**
ILSW				IAML		01 47 42.1	
	comp=N,224nm,0.7s						
ILSW				IAML		01 47 43.2	
	comp=E,251nm,0.5s						
RSO	**Redoubt South**	**0.29**	**45**		**Pn**	**01 47 25.2**	**0.0**
O20K	**Slope Mountain**	**0.32**	**123**	P	**Pn**	**01 47 25.4**	**+0.3**
	baz=303						
O20K				S	**Sn**	**01 47 41.4**	**+0.5**
	baz=303						
RDJH	**Redoubt Jeurge**	**0.38**	**28**		**Pn**	**01 47 25.4**	**0.0**
RDJH					**Sn**	**01 47 40.9**	**-0.6**
O19K	**Port Alsworth**	**0.58**	**264**		**Pn**	**01 47 26.0**	**-0.1**
O19K	**Port Alsworth**	**0.58**	**264**	P	**Pn**	**01 47 25.9**	**-0.1**
	baz=84						
O19K				S	**Sn**	**01 47 42.0**	**-0.7**
	baz=84						
OPT	**Oil Point**	**0.61**	**183**	P	**Pn**	**01 47 26.6**	**+0.3**
	baz=3.6						
P19K	**Oil Pt**	**0.61**	**183**		**Pn**	**01 47 26.7**	**+0.3**
P19K	**Oil Pt**	**0.61**	**183**	P	**Pn**	**01 47 26.7**	**+0.3**
	baz=3.5						
P19K				S	**Sn**	**01 47 43.5**	**+0.3**
	baz=3.5						
N19K	**Bonanza Creek**	**0.86**	**311**		**Pn**	**01 47 28.0**	**-0.1**
N19K	**Bonanza Creek**	**0.86**	**311**	P	**Pn**	**01 47 27.9**	**-0.1**
	baz=130						
N19K				S	**Sn**	**01 47 45.6**	**-0.7**
	baz=130						
HOM	**Homer**	**0.97**	**128**		**Sn**	**01 47 48.2**	**+0.5**
HOM	**Homer**	**0.97**	**128**		**Pn**	**01 47 29.3**	**+0.5**
HOM	**Homer**	**0.97**	**128**	P	**Pn**	**01 47 29.3**	**+0.5**
	baz=309						
N20K	**Mount Spurr**	**1.05**	**26**	P	**Pn**	**01 47 29.9**	**+0.3**
	baz=206						
SPCR	**Spurr Chakacha**	**1.05**	**26**	P	**Pn**	**01 47 29.9**	**+0.3**
	baz=206						
SPU	**Mount Spurr**	**1.07**	**30**		**Pn**	**01 47 29.9**	**+0.1**
O18K	**Koktuh Hills**	**1.10**	**249**	Pn	**Pn**	**01 47 29.9**	**-0.2**
O18K	**Koktuh Hills**	**1.10**	**249**	P	**Pn**	**01 47 29.8**	**-0.2**
	baz=68						
O18K				S	**Sn**	**01 47 48.8**	**-0.9**
	baz=68						
CAPN	**Captain Cook N**	**1.12**	**62**		**Pn**	**01 47 31.6**	**+1.6**
CAPN	**Captain Cook N**	**1.12**	**62**	IAML		01 48 03.0	
	comp=E,642nm,0.4s						
CAPN	**Captain Cook N**	**1.12**	**62**	P	**Pn**	**01 47 31.6**	**+1.6**
	baz=243						
CNPM	**China Poot**	**1.22**	**126**		**Pn**	**01 47 31.5**	**+0.4**
CNPM	**China Poot**	**1.22**	**126**		**Sn**	**01 47 51.2**	**-0.4**
BRLK	**Bradley Lake**	**1.25**	**112**	Pn	**Pn**	**01 47 31.5**	**+0.1**
BRSE	**Bradley Lake S**	**1.32**	**112**		**Pn**	**01 47 32.5**	**+0.4**
BRSE	**Bradley Lake S**	**1.32**	**112**	P	**Pn**	**01 47 32.5**	**+0.4**
	baz=294						
Q19K	**Cape Douglas,**	**1.36**	**191**		**Pn**	**01 47 32.2**	**-0.2**
Q19K				IAML		01 47 58.7	
	comp=N,224nm,0.8s						
Q19K				IAML		01 48 02.8	
	comp=E,201nm,0.9s						
Q19K	**Cape Douglas,**	**1.36**	**191**	P	**Pn**	**01 47 32.3**	**-0.2**
	baz=10						
P18K	**Big Mountain,**	**1.36**	**231**	Pn	**Pn**	**01 47 32.1**	**-0.4**
P18K	**Big Mountain,**	**1.36**	**231**	P	**Pn**	**01 47 32.1**	**-0.4**
	baz=50						
N18K	**Kilae Creek**	**1.42**	**289**	Pn	**Pn**	**01 47 32.9**	**-0.1**
N18K	**Kilae Creek**	**1.42**	**289**	P	**Pn**	**01 47 32.8**	**-0.1**
	baz=106						
M20K	**Styx River**	**1.63**	**1**		**Pn**	**01 47 36.0**	**+0.7**
M20K	**Styx River**	**1.63**	**1**	P	**Pn**	**01 47 36.0**	**+0.7**
	baz=180						
SUA	**Susitna One**	**1.69**	**43**		**Pn**	**01 47 36.2**	**+0.1**
SUA				IAML		01 48 02.0	
	comp=N,291nm,0.9s						
SUA				IAML		01 48 02.5	
	comp=E,376nm,0.5s						
SUA	**Susitna One**	**1.69**	**43**	P	**Pn**	**01 47 36.1**	**+0.1**
	baz=225						
FIS	**Fire Island**	**1.70**	**57**		**Pn**	**01 47 36.4**	**+0.5**
FIS	**Fire Island**	**1.70**	**57**	IAML		01 48 03.8	
	comp=N,392nm,0.8s						
FIS				IAML		01 48 04.1	
	comp=E,419nm,0.5s						
Q20K	**Shuyak Island**	**1.70**	**166**	P	**Pn**	**01 47 35.9**	**-0.1**
	baz=347						
O22K	**Cooper Landing**	**1.72**	**81**		**Pn**	**01 47 36.1**	**-0.2**
O22K				IAML		01 48 08.8	
	comp=N,352nm,0.5s						
O22K				IAML		01 48 09.2	
	comp=E,349nm,0.3s						
O22K	**Cooper Landing**	**1.72**	**81**	P	**Pn**	**01 47 36.0**	**-0.2**
	baz=264						
M19K	**Big River Lodg**	**1.75**	**341**		**Pn**	**01 47 35.9**	**-0.7**
M19K	**Big River Lodg**	**1.75**	**341**	P	**Pn**	**01 47 36.7**	**+0.1**
	baz=160						
SEW	**Seward**	**1.86**	**93**	Pn	**Pn**	**01 47 37.7**	**-0.1**
SEW	**Seward**	**1.86**	**93**	P	**Pn**	**01 47 37.6**	**-0.1**
	baz=276						
KAHC	**Katmai Hardscr**	**1.87**	**211**	P	**Pn**	**01 47 37.9**	**-0.1**
	baz=30						
Q18K	**Katmai Hardscr**	**1.87**	**211**	P	**Pn**	**01 47 37.9**	**-0.2**
	baz=30						
RC01	**Rabbit Creek A**	**1.88**	**62**	Pn	**Pn**	**01 47 37.5**	**-0.5**
RC01				IAML		01 48 04.5	
	comp=E,218nm,0.3s						

RC01				IAML		01 48 08.0	
	comp=N,146nm,0.3s						
RC01	**Rabbit Creek A**	**1.88**	**62**	P	**Pn**	**01 47 37.4**	**-0.6**
	baz=245						
SKT	**Skwentna**	**1.90**	**24**		**Pn**	**01 47 38.5**	**+0.3**
SKT				IAML		01 48 06.0	
	comp=N,98nm,0.7s						
SKT	**Skwentna**	**1.90**	**24**	P	**Pn**	**01 47 38.5**	**+0.3**
	baz=205						
P17K	**Kvichak River**	**1.97**	**239**	P	**Pn**	**01 47 39.6**	**+0.6**
	baz=56						
O17K	**Koliganek Bris**	**2.03**	**258**	P	**Pn**	**01 47 40.2**	**+0.5**
	baz=75						
L19K	**White Mountain**	**2.10**	**338**	P	**Pn**	**01 47 40.5**	**0.0**
	baz=156						
M22K	**Willow**	**2.11**	**43**		**Pn**	**01 47 40.6**	**0.0**
M22K	**Willow**	**2.11**	**43**	P	**Pn**	**01 47 40.6**	**0.0**
	baz=226						
L20K	**Farewell, AK**	**2.25**	**352**	P	**Pn**	**01 47 43.0**	**+0.7**
	baz=171						
PMR	**Palmer**	**2.38**	**54**	IAML		01 48 14.4	
	comp=N,118nm,0.3s						
PMR				IAML		01 48 20.2	
	comp=E,84nm,0.4s						
PMR	**Palmer**	**2.38**	**54**	P	**Pn**	**01 47 42.6**	**-1.2**
	baz=237						
Q16K	**King Salmon**	**2.39**	**230**	P	**Pn**	**01 47 44.5**	**+0.5**
	baz=47						
Q17K	**Contact Creek**	**2.44**	**216**	P	**Pn**	**01 47 44.7**	**-0.1**
	baz=34						
PWL	**Port Wells**	**2.46**	**74**		**Pn**	**01 47 43.7**	**-1.2**
PWL	**Port Wells**	**2.46**	**74**	IAML		01 48 16.5	
	comp=N,87nm,0.1s						
PWL				IAML		01 48 18.6	
	comp=E,111nm,0.4s						
PWL	**Port Wells**	**2.46**	**74**	P	**Pn**	**01 47 43.7**	**-1.2**
	baz=258						
GHO	**Glory Hole Cre**	**2.56**	**52**		**Pn**	**01 47 45.3**	**-0.9**
GHO				IAML		01 48 17.4	
	comp=N,125nm,0.4s						
GHO				IAML		01 48 17.7	
	comp=E,184nm,0.6s						
CUT	**Chulitna**	**2.57**	**32**		**Pn**	**01 47 46.0**	**-0.1**
CUT	**Chulitna**	**2.57**	**32**	P	**Pn**	**01 47 46.6**	**+0.5**
	baz=214						
O16K	**Kokwok River B**	**2.57**	**257**	P	**Pn**	**01 47 46.5**	**+0.3**
	baz=73						
KNK	**Knik Glacier**	**2.58**	**61**	IAML		01 48 18.7	
	comp=N,172nm,0.2s						
KNK				IAML		01 48 18.7	
	comp=E,130nm,0.3s						
KNK	**Knik Glacier**	**2.58**	**61**	P	**Pn**	**01 47 45.2**	**-1.1**
	baz=245						
PPLA	**Purkeypile**	**2.69**	**10**		**Pn**	**01 47 48.9**	**+1.1**
PPLA	**Purkeypile**	**2.69**	**10**	P	**Pn**	**01 47 48.9**	**+1.1**
	baz=190						
N16K	**Nishlik Lake**	**2.79**	**277**	P	**Pn**	**01 47 49.4**	**+0.4**
	baz=92						
SML	**Sawmill**	**2.82**	**54**	Pn	**Pn**	**01 47 47.8**	**-1.5**
SML				IAML		01 48 24.0	
	comp=E,81nm,0.5s						
SML				IAML		01 48 24.2	
	comp=N,108nm,0.3s						
SML	**Sawmill**	**2.82**	**54**	P	**Pn**	**01 47 48.3**	**-1.1**
	baz=238						
P23K	**Montague Islan**	**2.90**	**93**	P	**Pn**	**01 47 50.5**	**+0.2**
	baz=278						
OHAK	**Old Harbor**	**3.05**	**181**		**Pn**	**01 47 50.3**	**-1.9**
OHAK				IAML		01 48 30.6	
	comp=E,47nm,0.7s						
OHAK				IAML		01 48 31.3	
	comp=N,40nm,0.3s						
OHAK	**Old Harbor**	**3.05**	**181**	P	**Pn**	**01 47 50.2**	**-1.9**
	baz=1.2						
M23K	**Glacier View**	**3.06**	**57**	P	**Pn**	**01 47 51.5**	**-0.8**
	baz=242						
K20K	**Telida**	**3.14**	**353**		**Pn**	**01 47 53.3**	**-0.1**
K20K	**Telida**	**3.14**	**353**	P	**Pn**	**01 47 54.0**	**+0.6**
	baz=172						
CAST	**Castle Rocks**	**3.21**	**9**	Pn	**Pn**	**01 47 54.2**	**-0.1**
CAST	**Castle Rocks**	**3.21**	**9**	P	**Pn**	**01 47 54.5**	**+0.2**
	baz=190						
SCM	**Sheep Creek Mo**	**3.25**	**58**	IAML		01 48 35.1	
	comp=N,94nm,0.9s						
SCM	**Sheep Creek Mo**	**3.25**	**58**	P	**Pn**	**01 47 54.0**	**-0.8**
	baz=243						
HIN	**Hinchinbrook I**	**3.32**	**85**	IAML		01 48 36.7	
	comp=N,87nm,1.7s						
HIN				IAML		01 48 47.0	
	comp=E,89nm,1.8s						
WAT1	**Susitna Watana**	**3.40**	**39**	P	**Pn**	**01 47 56.2**	**-0.4**
	baz=222						
KTH	**Kantishna Hill**	**3.47**	**17**		**Pn**	**01 47 57.8**	**+0.2**
KTH				IAML		01 48 38.8	
	comp=E,31nm,0.5s						
KTH				IAML		01 48 39.6	
	comp=N,37nm,0.9s						
TRF	**Thorofare Moun**	**3.48**	**22**	Pn	**Pn**	**01 47 58.4**	**+0.5**
TRF				IAML		01 48 39.8	
	comp=N,70nm,0.4s						
TRF				IAML		01 48 40.5	
	comp=E,54nm,0.5s						
TRF	**Thorofare Moun**	**3.48**	**22**	P	**Pn**	**01 47 58.1**	**+0.3**
	baz=204						
WAT6	**Susitna Watana**	**3.50**	**46**	P	**Pn**	**01 47 57.3**	**-0.7**
	baz=230						
Q23K	**Middleton Isla**	**3.54**	**101**	P	**Pn**	**01 47 58.4**	**0.0**
	baz=286						
CHUM	**Lake Minchumin**	**3.66**	**6**		**Pn**	**01 48 00.2**	**+0.2**
CHUM	**Lake Minchumin**	**3.66**	**6**	P	**Pn**	**01 48 00.2**	**+0.2**
	baz=187						
EYAK	**Cordova Ski Ar**	**3.69**	**82**		**Pn**	**01 48 00.4**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.69**	**82**	P	**Pn**	**01 48 00.5**	**+0.1**
	baz=269						
SII	**Sitkinak Islan**	**3.75**	**189**		**Pn**	**01 47 59.2**	**-2.0**
SII	**Sitkinak Islan**	**3.75**	**189**	IAML		01 48 42.8	
	comp=N,79nm,0.4s						
SII	**Sitkinak Islan**	**3.75**	**189**	P	**Pn**	**01 47 59.2**	**-2.0**
	baz=7.8						
KLU	**Klutina**	**3.75**	**68**	IAML		01 48 46.9	
	comp=E,85nm,0.2s						
KLU	**Klutina**	**3.75**	**68**	P	**Pn**	**01 48 00.4**	**-0.9**
	baz=254						
RND	**Reindeer**	**3.76**	**31**		**Pn**	**01 48 01.6**	**+0.3**
RND	**Reindeer**	**3.76**	**31**	IAML		01 48 47.2	
	comp=E,35nm,0.4s						
M24K	**Tolsona, Glenn**	**3.86**	**58**	IAML		01 48 58.7	
	comp=N,89nm,0.7s						
M24K	**Tolsona, Glenn**	**3.86**	**58**	P	**Pn**	**01 48 02.5**	**-0.1**
	baz=244						
DHY	**Denali Highway**	**3.95**	**42**		**Pn**	**01 48 03.7**	**-0.3**
DHY				IAML		01 48 50.8	
	comp=E,55nm,0.4s						
DHY				IAML		01 48 52.1	
	comp=N,55nm,0.3s						
DHY	**Denali Highway**	**3.95**	**42**	P	**Pn**	**01 48 03.6**	**-0.3**
	baz=227						
J20K	**Nowinta River**	**3.96**	**354**	Pn	**Pn**	**01 48 04.5**	**+0.6**
J20K	**Nowinta River**	**3.96**	**354**	P	**Pn**	**01 48 04.4**	**+0.6**
	baz=173						
BPAW	**Bear Paw Mtn.**	**3.99**	**14**		**Pn**	**01 48 04.2**	**-0.1**
BPAW	**Bear Paw Mtn.**	**3.99**	**14**	P	**Pn**	**01 48 04.2**	**-0.1**
	baz=196						
MCK	**McKinley**	**4.02**	**28**		**Pn**	**01 48 04.9**	**+0.3**
MCK	**McKinley**	**4.02**	**28**	IAML		01 48 53.5	
	comp=N,24nm,0.3s						
MCK				IAML		01 48 54.7	
	comp=E,26nm,0.2s						
MCK	**McKinley**	**4.02**	**28**	P	**Pn**	**01 48 05.0**	**+0.3**
	baz=212						
BMRM	**Bremner River**	**4.28**	**77**		**Pn**	**01 48 07.2**	**-0.9**
BMRM	**Bremner River**	**4.28**	**77**	P	**Pn**	**01 48 08.1**	**-0.1**
	baz=264						
BWN	**Browne**	**4.29**	**22**	IAML		01 49 15.9	
	comp=N,33nm,2.7s						
BWN				IAML		01 49 47.0	
	comp=E,32nm,3.0s						
N25K	**Chitina, Valde**	**4.39**	**68**	P	**Pn**	**01 48 09.5**	**-0.1**
	baz=256						
HARP	**HAARP**	**4.42**	**57**	P	**Pn**	**01 48 10.0**	**+0.1**
	baz=244						
HMT	**Hamilton**	**4.43**	**85**		**Pn**	**01 48 10.3**	**+0.2**
PAX	**Paxson**	**4.57**	**50**	P	**Pn**	**01 48 12.0**	**0.0**
	baz=237						
NICHA	**Nichawak Mount**	**4.58**	**86**		**Pn**	**01 48 12.1**	**0.0**
GLB	**Gilahina Butte**	**4.73**	**71**		**Pn**	**01 48 13.6**	**-0.4**
GLB	**Gilahina Butte**	**4.73**	**71**	IAML		01 49 09.2	
	comp=E,25nm,0.5s						
GLB				IAML		01 49 10.2	
	comp=N,32nm,0.4s						
NEA2	**Nenana**	**4.75**	**22**	IAML		01 49 09.5	
	comp=N,12nm,1.8s						
NEA2	**Nenana**	**4.75**	**22**	P	**Pn**	**01 48 13.9**	**-0.3**
	baz=205						
GCSA	**Galena City Sc**	**4.82**	**341**		**Pn**	**01 48 15.7**	**+0.6**
WRH	**Wood River Hil**	**4.84**	**27**		**Pn**	**01 48 15.2**	**-0.2**
WRH				IAML		01 49 11.0	
	comp=E,12nm,0.4s						
WRH				IAML		01 49 11.7	
	comp=N,13nm,0.6s						
VRDI	**Verde Repeater**	**4.86**	**74**	IAML		01 49 12.6	
	comp=E,23nm,0.5s						
VRDI				IAML		01 49 13.5	
	comp=N,43nm,0.6s						
GRIN	**Grindle Hills**	**4.90**	**85**		**Pn**	**01 48 16.5**	**+0.2**
MLY	**Manley**	**4.92**	**12**	IAML		01 50 09.2	
	comp=N,10.0nm,4.2s						
MLY	**Manley**	**4.92**	**12**	P	**Pn**	**01 48 16.1**	**-0.4**
	baz=194						
I21K	**Tanana**	**4.97**	**6**	IAML		01 49 01.8	
	comp=E,9.6nm,3.5s						
I21K				IAML		01 50 18.4	
	comp=N,15nm,4.0s						
I21K	**Tanana**	**4.97**	**6**	P	**Pn**	**01 48 17.3**	**+0.2**
	baz=187						
K24K	**Donnelly Dome**	**4.97**	**41**	P	**Pn**	**01 48 18.5**	**+1.3**
	baz=228						
CCB	**Clear Creek Bu**	**5.06**	**27**		**Pn**	**01 48 17.8**	**-0.4**
CCB	**Clear Creek Bu**	**5.06**	**27**	IAML		01 49 15.9	
	comp=E,12nm,0.3s						
HDA	**Harding Lake**	**5.07**	**32**		**Pn**	**01 48 18.3**	**-0.2**
HDA	**Harding Lake**	**5.07**	**32**	P	**Pn**	**01 48 18.3**	**-0.2**
	baz=218						
MCARA	**McCarthy VSAT**	**5.09**	**73**		**Pn**	**01 48 19.1**	**+0.3**
MCARA	**McCarthy VSAT**	**5.09**	**73**	IAML		01 49 19.3	
	comp=N,37nm,0.4s						
MCARA				IAML		01 49 22.9	
	comp=E,35nm,0.4s						
MCARA	**McCarthy VSAT**	**5.09**	**73**	P	**Pn**	**01 48 19.0**	**+0.3**
	baz=262						
WAX	**Waxell Ridge**	**5.12**	**83**		**Pn**	**01 48 19.6**	**+0.4**
WAX				IAML		01 49 19.3	
	comp=E,28nm,0.9s						
SNH	**Sunshine Point**	**5.15**	**86**		**Pn**	**01 48 19.9**	**+0.3**
I23K	**Minto, Yukon-K**	**5.21**	**18**	P	**Pn**	**01 48 20.5**	**+0.2**
	baz=201						
MDM	**Murphy Dome**	**5.24**	**24**		**Pn**	**01 48 20.7**	**0.0**
MDM				IAML		01 50 07.4	
	comp=N,8.5nm,4.7s						
MDM				IAML		01 51 37.6	
	comp=E,9.6nm,4.0s						
CYK	**Cape Yakataga**	**5.34**	**87**		**Pn**	**01 48 22.6**	**+0.7**
M26K	**Nabesna, AK**	**5.35**	**62**	IAML		01 49 25.2	
	comp=E,24nm,0.4s						
M26K	**Nabesna, AK**	**5.35**	**62**	P	**Pn**	**01 48 22.8**	**+0.6**
	baz=251						
KIAG	**Kiagna River**	**5.37**	**78**		**Pn**	**01 48 22.2**	**-0.4**
ISLE	**Juniper Island**	**5.37**	**82**		**Pn**	**01 48 23.0**	**+0.3**
ISLE				IAML		01 49 04.8	
	comp=N,31nm,1.6s						
ISLE				IAML		01 49 26.5	
	comp=E,21nm,1.9s						
ILAR	**Eielson Array**	**5.38**	**30**	Pn	**Pn**	**01 48 22.3**	**-0.2**
BALM	**Baldy**	**5.38**	**77**		**Pn**	**01 48 22.4**	**-0.3**
H21K	**Melozitna Rive**	**5.42**	**2**	P	**Pn**	**01 48 23.0**	**-0.1**
	baz=182						
DOT	**Dot Lake**	**5.48**	**48**		**Pn**	**01 48 23.6**	**-0.3**
POKR	**Poker Plat Res**	**5.54**	**26**	P	**Pn**	**01 48 24.8**	**+0.1**
	baz=211						
MESA	**MESA**	**5.59**	**86**		**Pn**	**01 48 25.2**	**-0.4**
MESA	**MESA**	**5.59**	**86**	P	**Pn**	**01 48 25.2**	**-0.4**
	baz=276						
J25K	**Salcha River,**	**5.67**	**36**	P	**Pn**	**01 48 26.4**	**-0.1**
	baz=223						
YAH	**Yahtse**	**5.68**	**84**		**Pn**	**01 48 27.3**	**+0.5**
SCRK	**Sand Creek**	**5.70**	**45**		**Pn**	**01 48 26.0**	**-0.9**
SCRK	**Sand Creek**	**5.70**	**45**	P	**Pn**	**01 48 26.5**	**-0.4**
	baz=233						
H22K	**Ishtalitna Cre**	**5.71**	**7**	P	**Pn**	**01 48 28.3**	**+1.3**
	baz=189						
IMAR	**Indian Mountai**	**5.75**	**358**	Pn	**Pn**	**01 48 28.0**	**+0.5**
H23K	**Yukon River**	**5.83**	**15**	P	**Pn**	**01 48 28.9**	**+0.5**
	baz=198						
M27K	**Edge Creek, AK**	**5.83**	**64**	P	**Pn**	**01 48 29.7**	**+1.1**
	baz=254						
TABL	**Table Mountain**	**5.97**	**83**		**Pn**	**01 48 31.2**	**+0.5**
L27K	**Beaver Creek,**	**6.09**	**58**		**Pn**	**01 48 32.5**	**+0.5**
L27K	**Beaver Creek,**	**6.09**	**58**	P	**Pn**	**01 48 32.2**	**+0.2**
	baz=248						
H24K	**Noodor Dome**	**6.09**	**21**	P	**Pn**	**01 48 31.7**	**-0.3**
	baz=206						
BCAR	**Beaver Creek A**	**6.11**	**58**	Pn	**Pn**	**01 48 32.2**	**0.0**
J26L	**Joseph Creek**	**6.17**	**42**	P	**Pn**	**01 48 32.9**	**-0.2**
	baz=231						
SAMH	**Samovar Hills**	**6.18**	**86**		**Pn**	**01 48 33.9**	**+0.6**
G21K	**Allakaket**	**6.28**	**359**	P	**Pn**	**01 48 35.1**	**+0.5**
	baz=178						
PRP	**Porcupine Dome**	**6.33**	**30**		**Pn**	**01 48 35.0**	**-0.2**
PRP	**Porcupine Dome**	**6.33**	**30**	P	**Pn**	**01 48 35.1**	**-0.2**
	baz=217						
YUK3	**Moose Creek**	**6.36**	**71**	P	**Pn**	**01 48 36.3**	**+0.4**
	baz=262						
K27K	**Chicken**	**6.42**	**49**	Pn	**Pn**	**01 48 37.0**	**+0.6**
K27K	**Chicken**	**6.42**	**49**	P	**Pn**	**01 48 36.5**	**+0.1**
	baz=239						
O28M	**Mount Upton**	**6.43**	**80**	P	**Pn**	**01 48 37.5**	**+0.7**
	baz=271						
PCA	**Pinnacle**	**6.44**	**86**		**Pn**	**01 48 37.1**	**+0.3**
PINM	**Pinnacle**	**6.45**	**86**	P	**Pn**	**01 48 37.1**	**+0.3**
	baz=277						
G23K	**Bananza Creek**	**6.63**	**11**	P	**Pn**	**01 48 39.5**	**+0.3**
	baz=194						
YUK8	**Steele Glacier**	**6.64**	**75**	P	**Pn**	**01 48 40.3**	**+0.7**
	baz=267						
I26K	**Coal Creek Min**	**6.83**	**38**		**Pn**	**01 48 42.2**	**+0.4**
I26K	**Coal Creek Min**	**6.83**	**38**	P	**Pn**	**01 48 41.6**	**-0.2**
	baz=227						
PNL	**Peninsula**	**6.94**	**89**		**Pn**	**01 48 43.6**	**+0.3**
PNL	**Peninsula**	**6.94**	**89**	P	**Pn**	**01 48 43.7**	**+0.3**
	baz=281						
G24K	**Hadweenzic Riv**	**6.95**	**19**	P	**Pn**	**01 48 42.9**	**-0.5**
	baz=204						
EGAK	**Eagle**	**7.16**	**46**	Pn	**Pn**	**01 48 45.3**	**-0.9**
YUK4	**Talbot Arm**	**7.19**	**75**	P	**Pn**	**01 48 47.9**	**+1.1**
	baz=267						
O29M	**Mount Kennedy**	**7.25**	**83**	P	**Pn**	**01 48 47.6**	**-0.1**
	baz=276						
YUK6	**Outpost Mounta**	**7.32**	**78**	P	**Pn**	**01 48 48.9**	**+0.3**
	baz=271						
M29M	**Somme Creek**	**7.40**	**66**	P	**Pn**	**01 48 50.3**	**+0.7**
	baz=259						
DAWY	**Dawson**	**7.49**	**53**	P	**Pn**	**01 48 51.1**	**+0.4**
	baz=246						
F24K	**Squaw Lake**	**7.65**	**15**	P	**Pn**	**01 48 52.6**	**-0.2**
	baz=200						
L29M	**L29M**	**7.70**	**62**	P	**Pn**	**01 48 53.8**	**+0.4**
	baz=255						
P29M	**Windy Craggy**	**7.77**	**88**	P	**Pn**	**01 48 55.4**	**+0.9**
	baz=281						
N30M	**Aishikik Lake**	**7.94**	**74**	P	**Pn**	**01 48 56.5**	**-0.2**
	baz=268						
H27K	**Steamboat Moun**	**7.96**	**36**	P	**Pn**	**01 48 56.4**	**-0.4**
	baz=226						
E23K	**Chandalar**	**7.98**	**10**	P	**Pn**	**01 48 56.8**	**-0.4**
	baz=193						
F25K	**Christian Rive**	**8.07**	**21**	P	**Pn**	**01 48 57.8**	**-0.6**
	baz=208						
M30M	**Minto, Yukon**	**8.18**	**66**	Pn	**Pn**	**01 48 60.0**	**+0.1**
M30M	**Minto, Yukon**	**8.18**	**66**	P	**Pn**	**01 48 59.4**	**-0.5**
	baz=261						
E25K	**Arctic Village**	**8.55**	**19**	P	**Pn**	**01 49 04.1**	**-0.7**
	baz=206						
WHY	**Whitehorse**	**9.04**	**80**	Pn	**Pn**	**01 49 12.2**	**+0.8**
JIS	**Juneau Island**	**9.81**	**93**	Pn	**Pn**	**01 49 22.2**	**+0.7**

*IDC **20** 02:04:26.8±1.0, 3°.31S×146°.36E, h0km, mb4.2/12, mbtmp4.3/14, ML3.4/2, MS4.0/21, Error ellipse: s-maj=37.6km s-min=15.1km az=98.0*

*NEIC **20** 02:04:27.5±1.0, 3°.31S±0°.07×146°.47E±0°.09, h10km±1km, mb4.5/25, Error ellipse: s-maj=15.9km s-min=10.5km az=107.0*

*DJA **20** 02:04:29.3±2.3, 3°S±4°×14°6E±°, h16km±19km, M4.6/13, mB4.9/4, mb4.7/13, MLv4.7/2, Mw(mB)4.2/4*

*GCMT **20** 02:04:33.5±0.3, 3°.38S±0°.01×146°.35E±0°.02, h19km±1km, MW4.8/91, Moment Tensor Solution. s25,c26; s91,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.30±.11; $M_{\theta\theta}$0.58±.09; $M_{\phi\phi}$-0.28±.10; $M_{r\theta}$-0.05±.18; $M_{\theta\phi}$2.30±.08; $M_{\phi r}$0.09±.19; Best double couple: $M_0$2.34400×10^{16} NP1:ϕ_s185.00000°, δ88.00000°, λ-177.00000°. NP2: ϕ_s95.00000°, δ87.00000°, λ-2.00000°. Principal axes: T 2.4890, Plg0.0000°, Azm320.0000°; N -0.2920, Plg87.0000°, Azm223.0000°; P -2.1980, Plg3.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 02:04:28.9±0.5, **3°.36S**±0°.06×**146°.50E**±0°.08, **h20km, n73, σ1^s.19**/58, **mb4.5**/29, **MS4.0**/21, **1C-1D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.57**	**34**		**Pn**	**02 04 54.5**	**-1.2**
RABL	**Rabaul**	**5.72**	**98**	Pn	**Pn**	**02 05 51.7**	**-1.1**
PMG	**Port Moresby**	**6.04**	**174**	Pn	**Pn**	**02 05 58.2**	**+0.9**
	11nm,0.3s,baz=36,slow=5.3,SNR=26						
	76nm,0.6s						
PMG	**Port Moresby**	**6.04**	**174**	Pn	**Pn**	**02 05 57.3**	**0.0**
PMG	**Port Moresby**	**6.04**	**174**	P	**Pn**	**02 05 58.0**	**+0.8**
	0.5nm171nm,0.8s						
COEN	**Coen**	**11.03**	**197**	Pn	**Pn**	**02 07 06.4**	**+0.7**
HNR	**Honiara**	**14.66**	**115**	LR	LR	02 13 36.2	
	comp=Z,4µm,18.4s,baz=282,slow=37						
HNR	**Honiara**	**14.66**	**115**	Pn	**Pn**	**02 07 55.3**	**0.0**
CTA	**Charters Tower**	**16.63**	**181**	Pn	**Pn**	**02 08 22.1**	**+1.1**
	0.6nm,0.3s,baz=357,slow=12,SNR=5.5						
CTA				LR	LR	02 15 10.7	
	comp=Z,301nm,18.6s,baz=1.0,slow=39						
	6.5nm,0.8s						
CTAO	**Charters Tower**	**16.63**	**181**	Pn	**Pn**	**02 08 18.3**	**-2.7**
CTAO				IAmb	IAmb	02 08 32.3	
	comp=Z,34nm,1.1s						
GUMO	**Guam**	**16.91**	**355**	LR	LR	02 14 10.8	
	comp=Z,280nm,18.4s,baz=126,slow=35						
MTN	**Manton Dam**	**17.88**	**237**	Pn	**Pn**	**02 08 34.6**	**-2.0**
MTN				IAmb	IAmb	02 08 39.8	
	comp=Z,37nm,1.1s						
WRAB	**Tennant Creek**	**20.29**	**215**	P	**P**	**02 09 03.6**	**-0.1**
WRAB				IAmb	IAmb	02 09 10.1	
	comp=Z,26nm,0.8s						
WB2	**Warramunga Arr**	**20.30**	**215**	P	**P**	**02 09 03.9**	**+0.1**
WB2				IAmb	IAmb	02 09 11.7	
	comp=Z,50nm,1.4s						
WRA	**Warramunga Arr**	**20.31**	**215**	P	**P**	**02 09 04.2**	**+0.3**
	comp=Z,13nm,1.0s,baz=40,slow=11,SNR=98						
WRA				LR	LR	02 17 30.9	
	comp=Z,349nm,18.2s,baz=34,slow=39						
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**20.31**	**215**		**P**	**02 09 02.9**	**-0.9**
KNRA	**Kununurra**	**21.32**	**234**	P	**P**	**02 09 14.0**	**-0.8**
EIDS	**Eidsvold**	**22.32**	**169**	P	**P**	**02 09 24.0**	**-1.5**
EIDS				IAmb	IAmb	02 09 34.8	
	comp=Z,22nm,0.9s						
SOEI	**Soe**	**22.97**	**253**	P	**P**	**02 09 31.5**	**-1.0**
SOEI	**Soe**	**22.97**	**253**	P	**P**	**02 09 33.8**	**+1.2**
	comp=Z,49nm,0.9s						
DAV	**Davao City (W)**	**23.31**	**296**	LR	LR	02 18 28.2	
	comp=Z,156nm,19.4s,baz=101,slow=36						
AS31	**Alice Springs**	**23.57**	**210**	P	**P**	**02 09 38.0**	**-0.4**
ASAR	**Alice Springs**	**23.57**	**210**	P	**P**	**02 09 38.9**	**+0.4**
	comp=Z,5.0nm,0.9s,baz=44,slow=8.0,SNR=35						
ASAR				LR	LR	02 19 18.2	
	comp=Z,261nm,19.4s,baz=41,slow=38						
	comp=Z,5.0nm,0.9s						
ASAR	**Alice Springs**	**23.57**	**210**	P	**P**	**02 09 38.2**	**-0.2**
BATI	**Baumata**	**23.66**	**252**	P	**P**	**02 09 39.5**	**+0.2**
	comp=Z,9.1nm,0.4s,baz=47,slow=5.1,SNR=3.7						
BATI				LR	LR	02 20 38.7	
	comp=Z,319nm,19.1s,baz=78,slow=41						
	comp=Z,9.1nm,0.4s						
BATI	**Baumata**	**23.66**	**252**	P	**P**	**02 09 39.7**	**+0.3**
	comp=Z,42nm,0.9s						
GTOI	**Gorontalo**	**23.81**	**279**	P	**P**	**02 09 42.6**	**+1.8**
LUWI	**Luwuk**	**23.82**	**275**	P	**P**	**02 09 39.8**	**-1.0**
LUWI	**Luwuk**	**23.82**	**275**	P	**P**	**02 09 41.2**	**+0.3**
	comp=Z,3µmcomp=Z,55nm,1.5s						
TOLI2	**Tolitoli**	**26.08**	**279**	P	**P**	**02 10 00.2**	**-1.4**
TOLI2				IAmb	IAmb	02 10 27.6	
	comp=Z,11nm,1.1s						
KAPI	**Kappang**	**26.72**	**266**	LR	LR	02 21 07.8	
	comp=Z,90nm,20.2s,baz=100,slow=38						
DZM	**Mont Dzumac**	**26.85**	**136**	LR	LR	02 19 32.3	
	comp=Z,510nm,19.7s,baz=294,slow=34						
DZM	**Mont Dzumac**	**26.85**	**136**	P	**P**	**02 10 09.0**	**+0.5**
ARMA	**Armidale**	**27.35**	**170**	P	**P**	**02 10 13.0**	**+0.1**
ARMA				IAmb	IAmb	02 10 18.2	
	comp=Z,7.5nm,0.8s						
STKA	**Stephens Creek**	**28.74**	**189**	P	**P**	**02 10 26.7**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=344,slow=18,SNR=1.0						
	comp=Z,1.1nm,0.3s						
STKA	**Stephens Creek**	**28.74**	**189**	P	**P**	**02 10 24.7**	**-0.5**
JCJ	**Chichijima**	**30.56**	**352**	LR	LR	02 21 19.8	
	comp=Z,93nm,21.5s,baz=226,slow=33						
SBUM	**Sibu**	**34.74**	**279**	P	**P**	**02 11 16.6**	**-1.6**
JOW	**Kunigami**	**34.80**	**331**	LR	LR	02 22 26.6	
	comp=Z,324nm,21.9s,baz=149,slow=31						
KSM	**Kuching**	**36.49**	**277**	P	**P**	**02 11 31.5**	**-1.7**
KSM				IAmb	IAmb	02 11 43.0	
	comp=Z,11nm,1.3s						
JGF	**Kuroka**	**39.69**	**348**	P	**P**	**02 11 57.0**	**-2.9**
JGF				IAmb	IAmb	02 12 05.4	
	comp=Z,8.9nm,1.0s						
NWAO	**Narrogin (SRO)**	**40.19**	**220**	LR	LR	02 30 12.3	
	comp=Z,357nm,20.3s,baz=270,slow=38						
MJAR	**Matsushiro Arr**	**40.44**	**350**	P	**P**	**02 12 04.3**	**-1.8**
	comp=Z,1.5nm,0.2s,baz=173,slow=7.1,SNR=3.1						
	comp=Z,1.5nm,0.2s						
MAJO	**Matsushiro**	**40.44**	**350**	P	**P**	**02 12 05.0**	**-1.1**
MAJO				IAmb	IAmb	02 12 14.0	
	comp=Z,21nm,1.2s						
MJB9	**Matsu-Tunnel**	**40.45**	**350**	P	**P**	**02 12 05.3**	**-0.9**
MJB9				IAmb	IAmb	02 12 15.0	
	comp=Z,22nm,1.3s						
AFI	**Afiamalu**	**42.49**	**107**	LR	LR	02 26 16.3	
	comp=Z,128nm,21.4s,baz=274,slow=31						
NJ2	**Nanjing**	**43.93**	**325**	*e*P	P	02 12 46.9	+12
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**44.12**	**339**	P	**P**	**02 12 36.6**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=166,slow=9.1,SNR=6.5						
KSRS				LR	LR	02 28 11.9	
	comp=Z,123nm,21.8s,baz=150,slow=32						
	comp=Z,2.9nm,0.9s						
USA0B	**Ussuriysk Arra**	**49.10**	**346**	P	**P**	**02 13 14.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**49.10**	**346**	P	**P**	**02 13 16.6**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=166,slow=7.4,SNR=3.6						
USRK				LR	LR	02 32 01.9	
	comp=Z,61nm,19.2s,baz=123,slow=34						
	comp=Z,1.8nm,0.3s						
USRK	**Ussuriysk Ar.**	**49.10**	**346**	P	**P**	**02 13 13.9**	**-1.1**
HNS	**HongShan**	**50.16**	**327**	⇓P	P	02 13 32.3	+9.1
HNS				*e*S	S	02 20 49.8	+16
HNS				pmax	pmax		
	comp=Z,9.0nm,1.5s						
HNS				LR	LR		
	comp=N,120nm,19.4s						
HNS				LR	LR		
	comp=E,260nm,16.5s						
HNS				LR	LR		
	comp=Z,270nm,22.0s						
XAN	**Xi'an**	**51.35**	**320**	⇑P	P	02 13 38.8	+6.5
XAN				sP	sP	02 13 48.0	+7.7
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**51.72**	**297**	P	**P**	**02 13 35.0**	**-0.2**
CHTO				IAmb	IAmb	02 13 47.5	
	comp=Z,3.1nm,0.8s						
PZH	**PanZhiHua**	**52.45**	**307**	P	**P**	**02 13 42.0**	**+1.3**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
HHC	**Hu-ho-hao-te**	**54.34**	**328**	*e*P	**P**	**02 13 55.6**	**+1.2**
HHC				pmax	pmax		
	comp=Z,33nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,6.0s						
HHC				LR	LR		

	comp=N,230nm,16.7s						
HHC				LR	LR		
	comp=E,320nm,19.4s						
HHC				LR	LR		
	comp=Z,320nm,15.2s						
HEH	**HeiHe**	**55.88**	**345**	*eP*	**P**	**02 14 06.9**	**+1.8**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,140nm,4.0s						
PETK	**Petropavlovsk-**	**57.05**	**8**	P	**P**	**02 14 15.2**	**+1.7**
	comp=Z,3.5nm,1.0s,baz=116,slow=6.6,SNR=2.7						
	comp=Z,3.5nm,1.0s						
SHL	**Shillong**	**60.19**	**302**	P	**P**	**02 14 36.1**	**+0.1**
SHEM	**Shemya Is, Ala**	**60.54**	**19**	LR	LR	02 36 08.4	
	comp=Z,64nm,20.8s,baz=288,slow=31						
SONM	**Songino Array**	**61.87**	**331**	P	**P**	**02 14 48.5**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=137,slow=7.8,SNR=2.9						
SONM				LR	LR	02 40 45.9	
	comp=Z,191nm,20.5s,baz=166,slow=35						
	comp=Z,0.6nm,0.8s						
WMQ	**Urumqi**	**70.48**	**319**	*eP*	**P**	**02 15 44.3**	**+2.0**
WMQ				PcP	**PcP**	**02 16 03.3**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				LR	LR		
	comp=Z,130nm,20.9s						
VNDA	**Vanda**	**74.56**	**177**	P	**P**	**02 16 07.0**	**+1.0**
MKAR	**Makanchi Array**	**75.16**	**320**	P	**P**	**02 16 10.1**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=110,slow=10,SNR=5.7						
	comp=Z,1.5nm,0.9s						
ZAA0	**Zalesovo Array**	**76.53**	**328**	P	**P**	**02 16 17.0**	**-0.6**
ZALV	**Zalesovo Beam**	**76.53**	**328**	P	**P**	**02 16 16.4**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=127,slow=2.2,SNR=1.9						
ZALV				LR	LR	02 48 31.6	
	comp=Z,132nm,22.0s,baz=135,slow=35						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**76.53**	**328**	P	**P**	**02 16 17.5**	**-0.1**
KURK	**Kurchatov**	**78.81**	**323**	P	**P**	**02 16 29.9**	**-0.5**
KURK				IAmb	IAmb	02 16 41.0	
	comp=Z,6.5nm,1.2s						
ILAR	**Eielson Array**	**83.27**	**23**	P	**P**	**02 16 55.0**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=252,slow=5.1,SNR=16						
	comp=Z,1.4nm,0.7s						
ILAR	**Eielson Array**	**83.27**	**23**	P	**P**	**02 16 53.5**	**-0.4**
YBH	**Yreka Blue Hor**	**92.81**	**49**	LR	LR	02 51 48.8	
	comp=Z,105nm,20.0s,baz=302,slow=31						
KIRV	**Kirov**	**96.55**	**328**	LR	LR	03 02 04.3	
	comp=Z,215nm,20.6s,baz=136,slow=36						
ELK	**Elko**	**98.45**	**49**	LR	LR	02 56 18.7	
	comp=Z,43nm,18.4s,baz=208,slow=32						

*GCMT **20** 02:08:01.7±0.3, 44.20S±0.02×38.77E±0.05, h14km±1km, MW4.9/86, Moment Tensor Solution. s16,c17; s86,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.62±.20; $M_{\theta\theta}$2.01±.13; $M_{\phi\phi}$0.61±.11; $M_{r\theta}$-1.05±.25; $M_{r\phi}$-0.17±.07; $M_{\theta\phi}$0.66±.29; Best double couple: $M_0$2.62300×10^{16} NP1:ϕs271.00000°, δ32.00000°, λ-103.00000°. Principal axes: T 2.2950, Plg13.0000°, Azm191.0000°; N 0.6620, Plg7.0000°, Azm283.0000°; P -2.9510, Plg75.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **20** 02:08:02.1±0.6, 44.16S×38.78E, h0km, mb4.4/13, mbtmp4.4/13, MS4.1/36 Error ellipse: s-maj=21.0km s-min=18.0km az=74.0*

*NEIC **20** 02:08:04.7±1.4, 44.28S±0.04×38.8E±0.2, h10km±1km, mb4.8/29, Error ellipse: s-maj=22.3km s-min=3.5km az=104.0*

ISC 20 02:08:04.2±0.4, **44.25S**±0.08×**38.7E**±0.1, **h10**km, **n94,** σ1§**20**/60, **mb4.7**/23, **MS4.2**/40, **Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POGA	**Pongola**	**17.78**	**339**	Pn	**Pn**	**02 12 10.4**	**-1.4**
LBTB	**Lobatse**	**21.96**	**327**	P	**P**	**02 12 55.2**	**-3.0**
	4.3nm,0.8s,baz=151,slow=13,SNR=4.8						
	4.3nm,0.8s						
ABPO	**Ambohimpanom**	**26.15**	**19**	P	**P**	**02 13 44.3**	**+5.5**
LSZ	**Lusaka**	**30.23**	**340**	LR	LR	02 25 10.4	
	comp=Z,352nm,19.4s,baz=160,slow=34						
LSZ	**Lusaka**	**30.23**	**340**	P	**P**	**02 14 17.3**	**+2.1**
TSUM	**Tsumeb**	**30.58**	**318**	LR	LR	02 25 34.3	
	comp=Z,577nm,19.6s,baz=153,slow=34						
TSUM	**Tsumeb**	**30.58**	**318**	P	**P**	**02 14 18.3**	**-0.1**
TSUM				IAmb	IAmb	02 14 24.0	
	comp=Z,12nm,1.2s						
TROLL	**Troll, Antarti**	**32.73**	**200**	P	**P**	**02 14 37.3**	**+0.5**
SNAA	**Sanae**	**33.92**	**202**	P	**P**	**02 14 47.9**	**+0.8**
SNAA	**Sanae**	**33.92**	**202**	P	**P**	**02 14 47.8**	**+0.8**
	comp=Z,9.0nm,1.0s,baz=64,slow=7.5,SNR=13						
SNAA				LR	LR	02 25 47.3	
	comp=Z,382nm,20.4s,baz=24,slow=31						
	comp=Z,9.0nm,1.0s						
SNAA	**Sanae**	**33.92**	**202**	P	**P**	**02 14 47.5**	**+0.4**
SNAA				IAmb	IAmb	02 14 52.4	
	comp=Z,12nm,1.0s						
VNA2	**Neumayer--Watz**	**34.86**	**204**	P	**P**	**02 14 55.9**	**+0.7**
	baz=47,slow=9.1						
VNA1	**Neumayer--Stat**	**35.01**	**205**	P	**P**	**02 14 57.6**	**+1.2**
VNA3	**Neumayer Olymp**	**35.67**	**204**	P	P	02 14 56.0	-6.2
BELA	**Belgrano 2**	**43.68**	**197**	P	**P**	**02 16 09.5**	**+0.8**
BELA				IAmb	IAmb	02 16 13.0	
	comp=Z,22nm,1.6s						
MBAR	**Mbarara**	**44.03**	**348**	LR	LR	02 34 02.8	
	comp=Z,652nm,18.3s,baz=154,slow=36						
QSPA	**South Pole Qui**	**45.97**	**180**	P	**P**	**02 16 26.5**	**-0.7**
	comp=Z,9.2nm,1.0s,baz=250,slow=5.6,SNR=15						
QSPA				LR	LR	02 33 49.0	
	comp=Z,410nm,21.7s,baz=255,slow=34						
	comp=Z,9.2nm,1.0s						
QSPA	**South Pole Qui**	**45.97**	**180**	P	**P**	**02 16 26.7**	**-0.5**
QSPA				IAmb	IAmb	02 16 27.7	
	comp=Z,20nm,1.2s						
VNDA	**Vanda**	**53.62**	**167**	P	**P**	**02 17 25.1**	**+0.1**
	comp=Z,3.4nm,1.1s,baz=239,slow=7.7,SNR=5.0						
VNDA				LR	LR	02 38 59.4	
	comp=Z,285nm,18.5s,baz=230,slow=35						
	comp=Z,3.4nm,1.1s						
VNDA	**Vanda**	**53.62**	**167**	P	**P**	**02 17 25.1**	**+0.1**
VNDA				IAmb	IAmb	02 17 31.8	
	comp=Z,9.1nm,1.4s						
SBA	**Scott Base**	**54.15**	**168**	P	**P**	**02 17 30.1**	**+1.2**
PMSA	**Palmer Station**	**55.93**	**210**	LR	LR	02 37 58.2	
	comp=Z,206nm,19.1s,baz=130,slow=32						
PALK	**Pallekele**	**63.74**	**48**	LR	LR	02 39 08.1	
	comp=Z,181nm,20.4s,baz=308,slow=29						
DBIC	**Dimbokro**	**64.08**	**310**	P	**P**	**02 18 37.9**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=131,slow=5.9,SNR=3.1						
DBIC				LR	LR	02 44 47.7	
	comp=Z,93nm,18.1s,baz=153,slow=34						
	comp=Z,3.4nm,0.9s						
WSAR	**Wadi Sarin**	**69.59**	**20**	LR	LR	02 44 41.5	
	comp=Z,165nm,19.8s,baz=193,slow=32						
ITQB	**Itaqui**	**73.48**	**245**	P	**P**	**02 19 37.4**	**+0.4**
EIL	**Elat**	**73.64**	**357**	LR	LR	02 48 18.4	
	comp=Z,104nm,21.5s,baz=241,slow=33						
PLCA	**Paso Flores**	**74.23**	**228**	P	**P**	**02 19 41.3**	**0.0**
	comp=Z,3.3nm,1.1s,baz=153,slow=11,SNR=3.0						
PLCA				LR	LR	02 45 11.6	
	comp=Z,76nm,20.7s,baz=158,slow=30						
	comp=Z,3.3nm,1.1s						
RCBR	**Riachuelo**	**74.94**	**277**	LR	LR	02 44 55.2	
	comp=Z,47nm,19.5s,baz=298,slow=30						
TOO	**Toolangi**	**75.09**	**128**	P	**P**	**02 19 45.6**	**-0.7**
CPUP	**Villa Florida**	**76.18**	**247**	P	**P**	**02 19 52.6**	**0.0**
	comp=Z,5.8nm,1.1s,baz=146,slow=6.2,SNR=6.9						
CPUP				LR	LR	02 47 42.2	
	comp=Z,55nm,18.1s,baz=150,slow=31						
	comp=Z,5.8nm,1.1s						
CPUP	**Villa Florida**	**76.18**	**247**	P	**P**	**02 19 52.7**	**0.0**
CPUP				IAmb	IAmb	02 19 53.6	
	comp=Z,10nm,1.2s						
STKA	**Stephens Creek**	**76.76**	**122**	P	**P**	**02 19 55.6**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=248,slow=3.8,SNR=6.8						
STKA				LR	LR	02 47 48.7	
	comp=Z,83nm,18.1s,baz=208,slow=31						
	comp=Z,3.2nm,0.7s						
STKA	**Stephens Creek**	**76.76**	**122**	P	**P**	**02 19 55.4**	**-0.5**
ASAR	**Alice Springs**	**77.42**	**111**	P	**P**	**02 19 59.0**	**-0.8**
	comp=Z,6.4nm,1.0s,baz=215,slow=5.7,SNR=27						
	comp=Z,6.4nm,1.0s						
ASAR	**Alice Springs**	**77.42**	**111**	P	**P**	**02 19 58.8**	**-0.9**
AS31	**Alice Springs**	**77.42**	**111**	P	**P**	**02 19 58.8**	**-1.0**
AQDB	**Aquidauana**	**79.05**	**252**	P	**P**	**02 20 08.6**	**-0.1**
KAPI	**Kappang**	**80.11**	**87**	LR	LR	02 50 51.6	
	comp=Z,53nm,18.9s,baz=290,slow=32						
IDI	**Anoyia**	**80.15**	**349**	LR	LR	02 55 43.0	
	comp=Z,102nm,22.0s,baz=158,slow=36						
WRA	**Warramunga Arr**	**80.25**	**108**	P	**P**	**02 20 14.6**	**-0.7**
	comp=Z,6.0nm,1.1s,baz=221,slow=4.4,SNR=20						
WRA				LR	LR	02 50 40.9	
	comp=Z,209nm,19.1s,baz=248,slow=32						
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**80.25**	**108**	P	**P**	**02 20 15.1**	**-0.2**
WB2	**Warramunga Arr**	**80.25**	**108**	P	**P**	**02 20 14.9**	**-0.5**
WB2				IAmb	IAmb	02 20 16.5	
	comp=Z,11nm,1.1s						
HRA	**Herat**	**81.14**	**20**	P	**P**	**02 20 19.7**	**-0.1**
CO03	**El Pedregal**	**81.41**	**235**	P	**P**	**02 20 21.6**	**+0.1**
CO03				IAmb	IAmb	02 20 22.1	
	comp=Z,18nm,1.4s						
CO01	**Juntas del Tor**	**81.68**	**236**	P	**P**	**02 20 23.9**	**+0.7**
CO01				IAmb	IAmb	02 20 25.5	
	comp=Z,15nm,1.3s						
BRDH	**Bariadhala**	**82.33**	**48**	LR	LR	02 50 48.8	
	comp=Z,172nm,21.5s,baz=258,slow=31						
CMAR	**Chiang Mai Arr**	**83.12**	**56**	P	**P**	**02 20 29.4**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=228,slow=6.3,SNR=10						
	comp=Z,1.1nm,0.3s						
KBL	**Kabul**	**83.13**	**25**	P	**P**	**02 20 31.2**	**+0.9**
KBL				IAmb	IAmb	02 20 38.0	
	comp=Z,12nm,1.8s						
CHTO	**Chiang Mai**	**83.39**	**56**	P	**P**	**02 20 30.6**	**-1.1**
CHTO				IAmb	IAmb	02 20 37.7	
	comp=Z,9.1nm,1.3s						
GEYT	**Alibeck**	**83.66**	**15**	P	**P**	**02 20 33.5**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=260,slow=8.7,SNR=4.9						
	comp=Z,2.1nm,0.9s						
NIL	**Nilore**	**83.67**	**28**	P	**P**	**02 20 33.1**	**+0.3**
BRTR	**Keskin Array B**	**83.71**	**356**	P	**P**	**02 20 31.8**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=191,slow=1.3,SNR=4.7						
BRTR				LR	LR	02 58 03.4	
	comp=Z,70nm,18.8s,baz=151,slow=36						
	comp=Z,1.0nm,0.9s						
GNI	**Garni**	**84.19**	**5**	LR	LR	02 56 24.3	
	comp=Z,159nm,22.0s,baz=184,slow=34						
VAE	**Valguarnera**	**84.27**	**341**	LR	LR	02 58 35.2	
	comp=Z,95nm,19.5s,baz=156,slow=36						
SHL	**Shillong**	**84.80**	**47**	P	**P**	**02 20 38.0**	**-1.0**
PTLB	**Pontes e Lacer**	**84.87**	**254**	IAmb	IAmb	02 20 40.9	
	comp=Z,11nm,1.2s						
SIV	**San Ignacio**	**85.82**	**252**	LR	LR	02 51 50.8	
	comp=Z,74nm,19.1s,baz=163,slow=31						
MDT	**Midelt**	**86.25**	**325**	LR	LR	02 59 23.9	
	comp=Z,248nm,18.6s,baz=151,slow=36						
LVC	**Limon Verde**	**86.28**	**242**	LR	LR	02 53 00.5	
	comp=Z,75nm,19.7s,baz=172,slow=31						
KBZ	**Khabaz**	**87.67**	**3**	LR	LR	03 00 22.1	
	comp=Z,62nm,19.0s,baz=169,slow=36						
CTA	**Charters Tower**	**88.06**	**116**	LR	LR	02 54 34.8	
	comp=Z,117nm,20.6s,baz=260,slow=32						
MLR	**Muntele Rosu**	**90.07**	**351**	LR	LR	03 04 05.8	
	comp=Z,83nm,19.6s,baz=175,slow=37						
LPAZ	**La Paz**	**90.35**	**247**	LR	LR	02 56 35.2	
	comp=Z,65nm,18.8s,baz=126,slow=32						
PZH	**PanZhiHua**	**90.95**	**53**	P	**P**	**02 21 10.4**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
ESDC	**Sonseca Array**	**91.97**	**328**	LR	LR	03 02 57.8	
	comp=Z,236nm,18.4s,baz=132,slow=36						
AAK	**Ala-Archa**	**92.24**	**26**	LR	LR	02 58 30.2	
	comp=Z,142nm,21.0s,baz=144,slow=33						
BURAR	**Bucovina Array**	**92.25**	**351**	P	**P**	**02 21 14.3**	**+0.5**
BURAR				IAmb	IAmb	02 21 16.2	
	comp=Z,3.5nm,1.1s						
CTI	**Castel Tesino**	**93.05**	**342**	P	**P**	**02 21 19.1**	**+1.5**
DAVOX	**Davos/Dischmat**	**94.15**	**341**	LR	LR	03 04 20.0	
	comp=Z,135nm,21.7s,baz=88,slow=36						
MDP	**Montagnes des**	**94.49**	**273**	LR	LR	02 56 42.9	
	comp=Z,69nm,19.8s,baz=86,slow=31						
PMG	**Port Moresby**	**96.40**	**110**	LR	LR	03 01 01.6	
	comp=Z,106nm,19.0s,baz=242,slow=33						
WMQ	**Urumqi**	**97.95**	**33**	*eP*	Pdif	02 21 42.3	+2.2
DZM	**Mont Dzumac**	**98.53**	**132**	*eLR*	LR	02 53 40.1	
	comp=Z,200nm,28.9s						
OBN	**Obninsk**	**99.00**	**359**	LR	LR	03 06 27.0	
	comp=Z,11nm,21.7s,baz=123,slow=35						
NNA	**Nana**	**99.20**	**243**	LR	LR	03 02 58.3	
	comp=Z,97nm,19.1s,baz=156,slow=33						
TBI	**Tubuai**	**112.32**	**172**	*eLR*	LR	03 00 05.7	
	comp=Z,761nm,33.8s						
PPT2	**Papeete2**	**118.00**	**171**	*eLR*	LR	03 02 43.6	
	comp=Z,112nm,23.0s						
TAOE	**Nuku Hiva Isla**	**127.14**	**181**	*eLR*	LR	03 06 58.0	
	comp=Z,240nm,29.2s						
JCT	**Junction City**	**144.66**	**261**	PKPdf	**PKPab**	**02 27 39.3**	**-0.4**
OK034	**N. Norfolk Rd.**	**145.29**	**272**	PKPbc	**PKPbc**	**02 27 39.5**	**-2.2**
QUOK	**Quay**	**145.36**	**272**	PKPbc	**PKPab**	**02 27 42.4**	**+0.3**
OK044	**Pawnee Station**	**145.52**	**272**		**PKPbc**	**02 27 42.1**	**-0.3**
OK048	**Pawnee Station**	**145.64**	**272**		**PKPdf**	**02 27 41.8**	**-0.7**
N35A	**Tabor**	**146.53**	**280**	PKPbc	**PKPbc**	**02 27 45.2**	**-0.2**
KAN14	**Manchester OK**	**146.62**	**273**	PKPbc	**PKPbc**	**02 27 44.8**	**-0.9**
TXAR	**Lajitas Array**	**146.71**	**256**	PKPbc	**PKPbc**	**02 27 45.8**	**-0.5**
	comp=Z,6.3nm,1.0s,baz=132,slow=3.7,SNR=28						
TXAR	**Lajitas Array**	**146.71**	**256**	PKPbc	**PKPbc**	**02 27 45.2**	**-1.1**
R32A	**Long Quarter,**	**147.78**	**275**	PKPbc	**PKPbc**	**02 27 48.6**	**-0.4**
ECSD	**EROS Data Cent**	**148.15**	**285**	PKPbc	**PKPbc**	**02 27 48.7**	**-1.1**
CLN7	**Carlsbad 7**	**148.57**	**261**	PKPbc	**PKPbc**	**02 27 50.7**	**-0.6**
MSTX	**Muleshoe**	**148.65**	**264**	PKPbc	**PKPbc**	**02 27 51.6**	**+0.1**
PDAR	**Pinedale Array**	**157.01**	**277**	PKPab	**PKPab**	**02 28 30.3**	**+0.1**
	comp=Z,1.2nm,1.1s,baz=90,slow=5.4,SNR=4.3						
ILAR	**Eielson Array**	**159.19**	**7**	PKPab	**PKPab**	**02 28 37.1**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=291,slow=2.5,SNR=4.7						

IDC 20 02:15:07.9±1.4, **45.16S**×**36.88E**, **h0**km, **mb3.8**/3, **mbtmp3.9**/3, **Error ellipse: s-maj=83.8km s-min=32.3km az=41.0, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**22.08**	**332**	P	P	02 20 04.6	0.0
	3.4nm,0.8s,baz=194,slow=12,SNR=4.1						
	3.4nm,0.8s						
ASAR	**Alice Springs**	**78.30**	**112**	P	P	02 27 10.2	+0.1
	1.2nm,0.8s,baz=220,slow=5.8,SNR=9.8						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**81.19**	**109**	P	P	02 27 25.6	-0.1
	0.8nm,1.0s,baz=221,slow=4.1,SNR=4.1						
	0.8nm,1.0s						
TXAR	**Lajitas Array**	**145.23**	**257**	PKPbc	PKPbc	02 34 46.4	-0.8
	0.6nm,0.8s,baz=146,slow=6.6,SNR=5.3						

*NOU **20** 02:22:46.0, 42.50S×173.62E, h8km, MLv3.9/9, South Island, New Zealand*

*WEL **20** 02:22:47.0±0.3, 42.2S×17.3E±., h6km±3km, M3.4/37, ML3.7/15, MLv3.4/37, Error ellipse: s-maj=0.0km s-min=0.0km az=112.0*

ISC 20 02:22:46.7±0.9, **42.38S**±0.03×**173.57E**±0.04, **h15**km±6km, **n73,** σ1§**58**/76, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.04**	**216**	P	**Pg**	**02 22 49.4**	**-0.2**
KHZ	**Kahutara**	**0.04**	**216**	P	**Pg**	**02 22 49.3**	**-0.2**
KHZ				S	**Sg**	**02 22 51.3**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.70**	**19**	P	**Pg**	**02 23 00.2**	**-0.3**
GVZ	**Greta Valley S**	**0.71**	**214**	P	**Pb**	**02 23 01.9**	**+1.1**
GVZ				S	**Sb**	**02 23 13.6**	**+3.3**
CMWZ	**Cape Campbell**	**0.79**	**37**	P	**Pb**	**02 23 03.0**	**+0.8**
THZ	**Tophouse**	**0.79**	**321**	P	**Pg**	**02 23 01.3**	**-0.8**
THZ				S	**Sb**	**02 23 11.2**	**-1.5**
TUWZ	**Tuamarina**	**0.99**	**16**	P	**Pg**	**02 23 05.3**	**-0.6**
LTZ	**Lake Taylor**	**1.04**	**247**	P	**Pg**	**02 23 06.0**	**-0.9**
AMCZ	**Amberley**	**1.05**	**220**	P	**Pg**	**02 23 07.1**	**+0.1**
MRNZ	**Matariki Terra**	**1.15**	**328**	P	**Pg**	**02 23 08.0**	**-1.0**
NNZ	**Nelson**	**1.17**	**353**	P	**Pg**	**02 23 08.0**	**-1.3**
TCW	**Tory Channel**	**1.28**	**24**	P	**Pg**	**02 23 09.8**	**-1.6**
SNZO	**South Karori**	**1.36**	**39**	P	**Pn**	**02 23 11.0**	**-0.1**
OKCZ	**Okains Bay**	**1.40**	**196**	P	**Pn**	**02 23 11.3**	**-0.3**
WEL	**Wellington**	**1.41**	**40**	P	**Pn**	**02 23 11.9**	**+0.1**
TKNZ	**Takaka Hill**	**1.42**	**341**	P	**Pn**	**02 23 12.6**	**+0.6**
DSZ	**Denniston Nort**	**1.46**	**295**	P	**Pn**	**02 23 13.2**	**+0.6**
OXZ	**Oxford**	**1.47**	**230**	P	**Pn**	**02 23 11.8**	**-0.9**
MQZ	**McQueen's Vall**	**1.49**	**207**	P	**Pn**	**02 23 11.7**	**-1.1**
PLWZ	**Palliser**	**1.49**	**58**	P	**Pn**	**02 23 12.1**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.57**	**198**	P	**Pn**	**02 23 13.4**	**-0.6**
MSWZ	**Moikau Station**	**1.58**	**53**	P	**Pn**	**02 23 13.4**	**-0.7**
DUWZ	**D'Urville Isla**	**1.60**	**10**	P	**Pn**	**02 23 14.7**	**+0.3**
INZ	**Inchbonnie**	**1.61**	**257**	P	**Pn**	**02 23 14.6**	**+0.1**
CAW	**Cannon Point**	**1.69**	**42**	P	**Pn**	**02 23 15.2**	**-0.5**
PAWZ	**Paruwai Farm**	**1.71**	**55**	P	**Pn**	**02 23 14.8**	**-1.1**
RACZ	**Rakaia**	**1.71**	**217**	P	**Pn**	**02 23 15.0**	**-0.9**
QRZ	**Quartz Range**	**1.74**	**333**	P	**Pb**	**02 23 17.6**	**-0.7**
QRZ	**Quartz Range**	**1.74**	**333**	P	**Pb**	**02 23 17.6**	**-0.7**
KIW	**Kapiti Island**	**1.82**	**34**	P	**Pn**	**02 23 17.4**	**-0.1**
TRWZ	**Traveller**	**1.86**	**59**	P	**Pn**	**02 23 17.2**	**-0.8**
MHCZ	**Mount Hutt**	**1.87**	**231**	P	**Pn**	**02 23 17.1**	**-1.1**
MTW	**Mount Morrison**	**1.89**	**50**	P	**Pn**	**02 23 17.8**	**-0.6**
OGWZ	**Otaki Gorge**	**1.97**	**38**	P	**Pn**	**02 23 19.0**	**-0.5**
WACZ	**Wakanui South**	**2.01**	**219**	P	**Pn**	**02 23 19.2**	**-0.8**
HOWZ	**Holdsworth Sta**	**2.08**	**45**	P	**Pn**	**02 23 20.3**	**-0.7**
TMWZ	**Te Maipa**	**2.15**	**54**	P	**Pn**	**02 23 20.7**	**-1.3**
WVZ	**Waitaha Valley**	**2.20**	**251**	P	**Pn**	**02 23 23.0**	**+0.3**
RPZ	**Rata Peaks**	**2.28**	**233**	P	**Pn**	**02 23 23.0**	**-0.8**
RPZ	**Rata Peaks**	**2.28**	**233**	P	**Pn**	**02 23 23.0**	**-0.8**
MRZ	**Mangatainoka R**	**2.28**	**42**	P	**Pn**	**02 23 22.9**	**-0.9**
ARCZ	**Arundel**	**2.35**	**227**	P	**Pn**	**02 23 23.9**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.56**	**248**	P	**Pn**	**02 23 28.1**	**+0.5**
TMZ	**Timaru**	**2.74**	**222**	P	**Pn**	**02 23 29.3**	**-0.8**
WAZ	**Wanganui**	**2.83**	**23**	P	**Pn**	**02 23 33.6**	**+2.3**
FOZ	**Fox Glacier**	**2.99**	**246**	P	**Pn**	**02 23 34.4**	**+0.9**
KHEZ	**Kahui Hut**	**3.10**	**6**	P	**Pn**	**02 23 36.8**	**+1.6**
NBEZ	**Newall Road No**	**3.12**	**4**	P	**Pb**	**02 23 39.9**	**-1.9**
LBZ	**Lake Benmore**	**3.18**	**230**	P	**Pn**	**02 23 35.6**	**-0.6**
MTVZ	**Mangateitei**	**3.32**	**26**	P	**Pn**	**02 23 41.9**	**+3.8**
VRZ	**Vera Road**	**3.37**	**16**	P	**Pn**	**02 23 41.9**	**+3.1**
MOVZ	**Moawhango**	**3.40**	**30**	P	**Pn**	**02 23 41.1**	**+1.8**
ODZ	**Otahua Downs**	**3.41**	**218**	P	**Pn**	**02 23 38.3**	**-1.0**
ODZ	**Otahua Downs**	**3.41**	**218**	P	**Pn**	**02 23 38.2**	**-1.1**
WNVZ	**Wahianoa**	**3.41**	**27**	P	**Pn**	**02 23 40.9**	**+1.4**
TRVZ	**Turoa**	**3.42**	**27**	P	**Pn**	**02 23 42.9**	**+3.1**
WHVZ	**Whangaehu Hut**	**3.45**	**27**	P	**Pn**	**02 23 41.7**	**+1.6**
FWVZ	**Far West T-bar**	**3.46**	**26**	P	**Pn**	**02 23 42.6**	**+2.3**
TUVZ	**Tukino**	**3.49**	**28**	P	**Pn**	**02 23 41.6**	**+1.1**
SNVZ	**South Ngauruho**	**3.56**	**27**	P	**Pn**	**02 23 45.3**	**+3.8**
NNVZ	**North Ngauruho**	**3.60**	**26**	P	**Pn**	**02 23 46.2**	**+4.2**
ETVZ	**East Tongariro**	**3.62**	**27**	P	**Pn**	**02 23 46.3**	**+3.9**
TMVZ	**Te Maari**	**3.64**	**27**	P	**Pn**	**02 23 44.6**	**+2.0**
JCZ	**Jackson Bay**	**3.89**	**243**	P	**Pn**	**02 23 46.2**	**+0.2**
JCZ	**Jackson Bay**	**3.89**	**243**	P	**Pn**	**02 23 46.0**	**0.0**
BKZ	**Black Stump Fm**	**3.90**	**36**	P	**Pn**	**02 23 48.2**	**+2.1**
BKZ	**Black Stump Fm**	**3.90**	**36**	P	**Pn**	**02 23 49.4**	**+3.3**
HIZ	**Hauiti**	**3.98**	**15**	P	**Pn**	**02 23 49.1**	**+1.9**
HIZ	**Hauiti**	**3.98**	**15**	P	**Pn**	**02 23 48.9**	**+1.7**
EAZ	**Earnscleugh**	**4.20**	**226**	P	**Pn**	**02 23 49.7**	**-0.5**
AWAZ	**Awhitu Peninsu**	**5.37**	**9**	P	**Pn**	**02 24 07.6**	**+1.3**
MKAZ	**Moumakai**	**5.41**	**14**	P	**Pn**	**02 24 07.4**	**+0.6**
ETAZ	**East Tamaki Re**	**5.52**	**11**	P	**Pn**	**02 24 09.6**	**+1.3**

IDC 20 02:23:14.2±1.9, **44.25S**×**38.90E**, **h0**km, **mb3.8**/4, **mbtmp3.8**/4, **Error ellipse: s-maj=60.6km s-min=38.4km az=146.0, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**33.97**	**202**	P	P	02 29 59.5	+0.5
	1.4nm,0.9s,baz=22,sl

	2.9nm,0.2s						
MYLDM	**Lahad Datu**	**8.93**	**303**		**Pn**	**02 34 28.8**	**+2.9**
MYLDM	**Lahad Datu**	**8.93**	**303**	P	**Pn**	**02 34 26.8**	**+0.9**
SBUM	**Sibu**	**13.95**	**279**	Pn	**Pn**	**02 35 36.5**	**+1.8**
KSM	**Kuching**	**15.74**	**274**	Pn	**Pn**	**02 35 59.7**	**+1.4**
KNRA	**Kununurra**	**16.11**	**170**	Pn	**Pn**	**02 36 02.3**	**-0.6**
KNRA				IAmb	IAmb	02 36 22.7	
	comp=Z,31nm,1.4s						
TPRI	**Tanjung Pinang**	**21.49**	**272**	P	**P**	**02 37 01.0**	**-3.7**
WRAB	**Tennant Creek**	**21.71**	**158**	P	**P**	**02 37 05.8**	**-1.1**
WRAB				IAmb	IAmb	02 37 25.6	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**21.71**	**158**	P	**P**	**02 37 05.7**	**-1.3**
	comp=Z,3.7nm,0.5s,baz=337,slow=12,SNR=44						
	comp=Z,3.7nm,0.5s						
WRA	**Warramunga Arr**	**21.71**	**158**	P	**P**	**02 37 04.7**	**-2.2**
WB2	**Warramunga Arr**	**21.72**	**158**	P	**P**	**02 37 05.8**	**-1.2**
WB2				IAmb	IAmb	02 37 10.2	
	comp=Z,7.2nm,0.7s						
COEN	**Coen**	**22.13**	**130**	P	**P**	**02 37 11.2**	**-0.2**
COEN				IAmb	IAmb	02 37 15.6	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**25.03**	**163**	P	**P**	**02 37 37.8**	**-1.8**
ASAR	**Alice Springs**	**25.03**	**163**	P	**P**	**02 37 39.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=343,slow=11,SNR=20						
	comp=Z,0.7nm,0.3s						
ASAR	**Alice Springs**	**25.03**	**163**	P	**P**	**02 37 38.4**	**-1.2**
BBOO	**Buckleboo**	**34.27**	**165**	P	**P**	**02 39 00.8**	**-0.7**
STKA	**Stephens Creek**	**35.24**	**157**	P	**P**	**02 39 09.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=325,slow=2.1,SNR=3.7						
	comp=Z,0.9nm,0.6s						
STKA	**Stephens Creek**	**35.24**	**157**	P	**P**	**02 39 09.6**	**-0.3**
KSAR	**Wonju Array Be**	**37.00**	**2**	P	**P**	**02 39 23.2**	**-1.5**
SHL	**Shillong**	**41.42**	**310**	P	**P**	**02 40 03.1**	**+1.0**
SHL				IAmb	IAmb	02 40 04.1	
	comp=Z,3.7nm,0.9s						
SONM	**Songino Array**	**50.32**	**343**	P	**P**	**02 41 12.5**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=152,slow=8.5,SNR=4.3						
	comp=Z,0.7nm,0.7s						
PETK	**Petropavlovsk-**	**58.85**	**22**	P	**P**	**02 42 13.5**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=198,slow=4.9,SNR=7.4						
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**02 42 22.1**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=122,slow=7.6,SNR=15						
	comp=Z,1.4nm,0.5s						
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**02 42 20.4**	**-1.1**
ZAA0	**Zalesovo Array**	**63.32**	**334**	P	**P**	**02 42 44.1**	**+0.4**
ZALV	**Zalesovo Beam**	**63.32**	**334**	P	**P**	**02 42 45.4**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=130,slow=6.0,SNR=4.8						
	comp=Z,0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**63.32**	**334**	P	**P**	**02 42 43.6**	**-0.2**
BTK	**Batken**	**63.80**	**315**	P	**P**	**02 42 46.4**	**-1.0**
BTK				IAmb	IAmb	02 42 58.8	
	comp=Z,2.9nm,1.0s						
KURK	**Kurchatov**	**64.25**	**329**	P	**P**	**02 42 50.3**	**+0.3**
KK31	**Karatay Array**	**65.27**	**318**	P	**P**	**02 42 56.7**	**-0.1**
KK31				IAmb	IAmb	02 43 00.1	
	comp=Z,2.0nm,1.0s						
KKAR	**Karatay Array**	**65.27**	**318**	P	**P**	**02 42 56.7**	**-0.1**
KKAR				IAmb	IAmb	02 43 00.1	
	comp=Z,2.0nm,1.0s						
BRVK	**Borovoye**	**69.88**	**328**	P	**P**	**02 43 25.4**	**-0.2**
ABKAR	**Akbulak array**	**74.35**	**322**	P	**P**	**02 43 52.5**	**0.0**

*GCMT **20** 02:33:48.9±0.4, 44.°19S±0.°02×38.°96E±0.°06, h14km±1km, MW4.8/71, Moment Tensor Solution. s13,c15; s71,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.00±. 19; $M_{\theta\theta}$1.62±. 12; $M_{\phi\phi}$0.37±.10; $M_{r\theta}$-0.87±.21; $M_{\theta\phi}$-0.28±.06; $M_{\phi r}$-0.27±. 27; Best double couple: M_o2.03500×10^{16} NP1:ϕ_s96.00000°, δ58.00000°, λ-96.00000°. NP2: ϕ_s287.00000°, δ33.00000°, λ-81.00000°. Principal axes: T 1.8650, Plg12.0000°, Azm190.0000°; N 0.3380, Plg5.0000°, Azm99.0000°; P -2.2050, Plg77.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **20** 02:33:50.4±0.7, 44.°11S×38.°87E, h0km, mb4.4/9, mbtmp4.3/10, ML3.4/1, MS4.0/40 Error ellipse: s-maj=24.1km s-min=20.7km az=52.0*

*NEIC **20** 02:33:51.9±2.0, 44.°02S±0.°05×39.°0E±0.°1, h10km±1km, mb4.6/25, Error ellipse: s-maj=18.4km s-min=6.4km az=248.0*

ISC 20 02:33:51.1±0.5, 44°00S±0°09×38°93E±0°09, h10km, n84, σ0s92/52, mb4.6/19, MS4.0/39, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**9.45**	**109**	Pn	**Pn**	**02 36 05.2**	**-1.9**
SOE	**Somerset East**	**15.37**	**313**	Pn	**Pn**	**02 37 26.9**	**-1.1**
SOE				IAmb	IAmb	02 37 42.6	
	comp=Z,49nm,1.2s						
POGA	**Pongola**	**17.61**	**338**	Pn	**Pn**	**02 37 54.8**	**-1.7**
SUR	**Sutherland**	**18.32**	**303**	LR	LR	02 43 45.8	
	comp=Z,368nm,19.7s,baz=146,slow=32						
BOSA	**Boshof**	**18.86**	**320**	P	**Pn**	**02 38 13.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=3.2						
BOSA				LR	LR	02 43 59.2	
	comp=Z,607nm,21.1s,baz=156,slow=32						
	comp=Z,3.6nm,0.9s						
LBTB	**Lobatse**	**21.84**	**326**	P	**P**	**02 38 44.3**	**+0.5**
	comp=Z,6.5nm,0.9s,baz=163,slow=9.3,SNR=5.5						
LBTB				LR	LR	02 46 01.1	
	comp=Z,502nm,19.1s,baz=158,slow=33						
	comp=Z,6.5nm,0.9s						
LBTB	**Lobatse**	**21.84**	**326**	P	**P**	**02 38 41.3**	**-2.5**
MAW	**Mawson**	**26.85**	**160**	LR	LR	02 47 32.9	
	comp=Z,347nm,21.3s,baz=346,slow=31						
LSZ	**Lusaka**	**30.06**	**339**	LR	LR	02 51 15.8	
	comp=Z,253nm,18.1s,baz=166,slow=35						
LSZ	**Lusaka**	**30.06**	**339**	P	**P**	**02 40 00.8**	**+0.2**
LSZ				IAmb	IAmb	02 40 06.5	
	comp=Z,8.1nm,1.3s						
TSUM	**Tsumeb**	**30.51**	**317**	LR	LR	02 51 22.2	
	comp=Z,396nm,19.3s,baz=148,slow=34						
TROLL	**Troll, Antarti**	**33.02**	**200**	P	**P**	**02 40 25.6**	**-0.5**
SNAA	**Sanae**	**34.21**	**202**	P	**P**	**02 40 36.3**	**-0.1**
SNAA	**Sanae**	**34.21**	**202**	P	**P**	**02 40 36.8**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=75,slow=2.7,SNR=9.5						
SNAA				LR	LR	02 52 13.7	
	comp=Z,322nm,18.7s,baz=46,slow=32						
	comp=Z,5.9nm,0.9s						
SNAA	**Sanae**	**34.21**	**202**	P	**P**	**02 40 35.6**	**-0.8**
SNAA				IAmb	IAmb	02 40 42.3	
	comp=Z,9.7nm,1.0s						
VNA2	**Neumayer--Watz**	**35.15**	**204**	P	**P**	**02 40 44.4**	**0.0**
	baz=51,slow=7.7						
VNA1	**Neumayer--Stat**	**35.30**	**205**	P	**P**	**02 40 45.9**	**+0.2**
VNA3	**Neumayer Olymp**	**35.96**	**204**	P	**P**	**02 40 50.8**	**-0.6**
KMBO	**Kilima Mbogo**	**42.72**	**358**	LR	LR	02 57 50.5	
	comp=Z,10nm,20.1s,baz=93,slow=34						
MBAR	**Mbarara**	**43.83**	**348**	LR	LR	02 59 59.6	
	comp=Z,502nm,18.2s,baz=150,slow=36						
QSPA	**South Pole Qui**	**46.21**	**180**	P	**P**	**02 42 14.9**	**-1.1**
	comp=Z,8.7nm,1.1s,baz=254,slow=2.6,SNR=14						
QSPA				LR	LR	02 59 37.2	
	comp=Z,271nm,21.9s,baz=270,slow=34						
	comp=Z,8.7nm,1.1s						
QSPA	**South Pole Qui**	**46.21**	**180**	P	**P**	**02 42 14.8**	**-1.1**
VNDA	**Vanda**	**53.82**	**167**	P	**P**	**02 43 14.1**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=219,slow=7.4,SNR=5.8						
VNDA				LR	LR	03 04 55.9	
	comp=Z,205nm,18.4s,baz=224,slow=35						
	comp=Z,2.3nm,1.0s						
VNDA	**Vanda**	**53.82**	**167**	P	**P**	**02 43 14.3**	**+1.0**
VNDA				IAmb	IAmb	02 43 26.7	
	comp=Z,7.4nm,1.3s						
SBA	**Scott Base**	**54.35**	**168**	P	**P**	**02 43 18.8**	**+1.6**
PMSA	**Palmer Station**	**56.22**	**210**	LR	LR	03 03 35.8	
	comp=Z,230nm,19.0s,baz=112,slow=32						
NWAO	**Narrogin (SRO)**	**60.16**	**108**	LR	LR	03 05 06.3	
	comp=Z,124nm,18.3s,baz=332,slow=31						
PALK	**Pallekele**	**63.46**	**48**	LR	LR	03 04 56.2	
	comp=Z,141nm,21.3s,baz=311,slow=29						
DBIC	**Dimbokro**	**64.05**	**310**	LR	LR	03 10 36.5	
	comp=Z,50nm,18.3s,baz=157,slow=34						
TORD	**Torodi Ar. Bea**	**66.22**	**320**	LR	LR	03 11 31.9	
	comp=Z,74nm,21.0s,baz=211,slow=34						
WSAR	**Wadi Sarin**	**69.31**	**19**	LR	LR	03 10 29.4	
	comp=Z,145nm,19.4s,baz=198,slow=32						
EIL	**Elat**	**73.41**	**356**	LR	LR	03 18 03.5	
	comp=Z,81nm,19.0s,baz=238,slow=36						
ITQB	**Itaqui**	**73.73**	**244**	P	**P**	**02 45 25.9**	**+0.7**
PLCA	**Paso Flores**	**74.50**	**228**	LR	LR	03 11 01.6	
	comp=Z,66nm,21.7s,baz=168,slow=30						
ASF	**Jabal al Asfar**	**75.83**	**358**	LR	LR	03 18 59.3	
	comp=Z,190nm,18.9s,baz=117,slow=36						
CPUP	**Villa Florida**	**76.42**	**247**	P	**P**	**02 45 40.8**	**0.0**
	comp=Z,3.3nm,0.9s,baz=174,slow=7.4,SNR=6.2						
CPUP				LR	LR	03 12 35.5	
	comp=Z,34nm,19.3s,baz=169,slow=30						
	comp=Z,3.3nm,0.9s						
STKA	**Stephens Creek**	**76.75**	**121**	P	**P**	**02 45 43.6**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=263,slow=3.3,SNR=7.6						
	comp=Z,3.8nm,0.9s						
STKA	**Stephens Creek**	**76.75**	**121**		**P**	**02 45 42.2**	**-0.5**
ASAR	**Alice Springs**	**77.35**	**111**	P	**P**	**02 45 46.8**	**+0.5**
	comp=Z,5.3nm,1.0s,baz=218,slow=5.9,SNR=26						
ASAR				LR	LR	03 13 57.2	
	comp=Z,75nm,19.9s,baz=178,slow=31						
	comp=Z,5.3nm,1.0s						
ASAR	**Alice Springs**	**77.35**	**111**		**P**	**02 45 46.3**	**+0.1**
AS31	**Alice Springs**	**77.36**	**111**		**P**	**02 45 45.6**	**-0.6**
KSM	**Kuching**	**77.72**	**76**	P	**P**	**02 45 49.7**	**+1.4**
KSM				IAmb	IAmb	02 46 20.0	
	comp=Z,4.7nm,0.6s						
SBUM	**Sibu**	**79.75**	**77**	P	**P**	**02 45 59.2**	**-0.2**
IDI	**Anoyia**	**79.95**	**348**	LR	LR	03 21 31.0	
	comp=Z,78nm,21.4s,baz=174,slow=36						
WRA	**Warramunga Arr**	**80.17**	**108**	P	**P**	**02 46 02.9**	**+1.1**
	comp=Z,4.8nm,1.1s,baz=218,slow=4.2,SNR=18						
WRA				LR	LR	03 16 28.7	
	comp=Z,169nm,19.3s,baz=277,slow=32						
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**80.17**	**108**		**P**	**02 46 02.1**	**+0.3**
WB2	**Warramunga Arr**	**80.18**	**108**	P	**P**	**02 46 01.5**	**-0.3**
WB2				IAmb	IAmb	02 46 07.0	
	comp=Z,10nm,1.2s						
WRAB	**Tennant Creek**	**80.19**	**108**	P	**P**	**02 46 00.5**	**-1.4**
WRAB				IAmb	IAmb	02 46 07.1	
	comp=Z,9.6nm,1.2s						
HRA	**Herat**	**80.86**	**19**	P	**P**	**02 46 05.3**	**+0.2**
HRA				IAmb	IAmb	02 46 08.3	
	comp=Z,3.8nm,1.0s						
CO03	**El Pedregal**	**81.68**	**235**	P	**P**	**02 46 10.0**	**+0.3**
CO03				IAmb	IAmb	02 46 13.1	
	comp=Z,15nm,1.3s						
CO01	**Juntas del Tor**	**81.95**	**236**	P	**P**	**02 46 12.2**	**+0.8**
CO01				IAmb	IAmb	02 46 13.2	
	comp=Z,6.6nm,1.1s						
BRDH	**Bariadhala**	**82.05**	**48**	LR	LR	03 18 20.6	
	comp=Z,122nm,19.9s,baz=250,slow=32						
CMAR	**Chiang Mai Arr**	**82.85**	**56**	P	**P**	**02 46 17.4**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=218,slow=4.2,SNR=9.0						
CMAR				LR	LR	03 19 44.2	
	comp=Z,45nm,18.1s,baz=220,slow=33						
	comp=Z,0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**82.85**	**56**	P	**P**	**02 46 16.0**	**+0.3**
CHTO	**Chiang Mai**	**83.13**	**56**	P	**P**	**02 46 18.0**	**+0.8**
CHTO				IAmb	IAmb	02 46 19.5	
	comp=Z,5.3nm,1.1s						
BRTR	**Keskin Array B**	**83.48**	**356**	LR	LR	03 23 05.2	
	comp=Z,60nm,18.0s,baz=153,slow=35						
AC02	**Maricunga**	**83.63**	**239**	P	**P**	**02 46 20.4**	**-0.1**
KEST	**Kesra**	**83.80**	**336**	LR	LR	03 26 02.8	
	comp=Z,207nm,18.0s,baz=222,slow=37						
SHL	**Shillong**	**84.52**	**46**	P	**P**	**02 46 25.3**	**+0.9**
PTLB	**Pontes e Lacer**	**85.09**	**253**	P	**P**	**02 46 27.0**	**-0.3**
PTLB				IAmb	IAmb	02 46 33.7	
	comp=Z,7.6nm,1.3s						
SIV	**San Ignacio**	**86.04**	**252**	LR	LR	03 22 29.0	
	comp=Z,52nm,18.2s,baz=99,slow=34						
MDT	**Midelt**	**86.15**	**324**	LR	LR	03 25 02.0	
	comp=Z,201nm,18.3s,baz=150,slow=36						
LVC	**Limon Verde**	**86.54**	**242**	LR	LR	03 18 24.8	
	comp=Z,55nm,19.8s,baz=194,slow=31						
CTA	**Charters Tower**	**88.03**	**116**	LR	LR	03 22 59.2	
	comp=Z,80nm,18.2s,baz=257,slow=34						
MLR	**Muntele Rosu**	**89.85**	**351**	LR	LR	03 29 52.6	
	comp=Z,90nm,19.7s,baz=147,slow=37						
LPAZ	**La Paz**	**90.59**	**247**	LR	LR	03 22 31.4	
	comp=Z,44nm,18.4s,baz=108,slow=32						
ESDC	**Sonseca Array**	**91.84**	**328**	LR	LR	03 29 03.9	
	comp=Z,177nm,18.4s,baz=122,slow=36						
AAK	**Ala-Archa**	**91.95**	**25**	LR	LR	03 24 40.7	
	comp=Z,64nm,21.0s,baz=196,slow=33						
BURAR	**Bucovina Array**	**92.03**	**351**	P	**P**	**02 46 59.5**	**-0.2**
BURAR				IAmb	IAmb	02 47 12.1	
	comp=Z,2.1nm,1.1s						
DAVOX	**Davos/Dischmat**	**93.98**	**340**	LR	LR	03 31 13.3	
	comp=Z,78nm,20.5s,baz=87,slow=37						
MDP	**Montagnes des**	**94.64**	**273**	LR	LR	03 27 04.1	
	comp=Z,46nm,18.5s,baz=41,slow=34						
BELG	**Belogornoye**	**96.31**	**5**	LR	LR	03 30 57.9	
	comp=Z,92nm,21.4s,baz=148,slow=36						
MKAR	**Makanchi Array**	**98.20**	**28**	LR	LR	03 28 51.7	
	comp=Z,26nm,18.1s,baz=244,slow=34						
NNA	**Nana**	**99.44**	**243**	LR	LR	03 28 35.2	
	comp=Z,48nm,19.0s,baz=149,slow=33						
LOOK	**Love County**	**144.82**	**269**	PKPdf	**PKPdf**	**02 53 27.6**	**-0.4**
JCT	**Junction City**	**144.85**	**262**	PKPdf	**PKPdf**	**02 53 27.7**	**-0.5**
FNO	**Franklin**	**145.59**	**270**		**PKPab**	**02 53 29.5**	**-0.3**
T35A	**Sooner Cattle**	**145.70**	**274**		**PKPbc**	**02 53 29.4**	**-0.4**
ABTX	**Abilene, Hawle**	**145.90**	**265**	PKPbc	**PKPbc**	**02 53 30.3**	**-0.3**
BCOK	**Bluff Creek, N**	**145.92**	**271**	PKPbc	**PKPab**	**02 53 31.1**	**+0.1**
TXAR	**Lajitas Array**	**146.92**	**256**	PKPbc	**PKPab**	**02 53 34.2**	**-1.0**
	comp=Z,3.4nm,0.9s,baz=139,slow=6.0,SNR=24						
TXAR	**Lajitas Array**	**146.92**	**256**	PKPbc	**PKPbc**	**02 53 34.1**	**+0.3**
ECSD	**EROS Data Cent**	**148.24**	**285**	PKPbc	**PKPbc**	**02 53 36.1**	**-0.7**
PDAR	**Pinedale Array**	**157.13**	**278**	PKP	**PKPdf**	**02 53 48.3**	**+1.5**
	comp=Z,0.6nm,1.0s,baz=168,slow=4.6,SNR=4.1						

WEL 20 02:35:06.4, 42°S±3°×17°4E±°, h20km±4km, M2.5/6, ML2.6/3, MLv2.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=34.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.11**	**307**	P	Pg	02 35 10.8	+0.3
BSWZ				S	Sg	02 35 13.9	+0.7
CMWZ	**Cape Campbell**	**0.17**	**79**	P	Pg	02 35 11.5	+0.3
CMWZ				S	Sg	02 35 15.5	+1.2
TUWZ	**Tuamarina**	**0.35**	**354**	P	Pb	02 35 14.6	+0.5
TUWZ				S	Sb	02 35 20.3	+1.1
TCW	**Tory Channel**	**0.61**	**21**	P	Pg	02 35 18.5	-0.1
NNZ	**Nelson**	**0.73**	**321**	P	Pn	02 35 21.4	-0.2
WEL	**Wellington**	**0.77**	**50**	P	Pn	02 35 21.8	-0.3
PLWZ	**Palliser**	**0.97**	**78**	P	Pb	02 35 24.4	-0.2
DUWZ	**D'Urville Isla**	**0.98**	**357**	P	Pg	02 35 25.4	-0.1
MRNZ	**Matariki Terra**	**1.00**	**292**	P	Pg	02 35 26.7	+0.8
MSWZ	**Moikau Station**	**1.01**	**69**	P	Pb	02 35 25.2	0.0
CAW	**Cannon Point**	**1.05**	**51**	P	Pg	02 35 26.5	-0.3
TKNZ	**Takaka Hill**	**1.08**	**314**	P	Pg	02 35 27.1	-0.2
KIW	**Kapiti Island**	**1.15**	**37**	P	Pb	02 35 27.8	+0.2
OGWZ	**Otaki Gorge**	**1.31**	**43**	P	Pb	02 35 30.5	+0.2
HOWZ	**Holdsworth Sta**	**1.45**	**53**	P	Pb	02 35 32.2	-0.5
QRZ	**Quartz Range**	**1.46**	**310**	P	Pg	02 35 33.9	-0.7
MRZ	**Mangatainoka R**	**1.64**	**47**	P	Pn	02 35 34.3	+0.2
BKZ	**Black Stump Fm**	**3.23**	**37**	P	Pn	02 35 59.6	+3.5

WEL 20 02:35:15.7±0.3, 43°S±2°×17°3E±°, h5km, M3.1/22, ML3.4/12, MLv3.1/22, Error ellipse: s-maj=0.0km s-min=0.0km az=125.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**66**	P	Pg	02 35 21.7	-0.2
KHZ				S	Sg	02 35 26.7	+0.7
GVZ	**Greta Valley S**	**0.43**	**191**	P	Pg	02 35 24.4	+0.4
GVZ				S	Sb	02 35 31.6	-1.0
LTZ	**Lake Taylor**	**0.69**	**250**	P	Pg	02 35 29.1	+0.2
LTZ	**Lake Taylor**	**0.69**	**250**	P	Pg	02 35 29.0	+0.1
LTZ				S	Sb	02 35 39.1	-0.9
AMCZ	**Amberley**	**0.73**	**210**	P	Pb	02 35 30.3	-0.6
THZ	**Tophouse**	**0.80**	**347**	P	Pg	02 35 31.1	0.0
BSWZ	**Blackbirch Sta**	**0.99**	**33**	P	Pg	02 35 34.9	+0.2
OXZ	**Oxford**	**1.13**	**226**	P	Pg	02 35 36.1	-1.3
OKCZ	**Okains Bay**	**1.18**	**183**	P	Pg	02 35 36.7	-1.7
OKCZ	**Okains Bay**	**1.18**	**183**	P	Pg	02 35 36.8	-1.5
MRNZ	**Matariki Terra**	**1.18**	**346**	P	Pg	02 35 38.1	-0.2
MQZ	**McQueen's Vall**	**1.22**	**197**	P	Pg	02 35 36.5	-2.6
TUWZ	**Tuamarina**	**1.26**	**28**	P	Pg	02 35 39.5	-0.5
INZ	**Inchbonnie**	**1.27**	**261**	P	Pg	02 35 39.2	-0.9
DSZ	**Denniston Nort**	**1.28**	**308**	P	Pg	02 35 40.1	-0.1
AKCZ	**Akaroa Harbour**	**1.34**	**187**	P	Pn	02 35 38.3	-2.7
NNZ	**Nelson**	**1.34**	**8**	P	Pn	02 35 40.6	-0.5
RACZ	**Rakaia**	**1.39**	**212**	P	Pn	02 35 39.5	-2.3
MHCZ	**Mount Hutt**	**1.52**	**229**	P	Pn	02 35 41.5	-2.1
WACZ	**Wakanui South**	**1.69**	**214**	P	Pn	02 35 43.7	-2.2
WVZ	**Waitaha Valley**	**1.85**	**253**	P	Pn	02 35 47.4	-0.7
RPZ	**Rata Peaks**	**1.93**	**232**	P	Pn	02 35 47.4	-1.8
ARCZ	**Arundel**	**2.01**	**225**	P	Pn	02 35 48.1	-2.2
GCSZ	**Gaunt Creek Bo**	**2.21**	**249**	P	Pn	02 35 52.9	-0.1
TMZ	**Timaru**	**2.41**	**220**	P	Pn	02 35 53.7	-2.1
FOZ	**Fox Glacier**	**2.63**	**247**	P	Pn	02 35 58.7	-0.2
LBZ	**Lake Benmore**	**2.83**	**229**	P	Pn	02 36 00.0	-1.6
ODZ	**Otahua Downs**	**3.09**	**215**	P	Pn	02 36 02.6	-2.5
JCZ	**Jackson Bay**	**3.53**	**243**	P	Pn	02 36 10.4	-0.9

IDC 20 02:42:13.9±2.0, 0.°40N×126.°34E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=174.0km s-min=26.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**159**	P	P	02 47 06.2	-0.2
	0.5nm,0.5s,baz=338,slow=12,SNR=13						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.02**	**163**	P	P	02 47 40.0	+0.1
	0.2nm,0.4s,baz=344,slow=11,SNR=7.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.08**	**327**	P	P	02 52 22.9	0.0
	0.2nm,0.3s,baz=128,slow=6.7,SNR=4.4						
	0.2nm,0.3s						

*IDC **20** 02:52:31.1±0.8, 44.°22S×38.°85E, h0km, mb4.3/9, mbtmp4.3/9, MS3.7/10, Error ellipse: s-maj=25.9km s-min=24.9km az=13.0*

*NEIC **20** 02:52:33.4±1.8, 44.°08S±0.°05×38.°8E±0.°2, h10km±1km, mb4.4/14, Error ellipse: s-maj=25.7km s-min=5.4km az=103.0*

ISC 20 02:52:32.5±0.5, 44°10S±0°09×38°8E±0°1, h10km, n43, σ0s94/36, mb4.4/14, MS3.7/8, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.29**	**304**	LR	LR	03 02 27.3	
	comp=Z,112nm,20.1s,baz=137,slow=32						
BOSA	**Boshof**	**18.86**	**321**	LR	LR	03 02 40.0	
	comp=Z,246nm,20.7s,baz=162,slow=32						
LBTB	**Lobatse**	**21.86**	**326**	LR	LR	03 04 31.7	
	comp=Z,198nm,20.2s,baz=148,slow=33						
ABPO	**Ambohimpanom**	**25.99**	**18**	P	**P**	**02 58 05.5**	**-0.1**
ABPO				IAmb	IAmb	02 58 39.5	
	comp=Z,6.8nm,1.2s						
MAW	**Mawson**	**26.80**	**160**	LR	LR	03 07 00.4	
	comp=Z,130nm,18.2s,baz=322,slow=33						
LSZ	**Lusaka**	**30.11**	**339**	LR	LR	03 10 14.1	
	comp=Z,116nm,18.4s,baz=154,slow=35						
TSUM	**Tsumeb**	**30.51**	**318**	LR	LR	03 10 02.6	
	comp=Z,181nm,19.6s,baz=149,slow=34						
TSUM	**Tsumeb**	**30.51**	**318**	P	**P**	**02 58 47.5**	**+1.5**
TSUM				IAmb	IAmb	02 58 59.9	
	comp=Z,6.1nm,1.0s						
TROLL	**Troll, Antarti**	**32.89**	**200**	P	**P**	**02 59 06.8**	**+0.4**
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**02 59 16.9**	**+0.2**
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**02 59 16.6**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=84,slow=6.9,SNR=7.1						
SNAA				LR	LR	03 11 39.8	
	comp=Z,119nm,18.3s,baz=38,slow=34						
	comp=Z,4.5nm,0.9s						
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**02 59 16.8**	**+0.2**
SNAA				IAmb	IAmb	02 59 21.0	
	comp=Z,9.1nm,1.1s						
VNA2	**Neumayer--Watz**	**35.02**	**204**	P	**P**	**02 59 25.1**	**+0.4**
	baz=52,slow=8.6						
VNA1	**Neumayer--Stat**	**35.16**	**205**	P	**P**	**02 59 26.8**	**+0.9**
VNA3	**Neumayer Olymp**	**35.83**	**204**	P	**P**	**02 59 30.1**	**-1.5**
KIBK	**Kibwezi**	**41.59**	**359**	P	**P**	**03 00 17.3**	**-3.3**
BELA	**Belgrano 2**	**43.84**	**197**	P	**P**	**03 00 37.7**	**-0.4**
BELA				IAmb	IAmb	03 01 05.9	
	comp=Z,11nm,1.4s						
MBAR	**Mbarara**	**43.90**	**348**	LR	LR	03 18 31.0	
	comp=Z,208nm,18.5s,baz=143,slow=35						
MBAR	**Mbarara**	**43.90**	**348**	P	**P**	**03 00 38.6**	**-0.9**
MBAR				IAmb	IAmb	03 00 52.7	
	comp=Z,4.9nm,1.2s						
QSPA	**South Pole Qui**	**46.11**	**180**	P	**P**	**03 00 55.8**	**-0.8**
	comp=Z,4.5nm,0.9s,baz=225,slow=1.9,SNR=11						
QSPA				LR	LR	03 18 58.6	
	comp=Z,92nm,18

s-min=0.0km az=137.8

ISC 20 02:55:47.0±1.0,**42°58S**±0°03×**173°50E**±0°04,**h14**km±8km, **n81**,σ1°**24**/84,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.16**	**9**	P	**Pg**	**02 55 52.4**	**+1.5**
KHZ	**Kahutara**	**0.16**	**9**	P	**Pg**	**02 55 50.3**	**-0.7**
KHZ				S	**Sg**	**02 55 52.6**	**-0.9**
GVZ	**Greta Valley S**	**0.52**	**221**	P	**Pb**	**02 55 59.1**	**+1.1**
GVZ				S	**Sb**	**02 56 07.9**	**+2.5**
AMCZ	**Amberley**	**0.87**	**226**	P	**Pb**	**02 56 04.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.90**	**18**	P	**Pg**	**02 56 04.2**	**-0.2**
THZ	**Tophouse**	**0.93**	**331**	P	**Pg**	**02 56 03.3**	**-1.6**
LTZ	**Lake Taylor**	**0.93**	**257**	P	**Pg**	**02 56 04.6**	**-0.4**
LTZ				S	**Sb**	**02 56 16.5**	**-0.7**
CMWZ	**Cape Campbell**	**0.98**	**33**	P	**Pb**	**02 56 07.0**	**+1.3**
TUWZ	**Tuamarina**	**1.19**	**16**	P	**Pg**	**02 56 09.4**	**-0.5**
OKCZ	**Okains Bay**	**1.19**	**196**	P	**Pg**	**02 56 09.8**	**-0.1**
MQZ	**McQueen's Vall**	**1.29**	**209**	P	**Pn**	**02 56 10.1**	**-0.5**
MRNZ	**Matariki Terra**	**1.30**	**334**	P	**Pg**	**02 56 10.5**	**-1.5**
OXZ	**Oxford**	**1.31**	**235**	P	**Pn**	**02 56 10.5**	**-0.5**
NNZ	**Nelson**	**1.36**	**356**	P	**Pn**	**02 56 11.6**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.37**	**198**	P	**Pn**	**02 56 11.8**	**+0.1**
TCW	**Tory Channel**	**1.48**	**23**	P	**Pn**	**02 56 13.1**	**-0.1**
DSZ	**Dennistoun Nort**	**1.51**	**303**	P	**Pn**	**02 56 13.5**	**-0.2**
RACZ	**Rakaia**	**1.52**	**220**	P	**Pn**	**02 56 13.4**	**-0.4**
INZ	**Inchbonnie**	**1.53**	**264**	P	**Pn**	**02 56 13.6**	**-0.2**
SNZO	**South Karori**	**1.55**	**36**	P	**Pn**	**02 56 14.3**	**+0.2**
TKNZ	**Takaka Hill**	**1.59**	**345**	P	**Pn**	**02 56 15.1**	**+0.3**
WEL	**Wellington**	**1.60**	**37**	P	**Pn**	**02 56 15.0**	**+0.1**
PLWZ	**Palliser**	**1.65**	**53**	P	**Pn**	**02 56 15.1**	**-0.4**
MHCZ	**Mount Hutt**	**1.71**	**235**	P	**Pn**	**02 56 15.8**	**-0.6**
MSWZ	**Moikau Station**	**1.74**	**49**	P	**Pn**	**02 56 16.4**	**-0.4**
DUWZ	**D'Urville Isla**	**1.80**	**10**	P	**Pn**	**02 56 18.0**	**+0.4**
WACZ	**Wakanui South**	**1.83**	**221**	P	**Pn**	**02 56 17.6**	**-0.4**
PAWZ	**Paruwai Farm**	**1.86**	**51**	P	**Pn**	**02 56 17.8**	**-0.7**
CAW	**Cannon Point**	**1.88**	**39**	P	**Pn**	**02 56 18.4**	**-0.2**
QRZ	**Quartz Range**	**1.89**	**337**	P	**Pb**	**02 56 20.2**	**-1.1**
QRZ	**Quartz Range**	**1.89**	**337**	P	**Pn**	**02 56 19.9**	**+1.0**
TRWZ	**Traveller**	**2.01**	**55**	P	**Pn**	**02 56 19.6**	**-0.9**
KIW	**Kapiti Island**	**2.01**	**32**	P	**Pn**	**02 56 20.7**	**+0.2**
MTW	**Mount Morrison**	**2.06**	**47**	P	**Pn**	**02 56 20.6**	**-0.6**
WVZ	**Waitaha Valley**	**2.10**	**255**	P	**Pn**	**02 56 21.8**	**+0.1**
RPZ	**Rata Peaks**	**2.12**	**237**	P	**Pn**	**02 56 21.8**	**-0.3**
RPZ	**Rata Peaks**	**2.12**	**237**	P	**Pn**	**02 56 21.5**	**-0.6**
OGWZ	**Otaki Gorge**	**2.15**	**36**	P	**Pn**	**02 56 22.2**	**-0.3**
ARCZ	**Arundel**	**2.18**	**230**	P	**Pn**	**02 56 22.3**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.25**	**43**	P	**Pn**	**02 56 23.4**	**-0.4**
TMWZ	**Te Maipa**	**2.31**	**51**	P	**Pn**	**02 56 23.7**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.45**	**251**	P	**Pn**	**02 56 26.9**	**+0.4**
MRZ	**Mangatainoka R**	**2.47**	**40**	P	**Pn**	**02 56 26.2**	**-0.6**
TMZ	**Timaru**	**2.56**	**224**	P	**Pn**	**02 56 27.7**	**-0.4**
BFZ	**Birch Farm**	**2.79**	**48**	P	**Pn**	**02 56 30.1**	**-1.2**
BFZ	**Birch Farm**	**2.79**	**48**	P	**Pn**	**02 56 30.3**	**-1.0**
FOZ	**Fox Glacier**	**2.87**	**239**	P	**Pn**	**02 56 33.5**	**+1.2**
LBZ	**Lake Benmore**	**3.02**	**232**	P	**Pn**	**02 56 34.1**	**-0.3**
WAZ	**Wanganui**	**3.03**	**22**	P	**Pn**	**02 56 36.3**	**+1.8**
ODZ	**Otahua Downs**	**3.22**	**219**	P	**Pn**	**02 56 36.3**	**-0.8**
ODZ	**Otahua Downs**	**3.22**	**219**	P	**Pn**	**02 56 36.5**	**-0.6**
KHEZ	**Kahui Hut**	**3.30**	**7**	P	**Pn**	**02 56 41.0**	**+2.7**
KHEZ	**Kahui Hut**	**3.30**	**7**	P	**Pn**	**02 56 42.1**	**+3.8**
NBEZ	**Newall Road No**	**3.31**	**5**	P	**Pn**	**02 56 41.5**	**+3.0**
PKVZ	**Pokaka**	**3.57**	**24**	P	**Pn**	**02 56 43.0**	**+1.1**
VRZ	**Vera Road**	**3.58**	**16**	P	**Pn**	**02 56 43.5**	**+1.5**
MOVZ	**Moawhango**	**3.59**	**29**	P	**Pn**	**02 56 43.8**	**+1.5**
WNVZ	**Wahianoa**	**3.61**	**27**	P	**Pn**	**02 56 43.5**	**+0.8**
TRVZ	**Turoa**	**3.62**	**26**	P	**Pn**	**02 56 44.2**	**+1.3**
WHVZ	**Whangaehu Hut**	**3.65**	**26**	P	**Pn**	**02 56 44.2**	**+1.0**
FWVZ	**Far West T-bar**	**3.66**	**26**	P	**Pn**	**02 56 45.0**	**+1.6**
SNVZ	**South Ngauruho**	**3.75**	**26**	P	**Pn**	**02 56 46.0**	**+1.3**
JCZ	**Jackson Bay**	**3.75**	**245**	P	**Pn**	**02 56 44.1**	**-0.5**
JCZ	**Jackson Bay**	**3.75**	**245**	P	**Pn**	**02 56 44.4**	**-0.2**
OTVZ	**Oturere**	**3.78**	**26**	P	**Pn**	**02 56 46.1**	**+1.1**
WTVZ	**West Tongariro**	**3.80**	**25**	P	**Pb**	**02 56 51.9**	**-2.1**
TMVZ	**Te Maari**	**3.84**	**27**	P	**Pn**	**02 56 46.7**	**+1.0**
WKZ	**Wanaka**	**3.96**	**234**	P	**Pn**	**02 56 46.2**	**-1.1**
EAZ	**Earnscleugh**	**4.03**	**227**	P	**Pn**	**02 56 47.6**	**-0.6**
BKZ	**Black Stump Fm**	**4.09**	**35**	P	**Pn**	**02 56 50.3**	**+1.1**
BKZ	**Black Stump Fm**	**4.09**	**35**	P	**Pn**	**02 56 50.0**	**+0.9**
HIZ	**Hauiti**	**4.19**	**15**	P	**Pn**	**02 56 52.2**	**+1.8**
HIZ	**Hauiti**	**4.19**	**15**	P	**Pn**	**02 56 51.7**	**+1.3**
TUZ	**Tuapeka**	**4.38**	**218**	P	**Pn**	**02 56 52.5**	**-0.5**
MTHZ	**Maungatapiwha**	**4.50**	**35**	P	**Pn**	**02 56 59.6**	**+4.8**
RTZ	**Ruatahuna**	**4.76**	**35**	P	**Pn**	**02 56 59.4**	**+1.0**
MLZ	**Mavora Lakes**	**4.78**	**232**	P	**Pn**	**02 56 57.6**	**-1.1**
AWAZ	**Awhitu Peninsu**	**5.57**	**9**	P	**Pn**	**02 57 10.6**	**+1.1**
MKAZ	**Moumakai**	**5.61**	**14**	P	**Pn**	**02 57 10.2**	**+0.3**
ETAZ	**East Tamaki Re**	**5.72**	**12**	P	**Pn**	**02 57 12.5**	**+1.0**
MBAZ	**Motutapu North**	**5.90**	**11**	P	**Pn**	**02 57 15.1**	**+1.2**

*NEIC **20** 02:55:54.9±1.8,21°.94S±0°.06×68°.5W±0°.1,h156km±9km, ML4.3(GUC),Error ellipse: s-maj=19.4km s-min=9.0km az=89.0*

*IDC **20** 02:55:56.9±1.0,21°.79S×68°.44W,h113km±9km,mb3.7/4, mbtmp4.0/6,MS3.4/2,Error ellipse: s-maj=33.6km s-min=20.0km az=116.0*

*GUC **20** 02:55:57.8±0.8,21°.86S×68°.60W,h115km±5km,ML4.3*

*VAO **20** 02:55:58.2±0.3,21°.81S×68°.40W,h115km,mb3.8*

ISC 20 02:55:57.2±0.6,**21°85S**±0°03×**68°56W**±0°05,**h127**km±6km, **n77**,σ1°**50**/96,**mb4.0**/4,**1C-2D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.64**	**275**	Pn	**Pn**	**02 56 17.6**	**+0.6**
PB09	**IPOC Station P**	**0.64**	**275**	*i* P	**Pn**	**02 56 17.4**	**+0.5**
PB09				*i* S	**Sn**	**02 56 32.5**	**+0.6**
LVC	**Limon Verde**	**0.82**	**203**	P	**Pn**	**02 56 19.1**	**+0.5**
	261nm,0.2s,baz=352,slow=6.2,SNR=1883						
LVC				S	**Sn**	**02 56 34.2**	**-0.6**
	1μm,0.3s,baz=68,slow=10,SNR=76						
LVC	**Limon Verde**	**0.82**	**203**	Pn	**Pn**	**02 56 18.8**	**+0.2**
LVC	**Limon Verde**	**0.82**	**203**	*e*P	**Pn**	**02 56 18.2**	**-0.5**
LVC				*i* S	**Sn**	**02 56 34.0**	**-0.8**
LVC	**Limon Verde**	**0.82**	**203**	*e*P	**Pn**	**02 56 18.9**	**+0.2**
PB03	**IPOC Station P**	**1.13**	**260**		**Pn**	**02 56 21.3**	**+0.1**
PB03	**IPOC Station P**	**1.13**	**260**	*i* P	**Pn**	**02 56 21.3**	**+0.1**
PB03				*i* S	**Sn**	**02 56 38.6**	**-0.8**
PB03				IAML		02 56 40.0	
	comp=E,7μm,0.1s						
AF01	**San Pedro de A**	**1.15**	**162**		**Pn**	**02 56 22.6**	**+1.0**
AF01	**San Pedro de A**	**1.15**	**162**	*e*P	**Pn**	**02 56 22.5**	**+0.9**
PB01	**IPOC Station P**	**1.18**	**313**		**Pn**	**02 56 21.9**	**+0.1**
PB01	**IPOC Station P**	**1.18**	**313**	*i* P	**Pn**	**02 56 21.8**	**+0.1**
PB01				*i* S	**Sn**	**02 56 39.9**	**-0.4**
PB01				IAML		02 56 41.7	
	comp=E,8μm,0.1s						
PB07	**IPOC Station P**	**1.24**	**275**		**Pn**	**02 56 22.4**	**+0.1**
PB07	**IPOC Station P**	**1.24**	**275**	‖ *i* P	**Pn**	**02 56 22.5**	**+0.1**
PB07				*i* S	**Sn**	**02 56 41.0**	**-0.5**
PB07				IAML		02 56 42.0	
	comp=N,8μm,0.1s						
PB06	**IPOC Station P**	**1.27**	**228**		**Pn**	**02 56 22.9**	**+0.3**
PB06	**IPOC Station P**	**1.27**	**228**	‖ *i* P	**Pn**	**02 56 23.0**	**+0.3**
PB06				*i* S	**Sn**	**02 56 41.7**	**-0.3**
PB06				IAML		02 56 43.0	
	comp=E,5μm,0.3s						
PB02	**IPOC Station P**	**1.35**	**293**		**Pn**	**02 56 23.7**	**+0.1**
PB02	**IPOC Station P**	**1.35**	**293**	*i* P	**Pn**	**02 56 23.6**	**+0.1**
PB02				*i* S	**Sn**	**02 56 42.9**	**-0.6**
PB02				IAML		02 56 44.2	
	comp=E,9μm,0.2s						
PB04	**IPOC Station P**	**1.55**	**252**	Pn	**Pn**	**02 56 25.8**	**0.0**
PB04	**IPOC Station P**	**1.55**	**252**	*e*P	**Pn**	**02 56 25.8**	**0.0**
PB04				*i* S	**Sn**	**02 56 46.1**	**-1.5**
PB04				IAML		02 56 48.8	
	comp=N,3μm,0.3s						
PB15	**IPOC Station P**	**1.59**	**212**	Pn	**Pn**	**02 56 26.9**	**+0.6**
PB15	**IPOC Station P**	**1.59**	**212**	*e*P	**Pn**	**02 56 26.9**	**+0.6**
PB15				*i* S	**Sn**	**02 56 48.5**	**-0.1**
PB08	**IPOC Station P**	**1.79**	**342**		**Pn**	**02 56 30.1**	**+1.2**
PB08	**IPOC Station P**	**1.79**	**342**	*e*P	**Pn**	**02 56 30.1**	**+1.2**
PB08				*i* S	**Sn**	**02 56 54.1**	**+1.1**
PB08				IAML		02 56 56.5	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**1.81**	**304**		**Pn**	**02 56 28.6**	**-0.1**
PATCX	**Punta Patache**	**1.81**	**304**	*e*P	**Pn**	**02 56 28.5**	**-0.2**
PATCX				*i* S	**Sn**	**02 56 52.0**	**-0.8**
PATCX				IAML		02 56 54.2	
	comp=E,4μm,0.3s						
TA01	**Diego Aracena**	**1.98**	**310**	Pn	**Pn**	**02 56 30.3**	**-0.5**
TA01	**Diego Aracena**	**1.98**	**310**	*e*P	**Pn**	**02 56 30.2**	**-0.5**
TA01				*i* S	**Sn**	**02 56 55.6**	**-0.9**
TA01				IAML		02 56 59.0	
	comp=E,2μm,0.4s						
HMBC	**Humberstone**	**2.00**	**321**	‖ *i* P	**Pn**	**02 56 30.6**	**-0.5**
HMBC				*i* S	**Sn**	**02 56 56.0**	**-1.0**
TA02	**Huaiquique**	**2.15**	**317**		**Pn**	**02 56 32.0**	**-0.8**
TA02	**Huaiquique**	**2.15**	**317**	*e*P	**Pn**	**02 56 32.3**	**-0.6**
TA02				*i* S	**Sn**	**02 56 58.7**	**-1.5**
GO01	**Chusmiza**	**2.25**	**345**		**Pn**	**02 56 35.6**	**+1.0**
GO01	**Chusmiza**	**2.25**	**345**	*e*P	**Pn**	**02 56 35.4**	**+0.8**
GO01				*i* S	**Sn**	**02 57 04.4**	**+1.2**
PB11	**IPOC Station P**	**2.32**	**334**	Pn	**Pn**	**02 56 35.0**	**-0.1**
PB11	**IPOC Station P**	**2.32**	**334**	*e*P	**Pn**	**02 56 34.9**	**-0.3**
PB11				*i* S	**Sn**	**02 57 03.5**	**-0.8**
PB11				IAML		02 57 05.5	
	comp=E,3μm,0.4s						
PB10	**IPOC Station P**	**2.48**	**228**	Pn	**Pn**	**02 56 38.2**	**+1.3**
PB10	**IPOC Station P**	**2.48**	**228**	*e*P	**Pn**	**02 56 36.6**	**-0.4**
PB10				*i* S	**Sn**	**02 57 03.7**	**-3.8**
PSGC	**Pisagua**	**2.68**	**327**	*e*P	**Pn**	**02 56 38.4**	**-1.3**
PSGC				*i* S	**Sn**	**02 57 09.3**	**-3.0**
PSGC				IAML		02 57 15.8	
	comp=E,667nm,0.6s						
PSGCX	**Pisagua**	**2.68**	**327**	Pn	**Pn**	**02 56 38.6**	**-1.1**
MNMC	**Minye Minye**	**2.88**	**340**	*e*P	**Pn**	**02 56 42.5**	**+0.1**
MNMC				*i* S	**Sn**	**02 57 17.3**	**+0.2**
PB14	**IPOC Station P**	**3.24**	**211**	Pn	**Pn**	**02 56 47.1**	**-0.1**
GO02	**Mina Guanaco**	**3.43**	**196**	Pn	**Pn**	**02 56 49.4**	**-0.2**
GO02	**Mina Guanaco**	**3.43**	**196**	*e*P	**Pn**	**02 56 49.4**	**-0.2**
GO02				IAML		02 57 32.1	
	comp=E,475nm,0.1s						
PB12	**IPOC Station P**	**3.62**	**332**	Pn	**Pn**	**02 56 50.8**	**-1.2**
LPAZ	**La Paz**	**5.55**	**4**	P	**Pn**	**02 57 20.8**	**+2.5**
	comp=E,5.0nm,0.3s,baz=259,slow=2.1,SNR=59						
LPAZ	**La Paz**	**5.55**	**4**	Pn	**Pn**	**02 57 19.7**	**+1.5**
AC06	**Mina Casimiro**	**5.72**	**196**	Pn	**Pn**	**02 57 17.2**	**-2.7**
AC05	**El Transito**	**7.13**	**192**	Pn	**Pn**	**02 57 36.2**	**-2.7**
LCO	**Las Campanas**	**7.39**	**195**	Pn	**Pn**	**02 57 38.9**	**-3.7**
GO04	**Tololo Observa**	**8.53**	**193**	Pn	**Pn**	**02 57 54.4**	**-3.6**
BBSD	**Serra de San D**	**8.81**	**60**	*e*P	**Pn**	**02 57 59.6**	**-2.1**
SIV	**San Ignacio**	**9.17**	**52**	P	**Pn**	**02 58 04.1**	**-2.5**
	comp=E,2.6nm,0.3s,baz=234,slow=10,SNR=23						
SIV				S	**Sn**	**02 59 39.4**	**-8.7**
	comp=E,0.8nm,0.4s,baz=313,slow=23,SNR=5.6						
PTLB	**Pontes e Lacer**	**10.96**	**56**	*e*P	**Pn**	**02 58 29.6**	**-0.9**
CPUP	**Villa Florida**	**11.18**	**116**	LR	LR	03 03 53.2	
	comp=E,59nm,20.7s,baz=150,slow=43						
CPUP	**Villa Florida**	**11.18**	**116**	*e*P	**Pn**	**02 58 33.5**	**+0.1**
AQDB	**Aquidauana**	**12.07**	**86**	*e*P	**Pn**	**02 58 46.5**	**+1.3**
ITQB	**Itaqui**	**13.27**	**128**	*e*P	**Pn**	**02 59 00.6**	**-0.1**
PDRB	**Porto dos Gac**	**15.22**	**50**	*e*P	**P**	**02 59 26.9**	**-0.7**
CLDB	**Colider**	**16.39**	**50**	*e*P	**P**	**02 59 40.2**	**-0.4**
TBTG	**Tabatinga, AM**	**17.61**	**356**	*e*P	**Pn**	**02 59 56.7**	**+1.9**
BB19B	**Bebedouro**	**18.66**	**91**	*e*P	**P**	**03 00 05.7**	**+0.2**
PLCA	**Paso Flores**	**18.90**	**185**	P	**P**	**03 00 08.7**	**+0.8**
	comp=E,1.4nm,0.8s,baz=335,slow=12,SNR=4.9						
PLCA	**Paso Flores**	**18.90**	**185**	*e*P	**Pn**	**03 00 10.3**	**+0.4**
SNDB	**Serra Nova Dou**	**19.20**	**62**	*e*P	**P**	**03 00 10.7**	**-0.6**
SGCB	**SÃo Gabriel d**	**21.65**	**4**	*e*P	**P**	**03 00 38.4**	**+0.7**
PRPB	**Parauapebas**	**23.90**	**52**	*e*P	**P**	**03 00 59.6**	**+0.1**
SMTB	**Santa Maria do**	**23.95**	**61**	*e*P	**P**	**03 01 00.0**	**+0.1**
JANB	**Januaria**	**23.95**	**78**	*e*P	**P**	**03 00 59.8**	**-0.2**
MALB	**Monte Alegre**	**24.26**	**37**	*e*P	**P**	**03 01 02.9**	**+0.2**
BOAV	**Boa Vista**	**25.35**	**19**	*e*P	**P**	**03 01 14.5**	**+2.0**
PMSA	**Palmer Station**	**43.01**	**177**	LR	LR	03 21 17.7	
	comp=E,182nm,18.6s,baz=334,slow=35						
SNAA	**Sanae**	**61.84**	**161**	P	**P**	**03 06 04.0**	**+1.4**
	comp=E,1.6nm,0.6s,baz=278,slow=8.6,SNR=16						
	comp=E,1.6nm,0.6s						
DBIC	**Dimbokro**	**68.52**	**73**	P	**P**	**03 06 47.0**	**+0.6**
	comp=E,3.1nm,0.7s,baz=229,slow=6.0,SNR=4.9						
	comp=E,3.1nm,0.7s						
NVAR	**Mina Array Bea**	**75.97**	**322**	P	**P**	**03 07 31.3**	**+0.8**
	comp=E,0.2nm,0.3s,baz=105,slow=6.9,SNR=2.6						
	comp=E,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**03 07 37.6**	**+0.1**
	comp=E,0.6nm,0.4s,baz=254,slow=5.1,SNR=6.7						
	comp=E,0.6nm,0.4s						
WRA	**Warramunga Arr**	**132.82**	**210**	PKP	**PKiKP**	**03 14 59.5**	**+0.2**
	comp=E,0.3nm,0.6s,baz=167,slow=1.9,SNR=6.1						
MKAR	**Makanchi Array**	**145.72**	**36**	PKPbc	**PKPab**	**03 15 22.4**	**+0.5**
	comp=E,0.5nm,0.5s,baz=340,slow=2.5,SNR=7.1						

*GRAL **20** 03:05:42.4±0.3,33°.23N×35°.36E,h2km±63km,MD2.9*

*GII **20** 03:05:42.1±0.2,33°.25N×35°.42E,h6km,MD1.2/3,Mm1.5/3*

ISC 20 03:05:42.4±1.1,**33°26N**±0°03×**35°41E**±0°04,**h14**km±9km, **n14**,σ0°**52**/23,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.22**	**102**	Pg	**Pg**	**03 05 46.8**	**-0.5**
GEM				Sg	**Sg**	**03 05 50.9**	**+0.3**
MMA0B	**Mount Meron ar**	**0.24**	**180**	Pg	**Pg**	**03 05 47.4**	**-0.3**
MMA0B				Sg	**Sg**	**03 05 51.2**	**-0.1**
HNTI	**Hanita**	**0.26**	**228**	Pg	**Pg**	**03 05 47.8**	**-0.2**
HNTI				Sg	**Sg**	**03 05 52.3**	**+0.6**
NATI	**Neve Ativ**	**0.28**	**89**	Pg	**Pg**	**03 05 47.7**	**-0.6**
NATI				Sg	**Sg**	**03 05 52.4**	**+0.2**
RCY	**Rachaya**	**0.43**	**57**	*e*P	**Pg**	**03 05 51.0**	**-0.2**
RCY				*e*S	**Sg**	**03 05 57.3**	**+0.3**
KSHT	**Keshet**	**0.44**	**129**	Pg	**Pg**	**03 05 51.1**	**-0.1**
DQRL	**Deir Qamar**	**0.47**	**17**	*e*P	**Pg**	**03 05 51.4**	**-0.4**
DQRL				*e*S	**Sg**	**03 05 58.2**	**+0.1**
BHL	**Bhannes**	**0.68**	**18**	*e*P	**Pg**	**03 05 55.2**	**-0.5**
BHL				*e*S	**Sg**	**03 06 04.6**	**-0.1**
ZAHL	**Zahle**	**0.72**	**34**	*e*P	**Pg**	**03 05 56.1**	**-0.4**
OFRI	**`Ofer**	**0.73**	**209**	Pg	**Pg**	**03 05 55.9**	**-0.7**
OFRI				Sg	**Sb**	**03 06 06.7**	**-0.1**
MMLI	**Mount Malkishu**	**0.82**	**179**	Pg	**Pg**	**03 05 57.8**	**-0.5**
MMLI				Sg	**Sg**	**03 06 08.9**	**-0.2**
HMDT	**Nahal Hemdat**	**1.01**	**174**	Pg	**Pg**	**03 06 00.8**	**-1.1**
HWQ	**Hawqa**	**1.11**	**24**	*e*P	**Pg**	**03 06 03.1**	**-0.9**
YTIR	**Yattir**	**1.91**	**187**	Pn	**Pn**	**03 06 15.4**	**+0.7**

WEL 20 03:13:07.8±0.7,**33°S**±16°×**18°0W**±4°2,**h33**km,**M4.3**/11, **mB5.0**/7,**ML4.4**/11,**MLv4.3**/11,**Mw(mB)4.3**/7,**Error ellipse: s-maj=0.1km s-min=0.0km az=110.7,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.04**	**26**	S	Sn	03 14 54.0	+0.4
MXZ	**Matakaoa Point**	**4.84**	**197**	P	Pn	03 14 20.3	+1.9
MXZ				S	Sn	03 15 15.0	+1.8
WMGZ	**Waiomatatini S**	**5.06**	**195**	P	Pn	03 14 22.4	+1.1
WMGZ				S	Sn	03 15 20.3	+1.6
HAZ	**Te Kaha**	**5.16**	**200**	P	Pn	03 14 22.4	-0.4
PKGZ	**Pakihiroa**	**5.21**	**197**	P	Pn	03 14 24.0	+0.6
PKGZ				S	Sn	03 15 21.9	-0.4
PUZ	**Puketiti**	**5.34**	**195**	P	Pn	03 14 25.0	-0.2
PUZ				S	Sn	03 15 24.6	-0.9
RUGZ	**Raukumara Rang**	**5.39**	**200**	P	Pn	03 14 26.5	+0.6
TWGZ	**Tauwhareparae**	**5.50**	**197**	P	Pn	03 14 26.1	-1.4
TWGZ				S	Sn	03 15 29.4	-0.3
MWZ	**Matawai**	**5.77**	**200**	P	Pn	03 14 31.2	0.0
TKGZ	**Te Karaka**	**5.79**	**197**	P	Pn	03 14 31.6	+0.3
URZ	**Urewera**	**5.84**	**203**	P	Pn	03 14 31.7	-0.3
RAGZ	**Rawiri**	**5.96**	**200**	P	Pn	03 14 34.2	+0.4
RIGZ	**Rimuhau**	**6.06**	**197**	P	Pn	03 14 35.2	0.0
MUGZ	**Murupara**	**6.15**	**205**	P	Pn	03 14 35.7	-0.6
MHGZ	**Mahia Peninsul**	**6.45**	**195**	P	Pn	03 14 37.7	-2.8
NMHZ	**Naumai**	**6.70**	**202**	P	Pn	03 14 39.3	-4.6
BKZ	**Black Stump Fm**	**6.86**	**204**	P	Pn	03 14 39.4	-6.7
HIZ	**Hauiti**	**6.99**	**216**	P	Pn	03 14 47.8	-0.1
TMVZ	**Te Maari**	**7.11**	**208**	P	Pn	03 14 48.2	-1.4
ETVZ	**East Tongariro**	**7.12**	**208**	P	Pn	03 14 48.1	-1.7

*IDC **20** 03:19:53.5±0.5,44°.20S×39°.12E,h0km,mb4.4/17, mbtmp4.4/19,ML3.7/2,MS4.2/49,Error ellipse: s-maj=19.8km s-min=13.6km az=54.0*

*NEIC **20** 03:19:56.2±2.0,44°.35S±0°.10×39°.1E±0°.2,h10km±1km, mb5.1/80,Error ellipse: s-maj=19.4km s-min=16.5km az=97.0*

*GCMT **20** 03:19:57.2±0.2,44°.15S±0°.01×39°.16E±0°.03,h12km, MW5.0/114,Moment Tensor Solution. s26,c29; s114,c150; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.51±.08; Mθθ2.86±.07; Mϕϕ0.65±.08; Mrθ-1.16±.30; Mθϕ-0.19±.07; Mrϕ0.28±.34; Best double couple: M=3.40800×10¹⁶ NP1:ϕ=98.00000°,δ55.00000°, λ-87.00000°. NP2:ϕ=273.00000°,δ35.00000°, λ-94.00000°. Principal axes: T 3.0880, Plg10.0000°, Azm186.0000°; N 0.6470, Plg2.0000°, Azm276.0000°; P -3.7280, Plg80.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 03:19:55.6±0.3,**44°32S**±0°06×**39°06E**±0°08,**h10**km,**n221**, σ1°**01**/182,**mb5.0**/50,**MS4.3**/53,**1C-1D,Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**15.66**	**313**		**P**	**03 23 40.6**	**+0.1**
SOE				IAmb	IAmb	03 23 50.9	
	comp=Z,255nm,1.9s						
POGA	**Pongola**	**17.94**	**338**		**P**	**03 24 07.4**	**+1.6**
SUR	**Sutherland**	**18.58**	**304**	P	**P**	**03 24 12.1**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=139,slow=12,SNR=5.8						
SUR				LR	LR	03 30 04.8	
	comp=Z,606nm,18.7s,baz=136,slow=33						
	comp=Z,12nm,0.8s						
SUR	**Sutherland**	**18.58**	**304**	P	**Pn**	**03 24 14.3**	**+1.1**
BOSA	**Boshof**	**19.17**	**320**	P	**P**	**03 24 18.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=149,slow=9.6,SNR=4.5						
BOSA				LR	LR	03 30 17.3	
	comp=Z,1μm,20.2s,baz=144,slow=33						
	comp=Z,4.8nm,1.0s						
BOSA	**Boshof**	**19.17**	**320**	P	**Pn**	**03 24 21.3**	**+1.1**
LBTB	**Lobatse**	**22.16**	**326**	P	**P**	**03 24 49.8**	**-2.0**
	comp=Z,27nm,1.2s,baz=153,slow=10,SNR=6.0						
LBTB				LR	LR	03 32 08.2	
	comp=Z,989nm,19.5s,baz=152,slow=33						
	comp=Z,27nm,1.2s						
LBTB	**Lobatse**	**22.16**	**326**	P	**P**	**03 24 50.2**	**-1.5**
LBTB				IAmb	IAmb	03 25 00.7	
	comp=Z,186nm,1.9s						
VOI	**Vohitsoka**	**23.25**	**18**	P	**P**	**03 25 02.6**	**-0.6**
VOI				IAmb	IAmb	03 25 09.6	
	comp=Z,72nm,1.6s						
ABPO	**Ambohimpanom**	**26.14**	**18**	P	**P**	**03 25 36.5**	**+6.4**
ABPO				IAmb	IAmb	03 25 45.9	
	comp=Z,50nm,1.6s						
MAW	**Mawson**	**26.52**	**160**	P	**P**	**03 25 33.4**

	comp=Z,6.8nm,0.8s							
STKA	**Stephens Creek**	**76.50**	**121**	P	**P**	**03 31 46.0**	**+0.2**	
MMAI	**Mount Meron Ar**	**77.04**	**357**	LR	LR	04 04 52.5		
	comp=Z,169nm,19.6s,baz=8.5,slow=35							
ASAR	**Alice Springs**	**77.15**	**110**	P	**P**	**03 31 49.4**	**-0.3**	
	comp=Z,5.9nm,0.8s,baz=216,slow=5.6,SNR=49							
ASAR				LR	LR	03 59 33.4		
	comp=Z,132nm,21.9s,baz=174,slow=31							
	comp=Z,5.9nm,0.8s							
ASAR	**Alice Springs**	**77.15**	**110**	P	**P**	**03 31 48.9**	**-0.8**	
AS31	**Alice Springs**	**77.15**	**110**	P	**P**	**03 31 50.0**	**+0.3**	
BDFB	**Brasilia**	**77.19**	**261**	P	**P**	**03 31 50.9**	**+0.8**	
	comp=Z,3.4nm,0.8s,baz=168,slow=11,SNR=3.8							
	comp=Z,3.4nm,0.8s							
BDFB	**Brasilia**	**77.19**	**261**	P	**P**	**03 31 49.7**	**-0.3**	
BDFB				IAmb	IAmb	03 31 57.1		
	comp=Z,26nm,1.3s							
BBTS	**Babate**	**77.44**	**305**	LR	LR	04 02 50.5		
	comp=Z,85nm,19.5s,baz=108,slow=33							
KSM	**Kuching**	**77.70**	**76**	P	**P**	**03 31 52.3**	**-0.4**	
KSM				IAmb	IAmb	03 31 56.1		
	comp=Z,22nm,1.8s							
LMEL	**Las Melosas**	**79.11**	**233**	P	**P**	**03 32 00.0**	**-0.5**	
BO01	**Tunca**	**79.22**	**232**	P	**P**	**03 32 00.1**	**-0.9**	
BO01				IAmb	IAmb	03 32 05.9		
	comp=Z,59nm,1.9s							
AQDB	**Aquidauana**	**79.27**	**252**	P	**P**	**03 32 01.2**	**-0.2**	
AQDB				IAmb	IAmb	03 32 08.0		
	comp=Z,28nm,1.4s							
SBUM	**Sibu**	**79.73**	**76**	P	**P**	**03 32 03.5**	**-0.4**	
SOEI	**Soe**	**79.84**	**94**	P	**P**	**03 32 04.6**	**-0.2**	
KAPI	**Kappang**	**79.85**	**87**	LR	LR	04 02 46.7		
	comp=Z,61nm,18.5s,baz=250,slow=32							
ZON	**Zonda**	**79.88**	**236**	P	**P**	**03 32 04.7**	**+0.1**	
ZON				IAmb	IAmb	03 32 10.6		
	comp=Z,25nm,1.5s							
WRA	**Warramunga Arr**	**79.98**	**108**	P	**P**	**03 32 05.0**	**-0.3**	
	comp=Z,3.6nm,0.8s,baz=221,slow=4.3,SNR=28							
	comp=Z,3.6nm,0.8s							
WB2	**Warramunga Arr**	**79.99**	**108**	P	**P**	**03 32 05.3**	**0.0**	
WB2				IAmb	IAmb	03 32 11.7		
	comp=Z,36nm,1.4s							
WRAB	**Tennant Creek**	**79.99**	**108**	P	**P**	**03 32 04.6**	**-0.8**	
WRAB				IAmb	IAmb	03 32 07.4		
	comp=Z,33nm,1.4s							
MT02	**Curacav**	**80.08**	**233**	IAmb	IAmb	03 32 05.8		
	comp=Z,17nm,1.1s							
IDI	**Anoyia**	**80.27**	**348**	LR	LR	04 07 46.2		
	comp=Z,148nm,21.2s,baz=169,slow=36							
HRA	**Herat**	**81.12**	**19**	P	**P**	**03 32 09.7**	**-1.4**	
HRA				IAmb	IAmb	03 32 12.4		
	comp=Z,27nm,1.7s							
GAZ	**Gaziantep**	**81.13**	**359**	P	**P**	**03 32 10.2**	**-0.8**	
MARD	**Mardin**	**81.27**	**1**	P	**P**	**03 32 11.9**	**+0.2**	
CO03	**El Pedregal**	**81.58**	**235**	IAmb	IAmb	03 32 15.5		
	comp=Z,14nm,0.9s							
CO01	**Juntas del Tor**	**81.85**	**236**	IAmb	IAmb	03 32 18.2		
	comp=Z,13nm,1.0s							
AC05	**El Transito**	**82.79**	**237**	IAmb	IAmb	03 32 22.2		
	comp=Z,13nm,0.9s							
LCO	**Las Campanas**	**82.92**	**236**	P	**P**	**03 32 20.3**	**-0.8**	
LCO				IAmb	IAmb	03 32 24.2		
	comp=Z,14nm,1.0s							
CMAR	**Chiang Mai Arr**	**82.95**	**56**	P	**P**	**03 32 19.5**	**-1.3**	
	comp=Z,1.1nm,0.3s,baz=221,slow=4.7,SNR=6.3							
CMAR				LR	LR	04 04 32.2		
	comp=Z,60nm,18.1s,baz=235,slow=32							
	comp=Z,1.1nm,0.3s							
CMAR	**Chiang Mai Arr**	**82.95**	**56**	P	**P**	**03 32 19.3**	**-1.5**	
DMN	**Daman**	**83.04**	**40**	*eP*	**P**	**03 32 20.2**	**-1.2**	
	comp=Z,92nm,1.3s							
DANN	**Dangsing**	**83.06**	**39**	*eP*	**P**	**03 32 20.1**	**-1.4**	
KBL	**Kabul**	**83.09**	**25**	P	**P**	**03 32 22.4**	**+1.0**	
KBL				IAmb	IAmb	03 32 26.8		
	comp=Z,28nm,2.0s							
PKIN	**Phulchoki**	**83.15**	**40**	*eP*	**P**	**03 32 20.5**	**-1.5**	
PKI	**Pulchoki**	**83.15**	**40**	*eP*	**P**	**03 32 20.8**	**-1.3**	
GKN	**Gorkha**	**83.16**	**39**	*eP*	**P**	**03 32 20.8**	**-1.1**	
RAMN	**Ramite**	**83.18**	**42**	*eP*	**P**	**03 32 21.0**	**-1.2**	
	comp=Z,325nm,1.8s							
CHTO	**Chiang Mai**	**83.22**	**56**	P	**P**	**03 32 21.8**	**-0.4**	
KKN	**Kakani**	**83.27**	**40**	*eP*	**P**	**03 32 21.4**	**-1.2**	
ODAN	**Odare**	**83.48**	**42**	*eP*	**P**	**03 32 23.2**	**-0.5**	
JIRN	**Jiri**	**83.59**	**41**	*eP*	**P**	**03 32 23.1**	**-1.3**	
	comp=Z,224nm,1.6s							
NIL	**Nilore**	**83.61**	**28**	P	**P**	**03 32 23.5**	**-0.4**	
GUN	**Gumba**	**83.66**	**40**	*eP*	**P**	**03 32 23.6**	**-1.1**	
	comp=Z,294nm,1.3s							
BR131	**Keskin Array S**	**83.81**	**356**	P	**P**	**03 32 25.4**	**+0.5**	
BR131				IAmb	IAmb	03 32 26.1		
	comp=Z,19nm,1.6s							
BRTR	**Keskin Array B**	**83.81**	**356**	P	**P**	**03 32 23.6**	**-1.3**	
	comp=Z,1.2nm,0.9s,baz=182,slow=7.8,SNR=5.9							
BRTR				LR	LR	04 10 02.5		
	comp=Z,103nm,18.1s,baz=140,slow=36							
	comp=Z,1.2nm,0.9s							
BRTR	**Keskin Array B**	**83.81**	**356**	P	**P**	**03 32 24.6**	**-0.3**	
AC06	**Mina Casimiro**	**83.92**	**238**	IAmb	IAmb	03 32 27.4		
	comp=Z,11nm,1.1s							
KOPT	**Kop Dagi**	**83.97**	**1**	P	**P**	**03 32 27.8**	**+1.9**	
TAPN	**Taplejung**	**84.05**	**42**	*eP*	**P**	**03 32 25.5**	**-1.2**	
	comp=Z,49nm,1.0s							
KEST	**Kesra**	**84.12**	**336**	P	**P**	**03 32 26.1**	**-0.4**	
	comp=Z,5.7nm,1.0s,baz=260,slow=8.9,SNR=4.3							
KEST				LR	LR	04 11 51.2		
	comp=Z,262nm,18.2s,baz=172,slow=37							
	comp=Z,5.7nm,1.0s							
KEST	**Kesra**	**84.12**	**336**	P	**P**	**03 32 27.4**	**+0.9**	
BORA	**Eskisehir**	**84.18**	**353**	P	**P**	**03 32 27.1**	**+0.4**	
GNI	**Garni**	**84.24**	**4**	LR	LR	04 08 26.0		
	comp=Z,208nm,21.8s,baz=180,slow=35							
VAE	**Valguarnera**	**84.42**	**341**	LR	LR	04 09 13.4		
	comp=Z,108nm,21.4s,baz=153,slow=35							
SHL	**Shillong**	**84.67**	**46**	P	**P**	**03 32 28.8**	**-0.8**	
PTLB	**Pontes e Lacer**	**85.09**	**253**	P	**P**	**03 32 32.0**	**+0.1**	
PTLB				IAmb	IAmb	03 32 34.0		
	comp=Z,13nm,1.2s							
SIV	**San Ignacio**	**86.04**	**252**	LR	LR	04 06 34.7		
	comp=Z,104nm,18.3s,baz=123,slow=32							
FNA	**Florina**	**86.20**	**347**	P	**P**	**03 32 36.8**	**0.0**	
PB15	**IPOC Station P**	**86.39**	**241**	IAmb	IAmb	03 32 39.7		
	comp=Z,17nm,0.9s							
MDT	**Midelt**	**86.46**	**324**	LR	LR	04 11 28.6		
	comp=Z,306nm,18.7s,baz=156,slow=36							
LVC	**Limon Verde**	**86.48**	**242**	LR	LR	04 04 55.9		
	comp=Z,121nm,19.2s,baz=159,slow=31							
LVC	**Limon Verde**	**86.48**	**242**	P	**P**	**03 32 40.1**	**+0.9**	
LVC				IAmb	IAmb	03 32 45.4		
	comp=Z,39nm,1.9s							
ONI	**Oni**	**86.61**	**3**	P	**P**	**03 32 39.2**	**+0.4**	
GAR	**Garm**	**87.61**	**24**	P	**P**	**03 32 43.9**	**+0.1**	
KBZ	**Khabaz**	**87.73**	**3**	P	**P**	**03 32 43.3**	**-0.7**	
	comp=Z,2.8nm,0.9s,baz=239,slow=4.2,SNR=5.1							
KBZ				LR	LR	04 11 24.5		
	comp=Z,96nm,20.5s,baz=160,slow=35							
	comp=Z,2.8nm,0.9s							
CTA	**Charters Tower**	**87.80**	**116**	LR	LR	04 08 30.7		
	comp=Z,129nm,19.3s,baz=259,slow=33							
QIZ	**Qiongzhong**	**90.12**	**63**	P	**P**	**03 32 54.4**	**-1.6**	
QIZ				S	**S**	**03 43 52.4**	**+2.9**	
QIZ				LR	LR			
	comp=Z,190nm,25.5s							
QIZ				LR	LR			
	comp=Z,110nm,27.1s							
QIZ				LR	LR			
	comp=Z,160nm,23.1s							
MLR	**Muntele Rosu**	**90.18**	**351**	LR	LR	04 15 38.1		
	comp=Z,147nm,20.2s,baz=180,slow=37							
LPAZ	**La Paz**	**90.56**	**247**	LR	LR	04 11 27.6		
	comp=Z,139nm,18.2s,baz=115,slow=34							
PZH	**PanZhiHua**	**90.79**	**53**	P	**P**	**03 33 00.6**	**+1.5**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,5.1s							
KK31	**Karatay Array**	**91.46**	**22**	P	**P**	**03 33 00.1**	**-1.5**	
KK31				IAmb	IAmb	03 33 02.7		
	comp=Z,15nm,1.8s							
KKAR	**Karatay Array**	**91.46**	**22**	P	**P**	**03 33 00.7**	**-1.0**	
KKAR				IAmb	IAmb	03 33 02.7		
	comp=Z,15nm,1.8s							
ESDC	**Sonseca Array**	**92.16**	**328**	LR	LR	04 15 02.6		
	comp=Z,315nm,18.9s,baz=138,slow=36							
AAK	**Ala-Archa**	**92.19**	**25**	LR	LR	04 10 32.1		
	comp=Z,144nm,21.3s,baz=199,slow=33							
BURAR	**Bucovina Array**	**92.36**	**351**	P	**P**	**03 33 06.0**	**+0.2**	
ETMB	**Extrema**	**93.93**	**252**	lAmb	lAmb	03 33 18.7		
	comp=Z,19nm,1.7s							
DAVOX	**Davos/Dischmat**	**94.31**	**340**	LR	LR	04 16 25.0		
	comp=Z,164nm,21.3s,baz=85,slow=36							
MDP	**Montagnes des**	**94.75**	**272**	LR	LR	04 09 03.2		
	comp=Z,89nm,20.4s,baz=158,slow=31							
AKASG	**Malin Array Be**	**95.03**	**354**	LR	LR	04 17 41.4		
	comp=Z,84nm,20.7s,baz=233,slow=36							
CD2	**Chengdu**	**95.29**	**51**	*eP*	**P**	**03 33 21.0**	**+1.4**	
VRAC	**Vranov**	**95.29**	**345**	LR	LR	04 18 40.0		
	comp=Z,56nm,19.4s,baz=167,slow=37							
GERES	**GERESS Array B**	**95.41**	**343**	LR	LR	04 21 11.4		
	comp=Z,96nm,18.3s,baz=156,slow=39							
PMG	**Port Moresby**	**96.14**	**109**	LR	LR	04 12 26.3		
	comp=Z,90nm,19.2s,baz=215,slow=33							
BELG	**Belogornoye**	**96.62**	**5**	LR	LR	04 17 00.6		
	comp=Z,210nm,21.6s,baz=133,slow=36							
WMQ	**Urumqi**	**97.88**	**33**	*eP*	Pdif	03 33 33.3	+2.2	
WMQ				pP	pwP	03 33 37.5	+0.3	
WMQ				sP	sP	03 33 40.6	+6.3	
WMQ				pmax	pmax			
	comp=Z,12nm,0.7s							
WMQ				LR	LR			
	comp=Z,120nm,22.7s							
DZM	**Mont Dzumac**	**98.29**	**132**	LR	LR	04 08 41.8		
	comp=Z,97nm,22.0s,baz=216,slow=30							
DZM	**Mont Dzumac**	**98.29**	**132**	*eLR*	LR	04 05 26.5		
	comp=Z,274nm,27.4s							
BMRD	**Maresious**	**98.86**	**339**	*dP*	Pdif	03 33 38.4	+3.2	
OBN	**Obninsk**	**99.08**	**359**	LR	LR	04 18 30.1		
	comp=Z,12nm,20.5s,baz=148,slow=36							
NNA	**Nana**	**99.39**	**243**	LR	LR	04 14 33.7		
	comp=Z,133nm,19.7s,baz=141,slow=33							
TBI	**Tubuai**	**112.21**	**172**	*eLR*	LR	04 11 54.4		
	comp=Z,3μm,21.8s							
TBI				*eLR*	LR	04 11 54.4		
	comp=Z,1μm,40.2s							
PPT2	**Papeete2**	**117.89**	**171**	*eLR*	LR	04 14 31.5		
	comp=Z,116nm,21.8s							
PPT2				*eLR*	LR	04 14 31.9		
	comp=Z,166nm,39.5s							
TAOE	**Nuku Hiva Isla**	**127.07**	**181**	*eLR*	LR	04 18 48.0		
	comp=Z,278nm,25.6s							
833A	**Chaparral WMA,**	**143.35**	**258**	PKPdf	**PKPdf**	**03 39 29.3**	**-0.8**	
435B	**Jarrell**	**143.49**	**263**	PKPdf	PKPbc	03 39 28.0	+0.3	
435B	**Jarrell**	**143.49**	**263**	P	PKPab	03 39 27.1	+0.4	
	baz=124							
JFWS	**Jewell Farm**	**143.75**	**286**	PKPdf	**PKPdf**	**03 39 30.1**	**-0.3**	
WHTX	**Lake Whitney,**	**144.06**	**265**	P	**PKPab**	**03 39 28.7**	**-0.2**	
	baz=123							
I40A	**Norwalk**	**144.33**	**287**		**PKPab**	**03 39 29.1**	**-0.3**	
TUL1	**Leonard**	**144.84**	**272**		**PKPab**	**03 39 30.8**	**-0.8**	
TUL1	**Leonard**	**144.84**	**272**	P	**PKPab**	**03 39 30.6**	**-1.0**	
	baz=118							
JCT	**Junction City**	**144.90**	**261**	P	**PKPab**	**03 39 31.1**	**-1.0**	
	baz=125							
LOOK	**Love County**	**144.91**	**268**		**PKPab**	**03 39 31.8**	**-0.1**	
N38A	**Joes South For**	**145.07**	**281**		**PKPbc**	**03 39 31.9**	**-0.4**	
SCIA	**State Center**	**145.46**	**283**	P	**PKPbc**	**03 39 33.6**	**+0.1**	
	baz=111							
OK034	**N. Norfolk Rd.**	**145.55**	**272**		**PKPdf**	**03 39 33.5**	**-0.2**	
OK030	**Cody Creek RV**	**145.56**	**271**		**PKPdf**	**03 39 33.6**	**-0.2**	
X34A	**Smith Ranch, M**	**145.68**	**269**	PKPbc	**PKPdf**	**03 39 34.2**	**+0.1**	
E38A	**The Farm, Brul**	**145.74**	**292**		**PKPdf**	**03 39 33.8**	**+0.1**	
T35A	**Sooner Cattle**	**145.82**	**273**		**PKPdf**	**03 39 33.5**	**-0.8**	
OK050	**Pawnee Station**	**145.92**	**272**		**PKPbc**	**03 39 34.9**	**-0.2**	
EYMN	**Ely**	**146.02**	**294**	P	**PKPdf**	**03 39 34.1**	**-0.1**	
	baz=103							
SPMN	**Marine on St.**	**146.22**	**289**		**PKPdf**	**03 39 34.9**	**+0.3**	
SPMN	**Marine on St.**	**146.22**	**289**	P	**PKPdf**	**03 39 34.9**	**+0.3**	
	baz=106							
WMOK	**Wichita Mounta**	**146.43**	**268**	P	**PKPdf**	**03 39 35.3**	**-0.1**	
	baz=120							
KSU1	**Kansas State U**	**146.81**	**277**	P	**PKPdf**	**03 39 36.6**	**+0.8**	
	baz=114							
TXAR	**Lajitas Array**	**146.94**	**256**	PKPbc	**PKPbc**	**03 39 38.2**	**-0.2**	
	comp=Z,6.3nm,0.9s,baz=138,slow=6.4,SNR=51							
TXAR	**Lajitas Array**	**146.94**	**256**	PKPbc	**PKPbc**	**03 39 37.9**	**-0.5**	
SLBS	**Sierra La Lagu**	**147.38**	**241**	PKPbc	**PKPdf**	**03 39 38.1**	**+0.7**	
R32A	**Long Quarter,**	**148.04**	**274**	PKPbc	**PKPdf**	**03 39 39.5**	**+1.6**	
ECSD	**EROS Data Cent**	**148.42**	**285**	PKPbc	**PKPbc**	**03 39 41.2**	**-0.7**	
ECSD	**EROS Data Cent**	**148.42**	**285**	P	**PKPbc**	**03 39 40.5**	**-1.4**	
	baz=107							
AMTX	**Amarillo**	**148.58**	**266**	P	**PKPbc**	**03 39 42.6**	**0.0**	
	baz=120							
BGNE	**Belgrade**	**148.76**	**280**	PKPbc	**PKPbc**	**03 39 41.2**	**-1.7**	
MSTX	**Muleshoe**	**148.90**	**264**	P	**PKPbc**	**03 39 43.3**	**-0.2**	
	baz=121							
AGMN	**Agassiz Nation**	**148.96**	**294**	PKPbc	**PKPbc**	**03 39 42.3**	**-0.7**	
AGMN	**Agassiz Nation**	**148.96**	**294**	P	**PKPbc**	**03 39 42.5**	**-0.6**	
	baz=100							
ULM	**Lac du Bonnet**	**149.24**	**297**	PKPbc	**PKPbc**	**03 39 42.6**	**-1.0**	
	comp=Z,16nm,0.8s,baz=75,slow=2.5,SNR=16							
SUSD	**Miller**	**150.23**	**285**	P	**PKPbc**	**03 39 45.9**	**-0.4**	
	baz=105							
KSCO	**Kaye Shedlock'**	**151.08**	**273**	P	**PKPbc**	**03 39 48.7**	**0.0**	
	baz=113							
A36M	**Sachs Harbour**	**151.25**	**350**		**PKPdf**	**03 39 41.1**	**-0.7**	
A36M	**Sachs Harbour**	**151.25**	**350**	P	**PKPbc**	**03 39 47.6**	**-0.3**	
	baz=24							
MDND	**Maddock**	**151.36**	**292**	P	**PKPbc**	**03 39 48.6**	**-0.3**	
	baz=98							
T25A	**Trinidad**	**151.58**	**268**	P	**PKPbc**	**03 39 50.1**	**+0.1**	
	baz=116							
121A	**Cookes Peak, D**	**151.68**	**257**	P	**PKPbc**	**03 39 50.4**	**0.0**	
	baz=124							
Q24A	**Divide**	**152.87**	**271**	P	**PKPbc**	**03 39 53.1**	**+0.1**	
	baz=113							
C36M	**Paulatuk**	**153.47**	**347**	P	**PKPbc**	**03 39 51.7**	**-1.1**	
	baz=28							
S22A	**4UR Ranch, Cre**	**153.58**	**267**		**PKPbc**	**03 39 54.1**	**-0.5**	
S22A	**4UR Ranch, Cre**	**153.58**	**267**	P	**PKPbc**	**03 39 54.6**	**+0.1**	
	baz=15							
TUC	**Tucson**	**153.63**	**253**	P	**PKPdf**	**03 39 47.9**	**+1.1**	
	baz=126							
RSSD	**Black Hills**	**153.69**	**283**		**PKPdf**	**03 39 46.1**	**-0.6**	
C27K	**Jago River**	**154.59**	**2**	P	**PKPdf**	**03 39 47.3**	**+0.4**	
	baz=355							
TOLK	**Toolik Lake Re**	**155.21**	**8**		**PKPdf**	**03 39 48.4**	**+0.6**	
TOLK	**Toolik Lake Re**	**155.21**	**8**	P	**PKPdf**	**03 39 49.0**	**+1.2**	
	baz=345							
PV23	**Carpenter Ridg**	**155.44**	**267**	PKPdf	**PKPdf**	**03 39 48.3**	**-1.1**	
PV23					**PKPab**	**03 40 14.5**	**-0.6**	
E23K	**Chandalar**	**155.77**	**8**	P	**PKPdf**	**03 39 48.5**	**-0.2**	
	baz=345							
WUAZ	**Wupatki**	**155.79**	**259**	P	**PKPdf**	**03 39 50.2**	**+0.4**	
	baz=120							
G22K	**Bettles**	**156.64**	**11**	P	**PKPdf**	**03 39 49.8**	**+0.1**	
	baz=340							
P18A	**Preston Nutter**	**156.78**	**269**	PKPdf	**PKPdf**	**03 39 50.2**	**-0.9**	
P18A					**PKPab**	**03 40 20.5**	**-0.3**	
SRU	**San Rafael Swe**	**156.79**	**268**		**PKPdf**	**03 39 50.5**	**-0.5**	
SRU					**PKPab**	**03 40 20.9**	**+0.2**	
IMAR	**Indian Mountai**	**157.18**	**14**	PKPdf	**PKPdf**	**03 39 49.7**	**-0.7**	
PDAR	**Pinedale Array**	**157.27**	**277**	PKP	**PKPdf**	**03 39 49.3**	**-2.3**	
	comp=Z,0.4nm,0.9s,baz=135,slow=0.3,SNR=1.8							
PDAR				PKPab	**PKPab**	**03 40 20.6**	**-2.2**	
	comp=Z,1.6nm,0.9s,baz=105,slow=5.2,SNR=8.0							
TMUT	**Trail Mountain**	**157.35**	**268**		**PKPdf**	**03 39 51.2**	**-0.7**	
TMUT				PKPab	**PKPab**	**03 40 23.2**	**-0.1**	
NLU	**North Lily Min**	**158.21**	**269**		**PKPdf**	**03 39 51.2**	**-1.6**	
NLU				PKPab	**PKPab**	**03 40 26.8**	**-0.1**	
DUG	**Dugway, Tooele**	**158.83**	**269**		**PKPdf**	**03 39 52.8**	**-0.7**	
DUG					**PKPab**	**03 40 29.6**	**+0.2**	
I29M	**Ogilvie Camp,**	**158.86**	**357**	P	**PKPdf**	**03 39 53.7**	**+1.2**	
	baz=5.1							
ELK	**Elko**	**160.75**	**268**	PKPdf	**PKPdf**	**03 39 55.2**	**-0.5**	
ELK					**PKPab**	**03 40 37.2**	**-0.8**	
NVAR	**Mina Array Bea**	**162.05**	**259**	PKPab	**PKPab**	**03 40 43.6**	**0.0**	
	comp=Z,0.2nm,0.3s,baz=152,slow=3.2,SNR=4.4							
WVOR	**Wild Horse Val**	**163.68**	**271**	PKPdf	**PKPdf**	**03 39 58.4**	**-0.1**	
WVOR					**PKPab**	**03 40 50.5**	**-0.2**	

*IDC **20** 03:28:40.3±1.0,52.74S×140.45E,h0km,mb4.1/5, mbtmp4.1/5,MS3.7/6,Error ellipse: s-maj=101.5km s-min=17.8km az=84.0*
*NEIC **20** 03:28:41.6±1.0,52.79S±0.08×140.4E±0.6,h10km±2km, mb4.3/14,Error ellipse: s-maj=58.4km s-min=14.1km az=268.0*

ISC 20 03:28:41.4±0.7,52.77S±0.08×140.3E±0.2,h10km,n38, σ0.8 77/28,mb4.1/7,MS3.6/6,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**15.63**	**16**	Pn	**Pn**	**03 32 22.2**	**+0.5**
TOO				lAmb	lAmb	03 32 28.4	
	comp=Z,26nm,1.4s						
CAN	**Canberra**	**18.52**	**23**	P	**P**	**03 32 56.2**	**-1.6**
CASY	**Casey**	**19.98**	**216**	P	**P**	**03 33 12.2**	**-1.3**
CASY				lAmb	lAmb	03 33 19.2	
	comp=Z,33nm,1.4s						
BBOO	**Buckleboo**	**20.18**	**350**	P	**P**	**03 33 16.8**	**+0.8**
BBOO				lAmb	lAmb	03 33 27.7	
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**20.90**	**3**	P	**P**	**03 33 25.0**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=171,slow=12,SNR=4.7						
STKA				LR	LR	03 39 49.4	
	comp=Z,91nm,19.8s,baz=192,slow=32						
	comp=Z,3.6nm,0.8s						
RPZ	**Rata Peaks**	**22.27**	**78**	LR	LR	03 39 47.9	
	comp=Z,184nm,21.9s,baz=234,slow=30						
FORT	**Forrest**	**23.72**	**333**	P	**P**	**03 33 53.7**	**+0.3**
H01W1	**Cape Leeuwin H**	**25.74**	**304**	T	T	04 00 51.1	
	baz=142,slow=75,SNR=36						
H01W2	**Cape Leeuwin H**	**25.74**	**304**	T	T	04 00 51.0	
	baz=142,slow=75,SNR=41						
H01W3	**Cape Leeuwin H**	**25.75**	**304**	T	T	04 00 51.8	
	baz=142,slow=75,SNR=30						
VNDA	**Vanda**	**26.09**	**170**	P	**P**	**03 34 15.7**	**+1.0**
	comp=Z,3.7nm,0.9s,baz=330,slow=9.0,SNR=18						
	comp=Z,3.7nm,0.9s						
VNDA	**Vanda**	**26.09**	**170**	P	**P**	**03 34 14.5**	**-0.2**
VNDA				lAmb	lAmb	03 34 19.1	
	comp=Z,5.2nm,1.0s						
SBA	**Scott Base**	**26.95**	**168**	P	**P**	**03 34 23.1**	**+0.7**
SBA				lAmb	lAmb	03 34 29.4	
	comp=Z,4.8nm,1.1s						
ASAR	**Alice Springs**	**29.46**	**348**	P	**P**	**03 34 45.5**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=165,slow=10,SNR=22						
ASAR				PcP	**PcP**	**03 37 49.9**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=155,slow=2.3,SNR=2.1						
	comp=Z,1.7nm,0.8s						
ASAR	**Alice Springs**	**29.46**	**348**	P	**P**	**03 34 45.2**	**-0.1**
AS31	**Alice Springs**	**29.46**	**348**	P	**P**	**03 34 44.8**	**-0.6**
CTA	**Charters Tower**	**32.95**	**10**	LR	LR	03 48 33.4	
	comp=Z,123nm,18.5s,baz=254,slow=36						
WB2	**Warramunga Arr**	**33.09**	**350**	P	**P**	**03 35 17.4**	**+0.1**
WRA	**Warramunga Arr**	**33.09**	**350**	P	**P**	**03 35 17.0**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=178,slow=7.2,SNR=16						
	comp=Z,4.2nm,0.9s						
WRA	**Warramunga Arr**	**33.09**	**350**	P	**P**	**03 35 17.2**	**-0.1**
WRAB	**Tennant Creek**	**33.09**	**350**	P	**P**	**03 35 17.3**	**-0.1**
DZM	**Mont Dzumac**	**36.63**	**43**	LR	LR	03 48 03.9	
	comp=Z,245nm,18.2s,baz=218,slow=32						
QSPA	**South Pole Qui**	**37.34**	**180**	P	**P**	**03 35 53.8**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=351,slow=5.2,SNR=7.2						
	comp=Z,3.3nm,0.9s						
QSPA	**South Pole Qui**	**37.34**	**180**	P	**P**	**03 35 53.5**	**-0.2**
QSPA				lAmb	lAmb	03 35 56.2	
	comp=Z,11nm,1.3s						
SNAA	**Sanae**	**53.15**	**194**	P	**P**	**03 37 59.3**	**+0.5**
SNAA				lAmb	lAmb	03 38 13.4	
	comp=Z,3.2nm,1.2s						
TOLI2	**Tolitoli**	**56.12**	**336**	P	**P**	**03 38 20.4**	**-0.5**
TOLI2				lAmb	lAmb	03 38 22.9	
	comp=Z,8.0nm,1.0s						
H08S2	**Diego Garcia H**	**70.56**	**283**	T	T	04 56 44.9	
	baz=144,slow=76,SNR=35						
H08S1	**Diego Carcia H**	**70.57**	**283**	T	T	04 56 42.3	
	baz=144,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**70.58**	**283**	T	T	04 56 46.5	
	baz=144,slow=76,SNR=24						
JOW	**Kunigami**	**79.95**	**349**	LR	LR	04 17 46.5	
	comp=Z,23nm,18.3s,baz=324,slow=37						
USRK	**Ussuriysk Ar.**	**96.85**	**354**	LR	LR	04 24 45.5	
	comp=Z,54nm,20.9s,baz=238,slow=35						
FINES	**FINESS Array B**	**144.70**	**311**	PKP	**PKPdf**	**03 48 16.5**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=142,slow=6.8,SNR=5.7						
ARSA	**Arzberg**	**144.81**	**284**	*eP*	**PKPdf**	**03 48 19.3**	**+1.6**
	comp=Z,2.3nm,0.7s						
ARCES	**ARCESS Array B**	**146.41**	**325**	PKPbc	**PKPbc**	**03 48 21.1**	**0.0**
	comp=Z,2.0nm

SBA	**Scott Base**	**54.12**	**168**	P	**P**	**03 48 27.6**	**+0.3**
SBA				IAmb	IAmb	03 48 32.1	
	comp=Z,9.4nm,1.4s						
SMAI	**San Martin Ant**	**55.32**	**206**	P	**P**	**03 48 35.0**	**-1.2**
SMAI				IAmb	IAmb	03 48 47.2	
	comp=Z,6.4nm,1.2s						
PMSA	**Palmer Station**	**56.11**	**210**	LR	LR	04 08 31.4	
	comp=Z,123nm,18.9s,baz=158,slow=32						
PALK	**Palleke**	**63.49**	**47**	LR	LR	04 10 14.4	
	comp=Z,86nm,20.1s,baz=287,slow=30						
DBIC	**Dimbokro**	**64.30**	**310**	LR	LR	04 14 26.8	
	comp=Z,57nm,19.5s,baz=130,slow=33						
TOA0	**Torodi Ar. Sit**	**66.48**	**320**	P	**P**	**03 49 52.9**	**+0.2**
TAM	**Tamanrasset**	**73.44**	**328**	P	**P**	**03 50 36.9**	**+1.4**
TAM				IAmb	IAmb	03 50 40.7	
	comp=Z,2.0nm,1.1s						
EIL	**Elat**	**73.62**	**356**	LR	LR	04 23 25.5	
	comp=Z,39nm,18.2s,baz=239,slow=36						
STKA	**Stephens Creek**	**76.52**	**121**	P	**P**	**03 50 51.9**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=225,slow=4.3,SNR=2.0 comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**77.14**	**110**	P	**P**	**03 50 57.8**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=221,slow=5.6,SNR=15 comp=Z,2.6nm,0.9s						
ASAR	**Alice Springs**	**77.14**	**110**	P	**P**	**03 50 56.4**	**-0.6**
AS31	**Alice Springs**	**77.14**	**110**	P	**P**	**03 50 56.6**	**-0.3**
WRA	**Warramunga Arr**	**79.97**	**108**	P	**P**	**03 51 13.4**	**+0.9**
	comp=Z,2.5nm,1.1s,baz=227,slow=4.3,SNR=7.6 comp=Z,2.5nm,1.1s						
WRA	**Warramunga Arr**	**79.97**	**108**	P	**P**	**03 51 12.0**	**-0.5**
WB2	**Warramunga Arr**	**79.97**	**108**	P	**P**	**03 51 13.1**	**+0.5**
WB2				IAmb	IAmb	03 51 16.7	
	comp=Z,5.7nm,1.1s						
NIL	**Nilore**	**83.49**	**28**	P	**P**	**03 51 31.6**	**+1.0**
AC06	**Mina Casimiro**	**84.02**	**237**	P	**P**	**03 51 32.2**	**-1.5**
AC06				IAmb	IAmb	03 51 46.6	
	comp=Z,4.4nm,1.1s						
SHL	**Shillong**	**84.55**	**46**	P	**P**	**03 51 36.4**	**0.0**
CTA	**Charters Tower**	**87.80**	**116**	LR	LR	04 25 08.3	
	comp=Z,41nm,21.9s,baz=256,slow=32						
AAK	**Ala-Archa**	**92.08**	**25**	P	**P**	**03 52 13.2**	**+1.2**
AAK				IAmb	IAmb	03 52 30.0	
	comp=Z,2.1nm,0.8s						
MDP	**Montagnes des**	**94.80**	**272**	LR	LR	04 33 14.0	
	comp=Z,28nm,18.2s,baz=208,slow=34						
DZM	**Mont Dzumac**	**98.32**	**132**	LR	LR	04 28 51.6	
	comp=Z,46nm,19.5s,baz=201,slow=30						
WHTX	**Lake Whitney,**	**144.12**	**265**	PKPdf	**PKPdf**	**03 58 38.0**	**-0.7**
LOOK	**Love County**	**144.96**	**268**	PKPdf	**PKPdf**	**03 58 40.0**	**-0.2**
OK030	**Cody Creek RV**	**145.61**	**272**	PKPbc	**PKPbc**	**03 58 41.6**	**+0.2**
TXAR	**Lajitas Array**	**147.02**	**256**	PKPbc	**PKPbc**	**03 58 46.5**	**+0.5**
	comp=Z,2.8nm,1.1s,baz=132,slow=5.8,SNR=10.0						
TXAR	**Lajitas Array**	**147.02**	**256**	PKPbc	**PKPdf**	**03 58 44.2**	**+0.3**

*MAN **20** 03:40:25.7, 9.81N×123.97E, h4km, mb4.0, ML2.8, MS2.4*
MAN INTENSITY IV - TAGBILARAN CITY ANTEQUERA BOHOL; INTENSITY III - LOBOC BOHOL; INTENSITY II - DAUIS AND LOAY BOHOL.
*IDC **20** 03:40:25.0±1.4, 8.90N×122.23E, h0km, mb3.7/5, mbtmp3.7/5, MS3.4/3, Error ellipse: s-maj=256.9km s-min=20.1km az=64.0*

ISC 20 03:40:25.1±1.0, 9.81N±0.02×124.04E±0.02, h15km±8km, n31, σ1§61/47, mb3.9/5, 10C-13D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.21**	**236**	*i* P	**Pb**	**03 40 30.0**	**-0.7**
TBP				*i* S	**Sb**	**03 40 33.1**	**-1.2**
GHBP	**Garcia Hernand**	**0.33**	**123**	↓*i* P	**Pn**	**03 40 33.8**	**-1.5**
GHBP				*e*S	**Sn**	**03 40 39.6**	**-2.2**
TABP	**Talibon, Bohol**	**0.40**	**46**	↑*e* P	**Pn**	**03 40 34.5**	**-1.8**
TABP				*i* S	**Sn**	**03 40 41.2**	**-2.3**
LLP	**Lapu-Lapu**	**0.51**	**352**	↓*i* P	**Pg**	**03 40 35.6**	**+0.4**
LLP				*i* S	**Sn**	**03 40 43.0**	**-3.3**
LSIP	**Lazi, Siquijor**	**0.79**	**211**	↑*i* P	**Pb**	**03 40 40.2**	**-0.3**
LSIP				*i* S	**Sg**	**03 40 51.6**	**+0.8**
MSLP	**Maasin**	**0.87**	**68**	↑*e* P	**Pn**	**03 40 43.8**	**+1.0**
MSLP				*e*S	**Sn**	**03 40 57.5**	**+2.4**
OCLP	**Ormoc**	**1.35**	**24**	↓*e* P	**Pg**	**03 40 51.0**	**-0.2**
OCLP				*e*S	**Sg**	**03 41 11.1**	**+2.3**
CNOP	**Candoni, Negro**	**1.38**	**271**	↓*e* P	**Pn**	**03 40 49.4**	**-0.4**
CNOP				*e*S	**Sg**	**03 41 08.7**	**-1.0**
SCPH	**Surigao**	**1.43**	**91**	↓*e* P	**Pg**	**03 40 52.9**	**+0.3**
SCPH				*i* S	**Sg**	**03 41 13.0**	**+1.8**
CGP	**Cagayan de Oro**	**1.49**	**154**	↓*e* P	**Pb**	**03 40 51.7**	**-0.8**
CGP				*e*S	**Sb**	**03 41 10.9**	**-0.3**
GUIM	**Jordan**	**1.64**	**300**	↓*e* P	**Pb**	**03 40 53.7**	**-1.3**
GUIM				*e*S	**Sb**	**03 41 15.2**	**-0.4**
BUTP	**Butuan**	**1.77**	**118**	↑*e* P	**Pg**	**03 40 58.2**	**-0.9**
BUTP				*e*S	**Sg**	**03 41 23.5**	**+1.4**
PAGZ	**Pagadian**	**2.06**	**198**	↑*e* P	**Pb**	**03 41 00.5**	**-1.6**
PAGZ				*e*S	**Sb**	**03 41 29.0**	**+1.5**
GLSP	**General Luna,**	**2.06**	**91**	↑*e* P	**Pb**	**03 41 01.6**	**-0.5**
GLSP				*e*S	**Sg**	**03 41 31.7**	**+0.4**
RCP	**Roxas**	**2.15**	**324**	↓*e* P	**Pb**	**03 41 01.6**	**-2.2**
RCP				*e*S	**Sb**	**03 41 29.7**	**-0.6**
BUKP	**Musuan**	**2.17**	**152**	↓*e* P	**Pb**	**03 41 03.0**	**-1.1**
BUKP				*e*S	**Sb**	**03 41 32.4**	**+1.6**
KALP	**Kalibo**	**2.50**	**318**	↑*e* P	Pg	03 41 20.0	+7.0
CTBH	**Cotabato--PC H**	**2.58**	**175**	↓*i* P	**Pb**	**03 41 08.6**	**-2.5**
CNP	**Catarman**	**2.75**	**13**	↑*e* P	**Pg**	**03 41 17.1**	**-0.8**
BIPH	**Bislig**	**2.81**	**125**	↓*i* P	**Pb**	**03 41 12.4**	**-2.5**
BIPH				*e*S	**Sb**	**03 41 46.4**	**-2.7**
KCP	**Kidapawan**	**2.97**	**159**	↑*e* P	**Pn**	**03 41 12.6**	**+0.8**
KCP				*i* S	**Sn**	**03 41 48.1**	**+0.9**
DAV	**Davao City (W)**	**3.12**	**151**	LR	LR	03 42 41.0	
	comp=Z,526nm,21.3s,baz=346,slow=36						
DDMP	**Don Marcelino,**	**4.04**	**156**	↓*e* P	**Pb**	**03 41 32.1**	**-3.9**
LQP	**Lukban**	**4.93**	**330**	↓*e* P	**Pn**	**03 41 40.6**	**+1.8**
KSRS	**Korea Array**	**27.75**	**7**	LR	LR	03 57 44.9	
	comp=Z,36nm,19.4s,baz=240,slow=36						
WRA	**Warramunga Arr**	**31.26**	**161**	P	**P**	**03 46 44.3**	**-0.2**
	0.4nm,1.1s,baz=327,slow=10,SNR=2.0 0.4nm,1.1s						
ASAR	**Alice Springs**	**34.64**	**164**	P	**P**	**03 47 14.9**	**+0.9**
	0.8nm,0.8s,baz=338,slow=6.0,SNR=9.7						
ASAR				PcP	**PcP**	**03 49 48.0**	**-0.3**
	0.5nm,0.9s,baz=356,slow=3.7,SNR=2.5 0.8nm,0.8s						
STKA	**Stephens Creek**	**44.73**	**159**	P	**P**	**03 48 38.5**	**+0.6**
	1.8nm,0.9s,baz=328,slow=12,SNR=4.2 1.8nm,0.9s						
MKAR	**Makanchi Array**	**51.08**	**324**	P	**P**	**03 49 28.7**	**+1.7**
	1.7nm,0.9s,baz=127,slow=7.1,SNR=6.2						
MKAR				PcP	**PcP**	**03 50 43.4**	**+0.7**
	0.6nm,0.8s,baz=116,slow=3.4,SNR=1.8 1.7nm,0.9s						
ZALV	**Zalesovo Beam**	**53.99**	**332**	P	**P**	**03 49 49.7**	**+1.3**
	0.7nm,0.6s,baz=112,slow=6.4,SNR=5.0 0.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**84.03**	**349**	LR	LR	04 33 50.1	
	comp=Z,60nm,21.8s,baz=112,slow=38						

IDC 20 03:55:47.2±3.4, 10.10N×93.61E, h0km, mb3.7/5, mbtmp3.7/5, MS3.7/6, Error ellipse: s-maj=192.2km s-min=23.5km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.82**	**347**	P	P	04 03 05.0	-0.5
	1.1nm,1.0s,baz=171,slow=9.5,SNR=4.4 1.1nm,1.0s						
ZALV	**Zalesovo Beam**	**44.30**	**353**	P	P	04 03 58.7	0.0
	1.3nm,0.3s,baz=181,slow=7.7,SNR=7.3 1.3nm,0.3s						
WRA	**Warramunga Arr**	**49.99**	**127**	P	P	04 04 43.8	+0.1
	0.3nm,0.9s,baz=306,slow=8.4,SNR=5.2 0.3nm,0.9s						
KLR	**Kul'dur**	**50.27**	**32**	LR	LR	04 27 32.1	
	comp=Z,73nm,20.1s,baz=250,slow=38						
ASAR	**Alice Springs**	**51.75**	**131**	P	P	04 04 56.4	-0.5
	0.2nm,0.7s,baz=311,slow=7.2,SNR=1.8 0.2nm,0.7s						
ASAJ	**Asahikawa**	**54.11**	**42**	LR	LR	04 31 23.7	
	comp=Z,38nm,18.6s,baz=132,slow=40						
YAK	**Yakutsk**	**58.07**	**19**	LR	LR	04 33 40.9	
	comp=Z,58nm,20.6s,baz=91,slow=39						
MA2	**Magadan**	**65.06**	**28**	LR	LR	04 37 21.0	
	comp=Z,61nm,18.0s,baz=279,slow=38						
PETK	**Petropavlovsk-**	**66.52**	**36**	LR	LR	04 39 16.2	
	comp=Z,59nm,19.1s,baz=272,slow=39						
ARCES	**ARCESS Array B**	**73.01**	**340**	P	P	04 07 18.9	+0.3
	3.0nm,1.0s,baz=99,slow=6.5,SNR=5.1						
BOSA	**Boshof**	**76.33**	**237**	LR	LR	04 35 35.3	
	comp=Z,76nm,18.2s,baz=190,slow=31						

IDC 20 04:19:34.6±7.2, 48.05S×32.22E, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=1011.0km s-min=131.3km az=15.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**80.13**	**114**	P	P	04 31 46.5	-0.1
	0.8nm,0.6s,baz=218,slow=4.4,SNR=14 0.8nm,0.6s						
WRA	**Warramunga Arr**	**83.17**	**112**	P	P	04 32 03.0	+0.3
	0.4nm,0.7s,baz=215,slow=4.5,SNR=4.7 0.4nm,0.7s						
TXAR	**Lajitas Array**	**141.45**	**257**	PKP	PKPdf	04 39 07.1	-0.3
	0.5nm,0.9s,baz=134,slow=6.4,SNR=2.2						

IDC 20 04:31:00.9±2.1, 6.69S×128.92E, h0km, mb3.4/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=121.6km s-min=32.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.19**	**159**	Pn	Pn	04 34 22.2	-1.2
	0.2nm,0.3s,baz=337,slow=13,SNR=12						
WRA				Sn	Sn	04 36 50.0	-12
	0.3nm,0.3s,baz=334,slow=23,SNR=8.3 0.4nm,0.5s						
ASAR	**Alice Springs**	**17.55**	**165**	P	P	04 35 08.1	-0.3
	0.1nm,0.3s,baz=346,slow=11,SNR=2.4 0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.38**	**327**	P	P	04 41 58.1	0.0
	0.2nm,0.5s,baz=111,slow=9.4,SNR=4.7 0.2nm,0.5s						

SSNC 20 04:32:18.2±3.4, 18.84N×81.51W, h3km±87km, MD3.7, ML3.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGV	**Manicaragua**	**3.55**	**23**	*e*P	Pn	04 33 12.3	-1.9
MGV				*e*S	Sn	04 33 50.6	-6.1
MGV				IAML		04 33 55.9	
	comp=N,32nm,0.2s						
MGV				IAML		04 33 56.1	
	comp=E,32nm,0.2s						
MTDJ	**Mount Denham**	**3.82**	**99**	*e*P	Pn	04 33 15.1	-2.9
MTDJ				*e*S	Sn	04 33 55.3	-8.1
CCCC	**Cccc**	**4.23**	**56**	*e*Pn	Pn	04 33 26.3	+2.8
CCCC				*e*Sn	Sn	04 34 15.9	+2.6
CCCC				IAML		04 34 22.7	
	comp=N,2.7nm,0.6s						
CCCC				IAML		04 34 23.5	
	comp=E,4.1nm,0.5s						
LMGC	**Las Mercedes**	**4.42**	**73**	*e*P	Pn	04 33 24.4	-1.7
LMGC				*e*S	Sn	04 34 11.9	-6.2
LMGC				IAML		04 34 15.1	
	comp=E,7.3nm,0.3s						
LMGC				IAML		04 34 17.1	
	comp=N,4.3nm,0.1s						
RCC	**Rio Carpintero**	**5.60**	**77**	*e*P	Pn	04 33 41.5	-0.9

*PRE **20** 04:49:59.1±1.9, 21.42S×33.57E, h10km, ML3.6*
*BUL **20** 04:50:06.6±0.8, 21.72S×33.30E, h11km±5km, MD4.3*
*EAF **20** 04:50:06.6±0.8, 21.74S×33.45E, h25km±11km, MD3.9*

ISC 20 04:50:00.3±0.9, 21.58S±0.05×33.56E±0.05, h13km, n41, σ3§07/75, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIPN	**CHIPINGE**	**1.58**	**327**	*i* Pg	**Pn**	**04 50 31.1**	**+3.0**
CHIPN				*i* Sg	**Sn**	**04 50 48.3**	**-0.2**
CHIPN	**CHIPINGE**	**1.58**	**327**	*i* Pg	**Pn**	**04 50 31.1**	**+3.0**
CHIPN				*i* Sg	**Sn**	**04 50 48.3**	**-0.2**
MOPA	**Mopani**	**2.78**	**226**	*e*P	**Pn**	**04 50 47.5**	**+3.0**
MOPA				*e*S	**Sn**	**04 51 21.2**	**+3.3**
MOPA				IAML		04 51 29.7	
	comp=Z,257nm,0.2s						
MUSN	**Musina, Limpop**	**3.50**	**258**	*e*P	**Pn**	**04 50 56.5**	**+1.9**
MUSN				*e*S	**Sn**	**04 51 37.1**	**+1.2**
MUSN				IAML		04 51 53.0	
	comp=Z,262nm,0.4s						
MUSN	**Musina, Limpop**	**3.50**	**258**	*i* Sg	**Sb**	**04 51 47.2**	**+2.5**
MUSN	**Musina, Limpop**	**3.50**	**258**	*i* Sg	**Sb**	**04 51 47.2**	**+2.5**
MMAL	**MMAL**	**4.95**	**205**	*e*P	**Pn**	**04 51 16.9**	**+2.5**
MMAL				*e*S	**Sn**	**04 52 13.6**	**+2.1**
MMAL				IAML		04 52 46.7	
	comp=Z,74nm,0.8s						
CRLN	**Carolina, Mapu**	**5.46**	**216**	*e*P	**Pn**	**04 51 24.1**	**+2.6**
CRLN				*e*S	**Sn**	**04 52 25.7**	**+1.4**
CRLN				IAML		04 52 56.3	
	comp=Z,40nm,0.4s						
LEPH	**Lephalale, Lim**	**5.78**	**246**	*e*P	**Pn**	**04 51 27.2**	**+1.3**
LEPH				*e*S	**Sn**	**04 52 30.9**	**-1.2**
LEPH				IAML		04 53 10.4	
	comp=Z,144nm,0.7s						
POGA	**Pongola**	**5.99**	**196**	*e*P	**Pn**	**04 51 31.5**	**+2.9**
POGA				*e*S	**Sn**	**04 52 37.4**	**+0.4**
POGA				IAML		04 53 26.7	
	comp=Z,34nm,0.5s						
SLR	**Silverton**	**6.36**	**228**	*e*P	**Pn**	**04 51 36.7**	**+2.8**
SLR				*e*S	**Sn**	**04 52 47.8**	**+1.2**
SLR				IAML		04 53 30.7	
	comp=Z,106nm,0.4s						
HRAO	**HartRAO**	**6.88**	**230**	*e*P	**Pn**	**04 51 43.0**	**+2.0**
HRAO				*e*S	**Sn**	**04 53 02.1**	**+2.8**
HRAO				IAML		04 53 46.2	
	comp=Z,54nm,0.5s						
NWCL	**Newcastle**	**6.98**	**208**	*e*P	**Pn**	**04 51 43.6**	**+1.2**
NWCL				*e*S	**Sn**	**04 53 03.1**	**+1.4**
NWCL				IAML		04 53 47.1	
	comp=Z,66nm,0.6s						
WDLM	**Western Deep L**	**7.40**	**228**	*e*P	**Pn**	**04 51 50.2**	**+2.0**
WDLM				*e*S	**Sn**	**04 53 10.2**	**-1.9**
WDLM				IAML		04 53 49.3	
	comp=Z,41nm,0.5s						
KSR	**Koster**	**7.44**	**234**	*e*P	**Pn**	**04 51 51.3**	**+2.6**
KSR				*e*S	**Sn**	**04 53 10.7**	**-2.4**
KSR				IAML		04 53 56.5	
	comp=Z,34nm,0.5s						
PRYS	**Parys**	**7.76**	**225**	*e*P	**Pn**	**04 51 54.6**	**+1.4**
PRYS				*e*S	**Sn**	**04 53 19.9**	**-1.2**
PRYS				IAML		04 54 14.0	
	comp=Z,38nm,0.6s						
LBTB	**Lobatse**	**8.07**	**243**	*e*P	**Pn**	**04 51 58.6**	**+1.2**
LBTB				*e*S	**Sn**	**04 53 25.9**	**-2.7**
LBTB				IAML		04 54 12.7	
	comp=Z,40nm,0.8s						
LBTB	**Lobatse**	**8.07**	**243**	*i* P	**Pn**	**04 51 58.9**	**+1.5**
LBTB				*i* S	Sn	04 53 20.6	-8.0
LBTB	**Lobatse**	**8.07**	**243**	*i* P	**Pn**	**04 51 58.9**	**+1.5**
LBTB				*i* S	Sn	04 53 20.6	-8.0
LSZ	**Lusaka**	**8.07**	**320**	*e*P	**Pn**	**04 51 57.9**	**+0.5**
LSZ				*e*S	Sn	04 53 21.3	-7.4
LSZ				IAML		04 54 10.0	
	comp=Z,484nm,0.5s						
LSZ	**Lusaka**	**8.07**	**320**	*i* P	**Pn**	**04 52 00.8**	**+3.4**
LSZ				*i* S	**Sn**	**04 53 26.4**	**-2.3**
LSZ	**Lusaka**	**8.07**	**320**	*i* P	**Pn**	**04 52 00.8**	**+3.4**
LSZ				*i* S	**Sn**	**04 53 26.4**	**-2.3**
SNKL	**Senekal, Frees**	**8.48**	**217**	*e*P	**Pn**	**04 52 03.9**	**+0.8**
SNKL				*e*S	**Sn**	**04 53 36.5**	**-2.4**
SNKL				IAML		04 54 52.9	
	comp=Z,52nm,0.7s						
SWZ	**Schweizer**	**9.34**	**232**	*e*P	**Pn**	**04 52 15.7**	**+0.8**
SWZ				*e*S	**Sn**	**04 53 55.6**	**-4.3**
SWZ				IAML		04 55 06.1	
	comp=Z,24nm,0.7s						
KSTD	**Kokstad**	**9.78**	**202**	*e*P	**Pn**	**04 52 23.6**	**+2.8**
KSTD				*e*S	**Sn**	**04 54 09.9**	**-0.7**
KSTD				IAML		04 55 22.4	
	comp=Z,13nm,0.7s						
BOSA	**Boshof**	**10.28**	**225**	*e*P	**Pn**	**04 52 27.1**	**-0.4**
BOSA				*e*S	**Sn**	**04 54 18.8**	**-4.0**
BOSA				IAML		04 55 32.6	
	comp=Z,16nm,0.5s						
BOSA	**Boshof**	**10.28**	**225**	*i* P	**Pn**	**04 52 28.0**	**+0.4**
BOSA				*i* S	Sn	04 54 10.7	-12
BOSA	**Boshof**	**10.28**	**225**	*i* P	**Pn**	**04 52 28.0**	**+0.4**
BOSA				*i* S	Sn	04 54 10.7	-12
	comp=Z,7.6nm,0.9s						
GRAF	**Camdeboo Natio**	**13.37**	**215**	*e*P	**Pn**	**04 53 10.7**	**+0.8**
GRAF				*e*S	**Sn**	**04 55 35.0**	**-3.5**
GRAF				IAML		04 57 15.4	
	comp=Z,10nm,0.7s						
KEIM	**Keimoes**	**13.42**	**236**	*e*P	**Pn**	**04 53 10.5**	**0.0**
KEIM				*e*S	**Sn**	**04 55 35.0**	**-4.7**
KEIM				IAML		04 57 14.1	
	comp=Z,7.5nm,0.9s						
BFON	**Badsfontein, M**	**13.46**	**219**	*e*P	**Pn**	**04 53 12.5**	**+1.4**
BFON				*e*S	**Sn**	**04 55 38.4**	**-2.4**
BFON				IAML		04 57 28.7	
	comp=Z,14nm,0.7s						
AUGR	**Augrabies**	**13.86**	**237**	*e*P	**Pn**	**04 53 18.9**	**+2.4**
AUGR				*e*S	**Sn**	**04 55 46.5**	**-3.9**
AUGR				IAML		04 57 17.9	
	comp=Z,10nm,0.5s						
BRAK	**Brakfontein**	**13.92**	**221**	*e*P	**Pn**	**04 53 18.1**	**+0.7**
BRAK				*e*S	**Sn**	**04 55 45.5**	**-6.5**
BRAK				IAML		04 57 54.6	
	comp=Z,7.6nm,0.6s						
GRAN	**Grantham**	**14.72**	**221**	*e*P	**Pn**	**04 53 28.1**	**-0.3**
GRAN				*e*S	**Sn**	**04 56 05.0**	**-6.5**
GRAN				IAML		04 57 55.6	
	comp=Z,9.1nm,0.6s						
FRAZ	**Fraserburg**	**14.96**	**224**	*e*P	**Pn**	**04 53 34.8**	**+3.2**
FRAZ				*e*S	**Sn**	**04 56 10.7**	**-6.5**
FRAZ				IAML		04 57 54.8	
	comp=Z,6.9nm,0.6s						
MERW	**Merweville**	**15.38**	**222**	*e*P	**Pn**	**04 53 38.3**	**+1.2**
MERW				*e*S	**Sn**	**04 56 22.0**	**-5.4**
MERW				IAML		04 58 12.1	
	comp=Z,8.2nm,1.0s						
CVNA	**Calvinia**	**15.79**	**228**	*e*P	**Pn**	**04 53 43.6**	**+1.1**
CVNA				*e*S	**Sn**	**04 56 32.0**	**-5.4**
CVNA				IAML		04 58 30.8	
	comp=Z,12nm,0.8s						
KOMG	**Komaggas**	**16.63**	**237**	*e*P	**Pn**	**04 53 55.7**	**+2.5**
KOMG				*e*S	**Sn**	**04 56 50.2**	**-7.5**
CER	**Ceres**	**17.24**	**224**	*e*P	**P**	**04 54 03.5**	**+1.2**
CER				*e*S	**Sn**	**04 57 05.7**	**-6.8**
CER				IAML		04 59 23.8	
	comp=Z,3.1nm,0.7s						
BOSA				*i* S	Sn	04 54 10.7	-12
VOI	**Vohitsoka**	**12.31**	**94**	*e*P	**Pn**	**04 52 57.5**	**+2.1**
VOI				*e*S	**Sn**	**04 55 06.1**	**-6.5**
PKA	**Prieska**	**12.64**	**228**	*e*P	**Pn**	**04 53 00.2**	**+0.3**
PKA				*e*S	**Sn**	**04 55 15.6**	**-5.0**
PKA				IAML		04 56 50.2	
	comp=Z,18nm,0.5s						

WEL 20 04:55:36.8, 42.°S±7.°×17.°4E±1.°1, h23km±13km, M2.5/6, mB4.7/1, ML2.7/12, MLv2.5/6, Mw(mB)3.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=102.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.19**	**2**	P	Pb	04 55 35.4	-6.8
BSWZ	**Blackbirch Sta**	**0.34**	**313**	P	Pb	04 55 44.5	+0.2
TUWZ	**Tuamarina**	**0.55**	**339**	P	Pn	04 55 49.0	-0.2
TCW	**Tory Channel**	**0.73**	**4**	P	Pb	04 55 50.6	-0.3
NNZ	**Nelson**	**0.95**	**319**	P	Pn	04 55 55.4	+0.7
THZ	**Tophouse**	**0.99**	**280**	P	Pb	04 55 54.7	-0.6
CAW	**Cannon Point**	**1.06**	**38**	P	Pn	04 55 56.2	0.0
KIW	**Kapiti Island**	**1.20**	**26**	P	Pb	04 55 58.6	-0.3
MRNZ	**Matariki Terra**	**1.21**	**296**	P	Pb	04 55 59.4	+0.3
OGWZ	**Otaki Gorge**	**1.34**	**33**	P	Pb	04 56 00.9	-0.3
GVZ	**Greta Valley S**	**1.34**	**220**	P	Pb	04 56 01.4	+0.2
LTZ	**Lake Taylor**	**1.66**	**239**	P	Pn	04 56 05.3	+0.7
QRZ	**Quartz Range**	**1.69**	**311**	P	Pb	04 56 07.8	+0.7
DSZ	**Denniston Nort**	**1.81**	**275**	P	Pb	04 56 09.0	-0.1
BFZ	**Birch Farm**	**1.99**	**51**	P	Pb	04 56 17.7	+5.4
INZ	**Inchbonnie**	**2.19**	**248**	P	Pb	04 56 14.4	-1.4
PKGZ	**Pakihiroa**	**5.03**	**38**	P	Pn	04 56 54.3	+3.5
WMGZ	**Waiomatatini S**	**5.24**	**40**	P	Pn	04 56 53.5	-0.1

*IDC **20** 05:03:29.7±3.6, 24.53N×141.40E, h100km±47km, mb3.3/5, mbtmp3.7/6, Error ellipse: s-maj=82.2km s-min=18.7km az=81.0*
*JMA **20** 05:03:30.1±0.1, 25.°N±1.°×14.°1E±.°, h90km, MV4.3/9, IOTO ISLANDS REGION*

ISC 20 05:03:30.5±1.1, 24.7N±0.1×141.0E±0.2, h100km, n9, σ2§00/12, mb3.7/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**2.19**	**28**	P	**Pn**	**05 04 06.0**	**+0.5**
JHH2				*e*S	**Sn**	**05 04 33.0**	**+0.6**
CBIJ	**Chichi jima**	**2.61**	**23**	P	**Pn**	**05 04 11.6**	**+0.6**
CBIJ				*e*S	**Sn**	**05 04 43.2**	**+1.0**
JCJ	**Chichijima**	**2.61**	**23**	P	**Pn**	**05 04 11.8**	**+0.8**
	139nm,0.3s,baz=322,slow=21,SNR=38						
JCJ				S	**Sn**	**05 04 42.5**	**+0.4**
	134nm,0.3s,baz=310,slow=20,SNR=5.7						
JHO	**Hitachi**	**11.89**	**358**	*e*S	**Sn**	**05 08 22.8**	**-4.5**
WRA	**Warramunga Arr**	**44.84**	**189**	P	**P**	**05 11 33.0**	**-1.8**
	0.4nm,0.4s,baz=8.9,slow=8.5,SNR=17 0.4nm,0.4s	

N25K	**Chitina, Valde**	**18.05**	**45**	P		**P**	**05 10 44.0**	**-0.6**
	baz=249								
CCB	**Clear Creek Bu**	**18.20**	**35**	P		**Pn**	**05 10 43.9**	**-1.9**
F21K	**Alatna River**	**18.23**	**23**	P		**P**	**05 10 46.8**	**+0.4**
	baz=220								
PAX	**Paxson**	**18.23**	**41**	P		**P**	**05 10 46.1**	**-0.5**
PAX				IAmb		IAmb	05 10 47.7		
	comp=Z,8.6nm,0.5s								
PAX	**Paxson**	**18.23**	**41**	P		**P**	**05 10 46.9**	**+0.4**
	baz=244,SNR=9.1								
PAX	**Paxson**	**18.23**	**41**	P		**P**	**05 10 46.1**	**-0.5**
PAX				pmax		pmax			
	comp=Z,9.0nm,0.5s								
COLA	**College**	**18.31**	**34**⇑	*e*P		**P**	**05 10 46.8**	**-0.5**
H23K	**Yukon River**	**18.34**	**30**	P		**Pn**	**05 10 46.5**	**-1.0**
	baz=230								
HDA	**Harding Lake**	**18.37**	**36**	P		**P**	**05 10 47.4**	**-0.6**
	baz=238								
VRDI	**Verde Repeater**	**18.43**	**47**	P		**P**	**05 10 46.5**	**-2.4**
VRDI				IAmb		IAmb	05 11 04.5		
	comp=Z,20nm,1.5s								
PETK	**Petropavlovsk-**	**18.46**	**287**	P		**Pn**	**05 10 53.7**	**+4.5**
	comp=Z,8.0nm,1.0s,baz=81,slow=14,SNR=6.3								
WAX	**Waxell Ridge**	**18.48**	**50**	P		**P**	**05 10 47.6**	**-1.7**
WAX				IAmb		IAmb	05 11 02.8		
	comp=Z,40nm,1.3s								
G22K	**Bettles**	**18.52**	**26**	P		**Pn**	**05 10 49.1**	**-0.6**
	baz=224								
IL31		**18.59**	**35**	P		**P**	**05 10 48.7**	**-1.7**
ILAR	**Eielson Array**	**18.59**	**35**	P		**P**	**05 10 48.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=243,slow=9.2,SNR=22								
ILAR				LR		LR	05 18 19.3		
	comp=Z,176nm,18.5s,baz=202,slow=38								
	comp=Z,1.0nm,0.6s								
MCARA	**McCarthy VSAT**	**18.68**	**47**	P		**P**	**05 10 50.8**	**-0.6**
MCARA				IAmb		IAmb	05 11 14.4		
	comp=Z,16nm,1.1s								
MCARA	**McCarthy VSAT**	**18.68**	**47**	P		**Pn**	**05 10 51.9**	**+0.1**
	baz=252								
ISLE	**Juniper Island**	**18.77**	**50**	P		**Pn**	**05 10 52.4**	**-0.6**
ISLE				IAmb		IAmb	05 11 16.8		
	comp=Z,11nm,0.8s								
F22K	**John River**	**18.77**	**24**	P		**Pn**	**05 10 52.8**	**-0.1**
	baz=222								
G23K	**Bananza Creek**	**18.78**	**28**	P		**Pn**	**05 10 53.2**	**+0.2**
	baz=227								
MESA	**MESA**	**18.85**	**51**	P		**P**	**05 10 52.6**	**-0.8**
H24K	**Noodor Dome**	**18.88**	**31**	P		**Pn**	**05 10 53.3**	**-0.8**
H24K				IAmb		IAmb	05 11 21.1		
	comp=Z,10nm,1.1s								
H24K	**Noodor Dome**	**18.88**	**31**	P		**P**	**05 10 53.0**	**-0.6**
	baz=233								
M26K	**Nabesna, AK**	**19.04**	**44**	P		**P**	**05 10 54.4**	**-1.0**
M26K	**Nabesna, AK**	**19.04**	**44**	P		**P**	**05 10 54.8**	**-0.6**
	baz=249								
J25K	**Salcha River,**	**19.06**	**36**	P		**P**	**05 10 53.9**	**-1.8**
J25K				IAmb		IAmb	05 10 58.3		
	comp=Z,9.4nm,0.7s								
J25K	**Salcha River,**	**19.06**	**36**	P		**P**	**05 10 54.1**	**-1.5**
	baz=240								
COLD	**Coldfoot**	**19.09**	**26**	P		**P**	**05 10 54.9**	**-1.1**
	baz=226								
DOT	**Dot Lake**	**19.10**	**40**	P		**P**	**05 10 54.3**	**-1.8**
L26K	**Log Cabin Wild**	**19.13**	**42**	P		**P**	**05 10 55.2**	**-1.2**
L26K				IAmb		IAmb	05 11 16.8		
	comp=Z,17nm,1.5s								
L26K	**Log Cabin Wild**	**19.13**	**42**	P		**P**	**05 10 53.6**	**-2.8**
	baz=247								
BARN	**Barnard Glacie**	**19.21**	**48**	P		**P**	**05 10 56.4**	**-1.1**
BARN				IAmb		IAmb	05 11 11.7		
	comp=Z,10nm,0.8s								
SCRK	**Sand Creek**	**19.28**	**39**	P		**P**	**05 10 56.9**	**-1.2**
SCRK	**Sand Creek**	**19.28**	**39**	P		**P**	**05 10 55.6**	**-2.6**
	baz=244								
TABL	**Table Mountain**	**19.30**	**51**	P		**Pn**	**05 10 59.1**	**-0.4**
PRP	**Porcupine Dome**	**19.48**	**34**	P		**P**	**05 10 58.7**	**-1.7**
	baz=237								
M27K	**Edge Creek, AK**	**19.52**	**45**	P		**P**	**05 10 58.5**	**-2.2**
M27K				IAmb		IAmb	05 11 22.2		
	comp=Z,13nm,1.2s								
G24K	**Hadweenzic Riv**	**19.54**	**30**	P		**P**	**05 11 00.1**	**-0.8**
	baz=232								
BILL	**Bilibino**	**19.60**	**336**	*e*P		**Pn**	**05 11 04.5**	**+1.7**
BILL				pmax		pmax			
	comp=Z,30nm,1.3s								
BILL				MLR		MLR			
	comp=Z,113nm,16.0s								
PINM	**Pinnacle**	**19.66**	**52**	P		**P**	**05 11 01.9**	**-0.3**
	baz=259								
J26L	**Joseph Creek**	**19.69**	**38**	P		**P**	**05 11 00.8**	**-1.7**
J26L				IAmb		IAmb	05 11 17.2		
	comp=Z,5.7nm,0.6s								
J26L	**Joseph Creek**	**19.69**	**38**	P		**P**	**05 11 01.3**	**-1.2**
	baz=243								
L27K	**Beaver Creek,**	**19.79**	**43**	P		**P**	**05 11 03.6**	**0.0**
	baz=249								
BCAR	**Beaver Creek A**	**19.81**	**43**	P		**P**	**05 11 03.4**	**-0.4**
O28M	**Mount Upton**	**19.84**	**50**	P		**P**	**05 11 03.0**	**-1.4**
	baz=257								
E23K	**Chandalar**	**19.84**	**25**	P		**P**	**05 11 03.6**	**-0.5**
	baz=225								
G25K	**Bearman Lake**	**20.01**	**31**	P		**P**	**05 11 04.1**	**-1.8**
	baz=234,SNR=5.8								
K27K	**Chicken**	**20.06**	**40**	P		Pn	05 11 07.7	-0.5	
	baz=246								
E24K	**Your Creek**	**20.16**	**26**	P		Pn	05 11 08.4	-1.0	
	baz=227								
YUK8	**Steele Glacier**	**20.16**	**49**	P		**P**	**05 11 07.5**	**-0.4**
	baz=256								
I26K	**Coal Creek Min**	**20.23**	**36**	IAmb		IAmb	05 11 08.0		
	comp=Z,8.7nm,1.0s								
I26K	**Coal Creek Min**	**20.23**	**36**	P		**P**	**05 11 07.5**	**-0.8**
	baz=241								
D23K	**Nanushuk River**	**20.24**	**22**	P		**P**	**05 11 08.6**	**+0.2**
	baz=222								
TOLK	**Toolik Lake Re**	**20.27**	**24**	P		**P**	**05 11 08.7**	**-0.1**
TOLK	**Toolik Lake Re**	**20.27**	**24**	P		Pn	05 11 09.5	-1.2	
	baz=224,SNR=12								
O29M	**Mount Kennedy**	**20.52**	**52**	P		**P**	**05 11 12.0**	**+0.3**
	baz=260,SNR=17								
F25K	**Christian Rive**	**20.66**	**29**	P		**P**	**05 11 12.6**	**-0.4**
	baz=232								
EGAK	**Eagle**	**20.74**	**38**	P		**P**	**05 11 13.4**	**-0.4**
EGAK				IAmb		IAmb	05 11 14.5		
	comp=Z,9.5nm,0.7s								
EGAK	**Eagle**	**20.74**	**38**	P		**P**	**05 11 14.2**	**+0.3**
	baz=246,SNR=11								
YUK6	**Outpost Mounta**	**20.75**	**50**	P		**P**	**05 11 14.2**	**0.0**
	baz=259								
P29M	**Windy Craggy**	**20.83**	**54**	P		Pn	05 11 15.9	-1.5	
	baz=263								
BMAR	**Burnt Mountain**	**20.89**	**30**	P		Pn	05 11 16.3	-1.7	
C23K	**Itkillik River**	**20.92**	**21**	P		Pn	05 11 16.5	-1.7	
	baz=220								
I27K	**Kandik River**	**20.93**	**36**	P		**P**	**05 11 15.8**	**-0.2**
	baz=243								
E25K	**Arctic Village**	**21.01**	**28**	P		**P**	**05 11 17.7**	**+0.9**
	baz=232,SNR=12								
M29M	**Somme Creek**	**21.06**	**46**	P		**P**	**05 11 16.4**	**-1.0**
	baz=255								
HYT	**Haines Junctio**	**21.14**	**50**	P		**P**	**05 11 19.0**	**+0.7**
HYT				IAmb		IAmb	05 11 40.6		
	comp=Z,12nm,0.8s								
HYT	**Haines Junctio**	**21.14**	**50**	P		**P**	**05 11 19.9**	**+1.6**
	baz=260,SNR=12								
DAWY	**Dawson**	**21.17**	**41**	P		**P**	**05 11 17.8**	**-0.8**
DAWY				IAmb		IAmb	05 11 22.8		
	comp=Z,7.3nm,1.1s								
DAWY	**Dawson**	**21.17**	**41**	P		**P**	**05 11 17.4**	**-1.1**
	baz=250								
F26K	**Sheenjek River**	**21.18**	**30**	P		**P**	**05 11 19.6**	**+1.0**
	baz=235								
H27K	**Steamboat Moun**	**21.26**	**35**	P		**P**	**05 11 18.9**	**-0.6**
	baz=242								
C24K	**Franklin Bluff**	**21.27**	**22**	P		**P**	**05 11 19.3**	**-0.3**
	baz=224,SNR=6.7								
P30M	**Million Dollar**	**21.29**	**53**	P		**P**	**05 11 21.1**	**+1.2**
	baz=262								
L29M	**L29M**	**21.39**	**44**	P		**P**	**05 11 19.9**	**-1.0**
	baz=254								
N30M	**Aishikik Lake**	**21.45**	**49**	P		**P**	**05 11 21.7**	**+0.1**
	baz=259								
S31K	**Pelican**	**21.48**	**59**	P		**P**	**05 11 22.0**	**+0.2**
	baz=269								
G27K	**Doyon Strip**	**21.50**	**33**	P		**P**	**05 11 21.4**	**-0.7**
	baz=240								
PLBC	**Pleasant Camp**	**21.51**	**54**	P		**P**	**05 11 23.1**	**+1.0**
	baz=265,SNR=10								
D25K	**Kavik River**	**21.57**	**25**	P		**P**	**05 11 23.7**	**+0.8**
	baz=228								
O30N	**Mendenhall**	**21.81**	**51**	P		**P**	**05 11 25.5**	**0.0**
	baz=262								
K29M	**Barlow Dome**	**21.87**	**42**	P		**P**	**05 11 25.3**	**-0.8**
	baz=252								
SKAG	**Skagway**	**22.03**	**55**	P		**P**	**05 11 28.0**	**+0.2**
SKAG	**Skagway**	**22.03**	**55**	P		**P**	**05 11 28.0**	**+0.2**
	baz=266								
I29M	**Ogilvie Camp,**	**22.08**	**38**	P		**P**	**05 11 26.5**	**-1.8**
I29M				IAmb		IAmb	05 11 29.9		
	comp=Z,7.5nm,0.9s								
I29M	**Ogilvie Camp,**	**22.08**	**38**	P		**P**	**05 11 27.1**	**-1.2**
	baz=248,SNR=5.6								
MA2	**Magadan**	**22.22**	**306**	LR		LR	05 20 28.0		
	comp=Z,104nm,18.3s,baz=102,slow=38								
E27K	**Coleen River**	**22.25**	**30**	P		**P**	**05 11 30.0**	**-0.1**
	baz=237								
C26K	**Camden Bay**	**22.36**	**25**	P		**P**	**05 11 31.0**	**-0.2**
	baz=229								
C27K	**Jago River**	**22.48**	**26**	P		**P**	**05 11 32.0**	**-0.5**
	baz=231								
M31M	**Drury Creek, Y**	**22.85**	**48**	P		**P**	**05 11 37.3**	**+0.7**
M31M	**Drury Creek, Y**	**22.85**	**48**	P		**P**	**05 11 35.9**	**-0.7**
	baz=260								
EPYK	**Eagle Plains**	**23.07**	**37**	P		**P**	**05 11 37.0**	**-1.8**
EPYK				IAmb		IAmb	05 11 48.3		
	comp=Z,6.9nm,0.7s								
EPYK	**Eagle Plains**	**23.07**	**37**	P		**P**	**05 11 37.1**	**-1.8**
	baz=248,SNR=5.2								
N32M	**Quiet Lake**	**23.32**	**50**	P		**P**	**05 11 40.5**	**-0.9**
	baz=264								
FARO	**Faro, Yukon**	**23.34**	**48**	P		**P**	**05 11 40.2**	**-1.3**
G30M	**tAoh Zraii Nji**	**23.50**	**35**	P		**P**	**05 11 42.0**	**-1.0**
	baz=247								
Q32M	**Nakina River**	**23.58**	**56**	P		**P**	**05 11 44.3**	**+0.1**
	baz=270								
S34M	**Telegraph Cree**	**24.20**	**59**	P		**P**	**05 11 50.1**	**+0.3**
	baz=273								
R33M	**Jennings River**	**24.26**	**55**	P		**P**	**05 11 51.5**	**+1.1**
	baz=270								
MMPY	**Sheldon Lake,**	**24.36**	**47**	P		**P**	**05 11 51.0**	**-0.3**
	baz=262,SNR=7.6								
T35M	**Bob Quinn**	**24.74**	**61**	P		**P**	**05 11 55.4**	**+0.6**
	baz=276								
DLBC	**Dease Lake**	**24.76**	**57**	P		**P**	**05 11 56.7**	**+1.7**
	comp=Z,6.9nm,1.1s,baz=268,slow=9.9,SNR=7.1								
	comp=Z,6.9nm,1.1s								
DLBC	**Dease Lake**	**24.76**	**57**	P		**P**	**05 11 55.5**	**+0.5**
	baz=273								
INK	**Inuvik**	**24.96**	**33**	P		**P**	**05 11 55.9**	**-0.7**
	comp=Z,4.5nm,0.6s,baz=238,slow=10,SNR=18								
	comp=Z,4.5nm,0.6s								
INK	**Inuvik**	**24.96**	**33**	P		**P**	**05 11 56.1**	**-0.5**
INK	**Inuvik**	**24.96**	**33**	P		**P**	**05 11 55.8**	**-0.7**
	baz=248,SNR=5.7								
TGTN	**Hyland Airport**	**25.66**	**50**	P		**P**	**05 12 03.6**	**+0.6**
	baz=268,SNR=9.0								
KOTAN	**Kotaneelee Air**	**27.73**	**53**	P		**P**	**05 12 19.7**	**-2.0**
	baz=274								
C36M	**Paulatuk**	**28.55**	**34**	P		**P**	**05 12 27.1**	**-1.8**
	baz=257								
A36M	**Sachs Harbour**	**28.94**	**28**	P		**P**	**05 12 32.3**	**0.0**
A36M	**Sachs Harbour**	**28.94**	**28**	P		**P**	**05 12 31.8**	**-0.5**
	baz=251								
YSS	**Yuzh-Sakhalins**	**29.45**	**279**⇑	*e*P		**P**	**05 12 35.1**	**-2.0**
YSS				pmax		pmax			
	comp=Z,41nm,1.3s								
YKA	**Yellowknife Ar**	**32.05**	**48**	LR		LR	05 28 55.2		
	comp=Z,144nm,18.9s,baz=292,slow=42								
YAK	**Yakutsk**	**32.45**	**312**⇓	*e*P		**P**	**05 13 03.7**	**+0.4**
YAK				pmax		pmax			
	comp=Z,7.0nm,0.5s								
YBH	**Yreka Blue Hor**	**34.70**	**87**	LR		LR	05 24 10.8		
	comp=Z,110nm,21.7s,baz=306,slow=31								
NEW	**Newport**	**34.86**	**73**	P		**P**	**05 13 24.4**	**-0.2**
	baz=297								
KLR	**Kul'dur**	**35.13**	**289**	P		**P**	**05 13 28.2**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=85,slow=11,SNR=3.8								
	comp=Z,1.4nm,0.7s								
ZEA	**Zeya**	**35.89**	**298**	*e*P		**P**	**05 13 34.5**	**+1.2**
ZEA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
WVOR	**Wild Horse Val**	**36.84**	**83**	P		**P**	**05 13 41.9**	**+0.2**
WVOR	**Wild Horse Val**	**36.84**	**83**	P		**P**	**05 13 41.9**	**+0.2**
WVOR				pmax		pmax			
	comp=Z,11nm,1.3s								
HEH	**HeiHe**	**37.21**	**293**	*e*P		**P**	**05 13 45.3**	**+0.7**
HEH				pmax		pmax			
	comp=Z,19nm,0.8s								
HEH				pmax		pmax			
	comp=Z,160nm,5.5s								
MSO	**Missoula**	**37.44**	**74**	P		**P**	**05 13 46.0**	**-0.7**
	baz=300								
RES	**Resolute Bay**	**37.84**	**25**	LR		LR	05 34 04.5		
	comp=Z,163nm,18.5s,baz=358,slow=44								
MJAR	**Matsushiro Arr**	**37.97**	**267**	LR		LR	05 29 26.3		
	comp=Z,58nm,19.5s,baz=74,slow=36								
HLID	**Hailey**	**38.83**	**78**	P		**P**	**05 13 58.1**	**-0.4**
	baz=303								
EGMT	**Eagleton**	**39.34**	**70**	P		**P**	**05 14 01.6**	**-1.0**
	baz=300								
NVAR	**Mina Array Bea**	**39.36**	**88**	P		**P**	**05 14 03.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=277,slow=8.1,SNR=2.6								
	comp=Z,0.5nm,0.7s								
R11A	**Troy Canyon, C**	**41.11**	**86**	P		**P**	**05 14 16.4**	**-1.1**
R11A				IAmb		IAmb	05 14 18.0		
	comp=Z,7.3nm,1.4s								
R11A	**Troy Canyon, C**	**41.11**	**86**	P		**P**	**05 14 16.6**	**-1.0**
	baz=308								
RLMT	**Red Lodge**	**41.11**	**73**	P		**P**	**05 14 15.8**	**-1.7**
	baz=303								
MPMC	**Manual Prospec**	**41.35**	**90**	P		**P**	**05 14 18.5**	**-1.1**
	baz=310								
TPNV	**Topopah Spring**	**41.56**	**88**	P		**P**	**05 14 20.3**	**-0.9**
	baz=309								
DUG	**Dugway, Tooele**	**41.72**	**82**	P		**P**	**05 14 20.2**	**-2.3**
	baz=306								
PRN	**Pahroc Range**	**42.02**	**87**	P		**P**	**05 14 24.5**	**-0.5**
JCJ	**Chichijima**	**42.05**	**252**	LR		LR	05 28 42.3		
	comp=Z,44nm,21.7s,baz=96,slow=32								
HIA	**Hailar**	**42.07**	**295**⇑	*e*P		**P**	**05 14 23.8**	**-1.3**
HIA				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BW06	**Boulder Array**	**42.23**	**76**	P		**P**	**05 14 25.8**	**-0.9**
BW06				IAmb		IAmb	05 14 37.8		
	comp=Z,3.3nm,0.8s								
BW06	**Boulder Array**	**42.23**	**76**	P		**P**	**05 14 24.7**	**-2.0**
	baz=305								
PD31	**Pinedale Array**	**42.23**	**76**	P		**P**	**05 14 26.6**	**-0.2**
PD31				IAmb		IAmb	05 14 37.8		
	comp=Z,3.0nm,0.8s								
PDAR	**Pinedale Array**	**42.23**	**76**	P		**P**	**05 14 27.6**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=318,slow=4.0,SNR=14								
	comp=Z,1.5nm,0.6s								
PDAR	**Pinedale Array**	**42.23**	**76**	P		**P**	**05 14 26.4**	**-0.4**
GSC	**Goldstone, Bar**	**42.26**	**90**	P		**P**	**05 14 26.5**	**-0.4**
GSC				IAmb		IAmb	05 14 41.8		
	comp=Z,8.2nm,1.1s								
GSC	**Goldstone, Bar**	**42.26**	**90**	P		**P**	**05 14 25.7**	**-1.2**
	baz=310								
GSC	**Goldstone, Bar**	**42.26**	**90**	P		**P**	**05 14 26.5**	**-0.4**
GSC				pmax		pmax			
	comp=Z,8.0nm,1.1s								
LCMT	**Little Creek M**	**43.39**	**86**	IAmb		IAmb	05 14 42.5		
	comp=Z,4.7nm,1.2s								
PFO	**Pinyon Flats O**	**43.58**	**92**	P		**P**	**05 14 38.0**	**+0.4**
	baz=312								
U15A	**North Rim**	**44.35**	**86**	IAmb		IAmb	05 14 50.9		
	comp=Z,6.0nm,1.2s								
IKP	**In-Ko-Pah, Jac**	**44.44**	**93**	P		**P**	**05 14 45.0**	**+0.5**
	baz=313								
O20A	**White River Ci**	**44.57**	**79**	P		**P**	**05 14 45.9**	**+0.3**
	baz=307								
N23A	**Red Feather La**	**45.52**	**76**	P		**P**	**05 14 52.9**	**-0.3**
	baz=307,SNR=5.5								
NEEM	**North Greenlan**	**46.24**	**15**	*i* P		**P**	**05 14 57.7**	**-0.8**
NEEM				IAmb		IAmb	05 15 00.4		
	comp=Z,4.9nm,0.8s								
NRIK	**Noril'sk**	**46.34**	**331**⇑	*e*P		**P**	**05 14 57.2**	**-1.8**
NRIK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
NOR	**Nord**	**46.44**	**5**	*i* P		**P**	**05 14 58.7**	**-1.0**
NOR				IAmb		IAmb	05 15 00.2		
	comp=Z,1.1nm,0.7s								
ANMO	**Albuquerque**	**48.94**	**83**⇓	*e*P		**P**	**05 15 18.8**	**-1.0**
ULN	**Ulaanbaatar**	**49.88**	**300**⇑	*e*P		**P**	**05 15 25.9**	**-1.0**
ULN				pmax		pmax			
	comp=Z,2.0nm,0.9s								
SONM	**Songino Array**	**50.26**	**300**	P		**P**	**05 15 32.4**	**+2.8**
	comp=Z,1.1nm,0.6s,baz=52,slow=8.0,SNR=7.4								
	comp=Z,1.1nm,0.6s								
JOW	**Kunigami**	**50.74**	**265**	LR		LR	05 36 45.7		
	comp=Z,15nm,19.9s,baz=32,slow=36								
DAG	**Danmarks Havn**	**50.85**	**8**	*i* P		**P**	**05 15 32.5**	**-1.0**
DAG				IAmb		IAmb	05 15 33.8		
	comp=Z,2.7nm,0.9s								
HHC	**Hu-ho-hao-te**	**51.62**	**290**	*e*P		**P**	**05 15 36.8**	**-3.2**
HHC				pmax		pmax			
	comp=Z,17nm,0.9s								
HHC				pmax		pmax			
	comp=Z,150nm,6.1s								
HNS	**HongShan**	**51.96**	**285**	⇓P		P	05 15 45.8	+3.4	
HNS				pmax		pmax			
	comp=Z,12nm,0.8s								
SUMG	**Summit**	**52.05**	**16**	*i* P		**P**	**05 15 43.0**	**-0.1**
SUMG				IAmb		IAmb	05 15 47.0		
	comp=Z,3.2nm,0.7s								
TXAR	**Lajitas Array**	**54.47**	**86**	P		**P**	**05 16 00.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=312,slow=6.2,SNR=9.0								
TXAR				LR		LR	05 38 19.6		
	comp=Z,44nm,18.4s,baz=1.5,slow=35								
	comp=Z,0.8nm,0.8s								
ZALV	**Zalesovo Beam**	**56.87**	**317**	P		**P**	**05 16 21.2**	**+3.3**
	comp=Z,1.5nm,0.8s,baz=35,slow=5.4,SNR=5.2								
	comp=Z,1.5nm,0.8s								
DGZ	**Jazzator, Alta**	**58.64**	**312**⇓	*e*P		**P**	**05 16 28.7**	**-1.9**
DGZ				pmax		pmax			
	comp=Z,1.0nm,1.0s								
KURK	**Kurchatov**	**61.84**	**317**	*c e*P		**P**	**05 16 53.3**	**+1.0**
KURK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
WMQ	**Urumqi**	**62.69**	**307**	*e*P		**P**	**05 16 58.3**	**+0.1**
WMQ				pP		pwP	05 17 03.4	-1.5	
WMQ				pmax		pmax			
	comp=Z,12nm,0.7s								
WMQ				LR		LR			
	comp=Z,72nm,20.5s								
MKAR	**Makanchi Array**	**63.12**	**312**	P		**P**	**05 17 01.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=51,slow=4.9,SNR=5.9								
MKAR				LR		LR	05 46 32.1		
	comp=Z,58nm,18.4s,baz=42,slow=38								
	comp=Z,1.0nm,0.8s								
PRGR	**Permogore**	**63.23**	**341**	*e*P		**P**	**05 17 00.6**	**-0.8**
PRGR				*e*			05 17 36.6		
PRGR				*e*			05 19 18.2		
BVAR	**Borovoye Array**	**63.37**	**323**	LR		LR	05 46 21.4		
	comp=Z,17nm,21.4s,baz=40,slow=38								
BRVK	**Borovoye**	**63.38**	**323**	*de*P		**P**	**05 17 04.3**	**+1.8**
BRVK				pmax		pmax			
	comp=Z,15nm,1.7s								
SVE	**Sverdlovsk**	**63.60**	**331**	*e*P		**P**	**05 17 04.8**	**+0.9**
ARU	**Arti**	**64.56**	**332**	P		**P**	**05 17 11.6**	**+1.4**
	comp=Z,8.1nm,0.8s,baz=7.7,slow=2.7,SNR=10								
	comp=Z,8.1nm,0.8s								
ARU	**Arti**	**64.56**	**332**	*c i*P		**P**	**05 17 11.1**	**+0.9**
ARU							05 17 39.1		
ARU				S		**S**	**05 25 53.0**	**+3.8**
ARU				SS		**SS**	**05 29 58.4**	**-0.2**
ARU				pmax		pmax			
	comp=Z,9.0nm,0.9s								
PZH	**PanZhiHua**	**67.41**	**284**	P		**P**	**05 17 28.3**	**-0.9**
PZH				pmax		pmax			
	comp=Z,7.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,4.1s								
NB2	**NORSAR Subarra**	**67.73**	**358**	P		**P**	**05 17 30.9**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=1.2,slow=6.9								
NOA	**NORSAR Array B**	**67.73**	**358**	P		**P**	**05 17 30.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=2.6,slow=6.6,SNR=2.4								
	comp=Z,0.7nm,0.7s								
HFS	**Hagfors**	**68.58**	**357**	P		**P**	**05 17 36.1**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=75,slow=7.8,SNR=7.1								
	comp=Z,2.0nm,0.6s								
AAK	**Ala-Archa**	**69.87**	**314**⇑	*e*P		**P**	**05 17 44.8**	**+0.4**
AAK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
OBN	**Obninsk**	**71.06**	**343**	*e*P		**P**	**05 17 54.3**	**+3.1**
OBN				*e*			05 20 32.0		
OBN				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BELG	**Belogornoye**	**71.16**	**336**	P		**P**	**05 17 52.8**	**+1.0**
	comp=Z,24nm,0.9s,baz=42,slow=5.3,SNR=5.8								
PPT	**Papeete**	**71.58**	**157**	LR		LR	05 42 09.5		
	comp=Z,24nm,20.6s,baz=349,slow=30								
KSH	**Kashi**	**71.66**	**311**	P		P	05 18 00.4	+5.1	
KSH				pmax		pmax			
	comp=Z,7.0nm,0.6s								
AKASG	**Malin Array Be**	**76.53**	**346**	P		**P**	**05 18 22.9**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=16,sl

BHL	**Bhannes**	**0.68**	**18**	*e*P	**Pb**	**05 09 16.1**	**-0.2**
OFRI	**ˇOfer**	**0.72**	**209**	Pg	**Pb**	**05 09 15.9**	**-1.1**
ZAHL	**Zahle**	**0.72**	**33**	*e*P	**Pb**	**05 09 16.8**	**-0.3**
MMLI	**Mount Malkishu**	**0.81**	**179**	Pg	**Pb**	**05 09 18.5**	**0.0**
MMLI				Sg	**Sb**	**05 09 29.6**	**+0.4**
HMDT	**Nahal Hemdat**	**1.00**	**174**	Pg	**Pb**	**05 09 21.6**	**-0.1**
HMDT				Sg	**Sb**	**05 09 35.6**	**+1.0**
HWQ	**Hawqa**	**1.12**	**24**	*e*P	**Pn**	**05 09 24.0**	**+0.3**

PRU ***20*** *05:11:13.1±0.0,51°.55N×16°.14E,h0km*
VIE ***20*** *05:11:14.0±0.8,51°.50N×15°.99E,h0km,mb2.6/1,ml2.4/2, Error ellipse: s-maj=6.7km s-min=4.8km az=52.0 84 km WNW of Wroclaw Suspected Mining induced.*

ISC 20 05:11:14.0±1.3,**51°.50N**±0°.06×**16°.09E**±0°.03,**h0**km,**n22, σ0s87/43, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pb**	**05 11 27.6**	**-0.9**
KSP				*e*Sg	**Sb**	**05 11 37.1**	**-1.2**
OSTC	**Ostas**	**0.95**	**175**	*e*PG	**Pg**	**05 11 32.1**	**0.0**
OSTC				*e*SG	**Sg**	**05 11 45.3**	**+0.9**
	comp=Z,22nm,0.8s						
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**05 11 33.2**	**+0.2**
UPC				*e*SG	**Sg**	**05 11 46.9**	**+1.0**
	comp=Z,32nm,0.6s						
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**05 11 36.0**	**-0.2**
DPC				*e*SG	**Sb**	**05 11 52.4**	**-0.1**
	comp=Z,9.3nm,0.5s						
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pg**	**05 11 40.1**	**-0.1**
PVCC				*e*SG	**Sb**	**05 11 58.6**	**+0.1**
	comp=Z,56nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**246**	Pg	**Pg**	**05 11 42.6**	**+0.1**
BRG				Sg	**Sn**	**05 12 02.9**	**+0.7**
BRG				Amp		05 12 04.7	
	comp=Z,18nm,0.4s						
KRLC	**Kraliky**	**1.49**	**163**	*e*PG	**Pn**	**05 11 41.1**	**-1.0**
KRLC				*e*SG	**Sn**	**05 12 02.4**	**+0.1**
	comp=Z,10.0nm,0.2s						
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	**Pb**	**05 11 47.7**	**-0.2**
PRU				*e*SG	**Sg**	**05 12 13.0**	**+1.0**
	comp=Z,10nm,0.6s						
CLL	**Collm**	**1.94**	**266**	*e*Pg	**Pb**	**05 11 50.0**	**-0.3**
CLL				*e*Sg	**Sg**	**05 12 16.0**	**-0.4**
	comp=Z,13nm,0.4s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*PN	**Pn**	**05 11 47.9**	**-0.6**
MORC				*e*SG	**Sb**	**05 12 15.4**	**0.0**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pb**	**05 11 53.0**	**-0.2**
OKC				*e*SG	**Sb**	**05 12 20.9**	**+0.9**
	comp=Z,9.3nm,0.8s						
VRAC	**Vranov**	**2.22**	**172**	*e*PN	**Pn**	**05 11 52.0**	**0.0**
VRAC				*e*SG	**Sg**	**05 12 24.3**	**-0.9**
MAUC	**Maruska**	**2.41**	**152**	*e*PG	**Pb**	**05 11 57.7**	**-0.5**
MAUC				*e*SG	**Sg**	**05 12 31.2**	**-0.1**
	comp=Z,12nm,0.5s						
KRUC	**Moravsky**	**2.45**	**175**	*e*PN	**Pn**	**05 11 55.1**	**-0.1**
KRUC				*e*SG	**Sg**	**05 12 31.7**	**-0.9**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**05 11 58.7**	**+0.9**
NKC				*e*PG	**Pb**	**05 12 01.8**	**-0.3**
NKC				*e*SG	**Sg**	**05 12 38.8**	**+0.2**
	comp=Z,17nm,0.6s						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pb**	**05 12 01.4**	**-1.3**
OJC				*e*Sg	**Sb**	**05 12 37.3**	**+1.2**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**05 12 00.7**	**-0.3**
KHC				*e*PG	**Pb**	**05 12 05.5**	**-0.5**
KHC				*e*SN	**Sn**	**05 12 35.9**	**-0.3**
KHC				*e*SG	**Sg**	**05 12 45.6**	**-0.5**
	comp=Z,3.1nm,0.6s						
CKRC	**Cesky Krumlov**	**2.92**	**204**	*e*PN	**Pn**	**05 12 01.2**	**-0.5**
CKRC				*e*SG	**Sg**	**05 12 47.1**	**-0.6**
MODS	**Modra-Piesok**	**3.22**	**166**	*e*SG	**Sg**	**05 13 00.9**	**+3.5**
VYHS	**Vyhne**	**3.49**	**148**	*e*SG	**Sg**	**05 13 07.6**	**+1.5**
CONA	**Conrad Observa**	**3.58**	**182**	*e*Pn	**Pn**	**05 12 11.4**	**+0.6**
	comp=Z,0.2nm,0.1s						
MOA	**Molln**	**3.84**	**199**	*e*Pn	**Pn**	**05 12 14.5**	**+0.2**
	comp=Z,0.7nm,0.2s						

IDC ***20*** *05:24:13.8±3.5,14°.08N×92°.93W,h0km,mb3.8/3, mbtmp3.7/5,ML3.3/2,MS3.6/3,Error ellipse: s-maj=154.0km s-min=55.9km az=51.0*
NEIC ***20*** *05:24:15.7±2.4,14°.19N±0°.06×93°.30W±0°.05,h10km±2km, mb2.8/8,Md4.2/51(MEX),Error ellipse: s-maj=10.2km s-min=7.9km az=155.0*
MEX ***20*** *05:24:16.9±0.6,14°.07N×93°.33W,h10km,MD4.2*

ISC 20 05:24:14.4±1.5,**14°.24N**±0°.05×**93°.34W**±0°.03,**h2**km±9km, **n80,σ2s30/108,mb4.2/5,MS3.7/3,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.24**	**57**		**Pg**	**05 24 38.2**	**0.0**
THIG					**Sn**	**05 24 54.2**	**-1.8**
THIG		**1.24**	**57**	*e*P	**Pg**	**05 24 38.2**	**0.0**
THIG				*e*S	**Sn**	**05 24 53.9**	**-2.0**
PATR	**El Naranjo**	**1.39**	**51**	*e*P	**Pg**	**05 24 40.2**	**-0.8**
PATR				*e*S	**Sn**	**05 24 58.9**	**-1.0**
PCIG		**1.46**	**5**		**Pn**	**05 24 41.9**	**+0.1**
PCIG					**Sg**	**05 25 01.2**	**-0.3**
PCIG		**1.46**	**5**	*e*P	**Pn**	**05 24 41.9**	**+0.1**
PCIG				*e*S	**Sg**	**05 25 01.2**	**-0.3**
CHUJ	**Union Juarez**	**1.47**	**54**	*e*P	**Pn**	**05 24 41.1**	**-1.0**
CHUJ				*e*S	**Sn**	**05 25 00.8**	**-1.2**
PAVE	**Pavencul**	**1.48**	**50**	*e*P	**Pn**	**05 24 41.7**	**-0.5**
PAVE				*e*S	**Sg**	**05 25 00.3**	**-1.6**
RTAL	**Retalhuleu**	**1.62**	**80**	Pn	**Pn**	**05 24 43.3**	**-0.8**
HUEH	**Huehuetenango**	**2.08**	**59**		**Pn**	**05 24 50.9**	**+0.4**
CCIG	**Comitan**	**2.34**	**30**		**Pb**	**05 24 57.1**	**-0.4**
CCIG	**Comitan**	**2.34**	**30**	*e*P	**Pb**	**05 24 57.3**	**-0.2**
CCIG				*e*S	**Sb**	**05 25 24.4**	**-2.6**
TGIG		**2.54**	**5**		**Pb**	**05 24 59.4**	**-1.3**
TGIG					**Sb**	**05 25 30.4**	**-1.9**
TGIG		**2.54**	**5**	*e*P	**Pb**	**05 24 59.4**	**-1.3**
TGIG				*e*S	**Sb**	**05 25 30.4**	**-1.9**
NILT	**Santiago Nilte**	**2.62**	**332**	*e*P	**Pn**	**05 24 58.8**	**+1.1**
NILT				*e*S	**Sn**	**05 25 29.2**	**-0.9**
HUIG	**Huatulco**	**3.08**	**300**		**Pn**	**05 25 01.7**	**-2.3**
HUIG					**Sn**	**05 25 36.5**	**-4.9**
HUIG	**Huatulco**	**3.08**	**300**	*e*P	**Pn**	**05 25 04.0**	**0.0**
HUIG				*e*S	**Sn**	**05 25 36.5**	**-4.9**
UXUV	**UXUV**	**3.16**	**346**	*e*P	**Pn**	**05 25 08.2**	**+3.1**
UXUV				*e*S	**Sn**	**05 25 43.5**	**0.0**
CMIG	**Matias Romero**	**3.20**	**333**	Pn	**Pn**	**05 25 08.1**	**+2.4**
	3.2nm,0.3s,baz=164,slow=14,SNR=59						
CMIG				Sn	**Sb**	**05 25 49.2**	**-2.3**
	8.4nm,0.3s,baz=37,slow=13,SNR=8.2 9.7nm,0.4s						
CMIG	**Matias Romero**	**3.20**	**333**		**Sn**	**05 25 44.9**	**+0.4**
CMIG	**Matias Romero**	**3.20**	**333**	*e*P	**Pn**	**05 25 07.2**	**+1.4**
CMIG				*e*S	**Sn**	**05 25 44.9**	**+0.4**
ESQI	**Esquipulas**	**3.89**	**85**		**Pn**	**05 25 15.9**	**+0.6**
PEIG	**Puerto Escondi**	**4.07**	**296**		**Pn**	**05 25 17.8**	**+0.1**
PEIG					**Sn**	**05 26 01.0**	**-5.0**
PEIG	**Puerto Escondi**	**4.07**	**296**	*e*P	**Pn**	**05 25 17.8**	**+0.1**
PEIG				*e*S	**Sn**	**05 26 02.8**	**-3.2**
NEUV	**Arroyo Zacate**	**4.19**	**326**	*e*P	**Pn**	**05 25 21.0**	**+1.7**
NEUV				*e*S	**Sn**	**05 26 12.2**	**+3.3**
PETF	**Flores**	**4.28**	**51**		**Pn**	**05 25 22.4**	**+1.8**
OXIG	**Oaxaca**	**4.31**	**311**		**Pn**	**05 25 20.8**	**-0.4**
OXIG					**Sn**	**05 26 13.9**	**+1.6**
VHO	**Vista Hermosa**	**4.31**	**311**	*e*P	**Pn**	**05 25 20.8**	**-0.4**
VHO				*e*S	**Sn**	**05 26 11.8**	**-0.4**
PMUV	**Sontecomapan**	**4.61**	**339**	*e*	Pn	05 25 11.8	-13
PMUV				*e*		05 26 29.1	
YOIG	**Yosondua**	**4.82**	**303**		**Pn**	**05 25 32.2**	**+4.0**
YOIG					**Sn**	**05 26 24.9**	**+0.2**
YOIG	**Yosondua**	**4.82**	**303**	*e*P	**Pn**	**05 25 32.2**	**+4.0**
YOIG				*e*S	**Sn**	**05 26 24.9**	**+0.2**
PNIG	**Pinotepa**	**5.09**	**296**		**Pn**	**05 25 33.2**	**+1.4**
PNIG					**Sn**	**05 26 25.5**	**-5.7**
PNIG	**Pinotepa**	**5.09**	**296**	*e*P	**Pn**	**05 25 33.2**	**+1.4**
PNIG				*e*S	**Sn**	**05 26 25.5**	**-5.7**
TOIG	**Toxpalan**	**5.25**	**318**		**Pn**	**05 25 35.8**	**+1.8**
TOIG					**Sn**	**05 26 37.5**	**+2.5**
TOIG	**Toxpalan**	**5.25**	**318**	*e*P	**Pn**	**05 25 35.8**	**+1.8**
TOIG				*e*S	**Sn**	**05 26 37.5**	**+2.5**
TPIG	**Tehuac#an**	**5.67**	**318**		Pn	05 25 44.2	+4.3
TPIG					**Sn**	**05 26 47.8**	**+2.1**
TPIG	**Tehuac#an**	**5.67**	**318**	*e*P	Pn	05 25 44.2	+4.3
TPIG				*e*S	**Sn**	**05 26 47.8**	**+2.1**
FTIG	**Fresnillo de T**	**5.88**	**309**		**Pn**	**05 25 45.2**	**+2.6**
FTIG					**Sn**	**05 26 52.4**	**+1.7**
FTIG	**Fresnillo de T**	**5.88**	**309**	*e*P	**Pn**	**05 25 44.2**	**+1.6**
FTIG				*e*S	**Sn**	**05 26 52.4**	**+1.7**
MGIG	**Malinaltepec**	**5.90**	**301**		**Pn**	**05 25 43.8**	**+0.7**
MGIG	**Malinaltepec**	**5.90**	**301**	*e*P	**Pn**	**05 25 43.8**	**+0.7**
MGIG				*e*S	**Sn**	**05 26 49.9**	**-1.5**
TLIG	**Tlapa**	**6.02**	**304**	*e*P	**Pn**	**05 25 46.2**	**+1.7**
TLIG				*e*S	**Sn**	**05 27 00.9**	**+6.7**
CRIG	**Cruz Grande**	**6.11**	**295**		**Pn**	**05 25 48.5**	**+2.8**
CRIG					Sn	05 26 48.7	-7.5
CRIG	**Cruz Grande**	**6.11**	**295**	*e*P	**Pn**	**05 25 48.5**	**+2.8**
CRIG				*e*S	Sn	05 26 48.7	-7.5
DAIG	**Los Arroyos**	**6.68**	**295**		**Pn**	**05 25 53.0**	**-0.6**
DAIG	**Los Arroyos**	**6.68**	**295**	*e*P	**Pn**	**05 25 53.0**	**-0.6**
PPMI	**Popocatepetl**	**6.98**	**314**	*e*P	**Pn**	**05 25 59.9**	**+1.7**
PPIG	**Popocatepetl**	**6.98**	**314**		**Pn**	**05 25 59.9**	**+1.7**
MEIG	**Mezcala**	**7.06**	**302**		Pn	05 26 04.0	+5.2
MEIG					**Sn**	**05 27 17.1**	**-2.7**
MEIG	**Mezcala**	**7.06**	**302**	*e*P	Pn	05 26 04.0	+5.2
MEIG				*e*S	**Sn**	**05 27 17.1**	**-2.7**
YAIG	**Yautepec**	**7.16**	**311**		**Pn**	**05 26 03.5**	**+3.2**
YAIG					**Sn**	**05 27 18.9**	**-3.5**
YAIG	**Yautepec**	**7.16**	**311**	*e*P	**Pn**	**05 26 03.5**	**+3.2**
YAIG				*e*S	**Sn**	**05 27 18.9**	**-3.5**
PLIG	**Platanillo**	**7.21**	**306**		Pn	05 26 06.7	+5.7
PLIG					**Sn**	**05 27 19.4**	**-4.2**
PLIG	**Platanillo**	**7.21**	**306**	*e*P	Pn	05 26 06.7	+5.7
PLIG				*e*S	**Sn**	**05 27 19.4**	**-4.2**
CAIG	**El Cayaco**	**7.23**	**294**		**Pn**	**05 26 04.1**	**+3.0**
CAIG					Sn	05 27 16.9	-7.0
CAIG	**El Cayaco**	**7.23**	**294**	*e*P	**Pn**	**05 26 04.1**	**+3.0**
CAIG				*e*S	Sn	05 27 16.9	-7.0
MATN	**Matagalpa**	**7.33**	**99**	Pn	**Pn**	**05 26 02.5**	**-0.1**
TEIG	**Tepich**	**7.67**	**38**		**Pn**	**05 26 07.0**	**-0.2**
BOAB	**BOACO BROADBAN**	**7.68**	**102**	Pn	**Pn**	**05 26 07.5**	**+0.2**
HZTE	**Horizontes, Gu**	**8.34**	**114**	Pn	**Pn**	**05 26 15.6**	**-0.8**
ORTG	**Ortega, Santa**	**8.61**	**116**	Pn	**Pn**	**05 26 18.3**	**-1.9**
TXAR	**Lajitas Array**	**17.80**	**329**	P	**P**	**05 28 28.9**	**+4.6**
	baz=156,slow=8.9,SNR=11 2.2nm,1.0s						
TXAR	**Lajitas Array**	**17.80**	**329**	P	**Pn**	**05 28 24.3**	**+0.7**
TX31	**Lajitas Ar. Si**	**17.80**	**329**	P	**Pn**	**05 28 24.1**	**+0.5**
TX31				IAmb	IAmb	05 28 36.3	
	comp=Z,22nm,1.2s						
TX32	**Lajitas Array**	**17.80**	**329**	P	**Pn**	**05 28 24.7**	**+1.1**
237A	**Washetta, Mont**	**17.83**	**353**	P	**Pn**	**05 28 24.4**	**+0.8**
237A				IAmb	IAmb	05 28 48.1	
	comp=Z,14nm,0.9s						
HTMS	**Hat Mesa**	**20.44**	**334**	P	**P**	**05 28 53.3**	**0.0**
CLN7	**Carlsbad 7**	**20.46**	**334**	P	**P**	**05 28 53.6**	**+0.1**
GDL2	**Guadalupe Moun**	**20.52**	**332**	P	**P**	**05 28 53.7**	**-0.5**
GOGA	**Godfrey**	**21.09**	**23**	P	**P**	**05 28 59.9**	**-0.3**
FNO	**Franklin**	**21.25**	**351**	P	**P**	**05 29 02.9**	**+1.1**
FNO				IAmb	IAmb	05 29 07.1	
	comp=Z,12nm,0.8s						
OK044	**Pawnee Station**	**22.26**	**353**	P	**P**	**05 29 14.2**	**+1.5**
121A	**Cookes Peak, D**	**22.48**	**327**	IAmb	IAmb	05 29 20.8	
	comp=Z,11nm,0.9s						
TKL	**Tuckaleechee C**	**23.00**	**20**	LR	LR	05 39 49.5	
	comp=Z,67nm,18.3s,baz=284,slow=41						
SDCO	**Great Sand Dun**	**25.79**	**337**	P	**P**	**05 29 45.8**	**-1.3**
NVAR	**Mina Array Bea**	**32.68**	**322**	P	**P**	**05 30 51.8**	**+3.5**
	comp=Z,0.4nm,0.5s,baz=138,slow=5.7,SNR=2.6 comp=Z,0.4nm,0.5s						
NEW	**Newport**	**39.22**	**335**	LR	LR	05 51 58.2	
	comp=Z,105nm,18.6s,baz=274,slow=42						
YKA	**Yellowknife Ar**	**50.51**	**347**	P	**P**	**05 33 15.2**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=152,slow=7.3,SNR=5.4 comp=Z,3.1nm,0.8s						
SFJD	**Kangerlussuaq**	**59.69**	**18**	LR	LR	06 01 42.2	
	comp=Z,90nm,18.0s,baz=260,slow=38						
ILAR	**Eielson Array**	**62.11**	**337**	P	**P**	**05 34 38.5**	**+1.9**
	comp=Z,0.4nm,0.9s,baz=125,slow=3.7,SNR=4.7 comp=Z,0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**145.33**	**339**	PKPbc	**PKPbc**	**05 43 54.0**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=350,slow=4.6,SNR=5.3						

IDC ***20*** *05:34:09.4±0.8,44°.16S×39°.12E,h0km,mb4.0/9, mbtmp4.0/10,ML3.3/1,MS3.9/46,Error ellipse: s-maj=29.6km s-min=18.9km az=56.0*

ISC 20 05:34:10.7±0.8,**44°.1S**±0°.1×**39°.1E**±0°.2,**h10**km,**n54, σ0s78/13,mb4.1/9,MS4.0/46,Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.51**	**303**	LR	LR	05 44 19.2	
	comp=Z,464nm,18.1s,baz=131,slow=33						
BOSA	**Boshof**	**19.05**	**320**	P	**Pn**	**05 38 34.0**	**0.0**
	0.1nm,0.3s,baz=151,slow=15,SNR=2.5						
BOSA				LR	LR	05 44 32.9	
	comp=Z,703nm,19.5s,baz=154,slow=33 2.6nm,0.8s						
LBTB	**Lobatse**	**22.03**	**326**	P	**P**	**05 39 05.9**	**+0.4**
	4.5nm,1.0s,baz=152,slow=12,SNR=4.7						
LBTB				LR	LR	05 46 13.7	
	comp=Z,505nm,20.2s,baz=166,slow=33 4.5nm,1.0s						
MAW	**Mawson**	**26.69**	**160**	LR	LR	05 47 52.0	
	comp=Z,256nm,21.5s,baz=323,slow=31						
LSZ	**Lusaka**	**30.22**	**339**	LR	LR	05 51 20.3	
	comp=Z,210nm,19.2s,baz=162,slow=34						
TSUM	**Tsumeb**	**30.70**	**317**	LR	LR	05 51 54.7	
	comp=Z,484nm,18.2s,baz=150,slow=35						
TROLL	**Troll, Antarti**	**32.95**	**200**	P	P	05 40 38.4	-6.8
SNAA	**Sanae**	**34.15**	**202**	P	**P**	**05 40 57.0**	**+1.4**
SNAA	**Sanae**	**34.15**	**202**	P	**P**	**05 40 56.1**	**+0.5**
	2.4nm,0.9s,baz=61,slow=7.4,SNR=5.9						
SNAA				LR	LR	05 51 16.3	
	comp=Z,179nm,21.5s,baz=32,slow=30 2.4nm,0.9s						
VNA2	**Neumayer--Watz**	**35.10**	**205**	P	**P**	**05 41 05.0**	**+1.3**
	baz=64,slow=6.8						
KMBO	**Kilima Mbogo**	**42.84**	**357**	LR	LR	05 57 42.3	
	comp=Z,74nm,20.3s,baz=102,slow=33						
MBAR	**Mbarara**	**43.97**	**348**	LR	LR	06 00 11.3	
	comp=Z,288nm,18.3s,baz=162,slow=36						
QSPA	**South Pole Qui**	**46.09**	**180**	P	**P**	**05 42 34.0**	**-0.7**
	0.9nm,0.5s,baz=272,slow=2.7,SNR=9.0						
QSPA				LR	LR	05 59 57.7	
	comp=Z,223nm,21.7s,baz=242,slow=34 0.9nm,0.5s						
VNDA	**Vanda**	**53.66**	**167**	P	**P**	**05 43 31.5**	**-0.4**
	0.6nm,0.9s,baz=249,slow=9.9,SNR=3.0						
VNDA				LR	LR	06 04 58.2	
	comp=Z,167nm,18.6s,baz=224,slow=34 0.6nm,0.9s						
PMSA	**Palmer Station**	**56.19**	**210**	LR	LR	06 01 56.4	
	comp=Z,163nm,21.9s,baz=126,slow=30						
NWAO	**Narrogin (SRO)**	**59.99**	**108**	LR	LR	06 05 31.7	
	comp=Z,105nm,20.6s,baz=72,slow=31						
PALK	**Palkelele**	**63.43**	**47**	LR	LR	06 05 22.9	
	comp=Z,95nm,20.1s,baz=212,slow=30						
TORD	**Torodi Ar. Bea**	**66.41**	**320**	P	**P**	**05 44 59.9**	**-0.2**
	2.2nm,1.0s 2.2nm,1.0s						
WSAR	**Wadi Sarin**	**69.38**	**19**	LR	LR	06 10 28.0	
	comp=Z,95nm,20.7s,baz=196,slow=31						
LEM	**Lembang**	**69.87**	**80**	LR	LR	06 08 03.9	
	comp=Z,106nm,20.7s,baz=242,slow=29						
EIL	**Eilat**	**73.54**	**356**	LR	LR	06 18 44.1	
	comp=Z,78nm,18.5s,baz=242,slow=36						
PLCA	**Paso Flores**	**74.53**	**228**	P	**P**	**05 45 49.0**	**-0.7**
	2.2nm,1.0s,baz=327,slow=2.6,SNR=3.6 2.2nm,1.0s						
RCBR	**Riachuelo**	**75.22**	**276**	LR	LR	06 10 39.5	
	comp=Z,37nm,19.7s,baz=298,slow=29						
CPUP	**Villa Florida**	**76.50**	**246**	LR	LR	06 15 49.3	
	comp=Z,55nm,18.2s,baz=162,slow=33						
STKA	**Stephens Creek**	**76.56**	**121**	P	**P**	**05 46 01.2**	**-0.1**
	1.0nm,0.6s,baz=229,slow=7.4,SNR=3.8						
STKA				LR	LR	06 14 10.6	
	comp=Z,82nm,19.5s,baz=208,slow=31 1.0nm,0.6s						
MMAI	**Mount Meron Ar**	**76.85**	**357**	LR	LR	06 20 31.7	
	comp=Z,52nm,18.0s,baz=170,slow=36						
ASAR	**Alice Springs**	**77.17**	**110**	P	**P**	**05 46 05.5**	**+0.6**
	1.5nm,0.8s,baz=222,slow=4.9,SNR=10						
ASAR				LR	LR	06 14 25.2	
	comp=Z,104nm,20.0s,baz=200,slow=31 1.5nm,0.8s						
KAPI	**Kappang**	**79.80**	**87**	LR	LR	06 17 47.7	
	comp=Z,44nm,18.1s,baz=250,slow=33						
WRA	**Warramunga Arr**	**79.99**	**108**	P	**P**	**05 46 20.8**	**+0.3**
	1.2nm,0.9s,baz=221,slow=4.1,SNR=6.3						
WRA				LR	LR	06 16 54.5	
	comp=Z,146nm,18.0s,baz=261,slow=32 1.2nm,0.9s						
IDI	**Anoyia**	**80.09**	**348**	LR	LR	06 22 02.2	
	comp=Z,63nm,20.8s,baz=182,slow=36						
CMAR	**Chiang Mai Arr**	**82.80**	**56**	LR	LR	06 20 19.7	
	comp=Z,43nm,18.5s,baz=225,slow=33						
BRTR	**Keskin Array B**	**83.61**	**356**	LR	LR	06 24 09.2	
	comp=Z,43nm,18.1s,baz=124,slow=36						
KEST	**Kesra**	**83.96**	**336**	LR	LR	06 25 58.4	
	comp=Z,99nm,18.0s,baz=249,slow=37						
GNI	**Garni**	**84.04**	**4**	LR	LR	06 24 22.3	
	comp=Z,61nm,19.0s,baz=174,slow=36						
VAE	**Valguarnera**	**84.26**	**340**	LR	LR	06 25 47.9	
	comp=Z,41nm,18.2s,baz=150,slow=37						
SIV	**San Ignacio**	**86.14**	**252**	LR	LR	06 17 50.1	
	comp=Z,61nm,20.6s,baz=120,slow=30						
MDT	**Midelt**	**86.33**	**324**	LR	LR	06 25 25.3	
	comp=Z,143nm,19.3s,baz=154,slow=36						
LVC	**Limon Verde**	**86.61**	**242**	LR	LR	06 21 32.2	
	comp=Z,51nm,19.8s,baz=180,slow=33						
KBZ	**Khabaz**	**87.53**	**3**	LR	LR	06 27 54.2	
	comp=Z,28nm,18.0s,baz=166,slow=37						
CTA	**Charters Tower**	**87.84**	**116**	LR	LR	06 24 08.2	
	comp=Z,49nm,18.6s,baz=259,slow=34						
LPAZ	**La Paz**	**90.68**	**247**	LR	LR	06 23 25.0	
	comp=Z,61nm,18.8s,baz=132,slow=33						
AAK	**Ala-Archa**	**92.00**	**25**	LR	LR	06 24 48.7	
	comp=Z,47nm,21.5s,baz=202,slow=33						
ESDC	**Sonseca Array**	**92.02**	**328**	LR	LR	06 29 37.1	
	comp=Z,176nm,18.4s,baz=134,slow=36						
DAVOX	**Davos/Dischmat**	**94.14**	**340**	LR	LR	06 30 52.0	
	comp=Z,91nm,20.9s,baz=82,slow=36						
MDP	**Montagnes des**	**94.79**	**272**	LR	LR	06 26 10.7	
	comp=Z,61nm,18.2s,baz=146,slow=33						
AKASG	**Malin Array Be**	**94.84**	**354**	LR	LR	06 34 04.2	
	comp=Z,28nm,18.1s,baz=238,slow=38						
VRAC	**Vranov**	**95.12**	**345**	LR	LR	06 35 26.9	
	comp=Z,32nm,19.2s,baz=180,slow=39						
PMG	**Port Moresby**	**96.16**	**109**	LR	LR	06 26 17.6	
	comp=Z,72nm,20.0s,baz=166,slow=32						
BELG	**Belogornoye**	**96.42**	**5**	LR	LR	06 31 16.3	
	comp=Z,66nm,21.9s,baz=179,slow=36						
MKAR	**Makanchi Array**	**98.23**	**28**	LR	LR	06 27 49.2	
	comp=Z,26nm,18.1s,baz=278,slow=33						
DZM	**Mont Dzumac**	**98.38**	**132**	*e*LR	LR	06 20 19.4	
	comp=Z,111nm,23.6s						
NNA	**Nana**	**99.52**	**243**	LR	LR	06 28 57.0	
	comp=Z,56nm,18.8s,baz=138,slow=33						
PPT2	**Papeete2**	**118.07**	**171**	*e*LR	LR	06 29 25.0	
	comp=Z,142nm,38.2s						
PPT2				*e*LR	LR	06 29 25.4	
	comp=Z,188nm,38.2s						
TXAR	**Lajitas Array**	**147.04**	**256**	PKPbc	**PKPab**	**05 53 54.6**	**-0.7**
	1.0nm,0.8s,baz=140,slow=6.2,SNR=6.5						

IDC 20 05:53:32.6±3.9,**31°.40S×68°.71W,h91**km±37km, **mbtmp3.5/3,Error ellipse: s-maj=76.8km s-min=32.1km az=114.0,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.43**	**189**	P	Pn	05 55 45.8	+0.1
	1.7nm,1.0s,baz=344,slow=12,SNR=6.7						
CPUP	**Villa Florida**	**11.18**	**66**	P	Pn	05 56 08.9	-0.5
	0.4nm,0.3s,baz=252,slow=13,SNR=1.5						
LPAZ	**La Paz**	**15.06**	**2**	P	Pn	05 57 01.8	+0.6
	1.5nm,0.6s,baz=216,slow=9.0,SNR=7.0						
ZALV	**Zalesovo Beam**	**150.53**	**32**	PKPbc	PKPbc	06 13 12.9	-0.4
	1.0nm,0.4s,baz=318,slow=3.7,SNR=6.7						

IDC ***20*** *05:58:37.7±1.5,0°.11S×17°.39W,h0km,mb3.8/2, mbtmp4.0/3,ML4.3/1,Error ellipse: s-maj=57.4km s-min=47.0km az=160.0*

ISC 20 05:58:38.4±1.4,**0°.4S**±0°.4×**17°.4W**±0°.2,**h10**km,**n8,σ1s25/8, 3C,North of Asc

NGZ	**Ngauruhoe**	**1.22 297**	P	Pb	06 02 21.6	+1.3
NNVZ	**North Ngauruho**	**1.23 299**	P	Pb	06 02 22.3	+1.9

IDC 20 06:30:03.1±7.2, 44°.05S×39°.34E, h0km, mb3.8/2, mbtmp3.8/2, MS3.3/8, Error ellipse: s-maj=934.2km s-min=55.6km az=8.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**22.05**	**325**	LR	LR	06 41 55.8	
	comp=Z,80nm,21.0s,baz=160,slow=32						
MAW	**Mawson**	**26.70**	**160**	LR	LR	06 43 31.2	
	comp=Z,48nm,20.7s,baz=279,slow=30						
LSZ	**Lusaka**	**30.21**	**338**	LR	LR	06 46 32.5	
	comp=Z,46nm,19.6s,baz=213,slow=33						
TSUM	**Tsumeb**	**30.75**	**317**	LR	LR	06 47 47.4	
	comp=Z,36nm,18.3s,baz=150,slow=35						
SNAA	**Sanae**	**34.27**	**202**	LR	LR	06 49 27.8	
	comp=Z,20nm,18.4s,baz=14,slow=34						
MBAR	**Mbarara**	**43.94**	**348**	LR	LR	06 55 56.1	
	comp=Z,60nm,19.1s,baz=180,slow=35						
QSPA	**South Pole Qui**	**46.16**	**180**	LR	LR	06 55 24.5	
	comp=Z,51nm,21.0s,baz=218,slow=33						
ASAR	**Alice Springs**	**77.06**	**110**	P	P	06 41 58.1	-0.1
	0.9nm,0.9s,baz=208,slow=7.3,SNR=6.3						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**79.87**	**108**	P	P	06 42 14.2	+0.3
	0.6nm,0.9s,baz=224,slow=4.8,SNR=3.6						
	0.6nm,0.9s						
GNI	**Garni**	**83.96**	**4**	LR	LR	07 18 13.3	
	comp=Z,19nm,21.8s,baz=141,slow=34						
TXAR	**Lajitas Array**	**147.20**	**256**	PKPbc	PKPbc	06 49 47.5	-0.8
	0.5nm,0.9s,baz=134,slow=7.2,SNR=4.0						

IDC 20 06:43:24.4±1.6, 1°.77N×121°.96E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=176.4km s-min=29.5km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.76**	**151**	P	P	06 48 48.0	0.0
	0.4nm,1.1s,baz=337,slow=9.8,SNR=1.8						
	0.4nm,1.1s						
SONM	**Songino Array**	**47.83**	**346**	P	P	06 52 04.7	+0.7
	0.8nm,0.6s,baz=170,slow=6.7,SNR=6.3						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**56.57**	**328**	P	P	06 53 08.2	-0.7
	0.6nm,0.3s,baz=127,slow=8.5,SNR=15						
	0.6nm,0.3s						

IDC 20 06:51:37.6±3.0, 5°.96S×128°.02E, h423km±42km, mb2.9/2, mbtmp4.0/5, Error ellipse: s-maj=76.4km s-min=16.7km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.01**	**33**	P	P	06 53 10.0	-1.1
	11nm,0.3s,baz=202,slow=19,SNR=14						
WRA	**Warramunga Arr**	**15.19**	**157**	P	P	06 54 52.3	+0.8
	3.7nm,0.3s,baz=334,slow=11,SNR=71						
WRA				S	S	06 57 31.7	-0.3
	0.3nm,0.5s,baz=334,slow=18,SNR=5.1						
ASAR	**Alice Springs**	**18.49**	**163**	P	P	06 55 26.9	+0.5
	1.2nm,0.3s,baz=344,slow=11,SNR=30						
ASAR				S	S	06 58 33.8	-0.6
	0.4nm,0.9s,baz=322,slow=18,SNR=3.5						
STKA	**Stephens Creek**	**28.74**	**155**	P	P	06 56 59.4	+0.6
	1.0nm,0.5s,baz=342,slow=14,SNR=4.1						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**66.29**	**327**	P	P	07 01 42.7	+0.1
	0.4nm,0.7s,baz=120,slow=9.2,SNR=1.6						
	0.4nm,0.7s						

WEL ***20*** *06:52:00.4, 42°.62S×173°.54E, h11km, ML5.0, Mw4.7, Moment Tensor Solution. s11 Moment tensor: Scale 10^{16}Nm; M_{rr}0.32; $M_{\theta\theta}$-1.24; $M_{\phi\phi}$0.92; $M_{r\theta}$-0.24; $M_{r\phi}$-0.84; $M_{\theta\phi}$-0.51; Fault plane solution: $M_0$1.49000×10^{16} NP1: ϕ_s115.00000°, δ66.00000°, λ172.00000°. NP2: ϕ_s208.00000°, δ83.00000°, λ24.00000°. Principal axes: T -1606.9900, Plg22.0000°, Azm74.0000°; N 236.1000, Plg65.0000°, Azm223.0000°; P 1370.8900, Plg12.0000°, Azm339.0000°;*

IDC ***20*** *06:52:44.8±0.9, 42°.30S×173°.39E, h0km, mb4.0/6, mbtmp4.0/6, ML4.9/1, MS3.9/30 Error ellipse: s-maj=30.9km s-min=21.2km az=51.0*

NOU ***20*** *06:52:45.4, 42°.70S×173°.67E, h4km, MLv5.3/15, South Island, New Zealand*

NEIC ***20*** *06:52:47.5, 42°.57S×173°.51E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.73; $M_{\theta\theta}$-1.40; $M_{\phi\phi}$0.67; $M_{r\theta}$-0.21; $M_{\theta\phi}$-0.92; $M_{r\phi}$-0.55; Fault plane solution: $M_0$1.63000×10^{16} NP1: ϕ_s109.35000°, δ57.38000°, λ157.77000°. NP2: ϕ_s211.78000°, δ71.42000°, λ34.66000°. Principal axes: T 1.3502, Plg37.0000°, Azm75.0000°; N 0.4600, Plg51.0000°, Azm237.0000°; P -1.8102, Plg9.0000°, Azm338.0000°;*

NEIC ***20*** *06:52:47.4±1.3, 42°.57S±0°.03×173°.51E±0°.06, h16km±4km, mb4.5/20, Mwr4.7/41, ML5.0(WEL) Error ellipse: s-maj=6.9km s-min=2.0km az=123.0*

WEL ***20*** *06:52:48.4±0.3, 42°.3S×17°.3E±°, h5km, M5.0/47, ML5.2/12, MLv5.0/47, Error ellipse: s-maj=0.0km s-min=0.0km az=135.3*

ISC 20 06:52:46.9±1.0, 42°.59S±0°.03×173°.50E±0°.03, h13km±6km, n212, σ1s03/187, mb4.4/15, MS3.9/32, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.17**	**9**		**Pb**	**06 52 51.4**	**-0.5**
KHZ				Sg	**Sg**	**06 52 54.1**	**+0.5**
KHZ	**Kahutara**	**0.17**	**9**	P	**Pb**	**06 52 51.4**	**-0.5**
KHZ	**Kahutara**	**0.17**	**9**	P	**Pb**	**06 52 51.5**	**-0.4**
KHZ				S	**Sg**	**06 52 54.2**	**+0.5**
GVZ	**Greta Valley S**	**0.51**	**222**		**Pn**	**06 52 59.3**	**-0.7**
GVZ				Sg	**Sn**	**06 53 07.6**	**-1.0**
GVZ	**Greta Valley S**	**0.51**	**222**	P	**Pn**	**06 52 59.4**	**-0.5**
GVZ				S	**Sn**	**06 53 08.0**	**-0.6**
AMCZ	**Amberley**	**0.86**	**227**		**Pn**	**06 53 04.8**	**+0.2**
AMCZ					**Sn**	**06 53 18.3**	**+1.2**
AMCZ	**Amberley**	**0.86**	**227**	P	**Pn**	**06 53 04.9**	**+0.2**
AMCZ				S	**Sn**	**06 53 18.2**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.92**	**18**		**Pg**	**06 53 04.8**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.92**	**18**	P	**Pn**	**06 53 05.0**	**-0.4**
LTZ	**Lake Taylor**	**0.93**	**258**	Pg	**Pb**	**06 53 04.8**	**-0.1**
LTZ	**Lake Taylor**	**0.93**	**258**	P	**Pb**	**06 53 04.9**	**0.0**
LTZ				S	**Sb**	**06 53 16.9**	**-0.3**
THZ	**Tophouse**	**0.94**	**331**		**Pb**	**06 53 03.9**	**-1.1**
THZ	**Tophouse**	**0.94**	**331**	P	**Pb**	**06 53 04.0**	**-1.0**
CMWZ	**Cape Campbell**	**0.99**	**32**		**Pn**	**06 53 07.3**	**+0.8**
CMWZ	**Cape Campbell**	**0.99**	**32**	P	**Pn**	**06 53 07.3**	**+0.9**
OKCZ	**Okains Bay**	**1.18**	**196**	P	**Pg**	**06 53 09.7**	**+0.1**
TUWZ	**Tuamarina**	**1.20**	**16**		**Pb**	**06 53 09.4**	**-0.1**
TUWZ	**Tuamarina**	**1.20**	**16**	P	**Pg**	**06 53 09.7**	**-0.3**
MQZ	**McQueen's Vall**	**1.28**	**209**		**Pn**	**06 53 09.9**	**-0.6**
MQZ	**McQueen's Vall**	**1.28**	**209**	P	**Pn**	**06 53 10.2**	**-0.2**
OXZ	**Oxford**	**1.30**	**235**		**Pn**	**06 53 10.5**	**-0.3**
OXZ	**Oxford**	**1.30**	**235**	P	**Pn**	**06 53 10.4**	**-0.4**
MRNZ	**Matariki Terra**	**1.31**	**335**		**Pn**	**06 53 10.5**	**-0.4**
MRNZ	**Matariki Terra**	**1.31**	**335**	P	**Pn**	**06 53 10.6**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.35**	**198**	P	**Pn**	**06 53 11.7**	**+0.2**
NNZ	**Nelson**	**1.37**	**356**		**Pn**	**06 53 11.8**	**+0.1**
NNZ	**Nelson**	**1.37**	**356**	P	**Pn**	**06 53 11.7**	**0.0**
TCW	**Tory Channel**	**1.49**	**23**		**Pn**	**06 53 13.3**	**0.0**
TCW	**Tory Channel**	**1.49**	**23**	P	**Pn**	**06 53 13.4**	**0.0**
RACZ	**Rakaia**	**1.51**	**221**	P	**Pn**	**06 53 13.4**	**-0.3**
DSZ	**Denniston Nort**	**1.52**	**303**		**Pn**	**06 53 13.3**	**-0.5**
DSZ	**Denniston Nort**	**1.52**	**303**	P	**Pn**	**06 53 13.4**	**-0.4**
INZ	**Inchbonnie**	**1.52**	**264**		**Pn**	**06 53 13.2**	**-0.6**
INZ	**Inchbonnie**	**1.52**	**264**	P	**Pn**	**06 53 13.7**	**-0.1**
SNZO	**South Karori**	**1.56**	**35**		**Pn**	**06 53 14.3**	**+0.1**
SNZO	**South Karori**	**1.56**	**35**	P	**Pb**	**06 53 14.8**	**-0.8**
TKNZ	**Takaka Hill**	**1.61**	**345**		**Pn**	**06 53 15.1**	**+0.2**
TKNZ	**Takaka Hill**	**1.61**	**345**	P	**Pn**	**06 53 15.4**	**+0.4**
WEL	**Wellington**	**1.61**	**36**	P	**Pn**	**06 53 15.3**	**+0.3**
PLWZ	**Palliser**	**1.65**	**53**		**Pn**	**06 53 15.1**	**-0.6**
PLWZ	**Palliser**	**1.65**	**53**	P	**Pn**	**06 53 15.4**	**-0.2**
MHCZ	**Mount Hutt**	**1.70**	**236**	P	**Pn**	**06 53 15.8**	**-0.6**
MSWZ	**Moikau Station**	**1.75**	**49**		**Pn**	**06 53 16.5**	**-0.5**
MSWZ	**Moikau Station**	**1.75**	**49**	P	**Pn**	**06 53 16.7**	**-0.2**
DUWZ	**D'Urville Isla**	**1.81**	**10**	P	**Pn**	**06 53 18.0**	**+0.2**
WACZ	**Wakanui South**	**1.82**	**221**	P	**Pn**	**06 53 17.5**	**-0.3**
PAWZ	**Paruwai Farm**	**1.87**	**51**	P	**Pn**	**06 53 18.1**	**-0.5**
CAW	**Cannon Point**	**1.89**	**39**	P	**Pn**	**06 53 18.7**	**-0.1**
QRZ	**Quartz Range**	**1.91**	**337**		**Pn**	**06 53 19.5**	**+0.4**
QRZ	**Quartz Range**	**1.91**	**337**	P	**Pb**	**06 53 20.2**	**-1.3**
QRZ	**Quartz Range**	**1.91**	**337**	P	**Pn**	**06 53 19.8**	**+0.8**
TRWZ	**Traveller**	**2.02**	**55**	P	**Pn**	**06 53 20.0**	**-0.6**
KIW	**Kapiti Island**	**2.02**	**32**	P	**Pn**	**06 53 20.8**	**+0.1**
MTW	**Mount Morrison**	**2.07**	**47**	P	**Pn**	**06 53 21.0**	**-0.3**
WVZ	**Waitaha Valley**	**2.09**	**256**	P	**Pn**	**06 53 21.7**	**+0.1**
RPZ	**Rata Peaks**	**2.12**	**237**	Pn	**Pn**	**06 53 21.8**	**-0.2**
	343nm,0.3s,baz=84,slow=2.4,SNR=956						
RPZ				LR	LR	06 53 51.7	
	comp=Z,1μm,18.3s,baz=111,slow=30						
RPZ	**Rata Peaks**	**2.12**	**237**		**Pn**	**06 53 21.2**	**-0.7**
RPZ	**Rata Peaks**	**2.12**	**237**	P	**Pn**	**06 53 21.9**	**-0.1**
RPZ	**Rata Peaks**	**2.12**	**237**	P	**Pn**	**06 53 21.5**	**-0.5**
OGWZ	**Otaki Gorge**	**2.17**	**36**	P	**Pn**	**06 53 22.5**	**-0.2**
ARCZ	**Arundel**	**2.18**	**231**	P	**Pn**	**06 53 22.2**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.26**	**42**	P	**Pn**	**06 53 23.4**	**-0.6**
TMWZ	**Te Maipa**	**2.32**	**51**	P	**Pn**	**06 53 24.0**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**2.44**	**252**	P	**Pn**	**06 53 27.0**	**+0.6**
MRZ	**Mangatainoka R**	**2.48**	**40**		**Pn**	**06 53 26.0**	**-0.9**
MRZ	**Mangatainoka R**	**2.48**	**40**	P	**Pn**	**06 53 26.3**	**-0.6**
TIWZ	**Tintock**	**2.54**	**45**	P	**Pn**	**06 53 27.3**	**-0.5**
TMZ	**Timaru**	**2.55**	**225**	P	**Pn**	**06 53 27.6**	**-0.4**
CPWZ	**Castlepoint**	**2.62**	**51**	P	**Pn**	**06 53 28.5**	**-0.4**
OHWZ	**Ohakea**	**2.74**	**30**	P	**Pn**	**06 53 32.2**	**+1.7**
PRWZ	**Pori Road**	**2.75**	**43**	P	**Pn**	**06 53 30.1**	**-0.5**
POWZ	**Post Office Ro**	**2.78**	**39**	P	**Pn**	**06 53 30.5**	**-0.5**
BFZ	**Birch Farm**	**2.80**	**48**		**Pn**	**06 53 30.2**	**-1.2**
BFZ	**Birch Farm**	**2.80**	**48**	P	**Pn**	**06 53 30.2**	**-1.2**
BFZ	**Birch Farm**	**2.80**	**48**	P	**Pn**	**06 53 30.1**	**-1.3**
FOZ	**Fox Glacier**	**2.86**	**250**		**Pn**	**06 53 33.0**	**+0.8**
FOZ	**Fox Glacier**	**2.86**	**250**	P	**Pn**	**06 53 32.6**	**+0.4**
LBZ	**Lake Benmore**	**3.01**	**232**		**Pn**	**06 53 34.1**	**-0.2**
LBZ	**Lake Benmore**	**3.01**	**232**	P	**Pn**	**06 53 34.0**	**-0.3**
DVHZ	**Dannevirke**	**3.04**	**42**	P	**Pn**	**06 53 33.2**	**-1.4**
WAZ	**Wanganui**	**3.04**	**22**	P	**Pn**	**06 53 36.4**	**+1.6**
TSZ	**Takapari Road**	**3.13**	**37**	P	**Pn**	**06 53 35.5**	**-0.4**
NMEZ	**Namu Road**	**3.18**	**5**	P	**Pn**	**06 53 39.3**	**+2.6**
LREZ	**Lake Rotokare**	**3.20**	**13**	P	**Pn**	**06 53 39.2**	**+2.4**
ODZ	**Otahua Downs**	**3.21**	**219**		**Pn**	**06 53 36.7**	**-0.3**
ODZ	**Otahua Downs**	**3.21**	**219**	P	**Pn**	**06 53 36.4**	**-0.6**
ODZ	**Otahua Downs**	**3.21**	**219**	P	**Pn**	**06 53 36.6**	**-0.3**
PRHZ	**Porangahau**	**3.31**	**46**	P	**Pn**	**06 53 37.7**	**-0.6**
KHEZ	**Kahui Hut**	**3.31**	**7**		**Pn**	**06 53 40.6**	**+2.1**
KHEZ	**Kahui Hut**	**3.31**	**7**	P	**Pn**	**06 53 40.5**	**+2.0**
NBEZ	**Newall Road No**	**3.33**	**5**	P	**Pn**	**06 53 40.6**	**+2.0**
NEZ	**North Egmont**	**3.34**	**8**	P	**Pn**	**06 53 41.0**	**+2.1**
WPHZ	**Waipukurau**	**3.35**	**42**	P	**Pn**	**06 53 38.8**	**-0.1**
PNHZ	**Pukenui**	**3.36**	**38**	P	**Pn**	**06 53 37.8**	**-1.2**
PKE	**Pukeiti**	**3.41**	**6**	P	**Pn**	**06 53 41.9**	**+2.1**
DREZ	**Durham Road**	**3.44**	**9**	P	**Pn**	**06 53 42.4**	**+2.3**
MTVZ	**Mangateitei**	**3.53**	**26**	P	**Pn**	**06 53 42.4**	**+0.9**
MHEZ	**Mangahewa**	**3.56**	**10**	P	**Pn**	**06 53 45.0**	**+3.1**
PKVZ	**Pokaka**	**3.58**	**24**	P	**Pn**	**06 53 42.8**	**+0.6**
VRZ	**Vera Road**	**3.59**	**16**	P	**Pn**	**06 53 43.6**	**+1.4**
PXZ	**Pawanui**	**3.59**	**46**	P	**Pn**	**06 53 42.0**	**-0.2**
MOVZ	**Moawhango**	**3.60**	**29**	P	**Pn**	**06 53 42.3**	**-0.2**
WNVZ	**Wahianoa**	**3.62**	**27**	P	**Pn**	**06 53 43.5**	**+0.7**
TRVZ	**Turoa**	**3.63**	**26**	P	**Pn**	**06 53 43.7**	**+0.7**
DRZ	**Dome Shelter**	**3.66**	**26**	P	**Pn**	**06 53 44.4**	**+0.9**
WHVZ	**Whangaehu Hut**	**3.66**	**26**	P	**Pn**	**06 53 44.2**	**+0.8**
FWVZ	**Far West T-bar**	**3.67**	**26**	P	**Pn**	**06 53 44.1**	**+0.6**
TUVZ	**Tukino**	**3.69**	**27**	P	**Pn**	**06 53 44.3**	**+0.5**
JCZ	**Jackson Bay**	**3.75**	**245**	P	**Pn**	**06 53 44.3**	**-0.2**
JCZ	**Jackson Bay**	**3.75**	**245**	P	**Pn**	**06 53 44.2**	**-0.3**
NGZ	**Ngauruhoe**	**3.76**	**26**	P	**Pn**	**06 53 45.2**	**+0.5**
SNVZ	**South Ngauruho**	**3.77**	**26**	P	**Pn**	**06 53 45.3**	**+0.6**
KAHZ	**Kahuranaki**	**3.78**	**43**	P	**Pn**	**06 53 44.4**	**-0.4**
OTVZ	**Oturere**	**3.79**	**26**	P	**Pn**	**06 53 45.7**	**+0.6**
NNVZ	**North Ngauruho**	**3.81**	**26**	P	**Pn**	**06 53 45.9**	**+0.6**
TWVZ	**Taurewa**	**3.81**	**23**	P	**Pn**	**06 53 45.9**	**+0.6**
WTVZ	**West Tongariro**	**3.81**	**25**	P	**Pn**	**06 53 45.9**	**+0.5**
ETVZ	**East Tongariro**	**3.83**	**27**	P	**Pn**	**06 53 46.3**	**+0.6**
KRVZ	**Karewarewa**	**3.85**	**26**	P	**Pn**	**06 53 46.6**	**+0.8**
TMVZ	**Te Maari**	**3.85**	**26**	P	**Pn**	**06 53 46.4**	**+0.5**
KWHZ	**Kaweka Forest**	**3.86**	**36**	P	**Pn**	**06 53 45.5**	**-0.5**
NTVZ	**North Tongarir**	**3.86**	**26**	P	**Pn**	**06 53 46.6**	**+0.6**
WKZ	**Wanaka**	**3.95**	**234**		**Pn**	**06 53 47.3**	**+0.2**
WKZ	**Wanaka**	**3.95**	**234**	P	**Pn**	**06 53 46.4**	**-0.7**
MCHZ	**McNeill Hill**	**3.96**	**39**	P	**Pn**	**06 53 48.2**	**+0.8**
EAZ	**Earnscleugh**	**4.02**	**227**	P	**Pn**	**06 53 47.4**	**-0.7**
RATZ	**Rangitukua**	**4.10**	**26**	P	**Pn**	**06 53 50.2**	**+1.0**
BKZ	**Black Stump Fm**	**4.10**	**35**		**Pn**	**06 53 48.8**	**-0.5**
BKZ	**Black Stump Fm**	**4.10**	**35**	P	**Pn**	**06 53 48.6**	**-0.7**
BKZ	**Black Stump Fm**	**4.10**	**35**	P	**Pn**	**06 53 48.6**	**-0.7**
HIZ	**Hauiti**	**4.20**	**15**		**Pn**	**06 53 51.7**	**+1.1**
HIZ	**Hauiti**	**4.20**	**15**	P	**Pn**	**06 53 52.1**	**+1.5**
SYZ	**Scrubby Hill**	**5.03**	**217**	P	**Pn**	**06 54 02.5**	**+0.5**
URZ	**Urewera**	**5.12**	**34**	P	**Pn**	**06 54 02.6**	**-0.7**
KUZ	**Kuaotunu**	**6.08**	**17**	P	**Pn**	**06 54 15.8**	**-0.6**
MXZ	**Matakaoa Point**	**6.22**	**38**	P	**Pn**	**06 54 17.7**	**-0.7**
OUZ	**Omahuta**	**7.36**	**1**		**Pn**	**06 54 35.4**	**+1.4**
OUZ	**Omahuta**	**7.36**	**1**	P	**Pn**	**06 54 35.4**	**+1.4**
RAO	**Raoul Island**	**15.00**	**30**	LR	LR	07 02 11.7	
	comp=Z,90nm,20.5s,baz=201,slow=38						
TAU	**Tasmania Unive**	**19.21**	**260**	P	**P**	**06 57 10.4**	**-0.1**
TAU				IAmb	IAmb	06 57 11.3	
	comp=Z,60nm,1.4s						
CAN	**Canberra**	**20.35**	**283**	P	**P**	**06 57 22.5**	**-0.5**
CAN				IAmb	IAmb	06 57 30.0	
	comp=Z,19nm,1.2s						
DZM	**Mont Dzumac**	**21.29**	**342**	*e*LR	LR	07 01 44.9	
	comp=Z,264nm,22.8s						
ARMA	**Armidale**	**21.30**	**298**	P	**P**	**06 57 32.9**	**-0.4**
KOUNC	**Koumac, New Ca**	**23.30**	**338**	P	**P**	**06 57 52.6**	**-1.8**
MSVF	**Nonsavu**	**25.07**	**10**	LR	LR	07 07 11.2	
	comp=Z,676nm,18.7s,baz=189,slow=35						
MSVF	**Nonsavu**	**25.07**	**10**	P	**P**	**06 58 10.2**	**-1.0**
EIDS	**Eidsvold**	**25.19**	**306**	P	**P**	**06 58 11.7**	**-0.4**
EIDS				IAmb	IAmb	06 58 15.0	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**27.41**	**282**	P	**P**	**06 58 28.9**	**-3.3**
	comp=Z,0.8nm,0.7s,baz=104,slow=8.3,SNR=2.8						
	comp=Z,0.8nm,0.7s						
RAR	**Rarotonga**	**30.91**	**55**	LR	LR	07 09 51.4	
	comp=Z,190nm,20.4s,baz=228,slow=33						
BBOO	**Buckleboo**	**30.98**	**276**	P	**P**	**06 59 03.7**	**-0.2**
BBOO				IAmb	IAmb	06 59 15.1	
	comp=Z,7.5nm,1.0s						
CTA	**Charters Tower**	**32.08**	**306**	LR	LR	07 10 27.2	
	comp=Z,325nm,19.2s,baz=112,slow=33						
VNDA	**Vanda**	**35.37**	**184**	P	**P**	**06 59 44.5**	**+2.9**
	comp=Z,0.6nm,0.8s,baz=354,slow=3.4,SNR=4.2						
VNDA				LR	LR	07 12 09.4	
	comp=Z,90nm,19.7s,baz=16,slow=33						
	comp=Z,0.6nm,0.8s						
SBA	**Scott Base**	**35.48**	**182**	P	**P**	**06 59 41.8**	**-0.7**
SBA				IAmb	IAmb	07 00 14.6	
	comp=Z,8.6nm,1.3s						
TBI	**Tubuai**	**36.15**	**70**	*e*LR	LR	07 09 31.0	
	comp=Z,473nm,23.8s						
TBI				*e*LR	LR	07 09 31.6	
	comp=Z,3μm,23.0s						
TBI	**Tubuai**	**36.15**	**70**	*e*T	T	07 37 48.1	
	comp=Z,101nm,0.3s						
AS31	**Alice Springs**	**37.73**	**287**	P	**P**	**07 00 01.1**	**-1.3**
ASAR	**Alice Springs**	**37.73**	**287**	P	**P**	**07 00 01.4**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=132,slow=7.1,SNR=45						
ASAR				PcP	**PcP**	**07 02 18.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=134,slow=4.2,SNR=2.4						
ASAR				LR	LR	07 15 39.3	
	comp=Z,121nm,18.3s,baz=151,slow=37						
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**37.73**	**287**	P	**P**	**07 00 01.6**	**-0.9**
FORT	**Forrest**	**37.88**	**273**	P	**P**	**07 00 03.2**	**-0.4**
COEN	**Coen**	**38.70**	**308**	P	**P**	**07 00 09.7**	**-0.8**
COEN				IAmb	IAmb	07 00 49.8	
	comp=Z,17nm,1.3s						
WR0	**Warramunga Arr**	**39.74**	**292**	P	**P**	**07 00 17.2**	**-2.1**
WB2	**Warramunga Arr**	**39.88**	**292**	P	**P**	**07 00 20.4**	**-0.1**
WB2				IAmb	IAmb	07 00 38.5	
	comp=Z,6.7nm,0.9s						
WRAB	**Tennant Creek**	**39.89**	**292**	P	**P**	**07 00 19.7**	**-0.8**
WRAB				IAmb	IAmb	07 00 52.6	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**39.89**	**292**	P	**P**	**07 00 19.8**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=131,slow=7.8,SNR=24						
WRA				LR	LR	07 16 06.2	
	comp=Z,165nm,20.7s,baz=126,slow=35						
	comp=Z,1.9nm,0.6s						
WRA	**Warramunga Arr**	**39.89**	**292**	P	**P**	**07 00 19.9**	**-0.6**
WB0	**Warramunga Arr**	**39.97**	**292**	P	**P**	**07 00 20.7**	**-0.5**
PAE	**Paea**	**39.98**	**63**	*e*T	T	07 42 39.2	
	comp=Z,15nm,0.3s						
PPT2	**Papeete2**	**40.03**	**63**	*e*S	**S**	**07 06 28.0**	**+0.7**
	comp=Z,62nm,23.5s						
PPT2				*e*LR	LR	07 11 19.9	
	comp=Z,205nm,26.0s						
PPT2				*e*LR	LR	07 11 20.2	
	comp=Z,303nm,25.5s						
PPT2	**Papeete2**	**40.03**	**63**	*e*T	T	07 42 45.6	
	comp=Z,11nm,0.3s						
PPT	**Papeete**	**40.05**	**63**	LR	LR	07 14 53.3	
	comp=Z,188nm,19.6s,baz=210,slow=33						
PMG	**Port Moresby**	**40.32**	**317**	LR	LR	07 15 07.0	
	comp=Z,348nm,19.9s,baz=178,slow=34						
KRVT	**Keravat (AS076**	**42.64**	**327**	LR	LR	07 18 09.9	
	comp=Z,175nm,18.3s,baz=300,slow=36						
VAH	**Vaihoa**	**43.02**	**63**	*e*T	T	07 46 52.6	
	comp=Z,11nm,0.3s						
NWAO	**Narrogin (SRO)**	**44.79**	**263**	LR	LR	07 16 59.8	
	comp=Z,140nm,18.5s,baz=36,slow=32						
NWAO	**Narrogin (SRO)**	**44.79**	**263**	P	**P**	**07 00 59.7**	**-0.6**
MTN	**Manton Dam**	**47.07**	**296**	P	**P**	**07 01 15.6**	**-2.9**
QSPA	**South Pole Qui**	**47.54**	**180**	P	**P**	**07 01 24.7**	**+3.0**
	comp=Z,1.4nm,0.6s,baz=111,slow=0.1,SNR=11						
QSPA				LR	LR	07 19 05.2	
	comp=Z,107nm,20.3s,baz=38,slow=33						
	comp=Z,1.4nm,0.6s						
TAOE	**Nuku Hiva Isla**	**52.64**	**64**	*e*LR	LR	07 17 09.6	
	comp=Z,210nm,26.1s						
MAW	**Mawson**	**58.46**	**205**	LR	LR	07 27 01.1	
	comp=Z,172nm,18.6s,baz=112,slow=35						
MAW	**Mawson**	**58.46**	**205**	P	**P**	**07 02 42.4**	**+0.4**
MAW				IAmb	IAmb	07 03 15.2	
	comp=Z,6.7nm,1.4s						
KAPI	**Kappang**	**60.43**	**293**	LR	LR	07 29 42.5	
	comp=Z,109nm,18.9s,baz=143,slow=37						
TROLL	**Troll, Antarti**	**65.53**	**183**	P	**P**	**07 03 31.3**	**+1.7**
DAV	**Davao City (W)**	**65.88**	**306**	LR	LR	07 32 04.5	
	comp=Z,67nm,20.1s,baz=336,slow=36						
SNAA	**Sanae**	**66.02**	**181**	P	**P**	**07 03 34.2**	**+1.5**
SNAA	**Sanae**	**66.02**	**181**	P	**P**	**07 03 32.9**	**+0.3**
SNAA				IAmb	IAmb	07 03 43.2	
	comp=Z,3.7nm,0.9s						
VNA3	**Neumayer Olymp**	**66.45**	**179**	P	P	07 03 42.1	+6.7
VNA2	**Neumayer--Watz**	**66.80**	**180**	P	**P**	**07 03 39.4**	**+1.9**
	baz=164,slow=5.5						
VNA1	**Neumayer--Stat**	**67.07**	**179**	P	**P**	**07 03 41.2**	**+2.0**
**

PB06				IAML		07 07 45.4	
	comp=N,424nm,0.2s						
PB14	**IPOC Station P**	**2.90**	**259**	Pn	**Pn**	**07 07 14.2**	**+1.8**
PB14	**IPOC Station P**	**2.90**	**259**	*e*S	**S**	**07 07 51.3**	**-0.9**
PB14				IAML		07 07 53.3	
	comp=E,56nm,0.4s						
PB09	**IPOC Station P**	**2.94**	**322**	Pn	**Pn**	**07 07 14.7**	**+1.9**
PB09	**IPOC Station P**	**2.94**	**322**	*e*P	**Pn**	**07 07 14.7**	**+1.9**
PB09				*i* S	**S**	**07 07 52.3**	**-0.6**
PB09				IAML		07 07 56.4	
	comp=E,76nm,0.6s						
PB10	**IPOC Station P**	**3.06**	**281**	Pn	**Pn**	**07 07 16.1**	**+2.1**
PB10	**IPOC Station P**	**3.06**	**281**	*e*P	**Pn**	**07 07 15.9**	**+2.0**
PB10				*i* S	**S**	**07 07 54.0**	**-1.1**
PB03	**IPOC Station P**	**3.07**	**312**		**Pn**	**07 07 15.8**	**+1.5**
PB03	**IPOC Station P**	**3.07**	**312**	*e*P	**Pn**	**07 07 15.7**	**+1.5**
PB03				*i* S	**S**	**07 07 54.3**	**-1.3**
AC02	**Maricunga**	**3.18**	**211**	Pn	**Pn**	**07 07 16.6**	**+0.8**
PB04	**IPOC Station P**	**3.19**	**303**	Pn	**Pn**	**07 07 17.2**	**+1.7**
PB04	**IPOC Station P**	**3.19**	**303**	*e*P	**Pn**	**07 07 17.2**	**+1.7**
PB04				*i* S	**S**	**07 07 56.6**	**-1.2**
PB07	**IPOC Station P**	**3.38**	**314**		**Pn**	**07 07 19.4**	**+1.5**
PB07	**IPOC Station P**	**3.38**	**314**	*e*P	**Pn**	**07 07 19.4**	**+1.5**
PB07				*i* S	**S**	**07 08 00.6**	**-1.4**
AC01	**Pan de Azucar**	**3.63**	**235**	Pn	**Pn**	**07 07 21.0**	**+0.7**
PB01	**IPOC Station P**	**3.68**	**326**		**Pn**	**07 07 22.4**	**+1.2**
PB01	**IPOC Station P**	**3.68**	**326**	*e*P	**Pn**	**07 07 22.2**	**+1.0**
PB01				*i* S	**S**	**07 08 06.5**	**-1.5**
PB02	**IPOC Station P**	**3.69**	**319**		**Pn**	**07 07 22.3**	**+1.0**
PB02	**IPOC Station P**	**3.69**	**319**	*e*P	**Pn**	**07 07 22.6**	**+1.3**
PB02				*i* S	**S**	**07 08 06.6**	**-1.7**
PATCX	**Punta Patache**	**4.22**	**320**		**Pn**	**07 07 28.9**	**+1.2**
PATCX	**Punta Patache**	**4.22**	**320**	*e*P	**Pn**	**07 07 28.7**	**+1.0**
PATCX				*e*S	**S**	**07 08 18.4**	**-1.4**
AC06	**Mina Casimiro**	**4.25**	**220**	Pn	**Pn**	**07 07 28.2**	**+0.3**
PB08	**IPOC Station P**	**4.32**	**336**		**Pn**	**07 07 30.8**	**+1.7**
PB08	**IPOC Station P**	**4.32**	**336**	*e*P	**Pn**	**07 07 30.9**	**+1.7**
PB08				*e*S	**S**	**07 08 22.1**	**-0.4**
GO03	**Copiap**	**4.37**	**217**	*e*P	**Pn**	**07 07 29.6**	**+0.4**
GO03				*e*S	**S**	**07 08 21.1**	**-1.7**
TA01	**Diego Aracena**	**4.44**	**322**		**Pn**	**07 07 30.8**	**+0.6**
GO01	**Chusmiza**	**4.77**	**338**		**Pn**	**07 07 36.2**	**+1.5**
GO01	**Chusmiza**	**4.77**	**338**	*e*P	**Pn**	**07 07 36.2**	**+1.5**
PB11	**IPOC Station P**	**4.87**	**333**		**Pn**	**07 07 36.1**	**+0.5**
PB11	**IPOC Station P**	**4.87**	**333**	*e*P	**Pn**	**07 07 36.1**	**+0.5**
PB11				*e*S	**S**	**07 08 32.2**	**-2.0**
PSGCX	**Pisagua**	**5.22**	**329**		**Pn**	**07 07 39.7**	**-0.2**
MNMC	**Minye Minye**	**5.41**	**336**		**Pn**	**07 07 43.5**	**+1.0**
MNMC	**Minye Minye**	**5.41**	**336**	*e*P	**Pn**	**07 07 43.4**	**+1.0**
PB16	**IPOC Station P**	**6.12**	**340**		**Pn**	**07 07 53.1**	**+1.5**
PB12	**IPOC Station P**	**6.17**	**332**		**Pn**	**07 07 52.4**	**+0.5**
CO03	**El Pedregal**	**7.35**	**204**	Pn	**Pn**	**07 08 07.4**	**+0.7**
CO02	**Combarbal**	**7.79**	**204**	Pn	**Pn**	**07 08 11.8**	**-0.5**
LPAZ	**La Paz**	**7.83**	**354**		**Pn**	**07 08 15.2**	**+1.7**

*NOU **20** 07:28:11.2, 42˚.51S×173˚.93E, h6km, MLv3.7/8, South Island, New Zealand*
*WEL **20** 07:28:14.3±0.5, 42˚S±3˚×17˚4E±˚, h9km±3km, M3.0/35, ML3.4/12, MLv3.0/35, Error ellipse: s-maj=0.0km s-min=0.0km az=122.8*

ISC 20 07:28:13.2±1.2, 42˚44S±0˚.04×173˚81E±0˚.05, h14km±9km, n57, σ1°27/59, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.20**	**277**	P	**Pg**	**07 28 17.6**	**-0.1**
KHZ	**Kahutara**	**0.20**	**277**	P	**Pg**	**07 28 17.8**	**0.0**
KHZ				S	**Sg**	**07 28 20.7**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.73**	**4**	P	**Pg**	**07 28 27.0**	**-0.3**
BSWZ				S	**Sb**	**07 28 37.2**	**-0.1**
CMWZ	**Cape Campbell**	**0.75**	**24**	P	**Pb**	**07 28 29.3**	**+1.3**
GVZ	**Greta Valley S**	**0.78**	**227**	P	**Pb**	**07 28 29.9**	**+1.5**
THZ	**Tophouse**	**0.95**	**315**	P	**Pg**	**07 28 30.9**	**-0.7**
TUWZ	**Tuamarina**	**1.01**	**6**	P	**Pg**	**07 28 32.4**	**-0.3**
AMCZ	**Amberley**	**1.13**	**229**	P	**Pg**	**07 28 34.6**	**-0.3**
LTZ	**Lake Taylor**	**1.19**	**253**	P	**Pg**	**07 28 35.5**	**-0.5**
NNZ	**Nelson**	**1.26**	**345**	P	**Pb**	**07 28 36.3**	**-0.4**
TCW	**Tory Channel**	**1.28**	**16**	P	**Pn**	**07 28 36.9**	**-0.7**
MRNZ	**Matariki Terra**	**1.30**	**323**	P	**Pb**	**07 28 37.3**	**-0.1**
SNZO	**South Karori**	**1.31**	**31**	P	**Pn**	**07 28 36.4**	**-0.6**
WEL	**Wellington**	**1.36**	**32**	P	**Pn**	**07 28 37.1**	**-0.5**
PLWZ	**Palliser**	**1.39**	**52**	P	**Pn**	**07 28 37.1**	**-1.0**
OKCZ	**Okains Bay**	**1.40**	**203**	P	**Pn**	**07 28 38.2**	**-0.1**
MSWZ	**Moikau Station**	**1.48**	**47**	P	**Pn**	**07 28 38.5**	**-1.0**
MQZ	**McQueen's Vall**	**1.52**	**213**	P	**Pn**	**07 28 39.1**	**-0.8**
TKNZ	**Takaka Hill**	**1.54**	**335**	P	**Pn**	**07 28 39.7**	**-0.6**
OXZ	**Oxford**	**1.57**	**235**	P	**Pn**	**07 28 40.0**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.58**	**204**	P	**Pn**	**07 28 40.5**	**-0.2**
PAWZ	**Paruwai Farm**	**1.61**	**49**	P	**Pn**	**07 28 40.0**	**-1.1**
CAW	**Cannon Point**	**1.63**	**36**	P	**Pn**	**07 28 40.7**	**-0.8**
DUWZ	**D'Urville Isla**	**1.64**	**3**	P	**Pn**	**07 28 41.9**	**+0.3**
DSZ	**Denniston Nort**	**1.65**	**294**	P	**Pb**	**07 28 43.0**	**-0.3**
TRWZ	**Traveller**	**1.75**	**54**	P	**Pn**	**07 28 41.7**	**-1.3**
INZ	**Inchbonnie**	**1.77**	**260**	P	**Pn**	**07 28 43.6**	**+0.2**
RACZ	**Rakaia**	**1.77**	**223**	P	**Pn**	**07 28 42.8**	**-0.6**
KIW	**Kapiti Island**	**1.78**	**23**	P	**Pn**	**07 28 43.0**	**-0.5**
MTW	**Mount Morrison**	**1.80**	**45**	P	**Pn**	**07 28 42.5**	**-1.3**
QRZ	**Quartz Range**	**1.88**	**329**	P	**Pn**	**07 28 45.6**	**+0.8**
QRZ	**Quartz Range**	**1.88**	**329**	P	**Pn**	**07 28 45.6**	**+0.8**
OGWZ	**Otaki Gorge**	**1.92**	**33**	P	**Pn**	**07 28 44.5**	**-0.8**
MHCZ	**Mount Hutt**	**1.97**	**236**	P	**Pn**	**07 28 45.5**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.00**	**40**	P	**Pn**	**07 28 45.4**	**-1.2**
TMWZ	**Te Maipa**	**2.05**	**50**	P	**Pn**	**07 28 45.6**	**-1.6**
WACZ	**Wakanui South**	**2.08**	**223**	P	**Pn**	**07 28 47.1**	**-0.5**
MRZ	**Mangatainoka R**	**2.22**	**37**	P	**Pn**	**07 28 48.3**	**-1.2**
WVZ	**Waitaha Valley**	**2.35**	**253**	P	**Pn**	**07 28 51.7**	**+0.5**
RPZ	**Rata Peaks**	**2.39**	**237**	P	**Pn**	**07 28 51.2**	**-0.6**
RPZ	**Rata Peaks**	**2.39**	**237**	P	**Pn**	**07 28 51.2**	**-0.6**
ARCZ	**Arundel**	**2.44**	**231**	P	**Pn**	**07 28 52.1**	**-0.6**
BFZ	**Birch Farm**	**2.54**	**47**	P	**Pn**	**07 28 52.0**	**-1.9**
BFZ	**Birch Farm**	**2.54**	**47**	P	**Pn**	**07 28 52.0**	**-1.9**
ANWZ	**Angora Road**	**2.82**	**46**	P	**Pn**	**07 29 01.1**	**+3.4**
TMZ	**Timaru**	**2.82**	**225**	P	**Pn**	**07 28 57.6**	**-0.2**
PNHZ	**Pukenui**	**3.10**	**36**	P	**Pn**	**07 28 59.8**	**-1.9**
KHEZ	**Kahui Hut**	**3.15**	**3**	P	**Pn**	**07 29 02.1**	**-0.2**
ODZ	**Otahua Downs**	**3.47**	**220**	P	**Pn**	**07 29 06.2**	**-0.5**
ODZ	**Otahua Downs**	**3.47**	**220**	P	**Pn**	**07 29 06.2**	**-0.5**
NNVZ	**North Ngauruho**	**3.58**	**23**	P	**Pn**	**07 29 08.9**	**+0.5**
MCHZ	**McNeill Hill**	**3.71**	**37**	P	**Pn**	**07 29 14.7**	**+4.7**
HIZ	**Hauiti**	**4.00**	**12**	P	**Pn**	**07 29 13.8**	**-0.2**
HIZ	**Hauiti**	**4.00**	**12**	P	**Pn**	**07 29 15.1**	**+1.0**
EAZ	**Earnscleugh**	**4.29**	**228**	P	**Pn**	**07 29 17.6**	**-0.3**
GRRZ	**Galatos Road**	**4.45**	**24**	P	**Pn**	**07 29 18.3**	**-1.9**
RTZ	**Ruatahuna**	**4.52**	**33**	P	**Pn**	**07 29 24.9**	**+3.7**

IDC 20 07:58:21.8±7.6, 6˚31S×148˚41E, h0km, mb3.9/2, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=104.2km s-min=79.2km az=17.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.31**	**202**	Pn	Pn	07 59 16.6	+1.7
	36nm,0.3s,baz=39,slow=12,SNR=25						
PMG				Sn	Sn	07 59 50.7	-4.3
	6.5nm,0.3s,baz=22,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**19.24**	**224**	P	P	08 02 46.9	-1.0
	0.3nm,0.3s,baz=51,slow=11,SNR=16						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**22.19**	**217**	P	P	08 03 19.6	-0.2
	2.9nm,0.5s,baz=51,slow=9.4,SNR=99						
	2.9nm,0.5s						
STKA	**Stephens Creek**	**26.22**	**193**	P	P	08 03 58.5	0.0
	1.3nm,0.7s,baz=351,slow=7.2,SNR=4.9						
	1.3nm,0.7s						

*IDC **20** 07:59:57.9±1.1, 13˚.09N×143˚.50E, h219km±14km, mb3.4/7, mbtmp3.9/7, Error ellipse: s-maj=35.1km s-min=14.6km az=98.0*

ISC 20 07:59:56.6±0.9, 13˚1N±0˚.2×143˚2E±0˚.1, h200km, n8, σ1°22/9, mb3.6/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.72**	**74**	P	**Pn**	**08 00 33.7**	**+1.3**
	147nm,1.0s,baz=330,slow=20,SNR=2.0						
GUMO				S	**Sn**	**08 00 59.6**	**-0.4**
	63nm,0.2s,baz=156,slow=22,SNR=8.5						
WRA	**Warramunga Arr**	**33.98**	**195**	P	**P**	**08 06 21.6**	**+0.2**
	1.7nm,0.6s,baz=12,slow=9.7,SNR=28						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**37.66**	**194**	P	**P**	**08 06 52.2**	**-0.5**
	0.4nm,0.7s,baz=24,slow=10,SNR=5.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**60.69**	**317**	P	**P**	**08 09 48.3**	**+1.3**
	0.4nm,0.6s,baz=91,slow=7.5,SNR=2.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.93**	**320**	P	**P**	**08 10 09.1**	**+0.9**
	0.5nm,0.5s,baz=106,slow=6.5,SNR=6.5						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**69.28**	**322**	P	**P**	**08 10 42.9**	**+0.8**
	1.8nm,0.5s,baz=104,slow=8.1,SNR=7.1						
	1.8nm,0.5s						
ILAR	**Eielson Array**	**69.70**	**25**	P	**P**	**08 10 43.0**	**-1.5**
	0.5nm,0.5s,baz=246,slow=5.9,SNR=16						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**90.89**	**335**	P	**P**	**08 12 36.2**	**-1.1**
	2.6nm,0.9s,baz=75,slow=3.7,SNR=7.8						
	2.6nm,0.9s						

*IDC **20** 08:00:40.8±3.5, 23˚.66S×179˚.86W, h510km±29km, mb3.5/5, mbtmp4.4/6, Error ellipse: s-maj=67.9km s-min=24.0km az=151.0*
*NEIC **20** 08:00:41.5±0.4, 23˚.4S±0˚.1×179˚.8W±0˚.2, h528km±12km, mb4.2/21, Error ellipse: s-maj=23.7km s-min=14.6km az=76.0*

ISC 20 08:00:42.1±0.8, 23˚.4S±0˚.1×179˚.9W±0˚.1, h532km, n45, σ0°77/46, mb4.2/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.95**	**341**	P	**P**	**08 02 20.4**	**+0.8**
	5.0nm,0.4s,baz=156,slow=21,SNR=7.5						
MSVF	**Nonsavu**	**5.95**	**341**	P	**P**	**08 02 18.7**	**-0.9**
OUZ	**Omahuta**	**13.05**	**204**	P	**P**	**08 03 30.9**	**-0.4**
ARMA	**Armidale**	**26.26**	**248**	P	**P**	**08 05 35.1**	**+0.1**
ARMA				IAmb	IAmb	08 05 36.7	
	comp=Z,3.5nm,0.7s						
EIDS	**Eidsvold**	**26.45**	**260**	P	**P**	**08 05 36.6**	**-0.1**
EIDS				IAmb	IAmb	08 05 53.3	
	comp=Z,7.8nm,1.1s						
CAN	**Canberra**	**29.45**	**239**	P	**P**	**08 06 02.8**	**0.0**
CAN				IAmb	IAmb	08 06 03.8	
	comp=Z,4.6nm,0.8s						
CTA	**Charters Tower**	**31.54**	**269**	P	**P**	**08 06 21.9**	**+1.0**
	comp=Z,13nm,0.4s,baz=95,slow=11,SNR=39						
	comp=Z,13nm,0.4s						
CTA	**Charters Tower**	**31.54**	**269**	P	**P**	**08 06 21.9**	**+1.0**
CTAO	**Charters Tower**	**31.54**	**269**	P	**P**	**08 06 21.5**	**+0.6**
CTAO	**Charters Tower**	**31.54**	**269**	P	**P**	**08 06 22.0**	**+1.0**
TOO	**Toolangi**	**32.77**	**236**	P	**P**	**08 06 30.9**	**-0.3**
TOO				IAmb	IAmb	08 06 31.6	
	comp=Z,4.5nm,0.8s						
PMG	**Port Moresby**	**34.40**	**288**	P	**P**	**08 06 45.3**	**+0.1**
STKA	**Stephens Creek**	**34.97**	**247**	P	**P**	**08 06 49.9**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=94,slow=13,SNR=9.8						
	comp=Z,1.3nm,0.4s						
STKA	**Stephens Creek**	**34.97**	**247**	P	**P**	**08 06 50.2**	**+0.4**
STKA	**Stephens Creek**	**34.97**	**247**	P	**P**	**08 06 50.1**	**+0.4**
COEN	**Coen**	**36.10**	**278**	P	**P**	**08 07 00.4**	**+1.1**
COEN				IAmb	IAmb	08 07 24.8	
	comp=Z,6.5nm,0.9s						
HTT	**Hallett**	**37.34**	**245**	P	**P**	**08 07 09.1**	**-0.3**
LCRK	**Leigh Creek**	**37.81**	**250**	P	**P**	**08 07 13.1**	**-0.1**
BBOO	**Buckleboo**	**39.70**	**246**	P	**P**	**08 07 27.7**	**-0.7**
BBOO				IAmb	IAmb	08 07 28.0	
	comp=Z,4.4nm,0.7s						
BBOO	**Buckleboo**	**39.70**	**246**	P	**P**	**08 07 27.6**	**-0.9**
OOD	**Oodnadatta**	**40.10**	**254**	P	**P**	**08 07 32.5**	**+0.7**
JOHN	**Johnston Islan**	**41.17**	**15**	P	**P**	**08 07 39.2**	**-1.1**
MULG	**Mulgathing**	**41.40**	**250**	P	**P**	**08 07 41.5**	**-0.6**
AS01	**Alice Springs**	**42.14**	**260**	P	**P**	**08 07 48.1**	**+0.1**
AS31	**Alice Springs**	**42.18**	**260**	P	**P**	**08 07 48.0**	**-0.4**
AS31				IAmb	IAmb	08 07 49.4	
	comp=Z,2.1nm,0.4s						
ASAR	**Alice Springs**	**42.18**	**260**	P	**P**	**08 07 48.4**	**0.0**
	comp=Z,5.1nm,0.7s,baz=96,slow=7.3,SNR=54						
ASAR				ScP	**ScP**	**08 12 33.9**	**+3.5**
	comp=Z,0.7nm,0.8s,baz=100,slow=4.6,SNR=5.7						
	comp=Z,5.1nm,0.7s						
ASAR	**Alice Springs**	**42.18**	**260**	P	**P**	**08 07 48.1**	**-0.3**
WR0	**Warramunga Arr**	**42.32**	**266**	P	**P**	**08 07 49.0**	**-0.5**
WB2	**Warramunga Arr**	**42.49**	**266**	P	**P**	**08 07 50.7**	**-0.2**
WB2				IAmb	IAmb	08 07 51.1	
	comp=Z,7.1nm,0.9s						
WB0	**Warramunga Arr**	**42.50**	**266**	P	**P**	**08 07 50.5**	**-0.4**
WRAB	**Tennant Creek**	**42.50**	**266**	P	**P**	**08 07 50.6**	**-0.3**
WRAB				IAmb	IAmb	08 07 51.1	
	comp=Z,8.1nm,0.9s						
WRAB	**Tennant Creek**	**42.50**	**266**	P	**P**	**08 07 50.6**	**-0.3**
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**08 07 50.5**	**-0.4**
	comp=Z,5.0nm,0.5s,baz=103,slow=8.3,SNR=129						
	comp=Z,5.0nm,0.5s						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**08 07 50.6**	**-0.4**
FORT	**Forrest**	**46.54**	**249**	P	**P**	**08 08 21.4**	**-0.5**
FORT	**Forrest**	**46.54**	**249**	P	**P**	**08 08 21.2**	**-0.7**
WRKA	**Warakurna**	**47.01**	**257**	P	**P**	**08 08 25.4**	**-0.2**
KNRA	**Kununurra**	**48.76**	**269**	P	**P**	**08 08 38.8**	**+0.1**
KNRA				IAmb	IAmb	08 08 40.0	
	comp=Z,6.2nm,0.6s						
KNRA	**Kununurra**	**48.76**	**269**	P	**P**	**08 08 38.8**	**+0.1**
SBA	**Scott Base**	**54.87**	**183**	P	**P**	**08 09 21.5**	**-0.2**
VNDA	**Vanda**	**54.88**	**185**	P	**P**	**08 09 22.2**	**+0.4**
MORW	**Morawa**	**57.10**	**250**	P	**P**	**08 09 37.7**	**-0.3**
TOLI2	**Tolitoli**	**62.52**	**284**	P	**P**	**08 10 13.6**	**-0.6**
TOLI2				IAmb	IAmb	08 10 39.9	
	comp=Z,7.0nm,0.9s						
QSPA	**South Pole Qui**	**66.67**	**180**	P	**P**	**08 10 39.8**	**0.0**
TXAR	**Lajitas Array**	**90.12**	**58**	P	**P**	**08 12 46.5**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=233,slow=6.7,SNR=4.1						
	comp=Z,0.4nm,0.9s						

WEL 20 08:03:45.7, 42˚S±24˚×17˚4E±2˚7, h15km±40km, M2.3/7, ML2.5/7, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=77.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.32**	**253**	P	Pg	08 03 52.7	+0.3
TUWZ	**Tuamarina**	**0.32**	**307**	P	Pb	08 03 53.1	0.0
TCW	**Tory Channel**	**0.41**	**359**	P	Pb	08 03 54.5	-0.2
WEL	**Wellington**	**0.50**	**47**	P	Pb	08 03 56.0	-0.1
PLWZ	**Palliser**	**0.73**	**86**	P	Pb	08 04 00.5	+0.3
MSWZ	**Moikau Station**	**0.75**	**74**	P	Pb	08 04 00.6	+0.1
CAW	**Cannon Point**	**0.78**	**49**	P	Pb	08 04 01.1	+0.1
KIW	**Kapiti Island**	**0.89**	**32**	P	Pg	08 04 03.1	+0.1
OGWZ	**Otaki Gorge**	**1.04**	**40**	P	Pg	08 04 06.2	+0.3

WEL 20 08:03:58.1±0.3, 43˚S±2˚×17˚3E±˚, h7km±2km, M3.4/34, ML3.7/20, MLv3.4/34, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.35**	**149**	P	Pg	08 04 05.7	+0.8
GVZ				S	Sb	08 04 11.6	-0.7
LTZ	**Lake Taylor**	**0.40**	**253**	P	Pb	08 04 06.6	-0.8
LTZ	**Lake Taylor**	**0.40**	**253**	P	Pb	08 04 06.6	-0.8
LTZ				S	Sb	08 04 12.8	-1.0
AMCZ	**Amberley**	**0.52**	**191**	P	Pb	08 04 09.3	-0.1
KHZ	**Kahutara**	**0.61**	**66**	P	Pg	08 04 09.7	-0.1
KHZ	**Kahutara**	**0.61**	**66**	P	Pg	08 04 09.9	+0.1
OXZ	**Oxford**	**0.86**	**220**	P	Pg	08 04 14.8	+0.3
THZ	**Tophouse**	**0.91**	**6**	P	Pg	08 04 15.2	-0.4
INZ	**Inchbonnie**	**0.99**	**266**	P	Pg	08 04 17.2	+0.1
MQZ	**McQueen's Vall**	**1.04**	**185**	P	Pg	08 04 17.0	-1.0
OKCZ	**Okains Bay**	**1.07**	**169**	P	Pg	08 04 18.0	-0.7
OKCZ				S	Sb	08 04 33.3	+0.1
RACZ	**Rakaia**	**1.16**	**204**	P	Pg	08 04 18.7	-1.6
DSZ	**Denniston Nort**	**1.18**	**321**	P	Pg	08 04 20.6	-0.1
AKCZ	**Akaroa Harbour**	**1.21**	**176**	P	Pg	08 04 19.5	-1.7
MHCZ	**Mount Hutt**	**1.24**	**226**	P	Pb	08 04 20.2	-1.6
BSWZ	**Blackbirch Sta**	**1.25**	**41**	P	Pn	08 04 21.3	-0.6
MRNZ	**Matariki Terra**	**1.27**	**359**	P	Pn	08 04 21.8	-0.4
CMWZ	**Cape Campbell**	**1.40**	**50**	P	Pn	08 04 23.3	-0.7
WACZ	**Wakanui South**	**1.45**	**208**	P	Pn	08 04 22.7	-2.0
TUWZ	**Tuamarina**	**1.51**	**35**	P	Pn	08 04 24.9	-0.6
NNZ	**Nelson**	**1.52**	**17**	P	Pn	08 04 25.5	-0.1
WVZ	**Waitaha Valley**	**1.56**	**254**	P	Pn	08 04 26.0	-0.2
TKNZ	**Takaka Hill**	**1.64**	**5**	P	Pb	08 04 28.1	-0.5
RPZ	**Rata Peaks**	**1.64**	**230**	P	Pn	08 04 25.7	-1.6
ARCZ	**Arundel**	**1.74**	**222**	P	Pn	08 04 26.7	-1.9
TCW	**Tory Channel**	**1.83**	**38**	P	Pn	08 04 28.8	-1.1
QRZ	**Quartz Range**	**1.85**	**354**	P	Pb	08 04 31.3	-1.0
GCSZ	**Gaunt Creek Bo**	**1.92**	**249**	P	Pn	08 04 30.8	-0.3
WEL	**Wellington**	**2.02**	**48**	P	Pn	08 04 31.1	-1.5
DUWZ	**D'Urville Isla**	**2.05**	**25**	P	Pn	08 04 33.5	+0.5
PLWZ	**Palliser**	**2.14**	**60**	P	Pn	08 04 32.0	-2.2
TMZ	**Timaru**	**2.15**	**217**	P	Pn	08 04 32.4	-1.9
MSWZ	**Moikau Station**	**2.22**	**56**	P	Pn	08 04 33.0	-2.3
CAW	**Cannon Point**	**2.31**	**48**	P	Pn	08 04 34.7	-1.8
FOZ	**Fox Glacier**	**2.34**	**247**	P	Pn	08 04 37.4	+0.5
PAWZ	**Paruwai Farm**	**2.35**	**58**	P	Pn	08 04 34.4	-2.7
LBZ	**Lake Benmore**	**2.55**	**227**	P	Pn	08 04 38.4	-1.5
OGWZ	**Otaki Gorge**	**2.57**	**45**	P	Pn	08 04 38.4	-1.7
HOWZ	**Holdsworth Sta**	**2.70**	**50**	P	Pb	08 04 46.8	0.0
ODZ	**Otahua Downs**	**2.83**	**212**	P	Pn	08 04 41.7	-2.0
ODZ	**Otahua Downs**	**2.83**	**212**	P	Pn	08 04 41.6	-2.1
MRZ	**Mangatainoka R**	**2.90**	**47**	P	Pn	08 04 42.2	-2.4
WAZ	**Wanganui**	**3.35**	**30**	P	Pn	08 04 51.9	+1.1
LREZ	**Lake Rotokare**	**3.43**	**21**	P	Pb	08 04 56.2	-2.9
DVHZ	**Dannevirke**	**3.47**	**48**	P	Pn	08 04 49.2	-3.3
NBEZ	**Newall Road No**	**3.50**	**14**	P	Pn	08 04 53.8	+1.0
KHEZ	**Kahui Hut**	**3.50**	**16**	P	Pn	08 04 54.8	+1.9
NEZ	**North Egmont**	**3.54**	**17**	P	Pn	08 04 55.9	+2.5
EAZ	**Earnscleugh**	**3.59**	**223**	P	Pn	08 04 52.4	-1.6
PKE	**Pukeiti**	**3.59**	**15**	P	Pn	08 04 57.5	+3.4
VRZ	**Vera Road**	**3.84**	**24**	P	Pn	08 04 56.8	-0.8
PKVZ	**Pokaka**	**3.89**	**31**	P	Pn	08 04 58.1	-0.2
MOVZ	**Moawhango**	**3.96**	**36**	P	Pn	08 04 57.4	-1.8
WNVZ	**Wahianoa**	**3.96**	**33**	P	Pn	08 04 58.7	-0.7
TRVZ	**Turoa**	**3.96**	**33**	P	Pn	08 04 58.7	-0.8
WHVZ	**Whangaehu Hut**	**3.99**	**33**	P	Pn	08 04 58.9	-0.9
FWVZ	**Far West T-bar**	**4.00**	**32**	P	Pn	08 04 59.0	-1.0
BHHZ	**Black Hill Sta**	**4.03**	**39**	P	Pn	08 04 58.3	-1.9
TUVZ	**Tukino**	**4.03**	**34**	P	Pn	08 04 59.3	-1.1
NGZ	**Ngauruhoe**	**4.09**	**32**	P	Pn	08 05 00.5	-0.6
SNVZ	**South Ngauruho**	**4.10**	**33**	P	Pn	08 05 00.4	-0.8
NNVZ	**North Ngauruho**	**4.13**	**32**	P	Pn	08 05 01.1	-0.7
WTVZ	**West Tongariro**	**4.14**	**32**	P	Pn	08 05 00.9	-0.8
ETVZ	**East Tongariro**	**4.17**	**33**	P	Pn	08 05 01.1	-1.1
TMVZ	**Te Maari**	**4.18**	**33**	P	Pn	08 05 01.3	-1.1
HIZ	**Hauiti**	**4.44**	**21**	P	Pn	08 05 05.7	-0.1
TLZ	**Tolley Road**	**4.82**	**27**	P	Pn	08 05 11.6	+0.6
TOZ	**Tahuroa Road**	**5.35**	**24**	P	Pn	08 05 18.1	-0.2
AWAZ	**Awhitu Peninsu**	**5.78**	**15**	P	Pn	08

baz=135,slow=74,SNR=8.4
H10S3 ASCENSION HYDR 58.20 290 T T 09 21 18.2
baz=85,slow=74,SNR=23
NWAO Narrogin (SRO) 59.95 108 LR LR 08 39 24.2
comp=Z,91nm,20.9s,baz=284,slow=31
PALK Pallekele 63.51 47 LR LR 08 39 23.2
comp=Z,209nm,21.8s,baz=319,slow=29
DBIC Dimbokro 64.31 310 LR LR 08 44 27.0
comp=Z,70nm,19.2s,baz=167,slow=34
WSAR Wadi Sarin 69.48 19 LR LR 08 44 49.4
comp=Z,212nm,20.2s,baz=192,slow=31
LEM Lembang 69.89 80 LR LR 08 42 41.5
comp=Z,96nm,20.0s,baz=262,slow=29
BBOO Buckleboo 72.43 119 P **P** **08 19 59.2 -0.2**
TAM Tamanrasset 73.46 328 P **P** **08 20 06.5 +1.0**
EIL Elat 73.65 356 LR LR 08 53 35.0
comp=Z,48nm,18.2s,baz=242,slow=37
ITQB Itaqui 73.76 244 **P** **08 20 07.6 +0.3**
PLCA Paso Flores 74.46 228 LR LR 08 47 01.8
comp=Z,50nm,19.2s,baz=148,slow=31
PLCA Paso Flores 74.46 228 P **P** **08 20 10.7 -0.7**
PLCA IAmb IAmb 08 20 17.1
comp=Z,14nm,1.5s
TOO Toolangi 74.86 128 P **P** **08 20 13.4 -0.2**
TOO IAmb IAmb 08 20 20.5
comp=Z,15nm,1.3s
RCBR Riachuelo 75.24 276 LR LR 08 44 43.6
comp=Z,55nm,19.3s,baz=316,slow=29
ASF Jabal al Asfar 76.07 358 LR LR 08 53 40.7
comp=Z,142nm,18.3s,baz=108,slow=36
CPUP Villa Florida 76.46 247 P **P** **08 20 23.5 +0.6**
comp=Z,4.2nm,1.1s,baz=156,slow=11,SNR=3.1
CPUP LR LR 08 47 34.0
comp=Z,75nm,18.4s,baz=166,slow=31
comp=Z,4.2nm,1.1s
STKA Stephens Creek 76.50 121 P **P** **08 20 22.7 -0.4**
comp=Z,2.1nm,0.7s,baz=195,slow=4.2,SNR=6.3
STKA LR LR 08 46 21.8
comp=Z,88nm,20.9s,baz=205,slow=30
comp=Z,2.1nm,0.7s
STKA Stephens Creek 76.50 121 P **P** **08 20 22.7 -0.4**
MMAI Mount Meron Ar 76.96 357 LR LR 08 53 30.1
comp=Z,107nm,19.7s,baz=86,slow=35
ASAR Alice Springs 77.13 110 P **P** **08 20 26.6 -0.2**
comp=Z,3.9nm,1.0s,baz=218,slow=5.1,SNR=21
ASAR LR LR 08 48 31.7
comp=Z,94nm,20.3s,baz=220,slow=31
comp=Z,3.9nm,1.0s
ASAR Alice Springs 77.13 110 P **P** **08 20 26.8 0.0**
AS31 Alice Springs 77.13 110 P **P** **08 20 26.3 -0.5**
BDFB Brasilia 77.25 261 P **P** **08 20 28.1 +0.5**
comp=Z,3.9nm,1.0s,baz=157,slow=13,SNR=2.9
comp=Z,3.9nm,1.0s
BDFB Brasilia 77.25 261 P **P** **08 20 28.5 +0.9**
BDFB IAmb IAmb 08 20 39.0
comp=Z,14nm,1.4s
BBTS Babate 77.44 305 LR LR 08 51 05.3
comp=Z,51nm,20.8s,baz=103,slow=33
KSM Kuching 77.64 76 P **P** **08 20 30.4 +0.8**
KSM IAmb IAmb 08 20 40.9
comp=Z,8.9nm,1.3s
AQDB Aquidauana 79.34 252 P **P** **08 20 38.9 -0.1**
SBUM Sibu 79.66 76 P **P** **08 20 41.3 +0.5**
KAPI Kappang 79.80 87 LR LR 08 50 25.7
comp=Z,39nm,18.6s,baz=256,slow=32
WRA Warramunga Arr 79.96 108 P **P** **08 20 41.4 -1.0**
comp=Z,3.7nm,1.2s,baz=225,slow=5.2,SNR=12
WRA LR LR 08 51 14.0
comp=Z,202nm,18.3s,baz=243,slow=32
comp=Z,3.7nm,1.2s
WRA Warramunga Arr 79.96 108 **P** **08 20 42.6 +0.2**
WB2 Warramunga Arr 79.97 108 **P** **08 20 42.5 0.0**
WB2 IAmb IAmb 08 20 48.5
comp=Z,10.0nm,1.2s
WRAB Tennant Creek 79.97 108 P **P** **08 20 42.1 -0.3**
WRAB IAmb IAmb 08 20 48.6
comp=Z,11nm,1.2s
WB0 Warramunga Arr 80.11 108 P **P** **08 20 42.9 -0.4**
WB0 IAmb IAmb 08 20 45.4
comp=Z,18nm,1.5s
IDI Anoyia 80.20 348 LR LR 08 56 24.7
comp=Z,102nm,20.6s,baz=142,slow=36
CO01 Juntas del Tor 81.94 236 P **P** **08 20 53.6 +0.5**
CO01 IAmb IAmb 08 21 00.1
comp=Z,14nm,1.3s
BRDH Bariadhala 82.09 48 LR LR 08 52 49.1
comp=Z,128nm,20.4s,baz=268,slow=32
CMAR Chiang Mai Arr 82.86 56 P **P** **08 20 57.4 -0.2**
comp=Z,1.7nm,0.3s,baz=249,slow=4.7,SNR=1.4
CMAR LR LR 08 53 44.7
comp=Z,60nm,18.9s,baz=220,slow=33
comp=Z,1.7nm,0.3s
CMAR Chiang Mai Arr 82.86 56 P **P** **08 20 57.6 +0.1**
CHTO Chiang Mai 83.13 56 P **P** **08 20 59.0 0.0**
CHTO IAmb IAmb 08 21 18.7
comp=Z,5.6nm,1.3s
NIL Nilore 83.51 28 P **P** **08 21 00.9 +0.2**
AC02 Maricunga 83.64 239 P **P** **08 21 02.6 +0.3**
BRTR Keskin Array B 83.72 356 LR LR 08 58 21.4
comp=Z,73nm,18.3s,baz=146,slow=36
KEST Kesra 84.07 336 LR LR 09 00 46.6
comp=Z,197nm,18.1s,baz=278,slow=37
GNI Garni 84.15 4 LR LR 08 56 52.8
comp=Z,139nm,21.9s,baz=168,slow=34
VAE Valguarnera 84.36 340 LR LR 09 00 00.3
comp=Z,58nm,18.4s,baz=148,slow=37
SHL Shillong 84.52 46 P **P** **08 21 05.9 -0.5**
PTLB Pontes e Lacer 85.16 253 P **P** **08 21 09.5 0.0**
PTLB IAmb IAmb 08 21 15.7
comp=Z,9.0nm,1.4s
SIV San Ignacio 86.11 252 LR LR 08 52 50.5
comp=Z,67nm,20.3s,baz=187,slow=31
MDT Midelt 86.42 324 LR LR 08 59 36.8
comp=Z,207nm,19.0s,baz=148,slow=36
LVC Limon Verde 86.56 242 LR LR 08 53 32.8
comp=Z,81nm,19.9s,baz=156,slow=31
KBZ Khabaz 87.64 3 LR LR 09 00 01.5
comp=Z,65nm,20.2s,baz=165,slow=35
CTA Charters Tower 87.79 116 LR LR 08 57 09.3
comp=Z,88nm,18.3s,baz=259,slow=33
PB11 IPOC Station P 89.11 243 P **P** **08 21 28.8 0.0**
MLR Muntele Rosu 90.11 351 LR LR 09 04 15.2
comp=Z,95nm,20.1s,baz=198,slow=37
LPAZ La Paz 90.64 247 LR LR 09 00 31.1
comp=Z,79nm,18.1s,baz=120,slow=34
AAK Ala-Archa 92.10 25 LR LR 08 59 09.5
comp=Z,102nm,20.8s,baz=192,slow=33
ESDC Sonseca Array 92.12 328 LR LR 09 04 26.9
comp=Z,162nm,18.0s,baz=133,slow=36
DAVOX Davos/Dischmat 94.25 340 LR LR 09 05 56.9
comp=Z,84nm,20.6s,baz=83,slow=37
MDP Montagnes des 94.80 272 LR LR 09 03 00.7
comp=Z,44nm,18.0s,baz=150,slow=34
AKASG Malin Array Be 94.95 354 LR LR 09 05 57.8
comp=Z,36nm,20.0s,baz=236,slow=36
VRAC Vranov 95.22 345 LR LR 09 09 07.6
comp=Z,32nm,19.5s,baz=158,slow=38
GERES GERESS Array B 95.34 343 LR LR 09 09 48.5
comp=Z,60nm,18.3s,baz=106,slow=39
PMG Port Moresby 96.12 109 LR LR 09 01 23.8
comp=Z,90nm,18.1s,baz=164,slow=33
DZM Mont Dzumac 98.30 132 LR LR 08 57 41.1
comp=Z,42nm,18.4s,baz=236,slow=30
DZM Mont Dzumac 98.30 132 eLR LR 08 54 28.0
comp=Z,147nm,24.2s
MKAR Makanchi Array 98.33 28 LR LR 09 04 18.3
comp=Z,24nm,18.8s,baz=180,slow=34
NNA Nana 99.47 243 LR LR 09 03 12.4
comp=Z,77nm,18.8s,baz=140,slow=33
TBI Tubuai 112.29 171 eLR LR 09 00 51.6
comp=Z,2μm,25.0s
TBI eLR LR 09 00 51.7
comp=Z,770nm,39.5s
PPT2 Papeete2 117.96 171 eLR LR 09 03 29.4
comp=Z,135nm,36.2s
PPT2 eLR LR 09 03 29.5
comp=Z,84nm,22.2s
TAOE Nuku Hiva Isla 127.16 181 eLR LR 09 07 40.8
comp=Z,128nm,23.6s
TXAR Lajitas Array 147.01 256 PKPbc **PKPbc** **08 28 15.1 -0.8**
comp=Z,4.6nm,1.1s,baz=126,slow=6.4,SNR=16
ULM Lac du Bonnet 149.25 297 PKPbc **PKPbc** **08 28 20.6 -0.4**
comp=Z,1.1nm,0.9s,baz=41,slow=4.8,SNR=2.4
PDAR Pinedale Array 157.31 277 PKPab **PKPab** **08 28 59.0 -1.2**
comp=Z,0.7nm,0.9s,baz=116,slow=3.4,SNR=4.5

WEL 20 08:27:07.2±0.3, 43.3°S±2.2×17.3°E±.5°, h5km, M3.3/37, ML3.6/18, MLv3.3/37, Error ellipse: s-maj=0.0km s-min=0.0km az=124.7, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.38**	**184**	P			Pg	08 27 15.1	+0.6
GVZ				S			Sb	08 27 21.3	-1.3
KHZ	**Kahutara**	**0.39**	**64**	P			Pg	08 27 15.0	+0.3
KHZ				S			Sg	08 27 20.8	+1.0
LTZ	**Lake Taylor**	**0.62**	**252**	P			Pg	08 27 19.5	+0.4
LTZ				S			Sg	08 27 28.0	+1.0
AMCZ	**Amberley**	**0.66**	**207**	P			Pb	08 27 20.7	-0.5
THZ	**Tophouse**	**0.84**	**352**	P			Pg	08 27 23.3	+0.1
OXZ	**Oxford**	**1.05**	**225**	P			Pg	08 27 26.4	-0.9
BSWZ	**Blackbirch Sta**	**1.06**	**35**	P			Pg	08 27 27.5	0.0
OKCZ	**Okains Bay**	**1.13**	**180**	P			Pg	08 27 27.6	-1.3
MQZ	**McQueen's Vall**	**1.16**	**195**	P			Pg	08 27 26.8	-2.5
CMWZ	**Cape Campbell**	**1.20**	**46**	P			Pn	08 27 31.1	+0.5
INZ	**Inchbonnie**	**1.21**	**263**	P			Pg	08 27 29.6	-0.7
MRNZ	**Matariki Terra**	**1.21**	**349**	P			Pg	08 27 29.8	-0.6
DSZ	**Denniston Nort**	**1.26**	**312**	P			Pg	08 27 31.4	0.0
AKCZ	**Akaroa Harbour**	**1.29**	**185**	P			Pn	08 27 29.1	-2.7
RACZ	**Rakaia**	**1.32**	**211**	P			Pn	08 27 30.0	-2.3
TUWZ	**Tuamarina**	**1.33**	**30**	P			Pn	08 27 31.9	-0.5
NNZ	**Nelson**	**1.39**	**10**	P			Pn	08 27 32.7	-0.5
MHCZ	**Mount Hutt**	**1.45**	**229**	P			Pn	08 27 31.9	-2.2
TKNZ	**Takaka Hill**	**1.56**	**357**	P			Pn	08 27 35.4	-0.1
WACZ	**Wakanui South**	**1.62**	**213**	P			Pn	08 27 34.1	-2.3
TCW	**Tory Channel**	**1.65**	**34**	P			Pn	08 27 35.7	-1.0
WVZ	**Waitaha Valley**	**1.78**	**253**	P			Pn	08 27 37.8	-0.8
QRZ	**Quartz Range**	**1.81**	**347**	P			Pn	08 27 39.2	+0.2
WEL	**Wellington**	**1.82**	**45**	P			Pn	08 27 37.8	-1.3
RPZ	**Rata Peaks**	**1.85**	**232**	P			Pn	08 27 37.6	-2.0
DUWZ	**D'Urville Isla**	**1.90**	**20**	P			Pn	08 27 40.6	+0.4
PLWZ	**Palliser**	**1.92**	**59**	P			Pn	08 27 38.2	-2.3
ARCZ	**Arundel**	**1.94**	**225**	P			Pn	08 27 38.6	-2.2
MSWZ	**Moikau Station**	**2.00**	**55**	P			Pn	08 27 39.5	-2.2
CAW	**Cannon Point**	**2.10**	**46**	P			Pn	08 27 41.3	-1.7
PAWZ	**Paruwai Farm**	**2.13**	**56**	P			Pn	08 27 41.0	-2.5
GCSZ	**Gaunt Creek Bo**	**2.14**	**249**	P			Pn	08 27 42.9	-0.6
KIW	**Kapiti Island**	**2.21**	**39**	P			Pn	08 27 43.6	-0.9
TRWZ	**Traveller**	**2.29**	**60**	P			Pn	08 27 42.7	-2.8
MTW	**Mount Morrison**	**2.31**	**53**	P			Pn	08 27 43.3	-2.6
TMZ	**Timaru**	**2.34**	**219**	P			Pn	08 27 44.1	-2.1
OGWZ	**Otaki Gorge**	**2.37**	**42**	P			Pn	08 27 45.0	-1.6
HOWZ	**Holdsworth Sta**	**2.49**	**48**	P			Pb	08 27 53.0	+0.6
FOZ	**Fox Glacier**	**2.56**	**247**	P			Pn	08 27 49.0	-0.3
TMWZ	**Te Maipa**	**2.58**	**56**	P			Pn	08 27 46.7	-2.8
MRZ	**Mangatainoka R**	**2.69**	**45**	P			Pn	08 27 48.9	-2.2
LBZ	**Lake Benmore**	**2.76**	**228**	P			Pn	08 27 50.2	-1.9
ODZ	**Otahua Downs**	**3.02**	**215**	P			Pn	08 27 52.9	-2.6
BFZ	**Birch Farm**	**3.05**	**52**	P			Pn	08 27 53.0	-3.0
WAZ	**Wanganui**	**3.18**	**28**	P			Pb	08 28 02.2	-1.9
NMEZ	**Namu Road**	**3.23**	**11**	P			Pb	08 28 01.9	-3.1
LREZ	**Lake Rotokare**	**3.29**	**18**	P			Pn	08 28 04.1	-1.8
KHEZ	**Kahui Hut**	**3.37**	**13**	P			Pn	08 28 03.9	+3.4
NBEZ	**Newall Road No**	**3.37**	**11**	P			Pn	08 28 02.9	+2.4
NEZ	**North Egmont**	**3.41**	**14**	P			Pn	08 28 03.7	+2.7
JCZ	**Jackson Bay**	**3.46**	**243**	P			Pn	08 28 00.2	-1.5
PKE	**Pukeiti**	**3.46**	**12**	P			Pb	08 28 05.8	-3.2
WKZ	**Wanaka**	**3.69**	**231**	P			Pn	08 28 02.6	-2.3
PKVZ	**Pokaka**	**3.72**	**28**	P			Pn	08 28 09.2	+3.8
MOVZ	**Moawhango**	**3.77**	**33**	P			Pn	08 28 08.4	+2.4
WNVZ	**Wahianoa**	**3.78**	**31**	P			Pn	08 28 06.3	+0.1
TRVZ	**Turoa**	**3.79**	**31**	P			Pn	08 28 06.3	-0.1
EAZ	**Earnscleugh**	**3.79**	**225**	P			Pn	08 28 03.7	-2.5
WHVZ	**Whangaehu Hut**	**3.82**	**31**	P			Pn	08 28 08.3	+1.6
FWVZ	**Far West T-bar**	**3.83**	**30**	P			Pn	08 28 10.8	+3.9
BHHZ	**Black Hill Sta**	**3.84**	**37**	P			Pb	08 28 12.4	-3.0
TUVZ	**Tukino**	**3.85**	**31**	P			Pn	08 28 07.0	-0.2
NGZ	**Ngauruhoe**	**3.92**	**30**	P			Pn	08 28 08.0	-0.1
NNVZ	**North Ngauruho**	**3.96**	**30**	P			Pn	08 28 08.8	+0.1
ETVZ	**East Tongariro**	**3.99**	**31**	P			Pn	08 28 11.6	+2.5
TMVZ	**Te Maari**	**4.01**	**31**	P			Pn	08 28 08.7	-0.6
HIZ	**Hauiti**	**4.29**	**19**	P			Pn	08 28 13.4	+0.3
MLZ	**Mavora Lakes**	**4.52**	**230**	P			Pn	08 28 14.4	-1.9
TLZ	**Tolley Road**	**4.65**	**25**	P			Pn	08 28 20.1	+2.0
TOZ	**Tahuroa Road**	**5.20**	**22**	P			Pn	08 28 25.5	-0.1
URZ	**Urewera**	**5.31**	**37**	P			Pn	08 28 30.3	+3.1
AWAZ	**Awhitu Peninsu**	**5.65**	**13**	P			Pn	08 28 33.7	+1.9
MKAZ	**Moumakai**	**5.71**	**17**	P			Pn	08 28 32.5	-0.1
ETAZ	**East Tamaki Re**	**5.81**	**15**	P			Pn	08 28 35.1	+1.1
MBAZ	**Motutapu North**	**5.98**	**14**	P			Pn	08 28 37.4	+1.0
WIAZ	**Waiheke Island**	**6.00**	**16**	P			Pn	08 28 38.4	+1.7

*OSPL **20** 08:41:48.5±0.7, 19.27N×67.15W, h17km±5km, ML2.7*
*RSPR **20** 08:41:49.3, 19.24N×67.30W, h8km±6km, MD3.3/10*
*NEIC **20** 08:41:49.0, 19.19N±0.09×67.25W±0.04, h19km±12km, Error ellipse: s-maj=13.4km s-min=5.9km az=188.0*

ISC 20 08:41:47.9±1.5, 19.19N±0.07×67.26W±0.04, h10km, n45, σ0.972/52, 11C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.73**	**169**	*eP*			**Pg**	**08 42 02.7**	**+0.6**
AGPR	**Aguadilla, PR**	**0.73**	**169**				**Pg**	**08 42 02.8**	**+0.6**
AGPR							**Sb**	**08 42 13.4**	**+0.5**
AGPR					IAML			08 42 15.2	
	comp=N,568nm,0.2s								
AGPR					IAML			08 42 15.7	
	comp=E,444nm,0.4s								
AGPR	**Aguadilla, PR**	**0.73**	**169**	*i* P			**Pg**	**08 42 02.7**	**+0.6**
AGPR				*eS*			**Sg**	**08 42 13.2**	**+1.5**
AGPR					IAML			08 42 13.8	
	comp=Z,241nm,0.1s								
IDE	**Isla Desecheo**	**0.83**	**194**	*eP*			**Pg**	**08 42 04.2**	**+0.4**
IDE	**Isla Desecheo**	**0.83**	**194**	*eS*			**Sb**	**08 42 16.5**	**+0.9**
AOPR	**Arecibo Observ**	**0.97**	**150**	*eP*			**Pg**	**08 42 06.4**	**-0.1**
AOPR	**Arecibo Observ**	**0.97**	**150**	*eS*			**Sg**	**08 42 20.0**	**+0.8**
AOPR	**Arecibo Observ**	**0.97**	**150**				**Pg**	**08 42 06.4**	**-0.1**
AOPR					IAML			08 42 23.2	
	comp=N,476nm,0.3s								
AOPR					IAML			08 42 25.3	
	comp=E,582nm,0.3s								
PRSN	**Puerto Rico Se**	**0.98**	**174**	*eP*			**Pg**	**08 42 06.3**	**-0.4**
PRSN	**Puerto Rico Se**	**0.98**	**174**	*eS*			**Sb**	**08 42 20.8**	**+1.0**
PRSN	**Puerto Rico Se**	**0.98**	**174**				**Pg**	**08 42 06.3**	**-0.4**
PRSN							**Sb**	**08 42 20.8**	**+1.0**
EMPR	**Esperanza - Ma**	**0.99**	**136**	Pg			**Pn**	**08 42 08.5**	**+0.7**
EMPR					IAML			08 42 26.7	
	comp=E,231nm,0.4s								
EMPR					IAML			08 42 31.2	
	comp=N,184nm,0.3s								
UUPR	**Utuado, UPR, P**	**1.06**	**151**	*eS*			**Sg**	**08 42 22.6**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.06**	**151**	Pg			**Pg**	**08 42 08.3**	**-0.1**
UUPR							**Pb**	**08 42 09.1**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.19**	**173**	*eP*			**Pb**	**08 42 09.6**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.19**	**173**				**Pb**	**08 42 09.7**	**-0.9**
CRPR					IAML			08 42 31.1	
	comp=N,181nm,0.5s								
CRPR	**Cabo Rojo, PR**	**1.19**	**173**	*i* P			**Pb**	**08 42 09.6**	**-0.9**
CRPR				*eS*			**Sb**	**08 42 25.4**	**-0.5**
CRPR					IAML			08 42 30.7	
	comp=Z,206nm,0.6s								
MLPR	**Magueyes Islan**	**1.23**	**171**	*eP*			**Pn**	**08 42 10.4**	**-0.8**
MLPR	**Magueyes Islan**	**1.23**	**171**	*eS*			**Sb**	**08 42 26.7**	**-0.6**
MLPR	**Magueyes Islan**	**1.23**	**171**				**Pn**	**08 42 10.4**	**-0.8**
MLPR					IAML			08 42 28.6	
	comp=E,102nm,0.7s								
PCDR	**Punta Cana, DR**	**1.26**	**238**	Pn			**Pn**	**08 42 10.8**	**-0.7**
PCDR					IAML			08 42 31.4	
	comp=N,242nm,0.5s								
PCDR					IAML			08 42 47.0	
	comp=E,116nm,1.8s								
PCDR	**Punta Cana, DR**	**1.26**	**238**	*i* P			**Pn**	**08 42 11.0**	**-0.6**
PCDR				*eS*			**Sb**	**08 42 28.5**	**+0.5**
PCDR					IAML			08 42 29.5	
	comp=Z,106nm,0.7s								
CELP	**Cerrillos**	**1.28**	**150**	*eP*			**Pn**	**08 42 11.4**	**-0.5**
CELP	**Cerrillos**	**1.28**	**150**	*eS*			**Sb**	**08 42 28.8**	**0.0**
CELP	**Cerrillos**	**1.28**	**150**				**Pn**	**08 42 11.5**	**-0.4**
CELP					IAML			08 42 29.2	
	comp=N,241nm,0.3s								
CELP					IAML			08 42 30.3	
	comp=E,236nm,0.3s								
GCPR	**Guaynabo City**	**1.42**	**128**				**Pn**	**08 42 13.5**	**-0.2**
SJG	**San Juan**	**1.50**	**136**				**Pn**	**08 42 15.0**	**+0.1**
SJG					IAML			08 42 37.0	
	comp=E,70nm,0.3s								
SJG					IAML			08 42 37.5	
	comp=E,80nm,0.3s								
CBYP	**Canovanas**	**1.61**	**124**	*eP*			**Pn**	**08 42 16.1**	**-0.3**
CBYP	**Canovanas**	**1.61**	**124**				**Pn**	**08 42 16.1**	**-0.3**
IGPR	**InterUniversit**	**1.64**	**138**	*eP*			**Pn**	**08 42 16.8**	**0.0**
IGPR	**InterUniversit**	**1.64**	**138**	*eS*			**Sn**	**08 42 36.9**	**-1.0**
IGPR	**InterUniversit**	**1.64**	**138**				**Pn**	**08 42 16.8**	**0.0**
IGPR							**Sn**	**08 42 36.9**	**-1.0**
HUMP	**Col San Antoni**	**1.69**	**128**	*eP*			**Pn**	**08 42 17.6**	**+0.1**
HUMP	**Col San Antoni**	**1.69**	**128**				**Pn**	**08 42 17.6**	**+0.1**
HUMP					IAML			08 42 43.2	
	comp=E,63nm,0.2s								
HUMP					IAML			08 42 48.9	
	comp=N,86nm,0.2s								
MTP	**Monte Pirata**	**1.95**	**124**	Pn			**Pn**	**08 42 20.5**	**-0.5**
CUPR	**Culebra, Puert**	**2.07**	**115**	*iP*			**Pn**	**08 42 22.0**	**-0.7**
CUPR	**Culebra, Puert**	**2.07**	**115**				**Pn**	**08 42 22.0**	**-0.7**
STVI	**Saint Thomas**	**2.34**	**111**	*eP*			**Pn**	**08 42 26.3**	**0.0**
STVI	**Saint Thomas**	**2.34**	**111**				**Pn**	**08 42 26.2**	**-0.2**
STVI					IAML			08 43 17.0	
	comp=N,25nm,1.3s								
STVI					IAML			08 43 30.1	
	comp=E,26nm,3.6s								
SJVI	**Gifft Hill Sch**	**2.51**	**110**	*eP*			**Pn**	**08 42 28.5**	**-0.2**
SJVI	**Gifft Hill Sch**	**2.51**	**110**	*eS*			**Sn**	**08 42 58.5**	**-0.9**
SJVI	**Gifft Hill Sch**	**2.51**	**110**				**Pn**	**08 42 28.2**	**-0.5**
SDD	**Santo Domingo**	**2.62**	**254**	Pn			**Pn**	**08 42 30.6**	**+0.4**
SDD					IAML			08 43 15.4	
	comp=E,77nm,1.7s								
SDD					IAML			08 43 15.8	
	comp=N,80nm,2.8s								
CDVI	**St. Croix**	**2.77**	**121**	Pn			**Pn**	**08 42 34.7**	**+2.5**
CDVI					IAML			08 43 18.7	
	comp=E,63nm,0.6s								
CDVI					IAML			08 43 20.7	
	comp=N,66nm,1.2s								
SDDR	**Presa de Saban**	**3.82**	**268**	Pn			**Pn**	**08 42 47.2**	**+0.4**

IDC 20 08:44:03.0±3.2, 44.01S×39.30E, h0km, mb4.0/3, mbtmp4.0/3, MS3.3/6, Error ellipse: s-maj=321.7km s-min=51.9km az=10.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.55**	**303**	LR			LR	08 53 43.5	
	comp=Z,64nm,20.7s,baz=110,slow=31								
BOSA	**Boshof**	**19.04**	**319**	LR			LR	08 54 39.1	
	comp=Z,85nm,18.4s,baz=186,slow=33								
LBTB	**Lobatse**	**22.00**	**325**	LR			LR	08 55 59.2	
	comp=Z,65nm,21.3s,baz=158,slow=33								
MAW	**Mawson**	**26.76**	**160**	LR			LR	08 57 43.3	
	comp=Z,63nm,18.8s,baz=300,slow=31								
LSZ	**Lusaka**	**30.16**	**338**	LR			LR	09 00 32.5	
	comp=Z,63nm,19.8s,baz=154,slow=33								
TSUM	**Tsumeb**	**30.70**	**317**	LR			LR	09 01 41.4	
	comp=Z,49nm,19.1s,baz=322,slow=34								
STKA	**Stephens Creek**	**76.52**	**121**	P			P	08 55 55.1	+0.1
	1.0nm,0.6s,baz=198,slow=6.4,SNR=4.0								
	1.0nm,0.6s								
ASAR	**Alice Springs**	**77.10**	**110**	P			P	08 55 59.0	+0.5
	1.1nm,0.9s,baz=219,slow=6.1,SNR=9.0								
	1.1nm,0.9s								
WRA	**Warramunga Arr**	**79.92**	**108**	P			P	08 56 13.5	-0.5
	1.3nm,1.1s,baz=222,slow=4.0,SNR=6.1								
	1.3nm,1.1s								
TXAR	**Lajitas Array**	**147.18**	**256**	PKPbc			PKPbc	09 03 47.5	-0.8
	0.7nm,1.0s,baz=134,slow=5.4,SNR=4.6								

*IDC **20** 08:58:22.4±2.5, 10.93S×161.10E, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/1, Error ellipse: s-maj=56.7km s-min=24.2km az=90.0*

ISC 20 08:58:25.7±2.0, 10.9S±0.1×161.0E±0.3, h18km, n6, σ1.9/3.7, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.80**	**325**	Pn			**Pn**	**08 58 56.8**	**+1.0**
	645nm,0.3s,baz=156,slow=8.6,SNR=8.2								
HNR							Sn	**08 59 19.7**	**-0.6**
	800nm,0.3s,baz=94,slow=23,SNR=7.0								
WRA	**Warramunga Arr**	**27.18**	**247**	P			**P**	**09 04 08.6**	**0.0**
	1.4nm,0.8s,baz=74,slow=10,SNR=7.0								
	1.4nm,0.8s								
STKA	**Stephens Creek**	**27.50**	**218**	P			**P**	**09 04 11.8**	**+0.6**
	1.5nm,0.8s,baz=26,slow=11,SNR=4.7								
STKA				LR			LR	09 14 16.3	
	comp=Z,61nm,18.0s,baz=26,slow=35								
	1.5nm,0.8s								
ASAR	**Alice Springs**	**28.74**	**240**	P			**P**	**09 04 22.1**	**-0.4**
	0.4nm,0.8s,baz=68,slow=10,SNR=4.1								
	0.4nm,0.8s								
SONM	**Songino Array**	**75.86**	**326**	P			**P**	**09 10 11.8**	**+0.7**
	0.7nm,0.7s,baz=126,slow=6.0,SNR=5.7								
	0.7nm,0.7s								
MKAR	**Makanchi Array**	**90.26**	**318**	P			**P**	**09 11 24.1**	**-1.4**
	0.3nm,0.5s,baz=108,slow=4.0,SNR=5.8								
	0.3nm,0.5s								

*NOU **20** 09:00:13.7, 41.84S×174.52E, h5km, MLv3.8/9, Cook Strait, New Zealand*
*WEL **20** 09:00:14.5±0.3, 42.3°S±3.7°×17.4E±.7°, h9km±3km, M3.1/28, ML3.3/22, MLv3.1/28, Error ellipse: s-maj=0.0km s-min=0.0km az=143.0*

ISC 20 09:00:14.2±1.0, 41.75S±0.03×174.32E±0.03, h17km±8km, n73, σ1.9/31/76, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**273**	P			**Pg**	**09 00 17.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.33**	**276**	P			**Pg**	**09 00 21.0**	**-0.2**

WHVZ	Whangaehu Hut	2.65	22	P	Pb	09 01 01.6	+0.2
FWVZ	Far West T-bar	2.67	21	P	Pb	09 01 02.3	+0.7
TUVZ	Tukino	2.68	23	P	Pb	09 01 03.2	+1.3
NGZ	Ngauruhoe	2.75	21	P	Pb	09 01 04.5	+1.4
NNVZ	North Ngauruho	2.80	21	P	Pb	09 01 04.6	+0.7
WTVZ	West Tongariro	2.81	21	P	Pb	09 01 04.5	+0.6
ETVZ	East Tongariro	2.82	23	P	Pb	09 01 05.3	+1.1
TMVZ	Te Maari	2.84	22	P	Pb	09 01 04.6	+0.1
KRVZ	Karewarewa	2.84	21	P	Pb	09 01 05.4	+0.9
NTVZ	North Tongarir	2.85	22	P	Pb	09 01 05.7	+1.1
WACZ	Wakanui South	2.85	219	P	Pn	09 00 58.3	-0.6
WVZ	Waitaha Valley	2.96	242	P	Pb	09 01 05.5	-1.0
RPZ	Rata Peaks	3.10	230	P	Pn	09 01 03.9	+1.5
HIZ	Hauiti	3.26	7	P	Pn	09 01 08.1	+3.5
HIZ	Hauiti	3.26	7	P	Pn	09 01 08.0	+3.4
GCSZ	Gaunt Creek Bo	3.34	241	P	Pb	09 01 11.0	-1.9
HLRZ	Highlands Stat	3.83	25	P	Pn	09 01 15.6	+3.2
KMRZ	Kaimai	4.10	18	P	Pn	09 01 14.7	-1.4
ODZ	Otahua Downs	4.24	218	P	Pn	09 01 17.7	-0.3
TKGZ	Te Karaka	4.28	40	P	Pn	09 01 20.2	+1.7
JCZ	Jackson Bay	4.68	238	P	Pn	09 01 27.9	+3.8
JCZ	Jackson Bay	4.68	238	P	Pn	09 01 27.4	+3.3

WEL 20 09:03:13.8±0.4, 42°S±2°×17°4E±°, h5km, M3.3/25, ML3.5/12, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=108.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.11**	**246**	P	Pg	09 03 15.9	-0.1
KHZ				S	Sg	09 03 18.7	+1.1
BSWZ	**Blackbirch Sta**	**0.67**	**13**	P	Pg	09 03 25.9	-0.8
GVZ	**Greta Valley S**	**0.76**	**218**	P	Pb	09 03 29.5	-0.1
GVZ				S	Sn	09 03 42.1	-1.0
THZ	**Tophouse**	**0.84**	**316**	P	Pg	09 03 29.6	-0.3
THZ				S	Sg	09 03 41.5	+0.8
TUWZ	**Tuamarina**	**0.96**	**12**	P	Pg	09 03 32.4	+0.1
AMCZ	**Amberley**	**1.10**	**223**	P	Pg	09 03 34.4	-0.5
LTZ	**Lake Taylor**	**1.12**	**248**	P	Pg	09 03 35.0	-0.2
NNZ	**Nelson**	**1.17**	**349**	P	Pg	09 03 35.8	-0.5
MRNZ	**Matariki Terra**	**1.19**	**324**	P	Pb	09 03 36.7	-0.1
TCW	**Tory Channel**	**1.24**	**21**	P	Pg	09 03 35.8	-1.8
OKCZ	**Okains Bay**	**1.43**	**198**	P	Pn	09 03 38.1	-2.3
TKNZ	**Takaka Hill**	**1.44**	**338**	P	Pn	09 03 40.1	-0.4
DSZ	**Denniston Nort**	**1.53**	**294**	P	Pn	09 03 41.8	0.0
MQZ	**McQueen's Vall**	**1.53**	**209**	P	Pn	09 03 39.0	-2.8
OXZ	**Oxford**	**1.54**	**231**	P	Pn	09 03 39.7	-2.2
DUWZ	**D'Urville Isla**	**1.58**	**7**	P	Pn	09 03 41.8	-0.6
AKCZ	**Akaroa Harbour**	**1.60**	**200**	P	Pn	09 03 40.1	-2.7
INZ	**Inchbonnie**	**1.69**	**257**	P	Pn	09 03 43.1	-0.8
RACZ	**Rakaia**	**1.76**	**219**	P	Pn	09 03 42.6	-2.3
QRZ	**Quartz Range**	**1.77**	**331**	P	Pn	09 03 45.6	+0.6
MHCZ	**Mount Hutt**	**1.93**	**232**	P	Pn	09 03 45.2	-2.2
WACZ	**Wakanui South**	**2.07**	**220**	P	Pn	09 03 47.0	-2.1
WVZ	**Waitaha Valley**	**2.28**	**251**	P	Pn	09 03 51.3	-0.7
RPZ	**Rata Peaks**	**2.34**	**234**	P	Pn	09 03 50.8	-2.2
ARCZ	**Arundel**	**2.41**	**228**	P	Pn	09 03 51.6	-2.3
GCSZ	**Gaunt Creek Bo**	**2.64**	**248**	P	Pn	09 03 56.4	-0.6
TMZ	**Timaru**	**2.80**	**223**	P	Pn	09 03 57.2	-2.1
FOZ	**Fox Glacier**	**3.06**	**246**	P	Pn	09 04 02.1	-0.7
LBZ	**Lake Benmore**	**3.25**	**230**	P	Pn	09 04 03.3	-2.1
ODZ	**Otahua Downs**	**3.46**	**218**	P	Pn	09 04 05.8	-2.5
JCZ	**Jackson Bay**	**3.96**	**243**	P	Pn	09 04 14.0	-1.2
EAZ	**Earnscleugh**	**4.26**	**226**	P	Pn	09 04 16.8	-2.5

*IDC **20** 09:07:59.6±0.5, 44°.28S×39°.05E, h0km, mb4.6/21, mbtmp4.7/23, ML4.3/2, MS4.8/13, Error ellipse: s-maj=17.5km s-min=12.1km az=63.0*

*GCMT **20** 09:08:01.9±0.1, 44°.13S±0°.01×39°.16E±0°.02, h12km, MW5.3/115, Moment Tensor Solution. s71,c104; s115,c214; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.89±.02; $M_{\theta\theta}$=1.12±.01; $M_{\phi\phi}$=-0.24±.02; $M_{r\theta}$=0.08±.04; $M_{\theta\phi}$=-0.07±.01; $M_{\phi r}$=0.18±.06; Best double couple: $M_0$1.03100×10^{17} NP1:ϕ_s259.00000°, δ49.00000°, λ-110.00000°. NP2:ϕ_s107.00000°, δ45.00000°, λ-69.00000°. Principal axes: T 1.1260, Plg2.0000°, Azm3.0000°; N -0.1950, Plg15.0000°, Azm272.0000°; P -0.9360, Plg75.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 09:08:02.9±2.1, 44°.40S±0°.09×39°.2E±0°.1, h12km±1km, mb5.2/61 Error ellipse: s-maj=15.5km s-min=13.1km az=99.0*

ISC 20 09:08:02.0±0.3, 44°31S±0°.06×39°03E±0°.07, h10km, n266, σ1§15/263, mb5.1/64, MS4.9/19, 9C-3D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSN	**Rosenhof**	**15.14**	**307**	*eP*	**P**	**09 11 42.1**	**+1.1**
ROSN				IAmb	IAmb	09 11 44.7	
	comp=Z,287nm,1.4s						
SOE	**Somerset East**	**15.63**	**313**	Pn	**Pn**	**09 11 38.1**	**-4.4**
SOE	**Somerset East**	**15.63**	**313**	*eP*	**Pn**	**09 11 43.9**	**+1.4**
SOE				IAmb	IAmb	09 11 49.4	
	comp=Z,340nm,1.4s						
ROOI	**Rooidraai Farm**	**16.89**	**309**	*eP*	**Pn**	**09 11 58.2**	**-0.2**
ROOI				IAmb	IAmb	09 12 08.3	
	comp=Z,182nm,1.3s						
BFON	**Badsfontein, M**	**17.34**	**311**	*eP*	**Pn**	**09 12 03.2**	**-1.1**
BFON				IAmb	IAmb	09 12 09.2	
	comp=Z,237nm,1.6s						
HVD	**Gariep Dam**	**17.36**	**317**	*eP*	**Pn**	**09 12 03.3**	**-1.2**
HVD				IAmb	IAmb	09 12 08.2	
	comp=Z,450nm,1.8s						
BRAK	**Brakfontein**	**17.79**	**309**	*eP*	**Pn**	**09 12 10.3**	**+0.6**
BRAK				IAmb	IAmb	09 12 15.4	
	comp=Z,205nm,1.4s						
GRAN	**Grantham**	**17.81**	**307**	*eP*	**Pn**	**09 12 09.9**	**-0.1**
GRAN				IAmb	IAmb	09 12 19.8	
	comp=Z,49nm,1.1s						
POGA	**Pongola**	**17.92**	**338**		**Pn**	**09 12 10.2**	**-1.2**
POGA	**Pongola**	**17.92**	**338**	*eP*	**P**	**09 12 12.1**	**+0.2**
POGA				IAmb	IAmb	09 12 14.3	
	comp=Z,34nm,0.9s						
MERW	**Merweville**	**17.93**	**304**	*eP*	**Pn**	**09 12 09.4**	**-2.0**
MERW				IAmb	IAmb	09 12 15.0	
	comp=Z,75nm,1.0s						
MATJ	**Matjiesfontein**	**18.08**	**301**	*eP*	**Pn**	**09 12 12.3**	**-1.1**
MATJ				IAmb	IAmb	09 12 15.4	
	comp=Z,138nm,1.2s						
NWCL	**Newcastle**	**18.09**	**333**	*eP*	**P**	**09 12 14.4**	**+0.4**
NWCL				IAmb	IAmb	09 12 15.9	
	comp=Z,118nm,1.5s						
SNKL	**Senekal, Frees**	**18.37**	**327**	*eP*	**P**	**09 12 18.3**	**+1.3**
SNKL				IAmb	IAmb	09 12 19.8	
	comp=Z,91nm,1.2s						
FRAZ	**Fraserburg**	**18.53**	**306**	*eP*	**P**	**09 12 18.4**	**-0.3**
FRAZ				IAmb	IAmb	09 12 21.9	
	comp=Z,236nm,1.2s						
SUR	**Sutherland**	**18.56**	**304**	P	**P**	**09 12 17.5**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=123,slow=11,SNR=18						
SUR				LR	LR	09 18 10.5	
	comp=Z,2μm,18.8s,baz=128,slow=33						
	comp=Z,96nm,1.1s						
SUR	**Sutherland**	**18.56**	**304**		**P**	**09 12 18.7**	**-0.4**
SUR				IAmb	IAmb	09 12 23.6	
	comp=Z,208nm,1.4s						
SUR	**Sutherland**	**18.56**	**304**	P	**Pn**	**09 12 20.0**	**+0.8**
CER	**Ceres**	**18.82**	**299**	*eP*	**Pn**	**09 12 23.6**	**+1.4**
CER				IAmb	IAmb	09 12 24.9	
	comp=Z,25nm,0.8s						
BOSA	**Boshof**	**19.14**	**320**	P	**P**	**09 12 23.8**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=152,slow=12,SNR=16						
BOSA				LR	LR	09 18 23.9	
	comp=Z,4μm,19.7s,baz=149,slow=33						
	comp=Z,42nm,1.1s						
BOSA	**Boshof**	**19.14**	**320**		**P**	**09 12 24.9**	**-0.5**
BOSA	**Boshof**	**19.14**	**320**	*eP*	**P**	**09 12 25.9**	**+0.4**
BOSA				IAmb	IAmb	09 12 28.9	
	comp=Z,125nm,1.4s						
BOSA	**Boshof**	**19.14**	**320**	*i* P	**P**	**09 12 25.6**	**+0.1**
BOSA	**Boshof**	**19.14**	**320**	*i* P	**P**	**09 12 25.6**	**+0.1**
MMAL	**MMAL**	**19.29**	**338**	*eP*	**Pn**	**09 12 27.8**	**-0.2**
MMAL				IAmb	IAmb	09 12 34.3	
	comp=Z,718nm,2.6s						
PKA	**Prieska**	**19.50**	**313**	*eP*	**Pn**	**09 12 30.2**	**-0.4**
PKA				IAmb	IAmb	09 12 37.0	
	comp=Z,38nm,1.1s						
CRLN	**Carolina, Mapu**	**19.68**	**335**	*eP*	**P**	**09 12 31.2**	**-0.2**
CRLN				IAmb	IAmb	09 12 38.0	
	comp=Z,23nm,1.0s						
PRYS	**Parys**	**19.73**	**328**	*eP*	**P**	**09 12 31.5**	**-0.4**
PRYS				IAmb	IAmb	09 12 36.3	
	comp=Z,329nm,1.7s						
CVNA	**Calvinia**	**19.82**	**304**	*eP*	**Pn**	**09 12 34.2**	**-0.2**
CVNA				IAmb	IAmb	09 12 35.6	
	comp=Z,326nm,1.6s						
WDLM	**Western Deep L**	**20.16**	**328**	*eP*	**P**	**09 12 37.2**	**+0.6**
WDLM				IAmb	IAmb	09 12 42.2	
	comp=Z,860nm,2.3s						
SWZ	**Schweizer**	**20.34**	**323**	*eP*	**P**	**09 12 37.8**	**-0.7**
SWZ				IAmb	IAmb	09 12 40.4	
	comp=Z,122nm,1.3s						
SLR	**Silverton**	**20.48**	**331**	*eP*	**P**	**09 12 39.7**	**-0.4**
SLR				IAmb	IAmb	09 12 41.6	
	comp=Z,192nm,1.1s						
HRAO	**HartRAO**	**20.55**	**330**	*eP*	**P**	**09 12 40.2**	**-0.6**
HRAO				IAmb	IAmb	09 12 43.0	
	comp=Z,271nm,1.6s						
KSR	**Koster**	**20.88**	**328**	*eP*	**P**	**09 12 44.1**	**-0.4**
KSR				IAmb	IAmb	09 12 46.0	
	comp=Z,51nm,1.1s						
KEIM	**Keimoes**	**21.22**	**311**	*eP*	**P**	**09 12 49.4**	**+1.4**
KEIM				IAmb	IAmb	09 12 54.8	
	comp=Z,327nm,1.6s						
AUGR	**Augrabies**	**21.65**	**310**	*eP*	**P**	**09 12 52.4**	**-0.1**
AUGR				IAmb	IAmb	09 13 03.4	
	comp=Z,159nm,1.3s						
MOPA	**Mopani**	**21.66**	**341**	*eP*	**P**	**09 12 52.8**	**+0.1**
MOPA				IAmb	IAmb	09 12 54.0	
	comp=Z,191nm,1.5s						
LBTB	**Lobatse**	**22.14**	**326**	P	**P**	**09 12 55.9**	**-2.0**
	comp=Z,21nm,0.8s,baz=158,slow=10,SNR=20						
LBTB				LR	LR	09 20 05.3	
	comp=Z,3μm,20.6s,baz=148,slow=33						
	comp=Z,21nm,0.8s						
LBTB	**Lobatse**	**22.14**	**326**	P	**P**	**09 12 57.0**	**-1.0**
LBTB				IAmb	IAmb	09 12 60.0	
	comp=Z,249nm,1.8s						
LBTB	**Lobatse**	**22.14**	**326**	*eP*	**P**	**09 12 57.3**	**-0.6**
LBTB				IAmb	IAmb	09 12 58.9	
	comp=Z,81nm,1.1s						
LEPH	**Lephalale, Lim**	**22.38**	**332**	*eP*	**P**	**09 13 00.2**	**-0.2**
LEPH				IAmb	IAmb	09 13 05.4	
	comp=Z,218nm,1.4s						
KOMG	**Komaggas**	**22.39**	**303**	*eP*	**P**	**09 13 01.6**	**+1.2**
MUSN	**Musina, Limpop**	**23.23**	**338**	*eP*	**P**	**09 13 09.0**	**-0.3**
MUSN				IAmb	IAmb	09 13 10.5	
	comp=Z,429nm,2.1s						
VOI	**Vohitsoka**	**23.25**	**19**	P	**P**	**09 13 08.7**	**-0.9**
VOI				IAmb	IAmb	09 13 14.9	
	comp=Z,86nm,1.4s						
VOI	**Vohitsoka**	**23.25**	**19**	*eP*	**P**	**09 13 09.1**	**-0.4**
VOI	**Vohitsoka**	**23.25**	**19**	P	**P**	**09 13 09.1**	**-0.4**
	SNR=6.1						
ABPO	**Ambohimpanom**	**26.14**	**18**	P	**P**	**09 13 36.6**	**+0.1**
MAW	**Mawson**	**26.54**	**160**	P	**P**	**09 13 39.0**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=0.0,slow=6.1,SNR=2.4						
MAW				LR	LR	09 21 30.3	
	comp=Z,2μm,21.9s,baz=325,slow=30						
	comp=Z,6.0nm,0.9s						
LSZ	**Lusaka**	**30.37**	**339**	P	**P**	**09 14 12.8**	**-1.4**
	comp=Z,7.7nm,0.8s,baz=164,slow=8.5,SNR=17						
LSZ				LR	LR	09 25 11.7	
	comp=Z,2μm,19.3s,baz=171,slow=34						
	comp=Z,7.7nm,0.8s						
LSZ	**Lusaka**	**30.37**	**339**	P	**P**	**09 14 12.8**	**-1.4**
LSZ				IAmb	IAmb	09 14 19.6	
	comp=Z,21nm,1.0s						
LSZ	**Lusaka**	**30.37**	**339**	*eP*	**P**	**09 14 14.5**	**+0.3**
LSZ				IAmb	IAmb	09 14 19.3	
	comp=Z,186nm,1.0s						
TSUM	**Tsumeb**	**30.79**	**318**	LR	LR	09 25 45.7	
	comp=Z,3μm,18.3s,baz=150,slow=35						
TSUM	**Tsumeb**	**30.79**	**318**	P	**P**	**09 14 19.0**	**+1.1**
TSUM				IAmb	IAmb	09 14 20.4	
	comp=Z,42nm,1.2s						
TSUM	**Tsumeb**	**30.79**	**318**	*eP*	**P**	**09 14 16.9**	**-1.1**
TROLL	**Troll, Antarti**	**32.76**	**200**	P	**P**	**09 14 35.6**	**+0.8**
SNAA	**Sanae**	**33.95**	**202**	P	**P**	**09 14 46.1**	**+1.0**
SNAA	**Sanae**	**33.95**	**202**	P	**P**	**09 14 45.3**	**+0.2**
	comp=Z,10nm,0.9s,baz=64,slow=8.0,SNR=27						
SNAA				LR	LR	09 26 54.5	
	comp=Z,2μm,18.1s,baz=52,slow=33						
	comp=Z,10nm,0.9s						
SNAA	**Sanae**	**33.95**	**202**	P	**P**	**09 14 45.9**	**+0.8**
SNAA				IAmb	IAmb	09 14 53.9	
	comp=Z,65nm,1.6s						
SNAA	**Sanae**	**33.95**	**202**	*eP*	**P**	**09 14 45.5**	**+0.4**
VNA2	**Neumayer--Watz**	**34.90**	**205**	P	**P**	**09 14 54.3**	**+1.1**
	baz=60,slow=9.5						
VNA1	**Neumayer--Stat**	**35.05**	**205**	P	**P**	**09 14 56.1**	**+1.6**
VNA3	**Neumayer Olymp**	**35.71**	**205**	P	**P**	**09 15 01.1**	**+0.9**
KIBK	**Kibwezi**	**41.80**	**359**	P	**P**	**09 15 53.4**	**+1.5**
KIBK	**Kibwezi**	**41.80**	**359**	P	**P**	**09 15 54.2**	**+2.3**
	SNR=5.1						
KMBO	**Kilima Mbogo**	**43.03**	**357**	P	**P**	**09 16 01.4**	**-0.6**
	comp=Z,4.1nm,1.0s,baz=178,slow=11,SNR=12						
	comp=Z,4.1nm,1.0s						
KMBO	**Kilima Mbogo**	**43.03**	**357**	P	**P**	**09 16 03.9**	**+1.8**
KMBO	**Kilima Mbogo**	**43.03**	**357**	P	**P**	**09 16 04.1**	**+2.1**
MBAR	**Mbarara**	**44.14**	**348**	LR	LR	09 34 02.6	
	comp=Z,2μm,18.2s,baz=167,slow=35						
MBAR	**Mbarara**	**44.14**	**348**	P	**P**	**09 16 12.8**	**+1.8**
QSPA	**South Pole Qui**	**45.90**	**180**	P	**P**	**09 16 23.9**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=257,slow=1.4,SNR=18						
	comp=Z,2.3nm,0.6s						
QSPA	**South Pole Qui**	**45.90**	**180**	P	**P**	**09 16 23.9**	**-0.5**
QSPA				IAmb	IAmb	09 16 26.9	
	comp=Z,74nm,1.8s						
LODK	**Lodwar**	**47.63**	**355**	P	**P**	**09 16 38.9**	**+0.6**
LODK				IAmb	IAmb	09 16 43.2	
	comp=Z,50nm,1.9s						
LODK	**Lodwar**	**47.63**	**355**	P	**P**	**09 16 40.0**	**+1.7**
	SNR=9.9						
VNDA	**Vanda**	**53.50**	**167**	P	**P**	**09 17 21.0**	**-1.0**
	comp=Z,5.8nm,1.2s,baz=239,slow=9.1,SNR=12						
	comp=Z,5.8nm,1.2s						
VNDA	**Vanda**	**53.50**	**167**	P	**P**	**09 17 21.6**	**-0.3**
SMAI	**San Martin Ant**	**55.20**	**206**	P	**P**	**09 17 35.4**	**+1.0**
SMAI				IAmb	IAmb	09 17 43.8	
	comp=Z,70nm,1.7s						
ATD	**Arta Tunnel**	**55.68**	**5**	P	**P**	**09 17 39.7**	**+1.2**
PMSA	**Palmer Station**	**55.99**	**210**	LR	LR	09 36 09.4	
	comp=Z,1μm,21.9s,baz=126,slow=30						
H10S2	**ASCENSION HYDR**	**58.14**	**290**	T	T	10 20 35.7	
	baz=134,slow=74,SNR=75						
H10S3	**ASCENSION HYDR**	**58.16**	**290**	T	T	10 20 52.7	
	baz=86,slow=74,SNR=140						
NWAO	**Narrogin (SRO)**	**60.00**	**108**	P	**P**	**09 18 07.9**	**-0.8**
ABTO	**Aybut**	**62.73**	**15**	P	**P**	**09 18 29.0**	**+1.8**
DMTO	**DMTO**	**63.41**	**17**	P	**P**	**09 18 33.4**	**+1.7**
PALK	**Pallekele**	**63.61**	**47**	P	**P**	**09 18 34.1**	**+0.9**
USHA	**Ushuaia**	**63.70**	**218**	LR	LR	09 39 12.2	
	comp=Z,2μm,21.7s,baz=159,slow=29						
KIC	**Kosan Boka**	**63.98**	**310**	⇑*i*P	**P**	**09 18 34.7**	**-0.9**
	comp=Z,3.1nm,0.5s						
LIC	**Lamto**	**64.03**	**310**	⇑*i*P	**P**	**09 18 35.2**	**-0.7**
	comp=Z,7.6nm,0.3s						
DOK	**Doka**	**64.12**	**16**	P	**P**	**09 18 37.1**	**+0.8**
	SNR=6.0						
PCHI	**Peechi**	**64.21**	**41**	*eP*	**P**	**09 18 37.1**	**+0.1**
PCHI				eS	**S**	**09 27 06.5**	**-8.0**
DBIC	**Dimbokro**	**64.30**	**310**	P	**P**	**09 18 36.7**	**-1.0**
	comp=Z,13nm,1.0s,baz=144,slow=8.0,SNR=9.3						
	comp=Z,13nm,1.0s						
TIC	**Toumodi**	**64.37**	**310**	⇑*i*P	**P**	**09 18 37.4**	**-0.8**
	comp=Z,5.5nm,0.3s						
DQM	**DQM**	**66.13**	**19**	P	**P**	**09 18 51.3**	**+1.9**
TORD	**Torodi Ar. Bea**	**66.50**	**320**	P	**P**	**09 18 49.3**	**-2.6**
	comp=Z,8.5nm,0.9s,baz=26,slow=14,SNR=0.2						
	comp=Z,8.5nm,0.9s						
MHTO	**MHTO**	**67.25**	**19**	P	**P**	**09 18 58.7**	**+2.2**
	SNR=12						
BSY	**Bisya**	**68.77**	**18**	P	**P**	**09 19 07.8**	**+1.8**
	SNR=5.5						
MBWA	**Marble Bar**	**69.02**	**99**	P	**P**	**09 19 07.2**	**-0.6**
POO	**Poona**	**70.16**	**35**	*eP*	P	09 19 07.0	-7.8
HATD	**Hatta, Dubai**	**70.56**	**16**	P	**P**	**09 19 18.2**	**+1.2**
	SNR=5.3						
HYBB	**Hyderabad (bro**	**71.24**	**40**	*eP*	**P**	**09 19 21.3**	**-0.1**
BANOM	**Banah**	**71.66**	**16**	P	**P**	**09 19 26.0**	**+2.3**
COYC	**Coyhaique**	**71.71**	**224**	P	**P**	**09 19 24.8**	**+0.9**
COYC				IAmb	IAmb	09 19 25.1	
	comp=Z,32nm,1.4s						
BBOO	**Buckleboo**	**72.46**	**119**	P	**P**	**09 19 28.6**	**-0.1**
TAM	**Tamanrasset**	**73.48**	**328**	P	**P**	**09 19 35.5**	**+0.7**
PLCA	**Paso Flores**	**74.36**	**228**	P	**P**	**09 19 38.5**	**-1.4**
	comp=Z,5.3nm,1.0s,baz=132,slow=6.3,SNR=7.5						
	comp=Z,5.3nm,1.0s						
PLCA	**Paso Flores**	**74.36**	**228**	P	**P**	**09 19 39.8**	**0.0**
PLCA				IAmb	IAmb	09 19 40.9	
	comp=Z,20nm,1.3s						
TOO	**Toolangi**	**74.87**	**128**	P	**P**	**09 19 43.6**	**+0.8**
TOO				IAmb	IAmb	09 19 46.5	
	comp=Z,46nm,1.5s						
RCBR	**Riachuelo**	**75.17**	**276**	P	**P**	**09 19 44.1**	**-0.8**
	comp=Z,9.3nm,0.8s,baz=292,slow=5.2,SNR=4.9						
	comp=Z,9.3nm,0.8s						
GO06	**Curarrehue**	**75.67**	**228**	P	**P**	**09 19 46.8**	**-0.7**
GO06				IAmb	IAmb	09 19 49.5	
	comp=Z,25nm,1.5s						
CPUP	**Villa Florida**	**76.37**	**247**	P	**P**	**09 19 51.1**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=138,slow=5.8,SNR=13						
	comp=Z,4.9nm,0.8s						
CPUP	**Villa Florida**	**76.37**	**247**	P	**P**	**09 19 51.6**	**+0.1**
STKA	**Stephens Creek**	**76.53**	**121**	P	**P**	**09 19 51.5**	**-0.9**
	comp=Z,13nm,0.8s,baz=229,slow=4.2,SNR=36						
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**76.53**	**121**	P	**P**	**09 19 51.9**	**-0.5**
BDFB	**Brasilia**	**77.16**	**261**	P	**P**	**09 19 55.6**	**-0.7**
	comp=Z,7.8nm,1.1s,baz=84,slow=1.9,SNR=5.2						
	comp=Z,7.8nm,1.1s						
ASAR	**Alice Springs**	**77.18**	**110**	P	**P**	**09 19 55.1**	**-1.0**
	comp=Z,15nm,0.9s,baz=218,slow=5.5,SNR=77						
	comp=Z,15nm,0.9s						
ASAR	**Alice Springs**	**77.18**	**110**	P	**P**	**09 19 54.6**	**-1.5**
AS31	**Alice Springs**	**77.18**	**110**	P	**P**	**09 19 55.0**	**-1.2**
CAN	**Canberra**	**78.45**	**128**	P	**P**	**09 20 02.3**	**-0.9**
CAN				IAmb	IAmb	09 20 13.9	
	comp=Z,31nm,1.3s						
BATI	**Baumata**	**79.12**	**94**	LR	LR	09 49 48.6	
	comp=Z,128nm,20.5s,baz=253,slow=32						
AQDB	**Aquidauana**	**79.25**	**252**	P	**P**	**09 20 07.4**	**-0.2**
ZON	**Zonda**	**79.87**	**236**	P	**P**	**09 20 11.1**	**+0.2**
WRA	**Warramunga Arr**	**80.01**	**108**	P	**P**	**09 20 10.4**	**-1.4**
	comp=Z,9.7nm,0.9s,baz=223,slow=4.4,SNR=54						
	comp=Z,9.7nm,0.9s						
WRA	**Warramunga Arr**	**80.01**	**108**	P	**P**	**09 20 10.4**	**-1.4**
WB2	**Warramunga Arr**	**80.01**	**108**	P	**P**	**09 20 11.2**	**-0.6**
WB2				IAmb	IAmb	09 20 18.8	
	comp=Z,32nm,1.2s						
WRAB	**Tennant Creek**	**80.02**	**108**	P	**P**	**09 20 11.0**	**-0.9**
WRAB				IAmb	IAmb	09 20 14.7	
	comp=Z,35nm,1.2s						
MT02	**Curacav**	**80.06**	**233**	P	**P**	**09 20 10.9**	**-1.0**
MT02				IAmb	IAmb	09 20 22.6	
	comp=Z,68nm,1.9s						
WR0	**Warramunga Arr**	**80.13**	**108**	P	**P**	**09 20 11.7**	**-0.8**
WR0				IAmb	IAmb	09 20 15.1	
	comp=Z,25nm,1.4s						
WB0	**Warramunga Arr**	**80.16**	**108**	P	**P**	**09 20 11.5**	**-1.1**
WB0				IAmb	IAmb	09 20 15.3	
	comp=Z,33nm,1.3s						
KARP	**Karpathos**	**80.21**	**350**	P	**P**	**09 20 12.8**	**+0.4**
IDI	**Anoyia**	**80.26**	**348**	LR	LR	09 55 53.6	
	comp=Z,498nm,21.3s,baz=176,slow=36						
ELL	**Elmali**	**81.10**	**353**	P	**P**	**09 20 19.0**	**+1.8**
CO03	**El Pedregal**	**81.56**	**235**	P	**P**	**09 20 19.5**	**-0.6**
CO03				IAmb	IAmb	09 20 20.8	
	comp=Z,16nm,0.8s						
CO01	**Juntas del Tor**	**81.84**	**236**	P	**P**	**09 20 22.2**	**+0.4**
CO01				IAmb	IAmb	09 20 23.6	
	comp=Z,12nm,0.8s						
RPZ	**Rata Peaks**	**82.48**	**147**	LR	LR	09 52 54.3	
	comp=Z,337nm,18.6s,baz=204,slow=33						
AC05	**El Transito**	**82.77**	**237**	P	**P**	**09 20 25.7**	**-0.8**
AC05				IAmb	IAmb	09 20 27.5	
	comp=Z,15nm,0.9s						
LCO	**Las Campanas**	**82.90**	**236**	P	**P**	**09 20 27.0**	**-0.3**
LCO				IAmb	IAmb	09 20 28.1	
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	**82.96**	**56**	P	**P**	**09 20 26.7**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=233,slow=6.2,SNR=9.4						
	comp=Z,1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**82.96**	**56**	P	**P**	**09 20 25.5**	**-1.7**
DMN	**Daman**	**83.05**	**40**	*eP*	**P**	**09 20 27.1**	**-0.7**
	comp=Z,78nm,1.2s						
DANN	**Dangsing**	**83.07**	**39**	*eP*	**P**	**09 20 27.0**	**-0.9**
	comp=Z,102nm,1.3s						
PKIN	**Phulchoki**	**83.15**	**40**	*eP*	**P**	**09 20 27.5**	**-0.9**
PKI	**Pulchoki**	**83.16**	**40**	*eP*	**P**	**09 20 27.3**

ESDC	**Sonseca Array**	**92.14**	**328**	P		**P**	**09 21 10.1**	**-1.2**		
	comp=Z,5.7nm,1.1s,baz=159,slow=3.5,SNR=10									
	comp=Z,5.7nm,1.1s									
BURAR	**Bucovina Array**	**92.34**	**351**	⇑P		**P**	**09 21 12.9**	**+0.8**		
BURAR	**Bucovina Array**	**92.34**	**351**	P		**P**	**09 21 13.2**	**+1.1**		
BURAR				IAmb		IAmb	09 21 15.8			
	comp=Z,6.9nm,1.1s									
OBKA	**Obir**	**92.99**	**343**	*e*P		**P**	**09 21 15.2**	**+0.1**		
	comp=Z,5.1nm,1.0s									
SOKA	**Soboth**	**93.05**	**344**	*e*P		**P**	**09 21 15.4**	**0.0**		
	comp=Z,5.7nm,1.2s									
ARSA	**Arzberg**	**93.50**	**344**	*e*P		**P**	**09 21 17.4**	**+0.1**		
	comp=Z,8.4nm,1.6s									
ABTA	**Abfaltersbach**	**93.65**	**342**	*e*P		**P**	**09 21 18.3**	**+0.2**		
	comp=Z,12nm,1.1s									
KBA	**Koelnbreinsper**	**93.78**	**343**	*e*P		**P**	**09 21 18.6**	**-0.2**		
	comp=Z,9.6nm,1.5s									
CONA	**Conrad Observa**	**94.09**	**345**	*e*P		**P**	**09 21 19.7**	**-0.4**		
	comp=Z,4.9nm,1.0s									
VYHS	**Vyhne**	**94.10**	**347**	*e*P		**P**	**09 21 22.2**	**+2.1**		
MOA	**Molln**	**94.33**	**344**	*e*P		**P**	**09 21 21.0**	**-0.1**		
	comp=Z,7.2nm,1.5s									
CD2	**Chengdu**	**95.30**	**51**	*e*P		**P**	**09 21 27.4**	**+1.3**		
CLL	**Collm**	**97.87**	**344**	*e*PS		PS	09 34 30.0	+2.2		
CLL				*e*PPS		PPS	09 35 06.0			
CLL				*e*SS		SS	09 39 48.0	+2.9		
CLL				*e*SSSS			09 47 30.0			
CLL				LmV			10 05 00.0			
	comp=Z,300nm,21.9s									
WMQ	**Urumqi**	**97.88**	**33**	*e*P		Pdif	09 21 38.8	+1.3		
WMQ				pP		pwP	09 21 44.5	+0.7		
WMQ				pmax		pmax				
	comp=Z,15nm,0.6s									
WMQ				LR		LR				
	comp=Z,220nm,22.5s									
WMQ				LR		LR				
	comp=Z,250nm,22.5s									
WMQ				LR		LR				
	comp=Z,330nm,24.5s									
DZM	**Mont Dzumac**	**98.31**	**132**	*e*LR		LR	09 53 35.4			
	comp=Z,936nm,28.5s									
LZH	**Lanzhou**	**99.25**	**48**	*e*P		**Pdif**	**09 21 47.0**	**+3.1**		
LZH				sP		pwP	09 21 53.3	+3.1		
LZH				pmax		pmax				
	comp=Z,15nm,1.0s									
LZH				LR		LR				
	comp=Z,220nm,14.9s									
LZH				LR		LR				
	comp=Z,300nm,14.6s									
LZH				LR		LR				
	comp=Z,270nm,17.8s									
TBI	**Tubuai**	**112.23**	**172**	*e*LR		LR	10 00 01.6			
	comp=Z,9μm,21.5s									
TBI				*e*LR		LR	10 00 02.4			
	comp=Z,4μm,40.0s									
PPT2	**Papeete2**	**117.90**	**171**	*e*LR		LR	10 02 40.4			
	comp=Z,1μm,37.0s									
PPT2				*e*LR		LR	10 02 40.5			
	comp=Z,670nm,38.8s									
TAOE	**Nuku Hiva Isla**	**127.08**	**181**	*e*LR		LR	10 06 55.9			
	comp=Z,671nm,28.4s									
435B	**Jarrell**	**143.47**	**263**	P		PKPbc	09 27 33.9	0.0		
	baz=124									
JFWS	**Jewell Farm**	**143.73**	**286**	P		PKPab	09 27 33.7	+0.1		
	baz=110									
WHTX	**Lake Whitney,**	**144.04**	**265**			PKPbc	09 27 35.7	+0.2		
WHTX	**Lake Whitney,**	**144.04**	**265**	P		**PKPab**	**09 27 35.4**	**+0.3**		
	baz=123									
U38A	**Gravette**	**144.06**	**274**	PKPdf		**PKPab**	**09 27 34.5**	**-0.5**		
L40A	**Anamosa**	**144.10**	**284**			PKPbc	09 27 35.5	0.0		
FW02	**City of Haslet**	**144.47**	**267**			PKPbc	09 27 37.0	+0.1		
TUL1	**Leonard**	**144.82**	**272**	P		**PKPab**	**09 27 37.9**	**0.0**		
	baz=118									
JCT	**Junction City**	**144.88**	**261**			PKPbc	09 27 38.5	+0.1		
JCT	**Junction City**	**144.88**	**261**	P		**PKPab**	**09 27 38.2**	**0.0**		
	baz=125									
N38A	**Joes South For**	**145.05**	**281**			**PKPbc**	**09 27 38.2**	**-0.3**		
K38A	**Parkersburg**	**145.38**	**285**			**PKPab**	**09 27 39.9**	**+0.1**		
SCIA	**State Center**	**145.44**	**283**			**PKPdf**	**09 27 39.7**	**0.0**		
SCIA	**State Center**	**145.44**	**283**	P		**PKPab**	**09 27 40.9**	**+1.0**		
	baz=111									
OK033	**Mehan**	**145.70**	**272**			**PKPdf**	**09 27 40.3**	**0.0**		
ABTX	**Abilene, Hawle**	**145.94**	**264**			**PKPdf**	**09 27 41.2**	**+0.2**		
EYMN	**Ely**	**145.99**	**294**	PKPdf		**PKPdf**	**09 27 40.6**	**+0.1**		
EYMN	**Ely**	**145.99**	**294**	P		**PKPbc**	**09 27 41.1**	**-0.2**		
	baz=103									
SPMN	**Marine on St.**	**146.19**	**289**	PKPdf		**PKPbc**	**09 27 41.8**	**-0.1**		
SPMN	**Marine on St.**	**146.19**	**289**	P		**PKPbc**	**09 27 41.8**	**-0.1**		
	baz=106									
WMOK	**Wichita Mounta**	**146.40**	**268**	P		**PKPbc**	**09 27 42.5**	**-0.5**		
	baz=120									
CSTR	**Hydro, Custer**	**146.77**	**270**			**PKPbc**	**09 27 44.1**	**0.0**		
KSU1	**Kansas State U**	**146.79**	**277**			**PKPbc**	**09 27 43.8**	**-0.1**		
KSU1	**Kansas State U**	**146.79**	**277**	P		**PKPbc**	**09 27 43.9**	**0.0**		
	baz=114									
F36A	**Milaca**	**146.85**	**290**			**PKPdf**	**09 27 42.7**	**+0.7**		
TX31	**Lajitas Ar. Si**	**146.92**	**256**			**PKPbc**	**09 27 44.1**	**-0.6**		
TX32	**Lajitas Array**	**146.92**	**256**			**PKPbc**	**09 27 44.1**	**-0.6**		
TXAR	**Lajitas Array**	**146.92**	**256**	PKPbc		**PKPdf**	**09 27 43.7**	**+0.9**		
	comp=Z,5.4nm,0.9s,baz=137,slow=5.5,SNR=40									
TXAR	**Lajitas Array**	**146.92**	**256**			**PKPdf**	**09 27 43.6**	**+0.8**		
ECSD	**EROS Data Cent**	**148.39**	**285**			**PKPbc**	**09 27 47.6**	**-0.5**		
ECSD	**EROS Data Cent**	**148.39**	**285**	P		**PKPbc**	**09 27 48.2**	**0.0**		
	baz=107									
AMTX	**Amarillo**	**148.55**	**266**			**PKPbc**	**09 27 48.7**	**-0.2**		
HTMS	**Hat Mesa**	**148.70**	**261**			**PKPbc**	**09 27 49.2**	**-0.3**		
F33A	**5 Mile Ranch,**	**148.72**	**289**			**PKPbc**	**09 27 48.3**	**-0.6**		
F33A						**pPKPab**	**09 27 54.4**	**-0.6**		
CLNB	**Carlsbad**	**148.76**	**260**			**PKPbc**	**09 27 48.4**	**-1.2**		
CLNB				PKPab		**PKPab**	**09 27 54.2**	**+0.8**		
CLN7	**Carlsbad 7**	**148.79**	**260**			**PKPbc**	**09 27 49.3**	**-0.3**		
CLN7				PKPab		**PKPab**	**09 27 54.2**	**+0.7**		
MSTX	**Muleshoe**	**148.88**	**264**			**PKPbc**	**09 27 49.7**	**-0.2**		
MSTX	**Muleshoe**	**148.88**	**264**	P		**PKPbc**	**09 27 49.7**	**-0.2**		
	baz=121									
AGMN	**Agassiz Nation**	**148.93**	**294**			**PKPbc**	**09 27 48.5**	**-0.8**		
AGMN	**Agassiz Nation**	**148.93**	**294**	P		**PKPbc**	**09 27 48.3**	**-1.1**		
	baz=100									
ULM	**Lac du Bonnet**	**149.22**	**297**	PKPbc		**PKPbc**	**09 27 48.8**	**-1.2**		
	comp=Z,17nm,0.9s,baz=83,slow=2.6,SNR=13									
ULM	**Lac du Bonnet**	**149.22**	**297**			**PKPbc**	**09 27 49.1**	**-0.9**		
ULM				PKPab		**PKPab**	**09 27 55.8**	**+1.3**		
KSCO	**Kaye Shedlock'**	**151.06**	**273**	P		**PKPbc**	**09 27 54.9**	**-0.1**		
	baz=113									
A36M	**Sachs Harbour**	**151.23**	**350**	PKPdf		**PKPdf**	**09 27 47.6**	**-0.6**		
A36M				PKPbc		**PKPbc**	**09 27 53.6**	**-0.6**		
A36M				PKPab		**sPKPab**	**09 28 05.2**	**-0.1**		
A36M	**Sachs Harbour**	**151.23**	**350**	P		**PKPbc**	**09 27 53.5**	**-0.7**		
	baz=24									
T25A	**Trinidad**	**151.56**	**268**	PKPdf		**PKPdf**	**09 27 49.0**	**-1.2**		
T25A						**PKPbc**	**09 27 56.5**	**+0.1**		
T25A				PKPab		**PKPab**	**09 28 04.8**	**-0.1**		
LENM	**Lemitar**	**151.97**	**261**			**PKiKP**	**09 27 58.4**	**+0.7**		
C36M	**Paulatuk**	**153.45**	**347**			**PKPbc**	**09 27 57.7**	**-1.6**		
C36M	**Paulatuk**	**153.45**	**347**	P		**PKPbc**	**09 27 57.6**	**-1.6**		
	baz=28									
C23K	**Itkillik River**	**153.94**	**8**	P		**PKPbc**	**09 27 60.0**	**-0.3**		
	baz=344									
C24K	**Franklin Bluff**	**154.22**	**6**	P		**PKiKP**	**09 28 01.5**	**+0.6**		
	baz=347									
TOLK	**Toolik Lake Re**	**155.20**	**8**	P		PKPdf	09 28 04.4	+10		
	baz=345									
LAO	**LASA Array**	**155.65**	**288**	PKPdf		**PKPdf**	**09 27 54.6**	**-0.9**		
LAO				PKPab		**PKPab**	**09 28 22.4**	**+0.6**		
E24K	**Your Creek**	**155.85**	**7**	P		**PKPdf**	**09 27 55.3**	**+0.2**		
	baz=346									
F22K	**John River**	**155.99**	**11**	P		**PKPdf**	**09 27 55.9**	**+0.7**		
	baz=340									
E25K	**Arctic Village**	**156.01**	**4**	P		**PKPdf**	**09 27 55.1**	**-0.2**		
	baz=352									
E27K	**Coleen River**	**156.06**	**1**	P		**PKPdf**	**09 27 55.0**	**-0.3**		
	baz=359									
G22K	**Bettles**	**156.63**	**10**	P		**PKPdf**	**09 27 56.6**	**+0.6**		
	baz=340									
BMAR	**Burnt Mountain**	**156.74**	**4**	PKPdf		**PKPdf**	**09 27 56.9**	**+0.6**		
BMAR				PKPab		**PKPab**	**09 28 26.6**	**+0.8**		
PD31	**Pinedale Array**	**157.24**	**277**	PKPdf		**PKPdf**	**09 27 57.1**	**-0.8**		
PD31						**PKPab**	**09 28 29.6**	**+0.6**		
PDAR	**Pinedale Array**	**157.24**	**277**	PKP		**PKPdf**	**09 27 57.5**	**-0.4**		
	comp=Z,1.1nm,1.0s,baz=85,slow=5.1,SNR=5.3									
PDAR				PKPab		**PKPab**	**09 28 28.1**	**-0.9**		
	comp=Z,1.9nm,0.8s,baz=115,slow=6.9,SNR=11									
TMUT	**Trail Mountain**	**157.32**	**268**	PKPdf		**PKPdf**	**09 27 57.0**	**-1.2**		
TMUT						**PKPab**	**09 28 30.4**	**+0.9**		
RLMT	**Red Lodge**	**157.53**	**283**	PKPdf		**PKPdf**	**09 27 57.5**	**-0.7**		
RLMT						**PKPab**	**09 28 30.5**	**+0.3**		
H22K	**Ishtalitna Cre**	**157.62**	**11**	P		**PKPdf**	**09 27 57.9**	**+0.5**		
	baz=340									
EPYK	**Eagle Plains**	**157.77**	**355**	P		**PKPdf**	**09 27 58.4**	**+0.8**		
	baz=7.8									
DUG	**Dugway, Tooele**	**158.81**	**269**			**PKPdf**	**09 27 59.8**	**+0.1**		
DUG				PKPab		**PKPab**	**09 28 35.6**	**-0.1**		
ILAR	**Eielson Array**	**159.23**	**7**	PKPab		**PKPab**	**09 28 37.4**	**+0.9**		
	comp=Z,0.5nm,0.9s,baz=334,slow=3.3,SNR=4.2									
LRM	**Limekiln Ridge**	**159.84**	**284**	PKPdf		**PKPdf**	**09 27 59.8**	**-1.2**		
LRM						**PKPab**	**09 28 41.0**	**+0.8**		
HLID	**Hailey**	**160.88**	**277**	PKPdf		**PKPdf**	**09 28 00.9**	**-1.2**		
HLID				PKPab		**PKPab**	**09 28 44.8**	**0.0**		
MSO	**Missoula**	**160.94**	**287**	PKPdf		**PKPdf**	**09 28 01.4**	**-0.5**		
MSO						**PKPab**	**09 28 45.2**	**+0.4**		
NVAR	**Mina Array Bea**	**162.03**	**259**	PKPab		**PKPab**	**09 28 50.0**	**+0.1**		
	comp=Z,0.9nm,0.8s,baz=142,slow=5.5,SNR=4.4									

IDC ***20*** *09:09:38.0±3.3,* **44.14S×39.28E, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=318.5km s-min=55.6km az=10.0, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**76.46**	**121**	P	P	09 21 29.4	-0.2
	2.0nm,0.6s,baz=245,slow=4.0,SNR=4.1						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**77.06**	**110**	P	P	09 21 33.5	+0.3
	3.6nm,0.9s,baz=223,slow=5.2,SNR=5.4						
	3.6nm,0.9s						
WRA	**Warramunga Arr**	**79.89**	**108**	P	P	09 21 48.8	0.0
	1.9nm,0.9s,baz=224,slow=4.1,SNR=4.7						
	1.9nm,0.9s						
TXAR	**Lajitas Array**	**147.14**	**256**	PKPbc	PKPbc	09 29 22.4	-0.7
	1.8nm,0.9s,baz=126,slow=4.6,SNR=3.1						

IDC ***20*** *09:17:48.9±1.7,* **1.21S×150.23E, h0km, mb3.9/5, mbtmp3.9/5, MS4.4/1, Error ellipse: s-maj=71.8km s-min=23.6km az=112.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.56**	**150**	LR	LR	09 20 23.0	
	comp=Z,169nm,18.1s,baz=173,slow=43						
WRA	**Warramunga Arr**	**24.26**	**219**	P	P	09 23 06.4	-1.6
	1.2nm,0.5s,baz=42,slow=10,SNR=23						
	1.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**25.40**	**39**	T	T	09 50 18.2	
	baz=221,slow=75,SNR=164						
H11S2	**WAKE ISLAND Hy**	**25.41**	**39**	T	T	09 50 17.8	
	baz=221,slow=75,SNR=98						
H11S1	**WAKE ISLAND Hy**	**25.42**	**39**	T	T	09 50 31.1	
	baz=221,slow=75,SNR=91						
H11N1	**WAKE ISLAND Hy**	**26.45**	**37**	T	T	09 51 35.4	
	baz=220,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**26.46**	**37**	T	T	09 51 48.8	
	baz=220,slow=76,SNR=34						
H11N2	**WAKE ISLAND Hy**	**26.46**	**37**	T	T	09 51 45.2	
	baz=220,slow=76,SNR=53						
ASAR	**Alice Springs**	**27.37**	**214**	P	P	09 23 37.6	+1.5
	0.7nm,0.5s,baz=47,slow=8.2,SNR=17						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**75.95**	**319**	P	P	09 29 38.4	+0.6
	4.0nm,1.2s,baz=95,slow=11,SNR=6.0						
	4.0nm,1.2s						
ZALV	**Zalesovo Beam**	**76.76**	**326**	P	P	09 29 42.0	-0.2
	0.8nm,0.5s,baz=122,slow=7.1,SNR=4.2						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**79.41**	**322**	LR	LR	10 04 27.1	
	comp=Z,231nm,20.5s,baz=158,slow=35						
ILAR	**Eielson Array**	**79.84**	**23**	P	P	09 29 58.8	-0.3
	0.4nm,0.6s,baz=247,slow=5.7,SNR=8.0						
	0.4nm,0.6s						

ROM ***20*** *09:19:41.3±0.1,* **42.888N×0.002×13.152E±0.005, h14km, ML1.4/5, 6C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=88.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.06**	**207**	⇑P	Pg	09 19 44.4	+0.2
NRCA				S	Sg	09 19 46.4	+0.3
NRCA				AML	AML		
	comp=E,1249μm,1.1s						
NRCA				AML	AML		
	comp=N,867μm,0.1s						
T1216	**Preci, Frazion**	**0.10**	**272**	P	Pg	09 19 44.9	+0.3
MMO1	**Montemonaco**	**0.13**	**85**	⇑P	Pg	09 19 45.0	+0.1
T1256	**Bolognola (MC)**	**0.13**	**25**	P	Pg	09 19 45.4	+0.3
T1256				S	Sg	09 19 47.9	+0.3
T1256				AML	AML		
	comp=E,101μm,0.3s						
T1256				AML	AML		
	comp=N,122μm,1.0s						
T1256				AML	AML		
	comp=N,123μm,1.0s						
T1256				AML	AML		
	comp=E,100μm,0.3s						
T1256				AML	AML		
	comp=N,122μm,1.0s						
FDMO	**Fiordimonte**	**0.16**	**342**	⇓P	Pg	09 19 45.6	+0.3
FDMO				S	Sg	09 19 48.5	+0.5
FDMO				AML	AML		
	comp=N,200μm,0.2s						
FDMO				AML	AML		
	comp=E,169μm,0.2s						
FDMO				AML	AML		
	comp=N,200μm,0.2s						
T1219	**Muccia, Frazio**	**0.20**	**328**	P	Pg	09 19 46.2	+0.3
T1219				S	Sg	09 19 49.7	+0.6
T1241	**Roccafluvione,**	**0.21**	**99**	⇑P	Pg	09 19 46.4	+0.4
CSP1	**Cessapalombo**	**0.21**	**11**	⇑P	Pg	09 19 46.4	+0.3
CSP1				S	Sg	09 19 50.0	+0.7
CESI	**CESI - Serrava**	**0.22**	**303**	P	Pg	09 19 46.6	+0.4
CESI				S	Sg	09 19 50.2	+0.7
CESI				AML	AML		
	comp=E,104μm,0.1s						
CESI				AML	AML		
	comp=N,174μm,0.1s						
T1218	**Civita (PG)**	**0.22**	**187**	P	Pg	09 19 46.5	+0.3
GUMA	**Gualdo di Mace**	**0.22**	**37**	P	Pb	09 19 46.9	-0.3
GUMA				AML	AML		
	comp=E,181μm,0.3s						
GUMA				AML	AML		
	comp=N,130μm,0.4s						
SMA1	**SAN MARTINO**	**0.29**	**152**	P	Pg	09 19 47.6	+0.1
T1243	**Rocca Santa Ma**	**0.29**	**131**	⇓P	Pg	09 19 47.6	+0.1
CAMP	**Campotosto**	**0.40**	**152**	⇑P	Pg	09 19 49.4	0.0
CAMP				S	Sb	09 19 55.6	-0.6
TERO	**Teramo**	**0.42**	**128**	⇑P	Pg	09 19 49.9	0.0
EL6	**Elcito**	**0.44**	**355**	⇓P	Pg	09 19 50.6	+0.4
CPGN	**Carpegna, Ital**	**1.10**	**327**	S	Sn	09 20 19.0	+1.6

IDC ***20*** *09:24:40.1±0.8,24.16N×123.16E, h0km, mb3.7/10, mbtmp3.7/11, ML2.9/1, MS4.4/5, Error ellipse: s-maj=32.9km s-min=19.0km az=68.0*

NEIC ***20*** *09:24:43.3±1.6,24.01N±0.04×123.26E±0.06, h16km±1km, mb4.5/23, Error ellipse: s-maj=8.8km s-min=4.9km az=65.0*

NIED ***20*** *09:24:43.9,24.08N×123.25E, h29km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=0.28; Mθθ=4.89; Mϕϕ5.17; Mrθ2.29; Mθϕ-2.90; Mϕr2.80; Fault plane solution: Mo6.84000×10¹⁴ NP1: ϕs=302.00000°, δ59.00000°, λ-175.00000°. NP2: ϕs=209.00000°, δ86.00000°, λ-31.00000°.*

JMA ***20*** *09:24:43.9±0.2,24.1N±0.9×123.3E±0.5, h29km±2km, MD4.0/9, MV4.0/9, NEAR ISHIGAKIJIMA ISLAND*

JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.

ISC 20 09:24:43.7±1.2,24.03N±0.05×123.25E±0.03, h23km±9km, n70, σ0°93/67, mb4.3/23, MS4.5/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.48**	**333**	Pg	**Pb**	**09 24 53.4**	**-0.1**
YOJ				Sg	**Sb**	**09 24 59.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.48**	**333**	*i* P	**Pb**	**09 24 53.3**	**-0.2**
YOJ				S	**Sb**	**09 24 59.4**	**-0.7**
YOJ	**Yonaguni jima**	**0.48**	**333**	A	A	09 24 53.3	
	comp=E,19nm,0.4s,comp=E,25nm,0.3s						
JYNG	**Yonagunijimaku**	**0.50**	**327**	*i* P	**Pb**	**09 24 53.6**	**-0.2**
JYNG				S	**Sb**	**09 25 00.1**	**-0.6**
JYNG	**Yonagunijimaku**	**0.50**	**327**	A	A	09 24 53.6	
	comp=E,39nm,0.3s,comp=E,32nm,0.4s						
HATJ	**Hateruma jima**	**0.51**	**87**	*i* P	**Pb**	**09 24 53.9**	**-0.1**
HATJ				S	**Sb**	**09 25 01.3**	**+0.3**
HATJ	**Hateruma jima**	**0.51**	**87**	A	A	09 24 53.9	
	comp=E,15nm,4.2s,comp=E,9.0nm,0.8s						
IRIF	**Iriomote-Funau**	**0.53**	**56**	*i* P	**Pb**	**09 24 54.2**	**-0.2**
IRIF				S	**Sb**	**09 25 01.4**	**-0.2**
IRIF	**Iriomote-Funau**	**0.53**	**56**	A	A	09 24 54.2	
	comp=E,22nm,0.3s,comp=E,17nm,1.1s						
JKRS	**Kuro-shima**	**0.72**	**74**	*i* P	**Pb**	**09 24 57.7**	**0.0**
JKRS				S	**Sb**	**09 25 08.0**	**+0.8**
JKRS	**Kuro-shima**	**0.72**	**74**	A	A	09 24 57.7	
	comp=E,8.0nm,3.3s,comp=E,13nm,1.3s						
JIJ	**Ishigaki jima**	**0.88**	**68**	*i* P	**Pb**	**09 24 59.4**	**-0.9**
JIJ				S	**Sb**	**09 25 10.9**	**-0.7**
JIJ	**Ishigaki jima**	**0.88**	**68**	A	A	09 24 59.4	
	comp=E,4.0nm,1.5s,comp=E,5.0nm,0.6s						
JISG	**Ishigakijimahi**	**1.12**	**60**	*i* P	**Pn**	**09 25 02.9**	**-0.9**
JISG				S	**Sn**	**09 25 17.2**	**-1.3**
JISG	**Ishigakijimahi**	**1.12**	**60**	A	A	09 25 02.9	
	comp=E,5.0nm,4.7s,comp=E,15nm,0.5s						
JTJ	**Tarama**	**1.46**	**65**	P	**Pn**	**09 25 08.3**	**-0.3**
JTJ				*e*S	**Sb**	**09 25 27.6**	**-0.6**
JTJ	**Tarama**	**1.46**	**65**	A	A	09 25 08.3	
	comp=E,6.0nm,3.6s,comp=E,7.0nm,5.5s						
NACB	**Ninganchiao**	**1.52**	**276**	Pn	**Pn**	**09 25 09.0**	**-0.4**
YHNB	**Yeheng**	**1.82**	**291**	Pn	**Pb**	**09 25 15.1**	**-1.3**
YULB	**Yu-li**	**1.90**	**251**	Pn	**Pn**	**09 25 14.4**	**-0.3**
SSLB	**Suanglung**	**2.11**	**264**	Pn	**Pn**	**09 25 18.4**	**+0.7**
TWG	**Pinlang**	**2.33**	**239**	Pn	**Pn**	**09 25 20.5**	**-0.1**
TPUB	**Ta-pu**	**2.51**	**254**	Pn	**Pn**	**09 25 24.8**	**+1.7**
KNMB	**Chin-men Tao**	**4.46**	**277**	Pn	**Pn**	**09 25 51.0**	**+1.2**
JOW	**Kunigami**	**5.33**	**57**	Pn	**Pn**	**09 26 01.5**	**-0.4**
	0.9nm,0.3s,baz=163,slow=16,SNR=6.4						
	3.0nm,0.3s						
JOW	**Kunigami**	**5.33**	**57**	Pn	**Pn**	**09 26 01.8**	**0.0**
KSRS	**Korea Array**	**13.96**	**16**	Pn	**Pn**	**09 28 02.4**	**+2.3**
	0.1nm,0.3s,baz=199,slow=11,SNR=2.3						
KSRS				LR	LR	09 34 09.6	
	comp=Z,42nm,18.3s,baz=190,slow=41						
JHJ2	**Mitsune**	**17.12**	**54**	P	**Pn**	**09 28 41.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**21.35**	**17**	P	**P**	**09 29 31.0**	**+1.8**
USA0B	**Ussuriysk Arra**	**21.35**	**17**	P	**P**	**09 29 30.4**	**+1.2**
USA0B				IAmb	IAmb	09 29 35.3	
	comp=Z,14nm,1.4s						
SBUM	**Sibu**	**23.96**	**208**	P	**P**	**09 29 54.9**	**-1.5**
SONM	**Songino Array**	**27.27**	**335**	P	**P**	**09 30 23.5**	**-2.8**
	comp=Z,0.3nm,0.5s,baz=144,slow=8.4,SNR=3.8						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**27.27**	**335**	P	**P**	**09 30 27.0**	**+0.6**
PEA0B	**Petropavlovsk-**	**38.95**	**33**	P	**P**	**09 32 09.9**	**+2.1**
MKAR	**Makanchi Array**	**39.76**	**315**	P	**P**	**09 32 14.4**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=101,slow=10,SNR=6.2						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**39.76**	**315**	P	**P**	**09 32 15.5**	**+0.8**
KNRA	**Kununurra**	**39.83**	**172**	P	**P**	**09 32 14.9**	**-0.5**
KNRA				IAmb	IAmb	09 32 15.8	
	comp=Z,16nm,1.2s						
ZALV	**Zalesovo Beam**	**41.41**	**326**	P	**P**	**09 32 26.1**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=117,slow=12,SNR=2.2						
	comp=Z,0.4nm,0.4s						
COEN	**Coen**	**42.48**	**151**	P	**P**	**09 32 36.3**	**-1.0**
COEN				IAmb	IAmb	09 32 41.6	
	comp=Z,11nm,1.2s						
WB0	**Warramunga Arr**	**44.87**	**165**	P	**P**	**09 32 56.1**	**-0.3**
WB0				IAmb	IAmb	09 33 05.9	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**45.02**	**165**	P	**P**	**09 32 58.2**	**+0.6**
WRA	**Warramunga Arr**	**45.03**	**165**	P	**P**	**09 32 58.1**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=347,slow=9.1,SNR=8.1						
	comp=Z,1.1nm,0.9s						
WRA	**Warramunga Arr**	**45.03**	**165**	P	**P**	**09 32 57.2**	**-0.5**
WB2	**Warramunga Arr**	**45.03**	**165**	P	**P**	**09 32 57.9**

ENA	**Nanau**	**0.79 304**	*i* P	**Pg**	**09 27 02.5**	**+0.1**
	baz=301						
ENA			S	**Sb**	**09 27 13.4**	**+0.2**
	baz=301						
TWD	**Chiawan**	**0.79 277**	P	**Pb**	**09 27 02.9**	**+0.2**
	baz=274						
TWD			*i* S	**Sb**	**09 27 14.0**	**+0.7**
	baz=274						
TEYL	**Yanliau Villag**	**0.79 262**	P	**Pg**	**09 27 03.0**	**+0.6**
	baz=249						
TEYL			S	**Sb**	**09 27 14.1**	**+0.7**
	baz=249						
NACB	**Ninganchiao**	**0.81 284**	*e*P	**Pb**	**09 27 03.4**	**+0.3**
	baz=265						
NACB			S	**Sb**	**09 27 14.6**	**+0.8**
	baz=265						
TWC	**Suao**	**0.83 319**	*i* P	**Pg**	**09 27 03.0**	**-0.3**
	baz=316						
TWC			S	**Sg**	**09 27 13.1**	**-1.1**
	baz=316						
ETM	**Tongmen**	**0.88 269**	P	**Pg**	**09 27 04.0**	**-0.1**
	baz=256						
ETM			S	**Sg**	**09 27 16.2**	**+0.6**
	baz=256						
ETLH	**Xiulin Townshi**	**0.91 284**	P	**Pg**	**09 27 05.1**	**+0.2**
	baz=269						
ETLH			S	**Sb**	**09 27 17.9**	**+0.9**
	baz=269						
ESL	**Shilin**	**0.95 260**	*i* P	**Pg**	**09 27 04.7**	**-0.8**
	baz=248						
ESL			*i* S	**Sg**	**09 27 17.7**	**-0.2**
	baz=248						
EGS		**0.98 331**	*i* P	**Pn**	**09 27 06.3**	**-0.3**
	baz=318						
EGS			*i* S	**Sn**	**09 27 19.7**	**-0.7**
	baz=318						
EGFH	**Guangfu**	**0.99 252**	*i* P	**Pb**	**09 27 06.0**	**-0.1**
	baz=249						
EGFH			S	**Sb**	**09 27 19.4**	**+0.3**
	baz=249						
LATG	**Datong**	**1.01 303**	P	**Pb**	**09 27 06.5**	**0.0**
	baz=300						
LATG			S	**Sg**	**09 27 19.7**	**-0.1**
	baz=300						
ILA	**Ilan**	**1.01 321**	P	**Pb**	**09 27 06.1**	**-0.4**
	baz=311						
ILA			*i* S	**Sb**	**09 27 19.7**	**0.0**
	baz=311						
TWE	**Neicheng**	**1.03 316**	*i* P	**Pb**	**09 27 06.7**	**0.0**
	baz=314						
TWE			*i* S	**Sg**	**09 27 20.6**	**+0.3**
	baz=314						
ENTT	**Nioudou**	**1.04 309**	*i* P	**Pb**	**09 27 06.3**	**-0.7**
	baz=293						
ENTT			*e*S	**Sb**	**09 27 19.4**	**-1.2**
	baz=293						
HGSD	**Ruisui**	**1.06 243**	P	**Pb**	**09 27 06.3**	**-1.1**
	baz=240						
HGSD			S	**Sb**	**09 27 21.6**	**+0.4**
	baz=240						
NNSB	**Datong**	**1.07 295**	*e*P	**Pn**	**09 27 08.1**	**+0.1**
	baz=292						
NNSB			*e*S	**Sn**	**09 27 22.5**	**-0.3**
	baz=292						
NNS	**Nan Shan**	**1.08 295**	*i* P	**Pb**	**09 27 07.3**	**-0.5**
	baz=292						
NNS			*i* S	**Sb**	**09 27 22.0**	**0.0**
	baz=292						
WHF	**Hehuan Shan**	**1.10 279**	*i* P	**Pb**	**09 27 07.9**	**-0.3**
	baz=276						
WHF			*i* S	**Sb**	**09 27 22.2**	**-0.4**
	baz=276						
FUSB	**Fushanzhiwuyua**	**1.10 315**	P	**Pg**	**09 27 08.3**	**-0.2**
	baz=312						
FUSB			S	**Sn**	**09 27 23.9**	**+0.4**
	baz=312						
TWB1	**Santiao Chiao**	**1.10 338**	*i* P	**Pg**	**09 27 08.2**	**-0.3**
	baz=353						
TWB1			S	**Sg**	**09 27 22.4**	**-0.4**
	baz=353						
FUSS	**Fushou**	**1.14 284**	*i* P	**Pb**	**09 27 08.9**	**+0.1**
	baz=281						
FUSS			*i* S	**Sn**	**09 27 24.6**	**+0.1**
	baz=281						
TIPB	**Shuangxi**	**1.14 330**	*i* P	**Pg**	**09 27 09.2**	**0.0**
	baz=328						
TIPB			*i* S	**Sg**	**09 27 23.5**	**-0.4**
	baz=328						
EHY	**Hungye**	**1.14 246**	*i* P	**Pb**	**09 27 08.3**	**-0.4**
	baz=258						
EHY			*i* S	**Sb**	**09 27 22.6**	**-0.8**
	baz=258						
CHGB	**Renai**	**1.17 274**	P	**Pb**	**09 27 09.2**	**-0.2**
	baz=271						
CHGB			S	**Sb**	**09 27 25.2**	**+0.6**
	baz=271						
NWLT	**Wulai**	**1.17 313**	*i* P	**Pb**	**09 27 09.0**	**-0.3**
	baz=310						
NWLT			*i* S	**Sb**	**09 27 23.5**	**-0.9**
	baz=310						
TWT	**Tachien**	**1.20 283**	*i* P	**Pb**	**09 27 10.2**	**+0.5**
	baz=268						
TWT			*i* S	**Sn**	**09 27 26.6**	**+0.6**
	baz=268						
YHNB	**Yeheng**	**1.20 305**	P	**Pg**	**09 27 10.3**	**+0.1**
	baz=291						
YHNB			S	**Sb**	**09 27 24.8**	**-0.4**
	baz=291						
YULB	**Yu-li**	**1.21 241**	P	**Pn**	**09 27 09.1**	**-0.7**
	baz=227						
YULB			S	**Sb**	**09 27 24.5**	**-1.0**
	baz=227						
TDCB	**Techi**	**1.21 283**	P	**Pn**	**09 27 09.8**	**-0.1**
	baz=269						
TDCB			S	**Sg**	**09 27 26.5**	**+0.1**
	baz=269						
NSK	**Sanguang**	**1.21 305**	*i* P	**Pn**	**09 27 09.4**	**-0.5**
	baz=290						
NSK			S	**Sb**	**09 27 24.7**	**-1.0**
	baz=290						
EYUL	**Yuli**	**1.22 239**	S	**Sb**	**09 27 25.6**	**0.0**
	baz=237						
IRIF	**Iriomote-Funau**	**1.22 73**	P	**Pg**	**09 27 11.0**	**+0.4**
IRIF			*e*S	**Sg**	**09 27 26.3**	**-0.2**
WUSB	**Renai**	**1.22 271**	P	**Pn**	**09 27 09.8**	**-0.2**
	baz=268						
SXI1	**Grass Mountain**	**1.23 335**	P	**Pb**	**09 27 10.2**	**0.0**
	baz=347						
SXI1			S	**Sn**	**09 27 26.3**	**-0.2**
	baz=347						
HATJ	**Hateruma jima**	**1.24 86**	P	**Pg**	**09 27 11.7**	**+0.7**
HATJ			S	**Sg**	**09 27 29.2**	**+2.0**
NWF	**Wu-fen Shan**	**1.24 331**	*i* P	**Pg**	**09 27 10.9**	**-0.2**
	baz=329						
NWF			*i* S	**Sn**	**09 27 26.7**	**-0.3**
	baz=329						
WFSB	**Wu-fen Shan**	**1.24 331**	P	**Pg**	**09 27 11.0**	**-0.1**
	baz=329						
WFSB			S	**Sg**	**09 27 27.1**	**-0.3**
	baz=329						
TWA	**Mucha**	**1.27 322**	*i* P	**Pg**	**09 27 11.5**	**-0.1**
	baz=320						
TWA			*i* S	**Sn**	**09 27 27.4**	**-0.2**
	baz=320						
NHDH	**Xindian Distri**	**1.29 319**	*i* P	**Pg**	**09 27 12.9**	**+0.9**
	baz=317						
NHDH			*i* S	**Sg**	**09 27 30.1**	**+1.3**
	baz=317						
FULB	**Fuli**	**1.32 234**	S	**Sb**	**09 27 29.1**	**+0.6**
	baz=221						
WPL	**Puli Township**	**1.37 272**	P	**Pn**	**09 27 11.8**	**-0.1**
	baz=269						
NFF	**Wufeng Townshi**	**1.38 298**	P	**Pb**	**09 27 12.7**	**-0.1**
	baz=296						
NFF			S	**Sn**	**09 27 30.4**	**+0.1**
	baz=296						
SSLB	**Suanglung**	**1.39 262**	P	**Pn**	**09 27 12.0**	**-0.2**
	baz=260						
SSLB			*e*S	**Sn**	**09 27 29.5**	**-0.9**
	baz=260						
DPDB	**Guoxing**	**1.40 272**	P	**Pn**	**09 27 12.8**	**+0.4**
	baz=270						
WHP	**Taichung City**	**1.41 282**	*i* P	**Pb**	**09 27 13.5**	**+0.2**
	baz=269						
WHP			S	**Sn**	**09 27 31.0**	**0.0**
	baz=269						
WCS	**Beigang Elemen**	**1.41 273**	*i* P	**Pn**	**09 27 12.1**	**-0.5**
	baz=271						
WCS			*e*S	**Sn**	**09 27 30.7**	**-0.3**
	baz=271						
YM01	**YM01**	**1.41 325**	P	**Pb**	**09 27 13.1**	**-0.2**
	baz=324						
YM01			S	**Sg**	**09 27 32.0**	**-0.6**
	baz=324						
SMLT	**Sun Moon Lake**	**1.42 266**	*i* P	**Pn**	**09 27 13.1**	**+0.3**
	baz=254						
ECS	**Chishang**	**1.44 232**	P	**Pn**	**09 27 10.3**	**-2.6**
	baz=220						
ECS			S	**Sn**	**09 27 32.3**	**+0.7**
	baz=220						
JKRS	**Kuro-shima**	**1.45 80**	P	**Pg**	**09 27 15.2**	**+0.3**
JKRS			S	**Sg**	**09 27 34.5**	**+0.8**
EDH	**Donghe**	**1.46 227**	*e*P	**Pn**	**09 27 11.9**	**-1.3**
	baz=216						
EDH			*i* S	**Sn**	**09 27 29.3**	**-2.8**
	baz=216						
TWS1	**Kuangyinshan**	**1.46 320**	*i* P	**Pg**	**09 27 14.9**	**-0.2**
	baz=336						
TWS1			*i* S	**Sg**	**09 27 33.8**	**-0.4**
	baz=336						
YUS	**Yu-Shan**	**1.46 251**	*i* P	**Pn**	**09 27 13.6**	**0.0**
	baz=248						
YUS			S	**Sn**	**09 27 31.8**	**-1.1**
	baz=248						
LIOB	**Emei**	**1.47 297**	*i* P	**Pg**	**09 27 15.2**	**-0.2**
	baz=295						
LIOB			*i* S	**Sg**	**09 27 34.4**	**-0.1**
	baz=295						
NSTT	**Nanjuang**	**1.47 296**	*i* P	**Pb**	**09 27 15.0**	**+0.6**
	baz=294						
NSTT			*i* S	**Sb**	**09 27 33.5**	**+0.5**
	baz=294						
NTST	**Danshui**	**1.49 322**	*i* P	**Pg**	**09 27 15.1**	**-0.6**
	baz=336						
NTST			S	**Sb**	**09 27 33.7**	**+0.2**
	baz=336						
WHYT	**Xinyi Township**	**1.49 259**	*i* P	**Pn**	**09 27 14.3**	**+0.6**
	baz=257						
TWY	**Chenhua**	**1.50 329**	*i* P	**Pn**	**09 27 14.2**	**+0.4**
	baz=328						
TWY			S	**Sb**	**09 27 33.6**	**-0.3**
	baz=328						
NCU	**National Centr**	**1.52 311**	S	**Sg**	**09 27 35.9**	**-0.1**
	baz=308						
NCUH	**Zhongli**	**1.52 311**	P	**Pn**	**09 27 13.9**	**-0.1**
	baz=308						
NCUH			S	**Sb**	**09 27 34.4**	**+0.1**
	baz=308						
ELDTW	**Lidau**	**1.54 239**	*i* P	**Pn**	**09 27 13.6**	**-0.8**
	baz=237						
ELDTW			*i* S	**Sn**	**09 27 32.6**	**-1.7**
	baz=237						
SBCB	**Hsinchu**	**1.56 301**	P	**Pn**	**09 27 14.8**	**+0.2**
	baz=299						
SBCB			S	**Sb**	**09 27 36.4**	**+0.8**
	baz=299						
TWQ1	**Liyutan**	**1.58 284**	*i* P	**Pb**	**09 27 16.5**	**+0.4**
	baz=281						
TWQ1			*i* S	**Sg**	**09 27 37.5**	**-0.4**
	baz=281						
ALS	**Alishan**	**1.58 253**	*i* P	**Pn**	**09 27 15.7**	**+0.5**
	baz=251						
LDUT	**Ludao**	**1.59 215**	*i* P	**Pn**	**09 27 13.8**	**-1.1**
	baz=214						
WJS	**Zhushan**	**1.59 265**	*i* P	**Pb**	**09 27 16.9**	**+0.6**
	baz=262						
WJS			S	**Sb**	**09 27 37.4**	**+1.1**
	baz=262						
JIJ	**Ishigaki jima**	**1.59 76**	P	**Pb**	**09 27 16.5**	**+0.1**
JIJ			S	**Sb**	**09 27 37.1**	**+0.7**
NSY	**Sanyi**	**1.60 286**	*i* P	**Pb**	**09 27 17.1**	**+0.5**
	baz=283						
NSY			*i* S	**Sg**	**09 27 38.8**	**0.0**
	baz=283						
NMLH	**Miaoli**	**1.61 290**	*i* P	**Pb**	**09 27 17.1**	**+0.3**
	baz=288						
NMLH			*i* S	**Sg**	**09 27 38.5**	**-0.7**
	baz=288						
LONT	**Longtian**	**1.62 229**	*i* P	**Pn**	**09 27 14.9**	**-0.5**
	baz=240						
LONT			S	**Sn**	**09 27 37.4**	**+1.3**
	baz=240						
WNT	**Mingjian**	**1.62 267**	*i* P	**Pn**	**09 27 16.5**	**+1.1**
	baz=264						
WNT			*i* S	**Sb**	**09 27 38.0**	**+0.7**
	baz=264						
TCU	**Taichung**	**1.63 276**	*i* P	**Pb**	**09 27 17.5**	**+0.4**
	baz=274						
TCU			*i* S	**Sg**	**09 27 39.3**	**-0.4**
	baz=274						
CHN5	**Tsauling**	**1.67 257**	*i* P	**Pb**	**09 27 18.0**	**+0.2**
	baz=245						
CHN5			S	**Sb**	**09 27 38.9**	**+0.2**
	baz=245						
WDJ	**Dajia District**	**1.69 283**	S	**Sb**	**09 27 40.6**	**+1.2**
	baz=280						
TWGBT	**Beinan**	**1.71 228**	P	**Pn**	**09 27 15.6**	**-1.1**
	baz=238						
TWG	**Pinlang**	**1.72 228**	P	**Pn**	**09 27 14.9**	**-1.8**
	baz=238						
TWG			S	**Sn**	**09 27 37.7**	**-0.9**
	baz=238						
WCHH	**Zhanghua**	**1.73 274**	*i* P	**Pb**	**09 27 18.9**	**+0.1**
	baz=271						
WCHH			S	**Sn**	**09 27 40.1**	**+1.1**
	baz=271						
STYH	**Taoyuan**	**1.74 243**	*i* P	**Pn**	**09 27 15.7**	**-1.4**
	baz=232						
STYH			S	**Sn**	**09 27 38.9**	**-0.1**
	baz=232						
WDLH	**Douliu**	**1.78 261**	*i* P	**Pn**	**09 27 18.5**	**+1.0**
	baz=258						
WDLH			S	**Sb**	**09 27 42.3**	**+0.5**
	baz=258						
WCKO	**Fanlu**	**1.78 253**	S	**Sn**	**09 27 41.2**	**+1.2**
	baz=250						
JISG	**Ishigakijimahi**	**1.80 70**	P	**Pb**	**09 27 19.2**	**-0.7**
JISG			*e*S	**Sn**	**09 27 40.6**	**0.0**
TPUB	**Ta-pu**	**1.80 248**	P	**Pn**	**09 27 19.3**	**+1.3**
	baz=246						
TPUB			S	**Sb**	**09 27 42.6**	**+0.1**
	baz=246						
CHN4	**Tsaushan**	**1.82 250**	*i* P	**Pn**	**09 27 19.1**	**+1.0**
	baz=248						
CHN4			*i* S	**Sn**	**09 27 42.1**	**+1.1**
	baz=248						
WTP	**Ta-pu**	**1.84 247**	*i* P	**Pn**	**09 27 19.7**	**+1.3**
	baz=244						
WTP			*i* S	**Sn**	**09 27 43.1**	**+1.5**
	baz=244						
WRL	**Guolierlin Hig**	**1.90 268**	*i* P	**Pn**	**09 27 20.0**	**+0.8**
	baz=279						
WRL			*i* S	**Sb**	**09 27 45.1**	**-0.3**
	baz=279						
CHY	**Chiayi**	**1.92 256**	P	**Pb**	**09 27 21.5**	**-0.5**
	baz=253						
CHY			S	**Sb**	**09 27 45.5**	**-0.4**
	baz=253						
CHN1	**Nanshi**	**1.94 246**	*i* P	**Pb**	**09 27 21.9**	**-0.4**
	baz=244						
CHN1			*i* S	**Sb**	**09 27 46.4**	**0.0**
	baz=244						
TWK	**Hsinying**	**1.94 249**	*i* P	**Pn**	**09 27 21.6**	**+1.8**
	baz=246						
TWK			*i* S	**Sb**	**09 27 46.6**	**+0.2**
	baz=246						
ECL	**Taimali**	**1.95 225**	*i* P	**Pn**	**09 27 20.6**	**+0.7**
	baz=234						
SSD	**Sandimen**	**2.08 234**	*i* P	**Pb**	**09 27 24.0**	**-0.7**
	baz=225						
WSL	**Shuilin Townsh**	**2.09 258**	P	**Pn**	**09 27 22.6**	**+0.7**
	baz=255						
WSL			S	**Sb**	**09 27 52.3**	**+1.5**
	baz=255						
TSMG	**Majia**	**2.09 233**	P	**Pn**	**09 27 22.8**	**+0.9**
	baz=226						
TSMG			S	**Sn**	**09 27 47.9**	**+0.1**
	baz=226						
SCST	**Cishan**	**2.10 239**	*i* P	**Pb**	**09 27 24.4**	**-0.7**
	baz=225						
SCST			S	**Sb**	**09 27 53.0**	**+1.8**
	baz=225						
LYUB	**Lan-yu**	**2.13 202**	*e*S	**Sn**	**09 27 48.0**	**-0.7**
	baz=201						
JTJ	**Tarama**	**2.15 72**	P	**Pb**	**09 27 24.6**	**-1.5**
MASBT	**Mashibuluo**	**2.16 231**	*e*P	**Pn**	**09 27 24.6**	**+1.8**
	baz=224						
MASBT			S	**Sn**	**09 27 50.1**	**+0.7**
	baz=224						
EAST	**Anshuo**	**2.17 223**	*i* P	**Pn**	**09 27 23.1**	**+0.1**
	baz=221						
EAST			S	**Sn**	**09 27 48.8**	**-1.0**
	baz=221						
TAWH	**Dawu Township**	**2.18 222**	S	**Sn**	**09 27 47.7**	**-2.3**
	baz=230						
TWM1	**Shoushan**	**2.19 239**	S	**Sb**	**09 27 55.0**	**+1.2**
	baz=237						
TSCK	**Chigu Township**	**2.33 250**	*i* P	**Pn**	**09 27 25.7**	**+0.6**
	baz=247						
TSCK			*i* S	**Sn**	**09 27 54.3**	**+0.8**
	baz=247						
PNG	**Penghu**	**2.69 262**	*i* P	**Pn**	**09 27 30.8**	**+0.8**
	baz=260						

MAN 20 09:35:03.6, 10.32N×124.76E, h3km, mb4.0, ML2.8, MS2.4, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABP	**Talibon, Bohol**	**0.48**	**242**	⇓*i* P	Pb	09 35 15.4	+0.7
TABP				*i* S	Sb	09 35 22.8	+0.6
GHBP	**Garcia Hernand**	**0.81**	**212**	⇓*e*P	Pn	09 35 22.3	+0.3
GHBP				*e*S	Sn	09 35 34.5	0.0
TBP	**Tagbilaran**	**1.08**	**235**	*e*P	Pn	09 35 26.4	+0.7
TBP				*i* S	Sn	09 35 42.2	+1.0

*IDC **20** 09:47:23.8±0.9, 44°27S×39°14E, h0km, mb4.1/6, mbtmp4.0/7, ML3.5/1, MS3.7/17, Error ellipse: s-maj=32.0km s-min=25.2km az=17.0*

ISC 20 09:47:25.0±1.0, 44.43S±0°2×39.1E±0°2, h10km, n23, σ0 8 4/9, mb4.0/6, MS3.8/15, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.57**	**303**	LR	LR	09 57 56.5	
	comp=Z,91nm,19.2s,baz=118,slow=34						
BOSA	**Boshof**	**19.13**	**320**	P	**P**	**09 51 48.9**	**+0.5**
	0.1nm,0.3s,baz=161,slow=14,SNR=1.5						
BOSA				LR	LR	09 57 39.1	
	comp=Z,145nm,21.4s,baz=196,slow=32 1.7nm,1.0s						
LBTB	**Lobatse**	**22.12**	**326**	LR	LR	09 59 40.4	
	comp=Z,169nm,19.8s,baz=156,slow=33						
MAW	**Mawson**	**26.58**	**160**	LR	LR	10 00 53.0	
	comp=Z,88nm,22.0s,baz=12,slow=30						
TSUM	**Tsumeb**	**30.78**	**317**	LR	LR	10 05 03.1	
	comp=Z,121nm,19.1s,baz=151,slow=34						
SNAA	**Sanae**	**34.03**	**202**	P	**P**	**09 54 09.9**	**+1.1**
	1.9nm,0.9s,baz=38,slow=7.8,SNR=5.9						
SNAA				LR	LR	10 05 38.4	
	comp=Z,64nm,18.5s,baz=30,slow=32 1.9nm,0.9s						
KMBO	**Kilima Mbogo**	**42.97**	**357**	LR	LR	10 10 35.7	
	comp=Z,161nm,20.7s,baz=87,slow=32						
MBAR	**Mbarara**	**44.09**	**348**	LR	LR	10 13 19.0	
	comp=Z,94nm,18.2s,baz=110,slow=35						
QSPA	**South Pole Qui**	**45.96**	**180**	P	**P**	**09 55 47.1**	**-0.9**
	0.5nm,0.5s,baz=98,slow=1.0,SNR=10						
QSPA				LR	LR	10 13 52.0	
	comp=Z,103nm,19.5s,baz=242,slow=35 0.5nm,0.5s						
VNDA	**Vanda**	**53.55**	**167**	LR	LR	10 18 43.9	
	comp=Z,65nm,18.1s,baz=222,slow=35						
H10S2	**ASCENSION HYDR**	**58.17**	**290**	T	T	11 00 17.4	
	baz=134,slow=74,SNR=5.4						
H10S3	**ASCENSION HYDR**	**58.19**	**290**	T	T	11 00 19.0	
	baz=86,slow=74,SNR=16						
DBIC	**Dimbokro**	**64.30**	**310**	LR	LR	10 23 31.4	
	comp=Z,49nm,18.7s,baz=12,slow=34						
WSAR	**Wadi Sarin**	**69.50**	**19**	LR	LR	10 25 02.6	
	comp=Z,58nm,18.5s,baz=250,slow=32						
CPUP	**Villa Florida**	**76.44**	**247**	P	**P**	**09 59 15.0**	**0.0**
	1.4nm,0.9s,baz=126,slow=2.2,SNR=3.3 1.4nm,0.9s						
STKA	**Stephens Creek**	**76.51**	**121**	P	**P**	**09 59 15.3**	**0.0**
	3.4nm,0.8s,baz=254,slow=7.4,SNR=8.6						
STKA				LR	LR	10 27 34.7	
	comp=Z,62nm,19.1s,baz=200,slow=32 3.4nm,0.8s						
MMAI	**Mount Meron Ar**	**76.97**	**357**	LR	LR	10 33 34.4	
	comp=Z,40nm,18.1s,baz=140,slow=36						
ASAR	**Alice Springs**	**77.15**	**110**	P	**P**	**09 59 19.7**	**+0.6**
	3.0nm,0.9s,baz=218,slow=5.7,SNR=20 3.0nm,0.9s						
WRA	**Warramunga Arr**	**79.97**	**108**	P	**P**	**09 59 34.9**	**+0.2**
	1.8nm,1.0s,baz=214,slow=4.2,SNR=12						
WRA				LR	LR	10 29 56.1	
	comp=Z,72nm,18.6s,baz=238,slow=32 1.8nm,1.0s						
GNI	**Garni**	**84.17**	**4**	LR	LR	10 35 46.1	
	comp=Z,39nm,21.8s,baz=194,slow=34						
MDT	**Midelt**	**86.42**	**324**	LR	LR	10 38 12.0	
	comp=Z,43nm,18.1s,baz=173,slow=35						
TXAR	**Lajitas Array**	**146.99**	**256**	PKPbc	**PKPab**	**10 07 08.6**	**-0.9**
	1.8nm,1.0s,baz=134,slow=5.4,SNR=10						
ULM	**Lac du Bonnet**	**149.23**	**297**	PKPbc	**PKPbc**	**10 07 12.2**	**-0.9**
	2.7nm,0.7s,baz=121,slow=2.9,SNR=3.8						

ROM 20 09:53:02.1±0.2, 41.130N±0.005×15.098E±0.010, h25km±1km, ML1.5/3, 4C-1D, Error ellipse: s-maj=0.8km s-min=0.2km az=242.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIOG	**Biogem**	**0.07**	**21**	P	Pb	09 53 06.4	-0.3
BIOG				S	Sb	09 53 10.7	+0.9
MRB1	**Monte Rocchett**	**0.09**	**268**	P	Pb	09 53 06.9	0.0
MRB1				S	Sb	09 53 10.2	+0.2
MRB1				AML	AML		
	comp=E,162μm,0.4s						
MRB1				AML	AML		
	comp=N,239μm,0.7s						
MRB1				AML	AML		
	comp=E,161μm,0.4s						
MRB1	**Monte Rocchett**	**0.09**	**268**	⇓P	Pb	09 53 07.0	+0.2
MRB1				AML	AML		
	comp=E,162μm,0.4s						
MRB1				AML	AML		
	comp=N,239μm,0.7s						
MRB1				AML	AML		
	comp=E,161μm,0.4s						
MRB1				AML	AML		
	comp=N,239μm,0.7s						
MRB1				AML	AML		
	comp=E,161μm,0.4s						
MRB1				AML	AML		
	comp=N,239μm,0.7s						
CAFE	**Carife**	**0.15**	**134**	P	Pb	09 53 07.2	-0.1
CAFE				S	Sb	09 53 10.8	0.0
CAFE				AML	AML		
	comp=E,502μm,0.2s						
CAFE				AML	AML		
	comp=E,502μm,0.2s						
CAFE				AML	AML		
	comp=N,158μm,0.3s						
CAFE				AML	AML		
	comp=N,158μm,1.7s						
CAFE				AML	AML		
	comp=E,502μm,1.8s						
CAFE	**Carife**	**0.15**	**134**	⇑P	Pb	09 53 07.2	-0.1
CAFE				AML	AML		
	comp=E,502μm,0.2s						
CAFE				AML	AML		
	comp=N,158μm,0.3s						
CAFE				AML	AML		
	comp=E,502μm,0.2s						
CAFE				AML	AML		
	comp=N,158μm,0.3s						
CAFE				AML	AML		
	comp=E,502μm,0.2s						
CAFE				AML	AML		
	comp=N,158μm,0.3s						
CAFE				AML	AML		
	comp=N,158μm,0.3s						
CAFE				AML	AML		
	comp=E,502μm,0.2s						
SGTA	**Sant Agata di**	**0.20**	**88**	P	Pb	09 53 07.9	0.0
SGTA				S	Sb	09 53 12.1	+0.2
SNAL	**S. Angelo Dei**	**0.22**	**158**	⇑P	Pb	09 53 08.2	+0.1
SNAL				S	Sb	09 53 12.7	+0.5

SNAL				AML	AML		
	comp=E,101μm,1.6s						
SNAL				AML	AML		
	comp=E,102μm,1.6s						
SNAL				AML	AML		
	comp=N,93μm,1.6s						
SNAL				AML	AML		
	comp=E,101μm,1.6s						
SNAL				AML	AML		
	comp=N,95μm,1.6s						
SNAL				AML	AML		
	comp=N,95μm,0.4s						
SNAL	**S. Angelo Dei**	**0.22**	**158** ⇑	P	Pb	09 53 08.2	+0.1
SNAL	**S. Angelo Dei**	**0.22**	**158** ⇑	P	Pb	09 53 08.2	+0.1
SNAL				AML	AML		
	comp=E,101μm,1.6s						
SNAL				AML	AML		
	comp=N,93μm,1.6s						
SNAL				AML	AML		
	comp=E,102μm,1.6s						
SNAL				AML	AML		
	comp=N,93μm,1.6s						
SNAL				AML	AML		
	comp=E,101μm,1.6s						
SNAL				AML	AML		
	comp=N,95μm,1.6s						
SNAL				AML	AML		
	comp=E,101μm,1.6s						
SNAL				AML	AML		
	comp=N,95μm,1.6s						
PSB1	**Pescosannita**	**0.24**	**293**	P	Pb	09 53 08.4	+0.1
PSB1				S	Sb	09 53 12.8	+0.3
MOCO	**Biccari - m.te**	**0.24**	**11**	P	Pb	09 53 08.6	+0.1
MOCO				S	Sb	09 53 13.7	+0.9
MCRV	**Calabrutti - M**	**0.35**	**171**	P	Pb	09 53 10.2	+0.2
MCRV				S	Sb	09 53 16.2	+0.8
SGRT	**San Giovanni R**	**0.79**	**38**	P	Pb	09 53 16.8	-0.5
MSAG	**Monte S. Angel**	**0.84**	**46**	P	Pn	09 53 18.6	+0.1

ROM 20 09:53:13.2±0.0, 42°740N±0″002×13°258E±0″002, h11km, ML1.5/6, 1D, Error ellipse: s-maj=0.2km s-min=0.1km az=238.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.12**	**152**	P	Pg		09 53 17.0	+0.6
SMA1				S	Sg		09 53 19.1	+0.6
SMA1				AML	AML			
	comp=E,366μm,0.1s							
SMA1				AML	AML			
	comp=N,406μm,0.2s							
SMA1				AML	AML			
	comp=E,372μm,0.5s							
SMA1				AML	AML			
	comp=E,367μm,0.1s							
T1218	**Civita (PG)**	**0.13**	**237**	P	Pg		09 53 17.0	+0.6
T1218				S	Sg		09 53 19.4	+0.8
T1218				AML	AML			
	comp=E,756μm,1.0s							
T1218				AML	AML			
	comp=N,1290μm,0.1s							
T1245	**Castelsantange**	**0.13**	**336**	P	Pg		09 53 17.1	+0.6
T1245				S	Sg		09 53 19.4	+0.6
NRCA	**Norcia**	**0.14**	**312**	P	Pg		09 53 17.1	+0.4
NRCA				S	Sg		09 53 19.5	+0.5
T1243	**Rocca Santa Ma**	**0.15**	**107**	P	Pg		09 53 17.2	+0.6
T1243				S	Sg		09 53 19.7	+0.5
MMO1	**Montemonaco**	**0.17**	**18**	P	Pg		09 53 17.6	+0.5
MMO1	**Montemonaco**	**0.17**	**18**	P	Pg		09 53 17.6	+0.5
MMO1				S	Sg		09 53 20.6	+0.9
T1241	**Roccafluvione,**	**0.17**	**47**	P	Pg		09 53 17.7	+0.6
T1241				S	Sg		09 53 20.8	+1.0
T1241				AML	AML			
	comp=E,1245μm,0.4s							
T1241				AML	AML			
	comp=N,1405μm,0.4s							
T1241				AML	AML			
	comp=E,462μm,0.2s							
T1241				AML	AML			
	comp=N,147μm,1.1s							
LNSS	**Leonessa**	**0.21**	**230**	P	Pg		09 53 18.4	+0.6
LNSS				S	Sg		09 53 21.6	+0.7
CAMP	**Campotosto**	**0.23**	**151**	P	Pg		09 53 18.7	+0.6
CAMP				S	Sg		09 53 22.6	+1.2
T1216	**Preci, Frazion**	**0.23**	**311**	P	Pg		09 53 18.6	+0.5
T1216				S	Sg		09 53 22.4	+1.0
RM33	**Pellescritta (**	**0.23**	**188**	P	Pg		09 53 18.8	+0.7
RM33				S	Sg		09 53 22.7	+1.3
RM33				AML	AML			
	comp=E,256μm,0.2s							
RM33				AML	AML			
	comp=N,287μm,0.3s							
RM33				AML	AML			
	comp=E,257μm,0.2s							
RM33				AML	AML			
	comp=N,288μm,0.3s							
RM33				AML	AML			
	comp=N,125μm,0.2s							
RM33				AML	AML			
	comp=E,95μm,0.9s							
T1256	**Bolognola (MC)**	**0.27**	**355** ⇓	P	Pg		09 53 19.4	+0.6
T1256	**Bolognola (MC)**	**0.27**	**355**	P	Pg		09 53 19.4	+0.6
T1256				AML	AML			
	comp=E,2295μm,0.9s							
T1256				AML	AML			
	comp=N,2240μm,0.5s							
T1256				AML	AML			
	comp=N,2240μm,0.5s							
T1256				AML	AML			
	comp=E,2295μm,0.9s							
TERO	**Teramo**	**0.28**	**115**	P	Pg		09 53 19.3	+0.4
TERO				S	Sb		09 53 24.1	-1.0
TERO				AML	AML			
	comp=E,200μm,0.9s							
TERO				AML	AML			
	comp=N,186μm,1.0s							
TERO				AML	AML			
	comp=E,308μm,0.9s							
TERO				AML	AML			
	comp=N,290μm,0.5s							
TERO				AML	AML			
	comp=E,201μm,0.9s							
TERO				AML	AML			
	comp=N,186μm,1.0s							
FDMO	**Fiordimonte**	**0.32**	**337**	P	Pg		09 53 20.2	+0.5
FDMO				S	Sb		09 53 25.3	-1.0
CSP1	**Cessapalombo**	**0.35**	**354**	P	Pb		09 53 21.2	-0.5
CSP1				S	Sb		09 53 26.4	-0.9
T1219	**Muccia, Frazio**	**0.37**	**330**	P	Pg		09 53 20.9	+0.3
T1219				S	Sb		09 53 26.6	-1.0
T1219				AML	AML			
	comp=E,491μm,1.6s							
T1219				AML	AML			
	comp=N,571μm,0.2s							
GIGS	**Gran Sasso**	**0.37**	**141**	P	Pg		09 53 20.9	+0.2
GIGS				S	Sg		09 53 26.4	+0.8
GIGS				AML	AML			
	comp=E,69μm,0.2s							
GIGS				AML	AML			
	comp=N,83μm,0.4s							
GIGS				AML	AML			
	comp=N,27μm,2.6s							
GIGS				AML	AML			
	comp=E,13μm,0.6s							
CESI	**CESI - Serrava**	**0.37**	**316**	P	Pg		09 53 21.0	+0.3
CESI				S	Sb		09 53 26.9	-0.8

*KRNET **20** 09:59:45.7±0.1, 42°37N×78°37E, h9km, mb3.1*
*NNC **20** 09:59:47.7±1.2, 42°47N×78°37E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=8.6km s-min=3.8km az=167.0*
*SOME **20** 09:59:47.5, 42°45N×78°33E, h10km*

ISC 20 09:59:45.6±1.3, 42°40N±0′.04×78°38E±0′.04, h9km±11km, n22, σ0s68/42, 4C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.66**	**1**	*e*P	**Pb**		**09 59 59.6**	**+0.1**
	baz=2.0							
SATY				*e*S	**Sb**		**10 00 08.0**	**-0.9**
	baz=2.0							
SATY	**Saty**	**0.66**	**1**	*e*P	**Pb**		**09 59 59.6**	**+0.1**
	5.2nm,0.1s							
SATY				*e*S	**Sb**		**10 00 08.1**	**-0.9**
	967nm,0.4s							
SATY	**Saty**	**0.66**	**1**	P	**Pb**		**09 59 59.6**	**+0.1**
	5.2nm,0.1s							
SATY				S	**Sb**		**10 00 08.0**	**-0.9**
	967nm,0.4s							
TARG	**Taragay, Kyrgy**	**0.79**	**213** ⇓	*i*P	**Pg**		**10 00 00.5**	**-0.4**
	baz=14							
TARG				⇓*i*S	**Sg**		**10 00 10.5**	**-0.8**
	baz=14							
KPKS	**Kokpek**	**1.09**	**12**	*e*P	**Pb**		**10 00 06.5**	**-0.3**
	5.6nm,0.1s							
KPKS				*e*S	**Sb**		**10 00 20.0**	**-1.2**
	9.0nm,0.4s							
KPKS	**Kokpek**	**1.09**	**12**	P	**Pb**		**10 00 06.5**	**-0.3**
	5.6nm,0.1s							
KPKS				S	**Sb**		**10 00 20.0**	**-1.2**
	9.0nm,0.4s							
PDGK	**Podgornoye**	**1.24**	**41**	P	**Pn**		**10 00 09.7**	**+0.4**
	1.0nm,0.2s							
PDGK				S	**Sb**		**10 00 25.6**	**+0.2**
	2.6nm,0.3s							
TNSS	**Tian-Shan**	**1.24**	**302**	*e*P	**Pg**		**10 00 10.3**	**+0.9**
	1.2nm,0.1s							
TNSS				*e*S	**Sn**		**10 00 26.6**	**0.0**
	5.7nm,0.3s							
TNSS	**Tian-Shan**	**1.24**	**302**	P	**Pg**		**10 00 10.3**	**+0.9**
	1.2nm,0.1s							
TNSS				S	**Sn**		**10 00 26.6**	**0.0**
	5.7nm,0.3s							
MDOK	**Medeo**	**1.25**	**308** ⇑	P	**Pg**		**10 00 10.1**	**+0.5**
	1.2nm,0.2s							
MDOK				⇑S	**Sn**		**10 00 26.2**	**-0.3**
	1.9nm,0.2s							
CHKK	**Chushkaly**	**1.78**	**325**	*e*P	**Pg**		**10 00 19.8**	**+0.1**
	7.0nm,0.2s							
CHKK				*e*S	**Sg**		**10 00 43.0**	**+0.2**
	8.5nm,0.2s							
CHKK	**Chushkaly**	**1.78**	**325**	P	**Pg**		**10 00 19.8**	**+0.1**
	7.0nm,0.2s							
CHKK				S	**Sg**		**10 00 43.0**	**+0.2**
	8.5nm,0.2s							
BOOM	**Boomskoye usch**	**1.81**	**274** ⇑	*i*P	**Pb**		**10 00 19.7**	**+0.6**
	baz=75							
BOOM				⇑*i*S	**Sg**		**10 00 43.8**	**0.0**
	baz=75							
KTBS	**Karatobe**	**1.81**	**317**	*e*P	**Pg**		**10 00 20.5**	**+0.1**
	3.1nm,0.2s							
KTBS				*e*S	**Sg**		**10 00 44.0**	**+0.1**
	6.8nm,0.2s							
KTBS	**Karatobe**	**1.81**	**317**	P	**Pg**		**10 00 20.5**	**+0.1**
	3.1nm,0.2s							
KTBS				S	**Sg**		**10 00 44.0**	**+0.1**
	6.8nm,0.2s							
ARXS	**Arharly**	**1.86**	**348**	*e*P	**Pg**		**10 00 21.0**	**-0.3**
	6.4nm,0.3s							
ARXS				*e*S	**Sg**		**10 00 44.8**	**-0.7**
	2.1nm,0.1s							
ARXS	**Arharly**	**1.86**	**348**	P	**Pg**		**10 00 21.0**	**-0.3**
	6.4nm,0.3s							
ARXS				S	**Sg**		**10 00 44.8**	**-0.7**
	2.1nm,0.1s							
TKM2	**Tokmak 2**	**2.12**	**285** ⇓	*e*P	**Pb**		**10 00 25.0**	**+0.6**
	baz=86							
TKM2				⇓*i*S	**Sg**		**10 00 52.8**	**-1.0**
	baz=86							
DJR	**Jarkent**	**2.19**	**27**	*e*P	**Pb**		**10 00 27.2**	**+1.7**
	1.1nm,0.0s							
DJR				*e*S	**Sg**		**10 00 55.6**	**-0.4**
	6.0nm,0.2s							
DJR	**Jarkent**	**2.19**	**27**	Pg	**Pb**		**10 00 27.2**	**+1.7**
	1.1nm,0.0s							
DJR				Lg	Lg		10 00 55.6	
	6.0nm,0.2s							
KRBS	**Karabastau**	**2.37**	**304**	*e*P	**Pg**		**10 00 30.8**	**-0.3**
	0.7nm,0.1s							
KRBS				*e*S	**Sg**		**10 01 01.7**	**-0.2**
	4.2nm,0.3s							
KRBS	**Karabastau**	**2.37**	**304**	Pg	**Pg**		**10 00 30.8**	**-0.3**
	0.7nm,0.1s							
KRBS				Lg	Lg		10 01 01.7	
	4.2nm,0.3s							

WEL 20 10:04:08.0, 42°S±4°×17°4E±°, h28km±10km, M2.9/19, ML3.0/29, MLv2.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=86.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.37**	**208**	P	Pb		10 04 16.6	+0.4
BSWZ	**Blackbirch Sta**	**0.38**	**12**	P	Pb		10 04 16.2	-0.3
TUWZ	**Tuamarina**	**0.67**	**11**	P	Pn		10 04 21.5	-0.1
THZ	**Tophouse**	**0.73**	**297**	P	Pb		10 04 22.1	0.0
NNZ	**Nelson**	**0.92**	**341**	P	Pb		10 04 25.4	+0.1
TCW	**Tory Channel**	**0.96**	**23**	P	Pb		10 04 26.4	+0.4
MRNZ	**Matariki Terra**	**1.03**	**312**	P	Pb		10 04 27.8	+0.6
GVZ	**Greta Valley S**	**1.03**	**212**	P	Pb		10 04 28.7	+1.4
WEL	**Wellington**	**1.10**	**43**	P	Pb		10 04 29.8	+1.5
TKNZ	**Takaka Hill**	**1.22**	**330**	P	Pb		10 04 30.9	+0.5
PLWZ	**Palliser**	**1.22**	**65**	P	Pb		10 04 30.7	+0.1
DUWZ	**D'Urville Isla**	**1.29**	**5**	P	Pb		10 04 32.2	+0.5
MSWZ	**Moikau Station**	**1.29**	**59**	P	Pb		10 04 31.6	-0.1
LTZ	**Lake Taylor**	**1.31**	**238**	P	Pb		10 04 32.8	+0.8
AMCZ	**Amberley**	**1.36**	**217**	P	Pb		10 04 33.0	+0.1
CAW	**Cannon Point**	**1.38**	**45**	P	Pb		10 04 33.2	0.0
PAWZ	**Paruwai Farm**	**1.43**	**61**	P	Pb		10 04 33.3	-0.7
KIW	**Kapiti Island**	**1.50**	**35**	P	Pb		10 04 35.3	+0.2
DSZ	**Dennisten Nort**	**1.51**	**283**	P	Pb		10 04 36.7	+1.4
QRZ	**Quartz Range**	**1.57**	**323**	P	Pb		10 04 36.8	+0.4
MTW	**Mount Morrison**	**1.60**	**55**	P	Pn		10 04 35.4	+1.0
OGWZ	**Otaki Gorge**	**1.65**	**40**	P	Pb		10 04 36.8	-0.9
OKCZ	**Okains Bay**	**1.71**	**198**	P	Pn		10 04 37.4	+1.4
OXZ	**Oxford**	**1.78**	**225**	P	Pn		10 04 37.9	+1.0
MQZ	**McQueen's Vall**	**1.81**	**207**	P	Pn		10 04 37.8	+0.5
INZ	**Inchbonnie**	**1.84**	**249**	P	Pb		10 04 40.2	-0.8
TMWZ	**Te Maipa**	**1.87**	**59**	P	Pn		10 04 38.8	+0.7
AKCZ	**Akaroa Harbour**	**1.89**	**199**	P	Pn		10 04 40.0	+1.5
MRZ	**Mangatainoka R**	**1.97**	**44**	P	Pn		10 04 40.8	+1.2
RACZ	**Rakaia**	**2.03**	**216**	P	Pn		10 04 41.1	+0.8
MHCZ	**Mount Hutt**	**2.17**	**228**	P	Pn		10 04 43.4	+1.1
WACZ	**Wakanui South**	**2.33**	**217**	P	Pn		10 04 45.4	+1.0
WVZ	**Waitaha Valley**	**2.45**	**245**	P	Pn		10 04 48.3	+2.2
WAZ	**Wanganui**	**2.51**	**22**	P	Pb		10 04 54.1	+1.7
RPZ	**Rata Peaks**	**2.57**	**230**	P	Pn		10 04 49.1	+1.3
ANWZ	**Angora Road**	**2.61**	**52**	P	Pb		10 05 07.6	+14
TSZ	**Takapari Road**	**2.62**	**40**	P	Pb		10 04 58.1	+3.9
ARCZ	**Arundel**	**2.66**	**225**	P	Pn		10 04 50.2	+1.2
GCSZ	**Gaunt Creek Bo**	**2.82**	**243**	P	Pn		10 04 54.0	+2.8
TMZ	**Timaru**	**3.06**	**220**	P	Pn		10 04 55.2	+0.8
VRZ	**Vera Road**	**3.06**	**15**	P	Pb		10 05 01.1	-0.6
MOVZ	**Moawhango**	**3.07**	**30**	P	Pb		10 05 03.1	+1.1
WNVZ	**Wahianoa**	**3.09**	**27**	P	Pb		10 05 02.6	+0.3
TRVZ	**Turoa**	**3.10**	**26**	P	Pb		10 05 03.9	+1.4
BHHZ	**Black Hill Sta**	**3.13**	**35**	P	Pb		10 05 04.8	+1.9
TUVZ	**Tukino**	**3.16**	**28**	P	Pb		10 05 05.0	+1.4
NNVZ	**North Ngauruho**	**3.27**	**26**	P	Pb		10 05 07.0	+1.6
ETVZ	**East Tongariro**	**3.30**	**27**	P	Pb		10 05 07.4	+1.5
TMVZ	**Te Maari**	**3.31**	**27**	P	Pb		10 05 07.3	+1.1
NTVZ	**North Tongarir**	**3.32**	**26**	P	Pb		10 05 07.7	+1.4
LBZ	**Lake Benmore**	**3.48**	**228**	P	Pn		10 05 01.5	+1.2
BKZ	**Black Stump Fm**	**3.58**	**36**	P	Pb		10 05 11.9	+1.2
ODZ	**Otahua Downs**	**3.73**	**217**	P	Pn		10 05 04.2	+0.5
RTZ	**Ruatahuna**	**4.25**	**36**	P	Pn		10 05 15.0	+4.1
EAZ	**Earnscleugh**	**4.51**	**224**	P	Pn		10 05 15.5	+1.1

IDC 20 10:05:56.2±1.8, 21°38N×94°19E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=76.7km s-min=21.4km az=48.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.33**	**122**	Pg	Pb		10 07 31.6	+1.2
	0.3nm,0.3s,baz=298,slow=15,SNR=1.3							
CMAR				Lg	Lg		10 08 46.1	
	0.6nm,0.3s,baz=294,slow=31,SNR=1.6							
MKAR	**Makanchi Array**	**27.14**	**342**	P	P		10 11 40.9	-0.2
	0.3nm,0.5s,baz=149,slow=11,SNR=5.7							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**56.81**	**134**	P	P		10 15 42.7	0.0
	0.3nm,0.6s,baz=319,slow=7.5,SNR=6.5							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**59.16**	**137**	P	P		10 15 59.5	+0.3
	0.3nm,0.9s,baz=312,slow=7.0,SNR=2.0							
	0.3nm,0.9s							

*NOU **20** 10:07:48.9, 41°91S×174°56E, h17km, MLv3.9/10, Cook Strait, New Zealand*
*WEL **20** 10:07:49.5±0.3, 42°S±3°×17°4E±°, h13km±2km, M3.4/45, ML3.5/24, MLv3.4/45, Error ellipse: s-maj=0.0km s-min=0.0km az=146.4*

ISC 20 10:07:48.9±1.1, 41°83S±0′.04×174°40E±0′.03, h16km±8km, n94, σ0s92/96, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**300**	P	**Pg**		**10 07 53.6**	**+0.5**
CMWZ				S	**Sg**		**10 07 56.5**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.41**	**286**	P	**Pg**		**10 07 57.1**	**-0.1**
TUWZ	**Tuamarina**	**0.53**	**319**	P	**Pg**		**10 07 58.5**	**-0.9**
TUWZ				S	**Sg**		**10 08 04.7**	**-1.7**
SNZO	**South Karori**	**0.57**	**24**	P	**Pg**		**10 08 01.0**	**+0.8**
WEL	**Wellington**	**0.61**	**27**	P	**Pg**		**10 08 01.5**	**+0.5**
TCW	**Tory Channel**	**0.63**	**352**	P	**Pb**		**10 08 00.4**	**-1.1**
PLWZ	**Palliser**	**0.69**	**68**	P	**Pn**		**10 08 04.4**	**+0.4**
MSWZ	**Moikau Station**	**0.76**	**57**	P	**Pn**		**10 08 05.5**	**+0.5**
KHZ	**Kahutara**	**0.87**	**227**	P	**Pn**		**10 08 07.5**	**+1.1**
KHZ	**Kahutara**	**0.87**	**227**	P	**Pn**		**10 08 07.1**	**+0.7**
KHZ				S	**Sn**		**10 08 20.3**	**+1.6**
CAW	**Cannon Point**	**0.88**	**35**	P	**Pb**		**10 08 06.2**	**+0.4**
PAWZ	**Paruwai Farm**	**0.89**	**60**	P	**Pn**		**10 08 07.0**	**+0.2**
NNZ	**Nelson**	**0.98**	**308**	P	**Pb**		**10 08 06.5**	**-0.9**
KIW	**Kapiti Island**	**1.04**	**22**	P	**Pb**		**10 08 08.5**	**0.0**
TRWZ	**Traveller**	**1.06**	**66**	P	**Pb**		**10 08 09.2**	**+0.3**
MTW	**Mount Morrison**	**1.07**	**51**	P	**Pn**		**10 08 09.2**	**+0.2**
DUWZ	**D'Urville Isla**	**1.09**	**341**	P	**Pb**		**10 08 08.5**	**-0.9**
THZ	**Tophouse**	**1.12**	**273**	P	**Pn**		**10 08 09.7**	**-0.3**
OGWZ	**Otaki Gorge**	**1.17**	**30**	P	**Pn**		**10 08 10.7**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.25**	**42**	P	**Pn**		**10 08 11.7**	**-0.1**
MRNZ	**Matariki Terra**	**1.30**	**289**	P	**Pn**		**10 08 12.5**	**+0.1**
TMWZ	**Te Maipa**	**1.33**	**58**	P	**Pn**		**10 08 12.7**	**-0.2**
TKNZ	**Takaka Hill**	**1.34**	**306**	P	**Pn**		**10 08 12.8**	**-0.2**
MRZ	**Mangatainoka R**	**1.47**	**38**	P	**Pn**		**10 08 14.7**	**0.0**
GVZ	**Greta Valley S**	**1.52**	**221**	P	**Pn**		**10 08 15.9**	**+0.5**
TIWZ	**Tintock**	**1.54**	**47**	P	**Pn**		**10 08 15.4**	**-0.3**
QRZ	**Quartz Range**	**1.73**	**305**	P	**Pn**		**10 08 19.1**	**+0.8**
QRZ	**Quartz Range**	**1.73**	**305**	P	**Pn**		**10 08 18.9**	**+0.6**
PRWZ	**Pori Road**	**1.74**	**43**	P	**Pn**		**10 08 18.2**	**-0.3**
POWZ	**Post Office Ro**	**1.77**	**36**	P	**Pn**		**10 08 18.6**	**-0.3**
BFZ	**Birch Farm**	**1.81**	**51**	P	**Pn**		**10 08 18.7**	**-0.6**
BFZ	**Birch Farm**	**1.81**	**51**	P	**Pn**		**10 08 18.5**	**-0.9**
LTZ	**Lake Taylor**	**1.84**	**238**	P	**Pn**		**10 08 20.2**	**+0.3**
AMCZ	**Amberley**	**1.86**	**223**	P	**Pn**		**10 08 20.2**	**+0.1**
DSZ	**Dennisten Nort**	**1.94**	**272**	P	**Pn**		**10 08 21.9**	**+0.6**
DVHZ	**Dannevirke**	**2.03**	**42**	P	**Pn**		**10 08 21.6**	**-0.9**
WAZ	**Wanganui**	**2.12**	**12**	P	**Pb**		**10 08 25.7**	**-1.3**
TSZ	**Takapari Road**	**2.13**	**34**	P	**Pn**		**10 08 23.4**	**-0.4**
OKCZ	**Okains Bay**	**2.13**	**207**	P	**Pn**		**10 08 23.8**	**-0.1**
MQZ	**McQueen's Vall**	**2.27**	**214**	P	**Pn**		**10 08 24.9**	**-0.8**
OXZ	**Oxford**	**2.30**	**229**	P	**Pn**		**10 08 25.4**	**-0.7**
PRHZ	**Porangahau**	**2.30**	**48**	P	**Pn**		**10 08 25.0**	**-1.1**
AKCZ	**Akaroa Harbour**	**2.31**	**208**	P	**Pn**		**10 08 26.2**	**-0.2**
WPHZ	**Waipukurau**	**2.35**	**42**	P	**Pn**		**10 08 26.0**	**-0.8**
PNHZ	**Pukenui**	**2.35**	**36**	P	**Pn**		**10 08 26.1**	**-0.8**
INZ	**Inchbonnie**	**2.37**	**247**	P	**Pn**		**10 08 27.5**	**+0.5**
LREZ	**Lake Rotokare**	**2.37**	**0**	P	**Pb**		**10 08 30.6**	**-0.5**
NMEZ	**Namu Road**	**2.45**	**350**	P	**Pb**		**10 08 33.4**	**+0.9**
RACZ	**Rakaia**	**2.52**	**221**	P	**Pn**		**10 08 28.3**	**-0.9**
KHEZ	**Kahui Hut**	**2.55**	**353**	P	**Pn**		**10 08 31.6**	**+1.9**
KHEZ	**Kahui Hut**	**2.55**	**353**	P	**Pn**		**10 08 33.0**	**-1.3**
NEZ	**North Egmont**	**2.57**	**355**	P	**Pn**		**10 08 32.9**	**-1.7**
NBEZ	**Newall Road No**	**2.59**	**351**	P	**Pb**		**10 08 33.2**	**-1.8**
PXZ	**Pawanui**	**2.59**	**47**	P	**Pn**		**10 08 28.5**	**-1.6**
MOVZ	**Moawhango**	**2.63**	**23**	P	**Pn**		**10 08 31.1**	**+0.3**
PKVZ	**Pokaka**	**2.64**	**16**	P	**Pn**		**10 08 32.2**	**+1.3**
PKE	**Pukeiti**	**2.65**	**353**	P	**Pb**		**10 08 34.5**	**-1.6**
BHHZ	**Black Hill Sta**	**2.66**	**29**	P	**Pn**		**10 08 31.0**	**-0.1**
WNVZ	**Wahianoa**	**2.66**	**20**	P	**Pn**		**10 08 31.9**	**+0.6**
TRVZ	**Turoa**	**2.68**	**19**	P	**Pn**		**10 08 32.8**	**+1.2**
MHCZ	**Mount Hutt**	**2.69**	**230**	P	**Pn**		**10 08 30.7**	**-0.9**
WHVZ	**Whangaehu Hut**	**2.70**	**20**	P	**Pn**		**10 08 32.6**	**+0.8**
VRZ	**Vera Road**	**2.72**	**6**	P	**Pn**		**10 08 33.6**	**+1.7**
FWVZ	**Far West T-bar**	**2.72**	**19**	P	**Pn**		**10 08 32.9**	**+0.8**
TUVZ	**Tukino**	**2.73**	**21**	P	**Pn**		**10 08 32.9**	**+0.6**
KAHZ	**Kahuranaki**	**2.77**	**44**	P	**Pn**		**10 08 31.2**	**-1.5**
NGZ	**Ngauruhoe**	**2.81**	**19**	P	**Pn**		**10 08 34.3**	**+1.1**
WACZ	**Wakanui South**	**2.83**	**221**	P	**Pn**		**10 08 32.7**	**-0.7**
OTVZ	**Oturere**	**2.83**	**20**	P	**Pn**		**10 08 34.5**	**+0.9**
NNVZ	**North Ngauruho**	**2.85**	**19**	P	**Pn**		**10 08 34.8**	**+0.9**
WTVZ	**West Tongariro**	**2.86**	**19**	P	**Pb**		**10 08 40.0**	**+0.4**
TWVZ	**Taurewa**	**2.87**	**16**	P	**Pn**		**10 08 35.1**	**+1.0**
ETVZ	**East Tongariro**	**2.87**	**21**	P	**Pn**		**10 08 34.8**	**+0.7**
TMVZ	**Te Maari**	**2.89**	**21**	P	**Pn**		**10 08 34.9**	**+0.5**
KRVZ	**Karewarewa**	**2.89**	**20**	P	**Pn**		**10 08 34.7**	**+0.3**
NTVZ	**North Tongarir**	**2.90**	**20**	P	**Pn**		**10 08 35.0**	**+0.5**
MCHZ	**McNeill Hill**	**2.96**	**37**	P	**Pn**		**10 08 34.1**	**-1.1**
WVZ	**Waitaha Valley**	**2.98**	**244**	P	**Pn**		**10 08 36.1**	**+0.6**
RPZ	**Rata Peaks**	**3.10**	**231**	P	**Pn**		**10 08 37.0**	**-0.2**
RPZ	**Rata Peaks**	**3.10**	**231**	P	**Pn**		**10 08 37.0**	**-0.2**
BKZ	**Black Stump Fm**	**3.10**	**32**	P	**Pn**		**10 08 36.4**

PGF	**Pioggiola**	**8.00**	**15**	*e*Pn	**Pn**	**10 20 45.8**	**+1.7**
PGF				*e*Sn	**Sn**	**10 22 11.7**	**-3.0**
	6.3nm,0.4s						
LMR	**La Mourre**	**8.49**	**1**	*e*Pn	**Pn**	**10 20 51.4**	**+0.8**
LMR				*e*Sn	**Sn**	**10 22 22.1**	**-4.4**
	15nm,0.3s						
MTLF	**Montolieu**	**9.04**	**341**	*e*Pn	**Pn**	**10 20 59.8**	**+1.6**
MTLF				*e*Sn	**Sn**	**10 22 37.6**	**-2.5**
	1.8nm,0.3s						
SBF	**Sospel**	**9.06**	**6**	*e*Pn	**Pn**	**10 21 00.2**	**+1.6**
SBF				*e*Sn	**Sn**	**10 22 36.0**	**-4.7**
	8.8nm,0.3s						
SMRF	**Simiane la Rot**	**9.14**	**357**	*e*Pn	**Pn**	**10 21 01.6**	**+2.0**
SMRF				*e*Sn	**Sn**	**10 22 39.7**	**-2.9**
	3.0nm,0.4s						
MDT	**Mideit**	**9.22**	**260**	Pn	**Pn**	**10 21 03.1**	**+2.3**
	0.3nm,0.3s,baz=112,slow=13,SNR=7.1						
MDT				Sn	**Sn**	**10 22 42.5**	**-2.2**
	0.6nm,0.3s,baz=303,slow=17,SNR=1.5						
	0.8nm,0.3s						
EPF	**Esparros**	**9.37**	**333**	*e*Pn	**Pn**	**10 21 05.1**	**+2.3**
EPF	**Esparros**	**9.37**	**333**	*e*P	Pn	10 21 10.0	+7.2
EPF				*e*Sn	**Sn**	**10 22 45.2**	**-3.0**
	5.5nm,0.4s						
LASF	**Ste Croix**	**9.41**	**350**	*e*Pn	**Pn**	**10 21 04.4**	**+1.2**
LASF				*e*Sn	**Sn**	**10 22 45.1**	**-3.9**
	4.0nm,0.3s						
ESDC	**Sonseca Array**	**9.44**	**304**	Pn	**Pn**	**10 21 05.7**	**+1.9**
	0.1nm,0.3s,baz=112,slow=14,SNR=5.2						
	0.5nm,0.4s						
ETSF	**Etsaut**	**9.62**	**329**	*e*Pn	**Pn**	**10 21 07.9**	**+1.6**
ETSF	**Etsaut**	**9.62**	**329**	*e*P	Pn	10 21 13.3	+7.0
ETSF				*e*Sn	**Sn**	**10 22 51.2**	**-3.3**
	2.0nm,0.3s						
MBDF	**Montbardon**	**9.89**	**2**	*e*Pn	**Pn**	**10 21 12.4**	**+2.4**
MBDF				*e*Sn	**Sn**	**10 22 57.9**	**-3.2**
	2.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**10.07**	**359**	*e*Pn	**Pn**	**10 21 14.4**	**+2.0**
ORIF	**Oris-en-Rattie**	**10.07**	**359**	*e*P	Pn	10 21 19.9	+7.5
ORIF				*e*Sn	**Sn**	**10 23 02.2**	**-3.3**
	1.3nm,0.3s						
VIVF	**Saint-Julien-l**	**10.08**	**354**	*e*Pn	**Pn**	**10 21 13.4**	**+1.0**
VIVF	**Saint-Julien-l**	**10.08**	**354**	*e*P	Pn	10 21 19.6	+7.2
VIVF				*e*Sn	**Sn**	**10 23 01.4**	**-4.1**
	4.1nm,0.3s						
SJPF	**Ste Jean**	**10.09**	**327**	*e*Pn	**Pn**	**10 21 14.6**	**+2.1**
SJPF	**Ste Jean**	**10.09**	**327**	*e*P	Pn	10 21 19.9	+7.4
SJPF				*e*Sn	**Sn**	**10 23 02.3**	**-3.4**
	3.3nm,0.4s						
LPL	**La Plagne**	**10.68**	**2**	*e*Pn	**Pn**	**10 21 22.6**	**+1.8**
LPL	**La Plagne**	**10.68**	**2**	*e*P	Pn	10 21 27.4	+6.6
LPL				*e*Sn	**Sn**	**10 23 17.1**	**-3.4**
	2.0nm,0.3s						
GERES	**GERESS Array B**	**15.06**	**19**	Pn	**Pn**	**10 22 22.2**	**+1.8**
	0.2nm,0.3s,baz=207,slow=8.6,SNR=4.8						
	0.5nm,0.5s						
CLL	**Collm**	**17.18**	**15**	*e*P	P	10 23 01.0	+12
	comp=Z,5.0nm,0.8s						
MLR	**Muntele Rosu**	**18.41**	**49**	P	**P**	**10 23 04.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=188,slow=6.0,SNR=3.1						
	comp=Z,2.6nm,0.6s						
EKA	**Eskdalemuir Ar**	**21.50**	**345**	LR	LR	10 31 48.0	
	comp=Z,91nm,20.1s,baz=150,slow=36						
TORD	**Torodi Ar. Bea**	**21.98**	**192**	P	**P**	**10 23 39.8**	**-2.0**
	comp=Z,2.1nm,0.7s,baz=4.9,slow=10,SNR=14						
	comp=Z,2.1nm,0.7s						
BRTR	**Keskin Array B**	**22.32**	**69**	P	**P**	**10 23 46.5**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=249,slow=10,SNR=3.9						
	comp=Z,1.1nm,0.9s						
HFS	**Hagfors**	**25.78**	**9**	P	**P**	**10 24 20.1**	**+1.6**
	comp=Z,2.9nm,0.9s,baz=170,slow=9.5,SNR=1.9						
	comp=Z,2.9nm,0.9s						
FINES	**FINESS Array B**	**29.49**	**19**	P	**P**	**10 24 50.8**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=216,slow=14,SNR=1.1						
	comp=Z,1.5nm,0.8s						
DBIC	**Dimbokro**	**29.83**	**203**	P	**P**	**10 24 53.8**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=16,slow=7.4,SNR=1.2						
DBIC				LR	LR	10 37 23.6	
	comp=Z,42nm,18.9s,baz=22,slow=38						
	comp=Z,0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**56.31**	**44**	P	**P**	**10 28 27.4**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=319,slow=8.8,SNR=1.8						
	comp=Z,0.5nm,0.3s						
MKAR	**Makanchi Array**	**56.69**	**53**	P	**P**	**10 28 29.9**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=295,slow=5.6,SNR=12						
	comp=Z,0.6nm,0.4s						

IDC 20 10:19:03.9±3.3, 44°04S×39°46E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=337.5km s-min=51.0km az=10.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**76.40**	**121**	P	P	10 30 55.4	+0.1
	0.9nm,0.6s,baz=165,slow=5.8,SNR=1.8						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**76.98**	**110**	P	P	10 30 58.2	-0.5
	1.3nm,1.1s,baz=223,slow=5.6,SNR=5.6						
	1.3nm,1.1s						
WRA	**Warramunga Arr**	**79.79**	**108**	P	P	10 31 14.9	+0.6
	1.0nm,1.0s,baz=224,slow=5.0,SNR=4.5						
	1.0nm,1.0s						
TXAR	**Lajitas Array**	**147.29**	**256**	PKPbc	PKPbc	10 38 48.6	-0.8
	1.4nm,1.1s,baz=128,slow=5.8,SNR=5.8						

*KRNET **20** 10:29:21.9±0.1, 39°.79N×69°.62E, h18km, mb2.9*
ISC 20 10:29:23.2±1.3, 39°.78N±0°.06×69°.65E±0°.07, h25km, n5, σ0§94/9, 7C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.93**	**146**	⇓*i*P	**Pn**	**10 29 40.2**	**-0.7**
	baz=45						
GAR				⇓*i*S	**Sn**	**10 29 53.3**	**-0.2**
	baz=45						
BTK	**Batken**	**0.94**	**72**	⇑*i*P	**Pn**	**10 29 40.1**	**-0.9**
	baz=73						
BTK				⇑*i*S	**Sn**	**10 29 53.5**	**-0.2**
	baz=73						
CHGR	**Chuyangaron**	**1.18**	**199**	⇑*i*P	**Pn**	**10 29 44.0**	**-0.2**
	baz=98						
CHGR				⇑*i*S	**Sb**	**10 30 00.5**	**+0.6**
	baz=98						
DRK	**Karamyk**	**1.69**	**99**	⇑*i*P	**Pb**	**10 29 53.5**	**-0.3**
	baz=0.0						
DRK				⇑*i*S	**Sb**	**10 30 16.6**	**+1.9**
	baz=0.0						
KK31	**Karatay Array**	**3.39**	**11**	⇑Pg	**Pb**	**10 30 22.8**	**+0.2**
	0.4nm,0.2s,baz=191,slow=17,SNR=18						
KK31				Lg	Lg	10 31 06.3	
	19nm,0.8s,baz=189,slow=28,SNR=23						

*IDC **20** 10:45:09.2±0.6, 44°.34S×39°.07E, h0km, mb4.4/12, mbtmp4.3/14, ML3.7/2, MS4.0/46, Error ellipse: s-maj=20.0km s-min=16.2km az=61.0*
*NEIC **20** 10:45:11.3±0.8, 44°.2S±0°.1×39°.1E±0°.2, h10km±1km, mb4.6/25, Error ellipse: s-maj=25.7km s-min=19.7km az=264.0*
*GCMT **20** 10:45:12.3±0.4, 44°.23S±0°.03×39°.40E±0°.06, h19km±1km, MW4.9/73, Moment Tensor Solution. s13,c14; s73,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.79±.26; Mθθ=2.35±.16; Mφφ=0.44±.14; Mrθ=-0.89±.27; Mφθ=-0.14±.09; Mrφ=-0.52±.34; Best double couple: Mo=2.76200×10^16 NP1: φs=82.00000°, δ=36.00000°, λ=-101.00000°. NP2: φs=282.00000°, δ=36.00000°, λ=-75.00000°. Principal axes: T 2.5020, Plg9.0000°, Azm181.0000°; N 0.5200, Plg9.0000°, Azm90.0000°; P -3.0220, Plg77.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 10:45:10.9±0.5, 44°21S±0°.08×39°.1E±0°.1, h10km, n90, σ0§83/55, mb4.5/21, MS4.0/45, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**17.84**	**338**	P	**Pn**	**10 49 17.9**	**-1.2**
SUR	**Sutherland**	**18.51**	**303**	P	**P**	**10 49 27.5**	**0.0**
	0.3nm,0.3s,baz=141,slow=18,SNR=2.5						
SUR				LR	LR	10 55 02.0	
	comp=Z,338nm,19.9s,baz=137,slow=32						
	16nm,1.1s						
SUR	**Sutherland**	**18.51**	**303**	P	**P**	**10 49 27.5**	**0.0**
SUR				IAmb	IAmb	10 49 37.9	
	comp=Z,57nm,1.4s						
BOSA	**Boshof**	**19.07**	**320**	P	**P**	**10 49 34.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=150,slow=13,SNR=5.6						
BOSA				LR	LR	10 55 24.7	
	comp=Z,512nm,21.0s,baz=170,slow=32						
	comp=Z,3.4nm,0.8s						
BOSA	**Boshof**	**19.07**	**320**	P	**P**	**10 49 34.3**	**+0.7**
LBTB	**Lobatse**	**22.06**	**326**	P	**P**	**10 50 05.9**	**0.0**
	comp=Z,9.1nm,1.0s,baz=140,slow=7.0,SNR=7.6						
LBTB				LR	LR	10 57 26.0	
	comp=Z,404nm,19.5s,baz=152,slow=33						
	comp=Z,9.1nm,1.0s						
LBTB	**Lobatse**	**22.06**	**326**	P	**P**	**10 50 06.0**	**0.0**
LBTB				IAmb	IAmb	10 50 06.6	
	comp=Z,14nm,1.0s						
VOI	**Vohitsoka**	**23.15**	**19**	P	**P**	**10 50 16.2**	**-1.2**
VOI				IAmb	IAmb	10 50 32.6	
	comp=Z,28nm,1.4s						
ABPO	**Ambohimpanom**	**26.04**	**18**	P	**P**	**10 50 43.0**	**-1.5**
ABPO				IAmb	IAmb	10 50 48.5	
	comp=Z,16nm,1.2s						
OPO	**Ambohidratompo**	**26.46**	**18**	P	**P**	**10 50 50.1**	**+1.8**
	comp=Z,3.5nm,0.3s,baz=211,slow=1.2,SNR=7.4						
OPO				LR	LR	10 59 28.8	
	comp=Z,270nm,19.8s,baz=23,slow=32						
	comp=Z,3.5nm,0.3s						
MAW	**Mawson**	**26.63**	**160**	LR	LR	10 58 49.7	
	comp=Z,293nm,21.6s,baz=329,slow=31						
MAW	**Mawson**	**26.63**	**160**	P	**P**	**10 50 48.3**	**-0.9**
LSZ	**Lusaka**	**30.28**	**339**	LR	LR	11 02 22.3	
	comp=Z,199nm,19.3s,baz=170,slow=34						
TSUM	**Tsumeb**	**30.72**	**317**	LR	LR	11 02 38.0	
	comp=Z,347nm,20.6s,baz=148,slow=34						
TROLL	**Troll, Antarti**	**32.85**	**200**	P	**P**	**10 51 45.4**	**+0.9**
SNAA	**Sanae**	**34.05**	**202**	P	**P**	**10 51 55.9**	**+1.0**
SNAA	**Sanae**	**34.05**	**202**	P	**P**	**10 51 53.9**	**-1.0**
	comp=Z,6.2nm,0.9s,baz=63,slow=7.1,SNR=16						
SNAA				LR	LR	11 04 03.5	
	comp=Z,235nm,18.1s,baz=44,slow=33						
	comp=Z,6.2nm,0.9s						
SNAA	**Sanae**	**34.05**	**202**	P	**P**	**10 51 55.5**	**+0.6**
SNAA				IAmb	IAmb	10 51 56.8	
	comp=Z,7.3nm,0.9s						
VNA2	**Neumayer--Watz**	**35.00**	**205**	P	**P**	**10 52 04.1**	**+1.1**
	baz=58,slow=8.4						
VNA1	**Neumayer-Stat**	**35.15**	**205**	P	**P**	**10 52 06.1**	**+1.8**
VNA3	**Neumayer Olymp**	**35.81**	**205**	P	**P**	**10 52 10.2**	**+0.3**
KMBO	**Kilima Mbogo**	**42.93**	**357**	LR	LR	11 08 33.0	
	comp=Z,312nm,20.7s,baz=95,slow=33						
BELA	**Belgrano 2**	**43.79**	**197**	P	**P**	**10 53 16.4**	**+0.2**
MBAR	**Mbarara**	**44.04**	**348**	LR	LR	11 11 12.6	
	comp=Z,274nm,18.3s,baz=152,slow=35						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**10 53 33.0**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=98,slow=1.7,SNR=26						
QSPA				LR	LR	11 11 06.7	
	comp=Z,213nm,21.4s,baz=250,slow=34						
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**10 53 33.7**	**-0.5**
QSPA				IAmb	IAmb	10 53 34.0	
	comp=Z,5.4nm,0.9s						
VNDA	**Vanda**	**53.60**	**167**	P	**P**	**10 54 30.7**	**-0.8**
	comp=Z,2.4nm,1.1s,baz=237,slow=9.5,SNR=7.6						
VNDA				LR	LR	11 15 05.5	
	comp=Z,176nm,21.9s,baz=223,slow=34						
	comp=Z,2.4nm,1.1s						
VNDA	**Vanda**	**53.60**	**167**	P	**P**	**10 54 31.3**	**-0.3**
VNDA				IAmb	IAmb	10 54 32.5	
	comp=Z,6.1nm,1.2s						
SBA	**Scott Base**	**54.13**	**168**		**P**	**10 54 36.1**	**+0.7**
SBA				IAmb	IAmb	10 54 38.0	
	comp=Z,13nm,1.1s						
ATD	**Arta Tunnel**	**55.58**	**5**	LR	LR	11 17 09.1	
	comp=Z,84nm,19.4s,baz=92,slow=34						
PMSA	**Palmer Station**	**56.08**	**210**	LR	LR	11 15 07.5	
	comp=Z,214nm,18.6s,baz=82,slow=32						
H10S2	**ASCENSION HYDR**	**58.12**	**290**	T	T	11 58 02.3	
	baz=135,slow=74,SNR=15						
H10S3	**ASCENSION HYDR**	**58.13**	**290**	T	T	11 58 05.7	
	baz=85,slow=74,SNR=35						
NWAO	**Narrogin (SRO)**	**60.02**	**108**	LR	LR	11 16 20.0	
	comp=Z,102nm,20.4s,baz=58,slow=31						
PALK	**Pallekele**	**63.53**	**47**	LR	LR	11 17 04.1	
	comp=Z,65nm,19.3s,baz=11,slow=30						
DBIC	**Dimbokro**	**64.25**	**310**	LR	LR	11 22 29.0	
	comp=Z,54nm,18.0s,baz=147,slow=35						
FORT	**Forrest**	**68.62**	**112**	P	**P**	**10 56 14.5**	**+0.3**
WSAR	**Wadi Sarin**	**69.47**	**19**	LR	LR	11 21 38.7	
	comp=Z,148nm,19.9s,baz=198,slow=32						
LEM	**Lembang**	**69.94**	**80**	LR	LR	11 22 27.6	
	comp=Z,73nm,18.5s,baz=241,slow=32						
BBOO	**Buckleboo**	**72.49**	**119**	P	**P**	**10 56 37.9**	**+0.1**
EIL	**Elat**	**73.62**	**356**	LR	LR	11 30 32.3	
	comp=Z,46nm,18.1s,baz=241,slow=37						
PLCA	**Paso Flores**	**74.43**	**228**	P	**P**	**10 56 48.5**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=142,slow=6.4,SNR=4.6						
PLCA				LR	LR	11 22 37.0	
	comp=Z,77nm,21.2s,baz=148,slow=30						
	comp=Z,1.7nm,0.8s						
TOO	**Toolangi**	**74.92**	**128**	P	**P**	**10 56 52.9**	**+0.9**
TOO				IAmb	IAmb	10 56 53.6	
	comp=Z,9.6nm,1.0s						
RCBR	**Riachuelo**	**75.17**	**276**	LR	LR	11 21 36.6	
	comp=Z,38nm,19.9s,baz=297,slow=29						
CPUP	**Villa Florida**	**76.42**	**247**	P	**P**	**10 57 00.5**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=107,slow=4.9,SNR=5.7						
CPUP				LR	LR	11 24 34.1	
	comp=Z,36nm,18.4s,baz=131,slow=31						
	comp=Z,3.1nm,0.9s						
STKA	**Stephens Creek**	**76.57**	**121**	P	**P**	**10 57 00.4**	**-1.1**
	comp=Z,7.6nm,0.8s,baz=235,slow=4.4,SNR=20						
STKA				LR	LR	11 26 12.6	
	comp=Z,81nm,19.7s,baz=198,slow=32						
	comp=Z,7.6nm,0.8s						
STKA	**Stephens Creek**	**76.57**	**121**	P	**P**	**10 57 01.7**	**+0.2**
MMAI	**Mount Meron Ar**	**76.93**	**357**	LR	LR	11 29 59.3	
	comp=Z,76nm,19.6s,baz=81,slow=35						
ASAR	**Alice Springs**	**77.20**	**110**	P	**P**	**10 57 04.9**	**-0.3**
	comp=Z,8.8nm,0.9s,baz=223,slow=5.2,SNR=67						
ASAR				LR	LR	11 25 41.1	
	comp=Z,53nm,20.4s,baz=179,slow=32						
	comp=Z,8.8nm,0.9s						
AS31	**Alice Springs**	**77.20**	**110**	P	**P**	**10 57 04.9**	**-0.3**
AS31				IAmb	IAmb	10 57 05.8	
	comp=Z,3.2nm,0.9s						
WRA	**Warramunga Arr**	**80.03**	**108**	P	**P**	**10 57 20.5**	**-0.3**
	comp=Z,7.0nm,1.1s,baz=222,slow=4.6,SNR=31						
WRA				LR	LR	11 27 42.6	
	comp=Z,129nm,19.1s,baz=205,slow=32						
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**80.03**	**108**	P	**P**	**10 57 20.6**	**-0.3**
WB2	**Warramunga Arr**	**80.03**	**108**		**P**	**10 57 20.9**	**0.0**
WRAB	**Tennant Creek**	**80.04**	**108**	P	**P**	**10 57 20.7**	**-0.2**
WRAB				IAmb	IAmb	10 57 21.8	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**80.15**	**108**	P	**P**	**10 57 21.5**	**0.0**
WR0				IAmb	IAmb	10 57 22.2	
	comp=Z,6.2nm,1.1s						
IDI	**Anoyia**	**80.16**	**348**	LR	LR	11 32 53.5	
	comp=Z,51nm,21.0s,baz=45,slow=36						
WB0	**Warramunga Arr**	**80.18**	**108**	P	**P**	**10 57 21.1**	**-0.5**
WB0				IAmb	IAmb	10 57 21.8	
	comp=Z,7.7nm,1.1s						
CO03	**El Pedregal**	**81.63**	**235**	P	**P**	**10 57 29.4**	**0.0**
BRDH	**Bariadhala**	**82.12**	**48**	LR	LR	11 32 48.9	
	comp=Z,116nm,18.3s,baz=264,slow=35						
CMAR	**Chiang Mai Arr**	**82.89**	**56**	P	**P**	**10 57 35.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=212,slow=5.4,SNR=4.9						
CMAR				LR	LR	11 31 33.6	
	comp=Z,34nm,18.1s,baz=215,slow=34						
	comp=Z,0.6nm,0.3s						
DMN	**Daman**	**82.96**	**40**	*e*P	**P**	**10 57 35.8**	**-0.5**
DANN	**Dangsing**	**82.98**	**39**	*e*P	**P**	**10 57 36.3**	**-0.1**
PKI	**Pulchoki**	**83.07**	**40**	*e*P	**P**	**10 57 36.8**	**-0.1**
GKN	**Gorkha**	**83.08**	**40**	*e*P	**P**	**10 57 36.2**	**-0.6**
RAMN	**Ramite**	**83.11**	**42**	*e*P	**P**	**10 57 37.1**	**+0.1**
	comp=Z,39nm,1.2s						
JIRN	**Jiri**	**83.51**	**41**	*e*P	**P**	**10 57 39.2**	**-0.1**
	comp=Z,55nm,1.1s						
GUN	**Gumba**	**83.58**	**41**	*e*P	**P**	**10 57 39.8**	**+0.2**
	comp=Z,51nm,0.9s						
TAPN	**Taplejung**	**83.97**	**42**	*e*P	**P**	**10 57 41.2**	**-0.4**
KEST	**Kesra**	**84.02**	**336**	LR	LR	11 37 27.2	
	comp=Z,132nm,18.1s,baz=226,slow=37						
GNI	**Garni**	**84.13**	**4**	LR	LR	11 33 31.8	
	comp=Z,83nm,21.8s,baz=145,slow=34						
VAE	**Valguarnera**	**84.32**	**341**	LR	LR	11 36 40.5	
	comp=Z,49nm,18.1s,baz=162,slow=37						
SHL	**Shillong**	**84.60**	**46**	P	**P**	**10 57 44.1**	**-0.5**
SIV	**San Ignacio**	**86.06**	**252**	LR	LR	11 28 52.0	
	comp=Z,92nm,19.6s,baz=98,slow=30						
MDT	**Mideit**	**86.37**	**324**	LR	LR	11 36 35.7	
	comp=Z,168nm,18.2s,baz=138,slow=36						
LVC	**Limon Verde**	**86.52**	**242**	LR	LR	11 30 11.4	
	comp=Z,67nm,20.1s,baz=186,slow=31						
CTA	**Charters Tower**	**87.86**	**116**	LR	LR	11 33 54.0	
	comp=Z,69nm,19.0s,baz=250,slow=33						
LPAZ	**La Paz**	**90.59**	**247**	LR	LR	11 36 26.0	
	comp=Z,52nm,18.1s,baz=105,slow=34						
PZH	**PanZhiHua**	**90.73**	**53**	P	**P**	**10 58 16.3**	**+2.2**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
ESDC	**Sonseca Array**	**92.06**	**328**	P	**P**	**10 58 21.8**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=163,slow=4.0,SNR=1.4						
ESDC				LR	LR	11 40 10.6	
	comp=Z,148nm,18.7s,baz=133,slow=36						
	comp=Z,0.3nm,0.6s						
AAK	**Ala-Archa**	**92.10**	**25**	LR	LR	11 35 36.5	
	comp=Z,66nm,19.6s,baz=218,slow=33						
DAVOX	**Davos/Dischmat**	**94.20**	**340**	LR	LR	11 42 14.8	
	comp=Z,96nm,20.0s,baz=84,slow=36						
MDP	**Montagnes des**	**94.73**	**272**	LR	LR	11 34 11.9	
	comp=Z,44nm,18.6s,baz=93,slow=31						
PMG	**Port Moresby**	**96.19**	**109**	LR	LR	11 37 40.6	
	comp=Z,59nm,18.9s,baz=222,slow=33						
BELG	**Belogornoye**	**96.51**	**5**	LR	LR	11 43 10.7	
	comp=Z,75nm,20.0s,baz=14,slow=36						
WMQ	**Urumqi**	**97.79**	**33**	*e*P	Pdif	10 58 48.3	+2.3
WMQ				LR	LR		
	comp=Z,71nm,23.3s						
DZM	**Mont Dzumac**	**98.37**	**132**	LR	LR	11 32 31.7	
	comp=Z,82nm,21.8s,baz=218,slow=29						
NNA	**Nana**	**99.43**	**243**	LR	LR	11 39 17.7	
	comp=Z,53nm,18.4s,baz=160,slow=33						
TXAR	**Lajitas Array**	**146.96**	**256**	PKPbc	**PKPbc**	**11 04 53.5**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=140,slow=5.5,SNR=27						
ULM	**Lac du Bonnet**	**149.18**	**297**	PKPbc	**PKPbc**	**11 04 57.4**	**-1.5**
	comp=Z,7.4nm,0.9s,baz=66,slow=3.0,SNR=6.1						
PDAR	**Pinedale Array**	**157.24**	**277**	PKPab	**PKPab**	**11 05 37.8**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=106,slow=5.4,SNR=5.8						

WEL 20 10:57:18.5±0.5, 42°S±3°×17°4E±°, h5km, M3.0/15, ML3.1/8, MLv3.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=69.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**184**	P	P*g*	10 57 24.3	+0.5
KHZ				S	S*g*	10 57 28.7	+1.3
THZ	**Tophouse**	**0.62**	**308**	P	P*g*	10 57 30.6	+0.2
GVZ	**Greta Valley S**	**0.91**	**205**	P	P*b*	10 57 36.4	-0.3
MRNZ	**Matariki Terra**	**0.96**	**321**	P	P*g*	10 57 37.1	+0.2
LTZ	**Lake Taylor**	**1.15**	**236**	P	P*g*	10 57 39.8	-0.7
LTZ	**Lake Taylor**	**1.15**	**236**	P	P*g*	10 57 40.0	-0.5
TKNZ	**Takaka Hill**	**1.20**	**338**	P	P*g*	10 57 40.8	-0.7
AMCZ	**Amberley**	**1.23**	**213**	P	P*g*	10 57 40.6	-1.5
DSZ	**Denniston Nort**	**1.37**	**286**	P	P*n*	10 57 44.5	+0.1
QRZ	**Quartz Range**	**1.53**	**329**	P	P*n*	10 57 46.7	+0.2
OKCZ	**Okains Bay**	**1.62**	**193**	P	P*n*	10 57 45.3	-2.4
OXZ	**Oxford**	**1.63**	**223**	P	P*n*	10 57 45.5	-2.3
INZ	**Inchbonnie**	**1.67**	**249**	P	P*n*	10 57 48.0	-0.4
MQZ	**McQueen's Vall**	**1.70**	**203**	P	P*n*	10 57 45.7	-3.1
AKCZ	**Akaroa Harbour**	**1.79**	**195**	P	P*n*	10 57 47.6	-2.5
RACZ	**Rakaia**	**1.90**	**213**	P	P*n*	10 57 49.0	-2.5
MHCZ	**Mount Hutt**	**2.02**	**226**	P	P*n*	10 57 50.9	-2.4
WACZ	**Wakanui South**	**2.20**	**215**	P	P*n*	10 57 53.0	-2.6
BFZ	**Birch Farm**	**2.49**	**55**	P	P*b*	10 58 01.8	-1.9
WAZ	**Wanganui**	**2.62**	**25**	P	P*n*	10 58 03.1	+1.6
ANWZ	**Angora Road**	**2.76**	**53**	P	P*n*	10 58 03.8	+0.3
KHEZ	**Kahui Hut**	**2.87**	**7**	P	P*b*	10 58 08.0	-2.2
TMZ	**Timaru**	**2.92**	**219**	P	P*n*	10 58 03.6	-2.0
PNHZ	**Pukenui**	**2.99**	**43**	P	P*n*	10 58 09.1	+2.5
VRZ	**Vera Road**	**3.15**	**17**	P	P*n*	10 58 10.1	+1.3
PKVZ	**Pokaka**	**3.16**	**26**	P	P*n*	10 58 11.1	+2.2
MOVZ	**Moawhango**	**3.20**	**32**	P	P*n*	10 58 10.9	+1.4
WNVZ	**Wahianoa**	**3.21**	**29**	P	P*n*	10 58 10.4	+0.6
TRVZ	**Turoa**	**3.22**	**29**	P	P*n*	10 58 12.4	+2.5
FWVZ	**Far West T-bar**	**3.26**	**28**	P	P*n*	10 58 12.9	+2.5

ML5.1/12,MLv5.0/12,Mw(mB)4.1/5
ISC 20 11:05:48.2±0.6, 32°24S±0°08×176°72W±0°08, h35km, n47, σ1§65/48, mb4.1/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.14**	**340**	P	Pn	11 06 24.7	-11
GLKZ				S	Sn	11 06 53.6	-18
RAO	**Raoul Island**	**3.15**	**341**	Pn	Pn	11 06 25.9	-9.4
	93nm,0.3s,baz=291,slow=22,SNR=2.8						
RAO				Sn	Sn	11 06 57.6	-14
	381nm,0.3s,baz=90,slow=22,SNR=9.9						
	201nm,0.3s						
RAO	**Raoul Island**	**3.15**	**341**	Pn	**Pn**	**11 06 36.0**	**+0.7**
MXZ	**Matakaoa Point**	**6.70**	**216**	Pn	**Pn**	**11 07 24.2**	**+0.1**
MXZ				Sn	**Sn**	**11 08 41.2**	**+2.0**
MXZ	**Matakaoa Point**	**6.70**	**216**	P	**Pn**	**11 07 22.6**	**-1.4**
MXZ				S	**Sn**	**11 08 39.8**	**+0.6**
WMGZ	**Waiomatatini S**	**6.85**	**214**	P	**Pn**	**11 07 24.6**	**-1.6**
WMGZ				S	**Sn**	**11 08 43.6**	**+0.8**
PKGZ	**Pakihiroa**	**7.07**	**216**	P	**Pn**	**11 07 27.9**	**-1.3**
PKGZ				S	**Sn**	**11 08 49.2**	**+0.8**
HAZ	**Te Kaha**	**7.12**	**218**	P	**Pn**	**11 07 29.3**	**-0.4**
PUZ	**Puketiti**	**7.13**	**214**	P	**Pn**	**11 07 27.5**	**-2.5**
PUZ				S	**Sn**	**11 08 49.8**	**+0.1**
RUGZ	**Raukumara Rang**	**7.33**	**217**	P	**Pn**	**11 07 31.7**	**-1.1**
TWGZ	**Tauwhareparae**	**7.34**	**215**	P	**Pn**	**11 07 32.4**	**-0.5**
CNGZ	**Carnagh Statio**	**7.48**	**212**	P	**Pn**	**11 07 33.3**	**-1.5**
MWZ	**Matawai**	**7.69**	**216**	P	**Pn**	**11 07 35.9**	**-1.8**
KUZ	**Kuaotunu**	**7.69**	**232**	P	**Pn**	**11 07 38.5**	**+0.9**
URZ	**Urewera**	**7.84**	**218**	P	**Pn**	**11 07 38.8**	**-0.9**
OPRZ	**Ohinepanea**	**7.85**	**223**	P	**Pn**	**11 07 41.5**	**+1.6**
RIGZ	**Rimuhau**	**7.87**	**213**	P	**Pn**	**11 07 38.0**	**-2.1**
RAGZ	**Rawiri**	**7.87**	**216**	P	**Pn**	**11 07 38.0**	**-2.2**
TGRZ	**Tauranga**	**7.95**	**225**	P	**Pn**	**11 07 41.4**	**+0.2**
WIAZ	**Waiheke Island**	**8.11**	**234**	P	**Pn**	**11 07 44.9**	**+1.4**
KNZ	**Kokohu**	**8.16**	**212**	P	**Pn**	**11 07 41.1**	**-3.1**
MHGZ	**Mahia Peninsul**	**8.17**	**211**	P	**Pn**	**11 07 41.5**	**-2.7**
MKAZ	**Moumakai**	**8.26**	**232**	P	**Pn**	**11 07 47.3**	**+1.8**
WCZ	**Waipu Caves**	**8.28**	**241**	P	**Pn**	**11 07 47.9**	**+2.2**
OUZ	**Omahuta**	**8.60**	**247**	Pn	**Pn**	**11 07 50.4**	**+0.3**
OUZ				Sn	**Sn**	**11 09 25.4**	**-0.4**
WHZ	**Wether Hill Ro**	**18.06**	**217**		**Pn**	**11 09 55.6**	**-0.6**
WHZ				IAmb	IAmb	11 10 01.3	
	comp=Z,82nm,1.5s						
PPTF	**Pamatai, Papee**	**28.52**	**66**	P	**P**	**11 11 43.2**	**+2.7**
STKA	**Stephens Creek**	**35.17**	**259**	P	**P**	**11 12 38.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=109,slow=14,SNR=3.9						
	comp=Z,1.2nm,0.6s						
STKA	**Stephens Creek**	**35.17**	**259**	P	**P**	**11 12 38.7**	**-0.1**
CTAO	**Charters Tower**	**35.20**	**281**	P	**P**	**11 12 38.5**	**-0.7**
CTAO				IAmb	IAmb	11 12 46.1	
	comp=Z,24nm,1.4s						
BBOO	**Buckleboo**	**39.56**	**256**	P	**P**	**11 13 14.9**	**-1.1**
ASAR	**Alice Springs**	**44.13**	**268**	P	**P**	**11 13 51.2**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=107,slow=7.5,SNR=12						
	comp=Z,0.7nm,0.5s						
WB2	**Warramunga Arr**	**45.27**	**273**	P	**P**	**11 14 02.0**	**-0.6**
WB2				IAmb	IAmb	11 14 13.4	
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**45.28**	**273**	P	**P**	**11 13 59.2**	**-3.4**
	comp=Z,0.8nm,0.6s,baz=114,slow=7.5,SNR=6.6						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**45.28**	**273**	P	**P**	**11 14 03.0**	**+0.3**
VNDA	**Vanda**	**46.39**	**186**	P	**P**	**11 14 12.2**	**+1.6**
QSPA	**South Pole Qui**	**57.88**	**180**	P	**P**	**11 15 39.0**	**+2.6**
QSPA				IAmb	IAmb	11 16 06.3	
	comp=Z,12nm,1.4s						
SNAA	**Sanae**	**76.29**	**178**	P	**P**	**11 17 33.7**	**+0.8**
SNAA				IAmb	IAmb	11 18 10.5	
	comp=Z,4.0nm,1.2s						
H03S2	**Juan Fernandez**	**78.54**	**123**	T	T	12 44 12.7	
	baz=238,slow=74,SNR=6.7						
H03S1	**Juan Fernandez**	**78.56**	**123**	T	T	12 44 15.0	
	baz=238,slow=74,SNR=6.0						
H03S3	**Juan Fernandez**	**78.56**	**123**	T	T	12 44 13.0	
	baz=238,slow=74,SNR=6.0						
BI05	**Punta Hualpn**	**80.91**	**128**	P	**P**	**11 18 00.8**	**+1.6**
PEA0B	**Petropavlovsk-**	**87.86**	**345**	P	**P**	**11 18 32.5**	**-1.0**
NVAR	**Mina Array Bea**	**88.85**	**42**	P	**P**	**11 18 36.2**	**-2.7**
	comp=Z,0.5nm,0.7s,baz=218,slow=9.4,SNR=3.6						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**147.24**	**340**	PKPbc	**PKPdf**	**11 25 24.7**	**0.0**
	comp=Z,2.5nm,0.7s,baz=342,slow=2.4,SNR=8.9						
NB2	**NORSAR Subarra**	**150.72**	**352**	PKP	**PKPbc**	**11 25 33.6**	**-2.4**
	comp=Z,2.6nm,0.8s,baz=14,slow=4.1						
NOA	**NORSAR Array B**	**150.72**	**352**	PKPbc	**PKPbc**	**11 25 34.0**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=14,slow=4.1,SNR=4.5						

*NEIC **20** 11:07:35.0±1.3, 41°83S±0°04×174°33E±0°03, h9km±6km, mb4.2/12, Error ellipse: s-maj=6.7km s-min=2.9km az=157.0*
*WEL **20** 11:07:36.1±0.3, 42°S±3°×17°4E±°, h7km±2km, M3.8/57, ML3.9/23, MLv3.8/57, Error ellipse: s-maj=0.0km s-min=0.0km az=140.7*
ISC 20 11:07:34.9±0.9, 41°82S±0°03×174°33E±0°02, h13km±6km, n133, σ1§33/134, mb4.3/6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**307**		**Pg**	**11 07 37.9**	**-0.2**
CMWZ	**Cape Campbell**	**0.11**	**307**	P	**Pg**	**11 07 38.0**	**-0.1**
CMWZ				S	**Sg**	**11 07 40.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.36**	**286**	Pg	**Pg**	**11 07 42.5**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.36**	**286**	P	**Pg**	**11 07 42.5**	**+0.3**
BSWZ				S	**Sb**	**11 07 48.0**	**-0.6**
TUWZ	**Tuamarina**	**0.48**	**323**		**Pg**	**11 07 44.2**	**-0.3**
TUWZ	**Tuamarina**	**0.48**	**323**	P	**Pg**	**11 07 44.2**	**-0.3**
TUWZ				S	**Sg**	**11 07 50.4**	**-0.5**
SNZO	**South Karori**	**0.58**	**29**		**Pb**	**11 07 46.8**	**-0.1**
TCW	**Tory Channel**	**0.61**	**356**		**Pg**	**11 07 45.3**	**-1.5**
TCW	**Tory Channel**	**0.61**	**356**	P	**Pg**	**11 07 46.3**	**-0.5**
WEL	**Wellington**	**0.62**	**32**	P	**Pb**	**11 07 47.6**	**-0.1**
PLWZ	**Palliser**	**0.73**	**71**		**Pn**	**11 07 51.3**	**+0.3**
PLWZ	**Palliser**	**0.73**	**71**	P	**Pn**	**11 07 51.4**	**+0.3**
MSWZ	**Moikau Station**	**0.80**	**60**		**Pb**	**11 07 50.9**	**+0.2**
MSWZ	**Moikau Station**	**0.80**	**60**	P	**Pn**	**11 07 51.7**	**-0.1**
KHZ	**Kahutara**	**0.84**	**224**		**Pn**	**11 07 53.9**	**+1.4**
KHZ	**Kahutara**	**0.84**	**224**	P	**Pn**	**11 07 54.1**	**+1.6**
CAW	**Cannon Point**	**0.90**	**38**	P	**Pg**	**11 07 51.8**	**-0.5**
PAWZ	**Paruwai Farm**	**0.93**	**62**	P	**Pn**	**11 07 54.2**	**+0.5**
NNZ	**Nelson**	**0.93**	**310**		**Pb**	**11 07 52.0**	**-1.0**
NNZ	**Nelson**	**0.93**	**310**	P	**Pb**	**11 07 52.1**	**-0.8**
KIW	**Kapiti Island**	**1.05**	**25**	P	**Pb**	**11 07 54.5**	**-0.4**
DUWZ	**D'Urville Isla**	**1.06**	**343**	P	**Pb**	**11 07 54.7**	**-0.4**
THZ	**Tophouse**	**1.07**	**272**		**Pn**	**11 07 55.9**	**+0.2**
THZ	**Tophouse**	**1.07**	**272**	P	**Pn**	**11 07 56.0**	**+0.4**
MTW	**Mount Morrison**	**1.10**	**54**	P	**Pg**	**11 07 56.4**	**+0.3**
TRWZ	**Traveller**	**1.10**	**68**	P	**Pg**	**11 07 56.3**	**+0.2**
OGWZ	**Otaki Gorge**	**1.18**	**33**	P	**Pb**	**11 07 57.2**	**0.0**
MRNZ	**Matariki Terra**	**1.25**	**289**		**Pg**	**11 07 58.8**	**-0.2**
MRNZ	**Matariki Terra**	**1.25**	**289**	P	**Pg**	**11 07 59.0**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.28**	**44**	P	**Pb**	**11 07 58.9**	**0.0**
TKNZ	**Takaka Hill**	**1.29**	**307**	Pn	**Pn**	**11 07 58.1**	**-0.6**
TKNZ	**Takaka Hill**	**1.29**	**307**	P	**Pn**	**11 07 58.7**	**0.0**
TMWZ	**Te Maipa**	**1.37**	**59**	P	**Pn**	**11 07 59.9**	**+0.1**
MRZ	**Mangatainoka R**	**1.49**	**40**		**Pn**	**11 08 01.8**	**+0.5**
MRZ	**Mangatainoka R**	**1.49**	**40**	P	**Pn**	**11 08 01.6**	**+0.3**
GVZ	**Greta Valley S**	**1.50**	**219**	P	**Pb**	**11 08 02.9**	**+0.3**
TIWZ	**Tintock**	**1.56**	**49**	P	**Pn**	**11 08 02.6**	**+0.1**
CPWZ	**Castlepoint**	**1.67**	**58**	P	**Pn**	**11 08 04.5**	**+0.6**
QRZ	**Quartz Range**	**1.68**	**305**		**Pb**	**11 08 05.1**	**-0.6**
QRZ	**Quartz Range**	**1.68**	**305**	P	**Pb**	**11 08 05.2**	**-0.6**
PRWZ	**Pori Road**	**1.77**	**45**	P	**Pn**	**11 08 05.4**	**+0.3**
OHWZ	**Ohakea**	**1.77**	**25**	P	**Pb**	**11 08 07.4**	**+0.1**
POWZ	**Post Office Ro**	**1.79**	**38**	P	**Pn**	**11 08 06.0**	**+0.5**
LTZ	**Lake Taylor**	**1.81**	**237**	Pn	**Pb**	**11 08 07.3**	**-0.6**
LTZ	**Lake Taylor**	**1.81**	**237**	P	**Pn**	**11 08 06.7**	**+0.8**
BFZ	**Birch Farm**	**1.83**	**52**		**Pn**	**11 08 06.2**	**0.0**
BFZ	**Birch Farm**	**1.83**	**52**	P	**Pn**	**11 08 05.6**	**-0.5**
AMCZ	**Amberley**	**1.84**	**222**	P	**Pn**	**11 08 07.3**	**+1.1**
DSZ	**Denniston Nort**	**1.89**	**271**		**Pb**	**11 08 09.1**	**-0.2**
DSZ	**Denniston Nort**	**1.89**	**271**	P	**Pb**	**11 08 08.9**	**-0.5**
DVHZ	**Dannevirke**	**2.05**	**43**	P	**Pn**	**11 08 08.7**	**-0.4**
ANWZ	**Angora Road**	**2.11**	**51**	P	**Pn**	**11 08 10.0**	**+0.1**
WAZ	**Wanganui**	**2.12**	**14**	P	**Pb**	**11 08 13.1**	**-0.1**
OKCZ	**Okains Bay**	**2.12**	**206**	P	**Pn**	**11 08 10.7**	**+0.6**
TSZ	**Takapari Road**	**2.15**	**36**	P	**Pn**	**11 08 10.6**	**+0.2**
MQZ	**McQueen's Vall**	**2.26**	**213**		**Pn**	**11 08 11.7**	**-0.3**
MQZ	**McQueen's Vall**	**2.26**	**213**	P	**Pn**	**11 08 11.8**	**-0.1**
OXZ	**Oxford**	**2.27**	**228**	Pn	**Pn**	**11 08 12.6**	**+0.5**
OXZ	**Oxford**	**2.27**	**228**	P	**Pn**	**11 08 12.4**	**+0.2**
INZ	**Inchbonnie**	**2.33**	**246**		**Pn**	**11 08 14.5**	**+1.6**
INZ	**Inchbonnie**	**2.33**	**246**	P	**Pn**	**11 08 14.4**	**+1.5**
PRHZ	**Porangahau**	**2.33**	**49**	P	**Pb**	**11 08 17.9**	**+1.1**
LREZ	**Lake Rotokare**	**2.35**	**1**	P	**Pb**	**11 08 17.2**	**0.0**
WPHZ	**Waipukurau**	**2.37**	**43**	P	**Pb**	**11 08 16.8**	**-0.6**
NMEZ	**Namu Road**	**2.42**	**352**	P	**Pb**	**11 08 18.8**	**+0.4**
KHEZ	**Kahui Hut**	**2.53**	**354**	P	**Pb**	**11 08 19.4**	**-0.9**
NEZ	**North Egmont**	**2.55**	**356**	P	**Pn**	**11 08 17.8**	**+1.8**
NBEZ	**Newall Road No**	**2.57**	**352**	P	**Pb**	**11 08 19.3**	**-1.6**
MTVZ	**Mangateitei**	**2.58**	**20**	P	**Pb**	**11 08 21.7**	**+0.7**
PXZ	**Pawanui**	**2.62**	**48**	P	**Pg**	**11 08 24.5**	**-0.6**
DREZ	**Durham Road**	**2.63**	**358**	P	**Pb**	**11 08 21.2**	**-0.7**
PKE	**Pukeiti**	**2.63**	**354**	P	**Pb**	**11 08 21.5**	**-0.5**
MOVZ	**Moawhango**	**2.64**	**25**	P	**Pn**	**11 08 19.4**	**+2.1**
PKVZ	**Pokaka**	**2.64**	**17**	P	**Pb**	**11 08 21.0**	**-1.1**
MHCZ	**Mount Hutt**	**2.66**	**229**	P	**Pn**	**11 08 18.0**	**+0.4**
WNVZ	**Wahianoa**	**2.67**	**22**	P	**Pn**	**11 08 19.3**	**+1.6**
BHHZ	**Black Hill Sta**	**2.67**	**30**	P	**Pb**	**11 08 23.0**	**+0.4**
TRVZ	**Turoa**	**2.68**	**21**	P	**Pn**	**11 08 20.0**	**+2.0**
WHVZ	**Whangaehu Hut**	**2.71**	**21**	P	**Pn**	**11 08 20.1**	**+1.8**
DRZ	**Dome Shelter**	**2.71**	**21**	P	**Pb**	**11 08 23.2**	**-0.2**
VRZ	**Vera Road**	**2.71**	**7**	P	**Pb**	**11 08 21.3**	**-1.9**
FWVZ	**Far West T-bar**	**2.72**	**20**	P	**Pn**	**11 08 20.4**	**+1.9**
MHEZ	**Mangahewa**	**2.74**	**360**	P	**Pb**	**11 08 23.4**	**-0.3**
TUVZ	**Tukino**	**2.74**	**22**	P	**Pn**	**11 08 20.2**	**+1.5**
NGZ	**Ngauruhoe**	**2.81**	**21**	P	**Pn**	**11 08 21.7**	**+2.0**
SNVZ	**South Ngauruho**	**2.81**	**21**	P	**Pb**	**11 08 25.5**	**+0.4**
OTVZ	**Oturere**	**2.84**	**21**	P	**Pb**	**11 08 23.6**	**-1.9**
NNVZ	**North Ngauruho**	**2.85**	**20**	P	**Pn**	**11 08 22.8**	**+2.5**
WTVZ	**West Tongariro**	**2.86**	**20**	P	**Pb**	**11 08 25.5**	**-0.4**
TWVZ	**Taurewa**	**2.87**	**17**	P	**Pb**	**11 08 24.3**	**+1.7**
ETVZ	**East Tongariro**	**2.88**	**22**	P	**Pb**	**11 08 23.0**	**+2.4**
TMVZ	**Te Maari**	**2.89**	**22**	P	**Pb**	**11 08 23.8**	**-2.7**
KRVZ	**Karewarewa**	**2.90**	**21**	P	**Pb**	**11 08 27.2**	**+0.7**
NTVZ	**North Tongarir**	**2.90**	**21**	P	**Pn**	**11 08 22.8**	**+1.8**
WVZ	**Waitaha Valley**	**2.94**	**244**	P	**Pn**	**11 08 23.3**	**+1.9**
RPZ	**Rata Peaks**	**3.07**	**231**	Pn	**Pn**	**11 08 23.3**	**+0.2**
RPZ	**Rata Peaks**	**3.07**	**231**	P	**Pn**	**11 08 23.9**	**+0.7**
GCSZ	**Gaunt Creek Bo**	**3.32**	**242**	P	**Pb**	**11 08 32.7**	**-0.9**
HIZ	**Hauiti**	**3.32**	**7**		**Pn**	**11 08 28.8**	**+2.2**
HIZ	**Hauiti**	**3.32**	**7**	P	**Pn**	**11 08 29.5**	**+2.9**
MRHZ	**Matea Rd**	**3.38**	**29**	P	**Pn**	**11 08 29.0**	**+1.6**
TMZ	**Timaru**	**3.54**	**222**	P	**Pn**	**11 08 30.2**	**+0.6**
TLZ	**Tolley Road**	**3.60**	**15**	P	**Pb**	**11 08 37.4**	**-1.1**
FOZ	**Fox Glacier**	**3.75**	**241**		**Pn**	**11 08 33.4**	**+1.0**
FOZ	**Fox Glacier**	**3.75**	**241**	P	**Pn**	**11 08 34.5**	**+2.1**
LBZ	**Lake Benmore**	**3.98**	**228**	Pn	**Pn**	**11 08 36.2**	**+0.6**
LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	**11 08 36.8**	**+1.2**
TOZ	**Tahuroa Road**	**4.18**	**13**	P	**Pn**	**11 08 41.9**	**+3.5**
ODZ	**Otahua Downs**	**4.20**	**219**	Pn	**Pn**	**11 08 38.9**	**+0.2**
ODZ	**Otahua Downs**	**4.20**	**219**	P	**Pn**	**11 08 38.5**	**-0.1**
TGRZ	**Tauranga**	**4.34**	**21**	P	**Pb**	**11 08 48.1**	**-3.0**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**11 08 48.4**	**+3.4**
MKAZ	**Moumakai**	**4.75**	**8**	P	**Pn**	**11 08 49.1**	**+3.0**
AWAZ	**Awhitu Peninsu**	**4.75**	**3**	P	**Pn**	**11 08 49.4**	**+3.2**
PUZ	**Puketiti**	**4.80**	**40**	P	**Pn**	**11 08 51.5**	**+4.5**
PKGZ	**Pakihiroa**	**4.87**	**38**	P	**Pn**	**11 08 50.5**	**+2.6**
ETAZ	**East Tamaki Re**	**4.88**	**6**	P	**Pn**	**11 08 51.0**	**+3.0**
WKZ	**Wanaka**	**4.91**	**230**	Pn	**Pn**	**11 08 48.8**	**+0.4**
EPAZ	**Eden Park BICE**	**4.94**	**4**	P	Pn	11 08 54.2	+5.3
WIAZ	**Waiheke Island**	**5.05**	**7**	P	**Pn**	**11 08 54.3**	**+3.9**
MBAZ	**Motutapu North**	**5.06**	**5**	P	Pn	11 08 55.8	+5.3
STKA	**Stephens Creek**	**27.87**	**280**	P	**P**	**11 13 24.1**	**-0.2**
BBOO	**Buckleboo**	**31.52**	**274**	P	**P**	**11 13 56.3**	**-0.4**
CTAO	**Charters Tower**	**32.15**	**304**	P	**P**	**11 14 02.3**	**+0.1**
VNDA	**Vanda**	**36.19**	**185**	P	**P**	**11 14 37.1**	**+0.4**
VNDA				IAmb	IAmb	11 15 21.5	
	comp=Z,1.5nm,1.2s						
AS31	**Alice Springs**	**38.11**	**286**	P	**P**	**11 14 54.4**	**+0.7**
WB2	**Warramunga Arr**	**40.18**	**290**	P	**P**	**11 15 10.6**	**-0.3**
WB2				IAmb	IAmb	11 15 30.5	
	comp=Z,8.2nm,1.1s						
WRAB	**Tennant Creek**	**40.18**	**290**	P	**P**	**11 15 10.8**	**-0.2**
WRAB				IAmb	IAmb	11 15 30.5	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**40.18**	**290**	P	**P**	**11 15 09.8**	**-1.2**
WB0	**Warramunga Arr**	**40.26**	**291**	P	**P**	**11 15 11.1**	**-0.6**
WB0				IAmb	IAmb	11 15 25.7	
	comp=Z,6.5nm,1.4s						
MTN	**Manton Dam**	**47.30**	**295**	P	**P**	**11 16 08.6**	**+0.3**
QSPA	**South Pole Qui**	**48.31**	**180**	P	**P**	**11 16 14.8**	**-0.9**
QSPA				IAmb	IAmb	11 16 15.6	
	comp=Z,2.3nm,0.8s						
SNAA	**Sanae**	**66.80**	**181**	P	**P**	**11 18 26.1**	**+0.4**
SNAA				IAmb	IAmb	11 18 49.3	
	comp=Z,6.7nm,1.4s						

WEL 20 11:08:20.7, 39°S±31°×17°6E±2°1, h6km±25km, M2.8/11, ML3.0/6, MLv2.8/11, Error ellipse: s-maj=0.0km s-min=0.0km az=164.5, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KWHZ	**Kaweka Forest**	**0.34**	**81**	P	Pb	11 08 28.5	-0.6
BKZ	**Black Stump Fm**	**0.50**	**52**	P	Pb	11 08 31.5	-0.4
BKZ	**Black Stump Fm**	**0.50**	**52**	P	Pb	11 08 31.5	-0.4
MCHZ	**McNeill Hill**	**0.55**	**87**	P	Pg	11 08 31.6	+0.4
RATZ	**Rangitukua**	**0.63**	**344**	P	Pg	11 08 32.4	-0.4
NMHZ	**Naumai**	**0.74**	**59**	P	Pn	11 08 37.6	-0.1
WHTZ	**Whakaora**	**0.81**	**359**	P	Pn	11 08 38.6	-0.1
MTHZ	**Maungataniwha**	**0.91**	**47**	P	Pn	11 08 40.6	+0.5
ALRZ	**Allen Road**	**0.95**	**17**	P	Pg	11 08 38.6	-0.4
RAHZ	**Arahi**	**1.02**	**57**	P	Pn	11 08 42.8	+1.3
HSRZ	**Hossack Road**	**1.18**	**10**	P	Pn	11 08 46.9	+3.1
RRRZ	**Republican Roa**	**1.21**	**20**	P	Pn	11 08 46.8	+2.6
TWGZ	**Tauwhareparae**	**2.02**	**51**	P	Pn	11 08 55.5	+0.1
HAZ	**Te Kaha**	**2.22**	**40**	P	Pn	11 08 56.4	-1.6

*IDC **20** 11:09:35.6±1.2, 6°16S×128°67E, h335km±18km, mb3.1/1, mbtmp4.1/5, Error ellipse: s-maj=21.2km s-min=12.5km az=102.0*
*NEIC **20** 11:09:37.0±1.4, 6°05S±0°08×128°7E±0°2, h346km±15km, mb4.3/6, Error ellipse: s-maj=24.3km s-min=10.8km az=97.0*
ISC 20 11:09:35.7±0.8, 6°21S±0°07×128°73E±0°09, h322km, n19, σ1§50/23, mb4.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.79**	**47**	Pn	**Pn**	**11 10 53.8**	**+1.9**
SIJI	**Sorong**	**5.88**	**26**	P	**Pn**	**11 11 05.5**	**+1.2**
	3.8nm,0.5s,baz=184,slow=23,SNR=1.4						
SIJI				S	**S**	**11 12 15.2**	**-0.7**
	5.3nm,0.3s,baz=193,slow=22,SNR=11						
BATI	**Baumata**	**6.40**	**231**	P	**Pn**	**11 11 12.1**	**+1.7**
	17nm,0.4s,baz=326,slow=0.9,SNR=4.0						
BATI				S	**S**	**11 12 25.4**	**-1.6**
	26nm,0.4s,baz=92,slow=22,SNR=7.4						
KNRA	**Kununurra**	**9.41**	**180**		**P**	**11 11 49.4**	**-0.4**
WB0	**Warramunga Arr**	**14.55**	**158**	P	**Pn**	**11 12 48.4**	**+0.1**
WRAB	**Tennant Creek**	**14.69**	**159**	P	**Pn**	**11 12 50.0**	**+0.1**
WRA	**Warramunga Arr**	**14.70**	**159**	P	**Pn**	**11 12 50.0**	**0.0**
	1.5nm,0.3s,baz=340,slow=11,SNR=82						
WRA				S	**S**	**11 15 26.3**	**-2.1**
	1.2nm,0.8s,baz=335,slow=20,SNR=5.9						
WRA	**Warramunga Arr**	**14.70**	**159**	P	**P**	**11 12 48.7**	**+0.3**
WB2	**Warramunga Arr**	**14.70**	**159**	P	**Pn**	**11 12 49.8**	**-0.2**
WR0	**Warramunga Arr**	**14.79**	**158**	P	**Pn**	**11 12 50.3**	**-0.7**
COEN	**Coen**	**16.16**	**120**	P	**Pn**	**11 13 06.6**	**-0.4**
COEN				IAmb	IAmb	11 13 13.8	
	comp=Z,24nm,1.5s						
AS31	**Alice Springs**	**18.05**	**165**	P	**P**	**11 13 26.6**	**+1.8**
AS31				IAmb	IAmb	11 13 27.2	
	comp=Z,2.8nm,0.3s						
ASAR	**Alice Springs**	**18.05**	**165**	P	**P**	**11 13 26.5**	**+1.7**
	comp=Z,3.1nm,0.3s,baz=344,slow=11,SNR=161						
ASAR				S	**S**	**11 16 34.4**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=346,slow=23,SNR=16						
FORT	**Forrest**	**24.45**	**181**	P	**P**	**11 14 29.8**	**+3.6**
FORT				IAmb	IAmb	11 14 49.0	
	comp=Z,55nm,1.4s						
BBOO	**Buckleboo**	**27.33**	**166**	P	**P**	**11 14 52.1**	**+0.2**
BBOO				IAmb	IAmb	11 15 00.4	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**28.22**	**156**	P	**P**	**11 14 59.9**	**+0.1**
LIFNC	**LIFOU**	**40.01**	**115**	P	**P**	**11 16 39.5**	**-1.0**
MKAR	**Makanchi Array**	**66.88**	**327**	P	**P**	**11 19 51.7**	**-2.2**
	comp=Z,1.0nm,0.9s,baz=125,slow=7.2,SNR=2.1						
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**66.88**	**327**	P	**P**	**11 19 52.1**	**-1.8**

WEL 20 11:09:51.4±0.3, 43°S±3°×17°3E±°, h5km, M3.3/18, ML3.4/10, MLv3.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=129.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.23**	**63**	P	Pg	11 09 55.9	+0.1
KHZ				S	Sg	11 09 59.4	+0.7
GVZ	**Greta Valley S**	**0.48**	**201**	P	Pg	11 10 01.3	+0.6
LTZ	**Lake Taylor**	**0.78**	**250**	P	Pg	11 10 06.7	+0.3
LTZ				S	Sb	11 10 17.4	-0.9
AMCZ	**Amberley**	**0.80**	**214**	P	Pg	11 10 07.1	+0.3
THZ	**Tophouse**	**0.80**	**340**	P	Pg	11 10 07.0	+0.3
BSWZ	**Blackbirch Sta**	**0.92**	**30**	P	Pg	11 10 09.2	+0.2
MRNZ	**Matariki Terra**	**1.18**	**341**	P	Pg	11 10 13.8	-0.1
OXZ	**Oxford**	**1.21**	**228**	P	Pg	11 10 12.6	-2.0
MQZ	**McQueen's Vall**	**1.27**	**201**	P	Pg	11 10 12.7	-3.0
NNZ	**Nelson**	**1.30**	**4**	P	Pn	11 10 16.0	-0.2
DSZ	**Denniston Nort**	**1.33**	**305**	P	Pn	11 10 16.2	-0.5
AKCZ	**Akaroa Harbour**	**1.38**	**191**	P	Pn	11 10 14.3	-3.0
RACZ	**Rakaia**	**1.47**	**214**	P	Pn	11 10 15.6	-2.8
MHCZ	**Mount Hutt**	**1.61**	**230**	P	Pn	11 10 17.9	-2.5
QRZ	**Quartz Range**	**1.78**	**342**	P	Pn	11 10 23.0	+0.3
WVZ	**Waitaha Valley**	**1.94**	**252**	P	Pn	11 10 24.2	-0.9
RPZ	**Rata Peaks**	**2.02**	**233**	P	Pn	11 10 23.8	-2.2
GCSZ	**Gaunt Creek Bo**	**2.30**	**249**	P	Pn	11 10 29.3	-0.6
TMZ	**Timaru**	**2.49**	**221**	P	Pn	11 10 30.0	-2.6
ODZ	**Otahua Downs**	**3.16**	**216**	P	Pn	11 10 38.8	-2.9

*WEL **20** 11:19:58.9±0.3, 42°S±3°×17°4E±°, h12km±2km, M3.8/47, ML4.0/27, MLv3.8/47, Error ellipse: s-maj=0.0km s-min=0.0

FOZ	Fox Glacier	3.72	242	P	Pn	11 20 56.1	+0.9
MUGZ	Murupara	3.86	30	P	Pn	11 20 56.5	-0.6
LBZ	Lake Benmore	3.95	229		Pn	11 20 59.4	+1.0
ODZ	Otahua Downs	4.16	219	Pn	Pn	11 21 02.9	+1.6
ODZ	Otahua Downs	4.16	219	P	Pn	11 21 01.1	-0.2
URZ	Urewera	4.18	32	P	Pn	11 21 00.2	-1.3
TOZ	Tahuroa Road	4.21	13	P	Pn	11 21 06.0	+4.0
JCZ	Jackson Bay	4.63	239	P	Pn	11 21 11.6	+3.8
MKAZ	Moumakai	4.79	8	P	Pn	11 21 10.8	+0.9
AWAZ	Awhitu Peninsu	4.79	3	P	Pn	11 21 11.6	+1.7
WKZ	Wanaka	4.88	231	Pn	Pn	11 21 12.4	+1.2
ETAZ	East Tamaki Re	4.91	6	P	Pn	11 21 13.4	+1.7
WIAZ	Waiheke Island	5.09	7	P	Pn	11 21 15.4	+1.3
MSZ	Milford Sound	5.45	237	P	Pn	11 21 25.7	+6.7
OUZ	Omahuta	6.65	355	Pn	Pn	11 21 35.5	+0.1
TOO	Toolangi	22.53	271	P	P	11 24 56.8	-0.7
TOO				IAmb	IAmb	11 25 13.4	
	comp=Z,12nm,1.4s						
VNDA	Vanda	36.15	185	P	P	11 27 01.0	+1.6
FORT	Forrest	38.46	271	P	P	11 27 19.5	0.0
WR0	Warramunga Arr	40.03	291	P	P	11 27 32.7	0.0
WR0				IAmb	IAmb	11 28 04.2	
	comp=Z,8.6nm,1.5s						
WB2	Warramunga Arr	40.18	291	P	P	11 27 33.2	-0.7
WB2				IAmb	IAmb	11 28 00.4	
	comp=Z,7.3nm,1.4s						
WB0	Warramunga Arr	40.27	291	P	P	11 27 34.0	-0.7
MTN	Manton Dam	47.30	295	P	P	11 28 30.6	-0.7
QSPA	South Pole Qui	48.28	180	P	P	11 28 38.5	+0.1
QSPA				IAmb	IAmb	11 28 52.4	
	comp=Z,4.0nm,1.2s						

NEIC ***20*** *11:21:24.9±2.0, 13˚.43N±0˚.09×144˚.3E±0˚.1, h23km±10km, ML3.8/4, Error ellipse: s-maj=18.6km s-min=6.2km az=129.0*

IDC ***20*** *11:21:26.6±1.1, 13˚.38N×144˚.91E, h53km±15km, mb3.1/3, mbtmp3.3/3, Error ellipse: s-maj=35.1km s-min=21.3km az=134.0*

ISC 20 11:21:27.0±1.6, **13˚.5N**±0˚.2×**144˚.6E**±0˚.4, **h58**km±20km, **n9, s**0°.62/10, **mb3.4/3, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.30	75	P		Pn	Pn	11 21 36.9	0.0
	283nm,0.3s,baz=164,slow=16,SNR=94								
GUMO				S		Sn	Sn	11 21 43.9	-0.2
	2μm,0.3s,baz=341,slow=23,SNR=31								
GUMO	Guam	0.30	75	Pn		Pn	Pn	11 21 36.9	0.0
GUMO				Sg		Sn	Sn	11 21 44.2	+0.2
GUMO				IAML				11 21 44.5	
	8μm,0.4s								
KS19	Wonju Array Si	28.16	331	P		P	P	11 27 13.8	0.0
WR0	Warramunga Arr	34.70	197	P		P	P	11 28 12.7	+1.2
WRA	Warramunga Arr	34.74	197	P		P	P	11 28 11.3	-0.5
	0.2nm,0.5s,baz=21,slow=9.2,SNR=2.2								
	0.2nm,0.5s								
ASAR	Alice Springs	38.40	196	P		P	P	11 28 42.2	-0.7
	0.3nm,0.6s,baz=21,slow=11,SNR=8.4								
	0.3nm,0.6s								
ASAR	Alice Springs	38.40	196	P		P	P	11 28 42.9	-0.1
ILAR	Eielson Array	68.76	25	P		P	P	11 32 24.6	0.0
	0.2nm,0.4s,baz=246,slow=5.4,SNR=4.8								
	0.2nm,0.4s								
BMAR	Burnt Mountain	70.28	23	P		P	P	11 32 37.7	+3.7

WEL 20 11:22:15.0, 42˚S±8˚×**17˚4E**±˚, **h19**km±6km, **M2.3**/3, **MLv2.3**/3, **Error ellipse: s-maj=0.0km s-min=0.0km az=139.3, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.10	332	P		Pg	Pg	11 22 19.1	+0.3
CMWZ				S		Sg	Sg	11 22 22.5	+1.0
BSWZ	Blackbirch Sta	0.33	292	P		Pb	Pb	11 22 22.4	+0.2
TUWZ	Tuamarina	0.48	328	P		Pb	Pb	11 22 25.8	+1.0
TCW	Tory Channel	0.63	360	P		Pg	Pg	11 22 27.5	0.0
WEL	Wellington	0.67	34	P		Pg	Pg	11 22 28.6	+0.4
PLWZ	Palliser	0.78	70	P		Pn	Pn	11 22 31.0	-0.1
MSWZ	Moikau Station	0.84	60	P		Pn	Pn	11 22 31.9	+0.1
NNZ	Nelson	0.92	312	P		Pg	Pg	11 22 33.6	+0.8
CAW	Cannon Point	0.94	39	P		Pg	Pg	11 22 33.4	0.0
KIW	Kapiti Island	1.09	26	P		Pg	Pg	11 22 35.8	-0.3
MTW	Mount Morrison	1.15	54	P		Pn	Pn	11 22 35.9	-0.1
MRNZ	Matariki Terra	1.22	291	P		Pg	Pg	11 22 39.6	+0.9
OGWZ	Otaki Gorge	1.22	34	P		Pb	Pb	11 22 37.4	-0.1
HOWZ	Holdsworth Sta	1.32	45	P		Pg	Pg	11 22 42.7	+2.2
TMWZ	Te Maipa	1.42	59	P		Pn	Pn	11 22 39.2	-0.5
TKGZ	Te Karaka	4.36	40	P		Pn	Pn	11 23 18.5	-1.7

WEL 20 11:22:19.1±0.3, **42˚S**±2˚×**17˚3E**±˚, **h5**km, **M3.0**/21, **ML3.2**/11, **MLv3.0**/21, **Error ellipse: s-maj=0.0km s-min=0.0km az=89.6, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.09	142	P		Pg	Pg	11 22 21.3	+0.3
KHZ				S		Sg	Sg	11 22 23.2	+0.9
GVZ	Greta Valley S	0.70	207	P		Pg	Pg	11 22 33.5	-0.3
BSWZ	Blackbirch Sta	0.70	26	P		Pg	Pg	11 22 32.4	-0.2
THZ	Tophouse	0.72	324	P		Pg	Pg	11 22 33.1	+0.1
TUWZ	Tuamarina	0.98	21	P		Pg	Pg	11 22 37.7	-0.3
LTZ	Lake Taylor	0.98	243	P		Pg	Pg	11 22 38.0	0.0
AMCZ	Amberley	1.02	216	P		Pg	Pg	11 22 38.2	-0.6
MRNZ	Matariki Terra	1.09	331	P		Pg	Pg	11 22 38.5	-1.4
NNZ	Nelson	1.13	357	P		Pg	Pg	11 22 40.5	-0.3
TKNZ	Takaka Hill	1.37	344	P		Pn	Pn	11 22 44.5	-0.4
DSZ	Denniston Nort	1.38	295	P		Pn	Pn	11 22 45.1	0.0
DSZ	Denniston Nort	1.38	295	P		Pn	Pn	11 22 44.9	-0.1
OKCZ	Okains Bay	1.41	192	P		Pn	Pn	11 22 43.1	-2.4
OXZ	Oxford	1.44	227	P		Pn	Pn	11 22 43.5	-2.4
MQZ	McQueen's Vall	1.48	203	P		Pn	Pn	11 22 43.4	-3.0
INZ	Inchbonnie	1.54	255	P		Pn	Pn	11 22 46.7	-0.6
AKCZ	Akaroa Harbour	1.58	195	P		Pn	Pn	11 22 45.0	-2.8
DUWZ	D'Urville Isla	1.58	13	P		Pn	Pn	11 22 47.6	-0.3
QRZ	Quartz Range	1.68	335	P		Pn	Pn	11 22 49.7	+0.5
RACZ	Rakaia	1.69	215	P		Pn	Pn	11 22 46.6	-2.7
MHCZ	Mount Hutt	1.83	229	P		Pn	Pn	11 22 48.8	-2.5
WACZ	Wakanui South	1.99	216	P		Pn	Pn	11 22 50.8	-2.6
WVZ	Waitaha Valley	2.14	249	P		Pn	Pn	11 22 54.7	-0.8
RPZ	Rata Peaks	2.24	232	P		Pn	Pn	11 22 54.6	-2.2
ARCZ	Arundel	2.32	226	P		Pn	Pn	11 22 55.5	-2.5
ODZ	Otahua Downs	3.38	216	P		Pn	Pn	11 23 09.7	-3.0

IDC 20 11:24:36.7±6.7, **43˚.55S×39˚.48E, h0**km, **mb3.8**/2, **mbtmp3.8**/2, **Error ellipse: s-maj=872.5km s-min=57.4km az=8.0, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	77.13	110	P		P	P	11 36 32.4	+0.1
	0.9nm,0.9s,baz=222,slow=4.8,SNR=8.0								
	0.9nm,0.9s								
WRA	Warramunga Arr	79.93	108	P		P	P	11 36 47.6	-0.1
	0.9nm,1.1s,baz=224,slow=4.2,SNR=3.9								
	0.9nm,1.1s								
TXAR	Lajitas Array	147.42	257	PKPbc		PKPbc		11 44 21.9	-0.7
	0.2nm,0.8s,baz=156,slow=5.5,SNR=1.7								

WEL 20 11:24:42.3±0.3, **43˚S**±2˚×**17˚3E**±˚, **h5**km, **M3.3**/34, **ML3.6**/17, **MLv3.3**/34, **Error ellipse: s-maj=0.0km s-min=0.0km az=108.1, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.34	162	P		Pg	Pg	11 24 49.5	+0.6
GVZ				S		Sb	Sb	11 24 55.3	-1.4
LTZ	Lake Taylor	0.48	253	P		Pg	Pg	11 24 52.1	+0.6
LTZ				S		Sb	Sb	11 24 59.3	-1.4
KHZ	Kahutara	0.53	65	P		Pg	Pg	11 24 52.4	0.0
AMCZ	Amberley	0.56	198	P		Pb	Pb	11 24 54.1	-0.6
THZ	Tophouse	0.88	1	P		Pg	Pg	11 24 58.9	-0.2
OXZ	Oxford	0.93	222	P		Pg	Pg	11 24 59.8	-0.3
INZ	Inchbonnie	1.07	265	P		Pg	Pg	11 25 02.6	-0.2
MQZ	McQueen's Vall	1.08	189	P		Pg	Pg	11 25 01.3	-1.6
OKCZ	Okains Bay	1.09	174	P		Pg	Pg	11 25 02.1	-1.0
BSWZ	Blackbirch Sta	1.18	39	P		Pg	Pg	11 25 04.4	-0.4
DSZ	Denniston Nort	1.21	317	P		Pg	Pg	11 25 05.4	0.0
RACZ	Rakaia	1.22	207	P		Pg	Pg	11 25 03.4	-2.2
AKCZ	Akaroa Harbour	1.23	179	P		Pg	Pg	11 25 03.6	-2.3
MRNZ	Matariki Terra	1.25	355	P		Pg	Pg	11 25 05.4	-0.8
MHCZ	Mount Hutt	1.32	227	P		Pn	Pn	11 25 05.0	-2.4
CMWZ	Cape Campbell	1.32	48	P		Pb	Pb	11 25 07.5	-0.1
TUWZ	Tuamarina	1.44	33	P		Pn	Pn	11 25 08.2	-0.8
NNZ	Nelson	1.47	14	P		Pn	Pn	11 25 09.1	-0.3
WACZ	Wakanui South	1.51	210	P		Pn	Pn	11 25 07.6	-2.4
TKNZ	Takaka Hill	1.61	2	P		Pn	Pn	11 25 10.5	-0.9
WVZ	Waitaha Valley	1.65	254	P		Pn	Pn	11 25 11.0	-0.8
RPZ	Rata Peaks	1.72	231	P		Pn	Pn	11 25 10.8	-2.1
TCW	Tory Channel	1.76	36	P		Pn	Pn	11 25 12.1	-1.3
ARCZ	Arundel	1.81	223	P		Pn	Pn	11 25 11.9	-2.3
QRZ	Quartz Range	1.83	351	P		Pn	Pn	11 25 14.9	+0.5
WEL	Wellington	1.95	47	P		Pn	Pn	11 25 14.3	-1.6
DUWZ	D'Urville Isla	1.99	23	P		Pn	Pn	11 25 16.7	+0.1
GCSZ	Gaunt Creek Bo	2.00	249	P		Pn	Pn	11 25 16.1	-0.6
PLWZ	Palliser	2.06	59	P		Pn	Pn	11 25 14.9	-2.6
MSWZ	Moikau Station	2.14	56	P		Pn	Pn	11 25 16.2	-2.5
TMZ	Timaru	2.22	218	P		Pn	Pn	11 25 17.5	-2.3
CAW	Cannon Point	2.23	47	P		Pn	Pn	11 25 17.9	-2.0
PAWZ	Paruwai Farm	2.27	57	P		Pn	Pn	11 25 17.7	-2.8
KIW	Kapiti Island	2.33	41	P		Pn	Pn	11 25 19.8	-1.5
FOZ	Fox Glacier	2.42	247	P		Pn	Pn	11 25 22.2	-0.3
MTW	Mount Morrison	2.45	54	P		Pn	Pn	11 25 20.1	-2.8
OGWZ	Otaki Gorge	2.49	44	P		Pn	Pn	11 25 21.6	-1.9
LBZ	Lake Benmore	2.63	228	P		Pn	Pn	11 25 23.5	-1.9
MRZ	Mangatainoka R	2.82	46	P		Pn	Pn	11 25 25.5	-2.5
ODZ	Otahua Downs	2.90	213	P		Pn	Pn	11 25 26.5	-2.6
WAZ	Wanganui	3.29	29	P		Pn	Pn	11 25 34.7	+0.3
JCZ	Jackson Bay	3.32	243	P		Pn	Pn	11 25 33.5	-1.5
DVHZ	Dannevirke	3.39	48	P		Pn	Pn	11 25 32.5	-3.4
TSZ	Takapari Road	3.46	43	P		Pn	Pn	11 25 34.2	-2.7
EAZ	Earnscleugh	3.66	224	P		Pn	Pn	11 25 37.0	-2.5
PNHZ	Pukenui	3.69	44	P		Pn	Pn	11 25 37.0	-3.0
VRZ	Vera Road	3.79	23	P		Pn	Pn	11 25 41.8	+0.6
WNVZ	Wahianoa	3.89	33	P		Pn	Pn	11 25 42.0	-0.9
TRVZ	Turoa	3.90	32	P		Pn	Pn	11 25 41.9	-1.1
WHVZ	Whangaehu Hut	3.93	32	P		Pn	Pn	11 25 42.5	-0.9
FWVZ	Far West T-bar	3.94	32	P		Pn	Pn	11 25 42.5	-1.1
BHHZ	Black Hill Sta	3.96	38	P		Pn	Pn	11 25 41.6	-2.1
TUVZ	Tukino	3.96	33	P		Pn	Pn	11 25 43.1	-0.8
NGZ	Ngauruhoe	4.02	32	P		Pn	Pn	11 25 43.9	-0.7
NNVZ	North Ngauruho	4.07	31	P		Pn	Pn	11 25 44.3	-1.0
ETVZ	East Tongariro	4.10	32	P		Pn	Pn	11 25 44.6	-1.1
TMVZ	Te Maari	4.12	32	P		Pn	Pn	11 25 44.7	-1.2
NTVZ	North Tongarir	4.12	32	P		Pn	Pn	11 25 45.0	-0.9
HIZ	Hauiti	4.38	21	P		Pn	Pn	11 25 49.2	-0.3
BKZ	Black Stump Fm	4.41	39	P		Pn	Pn	11 25 47.1	-2.9
TOZ	Tahuroa Road	5.29	23	P		Pn	Pn	11 26 01.3	-0.6
MKAZ	Moumakai	5.80	18	P		Pn	Pn	11 26 08.2	-0.7
WIZ	White Island	6.08	34	P		Pn	Pn	11 26 15.7	+3.0

WEL 20 11:29:16.7±0.8, **42˚S**±4˚×**17˚4E**±˚, **h7**km±5km, **M2.2**/6, **ML1.9**/6, **MLv2.2**/6, **Error ellipse: s-maj=0.0km s-min=0.0km az=104.8, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	206	P		Pg	Pg	11 29 18.7	+0.3
CMWZ				S		Sg	Sg	11 29 21.2	+1.5
BSWZ	Blackbirch Sta	0.28	266	P		Pg	Pg	11 29 22.1	-0.1
TUWZ	Tuamarina	0.35	319	P		Pg	Pg	11 29 24.3	+0.7
TUWZ				S		Sb	Sb	11 29 30.2	-0.8
TCW	Tory Channel	0.49	3	P		Pg	Pg	11 29 26.6	+0.5
CAW	Cannon Point	0.85	46	P		Pg	Pg	11 29 33.1	+0.1
THZ	Tophouse	1.01	266	P		Pg	Pg	11 29 35.8	-0.2
OGWZ	Otaki Gorge	1.12	39	P		Pg	Pg	11 29 37.9	-0.3
BFZ	Birch Farm	1.82	57	P		Pn	Pn	11 29 40.6	-7.7
DSZ	Denniston Nort	1.83	268	P		Pn	Pn	11 29 48.8	+0.3

WEL 20 11:29:21.1, 42˚S±6˚×**17˚3E**±˚, **h5**km±4km, **M2.5**/4, **ML3.2**/2, **MLv2.5**/4, **Error ellipse: s-maj=0.0km s-min=0.0km az=29.5, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.07	116	P		Pg	Pg	11 29 23.0	+0.4
KHZ				S		Sg	Sg	11 29 24.3	+0.6
GVZ	Greta Valley S	0.66	208	P		Pb	Pb	11 29 35.8	+0.7
GVZ	Greta Valley S	0.66	208	P		Pb	Pb	11 29 35.9	+0.8
LTZ	Lake Taylor	0.96	245	P		Pn	Pn	11 29 41.1	-0.2
MQZ	McQueen's Vall	1.44	204	P		Pn	Pn	11 29 46.5	-1.4

WEL ***20*** *11:30:00, 42˚.42S×173˚.20E, h7km, ML4.2, Mw3.9, Moment Tensor Solution. s5 Moment tensor: Scale 10¹⁴ Nm; Mrr6.92; Mθθ2.28; Mϕϕ-9.20; Mrθ2.37; Mθϕ-3.81; Mϕr3.03; Fault plane solution: Mo9.55000×10¹⁴ NP1: ϕs178.00000°, δ36.00000°, λ62.00000°. NP2:ϕs31.00000°, δ58.00000°, λ109.00000°. Principal axes: T -110.6800, Plg70.0000°, Azm344.0000°; N 30.3200, Plg16.0000°, Azm200.0000°; P 80.3600, Plg11.0000°, Azm108.0000°;*

IDC ***20*** *11:30:49.6±1.2, 42˚.44S×173˚.24E, h0km, mb3.7/3, mbtmp3.8/4, ML4.3/1, MS3.4/1 Error ellipse: s-maj=30.1km s-min=26.9km az=80.0*

NOU ***20*** *11:30:51.5, 42˚.67S×173˚.53E, h11km, MLv4.5/15, South Island, New Zealand*

WEL ***20*** *11:30:52.9±0.3, 42˚S±2˚×17˚3E±˚, h5km, M4.1/52, ML4.4/19, MLv4.1/52, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7*

NEIC ***20*** *11:30:53.0±1.5, 42˚.52S±0˚.03×173˚.35E±0˚.06, h22km±4km, mb4.4/12, Error ellipse: s-maj=6.6km s-min=3.8km az=122.0*

ISC 20 11:30:52.3±1.4, **42˚.52S**±0˚.03×**173˚.32E**±0˚.03, **h18**km±9km, **n194, s**1°23/195, **mb4.3**/3, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.19	57	P		Pb	Pb	11 30 56.9	-0.1
KHZ	Kahutara	0.19	57	P		Pb	Pb	11 30 57.7	+0.7
KHZ	Kahutara	0.19	57	P		Pb	Pb	11 30 57.7	+0.7
KHZ				S		Sb	Sb	11 31 01.8	+1.7
GVZ	Greta Valley S	0.49	205			Pn	Pn	11 31 04.0	-0.2
GVZ	Greta Valley S	0.49	205	P		Pn	Pn	11 31 04.2	-0.3
LTZ	Lake Taylor	0.82	251			Pb	Pb	11 31 07.6	-0.4
LTZ	Lake Taylor	0.82	251	P		Pb	Pb	11 31 07.5	-0.4
AMCZ	Amberley	0.82	217			Pn	Pn	11 31 09.6	+0.7
AMCZ	Amberley	0.82	217	P		Pn	Pn	11 31 09.9	+0.9
THZ	Tophouse	0.82	338			Pb	Pb	11 31 06.6	-1.5
THZ	Tophouse	0.82	338	P		Pb	Pb	11 31 06.8	-1.3
THZ				S		Sb	Sb	11 31 16.2	-2.5
BSWZ	Blackbirch Sta	0.91	27			Pg	Pg	11 31 09.7	-0.2
BSWZ	Blackbirch Sta	0.91	27	P		Pg	Pg	11 31 09.7	-0.2
CMWZ	Cape Campbell	1.02	41			Pg	Pg	11 31 13.3	+1.3
CMWZ	Cape Campbell	1.02	41	P		Pg	Pg	11 31 13.5	+1.5
TUWZ	Tuamarina	1.19	23			Pb	Pb	11 31 14.2	-0.1
TUWZ	Tuamarina	1.19	23	P		Pg	Pg	11 31 14.6	-0.6
MRNZ	Matariki Terra	1.20	339			Pn	Pn	11 31 13.6	-0.5
MRNZ	Matariki Terra	1.20	339	P		Pn	Pn	11 31 13.7	-0.5
OKCZ	Okains Bay	1.22	189	P		Pg	Pg	11 31 16.6	-0.2
OXZ	Oxford	1.24	229	Pn		Pb	Pb	11 31 15.3	+0.1
OXZ	Oxford	1.24	229	P		Pb	Pb	11 31 15.1	-0.1
MQZ	McQueen's Vall	1.28	202	Pn		Pn	Pn	11 31 15.2	0.0
MQZ	McQueen's Vall	1.28	202	P		Pn	Pn	11 31 15.3	0.0
NNZ	Nelson	1.30	2			Pb	Pb	11 31 15.8	-0.5
NNZ	Nelson	1.30	2	P		Pn	Pn	11 31 15.5	-0.1
DSZ	Denniston Nort	1.37	304			Pn	Pn	11 31 16.4	-0.1
DSZ	Denniston Nort	1.37	304	P		Pn	Pn	11 31 16.7	+0.2
AKCZ	Akaroa Harbour	1.38	192	P		Pb	Pb	11 31 17.5	-0.1
INZ	Inchbonnie	1.40	261			Pb	Pb	11 31 17.6	-0.3
INZ	Inchbonnie	1.40	261	P		Pn	Pn	11 31 17.2	+0.3
RACZ	Rakaia	1.48	215	P		Pn	Pn	11 31 18.4	+0.3
TCW	Tory Channel	1.49	29			Pb	Pb	11 31 18.9	-0.6
TCW	Tory Channel	1.49	29	P		Pb	Pb	11 31 19.0	-0.4
TKNZ	Takaka Hill	1.51	350			Pb	Pb	11 31 18.9	-0.9
TKNZ	Takaka Hill	1.51	350	P		Pb	Pb	11 31 19.1	-0.7
SNZO	South Karori	1.59	41			Pn	Pn	11 31 20.0	+0.5
SNZO	South Karori	1.59	41	P		Pn	Pn	11 31 20.6	-0.5
MHCZ	Mount Hutt	1.63	231	P		Pn	Pn	11 31 20.4	+0.2
WEL	Wellington	1.64	42	P		Pb	Pb	11 31 21.1	-0.9
PLWZ	Palliser	1.73	57			Pn	Pn	11 31 21.9	+0.4
PLWZ	Palliser	1.73	57	P		Pn	Pn	11 31 21.9	+0.4
DUWZ	D'Urville Isla	1.78	15	P		Pb	Pb	11 31 23.5	-0.8
WACZ	Wakanui South	1.79	217	P		Pn	Pn	11 31 22.6	+0.3
QRZ	Quartz Range	1.80	340			Pb	Pb	11 31 23.7	-0.9
QRZ	Quartz Range	1.80	340	P		Pb	Pb	11 31 23.6	-1.1
QRZ	Quartz Range	1.80	340	P		Pb	Pb	11 31 23.3	-1.4
MSWZ	Moikau Station	1.81	53	Pn		Pn	Pn	11 31 22.9	+0.2
MSWZ	Moikau Station	1.81	53	P		Pn	Pn	11 31 23.0	+0.4
CAW	Cannon Point	1.92	43	P		Pn	Pn	11 31 24.7	+0.6
PAWZ	Paruwai Farm	1.94	55	P		Pn	Pn	11 31 24.6	+0.2
WVZ	Waitaha Valley	1.98	253	P		Pn	Pn	11 31 25.8	+0.9
KIW	Kapiti Island	2.04	36	P		Pn	Pn	11 31 26.6	+0.9
RPZ	Rata Peaks	2.04	234	Pn		Pn	Pn	11 31 25.6	-0.2
	102nm,0.3s,baz=74,slow=2.2,SNR=196								
RPZ						Sn	Sn	11 31 50.7	-0.2
	78nm,0.3s,baz=346,slow=22,SNR=27								
	276nm,0.4s								
RPZ	Rata Peaks	2.04	234	Pn		Pn	Pn	11 31 26.4	+0.6
RPZ	Rata Peaks	2.04	234	P		Pn	Pn	11 31 26.3	+0.5
RPZ	Rata Peaks	2.04	234	P		Pn	Pn	11 31 26.1	+0.3
TRWZ	Traveller	2.09	58	P		Pn	Pn	11 31 26.5	0.0
ARCZ	Arundel	2.12	227	P		Pn	Pn	11 31 27.2	+0.3
MTW	Mount Morrison	2.12	51	P		Pn	Pn	11 31 26.9	0.0
OGWZ	Otaki Gorge	2.20	40	P		Pn	Pn	11 31 28.4	+0.6
HOWZ	Holdsworth Sta	2.31	46	P		Pn	Pn	11 31 29.4	-0.1
GCSZ	Gaunt Creek Bo	2.34	249	P		Pn	Pn	11 31 31.1	+1.3
TMWZ	Te Maipa	2.38	54	P		Pn	Pn	11 31 30.3	-0.2
TMZ	Timaru	2.51	221	P		Pn	Pn	11 31 32.4	+0.2
MRZ	Mangatainoka R	2.52	43	Pn		Pn	Pn	11 31 31.8	-0.4
MRZ	Mangatainoka R	2.52	43	P		Pn	Pn	11 31 32.3	0.0
TINZ	Tintock	2.60	49	P		Pn	Pn	11 31 33.2	-0.2
OHWZ	Ohakea	2.76	34	P		Pn	Pn	11 31 37.6	+2.0
FOZ	Fox Glacier	2.76	247			Pn	Pn	11 31 37.2	+1.6
FOZ	Fox Glacier	2.76	247	P		Pn	Pn	11 31 37.0	+1.4
PRWZ	Pori Road	2.80	46	P		Pn	Pn	11 31 35.9	-0.3
BFZ	Birch Farm	2.86	51			Pn	Pn	11 31 36.2	-0.9
BFZ	Birch Farm	2.86	51	P		Pn	Pn	11 31 36.4	-0.6
BFZ	Birch Farm	2.86	51	P		Pn	Pn	11 31 36.2	-0.9
LBZ	Lake Benmore	2.95	230			Pn	Pn	11 31 39.2	+1.0
LBZ	Lake Benmore	2.95	230	P		Pn	Pn	11 31 38.8	+0.5
WAZ	Wanganui	3.04	25	P		Pn	Pn	11 31 41.7	+2.3
DVHZ	Dannevirke	3.08	45	P		Pn	Pn	11 31 39.3	-0.8
NMEZ	Namu Road	3.13	8	P		Pb	Pb	11 31 44.4	-3.0
LREZ	Lake Rotokare	3.17	15	P		Pn	Pn	11 31 44.2	+3.0
ODZ	Otahua Downs	3.18	217	Pn		Pn	Pn	11 31 41.3	-0.1
ODZ	Otahua Downs	3.18	217	P		Pn	Pn	11 31 41.4	0.0
ODZ	Otahua Downs	3.18	217	P		Pn	Pn	11 31 41.3	-0.1
KHEZ	Kahui Hut	3.27	9	P		Pn	Pn	11 31 45.9	+3.2
KHEZ	Kahui Hut	3.27	9	P		Pn	Pn	11 31 45.5	+2.8
NBEZ	Newall Road No	3.28	7	P		Pn	Pn	11 31 45.2	+2.5
NEZ	North Egmont	3.30	11	P		Pn	Pn	11 31 45.6	+2.4
PKE	Pukeiti	3.36	9	P		Pn	Pn	11 31 47.2	+3.2
PNHZ	Pukenui	3

BELA IAmb IAmb 11 41 05.7
comp=Z,9.4nm,1.5s
SMAI **San Martin Ant** **60.81 158** P **P** **11 41 02.5 -0.3**
SNAA **Sanae** **66.08 181** P **P** **11 41 37.8 +0.2**
SNAA IAmb IAmb 11 41 43.5
comp=Z,3.8nm,1.2s
ARCES **ARCESS Array B** **148.26 339** PKPbc **PKPbc** **11 50 35.4 -0.6**
comp=Z,4.0nm,1.0s,baz=46,slow=3.5,SNR=4.3
BRTR **Keskin Array B** **149.70 279** PKPbc **PKPbc** **11 50 40.9 +0.1**
comp=Z,0.5nm,0.6s,baz=130,slow=4.4,SNR=3.0
TORD **Torodi Ar. Bea** **149.84 196** PKPbc **PKPbc** **11 50 41.0 -0.6**
comp=Z,2.4nm,0.5s,baz=173,slow=2.6,SNR=20
FINES **FINESS Array B** **152.79 325** PKPbc **PKPbc** **11 50 46.6 -0.4**
comp=Z,2.4nm,1.0s,baz=64,slow=4.4,SNR=4.3

IDC 20 11:31:44.8±8.1, 44.50S×39.04E, h0km, mb3.7/2, mbtmp3.7/2, MS3.4/7, Error ellipse: s-maj=1035.0km s-min=55.6km az=8.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.67**	**304**	LR		LR	LR	11 41 56.7	
	comp=Z,73nm,21.2s,baz=146,slow=33								
BOSA	**Boshof**	**19.29**	**321**	LR		LR	LR	11 42 08.7	
	comp=Z,90nm,19.1s,baz=182,slow=32								
LBTB	**Lobatse**	**22.30**	**326**	LR		LR	LR	11 44 27.3	
	comp=Z,60nm,18.5s,baz=158,slow=34								
LSZ	**Lusaka**	**30.55**	**339**	LR		LR	LR	11 49 58.6	
	comp=Z,44nm,18.4s,baz=162,slow=36								
SNAA	**Sanae**	**33.78**	**202**	LR		LR	LR	11 50 58.1	
	comp=Z,49nm,18.9s,baz=89,slow=34								
VNDA	**Vanda**	**53.31**	**167**	LR		LR	LR	12 03 31.9	
	comp=Z,43nm,18.0s,baz=274,slow=36								
ASAR	**Alice Springs**	**77.11**	**110**	P		P	P	11 43 40.3	0.0
	0.8nm,0.8s,baz=220,slow=5.3,SNR=5.6								
	0.8nm,0.8s								
BATI	**Baumata**	**79.11**	**94**	LR		LR	LR	12 12 15.6	
	comp=Z,97nm,19.2s,baz=256,slow=31								
WRA	**Warramunga Arr**	**79.94**	**108**	P		P	P	11 43 56.0	+0.1
	0.4nm,0.9s,baz=221,slow=4.5,SNR=2.2								
	0.4nm,0.9s								
TXAR	**Lajitas Array**	**146.88**	**256**	PKPbc		PKPbc	PKPbc	11 51 28.3	-0.8
	0.4nm,0.8s,baz=145,slow=3.3,SNR=4.3								

IDC 20 11:45:35.9±7.7, 44.93S×39.27E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=961.2km s-min=54.6km az=7.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**76.80**	**110**	P		P	P	11 57 30.1	+0.5
	0.8nm,0.9s,baz=217,slow=5.9,SNR=6.1								
	0.8nm,0.9s								
WRA	**Warramunga Arr**	**79.65**	**108**	P		P	P	11 57 44.9	-0.5
	0.7nm,1.0s,baz=216,slow=4.1,SNR=3.9								
	0.7nm,1.0s								
TXAR	**Lajitas Array**	**146.93**	**255**	PKPbc		PKPbc	PKPbc	12 05 19.7	-0.7
	0.9nm,1.0s,baz=126,slow=6.4,SNR=4.5								

---

*LDG **20** 11:52:19.4±0.1, 42.87N×13.12E, h12km, Ml2.9/17, Error ellipse: s-maj=4.7km s-min=3.1km az=41.0*
*PRU **20** 11:52:21.0±0.0, 42.98N×13.52E, h10km*
*GEN **20** 11:52:39.1, 43.52N×11.49E, h9km±17km, Ml1.2*
ROM 20 11:52:19.2±0.1, 42.951N±0.003×13.162E±0.004, h12km, ML3.2/69, 47C-27D, Error ellipse: s-maj=0.3km s-min=0.1km az=231.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
T1256	**Bolognola (MC)**	**0.07**	**41**	⇓P			Pg	11 52 22.1	+0.3
T1256				S			Sg	11 52 24.1	+0.3
T1256				AML			AML		
	comp=E,89600μm,0.3s								
T1256				AML			AML		
	comp=N,45350μm,0.3s								
T1256				AML			AML		
	comp=E,91000μm,0.2s								
T1256				AML			AML		
	comp=E,89300μm,0.3s								
T1256				AML			AML		
	comp=N,45300μm,0.3s								
T1256				AML			AML		
	comp=E,89500μm,0.2s								
T1256				AML			AML		
	comp=N,45300μm,0.3s								
T1256				AML			AML		
	comp=N,38250μm,0.3s								
FEMA	**Monte Fema**	**0.08**	**278**	⇑P			Pg	11 52 22.3	+0.4
FEMA				S			Sg	11 52 24.4	+0.5
FEMA				AML			AML		
FEMA				AML			AML		
	comp=N,61900μm,1.1s								
FEMA				AML			AML		
FEMA				AML			AML		
	comp=N,61900μm,1.0s								
FEMA				AML			AML		
T1245	**Castelsantange**	**0.10**	**168**	⇓P			Pg	11 52 22.4	+0.3
T1245				S			Sg	11 52 24.6	+0.4
T1245				AML			AML		
T1245				AML			AML		
T1245				AML			AML		
T1245				AML			AML		
T1245				AML			AML		
FDMO	**Fiordimonte**	**0.10**	**327**	P			Pg	11 52 22.4	+0.4
FDMO				S			Sg	11 52 24.4	+0.3
FDMO				AML			AML		
	comp=N,65250μm,0.3s								
FDMO				AML			AML		
	comp=E,39300μm,0.8s								
NRCA	**Norcia**	**0.12**	**197**	P			Pb	11 52 23.3	-0.2
NRCA				S			Sg	11 52 25.0	+0.4
NRCA				AML			AML		
NRCA				AML			AML		
NRCA				AML			AML		
NRCA				AML			AML		
NRCA				AML			AML		
NRCA				AML			AML		
MMO1	**Montemonaco**	**0.13**	**113**	⇓P			Pg	11 52 22.9	+0.4
MMO1				S			Sg	11 52 25.3	+0.4
T1219	**Muccia, Frazio**	**0.15**	**313**	⇑P			Pg	11 52 23.2	+0.4
T1219				S			Sg	11 52 26.0	+0.6
T1219				AML			AML		
	comp=E,27600μm,0.7s								
T1219				AML			AML		
	comp=N,41650μm,0.3s								
T1219				AML			AML		
	comp=E,28400μm,1.3s								
T1219				AML			AML		
	comp=E,27550μm,0.7s								
T1219				AML			AML		
	comp=N,41700μm,0.3s								
T1219				AML			AML		
	comp=N,40250μm,0.3s								
T1219				AML			AML		
	comp=N,40200μm,0.3s								
T1241	**Roccafluvione,**	**0.22**	**116**	⇑P			Pg	11 52 24.3	+0.4
T1241				S			Sg	11 52 28.1	+1.0
T1241				AML			AML		
	comp=E,78400μm,0.3s								
T1241				AML			AML		
	comp=N,56300μm,0.2s								
T1241				AML			AML		
	comp=E,78350μm,0.3s								
MDAR	**Monte D'Aria**	**0.24**	**357**	⇑P			Pg	11 52 24.8	+0.5
MDAR				AML			AML		
	comp=E,3660μm,0.3s								
MDAR				AML			AML		
	comp=N,7265μm,0.5s								
MDAR				AML			AML		
	comp=E,3655μm,0.3s								
MDAR				AML			AML		
	comp=N,7270μm,0.5s								
SEF1	**Sefro**	**0.25**	**321**	⇑P			Pg	11 52 24.9	+0.4
SEF1				S			Sb	11 52 29.1	-1.0
SEF1				AML			AML		
	comp=N,13450μm,0.2s								
SEF1				AML			AML		
	comp=E,13600μm,0.7s								
SEF1				AML			AML		
	comp=N,13500μm,0.2s								
SSM1	**San Severino M**	**0.28**	**2**	P			Pg	11 52 25.5	+0.6
T1218	**Civita (PG)**	**0.28**	**187**	⇑P			Pg	11 52 25.3	+0.3
T1218				S			Sg	11 52 29.9	+0.9
T1218				AML			AML		
	comp=E,11500μm,0.4s								
T1218				AML			AML		
	comp=N,14950μm,1.5s								
T1218				AML			AML		
	comp=N,14750μm,1.5s								
T1218				AML			AML		
	comp=E,11400μm,0.4s								
T1218				AML			AML		
	comp=N,14900μm,1.5s								
T1218				AML			AML		
	comp=E,11550μm,0.4s								
T1218				AML			AML		
	comp=N,14750μm,1.5s								
T1218				AML			AML		
	comp=E,11350μm,0.4s								
T1218				AML			AML		
	comp=N,14950μm,1.4s								
T1218				AML			AML		
	comp=E,11550μm,0.4s								
T1218				AML			AML		
	comp=N,14700μm,1.5s								
T1218				AML			AML		
	comp=E,11400μm,0.4s								
MNTP	**Montappone**	**0.29**	**50**	⇓P			Pb	11 52 26.1	-0.3
MNTP				AML			AML		
	comp=E,15900μm,1.6s								
MNTP				AML			AML		
	comp=N,13000μm,0.4s								
MNTP				AML			AML		
	comp=N,13000μm,0.4s								
T1243	**Rocca Santa Ma**	**0.33**	**140**	⇑P			Pg	11 52 26.1	+0.2
T1243				S			Sb	11 52 31.4	-1.0
SNTG	**Esanatoglia**	**0.34**	**332**	⇓P			Pg	11 52 26.4	+0.3
SNTG				AML			AML		
	comp=N,2545μm,1.0s								
SNTG				AML			AML		
	comp=E,3500μm,0.6s								
SNTG				AML			AML		
	comp=E,3425μm,0.6s								
SNTG				AML			AML		
	comp=N,2750μm,1.0s								
SMA1	**SAN MARTINO**	**0.34**	**158**	⇑P			Pg	11 52 26.3	+0.1
SMA1				S			Sg	11 52 31.8	+1.0
SMA1				AML			AML		
	comp=E,7930μm,0.3s								
SMA1				AML			AML		
	comp=N,7830μm,1.2s								
SMA1				AML			AML		
	comp=E,7935μm,0.3s								
LNSS	**Leonessa**	**0.36**	**194**	⇑P			Pg	11 52 26.6	+0.1
LNSS				S			Sb	11 52 32.6	-0.7
LNSS				AML			AML		
	comp=E,6845μm,0.2s								
LNSS				AML			AML		
	comp=N,17250μm,0.4s								
ASSB	**Assisi San Ben**	**0.38**	**284**	P			Pg	11 52 26.9	+0.2
ASSB				S			Sb	11 52 32.9	-1.0
EL6	**Elcito**	**0.38**	**353**	⇑P			Pg	11 52 27.2	+0.3
EL6				AML			AML		
	comp=N,5690μm,0.4s								
EL6				AML			AML		
	comp=E,4605μm,0.4s								
EL6				AML			AML		
	comp=N,5695μm,0.4s								
OFFI	**Offida**	**0.39**	**92**	⇑P			Pb	11 52 28.0	0.0
OFFI				AML			AML		
	comp=E,14850μm,1.0s								
OFFI				AML			AML		
	comp=N,14600μm,0.7s								
CING	**Cingoli**	**0.42**	**3**	⇑P			Pg	11 52 27.9	+0.3
CING				AML			AML		
	comp=N,1970μm,0.5s								
CING				AML			AML		
	comp=E,2280μm,0.6s								
RM33	**Pellescritta (**	**0.44**	**175**	P			Pg	11 52 28.1	+0.2
RM33				S			Sb	11 52 35.2	-0.5
ATCC	**AVT- Casa Cast**	**0.45**	**302**	⇑P			Pg	11 52 28.3	+0.2
TERO	**Teramo**	**0.46**	**135**	⇑P			Pg	11 52 28.1	-0.2
TERO				AML			AML		
	comp=E,5680μm,0.3s								
TERO				AML			AML		
	comp=N,5350μm,1.4s								
TERO				AML			AML		
	comp=N,5790μm,1.4s								
TERO				AML			AML		
	comp=E,6255μm,0.3s								
ARRO	**Arrone**	**0.47**	**218**	⇑P			Pg	11 52 28.6	+0.1
ARRO				S			Sb	11 52 35.7	-0.7
ARRO				AML			AML		
	comp=E,8355μm,0.2s								
ARRO				AML			AML		
	comp=N,4020μm,0.2s								
ARRO				AML			AML		
	comp=E,8350μm,0.2s								
T1247	**Pizzolo (AQ)**	**0.52**	**169**	⇓P			Pg	11 52 29.4	0.0
T1247				S			Sb	11 52 38.0	+0.2
T1247				AML			AML		
	comp=E,5680μm,0.1s								
T1247				AML			AML		
	comp=N,4085μm,0.1s								
PP3	**Marolino**	**0.54**	**37**	⇑P			Pb	11 52 30.7	+0.2
PP3				AML			AML		
	comp=E,5595μm,0.4s								
PP3				AML			AML		
	comp=N,5075μm,0.5s								
PP3				AML			AML		
	comp=E,5810μm,0.4s								
PP3				AML			AML		
	comp=E,5595μm,0.4s								
PP3				AML			AML		
	comp=N,5075μm,0.5s								
PP3				AML			AML		
	comp=N,5040μm,0.5s								
PP3				AML			AML		
	comp=E,5805μm,0.4s								
CESX	**Cesi**	**0.55**	**232**	⇑P			Pg	11 52 29.7	-0.2
CESX				AML			AML		
	comp=E,5595μm,0.4s								
CESX				AML			AML		
	comp=N,5555μm,0.3s								
SSFR	**Montelago di S**	**0.56**	**330**	⇑P			Pg	11 52 30.2	+0.1
SSFR				S			Sb	11 52 40.0	+1.0
SSFR				AML			AML		
	comp=N,3895μm,1.2s								
SSFR				AML			AML		
	comp=E,3955μm,0.2s								
SSFR				AML			AML		
	comp=N,3555μm,1.3s								
SSFR				AML			AML		
	comp=E,4005μm,0.7s								
MURB	**Monte Urbino**	**0.56**	**304**	⇑P			Pg	11 52 30.3	+0.2
MURB				AML			AML		
	comp=E,9210μm,0.3s								
MURB				AML			AML		
	comp=N,7505μm,0.3s								
MURB				AML			AML		
	comp=N,7505μm,0.2s								
MURB				AML			AML		
	comp=E,9835μm,0.3s								
MURB				AML			AML		
	comp=N,8625μm,0.3s								
MURB				AML			AML		
	comp=E,9215μm,0.3s								
ARVD	**Arcevia**	**0.57**	**344**	⇑P			Pg	11 52 30.4	+0.1
ARVD				S			Sn	11 52 41.0	-1.6
ARVD				AML			AML		
	comp=N,836μm,0.6s								
ARVD				AML			AML		
	comp=E,1165μm,0.6s								
TRTR	**Tortoreto Alta**	**0.57**	**104**	⇑P			Pb	11 52 31.5	+0.4
TRTR				AML			AML		
	comp=N,9140μm,0.6s								
TRTR				AML			AML		
	comp=E,9300μm,0.4s								
GIGS	**Gran Sasso**	**0.58**	**149**	⇑P			Pg	11 52 30.3	-0.3
GIGS				AML			AML		
	comp=N,1358μm,1.3s								
GIGS				AML			AML		
	comp=E,1845μm,0.4s								
ATFO	**Monte Foce - G**	**0.60**	**314**	⇑P			Pg	11 52 30.9	0.0
ATFO				AML			AML		
	comp=N,2000μm,0.5s								
ATFO				AML			AML		
	comp=E,1830μm,0.6s								
AQU	**L'Aquila**	**0.62**	**163**	⇓P			Pb	11 52 32.5	+0.5
AQU				AML			AML		
	comp=E,1605μm,1.5s								
AQU				AML			AML		
	comp=N,1845μm,0.2s								
AQU				AML			AML		
	comp=E,1610μm,1.5s								
AQU				AML			AML		
	comp=N,1735μm,0.2s								
FRON	**Frontone**	**0.65**	**331**	⇑P			Pg	11 52 31.7	-0.1
FRON				AML			AML		
	comp=N,1800μm,0.4s								
FRON				AML			AML		
	comp=E,1455μm,0.9s								
AOI	**Ancona**	**0.68**	**28**	P			Pb	11 52 32.9	-0.1
AOI				AML			AML		
	comp=E,1395μm,1.1s								
AOI				AML			AML		
	comp=N,1285μm,0.3s								
FIAM	**Fiamignano**	**0.68**	**183**	⇑P			Pg	11 52 31.9	-0.5
FIAM				S			Sb	11 52 43.0	+0.4
FIAM				AML			AML		
	comp=N,1915μm,0.5s								
FIAM				AML			AML		
	comp=E,1570μm,0.6s								
COR1	**Corinaldo**	**0.69**	**350**	⇑P			Pb	11 52 33.9	+0.7
ATVO	**AVT- Monte Val**	**0.70**	**308**	⇑P			Pg	11 52 32.6	-0.2
ATVO				AML			AML		
	comp=N,1430μm,0.8s								
ATVO				AML			AML		
	comp=E,1146μm,1.4s								
ATVO				AML			AML		
	comp=N,1435μm,0.8s								
PIEI	**Pieia**	**0.74**	**322**	⇑P			Pg	11 52 33.2	-0.4
PIEI				S			Sn	11 52 46.0	-0.9
PIEI				AML			AML		
	comp=E,1088μm,0.3s								
PIEI				AML			AML		
	comp=N,832μm,0.2s								
ATPI	**Pietralunga -**	**0.75**	**312**	⇑P			Pg	11 52 33.5	-0.2
ATPI				S			Sn	11 52 47.0	0.0
ATPI				AML			AML		
	comp=E,1785μm,0.9s								
ATPI				AML			AML		
	comp=N,1545μm,0.8s								
ATPI				AML			AML		
	comp=E,1780μm,0.9s								
VCEL	**Villa Celiera**	**0.75**	**138**	⇑P			Pg	11 52 33.4	-0.2
VCEL				S			Sn	11 52 46.0	-1.1
VCEL				AML			AML		
	comp=E,4655μm,0.6s								
VCEL				AML			AML		
	comp=N,4495μm,0.8s								
FAGN	**Fagnano**	**0.75**	**155**	P			Pg	11 52 33.2	-0.6
FAGN				S			Sn	11 52 46.0	-1.1
FAGN				AML			AML		
	comp=E,4895μm,0.5s								
FAGN				AML			AML		
	comp=N,4490μm,0.4s								
ATMI	**Monte Miggiano**	**0.76**	**301**	⇓P			Pg	11 52 34.0	+0.1
ATMI				AML			AML		
	comp=E,3640μm,0.6s								
ATMI				AML			AML		
	comp=N,3370μm,0.7s								
MGAB	**Montegabbione**	**0.77**	**267**	⇑P			Pg	11 52 34.0	-0.2
MGAB				AML			AML		
	comp=N,3125μm,0.5s								
MGAB				AML			AML		
	comp=N,2965μm,0.5s								
MGAB				AML			AML		
	comp=E,2365μm,0.6s								
MGAB				AML			AML		
	comp=E,2015μm,0.9s								
NARO	**Abbazia di Nar**	**0.78**	**327**	⇑P			Pg	11 52 34.0	-0.4
NARO				S			Sn	11 52 47.0	-0.8
NARO				AML			AML		
	comp=E,638μm,0.3s								
NARO				AML			AML		
	comp=N,551μm,0.4s								
FSSB	**Fossombrone**	**0.79**	**339**	⇑P			Pg	11 52 34.5	0.0
FSSB				AML			AML		
	comp=E,3285μm,0.4s								
FSSB				AML			AML		
	comp=N,4260μm,0.4s								
T0110	**Collepietro**	**0.86**	**148**	⇑P			Pg	11 52 34.9	-0.8
T0110				AML			AML		
	comp=E,3710μm,0.4s								
T0110				AML			AML		
	comp=N,3500μm,0.4s								
SRES	**S.Oreste - Sor**	**0.86**	**214**	⇓P			Pg	11 52 35.5	-0.3
SRES				S			Sn	11 52 50.0	+0.3
SRES				AML			AML		
	comp=N,1975μm,0.5s								
SRES				AML			AML		
	comp=E,2215μm,0.6s								
BADI	**Badiali**	**0.87**	**310**	P			Pg	11 52 35.8	-0.2
PE3	**Peglio**	**0.89**	**327**	⇓P			Pg	11 52 35.4	-0.9
PE3				AML			AML		
	comp=E,8μm,0.5s								
PE3				AML			AML		
	comp=N,10μm,0.5s								
SACS	**San Casciano d**	**0.93**	**264**	⇑P			Pg	11 52 36.8	-0.2
SACS				AML			AML		
	comp=E,1450μm,1.2s								
SACS				AML			AML		
	comp=E,1325μm,1.2s								
SACS				AML			AML		
	comp=N,1225μm,0.9s								
SACS				AML			AML		
	comp=N,1204μm,1.0s								
CAFI	**Castiglion Fio**	**0.95**	**294**	⇑P			Pg	11 52 37.2	-0.3
CAFI				S			Sn	11 52 52.0	0.0
CAFI				AML			AML		
	comp=N,1085μm,0.8s								
CAFI				AML			AML		
	comp=E,944μm,1.0s								
CAFI				AML			AML		
	comp=N,1127μm,0.8s								
CAFI				AML			AML		
	comp=E,940μm,1.0s								
MTCE	**Montecelio**	**0.98**	**199**	P			Pg	11 52 37.4	-0.7
MTCE				AML			AML		
	comp=E,1002μm,0.5s								
MTCE				AML			AML		
	comp=N,710μm,1.6s								
CERT	**Cerreto**	**1.01**	**188**	⇑P			Pg	11 52 37.6	-1.0
CERT				AML			AML		
	comp=N,1215μm,1.3s								
CERT				AML			AML		
	comp=E,1590μm,0.5s								
PESA	**Pesaro**	**1.02**	**347**	⇑P			Pn	11 52 41.1	+1.8
PESA				AML			AML		
	comp=E,1510μm,1.4s								
PESA				AML			AML		
	comp=N,1185μm,1.3s								
CPGN	**Carpegna, Ital**	**1.05**	**324**	⇓P			Pn	11 52 39.9	0.0
CPGN				AML			AML		
	comp=E,1136μm,0.7s								
CPGN				AML			AML		
	comp=N,1094μm,0.9s								
CPGN				AML			AML		
	comp=E,1110μm,0.9s								
CPGN				AML			AML		
	comp=N,940μm,0.6s								
LATE	**Laterza**	**1.05**	**252**	⇓P			Pn	11 52 39.7	-0.2
MCIV	**Monte Civitell**	**1.11**	**262**	⇑P			Pn	11 52 40.7	+0.1
MCIV				AML			AML		
	comp=E,498μm,0.4s								
MCIV				AML			AML		
	comp=N,333μm,0.6s								
CRE	**Caprese Michel**	**1.11**	**307**	⇑P			Pn	11 52 41.0	+0.3
CRE				AML			AML		
	comp=E,354μm,1.1s								
CRE				AML			AML		
	comp=N,484μm,0.3s								
SF04	**Casetta**	**1.11**	**265**	⇓P			Pn	11 52 41.2	+0.6
SF01	**Poggio Pratacc**	**1.18**	**264**	P			Pn	11 52 41.7	0.0
TOLF	**Tolfa**	**1.23**	**224**	⇓P			Pn	11 52 42.1	-0.2
TOLF				AML			AML		
	comp=N,578μm,0.5s								
TOLF				AML			AML		
	comp=E,808μm,0.5s								
ARCI	**Arcidosso**	**1.24**	**266**	⇓P			Pg	11 52 43.1	0.0
ARCI				AML			AML		
	comp=E,150μm,1.6s								
ARCI				AML			AML		
	comp=N,139μm,1.1s								
POFI	**Posta Fibreno**	**1.30**	**162**	⇓P			Pg	11 52 45.6	+1.4

CSNT	**Castellina Chi**	**1.46 291**	S		Sn	11 52 46.0	-19	
CSNT	**Castellina Chi**	**1.46 291**	⇓P		Pb	11 52 46.0	-0.4	
CSNT			AML	AML				
	comp=N,276μm,0.7s							
CSNT			AML	AML				
	comp=E,176μm,0.5s							
LATB	**Latina**	**1.46 186**	P		Pn	11 52 45.4	0.0	
LATB			AML	AML				
	comp=E,98μm,0.8s							
LATB			AML	AML				
	comp=N,121μm,0.7s							
FRES	**Fresagrandinar**	**1.48 131**	⇓P		Pg	11 52 47.6	0.0	
FRES			AML	AML				
	comp=E,320μm,0.9s							
FRES			AML	AML				
	comp=N,262μm,1.4s							
RUFI	**Rufina**	**1.50 307**	P		Pb	11 52 46.6	-0.3	
OSSC	**Osservatorio P**	**1.51 293**	S		Sn	11 52 46.9	-19	
MIDA	**Miranda**	**1.54 148**	⇓P		Pg	11 52 48.8	+0.1	
TRIF	**Trifonti**	**1.66 276**	⇓P		Pn	11 52 48.4	+0.2	
TRIF			AML	AML				
	comp=N,149μm,0.7s							
TRIF			AML	AML				
	comp=E,172μm,0.7s							
CASP	**Castiglione de**	**1.70 265**	⇓P		Pn	11 52 48.5	-0.2	
CASP			AML	AML				
	comp=N,59μm,0.5s							
CASP			AML	AML				
	comp=E,61μm,0.8s							
CIGN	**Sant'Elia a Pi**	**1.83 134**	P		Pb	11 52 52.0	-0.7	
CIGN			AML	AML				
	comp=E,162μm,1.0s							
CIGN			AML	AML				
	comp=N,192μm,0.8s							
PTRJ	**Pietraroja**	**1.88 147**	S		Sg	11 53 20.0	+0.2	
MTCR	**Monte La Croce**	**1.91 305**	P		Pn	11 52 51.9	+0.2	
PII	**Pisa**	**2.07 293**	⇓P		Pb	11 52 57.5	+0.8	
APRC	**Apricena**	**2.13 123**	⇑P		Pb	11 52 56.5	-1.3	
APRC			AML	AML				
	comp=N,306μm,0.4s							
APRC			AML	AML				
	comp=E,260μm,0.5s							
CARD	**Cardoso**	**2.23 300**	P		Pb	11 53 00.3	+0.9	
SGRT	**San Giovanni R**	**2.26 121**	⇓P		Pn	11 52 57.7	+1.3	
SGRT			AML	AML				
	comp=E,357μm,0.4s							
SGRT			AML	AML				
	comp=N,320μm,0.8s							
VARP	**Vesuvio Array**	**2.33 156**	S		Sb	11 53 30.0	+0.1	
MNTV	**Mantova**	**2.79 323**	S		Sg	11 53 48.0	-0.6	
MSSA	**Maissana**	**2.98 299**	P		Pn	11 53 07.0	+0.7	
CGRP	**Cima Grappa**	**3.09 342**	⇓P		Pn	11 53 08.9	+1.0	
CGRP			AML	AML				
	comp=E,146μm,0.7s							
CGRP			AML	AML				
	comp=N,152μm,0.7s							
PGF	**Pioggiola**	**3.09 264**	*e*P		Pn	11 53 08.8	+0.9	
PGF			*e*Sn		Sn	11 53 41.1	-3.8	
	comp=N,3.0nm,0.4s							
LJU	**Ljubljana**	**3.24 17**	P		Pn	11 53 11.2	+1.2	
LJU			AML	AML				
	comp=E,526μm,0.6s							
LJU			AML	AML				
	comp=N,649μm,1.2s							
DOSS	**Dosso del Somm**	**3.25 335**	⇑P		Pn	11 53 12.5	+2.3	
CTI	**Castel Tesino**	**3.28 341**	⇓P		Pn	11 53 12.3	+1.8	
CTI			AML	AML				
	comp=E,92μm,0.4s							
CTI			AML	AML				
	comp=N,103μm,1.3s							
MPRI	**Monte Prat**	**3.29 358**	⇑P		Pn	11 53 11.6	+0.9	
MPRI			AML	AML				
	comp=E,115μm,0.8s							
MPRI			AML	AML				
	comp=N,162μm,0.7s							
STON	**Ston**	**3.33 90**	P		Pn	11 53 09.8	-1.3	
CIMO	**Cimolais**	**3.40 352**	P		Pn	11 53 12.9	+0.8	
CIMO			AML	AML				
	comp=E,26μm,0.6s							
CIMO			AML	AML				
	comp=N,30μm,0.5s							
LUSI	**Trento, Gardas**	**3.40 333**	⇓P		Pn	11 53 13.8	+1.7	
LUSI			AML	AML				
	comp=E,87μm,1.0s							
LUSI			AML	AML				
	comp=N,112μm,0.9s							
PTCC	**Patocco-Chiusa**	**3.46 2**	⇑P		Pn	11 53 13.1	+0.2	
PTCC			AML	AML				
	comp=E,41μm,1.0s							
PTCC			AML	AML				
	comp=N,37μm,0.7s							
GAGG	**Gaggia**	**3.51 334**	P		Pn	11 53 16.1	+2.4	
FVI	**Forni Avoltri**	**3.66 356**	⇑P		Pn	11 53 16.5	+0.8	
FVI			AML	AML				
	comp=E,44μm,1.0s							
FVI			AML	AML				
	comp=N,61μm,0.7s							
OBKA	**Obir**	**3.69 15**	*e*Pn		Pn	11 53 16.9	+0.8	
	comp=N,0.4nm,0.1s							
MYKA	**Terra Mystica**	**3.69 5**	*i* Pn		Pn	11 53 17.3	+1.2	
	comp=N,1.8nm,0.3s							
KOSI	**Kohlern**	**3.73 341**	⇑P		Pn	11 53 18.4	+1.6	
APPI	**Appiano**	**3.79 339**	P		Pn	11 53 19.1	+1.7	
APPI			AML	AML				
	comp=E,65μm,1.5s							
APPI			AML	AML				
	comp=N,78μm,0.6s							
ABTA	**Abfaltersbach**	**3.82 353**	*i* Pn		Pn	11 53 19.3	+1.3	
	comp=N,3.6nm,0.2s,SNR=20							
SOKA	**Soboth**	**3.96 19**	*e*Pn		Pn	11 53 21.9	+2.1	
	comp=N,0.4nm,0.2s							
TDS	**Terranova Siba**	**4.07 143**	P		Pb	11 53 29.1	-1.7	
TDS			S		Sn	11 54 06.0	-2.8	
KBA	**Koelnbreinsper**	**4.13 2**	*i* Pn		Pn	11 53 23.6	+1.3	
	comp=N,2.7nm,0.2s,SNR=11							
MUGIO	**Muggio**	**4.19 317**	⇑P		Pn	11 53 24.1	+1.1	
SBF	**Sospel**	**4.27 284**	*e*P		Pn	11 53 25.8	+1.7	
SBF			*e*Sn		Sn	11 54 10.0	-3.9	
	comp=N,5.5nm,0.4s							
FETA	**Feichten**	**4.42 338**	*e*Pn		Pn	11 53 28.0	+1.8	
	comp=N,1.2nm,0.4s							
WTTA	**Wattenberg**	**4.45 346**	*i* Pn		Pn	11 53 29.6	+3.0	
	comp=N,1.1nm,0.2s							
VSL	**Villasalto**	**4.48 221**	⇓P		Pn	11 53 28.7	+1.8	
SQTA	**Sankt Quirin**	**4.49 343**	*e*Pn		Pn	11 53 29.8	+2.7	
	comp=N,1.6nm,0.2s,SNR=6.9							
WATA	**Walderalm**	**4.53 346**	*e*Pn		Pn	11 53 30.1	+2.5	
	comp=N,1.9nm,0.2s,SNR=5.3							
ARSA	**Arzberg**	**4.61 20**	*e*Pn		Pn	11 53 28.8	0.0	
	comp=N,0.6nm,0.3s							
MOTA	**Moosalm**	**4.63 342**	*e*Pn		Pn	11 53 31.4	+2.3	
	comp=N,1.8nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.75 4**	*e*Pn		Pn	11 53 32.3	+1.6	
	comp=N,4.5nm,0.3s							
RETA	**Reutte**	**4.84 340**	*e*Pn		Pn	11 53 34.1	+2.2	
	comp=N,0.8nm,0.4s							
LMR	**La Mourre**	**4.88 277**	*e*P		Pn	11 53 32.9	+0.5	
LMR			*e*Sn		Sn	11 54 23.9	-5.0	
	comp=N,1.0nm,0.3s							
DAVA	**Damuels**	**4.92 333**	*e*Pn		Pn	11 53 36.1	+3.0	
	comp=N,2.9nm,0.3s,SNR=4.8							
MBDF	**Montbardon**	**4.95 293**	*e*P		Pn	11 53 36.5	+3.0	
MBDF			*e*Sn		Sn	11 54 26.5	-4.3	
	comp=N,2.1nm,0.5s							
MOA	**Molln**	**4.96 9**	*e*Pn		Pn	11 53 34.8	+1.3	
	comp=N,1.7nm,0.3s							
LPL	**La Plagne**	**5.28 301**	*e*P		Pn	11 53 40.5	+2.3	
LPL			*e*Sn		Sn	11 54 34.9	-4.2	
	comp=N,1.5nm,0.3s							
CONA	**Conrad Observa**	**5.33 20**	*i* Pn		Pn	11 53 39.2	+0.6	
	comp=N,0.6nm,0.2s							
ORIF	**Oris-en-Rattie**	**5.61 293**	*e*P		Pn	11 53 45.8	+3.2	
ORIF			*e*Sn		Sn	11 54 42.4	-4.6	
	comp=N,1.6nm,0.3s							
SMRF	**Simiane la Rot**	**5.62 283**	*e*P		Pn	11 53 45.3	+2.7	
SMRF			*e*Sn		Sn	11 54 41.9	-5.1	
	comp=N,0.4nm,0.2s							
CKRC	**Cesky Krumlov**	**5.92 7**	*e*PN		Pn	11 53 47.6	+0.8	
CKRC			*e*SN		Sn	11 54 52.6	-2.0	
KHC	**Kasperske Hory**	**6.19 3**	*e*PN		Pn	11 53 50.4	0.0	
KHC			*e*SN		Sn	11 54 59.1	-2.0	
CABF	**La Chapelle**	**6.22 308**	*e*P		Pn	11 53 53.7	+2.8	
HINF	**Hinteralfeld**	**6.59 320**	*e*P		Pn	11 53 57.6	+1.7	
HINF			*e*Sn		Sn	11 55 06.4	-4.5	
	comp=N,4.0nm,0.4s							
CDF	**Champ du Feu**	**6.84 325**	*e*Sn		Sn	11 55 11.7	-5.5	
	comp=N,2.1nm,0.3s							
LASF	**Ste Croix**	**6.86 283**	*e*P		Pn	11 54 02.8	+3.2	
HAU	**Haudompre**	**6.96 319**	*e*Pn		Pn	11 54 00.3	-0.7	
HAU	**Haudompre**	**6.96 319**	*e*P		Pn	11 54 03.2	+2.2	
HAU			*e*Sn		Sn	11 55 12.4	-7.7	
	comp=N,6.2nm,0.4s							
LOR	**Lormes**	**7.87 306**	*e*P		Pn	11 54 15.6	+2.2	
	baz=126							
LOR			*e*Sn		Sn	11 55 36.5	-5.9	
	comp=N,1.2nm,0.3s							
CLL	**Collm**	**8.36 359**	*e*Sg		Sg	11 56 49.0	+1.7	
GIVF	**Givet**	**9.17 324**	*e*Sn		Sn	11 56 08.0	-6.3	
	comp=N,2.5nm,0.1s							
EPF	**Esparros**	**9.40 275**	*e*Sn		Sn	11 56 12.0	-8.1	
	comp=N,0.6nm,0.1s							

*IDC **20** 11:55:34.9±1.1, 44°.56S×39°.49E, h0km, mb4.0/6, mbtmp3.9/7, ML3.8/1, MS3.4/8, Error ellipse: s-maj=31.3km s-min=29.1km az=64.0*
*NEIC **20** 11:55:36.6±1.1, 44°.63S±0°.05×39°.6E±0°.2, h10km±2km, mb4.5/14, Error ellipse: s-maj=24.4km s-min=4.5km az=289.0*

ISC 20 11:55:36.0±0.7, 44°.5S±0°.1×39°.6E±0°.1, h10km, n29, σ0s 86/24, mb4.2/11, MS3.4/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**19.04**	**303**	LR	LR		12 05 26.6	
	comp=Z,90nm,21.5s,baz=112,slow=31							
SUR	**Sutherland**	**19.04**	**303**	P	**P**		**11 59 58.2**	**-0.2**
SUR				IAmb	IAmb		12 00 32.1	
	comp=Z,46nm,1.5s							
BOSA	**Boshof**	**19.59**	**319**	P	**Pn**		**12 00 05.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=156,slow=14,SNR=3.9							
BOSA				LR	LR		12 05 60.0	
	comp=Z,114nm,21.3s,baz=169,slow=32							
	comp=Z,0.9nm,0.5s							
BOSA	**Boshof**	**19.59**	**319**	P	**Pn**		**12 00 05.2**	**-0.5**
LBTB	**Lobatse**	**22.57**	**325**	LR	LR		12 07 40.4	
	comp=Z,107nm,21.0s,baz=144,slow=32							
MAW	**Mawson**	**26.18**	**160**	LR	LR		12 09 03.0	
	comp=Z,99nm,21.0s,baz=14,slow=31							
MAW	**Mawson**	**26.18**	**160**	P	**P**		**12 01 08.1**	**-2.2**
LSZ	**Lusaka**	**30.74**	**338**	LR	LR		12 12 16.2	
	comp=Z,60nm,20.6s,baz=18,slow=33							
TSUM	**Tsumeb**	**31.25**	**317**	LR	LR		12 13 11.7	
	comp=Z,84nm,19.3s,baz=145,slow=34							
SNAA	**Sanae**	**33.91**	**203**	P	**P**		**12 02 19.4**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=48,slow=7.9,SNR=5.5							
SNAA				LR	LR		12 13 59.8	
	comp=Z,78nm,18.4s,baz=38,slow=33							
	comp=Z,2.3nm,1.0s							
SNAA	**Sanae**	**33.91**	**203**	P	**P**		**12 02 19.7**	**+1.0**
SNAA				IAmb	IAmb		12 02 20.6	
	comp=Z,4.1nm,1.1s							
BELA	**Belgrano 2**	**43.61**	**197**	P	**P**		**12 03 39.9**	**0.0**
BELA				IAmb	IAmb		12 03 57.7	
	comp=Z,5.1nm,1.4s							
QSPA	**South Pole Qui**	**45.68**	**180**	P	**P**		**12 03 56.8**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=289,slow=1.1,SNR=10							
QSPA				LR	LR		12 20 44.3	
	comp=Z,71nm,22.0s,baz=255,slow=33							
	comp=Z,0.8nm,0.8s							
QSPA	**South Pole Qui**	**45.68**	**180**	P	**P**		**12 03 56.5**	**-0.3**
QSPA				IAmb	IAmb		12 04 04.1	
	comp=Z,6.2nm,1.4s							
VNDA	**Vanda**	**53.19**	**167**	P	**P**		**12 04 53.8**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=226,slow=6.4,SNR=3.5							
	comp=Z,0.9nm,0.9s							
NWAO	**Narrogin (SRO)**	**59.52**	**108**	P	**P**		**12 05 38.3**	**-1.1**
FORT	**Forrest**	**68.11**	**112**	P	**P**		**12 06 35.3**	**-0.8**
MCQ	**Macquarie Isla**	**68.69**	**147**	P	**P**		**12 06 39.5**	**+0.2**
BBOO	**Buckleboo**	**71.97**	**118**	P	**P**		**12 07 00.5**	**+0.7**
BBOO				IAmb	IAmb		12 07 30.5	
	comp=Z,7.1nm,1.2s							
STKA	**Stephens Creek**	**76.04**	**121**	P	**P**		**12 07 24.9**	**+1.3**
	comp=Z,1.8nm,0.5s,baz=310,slow=3.8,SNR=5.0							
	comp=Z,1.8nm,0.5s							
STKA	**Stephens Creek**	**76.04**	**121**	P	**P**		**12 07 24.0**	**+0.4**
ASAR	**Alice Springs**	**76.69**	**110**	P	**P**		**12 07 28.6**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=220,slow=5.7,SNR=15							
	comp=Z,2.2nm,1.0s							
ASAR	**Alice Springs**	**76.69**	**110**	P	**P**		**12 07 28.4**	**+0.9**
WRA	**Warramunga Arr**	**79.52**	**108**	P	**P**		**12 07 44.6**	**+1.4**
	comp=Z,1.9nm,1.1s,baz=209,slow=4.2,SNR=7.0							
	comp=Z,1.9nm,1.1s							
WRAB	**Tennant Creek**	**79.54**	**108**	P	**P**		**12 07 43.4**	**+0.1**
WRAB				IAmb	IAmb		12 07 44.9	
	comp=Z,4.4nm,1.0s							
WB0	**Warramunga Arr**	**79.68**	**107**	P	**P**		**12 07 44.6**	**+0.5**
WB0				IAmb	IAmb		12 08 10.7	
	comp=Z,8.8nm,1.4s							
VA03	**San Esteban**	**80.30**	**233**	P	**P**		**12 07 46.9**	**-0.5**
VA03				IAmb	IAmb		12 07 48.8	
	comp=Z,7.6nm,0.6s							
MJAR	**Matsushiro Arr**	**120.01**	**67**	PKP		**PKPdf**	**12 14 26.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=216,slow=1.1,SNR=4.0							
TXAR	**Lajitas Array**	**147.29**	**255**	PKPbc		**PKPdf**	**12 15 17.6**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=141,slow=4.8,SNR=7.4							

*IDC **20** 12:01:28.2±0.8, 6°.95S×72°.75E, h0km, mb3.7/7, mbtmp3.7/7, MS3.4/15, Error ellipse: s-maj=32.7km s-min=13.6km az=106.0*

ISC 20 12:01:30.3±0.9, 6°.9S±0°.1×72°.8E±0°.2, h10km, n26, σ1s 48/13, mb3.9/7, MS3.5/15, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**0.84**	**205**	Pn	**Pg**		**12 01 44.7**	**-1.7**
	baz=6.6,slow=20							
H08S3				Sn	**Sb**		**12 01 59.6**	**+1.6**
H08S2	**Diego Garcia H**	**0.85**	**203**	Pn	**Pg**		**12 01 45.2**	**-1.5**
	baz=6.6,slow=20							
H08S2				Sn	**Sb**		**12 01 59.8**	**+1.4**
H08S1	**Diego Garcia H**	**0.86**	**205**	Pn	**Pg**		**12 01 45.1**	**-1.6**
	baz=6.6,slow=20							
H08S1				Sn	**Sb**		**12 01 60.0**	**+1.4**
WSAR	**Wadi Sarin**	**32.98**	**336**	LR	LR		12 18 41.6	
	comp=Z,105nm,18.5s,baz=164,slow=31							
LEM	**Lembang**	**34.53**	**92**	LR	LR		12 20 40.5	
	comp=Z,65nm,19.4s,baz=218,slow=33							
H01W3	**Cape Leeuwin H**	**47.09**	**132**	T	T		13 00 33.3	
	baz=297,slow=75,SNR=25							
H01W2	**Cape Leeuwin H**	**47.10**	**132**	T	T		13 00 35.6	
	baz=297,slow=75,SNR=48							
H01W1	**Cape Leeuwin H**	**47.11**	**132**	T	T		13 00 36.8	
	baz=297,slow=75,SNR=32							
AAK	**Ala-Archa**	**49.28**	**2**	LR	LR		12 29 21.6	
	comp=Z,70nm,19.9s,baz=194,slow=34							
EIL	**Elat**	**51.42**	**317**	LR	LR		12 29 38.3	
	comp=Z,57nm,19.9s,baz=252,slow=33							
MMAI	**Mount Meron Ar**	**53.27**	**320**	LR	LR		12 32 05.0	
	comp=Z,37nm,18.2s,baz=162,slow=34							
GNI	**Garni**	**53.47**	**333**	LR	LR		12 32 04.8	
	comp=Z,42nm,21.8s,baz=144,slow=34							
MKAR	**Makanchi Array**	**54.08**	**8**	P	**P**		**12 10 53.8**	**-1.3**
	1.1nm,0.9s,baz=189,slow=7.3,SNR=2.4							
MKAR				LR	LR		12 32 56.8	
	comp=Z,37nm,19.1s,baz=262,slow=35							
	1.1nm,0.9s							
DAV	**Davao City (W)**	**54.40**	**76**	LR	LR		12 32 18.4	
	comp=Z,30nm,20.7s,baz=163,slow=34							
KURBB	**Kurchatov Arra**	**57.46**	**4**	P	**P**		**12 11 20.2**	**+0.9**
	0.8nm,0.8s,baz=200,slow=6.7,SNR=4.8							
	0.8nm,0.8s							
BRTR	**Keskin Array B**	**58.81**	**325**	LR	LR		12 36 30.9	
	comp=Z,37nm,20.7s,baz=142,slow=36							
BVAR	**Borovoye Array**	**59.69**	**358**	LR	LR		12 36 55.4	
	comp=Z,32nm,20.2s,baz=190,slow=36							
ASAR	**Alice Springs**	**60.80**	**113**	P	**P**		**12 11 44.7**	**+1.6**
	0.5nm,0.7s,baz=279,slow=6.3,SNR=3.2							
	0.5nm,0.7s							
WRA	**Warramunga Arr**	**60.93**	**109**	P	**P**		**12 11 42.7**	**-1.3**
	1.3nm,0.9s,baz=281,slow=7.0,SNR=4.6							
	1.3nm,0.9s							
ZALV	**Zalesovo Beam**	**61.42**	**8**	P	**P**		**12 11 47.5**	**+0.9**
	0.8nm,0.6s,baz=191,slow=4.4,SNR=4.7							
ZALV				LR	LR		12 37 25.7	
	comp=Z,30nm,20.2s,baz=95,slow=35							
	0.8nm,0.6s							
SONM	**Songino Array**	**61.98**	**25**	P	**P**		**12 11 50.8**	**+0.1**
	0.6nm,0.6s,baz=211,slow=5.1,SNR=3.1							
	0.6nm,0.6s							
JOW	**Kunigami**	**63.25**	**55**	LR	LR		12 42 19.8	
	comp=Z,18nm,18.1s,baz=339,slow=39							
ARU	**Arti**	**64.16**	**351**	LR	LR		12 40 26.9	
	comp=Z,27nm,18.9s,baz=119,slow=36							
AKASG	**Malin Array Be**	**68.56**	**332**	P	**P**		**12 12 33.2**	**+0.1**
	0.2nm,0.4s,baz=124,slow=5.1,SNR=1.9							
	0.2nm,0.4s							
NOA	**NORSAR Array B**	**82.76**	**334**	LR	LR		12 52 40.7	
	comp=Z,10.0nm,19.0s,baz=235,slow=37							
TIXI	**Tiksi**	**86.38**	**15**	LR	LR		12 54 36.2	
	comp=Z,36nm,18.5s,baz=62,slow=37							

GUC 20 12:11:05.1±0.5, 25°.50S×69°.98W, h92km±5km, ML2.6, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.48**	**46**	*i* P		Pn	12 11 18.2	-2.2
GO02				IAML			12 11 29.0	
	comp=N,877nm,0.0s							
AC01	**Pan de Azucar**	**0.86**	**221**	⇑*i* P		Pn	12 11 23.2	-0.2
AC01				*i* S		Sn	12 11 36.9	-0.2
AC01				IAML			12 11 38.2	
	comp=N,176nm,0.1s							
PB14	**IPOC Station P**	**0.95**	**336**	*e*P		Pn	12 11 25.0	+0.2
PB14				*e*S		Sn	12 11 39.4	0.0
AC02	**Maricunga**	**1.54**	**150**	*i* P		Pn	12 11 32.1	+0.2
AC02				*i* S		Sn	12 11 52.2	+0.1
AC02				IAML			12 11 53.7	
	comp=E,176nm,0.2s							
AC06	**Mina Casimiro**	**1.88**	**190**	*i* P		Pn	12 11 36.1	+0.2
AC06				IAML			12 12 05.4	
	comp=E,41nm,0.2s							
PB10	**IPOC Station P**	**2.04**	**345**	*e*P		Pn	12 11 38.0	0.0
GO03	**Copiap**	**2.10**	**186**	*e*P		Pn	12 11 39.0	+0.3
GO03				*i* S		Sn	12 12 05.2	+0.8
GO03				IAML			12 12 08.7	
	comp=N,40nm,0.2s							
PB15	**IPOC Station P**	**2.33**	**12**	*i* P		Pn	12 11 42.7	+0.8

*IDC **20** 12:11:24.3±2.3, 44°.22N×83°.03E, h0km, mb3.4/1, mbtmp3.4/5, ML2.7/4, MS2.9/2, Error ellipse: s-maj=33.8km s-min=21.4km az=65.0*
*SOME **20** 12:11:26.7, 44°.80N×81°.87E, h20km*
*NNC **20** 12:11:33.0±1.1, 44°.52N×81°.54E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.4km s-min=4.6km az=126.0*

ISC 20 12:11:25.2±1.4, 44°.27N±0°.07×82°.89E±0°.08, h10km, n38, σ2s 25/45, 13C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.56**	**351**	⇑Pn		**Pb**	**12 12 12.5**	**+1.3**
	0.2nm,0.1s,baz=56,slow=7.0,SNR=330							
MK31				⇓Pg		**Pg**	**12 12 16.8**	**+2.5**
	9.6nm,0.3s,baz=174,slow=17,SNR=16							
MK31				⇑Lg		Lg	12 12 47.4	
	26nm,0.3s,baz=163,slow=38,SNR=8.1							
MKAR	**Makanchi Array**	**2.56**	**351**	Pn		**Pb**	**12 12 12.0**	**+0.8**
	0.8nm,0.3s,baz=171,slow=14,SNR=72							
MKAR				Lg		Lg	12 12 46.3	
	40nm,0.3s,baz=169,slow=26,SNR=30							
MKAR				LR		LR	12 13 24.4	
	comp=Z,90nm,18.3s,baz=320,slow=46							
	3.0nm,0.3s							
MAKZ	**Makanchi**	**2.62**	**346**	⇑Pn		**Pb**	**12 12 12.0**	**-0.3**
	6.0nm,0.9s							
MAKZ				⇑Pg		**Pg**	**12 12 15.5**	**+0.1**
	6.7nm,0.4s							
MAKZ				⇑Lg		Lg	12 12 47.7	
	7.7nm,0.2s							
PDGK	**Podgornoye**	**2.63**	**250**	Pg		**Pn**	**12 12 07.4**	**-0.4**
	3.9nm,0.2s							
PDGK				Lg		Lg	12 12 38.8	
	37nm,0.4s							
PDGK	**Podgornoye**	**2.63**	**250**	⇓Pn		**Pn**	**12 12 07.2**	**-0.6**
	17nm,0.5s							
PDGK				⇑Lg		Lg	12 12 38.4	
	50nm,0.4s							
SHLS	**Shalkode**	**2.72**	**247**	*e*P		**Pn**	**12 12 05.4**	**-3.6**
	28nm,0.2s							
SHLS				*e*S		Sn	12 12 33.8	-8.2
	221nm,0.3s							
SHLS	**Shalkode**	**2.72**	**247**	Pg		**Pn**	**12 12 04.6**	**-4.5**
	28nm,0.2s							
SHLS				Lg		Lg	12 12 33.8	
	221nm,0.3s							
KPKS	**Kokpek**	**3.14**	**257**	*e*P		**Pn**	**12 12 15.0**	**+0.1**
	7.1nm,0.2s							
KPKS				*e*S		**Sn**	**12 12 49.9**	**-2.6**
	126nm,0.3s							
KPKS	**Kokpek**	**3.14**	**257**	Pg		**Pn**	**12 12 13.9**	**-0.9**
	7.1nm,0.2s							
KPKS				Lg		Lg	12 12 49.9	
	126nm,0.3s							
TDK	**Taldyqorghan**	**3.28**	**285**	*e*P		Pn	12 12 10.2	-6.5
	22nm,0.2s							
TDK				*e*S		Sn	12 12 41.7	-14
	26nm,0.4s							
TDK	**Taldyqorghan**	**3.28**	**285**	Pg		**Pn**	**12 12 12.7**	**-4.0**
	14nm,0.1s							
TDK				Lg		Lg	12 12 46.6	
ZSN	**Zaisan**	**3.47**	**23**	*e*P		**Pb**	**12 12 24.8**	**-1.9**
	4.9nm,0.2s							
ZSN				*e*S		**Sb**	**12 13 06.6**	**-2.4**
	14nm,0.3s							
ZSN	**Zaisan**	**3.47**	**23**	Pg		**Pb**	**12 12 25.3**	**-1.4**
	4.9nm,0.2s							
ZSN				Lg		Lg	12 13 09.5	
	14nm,0.3s							
KURS	**Kuram**	**3.50**	**259**	*e*P		**Pn**	**12 12 20.8**	**+1.1**
	14nm,0.8s							
KURS

	0.4nm,0.3s,baz=162,slow=21,SNR=5.7							
	0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**7.01**	**337**	⇑Pn		**Pn**	**12 13 10.2**	**+2.4**
	4.0nm,1.0s							
KURBB				⇓Sn		**Sn**	**12 14 26.6**	**-1.0**
	6.3nm,0.4s							
KURBB				⇑Lg		Lg	12 14 58.3	
	30nm,0.6s							
KURK	**Kurchatov**	**7.07**	**337**	⇓Sn		**Sn**	**12 14 26.6**	**-2.4**
	3.1nm,0.4s							
KURK				⇓Lg		Lg	12 15 01.0	
	20nm,1.0s							
OTUK	**Ortayu**	**8.32**	**302**	⇑Lg		Lg	12 15 26.5	
	12nm,0.9s							
KK31	**Karatay Array**	**9.05**	**267**	⇑Lg		Lg	12 15 50.1	
	2.8nm,0.6s,baz=70,slow=28,SNR=3.7							
ZALV	**Zalesovo Beam**	**9.77**	**7**	Pn		**Pn**	**12 13 48.4**	**+2.7**
	0.3nm,0.3s,baz=187,slow=13,SNR=4.6							
ZALV				Sn		**Sn**	**12 15 35.6**	**+0.2**
	0.5nm,0.3s,baz=182,slow=24,SNR=4.6							
ZALV				Lg		Lg	12 16 37.9	
	baz=198,slow=28							
	0.8nm,0.4s							
BVA0	**Borovoye Array**	**12.03**	**321**	⇑Pn		**Pn**	**12 14 16.1**	**-0.5**
	1.4nm,0.8s							
BVA0				⇑Lg		Lg	12 17 30.6	
	4.8nm,0.9s							
BVAR	**Borovoye Array**	**12.03**	**321**	Pn		**Pn**	**12 14 17.4**	**+0.8**
	0.1nm,0.3s,baz=126,slow=13,SNR=7.7							
	0.6nm,0.3s							
BRVK	**Borovoye**	**12.10**	**321**	⇑Pn		**Pn**	**12 14 17.1**	**-0.4**
	4.6nm,1.4s							
BRVK				⇓Sn		Sn	12 16 23.4	-9.1
	2.4nm,0.9s							
BRVK				⇓Lg		Lg	12 17 32.6	
	4.3nm,1.1s							
WSAR	**Wadi Sarin**	**28.91**	**231**	LR		LR	12 31 41.6	
	comp=Z,60nm,18.3s,baz=184,slow=42							
ILAR	**Eielson Array**	**64.56**	**21**	P		**P**	**12 22 01.2**	**-0.7**
	0.3nm,0.7s,baz=316,slow=5.4,SNR=5.2							
	0.3nm,0.7s							

*IDC **20** 12:14:07.7±1.3,28.˚64N×142.˚72E,h0km,mb3.8/5, mbtmp3.8/6,ML2.9/1,MS2.6/3,Error ellipse: s-maj=41.4km s-min=19.2km az=87.0*

*NIED **20** 12:14:10.0,28.˚72N×142.˚78E,h50km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=4.62; Mθθ=0.53; Mφφ=5.15; Mrθ=-0.49; Mθφ=0.60; Mφr=-2.41; Fault plane solution: M₀5.50000×10¹⁴ NP1: φs=183.00000°,δ=32.00000°,λ=-95.00000°. NP2:φs=9.00000°, δ=58.00000°,λ=-87.00000°.*

*NEIC **20** 12:14:10.2±1.7,28.˚67N±0.˚07×142.˚9E±0.˚2,h17km±5km, mb4.5/16 Error ellipse: s-maj=23.0km s-min=9.3km az=96.0*

ISC 20 12:14:12.1±0.9,28.˚66N±0.˚08×142.˚8E±0.˚1,h34km,n33, σ0=96/31,mb4.4/11,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.65**	**199**	Pn		**Pn**	**12 14 37.3**	**-1.3**
	baz=18,slow=20							
JCJ	**Chichijima**	**1.65**	**199**	Pn		**Pn**	**12 14 38.1**	**-0.6**
MJAR	**Matsushiro Arr**	**8.76**	**335**	Pn		**Pn**	**12 16 15.6**	**-0.8**
	0.1nm,0.3s,baz=159,slow=15,SNR=11							
MJAR				LR		LR	12 19 28.7	
	comp=Z,40nm,18.6s,baz=210,slow=37							
	2.2nm,0.5s							
MAJO	**Matsushiro**	**8.76**	**335**	Pn		**Pn**	**12 16 16.2**	**-0.1**
MJB9	**Matsu-Tunnel**	**8.77**	**335**	Pn		**Pn**	**12 16 16.9**	**+0.4**
JMM	**Marumori**	**9.34**	**350**	Pn		**Pn**	**12 16 22.6**	**-1.6**
KSRS	**Korea Array**	**15.23**	**309**	LR		LR	12 22 49.9	
	comp=Z,21nm,19.6s,baz=75,slow=34							
USA0B	**Ussuriysk Arra**	**17.76**	**334**	P		**Pn**	**12 18 15.2**	**-1.4**
USRK	**Ussuriysk Ar.**	**17.76**	**334**	P		**Pn**	**12 18 15.4**	**-1.1**
YHNB	**Yeheng**	**19.55**	**263**	P		**P**	**12 18 36.0**	**-1.0**
YHNB				IAmb		IAmb	12 18 40.7	
	comp=Z,43nm,1.5s							
YULB	**Yu-li**	**20.01**	**260**	P		**Pn**	**12 18 44.2**	**+0.4**
YULB				IAmb		IAmb	12 19 15.4	
	comp=Z,18nm,1.1s							
SSLB	**Suanglung**	**20.18**	**261**	P		**P**	**12 18 44.6**	**+0.8**
SONM	**Songino Array**	**33.99**	**314**	P		**P**	**12 20 52.8**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=112,slow=7.6,SNR=1.8							
	comp=Z,0.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**41.26**	**266**	LR		LR	12 38 26.9	
	comp=Z,9.0nm,20.0s,baz=230,slow=35							
MTN	**Manton Dam**	**42.77**	**197**	P		**P**	**12 22 06.0**	**-0.5**
MTN				IAmb		IAmb	12 22 29.0	
	comp=Z,11nm,1.2s							
WB0	**Warramunga Arr**	**48.82**	**191**	P		**P**	**12 22 54.5**	**+0.3**
WRAB	**Tennant Creek**	**48.99**	**191**	P		**P**	**12 22 56.0**	**+0.5**
WRAB				IAmb		IAmb	12 22 57.0	
	comp=Z,3.3nm,0.8s							
WB2	**Warramunga Arr**	**49.00**	**191**	P		**P**	**12 22 56.1**	**+0.5**
WB2				IAmb		IAmb	12 22 57.5	
	comp=Z,4.1nm,0.8s							
WRA	**Warramunga Arr**	**49.00**	**191**	P		**P**	**12 22 56.1**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=12,slow=8.4,SNR=28							
	comp=Z,2.4nm,0.7s							
WRA	**Warramunga Arr**	**49.00**	**191**	P		**P**	**12 22 55.7**	**+0.1**
MK31	**Makanchi Array**	**49.91**	**309**	P		**P**	**12 23 02.3**	**-0.1**
MK31				IAmb		IAmb	12 23 31.4	
	comp=Z,8.6nm,1.4s							
MKAR	**Makanchi Array**	**49.91**	**309**	P		**P**	**12 23 03.0**	**+0.6**
KURBB	**Kurchatov Arra**	**52.35**	**314**	P		**P**	**12 23 20.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=93,slow=6.4,SNR=5.8							
	comp=Z,1.1nm,0.7s							
TOLK	**Toolik Lake Re**	**55.50**	**24**	P		**P**	**12 23 41.7**	**-1.7**
TOLK				IAmb		IAmb	12 23 47.2	
	comp=Z,6.0nm,1.4s							
ILAR	**Eielson Array**	**56.09**	**29**	P		**P**	**12 23 48.5**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=243,slow=5.4,SNR=5.4							
	comp=Z,0.3nm,0.7s							
BMAR	**Burnt Mountain**	**57.22**	**26**	P		**P**	**12 23 57.8**	**+2.2**
BVAR	**Borovoye Array**	**57.27**	**317**	P		**P**	**12 23 56.7**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=79,slow=6.3,SNR=11							
	comp=Z,1.5nm,0.5s							
BRVK	**Borovoye**	**57.33**	**317**	P		**P**	**12 23 57.8**	**+1.2**
YAH	**Yahtse**	**58.42**	**34**	P		**P**	**12 24 04.2**	**-0.3**
DAWY	**Dawson**	**59.33**	**30**	P		**P**	**12 24 11.8**	**+1.3**
DAWY				IAmb		IAmb	12 24 33.1	
	comp=Z,4.8nm,1.4s							
ABKAR	**Akbulak array**	**64.40**	**314**	P		**P**	**12 24 45.4**	**+0.7**
DLBC	**Dease Lake**	**64.63**	**36**	P		**P**	**12 24 45.4**	**-0.7**
NC405	**NORSAR Array S**	**82.15**	**338**	P		**P**	**12 26 30.2**	**+1.0**

*IDC **20** 12:14:55.6±0.8,44.˚32S×39.˚21E,h0km,mb4.1/8, mbtmp4.1/9,ML3.3/1,MS3.6/22,Error ellipse: s-maj=27.5km s-min=21.0km az=36.0*

*NEIC **20** 12:14:58.0±1.1,44.˚4S±0.˚1×39.˚4E±0.˚2,h10km±1km, mb4.5/14,Error ellipse: s-maj=20.9km s-min=16.9km az=323.0*

ISC 20 12:14:57.5±0.6,44.˚3S±0.˚1×39.˚3E±0.˚1,h10km,n50, σ0=94/30,mb4.4/13,MS3.7/20,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOE	**Somerset East**	**15.76**	**313**			**P**	**12 18 43.2**	**-0.3**
SOE				IAmb		IAmb	12 18 44.3	
	comp=Z,58nm,1.4s							
SUR	**Sutherland**	**18.69**	**303**	LR		LR	12 24 58.5	
	comp=Z,85nm,21.6s,baz=121,slow=32							
BOSA	**Boshof**	**19.25**	**320**	P		**P**	**12 19 21.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=157,slow=12,SNR=3.8							
BOSA				LR		LR	12 25 10.8	
	comp=Z,156nm,21.2s,baz=178,slow=32							
	comp=Z,3.2nm,1.1s							
BOSA	**Boshof**	**19.25**	**320**	P		**P**	**12 19 22.0**	**-0.1**
LBTB	**Lobatse**	**22.23**	**325**	P		**P**	**12 19 54.2**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=160,slow=9.8,SNR=4.9							
	comp=Z,3.0nm,0.7s							
LBTB	**Lobatse**	**22.23**	**325**	P		**P**	**12 19 57.6**	**+3.2**
LBTB				IAmb		IAmb	12 19 58.0	
	comp=Z,16nm,1.4s							
MAW	**Mawson**	**26.48**	**160**	LR		LR	12 28 45.3	
	comp=Z,87nm,19.9s,baz=353,slow=31							
TROLL	**Troll, Antarti**	**32.81**	**200**	P		**P**	**12 21 31.3**	**+0.5**
SNAA	**Sanae**	**34.02**	**202**	P		**P**	**12 21 41.8**	**+0.7**
SNAA	**Sanae**	**34.02**	**202**	P		**P**	**12 21 41.4**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=63,slow=6.3,SNR=13							
SNAA				LR		LR	12 33 40.3	
	comp=Z,105nm,18.5s,baz=16,slow=33							
	comp=Z,3.8nm,0.8s							
SNAA	**Sanae**	**34.02**	**202**	P		**P**	**12 21 41.6**	**+0.4**
SNAA				IAmb		IAmb	12 21 42.7	
	comp=Z,5.6nm,1.0s							
VNA2	**Neumayer--Watz**	**34.97**	**205**	P		**P**	**12 21 50.1**	**+0.8**
	baz=43,slow=8.8							
KMBO	**Kilima Mbogo**	**43.03**	**357**	LR		LR	12 38 39.4	
	comp=Z,106nm,20.2s,baz=90,slow=33							
BELA	**Belgrano 2**	**43.74**	**197**	P		**P**	**12 23 02.8**	**+0.4**
BELA				IAmb		IAmb	12 23 08.6	
	comp=Z,9.1nm,1.5s							
MBAR	**Mbarara**	**44.17**	**348**	LR		LR	12 40 49.0	
	comp=Z,102nm,18.7s,baz=110,slow=35							
QSPA	**South Pole Qui**	**45.90**	**180**	P		**P**	**12 23 19.3**	**-0.7**
	comp=Z,1.8nm,1.1s,baz=295,slow=0.6,SNR=6.8							
QSPA				LR		LR	12 40 52.4	
	comp=Z,91nm,20.1s,baz=238,slow=34							
	comp=Z,1.8nm,1.1s							
QSPA	**South Pole Qui**	**45.90**	**180**	P		**P**	**12 23 19.8**	**-0.2**
HOPE	**Hope Point**	**48.12**	**230**	P		**P**	**12 23 37.4**	**+0.1**
VNDA	**Vanda**	**53.47**	**167**	P		**P**	**12 24 18.6**	**+1.5**
SBA	**Scott Base**	**54.00**	**168**	P		**P**	**12 24 22.4**	**+1.3**
SBA				IAmb		IAmb	12 24 24.6	
	comp=Z,12nm,1.2s							
ATD	**Arta Tunnel**	**55.67**	**4**	LR		LR	12 46 35.1	
	comp=Z,32nm,20.2s,baz=33,slow=34							
H10S2	**ASCENSION HYDR**	**58.30**	**290**	T		T	13 27 37.2	
	baz=134,slow=74,SNR=14							
H10S3	**ASCENSION HYDR**	**58.31**	**290**	T		T	13 27 39.0	
	baz=86,slow=74,SNR=28							
PALK	**Pallekele**	**63.49**	**47**	LR		LR	12 45 36.7	
	comp=Z,56nm,22.0s,baz=285,slow=29							
DBIC	**Dimbokro**	**64.43**	**310**	P		**P**	**12 25 34.9**	**+0.9**
DBIC				IAmb		IAmb	12 25 59.2	
	comp=Z,14nm,1.4s							
WSAR	**Wadi Sarin**	**69.52**	**19**	LR		LR	12 51 02.7	
	comp=Z,75nm,19.9s,baz=186,slow=31							
BBOO	**Buckleboo**	**72.31**	**119**	P		**P**	**12 26 22.9**	**-0.5**
BBOO				IAmb		IAmb	12 26 25.3	
	comp=Z,7.2nm,1.1s							
EIL	**Elat**	**73.73**	**356**	LR		LR	12 56 09.7	
	comp=Z,24nm,21.5s,baz=230,slow=34							
PLCA	**Paso Flores**	**74.48**	**228**	P		**P**	**12 26 34.7**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=135,slow=8.0,SNR=3.1							
PLCA				LR		LR	12 53 13.6	
	comp=Z,30nm,19.4s,baz=181,slow=31							
	comp=Z,1.5nm,0.9s							
STKA	**Stephens Creek**	**76.39**	**121**	P		**P**	**12 26 47.0**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=248,slow=6.3,SNR=5.5							
	comp=Z,1.4nm,0.3s							
CPUP	**Villa Florida**	**76.52**	**246**	P		**P**	**12 26 47.4**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=178,slow=4.9,SNR=3.1							
	comp=Z,0.9nm,0.6s							
ASAR	**Alice Springs**	**77.02**	**110**	P		**P**	**12 26 51.1**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=216,slow=5.6,SNR=22							
	comp=Z,3.4nm,0.9s							
ASAR	**Alice Springs**	**77.02**	**110**	P		**P**	**12 26 50.9**	**+0.1**
KNRA	**Kununurra**	**78.88**	**101**	P		**P**	**12 27 00.4**	**-0.7**
WRA	**Warramunga Arr**	**79.85**	**108**	P		**P**	**12 27 06.0**	**-0.4**
	comp=Z,2.7nm,1.1s,baz=220,slow=4.6,SNR=11							
	comp=Z,2.7nm,1.1s							
WB0	**Warramunga Arr**	**80.01**	**108**	P		**P**	**12 27 06.5**	**-0.8**
WB0				IAmb		IAmb	12 27 41.0	
	comp=Z,6.1nm,1.4s							
IDI	**Anoyia**	**80.29**	**348**	LR		LR	13 04 12.8	
	comp=Z,25nm,19.2s,baz=164,slow=37							
CMAR	**Chiang Mai Arr**	**82.82**	**56**	LR		LR	12 57 06.1	
	comp=Z,41nm,20.1s,baz=205,slow=30							
CMAR	**Chiang Mai Arr**	**82.82**	**56**	P		**P**	**12 27 22.0**	**0.0**
KEST	**Kesra**	**84.17**	**336**	LR		LR	13 07 38.7	
	comp=Z,62nm,18.1s,baz=298,slow=38							
BORA	**Eskisehir**	**84.18**	**353**	P		**P**	**12 27 28.8**	**+0.2**
SIV	**San Ignacio**	**86.17**	**251**	LR		LR	12 58 49.5	
	comp=Z,39nm,18.3s,baz=138,slow=31							
MDT	**Midelt**	**86.54**	**324**	LR		LR	13 06 02.7	
	comp=Z,49nm,18.6s,baz=156,slow=35							
CTA	**Charters Tower**	**87.68**	**116**	LR		LR	13 01 38.5	
	comp=Z,38nm,21.3s,baz=263,slow=32							
KBZ	**Khabaz**	**87.71**	**3**	LR		LR	13 06 16.1	
	comp=Z,16nm,20.2s,baz=79,slow=35							
AAK	**Ala-Archa**	**92.12**	**25**	LR		LR	13 06 07.5	
	comp=Z,31nm,18.4s,baz=191,slow=33							
VRAC	**Vranov**	**95.32**	**345**	LR		LR	13 15 32.4	
	comp=Z,39nm,18.1s,baz=306,slow=38							
BELG	**Belogornoye**	**96.59**	**5**	LR		LR	13 11 52.5	
	comp=Z,28nm,21.4s,baz=310,slow=35							
TXAR	**Lajitas Array**	**147.08**	**256**	PKPbc		**PKPbc**	**12 34 40.0**	**-0.6**
	comp=Z,3.4nm,1.1s,baz=136,slow=5.3,SNR=14							
PDAR	**Pinedale Array**	**157.41**	**277**	PKPab		**PKPab**	**12 35 23.9**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=102,slow=6.2,SNR=3.5							

*TAP **20** 12:15:23.0,23.˚97N×122.˚77E,h49km±1km,ML2.5,C*
*JMA **20** 12:15:23.8±0.2,24.˚1N±0.˚9×122.˚6E±0.˚8,h43km,MV1.8/9, NW OFF ISHIGAKIJIMA IS*

ISC 20 12:15:23.8±1.3,23.˚97N±0.˚05×122.˚69E±0.˚03,h23km±14km, n53,σ0=59/65,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.54**	**26**	P		**Pb**	**12 15 34.2**	**-0.5**
JYNG				*e*S		**Sb**	**12 15 42.0**	**0.0**
YOJ	**Yonaguni jima**	**0.58**	**31**	*i* P		**Pb**	**12 15 35.0**	**-0.3**
	baz=22							
YOJ				*i* S		**Sb**	**12 15 43.7**	**+0.6**
	baz=22							
YOJ	**Yonaguni jima**	**0.58**	**31**	P		**Pb**	**12 15 35.0**	**-0.3**
YOJ				*e*S		**Sb**	**12 15 43.2**	**+0.1**
ENA	**Nanau**	**0.98**	**298**	P		**Pb**	**12 15 41.7**	**-0.4**
	baz=298							
ENA				S		**Sb**	**12 15 55.4**	**+0.8**
	baz=298							
TWC	**Suao**	**1.00**	**310**	*i* P		**Pn**	**12 15 41.6**	**-0.8**
	baz=310							
TWC				*i* S		**Sb**	**12 15 55.4**	**+0.3**
	baz=310							
NACB	**Ninganchiao**	**1.02**	**282**	P		**Pn**	**12 15 41.7**	**-1.1**
	baz=281							
IRIF	**Iriomote-Funau**	**1.02**	**69**	P		**Pn**	**12 15 42.7**	**-0.1**
IRIF				*e*S		**Sb**	**12 15 56.6**	**+0.7**
HATJ	**Hateruma jima**	**1.03**	**85**	*e*P		**Pn**	**12 15 42.9**	**+0.1**
HATJ				*e*S		**Sb**	**12 15 56.9**	**+0.9**
ETM	**Tongmen**	**1.09**	**270**	*e*P		**Pn**	**12 15 42.9**	**-0.8**
	baz=264							
ETLH	**Xiulin Townshi**	**1.13**	**283**	*e*P		**Pn**	**12 15 43.5**	**-0.8**
	baz=282							
ESL	**Shilin**	**1.16**	**263**	*e*P		**Pn**	**12 15 43.7**	**-0.9**
	baz=256							
EGFH	**Guangfu**	**1.19**	**256**	*e*S		**Sn**	**12 15 59.9**	**-0.7**
	baz=248							
TWE	**Neicheng**	**1.20**	**309**	*e*P		**Pn**	**12 15 46.2**	**+1.0**
	baz=309							
TWE				*e*S		**Sn**	**12 16 01.8**	**+1.0**
	baz=309							
LATG	**Datong**	**1.20**	**298**	*e*P		**Pn**	**12 15 45.7**	**+0.3**
	baz=297							
ENTT	**Nioudou**	**1.22**	**304**	*e*P		**Pn**	**12 15 44.8**	**-0.8**
	baz=302							
JKRS	**Kuro-shima**	**1.24**	**77**	P		**Pn**	**12 15 45.8**	**0.0**
JKRS				*e*S		**Sn**	**12 16 02.7**	**+0.9**
HGSD	**Ruisui**	**1.25**	**248**	*e*P		**Pn**	**12 15 45.7**	**-0.2**
	baz=249							
TIPB	**Shuangxi**	**1.27**	**322**	*e*P		**Pn**	**12 15 46.0**	**-0.3**
	baz=332							
TIPB				*e*S		**Sn**	**12 16 03.5**	**+0.8**
	baz=332							
NNSB	**Datong**	**1.27**	**291**	*e*P		**Pn**	**12 15 46.1**	**-0.4**
	baz=290							
NNSH	**Datong**	**1.27**	**291**	*e*P		**Pn**	**12 15 45.5**	**-1.0**
	baz=278							
FUSB	**Fushanzhiwuyua**	**1.28**	**309**	*e*P		**Pn**	**12 15 47.0**	**+0.7**
	baz=307							
NNS	**Nan Shan**	**1.29**	**292**	*i* P		**Pn**	**12 15 46.2**	**-0.4**
	baz=291							
WHF	**Hehuan Shan**	**1.31**	**278**	P		**Pn**	**12 15 46.4**	**-0.8**
	baz=278							
EHY	**Hungye**	**1.33**	**250**	*e*P		**Pn**	**12 15 46.3**	**-0.8**
	baz=251							
SXI1	**Grass Mountain**	**1.34**	**327**	*e*P		**Pn**	**12 15 46.3**	**-1.1**
	baz=324							
FUSS	**Fushou**	**1.35**	**282**	*i* P		**Pn**	**12 15 47.0**	**-0.5**
	baz=282							
CHGB	**Renai**	**1.39**	**274**	*i* P		**Pn**	**12 15 47.2**	**-0.8**
	baz=274							
YHNB	**Yeheng**	**1.39**	**301**	*e*P		**Pn**	**12 15 47.9**	**0.0**
	baz=289							
JIJ	**Ishigaki jima**	**1.39**	**73**	P		**Pn**	**12 15 47.5**	**-0.4**
JIJ				*e*S		**Sn**	**12 16 05.3**	**-0.3**
YULB	**Yu-li**	**1.39**	**246**	*e*P		**Pn**	**12 15 47.3**	**-0.7**
	baz=239							
EYUL	**Yuli**	**1.40**	**244**	*e*P		**Pn**	**12 15 47.7**	**-0.3**
	baz=238							
NSK	**Sanguang**	**1.40**	**301**	*e*P		**Pn**	**12 15 48.3**	**+0.2**
	baz=289							
TWT	**Tachien**	**1.41**	**282**	*e*P		**Pn**	**12 15 48.6**	**+0.3**
	baz=281							
TWF1	**Yuli**	**1.41**	**245**	*e*P		**Pn**	**12 15 47.8**	**-0.4**
	baz=239							
TDCB	**Techi**	**1.42**	**282**	*e*P		**Pn**	**12 15 48.2**	**-0.3**
	baz=281							
WUSB	**Renai**	**1.43**	**271**	*e*P		**Pn**	**12 15 48.4**	**-0.2**
	baz=271							
FULB	**Fuli**	**1.49**	**239**	*e*P		**Pn**	**12 15 49.5**	**+0.2**
	baz=232							
NFF	**Wufeng Townshi**	**1.58**	**295**	*e*P		**Pn**	**12 15 50.5**	**0.0**
	baz=287							
SSLB	**Suanglung**	**1.59**	**264**	*e*P		**Pn**	**12 15 50.6**	**-0.1**
	baz=264							
EDH	**Donghe**	**1.61**	**232**	*e*P		**Pn**	**12 15 50.6**	**-0.2**
	baz=227							
JISG	**Ishigakijimahi**	**1.61**	**67**	*e*P		**Pn**	**12 15 50.3**	**-0.6**
JISG				*e*S		**Sn**	**12 16 09.9**	**-1.0**
WCS	**Beigang Elemen**	**1.62**	**274**	*e*P		**Pn**	**12 15 51.0**	**-0.1**
	baz=281							
SMLT	**Sun Moon Lake**	**1.64**	**267**	*e*P		**Pn**	**12 15 51.4**	**0.0**
	baz=259							
LIOB	**Emei**	**1.67**	**294**	*e*P		**Pn**	**12 15 52.6**	**+0.9**
	baz=294							
TYC	**Yuchr**	**1.67**	**268**	*e*P		**Pn**	**12 15 52.1**	**+0.3**
	baz=259							
WHYT	**Xinyi Township**	**1.70**	**261**	*e*P		**Pn**	**12 15 52.8**	**+0.6**
	baz=262							
ELDTW	**Lidau**	**1.71**	**244**	*e*P		**Pn**	**12 15 52.1**	**-0.3**
	baz=244							
LONT	**Longtian**	**1.77**	**234**	*e*P		**Pn**	**12 15 53.8**	**+0.6**
	baz=228							
ALS	**Alishan**	**1.78**	**256**	*e*P		**Pn**	**12 15 53.4**	**-0.1**
	baz=249							
TWGBT	**Beinan**	**1.86**	**233**	*e*P		**Pn**	**12 15 54.5**	**0.0**
	baz=227							
TWG	**Pinlang**	**1.87**	**233**	*e*P		**Pn**	**12 15 54.1**	**-0.4**
	baz=227							
STYH	**Taoyuan**	**1.92**	**246**	*e*P		**Pn**	**12 15 55.6**	**+0.4**
	baz=239							
STYT	**Tauyuan**	**1.94**	**246**	*e*P		**Pn**	**12 15 55.8**	**+0.3**
	baz=239							

*JMA **20** 12:30:37.1±0.2,41.˚9N±0.˚7×142.˚7E±0.˚7,h52km±1km, MV3.2/40,S OFF URAKAWA*
*IDC **20** 12:30:43.2±8.8,41.˚88N×142.˚70E,h116km±65km,mb3.4/4, mbtmp3.6/5,Error ellipse: s-maj=97.9km s-min=24.0km az=68.0*

ISC 20 12:30:36.9±1.0,41.˚84N±0.˚06×142.˚66E±0.˚05,h52km±9km, n19,σ0=67/25,mb3.6/4,2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**0.41**	**65**	P		**Pn**	**12 30 47.1**	**0.0**
JNBK	**Urakawa-nobuka**	**0.44**	**9**	*i* P		**Pn**	**12 30 47.6**	**0.0**
JNBK				*e*S		**Sn**	**12 30 55.1**	**-0.2**
JSHD	**Hidakashinhida**	**0.58**	**346**	⇓P		**Pn**	**12 30 49.6**	**+0.4**
JTHR	**Tokachihiroo**	**0.65**	**46**	P		**Pn**	**12 30 50.0**	**0.0**
JTHR				*e*S		**Sn**	**12 30 59.4**	**-0.2**
JCH	**Churui**	**0.93**	**34**	P		**Pn**	**12 30 53.8**	**+0.1**
JCH				*e*S		**Sn**	**12 31 05.8**	**-0.2**
JIAM	**Iburiatsuma**	**0.95**	**325**	⇓P		**Pn**	**12 30 55.1**	**+1.2**
JBT2	**Biratori 2**	**0.96**	**347**	P		**Pn**	**12 30 54.2**	**+0.1**
JKB	**Kayabe**	**1.22**	**273**	P		**Pn**	**12 30 57.7**	**+0.2**
JKB				*e*S		**Sn**	**12 31 12.8**	**-0.1**
JARK	**Aomorirokkasho**	**1.28**	**230**	*e*P		**Pn**	**12 30 59.1**	**+0.7**
JOT	**Ohata**	**1.29**	**250**	*e*P		**Pn**	**12 30 59.0**	**+0.4**
JOT				*e*S		**Sn**	**12 31 15.5**	**+0.7**
JFR	**Furan**	**1.32**	**358**	*e*P		**Pn**	**12 30 59.7**	**+0.8**
JEW	**Eniwo**	**1.34**	**318**	*e*P		**Pn**	**12 30 59.5**	**+0.3**
JNB	**Noboribetsu**	**1.36**	**298**	*e*P		**Pn**	**12 30 59.0**	**-0.5**
JNB				*e*S		**Sn**	**12 31 15.9**	**-0.4**
JOB	**Onbets**	**1.37**	**39**	*e*P		**Pn**	**12 31 00.4**	**+0.8**
JOB				*e*S		**Sn**	**12 31 18.2**	**+1.6**
MJAR	**Matsushiro Arr**	**6.32**	**215**	P		Pn	12 32 14.4	+6.9
	0.8nm,0.6s,baz=25,slow=14,SNR=4.1							
SONM	**Songino Array**	**26.23**	**296**	P		**P**	**12 36 08.1**	**+1.1**
	0.3nm,0.5s,baz=91,slow

comp=Z,49nm,20.7s,baz=154,slow=34
SNAA Sanae 34.06 202 P P 12 43 46.0 -0.1
SNAA 2.3nm,0.9s,baz=64,slow=4.8,SNR=5.0 LR LR 12 55 53.5
comp=Z,53nm,19.3s,baz=14,slow=33
2.3nm,0.9s
KMBO Kilima Mbogo 42.99 357 LR LR 12 59 52.7
comp=Z,64nm,22.0s,baz=95,slow=32
VNDA Vanda 53.51 167 LR LR 13 07 39.3
comp=Z,19nm,18.1s,baz=228,slow=34
ASAR Alice Springs 77.04 110 P P 12 48 56.0 +0.4
1.1nm,0.9s,baz=215,slow=5.0,SNR=6.5
1.1nm,0.9s
WRA Warramunga Arr 79.86 108 P P 12 49 10.8 -0.4
0.8nm,1.0s,baz=221,slow=5.1,SNR=3.7
0.8nm,1.0s
TXAR Lajitas Array 147.10 256 PKPbc PKPbc 12 56 44.6 -0.8
1.2nm,1.1s,baz=126,slow=4.6,SNR=6.2

*SKHL **20** 12:55:34.5±0.3,44.˚10N×149.˚70E, h45km±3km, mb4.4/6*
*JMA **20** 12:55:35.1±0.8,44.˚N±3.˚×14.˚9E±.˚, h30km, MV3.8/9, SE OFF ETOROFU*
*IDC **20** 12:55:41.4±2.0,45.˚65N×148.˚73E, h0km, mb3.7/5, mbtmp3.7/5, MS2.9/2, Error ellipse: s-maj=62.2km s-min=34.9km az=80.0*

ISC 20 12:55:36.2±1.8,44.˚1N±0.˚1×149.˚5E±0.˚1, h35km, n18, σ0.88/24, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
KUR	**Kuril'sk**	**1.67**	**315**	*eP*		**Pn**	**12**	**56**	**01.9**	**-1.0**
KUR	150nm,0.4s			AMB		AMB	12	56	04.3	
KUR				*i* S		**Sn**	**12**	**56**	**22.7**	**-0.3**
KUR	360nm,0.5s			A		A	12	56	27.7	
KUR	590nm,0.5s			A		A	12	56	27.7	
YUK	**Yuzh-Kuril'sk**	**2.65**	**271**	*eP*		**Pn**	**12**	**56**	**16.7**	**+0.4**
YUK	50nm,0.3s			AMB		AMB	12	56	17.6	
YUK				*eS*		**Sn**	**12**	**56**	**48.3**	**+1.1**
YUK	70nm,0.4s			A		A	12	56	49.5	
YUK	160nm,0.4s			A		A	12	56	49.5	
NEM2	**Nemuro 2**	**2.83**	**257**	*eP*		**Pn**	**12**	**56**	**18.3**	**-0.6**
NEM2				*eS*		**Sn**	**12**	**56**	**49.9**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.84**	**257**	*eP*		**Pn**	**12**	**56**	**18.8**	**-0.2**
NMR	30nm,0.4s			AMB		AMB	12	56	19.8	
NMR				*eS*		**Sn**	**12**	**56**	**51.9**	**-0.1**
NMR	30nm,0.2s			A		A	12	56	56.4	
NMR	40nm,0.2s			A		A	12	56	56.4	
JRA	**Rausu**	**3.18**	**269**	*eP*		**Pn**	**12**	**56**	**24.5**	**+0.8**
JNK	**Nakash**	**3.52**	**264**	*eP*		**Pn**	**12**	**56**	**28.3**	**0.0**
JNK				*eS*		**Sn**	**12**	**57**	**07.4**	**-1.2**
AKK	**Akkeshi**	**3.57**	**255**	*eP*		**Pn**	**12**	**56**	**29.6**	**+0.6**
AKK	30nm,0.2s			AMB		AMB	12	56	31.6	
AKK				*i* S		**Sn**	**12**	**57**	**09.2**	**-0.7**
AKK	60nm,0.2s			A		A	12	57	11.4	
AKK	40nm,0.2s			A		A	12	57	11.4	
JAK	**Akkeshi**	**3.67**	**255**	*eP*		**Pn**	**12**	**56**	**30.2**	**-0.2**
JTKR	**Abashiri--Toko**	**4.06**	**271**	*eP*		**Pn**	**12**	**56**	**36.7**	**+1.0**
JAR	**Ashorobuto**	**4.25**	**262**	*eP*		**Pn**	**12**	**56**	**39.0**	**+0.6**
JAR				*eS*		**Sn**	**12**	**57**	**27.6**	**+0.8**
JCH	**Churui**	**4.73**	**254**	*eP*		**Pn**	**12**	**56**	**45.0**	**0.0**
JCH				*eS*		**Sn**	**12**	**57**	**36.6**	**-1.9**
MJAR	**Matsushiro Arr**	**11.45**	**233**	LR		LR	13	03	09.4	
	comp=Z,35nm,21.0s,baz=30,slow=37									
SONM	**Songino Array**	**29.94**	**293**	P		**P**	**13**	**01**	**41.7**	**+0.8**
SONM	0.4nm,0.7s,baz=72,slow=7.0,SNR=2.5			LR		LR	13	13	17.7	
MKAR	comp=Z,31nm,18.6s,baz=310,slow=37 0.4nm,0.7s **Makanchi Array**	**45.96**	**298**	P		**P**	**13**	**03**	**55.7**	**+0.1**
	0.8nm,0.7s,baz=76,slow=8.4,SNR=5.7									
WRA	0.8nm,0.7s **Warramunga Arr**	**65.20**	**196**	P		P	13	06	33.3	+19
	0.4nm,1.0s,baz=9.7,slow=6.8,SNR=2.5									
FINES	0.4nm,1.0s **FINESS Array B**	**65.36**	**334**	P		**P**	**13**	**06**	**14.1**	**-0.4**
	1.7nm,0.7s,baz=46,slow=8.0,SNR=5.9									
NB2	1.7nm,0.7s **NORSAR Subarra**	**69.92**	**340**	P		**P**	**13**	**06**	**43.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=30,slow=6.5									
NOA	**NORSAR Array B**	**69.92**	**340**	P		**P**	**13**	**06**	**43.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=32,slow=6.2,SNR=5.9									
	comp=Z,1.1nm,0.7s									

PGC 20 13:03:32.9±1.8, 48.˚83N×129.˚57W, h10km, MLSn2.9/11, Mw3.5/11, 259km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
NCHR	**NEPTUNE Canada**	**0.91**	**159**	P		Pg	13	03	49.2	-1.2
NCHR				S		Sg	13	04	00.3	-1.9
KEMF	**NEPTUNE Canada**	**0.93**	**160**	P		Pg	13	03	49.5	-1.3
KEMF				S		Sg	13	04	00.9	-1.9
BPBC	**Brooks Peninsu**	**1.78**	**41**	Sn		Sn	13	04	22.4	-4.0
EDB	**Eliza Dome**	**1.92**	**56**	Sn		Sn	13	04	26.1	-3.7
HOLB	**Holberg**	**2.04**	**27**	Pn		Pn	13	04	06.0	-1.4
PACB	**Port Alice, BC**	**2.10**	**39**	Pn		Pn	13	04	06.5	-1.7
PACB				Sn		Sn	13	04	29.9	-4.5
MAYB	**Maynard**	**2.22**	**44**	Pn		Pn	13	04	08.6	-1.3
MAYB				Sn		Sn	13	04	33.3	-4.1
GDR	**Gold River**	**2.51**	**66**	Pn		Pn	13	04	11.7	-1.9
GDR				Sn		Sn	13	04	39.6	-4.6
SPLB	**Strathcona Par**	**2.78**	**66**	Pn		Pn	13	04	16.7	-0.7
NCRB	**Newcastle Ridg**	**2.78**	**54**	Pn		Pn	13	04	17.2	-0.3
NCRB				Sn		Sn	13	04	48.5	-2.7
BBB	**Bella Bella**	**3.49**	**15**	Pn		Pn	13	04	26.9	-0.3
BBB				Sn		Sn	13	05	04.7	-3.8
CLRS	**Cowichan Lake**	**3.59**	**88**	Pn		Pn	13	04	28.4	-0.2
SHB	**Sechelt**	**3.81**	**76**	Pn		Pn	13	04	31.9	+0.1
LLLB	**Lillooet**	**5.30**	**67**	Pn		Pn	13	04	53.2	+1.2

*WEL **20** 13:09:31.2±0.3,42.˚S±3.˚×17.˚4E±.˚, h11km±2km, M3.6/51, ML3.7/25, MLv3.6/51, Error ellipse: s-maj=0.0km s-min=0.0km az=147.0*
*NEIC **20** 13:09:31.8±0.9,41.˚71S±0.˚02×174.˚33E±0.˚02, h16km±1km, mb4.2/5, Error ellipse: s-maj=2.5km s-min=1.5km az=159.0*

ISC 20 13:09:30.5±1.0,41.˚82S±0.˚03×174.˚46E±0.˚03, h13km±7km, n108, σ1.9/112, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
CMWZ	**Cape Campbell**	**0.19**	**291**	Pg		**Pg**	**13**	**09**	**35.2**	**+0.4**
CMWZ				Sg		**Sg**	**13**	**09**	**37.3**	**-0.5**
CMWZ	**Cape Campbell**	**0.19**	**291**	P		**Pg**	**13**	**09**	**35.7**	**+0.8**
CMWZ				S		**Sg**	**13**	**09**	**39.1**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.45**	**283**	Pg		**Pg**	**13**	**09**	**38.6**	**-0.8**
BSWZ	**Blackbirch Sta**	**0.45**	**283**	P		**Pg**	**13**	**09**	**39.1**	**-0.3**
BSWZ				S		**Sg**	**13**	**09**	**45.0**	**-0.3**
SNZO	**South Karori**	**0.54**	**20**			**Pb**	**13**	**09**	**41.6**	**-0.2**
TUWZ	**Tuamarina**	**0.55**	**315**			**Pg**	**13**	**09**	**40.0**	**-1.3**
TUWZ	**Tuamarina**	**0.55**	**315**	P		**Pg**	**13**	**09**	**40.4**	**-0.8**
TUWZ				S		**Sg**	**13**	**09**	**46.8**	**-1.6**
WEL	**Wellington**	**0.58**	**24**	P		**Pb**	**13**	**09**	**42.7**	**+0.1**
TCW	**Tory Channel**	**0.62**	**347**			**Pg**	**13**	**09**	**41.7**	**-1.0**
TCW	**Tory Channel**	**0.62**	**347**	P		**Pg**	**13**	**09**	**41.9**	**-0.8**
PLWZ	**Palliser**	**0.65**	**68**			**Pn**	**13**	**09**	**45.2**	**-0.2**
PLWZ	**Palliser**	**0.65**	**68**	P		**Pn**	**13**	**09**	**45.7**	**+0.3**
MSWZ	**Moikau Station**	**0.72**	**56**			**Pn**	**13**	**09**	**46.5**	**+0.1**
MSWZ				Sg		**Sb**	**13**	**09**	**56.2**	**+1.5**
MSWZ	**Moikau Station**	**0.72**	**56**	P		**Pn**	**13**	**09**	**46.7**	**+0.3**
CAW	**Cannon Point**	**0.84**	**33**	P		**Pb**	**13**	**09**	**47.4**	**+0.3**
PAWZ	**Paruwai Farm**	**0.85**	**59**	P		**Pn**	**13**	**09**	**48.3**	**+0.1**
KHZ	**Kahutara**	**0.91**	**228**			**Pn**	**13**	**09**	**49.0**	**0.0**
KHZ	**Kahutara**	**0.91**	**228**	P		**Pn**	**13**	**09**	**49.2**	**+0.2**
NNZ	**Nelson**	**1.01**	**306**	P		**Pg**	**13**	**09**	**48.5**	**-1.5**
TRWZ	**Traveller**	**1.01**	**66**	P		**Pn**	**13**	**09**	**50.5**	**0.0**
KIW	**Kapiti Island**	**1.01**	**20**	P		**Pg**	**13**	**09**	**49.7**	**-0.3**
DUWZ	**D'Urville Isla**	**1.09**	**338**	P		**Pg**	**13**	**09**	**50.0**	**-1.5**
OGWZ	**Otaki Gorge**	**1.14**	**28**	P		**Pb**	**13**	**09**	**52.1**	**+0.1**
THZ	**Tophouse**	**1.16**	**272**			**Pg**	**13**	**09**	**51.6**	**-1.3**
THZ	**Tophouse**	**1.16**	**272**	P		**Pg**	**13**	**09**	**51.7**	**-1.1**
HOWZ	**Holdsworth Sta**	**1.22**	**41**	P		**Pg**	**13**	**09**	**53.1**	**-0.8**
TMWZ	**Te Maipa**	**1.29**	**57**	P		**Pn**	**13**	**09**	**54.1**	**-0.2**
MRNZ	**Matariki Terra**	**1.34**	**288**	P		**Pn**	**13**	**09**	**54.6**	**-0.4**
TKNZ	**Takaka Hill**	**1.37**	**304**	P		**Pn**	**13**	**09**	**54.6**	**-0.8**
MRZ	**Mangatainoka R**	**1.43**	**37**	P		**Pn**	**13**	**09**	**56.0**	**-0.2**
TIWZ	**Tintock**	**1.50**	**46**	P		**Pn**	**13**	**09**	**56.8**	**-0.3**
GVZ	**Greta Valley S**	**1.56**	**222**	P		**Pn**	**13**	**09**	**58.2**	**+0.2**
CPWZ	**Castlepoint**	**1.60**	**56**	P		Pg	13	10	05.5	+4.4
PRWZ	**Pori Road**	**1.70**	**43**	P		**Pn**	**13**	**09**	**59.5**	**-0.4**
POWZ	**Post Office Ro**	**1.73**	**35**	P		**Pn**	**13**	**10**	**00.3**	**-0.1**
OHWZ	**Ohakea**	**1.74**	**22**	P		**Pn**	**13**	**10**	**01.4**	**+1.0**
QRZ	**Quartz Range**	**1.76**	**304**			**Pn**	**13**	**10**	**00.8**	**+0.2**
QRZ	**Quartz Range**	**1.76**	**304**	P		**Pn**	**13**	**10**	**00.9**	**+0.2**
BFZ	**Birch Farm**	**1.76**	**51**	P		**Pn**	**13**	**10**	**00.1**	**-0.6**
LTZ	**Lake Taylor**	**1.89**	**239**	P		**Pn**	**13**	**10**	**02.2**	**-0.3**
AMCZ	**Amberley**	**1.90**	**224**	P		**Pb**	**13**	**10**	**05.6**	**+0.5**
DSZ	**Denniston Nort**	**1.98**	**271**			**Pn**	**13**	**10**	**03.8**	**-0.1**
DSZ	**Denniston Nort**	**1.98**	**271**	P		**Pn**	**13**	**10**	**04.0**	**+0.1**
DVHZ	**Dannevirke**	**1.99**	**41**	P		**Pn**	**13**	**10**	**02.9**	**-1.0**
TSZ	**Takapari Road**	**2.09**	**33**	P		**Pn**	**13**	**10**	**04.8**	**-0.6**
WAZ	**Wanganui**	**2.10**	**11**	P		**Pn**	**13**	**10**	**06.8**	**+1.4**
OKCZ	**Okains Bay**	**2.17**	**208**	P		**Pn**	**13**	**10**	**05.7**	**-0.6**
MQZ	**McQueen's Vall**	**2.31**	**215**	P		**Pn**	**13**	**10**	**07.1**	**-1.1**
WPHZ	**Waipukurau**	**2.31**	**41**	P		**Pn**	**13**	**10**	**07.4**	**-0.9**
PNHZ	**Pukenui**	**2.32**	**35**	P		**Pn**	**13**	**10**	**07.5**	**-0.9**
OXZ	**Oxford**	**2.34**	**229**	P		**Pn**	**13**	**10**	**07.6**	**-1.1**
LREZ	**Lake Rotokare**	**2.35**	**359**	P		**Pn**	**13**	**10**	**07.9**	**+2.0**
INZ	**Inchbonnie**	**2.41**	**247**	P		**Pn**	**13**	**10**	**10.1**	**+0.3**
NMEZ	**Namu Road**	**2.44**	**349**	P		**Pn**	**13**	**10**	**12.3**	**+2.3**
KHEZ	**Kahui Hut**	**2.54**	**352**	P		**Pn**	**13**	**10**	**13.5**	**+1.9**
MTVZ	**Mangateitei**	**2.55**	**18**	P		**Pn**	**13**	**10**	**11.7**	**+0.1**
PXZ	**Pawanui**	**2.55**	**46**	P		**Pn**	**13**	**10**	**09.9**	**-1.7**
NEZ	**North Egmont**	**2.56**	**354**	P		**Pn**	**13**	**10**	**13.5**	**+1.7**
NBEZ	**Newall Road No**	**2.59**	**350**	P		**Pn**	**13**	**10**	**13.5**	**+1.4**
MOVZ	**Moawhango**	**2.60**	**23**	P		**Pn**	**13**	**10**	**12.1**	**-0.3**
PKVZ	**Pokaka**	**2.62**	**15**	P		**Pn**	**13**	**10**	**13.5**	**+1.0**
BHHZ	**Black Hill Sta**	**2.63**	**28**	P		**Pn**	**13**	**10**	**12.3**	**-0.4**
DREZ	**Durham Road**	**2.63**	**356**	P		**Pn**	**13**	**10**	**14.8**	**+2.0**
WNVZ	**Wahianoa**	**2.63**	**20**	P		**Pn**	**13**	**10**	**13.1**	**+0.1**
PKE	**Pukeiti**	**2.65**	**352**	P		**Pb**	**13**	**10**	**16.1**	**-1.7**
TRVZ	**Turoa**	**2.65**	**19**	P		**Pn**	**13**	**10**	**13.7**	**+0.5**
WHVZ	**Whangaehu Hut**	**2.67**	**19**	P		**Pn**	**13**	**10**	**14.0**	**+0.5**
FWVZ	**Far West T-bar**	**2.69**	**18**	P		**Pn**	**13**	**10**	**14.3**	**+0.6**
TUVZ	**Tukino**	**2.71**	**20**	P		**Pn**	**13**	**10**	**14.2**	**+0.3**
KAHZ	**Kahuranaki**	**2.73**	**43**	P		**Pn**	**13**	**10**	**12.5**	**-1.6**
MHEZ	**Mangahewa**	**2.74**	**358**	P		**Pb**	**13**	**10**	**17.0**	**-2.4**
SNVZ	**South Ngauruho**	**2.78**	**19**	P		**Pn**	**13**	**10**	**15.3**	**+0.4**
NGZ	**Ngauruhoe**	**2.78**	**19**	P		**Pn**	**13**	**10**	**15.3**	**+0.4**
NNVZ	**North Ngauruho**	**2.83**	**19**	P		**Pn**	**13**	**10**	**16.0**	**+0.5**
ETVZ	**East Tongariro**	**2.84**	**20**	P		**Pn**	**13**	**10**	**15.9**	**+0.1**
TWVZ	**Taurewa**	**2.84**	**16**	P		**Pn**	**13**	**10**	**16.4**	**+0.7**
TMVZ	**Te Maari**	**2.86**	**20**	P		**Pn**	**13**	**10**	**16.0**	**0.0**
KRVZ	**Karewarewa**	**2.87**	**19**	P		**Pn**	**13**	**10**	**17.6**	**+1.6**
WACZ	**Wakanui South**	**2.87**	**221**	P		**Pn**	**13**	**10**	**14.8**	**-1.1**
NTVZ	**North Tongarir**	**2.87**	**19**	P		**Pn**	**13**	**10**	**16.3**	**+0.1**
WVZ	**Waitaha Valley**	**3.03**	**244**	P		**Pn**	**13**	**10**	**18.7**	**+0.6**
BKZ	**Black Stump Fm**	**3.07**	**31**	P		**Pn**	**13**	**10**	**17.3**	**-1.6**
RATZ	**Rangitukua**	**3.11**	**19**	P		**Pb**	**13**	**10**	**24.9**	**-0.9**
RPZ	**Rata Peaks**	**3.14**	**232**	P		**Pn**	**13**	**10**	**19.9**	**+0.1**
NMHZ	**Naumai**	**3.25**	**34**	P		**Pn**	**13**	**10**	**20.3**	**-1.1**
HIZ	**Hauiti**	**3.31**	**5**			**Pn**	**13**	**10**	**22.6**	**+0.5**
HIZ	**Hauiti**	**3.31**	**5**	P		**Pn**	**13**	**10**	**21.0**	**+0.9**
MRHZ	**Matea Rd**	**3.34**	**27**	P		**Pn**	**13**	**10**	**21.1**	**-1.4**
GCSZ	**Gaunt Creek Bo**	**3.40**	**242**	P		**Pb**	**13**	**10**	**28.8**	**-1.8**
TLZ	**Tolley Road**	**3.58**	**14**	P		**Pn**	**13**	**10**	**26.2**	**+0.4**
TMZ	**Timaru**	**3.60**	**223**	P		**Pn**	**13**	**10**	**25.5**	**-0.5**
MUGZ	**Murupara**	**3.78**	**29**	P		**Pn**	**13**	**10**	**27.5**	**-1.0**
RAGZ	**Rawiri**	**4.02**	**35**	P		**Pn**	**13**	**10**	**29.3**	**-2.5**
URZ	**Urewera**	**4.10**	**31**	P		**Pn**	**13**	**10**	**31.1**	**-1.8**
TOZ	**Tahuroa Road**	**4.16**	**11**	P		**Pn**	**13**	**10**	**34.2**	**+0.5**
ODZ	**Otahua Downs**	**4.25**	**219**	P		**Pn**	**13**	**10**	**34.1**	**-0.9**
RUGZ	**Raukumara Rang**	**4.58**	**34**	P		**Pn**	**13**	**10**	**36.9**	**-2.7**
JCZ	**Jackson Bay**	**4.73**	**240**	P		**Pn**	**13**	**10**	**42.6**	**+0.9**
MKAZ	**Moumakai**	**4.74**	**7**	P		**Pn**	**13**	**10**	**41.8**	**+0.1**
AWAZ	**Awhitu Peninsu**	**4.75**	**2**	P		**Pn**	**13**	**10**	**43.0**	**+1.1**
ETAZ	**East Tamaki Re**	**4.87**	**4**	P		**Pn**	**13**	**10**	**44.4**	**+0.9**
WIAZ	**Waiheke Island**	**5.04**	**6**	P		**Pn**	**13**	**10**	**44.1**	**-1.8**
MBAZ	**Motutapu North**	**5.05**	**4**	P		**Pn**	**13**	**10**	**47.4**	**+1.4**
EIDS	**Eidsvold**	**25.34**	**303**	P		**P**	**13**	**14**	**55.7**	**-1.5**
EIDS	comp=Z,23nm,1.4s				IAmb	IAmb	13	15	10.2	
VNDA	**Vanda**	**36.19**	**185**	P		**P**	**13**	**16**	**33.4**	**+1.1**
VNDA	comp=Z,1.5nm,1.2s				IAmb	IAmb	13	16	40.0	
SBA	**Scott Base**	**36.28**	**183**	P		**P**	**13**	**16**	**33.9**	**+0.8**
PSA00	**Pilbara Seismi**	**49.78**	**276**	P		**P**	**13**	**18**	**22.1**	**-0.9**
PMSA	**Palmer Station**	**64.35**	**156**	P		**P**	**13**	**20**	**08.9**	**+3.4**

*IDC **20** 13:13:44.5±2.8, 44.˚22N×149.˚35E, h0km, mb3.8/7, mbtmp3.8/8, ML2.1/1, MS3.0/2, Error ellipse: s-maj=74.9km s-min=25.4km az=172.0*
*SKHL **20** 13:13:47.8±0.4, 44.˚10N×149.˚60E, h49km±4km, mb4.7/6*
*JMA **20** 13:13:47.5±0.7, 44.˚N±3.˚×14.˚9E±.˚, h30km, MV3.9/11, SE OFF ETOROFU*
*NEIC **20** 13:13:48.8±1.5, 44.˚1N±0.˚1×149.˚63E±0.˚10, h35km±2km, mb4.6/12, Error ellipse: s-maj=23.9km s-min=10.1km az=162.0*
*MOS **20** 13:13:48.4±1.2, 44.˚30N×149.˚45E, h40km, mb4.3/2, Error ellipse: s-maj=13.4km s-min=10.5km az=156.1*

ISC 20 13:13:48.4±0.7, 44.˚03N±0.˚07×149.˚56E±0.˚07, h38km, n69, σ1.9±12/74, mb4.4/13, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
KUR	**Kuril'sk**	**1.71**	**316**	*i* P		**Pn**	**13**	**14**	**14.4**	**-1.2**
KUR	240nm,0.3s			AMB		AMB	13	14	16.7	
KUR				*eS*		**Sn**	**13**	**14**	**34.2**	**-1.9**
KUR	630nm,0.3s			A		A	13	14	40.0	
KUR	1µm,0.3s			A		A	13	14	40.0	
KUR	**Kuril'sk**	**1.71**	**316**	*c i* PN		**Pn**	**13**	**14**	**14.3**	**-1.3**
KUR				*i* S		**Sn**	**13**	**14**	**36.8**	**+0.7**
KUR	comp=N,100nm,0.3s			pmax		pmax				
KUR	comp=Z,235nm,0.3s			pmax		pmax				
KUR	comp=E,1µm,0.2s			smax		smax				
KUR	comp=N,629nm,0.3s			smax		smax				
YUK	**Yuzh-Kuril'sk**	**2.66**	**271**	*eP*		**Pn**	**13**	**14**	**28.5**	**-0.2**
YUK	comp=N,80nm,0.2s			AMB		AMB	13	14	29.3	
YUK				*eS*		**Sn**	**13**	**14**	**59.3**	**-0.5**
YUK	comp=N,210nm,0.2s			A		A	13	15	02.3	
YUK	comp=N,150nm,0.2s			A		A	13	15	02.3	
YUK	**Yuzh-Kuril'sk**	**2.66**	**271**	PN		**Pn**	**13**	**14**	**27.8**	**-0.9**
YUK				*eS*		**Sn**	**13**	**14**	**59.1**	**-0.7**
YUK	comp=Z,77nm,0.3s			pmax		pmax				
YUK	comp=E,151nm,0.2s			smax		smax				
YUK	comp=N,208nm,0.3s			smax		smax				
NEM2	**Nemuro 2**	**2.84**	**258**	P		**Pn**	**13**	**14**	**30.6**	**-0.6**
NEM2				*eS*		**Sn**	**13**	**15**	**02.2**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.85**	**258**	*eP*		**Pn**	**13**	**14**	**30.7**	**-0.6**
NMR	comp=N,40nm,0.2s			AMB		AMB	13	14	31.7	
NMR				*eS*		**Sn**	**13**	**15**	**02.9**	**-1.5**
NMR	comp=N,90nm,0.2s			A		A	13	15	05.0	
NMR	comp=N,40nm,0.2s			A		A	13	15	05.0	
NMR	**Nemuro--Hokkai**	**2.85**	**258**	*e*PN		**Pn**	**13**	**14**	**30.7**	**-0.6**
NMR				*eS*		**Sn**	**13**	**15**	**02.3**	**-2.1**
RUSJ	**Misakicho**	**3.11**	**273**	*e*PN		**Pn**	**13**	**14**	**35.8**	**+1.0**
RUSJ				*eS*		**Sn**	**13**	**15**	**12.7**	**+2.0**
JRA	**Rausu**	**3.20**	**270**	*eP*		**Pn**	**13**	**14**	**37.0**	**+0.9**
JNK	**Nakash**	**3.53**	**264**	*eP*		**Pn**	**13**	**14**	**40.7**	**0.0**
JNK				*eS*		**Sn**	**13**	**15**	**20.0**	**-1.1**
AKK	**Akkeshi**	**3.57**	**255**	*eP*		**Pn**	**13**	**14**	**41.8**	**+0.5**
AKK				*eS*		**Sn**	**13**	**15**	**21.7**	**-0.5**
AKK	comp=N,80nm,0.3s			A		A	13	15	25.3	
AKK	comp=N,80nm,0.3s			A		A	13	15	25.3	
JAK	**Akkeshi**	**3.68**	**255**	*eP*		**Pn**	**13**	**14**	**42.4**	**-0.3**
JTKR	**Abashiri--Toko**	**4.08**	**271**	*eP*		**Pn**	**13**	**14**	**49.0**	**+0.9**
JAR	**Ashorobuto**	**4.26**	**262**	*eP*		**Pn**	**13**	**14**	**51.1**	**+0.4**
JAR				*eS*		**Sn**	**13**	**15**	**39.0**	**-0.1**
JCH	**Churui**	**4.73**	**255**	*eP*		**Pn**	**13**	**14**	**57.7**	**+0.5**
JCH				*eS*		**Sn**	**13**	**15**	**50.1**	**-0.7**
JKA	**Kamikawa-asahi**	**5.01**	**273**	Pn		**Pn**	**13**	**15**	**02.6**	**+1.6**
JKA	**Kamikawa-asahi**	**5.01**	**273**	*eP*		**Pn**	**13**	**15**	**02.6**	**+1.6**
ASAJ	**Asahikawa**	**5.01**	**273**	PN		**Pn**	**13**	**15**	**02.6**	**+1.5**
JEM	**Erimo**	**5.10**	**249**	Pn		**Pn**	**13**	**15**	**03.5**	**+1.3**
ERM	**Erimo**	**5.10**	**249**	Pn		**Pn**	**13**	**15**	**04.4**	**+2.1**
ERM	**Erimo**	**5.10**	**249**	PN		**Pn**	**13**	**15**	**04.4**	**+2.1**
JNBK	**Urakawa-nobuka**	**5.27**	**253**	*eS*		**Sn**	**13**	**16**	**00.2**	**-3.9**
YSS	**Yuzh-Sakhalins**	**5.61**	**304**	*eP*		**Pn**	**13**	**15**	**10.1**	**+1.0**
YSS	comp=N,10.0nm,0.3s			AMB		AMB	13	15	11.0	
JTM	**Tenmabayashi**	**7.07**	**246**	Pn		**Pn**	**13**	**15**	**28.4**	**-0.8**
JMM	**Marumori**	**9.04**	**230**	Pn		**Pn**	**13**	**15**	**57.7**	**+1.3**
PETK	**Petropavlovsk-**	**10.56**	**28**	Pn		**Pn**	**13**	**16**	**15.9**	**-1.1**
	comp=N,0.1nm,0.3s,baz=204,slow=10,SNR=2.4									
KLR	comp=N,3.9nm,1.0s **Kul'dur**	**13.29**	**299**	LR		LR	13	22	47.5	
H11N2	comp=N,68nm,18.8s,baz=134,slow=42 **WAKE ISLAND Hy**	**28.23**	**144**	T		T	13	49	59.9	
H11N1	baz=333,slow=76,SNR=25 **WAKE ISLAND Hy**	**28.24**	**144**	T		T	13	49	59.9	
H11N3	baz=333,slow=76,SNR=26 **WAKE ISLAND Hy**	**28.25**	**144**	T		T	13	50	01.0	
H11S1	baz=333,slow=76,SNR=22 **WAKE ISLAND Hy**	**29.24**	**145**	T		T	13	52	00.5	
H11S3	baz=334,slow=76,SNR=20 **WAKE ISLAND Hy**	**29.25**	**145**	T		T	13	52	07.0	
H11S2	baz=334,slow=76,SNR=4.7 **WAKE ISLAND Hy**	**29.26**	**145**	T		T	13	52	02.9	
SONM	baz=334,slow=76,SNR=11 **Songino Array**	**29.97**	**293**	P		**P**	**13**	**19**	**54.0**	**+0.9**
	comp=N,0.8nm,0.7s,baz=80,slow=7.4,SNR=4.3									
SONM	comp=N,0.8nm,0.7s **Songino Array**	**29.97**	**293**	P		**P**	**13**	**19**	**54.0**	**+0.9**
MLY	**Manley**	**38.60**	**36**	P		**P**	**13**	**21**	**06.8**	**-0.6**
ILAR	**Eielson Array**	**40.23**	**36**	P		**P**	**13**	**21**	**23.4**	**+2.5**
	comp=N,0.2nm,0.8s,baz=282,slow=8.8,SNR=1.6									
GLB	comp=N,0.2nm,0.8s **Gilahina Butte**	**41.85**	**41**	P		**P**	**13**	**21**	**33.9**	**-0.5**
GLB	comp=Z,12nm,1.5s			IAmb		IAmb	13	22	05.1	
BCAR	**Beaver Creek A**	**42.59**	**39**	P		**P**	**13**	**21**	**40.2**	**-0.3**
MK31	**Makanchi Array**	**45.99**	**298**	P		**P**	**13**	**22**	**08.1**	**+0.4**
MK31	comp=Z,8.7nm,1.4s			IAmb		IAmb	13

	9.2nm,0.5s						
MJAR	**Matsushiro Arr**	**4.07**	**328**	PN	**Pn**	13 16 34.1	+1.3
MAJO	**Matsushiro**	**4.07**	**328**		**Pn**	13 16 34.4	+1.6
MAJO	**Matsushiro**	**4.07**	**328**	PN	**Pn**	13 16 34.4	+1.6
MJB9	**Matsu-Tunnel**	**4.08**	**328**	Pn	**Pn**	13 16 35.2	+2.4
JMN	**Monobe**	**5.87**	**278**	Pn	**Pn**	13 16 56.1	-1.4
JCJ	**Chichijima**	**6.09**	**169**	Pn	**Pn**	13 17 01.1	+0.6
	3.6nm,0.3s,baz=356,slow=22,SNR=9.8						
JCJ				Sn	**Sn**	13 18 07.1	-1.8
	4.0nm,0.3s,baz=287,slow=22,SNR=1.9						
	37nm,0.8s						
JCJ	**Chichijima**	**6.09**	**169**	Pn	**Pn**	13 17 02.5	+2.0
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	13 23 51.3	+0.1
	0.4nm,0.7s,baz=97,slow=12,SNR=1.7						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**48.14**	**311**	P	**P**	13 24 07.5	-0.9
	0.2nm,0.3s,baz=88,slow=7.4,SNR=2.3						
	0.2nm,0.3s						
WB0	**Warramunga Arr**	**52.93**	**188**	P	**P**	13 24 44.1	-0.6
WR0	**Warramunga Arr**	**53.10**	**187**	P	**P**	13 24 45.3	-0.7
WR0				IAmb	IAmb	13 24 46.3	
	comp=Z,2.9nm,0.6s						
WB2	**Warramunga Arr**	**53.10**	**188**	P	**P**	13 24 45.5	-0.6
WB2				IAmb	IAmb	13 25 02.8	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**53.10**	**188**	P	**P**	13 24 45.8	-0.2
	comp=Z,1.7nm,0.5s,baz=3.9,slow=7.6,SNR=60						
	comp=Z,1.7nm,0.5s						
AS31	**Alice Springs**	**56.83**	**188**	P	**P**	13 25 12.9	-0.1
ASAR	**Alice Springs**	**56.83**	**188**	P	**P**	13 25 12.9	0.0
	comp=Z,0.8nm,0.6s,baz=4.4,slow=7.1,SNR=26						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**56.83**	**188**	P	**P**	13 25 12.6	-0.4
ABKAR	**Akbulak array**	**60.17**	**312**	P	**P**	13 25 34.5	-1.5
FINES	**FINESS Array B**	**72.09**	**333**	P	**P**	13 26 54.6	+2.4
	comp=Z,2.1nm,0.9s,baz=70,slow=9.0,SNR=1.7						
	comp=Z,2.1nm,0.9s						

*IDC **20** 13:20:50.1±0.8, 44°.29S×39°.12E, h0km, mb4.2/9, mbtmp4.2/11, ML3.6/2, MS3.7/13, Error ellipse: s-maj=26.4km s-min=18.6km az=43.0*
*NEIC **20** 13:20:51.9±1.0, 44°.2S±0°.1×39°.1E±0°.2, h10km±1km, mb4.4/16, Error ellipse: s-maj=26.6km s-min=22.4km az=259.0*

ISC 20 13:20:51.5±0.6, **44°.2S**±0°.1×**39°.1E**±0°.1, **h10**km, **n44,** σ0s**63**/34, **mb4.2**/13, **MS3.5**/11, **Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.56**	**303**	P	**Pn**	**13 25 09.0**	**+0.3**
	0.2nm,0.3s,baz=110,slow=14,SNR=3.8						
SUR				LR	LR	13 30 54.6	
	comp=Z,151nm,19.3s,baz=144,slow=32						
	17nm,1.0s						
SUR	**Sutherland**	**18.56**	**303**	P	**P**	**13 25 08.3**	**-0.3**
SUR				IAmb	IAmb	13 25 12.0	
	comp=Z,22nm,1.1s						
BOSA	**Boshof**	**19.11**	**320**	P	**Pn**	**13 25 15.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=177,slow=4.9,SNR=3.1						
BOSA				LR	LR	13 31 05.8	
	comp=Z,234nm,21.6s,baz=166,slow=32						
	comp=Z,8.0nm,1.2s						
BOSA	**Boshof**	**19.11**	**320**	P	**P**	**13 25 15.0**	**+0.5**
LBTB	**Lobatse**	**22.09**	**326**	P	**P**	**13 25 46.8**	**0.0**
	comp=Z,4.7nm,0.8s,baz=162,slow=11,SNR=4.2						
LBTB				LR	LR	13 33 07.1	
	comp=Z,192nm,19.5s,baz=148,slow=33						
	comp=Z,4.7nm,0.8s						
ABPO	**Ambohimpanom**	**26.00**	**18**	P	**P**	**13 26 24.2**	**-0.5**
ABPO				IAmb	IAmb	13 26 28.5	
	comp=Z,15nm,1.4s						
OPO	**Ambohidratompo**	**26.43**	**17**	LR	LR	13 35 18.6	
	comp=Z,102nm,18.7s,baz=81,slow=33						
MAW	**Mawson**	**26.62**	**160**	LR	LR	13 34 30.1	
	comp=Z,142nm,20.8s,baz=359,slow=31						
LSZ	**Lusaka**	**30.29**	**339**	LR	LR	13 37 32.8	
	comp=Z,98nm,21.4s,baz=157,slow=33						
TSUM	**Tsumeb**	**30.76**	**317**	LR	LR	13 38 28.6	
	comp=Z,174nm,19.3s,baz=148,slow=34						
TROLL	**Troll, Antarti**	**32.89**	**200**	P	**P**	**13 27 26.3**	**+0.9**
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**13 27 36.7**	**+1.0**
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**13 27 35.7**	**0.0**
	comp=Z,3.4nm,0.8s,baz=43,slow=4.0,SNR=10						
	comp=Z,3.4nm,0.8s						
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**13 27 35.6**	**-0.2**
SNAA				IAmb	IAmb	13 27 37.7	
	comp=Z,5.9nm,1.0s						
VNA2	**Neumayer--Watz**	**35.04**	**205**	P	**P**	**13 27 44.6**	**+0.7**
	baz=60,slow=9.0						
VNA1	**Neumayer--Stat**	**35.19**	**205**	P	**P**	**13 27 46.6**	**+1.5**
KMBO	**Kilima Mbogo**	**42.92**	**357**	LR	LR	13 44 44.7	
	comp=Z,136nm,19.8s,baz=98,slow=33						
BELA	**Belgrano 2**	**43.82**	**197**	P	**P**	**13 28 57.1**	**+0.1**
BELA				IAmb	IAmb	13 29 05.3	
	comp=Z,4.4nm,1.2s						
MBAR	**Mbarara**	**44.05**	**348**	LR	LR	13 46 35.2	
	comp=Z,132nm,18.8s,baz=114,slow=35						
QSPA	**South Pole Qui**	**46.02**	**180**	P	**P**	**13 29 13.7**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=261,slow=1.8,SNR=14						
QSPA				LR	LR	13 46 48.2	
	comp=Z,100nm,21.3s,baz=238,slow=34						
	comp=Z,1.2nm,0.8s						
QSPA	**South Pole Qui**	**46.02**	**180**	P	**P**	**13 29 14.4**	**-0.4**
QSPA				IAmb	IAmb	13 29 41.6	
	comp=Z,4.7nm,1.4s						
VNDA	**Vanda**	**53.59**	**167**	P	**P**	**13 30 11.3**	**-0.8**
	comp=Z,1.6nm,1.1s,baz=242,slow=9.6,SNR=5.1						
VNDA				LR	LR	13 50 45.3	
	comp=Z,99nm,21.2s,baz=226,slow=34						
	comp=Z,1.6nm,1.1s						
VNDA	**Vanda**	**53.59**	**167**	P	**P**	**13 30 12.2**	**+0.2**
VNDA				IAmb	IAmb	13 30 13.3	
	comp=Z,3.8nm,1.2s						
SBA	**Scott Base**	**54.13**	**168**	P	**P**	**13 30 17.2**	**+1.3**
ATD	**Arta Tunnel**	**55.56**	**4**	LR	LR	13 53 27.3	
	comp=Z,37nm,18.2s,baz=70,slow=35						
H10S2	**ASCENSION HYDR**	**58.18**	**290**	T	T	14 33 30.0	
	baz=134,slow=74,SNR=6.0						
H10S3	**ASCENSION HYDR**	**58.19**	**290**	T	T	14 33 30.8	
	baz=86,slow=74,SNR=8.1						
NWAO	**Narrogin (SRO)**	**59.95**	**108**	P	**P**	**13 30 58.5**	**+0.6**
DBIC	**Dimbokro**	**64.29**	**310**	LR	LR	13 56 38.0	
	comp=Z,24nm,19.8s,baz=155,slow=33						
PLCA	**Paso Flores**	**74.49**	**228**	P	**P**	**13 32 28.9**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=100,slow=8.3,SNR=2.9						
	comp=Z,1.3nm,0.8s						
TOO	**Toolangi**	**74.87**	**128**	P	**P**	**13 32 31.8**	**-0.5**
CPUP	**Villa Florida**	**76.49**	**247**	P	**P**	**13 32 41.9**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=125,slow=5.9,SNR=3.1						
	comp=Z,2.4nm,1.0s						
STKA	**Stephens Creek**	**76.52**	**121**	P	**P**	**13 32 41.6**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=232,slow=4.4,SNR=10.0						
	comp=Z,5.2nm,0.9s						
STKA	**Stephens Creek**	**76.52**	**121**	P	**P**	**13 32 41.1**	**-0.7**
ASAR	**Alice Springs**	**77.14**	**110**	P	**P**	**13 32 46.0**	**+0.6**
	comp=Z,4.9nm,0.9s,baz=220,slow=5.3,SNR=37						
	comp=Z,4.9nm,0.9s						
ASAR	**Alice Springs**	**77.14**	**110**	P	**P**	**13 32 45.7**	**+0.2**
AS31	**Alice Springs**	**77.14**	**110**	P	**P**	**13 32 45.8**	**+0.4**
WRA	**Warramunga Arr**	**79.96**	**108**	P	**P**	**13 33 01.2**	**+0.2**
	comp=Z,3.1nm,1.0s,baz=223,slow=4.4,SNR=14						
	comp=Z,3.1nm,1.0s						
WRA	**Warramunga Arr**	**79.96**	**108**	P	**P**	**13 33 01.4**	**+0.4**
WB2	**Warramunga Arr**	**79.97**	**108**	P	**P**	**13 33 01.0**	**-0.1**
WB2				IAmb	IAmb	13 33 25.7	
	comp=Z,5.3nm,1.2s						
WB0	**Warramunga Arr**	**80.12**	**108**	P	**P**	**13 33 01.8**	**-0.1**
WB0				IAmb	IAmb	13 33 03.2	
	comp=Z,8.8nm,1.1s						
CO03	**El Pedregal**	**81.69**	**235**	P	**P**	**13 33 10.0**	**-0.3**
TXAR	**Lajitas Array**	**147.03**	**256**	PKPbc	**PKPbc**	**13 40 35.0**	**+0.5**
	comp=Z,3.2nm,1.1s,baz=145,slow=6.5,SNR=15						
ULM	**Lac du Bonnet**	**149.24**	**297**	PKPbc	**PKPbc**	**13 40 39.4**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=132,slow=3.5,SNR=3.6						

*MOS **20** 13:22:28.2±0.0, 43°.06N×44°.07E, h10km, MPVA3.8*
*NORS **20** 13:22:29.0±0.0, 43°.05N×44°.03E, h5km, MPVA3.7*
*DRS **20** 13:22:49.4±0.0, 42°.80N×44°.88E, h16km*

ISC 20 13:22:29.5±0.8, **43°.08N**±0°.02×**44°.09E**±0°.02, **h9**km±5km, **n38,** σ1s**00**/75, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KORR	**Kora**	**0.02**	**280**	*e*Pg	**Pg**	**13 22 31.1**	**-0.1**
KORR				*e*Sg	**Sg**	**13 22 33.1**	**+0.7**
ARNR	**Ardon**	**0.17**	**55**	*e*Pg	**Pg**	13 22 33.3	+0.1
ARNR				*e*Sg	**Sg**	13 22 36.6	+1.0
LSNR	**Lesken**	**0.28**	**315**	*i* Pg	**Pb**	13 22 35.9	-0.8
LSNR				*e*Sg	**Sb**	13 22 41.4	-0.1
STDR	**Stavd-Durt**	**0.29**	**356**	*e*Pg	**Pb**	13 22 36.8	-0.1
STDR				*e*Sg	**Sb**	13 22 41.8	0.0
LACR	**Lac**	**0.30**	**149**	*e*Pg	**Pb**	13 22 35.9	-1.2
LACR				*e*Sg	**Sb**	13 22 41.3	-0.8
ZEI	**Tsey**	**0.33**	**205**	*e*Pg	**Pb**	13 22 36.5	-1.2
ZEI				*e*Sg	**Sb**	13 22 41.6	-1.4
DIGR	**Digorskoe uzhe**	**0.42**	**244**	*e*Pg	**Pb**	13 22 38.1	-1.1
DIGR				*e*Sg	**Sb**	13 22 44.1	-1.6
VLKR	**Vladikavkaz**	**0.43**	**95**	*e*Pg	**Pb**	13 22 38.7	-0.7
VLKR				*e*Sg	**Sb**	13 22 45.2	-0.8
BTKR	**Batakoyurt**	**0.44**	**49**	*e*Pg	**Pb**	13 22 39.1	-0.4
BTKR				*e*Pg	**Sb**	13 22 48.5	+2.3
NCK	**Nalchik**	**0.55**	**319**	*e*Pg	**Pg**	13 22 39.8	-0.4
NCK				*e*Sg	**Sn**	13 22 51.3	-1.5
KMGR	**Komgaron**	**0.57**	**92**	*e*Pg	**Pb**	13 22 41.5	-0.2
KMGR				*e*Sg	**Sb**	13 22 51.1	+1.2
PNSH	**Pansheti**	**0.59**	**139**	P	**Pb**	13 22 41.2	-1.0
PNSH				S	**Sb**	13 22 49.4	-1.3
GUDG	**Gudauri**	**0.68**	**155**	P	**Pg**	13 22 42.1	-0.6
GUDG				S	**Sb**	13 22 53.2	-0.1
ONI	**Oni**	**0.68**	**224**	P	**Pb**	13 22 43.4	-0.2
ONI				S	**Sb**	13 22 53.9	+0.7
PRTR	**Priterechnaya**	**0.68**	**12**	*e*Pg	**Pn**	13 22 44.5	-0.9
PRTR				*e*Sg	**Sn**	13 22 56.5	+0.3
TRKR	**Terskaya**	**0.79**	**36**	*e*Pg	**Pn**	13 22 46.2	-0.7
TRKR				*e*Sg	**Sn**	13 22 57.4	+0.2
KBTC	**Kuba-Taba**	**0.89**	**326**	*e*Pg	**Pn**	13 22 47.9	-0.3
KBTC				*e*Sg	**Sn**	13 23 00.8	-0.5
SHTL	**Shatili**	**0.89**	**118**	P	**Pg**	13 22 46.4	-0.2
SHTL				S	**Sb**	13 22 59.3	+0.1
NEY	**Neytrino**	**1.01**	**280**	*e*Pg	**Pg**	13 22 48.9	-0.2
NEY				*e*Sg	**Sb**	13 23 02.4	-0.5
ALIG	**Mtskhetisjvari**	**1.03**	**199**	P	**Pn**	13 22 50.1	-0.1
ALIG				S	**Sn**	13 23 05.3	+0.5
KBZ	**Khabaz**	**1.08**	**307**	*e*Pg	**Pg**	13 22 50.4	+0.1
KBZ				*e*Sg	**Sn**	13 23 06.4	+0.4
PYA1	**Pyatigorsk**	**1.22**	**324**	*e*Pg	**Pg**	13 22 53.2	+0.3
PYA1				*e*Sg	**Sn**	13 23 09.9	+0.6
SHA1	**Shidzhatmaz**	**1.23**	**303**	*e*Pg	**Pg**	13 22 53.5	+0.3
SHA1				*e*Sg	**Sn**	13 23 10.6	+0.5
GROC	**Groznyy**	**1.25**	**84**	*e*Pg	**Pg**	13 22 55.2	+1.6
GROC				*e*Sg	**Sn**	13 23 12.5	+2.3
BEYR	**Belyy Ugol+**	**1.31**	**316**	*e*Pg	**Pg**	13 22 54.7	0.0
BEYR				*e*Sg	**Sg**	13 23 13.2	+1.5
KIV0	**Kislovodsk Arr**	**1.34**	**311**	*e*Pg	**Pg**	13 22 55.2	0.0
KIV0				*e*Sg	**Sg**	13 23 14.1	+1.4
KIV	**Kislovodsk**	**1.34**	**311**	*e*Pg	**Pg**	13 22 55.2	-0.1
KIV				*e*Sg	**Sg**	13 23 13.6	+0.8
BRNG	**Burnasheti**	**1.47**	**188**	P	**Pg**	13 23 01.3	+3.5
DVE	**Vedeno**	**1.50**	**94**	*e*Pg	**Pn**	13 22 56.1	-0.6
DVE				*e*Sg	**Sg**	13 23 17.0	-0.7
BTLR	**Botlikh**	**1.62**	**104**	*e*Pg	**Pb**	13 22 59.7	+0.1
BTLR				*e*Sg	**Sg**	13 23 21.2	-0.4
ABS	**Abastumani**	**1.63**	**216**	P	**Pg**	13 23 01.2	+0.4
ABS				S	**Sg**	13 23 23.9	+2.0
DLMR	**Dylym**	**1.86**	**90**	*e*Pg	**Pn**	13 23 01.4	-0.1
DLMR				*e*Sg	**Sg**	13 23 28.5	-0.8
ALER	**Alexandrovskoy**	**1.88**	**334**	*e*Pg	**Pb**	13 23 03.0	-1.1
ALER				*e*Sg	**Sb**	13 23 28.6	+0.9
DBC	**Dubki**	**2.01**	**91**	*e*Pg	**Pb**	13 23 04.8	-1.5
DBC				*e*Sg	**Sb**	13 23 31.4	+0.1
UNCR	**Uncukul**	**2.02**	**100**	*e*Pg	**Pb**	13 23 05.7	-0.7
UNCR				*e*Sg	**Sb**	13 23 30.8	-0.9
KRNR	**Karanay**	**2.08**	**96**	*e*Pg	**Pg**	13 23 09.2	-0.2
KRNR				*e*Sg	**Sb**	13 23 32.9	-0.7
GNBR	**Gunib**	**2.23**	**107**	*e*Pg	**Pn**	13 23 07.8	+1.1
GNBR				*e*Sg	**Sb**	13 23 36.5	-1.2
BUJR	**Buynaksk**	**2.23**	**96**	*e*Pg	**Pb**	13 23 09.2	-0.8
BUJR				*e*Sg	**Sb**	13 23 36.3	-1.4

*WEL **20** 13:36:27.7±0.3, 42°.5S±2°.1×17°.3E±°, h5km, M3.9/49, ML4.1/19, MLv3.9/49, Error ellipse: s-maj=0.0km s-min=0.0km az=135.3*
*NEIC **20** 13:36:27.2±1.6, 42°.51S±0°.04×173°.21E±0°.06, h15km±5km, mb4.2/6, Error ellipse: s-maj=7.8km s-min=3.6km az=121.0*

ISC 20 13:36:27.7±0.7, **42°.51S**±0°.03×**173°.19E**±0°.03, **h15**km, **n126,** σ1s**50**/128, **mb4.3**/6, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**70**		**Pg**	**13 36 33.1**	**-0.5**
KHZ	**Kahutara**	**0.27**	**70**	P	**Pg**	13 36 33.4	-0.1
KHZ				S	**Sb**	13 36 38.4	-0.3
GVZ	**Greta Valley S**	**0.47**	**194**	Pg	**Pb**	13 36 37.5	-0.3
GVZ	**Greta Valley S**	**0.47**	**194**	P	**Pb**	13 36 37.8	-0.1
GVZ				S	**Sb**	13 36 45.8	+1.2
LTZ	**Lake Taylor**	**0.73**	**248**		**Pg**	13 36 41.1	-0.9
LTZ	**Lake Taylor**	**0.73**	**248**	P	**Pg**	13 36 41.2	-0.9
LTZ				S	**Sg**	13 36 51.2	-0.5
THZ	**Tophouse**	**0.78**	**344**	Pg	**Pg**	13 36 41.1	-1.7
THZ	**Tophouse**	**0.78**	**344**	P	**Pg**	13 36 41.5	-1.3
AMCZ	**Amberley**	**0.78**	**211**	Pg	**Pb**	13 36 43.2	+0.2
AMCZ	**Amberley**	**0.78**	**211**	P	**Pb**	13 36 43.4	+0.5
BSWZ	**Blackbirch Sta**	**0.94**	**33**		**Pb**	13 36 45.2	-0.5
BSWZ	**Blackbirch Sta**	**0.94**	**33**	P	**Pg**	13 36 45.9	0.0
CMWZ	**Cape Campbell**	**1.07**	**45**	P	**Pg**	13 36 49.4	+1.0
MRNZ	**Matariki Terra**	**1.15**	**344**		**Pn**	13 36 48.4	-0.9
MRNZ	**Matariki Terra**	**1.15**	**344**	P	**Pn**	13 36 48.6	-0.8
OXZ	**Oxford**	**1.18**	**226**		**Pn**	13 36 48.5	-1.2
OXZ	**Oxford**	**1.18**	**226**	P	**Pn**	13 36 49.1	-0.6
TUWZ	**Tuamarina**	**1.21**	**28**		**Pn**	13 36 49.8	-0.3
TUWZ	**Tuamarina**	**1.21**	**28**	P	**Pb**	13 36 50.3	-0.1
OKCZ	**Okains Bay**	**1.22**	**185**	P	**Pn**	13 36 49.6	-0.6
MQZ	**McQueen's Vall**	**1.26**	**198**	Pn	**Pn**	13 36 49.3	-1.5
MQZ	**McQueen's Vall**	**1.26**	**198**	P	**Pn**	13 36 49.3	-1.5
DSZ	**Denniston Nort**	**1.28**	**306**		**Pn**	13 36 50.6	-0.5
DSZ	**Denniston Nort**	**1.28**	**306**	P	**Pn**	13 36 51.0	-0.2
NNZ	**Nelson**	**1.30**	**6**		**Pn**	13 36 50.8	-0.5
NNZ	**Nelson**	**1.30**	**6**	P	**Pn**	13 36 50.9	-0.4
INZ	**Inchbonnie**	**1.31**	**260**		**Pn**	13 36 50.8	-0.6
INZ	**Inchbonnie**	**1.31**	**260**	P	**Pn**	13 36 51.1	-0.4
AKCZ	**Akaroa Harbour**	**1.38**	**189**	P	**Pn**	13 36 51.7	-0.8
RACZ	**Rakaia**	**1.44**	**212**	P	**Pn**	13 36 52.7	-0.6
TKNZ	**Takaka Hill**	**1.48**	**353**		**Pn**	13 36 54.1	+0.2
TKNZ	**Takaka Hill**	**1.48**	**353**	P	**Pn**	13 36 54.3	+0.4
TCW	**Tory Channel**	**1.53**	**32**		**Pn**	13 36 54.4	-0.1
TCW	**Tory Channel**	**1.53**	**32**	P	**Pn**	13 36 55.0	+0.6
MHCZ	**Mount Hutt**	**1.57**	**229**	P	**Pn**	13 36 54.6	-0.5
WEL	**Wellington**	**1.70**	**44**	P	**Pn**	13 36 57.1	+0.3
WACZ	**Wakanui South**	**1.74**	**214**	P	**Pn**	13 36 56.7	-0.7
QRZ	**Quartz Range**	**1.75**	**343**	P	**Pb**	13 36 58.6	-1.0
DUWZ	**D'Urville Isla**	**1.79**	**18**	P	**Pb**	13 36 59.6	-0.6
PLWZ	**Palliser**	**1.80**	**59**		**Pn**	13 36 57.6	-0.7
PLWZ	**Palliser**	**1.80**	**59**	P	**Pn**	13 36 57.8	-0.4
MSWZ	**Moikau Station**	**1.88**	**55**	Pn	**Pn**	13 36 58.5	-0.9
MSWZ	**Moikau Station**	**1.88**	**55**	P	**Pn**	13 36 59.0	-0.4
WVZ	**Waitaha Valley**	**1.90**	**252**	P	**Pn**	13 37 00.2	+0.7
RPZ	**Rata Peaks**	**1.98**	**232**	P	**Pn**	13 37 00.3	-0.4
CAW	**Cannon Point**	**1.98**	**46**	P	**Pn**	13 37 00.7	0.0
PAWZ	**Paruwai Farm**	**2.01**	**57**	P	**Pn**	13 37 00.5	-0.7
ARCZ	**Arundel**	**2.06**	**225**	P	**Pn**	13 37 01.3	-0.6
KIW	**Kapiti Island**	**2.09**	**39**	P	**Pn**	13 37 02.6	+0.4
TRWZ	**Traveller**	**2.17**	**60**	P	**Pn**	13 37 01.5	-1.7
MTW	**Mount Morrison**	**2.19**	**53**	P	**Pn**	13 37 02.8	-0.8
GCSZ	**Gaunt Creek Bo**	**2.25**	**248**	P	**Pn**	13 37 05.2	+0.8
HOWZ	**Holdsworth Sta**	**2.37**	**48**	P	**Pn**	13 37 05.5	-0.5
TMWZ	**Te Maipa**	**2.46**	**56**	P	**Pn**	13 37 06.1	-1.1
TMZ	**Timaru**	**2.46**	**220**	P	**Pn**	13 37 06.7	-0.6
MRZ	**Mangatainoka R**	**2.57**	**45**	P	**Pn**	13 37 08.2	-0.7
FOZ	**Fox Glacier**	**2.68**	**246**	P	**Pn**	13 37 11.3	+1.0
OHWZ	**Ohakea**	**2.80**	**35**	P	**Pb**	13 37 17.4	0.0
LBZ	**Lake Benmore**	**2.88**	**228**		**Pn**	13 37 12.7	-0.5
LBZ	**Lake Benmore**	**2.88**	**228**	P	**Pn**	13 37 12.9	-0.3
WAZ	**Wanganui**	**3.06**	**27**	P	**Pb**	13 37 18.9	-3.1
NMEZ	**Namu Road**	**3.13**	**10**	P	**Pb**	13 37 21.0	-2.2
ODZ	**Otahua Downs**	**3.14**	**215**	Pn	**Pn**	13 37 15.5	-1.1
ODZ	**Otahua Downs**	**3.14**	**215**	P	**Pn**	13 37 15.6	-1.0
DVHZ	**Dannevirke**	**3.14**	**46**	P	**Pn**	13 37 15.1	-1.6
LREZ	**Lake Rotokare**	**3.18**	**17**	P	**Pn**	13 37 23.2	-0.7
TSZ	**Takapari Road**	**3.21**	**41**	P	**Pn**	13 37 17.4	-0.4
KHEZ	**Kahui Hut**	**3.27**	**11**	P	**Pn**	13 37 21.7	+3.2
NBEZ	**Newall Road No**	**3.28**	**9**	P	**Pn**	13 37 21.6	+3.0
NEZ	**North Egmont**	**3.31**	**12**	P	**Pb**	13 37 23.6	-2.5
PKE	**Pukeiti**	**3.37**	**11**	P	**Pb**	13 37 23.5	-3.6
DREZ	**Durham Road**	**3.40**	**13**	P	**Pb**	13 37 24.3	-3.4
WPHZ	**Waipukurau**	**3.46**	**46**	P	**Pn**	13 37 22.7	+1.7
MHEZ	**Mangahewa**	**3.53**	**14**	P	**Pb**	13 37 28.0	-1.9
JCZ	**Jackson Bay**	**3.58**	**243**	P	**Pn**	13 37 22.8	0.0
VRZ	**Vera Road**	**3.58**	**20**	P	**Pn**	13 37 25.0	+2.3
PKVZ	**Pokaka**	**3.60**	**28**	P	**Pn**	13 37 27.0	+3.9
MOVZ	**Moawhango**	**3.65**	**33**	P	**Pn**	13 37 26.0	+2.2
WNVZ	**Wahianoa**	**3.66**	**31**	P	**Pn**	13 37 25.4	+1.4
TRVZ	**Turoa**	**3.67**	**30**	P	**Pn**	13 37 25.6	+1.5
WHVZ	**Whangaehu Hut**	**3.70**	**30**	P	**Pn**	13 37 26.8	+2.2
FWVZ	**Far West T-bar**	**3.71**	**30**	P	**Pn**	13 37 28.5	+3.8
TUVZ	**Tukino**	**3.74**	**31**	P	**Pn**	13 37 26.4	+1.4
NGZ	**Ngauruhoe**	**3.80**	**30**	P	**Pn**	13 37 26.8	+1.0
SNVZ	**South Ngauruho**	**3.80**	**30**	P	**Pb**	13 37 30.6	-4.0
WKZ	**Wanaka**	**3.81**	**231**	Pn	**Pn**	13 37 24.9	-1.0
WKZ	**Wanaka**	**3.81**	**231**	P	**Pn**	13 37 25.0	-1.0
TWVZ	**Taurewa**	**3.83**	**27**	P	**Pb**	13 37 33.0	-2.2
NNVZ	**North Ngauruho**	**3.84**	**29**	P	**Pn**	13 37 28.1	+1.7
WTVZ	**West Tongariro**	**3.85**	**29**	P	**Pb**	13 37 32.3	-3.1
ETVZ	**East Tongariro**	**3.87**	**30**	P	**Pn**	13 37 28.3	+1.5
KAHZ	**Kahuranaki**	**3.88**	**47**	P	**Pn**	13 37 27.3	+0.4
TMVZ	**Te Maari**	**3.89**	**30**	P	**Pn**	13 37 28.0	+1.0
NTVZ	**North Tongarir**	**3.89**	**30**	P	**Pn**	13 37 31.6	+4.5
EAZ	**Earnscleugh**	**3.91**	**225**	P	**Pn**	13 37 26.3	-1.0
BKZ	**Black Stump Fm**	**4.17**	**38**	Pn	**Pn**	13 37 30.1	-0.8
BKZ	**Black Stump Fm**	**4.17**	**38**	P	**Pn**	13 37 30.4	-0.5
HIZ	**Hauiti**	**4.19**	**18**	P	**Pn**	13 37 33.1	+2.1
TUZ	**Tuapeka**	**4.29**	**215**	P	**Pn**	13 37 32.3	-0.2
MSZ	**Milford Sound**	**4.39**	**239**	P	**Pn**	13 37 32.9	-1.0
TLZ	**Tolley Road**	**4.54**	**24**	P	**Pn**	13 37 39.0	+3.1
MTHZ	**Maungataniwha**	**4.58**	**38**	P	**Pb**	13 37 42.8	-5.1
MLZ	**Mavora Lakes**	**4.65**	**230**	Pn	**Pn**	13 37 36.0	-1.3
MLZ	**Mavora Lakes**	**4.65**	**230**	P	**Pn**	13 37 36.1	-1.3
SYZ	**Scrubby Hill**	**4.96**	**214**	P	**Pn**	13 37 41.5	-0.2
TOZ	**Tahuroa Road**	**5.09**	**21**	P	**Pn**	13 37 44.4	+0.9
URZ	**Urewera**	**5.19**	**36**	P	**Pn**	13 37 46.7	+1.8
MWZ	**Matawai**	**5.32**	**40**	P	**Pn**	13 37 45.6	-1.1
AWAZ	**Awhitu Peninsu**	**5.55**	**12**	P	**Pn**	13 37 51.8	+2.1
MKAZ	**Moumakai**	**5.61**	**16**	P	**Pn**	13 37 51.7	+1.1
RUGZ	**Raukumara Rang**	**5.69**	**39**	P	**Pn**	13 37 53.2	+1.5
ETAZ	**East Tamaki Re**	**5.71**	**14**	P	**Pn**	13 37 53.7	+1.8
MBAZ	**Motutapu North**	**5.88**	**13**	P	**Pn**	13 37 56.4	+2.1
WIAZ	**Waiheke Island**	**5.90**

0.5nm,0.5s,baz=127,slow=7.2,SNR=4.8
0.5nm,0.5s
ILAR Eielson Array 67.61 336 P **P** **13 55 42.5 -1.8**
0.1nm,0.5s,baz=144,slow=7.7,SNR=2.2
0.1nm,0.5s
ASAR Alice Springs 140.36 247 PKP PKPdf 14 04 06.9 -9.2
0.6nm,1.1s,baz=106,slow=3.0,SNR=4.2
WRA Warramunga Arr 140.51 253 PKP PKPdf 14 04 07.7 -8.7
0.2nm,0.7s,baz=92,slow=2.9,SNR=1.4

IDC 20 13:48:23.0±2.1, 44°.99S×39°.97E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=64.7km s-min=38.3km az=143.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**33.58**	**203**	P	P	13 55 03.6	-0.7
	2.6nm,1.0s,baz=45,slow=5.7,SNR=5.4						
	2.6nm,1.0s						
QSPA	**South Pole Qui**	**45.22**	**180**	P	P	13 56 42.1	+0.4
	0.9nm,0.7s,baz=267,slow=2.4,SNR=8.3						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**76.32**	**110**	P	P	14 00 14.6	+0.6
	0.3nm,0.8s,baz=220,slow=5.8,SNR=2.1						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**79.16**	**107**	P	P	14 00 29.1	-0.8
	0.6nm,1.1s,baz=224,slow=5.8,SNR=2.6						
	0.6nm,1.1s						
TXAR	**Lajitas Array**	**147.39**	**254**	PKPbc	PKPbc	14 08 08.2	-0.5
	0.6nm,0.9s,baz=125,slow=4.5,SNR=4.9						

WEL 20 13:49:31.1±0.3, 42°S±3°×174°E±°, h8km±3km, M3.5/49, ML3.7/19, MLv3.5/49, Error ellipse: s-maj=0.0km s-min=0.0km az=133.3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.33**	**9**	P	Pg	13 49 38.2	+0.5
BSWZ				S	Sb	13 49 43.6	-1.2
KHZ	**Kahutara**	**0.42**	**208**	P	Pg	13 49 39.9	+0.6
CMWZ	**Cape Campbell**	**0.42**	**46**	P	Pb	13 49 40.7	-0.1
TUWZ	**Tuamarina**	**0.62**	**9**	P	Pg	13 49 43.5	+0.4
THZ	**Tophouse**	**0.73**	**292**	P	Pg	13 49 45.3	+0.1
NNZ	**Nelson**	**0.89**	**339**	P	Pg	13 49 47.9	-0.3
TCW	**Tory Channel**	**0.91**	**23**	P	Pg	13 49 48.2	-0.3
MRNZ	**Matariki Terra**	**1.02**	**309**	P	Pg	13 49 50.6	-0.1
WEL	**Wellington**	**1.05**	**44**	P	Pg	13 49 51.3	0.0
GVZ	**Greta Valley S**	**1.08**	**212**	P	Pg	13 49 51.7	-0.3
PLWZ	**Palliser**	**1.18**	**67**	P	Pg	13 49 52.4	-1.4
TKNZ	**Takaka Hill**	**1.20**	**327**	P	Pb	13 49 53.5	-0.5
DUWZ	**D'Urville Isla**	**1.25**	**4**	P	Pn	13 49 54.1	-0.7
MSWZ	**Moikau Station**	**1.25**	**60**	P	Pn	13 49 53.5	-1.4
CAW	**Cannon Point**	**1.33**	**46**	P	Pn	13 49 55.0	-1.0
LTZ	**Lake Taylor**	**1.36**	**237**	P	Pn	13 49 55.9	-0.6
PAWZ	**Paruwai Farm**	**1.38**	**62**	P	Pn	13 49 55.0	-1.7
AMCZ	**Amberley**	**1.42**	**217**	P	Pn	13 49 55.9	-1.3
KIW	**Kapiti Island**	**1.44**	**35**	P	Pn	13 49 57.0	-0.6
DSZ	**Denniston Hort**	**1.53**	**281**	P	Pb	13 49 59.0	-0.1
MTW	**Mount Morrison**	**1.55**	**56**	P	Pn	13 49 57.2	-1.8
TRWZ	**Traveller**	**1.55**	**66**	P	Pn	13 49 57.0	-2.0
QRZ	**Quartz Range**	**1.55**	**321**	P	Pn	13 49 59.5	+0.5
OGWZ	**Otaki Gorge**	**1.60**	**40**	P	Pn	13 49 58.7	-1.0
HOWZ	**Holdsworth Sta**	**1.72**	**49**	P	Pn	13 49 58.3	-3.0
OKCZ	**Okains Bay**	**1.77**	**198**	P	Pn	13 50 00.1	-1.9
TMWZ	**Te Maipa**	**1.82**	**60**	P	Pn	13 50 00.7	-2.1
OXZ	**Oxford**	**1.83**	**225**	P	Pn	13 50 01.0	-1.9
MQZ	**McQueen's Vall**	**1.86**	**207**	P	Pn	13 50 00.7	-2.6
INZ	**Inchbonnie**	**1.88**	**248**	P	Pn	13 50 03.4	-0.1
MRZ	**Mangatainoka R**	**1.92**	**44**	P	Pn	13 50 02.6	-1.5
AKCZ	**Akaroa Harbour**	**1.94**	**200**	P	Pn	13 50 02.3	-2.1
TIWZ	**Tintock**	**2.01**	**52**	P	Pn	13 50 05.4	0.0
RACZ	**Rakaia**	**2.08**	**216**	P	Pn	13 50 04.1	-2.2
PRWZ	**Pori Road**	**2.21**	**48**	P	Pn	13 50 06.1	-2.0
MHCZ	**Mount Hutt**	**2.22**	**227**	P	Pn	13 50 06.3	-2.0
BFZ	**Birch Farm**	**2.29**	**54**	P	Pn	13 50 06.7	-2.4
WACZ	**Wakanui South**	**2.38**	**217**	P	Pn	13 50 08.2	-2.2
WAZ	**Wanganui**	**2.46**	**22**	P	Pn	13 50 12.9	+1.4
DVHZ	**Dannevirke**	**2.49**	**46**	P	Pn	13 50 09.7	-2.3
WVZ	**Waitaha Valley**	**2.49**	**245**	P	Pn	13 50 11.5	-0.5
TSZ	**Takapari Road**	**2.57**	**40**	P	Pn	13 50 11.4	-1.6
LREZ	**Lake Rotokare**	**2.62**	**10**	P	Pb	13 50 17.3	-1.1
RPZ	**Rata Peaks**	**2.62**	**230**	P	Pn	13 50 12.3	-1.5
ARCZ	**Arundel**	**2.71**	**225**	P	Pn	13 50 12.9	-2.0
KHEZ	**Kahui Hut**	**2.75**	**3**	P	Pb	13 50 19.5	-1.1
NBEZ	**Newall Road No**	**2.77**	**1**	P	Pb	13 50 19.1	-1.8
NEZ	**North Egmont**	**2.78**	**5**	P	Pb	13 50 20.8	-0.4
PNHZ	**Pukenui**	**2.79**	**41**	P	Pn	13 50 14.1	-2.1
WPHZ	**Waipukurau**	**2.81**	**46**	P	Pb	13 50 20.1	-1.4
PKE	**Pukeiti**	**2.85**	**3**	P	Pb	13 50 19.9	-2.4
GCSZ	**Gaunt Creek Bo**	**2.87**	**243**	P	Pn	13 50 16.7	-0.4
DREZ	**Durham Road**	**2.87**	**6**	P	Pb	13 50 22.0	-0.6
PKVZ	**Pokaka**	**2.99**	**24**	P	Pb	13 50 22.5	-2.2
MHEZ	**Mangahewa**	**2.99**	**8**	P	Pb	13 50 24.2	-0.4
VRZ	**Vera Road**	**3.01**	**14**	P	Pn	13 50 21.5	+2.5
MOVZ	**Moawhango**	**3.02**	**30**	P	Pb	13 50 23.0	-2.2
WNVZ	**Wahianoa**	**3.04**	**27**	P	Pn	13 50 21.2	+1.6
TRVZ	**Turoa**	**3.05**	**26**	P	Pn	13 50 22.2	+2.4
WHVZ	**Whangaehu Hut**	**3.07**	**27**	P	Pn	13 50 23.2	+3.0
FWVZ	**Far West T-bar**	**3.09**	**26**	P	Pn	13 50 23.0	+2.6
TMZ	**Timaru**	**3.11**	**220**	P	Pn	13 50 18.2	-2.3
TUVZ	**Tukino**	**3.11**	**27**	P	Pn	13 50 21.3	+0.7
NGZ	**Ngauruhoe**	**3.17**	**26**	P	Pn	13 50 24.3	+2.8
NNVZ	**North Ngauruho**	**3.22**	**26**	P	Pn	13 50 25.2	+3.1
TWVZ	**Taurewa**	**3.22**	**23**	P	Pb	13 50 26.3	-2.3
ETVZ	**East Tongariro**	**3.25**	**27**	P	Pb	13 50 27.4	-1.7
TMVZ	**Te Maari**	**3.26**	**27**	P	Pn	13 50 25.6	+2.9
NTVZ	**North Tongarir**	**3.27**	**26**	P	Pb	13 50 27.2	-2.2
FOZ	**Fox Glacier**	**3.29**	**242**	P	Pn	13 50 22.3	-0.6
BKZ	**Black Stump Fm**	**3.53**	**36**	P	Pn	13 50 24.1	-2.2
LBZ	**Lake Benmore**	**3.53**	**227**	P	Pn	13 50 25.0	-1.4
HIZ	**Hauiti**	**3.62**	**13**	P	Pn	13 50 30.4	+2.9
ODZ	**Otahua Downs**	**3.78**	**216**	P	Pn	13 50 27.2	-2.5
TLZ	**Tolley Road**	**3.94**	**20**	P	Pn	13 50 34.8	+2.9
JCZ	**Jackson Bay**	**4.20**	**239**	P	Pn	13 50 34.2	-1.4
TOZ	**Tahuroa Road**	**4.50**	**17**	P	Pn	13 50 42.1	+2.5
URZ	**Urewera**	**4.55**	**35**	P	Pn	13 50 43.8	+3.5
EAZ	**Earnscleugh**	**4.56**	**224**	P	Pn	13 50 38.4	-2.0
MKAZ	**Moumakai**	**5.04**	**12**	P	Pn	13 50 48.2	+1.2
ETAZ	**East Tamaki Re**	**5.16**	**10**	P	Pn	13 50 50.8	+2.1
MLZ	**Mavora Lakes**	**5.29**	**229**	P	Pn	13 50 47.9	-2.6

*HVO **20** 13:50:57.4±1.4, 19°.42N±0°.02×154°.96W±0°.02, h2km±9km, ML2.5/4, ML2.4/38(NEIC), Error ellipse: s-maj=3.2km s-min=2.3km az=85.0*

NEIC 20 13:50:56.1±0.8, 19°.41N±0°.05×154°.92W±0°.06, h19km±4km, Error ellipse: s-maj=8.8km s-min=7.1km az=75.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.08**	**287**		Pg	13 50 59.8	-0.1
JCUZ	**Jacuzzi**	**0.17**	**262**		Pg	13 51 00.8	-0.1
JCUZ	**Jacuzzi**	**0.17**	**262**	IAML		13 51 03.7	
	comp=N,923nm,0.7s						
JCUZ				IAML		13 51 03.9	
	comp=E,690nm,0.4s						
NPOC	**North of Pu'u**	**0.18**	**265**		Pg	13 51 00.9	-0.1
NPOC					Sg	13 51 03.6	-0.6
NPOC	**North of Pu'u**	**0.18**	**265**	IAML		13 51 04.0	
	comp=E,834nm,0.6s						
NPOC				IAML		13 51 04.1	
	comp=N,1μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.24**	**263**		Pg	13 51 01.8	-0.1
PUH	**Pauahi**	**0.28**	**263**	Pg	Pg	13 51 02.5	-0.1
HATHI	**Halema'uma'u T**	**0.32**	**273**		Pg	13 51 03.2	0.0
HATHI					Sg	13 51 07.7	-0.3
HATHI	**Halema'uma'u T**	**0.32**	**273**	IAML		13 51 08.2	
	comp=E,503nm,1.8s						
HATHI				IAML		13 51 10.6	
	comp=N,586nm,0.8s						
KKO	**Keanakako'i**	**0.33**	**268**	Pg	Pg	13 51 02.6	-0.7
KKO				IAML		13 51 04.0	
	comp=E,562nm,1.5s						
SBLHI	**Steaming Bluff**	**0.33**	**273**		Pg	13 51 03.3	-0.1
SBLHI	**Steaming Bluff**	**0.33**	**273**	IAML		13 51 03.7	
	comp=N,426nm,0.9s						
SBLHI				IAML		13 51 08.4	
	comp=E,333nm,0.6s						
RIM	**Rim**	**0.33**	**268**	Pg	Pg	13 51 02.7	-0.8
RIM				IAML		13 51 06.1	
	comp=N,763nm,1.4s						
RIM				IAML		13 51 09.1	
	comp=E,462nm,1.1s						
UWB	**Uwekahuna B**	**0.34**	**273**	Pg	Pg	13 51 03.2	-0.3
UWE	**Uwekahuna**	**0.35**	**272**	Pg	Pg	13 51 03.0	-0.7
SDHHI	**Sand Hill**	**0.35**	**267**	Pg	Pg	13 51 03.3	-0.4
SDHHI				IAML		13 51 04.8	
	comp=E,478nm,0.8s						
SDHHI				IAML		13 51 07.5	
	comp=N,572nm,1.7s						
HLP	**Hilina Pali**	**0.38**	**253**		Sb	13 51 11.3	+1.3
HLP	**Hilina Pali**	**0.38**	**253**		Pg	13 51 04.1	-0.1
HLP				IAML		13 51 08.0	
	comp=N,364nm,2.1s						
HLP				IAML		13 51 10.0	
	comp=E,532nm,2.8s						
MLH	**Mauna Loa**	**0.45**	**281**		Pb	13 51 06.0	+0.3
MLH	**Mauna Loa**	**0.45**	**281**	IAML		13 51 13.1	
	comp=E,236nm,1.1s						
MLH				IAML		13 51 17.7	
	comp=N,289nm,0.8s						
HTC	**Hot Caves**	**0.48**	**249**		Pb	13 51 06.9	+0.9
AIN	**Ainahou**	**0.51**	**266**		Pb	13 51 07.0	+0.5
AIN					Sb	13 51 14.8	+1.1
AIN	**Ainahou**	**0.51**	**266**	IAML		13 51 15.0	
	comp=N,479nm,2.4s						
AIN				IAML		13 51 17.8	
	comp=E,254nm,0.3s						
HMH	**Humu'ula Sheep**	**0.56**	**290**		Pg	13 51 08.2	+0.6
HMH					Sg	13 51 15.8	+0.5
HMH	**Humu'ula Sheep**	**0.56**	**290**	IAML		13 51 21.8	
	comp=E,315nm,1.1s						
HMH				IAML		13 51 21.9	
	comp=N,302nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.63**	**282**	Pg	Pb	13 51 08.7	0.0
MLOA				IAML		13 51 13.9	
	comp=N,260nm,3.6s						
MLOA				IAML		13 51 14.9	
	comp=E,256nm,3.9s						
MWH	**Moku'aweowe**	**0.64**	**277**		Pb	13 51 09.0	0.0
MWH	**Moku'aweowe**	**0.64**	**277**	IAML		13 51 12.9	
	comp=N,315nm,2.7s						
MWH				IAML		13 51 26.9	
	comp=E,321nm,2.3s						
POHA	**Pohakuloa**	**0.67**	**301**	Pg	Pb	13 51 09.2	-0.1
POHA				IAML		13 51 17.1	
	comp=E,204nm,2.9s						
POHA				IAML		13 51 26.8	
	comp=E,217nm,2.5s						
KHU	**Kahuku**	**0.68**	**256**	Pg	Pb	13 51 09.3	-0.1
HPO	**Honuapo**	**0.68**	**242**		Pb	13 51 09.1	-0.2
ALEP	**Alea Permanent**	**0.69**	**281**		Pg	13 51 09.9	0.0
ALEP					Sg	13 51 19.6	+0.2
HUH	**Hualalai**	**0.91**	**288**	Pg	Pb	13 51 13.6	+0.2

*IDC **20** 13:52:34.8±0.8, 44°.18S×39°.27E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=28.0km s-min=24.5km az=39.0*

*NEIC **20** 13:52:36.5±1.2, 44°.25S±0°.08×39°.4E±0°.2, h10km±1km, mb4.6/11, Error ellipse: s-maj=23.6km s-min=11.5km az=292.0*

ISC 20 13:52:36.2±0.6, 44°.2S±0°.1×39°.3E±0°.1, h10km, n25, σ0s98/23, mb4.3/9, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POGA	**Pongola**	**17.92**	**338**	P	**P**	**13 56 46.8**	**+0.7**
POGA				IAmb	IAmb	13 57 19.8	
	comp=Z,32nm,1.5s						
LBTB	**Lobatse**	**22.18**	**325**	P	**P**	**13 57 31.5**	**-1.1**
	comp=Z,4.5nm,1.0s,baz=131,slow=9.3,SNR=2.4						
	comp=Z,4.5nm,1.0s						
LBTB	**Lobatse**	**22.18**	**325**	P	**P**	**13 57 31.7**	**-0.9**
LBTB				IAmb	IAmb	13 58 05.1	
	comp=Z,13nm,1.0s						
SNAA	**Sanae**	**34.10**	**202**	P	**P**	**13 59 21.2**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=64,slow=6.4,SNR=10						
	comp=Z,3.0nm,0.8s						
SNAA	**Sanae**	**34.10**	**202**	P	**P**	**13 59 20.8**	**+0.3**
BELA	**Belgrano 2**	**43.82**	**197**	P	**P**	**14 00 41.5**	**-0.3**
QSPA	**South Pole Qui**	**45.98**	**180**	P	**P**	**14 00 59.1**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=74,slow=1.3,SNR=7.9						
	comp=Z,1.8nm,0.9s						
QSPA	**South Pole Qui**	**45.98**	**180**	P	**P**	**14 00 58.9**	**-0.4**
QSPA				IAmb	IAmb	14 01 39.1	
	comp=Z,10nm,1.4s						
SBA	**Scott Base**	**54.08**	**168**	P	**P**	**14 02 00.7**	**+0.3**
SBA				IAmb	IAmb	14 02 35.3	
	comp=Z,23nm,1.4s						
H10S2	**ASCENSION HYDR**	**58.29**	**290**	T	T	15 05 48.3	
	baz=135,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**58.30**	**290**	T	T	15 05 48.7	
	baz=85,slow=74,SNR=32						
NWAO	**Narrogin (SRO)**	**59.84**	**108**	P	**P**	**14 02 42.5**	**+0.6**
DBIC	**Dimbokro**	**64.39**	**310**	P	**P**	**14 03 13.2**	**+0.7**
STKA	**Stephens Creek**	**76.41**	**121**	P	**P**	**14 04 26.7**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=195,slow=4.8,SNR=8.7						
	comp=Z,2.9nm,0.8s						
STKA	**Stephens Creek**	**76.41**	**121**	P	**P**	**14 04 25.1**	**-0.8**
ASAR	**Alice Springs**	**77.03**	**110**	P	**P**	**14 04 30.3**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=217,slow=5.3,SNR=18						
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**77.03**	**110**	P	**P**	**14 04 29.1**	**-0.5**
WRA	**Warramunga Arr**	**79.85**	**108**	P	**P**	**14 04 45.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=222,slow=4.2,SNR=9.3						
	comp=Z,1.3nm,0.8s						
WRA	**Warramunga Arr**	**79.85**	**108**	P	**P**	**14 04 43.2**	**-2.0**
WB2	**Warramunga Arr**	**79.86**	**108**	P	**P**	**14 04 43.1**	**-2.2**
WB2				IAmb	IAmb	14 05 23.8	
	comp=Z,16nm,1.4s						
CMAR	**Chiang Mai Arr**	**82.76**	**56**	P	**P**	**14 05 01.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=202,slow=4.7,SNR=1.1						
	comp=Z,0.2nm,0.5s						
TXAR	**Lajitas Array**	**147.12**	**256**	PKPbc	**PKPbc**	**14 12 19.2**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=134,slow=6.3,SNR=18						
ECSD	**EROS Data Cent**	**148.55**	**285**		**PKPbc**	**14 12 22.1**	**-0.7**
ULM	**Lac du Bonnet**	**149.34**	**297**	PKPbc	**PKPbc**	**14 12 23.1**	**-1.5**
	comp=Z,5.9nm,0.8s,baz=305,slow=1.8,SNR=6.1						
PDAR	**Pinedale Array**	**157.42**	**277**	PKPab	**PKPab**	**14 13 05.2**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=109,slow=8.0,SNR=4.1						

*IDC **20** 13:53:01.8±0.9, 44°.18S×39°.32E, h0km, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=29.9km s-min=24.5km az=68.0*

*NEIC **20** 13:53:04.0±1.8, 44°.23S±0°.10×39°.3E±0°.2, h13km±3km, mb4.6/33, Error ellipse: s-maj=17.3km s-min=13.5km az=77.0*

*GCMT **20** 13:53:04.0±0.5, 44°.00S±0°.03×39°.21E±0°.08, h21km±1km, MW4.8/76, Moment Tensor Solution. s8,c9; s76,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.74±.26; Mθθ2.03±.15; Mφφ0.71±.14; Mrθ0.08±.22; Mφφ-0.21±.07; Mφr0.17±.36; Best double couple: M◎2.40600×10^16 NP1:φs102.00000°,δ46.00000°,λ-94.00000°. NP2: φs102.00000°,δ44.00000°,λ-86.00000°. Principal axes: T 2.0630, Plg1.0000°, Azm9.0000°; N 0.6900, Plg3.0000°, Azm279.0000°; P -2.7500, Plg87.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 13:53:03.1±0.4, 44°.20S±0°.08×39°.3E±0°.1, h10km, n47, σ1s09/45, mb4.5/19, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOE	**Somerset East**	**15.71**	**312**	Pn	**Pn**	**13 56 45.5**	**+1.1**
SOE				IAmb	IAmb	13 56 54.5	
	comp=Z,47nm,0.8s						
POGA	**Pongola**	**17.90**	**337**		**Pn**	**13 57 12.2**	**+0.1**
BOSA	**Boshof**	**19.19**	**319**	P	**P**	**13 57 27.7**	**+0.7**
LBTB	**Lobatse**	**22.16**	**325**	P	**P**	**13 58 00.2**	**+1.0**
	comp=Z,5.3nm,0.8s,baz=167,slow=10,SNR=5.8						
	comp=Z,5.3nm,0.8s						
LBTB	**Lobatse**	**22.16**	**325**	P	**P**	**13 57 57.0**	**-2.3**
ABPO	**Ambohimpanom**	**25.97**	**17**	P	**P**	**13 58 33.5**	**-2.5**
ABPO				IAmb	IAmb	13 58 55.8	
	comp=Z,20nm,1.4s						
TSUM	**Tsumeb**	**30.84**	**317**	P	**P**	**13 59 17.7**	**-1.8**
TSUM				IAmb	IAmb	13 59 21.6	
	comp=Z,9.8nm,1.4s						
SNAA	**Sanae**	**34.13**	**202**	P	**P**	**13 59 48.1**	**+0.4**
	comp=Z,3.9nm,1.1s,baz=40,slow=8.2,SNR=4.2						
SNAA	**Sanae**	**34.13**	**202**	P	**P**	**13 59 45.4**	**-2.4**
SNAA				IAmb	IAmb	13 59 58.9	
	comp=Z,11nm,1.2s						
KMBO	**Kilima Mbogo**	**42.92**	**357**	P	**P**	**14 01 03.7**	**+1.4**
CASY	**Casey**	**43.20**	**146**	P	**P**	**14 01 03.9**	**+0.2**
CASY				IAmb	IAmb	14 01 30.1	
	comp=Z,21nm,1.2s						
BELA	**Belgrano 2**	**43.86**	**197**	P	**P**	**14 01 09.3**	**+0.4**
BELA				IAmb	IAmb	14 01 21.6	
	comp=Z,10.0nm,1.4s						
QSPA	**South Pole Qui**	**46.01**	**180**	P	**P**	**14 01 27.2**	**+0.8**
	comp=Z,2.2nm,1.0s,baz=259,slow=3.5,SNR=6.1						
	comp=Z,2.2nm,1.0s						
QSPA	**South Pole Qui**	**46.01**	**180**	P	**P**	**14 01 26.2**	**-0.2**
QSPA				IAmb	IAmb	14 01 45.6	
	comp=Z,8.0nm,1.2s						
VNDA	**Vanda**	**53.56**	**167**	P	**P**	**14 02 23.3**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=276,slow=4.7,SNR=4.6						
	comp=Z,0.8nm,0.9s						
VNDA	**Vanda**	**53.56**	**167**	P	**P**	**14 02 23.4**	**-0.1**
VNDA				IAmb	IAmb	14 02 38.9	
	comp=Z,7.4nm,1.4s						
SBA	**Scott Base**	**54.10**	**168**	P	**P**	**14 02 29.1**	**+1.7**
MORW	**Morawa**	**61.29**	**104**	P	**P**	**14 03 18.2**	**-0.5**
GIRL	**Giralia**	**63.97**	**97**	P	**P**	**14 03 34.0**	**-2.6**
TOO	**Toolangi**	**74.78**	**128**	P	**P**	**14 04 41.8**	**-1.6**
STKA	**Stephens Creek**	**76.41**	**121**	P	**P**	**14 04 53.1**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=186,slow=5.3,SNR=6.5						
	comp=Z,1.8nm,0.6s						
STKA	**Stephens Creek**	**76.41**	**121**	P	**P**	**14 04 53.5**	**+0.8**
CPUP	**Villa Florida**	**76.60**	**246**	P	**P**	**14 04 54.6**	**+0.7**
CPUP				IAmb	IAmb	14 04 59.1	
	comp=Z,6.6nm,1.3s						
ASAR	**Alice Springs**	**77.02**	**110**	P	**P**	**14 04 57.5**	**+1.1**
	comp=Z,4.9nm,1.1s,baz=216,slow=5.6,SNR=7.2						
	comp=Z,4.9nm,1.1s						
ASAR	**Alice Springs**	**77.02**	**110**	P	**P**	**14 04 56.4**	**-0.1**
AS31	**Alice Springs**	**77.03**	**110**	P	**P**	**14 04 56.8**	**+0.4**
SBUM	**Sibu**	**79.53**	**76**	P	**P**	**14 05 11.4**	**+1.2**
WRA	**Warramunga Arr**	**79.84**	**108**	P	**P**	**14 05 12.5**	**+0.5**
	comp=Z,2.2nm,1.1s,baz=226,slow=4.8,SNR=7.0						
	comp=Z,2.2nm,1.1s						
WRA	**Warramunga Arr**	**79.84**	**108**	P	**P**	**14 05 11.6**	**-0.4**
WRAB	**Tennant Creek**	**79.86**	**108**	P	**P**	**14 05 12.9**	**+0.8**
WRAB				IAmb	IAmb	14 05 48.3	
	comp=Z,6.4nm,0.9s						
WB0	**Warramunga Arr**	**80.00**	**108**	P	**P**	**14 05 13.4**	**+0.5**
WB0				IAmb	IAmb	14 05 16.1	
	comp=Z,16nm,1.4s						
CO01	**Juntas del Tor**	**82.07**	**236**	P	**P**	**14 05 23.8**	**-0.2**
CO01				IAmb	IAmb	14 05 30.7	
	comp=Z,9.1nm,1.2s						
GO04	**Tololo Observa**	**82.34**	**235**	P	**P**	**14 05 25.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**82.73**	**56**	P	**P**	**14 05 26.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=251,slow=4.4,SNR=4.4						
	comp=Z,0.5nm,0.7s						
CHTO	**Chiang Mai**	**83.00**	**55**	P	**P**	**14 05 28.0**	**-0.6**
CHTO				IAmb	IAmb	14 05 41.5	
	comp=Z,5.3nm,1.2s						
NIL	**Nilore**	**83.42**	**28**	P	**P**	**14 05 31.1**	**+0.8**
PHRA	**Phrae**	**83.53**	**57**	P	**P**	**14 05 31.9**	**+0.6**
BRTR	**Keskin Array B**	**83.70**	**356**	P	**P**	**14 05 32.5**	**+0.7**
AC02	**Maricunga**	**83.77**	**239**	P	**P**	**14 05 33.2**	**0.0**
PTLB	**Pontes e Lacer**	**85.30**	**253**	P	**P**	**14 05 39.7**	**-0.7**
PTLB				IAmb	IAmb	14 05 51.3	
	comp=Z,10nm,1.5s						
FNA	**Florina**	**86.12**	**346**	P	**P**	**14 05 44.9**	**+1.0**
LVC	**Limon Verde**	**86.69**	**242**	P	**P**	**14 05 48.7**	**+1.0**
LVC				IAmb	IAmb	14 05 58.3	
	comp=Z,5.0nm,1.0s						
DZM	**Mont Dzumac**	**98.23**	**132**	*e*LR	LR	14 39 06.7	
	comp=Z,266nm,27.9s						
PPT2	**Papeete2**	**117.98**	**170**	*e*LR	LR	14 48 12.5	
	comp=Z,150nm,33.2s						
PPT2				*e*LR	LR	14 48 12.7	
	comp=Z,76nm,23.0s						
TXAR	**Lajitas Array**	**147.15**	**256**	PKPbc	**PKPbc**	**14 12 46.3**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=134,slow=5.4,SNR=7.2						
ULM	**Lac du Bonnet**	**149.35**	**297**	PKPbc	**PKPbc**	**14 12 50.0**	**-1.4**
	comp=Z,5.7nm,1.0s,baz=300,slow=6.0,SNR=3.0						
A36M	**Sachs Harbour**	**151.16**	**350**		**PKPbc**	**14 12 55.5**	**+0.4**

*NNC **20** 13:55:05.2±1.8, 37°.67N×71°.22E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=22.7km s-min=12.6km az=95.0*

ISC 20 13:54:59.5±3.5, 37°.4N±0°.2×72°.1E±0°.1, h10km, n4, σ3s32/8, 4C-2D, Tajikistan

| Code | Station Name | Δ

ISC 20 14:08:28.6±1.0, 6°46'S±0.08×152°4'E±0.2, h23km, n10, σ1°17/9, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.17**	**351**	Pn	**Pn**	**14 09 02.5**	**-0.8**
	243nm,0.4s,baz=262,slow=1.9,SNR=57						
KRVT				Sn	**Sn**	**14 09 30.0**	**+0.5**
	80nm,0.3s,baz=180,slow=20,SNR=8.3						
PMG	**Port Moresby**	**5.94**	**240**	Pn	**Pn**	**14 09 55.0**	**-0.3**
	1.7nm,0.3s,baz=48,slow=14,SNR=2.5						
PMG				Sn	Sn	14 10 52.2	-10
	5.6nm,0.3s,baz=120,slow=20,SNR=7.0						
PMG				LR	LR	14 12 08.9	
	comp=Z,93nm,19.9s,baz=232,slow=38 7.6nm,0.3s						
HNR	**Honiara**	**8.06**	**112**	LR	LR	14 12 55.3	
	comp=Z,804nm,18.9s,baz=268,slow=33						
DZM	**Mont Dzumac**	**20.63**	**140**	P	**P**	**14 13 05.9**	**-0.9**
	12nm,1.0s,baz=306,slow=18,SNR=3.2 12nm,1.0s						
WRA	**Warramunga Arr**	**22.06**	**231**	P	**P**	**14 13 20.9**	**-1.1**
	1.8nm,0.9s,baz=54,slow=10,SNR=7.7						
WRA				PcP	**PcP**	**14 17 21.8**	**+2.1**
	0.4nm,1.0s,baz=49,slow=2.2,SNR=2.1 1.8nm,0.9s						
ASAR	**Alice Springs**	**24.66**	**224**	P	**P**	**14 13 48.3**	**+0.4**
	1.4nm,0.8s,baz=58,slow=8.5,SNR=27 1.4nm,0.8s						
SONM	**Songino Array**	**67.50**	**328**	P	**P**	**14 19 22.5**	**-0.5**
	0.3nm,0.4s,baz=124,slow=8.9,SNR=2.4 0.3nm,0.4s						
ILAR	**Eielson Array**	**83.84**	**22**	P	**P**	**14 20 56.6**	**+0.6**
	0.6nm,0.9s,baz=245,slow=5.2,SNR=4.7 0.6nm,0.9s						
YBH	**Yreka Blue Hor**	**90.47**	**48**	LR	LR	14 52 09.3	
	comp=Z,87nm,20.9s,baz=196,slow=29						
NEW	**Newport**	**95.10**	**42**	LR	LR	14 56 50.2	
	comp=Z,124nm,20.3s,baz=172,slow=30						

MAN 20 14:11:05.2, 17°93N×121°10E, h76km, mb4.0, ML2.8, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACPP	**Pamplona Cagay**	**0.58**	**25**	*iP*	Pn	14 11 21.2	+1.9
PACPP				*i* S	Sn	14 11 33.0	+3.3

WEL 20 14:18:52.8±0.3, 42°S±2°×17°4E±°, h7km±3km, M3.2/26, ML3.4/20, MLv3.2/26, Error ellipse: s-maj=0.0km s-min=0.0km az=137.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.09**	**229**	P	Pg	14 18 55.1	+0.2
CMWZ				S	Sg	14 18 57.9	+1.5
BSWZ	**Blackbirch Sta**	**0.32**	**266**	P	Pg	14 18 59.5	+0.4
BSWZ				S	Sb	14 19 05.2	-1.1
TUWZ	**Tuamarina**	**0.38**	**314**	P	Pg	14 19 00.9	+0.7
TUWZ				S	Sb	14 19 07.3	-0.5
TCW	**Tory Channel**	**0.48**	**358**	P	Pg	14 19 02.7	+0.6
WEL	**Wellington**	**0.54**	**41**	P	Pb	14 19 04.1	-0.4
PLWZ	**Palliser**	**0.72**	**81**	P	Pb	14 19 07.9	+0.2
MSWZ	**Moikau Station**	**0.76**	**69**	P	Pb	14 19 08.3	-0.1
CAW	**Cannon Point**	**0.82**	**45**	P	Pb	14 19 09.0	-0.4
NNZ	**Nelson**	**0.84**	**304**	P	Pg	14 19 09.1	+0.1
PAWZ	**Paruwai Farm**	**0.90**	**70**	P	Pb	14 19 10.6	-0.1
KHZ	**Kahutara**	**0.92**	**218**	P	Pg	14 19 10.0	-0.4
DUWZ	**D'Urville Isla**	**0.94**	**342**	P	Pb	14 19 11.1	-0.2
KIW	**Kapiti Island**	**0.95**	**29**	P	Pg	14 19 11.1	+0.1
MTW	**Mount Morrison**	**1.05**	**60**	P	Pg	14 19 12.8	-0.1
THZ	**Tophouse**	**1.05**	**266**	P	Pg	14 19 13.0	+0.1
TRWZ	**Traveller**	**1.08**	**75**	P	Pg	14 19 12.7	-0.9
OGWZ	**Otaki Gorge**	**1.09**	**37**	P	Pg	14 19 13.7	-0.1
MRNZ	**Matariki Terra**	**1.20**	**284**	P	Pn	14 19 15.9	0.0
TKNZ	**Takaka Hill**	**1.21**	**303**	P	Pg	14 19 15.4	-0.5
HOWZ	**Holdsworth Sta**	**1.21**	**49**	P	Pg	14 19 15.2	-0.8
TMWZ	**Te Maipa**	**1.33**	**64**	P	Pn	14 19 16.4	-1.4
MRZ	**Mangatainoka R**	**1.41**	**43**	P	Pn	14 19 18.2	-0.7
TIWZ	**Tintock**	**1.50**	**53**	P	Pn	14 19 19.0	-1.2
GVZ	**Greta Valley S**	**1.58**	**216**	P	Pn	14 19 19.8	-1.5
QRZ	**Quartz Range**	**1.59**	**302**	P	Pb	14 19 22.2	-0.3
OHWZ	**Ohakea**	**1.67**	**28**	P	Pb	14 19 24.4	+0.5
PRWZ	**Pori Road**	**1.70**	**49**	P	Pn	14 19 21.8	-1.0
AMCZ	**Amberley**	**1.92**	**219**	P	Pg	14 19 30.5	+0.8
OKCZ	**Okains Bay**	**2.23**	**204**	P	Pn	14 19 27.6	-2.5
OXZ	**Oxford**	**2.34**	**225**	P	Pg	14 19 37.3	-0.3
MQZ	**McQueen's Vall**	**2.35**	**211**	P	Pn	14 19 28.9	-2.9
WACZ	**Wakanui South**	**2.89**	**218**	P	Pn	14 19 37.0	-2.2
WVZ	**Waitaha Valley**	**2.98**	**241**	P	Pb	14 19 44.8	-1.3
RPZ	**Rata Peaks**	**3.13**	**229**	P	Pn	14 19 40.6	-2.0
GCSZ	**Gaunt Creek Bo**	**3.36**	**240**	P	Pb	14 19 49.7	-2.9
TMZ	**Timaru**	**3.62**	**221**	P	Pn	14 19 47.0	-2.2
ODZ	**Otahua Downs**	**4.28**	**217**	P	Pn	14 19 55.4	-2.9
JCZ	**Jackson Bay**	**4.70**	**238**	P	Pn	14 20 06.3	+2.1

KRSC 20 14:22:05.7±0.6, 49°13N×156°15E, h34km±8km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.55**	**359**	P	Pn	14 22 32.1	+1.2
SKR				S	Sb	14 22 51.9	-1.3
MTVR	**Mutnovka**	**3.59**	**20**	P	Pn	14 23 03.6	+4.5
MTVR				S	Sn	14 23 45.6	+5.2
RUS	**Russkaya**	**3.63**	**23**	P	Pn	14 23 03.8	+4.4
RUS				S	Sn	14 23 46.0	+5.0
GRL	**Gorelyy**	**3.63**	**19**	P	Pn	14 23 04.1	+4.4
GRL				S	Sn	14 23 46.9	+5.5
PET	**Petropavlovsk**	**4.20**	**21**	P	Pn	14 23 11.8	+4.5
PET				S	Sn	14 24 00.6	+5.4
DALK	**Dalny**	**4.24**	**22**	P	Pn	14 23 12.5	+4.7
DALK				S	Sn	14 24 01.0	+5.1
AVH	**Avacha**	**4.45**	**20**	P	Pn	14 23 15.3	+4.5
SMAR	**Somma**	**4.46**	**21**	P	Pn	14 23 15.7	+4.6
KBTR	**Krutoberegovo**	**8.16**	**27**	P	Pn	14 24 06.7	+5.1

*NOU **20** 14:32:39.4, 42°41S×174°02E, h6km, MLv3.9/8, Off E. Coast of S. Island, N.Z.*
*NEIC **20** 14:32:40.4±1.1, 42°26S±0°03×173°88E±0°05, h16km±5km, mb4.4/5, Error ellipse: s-maj=6.1km s-min=3.4km az=134.0*
*WEL **20** 14:32:40.9±0.5, 42°S±3°×17°4E±°, h5km, M3.5/42, ML3.8/13, MLv3.5/42, Error ellipse: s-maj=0.0km s-min=0.0km az=123.3*

ISC 20 14:32:39.5±1.1, 42°33S±0°03×173°96E±0°03, h13km±8km, n104, σ1°22/110, mb4.8/3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.32**	**255**	Pg	**Pg**	**14 32 46.8**	**+0.7**
KHZ				Sg	**Sg**	**14 32 50.8**	**+0.3**
KHZ	**Kahutara**	**0.32**	**255**	P	**Pg**	**14 32 46.8**	**+0.7**
KHZ	**Kahutara**	**0.32**	**255**	P	**Pg**	**14 32 46.8**	**+0.7**
KHZ				S	**Sb**	**14 32 51.8**	**-0.5**
CMWZ	**Cape Campbell**	**0.61**	**18**	P	**Pb**	**14 32 53.1**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.62**	**354**		**Pg**	**14 32 51.5**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.62**	**354**	P	**Pg**	**14 32 51.7**	**+0.1**
BSWZ				S	**Sb**	**14 33 01.4**	**+0.7**
TUWZ	**Tuamarina**	**0.90**	**359**		**Pg**	**14 32 56.8**	**-0.1**
TUWZ	**Tuamarina**	**0.90**	**359**	P	**Pg**	**14 32 57.1**	**+0.2**
GVZ	**Greta Valley S**	**0.93**	**227**	Pg	**Pn**	**14 32 58.6**	**+0.3**
GVZ	**Greta Valley S**	**0.93**	**227**	P	**Pn**	**14 32 58.9**	**+0.6**
THZ	**Tophouse**	**0.97**	**306**		**Pg**	**14 32 57.4**	**-0.9**
THZ				Sg	**Sg**	**14 33 08.8**	**-2.0**
THZ	**Tophouse**	**0.97**	**306**	P	**Pg**	**14 32 57.6**	**-0.6**
THZ				S	**Sg**	**14 33 10.1**	**-0.8**
TCW	**Tory Channel**	**1.15**	**12**		**Pb**	**14 33 00.8**	**-0.3**
TCW				Sg	**Sb**	**14 33 14.3**	**-1.6**
TCW	**Tory Channel**	**1.15**	**12**	P	**Pb**	**14 33 01.2**	**0.0**
SNZO	**South Karori**	**1.16**	**29**		**Pb**	**14 33 01.5**	**+0.1**
SNZO	**South Karori**	**1.16**	**29**	P	**Pb**	**14 33 01.8**	**+0.4**
NNZ	**Nelson**	**1.19**	**339**		**Pn**	**14 33 01.3**	**-0.6**
NNZ	**Nelson**	**1.19**	**339**	P	**Pn**	**14 33 01.6**	**-0.3**
WEL	**Wellington**	**1.21**	**30**	P	**Pn**	**14 33 02.4**	**+0.3**
PLWZ	**Palliser**	**1.23**	**52**	P	**Pn**	**14 33 02.6**	**+0.1**
AMCZ	**Amberley**	**1.28**	**228**	P	**Pb**	**14 33 04.0**	**+0.5**
MRNZ	**Matariki Terra**	**1.29**	**316**		**Pn**	**14 33 03.5**	**+0.2**
MRNZ	**Matariki Terra**	**1.29**	**316**	P	**Pb**	**14 33 03.9**	**+0.2**
LTZ	**Lake Taylor**	**1.33**	**250**		**Pn**	**14 33 04.0**	**+0.2**
LTZ	**Lake Taylor**	**1.33**	**250**	P	**Pn**	**14 33 04.2**	**+0.4**
MSWZ	**Moikau Station**	**1.33**	**47**	Pn	**Pn**	**14 33 03.5**	**-0.2**
MSWZ	**Moikau Station**	**1.33**	**47**	P	**Pn**	**14 33 03.8**	**0.0**
PAWZ	**Paruwai Farm**	**1.45**	**50**	P	**Pn**	**14 33 05.2**	**-0.2**
CAW	**Cannon Point**	**1.48**	**35**	P	**Pn**	**14 33 06.0**	**+0.2**
TKNZ	**Takaka Hill**	**1.50**	**330**	P	**Pn**	**14 33 06.9**	**+0.8**
DUWZ	**D'Urville Isla**	**1.53**	**359**	P	**Pn**	**14 33 07.2**	**+0.7**
OKCZ	**Okains Bay**	**1.54**	**205**	P	**Pn**	**14 33 07.0**	**+0.3**
TRWZ	**Traveller**	**1.59**	**55**	P	**Pn**	**14 33 07.3**	**-0.1**
KIW	**Kapiti Island**	**1.63**	**26**	P	**Pn**	**14 33 08.4**	**+0.4**
MTW	**Mount Morrison**	**1.65**	**45**	P	**Pn**	**14 33 07.9**	**-0.2**
MQZ	**McQueen's Vall**	**1.68**	**214**	P	**Pn**	**14 33 08.1**	**-0.4**
DSZ	**Denniston Nort**	**1.71**	**289**	P	**Pb**	**14 33 10.6**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.72**	**206**	P	**Pn**	**14 33 09.7**	**+0.5**
OXZ	**Oxford**	**1.73**	**234**	P	**Pn**	**14 33 09.2**	**-0.1**
OGWZ	**Otaki Gorge**	**1.77**	**31**	P	**Pn**	**14 33 09.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.85**	**40**	P	**Pn**	**14 33 11.0**	**+0.1**
QRZ	**Quartz Range**	**1.85**	**324**		**Pn**	**14 33 12.1**	**+1.2**
QRZ	**Quartz Range**	**1.85**	**324**	P	**Pb**	**14 33 12.7**	**-0.4**
QRZ	**Quartz Range**	**1.85**	**324**	P	**Pb**	**14 33 12.5**	**-0.7**
TMWZ	**Te Maipa**	**1.89**	**50**	P	**Pn**	**14 33 11.2**	**-0.4**
INZ	**Inchbonnie**	**1.90**	**257**		**Pn**	**14 33 12.2**	**+0.5**
INZ	**Inchbonnie**	**1.90**	**257**	P	**Pn**	**14 33 12.4**	**+0.8**
RACZ	**Rakaia**	**1.93**	**223**	P	**Pn**	**14 33 11.9**	**-0.1**
MRZ	**Mangatainoka R**	**2.06**	**37**	Pn	**Pn**	**14 33 13.5**	**-0.4**
MRZ	**Mangatainoka R**	**2.06**	**37**	P	**Pn**	**14 33 13.7**	**-0.2**
MHCZ	**Mount Hutt**	**2.13**	**235**	P	**Pn**	**14 33 14.4**	**-0.4**
WACZ	**Wakanui South**	**2.24**	**223**	P	**Pn**	**14 33 16.1**	**-0.1**
PRWZ	**Pori Road**	**2.33**	**41**	P	**Pg**	**14 33 24.6**	**+0.4**
OHWZ	**Ohakea**	**2.36**	**26**	P	**Pn**	**14 33 19.5**	**+1.6**
WVZ	**Waitaha Valley**	**2.49**	**252**	P	**Pn**	**14 33 20.6**	**+0.9**
RPZ	**Rata Peaks**	**2.54**	**236**	Pn	**Pn**	**14 33 20.4**	**0.0**
RPZ	**Rata Peaks**	**2.54**	**236**	P	**Pn**	**14 33 20.4**	**0.0**
RPZ	**Rata Peaks**	**2.54**	**236**	P	**Pn**	**14 33 20.5**	**0.0**
ARCZ	**Arundel**	**2.60**	**231**	P	**Pn**	**14 33 21.7**	**+0.4**
WAZ	**Wanganui**	**2.69**	**17**	P	**Pn**	**14 33 24.4**	**+2.0**
GCSZ	**Gaunt Creek Bo**	**2.85**	**249**	P	**Pn**	**14 33 26.1**	**+1.4**
LREZ	**Lake Rotokare**	**2.89**	**7**	P	**Pb**	**14 33 30.5**	**-0.3**
NMEZ	**Namu Road**	**2.92**	**359**	P	**Pb**	**14 33 33.1**	**+1.7**
TMZ	**Timaru**	**2.97**	**225**	P	**Pn**	**14 33 26.7**	**+0.3**
KHEZ	**Kahui Hut**	**3.03**	**1**	P	**Pb**	**14 33 32.9**	**-0.5**
NEZ	**North Egmont**	**3.06**	**2**	P	**Pb**	**14 33 35.3**	**+1.5**
NBEZ	**Newall Road No**	**3.06**	**359**	P	**Pb**	**14 33 33.7**	**-0.1**
DREZ	**Durham Road**	**3.14**	**3**	P	**Pb**	**14 33 36.2**	**+1.0**
PKVZ	**Pokaka**	**3.22**	**20**	P	**Pn**	**14 33 31.3**	**+1.6**
MOVZ	**Moawhango**	**3.22**	**26**	P	**Pn**	**14 33 31.0**	**+1.1**
WNVZ	**Wahianoa**	**3.25**	**23**	P	**Pn**	**14 33 32.2**	**+1.9**
BHHZ	**Black Hill Sta**	**3.26**	**30**	P	**Pn**	**14 33 37.9**	**+0.8**
TRVZ	**Turoa**	**3.26**	**22**	P	**Pn**	**14 33 32.5**	**+2.0**
VRZ	**Vera Road**	**3.26**	**11**	P	**Pn**	**14 33 32.2**	**+1.9**
MHEZ	**Mangahewa**	**3.26**	**5**	P	**Pb**	**14 33 38.2**	**+0.9**
FOZ	**Fox Glacier**	**3.27**	**247**	P	**Pn**	**14 33 32.1**	**+1.7**
WHVZ	**Whangaehu Hut**	**3.29**	**23**	P	**Pn**	**14 33 33.5**	**+2.6**
FWVZ	**Far West T-bar**	**3.30**	**22**	P	**Pb**	**14 33 36.1**	**-2.0**
TUVZ	**Tukino**	**3.32**	**23**	P	**Pn**	**14 33 33.7**	**+2.4**
NGZ	**Ngauruhoe**	**3.39**	**22**	P	**Pn**	**14 33 34.9**	**+2.7**
LBZ	**Lake Benmore**	**3.43**	**232**	P	**Pn**	**14 33 33.8**	**+1.1**
NNVZ	**North Ngauruho**	**3.44**	**22**	P	**Pn**	**14 33 36.6**	**+3.7**
TMVZ	**Te Maari**	**3.48**	**23**	P	**Pn**	**14 33 34.6**	**+1.2**
TMVZ					P	14 33 35.7	-5.2
NTVZ	**North Tongarir**	**3.48**	**23**	P	**Pn**	**14 33 37.1**	**+3.6**
ODZ	**Otahua Downs**	**3.62**	**220**	Pn	**Pn**	**14 33 35.5**	**+0.2**
ODZ	**Otahua Downs**	**3.62**	**220**	P	**Pn**	**14 33 35.6**	**+0.2**
ODZ	**Otahua Downs**	**3.62**	**220**	P	**Pn**	**14 33 35.2**	**-0.1**
BKZ	**Black Stump Fm**	**3.70**	**32**	P	**Pb**	**14 33 44.1**	**-0.7**
HIZ	**Hauiti**	**3.88**	**10**	P	**Pn**	**14 33 41.0**	**+2.2**
HIZ	**Hauiti**	**3.88**	**10**	P	**Pn**	**14 33 40.7**	**+2.0**
JCZ	**Jackson Bay**	**4.16**	**244**	P	**Pn**	**14 33 44.2**	**+1.4**
JCZ	**Jackson Bay**	**4.16**	**244**	P	**Pn**	**14 33 46.7**	**+3.8**
TOZ	**Tahuroa Road**	**4.74**	**15**	P	**Pn**	**14 33 51.5**	**+0.8**
MKAZ	**Moumakai**	**5.30**	**10**	P	**Pn**	**14 33 59.2**	**+0.8**
ETAZ	**East Tamaki Re**	**5.42**	**8**	P	**Pn**	**14 34 01.5**	**+1.5**
OUZ	**Omahuta**	**7.11**	**358**	P	**Pn**	**14 34 24.7**	**+1.5**
	28nm,1.9s						
CAN	**Canberra**	**20.62**	**282**	P	**P**	**14 37 16.2**	**-2.4**
CAN				IAmb	IAmb	14 37 39.9	
	comp=Z,14nm,1.4s						
MSVF	**Nonsavu**	**24.77**	**9**	P	**P**	**14 38 00.4**	**-0.6**
MSVF				IAmb	IAmb	14 38 16.5	
	comp=Z,36nm,1.4s						
CTAO	**Charters Tower**	**32.21**	**305**	P	**P**	**14 39 06.3**	**-1.1**
ASAR	**Alice Springs**	**37.98**	**287**	P	**P**	**14 39 57.0**	**-0.2**
WR0	**Warramunga Arr**	**39.96**	**292**	P	**P**	**14 40 13.1**	**-0.6**
WB2	**Warramunga Arr**	**40.10**	**291**	P	**P**	**14 40 14.5**	**-0.4**
WB2				IAmb	IAmb	14 40 27.0	
	comp=Z,10nm,1.4s						
PZH	**PanZhiHua**	**95.44**	**301**	P	**P**	**14 46 06.3**	**+2.3**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
HHC	**Hu-ho-hao-te**	**100.17**	**317**	*eP*	**Pdif**	**14 46 27.5**	**+2.6**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,4.6s						

IDC 20 14:35:18.6±7.7, 44°90S×40°20E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=222.2km s-min=35.1km az=140.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**33.73**	**203**	P	P	14 42 01.2	-0.1
	1.1nm,0.9s,baz=56,slow=8.5,SNR=3.6 1.1nm,0.9s						
QSPA	**South Pole Qui**	**45.31**	**180**	P	P	14 43 38.0	0.0
	0.4nm,0.6s,baz=239,slow=3.2,SNR=5.9 0.4nm,0.6s						
STKA	**Stephens Creek**	**75.51**	**121**	P	P	14 47 04.5	-0.2
	1.4nm,0.8s,baz=222,slow=12,SNR=3.8 1.4nm,0.8s						
ASAR	**Alice Springs**	**76.19**	**110**	P	P	14 47 09.3	+0.5
	1.5nm,0.9s,baz=216,slow=5.2,SNR=12 1.5nm,0.9s						
WRA	**Warramunga Arr**	**79.03**	**107**	P	P	14 47 24.4	-0.3
	1.0nm,0.9s,baz=223,slow=4.9,SNR=6.3 1.0nm,0.9s						

*NOU **20** 14:39:20.3, 10°46S×167°85E, h139km, mb4.9/10, Santa Cruz Islands*
*IDC **20** 14:40:13.8±12.0, 15°05S×165°17E, h0km, mb3.5/3, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=222.5km s-min=35.8km az=52.0*

ISC 20 14:40:10.7±3.8, 14°5S±0°3×166°1E±0°4, h35km, n10, σ2°9⁴/9, mb3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.80**	**148**	P	Pn	14 41 04.1	-2.7
	1µm,1.1s						
KOUNC	**Koumac, New Ca**	**6.25**	**195**	P	Pn	14 41 48.5	+8.1
	44nm,1.6s						
MARNC	**Mare, Loyalty**	**7.19**	**165**	P	**Pn**	**14 41 52.8**	**-0.6**
	1.5nm,0.8s						
DZM	**Mont Dzumac**	**7.54**	**177**	Pn	**Pn**	**14 41 59.4**	**+1.1**
	2.1nm,0.3s,baz=330,slow=14,SNR=13						
DZM				Sn	**Sn**	**14 43 19.5**	**-3.0**
	0.6nm,0.3s,baz=288,slow=20,SNR=1.1 4.3nm,0.3s						
DZM	**Mont Dzumac**	**7.54**	**177**	P	**Pn**	**14 42 02.7**	**+4.5**
YATNC	**Mamie plateau,**	**7.56**	**174**	P	**Pn**	**14 42 01.2**	**+2.8**
	49nm,1.2s						
ONTNC	**Ouen Toro**	**7.77**	**177**	P	**Pn**	**14 42 04.8**	**+3.4**
	54nm,1.2s						
STKA	**Stephens Creek**	**28.26**	**228**	P	**P**	**14 45 59.9**	**-0.8**
	1.3nm,0.7s,baz=65,slow=8.1,SNR=5.0 1.3nm,0.7s						
WRA	**Warramunga Arr**	**30.74**	**255**	P	**P**	**14 46 22.0**	**-0.9**
	0.2nm,0.6s,baz=86,slow=8.5,SNR=1.6 0.2nm,0.6s						
ASAR	**Alice Springs**	**31.66**	**248**	P	**P**	**14 46 30.5**	**-0.5**
	0.3nm,0.5s,baz=78,slow=9.1,SNR=15 0.3nm,0.5s						

*IDC **20** 14:41:06.3±0.5, 24°67N×109°25W, h0km, mb4.6/18, mbtmp4.5/22, ML4.3/4, MS3.9/38, Error ellipse: s-maj=13.2km s-min=9.9km az=137.0*

*NEIC **20** 14:41:06.9±1.1, 24°58N±0°05×109°20W±0°05, h6km±4km, mb4.9/235, Md4.8/28(MEX), Error ellipse: s-maj=8.0km s-min=7.0km az=169.0*
*GCMT **20** 14:41:09.9±0.4, 24°69N±0°02×109°09W±0°02, h18km±1km, MW4.8/77, Moment Tensor Solution. s17,c18; s77,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.38±.11; $M_{\theta\theta}$=-1.25±.09; $M_{\phi\phi}$=1.63±.10; $M_{r\theta}$=-0.23±.22; $M_{\theta\phi}$=1.52±.11; $M_{r\phi}$=0.28±.24; Best double couple: M_o2.13200×10^{16} NP1:ϕ_s159.00000°, δ85.00000°, λ=-169.00000°. NP2: ϕ_s68.00000°, δ79.00000°, λ=-6.00000°. Principal axes: T 2.2950, Plg4.0000°, Azm293.0000°; N -0.3300, Plg78.0000°, Azm185.0000°; P -1.9690, Plg11.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MEX **20** 14:41:09.5±0.6, 24°71N×109°17W, h16km±7km, MD4.8*

ISC 20 14:41:06.3±1.1, 24°68N±0°03×109°20W±0°03, h1km±7km, n675, σ1°33/667, mb4.9/114, MS4.0/40, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.93**	**9**		**Pg**	**14 41 23.5**	**-0.5**
TSIG					**Sg**	**14 41 34.0**	**-2.0**
TSIG	**Topolobambo**	**0.93**	**9**	*eP*	**Pg**	**14 41 23.5**	**-0.5**
TSIG				*eS*	**Sg**	**14 41 34.0**	**-2.0**
LPIG	**La Paz**	**1.16**	**240**	Pg	**Pg**	**14 41 28.0**	**-0.6**
	142nm,0.3s,baz=43,slow=2.4,SNR=133						
LPIG				Lg	Lg	14 41 41.3	
	887nm,0.3s,baz=212,slow=12,SNR=10						
LPIG	**La Paz**	**1.16**	**240**		**Pg**	**14 41 27.9**	**-0.6**
LPIG					**Sg**	**14 41 42.4**	**-1.2**
LPIG	**La Paz**	**1.16**	**240**	*eP*	**Pg**	**14 41 27.9**	**-0.6**
LPIG				*eS*	**Sg**	**14 41 42.4**	**-1.2**
SLBS	**Sierra La Lagu**	**1.20**	**214**		**Pg**	**14 41 28.8**	**-0.5**
SLBS				Sg	**Sg**	**14 41 43.2**	**-1.7**
SLBS	**Sierra La Lagu**	**1.20**	**214**	*eP*	**Pg**	**14 41 29.0**	**-0.3**
SLBS				*eS*	**Sg**	**14 41 42.6**	**-2.3**
SSIG	**Sanalona**	**1.88**	**85**		**Pn**	**14 41 36.8**	**-2.7**
SSIG					**Sn**	**14 41 58.4**	**-5.4**
SSIG	**Sanalona**	**1.88**	**85**	*eP*	**Pn**	**14 41 36.8**	**-2.7**
SSIG				*eS*	**Sn**	**14 41 58.4**	**-5.4**
CSIG	**Choix**	**2.27**	**19**		**Pn**	**14 41 43.3**	**-1.5**
CSIG					**Sn**	**14 42 15.4**	**+2.0**
CSIG	**Choix**	**2.27**	**19**	*eP*	**Pn**	**14 41 43.3**	**-1.5**
CSIG				*eS*	**Sn**	**14 42 09.3**	**-4.0**
MAIG	**Mazatlaan**	**2.95**	**120**		**Pg**	**14 42 04.6**	**+1.8**
MAIG					**Sg**	**14 42 44.2**	**+3.3**
MAIG	**Mazatlaan**	**2.95**	**120**	*e*	**Pg**	**14 42 02.7**	**0.0**
MAIG				*eS*	**Sn**	**14 42 26.5**	**-3.6**
PDIG	**Papasquiaro**	**3.48**	**83**		**Pn**	**14 42 01.4**	**-0.2**
PDIG					**Sn**	**14 42 42.0**	**-1.5**
PDIG	**Papasquiaro**	**3.48**	**83**	*eP*	**Pn**	**14 42 01.1**	**-0.5**
PDIG				*i* S	**Sn**	**14 42 41.2**	**-2.3**
PDIG				*eS*	**Sn**	**14 42 42.0**	**-1.5**
SRIG	**Santa Rosalia**	**3.79**	**315**		**Pn**	**14 42 06.5**	**+0.7**
SRIG	**Santa Rosalia**	**3.79**	**315**	*e*	**Pn**	**14 42 05.4**	**-0.4**
HPIG		**3.90**	**54**	Pn	**Pn**	**14 42 06.2**	**-1.3**
HPIG		**3.90**	**54**	*eP*	**Pn**	**14 42 06.2**	**-1.3**
HPIG				*eS*	**Sn**	**14 42 50.9**	**-3.0**
HSIG		**4.59**	**341**	Pn	**Pn**	**14 42 15.9**	**-0.9**
HSIG		**4.59**	**341**	*eP*	**Pn**	**14 42 16.5**	**-0.3**
HSIG				*eS*	**Sn**	**14 43 08.3**	**-2.5**
NZIG	**Nacozari, Sono**	**5.68**	**357**		**Pn**	**14 42 32.5**	**+0.7**
NZIG					**Sn**	**14 43 31.9**	**-5.8**
NZIG	**Nacozari, Sono**	**5.68**	**357**	*eP*	**Pn**	**14 42 32.5**	**+0.7**
NZIG				*eS*	**Sn**	**14 43 33.2**	**-4.6**
CGIG		**5.76**	**11**		**Pn**	**14 42 34.3**	**+1.2**
CGIG					**Sn**	**14 43 37.4**	**-2.5**
CGIG		**5.76**	**11**	*eP*	**Pn**	**14 42 34.0**	**+0.9**
CGIG

baz=242
BFSC Mount Baldy Ra 12.03 324 P Pn 14 44 02.5 +3.5
baz=140
AMTX Amarillo 12.08 31 P Pn 14 44 01.6 +2.0
baz=214
RRX Edison Barstow 12.20 328 P Pn 14 44 04.2 +3.1
baz=145
DECC Green Verdugo 12.41 322 P Pn 14 44 06.4 +2.3
baz=138
GSC Goldstone, Bar 12.46 330 P Pn 14 44 08.8 +4.0
baz=146,SNR=11
MVCO Mesa Verde 12.50 3 Pn Pn 14 44 05.4 -0.1
MVCO Mesa Verde 12.50 3 P Pn 14 44 08.6 +3.1
baz=183,SNR=7.5
WHTX Lake Whitney, 12.64 52 Pn 14 44 06.8 -0.5
WHTX Lake Whitney, 12.64 52 P Pn 14 44 07.0 -0.3
baz=237
EDW2 Edwards Air Fo 12.70 325 P Pn 14 44 12.0 +3.9
baz=141,SNR=6.1
SHOC Shoshone, Teco 12.73 333 P Pn 14 44 11.6 +3.1
baz=150
HKT Hockley 12.99 63 Pn Pn 14 44 12.7 +0.8
LRMC Laurel Mtn Rad 13.02 328 P Pn 14 44 16.1 +3.6
baz=144,SNR=32
T25A Trinidad 13.08 17 P Pn 14 44 15.6 +2.3
baz=199,SNR=6.1
S22A 4UR Ranch, Cre 13.18 8 P Pn 14 44 18.1 +3.3
baz=189,SNR=9.5
ARVC Arvin 13.33 324 P Pn 14 44 19.6 +2.9
baz=139
MPMC Manual Prospec 13.40 330 P Pn 14 44 20.7 +3.0
baz=146,SNR=15
SDCO Great Sand Dun 13.40 13 P Pn 14 44 21.3 +3.5
baz=194
PV13 Radium Mtn., P 13.44 1 Pn 14 44 18.8 +0.5
FURC Furnace Creek, 13.46 333 P Pn 14 44 22.3 +3.9
baz=149
WMOK Wichita Mounta 13.50 40 Pn 14 44 19.0 +0.1
WMOK Wichita Mounta 13.50 40 P Pn 14 44 18.9 0.0
baz=224,SNR=13
ISA Isabella, Lake 13.56 326 Pn 14 44 20.8 +1.0
ISA Isabella, Lake 13.56 326 P Pn 14 44 23.1 +3.3
baz=142
PRN Pahroc Range 13.63 340 Pn 14 44 21.4 +0.6
TPNV Topopah Spring 13.64 335 P Pn 14 44 25.1 +4.2
baz=152,SNR=11
PKM Mcpherson Peak 13.71 320 P Pn 14 44 24.8 +2.8
baz=135
X34A Smith Ranch, M 13.97 42 Pn 14 44 24.0 -1.4
CWC Cottonwood Cre 13.98 329 P Pn 14 44 28.6 +3.0
baz=145
LOOK Love County 13.99 46 Pn Pn 14 44 25.0 -0.6
VES Vestal, Richgr 14.01 325 P Pn 14 44 27.9 +2.0
baz=140
GRAC Grapevine Rang 14.13 332 P Pn 14 44 28.1 +0.6
baz=148
PSUT Pine Spring 14.36 345 P P 14 44 36.8 -1.4
SRU San Rafael Swe 14.43 356 Pn Pn 14 44 32.0 +0.2
SMCO Snowmass 14.57 7 P P 14 44 41.6 +0.8
U32A Winter Ranch, 14.59 35 P P 14 44 41.4 +0.9
NATX Nacogdoches 14.62 58 P P 14 44 41.2 +0.4
NATX Nacogdoches 14.62 58 P Pn 14 44 33.3 -1.0
baz=244
Q24A Divide 14.65 13 P Pn 14 44 36.1 +1.2
baz=195
R11A Troy Canyon, C 14.66 340 P Pn 14 44 36.9 +1.8
baz=157,SNR=5.8
TMUT Trail Mountain 14.67 354 Pn Pn 14 44 36.9 +1.7
P18A Preston Nutter 14.93 357 P P 14 44 43.3 -1.2
OK025 Westminster Rd 14.93 41 P P 14 44 45.0 +0.7
OK025 IAmb IAmb 14 44 46.4
comp=Z,42nm,0.9s
TPH Tonopah 14.99 335 P P 14 44 44.2 -1.0
OK029 Liberty Lake 15.01 40 P P 14 44 44.3 -0.9
OK029 IAmb IAmb 14 44 47.3
comp=Z,35nm,0.9s
CROK Carrier 15.22 37 Pn Pn 14 44 43.1 +0.7
CROK IAmb IAmb 14 44 50.2
comp=Z,36nm,0.8s
MLAC Mammoth, Mammo 15.30 330 P Pn 14 44 45.5 +1.9
baz=145
KSCO Kaye Shedlock' 15.33 20 P Pn 14 44 45.1 +1.2
baz=203
CMIG Matias Romero 15.36 117 Pn Pn 14 44 43.3 -0.9
comp=Z,0.3nm,0.3s,baz=326,slow=18,SNR=2.5
CMIG LR LR 14 50 44.3
comp=Z,1µm,20.8s,baz=290,slow=38
comp=Z,2.7nm,0.7s
OMMB Old Mammoth Mi 15.36 329 P P 14 44 49.6 +0.1
ISCO Idaho Springs 15.37 10 P Pn 14 44 45.7 +1.1
baz=192
MDPB Devils Postpil 15.42 329 P P 14 44 50.1 +0.1
NLU North Lily Min 15.42 352 P Pn 14 44 48.6 +3.5
O20A White River Ci 15.43 3 P Pn 14 44 47.0 +1.7
baz=183,SNR=20
OK031 S. Brethren Rd 15.48 41 P P 14 44 51.2 +0.8
OK033 Mehan 15.48 40 P P 14 44 50.2 -0.3
OK033 IAmb IAmb 14 44 52.4
comp=Z,44nm,1.0s
OK030 Cody Creek RV 15.50 41 Pn 14 44 45.8 -0.1
OK030 IAmb IAmb 14 44 53.2
comp=Z,64nm,0.9s
OK052 Battle Ridge R 15.53 41 P P 14 44 51.0 +0.1
X37A Clayton 15.54 47 P P 14 44 51.3 +0.2
X37A IAmb IAmb 14 44 53.5
comp=Z,59nm,0.8s
GC02 Grant County # 15.54 36 P P 14 44 51.9 +0.8
KAN14 Manchester OK 15.57 36 P P 14 44 50.7 -0.7
KAN14 IAmb IAmb 14 44 53.7
comp=Z,80nm,0.8s
OK034 N. Norfolk Rd. 15.59 41 P P 14 44 50.6 -1.0
OK034 IAmb IAmb 14 44 55.0
comp=Z,44nm,0.9s
Q09A Carvers 15.64 336 P P 14 44 52.7 +0.3
LHV Little Huntoon 15.67 332 P P 14 44 52.3 -0.1
NV11 Mina Array Sit 15.67 333 P P 14 44 52.6 -0.1
OK050 Pawnee Station 15.70 39 P P 14 44 52.9 0.0
QUOK Quay 15.71 40 P P 14 44 51.8 -1.1
QUOK IAmb IAmb 14 44 56.5
comp=Z,22nm,0.7s
NVAR Mina Array Bea 15.73 333 Pn Pn 14 44 51.0 +1.7
comp=Z,0.3nm,0.3s,baz=151,slow=13,SNR=27
comp=Z,7.9nm,0.9s
NVAR Mina Array Bea 15.73 333 P P 14 44 53.5 0.0
OK048 Pawnee Station 15.74 39 Pn Pn 14 44 50.0 +0.9
DUG Dugway, Tooele 15.76 350 P P 14 44 53.3 -0.4
DUG Dugway, Tooele 15.76 350 P Pn 14 44 51.2 +1.7
baz=168
KAN08 Anthony NE Sta 15.77 35 P P 14 44 54.4 +0.8
KAN08 IAmb IAmb 14 44 56.1
comp=Z,78nm,0.8s
OK045 Pawnee Station 15.77 39 P P 14 44 53.9 +0.3
OK044 Pawnee Station 15.79 40 P P 14 44 53.7 -0.2
KAN12 Harper NE Stat 15.81 35 P P 14 44 54.9 +0.8
KAN12 IAmb IAmb 14 44 56.7
comp=Z,100nm,0.9s
KAN01 Argonia South 15.82 36 P P 14 44 53.6 -0.6
KAN01 IAmb IAmb 14 44 56.5
comp=Z,59nm,0.7s
RDMU Red Mountain 15.85 359 Pn Pn 14 44 51.5 +0.7
OK051 E0350 and S346 15.86 39 P P 14 44 55.0 +0.3
JLU Jordanelle 15.99 354 P Pn 14 44 55.5 +2.9
RYN Ryan 15.99 333 P P 14 44 56.6 +0.4
TUL1 Leonard 16.09 43 Pn Pn 14 44 51.8 -1.8
TUL1 Leonard 16.09 43 P Pn 14 44 52.1 -1.5
baz=229
CTU Camp Tracy 16.11 353 P P 14 44 57.0 -0.5
KVN Kaiserville 16.18 334 P P 14 44 58.5 +0.1
CBKS Cedar Bluff 16.21 27 Pn Pn 14 44 55.7 +0.4
CBKS IAmb IAmb 14 45 01.6
comp=Z,120nm,0.9s
CBKS Cedar Bluff 16.21 27 P Pn 14 44 54.9 -0.4
baz=212,SNR=18
WAKR Walker 16.29 330 P P 14 45 00.7 +1.1
342A Flagon Creek P 16.32 62 P P 14 45 00.1 +0.4
342A IAmb IAmb 14 45 02.0
comp=Z,60nm,1.0s
T35A Sooner Cattle 16.34 39 Pn Pn 14 44 56.6 -0.3
R32A Long Quarter, 16.34 31 Pn 14 44 56.2 -0.7
R32A IAmb IAmb 14 45 02.9
comp=Z,71nm,0.9s
N23A Red Feather La 16.39 9 P P 14 45 00.4 -0.4
N23A Red Feather La 16.39 9 P Pn 14 44 58.4 +0.5
baz=190
BGU Big Grassy Mou 16.51 350 P P 14 45 02.1 +0.1

RLO Rose Lookout 16.73 44 Pn Pn 14 45 00.2 -1.6
RLO IAmb IAmb 14 45 05.9
comp=Z,43nm,1.0s
MIAR Mount Ida 16.75 50 P P 14 45 04.4 -0.1
MIAR IAmb IAmb 14 45 07.1
comp=Z,51nm,1.0s
MIAR Mount Ida 16.75 50 P Pn 14 45 03.3 +1.2
baz=238,SNR=22
ELK Elko 16.80 344 Pn P 14 45 05.7 +0.5
comp=Z,0.1nm,0.3s,baz=167,slow=7.4,SNR=14
comp=Z,6.1nm,1.0s
ELK Elko 16.80 344 P P 14 45 05.6 +0.4
SPUT South Promonto 16.80 352 P P 14 45 05.8 +0.6
PHWY Pilot Hill 16.86 10 P Pn 14 45 05.8 +1.9
HWUT Hardware Ranch 16.99 354 P P 14 45 07.7 +0.4
RWWY Rawlins 17.04 5 P P 14 45 08.3 +0.4
OGNE Ogallala 17.29 19 P P 14 45 11.1 +0.6
OGNE IAmb IAmb 14 45 17.2
comp=Z,145nm,1.8s
OGNE Ogallala 17.29 19 P Pn 14 45 09.1 +0.2
baz=202
HHAR Hobbs 17.49 45 P P 14 45 12.4 -0.2
143A Socs Landing, 17.53 59 P Pn 14 45 12.3 +0.5
143A IAmb IAmb 14 45 15.4
comp=Z,72nm,1.4s
KSU1 Kansas State U 17.89 34 P Pn 14 45 17.0 +0.7
KSU1 IAmb IAmb 14 45 18.6
comp=Z,57nm,1.1s
KSU1 Kansas State U 17.89 34 P Pn 14 45 16.9 +0.6
baz=220,SNR=9.4
BW06 Boulder Array 18.04 359 P Pn 14 45 19.4 +1.0
BW06 Boulder Array 18.04 359 P Pn 14 45 19.2 +0.8
baz=179,SNR=20
PD31 Pinedale Array 18.04 359 P Pn 14 45 19.4 +1.0
PDAR Pinedale Array 18.04 359 Pn Pn 14 45 19.6 +1.2
comp=Z,1.0nm,0.3s,baz=169,slow=11,SNR=71
PDAR LR LR 14 52 34.1
comp=Z,541nm,18.1s,baz=188,slow=38
comp=Z,11nm,0.7s
PDAR Pinedale Array 18.04 359 Pn 14 45 19.5 +1.1
WHAR Wooly Hollow 18.04 50 P P 14 45 18.9 +0.2
VBMS Vicksburg 18.05 61 P Pn 14 45 17.1 -1.2
baz=250
K22A Casper 18.06 6 P Pn 14 45 18.7 +0.2
baz=188
AHID Auburn Hatcher 18.10 356 P Pn 14 45 20.3 +1.1
FCAR Ozark Folk Cen 18.47 49 P Pn 14 45 22.7 -0.8
REDW Red Top Meadow 18.68 356 P P 14 45 26.2 +0.2
S39A Bolivar 18.75 42 P P 14 45 26.3 -0.2
SNOW Snow King Moun 18.78 356 P P 14 45 27.2 +0.2
N33A J Bar K, Exete 18.79 29 P P 14 45 27.7 +0.7
N33A IAmb IAmb 14 45 29.6
comp=Z,93nm,0.8s
LOHW Long Hollow 18.92 357 P P 14 45 27.4 -1.1
BGNE Belgrade 19.05 26 P Pn 14 45 31.0 +0.5
BGNE Belgrade 19.05 26 P P 14 45 29.0 -0.8
baz=212,SNR=6.1
MGMO Mountain Grove 19.08 45 P P 14 45 30.3 +0.1
MGMO IAmb IAmb 14 45 33.6
comp=Z,71nm,0.9s
LCAR Lake Charles 19.23 50 P 14 45 32.3 +0.4
HLID Hailey 19.31 348 P Pn 14 45 34.7 +0.8
baz=166,SNR=19
HBAR Harrisburg 19.33 52 P P 14 45 32.6 -0.3
HBAR IAmb IAmb 14 45 36.8
comp=Z,69nm,1.1s
WVOR Wild Horse Val 19.35 339 P P 14 45 34.2 +1.0
H17A Grant Village 19.70 357 P Pn 14 45 39.1 +0.6
baz=176,SNR=8.2
N35A Tabor 19.71 32 P P 14 45 38.2 +1.1
N35A IAmb IAmb 14 45 39.8
comp=Z,73nm,0.9s
R40A Maddies Statio 19.77 43 P P 14 45 37.7 0.0
OXF Oxford 19.77 56 P P 14 45 36.9 -0.9
baz=245
RSSD Black Hills 19.85 11 P P 14 45 38.9 +0.2
RSSD Black Hills 19.85 11 P P 14 45 39.2 +0.4
baz=194
P38A Dawn 19.90 38 P P 14 45 39.2 0.0
P38A IAmb IAmb 14 45 41.3
comp=Z,30nm,0.8s
YHB Horse Butte 20.09 356 P P 14 45 42.0 +0.6
W45A Hickory Valley 20.21 54 P P 14 45 42.4 -0.1
L34A Svendsen Farm, 20.26 29 P P 14 45 42.9 -0.1
L34A IAmb IAmb 14 45 50.1
comp=Z,62nm,1.0s
CCM Cathedral Cave 20.27 45 P P 14 45 43.4 +0.2
CCM IAmb IAmb 14 45 47.2
comp=Z,36nm,1.1s
CCM Cathedral Cave 20.27 45 P P 14 45 44.0 +0.8
baz=234
Z47A Carrollton 20.32 61 P P 14 45 44.1 +0.4
Z47A IAmb IAmb 14 45 46.1
comp=Z,62nm,0.8s
YBH Yreka Blue Hor 20.37 330 P P 14 45 46.7 +2.3
comp=Z,3.1nm,0.8s,baz=153,slow=8.9,SNR=5.8
RLMT Red Lodge 20.39 360 P P 14 45 45.0 +0.4
RLMT Red Lodge 20.39 360 P P 14 45 45.4 +0.7
baz=180,SNR=8.9
HALT Halls 20.44 52 P P 14 45 45.5 +0.5
HALT IAmb IAmb 14 45 47.5
comp=Z,88nm,1.1s
P40A Paris 20.69 40 P P 14 45 48.2 +0.5
P40A IAmb IAmb 14 45 50.1
comp=Z,64nm,0.9s
FVM French Village 20.76 46 P P 14 45 47.8 -0.7
HICK Hickman 20.82 51 P P 14 45 50.1 +1.0
N38A Joes South For 20.89 36 P P 14 45 50.1 +0.3
N38A IAmb IAmb 14 45 52.4
comp=Z,58nm,0.8s
CGM3 Cape Girardeau 20.90 48 P P 14 45 50.3 +0.3
CGM3 IAmb IAmb 14 45 54.7
comp=Z,13nm,0.9s
BOZ Bozeman (W) 20.96 355 P P 14 45 52.9 +2.1
baz=174,SNR=21
PLAL Pickwick Lake 20.97 56 P P 14 45 51.2 +0.4
GCMT Greycliff 21.07 359 P P 14 45 53.6 +1.8
LRAL Lakeview Retre 21.12 62 P P 14 45 52.1 -0.3
baz=252
LRM Limekiln Ridge 21.25 354 P P 14 45 54.7 +0.7
PINE Pine Mountain 21.35 336 P P 14 45 55.3 +0.3
PINE IAmb IAmb 14 45 59.2
comp=Z,34nm,1.1s
S44A Carbondale 21.38 48 P P 14 45 55.8 +0.6
SUSD Miller 21.41 20 P P 14 45 56.2 +0.7
baz=206
250A Grady 21.43 65 P P 14 45 54.9 -0.9
250A IAmb IAmb 14 46 01.8
comp=Z,98nm,1.6s
X48A Hartselle 21.55 58 P P 14 45 56.8 -0.3
ECSD EROS Data Cent 21.62 25 P P 14 45 58.3 +0.5
ECSD IAmb IAmb 14 46 03.3
comp=Z,100nm,1.6s
ECSD EROS Data Cent 21.62 25 P P 14 45 58.2 +0.5
baz=212,SNR=22
WVT Waverly 21.63 53 P P 14 45 58.1 +0.2
WVT IAmb IAmb 14 46 14.7
comp=Z,32nm,0.9s
WVT Waverly 21.63 53 P P 14 45 57.8 0.0
baz=244
SCIA State Center 21.70 34 P P 14 45 58.7 +0.1
SCIA IAmb IAmb 14 46 00.9
comp=Z,48nm,0.9s
SCIA State Center 21.70 34 P P 14 45 59.3 +0.7
baz=222,SNR=5.5
Y49A Blount Mountai 21.84 60 P P 14 46 00.1 -0.1
HRY Holter Researc 22.08 355 P P 14 46 04.0 +1.2
LAO LASA Array 22.09 5 P P 14 46 02.9 +0.1
LAO IAmb IAmb 14 46 11.9
comp=Z,38nm,1.1s
LAO LASA Array 22.09 5 P P 14 46 04.3 +1.6
baz=187,SNR=8.2
P43A Skaggs, Pawnee 22.29 43 P P 14 46 05.2 +0.3
P43A IAmb IAmb 14 46 06.6
comp=Z,43nm,1.1s
MSO Missoula 22.42 351 P P 14 46 07.4 +1.0
MSO IAmb IAmb 14 46 10.6
comp=Z,40nm,1.0s
MSO Missoula 22.42 351 P P 14 46 07.9 +1.4
baz=169,SNR=27
T47A Sharon Grove 22.53 52 P P 14 46 07.7 +0.1
T47A IAmb IAmb 14 46 10.5
comp=Z,28nm,0.8s
SWET Sewanee 22.68 57 P P 14 46 09.6 +0.4
SWET IAmb IAmb 14 46 12.6

comp=Z,20nm,0.8s
OLIL Olney 22.70 47 P P 14 46 09.7 +0.4
L40A Anamosa 22.85 36 P P 14 46 11.0 +0.1
L40A IAmb IAmb 14 46 23.8
comp=Z,46nm,0.8s
E28A Huff 22.89 15 P P 14 46 11.7 +0.5
E28A IAmb IAmb 14 46 20.9
comp=Z,62nm,1.1s
COR Corvallis 22.93 333 P P 14 46 12.9 +1.2
E09A Wood Farm, Sta 22.93 344 P P 14 46 12.3 +0.6
E09A IAmb IAmb 14 46 14.6
comp=Z,22nm,1.0s
HDIL Hopedale 22.98 42 P P 14 46 12.4 +0.2
HDIL Hopedale 22.98 42 P P 14 46 12.0 -0.2
baz=232,SNR=7.5
W50A Signal Mountai 23.15 58 P P 14 46 13.8 -0.3
W50A IAmb IAmb 14 46 17.1
comp=Z,56nm,0.9s
HAWA Hanford 23.20 342 P P 14 46 14.8 +0.4
I37A Lemond, Waseca 23.21 30 P P 14 46 14.6 0.0
O44A Mansfield 23.25 43 P P 14 46 15.2 +0.2
O44A IAmb IAmb 14 46 17.2
comp=Z,38nm,1.1s
U49A Red Boiling Sp 23.29 54 P P 14 46 15.4 -0.1
U49A IAmb IAmb 14 46 17.5
comp=Z,16nm,0.9s
X51A Calhoun 23.29 59 P P 14 46 15.4 -0.1
X51A IAmb IAmb 14 46 24.8
comp=Z,45nm,1.1s
EGMT Eagleton 23.30 359 P P 14 46 17.0 +1.5
EGMT IAmb IAmb 14 46 18.7
comp=Z,64nm,1.1s
EGMT Eagleton 23.30 359 P P 14 46 16.4 +0.8
baz=179,SNR=14
F33A 5 Mile Ranch, 23.54 23 P P 14 46 18.1 +0.3
F33A IAmb IAmb 14 46 26.2
comp=Z,41nm,1.6s
TIGA Tifton 23.55 68 P P 14 46 16.6 -1.5
baz=260
D08A Wollman Farm, 23.64 343 P P 14 46 18.9 0.0
L42A Oliver, Polo 23.67 38 P P 14 46 18.6 -0.6
WCI Wyandotte Cave 23.68 50 P P 14 46 18.4 -1.0
WCI IAmb IAmb 14 46 22.2
comp=Z,27nm,0.8s
WCI Wyandotte Cave 23.68 50 P P 14 46 18.5 -0.8
baz=242
Y52A Lilburn 23.71 62 P P 14 46 19.3 -0.4
Y52A IAmb IAmb 14 46 30.5
comp=Z,45nm,1.3s
P46A Rosedale 23.76 46 P P 14 46 20.3 +0.2
CPCT Cooper Cave 23.84 58 P P 14 46 20.6 -0.4
CPCT IAmb IAmb 14 46 22.2
comp=Z,38nm,0.8s
JFWS Jewell Farm 23.96 36 P P 14 46 21.4 -0.7
JFWS IAmb IAmb 14 46 23.5
comp=Z,23nm,0.8s
JFWS Jewell Farm 23.96 36 P P 14 46 21.0 -1.0
baz=226
DGMT Dagmar 24.07 8 P P 14 46 23.4 +0.4
DGMT Dagmar 24.07 8 P P 14 46 23.4 +0.4
baz=191
GOGA Godfrey 24.07 63 P P 14 46 22.6 -0.6
GOGA IAmb IAmb 14 46 33.6
comp=Z,51nm,1.6s
GOGA Godfrey 24.07 63 P P 14 46 22.0 -1.2
baz=255
V51A Loudon 24.09 57 P P 14 46 23.2 -0.2
V51A IAmb IAmb 14 46 25.0
comp=Z,37nm,0.9s
W52A Murphy 24.18 59 P P 14 46 24.1 -0.2
W52A IAmb IAmb 14 46 25.6
comp=Z,39nm,0.8s
T50A Nancy 24.19 54 P P 14 46 24.3 +0.1
T50A IAmb IAmb 14 46 25.9
comp=Z,34nm,0.8s
SFIN Lafayette 24.24 44 P P 14 46 23.7 -0.9
baz=236,SNR=10
NEW Newport 24.35 347 P P 14 46 26.6 +0.9
comp=Z,21nm,0.6s,baz=165,slow=11,SNR=39
comp=Z,21nm,0.6s
NEW Newport 24.35 347 P P 14 46 26.6 +0.9
NEW IAmb IAmb 14 46 29.3
comp=Z,34nm,0.8s
NEW Newport 24.35 347 P P 14 46 26.4 +0.7
baz=162,SNR=34
SPMN Marine on St. 24.42 29 P P 14 46 26.6 +0.4
SPMN Marine on St. 24.42 29 P P 14 46 26.1 -0.2
baz=218,SNR=5.2
I40A Norwalk 24.45 34 P P 14 46 26.9 +0.3
TKL Tuckaleechee C 24.49 58 P P 14 46 26.7 -0.2
comp=Z,12nm,0.8s,baz=243,slow=7.2,SNR=13
TKL LR LR 14 56 52.2
comp=Z,359nm,20.5s,baz=254,slow=39
comp=Z,12nm,0.8s
TKL Tuckaleechee C 24.49 58 P P 14 46 26.3 -0.7
TKL IAmb IAmb 14 46 28.2
comp=Z,69nm,1.6s
R49A Shelbyville 24.49 51 P P 14 46 26.4 -0.6
R49A IAmb IAmb 14 46 30.1
comp=Z,31nm,1.1s
HQIL Hanson Quary C 24.60 41 P P 14 46 27.9 +0.1
HQIL IAmb IAmb 14 46 48.3
comp=Z,99nm,1.1s
WALA Waterton Lakes 24.61 353 P P 14 46 28.6 +0.5
F36A Milaca 24.62 27 P P 14 46 28.0 -0.1
F36A IAmb IAmb 14 46 29.8
comp=Z,41nm,1.1s
V52A Sevierville 24.68 57 P P 14 46 28.6 -0.2
V52A IAmb IAmb 14 46 32.8
comp=Z,51nm,1.2s
L44A Lake County Fo 24.79 40 P P 14 46 28.6 -1.1
baz=232
P48A Milroy 24.86 48 P P 14 46 29.9 -0.4
TZTN Tazewell 24.96 56 P P 14 46 31.2 0.0
TZTN Tazewell 24.96 56 P P 14 46 29.7 -1.5
baz=249
DWPF Disney Wildern 25.09 76 P P 14 46 30.3 -2.1
baz=268
V53A Saluda 25.23 58 P P 14 46 34.1 +0.3
V53A IAmb IAmb 14 46 44.5
comp=Z,51nm,1.3s
I42A Draeger Farm, 25.34 36 P P 14 46 34.8 +0.2
I42A IAmb IAmb 14 46 35.8
comp=Z,28nm,0.8s
S51A Beattyville 25.34 53 P P 14 46 35.1 +0.4
S51A IAmb IAmb 14 46 37.8
comp=Z,26nm,0.8s
P49A Miami Univ. Ec 25.38 48 P P 14 46 34.7 -0.2
P49A IAmb IAmb 14 46 37.5
comp=Z,21nm,0.9s
P49A Miami Univ. Ec 25.38 48 P P 14 46 33.7 -1.2
baz=241
O48B Farmland 25.44 47 P P 14 46 33.5 -2.0
baz=239
G40A Rib Lake 25.65 32 P P 14 46 37.7 +0.2
G40A IAmb IAmb 14 46 38.6
comp=Z,25nm,0.8s
PAULI Pauline 25.76 61 P P 14 46 38.8 +0.3
PAULI IAmb IAmb 14 46 39.9
comp=Z,30nm,0.9s
AGMN Agassiz Nation 25.82 21 P P 14 46 38.8 -0.1
AGMN IAmb IAmb 14 46 48.0
comp=Z,17nm,1.1s
AGMN Agassiz Nation 25.82 21 P P 14 46 38.3 -0.5
baz=209
Q49A Covington 25.95 47 P P 14 46 39.8 -0.3
E38A The Farm, Brul 26.04 28 P P 14 46 40.5 -0.4
E38A IAmb IAmb 14 46 41.7
comp=Z,86nm,1.9s
Q51A Peebles 26.09 51 P P 14 46 41.5 0.0
Q51A IAmb IAmb 14 46 45.2
comp=Z,36nm,0.9s
KMSC Kings Mountain 26.23 60 P P 14 46 42.4 -0.4
KMSC IAmb IAmb 14 46 44.1
comp=Z,24nm,0.8s
KMSC Kings Mountain 26.23 60 P P 14 46 41.3 -1.5
baz=254
P51A Williamsport 26.49 50 P P 14 46 44.6 -0.5
P51A IAmb IAmb 14 46 51.3
comp=Z,39nm,0.9s
V55A Taylorsville 26.52 59 P P 14 46 46.0 +0.5
V55A IAmb IAmb 14 46 46.9
comp=Z,25nm,0.9s
B35A Bob, Littlefor 26.60 23 P P 14 46 46.2 +0.2
B35A IAmb IAmb 14 46 47.0
comp=Z,22nm,1.2s

NHSC	**New Hope**	26.70	65	P		P	14 46 45.4	-1.6
	baz=259							
COWI	**Conover**	26.77	32	P		P	14 46 47.6	+0.1
COWI				IAmb		IAmb	14 46 49.0	
	comp=Z,29nm,0.8s							
Q52A	**Bidwell**	26.83	51	P		P	14 46 47.8	-0.3
Q52A				IAmb		IAmb	14 46 59.2	
	comp=Z,61nm,1.4s							
ACSO	**Alum Creek Sta**	26.88	48	P		P	14 46 47.2	-1.4
	baz=242							
F42A	**Maple Grove Fa**	27.02	34	P		P	14 46 49.9	+0.1
F42A				IAmb		IAmb	14 46 50.9	
	comp=Z,39nm,0.9s							
S54A	**Dingess, Beckl**	27.08	54	P		P	14 46 50.3	-0.1
EYMN	**Ely**	27.12	27	P		P	14 46 50.5	-0.2
EYMN	**Ely**	27.12	27	P		P	14 46 50.4	-0.3
	baz=217,SNR=18							
P52A	**Corning**	27.20	50	P		P	14 46 51.1	-0.5
	baz=245							
ULM	**Lac du Bonnet**	27.54	19	P		P	14 46 54.3	-0.1
	comp=Z,14nm,1.1s,baz=207,slow=11,SNR=6.4							
ULM				LR		LR	14 58 00.3	
	comp=Z,342nm,19.3s,baz=188,slow=37							
	comp=Z,14nm,1.1s							
ULM	**Lac du Bonnet**	27.54	19	P		P	14 46 53.9	-0.5
ULM				IAmb		IAmb	14 46 55.6	
	comp=Z,22nm,1.1s							
BLA	**Blacksburg**	27.55	56	P		P	14 46 54.0	-0.7
	baz=251							
P53A	**Whipple**	27.67	51	P		P	14 46 55.5	-0.1
D41A	**Chassel**	27.74	31	P		P	14 46 56.1	-0.1
O53A	**New Philadelph**	28.11	50	P		P	14 46 58.3	-1.3
	baz=245							
R55A	**Marlinton**	28.13	54	P		P	14 46 59.3	-0.7
GLMI	**Grayling**	28.30	39	P		P	14 47 00.5	-0.9
	baz=233							
MCWV	**Mont Chateau**	28.83	52	P		P	14 47 04.9	-1.1
	baz=247							
CNNC	**Cliffs at the**	28.99	61	P		P	14 47 06.6	-0.8
	baz=257							
U59A	**Littleton**	29.33	59	P		P	14 47 10.2	-0.3
JSRW	**J. Sargeant Re**	29.62	57	P		P	14 47 12.7	-0.4
ERPA	**Erie**	29.75	47	P		P	14 47 13.3	-0.8
	baz=243							
FFC	**Flin Flon**	30.48	8	P		P	14 47 20.8	+0.3
FFC				IAmb		IAmb	14 47 22.2	
	comp=Z,56nm,2.0s							
SSPA	**Standing Stone**	30.59	51	P		P	14 47 21.2	-0.4
SSPA				IAmb		IAmb	14 47 22.3	
	comp=Z,14nm,0.8s							
SSPA	**Standing Stone**	30.59	51	P		P	14 47 20.5	-1.1
	baz=248							
BBB	**Bella Bella**	31.01	337	LR		LR	14 59 01.4	
	comp=Z,207nm,18.8s,baz=161,slow=35							
M57A	**Sunshine Farm,**	31.38	50	P		P	14 47 28.2	-0.4
M57A				IAmb		IAmb	14 48 26.7	
	comp=Z,40nm,1.5s							
N58A	**Sunbury**	31.49	51	P		P	14 47 28.9	-0.6
SADO	**Sadowa**	31.54	43	LR		LR	14 59 16.0	
	comp=Z,299nm,19.1s,baz=354,slow=34							
DELO	**Deloro Mine**	32.38	44	P		P	14 47 35.7	-1.6
KSPA	**Keystone Colle**	32.41	50	P		P	14 47 36.5	-1.1
BINY	**Binghamton**	32.50	49	P		P	14 47 37.3	-1.2
	baz=248							
BRNJ	**Basking Ridge**	32.98	53	P		P	14 47 41.3	-1.3
ODNJ	**Ogdensburg**	33.08	52	P		P	14 47 43.2	-0.2
L59A	**Walton**	33.15	50	P		P	14 47 43.9	-0.2
TRNY	**Table Rock, Ra**	33.37	52	P		P	14 47 46.0	0.0
PAL	**Palisades**	33.55	52	P		P	14 47 47.4	-0.2
HILA	**High Level**	34.30	353	P		P	14 47 55.0	+1.1
TRQ	**Mont Tremblant**	35.07	43	P		P	14 48 00.8	0.0
FCC	**Fort Churchill**	35.70	13	P		P	14 48 06.3	+0.4
S34M	**Telegraph Cree**	36.72	341	P		P	14 48 16.1	+1.4
	baz=146							
DLBC	**Dease Lake**	36.83	342	P		P	14 48 16.7	+1.0
DLBC				IAmb		IAmb	14 48 19.6	
	comp=Z,9.7nm,0.8s							
DLBC	**Dease Lake**	36.83	342	P		P	14 48 16.0	+0.3
	baz=147,SNR=7.1							
FLDN	**Fort Liard**	36.89	348	P		P	14 48 17.0	+0.9
	baz=158							
KOTAN	**Kotaneelee Air**	36.90	348	P		P	14 48 17.9	+1.7
	baz=157,SNR=7.9							
SIT	**Sitka**	37.43	337	P		P	14 48 22.3	+1.6
	baz=139							
S32K	**Killisnoo**	37.48	338	P		P	14 48 22.9	+1.8
	baz=140							
R33M	**Jennings River**	37.90	342	P		P	14 48 26.7	+1.8
	baz=147							
Q32M	**Nakina River**	37.92	341	P		P	14 48 25.4	+0.3
	baz=145							
WTLY	**Watson Lake, Y**	37.94	344	P		P	14 48 27.6	+2.5
	baz=150							
YKA	**Yellowknife Ar**	37.97	356	P		P	14 48 25.2	-0.1
	comp=Z,5.7nm,0.9s,baz=170,slow=7.7,SNR=7.1							
YKA				LR		LR	15 07 00.8	
	comp=Z,211nm,18.3s,baz=146,slow=41							
	comp=Z,5.7nm,0.9s							
R32K	**Eaglecrest**	38.09	339	P		P	14 48 27.2	+0.9
	baz=141							
PKME	**Peaks-Kenny Pk**	38.11	47	P		P	14 48 28.3	+1.6
	baz=251							
S31K	**Pelican**	38.44	337	P		P	14 48 30.6	+1.4
	baz=138							
P32M	**Atlin**	38.87	340	P		P	14 48 34.5	+1.6
	baz=143							
TGTN	**Hyland Airport**	39.06	346	P		P	14 48 35.4	+0.9
	baz=152							
P33M	**Teslin, Yukon**	39.10	342	P		P	14 48 35.8	+0.9
	baz=145							
SKAG	**Skagway**	39.27	339	P		P	14 48 37.4	+1.2
	baz=141							
PLBC	**Pleasant Camp**	39.61	339	P		P	14 48 40.1	+1.1
	baz=140							
MLPR	**Magueyes Islan**	39.72	91	P		P	14 48 41.2	+0.7
SDV	**Santo Domingo**	39.95	106	LR		LR	15 06 20.0	
	comp=Z,176nm,21.0s,baz=304,slow=38							
WHY	**Whitehorse**	40.08	341	P		P	14 48 44.1	+1.0
	baz=142							
P29M	**Windy Craggy**	40.20	338	P		P	14 48 44.6	+0.5
	baz=138							
P30M	**Million Dollar**	40.31	339	P		P	14 48 46.3	+1.3
	baz=139							
SJG	**San Juan**	40.49	91	LR		LR	15 06 58.3	
	comp=Z,132nm,21.5s,baz=280,slow=38							
GCPR	**Guaynabo City**	40.49	90	P		P	14 48 45.8	-1.1
GCPR				IAmb		IAmb	14 48 57.5	
	comp=Z,17nm,0.8s							
O30N	**Mendenhall**	40.53	340	P		P	14 48 47.6	+0.9
	baz=141							
MMPY	**Sheldon Lake,**	40.71	345	P		P	14 48 48.3	+0.1
	baz=148,SNR=8.9							
PNL	**Peninsula**	40.81	337	P		P	14 48 49.6	+0.5
	baz=136							
FARO	**Faro, Yukon**	40.91	343	P		P	14 48 50.4	+0.5
FARO	**Faro, Yukon**	40.91	343	P		P	14 48 50.7	+0.9
	baz=146							
O29M	**Mount Kennedy**	40.98	338	P		P	14 48 51.1	+0.5
	baz=137							
N31M	**Braeburn, Yuko**	41.00	341	P		P	14 48 51.8	+1.2
	baz=142							
HYT	**Haines Junctio**	41.02	339	P		P	14 48 51.7	+0.9
	baz=139							
MTP	**Monte Pirata**	41.04	90	P		P	14 48 50.4	-1.0
MTP				IAmb		IAmb	14 48 53.2	
	comp=Z,28nm,0.8s							
M31M	**Drury Creek, Y**	41.17	342	P		P	14 48 52.1	+0.1
M31M				IAmb		IAmb	14 49 13.9	
	comp=Z,26nm,1.9s							
M31M	**Drury Creek, Y**	41.17	342	P		P	14 48 53.1	+1.1
	baz=144							
N30M	**Aishikik Lake**	41.37	340	P		P	14 48 54.6	+0.9
	baz=140							
YUK6	**Outpost Mounta**	41.39	339	P		P	14 48 55.0	+0.9
	baz=138							
PINM	**Pinnacle**	41.42	337	P		P	14 48 55.1	+1.0
	baz=135							
YUK4	**Talbot Arm**	41.78	339	P		P	14 48 58.7	+1.5
	baz=138							
O28M	**Mount Upton**	41.88	338	P		P	14 48 59.0	+0.8
	baz=136							
MESA	**MESA**	42.09	336	P		P	14 48 59.9	+0.1
	baz=133							
YUK8	**Steele Glacier**	42.10	339	P		P	14 49 00.5	+0.6
	baz=136,SNR=8.7							
M30M	**Minto, Yukon**	42.15	341	P		P	14 49 00.6	+0.6
	baz=141							
M29M	**Somme Creek**	42.55	340	P		P	14 49 03.6	+0.3
	baz=139							
YUK3	**Moose Creek**	42.69	339	P		P	14 49 05.5	+0.9
	baz=136							
MAYO	**Mayo, Yukon**	42.70	343	P		P	14 49 05.8	+1.3
	baz=143							
L29M	**L29M**	42.95	341	P		P	14 49 07.9	+1.3
	baz=140							
BVCY	**Beaver Creek**	43.28	339	P		P	14 49 10.4	+1.2
	baz=136							
MCARA	**McCarthy VSAT**	43.30	337	P		P	14 49 10.8	+1.5
	baz=132							
SCHQ	**Schefferville**	43.32	35	P		P	14 49 09.0	-0.6
	comp=Z,7.4nm,0.9s,baz=234,slow=13,SNR=4.2							
SCHQ				LR		LR	15 08 29.1	
	comp=Z,229nm,21.2s,baz=222,slow=38							
	comp=Z,7.4nm,0.9s							
SCHQ	**Schefferville**	43.32	35	P		P	14 49 09.6	0.0
SCHQ				IAmb		IAmb	14 50 02.7	
	comp=Z,33nm,1.4s							
Q23K	**Middleton Isla**	43.32	333	P		P	14 49 10.8	+1.3
	baz=127							
K29M	**Barlow Dome**	43.35	342	P		P	14 49 11.4	+1.6
	baz=141,SNR=16							
GBN	**Guysborough**	43.44	49	P		P	14 49 10.7	+0.1
M27K	**Edge Creek, AK**	43.57	339	P		P	14 49 12.3	+0.6
	baz=135							
BMRM	**Bremner River**	43.60	336	P		P	14 49 13.0	+1.3
	baz=130							
EYAK	**Cordova Ski Ar**	43.76	335	P		P	14 49 14.1	+1.1
	baz=129							
M26K	**Nabesna, AK**	43.98	338	P		P	14 49 15.2	+0.4
	baz=133							
N25K	**Chitina, Valde**	44.01	337	P		P	14 49 15.4	+0.3
N25K				IAmb		IAmb	14 49 27.3	
	comp=Z,19nm,1.1s							
N25K	**Chitina, Valde**	44.01	337	P		P	14 49 16.4	+1.3
	baz=131							
BCAR	**Beaver Creek A**	44.05	339	P		P	14 49 17.6	+2.3
DAWY	**Dawson**	44.05	341	P		P	14 49 17.4	+2.0
DAWY				IAmb		IAmb	14 49 26.6	
	comp=Z,16nm,0.9s							
DAWY	**Dawson**	44.05	341	P		P	14 49 16.8	+1.5
	baz=139,SNR=7.4							
L27K	**Beaver Creek,**	44.06	339	P		P	14 49 17.5	+2.0
L27K	**Beaver Creek,**	44.06	339	P		P	14 49 16.6	+1.2
	baz=135							
KLU	**Klutina**	44.42	336	P		P	14 49 18.8	+0.4
	baz=129							
L26K	**Log Cabin Wild**	44.53	339	P		P	14 49 21.6	+2.4
L26K				IAmb		IAmb	14 49 30.2	
	comp=Z,17nm,1.4s							
L26K	**Log Cabin Wild**	44.53	339	P		P	14 49 20.6	+1.4
	baz=133							
PCRV	**Puerto La Cruz**	44.69	101	LR		LR	15 08 16.2	
	comp=Z,128nm,20.9s,slow=36							
HARP	**HAARP**	44.73	337	P		P	14 49 21.7	+0.9
	baz=131							
I29M	**Ogilvie Camp,**	44.75	343	P		P	14 49 22.5	+1.6
	baz=141							
K27K	**Chicken**	44.83	340	P		P	14 49 22.6	+1.1
	baz=136							
M24K	**Tolsona, Glenn**	44.90	336	P		P	14 49 23.5	+1.2
	baz=129							
SEW	**Seward**	44.99	333	P		P	14 49 23.5	+0.6
	baz=124							
EGAK	**Eagle**	45.09	341	P		P	14 49 24.4	+0.8
	baz=137							
EPYK	**Eagle Plains**	45.15	345	P		P	14 49 24.4	+0.2
	baz=144							
SCM	**Sheep Creek Mo**	45.16	336	P		P	14 49 24.7	+0.4
	baz=128							
PAX	**Paxson**	45.21	338	P		P	14 49 25.7	+1.0
PAX	**Paxson**	45.21	338	P		P	14 49 24.8	+0.1
	baz=131							
OHAK	**Old Harbor**	45.26	328	P		P	14 49 25.1	0.0
	baz=117							
BRSE	**Bradley Lake S**	45.34	332	P		P	14 49 25.9	+0.2
	baz=122							
KNK	**Knik Glacier**	45.34	335	P		P	14 49 26.2	+0.5
	baz=126							
F31M	**Tsiigehtchic**	45.38	347	P		P	14 49 26.7	+0.8
	baz=148							
SCRK	**Sand Creek**	45.39	339	P		P	14 49 27.9	+1.7
	baz=133,SNR=6.5							
RIDG	**Independent Ri**	45.51	339	P		P	14 49 27.8	+0.7
	baz=132							
SML	**Sawmill**	45.52	335	P		P	14 49 27.5	+0.4
	baz=126							
G30M	**tAoh Zraii Nji**	45.53	346	P		P	14 49 28.2	+1.0
	baz=145							
C36M	**Paulatuk**	45.56	353	P		P	14 49 28.3	+1.1
	baz=161							
J26L	**Joseph Creek**	45.62	340	P		P	14 49 30.4	+2.4
J26L	**Joseph Creek**	45.62	340	P		P	14 49 28.3	+0.4
	baz=134							
PMR	**Palmer**	45.71	335	P		P	14 49 28.8	+0.3
	baz=126							
WAT6	**Susitna Watana**	45.77	336	P		P	14 49 29.8	+0.6
	baz=128,SNR=6.3							
I27K	**Kandik River**	45.83	342	P		P	14 49 30.5	+0.9
	baz=137							
K24K	**Donnelly Dome**	45.86	338	P		P	14 49 31.0	+1.2
	baz=131,SNR=17							
DHY	**Denali Highway**	45.95	337	P		P	14 49 31.1	+0.5
DHY				IAmb		IAmb	14 49 41.5	
	comp=Z,12nm,1.2s							
DHY	**Denali Highway**	45.95	337	P		P	14 49 30.9	+0.2
	baz=129							
I26K	**Coal Creek Min**	46.06	341	P		P	14 49 31.5	+0.2
	baz=135							
INK	**Inuvik**	46.08	348	P		P	14 49 32.6	+1.3
	comp=Z,2.8nm,0.8s,baz=157,slow=6.4,SNR=7.9							
INK				LR		LR	15 08 21.1	
	comp=Z,198nm,19.6s,baz=156,slow=36							
	comp=Z,2.8nm,0.8s							
INK	**Inuvik**	46.08	348	P		P	14 49 32.0	+0.7
INK	**Inuvik**	46.08	348	P		P	14 49 32.1	+0.8
	baz=149							
M22K	**Willow**	46.19	334	P		P	14 49 33.1	+0.8
	baz=124							
Q19K	**Cape Douglas,**	46.22	330	P		P	14 49 33.3	+0.6
	baz=118							
WAT1	**Susitna Watana**	46.22	336	P		P	14 49 33.4	+0.8
	baz=127							
J25K	**Salcha River,**	46.27	339	P		P	14 49 33.8	+0.8
	baz=132							
H27K	**Steamboat Moun**	46.27	343	P		P	14 49 33.3	+0.3
	baz=138							
SUA	**Susitna One**	46.27	334	P		P	14 49 33.3	+0.1
	baz=124							
P19K	**Oil Pt**	46.38	331	P		P	14 49 34.0	+0.1
	baz=119							
CUT	**Chulitna**	46.62	335	P		P	14 49 35.9	+0.2
	baz=125							
HDA	**Harding Lake**	46.65	339	P		P	14 49 35.5	-0.5
	baz=130							
SPU	**Mount Spurr**	46.65	333	P		P	14 49 38.2	+2.1
Q18K	**Katmai Hardscr**	46.72	329	P		P	14 49 36.8	+0.1
	baz=116							
N20K	**Mount Spurr**	46.73	333	P		P	14 49 36.5	-0.2
	baz=122							
SPCR	**Spurr Chakacha**	46.73	333	P		P	14 49 36.7	0.0
	baz=122							
G27K	**Doyon Strip**	46.74	343	P		P	14 49 37.0	+0.3
	baz=138							
IL31		46.86	339	P		P	14 49 39.2	+1.6
IL31				IAmb		IAmb	14 49 40.4	
	comp=Z,12nm,0.7s							
ILAR	**Eielson Array**	46.86	339	P		P	14 49 39.4	+1.8
	comp=Z,8.5nm,0.9s,baz=149,slow=7.0,SNR=124							
ILAR				PcP		PcP	14 51 10.5	+0.1
	comp=Z,0.3nm,0.6s,baz=151,slow=2.1,SNR=0.8							
ILAR				LR		LR	15 09 10.2	
	comp=Z,101nm,19.1s,baz=72,slow=36							
	comp=Z,8.5nm,0.9s							
ILAR	**Eielson Array**	46.86	339	P		P	14 49 39.2	+1.6
SKT	**Skwentna**	46.87	334	P		P	14 49 39.3	+1.6
SKT	**Skwentna**	46.87	334	P		P	14 49 39.0	+1.2
	baz=123,SNR=7.4							
MCK	**McKinley**	46.91	337	P		P	14 49 39.4	+1.4
MCK				IAmb		IAmb	14 49 41.0	
	comp=Z,16nm,1.0s							
MCK	**McKinley**	46.91	337	P		P	14 49 38.3	+0.3
	baz=127,SNR=6.5							
PRP	**Porcupine Dome**	46.93	340	P		P	14 49 40.0	+1.7
PRP				IAmb		IAmb	14 49 49.5	
	comp=Z,10nm,0.9s							
PRP	**Porcupine Dome**	46.93	340	P		P	14 49 39.7	+1.5
	baz=133							
R17K	**Ugashik Creek**	46.95	327	P		P	14 49 39.1	+0.8
	baz=114							
Q17K	**Contact Creek**	46.97	328	P		P	14 49 39.5	+0.9
	baz=115							
CCB	**Clear Creek Bu**	47.09	338	P		P	14 49 40.6	+1.2
CCB				IAmb		IAmb	14 49 42.3	
	comp=Z,4.8nm,0.7s							
O19K	**Port Alsworth**	47.12	331	P		P	14 49 40.9	+1.2
O19K				IAmb		IAmb	14 49 49.6	
	comp=Z,12nm,0.8s							
O19K	**Port Alsworth**	47.12	331	P		P	14 49 40.6	+0.9
	baz=118							
P18K	**Big Mountain,**	47.16	330	P		P	14 49 41.1	+1.1
P18K				IAmb		IAmb	14 50 11.2	
	comp=Z,17nm,0.9s							
P18K	**Big Mountain,**	47.16	330	P		P	14 49 40.2	+0.2
	baz=117							
TRF	**Thorofare Moun**	47.23	336	P		P	14 49 41.6	+0.9
TRF	**Thorofare Moun**	47.23	336	P		P	14 49 41.4	+0.7
	baz=126,SNR=19							
FRB	**Frobisher Bay**	47.24	23	LR		LR	15 09 51.4	
	comp=Z,391nm,21.9s,baz=217,slow=36							
COLA	**College**	47.24	339	P		P	14 49 41.9	+1.3
COLA				IAmb		IAmb	14 49 43.4	
	comp=Z,7.7nm,0.7s							
COLA	**College**	47.24	339	P		P	14 49 40.5	0.0
	baz=129							
TCOL	**CIGO, UAF Yank**	47.25	339	P		P	14 49 42.1	+1.5
TCOL				IAmb		IAmb	14 49 43.4	
	comp=Z,8.0nm,0.7s							
TCOL	**CIGO, UAF Yank**	47.25	339	P		P	14 49 40.5	0.0
	baz=129							
POKR	**Poker Plat Res**	47.26	339	P		P	14 49 42.6	+1.8
POKR				IAmb		IAmb	14 49 51.6	
	comp=Z,19nm,1.1s							
POKR	**Poker Plat Res**	47.26	339	P		P	14 49 40.8	+0.1
	baz=136							
O18K	**Koktuh Hills**	47.36	330	P		P	14 49 43.4	+1.9
O18K	**Koktuh Hills**	47.36	330	P		P	14 49 41.1	-0.5
	baz=117							
BWN	**Browne**	47.36	337	P		P	14 49 43.0	+1.5
G26K	**Porcupine Rive**	47.42	342	P		P	14 49 43.6	+1.8
	baz=136							
MDM	**Murphy Dome**	47.42	339	P		P	14 49 43.6	+1.5
MDM				IAmb		IAmb	14 49 44.4	
	comp=Z,5.3nm,0.8s							
M20K	**Styx River**	47.46	334	P		P	14 49 43.3	+0.9
	baz=121							
CHGN	**Chignik**	47.47	325	P		P	14 49 43.6	+1.2
	baz=111							
NEA2	**Nenana**	47.48	338	P		P	14 49 43.2	+0.8
NEA2				IAmb		IAmb	14 49 52.6	
	comp=Z,18nm,1.1s							
NEA2	**Nenana**	47.48	338	P		P	14 49 42.7	+0.3
	baz=128							
N19K	**Bonanza Creek**	47.49	332	P		P	14 49 42.4	-0.3
	baz=119,SNR=6.7							
Q16K	**King Salmon**	47.51	329	P		P	14 49 42.8	+0.2
	baz=115							
KTH	**Kantishna Hill**	47.52	336	P		P	14 49 44.0	+1.2
H25L	**Birch Creek**	47.52	341	P		P	14 49 43.2	+0.5
	baz=133							
FYU	**Fort Yukon**	47.56	341	P		P	14 49 44.9	+2.0
CHNA	**Chernabura Isl**	47.60	323	P		P	14 49 43.9	+0.5
	baz=108							
PPLA	**Purkeypile**	47.63	335	P		P	14 49 45.5	+1.8
PPLA	**Purkeypile**	47.63	335	P		P	14 49 44.2	+0.4
	baz=123,SNR=8.3							
P17K	**Kvichak River**	47.63	329	P		P	14 49 44.4	+0.8
	baz=115							
E27K	**Coleen River**	47.76	344	P		P	14 49 44.9	+0.3
	baz=139							
BPAW	**Bear Paw Mtn.**	47.86	337	P		P	14 49 45.5	+0.1
	baz=125							
H24K	**Noodor Dome**	47.87	340	P		P	14 49 46.0	+0.5
	baz=130							
CAST	**Castle Rocks**	47.87	336	P		P	14 49 46.5	+1.0
CAST	**Castle Rocks**	47.87	336	P		P	14 49 46.0	+0.5
	baz=124,SNR=9.9							
I23K	**Minto, Yukon-K**	47.92	338	P		P	14 49 46.4	+0.6
	baz=128							
G25K	**Bearman Lake**	47.95	341	P		P	14 49 46.6	+0.6
	baz=133							
BMAR	**Burnt Mountain**	47.98	342	P		P	14 49 48.0	+1.7
M19K	**Big River Lodg**	47.98	333	P		P	14 49 48.1	+1.7
M19K				IAmb		IAmb	14 49 56.5	
	comp=Z,9.5nm,0.9s							
M19K	**Big River Lodg**	47.98	333	P		P	14 49 46.6	+0.2
	baz=120							
N18K	**Kilae Creek**	48.04	331	P		P	14 49 48.3	+1.5
N18K				IAmb		IAmb	14 49 57.0	
	comp=Z,14nm,0.8s							
N18K	**Kilae Creek**	48.04	331	P		P	14 49 47.1	+0.3
	baz=117							
F26K	**Sheenjek River**	48.05	343	P		P	14 49 47.1	+0.2
	baz=136							
L20K	**Farewell, AK**	48.07	334	P		P	14 49 47.0	0.0
	baz=121							
O17K	**Koliganek Bris**	48.18	330	P		P	14 49 48.4	+0.5
	baz=115							
A36M	**Sachs Harbour**	48.19	353	P		P	14 49 48.3	+0.5
A36M				IAmb		IAmb	14 49 50.0	
	comp=Z,15nm,0.8s							
A36M	**Sachs Harbour**	48.19	353	P		P	14 49 48.1	+0.3
	baz=160,SNR=12							
CHUM	**Lake Minchumin**	48.22	336	P		P	14 49 48.2	0.0
	baz=124							
G24K	**Hadweenzic Riv**	48.31	341	P		P	14 49 47.8	-1.1
	baz=131							
L19K	**White Mountain**	48.31	333	P		P	14 49 50.3	+1.4
L19K				IAmb		IAmb	14 49 59.2	
	comp=Z,16nm,0.9s							
L19K	**White Mountain**	48.31	333	P		P	14 49 47.9	-1.1
	baz=120							
MLY	**Manley**	48.31	338	P		P	14 49 50.5	+1.6
MLY				IAmb		IAmb	14 49 51.8	
	comp=Z,12nm,0.9s							
MLY	**Manley**	48.31	338	P		P	14 49 47.9	-1.0
	baz=126,SNR=11							
F25K	**Christian Rive**	48.39	342	P		P	14 49 48.6	-0.9
	baz=134							
H23K	**Yukon River**	48.40	339	P		P	14 49 50.7	+1.1
H23K				IAmb		IAmb	14 50 00.7	
	comp=Z,7.8nm,0.9s							
H23K	**Yukon River**	48.40	339	P		P	14 49 49.0	-0.6
	baz=128							
O16K	**Kokwok River B**	48.56	329	P		P	14 49 49.1	-1.8
	baz=114							
K20K	**Telida**	48.60	335	P		P	14 49 52.0	+0.9

baz=127
D25K **Kavik River** 49.78 344 P P 14 50 01.1 +1.0
baz=134
E23K **Chandalar** 49.82 341 P P 14 50 02.0 +1.5
baz=130
C26K **Camden Bay** 49.84 345 P P 14 50 01.8 +1.3
baz=136
IMAR **Indian Mountai** 49.89 338 P P 14 50 01.5 +0.5
G21K **Allakaket** 50.10 339 P P 14 50 03.5 +0.9
baz=124
TOLK **Toolik Lake Re** 50.19 342 P P 14 50 04.7 +1.5
TOLK IAmb IAmb 14 50 06.0
comp=Z,7.7nm,0.8s
TOLK **Toolik Lake Re** 50.19 342 P P 14 50 04.7 +1.5
baz=130,SNR=8.3
F22K **John River** 50.25 340 P P 14 50 04.8 +1.1
baz=126
GCSA **Galena City Sc** 50.37 336 P P 14 50 06.1 +1.6
baz=119
F21K **Alatna River** 50.50 339 P P 14 50 06.1 +0.5
baz=125
RES **Resolute Bay** 50.61 5 LR LR 15 11 24.7
comp=Z,178nm,19.1s,baz=168,slow=36
C24K **Franklin Bluff** 50.66 343 P P 14 50 07.7 +1.0
baz=132
D23K **Nanushuk River** 50.70 342 P P 14 50 08.3 +1.2
baz=129
C23K **Itkillik River** 51.24 343 P P 14 50 12.0 +1.0
baz=130
NIKH **Nikolski High** 52.51 319 P P 14 50 20.6 -0.2
ETMB **Extrema** 54.16 124 P P 14 50 32.5 -1.0
ETMB IAmb IAmb 14 50 34.2
comp=Z,4.5nm,0.7s
SFJD **Kangerlussuaq** 55.37 24 LR LR 15 14 24.2
comp=Z,172nm,19.7s,baz=240,slow=36
SAML **Samuel** 55.95 121 P P 14 50 44.9 -1.5
EUNU **Eureka** 56.30 5 P P 14 50 47.1 -1.0
EUNU IAmb IAmb 14 50 58.1
comp=Z,23nm,1.7s
LPAZ **La Paz** 57.12 131 P P 14 50 56.1 +0.8
comp=Z,1.2nm,0.8s,baz=325,slow=12,SNR=5.0
comp=Z,1.2nm,0.8s
PPT **Papeete** 57.55 227 LR LR 15 09 39.5
comp=Z,55nm,22.0s,baz=40,slow=30
PPT2 **Papeete2** 57.57 227 *e*LR LR 15 07 44.8
comp=Z,121nm,23.5s
PPT2 *e*LR LR 15 07 45.4
comp=Z,134nm,25.0s
NEEM **North Greenlan** 59.32 12 *i* P P 14 51 07.7 -1.9
ICESG **Greenland Ices** 59.89 23 *i* P P 14 51 13.1 -0.7
ICESG IAmb IAmb 14 51 13.8
comp=Z,7.2nm,0.7s
SUMG **Summit** 60.90 19 *i* P P 14 51 20.1 -0.6
SUMG IAmb IAmb 14 51 22.2
comp=Z,3.0nm,0.6s
TBI **Tubuai** 61.68 222 *e*LR LR 15 09 40.1
comp=Z,473nm,29.2s
SIV **San Ignacio** 61.95 126 LR LR 15 19 04.6
comp=Z,71nm,18.4s,baz=322,slow=37
SHEM **Shemya Is, Ala** 62.81 318 LR LR 15 13 17.4
comp=Z,37nm,21.8s,baz=58,slow=31
PTLB **Pontes e Lacer** 63.05 124 P P 14 51 34.8 -0.6
PTLB IAmb IAmb 14 51 52.4
comp=Z,19nm,1.5s
H03N2 **Juan Fernandez** 64.59 152 T T 16 02 05.4
baz=331,slow=77,SNR=23
H03N1 **Juan Fernandez** 64.59 152 T T 16 02 03.2
baz=331,slow=77,SNR=32
H03N3 **Juan Fernandez** 64.60 152 T T 16 02 02.3
baz=331,slow=77,SNR=37
BILL **Bilibino** 65.33 336 P P 14 51 49.8 +0.2
BILL IAmb IAmb 14 51 51.5
comp=Z,13nm,1.1s
DAG **Danmarks Havn** 66.29 15 *i* P P 14 51 54.5 -1.2
DAG IAmb IAmb 14 51 55.5
comp=Z,7.9nm,0.6s
BORG **Borgarnes** 67.07 28 LR LR 15 20 58.8
comp=Z,149nm,18.6s,baz=275,slow=36
CPUP **Villa Florida** 71.29 132 P P 14 52 27.9 +0.4
comp=Z,3.5nm,0.9s,baz=315,slow=5.2,SNR=8.0
comp=Z,3.5nm,0.9s
CPUP **Villa Florida** 71.29 132 P P 14 52 27.1 -0.4
CPUP IAmb IAmb 14 52 37.5
comp=Z,5.4nm,1.1s
BDFB **Brasilia** 71.87 117 P P 14 52 32.4 +1.0
comp=Z,4.8nm,0.6s,baz=312,slow=4.7,SNR=7.2
BDFB LR LR 15 26 11.4
comp=Z,97nm,18.3s,baz=40,slow=38
comp=Z,4.8nm,0.6s
SEY **Seymchan** 72.04 332 P P 14 52 32.1 +0.6
comp=Z,6.5nm,0.7s,baz=100,slow=6.6,SNR=22
comp=Z,6.5nm,0.7s
PETK **Petropavlovsk-** 72.44 321 P P 14 52 34.9 +0.7
comp=Z,4.3nm,0.9s,baz=94,slow=9.0,SNR=3.5
PETK LR LR 15 19 54.1
comp=Z,38nm,21.1s,baz=43,slow=32
comp=Z,4.3nm,0.9s
SPITS **Spitsbergen Ar** 72.71 10 LR LR 15 25 02.6
comp=Z,191nm,19.6s,baz=283,slow=36
MA2 **Magadan** 73.93 329 LR LR 15 24 37.6
comp=Z,34nm,18.4s,baz=86,slow=35
PLCA **Paso Flores** 74.34 150 P P 14 52 46.8 +1.3
comp=Z,2.4nm,0.7s,baz=319,slow=8.8,SNR=7.3
comp=Z,2.4nm,0.7s
TIXI **Tiksi** 76.03 344 LR LR 15 28 24.3
comp=Z,66nm,18.1s,baz=164,slow=37
TIXI **Tiksi** 76.03 344 P P 14 52 53.7 -1.0
TIXI IAmb IAmb 14 52 55.0
comp=Z,9.5nm,1.1s
RCBR **Riachuelo** 77.40 102 LR LR 15 27 57.8
comp=Z,35nm,21.9s,baz=68,slow=36
STEI **Steigen** 79.05 19 *e*P P 14 53 11.5 -0.2
HAMF **Hammerfest** 79.33 14 *e*P P 14 53 13.9 +0.7
KTK1 **Kautokeino** 80.43 16 *e*P P 14 53 19.5 +0.3
ARA0 **ARCESS Array S** 80.58 15 *e*P P 14 53 20.5 +0.5
ARCES **ARCESS Array B** 80.58 15 P P 14 53 19.8 -0.2
comp=Z,7.9nm,0.7s,baz=333,slow=4.1,SNR=24
ARCES LR LR 15 29 27.0
comp=Z,101nm,21.2s,baz=328,slow=36
comp=Z,7.9nm,0.7s
ARCES **ARCESS Array B** 80.58 15 P P 14 53 19.9 -0.2
DOMB **Dombas** 80.61 25 *e*P P 14 53 20.8 +0.4
KEV **Kevo** 80.75 14 P P 14 53 20.8 -0.1
VADS **Vadso** 80.97 13 *e*P P 14 53 22.4 +0.3
YAK **Yakutsk** 81.69 336 P P 14 53 26.7 +0.7
baz=52,slow=1.1
YAK **Yakutsk** 81.69 336 P P 14 53 26.1 +0.2
NB2 **NORSAR Subarra** 82.03 25 P P 14 53 28.8 +0.9
baz=307,slow=5.3
NB2 **NORSAR Subarra** 82.03 25 P P 14 53 28.8 +0.9
comp=Z,0.8nm,0.6s,baz=307,slow=5.3
NOA **NORSAR Array B** 82.03 25 P P 14 53 27.7 -0.2
comp=Z,1.5nm,0.7s,baz=303,slow=5.0,SNR=7.3
NOA LR LR 15 30 35.7
comp=Z,70nm,18.6s,baz=290,slow=36
comp=Z,1.5nm,0.7s
POLO **Lamas de Olo** 82.07 48 *e*P P 14 53 29.1 +0.5
comp=Z,43nm,1.9s
PVRL **Vila Real** 82.16 48 *e*P P 14 53 30.1 +1.1
comp=Z,60nm,1.8s
PVIS **Viseu** 82.28 49 *e*P P 14 53 29.8 +0.1
comp=Z,48nm,1.6s
NC602 **NORSAR Array S** 82.35 25 *e*P P 14 53 30.0 +0.5
PACT **Alcochete** 82.47 51 *e*P P 14 53 30.2 -0.4
comp=Z,277nm,1.5s
MTE **Manteigas** 82.66 49 *e*P P 14 53 32.0 +0.3
comp=Z,68nm,2.0s
MVO **Moncorvo** 82.68 48 *e*P P 14 53 31.0 -0.7
comp=Z,54nm,1.5s
PMTG **Montargil** 82.77 50 *e*P P 14 53 32.7 +0.5
comp=Z,43nm,1.7s
PCBR **Castelo Branco** 82.95 49 *e*P P 14 53 33.5 +0.4
comp=Z,36nm,2.0s
HFS **Hagfors** 83.56 25 LR LR 15 31 13.7
comp=Z,124nm,18.9s,baz=289,slow=36
PBAR **Barrancos** 84.00 51 *e*P P 14 53 38.1 -0.4
comp=Z,32nm,1.8s
PAB **San Pablo** 85.24 49 P P 14 53 45.1 +0.2
ESDC **Sonseca Array** 85.44 48 P P 14 53 45.8 -0.1
comp=Z,3.5nm,0.8s,baz=305,slow=5.5,SNR=16
comp=Z,3.5nm,0.8s
ESDC **Sonseca Array** 85.44 48 P P 14 53 45.8 -0.1
ESDC IAmb IAmb 14 53 47.2
comp=Z,4.8nm,1.0s
ESBB **Sonseca Array** 85.44 48 P P 14 53 45.9 +0.1
NRIK **Noril'sk** 85.46 354 P P 14 53 45.8 +0.5
comp=Z,11nm,0.8s,baz=35,slow=2.7,SNR=14
comp=Z,11nm,0.8s
NRIK **Noril'sk** 85.46 354 P P 14 53 45.8 +0.5
NRIK IAmb IAmb 14 53 46.4
comp=Z,12nm,0.8s
FIA1 **FINESS Array S** 86.93 20 P P 14 53 52.8 +0.1
FINES **FINESS Array B** 86.93 20 P P 14 53 52.4 -0.2
comp=Z,6.1nm,0.7s,baz=326,slow=2.7,SNR=16
FINES LR LR 15 32 43.3
comp=Z,153nm,18.2s,baz=314,slow=36
comp=Z,6.1nm,0.7s
FINES **FINESS Array B** 86.93 20 P P 14 53 52.6 0.0
KLR **Kul'dur** 88.62 325 LR LR 15 32 18.4
comp=Z,43nm,18.5s,baz=66,slow=35
HEH **HeiHe** 90.17 328 *e*P P 14 54 08.3 +0.1
MJAR **Matsushiro Arr** 92.02 312 LR LR 15 27 58.1
comp=Z,55nm,21.6s,baz=50,slow=31
JHJ **Hachijo jima 2** 92.75 308 LR LR 15 27 58.9
comp=Z,26nm,21.7s,baz=98,slow=30
JCJ **Chichijima** 94.05 302 LR LR 15 27 20.6
comp=Z,33nm,21.9s,baz=65,slow=30
HNR **Honiara** 94.64 262 LR LR 15 27 48.7
comp=Z,1µm,21.8s,baz=28,slow=30
CN2 **Changchun** 95.43 324 *e*P P 14 54 33.5 +0.8
CN2 pmax pmax
comp=Z,10.0nm,0.1s
AKASG **Malin Array Be** 96.45 25 LR LR 15 37 58.6
comp=Z,106nm,20.9s,baz=310,slow=35
KSRS **Korea Array** 98.13 318 LR LR 15 32 16.3
comp=Z,18nm,21.6s,baz=215,slow=31
GUMO **Guam** 98.38 289 LR LR 15 32 36.7
comp=Z,26nm,19.3s,baz=98,slow=31
KRVT **Keravat (AS076** 99.75 270 LR LR 15 32 43.9
comp=Z,88nm,20.2s,baz=222,slow=31
XLT **XiLinHaoTe** 100.12 329 *e*P Pdif 14 54 54.3 +0.4
XLT pmax pmax
comp=Z,5.0nm,0.7s
XLT pmax pmax
comp=Z,98nm,3.8s
WMQ **Urumqi** 110.09 347 *e*P PKiKP 14 59 40.0 +0.1
WMQ LR LR
comp=Z,100nm,23.1s
PZH **PanZhiHua** 120.98 327 P PKPdf 14 59 59.4 -1.9
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.2s
WRA **Warramunga Arr** 121.47 261 PKP PKPdf 15 00 01.8 -0.3
comp=Z,0.5nm,0.5s,baz=70,slow=2.3,SNR=11
ASAR **Alice Springs** 122.89 257 PKP PKPdf 15 00 04.5 -0.4
comp=Z,0.5nm,0.6s,baz=87,slow=2.3,SNR=10
TNCH **TengChong** 123.77 329 *e*P PKiKP 15 00 08.8 +1.8
TNCH pmax pmax
comp=Z,46nm,4.6s
CMAR **Chiang Mai Arr** 129.10 325 PKP PKPdf 15 00 18.0 +1.2
comp=Z,0.4nm,0.3s,baz=328,slow=1.8,SNR=5.5

*IDC **20** 14:43:58.3±1.3,20.54S×177.93W,h513km±16km,mb3.6/6, mbtmp4.5/9,Error ellipse: s-maj=22.4km s-min=17.9km az=174.0*
*NEIC **20** 14:43:58.6±0.9,20.8S±0.2×177.9W±0.1,h510km±12km, mb4.4/25,Error ellipse: s-maj=25.1km s-min=18.9km az=198.0*
ISC 20 14:43:58.8±0.6,20.59S±0.09×177.85W±0.09,h534km, n47,σ1ş51/50,mb4.4/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	4.81	306	P	P	14 45 25.5	-0.7
	34nm,0.5s,baz=96,slow=18,SNR=45						
MSVF	**Nonsavu**	4.81	306	P	P	14 45 25.7	-0.6
NIUE	**Niue**	7.61	80	P	P	14 45 52.0	-0.3
RAO	**Raoul Island**	8.62	180	P	P	14 46 01.4	-0.8
	181nm,0.4s,baz=44,slow=20,SNR=2.6						
RAO	**Raoul Island**	8.62	180	P	P	14 45 59.5	-2.7
AFI	**Afiamalu**	8.82	42	P	P	14 46 04.4	-0.2
	22nm,0.6s,baz=217,slow=20,SNR=6.3						
AFI				S	S	14 47 44.2	-3.6
	37nm,0.8s,baz=30,slow=23,SNR=5.4						
AFI	**Afiamalu**	8.82	42	P	P	14 46 04.5	-0.1
MARNC	**Mare, Loyalty**	13.22	264	P	P	14 46 48.6	-1.4
OUENC	**Ouen Island, N**	14.37	260	P	P	14 47 00.7	-1.3
DZM	**Mont Dzumac**	14.71	261	P	P	14 47 04.0	-1.7
	8.3nm,0.7s,baz=83,slow=17,SNR=1.9						
DZM	**Mont Dzumac**	14.71	261	P	P	14 47 04.0	-1.7
KOUNC	**Koumac, New Ca**	16.73	267	P	P	14 47 23.5	-2.4
SNZO	**South Karori**	21.60	195	P	P	14 48 10.1	+0.2
TCW	**Tory Channel**	21.61	196	P	P	14 48 07.4	-2.7
QRZ	**Quartz Range**	21.77	200	P	P	14 48 11.1	-0.4
TUWZ	**Tuamua**	21.91	197	P	P	14 48 11.5	-1.2
DSZ	**Denniston Nort**	22.83	200	P	P	14 48 19.3	-1.7
EIDS	**Eidsvold**	28.96	255	P	P	14 49 14.7	-0.5
EIDS				IAmb	IAmb	14 49 30.6	
	comp=Z,20nm,1.4s						
ARMA	**Armidale**	29.15	244	P	P	14 49 16.6	-0.4
ARMA				IAmb	IAmb	14 49 34.3	
	comp=Z,25nm,1.5s						
CAN	**Canberra**	32.58	236	P	P	14 49 45.5	-0.7
CAN				IAmb	IAmb	14 49 46.5	
	comp=Z,15nm,1.4s						
CTA	**Charters Tower**	33.62	264	P	P	14 49 55.3	+0.1
	comp=Z,4.6nm,0.5s,baz=85,slow=12,SNR=2.6						
	comp=Z,4.6nm,0.5s						
CTAO	**Charters Tower**	33.62	264	P	P	14 49 55.4	+0.1
CTAO				IAmb	IAmb	14 50 12.1	
	comp=Z,26nm,1.4s						
PMG	**Port Moresby**	35.50	283	P	P	14 50 11.8	+0.8
	comp=Z,8.1nm,0.8s,baz=120,slow=20,SNR=2.0						
	comp=Z,8.1nm,0.8s						
TOO	**Toolangi**	35.96	234	P	P	14 50 14.4	-0.1
TOO				IAmb	IAmb	14 50 36.8	
	comp=Z,13nm,1.2s						
COEN	**Coen**	37.73	274	P	P	14 50 29.6	+0.2
COEN				IAmb	IAmb	14 50 54.2	
	comp=Z,9.6nm,1.1s						
STKA	**Stephens Creek**	37.88	244	P	P	14 50 30.4	0.0
	comp=Z,2.5nm,0.5s,baz=91,slow=11,SNR=13						
	comp=Z,2.5nm,0.5s						
STKA	**Stephens Creek**	37.88	244	P	P	14 50 30.2	-0.1
BBOO	**Buckleboo**	42.63	244	P	P	14 51 07.9	-0.5
BBOO				IAmb	IAmb	14 51 08.6	
	comp=Z,7.9nm,0.8s						
WR0	**Warramunga Arr**	44.54	262	P	P	14 51 22.9	-0.5
AS31	**Alice Springs**	44.63	257	P	P	14 51 23.9	-0.2
ASAR	**Alice Springs**	44.63	257	P	P	14 51 24.1	0.0
	comp=Z,7.7nm,0.5s,baz=91,slow=8.2,SNR=256						
ASAR				PcP	PcP	14 52 57.4	+2.0
	comp=Z,0.2nm,0.5s,baz=99,slow=4.8,SNR=1.5						
ASAR				ScP	ScP	14 56 01.3	+4.5
	comp=Z,0.2nm,0.6s,baz=88,slow=4.7,SNR=1.7						
	comp=Z,7.7nm,0.5s						
ASAR	**Alice Springs**	44.63	257	P	P	14 51 23.4	-0.7
WB0	**Warramunga Arr**	44.71	262	P	P	14 51 24.2	-0.4
WB0				IAmb	IAmb	14 51 25.0	
	comp=Z,8.9nm,0.5s						
WB2	**Warramunga Arr**	44.72	262	P	P	14 51 24.2	-0.5
WB2				IAmb	IAmb	14 51 25.3	
	comp=Z,7.5nm,0.9s						
WRAB	**Tennant Creek**	44.72	262	P	P	14 51 24.1	-0.6
WRAB				IAmb	IAmb	14 51 25.3	
	comp=Z,7.5nm,0.9s						
WRA	**Warramunga Arr**	44.73	262	P	P	14 51 24.4	-0.4
	comp=Z,2.8nm,0.3s,baz=97,slow=7.4,SNR=233						
	comp=Z,2.8nm,0.3s						
MTN	**Manton Dam**	49.30	271	P	P	14 51 59.6	+0.3
MTN				IAmb	IAmb	14 52 00.2	
	comp=Z,7.7nm,0.7s						
FORT	**Forrest**	49.39	247	P	P	14 51 59.3	-0.4
KNRA	**Kununurra**	50.79	266	P	P	14 52 10.7	+0.5
KNRA				IAmb	IAmb	14 52 44.8	
	comp=Z,31nm,1.4s						
PSA00	**Pilbara Seismi**	57.78	257	P	P	14 52 59.7	+0.3
PSA00				IAmb	IAmb	14 53 22.5	
	comp=Z,13nm,1.1s						
MBWA	**Marble Bar**	57.97	257	P	P	14 53 00.6	0.0
MORW	**Morawa**	59.92	248	P	P	14 53 13.5	-0.1
QSPA	**South Pole Qui**	69.47	180	P	P	14 54 15.3	+1.9
	comp=Z,1.5nm,0.6s,baz=0.0,slow=20,SNR=15						
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	69.47	180	P	P	14 54 15.2	+1.7
BELA	**Belgrano 2**	79.45	173	P	P	14 55 10.8	+1.5
AKASG	**Malin Array Be**	143.16	331	PKP	PKPdf	15 02 32.0	+0.1
	comp=Z,0.8nm,0.4s,baz=38,slow=3.8,SNR=6.5						
CLL	**Collm**	148.19	347	*e*PKPbc	PKPab	15 02 54.0	+4.6

IDC 20 14:45:04.8±7.0,42.81S×39.43E,h0km,mb3.9/2, mbtmp3.9/2,Error ellipse: s-maj=951.2km s-min=55.6km az=9.0,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	77.43	111	P	P	14 57 02.1	0.0
	1.2nm,0.9s,baz=218,slow=5.3,SNR=8.5						
	1.2nm,0.9s						
WRA	**Warramunga Arr**	80.19	108	P	P	14 57 17.5	+0.2
	0.8nm,1.0s,baz=235,slow=5.9,SNR=3.5						
	0.8nm,1.0s						
TXAR	**Lajitas Array**	147.55	258	PKPbc	PKPbc	15 04 50.2	-0.8
	0.2nm,0.5s,baz=146,slow=5.0,SNR=3.8						

*TAP **20** 14:45:44.0,21.54N×122.04E,h40km,ML2.9,D*
ISC 20 14:45:37.2±1.7,21.46N±0.04×122.23E±0.07,h13km±10km, n45,σ1ş11/76,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	0.81	312	P	Pn	14 45 57.5	+3.2
	baz=317						
LYUB				S	Sn	14 46 05.6	-0.7
	baz=317						
LAY	**Lan-yu**	0.86	313	*i* P	Pn	14 45 57.2	+2.1
	baz=318						
LAY				*i* S	Sn	14 46 06.6	-0.8
	baz=318						
TSEB	**Hengchuen, Pin**	1.31	290	P	Pg	14 46 04.6	+2.2
	baz=288						
TSEB				*e*S	Sg	14 46 21.4	+1.9
	baz=288						
LDUT	**Ludao**	1.40	330	*e*P	Pg	14 46 04.8	+0.7
	baz=335						
LDUT				S	Sb	14 46 21.1	0.0
	baz=335						
TWKBT	**Hengchun**	1.40	290	P	Pg	14 46 04.8	+0.7
	baz=289						
TWKBT				*e*S	Sg	14 46 20.6	-1.8
	baz=289						
TWK1	**Hengchun**	1.41	290	P	Pg	14 46 05.3	+1.0
	baz=289						
TWK1				*i* S	Sg	14 46 21.1	-1.5
	baz=289						
SMST	**Manzhou Townsh**	1.41	294	*e*P	Pg	14 46 04.4	+0.2
	baz=304						
SMST				*e*S	Sg	14 46 21.4	-1.2
	baz=304						
HEN	**Hengchun**	1.49	292	P	Pg	14 46 08.8	+3.0
	baz=300						
HEN				*e*S	Sg	14 46 24.0	-1.2
	baz=300						
TAWH	**Dawu Township**	1.52	306	P	Pg	14 46 06.1	-0.4
	baz=318						
TAWH				S	Sn	14 46 22.1	-1.8
	baz=318						
SLIU	**Shizi**	1.53	300	*e*P	Pg	14 46 05.9	-0.6
	baz=300						
SLIU				*e*S	Sn	14 46 22.6	-1.4
	baz=300						
TAW	**Tawu**	1.53	306	*e*P	Pg	14 46 07.0	+0.5
	baz=308						
TAW				S	Sb	14 46 24.1	-0.6
	baz=308						
EAST	**Anshuo**	1.58	306	*i* P	Pg	14 46 07.2	-0.3
	baz=318						
EAST				*i* S	Sb	14 46 24.8	-1.4
	baz=318						
TTN	**Taitung**	1.64	322	*e*S	Sn	14 46 26.0	-0.6
	baz=333						
ECL	**Taimali**	1.64	314	P	Pg	14 46 08.7	0.0
	baz=307						
ECL				S	Sn	14 46 26.2	-0.6
	baz=307						
TWGBT	**Beinan**	1.72	322	P	Pg	14 46 10.6	+0.3
	baz=313						
TWGBT				S	Sb	14 46 29.7	-0.6
	baz=313						
TWG	**Pinlang**	1.73	322	P	Pg	14 46 09.9	-0.5
	baz=313						
TWG				S	Sn	14 46 28.8	-0.3
	baz=313						
EDH	**Donghe**	1.74	331	*e*P	Pg	14 46 10.3	-0.2
	baz=343						
EDH				*e*S	Sn	14 46 28.5	-0.6
	baz=343						
SCZT	**Fangliau**	1.75	302	P	Pg	14 46 10.6	-0.2
	baz=312						
SCZT				S	Sb	14 46 29.6	-1.5
	baz=312						
LONT	**Longtian**	1.77	325	*e*P	Pb	14 46 09.6	+0.1
	baz=315						
LONT				*e*S	Sb	14 46 30.6	-1.1
	baz=315						
MASBT	**Mashibuluo**	1.88	308	P	Pg	14 46 13.5	+0.3
	baz=309						
MASBT				S	Sb	14 46 32.9	-1.8
	baz=309						
TSMG	**Majia**	1.92	311	*e*P	Pg	14 46 13.9	-0.2
	baz=317						
TSMG				*e*S	Sn	14 46 33.0	-0.8
	baz=317						
FULB	**Fuli**	1.94	334	*e*P	Pb	14 46 12.5	+0.1
	baz=347						
FULB				S	Sn	14 46 33.8	-0.4
	baz=347						
SSD	**Sandimen**	1.96	311	*e*P	Pg	14 46 14.5	-0.3
	baz=313						
ELDTW	**Lidau**	2.06	327	P	Pg	14 46 16.9	+0.2
	baz=320						
ELDTW				*e*S	Sn	14 46 36.9	-0.4
	baz=320						
EYUL	**Yuli**	2.06	336	*e*P	Pb	14 46 14.6	0.0
	baz=348						
EYUL				*e*S	Sb	14 46 38.9	-1.2
	baz=348						
YULB	**Yu-li**	2.11	336	*e*P	Pg	14 46 16.8	-1.0
	baz=345						
YULB				*e*S	Sn	14 46 39.5	+1.0
	baz=345						
HGSD	**Ruisui**	2.16	340	*e*P	Pb	14 46 15.9	-0.3
	baz=350						
HGSD				*e*S	Sn	14 46 40.7	+1.1
	baz=350						
STYH	**Taoyuan**	2.17	322	*e*P	Pg	14 46 18.7	-0.2
	baz=324						
EHY	**Hungye**	2.21	338	*e*P	Pb	14 46 17.0	0.0
	baz=327						
EHY				*e*S	Sn	14 46 41.4	+0.6
	baz=327						
SGST	**Jiashian**	2.22	317	P	Pg	14 46 18.2	-1.6
	baz=319						
EGFH	**Guangfu**	2.32	342	*e*S	Sb	14 46 46.1	-1.5
	baz=354						
WTP	**Ta-pu**	2.33	320	*e*P	Pg	14 46 20.5	-1.3
	baz=323						
CHN1	**Nanshi**	2.33	318	*e*P	Pg	14 46 20.9	-1.1
	baz=320						
CHN1				*e*S	Sb	14 46 47.9	0.0
	baz=320						
TPUB	**Ta-pu**	2.36	321	*e*P	Pg	14 46 21.3	-1.2
	baz=324						
TWK	**Hsinying**	2.42	319	*e*P	Pb	14 46 20.9	+0.2
	baz=321						
CHN4	**Tsaushan**	2.42	322	*e*P	Pg	14 46 21.9	-1.6
	baz=324						
CHN4				S	Sb	14 46 48.3	-2.0
	baz=324						
ALS	**Alishan**	2.43	328	*e*P	Pg	14 46 23.3	-0.6
	baz=330						
ESL	**Shilin**	2.46	343	*e*P	Pb	14 46 21.1	-0.2
	baz=354						
ESL				*e*S	Sn	14 46 47.5	+0.5
	baz=354						
WHYT	**Xinyi Township**	2.57	331	*e*P	Pb	14 46 24.0	+0.8
	baz=323						
WHYT				*e*S	Sb	14 46 54.4	-0.3
	baz=323						
SSLB	**Suanglung**	2.60	333	*e*P	Pb	14 46 24.4	+0.6
	baz=336						
WUSB	**Renai**	2.73	338	*e*P	Pb	14 46 26.0	+0.1
	baz=350						
CHGB	**Renai**	2.77	340	*e*P	Pb	14 46 26.3	-0.4
	baz=352						
WCS	**Beigang Elemen**	2.86	335	*e*P	Pb	14 46 28.9	+0.8
	baz=324						
FUSS	**Fushou**	2.92	342	*e*P	Pb	14 46 28.6	-0.7

baz=353
PACPP **Pamplona Cagay** 3.09 196 eP **Pb** 14 46 31.3 -0.8
PACPP eS **Sb** 14 47 08.1 -1.7

*IDC **20** 14:46:30.9±2.9,24°.49N×108°.99W,h0km,mb4.2/3, mbtmp4.0/7,ML3.6/3,Error ellipse: s-maj=53.2km s-min=17.2km az=141.0*
*NEIC **20** 14:46:32.3±0.9,24°.29N±0°.10×108°.9W±0°.1,h10km±1km, mb4.3/51,Md4.2/22(MEX),Error ellipse: s-maj=17.1km s-min=15.4km az=133.0*
*ECX **20** 14:46:34.6±0.4,24°.76N×109°.27W,h18km±46km,MD3.9, ML3.9*
*MEX **20** 14:46:36.0±0.5,24°.71N×109°.19W,h16km±7km,MD4.2*
ISC 20 14:46:32.2±1.3,24°.26N±0°.07×108°.89W±0°.04,h15km±9km, n153,σ1§39/145,mb4.3/15,3C-2D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**1.12**	**239**			**Pn**	**14 46 55.0**	**+1.5**
SLBS	**Sierra La Lagu**	**1.12**	**239**	||iP	**Pn**	**14 46 55.4**	**+1.9**
SLBS				eS		**Sn**	**14 47 10.4**	**+1.6**
SLBS	**Sierra La Lagu**	**1.12**	**239**	eP		**Pn**	**14 46 55.7**	**+2.2**
SLBS				eS		**Sg**	**14 47 06.7**	**-1.9**
LPIG	**La Paz**	**1.30**	**263**	Pg		**Pn**	**14 46 54.5**	**-1.5**
	29nm,0.3s,baz=232,slow=2.9,SNR=59							
LPIG				Lg		Lg	14 47 08.0	
	151nm,0.3s,baz=174,slow=23,SNR=7.2							
LPIG	**La Paz**	**1.30**	**263**	||iP	**Pn**	**14 46 54.4**	**-1.5**
LPIG				eS		**Sb**	**14 47 08.3**	**-4.7**
LPIG				IAML			14 47 13.4	
	comp=E,3μm,0.8s							
LPIG				IAML			14 47 17.9	
	comp=N,3μm,0.9s							
LPIG	**La Paz**	**1.30**	**263**	eP		**Pn**	**14 46 54.4**	**-1.5**
LPIG				eS		**Sb**	**14 47 08.0**	**-5.0**
TSIG	**Topolobambo**	**1.34**	**354**			Pn	14 46 49.9	-6.4
TSIG						**Pg**	**14 47 01.1**	**+3.2**
TSIG	**Topolobambo**	**1.34**	**354**	||iP	Pn	14 46 49.9	-6.5
TSIG	**Topolobambo**	**1.34**	**354**	eP		Pn	14 46 49.9	-6.4
TSIG				eS		Sb	14 47 01.1	-13
SSIG	**Sanalona**	**1.69**	**70**			**Pb**	**14 47 03.2**	**+0.2**
SSIG						**Sg**	**14 47 25.6**	**-1.0**
SSIG	**Sanalona**	**1.69**	**70**	eP		**Pb**	**14 47 03.2**	**+0.2**
SSIG				eS		**Sg**	**14 47 25.6**	**-1.0**
MAIG	**Mazatlaan**	**2.50**	**115**			Sn	14 47 31.2	-11
MAIG				Lg			14 48 03.9	
MAIG	**Mazatlaan**	**2.50**	**115**	eP		Pg	14 47 26.4	+6.3
MAIG	**Mazatlaan**	**2.50**	**115**	e		Pg	14 47 27.4	+7.3
MAIG				e			14 47 54.4	
CSIG	**Choix**	**2.60**	**10**			**Sn**	**14 47 42.0**	**-3.1**
CSIG	**Choix**	**2.60**	**10**	eP		Pn	14 47 08.3	-5.4
CSIG				eS		Sn	14 47 34.6	-10
NE80	**Navojoa**	**2.66**	**353**	eP		Pn	14 47 09.6	-4.9
NE80				IAML			14 47 53.2	
	comp=E,677nm,0.6s							
NE77	**Loreto B.C.S**	**2.84**	**308**	eP		Pn	14 47 10.8	-6.2
PDIG	**Papasquiaro**	**3.27**	**76**			**Pb**	**14 47 27.7**	**-2.4**
PDIG						**Sb**	**14 48 08.6**	**-1.3**
PDIG	**Papasquiaro**	**3.27**	**76**	eP		**Pb**	**14 47 27.7**	**-2.4**
PDIG				eS		**Sb**	**14 48 08.6**	**-1.3**
HPIG		**3.94**	**47**	Pn		**Pn**	**14 47 32.7**	**+0.3**
HPIG		**3.94**	**47**	e		**Pg**	**14 47 48.1**	**+0.4**
HPIG				e			14 48 31.3	
GUYB	**Guaymas**	**4.04**	**334**	eP		Pn	14 47 27.8	-5.6
NOVRB	**El Novillo Son**	**4.71**	**352**	eP		**Pn**	**14 47 38.8**	**-4.0**
HSIG		**5.08**	**339**	Pn		**Pn**	**14 47 47.7**	**-0.2**
HSIG		**5.08**	**339**	e		**Pn**	**14 47 52.5**	**+4.6**
HSIG				e			14 48 56.7	
ZAIG	**Zacatecas**	**5.99**	**103**	e		Pg	14 48 34.7	+7.8
ZAIG				e			14 49 52.7	
CGIG		**6.13**	**7**	e		Pb	14 48 12.2	-6.7
CGIG				e			14 49 33.2	
TX31	**Lajitas Ar. Si**	**6.88**	**42**	Pn		**Pn**	**14 48 12.8**	**+0.2**
TX32	**Lajitas Array**	**6.88**	**42**	Pn		**Pn**	**14 48 12.6**	**0.0**
TXAR	**Lajitas Array**	**6.88**	**42**	Pn		**Pn**	**14 48 11.9**	**-0.7**
	comp=E,2.2nm,0.8s,baz=211,slow=33,SNR=1.1							
TXAR				Lg		Lg	14 50 03.8	
	comp=E,2.6nm,0.3s,baz=215,slow=31,SNR=5.2							
TXAR	**Lajitas Array**	**6.88**	**42**	Pn		**Pn**	**14 48 11.6**	**-1.0**
319A	**Douglas**	**7.09**	**357**	Pn		**Pn**	**14 48 12.1**	**-3.5**
121A	**Cookes Peak, D**	**8.30**	**6**	Pn		**Pn**	**14 48 29.6**	**-2.6**
GDL2	**Guadalupe Moun**	**8.86**	**26**	Pn		**Pn**	**14 48 39.4**	**-0.4**
CLNB	**Carlsbad**	**9.11**	**28**	Pn		**Pn**	**14 48 43.8**	**+0.5**
CLN7	**Carlsbad 7**	**9.27**	**28**	Pn		**Pn**	**14 48 46.2**	**+0.7**
SBM	**South Baldy**	**9.79**	**8**	Pn		**Pn**	**14 48 50.4**	**-2.5**
YUH	**Yuha Desert**	**10.39**	**325**	Pn		**Pn**	**14 49 01.4**	**+0.6**
W18A	**Petrified Fore**	**10.84**	**356**	P		**Pn**	**14 49 08.4**	**+1.4**
	baz=176							
MONP2	**Monument Peak**	**10.85**	**324**	P		**Pn**	**14 49 08.1**	**+1.0**
	baz=141							
PMD	**Palm Desert**	**11.41**	**327**	Pn		**Pn**	**14 49 15.5**	**+0.7**
WUAZ	**Wupatki**	**11.42**	**350**	P		**Pn**	**14 49 16.1**	**+1.1**
	baz=168							
W13A	**Hualapai Mount**	**11.64**	**339**	Pn		**Pn**	**14 49 17.3**	**-0.7**
LRMC	**Laurel Mtn Rad**	**13.52**	**328**	P		**Pn**	**14 49 44.5**	**+0.8**
	baz=143							
CWC	**Cottonwood Cre**	**14.49**	**329**	P		**Pn**	**14 49 58.0**	**+1.1**
	baz=144							
GMN	**Gold Mountain**	**14.84**	**333**	P		**P**	**14 50 08.5**	**+0.9**
SPR3	**Spring Creek 3**	**15.40**	**344**	Pn		**Pn**	**14 50 08.6**	**-0.7**
SPR3				IAmb		IAmb	14 50 16.4	
	comp=Z,24nm,1.5s							
LHV	**Little Huntoon**	**16.17**	**332**	P		**P**	**14 50 22.9**	**+0.8**
LHV				IAmb		IAmb	14 50 40.4	
	comp=Z,29nm,1.4s							
NV11	**Mina Array Sit**	**16.18**	**333**			**Pn**	**14 50 19.1**	**-0.1**
NV11				IAmb		IAmb	14 50 24.5	
	comp=Z,31nm,1.3s							
NVAR	**Mina Array Bea**	**16.24**	**333**	Pn		**Pn**	**14 50 19.4**	**-0.5**
	baz=153,slow=12,SNR=6.2							
	comp=Z,3.4nm,0.9s							
CTU	**Camp Tracy**	**16.56**	**352**	Pn		**Pn**	**14 50 24.8**	**+0.8**
KVN	**Kaiserville**	**16.68**	**334**	P		**P**	**14 50 28.8**	**+0.8**
KVN				IAmb		IAmb	14 50 30.1	
	comp=Z,24nm,1.2s							
RLO	**Rose Lookout**	**16.84**	**42**	Pn		**Pn**	**14 50 27.6**	**+0.1**
RLO				IAmb		IAmb	14 50 30.0	
	comp=Z,49nm,1.3s							
YERR	**Yerington**	**17.10**	**332**			**Pn**	**14 50 31.1**	**+0.2**
YERR				IAmb		IAmb	14 50 34.6	
	comp=Z,30nm,1.5s							
ELK	**Elko**	**17.28**	**344**	Pn		**Pn**	**14 50 31.1**	**-2.1**
	baz=204,slow=20,SNR=3.4							
	comp=Z,1.7nm,0.8s							
ELK	**Elko**	**17.28**	**344**	Pn		**Pn**	**14 50 32.2**	**-1.0**
PNTR	**Pine Nut**	**17.34**	**331**	Pn		**Pn**	**14 50 33.7**	**-0.3**
PNTR				IAmb		IAmb	14 50 43.8	
	comp=Z,30nm,1.2s							
RWWY	**Rawlins**	**17.43**	**4**	Pn		**Pn**	**14 50 35.0**	**-0.2**
RWWY				IAmb		IAmb	14 50 37.3	
	comp=Z,18nm,1.1s							
VCNR	**Virginia City**	**17.54**	**331**			**Pn**	**14 50 36.8**	**+0.4**
VCNR				IAmb		IAmb	14 50 37.6	
	comp=Z,26nm,1.4s							
BMN	**Battle Mountai**	**17.58**	**339**	P		**P**	**14 50 37.8**	**-0.1**
BMN				IAmb		IAmb	14 50 39.8	
	comp=Z,37nm,1.5s							
PAHR	**Pah Rah Range**	**17.76**	**333**			**Pn**	**14 50 38.7**	**-0.4**
HVU	**Hansel Valley**	**17.77**	**350**			**Pn**	**14 50 39.1**	**0.0**
KSU1	**Kansas State U**	**18.08**	**32**			**Pn**	**14 50 43.3**	**+0.4**
KSU1	**Kansas State U**	**18.08**	**32**	P		**P**	**14 50 45.2**	**+1.9**
	baz=219							
K22A	**Casper**	**18.44**	**6**	P		**Pn**	**14 50 49.0**	**+1.5**
	baz=187							
BW06	**Boulder Array**	**18.46**	**358**	P		**P**	**14 50 45.9**	**-1.8**
BW06	**Boulder Array**	**18.46**	**358**	P		**P**	**14 50 47.8**	**+0.1**
	baz=178							
PDAR	**Pinedale Array**	**18.46**	**358**	Pn		**P**	**14 50 47.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=166,slow=8.1,SNR=13							
	comp=Z,2.8nm,0.8s							
PDAR	**Pinedale Array**	**18.46**	**358**			**P**	**14 50 47.1**	**-0.6**
REDW	**Red Top Meadow**	**19.12**	**356**	P		**P**	**14 50 54.5**	**-0.4**
REDW				IAmb		IAmb	14 51 21.4	
	comp=Z,19nm,1.4s							
TPAW	**Teton Pass**	**19.25**	**355**	P		**P**	**14 50 56.4**	**0.0**
TPAW				IAmb		IAmb	14 51 20.0	
	comp=Z,24nm,1.4s							
LOHW	**Long Hollow**	**19.35**	**356**	P		**P**	**14 50 57.0**	**-0.4**
FXWY	**Fox Creek**	**19.41**	**355**	P		**P**	**14 50 57.9**	**-0.1**
MOOW	**Moose Ponds**	**19.50**	**356**	P		**P**	**14 50 58.9**	**-0.1**
HLID	**Hailey**	**19.78**	**348**			**P**	**14 51 02.3**	**+0.2**
HLID	**Hailey**	**19.78**	**348**	P		**Pn**	**14 51 04.2**	**+0.6**
	baz=165							
WVOR	**Wild Horse Val**	**19.84**	**338**	P		**P**	**14 51 02.6**	**-0.1**
WVOR				IAmb		IAmb	14 51 05.9	
	comp=Z,14nm,1.2s							
MFID	**Camas Ranch**	**19.94**	**345**	P		**P**	**14 51 03.8**	**+0.1**
MFID				IAmb		IAmb	14 51 07.0	
	comp=Z,14nm,1.4s							
H17A	**Grant Village**	**20.13**	**356**	P		Pn	14 51 09.5	+1.7
	baz=176							
BCYI	**Bear Canyon**	**20.34**	**351**	P		**P**	**14 51 07.6**	**-0.5**
YMR	**Madison River**	**20.43**	**356**	Pn		Pn	14 51 11.4	+0.1
J08A	**Circle Bar Ran**	**20.62**	**340**	P		**P**	**14 51 11.2**	**+0.1**
J08A				IAmb		IAmb	14 51 12.9	
	comp=Z,18nm,1.2s							
QLMT	**Earthquake Lak**	**20.62**	**355**	P		**P**	**14 51 11.2**	**0.0**
MCMT	**McKenzie Canyo**	**20.77**	**352**	P		**P**	**14 51 13.1**	**+0.3**
RLMT	**Red Lodge**	**20.81**	**359**	P		**P**	**14 51 14.2**	**+1.0**
	baz=179							
BOZ	**Bozeman (W)**	**21.40**	**355**	P		**P**	**14 51 21.1**	**+1.5**
	baz=173							
GCMT	**Greycliff**	**21.49**	**359**	P		**P**	**14 51 20.2**	**-0.2**
PLID	**Pearl Lake**	**21.57**	**346**	P		**P**	**14 51 21.2**	**-0.2**
PLID				IAmb		IAmb	14 51 22.7	
	comp=Z,15nm,1.4s							
I07A	**Izee**	**21.60**	**339**	P		**P**	**14 51 21.8**	**+0.2**
I07A				IAmb		IAmb	14 51 23.0	
	comp=Z,7.8nm,1.0s							
BMO	**Blue Mountains**	**21.65**	**344**	P		**P**	**14 51 21.9**	**-0.3**
BMO				IAmb		IAmb	14 51 25.1	
	comp=Z,15nm,1.1s							
PINE	**Pine Mountain**	**21.85**	**336**	P		**P**	**14 51 24.5**	**+0.1**
PINE				IAmb		IAmb	14 51 26.3	
	comp=Z,16nm,1.1s							
ECSD	**EROS Data Cent**	**21.88**	**24**	P		**P**	**14 51 24.8**	**+0.2**
ECSD				IAmb		IAmb	14 51 30.6	
	comp=Z,16nm,1.1s							
LAO	**LASA Array**	**22.48**	**5**	P		**P**	**14 51 30.1**	**-0.9**
LAO	**LASA Array**	**22.48**	**5**	P		**P**	**14 51 31.6**	**+0.6**
	baz=186							
HRY	**Holter Researc**	**22.52**	**355**	P		**P**	**14 51 31.3**	**-0.3**
F10A	**Beach Ranch, E**	**22.68**	**345**	P		**P**	**14 51 32.9**	**-0.3**
F10A				IAmb		IAmb	14 51 33.9	
	comp=Z,14nm,1.2s							
MSO	**Missoula**	**22.88**	**351**	P		**P**	**14 51 34.9**	**-0.4**
MSO				IAmb		IAmb	14 51 37.1	
	comp=Z,17nm,1.1s							
MSO	**Missoula**	**22.88**	**351**	P		**P**	**14 51 35.6**	**+0.3**
	baz=168							
E09A	**Wood Farm, Sta**	**23.41**	**344**	P		**P**	**14 51 39.0**	**-1.7**
E09A				IAmb		IAmb	14 51 40.6	
	comp=Z,5.3nm,0.9s							
EGMT	**Eagleton**	**23.72**	**359**	P		**P**	**14 51 43.2**	**-0.5**
EGMT				IAmb		IAmb	14 51 55.4	
	comp=Z,16nm,1.2s							
EGMT	**Eagleton**	**23.72**	**359**	P		**P**	**14 51 44.3**	**+0.6**
	baz=178							
SFIN	**Lafayette**	**24.34**	**43**	P		**P**	**14 51 52.8**	**+3.3**
	baz=235							
NEW	**Newport**	**24.83**	**347**	P		**P**	**14 51 53.7**	**-0.1**
	comp=Z,12nm,1.1s,baz=162,slow=12,SNR=10							
	comp=Z,12nm,1.1s							
NEW	**Newport**	**24.83**	**347**	P		**P**	**14 51 53.8**	**-0.1**
NEW	**Newport**	**24.83**	**347**	P		**P**	**14 51 54.3**	**+0.5**
	baz=162							
F36A	**Milaca**	**24.87**	**26**	P		**P**	**14 51 54.5**	**+0.4**
F36A				IAmb		IAmb	14 51 56.4	
	comp=Z,15nm,1.2s							
EYMN	**Ely**	**27.37**	**26**	P		**P**	**14 52 17.0**	**+0.1**
EYMN	**Ely**	**27.37**	**26**	P		**P**	**14 52 17.9**	**+1.0**
	baz=216							
R33M	**Jennings River**	**38.39**	**342**	P		**P**	**14 53 54.9**	**+2.0**
	baz=146							
MMPY	**Sheldon Lake,**	**41.19**	**345**	P		**P**	**14 54 18.0**	**+2.0**
	baz=148							
YUK8	**Steele Glacier**	**42.60**	**339**	P		**P**	**14 54 29.4**	**+1.6**
	baz=136							
L29M	**L29M**	**43.44**	**341**	P		**P**	**14 54 36.2**	**+1.9**
	baz=140							
K29M	**Barlow Dome**	**43.83**	**342**	P		**P**	**14 54 39.5**	**+1.9**
	baz=141							
DAWY	**Dawson**	**44.54**	**341**	P		**P**	**14 54 44.0**	**+0.9**
DAWY				IAmb		IAmb	14 54 53.2	
	comp=Z,5.9nm,1.1s							
BCAR	**Beaver Creek A**	**44.54**	**339**	P		**P**	**14 54 43.5**	**+0.3**
K27K	**Chicken**	**45.31**	**340**	P		**P**	**14 54 51.2**	**+2.0**
	baz=135							
K24K	**Donnelly Dome**	**46.36**	**338**	P		**P**	**14 54 58.8**	**+1.3**
	baz=131							
I26K	**Coal Creek Min**	**46.55**	**341**	P		**P**	**14 55 00.4**	**+1.4**
	baz=135							
N20K	**Mount Spurr**	**47.23**	**333**	P		**P**	**14 55 05.3**	**+0.8**
	baz=122							
IL31		**47.35**	**339**	P		**P**	**14 55 05.4**	**+0.2**
ILAR	**Eielson Array**	**47.35**	**339**	P		**P**	**14 55 05.0**	**-0.3**
	comp=Z,2.7nm,1.0s,baz=150,slow=6.8,SNR=18							
	comp=Z,2.7nm,1.0s							
ILAR	**Eielson Array**	**47.35**	**339**	P		**P**	**14 55 05.3**	**0.0**
SKT	**Skwentna**	**47.37**	**334**	P		**P**	**14 55 06.7**	**+1.2**
	baz=123							
TRF	**Thorofare Moun**	**47.72**	**336**			**P**	**14 55 08.5**	**+0.1**
TRF	**Thorofare Moun**	**47.72**	**336**	P		**P**	**14 55 09.4**	**+1.1**
	baz=125							
G26K	**Porcupine Rive**	**47.90**	**342**	P		**P**	**14 55 10.9**	**+1.4**
	baz=135							
M20K	**Styx River**	**47.96**	**334**	P		**P**	**14 55 11.0**	**+0.8**
KTH	**Kantishna Hill**	**48.02**	**336**	P		**P**	**14 55 10.1**	**-0.4**
PPLA	**Purkeypile**	**48.13**	**335**	P		**P**	**14 55 11.7**	**+0.2**
E27K	**Coleen River**	**48.24**	**344**	P		**P**	**14 55 13.5**	**+1.4**
	baz=139							
BMAR	**Burnt Mountain**	**48.46**	**342**	P		**P**	**14 55 14.5**	**+0.6**
N18K	**Kilae Creek**	**48.54**	**331**	P		**P**	**14 55 15.3**	**+0.7**
	baz=117							
MLY	**Manley**	**48.81**	**338**	P		**P**	**14 55 17.0**	**+0.4**
MLY				IAmb		IAmb	14 55 18.7	
	comp=Z,4.7nm,0.8s							
MLY	**Manley**	**48.81**	**338**	P		**P**	**14 55 17.4**	**+0.8**
	baz=126							
H23K	**Yukon River**	**48.89**	**339**	P		**P**	**14 55 18.4**	**+1.3**
	baz=128							
H22K	**Ishtalitna Cre**	**49.53**	**339**	P		**P**	**14 55 23.4**	**+1.3**
	baz=126							
J20K	**Nowinta River**	**49.55**	**336**	P		**P**	**14 55 22.1**	**-0.1**
J20K	**Nowinta River**	**49.55**	**336**	P		**P**	**14 55 22.7**	**+0.5**
	baz=122							
C27K	**Jago River**	**49.82**	**345**	P		**P**	**14 55 25.5**	**+1.3**
	baz=137							
H21K	**Melozitna Rive**	**49.88**	**338**	P		**P**	**14 55 24.9**	**+0.2**
H21K	**Melozitna Rive**	**49.88**	**338**	P		**P**	**14 55 25.9**	**+1.2**
	baz=124							
E24K	**Your Creek**	**50.00**	**342**	P		**P**	**14 55 26.9**	**+1.2**
	baz=131							
E23K	**Chandalar**	**50.31**	**341**	P		**P**	**14 55 30.0**	**+1.9**
	baz=129							
IMAR	**Indian Mountai**	**50.38**	**338**	P		**P**	**14 55 28.7**	**+0.2**
TOLK	**Toolik Lake Re**	**50.67**	**342**	P		**P**	**14 55 31.1**	**+0.4**
F22K	**John River**	**50.74**	**340**	P		**P**	**14 55 32.5**	**+1.2**
	baz=126							
D23K	**Nanushuk River**	**51.19**	**342**	P		**P**	**14 55 36.5**	**+1.9**
	baz=129							
H03N2	**Juan Fernandez**	**64.08**	**152**	T		T	16 07 27.6	
	baz=331,slow=77,SNR=11							
H03N1	**Juan Fernandez**	**64.09**	**152**	T		T	16 07 35.2	
	baz=331,slow=77,SNR=12							
H03N3	**Juan Fernandez**	**64.10**	**152**	T		T	16 07 28.3	
	baz=331,slow=77,SNR=14							
SEY	**Seymchan**	**72.54**	**332**	P		**P**	**14 57 58.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=30,slow=20,SNR=1.6							
	comp=Z,0.5nm,0.3s							
PZH	**PanZhiHua**	**121.49**	**328**	PKP		**PKPdf**	**15 05 25.3**	**-0.6**

*IDC **20** 14:52:05.5±1.4,44°.22S×39°.31E,h0km,mb3.9/5, mbtmp3.9/6,ML3.3/1,MS3.4/4,Error ellipse: s-maj=35.6km s-min=34.0km az=123.0*
ISC 20 14:52:07.1±1.1,44°.2S±0°.2×39°.3E±0°.2,h10km,n12, σ0§68/6,mb4.0/5,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.64**	**303**	LR		LR	15 02 11.8	
	comp=Z,72nm,18.8s,baz=154,slow=32							
BOSA	**Boshof**	**19.18**	**320**	P		**P**	**14 56 30.9**	**-0.1**
	0.1nm,0.3s,baz=262,slow=7.2,SNR=2.5							
BOSA				LR		LR	15 02 21.3	
	comp=Z,69nm,21.6s,baz=178,slow=32							
	3.1nm,1.0s							
LBTB	**Lobatse**	**22.16**	**325**	LR		LR	15 04 22.3	
	comp=Z,60nm,19.4s,baz=164,slow=33							
SNAA	**Sanae**	**34.09**	**202**	P		**P**	**14 58 51.9**	**+0.5**
	2.8nm,1.0s,baz=66,slow=7.1,SNR=6.3							
	2.8nm,1.0s							
QSPA	**South Pole Qui**	**45.98**	**180**	P		**P**	**15 00 29.5**	**-0.7**
	1.0nm,0.8s,baz=252,slow=1.0,SNR=7.6							
	1.0nm,0.8s							
H08S1	**Diego Garcia H**	**46.53**	**48**	T		T	15 49 25.4	
	baz=213							
H08S2	**Diego Garcia H**	**46.54**	**48**	T		T	15 49 29.2	
	baz=213							
H08S3	**Diego Garcia H**	**46.55**	**48**	T		T	15 49 25.0	
	baz=213							
STKA	**Stephens Creek**	**76.43**	**121**	P		**P**	**15 03 57.6**	**+0.6**
	1.9nm,0.9s,baz=215,slow=6.9,SNR=3.8							
	1.9nm,0.9s							
ASAR	**Alice Springs**	**77.06**	**110**	P		**P**	**15 04 00.2**	**-0.4**
	1.2nm,0.9s,baz=225,slow=5.3,SNR=12							
	1.2nm,0.9s							
WRA	**Warramunga Arr**	**79.88**	**108**	P		**P**	**15 04 16.1**	**-0.1**
	0.7nm,1.0s,baz=211,slow=6.4,SNR=4.4							
	0.7nm,1.0s							
DAV	**Davao City (W)**	**92.25**	**82**	LR		LR	15 42 43.5	
	comp=Z,48nm,19.5s,baz=114,slow=33							

*NEIC **20** 15:02:33.4±1.9,10°.9S±0°.1×165°.8E±0°.1,h35km±2km, mb4.4/4,Error ellipse: s-maj=25.0km s-min=18.3km az=77.0*
*IDC **20** 15:02:38.6±4.1,11°.32S×165°.36E,h58km±36km,mb3.5/4, mbtmp3.9/5,ML4.5/2,Error ellipse: s-maj=37.6km s-min=29.5km az=121.0*
ISC 20 15:02:34.2±1.3,11°.05±0°.1×165°.6E±0°.1,h30km,n20, σ1§69/16,mb3.8/6,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.77**	**285**	P		**Pn**	**15 04 00.0**	**+2.2**
	124nm,0.3s,baz=40,slow=12,SNR=4.1							
HNR				S		**Sn**	**15 05 02.2**	**-0.8**
	530nm,1.0s,baz=115,slow=7.5,SNR=1.3							
HNR	**Honiara**	**5.77**	**285**	Pn		**Pn**	**15 03 59.8**	**+2.0**
KOUNC	**Koumac, New Ca**	**9.57**	**187**	Pn		**Pn**	**15 04 51.2**	**+1.2**
DZM	**Mont Dzumac**	**11.03**	**176**	P		**Pn**	**15 05 09.7**	**-0.4**
	0.5nm,0.3s,baz=330,slow=16,SNR=2.0							
DZM				S		**Sn**	**15 07 14.1**	**+1.5**
	7.9nm,0.9s,baz=355,slow=22,SNR=5.9							
	7.9nm,0.8s							
DZM	**Mont Dzumac**	**11.03**	**176**	Pn		**Pn**	**15 05 10.6**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**29.34**	**2**	T		T	15 38 57.2	
	baz=181,slow=76,SNR=43							
H11S3	**WAKE ISLAND Hy**	**29.34**	**2**	T		T	15 38 57.5	
	baz=181,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**29.35**	**2**	T		T	15 38 55.7	
	baz=181,slow=76,SNR=23							
STKA	**Stephens Creek**	**30.36**	**223**	P		**P**	**15 08 41.9**	**-1.7**
	1.2nm,0.8s,baz=94,slow=14,SNR=4.4							
	1.2nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**30.56**	**2**	T		T	15 40 28.6	
	baz=182,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**30.56**	**2**	T		T	15 40 26.1	
	baz=182,slow=76,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**30.58**	**2**	T		T	15 40 28.9	
	baz=182,slow=76,SNR=4.3							
WB0	**Warramunga Arr**	**31.26**	**250**	P		**P**	**15 08 50.6**	**-1.0**
WB0				IAmb		IAmb	15 09 04.0	
	comp=Z,6.2nm,1.4s							
WB2	**Warramunga Arr**	**31.34**	**250**	P		**P**	**15 08 51.2**	**-1.1**
WB2				IAmb		IAmb	15 09 16.4	
	comp=Z,11nm,1.5s							
WRA	**Warramunga Arr**	**31.35**	**250**	P		**P**	**15 08 51.3**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=82,slow=9.1,SNR=9.2							
	comp=Z,0.6nm,0.7s							
TOO	**Toolangi**	**32.02**	**211**	P		**P**	**15 08 57.4**	**-0.8**
ASAR	**Alice Springs**	**32.67**	**243**	P		**P**	**15 09 02.4**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=67,slow=10.0,SNR=13							
	comp=Z,1.0nm,0.8s							
BBOO	**Buckleboo**	**34.74**	**227**	P		**P**	**15 09 21.2**	**-0.7**
ILAR	**Eielson Array**	**83.53**	**19**	P		**P**	**15 15 01.8**	**+2.8**
	comp=Z,0.6nm,0.8s,baz=242,slow=4.7,SNR=7.2							
	comp=Z,0.6nm,0.8s							
BCAR	**Beaver Creek A**	**84.12**	**21**	P		**P**	**15 14 59.8**	**-2.3**

*NOU **20** 15:03:51.1,41°.89S×174°.51E,h11km,MLv4.1/8,Cook Strait, New Zealand*
*WEL **20** 15:03:53.2±0.3,42°.5±3°×17°.4E±°,h13km±2km,M3.8/52, ML4.0/25,MLv3.8/52,Error ellipse: s-maj=0.0km s-min=0.0km az=140.8*
ISC 20 15:03:52.0±1.1,41°.77S±0°.03×174°.44E±0°.03,h14km±11km, n108,σ1§16/109,Cook Strait

| Code | Station

TUVZ	Tukino	2.67	21	P	Pn	15 04 36.1 +1.3
MHEZ	Mangahewa	2.69	358	P	Pb	15 04 39.4 -0.6
KAHZ	Kahuranaki	2.71	44	P	Pn	15 04 34.4 -0.8
NGZ	Ngauruhoe	2.74	19	P	Pn	15 04 37.3 +1.5
SNVZ	South Ngauruho	2.74	20	P	Pn	15 04 37.3 +1.5
MHCZ	Mount Hutt	2.75	229	P	Pn	15 04 35.0 -0.8
OTVZ	Oturere	2.77	20	P	Pb	15 04 42.0 +0.5
NNVZ	North Ngauruho	2.79	19	P	Pn	15 04 37.8 +1.4
WTVZ	West Tongariro	2.79	19	P	Pb	15 04 40.1 -1.7
TWVZ	Taurewa	2.80	16	P	Pb	15 04 40.9 -1.1
ETVZ	East Tongariro	2.81	21	P	Pn	15 04 38.0 +1.3
TMVZ	Te Maari	2.82	20	P	Pn	15 04 38.0 +1.1
NTVZ	North Tongarir	2.83	20	P	Pn	15 04 38.3 +1.3
MCHZ	McNeill Hill	2.89	37	P	Pn	15 04 37.3 -0.4
WACZ	Wakanui South	2.89	220	P	Pn	15 04 36.9 -0.8
WVZ	Waitaha Valley	3.03	243	P	Pn	15 04 33.0 -6.6
BKZ	Black Stump Fm	3.04	32	P	Pn	15 04 40.0 +0.2
BKZ	Black Stump Fm	3.04	32	P	Pn	15 04 39.1 -0.7
RPZ	Rata Peaks	3.16	231	P	Pn	15 04 40.6 -0.8
ARHZ	Aropaoanui	3.17	39	P	Pn	15 04 40.8 -0.8
ARCZ	Arundel	3.24	227	P	Pn	15 04 41.8 -0.7
HIZ	Hauiti	3.27	6	P	Pn	15 04 44.7 +1.8
HIZ	Hauiti	3.27	6	P	Pn	15 04 43.4 +0.5
GCSZ	Gaunt Creek Bo	3.41	242	P	Pn	15 04 38.0 -6.8
MTHZ	Maungataniwha	3.45	33	P	Pn	15 04 44.5 -0.9
TMZ	Timaru	3.62	223	P	Pn	15 04 46.8 -1.0
MHGZ	Mahia Peninsul	3.72	46	P	Pn	15 04 47.8 -1.3
MUGZ	Murupara	3.74	29	P	Pn	15 04 50.3 +0.8
FOZ	Fox Glacier	3.84	241	P	Pn	15 04 50.4 -0.3
RIGZ	Rimuhau	3.98	41	P	Pn	15 04 50.9 -1.8
URZ	Urewera	4.06	31	P	Pn	15 04 53.3 -0.5
URZ	Urewera	4.06	31	P	Pn	15 04 52.9 -0.9
LBZ	Lake Benmore	4.07	229	P	Pn	15 04 53.0 -0.9
TOZ	Tahuroa Road	4.12	12	P	Pn	15 04 54.3 -0.2
MWZ	Matawai	4.17	36	P	Pn	15 04 53.0 -2.4
ODZ	Otahua Downs	4.28	219	P	Pn	15 04 55.1 -1.7
ODZ	Otahua Downs	4.28	219	P	Pn	15 04 55.5 -1.3
RUGZ	Raukumara Rang	4.54	34	P	Pn	15 04 58.7 -1.9
AWAZ	Awhitu Peninsu	4.70	2	P	Pn	15 05 05.8 +3.2
JCZ	Jackson Bay	4.75	239	P	Pn	15 04 55.2 -8.1
ETAZ	East Tamaki Re	4.83	5	P	Pn	15 05 07.5 +3.2
WMGZ	Waiomatatini S	5.00	39	P	Pn	15 05 04.4 -2.2
WKZ	Wanaka	5.00	230	P	Pn	15 05 06.1 -0.6
EAZ	Earnscleugh	5.09	225	P	Pn	15 05 07.1 -0.8
OUZ	Omahuta	6.57	354	P	Pn	15 05 32.0 +3.7

IDC ***20*** *15:05:57.1±1.1, 44°.46S×39°.38E, h0km, mb4.2/6, mbtmp4.1/7, ML3.4/1, Error ellipse: s-maj=30.7km s-min=29.6km az=11.0*

NEIC ***20*** *15:05:57.4±0.7, 44°.3S±0°.2×39°.1E±0°.1, h10km±1km, mb4.4/12, Error ellipse: s-maj=26.1km s-min=15.5km az=4.0*

ISC 20 15:05:57.6±0.8, 44°.3S±0°.1×39°.2E±0°.2, h10km, n25, σ1s25/23, mb4.3/9, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
POGA	Pongola	17.97	338		P	Pn	15 10 06.9	-1.2
SUR	Sutherland	18.66	303	P	P	P	15 10 14.2	-1.6
SUR					IAmb	IAmb	15 10 17.1	
	comp=Z,63nm,1.5s							
BOSA	Boshof	19.23	320	P	P	Pn	15 10 26.4	+3.5
	comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=1.6							
	comp=Z,4.1nm,1.1s							
TROLL	Troll, Antarti	32.80	200	P	P	P	15 12 31.7	+1.0
SNAA	Sanae	34.00	202	P	P	P	15 12 42.1	+1.0
SNAA	Sanae	34.00	202	P	P	P	15 12 41.8	+0.8
	comp=Z,4.0nm,0.9s,baz=79,slow=8.3,SNR=11							
	comp=Z,4.0nm,0.9s							
SNAA	Sanae	34.00	202	P	P	P	15 12 40.8	-0.3
SNAA					IAmb	IAmb	15 12 43.2	
	comp=Z,4.2nm,0.9s							
QSPA	South Pole Qui	45.90	180	P	P	P	15 14 19.5	-0.6
	comp=Z,1.5nm,0.9s,baz=269,slow=2.2,SNR=9.4							
	comp=Z,1.5nm,0.9s							
QSPA	South Pole Qui	45.90	180	P	P	P	15 14 19.2	-0.8
QSPA					IAmb	IAmb	15 14 20.2	
	comp=Z,3.9nm,1.2s							
HOPE	Hope Point	48.09	230	P	P	P	15 14 37.7	+0.6
VNDA	Vanda	53.47	167	P	P	P	15 15 17.6	+0.3
	comp=Z,0.9nm,0.9s,baz=247,slow=9.3,SNR=3.6							
	comp=Z,0.9nm,0.9s							
SBA	Scott Base	54.01	168	P	P	P	15 15 23.3	+2.1
H10S2	ASCENSION HYDR	58.26	290	T	T		16 18 48.1	
	baz=135,slow=74							
H10S3	ASCENSION HYDR	58.28	290	T	T		16 18 46.6	
	baz=85,slow=74							
TRQA	Tornquist	71.49	235	P	P	P	15 17 16.4	-2.1
STKA	Stephens Creek	76.42	121	P	P	P	15 17 47.1	-0.3
	comp=Z,4.0nm,1.0s,baz=244,slow=7.2,SNR=7.7							
	comp=Z,4.0nm,1.0s							
STKA	Stephens Creek	76.42	121	P	P	P	15 17 47.5	+0.2
ASAR	Alice Springs	77.06	110	P	P	P	15 17 51.5	+0.3
	comp=Z,4.0nm,1.0s,baz=219,slow=5.8,SNR=21							
	comp=Z,4.0nm,1.0s							
ASAR	Alice Springs	77.06	110	P	P	P	15 17 51.0	-0.1
AS31	Alice Springs	77.06	110	P	P	P	15 17 50.9	-0.3
AS31					IAmb	IAmb	15 17 52.6	
	comp=Z,1.7nm,1.1s							
WRA	Warramunga Arr	79.89	108	P	P	P	15 18 07.3	+0.6
	comp=Z,3.7nm,1.2s,baz=215,slow=4.1,SNR=10.0							
	comp=Z,3.7nm,1.2s							
WRA	Warramunga Arr	79.89	108	P	P	P	15 18 06.3	-0.4
WB2	Warramunga Arr	79.89	108	P	P	P	15 18 06.0	-0.8
WB2					IAmb	IAmb	15 18 08.0	
	comp=Z,6.9nm,1.1s							
WB0	Warramunga Arr	80.04	108	P	P	P	15 18 07.1	-0.5
WB0					IAmb	IAmb	15 18 37.7	
	comp=Z,7.1nm,1.3s							
TXAR	Lajitas Array	147.04	256	PKPbc		PKPbc	15 25 40.0	-0.7
	comp=Z,2.6nm,1.1s,baz=141,slow=6.3,SNR=14							

IDC ***20*** *15:06:45.3±1.1, 11°.77N×87°.81W, h0km, mb4.0/8, mbtmp4.0/9, ML3.3/2, MS3.4/6, Error ellipse: s-maj=42.5km s-min=19.7km az=50.0*

INET ***20*** *15:06:55.9±0.7, 12°.40N×88°.19W, h8km±25km, MW4.3*

SNET ***20*** *15:06:55.6±2.5, 12°.42N×88°.19W, h21km, ML4.6*

NEIC ***20*** *15:06:57.9±1.9, 12°.57N±0°.08×88°.16W±0°.06, h35km±2km, mb4.4/87, Md4.6(SNET), Error ellipse: s-maj=14.6km s-min=7.3km az=205.0*

UCR ***20*** *15:06:59.0±1.1, 12°.59N×88°.21W, h31km±4km, mb4.4(NEIC)*

ISC 20 15:06:55.0±1.2, 12°.38N±0°.06×88°.19W±0°.04, h32km±7km, n167, σ1s29/171, mb4.4/51, MS3.3/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.95	21	eP	P	Pn	15 07 13.4	+1.2
CNCH	Conchagua	0.95	21	eP	P	Pn	15 07 13.4	+1.2
LCND	La Caada	0.96	17	eP	P	Pn	15 07 13.4	+1.0
LCND	La Caada	0.96	17	eP	P	Pn	15 07 13.4	+1.0
ALJI	Alcalda de J	1.01	338	eP	P	Pn	15 07 14.3	+1.3
ALJI				eS	P	Sb	15 07 26.0	-1.1
ALJI	Alcalda de J	1.01	338	eP	P	Pn	15 07 14.3	+1.3
ALJI				eS	P	Sb	15 07 26.0	-1.1
PACA	Pacayal	1.09	353	eP	P	Pn	15 07 15.3	+1.1
PACA				eS	P	Sb	15 07 28.8	-0.6
PACA	Pacayal	1.09	353	eP	P	Pn	15 07 15.3	+1.1
PACA				eS	P	Sb	15 07 28.8	-0.6
PACA	Pacayal	1.09	353	eP	P	Pn	15 07 15.5	+1.3
CRIN	San Cristobal	1.15	74	P	Pn	Pb	15 07 16.8	+0.3
CRIN				S	Sn	Sb	15 07 30.8	-0.4
CRIN	San Cristobal	1.15	74	eP	P	Pb	15 07 17.0	+0.5
COEB	Comit de Eme	1.16	343	eP	P	Pn	15 07 15.9	+0.8
COEB				eS	P	Sb	15 07 30.0	-1.4
COEB	Comit de Eme	1.16	343	eP	P	Pn	15 07 15.9	+0.8
COEB				eS	P	Sb	15 07 30.0	-1.4
PQSS	Presa 15 de Se	1.29	344	eP	P	Pb	15 07 18.2	-0.5
PQSS	Presa 15 de Se	1.29	344	eP	P	Pb	15 07 18.2	-0.5
COEG	Centro de Oper	1.41	331	eP	P	Pn	15 07 19.8	+1.4
COEG	Centro de Oper	1.41	331	eP	P	Pn	15 07 19.8	+1.4
SCLA	Alcaldia de Sa	1.42	338	eP	P	Pb	15 07 20.3	-0.6
SCLA				eS	P	Sn	15 07 36.8	+0.7
SCLA	Alcaldia de Sa	1.42	338	eP	P	Pb	15 07 20.3	-0.6
SCLA				eS	P	Sn	15 07 36.8	+0.7
CNGN	Cerro Negro	1.46	85	Pn	P	Pn	15 07 20.9	+1.8
SJTE	Alcalda de S	1.46	327	eP	P	Pn	15 07 20.7	+1.5
SJTE	Alcalda de S	1.46	327	eP	P	Pn	15 07 20.7	+1.5
PAVA	Las Pavas	1.51	331	eP	P	Pn	15 07 21.4	+1.4
PAVA	Las Pavas	1.51	331	eP	P	Pn	15 07 21.4	+1.4
LBRS	Las Brisas	1.59	328	eP	P	Pn	15 07 22.8	+1.8
LBRS	Las Brisas	1.59	328	eP	P	Pn	15 07 22.8	+1.8
MOMN	Momotombo	1.61	89	eP	P	Pn	15 07 22.8	+1.6
LFU	La Fuente	1.63	326	eP	P	Pn	15 07 23.0	+1.4
LFU	La Fuente	1.63	326	eP	P	Pn	15 07 23.0	+1.4
SNET	Serv Nac Est T	1.65	322	Pn	P	Pn	15 07 23.5	+1.6
P5NO	Presa 5 de nov	1.69	341	eP	P	Pn	15 07 23.9	+1.5
P5NO				eS	S	Sn	15 07 43.4	+0.6
JAYA	Jayaque - finc	1.77	316	eP	P	Pb	15 07 26.2	-0.7
JAYA	Jayaque - finc	1.77	316	eP	P	Pb	15 07 26.2	-0.7
TGUH	Tegucigalpa,Un	1.89	28	Pn	P	Pn	15 07 26.9	+1.7
TGUH	Tegucigalpa,Un	1.89	28	eP	P	Pn	15 07 27.1	+2.0
NUBE	Las Nubes	2.17	314	eP	P	Pn	15 07 30.7	+1.7
NUBE				eS	S	Sn	15 07 54.9	0.0
NUBE	Las Nubes	2.17	314	eP	P	Pn	15 07 30.7	+1.7
NUBE				eS	S	Sn	15 07 54.9	0.0
MATN	Matagalpa	2.27	76		P	Pn	15 07 31.8	+1.4
MATN	Matagalpa	2.27	76	eP	P	Pn	15 07 32.0	+1.6
MTO3	Montecristo	2.31	330	Pn	P	Pn	15 07 32.6	+1.5
MTO3	Montecristo	2.31	330	eP	P	Pn	15 07 33.0	+2.0
ESQI	Esquipulas	2.44	333	Pn	P	Pn	15 07 34.8	+2.1
ESQI	Esquipulas	2.44	333	eP	P	Pn	15 07 34.9	+2.1
ACON	Acoyapa	2.97	98	Pn	P	Pn	15 07 42.5	+2.6
HZTE	Horizontes, Gu	3.03	123	Pn	P	Pn	15 07 45.3	+4.5
ORTG	Ortega, Santa	3.34	127	Pn	P	Pn	15 07 49.4	+4.3
JTS	Las Juntas de	3.79	123	Pn	P	Pn	15 07 36.2	-15
	1.0nm,0.3s,baz=352,slow=22,SNR=1.9							
JTS					Sn	Sn	15 08 13.6	-21
	11nm,0.3s,baz=355,slow=22,SNR=8.4							
JTS	Las Juntas de	3.79	123	Pn	P	Pb	15 07 57.9	-3.4
JACO	JACO, Garabito	4.39	128	Pn	P	Pn	15 08 06.9	+7.4
PETF	Flores	4.79	340	Pn	P	Pn	15 08 08.4	+3.4
RIMA	Rio Macho	4.97	121		P	Pn	15 08 13.2	+5.5
CCIG	Comitan	5.45	316	Pn	P	Pn	15 08 18.6	+4.4
SRBA	San Rafael, Bu	5.68	123		P	Pn	15 08 22.7	+5.4
CMIG	Matias Romero	7.99	307	Pn	P	Pn	15 08 51.1	+2.1
	1.1nm,0.3s,baz=132,slow=9.4,SNR=7.6							
CMIG					Sn	Sn	15 10 21.3	+3.0
	2.3nm,0.3s,baz=52,slow=22,SNR=2.6							
	2.3nm,0.5s							
CMIG	Matias Romero	7.99	307			Pn	15 08 49.4	+0.4
CMIG						Sn	15 10 16.9	-1.5
SDV	Santo Domingo	17.60	100	LR	LR	LR	15 18 21.9	
	comp=Z,79nm,20.1s,baz=283,slow=41							
833A	Chaparral WMA,	19.00	328	P	P	Pn	15 11 16.4	+1.4
JCT	Junction City	20.98	331			P	15 11 37.2	+1.5
JCT					IAmb	IAmb	15 11 41.0	
	comp=Z,12nm,0.7s							
GOGA	Godfrey	21.37	11	P	P	P	15 11 41.4	+1.6
CELP	Cerrillos	21.59	72	P	P	P	15 11 43.1	+0.8
CELP					IAmb	IAmb	15 11 46.9	
	comp=Z,15nm,1.1s							
ATAH	Atahualpa	21.70	153	LR	LR	LR	15 18 55.5	
	comp=Z,104nm,21.6s,baz=342,slow=35							
Y52A	Lilburn	21.71	9	P	P	P	15 11 44.8	+1.3
Y52A					IAmb	IAmb	15 12 00.4	
	comp=Z,13nm,0.9s							
TXAR	Lajitas Array	22.18	322	P	P	P	15 11 50.9	+2.3
	comp=Z,6.3nm,0.8s,baz=139,slow=9.8,SNR=40							
	comp=Z,6.3nm,0.8s							
TXAR	Lajitas Array	22.18	322	P	P	P	15 11 49.6	+1.0
TX31	Lajitas Ar. Si	22.18	322	P	P	P	15 11 49.9	+1.3
TX31					IAmb	IAmb	15 11 53.6	
	comp=Z,22nm,0.9s							
TX32	Lajitas Array	22.18	322	P	P	P	15 11 49.7	+1.1
FPAL	Fort Paine	22.18	6	P	P	P	15 11 49.4	+0.9
HODGE	Hodges	22.41	13	P	P	P	15 11 52.2	+1.3
HODGE					IAmb	IAmb	15 11 54.4	
	comp=Z,14nm,0.8s							
MIAR	Mount Ida	22.60	348	P	P	P	15 11 53.8	+0.9
MIAR					IAmb	IAmb	15 11 56.5	
	comp=Z,8.6nm,0.8s							
ABTX	Abilene, Hawle	22.72	334	P	P	P	15 11 56.1	+1.7
W50A	Signal Mountai	22.87	6	P	P	P	15 11 55.9	+0.1
BG3	Lake Jocassee	23.01	11	P	P	P	15 11 58.1	+0.8
BG3					IAmb	IAmb	15 12 12.4	
	comp=Z,12nm,1.0s							
X37A	Clayton	23.05	345	P	P	P	15 11 59.3	+1.6
X37A					IAmb	IAmb	15 12 21.4	
	comp=Z,16nm,1.3s							
WHAR	Wooly Hollow	23.11	351	P	P	P	15 11 59.1	+0.9
TKL	Tuckaleechee C	23.52	9	P	P	P	15 12 03.3	+1.0
	comp=Z,6.0nm,0.9s,baz=174,slow=12,SNR=4.7							
	comp=Z,6.0nm,0.9s							
TKL	Tuckaleechee C	23.52	9	P	P	P	15 12 03.0	+0.7
TKL					IAmb	IAmb	15 12 16.3	
	comp=Z,28nm,1.4s							
V53A	Saluda	23.69	11	P	P	P	15 12 04.1	+0.1
V53A					IAmb	IAmb	15 12 11.1	
	comp=Z,11nm,1.0s							
LCAR	Lake Charles	23.74	354	P	P	P	15 12 04.1	-0.2
X34A	Smith Ranch, M	23.79	340	P	P	P	15 12 06.5	+1.5
X34A					IAmb	IAmb	15 12 10.1	
	comp=Z,12nm,0.6s							
W57A	Gilead	23.86	17	P	P	P	15 12 05.6	+0.2
W57A					IAmb	IAmb	15 12 26.7	
	comp=Z,13nm,1.1s							
LPIG	La Paz	23.99	302	LR	LR	LR	15 20 10.7	
	comp=Z,38nm,18.8s,baz=235,slow=33							
U49A	Red Boiling Sp	24.12	5	P	P	P	15 12 08.1	+0.1
U49A					IAmb	IAmb	15 12 29.1	
	comp=Z,19nm,1.3s							
WMOK	Wichita Mounta	24.25	338	P	P	P	15 12 09.5	+0.3
FNO	Franklin	24.26	341	P	P	P	15 12 10.0	+0.8
HHAR	Hobbs	24.36	349	P	P	P	15 12 11.0	+0.9
TZTN	Tazewell	24.42	9	P	P	P	15 12 11.1	+0.5
T47A	Sharon Grove	24.52	2	P	P	P	15 12 11.0	-0.6
T47A					IAmb	IAmb	15 12 12.1	
	comp=Z,6.6nm,0.7s							
V58A	Windy Hill, Pi	24.71	18	P	P	P	15 12 14.0	+0.7
OK052	Battle Ridge R	24.76	343	P	P	P	15 12 13.8	0.0
OK052					IAmb	IAmb	15 12 24.5	
	comp=Z,19nm,1.4s							
OK053	SW of W Deep R	24.78	343	P	P	P	15 12 14.3	+0.4
OK053					IAmb	IAmb	15 12 18.3	
	comp=Z,24nm,1.4s							
QUOK	Quay	24.90	343	P	P	P	15 12 15.4	+0.3
QUOK					IAmb	IAmb	15 12 17.1	
	comp=Z,18nm,1.2s							
MSTX	Muleshoe	25.27	331	P	P	P	15 12 18.9	+0.3
S39A	Bolivar	25.62	351	P	P	P	15 12 21.4	-0.2
S39A					IAmb	IAmb	15 12 22.5	
	comp=Z,8.7nm,0.5s							
CCM	Cathedral Cave	25.71	354	P	P	P	15 12 22.4	0.0
S54A	Dingess, Beckl	26.05	12	P	P	P	15 12 26.2	+0.7
S54A					IAmb	IAmb	15 12 26.2	
	comp=Z,14nm,1.1s							
R40A	Maddies Statio	26.06	353	P	P	P	15 12 24.9	-0.7
R40A					IAmb	IAmb	15 12 41.4	
	comp=Z,14nm,1.4s							
T25A	Trinidad	28.63	332	P	P	P	15 12 50.1	+1.3
L40A	Anamosa	29.69	355	P	P	P	15 12 57.0	-0.9
214A	Organ Pipe Nat	29.86	315	P	P	P	15 12 59.7	0.0
ETMB	Extrema	31.03	134	P	P	P	15 13 12.6	+2.5
ETMB					IAmb	IAmb	15 13 15.9	
	comp=Z,4.2nm,0.8s							
I42A	Draeger Farm,	31.40	359	P	P	P	15 13 12.7	-0.3
SAML	Samuel	32.66	129	P	P	P	15 13 24.8	+0.4
SAML					IAmb	IAmb	15 13 26.5	
	comp=Z,4.2nm,0.9s							
O20A	White River Ci	32.81	331	P	P	P	15 13 27.3	+1.5
O20A					IAmb	IAmb	15 13 29.6	
	comp=Z,5.8nm,0.8s							
P17A	Butcher Ranch,	33.56	328	P	P	P	15 13 33.3	+1.0
RWWY	Rawlins	33.59	334	P	P	P	15 13 33.5	+0.9
F33A	5 Mile Ranch,	34.05	350	P	P	P	15 13 35.3	-0.9
LPAZ	La Paz	34.71	145	P		P	15 13 31.0	-12
	comp=Z,0.5nm,0.5s,baz=291,slow=8.6,SNR=2.5							
LPAZ					LR	LR	15 26 14.2	
	comp=Z,55nm,19.3s,baz=318,slow=34							
	comp=Z,0.5nm,0.5s							
PD31	Pinedale Array	35.50	332	P	P	P	15 13 49.5	+0.5
PDAR	Pinedale Array	35.50	332	P	P	P	15 13 50.0	+0.9
	comp=Z,1.1nm,0.6s,baz=127,slow=10,SNR=14							
PDAR					PcP	PcP	15 16 16.4	-1.7
	comp=Z,0.3nm,0.6s,baz=139,slow=5.8,SNR=2.6							
	comp=Z,1.1nm,0.6s							
PDAR	Pinedale Array	35.50	332	P	P	P	15 13 49.7	+0.7
BW06	Boulder Array	35.50	332	P	P	P	15 13 50.0	+1.0
BW06					IAmb	IAmb	15 14 04.8	
	comp=Z,5.7nm,1.5s							
EYMN	Ely	35.56	356	P	P	P	15 13 47.9	-1.4
HWUT	Hardware Ranch	35.56	329	P	P	P	15 13 50.7	+1.2
HWUT					IAmb	IAmb	15 13 52.1	
	comp=Z,4.0nm,0.7s							
AHID	Auburn Hatcher	36.21	331	P	P	P	15 13 56.1	+1.0
REDW	Red Top Meadow	36.55	332	P	P	P	15 13 59.3	+1.2
SNOW	Snow King Moun	36.59	332	P	P	P	15 13 59.3	+0.9
LOHW	Long Hollow	36.63	332	P	P	P	15 13 59.8	+1.1
LOHW					IAmb	IAmb	15 14 01.4	
	comp=Z,4.7nm,0.7s							
TPAW	Teton Pass	36.70	332	P	P	P	15 14 00.7	+1.4
MOOW	Moose Ponds	36.80	332	P	P	P	15 14 01.4	+1.2
MOOW					IAmb	IAmb	15 14 02.6	
	comp=Z,3.7nm,0.7s							
FLWY	Flagg Ranch	37.05	333	P	P	P	15 14 03.2	+1.0
FLWY					IAmb	IAmb	15 14 04.6	
	comp=Z,4.5nm,0.7s							
H17A	Grant Village	37.23	333	P	P	P	15 14 04.5	+0.6
RLMT	Red Lodge	37.26	335	P	P	P	15 14 04.8	+0.7
RLMT					IAmb	IAmb	15 14 05.8	
	comp=Z,4.1nm,0.7s							
NVAR	Mina Array Bea	37.28	319	P	P	P	15 14 04.8	+0.5
	comp=Z,0.3nm,0.5s,baz=112,slow=7.1,SNR=2.1							
	comp=Z,0.3nm,0.5s							
KVN	Kaiserville	37.52	320	P	P	P	15 14 08.3	+2.0
KVN					IAmb	IAmb	15 14 37.9	
	comp=Z,4.4nm,0.8s							
YHB	Horse Butte	37.79	333	P	P	P	15 14 10.2	+1.7
YHB					IAmb	IAmb	15 14 12.5	
	comp=Z,6.4nm,0.8s							
YHL	Hebgen Lake	37.86	333	P	P	P	15 14 11.1	+1.9
YHL					IAmb	IAmb	15 14 15.6	
	comp=Z,5.6nm,0.7s							
HLID	Hailey	38.42	329	P	P	P	15 14 14.7	+0.9
BCYI	Bear Canyon	38.48	331	P	P	P	15 14 16.3	+1.9
MCMT	McKenzie Canyo	38.60	332	P	P	P	15 14 17.4	+2.0
BOZ	Bozeman (W)	38.64	333	P	P	P	15 14 16.6	+0.9
BOZ					IAmb	IAmb	15 14 18.0	
	comp=Z,3.7nm,0.7s							
LRM	Limekiln Ridge	39.18	333	P	P	P	15 14 21.2	+1.0
HRY	Holter Researc	39.60	334	P	P	P	15 14 24.4	+0.8
YBH	Yreka Blue Hor	41.95	321	LR	LR		15 33 12.3	
	comp=Z,133nm,18.1s,baz=152,slow=37							
FFC	Flin Flon	43.62	348	P	P	P	15 14 56.5	+0.3
FFC					IAmb	IAmb	15 15 27.4	
	comp=Z,7.8nm,1.4s							
SCHQ	Schefferville	45.55	17	P	P	P	15 15 10.1	-1.6
	comp=Z,3.4nm,0.5s,baz=221,slow=6.1,SNR=6.5							
SCHQ					LR	LR	15 35 17.8	
	comp=Z,54nm,19.4s,baz=134,slow=37							
	comp=Z,3.4nm,0.5s							
SCHQ	Schefferville	45.55	17	P	P	P	15 15 09.9	-1.8
FCC	Fort Churchill	46.50	356	P	P	P	15 15 18.2	-0.8
LLLB	Lillooet	46.99	331	P	P	P	15 15 24.1	+1.1
LLLB					IAmb	IAmb	15 15 29.2	
	comp=Z,3.3nm,0.7s							
WAPA	Wapiti River	49.12	337	P	P	P	15 15 39.1	-0.3
YKA	Yellowknife Ar	53.49	345	P	P	P	15 16 11.0	-1.0
	comp=Z,2.9nm,0.8s,baz=142,slow=6.3,SNR=3.0							
	comp=Z,2.9nm,0.8s							
DLBC	Dease Lake	55.66	335	P	P	P	15 16 29.1	+1.1
M30M	Minto, Yukon	60.79	337	P	P	P	15 17 04.1	+0.4
M30M					IAmb	IAmb	15 17 13.3	
	comp=Z,6.0nm,1.4s							
RES	Resolute Bay	62.40	358	P	P	P	15 17 12.6	-1.7
DAWY	Dawson	62.58	337	P	P	P	15 17 14.9	-0.9
I29M	Ogilvie Camp,	62.87	339	P	P	P	15 17 17.1	-0.5
I29M					IAmb	IAmb	15 17 23.4	
	comp=Z,3.8nm,1.2s							
BCAR	Beaver Creek A	63.02	336	P	P	P	15 17 18.8	+0.1
L27K	Beaver Creek,	63.03	336	P	P	P	15 17 18.9	+0.1
L27K					IAmb	IAmb	15 17 24.8	
	comp=Z,3.6nm,1.2s							
BMRM	Bremner River	63.28	333	P	P	P	15 17 20.2	-0.3
A36M	Sachs Harbour	63.57	348	P	P	P	15 17 20.7	-1.4
A36M					IAmb	IAmb	15 17 25.7	
	comp=Z,6.4nm,1.4s							
J26L	Joseph Creek	64.38	337	P	P	P	15

comp=Z,14nm,1.2s
OPO Ambohidratompo 26.50 18 P **P 15 15 57.9 +1.3**
comp=Z,1.4nm,0.7s,baz=155,slow=12,SNR=5.0
OPO LR LR 15 24 45.1
comp=Z,409nm,19.1s,baz=14,slow=33
comp=Z,1.4nm,0.7s
MAW Mawson 26.60 160 P **P 15 15 58.6 +1.7**
comp=Z,7.0nm,1.0s,baz=74,slow=13,SNR=2.3
MAW LR LR 15 23 46.8
comp=Z,635nm,21.9s,baz=324,slow=30
LSZ Lusaka 30.31 339 P **P 15 16 29.8 -0.7**
comp=Z,1.5nm,0.3s,baz=155,slow=8.2,SNR=5.2
LSZ LR LR 15 27 37.9
comp=Z,445nm,18.3s,baz=156,slow=34
comp=Z,1.5nm,0.3s
TSUM Tsumeb 30.74 317 P **P 15 16 34.1 -0.2**
comp=Z,2.0nm,0.6s,baz=149,slow=14,SNR=3.1
TSUM LR LR 15 27 53.6
comp=Z,748nm,19.4s,baz=148,slow=34
comp=Z,2.0nm,0.6s
TSUM Tsumeb 30.74 317 P **P 15 16 33.9 -0.4**
TSUM IAmb IAmb 15 16 36.1
comp=Z,11nm,1.4s
TROLL Troll, Antarti 32.81 200 P **P 15 16 53.6 +1.6**
SNAA Sanae 34.01 202 P **P 15 17 03.2 +0.8**
SNAA Sanae 34.01 202 P **P 15 17 02.6 +0.2**
comp=Z,4.2nm,0.8s,baz=82,slow=6.3,SNR=17
SNAA LR LR 15 29 11.0
comp=Z,396nm,18.0s,baz=63,slow=33
comp=Z,4.2nm,0.8s
SNAA Sanae 34.01 202 P **P 15 17 02.7 +0.2**
VNA2 Neumayer--Watz 34.96 205 P **P 15 17 11.6 +1.1**
baz=58,slow=8.5
VNA1 Neumayer--Stat 35.11 205 P **P 15 17 13.8 +2.0**
VNA3 Neumayer Olymp 35.77 205 P **P 15 17 18.6 +1.1**
KMBO Kilima Mbogo 42.96 357 P **P 15 18 18.8 +0.5**
comp=Z,0.1nm,0.3s,baz=71,slow=24,SNR=3.2
KMBO LR LR 15 33 28.8
comp=Z,18nm,21.8s,baz=108,slow=32
BELA Belgrano 2 43.75 197 P **P 15 18 23.6 -0.3**
MBAR Mbarara 44.08 348 LR LR 15 36 19.4
comp=Z,606nm,18.1s,baz=161,slow=35
QSPA South Pole Qui 45.97 180 P **P 15 18 40.7 -1.1**
comp=Z,1.3nm,0.6s,baz=263,slow=0.6,SNR=16
QSPA LR LR 15 36 14.8
comp=Z,454nm,20.9s,baz=256,slow=34
comp=Z,1.3nm,0.6s
QSPA South Pole Qui 45.97 180 P **P 15 18 40.6 -1.1**
QSPA IAmb IAmb 15 19 07.0
comp=Z,14nm,1.4s
VNDA Vanda 53.56 167 P **P 15 19 39.3 +0.1**
comp=Z,2.8nm,1.2s,baz=236,slow=6.9,SNR=5.7
VNDA LR LR 15 41 03.7
comp=Z,340nm,18.9s,baz=223,slow=34
comp=Z,2.8nm,1.2s
VNDA Vanda 53.56 167 P **P 15 19 37.9 -1.4**
VNDA IAmb IAmb 15 19 53.2
comp=Z,6.1nm,1.2s
SBA Scott Base 54.10 168 P **P 15 19 44.1 +1.0**
ATD Arta Tunnel 55.62 5 LR LR 15 42 25.7
comp=Z,175nm,19.1s,baz=168,slow=35
PMSA Palmer Station 56.04 210 LR LR 15 38 25.6
comp=Z,278nm,21.1s,baz=122,slow=30
H10S2 ASCENSION HYDR 58.12 290 T T 16 22 57.2
baz=135,slow=74,SNR=35
H10S3 ASCENSION HYDR 58.13 290 T T 16 22 58.4
baz=85,slow=74,SNR=73
DBIC Dimbokro 64.26 310 P **P 15 20 53.9 -0.4**
comp=Z,6.4nm,0.9s,baz=172,slow=3.6,SNR=5.2
DBIC LR LR 15 47 24.9
comp=Z,113nm,18.1s,baz=166,slow=35
comp=Z,6.4nm,0.9s
DBIC Dimbokro 64.26 310 P **P 15 20 53.7 -0.5**
WSAR Wadi Sarin 69.52 19 LR LR 15 46 35.6
comp=Z,284nm,20.4s,baz=203,slow=31
LEM Lembang 69.96 80 LR LR 15 46 01.2
comp=Z,117nm,18.2s,baz=249,slow=31
EIL Elat 73.65 356 LR LR 15 51 07.9
comp=Z,132nm,22.0s,baz=205,slow=33
KULM Kulim 73.95 66 P **P 15 21 55.0 +0.5**
KULM IAmb IAmb 15 22 20.5
comp=Z,12nm,1.3s
CPUP Villa Florida 76.39 247 P **P 15 22 07.8 -0.7**
comp=Z,1.7nm,0.7s,baz=104,slow=4.4,SNR=4.5
comp=Z,1.7nm,0.7s
CPUP Villa Florida 76.39 247 P **P 15 22 08.3 -0.1**
CPUP IAmb IAmb 15 22 28.2
comp=Z,7.3nm,1.4s
STKA Stephens Creek 76.56 121 P **P 15 22 08.3 -1.1**
comp=Z,6.0nm,0.9s,baz=243,slow=2.4,SNR=13
STKA LR LR 15 50 17.3
comp=Z,143nm,19.5s,baz=203,slow=31
comp=Z,6.0nm,0.9s
STKA Stephens Creek 76.56 121 P **P 15 22 09.1 -0.3**
MMAI Mount Meron Ar 76.96 357 LR LR 15 55 05.7
comp=Z,144nm,19.2s,baz=56,slow=35
BDFB Brasilia 77.17 261 P **P 15 22 12.7 -0.5**
comp=Z,6.3nm,1.0s,baz=89,slow=6.4,SNR=5.1
comp=Z,6.3nm,1.0s
BDFB Brasilia 77.17 261 P **P 15 22 12.4 -0.7**
ASAR Alice Springs 77.20 110 P **P 15 22 12.2 -0.9**
comp=Z,7.8nm,0.9s,baz=219,slow=5.5,SNR=26
comp=Z,7.8nm,0.9s
AS31 Alice Springs 77.20 110 P **P 15 22 12.6 -0.5**
BO02 Sierra Bellavi 78.78 232 P **P 15 22 21.8 0.0**
BO02 IAmb IAmb 15 22 59.0
comp=Z,16nm,1.5s
WRA Warramunga Arr 80.03 108 P **P 15 22 27.2 -1.5**
comp=Z,7.3nm,1.1s,baz=219,slow=4.5,SNR=20
WRA LR LR 15 53 00.7
comp=Z,171nm,18.4s,baz=210,slow=32
comp=Z,7.3nm,1.1s
WRA Warramunga Arr 80.03 108 P **P 15 22 27.8 -0.9**
WRAB Tennant Creek 80.04 108 P **P 15 22 28.0 -0.8**
WR0 Warramunga Arr 80.15 108 P **P 15 22 28.7 -0.7**
WR0 IAmb IAmb 15 22 31.7
comp=Z,13nm,1.3s
WB0 Warramunga Arr 80.19 108 P **P 15 22 29.0 -0.6**
IDI Anoyia 80.20 348 LR LR 15 58 10.6
comp=Z,128nm,21.4s,baz=168,slow=36
CO02 Combarbal 81.52 234 P **P 15 22 36.3 -0.4**
CO02 IAmb IAmb 15 22 37.5
comp=Z,7.1nm,0.9s
CO03 El Pedregal 81.60 235 P **P 15 22 37.0 -0.1**
CO03 IAmb IAmb 15 22 50.8
comp=Z,10nm,1.1s
BRDH Bariadhala 82.15 48 LR LR 15 54 35.3
comp=Z,191nm,20.1s,baz=260,slow=32
RPZ Rata Peaks 82.53 147 LR LR 15 55 28.6
comp=Z,120nm,18.2s,baz=231,slow=33
CMAR Chiang Mai Arr 82.92 56 P **P 15 22 43.6 -0.3**
comp=Z,0.3nm,0.3s,baz=205,slow=7.7,SNR=1.1
comp=Z,0.3nm,0.3s
DANN Dangsing 83.02 39 *eP* **P 15 22 44.2 -0.3**
comp=Z,51nm,1.3s
PKIN Phulchoki 83.11 40 *eP* **P 15 22 44.8 -0.2**
PKI Pulchoki 83.11 40 *eP* **P 15 22 44.8 -0.2**
comp=Z,35nm,1.3s
GKN Gorkha 83.12 40 *eP* **P 15 22 44.1 -0.8**
comp=Z,29nm,1.0s
RAMN Ramite 83.14 42 *eP* **P 15 22 44.3 -0.8**
comp=Z,46nm,1.1s
JIRN Jiri 83.55 41 *eP* **P 15 22 46.5 -0.9**
comp=Z,57nm,1.0s
GUN Gumba 83.61 41 *eP* **P 15 22 47.2 -0.5**
comp=Z,95nm,1.1s
BRTR Keskin Array B 83.73 356 P **P 15 22 47.1 -0.6**
comp=Z,0.7nm,0.8s,baz=180,slow=7.2,SNR=2.9
BRTR LR LR 16 00 16.8
comp=Z,96nm,18.4s,baz=122,slow=36
comp=Z,0.7nm,0.8s
GNI Garni 84.17 4 LR LR 15 58 49.9
comp=Z,168nm,21.9s,baz=178,slow=35
VAE Valguarnera 84.35 341 LR LR 16 00 21.2
comp=Z,105nm,20.4s,baz=157,slow=36
MDT Midelt 86.39 324 LR LR 16 01 23.3
comp=Z,283nm,19.8s,baz=158,slow=36
CTA Charters Tower 87.86 116 LR LR 15 58 17.5
comp=Z,102nm,21.7s,baz=246,slow=33
MLR Muntele Rosu 90.10 351 LR LR 16 06 32.4
comp=Z,126nm,19.7s,baz=194,slow=37
ESDC Sonseca Array 92.09 328 LR LR 16 05 26.7
comp=Z,289nm,18.6s,baz=134,slow=36
AAK Ala-Archa 92.14 25 LR LR 16 00 43.0
comp=Z,149nm,20.5s,baz=256,slow=33
SAML Samuel 92.45 255 P **P 15 23 29.2 -1.0**
SAML IAmb IAmb 15 23 37.2
comp=Z,5.1nm,1.3s

DAVOX Davos/Dischmat 94.23 340 LR LR 16 06 59.7
comp=Z,175nm,21.4s,baz=86,slow=36
AKASG Malin Array Be 94.95 354 LR LR 16 08 04.4
comp=Z,53nm,20.3s,baz=218,slow=36
VRAC Vranov 95.22 345 LR LR 16 09 24.9
comp=Z,55nm,19.8s,baz=176,slow=37
GERES GERESS Array B 95.33 344 LR LR 16 11 44.4
comp=Z,85nm,18.2s,baz=164,slow=39
BELG Belogornoye 96.55 5 LR LR 16 07 56.8
comp=Z,130nm,21.2s,baz=151,slow=36
DZM Mont Dzumac 98.35 132 LR LR 16 00 17.0
comp=Z,108nm,21.0s,baz=235,slow=30
DZM Mont Dzumac 98.35 132 *eLR* LR 15 56 13.9
comp=Z,304nm,29.8s
MKAR Makanchi Array 98.37 28 LR LR 16 03 56.9
comp=Z,32nm,20.5s,baz=259,slow=33
TBI Tubuai 112.29 172 *eLR* LR 16 02 28.8
comp=Z,3μm,22.8s
TBI *eLR* LR 16 02 29.0
comp=Z,1μm,39.5s
PPT2 Papeete2 117.97 171 *eLR* LR 16 05 06.3
PPT2 *eLR* LR 16 05 07.2
comp=Z,156nm,25.5s
TXAR Lajitas Array 146.94 256 PKPbc **PKPdf 15 30 01.4 +1.7**
comp=Z,6.4nm,1.1s,baz=140,slow=6.0,SNR=18
ULM Lac du Bonnet 149.18 297 PKPbc **PKPdf 15 30 05.8 +3.3**
comp=Z,6.8nm,0.9s,baz=63,slow=2.5,SNR=6.5
PDAR Pinedale Array 157.23 277 PKPab **PKPab 15 30 46.0 +0.2**
comp=Z,1.1nm,0.9s,baz=114,slow=6.1,SNR=4.8

*IDC **20** 15:13:07.6±4.3,24.˚37N×109.˚00W,h0km,mb3.2/1, mbtmp2.9/3,ML3.6/2,Error ellipse: s-maj=80.2km s-min=12.9km az=150.0*
*MEX **20** 15:13:13.7±0.6,24.˚73N×109.˚23W,h16km±8km,MD4.1*
ISC 20 15:13:08.8±1.7,24˚65N±0˚05×109˚16W±0˚05,h2km±12km, n16,σ2ˢ00/19,1C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.95**	**6**	*eP*	**Pg**	**15 13 27.3**	**+0.1**
TSIG				*eS*	**Sg**	**15 13 38.3**	**-1.2**
LPIG	**La Paz**	**1.18**	**243**	Pg	**Pb**	**15 13 31.9**	**0.0**
	21nm,0.3s,baz=276,slow=19,SNR=8.0						
LPIG				Lg	Lg	15 13 45.5	
	53nm,0.3s,baz=218,slow=19,SNR=7.4						
LPIG	**La Paz**	**1.18**	**243**	*eP*	**Pb**	**15 13 31.8**	**-0.2**
LPIG				*eS*	**Sb**	**15 13 45.4**	**-2.3**
SLBS	**Sierra La Lagu**	**1.20**	**217**	*eP*	**Pb**	**15 13 32.9**	**+0.6**
SLBS				*eS*	**Sb**	**15 13 46.6**	**-1.7**
SSIG	**Sanalona**	**1.84**	**84**	*eP*	**Pn**	**15 13 40.6**	**-0.8**
SSIG				*eS*	**Sn**	**15 14 02.7**	**-2.5**
CSIG	**Choix**	**2.28**	**18**	*eP*	**Pn**	**15 13 47.1**	**-0.4**
CSIG				*eS*	**Sn**	**15 14 11.5**	**-4.7**
MAIG	**Mazatlaan**	**2.89**	**120**	*e*	**Pb**	**15 14 01.4**	**+0.4**
PDIG	**Papasquiaro**	**3.44**	**83**	*eS*	**Sn**	**15 14 43.8**	**-1.2**
HPIG		**3.88**	**53**	*e*	Pn	15 14 15.2	+5.5
HPIG				*eS*	**Sn**	**15 14 55.6**	**-0.4**
CGIG		**5.79**	**10**	*eP*	**Pn**	**15 14 36.6**	**+0.8**
CGIG				⇑*eS*	**Sn**	**15 15 41.1**	**-1.8**
TXAR	**Lajitas Array**	**6.76**	**45**	Pn	**Pn**	**15 14 49.4**	**+0.2**
	0.1nm,0.3s,baz=220,slow=14,SNR=2.3						
TXAR				Lg	Lg	15 16 40.1	
	0.9nm,0.3s,baz=219,slow=30,SNR=8.2						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**18.07**	**359**	P	**P**	**15 17 24.4**	**+2.7**
	0.1nm,0.3s,baz=180,slow=12,SNR=2.4						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**46.91**	**339**	P	**P**	**15 21 43.2**	**+2.8**
	0.2nm,0.6s,baz=138,slow=7.3,SNR=4.4						
	0.2nm,0.6s						
H03N2	**Juan Fernandez**	**64.53**	**152**	T	T	16 34 13.2	
	baz=331,slow=77,SNR=4.2						
H03N1	**Juan Fernandez**	**64.55**	**152**	T	T	16 34 10.8	
	baz=331,slow=77,SNR=4.0						
H03N3	**Juan Fernandez**	**64.55**	**152**	T	T	16 34 06.0	
	baz=331,slow=77,SNR=5.3						

*IDC **20** 15:15:08.9±1.2,44.˚25S×39.˚33E,h0km,mb4.2/7, mbtmp4.2/7,Error ellipse: s-maj=39.1km s-min=24.7km az=125.0*
*NEIC **20** 15:15:10.0±1.6,44.˚27S±0.˚09×39.˚2E±0.˚2,h10km±2km, mb4.3/6,Error ellipse: s-maj=30.9km s-min=10.4km az=291.0*
ISC 20 15:15:09.9±0.8,44˚2S±0˚1×39˚3E±0˚2,h10km,n17, σ0ˢ78/15,mb4.2/9,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**22.18**	**325**	P	**P**	**15 20 05.5**	**-0.7**
LBTB				IAmb	IAmb	15 20 19.1	
	comp=Z,13nm,1.3s						
OPO	**Ambohidratompo**	**26.41**	**17**	P	**P**	**15 20 47.2**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=124,slow=11,SNR=2.1						
	comp=Z,1.1nm,0.3s						
SNAA	**Sanae**	**34.11**	**202**	P	**P**	**15 21 54.6**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=82,slow=5.6,SNR=6.9						
	comp=Z,3.2nm,0.9s						
SNAA	**Sanae**	**34.11**	**202**	P	**P**	**15 21 54.3**	**0.0**
SNAA				IAmb	IAmb	15 21 55.8	
	comp=Z,4.8nm,1.0s						
QSPA	**South Pole Qui**	**45.99**	**180**	P	**P**	**15 23 32.4**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=140,slow=1.2,SNR=8.1						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**45.99**	**180**	P	**P**	**15 23 32.6**	**-0.5**
QSPA				IAmb	IAmb	15 24 07.8	
	comp=Z,6.0nm,1.4s						
VNDA	**Vanda**	**53.55**	**167**	P	**P**	**15 24 29.6**	**-0.6**
VNDA				IAmb	IAmb	15 24 39.1	
	comp=Z,2.5nm,1.4s						
PMSA	**Palmer Station**	**56.17**	**210**	P	**P**	**15 24 50.5**	**+1.3**
	comp=Z,3.2nm,0.4s,baz=193,slow=22,SNR=1.5						
	comp=Z,3.2nm,0.4s						
H10S2	**ASCENSION HYDR**	**58.29**	**290**	T	T	16 27 59.7	
	baz=137						
H10S3	**ASCENSION HYDR**	**58.31**	**290**	T	T	16 27 59.7	
	baz=83						
TOO	**Toolangi**	**74.77**	**128**	P	**P**	**15 26 48.7**	**-1.4**
STKA	**Stephens Creek**	**76.41**	**121**	P	**P**	**15 27 00.2**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=240,slow=5.1,SNR=5.7						
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**77.03**	**110**	P	**P**	**15 27 04.1**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=222,slow=5.1,SNR=14						
	comp=Z,1.9nm,0.8s						
ASAR	**Alice Springs**	**77.03**	**110**	P	**P**	**15 27 04.0**	**+0.7**
AS31	**Alice Springs**	**77.03**	**110**	P	**P**	**15 27 03.6**	**+0.4**
WRA	**Warramunga Arr**	**79.85**	**108**	P	**P**	**15 27 19.2**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=222,slow=4.1,SNR=6.2						
	comp=Z,1.2nm,0.9s						
TXAR	**Lajitas Array**	**147.13**	**256**	PKPbc	**PKPbc**	**15 34 53.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=126,slow=6.4,SNR=6.6						

*IDC **20** 15:29:26.6±0.9,8.˚42N×39.˚33W,h0km,mb3.9/8, mbtmp3.9/8,MS3.1/3,Error ellipse: s-maj=32.1km s-min=22.0km az=156.0*
*NEIC **20** 15:29:28.4±1.0,8.˚5N±0.˚1×39.˚40W±0.˚07,h10km±1km, mb4.5/13,Error ellipse: s-maj=25.6km s-min=9.4km az=159.0*
ISC 20 15:29:28.7±0.7,8˚4N±0˚1×39˚4W±0˚1,h15km,n30, σ0ˢ75/24,mb4.2/13,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**13.53**	**257**	LR	LR	15 36 50.6	
	comp=Z,63nm,21.8s,baz=131,slow=33						
H05S1	**Guadeloupe/Mar**	**21.80**	**288**	T	T	15 56 30.6	
	SNR=13						
BOAV	**Boa Vista**	**21.83**	**255**	P	**P**	**15 34 20.1**	**-0.7**
BOAV				IAmb	IAmb	15 34 21.4	
	comp=Z,10nm,1.0s						
ILAM	**Ilet Lapin Mar**	**21.92**	**289**	P	**P**	**15 34 20.4**	**-1.3**
H05N1	**Guadeloupe/Mar**	**22.51**	**292**	T	T	15 57 29.4	
	SNR=5.0						
SJG	**San Juan**	**27.69**	**293**	LR	LR	15 44 35.8	
	comp=Z,31nm,19.8s,baz=75,slow=33						
CELP	**Cerrillos**	**28.07**	**293**	P	**P**	**15 35 20.2**	**+0.3**
H10S3	**ASCENSION HYDR**	**30.12**	**124**	T	T	16 07 24.5	
	baz=279,slow=74,SNR=12						
H10S2	**ASCENSION HYDR**	**30.14**	**124**	T	T	16 07 23.0	
	baz=301,slow=74,SNR=6.8						
URIC	**Uribia, Colomb**	**32.21**	**279**	P	**P**	**15 35 56.0**	**-0.6**
URIC				IAmb	IAmb	15 36 05.4	
	comp=Z,17nm,1.3s						

DBIC Dimbokro 34.31 91 P **P 15 36 14.1 -0.9**
comp=Z,4.0nm,0.8s,baz=278,slow=11,SNR=5.8
comp=Z,4.0nm,0.8s
DBIC Dimbokro 34.31 91 P **P 15 36 13.6 -1.3**
DBIC IAmb IAmb 15 36 25.9
comp=Z,18nm,1.5s
LPAZ La Paz 37.56 229 P **P 15 36 44.1 +0.7**
comp=Z,1.1nm,0.6s,baz=42,slow=6.8,SNR=7.0
comp=Z,1.1nm,0.6s
LPAZ La Paz 37.56 229 P **P 15 36 43.3 -0.1**
TKL Tuckaleechee C 48.64 311 P **P 15 38 13.4 +1.1**
comp=Z,2.3nm,0.8s,baz=145,slow=16,SNR=1.6
TKL LR LR 15 55 06.6
comp=Z,27nm,21.4s,baz=141,slow=32
comp=Z,2.3nm,0.8s
WHAR Wooly Hollow 55.08 307 P **P 15 38 59.8 -0.4**
PLCA Paso Flores 56.71 208 P **P 15 39 12.6 +0.7**
comp=Z,1.9nm,0.8s,baz=13,slow=16,SNR=1.2
comp=Z,1.9nm,0.8s
TXAR Lajitas Array 63.48 298 P **P 15 39 59.0 +0.3**
comp=Z,0.4nm,0.6s,baz=101,slow=5.6,SNR=6.1
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 63.48 298 P **P 15 39 57.8 -0.9**
SDCO Great Sand Dun 65.99 308 P **P 15 40 15.1 0.0**
TULEG Thule 69.90 353 P **P 15 40 38.0 -0.7**
AKASG Malin Array Be 70.03 39 P **P 15 40 40.0 +0.1**
comp=Z,0.3nm,0.4s,baz=268,slow=9.2,SNR=4.1
comp=Z,0.3nm,0.4s
BRTR Keskin Array B 71.64 51 P **P 15 40 50.2 +0.1**
comp=Z,1.3nm,0.9s,baz=246,slow=6.1,SNR=5.9
comp=Z,1.3nm,0.9s
EUNU Eureka 74.88 352 P **P 15 41 09.1 +0.7**
EUNU IAmb IAmb 15 41 44.1
comp=Z,3.5nm,1.2s
A36M Sachs Harbour 80.74 342 P **P 15 41 41.5 +0.4**
A36M IAmb IAmb 15 41 43.6
comp=Z,5.3nm,1.1s
SNAA Sanae 83.51 169 P **P 15 41 56.1 +0.5**
SNAA IAmb IAmb 15 42 04.4
comp=Z,9.5nm,1.5s
M30M Minto, Yukon 85.96 333 P **P 15 42 08.4 +0.2**
BMAR Burnt Mountain 88.01 338 P **P 15 42 18.8 +0.7**
BCAR Beaver Creek A 88.09 334 P **P 15 42 18.9 +0.3**
ILAR Eielson Array 89.74 336 P **P 15 42 27.4 +1.1**
comp=Z,0.4nm,0.8s,baz=64,slow=3.8,SNR=4.3
comp=Z,0.4nm,0.8s

*IDC **20** 15:29:33.2±0.5,44.˚13S×39.˚22E,h0km,mb4.6/18, mbtmp4.6/20,ML4.0/2,MS4.0/32,Error ellipse: s-maj=17.6km s-min=13.3km az=59.0*
*BJI **20** 15:29:35.0±0.0,44.˚51S×39.˚57E,h12km,mb5.3/8, mB5.1/5,Ms4.9/2,Ms7 4.5/3*
*NEIC **20** 15:29:35.4±2.1,44.˚25S±0.˚10×39.˚2E±0.˚2,h10km±1km, mb5.0/62,Error ellipse: s-maj=19.3km s-min=16.4km az=79.0*
*GCMT **20** 15:29:36.3±0.4,44.˚18S±0.˚02×38.˚89E±0.˚05,h23km±1km, MW5.0/74,Moment Tensor Solution. s13,c13; s74,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.08±.25; $M_{\theta\theta}$2.80±.15; $M_{\phi\phi}$0.28±.13; $M_{r\theta}$-0.48±.18; $M_{\theta\phi}$0.05±.09; $M_{\phi r}$1.80±.25; Best double couple: $M_0$3.36900×10^{16} NP1:ϕs113.00000°,δ55.00000°,λ-61.00000°. NP2: ϕs249.00000°,δ44.00000°,λ-124.00000°. Principal axes: T 2.8450, Plg6.0000°, Azm183.0000°; N 1.0510, Plg23.0000°, Azm275.0000°; P -3.8940, Plg66.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 15:29:35.0±0.3,44˚21S±0˚07×39˚03E±0˚08,h10km,n192, σ1ˢ00/169,mb5.0/46,MS4.1/34,1C,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POGA	**Pongola**	**17.84**	**338**		**Pn**	**15 33 43.6**	**+0.3**
SUR	**Sutherland**	**18.50**	**304**	P	**P**	**15 33 51.5**	**0.0**
	0.5nm,0.3s,baz=122,slow=15,SNR=6.8						
SUR				LR	LR	15 39 38.4	
	comp=Z,294nm,20.3s,baz=142,slow=33						
	20nm,0.9s						
SUR	**Sutherland**	**18.50**	**304**	P	**P**	**15 33 51.1**	**-0.4**
BOSA	**Boshof**	**19.07**	**320**	P	**P**	**15 33 58.1**	**+0.4**
	0.3nm,0.3s,baz=154,slow=11,SNR=9.1						
BOSA				LR	LR	15 40 00.1	
	comp=Z,363nm,21.8s,baz=158,slow=33						
	4.2nm,0.6s						
BOSA	**Boshof**	**19.07**	**320**	P	**P**	**15 33 57.5**	**-0.2**
LBTB	**Lobatse**	**22.06**	**326**	P	**P**	**15 34 29.5**	**-0.6**
	13nm,0.8s,baz=267,slow=23,SNR=16						
LBTB				LR	LR	15 41 50.7	
	comp=Z,399nm,19.5s,baz=168,slow=33						
	13nm,0.8s						
LBTB	**Lobatse**	**22.06**	**326**	P	**P**	**15 34 29.8**	**-0.3**
VOI	**Vohitsoka**	**23.16**	**19**	P	**P**	**15 34 41.0**	**-0.8**
VOI				IAmb	IAmb	15 34 51.0	
	comp=Z,51nm,1.6s						
OPO	**Ambohidratompo**	**26.47**	**18**	P	**P**	**15 35 11.3**	**-1.2**
	comp=Z,3.7nm,0.9s,baz=148,slow=5.6,SNR=4.5						
OPO				LR	LR	15 43 41.4	
	comp=Z,260nm,19.1s,baz=22,slow=32						
	comp=Z,3.7nm,0.9s						
MAW	**Mawson**	**26.63**	**160**	P	**P**	**15 35 14.3**	**+0.9**
	comp=Z,6.0nm,0.9s,baz=285,slow=12,SNR=4.5						
MAW				LR	LR	15 43 02.6	
	comp=Z,364nm,21.8s,baz=315,slow=30						
	comp=Z,6.0nm,0.9s						
LSZ	**Lusaka**	**30.28**	**339**	LR	LR	15 46 26.5	
	comp=Z,195nm,20.8s,baz=159,slow=34						
LSZ	**Lusaka**	**30.28**	**339**	P	**P**	**15 35 45.9**	**-0.6**
TSUM	**Tsumeb**	**30.72**	**317**	LR	LR	15 47 02.3	
	comp=Z,269nm,20.8s,baz=151,slow=34						
TSUM	**Tsumeb**	**30.72**	**317**	P	**P**	**15 35 51.6**	**+1.2**
TROLL	**Troll, Antarti**	**32.84**	**200**	P	**P**	**15 36 09.6**	**+1.0**
TROLL	**Troll, Antarti**	**32.84**	**200**	PcP	**PcP**	**15 38 52.5**	**-0.5**
SNAA	**Sanae**	**34.04**	**202**	P	**P**	**15 36 20.1**	**+1.2**
SNAA	**Sanae**	**34.04**	**202**	P	**P**	**15 36 19.9**	**+1.0**
	comp=Z,19nm,0.9s,baz=69,slow=7.0,SNR=49						
SNAA				LR	LR	15 47 20.7	
	comp=Z,257nm,19.6s,baz=8.0,slow=31						
	comp=Z,19nm,0.9s						
SNAA	**Sanae**	**34.04**	**202**	P	**P**	**15 36 19.5**	**+0.6**
SNAA				IAmb	IAmb	15 36 21.1	
	comp=Z,27nm,1.0s						
VNA2	**Neumayer--Watz**	**34.99**	**205**	P	**P**	**15 36 28.3**	**+1.2**
	baz=52,slow=9.2						
VNA1	**Neumayer--Stat**	**35.14**	**205**	P	**P**	**15 36 30.1**	**+1.8**
VNA3	**Neumayer Olymp**	**35.80**	**205**	P	**P**	**15 36 34.7**	**+0.7**
VNA3	**Neumayer Olymp**	**35.80**	**205**	PcP	**PcP**	**15 39 00.9**	**-0.4**
BELA	**Belgrano 2**	**43.78**	**197**	P	**P**	**15 37 40.3**	**0.0**
MBAR	**Mbarara**	**44.05**	**348**	LR	LR	15 55 27.9	
	comp=Z,275nm,18.2s,baz=161,slow=35						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**15 37 57.5**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=246,slow=3.0,SNR=41						
QSPA				LR	LR	15 55 31.3	
	comp=Z,211nm,22.0s,baz=258,slow=34						
	comp=Z,5.2nm,0.8s						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**15 37 57.6**	**-0.7**
QSPA				IAmb	IAmb	15 37 58.7	
	comp=Z,40nm,1.6s						
VNDA	**Vanda**	**53.59**	**167**	P	**P**	**15 38 55.4**	**-0.3**
	comp=Z,6.0nm,1.1s,baz=227,slow=7.1,SNR=14						
VNDA				LR	LR	16 01 11.2	
	comp=Z,177nm,18.0s,baz=220,slow=35						
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**53.59**	**167**	P	**P**	**15 38 55.2**	**-0.4**
SBA	**Scott Base**	**54.13**	**168**	P	**P**	**15 39 00.7**	**+1.2**
ATD	**Arta Tunnel**	**55.59**	**5**	LR	LR	16 01 42.8	
	comp=Z,105nm,18.9s,baz=164,slow=35						
PMSA	**Palmer Station**	**56.07**	**210**	LR	LR	15 57 42.8	
	comp=Z,183nm,21.8s,baz=130,slow=30						
H10S2	**ASCENSION HYDR**	**58.11**	**290**	T	T	16 42 23.6	
	baz=135,slow=74,SNR=22						
H10S3	**ASCENSION HYDR**	**58.12**	**290**	T	T	16 42 24.8	
	baz=85,slow=74,SNR=41						
PALK	**Pallekele**	**63.55**	**47**	LR	LR	16 00 25.7	
	comp=Z,189nm,21.6s,baz=0.7,slow=29						
DBIC	**Dimbokro**	**64.24**	**310**	P	**P**	**15 40 10.7**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=176,slow=6.5,SNR=3.6						
DBIC				LR	LR	16 04 19.0	
	comp=Z,52nm,21.7s,baz=138,slow=32						
	comp=Z,3.7nm

COYC	**Coyhaique**	**71.78**	**224**	P	**P**	**15 40 56.9**	**-0.6**
BBOO	**Buckleboo**	**72.50**	**119**	P	**P**	**15 41 01.6**	**-0.4**
BBOO				IAmb	IAmb	15 41 02.7	
	comp=Z,22nm,1.1s						
AY01	**Puyuhuapi**	**72.88**	**224**	P	**P**	**15 41 03.7**	**-0.3**
AY01				IAmb	IAmb	15 41 04.8	
	comp=Z,20nm,1.1s						
ITQB	**Itaqui**	**73.70**	**244**	P	**P**	**15 41 08.8**	**-0.3**
PLCA	**Paso Flores**	**74.42**	**228**	P	**P**	**15 41 13.7**	**+0.4**
	comp=Z,6.1nm,0.9s,baz=108,slow=4.7,SNR=8.2						
	comp=Z,6.1nm,0.9s						
PLCA	**Paso Flores**	**74.42**	**228**	P	**P**	**15 41 13.5**	**+0.2**
PLCA				IAmb	IAmb	15 41 14.4	
	comp=Z,14nm,1.1s						
TOO	**Toolangi**	**74.93**	**128**	P	**P**	**15 41 16.7**	**+0.5**
TOO				IAmb	IAmb	15 41 17.8	
	comp=Z,26nm,1.1s						
RCBR	**Riachuelo**	**75.16**	**276**	LR	LR	16 05 36.9	
	comp=Z,39nm,21.5s,baz=292,slow=29						
CPUP	**Villa Florida**	**76.41**	**247**	P	**P**	**15 41 25.3**	**+0.5**
	comp=Z,8.9nm,1.0s,baz=124,slow=6.3,SNR=16						
CPUP				LR	LR	16 08 56.4	
	comp=Z,55nm,18.1s,baz=160,slow=31						
	comp=Z,8.9nm,1.0s						
CPUP	**Villa Florida**	**76.41**	**247**	P	**P**	**15 41 24.3**	**-0.4**
CPUP				IAmb	IAmb	15 41 26.1	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**76.58**	**121**	P	**P**	**15 41 25.4**	**-0.3**
	comp=Z,15nm,0.9s,baz=236,slow=4.6,SNR=30						
STKA				LR	LR	16 09 41.3	
	comp=Z,90nm,18.7s,baz=200,slow=32						
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**76.58**	**121**	P	**P**	**15 41 24.9**	**-0.8**
BDFB	**Brasilia**	**77.18**	**261**	P	**P**	**15 41 30.6**	**+1.2**
	comp=Z,15nm,1.1s,baz=72,slow=4.3,SNR=9.0						
	comp=Z,15nm,1.1s						
BDFB	**Brasilia**	**77.18**	**261**	P	**P**	**15 41 29.9**	**+0.5**
ASAR	**Alice Springs**	**77.21**	**110**	P	**P**	**15 41 28.7**	**-0.7**
	comp=Z,15nm,0.9s,baz=224,slow=4.8,SNR=86						
ASAR				LR	LR	16 09 33.4	
	comp=Z,78nm,19.8s,baz=322,slow=31						
	comp=Z,15nm,0.9s						
ASAR	**Alice Springs**	**77.21**	**110**	P	**P**	**15 41 28.1**	**-1.3**
AS31	**Alice Springs**	**77.21**	**110**	P	**P**	**15 41 28.5**	**-0.9**
CAN	**Canberra**	**78.51**	**128**	P	**P**	**15 41 34.7**	**-1.8**
CAN				IAmb	IAmb	15 41 38.8	
	comp=Z,20nm,1.2s						
BO01	**Tunca**	**79.27**	**232**	P	**P**	**15 41 39.8**	**-0.8**
BO01				IAmb	IAmb	15 42 41.1	
	comp=Z,34nm,1.6s						
AQDB	**Aquidauana**	**79.28**	**252**	P	**P**	**15 41 40.4**	**-0.4**
AQDB				IAmb	IAmb	15 41 42.4	
	comp=Z,15nm,1.1s						
BO04	**La Punta**	**79.29**	**233**	P	**P**	**15 41 40.2**	**-0.6**
BO04				IAmb	IAmb	15 41 41.4	
	comp=Z,11nm,0.8s						
GO05	**Huala**	**79.30**	**231**	P	**P**	**15 41 40.3**	**-0.5**
MT09	**Talagante**	**79.66**	**233**	P	**P**	**15 41 42.1**	**-0.8**
MT09				IAmb	IAmb	15 43 04.4	
	comp=Z,34nm,1.6s						
SBUM	**Sibu**	**79.73**	**76**	P	**P**	**15 41 43.3**	**-0.1**
MT01	**Popeta**	**79.75**	**232**	P	**P**	**15 41 42.5**	**-0.7**
MT01				IAmb	IAmb	15 41 44.3	
	comp=Z,15nm,1.1s						
ZON	**Zonda**	**79.92**	**236**	P	**P**	**15 41 43.8**	**-0.5**
ZON				IAmb	IAmb	15 41 46.4	
	comp=Z,22nm,1.3s						
MLZ	**Mavora Lakes**	**80.02**	**146**	P	**P**	**15 41 44.5**	**-0.1**
WRA	**Warramunga Arr**	**80.03**	**108**	P	**P**	**15 41 44.5**	**-0.5**
	comp=Z,9.6nm,1.0s,baz=221,slow=4.4,SNR=38						
WRA				LR	LR	16 11 57.8	
	comp=Z,90nm,19.6s,baz=210,slow=32						
	comp=Z,9.6nm,1.0s						
WRA	**Warramunga Arr**	**80.03**	**108**	P	**P**	**15 41 44.4**	**-0.6**
WB2	**Warramunga Arr**	**80.04**	**108**	P	**P**	**15 41 44.4**	**-0.6**
WB2				IAmb	IAmb	15 41 45.7	
	comp=Z,24nm,1.2s						
WRAB	**Tennant Creek**	**80.05**	**108**	P	**P**	**15 41 44.3**	**-0.8**
WRAB				IAmb	IAmb	15 41 45.8	
	comp=Z,20nm,1.1s						
MT02	**Curacav**	**80.12**	**233**	P	**P**	**15 41 44.4**	**-0.9**
MT02				IAmb	IAmb	15 41 45.9	
	comp=Z,15nm,0.9s						
VA03	**San Esteban**	**80.14**	**234**	P	**P**	**15 41 44.9**	**-0.6**
VA03				IAmb	IAmb	15 41 46.5	
	comp=Z,20nm,0.9s						
WR0	**Warramunga Arr**	**80.16**	**108**	P	**P**	**15 41 44.8**	**-0.9**
WB0	**Warramunga Arr**	**80.19**	**108**	P	**P**	**15 41 44.7**	**-1.2**
WB0				IAmb	IAmb	15 41 46.5	
	comp=Z,15nm,1.1s						
BKB	**Balikpapan**	**80.43**	**82**	P	**P**	**15 41 45.7**	**-1.4**
VA06	**Catapilco**	**80.72**	**233**	P	**P**	**15 41 47.4**	**-1.1**
VA06				IAmb	IAmb	15 43 04.7	
	comp=Z,25nm,1.2s						
CO02	**Combarbal**	**81.54**	**234**	P	**P**	**15 41 51.2**	**-1.8**
CO02				IAmb	IAmb	15 41 53.7	
	comp=Z,14nm,1.0s						
CO03	**El Pedregal**	**81.62**	**235**	P	**P**	**15 41 53.1**	**-0.4**
CO01	**Juntas del Tor**	**81.89**	**236**	P	**P**	**15 41 55.4**	**+0.4**
CO01				IAmb	IAmb	15 41 57.0	
	comp=Z,19nm,0.9s						
BRDH	**Bariadhala**	**82.13**	**48**	LR	LR	16 15 56.9	
	comp=Z,126nm,18.1s,baz=260,slow=34						
RPZ	**Rata Peaks**	**82.56**	**147**	LR	LR	16 15 50.1	
	comp=Z,78nm,18.3s,baz=32,slow=34						
AC05	**El Transito**	**82.83**	**237**	P	**P**	**15 41 59.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**82.91**	**56**	P	**P**	**15 41 59.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=219,slow=5.6,SNR=11						
CMAR				LR	LR	16 12 17.5	
	comp=Z,38nm,20.9s,baz=220,slow=31						
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**82.91**	**56**	P	**P**	**15 41 59.1**	**-0.9**
LCO	**Las Campanas**	**82.96**	**236**	P	**P**	**15 42 00.4**	**-0.3**
DMN	**Daman**	**82.97**	**40**	*e*P	**P**	**15 42 00.3**	**-0.2**
DANN	**Dangsing**	**82.99**	**39**	*e*P	**P**	**15 42 00.0**	**-0.6**
	comp=Z,74nm,1.1s						
PKIN	**Phulchoki**	**83.08**	**40**	*e*P	**P**	**15 42 00.8**	**-0.3**
	comp=Z,52nm,1.3s						
PKI	**Pulchoki**	**83.08**	**40**	*e*P	**P**	**15 42 00.4**	**-0.7**
	comp=Z,62nm,1.3s						
GKN	**Gorkha**	**83.09**	**40**	*e*P	**P**	**15 42 00.5**	**-0.5**
	comp=Z,77nm,1.2s						
RAMN	**Ramite**	**83.12**	**42**	*e*P	**P**	**15 42 01.1**	**-0.1**
	comp=Z,81nm,1.2s						
CHTO	**Chiang Mai**	**83.18**	**56**	P	**P**	**15 42 00.6**	**-0.8**
KKN	**Kakani**	**83.21**	**40**	*e*P	**P**	**15 42 01.2**	**-0.4**
ODAN	**Odare**	**83.42**	**42**	*e*P	**P**	**15 42 03.1**	**+0.3**
JIRN	**Jiri**	**83.52**	**41**	*e*P	**P**	**15 42 03.1**	**-0.4**
	comp=Z,112nm,1.2s						
NIL	**Nilore**	**83.53**	**28**	P	**P**	**15 42 02.7**	**-0.3**
AC02	**Maricunga**	**83.58**	**239**	P	**P**	**15 42 02.7**	**-1.5**
GUN	**Gumba**	**83.59**	**41**	*e*P	**P**	**15 42 03.8**	**0.0**
	comp=Z,132nm,1.1s						
BRTR	**Keskin Array B**	**83.70**	**356**	P	**P**	**15 42 02.5**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=180,slow=7.2,SNR=4.6						
	comp=Z,1.1nm,0.8s						
PHRA	**Phrae**	**83.71**	**57**	P	**P**	**15 42 02.4**	**-1.7**
AC06	**Mina Casimiro**	**83.95**	**238**	P	**P**	**15 42 04.3**	**-1.2**
AC06				IAmb	IAmb	15 42 06.2	
	comp=Z,12nm,0.9s						
KEST	**Kesra**	**84.02**	**336**	P	**P**	**15 42 05.7**	**+0.3**
	comp=Z,6.8nm,1.1s,baz=212,slow=4.8,SNR=3.9						
	comp=Z,6.8nm,1.1s						
GNI	**Garni**	**84.14**	**4**	LR	LR	16 18 17.8	
	comp=Z,89nm,22.0s,baz=170,slow=35						
PTLB	**Pontes e Lacer**	**85.10**	**253**	P	**P**	**15 42 11.4**	**+0.1**
PTLB				IAmb	IAmb	15 42 12.8	
	comp=Z,11nm,1.0s						
SIV	**San Ignacio**	**86.05**	**252**	LR	LR	16 13 29.6	
	comp=Z,72nm,21.1s,baz=117,slow=31						
LVC	**Limon Verde**	**86.51**	**242**	LR	LR	16 14 36.3	
	comp=Z,64nm,20.1s,baz=201,slow=31						
LVC	**Limon Verde**	**86.51**	**242**	P	**P**	**15 42 18.8**	**0.0**
LVC				IAmb	IAmb	15 42 20.5	
	comp=Z,9.4nm,0.9s						
TNCH	**TengChong**	**87.78**	**51**	P	**P**	**15 42 26.1**	**+1.7**
TNCH				pP	pwP	15 42 30.4	-0.3
TNCH				PP	**PP**	**15 45 54.8**	**+4.3**
TNCH				pmax	pmax		
	comp=Z,30nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,91nm,2.9s						
CTA	**Charters Tower**	**87.87**	**116**	LR	LR	16 17 52.6	
	comp=Z,73nm,20.1s,baz=234,slow=33						
PB11	**IPOC Station P**	**89.05**	**243**	P	**P**	**15 42 30.1**	**-0.7**
MNMC	**Minye Minye**	**89.47**	**244**	P	**P**	**15 42 32.5**	**-0.4**
MNMC				IAmb	IAmb	15 42 34.2	
	comp=Z,11nm,1.0s						
QIZ	**Qiongzhong**	**90.09**	**63**	P	**P**	**15 42 35.3**	**0.0**
QIZ				S	**S**	**15 53 29.0**	**+0.3**
QIZ				LR	LR		
	comp=Z,160nm,27.9s						
QIZ				LR	LR		
	comp=Z,130nm,17.9s						
QIZ				LR	LR		
	comp=Z,170nm,20.7s						
KMI	**Kunming**	**90.27**	**54**	⇑P	**P**	**15 42 39.1**	**+2.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LPAZ	**La Paz**	**90.58**	**247**	LR	LR	16 21 16.1	
	comp=Z,75nm,18.1s,baz=117,slow=34						
PZH	**PanZhiHua**	**90.75**	**53**	P	**P**	**15 42 40.3**	**+2.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
AAK	**Ala-Archa**	**92.11**	**25**	LR	LR	16 20 13.3	
	comp=Z,74nm,21.0s,baz=210,slow=33						
SAML	**Samuel**	**92.46**	**255**	P	**P**	**15 42 46.5**	**0.0**
SAML				IAmb	IAmb	15 42 47.8	
	comp=Z,8.1nm,1.0s						
ETMB	**Extrema**	**93.94**	**252**	P	**P**	**15 42 52.6**	**-0.7**
ETMB				IAmb	IAmb	15 42 53.8	
	comp=Z,5.5nm,1.1s						
CD2	**Chengdu**	**95.24**	**51**	*e*P	**P**	**15 42 59.8**	**+1.0**
WMQ	**Urumqi**	**97.80**	**33**	*e*P	Pdif	15 43 11.8	+1.6
WMQ				LR	LR		
	comp=Z,71nm,22.5s						
MKAR	**Makanchi Array**	**98.34**	**28**	P	**P**	**15 43 10.4**	**-2.1**
	comp=Z,2.1nm,1.2s,baz=238,slow=8.3,SNR=3.2						
MKAR				LR	LR	16 24 03.9	
	comp=Z,16nm,18.8s,baz=253,slow=33						
	comp=Z,2.1nm,1.2s						
NNA	**Nana**	**99.42**	**243**	LR	LR	16 24 34.0	
	comp=Z,64nm,18.9s,baz=179,slow=33						
RAO	**Raoul Island**	**99.46**	**148**	LR	LR	16 21 53.8	
	comp=Z,77nm,19.0s,baz=62,slow=32						
NJ2	**Nanjing**	**105.02**	**60**	*e*P	**Pdif**	**15 43 46.1**	**+3.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TBI	**Tubuai**	**112.32**	**172**	*e*LR	LR	16 21 36.7	
	comp=Z,282nm,22.5s						
TBI				*e*LR	LR	16 21 36.7	
	comp=Z,2$_{\mu}$m,22.2s						
PPT2	**Papeete2**	**118.00**	**171**	*e*LR	LR	16 24 13.9	
	comp=Z,116nm,35.5s						
PPT2				*e*LR	LR	16 24 14.2	
	comp=Z,197nm,34.2s						
HEH	**HeiHe**	**121.32**	**49**	*e*PKP	**PKiKP**	**15 48 27.8**	**+0.1**
NATX	**Nacogdoches**	**141.92**	**267**	P	**PKPdf**	**15 49 03.7**	**-3.2**
	baz=123						
CCM	**Cathedral Cave**	**142.52**	**278**	P	**PKPdf**	**15 49 03.1**	**-4.7**
	baz=116						
435B	**Jarrell**	**143.48**	**263**	PKPpre	PKPpre	15 49 06.9	
435B	**Jarrell**	**143.48**	**263**	P	PKPbc	15 49 07.6	+0.6
	baz=124						
JFWS	**Jewell Farm**	**143.70**	**286**	PKPpre	PKPpre	15 49 06.7	
JFWS	**Jewell Farm**	**143.70**	**286**	P	PKPab	15 49 07.4	+0.8
	baz=110						
U38A	**Gravette**	**144.05**	**274**		**PKPab**	**15 49 07.4**	**-0.7**
U38A					**PKPdf**	**15 49 11.7**	**+1.1**
WHTX	**Lake Whitney,**	**144.05**	**265**		**PKPab**	**15 49 07.7**	**-0.5**
WHTX	**Lake Whitney,**	**144.05**	**265**	P	PKPbc	15 49 09.0	+0.4
	baz=123						
I40A	**Norwalk**	**144.28**	**288**		**PKPab**	**15 49 08.3**	**-0.3**
Z35A	**Perchaven, San**	**144.61**	**267**		**PKPab**	**15 49 10.4**	**+0.2**
TUL1	**Leonard**	**144.81**	**272**	P	**PKPab**	**15 49 10.5**	**-0.4**
	baz=118						
LOOK	**Love County**	**144.89**	**268**		**PKPbc**	**15 49 11.1**	**-0.2**
JCT	**Junction City**	**144.89**	**261**	PKPdf	**PKPbc**	**15 49 11.0**	**-0.4**
JCT	**Junction City**	**144.89**	**261**	P	**PKPbc**	**15 49 11.6**	**+0.1**
	baz=125						
N38A	**Joes South For**	**145.03**	**281**		**PKPbc**	**15 49 11.4**	**-0.1**
OK034	**N. Norfolk Rd.**	**145.52**	**272**		**PKPdf**	**15 49 13.1**	**0.0**
OK030	**Cody Creek RV**	**145.54**	**272**		**PKPdf**	**15 49 12.8**	**-0.3**
OK053	**SW of W Deep R**	**145.58**	**272**		**PKPdf**	**15 49 13.1**	**-0.1**
OK052	**Battle Ridge R**	**145.58**	**272**		**PKPdf**	**15 49 13.0**	**-0.2**
QUOK	**Quay**	**145.59**	**272**		**PKPdf**	**15 49 13.2**	**-0.1**
X34A	**Smith Ranch, M**	**145.66**	**269**		**PKPdf**	**15 49 13.1**	**-0.4**
OK033	**Mehan**	**145.70**	**272**		**PKPdf**	**15 49 13.8**	**+0.3**
T35A	**Sooner Cattle**	**145.79**	**273**		**PKPdf**	**15 49 13.3**	**-0.3**
OK046	**Pawnee Station**	**145.84**	**272**		**PKPdf**	**15 49 13.6**	**0.0**
OK048	**Pawnee Station**	**145.88**	**272**		**PKPdf**	**15 49 13.4**	**-0.3**
ABTX	**Abilene, Hawle**	**145.95**	**264**		**PKPdf**	**15 49 14.0**	**0.0**
EYMN	**Ely**	**145.95**	**294**	P	**PKPab**	**15 49 15.1**	**+0.4**
	baz=102						
OK029	**Liberty Lake**	**145.96**	**271**		**PKPdf**	**15 49 14.0**	**+0.1**
SPMN	**Marine on St.**	**146.16**	**289**		**PKPdf**	**15 49 14.3**	**+0.4**
SPMN	**Marine on St.**	**146.16**	**289**	P	**PKPbc**	**15 49 15.2**	**+0.3**
	baz=106						
I37A	**Lemond, Waseca**	**146.23**	**287**		**PKPdf**	**15 49 14.9**	**+0.8**
WMOK	**Wichita Mounta**	**146.41**	**268**		**PKPdf**	**15 49 15.6**	**+0.9**
WMOK	**Wichita Mounta**	**146.41**	**268**	P	**PKPbc**	**15 49 16.0**	**0.0**
	baz=119						
KSU1	**Kansas State U**	**146.78**	**277**		**PKPbc**	**15 49 16.7**	**-0.2**
KSU1	**Kansas State U**	**146.78**	**277**	P	**PKPbc**	**15 49 17.4**	**+0.5**
	baz=114						
F36A	**Milaca**	**146.82**	**290**		**PKPbc**	**15 49 16.6**	**-0.2**
TXAR	**Lajitas Array**	**146.95**	**256**	PKPbc	**PKPbc**	**15 49 18.2**	**+0.4**
	comp=Z,14nm,1.1s,baz=134,slow=5.4,SNR=44						
B35A	**Bob, Littlefor**	**147.50**	**294**		**PKPbc**	**15 49 18.2**	**-0.5**
R32A	**Long Quarter,**	**148.01**	**274**	PKPbc	**PKPbc**	**15 49 19.9**	**-0.5**
ECSD	**EROS Data Cent**	**148.37**	**285**		**PKPbc**	**15 49 20.8**	**-0.3**
ECSD	**EROS Data Cent**	**148.37**	**285**	P	**PKPbc**	**15 49 21.3**	**+0.1**
	baz=107						
F33A	**5 Mile Ranch,**	**148.69**	**289**		**PKPbc**	**15 49 21.4**	**-0.5**
MSTX	**Muleshoe**	**148.89**	**264**	P	**PKPbc**	**15 49 23.1**	**+0.2**
	baz=121						
AGMN	**Agassiz Nation**	**148.89**	**294**		**PKPbc**	**15 49 21.9**	**-0.4**
AGMN	**Agassiz Nation**	**148.89**	**294**	P	**PKPbc**	**15 49 22.3**	**0.0**
	baz=100						
ULM	**Lac du Bonnet**	**149.17**	**297**	PKPbc	**PKPbc**	**15 49 21.4**	**-1.6**
	comp=Z,14nm,0.9s,baz=82,slow=3.5,SNR=10						
ULM	**Lac du Bonnet**	**149.17**	**297**		**PKPbc**	**15 49 21.9**	**-1.0**
A36M	**Sachs Harbour**	**151.14**	**350**		**PKPdf**	**15 49 22.3**	**+1.2**
A36M				PKPbc	**PKPbc**	**15 49 27.0**	**0.0**
A36M	**Sachs Harbour**	**151.14**	**350**	P	**PKiKP**	**15 49 27.8**	**+0.3**
	baz=24						
T25A	**Trinidad**	**151.56**	**268**	P	**PKPbc**	**15 49 30.0**	**+0.6**
	baz=116						
SDCO	**Great Sand Dun**	**152.61**	**269**	P	**PKiKP**	**15 49 32.4**	**+0.4**
	baz=115						
C36M	**Paulatuk**	**153.36**	**347**	P	**PKPbc**	**15 49 31.7**	**-0.3**
	baz=28						
C23K	**Itkillik River**	**153.85**	**8**	P	**PKiKP**	**15 49 34.2**	**+1.0**
	baz=344						
C24K	**Franklin Bluff**	**154.13**	**6**	P	**PKiKP**	**15 49 34.8**	**+1.1**
	baz=347						
C26K	**Camden Bay**	**154.15**	**3**	P	**PKiKP**	**15 49 34.9**	**+1.1**
	baz=353						
PV13	**Radium Mtn., P**	**155.16**	**267**		**PKPab**	**15 49 53.8**	**+0.6**
PV23	**Carpenter Ridg**	**155.42**	**268**	PKPab	**PKPab**	**15 49 54.9**	**+0.5**
F22K	**John River**	**155.90**	**11**	P	**PKPdf**	**15 49 29.6**	**+1.5**
	baz=340						
G22K	**Bettles**	**156.54**	**10**	P	**PKPdf**	**15 49 30.1**	**+1.2**
	baz=340						
BMAR	**Burnt Mountain**	**156.65**	**4**	PKPab	**PKPab**	**15 49 59.1**	**+0.7**
PDAR	**Pinedale Array**	**157.23**	**277**	PKPab	**PKPab**	**15 50 02.4**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=107,slow=4.8,SNR=9.6						
H22K	**Ishtalitna Cre**	**157.53**	**11**	P	**PKPdf**	**15 49 31.3**	**+1.0**
	baz=340						
EPYK	**Eagle Plains**	**157.67**	**355**	P	**PKPdf**	**15 49 31.5**	**+1.0**
	baz=7.8						
HWUT	**Hardware Ranch**	**158.36**	**273**		**PKPab**	**15 50 06.5**	**-0.3**
SHPR	**Sheep Range**	**158.94**	**257**		**PKPab**	**15 50 10.2**	**+0.7**
NVAR	**Mina Array Bea**	**162.05**	**259**	PKPab	**PKPab**	**15 50 24.4**	**+1.3**
	comp=Z,1.7nm,1.0s,baz=122,slow=4.2,SNR=5.9						

*WEL **20** 15:31:24.7±0.3,42°S±3°×17°4E±°, h12km±3km, M3.1/30, ML3.3/19, MLv3.1/30, Error ellipse: s-maj=0.0km s-min=0.0km az=128.5*

*NEIC **20** 15:31:24.9±0.9, 41°.73S±0°.02×174°.30E±0°.03, h17km±1km, mb4.6/3, Error ellipse: s-maj=4.5km s-min=1.8km az=125.0*

ISC 20 15:31:24.8±0.8,**41°.75S**±0°.03×**174°.31E**±0°.02,**h17**km±4km, **n67**, σ0°**84**/72, **mb5.0**/4, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**269**		**Pg**	**15 31 27.8**	**-0.1**
CMWZ				Sg	**Sg**	**15 31 30.5**	**+0.3**
CMWZ	**Cape Campbell**	**0.07**	**269**	P	**Pg**	**15 31 27.9**	**-0.1**
CMWZ				S	**Sg**	**15 31 30.4**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.33**	**276**		**Pg**	**15 31 31.1**	**-0.5**
BSWZ				Sg	**Sg**	**15 31 36.4**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.33**	**276**	P	**Pg**	**15 31 31.3**	**-0.3**
TUWZ	**Tuamarina**	**0.42**	**319**		**Pg**	**15 31 32.9**	**-0.4**
TUWZ	**Tuamarina**	**0.42**	**319**	P	**Pg**	**15 31 33.1**	**-0.2**
TUWZ				S	**Sb**	**15 31 38.9**	**-0.9**
SNZO	**South Karori**	**0.53**	**34**		**Pb**	**15 31 35.7**	**+0.1**
TCW	**Tory Channel**	**0.54**	**357**		**Pg**	**15 31 35.0**	**-0.4**
TCW	**Tory Channel**	**0.54**	**357**	P	**Pb**	**15 31 35.3**	**-0.4**
WEL	**Wellington**	**0.58**	**37**	P	**Pb**	**15 31 36.9**	**+0.4**
PLWZ	**Palliser**	**0.73**	**76**	Pg	**Pb**	**15 31 39.8**	**+0.7**
PLWZ	**Palliser**	**0.73**	**76**	P	**Pn**	**15 31 40.2**	**-0.2**
MSWZ	**Moikau Station**	**0.78**	**65**	Pg	**Pn**	**15 31 40.8**	**-0.3**
MSWZ	**Moikau Station**	**0.78**	**65**	P	**Pn**	**15 31 41.1**	**0.0**
CAW	**Cannon Point**	**0.86**	**42**	P	**Pn**	**15 31 41.8**	**-0.3**
NNZ	**Nelson**	**0.88**	**307**	Pg	**Pb**	**15 31 40.9**	**-0.6**
NNZ				Sg	**Sb**	**15 31 52.5**	**-0.4**
NNZ	**Nelson**	**0.88**	**307**	P	**Pb**	**15 31 41.1**	**-0.4**
KHZ	**Kahutara**	**0.88**	**220**	P	**Pb**	**15 31 40.7**	**-1.0**
PAWZ	**Paruwai Farm**	**0.92**	**67**	P	**Pg**	**15 31 42.9**	**+0.3**
DUWZ	**D'Urville Isla**	**0.99**	**343**	P	**Pb**	**15 31 43.2**	**-0.3**
KIW	**Kapiti Island**	**0.99**	**27**	P	**Pg**	**15 31 43.8**	**-0.3**
THZ	**Tophouse**	**1.05**	**269**		**Pb**	**15 31 44.1**	**-0.4**
THZ	**Tophouse**	**1.05**	**269**	P	**Pb**	**15 31 44.5**	**0.0**
MTW	**Mount Morrison**	**1.07**	**57**	P	**Pb**	**15 31 45.0**	**+0.1**
TRWZ	**Traveller**	**1.09**	**72**	P	**Pb**	**15 31 44.9**	**-0.3**
OGWZ	**Otaki Gorge**	**1.14**	**35**	P	**Pg**	**15 31 46.3**	**-0.4**
MRNZ	**Matariki Terra**	**1.21**	**286**		**Pn**	**15 31 47.1**	**+0.1**
MRNZ	**Matariki Terra**	**1.21**	**286**	P	**Pn**	**15 31 47.5**	**+0.2**
TKNZ	**Takaka Hill**	**1.24**	**305**		**Pn**	**15 31 47.3**	**-0.1**
TKNZ	**Takaka Hill**	**1.24**	**305**	P	**Pn**	**15 31 47.8**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.25**	**47**	P	**Pn**	**15 31 47.4**	**-0.1**
TMWZ	**Te Maipa**	**1.35**	**62**	P	**Pn**	**15 31 48.5**	**-0.5**
MRZ	**Mangatainoka R**	**1.45**	**42**		**Pn**	**15 31 50.0**	**-0.3**
MRZ	**Mangatainoka R**	**1.45**	**42**	P	**Pn**	**15 31 50.3**	**+0.1**
TIWZ	**Tintock**	**1.54**	**51**	P	**Pn**	**15 31 51.2**	**-0.3**
QRZ	**Quartz Range**	**1.63**	**304**	P	**Pb**	**15 31 54.1**	**-0.3**
PRWZ	**Pori Road**	**1.73**	**47**	P	**Pn**	**15 31 53.9**	**-0.3**
BFZ	**Birch Farm**	**1.81**	**55**	P	**Pn**	**15 31 54.2**	**-1.0**
DSZ	**Denniston Nort**	**1.87**	**269**	Pn	**Pn**	**15 31 56.8**	**+0.7**
DSZ	**Denniston Nort**	**1.87**	**269**	P	**Pn**	**15 31 57.4**	**+1.3**
DVHZ	**Dannevirke**	**2.02**	**45**	P	**Pn**	**15 31 57.3**	**-0.9**
WAZ	**Wanganui**	**2.06**	**15**	P	**Pb**	**15 32 00.9**	**-0.8**
TSZ	**Takapari Road**	**2.10**	**37**	P	**Pn**	**15 31 58.8**	**-0.5**
LREZ	**Lake Rotokare**	**2.29**	**2**	P	**Pb**	**15 32 06.0**	**+0.4**
PNHZ	**Pukenui**	**2.33**	**39**	P	**Pn**	**15 32 01.9**	**-0.5**
INZ	**Inchbonnie**	**2.34**	**244**	Pn	**Pn**	**15 32 03.3**	**+0.7**
INZ	**Inchbonnie**	**2.34**	**244**	P	**Pn**	**15 32 03.7**	**+1.2**
NMEZ	**Namu Road**	**2.35**	**352**	P	**Pg**	**15 32 08.5**	**-1.5**
KHEZ	**Kahui Hut**	**2.46**	**355**	P	**Pb**	**15 32 08.7**	**0.0**
NEZ	**North Egmont**	**2.48**	**356**	P	**Pb**	**15 32 08.9**	**-0.1**
NBEZ	**Newall Road No**	**2.50**	**352**	P	**Pb**	**15 32 10.1**	**+0.8**
MOVZ	**Moawhango**	**2.58**	**26**	P	**Pn**	**15 32 07.2**	**+1.3**
TRVZ	**Turoa**	**2.62**	**22**	P	**Pb**	**15 32 11.9**	**+0.4**
VRZ	**Vera Road**	**2.64**	**8**	P	**Pb**	**15 32 09.1**	**-2.6**
WHVZ	**Whangaehu Hut**	**2.65**	**22**	P	**Pb**	**15 32 12.3**	**+0.4**
TUVZ	**Tukino**	**2.68

	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**15 45 17.4**	**-0.8**
WR0	**Warramunga Arr**	**42.01**	**267**	P	**P**	**15 45 19.5**	**-0.6**
WR0				IAmb	IAmb	15 45 29.5	
	comp=Z,6.4nm,1.1s						
WB2	**Warramunga Arr**	**42.18**	**267**	P	**P**	**15 45 20.8**	**-0.7**
WB2				IAmb	IAmb	15 45 22.2	
	comp=Z,5.6nm,1.1s						
WRAB	**Tennant Creek**	**42.19**	**267**	P	**P**	**15 45 20.5**	**-0.9**
WB0	**Warramunga Arr**	**42.19**	**267**	P	**P**	**15 45 20.8**	**-0.7**
WB0				IAmb	IAmb	15 45 23.2	
	comp=Z,3.5nm,0.5s						
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**15 45 21.1**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=98,slow=7.9,SNR=94						
WRA				ScP	**ScP**	**15 50 06.9**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=103,slow=4.2,SNR=6.3						
WRA				S	**S**	**15 51 01.8**	**-2.5**
	comp=Z,0.2nm,0.9s,baz=100,slow=14,SNR=2.1						
	comp=Z,2.0nm,0.5s						
FORT	**Forrest**	**45.99**	**250**	P	**P**	**15 45 50.1**	**-0.7**
KNRA	**Kununurra**	**48.50**	**270**	P	**P**	**15 46 09.9**	**+0.1**
KNRA				IAmb	IAmb	15 46 37.4	
	comp=Z,30nm,1.5s						
FITZ	**Fitzroy Crossi**	**50.61**	**266**	P	**P**	**15 46 23.0**	**-2.4**
CASY	**Casey**	**59.64**	**206**	P	**P**	**15 47 26.5**	**-1.2**
CASY				IAmb	IAmb	15 48 03.0	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**65.75**	**180**	P	**P**	**15 48 07.3**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=39,slow=1.0,SNR=24						
	comp=Z,2.5nm,0.7s						
QSPA	**South Pole Qui**	**65.75**	**180**	P	**P**	**15 48 07.3**	**-0.1**
QSPA				IAmb	IAmb	15 48 08.3	
	comp=Z,7.5nm,1.1s						
BELA	**Belgrano 2**	**76.03**	**173**	P	**P**	**15 49 06.2**	**-1.3**
SNAA	**Sanae**	**84.24**	**179**	P	**P**	**15 49 49.4**	**-1.2**
NVAR	**Mina Array Bea**	**85.19**	**44**	P	**P**	**15 49 57.1**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=230,slow=8.9,SNR=4.4						
	comp=Z,0.5nm,0.6s						
Q19K	**Cape Douglas,**	**85.82**	**13**	P	**P**	**15 49 55.0**	**-3.2**
CCUT	**Cedar City**	**87.91**	**47**	P	**P**	**15 50 07.4**	**-1.4**
CCUT				IAmb	IAmb	15 50 08.4	
	comp=Z,9.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**89.50**	**290**	P	**P**	**15 50 17.1**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=123,slow=3.3,SNR=1.5						
	comp=Z,0.3nm,0.6s						
HLID	**Hailey**	**90.54**	**42**		**P**	**15 50 18.4**	**-2.4**
HLID				IAmb	IAmb	15 50 20.0	
	comp=Z,2.4nm,0.8s						
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**15 50 23.9**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=211,slow=6.7,SNR=5.2						
	comp=Z,1.3nm,0.8s						
ILAR	**Eielson Array**	**92.49**	**14**	P	**P**	**15 50 29.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=206,slow=5.5,SNR=4.4						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**115.43**	**316**	PKP	**PKPdf**	**15 55 55.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=114,slow=1.8,SNR=2.3						
ARCES	**ARCESS Array B**	**132.27**	**348**	PKP	**PKPdf**	**15 56 28.2**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=19,slow=3.1,SNR=4.7						
AKASG	**Malin Array Be**	**145.23**	**327**	PKPbc	**PKPbc**	**15 56 52.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=44,slow=4.2,SNR=8.8						
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc	**PKPbc**	**15 57 00.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=131,slow=5.1,SNR=4.0						
CLL	**Collm**	**151.21**	**343**	*i* PKPbc	**PKiKP**	**15 57 09.1**	**+0.2**
	comp=Z,7.0nm,0.7s						

WEL 20 15:40:41.1±0.4, 42°S±3°×17°4E±°, h6km±3km, M3.6/45, ML4.0/17, MLv3.6/45, Error ellipse: s-maj=0.0km s-min=0.0km az=124.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**242**	P	Pg	15 40 45.1	+0.4
KHZ				S	Sg	15 40 48.6	+1.5
BSWZ	**Blackbirch Sta**	**0.63**	**9**	P	Pg	15 40 53.3	+0.2
BSWZ				S	Sb	15 41 03.1	-0.3
CMWZ	**Cape Campbell**	**0.68**	**31**	P	Pb	15 40 55.5	+0.2
GVZ	**Greta Valley S**	**0.82**	**220**	P	Pb	15 40 57.5	-0.4
GVZ				S	Sn	15 41 10.5	-1.2
THZ	**Tophouse**	**0.85**	**312**	P	Pg	15 40 57.7	+0.3
TUWZ	**Tuamarina**	**0.92**	**9**	P	Pg	15 40 58.8	+0.2
NNZ	**Nelson**	**1.15**	**346**	P	Pg	15 41 02.8	-0.4
AMCZ	**Amberley**	**1.17**	**224**	P	Pg	15 41 03.0	-0.5
LTZ	**Lake Taylor**	**1.18**	**247**	P	Pg	15 41 02.9	-0.8
TCW	**Tory Channel**	**1.19**	**19**	P	Pg	15 41 02.5	-1.4
MRNZ	**Matariki Terra**	**1.19**	**321**	P	Pn	15 41 04.3	+0.1
WEL	**Wellington**	**1.30**	**36**	P	Pn	15 41 03.7	-2.0
PLWZ	**Palliser**	**1.36**	**56**	P	Pn	15 41 03.7	-2.9
TKNZ	**Takaka Hill**	**1.43**	**335**	P	Pn	15 41 07.6	+0.1
MSWZ	**Moikau Station**	**1.45**	**51**	P	Pn	15 41 04.9	-2.9
OKCZ	**Okains Bay**	**1.48**	**200**	P	Pn	15 41 05.7	-2.5
DUWZ	**D'Urville Isla**	**1.54**	**5**	P	Pn	15 41 08.6	-0.4
DSZ	**Denniston Nort**	**1.56**	**291**	P	Pb	15 41 10.1	-0.3
CAW	**Cannon Point**	**1.57**	**39**	P	Pn	15 41 07.3	-2.2
PAWZ	**Paruwai Farm**	**1.57**	**53**	P	Pn	15 41 06.5	-3.0
MQZ	**McQueen's Vall**	**1.59**	**210**	P	Pn	15 41 06.7	-3.0
OXZ	**Oxford**	**1.60**	**231**	P	Pn	15 41 07.6	-2.3
AKCZ	**Akaroa Harbour**	**1.66**	**202**	P	Pn	15 41 08.1	-2.6
KIW	**Kapiti Island**	**1.71**	**31**	P	Pn	15 41 09.7	-1.7
TRWZ	**Traveller**	**1.72**	**58**	P	Pn	15 41 08.3	-3.2
INZ	**Inchbonnie**	**1.75**	**256**	P	Pn	15 41 11.2	-0.7
MTW	**Mount Morrison**	**1.76**	**49**	P	Pn	15 41 09.0	-3.0
QRZ	**Quartz Range**	**1.76**	**328**	P	Pb	15 41 13.0	-0.8
RACZ	**Rakaia**	**1.83**	**220**	P	Pn	15 41 10.4	-2.5
OGWZ	**Otaki Gorge**	**1.85**	**36**	P	Pn	15 41 11.0	-2.3
HOWZ	**Holdsworth Sta**	**1.95**	**43**	P	Pn	15 41 12.0	-2.7
MHCZ	**Mount Hutt**	**2.00**	**233**	P	Pn	15 41 13.1	-2.3
TMWZ	**Te Maipa**	**2.02**	**53**	P	Pn	15 41 12.2	-3.5
WACZ	**Wakanui South**	**2.13**	**220**	P	Pn	15 41 14.7	-2.4
MRZ	**Mangatainoka R**	**2.16**	**40**	P	Pn	15 41 14.9	-2.7
WVZ	**Waitaha Valley**	**2.34**	**251**	P	Pn	15 41 19.4	-0.6
RPZ	**Rata Peaks**	**2.41**	**234**	P	Pn	15 41 18.9	-2.1
PRWZ	**Pori Road**	**2.44**	**44**	P	Pn	15 41 19.0	-2.3
ARCZ	**Arundel**	**2.48**	**229**	P	Pn	15 41 19.7	-2.3
GCSZ	**Gaunt Creek Bo**	**2.70**	**248**	P	Pn	15 41 25.5	+0.5
DVHZ	**Dannevirke**	**2.73**	**43**	P	Pn	15 41 24.7	-0.7
WAZ	**Wanganui**	**2.74**	**20**	P	Pn	15 41 25.9	+0.3
TSZ	**Takapari Road**	**2.82**	**37**	P	Pn	15 41 23.9	-2.8
TMZ	**Timaru**	**2.86**	**223**	P	Pn	15 41 25.3	-2.0
LREZ	**Lake Rotokare**	**2.91**	**10**	P	Pb	15 41 32.0	-1.4
NMEZ	**Namu Road**	**2.92**	**2**	P	Pb	15 41 33.3	-0.2
KHEZ	**Kahui Hut**	**3.04**	**4**	P	Pb	15 41 32.7	-2.9
PNHZ	**Pukenui**	**3.04**	**38**	P	Pn	15 41 28.3	-1.5
NBEZ	**Newall Road No**	**3.06**	**2**	P	Pb	15 41 34.7	-1.3
NEZ	**North Egmont**	**3.07**	**5**	P	Pb	15 41 34.5	-1.7
FOZ	**Fox Glacier**	**3.13**	**246**	P	Pn	15 41 27.3	-3.5
PKE	**Pukeiti**	**3.14**	**3**	P	Pb	15 41 35.9	-1.4
PKVZ	**Pokaka**	**3.27**	**22**	P	Pn	15 41 34.4	+1.5
MOVZ	**Moawhango**	**3.29**	**28**	P	Pn	15 41 32.1	-1.1
VRZ	**Vera Road**	**3.30**	**14**	P	Pn	15 41 33.5	+0.3
LBZ	**Lake Benmore**	**3.31**	**231**	P	Pn	15 41 33.3	-0.1
WNVZ	**Wahianoa**	**3.31**	**26**	P	Pn	15 41 33.9	+0.3
TRVZ	**Turoa**	**3.33**	**25**	P	Pn	15 41 35.8	+2.0
WHVZ	**Whangaehu Hut**	**3.35**	**25**	P	Pn	15 41 36.3	+2.1
FWVZ	**Far West T-bar**	**3.37**	**25**	P	Pb	15 41 39.6	-1.7
TUVZ	**Tukino**	**3.39**	**26**	P	Pn	15 41 35.4	+0.8
NGZ	**Ngauruhoe**	**3.45**	**25**	P	Pn	15 41 37.9	+2.4
OTVZ	**Oturere**	**3.48**	**25**	P	Pn	15 41 36.8	+0.9
ETVZ	**East Tongariro**	**3.52**	**26**	P	Pn	15 41 37.1	+0.6
TMVZ	**Te Maari**	**3.54**	**25**	P	Pn	15 41 38.2	+1.5
NTVZ	**North Tongarir**	**3.55**	**25**	P	Pn	15 41 37.3	+0.5
HIZ	**Hauiti**	**3.91**	**13**	P	Pn	15 41 42.0	+0.3
JCZ	**Jackson Bay**	**4.03**	**243**	P	Pn	15 41 45.7	+2.5
TLZ	**Tolley Road**	**4.23**	**19**	P	Pn	15 41 46.0	0.0
TOZ	**Tahuroa Road**	**4.79**	**17**	P	Pn	15 41 53.5	-0.2
CNGZ	**Carnagh Statio**	**5.13**	**43**	P	Pn	15 42 01.8	+3.4
AWAZ	**Awhitu Peninsu**	**5.31**	**8**	P	Pn	15 42 01.0	+0.2
MKAZ	**Moumakai**	**5.33**	**12**	P	Pn	15 42 00.3	-0.9
ETAZ	**East Tamaki Re**	**5.45**	**10**	P	Pn	15 42 02.7	0.0

*IDC **20** 15:45:48.4±1.3, 34°.65N×26°.12E, h0km, mb4.0/15, mbtmp4.0/22, ML3.8/7, MS3.5/2, Error ellipse: s-maj=27.6km s-min=15.1km az=20.0*
*ISK **20** 15:45:50.7, 34°.35N×26°.26E, h18km, ML3.9/16*
*NEIC **20** 15:45:53.7±1.6, 34°.55N±0°.08×26°.17E±0°.07, h40km±8km, mb4.3/21, ML3.7(CSEM), Error ellipse: s-maj=12.0km s-min=7.5km az=192.0*
*DDA **20** 15:45:54.0±0.0, 34°.82N×26°.51E, h7km±3km, MW3.7*
*ATH **20** 15:45:56.2, 34°.70N×26°.13E, h51km±3km, ML3.5/12, Error ellipse: s-maj=5.4km s-min=2.1km az=349.0*

*HLW **20** 15:45:56.3, 34°.15N×26°.42E, h15km±31km, Md3.9, Ml4.1*
*THE **20** 15:45:56.8, 34°.70N×26°.06E, h4km±6km, ML3.2/3, Error ellipse: s-maj=8.3km s-min=1.9km az=354.0*
*GII **20** 15:45:58.9±0.0, 34°.16N×26°.80E, h10km, MD3.7/4, Mm3.8/3*

ISC 20 15:45:51.4±1.2, 34°.42N±0°.04×26°.21E±0°.03, h30km±8km, n179, σ1.180/221, mb4.3/24, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.69**	**1**	PG	**Pn**	**15 46 06.0**	**+0.8**
ZKR				SG	**Sn**	**15 46 16.9**	**+1.9**
ZKR	**Zakros**	**0.69**	**1**	P	**Pn**	**15 46 05.7**	**+0.5**
ZKR				S	**Sb**	**15 46 14.3**	**0.0**
	6μm,0.5s						
ZKR	**Zakros**	**0.69**	**1**	P	**Pn**	**15 46 05.7**	**+0.5**
ZKR				S	**Sb**	**15 46 14.3**	**0.0**
ZKR				AML	AML	15 46 17.3	
	comp=N,9437μm,0.5s						
ZKR				AML	AML	15 46 21.3	
	comp=E,13486μm,0.5s						
FRMA	**Ierapetra Chan**	**0.71**	**327**	P	**Pb**	**15 46 05.0**	**-0.3**
FRMA				S	**Sb**	**15 46 13.4**	**-1.4**
	comp=E,3μm,0.5s						
FRMA	**Ierapetra Chan**	**0.71**	**327**	P	**Pn**	**15 46 05.3**	**-0.1**
FRMA				AML	AML	15 46 18.3	
	comp=N,18252μm,0.7s						
FRMA				AML	AML	15 46 22.7	
	comp=E,14002μm,0.4s						
STIA	**Sitia Lasithi**	**0.79**	**353**	P	**Pn**	**15 46 07.1**	**+0.6**
STIA				S	**Sb**	**15 46 15.8**	**-1.1**
STIA	**Sitia Lasithi**	**0.79**	**353**	P	**Pn**	**15 46 07.3**	**+0.8**
STIA				S	**Sb**	**15 46 15.9**	**-1.0**
STIA				AML	AML	15 46 23.8	
	comp=E,14319μm,0.5s						
STIA				AML	AML	15 46 25.8	
	comp=N,11840μm,0.4s						
HRKL	**Herakleio**	**1.27**	**315**	PN	**Pb**	**15 46 15.6**	**+0.8**
HRKL				SN	**Sb**	**15 46 33.0**	**+2.3**
HRKL	**Herakleio**	**1.27**	**315**	P	**Pb**	**15 46 15.3**	**+0.5**
HRKL				AML	AML	15 46 50.8	
	comp=E,24436μm,0.7s						
HRKL				AML	AML	15 47 03.0	
	comp=N,22398μm,0.8s						
KSTL	**Kastelli Herak**	**1.28**	**314**	P	**Pn**	**15 46 12.4**	**-0.9**
KSTL				AML	AML	15 46 32.5	
	comp=N,6657μm,0.8s						
KSTL				AML	AML	15 46 36.2	
	comp=E,2353μm,0.7s						
SIVA	**Sivas**	**1.30**	**298**	P	**Pb**	**15 46 16.0**	**+0.8**
SIVA				AML	AML	15 46 45.5	
	comp=N,4758μm,0.5s						
SIVA				AML	AML	15 46 50.7	
	comp=E,6489μm,0.6s						
KARP	**Karpathos**	**1.37**	**35**		**Pb**	**15 46 17.3**	**+0.8**
KARP	**Karpathos**	**1.37**	**35**	P	**Pb**	**15 46 17.5**	**+1.0**
KARP	**Karpathos**	**1.37**	**35**	P	**Pb**	**15 46 17.4**	**+0.9**
IDI	**Anoyia**	**1.39**	**309**	Pg	**Pb**	**15 46 15.8**	**-1.0**
	comp=E,9.0nm,0.3s,baz=132,slow=11,SNR=82						
IDI				Lg	Lg	15 46 28.4	
	comp=E,41nm,0.3s,baz=306,slow=17,SNR=9.8						
IDI				LR	LR	15 46 46.6	
	comp=E,132nm,18.1s,baz=50,slow=49						
IDI	**Anoyia**	**1.39**	**309**	PN	**Pb**	**15 46 17.0**	**+0.2**
IDI	**Anoyia**	**1.39**	**309**		**Pb**	**15 46 16.3**	**-0.5**
IDI	**Anoyia**	**1.39**	**309**	P	**Pb**	**15 46 16.6**	**-0.1**
IDI				S	**Sn**	**15 46 29.6**	**-2.6**
	comp=E,575nm,0.6s						
IDI	**Anoyia**	**1.39**	**309**	P	**Pb**	**15 46 16.7**	**-0.1**
IDI				AML	AML	15 46 41.1	
	comp=N,1285μm,0.5s						
IDI				AML	AML	15 46 52.9	
	comp=E,1078μm,0.8s						
GVDS	**Gavdos**	**1.80**	**284**	P	**Pb**	**15 46 23.0**	**-0.7**
GVD	**Gavdhos**	**1.80**	**284**	PN	**Pb**	**15 46 22.8**	**-0.9**
GVD	**Gavdhos**	**1.80**	**284**	P	**Pb**	**15 46 22.9**	**-0.8**
GVD	**Gavdhos**	**1.80**	**284**	P	**Pb**	**15 46 22.7**	**-0.9**
GVD				AML	AML	15 46 59.7	
	comp=N,1471μm,0.6s						
GVD				AML	AML	15 47 07.9	
	comp=E,1713μm,0.5s						
SANT	**Santorini**	**2.04**	**343**	PN	**Pb**	**15 46 26.4**	**-1.4**
SANT	**Santorini**	**2.04**	**343**		**Pn**	**15 46 23.6**	**-0.2**
SANT	**Santorini**	**2.04**	**343**	P	**Pn**	**15 46 23.9**	**+0.1**
SANT				AML	AML	15 47 02.1	
	comp=N,679μm,0.5s						
SANT				AML	AML	15 47 04.0	
	comp=E,1434μm,0.7s						
THR6	**Thira Island,**	**2.04**	**341**	P	**Pn**	**15 46 24.2**	**+0.4**
THR9	**Santorini-Faro**	**2.05**	**340**	P	**Pn**	**15 46 24.5**	**+0.6**
THR8	**Santorini-Mono**	**2.07**	**343**	P	**Pn**	**15 46 24.0**	**-0.1**
CHAN	**Chania**	**2.09**	**302**	P	**Pb**	**15 46 27.6**	**-1.1**
CHAN				AML	AML	15 47 23.1	
	comp=N,1409μm,1.1s						
CHAN				AML	AML	15 47 25.3	
	comp=E,1450μm,1.0s						
THR3	**Thira Island,**	**2.09**	**342**	P	**Pn**	**15 46 24.7**	**+0.2**
IMMV	**Iera Moni Meta**	**2.10**	**300**	PN	**Pb**	**15 46 26.9**	**-2.0**
IMMV	**Iera Moni Meta**	**2.10**	**300**	P	**Pn**	**15 46 26.6**	**+2.0**
IMMV				AML	AML	15 47 04.6	
	comp=E,1582μm,0.7s						
IMMV				AML	AML	15 47 07.7	
	comp=N,1299μm,0.7s						
THR5	**Thira Island,**	**2.11**	**341**	P	**Pn**	**15 46 25.1**	**+0.3**
SAP3	**Santorini-Thir**	**2.13**	**341**	P	**Pn**	**15 46 25.3**	**+0.3**
KNDR	**Palaiochora Ch**	**2.23**	**292**	PN	**Pb**	**15 46 29.2**	**-1.8**
NIS1	**Nisyros Isl.**	**2.32**	**20**	PN	**Pb**	**15 46 30.0**	**-2.5**
NIS1	**Nisyros Isl.**	**2.32**	**20**	P	**Pn**	**15 46 28.8**	**+1.2**
ARG	**Arkhangelos**	**2.38**	**41**	PN	**Pn**	**15 46 30.6**	**+2.2**
ARG	**Arkhangelos**	**2.38**	**41**		**Pn**	**15 46 29.3**	**+0.9**
ARG	**Arkhangelos**	**2.38**	**41**	P	**Pb**	**15 46 31.5**	**-2.1**
ARG	**Arkhangelos**	**2.38**	**41**	P	**Pb**	**15 46 31.4**	**-2.3**
ARG				AML	AML	15 47 00.9	
	comp=E,757μm,0.3s						
ARG				AML	AML	15 47 11.7	
	comp=N,438μm,0.6s						
KOSK	**Kos Island**	**2.41**	**15**	PN	**Pb**	**15 46 31.9**	**-2.2**
DAT	**Datca**	**2.56**	**25**	PN	**Pn**	**15 46 32.9**	**+1.9**
APE	**Apeiranthos**	**2.70**	**348**	PN	**Pn**	**15 46 34.9**	**+2.0**
APE	**Apeiranthos**	**2.70**	**348**	P	**Pn**	**15 46 32.9**	**0.0**
MHLO	**Agia Marina, M**	**2.70**	**327**	P	**Pn**	**15 46 33.6**	**+0.8**
ANKY	**Antikythira Is**	**2.79**	**302**	P	**Pn**	**15 46 35.5**	**+1.5**
BDRM	**Kayabasi**	**2.82**	**21**	P	**Pn**	**15 46 35.5**	**+0.9**
TURN	**Turunc**	**2.88**	**35**	PN	**Pn**	**15 46 37.7**	**+2.5**
TURN	**Turunc**	**2.88**	**35**	P	**Pn**	**15 46 36.8**	**+1.6**
TURN				S	**Sn**	**15 47 08.9**	**+0.1**
SLUM	**Salum**	**3.04**	**196**	P	**Pn**	**15 46 40.8**	**+3.4**
	baz=202						
DDIM	**Aydin, Didim**	**3.14**	**15**	P	**Pn**	**15 46 40.0**	**+1.1**
KTHA	**Kythira Island**	**3.16**	**306**	P	**Pn**	**15 46 39.6**	**+0.5**
KTHR	**Kythira**	**3.20**	**306**	P	**Pn**	**15 46 40.9**	**+1.3**
KSL	**Kastellorizon**	**3.26**	**57**	P	**Pn**	**15 46 42.5**	**+2.1**
MULA	**Mugla, Merkez-**	**3.31**	**31**	P	**Pn**	**15 46 42.9**	**+1.6**
MULA				S	**Sn**	**15 47 19.7**	**+0.1**
AKAS	**Kas**	**3.31**	**56**	PN	**Pn**	**15 46 42.8**	**+1.4**
AKAS	**Kas**	**3.31**	**56**		**Pn**	**15 46 42.0**	**+0.6**
AKAS	**Kas**	**3.31**	**56**	P	**Pn**	**15 46 42.6**	**+1.3**
AKAS				S	**Sn**	**15 47 19.5**	**-0.3**
AYDN	**Tasoluk**	**3.50**	**22**	P	**Pn**	**15 46 45.5**	**+1.6**
AYDN				S	**Sn**	**15 47 23.6**	**-0.8**
CAME	**Cameli-Denizli**	**3.56**	**44**	PN	**Pn**	**15 46 46.9**	**+2.1**
CAEL	**Denizli, Camel**	**3.70**	**42**	P	**Pn**	**15 46 49.2**	**+2.6**
CAEL				S	**Sn**	**15 47 28.9**	**-0.4**
TAVA	**DENIZLI_Tavas**	**3.75**	**35**	P	**Pn**	**15 46 49.7**	**+2.4**
TAVA				S	**Sn**	**15 47 30.1**	**-0.4**
AKUM	**Antalya-Kumluc**	**3.88**	**60**	P	**Pn**	**15 46 51.3**	**+2.3**
AKUM				S	**Sn**	**15 47 33.9**	**+0.5**
GOLH	**Golhisar**	**3.91**	**43**	P	**Pn**	**15 46 52.0**	**+2.4**
GOLH				S	**Sn**	**15 47 35.8**	**+1.2**
URLA	**Izmir**	**3.94**	**4**	PN	**Pn**	**15 46 53.7**	**+3.8**
APMY	**Acipayam-Deniz**	**3.95**	**39**	PN	**Pn**	**15 46 52.4**	**+2.4**
KORT	**Korkueli**	**4.24**	**51**	PN	**Pn**	**15 46 57.3**	**+3.2**
KORT	**Korkueli**	**4.24**	**51**	P	**Pn**	**15 46 57.1**	**+3.0**
KORT				S	**Sn**	**15 47 44.6**	**+1.9**
ANTB	**Antalya**	**4.38**	**54**	PN	**Pn**	**15 46 58.7**	**+2.8**
ITM	**Ithomi**	**4.44**	**310**	PN	**Pn**	**15 46 59.6**	**+2.9**
ITM	**Ithomi**	**4.44**	**310**	Pn	**Pn**	**15 46 57.4**	**+0.6**
VIL2	**Platees**	**4.47**	**329**	P	**Pn**	**15 46 57.0**	**-0.1**
MANT	**Manisa**	**4.48**	**24**	P	**Pn**	**15 46 58.4**	**+0.9**
MANT				S	**Sn**	**15 47 45.4**	**-3.3**
BRDR	**BURDUR-Merkez**	**4.52**	**43**	P	**Pn**	**15 47 01.9**	**+4.0**
BRDR				S	**Sn**	**15 47 49.6**	**+0.1**
BUCA	**Burdur, Bucak-**	**4.57**	**49**	P	**Pn**	**15 47 01.7**	**+3.1**
BUCA				S	**Sn**	**15 47 52.0**	**+1.3**
PASA	**Karahalli, USA**	**4.73**	**33**	P	**Pn**	**15 47 01.9**	**+1.1**
PASA				S	**Sn**	**15 47 52.1**	**-2.5**
USAK	**Uak-Merkez**	**4.84**	**27**	P	**Pn**	**15 47 03.5**	**+1.2**
USAK				S	**Sn**	**15 47 53.9**	**-3.6**
KZIL	**AFYON_Kizioren**	**4.97**	**39**	P	**Pn**	**15 47 05.6**	**+1.4**
KZIL				S	**Sn**	**15 47 58.3**	**-2.4**
KEPZ	**Antalya-Kepez**	**5.04**	**59**	P	**Pn**	**15 47 07.5**	**+2.4**
KEPZ				S	**Sn**	**15 48 02.1**	**-0.2**
BAGO	**Egridir - ISPA**	**5.14**	**45**	P	**Pn**	**15 47 08.7**	**+2.3**
SWA2		**5.20**	**187**	P	**Pn**	**15 47 10.1**	**+2.9**
	baz=190						
SWA2				S	**Sn**	**15 48 06.0**	**-0.2**
	baz=190						
GAZI	**Gazipasa**	**5.31**	**68**	P	**Pn**	**15 47 09.8**	**+1.1**
GAZI				S	**Sn**	**15 48 05.9**	**-3.0**
GDZ	**Gediz**	**5.35**	**28**	P	**Pn**	**15 47 09.1**	**-0.2**
SEDI	**Konya, Seydise**	**5.42**	**55**	P	**Pn**	**15 47 14.1**	**+3.7**
SEDI				S	**Sn**	**15 48 13.8**	**+2.0**
YVAC	**Isparta, Yalva**	**5.59**	**45**	P	**Pn**	**15 47 15.9**	**+3.3**
YVAC				S	**Sn**	**15 48 14.2**	**-1.8**
MAKR	**Makrakomi, Fth**	**5.63**	**326**	P	**Pn**	**15 47 14.7**	**+1.5**
DOGA	**KONYA_Doganhis**	**5.74**	**49**	P	**Pn**	**15 47 17.4**	**+2.7**
DOGA				S	**Sn**	**15 48 19.0**	**-0.7**
ANDZ	**Kutahya, Merke**	**5.88**	**29**	P	**Pn**	**15 47 17.3**	**+0.8**
CSS	**Mathiatis**	**5.89**	**83**	Pn	**Pn**	**15 47 17.6**	**+0.8**
KKBE	**Karaman, Kazim**	**6.14**	**61**	P	**Pn**	**15 47 23.4**	**+3.1**
KKBE				S	**Sn**	**15 48 29.3**	**-0.2**
GULN	**MERSIN_Gulnar**	**6.25**	**72**	P	**Pn**	**15 47 24.4**	**+2.8**
GULN				S	**Sn**	**15 48 29.3**	**-2.7**
RYAN	**Fayoum**	**6.35**	**146**	P	**Pn**	**15 47 25.9**	**+2.9**
	baz=145						
BORA	**Eskisehir**	**6.42**	**31**	Pn	**Pn**	**15 47 24.1**	**+0.2**
HSAF	**As Saff**	**6.60**	**135**	P	**Pn**	**15 47 27.9**	**+1.5**
	baz=134						
ALIN	**Konya, Altinte**	**6.63**	**52**	P	**Pn**	**15 47 29.2**	**+2.3**
GLL	**Jalalah**	**6.72**	**134**	P	**Pn**	**15 47 29.8**	**+1.7**
	baz=134						
KERG	**Konya-Eregli**	**7.08**	**63**	P	**Pn**	**15 47 35.6**	**+2.4**
SUZ	**Suez**	**7.24**	**127**	P	**Pn**	**15 47 38.2**	**+3.0**
	baz=126						
KEK	**Kerkira**	**7.36**	**318**	Pn	**Pn**	**15 47 34.6**	**-2.2**
FNA	**Florina**	**7.42**	**330**	Pn	**Pn**	**15 47 37.9**	**+0.2**
HFRF	**Wahat Farafira**	**7.47**	**165**	P	**Pn**	**15 47 40.9**	**+2.5**
	baz=166						
HFRF				S	**Sn**	**15 48 57.2**	**-4.9**
	baz=166						
HNTI	**Hanita**	**7.59**	**98**	Pn	**Pn**	**15 47 43.4**	**+3.4**
SLTI	**Sal'it**	**7.71**	**104**	Pn	**Pn**	**15 47 44.1**	**+2.5**
SLTI				Sn	**Sn**	**15 49 05.1**	**-2.8**
KZIT	**Kziot**	**7.74**	**115**	Pn	**Pn**	**15 47 44.4**	**+2.3**
KZIT				Sn	**Sn**	**15 49 05.9**	**-2.9**
MMAI	**Mount Meron Ar**	**7.79**	**98**	Pn	**Pn**	**15 47 44.4**	**+1.6**
	comp=N,2.0nm,0.3s,baz=301,slow=12,SNR=12						
MMAI				Sn	**Sn**	**15 49 09.8**	**-0.2**
	comp=N,11nm,0.3s,baz=281,slow=15,SNR=12

TULEG	**Thule**	**57.99**	**344**	P	**P**	**15 55 40.1**	**-0.6**
EUNU	**Eureka**	**60.08**	**349**	P	**P**	**15 55 54.9**	**-0.3**
EUNU				IAmb	IAmb	15 56 22.1	
	comp=Z,3.7nm,1.2s						
TIXI	**Tiksi**	**61.55**	**21**	LR	LR	16 26 11.1	
	comp=Z,56nm,18.1s,baz=242,slow=40						
SCHQ	**Schefferville**	**64.31**	**320**	P	**P**	**15 56 23.9**	**0.0**
	comp=Z,2.6nm,0.4s,baz=44,slow=11,SNR=3.5						
	comp=Z,2.6nm,0.4s						
SCHQ	**Schefferville**	**64.31**	**320**	P	**P**	**15 56 23.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**65.80**	**84**	P	**P**	**15 56 35.5**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=310,slow=11,SNR=4.3						
	comp=Z,0.2nm,0.4s						
A36M	**Sachs Harbour**	**72.01**	**351**	P	**P**	**15 57 11.8**	**-0.1**
A36M				IAmb	IAmb	15 57 20.7	
	comp=Z,4.6nm,1.1s						
USA0B	**Ussuriysk Arra**	**76.75**	**45**	P	**P**	**15 57 40.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**76.75**	**45**	P	**P**	**15 57 40.6**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=249,slow=2.8,SNR=3.7						
	comp=Z,2.0nm,0.6s						
BMAR	**Burnt Mountain**	**78.22**	**356**	P	**P**	**15 57 48.8**	**+0.9**
IMAR	**Indian Mountai**	**79.92**	**360**	P	**P**	**15 57 58.0**	**+1.0**
H23K	**Yukon River**	**80.02**	**358**	P	**P**	**15 57 58.5**	**+0.8**
H23K				IAmb	IAmb	15 57 59.9	
	comp=Z,9.2nm,1.4s						
MDM	**Murphy Dome**	**80.85**	**358**	P	**P**	**15 58 02.4**	**+0.3**
MDM				IAmb	IAmb	15 58 02.9	
	comp=Z,2.1nm,0.7s						
ILAR	**Eielson Array**	**80.99**	**357**	P	**P**	**15 58 02.8**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=346,slow=4.1,SNR=4.1						
	comp=Z,0.2nm,0.7s						
J26L	**Joseph Creek**	**81.08**	**356**	P	**P**	**15 58 03.3**	**-0.2**
DAWY	**Dawson**	**81.18**	**354**	P	**P**	**15 58 04.5**	**+0.6**
DAWY				IAmb	IAmb	15 58 35.8	
	comp=Z,2.4nm,1.1s						
MTP	**Monte Pirata**	**81.40**	**286**	P	**P**	**15 58 06.3**	**+0.5**
K27K	**Chicken**	**81.44**	**355**	P	**P**	**15 58 06.1**	**+0.9**
K27K				IAmb	IAmb	15 58 29.9	
	comp=Z,3.6nm,1.2s						
SJG	**San Juan**	**81.86**	**286**	LR	LR	16 31 01.0	
	comp=Z,17nm,21.9s,baz=180,slow=33						
BCAR	**Beaver Creek A**	**82.37**	**355**	P	**P**	**15 58 11.0**	**+0.8**
PETK	**Petropavlovsk-**	**83.18**	**27**	P	**P**	**15 58 15.4**	**+0.9**
	comp=Z,4.4nm,0.9s,baz=270,slow=9.8,SNR=2.5						
	comp=Z,4.4nm,0.9s						
SKT	**Skwentna**	**83.92**	**359**	P	**P**	**15 58 17.5**	**-0.7**

*IDC **20** 15:52:10.3±1.0, 44°.23S×39°.19E, h0km, mb4.3/7, mbtmp4.3/7, MS3.8/30, Error ellipse: s-maj=33.2km s-min=25.8km az=172.0*

*NEIC **20** 15:52:11.8±1.1, 44°.2S±0°.2×39°.0E±0°.2, h10km±2km, mb4.4/13, Error ellipse: s-maj=35.6km s-min=17.3km az=332.0*

ISC 20 15:52:11.7±0.8, 44°.2S±0°.2×39°.2E±0°.2, h10km, n64, σ0§52/34, mb4.4/11, MS3.9/29, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**19.13**	**320**	LR	LR	16 02 25.2	
	comp=Z,246nm,21.2s,baz=175,slow=32						
OPO	**Ambohidratompo**	**26.44**	**17**	LR	LR	16 05 37.0	
	comp=Z,146nm,21.7s,baz=53,slow=30						
MAW	**Mawson**	**26.60**	**160**	LR	LR	16 05 28.5	
	comp=Z,179nm,21.9s,baz=314,slow=30						
LSZ	**Lusaka**	**30.32**	**339**	LR	LR	16 09 12.4	
	comp=Z,119nm,19.6s,baz=161,slow=34						
TSUM	**Tsumeb**	**30.78**	**317**	LR	LR	16 09 48.6	
	comp=Z,164nm,19.2s,baz=148,slow=34						
TROLL	**Troll, Antarti**	**32.88**	**200**	P	**P**	**15 58 46.1**	**+0.6**
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**15 58 56.8**	**+0.9**
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**15 58 56.7**	**+0.9**
	4.9nm,0.9s,baz=69,slow=7.7,SNR=13						
	4.9nm,0.9s						
SNAA	**Sanae**	**34.08**	**202**	P	**P**	**15 58 56.7**	**+0.8**
SNAA				IAmb	IAmb	15 58 57.7	
	comp=Z,6.8nm,1.0s						
VNA2	**Neumayer--Watz**	**35.03**	**205**	P	**P**	**15 59 04.8**	**+0.8**
	baz=61,slow=9.5						
VNA1	**Neumayer--Stat**	**35.18**	**205**	P	**P**	**15 59 05.9**	**+0.6**
BELA	**Belgrano 2**	**43.81**	**197**	P	**P**	**16 00 16.8**	**-0.3**
BELA				IAmb	IAmb	16 00 44.3	
	comp=Z,4.5nm,1.3s						
MBAR	**Mbarara**	**44.07**	**348**	LR	LR	16 18 12.6	
	comp=Z,131nm,18.2s,baz=153,slow=35						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**16 00 34.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=256,slow=2.4,SNR=16						
QSPA				LR	LR	16 18 07.4	
	comp=Z,125nm,20.6s,baz=252,slow=34						
	comp=Z,1.2nm,0.6s						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**16 00 34.3**	**-0.6**
QSPA				IAmb	IAmb	16 00 42.3	
	comp=Z,7.0nm,1.4s						
VNDA	**Vanda**	**53.57**	**167**	P	**P**	**16 01 31.8**	**-0.4**
	comp=Z,2.1nm,1.1s,baz=251,slow=10,SNR=6.1						
VNDA				LR	LR	16 23 06.7	
	comp=Z,72nm,18.3s,baz=228,slow=35						
	comp=Z,2.1nm,1.1s						
VNDA	**Vanda**	**53.57**	**167**	P	**P**	**16 01 32.2**	**0.0**
VNDA				IAmb	IAmb	16 01 32.6	
	comp=Z,3.6nm,1.2s						
ATD	**Arta Tunnel**	**55.58**	**4**	LR	LR	16 24 19.6	
	comp=Z,57nm,19.3s,baz=11,slow=35						
PMSA	**Palmer Station**	**56.12**	**210**	LR	LR	16 20 18.4	
	comp=Z,123nm,20.0s,baz=132,slow=30						
H10S2	**ASCENSION HYDR**	**58.20**	**290**	T	T	17 05 06.5	
	baz=135,slow=74,SNR=11						
H10S3	**ASCENSION HYDR**	**58.21**	**290**	T	T	17 05 07.7	
	baz=85,slow=74,SNR=20						
MORW	**Morawa**	**61.39**	**104**	P	**P**	**16 02 27.8**	**-0.2**
PALK	**Pallekele**	**63.48**	**47**	LR	LR	16 22 49.3	
	comp=Z,102nm,20.9s,baz=321,slow=29						
DBIC	**Dimbokro**	**64.31**	**310**	LR	LR	16 27 26.7	
	comp=Z,24nm,20.7s,baz=123,slow=33						
WSAR	**Wadi Sarin**	**69.45**	**19**	LR	LR	16 28 50.0	
	comp=Z,82nm,20.0s,baz=218,slow=32						
BBOO	**Buckleboo**	**72.42**	**119**	P	**P**	**16 03 38.5**	**+0.4**
EIL	**Elat**	**73.63**	**356**	LR	LR	16 32 16.5	
	comp=Z,34nm,21.6s,baz=242,slow=33						
PLCA	**Paso Flores**	**74.49**	**228**	P	**P**	**16 03 50.1**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=151,slow=4.4,SNR=2.9						
	comp=Z,3.1nm,1.0s						
STKA	**Stephens Creek**	**76.50**	**121**	P	**P**	**16 04 02.3**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=198,slow=3.5,SNR=12						
	comp=Z,5.1nm,0.9s						
STKA	**Stephens Creek**	**76.50**	**121**	P	**P**	**16 04 02.1**	**+0.3**
MMAI	**Mount Meron Ar**	**76.94**	**357**	LR	LR	16 37 10.1	
	comp=Z,47nm,19.5s,baz=121,slow=35						
ASAR	**Alice Springs**	**77.12**	**110**	P	**P**	**16 04 05.5**	**-0.1**
	comp=Z,5.6nm,0.9s,baz=217,slow=5.7,SNR=33						
	comp=Z,5.6nm,0.9s						
ASAR	**Alice Springs**	**77.12**	**110**	P	**P**	**16 04 05.8**	**+0.2**
AS31	**Alice Springs**	**77.12**	**110**	P	**P**	**16 04 05.5**	**0.0**
BBTS	**Babate**	**77.44**	**305**	LR	LR	16 34 45.7	
	comp=Z,44nm,19.8s,baz=74,slow=33						
WRA	**Warramunga Arr**	**79.95**	**108**	P	**P**	**16 04 21.6**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=222,slow=4.2,SNR=17						
	comp=Z,3.3nm,1.0s						
WRA	**Warramunga Arr**	**79.95**	**108**	P	**P**	**16 04 21.5**	**+0.4**
WB2	**Warramunga Arr**	**79.95**	**108**	P	**P**	**16 04 21.5**	**+0.3**
WB2				IAmb	IAmb	16 04 21.9	
	comp=Z,4.7nm,1.0s						
WRAB	**Tennant Creek**	**79.96**	**108**	P	**P**	**16 04 21.7**	**+0.5**
WRAB				IAmb	IAmb	16 04 22.9	
	comp=Z,5.9nm,1.1s						
WR0	**Warramunga Arr**	**80.07**	**108**	P	**P**	**16 04 21.6**	**-0.3**
WB0	**Warramunga Arr**	**80.10**	**108**	P	**P**	**16 04 20.9**	**-1.1**
WB0				IAmb	IAmb	16 04 23.1	
	comp=Z,10nm,1.2s						
IDI	**Anoyia**	**80.19**	**348**	LR	LR	16 39 52.2	
	comp=Z,35nm,20.7s,baz=176,slow=36						
BRDH	**Bariadhala**	**82.06**	**48**	LR	LR	16 41 24.1	
	comp=Z,65nm,18.1s,baz=260,slow=36						
RPZ	**Rata Peaks**	**82.51**	**147**	LR	LR	16 38 44.6	
	comp=Z,97nm,18.1s,baz=36,slow=34						
CMAR	**Chiang Mai Arr**	**82.83**	**56**	LR	LR	16 37 24.9	
	comp=Z,52nm,18.7s,baz=225,slow=33						
DMN	**Daman**	**82.91**	**40**	*eP*	**P**	**16 04 37.1**	**+0.3**
DANN	**Dangsing**	**82.93**	**39**	*eP*	**P**	**16 04 37.0**	**+0.1**
	comp=Z,25nm,1.1s						
PKI	**Pulchoki**	**83.02**	**40**	*eP*	**P**	**16 04 37.4**	**-0.1**
GKN	**Gorkha**	**83.03**	**39**	*eP*	**P**	**16 04 37.3**	**0.0**
JIRN	**Jiri**	**83.46**	**41**	*eP*	**P**	**16 04 40.0**	**+0.2**
	comp=Z,24nm,0.8s						
GUN	**Gumba**	**83.53**	**40**	*eP*	**P**	**16 04 40.6**	**+0.5**
KEST	**Kesra**	**84.06**	**336**	LR	LR	16 42 00.6	
	comp=Z,60nm,21.8s,baz=258,slow=36						
GNI	**Garni**	**84.13**	**4**	LR	LR	16 42 14.3	
	comp=Z,48nm,19.2s,baz=160,slow=36						
CTA	**Charters Tower**	**87.79**	**116**	LR	LR	16 41 40.8	
	comp=Z,48nm,18.2s,baz=250,slow=34						
MLR	**Muntele Rosu**	**90.09**	**351**	LR	LR	16 47 44.1	
	comp=Z,39nm,20.2s,baz=207,slow=37						
LPAZ	**La Paz**	**90.66**	**246**	LR	LR	16 43 45.5	
	comp=Z,38nm,18.0s,baz=104,slow=34						
AAK	**Ala-Archa**	**92.07**	**25**	LR	LR	16 42 48.6	
	comp=Z,32nm,21.6s,baz=206,slow=33						
PMG	**Port Moresby**	**96.11**	**109**	LR	LR	16 45 02.3	
	comp=Z,42nm,18.1s,baz=317,slow=33						
BELG	**Belogornoye**	**96.50**	**5**	LR	LR	16 49 06.4	
	comp=Z,53nm,21.8s,baz=150,slow=35						
DZM	**Mont Dzumac**	**98.30**	**132**	LR	LR	16 42 29.7	
	comp=Z,80nm,19.2s,baz=252,slow=31						
NNA	**Nana**	**99.50**	**243**	LR	LR	16 47 11.9	
	comp=Z,38nm,18.4s,baz=200,slow=33						
TXAR	**Lajitas Array**	**147.04**	**256**	PKPbc	**PKPbc**	**16 11 54.6**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=134,slow=7.2,SNR=14						
ULM	**Lac du Bonnet**	**149.25**	**297**	PKPbc	**PKPbc**	**16 11 59.0**	**-0.8**
	comp=Z,7.5nm,0.9s,baz=357,slow=2.3,SNR=4.4						
PDAR	**Pinedale Array**	**157.32**	**277**	PKPab	**PKPab**	**16 12 39.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=107,slow=5.8,SNR=4.4						

*EAF **20** 15:54:04.9±1.6, 25°.89S×29°.14E, h10km, MD3.5*

*BUL **20** 15:54:05.6±1.7, 25°.91S×29°.10E, h10km, MD3.7*

*IDC **20** 15:54:07.3±4.8, 26°.27S×28°.71E, h0km, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=38.2km s-min=21.6km az=81.0*

ISC 20 15:54:00.9±1.2, 26°.24S±0°.07×29°.34E±0°.06, h10km, n11, σ1§69/17, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**3.29**	**35**	*i* Pg	**Pb**	**15 54 59.7**	**+0.2**
MOPA				*i* S	**Sn**	**15 55 31.2**	**-0.7**
MOPA	**Mopani**	**3.29**	**35**	*i* Pg	**Pb**	**15 54 59.7**	**+0.2**
MOPA				*i* S	**Sn**	**15 55 31.2**	**-0.7**
LBTB	**Lobatse**	**3.59**	**289**	Pn	**Pn**	**15 54 58.6**	**+1.9**
	0.3nm,0.3s,baz=109,slow=15,SNR=1.5						
LBTB				Pg	**Pb**	**15 55 03.7**	**-0.9**
	1.7nm,0.3s,baz=106,slow=18,SNR=22						
LBTB				Lg	Lg	15 55 44.5	
	2.8nm,0.3s,baz=183,slow=17,SNR=12						
	0.9nm,0.3s						
LBTB	**Lobatse**	**3.59**	**289**	*i* Pg	**Pb**	**15 55 04.1**	**-0.5**
LBTB				*i* Sg	**Sb**	**15 55 48.1**	**-0.2**
LBTB	**Lobatse**	**3.59**	**289**	*i* Pg	**Pb**	**15 55 04.1**	**-0.5**
LBTB				*i* Sg	**Sb**	**15 55 48.1**	**-0.2**
BOSA	**Boshof**	**4.33**	**236**	Pn	**Pn**	**15 55 07.8**	**+0.8**
	0.1nm,0.3s,baz=60,slow=12,SNR=2.0						
BOSA				Pg	**Pb**	**15 55 16.3**	**-0.9**
	0.9nm,0.3s,baz=58,slow=18,SNR=14						
BOSA				Sn	**Sn**	**15 55 55.1**	**-2.4**
	0.4nm,0.3s,baz=16,slow=20,SNR=1.3						
BOSA				Lg	Lg	15 56 11.6	
	1.6nm,0.3s,baz=144,slow=10,SNR=10						
	1.9nm,0.9s						
BOSA	**Boshof**	**4.33**	**236**	*i* Pn	Pn	15 55 11.8	+4.8
BOSA				*i* S	**Sn**	**15 55 59.6**	**+2.0**
BOSA	**Boshof**	**4.33**	**236**	*i* Pn	Pn	15 55 11.8	+4.8
BOSA				*i* S	**Sn**	**15 55 59.6**	**+2.0**
I47ZA	**BOSHOF INFRASO**	**4.35**	**236**	I	I	16 21 10.0	
	baz=52,slow=308,SNR=2.7						
SUR	**Sutherland**	**9.63**	**229**	Pn	**Pn**	**15 56 22.0**	**+2.2**
	0.2nm,0.3s,baz=57,slow=17,SNR=1.1						
SUR				Sn	**Sn**	**15 58 04.4**	**-3.8**
	0.2nm,0.3s,baz=51,slow=15,SNR=1.1						
SUR				Lg	Lg	15 58 59.2	
	0.2nm,0.3s,baz=179,slow=22,SNR=2.4						
	8.2nm,1.0s						
I35NA	**TSUMEB INFRASO**	**12.92**	**300**	I	I	17 14 00.0	
	baz=125,slow=311,SNR=1.4						

*NEIC **20** 15:55:05.0±1.6, 17°.9S±0°.2×178°.13W±0°.06, h550km±13km, mb4.3/18, Error ellipse: s-maj=27.7km s-min=8.3km az=185.0*

*IDC **20** 15:55:13.0±20.0, 17°.87S×178°.60W, h638km±259km, mb3.0/5, mbtmp4.1/5, Error ellipse: s-maj=125.9km s-min=87.2km az=122.0*

ISC 20 15:55:04.8±0.8, 17°.9S±0°.2×178°.2W±0°.1, h550km, n25, σ0§75/25, mb4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.90**	**99**	P	**P**	**15 57 00.4**	**-1.1**
CTA	**Charters Tower**	**33.67**	**261**	P	**P**	**16 01 00.6**	**0.0**
	2.7nm,0.7s,baz=94,slow=11,SNR=1.4						
	2.7nm,0.7s						
CTAO	**Charters Tower**	**33.67**	**261**	P	**P**	**16 01 00.7**	**+0.1**
CAN	**Canberra**	**33.87**	**233**	P	**P**	**16 01 03.0**	**+0.9**
CAN				IAmb	IAmb	16 01 05.6	
	comp=Z,16nm,1.3s						
COEN	**Coen**	**37.33**	**270**	P	**P**	**16 01 31.7**	**+0.6**
STKA	**Stephens Creek**	**38.81**	**241**	P	**P**	**16 01 43.1**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=95,slow=12,SNR=4.7						
	comp=Z,1.3nm,0.6s						
STKA	**Stephens Creek**	**38.81**	**241**	P	**P**	**16 01 43.1**	**+0.2**
BBOO	**Buckleboo**	**43.59**	**241**	P	**P**	**16 02 20.6**	**-0.1**
BBOO				IAmb	IAmb	16 02 59.1	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**44.66**	**260**	P	**P**	**16 02 28.8**	**-0.3**
WR0				IAmb	IAmb	16 03 07.9	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**44.82**	**260**	P	**P**	**16 02 29.5**	**-0.9**
WB0				IAmb	IAmb	16 02 59.7	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**44.84**	**260**	P	**P**	**16 02 29.7**	**-0.8**
WRAB	**Tennant Creek**	**44.84**	**260**	P	**P**	**16 02 29.6**	**-0.9**
WRAB				IAmb	IAmb	16 03 08.3	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**44.85**	**260**	P	**P**	**16 02 30.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=96,slow=7.2,SNR=47						
	comp=Z,1.1nm,0.5s						
AS31	**Alice Springs**	**45.00**	**254**	P	**P**	**16 02 31.5**	**-0.2**
ASAR	**Alice Springs**	**45.00**	**254**	P	**P**	**16 02 31.6**	**-0.2**
	comp=Z,5.7nm,0.6s,baz=87,slow=9.1,SNR=159						
	comp=Z,5.7nm,0.6s						
ASAR	**Alice Springs**	**45.00**	**254**	P	**P**	**16 02 31.1**	**-0.7**
MTN	**Manton Dam**	**49.03**	**268**	P	**P**	**16 03 01.3**	**-0.8**
MTN				IAmb	IAmb	16 03 44.0	
	comp=Z,9.4nm,1.2s						
FORT	**Forrest**	**50.20**	**245**	P	**P**	**16 03 09.7**	**-0.8**
KNRA	**Kununurra**	**50.71**	**264**	P	**P**	**16 03 14.1**	**-0.3**
KNRA				IAmb	IAmb	16 03 34.8	
	comp=Z,32nm,1.4s						
MBWA	**Marble Bar**	**58.29**	**256**	P	**P**	**16 04 06.6**	**-0.9**
MBWA				IAmb	IAmb	16 04 14.5	
	comp=Z,17nm,1.3s						
VNDA	**Vanda**	**60.43**	**185**	P	**P**	**16 04 22.2**	**+1.4**
SCM	**Sheep Creek Mo**	**83.20**	**14**	P	**P**	**16 06 34.2**	**+1.0**
SCM				IAmb	IAmb	16 06 37.5	
	comp=Z,22nm,1.4s						
PMSA	**Palmer Station**	**83.69**	**157**	P	**P**	**16 06 35.6**	**0.0**
ILAR	**Eielson Array**	**85.87**	**13**	P	**P**	**16 06 46.5**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=221,slow=4.6,SNR=6.0						
	comp=Z,0.2nm,0.4s						
J25K	**Salcha River,**	**86.06**	**14**	P	**P**	**16 06 48.0**	**+1.0**
J25K				IAmb	IAmb	16 07 16.2	
	comp=Z,6.0nm,1.5s						

*IDC **20** 15:55:48.7±0.9, 23°.21S×66°.88W, h193km±7km, mb3.9/9, mbtmp4.4/15, Error ellipse: s-maj=15.5km s-min=12.2km az=24.0*

*VAO **20** 15:55:49.7±0.3, 23°.13S×66°.84W, h198km, mb4.4*

*NEIC **20** 15:55:49.3±1.7, 23°.23S±0°.06×66°.89W±0°.09, h199km±6km, mb4.6/102, Mwr4.6(GUC), Error ellipse: s-maj=11.7km s-min=9.3km az=77.0*

*SJA **20** 15:55:49.0±0.9, 23°.25S×66°.91W, h175km, ML4.2, MW4.5*

*GUC **20** 15:55:51.3±0.7, 23°.22S×67°.18W, h215km±9km, ML4.9*

ISC 20 15:55:48.9±0.6, 23°.22S±0°.03×66°.97W±0°.05, h199km±6km, n276, σ1§09/307, mb4.6/56, 9C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.14**	**283**		**Pn**	**15 56 20.5**	**+0.5**
AF01				Sn	**Sn**	**15 56 46.7**	**+2.8**
YJA	**Yavi**	**1.70**	**53**	*i* P	**Pn**	**15 56 26.4**	**+1.5**
YJA				IAML		15 56 58.7	
	comp=Z,72nm,0.5s						
LVC	**Limon Verde**	**1.89**	**288**	P	**Pn**	**15 56 28.1**	**+1.5**
	comp=Z,593nm,0.4s,baz=104,slow=6.1,SNR=679						
LVC				S	**Sn**	**15 56 55.6**	**-0.2**
	comp=Z,406nm,0.4s,baz=166,slow=6.0,SNR=5.6						
LVC	**Limon Verde**	**1.89**	**288**		**Pn**	**15 56 27.8**	**+1.2**
LVC	**Limon Verde**	**1.89**	**288**	*eP*	**Pn**	**15 56 28.1**	**+1.5**
LVC				*eS*	**Sn**	**15 56 56.2**	**+0.4**
LVC	**Limon Verde**	**1.89**	**288**	*i* P	**Pn**	**15 56 28.1**	**+1.5**
LVC				IAML		15 56 59.0	
	comp=Z,302nm,0.5s						
LVC	**Limon Verde**	**1.89**	**288**	*eP*	**Pn**	**15 56 27.6**	**+1.0**
SLA	**San Lorenzo**	**2.01**	**138**	*i* P	**Pn**	**15 56 30.0**	**+2.3**
PB15	**IPOC Station P**	**2.30**	**270**		**Pn**	**15 56 31.9**	**+1.1**
PB15	**IPOC Station P**	**2.30**	**270**	*eP*	**Pn**	**15 56 32.1**	**+1.4**
PB15				*eS*	**Sn**	**15 57 02.8**	**-0.5**
PB15	**IPOC Station P**	**2.30**	**270**	*i* P	**Pn**	**15 56 31.4**	**+0.6**
PB06	**IPOC Station P**	**2.45**	**281**		**Pn**	**15 56 33.5**	**+1.2**
PB06	**IPOC Station P**	**2.45**	**281**	*eP*	**Pn**	**15 56 33.6**	**+1.2**
PB06				*eS*	**Sn**	**15 57 06.1**	**0.0**
PB06				IAML		15 57 08.9	
	comp=E,3μm,0.4s						
PB06	**IPOC Station P**	**2.45**	**281**	*i* P	**Pn**	**15 56 33.6**	**+1.3**
PB06				*eS*	**Sn**	**15 57 05.9**	**-0.3**
PB06				IAML		15 57 08.2	
	comp=Z,2μm,0.4s						
PB09	**IPOC Station P**	**2.53**	**303**		**Pn**	**15 56 34.7**	**+1.4**
PB09	**IPOC Station P**	**2.53**	**303**	*eP*	**Pn**	**15 56 35.0**	**+1.7**
PB09				*eS*	**Sn**	**15 57 08.3**	**+0.5**
PB09				IAML		15 57 10.7	
	comp=E,1μm,0.8s						
PB09	**IPOC Station P**	**2.53**	**303**	*i* P	**Pn**	**15 56 35.0**	**+1.7**
PB09				*eS*	**Sn**	**15 57 09.3**	**+1.5**
PB09				IAML		15 57 11.2	
	comp=Z,713nm,0.8s						
PB03	**IPOC Station P**	**2.82**	**294**		**Pn**	**15 56 37.3**	**+0.7**
PB03	**IPOC Station P**	**2.82**	**294**	*eP*	**Pn**	**15 56 37.5**	**+0.9**
PB03				*eS*	**Sn**	**15 57 12.3**	**-1.4**
PB03				IAML		15 57 14.4	
	comp=N,3μm,0.4s						
PB03	**IPOC Station P**	**2.82**	**294**	*i* P	**Pn**	**15 56 37.5**	**+0.9**
PB03				*eS*	**Sn**	**15 57 12.8**	**-0.9**
PB03				IAML		15 57 14.4	
	comp=Z,2μm,0.6s						
PB04	**IPOC Station P**	**3.06**	**286**	Pn	**Pn**	**15 56 40.0**	**+0.6**
PB04	**IPOC Station P**	**3.06**	**286**	*eP*	**Pn**	**15 56 40.1**	**+0.6**
PB04				*eS*	**Sn**	**15 57 17.3**	**-1.5**
PB04				IAML		15 57 21.1	
	comp=E,2μm,0.6s						
PB04	**IPOC Station P**	**3.06**	**286**	*i* P	**Pn**	**15 56 40.0**	**+0.6**
PB04				*eS*	**Sn**	**15 57 18.8**	**0.0**
PB07	**IPOC Station P**	**3.08**	**298**		**Pn**	**15 56 40.0**	**+0.4**
PB07	**IPOC Station P**	**3.08**	**298**	*eP*	**Pn**	**15 56 40.3**	**+0.7**
PB07				*eS*	**Sn**	**15 57 17.5**	**-1.6**
PB07				IAML		15 57 19.0	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**3.08**	**298**	*i* P	**Pn**	**15 56 40.3**	**+0.7**
PB07				*eS*	**Sn**	**15 57 18.2**	**-1.0**
PB07				IAML		15 57 21.8	
	comp=Z,852nm,0.2s						
GO02	**Mina Guanaco**	**3.08**	**230**	Pn	**Pn**	**15 56 40.4**	**+0.6**
GO02	**Mina Guanaco**	**3.08**	**230**	*eP*	**Pn**	**15 56 40.7**	**+1.0**
GO02				*eS*	**Sn**	**15 57 18.9**	**-0.6**
GO02	**Mina Guanaco**	**3.08**	**230**	*i* P	**Pn**	**15 56 40.0**	**+0.3**
GO02				*eS*	**Sn**	**15 57 19.9**	**+0.4**
PB01	**IPOC Station P**	**3.18**	**312**		**Pn**	**15 56 41.2**	**+0.4**
PB01	**IPOC Station P**	**3.18**	**312**	*eP*	**Pn**	**15 56 41.3**	**+0.6**
PB01				*eS*	**Sn**	**15 57 20.7**	**-0.6**
PB01				IAML		15 57 22.1	
	comp=N,987nm,0.2s						
PB01				IAML		15 57 22.6	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**3.18**	**312**	*i* P	**Pn**	**15 56 41.4**	**+0.6**
PB01				*eS*	**Sn**	**15 57 21.1**	**-0.2**
PB01				IAML		15 57 22.5	
	comp=Z,479nm,0.2s						
PB02	**IPOC Station P**	**3.30**	**304**		**Pn**	**15 56 42.4**	**+0.1**
PB02	**IPOC Station P**	**3.30**	**304**	*eP*	**Pn**	**15 56 42.6**	**+0.3**
PB02				*eS*	**Sn**	**15 57 22.0**	**-1.9**
PB02				IAML		15 57 24.5	
	comp=E,2μm,0.5s						
PB02	**IPOC Station P**	**3.30**	**304**	*i* P	**Pn**	**15 56 42.6**	**+0.3**
PB02				*eS*	**Sn**	**15 57 22.8**	**-1.1**
PB02				IAML		15 57 31.1	
	comp=Z,1μm,0.6s						
PB10	**IPOC Station P**	**3.31**	**264**	Pn	**Pn**	**15 56 42.7**	**+0.5**
PB10	**IPOC Station P**	**3.31**	**264**	*eP*	**Pn**	**15 56 42.4**	**+0.3**
PB10				*i* S	**Sn**	**15 57 21.5**	**-2.3**
PB10				IAML		15 57 26.5	
	comp=E,971nm,0.6s						
PB10	**IPOC Station P**	**3.31**	**264**	*i* P	**Pn**	**15

MURT	Porto Murtinho	8.80	82	eP		Pn	15 57 51.8 -0.8
SIV	San Ignacio	9.08	39	P		Pn	15 57 54.9 -1.6
	comp=Z,40nm,0.5s,baz=216,slow=12,SNR=110						
SIV				S		Sn	15 59 32.8 -5.5
	comp=Z,5.9nm,0.7s,baz=153,slow=16,SNR=3.0						
CPUP	Villa Florida	9.29	111	P		Pn	15 57 57.5 -1.5
	comp=Z,4.0nm,0.9s,baz=287,slow=11,SNR=8.9						
CPUP	Villa Florida	9.29	111	Pn		Pn	15 57 57.1 -1.9
CPUP	Villa Florida	9.29	111	eP		Pn	15 57 57.5 -1.5
VA03	San Esteban	10.02	198			Pn	15 58 06.8 -1.7
PTLB	Pontes e Lacer	10.69	45	Pn		Pn	15 58 15.3 -1.9
PTLB	Pontes e Lacer	10.69	45	eP		Pn	15 58 15.5 -1.7
AQDB	Aquidauana	10.82	78			Pn	15 58 16.9 -1.9
AQDB	Aquidauana	10.82	78	eP		Pn	15 58 18.3 -0.5
AZCA	Azaras, Argent	11.03	118	eP		Pn	15 58 21.6 +0.1
MT01	Popeta	11.26	199	Pn		Pn	15 58 21.8 -2.5
ITQB	Itaqui	11.28	127	eP		Pn	15 58 24.1 -0.5
MCR1	Marechal Candi	11.90	99	eP		Pn	15 58 32.1 -0.6
BO02	Sierra Bellavi	12.01	195			Pn	15 58 33.6 -0.3
VILB	Vilhena	12.06	33	Pn		Pn	15 58 34.7 0.0
VILB	Vilhena	12.06	33	eP		Pn	15 58 35.1 +0.3
UNIS	Unistalda (Bra	12.17	121	eP		Pn	15 58 36.6 +0.6
CRSM	Crissiumal (Br	12.44	113	eP		Pn	15 58 39.4 0.0
SALV	Santo Antonio	12.88	58	eP		Pn	15 58 44.1 -0.9
TRCB	Terra Rica	13.21	91	P		P	15 58 52.6 +0.4
ETMB	Extrema	13.34	3	Pn		Pn	15 58 50.2 -0.6
ETMB	Extrema	13.34	3	eP		Pn	15 58 49.5 -1.3
PTGB	Pitanga	13.71	99	eP		Pn	15 58 55.0 -0.5
C2SB	Chapadao do Su	13.92	74	eP		Pn	15 58 57.2 -0.8
ITAB	Concordia	14.02	110	P		P	15 59 01.2 +0.2
ITAB	Concordia	14.02	110	eP		Pn	15 58 58.7 -0.4
NNA	Nana	14.59	318	P		P	15 59 08.5 +1.0
	comp=Z,3.5nm,0.3s,baz=192,slow=9.4,SNR=4.0						
PLTB	Pedras Altas	14.59	129	P		P	15 59 06.8 -0.5
PLTB	Pedras Altas	14.59	129	eP		P	15 59 07.2 -0.1
PCMB	Pacaembu	14.62	87	eP		Pn	15 59 06.7 +0.1
PDRB	Porto dos Gac	15.11	42	eP		Pn	15 59 12.4 -0.2
TRQA	Tornquist	15.40	165			Pn	15 59 14.1 -1.9
TRQA	Tornquist	15.40	165	eP		P	15 59 17.9 +1.7
ITRB	Iturama	15.86	80	eP		P	15 59 21.6 +0.1
FRTB	Fartura	16.00	94	eP		P	15 59 23.1 +0.1
ARAG	Araguaiana, MT	16.12	65	eP		Pn	15 59 24.9 0.0
CLDB	Colider	16.26	43	eP		P	15 59 25.4 -0.5
CZSB	Cruzeiro do Su	16.35	339	eP		P	15 59 27.2 +0.2
TIJ01	Guaruva-PR	16.52	101	eP		P	15 59 28.9 +0.1
GO06	Curarrehue	16.76	192	P		P	15 59 31.4 +0.1
TER01	Tubaro-SC	16.90	112	eP		P	15 59 33.1 +0.2
BB19B	Bebedouro	17.22	86	eP		P	15 59 36.7 +0.2
PLCA	Paso Flores	17.73	189	P		P	15 59 42.6 +0.8
	comp=Z,4.3nm,0.5s,baz=5.3,slow=10,SNR=28						
PLCA	Paso Flores	17.73	189	P		P	15 59 42.2 +0.4
PLCA	Paso Flores	17.73	189	eP		Pn	15 59 43.0 -0.8
RCLB	Rio Claro- Sao	17.94	91	eP		P	15 59 44.0 -0.3
PET01	Itanhaem-SP	18.07	97	eP		P	15 59 44.1 -1.5
LL04	Puerto Octay	18.23	193	P		P	15 59 47.4 +0.2
LL04				IAmb		IAmb	15 59 48.3
	comp=Z,20nm,0.7s						
IPMB	Ipameri, GO	18.31	77	eP		P	15 59 48.5 +0.1
VAO	Valinhos	18.41	93	eP		P	15 59 49.0 -0.4
SNDB	Serra Nova Dou	18.64	56	eP		P	15 59 50.8 -1.1
LL05	Los Muermos	18.94	195	P		P	15 59 54.3 -0.6
TBTG	Tabatinga, AM	19.13	351	eP		P	15 59 58.8 +1.6
BDFB	Brasilia	19.39	71	P		P	15 59 59.8 -0.3
	comp=Z,36nm,0.7s,baz=246,slow=11,SNR=54						
BDFB	Brasilia	19.39	71	P		P	15 59 59.7 -0.4
BDFB	Brasilia	19.39	71	eP		P	15 59 60.0 -0.1
NPGB	Novo Progresso	19.58	37	eP		P	15 59 59.9 -2.1
PARB	Paraibuna	19.62	95	eP		P	16 00 01.6 -0.8
LL06	Loncomilla	19.74	195	P		P	16 00 03.3 -0.2
LL06				IAmb		IAmb	16 00 04.0
	comp=Z,105nm,1.3s						
LL02	Futaleuf	20.33	190	P		P	16 00 10.0 +0.3
LL02				IAmb		IAmb	16 00 12.6
	comp=Z,12nm,0.7s						
MACA	Manacapuru-AM	20.84	18	eP		P	16 00 15.5 0.0
ITTB	Itaituba	21.66	32	eP		P	16 00 21.8 -2.2
AY01	Puyuhuapi	21.66	191	P		P	16 00 23.2 -0.5
AY01				IAmb		IAmb	16 00 24.0
	comp=Z,11nm,0.7s						
DIAM	Diamantina, MG	22.32	82	eP		P	16 00 29.8 -0.8
MCRA	Macar, Loja	22.55	324	P		P	16 00 33.3 +0.8
MCRA				IAmb		IAmb	16 00 35.5
	comp=Z,20nm,0.8s						
MC01	Montes Claros	22.58	78	eP		P	16 00 31.3 -1.5
BOSC	San Juan Bosco	22.85	329	P		P	16 00 35.4 0.0
JANB	Januaria	22.87	73	eP		P	16 00 34.1 -1.3
SGCB	SÃo Gabriel d	22.95	360	eP		P	16 00 36.1 +0.1
SMTB	Santa Maria do	23.42	56	eP		P	16 00 39.0 -1.4
SDBA	SAO DESIDERIO	23.57	67	eP		P	16 00 40.8 -0.9
PRPB	Paraupebas	23.67	47	eP		P	16 00 41.7 -0.9
ALF01	Guarapari-ES	24.48	89	eP		P	16 00 49.4 -0.5
MALB	Monte Alegre	24.55	32	eP		P	16 00 49.9 -0.7
BOAV	Boa Vista	26.22	15	P		P	16 01 05.6 0.0
BOAV				IAmb		IAmb	16 01 27.1
	comp=Z,6.0nm,1.4s						
BOAV	Boa Vista	26.22	15	eP		P	16 01 05.6 0.0
GUA01	Guaratinga, BA	26.36	80	eP		P	16 01 05.9 -1.0
GDU01	Guandu, BA	27.61	75	eP		P	16 01 18.5 -1.5
EFI	East Falkland	29.23	169	P		P	16 01 30.4 -1.6
RCBR	Riachuelo	34.56	65	P		P	16 02 18.5 -0.4
RCBR				IAmb		IAmb	16 02 19.6
	comp=Z,14nm,0.7s						
TEIG	Tepich	47.92	333	P		P	16 04 07.0 -0.3
SOR	Soroa	48.32	340	P		P	16 04 10.6 +0.2
SOR				IAmb		IAmb	16 04 26.3
	comp=Z,51nm,1.3s						
BELA	Belgrano 2	56.81	172	P		P	16 05 12.3 +0.3
VNA3	Neumayer Olymp	57.88	161	P		P	16 05 20.5 +0.9
VNA1	Neumayer--Stat	58.08	160	P		P	16 05 21.5 +0.6
VNA2	Neumayer--Watz	58.45	161	P		P	16 05 24.5 +1.0
	baz=269,slow=7.6						
GOGA	Godfrey	58.47	344	P		P	16 05 24.0 0.0
GOGA				IAmb		IAmb	16 05 56.0
	comp=Z,14nm,1.3s						
X58A	Rowland	58.64	348	P		P	16 05 25.7 +0.5
Y52A	Lilburn	59.05	343	P		P	16 05 27.8 -0.3
Y52A				IAmb		IAmb	16 05 29.2
	comp=Z,20nm,1.2s						
LRAL	Lakeview Retre	59.11	340	P		P	16 05 28.1 -0.3
LRAL				IAmb		IAmb	16 06 09.5
	comp=Z,19nm,1.4s						
W57A	Gilead	59.35	348	P		P	16 05 30.0 0.0
Z47A	Carrollton	59.60	340	P		P	16 05 31.7 -0.1
Z47A				IAmb		IAmb	16 05 32.0
	comp=Z,14nm,0.8s						
Y49A	Blount Mountai	59.70	341	P		P	16 05 31.9 -0.6
Y49A				IAmb		IAmb	16 05 32.6
	comp=Z,8.9nm,0.9s						
V58A	Windy Hill, Pi	59.80	349	P		P	16 05 33.0 -0.2
V58A				IAmb		IAmb	16 05 34.3
	comp=Z,13nm,0.8s						
SNAA	Sanae	60.08	161	P		P	16 05 35.5 +0.7
SNAA	Sanae	60.08	161	PcP		PcP	16 06 18.7 +0.2
SNAA	Sanae	60.08	161	P		P	16 05 35.4 +0.6
SNAA				IAmb		IAmb	16 05 36.6
	comp=Z,18nm,1.5s						
FPAL	Fort Paine	60.11	342	P		P	16 05 35.0 -0.3
FPAL				IAmb		IAmb	16 05 42.9
	comp=Z,14nm,1.3s						
V55A	Taylorsville	60.27	347	P		P	16 05 36.5 +0.2
V55A				IAmb		IAmb	16 05 37.6
	comp=Z,13nm,0.7s						
X48A	Hartselle	60.44	341	P		P	16 05 37.3 -0.2
X48A				IAmb		IAmb	16 05 37.9
	comp=Z,11nm,0.8s						
W50A	Signal Mountai	60.64	343	P		P	16 05 38.8 -0.1
TKL	Tuckaleechee C	60.68	344	P		P	16 05 38.7 -0.4
TKL				IAmb		IAmb	16 06 20.5
	comp=Z,19nm,1.2s						
SWET	Sewanee	60.83	342	P		P	16 05 39.6 -0.6
SWET				IAmb		IAmb	16 05 41.0
	comp=Z,12nm,0.8s						
OXF	Oxford	61.24	339	P		P	16 05 42.0 -0.9
OXF				IAmb		IAmb	16 05 43.0
	comp=Z,16nm,0.8s						
PLAL	Pickwick Lake	61.24	340	P		P	16 05 41.9 -1.0
PLAL				IAmb		IAmb	16 06 09.7
	comp=Z,14nm,1.1s						
TROLL	Troll, Antarti	61.79	161	P		P	16 05 47.4 +1.1
TROLL	Troll, Antarti	61.79	161	PcP		PcP	16 06 26.6 +1.1
JCT	Junction City	61.99	328	P		P	16 05 48.1 0.0
JCT				IAmb		IAmb	16 05 49.6
	comp=Z,7.2nm,0.8s						
S54A	Dingess, Beckl	62.17	347	P		P	16 05 49.2 +0.1
MIAR	Mount Ida	62.76	335	P		P	16 05 53.0 0.0
MIAR				IAmb		IAmb	16 05 54.0
	comp=Z,5.0nm,0.8s						
TXAR	Lajitas Array	63.06	324	P		P	16 05 55.8 +0.5
	comp=Z,1.0nm,0.7s,baz=152,slow=8.5,SNR=11						
	comp=Z,1.0nm,0.7s						
TX31	Lajitas Ar. Si	63.06	324	P		P	16 05 55.6 +0.3
TX31				IAmb		IAmb	16 06 10.5
	comp=Z,14nm,1.4s						
Z35A	Perchaven, San	63.21	332	P		P	16 05 56.7 +0.7
Z35A				IAmb		IAmb	16 05 57.7
	comp=Z,17nm,1.1s						
X37A	Clayton	63.50	334	P		P	16 05 58.8 +0.9
X37A				IAmb		IAmb	16 05 59.6
	comp=Z,10nm,1.0s						
HHAR	Hobbs	64.43	336	P		P	16 06 03.8 -0.2
HHAR				IAmb		IAmb	16 06 05.0
	comp=Z,8.0nm,0.8s						
CCM	Cathedral Cave	65.07	339	P		P	16 06 07.4 -0.6
OK034	N. Norfolk Rd.	65.28	334	P		P	16 06 09.6 +0.2
OK053	SW of W Deep R	65.31	334	P		P	16 06 09.4 -0.2
OK053				IAmb		IAmb	16 06 10.8
	comp=Z,13nm,0.7s						
WES	Weston	65.39	356	P		P	16 06 10.2 +0.3
S39A	Bolivar	65.46	337	P		P	16 06 10.4 -0.1
S39A				IAmb		IAmb	16 06 11.6
	comp=Z,13nm,0.9s						
L59A	Walton	65.50	353	P		P	16 06 12.0 +1.3
GDL2	Guadalupe Moun	65.68	326	P		P	16 06 12.9 +0.7
OK048	Pawnee Station	65.72	334	P		P	16 06 12.2 0.0
OK048				IAmb		IAmb	16 06 13.2
	comp=Z,10nm,0.6s						
L56A	Greenwood	65.75	351	P		P	16 06 12.6 +0.3
L56A				IAmb		IAmb	16 06 25.4
	comp=Z,15nm,1.1s						
N49A	Columbus Grove	65.78	346	P		P	16 06 12.3 -0.2
MSTX	Muleshoe	66.29	328	P		P	16 06 16.4 +0.4
MSTX				IAmb		IAmb	16 06 17.9
	comp=Z,13nm,0.8s						
MMNY	Mt. Morris Dam	66.39	351	P		P	16 06 16.6 +0.2
J59A	Remsen	66.69	353	P		P	16 06 18.7 +0.5
J59A	Piesco	66.71	354	P		P	16 06 19.1 +0.7
J57A	Williamstown	66.81	353	P		P	16 06 19.2 +0.2
QSPA	South Pole Qui	66.98	180	P		P	16 06 21.2 +1.1
QSPA				IAmb		IAmb	16 06 22.4
	comp=Z,12nm,0.8s						
LIC	Lamto	67.17	72	iP		P	16 06 23.3 +1.4
	comp=Z,4.1nm,0.2s						
P38A	Dawn	67.26	338	P		P	16 06 21.7 -0.2
TIC	Toumodi	67.38	72	iP		P	16 06 25.4 +2.2
	comp=Z,4.3nm,0.2s						
KIC	Kosan Boka	67.49	72	iP		P	16 06 25.4 +1.5
	comp=Z,6.2nm,0.4s						
DBIC	Dimbokro	67.53	72	P		P	16 06 24.2 0.0
	comp=Z,2.3nm,0.6s,baz=236,slow=3.5,SNR=6.9						
	comp=Z,2.3nm,0.6s						
F64A	Sherman	68.76	359	P		P	16 06 31.2 +0.2
F64A				IAmb		IAmb	16 06 57.2
	comp=Z,20nm,1.4s						
TUC	Tucson	69.29	321	P		P	16 06 35.5 +0.7
BGNE	Belgrade	70.50	336	P		P	16 06 41.8 -0.1
ECSD	EROS Data Cent	71.97	338	P		P	16 06 50.4 -0.2
ECSD				IAmb		IAmb	16 06 51.8
	comp=Z,18nm,1.4s						
SMCO	Snowmass	72.47	328	P		P	16 06 55.7 +1.5
BLYC	Blythe	72.51	320	P		P	16 06 55.0 +1.0
BLYC				IAmb		IAmb	16 06 57.1
	comp=Z,16nm,1.3s						
YUH	Yuha Desert	72.59	318	P		P	16 06 56.0 +1.5
F36A	Milaca	72.86	341	P		P	16 06 54.2 -1.7
PV22	Blue Mesa, Par	72.87	327	P		P	16 06 58.2 +1.9
U15A	North Rim	73.14	323	P		P	16 06 60.0 +1.9
PFO	Pinyon Flats O	73.57	319	P		P	16 06 59.5 -0.9
O20A	White River Ci	73.83	328	P		P	16 07 03.4 +1.5
O20A				IAmb		IAmb	16 07 04.2
	comp=Z,10nm,1.0s						
KNB	Kanab	73.86	323	P		P	16 07 03.8 +1.7
KNB				IAmb		IAmb	16 07 05.6
	comp=Z,12nm,0.9s						
LCMT	Little Creek M	74.09	323	P		P	16 07 04.9 +1.5
SRU	San Rafael Swe	74.19	326	P		P	16 07 05.2 +1.2
SRU				IAmb		IAmb	16 07 06.4
	comp=Z,8.2nm,0.7s						
MTPU	Mount Pierson	74.26	324	P		P	16 07 06.1 +1.5
P18A	Preston Nutter	74.44	327	P		P	16 07 06.7 +1.2
P18A				IAmb		IAmb	16 07 08.4
	comp=Z,7.9nm,0.7s						
P17A	Butcher Ranch,	74.57	326	P		P	16 07 07.2 +1.0
P17A				IAmb		IAmb	16 07 08.8
	comp=Z,7.5nm,0.9s						
GWY	Greenwater Val	75.46	320	P		P	16 07 12.6 +1.3
GWY				IAmb		IAmb	16 07 14.0
	comp=Z,7.7nm,0.8s						
PSUT	Pine Spring	75.52	324	P		P	16 07 12.6 +0.9
PDAR	Pinedale Array	76.49	329	P		P	16 07 17.9 +0.9
	comp=Z,1.2nm,0.7s,baz=142,slow=7.8,SNR=11						
	comp=Z,1.2nm,0.7s						
PDAR	Pinedale Array	76.49	329	P		P	16 07 16.6 -0.5
SPUT	South Pramonto	76.81	327	P		P	16 07 19.7 +0.9
ULM	Lac du Bonnet	77.50	341	P		P	16 07 22.4 +0.2
	comp=Z,3.8nm,0.5s,baz=170,slow=6.6,SNR=4.2						
	comp=Z,3.8nm,0.5s						
ULM	Lac du Bonnet	77.50	341	P		P	16 07 22.1 0.0
ULM				IAmb		IAmb	16 07 23.0
	comp=Z,10nm,1.1s						
REDW	Red Top Meadow	77.56	329	P		P	16 07 21.9 -1.1
SCHQ	Schefferville	77.73	0	P		P	16 07 23.4 +0.1
	comp=Z,3.9nm,0.6s,baz=140,slow=2.1,SNR=4.1						
	comp=Z,3.9nm,0.6s						
OMMB	Old Mammoth Mi	77.80	320	P		P	16 07 23.9 -0.7
NVAR	Mina Array Bea	77.94	321	P		P	16 07 26.7 +1.4
	comp=Z,1.1nm,0.7s,baz=142,slow=4.5,SNR=8.4						
	comp=Z,1.1nm,0.7s						
RLMT	Red Lodge	78.17	331	P		P	16 07 27.2 +0.9
KVN	Kaiserville	78.25	322	P		P	16 07 27.6 +0.7
DGMT	Dagmar	78.76	336	P		P	16 07 30.5 +1.3
YHL	Hebgen Lake	78.84	330	P		P	16 07 31.5 +1.5
YERR	Yerington	78.86	321	P		P	16 07 31.6 +1.4
GCMT	Greycliff	78.87	331	P		P	16 07 31.0 +1.0
HLID	Hailey	79.45	327	P		P	16 07 35.0 +1.8
HLID				IAmb		IAmb	16 07 36.4
	comp=Z,9.4nm,1.0s						
BCYI	Bear Canyon	79.49	328	P		P	16 07 35.1 +1.5
MCMT	McKenzie Canyo	79.61	329	P		P	16 07 33.8 -0.4
BOSA	Boshof	81.07	117	P		P	16 07 42.2 -0.1
	comp=Z,5.0nm,1.0s,baz=266,slow=3.4,SNR=4.8						
	comp=Z,5.0nm,1.0s						
BOSA	Boshof	81.07	117	P		P	16 07 41.8 -0.5
BOSA				IAmb		IAmb	16 07 45.7
	comp=Z,21nm,1.4s						
PLID	Pearl Lake	81.33	327	P		P	16 07 44.6 +1.3
PLID				IAmb		IAmb	16 07 45.7
	comp=Z,10nm,0.9s						
J08A	Circle Bar Ran	81.40	325	P		P	16 07 45.0 +1.4
J08A				IAmb		IAmb	16 07 46.6
	comp=Z,19nm,1.5s						
K05A	Summer Lake	82.28	323	P		P	16 07 50.2 +1.9
K05A				IAmb		IAmb	16 07 50.6
	comp=Z,28nm,1.5s						
LBTB	Lobatse	82.68	114	P		P	16 07 51.1 +0.3
	comp=Z,1.6nm,0.6s,baz=265,slow=3.6,SNR=2.0						
	comp=Z,1.6nm,0.6s						
LBTB	Lobatse	82.68	114	P		P	16 07 51.0 +0.2
LBTB				IAmb		IAmb	16 08 10.4
	comp=Z,19nm,1.5s						
HUMO	Hull Mountain	83.36	322	P		P	16 07 52.7 -0.9
HUMO				IAmb		IAmb	16 07 57.0
	comp=Z,16nm,1.4s						
WAPA	Wapiti River	89.90	333	P		P	16 08 25.5 +0.5
YKA	Yellowknife Ar	93.40	340	P		P	16 08 41.7 +0.7
	comp=Z,2.4nm,0.6s,baz=133,slow=4.1,SNR=5.3						
	comp=Z,2.4nm,0.6s						
ASAR	Alice Springs	129.18	205	PKP		PKPdf	16 14 34.3 +0.2
	comp=Z,1.4nm,0.8s,baz=148,slow=1.9,SNR=15						
WRA	Warramunga Arr	132.33	208	PKP		PKPdf	16 14 40.5 +0.4
	comp=Z,0.8nm,0.5s,baz=155,slow=1.7,SNR=27						
ZALV	Zalesovo Beam	142.69	27	PKhKP		PKPpre	16 14 55.0
	comp=Z,1.3nm,0.5s,baz=307,slow=4.3,SNR=8.1						
KSH	Kashi	144.72	54	PKP		PKPab	16 15 01.3 -0.3
MKAR	Makanchi Array	145.90	39	PKPbc		PKPbc	16 15 04.6 -0.3
	comp=Z,7.4nm,0.8s,baz=313,slow=3.3,SNR=38						
WMQ	Urumqi	150.73	39	eP		PKPdf	16 15 11.6 -0.3
USRK	Ussuriysk Ar.	153.91	328	PKPbc		PKPbc	16 15 24.3 -0.3
	comp=Z,1.2nm,0.6s,baz=29,slow=3.2,SNR=5.3						
MJAR	Matsushiro Arr	154.53	307	PKPbc		PKiKP	16 15 26.4 +0.2
	comp=Z,0.6nm,0.6s,baz=77,slow=1.6,SNR=2.7						
SONM	Songino Array	154.87	11	PKP		PKPdf	16 15 18.7 +0.8
	comp=Z,0.4nm,0.5s,baz=64,slow=3.4,SNR=2.1						
SONM				PKPbc		PKiKP	16 15 27.0 +0.3
	comp=Z,0.5nm,0.5s,baz=58,slow=1.4,SNR=2.4						
SONM				PKPab		PKPab	16 15 42.2 -0.4
	comp=Z,0.6nm,0.3s,baz=318,slow=5.7,SNR=3.0						
PZH	PanZhiHua	169.24	70	PKP		PKPdf	16 15 31.8 -1.2

IDC 20 16:01:31.1±7.7, 44°02'S×39°24'E, h0km, mb3.9/2, mbtmp3.9/2, MS3.4/5, Error ellipse: s-maj=998.2km s-min=55.3km az=8.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	Boshof	19.02	319	LR	LR	16 12 06.5	
	comp=Z,85nm,19.3s,baz=170,slow=33						
LBTB	Lobatse	21.98	325	LR	LR	16 13 26.3	
	comp=Z,112nm,20.6s,baz=180,slow=32						
OPO	Ambohidratompo	26.24	17	LR	LR	16 14 47.0	
	comp=Z,59nm,18.2s,baz=108,slow=30						
MAW	Mawson	26.76	160	LR	LR	16 15 00.7	
	comp=Z,93nm,20.5s,baz=272,slow=30						
LSZ	Lusaka	30.16	338	LR	LR	16 18 27.8	
	comp=Z,63nm,18.2s,baz=138,slow=34						
ASAR	Alice Springs	77.14	110	P	P	16 13 27.1	+0.4
	1.2nm,0.9s,baz=224,slow=5.2,SNR=8.2						
	1.2nm,0.9s						
WRA	Warramunga Arr	79.95	108	P	P	16 13 41.9	-0.4
	0.8nm,1.0s,baz=227,slow=4.8,SNR=3.8						
	0.8nm,1.0s						
TXAR	Lajitas Array	147.13	256	PKPbc	PKPbc	16 21 15.4	-0.8
	0.4nm,0.8s,baz=155,slow=6.9,SNR=3.9						

WEL 20 16:29:39.1±0.6, 40°S±4°×17°E±°, h18km±4km, M2.7/13, ML2.4/13, MLv2.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=118.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PXZ	Pawanui	0.10	163	P	Pg	16 29 43.3	+0.6
PXZ				S	Sg	16 29 47.4	+2.2
KAHZ	Kahuranaki	0.15	15	P	Pg	16 29 43.9	+0.5
KAHZ				S	Sg	16 29 48.5	+2.2
WPHZ	Waipukurau	0.32	247	P	Pb	16 29 46.9	+0.6
WPHZ				S	Sn	16 29 53.8	-1.3
CKHZ	Cape Kidnapper	0.34	35	P	Pb	16 29 47.1	+0.5
CKHZ				S	Sn	16 29 54.3	-1.2
PRHZ	Porangahau	0.36	204	P	Pb	16 29 47.7	+0.7
PNHZ	Pukenui	0.48	273	P	Pb	16 29 49.4	+0.4
MCHZ	McNeill Hill	0.50	349	P	Pb	16 29 49.8	+0.4
KWHZ	Kaweka Forest	0.60	329	P	Pg	16 29 51.5	+0.5
DVHZ	Dannevirke	0.62	234	P	Pg	16 29 51.9	+0.4
TSZ	Takapari Road	0.68	259	P	Pg	16 29 52.8	+0.4
ARHZ	Aropaoanui	0.69	11	P	Pn	16 29 53.5	-0.4
BHHZ	Black Hill Sta	0.74	307	P	Pg	16 29 53.6	0.0
BKZ	Black Stump Fm	0.81	341	P	Pg	16 29 54.9	-0.1
NMHZ	Naumai	0.84	359	P	Pg	16 29 55.6	+0.1
MOVZ	Moawhango	0.98	302	P	Pn	16 29 57.8	-0.2
MTHZ	Maungataniwha	1.08	1	P	Pb	16 29 58.8	-0.5
TUVZ	Tukino	1.13	306	P	Pg	16 30 01.2	+0.3
WNVZ	Wahianoa	1.13	302	P	Pg	16 30 01.1	+0.1
MRHZ	Matea Rd	1.15	344	P	Pb	16 30 00.4	0.0
WHVZ	Whangaehu Hut	1.16	304	P	Pg	16 30 01.6	+0.1
TRVZ	Turoa	1.18	302	P	Pg	16 30 01.8	0.0
ETVZ	East Tongariro	1.18	313	P	Pg	16 30 02.0	+0.1
OTVZ	Oturere	1.19	310	P	Pg	16 30 02.2	+0.1
TMVZ	Te Maari	1.20	313	P	Pg	16 30 02.2	0.0
NTVZ	North Tongarir	1.22	313	P	Pg	16 30 02.8	+0.1
RIZ	Raoul Island	11.51	24	P	Pn	16 32 23.1	+0.7

*NOU **20** 16:30:19.3, 41°.83S×174°.45E, h18km, MLv4.4/14, Cook Strait, New Zealand*
*WEL **20** 16:30:19.7±0.3, 42°S±3°×17°4E±°, h13km±3km, M4.1/61, ML4.3/23, MLv4.1/61, Error ellipse: s-maj=0.0km s-min=0.0km az=153.3*
*NEIC **20** 16:30:19.4±1.1, 41°.75S±0°.03×174°.33E±0°.04, h21km±8km, mb4.0/6, Error ellipse: s-maj=5.3km s-min=3.1km az=120.0*

ISC 20 16:30:18.5±0.9, 41°.82S±0°.03×174°.41E±0°.03, h20km±5km, n175, σ1°09/181, mb4.1/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.

MQZ	McQueen's Vall	2.29	214	P		Pn	16 30 54.8	-0.2
MQZ	McQueen's Vall	2.29	214	P		Pn	16 30 54.8	-0.2
PRHZ	Porangahau	2.29	48	P		Pn	16 30 55.0	-0.1
OXZ	Oxford	2.31	228	Pn		Pn	16 30 55.0	-0.4
OXZ	Oxford	2.31	228	P		Pn	16 30 55.4	0.0
OXZ	Oxford	2.31	228	P		Pn	16 30 55.4	0.0
AKCZ	Akaroa Harbour	2.33	208	P		Pn	16 30 56.2	+0.6
AKCZ	Akaroa Harbour	2.33	208	P		Pn	16 30 56.0	+0.3
WPHZ	Waipukurau	2.33	42	P		Pn	16 30 55.9	+0.3
PNHZ	Pukenui	2.34	36	P		Pn	16 30 56.1	+0.3
LREZ	Lake Rotokare	2.35	360	P		Pb	16 30 59.1	-1.1
INZ	Inchbonnie	2.38	247			Pn	16 30 56.8	+0.5
INZ	Inchbonnie	2.38	247	P		Pn	16 30 57.3	+0.9
INZ	Inchbonnie	2.38	247	P		Pn	16 30 57.2	+0.9
NMEZ	Namu Road	2.44	350	P		Pb	16 31 01.5	-0.1
RACZ	Rakaia	2.54	220	P		Pn	16 30 58.3	-0.2
RACZ	Rakaia	2.54	220	P		Pn	16 30 58.1	-0.4
KHEZ	Kahui Hut	2.54	353	P		Pb	16 31 01.7	-1.7
KHEZ	Kahui Hut	2.54	353	P		Pb	16 31 02.5	-0.9
NEZ	North Egmont	2.56	355	P		Pb	16 31 02.4	-1.3
MTVZ	Mangateitei	2.56	19	P		Pn	16 31 01.3	+2.4
PXZ	Pawanui	2.58	47	P		Pn	16 30 58.5	-0.5
NBEZ	Newall Road No	2.58	351	P		Pb	16 31 02.0	-2.1
MOVZ	Moawhango	2.62	23	P		Pn	16 31 00.7	+1.0
PKVZ	Pokaka	2.62	16	P		Pn	16 31 02.1	+2.4
PKE	Pukeiti	2.64	353	P		Pb	16 31 04.0	-1.1
BHHZ	Black Hill Sta	2.65	29	P		Pn	16 31 00.9	+0.8
WNVZ	Wahianoa	2.65	20	P		Pn	16 31 01.9	+1.7
TRVZ	Turoa	2.66	19	P		Pn	16 31 02.2	+1.7
WHVZ	Whangaehu Hut	2.69	20	P		Pn	16 31 02.6	+1.8
DRZ	Dome Shelter	2.69	19	P		Pn	16 31 02.9	+2.1
VRZ	Vera Road	2.70	6	P		Pn	16 31 03.2	+2.5
FWVZ	Far West T-bar	2.71	19	P		Pn	16 31 02.8	+1.8
MHCZ	Mount Hutt	2.71	230	P		Pn	16 31 00.6	-0.2
TUVZ	Tukino	2.72	21	P		Pn	16 31 02.8	+1.7
MHEZ	Mangahewa	2.74	359	P		Pb	16 31 05.2	-1.6
KAHZ	Kahuranaki	2.76	44	P		Pn	16 31 01.1	-0.4
NGZ	Ngauruhoe	2.79	19	P		Pn	16 31 04.0	+1.8
SNVZ	South Ngauruho	2.79	20	P		Pn	16 31 04.0	+1.9
OTVZ	Oturere	2.82	20	P		Pn	16 31 04.4	+1.9
NNVZ	North Ngauruho	2.84	19	P		Pn	16 31 04.7	+1.9
WACZ	Wakanui South	2.84	221	P		Pn	16 31 02.7	0.0
WTVZ	West Tongariro	2.85	19	P		Pn	16 31 05.0	+2.1
TWVZ	Taurewa	2.85	16	P		Pn	16 31 04.6	+1.6
ETVZ	East Tongariro	2.86	21	P		Pn	16 31 04.7	+1.6
TMVZ	Te Maari	2.88	21	P		Pn	16 31 04.6	+1.3
KRVZ	Karewarewa	2.88	19	P		Pn	16 31 04.8	+1.5
NTVZ	North Tongarir	2.88	20	P		Pn	16 31 04.8	+1.5
MCHZ	McNeill Hill	2.94	37	P		Pn	16 31 04.1	0.0
WVZ	Waitaha Valley	2.99	244	P		Pn	16 31 05.5	+0.8
BKZ	Black Stump Fm	3.09	32	P		Pn	16 31 05.9	+0.3
RPZ	Rata Peaks	3.11	231	Pn		Pn	16 31 06.5	+0.1
RPZ	Rata Peaks	3.11	231	P		Pn	16 31 06.7	+0.3
RPZ	Rata Peaks	3.11	231	P		Pn	16 31 06.6	+0.1
RATZ	Rangitukua	3.13	20	P		Pb	16 31 13.7	+0.3
ARCZ	Arundel	3.19	227	P		Pn	16 31 07.5	0.0
ARHZ	Aropaoanui	3.23	39	P		Pn	16 31 07.9	0.0
NMHZ	Naumai	3.28	35	P		Pn	16 31 08.4	-0.4
NMHZ				P		Pb	16 31 09.0	-7.0
HIZ	Hauiti	3.32	6	P		Pn	16 31 11.9	+2.6
HIZ	Hauiti	3.32	6	P		Pn	16 31 11.5	+2.3
MRHZ	Matea Rd	3.35	28	P		Pn	16 31 09.6	-0.2
GCSZ	Gaunt Creek Bo	3.37	242	P		Pn	16 31 11.2	+1.3
MTHZ	Maungataniwha	3.50	33	P		Pn	16 31 11.2	-0.5
RAHZ	Arahi	3.55	36	P		Pn	16 31 11.5	-1.0
TMZ	Timaru	3.58	223	P		Pn	16 31 12.7	-0.1
TLZ	Tolley Road	3.59	14	P		Pn	16 31 14.4	+1.4
KNZ	Kokohu	3.74	43	P		Pn	16 31 13.8	-1.3
RTZ	Ruatahuna	3.76	32	P		Pn	16 31 14.9	-0.5
MHGZ	Mahia Peninsul	3.77	46	P		Pn	16 31 15.0	-0.5
FOZ	Fox Glacier	3.79	242	Pn		Pn	16 31 16.0	+0.3
FOZ	Fox Glacier	3.79	242	P		Pn	16 31 16.6	+0.8
MUGZ	Murupara	3.80	29	P		Pn	16 31 16.1	+0.3
LBZ	Lake Benmore	4.02	229	P		Pn	16 31 19.3	+0.4
RIGZ	Rimuhau	4.03	41	P		Pn	16 31 17.5	-1.5
RAGZ	Rawiri	4.04	36	P		Pn	16 31 17.7	-1.5
URZ	Urewera	4.12	31	P		Pn	16 31 20.1	-0.1
URZ	Urewera	4.12	31	P		Pn	16 31 18.9	-1.3
TOZ	Tahuroa Road	4.17	12	P		Pn	16 31 22.5	+1.6
ODZ	Otahua Downs	4.23	219	P		Pn	16 31 22.6	+0.8
ODZ	Otahua Downs	4.23	219	P		Pn	16 31 21.4	-0.4
TWGZ	Tauwhareparae	4.55	38	P		Pn	16 31 26.0	-0.2
RUGZ	Raukumara Rang	4.60	34	P		Pn	16 31 25.5	-1.5
JCZ	Jackson Bay	4.70	239	P		Pn	16 31 29.3	+0.9
JCZ	Jackson Bay	4.70	239	P		Pn	16 31 28.4	0.0
MKAZ	Moumakai	4.74	7	P		Pn	16 31 30.3	+1.5
AWAZ	Awhitu Peninsu	4.75	2	P		Pn	16 31 31.0	+2.1
HAZ	Te Kaha	4.82	34	P		Pn	16 31 28.9	-0.9
PKGZ	Pakihiroa	4.83	37	P		Pn	16 31 29.4	-0.7
ETAZ	East Tamaki Re	4.88	5	P		Pn	16 31 32.9	+2.2
WKZ	Wanaka	4.95	231	Pn		Pn	16 31 31.6	-0.1
EAZ	Earnscleugh	5.04	226	P		Pn	16 31 33.3	+0.4
WIAZ	Waiheke Island	5.05	7	P		Pn	16 31 35.1	+2.1
MBAZ	Motutapu North	5.06	4	P		Pn	16 31 35.0	+1.8
KUZ	Kuaotunu	5.17	12	P		Pn	16 31 35.9	+1.3
KUZ	Kuaotunu	5.17	12	P		Pn	16 31 35.9	+1.3
MXZ	Matakaoa Point	5.21	37	P		Pn	16 31 34.0	-1.2
MLZ	Mavora Lakes	5.78	230	Pn		Pn	16 31 43.2	+0.1
SYZ	Scrubby Hill	6.05	217	P		Pn	16 31 47.4	+0.7
CTZ	Chatham Island	6.88	109	P		Pn	16 32 00.5	+2.4
CTZ	Chatham Island	6.88	109	P		Pn	16 31 59.8	+1.7
AS31	Alice Springs	38.16	285	P		P	16 37 36.2	-0.4
AS31	comp=Z,0.9nm,1.1s			IAmb		IAmb	16 37 51.6	
ASAR	Alice Springs	38.16	285	P		P	16 37 36.5	-0.1
WR0	Warramunga Arr	40.09	291	P		P	16 37 51.4	-1.3
WR0	comp=Z,5.0nm,1.2s			IAmb		IAmb	16 38 25.8	
WB2	Warramunga Arr	40.23	290	P		P	16 37 52.9	-1.0
WB2	comp=Z,6.9nm,1.3s			IAmb		IAmb	16 37 53.2	
WRAB	Tennant Creek	40.24	290	P		P	16 37 52.8	-1.1
WRAB	comp=Z,3.6nm,1.1s			IAmb		IAmb	16 37 59.8	
WRA	Warramunga Arr	40.24	290	P		P	16 37 52.9	-1.0
MTN	Manton Dam	47.35	295	P		P	16 38 50.5	-0.6
PZH	PanZhiHua	95.47	301	P		P	16 43 43.6	+1.7
PZH	comp=Z,7.0nm,0.8s			pmax		pmax		
PZH	comp=Z,90nm,4.0s			pmax		pmax		
HHC	Hu-ho-hao-te	100.02	317	eP		Pdif	16 44 03.8	+1.8
HHC	comp=Z,20nm,1.1s			pmax		pmax		
HHC	comp=Z,180nm,5.6s			pmax		pmax		

TAP ***20*** *16:31:06.2,24˚.32N×122˚.96E,h45km,ML4.3,C*
JMA ***20*** *16:31:06.3±0.1,24˚.2˚×123˚.0E±0˚.5,h48km±1km,*
MV3.7/11,NW OFF ISHIGAKIJIMA IS
JMA Felt I J1 at NW OFF ISHIGAKIJIMA IS .
IDC ***20*** *16:31:07.2±4.8,24˚.47N×123˚.02E,h63km±47km,mb3.3/8,*
mbtmp3.6/9,ML3.3/1,Error ellipse: s-maj=31.4km
s-min=16.7km az=71.0

ISC 20 16:31:05.3±0.8,24˚.28N±0˚.03×122˚.99E±0˚.02,h47km±6km,
n170,σ1s96/279,mb3.5/8,2C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.17	347	*i*	P		Pn	16 31 13.9	+0.8
JYNG					S		Sn	16 31 19.2	+0.5
YOJ	Yonaguni jima	0.18	6	*i*	P		Pn	16 31 14.0	+0.8
YOJ	baz=15			*i*	S		Sn	16 31 19.5	+0.7
YOJ	baz=15	0.18	6	*i*	P		Pn	16 31 14.1	+0.8
YOJ					S		Sn	16 31 19.4	+0.6
IRIF	Iriomote-Funau	0.68	85	*i*	P		Pn	16 31 19.7	+1.1
IRIF					S		Sn	16 31 29.4	+1.2
HATJ	Hateruma jima	0.78	106		P		Pn	16 31 21.3	+1.4
HATJ				e	S		Sn	16 31 32.9	+2.3
JKRS	Kuro-shima	0.93	92	*i*	P		Pn	16 31 23.6	+1.6
JKRS					S		Sn	16 31 36.3	+2.0
JIJ	Ishigaki jima	1.06	85	*i*	P		Pn	16 31 24.7	+1.0
JIJ					S		Sn	16 31 38.1	+0.8
TWC	Suao	1.09	288	*i*	P		Pn	16 31 24.3	+0.1
TWC	baz=296				S		Sn	16 31 37.5	-0.6
	baz=296								

EGS		1.11	301	*i*	P		Pn	16 31 25.0	+0.5
	baz=300								
EWUT	Wuta	1.12	279	e	P		Pn	16 31 23.9	-0.6
EWUT	baz=287			e	S		Sn	16 31 36.7	-2.1
	baz=287								
ENA	Nanau	1.15	278	*i*	P		Pn	16 31 25.9	+0.9
ENA	baz=285				S		Sn	16 31 39.7	+0.1
	baz=285								
TWB1	Santiao Chiao	1.16	309	*i*	P		Pn	16 31 25.6	+0.4
TWB1	baz=317				S		Sn	16 31 39.0	-0.9
	baz=317								
ILA	Ilan	1.23	293		P		Pn	16 31 27.1	+1.0
ILA	baz=292			e	S		Sn	16 31 41.5	0.0
	baz=292								
JISG	Ishigakijimahi	1.24	75	e	S		Sn	16 31 42.9	+1.0
ETL	Fush Village	1.25	265		P		Pn	16 31 27.6	+1.2
ETL	baz=249			e	S		Sn	16 31 43.0	+0.8
	baz=249								
TIPB	Shuangxi	1.26	303	*i*	P		Pn	16 31 27.2	+0.6
TIPB	baz=312				S		Sn	16 31 41.7	-0.7
	baz=312								
NACB	Ninganchiao	1.28	266		P		Pn	16 31 27.8	+1.1
NACB	Ninganchiao	1.28	266		P		Pn	16 31 27.7	+1.0
NACB	baz=250				S		Sn	16 31 43.6	+0.9
	baz=250								
TWE	Neicheng	1.28	290		P		Pn	16 31 27.6	+0.9
TWE	baz=289			e	S		Sn	16 31 43.1	+0.3
	baz=289								
TWD	Chiawan	1.29	261		P		Pn	16 31 27.7	+0.8
TWD	baz=246			e	S		Sn	16 31 43.2	+0.3
	baz=246								
SXI1	Grass Mountain	1.30	309		P		Pn	16 31 27.8	+0.7
HWA	baz=316 Hwalien	1.30	257	e	P		Pn	16 31 28.3	+1.2
TEYL	baz=255 Yanliau Villag	1.33	252	e	P		Pn	16 31 28.4	+0.8
TEYL	baz=240			e	S		Sn	16 31 45.0	+0.9
	baz=240								
ENTT	Nioudou	1.34	286	e	P		Pn	16 31 28.1	+0.4
ENTT	baz=291			e	S		Sn	16 31 43.0	-1.4
	baz=291								
NWF	Wu-fen Shan	1.35	306		P		Pn	16 31 28.6	+0.8
NWF	baz=305			e	S		Sn	16 31 43.9	-0.7
	baz=305								
WFSB	Wu-fen Shan	1.35	306		P		Pn	16 31 28.6	+0.9
WFSB	baz=305			e	S		Sn	16 31 44.1	-0.4
	baz=305								
LATG	Datong	1.36	281		P		Pn	16 31 29.3	+1.4
LATG	baz=288			e	S		Sn	16 31 46.5	+1.6
	baz=288								
FUSB	Fushanzhiwuyua	1.36	291		P		Pn	16 31 28.6	+0.7
FUSB	baz=290			e	S		Sn	16 31 44.8	-0.1
	baz=290								
ETLH	Xiulin Townshi	1.38	267		P		Pn	16 31 29.6	+1.4
ETLH	baz=265			e	S		Sn	16 31 46.3	+1.0
	baz=265								
NDT	Datong Townshi	1.38	284	e	P		Pn	16 31 27.0	-1.1
ETM	baz=290 Tongmen	1.40	257	e	P		Pn	16 31 29.2	+0.7
ETM	baz=246			e	S		Sn	16 31 46.4	+0.6
	baz=246								
TNOU	National Taiwa	1.40	308		P		Pn	16 31 28.9	+0.5
TNOU	baz=315				S		Sn	16 31 45.1	-0.7
	baz=315								
NWLT	Wulai	1.44	290	e	P		Pn	16 31 29.8	+0.8
NWLT	baz=300			e	S		Sn	16 31 45.2	-1.6
	baz=300								
TEGC	Jichi Village	1.44	247		P		Pn	16 31 29.5	+0.6
TEGC	baz=245				S		Sn	16 31 47.9	+1.2
	baz=245								
TWA	Mucha	1.46	299		P		Pn	16 31 30.0	+0.8
TWA	baz=308				S		Sn	16 31 46.9	-0.2
	baz=308								
NNSB	Datong	1.47	276		P		Pn	16 31 31.1	+1.6
NNSB	baz=262			e	S		Sn	16 31 49.6	+1.9
	baz=262								
NNSH	Datong	1.47	276	e	P		Pn	16 31 30.1	+0.7
NNS	baz=275 Nan Shan	1.48	277	e	P		Pn	16 31 30.3	+0.7
NNS	baz=262			e	S		Sn	16 31 48.8	+0.9
	baz=262								
NHDH	Xindian Distri	1.50	297		P		Pn	16 31 30.7	+1.0
NHDH	baz=297				S		Sn	16 31 48.5	+0.5
	baz=297								
ESL	Shilin	1.50	252		P		Pn	16 31 29.9	+0.2
YHNB	baz=241 Yeheng	1.52	285		P		Pn	16 31 32.6	+2.5
YHNB	Yeheng	1.52	285	e	P		Pn	16 31 31.8	+1.7
YHNB	baz=293			e	S		Sn	16 31 51.1	+2.3
	baz=293								
TATO	Taipei	1.53	297		P		Pn	16 31 31.2	+1.0
TAP1	Taipei	1.53	300	e	P		Pn	16 31 31.3	+1.1
TAP1	baz=308				S		Sn	16 31 49.3	+0.4
	baz=308								
NSK	Sanguang	1.54	285	e	P		Pn	16 31 31.8	+1.5
NSK	baz=293			e	S		Sn	16 31 49.4	+0.3
	baz=293								
TAP	Taipei	1.55	300	e	S		Sn	16 31 49.4	+0.1
EGFH	baz=308 Guangfu	1.55	247	e	P		Pn	16 31 30.9	+0.4
EGFH	baz=245			e	S		Sn	16 31 50.0	+0.5
	baz=245								
YM01	YM01	1.55	304		P		Pn	16 31 31.4	+0.8
YM01	baz=304				S		Sn	16 31 49.2	-0.3
	baz=304								
YM08	YM08	1.56	306	e	P		Pn	16 31 31.1	+0.5
WHF	baz=305 Hehuan Shan	1.58	265		P		Pn	16 31 32.3	+1.0
WHF	baz=251				S		Sn	16 31 51.6	+0.9
	baz=251								
PCYT	Pengchaiyu	1.58	328	e	P		Pn	16 31 32.1	+1.2
FUSS	baz=318 Fushou	1.59	269	e	P		Pn	16 31 33.0	+1.8
JTJ	baz=268 Tarama	1.60	77		P		Pn	16 31 32.7	+1.5
JTJ					S		Sn	16 31 52.2	+1.5
TWY	Chenhua	1.60	308	e	P		Pn	16 31 32.2	+1.0
HGSD	baz=308 Ruisui	1.63	242		P		Pn	16 31 31.7	+0.1
HGSD	baz=239			e	S		Sn	16 31 50.8	-0.7
	baz=239								
TWS1	Kuangyinshan	1.65	300	e	P		Pn	16 31 32.7	+1.0
TWS1	baz=300			e	S		Sn	16 31 52.7	+1.0
	baz=300								
TWT	Tachien	1.66	269	e	P		Pn	16 31 34.2	+2.2
TWT	baz=268			e	S		Sn	16 31 54.2	+2.0
	baz=268								
TDCB	Techi	1.67	269	e	P		Pn	16 31 34.4	+2.2
TDCB	baz=268			e	S		Sn	16 31 53.7	+1.1
	baz=268								
CHGB	Renai	1.67	263		P		Pn	16 31 34.0	+1.7
CHGB	baz=250			e	S		Sn	16 31 53.8	+1.1
	baz=250								

ECBN	Changbin	1.70	236	e	P		Pn	16 31 31.9	-0.7
ECBN	baz=223			e	S		Sn	16 31 51.3	-1.9
	baz=223								
EHY	Hungye	1.71	244	e	P		Pn	16 31 33.0	+0.4
EHY	baz=254			e	S		Sn	16 31 52.5	-0.9
	baz=254								
WUSB	Renai	1.73	261	e	P		Pn	16 31 34.5	+1.4
WUSB	baz=259			e	S		Sn	16 31 55.8	+1.8
	baz=259								
NFF	Wufeng Townshi	1.74	282	e	P		Pn	16 31 34.5	+1.4
NFF	baz=281			e	S		Sn	16 31 56.6	+2.4
	baz=281								
NCU	National Centr	1.78	293	e	P		Pn	16 31 36.8	+3.3
NCU	baz=303			e	S		Sn	16 31 58.6	+3.6
	baz=303								
NCUH	Zhongli	1.78	293	e	P		Pn	16 31 37.0	+3.4
YULB	baz=303 Yu-li	1.78	241		P		Pn	16 31 34.4	+0.7
YULB	Yu-li	1.78	241		P		Pn	16 31 34.0	+0.4
YULB	baz=238			e	S		Sn	16 31 53.9	-1.3
	baz=238								
EYUL	Yuli	1.79	239	e	P		Pn	16 31 34.4	+0.6
EYUL	baz=237			e	S		Sn	16 31 56.0	+0.7
	baz=237								
NJD	Zhudong	1.79	285	e	P		Pn	16 31 36.4	+2.7
TWF1	baz=284 Yuli	1.80	240		P		Pn	16 31 34.5	+0.5
TWF1	baz=237				S		Sn	16 31 56.1	+0.5
	baz=237								
LIOB	Emei	1.83	282	e	P		Pn	16 31 36.7	+2.4
LIOB	baz=293			e	S		Sn	16 31 59.7	+3.3
	baz=293								
NSTT	Nanjuang	1.84	281	e	P		Pn	16 31 37.2	+2.7
NSTT	baz=292			e	S		Sn	16 32 00.1	+3.5
	baz=292								
WHP	Taichung City	1.86	270	e	P		Pn	16 31 37.4	+2.6
FULB	baz=259 Fuli	1.89	236		P		Pn	16 31 35.1	-0.1
FULB	baz=223			e	S		Sn	16 31 57.2	-0.6
	baz=223								
CHKT	Chengkung	1.90	232	e	P		Pn	16 31 34.6	-0.6
CHKT	baz=220			e	S		Sn	16 31 56.1	-1.8
	baz=220								
DPDB	Guoxing	1.90	263	e	P		Pn	16 31 37.2	+1.9
DPDB	baz=252			e	S		Sn	16 31 59.6	+1.5
	baz=252								
NHW	Xinwu Township	1.91	293	e	P		Pn	16 31 37.0	+1.7
WCS	baz=303 Beigang Elemen	1.91	264	e	P		Pn	16 31 36.4	+1.0
SSLB	baz=254 Suanglung	1.92	256		P		Pn	16 31 37.4	+1.8
SSLB	Suanglung	1.92	256	e	P		Pn	16 31 37.0	+1.4
SSLB	baz=254			e	S		Sn	16 31 59.2	+0.6
	baz=254								
SMLT	Sun Moon Lake	1.95	259	e	P		Pn	16 31 37.8	+1.7
SMLT	baz=247			e	S		Sn	16 32 01.0	+1.7
	baz=247								
TYC	Yuchr	1.98	260	e	P		Pn	16 31 38.2	+1.8
TYC	baz=248			e	S		Sn	16 32 01.9	+1.9
	baz=248								
ECS	Chishang	2.00	234	e	P		Pn	16 31 37.4	+0.7
ECS	baz=223			e	S		Sn	16 32 01.4	+0.7
	baz=223								
EDH	Donghe	2.02	230	e	P		Pn	16 31 36.7	-0.2
EDH	baz=220			e	S		Sn	16 31 59.1	-1.8
	baz=220								
NMLH	Miaoli	2.02	278	e	P		Pn	16 31 39.4	+2.5
NMLH	baz=277			e	S		Sn	16 32 03.6	+2.6
	baz=277								
TWQ1	Liyutan	2.02	272	e	P		Pn	16 31 39.8	+2.9
TWQ1	baz=271			e	S		Sn	16 32 04.0	+3.0
	baz=271								
YUS	Yu-Shan	2.02	248	e	P		Pn	16 31 38.6	+1.2
YUS	baz=245			e	S		Sn	16 32 01.0	-0.7
	baz=245								
NSY	Sanyi	2.04	274	e	P		Pn	16 31 40.1	+3.0
NSY	baz=273			e	S		Sn	16 32 05.0	+3.6
	baz=273								
WHYT	Xinyi Township	2.04	254	e	P		Pn	16 31 39.5	+2.3
WWF	baz=253 Wufeng	2.10	264		P		Pn	16 31 40.3	+2.2
ELDTW	baz=263 Lidau	2.11	239	e	P		Pn	16 31 38.5	+0.3
TCU	baz=238 Taichung	2.12	267	e	P		Pn	16 31 41.1	+2.9
TCU	baz=279			e	S		Sn	16 32 07.1	+3.8
	baz=279								
WJS	Zhushan	2.12	258	e	P		Pn	16 31 41.3	+3.1
WJS	baz=256			e	S		Sn	16 32 07.0	+3.6
	baz=256								
LDUT	Ludao	2.12	221	e	P		Pn	16 31 37.9	-0.4
LDUT	baz=219			e	S		Sn	16 32 00.8	-2.7
	baz=219								
WNT1	Nantou City	2.14	260	e	P		Pn	16 31 41.8	+3.3
WDJ	baz=260 Dajia District	2.14	272	e	P		Pn	16 31 41.0	+2.4
WDJ	baz=271			e	S		Sn	16 32 07.8	+3.8
	baz=271								
WNT	Mingjian	2.14	260	e	P		Pn	16 31 41.7	+3.1
WNT	baz=247			e	S		Sn	16 32 07.2	+3.2
	baz=247								
JMJ	Miyako jima 2	2.17	75	e	P		Pn	16 31 41.2	+2.4
JMJ	baz=77			e	S		Sn	16 32 06.9	+2.4
	baz=77								
LONT	Longtian	2.19	232	e	P		Pn	16 31 39.5	+0.3
LONT	baz=222			e	S		Sn	16 32 04.0	-1.0
	baz=222								
WYL	Yuanlin Townsh	2.22	262	e	P		Pn	16 31 43.0	+3.3
WYL	baz=261			e	S		Sn	16 32 09.7	+3.8
	baz=261								
WCHH	Zhanghua	2.23	265	e	P		Pn	16 31 41.9	+2.2
WCHH	baz=264			e	S		Sn	16 32 09.6	+3.6
	baz=264								
TTN	Taitung	2.27	228	e	P		Pn	16 31 41.3	+1.0
TTN	baz=218			e	S		Sn	16 32 08.0	+0.9
	baz=218								
TWGBT	Beinan	2.28	231		P		Pn	16 31 41.0	+0.6
TWGBT	Beinan	2.28	231	e	P		Pn	16 31 40.4	0.0
TWGBT	baz=240			e	S		Sn	16 32 06.2	-1.1
	baz=240								
TWG	Pinlang	2.28	231	e	P		Pn	16 31 40.4	-0.1
TWG	baz=240			e	S		Sn	16 32 06.0	-1.3
	baz=240								
WGK	Gukeng	2.30	256	e	P		Pn	16 31 43.3	+2.6
STYH	baz=255 Taoyuan	2.31	242	e	P		Pn	16 31 40.4	-0.4
WDLH	baz=231 Douliu	2.32	256	e	P		Pn	16 31 43.8	+2.8
WDLH	baz=243			e	S		Sn	16 32 11.8	+3.5
	baz=243								
STYT	Tauyuan	2.33	242		P		Pn	16 31 42.6	+1.4
STYT	baz=232			e	S		Sn	16 32 09.4	+0.8

baz=232
WCKO Fanlu 2.34 249 *e*P Pn 16 31 42.1 +0.9
baz=249
TPUB Ta-pu 2.37 246 P Pn 16 31 44.3 +2.5
baz=244
TPUB S Sn 16 32 12.7 +3.1
baz=244
CHN4 Tsaushan 2.38 248 *e*P Pn 16 31 43.9 +2.0
baz=246
CHN4 *e*S Sn 16 32 12.3 +2.4
baz=246
WTP Ta-pu 2.41 245 *e*P Pn 16 31 45.0 +2.8
baz=243
WTP *e*S Sn 16 32 13.5 +2.9
baz=243
WRL Guolierlin Hig 2.42 262 *e*P Pn 16 31 43.6 +1.3
baz=260
WRL *e*S Sn 16 32 12.6 +1.9
baz=260
CHY Chiayi 2.47 252 *e*P Pn 16 31 45.6 +2.5
baz=250
CHY *e*S Sn 16 32 16.4 +4.3
baz=250
TWK Hsinying 2.50 247 *e*P Pn 16 31 46.5 +2.9
baz=245
TWK *e*S Sn 16 32 15.7 +2.8
baz=245
CHN1 Nanshi 2.50 245 *e*P Pn 16 31 46.1 +2.6
baz=243
CHN1 *e*S Sn 16 32 16.5 +3.6
baz=243
SGST Jiashian 2.51 242 *e*P Pn 16 31 45.2 +1.6
baz=240
SGST *e*S Sn 16 32 15.9 +2.9
baz=240
ECL Taimali 2.51 229 *e*P Pn 16 31 43.5 -0.1
baz=237
LAY Lan-yu 2.59 211 *e*P Pn 16 31 44.3 -0.5
baz=210
LYUB Lan-yu 2.61 210 *e*P Pn 16 31 43.9 -1.1
baz=208
LYUB *e*S Sn 16 32 12.0 -3.5
baz=208
WSF Szhu 2.61 256 *e*P Pn 16 31 47.5 +2.5
baz=254
WSF *e*S Sn 16 32 19.6 +4.1
baz=254
WSL Shuilin Townsh 2.64 254 *e*P Pn 16 31 46.8 +1.4
baz=252
WSL *e*S Sn 16 32 18.4 +2.2
baz=252
ICHU Yijhu 2.64 250 *e*P Pn 16 31 48.1 +2.6
baz=248
ICHU *e*S Sn 16 32 19.8 +3.5
baz=248
SSD Sandimen 2.65 235 *e*P Pn 16 31 46.2 +0.7
baz=228
TSMG Majia 2.66 234 *e*P Pn 16 31 47.7 +2.0
baz=227
SCST Cishan 2.68 239 *e*P Pn 16 31 49.6 +3.7
baz=238
CHN3 Shinhua 2.69 244 *e*P Pn 16 31 50.0 +4.0
baz=242
CHN3 *e*S Sn 16 32 23.1 +5.7
baz=242
CHN8 Yiju 2.71 250 *e*P Pn 16 31 48.7 +2.4
baz=248
CHN8 *e*S Sn 16 32 21.2 +3.4
baz=248
SSHA Shanhua 2.73 246 *e*P Pn 16 31 50.1 +3.6
baz=256
SSHA *e*S Sn 16 32 22.8 +4.5
baz=256
SHHT Tainan City 2.73 243 *e*P Pn 16 31 49.5 +2.9
baz=252
SHHT *e*S Sn 16 32 24.2 +5.9
baz=252
EAST Anshuo 2.73 227 *e*P Pn 16 31 46.7 0.0
baz=225
MASBT Mashibuluo 2.73 233 *e*P Pn 16 31 47.7 +1.1
baz=227
MASBT *e*S Sn 16 32 22.4 +4.1
baz=227
TAWH Dawu Township 2.73 225 *e*P Pn 16 31 45.6 -1.0
baz=233
TWM1 Shoushan 2.77 239 *e*P Pn 16 31 50.7 +3.5
baz=238
SGLT Jiouru 2.77 236 *e*P Pn 16 31 50.5 +3.3
baz=234
SGLT *e*S Sn 16 32 24.4 +5.1
baz=234
SCLT Jiali 2.79 247 *e*S Sn 16 32 23.2 +3.4
baz=245
SLIU Shizi 2.88 225 *e*P Pn 16 31 48.9 +0.3
baz=215
SCZT Fangliau 2.89 229 *e*P Pn 16 31 50.1 +1.3
baz=222
TSCK Chigu Township 2.89 248 *e*P Pn 16 31 50.2 +1.4
baz=246
TSCK *e*S Sn 16 32 23.8 +1.5
baz=246
WSSB Gushan 2.99 237 *e*P Pn 16 31 53.3 +3.1
baz=235
WSSB *e*S Sn 16 32 29.8 +5.0
baz=235
SMST Manzhou Townsh 3.00 222 *e*P Pn 16 31 50.9 +0.6
baz=221
HEN Hengchun 3.07 223 *e*P Pn 16 31 53.7 +2.5
baz=221
HEN *e*S Sn 16 32 28.5 +1.8
baz=221
TWKBT Hengchun 3.07 221 *e*P Pn 16 31 52.0 +0.7
baz=220
TWK1 Hengchun 3.07 221 *e*P Pn 16 31 53.0 +1.7
baz=220
WDGT Dungji 3.21 252 *e*P Pn 16 31 55.3 +2.0
baz=250
WDGT *e*S Sn 16 32 31.0 +0.6
baz=250
PHUB P'eng-hu 3.22 257 *e*P Pn 16 31 54.4 +1.0
baz=255
PHUB *e*S Sn 16 32 31.4 +0.9
baz=255
PNG Penghu 3.22 258 *e*P Pn 16 31 54.8 +1.4
baz=256
PNG *e*S Sn 16 32 31.7 +1.2
baz=256
VWUC VWUC 3.30 283 *e*P Pn 16 31 55.3 +0.9
baz=283
VWUC *e*S Sn 16 32 31.3 -1.1
baz=283
MATB Ma-tsu 3.33 305 *e*P Pn 16 31 54.9 0.0
baz=304
VCHM Qimei 3.43 253 *e*P Pn 16 31 58.1 +1.9
baz=251
VCHM *e*S Sn 16 32 36.6 +0.9
baz=251
PTMZ Houxiangcun 3.60 283 *e*P Pn 16 31 59.8 +1.2
baz=283
PTMZ *e*S Sn 16 32 38.5 -1.4
baz=283
XPSS Dashiqiu 3.65 317 *e*P Pn 16 31 60.0 +0.7
baz=317
LYJJ Jianjiangzhen 3.69 308 *e*P Pn 16 32 00.7 +0.9
baz=300
KNM Kinmen 4.16 273 *e*P Pn 16 32 08.4 +2.2
baz=273
KNMB Chin-men Tao 4.20 273 *e*P Pn 16 32 07.4 +0.6
baz=274
AXDP Jialang 4.61 279 *e*P Pn 16 32 13.6 +1.2
baz=280
ZPLA Ao Xicun 4.80 267 *e*P Pn 16 32 15.6 +0.6
baz=268
CICP Calayan Island 5.18 196⇑ *e*P Pn 16 32 20.2 -0.2
JOW Kunigami 5.41 61 P Pn 16 32 24.5 +1.1
2.1nm,0.3s,baz=245,slow=17,SNR=16
JOW S Sn 16 33 23.2 -1.2
9.2nm,0.7s,baz=174,slow=8.4,SNR=1.4
3.7nm,0.3s
PACPP Pamplona Cagay 5.99 195⇑ *e*P Pn 16 32 31.7 +0.3
PACPP *i* S Sn 16 33 35.6 -3.1
KSRS Korea Array 13.79 17 P P 16 34 23.0 -2.4
2.2nm,0.7s,baz=199,slow=12,SNR=7.9
USRK Uesuriysk Ar. 21.19 18 P P 16 35 46.0 -0.8
0.9nm,0.7s,baz=202,slow=11,SNR=2.2
0.9nm,0.7s
SONM Songino Array 26.95 335 P P 16 36 40.9 -1.4
1.0nm,0.9s,baz=148,slow=8.7,SNR=4.4
1.0nm,0.9s

MKAR Makanchi Array 39.42 315 P P 16 38 30.0 -0.7
0.2nm,0.3s,baz=103,slow=7.3,SNR=4.7
0.2nm,0.3s
ZALV Zalesovo Beam 41.07 326 P P 16 38 43.7 -0.4
0.2nm,0.3s,baz=101,slow=6.0,SNR=2.2
0.2nm,0.3s
WRA Warramunga Arr 45.33 165 P P 16 39 20.0 +1.2
1.2nm,0.7s,baz=347,slow=8.8,SNR=13
1.2nm,0.7s
ASAR Alice Springs 48.82 167 P P 16 39 48.0 +2.0
0.4nm,0.5s,baz=350,slow=7.3,SNR=14
0.4nm,0.5s
ILAR Eielson Array 68.37 27 P P 16 42 01.1 -0.6
0.2nm,0.4s,baz=271,slow=5.0,SNR=7.8
0.2nm,0.4s
FINES FINESS Array B 72.19 330 P P 16 42 23.4 -1.6
2.1nm,0.8s,baz=160,slow=4.4,SNR=1.8
2.1nm,0.8s

*ISK **20** 16:37:47.5, 37.91N×30.46E, h0km, ML1.8/5, Suspected Mining explosion.*
DDA 20 16:37:55.5±0.0, 37.49N×30.82E, h7km±2km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUTC	**Sutluce-Ispart**	**0.14**	**96**	PG	Pg	16 37 59.6	+1.0
BUCA	**Burdur, Bucak-**	**0.27**	**232**	P	Pg	16 38 01.3	+0.6
BUCA				S	Sb	16 38 06.4	-1.0
BUCA				*i* AML	AML	16 38 08.0	
	comp=E,64nm,0.3s						
BAGO	**Egridir - ISPA**	**0.50**	**357**	P	Pg	16 38 05.6	+0.4
BAGO				S	Sb	16 38 13.6	-0.6
ANTB	**Antalya**	**0.61**	**193**	PG	Pg	16 38 07.6	+0.4
ANTB				SG	Sn	16 38 21.8	+1.3
KORT	**Korkueli**	**0.62**	**218**	PG	Pg	16 38 06.3	-1.1
KORT	**Korkueli**	**0.62**	**218**	P	Pg	16 38 07.6	+0.1
KORT				S	Sb	16 38 17.9	+0.3
KORT				*i* AML	AML	16 38 19.0	
	comp=E,22nm,0.4s						
KORT				*i* AML	AML	16 38 22.0	
	comp=N,19nm,0.9s						
BRDR	**BURDUR-Merkez**	**0.64**	**289**	P	Pg	16 38 08.1	+0.3
BRDR				S	Sb	16 38 17.9	-0.2
SEDI	**Konya, Seydise**	**0.74**	**93**	P	Pg	16 38 10.1	+0.3
SEDI				S	Sb	16 38 20.6	-0.6
BASM	**Basmaki-Afyon**	**0.75**	**305**	PG	Pg	16 37 54.8	-15
BASM				SG	Sg	16 37 59.6	-20
SEYD	**Seydisehir-KON**	**0.81**	**96**	PN	Pg	16 38 10.8	-0.4
YVAC	**Isparta, Yalva**	**0.84**	**23**	P	Pg	16 38 10.8	-1.0
YVAC				S	Sb	16 38 24.1	-0.1
KEPZ	**Antalya-Kepez**	**0.86**	**133**	P	Pg	16 38 11.5	-0.5
KEPZ				S	Sb	16 38 24.8	+0.3
DOGA	**KONYA_Doganhis**	**0.91**	**47**	P	Pg	16 38 12.8	-0.2
DOGA				S	Sb	16 38 25.8	-0.3
DOGA				*i* AML	AML	16 38 26.0	
	comp=N,14nm,1.0s						
DOGA				*i* AML	AML	16 38 28.0	
	comp=E,12nm,0.9s						
KZIL	**AFYON_Kizioren**	**0.94**	**325**	P	Pg	16 38 13.2	-0.3
KZIL				S	Sb	16 38 26.7	-0.1
GOLH	**Golhisar**	**1.04**	**256**	P	Pg	16 38 15.4	0.0
GOLH				S	Sn	16 38 31.2	-0.2

*NEIC **20** 17:18:29.5±1.6, 44.1S±0.1×39.2E±0.2, h10km±1km, mb4.3/7, Error ellipse: s-maj=26.0km s-min=14.9km az=230.0*
*IDC **20** 17:18:30.6±1.1, 44.22S×39.20E, h0km, mb4.2/5, mbtmp4.2/5, Error ellipse: s-maj=38.8km s-min=29.3km az=171.0*
ISC 20 17:18:30.1±0.7, 44.0S±0.1×39.3E±0.1, h10km, n20, σ1s37/20, mb4.3/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**9.22**	**110**	Pn	**Pn**	**17 20 42.0**	**-1.0**
SOE	**Somerset East**	**15.55**	**312**	Pn	**Pn**	**17 22 08.5**	**-1.0**
SOE				IAmb	IAmb	17 22 39.7	
	comp=Z,36nm,1.3s						
POGA	**Pongola**	**17.71**	**337**	Pn	**Pn**	**17 22 35.4**	**-1.3**
POGA				IAmb	IAmb	17 22 50.5	
	comp=Z,27nm,1.5s						
TROLL	**Troll, Antarti**	**33.09**	**200**	P	**P**	**17 25 06.7**	**+0.9**
SNAA	**Sanae**	**34.29**	**202**	P	**P**	**17 25 17.2**	**+1.0**
SNAA	**Sanae**	**34.29**	**202**	P	**P**	**17 25 16.2**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=90,slow=6.7,SNR=12						
	comp=Z,3.8nm,0.9s						
SNAA	**Sanae**	**34.29**	**202**	P	**P**	**17 25 13.1**	**-3.0**
SNAA				IAmb	IAmb	17 25 18.1	
	comp=Z,6.1nm,1.0s						
VNA2	**Neumayer--Watz**	**35.24**	**204**	P	**P**	**17 25 25.2**	**+0.9**
	baz=62,slow=8.5						
KMBO	**Kilima Mbogo**	**42.73**	**357**	P	**P**	**17 26 27.9**	**+0.1**
CASY	**Casey**	**43.38**	**146**	P	**P**	**17 26 30.7**	**-1.5**
BELA	**Belgrano 2**	**44.02**	**197**	P	**P**	**17 26 37.0**	**-0.3**
BELA				IAmb	IAmb	17 26 38.1	
	comp=Z,4.8nm,1.2s						
QSPA	**South Pole Qui**	**46.20**	**180**	P	**P**	**17 26 55.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=186,slow=0.7,SNR=5.1						
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**46.20**	**180**	P	**P**	**17 26 54.0**	**-0.9**
QSPA				IAmb	IAmb	17 26 55.9	
	comp=Z,3.9nm,1.1s						
STKA	**Stephens Creek**	**76.54**	**121**	P	**P**	**17 30 22.1**	**+1.5**
	comp=Z,3.3nm,0.9s,baz=358,slow=22,SNR=6.1						
	comp=Z,3.3nm,0.9s						
ASAR	**Alice Springs**	**77.13**	**110**	P	**P**	**17 30 26.1**	**+2.1**
	comp=Z,3.3nm,0.9s,baz=226,slow=4.4,SNR=21						
	comp=Z,3.3nm,0.9s						
ASAR	**Alice Springs**	**77.13**	**110**	P	**P**	**17 30 23.0**	**-1.0**
WRA	**Warramunga Arr**	**79.94**	**108**	P	**P**	**17 30 41.6**	**+2.0**
	comp=Z,2.6nm,1.1s,baz=220,slow=4.0,SNR=9.7						
	comp=Z,2.6nm,1.1s						
TXAR	**Lajitas Array**	**147.16**	**256**	PKPbc	**PKPab**	**17 38 15.3**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=140,slow=4.7,SNR=12						
ULM	**Lac du Bonnet**	**149.22**	**298**	PKPbc	**PKiKP**	**17 38 19.4**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=255,slow=1.0,SNR=3.4						
PDAR	**Pinedale Array**	**157.37**	**278**	PKPab	**PKPab**	**17 38 58.8**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=116,slow=4.1,SNR=1.8						

*IDC **20** 17:19:18.2±0.7, 44.22S×39.15E, h0km, mb4.1/11, mbtmp4.1/13, ML3.7/2, Error ellipse: s-maj=26.4km s-min=15.5km az=57.0*
ISC 20 17:19:19.8±0.7, 44.2S±0.1×39.2E±0.2, h10km, n25, σ0s67/21, mb4.2/11, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.57**	**303**	P	**Pn**	**17 23 38.0**	**+0.7**
	0.3nm,0.3s,baz=124,slow=18,SNR=1.5						
	6.4nm,0.9s						
BOSA	**Boshof**	**19.11**	**320**	P	**Pn**	**17 23 43.5**	**-0.2**
	0.2nm,0.3s,baz=143,slow=10.0,SNR=5.4						
	4.0nm,0.8s						
LBTB	**Lobatse**	**22.09**	**325**	P	**P**	**17 24 15.2**	**+0.1**
	6.3nm,0.9s,baz=168,slow=6.9,SNR=4.4						
	6.3nm,0.9s						
LSZ	**Lusaka**	**30.29**	**339**	P	**P**	**17 25 31.8**	**+0.5**
	1.0nm,0.3s,baz=161,slow=13,SNR=3.6						
	1.0nm,0.3s						
TROLL	**Troll, Antarti**	**32.91**	**200**	P	**P**	**17 25 54.7**	**+0.8**
SNAA	**Sanae**	**34.11**	**202**	P	**P**	**17 26 05.3**	**+1.0**
SNAA	**Sanae**	**34.11**	**202**	P	**P**	**17 26 04.8**	**+0.5**
	3.6nm,1.0s,baz=106,slow=8.6,SNR=4.2						
	3.6nm,1.0s						
VNA2	**Neumayer--Watz**	**35.06**	**205**	P	**P**	**17 26 13.6**	**+1.2**
	baz=56,slow=8.9						
QSPA	**South Pole Qui**	**46.03**	**180**	P	**P**	**17 27 42.8**	**-0.4**
	1.2nm,0.6s,baz=305,slow=0.8,SNR=9.9						
	1.2nm,0.6s						
VNDA	**Vanda**	**53.60**	**167**	P	**P**	**17 28 40.5**	**+0.1**
	0.5nm,0.8s,baz=243,slow=6.8,SNR=2.2						
	0.5nm,0.8s						
H10S2	**ASCENSION HYDR**	**58.20**	**290**	T	T	18 32 00.2	
	baz=135,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**58.21**	**290**	T	T	18 32 07.1	
	baz=85,slow=74,SNR=25						
DBIC	**Dimbokro**	**64.30**	**310**	P	**P**	**17 29 55.2**	**-0.2**
	5.2nm,0.8s,baz=150,slow=1.2,SNR=4.9						
	5.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.47**	**320**	P	**P**	**17 30 09.9**	**+0.4**
PLCA	**Paso Flores**	**74.52**	**228**	P	**P**	**17 30 57.8**	**-0.8**
	1.5nm,0.8s,baz=78,slow=14,SNR=3.2						
	1.5nm,0.8s						
STKA	**Stephens Creek**	**76.50**	**121**	P	**P**	**17 31 10.1**	**+0.1**
	2.3nm,0.7s,baz=173,slow=5.3,SNR=3.8						
	2.3nm,0.7s						
CPUP	**Villa Florida**	**76.52**	**246**	P	**P**	**17 31 09.8**	**-0.3**
	1.8nm,0.6s,baz=124,slow=2.1,SNR=4.4						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**77.12**	**110**	P	**P**	**17 31 14.5**	**+0.8**
	2.0nm,1.0s,baz=223,slow=4.7,SNR=5.9						
	2.0nm,1.0s						
WRA	**Warramunga Arr**	**79.94**	**108**	P	**P**	**17 31 29.1**	**-0.1**
	1.4nm,0.9s,baz=220,slow=4.4,SNR=6.1						
	1.4nm,0.9s						
DZM	**Mont Dzumac**	**98.32**	**132**	*e*LR	LR	18 05 21.5	
	comp=Z,157nm,24.2s						
PPT2	**Papeete2**	**118.01**	**171**	*e*LR	LR	18 14 26.2	
	comp=Z,64nm,23.8s						
PPT2				*e*LR	LR	18 14 26.2	
	comp=Z,94nm,32.5s						
TXAR	**Lajitas Array**	**147.06**	**256**	PKPbc	**PKPbc**	**17 39 01.9**	**-1.0**
	0.8nm,0.7s,baz=120,slow=5.0,SNR=5.5						
ULM	**Lac du Bonnet**	**149.25**	**298**	PKPbc	**PKPbc**	**17 39 07.0**	**-0.8**
	3.7nm,0.9s,baz=1.0,slow=7.1,SNR=3.3						
PDAR	**Pinedale Array**	**157.33**	**277**	PKPab	**PKPab**	**17 39 47.4**	**+0.2**
	1.1nm,0.9s,baz=120,slow=5.3,SNR=6.9						
ILAR	**Eielson Array**	**159.09**	**7**	PKPab	**PKPab**	**17 39 53.2**	**-0.5**
	0.4nm,0.9s,baz=316,slow=5.0,SNR=3.3						

*NOU **20** 17:37:52.0, 42.59S×173.90E, h0km, MLv4.1/8, South Island, New Zealand*
*WEL **20** 17:37:54.8±0.3, 42.S±2.×17.3E±., h8km±3km, M3.5/38, ML3.8/14, MLv3.5/38, Error ellipse: s-maj=0.0km s-min=0.0km az=115.2*
ISC 20 17:37:53.9±1.2, 42.43S±0.04×173.72E±0.04, h19km±3km, n96, σ1s11/99, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.13**	**274**	P	**Pg**	**17 37 58.0**	**0.0**
KHZ	**Kahutara**	**0.13**	**274**	P	**Pg**	**17 37 58.0**	**0.0**
KHZ				S	**Sg**	**17 38 00.6**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.72**	**9**	P	**Pb**	**17 38 07.5**	**-0.2**
BSWZ				S	**Sb**	**17 38 17.3**	**+0.1**
GVZ	**Greta Valley S**	**0.74**	**223**	P	**Pn**	**17 38 09.9**	**+0.6**
GVZ				S	**Sn**	**17 38 21.6**	**+1.5**
CMWZ	**Cape Campbell**	**0.77**	**29**	P	**Pn**	**17 38 10.3**	**+0.6**
THZ	**Tophouse**	**0.90**	**317**	P	**Pb**	**17 38 08.9**	**-2.0**
TUWZ	**Tuamarina**	**1.01**	**10**	P	**Pb**	**17 38 12.6**	**-0.1**
AMCZ	**Amberley**	**1.09**	**226**	P	**Pb**	**17 38 14.5**	**+0.4**
LTZ	**Lake Taylor**	**1.13**	**251**	P	**Pn**	**17 38 13.9**	**-0.8**
NNZ	**Nelson**	**1.23**	**348**	P	**Pn**	**17 38 15.3**	**-0.8**
MRNZ	**Matariki Terra**	**1.25**	**325**	P	**Pn**	**17 38 15.6**	**-0.8**
TCW	**Tory Channel**	**1.28**	**19**	P	**Pn**	**17 38 16.6**	**-0.2**
SNZO	**South Karori**	**1.33**	**34**	P	**Pn**	**17 38 17.9**	**+0.4**
WEL	**Wellington**	**1.38**	**35**	P	**Pn**	**17 38 18.6**	**+0.4**
OKCZ	**Okains Bay**	**1.39**	**200**	P	**Pn**	**17 38 18.9**	**+0.7**
PLWZ	**Palliser**	**1.43**	**54**	P	**Pn**	**17 38 19.1**	**+0.2**
MQZ	**McQueen's Vall**	**1.50**	**211**	P	**Pn**	**17 38 19.3**	**-0.4**
TKNZ	**Takaka Hill**	**1.50**	**338**	P	**Pn**	**17 38 19.8**	**+0.1**
MSWZ	**Moikau Station**	**1.52**	**49**	P	**Pn**	**17 38 20.3**	**+0.2**
OXZ	**Oxford**	**1.53**	**233**	P	**Pn**	**17 38 19.5**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.56**	**202**	P	**Pn**	**17 38 21.0**	**+0.3**
DSZ	**Denniston Nort**	**1.58**	**295**	P	**Pn**	**17 38 20.2**	**-0.6**
DUWZ	**D'Urville Isla**	**1.63**	**5**	P	**Pn**	**17 38 21.7**	**+0.2**
PAWZ	**Paruwai Farm**	**1.65**	**51**	P	**Pn**	**17 38 21.8**	**0.0**
CAW	**Cannon Point**	**1.66**	**38**	P	**Pn**	**17 38 22.1**	**+0.2**
INZ	**Inchbonnie**	**1.71**	**259**	P	**Pn**	**17 38 22.5**	**-0.1**
RACZ	**Rakaia**	**1.74**	**221**	P	**Pn**	**17 38 22.6**	**-0.4**
TRWZ	**Traveller**	**1.79**	**56**	P	**Pn**	**17 38 23.7**	**-0.1**
KIW	**Kapiti Island**	**1.80**	**30**	P	**Pn**	**17 38 24.3**	**+0.4**
QRZ	**Quartz Range**	**1.83**	**330**	P	**Pn**	**17 38 24.5**	**+0.2**
MTW	**Mount Morrison**	**1.84**	**47**	P	**Pn**	**17 38 24.3**	**-0.1**
MHCZ	**Mount Hutt**	**1.93**	**234**	P	**Pn**	**17 38 24.8**	**-0.9**
OGWZ	**Otaki Gorge**	**1.94**	**35**	P	**Pn**	**17 38 25.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**2.04**	**42**	P	**Pn**	**17 38 26.8**	**-0.3**
WACZ	**Wakanui South**	**2.05**	**222**	P	**Pn**	**17 38 27.0**	**-0.3**
TMWZ	**Te Maipa**	**2.09**	**52**	P	**Pn**	**17 38 27.5**	**-0.4**
MRZ	**Mangatainoka R**	**2.25**	**39**	P	**Pn**	**17 38 29.8**	**-0.3**
WVZ	**Waitaha Valley**	**2.29**	**253**	P	**Pn**	**17 38 30.7**	**+0.1**
RPZ	**Rata Peaks**	**2.34**	**236**	P	**Pn**	**17 38 30.9**	**-0.4**
RPZ	**Rata Peaks**	**2.34**	**236**	P	**Pn**	**17 38 30.6**	**-0.7**
ARCZ	**Arundel**	**2.40**	**230**	P	**Pn**	**17 38 31.3**	**-0.8**
PRWZ	**Pori Road**	**2.52**	**43**	P	**Pn**	**17 38 33.2**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.65**	**249**	P	**Pn**	**17 38 35.8**	**+0.3**
TMZ	**Timaru**	**2.78**	**224**	P	**Pn**	**17 38 37.0**	**-0.4**
DVHZ	**Dannevirke**	**2.81**	**42**	P	**Pn**	**17 38 36.7**	**-1.2**
WAZ	**Wanganui**	**2.83**	**20**	P	**Pn**	**17 38 40.0**	**+1.9**
ANWZ	**Angora Road**	**2.85**	**47**	P	**Pn**	**17 38 41.2**	**+2.8**
LREZ	**Lake Rotokare**	**3.01**	**10**	P	**Pn**	**17 38 44.2**	**+3.7**
FOZ	**Fox Glacier**	**3.07**	**248**	P	**Pn**	**17 38 42.0**	**+0.7**
PNHZ	**Pukenui**	**3.13**	**38**	P	**Pn**	**17 38 41.3**	**-0.9**
KHEZ	**Kahui Hut**	**3.14**	**4**	P	**Pn**	**17 38 44.9**	**+2.6**
KHEZ	**Kahui Hut**	**3.14**	**4**	P	**Pn**	**17 38 45.2**	**+2.9**
NBEZ	**Newall Road No**	**3.16**	**2**	P	**Pb**	**17 38 46.7**	**-2.6**
NEZ	**North Egmont**	**3.17**	**5**	P	**Pn**	**17 38 45.1**	**+2.4**
PKE	**Pukeiti**	**3.23**	**4**	P	**Pn**	**17 38 46.0**	**+2.4**
LBZ	**Lake Benmore**	**3.24**	**232**	P	**Pn**	**17 38 43.4**	**-0.2**
PKVZ	**Pokaka**	**3.37**	**22**	P	**Pn**	**17 38 46.6**	**+1.1**
MOVZ	**Moawhango**	**3.39**	**28**	P	**Pn**	**17 38 46.0**	**+0.2**
VRZ	**Vera Road**	**3.39**	**14**	P	**Pn**	**17 38 47.5**	**+1.7**
WNVZ	**Wahianoa**	**3.41**	**25**	P	**Pn**	**17 38 47.2**	**+1.1**
TRVZ	**Turoa**	**3.42**	**25**	P	**Pn**	**17 38 47.2**	**+0.8**
BHHZ	**Black Hill Sta**	**3.43**	**32**	P	**Pn**	**17 38 46.0**	**-0.4**
ODZ	**Otahua Downs**	**3.44**	**219**	P	**Pn**	**17 38 46.1**	**-0.3**
ODZ	**Otahua Downs**	**3.44**	**219**	P	**Pn**	**17 38 45.7**	**-0.7**
WHVZ	**Whangaehu Hut**	**3.44**	**25**	P	**Pn**	**17 38 47.7**	**+1.0**
FWVZ	**Far West T-bar**	**3.46**	**24**	P	**Pn**	**17 38 47.9**	**+1.0**
TUVZ	**Tukino**	**3.48**	**26**	P	**Pn**	**17 38 47.6**	**+0.5**
NGZ	**Ngauruhoe**	**3.55**	**24**	P	**Pn**	**17 38 48.7**	**+0.6**
KAHZ	**Kahuranaki**	**3.55**	**43**	P	**Pn**	**17 38 46.7**	**-1.3**
NNVZ	**North Ngauruho**	**3.59**	**24**	P	**Pn**	**17 38 49.3**	**+0.7**
WTVZ	**West Tongariro**	**3.60**	**24**	P	**Pn**	**17 38 49.2**	**+0.5**
ETVZ	**East Tongariro**	**3.62**	**25**	P	**Pn**	**17 38 49.4**	**+0.4**
TMVZ	**Te Maari**	**3.63**	**25**	P	**Pn**	**17 38 49.8**	**+0.6**
NTVZ	**North Tongarir**	**3.64**	**25**	P	**Pn**	**17 38 50.0**	**+0.7**
BKZ	**Black Stump Fm**	**3.88**	**34**	P	**Pn**	**17 38 51.1**	**-1.3**
JCZ	**Jackson Bay**	**3.96**	**244**	P	**Pn**	**17 38 55.9**	**+2.2**
JCZ	**Jackson Bay**	**3.96**	**244**	P	**Pn**	**17 38 54.7**	**+1.1**
HIZ	**Hauiti**	**4.00**	**13**	P	**Pn**	**17 38 56.1**	**+1.9**
HIZ	**Hauiti**	**4.00**	**13**	P	**Pn**	**17 38 55.7**	**+1.5**
HHSZ	**Highcliff Hill**	**4.12**	**212**	P	**Pn**	**17 38 55.9**	**+0.1**
EAZ	**Earnscleugh**	**4.25**	**227**	P	**Pn**	**17 38 57.3**	**-0.3**
MTHZ	**Maungataniwha**	**4.29**	**35**	P	**Pn**	**17 38 57.0**	**-1.1**
TLZ	**Tolley Road**	**4.32**	**19**	P	**Pn**	**17 38 58.9**	**+0.3**
TUZ	**Tuapeka**	**4.59**	**218**	P	**Pn**	**17 39 02.0**	**-0.2**
RAGZ	**Rawiri**	**4.83**	**37**	P	**Pn**	**17 39 06.3**	**+0.7**
TOZ	**Tahuroa Road**	**4.88**	**17**	P	**Pn**	**17 39 06.5**	**+0.2**
MWZ	**Matawai**	**5.01**	**37**	P	**Pn**	**17 39 06.1**	**-2.0**
SYZ	**Scrubby Hill**	**5.26**	**217**	P	**Pn**	**17 39 11.1**	**-0.2**
SYZ	**Scrubby Hill**	**5.26**	**217**	P	**Pn**	**17 39 11.2**	**-0.1**
RUGZ	**Raukumara Rang**	**5.39**	**36**	P	**Pn**	**17 39 11.9**	**-1.4**
AWAZ	**Awhitu Peninsu**	**5.40**	**8**	P	**Pn**	**17 39 14.4**	**+1.0**
MKAZ	**Moumakai**	**5.43**	**12**	P	**Pn**	**17 39 14.0**	**+0.2**
ETAZ	**East Tamaki Re**	**5.54**	**10**	P	**Pn**	**17 39 16.3**	**+1.0**
MBAZ	**Motutapu North**	**5.72**	**10**	P	**Pn**	**17 39 19.0**	**+1.2**
WIAZ	**Waiheke Island**	**5.73**	**11**	P	**Pn**	**17 39 18.6**	**+0.7**
ABAZ	**Army Bay**	**5.88**	**9**	P	**Pn**	**17 39 21.0**	**+1.1**

*IDC **20** 17:39:54.0±1.2, 35.96N×71.35E, h0km, mb3.7/9, mbtmp3.7/14, ML3.3/5, MS2.8/1, Error ellipse: s-ma

0.7nm,0.3s,baz=101,slow=24,SNR=2.5
3.9nm,0.4s
DANN Dangsing 13.09 123 *eP* Pn 17 43 19.0 +16
5.4nm,0.4s
MKAR Makanchi Array 13.51 34 Pn **Pn 17 43 09.7 +1.8**
0.1nm,0.3s,baz=226,slow=27,SNR=2.8
0.7nm,0.8s
GKN Gorkha 13.91 122 *eP* P 17 43 28.8 +6.9
DMN Daman 14.48 122 *eP* P 17 43 36.5 +8.2
PKIN Phulchoki 14.70 121 *eP* P 17 43 39.6 +8.8
PKI Pulchoki 14.72 121 *eP* P 17 43 39.6 +8.6
JIRN Jiri 15.21 119 *eP* P 17 43 44.3 +7.8
6.0nm,0.5s
KURBB Kurchatov Arra 15.45 18 Pn **Pn 17 43 32.6 -1.5**
baz=208,slow=11,SNR=2.1
0.3nm,0.7s
AB31 Akbulak array 15.54 331 Pn **Pn 17 43 31.2 -4.1**
1.3nm,0.5s,baz=142,slow=12,SNR=33
AB31 Sn Sn 17 46 10.6 -17
3.7nm,1.0s,baz=144,slow=23,SNR=2.7
RAMN Ramite 15.93 121 *eP* P 17 43 53.4 +9.0
10.0nm,0.5s
TAPN Taplejung 16.48 117 *eP* P 17 44 00.4 +10
BVAR Borovoye Array 16.94 358 Pn **Pn 17 43 51.0 -2.2**
baz=160,slow=12,SNR=7.3
0.8nm,0.6s
AKTO Aktyubinsk 17.24 330 ⇑Pn **Pn 17 43 55.4 -1.5**
3.3nm,1.0s
ZALV Zalesovo Beam 20.20 24 P **P 17 44 30.4 -0.5**
1.3nm,0.4s,baz=214,slow=11,SNR=7.1
1.3nm,0.4s
ARU Arti 22.09 341 P **P 17 44 50.8 -0.5**
0.7nm,0.3s,baz=167,slow=10,SNR=3.0
0.7nm,0.3s
KBZ Khabaz 22.97 298 P **P 17 45 01.4 +0.6**
1.9nm,1.0s,baz=78,slow=16,SNR=1.3
1.9nm,1.0s
CMAR Chiang Mai Arr 30.08 118 LR LR 18 01 45.5
comp=Z,19nm,21.4s,baz=235,slow=44
FINES FINESS Array B 37.94 326 P **P 17 47 15.4 +1.8**
1.2nm,0.6s,baz=121,slow=7.5,SNR=8.2
1.2nm,0.6s
ARCES ARCESS Array B 41.60 338 P **P 17 47 44.1 +0.2**
2.2nm,0.8s,baz=82,slow=9.9,SNR=3.9
2.2nm,0.8s
NOA NORSAR Array B 44.83 323 P **P 17 48 09.4 -0.8**
0.3nm,0.5s,baz=97,slow=8.5,SNR=1.6
0.3nm,0.5s
KEST Kesra 49.36 289 P **P 17 48 45.2 -0.8**
1.4nm,0.9s,baz=144,slow=23,SNR=1.3
1.4nm,0.9s
WRA Warramunga Arr 81.60 122 P **P 17 52 12.9 -1.7**
0.3nm,1.0s,baz=330,slow=5.0,SNR=3.1
0.3nm,1.0s
ASAR Alice Springs 83.85 125 P **P 17 52 25.7 -0.5**
0.3nm,0.9s,baz=310,slow=4.7,SNR=1.9
0.3nm,0.9s

NEIC ***20*** *17:46:45.4± 1.5, 44.1°S± 0.1°×39.3°E± 0.2°, h10km± 2km, mb4.2/10, Error ellipse: s-maj=30.1km s-min=16.2km az=42.0*
IDC ***20*** *17:46:46.3± 1.0, 44.24°S×39.12°E, h0km, mb4.1/5, mbtmp4.1/6, ML3.5/1, Error ellipse: s-maj=34.2km s-min=23.7km az=57.0*
ISC 20 17:46:46.4± 0.7, 44.1°S± 0.1°×39.3°E± 0.1°, h10km, n21, σ1♀36/21, mb4.2/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**9.19**	**109**	Pn	**Pn**	**17 48 56.9**	**-2.0**
SOE	**Somerset East**	**15.61**	**312**	Pn	**Pn**	**17 50 25.6**	**-1.0**
POGA	**Pongola**	**17.79**	**338**		**Pn**	**17 50 54.0**	**-0.1**
POGA	comp=Z,26nm,1.3s			IAmb	IAmb	17 50 59.0	
SUR	**Sutherland**	**18.58**	**303**	P	**P**	**17 51 02.4**	**-1.3**
BOSA	**Boshof**	**19.09**	**319**	P	**Pn**	**17 51 11.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=142,slow=15,SNR=2.4						
	comp=Z,3.3nm,1.0s						
BOSA	**Boshof**	**19.09**	**319**	P	**P**	**17 51 08.3**	**-0.9**
LBTB	**Lobatse**	**22.06**	**325**	P	**P**	**17 51 42.0**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=161,slow=10,SNR=2.3						
	comp=Z,2.1nm,0.6s						
LBTB	**Lobatse**	**22.06**	**325**	P	**P**	**17 51 39.6**	**-1.9**
LBTB	comp=Z,8.3nm,1.1s			IAmb	IAmb	17 51 47.8	
MAW	**Mawson**	**26.68**	**160**	P	**P**	**17 52 23.5**	**-1.6**
TROLL	**Troll, Antarti**	**33.01**	**200**	P	**P**	**17 53 22.4**	**+1.1**
SNAA	**Sanae**	**34.20**	**202**	P	**P**	**17 53 32.9**	**+1.2**
SNAA	**Sanae**	**34.20**	**202**	P	**P**	**17 53 31.5**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=53,slow=7.1,SNR=9.2						
	comp=Z,3.5nm,0.9s						
SNAA	**Sanae**	**34.20**	**202**	P	**P**	**17 53 30.4**	**-1.3**
SNAA	comp=Z,4.9nm,1.0s			IAmb	IAmb	17 53 34.2	
VNA2	**Neumayer--Watz**	**35.16**	**205**	P	**P**	**17 53 41.1**	**+1.3**
	baz=58,slow=8.7						
BELA	**Belgrano 2**	**43.94**	**197**	P	**P**	**17 54 52.1**	**-0.7**
BELA	comp=Z,5.9nm,1.4s			IAmb	IAmb	17 55 11.0	
QSPA	**South Pole Qui**	**46.11**	**180**	P	**P**	**17 55 10.6**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=253,slow=1.0,SNR=11						
	comp=Z,1.7nm,1.0s						
QSPA	**South Pole Qui**	**46.11**	**180**	P	**P**	**17 55 09.1**	**-1.4**
QSPA	comp=Z,3.1nm,1.1s			IAmb	IAmb	17 55 17.6	
VNDA	**Vanda**	**53.67**	**167**	P	**P**	**17 56 08.8**	**+1.3**
VNDA	comp=Z,3.5nm,1.3s			IAmb	IAmb	17 56 10.0	
STKA	**Stephens Creek**	**76.50**	**121**	P	**P**	**17 58 38.3**	**+1.7**
	comp=Z,2.5nm,0.7s,baz=201,slow=3.4,SNR=7.2						
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**77.10**	**110**	P	**P**	**17 58 42.0**	**+1.9**
	comp=Z,2.9nm,1.0s,baz=221,slow=5.2,SNR=25						
	comp=Z,2.9nm,1.0s						
TXAR	**Lajitas Array**	**147.13**	**256**	PKPbc	**PKPab**	**18 06 31.0**	**-0.4**
	comp=Z,2.0nm,1.1s,baz=144,slow=5.4,SNR=8.9						

SOME ***20*** *17:49:55.7, 41.10°N×81.23°E, h0km*
NNC 20 17:49:58.5± 4.3, 42.01°N×82.46°E, h0km, mb3.5, mpv3.0, 3C-2D, Error ellipse: s-maj=42.6km s-min=21.8km az=177.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.49**	**298**	*eP*	Pn	17 50 40.3	-0.1
	6.9nm,0.2s						
SHLS	22nm,0.3s			*eS*	Sn	17 51 12.7	+1.1
SHLS	**Shalkode**	**2.49**	**298**	Pg	Pn	17 50 40.3	-0.1
	6.9nm,0.2s						
SHLS	22nm,0.3s			Lg	Lg	17 51 12.7	
PDGK	**Podgornoye**	**2.55**	**302**	Pg	Pb	17 50 44.0	-1.2
	0.7nm,0.1s						
PDGK	3.8nm,0.5s			Lg	Lg	17 51 18.8	
PDGK	**Podgornoye**	**2.55**	**302**	⇑Pn	Pn	17 50 42.9	+1.6
	9.6nm,1.1s						
PDGK	13nm,0.8s			⇑Lg	Lg	17 51 19.5	
DJR	**Jarkent**	**3.03**	**321**	*eP*	Pg	17 50 59.8	+3.2
	2.6nm,0.3s						
DJR	4.2nm,0.8s			*eS*	Sg	17 51 46.2	+10
DJR	**Jarkent**	**3.03**	**321**	Pg	Pg	17 50 59.8	+3.2
	2.6nm,0.3s						
DJR	4.2nm,0.8s			Lg	Lg	17 51 46.2	
KPKS	**Kokpek**	**3.14**	**299**	*eP*	Pn	17 50 52.0	+2.8
	5.3nm,0.3s						
KPKS	8.4nm,0.6s			*eS*	Sb	17 51 32.4	-1.6
KPKS	**Kokpek**	**3.14**	**299**	Pg	Pn	17 50 52.0	+2.8
	5.3nm,0.3s						
KPKS	8.4nm,0.6s			Lg	Lg	17 51 32.4	
SATY	**Saty**	**3.17**	**291**	*eP*	Pn	17 50 51.3	+1.6
	2.9nm,0.2s						
SATY	1.4nm,0.2s			*eS*	Sn	17 51 31.4	+3.0
ZHN	**Zhinishke**	**3.19**	**293**	*eP*	Pn	17 50 51.5	+1.6
	6.4nm,0.2s						
ZHN	4.9nm,0.2s			*eS*	Sn	17 51 31.6	+2.8
ARXS	**Arharly**	**4.04**	**305**	*eP*	Pb	17 51 09.9	-0.7
	1.4nm,0.4s						
ARXS	5.6nm,0.5s			*eS*	Sb	17 52 03.2	+3.2
ARXS	**Arharly**	**4.04**	**305**	Pg	Pb	17 51 09.9	-0.7
	1.4nm,0.4s						
ARXS	5.6nm,0.5s			Lg	Lg	17 52 03.2	
MK31	**Makanchi Array**	**4.79**	**359**	Pn	Pn	17 51 12.2	+0.3
	1.1nm,0.7s,baz=185,slow=7.5,SNR=9.0						
MK31	0.3nm,0.3s,baz=175,slow=14,SNR=8.7			⇑Pg	Pb	17 51 24.3	+1.0
MK31	6.3nm,0.9s,baz=173,slow=28,SNR=4.7			⇓Lg	Lg	17 52 30.4	
MAKZ	**Makanchi**	**4.81**	**356**	⇓Pn	Pn	17 51 12.7	+0.5
	4.5nm,1.1s						

IDC ***20*** *17:54:29.7± 1.7, 2.85°S×129.49°E, h0km, mb3.8/2, mbtmp4.0/4, ML3.9/2, MS3.1/2, Error ellipse: s-maj=41.3km s-min=23.5km az=100.0*
DJA ***20*** *17:54:32.1± 0.3, 3°S± 3°×12°9E± °, h10km, M3.9/12, mb4.2/5, mB6.7/1, MLv3.7/12, Mw(mB)6.5/1*
ISC 20 17:54:34.2± 0.9, 2.70S± 0.06°×129.37E± 0.07, h35km, n18, σ1♀76/18, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.78**	**215**	P	**Pn**	**17 54 48.9**	**+0.2**
MSAI				S	Sn	17 55 07.7	+8.5
KRAI	**Karang Ratu**	**1.15**	**238**	P	**Pn**	**17 54 55.6**	**+1.7**
AAI	**Ambon**	**1.53**	**230**	P	**Pn**	**17 55 00.6**	**+1.5**
BNDI	**Bandanaira**	**1.89**	**164**	P	**Pn**	**17 55 07.0**	**+3.1**
NLAI	**Namlea**	**2.33**	**257**	P	**Pn**	**17 55 11.9**	**+1.8**
SIJI	**Sorong**	**2.62**	**46**	Pn	**Pn**	**17 55 13.8**	**-0.4**
SIJI	19nm,0.3s,baz=244,slow=22,SNR=356			Sn	**Sn**	**17 55 46.3**	**+1.5**
	9.1nm,0.3s,baz=240,slow=20,SNR=9.1						
SIJI	comp=Z,99nm,21.8s,baz=108,slow=46			LR	LR	17 56 30.2	
	84nm,0.2s						
SIJI	**Sorong**	**2.62**	**46**	P	**Pn**	**17 55 13.9**	**-0.2**
LBMI	**Labuha**	**2.78**	**318**	P	**Pn**	**17 55 17.0**	**+0.8**
FAKI	**Fak Fak**	**2.88**	**94**	P	**Pn**	**17 55 16.7**	**-0.9**
SANI	**Sanana**	**3.44**	**281**	P	**Pn**	**17 55 24.0**	**-1.4**
RKPI	**Ransiki, Papua**	**4.94**	**76**	P	**Pn**	**17 55 46.2**	**+0.2**
APSI	**Ampana**	**7.92**	**283**	P	**Pn**	**17 56 27.2**	**+0.2**
	0.1nm34nm,0.7s						
MRSI	**Marisa**	**8.07**	**293**	P	**Pn**	**17 56 27.6**	**-1.4**
	11nm,0.7s						
PBKI	**Pangkalan Bun**	**17.68**	**270**	P	**P**	**17 58 38.0**	**-0.6**
WRA	**Warramunga Arr**	**17.81**	**165**	P	**Pn**	**17 58 35.8**	**-3.7**
	0.4nm,0.3s,baz=344,slow=13,SNR=29						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**21.30**	**168**	P	**P**	**17 59 16.9**	**-1.0**
	7.6nm,0.6s,baz=349,slow=9.5,SNR=148						
	7.6nm,0.6s						
MKAR	**Makanchi Array**	**64.32**	**326**	P	**P**	**18 05 08.6**	**+2.3**
	0.3nm,0.6s,baz=114,slow=7.0,SNR=1.6						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**98.71**	**332**	LR	LR	18 57 43.3	
	comp=Z,36nm,18.3s,baz=210,slow=38						

BJI ***20*** *17:56:12.1± 0.0, 44.17°S×39.07°E, h11km, mb5.1/16, mB5.3/9, Ms4.8/6, Ms7 4.5/7*
IDC ***20*** *17:56:12.3± 0.4, 44.21°S×39.14°E, h0km, mb4.8/22, mbtmp4.8/24, ML4.1/2, MS4.3/56, Error ellipse: s-maj=15.7km s-min=12.5km az=62.0*
NEIC ***20*** *17:56:14.0± 0.2, 44.26°S± 0.09°×39.2°E± 0.1°, h10km± 1km, mb5.2/80, Error ellipse: s-maj=16.7km s-min=13.8km az=218.0*
GCMT ***20*** *17:56:14.0± 0.2, 44.1°S± 0.01°×39.18°E± 0.03°, h13km, MW5.0/113, Moment Tensor Solution. s41,c47; s113,c164; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.37±.20; Mθθ=4.21±.14; Mφφ=0.16±.11; Mrθ=-0.09±.26; Mrφ=-0.32±.08; Mθφ=0.49±.34; Best double couple: Mo=4.33000×10^16 NP1=strike=101.00000°, dip=46.00000°, rake=-82.00000°. NP2=strike=269.00000°, dip=44.00000°, rake=-99.00000°. Principal axes: T 4.2370, Plg1.0000°, Azm185.0000°; N 0.1870, Plg6.0000°, Azm275.0000°; P -4.4230, Plg84.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 17:56:13.6± 0.3, 44.21S± 0.06°×39.19E± 0.06, h10km, n288, σ1♀07/241, mb5.1/61, MS4.3/61, 1D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**9.20**	**108**	Pn	**Pn**	**17 58 24.1**	**-2.2**
SOE	**Somerset East**	**15.65**	**313**		**Pn**	**17 59 50.9**	**-3.4**
SOE	comp=Z,162nm,1.3s			IAmb	IAmb	18 00 06.4	
POGA	**Pongola**	**17.88**	**338**		**P**	**18 00 22.9**	**-0.2**
SUR	**Sutherland**	**18.60**	**303**	P	**P**	**18 00 30.6**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=124,slow=14,SNR=8.9						
SUR	comp=Z,10nm,1.0s,baz=181,slow=9.7,SNR=2.0			S	Sn	18 03 41.5	-18
SUR	comp=Z,758nm,20.1s,baz=132,slow=32			LR	LR	18 06 05.8	
	comp=Z,45nm,1.1s						
SUR	**Sutherland**	**18.60**	**303**		**Pn**	**18 00 31.6**	**+0.2**
BOSA	**Boshof**	**19.14**	**320**	P	**P**	**18 00 37.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=152,slow=10,SNR=11						
BOSA	comp=Z,1μm,21.4s,baz=149,slow=32			LR	LR	18 06 28.0	
	comp=Z,12nm,0.9s						
BOSA	**Boshof**	**19.14**	**320**	P	**P**	**18 00 36.8**	**-0.3**
LBTB	**Lobatse**	**22.12**	**326**	P	**P**	**18 01 09.1**	**-0.3**
	comp=Z,21nm,0.8s,baz=152,slow=9.8,SNR=24						
LBTB	comp=Z,1μm,20.9s,baz=163,slow=33			LR	LR	18 08 19.4	
	comp=Z,21nm,0.8s						
LBTB	**Lobatse**	**22.12**	**326**	P	**P**	**18 01 08.1**	**-1.3**
LBTB	comp=Z,63nm,1.2s			IAmb	IAmb	18 01 16.8	
VOI	**Vohitsoka**	**23.12**	**18**	P	**P**	**18 01 18.8**	**-1.2**
OPO	**Ambohidratompo**	**26.43**	**17**	P	**P**	**18 01 50.4**	**-0.3**
	comp=Z,8.1nm,0.9s,baz=174,slow=3.1,SNR=6.6						
OPO	comp=Z,617nm,19.9s,baz=16,slow=32			LR	LR	18 10 31.3	
	comp=Z,8.1nm,0.9s						
MAW	**Mawson**	**26.59**	**160**	P	**P**	**18 01 52.7**	**+1.1**
	comp=Z,16nm,1.1s,baz=72,slow=18,SNR=4.6						
MAW	comp=Z,827nm,22.0s,baz=329,slow=30			LR	LR	18 09 41.8	
	comp=Z,16nm,1.1s						
LSZ	**Lusaka**	**30.32**	**339**	LR	LR	18 13 25.0	
	comp=Z,496nm,19.3s,baz=163,slow=34						
LSZ	**Lusaka**	**30.32**	**339**	P	**P**	**18 02 23.9**	**-1.6**
TSUM	**Tsumeb**	**30.79**	**317**	LR	LR	18 13 51.1	
	comp=Z,754nm,19.7s,baz=150,slow=34						
TSUM	**Tsumeb**	**30.79**	**317**	P	**P**	**18 02 29.2**	**-0.4**
TROLL	**Troll, Antarti**	**32.88**	**200**	P	**P**	**18 02 48.6**	**+1.1**
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**18 02 58.9**	**+0.9**
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**18 02 58.8**	**+0.9**
	comp=Z,25nm,1.0s,baz=63,slow=7.7,SNR=50						
SNAA	comp=Z,621nm,19.7s,baz=45,slow=31			LR	LR	18 13 59.8	
	comp=Z,25nm,1.0s						
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**18 02 57.4**	**-0.5**
SNAA	comp=Z,37nm,1.0s			IAmb	IAmb	18 03 00.1	
VNA2	**Neumayer--Watz**	**35.04**	**205**	P	**P**	**18 03 07.1**	**+1.0**
	baz=52,slow=9.1						
VNA1	**Neumayer--Stat**	**35.19**	**205**	P	**P**	**18 03 08.6**	**+1.3**
VNA3	**Neumayer Olymp**	**35.85**	**205**	P	**P**	**18 03 13.2**	**+0.2**
KMBO	**Kilima Mbogo**	**42.94**	**357**	LR	LR	18 19 35.8	
	comp=Z,23nm,21.6s,baz=114,slow=33						
KMBO	**Kilima Mbogo**	**42.94**	**357**	P	**P**	**18 04 12.2**	**-0.7**
BELA	**Belgrano 2**	**43.82**	**197**	P	**P**	**18 04 18.2**	**-0.9**
MBAR	**Mbarara**	**44.07**	**348**	LR	LR	18 22 15.6	
	comp=Z,663nm,18.1s,baz=156,slow=36						
MBAR	**Mbarara**	**44.07**	**348**	P	**P**	**18 04 21.4**	**-0.6**
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**18 04 36.4**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=244,slow=3.1,SNR=23						
QSPA	comp=Z,568nm,21.1s,baz=252,slow=34			LR	LR	18 22 10.0	
	comp=Z,6.5nm,0.8s						
QSPA	**South Pole Qui**	**46.00**	**180**	P	**P**	**18 04 35.6**	**-1.2**
QSPA	comp=Z,16nm,1.1s			IAmb	IAmb	18 04 37.2	
LODK	**Lodwar**	**47.54**	**355**	P	**P**	**18 04 48.8**	**-0.5**
VNDA	**Vanda**	**53.57**	**167**	P	**P**	**18 05 34.4**	**+0.3**
	comp=Z,10nm,1.1s,baz=247,slow=6.7,SNR=22						
VNDA	comp=Z,430nm,21.2s,baz=223,slow=34			LR	LR	18 26 18.9	
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**53.57**	**167**	P	**P**	**18 05 33.3**	**-0.8**
VNDA	comp=Z,21nm,1.2s			IAmb	IAmb	18 05 35.7	
SBA	**Scott Base**	**54.11**	**168**	P	**P**	**18 05 38.1**	**+0.1**
SMAI	**San Martin Ant**	**55.34**	**206**	P	**P**	**18 05 45.3**	**-1.7**
SMAI	comp=Z,30nm,0.9s			IAmb	IAmb	18 06 00.5	
ATD	**Arta Tunnel**	**55.57**	**4**	LR	LR	18 28 30.8	
	comp=Z,264nm,18.8s,baz=160,slow=35						
PMSA	**Palmer Station**	**56.13**	**210**	LR	LR	18 25 52.7	
	comp=Z,350nm,19.4s,baz=112,slow=32						
H10S2	**ASCENSION HYDR**	**58.21**	**290**	T	T	19 09 08.1	
	baz=134,slow=74,SNR=22						
H10S3	**ASCENSION HYDR**	**58.23**	**290**	T	T	19 09 10.0	
	baz=86,slow=74,SNR=35						
NWAO	**Narrogin (SRO)**	**59.92**	**108**	LR	LR	18 27 13.3	
	comp=Z,198nm,19.1s,baz=32,slow=31						
PALK	**Pallekele**	**63.46**	**47**	LR	LR	18 27 15.0	
	comp=Z,361nm,20.8s,baz=311,slow=29						
PCHI	**Peechi**	**64.06**	**41**	*eP*	**P**	**18 06 48.9**	**+1.2**
PCHI				*eS*	S	18 15 06.3	-18
DBIC	**Dimbokro**	**64.33**	**310**	P	**P**	**18 06 49.0**	**-0.5**
	comp=Z,12nm,1.1s,baz=114,slow=6.2,SNR=6.8						
	comp=Z,12nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.50**	**320**	P	**P**	**18 07 02.5**	**-1.0**
	comp=Z,10nm,1.0s,baz=144,slow=5.4,SNR=21						
	comp=Z,10nm,1.0s						
MG05	**Puerto Natales**	**67.77**	**219**	P	**P**	**18 07 11.1**	**-0.1**
WSAR	**Wadi Sarin**	**69.44**	**19**	LR	LR	18 32 41.8	
	comp=Z,378nm,20.3s,baz=208,slow=32						
LEM	**Lembang**	**69.84**	**80**	P	**P**	**18 07 25.7**	**+0.8**
	comp=Z,16nm,0.8s,baz=156,slow=20,SNR=3.5						
LEM	comp=Z,97nm,18.1s,baz=216,slow=33			LR	LR	18 34 54.1	
	comp=Z,16nm,0.8s						
LEM	**Lembang**	**69.84**	**80**	P	**P**	**18 07 27.3**	**+2.4**
	comp=Z,22nm,1.2s						
POO	**Poona**	**70.02**	**35**	*eP*	P	18 07 20.0	-5.6
SJMB	**Sao Joao De Ma**	**70.40**	**263**	*eP*	**P**	**18 07 28.1**	**0.0**
BKNI	**Bangkinang**	**70.41**	**69**	P	**P**	**18 07 25.4**	**-2.7**
HYBB	**Hyderabad (bro**	**71.09**	**40**	*eP*	**P**	**18 07 33.3**	**+1.2**
TRQA	**Tornquist**	**71.54**	**235**	P	**P**	**18 07 34.4**	**-0.3**
TRQA	comp=Z,26nm,1.2s			IAmb	IAmb	18 07 36.5	
VAO	**Valinhos**	**71.67**	**256**	*eP*	**P**	**18 07 37.0**	**+1.1**
COYC	**Coyhaique**	**71.86**	**224**	P	**P**	**18 07 36.6**	**+0.1**
BBOO	**Buckleboo**	**72.40**	**119**	P	**P**	**18 07 39.9**	**-0.1**
DIAM	**Diamantina, MG**	**72.44**	**261**	*eP*	**P**	**18 07 40.9**	**+0.3**
AY01	**Puyuhuapi**	**72.96**	**224**	P	**P**	**18 07 41.7**	**-1.4**
AY01	comp=Z,33nm,1.1s			IAmb	IAmb	18 07 43.8	
UNIS	**Unistalda (Bra**	**73.20**	**246**	*eP*	**P**	**18 07 45.7**	**+0.9**
FRTB	**Fartura**	**73.25**	**254**	*eP*	**P**	**18 07 47.4**	**+2.2**
TAM	**Tamanrasset**	**73.46**	**328**	P	**P**	**18 07 47.3**	**+0.9**
EIL	**Elat**	**73.63**	**356**	LR	LR	18 41 26.4	
	comp=Z,102nm,18.0s,baz=232,slow=37						
MC01	**Montes Claros**	**73.68**	**262**	*eP*	**P**	**18 07 48.3**	**+0.4**
ITQB	**Itaqui**	**73.81**	**244**	P	**P**	**18 07 48.7**	**+0.4**
ITQB	**Itaqui**	**73.81**	**244**	*eP*	**P**	**18 07 49.0**	**+0.7**
BB19B	**Bebedouro**	**74.03**	**256**	*eP*	**P**	**18 07 51.5**	**+1.7**
GO07	**Milladeo Hill,**	**74.41**	**224**	P	**P**	**18 07 50.9**	**-0.8**
PLCA	**Paso Flores**	**74.51**	**228**	P	**P**	**18 07 52.2**	**-0.1**
	comp=Z,12nm,1.1s,baz=120,slow=4.8,SNR=12						
PLCA	comp=Z,161nm,20.4s,baz=136,slow=30			LR	LR	18 33 15.1	
	comp=Z,12nm,1.1s						
PLCA	**Paso Flores**	**74.51**	**228**	P	**P**	**18 07 52.1**	**-0.2**
PLCA	comp=Z,21nm,1.1s			IAmb	IAmb	18 07 53.5	
PLCA	**Paso Flores**	**74.51**	**228**	*eP*	**P**	**18 07 52.7**	**+0.4**
TOO	**Toolangi**	**74.84**	**128**	P	**P**	**18 07 54.1**	**-0.1**
TOO	comp=Z,42nm,1.1s			IAmb	IAmb	18 07 56.8	
JANB	**Januaria**	**75.05**	**263**	*eP*	**P**	**18 07 56.1**	**+0.4**
RCBR	**Riachuelo**	**75.28**	**276**	LR	LR	18 33 44.7	
	comp=Z,71nm,18.9s,baz=304,slow=30						
MCR1	**Marechal Candi**	**75.57**	**250**	*eP*	**P**	**18 08 00.1**	**+1.5**
PCMB	**Pacaembu**	**75.57**	**254**	*eP*	**P**	**18 08 00.4**	**+1.7**
GO06	**Curarrehue**	**75.82**	**228**	P	**P**	**18 07 58.6**	**-1.4**
GO06	comp=Z,15nm,0.9s			IAmb	IAmb	18 08 02.0	
IPMB	**Ipameri, GO**	**75.86**	**259**	*eP*	**P**	**18 08 01.3**	**+0.9**
ASF	**Jabal al Asfar**	**76.05**	**358**	LR	LR	18 41 13.5	
	comp=Z,233nm,18.4s,baz=118,slow=36						
STKA	**Stephens Creek**	**76.48**	**121**	P	**P**	**18 08 03.9**	**+0.1**
	comp=Z,20nm,0.9s,baz=234,slow=3.2,SNR=39						
STKA	comp=Z,171nm,19.3s,baz=206,slow=31			LR	LR	18 36 02.5	
	comp=Z,20nm,0.9s						
STKA	**Stephens Creek**	**76.48**	**121**	P	**P**	**18 08 03.5**	**-0.3**
CPUP	**Villa Florida**	**76.51**	**246**	P	**P**	**18 08 03.6**	**-0.3**
	comp=Z,13nm,1.0s,baz=128,slow=5.0,SNR=19						
CPUP	comp=Z,84nm,18.2s,baz=148,slow=33			LR	LR	18 38 04.3	
	comp=Z,13nm,1.0s						
CPUP	**Villa Florida**	**76.51**	**246**	P	**P**	**18 08 03.9**	**-0.1**
CPUP	comp=Z,20nm,1.1s			IAmb	IAmb	18 08 05.2	
MMAI	**Mount Meron Ar**	**76.94**	**357**	LR	LR	18 41 02.0	
	comp=Z,196nm,19.7s,baz=46,slow=35						
ASAR	**Alice Springs**	**77.10**	**110**	P	**P**	**18 08 07.8**	**+0.4**
	comp=Z,24nm,0.9s,baz=217,slow=5.6,SNR=112						
ASAR	comp=Z,149nm,20.8s,baz=232,slow=31			LR	LR	18 36 23.6	
	comp=Z,24nm,0.9s						
ASAR	**Alice Springs**	**77.10**	**110**	P	**P**	**18 08 07.2**	**-0.2**
AS31	**Alice Springs**	**77.10**	**110**	P	**P**	**18 08 06.6**	**-0.9**
SDBA	**SAO DESIDERIO**	**77.25**	**265**	*eP*	**P**	**18 08 08.7**	**+0.4**
BDFB	**Brasilia**	**77.29**	**261**	P	**P**	**18 08 09.2**	**+0.6**
	comp=Z,16nm,1.1s,baz=117,slow=4.5						
	comp=Z,16nm,1.1s						
BBTS	**Babate**	**77.46**	**305**	LR	LR	18 41 39.0	
	comp=Z,55nm,18.0s,baz=114,slow=35						
CAN	**Canberra**	**78.42**	**128**	P	**P**	**18 08 15.7**	**+1.0**
CAN	comp=Z,31nm,1.1s			IAmb	IAmb	18 08 17.2	
BO02	**Sierra Bellavi**	**78.90**	**232**	P	**P**	**18 08 16.5**	**-0.7**
BO02	comp=Z,25nm,1.1s			IAmb	IAmb	18 08 18.0	
BATI	**Baumata**	**79.02**	**94**	LR	LR	18 39 11.9	
	comp=Z,192nm,18.4s,baz=277,slow=33						
MMRI	**Maumere**	**79.06**	**91**	P	**P**	**18 08 21.3**	**+3.0**
LMEL	**Las Melosas**	**79.25**	**233**	P	**P**	**18 08

ZON	Zonda	80.01	236	P	P	18 08 22.6	-0.7
ZON				IAmb	IAmb	18 08 24.2	
	comp=Z,28nm,1.2s						
WR0	Warramunga Arr	80.05	108	P	P	18 08 22.9	-0.8
WR0				IAmb	IAmb	18 08 25.3	
	comp=Z,20nm,1.1s						
WB0	Warramunga Arr	80.08	108	P	P	18 08 23.7	-0.1
WB0				IAmb	IAmb	18 08 25.5	
	comp=Z,26nm,1.1s						
IDI	Anoyia	80.19	348	LR	LR	18 44 06.4	
	comp=Z,167nm,21.5s,baz=174,slow=36						
VA05	Santo Domingo	80.19	232	P	P	18 08 23.6	-0.6
VA05				IAmb	IAmb	18 08 25.1	
	comp=Z,29nm,1.0s						
MT02	Curacav	80.21	233	P	P	18 08 23.2	-1.2
MT02				IAmb	IAmb	18 08 25.4	
	comp=Z,17nm,1.0s						
VA03	San Esteban	80.23	234	P	P	18 08 23.3	-1.3
VA03				IAmb	IAmb	18 08 25.6	
	comp=Z,26nm,1.1s						
VA06	Catapilco	80.81	233	P	P	18 08 25.8	-1.7
VA06				IAmb	IAmb	18 08 28.0	
	comp=Z,32nm,1.1s						
HRA	Herat	80.99	19	P	P	18 08 28.2	-0.2
PANT	Pantanal (Braz	81.03	252	eP	P	18 08 30.2	+1.3
CO01	Juntas del Tor	81.99	236	P	P	18 08 33.1	-1.0
BRDH	Bariadhala	82.05	48	LR	LR	18 38 13.4	
	comp=Z,207nm,21.8s,baz=262,slow=31						
RPZ	Rata Peaks	82.50	147	LR	LR	18 41 15.5	
	comp=Z,130nm,21.5s,baz=212,slow=33						
SALV	Santo Antonio	82.51	255	eP	P	18 08 38.1	+1.3
CM31	Chiang Mai Arr	82.81	56	P	P	18 08 37.8	-0.3
CM31				IAmb	IAmb	18 08 49.8	
	comp=Z,15nm,1.3s						
CMAR	Chiang Mai Arr	82.81	56	P	P	18 08 38.2	+0.1
	comp=Z,4.4nm,1.2s,baz=229,slow=5.0,SNR=18						
CMAR				LR	LR	18 41 27.5	
	comp=Z,84nm,18.0s,baz=215,slow=33						
	comp=Z,4.4nm,1.2s						
CMAR	Chiang Mai Arr	82.81	56	P	P	18 08 37.0	-1.1
DMN	Daman	82.90	40	eP	P	18 08 39.2	+0.5
	comp=Z,161nm,1.2s						
DANN	Dangsing	82.92	39	eP	P	18 08 38.9	+0.1
	comp=Z,166nm,1.1s						
AC05	El Transito	82.92	236	P	P	18 08 37.4	-1.6
PKIN	Phulchoki	83.01	40	eP	P	18 08 39.3	0.0
	comp=Z,113nm,1.3s						
PKI	Pulchoki	83.01	40	eP	P	18 08 39.3	0.0
	comp=Z,134nm,1.3s						
GKN	Gorkha	83.02	39	eP	P	18 08 39.5	+0.3
	comp=Z,146nm,1.2s						
RAMN	Ramite	83.04	41	eP	P	18 08 40.1	+0.7
	comp=Z,199nm,1.2s						
LCO	Las Campanas	83.05	236	P	P	18 08 38.2	-1.6
LCO				IAmb	IAmb	18 08 40.7	
	comp=Z,20nm,0.9s						
CHTO	Chiang Mai	83.09	56	P	P	18 08 39.2	-0.3
KKN	Kakani	83.13	40	eP	P	18 08 40.1	+0.3
	comp=Z,19nm,1.6s						
ODAN	Odare	83.34	42	eP	P	18 08 41.9	+0.9
	comp=Z,20nm,1.1s						
JIRN	Jiri	83.45	41	eP	P	18 08 42.2	+0.5
	comp=Z,244nm,1.2s						
NIL	Nilore	83.47	28	P	P	18 08 41.9	+0.7
GUN	Gumba	83.51	40	eP	P	18 08 42.7	+0.7
	comp=Z,292nm,1.1s						
MPSI	Mapaga	83.57	83	P	P	18 08 42.2	0.0
	comp=Z,322nmcomp=Z,5.6nm,1.6s						
PHRA	Phrae	83.61	57	P	P	18 08 42.3	+0.1
AC02	Maricunga	83.68	239	P	P	18 08 43.1	-0.2
BBRB	Robore, Bolivi	83.70	251	eP	P	18 08 43.6	+0.7
BRTR	Keskin Array B	83.70	356	P	P	18 08 42.8	+0.4
	comp=Z,1.6nm,0.8s,baz=184,slow=6.0,SNR=9.1						
BRTR				LR	LR	18 46 13.8	
	comp=Z,106nm,18.4s,baz=140,slow=36						
	comp=Z,1.6nm,0.8s						
BRTR	Keskin Array B	83.70	356	P	P	18 08 42.0	-0.4
TAPN	Taplejung	83.91	42	eP	P	18 08 44.1	+0.1
	comp=Z,126nm,1.4s						
APSI	Ampana	83.95	85	P	P	18 08 44.2	0.0
	comp=Z,16nm,1.0s						
AC06	Mina Casimiro	84.05	237	P	P	18 08 43.5	-1.1
KEST	Kesra	84.06	336	P	P	18 08 46.1	+1.9
	comp=Z,7.7nm,0.9s,baz=86,slow=3.5,SNR=7.7						
KEST				LR	LR	18 45 52.5	
	comp=Z,276nm,21.8s,baz=181,slow=36						
	comp=Z,7.7nm,0.9s						
KEST	Kesra	84.06	336	P	P	18 08 45.0	+0.7
KEST				IAmb	IAmb	18 08 55.4	
	comp=Z,20nm,1.1s						
GNI	Garni	84.13	4	LR	LR	18 44 45.7	
	comp=Z,234nm,22.0s,baz=174,slow=35						
VAE	Valguarnera	84.35	340	LR	LR	18 45 45.2	
	comp=Z,122nm,22.0s,baz=156,slow=35						
SHL	Shillong	84.53	46	P	P	18 08 46.9	0.0
TOLI2	Tolitoli	84.74	83	P	P	18 08 47.4	-0.8
BBSD	Serra de San D	85.00	251	eP	P	18 08 49.6	0.0
PRPB	Parauapebas	85.03	266	eP	P	18 08 50.6	+0.9
GO02	Mina Guanaco	85.18	239	P	P	18 08 49.9	-0.8
GO02				IAmb	IAmb	18 08 51.9	
	comp=Z,25nm,1.3s						
PTLB	Pontes e Lacer	85.21	253	P	P	18 08 50.1	-0.5
PTLB				IAmb	IAmb	18 08 51.9	
	comp=Z,24nm,1.2s						
PTLB	Pontes e Lacer	85.21	253	eP	P	18 08 50.7	+0.1
CLDB	Colider	86.05	259	eP	P	18 08 54.8	0.0
KBN	Korca	86.06	346	P	P	18 08 55.4	+1.3
FNA	Florina	86.12	347	P	P	18 08 55.2	+0.9
SIV	San Ignacio	86.16	252	LR	LR	18 42 55.4	
	comp=Z,95nm,18.2s,baz=118,slow=32						
PDRB	Porto dos Gac	86.20	258	eP	P	18 08 56.7	+1.2
MDT	Midelt	86.43	324	LR	LR	18 47 20.2	
	comp=Z,331nm,19.9s,baz=154,slow=36						
PB15	IPOC Station P	86.53	241	P	P	18 08 56.1	-1.1
LVC	Limon Verde	86.61	242	LR	LR	18 41 25.5	
	comp=Z,126nm,20.9s,baz=188,slow=31						
LVC	Limon Verde	86.61	242	P	P	18 08 58.0	+0.1
LVC				IAmb	IAmb	18 08 59.5	
	comp=Z,15nm,1.1s						
LVC	Limon Verde	86.61	242	eP	P	18 08 58.8	+0.9
LSA	Lhasa	87.54	43	P	P	18 09 01.6	-0.5
LSA				IAmb	IAmb	18 09 05.5	
	comp=Z,13nm,0.8s						
LSA	Lhasa	87.54	43	P	P	18 09 02.8	+0.7
LSA				pmax	pmax		
	comp=Z,15nm,0.9s						
KBZ	Khabaz	87.62	3	P	P	18 09 02.5	+1.0
	comp=Z,3.5nm,1.0s,baz=200,slow=6.7,SNR=3.4						
	comp=Z,3.5nm,1.0s						
TNCH	TengChong	87.69	51	P	P	18 09 03.3	+0.7
TNCH				pP	sP	18 09 07.0	+1.3
TNCH				sP	pwP	18 09 09.8	+0.7
TNCH				PP	PP	18 12 26.9	-1.5
TNCH				SKS	SKSac	18 19 26.9	-3.9
TNCH				S	S	18 19 47.9	+3.1
TNCH				sS	ScS	18 19 56.8	+5.3
TNCH				pmax	pmax		
	comp=Z,31nm,1.3s						
TNCH				pmax	pmax		
	comp=Z,180nm,3.8s						
TNCH				LR	LR		
	comp=Z,86nm,14.8s						
TNCH				LR	LR		
	comp=Z,110nm,10.7s						
TNCH				LR	LR		
	comp=Z,180nm,18.7s						
CTA	Charters Tower	87.77	116	LR	LR	18 44 39.2	
	comp=Z,189nm,18.7s,baz=242,slow=33						
KVAR	Kislovodsk Arr	87.84	3	LR	LR	18 45 31.0	
	comp=Z,113nm,21.4s,baz=86,slow=34						
NPGB	Novo Progresso	88.39	262	eP	P	18 09 07.2	+1.1
PB11	IPOC Station P	89.15	243	P	P	18 09 08.7	-1.1
KSH	Kashi	89.71	28	P	P	18 09 10.0	-1.7
QIZ	Qiongzhong	89.99	63	P	P	18 09 13.1	-0.3
QIZ				S	S	18 20 03.8	-2.5
QIZ				LR	LR		
	comp=Z,170nm,21.5s						
QIZ				LR	LR		
	comp=Z,120nm,16.7s						
QIZ				LR	LR		
	comp=Z,130nm,22.3s						
MLR	Muntele Rosu	90.09	351	LR	LR	18 51 37.0	
	comp=Z,136nm,21.2s,baz=186,slow=37						
MLR	Muntele Rosu	90.09	351	P	P	18 09 13.3	-0.1
MLR				IAmb	IAmb	18 09 21.6	
	comp=Z,20nm,1.2s						

KMI	Kunming	90.18	54	pP	P	18 09 17.4	+3.0
KMI				sP	pwP	18 09 23.3	+2.4
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
ITTB	Itaituba	90.52	263	eP	P	18 09 17.2	+1.2
MCPB	Macapa, AP	90.65	269	eP	P	18 09 18.5	+1.8
PZH	PanZhiHua	90.65	53	P	P	18 09 19.3	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
LPAZ	La Paz	90.68	246	P	P	18 09 16.9	-0.7
	comp=Z,0.4nm,0.4s,baz=82,slow=6.1,SNR=3.8						
LPAZ				LR	LR	18 47 29.0	
	comp=Z,143nm,18.3s,baz=106,slow=34						
	comp=Z,0.4nm,0.4s						
MALB	Monte Alegre	91.20	266	eP	P	18 09 20.4	+1.2
AAK	Ala-Archa	92.06	25	LR	LR	18 46 29.4	
	comp=Z,150nm,21.7s,baz=212,slow=33						
ESDC	Sonseca Array	92.12	328	P	P	18 09 23.9	+1.1
	comp=Z,3.1nm,1.1s,baz=152,slow=4.1,SNR=6.6						
ESDC				LR	LR	18 51 14.1	
	comp=Z,309nm,19.1s,baz=138,slow=36						
	comp=Z,3.1nm,1.1s						
ETMB	Extrema	94.05	252	eP	P	18 09 32.1	-0.3
DAVOX	Davos/Dischmat	94.24	340	LR	LR	18 52 34.3	
	comp=Z,176nm,21.3s,baz=85,slow=36						
GOMU	GeErMu	94.60	42	P	P	18 09 35.5	+0.7
GOMU				pP	sP	18 09 39.1	+1.2
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,62nm,4.5s						
MDP	Montagnes des	94.83	272	LR	LR	18 48 51.6	
	comp=Z,62nm,18.1s,baz=126,slow=33						
CD2	Chengdu	95.15	51	eP	P	18 09 37.8	+0.8
VRAC	Vranov	95.21	345	LR	LR	18 55 10.4	
	comp=Z,62nm,20.1s,baz=175,slow=37						
GERES	GERESS Array B	95.33	343	LR	LR	18 57 41.2	
	comp=Z,85nm,18.4s,baz=150,slow=39						
PMG	Port Moresby	96.09	109	LR	LR	18 47 41.5	
	comp=Z,97nm,20.9s,baz=248,slow=32						
BELG	Belogornoye	96.50	5	LR	LR	18 53 31.0	
	comp=Z,208nm,21.8s,baz=157,slow=36						
WMQ	Urumqi	97.74	33	eP	Pdif	18 09 49.8	+1.3
WMQ				LR	LR		
	comp=Z,96nm,24.9s						
MKAR	Makanchi Array	98.29	28	P	P	18 09 50.4	-0.4
	comp=Z,2.1nm,1.1s,baz=239,slow=4.5,SNR=4.4						
MKAR				LR	LR	18 51 52.3	
	comp=Z,54nm,18.2s,baz=246,slow=34						
	comp=Z,2.1nm,1.1s						
DZM	Mont Dzumac	98.29	132	LR	LR	18 47 16.5	
	comp=Z,64nm,18.9s,baz=190,slow=31						
DZM	Mont Dzumac	98.29	132	eLR	LR	18 41 45.7	
	comp=Z,381nm,28.6s						
OBN	Obninsk	98.98	358	LR	LR	18 53 30.2	
	comp=Z,20nm,21.9s,baz=174,slow=35						
LZH	Lanzhou	99.10	48	eP	Pdif	18 09 51.5	-3.4
LZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NNA	Nana	99.52	243	LR	LR	18 50 53.6	
	comp=Z,139nm,18.8s,baz=170,slow=33						
GTA	Gaotai	99.56	43	eP	Pdif	18 09 56.5	-0.3
GTA				pP	sP	18 10 01.0	+1.0
GTA				sP	pwP	18 10 03.5	+0.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KURBB	Kurchatov Arra	100.45	24	P	Pdif	18 10 01.3	+1.0
	comp=Z,0.2nm,0.3s,baz=213,slow=5.0,SNR=2.4						
ZALV	Zalesovo Beam	105.26	26	Pdiff	Pdif	18 10 20.9	-0.7
	comp=Z,0.4nm,0.5s,baz=145,slow=5.3,SNR=3.7						
NOA	NORSAR Array B	107.33	346	PKKPbc	PKKPbc	18 25 51.2	-4.8
	comp=Z,1.2nm,0.8s,baz=66,slow=2.7,SNR=3.8						
TBI	Tubuai	112.31	171	eLR	LR	18 48 13.8	
	comp=Z,1μm,38.0s						
PPT2	Papeete2	117.98	171	eLR	LR	18 50 51.6	
	comp=Z,157nm,22.2s						
HEH	HeiHe2	121.23	49	ePKP	PKiKP	18 15 06.1	0.0
TAOE	Nuku Hiva Isla	127.18	181	eLR	LR	18 55 07.3	
	comp=Z,354nm,26.2s						
CCM	Cathedral Cave	142.63	278	P	PKPdf	18 15 42.9	-3.7
	baz=116						
RES	Resolute Bay	143.41	341	PKP	PKPdf	18 15 45.9	-0.9
	comp=Z,2.9nm,1.0s,baz=54,slow=19,SNR=3.1						
435B	Jarrell	143.59	263	P	PKPbc	18 15 46.2	+0.2
	baz=124						
JFWS	Jewell Farm	143.81	286	P	PKPbc	18 15 46.2	0.0
	baz=110						
S39A	Bolivar	143.96	276	PKPdf	PKPab	18 15 45.6	-0.7
WHTX	Lake Whitney,	144.16	265	P	PKPbc	18 15 48.1	+0.5
	baz=123						
L40A	Anamosa	144.19	284	PKPdf	PKPbc	18 15 47.5	+0.1
I40A	Norwalk	144.38	288	PKPdf	PKPbc	18 15 48.1	+0.1
LOOK	Love County	145.00	268		PKPbc	18 15 50.1	-0.1
JCT	Junction City	145.00	261		PKPbc	18 15 50.0	-0.3
JCT	Junction City	145.00	261	P	PKPbc	18 15 49.9	-0.5
	baz=125						
N38A	Joes South For	145.14	281		PKPbc	18 15 50.1	-0.3
K38A	Parkersburg	145.47	285	PKPdf	PKPdf	18 15 51.1	-0.3
SCIA	State Center	145.53	283	P	PKPab	18 15 52.9	+1.0
	baz=110						
OK034	N. Norfolk Rd.	145.64	272	PKPdf	PKPdf	18 15 52.0	+0.1
OK053	SW of W Deep R	145.69	272	PKPdf	PKPdf	18 15 52.1	+0.1
OK052	Battle Ridge R	145.69	272	PKPdf	PKPbc	18 15 52.3	-0.1
QUOK	Quay	145.71	272	PKPdf	PKPdf	18 15 52.2	+0.1
OK033	Mehan	145.81	272	PKPdf	PKPdf	18 15 52.1	-0.1
T35A	Sooner Cattle	145.90	273	PKPdf	PKPdf	18 15 52.4	0.0
OK048	Pawnee Station	145.99	272	PKPdf	PKPdf	18 15 52.2	-0.3
EYMN	Ely	146.06	294	P	PKPab	18 15 53.6	-0.2
	baz=102						
ABTX	Abilene, Hawle	146.06	264	PKPdf	PKPdf	18 15 51.8	-1.0
ABTX	Abilene, Hawle	146.06	264	P	PKPbc	18 15 53.6	-0.1
	baz=122						
OK029	Liberty Lake	146.07	271	PKPdf	PKPdf	18 15 52.8	+0.1
BCOK	Bluff Creek, N	146.12	270	PKPdf	PKPdf	18 15 51.9	-0.8
SPMN	Marine on St.	146.27	289	P	PKPbc	18 15 53.8	0.0
	baz=106						
WMOK	Wichita Mounta	146.52	268	PKPdf	PKPdf	18 15 53.7	+0.2
WMOK	Wichita Mounta	146.52	268	P	PKPbc	18 15 54.3	-0.6
	baz=119						
N35A	Tabor	146.87	280	PKPdf	PKPdf	18 15 54.3	+0.4
KSU1	Kansas State U	146.89	277	P	PKPbc	18 15 56.4	+0.6
	baz=114						
HPIG		146.93	250	PKPdf	PKPdf	18 15 53.5	-1.1
TX32	Lajitas Array	147.06	256	PKPdf	PKPdf	18 15 54.4	-0.2
TXAR	Lajitas Array	147.06	256	PKPbc	PKPbc	18 15 57.2	+0.5
	comp=Z,24nm,1.1s,baz=133,slow=5.3,SNR=58						
TXAR	Lajitas Array	147.06	256		PKPdf	18 15 55.6	+1.0
ELIS	Ellis County	147.61	270	PKPbc	PKPbc	18 15 58.5	+0.5
L34A	Svendsen Farm,	147.77	282	PKPbc	PKPbc	18 15 58.7	+0.5
ECSD	EROS Data Cent	148.48	285	PKPbc	PKPbc	18 16 00.7	+0.7
ECSD	EROS Data Cent	148.48	285	P	PKPbc	18 16 00.3	+0.3
	baz=107						
AMTX	Amarillo	148.67	266	P	PKPbc	18 16 01.2	+0.2
	baz=119						
AGMN	Agassiz Nation	149.00	294	P	PKPbc	18 16 01.3	+0.2
	baz=100						
MSTX	Muleshoe	149.00	264	PKPbc	PKPbc	18 16 01.6	-0.3
MSTX	Muleshoe	149.00	264	P	PKPbc	18 16 02.0	+0.2
	baz=121						
CBKS	Cedar Bluff	149.01	274	P	PKPbc	18 16 01.9	+0.3
	baz=114						
ULM	Lac du Bonnet	149.27	297	PKPbc	PKPbc	18 16 01.6	-0.2
	comp=Z,22nm,0.9s,baz=95,slow=1.6,SNR=16						
SUSD	Miller	150.29	285	PKPbc	PKPbc	18 16 04.4	-0.1
A36M	Sachs Harbour	151.16	350	PKPbc	PKPbc	18 16 05.9	+0.2
A36M	Sachs Harbour	151.16	350	P	PKiKP	18 16 06.4	+0.2
	baz=24						
OGNE	Ogallala	151.44	277	P	PKiKP	18 16 08.6	+0.7
	baz=110						
T25A	Trinidad	151.68	268	PKPbc	PKiKP	18 16 08.8	+0.2
T25A	Trinidad	151.68	268	P	PKiKP	18 16 09.1	+0.4
	baz=116						
BNM	Barren Site	151.84	261	PKPbc	PKPbc	18 16 08.3	-0.5
C36M	Paulatuk	153.38	347	P	PKiKP	18 16 10.8	0.0
	baz=28						
RSSD	Black Hills	153.76	283	PKPbc	PKPbc	18 16 11.2	-1.5
RSSD	Black Hills	153.76	283	P	PKiKP	18 16 12.7	0.0
	baz=103						
C23K	Itkillik River	153.83	8	P	PKiKP	18 16 13.1	+1.4
	baz=344						
C26K	Camden Bay	154.14	3	P	PKiKP	18 16 14.1	+1.7
	baz=353						
TOLK	Toolik Lake Re	155.09	8	P	PKPdf	18 16 16.7	+11
	baz=345						

INK	Inuvik	155.54	353	PKP	PKPdf	18 16 05.6	-0.5
	comp=Z,6.6nm,1.1s,baz=121,slow=3.9,SNR=6.5						
INK				PKPab	PKPab	18 16 32.7	+0.5
	comp=Z,5.2nm,1.0s,baz=304,slow=5.6,SNR=3.7						
INK	Inuvik	155.54	353	P	PKPdf	18 16 07.0	+0.8
	baz=13						
F22K	John River	155.88	11	P	PKPdf	18 16 08.1	+1.4
	baz=340						
E25K	Arctic Village	155.90	4	P	PKPdf	18 16 06.6	-0.2
	baz=352						
F21K	Alatna River	155.96	12	P	PKPdf	18 16 08.0	+1.2
	baz=337						
E27K	Coleen River	155.96	1	P	PKPdf	18 16 07.4	+0.6
	baz=359						
G22K	Bettles	156.52	11	P	PKPdf	18 16 08.2	+0.7
	baz=341						
BMAR	Burnt Mountain	156.64	4	PKPab	PKPab	18 16 37.1	+0.1
PDAR	Pinedale Array	157.34	277	PKPab	PKPab	18 16 39.4	-1.7
	comp=Z,3.9nm,1.0s,baz=97,slow=4.8,SNR=10						
PDAR	Pinedale Array	157.34	277	PKPab	PKPab	18 16 40.8	-0.3
J20K	Nowinta River	158.62	16	P	PKPdf	18 16 10.5	+0.3
	baz=333						
I29M	Ogilvie Camp,	158.76	357	P	PKPdf	18 16 12.3	+1.9
	baz=5.1						
DUG	Dugway, Tooele	158.92	269	PKPab	PKPab	18 16 48.5	+0.6
DUG	Dugway, Tooele	158.92	269	P	PKPdf	18 16 12.0	+0.5
	baz=110						
ILAR	Eielson Array	159.12	7	PKP	PKPdf	18 16 10.4	-0.3
	comp=Z,0.7nm,1.1s,baz=269,slow=4.9,SNR=4.1						
NVAR	Mina Array Bea	162.16	259	PKPab	PKPab	18 17 02.9	+0.7
	comp=Z,2.5nm,1.0s,baz=154,slow=4.4,SNR=9.5						
NVAR				PP	PP	18 20 47.1	+0.4
	comp=Z,0.5nm,0.7s,baz=120,slow=6.0,SNR=4.4						

IDC ***20*** *18:04:31.5±1.4, 25.73N×128.60E, h0km, mb3.9/7, mbtmp3.8/8, ML2.9/1, MS3.4/3, Error ellipse: s-maj=77.2km s-min=16.1km az=74.0*
JMA ***20*** *18:04:34.4±0.3, 26.0N±1.1×128.6E±0.9, h53km, MV3.8/15, NEAR OKINAWAJIMA ISLAND*
NIED ***20*** *18:04:34.4, 25.76N×128.62E, h53km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=3.09; Mθθ=1.48; Mφφ=1.61; Mrθ=1.71; Mθφ=1.48; Mφr=2.22; Fault plane solution: Mo=4.15000×10¹⁴ NP1:φ=48.00000°, δ=24.00000°, λ=-83.00000°. NP2:φ=220.00000°, δ=66.00000°, λ=-93.00000°.*
NEIC ***20*** *18:04:35.6±1.1, 25.77N±0.08×128.4E±0.1, h37km±13km, mb4.3/7 Error ellipse: s-maj=16.4km s-min=10.8km az=113.0*

ISC 20 18:04:31.8±3.4, 25.69N±0.05×128.64E±0.05, h11km±22km, n46, σ1°53/55, mb4.0/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.89	300	*i*	P	Pn		18 04 50.5	+0.2
JJT3					S	Sb		18 05 02.0	+0.7
JNTH	Nagotoyohara	0.99	326	*i*	P	Pb		18 04 51.2	+0.1
JNTH				*e*	S	Sb		18 05 03.6	-0.6
JOW	Kunigami	1.18	344		Pn	Pn		18 04 54.2	-0.1
	248nm,0.3s,baz=113,slow=25,SNR=461								
JOW					Sn	Sb		18 05 07.3	-2.3
	366nm,0.3s,baz=153,slow=18,SNR=17								
JOW	Kunigami	1.18	344	*i*	P	Pn		18 04 54.4	0.0
JOW					S	Sb		18 05 08.3	-1.3
JYRO	Yoronjima	1.34	353	*i*	P	Pn		18 04 56.4	0.0
JYRO				*e*	S	Sn		18 05 11.9	-2.3
JIH	Iheya	1.47	336	*i*	P	Pn		18 04 58.6	+0.4
JIH					S	Sn		18 05 15.6	-1.8
JAGN	Aguni-jima	1.54	306	*i*	P	Pn		18 04 59.5	+0.3
JAGN				*e*	S	Sn		18 05 18.3	-1.0
JOKE	Okinoerabujima	1.66	358	*i*	P	Pn		18 05 01.3	+0.3
JOKE				*e*	S	Sn		18 05 20.5	-1.8
JKE	Kume jima 2	1.78	291	*i*	P	Pn		18 05 02.5	-0.1
JKE					S	Sn		18 05 23.0	-2.2
JTK	Tokunoshima	2.10	8	*i*	P	Pn		18 05 07.5	+0.5
JTK					S	Sn		18 05 31.6	-1.5
JMZ	Minamidaito 2	2.33	86		P	Pn		18 05 10.1	+0.1
JMZ					S	Sn		18 05 36.6	-2.1
JKDJ	Kitadaitoujima	2.41	83	*i*	P	Pn		18 05 11.3	+0.2
JKDJ					S	Sn		18 05 38.3	-2.4
JAMN	Amaminishikomi	2.58	11		P	Pn		18 05 14.2	+0.6
YOJ	Yonaguni jima	5.25	258		Pn	Pn		18 05 46.6	-3.7
JSU	Suzuyama	6.01	15		Pn	Pn		18 06 01.9	+1.3
NACB	Ninganchiao	6.57	258		Pn	Pn		18 06 06.7	-1.7
NACB	Ninganchiao	6.57	258		P	Pn		18 06 07.2	-1.2
YHNB	Yeheng	6.66	263		P	Pn		18 06 12.4	+2.7
YULB	Yu-li	7.07	253		Pn	Pn		18 06 12.6	-2.6
YULB	Yu-li	7.07	253		P	Pn		18 06 12.5	-2.8
SSLB	Suanglung	7.24	256		Pn	Pn		18 06 16.3	-1.4
SSLB	Suanglung	7.24	256		P	Pn		18 06 16.4	-1.3
JNU	Nakatsue	7.66	14		Pn	Pn		18 06 24.1	+0.7
TPUB	Ta-pu	7.67	254		Pn	Pn		18 06 22.1	-1.5
TPUB	Ta-pu	7.67	254		P	Pn		18 06 23.1	-0.5
JMN	Monobe	9.21	28		Pn	Pn		18 06 45.2	+0.6
KSRS	Korea Array	11.74	357		Pn	Pn		18 07 20.0	+0.7
	0.1nm,0.3s,baz=177,slow=15,SNR=1.5								
	0.4nm,0.5s								
USRK	Ussuriysk Ar.	18.66	8

H10S3	**ASCENSION HYDR**	**58.37 290**	T	T	19 29 21.7	
	baz=135,slow=74,SNR=17					
ASAR	**Alice Springs**	**76.97 110**	P	P	18 28 34.4	+0.1
	1.1nm,0.8s,baz=212,slow=5.5,SNR=11					
	1.1nm,0.8s					
WRA	**Warramunga Arr**	**79.80 108**	P	P	18 28 49.8	-0.2
	0.8nm,1.0s,baz=215,slow=4.2,SNR=2.9					
	0.8nm,1.0s					
TXAR	**Lajitas Array**	**147.11 255**	PKPbc	PKPbc	18 36 24.2	-0.3
	0.1nm,0.5s,baz=128,slow=5.8,SNR=3.2					

IDC 20 18:33:54.7±1.5, 44.67S×39.75E, h0km, mb3.5/2, mbtmp3.6/3, ML3.3/1, MS3.3/6, Error ellipse: s-maj=112.5km s-min=34.7km az=32.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**19.19**	**303**	LR	LR	18 43 43.3	
	comp=Z,50nm,21.8s,baz=132,slow=31						
BOSA	**Boshof**	**19.75**	**319**	P	P	18 38 26.2	0.0
	0.1nm,0.3s,baz=152,slow=15,SNR=1.9						
BOSA				LR	LR	18 44 35.7	
	comp=Z,92nm,18.4s,baz=190,slow=32						
	3.1nm,1.1s						
LBTB	**Lobatse**	**22.73**	**325**	LR	LR	18 45 56.4	
	comp=Z,99nm,18.6s,baz=179,slow=32						
LSZ	**Lusaka**	**30.90**	**338**	LR	LR	18 49 30.5	
	comp=Z,48nm,21.1s,baz=178,slow=30						
TSUM	**Tsumeb**	**31.40**	**317**	LR	LR	18 51 30.1	
	comp=Z,69nm,18.6s,baz=152,slow=34						
MBAR	**Mbarara**	**44.60**	**347**	LR	LR	18 59 44.1	
	comp=Z,42nm,18.1s,baz=186,slow=35						
ASAR	**Alice Springs**	**76.57**	**110**	P	P	18 45 47.4	+0.3
	0.8nm,0.9s,baz=217,slow=5.8,SNR=6.6						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**79.40**	**107**	P	P	18 46 02.6	-0.3
	0.2nm,1.0s,baz=222,slow=5.3,SNR=1.5						
	0.2nm,1.0s						
TXAR	**Lajitas Array**	**147.33**	**255**	PKPbc	PKPbc	18 53 39.5	-0.8
	0.3nm,0.8s,baz=146,slow=5.2,SNR=3.3						

IDC 20 18:50:47.6±2.0, 2.07S×125.88E, h0km, mb3.3/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=156.7km s-min=28.1km az=64.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.60**	**156**	P	P	18 55 17.8	+0.2
	0.1nm,0.3s,baz=336,slow=11,SNR=9.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**22.84**	**161**	P	P	18 55 52.4	-0.2
	0.3nm,0.7s,baz=344,slow=16,SNR=9.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**61.88**	**328**	P	P	19 01 08.9	0.0
	1.2nm,1.1s,baz=115,slow=6.5,SNR=1.9						
	1.2nm,1.1s						

ROM 20 18:57:17.4±0.1, 43.864N±0.007×11.90E±0.01, h8km±1km, ML1.5/7, 3C, Error ellipse: s-maj=0.8km s-min=0.6km az=240.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.06**	**317**	P	Pg	18 57 19.5	+0.2
SFI				S	Sg	18 57 21.0	+0.4
SFI				AML	AML		
	comp=E,1430μm,0.1s						
SFI				AML	AML		
	comp=N,1665μm,0.1s						
SFI				AML	AML		
	comp=E,1445μm,0.1s						
SFI				AML	AML		
	comp=N,1695μm,0.1s						
SFI				AML	AML		
	comp=E,1430μm,0.1s						
SFI				AML	AML		
	comp=N,1670μm,0.1s						
SFI				AML	AML		
	comp=N,1700μm,0.1s						
ASQU	**Asqua**	**0.10**	**230**	P	Pg	18 57 20.6	+0.7
ASQU				S	Sg	18 57 23.1	+1.4
CRE	**Caprese Michel**	**0.25**	**171**	P	Pg	18 57 22.7	+0.4
CRE				S	Sg	18 57 27.2	+1.5
CRE				AML	AML		
	comp=E,89μm,0.2s						
CRE				AML	AML		
	comp=N,358μm,0.2s						
CRE				AML	AML		
	comp=E,89μm,1.8s						
LMD	**Lutirano**	**0.26**	**327**	P	Pg	18 57 22.9	+0.4
LMD				S	Sb	18 57 27.5	-1.3
LMD				AML	AML		
	comp=E,116μm,1.5s						
LMD				AML	AML		
	comp=E,116μm,1.5s						
LMD				AML	AML		
	comp=N,122μm,0.1s						
LMD				AML	AML		
	comp=N,121μm,0.1s						
LMD				AML	AML		
	comp=E,93μm,0.3s						
LMD				AML	AML		
	comp=N,121μm,1.9s						
RUFI	**Rufina**	**0.28**	**265**	P	Pg	18 57 23.6	+0.6
RUFI				S	Sb	18 57 28.6	-1.0
RUFI				AML	AML		
	comp=E,161μm,0.3s						
RUFI				AML	AML		
	comp=N,96μm,0.3s						
RUFI				AML	AML		
	comp=N,96μm,1.7s						
RUFI				AML	AML		
	comp=E,161μm,1.7s						
CPGN	**Carpegna, Ital**	**0.31**	**102**	P	Pg	18 57 24.4	+0.8
CPGN				S	Sb	18 57 30.6	+0.1
SSP9	**Sansepolcro**	**0.34**	**150**	P	Pg	18 57 24.7	+0.7
BRIS	**BRISIGHELLA**	**0.40**	**316**	P	Pg	18 57 25.5	+0.3
BRIS				S	Sb	18 57 32.1	-0.9
BRIS				AML	AML		
	comp=E,118μm,0.3s						
BRIS				AML	AML		
	comp=N,109μm,0.4s						
BRIS				AML	AML		
	comp=E,118μm,0.3s						
BRIS				AML	AML		
	comp=N,108μm,0.4s						
BADI	**Badiali**	**0.43**	**145**	P	Pg	18 57 25.9	+0.1
PE3	**Peglio**	**0.46**	**111**	AML	AML		
	comp=N,6μm,1.0s						
PE3				AML	AML		
	comp=E,4μm,1.5s						
CSNT	**Castellina Chi**	**0.59**	**229**	P	Pb	18 57 30.3	+0.4
CSNT				AML	AML		
	comp=N,31μm,0.0s						
T1219	**Muccia, Frazio**	**1.14**	**135**	↑P	Pg	18 57 35.2	-4.1
FDMO	**Fiordimonte**	**1.20**	**133**	P	Pb	18 57 33.2	-7.1
FDMO				S	Sn	18 57 57.0	+0.1
FDMO				AML	AML		
	comp=E,215μm,0.1s						
FDMO				AML	AML		
	comp=N,200μm,0.1s						
CSP1	**Cessapalombo**	**1.22**	**129**	↑P	Pb	18 57 35.7	-5.1
CSP1				AML	AML		
	comp=E,108μm,0.8s						
CSP1				AML	AML		
	comp=N,93μm,0.6s						
NDIM	**Novi di Modena**	**1.25**	**325**	↑P	Pn	18 57 38.6	-2.5
NDIM				AML	AML		
	comp=E,1427μm,0.1s						
NDIM				AML	AML		
	comp=N,676μm,0.5s						
T1256	**Bolognola (MC)**	**1.29**	**131**	S	Sn	18 57 60.0	+0.6
T1256				AML	AML		
	comp=E,105μm,1.5s						
T1256				AML	AML		
	comp=N,118μm,1.5s						

ROM 20 18:57:31.4±0.0, 42.818N±0.002×13.247E±0.004, h10km, ML1.4/6, 3C, Error ellipse: s-maj=0.3km s-min=0.1km az=276.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.06**	**312**	P	Pg	18 57 34.0	+0.3
T1245				S	Sg	18 57 35.7	+0.4
T1245				AML	AML		
	comp=E,1027μm,1.1s						
T1245				AML	AML		
	comp=N,1130μm,0.9s						
T1245				AML	AML		
	comp=N,1115μm,1.0s						
T1245				AML	AML		
	comp=E,1024μm,1.1s						
T1245				AML	AML		
	comp=E,988μm,0.2s						
T1245				AML	AML		
	comp=E,1028μm,1.1s						
NRCA	**Norcia**	**0.10**	**279**	P	Pg	18 57 34.5	+0.5
NRCA				S	Sg	18 57 36.5	+0.5
NRCA				AML	AML		
	comp=N,1570μm,0.7s						
NRCA				AML	AML		
	comp=E,1335μm,0.2s						
NRCA				AML	AML		
	comp=E,1425μm,0.2s						
NRCA				AML	AML		
	comp=N,1625μm,0.7s						
MMO1	**Montemonaco**	**0.10**	**36**	P	Pg	18 57 34.5	+0.4
MMO1				S	Sg	18 57 36.6	+0.5
T1241	**Roccafluvione,**	**0.14**	**74**	↑P	Pg	18 57 35.2	+0.6
T1241				S	Sg	18 57 37.8	+0.9
T1241				AML	AML		
	comp=E,185μm,0.5s						
T1241				AML	AML		
	comp=N,239μm,0.4s						
T1241				AML	AML		
	comp=E,186μm,0.5s						
T1218	**Civita (PG)**	**0.18**	**213**	↑P	Pg	18 57 36.0	+0.7
T1218				S	Sg	18 57 39.4	+1.5
T1218				AML	AML		
	comp=N,315μm,0.9s						
T1218				AML	AML		
	comp=E,246μm,1.2s						
T1216	**Preci, Frazion**	**0.18**	**294**	P	Pg	18 57 35.8	+0.5
T1216				S	Sg	18 57 38.9	+0.9
T1256	**Bolognola (MC)**	**0.19**	**355**	P	Pg	18 57 35.9	+0.4
T1256				S	Sg	18 57 39.1	+0.7
T1256				AML	AML		
	comp=E,105μm,1.5s						
T1256				AML	AML		
	comp=N,118μm,1.5s						
T1256				AML	AML		
	comp=E,105μm,1.5s						
T1256				AML	AML		
	comp=E,105μm,1.5s						
T1256				AML	AML		
	comp=N,118μm,1.5s						
T1243	**Rocca Santa Ma**	**0.19**	**129**	P	Pg	18 57 36.1	+0.6
T1243				S	Sg	18 57 39.3	+1.0
SMA1	**SAN MARTINO**	**0.20**	**161**	P	Pg	18 57 36.3	+0.6
SMA1				S	Sg	18 57 39.7	+1.2
GUMA	**Gualdo di Mace**	**0.25**	**15**	↑P	Pb	18 57 37.4	-0.7
GUMA				S	Sb	18 57 42.0	-0.6
GUMA				AML	AML		
	comp=N,406μm,0.7s						
GUMA				AML	AML		
	comp=E,664μm,0.3s						
LNSS	**Leonessa**	**0.26**	**215**	P	Pg	18 57 37.4	+0.6
LNSS				S	Sb	18 57 41.9	-1.1
LNSS				AML	AML		
	comp=E,45μm,0.2s						
LNSS				AML	AML		
	comp=N,116μm,0.9s						
RM33	**Pellescritta (**	**0.31**	**184**	P	Pg	18 57 38.2	+0.5
CESI	**CESI - Serrava**	**0.31**	**307**	P	Pg	18 57 38.1	+0.4
CESI				AML	AML		
	comp=E,91μm,0.1s						
CESI				AML	AML		
	comp=N,174μm,0.1s						
TERO	**Teramo**	**0.33**	**126**	P	Pg	18 57 38.3	+0.4

OMAN 20 19:26:02.8±1.0, 17.10N×59.48E, h14km±26km, mb4.2/2, ml3.3/5, Error ellipse: s-maj=27.9km s-min=14.1km az=152.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQM	**DQM**	**3.37**	**327**	P	Pn	19 26 53.9	-1.1
DQM				S	Sn	19 27 38.8	+4.1
MHTO	**MHTO**	**4.12**	**340**	P	Pn	19 27 04.7	-0.7
	SNR=19						
MHTO				S	Sn	19 27 55.5	+2.0
DMTO	**DMTO**	**4.37**	**279**	P	Pn	19 27 08.4	-0.5
	SNR=65						
DMTO				S	Sn	19 27 58.9	-0.7
RBK	**Rabkut**	**5.06**	**275**	P	Pn	19 27 18.6	+0.2
	SNR=6.3						
RBK				S	Sn	19 28 17.3	+0.7
DOK	**Doka**	**5.32**	**287**	P	Pn	19 27 20.2	-1.7
DOK				S	Sn	19 28 23.6	+0.7
JMDO	**Jabal Madar**	**5.40**	**346**	P	Pn	19 27 23.0	-0.1
JMDO				S	Sn	19 28 27.6	+2.5
WBK	**Wadi Bani Khal**	**5.50**	**355**	P	Pn	19 27 25.4	+0.9
WBK				S	Sn	19 28 29.2	+1.6
ABTO	**Aybut**	**5.92**	**273**	P	Pn	19 27 30.3	+0.1
	SNR=13						
ABTO				S	Sn	19 28 39.8	+1.9
BSY	**Bisya**	**6.01**	**339**	P	Pn	19 27 31.7	+0.3
BSY				S	Sn	19 28 42.0	+1.8
SMDO	**Samad**	**6.08**	**347**	P	Pn	19 27 32.7	+0.2
SMDO				S	Sn	19 28 42.4	+0.5

WEL 20 19:42:57.9, 43°S±4°×17°3E±°, h21km±11km, M2.6/12, mB5.1/2, ML2.8/24, MLv2.6/12, Mw(mB)4.5/2, Error ellipse: s-maj=0.0km s-min=0.0km az=77.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.35**	**56**	P	Pb	19 43 05.7	+0.3
GVZ	**Greta Valley S**	**0.36**	**193**	P	Pb	19 43 06.8	+1.1
LTZ	**Lake Taylor**	**0.67**	**255**	P	Pn	19 43 11.1	+0.1
AMCZ	**Amberley**	**0.67**	**213**	P	Pn	19 43 12.5	+0.4
THZ	**Tophouse**	**0.87**	**348**	P	Pb	19 43 14.2	-0.2
BSWZ	**Blackbirch Sta**	**1.05**	**31**	P	Pb	19 43 18.6	+1.2
OXZ	**Oxford**	**1.08**	**228**	P	Pb	19 43 18.7	+0.8
OKCZ	**Okains Bay**	**1.11**	**183**	P	Pb	19 43 19.6	+1.1
MQZ	**McQueen's Vall**	**1.15**	**198**	P	Pb	19 43 19.0	-0.1
MRNZ	**Matariki Terra**	**1.25**	**346**	P	Pb	19 43 22.1	+1.4
INZ	**Inchbonnie**	**1.26**	**264**	P	Pb	19 43 22.2	+1.2
AKCZ	**Akaroa Harbour**	**1.27**	**188**	P	Pb	19 43 21.1	0.0
DSZ	**Denniston Nort**	**1.32**	**311**	P	Pb	19 43 22.9	+0.9
TUWZ	**Tuamarina**	**1.32**	**27**	P	Pb	19 43 23.0	+0.9
RACZ	**Rakaia**	**1.33**	**213**	P	Pb	19 43 22.1	-0.2
NNZ	**Nelson**	**1.41**	**7**	P	Pb	19 43 25.3	+1.9
MHCZ	**Mount Hutt**	**1.48**	**231**	P	Pb	19 43 24.2	-0.5
TKNZ	**Takaka Hill**	**1.58**	**355**	P	Pb	19 43 28.0	+1.5
TCW	**Tory Channel**	**1.64**	**31**	P	Pb	19 43 27.5	+0.2
WACZ	**Wakanui South**	**1.64**	**215**	P	Pn	19 43 26.3	+0.9
WVZ	**Waitaha Valley**	**1.83**	**255**	P	Pb	19 43 29.9	-0.8
PLWZ	**Palliser**	**1.89**	**57**	P	Pn	19 43 29.6	+0.8
RPZ	**Rata Peaks**	**1.89**	**234**	P	Pn	19 43 29.8	+0.9
DUWZ	**D'Urville Isla**	**1.90**	**18**	P	Pb	19 43 32.5	+0.6
ARCZ	**Arundel**	**1.96**	**226**	P	Pn	19 43 30.8	+0.9
PAWZ	**Paruwai Farm**	**2.10**	**55**	P	Pn	19 43 32.1	+0.3
ODZ	**Otahua Downs**	**3.03**	**216**	P	Pn	19 43 45.1	+0.5
RTZ	**Ruatahuna**	**4.95**	**37**	P	Pb	19 44 19.8	-4.0
KNZ	**Kokohu**	**4.97**	**45**	P	Pn	19 44 15.4	+4.2
SNGZ	**Shannon Statio**	**4.98**	**41**	P	Pn	19 44 15.1	+3.6
MHGZ	**Mahia Peninsul**	**5.00**	**48**	P	Pb	19 44 18.7	-5.9
RAGZ	**Rawiri**	**5.24**	**40**	P	Pn	19 44 17.7	+2.6
URZ	**Urewera**	**5.30**	**36**	P	Pn	19 44 22.7	+6.9
MWZ	**Matawai**	**5.42**	**39**	P	Pn	19 44 20.0	+2.5

WEL 20 19:50:22.3±0.3, 42°S±2°×17°4E±°, h9km±2km, M3.4/41, ML3.6/24, MLv3.4/41, Error ellipse: s-maj=0.0km s-min=0.0km az=146.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.15**	**210**	P	Pg	19 50 26.5	+0.9
CMWZ				S	Sg	19 50 30.1	+2.3
TUWZ	**Tuamarina**	**0.34**	**305**	P	Pb	19 50 30.2	-0.3
TUWZ				S	Sb	19 50 35.9	-0.1
BSWZ	**Blackbirch Sta**	**0.34**	**254**	P	Pg	19 50 29.7	+0.6
BSWZ				S	Sb	19 50 35.2	-0.9
TCW	**Tory Channel**	**0.41**	**356**	P	Pb	19 50 31.6	-0.1
TCW				S	Sb	19 50 38.0	-0.2
WEL	**Wellington**	**0.48**	**45**	P	Pb	19 50 32.9	0.0
PLWZ	**Palliser**	**0.71**	**86**	P	Pb	19 50 37.2	+0.4
MSWZ	**Moikau Station**	**0.73**	**74**	P	Pb	19 50 37.4	+0.2
CAW	**Cannon Point**	**0.77**	**48**	P	Pb	19 50 37.7	-0.1
NNZ	**Nelson**	**0.81**	**300**	P	Pb	19 50 38.3	-0.3
PAWZ	**Paruwai Farm**	**0.87**	**74**	P	Pb	19 50 39.6	0.0
DUWZ	**D'Urville Isla**	**0.87**	**340**	P	Pb	19 50 39.7	0.0
KIW	**Kapiti Island**	**0.88**	**31**	P	Pb	19 50 39.8	0.0
KHZ	**Kahutara**	**0.98**	**216**	P	Pg	19 50 40.7	-0.5
MTW	**Mount Morrison**	**1.01**	**63**	P	Pg	19 50 41.6	-0.1
OGWZ	**Otaki Gorge**	**1.03**	**39**	P	Pb	19 50 42.3	0.0
TRWZ	**Traveller**	**1.06**	**78**	P	Pg	19 50 41.9	-0.7
THZ	**Tophouse**	**1.06**	**262**	P	Pg	19 50 42.4	-0.3
HOWZ	**Holdsworth Sta**	**1.16**	**52**	P	Pb	19 50 44.0	-0.6
TKNZ	**Takaka Hill**	**1.18**	**300**	P	Pb	19 50 44.7	-0.1
MRNZ	**Matariki Terra**	**1.19**	**280**	P	Pb	19 50 44.9	-0.1
TMWZ	**Te Maipa**	**1.29**	**67**	P	Pn	19 50 45.2	-1.4
MRZ	**Mangatainoka R**	**1.35**	**45**	P	Pn	19 50 46.9	-0.5
QRZ	**Quartz Range**	**1.56**	**300**	P	Pb	19 50 51.0	-0.4
OHWZ	**Ohakea**	**1.61**	**29**	P	Pb	19 50 52.4	+0.3
GVZ	**Greta Valley S**	**1.65**	**215**	P	Pn	19 50 49.5	-2.0
PRWZ	**Pori Road**	**1.65**	**50**	P	Pn	19 50 51.1	-0.3
POWZ	**Post Office Ro**	**1.65**	**42**	P	Pn	19 50 51.2	-0.3
BFZ	**Birch Farm**	**1.74**	**58**	P	Pn	19 50 52.0	-0.6
DSZ	**Denniston Nort**	**1.88**	**265**	P	Pn	19 50 54.9	+0.2
LTZ	**Lake Taylor**	**1.91**	**232**	P	Pn	19 50 53.6	-1.4
DVHZ	**Dannevirke**	**1.93**	**47**	P	Pn	19 50 54.0	-1.3
WAZ	**Wanganui**	**1.93**	**16**	P	Pg	19 50 59.0	-0.4
AMCZ	**Amberley**	**1.98**	**218**	P	Pn	19 50 53.8	-2.2
TSZ	**Takapari Road**	**2.00**	**39**	P	Pn	19 50 56.8	+0.5
ANWZ	**Angora Road**	**2.00**	**55**	P	Pg	19 51 01.2	+0.5
LREZ	**Lake Rotokare**	**2.16**	**2**	P	Pg	19 51 02.7	-1.0
PNHZ	**Pukenui**	**2.23**	**41**	P	Pn	19 50 58.8	-0.7
NMEZ	**Namu Road**	**2.23**	**351**	P	Pb	19 51 03.3	+0.5
OKCZ	**Okains Bay**	**2.29**	**203**	P	Pn	19 50 57.4	-3.0
KHEZ	**Kahui Hut**	**2.34**	**354**	P	Pb	19 51 04.1	-0.5
NEZ	**North Egmont**	**2.35**	**356**	P	Pb	19 51 04.6	-0.4
NBEZ	**Newall Road No**	**2.38**	**352**	P	Pb	19 51 04.8	-0.5
INZ	**Inchbonnie**	**2.40**	**242**	P	Pn	19 51 00.7	-1.1
MQZ	**McQueen's Vall**	**2.42**	**210**	P	Pn	19 50 58.5	-3.5
PKE	**Pukeiti**	**2.44**	**354**	P	Pb	19 51 05.4	-0.9
PKVZ	**Pokaka**	**2.46**	**19**	P	Pg	19 51 08.5	-1.0
MOVZ	**Moawhango**	**2.47**	**27**	P	Pb	19 51 07.1	+0.2
WNVZ	**Wahianoa**	**2.49**	**24**	P	Pb	19 51 06.0	-1.4
PXZ	**Pawanui**	**2.50**	**51**	P	Pb	19 51 06.6	-0.9
TRVZ	**Turoa**	**2.50**	**22**	P	Pb	19 51 07.6	0.0
BHHZ	**Black Hill Sta**	**2.51**	**33**	P	Pn	19 51 04.2	+0.8
VRZ	**Vera Road**	**2.52**	**8**	P	Pb	19 51 06.1	-1.6
DRZ	**Dome Shelter**	**2.53**	**23**	P	Pb	19 51 08.0	-0.1
WHVZ	**Whangaehu Hut**	**2.53**	**23**	P	Pb	19 51 07.8	-0.2
FWVZ	**Far West T-bar**	**2.55**	**22**	P	Pb	19 51 08.1	-0.2
TUVZ	**Tukino**	**2.56**	**24**	P	Pb	19 51 07.4	-1.1
NGZ	**Ngauruhoe**	**2.63**	**22**	P	Pb	19 51 09.5	-0.3
SNVZ	**South Ngauruho**	**2.64**	**23**	P	Pb	19 51 09.1	-0.7
OTVZ	**Oturere**	**2.66**	**23**	P	Pb	19 51 09.3	-1.0
NNVZ	**North Ngauruho**	**2.68**	**22**	P	Pb	19 51 10.6	+0.1
WTVZ	**West Tongariro**	**2.69**	**22**	P	Pb	19 51 10.9	+0.2
ETVZ	**East Tongariro**	**2.70**	**24**	P	Pb	19 51 10.2	-0.8
TMVZ	**Te Maari**	**2.72**	**23**	P	Pn	19 51 07.2	+0.9
KRVZ	**Karewarewa**	**2.72**	**22**	P	Pb	19 51 12.3	+1.1
NTVZ	**North Tongarir**	**2.73**	**23**	P	Pn	19 51 07.4	+1.0
KATZ	**Kakaramea**	**2.85**	**22**	P	Pb	19 51 14.5	+1.1
RITZ	**Rihia Road**	**2.89**	**25**	P	Pg	19 51 16.1	-1.7
WACZ	**Wakanui South**	**2.95**	**217**	P	Pn	19 51 06.5	-2.8
BKZ	**Black Stump Fm**	**2.96**	**35**	P	Pb	19 51 16.3	+1.0
WVZ	**Waitaha Valley**	**3.02**	**240**	P	Pn	19 51 09.1	-1.2
HIZ	**Hauiti**	**3.13**	**8**	P	Pb	19 51 15.4	-2.8
RPZ	**Rata Peaks**	**3.19**	**228**	P	Pn	19 51 10.1	-2.5
ARCZ	**Arundel**	**3.28**	**224**	P	Pn	19 51 11.4	-2.4
GCSZ	**Gaunt Creek Bo**	**3.40**	**239**	P	Pn	19 51 16.6	+1.1
TLZ	**Tolley Road**	**3.42**	**16**	P	Pb	19 51 22.8	-0.3
TMZ	**Timaru**	**3.67**	**220**	P	Pn	19 51 17.0	-2.3
JCZ	**Jackson Bay**	**4.75**	**237**	P	Pn	19 51 33.3	-0.8

*IDC **20** 20:25:10.1±0.8, 44.18S×39.15E, h0km, mb4.2/8, mbtmp4.1/9, ML3.6/1, MS3.5/8, Error ellipse: s-maj=28.5km s-min=20.3km az=42.0*

ISC 20 20:25:11.6±0.8, 44.25S±0.1×39.1E±0.2, h10km, n19, σ0.57/14, mb4.2/8, MS3.4/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**19.08**	**320**	P	**Pn**	**20 29 35.4**	**+0.2**
	0.1nm,0.3s,baz=153,slow=14,SNR=2.0						
BOSA				LR	LR	20 35 25.5	
	comp=Z,176nm,20.6s,baz=178,slow=32						
	3.9nm,1.1s						
LBTB	**Lobatse**	**22.06**	**326**	P	**P**	**20 30 06.9**	**+0.3**
	3.2nm,0.8s,baz=131,slow=12,SNR=4.3						
LBTB				LR	LR	20 37 26.3	
	comp=Z,141nm,19.2s,baz=148,slow=33						
	3.2nm,0.8s						
OPO	**Ambohidratompo**	**26.40**	**17**	LR	LR	20 39 28.5	
	comp=Z,91nm,18.3s,baz=77,slow=32						
MAW	**Mawson**	**26.65**	**160**	LR	LR	20 38 38.8	
	comp=Z,94nm,21.6s,baz=296,slow=30						
LSZ	**Lusaka**	**30.26**	**339**	LR	LR	20 41 41.1	
	comp=Z,84nm,21.4s,baz=151,slow=33						
TSUM	**Tsumeb**	**30.73**	**317**	LR	LR	20 42 38.2	
	comp=Z,124nm,20.0s,baz=152,slow=34						
SNAA	**Sanae**	**34.12**	**202**	P	**P**	**20 31 56.7**	**+0.6**
SNAA	**Sanae**	**34.12**	**202**	P	**P**	**20 31 56.7**	**+0.6**
	4.1nm,0.9s,baz=80,slow=7.6,SNR=12						
SNAA				LR	LR	20 44 39.6	
	comp=Z,74nm,18.1s,baz=39,slow=34						
	4.1nm,0.9s						
VNA2	**Neumayer--Watz**	**35.07**	**205**	P	**P**	**20 32 04.9**	**+0.7**
	baz=51,slow=9.3						
MBAR	**Mbarara**	**44.01**	**348**	LR	LR	20 50 45.7	
	comp=Z,68nm,19.2s,baz=155,slow=35						
QSPA	**South Pole Qui**	**46.05**	**180**	P	**P**	**20 33 34.6**	**-0.6**
	1.2nm,0.5s,baz=39,slow=0.7,SNR=3.7						
	1.2nm,0.5s						
VNDA	**Vanda**	**53.63**	**167**	P	**P**	**20 34 32.4**	**0.0**
	1.3nm,1.1s,baz=242,slow=12,SNR=3.7						
	1.3nm,1.1s						
CPUP	**Villa Florida**	**76.49**	**247**	P	**P**	**20 37 01.9**	**+0.1**
	2.5nm,1.0s,baz=113,slow=7.4,SNR=4.1						
	2.5nm,1.0s						
STKA	**Stephens Creek**	**76.54**	**121**	P	**P**	**20 37 02.1**	**+0.1**
	2.6nm,0.7s,baz=218,slow=2.7,SNR=7.1						
	2.6nm,0.7s						
ASAR	**Alice Springs**	**77.16**	**110**	P	**P**	**20 37 05.8**	**+0.2**
	3.4nm,0.9s,baz=219,slow=5.2,SNR=22						
	3.4nm,0.9s						
WRA	**Warramunga Arr**	**79.98**	**108**	P	**P**	**20

THZ				S	Sg	20 36 15.8	+1.1
NNZ	Nelson	0.91	339	P	Pn	20 36 09.6	+1.4
TCW	Tory Channel	0.92	22	P	Pn	20 36 10.6	+2.2
SNZO	South Karori	1.01	42	P	Pg	20 36 13.0	+3.2
MRNZ	Matariki Terra	1.04	310	P	Pg	20 36 12.1	+1.8
WEL	Wellington	1.06	43	P	Pg	20 36 13.8	+3.0
GVZ	Greta Valley S	1.07	212	P	Pg	20 36 13.4	+2.5
PLWZ	Palliser	1.19	66	P	Pg	20 36 15.0	+1.8
TKNZ	Takaka Hill	1.22	328	P	Pg	20 36 15.1	+1.4
MSWZ	Moikau Station	1.26	59	P	Pg	20 36 15.9	+1.5
DUWZ	D'Urville Isla	1.27	4	P	Pg	20 36 16.3	+1.6
CAW	Cannon Point	1.34	45	P	Pg	20 36 17.4	+1.3
LTZ	Lake Taylor	1.35	238	P	Pg	20 36 17.4	+1.2
PAWZ	Paruwai Farm	1.39	61	P	Pg	20 36 17.5	+0.5
AMCZ	Amberley	1.40	217	P	Pg	20 36 17.6	+0.3
KIW	Kapiti Island	1.46	35	P	Pg	20 36 19.4	+1.0
DSZ	Dennistone Nort	1.54	281	P	Pg	20 36 20.8	+1.0
TRWZ	Traveller	1.55	65	P	Pg	20 36 19.6	-0.6
MTW	Mount Morrison	1.56	55	P	Pg	20 36 19.7	-0.5
QRZ	Quartz Range	1.57	322	P	Pg	20 36 21.1	+0.5
OGWZ	Otaki Gorge	1.61	40	P	Pg	20 36 21.1	-0.2
HOWZ	Holdsworth Sta	1.73	48	P	Pg	20 36 22.1	-1.4
OKCZ	Okains Bay	1.75	198	P	Pg	20 36 22.0	-1.8
OXZ	Oxford	1.81	226	P	Pb	20 36 22.6	-0.4
TMWZ	Te Maipa	1.83	59	P	Pb	20 36 23.2	-0.1
MQZ	McQueen's Vall	1.85	207	P	Pb	20 36 22.5	-1.0
INZ	Inchbonnie	1.88	249	P	Pg	20 36 24.9	-1.4
AKCZ	Akaroa Harbour	1.92	200	P	Pb	20 36 24.1	-0.7
MRZ	Mangatainoka R	1.93	44	P	Pb	20 36 25.0	0.0
RACZ	Rakaia	2.06	216	P	Pb	20 36 25.7	-1.5
MHCZ	Mount Hutt	2.21	228	P	Pb	20 36 27.9	-1.8
PRWZ	Pori Road	2.22	48	P	Pb	20 36 28.6	-1.3
POWZ	Post Office Ro	2.23	42	P	Pb	20 36 29.1	-1.0
WACZ	Wakanui South	2.37	217	P	Pb	20 36 30.2	-2.2
WVZ	Waitaha Valley	2.49	245	P	Pb	20 36 33.4	-1.1
DVHZ	Dannevirke	2.50	46	P	Pb	20 36 31.9	-2.8
TSZ	Takapari Road	2.58	40	P	Pb	20 36 33.6	-2.5
RPZ	Rata Peaks	2.61	230	P	Pb	20 36 34.0	-2.6
RPZ	Rata Peaks	2.61	230	P	Pb	20 36 33.9	-2.8
ARCZ	Arundel	2.70	225	P	Pn	20 36 34.6	+1.8
KHEZ	Kahui Hut	2.78	3	P	Pg	20 36 42.2	-1.3
KHEZ	Kahui Hut	2.78	3	P	Pg	20 36 42.1	-1.3
NBEZ	Newall Road No	2.80	1	P	Pg	20 36 43.6	-0.3
NEZ	North Egmont	2.80	4	P	Pg	20 36 42.7	-1.3
PNHZ	Pukenui	2.81	41	P	Pb	20 36 36.5	-3.4
GCSZ	Gaunt Creek Bo	2.86	243	P	Pb	20 36 38.6	-2.2
PKVZ	Pokaka	3.01	23	P	Pg	20 36 45.6	-2.4
VRZ	Vera Road	3.03	14	P	Pb	20 36 43.8	+0.1
MOVZ	Moawhango	3.04	30	P	Pb	20 36 43.0	-0.9
WNVZ	Wahianoa	3.06	27	P	Pb	20 36 42.6	-1.6
BHHZ	Black Hill Sta	3.09	34	P	Pb	20 36 41.1	-3.7
TMZ	Timaru	3.09	221	P	Pb	20 36 40.1	+1.8
WHVZ	Whangaehu Hut	3.09	26	P	Pb	20 36 42.8	-2.1
FWVZ	Far West T-bar	3.11	26	P	Pb	20 36 46.1	+1.0
TUVZ	Tukino	3.13	27	P	Pb	20 36 43.1	-2.4
NGZ	Ngauruhoe	3.19	26	P	Pb	20 36 47.5	+0.9
SNVZ	South Ngauruho	3.20	26	P	Pb	20 36 44.3	-2.4
OTVZ	Oturere	3.23	26	P	Pb	20 36 44.4	-2.8
NNVZ	North Ngauruho	3.24	26	P	Pb	20 36 44.8	-2.5
KRVZ	Karewarewa	3.28	26	P	Pg	20 36 50.2	-2.9
TMVZ	Te Maari	3.28	27	P	Pb	20 36 45.1	-3.0
FOZ	Fox Glacier	3.29	242	P	Pb	20 36 44.3	-3.8
NTVZ	North Tongarir	3.29	26	P	Pb	20 36 45.2	-3.0
LBZ	Lake Benmore	3.52	228	P	Pn	20 36 46.3	+2.1
BKZ	Black Stump Fm	3.54	36	P	Pn	20 36 47.1	+2.6
BKZ	Black Stump Fm	3.54	36	P	Pn	20 36 46.1	+1.6
HIZ	Hauiti	3.64	13	P	Pb	20 36 53.6	-0.7
HIZ	Hauiti	3.64	13	P	Pb	20 36 52.1	-2.0
ODZ	Otahua Downs	3.76	217	P	Pn	20 36 49.3	+1.8
ODZ	Otahua Downs	3.76	217	P	Pn	20 36 48.9	+1.4
MRHZ	Matea Rd	3.79	32	P	Pn	20 36 49.5	+1.5
JCZ	Jackson Bay	4.19	240	P	Pb	20 36 58.4	-5.2
JCZ	Jackson Bay	4.19	240	P	Pn	20 36 57.6	+4.1
EAZ	Earnscleugh	4.55	224	P	Pn	20 37 00.6	+2.3
OPRZ	Ohinepanea	4.71	27	P	Pb	20 37 06.6	-5.8
MKAZ	Moumakai	5.07	12	P	Pb	20 37 11.4	-7.0

TUL ***20*** *20:40:19.1±0.6,35°.66N±0°.01×97°.152W±0°.005,h4km±2km, ML2.5,mb_Lg2.1/6(NEIC),Error ellipse: s-maj=1.5km s-min=0.6km az=169.0*

NEIC 20 20:40:19.8±0.5,**35°.656N**±0°.010×**97°.15W**±0°.01,**h4**km±2km**, Error ellipse: s-maj=1.5km s-min=1.1km az=178.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.03**	**268**	Pg	Pg	20 40 20.3	-0.4
OK005				Sg	Sg	20 40 21.2	-0.2
OK025	**Westminster Rd**	**0.17**	**244**	Pg	Pg	20 40 22.8	-0.3
OK025				Sg	Sg	20 40 25.5	+0.2
OK029	**Liberty Lake**	**0.28**	**300**	Pg	Pg	20 40 24.9	-0.4
OK029				Sg	Sg	20 40 29.1	+0.1
BCOK	**Bluff Creek, N**	**0.37**	**270**	Pg	Pg	20 40 26.6	-0.4
BCOK				Sg	Sg	20 40 32.0	+0.2
OK031	**S. Brethren Rd**	**0.39**	**41**	Pg	Pg	20 40 27.0	-0.4
OK031				Sg	Sg	20 40 32.7	+0.2
OK030	**Cody Creek RV**	**0.40**	**48**		Pg	20 40 27.3	-0.3
OK030				Sg	Sg	20 40 33.1	+0.3
OK033	**Mehan**	**0.42**	**24**	Pg	Pg	20 40 27.4	-0.6
OK052	**Battle Ridge R**	**0.44**	**40**	Pg	Pg	20 40 28.0	-0.3
OK052				Sg	Sg	20 40 34.2	+0.2
FNO	**Franklin**	**0.45**	**207**	Pg	Pg	20 40 27.8	-0.5
FNO				Sg	Sg	20 40 34.4	+0.2
OK053	**SW of W Deep R**	**0.46**	**40**	Pg	Pg	20 40 28.4	-0.3
OK053				Sg	Sg	20 40 34.9	+0.1
OK034	**N. Norfolk Rd.**	**0.50**	**45**	Pg	Pg	20 40 29.0	-0.5
OK034				Sg	Sg	20 40 36.0	0.0
QUOK	**Quay**	**0.63**	**35**	Pg	Pg	20 40 31.3	-0.6
QUOK				Sg	Sg	20 40 39.8	-0.2
OK050	**Pawnee Station**	**0.75**	**11**	Pg	Pg	20 40 33.2	-1.0
OK050				Sg	Sg	20 40 43.7	-0.2
OK046	**Pawnee Station**	**0.77**	**15**	Pg	Pg	20 40 33.6	-0.8
OK046				Sg	Sg	20 40 44.2	-0.3
OK048	**Pawnee Station**	**0.78**	**13**	Pg	Pg	20 40 34.0	-0.8
OK048				Sg	Sg	20 40 44.6	-0.2
OK045	**Pawnee Station**	**0.81**	**13**	Pg	Pg	20 40 34.6	-0.8
OK045				Sg	Sg	20 40 45.7	-0.2
CROK	**Carrier**	**1.08**	**322**	Pg	Pg	20 40 39.5	-1.0
CROK				Sg	Sg	20 40 54.0	-0.5
BLOK	**Blackwell**	**1.10**	**357**	Pg	Pg	20 40 39.6	-1.3
BLOK				Sg	Sg	20 40 54.9	-0.3
TUL1	**Leonard**	**1.14**	**77**	Pg	Pg	20 40 39.8	-1.8
TUL1				Sg	Sg	20 40 55.4	-0.9
X34A	**Smith Ranch, M**	**1.19**	**208**	Pg	Pg	20 40 41.4	-1.2
GC02	**Grant County #**	**1.32**	**335**		Pn	20 40 43.7	-1.4
T35A	**Sooner Cattle**	**1.36**	**22**		Pn	20 40 44.1	-1.5
T35A				IAmb_Lg		20 41 02.0	
	comp=Z,4.3nm,0.9s						
OK032	**Salt Plains WL**	**1.43**	**324**		Pn	20 40 45.6	-1.0
OK038	**West end E0370**	**1.53**	**303**		Pn	20 40 47.0	-0.9
WMOK	**Wichita Mounta**	**1.62**	**236**		Pn	20 40 48.2	-0.9
LOOK	**Love County**	**1.66**	**181**	Pn	Pn	20 40 49.4	-0.3
KAN08	**Anthony NE Sta**	**1.70**	**337**	IAmb_Lg		20 41 15.3	
	comp=Z,15nm,0.8s						
X37A	**Clayton**	**1.81**	**126**	Pn	Pn	20 40 51.7	0.0
X37A				IAmb_Lg		20 41 17.9	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**3.69**	**55**	IAmb_Lg		20 42 21.3	
	comp=Z,6.0nm,0.8s						
WHAR	**Wooly Hollow**	**3.99**	**94**	Pn	Pn	20 41 21.3	-0.4

VAO ***20*** *20:57:31.5±0.3,31°.78S×68°.99W,h10km,mb6.2*
GUC ***20*** *20:57:42.3±0.6,31°.655×68°.66W,h90km±10km,ML6.6*
SJA ***20*** *20:57:42.2±0.7,31°.60S×68°.65W,h129km±6km,ML6.4, MW6.2*
BJI ***20*** *20:57:42.8±0.0,31°.54S×68°.70W,h100km,mB6.5/70*
NEIC ***20*** *20:57:43.9,31°.615×68°.64W,h108km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=7.14; Mθθ 1.08; Mϕϕ 6.06; Mrθ 1.30; Mθϕ 0.90; Mϕr 1.15; Fault plane solution: M₀6.94000×10¹⁸ NP1:φs3.10000°,δ39.65000°, λ-101.28000°. NP2:φs197.62000°,δ51.26000°, λ-80.79000°. Principal axes: T 6.3529, Plg6.0000°, Azm281.0000°; N 1.0602, Plg7.0000°, Azm12.0000°; P -7.4130, Plg81.0000°, Azm152.0000°;*
MOS ***20*** *20:57:43.1±0.9,31°.51S×68°.58W,h105km,mb6.4/29, MS5.8/14 Error ellipse: s-maj=8.7km s-min=5.7km az=83.6*
IDC ***20*** *20:57:44.4±0.3,31°.60S×68°.66W,h108km±2km,mb5.9/30, mbtmp6.3/32,MS5.6/33,Error ellipse: s-maj=9.0km s-min=6.2km az=80.0*
NEIC ***20*** *20:57:44±2.0,31°.62S±0°.03×68°.63W±0°.08,h108km±1km, mb6.4/151,Mwb6.5/71,Mww6.4,Md6.5(SJA),Mwr6.3(GUC), Error ellipse: s-maj=11.5km s-min=5.1km az=274.0*
NEIC ***20*** *20:57:46,31°.745×68°.53W,h120km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10¹⁸Nm; Mrr=6.01; Mθθ 2.42; Mϕϕ 3.59; Mrθ 1.14; Mθϕ 0.75; Mϕr 1.24; Fault plane solution: M₀5.55000×10¹⁸ NP1:φs24.00000°, δ36.00000°,λ-94.00000°. NP2:φs210.00000°,δ54.00000°, λ-86.00000°. Principal axes: T 4.2093, Plg9.0000°, Azm298.0000°; N 2.0777, Plg3.0000°, Azm28.0000°; P -6.2870, Plg80.0000°, Azm136.0000°;*
GCMT ***20*** *20:57:47.0±0.1,31°.66S×68°.74W,h119km,MW6.4/172, Moment Tensor Solution. s172,c434; s158,c572; Duration: 3s9 Moment tensor: Scale 10¹⁸Nm; Mrr=5.71±.02; Mθθ 2.15±.03; Mϕϕ 3.56±.03; Mrθ 0.60±.02; Mθϕ 1.50±.03; Mϕr 0.68±.03; Best double couple: M₀5.19100×10¹⁸ NP1:φs214.00000°,δ50.00000°, λ-89.00000°. NP2:φs31.00000°,δ40.00000°,λ-92.00000°. Principal axes: T 4.5910, Plg5.0000°, Azm303.0000°; N 1.2000, Plg1.0000°, Azm33.0000°; P -5.7910, Plg85.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 20 20:57:43.8±0.2,**31°.59S**±0°.02×**68°.64W**±0°.02,**h110**km±1km, **h110km:pP-P,n2294,σ1s73**/3211,**mb6.3**/233,**120C-309D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.05**	**326**	Pn	Pn	20 57 59.0	0.0
ZON				Sn	Sn	20 58 10.1	-0.4
ZON	**Zonda**	**0.05**	**326**	eP	Pn	20 57 59.0	0.0
ZON				eS	Sn	20 58 10.1	-0.4
ZON	**Zonda**	**0.05**	**326**	P	Pn	20 57 59.0	0.0
ZON						20 58 10.1	
RTCV	**Cerro Valdivia**	**0.29**	**162**	eP	Pn	20 58 02.0	+2.3
RTLL	**Cerro Villicun**	**0.30**	**29**	⇓iP	Pn	20 58 00.1	+0.4
RTLL	**Cerro Villicun**	**0.30**	**29**	eP	Pn	20 58 00.0	+0.4
RTLL				eS	Sn	20 58 11.9	+0.4
ASAL	**Salagasta**	**1.01**	**189**	eP	Pn	20 58 05.5	+0.3
ACCO	**Cerro Coronel**	**1.06**	**340**	eP	Pn	20 58 07.0	+0.9
ARCO	**CERRO ARCO**	**1.27**	**191**	eP	Pn	20 58 08.4	+0.2
ARCO				eS	Sn	20 58 28.0	+1.4
ARCO				IAML		20 58 30.6	
	comp=Z,322μm,0.8s						
AVFE	**Valle Fertil**	**1.38**	**48**	eP	Pn	20 58 10.6	+1.3
AVFE				eS	Sn	20 58 31.3	+2.7
AVFE				IAML		20 58 33.3	
	comp=Z,229μm,0.9s						
ACDV	**Cuesta del Vie**	**1.47**	**344**	eP	Pn	20 58 11.6	+1.1
ACDV				eS	Sn	20 58 29.8	-0.9
ACDV				IAML		20 58 36.3	
	comp=Z,275μm,0.9s						
AAGR	**Agrelo**	**1.50**	**186**	eP	Pn	20 58 11.0	+0.2
AROD	**Rodeo**	**1.59**	**333**	eP	Pn	20 58 08.2	-3.9
ACHE	**Chepes**	**1.75**	**76**	eP	Pn	20 58 16.0	+2.2
AVIZ	**Vizcacheras**	**1.88**	**177**	eP	Pn	20 58 15.8	+0.4
CO03	**El Pedregal**	**1.91**	**293**	Pn	Pn	20 58 16.2	+0.5
CO03				Sn	Sn	20 58 41.1	+1.1
CO03	**El Pedregal**	**1.91**	**293**	⇑iP	Pn	20 58 16.2	+0.5
CO03				eS	Sn	20 58 40.8	-0.1
CO03	**El Pedregal**	**1.91**	**293**	eP	Pn	20 58 16.2	+0.5
CO03				eS	Sn	20 58 41.8	+1.8
CO03				IAML		20 58 43.6	
	comp=Z,342μm,2.2s						
VA03	**San Esteban**	**2.00**	**234**		Pn	20 58 16.8	-0.1
VA03	**San Esteban**	**2.00**	**234**	⇑iP	Pn	20 58 17.0	+0.1
VA03				eS	Sn	20 58 42.1	0.0
VA03	**San Esteban**	**2.00**	**234**	eP	Pn	20 58 16.8	-0.1
VA03				eS	Sn	20 58 42.6	+0.5
VA03				IAML		20 58 46.9	
	comp=Z,179μm,0.9s						
CO01	**Juntas del Tor**	**2.03**	**322**		Pn	20 58 19.1	+1.6
CO01	**Juntas del Tor**	**2.03**	**322**	⇑iP	Pn	20 58 19.3	+1.8
CO01	**Juntas del Tor**	**2.03**	**322**	eP	Pn	20 58 19.4	+1.8
CO01				eS	Sn	20 58 45.6	+2.4
CO01				IAML		20 58 48.2	
	comp=Z,167μm,1.0s						
CO02	**Combarbal**	**2.05**	**280**		Pn	20 58 17.2	-0.3
CO02				Sn	Sn	20 58 44.3	+0.9
CO02	**Combarbal**	**2.05**	**280**	⇑iP	Pn	20 58 17.5	-0.1
CO02				iS	Sn	20 58 42.6	-0.8
CO02	**Combarbal**	**2.05**	**280**	eP	Pn	20 58 17.5	-0.1
CO02				eS	Sn	20 58 44.2	+0.9
CO02				IAML		20 58 47.9	
	comp=Z,688μm,1.1s						
APLL	**PUNTA DE LOS L**	**2.17**	**57**	eP	Pn	20 58 20.5	+1.4
FCH	**Farellones**	**2.22**	**218**	⇑iP	Pn	20 58 20.6	+0.7
PEL	**Peldehue**	**2.32**	**228**	⇑iP	Pn	20 58 20.4	-0.6
PEL				iS	Sn	20 58 47.8	-1.6
PEL	**Peldehue**	**2.32**	**228**	eP	Pn	20 58 20.5	-0.5
PEL				eS	Sn	20 58 50.4	+1.0
PEL	**Peldehue**	**2.32**	**228**	P	Pn	20 58 20.0	-1.0
GO04	**Tololo Observa**	**2.33**	**307**		Pn	20 58 20.9	-0.4
GO04	**Tololo Observa**	**2.33**	**307**	⇑iP	Pn	20 58 21.3	0.0
GO04				eS	Sn	20 58 51.1	+1.1
GO04	**Tololo Observa**	**2.33**	**307**	eP	Pn	20 58 21.2	0.0
GO04				eS	Sn	20 58 50.0	+0.1
ROCH	**El Roble**	**2.43**	**235**	⇑iP	Pn	20 58 21.5	-1.1
ROCH				iS	Sn	20 58 50.6	-1.7
ROC1	**El Roble**	**2.44**	**235**		Pn	20 58 21.6	-1.1
ROC1	**El Roble**	**2.44**	**235**	eP	Pn	20 58 21.8	-0.9
ROC1				eS	Sn	20 58 51.2	-1.3
VA06	**Catapilco**	**2.45**	**246**	Pn	Pn	20 58 20.7	-1.9
VA06	**Catapilco**	**2.45**	**246**	⇑iP	Pn	20 58 20.9	-1.7
VA06				eS	Sn	20 58 49.3	-3.1
MT03	**Universidad Ad**	**2.47**	**219**	Pn	Pn	20 58 23.0	0.0
MT03	**Universidad Ad**	**2.47**	**219**	⇑iP	Pn	20 58 23.0	0.0
MT03				eS	Sn	20 58 51.9	-1.0
MT03	**Universidad Ad**	**2.47**	**219**	eP	Pn	20 58 22.9	0.0
MT03				eS	Sn	20 58 50.0	-2.9
MT03				IAML		20 59 02.1	
	comp=Z,97μm,1.2s						
MT05	**Renca**	**2.52**	**224**		Pn	20 58 23.2	-0.4
MT05	**Renca**	**2.52**	**224**	⇑iP	Pn	20 58 23.3	-0.4
MT05				eS	Sn	20 58 52.5	-1.7
MT05				IAML		20 58 56.9	
	comp=N,346μm,0.4s						
MT05	**Renca**	**2.52**	**224**	eP	Pn	20 58 23.5	-0.1
MT05				eS	Sn	20 58 54.6	+0.5
MT05				IAML		20 59 03.8	
	comp=Z,71μm,1.8s						
ACLC	**CERRO LA CRUZ**	**2.60**	**35**	eP	Pn	20 58 26.6	+1.7
ACLC				eS	Sn	20 58 54.4	-1.8
ACLC				IAML		20 59 29.1	
	comp=Z,167μm,1.2s						
LMEL	**Las Melosas**	**2.61**	**210**		Pn	20 58 24.7	-0.1
LMEL	**Las Melosas**	**2.61**	**210**	⇑iP	Pn	20 58 25.2	+0.4
MRA	**San Martin**	**2.62**	**109**	iP	Pn	20 58 26.4	+1.5
MRA				eS	Sn	20 58 53.0	-3.5
MRA				eS		20 58 53.0	
MRA				IAML		20 58 59.2	
	comp=Z,263μm,0.6s						
MT02	**Curacav**	**2.69**	**231**	Pn	Pn	20 58 24.0	-1.6
MT02	**Curacav**	**2.69**	**231**	⇑iP	Pn	20 58 24.1	-1.6
MT02	**Curacav**	**2.69**	**231**	eP	Pn	20 58 24.4	-1.3
MT02				eS	Sn	20 58 57.9	-0.1
MT02				IAML		20 59 00.2	
	comp=Z,49μm,1.1s						
CO06	**Fray Jorge**	**2.72**	**289**		Pn	20 58 24.4	-1.8
CO06	**Fray Jorge**	**2.72**	**289**	⇑iP	Pn	20 58 24.4	-1.8
CO05	**La Serena**	**2.79**	**306**		Pn	20 58 26.0	-1.0
CO05	**La Serena**	**2.79**	**306**	⇑iP	Pn	20 58 26.2	-0.8
BO04	**La Punta**	**2.91**	**214**		Pn	20 58 28.4	-0.3
BO04	**La Punta**	**2.91**	**214**	eP	Pn	20 58 27.6	-1.1
VA01	**Torpederas**	**2.92**	**240**		Pn	20 58 26.3	-2.5
VA01	**Torpederas**	**2.92**	**240**	⇑iP	Pn	20 58 26.2	-2.5
VA01	**Torpederas**	**2.92**	**240**	eP	Pn	20 58 26.6	-2.1
MT09	**Talagante**	**2.94**	**222**		Pn	20 58 28.1	-1.1
MT09	**Talagante**	**2.94**	**222**	⇑iP	Pn	20 58 28.1	-1.1
MT09				iS	Sn	20 59 02.2	-2.0
MT09				IAML		20 59 08.8	
	comp=N,160μm,0.4s						
AC05	**El Transito**	**3.08**	**332**	Pn	Pn	20 58 32.4	+1.4
AC05	**El Transito**	**3.08**	**332**	⇑iP	Pn	20 58 32.7	+1.6
AC05	**El Transito**	**3.08**	**332**	eP	Pn	20 58 32.5	+1.4
AC05				eS	Sn	20 59 07.0	-0.5
AC05				IAML		20 59 45.7	
	comp=Z,128μm,0.8s						
LCO	**Las Campanas**	**3.12**	**325**		Pn	20 58 31.9	+0.2
LCO	**Las Campanas**	**3.12**	**325**	⇑iP	Pn	20 58 31.8	+0.1
LCO	**Las Campanas**	**3.12**	**325**	⇓iP	Pn	20 58 31.6	-0.2
LCO	**Las Campanas**	**3.12**	**325**	P	Pn	20 58 31.9	+0.1
MT01	**Popeta**	**3.16**	**223**		Pn	20 58 29.9	-2.0
MT01	**Popeta**	**3.16**	**223**	⇑iP	Pn	20 58 30.1	-1.8
VA05	**Santo Domingo**	**3.25**	**230**		Pn	20 58 30.6	-2.4
VA05	**Santo Domingo**	**3.25**	**230**	⇑iP	Pn	20 58 31.2	-1.9
BO01	**Tunca**	**3.47**	**216**		Pn	20 58 34.5	-1.5
BO01	**Tunca**	**3.47**	**216**	iP	Pn	20 58 34.5	-1.5
BO01	**Tunca**	**3.47**	**216**	iP	Pn	20 58 34.6	-1.4
BO01				eS	Sn	20 59 04.5	-12
BO02	**Sierra Bellavi**	**3.66**	**209**		Pn	20 58 38.3	-0.4
BO02	**Sierra Bellavi**	**3.66**	**209**	⇓iP	Pn	20 58 38.0	-0.7
AC04	**Llanos de Chal**	**3.98**	**327**	Pn	Pn	20 58 42.3	-0.6
AC04	**Llanos de Chal**	**3.98**	**327**	⇑iP	Pn	20 58 42.2	-0.7
AC04	**Llanos de Chal**	**3.98**	**327**	eP	Pn	20 58 42.4	-0.5
CYA	**Choya**	**3.99**	**39**	⇑iP	Pn	20 58 43.2	+0.1
CYA	**Choya**	**3.99**	**39**	iP	Pn	20 58 43.6	+0.5
CYA				eS	Sn	20 59 21.6	-7.5
BO03	**Pichilemu**	**4.02**	**223**	iP	Pn	20 58 40.0	-3.4
GO03	**Copiap**	**4.22**	**340**		Pn	20 58 46.3	+0.1
GO03	**Copiap**	**4.22**	**340**	⇑iP	Pn	20 58 46.3	+0.1
GO03	**Copiap**	**4.22**	**340**	⇑⇑P	Pn	20 58 46.3	+0.1
GO05	**Huala**	**4.38**	**218**		Pn	20 58 45.4	-2.9
GO05	**Huala**	**4.38**	**218**	iP	Pn	20 58 44.7	-3.6
AC06	**Mina Casimiro**	**4.47**	**340**	Pn	Pn	20 58 49.3	-0.3
AC06	**Mina Casimiro**	**4.47**	**340**	⇑iP	Pn	20 58 49.2	-0.4
AC02	**Maricunga**	**4.76**	**355**	Pn	Pn	20 58 54.3	+0.5
AC02	**Maricunga**	**4.76**	**355**	⇑iP	Pn	20 58 55.4	+1.6
ML02	**Panimavida**	**4.76**	**208**	Pn	Pn	20 58 51.0	-2.4
ML02	**Panimavida**	**4.76**	**208**	⇓iP	Pn	20 58 51.2	-2.2
AHML	**Horco Molle**	**5.59**	**32**	⇑iP	Pn	20 59 04.1	-0.6
AC01	**Pan de Azucar**	**5.69**	**342**		Pn	20 59 05.0	-1.0
BI05	**Punta Hualpn**	**6.38**	**215**		Pn	20 59 10.2	-5.0
GO02	**Mina Guanaco**	**6.46**	**352**	Pn	Pn	20 59 15.9	-0.8
PB14	**IPOC Station P**	**7.11**	**347**	Pn	Pn	20 59 23.5	-2.1
LC02	**Puerto Saavedr**	**8.16**	**207**	Pn	Pn	20 59 33.8	-5.6
PB10	**IPOC Station P**	**8.22**	**348**	Pn	Pn	20 59 36.7	-3.6
GO06	**Curarrehue**	**8.30**	**195**	Pn	Pn	20 59 37.5	-3.9
PB15	**IPOC Station P**	**8.38**	**355**	Pn	Pn	20 59 40.9	-1.9
TRQA	**Tornquist**	**8.46**	**141**	Pn	Pn	20 59 43.0	-0.6
TRQA	**Tornquist**	**8.46**	**141**	P	Pn	20 59 43.0	-0.6
LR03	**Panguipulli**	**8.57**	**200**	Pn	Pn	20 59 40.4	-4.6
AF01	**San Pedro de A**	**8.61**	**3**	Pn	Pn	20 59 45.2	-0.7
I14CL	**ROBINSON CRUSO**	**8.81**	**254**	I	I	21 42 50.0	
	comp=Z,0.2nm,0.5s,baz=79,slow=326,SNR=0.6						
VA04	**Juan Fernndez**	**8.83**	**254**	Pn	Pn	20 59 45.2	-3.4
PB06	**IPOC Station P**	**8.89**	**354**	Pn	Pn	20 59 47.0	-2.5
H03S3	**Juan Fernandez**	**8.93**	**253**	P	Pn	20 59 46.1	-3.5
	baz=57,slow=15,SNR=314						
H03S1	**Juan Fernandez**	**8.93**	**253**	P	Pn	20 59 45.9	-3.7
	baz=57,slow=15,SNR=303						
LVC	**Limon Verde**	**8.95**	**358**	P	Pn	20 59 48.6	-2.0
	comp=Z,2μm,0.5s,baz=179,slow=8.4,SNR=628						
LVC				S	Sn	21 01 23.2	-6.5
	comp=Z,1μm,0.7s,baz=101,slow=7.3,SNR=3.0						
H03S2	**Juan Fernandez**	**8.95**	**253**	P	Pn	20 59 46.2	-3.7
	baz=57,slow=15,SNR=327						
LR04	**Corral**	**9.14**	**204**	Pn	Pn	20 59 45.4	-7.2
PLCA	**Paso Flores**	**9.25**	**189**

EFI **East Falkland** 21.53 162 ⇓P P 21 02 22.5 -1.4
EFI **East Falkland** 21.53 162 *ce*P P 21 02 23.0 -0.9
EFI pmax pmax
comp=Z,2µm,0.9s
GO10 **Punta Arenas** 21.62 184 P P 21 02 26.4 +1.4
GO10 **Punta Arenas** 21.62 184 ⇓P P 21 02 26.2 +1.2
ETMB **Extrema** 21.78 6 P P 21 02 26.1 -0.8
PARB **Paraibuna** 21.99 74 *e*P P 21 02 29.2 0.0
ARAG **Araguaiana, MT** 22.04 48 *e*P P 21 02 29.5 -0.1
PDRB **Porto dos Gac** 22.72 32 *e*P P 21 02 35.8 -0.9
IPMB **Ipameri, GO** 22.92 59 *e*P P 21 02 38.0 -0.6
USHA **Ushuaia** 23.23 180 P P 21 02 41.2 +0.1
comp=Z,3µm,0.9s,baz=358,slow=6.8,SNR=436
USHA PcP **PcP** 21 06 25.4 +0.1
comp=Z,115nm,0.9s,baz=48,slow=5.0,SNR=3.2
USHA S **S** 21 06 45.2 +0.8
comp=Z,22nm,0.8s,baz=41,slow=11,SNR=0.8
comp=Z,3µm,0.9s
MG01 **Puerto William** 23.34 179 P P 21 02 40.3 -1.8
MAN01 **Angra dos Reis** 23.56 74 *e*P P 21 02 45.2 +0.7
CLDB **Colider** 23.80 33 *e*P P 21 02 46.2 -0.4
CZSB **Cruzeiro do Su** 24.04 350 P P 21 02 49.1 +0.3
CZSB **Cruzeiro do Su** 24.04 350 *e*P P 21 02 49.6 +0.8
VAS01 **Vassouras-RJ** 24.26 74 *e*P P 21 02 52.1 +1.4
BDFB **Brasilia** 24.61 55 P P 21 02 54.5 +0.3
comp=Z,156nm,0.7s,baz=228,slow=8.3,SNR=120
BDFB S **S** 21 07 05.7 -1.9
comp=Z,86nm,0.8s,baz=120,slow=20,SNR=1.8
BDFB LR LR 21 13 54.5
comp=Z,59µm,19.0s,baz=240,slow=39
BDFB P3KPbc 21 36 03.9
comp=Z,28nm,1.0s,baz=50,slow=3.3,SNR=20
comp=Z,156nm,0.7s
BDFB **Brasilia** 24.61 55 P P 21 02 54.8 +0.7
BDFB **Brasilia** 24.61 55 *e*P P 21 02 54.2 +0.1
BDFB **Brasilia** 24.61 55 P P 21 02 54.8 +0.7
DUB01 **Friburgo-RJ** 25.23 74 *e*P P 21 03 01.1 +1.5
SNDB **Serra Nova Dou** 25.24 43 *e*P P 21 02 60.0 +0.2
CAM01 **Campos-RJ** 25.93 75 *e*P P 21 03 06.7 +0.8
ATAH **Atahualpa** 25.98 337 P P 21 03 09.1 +2.3
comp=Z,150nm,1.0s,baz=164,slow=7.3,SNR=94
ATAH PcP **PcP** 21 06 33.8 +1.2
comp=Z,109nm,0.8s,baz=282,slow=1.7,SNR=5.5
ATAH S **S** 21 07 19.5 -10
comp=Z,38nm,0.9s,baz=198,slow=20,SNR=1.1
comp=Z,150nm,1.0s
DIAM **Diamantina, MG** 26.15 66 *e*P P 21 03 09.1 +1.0
MC01 **Montes Claros** 26.89 62 *e*P P 21 03 14.7 +0.1
ALF01 **Guarapari-ES** 27.27 73 *e*P P 21 03 18.7 +0.7
TBTG **Tabatinga, AM** 27.29 357 P P 21 03 17.3 -0.7
TBTG lAmb lAmb 21 04 10.1
comp=Z,4µm,1.0s
TBTG **Tabatinga, AM** 27.29 357 *e*P P 21 03 19.3 +1.2
NPGB **Novo Progresso** 27.39 30 *e*P P 21 03 19.7 +0.6
JANB **Januaria** 27.65 59 *e*P P 21 03 21.5 0.0
SJMB **Sao Joao De Ma** 27.88 69 *e*P P 21 03 24.1 +0.7
RIB01 **Linhares ES** 28.20 71 *e*P P 21 03 26.9 +0.7
SDBA **SAO DESIDERIO** 29.02 54 *e*P P 21 03 33.9 +0.3
MCRA **Macar, Loja** 29.09 336 P P 21 03 35.2 +1.0
NAN01 **Guarapari, ES** 29.19 69 *e*P P 21 03 35.2 +0.1
MACA **Manacapuru-AM** 29.25 16 P P 21 03 35.2 -0.4
MACA lAmb lAmb 21 04 08.7
comp=Z,2µm,1.2s
MACA **Manacapuru-AM** 29.25 16 *e*P P 21 03 36.2 +0.6
ITTB **Itaituba** 29.67 27 *e*P P 21 03 39.6 +0.3
BOSC **San Juan Bosco** 29.77 340 P P 21 03 40.7 +0.4
BOSC lAmb lAmb 21 03 44.1
comp=Z,774nm,1.4s
BOSC PcP **PcP** 21 06 42.7 +1.1
SMTB **Santa Maria do** 29.91 45 *e*P P 21 03 42.1 +0.7
GUA01 **Guaratinga, BA** 30.15 67 *e*P P 21 03 43.9 +0.4
COHC **Cochancay** 30.65 339 P P 21 03 49.6 +1.7
COHC PcP **PcP** 21 06 44.9 +1.3
PRPB **Parauapebas** 30.82 39 *e*P P 21 03 49.8 +0.3
CMC01 **Camacan, BA** 31.08 65 *e*P P 21 03 52.6 +0.8
SGCB **SÉo Gabriel d** 31.33 3 *e*P P 21 03 53.6 -0.3
GDU01 **Guandu, BA** 32.03 63 *e*P P 21 04 00.1 0.0
HOPE **Hope Point** 32.23 144 P P 21 04 01.3 -0.1
HOPE lAmb lAmb 21 04 04.6
comp=Z,657nm,0.9s
HOPE **Hope Point** 32.23 144 ⇓P P 21 04 02.9 +1.5
HOPE **Hope Point** 32.23 144 P P 21 04 01.3 -0.1
HOPE pmax pmax
comp=Z,657nm,0.9s
HOPE **Hope Point** 32.23 144 P P 21 04 03.0 +1.6
HOPE PcP **PcP** 21 06 46.5 -0.7
MALB **Monte Alegre** 32.55 27 *e*P P 21 04 05.3 +0.8
PMSA **Palmer Station** 33.33 176 P P 21 04 11.8 +0.9
comp=Z,295nm,1.1s,baz=4.8,slow=7.7,SNR=24
PMSA PcP **PcP** 21 06 50.9 +0.8
comp=Z,200nm,1.0s,baz=0.2,slow=3.2,SNR=4.5
PMSA S **S** 21 09 20.7 -2.4
comp=Z,14nm,0.8s,baz=192,slow=8.1,SNR=1.5
comp=Z,295nm,1.1s
PMSA **Palmer Station** 33.33 176 P P 21 04 11.0 +0.1
PMSA PcP **PcP** 21 06 51.0 +0.8
PMSA **Palmer Station** 33.33 176 ⇓P P 21 04 11.7 +0.9
PMSA **Palmer Station** 33.33 176 P P 21 04 11.7 +0.9
PMSA PcP **PcP** 21 06 51.1 +1.0
BOAV **Boa Vista** 34.67 14 P P 21 04 23.4 +0.4
BOAV lAmb lAmb 21 05 07.6
comp=Z,804nm,1.3s
BOAV **Boa Vista** 34.67 14 *e*P P 21 04 23.6 +0.6
MCPB **Macapa, AP** 34.80 30 *e*P P 21 04 25.1 +0.9
TMAB **Tom-Au,PA,Br** 34.93 38 *e*P P 21 04 27.3 +2.0
RPN **Rapa Nui** 35.60 267 P P 21 04 32.9 +2.1
comp=Z,524nm,1.1s,baz=107,slow=3.5,SNR=6.9
comp=Z,524nm,1.1s
SMAI **San Martin Ant** 36.59 179 P P 21 04 39.1 +0.4
ROSB **Rosrio** 36.72 44 *e*P P 21 04 40.7 +0.2
PAYG **Puerto Ayora** 36.94 322 ⇓P P 21 04 44.6 +2.2
PAYG ⇓S **S** 21 10 26.2 +6.7
PAYG **Puerto Ayora** 36.94 322 P P 21 04 44.8 +2.4
PAYG pP **pP** 21 05 10.1 +2.1
PAYG sP **sP** 21 05 22.8 +1.8
PAYG PcP **PcP** 21 07 02.8 +1.2
MDP **Montagnes des** 39.55 26 P P 21 05 04.7 +0.4
comp=Z,127nm,0.8s,baz=196,slow=9.9,SNR=48
MDP pP **pP** 21 05 29.1 -0.4
comp=Z,427nm,0.9s,baz=193,slow=9.3,SNR=13
MDP LR LR 21 23 18.4
comp=Z,23µm,20.0s,baz=208,slow=39
comp=Z,127nm,0.8s
MPGF **Montagnes des** 39.56 26 P P 21 05 04.6 +0.3
MPGF pP **pP** 21 05 29.0 -0.5
MPGF sP **sP** 21 05 42.5 +0.4
MPGF PcP **PcP** 21 07 10.1 +0.4
RCBR **Riachuelo** 39.94 57 P P 21 05 08.8 +1.1
comp=Z,475nm,1.2s,baz=4.6,slow=9.0,SNR=74
RCBR pP **pP** 21 05 33.3 -0.1
comp=Z,314nm,1.2s,baz=8.9,slow=9.1,SNR=5.9
RCBR LR LR 21 22 21.7
comp=Z,15µm,18.8s,baz=22,slow=37
comp=Z,475nm,1.2s
RCBR **Riachuelo** 39.94 57 P P 21 05 07.4 -0.2
RCBR lAmb lAmb 21 05 10.5
comp=Z,1µm,1.4s
RCBR **Riachuelo** 39.94 57 ⇓P P 21 05 08.7 +1.1
RCBR **Riachuelo** 39.94 57 *e*P P 21 05 08.9 +1.3
RCBR **Riachuelo** 39.94 57 P P 21 05 08.5 +0.9
RCBR pP **pP** 21 05 32.6 -0.8
RCBR sP **sP** 21 05 46.4 +0.2
RCBR PcP **PcP** 21 07 11.8 +0.8
SDV **Santo Domingo** 40.29 357 P P 21 05 10.2 -0.3
comp=Z,206nm,0.9s,baz=178,slow=6.6,SNR=131
SDV pP **pP** 21 05 34.8 -1.3
comp=Z,126nm,0.8s,baz=156,slow=7.4,SNR=4.0
comp=Z,206nm,0.9s
SDV **Santo Domingo** 40.29 357 P P 21 05 08.9 -1.7
SDV **Santo Domingo** 40.29 357 *e*P P 21 05 10.2 -0.3
SDV **Santo Domingo** 40.29 357 P P 21 05 10.1 -0.5
SDV pP **pP** 21 05 35.3 -0.8
SDV PcP **PcP** 21 07 11.8 -0.4
BAUV **El Baul** 40.31 1 P P 21 05 10.0 -0.4
PCRV **Puerto La Cruz** 41.70 6 P P 21 05 22.3 +0.4
comp=Z,205nm,0.8s,baz=169,slow=5.0,SNR=65
PCRV pP **pP** 21 05 47.4 -0.1
comp=Z,154nm,0.9s,baz=169,slow=2.9,SNR=4.2
PCRV LR LR 21 23 39.5
comp=Z,14µm,18.4s,slow=37
comp=Z,205nm,0.8s
BCIP **Isla Barro Col** 41.92 343 P P 21 05 25.2 +1.6
BCIP lAmb lAmb 21 05 27.0
comp=Z,777nm,1.3s
BCIP PcP **PcP** 21 07 18.9 +1.6
BCIP **Isla Barro Col** 41.92 343 P P 21 05 25.2 +1.6
BCIP 21 07 18.9
BCIP pmax pmax
comp=Z,777nm,1.3s
CCOL **Caracol de Cor** 42.07 339 *e*P P 21 05 27.6 +2.8
TPP **Pointe-a-Pierr** 42.23 11 *e*P P 21 05 27.7 +1.5
PTJ1 **Puerto Jimnez** 42.29 338 *e*P P 21 05 29.5 +2.9
BRU2 **Volcan** 42.35 339 *e*P P 21 05 29.5 +2.2
EDSV **San Vito** 42.46 339 *e*P P 21 05 31.3 +3.2
TRN **Trinidad (W)** 42.57 11 *e*P P 21 05 29.0 +0.2
POTG **Potrero Grande** 42.72 339 *e*P P 21 05 32.4 +2.2
EDPN **Palmar Norte** 42.74 338 *e*P P 21 05 33.1 +2.8
EDBA **Buenos Aires** 42.87 338 *e*P P 21 05 34.2 +2.8
SRBA **San Rafael, Bu** 42.97 338 *e*P P 21 05 34.3 +2.0
RGM0 **Gandoca** 43.07 340 *e*P P 21 05 35.9 +2.9
EDDO **Dominical** 43.15 338 *e*P P 21 05 35.6 +2.0
URIC **Uribia, Colomb** 43.16 355 P P 21 05 31.1 -2.6
BOT **Bacolet** 43.19 11 *e*P P 21 05 34.2 +0.3
PEZE **Perez Zeledon,** 43.21 338 *e*P P 21 05 36.8 +2.6
TOSP **Speyside** 43.35 12 P P 21 05 35.3 +0.1
TOSP lAmb lAmb 21 05 37.4
comp=Z,955nm,0.9s
TOSP **Speyside** 43.35 12 *e*P P 21 05 35.7 +0.5
CDM **Cerro de Muert** 43.40 338 *e*P P 21 05 38.5 +2.4
HATO **Hato, Curacao** 43.52 360 P P 21 05 34.5 -2.0
HATO lAmb lAmb 21 06 20.9
comp=Z,516nm,1.2s
MRVA **Moravia de Chi** 43.55 339 *e*P P 21 05 39.5 +2.5
LCR2 **La Lucha 2** 43.65 338 *i* P P 21 05 39.9 +2.0
OCM **Ochomogo** 43.78 338 *e*P P 21 05 41.1 +2.2
JACO **JACO, Garabito** 43.79 337 *e*P P 21 05 41.0 +2.2
HAYA **Volcan Irazu** 43.82 338 *e*P P 21 05 42.3 +2.8
CVTR **Volcan Turrial** 43.83 338 *e*P P 21 05 42.0 +2.4
GRFF **Grenada Fort F** 43.89 10 *e*P P 21 05 37.8 -1.8
HDC **Heredia** 43.93 338 *e*P P 21 05 42.7 +2.6
HDC **Heredia** 43.93 338 P P 21 05 42.8 +2.8
HDC pP **pP** 21 06 08.3 +2.2
HDC3 **Heredia 3** 43.93 338 *e*P P 21 05 42.8 +2.8
GRGR **Grenville** 43.98 10 P P 21 05 40.1 -0.2
GRGR **Grenville** 43.98 10 *e*P P 21 05 39.9 -0.4
GRGR **Grenville** 43.98 10 ⇓P P 21 05 40.5 +0.2
LAFE **Finca La Fe, P** 44.01 337 *i* P P 21 05 42.9 +2.4
CRPO **Crater poas** 44.15 338 *e*P P 21 05 44.7 +2.7
RIFO **Rio Frio, Sara** 44.16 338 *e*P P 21 05 43.9 +2.1
INDI **Punta indio, G** 44.27 336 *e*P P 21 05 44.4 +1.8
GCMP **Grenada, Carri** 44.37 10 *e*P P 21 05 41.0 -2.3
POPE **POPE, Guanacas** 44.37 336 *e*P P 21 05 45.1 +1.7
DUNO **Dulce Nombre,** 44.47 336 *e*P P 21 05 46.1 +2.0
JTS **Las Juntas de** 44.48 337 P P 21 05 46.7 +2.4
comp=Z,345nm,1.0s,baz=206,slow=3.8,SNR=66
JTS pP **pP** 21 06 11.7 +1.3
comp=Z,83nm,0.8s,baz=198,slow=12,SNR=2.1
JTS PcP **PcP** 21 07 27.4 +1.5
comp=Z,112nm,0.9s,baz=126,slow=8.7,SNR=4.4
comp=Z,345nm,1.0s
JTS **Las Juntas de** 44.48 337 *e*P P 21 05 46.5 +2.3
JTS **Las Juntas de** 44.48 337 ⇓P P 21 05 46.7 +2.4
JTS **Las Juntas de** 44.48 337 *d*iP P 21 05 46.6 +2.3
JTS pmax pmax
comp=Z,553nm,1.2s
JTS **Las Juntas de** 44.48 337 ⇓P P 21 05 46.5 +2.3
JTS PcP **PcP** 21 07 27.4 +1.5
NICO **Nicoya** 44.50 336 *e*P P 21 05 47.7 +3.3
SAJU **San Juanillo,** 44.53 336 *e*P P 21 05 46.3 +1.6
CASO **Castillo** 44.54 337 *e*P P 21 05 47.0 +2.2
FORC **Fortuna** 44.55 337 *e*P P 21 05 48.0 +3.1
ARE1 **Arenal 1** 44.56 337 *e*P P 21 05 47.6 +2.6
CEDE **Laguna Cedeo** 44.58 337 *e*P P 21 05 47.5 +2.4
COVE **Coope Vega, Sa** 44.70 338 P P 21 05 48.2 +2.2
COVE **Coope Vega, Sa** 44.70 338 *e*P P 21 05 47.8 +1.8
ORTG **Ortega, Santa** 44.72 336 P P 21 05 48.3 +2.0
ORTG lAmb lAmb 21 05 51.1
comp=Z,950nm,1.1s
ORTG **Ortega, Santa** 44.72 336 *e*P P 21 05 48.5 +2.3
ACAL **Aguas Claras** 44.83 337 *i*P P 21 05 49.6 +2.5
PTEN **Parque Tenorio** 44.88 337 *i* P P 21 05 50.1 +2.5
CUI **Cuipilapa** 44.89 337 *e*P P 21 05 49.8 +2.2
COLC **Colonia** 44.91 337 *e*P P 21 05 49.8 +2.1
HORNC **Hornillas** 44.95 337 *e*P P 21 05 50.1 +2.1
GUAB **Guayabo de Bag** 44.96 337 *e*P P 21 05 50.1 +1.9
VERA **Finca Concepci** 44.98 337 *e*P P 21 05 50.3 +2.1
MESS **Mesas** 44.98 337 *i*P P 21 05 51.0 +2.7
VMAR **Armenia, Volca** 45.02 337 *e*P P 21 05 50.4 +1.8
GPS1 **Guardaparques** 45.06 336 *e*P P 21 05 51.1 +2.1
LAPC **Finca la Perla** 45.09 336 *i*P P 21 05 51.1 +2.0
HZTE **Horizontes, Gu** 45.09 336 P P 21 05 51.3 +2.2
HZTE **Horizontes, Gu** 45.09 336 *e*P P 21 05 51.8 +2.6
BUEV **Buena Vista** 45.10 336 *i*P P 21 05 51.2 +1.9
GBS3 **Finca Las Img** 45.11 336 *i*P P 21 05 51.2 +2.0
GB1A **Boringuen Arri** 45.12 336 *e*P P 21 05 51.8 +2.3
BUAI **Buenos Aires** 45.15 337 *i*P P 21 05 51.4 +1.8
GBS2 **Las Lilas** 45.16 336 *e*P P 21 05 52.0 +2.4
SVB **Belmont** 45.16 10 P P 21 05 49.0 -0.7
SVB **Belmont** 45.16 10 *e*P P 21 05 49.4 -0.3
SSV **Crater Summit** 45.23 10 *e*P P 21 05 51.3 +1.1
BCHC **Barbados, Cave** 45.30 12 *e*P P 21 05 52.7 +2.0
BBSP **Saint Philip** 45.30 13 *e*P P 21 05 52.7 +2.0
BBGH **Gun Hill** 45.32 12 *e*P P 21 05 52.5 +1.6
MCLT **Moule a Chique** 45.64 10 P P 21 05 53.1 -0.4
MCLT lAmb lAmb 21 05 56.9
comp=Z,1µm,1.2s
MCLT **Moule a Chique** 45.64 10 *e*P P 21 05 52.8 -0.6
SLB **Belfond** 45.74 10 *e*P P 21 05 54.4 +0.2
SLCP **Castries, St.** 45.93 10 *e*P P 21 05 57.6 +1.9
SLBI **Saint Lucia, B** 45.94 10 *e*P P 21 05 54.8 -1.0
ESPN **Las Esperanzas** 46.05 339 P P 21 05 57.1 +0.4
ESPN lAmb lAmb 21 06 01.7
comp=Z,554nm,1.2s
ESPN **Las Esperanzas** 46.05 339 *e*P P 21 05 57.7 +1.1
ACON **Acoyapa** 46.12 337 *e*P P 21 05 57.8 +0.7
H09W1 **TRISTAN DA CUN** 46.24 113 P P 21 06 00.5 +2.5
SNR=23
H09N1 **TRISTAN DA CUN** 46.27 113 P P 21 06 00.3 +2.1
SNR=24
TRIS **Tristan da Cun** 46.27 113 ⇓*i*P P 21 06 00.1 +1.9
TRIS lAmb lAmb 21 06 01.4
comp=Z,1µm,1.0s
H05S1 **Guadeloupe/Mar** 46.36 10 P P 21 05 58.4 -0.6
MPOM **Morne Pois Mar** 46.38 10 P P 21 05 59.0 -0.1
MPOM **Morne Pois Mar** 46.38 10 *e*P P 21 05 58.1 -1.0
BIM **Bigot** 46.41 10 P P 21 05 57.9 -1.6
BIM **Bigot** 46.41 10 *e*P P 21 05 58.8 -0.7
FDF **Fort de France** 46.62 10 P P 21 06 00.3 -0.8
FDF lAmb lAmb 21 06 40.2
comp=Z,749nm,0.8s
FDF **Fort de France** 46.62 10 *e*P P 21 05 53.1 -8.0
FDF **Fort de France** 46.62 10 ⇓P P 21 06 00.2 -0.8
FDF **Fort de France** 46.62 10 P P 21 06 00.3 -0.8
FDF pmax pmax
comp=Z,749nm,0.8s
FDF **Fort de France** 46.62 10 P P 21 06 00.2 -0.9
FDF pP **pP** 21 06 27.6 +0.5
ILAM **Ilet Lapin Mar** 46.70 10 P P 21 06 00.5 -1.2
ILAM **Ilet Lapin Mar** 46.70 10 *e*P P 21 06 01.1 -0.6
BOAB **BOACO BROADBAN** 46.73 337 P P 21 06 02.6 +0.7
BOAB PcP **PcP** 21 07 34.2 +0.5
BOAB lAmb lAmb 21 07 35.5
comp=Z,515nm,0.9s
BOAB ScP **ScP** 21 11 18.9 +1.7
DLPL **La Plaine** 47.19 10 *e*P P 21 06 04.5 -1.0
MATN **Matagalpa** 47.27 337 P P 21 06 07.0 -0.8
DSLB **Salisbury** 47.27 10 *e*P P 21 06 03.1 -3.0
CRIN **San Cristobal** 47.44 335 P P 21 06 05.2 -2.4
CRIN **San Cristobal** 47.44 335 *e*P P 21 06 07.3 -0.3
MDVC **Dominica, Viel** 47.44 9 *e*P P 21 06 05.8 -1.7
TDBA **Terre de Bas,** 47.64 9 *e*P P 21 06 06.7 -2.3
CBE **Ff, Capester** 47.87 9 P P 21 06 09.6 -1.1
CBE **Ff, Capester** 47.87 9 *e*P P 21 06 08.6 -2.2
GDHS **Morne Mazeau,** 48.04 9 P P 21 06 11.1 -1.1
GDHS lAmb lAmb 21 06 12.3
comp=Z,1µm,1.6s
GDSD **La Dsirade Is** 48.18 10 P P 21 06 11.2 -1.9
H05N1 **Guadeloupe/Mar** 48.19 10 P P 21 06 11.8 -1.3
ABD **La Joyeuse, An** 48.28 9 P P 21 06 12.4 -1.5
ABD lAmb lAmb 21 06 55.2
comp=Z,655nm,1.1s
ABD **La Joyeuse, An** 48.28 9 *e*P P 21 06 11.9 -2.0
MBFL **Flemmings, Mon** 48.45 8 *e*P P 21 06 10.3 -5.0
BELA **Belgrano 2** 48.77 171 P P 21 06 17.8 +0.8
BELA lAmb lAmb 21 06 19.1
comp=Z,874nm,1.3s
TGUH **Tegucigalpa,Un** 48.78 336 P P 21 06 18.8 +0.8
TGUH **Tegucigalpa,Un** 48.78 336 ⇓P P 21 06 19.1 +1.1
ANBD **Bethesda, Anti** 48.81 9 *e*P P 21 06 13.4 -4.5
SEUS **St. Eustatius** 49.10 7 P P 21 06 19.2 -0.9
SEUS **St. Eustatius** 49.10 7 *e*P P 21 06 18.4 -1.8
CDVI **St. Croix** 49.20 5 P P 21 06 20.6 -0.2
CDVI lAmb lAmb 21 06 22.7
comp=Z,533nm,0.8s
CDVI **St. Croix** 49.20 5 *e*P P 21 06 17.1 -3.8
SABA **Saba** 49.20 7 P P 21 06 20.0 -1.0
SABA lAmb lAmb 21 06 23.4
comp=Z,700nm,0.9s
SABA **Saba** 49.20 7 *e*P P 21 06 16.8 -4.2
MLPR **Magueyes Islan** 49.30 2 P P 21 06 21.2 -0.4
CRPR **Cabo Rojo, PR** 49.33 2 P P 21 06 21.6 -0.3
ANWB **Willy Bob** 49.42 9 *e*P P 21 06 15.8 -6.7
ANWB **Willy Bob** 49.42 9 ⇓P P 21 06 20.6 -2.0
CELP **Cerrillos** 49.42 3 P P 21 06 22.2 -0.4
SJG **San Juan** 49.47 3 P P 21 06 22.9 0.0
SJG lAmb lAmb 21 06 25.5
comp=Z,548nm,0.8s
SJG **San Juan** 49.47 3 ⇓P P 21 06 22.1 -0.9
SJG **San Juan** 49.47 3 P P 21 06 23.0 0.0
SJG pmax pmax
comp=Z,548nm,0.9s
SJG **San Juan** 49.47 3 P P 21 06 22.1 -0.9
SJG pP **pP** 21 06 48.0 -1.3
SJG sP **sP** 21 07 00.0 -1.7
MTP **Monte Pirata** 49.49 4 P P 21 06 21.9 -1.2
MTP lAmb lAmb 21 06 22.8
comp=Z,345nm,1.1s
HUMP **Col San Antoni** 49.52 3 P P 21 06 22.5 -0.8
HUMP lAmb lAmb 21 06 23.3
comp=Z,798nm,1.4s
SMRT **St. Maarten** 49.64 7 P P 21 06 22.2 -2.1
SMRT lAmb lAmb 21 07 14.0
comp=Z,260nm,0.9s
SMRT **St. Maarten** 49.64 7 *e*P P 21 06 22.1 -2.2
CBYP **Canovanas** 49.65 3 P P 21 06 23.8 -0.6
CBYP lAmb lAmb 21 06 24.9
comp=Z,755nm,1.0s
GCPR **Guaynabo City** 49.67 3 P P 21 06 23.5 -1.0
GCPR lAmb lAmb 21 06 24.2
comp=Z,540nm,1.1s
AOPR **Arecibo Observ** 49.68 2 P P 21 06 23.5 -1.1
AOPR **Arecibo Observ** 49.68 2 *e*P P 21 06 21.1 -3.6
CUPR **Culebra, Puert** 49.72 4 P P 21 06 23.5 -1.3
STVI **Saint Thomas** 49.78 5 P P 21 06 24.1 -1.3
AGPR **Aguadilla, PR** 49.79 2 P P 21 06 24.3 -1.1
AGPR lAmb lAmb 21 07 46.5
comp=Z,473nm,1.1s
PCDR **Punta Cana, DR** 49.82 0 P P 21 06 26.6 +1.0
LGNH **Logne** 49.96 355 *e*P P 21 06 25.6 -1.1
MTDJ **Mount Denham** 50.26 349 P P 21 06 29.6 +0.5
MTDJ lAmb lAmb 21 06 30.5
comp=Z,511nm,1.1s
MTDJ **Mount Denham** 50.26 349 *e*P P 21 06 28.0 -1.0
MTDJ **Mount Denham** 50.26 349 ⇓P P 21 06 29.8 +0.7
SDDR **Presa de Saban** 50.35 357 P P 21 06 30.1 +0.4
SDDR lAmb lAmb 21 07 36.8
comp=Z,417nm,1.1s
SDDR **Presa de Saban** 50.35 357 *e*P P 21 06 29.6 -0.1
SDDR **Presa de Saban** 50.35 357 ⇓P P 21 06 29.4 -0.3
VNA3 **Neumayer Olymp** 50.54 159 P P 21 06 31.5 +1.0
VNA3 S **S** 21 13 37.3 +1.3
VNA3 **Neumayer Olymp** 50.54 159 pP pP 21 06 59.0 +2.3
VNA1 **Neumayer--Stat** 50.80 158 P P 21 06 33.7 +1.3
VNA1 S **S** 21 13 46.0 +6.5
VNA2 **Neumayer--Watz** 51.15 158 P P 21 06 36.0 +0.9
baz=282,slow=8.3
VNA2 S **S** 21 13 46.1 +1.7
GTBY **Guantanamo Bay** 51.60 352 P P 21 06 39.2 +0.3
GTBY lAmb lAmb 21 07 08.4
comp=Z,333nm,0.8s
GTBY **Guantanamo Bay** 51.60 352 *e*P P 21 06 38.9 0.0
GTBY **Guantanamo Bay** 51.60 352 ⇓P P 21 06 39.2 +0.3
RCC **Rio Carpintero** 51.73 352 *e*P P 21 06 39.3 -0.6
MASC **Masc** 51.75 353 *e*P P 21 06 39.5 -0.6
LMGC **Las Mercedes** 51.98 350 *e*P P 21 06 40.0 -1.8
MOAC **Moa** 52.30 353 *e*P P 21 06 43.7 -0.4
PETF **Flores** 52.35 334 P P 21 06 45.5 +0.9
HLGC **Holguin** 52.66 351 *e*P P 21 06 48.2 +1.4
HLGC lAmb lAmb 21 06 49.7
comp=Z,906nm,1.2s
CCIG **Comitan** 52.67 331 P P 21 06 47.9 +0.7
CCIG lAmb lAmb 21 07 18.6
comp=Z,427nm,1.1s
SNAA **Sanae** 52.76 159 P P 21 06 47.9 +0.8
SNAA S **S** 21 14 06.4 -0.1
SNAA **Sanae** 52.76 159 P P 21 06 47.7 +0.7
comp=Z,1µm,1.1s,baz=284,slow=6.1,SNR=792
SNAA S **S** 21 14 05.3 -1.2
comp=Z,13nm,1.2s,baz=0.0,slow=18,SNR=1.3
SNAA LR LR 21 27 40.9
comp=Z,4µm,20.9s,baz=290,slow=34
comp=Z,1µm,1.1s
SNAA **Sanae** 52.76 159 P P 21 06 47.5 +0.5
SNAA **Sanae** 52.76 159 ⇓*i*P P 21 06 47.6 +0.5
SNAA **Sanae** 52.76 159 *d*iP P 21 06 47.8 +0.7
SNAA pmax pmax
comp=Z,2µm,1.1s
GRTK **Grand Turk** 52.85 357 P P 21 06 47.1 -1.1
GRTK **Grand Turk** 52.85 357 *e*P P 21 06 48.7 +0.5
GRTK **Grand Turk** 52.85 357 ⇓P P 21 06 48.9 +0.7
CCCC **Cccc** 53.21 349 *e*P P 21 06 38.9 -12
CCCC lAmb lAmb 21 08 00.0
comp=Z,211nm,1.0s
CCCC *e*S S 21 13 58.0 -15
TROLL **Troll, Antarti** 54.48 159 P P 21 07 00.6 +0.9
TROLL **Troll, Antarti** 54.48 159 PcP **PcP** 21 08 04.0 +2.2
TROLL S **S** 21 14 28.7 -1.1
TROLL **Troll, Antarti** 54.48 159 pP pP 21 07 27.3 +1.1
MGV **Manicaragua** 54.49 347 *e*P P 21 06 60.0 -0.1
MGV lAmb lAmb 21 07 02.8
comp=Z,359nm,1.7s
CMIG **Matias Romero** 54.56 329 PKPPKP 21 37 05.3
comp=Z,15nm,1.0s,baz=214,slow=3.0,SNR=4.9
H10S2 **ASCENSION HYDR** 54.81 78 P P 21 07 04.2 +1.8
SNR=8.4
TEIG **Tepich** 54.85 337 P P 21 07 01.4 -1.3
TEIG **Tepich** 54.85 337 ⇓P P 21 07 03.0 +0.3
TEIG **Tepich** 54.85 337 ⇓P P 21 07 02.9 +0.1
TEIG pP **pP** 21 07 29.2 -0.6
TEIG sP **sP** 21 07 43.2 +1.0
SOR **Soroa** 55.80 344 P P 21 07 09.8 +0.2
SOR lAmb lAmb 21 07 11.2
comp=Z,578nm,0.9s
SOR **Soroa** 55.80 344 *e*P P 21 07 09.7 +0.2
SOR **Soroa** 55.80 344 P P 21 07 09.8 +0.2
SOR pmax pmax
comp=Z,578nm,0.9s
TLIG **Tlapa** 56.69 325 ⇓P P 21 07 18.2 +2.1
NVL **N'lazarevskaya** 57.41 157 ⇓*i*P P 21 07 22.1 +1.7
NVL *e**PP **sP** 21 08 00.9 +1.5
NVL *i* S **S** 21 15 06.5 -1.9
NVL pmax pmax
comp=Z,1µm,1.1s
061Z **Ochoppi** 58.32 347 P P 21 07 26.3 -0.9
061Z **Ochoppi** 58.32 347 P P 21 07 28.2 +0.9
baz=168
QSPA **South Pole Qui** 58.64 180 P P 21 07 30.3 +1.0
comp=Z,929nm,1.1s,baz=151,slow=3.0,SNR=522
QSPA PcP **PcP** 21 08 19.4 +1.2
comp=Z,436nm,0.9s,baz=134,slow=2.4,SNR=4.2
QSPA PKPPKP P'P'df 21 36 52.1 -15
comp=Z,16nm,0.9s,baz=299,slow=3.4,SNR=8.3
comp=Z,929nm,1.1s
QSPA **South Pole Qui** 58.64 180 P P 21 07 30.2 +1.0
QSPA pP **pP** 21 07 57.3 +1.2
QSPA sP **sP** 21 08 09.0 +0.6
SHEL **Horse Pasture** 58.91 90 ⇓P P 21 07 33.5 +1.8
SHEL **Horse Pasture** 58.91 90 P P 21 07 33.7 +2.0
060A **Indiantown** 59.36 348 P P 21 07 35.5 +1.1
baz=169
DWPF **Disney Wildern** 60.61 347 P P 21 07 43.4 +0.5
baz=168
DWPF **Disney Wildern** 60.61 347 P P 21 07 43.6 +0.7
baz=168
DWPF S **S** 21 15 51.8 +1.3
baz=168
DWPF **Disney Wildern** 60.61 347 *e*P P 21 07 43.0 +0.1
DWPF lAmb lAmb 21 07 44.6

	comp=Z,633nm,1.4s						
DWPF	**Disney Wildern**	**60.61**	**347**	⇓P	**P**	**21 07 43.1**	**+0.1**
DWPF	**Disney Wildern**	**60.61**	**347**	P	**P**	**21 07 42.6**	**-0.3**
DWPF				pP	**pP**	**21 08 09.6**	**-0.7**
DWPF				sP	**sP**	**21 08 21.8**	**-0.7**
656A	**Willston**	**62.05**	**346**	P	**P**	**21 07 52.1**	**-0.4**
656A	**Willston**	**62.05**	**346**	P	**P**	**21 07 52.9**	**+0.3**
	baz=167						
ZAIG	**Zacatecas**	**63.06**	**325**	⇓P	**P**	**21 08 02.2**	**+2.4**
456A	**Hilliard**	**63.26**	**347**	P	**P**	**21 08 01.2**	**+0.6**
	baz=167						
456A				S	**S**	**21 16 25.1**	**+1.3**
	baz=167						
SACV	**Santiago Islan**	**63.32**	**50**	P	**P**	**21 08 00.9**	**-0.4**
SACV				IAmb	IAmb	21 08 32.5	
	comp=Z,536nm,0.9s						
BBSR	**BB Station**	**63.73**	**4**	P	**P**	**21 08 04.0**	**+0.4**
BBSR				IAmb	IAmb	21 08 32.6	
	comp=Z,392nm,0.8s						
BBSR	**BB Station**	**63.73**	**4**	P	**P**	**21 08 04.2**	**+0.6**
	baz=184						
BBSR				S	**S**	**21 16 30.1**	**+0.6**
	baz=184						
BBSR	**BB Station**	**63.73**	**4**	⇓P	**P**	**21 08 04.2**	**+0.6**
BBSR	**BB Station**	**63.73**	**4**	⇓P	**P**	**21 08 04.1**	**+0.4**
BBSR				pP	**pP**	**21 08 31.4**	**+0.4**
451A	**Vernon**	**63.96**	**344**	P	**P**	**21 08 05.8**	**+0.6**
	baz=164						
451A				S	**S**	**21 16 32.7**	**+0.2**
	baz=164						
TIGA	**Tifton**	**64.27**	**346**	P	**P**	**21 08 06.9**	**-0.3**
	baz=166						
TIGA				S	**S**	**21 16 34.4**	**-1.8**
	baz=166						
TIGA	**Tifton**	**64.27**	**346**	P	**P**	**21 08 07.4**	**+0.2**
	baz=166,SNR=21						
TIGA				S	**S**	**21 16 35.4**	**-0.9**
	baz=166						
257A	**Skidaway Islan**	**64.30**	**348**	P	**P**	**21 08 07.9**	**+0.5**
	baz=168						
257A				S	**S**	**21 16 36.1**	**-0.5**
	baz=168						
H06S1	**SOCORRO T**	**64.43**	**315**	P	**P**	**21 08 10.3**	**+1.8**
H06E1	**SOCORRO T-PHAS**	**64.45**	**315**	P	**P**	**21 08 10.5**	**+1.9**
	SNR=11						
255A	**Hazlehurst**	**64.52**	**347**	P	**P**	**21 08 08.2**	**-0.7**
255A				IAmb	IAmb	21 08 09.8	
	comp=Z,566nm,1.2s						
255A	**Hazlehurst**	**64.52**	**347**	P	**P**	**21 08 09.0**	**+0.2**
	baz=167						
255A				S	**S**	**21 16 38.1**	**-1.2**
	baz=167						
H06N1	**SOCORRO T-PHAS**	**64.55**	**315**	P	**P**	**21 08 11.7**	**+2.4**
	SNR=15						
352A	**Blakely**	**64.60**	**345**	P	**P**	**21 08 08.4**	**-1.0**
352A				IAmb	IAmb	21 08 11.0	
	comp=Z,779nm,1.1s						
352A	**Blakely**	**64.60**	**345**	P	**P**	**21 08 09.4**	**+0.1**
	baz=165						
352A				S	**S**	**21 16 38.0**	**-2.3**
	baz=165						
545B	**Wilberts Farm,**	**64.71**	**339**	P	**P**	**21 08 12.9**	**+2.8**
	baz=160						
BRAL	**Brewton**	**64.81**	**343**	P	**P**	**21 08 10.9**	**+0.2**
BRAL	**Brewton**	**64.81**	**343**	P	**P**	**21 08 11.1**	**+0.4**
	baz=163						
BRAL				S	**S**	**21 16 41.8**	**-1.1**
	baz=163						
BRAL	**Brewton**	**64.81**	**343**	P	**P**	**21 08 11.5**	**+0.7**
	baz=163,SNR=43						
BRAL				S	**S**	**21 16 41.4**	**-1.5**
	baz=163						
BRAL	**Brewton**	**64.81**	**343**	⇓P	**P**	**21 08 11.3**	**+0.6**
KVTX	**Kingsville**	**65.08**	**331**	P	**P**	**21 08 13.4**	**+0.8**
KVTX	**Kingsville**	**65.08**	**331**	P	**P**	**21 08 14.6**	**+2.0**
	baz=153						
KVTX				S	**S**	**21 16 51.1**	**+4.7**
	baz=153						
KVTX	**Kingsville**	**65.08**	**331**	⇓P	**P**	**21 08 15.2**	**+2.6**
NHSC	**New Hope**	**65.27**	**349**	P	**P**	**21 08 14.0**	**+0.3**
NHSC	**New Hope**	**65.27**	**349**	P	**P**	**21 08 14.1**	**+0.5**
	baz=169						
NHSC				S	**S**	**21 16 50.0**	**+1.6**
	baz=169						
NHSC	**New Hope**	**65.27**	**349**	P	**P**	**21 08 14.8**	**+1.2**
	baz=169,SNR=30						
NHSC				S	**S**	**21 16 49.3**	**+0.9**
	baz=169						
154A	**Montrose**	**65.30**	**347**	P	**P**	**21 08 13.8**	**-0.1**
154A	**Montrose**	**65.30**	**347**	P	**P**	**21 08 12.4**	**-1.5**
	baz=167						
154A				S	**S**	**21 16 46.8**	**-2.1**
	baz=167						
250A	**Grady**	**65.39**	**344**	P	**P**	**21 08 13.8**	**-0.7**
	baz=164						
250A				S	**S**	**21 16 47.9**	**-2.1**
	baz=164						
346A	**Big Creek Wild**	**65.67**	**341**	P	**P**	**21 08 15.8**	**-0.5**
	baz=161						
346A				S	**S**	**21 16 54.1**	**+0.6**
	baz=161						
152A	**Waverly Hall**	**65.69**	**345**	P	**P**	**21 08 16.2**	**-0.2**
	baz=165						
152A				S	**S**	**21 16 50.4**	**-3.3**
	baz=165						
HAW	**Hawthorne Fire**	**65.75**	**348**	P	**P**	**21 08 15.2**	**-1.6**
	baz=168						
HAW				S	**S**	**21 16 52.9**	**-1.5**
	baz=168						
Y60A	**Bolivia**	**65.86**	**351**	P	**P**	**21 08 17.2**	**-0.3**
	baz=171						
Y60A				P	**P**	**21 08 17.2**	**-0.3**
	baz=171						
Y60A				S	**S**	**21 16 55.6**	**-0.1**
	baz=171						
Y60A				S	**S**	**21 16 55.6**	**-0.1**
	baz=171						
Y59A	**Loris**	**65.94**	**351**	P	**P**	**21 08 18.0**	**+0.1**
	baz=171						
Y59A				P	**P**	**21 08 18.0**	**+0.1**
	baz=171						
Y59A				S	**S**	**21 16 56.4**	**-0.2**
	baz=171						
Y59A				S	**S**	**21 16 56.4**	**-0.2**
	baz=171						
Y58A	**Scranton**	**65.97**	**350**	P	**P**	**21 08 18.6**	**+0.4**
	baz=170						
Y58A				P	**P**	**21 08 18.6**	**+0.4**
	baz=170						
Y58A				S	**S**	**21 16 56.8**	**-0.1**
	baz=170						
Y58A				S	**S**	**21 16 56.8**	**-0.1**
	baz=170						
SBA	**Scott Base**	**66.00**	**191**	P	**P**	**21 08 17.9**	**0.0**
SBA				IAmb	IAmb	21 08 20.6	
	comp=Z,572nm,1.4s						
SBA	**Scott Base**	**66.00**	**191**	P	**P**	**21 08 17.9**	**0.0**
SBA				pmax	pmax		
	comp=Z,572nm,1.5s						
SBA	**Scott Base**	**66.00**	**191**	⇓P	**P**	**21 08 19.5**	**+1.6**
344A	**Westbrook Farm**	**66.10**	**339**	P	**P**	**21 08 20.5**	**+1.4**
	baz=160						
344A				S	**S**	**21 17 01.9**	**+3.2**
	baz=160						
GOGA	**Godfrey**	**66.15**	**346**	P	**P**	**21 08 19.2**	**-0.1**
GOGA	**Godfrey**	**66.15**	**346**	P	**P**	**21 08 18.9**	**-0.4**
	baz=166						
GOGA				S	**S**	**21 16 56.2**	**-3.0**
	baz=166						
GOGA	**Godfrey**	**66.15**	**346**	P	**P**	**21 08 19.4**	**0.0**
	baz=166,SNR=50						
GOGA				S	**S**	**21 16 56.9**	**-2.3**
	baz=166						
GOGA	**Godfrey**	**66.15**	**346**	P	**P**	**21 08 19.2**	**-0.1**
GOGA				pmax	pmax		
	comp=Z,334nm,1.2s						
Y57A	**Sumter**	**66.19**	**349**	P	**P**	**21 08 19.9**	**+0.3**
	baz=169						
Y57A				P	**P**	**21 08 19.9**	**+0.3**
	baz=169						
735A	**Kenedy**	**66.21**	**332**	P	**P**	**21 08 21.3**	**+1.5**
	baz=153						
735A				S	**S**	**21 17 02.6**	**+2.5**
	baz=153						
441A	**DeRidder**	**66.23**	**337**	P	**P**	**21 08 21.9**	**+2.0**
	baz=157						
441A				S	**S**	**21 17 05.2**	**+4.9**
	baz=157						
833A	**Chaparral WMA,**	**66.39**	**331**	P	**P**	**21 08 22.2**	**+1.2**
	baz=152						
833A				S	**S**	**21 17 02.0**	**-0.3**
	baz=152						
833A	**Chaparral WMA,**	**66.39**	**331**	P	**P**	**21 08 22.8**	**+1.8**
	baz=152						
833A				S	**S**	**21 17 05.3**	**+3.0**
	baz=152						
Z51A	**Franklin**	**66.42**	**345**	P	**P**	**21 08 21.2**	**+0.1**
	baz=165						
Z51A				S	**S**	**21 17 00.4**	**-2.1**
	baz=165						
HKT	**Hockley**	**66.43**	**334**	P	**P**	**21 08 22.1**	**+1.0**
	baz=155						
HKT				S	**S**	**21 17 02.8**	**+0.2**
	baz=155						
HKT	**Hockley**	**66.43**	**334**	⇓P	**P**	**21 08 22.3**	**+1.2**
HKT	**Hockley**	**66.43**	**334*d***	P	**P**	**21 08 22.3**	**+1.2**
HKT				pmax	pmax		
	comp=Z,627nm,1.8s						
HKT	**Hockley**	**66.43**	**334**	⇓P	**P**	**21 08 22.4**	**+1.2**
HKT				pP	**pP**	**21 08 49.5**	**+0.4**
HKT				sP	**sP**	**21 09 02.6**	**+1.3**
342B	**Flagon Creek P**	**66.52**	**338**	P	**P**	**21 08 23.4**	**+1.7**
	baz=158						
342B				S	**S**	**21 17 07.6**	**+3.9**
	baz=158						
X58A	**Rowland**	**66.56**	**350**	P	**P**	**21 08 22.6**	**+0.7**
X58A				IAmb	IAmb	21 09 05.0	
	comp=Z,490nm,0.8s						
X58A	**Rowland**	**66.56**	**350**	P	**P**	**21 08 22.2**	**+0.3**
	baz=170						
X58A				P	**P**	**21 08 22.2**	**+0.3**
	baz=170						
X58A				S	**S**	**21 17 00.6**	**-3.5**
	baz=170						
X58A				S	**S**	**21 17 00.6**	**-3.5**
	baz=170						
LRAL	**Lakeview Retre**	**66.58**	**343**	P	**P**	**21 08 22.1**	**0.0**
	baz=163						
LRAL				S	**S**	**21 17 02.2**	**-2.1**
	baz=163						
LRAL	**Lakeview Retre**	**66.58**	**343**	P	**P**	**21 08 22.3**	**+0.2**
	baz=163,SNR=39						
LRAL				S	**S**	**21 17 02.1**	**-2.3**
	baz=163						
JSC	**Jenkinsville**	**66.59**	**349**	P	**P**	**21 08 22.3**	**+0.1**
	baz=168						
Y52A	**Lilburn**	**66.71**	**346**	P	**P**	**21 08 21.3**	**-1.6**
	baz=166						
Y52A				P	**P**	**21 08 21.3**	**-1.6**
	baz=166						
Y52A				S	**S**	**21 17 02.8**	**-3.1**
	baz=166						
Y52A				S	**S**	**21 17 02.8**	**-3.1**
	baz=166						
HODGE	**Hodges**	**66.72**	**348**	P	**P**	**21 08 23.3**	**+0.4**
	baz=168						
146A	**Union**	**66.73**	**341**	P	**P**	**21 08 22.9**	**-0.2**
146A				IAmb	IAmb	21 08 24.9	
	comp=Z,809nm,1.1s						
146A	**Union**	**66.73**	**341**	P	**P**	**21 08 23.8**	**+0.8**
	baz=161						
146A				S	**S**	**21 17 06.8**	**+0.5**
	baz=161						
VBMS	**Vicksburg**	**66.75**	**340**	P	**P**	**21 08 24.4**	**+1.2**
	baz=160						
VBMS				S	**S**	**21 17 05.8**	**-0.7**
	baz=160						
VBMS	**Vicksburg**	**66.75**	**340**	P	**P**	**21 08 24.8**	**+1.6**
	baz=160,SNR=57						
VBMS				S	**S**	**21 17 07.3**	**+0.8**
	baz=160						
BIRD	**Birdtown, Kers**	**66.82**	**349**	P	**P**	**21 08 22.5**	**-1.1**
BIRD	**Birdtown, Kers**	**66.82**	**349**	P	**P**	**21 08 24.1**	**+0.5**
	baz=169						
BIRD				S	**S**	**21 17 07.3**	**+0.1**
	baz=169						
Z47A	**Carrollton**	**67.00**	**342**	P	**P**	**21 08 25.2**	**+0.5**
Z47A				IAmb	IAmb	21 08 26.6	
	comp=Z,535nm,0.9s						
Z47A	**Carrollton**	**67.00**	**342**	P	**P**	**21 08 25.1**	**+0.3**
	baz=162						
Z47A				S	**S**	**21 17 06.3**	**-3.2**
	baz=162						
VNDA	**Vanda**	**67.00**	**191**	P	**P**	**21 08 25.9**	**+1.6**
	comp=Z,191nm,1.1s,baz=136,slow=5.5,SNR=362						
VNDA				S	**S**	**21 17 12.7**	**+4.0**
	comp=Z,3.0nm,1.0s,baz=189,slow=13,SNR=1.3						
VNDA				LR	LR	21 36 43.6	
	comp=Z,3µm,19.1s,baz=112,slow=35						
VNDA				PKPPKP	**P'P'df**	**21 36 50.0**	**-3.0**
	comp=Z,18nm,0.9s,baz=298,slow=5.3,SNR=16						
	comp=Z,191nm,1.1s						
VNDA	**Vanda**	**67.00**	**191**	P	**P**	**21 08 24.9**	**+0.6**
VNDA	**Vanda**	**67.00**	**191**	⇓P	**P**	**21 08 25.9**	**+1.6**
CNNC	**Cliffs of the**	**67.04**	**352**	P	**P**	**21 08 25.8**	**+0.9**
	baz=172						
CNNC	**Cliffs of the**	**67.04**	**352**	P	**P**	**21 08 26.1**	**+1.1**
	baz=172,SNR=13						
CNNC				S	**S**	**21 17 10.7**	**+0.8**
	baz=172						
PAULI	**Pauline**	**67.21**	**348**	P	**P**	**21 08 25.9**	**-0.1**
PAULI				IAmb	IAmb	21 08 27.3	
	comp=Z,374nm,1.2s						
PAULI	**Pauline**	**67.21**	**348**	P	**P**	**21 08 26.4**	**+0.4**
	baz=168						
PAULI				S	**S**	**21 17 10.6**	**-1.4**
	baz=168						
Y49A	**Blount Mountai**	**67.22**	**344**	P	**P**	**21 08 26.0**	**-0.2**
Y49A	**Blount Mountai**	**67.22**	**344**	P	**P**	**21 08 26.1**	**0.0**
	baz=164						
Y49A				S	**S**	**21 17 10.0**	**-2.2**
	baz=164						
W57A	**Gilead**	**67.24**	**350**	P	**P**	**21 08 26.6**	**+0.3**
W57A	**Gilead**	**67.24**	**350**	P	**P**	**21 08 26.2**	**-0.1**
	baz=170						
W57A				P	**P**	**21 08 26.2**	**-0.1**
	baz=170						
W57A				S	**S**	**21 17 11.4**	**-0.9**
	baz=170						
W57A				S	**S**	**21 17 11.4**	**-0.9**
	baz=170						
MBO	**M'Bour**	**67.42**	**55**	⇓P	**P**	**21 08 29.7**	**+1.9**
MBO	**M'Bour**	**67.42**	**55**	P	**P**	**21 08 29.4**	**+1.6**
MBO				pP	**pP**	**21 08 57.1**	**+1.7**
MBO				sP	**sP**	**21 09 10.4**	**+3.1**
V61A	**Roper**	**67.44**	**353**	P	**P**	**21 08 28.0**	**+0.5**
	baz=173						
V61A				P	**P**	**21 08 28.0**	**+0.5**
	baz=173						
KMSC	**Kings Mountain**	**67.44**	**349**	P	**P**	**21 08 27.5**	**0.0**
	baz=168						
KMSC				S	**S**	**21 17 09.2**	**-5.5**
	baz=168						
KMSC	**Kings Mountain**	**67.44**	**349**	P	**P**	**21 08 27.9**	**+0.4**
	baz=168,SNR=48						
KMSC				S	**S**	**21 17 13.5**	**-1.3**
	baz=168						
143A	**Socs Landing,**	**67.47**	**339**	P	**P**	**21 08 29.2**	**+1.5**
	baz=159						
143A				S	**S**	**21 17 15.4**	**+0.3**
	baz=159						
X51A	**Calhoun**	**67.55**	**346**	P	**P**	**21 08 28.8**	**+0.5**
	baz=165						
X51A				P	**P**	**21 08 28.8**	**+0.5**
	baz=165						
X51A				S	**S**	**21 17 14.4**	**-1.7**
	baz=165						
X51A				S	**S**	**21 17 14.4**	**-1.7**
	baz=165						
CASEE	**Lake Jocassee**	**67.58**	**347**	P	**P**	**21 08 28.6**	**+0.2**
	baz=167						
CASEE				S	**S**	**21 17 15.1**	**-1.3**
	baz=167						
NATX	**Nacogdoches**	**67.65**	**336**	P	**P**	**21 08 30.2**	**+1.3**
	baz=156						
NATX				S	**S**	**21 17 12.2**	**-5.2**
	baz=156						
NATX	**Nacogdoches**	**67.65**	**336**	P	**P**	**21 08 30.6**	**+1.7**
	baz=156,SNR=57						
NATX				S	**S**	**21 17 19.9**	**+2.5**
	baz=156						
FPAL	**Fort Paine**	**67.69**	**345**	P	**P**	**21 08 29.4**	**+0.2**
FPAL				IAmb	IAmb	21 08 30.1	
	comp=Z,452nm,1.2s						
SLBS	**Sierra La Lagu**	**67.70**	**319**	⇓P	**P**	**21 08 31.3**	**+1.8**
SLBS	**Sierra La Lagu**	**67.70**	**319**	P	**P**	**21 08 30.9**	**+1.5**
V58A	**Windy Hill, Pi**	**67.75**	**351**	P	**P**	**21 08 29.5**	**+0.1**
	baz=170						
V58A				P	**P**	**21 08 29.5**	**+0.1**
	baz=170						
V58A				S	**S**	**21 17 16.3**	**-2.0**
	baz=170						
V58A				S	**S**	**21 17 16.3**	**-2.0**
	baz=170						
435B	**Jarrell**	**67.84**	**333**	P	**P**	**21 08 31.2**	**+1.1**
	baz=154						
435B				S	**S**	**21 17 16.0**	**-3.6**
	baz=154						
435B	**Jarrell**	**67.84**	**333**	P	**P**	**21 08 31.6**	**+1.5**
	baz=154						
435B				S	**S**	**21 17 20.9**	**+1.3**
	baz=154						
W52A	**Murphy**	**67.87**	**347**	P	**P**	**21 08 30.4**	**+0.2**
	baz=166						
W52A				S	**S**	**21 17 17.2**	**-2.7**
	baz=166						
BBTS	**Babate**	**67.91**	**56**	P	**P**	**21 08 32.5**	**+1.7**
	comp=Z,906nm,0.8s,baz=208,slow=2.2,SNR=98						
BBTS				LR	LR	21 36 10.8	
	comp=Z,10µm,21.8s,baz=232,slow=34						
	comp=Z,906nm,0.8s						
X48A	**Hartselle**	**67.94**	**344**	P	**P**	**21 08 31.1**	**+0.5**
X48A				IAmb	IAmb	21 08 32.6	
	comp=Z,638nm,1.1s						
X48A	**Hartselle**	**67.94**	**344**	P	**P**	**21 08 30.9**	**+0.2**
	baz=163						
X48A				S	**S**	**21 17 17.0**	**-3.6**
	baz=163						
Y45A	**Yeager Farm, C**	**68.02**	**341**	P	**P**	**21 08 32.0**	**+0.8**
	baz=161						
Y45A				S	**S**	**21 17 22.0**	**+0.3**
	baz=161						
HPIG		**68.07**	**325**	⇓P	**P**	**21 08 33.3**	**+1.4**
V55A	**Taylorsville**	**68.12**	**349**	P	**P**	**21 08 31.9**	**+0.1**
	baz=169						
V55A				P	**P**	**21 08 31.9**	**+0.1**
	baz=169						
V55A				S	**S**	**21 17 21.9**	**-0.8**
	baz=169						
V55A				S	**S**	**21 17 21.9**	**-0.8**
	baz=169						
U59A	**Littleton**	**68.13**	**352**	P	**P**	**21 08 32.5**	**+0.7**
	baz=172						
U59A				P	**P**	**21 08 32.5**	**+0.7**
	baz=172						
U59A				S	**S**	**21 17 20.1**	**-2.7**
	baz=172						
U59A				S	**S**	**21 17 20.1**	**-2.7**
	baz=172						
V53A	**Saluda**	**68.22**	**348**	P	**P**	**21 08 32.3**	**-0.1**
	baz=167						
V53A				P	**P**	**21 08 32.3**	**-0.1**
	baz=167						
V53A				S	**S**	**21 17 20.0**	**-4.1**
	baz=167						
V53A				S	**S**	**21 17 20.0**	**-4.1**
	baz=167						
LPIG	**La Paz**	**68.23**	**319**	LR	LR	21 33 31.0	
	comp=Z,2µm,19.2s,baz=112,slow=32						
W50A	**Signal Mountai**	**68.26**	**345**	P	**P**	**21 08 32.9**	**+0.2**
	baz=165						
W50A				S	**S**	**21 17 23.6**	**-1.0**
	baz=165						
237A	**Washetta, Mont**	**68.27**	**335**	P	**P**	**21 08 34.2**	**+1.4**
	baz=155						
237A				S	**S**	**21 17 27.9**	**+3.1**
	baz=155						
CPCT	**Cooper Cave**	**68.33**	**346**	P	**P**	**21 08 33.2**	**+0.1**
CPCT				IAmb	IAmb	21 08 34.1	
	comp=Z,488nm,1.2s						
TKL	**Tuckaleechee C**	**68.39**	**347**	LR	LR	21 38 08.4	
	comp=Z,4µm,21.2s,baz=166,slow=35						
TKL				PKPPKP	**P'P'df**	**21 36 49.5**	**+2.4**
	comp=Z,36nm,1.0s,baz=355,slow=2.2,SNR=11						
TKL	**Tuckaleechee C**	**68.39**	**347**	P	**P**	**21 08 33.1**	**-0.3**
	baz=166						
TKL				S	**S**	**21 17 24.1**	**-1.9**
	baz=166						
SWET	**Sewanee**	**68.41**	**345**	P	**P**	**21 08 34.0**	**+0.3**
SWET				IAmb	IAmb	21 08 35.4	
	comp=Z,784nm,1.1s						
JCT	**Junction City**	**68.45**	**331**	P	**P**	**21 08 35.4**	**+1.4**
	baz=152						
JCT				S	**S**	**21 17 29.1**	**+2.1**
	baz=152						
JCT	**Junction City**	**68.45**	**331**	P	**P**	**21 08 35.3**	**+1.3**
	baz=152						
JCT				S	**S**	**21 17 30.1**	**+3.2**
	baz=152						
JCT	**Junction City**	**68.45**	**331**	⇓P	**P**	**21 08 35.1**	**+1.1**
U56A	**King**	**68.47**	**350**	P	**P**	**21 08 34.5**	**+0.5**
	baz=169						
U56A				P	**P**	**21 08 34.5**	**+0.5**
	baz=169						
U56A				S	**S**	**21 17 23.9**	**-3.1**
	baz=169						
U56A				S	**S**	**21 17 23.9**	**-3.1**
	baz=169						
V52A	**Sevierville**	**68.53**	**347**	P	**P**	**21 08 34.3**	**0.0**
	baz=166						
V52A				S	**S**	**21 17 25.6**	**-2.1**
	baz=166						
OXF	**Oxford**	**68.60**	**342**	P	**P**	**21 08 34.7**	**-0.1**
	baz=161						
OXF				S	**S**	**21 17 27.8**	**-0.6**
	baz=161						
OXF	**Oxford**	**68.60**	**342**	P	**P**	**21 08 35.0**	**+0.3**
	baz=161						
OXF				S	**S**	**21 17 26.9**	**-1.5**
	baz=161						
V51A	**Loudon**	**68.64**	**346**	P	**P**	**21 08 35.0**	**-0.1**
	baz=166						
V51A				S	**S**	**21 17 26.0**	**-3.0**
	baz=166						
PLAL	**Pickwick Lake**	**68.70**	**343**	P	**P**	**21 08 35.4**	**0.0**
CCAR	**Cane Creek**	**68.71**	**339**	P	**P**	**21 08 36.0**	**+0.6**
CCAR				IAmb	IAmb	21 09 07.6	
	comp=Z,722nm,0.9s						
CCAR	**Cane Creek**	**68.71**	**339**	P	**P**	**21 08 36.9**	**+1.5**
	baz=159						
CCAR				S	**S**	**21 17 29.9**	**+0.1**
	baz=159						
T59A	**Double "B" Far**	**68.71**	**352**	P	**P**	**21 08 36.0**	**+0.6**
	baz=172						
T59A				P	**P**	**21 08 36.0**	**+0.6**
	baz=172						
T59A				S	**S**	**21 17 29.9**	**+0.2**
	baz=172						
T59A				S	**S**	**21 17 29.9**	**+0.2**
	baz=172						
T60A	**Surry**	**68.79**	**353**	P	**P**	**21 08 36.8**	**+0.9**
	baz=173						
T60A				P	**P**	**21 08 36.8**	**+0.9**
	baz=173						
T60A				S	**S**	**21 17 32.7**	**+2.1**
	baz=173						
T60A				S	**S**	**21 17 32.7**	**+2.1**
	baz=173						
WHTX	**Lake Whitney,**	**68.87**	**334**	P	**P**	**21 08 37.0**	**+0.5**
WHTX				IAmb	IAmb	21 09 21.9	
	comp=Z,664nm,1.3s						
WHTX	**Lake Whitney,**	**68.87**	**334**	P	**P**	**21 08 37.2**	**+0.7**
	baz=154						
WHTX				S	**S**	**21 17 28.1**	**-3.7**
	baz=154						
WHTX	**Lake Whitney,**	**68.87**	**334**	P	**P**	**21 08 37.5**	**+1.0**
	baz=154,SNR=35						
WHTX				S	**S**	**21 17 32.2**	**+0.4**
	baz=154						
U54A	**Nelsons Funny**	**68.87**	**349**	P	**P**	**21 08 36.2**	**-0.3**
	baz=168						
U54A				P	**P**	**21 08 36.2**	**-0.3**
	baz=168						
U54A				S	**S**	**21 17 26.0**	**-5.8**
	baz=168						
U54A				S	**S**	**21 17 26.0**	**-5.8**
	baz=168						
WLAR	**White Oak Lake**	**68.91**	**338**	P	**P**	**21 08 37.7**	**+1.0**
T57A	**Hurt**	**68.95**	**351**	P	**P**	**21 08 37.3**	**+0.5**
	baz=170						
T57A				P	**P**	**21 08 37.3**	**+0.5**
	baz=170						

T57A S **S** **21 17 27.4 -5.1**
baz=170
T57A S **S** **21 17 27.4 -5.1**
baz=170
V48A Smith Brothers 69.12 344 P **P** **21 08 38.2 +0.3**
baz=164
V48A S **S** **21 17 28.3 -6.3**
baz=164
Z38A Mt. Pleasant 69.13 337 P **P** **21 08 39.3 +1.2**
baz=156
Z38A S **S** **21 17 35.5 +0.7**
baz=156
TXAR Lajitas Array 69.14 328 P **P** **21 08 39.5 +1.1**
comp=Z,112nm,0.8s,baz=146,slow=7.5,SNR=522
TXAR S **S** **21 17 38.4 +3.1**
comp=Z,1.3nm,0.5s,baz=214,slow=14,SNR=1.4
TXAR PKPPKP **P'P'df** **21 36 42.4 -4.5**
comp=Z,9.8nm,1.0s,baz=283,slow=1.4,SNR=10
comp=Z,112nm,0.8s
TXAR Lajitas Array 69.14 328 P **P** **21 08 38.8 +0.5**
TX31 Lajitas Ar. Si 69.14 328 P **P** **21 08 39.4 +1.0**
baz=149
TX31 S **S** **21 17 38.6 +3.3**
baz=149
TX32 Lajitas Array 69.14 328 P **P** **21 08 39.5 +1.1**
TX32 lAmb lAmb 21 08 42.0
comp=Z,829nm,1.6s
W45A Hickory Valley 69.15 342 P **P** **21 08 38.3 +0.2**
baz=162
W45A S **S** **21 17 32.9 -2.0**
baz=162
TZTN Tazewell 69.20 347 P **P** **21 08 38.2 -0.3**
baz=167
TZTN S **S** **21 17 32.8 -2.8**
baz=167
TZTN Tazewell 69.20 347 P **P** **21 08 38.5 0.0**
baz=167,SNR=34
TZTN S **S** **21 17 32.7 -2.9**
baz=167
S61A Accomac 69.22 354 P **P** **21 08 40.3 +1.8**
baz=174
S61A P **P** **21 08 40.3 +1.8**
baz=174
BLA Blacksburg 69.33 350 P **P** **21 08 40.1 +0.8**
BLA lAmb lAmb 21 09 10.9
comp=Z,1µm,1.8s
BLA Blacksburg 69.33 350 P **P** **21 08 39.8 +0.5**
baz=169
BLA S **S** **21 17 36.2 -0.9**
baz=169
BLA Blacksburg 69.33 350 P **P** **21 08 40.1 +0.8**
baz=169,SNR=22
BLA S **S** **21 17 36.1 -0.9**
baz=169
BLA Blacksburg 69.33 350 P **P** **21 08 40.1 +0.8**
BLA pmax pmax
comp=Z,1µm,1.8s
CLTN Cedars of Leba 69.34 345 P **P** **21 08 39.8 +0.4**
CLTN lAmb lAmb 21 09 10.4
comp=Z,381nm,0.9s
JSRW J. Sargeant Re 69.46 352 P **P** **21 08 40.8 +0.7**
U49A Red Boiling Sp 69.62 345 P **P** **21 08 40.9 -0.2**
U49A Red Boiling Sp 69.62 345 P **P** **21 08 40.7 -0.3**
baz=165
U49A S **S** **21 17 38.2 -2.3**
baz=165
S57A Dark Hollow, R 69.66 351 P **P** **21 08 42.0 +0.8**
S57A lAmb lAmb 21 08 43.0
comp=Z,556nm,1.1s
S57A Dark Hollow, R 69.66 351 P **P** **21 08 42.5 +1.2**
baz=171
S57A P **P** **21 08 42.5 +1.2**
baz=171
S57A S **S** **21 17 40.3 -0.6**
baz=171
S57A S **S** **21 17 40.3 -0.6**
baz=171
TAOE Nuku Hiva Isla 69.68 272 *e*P **P** **21 08 40.6 -1.5**
comp=Z,2µm,1.1s
TAOE *e*S **S** **21 17 39.0 -3.4**
comp=Z,11µm,27.1s
TAOE *e*SS **SS** **21 22 09.8 -2.9**
comp=Z,5µm,23.5s
TAOE *e*LR LR 21 29 57.5
comp=Z,16µm,31.1s
TAOE Nuku Hiva Isla 69.68 272 ⇓P **P** **21 08 43.2 +1.1**
WVT Waverly 69.73 344 P **P** **21 08 41.6 -0.1**
WVT Waverly 69.73 344 P **P** **21 08 41.8 +0.1**
baz=163
WVT S **S** **21 17 39.6 -2.1**
baz=163
WVT Waverly 69.73 344 P **P** **21 08 42.1 +0.4**
baz=163
WVT S **S** **21 17 40.0 -1.7**
baz=163
WVT Waverly 69.73 344 ⇓P **P** **21 08 41.8 +0.1**
WVT Waverly 69.73 344 P **P** **21 08 41.6 -0.1**
WVT pmax pmax
comp=Z,1µm,1.0s
WVT Waverly 69.73 344 ⇓P **P** **21 08 41.8 +0.1**
WVT pP **pP** **21 09 09.1 -0.6**
WVT sP **sP** **21 09 22.4 +0.6**
R58B Mineral 69.73 352 P **P** **21 08 43.2 +1.5**
baz=172
R58B P **P** **21 08 43.2 +1.5**
baz=172
R58B S **S** **21 17 40.7 -1.0**
baz=172
R58B S **S** **21 17 40.7 -1.0**
baz=172
R61A Willards 69.84 354 P **P** **21 08 43.1 +0.8**
baz=174
R61A P **P** **21 08 43.1 +0.8**
baz=174
MIAR Mount Ida 69.85 338 P **P** **21 08 42.7 +0.2**
MIAR lAmb lAmb 21 09 14.2
comp=Z,487nm,1.1s
MIAR Mount Ida 69.85 338 P **P** **21 08 43.1 +0.6**
baz=158
MIAR S **S** **21 17 40.8 -2.4**
baz=158
MIAR Mount Ida 69.85 338 P **P** **21 08 43.3 +0.8**
baz=158,SNR=185
MIAR S **S** **21 17 41.6 -1.6**
baz=158
MIAR Mount Ida 69.85 338 ⇓P **P** **21 08 43.1 +0.6**
MIAR Mount Ida 69.85 338 P **P** **21 08 42.7 +0.2**
MIAR pmax pmax
comp=Z,487nm,1.1s
CBN Corbin Frederi 69.91 353 P **P** **21 08 43.8 +1.0**
baz=172
CBN S **S** **21 17 42.4 -1.4**
baz=172
CBN Corbin Frederi 69.91 353 P **P** **21 08 44.0 +1.2**
baz=172,SNR=9.1
CBN S **S** **21 17 42.6 -1.1**
baz=172
T50A Nancy 69.92 346 P **P** **21 08 42.5 -0.4**
T50A Nancy 69.92 346 P **P** **21 08 42.4 -0.4**
baz=166
T50A P **P** **21 08 42.4 -0.4**
baz=166
T50A S **S** **21 17 40.9 -3.1**
baz=166
T50A S **S** **21 17 40.9 -3.1**
baz=166
HBAR Harrisburg 69.92 341 P **P** **21 08 43.3 +0.4**
baz=160
Z35A Perchaven, San 69.99 335 P **P** **21 08 44.5 +1.1**
baz=154
Z35A S **S** **21 17 43.5 -1.4**
baz=154
S54A Dingess, Beckl 70.04 349 P **P** **21 08 43.4 -0.3**
baz=169
S54A P **P** **21 08 43.4 -0.3**
baz=169
S54A S **S** **21 17 42.5 -2.9**
baz=169
S54A S **S** **21 17 42.5 -2.9**
baz=169
LNXT Lenox 70.12 342 P **P** **21 08 44.8 +0.7**
baz=161
LNXT S **S** **21 17 44.2 -2.0**
baz=161
WHAR Wooly Hollow 70.14 340 P **P** **21 08 43.4 -0.8**
WHAR lAmb lAmb 21 09 15.8
comp=Z,579nm,1.1s

ABTX Abilene, Hawle 70.27 333 P **P** **21 08 46.0 +0.9**
baz=152
ABTX S **S** **21 17 48.8 +0.5**
baz=152
ABTX Abilene, Hawle 70.27 333 P **P** **21 08 46.0 +0.9**
baz=152,SNR=138
ABTX S **S** **21 17 49.4 +1.1**
baz=152
S51A Beattyville 70.27 347 P **P** **21 08 45.2 +0.2**
baz=167
S51A P **P** **21 08 45.2 +0.2**
baz=167
S51A S **S** **21 17 44.8 -3.3**
baz=167
S51A S **S** **21 17 44.8 -3.3**
baz=167
R55A Marlinton 70.33 350 P **P** **21 08 46.5 +1.1**
baz=170
R55A P **P** **21 08 46.5 +1.1**
baz=170
R55A S **S** **21 17 49.7 +0.8**
baz=170
R55A S **S** **21 17 49.7 +0.8**
baz=170
T47A Sharon Grove 70.38 344 P **P** **21 08 45.3 -0.3**
baz=164
T47A S **S** **21 17 46.4 -2.8**
baz=164
X37A Clayton 70.47 337 P **P** **21 08 46.8 +0.5**
baz=156
X37A S **S** **21 17 50.8 +0.3**
baz=156
LCAR Lake Charles 70.54 341 P **P** **21 08 47.1 +0.4**
baz=160
LCAR S **S** **21 17 50.2 -1.0**
baz=160
R53A Hurricane 70.66 349 P **P** **21 08 47.4 0.0**
baz=168
R53A P **P** **21 08 47.4 0.0**
baz=168
R53A S **S** **21 17 48.8 -3.7**
baz=168
R53A S **S** **21 17 48.8 -3.7**
baz=168
TBI Tubuai 70.69 254 *e*P **P** **21 08 47.4 -0.7**
comp=Z,1µm,1.1s
TBI *ep*P **pP** **21 09 15.1 -1.6**
comp=Z,1µm,1.2s
TBI *e*S **S** **21 17 50.4 -3.4**
comp=Z,42µm,27.0s
TBI *e*SS **SS** **21 22 24.9 -2.6**
comp=Z,15µm,24.8s
TBI *e*LR LR 21 30 24.8
comp=Z,315µm,28.2s
TBI *e*LR LR 21 30 25.2
comp=Z,194µm,35.5s
TBI Tubuai 70.69 254 *e*T T 22 23 13.8
comp=Z,11nm,0.2s
T45B Paducah 70.77 343 P **P** **21 08 48.0 0.0**
baz=162
T45B S **S** **21 17 52.5 -1.4**
baz=162
Q56A Snyder Ridge, 70.95 351 P **P** **21 08 50.3 +1.2**
baz=171
Q56A P **P** **21 08 50.3 +1.2**
baz=171
Q56A S **S** **21 17 58.8 +2.9**
baz=171
Q56A S **S** **21 17 58.8 +2.9**
baz=171
PBMO Poplar Bluff 71.01 342 P **P** **21 08 49.9 +0.4**
baz=161
PBMO S **S** **21 17 56.1 -0.5**
baz=161
R50A Paris 71.03 347 P **P** **21 08 49.5 -0.1**
baz=166
R50A P **P** **21 08 49.5 -0.1**
baz=166
R50A S **S** **21 17 55.0 -1.9**
baz=166
R50A S **S** **21 17 55.0 -1.9**
baz=166
SDMD Soldier's Deli 71.05 353 P **P** **21 08 50.9 +1.3**
baz=173
SDMD S **S** **21 17 58.9 +1.9**
baz=173
Q54A Coxs Mills 71.12 350 P **P** **21 08 50.2 +0.1**
baz=169
Q54A P **P** **21 08 50.2 +0.1**
baz=169
Q54A S **S** **21 17 55.0 -2.8**
baz=169
Q54A S **S** **21 17 55.0 -2.8**
baz=169
P61A Hammonton 71.13 355 P **P** **21 08 51.0 +0.8**
baz=175
P61A P **P** **21 08 51.0 +0.8**
baz=175
R49A Shelbyville 71.21 346 P **P** **21 08 50.0 -0.7**
baz=165
R49A P **P** **21 08 50.0 -0.7**
baz=165
R49A S **S** **21 17 56.3 -2.6**
baz=165
R49A S **S** **21 17 56.3 -2.6**
baz=165
P57A Homestead Farm 71.25 352 P **P** **21 08 52.3 +1.5**
baz=172
P57A P **P** **21 08 52.3 +1.5**
baz=172
P57A S **S** **21 18 02.6 +3.3**
baz=172
P57A S **S** **21 18 02.6 +3.3**
baz=172
LIC Lamto 71.28 70⇑ *i*P **P** **21 08 52.2 +0.5**
comp=Z,1µm,1.0s
Q52A Bidwell 71.33 349 P **P** **21 08 51.4 0.0**
baz=168
Q52A P **P** **21 08 51.4 0.0**
baz=168
Q52A S **S** **21 17 57.4 -2.8**
baz=168
Q52A S **S** **21 17 57.4 -2.8**
baz=168
GEDE Greenville 71.34 354 P **P** **21 08 52.4 +1.1**
baz=174
GEDE S **S** **21 18 00.3 +0.1**
baz=174
WCI Wyandotte Cave 71.38 345 P **P** **21 08 51.3 -0.4**
baz=164
WCI S **S** **21 17 57.1 -3.8**
baz=164
WCI Wyandotte Cave 71.38 345 P **P** **21 08 51.5 -0.2**
baz=164
WCI S **S** **21 17 57.8 -3.1**
baz=164
WCI Wyandotte Cave 71.38 345 ⇓P **P** **21 08 51.3 -0.4**
WCI Wyandotte Cave 71.38 345 ⇓P **P** **21 08 51.2 -0.5**
WCI pP **pP** **21 09 18.4 -1.5**
WCI pwP sP 21 09 21.7 -10
PSUB Penn St. - Bra 71.44 354 P **P** **21 08 53.0 +1.1**
baz=174
TIC Toumodi 71.54 70⇑ *i*P **P** **21 08 53.8 +0.6**
comp=Z,336nm,0.8s
HHAR Hobbs 71.56 339 P **P** **21 08 53.3 +0.4**
baz=158
HHAR S **S** **21 18 03.9 +0.8**
baz=158
S44A Carbondale 71.56 343 P **P** **21 08 52.5 -0.3**
baz=162
S44A S **S** **21 18 00.3 -2.6**
baz=162
Q51A Peebles 71.58 348 P **P** **21 08 53.0 +0.1**
baz=167
Q51A P **P** **21 08 53.0 +0.1**
baz=167
Q51A S **S** **21 18 01.1 -2.0**
baz=167
Q51A S **S** **21 18 01.1 -2.0**
baz=167
KIC Kosan Boka 71.59 70⇑ *i*P **P** **21 08 55.3 +1.7**
comp=Z,133nm,0.5s
MCWV Mont Chateau 71.65 351 P **P** **21 08 53.8 +0.6**
baz=170
MCWV S **S** **21 18 04.4 +0.5**
baz=170
MCWV Mont Chateau 71.65 351 P **P** **21 08 54.1 +0.8**
baz=170,SNR=39

MCWV S **S** **21 18 03.7 -0.2**
baz=170
TUPA Temple Univers 71.65 355 P **P** **21 08 54.1 +0.8**
baz=174
TUPA S **S** **21 18 05.9 +2.0**
baz=174
ELIM Elim 71.67 120⇓ *i*P **P** **21 08 55.3 +1.5**
ELIM lAmb lAmb 21 08 55.9
comp=Z,746nm,1.1s
DBIC Dimbokro 71.68 70 P **P** **21 08 55.2 +1.1**
comp=Z,372nm,0.8s,baz=235,slow=6.1,SNR=276
DBIC pP **pP** **21 09 22.5 +0.3**
comp=Z,237nm,0.8s,baz=243,slow=7.4,SNR=6.4
DBIC S **S** **21 18 03.5 -1.8**
comp=Z,10.0nm,1.0s,baz=44,slow=16,SNR=2.4
DBIC PKPPKP **P'P'df** **21 36 38.5 -6.3**
comp=Z,11nm,1.0s,baz=83,slow=1.7,SNR=5.5
DBIC LR LR 21 39 48.0
comp=Z,4µm,18.9s,baz=236,slow=35
comp=Z,372nm,0.8s
DBIC Dimbokro 71.68 70⇓ *i*P **P** **21 08 55.2 +1.1**
DBIC Dimbokro 71.68 70⇓P **P** **21 08 55.1 +1.1**
DBIC Dimbokro 71.68 70 P **P** **21 08 55.1 +1.0**
DBIC pP **pP** **21 09 22.1 -0.1**
DBIC sP **sP** **21 09 33.4 -0.9**
P53A Whipple 71.70 350 P **P** **21 08 53.5 -0.1**
baz=169
P53A P **P** **21 08 53.5 -0.1**
baz=169
P53A S **S** **21 18 01.0 -3.5**
baz=169
P53A S **S** **21 18 01.0 -3.5**
baz=169
WMOK Wichita Mounta 71.81 334 P **P** **21 08 54.2 -0.3**
baz=153
WMOK S **S** **21 18 05.2 -0.8**
baz=153
WMOK Wichita Mounta 71.81 334 P **P** **21 08 54.6 +0.2**
baz=153,SNR=88
WMOK S **S** **21 18 06.2 +0.1**
baz=153
WMOK Wichita Mounta 71.81 334 ⇓P **P** **21 08 54.4 0.0**
TUL1 Leonard 71.82 337 P **P** **21 08 54.6 +0.3**
baz=156
TUL1 S **S** **21 18 05.3 -0.6**
baz=156
TUL1 Leonard 71.82 337 P **P** **21 08 54.8 +0.4**
baz=156,SNR=116
TUL1 S **S** **21 18 06.0 0.0**
baz=156
PANJ Princeton 71.83 355 P **P** **21 08 55.2 +0.9**
baz=175
PANJ S **S** **21 18 08.9 +3.1**
baz=175
SRIG Santa Rosalia 71.83 320 ⇓P **P** **21 08 56.1 +1.5**
U38A Gravette 71.84 338 P **P** **21 08 54.6 0.0**
baz=157
U38A S **S** **21 18 06.7 +0.4**
baz=157
CER Ceres 71.88 118⇓ *i*P **P** **21 08 56.6 +1.5**
CER lAmb lAmb 21 08 57.9
comp=Z,419nm,0.9s
P52A Corning 71.96 349 P **P** **21 08 55.2 +0.1**
baz=168,SNR=85
P52A S **S** **21 18 04.6 -2.9**
baz=168
P51A Williamsport 71.97 348 P **P** **21 08 55.2 0.0**
baz=167
P51A P **P** **21 08 55.2 0.0**
baz=167
P51A S **S** **21 18 05.4 -2.1**
baz=167
P51A S **S** **21 18 05.4 -2.1**
baz=167
MEH Mehetia 72.05 260 *e*P **P** **21 08 55.8 -0.5**
comp=Z,405nm,1.1s
MEH *ep*P **pP** **21 09 22.7 -2.3**
comp=Z,96nm,1.1s
MEH Mehetia 72.05 260 *e*T T 22 24 58.9
comp=Z,33nm,0.2s
KOMG Komaggas 72.07 114⇓ *i*P **P** **21 08 58.4 +2.1**
KOMG lAmb lAmb 21 08 59.2
comp=Z,410µm,3.4s
BRNJ Basking Ridge 72.12 355 P **P** **21 08 57.4 +1.3**
baz=175
BRNJ S **S** **21 18 12.4 +3.2**
baz=175
FVM French Village 72.14 342 P **P** **21 08 56.6 +0.3**
baz=161
FVM S **S** **21 18 10.5 +0.9**
baz=161
O54A Avella 72.23 351 P **P** **21 08 56.8 +0.1**
baz=170
O54A P **P** **21 08 56.8 +0.1**
baz=170
O54A S **S** **21 18 09.6 -1.0**
baz=170
O54A S **S** **21 18 09.6 -1.0**
baz=170
FOR Fordham 72.25 356 P **P** **21 08 57.5 +0.7**
baz=175
FOR S **S** **21 18 09.8 -0.9**
baz=175
OLIL Olney 72.27 344 P **P** **21 08 55.8 -1.2**
baz=163
OLIL S **S** **21 18 08.2 -2.8**
baz=163
N62A Caumsett State 72.30 356 P **P** **21 08 57.9 +0.8**
baz=176
N62A P **P** **21 08 57.9 +0.8**
baz=176
P49A Miami Univ. Ec 72.32 347 P **P** **21 08 56.5 -0.8**
baz=166
P49A S **S** **21 18 08.3 -3.3**
baz=166
P49A Miami Univ. Ec 72.32 347 P **P** **21 08 57.2 -0.1**
baz=166,SNR=81
P49A S **S** **21 18 09.2 -2.4**
baz=166
SSPA Standing Stone 72.37 353 P **P** **21 08 58.2 +0.6**
baz=172
SSPA Standing Stone 72.37 353 P **P** **21 08 58.6 +1.0**
baz=172
SSPA S **S** **21 18 12.8 +0.7**
baz=172
SSPA Standing Stone 72.37 353 ⇓P **P** **21 08 58.3 +0.8**
O52A Adamsville 72.39 349 P **P** **21 08 57.8 +0.2**
baz=168
O52A P **P** **21 08 57.8 +0.2**
baz=168
O52A S **S** **21 18 08.7 -3.6**
baz=168
O52A S **S** **21 18 08.7 -3.6**
baz=168
P48A Milroy 72.39 346 P **P** **21 08 56.7 -1.0**
baz=165
P48A P **P** **21 08 56.7 -1.0**
baz=165
P48A S **S** **21 18 09.3 -3.1**
baz=165
P48A S **S** **21 18 09.3 -3.1**
baz=165
PAL Palisades 72.40 356 P **P** **21 08 58.4 +0.8**
baz=175
PAL S **S** **21 18 14.3 +2.0**
baz=175
PAL Palisades 72.40 356 P **P** **21 08 58.5 +0.8**
baz=175
PAL S **S** **21 18 14.3 +2.0**
baz=175
O53A New Philadelph 72.42 350 P **P** **21 08 58.1 +0.3**
baz=169,SNR=35
O53A S **S** **21 18 09.9 -2.8**
baz=169
CCM Cathedral Cave 72.42 341 P **P** **21 08 58.3 +0.3**
baz=160
CCM S **S** **21 18 11.3 -1.5**
baz=160
CCM Cathedral Cave 72.42 341 P **P** **21 08 58.6 +0.7**
baz=160
CCM S **S** **21 18 12.3 -0.5**
baz=160
CCM Cathedral Cave 72.42 341 ⇓P **P** **21 08 58.4 +0.4**
N58A Sunbury 72.45 354 P **P** **21 08 58.7 +0.6**
baz=173
N58A P **P** **21 08 58.7 +0.6**
baz=173
N58A S **S** **21 18 13.7 +0.7**

N58A baz=173 S **S** **21 18 13.7 +0.7**
baz=173
HSIG **72.47 322** ⇓P **P** **21 08 59.8 +1.4**
UPAO **U. Pittsburgh** **72.48 351** P **P** **21 08 58.9 +0.7**
baz=170
UPAO S **S** **21 18 11.9 -1.5**
baz=170
KIDD **KIDD Seismic O** **72.50 327** P **P** **21 08 59.6 +0.9**
baz=147
KIDD S **S** **21 18 16.1 +1.9**
baz=147
ODNJ **Ogdensburg** **72.52 355** P **P** **21 08 59.5 +1.1**
baz=175
ODNJ S **S** **21 18 15.6 +1.8**
baz=175
Q44A **Meyer Farm, Va** **72.65 343** P **P** **21 08 58.5 -0.7**
baz=162
Q44A S **S** **21 18 13.0 -2.3**
baz=162
S39A **Bolivar** **72.67 340** P **P** **21 09 00.2 +0.7**
baz=158
S39A S **S** **21 18 15.3 -0.4**
baz=158
ACSO **Alum Creek Sta** **72.69 349** P **P** **21 08 59.3 -0.1**
baz=167
ACSO S **S** **21 18 12.2 -3.5**
baz=167
ACSO **Alum Creek Sta** **72.69 349** P **P** **21 08 59.7 +0.2**
baz=167,SNR=103
ACSO S **S** **21 18 13.3 -2.4**
baz=167
M63A **Gales Ferry** **72.70 357** P **P** **21 09 00.2 +0.7**
baz=177
M63A P **P** **21 09 00.2 +0.7**
baz=177
SLM **Saint Louis** **72.70 342** P **P** **21 08 59.4 -0.1**
baz=161
SLM S **S** **21 18 14.4 -1.5**
baz=161
MSTX **Muleshoe** **72.71 331** P **P** **21 09 00.5 +0.6**
baz=150
MSTX S **S** **21 18 16.4 -0.2**
baz=150
MSTX **Muleshoe** **72.71 331** P **P** **21 09 00.6 +0.7**
baz=150,SNR=244
MSTX S **S** **21 18 17.8 +1.3**
baz=150
BRNY **Black Rk. Fore** **72.81 356** P **P** **21 09 00.7 +0.5**
baz=175
BRNY S **S** **21 18 19.8 +2.8**
baz=175
PSWB **Penn State Wil** **72.85 354** P **P** **21 09 01.5 +1.1**
baz=174
PSWB S **S** **21 18 19.2 +1.6**
baz=174
O49A **Covington** **72.88 347** P **P** **21 09 00.1 -0.5**
baz=166
O49A P **P** **21 09 00.1 -0.5**
baz=166
O49A S **S** **21 18 15.3 -2.6**
baz=166
O49A S **S** **21 18 15.3 -2.6**
baz=166
MATJ **Matjiesfontein** **72.89 119** ⇓*i*P **P** **21 09 03.2 +2.0**
MATJ IAmb IAmb 21 09 04.2
comp=Z,2μm,0.8s
N53A **Lisbon** **72.91 350** P **P** **21 09 00.8 +0.1**
baz=169
N53A P **P** **21 09 00.8 +0.1**
baz=169
N53A S **S** **21 18 15.8 -2.4**
baz=169
N53A S **S** **21 18 15.8 -2.4**
baz=169
P46A **Rosedale** **72.91 345** P **P** **21 09 00.1 -0.7**
baz=164
P46A S **S** **21 18 14.0 -4.3**
baz=164
R40A **Maddies Statio** **72.93 341** P **P** **21 09 01.1 +0.2**
baz=159
R40A S **S** **21 18 18.5 0.0**
baz=159
VAH **Vaihoa** **72.93 262** *e*P **P** **21 09 01.2 -0.3**
comp=Z,558nm,1.1s
VAH *e*pP **pP** **21 09 28.4 -1.8**
comp=Z,144nm,1.1s
PSDB **Penn State Uni** **72.95 352** P **P** **21 09 01.9 +0.8**
baz=171
T35B **Sooner Cattle** **72.97 337** P **P** **21 09 01.7 +0.5**
baz=156
T35B S **S** **21 18 18.1 -1.0**
baz=156
M57A **Sunshine Farm,** **72.99 353** P **P** **21 09 01.9 +0.7**
baz=173
M57A P **P** **21 09 01.9 +0.7**
baz=173
M57A S **SKiKP** **21 18 21.1 -1.9**
baz=173
M57A S **SKiKP** **21 18 21.1 -1.9**
baz=173
AMTX **Amarillo** **73.06 332** P **P** **21 09 02.6 +0.7**
baz=151
AMTX S **S** **21 18 21.0 +0.6**
baz=151
AMTX **Amarillo** **73.06 332** P **P** **21 09 02.8 +0.9**
baz=151
AMTX S **S** **21 18 21.2 +0.8**
baz=151
CVNA **Calvinia** **73.07 117** ⇓*i*P **P** **21 09 04.3 +2.0**
CVNA IAmb IAmb 21 09 05.4
comp=Z,1μm,0.9s
KSPA **Keystone Colle** **73.08 354** P **P** **21 09 02.5 +0.8**
baz=174
KSPA S **S** **21 18 20.5 +0.4**
baz=174
O48B **Farmland** **73.11 347** P **P** **21 09 01.6 -0.3**
baz=166
O48B S **S** **21 18 18.3 -2.2**
baz=166
O48B **Farmland** **73.11 347** P **P** **21 09 01.9 -0.1**
baz=166,SNR=74
O48B S **S** **21 18 17.7 -2.8**
baz=166
NPNY **Mohonk Preserv** **73.16 356** P **P** **21 09 03.6 +1.4**
baz=175
NPNY S **SKiKP** **21 18 24.4 +1.2**
baz=175
L64A **Middleborough** **73.19 358** P **P** **21 09 03.0 +0.6**
baz=178
L64A P **P** **21 09 03.0 +0.6**
baz=178
N51A **Ashland** **73.25 349** P **P** **21 09 02.6 -0.2**
baz=168
N51A P **P** **21 09 02.6 -0.2**
baz=168
N51A S **S** **21 18 16.4 -5.7**
baz=168
N51A S **S** **21 18 16.4 -5.7**
baz=168
TIAR **Tiarei** **73.27 259** *e*P **P** **21 09 03.0 -0.6**
comp=Z,85nm,1.1s
TIAR *e*pP **pP** **21 09 30.3 -2.1**
comp=Z,46nm,1.1s
TIAR **Tiarei** **73.27 259** *e*T T 22 26 01.3
comp=Z,3.3nm,0.2s
M55A **Ridgway** **73.29 352** P **P** **21 09 03.9 +0.8**
baz=171
M55A P **P** **21 09 03.9 +0.8**
baz=171
M55A S **S** **21 18 22.0 -0.6**
baz=171
M55A S **S** **21 18 22.0 -0.6**
baz=171
U32A **Winter Ranch,** **73.36 335** P **P** **21 09 04.4 +0.9**
baz=154
U32A S **SKiKP** **21 18 24.2 +0.4**
baz=154
PAE **Paea** **73.42 259** *e*P **P** **21 09 03.5 -0.9**
comp=Z,342nm,1.1s
PAE *e*pP **pP** **21 09 29.8 -3.4**
comp=Z,196nm,1.2s
PPTF **Pamatai, Papee** **73.44 259** ⇓P **P** **21 09 06.2 +1.5**
PPT2 **Papeete2** **73.45 259** *e*P **P** **21 09 04.4 -0.3**
comp=Z,1μm,1.2s
PPT2 *e*pP **pP** **21 09 31.6 -1.9**
comp=Z,525nm,1.1s
PPT2 *e*S **SKiKP** **21 18 21.4 -3.2**
comp=Z,11μm,25.5s
PPT2 *e*SS **SS** **21 23 06.7 -3.4**
comp=Z,3μm,22.8s
PPT2 *e*LR LR 21 31 41.8
comp=Z,12μm,34.8s
PPT2 *e*LR LR 21 31 42.0
comp=Z,24μm,34.5s
PPT **Papeete** **73.46 259** P **P** **21 09 06.2 +1.5**
comp=Z,1μm,1.0s,baz=65,slow=3.9,SNR=30
PPT LR LR 21 33 58.0
comp=Z,4μm,18.6s,baz=124,slow=30
comp=Z,1μm,1.0s
SUR **Sutherland** **73.46 118** P **P** **21 09 06.8 +2.0**
comp=Z,862nm,0.9s,baz=238,slow=5.5,SNR=300
SUR LR LR 21 38 43.5
comp=Z,3μm,19.8s,baz=242,slow=34
comp=Z,862nm,0.9s
SUR **Sutherland** **73.46 118** P **P** **21 09 06.6 +2.0**
SUR **Sutherland** **73.46 118** ⇓P **P** **21 09 06.7 +2.0**
P43A **Skaggs, Pawnee** **73.47 343** P **P** **21 09 04.0 -0.1**
baz=162
P43A S **SKiKP** **21 18 22.3 -1.4**
baz=162
M53A **WI Miller and** **73.51 351** P **P** **21 09 04.7 +0.4**
baz=170,SNR=16
M53A S **SKiKP** **21 18 23.4 -0.5**
baz=170
N49A **Columbus Grove** **73.57 348** P **P** **21 09 04.6 0.0**
baz=166
N49A P **P** **21 09 04.6 0.0**
baz=166
N49A S **SKiKP** **21 18 23.8 -0.1**
baz=166
N49A S **SKiKP** **21 18 23.8 -0.1**
baz=166
QUA2 **Belchertown** **73.58 357** P **P** **21 09 05.6 +1.0**
baz=177
SFIN **Lafayette** **73.62 345** P **P** **21 09 04.2 -0.7**
baz=164
SFIN S **SKiKP** **21 18 22.4 -1.6**
baz=164
SFIN **Lafayette** **73.62 345** P **P** **21 09 04.4 -0.5**
baz=164,SNR=33
SFIN S **SKiKP** **21 18 22.6 -1.4**
baz=164
ALLY **Alegheny Colle** **73.64 351** P **P** **21 09 04.9 -0.2**
baz=170
ALLY S **SKiKP** **21 18 25.2 +1.2**
baz=170
WES **Weston** **73.65 358** P **P** **21 09 05.0 0.0**
baz=178
L59A **Walton** **73.65 355** P **P** **21 09 06.2 +1.1**
baz=174
L59A P **P** **21 09 06.2 +1.1**
baz=174
L59A S **S** **21 18 25.9 -0.8**
baz=174
L59A S **S** **21 18 25.9 -0.8**
baz=174
M52A **Chesterland** **73.71 350** P **P** **21 09 05.4 -0.1**
baz=169
M52A P **P** **21 09 05.4 -0.1**
baz=169
M52A S **SKiKP** **21 18 24.7 +0.6**
baz=169
M52A S **SKiKP** **21 18 24.7 +0.6**
baz=169
O44A **Mansfield** **73.71 344** P **P** **21 09 04.7 -0.7**
baz=163
O44A S **SKiKP** **21 18 23.2 -1.0**
baz=163
121A **Cookes Peak, D** **73.73 326** P **P** **21 09 07.6 +1.5**
baz=146
121A S **S** **21 18 29.8 +1.5**
baz=146
121A **Cookes Peak, D** **73.73 326** P **P** **21 09 08.0 +1.9**
baz=146,SNR=301
121A S **S** **21 18 31.4 +3.1**
baz=146
L61B **Northampton** **73.77 357** P **P** **21 09 07.1 +1.3**
baz=176
L61B S **S** **21 18 29.4 +1.6**
baz=176
L61B **Northampton** **73.77 357** P **P** **21 09 07.0 +1.3**
baz=176,SNR=46
L61B S **S** **21 18 28.8 +1.0**
baz=176
HRV **Adam Dziewonsk** **73.78 358** P **P** **21 09 06.8 +1.0**
baz=178
HRV **Adam Dziewonsk** **73.78 358** P **P** **21 09 07.2 +1.4**
baz=178
HRV S **S** **21 18 28.6 +0.6**
baz=178
HRV **Adam Dziewonsk** **73.78 358** ⇓P **P** **21 09 07.0 +1.2**
N47A **Urbana** **73.81 347** P **P** **21 09 05.3 -0.8**
baz=165
N47A P **P** **21 09 05.3 -0.8**
baz=165
N47A S **SKiKP** **21 18 23.8 -0.4**
baz=165
N47A S **SKiKP** **21 18 23.8 -0.4**
baz=165
L56A **Greenwood** **73.82 353** P **P** **21 09 06.7 +0.6**
baz=172
L56A P **P** **21 09 06.7 +0.6**
baz=172
L56A S **S** **21 18 28.5 0.0**
baz=172
L56A S **S** **21 18 28.5 0.0**
baz=172
M50A **Fremont** **73.84 349** P **P** **21 09 06.2 0.0**
baz=167
M50A P **P** **21 09 06.2 0.0**
baz=167
M50A S **SKiKP** **21 18 25.4 +1.1**
baz=167
M50A S **SKiKP** **21 18 25.4 +1.1**
baz=167
MERW **Merweville** **73.86 119** ⇓*i*P **P** **21 09 08.6 +1.6**
MERW IAmb IAmb 21 09 09.6
comp=Z,1μm,0.9s
K62A **Royalston** **73.97 357** P **P** **21 09 08.2 +1.3**
baz=177
K62A P **P** **21 09 08.2 +1.3**
baz=177
P40A **Paris** **74.02 341** P **P** **21 09 07.5 +0.2**
baz=160
P40A S **S** **21 18 28.3 -2.5**
baz=160
ERPA **Erie** **74.08 351** P **P** **21 09 07.9 +0.3**
baz=170
ERPA S **S** **21 18 28.9 -2.5**
baz=170
ERPA **Erie** **74.08 351** P **P** **21 09 08.1 +0.5**
baz=170,SNR=13
ERPA S **S** **21 18 30.2 -1.2**
baz=170
TRY **Troy** **74.10 356** P **P** **21 09 08.9 +1.2**
baz=176
TRY S **S** **21 18 35.5 +4.0**
baz=176
HCNY **Howe Caverns** **74.11 356** P **P** **21 09 08.8 +1.0**
baz=175
HCNY S **S** **21 18 33.9 +2.2**
baz=175
FRAZ **Fraserburg** **74.12 118** ⇓*i*P **P** **21 09 10.3 +1.9**
FRAZ IAmb IAmb 21 09 11.6
comp=Z,1μm,0.9s
WVNY **West Valley, N** **74.20 352** P **P** **21 09 09.0 +0.7**
baz=171
HDIL **Hopedale** **74.29 344** P **P** **21 09 08.7 -0.1**
baz=162
HDIL S **S** **21 18 30.2 -3.5**
baz=162
HDIL **Hopedale** **74.29 344** P **P** **21 09 08.9 +0.1**
baz=162,SNR=49
HDIL S **S** **21 18 31.9 -1.8**
baz=162
WP01 **e3381** **74.30 106** *i*P P 21 09 15.2 +5.6
K57A **Scipio Center** **74.31 354** P **P** **21 09 08.9 0.0**
baz=173
K57A S **S** **21 18 33.3 -0.6**
baz=173
UNH **University of** **74.35 358** P **P** **21 09 10.2 +1.1**
baz=178
UNH S **S** **21 18 35.6 +1.4**
baz=178
GRAN **Grantham** **74.52 119** ⇓*i*P **P** **21 09 12.5 +1.8**
GRAN IAmb IAmb 21 09 13.7
comp=Z,1μm,0.7s
Y22A **Socorro** **74.52 328** P **P** **21 09 11.7 +1.1**
baz=147
Y22A S **S** **21 18 36.7 -0.3**
baz=147
P38A **Dawn** **74.53 340** P **P** **21 09 10.5 +0.3**
baz=158
P38A S **S** **21 18 33.7 -2.7**
baz=158
L48A **N Adams** **74.60 348** P **P** **21 09 10.1 -0.5**
baz=166
L48A P **P** **21 09 10.1 -0.5**
baz=166
L48A S **S** **21 18 34.1 -3.2**
baz=166
L48A S **S** **21 18 34.1 -3.2**
baz=166
Y22D **IRIS PASSCAL I** **74.61 328** P **P** **21 09 12.8 +1.8**
baz=147
Y22D S **S** **21 18 39.7 +1.8**
baz=147
Y22D **IRIS PASSCAL I** **74.61 328** P **P** **21 09 13.2 +2.1**
baz=147,SNR=12
Y22D S **S** **21 18 41.3 +3.4**
baz=147
Y22F **Passcal Instru** **74.61 328** P **P** **21 09 13.2 +2.2**
baz=147,SNR=12
Y22F S **S** **21 18 41.6 +3.7**
baz=147
SBM **South Baldy** **74.65 328** P **P** **21 09 11.6 +0.1**
MAW **Mawson** **74.65 163** P **P** **21 09 12.1 +1.5**
comp=Z,723nm,1.0s,baz=221,slow=7.0,SNR=208
comp=Z,723nm,1.0s
MAW **Mawson** **74.65 163** P **P** **21 09 11.6 +0.9**
MAW **Mawson** **74.65 163** ⇓P **P** **21 09 12.1 +1.5**
MAW ⇓P **P** **21 09 12.2 +1.5**
J61A **Chester** **74.66 357** P **P** **21 09 12.6 +1.7**
J61A IAmb IAmb 21 09 41.6
comp=Z,339nm,0.8s
J61A **Chester** **74.66 357** P **P** **21 09 12.3 +1.4**
baz=177
J61A P **P** **21 09 12.3 +1.4**
baz=177
J61A S **S** **21 18 41.0 +3.3**
baz=177
J61A S **S** **21 18 41.0 +3.3**
baz=177
FFD **Franklin Falls** **74.75 358** P **P** **21 09 12.8 +1.5**
baz=178
ACCN **Adirondack Com** **74.75 356** P **P** **21 09 11.8 +0.4**
ACCN **Adirondack Com** **74.75 356** P **P** **21 09 12.2 +0.8**
baz=176
ACCN S **S** **21 18 42.1 +3.3**
baz=176
M44A **Midewin, Midew** **74.79 345** P **P** **21 09 11.6 -0.1**
M44A IAmb IAmb 21 09 13.0
comp=Z,674nm,1.1s
M44A **Midewin, Midew** **74.79 345** P **P** **21 09 11.4 -0.3**
baz=163
M44A S **S** **21 18 35.4 -3.9**
baz=163
AAM **Ann Arbor** **74.81 349** P **P** **21 09 11.6 -0.2**
baz=167
AAM S **S** **21 18 36.7 -2.8**
baz=167
AAM **Ann Arbor** **74.81 349** P **P** **21 09 11.8 0.0**
baz=167,SNR=18
AAM S **S** **21 18 37.0 -2.5**
baz=167
N41A **Harden Midland** **74.81 343** P **P** **21 09 12.1 +0.2**
baz=161
N41A S **S** **21 18 38.0 -1.6**
baz=161
J58A **Remsen** **74.83 355** P **P** **21 09 12.2 +0.3**
baz=174
J58A P **P** **21 09 12.2 +0.3**
baz=174
J58A S **S** **21 18 40.9 +1.1**
baz=174
J58A S **S** **21 18 40.9 +1.1**
baz=174
AUGR **Augrabies** **74.84 114** *e*P **P** **21 09 14.3 +1.7**
AUGR IAmb IAmb 21 09 15.2
comp=Z,912nm,1.0s
J56A **Wolcott** **74.88 354** P **P** **21 09 12.1 -0.1**
baz=173
J56A P **P** **21 09 12.1 -0.1**
baz=173
J56A S **S** **21 18 38.3 -1.9**
baz=173
J56A S **S** **21 18 38.3 -1.9**
baz=173
J59A **Piesco** **74.88 356** P **P** **21 09 12.5 +0.3**
J59A **Piesco** **74.88 356** P **P** **21 09 13.2 +1.0**
baz=175
J59A P **P** **21 09 13.2 +1.0**
baz=175
J59A S **S** **21 18 40.0 -0.3**
baz=175
J59A S **S** **21 18 40.0 -0.3**
baz=175
J57A **Williamstown** **74.94 354** P **P** **21 09 13.3 +0.8**
J57A IAmb IAmb 21 09 43.1
comp=Z,388nm,0.8s
J57A **Williamstown** **74.94 354** P **P** **21 09 13.0 +0.5**
baz=174
J57A P **P** **21 09 13.0 +0.5**
baz=174
J57A S **S** **21 18 40.1 -0.8**
baz=174
J57A S **S** **21 18 40.1 -0.8**
baz=174
J55A **Hilton** **74.97 353** P **P** **21 09 13.0 +0.4**
baz=172
J55A P **P** **21 09 13.0 +0.4**
baz=172
J55A S **S** **21 18 40.2 -0.9**
baz=172
J55A S **S** **21 18 40.2 -0.9**
baz=172
KSU1 **Kansas State U** **74.99 338** P **P** **21 09 13.2 +0.3**
baz=156
KSU1 S **S** **21 18 41.1 -0.5**
baz=156
KSU1 **Kansas State U** **74.99 338** P **P** **21 09 13.3 +0.4**
baz=156,SNR=50
KSU1 S **S** **21 18 39.3 -2.3**
baz=156
KSU1 **Kansas State U** **74.99 338** ⇓P **P** **21 09 13.2 +0.3**
HNH **Hanover** **75.00 357** P **P** **21 09 14.6 +1.7**
baz=177
HNH S **S** **21 18 45.0 +3.4**
baz=177
TUC **Tucson** **75.02 324** P **P** **21 09 13.6 +0.2**
TUC **Tucson** **75.02 324** P **P** **21 09 15.0 +1.6**
baz=144
TUC S **S** **21 18 45.4 +3.0**
baz=144
TUC **Tucson** **75.02 324** ⇓P **P** **21 09 14.6 +1.2**
TUC **Tucson** **75.02 324** P **P** **21 09 13.6 +0.2**
TUC pmax pmax
comp=Z,74nm,1.1s
L46A **Eue Claire** **75.02 346** P **P** **21 09 12.3 -0.8**
baz=165
L46A P **P** **21 09 12.3 -0.8**
baz=165
L46A S **S** **21 18 37.3 -4.6**
baz=165
L46A S **S** **21 18 37.3 -4.6**
baz=165
J54A **Appleton** **75.06 352** P **P** **21 09 13.0 -0.2**
baz=171
J54A P **P** **21 09 13.0 -0.2**
baz=171
J54A S **S** **21 18 40.7 -1.4**
baz=171
J54A S **S** **21 18 40.7 -1.4**
baz=171
R32A **Long Quarter,** **75.08 336** P **P** **21 09 14.3 +0.8**
baz=154
R32A S **S** **21 18 41.3 -1.4**
baz=154
K50A **Casco** **75.11 349** P **P** **21 09 13.3 -0.2**
baz=168
K50A P **P** **21 09 13.3 -0.2**
baz=168
K50A S **S** **21 18 40.9 -1.8**

	baz=168							
K50A				S		S	21 18 40.9	-1.8
	baz=168							
ANMO	**Albuquerque**	**75.13**	**329**	⇓P		P	21 09 15.6	+1.5
ANMO	**Albuquerque**	**75.13**	**329**	*d* P		P	21 09 15.5	+1.4
ANMO				pmax		pmax		
	comp=Z,534nm,1.6s							
I62A	**Tamworth**	**75.14**	**358**	P		P	21 09 15.1	+1.4
I62A	**Tamworth**	**75.14**	**358**	P		P	21 09 14.5	+0.8
	baz=178							
I62A				P		P	21 09 14.5	+0.8
	baz=178							
I62A				S		S	21 18 45.5	+2.4
	baz=178							
I62A				S		S	21 18 45.5	+2.4
	baz=178							
KEIM	**Keimoes**	**75.28**	**115**	⇓*i* P		P	21 09 16.7	+1.6
KEIM				IAmb		IAmb	21 09 17.2	
	comp=Z,803nm,1.1s							
MCVT	**Middlebury Col**	**75.28**	**357**	P		P	21 09 15.2	+0.7
	baz=176							
MCVT				S		S	21 18 47.4	+2.7
	baz=176							
I63A	**Otisfield**	**75.30**	**359**	P		P	21 09 16.3	+1.8
I63A				IAmb		IAmb	21 09 46.8	
	comp=Z,538nm,0.9s							
I63A	**Otisfield**	**75.30**	**359**	P		P	21 09 16.0	+1.5
	baz=178							
I63A				P		P	21 09 16.0	+1.5
	baz=178							
I63A				S		S	21 18 47.5	+2.7
	baz=178							
I63A				S		S	21 18 47.5	+2.7
	baz=178							
BRAK	**Brakfontein**	**75.30**	**118**	⇓*i* P		P	21 09 16.5	+1.2
BRAK				IAmb		IAmb	21 09 17.2	
	comp=Z,767nm,1.1s							
NCB	**Newcomb**	**75.37**	**356**	P		P	21 09 15.7	+0.6
	baz=175							
NCB				S		S	21 18 48.2	+2.5
	baz=175							
ROSN	**Rosenhof**	**75.43**	**121**	*e*P		P	21 09 17.3	+1.5
ROSN				IAmb		IAmb	21 09 18.2	
	comp=Z,544nm,0.8s							
ROOI	**Rooidraai Farm**	**75.46**	**119**	⇓*i* P		P	21 09 17.1	+0.9
ROOI				IAmb		IAmb	21 09 18.5	
	comp=Z,877nm,0.8s							
KROM	**Kromhout**	**75.47**	**121**	*e*P		P	21 09 16.9	+0.9
KROM				IAmb		IAmb	21 09 18.4	
	comp=Z,516nm,1.1s							
WCNY	**West Carthage**	**75.48**	**355**	P		P	21 09 16.6	+1.0
	baz=174							
WCNY				S		S	21 18 47.1	+0.3
	baz=174							
WEWE	**WEWE**	**75.49**	**106**	*i* P		P	21 09 13.9	-2.6
L44A	**Lake County Fo**	**75.52**	**345**	P		P	21 09 16.0	+0.2
	baz=163							
L44A				S		S	21 18 44.3	-3.0
	baz=163							
L44A	**Lake County Fo**	**75.52**	**345**	P		P	21 09 16.0	+0.2
	baz=163,SNR=20							
L44A				S		S	21 18 44.1	-3.2
	baz=163							
LBNH	**Lisbon**	**75.53**	**358**	P		P	21 09 17.3	+1.4
	baz=177							
LBNH	**Lisbon**	**75.53**	**358**	P		P	21 09 17.5	+1.6
	baz=177							
LBNH				S		S	21 18 48.9	+1.5
	baz=177							
N38A	**Joes South For**	**75.53**	**341**	P		P	21 09 15.7	-0.2
	baz=159							
N38A				S		S	21 18 46.2	-1.3
	baz=159							
BUFB	**Buffelsbos**	**75.55**	**121**	*e*P		P	21 09 17.8	+1.3
BUFB				IAmb		IAmb	21 09 19.1	
	comp=Z,314nm,1.0s							
VT1	**Waterbury**	**75.65**	**357**	P		P	21 09 17.3	+0.7
	baz=176							
UPI	**Upington**	**75.66**	**115**	⇓*i* P		P	21 09 18.9	+1.6
UPI				IAmb		IAmb	21 09 19.9	
	comp=Z,448nm,0.9s							
L42A	**Oliver, Polo**	**75.75**	**344**	P		P	21 09 17.1	-0.1
	baz=162							
L42A				S		S	21 18 48.4	-1.4
	baz=162							
214A	**Organ Pipe Nat**	**75.77**	**322**	P		P	21 09 19.5	+1.9
	baz=142,SNR=256							
214A				S		S	21 18 55.5	+4.8
	baz=142							
CBKS	**Cedar Bluff**	**75.79**	**335**	P		P	21 09 18.8	+1.2
	baz=153							
CBKS				S		S	21 18 50.1	-0.5
	baz=153							
CBKS	**Cedar Bluff**	**75.79**	**335**	P		P	21 09 18.8	+1.2
	baz=153,SNR=154							
CBKS				S		S	21 18 51.2	+0.6
	baz=153							
CBKS	**Cedar Bluff**	**75.79**	**335**	⇓P		P	21 09 18.6	+1.1
WVL	**Waterville**	**75.80**	**359**	P		P	21 09 19.0	+1.6
	baz=179							
H62A	**Milan**	**75.83**	**358**	P		P	21 09 19.1	+1.4
	baz=178							
H62A				P		P	21 09 19.1	+1.4
	baz=178							
H62A				S		S	21 18 54.0	+3.2
	baz=178							
H62A				S		S	21 18 54.0	+3.2
	baz=178							
BFON	**Badsfontein, M**	**75.89**	**119**	⇓*i* P		P	21 09 20.5	+1.8
BFON				IAmb		IAmb	21 09 20.8	
	comp=Z,1μm,1.2s							
J47A	**Sunmer**	**75.93**	**348**	P		P	21 09 17.9	-0.2
	baz=166							
J47A				P		P	21 09 17.9	-0.2
	baz=166							
J47A				S		S	21 18 49.0	-2.8
	baz=166							
J47A				S		S	21 18 49.0	-2.8
	baz=166							
EMMW	**East Machias**	**75.94**	**1**	P		P	21 09 19.3	+1.1
	baz=181							
LONY	**Lake Ozonia**	**76.04**	**356**	P		P	21 09 19.8	+1.0
	baz=175							
LONY				S		S	21 18 53.7	+0.7
	baz=175							
K43A	**Burlington**	**76.11**	**345**	P		P	21 09 19.4	+0.2
	baz=163							
K43A				S		S	21 18 50.8	-3.0
	baz=163							
T25A	**Trinidad**	**76.11**	**331**	P		P	21 09 21.5	+1.8
	baz=149,SNR=288							
T25A				S		S	21 18 56.1	+1.5
	baz=149							
L40A	**Anamosa**	**76.18**	**343**	P		P	21 09 19.6	0.0
	baz=160							
L40A				S		S	21 18 53.7	-1.0
	baz=160							
PKA	**Prieska**	**76.20**	**116**	*e*P		P	21 09 21.5	+1.1
PKA				IAmb		IAmb	21 09 22.7	
	comp=Z,284nm,0.8s							
HOCHN	**Hochfeld**	**76.21**	**107**	*i* P		P	21 09 15.2	-5.4
BMNY	**Brushton-Moira**	**76.25**	**356**	P		P	21 09 20.9	+0.9
	baz=175							
BMNY				S		S	21 18 56.0	+0.8
	baz=175							
GRAF	**Camdeboo Natio**	**76.26**	**119**	⇓*i* P		P	21 09 22.3	+1.6
GRAF				IAmb		IAmb	21 09 23.0	
	comp=Z,914nm,1.1s							
I49A	**Point Hope**	**76.28**	**350**	P		P	21 09 19.9	-0.2
	baz=168							
I49A				P		P	21 09 19.9	-0.2
	baz=168							
I49A				S		S	21 18 51.8	-3.8
	baz=168							
I49A				S		S	21 18 51.8	-3.8
	baz=168							
N35A	**Tabor**	**76.29**	**339**	P		P	21 09 20.4	+0.1
	baz=157							
N35A				S		S	21 18 54.7	-1.1
	baz=157							
G65A	**Princeton**	**76.43**	**1**	P		P	21 09 22.4	+1.5
	baz=181							
G65A				P		P	21 09 22.4	+1.5
	baz=181							
G65A				S		S	21 18 58.8	+1.6
	baz=181							
G65A				S		S	21 18 58.8	+1.6
	baz=181							
G62A	**West of Eustis**	**76.46**	**359**	P		P	21 09 22.6	+1.4
	baz=178							
G62A				P		P	21 09 22.6	+1.4
	baz=178							
G62A				S		S	21 18 59.8	+2.2
	baz=178							
G62A				S		S	21 18 59.8	+2.2
	baz=178							
PKME	**Peaks-Kenny Pk**	**76.49**	**360**	P		P	21 09 22.4	+1.1
	baz=180							
PKME				S		S	21 19 01.3	+3.5
	baz=180							
PKME	**Peaks-Kenny Pk**	**76.49**	**360**	P		P	21 09 22.8	+1.5
	baz=180,SNR=22							
PKME				S		S	21 19 00.4	+2.6
	baz=180							
SCIA	**State Center**	**76.56**	**341**	P		P	21 09 22.1	+0.3
	baz=159							
SCIA				S		S	21 18 57.2	-1.6
	baz=159							
SCIA	**State Center**	**76.56**	**341**	P		P	21 09 22.4	+0.6
	baz=159,SNR=17							
SCIA				S		S	21 18 57.0	-1.8
	baz=159							
SADO	**Sadowa**	**76.59**	**352**	⇓P		P	21 09 22.1	+0.2
N33B	**J Bar K, Exete**	**76.74**	**338**	P		P	21 09 23.3	+0.4
	baz=155							
N33B				S		S	21 19 00.1	-0.8
	baz=155							
JFWS	**Jewell Farm**	**76.75**	**344**	P		P	21 09 22.9	+0.1
	baz=161							
JFWS				S		S	21 18 58.8	-1.9
	baz=161							
JFWS	**Jewell Farm**	**76.75**	**344**	P		P	21 09 23.3	+0.5
	baz=161,SNR=60							
JFWS				S		S	21 18 59.0	-1.7
	baz=161							
W18A	**Petrified Fore**	**76.78**	**326**	P		P	21 09 25.2	+1.7
	baz=145,SNR=158							
W18A				S		S	21 19 04.8	+3.0
	baz=145							
SOE	**Somerset East**	**76.84**	**120**	*e*P		P	21 09 25.7	+1.8
SOE				IAmb		IAmb	21 09 26.6	
	comp=Z,1μm,0.9s							
SOE	**Somerset East**	**76.84**	**120**	⇑P		P	21 09 25.4	+1.4
SOE				⇑P		P	21 09 25.4	+1.4
MNTQ	**Montreal, Queb**	**76.86**	**356**	⇑P		P	21 09 22.9	-0.4
MNTQ				⇑p		pP	21 09 53.4	+1.7
F63A	**Nahmakanta, Br**	**76.93**	**360**	P		P	21 09 25.1	+1.3
	baz=180							
F63A				P		P	21 09 25.1	+1.3
	baz=180							
F63A				S		S	21 19 04.3	+1.7
	baz=180							
F63A				S		S	21 19 04.3	+1.7
	baz=180							
I45A	**Fountain**	**76.96**	**347**	P		P	21 09 23.3	-0.6
	baz=165							
I45A				P		P	21 09 23.3	-0.6
	baz=165							
KSCO	**Kaye Shedlock'**	**77.03**	**333**	P		P	21 09 26.0	+1.3
	baz=151							
KSCO				S		S	21 19 06.9	+2.6
	baz=151							
KSCO	**Kaye Shedlock'**	**77.03**	**333**	P		P	21 09 26.2	+1.6
	baz=151,SNR=124							
KSCO				S		S	21 19 05.5	+1.2
	baz=151							
SDCO	**Great Sand Dun**	**77.08**	**331**	P		P	21 09 26.2	+1.0
	baz=149							
SDCO				S		S	21 19 08.2	+3.0
	baz=149							
SDCO	**Great Sand Dun**	**77.08**	**331**	P		P	21 09 26.8	+1.6
	baz=149,SNR=226							
SDCO				S		S	21 19 08.3	+3.0
	baz=149							
TSUM	**Tsumeb**	**77.09**	**105**	P		P	21 09 27.0	+1.4
	comp=Z,738nm,1.0s,baz=216,slow=5.9,SNR=364							
TSUM				pP		pP	21 09 53.3	-0.4
	comp=Z,79nm,1.0s,baz=286,slow=5.1,SNR=1.3							
TSUM				LR		LR	21 39 17.5	
	comp=Z,5μm,19.8s,baz=264,slow=32							
	comp=Z,738nm,1.0s							
TSUM	**Tsumeb**	**77.09**	**105**	⇓*i* P		P	21 09 26.9	+1.4
TSUM	**Tsumeb**	**77.09**	**105**	⇓P		P	21 09 27.0	+1.4
TSUM				⇓P		P	21 09 27.0	+1.4
F64A	**Sherman**	**77.09**	**0**	P		P	21 09 26.2	+1.6
	baz=180							
F64A				P		P	21 09 26.2	+1.6
	baz=180							
F64A				S		S	21 19 06.9	+2.6
	baz=180							
F64A				S		S	21 19 06.9	+2.6
	baz=180							
K38A	**Parkersburg**	**77.13**	**342**	P		P	21 09 24.9	-0.1
	baz=159							
K38A				S		S	21 19 03.5	-1.5
	baz=159							
F62A	**Pittston Farm,**	**77.13**	**359**	P		P	21 09 26.3	+1.4
	baz=179							
F62A				P		P	21 09 26.3	+1.4
	baz=179							
F62A				S		S	21 19 06.0	+1.2
	baz=179							
F62A				S		S	21 19 06.0	+1.2
	baz=179							
GRHM	**Grahamstown, E**	**77.17**	**121**	⇓*i* P		P	21 09 26.8	+1.1
GRHM				IAmb		IAmb	21 09 28.2	
	comp=Z,942nm,1.0s							
GRHM	**Grahamstown, E**	**77.17**	**121**	⇓P		P	21 09 26.7	+1.0
I42A	**Draeger Farm,**	**77.37**	**345**	P		P	21 09 26.3	0.0
	baz=162							
I42A				S		S	21 19 04.9	-2.6
	baz=162							
GLMI	**Grayling**	**77.43**	**348**	P		P	21 09 26.6	0.0
	baz=166							
GLMI				S		S	21 19 05.8	-2.3
	baz=166							
GLMI	**Grayling**	**77.43**	**348**	P		P	21 09 26.7	+0.1
	baz=166,SNR=11							
GLMI				S		S	21 19 05.5	-2.6
	baz=166							
L34A	**Svendsen Farm,**	**77.52**	**339**	P		P	21 09 26.6	-0.6
	baz=156							
L34A				S		S	21 19 07.5	-1.7
	baz=156							
BGNE	**Belgrade**	**77.57**	**338**	P		P	21 09 27.9	+0.4
	baz=155							
BGNE				S		S	21 19 08.3	-1.5
	baz=155							
BGNE	**Belgrade**	**77.57**	**338**	P		P	21 09 28.4	+0.9
	baz=155,SNR=82							
BGNE				S		S	21 19 08.9	-0.9
	baz=155							
S22A	**4UR Ranch, Cre**	**77.64**	**330**	P		P	21 09 30.0	+1.6
	baz=148,SNR=97							
S22A				S		S	21 19 12.6	+1.3
	baz=148							
E63A	**Oxbow**	**77.65**	**0**	P		P	21 09 28.5	+0.7
	baz=180							
E63A				P		P	21 09 28.5	+0.7
	baz=180							
E63A				S		S	21 19 13.1	+2.8
	baz=180							
E63A				S		S	21 19 13.1	+2.8
	baz=180							
H43A	**Windswept, Lux**	**77.68**	**346**	P		P	21 09 27.7	-0.3
	baz=164							
H43A				S		S	21 19 07.5	-3.3
	baz=164							
GLA	**Glamis**	**77.69**	**322**	P		P	21 09 30.1	+1.7
	baz=141,SNR=43							
GLA				S		S	21 19 15.5	+4.0
	baz=141							
I40A	**Norwalk**	**77.76**	**344**	P		P	21 09 28.1	-0.4
	baz=161							
I40A				S		S	21 19 07.8	-3.9
	baz=161							
HVD	**Gariep Dam**	**77.82**	**118**	⇓*i* P		P	21 09 31.3	+1.8
HVD				IAmb		IAmb	21 09 32.0	
	comp=Z,2μm,0.9s							
G45A	**Suttons Bay**	**77.82**	**348**	P		P	21 09 28.6	-0.1
	baz=165							
G45A				P		P	21 09 28.6	-0.1
	baz=165							
G45A				S		S	21 19 09.7	-2.6
	baz=165							
G45A				S		S	21 19 09.7	-2.6
	baz=165							
E62A	**Clayton Lake**	**77.85**	**359**	P		P	21 09 29.8	+0.9
	baz=179							
E62A				P		P	21 09 29.8	+0.9
	baz=179							
E62A				S		S	21 19 14.5	+2.0
	baz=179							
E62A				S		S	21 19 14.5	+2.0
	baz=179							
WUAZ	**Wupatki**	**77.88**	**326**	P		P	21 09 31.4	+1.9
	baz=144,SNR=250							
WUAZ				S		S	21 19 17.7	+3.9
	baz=144							
WUAZ	**Wupatki**	**77.88**	**326**	⇓P		P	21 09 31.2	+1.7
MVCO	**Mesa Verde**	**77.93**	**328**	P		P	21 09 31.4	+1.6
	baz=146,SNR=234							
MVCO				S		S	21 19 18.6	+4.3
	baz=146							
Q24A	**Divide**	**77.98**	**332**	P		P	21 09 31.8	+1.6
	baz=149,SNR=137							
Q24A				S		S	21 19 17.7	+2.8
	baz=149							
IKP	**In-Ko-Pah, Jac**	**78.06**	**321**	P		P	21 09 32.3	+1.8
	baz=140,SNR=147							
IKP				S		S	21 19 17.9	+2.2
	baz=140							
SWSC	**Sam W. Stewart**	**78.12**	**321**	P		P	21 09 32.4	+1.7
	baz=140,SNR=88							
SWSC				S		S	21 19 21.1	+5.0
	baz=140							
PDMCI	**Parker Dam,Lak**	**78.30**	**323**	P		P	21 09 33.3	+1.6
	baz=142,SNR=29							
PDMCI				S		S	21 19 20.5	+2.6
	baz=142							
MONP2	**Monument Peak**	**78.42**	**321**	P		P	21 09 34.4	+1.7
	baz=140,SNR=116							
MONP2				S		S	21 19 22.7	+3.0
	baz=140							
BC3	**Big Chuckawall**	**78.48**	**322**	P		P	21 09 34.5	+1.6
	baz=141,SNR=224							
BC3				S		S	21 19 23.1	+2.9
	baz=141							
OGNE	**Ogallala**	**78.50**	**335**	P		P	21 09 33.9	+1.1
	baz=152							
OGNE				S		S	21 19 21.8	+1.9
	baz=152							
OGNE	**Ogallala**	**78.50**	**335**	P		P	21 09 34.1	+1.4
	baz=152,SNR=30							
OGNE				S		S	21 19 21.3	+1.4
	baz=152							
I37B	**Waseca**	**78.57**	**342**	P		P	21 09 33.0	0.0
	baz=159							
I37B				S		S	21 19 19.3	-1.1
	baz=159							
KANON	**KANO**	**78.62**	**106**	*i* P		P	21 09 35.9	+1.8
BOSA	**Boshof**	**78.62**	**117**	P		P	21 09 34.8	+0.8
	comp=Z,976nm,0.8s,baz=242,slow=5.5,SNR=604							
BOSA				pP		pP	21 10 00.9	-1.2
	comp=Z,111nm,0.8s,baz=211,slow=6.5,SNR=1.8							
BOSA				S		S	21 19 18.1	-4.0
	comp=Z,5.2nm,1.1s,baz=255,slow=19,SNR=1.6							
BOSA				PKKPbc		PKKPbc	21 28 27.7	+0.3
	comp=Z,5.9nm,0.8s,baz=107,slow=1.2,SNR=9.1							
BOSA				LR		LR	21 39 58.2	
	comp=Z,4μm,19.8s,baz=251,slow=32							
	comp=Z,976nm,0.8s							
BOSA	**Boshof**	**78.62**	**117**	⇓*i* P		P	21 09 34.7	+0.7
BOSA				IAmb		IAmb	21 09 36.0	
	comp=Z,1μm,0.9s							
BOSA	**Boshof**	**78.62**	**117**	*i* P		P	21 09 34.2	+0.3
BOSA	**Boshof**	**78.62**	**117**	*i* P		P	21 09 34.2	+0.3
BOSA	**Boshof**	**78.62**	**117**	⇓P		P	21 09 34.6	+0.7
H07S1	**FLORES T-PHASE**	**78.71**	**29**	*e*P		P	21 09 35.4	+1.6
	comp=Z,712nm,1.5s							
IRM	**Iron Mountain**	**78.71**	**322**	P		P	21 09 35.6	+1.7
	baz=141,SNR=93							
IRM				S		S	21 19 24.0	+1.6
	baz=141							
109C	**Camp Elliot, M**	**78.79**	**320**	P		P	21 09 36.0	+1.6
	baz=140,SNR=20							
109C				S		S	21 19 27.3	+4.1
	baz=140							
K31A	**O'Neill**	**78.86**	**338**	P		P	21 09 35.2	+0.6
	baz=154							
K31A				S		S	21 19 23.6	0.0
	baz=154							
E46A	**Sault Ste Mari**	**78.88**	**349**	P		P	21 09 34.6	+0.1
	baz=167							
E46A				S		S	21 19 20.0	-3.5
	baz=167							
ISCO	**Idaho Springs**	**78.88**	**332**	P		P	21 09 36.3	+1.2
	baz=149							
ISCO				S		S	21 19 24.9	+0.4
	baz=149							
ISCO	**Idaho Springs**	**78.88**	**332**	P		P	21 09 36.7	+1.6
	baz=149,SNR=16							
ISCO				S		S	21 19 25.2	+0.7
	baz=149							
SMCO	**Snowmass**	**78.91**	**331**	⇓P		P	21 09 37.2	+1.8
NEE2	**Needles Airpor**	**78.91**	**323**	P		P	21 09 36.4	+1.4
	baz=142,SNR=5.7							
NEE2				S		S	21 19 27.4	+3.0
	baz=142							
G40A	**Rib Lake**	**78.97**	**345**	P		P	21 09 35.0	0.0
	baz=162							
G40A				S		S	21 19 20.7	-3.9
	baz=162							
TPFO	**Pinon Flats**	**78.98**	**321**	P		P	21 09 37.5	+1.9
	baz=140,SNR=119							
TPFO				S		S	21 19 29.3	+3.8
	baz=140							
PFO	**Pinyon Flats O**	**78.99**	**321**	P		P	21 09 37.6	+2.0
	baz=140,SNR=146							
PFO				S		S	21 19 30.0	+4.4
	baz=140							
F42A	**Maple Grove Fa**	**78.99**	**346**	P		P	21 09 35.3	+0.2
	baz=163							
F42A				S		S	21 19 21.4	-3.4
	baz=163							
H07N1	**FLORES T-PHASE**	**79.01**	**29**	*e*P		P	21 09 37.1	+1.6
	comp=Z,411nm,1.4s							
BELC	**Belle Mtn. Jos**	**79.04**	**322**	P		P	21 09 37.6	+1.7
	baz=140,SNR=78							
BELC				S		S	21 19 28.3	+2.2
	baz=140							
HOR	**Horta**	**79.09**	**31**	*e*P		P	21 09 37.2	+1.3
	comp=Z,524nm,1.5s							
PCAN	**Candelaria**	**79.10**	**31**	*e*P		P	21 09 32.6	-3.4
	comp=Z,631nm,1.6s							
CALA	**Caldeira**	**79.10**	**31**	*e*P		P	21 09 37.6	+1.5
	comp=Z,419nm,1.7s							
PCED	**Cedros**	**79.14**	**31**	*e*P		P	21 09 39.0	+2.8
	comp=Z,421nm,1.9s							
PICO	**Pico**	**79.16**	**31**	*e*P		P	21 09 37.4	+1.1
	comp=Z,942nm,1.9s							
PPNO	**Prainha do Nor**	**79.20**	**31**	*e*P		P	21 09 38.1	+1.5
	comp=Z,664nm,1.3s							
ECSD	**EROS Data Cent**	**79.21**	**340**	P		P	21 09 36.9	+0.4
	baz=156							
ECSD				S		S	21 19 26.6	-0.6
	baz=156							
ECSD	**EROS Data Cent**	**79.21**	**340**	P		P	21 09 36.9	+0.4
	baz=156,SNR=388							
ECSD				S		S	21 19 26.3	-0.9
	baz=156							
GAMM	**Gam**	**79.23**	**107**	*i* P		P	21 09 39.5	+2.1
PID	**Ribeirinha**	**79.24**	**31**	*e*P		P	21 09 38.5	+1.7
	comp=Z,736nm,1.5s							
E43A	**Lone Tree Farm**	**79.36**	**347**	P		P	21 09 37.5	+0.3
	baz=164							
E43A				S		S	21 19 25.4	-3.3
	baz=164							
MURC	**Murrieta**	**79.38**	**320**	P		P	21 09 39.5	+1.8
	baz=140,SNR=70							
MURC				S		S	21 19 34.3	+4.8
	baz=140							
SWZ	**Schweizer**	**79.39**	**115**	*e*P		P	21 09 38.5	+0.3
SWZ				IAmb		IAmb	21 09 39.8	
	comp=Z,793nm,0.9s							
PMAN	**Manadas**	**79.41**	**31**	*e*P		P	21 09 39.6	+2.0
	comp=Z,1μm,1.4s							
ROSA	**Rosais**	**79.42**	**31**	*e*P		P	21 09 39.6	+1.9
	comp=Z,909nm,1.9s							
PSMA	**Santa Maria**	**79.45**	**34**	*e*P		P	21 09 38.8	+0.9
	comp=Z,401nm,1.5s							
GMRC	**Granite Mounta**	**79.46**	**322**	P		P	21 09 40.0	+1.8
	baz=141,SNR=213							
GMRC				S		S	21 19 34.5	+4.0

PSMN Pico do Norte, 79.48 34 *e*P P 21 09 37.0 -1.1
comp=Z,598nm,1.7s
COWI Conover 79.52 346 P P 21 09 38.2 +0.1
baz=162
COWI S S 21 19 25.9 -4.5
baz=162
SPMN Marine on St. 79.55 343 P P 21 09 37.9 -0.3
baz=159
SPMN S S 21 19 28.8 -1.8
baz=159
SPMN Marine on St. 79.55 343 P P 21 09 38.1 -0.1
baz=159,SNR=48
SPMN S S 21 19 29.1 -1.5
baz=159
SCI2 San Clemente I 79.66 319 P P 21 09 40.9 +1.8
baz=139,SNR=25
SCI2 S S 21 19 37.4 +5.0
baz=139
BBRC Big Bear Solar 79.73 321 P P 21 09 41.8 +2.0
baz=140,SNR=12
BBRC S S 21 19 35.9 +2.3
baz=140
SRBC Serra Branca 79.77 31 *e*P P 21 09 41.1 +1.5
comp=Z,1µm,1.6s
PGRA Graciosa 79.79 31 *e*P P 21 09 41.0 +1.3
comp=Z,658nm,1.9s
PDA Ponta Delgada 79.80 33 *e*P P 21 09 41.3 +1.6
comp=Z,657nm,1.6s
ADH Angra Heroismo 79.81 32 *e*P P 21 09 40.4 +0.6
comp=Z,919nm,1.8s
PSET Sete Cidades 79.83 33 *e*P P 21 09 41.1 +1.1
comp=Z,674nm,1.6s
HEC Hector,Ludlow 79.85 322 P P 21 09 42.1 +1.9
baz=140,SNR=129
HEC S S 21 19 36.9 +2.4
baz=140
PSBA Serra de Santa 79.86 32 *e*P P 21 09 41.5 +1.4
comp=Z,1µm,1.8s
CMLA Cha da Macela 79.88 33 *e*P P 21 09 41.0 +0.8
comp=Z,541nm,1.7s
CIS Catalina Islan 79.90 320 P P 21 09 42.1 +1.7
baz=139,SNR=73
CIS S S 21 19 37.7 +2.8
baz=139
PSCM Serra do Cume 79.90 32 *e*P P 21 09 41.4 +1.1
comp=Z,678nm,1.5s
PCALD Caldeiras da R 79.92 33 *e*P P 21 09 41.5 +1.1
comp=Z,676nm,1.9s
PAGU Agualva, Azore 79.93 32 *e*P P 21 09 42.1 +1.7
comp=Z,830nm,1.6s
N23A Red Feather La 79.94 332 P P 21 09 42.4 +1.6
baz=148,SNR=146
N23A S S 21 19 36.1 +0.5
baz=148
PGRON Lagoa das Cont 79.95 33 *e*P P 21 09 41.1 +0.5
comp=Z,617nm,1.5s
BART Pico Bartolome 80.05 34 *e*P P 21 09 42.5 +1.3
comp=Z,850nm,1.4s
FMP Fort Macarthur 80.06 320 P P 21 09 43.0 +1.7
baz=139
FMP S S 21 19 38.9 +2.4
baz=139
TUQ Turquoise Moun 80.10 322 P P 21 09 43.3 +1.7
baz=141,SNR=177
TUQ S S 21 19 40.9 +3.6
baz=141
RAR Rarotonga 80.11 251 P P 21 09 41.9 0.0
comp=Z,77nm,1.1s,baz=155,slow=5.1,SNR=5.5
RAR pP pP 21 10 09.8 -1.1
comp=Z,68nm,0.9s,baz=147,slow=6.2,SNR=4.0
RAR LR LR 21 37 59.2
comp=Z,3µm,18.0s,baz=132,slow=30
comp=Z,77nm,1.1s
BFSC Mount Baldy Ra 80.11 321 P P 21 09 43.2 +1.5
baz=139,SNR=146
BFSC S S 21 19 39.9 +2.5
baz=139
RRX Edison Barstow 80.24 321 P P 21 09 44.3 +2.0
baz=140,SNR=11
RRX S S 21 19 40.6 +2.1
baz=140
O20A White River Ci 80.25 330 P P 21 09 43.8 +1.4
baz=147,SNR=99
O20A S S 21 19 41.2 +2.5
baz=147
F36A Milaca 80.32 343 P P 21 09 42.3 -0.1
baz=159
F36A S S 21 19 35.8 -3.0
baz=159
D41A Chassel 80.32 346 P P 21 09 43.0 +0.6
baz=163
D41A S S 21 19 37.3 -1.4
baz=163
SNCC San Nicolas Is 80.40 319 P P 21 09 44.5 +1.4
baz=138,SNR=12
SNCC S S 21 19 44.6 +4.4
baz=138
PMOZ Porto Moniz, M 80.41 42 *e*P P 21 09 45.4 +2.1
comp=Z,504nm,1.9s
PMOZ Porto Moniz, M 80.41 42 *e*SKS S 21 19 47.7 +7.2
PMOZ Porto Moniz, M 80.41 42 *e*LR LR 21 35 48.1
comp=Z,3µm,18.0s
PMOZ Porto Moniz, M 80.41 42 ⇑P P 21 09 44.6 +1.3
PMOZ ⇑P P 21 09 45.1 +1.9
GSC Goldstone, Bar 80.46 322 P P 21 09 45.3 +1.7
baz=140,SNR=166
GSC S S 21 19 42.4 +1.5
baz=140
DECC Green Verdugo 80.49 320 P P 21 09 45.5 +1.9
baz=139,SNR=32
DECC S S 21 19 41.9 +0.7
baz=139
PMAR Madeira 80.50 42 *e*P P 21 09 45.4 +1.5
comp=Z,789nm,1.3s
PMAR *e*pP pP 21 10 12.4 +0.1
E38A The Farm, Brul 80.54 344 P P 21 09 43.6 +0.1
baz=160
E38A S S 21 19 38.7 -2.4
baz=160
SUSD Miller 80.56 339 P P 21 09 44.0 +0.3
baz=154
SUSD S S 21 19 39.5 -1.9
baz=154
SUSD Miller 80.56 339 P P 21 09 44.0 +0.3
baz=154,SNR=13
SUSD S S 21 19 40.9 -0.5
baz=154
SHOC Shoshone, Teco 80.64 323 P P 21 09 45.8 +1.4
baz=140,SNR=13
SHOC S S 21 19 45.0 +2.4
baz=140
KSTD Kokstad 80.66 120⇓ *i*P P 21 09 46.0 +1.0
KSTD IAmb IAmb 21 09 47.1
comp=Z,3µm,2.7s
LBTB Lobatse 80.68 114 P P 21 09 45.9 +0.8
comp=Z,1µm,1.0s,baz=223,slow=4.4,SNR=551
LBTB PKPPKP P'P'df 21 36 25.6 -4.6
comp=Z,9.7nm,1.0s,baz=258,slow=0.7,SNR=5.5
LBTB LR LR 21 40 38.7
comp=Z,9µm,22.0s,baz=227,slow=32
comp=Z,1µm,1.0s
LBTB Lobatse 80.68 114⇓ *i*P P 21 09 46.0 +0.8
LBTB IAmb IAmb 21 09 47.1
comp=Z,816nm,0.8s
LBTB Lobatse 80.68 114 *i*P P 21 09 46.0 +0.9
LBTB Lobatse 80.68 114 *i*P P 21 09 46.0 +0.9
LBTB Lobatse 80.68 114⇓P P 21 09 45.8 +0.7
SNKL Senekal, Frees 80.70 117⇓ *i*P P 21 09 46.1 +0.8
SNKL IAmb IAmb 21 09 47.5
comp=Z,1µm,1.1s
ICQ Pointe Anglais 80.76 1⇓P P 21 09 44.9 +0.4
ICQ ⇑P P 21 09 45.5 +1.0
EDW2 Edwards Air Fo 80.78 321 P P 21 09 46.4 +1.2
baz=139,SNR=153
EDW2 S S 21 19 45.0 +0.9
baz=139
TANT Tantan 80.90 49 P P 21 09 48.1 +2.2
OSI Osito Audit: C 80.97 320 P P 21 09 47.7 +1.4
baz=139,SNR=47
OSI S S 21 19 48.3 +2.1
baz=139
SCZ2 Santa Cruz Isl 81.02 319 P P 21 09 48.1 +1.7
baz=138,SNR=44
SCZ2 S S 21 19 49.1 +2.5
baz=138
F33A 5 Mile Ranch, 81.04 341 P P 21 09 45.8 -0.4
baz=157
F33A S S 21 19 43.2 -3.1
baz=157
LRMC Laurel Mtn Rad 81.06 321 S S 21 19 50.1 +2.8
baz=140
PRYS Parys 81.08 116⇓ *i*P P 21 09 47.8 +0.5
PRYS IAmb IAmb 21 09 48.8
comp=Z,800nm,0.9s
PMPST Porto Santo, M 81.09 42 *e*P P 21 09 48.6 +1.8
comp=Z,654nm,1.9s
PMPST *e*pP pP 21 10 15.0 -0.2
PMPST Porto Santo, M 81.09 42 *e*PP PP 21 12 55.0 +1.3
DRLN Deer Lake 81.09 7⇓P P 21 09 47.2 +0.8
DRLN ⇓P pP 21 10 15.9 +1.0
DRLN ⇑P pP 21 10 16.2 +1.3
PRN Pahroc Range 81.18 324⇓P P 21 09 49.2 +1.9
PRN ⇓P P 21 09 49.3 +1.9
KSR Koster 81.27 115⇓ *i*P P 21 09 48.7 +0.4
KSR IAmb IAmb 21 09 50.2
comp=Z,335nm,0.8s
FURC Furnace Creek, 81.38 323 P P 21 09 50.0 +1.8
baz=140,SNR=57
FURC S S 21 19 53.4 +3.3
baz=140
WDLM Western Deep L 81.38 116 *e*P P 21 09 48.2 -0.7
WDLM IAmb IAmb 21 09 50.6
comp=Z,454nm,0.8s
SBC Santa Barbara 81.39 319 P P 21 09 49.9 +1.6
baz=138,SNR=10
SBC S S 21 19 52.4 +2.0
baz=138
MPMC Manual Prospec 81.40 322 P P 21 09 49.9 +1.3
baz=140,SNR=132
MPMC S S 21 19 54.8 +3.9
baz=140
ARVC Arvin 81.41 320 P P 21 09 50.1 +1.6
baz=139,SNR=27
ARVC S S 21 19 52.9 +2.3
baz=139
TPNV Topopah Spring 81.43 323 P P 21 09 50.5 +1.7
baz=141,SNR=222
TPNV S S 21 19 54.7 +3.6
baz=141
TPNV Topopah Spring 81.43 323⇓P P 21 09 50.4 +1.7
KAPO Kapuskasing 81.62 351⇓P P 21 09 49.0 -0.1
KAPO ⇑P pP 21 10 18.2 +0.5
ISA Isabella, Lake 81.62 321 P P 21 09 51.4 +1.7
baz=139,SNR=147
ISA S S 21 19 54.9 +2.0
baz=139
K22A Casper 81.66 333 P P 21 09 51.0 +1.2
baz=148
K22A Casper 81.66 333 P P 21 09 51.2 +1.4
baz=148,SNR=166
K22A S S 21 19 54.9 +1.7
baz=148
PKM Mcpherson Peak 81.78 320 P P 21 09 52.4 +1.8
baz=138,SNR=150
PKM S S 21 19 57.3 +2.6
baz=138
EYMN Ely 81.79 345 P P 21 09 50.0 -0.1
baz=161
EYMN Ely 81.79 345 P P 21 09 50.3 +0.2
baz=161
EYMN S S 21 19 52.0 -2.0
baz=161
HRAO HartRAO 81.86 115⇓ *i*P P 21 09 52.0 +0.6
HRAO IAmb IAmb 21 09 53.2
comp=Z,1µm,0.9s
RSSD Black Hills 81.99 335 P P 21 09 52.5 +0.9
baz=150
RSSD Black Hills 81.99 335 P P 21 09 52.5 +0.9
baz=150
RSSD S S 21 19 57.9 +1.3
baz=150
RSSD Black Hills 81.99 335⇓P P 21 09 52.3 +0.8
CWC Cottonwood Cre 82.00 322 P P 21 09 53.3 +1.6
baz=139
CWC S S 21 20 00.5 +3.5
baz=139
EKNA AfricaArray - 82.00 80⇓ *i*P P 21 09 54.4 +2.3
GRAC Grapevine Rang 82.05 323 P P 21 09 53.7 +1.9
baz=140,SNR=12
GRAC S S 21 20 00.1 +3.0
baz=140
VES Vestal, Richgr 82.08 321 P P 21 09 53.5 +1.6
baz=139,SNR=145
VES S S 21 19 59.9 +2.5
baz=139
R11A Troy Canyon, C 82.18 325 P P 21 09 54.3 +1.7
baz=141,SNR=360
R11A S S 21 20 01.5 +2.7
baz=141
SMMC Simmler 82.19 320 P P 21 09 54.7 +2.1
baz=138,SNR=64
SMMC S S 21 20 03.0 +4.3
baz=138
SFNM Sidi Ifni 82.21 49 P P 21 09 56.0 +3.2
DUG Dugway, Tooele 82.31 327 P P 21 09 54.4 +1.2
baz=143,SNR=153
DUG S S 21 20 02.3 +2.3
baz=143
SLR Silverton 82.40 115⇓ *i*P P 21 09 54.8 +0.6
SLR IAmb IAmb 21 09 55.8
comp=Z,1µm,0.9s
D32B Dogwood Acres, 82.43 341 P P 21 09 53.8 +0.3
baz=156
TIN Tinemaha, Big 82.54 322 P P 21 09 56.3 +1.9
baz=139,SNR=30
NWCL Newcastle 82.58 118⇓ *i*P P 21 09 55.8 +0.6
NWCL IAmb IAmb 21 09 56.4
comp=Z,401nm,1.2s
VOG Valley Oaks Go 82.60 321 P P 21 09 55.3 +0.7
baz=138,SNR=5.7
VOG S S 21 20 02.9 +0.2
baz=138
B35A Bob, Littlefor 82.70 343 P P 21 09 54.8 0.0
baz=159
BW06 Boulder Array 82.98 331 P P 21 09 57.0 +0.3
BW06 Boulder Array 82.98 331 P P 21 09 57.2 +0.5
baz=146,SNR=149
BW06 S S 21 20 07.1 +0.3
baz=146
PD31 Pinedale Array 82.98 331 P P 21 09 57.0 +0.3
PDAR Pinedale Array 82.98 331 P P 21 09 57.0 +0.3
comp=Z,74nm,0.9s,baz=145,slow=5.4,SNR=228
PDAR S S 21 20 07.1 +0.3
comp=Z,1.4nm,1.0s,baz=131,slow=2.5,SNR=2.0
PDAR PKPPbc PKKPbc 21 28 18.2 -2.0
comp=Z,23nm,1.1s,baz=190,slow=0.2,SNR=25
PDAR PKPPKP P'P'df 21 36 05.2 -17
comp=Z,1.8nm,1.0s,baz=64,slow=3.4,SNR=3.8
PDAR LR LR 21 44 45.9
comp=Z,2µm,19.6s,baz=166,slow=34
comp=Z,74nm,0.9s
PDAR Pinedale Array 82.98 331 P P 21 09 56.2 -0.5
LEPH Lephalale, Lim 82.99 114⇓ *i*P P 21 09 58.0 +0.8
LEPH IAmb IAmb 21 09 59.2
comp=Z,1µm,0.9s
E28A Huff 83.02 338 P P 21 09 57.2 +0.6
E28A IAmb IAmb 21 09 58.2
comp=Z,909nm,1.3s
E28A Huff 83.02 338 P P 21 09 57.4 +0.8
baz=153
SPUT South Promonto 83.04 328 P P 21 09 57.5 +0.5
AGMN Agassiz Nation 83.18 342 P P 21 09 57.7 +0.4
AGMN IAmb IAmb 21 10 29.4
comp=Z,404nm,1.1s
AGMN Agassiz Nation 83.18 342 P P 21 09 57.5 +0.2
baz=157
AGMN Agassiz Nation 83.18 342 P P 21 09 57.7 +0.4
baz=157
AGMN S S 21 20 08.4 +0.3
baz=157
CGR Cap Guir 83.27 48 P P 21 10 01.0 +2.8
MLAC Mammoth, Mammo 83.29 322 P P 21 10 00.2 +1.7
baz=139,SNR=52
MLAC S S 21 20 13.6 +3.4
baz=139
PMPB Monarch Peak 83.30 320 P P 21 09 58.4 0.0
PMPB IAmb IAmb 21 10 02.6
comp=Z,546nm,1.3s
OMMB Old Mammoth Mi 83.36 322 P P 21 09 59.5 +0.6
OMMB IAmb IAmb 21 10 02.8
comp=Z,456nm,1.2s
NV11 Mina Array Sit 83.54 323 P P 21 09 59.8 +0.1
NV11 IAmb IAmb 21 10 03.3
comp=Z,449nm,1.4s
HVU Hansel Valley 83.56 328 P P 21 10 00.1 +0.4
HVU Hansel Valley 83.56 328 P P 21 10 00.1 +0.4
HVU pmax pmax
comp=Z,231nm,1.1s
CRLN Carolina, Mapu 83.60 116⇓ *i*P P 21 10 01.2 +0.8
CRLN IAmb IAmb 21 10 01.8
comp=Z,211nm,1.1s
NVAR Mina Array Bea 83.61 323 P P 21 10 01.4 +1.3
comp=Z,122nm,1.0s,baz=151,slow=5.5,SNR=223
NVAR PKKPbc PKKPbc 21 28 18.4 -0.1
comp=Z,5.1nm,0.6s,baz=302,slow=2.5,SNR=12
NVAR PKPPKP P'P'df 21 36 09.7 -12
comp=Z,1.3nm,0.8s,baz=253,slow=4.6,SNR=3.3
NVAR LR LR 21 40 52.1
comp=Z,3µm,22.0s,baz=127,slow=31
comp=Z,122nm,1.0s
NVAR Mina Array Bea 83.61 323 P P 21 10 01.0 +0.9
AHID Auburn Hatcher 83.63 330 P P 21 10 00.7 +0.7
AHID IAmb IAmb 21 10 04.3
comp=Z,872nm,1.8s
MDND Maddock 83.82 340 P P 21 10 00.9 +0.2
MDND Maddock 83.82 340 P P 21 10 01.5 +0.8
baz=154
MDND Maddock 83.82 340 P P 21 10 01.4 +0.8
baz=154
MDND S S 21 20 12.2 -2.3
baz=154
ELK Elko 83.88 326 PKKPbc PKKPbc 21 28 15.9 -2.1
comp=Z,11nm,0.9s,baz=41,slow=2.2,SNR=12
ELK PKPPKP P'P'df 21 36 12.5 -8.3
comp=Z,1.8nm,0.9s,baz=159,slow=1.3,SNR=3.7
ELK LR LR 21 43 13.9
comp=Z,5µm,21.6s,baz=138,slow=32
SAO San Andreas Ge 84.05 320⇓P P 21 10 03.4 +1.3
SAO San Andreas Ge 84.05 320⇓P P 21 10 03.4 +1.3
POGA Pongola 84.16 118⇓ *i*P P 21 10 03.8 +0.8
POGA IAmb IAmb 21 10 05.2
comp=Z,405nm,1.1s
CMB Columbia Colle 84.41 321 P P 21 10 03.8 -0.1
CMB Columbia Colle 84.41 321 P P 21 10 03.8 -0.1
CMB pmax pmax
comp=Z,444nm,1.5s
MMAL MMAL 84.47 117 *e*P P 21 10 05.8 +1.0
MMAL IAmb IAmb 21 10 07.2
comp=Z,566nm,1.0s
IMW Indian Meadow 84.48 331 P P 21 10 05.5 +1.0
IMW IAmb IAmb 21 10 07.9
comp=Z,496nm,1.5s
FLWY Flagg Ranch 84.53 331 P P 21 10 05.8 +1.2
FLWY IAmb IAmb 21 10 06.7
comp=Z,409nm,1.2s
H17A Grant Village 84.74 331 P P 21 10 07.3 +1.6
baz=145,SNR=31
H17A S S 21 20 24.6 +0.2
baz=145
RLMT Red Lodge 84.81 332 P P 21 10 06.9 +1.0
baz=146,SNR=204
RLMT S S 21 20 26.3 +1.3
baz=146
OUK Oukaimeden 84.94 49 P P 21 10 09.0 +1.9
LAO LASA Array 84.98 335 P P 21 10 07.0 +0.4
LAO IAmb IAmb 21 10 39.2
comp=Z,341nm,0.9s
LAO LASA Array 84.98 335 P P 21 10 07.2 +0.6
baz=149
LAO LASA Array 84.98 335 P P 21 10 07.4 +0.8
baz=149
LAO S S 21 20 27.2 +1.0
baz=149
ULM Lac du Bonnet 84.98 343 P P 21 10 06.3 0.0
comp=Z,249nm,1.0s,baz=159,slow=4.1,SNR=102
ULM pP pP 21 10 34.3 -1.1
comp=Z,269nm,0.8s,baz=150,slow=4.3,SNR=12
ULM S S 21 20 17.8 -8.2
comp=Z,2.5nm,0.7s,baz=321,slow=19,SNR=1.4
ULM PKKP PKKPdf 21 28 11.1 +2.8
comp=Z,28nm,0.7s,baz=341,slow=3.5,SNR=18
ULM PKPPKP P'P'df 21 36 23.4 +5.8
comp=Z,9.0nm,1.0s,baz=17,slow=4.7,SNR=5.4
ULM LR LR 21 48 46.5
comp=Z,2µm,20.8s,baz=148,slow=36
comp=Z,249nm,1.0s
ULM Lac du Bonnet 84.98 343 P P 21 10 06.2 -0.2
ULM IAmb IAmb 21 10 38.2
comp=Z,418nm,1.0s
PAHR Pah Rah Range 85.13 323 P P 21 10 06.8 -0.8
PAHR IAmb IAmb 21 10 11.7
comp=Z,674nm,1.4s
YHB Horse Butte 85.28 331 P P 21 10 08.8 +0.4
AFDM Forest Hills D 85.39 322 P P 21 10 08.7 -0.1
AFDM IAmb IAmb 21 10 13.2
comp=Z,743nm,1.7s
MUSN Musina, Limpop 85.43 113⇓ *i*P P 21 10 11.0 +1.4
MUSN IAmb IAmb 21 10 12.2
comp=Z,739nm,1.0s
MUSN Musina, Limpop 85.43 113 *i*P P 21 10 10.7 +1.2
MUSN Musina, Limpop 85.43 113 *i*P P 21 10 10.7 +1.2
GCMT Greycliff 85.52 333 P P 21 10 09.9 +0.5
HLID Hailey 85.71 329 P P 21 10 10.1 -0.4
HLID IAmb IAmb 21 10 14.3
comp=Z,645nm,1.4s
HLID Hailey 85.71 329 P P 21 10 11.9 +1.4
baz=142,SNR=483
HLID S S 21 20 37.4 +3.6
baz=142
SRHM Skhour des Reh 85.76 48 P P 21 10 12.2 +1.4
DGMT Dagmar 85.81 337 P P 21 10 11.4 +0.8
baz=150
DGMT Dagmar 85.81 337 P P 21 10 11.8 +1.2
baz=150
DGMT S S 21 20 35.6 +1.3
baz=150
MCCM Marconi Confer 85.83 320⇓P P 21 10 12.3 +1.4
MCCM ⇑P PcP 21 10 12.8 -0.8
MOPA Mopani 85.97 115⇓ *i*P P 21 10 13.5 +1.3
MOPA IAmb IAmb 21 10 14.9
comp=Z,473nm,1.0s
MOPA Mopani 85.97 115 *i*P P 21 10 13.9 +1.8
MOPA Mopani 85.97 115 *i*P P 21 10 13.9 +1.8
SCHQ Schefferville 86.08 1 P P 21 10 11.8 +0.1
comp=Z,463nm,1.2s,baz=169,slow=3.8,SNR=67
SCHQ pP pP 21 10 40.1 -0.5
comp=Z,150nm,0.9s,baz=155,slow=4.1,SNR=5.5
SCHQ PKKPbc PKKPbc 21 28 10.8 -2.4
comp=Z,17nm,1.0s,baz=106,slow=1.5,SNR=5.7
SCHQ PKPPKP P'P'df 21 36 20.0 +4.7
comp=Z,13nm,1.1s,baz=329,slow=2.3,SNR=3.9
comp=Z,463nm,1.2s
SCHQ Schefferville 86.08 1⇓P P 21 10 11.8 +0.1
SCHQ ⇓P P 21 10 11.8 +0.1
ORV Oroville 86.11 322 P P 21 10 12.4 +0.2
ORV Oroville 86.11 322 P P 21 10 12.5 +0.2
ORV pmax pmax
comp=Z,1µm,1.7s
BOZ Bozeman (W) 86.15 331 P P 21 10 13.4 +0.9
baz=144
BOZ S S 21 20 39.6 +1.6
baz=144
TRWZ Traveller 86.26 223 P P 21 10 15.2 +2.0
TMWZ Te Maipa 86.32 223 P P 21 10 15.5 +1.9
BFZ Birch Farm 86.38 224 P P 21 10 15.6 +1.7
PLWZ Palliser 86.40 222 P P 21 10 10.0 -4.0
PRHZ Porangahau 86.42 224 P P 21 10 16.1 +2.1
PAWZ Paruwai Farm 86.42 223 P P 21 10 15.7 +1.6
PXZ Pawanui 86.43 224 P P 21 10 16.3 +2.2
MSWZ Moikau Station 86.50 223 P P 21 10 10.7 -3.7
MTW Mount Morrison 86.52 223 P P 21 10 14.5 0.0
KAHZ Kahuranaki 86.57 225 P P 21 10 17.3 +2.4
AVE Averroes 86.61 47 P P 21 10 11.6 -3.3
AVE S S 21 20 32.9 -10
AVE Averroes 86.61 47 P P 21 10 16.7 +1.8
PRWZ Pori Road 86.63 224 P P 21 10 17.0 +2.0
DVHZ Dannevirke 86.67 224 P P 21 10 17.5 +2.2
HOWZ Holdsworth Sta 86.67 223 P P 21 10 16.8 +1.5
RIGZ Rimuhau 86.71 226 P P 21 10 19.0 +3.4
MRZ Mangatainoka R 86.79 223 P P 21 10 17.2 +1.4
CAW Cannon Point 86.80 223 P P 21 10 11.6 -4.3
WVOR Wild Horse Val 86.81 325⇓P P 21 10 16.6 +0.8
WVOR Wild Horse Val 86.81 325⇓P P 21 10 16.6 +0.8
KHZ Kahutara 86.82 221⇓P P 21 10 17.2 +1.3
KHZ ⇓P P 21 10 17.2 +1.3
POWZ Post Office Ro 86.85 224 P P 21 10 15.7 -0.5
WEL Wellington 86.86 222 P P 21 10 10.5 -5.7
SNZO South Karori 86.88 222⇓P P 21 10 17.6 +1.3
MCHZ McNeill Hill 86.90 225 P P 21 10 19.3 +2.9

PNHZ	Pukenui	86.90	224	P		P		21 10 18.3	+1.9
OGWZ	Otaki Gorge	86.93	223	P		P		21 10 16.3	-0.2
TSZ	Takapari Road	86.95	224	P		P		21 10 09.9	-6.8
NMHZ	Naumai	87.05	225	P		P		21 10 19.1	+1.9
KIW	Kapiti Island	87.05	223	P		P		21 10 13.4	-3.8
BSWZ	Blackbirch Sta	87.09	222	P		P		21 09 59.7	-18
HRY	Holter Researc	87.14	332	P		P		21 10 16.7	-0.6
MTHZ	Maungataniwha	87.18	225	P		P		21 10 19.6	+1.8
TCW	Tory Channel	87.19	222	P		P		21 10 19.4	+1.7
ZHG	ZHG	87.19	48	P		P		21 10 19.0	+1.2
BKZ	Black Stump Fm	87.19	225	P		P		21 10 19.6	+1.7
RTZ	Ruatahuna	87.25	226	P		P		21 10 20.0	+1.8
BHHZ	Black Hill Sta	87.25	224	P		P		21 10 20.5	+2.3
LTZ	Lake Taylor	87.29	220	P		P		21 10 19.6	+1.3
RPZ	Rata Peaks	87.32	219	LR		LR		21 41 54.0	
	comp=Z,3µm,18.4s,baz=144,slow=30								
URZ	Urewera	87.39	226	⇓P		P		21 10 19.9	+1.1
URZ				⇓P		P		21 10 19.9	+1.1
EGMT	Eagleton	87.41	334	P		P		21 10 17.6	-0.9
EGMT				IAmb		IAmb		21 10 50.9	
	comp=Z,419nm,1.1s								
EGMT	Eagleton	87.41	334	P		P		21 10 19.0	+0.5
	baz=146								
EGMT				S		S		21 20 50.2	+0.4
	baz=146								
MOVZ	Moawhango	87.48	224	P		P		21 10 20.9	+1.6
THZ	Tophouse	87.61	221	P		P		21 10 21.5	+1.6
PLID	Pearl Lake	87.61	329	P		P		21 10 20.0	+0.3
PLID				IAmb		IAmb		21 10 23.1	
	comp=Z,555nm,1.2s								
WKZ	Wanaka	87.63	217	P		P		21 10 19.8	-0.1
WKZ				IAmb		IAmb		21 10 23.2	
	comp=Z,420nm,1.2s								
WNVZ	Wahianoa	87.63	224	P		P		21 10 21.8	+1.7
TUVZ	Tukino	87.63	224	P		P		21 10 22.2	+2.0
DUWZ	D'Urville Isla	87.66	222	P		P		21 10 21.6	+1.6
WHVZ	Whangaehu Hut	87.66	224	P		P		21 10 22.1	+1.7
TRVZ	Turoa	87.68	224	P		P		21 10 22.0	+1.5
ETVZ	East Tongariro	87.68	225	P		P		21 10 23.3	+2.9
OTVZ	Oturere	87.69	225	P		P		21 10 23.5	+3.1
SNVZ	South Ngauruho	87.69	224	P		P		21 10 22.2	+1.7
NNZ	Nelson	87.70	222	P		P		21 10 19.9	-0.3
NNZ	Nelson	87.70	222	P		P		21 10 22.0	+1.8
TMVZ	Te Maari	87.70	225	P		P		21 10 22.0	+1.6
FWVZ	Far West T-bar	87.70	224	P		P		21 10 22.4	+1.8
WAZ	Wanganui	87.72	224	P		P		21 10 24.2	+3.9
NGZ	Ngauruhoe	87.72	224	P		P		21 10 22.3	+1.7
NTVZ	North Tongarir	87.73	225	P		P		21 10 22.3	+1.8
NNVZ	North Ngauruho	87.74	225	P		P		21 10 22.8	+2.2
LSZ	Lusaka	87.79	106	LR		LR		21 47 00.3	
	comp=Z,5µm,18.7s,baz=259,slow=34								
LSZ				PKPPKP		P'P'df		21 36 10.7	-6.4
	comp=Z,1.4nm,0.3s,baz=93,slow=2.9,SNR=5.5								
LSZ	Lusaka	87.79	106	⇓*i*P		P		21 10 23.4	+2.1
LSZ				IAmb		IAmb		21 10 24.1	
	comp=Z,5µm,1.1s								
LSZ	Lusaka	87.79	106	*i* P		P		21 10 22.5	+1.3
LSZ	Lusaka	87.79	106	P		P		21 10 23.3	+2.1
LSZ	Lusaka	87.79	106	*i* P		P		21 10 22.5	+1.3
LSZ	Lusaka	87.79	106	⇓P		P		21 10 23.3	+2.1
PKVZ	Pokaka	87.80	224	P		P		21 10 22.6	+1.8
TWVZ	Taurewa	87.89	224	P		P		21 10 23.0	+1.7
BMO	Blue Mountains	88.02	328	P		P		21 10 22.0	+0.5
BMO	Blue Mountains	88.02	328	P		P		21 10 22.0	+0.5
BMO				pmax		pmax			
	comp=Z,195nm,1.4s								
TKNZ	Takaka Hill	88.06	222	P		P		21 10 22.7	+0.7
TKNZ	Takaka Hill	88.06	222	P		P		21 10 22.8	+0.9
MDT	Midelt	88.08	49	LR		LR		21 46 50.6	
	comp=Z,3µm,21.5s,baz=238,slow=33								
MSO	Missoula	88.10	331	P		P		21 10 22.0	+0.1
MSO				IAmb		IAmb		21 10 23.9	
	comp=Z,434nm,1.6s								
MSO	Missoula	88.10	331	P		P		21 10 22.9	+1.1
	baz=143,SNR=43								
MSO				S		S		21 20 58.8	+2.3
	baz=143								
DSZ	Denniston Nort	88.23	221	P		P		21 10 22.7	-0.1
LREZ	Lake Rotokare	88.25	224	P		P		21 10 24.5	+1.7
VRZ	Vera Road	88.26	224	P		P		21 10 23.9	+1.0
TLZ	Tolley Road	88.30	225	P		P		21 10 24.6	+1.4
PFVI	Vila Bisbo	88.31	44	*e*P		P		21 10 23.3	+0.4
	comp=Z,162nm,1.8s								
PFVI				*e*pP		pP		21 10 51.6	-0.1
YBH	Yreka Blue Hor	88.33	323	PKKPbc		PKKPbc		21 28 06.1	-0.9
	comp=Z,3.2nm,0.6s,baz=52,slow=4.8,SNR=8.2								
LCRM	LCR	88.48	48	P		P		21 10 26.0	+2.0
MORF	Marmelete	88.52	44	*e*P		P		21 10 24.0	0.0
MORF				IAmb		IAmb		21 10 25.6	
	comp=Z,139nm,1.1s								
MORF				*e*SKSac		SKSac		21 20 41.9	-1.0
MORF	Marmelete	88.52	44	*e*P		P		21 10 24.8	+0.8
	comp=Z,221nm,1.6s								
MORF				*e*pP		pP		21 10 54.0	+1.2
MORF	Marmelete	88.52	44	*e*PP		PP		21 13 54.4	+0.3
MORF	Marmelete	88.52	44	⇓P		P		21 10 25.1	+1.1
MORF				⇑P		P		21 10 25.4	+1.4
MORF	Marmelete	88.52	44	*e*P		P		21 10 23.9	0.0
MORF				*e*				21 20 41.8	
MORF				pmax		pmax			
	comp=Z,139nm,1.1s								
NEZ	North Egmont	88.56	224	P		P		21 10 25.5	+1.1
KHEZ	Kahui Hut	88.59	224	P		P		21 10 25.4	+0.9
HIZ	Hauiti	88.59	225	P		P		21 10 25.2	+0.7
PTEO	Sao Teotonio	88.64	43	*e*P		P		21 10 25.7	+1.2
	comp=Z,385nm,1.1s								
PTEO				*e*pP		pP		21 10 53.6	+0.3
NBEZ	Newall Road No	88.69	224	P		P		21 10 25.5	+0.6
HUMO	Hull Mountain	89.09	323	P		P		21 10 26.7	+0.2
HUMO				IAmb		IAmb		21 10 29.6	
	comp=Z,468nm,1.9s								
CHEFC	Chefchaouen	89.09	47	P		P		21 10 29.0	+2.2
PCVE	Castro Verde	89.11	44	*e*P		P		21 10 27.9	+1.3
	comp=Z,186nm,1.9s								
PCVE				*e*pP		pP		21 10 55.5	0.0
PCVE	Castro Verde	89.11	44	*e*PP		PP		21 13 58.2	-0.5
MESJ	Messejana	89.14	44	*e*P		P		21 10 26.9	0.0
MESJ				IAmb		IAmb		21 10 29.0	
	comp=Z,116nm,0.5s								
MESJ				*e*SKSac		SKSac		21 20 45.5	-0.9
MESJ	Messejana	89.14	44	*e*P		P		21 10 28.0	+1.2
	comp=Z,264nm,1.8s								
MESJ				*e*pP		pP		21 10 56.3	+0.6
MESJ	Messejana	89.14	44	*e*PP		PP		21 13 59.4	+0.5
MESJ	Messejana	89.14	44	*e*P		P		21 10 26.8	0.0
MESJ				*e*				21 20 45.4	
MESJ				pmax		pmax			
	comp=Z,116nm,0.5s								
PNCL	Nicolau / Gran	89.14	43	*e*P		P		21 10 27.9	+1.1
	comp=Z,143nm,1.1s								
PNCL				*e*pP		pP		21 10 55.6	0.0
PNCL	Nicolau / Gran	89.14	43	*e*PP		PP		21 13 57.0	-1.9
PVAQ	Vaqueiros	89.14	44	*e*P		P		21 10 28.3	+1.5
	comp=Z,284nm,1.6s								
PVAQ				*e*pP		pP		21 10 56.1	+0.4
PVAQ	Vaqueiros	89.14	44	*e*PP		PP		21 13 59.0	0.0
PVAQ				*e*SKS		SKSac		21 20 50.8	+4.4
PVAQ	Vaqueiros	89.14	44	*e*LR		LR		21 39 58.9	
	comp=Z,2µm,20.0s								
PVAQ	Vaqueiros	89.14	44	P		P		21 10 27.2	+0.4
PVAQ	Vaqueiros	89.14	44	P		P		21 10 28.4	+1.6
PMST	Lisbon--Monsan	89.18	42	*e*P		P		21 10 28.2	+1.2
	comp=Z,291nm,1.6s								
PMST				*e*pP		pP		21 10 54.2	-1.6
LIS	Lisbon	89.19	42	*e*P		P		21 10 27.1	+0.1
LIS				IAmb		IAmb		21 10 29.7	
	comp=Z,266nm,1.3s								
LIS				*e*SKSac		SKSac		21 20 45.7	-0.9
LIS	Lisbon	89.19	42	*e*P		P		21 10 27.1	+0.1
LIS				*e*				21 20 45.7	
LIS				pmax		pmax			
	comp=Z,266nm,1.3s								
TAM	Tamanrasset	89.19	63	⇓P		P		21 10 28.6	+1.0
TAM				⇓P		PcP		21 10 28.7	-0.3
TAM	Tamanrasset	89.19	63	⇓P		P		21 10 28.6	+1.0
PMAFR	Mafra	89.27	42	*e*P		P		21 10 28.4	+1.0
	comp=Z,298nm,1.6s								
PMAFR				*e*pP		pP		21 10 57.8	+1.5
PACT	Alcochete	89.40	43	*e*P		P		21 10 29.3	+1.3
	comp=Z,505nm,2.0s								
PACT				*e*pP		pP		21 10 57.7	+0.9
PACT	Alcochete	89.40	43	*e*PP		PP		21 14 07.5	+6.5
SFS	San Fernando	89.44	46	P		P		21 10 29.0	+0.8
SFS				S		SKSac		21 20 52.6	+4.4
PBEJ	Beja	89.47	44	*e*P		P		21 10 29.7	+1.3
	comp=Z,170nm,1.9s								
PBEJ				*e*pP		pP		21 10 57.6	+0.4
ARNO	Arenosillo	89.53	45	P		P		21 10 26.0	-2.6
ARNO				S		SKSac		21 20 49.6	+0.9
CEU	Ceuta	89.58	46	P		P		21 10 30.0	+1.1
CEU				S		SKSac		21 20 53.2	+4.2
RAO	Raoul Island	89.58	236	LR		LR		21 43 01.6	
	comp=Z,2µm,21.2s,baz=166,slow=30								
AKLM	AKL	89.64	48	P		P		21 10 31.0	+1.7
EVO	Evora	89.72	43	P		P		21 10 27.1	-2.4
EVO				S		SKSac		21 20 51.4	+1.6
EVO	Evora	89.72	43	*e*P		P		21 10 30.1	+0.6
	comp=Z,98nm,1.2s								
EVO				*e*pP		pP		21 10 58.9	+0.5
EVO	Evora	89.72	43	*e*PP		PP		21 14 01.3	-2.3
PVLZ	Peæn de	89.78	48	P		P		21 10 28.9	-1.0
PVLZ				S		SKSac		21 20 50.2	-0.1
FIGM	Figuig	89.86	52	P		P		21 10 33.0	+2.5
PSBE	So Bento	89.93	42	*e*P		P		21 10 31.3	+0.8
	comp=Z,263nm,1.9s								
PSBE	So Bento	89.93	42	*e*PP		PP		21 14 03.9	-1.3
PMTG	Montargil	89.96	43	*e*P		P		21 10 31.6	+1.0
	comp=Z,278nm,1.6s								
PMTG				*e*pP		pP		21 10 59.9	+0.4
PALE	Palemas	90.04	48	P		P		21 10 33.0	+1.8
PBAR	Barrancos	90.06	44	*e*P		P		21 10 31.8	+0.7
	comp=Z,136nm,1.6s								
PBAR				*e*pP		pP		21 11 01.1	+1.1
PBAR	Barrancos	90.06	44	*e*PP		PP		21 14 05.9	-0.3
PESTR	Estremoz	90.19	43	*e*P		P		21 10 32.5	+0.8
	comp=Z,166nm,1.7s								
PESTR				*e*pP		pP		21 11 01.2	+0.6
PESTR	Estremoz	90.19	43	*e*PP		PP		21 14 01.3	-6.0
PESTR	Estremoz	90.19	43	P		P		21 10 33.1	+1.4
HAWA	Hanford	90.21	328	⇑P		P		21 10 31.4	-0.2
HAWA				⇓P		P		21 10 32.5	+0.9
BUCK	Buck Mountain	90.25	324	P		P		21 10 32.8	+0.9
JBK	JBK	90.36	49	P		P		21 10 34.1	+1.3
D08A	Wollman Farm,	90.43	328	P		P		21 10 32.8	+0.2
D08A				IAmb		IAmb		21 10 35.8	
	comp=Z,395nm,1.5s								
PCAS	Casmilo, Conde	90.46	42	*e*P		P		21 10 32.9	0.0
	comp=Z,186nm,2.1s								
PCAS				*e*pP		pP		21 10 59.9	-1.9
NEW	Newport	90.56	330	S		SKSac		21 20 44.8	-9.5
	comp=Z,2.6nm,1.1s,baz=180,slow=4.0,SNR=3.1								
NEW				PKKPbc		PKKPbc		21 27 59.8	-1.8
	comp=Z,26nm,1.1s,baz=326,slow=2.5,SNR=12								
NEW				PKPPKP				21 36 02.3	
	comp=Z,1.4nm,0.7s,baz=225,slow=5.7,SNR=2.5								
NEW				LR		LR		21 50 13.3	
	comp=Z,4µm,18.1s,baz=131,slow=35								
NEW	Newport	90.56	330	P		P		21 10 33.2	0.0
	baz=140								
NEW				S		S		21 21 18.0	-1.2
	baz=140								
PMRV	Marv??o	90.68	43	*e*P		P		21 10 34.4	+0.4
	comp=Z,146nm,2.0s								
PMRV				*e*pP		pP		21 11 02.8	-0.1
PMRV	Marv??o	90.68	43	*e*PP		PP		21 14 10.0	-1.2
PMRV				*e*SKS		SKSac		21 20 59.0	+3.7
PMRV				*e*SS		SS		21 27 39.8	+14
PMRV	Marv??o	90.68	43	*e*LR		LR		21 40 31.3	
	comp=Z,3µm,22.0s								
COR	Corvallis	90.68	324	⇓P		P		21 10 35.3	+1.5
COR				⇓P		PcP		21 10 35.5	+0.7
COR	Corvallis	90.68	324	⇓P		P		21 10 35.3	+1.5
EMAL	Malaga-Limoner	90.72	46	P		P		21 10 34.0	-0.1
EMAL				S		SKSac		21 20 55.0	-0.6
WMELI	Melilla	90.73	48	P		P		21 10 32.0	-2.2
WMELI				S		SKSac		21 20 57.1	+1.4
TAF	Taforalt	90.76	49	P		P		21 10 37.0	+2.4
PCBR	Castelo Branco	90.90	42	*e*P		P		21 10 35.3	+0.3
	comp=Z,141nm,1.6s								
PCBR				*e*pP		pP		21 11 04.3	+0.4
PCBR	Castelo Branco	90.90	42	*e*PP		PP		21 14 11.7	-1.2
CHAS	Isla Isabel II	90.98	49	P		P		21 10 34.9	-0.5
CHAS				S		SKSac		21 20 57.7	+0.6
PTO	Porto	91.13	41	*e*P		P		21 10 37.1	+1.1
	comp=Z,192nm,1.7s								
MTE	Manteigas	91.23	42	*e*P		P		21 10 36.4	-0.2
	comp=Z,143nm,1.8s								
MTE				*e*pP		pP		21 11 05.5	0.0
MTE				*e*SKS		SKSac		21 20 51.8	-6.8
MTE				*e*SS		SS		21 27 39.4	+5.6
MTE	Manteigas	91.23	42	*e*LR		LR		21 40 49.3	
	comp=Z,4µm,20.0s								
PVIS	Viseu	91.25	42	*e*P		P		21 10 36.9	+0.3
	comp=Z,90nm,1.9s								
LON	Longmire	91.53	327	P		P		21 10 37.9	+0.1
LON	Longmire	91.53	327	P		P		21 10 37.9	+0.1
LON				pmax		pmax			
	comp=Z,114nm,1.3s								
B08A	Colville Reser	91.59	329	P		P		21 10 38.0	-0.1
B08A				IAmb		IAmb		21 10 41.5	
	comp=Z,415nm,1.9s								
PVRL	Vila Real	91.72	41	*e*P		P		21 10 39.6	+0.8
	comp=Z,188nm,1.8s								
PVRL				*e*pP		pP		21 11 08.2	+0.5
POLO	Lamas de Olo	91.74	41	*e*P		P		21 10 39.5	+0.5
	comp=Z,68nm,2.0s								
PCAB	Cabril	91.84	41	*e*P		P		21 10 39.7	+0.4
	comp=Z,124nm,1.2s								
PCAB				*e*pP		pP		21 11 08.3	+0.1
PGAV	Gavieira, Arco	91.87	40	*e*SKS		SKSac		21 21 10.4	+8.2
PGAV				*e*SS		SS		21 27 44.6	+1.6
PGAV	Gavieira, Arco	91.87	40	*e*LR		LR		21 40 56.1	
	comp=Z,4µm,22.0s								
MVO	Moncorvo	92.03	42	*e*P		P		21 10 40.9	+0.6
	comp=Z,173nm,1.1s								
MVO				*e*pP		pP		21 11 09.4	+0.2
MVO				*e*SKS		SKSac		21 21 07.6	+4.5
MVO				*e*SS		SS		21 27 56.5	+11
MVO	Moncorvo	92.03	42	*e*LR		LR		21 41 17.9	
	comp=Z,5µm,20.0s								
PAB	San Pablo	92.54	44	P		P		21 10 44.0	+1.3
PAB	San Pablo	92.54	44	⇓P		P		21 10 43.3	+0.6
PAB				⇓P		P		21 10 43.4	+0.6
PAB	San Pablo	92.54	44	⇓P		P		21 10 43.3	+0.6
PBRG	Braganca	92.62	41	*e*P		P		21 10 43.5	+0.6
	comp=Z,145nm,1.4s								
PBRG				*e*pP		pP		21 11 11.2	-0.7
ESDC	Sonseca Array	92.85	44	P		P		21 10 44.8	+0.7
	comp=Z,33nm,0.9s,baz=244,slow=4.4,SNR=93								
ESDC				pP		pP		21 11 13.6	+0.6
	comp=Z,26nm,0.9s,baz=227,slow=4.3,SNR=6.6								
ESDC				LR		LR		21 51 13.7	
	comp=Z,3µm,19.9s,baz=202,slow=35								
	comp=Z,33nm,0.9s								
ESDC	Sonseca Array	92.85	44	P		P		21 10 44.8	+0.7
NLWA	Neilton Lookou	92.97	326	⇑P		P		21 10 46.0	+1.6
NLWA				⇓P		P		21 10 46.4	+2.0
GUD	Guadarrama	93.36	43	P		P		21 10 46.7	+0.2
CART	Cartagena	93.37	47	P		P		21 10 45.0	-1.4
CART				S		SKSac		21 21 09.2	-1.2
AFI	Afiamalu	93.66	251	LR		LR		21 44 30.3	
	comp=Z,5µm,19.0s,baz=125,slow=30								
UCM	Universidad Co	93.68	44	P		P		21 10 47.2	-0.6
UCM				S		SKSac		21 21 16.1	+3.9
IVI	Ivigtut	93.96	10	*i* P		P		21 10 47.6	-0.9
FRB	Frobisher Bay	95.01	0	LR		LR		21 54 27.9	
	comp=Z,3µm,20.6s,baz=183,slow=36								
SJPF	Ste Jean	96.61	43	*e*P		P		21 11 01.7	+0.6
SJPF				pmax		pmax			
	comp=Z,137nm,1.2s								
ETSF	Etsaut	96.86	43	*e*P		P		21 11 02.8	+0.4
ETSF				pmax		pmax			
	comp=Z,46nm,1.1s								
EPF	Esparros	97.47	44	*e*P		Pdif		21 11 05.6	+0.5
EPF				pmax		pmax			
	comp=Z,112nm,1.6s								
MBAR	Mbarara	97.68	95	LR		LR		21 51 08.9	
	comp=Z,2µm,21.9s,baz=246,slow=33								
MBAR	Mbarara	97.68	95	P		Pdif		21 11 07.3	+0.3
MBAR	Mbarara	97.68	95	*e*P		Pdif		21 11 08.0	+1.0
MBAR	Mbarara	97.68	95	*d* / P		Pdif		21 11 09.5	+2.5
MBAR				pmax		pmax			
	comp=Z,33nm,1.4s								
MAHO	Mahon	98.05	48	P		Pdif		21 11 07.9	+0.2
MAHO				S		SKSac		21 21 37.0	+2.1
BBB	Bella Bella	98.27	328	PKKPbc		PKKPbc		21 27 39.7	-1.3
	comp=Z,11nm,0.9s,baz=255,slow=8.9,SNR=3.1								
BBB				LR		LR		21 53 48.2	
	comp=Z,1µm,18.2s,baz=148,slow=34								
VOI	Vohitsoka	98.45	122	*e*P		P		21 11 10.0	-0.3
VOI	Vohitsoka	98.45	122	P		Pdif		21 11 10.8	+0.6
QUIF	Quistinic	98.48	38	*e*P		P		21 11 08.8	-0.6
QUIF				pmax		pmax			
	comp=Z,179nm,1.2s								
ROSF	Rostrenen	98.68	38	*e*P		P		21 11 09.8	-0.5
ROSF				pmax		pmax			
	comp=Z,114nm,1.0s								
MTLF	Montolieu	98.76	44	*e*P		P		21 11 10.6	-0.2
MTLF				pmax		pmax			
	comp=Z,114nm,1.4s								
LFF	La Frestale	98.83	42	*e*P		P		21 11 11.0	0.0
LFF				pmax		pmax			
	comp=Z,118nm,1.2s								
SGMF	Saint Gilles	99.01	38	*e*P		Pdif		21 11 11.0	-0.7
SGMF				pmax		pmax			
	comp=Z,522nm,2.4s								
KEST	Kesra	99.12	54	P		Pdif		21 11 14.4	+1.7
	comp=Z,22nm,0.9s,baz=238,slow=2.3,SNR=6.0								
KEST				pP		pP		21 11 42.0	+0.3
	comp=Z,26nm,0.9s,baz=282,slow=8.1,SNR=5.6								
KEST				PKKPbc		PKKPbc		21 27 38.4	+0.4
	comp=Z,11nm,1.1s,baz=330,slow=5.4,SNR=5.2								
KEST				LR		LR		21 55 47.4	
	comp=Z,6µm,21.6s,baz=191,slow=35								
	comp=Z,22nm,0.9s								
SFJD	Kangerlussuaq	99.23	7	LR		LR		21 58 42.5	
	comp=Z,1µm,19.5s,baz=204,slow=37								
DY2G	Dye2	99.25	9	*i* P		Pdif		21 11 09.5	-3.2
MFF	Saint Martin d	99.32	41	*e*P		Pdif		21 11 13.1	-0.1
MFF				pmax		pmax			
	comp=Z,120nm,1.2s								
MSVF	Nonsavu	99.44	243	LR		LR		21 45 28.0	
	comp=Z,2µm,21.9s,baz=172,slow=29								
RJF	Les Rejaudoux	99.49	42	*e*P		Pdif		21 11 13.8	-0.2
RJF				pmax		pmax			
	comp=Z,157nm,1.6s								
CAF	Calviac	99.59	43	*e*P		Pdif		21 11 14.6	+0.1
CAF				pmax		pmax			
	comp=Z,99nm,1.4s								
GRR	Gorron	99.99	39	*e*P		Pdif		21 11 15.5	-0.6
GRR				pmax		pmax			
	comp=Z,90nm,1.2s								
RSBS	Rosebush, Pemb	100.20	34	*e*P		Pdif		21 11 16.2	-0.8
RSBS				IAmb		IAmb		21 11 17.8	
	comp=Z,58nm,1.0s								
FLN	La Foliniere	100.42	39	*e*P		Pdif		21 11 17.7	-0.3
FLN				pmax		pmax			
	comp=Z,134nm,1.4s								
TCF	Toulx Ste Croi	100.46	42	*e*P		Pdif		21 11 13.9	-4.4
TCF				pmax		pmax			
	comp=Z,45nm,1.1s								
LDF	La Druitiere	100.51	39	*e*P		Pdif		21 11 18.0	-0.4
LDF				pmax		pmax			
	comp=Z,151nm,1.5s								
LPW	Lampeter	100.63	35	*e*P		Pdif		21 11 18.3	-0.5
YKA	Yellowknife Ar	100.73	340	P		Pdif		21 11 19.1	0.0
	comp=Z,54nm,1.0s,baz=142,slow=4.6,SNR=40								
YKA				pP		pPdif		21 11 47.3	-1.1
	comp=Z,26nm,0.8s,baz=141,slow=4.4,SNR=5.8								
YKA				PP		PP		21 15 24.0	-4.4
	comp=Z,19nm,1.1s,baz=137,slow=7.4,SNR=5.8								
YKA				PKKPbc		PKKPbc		21 27 31.1	-3.3
	comp=Z,20nm,1.2s,baz=318,slow=3.8,SNR=5.6								
H02S1	DAWSON INLET T	100.95	327	P		Pdif		21 11 18.7	-1.5
	SNR=3.9								
BGF	Bois d'Agland	100.97	42	*e*P		Pdif		21 11 20.6	0.0
BGF				pmax		pmax			
	comp=Z,140nm,1.4s								
MONM	Monmouth	101.08	35	*e*P		Pdif		21 11 20.7	-0.2
MONM				IAmb		IAmb		21 11 22.4	
	comp=Z,52nm,1.0s								
VIVF	Saint-Julien-l	101.08	44	*e*P		Pdif		21 11 21.6	+0.5
VIVF				pmax		pmax			
	comp=Z,94nm,1.6s								
GMM	Mts of Mourne	101.08	32	*e*P		Pdif		21 11 20.5	-0.3
WLF1	Llynfaes	101.20	33	*e*P		Pdif		21 11 20.8	-0.5
WLF1				IAmb		IAmb		21 11 21.9	
	comp=Z,164nm,1.1s								
LLW	Llanuwchllyn	101.28	34	*e*P		Pdif		21 11 21.0	-0.8
WME	Mynydd Eilian	101

comp=Z,1.6nm,0.5s,baz=258,slow=1.6,SNR=9.8
EKA PKKPbc **PKKPbc 21 27 24.9 -2.5**
comp=Z,16nm,1.0s,baz=57,slow=2.0,SNR=6.7
U33K Whale Pass 103.05 329 Pdiff **Pdif 21 11 30.2 +0.7**
baz=128
ELMS Elmsett, Ipswi 103.12 36 *e*P **Pdif 21 11 30.1 +0.2**
ELMS IAmb IAmb 21 11 30.9
comp=Z,144nm,1.1s
KPL Plockton 103.17 30 *e*P **Pdif 21 11 29.5 -0.5**
KPL IAmb IAmb 21 11 31.1
comp=Z,29nm,1.1s
DLBC Dease Lake 103.20 332 PKKPbc PKKPbc 21 27 26.8 -0.3
comp=Z,16nm,1.0s,baz=306,slow=5.0,SNR=11
DLBC Dease Lake 103.20 332 Pdiff **Pdif 21 11 31.3 +1.1**
baz=130
INVG Invergeldie, C 103.30 31 *e*P **Pdif 21 11 30.3 -0.3**
S34M Telegraph Cree 103.32 331 Pdiff **Pdif 21 11 31.7 +1.0**
baz=129
T33K Petersburg 103.41 329 Pdiff **Pdif 21 11 32.1 +1.0**
baz=128
VAE Valguarnera 103.52 54 PKKPbc PKKPbc 21 27 21.4 -3.8
comp=Z,8.7nm,0.9s,baz=25,slow=9.7,SNR=3.4
VAE PKKP **PKKPdf 21 27 32.0 -1.9**
comp=Z,21nm,0.9s,baz=90,slow=7.1,SNR=6.1
BAIF Baives 103.67 39 *e*P **Pdif 21 11 32.2 -0.2**
BAIF pmax pmax
comp=Z,61nm,1.6s
LODK Lodwar 103.71 94 P **Pdif 21 11 35.0 +1.3**
SNR=12
LODK Lodwar 103.71 94 *e*P **Pdif 21 11 33.5 -0.2**
HAU Haudompre 103.76 42 *e*P **Pdif 21 11 31.8 -1.1**
HAU pmax pmax
comp=Z,52nm,1.5s
WTLY Watson Lake, Y 103.80 333 Pdiff **Pdif 21 11 33.8 +1.0**
baz=130
DOU Dourbes 103.90 39 *d*Pdif **Pdif 21 11 32.4 -1.0**
HINF Hinteralfeld 103.95 42 *e*P **Pdif 21 11 33.6 -0.2**
HINF pmax pmax
comp=Z,39nm,1.6s
SNF Seneffe 103.96 39 *d*Pdif **Pdif 21 11 34.5 +0.9**
WRGLY Wrigley 104.01 338 Pdiff **Pdif 21 11 34.3 +0.7**
baz=134
GIVF Givet 104.03 40 *e*P **Pdif 21 11 34.0 0.0**
GIVF pmax pmax
comp=Z,107nm,1.5s
BMRD Maredsous 104.11 39 *d*Pdif **Pdif 21 11 34.8 +0.4**
BMRD *d*PP **PKiKP 21 15 52.0 +1.1**
BMRD *dp*PKiKP **pPKiKP 21 16 20.7 -0.4**
R33M Jennings River 104.19 332 Pdiff **Pdif 21 11 35.6 +0.9**
baz=129
RCHB Rochefort 104.28 40 *d*Pdif **Pdif 21 11 35.1 0.0**
BGES Gesves 104.32 39 *d*Pdif **Pdif 21 11 35.4 0.0**
BGES *d*PP **PP 21 15 54.8 -0.8**
BGES *dp*PKiKP PKiKP 21 16 21.7 +30
Q32M Nakina River 104.44 331 Pdiff **Pdif 21 11 37.1 +1.1**
baz=128
BCLA Clavier 104.46 39 *d*Pdif **Pdif 21 11 36.5 +0.5**
BCLA *d*PP **PP 21 15 54.6 -1.9**
BCLA *dp*PKiKP **pPKiKP 21 16 22.6 +0.9**
CDF Champ du Feu 104.50 42 *e*P **Pdif 21 11 36.2 -0.1**
CDF pmax pmax
comp=Z,144nm,2.0s
S32K Killisnoo 104.51 329 Pdiff **Pdif 21 11 36.7 +0.8**
baz=127
TGTN Hyland Airport 104.52 335 Pdiff **Pdif 21 11 37.3 +1.3**
baz=131
WLF Walferdange 104.53 40 *d*Pdif **Pdif 21 11 35.0 -1.3**
WLF *d*PP **PP 21 15 54.6 -2.4**
SIT Sitka 104.60 329 Pdiff **Pdif 21 11 37.1 +0.7**
baz=126
BSTI Sart Tilman 104.69 39 *d*Pdif **Pdif 21 11 37.8 +0.8**
BHOU Houvegnez 104.81 40 *d*Pdif **Pdif 21 11 37.2 -0.3**
BEBN Eben Emael 104.86 39 *d*Pdif **Pdif 21 11 38.8 +1.1**
MEM Membach 104.94 39 *d*Pdif **Pdif 21 11 39.2 +1.2**
R32K Eaglecrest 104.97 330 Pdiff **Pdif 21 11 39.0 +1.0**
baz=126
DZM Mont Dzumac 104.97 232 *e*SS SS 21 30 43.9 -1.7
comp=Z,5μm,22.6s
DZM Mont Dzumac 104.97 232 *e*LR LR 21 46 18.1
comp=Z,20μm,32.9s
BTNL Ternell 105.00 40 *d*Pdif **Pdif 21 11 39.0 +0.6**
BTNL *d*PKiKP **PKiKP 21 15 51.1 -1.5**
BTNL *d*PP **PP 21 15 59.3 -1.3**
BTNL *dp*PKiKP **pPKiKP 21 16 23.1 +0.4**
DAVOX Davos/Dischmat 105.19 44 Pdiff **Pdif 21 11 41.0 +1.4**
comp=Z,9.6nm,0.8s,baz=286,slow=1.1,SNR=13
DAVOX PKKPbc **PKKPbc 21 27 20.9 +0.2**
comp=Z,19nm,0.7s,baz=235,slow=3.2,SNR=22
DAVOX PKKPab **PKKPab 21 27 34.8 -0.5**
comp=Z,20nm,0.9s,baz=240,slow=6.0,SNR=6.3
P32M Atlin 105.41 331 Pdiff **Pdif 21 11 40.5 +0.5**
baz=127
P33M Teslin, Yukon 105.43 332 Pdiff **Pdif 21 11 40.5 +0.4**
baz=127
DAVA Damuels 105.44 44 *e*P **Pdif 21 11 41.4 +0.8**
comp=Z,27nm,1.4s
DAVA *e*P **PKiKP 21 15 55.1 +1.4**
comp=Z,24nm,1.4s
DAVA *e*P **PKKPbc 21 27 19.0 -0.9**
comp=Z,34nm,1.4s
DAVA *e*P **PKKPab 21 27 36.5 +2.4**
comp=Z,19nm,1.0s
S31K Pelican 105.52 329 Pdiff **Pdif 21 11 40.5 0.0**
baz=125
R31K City Hall, Gus 105.57 330 Pdiff **Pdif 21 11 41.2 +0.5**
baz=126
FETA Feichten 105.81 44 *e*P **Pdif 21 11 42.9 +0.6**
comp=Z,12nm,1.3s,SNR=6.3
FETA *e*P **PKKPbc 21 27 18.0 -0.8**
comp=Z,34nm,1.2s,SNR=8.4
FETA *e*P **PKKPab 21 27 33.2 +0.7**
comp=Z,33nm,1.2s
FETA P **P'P'df 21 35 38.2 -1.9**
comp=Z,6.4nm,1.1s
SUMG Summit 105.95 9 *i* P **Pdif 21 11 42.4 -0.2**
SKAG Skagway 106.00 331 Pdiff **Pdif 21 11 43.2 +0.6**
baz=126
RETA Reutte 106.06 44 *e*P **Pdif 21 11 43.8 +0.5**
comp=Z,17nm,1.2s
RETA P **PKiKP 21 15 57.3 +2.6**
comp=Z,13nm,0.9s
RETA *e*P **PKKPbc 21 27 17.4 -0.5**
comp=Z,18nm,1.2s
N32M Quiet Lake 106.10 333 Pdiff **Pdif 21 11 43.4 +0.3**
baz=127
MOTA Moosalm 106.19 44 *e*P **Pdif 21 11 43.8 -0.2**
comp=Z,16nm,1.3s,SNR=5.8
MOTA *e*P **PKiKP 21 15 55.5 +0.5**
comp=Z,25nm,0.9s
MOTA *e*P **PKKPbc 21 27 16.8 -0.8**
comp=Z,25nm,1.3s,SNR=5.2
MOTA *e*P **PKKPab 21 27 33.0 +2.2**
comp=Z,22nm,1.0s
MOTA *e*P **P'P'df 21 35 37.5 -1.8**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 106.20 44 *e*P **Pdif 21 11 44.2 +0.3**
comp=Z,16nm,1.2s,SNR=6.8
SQTA *e*P **PKiKP 21 15 55.2 +0.2**
comp=Z,25nm,1.1s
SQTA *e*P **PKKPbc 21 27 17.0 -0.5**
comp=Z,30nm,1.3s,SNR=6.0
SQTA *e*P **PKKPab 21 27 32.9 +2.1**
comp=Z,32nm,1.3s
MMPY Sheldon Lake, 106.31 335 Pdiff **Pdif 21 11 44.2 +0.3**
baz=128
PLBC Pleasant Camp 106.44 330 Pdiff **Pdif 21 11 45.4 +0.9**
baz=125
WATA Walderalm 106.47 44 *e*P **Pdif 21 11 45.5 +0.4**
comp=Z,22nm,1.6s,SNR=7.5
WATA *e*P **PKiKP 21 15 55.9 +0.3**
comp=Z,26nm,1.1s
WATA *e*P **PKKPbc 21 27 16.0 -0.7**
comp=Z,18nm,1.1s
WATA *e*P **PKKPab 21 27 32.0 +2.4**
comp=Z,28nm,1.1s
WATA *e*P **P'P'df 21 35 36.0 -2.8**
comp=Z,15nm,1.4s
WTTA Wattenberg 106.47 44 *e*P **Pdif 21 11 45.5 +0.2**
comp=Z,28nm,1.4s,SNR=8.3
WTTA *e*P **PKiKP 21 15 56.3 +0.6**
comp=Z,34nm,1.1s
WTTA *e*P **PKKPbc 21 27 16.3 -0.4**
comp=Z,31nm,1.0s
WTTA *e*P **PKKPab 21 27 32.2 +2.6**
comp=Z,54nm,1.4s
WTTA *e*P **P'P'df 21 35 37.1 -1.8**
comp=Z,17nm,1.1s
WHY Whitehorse 106.52 332 Pdiff **Pdif 21 11 44.4 -0.6**
baz=126
ABTA Abfaltersbach 106.75 45 *e*P **Pdif 21 11 46.6 +0.2**
comp=Z,13nm,1.2s,SNR=6.0
ABTA *e*P **PKiKP 21 15 55.9 -0.1**
comp=Z,14nm,1.0s
ABTA *e*P **PKKPbc 21 27 14.7 -1.1**
comp=Z,20nm,1.3s,SNR=5.7
ABTA *e*P **PKKPdf 21 27 28.4 +0.1**
comp=Z,22nm,1.0s
ABTA P **P'P'df 21 35 34.9 -3.3**
comp=Z,9.2nm,1.6s
FARO Faro, Yukon 106.84 334 Pdiff **Pdif 21 11 47.5 +1.2**
baz=126
P30M Million Dollar 107.06 331 Pdiff **Pdif 21 11 48.1 +0.8**
baz=124
O30N Mendenhall 107.07 332 Pdiff **Pdif 21 11 48.2 +0.8**
baz=125
P29M Windy Craggy 107.11 330 Pdiff **Pdif 21 11 48.0 +0.4**
baz=124
M31M Drury Creek, Y 107.22 333 Pdiff **Pdif 21 11 48.9 +0.9**
baz=126
CADS Cadrg 107.26 46 *e*Pdiff **Pdif 21 11 49.8 +1.3**
CADS *e*PP **PP 21 16 15.8 -1.5**
CADS *e* 21 24 37.7
N31M Braeburn, Yuko 107.35 332 Pdiff **Pdif 21 11 48.8 +0.2**
baz=125
MYKA Terra Mystica 107.38 46 *e*P **Pdif 21 11 49.9 +0.8**
MYKA comp=Z,12nm,1.1s
MYKA *e*P **PKKPdf 21 27 26.7 -0.4**
comp=Z,8.0nm,1.0s
RES Resolute Bay 107.41 353 PKKPbc PKKPbc 21 27 11.7 -2.7
baz=337,slow=5.6
KBA Koelnbreinsper 107.41 45 *e*P **PKKPbc 21 27 11.7 -2.1**
comp=Z,18nm,1.2s
KBA *e*P **PKKPdf 21 27 26.8 -0.4**
comp=Z,20nm,1.1s
LJU Ljubljana 107.66 47 *e*PP **PP 21 16 17.5 -2.8**
LJU *e*Pdiff **Pdif 21 11 51.4 +1.1**
LJU *e*SKSac **SKSac 21 22 22.3 +2.5**
LJU *e*SKKSac **SKKSac 21 23 13.0 +0.4**
LJU *e*SP **SP 21 25 28.7 -1.9**
LJU *e* 21 48 43.5
HYT Haines Junctio 107.67 331 Pdiff **Pdif 21 11 49.9 -0.3**
baz=124
DILA Dilla 107.76 93 *e*P **Pdif 21 11 55.0 +3.3**
O29M Mount Kennedy 107.83 331 Pdiff **Pdif 21 11 50.6 -0.3**
baz=123
PNL Peninsula 107.84 330 Pdiff **Pdif 21 11 51.3 +0.5**
baz=122
N30M Aishikik Lake 107.86 332 Pdiff **Pdif 21 11 52.0 +1.2**
baz=124
BIOA Bad Ischl, Aus 107.87 45 *e*P **Pdif 21 11 51.3 0.0**
comp=Z,15nm,1.8s
BIOA *i* P **PKiKP 21 15 59.0 +1.0**
comp=Z,4.3nm,0.5s
BIOA *e*P **PKKPbc 21 27 11.3 -0.9**
comp=Z,9.1nm,1.3s
BIOA *e*P **PKKPdf 21 27 25.7 -0.5**
comp=Z,27nm,1.3s
OBKA Obir 107.89 46 *e*P **Pdif 21 11 52.5 +1.0**
comp=Z,9.1nm,1.3s
OBKA *e*P **PKiKP 21 15 59.2 +1.1**
comp=Z,22nm,1.1s
YUK6 Outpost Mounta 108.09 331 Pdiff **Pdif 21 11 52.6 +0.4**
baz=123
SOKA Soboth 108.26 46 *e*P **Pdif 21 11 53.6 +0.5**
comp=Z,4.7nm,1.1s
SOKA *e*P **PKiKP 21 15 58.9 0.0**
comp=Z,13nm,1.0s
SOKA *e*P **PKKPbc 21 27 11.1 +0.1**
comp=Z,13nm,1.2s
DOBS Dobrina 108.29 47 *e*Pdiff **Pdif 21 11 54.4 +1.3**
MOA Molln 108.32 45 *e*P **Pdif 21 11 53.3 +0.1**
comp=Z,10nm,1.7s
MOA *e*P **PKiKP 21 15 59.4 +0.6**
comp=Z,5.7nm,0.8s
MOA *e*P **PKKPbc 21 27 10.2 -0.6**
comp=Z,17nm,1.1s
MOA *e*P **PKKPdf 21 27 24.2 -1.1**
comp=Z,22nm,1.1s
NKC Novy Kostel 108.34 42 *e*PDIFF **Pdif 21 11 57.4 +4.1**
NKC *e*PKP **PKiKP 21 15 59.5 +0.7**
NKC *e*PP **PP 21 16 18.6 -6.6**
NKC *e*PKP **PKKPbc 21 27 10.8 0.0**
NKC *ex* x 21 27 23.8
NKC AMS AMS 21 52 20.0
comp=Z,4μm,23.7s
NKC Novy Kostel 108.34 42 *e*P **Pdif 21 11 57.4 +4.1**
NKC MLR MLR
comp=Z,4μm,23.7s
M30M Minto, Yukon 108.36 333 Pdiff **Pdif 21 11 53.3 +0.3**
baz=124
C36M Paulatuk 108.39 342 Pdiff **Pdif 21 11 52.4 -0.5**
baz=132
YUK4 Talbot Arm 108.42 331 Pdiff **Pdif 21 11 53.9 +0.3**
baz=122
PINM Pinnacle 108.43 330 Pdiff **Pdif 21 11 52.5 -1.0**
baz=122
GERES GERESS Array B 108.44 44 Pdiff **Pdif 21 11 55.1 +1.3**
comp=Z,1.2nm,0.9s,baz=232,slow=3.2,SNR=7.2
GERES PKiKP **PKiKP 21 15 59.6 +0.5**
comp=Z,15nm,0.9s,baz=199,slow=2.4,SNR=25
GERES PP **PP 21 16 28.9 +3.0**
comp=Z,6.9nm,0.9s,baz=201,slow=2.3,SNR=4.5
GERES PKKPbc **PKKPbc 21 27 10.5 0.0**
comp=Z,14nm,1.0s,baz=60,slow=3.2,SNR=22
GERES PKKP **PKKPdf 21 27 23.9 -1.3**
comp=Z,27nm,1.1s,baz=62,slow=6.2,SNR=15
GERES PKPPKP P'P'df 21 35 23.5 -11
comp=Z,1.0nm,0.9s,baz=5.7,slow=1.0,SNR=4.5
KHC Kasperske Hory 108.49 43 *e*PDIFF **Pdif 21 11 52.0 -2.0**
KHC *ex* x 21 12 02.0
KHC *e*PKP **PKiKP 21 15 59.0 -0.1**
KHC *ep*PKP **PP 21 16 19.2 -7.1**
KHC *e*SKS **SKSac 21 22 13.8 -9.5**
KHC *e*PKKP **PKKPbc 21 27 10.3 0.0**
KHC *ex* x 21 27 23.2
KHC AMS AMS 21 54 40.0
comp=Z,5μm,25.3s
KHC Kasperske Hory 108.49 43 *e*P **Pdif 21 11 52.0 -2.0**
KHC MLR MLR
comp=Z,5μm,25.3s
MAYO Mayo, Yukon 108.58 334 Pdiff **Pdif 21 11 55.0 +1.0**
baz=124
O28M Mount Upton 108.76 331 Pdiff **Pdif 21 11 55.9 +0.7**
baz=121
CKRC Cesky Krumlov 108.78 44 *e*PDIFF **Pdif 21 11 49.6 -5.7**
CKRC *e*PKP **PKiKP 21 16 00.0 +0.3**
CKRC *e*PP **PP 21 16 18.6 -10**
CKRC *e*SKS **SKSac 21 22 17.5 -7.0**
CKRC *e*PKKP **PKKPbc 21 27 09.2 -0.1**
CKRC *ex* x 21 27 22.3
ARSA Arzberg 108.81 46 *e*P **Pdif 21 11 55.8 +0.4**
comp=Z,7.0nm,1.4s
ARSA *i* P **PKiKP 21 15 59.7 -0.1**
comp=Z,7.6nm,0.7s
ARSA *e*P **PKKPbc 21 27 09.2 0.0**
comp=Z,5.1nm,1.1s
ARSA *e*P **PKKPab 21 27 21.2 +2.1**
comp=Z,9.5nm,1.2s
YUK8 Steele Glacier 108.85 331 Pdiff **Pdif 21 11 56.2 +0.6**
baz=122
M29M Somme Creek 108.94 333 Pdiff **Pdif 21 11 56.7 +1.0**
baz=122
TIR Tirane 109.05 53 ⇓P **PKiKP 21 16 02.5 +2.1**
PDG Podgorica 109.10 52 ⇓P **PKiKP 21 16 01.0 +0.6**
CLL Collm 109.15 41 ⇓*i*Pdif **Pdif 21 11 58.3 +1.6**
comp=Z,44nm,1.8s
CLL *ep*Pdif **pPdif 21 12 27.0 +1.3**
CLL ⇓*i*PKiKP **PKiKP 21 16 00.5 +0.3**
comp=Z,43nm,1.3s
CLL *i* x x 21 16 07.4
CLL *e*PP **PP 21 16 27.0 -3.9**
CLL *es*PKiKP sPKiKP 21 16 44.0 +2.2
CLL *ep*PP 21 16 57.0
CLL *es*PP 21 17 12.0
CLL *ex* x 21 17 22.0
CLL *e*SKSac **SKSac 21 22 24.0 -1.8**
CLL *e*SKKSac **SKKSac 21 23 21.0 -1.6**
CLL *e*Sdif **Sdif 21 24 00.0 +2.8**
CLL *e*SP **SP 21 25 40.0 -5.4**
CLL *e*PS PS 21 25 59.0 0.0
CLL *es*PS 21 26 35.0
CLL *e*PPS PPS 21 27 00.0
CLL *i* PKKPbc **PKKPbc 21 27 07.6 -0.6**
comp=Z,16nm,0.9s
CLL *i* PKKPab **PKKPab 21 27 19.7 +2.3**
comp=Z,48nm,1.2s
CLL *es*PPS 21 27 39.0
CLL *e*(SKKPbc) 21 30 42.0
CLL *e*SS SS 21 31 30.0 -13
CLL *es*SS 21 32 30.0
CLL *e*PPPrev 21 35 00.0
CLL *e*SSS SSS 21 36 06.0
CLL *e*SSSS 21 39 06.0
CLL Collm 109.15 41 ⇓*i*P **Pdif 21 11 58.3 +1.6**
CLL *e* 21 22 24.0
CLL pmax pmax
comp=Z,44nm,1.8s
CLL pmax pmax
comp=Z,48nm,1.2s
L29M L29M 109.16 333 Pdiff **Pdif 21 11 57.4 +0.7**
baz=122
MESA MESA 109.21 330 Pdiff **Pdif 21 11 57.6 +0.6**
baz=120
NEEM North Greenlan 109.31 4 *i* P **Pdif 21 11 56.4 -1.0**
CONA Conrad Observa 109.32 45 *e*P **Pdif 21 11 57.6 -0.2**
comp=Z,4.5nm,1.2s
CONA *i* P **PKiKP 21 16 00.9 +0.2**
comp=Z,7.9nm,0.7s
CONA *e*P **PKKPbc 21 27 07.7 0.0**
comp=Z,18nm,1.2s,SNR=5.0
CONA *e*P **PKKPab 21 27 19.3 +2.4**
comp=Z,31nm,1.2s
K29M Barlow Dome 109.33 334 Pdiff **Pdif 21 11 57.8 +0.3**
baz=123
FURI Furi 109.34 91 *e*P **Pdif 21 11 57.3 -1.6**
YUK3 Moose Creek 109.39 331 Pdiff **Pdif 21 11 58.1 +0.2**
baz=121
PRU Pruhonice 109.44 43 *e*PDIFF **Pdif 21 11 50.7 -7.4**
PRU *e*PKP **PKiKP 21 16 00.5 -0.3**
PRU *ep*PKP PP 21 16 25.1 -8.0
PRU *e*SKS **SKSac 21 22 22.0 -5.1**
PRU *e*PKKP **PKKPbc 21 27 07.0 -0.2**
PRU *ex* x 21 27 18.8
PRU AMS AMS 21 55 20.0
comp=Z,4μm,25.5s
PRU Pruhonice 109.44 43 *e*P **Pdif 21 11 50.7 -7.4**
PRU *e* 21 22 22.0
PRU *e* 21 27 07.0
PRU MLR MLR
comp=Z,4μm,25.5s
AAE Adis Abeba 109.48 91 *e*P **Pdif 21 12 00.4 +0.9**
AAE IAMs_20 IAMs_20 21 47 10.6
comp=N,13μm,32.5s
BRG Berggiesshubel 109.48 42 ⇓Pdif **Pdif 21 11 55.0 -3.3**
BRG Amp 21 12 09.4
comp=Z,13nm,1.5s
BRG *i* PKiKP **PKiKP 21 16 01.6 +0.8**
BRG Amp 21 16 04.4
comp=Z,32nm,1.2s
BRG *i* PP **PP 21 16 31.9 -1.4**
BRG Amp 21 16 33.1
comp=Z,207nm,2.1s
BRG *ex* x 21 16 57.6
BRG Amp 21 17 10.6
comp=Z,52nm,1.6s
BRG Berggiesshubel 109.48 42 SP SP 21 25 44.0 -4.7
BRG ⇓*e*PKKPf 21 27 06.6
BRG Amp 21 27 08.5
comp=Z,27nm,1.1s
BRG ⇑*i*PKKPb 21 27 19.0
BRG Amp 21 27 20.5
comp=Z,62nm,1.3s
BRG Berggiesshubel 109.48 42 P **Pdif 21 11 55.0 -3.3**
BRG pmax pmax
comp=Z,13nm,1.5s
RONA Rosalia, Austr 109.48 46 *i* P **PKiKP 21 16 00.6 -0.5**
comp=Z,4.5nm,0.5s
RONA *e*P **PKKPbc 21 27 06.8 -0.3**
comp=Z,3.6nm,0.8s
RONA *e*P **PKKPab 21 27 18.7 +2.6**
comp=Z,10nm,0.9s
OHR Ohrid 109.58 53 *i* P **PKiKP 21 16 03.3 +1.8**
BER Bergen 109.60 30 *e*Pdif **Pdif 21 11 59.1 +0.6**
BER IVmBBB 21 12 31.0
comp=Z,2μm,3.9s
BER *e*PP **PP 21 16 33.2 -0.7**
BER *e*SP SP 21 25 49.3 0.0
BER IVMs_BB IVMs_BB 21 59 13.8
comp=Z,2μm,3.8s
BLS5 Blasjo 109.62 32 *e*Pdif **Pdif 21 11 58.2 -0.5**
BLS5 *e*PP **PP 21 16 33.4 -0.8**
BLS5 *e*SP SP 21 25 49.7 0.0
BLS5 IVMs_BB IVMs_BB 21 56 19.1
comp=Z,3μm,4.2s
SUE Sulen 109.69 30 *e*Pdif **Pdif 21 11 59.3 +0.4**
SUE *e*PP **PP 21 16 34.2 -0.3**
SUE *e*SP SP 21 25 48.5 -1.7
TREC Trest 109.69 44 *e*PDIFF **Pdif 21 11 54.5 -4.8**
TREC *e*PKP **PKiKP 21 16 01.7 +0.3**
TREC *ep*PKP **PP 21 16 28.5 -6.4**
TREC *e*SKS **SKSac 21 22 24.0 -4.3**
TREC *e*PKKP **PKKPbc 21 27 06.0 -0.4**
TREC *ex* x 21 27 17.8
TREC AMS AMS 21 55 30.0
comp=Z,4μm,28.8s
TREC Trest 109.69 44 *e*P **Pdif 21 11 54.5 -4.8**
TREC *e* 21 22 24.0
TREC *e* 21 27 06.0
TREC MLR MLR
comp=Z,4μm,28.8s
PVCC Panska Ves 109.69 42 *e*PDIFF **Pdif 21 11 56.0 -3.2**
PVCC *e*PKP **PKiKP 21 16 02.1 +0.8**
PVCC *ep*PKP PP 21 16 25.6 -9.3
PVCC *e*PKKP **PKKPbc 21 27 06.9 +0.5**
PVCC *ex* x 21 27 18.0
PVCC AMS AMS 21 54 30.0
comp=Z,4μm,32.3s
PVCC Panska Ves 109.69 42 *e*P **Pdif 21 11 56.0 -3.2**
PVCC *e* 21 27 06.9
PVCC MLR MLR
comp=Z,4μm,32.3s
BVCY Beaver Creek 109.88 332 Pdiff **Pdif 21 12 00.3 +0.5**
baz=120
J29M Klondike Camp 109.91 334 Pdiff **Pdif 21 12 00.4 +0.4**
baz=122
ODD1 Odda 109.94 31 *e*Pdif **Pdif 21 11 59.6 -0.5**
ODD1 *e*PP **PP 21 16 35.5 -0.9**
ODD1 *e*SP SP 21 25 51.0 -1.7
HOMB Homborsund 110.01 33 *e*Pdif **Pdif 21 12 00.2 -0.2**
HOMB IVmB_BB 21 12 04.4
comp=Z,2μm,2.7s
HOMB *e*PP **PP 21 16 36.2 -0.8**
HOMB *e*SP SP 21 25 52.5 -0.9
HOMB IVMs_BB IVMs_BB 21 59 18.5
comp=Z,3μm,4.2s
F31M Tsiigehtchic 110.02 338 Pdiff **Pdif 21 12 00.8 +0.6**
baz=125
IDI Anoyia 110.05 60 ⇓P **PKiKP 21 16 01.5 -1.1**
IDI Anoyia 110.05 60 PKiKP **PKiKP 21 16 04.1 +1.5**
comp=Z,15nm,0.9s,baz=283,slow=3.6,SNR=5.7
IDI PKKPbc **PKKPbc 21 27 04.2 -0.6**
comp=Z,21nm,1.0s,baz=91,slow=1.5,SNR=7.2
FOO Floro 110.07 29 *e*Pdif **Pdif 21 12 00.1 -0.5**
FOO *e*PP **PP 21 16 36.7 -0.6**
FOO *e*SP SP 21 25 53.3 -0.5
RUE Ruedersdorf 110.10 40 *e*P **PKiKP 21 16 03.2 +1.3**
KRUC Moravsky 110.13 44 *e*PKIKP **PKiKP 21 16 02.3 +0.1**
KRUC *e* 21 16 31.5
KRUC *e*PKKP **PKKPbc 21 27 05.1 +0.1**
KRUC *e* 21 27 16.6
DAWY Dawson 110.15 334 Pdiff **Pdif 21 12 01.0 0.0**
baz=121
ZST Bratislava 110.19 45 *e*PP **PP 21 16 35.9 -2.6**
MCARA McCarthy VSAT 110.26 330 Pdiff **Pdif 21 12 01.8 +0.3**
baz=119
M27K Edge Creek, AK 110.26 332 Pdiff **Pdif 21 12 00.4 -1.2**
baz=120
MORH Mrgy, Hungar 110.31 48 ⇑P **PKiKP 21 16 02.5 0.0**
MORH Mrgy, Hungar 110.31 48 ⇑P **PKKPbc 21 27 04.1 -0.1**
VRAC Vranov 110.35 44 ⇓P **PKiKP 21 16 02.5 0.0**
VRAC Vranov 110.35 44 ⇑P **PKKPbc 21 27 05.1 +0.9**
VRAC Vranov 110.35 44 PKiKP **PKiKP 21 16 02.6 0.0**
comp=Z,15nm,1.0s,baz=286,slow=1.1,SNR=12
VRAC PKKPbc **PKKPbc 21 27 05.0 +0.7**
comp=Z,4.7nm,0.8s,baz=76,slow=2.7,SNR=6.2
VRAC PKKPab **PKKPab 21 27 12.8 +0.6**
comp=Z,27nm,1.1s,baz=75,slow=4.0,SNR=12

VRAC	**Vranov**	**110.35**	**44**	*e*PKIKP	**PKiKP**	**21 16 02.8**	**+0.2**
VRAC				*e*		21 16 32.4	
VRAC				*e*PKKP	**PKKPbc**	**21 27 04.2**	**-0.1**
VRAC				*e*		21 27 15.6	
MODS	**Modra-Piesok**	**110.37**	**45**	*e*PDIFF	**Pdif**	**21 12 03.8**	**+1.5**
MODS	**Modra-Piesok**	**110.37**	**45**	*e*PKP	**PKiKP**	**21 16 03.2**	**+0.5**
MODS				*e*PP	**PP**	**21 16 36.2**	**-3.7**
MODS				*e*		21 27 04.6	
MODS				*e*		21 27 15.9	
MODS	**Modra-Piesok**	**110.37**	**45**	*e*P	**Pdif**	**21 12 03.8**	**+1.5**
MODS				*e*		21 16 03.2	
MODS				*e*		21 16 36.2	
MODS				*e*		21 27 04.6	
MODS				*e*		21 27 15.9	
EPYK	**Eagle Plains**	**110.40**	**336**	Pdiff	**Pdif**	**21 12 02.4**	**+0.4**
	baz=122						
I29M	**Ogilvie Camp,**	**110.42**	**335**	Pdiff	**Pdif**	**21 12 02.1**	**-0.1**
	baz=122						
INK	**Inuvik**	**110.44**	**339**	PKiKP	**PKiKP**	**21 16 01.6**	**-0.5**
	comp=Z,17nm,1.0s,baz=119,slow=2.8,SNR=4.0						
INK				PKKPbc	**PKKPbc**	**21 27 03.3**	**-1.2**
	comp=Z,22nm,1.0s,baz=317,slow=4.2,SNR=12						
INK				PKKPab	**PKKPab**	**21 27 12.8**	**+1.9**
	comp=Z,29nm,1.0s,baz=304,slow=5.5,SNR=10						
INK				PKPPKP	**P'P'df**	**21 35 28.8**	**-0.7**
	comp=Z,3.9nm,0.9s,baz=265,slow=2.6,SNR=3.5						
INK	**Inuvik**	**110.44**	**339**	Pdiff	**Pdif**	**21 12 02.3**	**+0.2**
	baz=125						
A36M	**Sachs Harbour**	**110.44**	**344**	Pdiff	**Pdif**	**21 12 02.0**	**0.0**
	baz=131						
UPC	**Upice**	**110.51**	**43**	*e*PDIFF	**Pdif**	**21 11 59.6**	**-3.3**
UPC				*e*PKP	**PKiKP**	**21 16 03.7**	**+0.9**
UPC				*ep*PKP	PP	21 16 29.8	-11
UPC				*e*SKS	**SKSac**	**21 22 32.8**	**+1.2**
UPC				*e*PKKP	**PKKPbc**	**21 27 03.8**	**0.0**
UPC				*ex*	x	21 27 14.2	
UPC				AMS	AMS	21 52 00.0	
	comp=Z,3μm,21.6s						
UPC	**Upice**	**110.51**	**43**	*e*P	**Pdif**	**21 11 59.6**	**-3.3**
UPC				*e*		21 16 03.7	
UPC				*e*		21 16 29.8	
UPC				*e*		21 22 32.8	
UPC				*e*		21 27 03.8	
UPC				*e*		21 27 14.2	
UPC				MLR	MLR		
	comp=Z,3μm,21.6s						
G30M	**tAoh Zraii Nji**	**110.56**	**337**	Pdiff	**Pdif**	**21 12 03.3**	**+0.5**
	baz=123						
L27K	**Beaver Creek,**	**110.59**	**332**	Pdiff	**Pdif**	**21 12 03.1**	**+0.2**
	baz=119						
ANKE	**Ethiopia-Afar**	**110.59**	**91**	*e*P	**Pdif**	**21 12 05.8**	**+1.2**
DPC	**Dobruska-Polom**	**110.63**	**43**	*e*PDIFF	**Pdif**	**21 12 04.9**	**+1.4**
DPC				*e*PKP	**PKiKP**	**21 16 03.9**	**+0.8**
DPC				*e*PP	PP	21 16 31.3	-10
DPC				*e*SKS	**SKSac**	**21 22 27.3**	**-4.9**
DPC				*e*PKKP	**PKKPbc**	**21 27 03.7**	**+0.3**
DPC				*ex*	x	21 27 13.7	
DPC				AMS	AMS	21 54 50.0	
	comp=Z,4μm,26.8s						
DPC	**Dobruska-Polom**	**110.63**	**43**	*e*P	**Pdif**	**21 12 04.9**	**+1.4**
DPC				*e*		21 16 03.9	
DPC				*e*		21 16 31.3	
DPC				*e*		21 22 27.3	
DPC				*e*		21 27 03.7	
DPC				MLR	MLR		
	comp=Z,4μm,26.8s						
OSTC	**Ostas**	**110.65**	**43**	*e*PDIFF	**Pdif**	**21 12 01.5**	**-2.0**
OSTC				*e*PKP	**PKiKP**	**21 16 03.9**	**+0.8**
OSTC				*ep*PKP	**PP**	**21 16 35.6**	**-6.3**
OSTC				*e*SKS	**SKSac**	**21 22 32.7**	**+0.5**
OSTC				*e*PKKP	**PKKPbc**	**21 27 03.5**	**+0.2**
OSTC				*ex*	x	21 27 12.2	
OSTC				AMS	AMS	21 56 00.0	
	comp=Z,4μm,30.6s						
JMIC	**Jan Mayen**	**110.68**	**18**	*e*PP	**PP**	**21 16 41.6**	**+0.1**
JMIC				IVmB_BB		21 16 43.6	
	comp=Z,3μm,1.2s						
JMIC				IVMs_BB	IVMs_BB	21 55 23.5	
	comp=Z,4μm,4.3s						
STKA	**Stephens Creek**	**110.69**	**207**	Pdiff	**Pdif**	**21 12 04.7**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=144,slow=1.1,SNR=4.7						
STKA				PKiKP	**PKiKP**	**21 16 03.2**	**-0.8**
	comp=Z,12nm,0.9s,baz=109,slow=3.1,SNR=10						
STKA				PKKPbc	**PKKPbc**	**21 27 01.1**	**-1.4**
	comp=Z,4.0nm,0.5s,baz=327,slow=4.2,SNR=11						
STKA				PKKPab	**PKKPab**	**21 27 12.1**	**-4.4**
	comp=Z,7.1nm,0.9s,baz=309,slow=7.0,SNR=4.4						
BMRM	**Bremner River**	**110.74**	**330**	Pdiff	**Pdif**	**21 12 03.2**	**-0.5**
	baz=118						
M26K	**Nabesna, AK**	**110.74**	**331**	Pdiff	**Pdif**	**21 12 03.4**	**-0.2**
	baz=119						
SRO	**Srobarova**	**110.77**	**46**	*e*PP	**PP**	**21 16 40.0**	**-2.7**
STIP	**Stip**	**110.77**	**53**	*i* P	**PKiKP**	**21 16 04.3**	**+0.7**
KRLC	**Kraliky**	**110.78**	**43**	*e*PDIFF	Pdif	21 11 46.6	-18
KRLC				*e*PKP	**PKiKP**	**21 16 04.3**	**+0.9**
KRLC				*ep*PKP	**PP**	**21 16 38.1**	**-4.7**
KRLC				*e*SKS	**SKSac**	**21 22 35.9**	**+3.1**
KRLC				AMS	AMS	21 56 00.0	
	comp=Z,3μm,25.7s						
KSP	**Ksiaz**	**110.82**	**43**	*e*PKiKP	**PKiKP**	**21 16 04.3**	**+1.0**
KSP				*e*PP	**PP**	**21 16 40.8**	**-2.2**
KSP				*e*L	L	22 00 15.2	
	comp=Z,3μm,24.3s						
VAY	**Valandovo**	**110.89**	**54**	*i* P	**PKiKP**	**21 16 04.3**	**+0.5**
N25K	**Chitina, Valde**	**111.03**	**330**	Pdiff	**Pdif**	**21 12 04.2**	**-0.9**
	baz=118						
SKAR	**Skarslia**	**111.03**	**31**	*e*Pdif	**Pdif**	**21 12 05.7**	**+0.7**
SKAR				*e*PP	**PP**	**21 16 43.9**	**-0.4**
SKAR				*e*SP	SP	21 26 02.5	-0.3
SKAR				*e*SS	**SS**	**21 32 07.6**	**+0.1**
SKAR				IVMs_BB	IVMs_BB	21 53 12.7	
	comp=Z,2μm,4.6s						
EYAK	**Cordova Ski Ar**	**111.04**	**329**	Pdiff	**Pdif**	**21 12 05.1**	**+0.2**
	baz=117						
MORC	**Moravsky Berou**	**111.11**	**44**	⇓P	**PKiKP**	**21 16 04.5**	**+0.5**
MORC	**Moravsky Berou**	**111.11**	**44**	*e*PKIKP	**PKiKP**	**21 16 04.7**	**+0.7**
MORC				*e*		21 16 38.5	
MORC				*e*PKKP	**PKKPbc**	**21 27 00.7**	**-1.1**
MORC				*e*		21 27 12.1	
MORC	**Moravsky Berou**	**111.11**	**44**	⇓PKIKP	**PKiKP**	**21 16 04.5**	**+0.5**
MAUC	**Maruska**	**111.11**	**44**	*e*PDIFF	**Pdif**	**21 12 05.7**	**+0.1**
MAUC				*e*PP	**PP**	**21 16 40.2**	**-5.0**
MAUC				AMS	AMS	21 57 40.0	
	comp=Z,6μm,26.3s						
KONO	**Kongsberg**	**111.15**	**32**	⇓PKIKP	**PKiKP**	**21 16 02.9**	**-0.8**
KONO	**Kongsberg**	**111.15**	**32**	*e*Pdif	**Pdif**	**21 12 04.5**	**-1.0**
KONO				*e*PP	**PP**	**21 16 44.4**	**-0.7**
KONO				*e*SP	SP	21 26 02.0	-1.8
KONO				*e*SS	**SS**	**21 32 07.7**	**-1.2**
KONO				IVMs_BB	IVMs_BB	21 53 02.3	
	comp=Z,1μm,3.9s						
K27K	**Chicken**	**111.16**	**333**	Pdiff	**Pdif**	**21 12 06.1**	**+0.7**
	baz=119						
AKN	**Aaknes**	**111.16**	**29**	*e*Pdif	**Pdif**	**21 12 04.8**	**-0.7**
AKN				IVmB_BB		21 12 12.5	
	comp=Z,2μm,3.6s						
AKN				*e*PP	**PP**	**21 16 44.9**	**-0.3**
AKN				*e*SP	SP	21 26 04.7	+0.8
AKN				*e*SS	**SS**	**21 32 06.2**	**-2.9**
AKN				IVMs_BB	IVMs_BB	21 58 39.4	
	comp=Z,2μm,3.8s						
EGAK	**Eagle**	**111.17**	**334**	Pdiff	**Pdif**	**21 12 04.8**	**-0.6**
	baz=119						
L26K	**Log Cabin Wild**	**111.18**	**332**	Pdiff	**Pdif**	**21 12 05.4**	**-0.2**
	baz=118						
DESE	**Dese**	**111.26**	**90**	*e*P	**Pdif**	**21 12 11.2**	**+3.8**
VYHS	**Vyhne**	**111.36**	**46**	*e*PDIFF	**Pdif**	**21 12 08.2**	**+1.5**
VYHS	**Vyhne**	**111.36**	**46**	*e*PKP	**PKiKP**	**21 16 05.2**	**+0.7**
VYHS				*e*PP	**PP**	**21 16 43.4**	**-3.6**
VYHS				*e*		21 27 01.1	
VYHS				*e*		21 27 11.2	
VYHS	**Vyhne**	**111.36**	**46**	*e*P	**Pdif**	**21 12 08.2**	**+1.5**
VYHS				*e*		21 16 05.2	
VYHS				*e*		21 16 43.4	
VYHS				*e*		21 27 11.2	
OKC	**Ostrava-Krasne**	**111.49**	**44**	*e*PDIFF	**Pdif**	**21 12 06.9**	**-0.3**
OKC				*e*PKP	**PKiKP**	**21 16 05.6**	**+0.9**
OKC				*ep*PKP	PP	21 16 38.2	-10
OKC				*e*PKKP	**PKKPbc**	**21 27 01.0**	**+0.5**
OKC				*ex*	x	21 27 10.3	
OKC				AMS	AMS	21 57 50.0	
	comp=Z,3μm,25.2s						
OKC	**Ostrava-Krasne**	**111.49**	**44**	*e*P	**Pdif**	**21 12 06.9**	**-0.3**
OKC				*e*		21 16 05.6	
OKC				*e*		21 16 38.2	
OKC				*e*		21 27 10.3	
OKC				MLR	MLR		
	comp=Z,3μm,25.2s						
P23K	**Montague Islan**	**111.53**	**328**	Pdiff	**Pdif**	**21 12 06.2**	**-0.9**
	baz=116						
KLU	**Klutina**	**111.54**	**330**	Pdiff	**Pdif**	**21 12 06.7**	**-0.7**
	baz=117						
MOL	**Molde**	**111.57**	**29**	*e*PP	**PP**	**21 16 46.9**	**-1.1**
MOL				*e*SP	SP	21 26 08.0	+0.4
HARP	**HAARP**	**111.63**	**331**	Pdiff	**Pdif**	**21 12 08.3**	**+0.8**
	baz=117						
I27K	**Kandik River**	**111.74**	**335**	Pdiff	**Pdif**	**21 12 07.8**	**-0.2**
	baz=119						
PSZ	**Piszkesteto**	**111.78**	**46**	⇑P	**PKiKP**	**21 16 05.4**	**0.0**
PSZ	**Piszkesteto**	**111.78**	**46**	⇓P	**PKKPbc**	**21 27 00.5**	**+0.9**
PSZ	**Piszkesteto**	**111.78**	**46**	PKP	**PKiKP**	**21 16 06.7**	**+1.3**
PSZ	**Piszkesteto**	**111.78**	**46**	⇑PKIKP	**PKiKP**	**21 16 05.4**	**0.0**
VTS	**Vitosha**	**111.86**	**53**	⇓P	**PKiKP**	**21 16 06.2**	**+0.4**
VTS	**Vitosha**	**111.86**	**53**	⇓PKIKP	**PKiKP**	**21 16 06.2**	**+0.4**
SCRK	**Sand Creek**	**111.87**	**333**	Pdiff	**Pdif**	**21 12 08.2**	**-0.5**
	baz=117						
M24K	**Tolsona, Glenn**	**111.92**	**330**	Pdiff	**Pdif**	**21 12 08.8**	**-0.2**
	baz=116						
J26L	**Joseph Creek**	**111.95**	**333**	Pdiff	**Pdif**	**21 12 09.4**	**+0.3**
	baz=118						
BZS	**Buzias**	**111.97**	**49**	⇑P	**PKiKP**	**21 16 06.1**	**+0.3**
DOMB	**Dombas**	**111.97**	**30**	*e*Pdif	**Pdif**	**21 12 09.8**	**+0.7**
DOMB				*e*PP	**PP**	**21 16 50.8**	**-0.2**
DOMB				*e*SP	SP	21 26 11.2	-0.2
H27K	**Steamboat Moun**	**112.01**	**335**	Pdiff	**Pdif**	**21 12 09.5**	**+0.2**
	baz=118						
PAX	**Paxson**	**112.01**	**331**	Pdiff	**Pdif**	**21 12 09.9**	**+0.5**
	baz=116						
RIDG	**Independent Ri**	**112.11**	**332**	Pdiff	**Pdif**	**21 12 09.4**	**-0.3**
	baz=117						
I26K	**Coal Creek Min**	**112.17**	**334**	Pdiff	**Pdif**	**21 12 09.3**	**-0.6**
	baz=118						
HERR	**Herculane**	**112.20**	**50**	⇓P	**PKiKP**	**21 16 06.9**	**+0.7**
HERR	**Herculane**	**112.20**	**50**	⇑P	**PKKPbc**	**21 26 54.7**	**-3.3**
SIRR	**Siria**	**112.25**	**49**	⇓P	**PKiKP**	**21 16 06.1**	**-0.2**
SIRR	**Siria**	**112.25**	**49**	⇓P	**PKKPbc**	**21 26 58.2**	**+0.3**
SCM	**Sheep Creek Mo**	**112.30**	**330**	Pdiff	**Pdif**	**21 12 10.7**	**+0.1**
	baz=115						
PUNG	**Punghina**	**112.31**	**51**	⇓P	**PKiKP**	**21 16 06.1**	**-0.4**
PWL	**Port Wells**	**112.32**	**329**	Pdiff	**Pdif**	**21 12 09.3**	**-1.4**
	baz=115						
G27K	**Doyon Strip**	**112.33**	**336**	Pdiff	**Pdif**	**21 12 11.3**	**+0.7**
	baz=118						
GKP	**Gorka Klasztor**	**112.33**	**40**	*e*PKiKP	**PKiKP**	**21 16 07.0**	**+0.8**
GKP				*e*PP	**PP**	**21 16 51.8**	**-1.9**
GKP				*e*L	L	21 59 05.8	
	comp=Z,5μm,24.2s						
GKP	**Gorka Klasztor**	**112.33**	**40**	*e*P	**PKiKP**	**21 16 07.8**	**+1.6**
SURR	**Surduc**	**112.35**	**49**	⇓P	**PKiKP**	**21 16 07.1**	**+0.6**
SURR	**Surduc**	**112.35**	**49**	⇑P	**PKKPbc**	**21 26 56.4**	**-1.1**
M23K	**Glacier View**	**112.45**	**330**	Pdiff	**Pdif**	**21 12 11.5**	**+0.3**
	baz=115						
NB2	**NORSAR Subarra**	**112.47**	**31**	PKPdf	**PKiKP**	**21 16 06.2**	**-0.1**
	comp=Z,38nm,1.4s,baz=248,slow=1.9						
NB2				PKKP	**PKKPbc**	**21 26 55.7**	**-2.0**
	comp=Z,83nm,1.2s,baz=67,slow=4.4						
NOA	**NORSAR Array B**	**112.47**	**31**	PKiKP	**PKiKP**	**21 16 06.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=240,slow=2.3,SNR=18						
NOA				PKKPbc	**PKKPbc**	**21 26 55.7**	**-2.0**
	comp=Z,4.5nm,0.8s,baz=262,slow=2.8,SNR=7.4						
NOA				PKKPab	**PKKPab**	**21 27 03.8**	**+1.4**
	comp=Z,44nm,1.1s,baz=68,slow=4.6,SNR=31						
K24K	**Donnelly Dome**	**112.51**	**332**	Pdiff	**Pdif**	**21 12 11.4**	**-0.1**
	baz=116						
SEW	**Seward**	**112.51**	**328**	Pdiff	**Pdif**	**21 12 10.6**	**-0.8**
	baz=114						
KNK	**Knik Glacier**	**112.61**	**329**	Pdiff	**Pdif**	**21 12 11.8**	**-0.2**
	baz=115						
NIE	**Niedzica**	**112.61**	**45**	*e*PKiKP	**PKiKP**	**21 16 08.1**	**+1.1**
NIE				*e*PP	**PP**	**21 16 54.4**	**-1.5**
NIE				*e*SKKSac	SKKSac	21 23 49.1	+2.4
NIE				*e*L	L	21 59 12.9	
	comp=Z,2μm,25.6s						
OJC	**Ojcow**	**112.62**	**44**	*e*PKiKP	**PKiKP**	**21 16 04.6**	**-2.2**
OJC				*e*PP	**PP**	**21 16 51.1**	**-4.8**
OJC				*e*SKKSac	SKKSac	21 23 48.7	+2.1
OJC				*e*L	L	21 59 00.7	
	comp=Z,3μm,31.3s						
GZR	**Gura Zlata**	**112.63**	**50**	⇑P	**PKiKP**	**21 16 05.4**	**-1.7**
GZR	**Gura Zlata**	**112.63**	**50**	⇑P	**PKKPbc**	**21 26 57.0**	**+0.3**
J25K	**Salcha River,**	**112.70**	**333**	Pdiff	**Pdif**	**21 12 12.3**	**-0.1**
	baz=116						
SML	**Sawmill**	**112.72**	**330**	Pdiff	**Pdif**	**21 12 11.5**	**-0.9**
	baz=115						
WAT6	**Susitna Watana**	**112.79**	**330**	Pdiff	**Pdif**	**21 12 12.9**	**0.0**
	baz=115						
LTVH	**Ltavrtes, Hu**	**112.83**	**47**	⇓P	**PKiKP**	**21 16 08.4**	**+1.1**
DHY	**Denali Highway**	**112.84**	**331**	Pdiff	**Pdif**	**21 12 12.5**	**-0.6**
	baz=115						
DEV	**Deva**	**112.90**	**49**	⇑P	**PKiKP**	**21 16 08.1**	**+0.6**
DEV	**Deva**	**112.90**	**49**	⇑PKIKP	**PKiKP**	**21 16 08.1**	**+0.6**
E27K	**Coleen River**	**112.95**	**337**	Pdiff	**Pdif**	**21 12 13.5**	**+0.2**
	baz=118						
BRSE	**Bradley Lake S**	**112.96**	**327**	Pdiff	**Pdif**	**21 12 12.2**	**-1.3**
	baz=114						
PMR	**Palmer**	**112.98**	**329**	Pdiff	**Pdif**	**21 12 12.9**	**-0.6**
	baz=114						
RC01	**Rabbit Creek A**	**113.04**	**329**	Pdiff	**Pdif**	**21 12 14.2**	**+0.3**
	baz=114						
PLVB	**Pleven**	**113.09**	**52**	⇑P	**PKiKP**	**21 16 08.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**113.12**	**46**	*e*PKP	**PKiKP**	**21 16 08.5**	**+0.6**
CRVS				*e*PP	**PP**	**21 16 55.6**	**-4.0**
CRVS				*e*		21 26 55.6	
CRVS				*e*		21 27 03.1	
CRVS	**Cervenica-Dubn**	**113.12**	**46**	*e*PKIKP	**PKiKP**	**21 16 08.5**	**+0.6**
G26K	**Porcupine Rive**	**113.14**	**336**	Pdiff	**Pdif**	**21 12 14.4**	**+0.3**
	baz=116						
PRP	**Porcupine Dome**	**113.15**	**334**	Pdiff	**Pdif**	**21 12 15.2**	**+0.7**
	baz=116						
VLAD	**Vladila**	**113.18**	**52**	⇓P	**PKiKP**	**21 16 07.7**	**-0.4**
VLAD	**Vladila**	**113.18**	**52**	⇓P	**PKKPbc**	**21 26 54.5**	**-0.1**
STHS	**Stebnicka Huta**	**113.18**	**45**	*e*PKP	**PKiKP**	**21 16 07.6**	**-0.4**
STHS				*e*PP	**PP**	**21 16 57.7**	**-2.3**
STHS				*e*		21 26 54.7	
STHS	**Stebnicka Huta**	**113.18**	**45**	*e*PKIKP	**PKiKP**	**21 16 07.6**	**-0.4**
STHS				*e*		21 16 57.7	
OHAK	**Old Harbor**	**113.21**	**324**	Pdiff	**Pdif**	**21 12 14.1**	**-0.6**
	baz=113						
HFS	**Hagfors**	**113.22**	**33**	PKiKP	**PKiKP**	**21 16 07.1**	**-0.6**
	comp=Z,30nm,1.0s,baz=188,slow=3.0,SNR=33						
HFS				PKKPbc	**PKKPbc**	**21 26 53.3**	**-1.7**
	comp=Z,8.2nm,0.6s,baz=93,slow=3.0,SNR=22						
HFS				PKKPab	**PKKPab**	**21 27 00.5**	**+1.5**
	comp=Z,32nm,0.6s,baz=105,slow=3.4,SNR=36						
HDA	**Harding Lake**	**113.23**	**332**	Pdiff	**Pdif**	**21 12 14.8**	**+0.1**
	baz=115						
WAT1	**Susitna Watana**	**113.23**	**331**	Pdiff	**Pdif**	**21 12 14.3**	**-0.4**
	baz=114						
LOT	**Lotru**	**113.30**	**50**	⇓P	**PKiKP**	**21 16 06.7**	**-1.7**
Q20K	**Shuyak Island**	**113.30**	**325**	Pdiff	**Pdif**	**21 12 15.9**	**+0.8**
	baz=113						
HOM	**Homer**	**113.35**	**327**	Pdiff	**Pdif**	**21 12 15.1**	**-0.1**
	baz=113						
ILAR	**Eielson Array**	**113.36**	**333**	Pdiff	**Pdif**	**21 12 15.2**	**0.0**
	comp=Z,2.7nm,1.0s,baz=142,slow=3.3,SNR=15						
ILAR				PKiKP	**PKiKP**	**21 16 08.2**	**+0.4**
	comp=Z,36nm,1.0s,baz=197,slow=0.7,SNR=47						
ILAR				PKKPbc	**PKKPbc**	**21 26 52.5**	**-2.3**
	comp=Z,12nm,0.9s,baz=294,slow=4.1,SNR=12						
ILAR				PKKP	**PKKPdf**	**21 27 16.7**	**+0.6**
	comp=Z,6.8nm,0.9s,baz=322,slow=4.4,SNR=5.4						
SII	**Sitkinak Islan**	**113.41**	**323**	Pdiff	**Pdif**	**21 12 14.9**	**-0.7**
	baz=112						
M22K	**Willow**	**113.47**	**329**	Pdiff	**Pdif**	**21 12 15.5**	**-0.2**
	baz=113						
TRPA	**Tarpa**	**113.50**	**47**	⇓P	**PKiKP**	**21 16 09.1**	**+0.5**
TRPA	**Tarpa**	**113.50**	**47**	⇓P	**PKKPbc**	**21 26 54.0**	**+0.3**
TRPA	**Tarpa**	**113.50**	**47**	P	**Pdif**	**21 12 19.3**	**+3.1**
UZH	**Uzhgorod**	**113.53**	**46**	*e*PKIKP	**PKiKP**	**21 16 08.5**	**-0.1**
UZH				*e*		21 16 35.2	
UZH				*e*		21 17 00.0	
UZH				*e*SS	SS	21 32 40.4	-0.7
UZH				*e*SSS	SSS	21 36 57.0	
CAPN	**Captain Cook N**	**113.55**	**328**	Pdiff	**Pdif**	**21 12 16.1**	**0.0**
	baz=113						
H25L	**Birch Creek**	**113.58**	**334**	Pdiff	**Pdif**	**21 12 17.2**	**+1.1**
	baz=115						
F26K	**Sheenjek River**	**113.59**	**336**	Pdiff	**Pdif**	**21 12 17.4**	**+1.1**
	baz=116						
KOLS	**Kolonicke sedl**	**113.63**	**46**	*e*PKP	**PKiKP**	**21 16 09.9**	**+1.1**
KOLS				*e*		21 26 54.4	
KOLS	**Kolonicke sedl**	**113.63**	**46**	*e*PKIKP	**PKiKP**	**21 16 09.9**	**+1.1**
SUA	**Susitna One**	**113.64**	**329**	Pdiff	**Pdif**	**21 12 17.4**	**+0.7**
	baz=113						
CBBR	**Cluj-Babes-Bol**	**113.64**	**49**	⇓P	**PKiKP**	**21 16 08.6**	**-0.3**
CJR	**Cluj-Napoca**	**113.66**	**49**	⇑P	**PKiKP**	**21 16 09.6**	**+0.6**
CJR	**Cluj-Napoca**	**113.66**	**49**	⇑P	**PKKPbc**	**21 26 54.6**	**+1.3**
CJR	**Cluj-Napoca**	**113.66**	**49**	⇑PKIKP	**PKiKP**	**21 16 09.6**	**+0.6**
POKR	**Poker Flat Res**	**113.71**	**333**	Pdiff	**Pdif**	**21 12 17.1**	**+0.4**
	baz=114						
MCK	**McKinley**	**113.75**	**331**	Pdiff	**Pdif**	**21 12 17.8**	**+0.8**
	baz=113						
HUMR	**Humele**	**113.76**	**51**	⇑P	**PKiKP**	**21 16 08.8**	**-0.4**
HUMR	**Humele**	**113.76**	**51**	⇓P	**PKKPbc**	**21 26 52.1**	**-0.6**
COPA	**Copaceanca**	**113.77**	**52**	⇑P	**PKiKP**	**21 16 10.3**	**+1.1**
COPA	**Copaceanca**	**113.77**	**52**	⇓P	**PKKPbc**	**21 26 53.2**	**+0.6**
COLA	**College**	**113.78**	**333**	Pdiff	**Pdif**	**21 12 17.3**	**+0.3**
	baz=114						
COLA	**College**	**113.78**	**333**	*i* PKIKP	**PKiKP**	**21 16 08.4**	**-0.2**
TCOL	**CIGO, UAF Yank**	**113.78**	**333**	Pdiff	**Pdif**	**21 12 17.4**	**+0.4**
	baz=114						
CUT	**Chulitna**	**113.79**	**330**	Pdiff	**Pdif**	**21 12 17.4**	**+0.3**
	baz=113						
BEL	**Belsk**	**113.80**	**43**	*e*PKiKP	**PKiKP**	**21 16 09.8**	**+0.8**
BEL				*e*L	L	22 02 52.2	
	comp=Z,4μm,19.6s						
ARR	**Arges**	**113.84**	**50**	⇑P	**PKiKP**	**21 16 09.6**	**+0.2**
ARR	**Arges**	**113.84**	**50**	⇑P	**PKKPbc**	**21 26 53.9**	**+1.3**
STFAR	**Stefanesti-Arg**	**113.87**	**51**	⇓P	**PKiKP**	**21 16 10.6**	**+1.2**
CHIR	**Chirikof Islan**	**113.89**	**322**	Pdiff	**Pdif**	**21 12 18.0**	**+0.3**
	baz=111						
G25K	**Bearman Lake**	**113.89**	**335**	Pdiff	**Pdif**	**21 12 18.6**	**+1.2**
	baz=114						
BMR	**Baia Mare**	**113.94**	**48**	⇑P	**PKiKP**	**21 16 09.8**	**+0.3**
BMR	**Baia Mare**	**113.94**	**48**	⇑P	**PKKPbc**	**21 26 52.2**	**0.0**
BMR	**Baia Mare**	**113.94**	**48**	⇑PKIKP	**PKiKP**	**21 16 09.8**	**+0.3**
MDB	**Medias**	**113.95**	**49**	⇓P	**PKiKP**	**21 16 09.0**	**-0.5**
MDB	**Medias**	**113.95**	**49**	⇓PKIKP	**PKiKP**	**21 16 09.0**	**-0.5**
O20K	**Slope Mountain**	**113.97**	**327**	Pdiff	**Pdif**	**21 12 17.9**	**-0.2**
	baz=112						
Q19K	**Cape Douglas,**	**114.02**	**326**	Pdiff	**Pdif**	**21 12 18.8**	**+0.5**
	baz=112						
F25K	**Christian Rive**	**114.07**	**336**	Pdiff	**Pdif**	**21 12 18.7**	**+0.3**
	baz=114						
VOIR		**114.13**	**50**	⇓P	**PKiKP**	**21 16 10.3**	**+0.3**
VOIR		**114.13**	**50**	⇓PKIKP	**PKiKP**	**21 16 10.3**	**+0.3**
NEA2	**Nenana**	**114.14**	**332**	Pdiff	**Pdif**	**21 12 18.5**	**-0.2**
	baz=113						
H24K	**Noodor Dome**	**114.17**	**334**	Pdiff	**Pdif**	**21 12 17.9**	**-1.0**
	baz=113						
SKT	**Skwentna**	**114.18**	**329**	Pdiff	**Pdif**	**21 12 17.4**	**-1.6**
	baz=112						
N20K	**Mount Spurr**	**114.19**	**328**	Pdiff	**Pdif**	**21 12 18.7**	**-0.4**
	baz=112						
SPCR	**Spurr Chakacha**	**114.19**	**328**	Pdiff	**Pdif**	**21 12 18.4**	**-0.6**
	baz=112						
ATD	**Arta Tunnel**	**114.20**	**91**	PKKPbc	PKKPbc	21 26 53.1	+2.6
	comp=Z,8.4nm,0.8s,baz=12,slow=12,SNR=4.3						
TRF	**Thorofare Moun**	**114.20**	**331**	Pdiff	**Pdif**	**21 12 18.2**	**-1.0**
	baz=112						
E25K	**Arctic Village**	**114.26**	**336**	Pdiff	**Pdif**	**21 12 18.1**	**-1.1**
	baz=114						
ARCR	**ARCALIA

COLD	Coldfoot	115.56	335		PKiKP	PKiKP	21 16 12.9	+0.9		
	baz=111									
ODBI	Odobesti	115.57	51	⇑	P	PKiKP	21 16 13.3	+0.7		
ODBI	Odobesti	115.57	51	⇓	P	PKKPbc	21 26 48.4	+1.9		
NWAO	Narrogin (SRO)	115.59	185		PKP	PKiKP	21 16 12.9	-0.4		
	baz=18,slow=1.9									
E23K	Chandalar	115.64	336		PKiKP	PKiKP	21 16 12.5	+0.2		
	baz=111									
PANC	Panciu	115.67	50	⇓	P	PKPdf	21 16 12.6	-0.2		
CHNA	Chernabura Isl	115.68	320		PKiKP	PKiKP	21 16 12.5	0.0		
	baz=109									
N18K	Kilae Creek	115.69	327		PKiKP	PKPdf	21 16 12.2	-0.2		
	baz=109									
L19K	White Mountain	115.72	329		PKiKP	PKPdf	21 16 12.4	-0.1		
	baz=109									
K20K	Telida	115.76	330		PKiKP	PKPdf	21 16 12.5	0.0		
	baz=109									
HARR	Harsova	115.79	52	⇓	P	PKiKP	21 16 13.3	+0.3		
TLBR	Topaliu	115.82	52	⇑	P	PKiKP	21 16 13.8	+0.7		
TOLK	Toolik Lake Re	115.83	336		PKiKP	PKiKP	21 16 12.7	+0.2		
	baz=111									
PBUR	Paburge	115.86	39		eP	PKiKP	21 16 13.7	+0.9		
GHRR		115.90	50	⇑	P	PKiKP	21 16 13.7	+0.4		
TUDR		115.92	51	⇑	P	PKiKP	21 16 14.0	+0.7		
C24K	Franklin Bluff	115.92	338		PKiKP	PKiKP	21 16 13.1	+0.5		
	baz=111									
G22K	Bettles	115.93	334		PKiKP	PKiKP	21 16 13.2	+0.5		
	baz=110									
IZVR	Izvoarele	115.96	51	⇑	P	PKPdf	21 16 13.3	0.0		
O17K	Koliganek Bris	115.97	326		PKiKP	PKPdf	21 16 12.8	-0.1		
	baz=108									
SLCR	Slobozia Conac	115.98	51	⇑	P	PKiKP	21 16 14.5	+1.1		
H21K	Melozitna Rive	116.00	333		PKiKP	PKiKP	21 16 13.1	+0.2		
	baz=109									
TIRR	Tirgusor	116.03	52	⇑	P	PKPdf	21 16 13.3	-0.2		
TIRR	Tirgusor	116.03	52	⇑	P	PKPdf	21 16 13.3	-0.2		
J20K	Nowinta River	116.06	331		PKiKP	PKiKP	21 16 13.0	0.0		
	baz=109									
CFR	Carcaliu	116.09	51	⇑	P	PKPdf	21 16 13.3	-0.3		
BIR	Birlad	116.11	50	⇑	P	PKiKP	21 16 14.8	+1.2		
BIR	Birlad	116.11	50	⇑	PKIKP	PKiKP	21 16 14.8	+1.2		
GISR	Galati	116.12	51	⇑	P	PKiKP	21 16 14.5	+0.8		
VARL	Varlezi	116.14	51	⇑	P	PKPdf	21 16 13.4	-0.3		
SCTR	Scanteiesti	116.16	51	⇑	P	PKiKP	21 16 14.1	+0.4		
TATR	Tatarca	116.17	51	⇑	P	PKiKP	21 16 14.5	+0.7		
TPGR	Topolog	116.17	52	⇑	P	PKPdf	21 16 13.3	-0.5		
P16K	Nushagak River	116.18	325		PKiKP	PKPdf	21 16 12.5	-0.8		
	baz=108									
GIUM	Giurgiulesti	116.24	51	⇑	P	PKiKP	21 16 15.3	+1.4		
VLDR	Vladesti	116.27	51	⇓	P	PKPdf	21 16 13.9	0.0		
CSS	Mathiatis	116.28	64		PKPdf	PKiKP	21 16 15.6	+1.2		
D23K	Nanushuk River	116.32	336		PKiKP	PKPdf	21 16 12.0	-1.4		
	baz=110									
SDPT	Sand Point	116.33	320		PKiKP	PKPdf	21 16 11.9	-1.8		
	baz=108									
IAS	Iasi	116.36	49	⇓	P	PKPdf	21 16 13.2	-0.9		
IAS	Iasi	116.36	49	⇓	PKIKP	PKPdf	21 16 13.2	-0.9		
F22K	John River	116.37	335		PKiKP	PKiKP	21 16 13.9	+0.4		
	baz=109									
O16K	Kokwok River B	116.40	325		PKiKP	PKPdf	21 16 13.1	-0.7		
	baz=108									
E22K	Anaktuvuk Pass	116.44	335		PKiKP	PKiKP	21 16 13.9	+0.1		
	baz=109									
JURR	Jurilovca	116.45	52	⇓	P	PKiKP	21 16 15.2	+0.8		
TTA	Tatalina	116.46	329		PKiKP	PKiKP	21 16 14.7	+0.7		
	baz=108									
IMAR	Indian Mountai	116.47	333		PKPdf	PKiKP	21 16 14.6	+0.8		
SLIT	Slitere, Latvi	116.55	37		eP	PKPdf	21 16 13.9	-0.2		
G21K	Allakaket	116.55	334		PKiKP	PKiKP	21 16 14.5	+0.5		
	baz=108									
LEOM	Leova	116.58	50	⇑	P	PKiKP	21 16 15.0	+0.5		
C23K	Itkillik River	116.59	337		PKiKP	PKiKP	21 16 14.5	+0.6		
	baz=109									
F21K	Alatna River	116.76	334		PKiKP	PKiKP	21 16 14.9	+0.5		
	baz=108									
PABE	Paberze	116.80	40		eP	PKiKP	21 16 15.3	+0.7		
VSVD	Vaisvydziai	116.92	39		eP	PKiKP	21 16 15.5	+0.6		
N16K	Nishlik Lake	116.98	326		PKiKP	PKPdf	21 16 14.5	-0.5		
	baz=107									
MILM	Milestii Mici	117.09	50	⇓	iPKP	PKPdf	21 16 15.0	-0.5		
	comp=Z,700nm,1.9s									
MILM					ePPKP	pPKPdf	21 16 43.0	-2.7		
MILM	Milestii Mici	117.09	50		iPP	PP	21 17 20.0	-7.5		
MILM					eSKS	SKSac	21 22 56.0	-1.3		
MILM					eSKKS	SKKSac	21 24 14.0	-2.8		
MILM	Milestii Mici	117.09	50		ePS	PS	21 27 00.0	-12		
MILM	Milestii Mici	117.09	50		LRM	MLR	22 00 26.0			
	comp=Z,3μm,17.0s									
MILM	Milestii Mici	117.09	50	⇑	P	PKPdf	21 16 15.1	-0.5		
MILM	Milestii Mici	117.09	50	d	PKIKP	PKPdf	21 16 15.0	-0.5		
MILM					e		21 16 43.0			
MILM					e		21 22 56.0			
MILM					e		21 23 15.0			
MILM					ePS	PKKPdf	21 27 00.0	-8.5		
MILM					e		21 33 24.0			
MILM					pmax	pmax				
	comp=Z,700nm,1.9s									
MILM	Milestii Mici	117.09	50	e	PPS	PPS	21 28 06.0			
MILM	Milestii Mici	117.09	50	e	L	L	21 54 13.0			
KIS	Kishinev	117.12	50	⇓	iPKP	PKPdf	21 16 15.0	-0.6		
	comp=Z,170nm,1.0s									
KIS					epPKP	pPKPdf	21 16 42.0	-3.7		
KIS	Kishinev	117.12	50	e	PP	PP	21 17 20.0	-7.7		
KIS					eSKS	SKSac	21 22 56.0	-1.5		
KIS					eSKKS	SKKSac	21 24 14.0	-3.0		
KIS	Kishinev	117.12	50	e	PS	PS	21 27 01.0	-11		
KIS	Kishinev	117.12	50		LRM	MLR	22 00 36.0			
	comp=Z,900nm,19.0s									
KIS	Kishinev	117.12	50	⇑	P	PKiKP	21 16 15.7	+0.1		
KIS	Kishinev	117.12	50	d	iPKIKP	PKPdf	21 16 15.0	-0.6		
KIS					e		21 16 42.0			
KIS					e		21 22 56.0			
KIS					ePS	PKKPdf	21 27 01.0	-7.4		
KIS					pmax	pmax				
	comp=Z,170nm,1.0s									
KIS	Kishinev	117.12	50	e	PPS	PPS	21 28 06.0			
KIS	Kishinev	117.12	50	e	L	L	21 55 01.0			
SORM	Soroca	117.17	48	⇓	P	PKPdf	21 16 15.0	-0.6		
SORM	Soroca	117.17	48	⇓	PKIKP	PKPdf	21 16 15.0	-0.6		
MMAI	Mount Meron Ar	117.17	66		PKP	PKiKP	21 16 16.8	+0.5		
	comp=Z,26nm,0.8s,baz=85,slow=1.9,SNR=29									
MMAI					PKKPbc	PKKPbc	21 26 41.8	+1.2		
	comp=Z,16nm,0.8s,baz=63,slow=5.7,SNR=11									
MMAI					PKKP	PKKPdf	21 27 12.0	+4.0		
	comp=Z,22nm,1.0s,baz=46,slow=2.4,SNR=5.1									
RAF	Rauma	117.27	33		eP	PKiKP	21 16 16.1	+0.7		
S12K	Black Hills	117.29	321		PKiKP	PKPdf	21 16 14.9	-0.7		
	baz=107									
GCSA	Galena City Sc	117.36	331		PKiKP	PKiKP	21 16 15.9	+0.4		
	baz=106									
ANTO	Ankara	117.58	58	⇑	P	PKiKP	21 16 17.5	+0.7		
ANTO	Ankara	117.58	58	⇓	P	PKKPbc	21 26 40.8	+1.5		
ANTO	Ankara	117.58	58	⇑	PKIKP	PKiKP	21 16 17.5	+0.7		
MTSE	Matsula	117.63	36		eP	PKiKP	21 16 16.6	+0.4		
PURM	Purcari	117.67	50	⇓	P	PKiKP	21 16 16.9	+0.2		
FALS	False Pass	117.80	319		PKiKP	PKPdf	21 16 15.8	-0.8		
	baz=106									
IIGN	Ignalina	117.98	40		eP	PKiKP	21 16 17.5	+0.5		
ASF	Jabal al Asfar	118.04	68		PKP	PKiKP	21 16 18.8	+0.8		
	comp=Z,38nm,1.0s,baz=246,slow=1.0,SNR=28									
ASF					PKKPab	PKKPab	21 26 39.5	-0.2		
	comp=Z,11nm,1.0s,baz=207,slow=2.9,SNR=6.5									
ASF					PKKP	PKKPdf	21 27 10.5	+4.1		
	comp=Z,14nm,1.0s,baz=71,slow=0.7,SNR=7.2									
BR131	Keskin Array S	118.15	59		PKPdf	PKiKP	21 16 18.5	+0.5		
BR131	Keskin Array S	118.15	59	i	PKIKP	PKPdf	21 16 17.8	-0.2		
BRTR	Keskin Array B	118.15	59		PKP	PKiKP	21 16 18.2	+0.1		
	comp=Z,47nm,0.9s,baz=190,slow=3.3,SNR=84									
BRTR					pPKP	pPKPdf	21 16 48.0	-0.1		
	comp=Z,22nm,0.8s,baz=173,slow=2.4,SNR=5.9									
BRTR					PKKPab	PKKPbc	21 26 38.0	+0.6		
	comp=Z,18nm,1.1s,baz=94,slow=2.4,SNR=12									
BRTR					PKKP	PKKPdf	21 27 11.2	+4.7		
	comp=Z,8.2nm,0.8s,baz=97,slow=3.9,SNR=7.2									
BRTR					SKKP		21 30 33.3			
	comp=Z,10nm,1.1s,baz=85,slow=2.3,SNR=4.4									
BRTR	Keskin Array B	118.15	59		PKPdf	PKiKP	21 16 18.5	+0.5		
BRTR	Keskin Array B	118.15	59		PKIKP	PKiKP	21 16 18.5	+0.5		
NACGM	Naroch	118.17	41	⇑	iPKP	PKiKP	21 16 17.9	+0.5		
	comp=Z,233nm,0.8s,baz=256									
MEF	Metsahovi	118.31	34		eP	PKiKP	21 16 17.5	+0.1		
AK05	Malin Array Si	118.43	46		PKPdf	PKPdf	21 16 17.7	-0.2		
AKASG	Malin Array Be	118.46	46		PKP	PKPdf	21 16 17.4	-0.7		
	comp=Z,88nm,0.9s,baz=267,slow=2.3,SNR=130									
AKASG					pPKP	pPKPdf	21 16 47.3	-0.9		
	comp=Z,26nm,0.8s,baz=267,slow=2.5,SNR=5.6									
AKASG					PKKPbc	PKKPbc	21 26 35.3	-1.1		
	comp=Z,13nm,0.8s,baz=60,slow=4.3,SNR=12									
AKASG	Malin Array Be	118.46	46		PKPdf	PKPdf	21 16 17.9	-0.1		
AKASG	Malin Array Be	118.46	46		PKIKP	PKPdf	21 16 17.9	-0.1		
AKBB	Malin Array Si	118.46	46	c	iPKIKP	PKPdf	21 16 17.6	-0.4		
CTA	Charters Tower	118.68	218		PKKPbc	PKKPbc	21 26 37.0	+1.9		
	comp=Z,19nm,0.9s,baz=228,slow=0.7,SNR=8.1									
MNK	Minsk	118.69	41		iPKP	PKiKP	21 16 18.7	+0.3		
	comp=E,10.0nm,0.8s									
MNK					iPKP	PKiKP	21 16 18.7	+0.3		
	comp=N,62nm,0.9s									
MNK					iPKP	PKiKP	21 16 18.7	+0.3		
	comp=Z,317nm,0.9s,baz=75									
MNK					ipPKP	pPKPdf	21 16 46.1	-2.4		
MNK					iPP	PP	21 17 41.9	+3.6		
MNK					iPPP	PPP	21 20 48.1			
MNK					iSKS	SKSdf	21 22 32.6	-47		
MNK					iPS	PS	21 27 26.0	-0.3		
MNK					iSP	SP	21 27 48.4	+35		
MNK					iSS	SS	21 33 48.6	+0.5		
MNK					iSSS	SSS	21 38 09.1			
MNK					iLQ	LQ	21 55 56.4			
MNK					iLR	LR	21 59 43.3			
MNK					iLRM	MLR	22 04 44.9			
	comp=N,2μm,23.8s									
MNK					iLRM	MLR	22 06 42.2			
	comp=Z,3μm,20.6s									
MNK					iLRM	MLR	22 06 53.8			
	comp=E,212nm,19.0s									
MNK	Minsk	118.69	41	e	PKIKP	PKiKP	21 16 18.6	+0.3		
A21K	Barrow	118.93	338		PKiKP	PKiKP	21 16 18.7	+0.4		
	baz=103									
KBS	Kingsbay	118.98	13	c	iPKIKP	PKiKP	21 16 20.3	+2.0		
KBS					pmax	pmax				
	comp=Z,58nm,2.5s									
VSU	Vasula	119.05	37	e	P	PKiKP	21 16 19.1	+0.2		
VSU	Vasula	119.05	37	i	PKIKP	PKPdf	21 16 18.6	-0.3		
UNV	Unalaska Valle	119.28	318		PKiKP	PKPdf	21 16 19.5	0.0		
	baz=104									
FINES	FINESS Array B	119.40	33		PKP	PKiKP	21 16 19.7	+0.2		
	comp=Z,41nm,0.7s,baz=6.3,slow=0.2,SNR=130									
FINES					PKKPab	PKKPab	21 26 31.6	-0.3		
	comp=Z,23nm,0.8s,baz=78,slow=4.3,SNR=21									
FINES					PKKP	PKKPdf	21 27 02.9	-1.5		
	comp=Z,14nm,0.9s,baz=57,slow=5.2,SNR=5.5									
FINES	FINESS Array B	119.40	33		PKPdf	PKiKP	21 16 20.0	+0.4		
FINES	FINESS Array B	119.40	33		PKIKP	PKiKP	21 16 20.0	+0.4		
FIA1	FINESS Array S	119.40	33		PKPdf	PKiKP	21 16 19.9	+0.4		
SPITS	Spitsbergen Ar	119.66	14		PKP	PKPdf	21 16 19.6	-0.1		
	comp=Z,9.4nm,0.6s,baz=122,slow=4.0,SNR=13									
SPITS					PKKPab	PKKPab	21 26 30.6	+0.4		
	comp=Z,74nm,1.0s,baz=88,slow=11,SNR=9.1									
SIM	Simferopol'	120.06	53	ke	P	Pdif	21 12 49.0	+3.5		
SIM					i		21 16 21.7			
SIM					e		21 17 55.6			
SIM					ePPP	PPP	21 20 24.0			
SIM					pmax	pmax				
	comp=Z,280nm,0.9s									
SIM					pmax	pmax				
	comp=Z,270nm,5.8s									
NIKH	Nikolski High	120.44	316		PKiKP	PKPdf	21 16 21.2	-0.6		
	baz=103									
RDOG	Red Dog Mine	120.46	334		PKiKP	PKPdf	21 16 20.5	-0.9		
	baz=99									
ARCES	ARCESS Array B	120.64	24		PKP	PKPdf	21 16 21.6	-0.1		
	comp=Z,9.1nm,0.4s,baz=251,slow=3.8,SNR=73									
ARCES					PKKPab	PKKPab	21 26 25.6	-0.6		
	comp=Z,24nm,0.7s,baz=74,slow=2.2,SNR=39									
ARCES					PKKP	PKKPdf	21 26 58.4	-3.8		
	comp=Z,12nm,0.7s,baz=84,slow=3.8,SNR=5.5									
ARCES	ARCESS Array B	120.64	24		PKPdf	PKiKP	21 16 22.0	+0.2		
ARCES	ARCESS Array B	120.64	24		PKIKP	PKiKP	21 16 22.0	+0.2		
ANM	Nome	120.89	330		PKiKP	PKPdf	21 16 22.0	-0.3		
	baz=99									
ASAR	Alice Springs	120.97	204		PKP	PKPdf	21 16 23.0	-0.9		
	comp=Z,116nm,0.9s,baz=134,slow=1.7,SNR=192									
ASAR					pPKP	pPKPdf	21 16 53.9	-0.4		
	comp=Z,15nm,0.8s,baz=20,slow=1.4,SNR=2.6									
ASAR					PKKPbc	PKKPbc	21 26 27.6	+0.7		
	comp=Z,23nm,0.9s,baz=338,slow=3.4,SNR=63									
ASAR					PKKP	PKKPdf	21 26 56.7	-2.8		
	comp=Z,10nm,0.8s,baz=340,slow=3.5,SNR=7.6									
ASAR					SKKPbc	SKKPbc	21 30 04.8	+2.6		
	comp=Z,10nm,0.9s,baz=357,slow=4.6,SNR=5.8									
ASAR					PKPPKP	P'P'df	21 35 07.5	-5.6		
	comp=Z,1.6nm,0.8s,baz=358,slow=1.5,SNR=6.0									
ASAR	Alice Springs	120.97	204		PKPdf	PKPdf	21 16 23.2	-0.6		
ASAR	Alice Springs	120.97	204		PKIKP	PKPdf	21 16 23.3	-0.6		
AS31	Alice Springs	120.97	204		PKPdf	PKPdf	21 16 23.2	-0.7		
PUL	Pulkovo	121.13	36	c	iPKIKP	PKiKP	21 16 23.2	+0.2		
PUL					pmax	pmax				
	comp=Z,332nm,0.8s									
RAYN	Ar Rayn	121.82	80		P	PKPdf	21 16 25.3	-0.1		
RAYN	Ar Rayn	121.82	80	i	PKiKP	PKiKP	21 16 26.3	+0.7		
	SNR=64									
RAYN	Ar Rayn	121.82	80	⇓	PKIKP	PKiKP	21 16 26.7	+1.1		
SPIA	Saint Paul Isl	122.05	321		PKiKP	PKiKP	21 16 25.4	+0.6		
	baz=100									
TNA	Tin City	122.09	331		PKPdf	PKiKP	21 16 25.1	+0.4		
TNA	Tin City	122.09	331		PKiKP	PKiKP	21 16 24.7	0.0		
	baz=96									
ANN	Anapa	122.30	54	i	PKIKP	PKPdf	21 16 25.1	-0.5		
ANN					e		21 16 56.2			
ANN					e		21 18 00.6			
ANN					eSP	SP	21 27 48.8	+3.0		
ANN					pmax	pmax				
	comp=Z,227nm,1.0s									
ANN					MLR	MLR				
	comp=Z,4μm,20.0s									
APA	Apatity	123.35	27	⇓	iPKIKP	PKPdf	21 16 26.5	-0.4		
APA					i *PP	pPKPdf	21 16 57.5	+0.4		
APA					pmax	pmax				
	comp=Z,80nm,0.9s									
GAMB	Gambell	123.55	329		PKiKP	PKPdf	21 16 26.9	-0.5		
	baz=94									
SOC	Sochi	123.60	56	e	P	Pdif	21 12 58.4	-2.8		
SOC					i		21 16 27.1			
SOC					e		21 16 58.5			
SOC					ePPP	PPP	21 20 57.5			
SOC					e		21 23 20.0			
SOC					ePS	PS	21 28 03.8	-6.7		
SOC					eSS	SS	21 34 49.8	-1.7		
SOC					eSSS	SSS	21 39 32.1			
SOC					pmax	pmax				
	comp=Z,204nm,0.8s									
OBN	Obninsk	123.73	42	⇓	P	PKPdf	21 16 27.4	-0.6		
OBN	Obninsk	123.73	42		PKP	PKPdf	21 16 28.0	0.0		
	comp=Z,51nm,0.8s,baz=200,slow=0.5,SNR=74									
OBN					pPKP	pPKPdf	21 16 58.5	+0.3		
	comp=Z,17nm,0.8s,baz=357,slow=4.4,SNR=3.1									
OBN	Obninsk	123.73	42	d	iPKIKP	PKPdf	21 16 27.9	-0.1		
OBN					e		21 16 58.3			
OBN					e		21 18 11.4			
OBN					ePPP	PPP	21 20 53.7			
OBN					pmax	pmax				
	comp=Z,365nm,1.1s									
LVZ	Lovozero	123.83	26	c	iPKIKP	PKiKP	21 16 28.7	+0.5		
LVZ					pmax	pmax				
	comp=Z,174nm,1.0s									
WR0	Warramunga Arr	124.13	207		PKPdf	PKPdf	21 16 29.7	-0.3		
WB2	Warramunga Arr	124.22	206		PKPdf	PKPdf	21 16 29.9	-0.3		
WRA	Warramunga Arr	124.22	206		PKP	PKPdf	21 16 29.7	-0.5		
	comp=Z,304nm,0.9s,baz=161,slow=1.6,SNR=176									
WRA					pPKP	pPKPdf	21 16 59.6	-0.9		
	comp=Z,52nm,0.7s,baz=168,slow=1.6,SNR=3.3									
WRA					PKKPbc	PKKPbc	21 26 14.9	+0.6		
	comp=Z,15nm,0.7s,baz=338,slow=4.3,SNR=63									
WRA					PKKP	PKKPdf	21 26 44.4	-8.9		
	comp=Z,7.0nm,0.9s,baz=342,slow=4.4,SNR=7.7									
WRA					SKKPbc	SKKPbc	21 29 43.6	-8.0		
	comp=Z,16nm,0.9s,baz=352,slow=5.6,SNR=5.9									
WRAB	Tennant Creek	124.22	206		PKPdf	PKPdf	21 16 29.9	-0.3		
WRAB	Tennant Creek	124.22	206	i	PKIKP	PKPdf	21 16 29.6	-0.6		
WB0	Warramunga Arr	124.36	207		PKPdf	PKPdf	21 16 29.9	-0.5		
MOS	Moscow	124.41	41	i	PKIKP	PKPdf	21 16 26.6	-2.7		
MOS					e		21 16 59.4			
MOS					pmax	pmax				
	comp=Z,800nm,1.6s									
MOS					pmax	pmax				
	comp=Z,390nm,1.1s									
MOS					MLR	MLR				
	comp=Z,3μm,20.0s									
VSR	Storozhevoye	124.71	47	e	PKIKP	PKPdf	21 16 29.7	-0.3		
VSR					eSS	SS	21 34 59.2	-5.8		
VSR					pmax	pmax				
	comp=Z,210nm,1.0s									
LPSR	Galich'ya Gora	124.77	45	e	PKIKP	PKPdf	21 16 30.0	-0.1		
LPSR					e		21 18 16.2			
LPSR					eSS	SS	21 35 02.0	-3.6		
LPSR					pmax	pmax				
	comp=Z,310nm,0.9s									
VORR	Voronezh	124.81	46	e	PKIKP	PKPdf	21 16 29.9	-0.3		
VORR					e		21 18 18.9			
VORR					pmax	pmax				
	comp=Z,310nm,1.0s									
ADK	Adak	124.95	314		PKPdf	PKPdf	21 16 30.4	-0.1		
ADK	Adak	124.95	314		PKIKP	PKPdf	21 16 30.4	-0.1		
NEY	Neytrino	125.67	57	d	iPKIKP	PKiKP	21 16 33.3	+0.5		
SHA1	Shidzhatmaz	125.72	56	d	iPKIKP	PKiKP	21 16 33.1	+0.2		
KIV	Kislovodsk	125.78	56	⇑	P	PKiKP	21 16 33.4	+0.6		
KIV	Kislovodsk	125.78	56		P	PKPdf	21 16 32.5	0.0		
KIV	Kislovodsk	125.78	56	i	PKPdf	PKiKP	21 16 32.8	-0.1		
	SNR=54									
KIV	Kislovodsk	125.78	56		eP	Pdif	21 13 10.4	-0.7		
KIV					i		21 16 32.8			
KIV					e*PP	pPKPdf	21 17 01.9	-0.7		
KIV					e		21 18 26.4			
KIV					ePPP	PPP	21 21 09.9			
KIV					ePS	PS	21 28 31.4	+1.5		
KIV					eSS	SS	21 35 18.6	-0.5		
KIV					eSSS	SSS	21 39 59.0			
KIV					pmax	pmax				
	comp=Z,250nm,1.1s									
KIV					MLR	MLR				
	comp=Z,2μm,23.0s									
KLMR	Klimovskoe	125.79	35	⇓	iPKPdf	PKiKP	21 16 32.1	-0.1		
KLMR				⇑	iPKPdf	PKiKP	21 16 32.1	-0.1		
KLMR				⇓	iPKPdf	PKiKP	21 16 32.1	-0.1		
KLMR					AMP		21 16 33.5			
	comp=Z,535nm,1.0s									
KLMR					epPKPdf	pPKPdf	21 17 01.9	0.0		
KLMR					e		21 17 17.9			
KLMR					eSKP		21 19 55.8			
KLMR					SKSac	SKSac	21 23 23.6	-2.5		
KLMR					SKSac	SKSac	21 23 23.6	-2.5		
KLMR					SKKSac	SKKSac	21 25 16.6	+4.0		
KLMR					SKKSac	SKKSac	21 25 16.6	+4.0		
KLMR					PS	PS	21 28 20.1	-9.0		
KLMR					PS	PS	21 28 20.1	-9.0		
KLMR					eSKKPbc	SKKPbc	21 29 44.7	-6.8		
KLMR					SS	SS	21 35 30.5	+13		
KLMR					SS	SS	21 35 30.5	+13		
KLMR	Klimovskoe	125.79	35	d	iPKIKP	PKiKP	21 16 32.0	-0.1		
KLMR					e		21 17 01.8			
KLMR							21 23 23.5			
KLMR					PS	PS	21 28 20.0	-9.0		
KLMR					e		21 29 44.6			
KLMR					pmax	pmax				
	comp=Z,535nm,1.0s									
KVAR	Kislovodsk Arr	125.79	56		PKP	PKiKP	21 16 34.3	+1.3		
	comp=Z,61nm,0.9s,baz=270,slow=19,SNR=16									
ABTO	Aybut	125.85	91		P	PKiKP	21 16 33.9	+0.1		
	SNR=18							

SNR=15
UMQ Umm Al-Quwin 131.15 82 P **PKiKP** 21 16 43.8 **-0.3**
ASHO Ashiyiah 131.18 84 P **PKPdf** 21 16 43.6 **+0.3**
SNR=15
ASHO Ashiyiah 131.18 84 *i* PKPdf **PKPdf** 21 16 42.8 **-0.5**
SNR=23
HATD Hatta, Dubai 131.29 83 P **PKiKP** 21 16 44.0 **-0.4**
SNR=20
HATD Hatta, Dubai 131.29 83 *i* PKPdf **PKPdf** 21 16 43.4 **0.0**
SNR=20
MHTO MHTO 131.39 89 P **PKPdf** 21 16 44.1 **+0.4**
SNR=28
UOSS Minazif 131.40 83 P **PKPdf** 21 16 43.2 **-0.4**
UOSS Minazif 131.40 83 *i* PKPdf **PKPdf** 21 16 43.1 **-0.5**
SNR=13
BSY Bisya 131.43 86 P **PKPdf** 21 16 39.0 **-4.8**
SNR=29
MSFE Esma-Masafi 131.51 83 *i* PKPdf **PKPdf** 21 16 43.7 **-0.2**
SNR=14
MASF Masafi 131.51 83 P **PKPdf** 21 16 44.2 **+0.3**
SNR=15
MDH Madha 131.60 83 P **PKPdf** 21 16 43.6 **-0.3**
SNR=10
MDH Madha 131.60 83 *i* PKPdf **PKPdf** 21 16 43.5 **-0.5**
SNR=9.1
SHME Shamm 131.73 82 P **PKiKP** 21 16 44.9 **-0.4**
SNR=21
SHME Shamm 131.73 82 *i* PKPdf **PKPdf** 21 16 44.3 **+0.1**
SNR=23
BANOM Banah 131.82 82 P **PKPdf** 21 16 44.5 **+0.1**
SNR=15
BANOM Banah 131.82 82 *i* PKPdf **PKPdf** 21 16 44.4 **0.0**
SNR=14
HOQ Hoqain 131.84 85 P **PKPdf** 21 16 44.3 **-0.2**
SNR=17
BILL Bilibino 131.87 336*c* /PKiKP **PKiKP** 21 16 44.1 **-0.1**
BILL *e* 21 19 06.6
BILL pmax pmax
comp=Z,354nm,1.3s
JMDO Jabal Madar 132.06 87 P **PKPdf** 21 16 44.7 **-0.2**
SNR=12
SMDO Samad 132.27 86 P **PKPdf** 21 16 46.0 **+0.5**
SNR=30
KAAM Kaadhehdhoo 132.34 123 P **PKiKP** 21 16 48.3 **+1.4**
BIDO Bidbid 132.51 86 P **PKiKP** 21 16 46.1 **+0.4**
SNR=20
WSAR Wadi Sarin 132.84 87 PKP **PKPdf** 21 16 46.9 **+0.5**
comp=Z,75nm,1.0s,baz=267,slow=3.8,SNR=9.4
WSAR pPKP **pPKPdf** 21 17 15.5 **-1.1**
comp=Z,39nm,1.0s,baz=134,slow=10,SNR=3.7
WBK Wadi Bani Khal 132.89 87 P **PKiKP** 21 16 47.4 **-0.3**
SNR=29
JASK Jask - Hormozg 133.13 83 P **PKiKP** 21 16 48.8 **+0.7**
NGCH Negor - Chabah 135.73 85 P **PKiKP** 21 16 53.9 **+0.6**
ARU Arti 136.06 40 PKhKP PKPpre 21 16 39.3
comp=Z,7.0nm,0.5s,baz=274,slow=3.4,SNR=12
ARU PKP **PKiKP** 21 16 52.3 **-0.8**
comp=Z,191nm,1.0s,baz=191,slow=2.4,SNR=14
ARU SKPbc **SKPbc** 21 20 14.6 **+1.4**
comp=Z,65nm,1.0s,baz=267,slow=4.0,SNR=6.6
ARU Arti 136.06 40 PKPdf **PKiKP** 21 16 53.0 **-0.1**
ARU Arti 136.06 40⇑*e* PKiKP **PKiKP** 21 16 52.4 **-0.6**
ARU pmax pmax
comp=Z,207nm,0.8s
SAUI Saumlaki 136.27 209 PKP PKPpre 21 16 42.5
GEYT Alibeck 136.30 66 PKhKP PKPpre 21 16 40.6
comp=Z,18nm,0.8s,baz=251,slow=4.5,SNR=14
GEYT PKP **PKPdf** 21 16 53.1 **+0.6**
comp=Z,80nm,0.8s,baz=257,slow=4.9,SNR=26
GEYT pPKP pPKPdf 21 17 23.1 +0.4
comp=Z,57nm,0.9s,baz=268,slow=3.9,SNR=4.7
BATI Baumata 136.80 198 PKhKP PKPpre 21 16 45.0
comp=Z,47nm,0.7s,baz=108,slow=2.6,SNR=9.8
BATI PKP **PKiKP** 21 16 55.6 **-0.4**
comp=Z,349nm,0.9s,baz=216,slow=1.6,SNR=21
BATI Baumata 136.80 198 PKP **PKPdf** 21 16 54.8 **+0.7**
SOEI Soe 137.07 199 PKP PKPpre 21 16 45.4
SVE Sverdlovsk 137.09 39 *e* PKiKP **PKPdf** 21 16 54.2 **+0.9**
SVE pmax pmax
comp=Z,141nm,1.4s
SMPI Sarmi 137.69 223 PKP **PKPdf** 21 16 55.9 **+0.1**
ABKAR Akbulak array 137.95 50 PKPdf **PKiKP** 21 16 56.8 **-0.3**
MMRI Maumere 138.67 196 PKP PKPpre 21 16 48.3
TIXI Tiksi 138.78 352 PKhKP PKPpre 21 16 44.3
comp=Z,15nm,0.7s,baz=348,slow=0.2,SNR=17
TIXI PKP **PKPdf** 21 16 56.1 **+0.1**
comp=Z,131nm,0.9s,baz=216,slow=0.0,SNR=52
TIXI Tiksi 138.78 352 *i* PKiKP **PKPdf** 21 16 56.2 **+0.2**
TIXI pmax pmax
comp=Z,181nm,1.1s
SRPI Serui, Papua 139.19 220 PKP PKPpre 21 16 52.3
SEY Seymchan 139.29 333 PKhKP PKPpre 21 16 48.8
comp=Z,16nm,0.5s,baz=75,slow=3.8,SNR=23
SEY Seymchan 139.29 333 *i* PKiKP **PKiKP** 21 16 58.6 **-0.8**
PLAI Plampang 139.34 190 PKP PKPpre 21 16 50.0
TWSI Taliwang, Sumb 139.55 188 PKP PKPpre 21 16 49.1
DBNI Kabupaten Domp 139.58 191 PKP PKPpre 21 16 50.8
IGBI Denpasar 139.66 186 PKP PKPpre 21 16 51.8
DNP Denpasar 139.79 186 PKP PKPpre 21 16 51.2
NRIK Noril'sk 139.86 13 PKhKP PKPpre 21 16 50.3
comp=Z,11nm,0.8s,baz=87,slow=2.5,SNR=7.0
NRIK PKP **PKPdf** 21 16 59.0 **+1.0**
comp=Z,46nm,1.0s,baz=318,slow=1.0,SNR=26
PET Petropavlovsk 139.91 316 *e* P **Pdif** 21 14 20.4 **+6.9**
PET *i* 21 16 59.5
PET *e* 21 19 58.1
PET *e* 21 23 51.2
PET *e* SPP SPP 21 32 02.9
PET *e* SS **SS** 21 38 04.9 **-4.2**
PET pmax pmax
comp=Z,5μm,4.0s
PET pmax pmax
comp=Z,270nm,1.2s
PET pmax pmax
comp=Z,2μm,8.3s
PET MLR MLR
comp=Z,2μm,16.0s
KLNI Mataram 139.96 187 PKP PKPpre 21 16 51.3
BNDI Bandanaira 139.97 210 PKP **PKiKP** 21 17 02.4 **0.0**
RTBI Rangdo, Negare 140.03 186 PKP PKPpre 21 16 51.5
JAGI Jajag, Banyuwa 140.08 184 PKP PKPpre 21 16 50.8
GMJI Gumukmas 140.31 183 PKP PKPpre 21 16 53.2
BYJI Banyuwangi 140.32 185 PKP PKPpre 21 16 54.2
FAKI Fak Fak 140.34 214 PKPdf PKPpre 21 16 54.6
FAKI Fak Fak 140.34 214 PKP PKPpre 21 16 53.7
FAKI PKP PKPpre 21 16 55.3
SRBI Singaraja 140.38 186 PKP PKPpre 21 16 52.6
PEA0B Petropavlovsk- 140.45 317 *i* PKiKP **PKPdf** 21 16 59.6 **+0.1**
PETK Petropavlovsk- 140.45 317 PKhKP PKPpre 21 16 52.4
comp=Z,89nm,1.1s,baz=74,slow=7.5,SNR=23
PETK PKP **PKiKP** 21 17 00.8 **-1.3**
comp=Z,106nm,0.9s,baz=131,slow=4.0,SNR=16
RKPI Ransiki, Papua 140.59 218 PKP **PKPdf** 21 16 59.9 **-1.2**
UGM Wanagama 140.71 179 PKP PKPpre 21 16 54.7
ABJI Asem Bagus 140.74 185 PKP PKPpre 21 16 54.0
YOGI Yogyakarta 140.80 178 PKP PKPpre 21 16 55.2
SCJI Gunung Srandil 140.90 177 PKP PKPpre 21 16 55.3
SJI Sawahan 140.90 181 PKP PKPpre 21 16 55.2
NGJI Ngawi 141.26 180 PKP **PKiKP** 21 17 03.8 **-1.2**
SKJI Sukabumi 141.35 172 PKP **PKPdf** 21 17 01.5 **-0.9**
AAI Ambon 141.43 208 PKP PKPpre 21 16 54.9
MSAI Masohi 141.44 209 PKP PKPpre 21 16 55.2
BSSI Bau Bau, Buton 141.48 195 PKP **PKPdf** 21 17 00.5 **-2.2**
CTJI Waduk Cacaban 141.56 177 PKP PKPpre 21 16 57.4
SMRI Semarang 141.57 179 PKP PKPpre 21 16 57.1
BBSI Bau Bau 141.61 198 PKP **PKPdf** 21 16 59.3 **-3.6**
LEM Lembang 141.63 174 PKhKP PKPpre 21 16 59.0
comp=Z,747nm,0.9s,baz=141,slow=4.3,SNR=87
LEM Lembang 141.63 174 PKP PKPpre 21 16 58.0
MA2 Magadan 141.65 329 PKhKP PKPpre 21 16 56.0
comp=Z,48nm,0.9s,baz=38,slow=5.3,SNR=10
MA2 PKP **PKPdf** 21 17 02.3 **+0.8**
comp=Z,139nm,0.9s,baz=76,slow=5.3,SNR=16
MA2 Magadan 141.65 329 *i* PKiKP **PKPdf** 21 17 02.4 **+0.9**
KRAI Karang Ratu 141.69 208 PKP PKPpre 21 16 55.6
GRJI Gresik 141.70 182 PKP **PKPdf** 21 17 00.1 **-2.9**
SKR Severo-Kuril's 141.97 313 *e* PKHKP PKPpre 21 16 54.4
SBJI Serang 142.17 172 PKP **PKPdf** 21 17 01.2 **-2.7**
BHUJ Bhuj 142.25 92 *e* P **PKPdf** 21 17 04.4 **+0.7**
BHUJ IAmb IAmb 21 17 07.2
comp=Z,467nm,0.9s
EGSI Enggano, Bengk 142.26 165 PKP **PKPdf** 21 17 00.8 **-3.2**
NLAI Namlea 142.26 206 PKP PKPpre 21 16 59.5
GOA Goa 142.26 106 *e* P **PKPdf** 21 17 00.1 **-3.8**
GOA IAmb IAmb 21 17 05.6
comp=Z,206nm,1.1s
BKSI Bulukumba 142.35 194 PKP PKPpre 21 17 00.0
KASI Kota Agung 142.52 169 PKP **PKPdf** 21 17 01.0 **-3.5**
PALK Pallekele 142.55 124 PKhKP PKPpre 21 17 01.4
comp=Z,173nm,0.9s,baz=340,slow=3.0,SNR=34
PALK Pallekele 142.55 124 P **PKPdf** 21 17 01.5 **-3.1**
PALK Pallekele 142.55 124 PKP **PKPdf** 21 17 01.5 **-3.1**
PALK Pallekele 142.55 124⇑PKiKP **PKPdf** 21 17 01.5 **-3.1**
SIJI Sorong 142.60 214 PKhKP PKPpre 21 17 00.2
comp=Z,628nm,1.0s,baz=21,slow=3.6,SNR=51
SIJI Sorong 142.60 214 PKP **PKPdf** 21 17 00.5 **-4.2**
KAPI Kappang 142.73 194 PKhKP PKPpre 21 17 01.7
comp=Z,209nm,0.9s,baz=177,slow=2.1,SNR=31
KAPI Kappang 142.73 194 P **PKPdf** 21 17 01.7 **-3.2**
KAPI Kappang 142.73 194 PKP **PKPdf** 21 17 01.7 **-3.2**
BLSI Bandar Lampung 142.79 170 PKP **PKPdf** 21 17 01.7 **-3.3**
LWLI Liwa 142.94 168 PKP **PKPdf** 21 17 02.4 **-3.0**
KKSI Kolaka, Sulawe 143.11 197 PKP PKPbc 21 17 02.5 **-0.2**
KLI Kotabumi 143.22 169 PKP PKPbc 21 17 03.0 0.0
BNSI Bone 143.25 195 PKP PKPbc 21 17 03.1 +0.1
MNAI Manna 143.37 166 PKP PKPbc 21 17 02.8 -0.6
BRVK Borovoye 143.51 42 P **PKPdf** 21 17 04.1 **-0.9**
BRVK Borovoye 143.51 42 *i* PKiKP PKPab 21 17 02.0 +0.4
BVAR Borovoye Array 143.58 42 PKP **PKPdf** 21 17 04.1 **-1.1**
comp=Z,48nm,0.6s,baz=312,slow=2.2,SNR=242
BVAR SKPbc **SKiKP** 21 20 34.9 **+0.3**
comp=Z,39nm,1.0s,baz=211,slow=2.5,SNR=3.6
SPSI Sidrap Palu 143.75 194 PKP PKPab 21 17 03.9 +0.3
SANI Sanana 143.77 205 PKP PKPab 21 17 03.5 -0.3
UBSI University, Be 143.80 165 PKP PKPbc 21 17 05.2 +0.6
KSI Kapahiang 143.97 165 PKP PKPbc 21 17 05.5 +0.3
PPSI Pulau Pagai 144.17 160 PKP **PKPdf** 21 17 07.6 **+0.2**
PMSI Majene 144.37 193 PKP PKPbc 21 17 06.8 +0.4
MASI Maura Aman, Be 144.39 164 PKP PKPbc 21 17 07.0 +0.5
GUMO Guam 144.45 247 PKP PKPbc 21 17 06.5 0.0
comp=Z,6μm,1.0s,baz=168,slow=3.9,SNR=74
GUMO pPKP pPKPdf 21 17 35.9 -2.3
comp=Z,2μm,1.1s,baz=174,slow=9.0,SNR=3.3
GUMO Guam 144.45 247 PKPdf PKPbc 21 17 06.9 +0.4
LBMI Labuha 144.48 209 PKP **PKPab** 21 17 06.2 **-0.3**
KBL Kabul 144.60 74 PKPdf **PKPab** 21 17 06.7 **0.0**
KBL Kabul 144.60 74 P **PKPab** 21 17 06.6 **0.0**
SNR=214
KBL Kabul 144.60 74 PKIKP **PKPab** 21 17 06.7 **0.0**
BBKI Banjar Baru 144.99 186 PKP PKPbc 21 17 07.9 -0.4
CHGR Chuyangaron 145.01 67 PKPdf **PKPdf** 21 17 08.5 **+0.3**
CHGR Chuyangaron 145.01 67 PKIKP **PKPdf** 21 17 08.5 **+0.3**
PMBI Palembang 145.11 168 PKP **PKPab** 21 17 08.8 **+0.1**
MMSI Mamuju 145.16 193 PKP **PKiKP** 21 17 11.7 **-1.4**
SISI Saibi 145.25 158 PKP **PKPab** 21 17 10.4 **+1.1**
CHM Chimkent 145.27 60 *i* PKP **PKPbc** 21 17 08.1 **-0.3**
baz=60
CHM *e* PP **PP** 21 20 29.1 **-0.2**
baz=60
CHM Chimkent 145.27 60 *i* PKP2 **PKPbc** 21 17 08.1 **-0.3**
CHM *e* 21 20 29.0
IUG luzhnay 145.60 60⇓*i* PKP **PKPbc** 21 17 09.5 **-0.1**
baz=60
IUG *e* PP **PP** 21 20 31.4 **0.0**
baz=60
IUG luzhnay 145.60 60*d* /PKP2 **PKPbc** 21 17 09.5 **-0.1**
IUG *e* 21 20 31.4
LUWI Luwuk 145.79 201 PKP **PKPbc** 21 17 10.6 **-0.2**
TNTI Ternate 145.81 209 PKP **PKPdf** 21 17 09.5 **-0.7**
PBKI Pangkalan Bun 145.89 181 PKP **PKPab** 21 17 11.6 **-0.1**
BRZS Berezniki 145.91 46⇓*i* PKP **PKPbc** 21 17 09.8 **-0.4**
baz=46
BRZS *e* PP **PP** 21 20 32.4 **-0.4**
baz=46
BRZS Berezniki 145.91 46*d* /PKP2 **PKPbc** 21 17 09.8 **-0.4**
BRZS *e* 21 20 32.3
MDRS Chennai 146.00 116 *e* P **PKPbc** 21 17 11.5 **+0.1**
MDRS IAmb IAmb 21 17 13.9
comp=Z,883nm,0.9s
PDSI Padang 146.06 160 PKP **PKPdf** 21 17 10.5 **-0.2**
PPBI Pangkal Pinang 146.07 171 PKP **PKPdf** 21 17 10.4 **-0.3**
JMBI JAMBI 146.16 166 PKP **PKPbc** 21 17 11.6 **-0.3**
PBSI Pulau Batu 146.18 156 PKP **PKPab** 21 17 13.5 **+0.7**
APSI Ampana 146.24 199 PKP **PKPdf** 21 17 11.4 **+0.4**
SDSI Sungai Dareh 146.31 162 PKP **PKPdf** 21 17 09.6 **-1.5**
DZA Taraz 146.49 59⇓*i* PKP **PKPbc** 21 17 11.7 **-0.5**
baz=59
DZA Taraz 146.49 59*d* /PKP2 **PKPbc** 21 17 11.6 **-0.5**
GAMI Galela, Maluku 146.59 211 PKP **PKPdf** 21 17 11.1 **-0.5**
BKB Balikpapan 146.91 190 PKP **PKPbc** 21 17 13.8 **-0.3**
HYB Hyderabad 147.13 108 *e* P **PKPdf** 21 17 13.2 **+0.9**
HYB IAmb IAmb 21 17 17.0
comp=Z,960nm,0.8s
HYBB Hyderabad (bro 147.13 108 *e* PKPbc **PKPdf** 21 17 13.3 **+1.0**
HYBB *e* PKPab **PKPab** 21 17 15.6 **-0.9**
HYBB *e*pPKPab **pPKPbc** 21 17 44.7 **+0.2**
GSI Gunungsitoli 147.18 154 PKP **PKPdf** 21 17 13.7 **+1.1**
GTOI Gorontalo 147.30 202 PKP **PKPdf** 21 17 11.9 **-0.8**
YAK Yakutsk 147.31 344 PKP **PKPdf** 21 17 11.2 **-0.1**
comp=Z,1μm,0.8s,baz=15,slow=0.3,SNR=201
YAK PKPbc **PKPbc** 21 17 14.0 **+0.3**
comp=Z,1μm,0.8s,baz=145,slow=0.5,SNR=125
YAK pPKPbc **pPKPbc** 21 17 43.5 **-0.3**
comp=Z,535nm,0.8s,baz=105,slow=0.7,SNR=5.7
YAK Yakutsk 147.31 344*d* /PKiKP **PKPdf** 21 17 11.1 **-0.1**
YAK *e* 21 17 43.2
YAK *e* 21 20 39.3
YAK pmax pmax
comp=Z,3μm,0.9s
YAK pmax pmax
comp=N,173nm,1.0s
YAK pmax pmax
comp=E,159nm,1.1s
YAK pmax pmax
comp=E,290nm,2.7s
YAK pmax pmax
comp=Z,1μm,2.7s
YAK pmax pmax
comp=N,422nm,2.3s
BKNI Bangkinang 147.41 161 PKP **PKPdf** 21 17 12.2 **-0.7**
MNSI Mandailing Nat 147.41 158 PKP **PKPdf** 21 17 12.5 **-0.4**
DSRI Dabo 147.47 167 PKP **PKPdf** 21 17 13.4 **+0.4**
MTKI Muara Teweh, K 147.47 187 PKP **PKPdf** 21 17 14.1 **+1.0**
MRSI Marisa 147.47 200 PKP **PKPdf** 21 17 11.1 **-1.9**
SNSI Sinabang, Aceh 147.70 151 PKP **PKPbc** 21 17 14.9 **-1.4**
MPSI Mapaga 147.88 196 PKP **PKPdf** 21 17 13.0 **-0.7**
NIL Nilore 147.96 76 P **PKPdf** 21 17 14.4 **+1.1**
BTLS Baital 148.09 54⇓*i* PKP **PKPdf** 21 17 14.2 **+1.1**
baz=54
BTLS *e* PP **PP** 21 20 45.7 **0.0**
baz=54
BTLS Baital 148.09 54*d* /PKiKP **PKPdf** 21 17 14.2 **+1.1**
BTLS *e* 21 20 45.6
TRSI Tarutung 148.35 156 PKP **PKPdf** 21 17 16.2 **+1.6**
KUR Kuril'sk 148.60 306 *e* PKHKP PKPpre 21 17 11.7
KUR *e* 21 20 46.0
KUR pmax pmax
comp=Z,3μm,1.1s
SGDS Sogindy 148.80 57⇓*i* PKP **PKPdf** 21 17 15.3 **+0.9**
baz=57
SGDS Sogindy 148.80 57*d* /PKiKP **PKPdf** 21 17 15.3 **+0.9**
TPRI Tanjung Pinang 148.82 167 PKP **PKPdf** 21 17 15.3 **+0.1**
AAK Ala-Archa 148.83 59 PKP **PKPdf** 21 17 16.0 **+1.4**
comp=Z,882nm,0.9s,baz=241,slow=0.9,SNR=69
AAK PKPbc **PKiKP** 21 17 20.1 **+0.2**
comp=Z,784nm,0.9s,baz=194,slow=3.6,SNR=145
AAK pPKPbc **pPKPbc** 21 17 49.6 **+1.1**
comp=Z,262nm,0.8s,baz=292,slow=0.8,SNR=3.2
AAK Ala-Archa 148.83 59 P **PKPbc** 21 17 17.2 **-1.4**
AAK Ala-Archa 148.83 59 *i* PKPbc **PKPdf** 21 17 16.2 **+1.6**
SNR=462
AAK Ala-Archa 148.83 59 *i* PKIKP **PKPdf** 21 17 15.4 **+0.8**
AAK *i* 21 17 19.6
BHPL Bhopal 148.85 97 *e* P **PKPdf** 21 17 14.7 **-0.3**
BHPL IAmb IAmb 21 17 19.1
comp=Z,878nm,1.2s
PSI Prapat 149.06 155 PKP **PKPdf** 21 17 15.1 **-0.7**
PSI PKP **PKPdf** 21 17 15.0 **-0.7**
BTDF Bukit Timah Da 149.09 165 PKP **PKPdf** 21 17 15.8 **+0.1**
KURBB Kurchatov Arra 149.16 42 PKP **PKPdf** 21 17 15.3 **+0.7**
comp=Z,402nm,1.1s,baz=298,slow=3.1,SNR=230
KURBB PKPbc **PKiKP** 21 17 20.1 **0.0**
comp=Z,387nm,0.7s,baz=302,slow=3.1,SNR=116
KURBB pPKPbc **pPKPbc** 21 17 50.0 **+1.1**
comp=Z,126nm,0.8s,baz=300,slow=3.1,SNR=3.6
KURBB PP **PP** 21 20 56.6 **+5.0**
comp=Z,34nm,0.9s,baz=291,slow=6.7,SNR=8.0
KURK Kurchatov 149.17 42 P **PKPdf** 21 17 16.4 **+1.8**
KURK Kurchatov 149.17 42 *i* PKIKP **PKPdf** 21 17 15.6 **+1.0**
KURK *i* 21 17 20.4
SGSI Sangihe 149.21 209 PKP **PKPbc** 21 17 20.4 **+0.2**
KCSI Kotacane, Aceh 149.29 153 PKP **PKPdf** 21 17 15.5 **-0.5**
MLSI Meulaboh, Aceh 149.40 150 PKP **PKPdf** 21 17 16.1 **-0.1**
MYKOM Kota Tinggi 149.52 165 PKP **PKPdf** 21 17 16.4 **0.0**
MYKOM Kota Tinggi 149.52 165 P **PKPdf** 21 17 17.0 **+0.6**
TSI Tuntungan 149.57 154 PKP **PKPdf** 21 17 16.9 **+0.5**
KUU Kurty 149.93 56⇓*i* PKP **PKPdf** 21 17 16.4 **+0.3**
baz=56
KUU *e* PP **PP** 21 20 56.1 **-0.4**
baz=56
KUU Kurty 149.93 56*d* /PKHKP PKPpre 21 17 16.3
KUU *e* 21 20 56.9
YUK Yuzh-Kuril'sk 150.26 305*d* /PKIKP **PKPdf** 21 17 17.8 **+1.3**
YUK *e* 21 21 03.8
YUK *e* PPP PPP 21 24 18.6
KSH Kashi 150.29 65 PKPbc **PKPdf** 21 17 17.4 **+0.4**
KSH sPKP 21 17 52.1
KSH PP **PP** 21 20 57.5 **-1.4**
KSH SKKS 21 27 36.0
KSH AMB AMB
comp=Z,5μm,4.9s
KSH LR LR
comp=Z,1μm,20.6s
KSH LR LR
comp=Z,3μm,19.3s
KSH LR LR
comp=Z,3μm,21.6s
CHKK Chushkaly 150.40 56⇓*i* PKP **PKPdf** 21 17 17.2 **+0.4**
baz=56
CHKK Chushkaly 150.40 56⇓*i* PKIKP **PKPdf** 21 17 17.2 **+0.4**
AAA Alma-Ata 150.48 57⇓*i* PKP **PKPdf** 21 17 18.0 **+0.9**
baz=57
AAA *e* PP **PP** 21 20 58.5 **-1.2**
baz=57
AAA Alma-Ata 150.48 57*d* /PKIKP **PKPdf** 21 17 18.0 **+0.9**
AAA *e* 21 20 58.5
LHMI Lhok Sumawe 150.50 150 PKP **PKPdf** 21 17 18.4 **+0.5**
TNSS Tian-Shan 150.54 57 *e* PKP **PKPdf** 21 17 18.5 **+0.9**
baz=57
TNSS Tian-Shan 150.54 57 *e* PKIKP **PKPdf** 21 17 18.4 **+0.9**
MDOK Medeo 150.59 57 *i* PKP **PKPdf** 21 17 18.2 **+0.9**
baz=57
MDOK *e* PP **PP** 21 21 00.1 **-0.3**
baz=57
MDOK Medeo 150.59 57 *i* PKIKP **PKPdf** 21 17 18.2 **+0.9**
MDOK *e* 21 21 00.1
ZALV Zalesovo Beam 150.66 33 PKP **PKPdf** 21 17 16.9 **0.0**
comp=Z,37nm,0.7s,baz=279,slow=2.9,SNR=106
ZALV PKPbc **PKiKP** 21 17 23.0 **-0.1**
comp=Z,774nm,0.5s,baz=317,slow=3.2,SNR=271
ZALV pPKPbc **pPKPbc** 21 17 51.5 **-0.9**
comp=Z,334nm,0.7s,baz=314,slow=3.3,SNR=3.4
SMLA Simla 150.87 82 *e* P **PKPdf** 21 17 19.1 **+1.1**
SMLA IAmb IAmb 21 17 25.1
comp=Z,1μm,1.2s
ARXS Arharly 150.90 55 *e* PKIKP **PKPdf** 21 17 17.1 **-0.6**
SBUM Sibu 151.00 182 PKP **PKPdf** 21 17 18.6 **-0.1**
UGL Uglegorsk 151.07 316 *e* PKIKP **PKPdf** 21 17 17.9 **+0.3**
UGL pmax pmax
comp=Z,8μm,4.0s
UGL pmax pmax
comp=Z,1μm,1.0s
TDK Taldyqorghan 151.09 53⇓*i* PKP **PKPdf** 21 17 18.3 **+0.4**
baz=53
TDK *e* PP **PP** 21 21 03.0 **0.0**
baz=53
TDK Taldyqorghan 151.09 53*d* /PKIKP **PKPdf** 21 17 18.3 **+0.4**
TDK *e* 21 21 03.0
VIS Vishakhapatnam 151.13 112 *e* P **PKPdf** 21 17 19.8 **+1.1**
IPM Ipoh 151.34 158 PKP **PKPdf** 21 17 19.0 **-0.2**
DDI Dehra Dun 151.47 84 *e* P **PKPdf** 21 17 20.6 **+1.6**
YSS Yuzh-Sakhalins 151.49 312 *i* PKIKP **PKPdf** 21 17 17.9 **-0.4**
YSS *e* 21 17 47.4
YSS *e* 21 21 02.1
YSS *e* SS SS 21 40 21.7 +0.7
YSS pmax pmax
comp=Z,7μm,4.0s
YSS pmax pmax
comp=Z,1μm,0.9s
ZHN Zhinishke 151.58 57⇓*i* PKP **PKPdf** 21 17 18.8 **0.0**
baz=57
ZHN Zhinishke 151.58 57*d* /PKIKP **PKPdf** 21 17 18.8 **0.0**
SATY Saty 151.58 57⇓*i* PKP **PKPdf** 21 17 18.8 **-0.1**
baz=57
SATY *e* PP **PP** 21 21 06.0 **-0.1**
baz=57
SATY Saty 151.58 57*d* /PKIKP **PKPdf** 21 17 18.7 **-0.1**
SATY *e* 21 21 06.0
KPKS Kokpek 151.69 56⇓*i* PKP **PKPdf** 21 17 19.5 **+0.5**
baz=56
KPKS *e* PP **PP** 21 21 06.4 **-0.2**
baz=56
KPKS Kokpek 151.69 56*d* /PKIKP **PKPdf** 21 17 19.4 **+0.5**
KPKS *e* 21 21 06.4
KULM Kulim 151.98 157 PKP **PKPdf** 21 17 20.3 **+0.2**
KULM Kulim 151.98 157 P **PKPdf** 21 17 21.0 **+0.9**
DAV Davao City (W) 152.22 212 PKP **PKPdf** 21 17 20.7 **+0.2**
comp=Z,93nm,0.4s,baz=356,slow=7.8,SNR=1.2
DAV PKPbc **PKPbc** 21 17 26.9 **-0.4**
comp=Z,492nm,0.9s,baz=82,slow=1.7,SNR=9.2
DAV Davao City (W) 152.22 212 PKP **PKiKP** 21 17 30.9 **+3.3**
SHLS Shalkode 152.31 56⇓*i* PKP **PKPdf** 21 17 21.2 **+1.3**
baz=56
SHLS *e* PP **PP** 21 21 12.2 **+2.0**
baz=56
SHLS Shalkode 152.31 56*d* /PKIKP **PKPdf** 21 17 21.2 **+1.3**
SHLS *e* 21 21 12.2
JWK2 Keihoku 152.62 309 P **PKiKP** 21 17 27.7 **+0.3**
JCJ Chichijima 152.81 268 PKP **PKPdf** 21 17 20.2 **-0.7**
comp=Z,290nm,0.8s,baz=253,slow=14,SNR=3.5
JCJ PKPbc **PKPbc** 21 17 27.8 **-0.4**
comp=Z,225nm,0.7s,baz=240,slow=4.7,SNR=11
JCJ PKPab **PKPab** 21 17 39.6 **0.0**
comp=Z,1μm,1.0s,baz=97,slow=5.0,SNR=16
MAKZ Makanchi 152.83 48 ⇓PKIKP **PKPdf** 21 17 20.8 **+0.4**
MYLDM Lahad Datu 152.89 196 PKP **PKPdf** 21 17 22.5 **+1.0**
CTBH Cotabato--PC H 152.93 209⇑*i*P **PKPdf** 21 17 21.8 **+0.3**
MKAR Makanchi Array 153.03 47 PKP **PKPdf** 21 17 20.7 **0.0**
comp=Z,40nm,1.0s,baz=318,slow=1.6,SNR=110
MKAR PKPbc **PKPbc** 21 17 28.1 **0.0**
comp=Z,408nm,0.9s,baz=300,slow=1.6,SNR=86
MKAR PKPab **PKPab** 21 17 40.8 **+0.8**
comp=Z,264nm,0.8s,baz=297,slow=3.9,SNR=17
MKAR pPKPbc **pPKPbc** 21 17 58.8 **+0.5**
comp=Z,166nm,0.8s,baz=310,slow=1.7,SNR=4.3
MKAR PP **PP** 21 21 16.3 **+2.4**
comp=Z,33nm,1.0s,baz=337,slow=2.8,SNR=3.7
GRNR Gornyy 153.32 323⇓*i* PKIKP **PKPdf** 21 17 20.9 **-0.1**
GRNR pmax pmax
comp=Z,50nm,1.2s
BOD Bodaibo 153.71 357 *e* PKIKP **PKPdf** 21 17 20.4 **-0.9**
BOD pmax pmax
comp=Z,25nm,1.3s
SKLT Songkhla 153.72 155 PKP **PKPdf** 21 17 22.6 **-0.1**
PBA Port Blair 153.76 135 P **PKPdf** 21 17 23.1 **+0.4**
SNR=11
PBA Port Blair 153.76 135 *e* P **PKPdf** 21 17 22.6 **-0.1**
PBA IAmb IAmb 21 17 26.4
comp=Z,578nm,0.9s
CGP Cagayan de Oro 153.84 211⇓*e* P **PKiKP** 21 17 35.7 **+4.8**
KKM Kota Kinabalu 154.18 191 PKP **PKPdf** 21 17 23.3 **-0.2**
JOT Ohata 154.31 301 P **PKPdf** 21 17 23.0 **+0.3**
ZSN Zaisan 154.32 44⇓*i* PKP **PKPdf** 21 17 22.5 **0.0**
baz=44
ZSN *e* PP **PP** 21 21 20.3 **-0.8**
baz=44
ZSN Zaisan 154.32 44*d* /PKIKP **PKPdf** 21 17 22.5 **0.0**
ZSN *e* 21 21 20.2
JTM Tenmabayashi 154.42 299 P **PKPdf** 21 17 22.5 **-0.3**
JSH Shimam 154.72 304 P **PKPdf** 21 17 23.0 **-0.2**
LSIP Lazi, Siquijor 154.91 210⇓*i*P **PKPdf** 21 17 21.9 **-2.4**
DGPR DIGLIPUR 155.05 133 *e* P **PKPdf** 21 17 25.1 **+0.6**
DGPR IAmb IAmb 21 17 27.9
comp=Z,387nm,1.0s
GHBP Garcia Hernand 155.05 212⇓*i* P **PKPdf** 21 17 23.1 **-1.4**
ZEA Zeya 155.08 337 *e* PKIKP **PKPdf** 21 17 22.6 **-0.7**
ZEA *e* 21 21 24.3
ZEA pmax pmax
comp=Z,180nm,1.1s
ZEA pmax pmax
comp=Z,3μm,13.4s
TBP Tagbilaran 155.31 211⇓*i*P **PKPdf** 21 17 23.6 **-1.3**
TABP Talibon, Bohol 155.46 212⇓*i*P **PKPdf** 21 17 23.6 **-1.4**

DANN	**Dangsing**	**155.90**	**91**	*e*P		**PKPdf**	**21 17 26.3**	**+0.7**
	comp=Z,841nm,0.9s							
BOK	**Bokaro**	**156.19**	**103**	*e*P		**PKPdf**	**21 17 26.5**	**+0.7**
TEY	**Ternei**	**156.19**	**311**	⇓*e*PKIKP		**PKPdf**	**21 17 23.6**	**-1.5**
TEY				*e*			21 17 53.4	
TEY				*e*			21 41 12.2	
TEY				pmax	pmax			
	comp=N,10.0nm,1.2s							
TEY				pmax	pmax			
	comp=E,10.0nm,1.2s							
TEY				pmax	pmax			
	comp=Z,20nm,1.8s							
TEY				pmax	pmax			
	comp=Z,500nm,4.4s							
GKN	**Gorkha**	**156.56**	**92**	*e*P		**PKPdf**	**21 17 26.5**	**+0.2**
	comp=Z,479nm,1.0s							
KLR	**Kul'dur**	**156.64**	**325**	PKP		**PKPdf**	**21 17 24.8**	**-0.7**
	comp=Z,57nm,1.0s,baz=23,slow=2.5,SNR=37							
KLR				PKPbc	PKPbc		21 17 35.9	
	comp=Z,54nm,0.9s,baz=22,slow=2.8,SNR=23							
KLR				PKPab		**pPKPdf**	**21 17 56.0**	**+0.1**
	comp=Z,36nm,1.0s,baz=1.1,slow=5.3,SNR=4.2							
DMN	**Daman**	**156.85**	**93**	*e*P		**PKPdf**	**21 17 27.3**	**+0.4**
	comp=Z,501nm,1.3s							
KKN	**Kakani**	**157.05**	**93**	*e*P		**PKPdf**	**21 17 26.4**	**-0.7**
PKIN	**Phulchoki**	**157.09**	**93**	*e*P		**PKPdf**	**21 17 27.2**	**0.0**
	comp=Z,487nm,1.3s							
PKI	**Pulchoki**	**157.10**	**93**	*e*P		**PKPdf**	**21 17 27.2**	**-0.1**
	comp=Z,585nm,1.4s							
MJAR	**Matsushiro Arr**	**157.25**	**290**	PKP		**PKPdf**	**21 17 25.9**	**-0.8**
	comp=Z,44nm,0.9s,baz=120,slow=1.0,SNR=62							
MJAR				PKPab		**PKPab**	**21 17 59.1**	**+0.7**
	comp=Z,342nm,0.9s,baz=116,slow=2.2,SNR=28							
MJAR				pPKPab		**pPKPab**	**21 18 28.2**	**+0.4**
	comp=Z,142nm,1.0s,baz=93,slow=3.1,SNR=3.1							
MAT	**Matsushiro**	**157.25**	**290**	P		**PKPdf**	**21 17 26.0**	**-0.7**
GUN	**Gumba**	**157.59**	**93**	*e*P		**PKPdf**	**21 17 28.3**	**+0.4**
	comp=Z,739nm,1.4s							
WMQ	**Urumqi**	**157.74**	**50**	*e*PKP		**PKPdf**	**21 17 27.9**	**+0.7**
WMQ				PKPab		**PKPab**	**21 18 01.8**	**+1.5**
WMQ				PP		**PP**	**21 21 39.9**	**-0.3**
WMQ				SKKS			21 28 16.8	
WMQ				SS		**SS**	**21 41 24.6**	**-4.4**
WMQ				AMB	AMB			
	comp=Z,5μm,4.7s							
WMQ				LR	LR			
	comp=Z,2μm,23.1s							
WMQ				LR	LR			
	comp=Z,2μm,23.1s							
WMQ				LR	LR			
	comp=Z,6μm,24.9s							
JIRN	**Jiri**	**157.79**	**94**	*e*P		**PKPdf**	**21 17 28.3**	**+0.1**
	comp=Z,482nm,1.3s							
HEH	**HeiHe**	**157.84**	**332**	PKP		**PKPdf**	**21 17 25.8**	**-1.2**
HEH				pPKP		**pPKPdf**	**21 17 56.3**	**-1.1**
HEH				PKS		PP	21 21 02.4	-38
HEH				PP		**PP**	**21 21 39.6**	**-0.4**
HEH				SS		SS	21 41 27.3	-1.3
HEH				AMB	AMB			
	comp=Z,2μm,11.6s							
RAMN	**Ramite**	**157.93**	**96**	*e*P		**PKPdf**	**21 17 29.0**	**+0.8**
	comp=Z,1μm,1.3s							
JGN	**Niukaw**	**157.99**	**289**	P		**PKPdf**	**21 17 27.3**	**-0.4**
MOY	**Mondy**	**158.54**	**18**	*e*PKIKP		**PKPdf**	**21 17 29.1**	**+1.1**
MOY				*e*			21 17 59.8	
MOY				pmax	pmax			
	comp=Z,773nm,3.5s							
ODAN	**Odare**	**158.57**	**97**	*e*P		**PKPdf**	**21 17 29.8**	**+0.8**
	comp=Z,71nm,1.3s							
IRK	**Irkutsk**	**158.72**	**12**	*e*PKIKP		**PKPdf**	**21 17 27.5**	**-0.5**
IRK				*e*			21 18 00.5	
IRK				pmax	pmax			
	comp=Z,474nm,2.9s							
TAPN	**Taplejung**	**159.00**	**96**	*e*P		**PKPdf**	**21 17 30.1**	**+0.6**
	comp=Z,653nm,1.3s							
USRK	**Ussuriysk Ar.**	**159.49**	**314**	PKP		**PKPdf**	**21 17 28.4**	**-0.8**
	comp=Z,18nm,0.9s,baz=254,slow=2.2,SNR=18							
USRK				PKPab		**PKPab**	**21 18 08.7**	**+0.9**
	comp=Z,148nm,1.0s,baz=62,slow=4.2,SNR=17							
USRK				PP		**PP**	**21 21 51.4**	**+1.9**
	comp=Z,12nm,0.9s,baz=57,slow=7.0,SNR=4.3							
CIT	**Chita**	**159.52**	**356**	*e*PKIKP		**PKPdf**	**21 17 29.0**	**0.0**
CIT				pmax	pmax			
	comp=Z,628nm,3.4s							
GTK	**Tadong**	**159.74**	**96**	*e*P		**PKPdf**	**21 17 31.4**	**+1.1**
GTK				IAmb	IAmb		21 17 34.1	
	comp=Z,292nm,1.4s							
LQP	**Lukban**	**160.26**	**211**	⇓*e*P		**PKPdf**	**21 17 31.2**	**0.0**
ZAK	**Zakamensk**	**160.28**	**15**	*e*PKIKP		**PKPdf**	**21 17 30.1**	**+0.1**
ZAK				pmax	pmax			
	comp=Z,55nm,1.4s							
BRDH	**Bariadhala**	**160.36**	**112**	PKP		**PKPdf**	**21 17 32.6**	**+1.8**
	comp=Z,113nm,0.4s,baz=79,slow=10,SNR=24							
BRDH				PKPab		**sPKPdf**	**21 18 14.4**	**+1.9**
	comp=Z,96nm,0.3s,baz=40,slow=5.0,SNR=17							
MDJ	**Mudanjiang**	**160.69**	**317**	PKP		**PKPdf**	**21 17 29.9**	**-0.6**
MDJ				PP		**PP**	**21 21 53.5**	**-2.4**
MDJ				LR	LR			
	comp=Z,1μm,13.2s							
MDJ				LR	LR			
	comp=Z,2μm,24.9s							
MDJ				LR	LR			
	comp=Z,5μm,24.3s							
BNX	**BinXian**	**161.17**	**323**	⇓PKP		**PKPdf**	**21 17 29.3**	**-1.7**
BNX				PP		**PP**	**21 21 56.9**	**-1.4**
BNX				SS		SS	21 42 06.3	+2.1
BNX				LR	LR			
	comp=Z,1μm,22.8s							
BNX				LR	LR			
	comp=Z,2μm,19.7s							
BNX				LR	LR			
	comp=Z,2μm,19.5s							
SAIH	**SAIHA**	**161.32**	**115**	*e*P		**PKPdf**	**21 17 33.3**	**+1.3**
SAIH				IAmb	IAmb		21 17 35.4	
	comp=Z,376nm,1.2s							
SHL	**Shillong**	**161.88**	**104**	P		**PKPdf**	**21 17 33.3**	**+0.7**
	SNR=113							
SHL	**Shillong**	**161.88**	**104**	*e*P		**PKPdf**	**21 17 33.0**	**+0.4**
SHL				IAmb	IAmb		21 17 34.8	
	comp=Z,198nm,1.0s							
GUWA	**GUWAHATI**	**161.97**	**102**	*e*P		**PKPdf**	**21 17 32.7**	**+0.3**
GUWA				IAmb	IAmb		21 17 35.6	
	comp=Z,213nm,1.1s							
LSA	**Lhasa**	**162.51**	**91**	PKP		**PKPdf**	**21 17 35.0**	**+1.5**
LSA				LR	LR			
	comp=Z,2μm,34.9s							
LSA				LR	LR			
	comp=Z,3μm,35.6s							
LSA				LR	LR			
	comp=Z,4μm,37.0s							
LSA	**Lhasa**	**162.51**	**91**	P		**PKPdf**	**21 17 35.1**	**+1.5**
LSA	**Lhasa**	**162.51**	**91**	PKPdf		**PKPdf**	**21 17 35.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**162.77**	**136**	PKP		**PKPdf**	**21 17 34.0**	**+0.6**
	comp=Z,125nm,1.0s,baz=251,slow=2.6,SNR=378							
CMAR				PKPab		**PKPab**	**21 18 22.9**	**+0.1**
	comp=Z,83nm,0.9s,baz=261,slow=6.6,SNR=16							
CMAR				PP		**PP**	**21 22 05.2**	**-1.8**
	comp=Z,15nm,1.1s,baz=238,slow=6.0,SNR=2.8							
UBPT	**Khong Chiam**	**162.90**	**160**	PKP		**PKPdf**	**21 17 33.9**	**+0.3**
TEZP	**TEZPUR**	**163.05**	**102**	*e*P		**PKPdf**	**21 17 33.4**	**0.0**
TEZP				IAmb	IAmb		21 17 36.4	
	comp=Z,229nm,1.3s							
SONM	**Songino Array**	**163.34**	**12**	PKP		**PKPdf**	**21 17 33.3**	**+0.1**
	comp=Z,44nm,1.0s,baz=255,slow=0.5,SNR=60							
SONM				PKPab		**PKPab**	**21 18 25.7**	**+1.1**
	comp=Z,51nm,0.9s,baz=329,slow=4.3,SNR=14							
SONM				pPKPab		**pPKPab**	**21 18 53.7**	**0.0**
	comp=Z,78nm,0.8s,baz=325,slow=4.4,SNR=8.9							
SONM				PP		**PP**	**21 22 09.1**	**-0.3**
	comp=Z,28nm,1.2s,baz=323,slow=2.2,SNR=3.2							
ULN	**Ulaanbaatar**	**163.42**	**10**	P		**PKPdf**	**21 17 33.8**	**+0.4**
ULN	**Ulaanbaatar**	**163.42**	**10**	PKP		**PKPdf**	**21 17 33.2**	**-0.2**
JNU	**Nakatsue**	**163.43**	**280**	P		**PKPdf**	**21 17 31.8**	**-1.9**
CN2	**Changchun**	**163.51**	**322**	*e*PKP		**PKPdf**	**21 17 31.5**	**-1.9**
CN2				PP		**PP**	**21 22 09.8**	**-0.9**
CN2				SKKS			21 28 46.6	
CN2				SS		**SS**	**21 42 26.4**	**-2.2**
CN2				AMB	AMB			
	comp=Z,4μm,11.0s							
CN2				LR	LR			
	comp=Z,2μm,22.0s							
CN2				LR	LR			
	comp=Z,2μm,22.0s							
CN2				LR	LR			
	comp=Z,2μm,22.0s							
KOHI	**KOHIMA**	**163.78**	**107**	*e*P		**PKPdf**	**21 17 35.5**	**+1.1**
KOHI				IAmb	IAmb		21 17 38.2	
	comp=Z,228nm,1.0s							
JAM	**Amami Oshima**	**163.88**	**263**	P		**PKPdf**	**21 17 34.8**	**+0.6**
ITAN	**ITANAGAR**	**164.00**	**102**	*e*P		**PKPdf**	**21 17 36.1**	**+1.8**
ITAN				IAmb	IAmb		21 17 38.2	
	comp=Z,431nm,1.0s							
ZIRO	**ZIRO**	**164.24**	**100**	*e*P		**PKPdf**	**21 17 35.4**	**+0.6**
ZIRO				IAmb	IAmb		21 17 38.1	
	comp=Z,151nm,0.9s							
JORH	**JORHAT**	**164.30**	**104**	⇑*e*P		**PKPdf**	**21 17 36.4**	**+1.8**
JORH				IAmb	IAmb		21 17 38.3	
	comp=Z,321nm,0.9s							
JOW	**Kunigami**	**164.49**	**256**	PKP		**PKPdf**	**21 17 35.3**	**+0.5**
	comp=Z,103nm,1.0s,baz=141,slow=1.8,SNR=16							
JOW				PKPab		**PKPab**	**21 18 31.9**	**+1.6**
	comp=Z,58nm,0.8s,baz=143,slow=7.0,SNR=6.1							
JOW	**Kunigami**	**164.49**	**256**	P		**PKPdf**	**21 17 35.3**	**+0.5**
JTU	**Tsushima**	**164.59**	**286**	P		**PKPdf**	**21 17 34.8**	**+0.2**
CICP	**Calayan Island**	**164.71**	**219**	⇓*i*P		**PKPdf**	**21 17 34.8**	**-0.3**
KSRS	**Korea Array**	**165.15**	**298**	PKP		**PKPdf**	**21 17 34.7**	**-0.3**
	comp=Z,56nm,1.0s,baz=127,slow=0.4,SNR=97							
KSRS				PKPab		**PKPab**	**21 18 34.1**	**+1.3**
	comp=Z,61nm,1.0s,baz=70,slow=4.1,SNR=14							
GOMU	**GeErMu**	**165.51**	**67**	PKP		**PKPdf**	**21 17 37.5**	**+1.6**
GOMU				pPKP		pPKPdf	21 18 05.3	-1.0
GOMU				SS		SS	21 42 47.3	-4.2
GOMU				AMB	AMB			
	comp=Z,560nm,5.6s							
GOMU				LR	LR			
	comp=Z,1μm,21.2s							
GOMU				LR	LR			
	comp=Z,630nm,20.8s							
GOMU				LR	LR			
	comp=Z,1μm,21.0s							
LKP	**Lekhapani**	**165.84**	**103**	*e*P		**PKPdf**	**21 17 37.0**	**+1.1**
LKP				IAmb	IAmb		21 17 40.0	
	comp=Z,389nm,1.1s							
SNY	**Shenyang**	**165.85**	**320**	⇓PKP		**PKPdf**	**21 17 35.0**	**-0.5**
SNY				pPKP		**pPKPdf**	**21 18 04.5**	**-1.4**
SNY				PP		**PP**	**21 22 24.5**	**+1.5**
SNY				AMB	AMB			
	comp=Z,7μm,10.4s							
SNY				LR	LR			
	comp=Z,2μm,21.8s							
SNY				LR	LR			
	comp=Z,2μm,20.6s							
SNY				LR	LR			
	comp=Z,5μm,24.4s							
INCN	**Inchon**	**166.11**	**299**	P		**PKPdf**	**21 17 36.4**	**+0.6**
TNCH	**TengChong**	**166.94**	**117**	⇓PKP		**PKPdf**	**21 17 35.5**	**-1.6**
TNCH				pPKP		pPKPdf	21 18 06.9	-0.7
TNCH				sPKP			21 18 15.8	
TNCH				PKPab		**PKPab**	**21 18 41.1**	**-0.2**
TNCH				PP		**PP**	**21 22 28.8**	**-0.8**
TNCH				SKS		**SKSdf**	**21 24 29.3**	**-2.0**
TNCH				SKKS		**SKKSac**	**21 29 07.6**	**+0.6**
XLT	**XiLinHaoTe**	**167.16**	**344**	*i* PKP		**PKPdf**	**21 17 36.3**	**-0.3**
XLT				pPKP		pPKPdf	21 18 05.8	-1.1
XLT				sPKP			21 18 18.9	
XLT				PKPab		**PKPab**	**21 18 41.8**	**+0.4**
XLT				PP		**PP**	**21 22 29.0**	**-0.2**
XLT				SKKS			21 29 02.3	
XLT				AMB	AMB			
	comp=Z,4μm,5.8s							
XLT				LR	LR			
	comp=Z,140nm,16.3s							
XLT				LR	LR			
	comp=Z,1μm,17.6s							
XLT				LR	LR			
	comp=Z,2μm,17.4s							
QIZ	**Qiongzhong**	**167.42**	**173**	PKP		**PKPdf**	**21 17 38.9**	**+1.5**
QIZ				pPKP		**pPKPdf**	**21 18 05.5**	**-2.3**
QIZ				SKKS			21 29 07.3	
QIZ				SS		**SS**	**21 43 09.3**	**+2.3**
QIZ				AMB	AMB			
	comp=Z,4μm,16.7s							
QIZ				LR	LR			
	comp=Z,3μm,16.7s							
QIZ				LR	LR			
	comp=Z,2μm,23.9s							
QIZ				LR	LR			
	comp=Z,4μm,38.2s							
GTA	**Gaotai**	**167.79**	**47**	⇓PKP		**PKPdf**	**21 17 38.0**	**+0.8**
GTA				pPKP		pPKPdf	21 18 08.0	+0.4
GTA				PKPab		**PKPab**	**21 18 45.9**	**+1.4**
GTA				PP		**PP**	**21 22 33.1**	**-0.3**
GTA				SKKS			21 29 10.4	
GTA				SS		**SS**	**21 43 13.0**	**+0.1**
GTA				AMB	AMB			
	comp=Z,4μm,10.8s							
GTA				LR	LR			
	comp=Z,1μm,23.1s							
GTA				LR	LR			
	comp=Z,2μm,24.9s							
GTA				LR	LR			
	comp=Z,5μm,24.5s							
DL2	**Dalian**	**168.88**	**314**	PKP		**PKPdf**	**21 17 37.6**	**-0.1**
DL2				pPKP		**pPKPdf**	**21 18 06.3**	**-1.9**
DL2				PKPab		**PKPab**	**21 18 51.0**	**+1.8**
DL2				PP		**PP**	**21 22 36.4**	**-2.3**
DL2				SS		SS	21 43 25.8	+2.4
DL2				AMB	AMB			
	comp=Z,1μm,4.5s							
DL2				LR	LR			
	comp=Z,3μm,18.5s							
DL2				LR	LR			
	comp=Z,3μm,16.1s							
DL2				LR	LR			
	comp=Z,3μm,38.7s							
TATO	**Taipei**	**168.91**	**236**	P		**PKPdf**	**21 17 39.5**	**+1.3**
KMI	**Kunming**	**170.05**	**128**	⇓PKP		**PKPdf**	**21 17 39.1**	**-0.1**
KMI				pPKP		pPKPdf	21 18 08.8	-0.9
PZH	**PanZhiHua**	**170.18**	**119**	PKP		**PKPdf**	**21 17 38.9**	**-0.2**
PZH				pPKP		**pPKPdf**	**21 18 07.5**	**-2.1**
PZH				PKPab		**PKPab**	**21 18 54.6**	**-0.9**
PZH				PP		**PP**	**21 22 45.9**	**0.0**
PZH				SKKS			21 29 22.9	
PZH				SS		**SS**	**21 43 36.3**	**-1.2**
PZH				AMB	AMB			
	comp=Z,3μm,9.3s							
PZH				LR	LR			
	comp=Z,9μm,21.6s							
PZH				LR	LR			
	comp=Z,12μm,21.1s							
PZH				LR	LR			
	comp=Z,11μm,21.3s							
BJI	**Beijing**	**170.71**	**336**	PKP		**PKPdf**	**21 17 38.5**	**-0.3**
BJI				pPKP		**pPKPdf**	**21 18 07.5**	**-1.7**
BJI				SKS		**SKSdf**	**21 24 24.8**	**-7.3**
BJI				AMB	AMB			
	comp=Z,3μm,5.9s							
BJI				LR	LR			
	comp=Z,4μm,19.2s							
BJI				LR	LR			
	comp=Z,3μm,18.8s							
BJI				LR	LR			
	comp=Z,3μm,19.0s							
HHC	**Hu-ho-hao-te**	**170.76**	**359**	⇓*i*PKP		**PKPdf**	**21 17 39.8**	**+0.8**
HHC				PP		**PP**	**21 22 46.5**	**-0.8**
HHC				SKKS			21 29 22.6	
HHC				SS		**SS**	**21 43 41.8**	**+1.3**
HHC				AMB	AMB			
	comp=Z,12μm,7.8s							
QZH	**Quanzhou**	**170.81**	**226**	*i* PKP		**PKPdf**	**21 17 40.3**	**+1.0**
QZH				PKPab		**PKPab**	**21 18 58.6**	**+0.6**
QZH				pPKP2			21 19 28.5	
QZH				PP		**PP**	**21 22 48.0**	**-0.3**
QZH				AMB	AMB			
	comp=Z,4μm,9.4s							
QZH				LR	LR			
	comp=Z,1μm,18.4s							
QZH				LR	LR			
	comp=Z,960nm,21.4s							
QZH				LR	LR			
	comp=Z,1μm,21.8s							
BTO	**Baotou**	**170.94**	**6**	*e*PKP		**PKPdf**	**21 17 39.5**	**+0.4**
BTO				LR	LR			
	comp=Z,19μm,12.8s							
BTO				LR	LR			
	comp=Z,8μm,16.0s							
SSE	**Sheshan**	**171.58**	**269**	PKP		**PKPdf**	**21 17 39.6**	**+0.1**
SSE				PP		**PP**	**21 22 53.3**	**+0.2**
SSE				AMB	AMB			
	comp=Z,2μm,17.9s							
SSE				LR	LR			
	comp=Z,760nm,26.9s							
SSE				LR	LR			
	comp=Z,330nm,21.7s							
LZH	**Lanzhou**	**172.31**	**52**	⇓PKP		**PKPdf**	**21 17 41.1**	**+1.2**
LZH				pPKP		pPKPdf	21 18 10.4	0.0
LZH				sPKP			21 18 21.0	
LZH				PP		**PP**	**21 22 57.3**	**+1.1**
LZH				SS		SS	21 44 01.9	+3.9
LZH				AMB	AMB			
	comp=Z,5μm,7.6s							
LZH				LR	LR			
	comp=Z,2μm,20.9s							
LZH				LR	LR			
	comp=Z,3μm,21.2s							
LZH				LR	LR			
	comp=Z,9μm,22.2s							
TIA	**Tai'an**	**173.35**	**315**	PKP		**PKPdf**	**21 17 40.8**	**+0.7**
TIA				PP		**PP**	**21 23 00.3**	**-0.6**
TIA				SS		SS	21 44 09.5	+2.2
TIA				AMB	AMB			
	comp=Z,2μm,6.1s							
TIA				LR	LR			
	comp=Z,2μm,25.5s							
TIA				LR	LR			
	comp=Z,1μm,19.6s							
TIA				LR	LR			
	comp=Z,2μm,21.8s							
GYA	**Guiyang**	**173.44**	**140**	⇓*i*PKP		**PKPdf**	**21 17 40.8**	**+0.2**
GYA				pPKP		pPKPdf	21 18 13.3	+2.2
GYA				PKPab		**PKPab**	**21 19 10.0**	**+0.2**
GYA				PP		**PP**	**21 23 00.8**	**-0.5**
GYA				SKKS			21 29 40.3	
GYA				SS		**SS**	**21 44 05.6**	**-2.5**
GYA				AMB	AMB			
	comp=Z,6μm,12.8s							
GYA				LR	LR			
	comp=Z,1μm,23.0s							
GYA				LR	LR			
	comp=Z,570nm,18.1s							
GYA				LR	LR			
	comp=Z,2μm,19.8s							
CD2	**Chengdu**	**173.46**	**94**	PKP		**PKPdf**	**21 17 41.3**	**+0.9**
CD2				pPKP		pPKPdf	21 18 09.8	-1.1
CD2				PP		**PP**	**21 23 01.8**	**-0.7**
CD2				SKKS			21 29 37.9	
CD2				SS		**SS**	**21 44 10.3**	**0.0**
CD2				AMB	AMB			
	comp=Z,6μm,6.8s							
CD2				LR	LR			
	comp=Z,5μm,38.0s							
CD2				LR	LR			
	comp=Z,6μm,30.4s							
HNS	**HongShan**	**173.58**	**335**	⇓PKP		**PKPdf**	**21 17 40.8**	**+0.7**
HNS				pPKP		**pPKPdf**	**21 18 09.4**	**-1.2**
HNS				PKPab		**PKPab**	**21 19 10.4**	**+0.5**
HNS				PP		**PP**	**21 23 00.8**	**-0.5**
HNS				SKKS			21 29 37.8	
HNS				AMB	AMB			
	comp=Z,5μm,7.6s							
HNS				LR	LR			
	comp=Z,1μm,21.6s							
HNS				LR	LR			
	comp=Z,2μm,18.4s							
HNS				LR	LR			
	comp=Z,4μm,22.6s							
NJ2	**Nanjing**	**173.60**	**276**	⇓PKP		**PKPdf**	**21 17 40.5**	**+0.2**
NJ2				PKPab		**PKPab**	**21 19 11.0**	**+0.5**
NJ2				PP		**PP**	**21 22 59.3**	**-3.8**
NJ2				SKS		**SKSdf**	**21 24 36.5**	**+3.0**
NJ2				SKKS		**SKKSac**	**21 29 35.8**	**-3.0**
NJ2				AMB	AMB			
	comp=Z,4μm,5.2s							
NJ2				LR	LR			
	comp=Z,2μm,22.7s							
NJ2				LR	LR			
	comp=Z,2μm,20.4s							
NJ2				LR	LR			
	comp=Z,2μm,20.4s							
GULI	**GuiLin**	**173.66**	**172**	PKP		**PKPdf**	**21 17 37.9**	**-2.7**
GULI				pPKP		**pPKPdf**	**21 18 06.0**	**-5.0**
GULI				PKPab		**PKPab**	**21 19 08.0**	**-2.5**
GULI				SS		SS	21 44 14.8	+6.2
GULI				LR	LR			
	comp=Z,1μm,21.7s							
GULI				LR	LR			
	comp=Z,1μm,24.9s							
GULI				LR	LR			
	comp=Z,3μm,23.9s							
TIY	**Taiyuan**	**173.83**	**352**	⇓PKP		**PKPdf**	**21 17 40.8**	**+0.4**
TIY				pPKP		**pPKPdf**	**21 18 10.8**	**0.0**
TIY				PKPab		**PKPab**	**21 19 11.9**	**+0.8**
TIY				PP		**PP**	**21 23 02.3**	**0.0**
TIY				SKKS			21 29 43.4	
TIY				LR	LR			
	comp=Z,2μm,26.8s							
TIY				LR	LR			
	comp=Z,1μm,22.6s							
TIY				LR	LR			
	comp=Z,3μm,24.0s							
CNSH	**ChangSha**	**176.34**	**202**	⇓PKP		**PKPdf**	**21 17 41.9**	**+0.7**
CNSH				pPKP		**pPKPdf**	**21 18 08.3**	**-3.4**
CNSH				sPKP			21 18 13.9	
CNSH				LR	LR			
	comp=Z,6μm,20.4s							
CNSH				LR	LR			
	comp=Z,3μm,18.2s							
CNSH				LR	LR			
	comp=Z,4μm,21.8s							
XAN	**Xi'an**	**176.81**	**39**	PKP		**PKPdf**	**21 17 41.6**	**+0.3**
XAN				pPKP		pPKPdf	21 18 11.0	-0.7
XAN				PKPab		**PKPab**	**21 19 24.9**	**+0.4**
XAN				SKS		**SKSdf**	**21 24 34.8**	**+0.5**
XAN				SKKS		**SKKSac**	**21 29 58.9**	**+5.3**
XAN				AMB	AMB			
	comp=Z,7μm,9.2s							
XAN				LR	LR			
	comp=Z,3μm,31.6s							
XAN				LR	LR			
	comp=Z,850nm,27.5s							
XAN				LR	LR			
	comp=Z,4μm,33.7s							
LYN	**LuoYang**	**176.90**	**343**	⇓*i*PKP		**PKPdf**	**21 17 41.4**	**+0.2**
LYN				pPKP		pPKPdf	21 18 12.8	+1.2
LYN				PKPab		**PKPab**	**21 19 24.8**	**+0.1**
LYN				PP		**PP**	**21 23 15.5**	**-1.6**
LYN				SKKS			21 29 50.8	
LYN				AMB	AMB			
	comp=Z,7μm,3.8s							
WHN	**Wuhan**	**177.23**	**249**	⇓PKP		**PKPdf**	**21 17 41.8**	**+0.5**
WHN				pPKP		**pPKPdf**	**21 18 11.3**	**-0.4**
WHN				PKPab		PKPab	21 19 28.3	+1.7
WHN				PP		**PP**	**21 23 18.8**	**-1.3**
WHN				SKKS			21 29 55.5	
WHN				AMB	AMB			
	comp=Z,16μm,7.4s							
WHN				LR	LR			
	comp=Z,22μm,43.1s							

NEIC ***20*** *21:14:29.8±2.0,24.67N±0.02×109.19W±0.05,h10km±2km, mb4.6/6,Md4.1/16(MEX), Error ellipse: s-maj=8.7km s-min=3.0km az=113.0*

MEX ***20*** *21:14:33.4±0.5,24.71N×109.13W,h12km±6km,MD4.2*

ISC 20 21:14:30.7±1.4,24.69N±0.03×109.18W±0.04,
h24km±15km,n24,σ1.936/36,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h	m	s	Res ISC
TSIG	**Topolobambo**	**0.92**	**8**			**21**	**14**	**47.7**	**-0.4**
TSIG						**Sn**	**21**	**14**	**59.1**	**-1.4**
**T

CSIG	**Choix**	**2.25**	**19**		**Pb**	**21 15 10.8**	**0.0**
CSIG					**Sb**	**21 15 39.2**	**+1.0**
CSIG	**Choix**	**2.25**	**19**	*eP*	**Pn**	**21 15 07.1**	**+0.6**
CSIG				*eS*	**Sn**	**21 15 34.1**	**+0.6**
MAIG	**Mazatlaan**	**2.93**	**120**		Pb	21 15 30.1	+7.8
MAIG					**Sb**	**21 15 59.0**	**+1.4**
MAIG	**Mazatlaan**	**2.93**	**120**	*e*	**Pb**	**21 15 20.2**	**-2.0**
MAIG				*e*		21 15 58.6	
PDIG	**Papasquiaro**	**3.45**	**83**		Pb	21 15 39.3	+8.0
PDIG					**Sn**	**21 16 06.6**	**+3.2**
PDIG	**Papasquiaro**	**3.45**	**83**	*eP*	**Pn**	**21 15 25.1**	**+1.8**
PDIG				*eS*	**Sn**	**21 16 04.0**	**+0.5**
HPIG		**3.87**	**54**		**Pn**	**21 15 29.4**	**+0.4**
HPIG		**3.87**	**54**	*eP*	**Pn**	**21 15 30.7**	**+1.7**
HPIG				*eS*	**Sn**	**21 16 14.5**	**+0.6**
319A	**Douglas**	**6.66**	**359**	Pn	**Pn**	**21 16 10.0**	**+2.7**
TX32	**Lajitas Array**	**6.75**	**46**	Pn	**Pn**	**21 16 09.3**	**+0.9**
OK033	**Mehan**	**15.46**	**40**	Pn	**Pn**	**21 18 05.7**	**-1.6**
OK030	**Cody Creek RV**	**15.47**	**41**	Pn	**Pn**	**21 18 04.6**	**-2.9**
OK030				IAmb	IAmb	21 18 47.3	
	comp=Z,19nm,0.5s						
OK052	**Battle Ridge R**	**15.51**	**41**	Pn	**Pn**	**21 18 06.0**	**-1.9**
OK052				IAmb	IAmb	21 18 36.7	
	comp=Z,36nm,1.3s						
OK053	**SW of W Deep R**	**15.53**	**41**	Pn	**Pn**	**21 18 07.8**	**-0.4**
OK053				IAmb	IAmb	21 18 16.2	
	comp=Z,56nm,1.5s						
OK034	**N. Norfolk Rd.**	**15.57**	**41**	Pn	**Pn**	**21 18 09.5**	**+0.8**
QUOK	**Quay**	**15.69**	**40**	Pn	**Pn**	**21 18 09.4**	**-0.8**
QUOK				IAmb	IAmb	21 18 19.4	
	comp=Z,40nm,1.3s						

*IDC **20** 21:24:09.8±4.0,24°.19N×108°.74W,h0km,mb3.8/1, mbtmp3.6/3,ML3.3/2,Error ellipse: s-maj=71.1km s-min=18.7km az=147.0*
*NEIC **20** 21:24:13.0±2.0,24°.63N±0°.04×109°.14W±0°.04,h10km±1km, mb4.3/14,Md4.0/15(MEX),Error ellipse: s-maj=7.8km s-min=3.6km az=313.0*
*MEX **20** 21:24:16.8±0.4,24°.71N×109°.17W,h15km,MD4.0*
ISC 20 21:24:12.4±1.3,24°.66N±0°.03×109°.12W±0°.03,h5km±10km, n38,σ1§48/49,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.94**	**5**		**Pg**	**21 24 30.6**	**+0.2**
TSIG	**Topolobambo**	**0.94**	**5**	*eP*	**Pg**	**21 24 30.6**	**+0.2**
TSIG				*eS*	**Sg**	**21 24 42.0**	**-0.7**
LPIG	**La Paz**	**1.21**	**243**	Pg	**Pb**	**21 24 34.9**	**-0.9**
	17nm,0.3s,baz=40,slow=2.2,SNR=21						
LPIG	**La Paz**	**1.21**	**243**		**Pb**	**21 24 35.3**	**-0.6**
LPIG					**Sb**	**21 24 50.1**	**-1.7**
LPIG	**La Paz**	**1.21**	**243**	*eP*	**Pb**	**21 24 35.3**	**-0.6**
LPIG				*eS*	**Sb**	**21 24 50.1**	**-1.7**
SLBS	**Sierra La Lagu**	**1.23**	**218**		**Pg**	**21 24 36.3**	**+0.4**
SLBS				Sn	**Sb**	**21 24 50.7**	**-1.6**
SLBS	**Sierra La Lagu**	**1.23**	**218**	*eP*	**Pg**	**21 24 36.1**	**+0.2**
SLBS				*eS*	**Sb**	**21 24 50.6**	**-1.6**
SSIG	**Sanalona**	**1.81**	**84**		**Pn**	**21 24 44.6**	**+0.3**
SSIG					**Sn**	**21 25 06.7**	**-0.9**
SSIG	**Sanalona**	**1.81**	**84**	*eP*	**Pn**	**21 24 44.6**	**+0.3**
SSIG				*eS*	**Sn**	**21 25 06.7**	**-0.9**
CSIG	**Choix**	**2.27**	**17**		**Pn**	**21 24 50.9**	**+0.4**
CSIG	**Choix**	**2.27**	**17**	*eP*	**Pn**	**21 24 50.3**	**-0.2**
CSIG				*eS*	**Sn**	**21 25 16.8**	**-2.1**
MAIG	**Mazatlaan**	**2.87**	**120**	*e*	**Pg**	**21 25 08.4**	**+1.0**
PDIG	**Papasquiaro**	**3.41**	**83**		**Pb**	**21 25 14.1**	**+0.7**
PDIG					**Sn**	**21 25 48.2**	**+0.9**
PDIG	**Papasquiaro**	**3.41**	**83**	*eP*	**Pn**	**21 25 07.7**	**+1.3**
PDIG				*eS*	**Sn**	**21 25 47.5**	**+0.2**
HPIG		**3.85**	**53**	Pn	**Pn**	**21 25 13.7**	**+1.1**
HPIG		**3.85**	**53**	*e*	**Pb**	**21 25 18.5**	**-2.5**
HPIG				*e*		21 25 59.1	
HSIG		**4.64**	**340**	Pn	**Pn**	**21 25 26.0**	**+2.8**
319A	**Douglas**	**6.69**	**359**		**Pn**	**21 25 53.0**	**+1.5**
TX31	**Lajitas Ar. Si**	**6.74**	**45**		**Pn**	**21 25 52.2**	**+0.1**
TX32	**Lajitas Array**	**6.74**	**45**		**Pn**	**21 25 52.6**	**+0.5**
TXAR	**Lajitas Array**	**6.74**	**45**	Pn	**Pn**	**21 25 52.9**	**+0.8**
	0.1nm,0.3s,baz=220,slow=13,SNR=5.3						
TXAR				Sn	**Sn**	**21 27 08.5**	**-0.7**
	0.4nm,0.3s,baz=195,slow=14,SNR=2.3						
TXAR				Lg	Lg	21 27 42.9	
	2.1nm,0.3s,baz=220,slow=29,SNR=10						
	0.3nm,0.4s						
QSM	**Queen of Sheba**	**13.10**	**331**		**Pn**	**21 27 19.8**	**+0.7**
O20A	**White River Ci**	**15.45**	**3**		**P**	**21 27 55.0**	**-0.9**
O20A				IAmb	IAmb	21 28 26.2	
	comp=Z,26nm,0.8s						
KAN12	**Harper NE Stat**	**15.79**	**34**	P	**P**	**21 27 58.7**	**-0.7**
NVAR	**Mina Array Bea**	**15.79**	**333**	Pn	**P**	**21 28 05.0**	**+5.3**
	comp=Z,0.2nm,0.3s,baz=156,slow=14,SNR=7.2						
	comp=Z,2.4nm,0.7s						
OK051	**E0350 and S346**	**15.84**	**39**		**P**	**21 27 58.6**	**-1.3**
OK051				IAmb	IAmb	21 28 06.6	
	comp=Z,59nm,1.1s						
CMB	**Columbia Colle**	**16.42**	**327**		**P**	**21 28 07.5**	**+1.0**
ELK	**Elko**	**16.84**	**344**		**P**	**21 28 11.2**	**-0.1**
ELK				IAmb	IAmb	21 28 18.9	
	comp=Z,20nm,1.1s						
PNTR	**Pine Nut**	**16.90**	**331**		**P**	**21 28 14.1**	**+2.1**
PNTR				IAmb	IAmb	21 28 16.9	
	comp=Z,21nm,0.9s						
HWUT	**Hardware Ranch**	**17.02**	**354**		**P**	**21 28 13.1**	**-0.2**
HWUT				IAmb	IAmb	21 28 20.2	
	comp=Z,19nm,0.9s						
RWWY	**Rawlins**	**17.06**	**5**		**P**	**21 28 13.8**	**0.0**
RWWY				IAmb	IAmb	21 28 24.0	
	comp=Z,39nm,1.1s						
VCNR	**Virginia City**	**17.09**	**331**	P	**Pn**	**21 28 12.2**	**-0.1**
VCNR				IAmb	IAmb	21 28 16.8	
	comp=Z,16nm,0.8s						
BMN	**Battle Mountai**	**17.13**	**339**		**Pn**	**21 28 13.2**	**+0.4**
PAHR	**Pah Rah Range**	**17.32**	**333**	Pn	**Pn**	**21 28 14.6**	**-0.4**
HVU	**Hansel Valley**	**17.34**	**351**		**Pn**	**21 28 16.3**	**+0.9**
HVU				IAmb	IAmb	21 28 18.9	
	comp=Z,14nm,0.8s						
BG3	**Lake Jocassee**	**24.88**	**59**	P	**P**	**21 29 35.3**	**-0.9**
PULU	**Pululahua**	**38.45**	**125**	P	**P**	**21 31 33.4**	**-2.6**
ILAR	**Eielson Array**	**46.91**	**339**	P	**P**	**21 32 46.9**	**+3.3**
	comp=Z,1.2nm,0.9s,baz=146,slow=6.8,SNR=9.7						
	comp=Z,1.2nm,0.9s						

MAN 20 21:26:47.6,13°.16N×122°.20E,h23km,mb4.0,ML2.8, MS2.4,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LQP	**Lukban**	**1.14**	**326⇑**	*eP*	Pn	21 27 07.5	-0.8
LQP				*eS*	Sn	21 27 23.5	+0.1
RCP	**Roxas**	**1.68**	**161⇑**	*eP*	Pn	21 27 13.6	-2.1

IDC 20 21:31:14.9±3.1,45°.84S×39°.00E,h0km,mb4.2/3, mbtmp4.2/3,Error ellipse: s-maj=292.1km s-min=49.0km az=9.0,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**75.75**	**121**	P	P	21 43 02.5	0.0
	2.2nm,0.7s,baz=203,slow=4.3,SNR=5.5						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**76.66**	**110**	P	P	21 43 08.3	+0.4
	2.2nm,0.8s,baz=219,slow=5.2,SNR=13						
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**79.55**	**108**	P	P	21 43 23.5	-0.4
	1.2nm,0.9s,baz=219,slow=4.6,SNR=8.9						
	1.2nm,0.9s						
TXAR	**Lajitas Array**	**146.50**	**254**	PKPbc	PKPdf	21 50 57.4	+0.7
	0.8nm,0.8s,baz=125,slow=5.6,SNR=6.3						

*IDC **20** 21:46:50.4±3.2,5°.66S×81°.09W,h52km±28km,mb3.5/8, mbtmp3.8/11,ML3.7/3,Error ellipse: s-maj=37.4km s-min=19.0km az=58.0*
ISC 20 21:46:48.3±0.7,5°.75S±0°.1×81°.3W±0°.1,h35km,n16, σ1§38/17,mb3.9/8,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.26**	**117**	P	**Pn**	**21 47 36.9**	**-0.4**
	7.0nm,0.3s,baz=62,slow=4.2,SNR=24						
ATAH				S	**Sn**	**21 48 17.9**	**+2.7**
	195nm,0.7s,baz=358,slow=18,SNR=4.7						
	36nm,0.4s						
NNA	**Nana**	**7.68**	**145**	P	**Pn**	**21 48 36.7**	**-1.1**
	2.0nm,0.3s,baz=324,slow=4.2,SNR=7.2						
NNA				S	Sn	21 49 55.7	-8.1
	5.3nm,0.3s,baz=252,slow=16,SNR=1.1						
	5.8nm,0.2s						
LPAZ	**La Paz**	**16.70**	**130**	P	**Pn**	**21 50 39.0**	**-1.3**
	0.1nm,0.3s,baz=331,slow=12,SNR=5.2						
	1.5nm,0.6s						
LVC	**Limon Verde**	**20.68**	**146**	P	**P**	**21 51 27.9**	**+2.1**
	1.8nm,0.6s,baz=338,slow=11,SNR=1.8						
SIV	**San Ignacio**	**22.36**	**119**	P	**P**	**21 51 43.2**	**-0.5**
	0.9nm,0.5s,baz=292,slow=9.2,SNR=5.8						
	0.9nm,0.5s						
PLCA	**Paso Flores**	**36.22**	**166**	P	**P**	**21 53 48.5**	**+0.5**
	1.2nm,0.8s,baz=330,slow=7.6,SNR=2.8						
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**40.90**	**330**	P	**P**	**21 54 27.6**	**+0.2**
	0.2nm,0.7s,baz=131,slow=11,SNR=2.0						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**54.60**	**335**	P	**P**	**21 56 14.7**	**+1.0**
	0.9nm,0.8s,baz=136,slow=9.6,SNR=6.3						
	0.9nm,0.8s						
NVAR	**Mina Array Bea**	**55.69**	**325**	P	**P**	**21 56 23.9**	**+2.3**
	0.6nm,0.7s,baz=121,slow=8.7,SNR=1.8						
	0.6nm,0.7s						
SNAA	**Sanae**	**81.03**	**162**	P	**P**	**21 58 58.9**	**-0.4**
	2.7nm,0.8s,baz=330,slow=4.4,SNR=11						
	2.7nm,0.8s						
ESDC	**Sonca Array**	**83.94**	**49**	P	**P**	**21 59 14.4**	**-0.7**
	0.8nm,0.6s,baz=270,slow=5.4,SNR=5.5						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**84.52**	**76**	P	**P**	**21 59 16.9**	**-1.6**
	0.5nm,0.5s						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**130.57**	**11**	PKP	**PKPdf**	**22 05 54.5**	**-0.9**
	0.9nm,0.6s,baz=329,slow=2.6,SNR=6.8						
KURBB	**Kurchatov Arra**	**132.13**	**17**	PKP	**PKPdf**	**22 05 57.8**	**-0.7**
	0.4nm,0.6s,baz=326,slow=2.7,SNR=3.9						
ASAR	**Alice Springs**	**134.92**	**228**	PKP	**PKPdf**	**22 06 04.7**	**0.0**
	0.8nm,0.8s,baz=118,slow=2.2,SNR=5.1						
WRA	**Warramunga Arr**	**136.66**	**233**	PKP	**PKPdf**	**22 06 07.8**	**-0.1**
	0.9nm,0.7s,baz=114,slow=2.2,SNR=12						

*IDC **20** 21:48:24.2±1.6,2°.92S×129°.26E,h0km,mb3.9/2, mbtmp3.9/4,ML3.9/2,Error ellipse: s-maj=45.9km s-min=25.8km az=85.0*
*DJA **20** 21:48:27.2±0.4,3°.5±3°×12°.9E±°,h10km,M3.6/9,MLv3.6/9*
ISC 20 21:48:28.2±0.9,2°.80S±0°.06×129°.37E±0°.05,h28km,n13, σ1§11/15,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.70**	**219**	P	**Pb**	**21 48 41.9**	**0.0**
MSAI				S	**Sn**	**21 48 53.7**	**+1.5**
KRAI	**Karang Ratu**	**1.10**	**242**	P	**Pb**	**21 48 48.3**	**-0.4**
AAI	**Ambon**	**1.47**	**233**	P	**Pb**	**21 48 54.5**	**-0.4**
BNDI	**Bandanaira**	**1.80**	**163**	P	**Pb**	**21 49 00.8**	**+0.3**
NLAI	**Namlea**	**2.31**	**259**	P	**Pn**	**21 49 05.6**	**+1.2**
SIJI	**Sorong**	**2.69**	**45**	Pn	**Pn**	**21 49 10.3**	**+0.6**
	16nm,0.3s,baz=299,slow=23,SNR=100						
SIJI				Sn	**Sn**	**21 49 42.0**	**+0.6**
	15nm,0.3s,baz=197,slow=23,SNR=10.0						
	33nm,0.3s						
SIJI	**Sorong**	**2.69**	**45**	P	**Pn**	**21 49 10.1**	**+0.4**
LBMI	**Labuha**	**2.84**	**319**	P	**Pn**	**21 49 11.5**	**-0.3**
FAKI	**Fak Fak**	**2.88**	**93**	P	**Pn**	**21 49 12.8**	**+0.6**
SANI	**Sanana**	**3.46**	**282**	P	**Pn**	**21 49 20.6**	**+0.4**
WRA	**Warramunga Arr**	**17.72**	**164**	P	**Pn**	**21 52 30.2**	**-2.9**
	0.4nm,0.3s,baz=342,slow=13,SNR=20						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**21.21**	**168**	P	**P**	**21 53 11.4**	**-0.5**
	6.2nm,0.6s,baz=349,slow=10,SNR=93						
	6.2nm,0.6s						
MKAR	**Makanchi Array**	**64.40**	**326**	P	**P**	**21 59 02.6**	**+0.8**
	0.4nm,0.6s,baz=132,slow=6.4,SNR=4.5						
	0.4nm,0.6s						

*BJI **20** 21:59:19.1±0.0,35°.72N×141°.48E,h10km,mb4.5/35, mB5.1/12,Ms4.7/11,Ms7 4.6/11*
*MOS **20** 21:59:24.7±1.0,35°.77N×140°.83E,h18km,mb5.1/57,Error ellipse: s-maj=10.1km s-min=5.0km az=128.2*
*JMA **20** 21:59:25.3±0.2,35°.9N±0°.4×141°.0E±0°.9,h17km±1km, MD5.0/35,MV5.3/35,NEAR CHOSHI CITY*
JMA Felt III J1 at NEAR CHOSHI CITY .
*NIED **20** 21:59:25.3,35°.88N×140°.96E,h17km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=1.25; Mθθ=0.98; Mφφ=2.23; Mrθ=0.10; Mrφ=-0.65; Mθφ=0.51; Fault plane solution: Mo=1.92000×10^16 NP1: φs=319.00000°,δ=46.00000°,λ=-135.00000°. NP2: φs=194.00000°,δ=59.00000°,λ=-54.00000°.*
*NEIC **20** 21:59:27.0±1.4,35°.92N±0°.05×140°.97E±0°.09,h19km±4km, mb5.0/85 Error ellipse: s-maj=10.3km s-min=6.7km az=106.0*
*IDC **20** 21:59:29.2±1.5,35°.83N×140°.80E,h33km±11km,mb4.4/29, mbtmp4.6/34,ML3.7/5,MS4.1/2,Error ellipse: s-maj=13.9km s-min=9.6km az=88.0*
ISC 20 21:59:27.4±0.5,35°.84N±0°.03×140°.96E±0°.04,h23km±3km, n590,σ2§03/523,mb4.9/130,15C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.16**	**210**	*i* P	**Pb**	**21 59 30.0**	**-2.4**
CHOJ				*eS*	**Sb**	**21 59 33.2**	**-2.5**
CHOJ	**Chosi**	**0.16**	**210**	A	A	21 59 30.0	
	comp=E,345nm,5.0s,comp=E,393nm,1.6s						
JIHU	**Itakohorinouch**	**0.37**	**290**	P	**Pb**	**21 59 33.3**	**-2.1**
JIHU				*eS*	**Sb**	**21 59 39.0**	**-1.8**
JIHU	**Itakohorinouch**	**0.37**	**290**	A	A	21 59 33.3	
	comp=E,687nm,1.4s,comp=E,548nm,1.8s						
JSMT	**Sammumatsuo**	**0.46**	**245**	P	**Pb**	**21 59 35.4**	**-1.5**
JSMT				*eS*	**Sb**	**21 59 42.8**	**-0.4**
JSMT	**Sammumatsuo**	**0.46**	**245**	A	A	21 59 35.4	
	comp=E,240nm,5.2s,comp=E,318nm,4.6s						
JHYU	**Hitachinakayam**	**0.58**	**329**	⇓P	**Pb**	**21 59 36.5**	**-2.5**
JHYU				⇓S	**Sb**	**21 59 44.0**	**-2.8**
JHYU	**Hitachinakayam**	**0.58**	**329**	A	A	21 59 36.5	
	comp=E,254nm,0.5s,comp=E,277nm,0.5s						
JYT	**Yasato**	**0.73**	**302**	P	**Pb**	**21 59 38.6**	**-2.8**
JYT				*eS*	**Sb**	**21 59 47.9**	**-3.1**
JYT	**Yasato**	**0.73**	**302**	A	A	21 59 38.6	
	comp=E,119nm,0.5s,comp=E,255nm,2.2s						
JCN	**Nagara**	**0.74**	**236**	A	A	21 59 39.8	
	comp=E,191nm,5.0s,comp=E,212nm,4.7s						
I30JP	**ISUMI INFRASON**	**0.75**	**225**	Pg	**Pb**	**21 59 41.5**	**-0.2**
	baz=55,slow=13						
I30JP				Lg	Lg	21 59 52.9	
	baz=58,slow=32						
JHO	**Hitachi**	**0.83**	**338**	P	**Pb**	**21 59 40.2**	**-3.0**
JHO				*eS*	**Sb**	**21 59 50.8**	**-3.1**
JHO	**Hitachi**	**0.83**	**338**	A	A	21 59 40.2	
	comp=E,177nm,1.3s,comp=E,81nm,0.3s						
JKUC	**kamogawauchiur**	**0.92**	**223**	A	A	21 59 42.9	
	comp=E,65nm,2.4s,comp=E,71nm,2.3s						
TOK	**Tokyo**	**0.99**	**261**	A	A	21 59 43.8	
	comp=E,157nm,1.9s,comp=E,122nm,2.7s						
BSO3	**Boso 3**	**1.10**	**200**	*eP*	**Pn**	**21 59 46.0**	**-1.1**
TATJ	**Tateyama 2**	**1.19**	**228**	A	A	21 59 47.3	
	comp=E,69nm,3.6s,comp=E,72nm,4.2s						
JYO	**Yokosk**	**1.22**	**240**	A	A	21 59 47.8	
	comp=E,71nm,3.3s,comp=E,72nm,2.1s						
JFFD	**Fukushimafurud**	**1.29**	**346**	A	A	21 59 47.9	
	comp=E,71nm,1.2s,comp=E,32nm,0.8s						
JAG	**Ashikaga**	**1.35**	**296**	A	A	21 59 49.3	
	comp=E,28nm,1.2s,comp=E,31nm,1.4s						
JHU	**Hanno**	**1.36**	**271**	A	A	21 59 49.7	
	comp=E,26nm,2.0s,comp=E,27nm,4.3s						
JSB	**Shiboa**	**1.40**	**324**	A	A	21 59 49.9	
	comp=E,170nm,2.8s,comp=E,131nm,1.5s						
JSGW	**Sagamiharawaka**	**1.44**	**261**	A	A	21 59 51.0	
	comp=E,18nm,6.1s,comp=E,36nm,2.3s						
JFK	**Kawauchi**	**1.52**	**358**	A	A	21 59 51.6	
	comp=E,30nm,1.5s,comp=E,19nm,2.6s						
JOD2	**Odawara 2**	**1.63**	**250**	A	A	21 59 54.0	
	comp=E,27nm,2.9s,comp=E,27nm,2.1s						
JIM2	**Oshima 3**	**1.68**	**229**	A	A	21 59 54.8	
	comp=E,32nm,1.6s,comp=E,39nm,2.7s						
JRY	**Ryogami san**	**1.68**	**277**	A	A	21 59 54.5	
	comp=E,15nm,1.2s,comp=E,18nm,2.3s						
JHTM	**Izuhatsuma**	**1.82**	**242**	A	A	21 59 56.8	
	comp=E,41nm,2.1s,comp=E,43nm,1.8s						
JFY	**Yanaizu**	**1.86**	**328**	A	A	21 59 56.7	
	comp=E,30nm,1.9s,comp=E,21nm,4.4s						
JMST	**Minamisoumatoc**	**1.88**	**358**	A	A	21 59 56.9	
	comp=E,34nm,2.0s,comp=E,28nm,1.8s						
JTHY	**Toshimahigashi**	**1.90**	**227**	A	A	21 59 58.0	
	comp=E,22nm,2.6s,comp=E,29nm,5.8s						
JFNN	**Fujinakano**	**1.96**	**251**	A	A	21 59 58.8	
	comp=E,46nm,3.0s,comp=E,34nm,4.1s						
JGK	**Kuni**	**2.01**	**292**	A	A	21 59 59.2	
	comp=E,23nm,1.3s,comp=E,23nm,2.1s						
JNIO	**Niijimaoohara**	**2.02**	**223**	A	A	21 59 59.9	
	comp=E,33nm,2.1s,comp=E,23nm,2.3s						
JMM	**Marumori**	**2.03**	**356**		**Pn**	**21 59 57.7**	**-2.4**
JMM				Sn	**Sn**	**22 00 23.0**	**-1.7**
JMM	**Marumori**	**2.03**	**356**	A	A	21 59 59.0	
	comp=E,29nm,1.1s,comp=E,28nm,0.9s						
JIZS	**Izushimoda**	**2.04**	**237**	A			
	comp=E,11nm,1.7s,comp=E,13nm,3.9s					21 59 60.0	
JUON	**Uonuma**	**2.05**	**312**	A	A	21 59 59.6	
	comp=E,19nm,4.0s,comp=E,15nm,2.6s						
JSKK	**Shikinejimakit**	**2.08**	**224**	A	A	22 00 00.7	
	comp=E,15nm,2.7s,comp=E,14nm,7.9s						
JMYK	**Miyake Tsubota**	**2.12**	**214**	A	A	22 00 01.4	
	comp=E,12nm,7.3s,comp=E,14nm,2.0s						
JYAR	**Yonezawaarcadi**	**2.17**	**343**	A	A	22 00 01.1	
	comp=E,66nm,1.6s,comp=E,60nm,1.0s						
JKO	**Kozu shima**	**2.23**	**223**	A	A	22 00 02.8	
	comp=E,27nm,2.9s,comp=E,17nm,2.8s						
JNT	**Takato**	**2.29**	**272**	A	A	22 00 03.5	
	comp=E,8.0nm,4.2s,comp=E,14nm,4.8s						
MJAR	**Matsushiro Arr**	**2.33**	**288**	Pn	**Pn**	**22 00 02.9**	**-1.4**
	18nm,0.3s,baz=142,slow=25,SNR=544						
MJAR				Sn	**Sn**	**22 00 30.4**	**-1.9**
	26nm,0.3s,baz=137,slow=49,SNR=3.8						
MJAR				LR	LR	22 00 32.4	
	comp=Z,2μm,20.3s,baz=164,slow=28						
	96nm,0.3s						
MAJO	**Matsushiro**	**2.33**	**288**	Pn	**Pn**	**22 00 02.7**	**-1.6**
MAJO	**Matsushiro**	**2.33**	**288**	*i* P	**Pn**	**22 00 03.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**2.33**	**288**	Pn	**Pn**	**22 00 03.6**	**-0.8**
JNS	**Sasagawa**	**2.37**	**327**	A	A	22 00 04.2	
	comp=E,21nm,4.2s,comp=E,15nm,6.2s						
SHZ3	**Shizuoka 3**	**2.37**	**252**	A	A	22 00 04.8	
	comp=E,12nm,2.9s,comp=E,16nm,1.4s						
JNG	**Nsakai**	**2.38**	**285**	A	A	22 00 04.6	
	comp=E,9.0nm,2.2s,comp=E,12nm,2.3s						
JIZZ	**Izumozaki**	**2.47**	**314**	A	A	22 00 05.7	
	comp=E,78nm,2.6s,comp=E,85nm,2.1s						
JYS	**Shirataka**	**2.48**	**344**	A	A	22 00 05.6	
	comp=E,57nm,2.5s,comp=E,46nm,1.6s						
JOU	**Okura**	**2.53**	**355**	A	A	22 00 06.3	
	comp=E,39nm,0.8s,comp=E,46nm,0.8s						
JSG	**Sagara**	**2.55**	**244**	A	A	22 00 07.3	
	comp=E,30nm,5.1s,comp=E,21nm,2.4s						
JNY	**Yasuok**	**2.57**	**260**	A	A	22 00 07.5	
	comp=E,11nm,2.2s,comp=E,17nm,4.4s						
JJN	**Nakama**	**2.58**	**300**	A	A	22 00 07.3	
	comp=E,24nm,2.7s,comp=E,29nm,2.4s						
JKKS	**Kakegawashinom**	**2.66**	**247**	A	A	22 00 08.9	
	comp=E,28nm,2.4s,comp=E,22nm,2.9s						
JOFO	**Osakifurukawao**	**2.76**	**359**	A	A	22 00 09.5	
	comp=E,123nm,2.0s,comp=E,108nm,1.9s						
HMMJ	**Hamamatsu 2**	**2.82**	**251**	A	A	22 00 11.2	
	comp=E,8.0nm,3.0s,comp=E,6.0nm,7.1s						
JHJ2	**Mitsune**	**2.88**	**199**	Pn	**Pn**	**22 00 11.7**	**-0.1**
JHJ	**Hachijo jima 2**	**2.88**	**200**	Pn	**Pn**	**22 00 10.3**	**-1.5**
	148nm,0.3s,baz=72,slow=12,SNR=27						
JHJ				Sn	**Sn**	**22 00 46.5**	**+0.7**
	259nm,0.3s,baz=52,slow=23,SNR=12						
	239nm,0.3s						
JYA	**Atsumi**	**2.92**	**341**	A	A	22 00 12.0	
	comp=E,65nm,2.4s,comp=E,42nm,1.1s						
JGF	**Kuroka**	**2.94**	**266**	Pn	**Pn**	**22 00 13.3**	**+0.5**
JGF	**Kuroka**	**2.94**	**266**	A	A	22 00 12.8	
	comp=E,7.0nm,6.6s,comp=E,7.0nm,4.6s						
JAW	**Awa shima**	**2.95**	**333**	A	A	22 00 12.3	
	comp=E,15nm,3.2s,comp=E,13nm,4.6s						
JGN	**Niukaw**	**2.98**	**278**	A	A	22 00 13.2	
	comp=E,5.0nm,2.7s,comp=E,7.0nm,3.6s						
JKMT	**Kesennumamotoy**	**2.99**	**8**	A	A	22 00 12.9	
	comp=E,16nm,1.7s,comp=E,6.0nm,2.5s						
JTT	**Ttatey**	**3.03**	**286**	A	A	22 00 13.9	
	comp=E,13nm,3.0s,comp=E,14nm,2.9s						
JAO	**Obara**	**3.07**	**260**	A	A	22 00 14.7	
	comp=E,7.0nm,5.4s,comp=E,12nm,2.4s						
JSD	**Sado**	**3.08**	**316**	Pn	**Pn**	**22 00 12.7**	**-1.9**
JSD	**Sado**	**3.08**	**316**	A	A	22 00

comp=Z,10.0nm,1.4s
SNY Shenyang 14.80 299 ⇓P Pn **22 02 55.8 +0.7**
SNY S **S** **22 05 53.3 -3.0**
SNY pmax pmax
comp=Z,22nm,1.1s
SNY pmax pmax
comp=Z,740nm,10.2s
SNY LR LR
comp=Z,2µm,13.1s
SNY LR LR
comp=Z,1µm,13.5s
SNY LR LR
comp=Z,2µm,18.9s
KLR Kul'dur 14.99 336 Pn **Pn** **22 02 57.0 -0.7**
comp=Z,0.2nm,0.3s,baz=132,slow=17,SNR=4.2
comp=Z,2.1nm,0.6s
KLR Kul'dur 14.99 336 *i*P **P** **22 03 00.6 -2.3**
TYV Tymovskoe 15.07 4 *e*P Pn **22 02 58.5 -0.2**
TYV pmax pmax
comp=Z,2µm,3.7s
TYV pmax pmax
comp=Z,54nm,0.9s
HEH HeiHe 17.44 330 *e*P **Pn** **22 03 27.9 -1.0**
HEH pP **sP** **22 03 37.8 -1.6**
HEH pmax pmax
comp=Z,5.0nm,1.0s
HEH pmax pmax
comp=Z,640nm,10.5s
HEH LR LR
comp=Z,2µm,17.5s
HEH LR LR
comp=Z,2µm,17.7s
HEH LR LR
comp=Z,3µm,15.1s
SKR Severo-Kuril's 18.44 32 *ce*P Pn 22 03 49.3 +8.1
NJ2 Nanjing 18.72 265 *e*P **Pn** **22 03 48.3 +3.5**
NJ2 pmax pmax
comp=Z,12nm,0.5s
TIA Tai'an 19.27 278 P P 22 03 41.3 -9.1
TIA pmax pmax
comp=Z,7.0nm,1.9s
BJI Beijing 19.97 290 P **P** **22 03 57.0 -0.9**
BJI pmax pmax
comp=Z,11nm,1.6s
BJT Baijiatuan 19.97 289 P **P** **22 03 58.1 +0.1**
BJT Baijiatuan 19.97 289 P **P** **22 03 58.1 +0.1**
BJT pmax pmax
comp=Z,21nm,1.0s
ZEA Zeya 20.30 336 *e*P **P** **22 04 01.5 0.0**
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,40nm,1.0s
PETK Petropavlovsk- 20.91 29 P **P** **22 04 08.2 +0.2**
comp=Z,42nm,1.1s,baz=193,slow=5.9,SNR=10
comp=Z,42nm,1.1s
PETK Petropavlovsk- 20.91 29 P **P** **22 04 07.5 -0.5**
SSLB Suanglung 21.06 241 P **P** **22 04 10.1 +0.2**
SSLB IAmb IAmb 22 04 14.3
comp=Z,101nm,1.7s
HNS HongShan 21.11 282 ⇓P **P** **22 04 07.3 -3.0**
HNS pmax pmax
comp=Z,14nm,0.9s
PET Petropavlovsk 21.23 30 *e*P **P** **22 04 09.2 -2.2**
PET *e*S **S** **22 07 58.5 -7.6**
PET pmax pmax
comp=Z,134nm,1.4s
TPUB Ta-pu 21.60 240 P **P** **22 04 16.1 +0.4**
TPUB IAmb IAmb 22 04 19.5
comp=Z,205nm,1.7s
TWG Pinlang 21.60 238 P **P** **22 04 16.0 +0.3**
TWG IAmb IAmb 22 04 26.3
comp=Z,128nm,1.7s
WHN Wuhan 22.85 264 ⇑P **P** **22 04 29.0 0.0**
LYN LuoYang 23.29 275 *e*P **P** **22 04 34.4 +1.0**
MA2 Magadan 24.59 12 P **P** **22 04 45.5 0.0**
comp=Z,25nm,0.8s,baz=155,slow=15,SNR=4.7
comp=Z,25nm,0.8s
MA2 Magadan 24.59 12 P **P** **22 04 45.5 0.0**
MA2 Magadan 24.59 12 *ce*P **P** **22 04 49.8 +4.3**
MA2 pmax pmax
comp=Z,140nm,1.7s
XAN Xi'an 26.26 275 ⇑P **P** **22 05 04.5 +3.5**
XAN pmax pmax
comp=Z,12nm,1.0s
XAN LR LR
comp=Z,1µm,19.2s
XAN LR LR
comp=Z,970nm,22.0s
XAN LR LR
comp=Z,1µm,17.2s
ENH Enshi 26.89 267 P **P** **22 05 06.2 -0.4**
ENH IAmb IAmb 22 05 33.5
comp=Z,30nm,1.0s
YAK Yakutsk 27.16 348 P **P** **22 05 07.6 -1.0**
comp=Z,44nm,1.0s,baz=329,slow=1.7,SNR=18
comp=Z,44nm,1.0s
YAK Yakutsk 27.16 348 P **P** **22 05 08.7 +0.1**
YAK Yakutsk 27.16 348 *e*P **P** **22 05 09.2 +0.6**
YAK *e*PP **sP** **22 05 21.2 +2.8**
YAK *e* 22 05 54.5
YAK *e* 22 08 25.4
YAK *e*S **S** **22 09 45.7 +0.1**
YAK *e*SS **SnSn** **22 11 04.9 +11**
YAK *e* 22 15 54.5
YAK pmax pmax
comp=Z,78nm,1.0s
YAK pmax pmax
comp=N,37nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,20nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK smax smax
comp=E,220nm,4.3s
YAK smax smax
comp=N,197nm,4.3s
ULN Ulaanbaatar 27.74 306 P **P** **22 05 15.6 +1.4**
ULN Ulaanbaatar 27.74 306 P **P** **22 05 13.4 -0.8**
comp=N,49nm,1.0s
ULN Ulaanbaatar 27.74 306 *ce*P **P** **22 05 14.5 +0.3**
ULN pmax pmax
comp=Z,17nm,1.7s
H11N2 WAKE ISLAND Hy 27.88 118 T T 22 34 22.1
baz=311,slow=75,SNR=1829
H11N1 WAKE ISLAND Hy 27.89 118 T T 22 34 22.2
baz=311,slow=75,SNR=1188
H11N3 WAKE ISLAND Hy 27.90 118 T T 22 34 22.9
baz=311,slow=75,SNR=1344
SEY Seymchan 28.03 11 P **P** **22 05 17.1 +0.7**
comp=Z,4.2nm,0.8s,baz=343,slow=20,SNR=2.1
comp=Z,4.2nm,0.8s
SEY Seymchan 28.03 11 *ce*P P 22 05 21.4 +5.0
SEY pmax pmax
comp=Z,32nm,0.9s
SONM Songino Array 28.17 306 P **P** **22 05 17.0 -1.0**
comp=Z,5.3nm,0.8s,baz=104,slow=8.2,SNR=16
comp=Z,5.3nm,0.8s
SONM Songino Array 28.17 306 P **P** **22 05 16.6 -1.5**
BOD Bodaibo 28.35 329 *e*P **P** **22 05 19.9 +0.5**
BOD pmax pmax
comp=Z,25nm,1.3s
H11S1 WAKE ISLAND Hy 28.55 120 T T 22 35 26.2
baz=314,slow=75,SNR=3449
H11S3 WAKE ISLAND Hy 28.55 120 T T 22 35 26.2
baz=314,slow=75,SNR=2460
H11S2 WAKE ISLAND Hy 28.56 120 T T 22 35 27.4
baz=314,slow=75,SNR=2328
LZH Lanzhou 29.92 282 *e*P **P** **22 05 33.9 +0.1**
LZH pP pP 22 05 39.4 -1.3
LZH pmax pmax
comp=Z,19nm,1.6s
ZAK Zakamensk 30.74 310 *e*P **P** **22 05 39.1 -1.6**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
CD2 Chengdu 31.32 272 P **P** **22 05 45.0 -1.1**
GTA Gaotai 32.58 289 ⇑P **P** **22 05 57.3 +0.2**
GTA pP pP 22 06 01.8 -2.3
GTA sP sP 22 06 05.5 -1.4
GTA pmax pmax
comp=Z,5.0nm,0.9s
PZH PanZhiHua 34.63 266 P **P** **22 06 13.5 -1.6**
PZH pmax pmax
comp=Z,8.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.5s
BILL Bilibino 35.27 16 P **P** **22 06 20.2 +0.2**
BILL IAmb IAmb 22 06 25.6
comp=Z,19nm,1.0s
BILL Bilibino 35.27 16 *e*P **P** **22 06 22.7 +2.7**
BILL *e* 22 06 33.1
BILL *e* 22 07 46.3
BILL *e* 22 08 52.3
BILL pmax pmax
comp=Z,13nm,0.9s
BILL MLR MLR
comp=Z,795nm,18.0s
TIXI Tiksi 36.43 354 P **P** **22 06 29.5 -0.3**
comp=Z,3.8nm,0.5s,baz=321,slow=0.2,SNR=9.2
comp=Z,3.8nm,0.5s
TIXI Tiksi 36.43 354 P **P** **22 06 28.5 -1.3**
TIXI Tiksi 36.43 354 *i*P **P** **22 06 30.1 +0.3**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
MYLDM Lahad Datu 36.85 219 P **P** **22 06 35.0 +1.0**
comp=Z,14nm,1.4s
TNCH TengChong 37.88 265 P **P** **22 06 42.3 -0.7**
TNCH pP pP 22 06 46.1 -3.9
TNCH sP sP 22 06 49.0 -3.8
TNCH S **S** **22 12 29.5 -3.8**
TNCH sS ScP 22 12 45.8 +0.8
TNCH pmax pmax
comp=Z,11nm,1.3s
TNCH LR LR
comp=Z,950nm,20.6s
TNCH LR LR
comp=Z,1µm,22.3s
TNCH LR LR
comp=Z,3µm,36.3s
GTOI Gorontalo 38.80 209 P **P** **22 06 47.3 -3.1**
comp=Z,5.7nm,1.0s
SANI Sanana 40.20 204 P **P** **22 07 00.6 -1.6**
comp=Z,22nm,0.6s
PBKT Sadao Pong 40.34 252 P P 22 06 46.7 -17
DGZ Jazzator, Alta 40.80 307 *i*P **P** **22 07 07.8 +0.8**
DGZ pmax pmax
comp=Z,26nm,0.8s
CMAR Chiang Mai Arr 40.85 256 P **P** **22 07 05.8 -1.8**
comp=Z,0.7nm,0.3s,baz=26,slow=6.6,SNR=5.2
comp=Z,0.7nm,0.3s
CMAR Chiang Mai Arr 40.85 256 *i*P **P** **22 07 06.6 -0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
LSA Lhasa 41.96 276 P **P** **22 07 16.7 -0.4**
LSA Lhasa 41.96 276 P **P** **22 07 16.7 -0.4**
LSA pmax pmax
comp=Z,8.0nm,0.8s
ZAA0 Zalesovo Array 42.45 313 P **P** **22 07 19.3 -1.0**
ZAA0 IAmb IAmb 22 07 25.7
comp=Z,26nm,0.9s
ZALV Zalesovo Beam 42.45 313 P **P** **22 07 20.1 -0.2**
comp=Z,4.3nm,0.7s,baz=93,slow=6.9,SNR=23
comp=Z,7.3nm,0.7s
ZALV Zalesovo Beam 42.45 313 P **P** **22 07 19.7 -0.5**
ZSN Zaisan 42.63 304 *e*P **P** **22 07 21.4 -0.5**
comp=Z,12nm,1.0s,baz=304
ZSN Zaisan 42.63 304 *e*P **P** **22 07 21.3 -0.5**
ZSN pmax pmax
comp=Z,12nm,1.0s
NRIK Noril'sk 44.20 336 P **P** **22 07 35.9 +1.8**
comp=Z,5.6nm,0.8s,baz=329,slow=1.6,SNR=5.3
comp=Z,5.6nm,0.8s
NRIK Noril'sk 44.20 336 P **P** **22 07 32.8 -1.4**
NRIK Noril'sk 44.20 336 *ce*P **P** **22 07 36.1 +1.9**
NRIK pmax pmax
comp=Z,11nm,1.1s
CHNA Chernabura Isl 44.41 45 P **P** **22 07 35.0 -0.9**
baz=270
MK31 Makanchi Array 44.45 303 P **P** **22 07 34.1 -2.4**
MK31 Makanchi Array 44.45 303 *i*P **P** **22 07 36.5 0.0**
MKAR Makanchi Array 44.45 303 P **P** **22 07 36.1 -0.4**
comp=Z,4.9nm,0.6s,baz=89,slow=9.6,SNR=26
comp=Z,4.9nm,0.6s
MKAR Makanchi Array 44.45 303 P **P** **22 07 35.6 -0.9**
MKAR Makanchi Array 44.45 303 *i*P **P** **22 07 36.4 -0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MAKZ Makanchi 44.66 303 P **P** **22 07 37.3 -0.9**
MAKZ Makanchi 44.66 303 P **P** **22 07 37.3 -0.9**
MAKZ pmax pmax
comp=Z,13nm,1.0s
N16K Nishlik Lake 45.09 37 P **P** **22 07 41.0 -0.4**
baz=265
R16K Pilot Point 45.56 42 P **P** **22 07 44.6 -0.5**
baz=269
TAPN Taplejung 45.67 275 *e*P **P** **22 07 46.9 +0.1**
O17K Koliganek Bris 45.88 38 P **P** **22 07 46.7 -0.9**
baz=267
Q16K King Salmon 46.07 40 P **P** **22 07 47.7 -1.4**
baz=269
KURK Kurchatov 46.39 309 P **P** **22 07 51.5 -0.3**
KURK Kurchatov 46.39 309 *ce*P **P** **22 07 51.3 -0.4**
KURK pmax pmax
comp=Z,48nm,0.9s
KURBB Kurchatov Arra 46.45 309 P **P** **22 07 52.1 -0.1**
comp=Z,18nm,0.8s,baz=84,slow=8.3,SNR=67
comp=Z,18nm,0.8s
Q17K Contact Creek 46.47 41 P **P** **22 07 51.7 -0.7**
baz=270
N18K Kilae Creek 46.52 37 P **P** **22 07 51.6 -1.2**
baz=268
CHIR Chirikof Islan 46.65 44 P **P** **22 07 53.0 -0.8**
baz=272
RAMN Ramite 46.73 275 *e*P **P** **22 07 55.5 +0.4**
JIRN Jiri 46.77 276 *e*P **P** **22 07 56.0 +0.5**
P18K Big Mountain, 46.82 39 P **P** **22 07 53.3 -1.8**
baz=269
O18K Koktuh Hills 46.84 38 P **P** **22 07 54.0 -1.2**
baz=269
GUN Gumba 46.91 277 *e*P **P** **22 07 57.2 +0.6**
comp=Z,57nm,1.0s
SHLS Shalkode 47.07 299 *e*P **P** **22 07 53.6 -3.9**
baz=298
SHLS Shalkode 47.07 299 *e*P **P** **22 07 53.5 -3.9**
N19K Bonanza Creek 47.22 37 P **P** **22 07 58.0 -0.3**
baz=269
TDK Taldyqorghan 47.43 301 *e*P **P** **22 07 59.1 -1.0**
baz=301
TDK Taldyqorghan 47.43 301 *e*P **P** **22 07 59.0 -1.0**
PKI Pulchoki 47.44 276 *e*P **P** **22 08 00.9 +0.2**
PKIN Phulchoki 47.44 276 *e*P **P** **22 08 00.7 0.0**
J20K Nowinta River 47.54 33 P **P** **22 08 00.8 +0.2**
J20K IAmb IAmb 22 08 08.6
comp=Z,26nm,1.1s
J20K Nowinta River 47.54 33 P **P** **22 08 01.3 +0.7**
baz=266
KPKS Kokpek 47.56 299 *e*P **P** **22 07 59.8 -1.4**
comp=Z,9.1nm,1.3s,baz=299
KPKS Kokpek 47.56 299 *e*P **P** **22 07 59.7 -1.4**
KPKS pmax pmax
comp=Z,9.0nm,1.3s
L20K Farewell, AK 47.56 35 P **P** **22 08 00.4 -0.4**
baz=268
SATY Saty 47.85 299 *e*P **P** **22 08 02.5 -1.0**
baz=299
SATY Saty 47.85 299 *e*P **P** **22 08 02.4 -1.0**
IMAR Indian Mountai 47.87 30 P **P** **22 08 03.5 +0.5**
GKN Gorkha 47.88 277 *e*P **P** **22 08 03.5 -0.4**
comp=Z,85nm,1.1s
M20K Styx River 47.90 36 P **P** **22 08 02.6 -0.9**
baz=269
G21K Allakaket 48.02 29 P **P** **22 08 04.3 +0.1**
baz=264
F21K Alatna River 48.10 28 P **P** **22 08 05.2 +0.3**
baz=264
H21K Melozitna Rive 48.23 31 P **P** **22 08 06.0 +0.1**
H21K IAmb IAmb 22 08 13.6
comp=Z,22nm,1.1s
H21K Melozitna Rive 48.23 31 P **P** **22 08 06.9 +1.0**
baz=266
Q20K Shuyak Island 48.30 40 P **P** **22 08 07.3 +0.8**
baz=272
CHUM Lake Minchumin 48.33 33 P **P** **22 08 07.5 +0.9**
baz=268
N20K Mount Spurr 48.33 37 P **P** **22 08 08.0 +1.1**
baz=270
SPCR Spurr Chakacha 48.33 37 P **P** **22 08 08.0 +1.1**
baz=270
PPLA Purkeypile 48.36 34 P **P** **22 08 08.1 +1.0**
baz=269
CAST Castle Rocks 48.42 34 P **P** **22 08 08.6 +1.2**
baz=268
DANN Dangsing 48.44 278 *e*P **P** **22 08 08.2 -0.2**
comp=Z,63nm,0.7s
I21K Tanana 48.54 31 P **P** **22 08 08.5 +0.3**
baz=267
TARG Taragay, Kyrgy 48.61 297 P **P** **22 08 09.2 -0.5**
TARG IAmb IAmb 22 08 32.8
comp=Z,18nm,0.8s
TARG Taragay, Kyrgy 48.61 297 P **P** **22 08 09.2 -0.5**
TARG pmax pmax
comp=Z,18nm,0.8s
BATI Baumata 48.62 203 P **P** **22 08 10.8 +1.3**
comp=Z,24nm,0.5s,baz=271,slow=3.7,SNR=6.0
comp=Z,24nm,0.5s
F22K John River 48.63 28 P **P** **22 08 09.7 +0.6**
baz=265
SKT Skwentna 48.65 36 P **P** **22 08 10.0 +0.8**
baz=270
H22K Ishtalitna Cre 48.83 30 P **P** **22 08 12.7 +2.1**
baz=267,SNR=14
E22K Anaktuvuk Pass 48.83 27 P **P** **22 08 12.2 +1.6**
baz=264
G22K Bettles 48.84 29 P **P** **22 08 12.1 +1.5**
baz=266
AAA Alma-Ata 48.87 299 *e*P **P** **22 08 09.3 -2.0**
baz=299
AAA Alma-Ata 48.87 299 *e*P **P** **22 08 09.3 -2.0**
TNSS Tian-Shan 48.89 299 *e*P **P** **22 08 10.3 -1.6**
baz=299
TNSS Tian-Shan 48.89 299 *e*P **P** **22 08 10.2 -1.6**
SUA Susitna One 49.03 36 P **P** **22 08 14.3 +2.0**
baz=271
MLY Manley 49.06 31 P **P** **22 08 10.8 -1.5**
MLY IAmb IAmb 22 08 19.7
comp=Z,30nm,1.2s
MLY Manley 49.06 31 P **P** **22 08 11.6 -0.7**
baz=268,SNR=6.8
KUU Kurty 49.12 300 *e*P **P** **22 08 11.3 -1.8**
baz=300
KUU Kurty 49.12 300 *e*P **P** **22 08 11.2 -1.8**
TRF Thorofare Moun 49.23 34 P **P** **22 08 16.2 +2.4**
baz=270
D23K Nanushuk River 49.32 26 P **P** **22 08 15.5 +1.3**
baz=265
COLD Coldfoot 49.37 29 P **P** **22 08 16.5 +1.8**
baz=267
G23K Bananza Creek 49.42 29 P **P** **22 08 15.5 +0.4**
baz=267
C23K Itkillik River 49.43 25 P **P** **22 08 13.1 -1.9**
baz=264
COEN Coen 49.57 177 P **P** **22 08 16.7 0.0**
H23K Yukon River 49.58 30 P **P** **22 08 15.5 -0.8**
H23K Yukon River 49.58 30 P **P** **22 08 17.3 +1.0**
baz=269
I23K Minto, Yukon-K 49.64 31 P **P** **22 08 17.8 +1.1**
baz=269
E23K Chandalar 49.65 27 P **P** **22 08 18.4 +1.5**
baz=267
TOLK Toolik Lake Re 49.70 27 P **P** **22 08 18.4 +1.2**
baz=266,SNR=6.6
NEA2 Nenana 49.76 32 P **P** **22 08 19.1 +1.4**
baz=270
PMR Palmer 49.80 36 P **P** **22 08 19.2 +1.2**
baz=273
MCK McKinley 49.83 33 P **P** **22 08 18.7 +0.5**
MCK IAmb IAmb 22 08 34.5
comp=Z,11nm,1.0s
MCK McKinley 49.83 33 P **P** **22 08 19.8 +1.6**
baz=271
MCK McKinley 49.83 33 P **P** **22 08 18.7 +0.5**
MCK pmax pmax
comp=Z,11nm,1.0s
WAT1 Susitna Watana 50.03 34 P **P** **22 08 20.5 +0.7**
baz=272
E24K Your Creek 50.07 28 P **P** **22 08 22.0 +2.0**
baz=268
C24K Franklin Bluff 50.08 25 P **P** **22 08 21.5 +1.5**
baz=266
MDM Murphy Dome 50.12 32 P **P** **22 08 19.7 -0.7**
KNK Knik Glacier 50.13 36 P **P** **22 08 20.8 +0.2**
baz=273
SML Sawmill 50.17 36 P **P** **22 08 20.1 -0.8**
baz=273
BRZS Berezniki 50.26 309 *e*P **P** **22 08 20.0 -1.7**
baz=309
BRZS Berezniki 50.26 309 *e*P **P** **22 08 20.0 -1.7**
H24K Noodor Dome 50.27 30 P **P** **22 08 21.5 0.0**
H24K IAmb IAmb 22 08 29.1
comp=Z,19nm,1.1s
H24K Noodor Dome 50.27 30 P **P** **22 08 23.6 +2.1**
baz=270
F24K Squaw Lake 50.28 28 P **P** **22 08 23.8 +2.2**
baz=269
WAT6 Susitna Watana 50.41 35 P **P** **22 08 22.2 -0.6**
baz=273
SGDS Sogindy 50.43 300 *e*P **P** **22 08 21.7 -1.4**
baz=300
SGDS Sogindy 50.43 300 *e*P **P** **22 08 21.7 -1.4**
G24K Hadweenzic Riv 50.43 29 P **P** **22 08 24.9 +2.2**
baz=270,SNR=9.1
BTLS Baital 50.43 302 *e*P **P** **22 08 21.5 -1.6**
baz=302
BTLS Baital 50.43 302 *e*P **P** **22 08 21.4 -1.6**
POKR Poker Plat Res 50.46 31 P **P** **22 08 24.3 +1.4**
baz=271
M23K Glacier View 50.46 36 P **P** **22 08 24.2 +1.1**
baz=274
DHY Denali Highway 50.55 34 P **P** **22 08 23.9 0.0**
baz=273
KSH Kashi 50.56 295 P P 22 08 31.8 +7.5
KSH pmax pmax
comp=Z,6.0nm,0.8s
SCM Sheep Creek Mo 50.65 36 P **P** **22 08 25.2 +0.7**
baz=274
HDA Harding Lake 50.69 32 P **P** **22 08 24.3 -0.3**
HDA Harding Lake 50.69 32 P **P** **22 08 24.0 -0.7**
baz=272
IL31 50.70 32 P **P** **22 08 24.6 -0.1**
IL31 IAmb IAmb 22 08 40.3
comp=Z,14nm,0.9s
ILAR Eielson Array 50.70 32 P **P** **22 08 25.1 +0.4**
comp=Z,3.6nm,0.6s,baz=260,slow=4.2,SNR=18
comp=Z,3.6nm,0.6s
AAK Ala-Archa 50.74 299 P **P** **22 08 24.6 -1.0**
AAK Ala-Archa 50.74 299 *ce*P **P** **22 08 25.5 -0.1**
AAK pmax pmax
comp=Z,9.0nm,1.7s
D25K Kavik River 50.88 26 P **P** **22 08 27.3 +1.2**
baz=269
G25K Bearman Lake 50.98 29 P **P** **22 08 28.4 +1.6**
baz=271
H25L Birch Creek 51.10 30 P **P** **22 08 30.3 +2.6**
baz=272
F25K Christian River 51.14 28 P **P** **22 08 30.1 +1.9**
baz=271
BRVK Borovoye 51.16 313 P **P** **22 08 27.5 -1.0**
BRVK Borovoye 51.16 313 *ce*P **P** **22 08 28.4 0.0**
BRVK pmax pmax
comp=Z,11nm,1.0s
E25K Arctic Village 51.17 27 P **P** **22 08 32.5 +4.2**
baz=270,SNR=14
K24K Donnelly Dome 51.23 33 P **P** **22 08 31.1 +2.3**
baz=274
KLU Klutina 51.34 36 P **P** **22 08 31.8 +2.0**
baz=275
Q23K Middleton Isla 51.35 39 P **P** **22 08 32.1 +2.4**
baz=277
PAX Paxson 51.43 34 P **P** **22 08 33.2 +2.8**
baz=275
BMAR Burnt Mountain 51.55 28 P P 22 08 23.9 -7.2
F26K Sheenjek River 51.71 28 P **P** **22 08 34.0 +1.6**
baz=272
C27K Jago River 51.82 26 P **P** **22 08 34.3 +1.2**
baz=271,SNR=12
G26K Porcupine Rive 51.88 29 P **P** **22 08 35.7 +2.2**
baz=273
N25K Chitina, Valde 51.96 36 P **P** **22 08 34.0 -0.3**
baz=276
SCRK Sand Creek 52.01 33 P **P** **22 08 33.7 -1.0**
SCRK IAmb IAmb 22 08 41.7
comp=Z,41nm,1.7s
SCRK Sand Creek 52.01 33 P **P** **22 08 37.5 +2.8**

baz=275,SNR=6.8
BMRM Bremner River 52.03 37 P P 22 08 36.7 +1.9
baz=277
J26L Joseph Creek 52.14 32 P P 22 08 35.5 -0.2
J26L Joseph Creek 52.14 32 P P 22 08 37.5 +1.8
baz=275
I26K Coal Creek Min 52.25 31 P P 22 08 38.9 +2.6
baz=275
L26K Log Cabin Wild 52.38 34 P P 22 08 36.9 -0.6
L26K IAmb IAmb 22 08 44.7
comp=Z,16nm,1.0s
L26K Log Cabin Wild 52.38 34 P P 22 08 39.7 +2.3
baz=276
KNRA Kununurra 52.52 195 P P 22 08 38.9 0.0
M26K Nabesna, AK 52.62 35 P P 22 08 41.5 +2.3
baz=277
E27K Coleen River 52.65 27 P P 22 08 41.3 +2.0
baz=274
G27K Doyon Strip 52.73 29 P P 22 08 40.2 +0.2
baz=275
MCARA McCarthy VSAT 52.74 36 P P 22 08 40.2 +0.2
baz=278
H27K Steamboat Moun 52.84 30 P P 22 08 40.9 +0.2
baz=276
K27K Chicken 52.84 33 P P 22 08 40.9 +0.2
K27K IAmb IAmb 22 09 01.2
comp=Z,11nm,0.8s
K27K Chicken 52.84 33 P P 22 08 40.9 +0.2
baz=277
I27K Kandik River 52.86 31 P P 22 08 41.1 +0.2
baz=276
L27K Beaver Creek, 53.07 34 P P 22 08 42.8 +0.3
L27K Beaver Creek, 53.07 34 P P 22 08 44.8 +2.3
baz=278
BCAR Beaver Creek A 53.09 34 P P 22 08 42.2 -0.4
M27K Edge Creek, AK 53.14 35 P P 22 08 45.5 +2.3
baz=278
EGAK Eagle 53.15 32 P P 22 08 41.5 -1.5
EGAK IAmb IAmb 22 09 03.2
comp=Z,34nm,1.8s
EGAK Eagle 53.15 32 P P 22 08 44.5 +1.6
baz=277
KK31 Karatay Array 53.41 301 P P 22 08 45.6 +0.3
KK31 IAmb IAmb 22 08 52.0
comp=Z,22nm,1.1s
KK31 Karatay Array 53.41 301 P P 22 08 45.6 +0.3
KK31 pmax pmax
comp=Z,22nm,1.2s
KKAR Karatay Array 53.41 301 P P 22 08 44.9 -0.3
KKAR Karatay Array 53.41 301 P P 22 08 45.4 +0.1
KKAR IAmb IAmb 22 08 52.0
comp=Z,22nm,1.1s
KKAR Karatay Array 53.41 301 P P 22 08 45.4 +0.1
KKAR pmax pmax
comp=Z,22nm,1.2s
BVCY Beaver Creek 53.60 34 P P 22 08 48.1 +1.7
baz=279
DRK Karamyk 53.64 296 P P 22 08 45.2 -2.2
YUK3 Moose Creek 53.89 35 P P 22 08 47.3 -1.5
baz=280
DAWY Dawson 54.00 32 P P 22 08 47.6 -1.7
baz=279
IUG luzhnay 54.04 300 *eP* P 22 08 48.8 -1.2
baz=300
IUG luzhnay 54.04 300 *eP* P 22 08 48.8 -1.2
BTK Batken 54.16 297 P P 22 08 50.2 -0.7
BTK IAmb IAmb 22 09 22.1
comp=Z,32nm,1.6s
BTK Batken 54.16 297 P P 22 08 50.2 -0.7
BTK pmax pmax
comp=Z,32nm,1.7s
O28M Mount Upton 54.20 36 P P 22 08 49.1 -2.0
baz=281
I29M Ogilvie Camp, 54.26 31 P P 22 08 51.3 +0.1
I29M IAmb IAmb 22 09 10.5
comp=Z,26nm,1.2s
I29M Ogilvie Camp, 54.26 31 P P 22 08 52.1 +0.9
baz=279,SNR=9.1
CHM Chimkent 54.29 300 *eP* P 22 08 51.1 -0.6
baz=300
CHM Chimkent 54.29 300 *eP* P 22 08 51.1 -0.6
NIL Nilore 54.65 289 P P 22 08 53.6 -0.9
NIL IAmb IAmb 22 09 17.0
comp=Z,13nm,1.0s
NIL Nilore 54.65 289 P P 22 08 53.6 -0.9
NIL pmax pmax
comp=Z,13nm,1.0s
M29M Somme Creek 54.70 34 P P 22 08 53.6 -0.9
baz=281
L29M L29M 54.72 33 P P 22 08 54.3 -0.3
baz=281
EPYK Eagle Plains 54.74 29 P P 22 08 53.6 -1.1
EPYK Eagle Plains 54.74 29 P P 22 08 54.9 +0.2
baz=280,SNR=20
YUK4 Talbot Arm 54.82 36 P P 22 08 56.8 +1.3
baz=282
G30M tAoh Zraii Nji 54.84 29 P P 22 08 56.9 +1.5
baz=280
K29M Barlow Dome 54.85 32 P P 22 08 57.2 +1.6
baz=281
GAR Garm 54.88 296 P P 22 08 55.9 -0.3
GAR IAmb IAmb 22 09 26.6
comp=Z,36nm,1.4s
YUK6 Outpost Mounta 55.04 36 P P 22 08 58.2 +1.0
baz=282
O29M Mount Kennedy 55.07 37 P P 22 08 57.7 +0.5
baz=282
M30M Minto, Yukon 55.43 34 P P 22 09 00.7 +1.0
baz=282
HYT Haines Junctio 55.48 36 P P 22 09 00.4 +0.2
HYT IAmb IAmb 22 09 08.1
comp=Z,26nm,1.4s
HYT Haines Junctio 55.48 36 P P 22 09 00.9 +0.8
baz=283
N30M Aishikik Lake 55.53 35 P P 22 09 01.7 +1.2
baz=283
INK Inuvik 55.61 27 P P 22 09 01.6 +0.8
comp=Z,6.9nm,0.6s,baz=324,slow=7.8,SNR=16
comp=Z,6.9nm,0.6s
INK Inuvik 55.61 27 P P 22 09 01.1 +0.4
INK IAmb IAmb 22 09 08.0
comp=Z,13nm,0.9s
INK Inuvik 55.61 27 P P 22 09 02.1 +1.2
baz=281,SNR=7.7
INK Inuvik 55.61 27 P P 22 09 01.2 +0.4
INK pmax pmax
comp=Z,13nm,1.0s
P29M Windy Craggy 55.63 37 P P 22 09 02.8 +1.6
baz=283
WB0 Warramunga Arr 55.65 187 P P 22 09 00.6 -1.0
F31M Tsiigehtchic 55.70 28 P P 22 09 03.7 +2.2
baz=281
SVE Sverdlovsk 55.80 319 *eP* P 22 09 02.7 +0.3
SVE pmax pmax
comp=Z,19nm,0.9s
WRAB Tennant Creek 55.82 188 *ceP* P 22 09 01.7 -1.1
WRAB pmax pmax
comp=Z,22nm,1.3s
WR0 Warramunga Arr 55.83 187 P P 22 09 02.9 0.0
WB2 Warramunga Arr 55.83 188 P P 22 09 02.8 -0.1
WRA Warramunga Arr 55.83 188 P P 22 09 02.1 -0.9
comp=Z,7.4nm,0.7s,baz=3.9,slow=7.4,SNR=66
comp=Z,7.4nm,0.7s
WRA Warramunga Arr 55.83 188 P P 22 09 02.1 -0.9
WRA Warramunga Arr 55.83 188 *i* P P 22 09 02.2 -0.7
WRA pmax pmax
comp=Z,8.0nm,0.6s
CTA Charters Tower 55.85 174 P P 22 09 03.4 +0.4
comp=Z,8.0nm,1.0s,baz=5.2,slow=7.1,SNR=2.9
CTA LR LR 22 34 07.8
comp=Z,424nm,18.6s,baz=306,slow=37
comp=Z,8.0nm,1.0s
CHGR Chuyangaron 55.85 296 P P 22 09 01.7 -1.4
CHGR Chuyangaron 55.85 296 P P 22 09 01.7 -1.4
CHGR pmax pmax
comp=Z,38nm,1.0s
P30M Million Dollar 55.90 37 P P 22 09 04.1 +1.0
baz=284
N31M Braeburn, Yuko 56.14 35 P P 22 09 04.0 -0.8
baz=284
O30N Mendenhall 56.16 36 P P 22 09 05.5 +0.6
baz=284
PLBC Pleasant Camp 56.35 37 P P 22 09 05.1 -1.2
baz=285
M31M Drury Creek, Y 56.60 34 P P 22 09 07.3 -0.8
baz=284
WHY Whitehorse 56.77 36 P P 22 09 10.5 +1.2
baz=285
ARU Arti 57.01 319 P P 22 09 10.8 -0.2
ARU IAmb IAmb 22 09 16.0
comp=Z,18nm,0.7s
ARU Arti 57.01 319 *c i* P P 22 09 10.6 -0.4
ARU S S 22 17 03.0 -0.9
ARU SS SS 22 20 56.9 +4.8
ARU pmax pmax
comp=Z,22nm,1.1s
FARO Faro, Yukon 57.07 34 P P 22 09 11.2 -0.2
FARO IAmb IAmb 22 09 18.4
comp=Z,14nm,1.3s
FARO Faro, Yukon 57.07 34 P P 22 09 12.8 +1.4
baz=285
A36M Sachs Harbour 57.50 22 P P 22 09 14.7 +0.5
A36M Sachs Harbour 57.50 22 P P 22 09 16.2 +2.0
baz=286
KBL Kabul 57.50 292 P P 22 09 14.8 -0.3
KBL Kabul 57.50 292 P P 22 09 14.8 -0.3
KBL pmax pmax
comp=Z,9.0nm,1.1s
R32K Eaglecrest 57.60 39 P P 22 09 15.3 +0.1
baz=287
P32M Atlin 57.62 37 P P 22 09 14.0 -1.3
baz=286
P33M Teslin, Yukon 57.87 36 P P 22 09 16.9 -0.3
P33M IAmb IAmb 22 09 24.6
comp=Z,17nm,1.0s
P33M Teslin, Yukon 57.87 36 P P 22 09 16.7 -0.4
baz=287
MMPY Sheldon Lake, 57.90 33 P P 22 09 19.4 +2.2
baz=287
ABKAR Akbulak array 58.43 311 P P 22 09 20.9 -0.2
ABKAR Akbulak array 58.43 311 P P 22 09 20.7 -0.4
ABKAR IAmb IAmb 22 09 26.1
comp=Z,15nm,0.8s
C36M Paulatuk 58.66 24 P P 22 09 21.3 -1.0
C36M Paulatuk 58.66 24 P P 22 09 24.4 +2.0
baz=289
R33M Jennings River 59.02 37 P P 22 09 27.3 +2.1
baz=289
S34M Telegraph Cree 59.42 38 P P 22 09 29.7 +1.9
baz=290
AS31 Alice Springs 59.56 188 P P 22 09 28.7 -0.4
AS31 IAmb IAmb 22 11 24.6
comp=Z,12nm,0.8s
ASAR Alice Springs 59.56 188 P P 22 09 28.6 -0.5
comp=Z,4.3nm,0.8s,baz=19,slow=9.9,SNR=34
comp=Z,4.3nm,0.8s
ASAR Alice Springs 59.56 188 P P 22 09 29.6 +0.5
ASAR Alice Springs 59.56 188 P P 22 09 29.6 +0.5
TGTN Hyland Airport 59.58 34 P P 22 09 31.6 +2.7
baz=290,SNR=12
DLBC Dease Lake 59.79 37 P P 22 09 34.8 +4.3
comp=Z,6.7nm,0.9s,baz=288,slow=6.9,SNR=11
DLBC Dease Lake 59.79 37 P P 22 09 33.6 +3.1
baz=290
T35M Bob Quinn 60.19 39 P P 22 09 35.4 +2.2
baz=291
KIRV Kirov 60.98 323 *ce* P P 22 09 38.5 +0.1
LIRD Liard River Hi 61.34 36 P P 22 09 43.5 +2.6
baz=292,SNR=20
EUNU Eureka 61.42 8 P P 22 09 41.2 -0.1
EUNU IAmb IAmb 22 09 46.1
comp=Z,11nm,0.9s
KOTAN Kotaneelee Air 62.01 34 P P 22 09 49.1 +3.6
baz=294
NOR Nord 62.22 356 *i* P P 22 09 44.0 -2.5
NOR IAmb IAmb 22 09 51.4
comp=Z,2.2nm,0.8s
RES Resolute Bay 63.85 14 P P 22 09 56.8 -0.6
RES Resolute Bay 63.85 14 P P 22 09 56.8 -0.6
RES pmax pmax
comp=Z,23nm,1.0s
GEYT Alibeck 64.09 299 P P 22 09 59.6 0.0
comp=Z,5.2nm,0.9s,baz=111,slow=3.3,SNR=8.0
comp=Z,5.2nm,0.9s
BELG Belogornoye 64.42 317 *i* P P 22 10 01.4 -0.1
BELG pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 64.57 328 *eP* P 22 10 00.8 -1.6
KLMR AMP 22 10 07.8
comp=Z,21nm,1.2s
KLMR *ep*P **sP** 22 10 15.8 +3.4
KLMR *eP*cP **PcP** 22 10 37.1 +0.9
KLMR *eP*P **PP** 22 12 25.5 +1.5
KLMR Klimovskoe 64.57 328 *eP* P 22 10 00.7 -1.6
KLMR *e* 22 10 37.1
KLMR *e* 22 12 25.5
KLMR pmax pmax
comp=Z,21nm,1.2s
ARCES ARCESS Array B 64.98 339 P P 22 10 04.8 -0.1
comp=Z,5.8nm,1.0s,baz=56,slow=7.4,SNR=3.6
comp=Z,5.8nm,1.0s
TULEG Thule 66.33 7 P P 22 10 11.5 -2.0
TULEG IAmb IAmb 22 10 18.7
comp=Z,17nm,1.3s
TULEG Thule 66.33 7 *i* P P 22 10 05.2 -8.3
TULEG IAmb IAmb 22 10 12.8
comp=Z,3.4nm,0.7s
WAPA Wapiti River 66.53 38 P P 22 10 14.7 -0.5
ARMA Armidale 66.67 170 P P 22 10 16.2 -0.1
ARMA IAmb IAmb 22 10 18.1
comp=Z,16nm,1.1s
NEEM North Greenlan 66.74 3 *i* P P 22 10 13.4 -3.0
NEEM IAmb IAmb 22 10 19.7
comp=Z,7.7nm,0.8s
DAG Danmarks Havn 66.93 355 *i* P P 22 10 16.4 -0.9
STKA Stephens Creek 67.36 179 P P 22 10 20.6 0.0
comp=Z,6.5nm,0.8s,baz=339,slow=8.7,SNR=14
comp=Z,6.5nm,0.8s
STKA Stephens Creek 67.36 179 P P 22 10 20.1 -0.4
VRH Novokhopyorsk 68.22 318 *eP* P 22 10 27.3 +1.5
VRH pmax pmax
comp=Z,10.0nm,0.5s
BBOO Buckleboo 68.45 184 P P 22 10 27.4 0.0
OBN Obninsk 68.83 323 *eP* P 22 10 30.0 +0.4
OBN *e* 22 10 52.5
OBN *e* 22 13 07.7
OBN *eP*PP PPP 22 14 39.1
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,586nm,20.0s
LPSR Galich'ya Gora 68.98 320 *eP* P 22 10 32.5 +1.9
LPSR pmax pmax
comp=Z,20nm,1.0s
FAUS Fauske 69.25 340 *eP* P 22 10 32.2 +0.2
FAUS IAmb IAmb 22 10 35.4
comp=Z,46nm,1.2s
VORR Voronezh 69.32 319 *eP* P 22 10 34.5 +1.8
VORR pmax pmax
comp=Z,30nm,0.5s
AKT Akhty 69.50 307 *eP* P 22 10 33.8 -0.4
AKT *e* 22 10 57.0
AKT pmax pmax
comp=Z,12nm,0.7s
VSR Storozhevoye 69.59 319 *eP* P 22 10 36.3 +1.9
VSR pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 69.70 332 P P 22 10 34.7 -0.1
comp=Z,13nm,0.9s,baz=59,slow=6.7,SNR=15
comp=Z,13nm,0.9s
MOR8 Moi Rana 70.35 340 *eP* P 22 10 38.5 -0.3
MOR8 IAmb IAmb 22 10 43.2
comp=Z,29nm,1.1s
NEW Newport 71.24 44 P P 22 10 48.0 +3.4
baz=303
ZEI Tsey 71.27 310 *eP* P 22 10 42.8 -2.3
ZEI pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 71.40 311 P P 22 10 45.4 -0.2
comp=Z,5.5nm,0.9s,baz=14,slow=12,SNR=3.9
comp=Z,5.5nm,0.9s
KBZ Khabaz 71.40 311 *i* P P 22 10 45.7 +0.1
KBZ pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 71.41 311 P P 22 10 44.2 -1.6
KIV IAmb IAmb 22 10 52.8
comp=Z,20nm,1.1s
KIV Kislovodsk 71.41 311 *eP* P 22 10 47.2 +1.4
KIV pmax pmax
comp=Z,20nm,1.1s
SUMG Summit 71.88 360 *i* P P 22 10 49.3 +0.9
SUMG IAmb IAmb 22 10 55.1
comp=Z,9.9nm,0.9s
MNK Minsk 73.27 326 *i* P P 22 11 02.1 +5.5
comp=E,5.0nm,0.9s
MNK *i* P P 22 11 02.1 +5.5
comp=N,41nm,1.0s
MNK *i* P P 22 11 02.1 +5.5
comp=Z,21nm,0.7s,baz=52
MNK *i* pP **PcP** **22 11 16.4 +3.4**
MNK *i* PP **PP** **22 13 45.8 +6.5**
MNK *i* PPP PPP 22 15 30.7
MNK *i* S **SKiKP** **22 20 30.2 +3.8**
MNK *i* sS **SKSac** **22 20 52.5 -8.6**
MNK *i* SS **SS** **22 25 11.9 +7.4**
MNK *i* SSS SSS 22 28 33.1
MNK Minsk 73.27 326 *i* P P 22 11 02.0 +5.4
MNK *i* *PP **PcP** **22 11 16.3 +3.4**
MNK *i* 22 13 45.8
MNK *i* PPP PPP 22 15 30.7
MNK *i* S **SKiKP** **22 20 30.2 +3.8**
MNK *i* *SS **SKSac** **22 20 52.4 -8.6**
MNK *i* SS **SS** **22 25 11.8 +7.4**
MNK pmax pmax
comp=Z,21nm,0.7s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=N,41nm,1.0s
MSO Missoula 73.83 44 P P 22 11 03.3 +3.1
baz=305
BEKR Beckworth 73.87 52 P P 22 10 58.7 -1.9
BEKR IAmb IAmb 22 11 07.8
comp=Z,11nm,1.0s
AKASG Malin Array Be 75.01 322 P P 22 11 06.1 -0.7
comp=Z,3.0nm,0.5s,baz=47,slow=6.1,SNR=21
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 75.01 322 *i* P P 22 11 07.8 +1.0
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 75.01 322 P P 22 11 06.3 -0.4
AKBB IAmb IAmb 22 11 11.7
comp=Z,12nm,0.8s
AKBB Malin Array Si 75.01 322 *ce* P P 22 11 06.0 -0.8
AKBB pmax pmax
comp=Z,13nm,0.8s
DOMB Dombas 75.02 339 *eP* P 22 11 07.1 +0.4
NC204 NORSAR Array S 75.10 338 P P 22 11 07.4 +0.2
NB2 NORSAR Subarra 75.14 337 P P 22 11 07.1 -0.3
baz=41,slow=5.9
NB2 NORSAR Subarra 75.14 337 P P 22 11 07.1 -0.3
comp=Z,15nm,1.0s,baz=41,slow=5.9
NOA NORSAR Array B 75.14 337 P P 22 11 07.8 +0.4
comp=Z,6.8nm,0.8s,baz=40,slow=5.8,SNR=10
comp=Z,6.8nm,0.8s
LRM Limekiln Ridge 75.26 44 P P 22 11 07.5 -1.2
NC602 NORSAR Array S 75.27 337 *eP* P 22 11 08.2 +0.1
NC602 IAmb IAmb 22 11 09.9
comp=Z,401nm,3.0s
ICESG Greenland Ices 75.38 0 *i* P P 22 11 11.2 +2.2
ICESG IAmb IAmb 22 11 16.9
comp=Z,11nm,1.0s
EGMT Eagleton 75.41 41 P P 22 11 12.0 +2.7
baz=308
HLID Hailey 75.45 47 P P 22 11 12.4 +2.6
baz=306
BOZ Bozeman (W) 75.86 44 P P 22 11 14.2 +2.2
baz=307
SIM Simferopol' 75.92 316 *eP* P 22 11 15.8 +3.7
NVAR Mina Array Bea 76.00 53 P P 22 11 15.6 +2.6
comp=Z,5.8nm,0.8s,baz=285,slow=6.2,SNR=16
comp=Z,5.8nm,0.8s
RLMT Red Lodge 77.46 43 P P 22 11 23.1 +2.0
baz=309
R11A Troy Canyon, C 77.79 51 P P 22 11 24.9 +1.9
baz=306,SNR=6.0
MPMC Manual Prospec 77.89 54 P P 22 11 26.2 +2.5
baz=306
FURC Furnace Creek, 78.07 54 P P 22 11 27.1 +2.8
baz=306
LRMC Laurel Mtn Rad 78.10 55 P P 22 11 28.3 +3.6
baz=306
LAO LASA Array 78.12 40 P P 22 11 27.5 +2.9
baz=310
TPNV Topopah Spring 78.18 53 P P 22 11 24.2 -1.0
TPNV Topopah Spring 78.18 53 P P 22 11 28.3 +3.1
baz=306
TPNV Topopah Spring 78.18 53 P P 22 11 24.2 -1.0
TPNV pmax pmax
comp=Z,6.0nm,0.9s
EDW2 Edwards Air Fo 78.24 56 P P 22 11 29.3 +3.9
baz=306
DUG Dugway, Tooele 78.42 49 P P 22 11 29.1 +2.7
baz=307,SNR=6.1
BW06 Boulder Array 78.77 45 P P 22 11 31.4 +2.9
baz=309
PD31 Pinedale Array 78.77 45 P P 22 11 28.0 -0.4
PDAR Pinedale Array 78.77 45 P P 22 11 29.3 +0.9
comp=Z,1.2nm,0.5s,baz=282,slow=1.2,SNR=11
comp=Z,1.2nm,0.5s
PDAR Pinedale Array 78.77 45 P P 22 11 28.3 -0.1
RRX Edison Barstow 78.91 55 P P 22 11 31.0 +1.9
baz=306
SCI2 San Clemente I 78.97 57 P P 22 11 31.8 +2.4
baz=306
BUR08 Bucovina Ar. S 79.01 322 P P 22 11 29.1 -0.3
BRTR Keskin Array B 79.36 311 P P 22 11 32.1 +0.5
comp=Z,2.0nm,0.7s,baz=116,slow=5.6,SNR=10
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 79.36 311 P P 22 11 31.6 0.0
BRTR Keskin Array B 79.36 311 *i* P P 22 11 35.7 +4.1
BRTR pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 79.57 324 *eP* P 22 11 37.0 +4.6
KOLS Kolonicke sedl 79.57 324 *eP* P 22 11 37.0 +4.6
KOLS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 79.72 325 *eP* P 22 11 37.5 +4.3
STHS Stebnicka Huta 79.72 325 *eP* P 22 11 37.5 +4.3
STHS pmax pmax
comp=Z,8.0nm,1.1s
UZH Uzhgorod 79.77 324 *eP* P 22 11 37.6 +4.2
UZH *e* 22 11 42.3
UZH *e* 22 11 48.9
OJC Ojcow 79.82 326 P P 22 11 33.6 -0.1
OJC IAmb IAmb 22 11 37.0
comp=Z,13nm,0.9s
OJC Ojcow 79.82 326 P P 22 11 33.6 -0.1
OJC pmax pmax
comp=Z,13nm,0.9s
GMRC Granite Mounta 79.85 54 P P 22 11 36.1 +1.7
baz=307
CRVS Cervenica-Dubn 79.98 324 *eP* P 22 11 39.4 +4.8
CRVS Cervenica-Dubn 79.98 324 *eP* P 22 11 39.4 +4.8
CRVS pmax pmax
comp=Z,14nm,1.1s
TRPA Tarpa 79.99 323 P P 22 11 34.5 -0.2
PFO Pinyon Flats O 80.01 56 P P 22 11 35.3 +0.1
baz=307
TPFO Pinon Flats 80.02 56 P P 22 11 37.9 +2.6
baz=307
MONP2 Monument Peak 80.46 56 P P 22 11 38.2 +0.4
baz=307
ABAH Abaujker 80.50 324 P P 22 11 38.3 +0.8
BC3 Big Chuckawall 80.66 55 P P 22 11 39.2 +0.5
baz=307
RAYN Ar Rayn 80.77 292 P P 22 11 38.1 -1.3
RAYN IAmb IAmb 22 11 45.1
comp=Z,12nm,1.1s
RAYN Ar Rayn 80.77 292 P P 22 11 38.1 -1.3
RAYN pmax pmax
comp=Z,12nm,1.1s
IKP In-Ko-Pah, Jac 80.82 56 P P 22 11 39.3 -0.2
baz=307
SWSC Sam W. Stewart 80.85 56 P P 22 11 42.0 +2.4
baz=307
RSSD Black Hills 80.96 41 P P 22 11 42.2 +1.9
baz=312
PDMCI Parker Dam,Lak 81.14 54 P P 22 11 43.0 +1.9
baz=308
MORC Moravsky Berou 81.15 327 *eP* P 22 11 45.8 +4.8
OSTC Ostas 81.16 328 *eP* P 22 11 41.6 +0.6
OSTC *ex* x 22 11 49.0
O20A White River Ci 81.20 46 P P 22 11 44.8 +3.2
baz=310
DPC Dobruska-Polom 81.27 328 *eP* P 22 11 43.7 +2.1
DPC Dobruska-Polom 81.27 328 *eP* P 22 11 43.7 +2.1
PSZ Piszkesteto 81.41 324 P P 22 11 43.0 +0.6
VYHS Vyhne 81.50 325 *eP* P 22 11 43.7 +1.0

VYHS	Vyhne	81.50	325	*e*P		P		22 11 43.7	+1.0
VYHS					pmax	pmax			
	comp=Z,9.0nm,1.2s								
PVCC	Panska Ves	81.89	329	*e*P		P		22 11 48.9	+4.2
PVCC	Panska Ves	81.89	329	*e*P		P		22 11 48.9	+4.2
BRG	Berggiesshubel	81.89	329	*e*P		P		22 11 49.6	+4.9
BRG					Amp			22 11 51.8	
	comp=Z,8.1nm,1.0s								
BRG	Berggiesshubel	81.89	329	*e*P		P		22 11 49.6	+4.9
BRG					pmax	pmax			
	comp=Z,8.0nm,1.0s								
VRAC	Vranov	81.92	327	*e*P		P		22 11 49.8	+4.8
CLL	Collm	81.94	330	*e*P		P		22 11 44.0	-1.0
CLL				*i* P(2)				22 11 49.2	
	comp=Z,15nm,0.9s								
CLL				*i* sP		pP		22 11 53.4	+0.9
CLL	Collm	81.94	330	*e*P		P		22 11 44.0	-1.0
CLL					pmax	pmax			
	comp=Z,15nm,0.9s								
N23A	Red Feather La	82.04	45	P		P		22 11 46.7	+0.6
	baz=311								
WUAZ	Wupatki	82.19	52	P		P		22 11 49.3	+2.5
	baz=309								
KRUC	Moravsky	82.19	327	*e*P		P		22 11 51.1	+4.7
MODS	Modra-Piesok	82.30	326	*e*P		P		22 11 48.5	+1.5
MODS	Modra-Piesok	82.30	326	*e*P		P		22 11 48.5	+1.5
PRU	Pruhonice	82.31	328	*e*P		P		22 11 51.5	+4.6
PRU				*ex*		x		22 11 59.2	
PRU	Pruhonice	82.31	328	*e*P		P		22 11 51.5	+4.6
PRU				*e*				22 11 59.2	
TREC	Trest	82.42	327	*e*P		P		22 11 49.9	+2.3
TREC	Trest	82.42	327	*e*P		P		22 11 49.9	+2.3
ISCO	Idaho Springs	82.95	45	P		P		22 11 52.3	+1.4
	baz=311								
MPLH	Magyarpolny	83.06	325	P		P		22 11 53.2	+2.3
SOP	Sopron	83.13	326	P		P		22 11 53.5	+2.2
MORH	Mrgy. Hungar	83.23	324	P		P		22 11 50.7	-1.1
RONA	Rosalia, Austr	83.24	326	*e*P		P		22 11 56.9	+5.0
	comp=Z,9.9nm,1.0s								
CONA	Conrad Observa	83.27	326	*e*P		P		22 11 56.9	+4.8
	comp=Z,13nm,1.6s								
CKRC	Cesky Krumlov	83.28	328	*e*P		P		22 11 52.3	+0.2
CKRC				*ex*		x		22 12 02.9	
KHC	Kasperske Hory	83.36	328	P		P		22 11 52.6	+0.1
KHC				IAmb		IAmb		22 11 58.4	
	comp=Z,7.4nm,0.9s								
KHC	Kasperske Hory	83.36	328	*e*P		P		22 11 51.4	-1.1
KHC				*ep*P		PcP		22 11 57.1	+0.2
KHC	Kasperske Hory	83.36	328	*e*P		P		22 11 51.4	-1.1
KHC				*e*				22 11 57.1	
VTS	Vitosha	83.44	319	P		P		22 11 53.2	+0.1
VTS				IAmb		IAmb		22 11 58.9	
	comp=Z,9.0nm,1.1s								
VTS	Vitosha	83.44	319	P		P		22 11 53.3	+0.1
VTS				pmax		pmax			
	comp=Z,9.0nm,1.1s								
214A	Organ Pipe Nat	83.45	55	P		P		22 11 53.1	-0.2
	baz=308								
GERES	GERESS Array B	83.53	328	P		P		22 11 53.5	0.0
	comp=Z,2.5nm,0.8s,baz=44,slow=6.5,SNR=13								
	comp=Z,2.5nm,0.8s								
S22A	4UR Ranch, Cre	83.58	48	P		P		22 11 55.2	+1.0
	baz=311								
KOVH	Kovagotottos	83.58	324	P		P		22 11 53.4	-0.2
ARSA	Arzberg	83.92	326	*e*P		P		22 12 00.0	+4.6
	comp=Z,7.1nm,1.0s								
MOA	Molln	84.04	327	*e*P		P		22 11 60.0	+4.0
	comp=Z,8.0nm,1.4s								
SDCO	Great Sand Dun	84.37	47	P		P		22 11 57.2	-1.1
	baz=312								
BIOA	Bad Ischl, Aus	84.43	327	*e*P		P		22 12 02.4	+4.3
	comp=Z,6.0nm,1.0s								
SOKA	Soboth	84.58	326	*e*P		P		22 12 03.1	+4.3
	comp=Z,14nm,1.0s								
TUC	Tucson	84.58	54	P		P		22 12 00.1	+1.0
	baz=309								
STIP	Stip	84.64	319	*i* P		P		22 11 58.8	-0.3
VAY	Valandovo	84.69	318	*i* P		P		22 12 00.8	+1.4
SKO	Skopje	84.84	319	*i* P		P		22 12 02.7	+2.6
ECSD	EROS Data Cent	85.08	38	P		P		22 12 02.2	+0.9
	baz=317								
PDG	Podgorica	85.66	321	P		P		22 12 03.7	-0.4
CLUD	Cludinico	85.71	327	P		P		22 12 03.1	-1.3
CLUD				IAmb		IAmb		22 12 09.0	
	comp=Z,11nm,0.9s								
OHR	Ohrid	85.79	319	*i* P		P		22 12 06.8	+1.9
MOTA	Moosalm	85.80	328	*e*P		P		22 12 08.9	+3.9
	comp=Z,4.4nm,0.9s								
KBN	Korca	86.14	319	P		P		22 12 06.3	-0.4
KBN	Korca	86.14	319	P		P		22 12 06.3	-0.4
KBN				pmax		pmax			
	comp=Z,18nm,0.8s								
BFO	Black Forest	86.16	331	P		P		22 12 07.8	+1.2
BFO				pmax		pmax			
	comp=Z,13nm,1.0s								
TX31	Lajitas Ar. Si	91.14	52	P		P		22 12 30.4	-0.4
TX31				IAmb		IAmb		22 12 38.3	
	comp=Z,10nm,1.1s								
TXAR	Lajitas Array	91.14	52	P		P		22 12 31.9	+1.3
	comp=Z,1.2nm,0.8s,baz=286,slow=3.2,SNR=13								
	comp=Z,1.2nm,0.8s								
TXAR	Lajitas Array	91.14	52	P		P		22 12 32.0	+1.3
BOSA	Boshof	125.98	258	PKP		PKPdf		22 18 26.7	-1.2
	comp=Z,2.5nm,0.9s,baz=0.0,slow=2.0,SNR=3.0								
DBIC	Dimbokro	126.90	316	PKhKP		PKPpre		22 18 26.4	
	comp=Z,3.4nm,1.0s,baz=315,slow=4.3,SNR=1.9								
ETMB	Extrema	144.21	50	PKPdf		PKPab		22 18 59.2	-0.5
LPAZ	La Paz	147.61	61	PKPbc		PKPbc		22 19 11.7	+0.6
	comp=Z,6.3nm,0.6s,baz=348,slow=4.3,SNR=25								
MG05	Puerto Natales	151.43	134	PKPdf		PKPdf		22 19 13.3	+0.7

*IDC **20** 22:06:42.6±0.7, 8.˚96S×148.˚25E, h0km, mb4.3/18, mbtmp4.3/20, ML4.2/2, Error ellipse: s-maj=19.0km s-min=10.9km az=138.0*
*DJA **20** 22:06:45.3±0.7, 9.˚5S×14.˚8E±.˚, h10km, M5.0/10, mB6.7/1, mb4.8/10, MLv5.1/1, Mw(mB)6.6/1*
*NEIC **20** 22:06:46.5±1.8, 9.˚1S±0.˚1×148.˚11E±0.˚08, h26km±5km, mb4.8/23, Error ellipse: s-maj=15.3km s-min=9.8km az=157.0*

ISC 20 22:06:47.8±0.5, **9.˚08S**±0.˚07×**148.˚09E**±0.˚07, **h35km, n89,**
σ**2**^{s}**19**/91, **mb4.5**/24, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**0.97**	**250**	Pg	**Pn**	**22 07 05.6**	**+0.6**
	139nm,0.3s,baz=66,slow=7.1,SNR=123						
PMG				Lg	Lg	22 07 21.1	
	2µm,0.3s,baz=279,slow=19,SNR=11						
PMG	**Port Moresby**	**0.97**	**250**	P	**Pn**	**22 07 05.3**	**+0.2**
PMG				Sn	**Sn**	**22 07 17.9**	**+0.2**
PMG	**Port Moresby**	**0.97**	**250**	P	**Pn**	**22 07 05.1**	**+0.1**
PMG				S	**Sn**	**22 07 23.3**	**+5.7**
PMG	**Port Moresby**	**0.97**	**250**	P	**Pn**	**22 07 04.3**	**-0.7**
PMG	**Port Moresby**	**0.97**	**250**	P	**Pn**	**22 07 03.7**	**-1.3**
KRVT	**Keravat (AS076**	**6.14**	**40**	Pn	**Pn**	**22 08 13.9**	**-2.3**
	5.5nm,0.3s,baz=284,slow=8.3,SNR=2.0						
	36nm,0.5s						
COEN	**Coen**	**6.83**	**224**	Pn	**Pn**	**22 08 23.6**	**-2.0**
CTA	**Charters Tower**	**11.09**	**189**	Pn	**Pn**	**22 09 21.5**	**-2.5**
	1.2nm,0.3s,baz=21,slow=13,SNR=9.3						
CTA	**Charters Tower**	**11.09**	**189**	P	**Pn**	**22 09 25.9**	**+1.9**
	33nm,0.7s						
CTAO	**Charters Tower**	**11.09**	**189**	Pn	**Pn**	**22 09 22.5**	**-1.5**
CTAO	**Charters Tower**	**11.09**	**189**	P	**Pn**	**22 09 26.0**	**+1.9**
	28nm,0.7s						
QIS	**Mount Isa**	**14.05**	**215**	P	**Pn**	**22 10 06.0**	**+1.5**
KDU	**Kakadu**	**15.75**	**255**	P	**P**	**22 10 29.9**	**-0.8**
WB0	**Warramunga Arr**	**16.98**	**230**	P	**Pn**	**22 10 42.4**	**-0.4**
WB0				IAmb	IAmb	22 10 51.0	
	comp=Z,178nm,1.9s						
MTN	**Manton Dam**	**17.06**	**256**	P	**Pn**	**22 10 43.8**	**0.0**
MTN	**Manton Dam**	**17.06**	**256**	P	**P**	**22 10 46.9**	**+1.6**
WRAB	**Tennant Creek**	**17.11**	**229**	P	**P**	**22 10 46.7**	**+0.8**
WB2	**Warramunga Arr**	**17.12**	**229**	P	**Pn**	**22 10 44.4**	**-0.2**
WB2				IAmb	IAmb	22 10 51.0	
	comp=Z,68nm,1.3s						
WRA	**Warramunga Arr**	**17.13**	**229**	P	**Pn**	**22 10 44.1**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=54,slow=11,SNR=12						
WRA				S	**Sn**	**22 13 45.1**	**-9.1**
	comp=Z,1.5nm,0.5s,baz=52,slow=23,SNR=6.2						
	comp=Z,8.2nm,0.8s						
QLP	**Quilpie**	**17.79**	**191**	P	**P**	**22 10 56.4**	**+3.1**
INKA	**Innaminka**	**19.82**	**200**	P	**Pn**	**22 11 19.7**	**+2.5**
AS01	**Alice Springs**	**19.83**	**221**	P	**Pn**	**22 11 19.0**	**+1.5**
AS31	**Alice Springs**	**19.86**	**221**		**P**	**22 11 16.6**	**+0.5**
ASAR	**Alice Springs**	**19.86**	**221**	P	**P**	**22 11 16.8**	**+0.7**
	comp=Z,16nm,0.9s,baz=57,slow=10,SNR=24						
ASAR				S	**S**	**22 14 50.4**	**-7.7**
	comp=Z,2.1nm,0.7s,baz=41,slow=26,SNR=7.0						
	comp=Z,16nm,0.9s						
ASAR	**Alice Springs**	**19.86**	**221**	P	**P**	**22 11 16.0**	**-0.1**
KNRA	**Kununurra**	**19.98**	**249**		**P**	**22 11 17.5**	**+0.2**
KNRA				IAmb	IAmb	22 11 22.6	
	comp=Z,99nm,1.0s						
KNRA	**Kununurra**	**19.98**	**249**	P	**Pn**	**22 11 20.9**	**+1.7**
ARMA	**Armidale**	**21.49**	**172**	P	**P**	**22 11 33.0**	**-0.7**
OOD	**Oodnadatta**	**21.99**	**211**	P	**P**	**22 11 42.9**	**+3.9**
CMSA	**Cobar Meteorol**	**22.46**	**185**	P	**P**	**22 11 48.3**	**+4.3**
SANI	**Sanana**	**23.07**	**286**	P	**P**	**22 11 52.2**	**+1.7**
	comp=Z,20nm,1.2s						
SANI	**Sanana**	**23.07**	**286**	P	**P**	**22 11 55.3**	**+4.8**
STKA	**Stephens Creek**	**23.47**	**194**	P	**P**	**22 11 55.6**	**+1.3**
	comp=Z,4.5nm,0.7s,baz=353,slow=8.4,SNR=6.2						
	comp=Z,4.5nm,0.7s						
STKA	**Stephens Creek**	**23.47**	**194**	P	**P**	**22 11 53.4**	**-1.0**
STKA	**Stephens Creek**	**23.47**	**194**	P	**P**	**22 11 56.6**	**+2.2**
SOEI	**Soe**	**23.51**	**266**	P	**P**	22 12 14.0	+19
BATI	**Baumata**	**24.11**	**265**	P	**P**	**22 12 01.5**	**+0.9**
	comp=Z,11nm,0.3s,baz=195,slow=3.9,SNR=7.2						
	comp=Z,11nm,0.3s						
BATI	**Baumata**	**24.11**	**265**	P	**P**	**22 12 05.5**	**+4.9**
	comp=Z,40nm,0.7s						
WRKA	**Warakurna**	**24.64**	**227**	P	**P**	**22 12 08.4**	**+3.1**
MULG	**Mulgathing**	**24.84**	**210**	P	**P**	**22 12 09.5**	**+2.5**
MMRI	**Maumere**	**25.55**	**269**	P	**P**	**22 12 12.8**	**-0.8**
MMRI	**Maumere**	**25.55**	**269**	P	**P**	**22 12 16.1**	**+2.5**
MMRI	**Maumere**	**25.55**	**269**	P	**P**	**22 12 18.2**	**+4.6**
GTOI	**Gorontalo**	**26.78**	**290**	P	**P**	**22 12 26.6**	**+1.8**
JAGI	**Jajag, Banyuwa**	**33.54**	**268**	P	**P**	**22 13 23.9**	**-0.7**
JAGI	**Jajag, Banyuwa**	**33.54**	**268**	P	**P**	**22 13 25.7**	**+1.1**
MJAR	**Matsushiro Arr**	**46.32**	**349**	P	**P**	**22 15 09.8**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=172,slow=8.3,SNR=6.0						
	comp=Z,3.2nm,0.9s						
KSRS	**Korea Array**	**49.99**	**339**	P	**P**	**22 15 38.2**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=157,slow=9.2,SNR=7.4						
	comp=Z,4.1nm,0.9s						
PHRA	**Phrae**	**54.59**	**300**	P	**P**	**22 16 11.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**55.00**	**346**	P	**P**	**22 16 14.7**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=186,slow=8.3,SNR=2.5						
	comp=Z,2.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**55.68**	**300**	P	**P**	**22 16 22.4**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=125,slow=5.5,SNR=19						
	comp=Z,2.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.68**	**300**	P	**P**	**22 16 19.9**	**-1.2**
CHTO	**Chiang Mai**	**55.83**	**300**	P	**P**	**22 16 21.6**	**-0.5**
KLR	**Kul'dur**	**59.81**	**348**	P	**P**	**22 16 50.1**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=187,slow=9.2,SNR=2.8						
	comp=Z,1.4nm,0.7s						
PETK	**Petropavlovsk-**	**62.48**	**7**	P	**P**	**22 17 09.8**	**+2.2**
	comp=Z,7.1nm,0.9s,baz=199,slow=3.1,SNR=3.8						
SHL	**Shillong**	**64.60**	**304**	P	**P**	**22 17 21.7**	**-0.7**
LSA	**Lhasa**	**66.95**	**308**	P	**P**	**22 17 35.6**	**-2.2**
LSA				IAmb	IAmb	22 17 49.9	
	comp=Z,5.9nm,0.8s						
SONM	**Songino Array**	**67.60**	**331**	P	**P**	**22 17 42.7**	**+1.6**
	comp=Z,2.5nm,1.1s,baz=152,slow=6.2,SNR=8.8						
	comp=Z,2.5nm,1.1s						
TAPN	**Taplejung**	**68.74**	**304**	*e*P	**P**	**22 17 49.2**	**+0.3**
	comp=Z,25nm,1.0s						
VNDA	**Vanda**	**68.80**	**177**	P	**P**	**22 17 50.6**	**+2.6**
	comp=Z,1.5nm,0.9s,baz=330,slow=4.8,SNR=6.9						
	comp=Z,1.5nm,0.9s						
VNDA	**Vanda**	**68.80**	**177**	P	**P**	**22 17 47.6**	**-0.4**
VNDA				IAmb	IAmb	22 18 01.7	
	comp=Z,3.9nm,1.0s						
RAMN	**Ramite**	**69.50**	**303**	*e*P	**P**	**22 17 53.0**	**-0.6**
JIRN	**Jiri**	**70.11**	**304**	*e*P	**P**	**22 17 57.0**	**-0.4**
GUN	**Gumba**	**70.46**	**304**	*e*P	**P**	**22 18 00.3**	**+0.8**
	comp=Z,20nm,0.6s						
PKI	**Pulchoki**	**70.72**	**303**	*e*P	**P**	**22 18 01.3**	**+0.2**
PKIN	**Phulchoki**	**70.73**	**303**	*e*P	**P**	**22 18 01.4**	**+0.3**
KKN	**Kakani**	**70.91**	**303**	*e*P	**P**	**22 18 01.9**	**-0.2**
DMN	**Daman**	**70.98**	**303**	*e*P	**P**	**22 18 02.8**	**+0.2**
	comp=Z,25nm,0.8s						
GKN	**Gorkha**	**71.51**	**303**	*e*P	**P**	**22 18 06.1**	**+0.4**
DANN	**Dangsing**	**72.36**	**304**	*e*P	**P**	**22 18 10.8**	**-0.2**
	comp=Z,23nm,0.9s						
MAW	**Mawson**	**79.84**	**203**	P	**P**	**22 18 52.9**	**+0.5**
MAW				IAmb	IAmb	22 19 52.4	
	comp=Z,6.5nm,0.7s						
MKAR	**Makanchi Array**	**80.55**	**321**	P	**P**	**22 18 57.5**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=115,slow=5.8,SNR=12						
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**80.55**	**321**	P	**P**	**22 18 55.5**	**-1.1**
ZALV	**Zalesovo Beam**	**82.18**	**328**	P	**P**	**22 19 04.6**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=104,slow=5.7,SNR=9.5						
	comp=Z,1.7nm,0.7s						
NIL	**Nilore**	**82.59**	**306**	P	**P**	**22 19 05.8**	**-1.9**
NIL				IAmb	IAmb	22 19 09.4	
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**84.26**	**315**	P	**P**	**22 19 15.8**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=132,slow=5.2,SNR=7.0						
	comp=Z,3.2nm,0.9s						
AAK	**Ala-Archa**	**84.26**	**315**	P	**P**	**22 19 16.5**	**+0.2**
AAK				IAmb	IAmb	22 19 24.6	
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**84.31**	**323**	P	**P**	**22 19 16.3**	**+0.2**
KURK				IAmb	IAmb	22 19 21.3	
	comp=Z,6.3nm,1.1s						
KURBB	**Kurchatov Arra**	**84.33**	**323**	P	**P**	**22 19 16.0**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=113,slow=3.7,SNR=14						
	comp=Z,1.9nm,0.9s						
CHGR	**Chuyangaron**	**87.08**	**310**	P	**P**	**22 19 28.7**	**-1.6**
CHGR				IAmb	IAmb	22 19 30.7	
	comp=Z,6.6nm,0.9s						
IL31		**87.88**	**23**	P	**P**	**22 19 31.2**	**-2.1**
IL31				IAmb	IAmb	22 21 56.4	
	comp=Z,20nm,1.9s						
ILAR	**Eielson Array**	**87.88**	**23**	P	**P**	**22 19 31.8**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=257,slow=4.7,SNR=6.3						
	comp=Z,1.8nm,0.7s						
NRIK	**Noril'sk**	**88.52**	**342**	P	**P**	**22 19 34.5**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=174,slow=10,SNR=2.1						
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**89.88**	**324**	P	**P**	**22 19 42.5**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=93,slow=6.1,SNR=2.8						
	comp=Z,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**98.39**	**52**	P	Pdif	22 20 23.8	+1.0
	comp=Z,0.5nm,0.3s,baz=259,slow=9.1,SNR=1.9						
	comp=Z,0.5nm,0.3s						
C09A	**Chrisman Ranch**	**99.09**	**43**	P	**Pdif**	**22 20 25.4**	**-0.1**
CLL	**Collm**	**124.13**	**328**	*e*PKPdf	**PKPdf**	**22 25 42.0**	**-0.7**
GERES	**GERESS Array B**	**125.03**	**325**	PKP	**PKPdf**	**22 25 44.0**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=302,slow=5.6,SNR=2.4						
BDFB	**Brasilia**	**150.71**	**147**	PKPbc	**PKPbc**	**22 26 36.4**	**-1.1**
	comp=Z,9.0nm,1.0s,baz=308,slow=1.8,SNR=9.0						

*WEL **20** 22:43:54.5±0.3, 43.˚5S×2.˚7E±.˚, h5km, M3.5/29, ML3.7/18, MLv3.5/29, Error ellipse: s-maj=0.0km s-min=0.0km az=54.1*
*NOU **20** 22:43:58.1, 43.˚28S×171.˚69E, h16km, MLv4.1/7, South Island, New Zealand*

ISC 20 22:43:54.6±1.0, **43.˚04S**±0.˚02×**171.˚73E**±0.˚03, **h13**km±10km,
n49, σ**1**^{s}**00**/48, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSHS	**Castle Hill**	**0.19**	**180**	P	**Pg**	**22 43 58.9**	**-0.2**
OXZ	**Oxford**	**0.37**	**142**	P	**Pg**	**22 44 02.1**	**+0.1**
OXZ				S	**Sg**	**22 44 07.6**	**+0.5**
INZ	**Inchbonnie**	**0.38**	**327**	P	**Pg**	**22 44 02.1**	**-0.1**
INZ				S	**Sg**	**22 44 07.3**	**+0.1**
LTZ	**Lake Taylor**	**0.48**	**58**	P	**Pg**	**22 44 04.1**	**0.0**
MHCZ	**Mount Hutt**	**0.51**	**193**	P	**Pg**	**22 44 04.9**	**+0.3**
DFHS	**Darfield**	**0.53**	**149**	P	**Pg**	**22 44 04.2**	**-0.8**
AMCZ	**Amberley**	**0.69**	**102**	P	**Pb**	**22 44 08.8**	**+0.3**
WVZ	**Waitaha Valley**	**0.72**	**267**	P	**Pb**	**22 44 08.7**	**-0.5**
RACZ	**Rakaia**	**0.75**	**156**	P	**Pb**	**22 44 09.5**	**-0.1**
RPZ	**Rata Peaks**	**0.83**	**216**	P	**Pb**	**22 44 11.1**	**0.0**
RPZ	**Rata Peaks**	**0.83**	**216**	P	**Pb**	**22 44 11.0**	**0.0**
WACZ	**Wakanui South**	**0.91**	**175**	P	**Pb**	**22 44 12.6**	**+0.3**
MQZ	**McQueen's Vall**	**0.95**	**135**	P	**Pg**	**22 44 12.8**	**-0.2**
GVZ	**Greta Valley S**	**0.96**	**86**	P	**Pg**	**22 44 13.8**	**+0.6**
ARCZ	**Arundel**	**0.99**	**204**	P	**Pb**	**22 44 13.8**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**1.06**	**254**	P	**Pb**	**22 44 14.8**	**0.0**
OKCZ	**Okains Bay**	**1.19**	**126**	P	**Pb**	**22 44 16.6**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.20**	**134**	P	**Pn**	**22 44 16.6**	**-0.5**
DSZ	**Denniston Nort**	**1.29**	**3**	P	**Pn**	**22 44 18.7**	**+0.2**
TMZ	**Timaru**	**1.44**	**201**	P	**Pn**	**22 44 20.3**	**-0.2**
KHZ	**Kahutara**	**1.47**	**66**	P	**Pb**	**22 44 22.2**	**+0.3**
FOZ	**Fox Glacier**	**1.48**	**250**	P	**Pg**	**22 44 22.3**	**-0.8**
THZ	**Tophouse**	**1.55**	**35**	P	**Pn**	**22 44 22.4**	**+0.5**
LBZ	**Lake Benmore**	**1.75**	**219**	P	**Pn**	**22 44 25.1**	**+0.4**
MRNZ	**Matariki Terra**	**1.81**	**25**	P	**Pb**	**22 44 27.7**	**+0.1**
BSWZ	**Blackbirch Sta**	**2.07**	**51**	P	**Pb**	**22 44 31.9**	**-0.1**
ODZ	**Otahua Downs**	**2.15**	**201**	P	**Pn**	**22 44 29.9**	**-0.3**
ODZ	**Otahua Downs**	**2.15**	**201**	P	**Pn**	**22 44 29.8**	**-0.3**
NNZ	**Nelson**	**2.20**	**35**	P	**Pb**	**22 44 33.1**	**-1.1**
TKNZ	**Takaka Hill**	**2.21**	**25**	P	**Pb**	**22 44 34.0**	**-0.4**
QRZ	**Quartz Range**	**2.29**	**15**	P	**Pn**	**22 44 33.8**	**+1.6**
TUWZ	**Tuamarina**	**2.30**	**46**	P	**Pb**	**22 44 35.4**	**-0.6**
JCZ	**Jackson Bay**	**2.37**	**243**	P	**Pn**	**22 44 34.9**	**+1.5**
JCZ	**Jackson Bay**	**2.37**	**243**	P	**Pn**	**22 44 34.7**	**+1.3**
TCW	**Tory Channel**	**2.63**	**47**	P	**Pb**	**22 44 40.6**	**-1.0**
WKZ	**Wanaka**	**2.65**	**227**	P	**Pn**	**22 44 38.0**	**+0.9**
DUWZ	**D'Urville Isla**	**2.77**	**37**	P	**Pb**	**22 44 41.8**	**-2.3**
EAZ	**Earnscleugh**	**2.80**	**218**	P	**Pn**	**22 44 38.7**	**-0.4**
TUZ	**Tuapeka**	**3.28**	**206**	P	**Pn**	**22 44 44.9**	**-0.7**
MLZ	**Mavora Lakes**	**3.48**	**227**	P	**Pn**	**22 44 49.4**	**+0.8**
MRZ	**Mangatainoka R**	**3.73**	**52**	P	**Pn**	**22 44 52.0**	**+0.1**
SYZ	**Scrubby Hill**	**3.95**	**207**	P	**Pn**	**22 44 54.7**	**-0.2**
SYZ	**Scrubby Hill**	**3.95**	**207**	P	**Pn**	**22 44 54.7**	**-0.2**
KHEZ	**Kahui Hut**	**4.12**	**26**	P	**Pb**	**22 45 03.8**	**-3.3**
VRZ	**Vera Road**	**4.53**	**31**	P	**Pn**	**22 45 05.7**	**+2.8**
HIZ	**Hauiti**	**5.11**	**29**	P	Pn	22 45 16.1	+5.3
	85nm,1.9s						
HIZ	**Hauiti**	**5.11**	**29**	P	**Pn**	**22 45 13.0**	**+2.2**
BKZ	**Black Stump Fm**	**5.29**	**45**	P	Pn	22 45 19.7	+6.4
WIAZ	**Waiheke Island**	**6.76**	**24**	P	Pn	22 45 41.9	+8.4

*IDC **20** 22:44:34.1±0.5, 44.˚17S×39.˚24E, h0km, mb4.5/16, mbtmp4.5/18, ML4.0/2, MS4.5/32, Error ellipse: s-maj=18.3km s-min=13.9km az=63.0*
*NEIC **20** 22:44:36.1±1.4, 44.˚2S±0.˚1×39.˚1E±0.˚2, h10km±1km, mb5.0/46, Error ellipse: s-maj=20.5km s-min=17.2km az=76.0*

ISC 20 22:44:35.7±0.4, **44.˚24S**±0.˚07×**39.˚13E**±0.˚10, **h10km, n121,**
σ**1**^{s}**30**/97, **mb4.9**/35, **MS4.5**/31, **Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**15.64**	**313**	Pn	**Pn**	**22 48 12.2**	**-4.0**
SOE				IAmb	IAmb	22 48 23.9	
	comp=Z,78nm,1.2s						
POGA	**Pongola**	**17.89**	**338**		**Pn**	**22 48 44.2**	**-0.4**
SUR	**Sutherland**	**18.58**	**303**	P	**Pn**	**22 48 54.2**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=132,slow=7.6,SNR=9.5						
SUR				LR	LR	22 54 45.8	
	comp=Z,1µm,18.1s,baz=136,slow=33						
	comp=Z,17nm,0.8s						
SUR	**Sutherland**	**18.58**	**303**	P	**P**	**22 48 51.3**	**-1.8**
BOSA	**Boshof**	**19.14**	**320**	P	**Pn**	**22 48 59.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=146,slow=10,SNR=7.6						
BOSA				LR	LR	22 54 58.7	
	comp=Z,2µm,19.7s,baz=153,slow=33						
	comp=Z,4.6nm,0.7s						
BOSA	**Boshof**	**19.14**	**320**		**Pn**	**22 49 00.0**	**0.0**
BOSA	**Boshof**	**19.14**	**320**	*i* P	**Pn**	**22 48 59.9**	**0.0**
BOSA	**Boshof**	**19.14**	**320**	*i* P	**Pn**	**22 48 59.9**	**0.0**
MOPA	**Mopani**	**21.62**	**340**	*i* P	**P**	**22 49 30.6**	**+4.5**
MOPA	**Mopani**	**21.62**	**340**	*i* P	**P**	**22 49 30.6**	**+4.5**
LBTB	**Lobatse**	**22.12**	**326**	P

ASAR	**Alice Springs**	**77.14**	**110**	P	**P**	**22 56 29.9**	**+0.1**
	comp=Z,11nm,0.9s,baz=216,slow=5.6,SNR=58							
	comp=Z,11nm,0.9s							
ASAR	**Alice Springs**	**77.14**	**110**	P	**P**	**22 56 29.3**	**-0.4**
AS31	**Alice Springs**	**77.14**	**110**	P	**P**	**22 56 29.9**	**+0.2**
BDFB	**Brasilia**	**77.24**	**261**	P	**P**	**22 56 31.2**	**+0.7**
	comp=Z,8.5nm,1.1s,baz=129,slow=8.7,SNR=6.5							
	comp=Z,8.5nm,1.1s							
BBTS	**Babate**	**77.44**	**305**	LR	LR	23 27 31.6		
	comp=Z,271nm,19.2s,baz=62,slow=33							
CAN	**Canberra**	**78.44**	**128**	P	**P**	**22 56 36.3**	**-0.5**
CAN				IAmb	IAmb	22 56 39.7		
	comp=Z,22nm,1.3s							
BO02	**Sierra Bellavi**	**78.84**	**232**	P	**P**	**22 56 38.3**	**-0.8**
BO02				IAmb	IAmb	22 56 39.6		
	comp=Z,18nm,1.1s							
BO04	**La Punta**	**79.33**	**233**	P	**P**	**22 56 41.8**	**+0.1**
BO04				IAmb	IAmb	22 56 42.2		
	comp=Z,9.8nm,0.8s							
WRA	**Warramunga Arr**	**79.96**	**108**	P	**P**	**22 56 44.9**	**-0.4**
	comp=Z,7.6nm,1.0s,baz=220,slow=4.2,SNR=31							
	comp=Z,7.6nm,1.0s							
WRA	**Warramunga Arr**	**79.96**	**108**	P	**P**	**22 56 45.2**	**-0.1**
WB2	**Warramunga Arr**	**79.97**	**108**	P	**P**	**22 56 45.0**	**-0.4**
WB2				IAmb	IAmb	22 56 46.4		
	comp=Z,18nm,1.1s							
WR0	**Warramunga Arr**	**80.09**	**108**	P	**P**	**22 56 46.0**	**0.0**
WR0				IAmb	IAmb	22 56 59.9		
	comp=Z,29nm,1.8s							
WB0	**Warramunga Arr**	**80.12**	**108**	P	**P**	**22 56 45.6**	**-0.6**
WB0				IAmb	IAmb	22 56 47.1		
	comp=Z,12nm,1.1s							
VA03	**San Esteban**	**80.18**	**234**	P	**P**	**22 56 45.8**	**-0.6**
VA03				IAmb	IAmb	22 59 16.3		
	comp=Z,27nm,1.1s							
IDI	**Anoyia**	**80.21**	**348**	LR	LR	23 34 11.5		
	comp=Z,202nm,19.4s,baz=180,slow=37							
RPZ	**Rata Peaks**	**82.50**	**147**	LR	LR	23 30 21.1		
	comp=Z,278nm,18.8s,baz=284,slow=33							
CMAR	**Chiang Mai Arr**	**82.86**	**56**	P	**P**	**22 56 59.6**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=221,slow=6.8,SNR=8.0							
	comp=Z,0.5nm,0.4s							
CMAR	**Chiang Mai Arr**	**82.86**	**56**	P	**P**	**22 57 00.4**	**-0.1**
AC05	**El Transito**	**82.87**	**237**	P	**P**	**22 57 00.6**	**-0.2**
DMN	**Daman**	**82.95**	**40**	*eP*	**P**	**22 57 01.1**	**0.0**
DANN	**Dangsing**	**82.97**	**39**	*eP*	**P**	**22 57 00.8**	**-0.4**
	comp=Z,40nm,1.0s							
LCO	**Las Campanas**	**83.00**	**236**	P	**P**	**22 56 59.7**	**-1.9**
PKIN	**Phulchoki**	**83.06**	**40**	*eP*	**P**	**22 57 01.2**	**-0.4**
PKI	**Pulchoki**	**83.06**	**40**	*eP*	**P**	**22 57 01.0**	**-0.7**
	comp=Z,51nm,1.3s							
GKN	**Gorkha**	**83.07**	**39**	*eP*	**P**	**22 57 01.1**	**-0.5**
	comp=Z,32nm,1.0s							
RAMN	**Ramite**	**83.09**	**42**	*eP*	**P**	**22 57 01.8**	**0.0**
	comp=Z,99nm,1.3s							
ODAN	**Odare**	**83.40**	**42**	*eP*	**P**	**22 57 03.5**	**+0.1**
JIRN	**Jiri**	**83.50**	**41**	*eP*	**P**	**22 57 03.9**	**-0.1**
	comp=Z,93nm,1.1s							
NIL	**Nilore**	**83.52**	**28**	P	**P**	**22 57 04.0**	**+0.5**
NIL				IAmb	IAmb	22 57 12.5		
	comp=Z,15nm,1.1s							
GUN	**Gumba**	**83.57**	**40**	*eP*	**P**	**22 57 04.5**	**+0.2**
	comp=Z,93nm,1.0s							
GEYT	**Alibeck**	**83.58**	**15**	LR	LR	23 32 20.0		
	comp=Z,132nm,20.0s,baz=200,slow=34							
BRTR	**Keskin Array B**	**83.73**	**356**	P	**P**	**22 57 05.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=167,slow=7.1,SNR=2.6							
	comp=Z,0.9nm,0.8s							
TAPN	**Taplejung**	**83.96**	**42**	*eP*	**P**	**22 57 06.0**	**-0.3**
	comp=Z,24nm,0.9s							
AC06	**Mina Casimiro**	**83.99**	**237**	P	**P**	**22 57 05.8**	**-0.6**
AC06				IAmb	IAmb	22 57 07.0		
	comp=Z,16nm,1.1s							
KEST	**Kesra**	**84.07**	**336**	P	**P**	**22 57 09.3**	**+2.9**
	comp=Z,11nm,1.1s,baz=130,slow=5.8,SNR=4.3							
KEST				LR	LR	23 34 13.5		
	comp=Z,607nm,20.9s,baz=156,slow=36							
GNI	**Garni**	**84.16**	**4**	LR	LR	23 33 07.4		
	comp=Z,298nm,21.7s,baz=166,slow=35							
VAE	**Valguarnera**	**84.37**	**340**	LR	LR	23 34 16.6		
	comp=Z,272nm,20.9s,baz=161,slow=35							
SHL	**Shillong**	**84.58**	**46**	P	**P**	**22 57 08.3**	**-1.0**
GO02	**Mina Guanaco**	**85.12**	**239**	P	**P**	**22 57 12.3**	**-0.2**
GO02				IAmb	IAmb	23 00 03.2		
	comp=Z,9.7nm,0.7s							
PTLB	**Pontes e Lacer**	**85.16**	**253**	P	**P**	**22 57 12.7**	**+0.3**
PTLB				IAmb	IAmb	22 57 13.5		
	comp=Z,10nm,1.1s							
FNA	**Florina**	**86.14**	**347**	P	**P**	**22 57 16.0**	**-0.6**
MDT	**Midelt**	**86.43**	**324**	P	**P**	**22 57 20.2**	**+1.9**
	comp=Z,2.2nm,1.0s,baz=127,slow=5.1,SNR=2.9							
MDT				LR	LR	23 35 41.3		
	comp=Z,513nm,19.7s,baz=135,slow=36							
	comp=Z,2.2nm,1.0s							
PB15	**IPOC Station P**	**86.47**	**241**	P	**P**	**22 57 18.8**	**-0.3**
PB15				IAmb	IAmb	22 57 20.4		
	comp=Z,14nm,1.0s							
LVC	**Limon Verde**	**86.55**	**242**	P	**P**	**22 57 18.9**	**-0.9**
CHGR	**Chuyangaron**	**86.87**	**23**	P	**P**	**22 57 20.7**	**+0.4**
CHGR				IAmb	IAmb	22 57 30.6		
	comp=Z,12nm,0.9s							
PB09	**IPOC Station P**	**87.35**	**242**	P	**P**	**22 57 23.2**	**-0.2**
KBZ	**Khabaz**	**87.65**	**3**	LR	LR	23 36 35.0		
	comp=Z,122nm,19.6s,baz=126,slow=36							
MNMC	**Minye Minye**	**89.52**	**244**	P	**P**	**22 57 31.9**	**-1.9**
MNMC				IAmb	IAmb	22 57 34.9		
	comp=Z,11nm,1.0s							
KSH	**Kashi**	**89.76**	**28**	P	**P**	**22 57 32.1**	**-1.9**
KKAR	**Karatay Array**	**91.38**	**22**	P	**P**	**22 57 41.6**	**+0.3**
AAK	**Ala-Archa**	**92.11**	**25**	LR	LR	23 36 30.5		
	comp=Z,134nm,19.0s,baz=184,slow=34							
ESDC	**Sonseca Array**	**92.12**	**328**	LR	LR	23 39 44.3		
	comp=Z,524nm,18.7s,baz=130,slow=36							
ESDC	**Sonseca Array**	**92.12**	**328**	P	**P**	**22 57 44.3**	**-0.7**
ESDC				IAmb	IAmb	22 57 53.1		
	comp=Z,7.9nm,1.4s							
ETMB	**Extrema**	**93.99**	**252**	P	**P**	**22 57 54.5**	**+0.2**
ETMB				IAmb	IAmb	22 57 54.6		
	comp=Z,6.6nm,1.2s							
DAVOX	**Davos/Dischmat**	**94.25**	**340**	LR	LR	23 41 49.9		
	comp=Z,349nm,20.1s,baz=83,slow=36							
VRAC	**Vranov**	**95.23**	**345**	LR	LR	23 43 11.8		
	comp=Z,84nm,18.3s,baz=113,slow=37							
BELG	**Belogornoye**	**96.54**	**5**	LR	LR	23 41 41.1		
	comp=Z,292nm,21.4s,baz=130,slow=36							
DZM	**Mont Dzumac**	**98.30**	**132**	LR	LR	23 34 10.8		
	comp=Z,173nm,20.7s,baz=176,slow=30							
KURBB	**Kurchatov Arra**	**100.50**	**24**	P	**Pdif**	**22 58 22.6**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=210,slow=3.7,SNR=3.0							
Z35A	**Perchaven, San**	**144.67**	**267**		**PKPab**	**23 04 11.1**	**-0.1**
EYMN	**Ely**	**146.03**	**294**	PKPdf	**PKPbc**	**23 04 15.2**	**0.0**
KSU1	**Kansas State U**	**146.85**	**277**		**PKPdf**	**23 04 16.5**	**+0.5**
F36A	**Milaca**	**146.89**	**290**		**PKPdf**	**23 04 16.3**	**+0.5**
TXAR	**Lajitas Array**	**147.01**	**256**	PKPbc	**PKPbc**	**23 04 18.9**	**+0.2**
	comp=Z,6.3nm,1.0s,baz=134,slow=5.4,SNR=36							
R32A	**Long Quarter,**	**148.08**	**274**		**PKPbc**	**23 04 21.5**	**+0.3**
ULM	**Lac du Bonnet**	**149.25**	**297**	PKPbc	**PKPbc**	**23 04 22.4**	**-1.5**
	comp=Z,8.4nm,0.8s,baz=59,slow=1.7,SNR=7.0							
INK	**Inuvik**	**155.57**	**353**	PKPbc	PKPdf	23 04 36.5	+8.2
	comp=Z,3.5nm,1.0s,baz=85,slow=4.9,SNR=4.4							

*IDC **20** 22:48:00.8±0.9, 15.°14S×173.°30W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=43.4km s-min=19.4km az=138.0*
*NEIC **20** 22:48:05.5±1.3, 15.°3S±0.°1×172.°95W±0.°08, h39km±13km, mb4.7/5, Error ellipse: s-maj=17.3km s-min=8.1km az=149.0*

ISC 20 22:48:04.4±0.6,**15.°29S**±0.°07×**172.°98W**±0.°09,**h29**km,**n18,** σ1°**41**/20,**mb4.1**/8,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.79**	**40**	Pn	**Pn**	**22 48 34.1**	**+0.6**
	208nm,0.3s,baz=212,slow=4.9,SNR=434						
AFI				Sn	**Sn**	**22 48 52.9**	**-2.4**
	baz=45,slow=19						
AFI	**Afiamalu**	**1.79**	**40**		**Pn**	**22 48 34.1**	**+0.6**
AFI				Sn	**Sn**	**22 48 53.8**	**-1.5**
NIUE	**Niue**	**4.76**	**143**		**Pn**	**22 49 14.5**	**+0.3**
MSVF	**Nonsavu**	**8.95**	**253**	Pn	**Pn**	**22 50 12.3**	**+0.5**
RAR	**Rarotonga**	**13.85**	**117**	Pn	**Pn**	**22 51 18.4**	**-0.5**
MXZ	**Matakaoa Point**	**23.50**	**198**	P	**P**	**22 53 10.5**	**-1.3**
BKZ	**Black Stump Fm**	**25.52**	**199**	P	**P**	**22 53 29.5**	**-1.0**
BKZ				IAmb	IAmb	22 53 32.8		

	comp=Z,24nm,1.4s							
STKA	**Stephens Creek**	**44.45**	**240**	P	**P**	**22 56 12.2**	**-0.9**
	comp=Z,0.5nm,0.2s,baz=41,slow=11,SNR=2.2							
	comp=Z,0.5nm,0.2s							
WRA	**Warramunga Arr**	**50.27**	**257**	P	**P**	**22 56 56.8**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=91,slow=6.7,SNR=3.8							
	comp=Z,0.9nm,0.7s							
AS31	**Alice Springs**	**50.53**	**252**	P	**P**	**22 56 58.8**	**-1.8**
ASAR	**Alice Springs**	**50.54**	**252**	P	**P**	**22 56 58.6**	**-2.0**
	comp=Z,1.4nm,0.4s,baz=91,slow=7.6,SNR=18							
	comp=Z,1.4nm,0.4s							
VNDA	**Vanda**	**63.53**	**186**	P	**P**	**22 58 33.4**	**+1.8**
	comp=Z,2.6nm,0.9s,baz=11,slow=5.5,SNR=7.9							
	comp=Z,2.6nm,0.9s							
VNDA	**Vanda**	**63.53**	**186**	P	**P**	**22 58 31.9**	**+0.2**
VNDA				IAmb	IAmb	22 58 34.6		
	comp=Z,5.9nm,1.1s							
QSPA	**South Pole Qui**	**74.76**	**180**	P	**P**	**22 59 42.1**	**+0.6**
QSPA				IAmb	IAmb	22 59 43.9		
	comp=Z,15nm,1.1s							
PDAR	**Pinedale Array**	**81.91**	**42**	P	**P**	**23 00 23.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=357,slow=1.8,SNR=3.3							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**82.25**	**11**	P	**P**	**23 00 22.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=218,slow=5.7,SNR=4.6							
	comp=Z,0.5nm,0.8s							
GERES	**GERESS Array B**	**146.09**	**352**	PKPbc	**PKPdf**	**23 07 42.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=50,slow=2.1,SNR=6.2							
BRTR	**Keskin Array B**	**146.32**	**321**	PKPbc	**PKPdf**	**23 07 43.7**	**+2.1**
	comp=Z,2.6nm,0.7s,baz=112,slow=2.4,SNR=14							

*IDC **20** 22:48:23.4±2.0, 15.°42S×172.°64W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=117.7km s-min=23.1km az=150.0*

ISC 20 22:48:28.6±1.9,**15.°3S**±0.°6×**172.°7W**±0.°4,**h35**km,**n9,** σ0°**56**/9,**mb3.8**/6,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.49**	**257**	P	**P**	**22 57 23.6**	**0.0**
	0.8nm,0.7s,baz=90,slow=7.4,SNR=3.1						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**50.75**	**252**	P	**P**	**22 57 25.5**	**-0.1**
	5.9nm,0.8s,baz=84,slow=8.4,SNR=10						
	5.9nm,0.8s						
NVAR	**Mina Array Bea**	**73.83**	**42**	P	**P**	**23 00 01.0**	**+0.9**
	0.8nm,0.7s,baz=238,slow=8.5,SNR=4.0						
	0.8nm,0.7s						
TXAR	**Lajitas Array**	**80.03**	**56**	P	**P**	**23 00 34.5**	**-0.6**
	0.3nm,0.9s,baz=223,slow=9.9,SNR=3.1						
	0.3nm,0.9s						
PDAR	**Pinedale Array**	**81.77**	**42**	P	**P**	**23 00 44.5**	**+0.3**
	0.3nm,0.8s,baz=241,slow=3.0,SNR=3.4						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**82.24**	**11**	P	**P**	**23 00 45.2**	**-0.6**
	1.3nm,0.8s,baz=227,slow=6.3,SNR=8.3						
	1.3nm,0.8s						
GERES	**GERESS Array B**	**146.14**	**352**	PKPbc	**PKPab**	**23 08 06.3**	**+0.4**
	0.7nm,0.8s,baz=352,slow=3.0,SNR=4.6						
BRTR	**Keskin Array B**	**146.49**	**322**	PKPbc	**PKPab**	**23 08 07.5**	**-0.1**
	4.9nm,0.9s,baz=66,slow=1.7,SNR=8.9						
MMAI	**Mount Meron Ar**	**149.01**	**310**	PKPbc	**PKiKP**	**23 08 15.3**	**+0.4**
	0.9nm,0.6s,baz=76,slow=6.1,SNR=3.5						

*ISN **20** 22:50:45.1±0.8,35.°13N×45.°80E, h9km±318km, ML3.3*
*AZER **20** 22:50:48.1±0.9,34.°18N×47.°61E, h9km, Error ellipse: s-maj=13.8km s-min=4.8km az=116.0*
*TEH **20** 22:50:50.6,34.°97N×45.°83E, h9km, ML3.3*
*DSN **20** 22:50:57.8±1.5,34.°26N×46.°10E, h18km±12km, Error ellipse: s-maj=34.0km s-min=4.8km az=39.0*
*OMAN **20** 22:50:59.3±0.6,33.°74N×45.°98E, h9km±5km, mb5.3/11, Error ellipse: s-maj=8.5km s-min=1.4km az=254.0*

ISC 20 22:50:49.1±0.7,**34.°92N**±0.°02×**45.°78E**±0.°03,**h10**km,**n77,** σ2°**50**/86,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.55**	**113**	*e*Pg	**Pg**	**22 51 00.6**	**+0.8**
IDHR				*e*Sg	**Sb**	**22 51 09.6**	**+0.6**
IDHR				*e*		22 51 12.3	
	comp=Z,33μm,0.3s						
IGHG	**Ghaleghazi**	**0.88**	**132**	*e*Sg	**Sb**	**22 51 21.2**	**+2.7**
IGHG				*e*Pg	**Pg**	**22 51 07.6**	**+1.5**
IGHG				*e*		22 51 30.8	
	comp=Z,9μm,0.6s						
ILIN	**Lien**	**0.98**	**90**	*e*Sg	**Sb**	**22 51 22.3**	**+1.0**
ILIN				*e*Pg	**Pb**	**22 51 08.9**	**+0.6**
ILIN				*e*		22 51 26.3	
	comp=Z,9μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.23**	**121**	*e*Pg	**Pb**	**22 51 13.6**	**+1.1**
KCHF				*e*		22 51 38.2	
	comp=Z,11μm,0.3s						
KER	**Kermanshah**	**1.24**	**115**	*e*Pg	**Pn**	**22 51 13.4**	**+0.8**
KER				*e*		22 51 32.1	
	comp=Z,6μm,0.6s						
IKRK	**Kirkuk**	**1.27**	**293**	*e*Pg	**Pn**	**22 51 12.5**	**-0.4**
IKRK				*e*Sg	**Sb**	**22 51 31.0**	**+1.5**
IKRK				AML	AML	22 51 35.0	
	comp=E,974nm,0.5s						
IKRK				AML	AML	22 51 35.2	
	comp=N,886nm,0.4s						
SNGE	**Sanandaj**	**1.30**	**82**	*e*Pg	**Pn**	**22 51 14.0**	**+0.5**
ILBA	**Ilam Banvizeh**	**1.34**	**164**	*e*Pg	**Pn**	**22 51 15.7**	**+1.8**
IKOM	**Komasi**	**1.61**	**117**	*e*Pn	**Pb**	**22 51 20.4**	**+1.3**
IKOM				*e*		22 51 52.2	
	comp=Z,7μm,0.6s						
IBZA	**Bozab**	**1.78**	**104**	*e*Pn	**Pb**	**22 51 23.2**	**+1.3**
IBZA				*e*		22 51 56.1	
	comp=Z,3μm,0.3s						
IBDR	**Badra**	**1.81**	**176**	*e*Pn	**Pn**	**22 51 21.0**	**+0.7**
IBDR				*e*Sn	**Sn**	**22 51 46.0**	**+2.7**
IBDR				AML	AML	22 52 07.5	
	comp=N,221nm,0.5s						
IBDR				AML	AML	22 52 07.9	
	comp=E,199nm,0.5s						
MAHB	**Mahabad**	**1.84**	**358**	*e*Pn	**Pn**	**22 51 21.9**	**+1.0**
MAHB				*e*		22 51 58.9	
	comp=Z,5μm,0.4s						
BHD	**Baghdad**	**2.01**	**216**	*e*Pn	**Pn**	**22 51 24.0**	**+0.9**
BHD				*e*Sn	**Sn**	**22 51 51.0**	**+2.7**
BHD				AML	AML	22 51 58.2	
	comp=E,546nm,0.4s						
IKFM	**Kafar-mosalman**	**2.21**	**128**	*e*Pn	**Pb**	**22 51 29.5**	**+0.4**
IDOB	**Doab**	**2.29**	**119**	*e*Pn	**Pb**	**22 51 30.2**	**-0.4**
HSAM	**Samen**	**2.44**	**106**	*e*Pn	**Pn**	**22 51 32.3**	**+3.1**
HSAM				*e*		22 52 24.4	
	comp=Z,684nm,0.6s						
IHSH	**Hashtrud**	**2.67**	**26**	*e*Pn	**Pn**	**22 51 34.1**	**+1.7**
IHSH				*e*		22 51 43.6	
	comp=Z,708nm,0.3s						
IAZR	**Azarshahr**	**2.76**	**3**	*e*Pn	**Pn**	**22 51 35.7**	**+2.1**
IAZR				*e*		22 52 30.0	
	comp=Z,2μm,0.8s						
HAGD	**Aghdareh**	**2.77**	**91**	*e*Pn	**Pn**	**22 51 36.8**	**+3.1**
HAGD				*e*		22 52 25.9	
	comp=Z,658nm,0.6s						
IBST	**Bostanabad**	**2.92**	**18**	*e*Pn	**Pn**	**22 51 37.8**	**+2.0**
IBST				*e*		22 51 38.4	
	comp=Z,502nm,0.4s						
ZNJK	**Zanjan**	**2.94**	**53**	*e*Pn	**Pn**	**22 51 38.3**	**+2.2**
RAFI	**Al-Rafai**	**3.20**	**175**	*e*Pn	**Pn**	**22 51 41.0**	**+1.6**
RAFI				*e*Sn	**Sn**	**22 52 20.0**	**+2.4**
RAFI				AML	AML	22 52 37.5	
	comp=E,88nm,0.3s						
ISRB	**Sarab**	**3.28**	**27**	*e*Pn	**Pn**	**22 51 42.8**	**+2.1**
ISRB				*e*		22 51 50.5	
	comp=Z,375nm,0.3s						
ISHB	**Shabestar**	**3.36**	**358**	*e*Pn	**Pn**	**22 51 42.4**	**+0.5**
ISHB				*e*		22 51 54.4	
	comp=Z,736nm,0.5s						
IRAZ	**Razeghan**	**3.44**	**81**	*e*		22 52 47.9	
	comp=Z,693nm,1.0s						
ASAO	**Ashtian**	**3.52**	**95**	*e*Pn	**Pn**	**22 51 47.4**	**+3.3**
IHRS	**Heris**	**3.54**	**16**	*e*Pn	**Pn**	**22 51 46.6**	**+2.2**
IHRS				*e*		22 52 08.2	
	comp=Z,298nm,0.4s						
KHMZ	**Khomeyn**	**3.66**	**108**	*e*Pn	**Pn**	**22 51 49.3**	**+3.4**
IMRD	**Marand**	**3.79**	**359**	*e*Pn	**Pn**	**22 51 49.5**	**+1.8**
IMRD				*e*		22 52 05.6	
	comp=Z,802nm,0.7s						
ORD	**Ordubad**	**4.00**	**2**	P	**Pb**	**22 52 02.6**	**+2.8**
ORD				S	**Sg**	**22 52 58.7**	**+1.0**
LRK	**Lerik**	**4.25**	**28**	P	**Pn**	**22 51 56.7**	**+2.7**
LRK				S	**Sb**	**22 52 50.3**	**-5.1**
NAX	**Nakhchivan**	**4.25**	**357**	P	**Pg**	**22 52 08.2**	**-2.4**
NAX				S	**Sg**	**22 53 08.1**	**+2.5**
ASTR	**Astara**	**4.37**	**33**	S	**Sn**	**22 52 49.0**	**+2.6**
AMIS	**Naft Sefid**	**4.38**	**137**	*e*Pn	**Pn**	**22 51 58.3**	**+2.6**
YRD	**Yardimli**	**4.45**	**26**	P	**Pn**	**22 51 59.6**	**+2.8**
YRD				S	**Sb**	**22 52 55.6**	**-5.6**
SBZ	**Shahbuz**	**4.47**	**358**	P	**Pb**	**22 52 10.0**	**+2.3**
SBZ				S	**Sg**	**22 53 13.7**	**+1.0**
GHVR	**GHOM**	**4.57**	**94**	*e*Pn	**Pn**	**22 52 00.4**	**+2.0**
GLBA	**Clilabad**	**4.79**	**25**	P	**Pn**	**22 52 04.6**	**+3.3**
GLBA				S	**Sb**	**22 53 04.6**	**-6.3**
QAMS	**Qamsar**	**4.80**	**103**	*e*Pn	**Pn**	**22 52 04.5**	**+2.8**
QAMS				*e*		22 53 09.0	
	comp=Z,354nm,0.4s						
IPIR	**Pirpir**	**4.81**	**116**	*e*Pn	**Pn**	**22 52 04.5**	**+2.7**
IPIR				*e*		22 53 09.5	
	comp=Z,503nm,0.5s						
SHK1	**Shahrekord**	**4.99**	**120**	*e*Pn	**Pn**	**22 52 06.5**	**+2.3**
SHK1				*e*		22 53 12.2	
	comp=Z,374nm,0.5s						
DAMV	**Damavand**	**5.12**	**80**	*e*Pn	**Pn**	**22 52 08.8**	**+2.7**
GNI	**Garni**	**5.28**	**351**	P	**Pg**	**22 52 34.9**	**+4.6**
IGAR	**Gharneh**	**5.80**	**114**	*e*Pn	**Pn**	**22 52 17.6**	**+2.2**
IZEF	**Zefreh**	**5.81**	**108**	*e*Pn	**Pn**	**22 52 18.3**	**+2.7**
IZEF				*e*		22 53 34.6	
	comp=Z,66nm,0.2s						
NASN	**Na'in**	**6.22**	**108**	*e*Pn	**Pn**	**22 52 24.3**	**+3.0**
IRAM	**Ramesheh**	**6.34**	**117**	*e*Pn	**Pn**	**22 52 25.4**	**+2.6**
ANTO	**Ankara**	**11.44**	**299**	P	Pn	22 53 53.1	+20
SHME	**Shamm**	**12.56**	**132**	P	**Pn**	**22 53 46.0**	**-1.9**
BANOM	**Banah**	**12.75**	**132**	P	**Pn**	**22 53 48.5**	**-2.1**
	SNR=11						
BANOM				S	Sn	22 56 02.7	-10
BANOM	**Banah**	**12.75**	**132**	P	**Pn**	**22 53 49.2**	**-1.4**
MASF	**Masafi**	**13.08**	**134**	P	**Pn**	**22 53 52.8**	**-2.2**
MASF				S	Sn	22 56 09.6	-11
NAZ	**Nazwa, Dubai**	**13.08**	**137**	P	**Pn**	**22 53 52.8**	**-2.3**
NAZ	**Nazwa, Dubai**	**13.08**	**137**	P	**Pn**	**22 53 55.2**	**+0.1**
MSFE	**Esma-Masafi**	**13.09**	**134**	P	**Pn**	**22 53 54.3**	**-0.8**
MZWR	**Madinat Zayed**	**13.17**	**145**	P	**Pn**	**22 53 52.2**	**-4.0**
ASUD	**Al Ashush, Dub**	**13.19**	**139**	P	**Pn**	**22 53 53.3**	**-3.1**
	SNR=5.6						
MDH	**Madha**	**13.22**	**134**	P	**Pn**	**22 53 54.9**	**-1.9**
FAQ	**Al Faqa, Dubai**	**13.24**	**137**	P	**Pn**	**22 53 54.9**	**-2.2**
UOSS	**Minazif**	**13.43**	**135**	P	**Pn**	**22 53 57.7**	**-2.1**
UOSS	**Minazif**	**13.43**	**135**	P	**Pn**	**22 53 59.0**	**-0.8**
HATD	**Hatta, Dubai**	**13.48**	**136**	P	**Pn**	**22 53 57.9**	**-2.5**
HATD				S	Sn	22 56 19.1	-11
HATD	**Hatta, Dubai**	**13.48**	**136**	P	**Pn**	**22 53 59.7**	**-0.8**
ASHO	**Ashiyiah**	**13.55**	**136**	P	**Pn**	**22 53 58.6**	**-2.8**
	SNR=8.0						
ASHO				S	Sn	22 56 20.6	-11
ASHO	**Ashiyiah**	**13.55**	**136**	P	**Pn**	**22 54 00.3**	**-1.1**
ASHO				S	Sn	**22 56 24.8**	**-1.3**
MZR	**Muzera**	**13.65**	**148**	P	Pn	22 53 58.9	-3.8
MZR	**Muzera**	**13.65**	**148**	P	**Pn**	**22 54 01.7**	**-1.1**
JASK	**Jask - Hormozg**	**13.79**	**128**	P	**Pn**	**22 54 03.2**	**-1.4**
UMZA	**Um Al Zommool**	**14.67**	**144**	P	Pn	22 54 13.1	-3.7
UMZA				S	Sn	22 56 46.3	-13
BSY	**Bisya**	**15.71**	**138**	P	**Pn**	**22 54 28.0**	**-2.6**
BSY				S	Sn	22 57 13.0	-12
SMDO	**Samad**	**15.95**	**135**	P	**Pn**	**22 54 31.5**	**-2.2**
JMDO	**Jabal Madar**	**16.52**	**136**	P	**Pn**	**22 54 39.0**	**-1.9**
WBK	**Wadi Bani Khal**	**16.84**	**133**	P	**Pn**	**22 54 43.7**	**-1.3**
MHTO	**MHTO**	**17.55**	**139**	P	**Pn**	**22 54 52.1**	**-1.7**
MHTO				S	Sn	22 57 57.5	-12
DOK	**Doka**	**17.85**	**153**	P	**Pn**	**22 54 54.6**	**-3.0**
DOK				S	Sn	22 58 02.1	-15
ABTO	**Aybut**	**18.74**	**157**	P	**P**	**22 55 05.3**	**-2.8**
DMTO	**DMTO**	**18.99**	**152**	P	**P**	**22 55

BRTR	**Keskin Array B**	**3.82**	**268**	Pn		**Pn**	**22 53 37.0**	**+0.6**
	3.3nm,0.3s,baz=94,slow=14,SNR=172							
BRTR				Lg		Lg	22 54 37.2	
	2.8nm,0.3s,baz=102,slow=21,SNR=1.7							
BRTR				LR		LR	22 55 18.9	
	comp=Z,252nm,18.6s,baz=71,slow=43							
	11nm,0.4s							
KBZ	**Khabaz**	**4.97**	**39**	Pn		**Pn**	**22 53 54.9**	**+3.0**
	0.3nm,0.3s,baz=58,slow=3.9,SNR=8.5							
	3.7nm,0.7s							
YAL	**Yalta**	**5.61**	**326**	x		**Pn**	**22 54 02.9**	**+2.1**
YAL				Pm			22 54 03.8	
	comp=Z,23nm,0.2s							
SUDU	**Sudak**	**5.62**	**333**	*e*P		**Pn**	**22 54 01.5**	**+0.6**
SUDU				Pm			22 54 02.8	
	comp=Z,7.0nm,0.3s							
SUDU				*e*S		**Sn**	**22 55 07.2**	**+1.3**
SUDU				Sm			22 55 11.4	
	comp=N,43nm,0.7s							
SUDU				Sm			22 55 11.5	
	comp=E,3.0nm,0.2s							
FINES	**FINESS Array B**	**22.86**	**344**	P		**P**	**22 57 42.1**	**+1.4**
	comp=E,3.1nm,0.7s,baz=166,slow=11,SNR=8.4							
	comp=E,3.1nm,0.7s							
KURBB	**Kurchatov Arra**	**29.72**	**56**	P		**P**	**22 58 44.4**	**+0.6**
	comp=E,1.4nm,1.0s,baz=273,slow=8.8,SNR=9.6							
	comp=E,1.4nm,1.0s							
MKAR	**Makanchi Array**	**32.16**	**63**	P		**P**	**22 59 06.5**	**+1.1**
	comp=E,0.5nm,0.7s,baz=265,slow=9.8,SNR=1.9							
	comp=E,0.5nm,0.7s							

*NOU **20** 22:53:33.6, 41.81S×174.23E, h90km, MLv4.1/4, Cook Strait, New Zealand*
*WEL **20** 22:53:45.9, 43.5S±5.1×17.3E±1.0, h22km±11km, M2.8/14, ML3.0/13, MLv2.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=76.3*

ISC 20 22:53:45.7±1.0, **42.57S**±0.04×**173.29E**±0.04, **h10**km, **n30, σ09 97**/30, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**51**	P	**Pg**	**22 53 51.9**	**+1.3**
KHZ	**Kahutara**	**0.24**	**51**	P	**Pg**	**22 53 52.0**	**+1.3**
GVZ	**Greta Valley S**	**0.44**	**205**	P	**Pb**	**22 53 56.3**	**+0.7**
AMCZ	**Amberley**	**0.77**	**217**	P	**Pn**	**22 54 02.3**	**-0.3**
LTZ	**Lake Taylor**	**0.78**	**254**	P	**Pg**	**22 54 01.2**	**+0.4**
THZ	**Tophouse**	**0.85**	**340**	P	**Pg**	**22 54 02.3**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.96**	**27**	P	**Pg**	**22 54 00.3**	**-3.8**
OKCZ	**Okains Bay**	**1.17**	**188**	P	**Pb**	**22 54 08.0**	**0.0**
OXZ	**Oxford**	**1.19**	**230**	P	**Pb**	**22 54 08.1**	**-0.3**
MQZ	**McQueen's Vall**	**1.23**	**202**	P	**Pn**	**22 54 07.9**	**-1.0**
TUWZ	**Tuamarina**	**1.24**	**23**	P	**Pg**	**22 54 10.1**	**+0.6**
AKCZ	**Akaroa Harbour**	**1.33**	**192**	P	**Pn**	**22 54 10.3**	**-0.1**
NNZ	**Nelson**	**1.35**	**3**	P	**Pg**	**22 54 11.9**	**+0.3**
TCW	**Tory Channel**	**1.54**	**29**	P	**Pb**	**22 54 14.0**	**-0.4**
TKNZ	**Takaka Hill**	**1.55**	**351**	P	**Pg**	**22 54 15.2**	**-0.3**
PLWZ	**Palliser**	**1.77**	**56**	P	**Pn**	**22 54 16.8**	**+0.3**
DUWZ	**D'Urville Isla**	**1.83**	**15**	P	**Pb**	**22 54 19.4**	**+0.2**
QRZ	**Quartz Range**	**1.83**	**342**	P	**Pb**	**22 54 19.6**	**+0.3**
WVZ	**Waitaha Valley**	**1.94**	**254**	P	**Pn**	**22 54 19.3**	**+0.5**
CAW	**Cannon Point**	**1.97**	**43**	P	**Pn**	**22 54 19.7**	**+0.5**
RPZ	**Rata Peaks**	**2.00**	**234**	P	**Pn**	**22 54 19.4**	**-0.2**
RPZ	**Rata Peaks**	**2.00**	**234**	P	**Pn**	**22 54 19.4**	**-0.2**
ARCZ	**Arundel**	**2.07**	**228**	P	**Pn**	**22 54 19.9**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.30**	**250**	P	**Pn**	**22 54 24.7**	**+1.0**
FOZ	**Fox Glacier**	**2.72**	**248**	P	**Pn**	**22 54 30.4**	**+0.9**
LBZ	**Lake Benmore**	**2.90**	**230**	P	**Pn**	**22 54 31.7**	**-0.2**
ODZ	**Otahua Downs**	**3.13**	**217**	P	**Pn**	**22 54 34.8**	**-0.3**
ODZ	**Otahua Downs**	**3.13**	**217**	P	**Pn**	**22 54 34.4**	**-0.6**
JCZ	**Jackson Bay**	**3.61**	**244**	P	**Pn**	**22 54 40.7**	**-1.2**
JCZ	**Jackson Bay**	**3.61**	**244**	P	**Pn**	**22 54 41.7**	**-0.1**

*IDC **20** 23:00:38.9±1.6, 17.07S×175.01W, h222km±17km, mb3.6/6, mbtmp4.3/7, Error ellipse: s-maj=30.3km s-min=15.0km az=140.0*
*NEIC **20** 23:00:42.0±1.4, 16.9S±0.1×174.7W±0.1, h271km±12km, mb4.4/24, Error ellipse: s-maj=17.1km s-min=13.3km az=224.0*

ISC 20 23:00:41.3±0.5, **16.98S**±0.08×**174.86W**±0.07, **h256**km, **n39, σ1936/44, mb4.3**/18, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.26**	**45**	P	**Pn**	**23 01 49.4**	**+0.8**
	107nm,0.4s,baz=224,slow=1.7,SNR=22						
AFI				S	**S**	**23 02 39.8**	**-2.3**
	383nm,0.5s,baz=66,slow=21,SNR=13						
AFI	**Afiamalu**	**4.26**	**45**	Pn	**Pn**	**23 01 49.3**	**+0.8**
AFI				Sn	**S**	**23 02 40.1**	**-2.0**
NIUE	**Niue**	**5.13**	**115**	Pn	**Pn**	**23 01 58.7**	**-0.2**
NIUE				Sn	**S**	**23 03 02.3**	**+1.5**
MSVF	**Nonsavu**	**6.81**	**263**	P	**Pn**	**23 02 22.5**	**+2.7**
	17nm,0.8s,baz=126,slow=17,SNR=9.9						
MSVF	**Nonsavu**	**6.81**	**263**	Pn	**Pn**	**23 02 23.2**	**+3.3**
MARNC	**Mare, Loyalty**	**16.77**	**252**	P	**P**	**23 04 17.5**	**-2.7**
DZM	**Mont Dzumac**	**18.33**	**251**	P	**P**	**23 04 38.8**	**+1.5**
OUZ	**Omahuta**	**20.88**	**207**	P	**P**	**23 05 04.6**	**+0.5**
OUZ				IAmb	IAmb	23 05 14.9	
	comp=Z,31nm,1.5s						
MXZ	**Matakaoa Point**	**21.37**	**195**	P	**P**	**23 05 09.1**	**+0.2**
BKZ	**Black Stump Fm**	**23.36**	**197**	P	**P**	**23 05 26.6**	**-0.6**
BKZ				IAmb	IAmb	23 05 47.0	
	comp=Z,20nm,1.3s						
INZ	**Inchbonnie**	**28.20**	**202**	P	**P**	**23 06 08.6**	**-1.8**
EIDS	**Eidsvold**	**32.77**	**249**	P	**P**	**23 06 49.7**	**-1.0**
EIDS				IAmb	IAmb	23 07 10.3	
	comp=Z,24nm,1.4s						
ARMA	**Armidale**	**33.34**	**240**	P	**P**	**23 06 55.3**	**-0.5**
ARMA				IAmb	IAmb	23 06 55.9	
	comp=Z,8.0nm,0.7s						
STKA	**Stephens Creek**	**42.04**	**241**	P	**P**	**23 08 07.2**	**-1.0**
	comp=Z,7.7nm,0.8s,baz=90,slow=10,SNR=14						
	comp=Z,7.7nm,0.8s						
STKA	**Stephens Creek**	**42.04**	**241**	P	**P**	**23 08 07.9**	**-0.3**
BBOO	**Buckleboo**	**46.82**	**241**	P	**P**	**23 08 45.2**	**-0.7**
BBOO				IAmb	IAmb	23 09 11.8	
	comp=Z,25nm,1.5s						
WR0	**Warramunga Arr**	**47.95**	**258**	P	**P**	**23 08 54.1**	**-0.6**
WB0	**Warramunga Arr**	**48.10**	**258**	P	**P**	**23 08 54.5**	**-1.4**
WB0				IAmb	IAmb	23 08 54.8	
	comp=Z,17nm,1.4s						
WB2	**Warramunga Arr**	**48.12**	**258**	P	**P**	**23 08 55.1**	**-1.0**
WB2				IAmb	IAmb	23 08 55.6	
	comp=Z,6.0nm,0.6s						
WRAB	**Tennant Creek**	**48.13**	**258**	P	**P**	**23 08 55.0**	**-1.1**
WRAB				IAmb	IAmb	23 08 55.5	
	comp=Z,5.3nm,0.6s						
WRA	**Warramunga Arr**	**48.14**	**258**	P	**P**	**23 08 55.1**	**-1.1**
	comp=Z,3.4nm,0.5s,baz=96,slow=7.0,SNR=135						
WRA				PcP	**PcP**	**23 10 20.1**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=99,slow=3.0,SNR=3.0						
	comp=Z,3.4nm,0.5s						
WRA	**Warramunga Arr**	**48.14**	**258**	P	**P**	**23 08 55.2**	**-1.1**
AS31	**Alice Springs**	**48.30**	**253**	P	**P**	**23 08 56.6**	**-0.9**
AS31				IAmb	IAmb	23 08 57.6	
	comp=Z,14nm,0.6s						
ASAR	**Alice Springs**	**48.30**	**253**	P	**P**	**23 08 56.6**	**-0.8**
	comp=Z,45nm,0.6s,baz=88,slow=8.5,SNR=593						
ASAR				PcP	**PcP**	**23 10 20.6**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=106,slow=4.0,SNR=4.5						
ASAR	**Alice Springs**	**48.30**	**253**	P	**P**	**23 08 56.7**	**-0.7**
MTN	**Manton Dam**	**52.23**	**267**	P	**P**	**23 09 25.6**	**-1.2**
MTN				IAmb	IAmb	23 09 31.2	
	comp=Z,22nm,1.4s						
FAKI	**Fak Fak**	**53.76**	**279**	P	**P**	**23 09 35.5**	**-2.5**
KNRA	**Kununurra**	**53.96**	**263**	P	**P**	**23 09 38.8**	**-0.6**
KNRA				IAmb	IAmb	23 09 51.0	
	comp=Z,21nm,1.4s						
SIJI	**Sorong**	**55.36**	**281**	P	**P**	**23 09 50.3**	**+0.8**
	comp=Z,15nm,0.7s,baz=98,slow=14,SNR=6.1						
	comp=Z,15nm,0.7s						
PSA00	**Pilbara Seismi**	**61.42**	**254**	P	**P**	**23 10 30.7**	**-0.5**
VNDA	**Vanda**	**61.67**	**186**	P	**P**	**23 10 32.5**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=18,slow=6.5,SNR=5.9						
	comp=Z,1.2nm,0.8s						
VNDA	**Vanda**	**61.67**	**186**	P	**P**	**23 10 31.4**	**-0.4**
QSPA	**South Pole Qui**	**73.07**	**180**	P	**P**	**23 11 43.7**	**+0.3**
UGM	**Wanagama**	**73.08**	**267**	P	**P**	**23 11 44.9**	**+0.6**
ILAR	**Eielson Array**	**84.27**	**12**	P	**P**	**23 12 45.6**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=229,slow=6.1,SNR=12						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**84.37**	**42**	P	**P**	**23 12 46.5**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=210,slow=5.2,SNR=2.3						
	comp=Z,0.2nm,0.6s						
SNAA	**Sanae**	**91.40**	**177**	P	**P**	**23 13 16.4**	**-1.6**
SNAA				IAmb	IAmb	23 13 26.8	
	comp=Z,3.2nm,1.1s						
BRTR	**Keskin Array B**	**146.45**	**318**	PKPbc	**PKPab**	**23 19 54.1**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=39,slow=0.9,SNR=6.6						
GERES	**GERESS Array B**	**147.47**	**349**	PKPbc	**PKPbc**	**23 19 56.2**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=348,slow=1.9,SNR=6.6						

*MOS **20** 23:05:02.0±0.9, 27.30N×139.94E, h460km, mb4.6/50, Error ellipse: s-maj=9.2km s-min=4.8km az=114.3*
*BJI **20** 23:05:03.3±0.0, 27.36N×139.94E, h469km, mb4.8/63, mB4.9/27*
*JMA **20** 23:05:04.0±0.3, 28°N±1°×14°1E±°, h470km±3km, MV4.3/56, W OFF OGASAWARA*
*NEIC **20** 23:05:03.3±2.3, 27.33N±0.09×140.1E±0.1, h453km±6km, mb4.5/161, Error ellipse: s-maj=14.7km s-min=12.7km az=108.0*
*IDC **20** 23:05:04.4±0.6, 27.34N×140.02E, h474km±6km, mb3.9/27, mbtmp4.7/32, Error ellipse: s-maj=10.2km s-min=7.6km az=78.0*

ISC 20 23:05:03.2±0.4, **27.28N**±0.04×**140.11E**±0.05, **h465**km±3km, **h465km:pP-P, n470, σ1915/506, mb4.5**/167, **26C-24D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.86**	**95**	P	**P**	**23 06 04.1**	**-0.2**
CBIJ				S	**S**	**23 06 50.9**	**-2.9**
JCJ	**Chichijima**	**1.86**	**95**	P	**P**	**23 06 03.6**	**-0.6**
	488nm,0.2s,baz=289,slow=18,SNR=171						
JCJ				S	**S**	**23 06 51.0**	**-2.8**
	920nm,0.3s,baz=305,slow=22,SNR=15						
JCJ	**Chichijima**	**1.86**	**95**	P	**P**	**23 06 04.0**	**-0.3**
JCJ				S	**S**	**23 06 51.8**	**-2.0**
JCJ	**Chichijima**	**1.86**	**95**	P	**P**	**23 06 04.2**	**-0.1**
JHH2	**Haha-jima-NKT2**	**1.96**	**109**	P	**P**	**23 06 05.2**	**+0.4**
JHH2				S	**S**	**23 06 53.9**	**-0.8**
JHH2	**Haha-jima-NKT2**	**1.96**	**109**	A	A	23 06 05.2	
	comp=E,20nm,0.4s,comp=E,18nm,1.7s						
JAOM	**Aogashimamukai**	**5.17**	**357**	P	**P**	**23 06 30.1**	**+0.3**
JHCJ	**Hachijojimakas**	**5.78**	**357**	P	**P**	**23 06 35.4**	**-0.3**
JHCJ				S	**S**	**23 07 46.1**	**-5.2**
JHJ2	**Mitsune**	**5.81**	**358**	P	**P**	**23 06 35.6**	**-0.4**
JHJ2				S	**S**	**23 07 47.8**	**-4.2**
JHJ2	**Mitsune**	**5.81**	**358**	P	**P**	**23 06 36.2**	**+0.2**
JHJ2	**Mitsune**	**5.81**	**358**	P	**P**	**23 06 35.9**	**-0.1**
JHJ	**Hachijo jima 2**	**5.82**	**357**	P	**P**	**23 06 35.9**	**-0.3**
	118nm,0.2s,baz=252,slow=20,SNR=40						
JHJ				S	**S**	**23 07 47.2**	**-4.9**
	169nm,0.3s,baz=262,slow=21,SNR=7.4						
BSO3	**Boso 3**	**7.50**	**3**	P	**P**	**23 06 53.1**	**+0.1**
JIE	**Ise**	**7.66**	**338**	*e*P	**P**	**23 06 57.1**	**+2.1**
JKN2	**Miekihoku**	**7.68**	**336**	P	**P**	**23 06 57.4**	**+2.3**
BSO4	**Boso 4**	**7.69**	**1**	P	**P**	**23 06 54.9**	**-0.3**
HMMJ	**Hamamatsu 2**	**7.82**	**345**	P	**P**	**23 06 57.4**	**+0.7**
JOD2	**Odawara 2**	**8.00**	**354**	S	**S**	**23 08 30.2**	**-3.4**
JNY	**Yasuok**	**8.28**	**347**	*e*P	**P**	**23 07 02.1**	**+0.5**
JAO	**Obara**	**8.32**	**344**	P	**P**	**23 07 03.1**	**+1.0**
JMN	**Monobe**	**8.37**	**322**	P	**P**	**23 07 04.4**	**+1.7**
JMN	**Monobe**	**8.37**	**322**	P	**P**	**23 07 05.4**	**+2.7**
JTO	**Tosashimizu**	**8.42**	**313**	P	**P**	**23 07 05.4**	**+2.3**
JEG	**Eigenji**	**8.45**	**339**	P	**P**	**23 07 05.6**	**+2.1**
INU	**Inuyama**	**8.46**	**343**		**P**	**23 07 03.5**	**0.0**
INU	**Inuyama**	**8.46**	**343**	P	**P**	**23 07 04.7**	**+1.1**
JGF	**Kuroka**	**8.62**	**345**		**P**	**23 07 05.5**	**+0.2**
JGF	**Kuroka**	**8.62**	**345**	P	**P**	**23 07 06.0**	**+0.7**
JRY	**Ryogami san**	**8.77**	**354**	P	**P**	**23 07 06.4**	**-0.5**
JRY				S	**S**	**23 08 44.3**	**-4.3**
JHO	**Hitachi**	**9.31**	**2**	P	**P**	**23 07 12.7**	**0.0**
JHO				S	**S**	**23 08 54.3**	**-4.9**
MJAR	**Matsushiro Arr**	**9.37**	**351**	P	**P**	**23 07 12.1**	**-1.3**
	9.0nm,0.3s,baz=167,slow=10.0nm,SNR=30						
MJAR				S	**S**	**23 08 57.1**	**-3.3**
	6.4nm,0.6s,baz=141,slow=16,SNR=2.3						
MAJO	**Matsushiro**	**9.37**	**351**	P	**P**	**23 07 13.1**	**-0.3**
MAJO	**Matsushiro**	**9.37**	**351**	P	**P**	**23 07 13.4**	**0.0**
MAJO	**Matsushiro**	**9.37**	**351**	*i* P	**P**	**23 07 12.5**	**-0.9**
MJB9	**Matsu-Tunnel**	**9.38**	**351**	P	**P**	**23 07 13.4**	**0.0**
JSU	**Suzuyama**	**9.41**	**299**	P	**P**	**23 07 15.2**	**+1.4**
JSU	**Suzuyama**	**9.41**	**299**	P	**P**	**23 07 16.3**	**+2.5**
JAMN	**Amaminishikomi**	**9.73**	**278**	*e*P	**P**	**23 07 19.5**	**+2.2**
JHS	**Saijyo**	**9.74**	**324**	P	**P**	**23 07 18.5**	**+1.1**
JHS	**Saijyo**	**9.74**	**324**	P	**P**	**23 07 19.4**	**+2.0**
JHS	**Saijyo**	**9.74**	**324**	P	**P**	**23 07 19.4**	**+2.0**
JNU	**Nakatsue**	**9.88**	**308**	P	**P**	**23 07 20.2**	**+1.3**
JNU	**Nakatsue**	**9.88**	**308**	P	**P**	**23 07 21.4**	**+2.5**
JSJ	**Shimokoshiki**	**10.05**	**298**	P	**P**	**23 07 22.4**	**+1.6**
JOW	**Kunigami**	**10.55**	**270**	P	**P**	**23 07 28.3**	**+2.0**
	271nm,0.5s,baz=110,slow=8.9,SNR=184						
JOW				S	**S**	**23 09 25.6**	**+1.4**
	5.4nm,0.6s,baz=107,slow=19,SNR=0.8						
JOW	**Kunigami**	**10.55**	**270**	P	**P**	**23 07 28.2**	**+1.9**
JOW	**Kunigami**	**10.55**	**270**	P	**P**	**23 07 28.6**	**+2.3**
JOW	**Kunigami**	**10.55**	**270**	P	**P**	**23 07 28.4**	**+2.1**
JMM	**Marumori**	**10.57**	**3**	P	**P**	**23 07 26.4**	**+0.2**
JMM	**Marumori**	**10.57**	**3**	P	**P**	**23 07 27.0**	**+0.8**
JSD	**Sado**	**10.84**	**352**	P	**P**	**23 07 28.2**	**-0.9**
JSD	**Sado**	**10.84**	**352**	P	**P**	**23 07 28.8**	**-0.3**
JTU	**Tsushima**	**11.68**	**311**	P	**P**	**23 07 40.0**	**+1.7**
JTU	**Tsushima**	**11.68**	**311**	P	**P**	**23 07 40.0**	**+1.7**
JKE	**Kume jima 2**	**11.94**	**268**	P	**P**	**23 07 42.7**	**+1.5**
JTM	**Tenmabayashi**	**13.49**	**3**	P	**P**	**23 07 58.3**	**+0.6**
JTM	**Tenmabayashi**	**13.49**	**3**	P	**P**	**23 07 58.7**	**+1.0**
KSRS	**Korea Array**	**14.44**	**318**	P	**P**	**23 08 07.2**	**-0.6**
	7.9nm,0.8s,baz=130,slow=10,SNR=22						
KSAR	**Wonju Array Be**	**14.45**	**318**	P	**P**	**23 08 06.9**	**-1.1**
KSAR	**Wonju Array Be**	**14.45**	**318**	P	**P**	**23 08 06.9**	**-1.1**
KS19	**Wonju Array Si**	**14.50**	**318**	P	**P**	**23 08 08.4**	**-0.2**
ERM	**Erimo**	**14.91**	**9**	P	**P**	**23 08 13.3**	**+0.5**
ERM	**Erimo**	**14.91**	**9**	P	**P**	**23 08 13.3**	**+0.5**
YOJ	**Yonaguni jima**	**15.64**	**263**	P	**P**	**23 08 20.9**	**+0.1**
YOJ	**Yonaguni jima**	**15.64**	**263**	P	**P**	**23 08 21.0**	**+0.1**
YOJ	**Yonaguni jima**	**15.64**	**263**	P	**P**	**23 08 20.9**	**+0.1**
YOJ				pmax	pmax		
	comp=Z,124nm,1.1s						
ASAJ	**Asahikawa**	**16.92**	**6**	P	**P**	**23 08 34.6**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,78nm,1.4s						
JKA	**Kamikawa-asahi**	**16.92**	**6**	P	**P**	**23 08 34.6**	**+0.6**
NACB	**Ninganchiao**	**16.96**	**264**	P	**P**	**23 08 34.3**	**-0.5**
NACB				IAmb	IAmb	23 08 39.3	
	comp=Z,44nm,1.4s						
NACB	**Ninganchiao**	**16.96**	**264**	P	**P**	**23 08 34.9**	**+0.1**
YHNB	**Yeheng**	**17.04**	**265**	P	**P**	**23 08 34.8**	**-0.9**
YHNB	**Yeheng**	**17.04**	**265**	P	**P**	**23 08 34.8**	**-0.9**
	comp=Z,17nm,1.8s						
YULB	**Yu-li**	**17.43**	**261**	P	**P**	**23 08 39.9**	**+0.2**
YULB				IAmb	IAmb	23 09 18.7	
	comp=Z,39nm,1.4s						
YULB	**Yu-li**	**17.43**	**261**	P	**P**	**23 08 40.1**	**+0.4**
SSLB	**Suanglung**	**17.63**	**263**	P	**P**	**23 08 42.1**	**+0.4**
SSLB	**Suanglung**	**17.63**	**263**	P	**P**	**23 08 42.4**	**+0.7**
TPUB	**Ta-pu**	**18.05**	**262**	P	**P**	**23 08 46.5**	**+0.7**
TPUB	**Ta-pu**	**18.05**	**262**	P	**P**	**23 08 46.8**	**+1.0**
USA0B	**Ussuriysk Arra**	**18.10**	**341**	P	**P**	**23 08 46.5**	**+0.5**
USA0B	**Ussuriysk Arra**	**18.10**	**341**	P	**P**	**23 08 46.5**	**+0.5**
USA0B				pmax	pmax		
	comp=Z,43nm,0.8s						
USRK	**Ussuriysk Ar.**	**18.10**	**341**	P	**P**	**23 08 46.1**	**+0.1**
	comp=Z,36nm,0.7s,baz=160,slow=9.7,SNR=69						
NJ2	**Nanjing**	**19.06**	**290**	*e*P	**P**	**23 08 53.8**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
MDJ	**Mudanjiang**	**19.25**	**337**	IAmb	IAmb	23 09 00.2	
	comp=Z,13nm,0.6s						
MDJ	**Mudanjiang**	**19.25**	**337**	P	**P**	**23 08 57.8**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,18nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.3s						
KNMB	**Chin-men Tao**	**19.74**	**267**	P	**P**	**23 09 01.9**	**+0.5**
SNY	**Shenyang**	**19.84**	**321**	⇓P	**P**	**23 09 01.5**	**-0.6**
SNY				S	**S**	**23 12 18.3**	**+1.6**
SNY				pmax	pmax		
	comp=Z,100nm,1.1s						
SNY				pmax	pmax		
	comp=Z,510nm,10.1s						
CN2	**Changchun**	**20.29**	**328**	*e*P	**P**	**23 09 07.3**	**+1.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
TIA	**Tai'an**	**21.43**	**300**	⇓P	**P**	**23 09 16.3**	**-0.4**
TIA				pmax	pmax		
	comp=Z,180nm,0.6s						
WHN	**Wuhan**	**22.76**	**284**	⇓P	**P**	**23 09 29.1**	**+0.4**
KLR	**Kul'dur**	**22.84**	**346**	P	**P**	**23 09 29.6**	**+0.3**
	comp=Z,4.7nm,0.5s,baz=168,slow=12,SNR=12						
KLR				ScP	**ScP**	**23 15 56.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=157,slow=4.3,SNR=5.6						
	comp=Z,4.7nm,0.5s						
KLR	**Kul'dur**	**22.84**	**346**	*ce*P	**P**	**23 09 29.5**	**+0.3**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJT	**Baijiatuau**	**23.55**	**309**	P	**P**	**23 09 34.6**	**-1.0**
BJT				IAmb	IAmb	23 09 36.4	
	comp=Z,7.1nm,0.7s						
BJT	**Baijiatuau**	**23.55**	**309**	P	**P**	**23 09 34.6**	**-1.0**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJI	**Beijing**	**23.55**	**309**	P	**P**	**23 09 34.8**	**-0.8**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HNS	**HongShan**	**23.65**	**302**	⇑P	**P**	**23 09 35.9**	**-0.6**
HNS				pmax	pmax		
	comp=Z,41nm,0.8s						
HEH	**HeiHe**	**24.91**	**340**	⇓P	**P**	**23 09 48.0**	**+0.4**
HEH				pmax	pmax		
	comp=Z,55nm,0.7s						
HEH				pmax	pmax		
	comp=Z,270nm,3.9s						
ENH	**Enshi**	**26.96**	**284**	IAmb	IAmb	23 10 06.6	
	comp=Z,50nm,1.3s						
HIA	**Hailar**	**26.99**	**330**	P	**P**	**23 10 06.3**	**+0.2**
HIA				IAmb	IAmb	23 10 06.7	
	comp=Z,16nm,0.7s						
HIA	**Hailar**	**26.99**	**330**	P	**P**	**23 10 06.3**	**+0.2**
HIA				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC	**Hu-ho-hao-te**	**27.10**	**307**	*e*P	**P**	**23 10 07.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,27nm,1.2s						
HHC				pmax	pmax		
	comp=Z,330nm,6.7s						
XAN	**Xi'an**	**27.59**	**292**	⇓P	**P**	**23 10 11.4**	**-0.2**
XAN				pmax	pmax		
	comp=Z,41nm,0.6s						
ZEA	**Zeya**	**28.09**	**344**	*e*P	**P**	**23 10 15.9**	**+0.3**
ZEA				pmax	pmax		
	comp=E,20nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,40nm,0.6s						
LZH	**Lanzhou**	**31.93**	**295**	*e*P	**P**	**23 10 49.6**	**+0.1**
LZH				pP	pP	23 12 07.9	-2.0
LZH				pmax	pmax		
	comp=Z,36nm,1.1s						
SANI	**Sanana**	**32.18**	**207**	P	**P**	**23 10 50.7**	**-0.9**
	comp=Z,772nmcomp=Z,27nm,0.4s						
SANI	**Sanana**	**32.18**	**207**	P	**P**	**23 10 51.4**	**-0.2**
ULN	**Ulaanbaatar**	**32.92**	**317**	P	**P**	**23 10 58.1**	**+0.3**
ULN				IAmb	IAmb	23 10 58.8	
	comp=Z,11nm,0.8s						
ULN					**PcP**	**23 13 29.4**	**+0.6**
ULN	**Ulaanbaatar**	**32.92**	**317**	P	**P**	**23 10 57.6**	**-0.2**
	comp=Z,63nm,1.1s						
ULN	**Ulaanbaatar**	**32.92**	**317**	*ce*P	**P**	**23 10 57.8**	**0.0**
ULN				pmax	pmax		
	comp=Z,14nm,0.9s						
SONM	**Songino Array**	**33.31**	**317**	P	**P**	**23 11 00.7**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=126,slow=8.6,SNR=25						
SONM				pP	**pwP**	**23 12 26.1**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=116,slow=6.6,SNR=1.5						
SONM				PcP	**PcP**	**23 13 30.0**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=126,slow=1.6,SNR=8.0						
SONM				ScP	**ScP**	**23 16 29.5**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=140,slow=4.4,SNR=7.1						
	comp=Z,4.0nm,0.7s						
SONM	**Songino Array**	**33.31**	**317**	P	**P**	**23 11 00.9**	**-0.1**
SONM	**Songino Array**	**33.31**	**317**	P	**P**	**23 11 00.9**	**-0.1**
SONM				pmax

BILL IAmb IAmb 23 12 27.1
comp=Z,7.2nm,0.7s
BILL Bilibino 43.70 14 *e*P **P** **23 12 25.5 +0.2**
BILL *e**PP **pP** **23 13 49.4 -2.5**
BILL *e* 23 14 00.3
BILL *e* 23 14 15.9
BILL *e**SP **sP** **23 14 44.2 +0.1**
BILL pmax pmax
comp=Z,16nm,2.5s
TIXI Tiksi 44.85 355 P **P** **23 12 33.6 -0.6**
comp=Z,3.5nm,0.4s,baz=350,slow=0.4,SNR=21
TIXI S **S** **23 18 34.5 -1.9**
comp=Z,0.5nm,0.3s,baz=153,slow=0.0,SNR=1.2
comp=Z,3.5nm,0.4s
TIXI Tiksi 44.85 355 P **P** **23 12 33.8 -0.4**
TIXI IAmb IAmb 23 12 34.7
comp=Z,10nm,1.0s
TIXI Tiksi 44.85 355*ce*P **P** **23 12 33.3 -0.8**
TIXI pmax pmax
comp=Z,3.0nm,0.4s
WMQ Urumqi 44.96 306 *e*P **P** **23 12 35.8 +0.2**
WMQ pmax pmax
comp=Z,43nm,0.9s
WMQ pmax pmax
comp=Z,220nm,6.1s
DGZ Jazzator, Alta 45.80 314*d i*P **P** **23 12 42.6 +0.6**
DGZ pmax pmax
comp=Z,38nm,1.0s
LEM Lembang 46.24 228 P **P** **23 12 46.5 +0.7**
comp=Z,21nm,0.7s,baz=323,slow=20,SNR=3.8
comp=Z,21nm,0.7s
TAPN Taplejung 46.26 283 *e*P **P** **23 12 46.6 +0.5**
comp=Z,16nm,0.4s
PSI Prapat 46.28 246 P **P** **23 12 45.9 -0.2**
PSI pmax pmax
comp=Z,11nm,0.8s
RPSI Rantau Prapat 46.34 245 P **P** **23 12 45.9 -0.6**
RPSI IAmb IAmb 23 12 47.5
comp=Z,11nm,0.8s
ODAN Odare 46.64 282 *e*P **P** **23 12 49.7 +0.8**
comp=Z,5.8nm,0.5s
WB0 Warramunga Arr 47.10 187 P **P** **23 12 52.1 0.0**
WB0 IAmb IAmb 23 12 52.7
comp=Z,8.4nm,0.6s
WRAB Tennant Creek 47.27 187 P **P** **23 12 53.0 -0.3**
WRAB Tennant Creek 47.27 187 P **P** **23 12 53.2 -0.1**
WRAB Tennant Creek 47.27 187 *i* P **P** **23 12 53.3 -0.1**
WRAB pmax pmax
comp=Z,9.0nm,1.1s
WR0 Warramunga Arr 47.27 187 IAmb IAmb 23 12 53.8
comp=Z,6.3nm,0.6s
WB2 Warramunga Arr 47.28 187 P **P** **23 12 53.5 +0.1**
WRA Warramunga Arr 47.28 187 P **P** **23 12 53.4 -0.1**
comp=Z,5.0nm,0.4s,baz=4.5,slow=7.5,SNR=92
WRA PcP **PcP** **23 14 15.9 +0.3**
comp=Z,1.6nm,0.5s,baz=359,slow=3.8,SNR=7.5
WRA pP **pwP** **23 14 26.8 -0.3**
comp=Z,0.9nm,0.5s,baz=7.9,slow=8.4,SNR=2.4
WRA ScP **ScP** **23 17 24.3 -0.4**
comp=Z,0.9nm,0.5s,baz=2.9,slow=4.4,SNR=5.4
WRA S **S** **23 19 08.4 -3.4**
comp=Z,1.1nm,0.8s,baz=6.8,slow=14,SNR=5.1
comp=Z,5.0nm,0.4s
WRA Warramunga Arr 47.28 187 P **P** **23 12 53.3 -0.1**
RAMN Ramite 47.31 283 *e*P **P** **23 12 54.3 +0.3**
comp=Z,29nm,0.5s
JIRN Jiri 47.51 284 *e*P **P** **23 12 56.4 +0.8**
GUN Gumba 47.72 284 *e*P **P** **23 12 58.1 +0.9**
ZAA0 Zalesovo Array 48.13 319 P **P** **23 12 58.7 -0.8**
ZAA0 IAmb IAmb 23 12 59.8
comp=Z,22nm,0.9s
ZALV Zalesovo Beam 48.13 319 P **P** **23 12 58.8 -0.6**
comp=Z,12nm,0.3s,baz=112,slow=7.0,SNR=116
ZALV PcP **PcP** **23 14 17.4 -0.9**
comp=Z,6.1nm,0.4s,baz=115,slow=3.7,SNR=12
ZALV ScP **ScP** **23 17 26.9 -1.0**
comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=2.3
comp=Z,12nm,0.3s
PKI Pulchoki 48.20 284 *e*P **P** **23 13 00.8 0.0**
comp=Z,18nm,0.5s
PKIN Phulchoki 48.21 284 *e*P **P** **23 13 00.9 +0.1**
comp=Z,9.9nm,0.4s
KKN Kakani 48.26 284 *e*P **P** **23 13 01.4 +0.2**
DMN Daman 48.45 284 *e*P **P** **23 13 02.9 +0.3**
comp=Z,39nm,0.6s
GKN Gorkha 48.77 284 *e*P **P** **23 13 05.1 +0.2**
comp=Z,15nm,0.3s
MK31 Makanchi Array 48.93 310 IAmb IAmb 23 13 06.6
comp=Z,19nm,1.1s
MK31 Makanchi Array 48.93 310 *ij*P **P** **23 13 05.6 0.0**
MKAR Makanchi Array 48.93 310 P **P** **23 13 05.6 0.0**
comp=Z,11nm,0.6s,baz=94,slow=9.4,SNR=127
MKAR PcP **PcP** **23 14 21.2 -0.2**
comp=Z,2.4nm,0.6s,baz=82,slow=5.1,SNR=5.3
MKAR ScP **ScP** **23 17 30.9 -0.6**
comp=Z,1.2nm,0.4s,baz=81,slow=3.9,SNR=12
comp=Z,11nm,0.6s
MAKZ Makanchi 49.14 310 P **P** **23 13 07.1 -0.1**
MAKZ IAmb IAmb 23 13 08.3
comp=Z,27nm,1.2s
MAKZ Makanchi 49.14 310 P **P** **23 13 07.1 -0.1**
MAKZ pmax pmax
comp=Z,27nm,1.2s
DANN Dangsing 49.45 285 *e*P **P** **23 13 10.8 +0.7**
AS31 Alice Springs 51.00 187 P **P** **23 13 21.1 0.0**
ASAR Alice Springs 51.01 187 P **P** **23 13 21.0 -0.1**
comp=Z,2.0nm,0.5s,baz=356,slow=5.1,SNR=36
ASAR PcP **PcP** **23 14 30.0 +0.7**
comp=Z,1.4nm,0.7s,baz=16,slow=4.2,SNR=6.7
ASAR S **S** **23 20 00.5 -2.4**
comp=Z,0.8nm,1.0s,baz=19,slow=12,SNR=2.9
comp=Z,2.0nm,0.5s
KURK Kurchatov 51.53 314 P **P** **23 13 24.1 -0.5**
KURK Kurchatov 51.53 314*ce*P **P** **23 13 24.4 -0.2**
KURK pmax pmax
comp=Z,76nm,1.3s
KURBB Kurchatov Arra 51.59 314 P **P** **23 13 24.8 -0.2**
comp=Z,66nm,0.5s,baz=91,slow=7.9,SNR=496
KURBB PcP **PcP** **23 14 30.6 -0.6**
comp=Z,2.8nm,0.6s,baz=102,slow=4.2,SNR=2.3
NRIK Noril'sk 51.80 339 P **P** **23 13 26.2 -0.1**
comp=Z,21nm,0.6s,baz=110,slow=8.4,SNR=44
NRIK ScP **ScP** **23 17 42.4 -1.0**
comp=Z,3.5nm,1.1s,baz=124,slow=3.6,SNR=3.9
comp=Z,21nm,0.6s
NRIK Noril'sk 51.80 339 P **P** **23 13 26.1 -0.1**
NRIK IAmb IAmb 23 13 27.0
comp=Z,25nm,0.8s
NRIK Noril'sk 51.80 339*ce*P **P** **23 13 25.7 -0.6**
NRIK pmax pmax
comp=Z,27nm,0.8s
TARG Taragay, Kyrgy 52.26 303 P **P** **23 13 30.9 +0.3**
TARG IAmb IAmb 23 13 33.0
comp=Z,16nm,0.9s
TARG Taragay, Kyrgy 52.26 303 P **P** **23 13 30.9 +0.3**
TARG pmax pmax
comp=Z,16nm,0.9s
KSH Kashi 53.89 301 P **P** **23 13 45.3 +3.4**
KSH pmax pmax
comp=Z,24nm,0.7s
AAK Ala-Archa 54.62 304 P **P** **23 13 47.0 -0.2**
comp=Z,5.4nm,0.4s,baz=142,slow=6.3,SNR=26
AAK PcP **PcP** **23 14 42.7 -0.5**
comp=Z,2.9nm,0.4s,baz=139,slow=6.3,SNR=5.3
comp=Z,5.4nm,0.4s
AAK Ala-Archa 54.62 304 P **P** **23 13 46.6 -0.5**
AAK IAmb IAmb 23 13 47.9
comp=Z,8.2nm,0.5s
AAK Ala-Archa 54.62 304*ce*P **P** **23 13 47.3 +0.2**
AAK pmax pmax
comp=Z,4.0nm,0.7s
Q19K Cape Douglas, 54.85 35 P **P** **23 13 47.9 -0.3**
BVAR Borovoye Array 56.65 317 P **P** **23 14 00.9 +0.1**
comp=Z,82nm,0.4s,baz=86,slow=7.0,SNR=518
BVAR PcP **PcP** **23 14 50.5 -0.3**
comp=Z,5.1nm,0.5s,baz=85,slow=3.4,SNR=3.5
BRVK Borovoye 56.71 317 P **P** **23 14 01.0 -0.3**
BRVK IAmb IAmb 23 14 02.2
comp=Z,39nm,0.8s
BRVK Borovoye 56.71 317*ce*P **P** **23 14 00.6 -0.7**
BRVK pmax pmax
comp=Z,49nm,1.0s
DRK Karamyk 57.09 301 P **P** **23 14 03.5 -1.0**
DRK IAmb IAmb 23 14 04.8
comp=Z,9.7nm,0.6s
NIL Nilore 57.09 294 P **P** **23 14 05.1 +0.8**
NIL Nilore 57.09 294 P **P** **23 14 05.1 +0.8**

NIL pmax pmax
comp=Z,33nm,0.7s
KK31 Karatay Array 57.47 305 IAmb IAmb 23 14 07.8
comp=Z,24nm,0.9s
KKAR Karatay Array 57.47 305 IAmb IAmb 23 14 07.8
comp=Z,24nm,0.9s
BTK Batken 57.73 302 P **P** **23 14 08.5 -0.2**
BTK IAmb IAmb 23 14 09.7
comp=Z,16nm,1.3s
BTK Batken 57.73 302 P **P** **23 14 08.5 -0.2**
BTK pmax pmax
comp=Z,17nm,1.3s
GAR Garm 58.31 301 P **P** **23 14 12.4 -0.2**
GAR IAmb IAmb 23 14 13.3
comp=Z,28nm,0.6s
ILAR Eielson Array 58.44 29 P **P** **23 14 12.4 -0.5**
comp=Z,0.7nm,0.7s,baz=253,slow=5.5,SNR=11
ILAR PcP **PcP** **23 14 57.0 -0.6**
comp=Z,0.5nm,0.6s,baz=253,slow=4.0,SNR=5.3
ILAR pP **pwP** **23 15 50.1 -1.7**
comp=Z,0.2nm,0.6s,baz=246,slow=6.7,SNR=1.7
STKA Stephens Creek 58.85 179 P **P** **23 14 15.7 -0.3**
comp=Z,2.8nm,0.7s,baz=343,slow=11,SNR=6.4
comp=Z,2.8nm,0.7s
CHGR Chuyangaron 59.26 301 P **P** **23 14 19.3 +0.2**
CHGR Chuyangaron 59.26 301 P **P** **23 14 19.3 +0.2**
CHGR pmax pmax
comp=Z,64nm,0.7s
SCRK Sand Creek 59.68 30 P **P** **23 14 21.6 +0.1**
BBOO Buckleboo 59.89 184 P **P** **23 14 22.6 -0.4**
BBOO IAmb IAmb 23 14 35.7
comp=Z,21nm,1.4s
L26K Log Cabin Wild 59.99 31 P **P** **23 14 24.7 +1.3**
MCARA McCarthy VSAT 60.20 33 P **P** **23 14 25.8 +1.0**
MCARA IAmb IAmb 23 15 05.7
comp=Z,33nm,1.4s
KBL Kabul 60.28 296 P **P** **23 14 26.3 +0.2**
KBL IAmb IAmb 23 14 27.6
comp=Z,24nm,0.8s
KBL Kabul 60.28 296 P **P** **23 14 26.3 +0.2**
KBL pmax pmax
comp=Z,25nm,0.9s
WAX Waxell Ridge 60.34 34 P **P** **23 14 26.7 +0.9**
WAX IAmb IAmb 23 14 30.2
comp=Z,31nm,1.2s
K27K Chicken 60.52 30 P **P** **23 14 28.2 +1.3**
MORW Morawa 60.59 204 P **P** **23 14 27.2 -0.6**
MORW IAmb IAmb 23 14 45.5
comp=Z,22nm,1.3s
L27K Beaver Creek, 60.68 31 **P** **23 14 29.1 +1.1**
M27K Edge Creek, AK 60.69 32 P **P** **23 14 28.9 +0.6**
BCAR Beaver Creek A 60.70 31 P **P** **23 14 29.2 +1.1**
SVE Sverdlovsk 61.95 322 *e*P **P** **23 14 36.3 -0.1**
SVE pmax pmax
comp=Z,20nm,0.9s
M30M Minto, Yukon 63.02 31 P **P** **23 14 45.3 +1.9**
ARU Arti 63.14 322 P **P** **23 14 43.8 -0.3**
comp=Z,23nm,0.4s,baz=88,slow=4.6,SNR=62
comp=Z,23nm,0.4s
ARU Arti 63.14 322 P **P** **23 14 43.6 -0.6**
ARU IAmb IAmb 23 14 44.5
comp=Z,31nm,0.9s
ARU Arti 63.14 322*d i*P **P** **23 14 43.3 -0.8**
ARU 23 15 15.9
ARU S **S** **23 22 38.4 +0.3**
ARU pmax pmax
comp=Z,20nm,0.5s
INK Inuvik 63.63 24 P **P** **23 14 47.4 +0.4**
comp=Z,0.5nm,0.5s,baz=294,slow=5.1,SNR=2.1
INK PcP **PcP** **23 15 19.1 +0.6**
comp=Z,0.8nm,0.5s,baz=279,slow=5.3,SNR=5.7
comp=Z,0.5nm,0.5s
INK Inuvik 63.63 24 P **P** **23 14 47.2 +0.1**
ABKAR Akbulak array 63.63 314 P **P** **23 14 47.1 -0.3**
ABKAR Akbulak array 63.63 314 IAmb IAmb 23 14 48.0
comp=Z,16nm,0.7s
NWAO Narrogin (SRO) 63.70 201 P **P** **23 14 48.4 +0.4**
NWAO IAmb IAmb 23 14 49.1
comp=Z,23nm,1.1s
NWAO Narrogin (SRO) 63.70 201 P **P** **23 14 48.4 +0.4**
NWAO pmax pmax
comp=Z,23nm,1.1s
HRA Herat 65.72 298 P **P** **23 15 01.5 +0.2**
HRA IAmb IAmb 23 15 02.8
comp=Z,16nm,0.8s
A36M Sachs Harbour 65.74 20 P **P** **23 15 01.2 +0.8**
A36M IAmb IAmb 23 15 02.3
comp=Z,5.7nm,0.8s
DIB Dawson Inlet, 67.15 41 P **P** **23 15 10.3 +0.8**
DIB IAmb IAmb 23 15 43.2
comp=Z,22nm,1.4s
KIRV Kirov 67.49 325*ce*P **P** **23 15 11.4 -0.1**
GEYT Alibeck 67.84 302 P **P** **23 15 14.6 +0.5**
comp=Z,4.8nm,0.7s,baz=58,slow=3.7,SNR=10
comp=Z,4.8nm,0.7s
GEYT Alibeck 67.84 302 P **P** **23 15 14.6 +0.5**
GEYT IAmb IAmb 23 15 15.5
comp=Z,5.3nm,0.8s
GYA0B ALIBECK ARRAY 67.84 302 P **P** **23 15 14.3 +0.1**
GYA0B IAmb IAmb 23 15 15.5
comp=Z,5.7nm,0.8s
PRGR Permogore 68.44 329 *e*P **P** **23 15 16.3 -1.0**
PRGR pmax pmax
comp=Z,36nm,0.8s
SPB2 Spitsbergen Ar 69.86 349 P **P** **23 15 26.5 +0.9**
SPITS Spitsbergen Ar 69.86 349 P **P** **23 15 26.6 +0.9**
SPITS pmax pmax
comp=Z,94nm,1.5s
EUNU Eureka 69.97 8 P **P** **23 15 26.7 +0.4**
EUNU IAmb IAmb 23 15 27.7
comp=Z,6.8nm,0.7s
LVZ Lovozero 70.59 337 P **P** **23 15 30.2 0.0**
LVZ Lovozero 70.59 337 P **P** **23 15 30.2 0.0**
LVZ pmax pmax
comp=Z,39nm,1.1s
VADS Vadso 71.30 340 *e*P **P** **23 15 34.7 +0.4**
VADS IAmb IAmb 23 15 39.5
comp=Z,62nm,1.3s
KLMR Klimovskoe 71.48 330 *e*P **P** **23 15 33.8 -1.8**
KLMR AMP 23 15 35.7
comp=Z,12nm,0.7s
KLMR Klimovskoe 71.48 330 *e*P **P** **23 15 33.7 -1.8**
KLMR pmax pmax
comp=Z,12nm,0.7s
KEV Kevo 72.19 340 P **P** **23 15 39.8 +0.3**
KEV Kevo 72.19 340 P **P** **23 15 39.8 +0.3**
KEV pmax pmax
comp=Z,47nm,1.4s
RES Resolute Bay 72.31 13 P **P** **23 15 40.8 +0.7**
RES IAmb IAmb 23 16 10.3
comp=Z,8.8nm,1.4s
RES Resolute Bay 72.31 13 P **P** **23 15 40.8 +0.7**
RES pmax pmax
comp=Z,9.0nm,1.4s
WSAR Wadi Sarin 72.53 288 P **P** **23 15 42.2 -0.1**
comp=Z,5.1nm,0.9s,baz=125,slow=7.3,SNR=4.9
comp=Z,5.1nm,0.9s
ARCES ARCESS Array B 72.75 340 P **P** **23 15 43.0 +0.3**
comp=Z,8.0nm,0.5s,baz=72,slow=8.3,SNR=92
comp=Z,8.0nm,0.5s
ARCES ARCESS Array B 72.75 340 P **P** **23 15 43.1 +0.3**
ARCES IAmb IAmb 23 15 43.8
comp=Z,28nm,1.2s
ARCES ARCESS Array B 72.75 340 P **P** **23 15 43.1 +0.3**
ARCES pmax pmax
comp=Z,28nm,1.2s
YKA Yellowknife Ar 72.85 28 P **P** **23 15 43.6 +0.1**
comp=Z,1.9nm,0.5s,baz=298,slow=6.4,SNR=6.0
comp=Z,1.9nm,0.5s
KTK1 Kautokeino 73.71 340 *e*P **P** **23 15 48.7 +0.4**
KTK1 IAmb IAmb 23 15 49.8
comp=Z,7.6nm,0.9s
AKT Akhty 74.15 309 *e*P **P** **23 15 51.5 0.0**
AKT *e* 23 16 03.9
AKT pmax pmax
comp=Z,26nm,0.6s
VRH Novokhopyorsk 74.17 320 *e*P **P** **23 15 49.9 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.5s
NLWA Neilton Lookou 74.27 45 P **P** **23 15 53.6 +1.7**
BKZ Black Stump Fm 74.33 151 P **P** **23 15 52.5 +0.3**
BKZ IAmb IAmb 23 15 52.8
comp=Z,43nm,1.5s
TRO Tromso 74.58 342 *e*P **P** **23 15 53.1 -0.1**
TRO IAmb IAmb 23 15 53.5
comp=Z,276nm,2.1s

RADR Rader Ridge 74.70 45 P **P** **23 15 56.1 +1.8**
RADR IAmb IAmb 23 16 21.0
comp=Z,231nm,1.4s
TULEG Thule 74.88 7 P **P** **23 15 55.1 +0.3**
TULEG IAmb IAmb 23 15 55.9
comp=Z,9.3nm,0.8s
LPSR Galich'ya Gora 75.16 322 *e*P **P** **23 15 55.8 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 75.31 325 *e*P **P** **23 15 56.5 -1.0**
OBN *e* 23 16 07.1
OBN *e**SP **sP** **23 18 23.4 -2.2**
OBN *e* 23 18 54.4
OBN pmax pmax
comp=Z,12nm,0.8s
VORR Voronezh 75.40 321 *e*P **P** **23 15 58.2 +0.1**
VORR pmax pmax
comp=Z,10.0nm,0.3s
VSR Storozhevoye 75.62 320 *e*P **P** **23 15 58.3 -1.1**
VSR pmax pmax
comp=Z,30nm,1.1s
ZEI Tsey 76.24 311 *e*P **P** **23 16 01.4 -1.9**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 76.52 312 P **P** **23 16 04.9 +0.4**
comp=Z,15nm,0.8s,baz=89,slow=4.0,SNR=30
comp=Z,15nm,0.8s
KBZ Khabaz 76.52 312*ce*P **P** **23 16 05.0 +0.5**
KBZ pmax pmax
comp=Z,19nm,0.9s
KIV Kislovodsk 76.56 313 *e*P **P** **23 16 06.1 +1.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s
ONI Oni 76.63 311 P **P** **23 16 06.3 +1.1**
ONI IAmb IAmb 23 16 07.1
comp=Z,16nm,1.2s
ONI Oni 76.63 311 P **P** **23 16 06.3 +1.1**
ONI pmax pmax
comp=Z,16nm,1.2s
B08A Colville Reser 76.65 42 P **P** **23 16 06.1 +0.9**
STEI Steigen 76.71 341 *e*P **P** **23 16 05.2 +0.2**
STEI IAmb IAmb 23 16 05.5
comp=Z,16nm,0.8s
JCC Jacoby Creek, 76.83 51 P **P** **23 16 04.7 -1.5**
FIA1 FINESS Array S 76.95 333 P **P** **23 16 06.3 -0.3**
FINES FINESS Array B 76.95 333 P **P** **23 16 06.2 -0.4**
comp=Z,34nm,0.5s,baz=70,slow=4.9,SNR=430
FINES FINESS Array B 76.95 333 P **P** **23 16 06.3 -0.2**
FINES FINESS Array B 76.95 333 P **P** **23 16 06.4 -0.2**
FAUS Fauske 77.06 341 *e*P **P** **23 16 07.0 -0.1**
FAUS IAmb IAmb 23 16 08.4
comp=Z,17nm,1.0s
YBH Yreka Blue Hor 77.35 50 P **P** **23 16 11.0 +1.7**
YBH Yreka Blue Hor 77.35 50 P **P** **23 16 11.0 +1.7**
YBH pmax pmax
comp=Z,5.0nm,0.9s
PINE Pine Mountain 77.64 47 P **P** **23 16 12.9 +2.0**
PINE IAmb IAmb 23 16 13.8
comp=Z,8.0nm,0.8s
KARS Kars 77.71 309 P **P** **23 16 12.2 +0.9**
KARS Kars 77.71 309 P **P** **23 16 12.2 +0.9**
KARS pmax pmax
comp=Z,30nm,0.8s
MOR8 Moi Rana 78.12 340 *e*P **P** **23 16 11.2 -1.7**
MOR8 IAmb IAmb 23 16 12.0
comp=Z,16nm,0.8s
K05A Summer Lake 78.13 48 P **P** **23 16 15.3 +1.7**
MEF Metsahovi 78.33 333 *e*P **P** **23 16 13.2 -0.8**
VSU Vasula 78.33 330 *e*P **P** **23 16 12.7 -1.3**
I07A Izee 78.44 46 P **P** **23 16 16.6 +1.5**
SOC Sochi 78.66 313 *e*P **P** **23 16 13.6 -2.6**
SOC *e**PP **pP** **23 17 57.5 +1.1**
SOC *e**SP **sP** **23 18 46.7 +2.4**
SOC *e* 23 19 20.8
SOC *e*PPP PPP 23 21 09.1
SOC *e*S **S** **23 25 30.7 -3.9**
SOC *e*SS **SS** **23 30 51.5 +1.2**
SOC *e*SSS SSS 23 34 20.1
SOC pmax pmax
comp=Z,24nm,0.7s
RAF Rauma 78.90 334 *e*P **P** **23 16 16.9 -0.2**
GURO Guroymak-BITLI 79.34 308 P **P** **23 16 21.3 +1.2**
GURO IAmb IAmb 23 16 21.6
comp=Z,7.0nm,0.8s
J08A Circle Bar Ran 79.43 47 P **P** **23 16 22.1 +1.6**
J08A IAmb IAmb 23 16 22.9
comp=Z,4.8nm,0.7s
MTSE Matsula 79.44 332 *e*P **P** **23 16 19.2 -0.8**
BMO Blue Mountains 79.48 45 P **P** **23 16 22.0 +1.3**
BMO Blue Mountains 79.48 45 P **P** **23 16 22.0 +1.3**
BMO pmax pmax
comp=Z,3.0nm,0.6s
WALA Waterton Lakes 79.50 40 P **P** **23 16 21.5 +0.8**
AFDM Forest Hills D 79.76 52 P **P** **23 16 22.9 +0.7**
BEKR Beckworth 79.77 50 P **P** **23 16 23.6 +1.2**
BEKR IAmb IAmb 23 16 24.2
comp=Z,6.4nm,0.7s
NSS Namsos 80.01 340 *e*P **P** **23 16 22.4 -0.5**
NSS IAmb IAmb 23 16 22.7
comp=Z,16nm,0.7s
PNTR Pine Nut 80.65 51 P **P** **23 16 28.4 +1.4**
PNTR IAmb IAmb 23 16 29.4
comp=Z,6.1nm,0.8s
MARD Mardin 80.78 307 IAmb IAmb 23 16 30.6
comp=Z,10nm,0.5s
WAKR Walker 81.03 51 P **P** **23 16 30.5 +1.5**
MFID Camas Ranch 81.11 46 P **P** **23 16 30.4 +1.2**
PABE Paberze 81.26 329 P **P** **23 16 29.5 -0.1**
PABE Paberze 81.26 329 *e*P **P** **23 16 28.8 -0.8**
AKASG Malin Array Be 81.36 323 P **P** **23 16 29.5 -0.7**
comp=Z,8.2nm,0.5s,baz=51,slow=5.5,SNR=59
comp=Z,8.2nm,0.5s
AKASG Malin Array Be 81.36 323 P **P** **23 16 30.0 -0.2**
AKASG IAmb IAmb 23 16 30.7
comp=Z,8.8nm,1.2s
AKASG Malin Array Be 81.36 323 P **P** **23 16 30.0 -0.2**
AKASG pmax pmax
comp=Z,9.0nm,1.2s
AKBB Malin Array Si 81.36 323 IAmb IAmb 23 16 30.4
comp=Z,17nm,0.7s
AKBB Malin Array Si 81.36 323*ce*P **P** **23 16 29.7 -0.5**
SCO Scoresbysund 81.67 354 P **P** **23 16 32.7 +1.3**
SCO Scoresbysund 81.67 354 P **P** **23 16 32.7 +1.3**
SCO pmax pmax
comp=Z,45nm,1.4s
KVN Kaiserville 81.69 50 P **P** **23 16 33.7 +1.2**
KVN Kaiserville 81.69 50 P **P** **23 16 33.7 +1.2**
NVAR Mina Array Bea 81.85 51 P **P** **23 16 34.5 +1.2**
comp=Z,1.9nm,0.5s,baz=294,slow=5.7,SNR=13
NVAR pP **pwP** **23 18 18.4 +0.3**
comp=Z,0.4nm,0.4s,baz=268,slow=4.5,SNR=2.5
comp=Z,1.9nm,0.5s
NVAR Mina Array Bea 81.85 51 P **P** **23 16 34.8 +1.5**
PBUR Paburge 81.87 330 *e*P **P** **23 16 32.4 -0.3**
HRY Holter Researc 81.90 41 P **P** **23 16 34.7 +1.4**
HLID Hailey 81.93 45 P **P** **23 16 35.2 +1.6**
NC303 NORSAR Array S 82.56 338 P **P** **23 16 36.2 +0.1**
BOZ Bozeman (W) 82.60 42 P **P** **23 16 38.0 +1.1**
BOZ Bozeman (W) 82.60 42 P **P** **23 16 38.0 +1.1**
BOZ pmax pmax
comp=Z,5.0nm,1.3s
NB201 NORSAR Array S 82.71 338 P **P** **23 16 36.1 -0.8**
DOMB Dombas 82.72 339 *e*P **P** **23 16 36.7 -0.3**
NB2 NORSAR Subarra 82.74 338 P **P** **23 16 36.2 -0.9**
baz=48,slow=4.6
NB2 NORSAR Subarra 82.74 338 P **P** **23 16 36.2 -0.9**
comp=Z,6.5nm,0.6s,baz=48,slow=4.6
NOA NORSAR Array B 82.74 338 P **P** **23 16 36.1 -1.0**
comp=Z,14nm,0.7s,baz=46,slow=4.9,SNR=44
comp=Z,14nm,0.7s
ELK Elko 82.80 48 P **P** **23 16 39.1 +1.0**
ELK Elko 82.80 48 P **P** **23 16 39.1 +1.0**
ELK pmax pmax
comp=Z,2.0nm,0.6s
NC602 NORSAR Array S 82.85 337 P **P** **23 16 36.3 -1.3**
NORES NORESS Array B 82.85 337 P **P** **23 16 35.9 -1.7**
LCH Last Change Ra 82.88 52 P **P** **23 16 39.8 +1.3**
NBO00 NORSAR Array S 82.89 338 P **P** **23 16 37.1 -0.8**
NAO01 NORSAR Array S 82.99 338 P **P** **23 16 37.3 -1.1**
SORM Soroca 83.25 321 ⇑P **P** **23 16 39.1 -0.7**
SORM Soroca 83.25 321 ⇑P **P** **23 16 39.1 -0.7**
YHL Hebgen Lake 83.26 43 P **P** **23 16 42.4 +2.0**
RAYN Ar Rayn 83.37 293 P **P** **23 16 41.0 0.0**
RAYN Ar Rayn 83.37 293 P **P** **23 16 41.0 0.0**

RAYN					pmax	pmax		
	comp=Z,27nm,0.9s							
YMR	**Madison River**	**83.49**	**43**	P	**P**	**23 16 41.5**	**0.0**	
YMR				IAmb	IAmb	23 16 44.1		
	comp=Z,4.8nm,0.8s							
R11A	**Troy Canyon, C**	**83.76**	**50**	P	**P**	**23 16 43.7**	**+0.8**	
WCT	**Wildcat Mounta**	**83.80**	**52**	P	**P**	**23 16 44.4**	**+1.4**	
HVU	**Hansel Valley**	**83.88**	**46**	P	**P**	**23 16 45.0**	**+1.6**	
HVU	**Hansel Valley**	**83.88**	**46**	P	**P**	**23 16 45.0**	**+1.6**	
HVU				pmax	pmax			
	comp=Z,3.0nm,0.6s							
SKAR	**Skarsiia**	**83.98**	**338**	*e*P	**P**	**23 16 43.5**	**+0.2**	
TPNV	**Topopah Spring**	**83.99**	**52**	P	**P**	**23 16 45.2**	**+1.1**	
TPNV	**Topopah Spring**	**83.99**	**52**	P	**P**	**23 16 45.2**	**+1.1**	
TPNV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FXWY	**Fox Creek**	**84.00**	**44**	P	**P**	**23 16 45.7**	**+1.6**	
QSM	**Queen of Sheba**	**84.04**	**53**	IAmb	IAmb	23 16 45.8		
	comp=Z,4.4nm,0.7s							
GWY	**Greenwater Val**	**84.07**	**52**	P	**P**	**23 16 45.6**	**+1.1**	
MOOW	**Moose Ponds**	**84.11**	**43**	P	**P**	**23 16 46.0**	**+1.4**	
RLMT	**Red Lodge**	**84.26**	**42**	P	**P**	**23 16 46.9**	**+1.6**	
RLMT				IAmb	IAmb	23 16 47.5		
	comp=Z,5.9nm,0.5s							
FOO	**Floro**	**84.30**	**340**	*e*P	**P**	**23 16 44.7**	**-0.1**	
BR131	**Keskin Array S**	**84.51**	**312**	IAmb	IAmb	23 16 46.5		
	comp=Z,5.8nm,0.7s							
BRTR	**Keskin Array B**	**84.51**	**312**	P	**P**	**23 16 45.5**	**-1.0**	
	comp=Z,3.0nm,0.6s,baz=98,slow=3.0,SNR=25							
	comp=Z,3.0nm,0.6s							
BRTR	**Keskin Array B**	**84.51**	**312**	P	**P**	**23 16 46.1**	**-0.5**	
BRTR	**Keskin Array B**	**84.51**	**312**	P	**P**	**23 16 46.1**	**-0.5**	
DUG	**Dugway, Tooele**	**84.67**	**47**	P	**P**	**23 16 48.5**	**+1.1**	
DUG	**Dugway, Tooele**	**84.67**	**47**	P	**P**	**23 16 48.5**	**+1.1**	
DUG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
VLDR	**Vladesti**	**84.68**	**319**	⇓P	**P**	**23 16 45.6**	**-1.5**	
TPGR	**Topolog**	**85.03**	**318**	⇑P	**P**	**23 16 47.9**	**-0.9**	
TESR	**Tescani**	**85.12**	**321**	⇑P	**P**	**23 16 48.3**	**-0.9**	
BUR08	**Bucovina Ar. S**	**85.27**	**322**	IAmb	IAmb	23 16 50.5		
	comp=Z,4.5nm,0.8s							
BURAR	**Bucovina Array**	**85.28**	**322**	⇓P	**P**	**23 16 49.9**	**-0.2**	
BURAR	**Bucovina Array**	**85.28**	**322**	P	**P**	**23 16 50.1**	**0.0**	
BURAR				IAmb	IAmb	23 16 50.8		
	comp=Z,4.6nm,0.7s							
BURAR	**Bucovina Array**	**85.28**	**322**	⇓P	**P**	**23 16 49.9**	**-0.2**	
PDAR	**Pinedale Array**	**85.37**	**44**	P	**P**	**23 16 51.4**	**+0.6**	
	comp=Z,0.5nm,0.5s,baz=243,slow=1.4,SNR=7.2							
PDAR				pP	**pwP**	**23 18 37.2**	**-1.1**	
	comp=Z,0.1nm,0.4s,baz=264,slow=3.4,SNR=2.6							
	comp=Z,0.5nm,0.5s							
PDAR	**Pinedale Array**	**85.37**	**44**	P	**P**	**23 16 51.8**	**+1.0**	
HARR	**Harsova**	**85.41**	**318**	⇓P	**P**	**23 16 50.7**	**+0.1**	
HARR	**Harsova**	**85.41**	**318**	⇓P	**P**	**23 16 50.7**	**+0.1**	
VRI	**Vrincioaia**	**85.44**	**320**	⇑P	**P**	**23 16 51.1**	**+0.3**	
VRI	**Vrincioaia**	**85.44**	**320**	⇑P	**P**	**23 16 51.1**	**+0.3**	
PFO	**Pinyon Flats O**	**85.49**	**55**	P	**P**	**23 16 52.4**	**+1.0**	
PFO				IAmb	IAmb	23 16 53.3		
	comp=Z,5.5nm,0.8s							
PFO	**Pinyon Flats O**	**85.49**	**55**	P	**P**	**23 16 52.4**	**+1.0**	
PFO				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PMD	**Palm Desert**	**85.53**	**54**	IAmb	IAmb	23 16 53.2		
	comp=Z,5.0nm,0.7s							
SFJD	**Kangerlussuaq**	**85.67**	**4**	P	**P**	**23 16 51.7**	**+0.3**	
SFJD	**Kangerlussuaq**	**85.67**	**4**	P	**P**	**23 16 51.7**	**+0.3**	
SFJD				pmax	pmax			
	comp=Z,51nm,1.5s							
MLR	**Muntele Rosu**	**86.11**	**320**	P	**P**	**23 16 53.7**	**-0.5**	
MLR				IAmb	IAmb	23 16 56.5		
	comp=Z,8.4nm,1.2s							
MLR	**Muntele Rosu**	**86.11**	**320**	P	**P**	**23 16 53.7**	**-0.5**	
MLR				pmax	pmax			
	comp=Z,8.0nm,1.2s							
DOPR	**Dopca**	**86.15**	**321**	⇑P	**P**	**23 16 54.4**	**+0.2**	
UZH	**Uzhgorod**	**86.23**	**324**	*e*P	**P**	**23 16 52.0**	**-2.5**	
SECR		**86.30**	**320**	⇑P	**P**	**23 16 54.8**	**-0.1**	
TRPA	**Tarpa**	**86.41**	**323**	⇓P	**P**	**23 16 55.5**	**+0.2**	
P18A	**Preston Nutter**	**86.64**	**47**	P	**P**	**23 17 00.2**	**+3.1**	
VOIR		**86.65**	**320**	⇓P	**P**	**23 16 55.4**	**-1.3**	
VOIR		**86.65**	**320**	⇓P	**P**	**23 16 55.4**	**-1.3**	
ARR	**Arges**	**86.93**	**320**	⇑P	**P**	**23 16 58.0**	**+0.1**	
DRGR		**87.14**	**322**	⇓P	P	23 17 04.5	+5.5	
CSS	**Mathiatis**	**87.18**	**308**	P	**P**	**23 16 58.5**	**-0.9**	
CSS				IAmb	IAmb	23 17 03.5		
	comp=Z,20nm,1.0s							
MSEY	**Mahe Island**	**87.35**	**263**	P	**P**	**23 17 00.6**	**+0.1**	
MSEY	**Mahe Island**	**87.35**	**263**	P	**P**	**23 17 00.6**	**+0.1**	
MSEY				pmax	pmax			
	comp=Z,58nm,1.5s							
OKC	**Ostrava-Krasne**	**87.57**	**327**	*e*P	**P**	**23 17 00.0**	**-0.8**	
OKC	**Ostrava-Krasne**	**87.57**	**327**	*e*P	**P**	**23 17 00.0**	**-0.8**	
VLAD	**Vladila**	**87.88**	**319**	⇑P	**P**	**23 17 01.3**	**-1.1**	
MORC	**Moravsky Berou**	**87.90**	**327**	⇓P	**P**	**23 17 01.6**	**-0.8**	
MORC	**Moravsky Berou**	**87.90**	**327**	*e*P	**P**	**23 17 01.6**	**-0.8**	
MORC	**Moravsky Berou**	**87.90**	**327**	⇓P	**P**	**23 17 01.6**	**-0.8**	
PSZ	**Piszkesteto**	**87.93**	**324**	⇑P	**P**	**23 17 02.2**	**-0.4**	
PSZ	**Piszkesteto**	**87.93**	**324**	⇑P	**P**	**23 17 02.2**	**-0.4**	
PV23	**Carpenter Ridg**	**88.09**	**47**	P	**P**	**23 17 05.6**	**+1.7**	
PV23				IAmb	IAmb	23 17 06.0		
	comp=Z,3.9nm,0.8s							
SURR	**Surduc**	**88.10**	**322**	⇓P	**P**	**23 17 02.7**	**-0.6**	
VYHS	**Vyhne**	**88.10**	**325**	*e*P	**P**	**23 17 03.3**	**0.0**	
VYHS	**Vyhne**	**88.10**	**325**	*e*P	**P**	**23 17 03.3**	**0.0**	
VYHS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
DPC	**Dobruska-Polom**	**88.10**	**328**	*e*P	**P**	**23 17 02.6**	**-0.8**	
DPC	**Dobruska-Polom**	**88.10**	**328**	*e*P	**P**	**23 17 02.6**	**-0.8**	
PV13	**Radium Mtn., P**	**88.38**	**47**	P	**P**	**23 17 06.8**	**+0.9**	
PV13				IAmb	IAmb	23 17 07.3		
	comp=Z,2.6nm,0.6s							
BZS	**Buzias**	**88.46**	**322**	⇓P	**P**	**23 17 04.0**	**-1.0**	
BZS	**Buzias**	**88.46**	**322**	⇓P	**P**	**23 17 04.0**	**-1.0**	
VRAC	**Vranov**	**88.67**	**327**	*e*P	**P**	**23 17 05.6**	**-0.4**	
KRUC	**Moravsky**	**88.94**	**327**	*e*P	**P**	**23 17 06.6**	**-0.6**	
MODS	**Modra-Piesok**	**88.96**	**326**	*e*P	**P**	**23 17 07.4**	**0.0**	
MODS	**Modra-Piesok**	**88.96**	**326**	*e*P	**P**	**23 17 07.4**	**0.0**	
CLL	**Collm**	**88.97**	**330**	*e*P	**P**	**23 17 07.0**	**-0.3**	
CLL				*e*PP	**PP**	**23 20 43.0**	**-1.2**	
CLL	**Collm**	**88.97**	**330**	*e*P	**P**	**23 17 07.0**	**-0.3**	
TREC	**Trest**	**89.22**	**327**	*e*P	**P**	**23 17 07.9**	**-0.6**	
TREC	**Trest**	**89.22**	**327**	*e*P	**P**	**23 17 07.9**	**-0.6**	
VTS	**Vitosha**	**89.39**	**319**	⇑P	**P**	**23 17 09.0**	**-0.7**	
VTS	**Vitosha**	**89.39**	**319**	P	**P**	**23 17 09.2**	**-0.4**	
VTS				IAmb	IAmb	23 17 10.3		
	comp=Z,4.1nm,0.9s							
VTS	**Vitosha**	**89.39**	**319**	⇑P	**P**	**23 17 09.0**	**-0.7**	
MORH	**Mrgy, Hungar**	**89.68**	**324**	⇓P	**P**	**23 17 10.0**	**-0.7**	
RONA	**Rosalia, Austr**	**89.90**	**326**	*i* P	**P**	**23 17 11.4**	**-0.4**	
	comp=Z,2.3nm,0.5s							
CONA	**Conrad Observa**	**89.96**	**326**	*e*P	**P**	**23 17 11.8**	**-0.4**	
	comp=Z,2.9nm,0.5s							
NKC	**Novy Kostel**	**89.98**	**329**	*e*P	**P**	**23 17 11.7**	**-0.4**	
NKC	**Novy Kostel**	**89.98**	**329**	*e*P	**P**	**23 17 11.7**	**-0.4**	
CKRC	**Cesky Krumlov**	**90.11**	**328**	*e*P	**P**	**23 17 11.6**	**-1.1**	
KHC	**Kasperske Hory**	**90.24**	**328**	IAmb	IAmb	23 17 13.6		
	comp=Z,4.4nm,0.8s							
KHC	**Kasperske Hory**	**90.24**	**328**	*e*P	**P**	**23 17 12.0**	**-1.3**	
KHC	**Kasperske Hory**	**90.24**	**328**	*e*P	**P**	**23 17 12.0**	**-1.3**	
GEC2	**GERESS Array S**	**90.38**	**328**	IAmb	IAmb	23 17 13.9		
	comp=Z,5.0nm,0.9s							
GERES	**GERESS Array B**	**90.38**	**328**	P	**P**	**23 17 13.1**	**-1.0**	
	comp=Z,3.1nm,0.7s,baz=51,slow=5.3,SNR=27							
	comp=Z,3.1nm,0.7s							
GERES	**GERESS Array B**	**90.38**	**328**	P	**P**	**23 17 13.3**	**-0.7**	
GERES	**GERESS Array B**	**90.38**	**328**	P	**P**	**23 17 13.4**	**-0.7**	
ARSA	**Arzberg**	**90.59**	**326**	*e*P	**P**	**23 17 14.2**	**-0.8**	
	comp=Z,1.8nm,0.5s							
MOA	**Molln**	**90.80**	**327**	*i* P	**P**	**23 17 15.3**	**-0.6**	
	comp=Z,1.3nm,0.5s							
BIOA	**Bad Ischl, Aus**	**91.22**	**327**	*i* P	**P**	**23 17 16.9**	**-1.0**	
	comp=Z,1.6nm,0.5s							
SOKA	**Soboth**	**91.23**	**326**	*e*P	**P**	**23 17 17.0**	**-1.0**	
	comp=Z,4.8nm,0.8s							
NRS	**Narsarsuaq**	**91.76**	**3**	P	**P**	**23 17 21.7**	**+1.7**	
NRS	**Narsarsuaq**	**91.76**	**3**	P	**P**	**23 17 21.7**	**+1.7**	
KBA	**Koelnbreinsper**	**91.79**	**327**	*e*P	**P**	**23 17 19.4**	**-1.3**	
	comp=Z,2.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**91.91**	**340**	P	**P**	**23 17 20.8**	**0.0**	
MYKA	**Terra Mystica**	**91.95**	**326**	*i* P	**P**	**23 17 19.8**	**-1.5**	
	comp=Z,4.7nm,0.7s							
ABTA	**Abfaltersbach**	**92.42**	**327**	*i* P	**P**	**23 17 22.1**	**-1.4**	
	comp=Z,3.8nm,0.5s							
WTTA	**Wattenberg**	**92.48**	**328**	*i* P	**P**	**23 17 22.8**	**-1.0**	
	comp=Z,2.1nm,0.6s							
MOTA	**Moosalm**	**92.67**	**328**	*e*P	**P**	**23 17 23.4**	**-1.3**	
	comp=Z,3.5nm,0.9s							
STAL	**STALIGIAL**	**92.67**	**327**	P	**P**	**23 17 22.8**	**-1.8**	
STAL				IAmb	IAmb	23 17 22.9		
	comp=Z,6.3nm,0.8s							
RETA	**Reutte**	**92.73**	**328**	*e*P	**P**	**23 17 23.7**	**-1.1**	
	comp=Z,3.3nm,0.8s							
IDI	**Anoyia**	**92.75**	**312**	P	**P**	**23 17 23.9**	**-1.3**	
IDI				IAmb	IAmb	23 17 32.4		
	comp=Z,8.7nm,1.0s							
CIMO	**Cimolais**	**92.77**	**327**	P	**P**	**23 17 23.0**	**-2.0**	
CIMO				IAmb	IAmb	23 17 23.6		
	comp=Z,8.9nm,1.3s							
FETA	**Feichten**	**93.08**	**328**	*e*P	**P**	**23 17 25.4**	**-1.2**	
	comp=Z,1.8nm,0.6s							
BFO	**Black Forest**	**93.22**	**330**	P	**P**	**23 17 26.2**	**-0.8**	
BFO				IAmb	IAmb	23 17 39.7		
	comp=Z,10nm,1.3s							
BFO	**Black Forest**	**93.22**	**330**	P	**P**	**23 17 26.2**	**-0.8**	
BFO				pmax	pmax			
	comp=Z,10.0nm,1.3s							
DAVA	**Damuels**	**93.28**	**329**	*i* P	**P**	**23 17 26.6**	**-0.9**	
	comp=Z,3.6nm,0.8s							
ITM	**Ithomi**	**93.51**	**315**	P	**P**	**23 17 27.2**	**-1.4**	
FUORN	**Ofenpass-Fuorn**	**93.59**	**328**	IAmb	IAmb	23 17 29.2		
	comp=Z,6.4nm,0.8s							
BNI	**Bardonecchia**	**96.43**	**329**	P	**P**	**23 17 40.7**	**-1.1**	
BNI	**Bardonecchia**	**96.43**	**329**	P	**P**	**23 17 40.7**	**-1.1**	
BNI				pmax	pmax			
	comp=Z,16nm,1.5s							
TXAR	**Lajitas Array**	**96.96**	**52**	P	**P**	**23 17 45.7**	**+1.2**	
	comp=Z,0.5nm,0.5s,baz=295,slow=1.7,SNR=8.7							
	comp=Z,0.5nm,0.5s							
TXAR	**Lajitas Array**	**96.96**	**52**	P	**P**	**23 17 46.0**	**+1.5**	
TXAR	**Lajitas Array**	**96.96**	**52**	P	**P**	**23 17 46.0**	**+1.5**	
LBTB	**Lobatse**	**121.78**	**256**	PKP	**PKiKP**	**23 23 04.3**	**-0.1**	
	comp=Z,4.4nm,0.7s,baz=71,slow=4.9,SNR=5.5							
TORD	**Torodi Ar. Bea**	**123.05**	**310**	PKP	**PKPdf**	**23 23 06.3**	**-0.5**	
BOSA	**Boshof**	**123.10**	**252**	PKP	**PKiKP**	**23 23 06.8**	**-0.2**	
	comp=Z,1.3nm,0.4s,baz=50,slow=1.2,SNR=6.8							
TROLL	**Troll, Antarti**	**129.61**	**196**	PKPdf	**PKPdf**	**23 23 18.2**	**+0.4**	
SNAA	**Sanae**	**131.09**	**195**	PKPdf	**PKPdf**	**23 23 20.3**	**-0.3**	
SNAA	**Sanae**	**131.09**	**195**	PKP	**PKPdf**	**23 23 19.8**	**-0.7**	
	comp=Z,0.7nm,0.4s,baz=180,slow=7.1,SNR=8.4							
SNAA				SKPbc	**SKPbc**	**23 25 59.4**	**-1.9**	
	comp=Z,1.3nm,0.6s,baz=197,slow=9.2,SNR=5.8							
DBIC	**Dimbokro**	**132.16**	**310**	PKP	**PKPdf**	**23 23 24.6**	**+0.4**	
	comp=Z,1.4nm,0.5s,baz=68,slow=2.3,SNR=3.7							
DBIC				SKPbc	**SKPbc**	**23 26 06.7**	**-0.1**	
	comp=Z,3.7nm,0.7s,baz=78,slow=3.8,SNR=6.4							
VNA2	**Neumayer--Watz**	**132.64**	**194**	PKPdf	**PKiKP**	**23 23 24.1**	**-0.5**	
	baz=94,slow=1.4							
VNA3	**Neumayer Olymp**	**132.86**	**193**	PKPdf	**PKiKP**	**23 23 24.8**	**-0.2**	
BOAV	**Boa Vista**	**144.42**	**37**		**PKPab**	**23 23 46.3**	**-0.1**	
ETMB	**Extrema**	**149.71**	**60**		**PKPbc**	**23 24 00.3**	**-0.2**	
ETMB				PKPab	**PKPab**	**23 24 06.8**	**-0.8**	
PLCA	**Paso Flores**	**151.43**	**126**	PKPbc	**PKiKP**	**23 24 04.7**	**+0.5**	
	comp=Z,6.3nm,0.5s,baz=243,slow=2.7,SNR=43							
PLCA	**Paso Flores**	**151.43**	**126**		**PKiKP**	**23 24 05.0**	**+0.9**	
LPAZ	**La Paz**	**151.66**	**73**	PKPbc	**PKiKP**	**23 24 06.6**	**+0.7**	
	comp=Z,6.0nm,0.7s,baz=313,slow=2.2,SNR=29							
BO02	**Sierra Bellavi**	**152.57**	**113**		**PKiKP**	**23 24 07.5**	**+0.8**	
CPUP	**Villa Florida**	**164.40**	**90**	PKPab	**PKPab**	**23 25 11.8**	**+0.9**	
	comp=Z,0.7nm,0.4s,baz=231,slow=6.5,SNR=3.4							

JMA 20 23:05:51.6±0.2, 35.3°N±0.3°×141.2°E±0.9, h30km±2km, MV1.7/18, E OFF BOSO PENINSULA, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.47**	**328**	P	Pb	23 06 01.5	-0.1
BSO1	**Boso 1**	**0.66**	**193**	P	Pb	23 06 04.1	-0.3
BSO3	**Boso 3**	**0.73**	**227**	P	Pb	23 06 05.6	-0.1
BSO4	**Boso 4**	**0.74**	**246**	P	Pb	23 06 05.9	-0.1
JIM2	**Oshima 3**	**1.54**	**248**	P	Pn	23 06 17.5	+0.4

*NEIC **20** 23:09:29.8±2.4, 4.48S±0.06×100.6E±0.1, h10km±1km, mb4.5/10, Error ellipse: s-maj=17.3km s-min=10.6km az=268.0*
*IDC **20** 23:09:35.1±4.0, 2.99S×100.77E, h0km, mb3.6/5, mbtmp3.6/5, MS4.1/1, Error ellipse: s-maj=184.2km s-min=29.5km az=55.0*
*DJA **20** 23:09:46.2±0.4, 3°S±4°×10°1E±°, h36km±5km, M3.6/8, MLv3.6/8*
ISC 20 23:09:28.5±0.8, 4.57S±0.08×100.56E±0.06, h10km, n31, σ1§90/22, mb4.2/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**1.88**	**343**	P	**Pg**	**23 10 07.0**	**+2.5**
EGSI	**Enggano, Bengk**	**1.88**	**114**	P	**Sb**	**23 10 27.7**	**+1.2**
UBSI	**University, Be**	**1.89**	**65**	P	Pg	23 10 10.4	+5.7
UBSI				S	**Sg**	**23 10 29.5**	**+0.2**
MASI	**Maura Aman, Be**	**2.20**	**50**	P	**Pn**	**23 10 05.2**	**+0.1**
MASI				S	Sn	23 10 19.5	-13
MNAI	**Manna**	**2.40**	**85**	P	Pg	23 10 23.1	+8.6
SISI	**Saibi**	**3.54**	**336**	P	**Pn**	**23 10 25.1**	**+1.6**
PDSI	**Padang**	**3.64**	**358**	P	Pn	23 10 15.7	-9.2
PDSI				S	Sn	23 10 41.9	-26
SDSI	**Sungai Dareh**	**3.72**	**14**	P	Pn	23 10 15.8	-10
PMBI	**Palembang**	**4.51**	**69**	Pn	**Pn**	**23 10 36.4**	**-0.5**
GSI	**Gunungsitoli**	**6.55**	**333**	Pn	**Pn**	**23 11 04.9**	**-0.1**
TOLI2	**Tolitoli**	**20.98**	**75**	P	**P**	**23 14 11.5**	**-0.6**
H08S2	**Diego Garcia H**	**28.07**	**262**	T	T	23 44 56.2	
	baz=82						
H08S3	**Diego Garcia H**	**28.07**	**262**	T	T	23 45 13.5	
	baz=82						
H08S1	**Diego Garcia H**	**28.09**	**262**	T	T	23 45 04.0	
	baz=82						
MORW	**Morawa**	**28.45**	**151**	P	**P**	**23 15 25.0**	**+1.3**
BRDH	**Bariadhala**	**28.45**	**343**	LR	LR	23 28 11.1	
	comp=Z,417nm,20.2s,baz=201,slow=41						
KNRA	**Kununurra**	**29.83**	**114**	P	**P**	**23 15 33.8**	**-2.3**
WB0	**Warramunga Arr**	**36.25**	**118**	P	**P**	**23 16 33.1**	**+0.9**
WB0				IAmb	IAmb	23 16 33.5	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**36.26**	**118**	P	**P**	**23 16 33.7**	**+1.4**
WB2	**Warramunga Arr**	**36.27**	**118**	P	**P**	**23 16 34.3**	**+2.0**
WB2				IAmb	IAmb	23 16 51.7	
	comp=Z,14nm,1.5s						
WR0	**Warramunga Arr**	**36.45**	**118**	P	**P**	**23 16 34.5**	**+0.6**
WR0				IAmb	IAmb	23 16 42.4	
	comp=Z,4.3nm,1.0s						
ASAR	**Alice Springs**	**37.33**	**124**	P	P	23 16 55.7	+14
	comp=Z,0.4nm,0.6s,baz=309,slow=9.2,SNR=3.0						
	comp=Z,0.4nm,0.6s						
COEN	**Coen**	**43.02**	**106**	P	**P**	**23 17 31.4**	**+2.7**
COEN				IAmb	IAmb	23 18 13.0	
	comp=Z,9.2nm,1.1s						
SONM	**Songino Array**	**52.44**	**5**	P	**P**	**23 18 37.7**	**-3.7**
	comp=Z,0.2nm,0.4s,baz=186,slow=9.2,SNR=1.9						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**53.64**	**344**	P	**P**	**23 18 47.2**	**-3.0**
	comp=Z,0.8nm,0.6s,baz=160,slow=8.4,SNR=6.0						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**58.16**	**344**	P	**P**	**23 19 20.9**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=161,slow=6.9,SNR=3.0						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**59.78**	**349**	P	**P**	**23 19 31.4**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=180,slow=7.2,SNR=4.7						
	comp=Z,0.7nm,0.5s						
AKBB	**Malin Array Si**	**81.85**	**323**	P	**P**	**23 21 49.6**	**+1.7**
AKBB				IAmb	IAmb	23 22 10.9	
	comp=Z,8.1nm,1.4s						
AMKA	**Amchitka**	**86.55**	**38**	P	P	23 22 07.5	-4.4
SNAA	**Sanae**	**89.88**	**198**	P	**P**	**23 22 25.5**	**-2.0**
SNAA				IAmb	IAmb	23 23 08.7	
	comp=Z,7.3nm,1.4s						
TXAR	**Lajitas Array**	**146.34**	**40**	PKPbc	**PKiKP**	**23 29 13.7**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=211,slow=0.5,SNR=8.8						

*IDC **20** 23:11:32.4±1.5, 0.40N×124.45E, h0km, mb3.6/4, mbtmp3.6/4, MS4.1/2, Error ellipse: s-maj=192.1km s-min=21.9km az=63.0*
*DJA **20** 23:11:35.2±0.4, 1°N±7°×12°6E±°, h10km, M3.8/7, mb4.2/2, mB4.7/1, MLv3.5/7, Mw(mB)3.9/1*
ISC 20 23:11:38.2±1.1, 1.3N±0.1×126.24E±0.06, h54km, n10, σ1§15/10, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.24**	**115**	P	**Pn**	**23 11 58.5**	**-0.8**
TNTI				S	**Sn**	**23 12 15.8**	**+0.8**
GAMI	**Galela, Maluku**	**1.64**	**71**	P	**Pn**	**23 12 05.4**	**+0.7**
LBMI	**Labuha**	**2.30**	**147**	P	**Pn**	**23 12 15.3**	**+1.6**
GTOI	**Gorontalo**	**3.29**	**259**	P	**Pn**	**23 12 27.8**	**+0.5**
APSI	**Ampana**	**5.08**	**245**	P	**Pn**	**23 12 52.1**	**+0.2**
WRA	**Warramunga Arr**	**22.55**	**160**	P	**P**	**23 16 32.0**	**-2.0**
	1.8nm,0.4s,baz=332,slow=11,SNR=16						
WRA				LR	LR	23 26 48.2	
	comp=Z,443nm,19.6s,baz=250,slow=41						
	1.8nm,0.4s						
ASAR	**Alice Springs**	**25.91**	**164**	P	**P**	**23 17 04.7**	**-0.7**
	0.4nm,0.4s,baz=346,slow=10,SNR=6.3						
	0.4nm,0.4s						
CTA	**Charters Tower**	**28.92**	**138**	LR	LR	23 32 13.8	
	comp=Z,443nm,18.4s,baz=254,slow=42						
MKAR	**Makanchi Array**	**59.28**	**326**	P	**P**	**23 21 34.3**	**-0.1**
	0.2nm,0.4s,baz=119,slow=7.9,SNR=5.3						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.53**	**328**	P	**P**	**23 22 03.4**	**+0.5**
	0.3nm,0.5s,baz=124,slow=5.7,SNR=4.1						
	0.3nm,0.5s						

*IDC **20** 23:15:38.8±0.8, 44.27S×39.12E, h0km, mb4.0/6, mbtmp4.0/8, ML3.6/2, MS3.9/4, Error ellipse: s-maj=30.8km s-min=19.9km az=36.0*
*NEIC **20** 23:15:40.4±1.4, 44.1S±0.2×39.0E±0.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=37.7km s-min=12.0km az=226.0*
ISC 20 23:15:40.2±0.8, 44.2S±0.1×39.0E±0.1, h10km, n25, σ0§98/19, mb4.1/9, MS3.9/4, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOE	**Somerset East**	**15.52**	**313**	Pn	**Pn**	**23 19 18.0**	**-1.2**
POGA	**Pongola**	**17.78**	**338**	P	**Pn**	**23 19 46.6**	**-1.1**
SUR	**Sutherland**	**18.46**	**303**	P	**Pn**	**23 19 57.5**	**+1.3**
	0.2nm,0.3s,baz=102,slow=20,SNR=2.1						
	8.3nm,1.1s						
SUR	**Sutherland**	**18.46**	**303**	P	**P**	**23 19 54.2**	**-2.0**
SUR				IAmb	IAmb	23 19 56.5	
	comp=Z,48nm,1.4s						
BOSA	**Boshof**	**19.02**	**320**	P	**Pn**	**23 20 03.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=138,slow=8.2,SNR=3.9						
BOSA				LR	LR	23 26 02.9	
	comp=Z,366nm,21.2s,baz=87,slow=33						
	comp=Z,4.0nm,1.0s						
BOSA	**Boshof**	**19.02**	**320**	P	**P**	**23 20 02.2**	**-0.1**
LBTB	**Lobatse**	**22.00**	**326**	P	**P**	**23 20 35.0**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=153,slow=8.7,SNR=3.3						
	comp=Z,3.6nm,0.8s						
LBTB	**Lobatse**	**22.00**	**326**	P	**P**	**23 20 33.7**	**-1.0**
LBTB				IAmb	IAmb	23 20 43.0	
	comp=Z,21nm,1.5s						
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**23 22 23.5**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=20,slow=8.2,SNR=5.9						
	comp=Z,1.8nm,0.8s						
KMBO	**Kilima Mbogo

KTHA	**Kythira Island**	**0.95**	**334**	PG	**Pg**	**23 21 55.4**	**-0.4**
KTHA				SG	**Sg**	**23 22 08.3**	**+0.1**
KTHA	**Kythira Island**	**0.95**	**334**	P	**Pg**	**23 21 55.3**	**-0.5**
KTHA				S	**Sg**	**23 22 07.9**	**-0.3**
	comp=E,1µm,0.4s						
KTHA	**Kythira Island**	**0.95**	**334**	P	**Pg**	**23 21 55.2**	**-0.5**
KTHA				S	**Sg**	**23 22 07.9**	**-0.3**
KTHA				AML	AML	23 22 11.3	
	comp=N,1917µm,0.5s						
KTHA				AML	AML	23 22 11.8	
	comp=E,3459µm,0.4s						
KTHR	**Kythira**	**0.98**	**331**	P	**Pg**	**23 21 55.5**	**-0.8**
KTHR				S	**Sb**	**23 22 10.0**	**+0.5**
	comp=E,1µm,0.3s						
TMBK	**Timbaki Heraki**	**1.02**	**108**	P	**Pg**	**23 21 56.3**	**-0.6**
IDI	**Anoyia**	**1.07**	**96**	PN	**Pb**	**23 21 58.1**	**+0.1**
IDI	**Anoyia**	**1.07**	**96**	P	**Pg**	**23 21 56.9**	**-1.1**
IDI				S	**Sg**	**23 22 09.3**	**-2.6**
	comp=E,710nm,0.6s						
IDI	**Anoyia**	**1.07**	**96**	P	**Pg**	**23 21 57.1**	**-0.9**
HRKL	**Herakleio**	**1.24**	**94**	PN	**Pg**	**23 22 01.8**	**+0.6**
VLI	**Veliai**	**1.42**	**338**	P	**Pn**	**23 22 03.2**	**0.0**
VLI				S	**Sn**	**23 22 19.9**	**-2.0**
	comp=E,588nm,0.6s						
VLI	**Veliai**	**1.42**	**338**	P	**Pn**	**23 22 03.2**	**0.0**
VLI				AML	AML	23 22 30.9	
	comp=N,801µm,0.5s						
VLI				AML	AML	23 22 38.5	
	comp=E,708µm,0.8s						
MHLO	**Agia Marina, M**	**1.45**	**27**	P	**Pn**	**23 22 03.7**	**+0.1**
SANT	**Santorini**	**1.80**	**57**	PN	**Pn**	**23 22 09.4**	**+0.9**
ZKR	**Zakros**	**2.17**	**97**	PN	**Pn**	**23 22 15.0**	**+1.4**
ITM	**Ithomi**	**2.23**	**323**	PN	**Pn**	**23 22 14.8**	**+0.5**
APE	**Apeiranthos**	**2.29**	**43**	PN	**Pn**	**23 22 16.5**	**+1.3**
KARP	**Karpathos**	**2.92**	**86**	PN	**Pn**	**23 22 25.4**	**+1.5**
BRTR	**Keskin Array B**	**9.07**	**59**	Pn	Pn	23 23 53.3	+4.8
	comp=E,0.1nm,0.3s,baz=234,slow=16,SNR=7.3						
	comp=E,1.0nm,0.8s						
MLR	**Muntele Rosu**	**10.24**	**9**	Pn	Pn	23 24 09.3	+4.9
	comp=E,0.1nm,0.3s,baz=172,slow=14,SNR=1.0						
	comp=E,0.8nm,0.5s						
GERES	**GERESS Array B**	**15.29**	**335**	Pn	**P**	**23 25 19.0**	**+0.9**
	comp=E,0.1nm,0.3s,baz=152,slow=11,SNR=4.0						
	comp=E,0.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**27.11**	**326**	P	**P**	**23 27 21.6**	**+1.4**
	comp=E,0.5nm,0.6s,baz=122,slow=8.9,SNR=5.1						
	comp=E,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**41.97**	**51**	P	**P**	**23 29 27.0**	**-1.3**
	comp=E,0.3nm,0.7s,baz=276,slow=8.0,SNR=2.7						
	comp=E,0.3nm,0.7s						
MKAR	**Makanchi Array**	**44.72**	**57**	P	**P**	**23 29 49.6**	**-1.0**
	comp=E,0.4nm,0.5s,baz=283,slow=7.3,SNR=7.0						
	comp=E,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**45.77**	**46**	P	**P**	**23 29 59.5**	**+0.7**
	comp=E,0.5nm,0.4s,baz=269,slow=8.8,SNR=1.8						
	comp=E,0.5nm,0.4s						

ANF ***20*** *23:24:17.9±0.1, 60.00N×152.73W, h96km±2km, ML4.3/76, ML4.3/75, Error ellipse: s-maj=1.4km s-min=1.2km az=149.0*

NEIC ***20*** *23:24:17.9±1.2, 60.00N±0.02×152.74W±0.07, h98km±5km, Error ellipse: s-maj=5.9km s-min=1.0km az=125.0*

AEIC ***20*** *23:24:19.2±1.2, 60.02N±0.05×152.74W±0.06, h93km±2km, ML4.0, mb4.6/4(NEIC), ML4.3/140(NEIC), Error ellipse: s-maj=7.2km s-min=4.7km az=171.0*

IDC ***20*** *23:24:19.5±0.9, 60.24N×152.86W, h106km±7km, mb3.8/21, mbtmp4.2/26, MS3.8/5, Error ellipse: s-maj=19.1km s-min=10.8km az=20.0*

ISC 20 23:24:18.0±0.5, 60.03N±0.03×152.71W±0.03, h101km±4km, n350, σ0.88/370, mb4.2/23, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
O20K	**Slope Mountain**	**0.07**	**38**	P	**Pn**	**23 24 32.0**	**-0.1**
	baz=226,SNR=200						
O20K				S	**Sn**	**23 24 42.5**	**-0.1**
	baz=226						
ILSW	**Iliamna Southw**	**0.22**	**259**		**Pn**	**23 24 31.7**	**-0.8**
ILSW				Sn	**Sn**	**23 24 42.4**	**-0.9**
ILSW				IAML		23 24 43.5	
	comp=E,6µm,0.9s						
ILSW				IAML		23 24 45.2	
	comp=N,4µm,0.9s						
RSO	**Redoubt South**	**0.44**	**357**		**Pn**	**23 24 33.4**	**-0.3**
P19K	**Oil Pt**	**0.46**	**215**		**Pn**	**23 24 33.4**	**-0.2**
P19K				Sn	**Sn**	**23 24 44.2**	**-1.1**
P19K				IAML		23 24 45.6	
	comp=E,12µm,0.5s						
P19K				IAML		23 24 45.8	
	comp=N,9µm,1.0s						
P19K	**Oil Pt**	**0.46**	**215**	P	**Pn**	**23 24 33.4**	**-0.2**
	baz=33,SNR=47						
P19K				S	**Sn**	**23 24 45.0**	**-0.2**
	baz=33						
RDJH	**Redoubt Jeurge**	**0.57**	**355**		**Pn**	**23 24 34.2**	**-0.3**
HOM	**Homer**	**0.65**	**124**		**Pn**	**23 24 35.3**	**+0.2**
HOM				Sn	**Sn**	**23 24 48.3**	**+0.5**
HOM	**Homer**	**0.65**	**124**	P	**Pn**	**23 24 35.3**	**+0.2**
	baz=304,SNR=30						
HOM				S	**Sn**	**23 24 48.6**	**+0.8**
	baz=304						
O19K	**Port Alsworth**	**0.82**	**283**		**Pn**	**23 24 36.2**	**-0.4**
O19K	**Port Alsworth**	**0.82**	**283**	P	**Pn**	**23 24 36.2**	**-0.4**
	baz=102,SNR=365						
O19K				S	**Sn**	**23 24 49.7**	**-0.9**
	baz=102						
CNPM	**China Poot**	**0.90**	**123**		**Pn**	**23 24 37.5**	**+0.1**
CNPM					**Sn**	**23 24 52.4**	**+0.3**
CNPM				IAML		23 24 52.9	
	comp=N,9µm,0.7s						
CNPM				IAML		23 24 52.9	
	comp=E,10µm,0.8s						
BRLK	**Bradley Lake**	**0.96**	**105**		**Pn**	**23 24 38.0**	**0.0**
BRLK					**Sn**	**23 24 53.1**	**0.0**
BRLK				IAML		23 24 54.0	
	comp=N,10µm,0.2s						
BRLK				IAML		23 24 54.3	
	comp=E,7µm,0.4s						
BRSE	**Bradley Lake S**	**1.03**	**105**		**Pn**	**23 24 38.8**	**0.0**
BRSE					**Sn**	**23 24 54.2**	**-0.3**
BRSE	**Bradley Lake S**	**1.03**	**105**	P	**Pn**	**23 24 39.0**	**+0.2**
	baz=287,SNR=84						
BRSE				S	**Sn**	**23 24 54.2**	**-0.3**
	baz=287						
CAPN	**Captain Cook N**	**1.07**	**45**		**Pn**	**23 24 41.1**	**+1.9**
CAPN	**Captain Cook N**	**1.07**	**45**	P	**Pn**	**23 24 41.1**	**+1.9**
	baz=227,SNR=18						
N19K	**Bonanza Creek**	**1.18**	**313**		**Pn**	**23 24 40.3**	**-0.3**
N19K				IAML		23 24 57.3	
	comp=E,4µm,0.8s						
N19K				IAML		23 24 57.8	
	comp=N,4µm,0.7s						
N19K	**Bonanza Creek**	**1.18**	**313**	P	**Pn**	**23 24 40.2**	**-0.3**
	baz=132						
N19K				S	**Sn**	**23 24 56.7**	**-0.9**
	baz=132						
Q19K	**Cape Douglas,**	**1.20**	**204**		**Pn**	**23 24 40.2**	**-0.5**
Q19K				IAML		23 25 02.7	
	comp=N,3µm,0.9s						
Q19K				IAML		23 25 02.8	
	comp=E,3µm,0.8s						
Q19K	**Cape Douglas,**	**1.20**	**204**	P	**Pn**	**23 24 40.2**	**-0.5**
	baz=22,SNR=35						
Q19K				S	**Sn**	**23 24 56.6**	**-1.3**
	baz=22						
N20K	**Mount Spurr**	**1.20**	**12**	P	**Pn**	**23 24 40.9**	**+0.1**
	baz=193,SNR=445						
N20K				S	**Sn**	**23 24 57.5**	**-0.5**
	baz=193						
SPCR	**Spurr Chakacha**	**1.20**	**12**	P	**Pn**	**23 24 40.9**	**+0.1**
	baz=193,SNR=386						
SPCR				S	**Sn**	**23 24 57.4**	**-0.6**
	baz=193						
SPU	**Mount Spurr**	**1.20**	**15**		**Pn**	**23 24 40.8**	**+0.1**
O18K	**Koktuh Hills**	**1.27**	**263**		**Pn**	**23 24 41.1**	**-0.4**
O18K	**Koktuh Hills**	**1.27**	**263**	P	**Pn**	**23 24 41.1**	**-0.4**
	baz=81						
O18K				S	**Sn**	**23 24 58.2**	**-1.1**
	baz=81						
SLKM	**Skilak Lake**	**1.33**	**68**		**Pn**	**23 24 42.6**	**+0.3**
P18K	**Big Mountain,**	**1.43**	**245**		**Pn**	**23 24 42.8**	**-0.7**
P18K	**Big Mountain,**	**1.43**	**245**	P	**Pn**	**23 24 42.7**	**-0.7**
	baz=62,SNR=13						
P18K				S	**Sn**	**23 25 00.9**	**-1.8**
	baz=62						
Q20K	**Shuyak Island**	**1.43**	**173**	P	**Pn**	**23 24 43.4**	**0.0**
	baz=353,SNR=70						
Q20K				S	**Sn**	**23 25 02.3**	**-0.4**
	baz=353						
O22K	**Cooper Landing**	**1.56**	**72**		**Pn**	**23 24 45.1**	**+0.2**
O22K	**Cooper Landing**	**1.56**	**72**	P	**Pn**	**23 24 44.9**	**0.0**
	baz=254,SNR=150						
O22K				S	**Sn**	**23 25 04.9**	**-0.5**
	baz=254						
SEW	**Seward**	**1.64**	**86**		**Pn**	**23 24 45.3**	**-0.6**
SEW	**Seward**	**1.64**	**86**	P	**Pn**	**23 24 45.5**	**-0.3**
	baz=269,SNR=79						
SEW				S	**Sn**	**23 25 06.4**	**-0.7**
	baz=269						
FIS	**Fire Island**	**1.66**	**47**		**Pn**	**23 24 47.6**	**+1.3**
FIS				IAML		23 25 16.0	
	comp=E,3µm,0.3s						
FIS				IAML		23 25 17.9	
	comp=N,3µm,0.8s						
N18K	**Kilae Creek**	**1.71**	**294**		**Pn**	**23 24 46.5**	**-0.4**
N18K	**Kilae Creek**	**1.71**	**294**	P	**Pn**	**23 24 46.5**	**-0.4**
	baz=111						
N18K				S	**Sn**	**23 25 07.8**	**-1.1**
	baz=111						
SUA	**Susitna One**	**1.73**	**33**		**Pn**	**23 24 47.9**	**+0.7**
SUA				IAML		23 25 11.6	
	comp=E,4µm,0.9s						
SUA				IAML		23 25 13.3	
	comp=N,4µm,0.8s						
SUA	**Susitna One**	**1.73**	**33**	P	**Pn**	**23 24 48.0**	**+0.7**
	baz=215,SNR=338						
SUA				S	**Sn**	**23 25 10.3**	**+0.8**
	baz=215						
RC01	**Rabbit Creek A**	**1.81**	**53**		**Pn**	**23 24 48.5**	**+0.4**
RC01				IAML		23 25 13.4	
	comp=E,4µm,0.5s						
RC01				IAML		23 25 13.4	
	comp=N,4µm,0.5s						
RC01	**Rabbit Creek A**	**1.81**	**53**	P	**Pn**	**23 24 48.2**	**0.0**
	baz=236,SNR=148						
RC01				S	**Sn**	**23 25 10.9**	**-0.3**
	baz=236						
Q18K	**Katmai Hardscr**	**1.82**	**221**	P	**Pn**	**23 24 48.0**	**-0.3**
	baz=39,SNR=74						
Q18K				S	**Sn**	**23 25 09.8**	**-1.6**
	baz=39						
M20K	**Styx River**	**1.87**	**354**		**Pn**	**23 24 49.5**	**+0.5**
M20K	**Styx River**	**1.87**	**354**	P	**Pn**	**23 24 49.6**	**+0.5**
	baz=174						
M20K				S	**Sn**	**23 25 12.8**	**+0.2**
	baz=174						
SKT	**Skwentna**	**2.04**	**16**		**Pn**	**23 24 51.3**	**+0.2**
SKT				IAML		23 25 19.9	
	comp=N,866nm,0.5s						
SKT	**Skwentna**	**2.04**	**16**	P	**Pn**	**23 24 51.3**	**+0.2**
	baz=197,SNR=134						
M19K	**Big River Lodg**	**2.05**	**337**		**Pn**	**23 24 51.4**	**+0.2**
M19K	**Big River Lodg**	**2.05**	**337**	P	**Pn**	**23 24 51.5**	**+0.2**
	baz=156,SNR=201						
M19K				S	**Sn**	**23 25 16.3**	**-0.4**
	baz=156						
P17K	**Kvichak River**	**2.07**	**248**	P	**Pn**	**23 24 51.4**	**0.0**
	baz=64,SNR=38						
P17K				S	**Sn**	**23 25 16.5**	**-0.5**
	baz=64						
M22K	**Willow**	**2.15**	**35**		**Pn**	**23 24 53.2**	**+0.8**
M22K	**Willow**	**2.15**	**35**	P	**Pn**	**23 24 53.2**	**+0.8**
	baz=218,SNR=175						
O17K	**Koliganek Bris**	**2.22**	**265**	P	**Pn**	**23 24 53.0**	**-0.4**
	baz=82,SNR=28						
PWL	**Port Wells**	**2.32**	**67**		**Pn**	**23 24 54.0**	**-0.7**
PWL	**Port Wells**	**2.32**	**67**	P	**Pn**	**23 24 54.1**	**-0.7**
	baz=251,SNR=75						
PMR	**Palmer**	**2.35**	**47**		**Pn**	**23 24 54.8**	**-0.3**
PMR				IAML		23 25 24.2	
	comp=N,1µm,0.4s						
PMR				IAML		23 25 25.1	
	comp=E,774nm,0.3s						
PMR	**Palmer**	**2.35**	**47**	P	**Pn**	**23 24 54.8**	**-0.3**
	baz=230,SNR=233						
L19K	**White Mountain**	**2.40**	**335**		**Pn**	**23 24 55.9**	**+0.1**
L19K				IAML		23 25 25.2	
	comp=E,787nm,0.7s						
L19K	**White Mountain**	**2.40**	**335**	P	**Pn**	**23 24 55.9**	**+0.1**
	baz=154						
Q17K	**Contact Creek**	**2.41**	**224**	P	**Pn**	**23 24 55.8**	**-0.2**
	baz=41,SNR=69						
Q16K	**King Salmon**	**2.43**	**238**	P	**Pn**	**23 24 56.3**	**+0.2**
	baz=54,SNR=18						
KNK	**Knik Glacier**	**2.51**	**55**		**Pn**	**23 24 56.8**	**-0.4**
KNK				IAML		23 25 27.5	
	comp=N,2µm,0.4s						
KNK				IAML		23 25 28.0	
	comp=E,2µm,0.5s						
KNK	**Knik Glacier**	**2.51**	**55**	P	**Pn**	**23 24 56.8**	**-0.4**
	baz=238,SNR=238						
L20K	**Farewell, AK**	**2.52**	**348**	P	**Pn**	**23 24 57.8**	**+0.4**
	baz=167						
GHO	**Glory Hole Cre**	**2.55**	**45**		**Pn**	**23 24 57.5**	**-0.2**
GHO				IAML		23 25 29.9	
	comp=E,2µm,0.5s						
GHO				IAML		23 25 31.5	
	comp=N,2µm,0.5s						
CUT	**Chulitna**	**2.66**	**25**		**Pn**	**23 24 59.5**	**+0.4**
CUT	**Chulitna**	**2.66**	**25**	P	**Pn**	**23 24 59.7**	**+0.5**
	baz=208,SNR=58						
P23K	**Montague Islan**	**2.67**	**88**	P	**Pn**	**23 24 58.8**	**-0.5**
	baz=273,SNR=12						
O16K	**Kokwok River B**	**2.75**	**263**	P	**Pn**	**23 25 00.2**	**-0.2**
	baz=79						
SML	**Sawmill**	**2.79**	**48**		**Pn**	**23 25 00.5**	**-0.4**
SML				IAML		23 25 34.9	
	comp=N,1µm,0.8s						
SML				IAML		23 25 35.6	
	comp=E,942nm,1.0s						
SML	**Sawmill**	**2.79**	**48**	P	**Pn**	**23 25 00.6**	**-0.3**
	baz=232,SNR=134						
OHAK	**Old Harbor**	**2.83**	**186**	Pn	**Pn**	**23 25 00.1**	**-1.3**
OHAK				IAML		23 25 33.8	
	comp=E,522nm,0.5s						
OHAK				IAML		23 25 36.9	
	comp=N,508nm,0.6s						
OHAK	**Old Harbor**	**2.83**	**186**	P	**Pn**	**23 25 00.0**	**-1.3**
	baz=5.6,SNR=13						
P16K	**Nushagak River**	**2.87**	**252**	P	**Pn**	**23 25 02.1**	**+0.2**
	baz=67						
PPLA	**Purkeypile**	**2.89**	**5**		**Pn**	**23 25 03.5**	**+1.1**
PPLA	**Purkeypile**	**2.89**	**5**	P	**Pn**	**23 25 03.5**	**+1.1**
	baz=186,SNR=28						
M23K	**Glacier View**	**3.01**	**52**	P	**Pn**	**23 25 03.5**	**-0.4**
	baz=236,SNR=110						
N16K	**Nishlik Lake**	**3.05**	**281**	P	**Pn**	**23 25 04.5**	**0.0**
	baz=96						
R17K	**Ugashik Creek**	**3.06**	**220**	P	**Pn**	**23 25 05.1**	**+0.6**
	baz=37						
HIN	**Hinchinbrook I**	**3.12**	**80**		**Pn**	**23 25 04.4**	**-0.9**
HIN				IAML		23 25 43.1	
	comp=N,1µm,0.5s						
SCM	**Sheep Creek Mo**	**3.19**	**53**		**Pn**	**23 25 06.1**	**-0.2**
SCM				IAML		23 25 44.4	
	comp=E,976nm,0.5s						
SCM				IAML		23 25 47.2	
	comp=N,845nm,0.7s						
SCM	**Sheep Creek Mo**	**3.19**	**53**	P	**Pn**	**23 25 05.9**	**-0.4**
	baz=238,SNR=50						
Q23K	**Middleton Isla**	**3.28**	**98**		**Pn**	**23 25 07.4**	**+0.1**
Q23K	**Middleton Isla**	**3.28**	**98**	P	**Pn**	**23 25 07.5**	**+0.1**
	baz=283,SNR=5.6						
MID	**Middleton Isla**	**3.28**	**98**		**Pn**	**23 25 07.8**	**+0.3**
MID				IAML		23 25 46.8	
	comp=E,1µm,0.7s						
TTA	**Tatalina**	**3.32**	**333**	Pn	**Pn**	**23 25 07.5**	**-0.4**
TTA	**Tatalina**	**3.32**	**333**	P	**Pn**	**23 25 07.7**	**-0.3**
	baz=150,SNR=24						
K20K	**Telida**	**3.40**	**350**	P	**Pn**	**23 25 09.5**	**+0.4**
	baz=169						
CAST	**Castle Rocks**	**3.42**	**5**	Pn	**Pn**	**23 25 09.8**	**+0.5**
CAST	**Castle Rocks**	**3.42**	**5**	P	**Pn**	**23 25 09.8**	**+0.5**
	baz=186,SNR=70						
WAT1	**Susitna Watana**	**3.45**	**34**	P	**Pn**	**23 25 09.8**	**+0.1**
	baz=217						
EYAK	**Cordova Ski Ar**	**3.50**	**78**		**Pn**	**23 25 08.8**	**-1.6**
EYAK	**Cordova Ski Ar**	**3.50**	**78**	P	**Pn**	**23 25 09.1**	**-1.3**
	baz=264						
WAT6	**Susitna Watana**	**3.51**	**41**	P	**Pn**	**23 25 10.5**	**-0.1**
	baz=225,SNR=159						
SII	**Sitkinak Islan**	**3.56**	**193**	Pn	**Pn**	**23 25 10.6**	**-0.6**
SII				IAML		23 25 51.4	
	comp=N,909nm,0.7s						
SII				IAML		23 26 00.3	
	comp=E,808nm,0.6s						
SII	**Sitkinak Islan**	**3.56**	**193**	P	**Pn**	**23 25 10.7**	**-0.6**
	baz=12						
DIV	**Divide**	**3.60**	**69**		**Pn**	**23 25 10.7**	**-1.1**
TRF	**Thorofare Moun**	**3.62**	**17**	Pn	**Pn**	**23 25 12.1**	**-0.1**
TRF				IAML		23 25 58.8	
	comp=N,411nm,0.5s						
TRF				IAML		23 25 59.0	
	comp=E,430nm,0.6s						
TRF	**Thorofare Moun**	**3.62**	**17**	P	**Pn**	**23 25 12.1**	**-0.1**
	baz=200,SNR=50						
KTH	**Kantishna Hill**	**3.64**	**13**	IAML		23 25 58.1	
	comp=E,270nm,0.6s						
KTH				IAML		23 26 19.1	
	comp=N,292nm,0.9s						
KLU	**Klutina**	**3.64**	**63**	P	**Pn**	**23 25 11.6**	**-0.7**
	baz=249,SNR=57						
M24K	**Tolsona, Glenn**	**3.80**	**54**	IAML		23 26 14.3	
	comp=N,609nm,0.8s						
M24K	**Tolsona, Glenn**	**3.80**	**54**	P	**Pn**	**23 25 14.5**	**+0.1**
	baz=240,SNR=100						
RND	**Reindeer**	**3.85**	**27**		**Pn**	**23 25 15.5**	**+0.3**
RND	**Reindeer**	**3.85**	**27**	IAML		23 26 17.4	
	comp=E,253nm,0.8s						
CHUM	**Lake Minchumin**	**3.87**	**3**		**Pn**	**23 25 15.9**	**+0.6**
CHUM	**Lake Minchumin**	**3.87**	**3**	P	**Pn**	**23 25 16.0**	**+0.6**
	baz=183,SNR=63						
DHY	**Denali Highway**	**3.98**	**38**		**Pn**	**23 25 17.2**	**+0.2**
DHY	**Denali Highway**	**3.98**	**38**	IAML		23 26 06.0	
	comp=N,423nm,0.3s						
DHY				IAML		23 26 06.7	
	comp=E,464nm,0.3s						
DHY	**Denali Highway**	**3.98**	**38**	P	**Pn**	**23 25 17.2**	**+0.2**
	baz=222,SNR=71						
GOAT	**Goat Mountain**	**4.01**	**79**		**Pn**	**23 25 15.9**	**-1.4**
BMRM	**Bremner River**	**4.12**	**73**		**Pn**	**23 25 17.2**	**-1.5**
BMRM	**Bremner River**	**4.12**	**73**	P	**Pn**	**23 25 17.2**	**-1.5**
	baz=260,SNR=7.6						
MCK	**McKinley**	**4.12**	**24**		**Pn**	**23 25 19.1**	**+0.3**
MCK	**McKinley**	**4.12**	**24**	IAML		23 26 11.7	
	comp=E,207nm,0.5s						
MCK	**McKinley**	**4.12**	**24**	P	**Pn**	**23 25 19.3**	**+0.5**
	baz=208,SNR=37						
BPAW	**Bear Paw Mtn.**	**4.17**	**10**		**Pn**	**23 25 19.0**	**-0.3**
BPAW				IAML		23 26 07.5	
	comp=N,174nm,0.7s						
BPAW				IAML		23 26 09.7	
	comp=E,158nm,0.6s						
BPAW	**Bear Paw Mtn.**	**4.17**	**10**	P	**Pn**	**23 25 18.9**	**-0.5**
	baz=192						
J20K	**Nowinta River**	**4.22**	**351**	Pn	**Pn**	**23 25 20.7**	**+0.7**
J20K				IAML		23 26 13.9	
	comp=N,170nm,0.9s						
J20K	**Nowinta River**	**4.22**	**351**	P	**Pn**	**23 25 20.6**	**+0.5**
	baz=170,SNR=110						
HMT	**Hamilton**	**4.23**	**82**		**Pn**	**23 25 21.1**	**+0.8**
N25K	**Chitina, Valde**	**4.28**	**65**		**Pn**	**23 25 20.3**	**-0.6**
N25K				IAML		23 26 08.4	
	comp=E,334nm,0.5s						
N25K				IAML		23 26 12.4	
	comp=N,372nm,0.5s						
N25K	**Chitina, Valde**	**4.28**	**65**	P	**Pn**	**23 25 20.0**	**-0.8**
	baz=252,SNR=10.0						
HARP	**HAARP**	**4.36**	**54**	P	**Pn**	**23 25 22.1**	**+0.2**
	baz=240,SNR=20						
NICHA	**Nichawak Mount**	**4.38**	**83**		**Pn**	**23 25 21.9**	**-0.3**
BWN	**Browne**	**4.43**	**19**		**Pn**	**23 25 24.0**	**+1.1**
BWN				IAML		23 26 35.2	
	comp=N,430nm,1.1s						
BWN				IAML		23 27 05.5	
	comp=E,286nm,1.1s						
SUCK	**Suckling Hills**	**4.48**	**86**	Pn	**Pn**	**23 25 24.7**	**+1.1**
SUCK				IAML		23 26 16.1	
	comp=N,397nm,0.4s						
SUCK				IAML		23 26 27.2	
	comp=E,250nm,0.6s						
CHIR	**Chirikof Islan**	**4.49**	**201**	Pn	**Pn**	**23 25 22.6**	**-1.2**
CHIR				IAML		23 26 29.6	
	comp=E,474nm,4.2s						
PAX	**Paxson**	**4.55**	**46**		**Pn**	**23 25 24.9**	**+0.2**
PAX	**Paxson**	**4.55**	**46**	P	**Pn**	**23 25 24.8**	**+0.1**
	baz=233,SNR=97						
GLB	**Gilahina Butte**	**4.59**	**68**		**Pn**	**23 25 24.2**	**-1.0**
GLB	**Gilahina Butte**	**4.59**	**68**	IAML		23 26 17.8	
	comp=E,371nm,0.4s						
GLB				IAML		23 26 18.4	
	comp=N,390nm,0.6s						
GRIN	**Grindle Hills**	**4.70**	**83**		**Pn**	**23 25 26.4**	**-0.2**
VRDI	**Verde Repeater**	**4.72**	**71**		**Pn**	**23 25 25.6**	**-1.3**
VRDI	**Verde Repeater**	**4.72**	**71**	IAML		23 26 22.2	
	comp=E,141nm,0.5s						
VRDI				IAML		23 26 22.6	
	comp=N,254nm,0.5s						
KHIT	**Khitrov Hills**	**4.74**	**81**		**Pn**	**23 25 25.5**	**-1.6**
CHGN	**Chignik**	**4.80**	**221**		**Pn**	**23 25 28.1**	**+0.2**
CHGN				IAML		23 26 23.2	
	comp=N,124nm,0.5s						
CHGN				IAML		23 28 15.5	
	comp=E,110nm,4.1s						
CHGN	**Chignik**	**4.80**	**221**	P	**Pn**	**23 25 27.8**	**-0.2**
	baz=36						
NEA2	**Nenana**	**4.89**	**19**		**Pn**	**23 25 28.3**	**-0.7**
NEA2	**Nenana**	**4.89**	**19**	P	**Pn**	**23 25 29.1**	**0.0**
	baz=202,SNR=14						
WAX	**Waxell Ridge**	**4.93**	**81**		**Pn**	**23 25 29.3**	**-0.4**
SNH	**Sunshine Point**	**4.94**	**84**		**Pn**	**23 25 30.2**	**+0.4**
SNH	**Sunshine Point**	**4.94**	**84**	IAML		23 26 28.4	
	comp=E,285nm,0.4s						
SNH				IAML		23 26 29.0	
	comp=N,266nm,0.4s						
MCARA	**McCarthy VSAT**	**4.95**	**70**		**Pn**	**23 25 29.4**	**-0.5**
MCARA				IAML		23 26 28.2	
	comp=N,336nm,0.5s						
MCARA	**McCarthy VSAT**	**4.95**	**70**	P	**Pn**	**23 25 29.0**	**-0.9**
	baz=258						
WRH	**Wood River Hil**	**4.95**	**24**		**Pn**	**23 25 29.6**	**-0.3**
K24K	**Donnelly Dome**	**5.01**	**38**	P	**Pn**	**23 25 32.1**	**+1.4**
	baz=224,SNR=109						
MLY	**Manley**	**5.11**	**9**		**Pn**	**23 25 31.7**	**-0.3**
MLY	**Manley**	**5.11**	**9**	P	**Pn**	**23 25 32.1**	**0.0**
	baz=191,SNR=27						
GCSA	**Galena City Sc**	**5.12**	**340**		**Pn**	**23 25 32.2**

baz=198,SNR=42
MDM Murphy Dome 5.37 21 Pn Pn 23 25 35.4 -0.2
MESA MESA 5.39 84 Pn Pn 23 25 36.8 +0.7
MESA MESA 5.39 84 P Pn 23 25 36.5 +0.4
baz=273,SNR=22
L26K Log Cabin Wild 5.39 52 P Pn 23 25 36.4 +0.4
baz=240,SNR=30
DOT Dot Lake 5.47 45 Pn 23 25 37.3 +0.3
ILAR Eielson Array 5.47 27 P Pn 23 25 36.5 -0.6
comp=N,18nm,0.4s,baz=212,slow=14,SNR=393
ILAR S Sn **23 26 34.1 -4.5**
comp=N,21nm,0.4s,baz=214,slow=22,SNR=4.2
ILAR LR LR 23 27 50.3
comp=N,213nm,19.2s,baz=309,slow=40
ILAR Eielson Array 5.47 27 Pn 23 25 36.7 -0.4
YAH Yahtse 5.48 82 Pn 23 25 38.0 +0.7
BARN Barnard Glacie 5.55 74 Pn 23 25 38.8 +0.5
H21K Melozitna Rive 5.65 360 P Pn 23 25 39.7 +0.3
baz=180
POKR Poker Plat Res 5.66 23 P Pn 23 25 39.6 +0.1
baz=208,SNR=12
SCRK Sand Creek 5.71 42 P Pn 23 25 40.0 -0.2
baz=230,SNR=59
J25K Salcha River, 5.73 33 P Pn 23 25 40.3 -0.2
baz=220
M27K Edge Creek, AK 5.74 61 P Pn 23 25 40.7 0.0
baz=251,SNR=9.1
TABL Table Mountain 5.78 81 Pn 23 25 40.9 -0.5
H22K Ishtalitna Cre 5.92 5 P Pn 23 25 43.2 +0.2
baz=187,SNR=22
SAMH Samovar Hills 5.97 84 Pn 23 25 44.3 +0.4
H23K Yukon River 6.00 13 Pn 23 25 44.4 +0.3
H23K Yukon River 6.00 13 P Pn 23 25 44.3 +0.3
baz=196
IMAR Indian Mountai 6.00 356 Pn Pn 23 25 44.8 +0.7
L27K Beaver Creek, 6.03 55 P Pn 23 25 43.7 -0.8
baz=245
BCAR Beaver Creek A 6.04 55 Pn 23 25 44.4 -0.4
J26L Joseph Creek 6.19 40 Pn 23 25 46.9 +0.1
J26L Joseph Creek 6.19 40 P Pn 23 25 46.8 0.0
baz=228,SNR=59
BVCY Beaver Creek 6.20 62 P Pn 23 25 46.9 0.0
baz=253,SNR=12
YUK3 Moose Creek 6.23 68 P Pn 23 25 47.3 -0.2
baz=259,SNR=14
H24K Noodor Dome 6.23 19 P Pn 23 25 47.4 +0.1
baz=203
PCA Pinnacle 6.24 84 Pn 23 25 48.2 +0.8
PINM Pinnacle 6.24 84 P Pn 23 25 48.2 +0.7
baz=275,SNR=15
O28M Mount Upton 6.25 78 P Pn 23 25 48.7 +0.9
baz=269
SDPT Sand Point 6.27 225 Pn Pn 23 25 47.6 -0.2
CHNA Chernabura Isl 6.40 218 P Pn 23 25 49.7 +0.2
baz=32
CNBA Chernabura Isl 6.41 218 Pn Pn 23 25 49.1 -0.6
K27K Chicken 6.41 47 Pn 23 25 50.0 +0.3
K27K Chicken 6.41 47 P Pn 23 25 49.4 -0.3
baz=236
PRP Porcupine Dome 6.42 28 Pn Pn 23 25 50.2 +0.3
PRP Porcupine Dome 6.42 28 P Pn 23 25 50.0 +0.1
baz=214,SNR=28
YUK8 Steele Glacier 6.49 73 P Pn 23 25 51.4 +0.4
baz=264,SNR=20
G21K Allakaket 6.52 357 P Pn 23 25 51.6 +0.4
baz=177
BCPM Bancas Point 6.56 85 Pn 23 25 52.3 +0.5
PNL Peninsula 6.72 87 Pn 23 25 53.7 -0.3
PNL Peninsula 6.72 87 P Pn 23 25 53.8 -0.2
baz=279,SNR=19
G23K Bananza Creek 6.82 9 P Pn 23 25 55.4 +0.2
baz=192
I26K Coal Creek Min 6.88 36 Pn 23 25 56.0 -0.1
I26K Coal Creek Min 6.88 36 P Pn 23 25 55.7 -0.4
baz=224
G22K Bettles 6.94 4 P Pn 23 25 57.0 +0.1
baz=185
H25L Birch Creek 6.99 24 P Pn 23 25 57.8 +0.2
baz=210
YUK4 Talbot Arm 7.03 73 P Pn 23 25 58.4 0.0
baz=265,SNR=7.2
O29M Mount Kennedy 7.06 82 P Pn 23 25 58.8 +0.2
baz=274
G24K Hadweenzic Riv 7.10 17 P Pn 23 25 58.6 -0.4
baz=202
YUK6 Outpost Mounta 7.15 76 P Pn 23 25 59.9 -0.1
baz=269
EGAK Eagle 7.17 43 P Pn 23 25 59.6 -0.4
baz=234,SNR=41
F21K Alatna River 7.23 358 P Pn 23 26 01.2 +0.4
baz=177
M29M Somme Creek 7.29 64 P Pn 23 26 01.4 -0.3
baz=257
COLD Coldfoot 7.31 8 Pn 23 26 01.9 0.0
COLD Coldfoot 7.31 8 P Pn 23 26 02.2 +0.3
baz=190,SNR=12
FYU Fort Yukon 7.37 24 Pn Pn 23 26 02.8 +0.1
G25K Bearman Lake 7.38 21 P Pn 23 26 02.6 -0.2
baz=207
ANM Nome 7.45 313 Pn 23 26 03.6 -0.1
ANM Nome 7.45 313 P Pn 23 26 03.9 +0.1
baz=122
DAWY Dawson 7.45 51 P Pn 23 26 03.5 -0.3
baz=243,SNR=38
F22K John River 7.51 2 P Pn 23 26 05.8 +1.1
baz=182
I27K Kandik River 7.55 37 P Pn 23 26 04.9 -0.3
baz=227
P29M Windy Craggy 7.56 87 Pn 23 26 05.9 +0.6
P29M Windy Craggy 7.56 87 P Pn 23 26 05.5 +0.2
baz=280
HYT Haines Junctio 7.57 77 P Pn 23 26 05.9 +0.4
baz=271,SNR=6.8
L29M L29M 7.61 60 P Pn 23 26 05.8 -0.2
baz=253
N30M Aishikik Lake 7.79 73 P Pn 23 26 07.3 -1.1
baz=266,SNR=8.9
F24K Squaw Lake 7.82 14 P Pn 23 26 09.3 +0.5
baz=198,SNR=8.0
P30M Million Dollar 7.88 82 P Pn 23 26 09.8 +0.1
baz=276
G26K Porcupine Rive 8.00 26 P Pn 23 26 10.4 -0.9
baz=214
H27K Steamboat Moun 8.01 34 P Pn 23 26 11.0 -0.5
baz=224
M30M Minto, Yukon 8.07 65 P Pn 23 26 11.6 -0.8
baz=259
K29M Barlow Dome 8.11 55 P Pn 23 26 12.8 -0.1
baz=249
E22K Anaktuvuk Pass 8.15 2 P Pn 23 26 14.0 +0.6
baz=183
E23K Chandalar 8.18 8 P Pn 23 26 15.0 +1.2
baz=191,SNR=9.2
F25K Christian Rive 8.21 19 P Pn 23 26 13.7 -0.4
baz=206
BMAR Burnt Mountain 8.25 22 Pn Pn 23 26 14.6 -0.1
O30N Mendenhall 8.26 78 P Pn 23 26 14.3 -0.6
baz=272
PLBC Pleasant Camp 8.28 87 P Pn 23 26 15.6 +0.5
baz=281,SNR=23
E24K Your Creek 8.29 11 P Pn 23 26 15.3 +0.1
baz=195
G27K Doyon Strip 8.41 31 P Pn 23 26 16.2 -0.7
baz=221,SNR=12
N31M Braeburn, Yuko 8.42 73 Pn 23 26 17.1 +0.1
N31M Braeburn, Yuko 8.42 73 P Pn 23 26 16.4 -0.6
baz=268
I29M Ogilvie Camp, 8.50 45 P Pn 23 26 18.6 +0.6
baz=238,SNR=30
F26K Sheenjek River 8.56 22 P Pn 23 26 18.4 -0.6
baz=210
E25K Arctic Village 8.70 18 P Pn 23 26 20.4 -0.4
baz=204,SNR=8.8
MAYO Mayo, Yukon 8.72 59 Pn Pn 23 26 22.8 +1.7
S31K Pelican 8.75 96 P Pn 23 26 21.5 0.0
baz=291
TOLK Toolik Lake Re 8.75 8 P Pn 23 26 22.6 +1.1
baz=190,SNR=7.3
SKAG Skagway 8.79 86 Pn Pn 23 26 23.1 +1.0
SKAG Skagway 8.79 86 P Pn 23 26 22.0 -0.1
baz=281,SNR=7.2
R31K City Hall, Gus 8.85 93 P Pn 23 26 22.2 -0.6
baz=288
WHY Whitehorse 8.86 78 Pn 23 26 23.4 +0.3
WHY Whitehorse 8.86 78 P Pn 23 26 22.9 -0.2
baz=274,SNR=13
TNA Tin City 8.89 315 Pn Pn 23 26 24.4 +1.1
baz=122
D23K Nanushuk River 9.02 5 P Pn 23 26 25.9 +0.8
baz=187
M31M Drury Creek, Y 9.12 68 Pn 23 26 26.9 +0.3
M31M Drury Creek, Y 9.12 68 P Pn 23 26 26.5 -0.1
baz=264
BESE Bessie Mountai 9.24 91 Pn 23 26 29.5 +1.2
E27K Coleen River 9.50 26 P Pn 23 26 30.4 -1.3
baz=216
R32K Eaglecrest 9.51 93 P Pn 23 26 32.1 +0.3
baz=288,SNR=13
SIT Sitka 9.56 101 P Pn 23 26 31.4 -1.1
baz=295,SNR=9.7
JIS Juneau Island 9.57 93 Pn 23 26 33.2 +0.6
P32M Atlin 9.58 84 P Pn 23 26 32.3 -0.5
baz=281
EPYK Eagle Plains 9.60 42 P Pn 23 26 33.1 +0.1
baz=236
FARO Faro, Yukon 9.61 68 Pn 23 26 33.4 +0.1
FARO Faro, Yukon 9.61 68 P Pn 23 26 32.9 -0.3
baz=265
D25K Kavik River 9.71 13 P Pn 23 26 34.6 +0.1
baz=199
N32M Quiet Lake 9.72 75 P Pn 23 26 34.3 -0.4
baz=272
UNV Unalaska Valle 9.74 237 Pn Pn 23 26 34.8 -0.2
S32K Killisnoo 9.76 97 P Pn 23 26 34.8 -0.4
baz=293
C24K Franklin Bluff 9.88 8 P Pn 23 26 36.9 +0.2
baz=192
C23K Itkillik River 9.89 4 P Pn 23 26 37.1 +0.2
baz=186
P33M Teslin, Yukon 9.92 80 P Pn 23 26 36.3 -1.2
baz=278
G30M tAoh Zraii Nji 10.11 39 P Pn 23 26 38.9 -1.1
baz=234
C27K Jago River 10.35 18 P Pn 23 26 43.0 -0.2
baz=206
Q32M Nakina River 10.44 87 P Pn 23 26 44.9 +0.3
baz=285,SNR=7.3
C26K Camden Bay 10.45 15 P Pn 23 26 44.3 -0.2
baz=202
MMPY Sheldon Lake, 10.61 67 P Pn 23 26 46.3 -0.5
baz=266
R33M Jennings River 10.99 84 P Pn 23 26 52.1 +0.1
baz=283,SNR=8.2
U33K Whale Pass 11.07 102 P Pn 23 26 52.4 -0.6
baz=299,SNR=14
F31M Tsiigehtchic 11.17 40 P Pn 23 26 53.9 -0.3
baz=237,SNR=6.8
WRAK Wrangell Islan 11.31 100 Pn 23 26 56.9 +0.7
WRAK Wrangell Islan 11.31 100 P Pn 23 26 55.9 -0.3
baz=297
S34M Telegraph Cree 11.32 91 P Pn 23 26 55.6 -0.8
baz=290,SNR=22
CRAG Craig 11.40 105 Pn Pn 23 26 57.4 0.0
CRAG Craig 11.40 105 P Pn 23 26 56.1 -1.3
baz=302
DLBC Dease Lake 11.71 88 P Pn 23 27 03.9 +2.3
comp=N,8.4nm,0.3s,baz=289,slow=11,SNR=25
DLBC S Sn **23 29 06.8 -3.4**
comp=N,4.8nm,0.4s,baz=270,slow=12,SNR=2.8
DLBC Dease Lake 11.71 88 P Pn 23 27 02.0 +0.4
baz=288,SNR=7.9
INK Inuvik 11.73 37 P Pn 23 27 01.1 -0.6
comp=N,3.5nm,0.5s,baz=240,slow=18,SNR=25
INK S Sn **23 29 05.4 -5.0**
comp=N,3.1nm,0.8s,baz=255,slow=15,SNR=1.8
INK Inuvik 11.73 37 Pn 23 27 01.7 +0.1
INK Inuvik 11.73 37 P Pn 23 27 01.0 -0.6
baz=234
T35M Bob Quinn 12.12 95 P Pn 23 27 08.9 +2.0
baz=294,SNR=23
V35K Ketchikan 12.21 103 P Pn 23 27 07.9 -0.2
baz=301
DIB Dawson Inlet, 13.03 113 Pn Pn 23 27 19.5 +0.4
MOBC Moresby Island 13.31 112 Pn Pn 23 27 24.6 +1.9
LIRD Liard River Hi 13.41 81 P Pn 23 27 24.6 +0.7
baz=284
RUBB Prince Rupert 13.41 105 Pn Pn 23 27 24.8 +0.8
GRNB Grenville Isla 13.83 107 Pn Pn 23 27 30.9 +1.4
C36M Paulatuk 15.23 40 P Pn 23 27 45.8 -1.4
baz=246
ADK Adak 15.63 249 P 23 27 53.8 -0.6
ADK IAmb IAmb 23 28 05.7
comp=Z,59nm,1.1s
BBB Bella Bella 15.73 109 P P 23 27 56.5 +1.1
comp=Z,8.1nm,1.0s,baz=295,slow=8.0,SNR=4.9
BBB S Sn **23 30 44.0 -3.3**
comp=Z,9.9nm,0.9s,baz=304,slow=7.3,SNR=2.2
BBB Bella Bella 15.73 109 Pn Pn 23 27 54.5 +1.0
A36M Sachs Harbour 16.16 31 Pn P 23 28 00.4 +0.4
A36M IAmb IAmb 23 28 05.7
comp=Z,22nm,0.8s
A36M Sachs Harbour 16.16 31 P Pn 23 27 58.4 -0.4
baz=236,SNR=13
YKA Yellowknife Ai 18.31 66 P P 23 28 24.3 +0.5
comp=Z,2.0nm,0.8s,baz=275,slow=10,SNR=3.0
NEW Newport 23.62 104 P P 23 29 21.9 +2.3
comp=Z,0.7nm,0.4s,baz=321,slow=14,SNR=2.5
comp=Z,0.7nm,0.4s
PETK Petropavlovsk- 27.60 278 P P 23 29 54.9 -0.5
comp=Z,3.4nm,0.6s,baz=71,slow=14,SNR=10
comp=Z,3.4nm,0.6s
NVAR Mina Array Bea 30.61 119 P P 23 30 25.5 +3.1
comp=Z,2.2nm,0.4s,baz=324,slow=9.1,SNR=1.4
comp=Z,0.2nm,0.4s
PDAR Pinedale Array 31.26 104 P P 23 30 30.4 +2.2
comp=Z,0.3nm,0.5s,baz=316,slow=6.3,SNR=4.0
PDAR pP pP **23 30 53.8 +3.0**
comp=Z,0.5nm,0.7s,baz=320,slow=3.9,SNR=3.9
comp=Z,0.3nm,0.5s
ULM Lac du Bonnet 32.92 81 pP pP 23 31 07.8 +2.8
comp=Z,3.3nm,0.8s,baz=338,slow=6.8,SNR=2.9
PKM Mcpherson Peak 32.97 125 P P 23 30 40.7 -2.4
baz=330
NRIK Noril'sk 43.94 334 P P 23 32 13.3 -0.8
comp=Z,4.9nm,0.6s,baz=42,slow=7.9,SNR=7.2
comp=Z,4.9nm,0.6s
TXAR Lajitas Array 44.85 111 P P 23 32 23.6 +1.6
comp=Z,0.2nm,0.4s,baz=310,slow=6.3,SNR=6.4
comp=Z,0.2nm,0.4s
USRK Ussuriysk Ar. 46.17 285 P P 23 32 31.2 -0.9
comp=Z,1.5nm,0.7s,baz=42,slow=6.7,SNR=2.0
comp=Z,1.5nm,0.7s
ARCES ARCESS Array B 50.73 1 P P 23 33 06.7 0.0
comp=Z,3.5nm,0.9s,baz=342,slow=6.8,SNR=5.5
comp=Z,3.5nm,0.9s
KSRS Korea Array 53.32 283 P P 23 33 27.1 +0.7
comp=Z,2.7nm,0.8s,baz=37,slow=7.4,SNR=7.5
KSRS LR LR 23 57 10.0
comp=Z,58nm,20.3s,baz=40,slow=37
comp=Z,2.7nm,0.8s
SONM Songino Array 54.89 306 P P 23 33 37.5 -0.3
comp=Z,1.9nm,0.7s,baz=46,slow=7.3,SNR=6.8
SONM pP pP **23 34 03.1 +0.6**
comp=Z,2.2nm,0.8s,baz=41,slow=5.4,SNR=4.2
comp=Z,1.9nm,0.7s
ZAA0 Zalesovo Array 57.44 324 P P 23 33 55.7 +0.1
ZALV Zalesovo Beam 57.44 324 P P 23 33 55.2 -0.5
comp=Z,4.6nm,0.4s,baz=34,slow=7.0,SNR=23
ZALV pP pP **23 34 20.2 -0.3**
comp=Z,0.8nm,0.5s,baz=14,slow=6.6,SNR=2.1
comp=Z,4.6nm,0.4s
ZALV Zalesovo Beam 57.44 324 P P 23 33 55.7 +0.1
HHC Hu-ho-hao-te 58.30 297 eP P 23 34 04.4 +2.4
FINES FINESS Array B 58.85 1 P P 23 34 05.5 +0.1
comp=Z,1.6nm,0.6s,baz=1.4,slow=5.6,SNR=5.9
comp=Z,1.6nm,0.6s
HFS Hagfors 59.71 8 P P 23 34 09.9 -1.4
comp=Z,2.7nm,0.8s,baz=41,slow=4.6,SNR=6.5
comp=Z,2.7nm,0.8s
ARU Arti 61.27 341 P P 23 34 21.0 -1.0
comp=Z,5.7nm,0.5s,baz=49,slow=4.4,SNR=13
comp=Z,5.7nm,0.5s
BVAR Borovoye Array 62.11 332 P P 23 34 27.1 -0.6
comp=Z,7.6nm,0.5s,baz=27,slow=5.9,SNR=26
comp=Z,7.6nm,0.5s
EKA Eskdalemuir Ar 62.46 19 P P 23 34 29.4 -0.6
comp=Z,0.5nm,0.3s,baz=332,slow=5.3,SNR=11
comp=Z,0.5nm,0.3s
MKAR Makanchi Array 64.50 321 P P 23 34 42.8 -0.8
comp=Z,0.8nm,0.6s,baz=35,slow=6.6,SNR=11
comp=Z,0.8nm,0.6s
WMQ Urumqi 65.34 316 eP P 23 34 53.8 +4.7
WMQ pmax pmax
comp=Z,5.0nm,0.9s
BELG Belogornoye 66.74 347 P P 23 34 57.4 -0.4
comp=Z,4.0nm,0.5s,baz=11,slow=3.8,SNR=5.1
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 67.89 338 P P 23 35 04.7 -0.4
AFI Afiamalu 75.27 199 LR LR 00 01 54.8
comp=Z,88nm,21.0s,baz=208,slow=30
ESDC Sonseca Array 77.37 24 P P 23 36 01.9 +0.4
comp=Z,1.0nm,1.0s,baz=348,slow=5.4,SNR=3.2
comp=Z,1.0nm,1.0s
GEYT Alibeck 79.14 336 P P 23 36 10.3 -0.9
comp=Z,1.1nm,0.6s,baz=327,slow=4.3,SNR=3.0
comp=Z,1.1nm,0.6s
KEST Kesra 83.44 15 P P 23 36 33.0 -1.1
comp=Z,1.7nm,0.8s,baz=343,slow=11,SNR=3.2
comp=Z,1.7nm,0.8s
KAPI Kappang 93.07 265 LR LR 00 19 25.3
comp=Z,42nm,19.1s,baz=278,slow=36
NNA Nana 93.35 108 LR LR 00 22 52.8
comp=Z,168nm,18.0s,baz=166,slow=38
BOSA Boshof 148.56 3 PKPbc PKPbc 23 43 52.1 -0.6
comp=Z,2.8nm,0.5s,baz=359,slow=2.8,SNR=16
VNA2 Neumayer--Watz 162.26 142 PKPab PKPab 23 44 52.7 -1.0
slow=3.4

---

*IDC **20** 23:25:00.2±0.5, 80°.13N×0°.79E, h0km, mb4.1/22, mbtmp4.1/26, ML3.3/3, MS3.6/3, Error ellipse: s-maj=16.5km s-min=9.9km az=36.0*
*BER **20** 23:25:01.5±2.2, 80°.01N×0°.28E, h10km, ML3.0, ML4.3(NAO), Confirmed Earthquake*
*MOS **20** 23:25:01.2±1.0, 79°.90N×0°.45W, h10km, mb4.7/35, Error ellipse: s-maj=36.6km s-min=6.6km az=95.4*
*NEIC **20** 23:25:03.1±1.6, 80°.04N±0°.09×0°.1E±0°.4, h10km±1km, mb4.7/151, Error ellipse: s-maj=16.4km s-min=10.0km az=18.0*
*IEPN **20** 23:25:06.0, 80°.16N×1°.76E, h10km*
ISC 20 23:25:02.2±0.3, 79°.94N±0°.04×0°.00W±0°.03, h10km, n461, σ2s06/465, mb4.6/126, MS3.8/4, 4C-3D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.42**	**109**	Pn	**Pn**	**23 25 38.2**	**-3.6**
KBS				Sn	**Sn**	**23 26 03.7**	**-7.7**
KBS	**Kingsbay**	**2.42**	**109**	Pn	**Pn**	**23 25 38.1**	**-3.6**
KBS	**Kingsbay**	**2.42**	**109**	‖ *iP*	**Pn**	**23 25 38.3**	**-3.6**
KBS	**Kingsbay**	**2.42**	**109**	*i* P	**Pn**	**23 25 38.4**	**-3.4**
KBS	**Kingsbay**	**2.42**	**109**	*eP*	**Pn**	**23 25 38.4**	**-3.4**
KBS				*eS*	**Sn**	**23 26 04.9**	**-6.6**
KBS				IAML		23 26 05.7	
	comp=Z,195nm,0.3s						
NOR	**Nord**	**3.15**	**310**	Pn	**Pn**	**23 25 50.0**	**-1.8**
NOR				Sn	**Sn**	**23 26 23.1**	**-6.3**
NOR	**Nord**	**3.15**	**310**	*eP*	**Pn**	**23 25 50.1**	**-1.7**
NOR				*eS*	**Sn**	**23 26 24.3**	**-5.1**
NOR				IAML		23 26 26.7	
	comp=Z,64nm,0.3s						
NOR	**Nord**	**3.15**	**310**	*eP*	**Pn**	**23 25 50.0**	**-1.8**
NOR				*eS*	**Sn**	**23 26 23.3**	**-6.2**
BRBB	**Barentsburg B**	**3.28**	**117**	Pn	**Pn**	**23 25 52.9**	**-0.7**
BRBB				Sn	**Sn**	**23 26 29.4**	**-3.2**
BRBB	**Barentsburg B**	**3.28**	**117**	*eP*	**Pn**	**23 25 52.2**	**-1.4**
BRBB				*eS*	**Sn**	**23 26 27.7**	**-4.9**
BRBA	**Barentsburg A**	**3.31**	**118**	Pn	**Pn**	**23 25 53.1**	**-0.8**
BRBA				Sn	**Sn**	**23 26 30.1**	**-3.1**
BRBA	**Barentsburg A**	**3.31**	**118**	*eP*	**Pn**	**23 25 52.5**	**-1.5**
BRBA				*eS*	**Sn**	**23 26 28.0**	**-5.2**
BRBA				IAML		23 26 33.0	
	comp=Z,92nm,0.2s						
SPA0	**Spitsbergen Ar**	**3.58**	**111**	Pn	**Pn**	**23 25 54.9**	**-2.7**
	baz=320,slow=10						
SPA0				Sn	**Sn**	**23 26 33.1**	**-6.8**
	baz=331,slow=14						
SPITS	**Spitsbergen Ar**	**3.58**	**111**	Pn	**Pn**	**23 25 54.6**	**-3.1**
	comp=Z,158nm,0.3s,baz=320,slow=7.6,SNR=362						
SPITS				Sn	**Sn**	**23 26 33.0**	**-6.9**
	baz=317,slow=14						
SPITS	**Spitsbergen Ar**	**3.58**	**111**	P	**Pn**	**23 25 55.0**	**-2.7**
SPB2	**Spitsbergen Ar**	**3.58**	**111**	Pn	**Pn**	**23 25 55.0**	**-2.7**
HSPB	**Hornsund (broa**	**4.28**	**126**	Pn	**Pn**	**23 26 06.4**	**-0.8**
HSPB				Sn	**Sn**	**23 26 53.5**	**-3.5**
HSPB	**Hornsund (broa**	**4.28**	**126**	*eP*	**Pn**	**23 26 04.8**	**-2.4**
HSPB	**Hornsund (broa**	**4.28**	**126**	*eP*	**Pn**	**23 26 06.0**	**-1.2**
HSPB				*eS*	**Sn**	**23 26 51.8**	**-5.2**
HSPB	**Hornsund (broa**	**4.28**	**126**	*eP*	**Pn**	**23 26 06.1**	**-1.2**
HSPB				*eS*	**Sn**	**23 26 51.0**	**-6.1**
HSPB				IAML		23 26 57.7	
	comp=Z,115nm,0.6s						
DAG	**Danmarks Havn**	**4.91**	**239**	*e*	**Pn**	**23 26 14.3**	**-1.7**
	baz=52,slow=18						
DAG				⇑ *iP*	**Pn**	**23 26 14.7**	**-1.2**
DAG				*i* S	**Sn**	**23 27 07.4**	**-5.3**
DAG	**Danmarks Havn**	**4.91**	**239**	⇑ *iP*	**Pn**	**23 26 14.6**	**-1.3**
DAG				*eS*	**Sn**	**23 27 07.2**	**-5.5**
HOPEN	**Hopen**	**6.11**	**111**	Pn	**Pn**	**23 26 29.7**	**-2.7**
HOPEN				Sn	**Sn**	**23 27 34.8**	**-7.4**
HOPEN	**Hopen**	**6.11**	**111**	*eP*	**Pn**	**23 26 29.0**	**-3.3**
HOPEN				*eS*	**Sn**	**23 27 33.4**	**-8.8**
HOPEN	**Hopen**	**6.11**	**111**	*eP*	**Pn**	**23 26 29.3**	**-3.1**
HOPEN				*eS*	Sn	23 27 32.9	-9.3
HOPEN				IAML		23 27 38.9	
	comp=Z,37nm,0.4s						
BJO1	**Bjornoya**	**6.84**	**133**	Pn	**Pn**	**23 26 42.5**	**+0.1**
BJO1				Sn	**Sn**	**23 27 54.8**	**-5.4**
BJO1	**Bjornoya**	**6.84**	**133**	*eP*	**Pn**	**23 26 41.3**	**-1.1**
BJO1				*eS*	**Sn**	**23 27 55.2**	**-5.1**
BJO1	**Bjornoya**	**6.84**	**133**	*eP*	**Pn**	**23 26 42.5**	**+0.1**
BJO1				*eS*	**Sn**	**23 27 55.8**	**-4.4**
BJO1				IAML		23 28 00.9	
	comp=Z,17nm,0.6s						
DBG	**Daneborg**	**7.17**	**229**	Pn	**Pn**	**23 26 46.0**	**-1.0**
DBG				Sn	**Sn**	**23 28 01.5**	**-6.9**
DBG	**Daneborg**	**7.17**	**229**	*i* P	**Pn**	**23 26 46.3**	**-0.7**
DBG				*i* S	**Sn**	**23 28 01.2**	**-7.2**
DBG				IAML		23 28 05.9	
	comp=Z,166nm,0.4s						
DBG	**Daneborg**	**7.17**	**229**	*eP*	**Pn**	**23 26 46.1**	**-0.9**
DBG				*eS*	Sn	23 27 59.6	-8.8
ZFI	**Zemlya Franca-**	**7.84**	**61**	*eP*	**Pn**	**23 26 51.9**	**-4.2**
ZFI				*eS*	Sn	23 28 12.0	-13
OMEGA	**Omega**	**7.86**	**61**	*eP*	**Pn**	**23 26 52.3**	**-4.0**
OMEGA				*eS*	Sn	23 28 12.3	-13
	comp=Z,64nm,2.9s						
JMIC	**Jan Mayen**	**9.23**	**198**	Pn	**Pn**	**23 27 12.8**	**-2.4**
	comp=Z,36nm,0.3s,baz=135,slow=2.9,SNR=5.4						
JMIC				Sn	**Sn**	**23 28 54.4**	**-4.5**
	comp=Z,15nm,0.3s,baz=85,slow=23,SNR=6.5						
NEEM	**North Greenlan**	**10.02**	**282**	*i* P	**Pn**	**23 27 23.3**	**-2.9**
NEEM				*eS*	Sn	23 29 07.2	-11
NEEM				IAML		23 29 13.2	
	comp=Z,67nm,0.3s						
SCO	**Scoresbysund**	**10.89**	**222**	Pn	**Pn**	**23 27 38.0**	**+0.1**
SCO	**Scoresbysund**	**10.89**	**222**	*eP*	**Pn**	**23 27 37.5**	**-0.4**
SCO				IAML		23 29 54.5	
	comp=Z,4.5nm,0.4s						
SCO	**Scoresbysund**	**10.89**	**222**	P	**Pn**	**23 27 38.0**	**+0.1**
HAMF	**Hammerfest**	**10.96**	**135**	Pn	**Pn**	**23 27 37.5**	**-1.2**
HAMF	**Hammerfest**	**10.96**	**135**	Pn	**Pn**	**23 27 37.5**	**-1.2**
SUMG	**Summit**	**11.43**	**251**	*i* P	**Pn**	**23 27 42.9**	**-2.6**
SUMG				*i* S	Sn	23 29 44.4	-8.8
SUMG				IAML		23 29 49.7	
	comp=Z,26nm,0.4s						
KIF	**Kilpisjarvi**	**12.17**	**143**	Pn	**Pn**	**23 27 54.8**	**-0.6**
KIF	**Kilpisjarvi**	**12.17**	**143**	Pn	**Pn**	**23 27 54.8**	**-0.6**
KEV	**Kevo**	**12.21**	**132**	Pn	**Pn**	**23 27 54.8**	**-1.0**
KEV	**Kevo**	**12.21**	**132**	Pn	**Pn**	**23 27 55.2**	**-0.6**
KEV	**Kevo**	**12.21**	**132**	P	**Pn**	**23 27 55.2**	**-0.6**
KEV	**Kevo**	**12.21**	**132**	Pn	**Pn**	**23 27 54.8**	**-1.0**
ARA0	**ARCESS Array S**	**12.22**	**134**	Pn	**Pn**	**23 27 54.8**	**-1.2**
	baz=353,slow=12						
ARA0	**ARCESS Array S**	**12.22**	**134**	Pn	**Pn**	**23 27 54.8**	**-1.2**
	slow=12						
ARCES	**ARCESS Array B**	**12.22**	**134**	Pn	**Pn**	**23 27 52.5**	**-3.5**
	comp=Z,0.8nm,0.3s,baz=347,slow=11,SNR=32						
ARCES				Sn	Sn	23 30 02.4	-10
	baz=344,slow=19,SNR=2.0						
	comp=Z,2.4nm,0.4s						
ARCES	**ARCESS Array B**	**12.22**	**134**	Pn	**Pn**	**23 27 54.8**	**-1.2**
ARCES	**ARCESS Array B**	**12.22**	**134**	*eP*	**Pn**	**23 27 54.9**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LOF	**Lofoten**	**12.37**	**156**	*e*	**Pn**	**23 27 59.8**	**+1.8**
KTK1	**Kautokeino**	**12.44**	**139**	*e*	**Pn**	**23 27 58.9**	**-0.1**
STEI	**Steigen**	**12.70**	**153**	*e*	**Pn**	**23 28 05.5**	**+3.0**

KULLO Kullorsuaq 13.09 277 *i* P Pn 23 28 03.0 -4.9
KULLO *i* S Sn 23 30 18.1 -15
KULLO IAML 23 30 28.1
comp=Z,27nm,0.4s
TULEG Thule 13.62 292 Pn Pn 23 28 08.6 -6.4
TULEG Thule 13.62 292 *i* P Pn 23 28 08.9 -6.0
TULEG *i* S Sn 23 30 28.3 -18
TULEG *i* S Sn 23 30 29.7 -16
TULEG IAML 23 30 36.9
comp=Z,30nm,0.4s
EUNU Eureka 13.75 313 Pn **Pn 23 28 13.3 -3.6**
KONS Konsvik 13.96 158 *e* **Pn 23 28 22.5 +2.8**
STOK Stokkvaagen 14.12 158 *e* **Pn 23 28 24.5 +2.7**
UPNV Upernavik 14.32 271 *i* P Pn 23 28 18.7 -5.9
UPNV *i* S Sn 23 30 44.9 -18
APA Apatity 15.12 126 *i* P **P 23 28 38.4 -2.3**
APA *i* 23 31 29.1
APA pmax pmax
comp=Z,14nm,1.3s
APA MLR MLR
comp=Z,500nm,12.0s
BORG Borgarnes 16.36 214 Pn **Pn 23 28 52.3 +0.8**
comp=Z,0.3nm,0.3s,baz=309,slow=6.5,SNR=1.8
comp=Z,12nm,1.2s
SFJD Kangerlussuaq 18.37 255 P **P 23 29 12.0 -4.6**
comp=Z,10nm,0.5s,baz=33,slow=13,SNR=9.4
SFJD S Sn 23 32 21.2 -20
comp=Z,11nm,0.5s,baz=82,slow=18,SNR=2.9
SFJD Kangerlussuaq 18.37 255 P **P 23 29 11.4 -5.2**
SFJD Kangerlussuaq 18.37 255 P **P 23 29 11.4 -5.2**
SFJD pmax pmax
comp=Z,39nm,1.3s
NC204 NORSAR Array S 19.02 164 P **Pn 23 29 31.2 +6.6**
NC204 IAmb IAmb 23 29 39.8
comp=Z,62nm,1.2s
RES Resolute Bay 19.09 306 P **P 23 29 20.4 -4.0**
comp=Z,2.4nm,0.6s,baz=32,slow=9.0,SNR=9.2
RES S Sn 23 32 38.9 -20
comp=Z,3.6nm,0.5s,baz=133,slow=23,SNR=6.3
RES Resolute Bay 19.09 306 **P 23 29 20.9 -3.4**
RES Resolute Bay 19.09 306 P **P 23 29 21.0 -3.4**
RES pmax pmax
comp=Z,10.0nm,1.3s
NC303 NORSAR Array S 19.10 163 P **Pn 23 29 30.6 +5.1**
NC405 NORSAR Array S 19.23 163 P **Pn 23 29 33.5 +6.4**
NC405 IAmb IAmb 23 29 40.2
comp=Z,48nm,1.4s
NBO00 NORSAR Array S 19.27 164 P **Pn 23 29 29.2 +1.7**
NBO00 IAmb IAmb 23 29 44.1
comp=Z,79nm,1.4s
NB201 NORSAR Array S 19.27 163 P **Pn 23 29 28.8 +1.2**
NB201 IAmb IAmb 23 29 46.9
comp=Z,64nm,1.2s
NB2 NORSAR Subarra 19.28 163 P **Pn 23 29 29.8 +2.1**
NB2 NORSAR Subarra 19.28 163 *e* **Pn 23 29 29.8 +2.1**
NB2 NORSAR Subarra 19.28 163 P **Pn 23 29 33.2 +5.5**
comp=Z,0.6nm,0.6s,baz=355,slow=11
NOA NORSAR Array B 19.28 163 P **Pn 23 29 27.5 -0.2**
baz=346,slow=9.1,SNR=2.7
NOA LR LR 23 35 33.4
comp=Z,54nm,20.7s,baz=170,slow=33
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 19.28 163 *eP* **Pn 23 29 33.0 +5.3**
NAO01 NORSAR Array S 19.46 164 P **Pn 23 29 30.4 +0.7**
LSH Leshukonskoye 19.50 114 *eP* **Pn 23 29 32.8 +2.5**
comp=Z,116nm,3.2s
LSH *eS* Sn 23 32 55.3 -13
NC602 NORSAR Array S 19.60 163 P **Pn 23 29 32.4 +1.0**
NC602 IAmb IAmb 23 30 16.1
comp=Z,79nm,1.5s
NORES NORESS Array B 19.60 163 P **Pn 23 29 33.8 +2.3**
NRA0 NORESS Array S 19.60 163 P **Pn 23 29 32.7 +1.2**
NRA0 NORESS Array S 19.60 163 *e* **Pn 23 29 32.7 +1.2**
FIA1 FINESS Array S 20.08 142 P Pn 23 29 37.8 +0.7
FIA1 IAmb IAmb 23 29 44.5
comp=Z,29nm,1.1s
FIA0 FINESS Array S 20.08 142 P Pn 23 29 37.3 +0.2
baz=359,slow=9.3
FIA0 FINESS Array S 20.08 142 *e* Pn 23 29 37.3 +0.2
FINES FINESS Array B 20.08 142 P **P 23 29 35.0 -0.3**
comp=Z,5.7nm,0.8s,baz=323,slow=24,SNR=5.3
comp=Z,5.7nm,0.8s
FINES FINESS Array B 20.08 142 P Pn 23 29 37.5 +0.4
FINES FINESS Array B 20.08 142 *eP* Pn 23 29 39.4 +2.3
FINES pmax pmax
comp=Z,15nm,0.9s
HFS Hagfors 20.32 160 P Pn 23 29 39.6 -0.4
slow=5.9
HFS Hagfors 20.32 160 P Pn 23 29 39.1 -0.9
comp=Z,2.8nm,0.7s,baz=11,slow=8.1,SNR=6.1
comp=Z,2.8nm,0.7s
KLMR Klimovskoe 22.36 125 *eP* **P 23 30 00.5 +0.6**
comp=Z,47nm,1.4s
KLMR *eS* **S 23 33 58.5 -6.6**
KLMR Klimovskoe 22.36 125 *eP* **P 23 30 00.6 +0.7**
KLMR AMP 23 30 10.4
comp=Z,47nm,1.4s
KLMR Klimovskoe 22.36 125 *eP* **P 23 30 00.5 +0.6**
KLMR pmax pmax
comp=Z,47nm,1.4s
PRGR Permogore 22.54 117 *eP* **P 23 30 04.0 +2.3**
PRGR Permogore 22.54 117 *eP* **P 23 30 04.1 +2.3**
NRIK Noril'sk 22.63 67 P **P 23 30 07.8 +5.0**
NRIK IAmb IAmb 23 30 16.0
comp=Z,36nm,1.1s
NRIK Noril'sk 22.63 67 *i* P **P 23 30 02.4 -0.3**
NRIK pmax pmax
comp=Z,5.0nm,0.7s
IVI Ivigtut 23.34 246 P **P 23 30 11.5 +1.4**
IVI IAmb IAmb 23 30 40.9
comp=Z,26nm,1.1s
FRB Frobisher Bay 24.45 270 P **P 23 30 20.6 0.0**
comp=Z,18nm,1.1s,baz=45,slow=13,SNR=2.0
comp=Z,18nm,1.1s
A36M Sachs Harbour 25.31 324 P **P 23 30 29.1 +0.8**
A36M Sachs Harbour 25.31 324 P **P 23 30 29.2 +0.8**
baz=19
TIXI Tiksi 26.00 34 *ceP* **P 23 30 38.0 +3.4**
TIXI pmax pmax
comp=Z,4.0nm,1.6s
KIRV Kirov 26.04 115 *i* P **P 23 30 37.3 +2.3**
NACGM Naroch 26.58 144 *eP* **P 23 30 40.8 +0.9**
comp=Z,31nm,0.9s,baz=350
OBN Obninsk 27.52 132 *eP* **P 23 30 49.3 +1.0**
OBN *eP* PPP PPP 23 31 40.6
OBN *e* 23 34 02.8
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,206nm,19.0s
C27K Jago River 29.26 335 P **P 23 31 02.1 -1.7**
baz=12
C24K Franklin Bluff 29.51 338 P **P 23 31 06.8 +0.8**
baz=11
C23K Itkillik River 29.52 340 P **P 23 31 06.1 0.0**
baz=10.0
ARU Arti 29.60 106 P **P 23 31 08.2 +1.3**
ARU Arti 29.60 106 *di* P P 23 31 15.2 +8.3
ARU 23 32 12.4
ARU pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 29.68 327 P **P 23 31 07.8 +0.3**
INK Inuvik 29.68 327 P **P 23 31 07.8 +0.3**
INK pmax pmax
comp=Z,8.0nm,1.1s
NKC Novy Kostel 30.13 164 *eP* **P 23 31 13.9 +2.2**
NKC Novy Kostel 30.13 164 *eP* **P 23 31 13.9 +2.2**
E27K Coleen River 30.51 333 P **P 23 31 14.7 -0.2**
baz=12
AKASG Malin Array Be 30.98 143 P **P 23 31 18.9 -0.3**
comp=Z,2.6nm,0.7s,baz=350,slow=9.5,SNR=12
comp=Z,2.6nm,0.7s
AKASG Malin Array Be 30.98 143 *eP* **P 23 31 19.0 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 30.98 143 P **P 23 31 20.3 +1.2**
AKBB IAmb IAmb 23 31 29.0
comp=Z,7.9nm,1.1s
AKBB Malin Array Si 30.98 143 *i* P **P 23 31 19.5 +0.4**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
F26K Sheenjek River 31.19 334 P **P 23 31 20.8 -0.1**
baz=11
E23K Chandalar 31.21 338 P **P 23 31 21.0 -0.2**
baz=9.8

KHC Kasperske Hory 31.29 163 *eP* **P 23 31 23.1 +1.2**
KHC Kasperske Hory 31.29 163 *eP* **P 23 31 23.1 +1.2**
F25K Christian Rive 31.40 335 P **P 23 31 21.6 -1.2**
baz=11
BMAR Burnt Mountain 31.48 335 P **P 23 31 24.2 +0.7**
GEC2 GERESS Array S 31.58 163 P **P 23 31 26.9 +2.3**
GERES GERESS Array B 31.58 163 P **P 23 31 26.3 +1.8**
comp=Z,1.9nm,0.7s,baz=12,slow=7.4,SNR=16
comp=Z,1.9nm,0.7s
GERES GERESS Array B 31.58 163 P **P 23 31 26.6 +2.0**
GERES GERESS Array B 31.58 163 *eP* **P 23 31 27.1 +2.5**
GERES pmax pmax
comp=Z,2.0nm,0.7s
F24K Squaw Lake 31.63 337 P **P 23 31 24.7 -0.1**
baz=10
CKRC Cesky Krumlov 31.64 162 *eP* **P 23 31 26.0 +1.0**
BELG Belogornoye 31.73 121 P **P 23 31 24.6 -1.0**
comp=Z,18nm,0.9s,baz=358,slow=3.5,SNR=10
comp=Z,18nm,0.9s
BELG Belogornoye 31.73 121 *i* P **P 23 31 26.0 +0.3**
BELG pmax pmax
comp=Z,3.0nm,0.9s
EPYK Eagle Plains 31.87 328 P **P 23 31 26.5 -0.3**
baz=13
BILL Bilibino 32.02 10 *eP* **P 23 31 30.7 +2.6**
BILL *e* 23 32 33.7
BILL *e* 23 34 14.0
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,99nm,17.0s
G24K Hadweenzic Riv 32.41 336 P **P 23 31 30.3 -1.3**
baz=10
SCHQ Schefferville 32.55 261 P **P 23 31 32.9 0.0**
comp=Z,3.5nm,0.6s,baz=30,slow=7.3,SNR=6.2
comp=Z,3.5nm,0.6s
MOA Molln 32.60 162 *eP* **P 23 31 35.8 +2.3**
comp=Z,1.6nm,0.7s
CONA Conrad Observa 32.62 160 *i* P **P 23 31 35.1 +1.5**
comp=Z,4.6nm,1.0s
H25L Birch Creek 32.72 335 P **P 23 31 33.9 -0.4**
baz=10
BIOA Bad Ischl, Aus 32.73 163 *eP* **P 23 31 35.4 +0.8**
comp=Z,1.0nm,0.4s
RETA Reutte 32.80 166 *i* P **P 23 31 37.6 +2.4**
comp=Z,3.1nm,0.8s
RONA Rosalia, Austr 32.87 160 *eP* **P 23 31 37.6 +1.8**
comp=Z,6.3nm,1.2s
MOTA Moosalm 32.95 166 *i* P **P 23 31 39.1 +2.5**
comp=Z,5.3nm,0.8s
DAVA Damuels 32.96 168 *eP* **P 23 31 39.1 +2.4**
comp=Z,7.8nm,1.1s
G21K Allakaket 32.98 341 P **P 23 31 35.4 -1.2**
baz=8.2
WATA Walderalm 32.98 165 *eP* **P 23 31 39.5 +2.6**
comp=Z,3.4nm,0.8s
I29M Ogilvie Camp, 33.00 329 P **P 23 31 36.4 -0.4**
baz=12
I27K Kandik River 33.05 332 P **P 23 31 36.5 -0.7**
baz=11
SQTA Sankt Quirin 33.08 166 *i* P **P 23 31 40.3 +2.6**
comp=Z,4.1nm,1.0s
YKA Yellowknife Ar 33.08 309 LR LR 23 44 48.8
comp=Z,199nm,20.4s,baz=62,slow=36
H24K Noodor Dome 33.30 337 P **P 23 31 38.7 -0.7**
baz=9.7
KBA Kanbbreinsper 33.32 163 *eP* **P 23 31 42.0 +2.0**
comp=Z,6.5nm,1.2s
PRP Porcupine Dome 33.44 335 P **P 23 31 41.6 +0.9**
PRP IAmb IAmb 23 31 55.8
comp=Z,9.1nm,1.0s
PRP Porcupine Dome 33.44 335 P **P 23 31 40.5 -0.3**
baz=10
I26K Coal Creek Min 33.47 333 P **P 23 31 42.3 +1.5**
I26K IAmb IAmb 23 31 51.6
comp=Z,14nm,1.4s
I26K Coal Creek Min 33.47 333 P **P 23 31 40.7 -0.1**
baz=11
BUR08 Bucovina Ar. S 33.61 149 P **P 23 31 44.2 +1.8**
BUR08 IAmb IAmb 23 31 47.0
comp=Z,9.7nm,1.4s
ABTA Abfaltersbach 33.61 164 *eP* **P 23 31 45.0 +2.6**
comp=Z,2.4nm,0.9s
BURAR Bucovina Array 33.64 149 P **P 23 31 43.4 +0.8**
BURAR Bucovina Array 33.64 149 P **P 23 31 43.4 +0.8**
BURAR pmax pmax
comp=Z,2.0nm,0.8s
H21K Metoznitna Rive 33.80 340 P **P 23 31 43.5 -0.2**
baz=8.2
SENIN Lac Senin/Sane 33.80 171 P **P 23 31 46.4 +2.2**
SOKA Soboth 33.81 161 *eP* **P 23 31 46.6 +2.5**
comp=Z,2.6nm,0.9s
CLUD Cludinico 33.92 164 **P 23 31 46.5 +1.5**
CLUD IAmb IAmb 23 31 56.5
comp=Z,7.3nm,0.8s
OBKA Obir 33.95 162 *eP* **P 23 31 47.7 +2.3**
comp=Z,8.5nm,1.0s
POKR Poker Flat Res 33.98 336 P **P 23 31 45.2 0.0**
baz=9.6
CIMO Cimolais 34.05 165 P **P 23 31 48.0 +1.9**
CIMO IAmb IAmb 23 31 56.8
comp=Z,5.5nm,0.8s
I23K Minto, Yukon-K 34.08 337 P **P 23 31 47.3 +1.2**
I23K IAmb IAmb 23 31 56.7
comp=Z,8.1nm,1.0s
I23K Minto, Yukon-K 34.08 337 P **P 23 31 46.2 +0.1**
baz=9.1
MDM Murphy Dome 34.19 336 P **P 23 31 47.3 +0.1**
MDM IAmb IAmb 23 31 57.1
comp=Z,7.2nm,1.0s
I21K Tanana 34.22 339 P **P 23 31 45.7 -1.6**
baz=8.3
COLA College 34.25 336 P **P 23 31 48.5 +1.0**
COLA IAmb IAmb 23 31 57.7
comp=Z,7.0nm,0.8s
COLA College 34.25 336 P **P 23 31 48.5 +1.0**
COLA pmax pmax
comp=Z,7.0nm,0.8s
TCOL CIGO, UAF Yank 34.25 336 P **P 23 31 48.8 +1.2**
TCOL IAmb IAmb 23 31 57.8
comp=Z,22nm,1.5s
CTI Castel Tesino 34.27 166 P **P 23 31 50.4 +2.3**
CTI IAmb IAmb 23 31 58.7
comp=Z,8.0nm,0.9s
CTI Castel Tesino 34.27 166 P **P 23 31 50.4 +2.3**
CTI pmax pmax
comp=Z,8.0nm,0.9s
IL31 34.28 335 P **P 23 31 47.1 -0.8**
ILAR Eielson Array 34.28 335 P **P 23 31 47.0 -0.9**
comp=Z,2.5nm,1.1s,baz=3.3,slow=7.6,SNR=9.4
ILAR PcP **PcP 23 34 23.4 -0.2**
comp=Z,0.9nm,0.6s,baz=340,slow=2.9,SNR=12
comp=Z,2.5nm,1.1s
ILAR Eielson Array 34.28 335 P **P 23 31 47.6 -0.2**
ILAR Eielson Array 34.28 335 *eP* **P 23 31 49.2 +1.3**
ILAR pmax pmax
comp=Z,3.0nm,1.1s
J26L Joseph Creek 34.29 333 P **P 23 31 47.3 -0.8**
baz=11
J25K Salcha River, 34.32 334 P **P 23 31 47.3 -1.0**
baz=10
DAWY Dawson 34.37 330 P **P 23 31 48.3 -0.4**
baz=12
K29M Barlow Dome 34.42 328 P **P 23 31 49.0 -0.2**
baz=12
CCB Clear Creek Bu 34.47 336 P **P 23 31 49.9 +0.4**
HDA Harding Lake 34.64 335 P **P 23 31 51.1 +0.1**
HDA IAmb IAmb 23 32 00.6
comp=Z,6.0nm,0.8s
BRVK Borovoye 34.85 96 *i* P **P 23 31 53.5 +0.6**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 34.90 96 P **P 23 31 52.0 -1.3**
comp=Z,0.5nm,0.4s,baz=347,slow=6.1,SNR=4.5
comp=Z,0.5nm,0.4s
BVAR Borovoye Array 34.90 96 P **P 23 31 52.0 -1.3**
TEOL Teolo 34.96 166 P **P 23 31 55.7 +1.8**
MMPY Sheldon Lake, 34.99 323 P **P 23 31 53.4 -0.7**
baz=13
MCK McKinley 35.46 337 P **P 23 31 56.6 -1.4**
baz=8.9
BCAR Beaver Creek A 35.56 331 P **P 23 32 00.1 +1.1**
L27K Beaver Creek, 35.57 331 P **P 23 32 00.2 +1.2**
L27K IAmb IAmb 23 32 09.2
comp=Z,6.9nm,0.9s
L27K Beaver Creek, 35.57 331 P **P 23 31 58.9 -0.2**
baz=11

FARO Faro, Yukon 35.59 324 P **P 23 31 59.7 +0.5**
FARO IAmb IAmb 23 32 01.3
comp=Z,17nm,1.4s
FARO Faro, Yukon 35.59 324 P **P 23 31 59.4 +0.2**
baz=13
M30M Minto, Yukon 35.59 327 P **P 23 31 58.2 -1.1**
baz=12
M29M Somme Creek 35.88 328 P **P 23 32 01.6 -0.2**
baz=11
PAX Paxson 35.96 334 P **P 23 32 02.2 -0.3**
baz=9.7
CAST Castle Rocks 35.98 339 P **P 23 32 03.5 +1.0**
CAST IAmb IAmb 23 32 12.7
comp=Z,10nm,1.1s
DHY Denali Highway 36.00 335 P **P 23 32 02.9 0.0**
DHY IAmb IAmb 23 32 12.9
comp=Z,25nm,1.5s
BVCY Beaver Creek 36.12 330 P **P 23 32 03.2 -0.6**
baz=11
ZALV Zalesovo Beam 36.54 81 P **P 23 32 04.4 -3.0**
comp=Z,0.4nm,0.3s,baz=1.9,slow=8.7,SNR=2.4
comp=Z,0.4nm,0.3s
ZALV Zalesovo Beam 36.54 81 *eP* P 23 32 15.2 +7.8
ZALV pmax pmax
comp=Z,2.0nm,0.8s
N30M Aishikik Lake 36.72 327 P **P 23 32 09.5 +0.6**
baz=11
ABKAR Akbulak array 36.74 109 P **P 23 32 09.7 +0.6**
ABKAR Akbulak array 36.74 109 P **P 23 32 10.1 +1.0**
ABKAR IAmb IAmb 23 32 18.7
comp=Z,5.1nm,1.0s
OSSC Osservatorio P 36.77 166 P **P 23 32 11.6 +2.1**
OSSC IAmb IAmb 23 32 20.5
comp=Z,19nm,1.1s
YUK4 Talbot Arm 36.98 328 P **P 23 32 10.6 -0.7**
baz=11
YUK8 Steele Glacier 37.14 329 P **P 23 32 11.1 -1.7**
baz=11
SCM Sheep Creek Mo 37.22 335 P **P 23 32 11.7 -1.5**
baz=8.9
WHY Whitehorse 37.28 325 P **P 23 32 11.2 -2.6**
baz=12
O30N Mendenhall 37.30 326 P **P 23 32 13.2 -0.6**
baz=12
YUK6 Outpost Mounta 37.35 328 P **P 23 32 13.3 -1.2**
baz=11
SKT Skwentna 37.37 338 P **P 23 32 13.9 -0.5**
baz=7.8
HYT Haines Junctio 37.38 327 P **P 23 32 15.4 +0.7**
HYT Haines Junctio 37.38 327 P **P 23 32 14.4 -0.2**
baz=11
P33M Teslin, Yukon 37.51 323 P **P 23 32 16.1 +0.4**
P33M Teslin, Yukon 37.51 323 P **P 23 32 14.7 -1.0**
baz=12
O29M Mount Kennedy 38.00 328 P **P 23 32 18.4 -1.5**
baz=11
R33M Jennings River 38.11 321 P **P 23 32 20.0 -0.8**
baz=12
SPCR Spurr Chakacha 38.19 339 P **P 23 32 20.1 -1.3**
baz=7.5
P32M Atlin 38.22 324 P **P 23 32 20.9 -0.7**
baz=12
KURK Kurchatov 38.56 89 P **P 23 32 24.8 +0.3**
KURK Kurchatov 38.56 89 *i* P **P 23 32 25.2 +0.7**
Q32M Nakina River 38.68 322 P **P 23 32 25.1 -0.6**
baz=12
DLBC Dease Lake 38.95 320 P **P 23 32 27.0 -0.7**
baz=12
KIV Kislovodsk 39.26 129 *eP* **P 23 32 32.8 +2.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 39.51 129 P **P 23 32 33.0 +0.5**
comp=Z,3.8nm,0.8s,baz=1.8,slow=0.2,SNR=6.5
comp=Z,3.8nm,0.8s
KBZ Khabaz 39.51 129 *eP* **P 23 32 35.2 +2.7**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
Q23K Middleton Isla 39.53 334 P **P 23 32 31.8 -0.6**
baz=8.7
FNA Florina 40.10 155 P **P 23 32 38.6 +1.1**
FNA Florina 40.10 155 P **P 23 32 38.6 +1.1**
FNA pmax pmax
comp=Z,3.0nm,0.8s
S32K Killisnoo 40.39 324 P **P 23 32 39.1 -0.5**
baz=11
T35M Bob Quinn 40.40 320 P **P 23 32 39.6 -0.2**
baz=12
ESDC Sonseca Array 40.41 185 P **P 23 32 41.9 +1.8**
comp=Z,0.6nm,0.7s,baz=4.6,slow=8.2,SNR=5.5
comp=Z,0.6nm,0.7s
GROC Groznyy 40.43 126 *eP* **P 23 32 42.2 +2.0**
P17K Kvichak River 40.44 342 P **P 23 32 38.3 -1.7**
baz=6.1
Q18K Katmai Hardscr 40.91 340 P **P 23 32 42.2 -1.9**
baz=6.4
DGZ Jazzator, Alta 41.08 81 *i* P P 23 32 49.7 +4.0
DGZ pmax pmax
comp=Z,2.0nm,1.0s
ULM Lac du Bonnet 41.99 287 *eP* **P 23 32 53.5 +0.6**
ULM pmax pmax
comp=Z,4.0nm,0.8s
PKME Peaks-Kenny Pk 42.19 260 P **P 23 32 56.1 +1.5**
baz=14
BR131 Keskin Array S 42.31 141 *i* P **P 23 32 57.5 +1.7**
BRTR Keskin Array B 42.31 141 P **P 23 32 56.0 +0.2**
comp=Z,1.6nm,0.9s,baz=335,slow=5.5,SNR=5.4
comp=Z,1.6nm,0.9s
BRTR Keskin Array B 42.31 141 P **P 23 32 57.6 +1.9**
BRTR Keskin Array B 42.31 141 *eP* **P 23 32 57.5 +1.7**
BRTR pmax pmax
comp=Z,2.0nm,1.1s
AKT Akhty 42.40 124 *eP* **P 23 32 58.8 +2.3**
AKT *e* 23 34 37.2
AKT pmax pmax
comp=Z,35nm,1.3s
MK31 Makanchi Array 42.99 87 *i* P **P 23 33 04.2 +3.1**
MKAR Makanchi Array 42.99 87 P **P 23 32 58.5 -2.6**
comp=Z,1.9nm,0.9s,baz=345,slow=6.9,SNR=5.8
comp=Z,1.9nm,0.9s
MKAR Makanchi Array 42.99 87 *eP* **P 23 33 01.9 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
EYMN Ely 43.48 282 P **P 23 33 05.3 +0.2**
EYMN IAmb IAmb 23 33 06.7
comp=Z,11nm,0.7s
EYMN Ely 43.48 282 P **P 23 33 05.2 +0.2**
baz=15,SNR=5.0
LBNH Lisbon 43.64 262 P **P 23 33 06.6 +0.2**
baz=14
AGMN Agassiz Nation 43.88 287 P **P 23 33 08.1 -0.1**
baz=14
I62A Tamworth 43.90 261 P **P 23 33 10.1 +1.7**
KEST Kesra 44.48 169 P **P 23 33 14.4 +1.1**
comp=Z,1.8nm,0.7s,baz=16,slow=5.8,SNR=5.3
comp=Z,1.8nm,0.7s
E38A The Farm, Brul 44.78 282 P **P 23 33 15.3 -0.2**
AAK Ala-Archa 45.65 96 P **P 23 33 22.8 +0.2**
AAK IAmb IAmb 23 33 33.3
comp=Z,6.9nm,1.1s
AAK Ala-Archa 45.65 96 *i* P **P 23 33 23.6 +1.0**
AAK pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 46.05 64 P **P 23 33 23.2 -2.5**
comp=Z,0.6nm,0.8s,baz=352,slow=8.7,SNR=2.0
comp=Z,0.6nm,0.8s
ULN Ulaanbaatar 46.13 63 P **P 23 33 26.6 +0.3**
ULN IAmb IAmb 23 33 35.8
comp=Z,9.7nm,0.9s
ULN Ulaanbaatar 46.13 63 *i* P **P 23 33 27.1 +0.8**
ULN pmax pmax
comp=Z,12nm,1.0s
SPMN Marine on St. 46.34 283 P **P 23 33 28.6 +0.8**
baz=14
EGMT Eagleton 46.39 299 P **P 23 33 28.8 +0.6**
baz=13
HEH HeiHe 46.67 45 *eP* P 23 33 33.8 +3.5
WMQ Urumqi 46.82 83 *eP* **P 23 33 33.3 +1.7**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
LAO LASA Array 47.14 296 P **P 23 33 34.4 +0.2**
baz=13
NEW Newport 47.25 306 P **P 23 33 35.5 +0.6**
comp=Z,2.3nm,0.8s,baz=42,slow=10,SNR=5.7
comp=Z,2.3nm,0.8s
NEW Newport 47.25 306 P **P 23 33 35.2 +0.3**
baz=12
GEYT Alibeck 47.47 114 P **P 23 33 36.2 -0.6**

comp=Z,2.3nm,0.7s,baz=324,slow=7.3,SNR=5.7
comp=Z,2.3nm,0.7s
GEYT Alibeck 47.47 114 P **P** **23 33 37.8 +1.1**
GEYT IAmb IAmb 23 33 46.7
comp=Z,8.4nm,0.8s
GYA0B ALIBECK ARRAY 47.47 114 P **P** **23 33 38.5 +1.8**
B08A Colville Reser 47.47 308 P **P** **23 33 36.6 0.0**
B08A IAmb IAmb 23 33 38.4
comp=Z,5.1nm,0.9s
BTK Batken 47.52 101 P **P** **23 33 38.6 +1.4**
BTK Batken 47.52 101 P **P** **23 33 38.6 +1.4**
BTK pmax pmax
comp=Z,14nm,1.2s
HRY Holter Researc 47.99 301 P **P** **23 33 41.1 +0.3**
JFWS Jewell Farm 48.14 279 P **P** **23 33 42.1 +0.2**
baz=14
MSO Missoula 48.19 303 P **P** **23 33 42.8 +0.5**
MSO Missoula 48.19 303 P **P** **23 33 42.9 +0.6**
baz=12
DRK Karamyk 48.25 100 P **P** **23 33 44.1 +1.0**
ECSD EROS Data Cent 48.44 286 P **P** **23 33 44.8 +0.7**
ECSD IAmb IAmb 23 33 46.0
comp=Z,8.3nm,0.8s
ECSD EROS Data Cent 48.44 286 P **P** **23 33 44.6 +0.5**
baz=13,SNR=7.0
GAR Garm 48.46 101 P **P** **23 33 46.2 +1.7**
CHGR Chuyangaron 48.59 103 P **P** **23 33 46.6 +1.1**
CHGR Chuyangaron 48.59 103 P **P** **23 33 46.6 +1.1**
CHGR pmax pmax
comp=Z,12nm,1.0s
LRM Limekiln Ridge 48.95 301 P **P** **23 33 49.0 +0.6**
RLMT Red Lodge 49.15 298 P **P** **23 33 50.2 +0.3**
baz=12
O53A New Philadelph 49.15 270 P **P** **23 33 51.3 +1.7**
baz=13
RSSD Black Hills 49.29 293 P **P** **23 33 51.3 +0.3**
RSSD IAmb IAmb 23 33 53.4
comp=Z,12nm,1.2s
RSSD Black Hills 49.29 293 P **P** **23 33 51.7 +0.7**
baz=13
RSSD Black Hills 49.29 293 P **P** **23 33 51.3 +0.3**
RSSD pmax pmax
comp=Z,12nm,1.2s
ACSO Alum Creek Sta 49.48 272 P **P** **23 33 52.2 +0.1**
baz=13
MCWV Mont Chateau 49.48 268 P **P** **23 33 53.2 +1.0**
baz=13
YHL Hebgen Lake 49.70 300 P **P** **23 33 55.1 +0.9**
YHL IAmb IAmb 23 33 56.2
comp=Z,8.2nm,1.1s
MCMT McKenzie Canyo 49.98 301 P **P** **23 33 57.1 +0.9**
H17A Grant Village 50.06 299 P **P** **23 33 58.5 +1.7**
baz=12
FLWY Flagg Ranch 50.38 299 P **P** **23 34 01.5 +2.3**
N41A Harden Midland 50.39 279 P **P** **23 33 57.9 -1.1**
N41A IAmb IAmb 23 34 12.0
comp=Z,13nm,1.1s
BCYI Bear Canyon 50.57 301 P **P** **23 34 01.7 +1.0**
IMW Indian Meadow 50.60 299 P **P** **23 34 02.6 +1.6**
IMW IAmb IAmb 23 34 03.5
comp=Z,5.9nm,0.8s
BMO Blue Mountains 50.61 305 P **P** **23 34 01.7 +0.9**
BMO IAmb IAmb 23 34 02.3
comp=Z,5.0nm,0.8s
BMO Blue Mountains 50.61 305 P **P** **23 34 01.7 +0.9**
BMO pmax pmax
comp=Z,5.0nm,0.9s
LOHW Long Hollow 50.83 299 P **P** **23 34 02.8 +0.1**
LOHW IAmb IAmb 23 34 04.9
comp=Z,11nm,1.4s
FXWY Fox Creek 50.87 299 P **P** **23 34 04.7 +1.7**
TPAW Teton Pass 51.00 299 P **P** **23 34 05.2 +1.2**
K22A Casper 51.12 295 IAmb IAmb 23 34 05.5
comp=Z,7.8nm,0.7s
K22A Casper 51.12 295 P **P** **23 34 04.3 -0.4**
baz=12
XLT XiLinHaoTe 51.37 56 *i*P **P** **23 34 08.0 +1.5**
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,140nm,3.9s
HLID Hailey 51.45 302 P **P** **23 34 07.6 +0.3**
baz=12
PDAR Pinedale Array 51.49 298 P **P** **23 34 05.8 -1.8**
comp=Z,1.0nm,0.9s,baz=19,slow=5.0,SNR=6.7
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 51.49 298 P **P** **23 34 08.9 +1.3**
BW06 Boulder Array 51.49 298 P **P** **23 34 09.7 +2.0**
BW06 Boulder Array 51.49 298 P **P** **23 34 08.0 +0.4**
baz=12
I07A Izee 51.68 307 P **P** **23 34 11.4 +2.5**
BLA Blacksburg 51.96 268 P **P** **23 34 11.8 +0.8**
baz=12
KBL Kabul 52.59 104 P **P** **23 34 16.9 +1.0**
KBL pmax pmax
comp=Z,6.0nm,0.7s
N23A Red Feather La 52.74 294 P **P** **23 34 17.7 +0.7**
N23A IAmb IAmb 23 34 19.6
comp=Z,12nm,1.2s
N23A Red Feather La 52.74 294 P **P** **23 34 16.8 -0.2**
baz=12
T50A Nancy 52.93 272 P **P** **23 34 18.5 +0.4**
T50A IAmb IAmb 23 34 18.8
comp=Z,6.0nm,0.8s
CCM Cathedral Cave 53.04 279 P **P** **23 34 18.7 -0.2**
CCM IAmb IAmb 23 34 18.9
comp=Z,5.2nm,0.8s
CCM Cathedral Cave 53.04 279 P **P** **23 34 17.7 -1.2**
baz=12
CCM Cathedral Cave 53.04 279 P **P** **23 34 18.7 -0.2**
CCM pmax pmax
comp=Z,5.0nm,0.8s
S44A Carbondale 53.04 277 P **P** **23 34 19.8 +0.9**
TZTN Tazewell 53.16 271 P **P** **23 34 20.8 +0.9**
TZTN IAmb IAmb 23 34 22.9
comp=Z,18nm,1.4s
GTA Gaotai 53.19 72 *e*P P 23 34 28.1 +8.0
GTA pP pwP 23 34 32.8 +6.9
GTA sP sP 23 34 36.5 +13
GTA pmax pmax
comp=Z,6.0nm,0.9s
SPUT South Promonto 53.36 300 P **P** **23 34 22.4 +0.9**
CGM3 Cape Girardeau 53.50 277 P **P** **23 34 22.5 +0.3**
CGM3 IAmb IAmb 23 34 55.3
comp=Z,2.8nm,1.0s
HHC Hu-ho-hao-te 53.68 61 *e*P **P** **23 34 24.3 +0.6**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,130nm,4.9s
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,180nm,4.9s
O20A White River Ci 53.85 296 P **P** **23 34 26.3 +1.2**
O20A White River Ci 53.85 296 P **P** **23 34 25.6 +0.5**
baz=12,SNR=15
MOD Modoc Plateau 53.93 307 P **P** **23 34 26.9 +1.4**
R32A Long Quarter, 53.96 286 P **P** **23 34 24.9 -0.8**
R32A IAmb IAmb 23 34 26.0
comp=Z,6.3nm,0.8s
TKL Tuckaleechee C 54.07 271 P **P** **23 34 27.1 +0.7**
TKL Tuckaleechee C 54.07 271 P **P** **23 34 27.2 +0.7**
TKL pmax pmax
comp=Z,29nm,1.4s
CLTN Cedars of Leba 54.09 274 P **P** **23 34 26.5 -0.1**
CLTN IAmb IAmb 23 34 56.7
comp=Z,12nm,1.5s
MGMO Mountain Grove 54.09 280 P **P** **23 34 27.0 +0.3**
MGMO IAmb IAmb 23 34 28.0
comp=Z,4.5nm,0.8s
KMSC Kings Mountain 54.14 269 P **P** **23 34 27.4 +0.4**
baz=12
ELK Elko 54.33 302 P **P** **23 34 30.0 +1.4**
ELK IAmb IAmb 23 34 30.6
comp=Z,4.0nm,0.8s
ELK Elko 54.33 302 P **P** **23 34 30.0 +1.4**
ELK pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 54.43 309 LR LR 23 59 05.3
comp=Z,122nm,19.9s,baz=338,slow=38
Q24A Divide 54.50 292 P **P** **23 34 30.5 +0.5**
baz=12
DUG Dugway, Tooele 54.51 300 P **P** **23 34 30.7 +0.9**
DUG IAmb IAmb 23 34 31.7
comp=Z,12nm,1.5s
DUG Dugway, Tooele 54.51 300 P **P** **23 34 30.8 +0.9**
baz=11
DUG Dugway, Tooele 54.51 300 P **P** **23 34 30.7 +0.9**
DUG pmax pmax
comp=Z,12nm,1.5s
SMCO Snowmass 54.59 294 P **P** **23 34 31.6 +0.9**
SMCO IAmb IAmb 23 34 32.7
comp=Z,7.0nm,0.8s
NLU North Lily Min 54.63 299 P **P** **23 34 32.0 +1.2**
P18A Preston Nutter 54.66 297 IAmb IAmb 23 34 32.1
comp=Z,3.8nm,0.7s
W50A Signal Mountai 54.78 272 P **P** **23 34 31.7 0.0**
W50A IAmb IAmb 23 35 12.9
comp=Z,9.9nm,1.2s
SWET Sewanee 54.88 273 P **P** **23 34 31.7 -0.7**
SWET IAmb IAmb 23 34 58.7
comp=Z,14nm,1.4s
BMN Battle Mountai 54.93 304 P **P** **23 34 34.1 +1.2**
BMN IAmb IAmb 23 34 34.7
comp=Z,5.8nm,0.7s
BMN Battle Mountai 54.93 304 P **P** **23 34 34.1 +1.2**
BMN pmax pmax
comp=Z,6.0nm,0.7s
TMUT Trail Mountain 55.14 298 IAmb IAmb 23 34 37.9
comp=Z,5.6nm,0.9s
HODGE Hodges 55.19 269 P **P** **23 34 35.4 +0.8**
HODGE IAmb IAmb 23 34 35.7
comp=Z,8.1nm,0.7s
FCAR Ozark Folk Cen 55.30 279 P **P** **23 34 35.1 -0.3**
FCAR IAmb IAmb 23 34 35.8
comp=Z,5.5nm,0.8s
GOMU GeErMu 55.47 78 P **P** **23 34 37.6 +0.6**
GOMU pP pwP 23 34 41.5 -1.3
GOMU sP sP 23 34 42.9 +2.6
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU pmax pmax
comp=Z,50nm,4.6s
PV07 Paradox Valley 55.58 296 P **P** **23 34 37.9 +0.2**
PV07 IAmb IAmb 23 34 38.9
comp=Z,5.2nm,0.9s
OK048 Pawnee Station 55.62 284 P **P** **23 34 37.8 +0.1**
PV23 Carpenter Ridg 55.62 296 P **P** **23 34 38.5 +0.5**
OK046 Pawnee Station 55.63 284 P **P** **23 34 37.6 -0.1**
OK044 Pawnee Station 55.63 284 P **P** **23 34 37.9 +0.1**
PV15 Paradox Valley 55.65 295 P **P** **23 34 38.8 +0.7**
PV15 IAmb IAmb 23 34 40.1
comp=Z,8.7nm,0.8s
OK050 Pawnee Station 55.65 284 P **P** **23 34 38.0 +0.1**
PV10 Paradox Valley 55.70 296 P **P** **23 34 39.5 +1.0**
SDCO Great Sand Dun 55.75 292 IAmb IAmb 23 34 40.4
comp=Z,4.6nm,0.8s
SDCO Great Sand Dun 55.75 292 P **P** **23 34 39.2 +0.2**
baz=12,SNR=9.5
PV11 David Mesa, Pa 55.75 296 P **P** **23 34 39.5 +0.7**
QUOK Quay 55.82 284 P **P** **23 34 39.2 +0.1**
QUOK IAmb IAmb 23 34 40.3
comp=Z,21nm,1.1s
Y52A Lilburn 55.87 271 P **P** **23 34 39.5 +0.1**
Y52A IAmb IAmb 23 34 40.5
comp=Z,10.0nm,0.9s
PV13 Radium Mtn., P 55.88 296 P **P** **23 34 40.8 +1.0**
SPR3 Spring Creek 3 55.91 301 P **P** **23 34 41.0 +0.9**
SPR3 IAmb IAmb 23 34 44.3
comp=Z,3.8nm,1.0s
WHAR Wooly Hollow 55.91 279 P **P** **23 34 39.9 +0.1**
S22A 4UR Ranch, Cre 55.96 294 P **P** **23 34 41.0 +0.5**
S22A IAmb IAmb 23 34 42.7
comp=Z,8.2nm,1.2s
S22A 4UR Ranch, Cre 55.96 294 P **P** **23 34 41.5 +1.0**
baz=12
OK034 N. Norfolk Rd. 55.98 284 P **P** **23 34 40.3 +0.1**
OK031 S. Brethren Rd 56.05 284 P **P** **23 34 41.2 +0.4**
OXF Oxford 56.17 276 P **P** **23 34 41.6 0.0**
baz=12
GOGA Godfrey 56.20 270 P **P** **23 34 42.5 +0.7**
baz=12
PSUT Pine Spring 56.29 300 P **P** **23 34 43.5 +0.8**
PSUT IAmb IAmb 23 34 44.8
comp=Z,5.6nm,0.7s
OK029 Liberty Lake 56.31 284 P **P** **23 34 42.1 -0.5**
KVN Kaiserville 56.41 304 P **P** **23 34 44.4 +0.8**
KVN IAmb IAmb 23 34 45.5
comp=Z,7.2nm,0.8s
KVN Kaiserville 56.41 304 P **P** **23 34 44.4 +0.8**
KVN pmax pmax
comp=Z,7.0nm,0.8s
R11A Troy Canyon, C 56.73 302 P **P** **23 34 45.6 -0.2**
baz=11,SNR=6.0
MVCO Mesa Verde 56.75 295 IAmb IAmb 23 34 47.8
comp=Z,4.8nm,0.7s
MVCO Mesa Verde 56.75 295 P **P** **23 34 46.5 +0.4**
baz=11
MIAR Mount Ida 56.86 280 P **P** **23 34 47.1 +0.5**
baz=12,SNR=9.4
NVAR Mina Array Bea 57.05 305 P **P** **23 34 48.6 +0.4**
comp=Z,2.4nm,0.7s,baz=18,slow=4.3,SNR=13
comp=Z,2.4nm,0.7s
LZH Lanzhou 57.10 70 *e*P **P** **23 34 48.3 -0.1**
LZH sP pwP 23 34 57.8 +3.6
LZH pmax pmax
comp=Z,16nm,0.8s
PKCU Pink Cliffs 57.12 299 P **P** **23 34 51.0 +2.2**
X37A Clayton 57.13 282 IAmb IAmb 23 34 49.5
comp=Z,7.7nm,0.7s
CCUT Cedar City 57.18 300 P **P** **23 34 50.5 +1.4**
WMOK Wichita Mounta 57.57 285 P **P** **23 34 52.2 +0.6**
WMOK Wichita Mounta 57.57 285 P **P** **23 34 52.0 +0.4**
baz=12
WMOK Wichita Mounta 57.57 285 P **P** **23 34 52.2 +0.6**
WMOK pmax pmax
comp=Z,4.0nm,1.3s
KNB Kanab 57.62 299 P **P** **23 34 53.1 +1.0**
KNB IAmb IAmb 23 34 54.4
comp=Z,7.0nm,1.0s
KNB Kanab 57.62 299 P **P** **23 34 53.1 +1.0**
KNB pmax pmax
comp=Z,7.0nm,1.0s
WLAR White Oak Lake 57.62 280 P **P** **23 34 53.1 +1.2**
LCMT Little Creek M 57.69 300 P **P** **23 34 54.3 +1.7**
U15A North Rim 58.12 298 P **P** **23 34 56.4 +0.7**
LCH Last Change Ra 58.13 304 P **P** **23 34 56.7 +1.0**
TPNV Topopah Spring 58.20 302 P **P** **23 34 56.2 0.0**
TPNV IAmb IAmb 23 34 57.3
comp=Z,3.9nm,0.8s
TPNV Topopah Spring 58.20 302 P **P** **23 34 56.4 +0.2**
baz=10
TPNV Topopah Spring 58.20 302 P **P** **23 34 56.2 0.0**
TPNV pmax pmax
comp=Z,4.0nm,0.8s
WUAZ Wupatki 58.87 297 P **P** **23 35 01.9 +1.1**
WUAZ IAmb IAmb 23 35 02.7
comp=Z,8.0nm,0.8s
WUAZ Wupatki 58.87 297 P **P** **23 35 01.3 +0.4**
baz=11
V12A Nelson 59.19 301 P **P** **23 35 04.1 +1.1**
MPMC Manual Prospec 59.26 303 P **P** **23 35 04.5 +0.9**
baz=10,SNR=7.0
QSM Queen of Sheba 59.26 303 P **P** **23 35 03.6 +0.3**
QSM IAmb IAmb 23 35 05.8
comp=Z,8.9nm,1.1s
344A Westbrook Farm 59.39 277 P **P** **23 35 04.7 +0.5**
BNM Barren Site 59.45 293 P **P** **23 35 04.8 -0.2**
TUQ Turquoise Moun 59.64 302 P **P** **23 35 06.3 +0.2**
baz=10
SBM South Baldy 59.71 293 P **P** **23 35 07.7 +0.8**
RAYN Ar Rayn 59.75 131 P **P** **23 35 08.4 +1.5**
RAYN pmax pmax
comp=Z,9.0nm,1.4s
NATX Nacogdoches 59.77 281 P **P** **23 35 07.6 +0.7**
baz=12
ISA Isabella, Lake 59.79 304 P **P** **23 35 07.5 +0.3**
ISA IAmb IAmb 23 35 09.2
comp=Z,5.3nm,1.0s
ISA Isabella, Lake 59.79 304 P **P** **23 35 07.6 +0.4**
baz=10
ISA Isabella, Lake 59.79 304 P **P** **23 35 07.5 +0.4**
ISA pmax pmax
comp=Z,5.0nm,1.0s
LRMC Laurel Mtn Rad 59.86 303 P **P** **23 35 08.2 +0.6**
baz=10
GSC Goldstone, Bar 59.90 302 P **P** **23 35 08.4 +0.5**
GSC IAmb IAmb 23 35 10.2
comp=Z,6.4nm,0.9s
GSC Goldstone, Bar 59.90 302 P **P** **23 35 08.7 +0.8**
baz=10
GSC Goldstone, Bar 59.90 302 P **P** **23 35 08.4 +0.5**
GSC pmax pmax
comp=Z,6.0nm,1.0s
GMRC Granite Mounta 60.24 301 P **P** **23 35 10.7 +0.4**
baz=10
HEC Hector,Ludlow 60.30 302 P **P** **23 35 10.8 +0.2**
baz=10
PDMCI Parker Dam,Lak 60.48 300 P **P** **23 35 13.4 +1.6**
baz=10
EDW2 Edwards Air Fo 60.49 303 P **P** **23 35 12.7 +0.8**
baz=10
HTMS Hat Mesa 60.60 289 P **P** **23 35 13.6 +0.9**
Y14A Wickenburg 60.66 299 P **P** **23 35 13.8 +0.8**
CLN7 Carlsbad 7 60.68 290 P **P** **23 35 14.4 +1.1**
CLNB Carlsbad 60.84 290 P **P** **23 35 15.2 +0.9**
GDL2 Guadalupe Moun 60.98 290 P **P** **23 35 15.7 +0.3**
BELC Belle Mtn. Jos 61.06 301 P **P** **23 35 16.8 +0.9**
baz=10
BFSC Mount Baldy Ra 61.07 303 P **P** **23 35 17.3 +1.4**
baz=10
121A Cookes Peak, D 61.22 293 P **P** **23 35 17.4 +0.4**
baz=11
PFO Pinyon Flats O 61.51 302 P **P** **23 35 18.8 -0.1**
baz=10
SCZ2 Santa Cruz Isl 61.60 305 P **P** **23 35 19.6 +0.2**
baz=9.9
JCT Junction City 61.90 285 P **P** **23 35 21.8 +0.3**
JCT Junction City 61.90 285 P **P** **23 35 21.8 +0.3**
baz=11
JCT Junction City 61.90 285 P **P** **23 35 21.8 +0.3**
JCT pmax pmax
comp=Z,9.0nm,0.6s
TUC Tucson 61.91 296 P **P** **23 35 22.4 +0.8**
TUC IAmb IAmb 23 35 23.7
comp=Z,6.0nm,0.8s
TUC Tucson 61.91 296 P **P** **23 35 22.4 +0.8**
baz=11
TUC Tucson 61.91 296 P **P** **23 35 22.4 +0.8**
TUC pmax pmax
comp=Z,6.0nm,0.8s
TXAR Lajitas Array 63.67 289 P **P** **23 35 32.0 -1.4**
comp=Z,2.4nm,0.7s,baz=36,slow=5.1,SNR=19
TXAR PcP **PcP** **23 36 10.4 +1.0**
comp=Z,1.0nm,0.6s,baz=36,slow=3.7,SNR=4.9
comp=Z,2.4nm,0.7s
TXAR Lajitas Array 63.67 289 P **P** **23 35 33.4 0.0**
833A Chaparral WMA, 63.94 284 P **P** **23 35 36.2 +1.2**
baz=11
HSIG 65.16 296 P **P** **23 35 43.4 +0.4**
HSIG IAmb IAmb 23 35 44.8
comp=Z,7.7nm,1.0s
SHL Shillong 65.34 83 P **P** **23 35 43.6 -0.8**
SHL IAmb IAmb 23 35 44.3
comp=Z,8.0nm,1.2s
SHL Shillong 65.34 83 P **P** **23 35 43.6 -0.8**
SHL pmax pmax
comp=Z,8.0nm,1.2s
PZH PanZhiHua 66.12 74 P **P** **23 35 49.1 -0.2**
PZH PanZhiHua 66.12 74 P **P** **23 35 51.4 +2.1**
PZH pmax pmax
comp=Z,8.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.4s
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
TORD Torodi Ar. Bea 66.81 178 P **P** **23 35 54.4 +0.7**
CMAR Chiang Mai Arr 73.51 78 P **P** **23 36 33.2 -1.5**
comp=Z,1.6nm,0.8s,baz=350,slow=7.0,SNR=11
comp=Z,1.6nm,0.8s
CMAR Chiang Mai Arr 73.51 78 *e*P **P** **23 36 34.1 -0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
SDV Santo Domingo 77.95 252 P **P** **23 37 00.8 +0.4**
SDV IAmb IAmb 23 37 02.0
comp=Z,7.9nm,0.8s
TULM Tulcn-Chalpat 87.17 258 P **P** **23 37 50.4 +1.6**
WRA Warramunga Arr 116.71 49 PKP **PKPdf** **23 43 44.6 -1.4**
comp=Z,0.3nm,0.7s,baz=341,slow=2.5,SNR=2.2
ASAR Alice Springs 120.32 50 PKP **PKPdf** **23 43 51.6 -1.2**
comp=Z,0.4nm,0.6s,baz=7.6,slow=2.3,SNR=4.1

*IDC **20** 23:26:53.6±0.8, 44.1°S×39.3°E±27E, h0km, mb4.0/5, mbtmp4.1/7, ML3.6/2, MS3.5/1, Error ellipse: s-maj=38.9km s-min=19.4km az=42.0*
*NEIC **20** 23:26:54.4±2.0, 44.13°S±0.09×39.5°E±0.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=32.4km s-min=9.5km az=66.0*

ISC 20 23:26:54.4±0.7, 44.1°S±0.1×39.3°E±0.2, h10km, n23, σ1s 37/21, mb4.3/9, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOE	**Somerset East**	**15.65**	**312**	Pn	**Pn**	**23 30 32.7**	**-2.4**
SOE				IAmb	IAmb	23 30 41.9	
	comp=Z,38nm,1.3s						
POGA	**Pongola**	**17.82**	**337**		**P**	**23 31 04.4**	**+1.3**
SUR	**Sutherland**	**18.62**	**303**	P	**P**	**23 31 12.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=127,slow=15,SNR=1.9						
	comp=Z,6.6nm,0.9s						
BOSA	**Boshof**	**19.12**	**319**	P	**P**	**23 31 18.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=146,slow=12,SNR=3.6						
	comp=Z,3.0nm,0.9s						
BOSA	**Boshof**	**19.12**	**319**	P	**P**	**23 31 18.0**	**+0.4**
LBTB	**Lobatse**	**22.09**	**325**	P	**P**	**23 31 48.9**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=149,slow=18,SNR=3.0						
LBTB				LR	LR	23 39 13.0	
	comp=Z,114nm,19.7s,baz=72,slow=33						
	comp=Z,4.2nm,0.9s						
LSZ	**Lusaka**	**30.26**	**338**	P	**P**	**23 33 04.8**	**-0.8**
LSZ				IAmb	IAmb	23 33 43.9	
	comp=Z,7.5nm,1.5s						
TSUM	**Tsumeb**	**30.78**	**317**	P	**P**	**23 33 12.8**	**+2.5**
TSUM				IAmb	IAmb	23 33 51.7	
	comp=Z,11nm,1.5s						
SNAA	**Sanae**	**34.22**	**202**	P	**P**	**23 33 39.8**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=72,slow=8.6,SNR=4.4						
	comp=Z,2.0nm,1.0s						
SNAA	**Sanae**	**34.22**	**202**	P	**P**	**23 33 39.9**	**+0.1**
SNAA				IAmb	IAmb	23 33 49.1	
	comp=Z,5.5nm,1.2s						
KIBK	**Kibwezi**	**41.61**	**358**	P	**P**	**23 34 40.6**	**-2.1**
QSPA	**South Pole Qui**	**46.10**	**180**	P	**P**	**23 35 18.4**	**-0.1**
QSPA				IAmb	IAmb	23 35 52.4	
	comp=Z,6.0nm,1.5s						
VNDA	**Vanda**	**53.65**	**167**	P	**P**	**23 36 15.2**	**-0.2**
VNDA				IAmb	IAmb	23 36 18.5	
	comp=Z,5.2nm,1.5s						
H10S2	**ASCENSION HYDR**	**58.27**	**290**	T	T	00 39 36.5	
	baz=135,slow=74,SNR=6.2						
H10S3	**ASCENSION HYDR**	**58.28**	**290**	T	T	00 39 54.5	
	baz=85,slow=74,SNR=13						
TORD	**Torodi Ar. Bea**	**66.48**	**320**	P	**P**	**23 37 46.6**	**+2.5**
STKA	**Stephens Creek**	**76.45**	**121**	P	**P**	**23 38 44.7**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=229,slow=11,SNR=4.7						
	comp=Z,2.9nm,0.8s						
ASAR	**Alice Springs**	**77.05**	**110**	P	**P**	**23 38 49.3**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=223,slow=5.3,SNR=12						
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**79.87**	**108**	P	**P**	**23 39 04.1**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=234,slow=5.2,SNR=6.4						
	comp=Z,0.9nm,0.9s						
WB2	**Warramunga Arr**	**79.88**	**108**	P	**P**	**23 39 01.9**	**-1.5**
WRAB	**Tennant Creek**	**79.88**	**108**	P	**P**	**23 39 03.0**	**-0.5**
VA01	**Torpederas**	**80.81**	**233**	P	**P**	**23 39 06.9**	**-1.4**
TXAR	**Lajitas Array**	**147.18**	**256**	PKPbc	**PKPbc**	**23 46 37.4**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=132,slow=3.7,SNR=7.1						

*NOU **20** 23:27:04.5, 21.43°S×169.10°E, h0km, MLv4.6/6, Southeast of Loyalty Islands*
*IDC **20** 23:27:09.4±1.2, 21.55°S×168.63°E, h0km, mb4.0/4, mbtmp4.1/6, ML4.7/2, Error ellipse: s-maj=40.6km s-min=21.9km az=163.0*
*NEIC **20** 23:27:10.6±1.4, 21.52°S±0.08×168.78°E±0.02, h10km±1km, mb4.4/13, Error ellipse: s-maj=13.4km s-min=2.9km az=3.0*

ISC 20 23:27:12.1±0.6, 21.46°S±0.08×168.67°E±0.06, h20km, n48, σ1s 51/50, mb4.4/10, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

MARNC	**Mare, Loyalty**	0.60	268	Pg		**Pb**	23 27 24.1	+0.2
MARNC				Sg		**Sn**	23 27 34.4	-0.3
MARNC	**Mare, Loyalty**	0.60	268	P		**Pb**	23 27 23.7	-0.3
LIFNC	**LIFOU**	1.50	297	Pn		**Pn**	23 27 37.9	-0.1
LIFNC	**LIFOU**	1.50	297	P		**Pn**	23 27 37.4	-0.5
YATNC	**Mamie plateau,**	1.76	250	P		**Pn**	23 27 39.8	-1.7
OUENC	**Ouen Island, N**	1.95	240	Pn		**Pn**	23 27 43.5	-0.6
OUENC				Sn		**Sb**	23 28 10.5	-0.3
OUENC	**Ouen Island, N**	1.95	240	P		**Pn**	23 27 44.1	0.0
DZM	**Mont Dzumac**	2.16	253	Pn		**Pn**	23 27 47.5	+0.4
	35nm,0.3s,baz=56,slow=15,SNR=173							
DZM				Sn		**Sn**	23 28 14.0	+0.6
	91nm,0.3s,baz=76,slow=17,SNR=8.1							
	194nm,0.4s							
DZM	**Mont Dzumac**	2.16	253	Pn		**Pn**	23 27 47.3	+0.2
DZM	**Mont Dzumac**	2.16	253	P		**Pn**	23 27 46.9	-0.2
ONTNC	**Ouen Toro**	2.23	247	Pn		**Pn**	23 27 48.1	+0.2
ONTNC	**Ouen Toro**	2.23	247	P		**Pn**	23 27 48.9	+1.0
KOUNC	**Koumac, New Ca**	4.20	282	Pn		**Pn**	23 28 15.6	+0.5
MSVF	**Nonsavu**	9.58	69	Pn		**Pn**	23 29 30.5	+1.4
	0.6nm,0.3s,baz=198,slow=13,SNR=4.6							
	9.4nm,0.7s							
MSVF	**Nonsavu**	9.58	69	Pn		**Pn**	23 29 31.1	+2.0
ARMA	**Armidale**	17.72	236	P		**P**	23 31 23.4	+4.8
MLZ	**Mavora Lakes**	23.85	181	P		**P**	23 32 26.4	+2.4
WR0	**Warramunga Arr**	31.93	266	P		**P**	23 33 36.9	+0.2
WR0				IAmb		IAmb	23 34 15.7	
	comp=Z,2.1nm,0.8s							
WB0	**Warramunga Arr**	32.09	267	P		**P**	23 33 38.4	+0.3
WB0				IAmb		IAmb	23 34 04.2	
	comp=Z,8.2nm,1.4s							
WB2	**Warramunga Arr**	32.11	266	P		**P**	23 33 38.2	-0.1
WB2				IAmb		IAmb	23 33 42.5	
	comp=Z,6.6nm,1.1s							
WRA	**Warramunga Arr**	32.12	266	P		**P**	23 33 37.7	-0.7
	comp=Z,1.1nm,0.6s,baz=99,slow=8.3,SNR=28							
	comp=Z,1.1nm,0.6s							
WRA	**Warramunga Arr**	32.12	266	P		**P**	23 33 38.1	-0.3
AS31	**Alice Springs**	32.14	259	P		**P**	23 33 38.3	-0.2
ASAR	**Alice Springs**	32.14	259	P		**P**	23 33 38.4	-0.2
	comp=Z,1.5nm,0.6s,baz=90,slow=8.3,SNR=17							
	comp=Z,1.5nm,0.6s							
ASAR	**Alice Springs**	32.14	259	P		**P**	23 33 38.5	-0.1
PSA00	**Pilbara Seismi**	45.27	260	P		**P**	23 35 29.4	+0.7
NWAO	**Narrogin (SRO)**	46.76	245	P		**P**	23 35 39.5	-0.7
	comp=Z,3.3nm,0.6s,baz=52,slow=12,SNR=1.4							
	comp=Z,3.3nm,0.6s							
NWAO	**Narrogin (SRO)**	46.76	245	P		**P**	23 35 39.9	-0.3
TOLI2	**Tolitoli**	51.87	289	P		**P**	23 36 19.6	+0.1
TOLI2				IAmb		IAmb	23 36 46.2	
	comp=Z,4.1nm,0.9s							
VNDA	**Vanda**	56.20	182	P		**P**	23 36 50.2	0.0
	comp=Z,0.7nm,1.0s,baz=7.5,slow=8.1,SNR=1.9							
	comp=Z,0.7nm,1.0s							
VNDA	**Vanda**	56.20	182	P		**P**	23 36 50.4	+0.1
VNDA				IAmb		IAmb	23 37 10.6	
	comp=Z,4.6nm,1.5s							
CASY	**Casey**	57.89	204	P		**P**	23 37 01.6	-0.7
CASY				IAmb		IAmb	23 37 03.8	
	comp=Z,13nm,1.2s							
TROLL	**Troll, Antarti**	86.29	184	P		**P**	23 39 51.7	-0.7
TROLL	**Troll, Antarti**	86.29	184	PKPab		**PKiKP**	23 44 55.8	-4.1
	baz=80,slow=0.1							
SNAA	**Sanae**	86.93	183	P		**P**	23 39 54.3	-1.1
SNAA	**Sanae**	86.93	183	PKPab		**PKiKP**	23 44 54.3	-6.5
	baz=80,slow=0.1							
SNAA	**Sanae**	86.93	183	P		**P**	23 39 54.6	-0.8
SNAA				IAmb		IAmb	23 40 06.1	
	comp=Z,3.8nm,1.1s							
VNA3	**Neumayer Olymp**	87.54	181	P		**P**	23 39 57.1	-1.2
VNA3	**Neumayer Olymp**	87.54	181	PKPab		PKiKP	23 44 53.2	-8.5
	baz=80,slow=0.1							
VNA2	**Neumayer--Watz**	87.82	181	P		**P**	23 39 58.8	-0.8
	baz=167,slow=4.0							
ARCES	**ARCESS Array B**	127.07	345	PKP		**PKPdf**	23 46 14.2	0.0
	comp=Z,1.9nm,0.7s,baz=53,slow=2.7,SNR=4.5							
CKRC	**Cesky Krumlov**	145.90	329	*e*PKP		**PKPdf**	23 46 48.6	-0.9
KHC	**Kasperske Hory**	146.02	330	*e*PKP		**PKPab**	23 46 51.5	+0.5
GERES	**GERESS Array B**	146.16	330	PKPbc		**PKPbc**	23 46 51.5	+0.5
	comp=Z,1.6nm,0.7s,baz=43,slow=2.4,SNR=16							
ABTA	**Abfaltersbach**	148.21	328	*i* P		**PKPbc**	23 46 56.8	0.0
	comp=Z,1.0nm,0.6s							
MOTA	**Moosalm**	148.46	330	*e*P		**PKPbc**	23 46 57.8	+0.3
	comp=Z,3.1nm,0.7s							
SQTA	**Sankt Quirin**	148.50	330	*i* P		**PKPbc**	23 46 58.2	+0.6
	comp=Z,2.1nm,0.5s							
FETA	**Feichten**	148.87	330	*e*P		**PKPbc**	23 46 59.4	+0.8
	comp=Z,2.0nm,0.7s							

*NOU **20** 23:34:22.4, 42°.86S×173°.57E, h21km, MLv3.9/9, South Island, New Zealand*
*WEL **20** 23:34:23.5±0.3, 43°.2°×17°.3E±°, h7km±3km, M3.2/29, ML3.4/16, MLv3.2/29, Error ellipse: s-maj=0.0km s-min=0.0km az=128.2*
ISC 20 23:34:22.7±1.0, **42.67S**±0°.03×**173.08E**±0°.03, **h10**km, **n79, σ1s23/79, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVZ	**Greta Valley S**	0.30	186	P		**Pg**	23 34 31.3	+2.4
KHZ	**Kahutara**	0.42	54	P		**Pg**	23 34 32.7	+1.7
KHZ	**Kahutara**	0.42	54	P		**Pg**	23 34 32.5	+1.5
AMCZ	**Amberley**	0.60	211	P		**Pb**	23 34 36.3	+1.0
LTZ	**Lake Taylor**	0.60	259	P		**Pg**	23 34 34.6	+0.1
THZ	**Tophouse**	0.91	352	P		**Pg**	23 34 39.6	-0.7
OXZ	**Oxford**	1.01	229	P		**Pg**	23 34 42.2	0.0
OKCZ	**Okains Bay**	1.06	181	P		**Pb**	23 34 43.1	0.0
MQZ	**McQueen's Vall**	1.09	196	P		**Pb**	23 34 42.7	-0.9
BSWZ	**Blackbirch Sta**	1.12	32	P		**Pb**	23 34 44.5	+0.4
INZ	**Inchbonnie**	1.21	267	P		**Pb**	23 34 44.9	-0.8
AKCZ	**Akaroa Harbour**	1.21	186	P		**Pn**	23 34 45.0	-0.7
CMWZ	**Cape Campbell**	1.25	43	P		**Pg**	23 34 47.6	+1.0
RACZ	**Rakaia**	1.26	213	P		**Pn**	23 34 45.8	-0.6
MRNZ	**Matariki Terra**	1.29	349	P		**Pn**	23 34 46.2	-0.6
DSZ	**Denniston Nort**	1.32	314	P		**Pb**	23 34 46.8	-0.8
TUWZ	**Tuamarina**	1.39	28	P		**Pn**	23 34 48.6	+0.4
MHCZ	**Mount Hutt**	1.40	231	P		**Pn**	23 34 47.5	-0.9
NNZ	**Nelson**	1.46	9	P		**Pn**	23 34 49.5	+0.3
WACZ	**Wakanui South**	1.56	215	P		**Pn**	23 34 49.9	-0.7
TKNZ	**Takaka Hill**	1.63	357	P		**Pn**	23 34 51.7	+0.2
TCW	**Tory Channel**	1.71	32	P		**Pn**	23 34 52.5	-0.1
WVZ	**Waitaha Valley**	1.77	256	P		**Pn**	23 34 53.2	-0.1
RPZ	**Rata Peaks**	1.81	234	P		**Pn**	23 34 54.1	+0.1
RPZ	**Rata Peaks**	1.81	234	P		**Pn**	23 34 53.2	-0.8
WEL	**Wellington**	1.87	43	P		**Pn**	23 34 54.6	-0.1
QRZ	**Quartz Range**	1.88	347	P		**Pb**	23 34 55.9	-1.3
QRZ	**Quartz Range**	1.88	347	P		**Pn**	23 34 55.1	+0.1
ARCZ	**Arundel**	1.89	227	P		**Pn**	23 34 54.3	-0.8
PLWZ	**Palliser**	1.96	57	P		**Pn**	23 34 55.1	-0.9
DUWZ	**D'Urville Isla**	1.97	19	P		**Pn**	23 34 56.8	+0.6
MSWZ	**Moikau Station**	2.04	53	P		**Pn**	23 34 56.4	-0.8
GCSZ	**Gaunt Creek Bo**	2.12	251	P		**Pn**	23 34 58.5	+0.3
CAW	**Cannon Point**	2.15	44	P		**Pn**	23 34 58.1	-0.5
PAWZ	**Paruwai Farm**	2.17	55	P		**Pn**	23 34 57.9	-1.1
KIW	**Kapiti Island**	2.27	38	P		**Pn**	23 35 00.1	-0.1
TMZ	**Timaru**	2.28	221	P		**Pn**	23 34 59.9	-0.6
MTW	**Mount Morrison**	2.35	51	P		**Pn**	23 35 00.1	-1.3
OGWZ	**Otaki Gorge**	2.42	41	P		**Pn**	23 35 01.8	-0.5
HOWZ	**Holdsworth Sta**	2.54	47	P		**Pn**	23 35 02.9	-1.1
FOZ	**Fox Glacier**	2.54	249	P		**Pn**	23 35 04.4	+0.4
TMWZ	**Te Maipa**	2.62	54	P		**Pn**	23 35 03.7	-1.4
LBZ	**Lake Benmore**	2.72	230	P		**Pn**	23 35 06.1	-0.3
MRZ	**Mangatainoka R**	2.74	44	P		**Pn**	23 35 05.7	-1.1
ODZ	**Otahua Downs**	2.96	216	P		**Pn**	23 35 09.1	-0.6
ODZ	**Otahua Downs**	2.96	216	P		**Pn**	23 35 08.7	-1.0
POWZ	**Post Office Ro**	3.04	43	P		**Pn**	23 35 09.8	-1.0
WAZ	**Wanganui**	3.24	27	P		**Pn**	23 35 15.1	+1.4
DVHZ	**Dannevirke**	3.31	46	P		**Pn**	23 35 12.9	-1.7
JCZ	**Jackson Bay**	3.43	244	P		**Pn**	23 35 19.7	+3.4
JCZ	**Jackson Bay**	3.43	244	P		**Pn**	23 35 16.2	-0.1
KHEZ	**Kahui Hut**	3.44	12	P		**Pn**	23 35 17.7	+1.2
KHEZ	**Kahui Hut**	3.44	12	P		**Pn**	23 35 17.9	+1.4
NBEZ	**Newall Road No**	3.45	10	P		**Pn**	23 35 18.3	+1.8
NEZ	**North Egmont**	3.48	13	P		**Pn**	23 35 19.8	+2.8
PKE	**Pukeiti**	3.54	12	P		**Pn**	23 35 20.4	+2.7
PNHZ	**Pukenui**	3.62	42	P		**Pn**	23 35 17.2	-1.7
VRZ	**Vera Road**	3.76	20	P		**Pn**	23 35 22.3	+1.5
PKVZ	**Pokaka**	3.79	28	P		**Pn**	23 35 21.9	+0.7
MOVZ	**Moawhango**	3.83	33	P		**Pn**	23 35 21.5	-0.3
WNVZ	**Wahianoa**	3.84	31	P		**Pn**	23 35 22.5	+0.4
TRVZ	**Turoa**	3.85	30	P		**Pn**	23 35 22.4	+0.3
WHVZ	**Whangaehu Hut**	3.88	30	P		**Pn**	23 35 22.8	+0.2
FWVZ	**Far West T-bar**	3.89	30	P		**Pn**	23 35 22.9	+0.2
BHHZ	**Black Hill Sta**	3.89	36	P		**Pn**	23 35 19.7	-2.9
NGZ	**Ngauruhoe**	3.98	30	P		**Pn**	23 35 24.2	+0.3
OTVZ	**Oturere**	4.01	30	P		**Pn**	23 35 24.4	0.0
NNVZ	**North Ngauruho**	4.02	29	P		**Pn**	23 35 23.5	-1.0
WTVZ	**West Tongariro**	4.03	29	P		**Pn**	23 35 24.7	+0.1
TMVZ	**Te Maari**	4.07	30	P		**Pn**	23 35 25.2	+0.1
NTVZ	**North Tongarir**	4.07	30	P		**Pn**	23 35 25.6	+0.4
BKZ	**Black Stump Fm**	4.35	38	P		**Pn**	23 35 26.4	-2.5
BKZ	**Black Stump Fm**	4.35	38	P		**Pn**	23 35 27.0	-2.0
HIZ	**Hauiti**	4.36	19	P		**Pn**	23 35 30.0	+0.9
HIZ	**Hauiti**	4.36	19	P		**Pn**	23 35 29.9	+0.9
TOZ	**Tahuroa Road**	5.27	21	P		**Pn**	23 35 41.5	0.0
URZ	**Urewera**	5.37	36	P		**Pn**	23 35 39.6	-3.3
MKAZ	**Moumakai**	5.78	17	P		**Pn**	23 35 49.0	+0.4
RUGZ	**Raukumara Rang**	5.86	38	P		**Pn**	23 35 48.0	-1.8

*VAO **20** 23:37:22.0±0.4, 21°.05S×68°.71W, h138km, mb4.1*
*IDC **20** 23:37:22.8±10.0, 21°.29S×68°.23W, h124km±74km, mbtmp3.9/2, Error ellipse: s-maj=118.6km s-min=46.0km az=11.0*
*GUC **20** 23:37:23.7±0.7, 21°.15S×68°.51W, h132km±4km, ML4.0*
*NEIC **20** 23:37:23.2±1.7, 21°.12S±0°.01×68°.65W±0°.08, h142km±8km, mb4.1/4, ML4.0(GUC), Error ellipse: s-maj=11.7km s-min=1.6km az=84.0*
ISC 20 23:37:22.6±0.6, **21°.15S**±0°.03×**68°.61W**±0°.05, **h143**km±6km, **n93, σ1s17/128, 6C-8D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB01	**IPOC Station P**	0.83	277			**Pn**	23 37 45.4	0.0
PB01					Sn	**Sn**	23 38 02.7	0.0
PB01	**IPOC Station P**	0.83	277	⇓	*i* P	**Pn**	23 37 45.4	0.0
PB01					*i* S	**Sn**	23 38 02.6	-0.1
PB01					IAML		23 38 03.5	
	comp=N,2μm,0.4s							
PB09	**IPOC Station P**	0.87	222			**Pn**	23 37 46.6	+0.7
PB09					Sn	**Sn**	23 38 03.6	0.0
PB09	**IPOC Station P**	0.87	222	⇑	*i* P	**Pn**	23 37 46.5	+0.7
PB09					*i* S	**Sn**	23 38 03.5	0.0
PB08	**IPOC Station P**	1.13	333			**Pn**	23 37 48.6	+0.2
PB08					Sn	**Sn**	23 38 07.7	-0.1
PB08	**IPOC Station P**	1.13	333	⇓	*i* P	**Pn**	23 37 48.8	+0.4
PB08					*i* S	**Sn**	23 38 07.8	-0.1
PB02	**IPOC Station P**	1.22	262			**Pn**	23 37 49.4	+0.6
PB02					Sn	**Sn**	23 38 08.9	+0.1
PB02	**IPOC Station P**	1.22	262	⇓	*i* P	**Pn**	23 37 49.5	+0.7
PB02					*i* S	**Sn**	23 38 08.9	+0.1
PB02					IAML		23 38 10.0	
	comp=N,6μm,0.3s							
PB07	**IPOC Station P**	1.32	244			**Pn**	23 37 50.3	+0.3
PB07					Sn	**Sn**	23 38 10.9	0.0
PB07	**IPOC Station P**	1.32	244	⇑	*i* P	**Pn**	23 37 50.5	+0.6
PB07					*i* S	**Sn**	23 38 10.9	0.0
PB07					IAML		23 38 11.5	
	comp=N,4μm,0.3s							
PB03	**IPOC Station P**	1.39	230			**Pn**	23 37 50.7	0.0
PB03					Sn	**Sn**	23 38 11.9	-0.2
PB03	**IPOC Station P**	1.39	230	⇑	*i* P	**Pn**	23 37 51.3	+0.6
PB03					*i* S	**Sn**	23 38 12.0	-0.2
PB03					IAML		23 38 13.1	
	comp=N,3μm,0.3s							
HMBC	**Humberstone**	1.48	306	⇓	*i* P	**Pn**	23 37 51.9	+0.3
HMBC					*i* S	**Sn**	23 38 13.5	-0.1
HMBC					IAML		23 38 14.6	
	comp=N,2μm,0.3s							
LVC	**Limon Verde**	1.48	191		Pn	**Pn**	23 37 52.2	+0.3
LVC					Sn	**Sn**	23 38 13.7	-0.6
LVC	**Limon Verde**	1.48	191	⇑	*i* P	**Pn**	23 37 52.2	+0.3
LVC					*i* S	**Sn**	23 38 13.7	-0.6
LVC	**Limon Verde**	1.48	191	*e*	P	**Pn**	23 37 52.0	+0.2
LVC				*e*	S	**Sn**	23 38 13.6	-0.6
PATCX	**Punta Patache**	1.48	282			**Pn**	23 37 52.2	+0.6
PATCX					Sn	**Sn**	23 38 14.1	+0.5
PATCX	**Punta Patache**	1.48	282	⇓	*i* P	**Pn**	23 37 52.3	+0.8
PATCX					*i* S	**Sn**	23 38 14.1	+0.5
PATCX					IAML		23 38 16.5	
	comp=E,3μm,0.3s							
GO01	**Chusmiza**	1.57	339			**Pn**	23 37 53.3	+0.3
GO01					Sn	**Sn**	23 38 17.4	+1.3
GO01	**Chusmiza**	1.57	339	⇓	*i* P	**Pn**	23 37 53.4	+0.3
GO01					*i* S	**Sn**	23 38 16.9	+0.8
GO01					IAML		23 38 19.3	
	comp=E,4μm,0.2s							
TA01	**Diego Aracena**	1.58	291		Pn	**Pn**	23 37 52.9	+0.3
TA01					Sn	**Sn**	23 38 16.0	+0.6
TA01	**Diego Aracena**	1.58	291	*i*	P	**Pn**	23 37 52.9	+0.3
TA01				*i*	S	**Sn**	23 38 15.4	+0.1
TA01					IAML		23 38 17.2	
	comp=E,1μm,0.3s							
TA02	**Huaiquique**	1.67	301			**Pn**	23 37 53.8	+0.2
TA02					Sn	**Sn**	23 38 17.3	+0.1
TA02	**Huaiquique**	1.67	301	*i*	P	**Pn**	23 37 53.9	+0.4
PB11	**IPOC Station P**	1.70	324		Pn	**Pn**	23 37 53.8	-0.2
PB11					Sn	**Sn**	23 38 17.3	-0.7
PB11	**IPOC Station P**	1.70	324	⇓	*i* P	**Pn**	23 37 54.2	+0.1
PB11					*i* S	**Sn**	23 38 17.5	-0.5
PB11					IAML		23 38 19.5	
	comp=N,2μm,0.3s							
PB06	**IPOC Station P**	1.79	210			**Pn**	23 37 55.5	+0.5
PB06					Sn	**Sn**	23 38 19.9	0.0
PB06	**IPOC Station P**	1.79	210	⇑	*i* P	**Pn**	23 37 55.7	+0.6
PB06					*i* S	**Sn**	23 38 20.1	+0.1
PB06					IAML		23 38 21.1	
	comp=E,980nm,0.6s							
AF01	**San Pedro de A**	1.84	168			**Pn**	23 37 56.2	+0.4
AF01					Sn	**Sn**	23 38 22.6	+1.5
PB04	**IPOC Station P**	1.86	230		Pn	**Pn**	23 37 56.1	+0.3
PB04					Sn	**Sn**	23 38 20.7	-0.5
PB04	**IPOC Station P**	1.86	230	*i*	P	**Pn**	23 37 56.2	+0.4
PB04				*i*	S	**Sn**	23 38 21.0	-0.3
PB04					IAML		23 38 22.7	
	comp=N,1μm,0.4s							
PSGC	**Pisagua**	2.10	317	⇓	*i* P	**Pn**	23 37 58.4	-0.3
PSGC					*i* S	**Sn**	23 38 25.3	-1.0
PSGCX	**Pisagua**	2.10	317		Pn	**Pn**	23 37 58.2	-0.4
PSGCX					Sn	**Sn**	23 38 25.3	-1.0
PB15	**IPOC Station P**	2.20	201			**Pn**	23 38 00.5	+0.5
PB15	**IPOC Station P**	2.20	201	⇑	*i* P	**Pn**	23 38 00.5	+0.5
PB15					*i* S	**Sn**	23 38 29.0	+0.4
MNMC	**Minye Minye**	2.21	335			**Pn**	23 38 00.8	+0.6
MNMC	**Minye Minye**	2.21	335	*i*	S	**Sn**	23 38 29.6	+0.5
PB16	**IPOC Station P**	2.93	343			**Pn**	23 38 10.0	+0.6
PB16	**IPOC Station P**	2.93	343	*i*	P	**Pn**	23 38 09.3	0.0
PB16				*i*	S	**Sn**	23 38 45.8	+0.4
PB16					IAML		23 38 48.3	
	comp=E,156nm,0.5s							
PB10	**IPOC Station P**	2.96	217			**Pn**	23 38 09.4	+0.1
PB10	**IPOC Station P**	2.96	217	*i*	P	**Pn**	23 38 09.4	+0.1
PB12	**IPOC Station P**	3.00	327			**Pn**	23 38 09.1	-0.8
PB12	**IPOC Station P**	3.00	327	*i*	P	**Pn**	23 38 09.3	-0.6
PB12					IAML		23 38 49.5	
	comp=E,380nm,0.3s							
AP01	**Chacalluta**	3.21	329			**Sn**	23 38 52.0	+1.0
PB18	**Visviri**	3.64	347		Pn	**Pn**	23 38 17.8	-0.7
PB18					Sn	**Sn**	23 38 57.4	-4.3
PB14	**IPOC Station P**	3.84	205		Pn	**Pn**	23 38 20.7	-0.2
GO02	**Mina Guanaco**	4.10	193		Pn	**Pn**	23 38 23.9	-0.3
LPAZ	**La Paz**	4.86	5		P	**Pn**	23 38 36.0	+1.4
	comp=E,11nm,0.4s,baz=176,slow=7.4,SNR=75							
LPAZ					S	**Sn**	23 39 32.2	+1.6
	comp=E,1.8nm,0.5s,baz=229,slow=20,SNR=0.9							
LPAZ	**La Paz**	4.86	5		Pn	**Pn**	23 38 35.6	+0.9
LPAZ	**La Paz**	4.86	5	*e*	P	**Pn**	23 38 33.1	-1.5
AC01	**Pan de Azucar**	5.30	200			**Pn**	23 38 38.4	-1.6
AC02	**Maricunga**	5.68	185		Pn	**Pn**	23 38 45.0	-0.5
AC06	**Mina Casimiro**	6.38	194		Pn	**Pn**	23 38 52.0	-2.4
GO03	**Copiap**	6.58	193			**Pn**	23 38 54.6	-2.6
AC05	**El Transito**	7.80	191		Pn	**Pn**	23 39 11.1	-2.4
LCO	**Las Campanas**	8.05	193			**Pn**	23 39 13.6	-3.4
CO01	**Juntas del Tor**	8.89	188		Pn	**Pn**	23 39 27.0	-1.2
GO04	**Tololo Observa**	9.20	192		Pn	**Pn**	23 39 28.8	-3.5
CO03	**El Pedregal**	9.83	191		Pn	**Pn**	23 39 37.0	-3.5
CO06	**Fray Jorge**	9.87	195		Pn	Pn	23 39 36.1	-4.8
CO02	**Combarbal**	10.24	192		Pn	**Pn**	23 39 41.8	-4.2
PTLB	**Pontes e Lacer**	10.63	59		Pn	**Pn**	23 39 49.1	-2.1
VILB	**Vilhena**	11.44	46		Pn	**Pn**	23 40 00.5	-1.5
VILB	**Vilhena**	11.44	46	*e*	P	**Pn**	23 39 59.9	-2.1
ETMB	**Extrema**	11.50	12	*e*	P	**Pn**	23 40 00.5	-2.2
CPUP	**Villa Florida**	11.54	119	*e*	P	**Pn**	23 40 04.4	+1.3
MT02	**Curacav**	12.27	190		Pn	**Pn**	23 40 13.0	+0.4
MT01	**Popeta**	12.88	190		Pn	**Pn**	23 40 21.4	+0.9
BO01	**Tunca**	13.37	189		Pn	**Pn**	23 40 27.1	+0.3
ITQB	**Itaqui**	13.75	131	*e*	P	**Pn**	23 40 32.2	+0.6
CRSM	**Crissiumal (Br**	14.70	118	*e*	P	**P**	23 40 46.7	+0.7
PTGB	**Pitanga**	15.65	106	*e*	P	**P**	23 40 58.0	+1.4
CLDB	**Colider**	15.99	52	*e*	P	**P**	23 40 59.8	-0.6
PCMB	**Pacaembu**	16.16	95	*e*	P	**P**	23 41 04.3	+2.0
ITAB	**Concordia**	16.20	115	*e*	P	**P**	23 41 03.1	+0.5
ARAG	**Araguaiana, MT**	16.82	74	*e*	P	**Pn**	23 41 09.6	-0.4
FRTB	**Fartura**	17.76	101	*e*	P	**Pn**	23 41 20.1	-1.1
TRQA	**Tornquist**	17.80	163		P	**Pn**	23 41 21.2	-0.2
TRQA					IAmb	IAmb	23 41 22.6	
	comp=Z,24nm,1.4s							
GO06	**Curarrehue**	18.54	187		Pn	**Pn**	23 41 31.2	+1.0
SNDB	**Serra Nova Dou**	18.92	64	*e*	P	**Pn**	23 41 32.3	-2.5
IPMB	**Ipameri, GO**	19.47	84	*e*	P	**P**	23 41 38.2	-0.4
BDFB	**Brasilia**	20.29	78	*e*	P	**P**	23 41 46.0	-1.4
	comp=Z,1.3nm,0.5s,baz=227,slow=18,SNR=1.9							
ITTB	**Itaituba**	20.85	39	*e*	P	**P**	23 41 52.1	-1.2
SGCB	**São Gabriel d**	20.96	4	*e*	P	**P**	23 41 53.9	-0.5
MALB	**Monte Alegre**	23.73	38	*e*	P	**P**	23 42 21.4	-0.5
JANB	**Januaria**	23.86	79	*e*	P	**P**	23 42 22.7	-0.4
BOAV	**Boa Vista**	24.70	20		P	**P**	23 42 31.6	+0.9
BOAV					IAmb	IAmb	23 43 00.3	
	comp=Z,4.6nm,1.4s							
MCPB	**Macapa, AP**	26.23	40	*e*	P	**P**	23 42 45.5	+1.0
CELP	**Cerrillos**	39.03	3	P		**P**	23 44 36.4	+0.8
TORD	**Torodi Ar. Bea**	76.97	70	P		**P**	23 49 00.5	+0.5
WRA	**Warramunga Arr**	133.40	210	PKP		**PKiKP**	23 56 25.0	+1.1
	comp=Z,0.2nm,0.9s,baz=154,slow=1.7,SNR=1.4							
ZALV	**Zalesovo Beam**	141.52	25	PKP		**PKPdf**	23 56 37.5	+1.0
	comp=Z,0.3nm,0.5s,baz=336,slow=6.3,SNR=1.6							
MKAR	**Makanchi Array**	145.19	36	PKPbc		**P

MT03 eS Sn 00 11 57.0 +1.2
MT03 IAML 00 12 24.9
comp=Z,2µm,0.8s
PEL Peldehue 4.99 31 eP Pn 00 11 04.0 +0.2
PEL eS Sb 00 12 17.8 +1.5
LL01 San Ignacio de 4.99 169 Pn 00 11 04.4 +0.7
LL01 San Ignacio de 4.99 169 eP Pn 00 11 06.0 +2.3
ROC1 El Roble 5.01 27 eP Pn 00 11 04.0 -0.3
ROC1 eP Pn 00 11 04.3 0.0
ROC1 eS Sn 00 12 04.5 +2.4
VA06 Catapilco 5.30 23 Pn Pn 00 11 06.9 -1.0
VA06 Catapilco 5.30 23 ⇑*i*P Pn 00 11 07.0 -1.0
LL07 Hotel Espejo d 5.34 178 Pn Pn 00 11 07.9 -0.7
H03S1 Juan Fernandez 5.57 309 T T 00 16 51.0
baz=130,slow=75
H03S3 Juan Fernandez 5.58 309 T T 00 16 54.8
baz=130,slow=75
H03S2 Juan Fernandez 5.59 309 T T 00 16 51.3
baz=130,slow=75
GO07 Milladeo Hill, 5.62 180 Pn 00 11 12.6 +0.1
VA04 Juan Fernndez 5.66 311 Pn Pn 00 11 13.2 +0.2
LL02 Futaleuf 5.88 167 Pn Pn 00 11 17.0 +1.1
AY01 Puyuhuapi 6.98 174 Pn 00 11 30.6 -0.5
CO06 Fray Jorge 7.01 15 Pn 00 11 30.2 -1.4
ZON Zonda 7.24 37 Pn Pn 00 11 34.4 -0.3
CO05 La Serena 7.82 16 Pn 00 11 42.4 -0.3
CO01 Juntas del Tor 8.07 23 Pn 00 11 46.2 -0.2
COYC Coyhaique 8.17 172 Pn Pn 00 11 48.4 +1.0
LCO Las Campanas 8.82 17 Pn 00 11 55.8 -0.8
TRQA Tornquist 9.31 97 Pn 00 12 04.1 +1.0
AC04 Llanos de Chal 9.52 14 Pn 00 12 04.0 -2.0
AC06 Mina Casimiro 10.49 17 Pn Pn 00 12 17.8 -1.4
AC02 Maricunga 11.30 21 Pn Pn 00 12 29.7 -1.2
AC01 Pan de Azucar 11.61 14 Pn Pn 00 12 31.5 -3.1
GO02 Mina Guanaco 12.78 17 Pn 00 12 47.6 -3.2
PB14 IPOC Station P 13.13 13 Pn 00 12 51.8 -3.8
GO09 Cerro Castillo 13.82 176 Pn Pn 00 13 06.9 +2.3
PB10 IPOC Station P 14.19 12 P P 00 13 17.5 +0.2
PB15 IPOC Station P 14.69 16 P P 00 13 23.1 0.0
AF01 San Pedro de A 15.25 20 P P 00 13 29.7 +0.3
LVC Limon Verde 15.39 17 Pn Pn 00 13 27.1 +0.7
comp=Z,0.5nm,0.3s,baz=218,slow=9.2,SNR=5.2
LVC Sn S 00 16 28.3 -4.8
baz=350,slow=11
LVC LR LR 00 19 02.8
comp=Z,448nm,21.2s,baz=192,slow=36
comp=Z,3.1nm,0.5s
LVC Limon Verde 15.39 17 Pn 00 13 25.9 -0.5
PB04 IPOC Station P 15.41 13 P P 00 13 31.6 +0.6
PB04 IAmb IAmb 00 13 33.6
comp=Z,65nm,0.9s
PB03 IPOC Station P 15.76 14 P P 00 13 33.1 -1.8
PB07 IPOC Station P 16.05 13 Pn 00 13 34.0 -0.8
PB09 IPOC Station P 16.11 15 Pn 00 13 34.2 -1.3
PB09 IAmb IAmb 00 13 42.2
comp=Z,36nm,1.0s
ITQB Itaqui 16.22 66 Pn 00 13 35.2 -1.6
ITQB Itaqui 16.22 66 eP Pn 00 13 35.5 -1.3
PB02 IPOC Station P 16.45 13 Pn 00 13 38.1 -1.7
PB02 IAmb IAmb 00 13 45.4
comp=Z,55nm,0.9s
PB01 IPOC Station P 16.79 14 Pn 00 13 43.5 -0.6
PB01 IAmb IAmb 00 13 49.4
comp=Z,45nm,1.0s
PATCX Punta Patache 16.89 12 Pn 00 13 43.9 -1.5
PATCX IAmb IAmb 00 13 50.6
comp=Z,35nm,0.9s
TA01 Diego Aracena 17.14 11 Pn 00 13 48.2 -0.2
TA02 Huaiquique 17.43 11 Pn 00 13 50.2 -1.9
TA02 IAmb IAmb 00 13 56.8
comp=Z,28nm,0.7s
PLTB Pedras Altas 17.50 77 P Pn 00 13 50.9 -1.9
PLTB Pedras Altas 17.50 77 eP Pn 00 13 50.7 -2.1
AZCA Azaras, Argent 17.59 63 eP Pn 00 13 51.5 -2.5
UNIS Unistadla (Bra 17.68 67 eP Pn 00 13 53.1 -2.0
USHA Ushuaia 17.72 170 P Pn 00 13 55.4 -0.1
comp=Z,1.1nm,0.3s,baz=347,slow=9.3,SNR=2.4
comp=Z,38nm,1.2s
PB08 IPOC Station P 17.73 14 Pn 00 13 54.1 -2.1
CPUP Villa Florida 17.78 56 P Pn 00 13 53.9 -2.5
comp=Z,0.3nm,0.3s,baz=212,slow=11,SNR=8.1
CPUP Lg Lg 00 19 09.8
comp=Z,0.1nm,0.3s,baz=311,slow=20,SNR=1.3
CPUP LR LR 00 21 21.0
comp=Z,1µm,20.8s,baz=230,slow=39
comp=Z,2.9nm,0.7s
CPUP Villa Florida 17.78 56 Pn 00 13 55.7 -0.6
CPUP Villa Florida 17.78 56 eP Pn 00 13 54.9 -1.5
MG01 Puerto William 17.94 169 Pn Pn 00 13 57.0 -1.1
EFI East Falkland 17.99 147 Pn 00 13 57.8 -0.9
PB11 IPOC Station P 18.01 12 P Pn 00 13 59.0 -0.4
PB11 IAmb IAmb 00 14 04.1
comp=Z,64nm,0.8s
PSGCX Pisagua 18.10 11 P Pn 00 13 58.7 -1.7
PSGCX IAmb IAmb 00 14 04.6
comp=Z,30nm,0.9s
GO01 Chusmiza 18.18 14 P Pn 00 14 00.6 -1.2
MNMC Minye Minye 18.64 12 P P 00 14 05.8 -1.1
MNMC IAmb IAmb 00 14 11.3
comp=Z,40nm,0.9s
PB12 IPOC Station P 19.03 10 P P 00 14 10.6 -0.5
CRSM Crissiumal (Br 19.32 65 eP P 00 14 12.5 -1.6
PB16 IPOC Station P 19.43 12 P P 00 14 15.6 -0.3
PB16 IAmb IAmb 00 14 20.1
comp=Z,19nm,0.7s
PB18 Visviri 20.17 12 P P 00 14 24.5 +0.6
ITAB Concordia 20.86 67 P P 00 14 30.3 -0.5
ITAB Concordia 20.86 67 eP P 00 14 29.6 -1.1
MCR1 Marechal Candi 21.24 58 eP P 00 14 34.7 -0.2
LPAZ La Paz 21.68 15 P P 00 14 42.4 +2.0
comp=Z,6.6nm,0.7s,baz=183,slow=6.6,SNR=25
comp=Z,6.6nm,0.7s
LPAZ La Paz 21.68 15 P P 00 14 40.6 +0.3
LPAZ IAmb IAmb 00 14 49.3
comp=Z,20nm,1.0s
TER01 Tubaro-SC 22.42 74 eP P 00 14 46.3 -1.3
PTGB Pitanga 22.42 62 eP P 00 14 47.1 -0.7
BBRB Robore, Bolivi 22.69 36 eP P 00 14 50.3 -0.2
AQDB Aquidauana 23.07 48 P P 00 14 53.5 -1.0
AQDB IAmb IAmb 00 15 07.2
comp=Z,47nm,1.2s
AQDB Aquidauana 23.07 48 eP P 00 14 53.0 -1.5
BBSD Serra de San D 23.28 33 eP P 00 14 56.0 -0.7
TRCB Terra Rica 23.31 57 P P 00 14 55.6 -1.3
TRCB Terra Rica 23.31 57 eP P 00 14 56.5 -0.4
PANT Pantanal (Braz 23.73 44 eP P 00 15 00.8 -0.2
SIV San Ignacio 24.15 31 P P 00 15 04.7 -0.4
comp=Z,15nm,0.8s,baz=203,slow=8.3,SNR=90
comp=Z,15nm,0.8s
PCMB Pacaembu 25.04 57 eP P 00 15 12.4 -0.7
FRTB Fartura 25.06 63 eP P 00 15 12.7 -0.5
PTLB Pontes e Lacer 25.47 34 P P 00 15 16.4 -0.5
PTLB IAmb IAmb 00 15 18.1
comp=Z,19nm,1.1s
PTLB Pontes e Lacer 25.47 34 eP P 00 15 16.9 -0.1
NNA Nana 25.54 353 P P 00 15 18.4 +0.7
comp=Z,7.5nm,0.7s,baz=209,slow=9.6,SNR=2.5
comp=Z,7.5nm,0.7s
C2SB Chapadao do Su 26.10 50 eP P 00 15 22.8 +0.1
PET01 Itanhaem-SP 26.12 67 eP P 00 15 23.0 +0.1
SALV Santo Antonio 26.76 41 eP P 00 15 28.9 +0.2
ITRB Iturama 26.98 55 eP P 00 15 31.9 +1.2
RCLB Rio Claro- Sao 27.09 64 eP P 00 15 31.9 +0.2
VAO Valinhos 27.13 65 eP P 00 15 31.8 -0.3
VILB Vilhena 27.25 30 P P 00 15 33.0 -0.2
VILB IAmb IAmb 00 16 03.5
comp=Z,14nm,0.7s
BB19B Bebedouro 27.27 60 eP P 00 15 32.7 -0.6
ETMB Extrema 28.37 16 P P 00 15 43.5 +0.4
ETMB IAmb IAmb 00 15 45.0
comp=Z,17nm,0.6s
ETMB Extrema 28.37 16 eP P 00 15 44.0 +0.9
CZSB Cruzeiro do Su 29.63 2 eP P 00 15 56.0 +1.6
PDRB Porto dos Gac 29.93 35 eP P 00 15 56.6 -0.4
CLDB Colider 31.01 36 eP P 00 16 05.7 -0.8
BDFB Brasilia 31.47 53 P P 00 16 12.7 +2.1
comp=Z,6.0nm,0.8s,baz=221,slow=8.6,SNR=9.7
BDFB LR LR 00 30 05.6
comp=Z,803nm,21.2s,baz=223,slow=39
comp=Z,6.0nm,0.8s
RPN Rapa Nui 31.66 279 LR LR 00 25 27.0
comp=Z,536nm,20.2s,baz=146,slow=30
TBTG Tabatinga, AM 33.32 7 P P 00 16 26.9 +0.1
TBTG IAmb IAmb 00 16 28.8
comp=Z,80nm,1.4s
MCRA Macar, Loja 33.45 349 P P 00 16 27.6 -0.3
MCRA IAmb IAmb 00 16 43.0
comp=Z,5.0nm,0.9s
RIB01 Linhares ES 34.21 67 eP P 00 16 33.6 -0.9
JANB Januaria 34.31 57 eP P 00 16 35.8 +0.3
BOSC San Juan Bosco 34.45 352 P P 00 16 35.9 -0.9
NPGB Novo Progresso 34.59 33 eP P 00 16 37.1 -0.7
COHC Cochancay 35.22 350 P P 00 16 44.2 +1.0
SDBA SAO DESIDERIO 35.87 53 eP P 00 16 48.4 -0.6
PORT Chimborazo Vol 36.15 351 P P 00 16 50.1 -1.7
PORT IAmb IAmb 00 17 42.6
comp=Z,7.5nm,0.8s
GUA01 Guaratinga, BA 36.39 64 eP P 00 16 51.9 -1.5
ITTB Itaituba 36.84 31 eP P 00 16 56.7 -0.4
SMTB Santa Maria do 37.01 46 eP P 00 16 58.8 +0.2
CMC01 Camacan, BA 37.41 63 eP P 00 17 01.7 -0.3
SGCB SÃo Gabriel d 37.69 11 eP P 00 17 03.9 -0.4
BOAV Boa Vista 41.52 20 P P 00 17 35.0 -1.3
BOAV IAmb IAmb 00 18 30.1
comp=Z,8.3nm,1.3s
BELA Belgrano 2 43.71 169 P P 00 17 54.5 +1.0
BELA IAmb IAmb 00 18 38.0
comp=Z,16nm,1.6s
SDV Santo Domingo 46.22 4 P P 00 18 13.2 -1.0
SDV IAmb IAmb 00 18 37.0
comp=Z,5.9nm,0.9s
SDV Santo Domingo 46.22 4 eP P 00 18 15.0 +0.8
BAUV El Baul 46.49 8 P P 00 18 15.5 -0.6
RCBR Riachuelo 46.66 57 LR LR 00 39 12.3
comp=Z,2µm,18.6s,baz=3.5,slow=38
VNA3 Neumayer Olymp 46.69 156 P P 00 18 18.3 +1.2
MDP Montagnes des 46.70 29 LR LR 00 39 31.7
comp=Z,544nm,18.1s,baz=208,slow=38
VNA2 Neyer--Watz 47.37 156 P P 00 18 23.7 +1.3
baz=280,slow=9.5
SNAA Sanae 48.91 157 P P 00 18 35.5 +1.1
SNAA Sanae 48.91 157 P P 00 18 35.5 +1.1
comp=Z,3.8nm,0.9s,baz=273,slow=7.8,SNR=22
comp=Z,3.8nm,0.9s
SNAA Sanae 48.91 157 P P 00 18 34.8 +0.5
SNAA IAmb IAmb 00 19 04.2
comp=Z,7.1nm,0.7s
TROLL Troll, Antarti 50.60 157 P P 00 18 48.5 +1.1
SVB Belmont 51.83 16 P P 00 18 56.1 -0.8
QSPA South Pole Qui 52.76 180 P P 00 19 04.7 +1.1
QSPA IAmb IAmb 00 19 19.0
comp=Z,12nm,1.1s
TBI Tubuai 65.24 259 eLR LR 00 40 02.8
comp=Z,7µm,22.8s
TBI eLR LR 00 40 03.0
comp=Z,2µm,24.2s
TBI Tubuai 65.24 259 eT T 01 31 28.6
comp=Z,7.7nm,0.3s
TAOE Nuku Hiva Isla 65.98 277 eLR LR 00 40 23.7
comp=Z,322nm,24.2s
MEH Mehetia 67.09 265 eT T 01 33 47.6
comp=Z,39nm,0.3s
TIAR Tiarei 68.28 264 eT T 01 35 17.2
comp=Z,4.2nm,0.2s
PAE Paea 68.41 264 eT T 01 35 18.7
comp=Z,1.2nm,0.2s
PPT2 Papeete2 68.45 264 eLR LR 00 41 31.9
comp=Z,399nm,24.8s
PPT2 eLR LR 00 41 32.0
comp=Z,310nm,26.5s
PPT Papeete 68.46 264 LR LR 00 43 08.4
comp=Z,258nm,18.2s,baz=170,slow=29
MAW Mawson 70.23 164 LR LR 00 54 07.5
comp=Z,292nm,18.0s,baz=236,slow=38
LPIG La Paz 70.27 325 LR LR 00 45 08.1
comp=Z,260nm,18.7s,baz=158,slow=30
Z47A Carrollton 71.58 347 P P 00 21 10.8 +1.0
NATX Nacogdoches 71.61 341 P P 00 21 09.4 -0.6
TX31 Lajitas Ar. Si 72.15 333 P P 00 21 13.0 -0.5
TX32 Lajitas Array 72.15 333 P P 00 21 13.6 +0.1
TX32 IAmb IAmb 00 21 49.1
comp=Z,8.9nm,1.6s
TXAR Lajitas Array 72.15 333 P P 00 21 14.8 +1.3
comp=Z,0.7nm,0.6s,baz=160,slow=8.6,SNR=13
TXAR LR LR 00 48 16.4
comp=Z,188nm,19.1s,baz=150,slow=32
comp=Z,0.7nm,0.6s
TXAR Lajitas Array 72.15 333 P P 00 21 14.3 +0.8
SWET Sewanee 73.22 350 P P 00 21 20.2 +0.6
ABTX Abilene, Hawle 73.82 337 P P 00 21 24.4 +1.1
ABTX IAmb IAmb 00 21 31.9
comp=Z,15nm,1.2s
V48A Smith Brothers 73.86 349 P P 00 21 23.7 +0.4
V48A IAmb IAmb 00 21 35.1
comp=Z,9.1nm,0.8s
MIAR Mount Ida 74.01 343 P P 00 21 25.9 +1.7
MIAR IAmb IAmb 00 23 31.3
comp=Z,27nm,1.8s
SUR Sutherland 74.35 119 LR LR 00 51 13.5
comp=Z,144nm,18.6s,baz=226,slow=34
RAR Rarotonga 74.39 255 LR LR 00 46 10.6
comp=Z,113nm,18.2s,baz=350,slow=29
WVT Waverly 74.41 348 P P 00 21 26.2 -0.3
WVT IAmb IAmb 00 21 34.1
comp=Z,24nm,1.4s
BBTS Babate 74.64 58 LR LR 00 53 50.1
comp=Z,665nm,18.1s,baz=230,slow=35
JSRW J. Sargeant Re 74.91 357 P P 00 21 29.9 +0.6
LCAR Lake Charles 74.95 345 P P 00 21 30.2 +0.6
LCAR IAmb IAmb 00 21 51.1
comp=Z,32nm,1.9s
R49A Shelbyville 76.14 351 P P 00 21 36.6 +0.2
OK052 Battle Ridge R 76.18 341 P P 00 21 38.2 +1.5
CCM Cathedral Cave 76.89 346 P P 00 21 41.7 +1.0
CCM IAmb IAmb 00 21 49.6
comp=Z,20nm,1.4s
LIC Lamto 77.16 72 ⇑*i*P P 00 21 43.3 +0.5
comp=Z,20nm,0.5s
TIC Toumodi 77.44 71 ⇓*i*P P 00 21 42.8 -1.6
comp=Z,4.3nm,0.2s
KIC Koan Boka 77.47 72 ⇑*i*P P 00 21 45.4 +0.8
comp=Z,9.3nm,0.4s
DBIC Dimbokro 77.58 72 P P 00 21 44.8 -0.3
comp=Z,11nm,0.8s,baz=232,slow=5.3,SNR=16
comp=Z,11nm,0.8s
DBIC Dimbokro 77.58 72 P P 00 21 45.1 0.0
P40A Paris 78.47 346 P P 00 21 49.9 +0.5
P40A IAmb IAmb 00 21 57.8
comp=Z,9.2nm,0.8s
TSUM Tsumeb 79.57 106 LR LR 00 53 57.3
comp=Z,268nm,18.0s,baz=207,slow=33
BOSA Boshof 79.65 118 P P 00 21 56.6 -0.1
comp=Z,4.9nm,0.9s,baz=221,slow=3.4,SNR=7.1
BOSA LR LR 00 57 20.1
comp=Z,125nm,18.2s,baz=206,slow=36
comp=Z,4.9nm,0.9s
RPZ Rata Peaks 80.13 222 LR LR 00 53 07.5
comp=Z,154nm,18.2s,baz=112,slow=32
LBTB Lobatse 82.07 115 P P 00 22 09.2 -0.4
LBTB IAmb IAmb 00 22 10.7
comp=Z,9.4nm,0.7s
RAO Raoul Island 82.88 239 LR LR 00 49 49.3
comp=Z,171nm,21.8s,baz=150,slow=29
ECSD EROS Data Cent 83.47 344 P P 00 22 16.4 +0.4
ECSD IAmb IAmb 00 22 24.6
comp=Z,13nm,1.1s
NVAR Mina Array Bea 85.99 326 P P 00 22 31.4 +2.2
comp=Z,0.3nm,0.4s,baz=130,slow=6.1,SNR=1.5
comp=Z,0.3nm,0.4s
PDAR Pinedale Array 86.28 334 P P 00 22 32.0 +1.5
comp=Z,0.4nm,0.8s,baz=167,slow=4.3,SNR=2.5
comp=Z,0.4nm,0.8s
AFI Afiamalu 87.91 254 LR LR 00 54 28.8
comp=Z,188nm,19.2s,baz=105,slow=30
LSZ Lusaka 89.98 109 LR LR 01 02 56.2
comp=Z,234nm,18.1s,baz=225,slow=36
MDT Midelt 95.05 52 LR LR 01 05 35.9
comp=Z,323nm,20.5s,baz=246,slow=35
DZM Mont Dzumac 98.09 234 LR LR 00 58 58.3
comp=Z,164nm,20.4s,baz=222,slow=30
DZM Mont Dzumac 98.09 234 eLR LR 00 55 16.2
comp=Z,327nm,26.1s
ESDC Sonseca Array 99.95 47 LR LR 01 08 41.0
comp=Z,116nm,18.6s,baz=202,slow=35
GERES GERESS Array B 115.55 47 PKP PKPdf 00 28 30.3 -0.2
comp=Z,0.4nm,0.7s,baz=196,slow=1.7,SNR=4.7
WRA Warramunga Arr 117.06 210 PKP PKiKP 00 28 36.0 +1.7
comp=Z,0.5nm,1.1s,baz=169,slow=1.6,SNR=1.9
BRTR Keskin Array B 124.66 64 PKP PKPdf 00 28 48.2 -0.1
comp=Z,1.4nm,0.6s,baz=196,slow=3.3,SNR=8.3
AKASG Malin Array Be 125.52 50 PKP PKPdf 00 28 48.9 -0.4
comp=Z,0.5nm,0.4s,baz=261,slow=1.9,SNR=4.9
ARU Arti 143.24 43 PKhKP PKPpre 00 29 18.9
comp=Z,1.6nm,0.4s,baz=156,slow=2.1,SNR=3.7
NRIK Noril'sk 146.50 12 PKPbc PKPbc 00 29 28.9 0.0
comp=Z,1.1nm,0.4s,baz=84,slow=2.8,SNR=4.2
BVAR Borovoye Array 150.71 46 PKPbc PKiKP 00 29 41.5 +0.5
comp=Z,5.0nm,0.6s,baz=304,slow=3.9,SNR=21
AAK Ala-Archa 155.22 68 PKP PKPdf 00 29 43.0 +1.0
comp=Z,0.4nm,0.5s,baz=162,slow=4.8,SNR=4.9
AAK PKPab PKPab 00 30 07.7 +0.7
comp=Z,4.0nm,0.5s,baz=224,slow=1.1,SNR=13
KSH Kashi 156.24 76 PKP PKPdf 00 29 47.8 +4.4
ZALV Zalesovo Beam 157.88 35 PKPab PKPab 00 30 18.7 +0.9
comp=Z,3.3nm,0.5s,baz=316,slow=6.1,SNR=9.6
MKAR Makanchi Array 159.99 55 PKP PKPdf 00 29 47.4 -0.2
comp=Z,1.5nm,0.9s,baz=330,slow=5.0,SNR=4.3
MKAR PKPab PKPab 00 30 27.4 +0.1
comp=Z,1.7nm,0.7s,baz=292,slow=3.8,SNR=11
WMQ Urumqi 164.55 60 eP PKPdf 00 29 52.9 +0.6
NJ2 Nanjing 168.33 246 eP PKPdf 00 29 54.8 -0.7
NJ2 pmax pmax
comp=Z,12nm,0.6s
PZH PanZhiHua 168.40 159 PKP PKPdf 00 29 54.3 -1.6
HHC Hu-ho-hao-te 174.70 311 eP PKPdf 00 29 54.4 -4.1
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,260nm,5.7s

*BJI **21** 00:15:38.7±0.0,36.56N×70.30E,h193km,mb4.4/13, mB4.8/6*
*IDC **21** 00:15:38.0±2.8,36.33N×70.42E,h164km±27km,mb3.5/7, mbtmp4.1/13,MS3.2/3,Error ellipse: s-maj=23.6km s-min=18.7km az=168.0*
*NEIC **21** 00:15:40.1±2.1,36.52N±0.05×70.33E±0.08,h187km±7km, mb4.0/3, Error ellipse: s-maj=9.3km s-min=7.6km az=93.0*
*NNC **21** 00:15:46.2±3.0,37.02N×70.41E,h186km±39km,mb3.6, mpv4.6,Error ellipse: s-maj=26.7km s-min=18.7km az=13.0*

ISC 21 00:15:40.2±0.5,36.50N±0.04×70.41E±0.05,h204km,n73, σ2s48/80,mb3.9/9,9C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.25**	**210**	Pn	Pn	Pn	**00 16 20.7**	**-1.1**
KBL					Sn	S	**00 16 50.4**	**-3.3**
CHGR	**Chuyangaron**	**2.38**	**336**			Pn	**00 16 21.6**	**-1.4**
CHGR					Sn	S	**00 16 51.7**	**-4.3**
GAR	**Garm**	**2.50**	**358**			Pn	**00 16 23.2**	**-1.2**
CEP	**Cherat**	**2.94**	**155**	P		Pn	**00 16 29.9**	**+0.4**
CEP				S		S	**00 17 06.0**	**-1.3**
DRK	**Karamyk**	**3.17**	**20**			Pn	**00 16 30.7**	**-1.6**
BTK	**Batken**	**3.57**	**5**	Pn		Pn	**00 16 36.9**	**+0.1**
NIL	**Nilore**	**3.67**	**140**	Pn		Pn	**00 16 38.1**	**-0.1**
THW	**Thamme Wali**	**3.85**	**163**	⇑P		Pn	**00 16 39.7**	**-0.7**
TAS	**Tashkent**	**4.90**	**350**	Pn		Pn	**00 16 53.5**	**+0.2**
SARP	**Sargodha**	**4.93**	**157**	⇑P		Pn	**00 16 52.7**	**-1.2**
JMU	**Jammu**	**5.28**	**134**	eP		Pn	**00 16 58.3**	**0.0**
JMU				eS		S	**00 17 54.4**	**-5.2**
KSH	**Kashi**	**5.33**	**54**	P		Pn	00 16 53.6	-5.3
KSH				S		S	00 17 47.4	-13
KSH				smax		smax		
	comp=N,510nm,0.9s							
KSH				smax		smax		
	comp=E,250nm,0.8s							
KK31	**Karatay Array**	**6.60**	**1**	Pn		Pn	**00 17 14.6**	**-0.5**
KK31	**Karatay Array**	**6.60**	**1**	⇑P		Pn	**00 17 14.6**	**-0.5**
	41nm,0.3s,baz=181,slow=13,SNR=209							
KK31				⇓S		S	**00 18 25.3**	**-5.1**
	33nm,0.4s,baz=163,slow=37,SNR=3.8							
KKAR	**Karatay Array**	**6.60**	**1**	Pn		Pn	**00 17 14.6**	**-0.6**
KKAR	**Karatay Array**	**6.60**	**1**			Pn	**00 17 14.5**	**-0.6**
AAK	**Ala-Archa**	**6.90**	**26**	P		Pn	**00 17 18.9**	**-0.3**
	33nm,0.3s,baz=200,slow=4.4,SNR=197							
AAK				S		S	**00 18 33.5**	**-4.1**
	57nm,0.4s,baz=129,slow=23,SNR=24							
HRA	**Herat**	**6.99**	**255**	Pn		Pn	**00 17 19.7**	**-0.8**
BHK	**Bhakra**	**7.11**	**134**	eS		S	**00 18 37.0**	**-5.6**
TKM2	**Tokmak 2**	**7.56**	**30**	⇑P		Pn	**00 17 27.3**	**-0.5**
	29nm,0.5s							
TKM2				⇑S		S	**00 18 49.0**	**-4.4**
	24nm,0.8s							
TARG	**Taragay, Kyrgy**	**7.77**	**45**			Pn	**00 17 29.4**	**-1.3**
MDOK	**Medeo**	**8.39**	**35**	⇓P		Pn	**00 17 38.4**	**-0.1**
	5.8nm,0.5s							
KUDL	**Kundal**	**9.78**	**147**	eP		Pn	**00 17 54.1**	**-2.5**
KUDL				eS		S	00 19 36.2	-10
GEYT	**Alibeck**	**9.91**	**282**	P		Pn	**00 17 57.1**	**-1.1**
	7.4nm,0.5s,baz=111,slow=12,SNR=24							
GEYT				S		S	**00 19 43.0**	**-6.2**
	5.5nm,0.5s,baz=90,slow=12,SNR=2.7							
GEYT	**Alibeck**	**9.91**	**282**			Pn	**00 17 56.8**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**9.91**	**282**	Pn		Pn	**00 17 57.2**	**-1.0**
SONA	**Sohna**	**9.97**	**144**	eS		S	00 19 39.6	-11
AJM	**Ajmer**	**10.62**	**159**	eP		Pn	**00 18 06.4**	**-1.0**
AJM				eS		S	00 19 53.6	-13
PTH	**Pithoragarh**	**10.75**	**127**	eP		Pn	**00 18 08.2**	**-1.1**
PTH				eS		S	00 19 58.6	-11
LGTI	**Lohaghat**	**10.84**	**128**	eS		S	00 19 59.5	-12
OTUK	**Ortayu**	**11.83**	**6**	⇑P		Pn	**00 18 22.1**	**-0.6**
	1.8nm,0.6s							
OTUK				⇑S		S	**00 20 27.4**	**-6.5**
	37nm,0.8s							
MAKZ	**Makanchi**	**13.44**	**36**	Pn		Pn	**00 18 43.1**	**+0.2**
MK31	**Makanchi Array**	**13.58**	**37**			Pn	**00 18 46.3**	**+1.7**
MK31	**Makanchi Array**	**13.58**	**37**	P		P	**00 18 47.5**	**+0.5**
	15nm,0.6s,baz=198,slow=9.6,SNR=121							
MKAR	**Makanchi Array**	**13.58**	**37**	P		Pn	**00 18 45.3**	**+0.7**
	9.5nm,0.6s,baz=214,slow=13,SNR=79							
MKAR	**Makanchi Array**	**13.58**	**37**			Pn	**00 18 44.3**	**-0.3**
DANN	**Dangsing**	**13.89**	**122**	eP		Pn	**00 18 47.5**	**-1.4**
	15nm,0.4s							
BHPL	**Bhopal**	**14.54**	**153**	eP		Pn	**00 18 58.3**	**+1.7**
BHPL					IAmb	IAmb	00 19 01.1	
	comp=Z,9.6nm,0.5s							
BHPL				eS		S	00 21 26.3	-12
GKN	**Gorkha**	**14.71**	**121**	eP		Pn	**00 18 59.1**	**+0.3**
	comp=Z,19nm,0.3s							
GKN				eS		S	00 21 31.3	-11
AB31	**Akbulak array**	**14.86**	**332**	⇓P		Pn	**00 19 00.6**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=150,slow=11,SNR=174							
ABKAR	**Akbulak array**	**14.86**	**332**	P		Pn	**00 19 00.8**	**+0.5**
ABKAR	**Akbulak array**	**14.86**	**332**			Pn	**00 19 00.5**	**+0.1**
WMQ	**Urumqi**	**15.09**	**56**	eP		Pn	**00 19 04.5**	**+1.2**
DMN	**Daman**	**15.28**	**121**	eP		Pn	**00 19 06.1**	**+0.2**
	comp=Z,9.6nm,0.2s							
DMN				eS		S	00 21 45.0	-10
KKN	**Kakani**	**15.28**	**120**	eP		Pn	**00 19 06.8**	**+0.9**
KURBB	**Kurchatov Arra**	**15.28**	**20**	P		Pn	**00 19 05.8**	**+0.4**
	comp=Z,2.6nm,0.2s,baz=208,slow=11,SNR=2.2							
KURBB				S		S	**00 21 53.4**	**-1.3**
	comp=Z,0.6nm,0.2s,baz=202,slow=42,SNR=1.7							
KURK	**Kurchatov**	**15.39**	**20**	P		P	**00 19 08.5**	**+1.6**
KURK					IAmb	IAmb	00 19 11.0	
	comp=Z,3.0nm,1.0s							
PKIN	**Phulchoki**	**15.50**	**121**	eP		Pn	**00 19 09.5**	**+1.0**
	comp=Z,38nm,0.5s							
PKIN				eS		S	00 21 49.2	-11
PKI	**Pulchoki**	**15.51**	**121**	eP		Pn	**00 19 09.2**	**+0.4**
	comp=Z,51nm,0.6s							
PKI				eS		S	00 21 49.8	-11
GUN	**Gumba**	**15.63**	**119**	eP		P	**00 19 11.3**	**+1.1**
	comp=Z,22nm,0.5s							
JIRN	**Jiri**	**16.00**	**119**	eP		P	**00 19 15.4**	**+1.1**
	comp=Z,45nm,0.4s							
BVAR	**Borovoye Array**	**16.53**	**360**	P		P	**00 19 20.4**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=166,slow=12,SNR=14							
BVAR				S		S	**00 22 16.8**	**-4.9**
	comp=Z,1.5nm,0.5s,baz=172,slow=21,SNR=2.8							
AKTO	**Aktyubinsk**	**16.55**	**331**	⇑P		Pn	**00 19 22.7**	**+2.0**
	comp=Z,3.4nm,0.5s							
BRVK	**Borovoye**	**16.56**	**360**	P		P	**00 19 21.4**	**+1.7**
BRVK					IAmb	IAmb	00 19 28.1	
	comp=Z,3.6nm,0.7s							
WSAR	**Wadi Sarin**	**16.68**	**221**	P		P	**00 19 21.9**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=82,slow=7.1,SNR=1.6							
RAMN	**Ramite**	**16.72**	**120**	eP		P	**00 19 23.6**	**+1.5**
	comp=Z,16nm,0.4s							
RAMN				eS		S	**00 22 18.1**	**-8.4**
TAPN	**Taplejung**	**17.27**	**117**	eP		Pn	**00 19 31.7**	**+2.0**
	comp=Z,12nm,0.4s							

ZAA0	**Zalesovo Array**	**20.12**	**25**	P	**P**	**00 20 00.8**	**+2.5**
ZAA0				IAmb	IAmb	00 20 01.2	
	comp=Z,8.4nm,0.5s						
ZALV	**Zalesovo Beam**	**20.12**	**25**	P	**P**	**00 20 00.7**	**+2.4**
	comp=Z,6.8nm,0.3s,baz=214,slow=10,SNR=60						
ZALV				S	**S**	**00 23 32.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=222,slow=17,SNR=3.3						
	comp=Z,6.8nm,0.3s						
ZALV	**Zalesovo Beam**	**20.12**	**25**	P	**P**	**00 20 00.8**	**+2.5**
ARU	**Arti**	**21.48**	**342**	P	**P**	**00 20 14.2**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=45,slow=4.3,SNR=3.4						
	comp=Z,1.3nm,0.3s						
KBZ	**Khabaz**	**22.18**	**297**	LR	LR	00 32 05.4	
	comp=Z,56nm,18.6s,baz=254,slow=44						
TNCH	**TengChong**	**26.63**	**108**	P	**P**	**00 21 04.3**	**+4.1**
TNCH				pmax	pmax		
	comp=Z,87nm,4.4s						
LZH	**Lanzhou**	**26.88**	**81**	⇑P	**P**	**00 21 03.8**	**+1.5**
LZH				pP	pP	00 21 45.3	+0.7
LZH				sP	PP	00 22 06.4	-0.8
LZH				pmax	pmax		
	comp=Z,12nm,1.4s						
SONM	**Songino Array**	**28.73**	**55**	P	**P**	**00 21 22.0**	**+3.4**
	comp=Z,1.1nm,0.8s,baz=274,slow=9.8,SNR=6.2						
	comp=Z,1.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**32.21**	**69**	*e*P	**P**	**00 21 48.1**	**-1.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,4.4s						
AKASG	**Malin Array Be**	**32.58**	**309**	LR	LR	00 37 07.9	
	comp=Z,36nm,18.2s,baz=50,slow=40						
IDI	**Anoyia**	**36.63**	**282**	LR	LR	00 41 43.3	
	comp=Z,36nm,18.3s,baz=334,slow=43						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**00 22 34.9**	**+3.3**
	comp=Z,2.5nm,0.8s,baz=131,slow=10,SNR=4.5						
	comp=Z,2.5nm,0.8s						
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**00 23 06.2**	**+3.6**
	comp=Z,5.4nm,1.2s,baz=108,slow=7.9,SNR=3.8						
	comp=Z,5.4nm,1.2s						
HEH	**HeiHe**	**42.63**	**53**	*e*P	**P**	**00 23 18.5**	**+2.3**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NOA	**NORSAR Array B**	**44.10**	**323**	P	**P**	**00 23 29.8**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=103,slow=7.8,SNR=1.5						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**82.39**	**122**	P	**P**	**00 27 40.4**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=329,slow=5.0,SNR=5.2						
	comp=Z,0.3nm,0.7s						

*MDD **21** 00:17:01.1±0.5,27.˚75N×15.˚65W, h39km±11km, mb_Lg3.6/22, Error ellipse: s-maj=9.4km s-min=2.4km az=173.0*

ISC 21 00:16:58.9±1.3, 27.˚80N±0.˚06×15.˚66W±0.˚03, h35km, n27, σ1s58/52, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOSO	**Osorio**	**0.28**	**19**	P	**Pn**	**00 17 09.1**	**+2.3**
EOSO				S	**Sn**	**00 17 14.8**	**+2.7**
EOSO				*i* Vmb_Lg		00 17 15.7	
GGC	**Guia, Gran Can**	**0.32**	**4**	P	**Pn**	**00 17 09.4**	**+2.3**
GGC				S	**Sn**	**00 17 15.2**	**+2.4**
GGC				*i* Vmb_Lg		00 17 17.0	
CGUI	**Guimar, Teneri**	**0.86**	**307**	P	**Pn**	**00 17 16.4**	**+1.7**
CGUI				S	**Sn**	**00 17 26.4**	**+0.3**
CGUI				*i* Vmb_Lg		00 17 28.1	
MACI	**Morro de la Ar**	**0.87**	**301**	P	**Pn**	**00 17 16.6**	**+1.7**
MACI				S	**Sn**	**00 17 27.2**	**+0.7**
MACI				*i* Vmb_Lg		00 17 29.7	
CCAN	**Las Canadas**	**0.94**	**297**	P	**Pn**	**00 17 17.0**	**+1.2**
CCAN				S	**Sn**	**00 17 28.0**	**-0.2**
CCAN				*i* Vmb_Lg		00 17 29.3	
CVIL	**Vilaflor**	**0.94**	**292**	P	**Pn**	**00 17 17.1**	**+1.3**
CVIL				S	**Sn**	**00 17 28.1**	**0.0**
CRAJ	**Montana Rajada**	**0.95**	**299**	P	**Pn**	**00 17 17.2**	**+1.2**
CRAJ				S	**Sn**	**00 17 29.0**	**+0.5**
CRAJ				*i* Vmb_Lg		00 17 32.7	
EBAJ	**Bajamar**	**0.95**	**321**	P	**Pn**	**00 17 17.4**	**+1.6**
EBAJ				S	**Sn**	**00 17 28.9**	**+0.7**
EBAJ				*i* Vmb_Lg		00 17 30.1	
CNOR	**Icod de los Vi**	**1.02**	**300**	P	**Pn**	**00 17 18.3**	**+1.4**
CNOR				S	**Sn**	**00 17 29.8**	**-0.3**
CBOL	**Buenavista del**	**1.15**	**297**	P	**Pn**	**00 17 20.1**	**+1.4**
CBOL				S	**Sn**	**00 17 33.4**	**+0.1**
CBOL				*i* Vmb_Lg		00 17 35.7	
EGOM	**La Gomera**	**1.42**	**285**	P	**Pn**	**00 17 23.0**	**+0.8**
EGOM				S	**Sn**	**00 17 38.4**	**-1.2**
EGOM				*i* Vmb_Lg		00 17 39.9	
CGIN	**Giniginamar, F**	**1.45**	**74**	P	**Pn**	**00 17 23.6**	**+1.0**
CGIN				S	**Sn**	**00 17 40.0**	**-0.5**
CGIN				*i* Vmb_Lg		00 17 41.5	
CFTV	**Fuerteventura**	**1.52**	**66**	P	**Pn**	**00 17 24.1**	**+0.4**
CFTV				S	**Sn**	**00 17 40.7**	**-1.5**
CFTV				*i* Vmb_Lg		00 17 43.2	
CFUE	**Fuerteventura**	**1.74**	**61**	P	**Pn**	**00 17 27.2**	**+0.6**
CFUE				S	**Sn**	**00 17 46.3**	**-1.3**
CFUE				*i* Vmb_Lg		00 17 50.3	
CLOB	**Isla de Lobos,**	**1.89**	**59**	P	**Pn**	**00 17 29.6**	**+0.9**
CLOB				S	**Sn**	**00 17 51.7**	**+0.4**
CLOB				*i* Vmb_Lg		00 17 52.7	
CTIG	**El Hierro**	**2.00**	**270**	P	**Pn**	**00 17 30.5**	**+0.3**
CTIG				S	**Sn**	**00 17 52.0**	**-2.2**
CTIG				*i* Vmb_Lg		00 17 56.7	
EHIG	**Higuera**	**2.04**	**292**	P	**Pn**	**00 17 32.9**	**+2.0**
EHIG				S	**Sn**	**00 17 56.2**	**+1.1**
EHIG				*i* Vmb_Lg		00 18 02.9	
CCUM	**Cumbre, El Hie**	**2.10**	**269**	P	**Pn**	**00 17 32.1**	**+0.4**
CCUM				S	**Sn**	**00 17 53.8**	**-2.8**
CCUM				*i* Vmb_Lg		00 17 56.8	
CTAN	**El Hierro**	**2.12**	**269**	P	**Pn**	**00 17 34.0**	**+2.1**
CTAN				S	**Sn**	**00 17 54.6**	**-2.4**
CTAN				*i* Vmb_Lg		00 17 59.2	
CJUL	**El Julan, El H**	**2.15**	**269**	P	**Pn**	**00 17 34.7**	**+2.3**
CJUL				S	**Sn**	**00 17 57.0**	**-0.9**
CJUL				*i* Vmb_Lg		00 18 05.0	
CTAD	**Las Tabladas,**	**2.15**	**269**	P	**Pn**	**00 17 33.3**	**+1.0**
CTAD				S	**Sn**	**00 17 58.7**	**+0.9**
CTAD				*i* Vmb_Lg		00 18 00.2	
TBT	**Taburiente**	**2.17**	**294**	P	**Pn**	**00 17 33.8**	**+1.2**
TBT				S	**Sn**	**00 17 57.6**	**-0.7**
TBT				*i* Vmb_Lg		00 18 03.5	
CCAL	**Punta Orchilla**	**2.21**	**268**	P	**Pn**	**00 17 32.9**	**-0.2**
CCAL				S	**Sn**	**00 17 59.6**	**+0.5**
CCAL				*i* Vmb_Lg		00 18 01.3	
EFAM	**Famara**	**2.29**	**54**	P	**Pn**	**00 17 35.3**	**+1.1**
EFAM				S	**Sn**	**00 18 01.0**	**-0.3**
EFAM				*i* Vmb_Lg		00 18 04.9	
PMAR	**Madeira**	**5.02**	**348**	*e*Pn	**Pn**	**00 18 08.1**	**-3.9**
PMAR				*e*Sn	**Sn**	**00 19 05.8**	**-3.1**
PMAR				A	A	00 19 11.3	
	20nm,0.3s						
PMOZ	**Porto Moniz, M**	**5.18**	**346**	*e*Sn	**Sn**	**00 19 10.8**	**-1.8**
PMOZ				A	A	00 19 17.7	
	27nm,0.6s						
PMPS	**Porto Santo**	**5.27**	**354**	*e*Sn	**Sn**	**00 19 12.5**	**-2.2**

*HEL **21** 00:28:05.9±0.0, 67.˚82N×20.˚21E, h0km, ML1.5, ML2.2(UPP), Explosion*
*UPP **21** 00:28:05.4±0.1, 67.˚82N×20.˚21E, h0km, ML2.2, Explosion*

ISC 21 00:28:05.5±0.8, 67.˚81N±0.˚02×20.˚24E±0.˚02, h0km, n28, σ1s04/39, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**15**	P	**Pg**	**00 28 08.3**	**+0.1**
KUA				S	**Sg**	**00 28 10.4**	**+0.2**
KUA	**Kurravaara**	**0.15**	**15**	*i* P	**Pg**	**00 28 08.3**	**+0.1**
KUA				*i* S	**Sg**	**00 28 10.4**	**+0.2**
RATU	**Laukkuluspa**	**0.24**	**273**	P	**Pg**	**00 28 10.0**	**-0.1**
RATU				S	**Sg**	**00 28 13.0**	**-0.1**
RATU	**Laukkuluspa**	**0.24**	**273**	*i* P	**Pg**	**00 28 10.0**	**-0.1**
RATU				*i* S	**Sg**	**00 28 13.2**	**-0.1**
KOVU	**Salmi**	**0.41**	**356**	P	**Pg**	**00 28 13.1**	**-0.2**
KOVU	**Salmi**	**0.41**	**356**	*i* P	**Pg**	**00 28 13.1**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**277**	P	**Pg**	**00 28 13.9**	**-0.3**
NIKU	**Nikkaluokta**	**0.46**	**277**	*i* P	**Pg**	**00 28 13.9**	**-0.3**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**00 28 18.8**	**-0.1**
LANU	**Lannavaara**	**0.70**	**69**	*e*P	**Pg**	**00 28 18.7**	**-0.2**
LANU				*e*S	**Sg**	**00 28 25.0**	**-3.0**
DUNU	**Dundret**	**0.71**	**169**	P	**Pg**	**00 28 18.8**	**-0.2**
DUNU	**Dundret**	**0.71**	**169**	*i* P	**Pg**	**00 28 18.8**	**-0.2**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*PB	**Pg**	**00 28 28.7**	**0.0**
KIF				MSG		00 28 43.6	
	comp=Z,6.0nm,0.2s						
KIF				*e*S	**Sg**	**00 28 44.1**	**-0.3**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	**Pg**	**00 28 28.7**	**0.0**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**00 28 30.6**	**-1.0**
PAJU	**Pajala**	**1.36**	**124**	*e*P	**Pg**	**00 28 30.5**	**-1.1**
	baz=308						
PAJU				*e*SB	**Sg**	**00 28 49.3**	**0.0**
HEF	**Hetta**	**1.42**	**63**	*e*PG	**Pn**	**00 28 31.5**	**-1.0**
	baz=246						
HEF				MSG		00 28 48.3	
	comp=Z,3.1nm,0.2s						
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pn**	**00 28 31.7**	**-0.8**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*PG	**Pn**	**00 28 32.9**	**-0.3**
ERTU				*e*SN	**Sn**	**00 28 53.8**	**+0.5**
KLF	**Kolari**	**1.55**	**110**	*e*PG	**Pn**	**00 28 33.9**	**-0.3**
	baz=299						
KLF				*e*SN	**Sg**	**00 28 58.0**	**+2.9**
KTK1	**Kautokeino**	**1.64**	**41**	*e*PG	**Pn**	**00 28 35.3**	**-0.2**
TRO	**Tromso**	**1.89**	**346**	*e*SG	**Sb**	**00 29 04.6**	**-0.2**
KALU	**Kalix**	**2.32**	**146**	*e*PB	**Pb**	**00 28 47.1**	**-1.0**
TOF	**Tornio**	**2.37**	**135**	MSG		00 29 16.5	
	comp=Z,1.8nm,0.2s						
TOF				*e*SG	**Sb**	**00 29 19.6**	**+0.9**
SGF	**Sodankyl**	**2.44**	**96**	*e*PB	**Pb**	**00 28 48.6**	**-1.5**
RNF	**Rovaniemi**	**2.55**	**116**	*e*PB	**Pn**	**00 28 50.2**	**+2.1**
	baz=301						
RNF				*e*SG	**Sb**	**00 29 24.5**	**+0.5**
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**00 28 49.8**	**+1.2**
	baz=228						
ARA0				*e*SG	**Sb**	**00 29 25.3**	**+0.3**
KEV	**Kevo**	**3.14**	**49**	*e*S	**Sn**	**00 29 36.6**	**+2.4**
KEV				MSG		00 29 37.8	
	comp=Z,1.0nm,0.2s						

UPP 21 00:28:11.8±0.1, 67.˚83N×20.˚20E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	00 28 14.7	+0.3
KUA				S	Sg	00 28 16.6	+0.4
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 28 16.4	+0.2
RATU				S	Sg	00 28 19.8	+0.7
KOVU	**Salmi**	**0.40**	**358**	S	Sg	00 28 24.8	+0.2
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	00 28 20.2	0.0
NIKU				S	Sg	00 28 26.5	+0.6
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* S	Pg	00 28 20.1	-0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	S	Sg	00 28 20.1	-0.1
LANU	**Lannavaara**	**0.71**	**71**	S	Sg	00 28 35.2	+0.5
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 28 25.5	-0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 28 37.2	-1.1

*SCB **21** 00:31:03.8±1.4, 21.˚82S×67.˚22W, h198km±1km, ML3.3/3, MW3.1, Error ellipse: s-maj=7.7km s-min=4.0km az=0.0*
*GUC **21** 00:31:04.4±0.7, 21.˚96S×67.˚45W, h212km±10km, ML3.6*

ISC 21 00:31:01.6±1.8, 21.˚91S±0.˚05×67.˚23W±0.˚05, h196km±17km, n31, σ1s49/48, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.61**	**100**	P	**Pn**	**00 31 38.0**	**+1.6**
MOCB	**Mochara**	**1.62**	**66**	P	**Pn**	**00 31 38.0**	**+1.5**
MOCB				S	**S**	**00 32 00.9**	**-2.6**
MOCB				IAML		00 32 04.5	
	193nm,0.3s						
LVC	**Limon Verde**	**1.71**	**246**	⇑*i*P	**Pn**	**00 31 38.7**	**+1.4**
LVC	**Limon Verde**	**1.71**	**246**	P	**Pn**	**00 31 39.0**	**+1.7**
PB09	**IPOC Station P**	**1.88**	**273**	⇑*i*P	**Pn**	**00 31 40.5**	**+1.7**
PB01	**IPOC Station P**	**2.28**	**292**	*e*P	**Pn**	**00 31 44.0**	**+1.1**
PB01				*i* S	**S**	**00 32 14.9**	**0.0**
PB01				IAML		00 32 16.0	
	comp=N,328nm,0.3s						
PB06	**IPOC Station P**	**2.31**	**249**	*i* S	**S**	**00 32 15.2**	**-0.6**
PB06	**IPOC Station P**	**2.31**	**249**	P	**Pn**	**00 31 44.5**	**+1.2**
PB06				S	**S**	**00 32 14.2**	**-1.6**
PB06				IAML		00 32 17.7	
	comp=N,34nm,0.4s						
PB03	**IPOC Station P**	**2.35**	**266**	*e*P	**Pn**	**00 31 45.0**	**+1.2**
PB03				*i* S	**S**	**00 32 16.1**	**-0.5**
PB03				IAML		00 32 17.6	
	comp=N,142nm,0.1s						
PB15	**IPOC Station P**	**2.45**	**238**	*e*P	**Pn**	**00 31 45.4**	**+0.5**
PB15				*i* S	**S**	**00 32 18.4**	**-0.2**
PB15	**IPOC Station P**	**2.45**	**238**	P	**Pn**	**00 31 45.8**	**+0.9**
PB07	**IPOC Station P**	**2.48**	**274**	*e*P	**Pn**	**00 31 46.5**	**+1.3**
PB07				*i* S	**S**	**00 32 18.2**	**-0.9**
PB07				IAML		00 32 19.2	
	comp=N,200nm,0.1s						
PB08	**IPOC Station P**	**2.52**	**314**	⇑*e*P	**Pn**	**00 31 48.1**	**+2.3**
PB08				*e*S	**S**	**00 32 21.3**	**+1.0**
PB08				IAML		00 32 23.3	
	comp=E,60nm,0.2s						
PB02	**IPOC Station P**	**2.55**	**283**	*e*P	**Pn**	**00 31 47.1**	**+1.1**
PB02				*i* S	**S**	**00 32 19.7**	**-0.8**
PB02	**IPOC Station P**	**2.55**	**283**	P	**Pn**	**00 31 46.7**	**+0.7**
PB02				S	**S**	**00 32 17.3**	**-3.2**
PB02				IAML		00 32 20.2	
	comp=E,153nm,0.1s						
PB04	**IPOC Station P**	**2.74**	**261**	*e*P	**Pn**	**00 31 49.1**	**+0.9**
PB04				*i* S	**S**	**00 32 22.3**	**-2.3**
PB04	**IPOC Station P**	**2.74**	**261**	P	**Pn**	**00 31 49.5**	**+1.3**
GO01	**Chusmiza**	**2.89**	**320**	*i* P	**Pn**	**00 31 52.4**	**+2.1**
GO01	**Chusmiza**	**2.89**	**320**	P	**Pn**	**00 31 50.3**	**0.0**
PATCX	**Punta Patache**	**2.94**	**291**	*e*P	**Pn**	**00 31 51.4**	**+1.0**
PATCX				*i* S	**S**	**00 32 27.0**	**-1.4**
TA01	**Diego Aracena**	**3.06**	**295**	⇑*i*P	**Pn**	**00 31 52.2**	**+0.5**
TA01				*i* S	**S**	**00 32 28.9**	**-2.0**
TA01				IAML		00 32 30.5	
	comp=E,198nm,0.3s						
TA01	**Diego Aracena**	**3.06**	**295**	P	**Pn**	**00 31 52.8**	**+1.0**
PB11	**IPOC Station P**	**3.12**	**313**	*e*P	**Pn**	**00 31 53.6**	**+1.0**
PB11				*i* S	**S**	**00 32 31.6**	**-0.9**
TA02	**Huaiquique**	**3.17**	**300**	P	**Pn**	**00 31 54.2**	**+1.2**
PB10	**IPOC Station P**	**3.46**	**242**	*e*P	**Pn**	**00 31 57.0**	**+0.4**
PB10				*i* S	**S**	**00 32 36.9**	**-2.8**
MNMC	**Minye Minye**	**3.55**	**321**	*i* P	**Pn**	**00 31 59.9**	**+1.9**
MNMC				*i* S	**S**	**00 32 41.6**	**-0.4**
PSGC	**Pisagua**	**3.56**	**310**	*i* P	**Pn**	**00 31 58.1**	**+0.2**
PSGC				*i* S	**S**	**00 32 39.0**	**-2.9**
GO02	**Mina Guanaco**	**3.90**	**213**	⇑*i*P	**Pn**	**00 32 03.4**	**+1.2**
GO02				*i* S	**S**	**00 32 48.7**	**-1.2**
GO02	**Mina Guanaco**	**3.90**	**213**	P	**Pn**	**00 32 03.5**	**+1.2**
BBSD	**Serra de San D**	**7.81**	**54**	P	**Pn**	**00 32 52.0**	**-0.4**
SIV	**San Ignacio**	**8.28**	**46**	P	**Pn**	**00 32 58.4**	**-0.2**

IDC 21 00:31:10.0±5.0, 3.˚93S×105.˚62E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=276.7km s-min=25.2km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.20**	**122**	P	P	00 37 40.5	+0.4
	0.2nm,0.6s,baz=301,slow=9.8,SNR=2.2						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**33.62**	**128**	P	P	00 37 52.1	-0.4
	0.8nm,0.3s,baz=300,slow=7.7,SNR=8.0						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**54.55**	**340**	P	P	00 40 39.9	-0.1
	1.1nm,1.1s,baz=162,slow=8.5,SNR=4.1						
	1.1nm,1.1s						
ZALV	**Zalesovo Beam**	**60.24**	**346**	P	P	00 41 19.9	0.0
	0.3nm,0.3s,baz=156,slow=5.6,SNR=2.2						
	0.3nm,0.3s						

WEL 21 00:52:30.7±0.5, 42.˚5S±3.˚3×17.˚4E±.˚, h5km, M2.3/9, ML2.4/7, MLv2.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.33**	**215**	P	Pg	00 52 37.4	+0.3
KHZ				S	Sg	00 52 41.1	-0.3
BSWZ	**Blackbirch Sta**	**0.44**	**8**	P	Pb	00 52 40.1	-0.9
BSWZ				S	Sg	00 52 45.0	+0.1
TUWZ	**Tuamarina**	**0.73**	**9**	P	Pb	00 52 45.5	-0.4
TUWZ				S	Sg	00 52 54.3	+0.2
THZ	**Tophouse**	**0.77**	**300**	P	Pb	00 52 46.6	0.0
THZ				S	Sg	00 52 55.4	0.0
NNZ	**Nelson**	**0.98**	**341**	P	Pg	00 52 49.2	-0.3
GVZ	**Greta Valley S**	**0.99**	**214**	P	Pb	00 52 50.2	-0.2
TCW	**Tory Channel**	**1.01**	**21**	P	Pb	00 52 50.7	+0.1
MRNZ	**Matariki Terra**	**1.08**	**314**	P	Pn	00 52 52.2	-0.3
DUWZ	**D'Urville Isla**	**1.35**	**4**	P	Pn	00 52 56.3	0.0
CAW	**Cannon Point**	**1.41**	**43**	P	Pn	00 52 51.8	-5.2
QRZ	**Quartz Range**	**1.63**	**324**	P	Pg	00 53 03.0	+1.1
OKCZ	**Okains Bay**	**1.66**	**199**	P	Pn	00 52 58.9	-1.6
KRVZ	**Karewarewa**	**3.36**	**25**	P	Pb	00 53 27.7	-3.1
BKZ	**Black Stump Fm**	**3.62**	**35**	P	Pn	00 53 24.1	-3.4

WEL 21 00:53:12.0±1.0, 39.˚5S±4.˚×17.˚4E±.˚, h12km±5km, M2.6/7, ML2.9/9, MLv2.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=154.6, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBEZ	**Newall Road No**	**0.05**	**266**	P	Pg	00 53 15.1	+0.9
NBEZ				S	Sg	00 53 17.3	+1.5
KHEZ	**Kahui Hut**	**0.07**	**115**	P	Pg	00 53 15.4	+0.9
KHEZ				S	Sg	00 53 17.8	+1.4
PKE	**Pukeiti**	**0.08**	**32**	P	Pg	00 53 15.5	+0.9
PKE				S	Sg	00 53 17.7	+1.2
NEZ	**North Egmont**	**0.13**	**93**	P	Pb	00 53 15.9	-0.5
NMEZ	**Namu Road**	**0.15**	**196**	P	Pb	00 53 16.8	0.0
DREZ	**Durham Road**	**0.22**	**70**	P	Pb	00 53 17.8	-0.1
MHEZ	**Mangahewa**	**0.36**	**58**	P	Pb	00 53 20.5	+0.3
VRZ	**Vera Road**	**0.66**	**78**	P	Pb	00 53 25.5	+0.1
HIZ	**Hauiti**	**1.04**	**44**	P	Pg	00 53 32.0	0.0

*KRNET **21** 01:11:33.6±0.1, 42.˚26N×73.˚83E, h17km, mb2.1*
*SOME **21** 01:11:34.0, 42.˚25N×73.˚88E, h20km*

ISC 21 01:11:33.2±1.2, 42.˚26N±0.˚05×73.˚87E±0.˚03, h16km±9km, n22, σ0s87/31, 10C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**0.41**	**351**	⇓*i*P	**Pg**	**01 11 41.6**	**-0.1**
	baz=55						
EKS2				⇓*i*S	**Sg**	**01 11 47.4**	**0.0**
	baz=55						
UCH	**Uchtor**	**0.48**	**93**	⇓*i*P	**Pb**	**01 11 43.5**	**-0.1**
	baz=93						
UCH				⇓*i*S	**Sb**	**01 11 50.7**	**+0.1**
	baz=93						
ARLS	**Aral**	**0.52**	**139**	⇑*i*P	**Pb**	**01 11 44.1**	**0.0**
	baz=37						
ARLS				⇑*i*S	**Sb**	**01 11 51.7**	**+0.2**
	baz=37						
AAK	**Ala-Archa**	**0.60**	**50**	⇑*i*P	**Pb**	**01 11 45.6**	**+0.1**
	baz=52						
AAK				⇑*i*S	**Sb**	**01 11 54.2**	**+0.4**
	baz=52						
MRKS	**Merke**	**0.68**	**316**	*e*P	**Pg**	**01 11 46.3**	**-0.3**
	baz=18						
MRKS				*e*S	**Sg**	**01 11 55.2**	**-0.5**
	baz=18						
MRKS	**Merke**	**0.68**	**316**	*e*P	**Pg**	**01 11 46.3**	**-0.3**
	3.5nm,0.2s						
MRKS				*e*S	**Sg**	**01 11 55.2**	**-0.5**
	30nm,0.2s						
CHMS	**Chumysh**	**0.99**	**41**	⇓*i*P	**Pn**	**01 11 52.7**	**+0.2**
	baz=42						
CHMS				⇓*i*S	**Sn**	**01 12 06.4**	**+0.2**
	baz=42						
USP	**Ospenovka**	**1.11**	**25**	⇑*i*P	**Pg**	**01 11 54.7**	**-0.1**
	baz=26						
USP				⇑*i*S	**Sn**	**01 12 10.0**	**+0.7**
	baz=26						
TKM2	**Tokmak 2**	**1.44**	**62**	⇑*i*P	**Pg**	**01 12 00.7**	**-0.3**
	baz=62						
TKM2				⇑*i*S	**Sg**	**01 12 20.5**	**+0.7**
	baz=62						
TKM2	**Tokmak 2**	**1.44**	**62**	⇓Pn	**Pn**	**01 11 58.2**	**-0.7**
	1.6nm,0.5s						
TKM2				⇑Lg	Lg	01 13 39.1	
	6.8nm,0.6s						
DGS	**Degeres**	**1.71**	**54**	*e*P	**Pb**	**01 12 03.8**	**-0.7**
	1.6nm,0.3s						
DGS				*e*S	**Sb**	**01 12 25.9**	**+0.1**
	5.3nm,0.7s						
DGS	**Degeres**	**1.71**	**54**	Pg	**Sb**	**01 12 25.9**	**+0.1**
	6.8nm,0.4s						
DGS				Lg	Lg	01 13 43.8	
	6.3nm,0.8s						
KST	**Kastek**	**1.74**	**62**	Pg	**Sn**	**01 12 22.8**	**-1.9**
	5.1nm,0.6s						
KST				Lg	Lg	01 13 38.3	
	16nm,0.8s						
KRBS	**Karabastau**	**1.96**	**42**	*e*P	**Pb**	**01 12 09.8**	**+1.2**
	baz=43						
KRBS				*e*S	**Sg**	**01 12 35.3**	**-0.9**
	baz=43						
KRBS	**Karabastau**	**1.96**	**42**	*e*P	**Pb**	**01 12 09.8**	**+1.2**
	1.1nm,0.3s						
KRBS				*e*S	**Sg**	**01 12 35.4**	**-0.9**
	3.5nm,0.2s						
KRBS	**Karabastau**	**1.96**	**42**	Pg	**Sn**	**01 12 29.1**	**-1.0**
	2.3nm,0.6s						
KRBS				Lg	Lg	01 13 50

OGWZ	Otaki Gorge	1.71	37	P		Pn	01 28 57.8	-2.2
OXZ	Oxford	1.73	228	P		Pn	01 28 57.7	-2.6
MQZ	McQueen's Vall	1.74	209	P		Pn	01 28 57.3	-3.2
AKCZ	Akaroa Harbour	1.81	201	P		Pn	01 28 58.8	-2.6
HOWZ	Holdsworth Sta	1.81	45	P		Pn	01 28 58.6	-2.8
INZ	Inchbonnie	1.83	252	P		Pn	01 29 01.0	-0.7
TMWZ	Te Maipa	1.89	56	P		Pn	01 28 59.2	-3.4
RACZ	Rakaia	1.97	218	P		Pn	01 29 00.9	-2.7
MRZ	Mangatainoka R	2.02	42	P		Pn	01 29 01.6	-2.7
MHCZ	Mount Hutt	2.13	230	P		Pn	01 29 03.1	-2.7
WVZ	Waitaha Valley	2.44	248	P		Pn	01 29 09.0	-1.1
RPZ	Rata Peaks	2.54	232	P		Pn	01 29 09.1	-2.3
ARCZ	Arundel	2.61	227	P		Pn	01 29 10.0	-2.5
GCSZ	Gaunt Creek Bo	2.81	245	P		Pn	01 29 14.4	-0.7
KHEZ	Kahui Hut	2.89	3	P		Pb	01 29 19.3	-2.4
TMZ	Timaru	3.00	222	P		Pn	01 29 15.5	-2.3
MOVZ	Moawhango	3.14	29	P		Pn	01 29 18.3	-1.5
WNVZ	Wahianoa	3.16	26	P		Pn	01 29 20.4	+0.2
BHHZ	Black Hill Sta	3.19	33	P		Pn	01 29 18.2	-2.2
FWVZ	Far West T-bar	3.21	25	P		Pn	01 29 20.7	-0.2
FOZ	Fox Glacier	3.23	244	P		Pn	01 29 20.4	-0.5
NGZ	Ngauruhoe	3.30	25	P		Pn	01 29 24.6	+2.6
NNVZ	North Ngauruho	3.35	25	P		Pn	01 29 22.3	-0.4
ODZ	Otahua Downs	3.67	218	P		Pn	01 29 24.2	-2.7
HIZ	Hauiti	3.76	13	P		Pn	01 29 28.7	+0.6
JCZ	Jackson Bay	4.13	241	P		Pn	01 29 32.2	-1.3
EAZ	Earnscleugh	4.46	226	P		Pn	01 29 35.5	-2.4

*IGQ **21** 01:34:19±0.4, 0°S±2°×8°1W±°, h5km*
*VAO **21** 01:34:35.1±0.5, 1°.02S×79°.70W, h10km, mb4.4*
ISC 21 01:34:20.4±1.0, **0°.16S**±0°.04×**80°.65W**±0°.07, **h9**km, **n93, σ1§90/86, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CABP	Cabo Pasado	0.31	135	P		Pg	01 34 26.0	-0.6
CABP	Cabo Pasado	0.31	135	S		Sg	01 34 30.0	-0.8
JAMA	Jama	0.45	103	P		Pg	01 34 28.0	-1.2
FLF1	Flavio Alfaro-	0.83	104	P		Pg	01 34 35.0	-1.4
MAG1	Magdalena	0.88	84	P		Pg	01 34 36.0	-1.3
PTGL	Punta Galera	1.12	33	P		Pb	01 34 40.0	-2.0
ISPT	Isla de la Pla	1.17	201	P		Pb	01 34 40.0	-2.8
ISPT	Isla de la Pla	1.17	201	S		Sg	01 34 56.0	-2.2
AV18	Acelerografo,	1.26	68	P		Pb	01 34 43.0	-1.2
AATC	Ecuador-Atacam	1.28	38	P		Pb	01 34 44.0	-0.7
ATON	Ecuador-Tonsup	1.34	39	P		Pb	01 34 45.0	-0.6
AV21	Acelerografo,	1.37	53	P		Pn	01 34 44.0	-1.7
PPLP	Puerto Lpez	1.38	185	P		Pn	01 34 43.0	-2.9
AMA1	Acelerografo,	1.43	40	P		Pn	01 34 45.0	-1.5
BV15	Puerto Quito-O	1.46	77	P		Pn	01 34 44.0	-2.9
APR2	Miler	1.70	82	P		Pn	01 34 47.0	-3.3
ILLI	Illinizas Sur	2.00	106	P		Pn	01 34 52.0	-2.8
APR1	Acelerografo,	2.04	87	P		Pn	01 34 53.0	-2.2
PINO	Pino	2.04	90	P		Pn	01 34 53.0	-2.5
JUA2	San Juan 2	2.04	91	P		Pn	01 34 53.0	-2.4
TERV	Terraza Guagua	2.04	90	P		Pn	01 34 53.0	-2.5
PAST	Pastocalle	2.08	105	P		Pn	01 34 54.0	-1.8
SRAM	San Ramn-Vol	2.16	106	P		Pn	01 34 55.0	-1.9
CAMI	Rancho Maria	2.20	103	P		Pn	01 34 56.0	-1.6
SUCR	Mariscal Sucre	2.21	102	P		Pn	01 34 56.0	-1.6
CHSH	Refugio Sur-Vo	2.22	127	P		Pn	01 34 56.0	-1.9
AMIL	Milagro (Trans	2.23	152	P		Pn	01 34 57.0	-0.5
SLOR	San Lorenzo -	2.23	105	P		Pn	01 34 56.0	-1.9
BNAS	Cotopaxi Volca	2.23	103	P		Pn	01 34 56.0	-1.9
NAS2	Nasa	2.23	102	P		Pn	01 34 57.0	-1.0
TOMA	Boca Toma-Volc	2.24	99	P		Pn	01 34 57.0	-1.0
BMOR	Cotopaxi Volca	2.26	104	P		Pn	01 34 57.0	-1.5
BREF	Cotopaxi Volca	2.27	103	P		Pn	01 34 58.0	-0.6
PORT	Chimborazo Vol	2.28	125	P		Pn	01 34 57.0	-1.7
BVC2	Cotopaxi Volca	2.29	102	P		Pn	01 34 58.0	-0.9
VC1	Cotopaxi 1	2.30	102	P		Pn	01 34 58.0	-0.9
CUSE	Cuicocha Este	2.30	78	P		Pn	01 34 57.0	-1.8
BTAM	Cotopaxi Volca	2.31	103	P		Pn	01 34 58.0	-1.1
SNLR	San Lorenzo-Es	2.31	51	P		Pn	01 34 58.0	-0.6
TAMH	Tambohuasha Ch	2.32	126	P		Pn	01 34 58.0	-1.2
CUIC	Cuicocha-Domo	2.33	79	P		Pn	01 34 57.0	-2.3
CUSW	Cuicocha Oeste	2.34	79	P		Pn	01 34 58.0	-1.4
TAMB	Tambo	2.34	103	P		Pn	01 34 58.0	-1.5
VC5	Cotopaxi	2.34	106	P		Pn	01 34 58.0	-1.5
ANTG	Antisana-Guama	2.42	98	P		Pn	01 34 59.0	-1.6
ANTM	Antisana-La Mi	2.45	99	P		Pn	01 35 00.0	-1.1
URCU	Urcuqui	2.47	76	P		Pn	01 35 00.0	-1.2
MORR	Playas El Morr	2.48	173	P		Pn	01 35 01.0	0.0
IMBA	Imbabura, San	2.49	80	P		Pn	01 35 01.0	-0.5
ANTS	Antisana-Sarah	2.50	98	P		Pn	01 35 01.0	-0.8
ANTI	Antisana	2.50	97	P		Pn	01 35 01.0	-0.8
PIAT	Ana Tenorio	2.53	109	P		Pn	01 35 01.0	-1.0
POND	Pondoa	2.53	120	P		Pn	01 35 01.0	-0.9
TUYU	Q. Yuibug Volc	2.54	121	P		Pn	01 35 01.0	-1.2
RETU	Refugio	2.55	120	P		Pn	01 35 02.0	-0.4
BULB	Ulba Tungurahu	2.57	120	P		Pn	01 35 02.0	-0.6
BPAT	Tungurahua Vol	2.58	121	P		Pn	01 35 03.0	+0.2
YAHU	Yahuarcocha	2.63	78	P		Pn	01 35 04.0	+0.6
CAYR	Refugio Cayamb	2.65	86	P		Pn	01 35 04.0	+0.1
ANGU	Angureal	2.65	86	P		Pn	01 35 05.0	+1.2
CAYA	Cayambe	2.67	85	P		Pn	01 35 04.0	-0.1
COHC	Cochancay	2.68	149	P		Pn	01 35 02.0	-1.7
CHMA	Chilma	2.78	69	P		Pn	01 35 02.0	-3.4
ECEN	Cerro Negro	2.85	70	P		Pn	01 35 05.0	-1.6
CHL1	Volc¡n Chiles	2.86	71	P		Pn	01 35 06.0	-0.7
CHL2	Volc¡n Chiles	2.89	71	P		Pn	01 35 06.0	-1.1
REVS	Reventador Sur	3.03	89	P		Pn	01 35 10.0	+1.2
CASC	Dorado de Casc	3.32	85	P		Pn	01 35 15.0	+2.3
BOSC	San Juan Bosco	3.67	144	P		Pn	01 35 20.0	+2.5
BBAC	Balboa, Cauca	4.03	57	P		Pn	01 35 21.0	-1.6
MCRA	Macar, Loja	4.24	171	P		Pn	01 35 25.0	-0.2
FLOC	Florencia	5.29	71	P		Pn	01 35 39.0	-0.6
HDC	Heredia	10.67	341	eP		Pn	01 37 23.4	+30
TBTG	Tabatinga, AM	11.45	111	eP		Pn	01 37 03.1	-1.1
TEFE	Tefe	16.35	102	eP		P	01 38 12.0	-1.2
ETMB	Extrema	17.27	124	eP		Pn	01 38 20.0	-2.0
MACA	Manacapuru-AM	20.18	99	eP		Pn	01 38 58.6	+1.3
VILB	Vilhena	23.93	123	eP		P	01 39 36.9	+1.9
LVC	Limon Verde	25.07	154	eP		P	01 39 53.6	+4.9
ITTB	Itaituba	25.24	100	eP		P	01 39 53.3	+6.3
BBSD	Serra de San D	25.99	132	eP		P	01 39 55.7	+1.9
PTLB	Pontes e Lacer	26.12	127	eP		P	01 39 58.2	+3.3
PDRB	Porto dos Gac	26.34	116	eP		P	01 40 00.8	+3.8
CLDB	Colider	26.89	114	eP		P	01 40 03.2	+1.2
SALV	Santo Antonio	29.17	124	eP		P	01 40 25.0	+2.7
PANT	Pantanal (Braz	30.10	130	eP		P	01 40 32.9	+2.4
MURT	Porto Murtinho	31.01	135	eP		P	01 40 42.0	+3.5
AQDB	Aquidauana	31.67	131	eP		P	01 40 47.6	+3.3
ARAG	Araguaiana, MT	32.39	120	eP		P	01 40 54.7	+4.0
TMAB	Tom-Au,PA,Br	32.62	94	eP		P	01 40 57.2	+4.4
SMTB	Santa Maria do	34.04	106	eP		P	01 41 09.8	+4.5
BDFB	Brasilia	35.70	117	eP		P	01 41 23.2	+3.6
PCMB	Pacaembu	35.72	129	eP		P	01 41 24.0	+4.3

*TRN **21** 01:36:25.9, 10°.37N×62°.21W, h4km, MD5.0*
TRN Felt Trinidad MMI IV.
*VAO **21** 01:36:26.5±0.4, 10°.18N×62°.13W, h10km, mb4.5*
*CAR **21** 01:36:27.7±2.6, 10°.37N±0°.06×62°.15W±0°.07, h5km±4km, Error ellipse: s-maj=9.8km s-min=8.2km az=119.0*
*FUNV **21** 01:36:27.5, 10°.37N×62°.15W, h5km, MW4.0*
*NEIC **21** 01:36:27.8, 10°.27N×62°.20W, h30km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-0.33; Mθθ0.37; Mϕϕ-0.04; Mrθ-0.19; Mθϕ-0.96; Mϕr-0.47; Fault plane solution: M₀1.14000×10¹⁶ NP1:ϕs349.40000°, δ72.60000°, λ-28.12000°. NP2:ϕs88.48000°, δ63.27000°, λ-160.44000°. Principal axes: T 1.1678, Plg6.0000°, Azm41.0000°; N -0.0474, Plg57.0000°, Azm140.0000°; P -1.1204, Plg32.0000°, Azm307.0000°;*
*NEIC **21** 01:36:28.0±1.6, 10°.26N±0°.06×62°.17W±0°.07, h28km±6km, mb4.7/94, Mwr4.6/10, Mwr4.0(CAR) Error ellipse: s-maj=10.2km s-min=8.4km az=122.0*
*IDC **21** 01:36:30.8±1.6, 10°.53N×62°.36W, h46km±15km, mb3.9/24, mbtmp4.1/26, ML3.8/3, MS3.7/17, Error ellipse: s-maj=12.8km s-min=11.4km az=102.0*
ISC 21 01:36:28.3±1.5, **10°.33N**±0°.04×**62°.21W**±0°.03, **h31**km±11km, **n274, σ1§33/274, mb4.6**/74, **MS3.7**/15, **7C-6D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.74	91	⫛iP		Pn	01 36 41.2	-1.4
TRN	Trinidad (W)	0.85	68	⫛iP		Pn	01 36 41.5	-2.7
TRN					eS	Sn	01 36 54.0	-1.6
CRUV	Carupano	1.07	289	⫛iP		Pn	01 36 46.4	-0.7
CRUV					eS	Sn	01 37 01.0	0.0
TBH	Brigand Hill	1.13	82	eP		Pn	01 36 48.4	+0.3
TPR	Prospect	1.64	59	eP		Pn	01 36 55.2	+0.1
BOT	Bacolet	1.69	60	eP		Pn	01 36 56.2	+0.7
GRFF	Grenada Fort F	1.77	15	eP		Pn	01 36 56.6	-0.2
GRFF					eS	Sn	01 37 19.4	+1.0
GRGR	Grenville	1.88	17	Pn		Pn	01 36 57.9	-0.4
GRGR	Grenville	1.88	17	eP		Pn	01 36 57.8	-0.4
GRGR					eS	Sn	01 37 21.9	+1.1
TOSP	Speyside	1.91	59	P		Pn	01 36 59.0	+0.4
TOSP	Speyside	1.91	59	eP		Pn	01 36 58.9	+0.3
TOSP					eS	Sb	01 37 24.7	-1.1
GCMP	Grenada, Carri	2.28	20	⫛iP		Pn	01 37 03.8	0.0
GCMP					eS	Sn	01 37 31.6	+0.8
PCRV	Puerto La Cruz	2.40	267	P		Pn	01 37 05.8	+0.4
	52nm,0.3s,baz=97,slow=3.1,SNR=111							
PCRV					S	Sn	01 37 32.5	-1.2
	465nm,0.5s,baz=22,slow=11,SNR=1.5							
	230nm,0.5s							
PCRV	Puerto La Cruz	2.40	267	eP		Pn	01 37 06.7	+1.2
PCRV					eS	Sn	01 37 36.1	+2.3
PRGV	PARIAGUAN	2.87	237	⫛eP		Pn	01 37 13.4	+1.6
PRGV					eS	Sn	01 37 48.7	+3.4
SVB	Belmont	3.07	18	Pn		Pn	01 37 15.3	+0.6
SVB	Belmont	3.07	18	eP		Pn	01 37 15.4	+0.6
SVB					eS	Sn	01 37 52.8	+2.3
SSV	Crater Summit	3.14	18	eP		Pn	01 37 17.1	+1.3
MCLT	Moule a Chique	3.58	20	Pn		Pn	01 37 22.6	+0.8
MCLT	Moule a Chique	3.58	20	eP		Pn	01 37 22.8	+1.0
MCLT					eS	Sn	01 38 04.5	+1.4
SLB	Belfond	3.66	18	eP		Pn	01 37 24.6	+1.7
SLB					eS	Sn	01 38 05.4	+0.3
BBGH	Gun Hill	3.82	43	Pn		Pn	01 37 25.7	+0.7
BBGH	Gun Hill	3.82	43	eP		Pn	01 37 25.7	+0.7
SLCP	Castries, St.	3.85	18	eP		Pn	01 37 26.8	+1.4
SLCP					eS	Sn	01 38 10.8	+1.2
BBSP	Saint Philip	3.86	44	eP		Pn	01 37 26.0	+0.5
SLBI	Saint Lucia, B	3.87	18	eP		Pn	01 37 26.4	+0.8
SLBI					eS	Sn	01 38 10.6	+0.5
MERV	Las Mercedes	4.17	256	⫛eP		Pn	01 37 30.9	+1.0
MERV					eS	Sn	01 38 19.4	+1.8
MPOM	Morne Pois Mar	4.30	18	Pn		Pn	01 37 31.9	+0.3
MPOM	Morne Pois Mar	4.30	18	eP		Pn	01 37 32.8	+1.2
MPOM	Morne Pois Mar	4.30	18	eS		Sn	01 38 20.8	+0.1
BIM	Bigot	4.31	15			Pn	01 37 31.9	+0.1
BIM	Bigot	4.31	15	⫛iP		Pn	01 37 31.9	+0.1
BIM	Bigot	4.31	15	eS		Sn	01 38 21.3	+0.2
FDF	Fort de France	4.50	13	Pn		Pn	01 37 34.4	0.0
FDF	Fort de France	4.50	13	eP		Pn	01 37 34.4	0.0
FDF	Fort de France	4.50	13	eS		Sn	01 38 25.9	+0.2
FUNV	FUNVISIS	4.53	272	⫛eP		Pn	01 37 37.0	+2.1
ILAM	Ilet Lapin Mar	4.61	16	Pn		Pn	01 37 36.6	+0.8
ILAM	Ilet Lapin Mar	4.61	16	eP		Pn	01 37 36.6	+0.8
ILAM	Ilet Lapin Mar	4.61	16	eS		Sn	01 38 28.3	-0.1
CARV	Caracas	4.65	273	eP		Pn	01 37 38.1	+1.6
DLPL	La Plaine	5.06	11	Pn		Pn	01 37 42.6	+0.4
DLPL	La Plaine	5.06	11	eP		Pn	01 37 44.2	+2.1
DLPL	La Plaine	5.06	11	eS		Sn	01 38 39.7	+0.1
CACV	CAICARA DEL OR	5.08	238	eP		Pn	01 37 37.7	-4.7
DSLB	Salisbury	5.14	8	eP		Pn	01 37 44.1	+1.0
DSLB	Salisbury	5.14	8	eS		Sn	01 38 41.4	-0.1
MDCT	Cottage Hill,	5.31	8	eP		Pn	01 37 46.9	+1.4
MDCT	Cottage Hill,	5.31	8	eS		Sn	01 38 45.3	-0.3
BENV	Beln	5.32	267	⫛eP		Pn	01 37 46.7	+1.0
BENV					eS	Sn	01 38 45.1	-0.9
TDBA	Terre de Bas,	5.52	6	Pn		Pn	01 37 49.0	+0.6
TDBA	Terre de Bas,	5.52	6	eP		Pn	01 37 50.7	+2.3
TBG	Guadaloupe-3	5.52	6	eP		Pn	01 37 49.8	+1.4
TURV	Turiamo	5.54	272	eP		Pn	01 37 50.4	+1.7
CBE	Ff, Capester	5.74	6	Pn		Pn	01 37 51.8	+0.3
CBE	Ff, Capester	5.74	6	eP		Pn	01 37 52.6	+1.2
CBE	Ff, Capester	5.74	6	eS		Sn	01 38 56.2	0.0
BAUV	El Baul	5.92	257	Pn		Pn	01 37 53.5	-0.4
BAUV	El Baul	5.92	257	eP		Pn	01 37 54.7	+0.9
BAUV	El Baul	5.92	257	eS		Sn	01 39 01.4	+0.8
BAUV	El Baul	5.92	257	⫛eP		Pn	01 37 54.0	+0.2
BAUV					eS	Sn	01 39 00.1	-1.5
GDHS	Morne Mazeau,	5.93	4	Pn		Pn	01 37 53.6	-0.5
GDSD	La Dsirade Is	6.05	10	Pn		Pn	01 37 55.0	-0.8
ABD	La Joyeuse, An	6.15	6			Pn	01 37 57.8	+0.7
ABD	La Joyeuse, An	6.15	6	eP		Pn	01 37 58.9	+1.9
ABD	La Joyeuse, An	6.15	6	eS		Sn	01 39 05.9	-0.5
MAPV	Macapo	6.17	266	eP		Pn	01 37 58.4	+1.0
MBFL	Flemmings, Mon	6.38	360	eP		Pn	01 38 01.3	+1.0
MBFL	Flemmings, Mon	6.38	360	eS		Sn	01 39 11.4	-0.8
JACV	Jacura	6.55	277	eP		Pn	01 38 03.7	+1.1
ANBD	Bethesda, Anti	6.70	4	eP		Pn	01 38 05.9	+1.3
ANBD	Bethesda, Anti	6.70	4	eS		Sn	01 39 19.9	+0.2
SEUS	St. Eustatius	7.16	354	Pn		Pn	01 38 11.1	+0.1
SEUS	St. Eustatius	7.16	354	eP		Pn	01 38 12.8	+1.8
ANWB	Willy Bob	7.31	3	Pn		Pn	01 38 13.6	+0.6
ANWB	Willy Bob	7.31	3	eP		Pn	01 38 13.4	+0.4
ANWB	Willy Bob	7.31	3	eS		Sn	01 39 33.2	-1.8
SABA	Saba	7.32	352	Pn		Pn	01 38 14.1	+1.0
SABA	Saba	7.32	352	eP		Pn	01 38 13.8	+0.6
SIQV	Siquisique	7.48	273	eP		Pn	01 38 16.4	+1.0
SMRT	St. Maarten	7.72	354	Pn		Pn	01 38 19.0	+0.4
SMRT	St. Maarten	7.72	354	eP		Pn	01 38 20.0	+1.3
CDVI	St. Croix	7.79	342	Pn		Pn	01 38 18.4	-1.1
BOAV	Boa Vista	8.05	168	Pn		Pn	01 38 21.7	-1.6
BOAV	Boa Vista	8.05	168	eP		Pn	01 38 21.6	-1.6
BOAV					eS	Sn	01 39 50.7	-2.6
DABV	Dabajuro	8.31	275	eP		Pn	01 38 26.8	+0.1
MTP	Monte Pirata	8.38	338	Pn		Pn	01 38 27.2	-0.5
STVI	Saint Thomas	8.41	342			Pn	01 38 28.9	+0.9
SDV	Santo Domingo	8.43	261	P		Pn	01 38 28.3	-0.3
	16nm,0.3s,baz=80,slow=7.9,SNR=32							
SDV					S	Sn	01 40 00.5	-2.4
	23nm,0.4s,baz=25,slow=19,SNR=2.5							
SDV	Santo Domingo	8.43	261	Pn		Pn	01 38 27.6	-0.9
SDV	Santo Domingo	8.43	261	eP		Pn	01 38 28.9	+0.3
CUPR	Culebra, Puert	8.48	340	Pn		Pn	01 38 29.7	+0.7
HUMP	Col San Antoni	8.54	336			Pn	01 38 30.2	+0.4
SJG	San Juan	8.63	334	P		Pn	01 38 29.4	-1.7
	0.5nm,0.3s,baz=151,slow=10,SNR=1.3							
SJG					S	Sn	01 39 59.4	-8.1
	22nm,0.4s,baz=4.1,slow=16,SNR=5.4							
SJG					LR	LR	01 42 18.6	
	comp=Z,394nm,19.3s,baz=162,slow=42							
	1.9nm,0.3s							
SJG	San Juan	8.63	334	Pn		Pn	01 38 32.0	+0.9
CBYP	Canovanas	8.65	336	Pn		Pn	01 38 32.7	+1.3
SOCV	Socops	8.77	257	eP		Pn	01 38 33.2	+0.1
GCPR	Guaynabo City	8.78	335	Pn		Pn	01 38 32.8	-0.3
CELP	Cerrillos	8.79	332	Pn		Pn	01 38 33.3	0.0
MLPR	Magueyes Islan	8.93	329	Pn		Pn	01 38 35.9	+0.7
CRPR	Cabo Rojo, PR	8.99	329	Pn		Pn	01 38 36.5	+0.4
AOPR	Arecibo Observ	9.11	332	Pn		Pn	01 38 37.8	+0.1
URIC	Uribia, Colomb	9.70	279	Pn		Pn	01 38 44.7	-1.1
PCDR	Punta Cana, DR	10.10	324	Pn		Pn	01 38 54.6	+3.4
MDP	Montagnes des	10.80	118	P		Pn	01 38 58.8	-2.1
	19nm,0.5s,baz=308,slow=15,SNR=24							
MDP					S	Sn	01 40 51.0	-10
	84nm,0.9s,baz=47,slow=16,SNR=7.7							
MDP					LR	LR	01 43 44.4	
	comp=Z,429nm,20.7s,baz=308,slow=39							
SDD	Santo Domingo	11.00	318			Pn	01 39 05.4	+1.8
SGCB	SEo Gabriel d	11.44	205	eP		Pn	01 39 09.4	-0.2
MACA	Manacapuru-AM	13.48	173	eP		Pn	01 39 36.2	-1.4
PRAC	Prado	14.19	243	Pn		Pn	01 39 46.9	-0.4
MALB	Monte Alegre	14.45	146	eP		Pn	01 39 47.1	-3.7
MCPB	Macapa, AP	14.65	136	eP		Pn	01 39 48.8	-4.7
ITTB	Itaituba	15.96	156	eP		Pn	01 40 07.2	-3.5
TBTG	Tabatinga, AM	16.33	208	eP		Pn	01 40 15.2	-0.2
BCIP	Isla Barro Col	17.42	268	Pn		Pn	01 40 27.6	-1.5
BCIP						IAmb	IAmb	01 40 52.6
	comp=Z,126nm,1.5s							
TULM	Tulcn-Chalpat	18.20	239			Pn	01 40 37.3	-1.9
NPGB	Novo Progresso	18.55	158	eP		P	01 40 42.3	-0.4
IMBA	Imbabura, San	18.78	239	P		Pn	01 40 45.0	-0.6
IMBA						IAmb	IAmb	01 41 17.0
	comp=Z,65nm,1.2s							
TMAB	Tom-Au,PA,Br	18.88	131	eP		P	01 40 46.0	-0.2
PORT	Chimborazo Vol	20.22	236	P		P	01 41 01.5	-0.1
PORT						IAmb	IAmb	01 41 30.7
	comp=Z,24nm,0.8s							
CHSH	Refugio Sur-Vo	20.32	236			IAmb	IAmb	01 41 19.5
	comp=Z,40nm,0.8s							
ETMB	Extrema	20.40	191	P		P	01 41 02.9	0.0
ETMB						IAmb	IAmb	01 41 12.0
	comp=Z,8.0nm,0.8s							
ETMB	Extrema	20.40	191	eP		P	01 41 02.9	0.0
PRPB	Parauapebas	20.52	142	eP		P	01 41 03.9	-0.2
CZSB	Cruzeiro do Su	20.76	211	eP		P	01 41 07.1	+0.3
SRBA	San Rafael, Bu	20.88	269	P		P	01 41 09.5	+1.3
RIMA	Rio Macho	21.33	270	P		P	01 41 13.7	+0.5
RIMA						IAmb	IAmb	01 41 35.1
	comp=Z,26nm,1.1s							
HDC	Heredia	21.57	271	eP		P	01 41 16.4	+0.8
CLDB	Colider	22.00	163	eP		P	01 41 20.6	+0.5
ROSB	Rosrio	22.29	125	eP		P	01 41 22.9	-0.3
PDRB	Porto dos Gac	22.46	166	eP		P	01 41 24.8	-0.3
VILB	Vilhena	23.21	175	P		P	01 41 33.1	+0.2
VILB						IAmb	IAmb	01 41 40.5
	comp=Z,36nm,1.1s							
VILB	Vilhena	23.21	175	eP		P	01 41 32.8	-0.1
ATAH	Atahualpa	23.68	224	P		P	01 41 40.6	+2.7
	comp=Z,17nm,0.9s,baz=77,slow=6.2,SNR=6.2							
ATAH						LR	LR	01 51 57.7
	comp=Z,374nm,18.6s,baz=32,slow=39							
	comp=Z,17nm,0.9s							
SMTB	Santa Maria do	23.98	142	eP		P	01 41 40.3	0.0
SNDB	Serra Nova Dou	24.66	154	eP		P	01 41 46.4	-0.1
PTLB	Pontes e Lacer	25.79	173	eP		P	01 41 56.6	-0.1
SIV	San Ignacio	26.17	178	P		P	01 42 03.5	+3.4
	comp=Z,3.7nm,0.6s,baz=355,slow=7.9,SNR=9.3							
	comp=Z,3.7nm,0.6s							
NNA	Nana	26.51	214	P		P	01 42 05.8	+2.5
	comp=Z,4.6nm,0.5s,baz=353,slow=8.1,SNR=1.9							
NNA						LR	LR	01 53 15.3
	comp=Z,332nm,19.4s,baz=20,slow=38							
	comp=Z,4.6nm,0.5s							
SALV	Santo Antonio	26.84	166	eP		P	01 42 05.8	-0.4
TEIG	Tepich	26.97	294	P		P	01 42 08.5	+1.1
LPAZ	La Paz	27.09	193	P		P	01 42 13.1	+4.0
	comp=Z,1.7nm,0.8s,baz=342,slow=12,SNR=3.4							
LPAZ						LR	LR	01 53 34.4
	comp=Z,310nm,19.5s,baz=353,slow=38							
	comp=Z,1.7nm,0.8s							
LPAZ	La Paz	27.09	193	eP		P	01 42 08.7	-0.3
ARAG	Araguaiana, MT	27.84	158	eP		P	01 42 15.1	0.0
SDBA	SAO DESIDERIO	28.38	142	eP		P	01 42 20.1	0.0
BDFB	Brasilia	29.38	151	P		P	01

TXAR PcP **PcP** **01 46 15.8 +0.4**
comp=Z,0.6nm,0.5s,baz=115,slow=9.7,SNR=28
comp=Z,1.0nm,0.7s,baz=123,slow=5.5,SNR=5.7
TXAR ScP **ScP** **01 50 03.4 -1.1**
comp=Z,0.6nm,0.9s,baz=123,slow=4.6,SNR=4.7
comp=Z,0.6nm,0.5s
TXAR Lajitas Array 43.05 302 P **P** **01 44 26.8 +1.2**
TX31 Lajitas Ar. Si 43.05 302 IAmb IAmb 01 44 45.8
comp=Z,21nm,1.5s
I37A Lemond, Waseca 43.06 327 P **P** **01 44 25.6 +0.3**
I37A IAmb IAmb 01 44 34.8
comp=Z,17nm,0.7s
CBKS Cedar Bluff 43.88 317 IAmb IAmb 01 44 32.4
comp=Z,10nm,0.8s
MSTX Muleshoe 43.92 309 IAmb IAmb 01 44 38.0
comp=Z,16nm,1.1s
SCHQ Schefferville 44.54 356 P **P** **01 44 35.8 -1.2**
comp=Z,5.4nm,1.0s,baz=200,slow=10,SNR=2.3
comp=Z,5.4nm,1.0s
K31A O'Neill 45.28 322 P **P** **01 44 42.6 -0.5**
T25A Trinidad 46.41 312 P **P** **01 44 52.5 +0.2**
T25A IAmb IAmb 01 44 58.5
comp=Z,9.8nm,1.2s
BNM Barren Site 46.97 307 P **P** **01 44 56.4 -0.5**
ULM Lac du Bonnet 48.52 332 P **P** **01 45 06.7 -1.6**
comp=Z,4.1nm,0.5s,baz=153,slow=4.5,SNR=3.2
comp=Z,4.1nm,0.5s
ULM Lac du Bonnet 48.52 332 P **P** **01 45 08.2 -0.2**
ULM IAmb IAmb 01 45 10.3
comp=Z,16nm,1.2s
PV13 Radium Mtn., P 50.03 312 P **P** **01 45 20.5 +0.1**
PLCA Paso Flores 51.38 188 P **P** **01 45 32.4 +2.2**
comp=Z,1.6nm,0.9s,baz=13,slow=7.2,SNR=5.6
comp=Z,1.6nm,0.9s
DGMT Dagmar 51.71 325 P **P** **01 45 32.9 +0.3**
PDAR Pinedale Array 52.31 317 P **P** **01 45 35.6 -1.8**
comp=Z,2.3nm,0.8s,baz=116,slow=9.5,SNR=17
PDAR ScP **ScP** **01 50 41.2 -2.2**
comp=Z,0.1nm,0.4s,baz=116,slow=6.1,SNR=3.8
PDAR LR LR 02 08 16.0
comp=Z,48nm,21.2s,baz=107,slow=37
comp=Z,2.3nm,0.8s
REDW Red Top Meadow 53.41 317 IAmb IAmb 01 45 47.2
comp=Z,8.8nm,1.2s
FRB Frobisher Bay 53.53 356 LR LR 02 11 14.7
comp=Z,41nm,18.1s,baz=190,slow=39
GCMT Greycliff 53.65 320 P **P** **01 45 47.0 -0.1**
YHL Hebgen Lake 54.23 319 IAmb IAmb 01 45 58.7
comp=Z,9.1nm,0.8s
MCMT McKenzie Canyo 55.31 318 P **P** **01 45 59.0 -0.3**
HRY Holter Researc 55.40 320 P **P** **01 46 00.1 +0.3**
ELK Elko 55.57 313 LR LR 02 11 25.9
comp=Z,69nm,21.0s,baz=100,slow=38
TIC Toumodi 56.62 89⇑*iP* P 01 46 14.0 +5.1
comp=Z,4.7nm,0.3s
LIC Lamto 56.67 89⇑*eP* **P** **01 46 10.6 +1.3**
comp=Z,17nm,0.7s
DBIC Dimbokro 56.78 89 P **P** **01 46 11.1 +1.1**
comp=Z,2.7nm,0.7s,baz=285,slow=8.7,SNR=4.2
comp=Z,2.7nm,0.7s
KIC Kosan Boka 56.93 89⇑*iP* **P** **01 46 12.3 +1.2**
comp=Z,2.9nm,0.5s
SFJD Kangerlussuaq 57.14 5 LR LR 02 08 31.5
comp=Z,32nm,21.6s,baz=179,slow=34
NVAR Mina Array Bea 57.23 309 P **P** **01 46 12.9 -0.2**
comp=Z,0.3nm,0.5s,baz=108,slow=7.0,SNR=2.8
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 59.14 50 P **P** **01 46 27.5 +1.2**
comp=Z,1.6nm,0.7s,baz=258,slow=7.0,SNR=9.6
ESDC LR LR 02 10 37.9
comp=Z,32nm,18.4s,baz=284,slow=35
comp=Z,1.6nm,0.7s
YBH Yreka Blue Hor 61.27 312 LR LR 02 15 48.0
comp=Z,47nm,18.9s,baz=113,slow=39
KBO Bosley Butte 62.47 312 P **P** **01 46 49.5 +0.6**
TOA0 Torodi Ar. Sit 62.49 81 P **P** **01 46 45.5 -3.9**
TOA0 IAmb IAmb 01 47 02.2
comp=Z,6.8nm,1.4s
SUMG Summit 63.82 8 *i*P **P** **01 47 00.0 +2.3**
YKA Yellowknife Ar 64.12 336 P **P** **01 46 58.1 -1.2**
comp=Z,1.0nm,0.5s,baz=106,slow=6.9,SNR=2.5
comp=Z,1.0nm,0.5s
KEST Kesra 69.09 56 P **P** **01 47 33.1 +1.4**
comp=Z,2.8nm,0.9s,baz=220,slow=13,SNR=2.7
comp=Z,2.8nm,0.9s
FETA Feichten 70.89 44 *eP* **P** **01 47 44.6 +1.9**
comp=Z,3.4nm,0.8s
MOTA Moosalm 71.17 43 *eP* **P** **01 47 46.5 +2.2**
comp=Z,13nm,1.8s
SQTA Sankt Quirin 71.23 44 *eP* **P** **01 47 45.5 +0.9**
comp=Z,5.3nm,0.9s
ABTA Abfaltersbach 72.08 44 *eP* **P** **01 47 50.4 +0.7**
comp=Z,7.6nm,1.4s
NB2 NORSAR Subarra 73.01 29 P **P** **01 47 59.6 +4.7**
comp=Z,4.9nm,1.2s,baz=262,slow=4.8
NOA NORSAR Array B 73.01 29 P **P** **01 47 55.4 +0.5**
comp=Z,0.5nm,0.7s,baz=260,slow=5.9,SNR=2.6
comp=Z,0.5nm,0.7s
GERES GERESS Array B 73.02 42 P **P** **01 47 55.8 +0.4**
comp=Z,0.4nm,0.7s,baz=278,slow=3.9,SNR=4.7
comp=Z,0.4nm,0.7s
DAWY Dawson 75.17 334 P **P** **01 48 07.6 +0.1**
BCAR Beaver Creek A 76.14 333 P **P** **01 48 13.0 -0.1**
SCRK Sand Creek 77.18 333 P **P** **01 48 18.0 -1.0**
SCRK IAmb IAmb 01 48 29.3
comp=Z,7.8nm,1.4s
ILAR Eielson Array 78.46 334 P **P** **01 48 24.6 -1.3**
comp=Z,0.8nm,0.6s,baz=94,slow=4.5,SNR=12
comp=Z,0.8nm,0.6s
ILAR Eielson Array 78.46 334 P **P** **01 48 25.5 -0.5**
H24K Noodor Dome 78.88 335 P **P** **01 48 28.0 -0.3**
H24K IAmb IAmb 01 49 10.4
comp=Z,9.9nm,1.4s
MDM Murphy Dome 79.04 334 P **P** **01 48 28.5 -0.7**
MDM IAmb IAmb 01 48 35.8
comp=Z,7.6nm,1.0s
I23K Minto, Yukon-K 79.51 335 P **P** **01 48 32.6 +0.9**
I23K IAmb IAmb 01 48 51.3
comp=Z,10nm,1.4s
ARCES ARCESS Array B 79.60 21 P **P** **01 48 33.0 +0.8**
comp=Z,3.2nm,1.0s,baz=287,slow=3.7,SNR=4.6
comp=Z,3.2nm,1.0s
FINES FINESS Array B 80.19 29 P **P** **01 48 35.6 +0.2**
comp=Z,1.6nm,0.5s,baz=269,slow=4.2,SNR=22
comp=Z,1.6nm,0.5s
FINES FINESS Array B 80.19 29 P **P** **01 48 34.6 -0.8**
CAST Castle Rocks 80.79 333 P **P** **01 48 38.4 -0.3**
H21K Melozitna Rive 80.92 335 P **P** **01 48 40.2 +0.9**
IMAR Indian Mountai 81.28 336 P **P** **01 48 41.5 +0.3**
N18K Kilae Creek 82.88 330 P **P** **01 48 48.9 -0.9**
N18K IAmb IAmb 01 49 03.6
comp=Z,12nm,1.1s
AKASG Malin Array Be 83.00 40 LR LR 02 22 47.3
comp=Z,22nm,21.3s,baz=242,slow=34
BRTR Keskin Array B 87.93 50 P **P** **01 49 16.9 +1.4**
comp=Z,1.1nm,0.7s,baz=289,slow=4.6,SNR=4.9
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 87.93 50 P **P** **01 49 15.3 -0.3**
KBZ Khabaz 93.62 45 P **P** **01 49 42.8 +1.0**
comp=Z,3.7nm,1.1s,baz=226,slow=17,SNR=3.5
comp=Z,3.7nm,1.1s
BELG Belogornoye 93.66 35 LR LR 02 31 08.8
comp=Z,31nm,19.8s,baz=142,slow=35
KSH Kashi 117.03 35 PKP **PKPdf** **01 55 08.0 -2.7**
LZH Lanzhou 132.00 15 *e*PKP **PKPdf** **01 55 35.3 -4.2**
LZH sPKP 01 55 48.4
PZH PanZhiHua 140.21 23 PKP **PKPdf** **01 55 53.1 -1.8**
CMAR Chiang Mai Arr 145.88 33 PKPbc **PKPdf** **01 56 05.2 +0.2**
comp=Z,1.1nm,0.3s,baz=313,slow=5.6,SNR=1.7
STKA Stephens Creek 149.27 222 PKPbc **PKPbc** **01 56 14.7 +0.2**
comp=Z,1.4nm,0.6s,baz=90,slow=1.0,SNR=2.4
ASAR Alice Springs 159.70 227 PKP **PKPdf** **01 56 25.5 +0.5**
comp=Z,0.3nm,0.7s,baz=166,slow=1.9,SNR=2.0
ASAR PKPab **PKPab** **01 57 02.9 -0.6**
comp=Z,0.4nm,0.6s,baz=123,slow=3.4,SNR=2.9
WRA Warramunga Arr 161.40 237 PKP **PKPdf** **01 56 25.2 -1.6**
comp=Z,0.5nm,0.9s,baz=101,slow=1.0,SNR=2.6
WRA PKPab **PKPab** **01 57 10.1 -1.0**
comp=Z,1.0nm,0.8s,baz=105,slow=4.2,SNR=8.3

IDC 21 01:40:30.8±2.6, 8°14S×128°96E, h0km, mb3.8/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=281.1km s-min=32.6km az=66.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.83**	**157**	Pn	Pn	01 43 34.1	-0.6
	0.2nm,0.3s,baz=334,slow=13,SNR=9.4						
WRA				Sn	Sn	01 45 48.9	-10
	0.6nm,0.3s,baz=344,slow=22,SNR=12						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**16.15**	**164**	Pn	Pn	01 44 20.1	+0.8
	0.1nm,0.3s,baz=343,slow=9.0,SNR=1.8						
ASAR				Sn	Sn	01 47 12.4	-6.8
	0.2nm,0.3s,baz=354,slow=24,SNR=2.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.62**	**328**	P	P	01 51 35.9	0.0
	0.6nm,0.6s,baz=122,slow=8.1,SNR=5.8						
	0.6nm,0.6s						

IDC 21 01:47:20.4±1.1, 4°89S×150°90E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=43.6km s-min=12.5km az=149.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.26**	**63**	Pg	Pn	01 47 45.5	+0.2
	58nm,0.3s,baz=235,slow=2.3,SNR=35						
KRVT				Lg	Lg	01 48 00.8	
	162nm,0.3s,baz=101,slow=10,SNR=12						
WRA	**Warramunga Arr**	**22.00**	**226**	P	P	01 52 16.8	+0.3
	1.2nm,0.5s,baz=52,slow=10,SNR=18						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**24.84**	**220**	P	P	01 52 44.6	-0.1
	2.8nm,0.7s,baz=56,slow=9.3,SNR=24						
	2.8nm,0.7s						
MKAR	**Makanchi Array**	**79.16**	**319**	P	P	01 59 27.2	0.0
	0.4nm,0.5s,baz=113,slow=7.3,SNR=4.6						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**82.95**	**22**	P	P	01 59 46.5	-0.6
	0.5nm,0.7s,baz=239,slow=4.9,SNR=6.5						
	0.5nm,0.7s						

*WEL **21** 01:55:01.8±0.3, 42°S±2°×17°3E±°, h6km±3km, M3.2/40, ML3.5/14, MLv3.2/40, Error ellipse: s-maj=0.0km s-min=0.0km az=134.1*
*NOU **21** 01:55:01.1, 42°51S×173°51E, h9km, MLv3.8/9, South Island, New Zealand*
ISC 21 01:55:00.9±1.0, 42°46S±0°03×173°61E±0°04, h19km±6km, n64, σ1°16/64, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.06**	**308**	P	**Pg**	**01 55 04.5**	**+0.2**
KHZ	**Kahutara**	**0.06**	**308**	P	**Pg**	01 55 04.5	+0.2
KHZ				S	**Sg**	**01 55 06.7**	**+0.1**
GVZ	**Greta Valley S**	**0.66**	**219**	P	**Pn**	**01 55 15.8**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.77**	**15**	P	**Pb**	**01 55 15.4**	**-0.2**
CMWZ	**Cape Campbell**	**0.84**	**33**	P	**Pn**	**01 55 18.5**	**+0.8**
THZ	**Tophouse**	**0.87**	**323**	P	**Pb**	**01 55 15.7**	**-1.6**
AMCZ	**Amberley**	**1.01**	**224**	P	**Pg**	**01 55 20.9**	**+0.5**
LTZ	**Lake Taylor**	**1.04**	**251**	P	**Pb**	**01 55 19.9**	**-0.3**
TUWZ	**Tuamarina**	**1.06**	**14**	P	**Pb**	**01 55 20.6**	**+0.1**
MRNZ	**Matariki Terra**	**1.23**	**329**	P	**Pn**	**01 55 22.5**	**-0.6**
NNZ	**Nelson**	**1.25**	**352**	P	**Pn**	**01 55 22.9**	**-0.5**
OKCZ	**Okains Bay**	**1.33**	**197**	P	**Pb**	**01 55 25.3**	**+0.1**
TCW	**Tory Channel**	**1.34**	**22**	P	**Pn**	**01 55 24.8**	**+0.2**
SNZO	**South Karori**	**1.41**	**36**	P	**Pb**	**01 55 26.3**	**-0.2**
MQZ	**McQueen's Vall**	**1.43**	**209**	P	**Pn**	**01 55 25.7**	**-0.2**
OXZ	**Oxford**	**1.44**	**232**	P	**Pn**	**01 55 25.8**	**-0.3**
WEL	**Wellington**	**1.46**	**37**	P	**Pn**	**01 55 26.9**	**+0.7**
TKNZ	**Takaka Hill**	**1.50**	**341**	P	**Pn**	**01 55 27.3**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.50**	**200**	P	**Pn**	**01 55 27.4**	**+0.5**
PLWZ	**Palliser**	**1.52**	**55**	P	**Pn**	**01 55 27.3**	**+0.3**
DSZ	**Denniston Nort**	**1.52**	**297**	P	**Pn**	**01 55 27.3**	**+0.2**
MSWZ	**Moikau Station**	**1.61**	**50**	P	**Pn**	**01 55 28.7**	**+0.4**
INZ	**Inchbonnie**	**1.62**	**260**	P	**Pn**	**01 55 28.8**	**+0.4**
RACZ	**Rakaia**	**1.66**	**220**	P	**Pn**	**01 55 29.0**	**0.0**
DUWZ	**D'Urville Isla**	**1.67**	**8**	P	**Pn**	**01 55 29.6**	**+0.5**
PAWZ	**Paruwai Farm**	**1.73**	**52**	P	**Pn**	**01 55 30.1**	**+0.1**
CAW	**Cannon Point**	**1.73**	**40**	P	**Pn**	**01 55 30.4**	**+0.4**
QRZ	**Quartz Range**	**1.82**	**333**	P	**Pn**	**01 55 32.0**	**+0.8**
QRZ	**Quartz Range**	**1.82**	**333**	P	**Pn**	**01 55 31.9**	**+0.8**
MHCZ	**Mount Hutt**	**1.84**	**234**	P	**Pn**	**01 55 31.1**	**-0.5**
KIW	**Kapiti Island**	**1.87**	**32**	P	**Pn**	**01 55 32.4**	**+0.5**
TRWZ	**Traveller**	**1.88**	**56**	P	**Pn**	**01 55 32.0**	**0.0**
MTW	**Mount Morrison**	**1.92**	**48**	P	**Pn**	**01 55 32.5**	**0.0**
WACZ	**Wakanui South**	**1.97**	**220**	P	**Pn**	**01 55 33.4**	**+0.2**
OGWZ	**Otaki Gorge**	**2.01**	**36**	P	**Pn**	**01 55 34.1**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.11**	**43**	P	**Pn**	**01 55 35.2**	**-0.1**
TMWZ	**Te Maipa**	**2.18**	**52**	P	**Pn**	**01 55 35.9**	**-0.2**
WVZ	**Waitaha Valley**	**2.20**	**253**	P	**Pn**	**01 55 37.1**	**+0.7**
RPZ	**Rata Peaks**	**2.25**	**235**	P	**Pn**	**01 55 37.1**	**-0.1**
RPZ	**Rata Peaks**	**2.25**	**235**	P	**Pn**	**01 55 37.0**	**-0.2**
ARCZ	**Arundel**	**2.32**	**229**	P	**Pn**	**01 55 38.0**	**-0.1**
MRZ	**Mangatainoka R**	**2.33**	**40**	P	**Pn**	**01 55 38.0**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.56**	**249**	P	**Pn**	**01 55 42.3**	**+0.9**
TMZ	**Timaru**	**2.70**	**224**	P	**Pn**	**01 55 43.7**	**+0.3**
KHEZ	**Kahui Hut**	**3.17**	**6**	P	**Pn**	**01 55 52.9**	**+3.0**
KHEZ	**Kahui Hut**	**3.17**	**6**	P	**Pn**	**01 55 52.7**	**+2.8**
ODZ	**Otahua Downs**	**3.36**	**219**	P	**Pn**	**01 55 52.5**	**+0.1**
ODZ	**Otahua Downs**	**3.36**	**219**	P	**Pn**	**01 55 52.3**	**-0.1**
VRZ	**Vera Road**	**3.44**	**115**	P	**Pn**	**01 55 55.7**	**+2.2**
MOVZ	**Moawhango**	**3.45**	**29**	P	**Pn**	**01 55 55.0**	**+1.3**
WNVZ	**Wahianoa**	**3.47**	**26**	P	**Pn**	**01 55 55.3**	**+1.3**
TRVZ	**Turoa**	**3.48**	**26**	P	**Pn**	**01 55 55.2**	**+0.9**
WHVZ	**Whangaehu Hut**	**3.51**	**26**	P	**Pn**	**01 55 55.7**	**+1.1**
FWVZ	**Far West T-bar**	**3.52**	**25**	P	**Pn**	**01 55 56.0**	**+1.2**
SNVZ	**South Ngauruho**	**3.61**	**26**	P	**Pn**	**01 55 55.7**	**-0.3**
NNVZ	**North Ngauruho**	**3.65**	**25**	P	**Pb**	**01 56 02.8**	**-2.1**
ETVZ	**East Tongariro**	**3.68**	**26**	P	**Pb**	**01 56 01.4**	**-3.9**
TMVZ	**Te Maari**	**3.70**	**26**	P	**Pn**	**01 55 58.1**	**+1.0**
JCZ	**Jackson Bay**	**3.87**	**244**	P	**Pn**	**01 56 00.0**	**+0.5**
BKZ	**Black Stump Fm**	**3.95**	**35**	P	**Pn**	**01 56 04.1**	**+3.6**
HIZ	**Hauiti**	**4.05**	**14**	P	**Pn**	**01 56 03.5**	**+1.6**
HIZ	**Hauiti**	**4.05**	**14**	P	**Pn**	**01 56 03.8**	**+2.0**
TOZ	**Tahuroa Road**	**4.94**	**18**	P	Pn	01 56 19.9	+5.8
MKAZ	**Moumakai**	**5.48**	**13**	P	**Pn**	**01 56 22.3**	**+0.8**

*IDC **21** 01:57:19.5±2.3, 41°73S×173°87E, h0km, mb3.5/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=46.2km s-min=38.6km az=102.0*
*WEL **21** 01:57:22.1±0.3, 42°S±2°×17°4E±°, h13km±2km, M3.9/50, ML4.2/23, MLv3.9/50, Error ellipse: s-maj=0.0km s-min=0.0km az=109.7*
*NOU **21** 01:57:24.4, 41°68S×174°03E, h0km, MLv4.4/7, Cook Strait, New Zealand*
ISC 21 01:57:21.9±1.1, 41°86S±0°03×174°03E±0°03, h19km±4km, n108, σ1°71/110, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.17**	**52**	P	**Pg**	**01 57 26.2**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.18**	**320**	P	**Pg**	**01 57 27.1**	**+0.4**
BSWZ				S	**Sg**	**01 57 30.6**	**+0.6**
TUWZ	**Tuamarina**	**0.43**	**351**	P	**Pg**	**01 57 30.2**	**-0.5**
TUWZ				S	**Sg**	**01 57 35.8**	**-0.9**
KHZ	**Kahutara**	**0.67**	**213**	P	**Pn**	**01 57 38.3**	**+2.0**
TCW	**Tory Channel**	**0.67**	**16**	P	**Pb**	**01 57 33.7**	**-1.1**
WEL	**Wellington**	**0.79**	**44**	P	**Pb**	**01 57 36.4**	**-0.6**
NNZ	**Nelson**	**0.80**	**322**	P	**Pn**	**01 57 37.4**	**-0.7**
THZ	**Tophouse**	**0.85**	**276**	P	**Pb**	**01 57 39.7**	**+0.9**
PLWZ	**Palliser**	**0.96**	**73**	P	**Pb**	**01 57 39.4**	**-0.4**
MSWZ	**Moikau Station**	**1.01**	**65**	P	**Pn**	**01 57 40.3**	**-0.7**
DUWZ	**D'Urville Isla**	**1.06**	**355**	P	**Pb**	**01 57 40.9**	**-0.6**
MRNZ	**Matariki Terra**	**1.06**	**295**	P	**Pn**	**01 57 43.0**	**+1.3**
CAW	**Cannon Point**	**1.08**	**46**	P	**Pn**	**01 57 41.3**	**-0.6**
PAWZ	**Paruwai Farm**	**1.15**	**66**	P	**Pn**	**01 57 42.1**	**-0.8**
TKNZ	**Takaka Hill**	**1.15**	**315**	P	**Pg**	**01 57 43.6**	**-0.6**
KIW	**Kapiti Island**	**1.19**	**34**	P	**Pn**	**01 57 42.7**	**-0.8**
MTW	**Mount Morrison**	**1.30**	**58**	P	**Pn**	**01 57 44.0**	**-1.0**
TRWZ	**Traveller**	**1.32**	**70**	P	**Pn**	**01 57 44.1**	**-1.1**
GVZ	**Greta Valley S**	**1.33**	**213**	P	**Pg**	**01 57 47.3**	**-0.3**
OGWZ	**Otaki Gorge**	**1.35**	**40**	P	**Pn**	**01 57 45.2**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.47**	**50**	P	**Pn**	**01 57 46.3**	**-1.0**
QRZ	**Quartz Range**	**1.53**	**312**	P	**Pg**	**01 57 50.3**	**-1.0**
QRZ	**Quartz Range**	**1.53**	**312**	P	**Pg**	**01 57 50.0**	**-1.3**
TMWZ	**Te Maipa**	**1.58**	**62**	P	**Pn**	**01 57 47.5**	**-1.3**
LTZ	**Lake Taylor**	**1.60**	**234**	P	**Pg**	**01 57 51.3**	**-1.4**
MRZ	**Mangatainoka R**	**1.67**	**45**	P	**Pn**	**01 57 49.1**	**-0.9**
AMCZ	**Amberley**	**1.67**	**217**	P	**Pb**	**01 57 51.9**	**0.0**
DSZ	**Denniston Nort**	**1.67**	**273**	P	**Pg**	**01 57 53.4**	**-0.6**
TIWZ	**Tintock**	**1.76**	**53**	P	Pn	01 57 48.6	-2.7
CPWZ	**Castlepoint**	**1.89**	**61**	P	**Pb**	**01 57 59.4**	**+3.8**
OHWZ	**Ohakea**	**1.91**	**31**	P	**Pn**	**01 57 54.4**	**+1.1**
PRWZ	**Pori Road**	**1.96**	**49**	P	**Pn**	**01 57 52.9**	**-1.1**
POWZ	**Post Office Ro**	**1.96**	**42**	P	**Pn**	**01 57 53.6**	**-0.4**
OKCZ	**Okains Bay**	**2.00**	**201**	P	**Pn**	**01 57 55.4**	**+0.8**
BFZ	**Birch Farm**	**2.04**	**56**	P	**Pn**	**01 57 54.5**	**-0.6**
OXZ	**Oxford**	**2.08**	**224**	P	**Pn**	**01 57 56.7**	**+1.1**
INZ	**Inchbonnie**	**2.11**	**245**	P	**Pb**	**01 57 58.6**	**-0.8**
MQZ	**McQueen's Vall**	**2.11**	**208**	P	**Pn**	**01 57 56.3**	**+0.2**
AKCZ	**Akaroa Harbour**	**2.18**	**202**	P	**Pn**	**01 57 58.0**	**+1.0**
WAZ	**Wanganui**	**2.22**	**19**	P	**Pb**	**01 58 00.9**	**-0.4**
DVHZ	**Dannevirke**	**2.24**	**47**	P	**Pn**	**01 57 56.4**	**-1.5**
TSZ	**Takapari Road**	**2.31**	**40**	P	**Pn**	**01 57 58.0**	**-0.9**
RACZ	**Rakaia**	**2.33**	**216**	P	**Pn**	**01 58 00.6**	**+1.4**
LREZ	**Lake Rotokare**	**2.41**	**7**	P	**Pn**	**01 58 02.5**	**+2.3**
NMEZ	**Namu Road**	**2.44**	**357**	P	**Pb**	**01 58 04.7**	**-0.3**
MHCZ	**Mount Hutt**	**2.47**	**226**	P	**Pn**	**01 58 02.1**	**+1.1**
PRHZ	**Porangahau**	**2.53**	**52**	P	**Pn**	**01 58 00.6**	**-1.3**
PNHZ	**Pukenui**	**2.54**	**41**	P	**Pn**	**01 58 00.7**	**-1.4**
WPHZ	**Waipukurau**	**2.56**	**46**	P	**Pb**	**01 58 09.0**	**+2.0**
KHEZ	**Kahui Hut**	**2.56**	**360**	P	**Pb**	**01 58 05.8**	**-1.4**
KHEZ	**Kahui Hut**	**2.56**	**360**	P	**Pb**	**01 58 05.7**	**-1.4**
NEZ	**North Egmont**	**2.58**	**1**	P	**Pb**	**01 58 06.5**	**-1.0**
NBEZ	**Newall Road No**	**2.59**	**357**	P	**Pb**	**01 58 06.5**	**-1.0**
WACZ	**Wakanui South**	**2.64**	**217**	P	**Pn**	**01 58 04.6**	**+1.3**
PKE	**Pukeiti**	**2.66**	**359**	P	**Pb**	**01 58 07.1**	**-1.8**
DREZ	**Durham Road**	**2.67**	**3**	P	**Pb**	**01 58 07.7**	**-1.2**
MTVZ	**Mangateitei**	**2.70**	**24**	P	**Pn**	**01 58 07.0**	**+2.7**
WVZ	**Waitaha Valley**	**2.73**	**242**	P	**Pb**	**01 58 07.1**	**-2.8**
PKVZ	**Pokaka**	**2.75**	**22**	P	**Pn**	**01 58 06.0**	**+1.1**
MOVZ	**Moawhango**	**2.77**	**29**	P	**Pn**	**01 58 05.7**	**+0.4**
VRZ	**Vera Road**	**2.78**	**12**	P	**Pn**	**01 58 07.1**	**+1.7**
WNVZ	**Wahianoa**	**2.79**	**26**	P	**Pn**	**01 58 06.9**	**+1.3**
TRVZ	**Turoa**	**2.80**	**25**	P	**Pn**	**01 58 06.6**	**+0.7**
BHHZ	**Black Hill Sta**	**2.82**	**34**	P	**Pn**	**01 58 04.6**	**-1.3**
DRZ	**Dome Shelter**	**2.83**	**25**	P	**Pb**	**01 58 11.6**	**-0.3**
WHVZ	**Whangaehu Hut**	**2.83**	**25**	P	**Pn**	**01 58 07.9**	**+1.7**
FWVZ	**Far West T-bar**	**2.84**	**25**	P	**Pn**	**01 58 07.2**	**+0.8**
RPZ	**Rata Peaks**	**2.87**	**229**	Pn	**Pn**	**01 58 07.2**	**+0.6**
	2.5nm,0.3s,baz=104,slow=6.4,SNR=3.1						
RPZ				Sn	**Sn**	**01 58 41.6**	**+0.9**
	28nm,0.3s,baz=109,slow=20,SNR=21						
	9.0nm,0.5s						
RPZ	**Rata Peaks**	**2.87**	**229**	P	**Pn**	**01 58 08.1**	**+1.5**
NGZ	**Ngauruhoe**	**2.93**	**25**	P	**Pn**	**01 58 09.0**	**+1.5**
SNVZ	**South Ngauruho**	**2.93**	**25**	P	**Pn**	**01 58 11.0**	**+3.4**
OTVZ	**Oturere**	**2.96**	**25**	P	**Pn**	**01 58 10.6**	**+2.7**
NNVZ	**North Ngauruho**	**2.98**	**24**	P	**Pn**	**01 58 09.2**	**+1.1**
TWVZ	**Taurewa**	**2.98**	**22**	P	**Pn**	**01 58 09.0**	**+0.9**
KAHZ	**Kahuranaki**	**2.98**	**47**	P	**Pn**	**01 58 06.4**	**-1.7**
WTVZ	**West Tongariro**	**2.98**	**24**	P	**Pn**	**01 58 11.4**	**+3.2**
ETVZ	**East Tongariro**	**3.00**	**26**	P	**Pn**	**01 58 10.0**	**+1.6**
KRVZ	**Karewarewa**	**3.02**	**25**	P	**Pn**	**01 58 13.2**	**+4.5**
TMVZ	**Te Maari**	**3.02**	**26**	P	**Pn**	**01 58 09.3**	**+0.6**
NTVZ	**North Tongarir**	**3.03**	**25**	P	**Pn**	**01 58 11.7**	**+2.9**
KWHZ	**Kaweka Forest**	**3.03**	**38**	P	**Pb**	**01 58 15.5**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**3.10**	**241**	P	**Pb**	**01 58 12.9**	**-3.5**
KATZ	**Kakaramea**	**3.15**	**24**	P	**Pb**	**01 58 16.1**	**-1.1**
RITZ	**Rihia Road**	**3.19**	**26**	P	**Pb**	**01 58 16.7**	**-1.2**
RATZ	**Rangitukua**	**3.27**	**25**	P	**Pb**	**01 58 18.5**	**-0.7**
BKZ	**Black Stump Fm**	**3.28**	**36**	P	**Pn**	**01 58 14.9**	**+2.7**
BKZ	**Black Stump Fm**	**3.28**	**36**	P	**Pn**	**01 58 11.0**	**-1.2**
TMZ	**Timaru**	**3.36**	**220**	P	**Pn**	**01 58 14.5**	**+1.2**
HIZ	**Hauiti**	**3.40**	**11**	P	**Pn**	**01 58 15.9**	**+2.1**
HIZ	**Hauiti**	**3.40**	**11**	P	**Pn**	**01 58 15.6**	**+1.8**
FOZ	**Fox Glacier**	**3.53**	**240**	P	**Pn**	**01 58 18.2**	**+2.6**
TLZ	**Tolley Road**	**3.71**	**19**	P	**Pn**	**01 58 21.8**	**+3.8**
LBZ	**Lake Benmore**	**3.79**	**227**	P	**Pn**	**01 58 21.3**	**+2.2**
LBZ				P	Pb	01 58 21.5	-6.5
ODZ	**Otahua Downs**	**4.03**	**217**	P	**Pn**	**01 58 23.3**	**+0.8**
TOZ	**Tahuroa Road**	**4.27**	**16**	P	**Pn**	**01 58 28.2**	**+2.4**
URZ	**Urewera**	**4.30**	**34**	P	**Pn**	**01 58 26.5**	**+0.3**
JCZ	**Jackson Bay**	**4.44**	**238**	P	**Pn**	**01 58 29.2**	**+1.0**
RUGZ	**Raukumara Rang**	**4.79**	**37**	P	**Pn**	**01 58 33.1**	**0.0**
AWAZ	**Awhitu Peninsu**	**4.81**	**6**	P	**Pn**	**01 58 35.3**	**+2.1**
MKAZ	**Moumakai**	**4.83**	**11**	P	**Pn**	**01 58 35.1**	**+1.7**

TRVZ	**Turoa**	**3.64**	**29**	P		**Pn**	**02 06 40.6**	**-0.1**
WHVZ	**Whangaehu Hut**	**3.67**	**29**	P		**Pn**	**02 06 41.6**	**+0.5**
FWVZ	**Far West T-bar**	**3.68**	**29**	P		**Pn**	**02 06 44.2**	**+3.0**
BHHZ	**Black Hill Sta**	**3.68**	**36**	P		**Pn**	**02 06 42.9**	**+1.8**
TUVZ	**Tukino**	**3.71**	**30**	P		**Pn**	**02 06 42.1**	**+0.6**
NGZ	**Ngauruhoe**	**3.77**	**29**	P		**Pn**	**02 06 42.8**	**+0.4**
WTVZ	**West Tongariro**	**3.82**	**28**	P		**Pn**	**02 06 46.3**	**+3.3**
ETVZ	**East Tongariro**	**3.84**	**30**	P		**Pn**	**02 06 45.0**	**+1.7**
TMVZ	**Te Maari**	**3.86**	**29**	P		**Pn**	**02 06 43.8**	**+0.2**
BKZ	**Black Stump Fm**	**4.14**	**37**	P		**Pn**	**02 06 46.1**	**-1.3**
HIZ	**Hauiti**	**4.17**	**17**	P		**Pn**	**02 06 48.7**	**+1.0**
HIZ	**Hauiti**	**4.17**	**17**	P		**Pn**	**02 06 49.0**	**+1.3**
SYZ	**Scrubby Hill**	**4.99**	**215**	P		**Pn**	**02 07 00.2**	**+1.2**
TOZ	**Tahuroa Road**	**5.07**	**21**	P		**Pn**	**02 07 00.6**	**+0.5**
KMRZ	**Kaimai**	**5.09**	**25**	P		**Pn**	**02 07 01.9**	**+1.6**
AWAZ	**Awhitu Peninsu**	**5.54**	**12**	P		**Pn**	**02 07 07.7**	**+1.2**
MKAZ	**Moumakai**	**5.59**	**16**	P		**Pn**	**02 07 07.7**	**+0.5**

*IDC **21** 02:08:52.2±2.1,6˚09S×131˚11E,h93km±20km,mb3.8/4, mbtmp4.2/8,Error ellipse: s-maj=42.4km s-min=14.5km az=89.0*
*NEIC **21** 02:08:55.7±1.4,6˚07S±0˚07×130˚8E±0˚1,h116km±7km, mb4.4/19,Error ellipse: s-maj=17.5km s-min=9.6km az=92.0*
*DJA **21** 02:08:56.3±0.3,6˚S±3˚×13˚1E±˚,h128km±9km,M4.5/12, mb4.4/6,mB5.1/6,MLv4.6/12,Mw(mB)4.5/6*
ISC 21 02:08:54.3±0.5,**6˚09S**±0˚05×**130˚8E**±0˚06,**h100**km,**n75,** σ1°**83**/**71**,**mb4.5**/14,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.81**	**329**	P	**Pn**	**02 09 28.7**	**+4.3**
BNDI	**Bandanaira**	**1.81**	**329**	P	Pn	02 09 29.3	+4.9
SAUI	**Saumlaki**	**1.94**	**166**	Pn	**Pn**	**02 09 28.8**	**+2.7**
SAUI	**Saumlaki**	**1.94**	**166**	P	**Pn**	**02 09 30.2**	**+4.1**
SAUI	**Saumlaki**	**1.94**	**166**	P	**Pn**	**02 09 30.1**	**+4.0**
MSAI	**Masohi**	**3.32**	**325**	P	**Pn**	**02 09 47.2**	**+2.9**
FAKI	**Fak Fak**	**3.45**	**24**	Pn	**Pn**	**02 09 47.3**	**+1.2**
FAKI	**Fak Fak**	**3.45**	**24**	P	**Pn**	**02 09 48.2**	**+2.1**
FAKI	**Fak Fak**	**3.45**	**24**	P	**Pn**	**02 09 48.0**	**+1.9**
KRAI	**Karang Ratu**	**3.67**	**318**	P	**Pn**	**02 09 52.9**	**+3.8**
NLAI	**Namlea**	**4.68**	**307**	P	**Pn**	**02 10 06.4**	**+3.8**
SIJI	**Sorong**	**5.20**	**5**	P	**Pn**	**02 10 09.1**	**-0.7**
	58nm,0.3s,baz=21,slow=24,SNR=11						
SIJI				S	**Sn**	**02 11 05.8**	**-2.8**
	73nm,0.3s,baz=110,slow=23,SNR=31						
SIJI	**Sorong**	**5.20**	**5**	P	**Pn**	**02 10 10.5**	**+0.7**
SWI	**Sorong**	**5.21**	**5**	P	**Pn**	**02 10 11.3**	**+1.5**
RKPI	**Ransiki, Papua**	**5.64**	**36**	P	**Pn**	**02 10 18.1**	**+2.4**
	3.3nm147nm,0.6s						
SANI	**Sanana**	**6.28**	**309**	P	**Pn**	**02 10 27.5**	**+3.1**
	0.2nm931nm20nm,0.4s						
LBMI	**Labuha**	**6.35**	**328**	P	**Pn**	**02 10 27.3**	**+1.9**
	0.3nm1μm38nm,0.8s						
MTN	**Manton Dam**	**6.72**	**178**	Pn	**Pn**	**02 10 30.9**	**+0.4**
MTN	**Manton Dam**	**6.72**	**178**	P	**Pn**	**02 10 32.2**	**+1.8**
KDU	**Kakadu**	**6.75**	**166**	P	**Pn**	**02 10 31.2**	**+0.3**
SOEI	**Soe**	**7.46**	**240**	Pn	**Pn**	**02 10 40.8**	**+0.2**
SOEI	**Soe**	**7.46**	**240**	P	**Pn**	**02 10 42.5**	**+1.9**
	0.3nm41nm,0.7s						
BATI	**Baumata**	**8.20**	**240**	P	**Pn**	**02 10 51.6**	**+1.1**
	34nm,0.3s,baz=108,slow=4.0,SNR=4.4						
BATI				S	**Sn**	**02 12 20.5**	**-1.1**
	39nm,0.4s,baz=57,slow=22,SNR=6.9						
BATI	**Baumata**	**8.20**	**240**	P	**Pn**	**02 10 53.2**	**+2.7**
	30nm,0.4s						
KNRA	**Kununurra**	**9.75**	**192**	Pn	**Pn**	**02 11 10.0**	**-1.6**
PLAI	**Plampang**	**13.23**	**257**	P	**Pn**	**02 11 59.8**	**+1.5**
	23nm,1.1s						
PLAI	**Plampang**	**13.23**	**257**	P	**Pn**	**02 12 01.3**	**+3.0**
	22nm,1.1s						
WB0	**Warramunga Arr**	**14.03**	**166**	Pn	Pn	02 12 04.8	-4.0
TWSI	**Taliwang, Sumb**	**14.09**	**258**	P	**Pn**	**02 12 12.5**	**+3.1**
	10nm,1.8s						
WRAB	**Tennant Creek**	**14.18**	**166**		Pn	02 12 05.9	-4.7
WRA	**Warramunga Arr**	**14.19**	**166**	P	Pn	02 12 06.3	-4.4
	0.6nm,0.3s,baz=351,slow=14,SNR=23						
WRA				S	Sn	02 14 36.0	-11
	4.7nm,0.5s,baz=355,slow=23,SNR=7.5						
WRA	**Warramunga Arr**	**14.19**	**166**	Pn	Pn	02 12 06.6	-4.1
WB2	**Warramunga Arr**	**14.19**	**166**	Pn	Pn	02 12 06.4	-4.4
WR0	**Warramunga Arr**	**14.25**	**166**	Pn	**Pn**	**02 12 11.6**	**0.0**
COEN	**Coen**	**14.44**	**124**	Pn	**Pn**	**02 12 13.9**	**-0.1**
COEN	**Coen**	**14.44**	**124**	P	**Pn**	**02 12 15.4**	**+1.4**
QIS	**Mount Isa**	**16.71**	**150**	P	**Pn**	**02 12 43.5**	**+1.0**
AS31	**Alice Springs**	**17.73**	**171**		**P**	**02 12 54.1**	**-0.2**
ASAR	**Alice Springs**	**17.73**	**171**	P	**P**	**02 12 53.1**	**-1.2**
	0.9nm,0.4s,baz=344,slow=9.7,SNR=13						
ASAR				S	Sn	02 16 01.8	-11
	3.3nm,0.7s,baz=350,slow=25,SNR=9.6						
ASAR	**Alice Springs**	**17.73**	**171**		**P**	**02 12 54.8**	**+0.5**
AS01	**Alice Springs**	**17.73**	**171**	P	**Pn**	**02 12 56.8**	**+1.9**
MBWA	**Marble Bar**	**18.45**	**215**	P	**P**	**02 13 01.8**	**-0.3**
MBWA				IAmb	IAmb	02 13 17.6	
	comp=Z,12nm,1.1s						
MBWA	**Marble Bar**	**18.45**	**215**	P	**P**	**02 13 02.4**	**+0.2**
PSA00	**Pilbara Seismi**	**18.71**	**214**	P	**P**	**02 13 04.9**	**-0.1**
PSA00				IAmb	IAmb	02 13 11.7	
	comp=Z,15nm,1.1s						
PSA00	**Pilbara Seismi**	**18.71**	**214**	P	**P**	**02 13 05.1**	**0.0**
KKM	**Kota Kinabalu**	**18.93**	**309**		**P**	**02 13 07.3**	**-0.3**
KKM				IAmb	IAmb	02 13 10.5	
	comp=Z,29nm,1.3s						
WRKA	**Warakurna**	**19.00**	**187**	P	**P**	**02 13 08.9**	**+0.7**
SBUM	**Sibu**	**20.43**	**294**	P	**P**	**02 13 23.0**	**-0.8**
BBJI	**Bungbulang**	**23.06**	**265**	P	**P**	**02 13 50.9**	**-0.6**
FORT	**Forrest**	**24.70**	**186**	P	**P**	**02 14 05.1**	**-1.0**
FORT				IAmb	IAmb	02 14 07.7	
	comp=Z,29nm,0.9s						
MORW	**Morawa**	**26.80**	**210**	P	**P**	**02 14 24.8**	**-0.4**
MORW				IAmb	IAmb	02 14 49.1	
	comp=Z,19nm,1.2s						
NWAO	**Narrogin (SRO)**	**29.56**	**204**	P	**P**	**02 14 48.9**	**-0.7**
NJ2	**Nanjing**	**39.61**	**344**	*e*P	**P**	**02 16 17.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PZH	**PanZhiHua**	**42.95**	**320**	P	**P**	**02 16 45.5**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,5.0s						
PZH				pmax	pmax		
	comp=Z,90nm,5.7s						
HHC	**Hu-ho-hao-te**	**49.95**	**341**	*e*P	**P**	**02 17 39.8**	**+1.6**
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.1s						
ULN	**Ulaanbaatar**	**57.66**	**341**	P	**P**	**02 18 34.7**	**+0.4**
ULN				IAmb	IAmb	02 18 35.8	
	comp=Z,3.6nm,0.8s						
SONM	**Songino Array**	**57.85**	**341**	P	**P**	**02 18 35.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=163,slow=5.8,SNR=7.9						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**57.85**	**341**	P	**P**	**02 18 35.6**	**0.0**
WMQ	**Urumqi**	**63.09**	**326**	*e*P	**P**	**02 19 14.3**	**+3.0**
KSH	**Kashi**	**67.92**	**317**	P	**P**	**02 19 42.6**	**0.0**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	**Makanchi Array**	**67.93**	**326**	P	**P**	**02 19 41.1**	**-1.2**
MK31				IAmb	IAmb	02 19 43.0	
	comp=Z,5.4nm,0.8s						
MKAR	**Makanchi Array**	**67.93**	**326**	P	**P**	**02 19 42.2**	**-0.2**
	comp=Z,6.0nm,0.5s,baz=113,slow=8.9,SNR=117						
	comp=Z,6.0nm,0.5s						
MKAR	**Makanchi Array**	**67.93**	**326**	P	**P**	**02 19 41.5**	**-0.8**
MAKZ	**Makanchi**	**68.11**	**326**	P	**P**	**02 19 42.0**	**-1.5**
KBL	**Kabul**	**70.82**	**310**	P	**P**	**02 19 59.2**	**-1.5**
KBL				IAmb	IAmb	02 20 00.7	
	comp=Z,9.2nm,1.2s						
ZALV	**Zalesovo Beam**	**71.14**	**333**	P	**P**	**02 19 60.0**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=106,slow=4.9,SNR=4.8						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**71.14**	**333**	P	**P**	**02 20 00.6**	**-1.3**
GAR	**Garm**	**71.62**	**314**	P	**P**	**02 20 04.1**	**-1.2**
BTK	**Batken**	**71.70**	**316**	P	**P**	**02 20 05.1**	**-0.7**
BTK				IAmb	IAmb	02 20 06.2	
	comp=Z,4.0nm,0.8s						
CHGR	**Chuyangaron**	**72.31**	**314**	P	**P**	**02 20 07.8**	**-1.5**
CHGR				IAmb	IAmb	02 20 09.5	
	comp=Z,9.8nm,0.7s						
KK31	**Karatay Array**	**73.21**	**318**	P	**P**	**02 20 13.9**	**-0.6**
KKAR	**Karatay Array**	**73.21**	**318**	P	**P**	**02 20 13.3**	**-1.2**
VNDA	**Vanda**	**73.25**	**173**	P	**P**	**02 20 12.8**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=349,slow=8.3,SNR=4.3						
	comp=Z,0.9nm,0.8s						
VOI	**Vohitsoka**	**82.25**	**249**	P	**P**	**02 21 04.2**	**-1.2**
ABKAR	**Akbulak array**	**82.32**	**321**	P	**P**	**02 21 03.0**	**-1.9**

*IDC **21** 02:29:21.7±0.7,11˚29S×13˚08W,h0km,mb4.2/11, mbtmp4.2/12,ML3.6/1,MS3.6/23,Error ellipse: s-maj=28.8km s-min=15.5km az=143.0*
*NEIC **21** 02:29:23.5±1.8,11˚27S±0˚09×13˚10W±0˚09,h10km±1km, mb4.7/25,Error ellipse: s-maj=16.8km s-min=13.2km az=229.0*
ISC 21 02:29:23.4±0.4,**11˚26S**±0˚08×**13˚09W**±0˚07,**h13**km,**n105,** σ1°**06**/**81**,**mb4.6**/**34**,**MS3.6**/**23**,**1C-2D**,**Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.75**	**326**	T	T	02 32 58.4	
	baz=146,slow=74,SNR=125						
H10S3	**ASCENSION HYDR**	**2.77**	**326**	T	T	02 33 08.5	
	baz=74,slow=74,SNR=184						
ASCN	**Ascension**	**3.53**	**339**	Pn	**Pn**	**02 30 16.6**	**-1.5**
SHEL	**Horse Pasture**	**8.53**	**124**	Pn	**Pn**	**02 31 24.1**	**-2.7**
LIC	**Lamto**	**19.13**	**25**	i/P	**P**	**02 33 46.6**	**+0.1**
	35nm,0.7s						
KIC	**Kosan Boka**	**19.37**	**26**	i/P	**Pn**	**02 33 50.9**	**+0.6**
	6.8nm,0.6s						
TIC	**Toumodi**	**19.51**	**25**	i/P	**P**	**02 33 48.6**	**-2.1**
	9.0nm,0.3s						
DBIC	**Dimbokro**	**19.60**	**25**	P	**Pn**	**02 33 53.5**	**+0.5**
	0.2nm,0.3s,baz=202,slow=13,SNR=4.0						
	8.0nm,0.9s						
DBIC	**Dimbokro**	**19.60**	**25**	P	**P**	**02 33 51.6**	**-0.1**
RCBR	**Riachuelo**	**23.19**	**282**	LR	LR	02 41 07.1	
	comp=Z,239nm,21.3s,baz=230,slow=30						
GDU01	**Guandu, BA**	**25.97**	**262**	*e*P	**P**	**02 34 56.5**	**+0.3**
BBTS	**Babate**	**25.98**	**352**	LR	LR	02 43 55.0	
	comp=Z,153nm,18.9s,baz=186,slow=34						
GUA01	**Guaratinga, BA**	**26.45**	**255**	*e*P	**P**	**02 35 01.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**28.34**	**32**	LR	LR	02 44 38.7	
	comp=Z,92nm,20.6s,baz=210,slow=32						
TSUM	**Tsumeb**	**30.59**	**109**	LR	LR	02 45 16.2	
	comp=Z,208nm,21.6s,baz=280,slow=31						
SDBA	**SAO DESIDERIO**	**31.15**	**265**	*e*P	**P**	**02 35 42.0**	**-0.4**
SMTB	**Santa Maria do**	**34.04**	**271**	*e*P	**P**	**02 36 08.9**	**+1.2**
BDFB	**Brasilia**	**34.22**	**259**	P	**P**	**02 36 09.4**	**0.0**
	8.4nm,1.0s,baz=71,slow=8.5,SNR=8.3						
BDFB				LR	LR	02 48 26.8	
	comp=Z,86nm,21.8s,baz=136,slow=34						
	8.4nm,1.0s						
BDFB	**Brasilia**	**34.22**	**259**	P	**P**	**02 36 08.9**	**-0.5**
BDFB				IAmb	IAmb	02 36 11.5	
	comp=Z,13nm,1.1s						
BDFB	**Brasilia**	**34.22**	**259**	*e*P	**P**	**02 36 09.7**	**+0.3**
BB19B	**Bebedouro**	**35.33**	**249**	*e*P	**P**	**02 36 18.9**	**0.0**
ITRB	**Itirama**	**36.82**	**252**	*e*P	**P**	**02 36 31.5**	**-0.1**
SUR	**Sutherland**	**37.59**	**129**	LR	LR	02 47 55.0	
	comp=Z,278nm,19.0s,baz=256,slow=30						
PCMB	**Pacaembu**	**37.94**	**249**	*e*P	**P**	**02 36 42.2**	**+1.1**
TAM	**Tamanrasset**	**38.44**	**28**	P	**P**	**02 36 46.1**	**+0.8**
C2SB	**Chapadao do Su**	**39.04**	**254**	*e*P	**P**	**02 36 52.7**	**+2.4**
MCPB	**Macapa, AP**	**40.19**	**283**	*e*P	**P**	**02 37 00.1**	**+0.2**
LSZ	**Lusaka**	**40.33**	**100**	P	**P**	**02 37 02.4**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=270,slow=8.7,SNR=6.9						
	comp=Z,2.4nm,0.7s						
SALV	**Santo Antonio**	**41.62**	**259**	*e*P	**P**	**02 37 12.3**	**+0.6**
AQDB	**Aquidauana**	**41.90**	**252**	P	**P**	**02 37 12.7**	**-1.2**
AQDB				IAmb	IAmb	02 37 16.6	
	comp=Z,9.3nm,1.0s						
AQDB	**Aquidauana**	**41.90**	**252**	*e*P	**P**	**02 37 15.3**	**+1.4**
NPGB	**Novo Progresso**	**41.91**	**272**	*e*P	**P**	**02 37 14.2**	**+0.1**
MDP	**Montagnes des**	**42.58**	**290**	LR	LR	02 52 47.8	
	comp=Z,57nm,19.7s,baz=61,slow=33						
PDRB	**Porto dos Gac**	**42.74**	**265**	*e*P	**P**	**02 37 22.0**	**+1.0**
ITTB	**Itaituba**	**42.76**	**276**	*e*P	**P**	**02 37 21.4**	**+0.3**
CPUP	**Villa Florida**	**44.25**	**244**	P	**P**	**02 37 33.5**	**+0.6**
	comp=Z,4.1nm,1.0s,baz=85,slow=9.8,SNR=7.5						
CPUP				LR	LR	02 53 36.2	
	comp=Z,73nm,19.8s,baz=98,slow=33						
	comp=Z,4.1nm,1.0s						
CPUP	**Villa Florida**	**44.25**	**244**	P	**P**	**02 37 32.5**	**-0.4**
CPUP				IAmb	IAmb	02 37 34.8	
	comp=Z,16nm,1.4s						
MDT	**Midelt**	**44.56**	**10**	LR	LR	02 55 16.7	
	comp=Z,98nm,18.5s,baz=214,slow=35						
MBAR	**Mbarara**	**44.79**	**79**	P	**P**	**02 37 37.9**	**+0.3**
MBAR				IAmb	IAmb	02 37 40.7	
	comp=Z,10nm,1.1s						
PTLB	**Pontes e Lacer**	**44.93**	**259**	P	**P**	**02 37 36.6**	**-1.9**
PTLB				IAmb	IAmb	02 37 41.8	
	comp=Z,3.9nm,1.1s						
PTLB	**Pontes e Lacer**	**44.93**	**259**	*e*P	**P**	**02 37 39.6**	**+1.1**
SIV	**San Ignacio**	**46.79**	**259**	P	**P**	**02 37 53.1**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=82,slow=10,SNR=7.6						
SIV				LR	LR	02 54 17.7	
	comp=Z,52nm,20.5s,baz=98,slow=32						
	comp=Z,2.5nm,1.0s						
MACA	**Manacapuru-AM**	**47.84**	**276**	*e*P	**P**	**02 38 01.5**	**0.0**
BOAV	**Boa Vista**	**49.08**	**283**	P	**P**	**02 38 10.7**	**-0.3**
BOAV				IAmb	IAmb	02 38 13.4	
	comp=Z,2.9nm,0.9s						
LODK	**Lodwar**	**50.35**	**76**	P	**P**	**02 38 20.8**	**+0.1**
KMBO	**Kilima Mbogo**	**50.97**	**82**	P	**P**	**02 38 26.4**	**+0.8**
KMBO				IAmb	IAmb	02 38 28.6	
	comp=Z,4.9nm,1.1s						
KEST	**Kesra**	**51.32**	**23**	P	**P**	**02 38 28.1**	**+0.5**
	comp=Z,6.6nm,1.1s,baz=198,slow=4.3,SNR=3.8						
	comp=Z,6.6nm,1.1s						
KEST	**Kesra**	**51.32**	**23**	P	**P**	**02 38 26.6**	**-1.0**
KEST				IAmb	IAmb	02 38 30.5	
	comp=Z,10nm,1.1s						
ESDC	**Sonseca Array**	**51.38**	**9**	LR	LR	02 59 28.9	
	comp=Z,36nm,18.0s,baz=3.0,slow=35						
ETMB	**Extrema**	**52.19**	**266**	P	**P**	**02 38 35.0**	**+0.5**
ETMB				IAmb	IAmb	02 38 37.4	
	comp=Z,6.4nm,1.1s						
ETMB	**Extrema**	**52.19**	**266**	*e*P	**P**	**02 38 35.3**	**+0.8**
LPAZ	**La Paz**	**53.57**	**258**	P	**P**	**02 38 46.9**	**+1.5**
	comp=Z,2.0nm,0.9s,baz=98,slow=8.4,SNR=4.9						
	comp=Z,2.0nm,0.9s						
LVC	**Limon Verde**	**54.31**	**250**	LR	LR	03 01 43.3	
	comp=Z,63nm,18.1s,baz=95,slow=36						
PB07	**IPOC Station P**	**55.19**	**251**	P	**P**	**02 38 56.1**	**-0.5**
PB07				IAmb	IAmb	02 39 21.4	
	comp=Z,9.0nm,1.0s						
AC06	**Mina Casimiro**	**55.91**	**245**	P	**P**	**02 39 01.1**	**-0.4**
AC06				IAmb	IAmb	02 39 03.9	
	comp=Z,14nm,0.8s						
CO01	**Juntas del Tor**	**55.95**	**241**	P	**P**	**02 39 01.9**	**-0.1**
CO01				IAmb	IAmb	02 39 05.7	
	comp=Z,17nm,1.1s						
AC05	**El Transito**	**55.98**	**243**	P	**P**	**02 39 00.9**	**-1.2**
AC05				IAmb	IAmb	02 39 10.1	
	comp=Z,18nm,1.1s						
ROC1	**El Roble**	**57.12**	**238**	P	**P**	**02 39 11.1**	**+0.8**
VA06	**Catapilco**	**57.30**	**239**	P	**P**	**02 39 10.1**	**-1.1**
CZSB	**Cruzeiro do Su**	**58.83**	**268**	P	**P**	**02 39 21.4**	**-0.9**
CZSB				IAmb	IAmb	02 39 22.8	
	comp=Z,18nm,1.3s						
CZSB	**Cruzeiro do Su**	**58.83**	**268**	*e*P	**P**	**02 39 21.9**	**-0.4**
VNA1	**Neumayer--Stat**	**59.42**	**178**	P	**P**	**02 39 25.8**	**+0.4**
SJG	**San Juan**	**59.95**	**299**	LR	LR	03 01 45.3	
	comp=Z,26nm,18.0s,baz=56,slow=32						
ESPZ	**Base Esperanza**	**60.57**	**201**	P	**P**	**02 39 34.7**	**+1.4**
SDV	**Santo Domingo**	**60.63**	**287**	LR	LR	03 04 41.0	
	comp=Z,35nm,18.6s,baz=74,slow=35						
SNAA	**Sanae**	**60.70**	**176**	P	**P**	**02 39 34.1**	**-0.2**
SNAA	**Sanae**	**60.70**	**176**	P	**P**	**02 39 33.3**	**-0.9**
	comp=Z,2.7nm,1.0s,baz=344,slow=5.3,SNR=5.4						
	comp=Z,2.7nm,1.0s						
FETA	**Feichten**	**61.80**	**18**	*e*P	**P**	**02 39 42.4**	**+0.2**
	comp=Z,5.0nm,1.0s						
ABTA	**Abfaltersbach**	**62.12**	**20**	*e*P	**P**	**02 39 45.2**	**+0.9**
	comp=Z,6.4nm,1.4s						
SQTA	**Sankt Quirin**	**62.12**	**18**	*e*P	**P**	**02 39 44.7**	**+0.4**
	comp=Z,9.4nm,1.2s						
MOTA	**Moosalm**	**62.20**	**18**	*e*P	**P**	**02 39 47.0**	**+2.1**
	comp=Z,10nm,1.9s						
WTTA	**Wattenberg**	**62.30**	**19**	*e*P	**P**	**02 39 46.0**	**+0.5**
	comp=Z,11nm,1.7s						
NNA	**Nana**	**62.32**	**262**	LR	LR	03 06 18.2	
	comp=Z,50nm,18.2s,baz=96,slow=36						
MYKA	**Terra Mystica**	**62.40**	**20**	*e*P	P	02 39 52.3	+6.2
	comp=Z,6.9nm,1.6s						
OBKA	**Obir**	**62.61**	**21**	*e*P	**P**	**02 39 48.5**	**+1.0**
	comp=Z,3.7nm,0.6s						
KBA	**Koelnbreinsper**	**62.69**	**20**	*e*P	**P**	**02 39 49.7**	**+1.6**
	comp=Z,4.4nm,1.2s						
SOKA	**Soboth**	**62.93**	**21**	*e*P	**P**	**02 39 50.5**	**+0.9**
	comp=Z,4.3nm,0.9s						
BIOA	**Bad Ischl, Aus**	**63.32**	**20**	*e*P	**P**	**02 39 53.3**	**+1.1**
	comp=Z,5.7nm,1.3s						
ARSA	**Arzberg**	**63.59**	**21**	*e*P	**P**	**02 39 55.1**	**+1.1**
	comp=Z,6.9nm,1.1s						
RONA	**Rosalia, Austr**	**64.25**	**22**	*e*P	**P**	**02 39 59.8**	**+1.5**
	comp=Z,5.3nm,0.7s						
CONA	**Conrad Observa**	**64.29**	**21**	*e*P	**P**	**02 39 59.7**	**+1.1**
	comp=Z,3.7nm,0.8s						
GERES	**GERESS Array B**	**64.35**	**19**	P	**P**	**02 39 58.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=224,slow=3.7,SNR=6.5						
	comp=Z,0.3nm,0.3s						
GERES	**GERESS Array B**	**64.35**	**19**	P	**P**	**02 39 58.6**	**-0.4**
ATAH	**Atahualpa**	**64.49**	**267**	LR	LR	03 06 15.7	
	comp=Z,46nm,21.3s,baz=90,slow=34						
BOSC	**San Juan Bosco**	**65.28**	**272**	P	**P**	**02 40 04.2**	**-1.6**
BOSC				IAmb	IAmb	02 40 07.4	
	comp=Z,7.0nm,1.2s						
TULM	**Tulcn-Chalpat**	**65.37**	**276**	P	**P**	**02 40 03.5**	**-3.3**
VYHS	**Vyhne**	**65.86**	**23**	*e*P	**P**	**02 40 09.6**	**+0.9**
COHC	**Cochancay**	**66.15**	**272**	P	**P**	**02 40 10.1**	**-1.2**
BRTR	**Keskin Array B**	**66.72**	**38**	P	**P**	**02 40 15.4**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=214,slow=8.7,SNR=7.5						
	comp=Z,1.3nm,0.8s						
BRTR	**Keskin Array B**	**66.72**	**38**	P	**P**	**02 40 14.6**	**0.0**
EKA	**Eskdalemuir Ar**	**66.86**	**6**	LR	LR	03 07 01.3	
	comp=Z,40nm,20.7s,baz=230,slow=34						
AKASG	**Malin Array Be**	**71.84**	**27**	P	**P**	**02 40 45.5**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=224,slow=5.7,SNR=17						
	comp=Z,3.1nm,0.8s						
AKASG	**Malin Array Be**	**71.84**	**27**	P	**P**	**02 40 45.0**	**-0.9**
MAW	**Mawson**	**74.31**	**157**	LR	LR	03 05 45.2	
	comp=Z,51nm,21.1s,baz=230,slow=29						
JTS	**Las Juntas de**	**74.57**	**284**	LR	LR	03 12 53.8	
	comp=Z,22nm,21.1s,baz=18,slow=35						
KBZ	**Khabaz**	**74.68**	**39**	P	**P**	**02 41 04.0**	**+1.2**
	comp=Z,4.2nm,1.0s,baz=293,slow=6.5,SNR=3.5						
	comp=Z,4.2nm,1.0s						
UOSS	**Minazif**	**76.49**	**61**	P	**P**	**02 41 13.3**	**-0.3**
QSPA	**South Pole Qui**	**78.88**	**180**	P	**P**	**02 41 26.8**	**+0.4**
QSPA				IAmb	IAmb	02 41 30.0	
	comp=Z,12nm,1.1s						
TKL	**Tuckaleechee C**	**81.28**	**309**	LR	LR	03 14 01.3	
	comp=Z,22nm,18.4s,baz=154,slow=33						
SADO	**Sadowa**	**81.52**	**319**	LR	LR	03 10 20.7	
	comp=Z,65nm,19.8s,baz=158,slow=30						
CMIG	**Matias Romero**	**85.57**	**288**	LR	LR	03 23 09.5	
	comp=Z,15nm,18.3s,baz=49,slow=38						
ABKAR	**Akbulak array**	**87.65**	**39**	P	**P**	**02 42 12.5**	**+0.9**
ULM	**Lac du Bonnet**	**93.99**	**320**	LR	LR	03 18 23.4	
	comp=Z,57nm,18.6s,baz=44,slow=31						
KSH	**Kashi**	**96.34**	**51**	P	P	02 42 45.4	-7.0
PZH	**PanZhiHua**	**117.08**	**66**	PKP	**PKPdf**	**02 48 08.0**	**-1.2**

*NEIC **21** 02:37:34.2±0.5,44˚11S±0˚06×39˚0E±0˚2,h10km±2km, mb4.3/12,Error ellipse: s-maj=26.4km s-min=9.1km az=95.0*
*IDC **21** 02:37:35.1±0.8,44˚05S×39˚28E,h0km,mb4.0/8, mbtmp4.1/10,ML3.7/2,MS3.8/24,Error ellipse: s-maj=31.2km s-min=17.8km az=57.0

ESDC Sonseca Array 91.98 328 LR LR 03 33 03.5
comp=Z,95nm,18.5s,baz=126,slow=36
DAVOX Davos/Dischmat 94.12 340 LR LR 03 34 06.8
comp=Z,53nm,20.6s,baz=92,slow=36
MDP Montagnes des 94.69 273 LR LR 03 32 00.4
comp=Z,28nm,18.4s,baz=129,slow=34
AKASG Malin Array Be 94.84 354 LR LR 03 37 19.8
comp=Z,20nm,19.0s,baz=140,slow=38
VRAC Vranov 95.10 345 LR LR 03 34 49.0
comp=Z,17nm,21.9s,baz=112,slow=36
GERES GERESS Array B 95.22 344 LR LR 03 38 32.8
comp=Z,22nm,18.4s,baz=133,slow=38
TXAR Lajitas Array 146.94 256 PKPbc **PKiKP 02 57 20.4 -0.1**
comp=Z,1.0nm,0.8s,baz=142,slow=6.2,SNR=11

IDC 21 02:43:40.8±3.5, 20.85S×174.84W, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/8, Error ellipse: s-maj=213.8km s-min=25.3km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.39**	**294**	LR	LR	02 47 21.4	
	comp=Z,97nm,18.5s,baz=157,slow=30						
AFI	**Afiamalu**	**7.50**	**23**	LR	LR	02 47 46.5	
	comp=Z,70nm,18.0s,baz=250,slow=33						
RAR	**Rarotonga**	**14.08**	**94**	LR	LR	02 51 48.1	
	comp=Z,48nm,19.2s,baz=252,slow=35						
DZM	**Mont Dzumac**	**17.46**	**263**	LR	LR	02 52 25.3	
	comp=Z,129nm,18.1s,baz=218,slow=30						
PPT	**Papeete**	**24.07**	**87**	LR	LR	02 55 44.3	
	comp=Z,38nm,21.0s,baz=10,slow=30						
HNR	**Honiara**	**26.81**	**291**	LR	LR	02 59 54.0	
	comp=Z,795nm,18.7s,baz=142,slow=36						
ASAR	**Alice Springs**	**47.31**	**257**	P	P	02 52 17.1	+0.5
	1.3nm,0.8s,baz=92,slow=7.7,SNR=11						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**47.48**	**262**	P	P	02 52 17.0	-0.9
	0.9nm,0.7s,baz=95,slow=8.0,SNR=10						
	0.9nm,0.7s						
ASAJ	**Asahikawa**	**75.48**	**330**	LR	LR	03 25 54.3	
	comp=Z,19nm,18.6s,baz=24,slow=34						
LPIG	**La Paz**	**77.07**	**58**	LR	LR	03 23 37.3	
	comp=Z,33nm,18.1s,baz=248,slow=31						
NVAR	**Mina Array Bea**	**79.28**	**42**	P	P	02 55 48.1	-0.3
	0.5nm,0.6s,baz=226,slow=7.9,SNR=9.0						
	0.5nm,0.6s						
NEW	**Newport**	**85.96**	**34**	LR	LR	03 33 17.8	
	comp=Z,42nm,18.2s,baz=92,slow=35						
PDAR	**Pinedale Array**	**87.22**	**42**	P	P	02 56 29.9	+0.6
	0.1nm,0.3s,baz=239,slow=7.0,SNR=1.7						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**88.03**	**12**	P	P	02 56 32.6	+0.2
	0.6nm,0.9s,baz=221,slow=5.7,SNR=4.2						
	0.6nm,0.9s						
AKASG	**Malin Array Be**	**144.71**	**333**	PKP	PKPab	03 03 17.8	-0.3
	0.9nm,0.5s,baz=33,slow=3.9,SNR=4.2						
BRTR	**Keskin Array B**	**149.24**	**314**	PKPbc	PKPbc	03 03 31.7	-0.1
	0.7nm,0.8s,baz=159,slow=3.8,SNR=4.2						

*NIED **21** 02:47:08.8, 37.92N×141.65E, h49km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.98; Mθθ0.00; Mθφ -2.99; Mrθ-0.97; Mθφ-0.25; Mφr0.83; Fault plane solution: Mo3.25000×10¹⁵ NP1: φs201.00000°, δ40.00000°, λ116.00000°. NP2: φs348.00000°, δ55.00000°, λ70.00000°.*
*JMA **21** 02:47:08.8±0.1, 37.9N±0.2×141.7E±0.4, h49km, MD4.3/34, MV4.4/34, SE OFF MIYAGI PREF*
JMA Felt II J1 at SE OFF MIYAGI PREF .
*NEIC **21** 02:47:09.0±2.2, 37.93N±0.06×141.57E±0.07, h52km±4km, mb4.6/25, Error ellipse: s-maj=9.1km s-min=7.6km az=140.0*
*IDC **21** 02:47:11.5±2.5, 37.87N×141.53E, h72km±22km, mb3.8/16, mbtmp4.1/20, MS3.3/13, Error ellipse: s-maj=20.6km s-min=13.8km az=73.0*

ISC 21 02:47:08.4±0.9, 37.91N±0.04×141.68E±0.06, h48km±8km, n117, σ1§21/101, mb4.4/34, MS3.3/8, 2C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.44**	**338**	*i* P	**Pn**	**02 47 19.1**	**+0.4**
JIKH				S	**Sn**	**02 47 26.2**	**+0.1**
JIKH	**Ishinomakikobu**	**0.44**	**338**	A	A	02 47 19.1	
	comp=E,33nm,0.7s,comp=E,14nm,1.1s						
JIO	**Ouri**	**0.60**	**335**	*i* P	**Pn**	**02 47 21.1**	**+0.4**
JIO				S	**Sn**	**02 47 29.5**	**-0.2**
JIO	**Ouri**	**0.60**	**335**	A	A	02 47 21.1	
	comp=E,22nm,2.3s,comp=E,20nm,0.3s						
JMST	**Minamisoumatoc**	**0.65**	**254**	⇓*i* P	**Pn**	**02 47 21.7**	**+0.3**
JMST				⇓S	**Sn**	**02 47 31.0**	**+0.3**
JMST	**Minamisoumatoc**	**0.65**	**254**	A	A	02 47 21.7	
	comp=E,41nm,1.1s,comp=E,10.0nm,1.3s						
JMM	**Marumori**	**0.70**	**267**		**Pn**	**02 47 22.1**	**+0.2**
JMM				Sn	**Sn**	**02 47 31.5**	**-0.3**
JMM	**Marumori**	**0.70**	**267**	P	**Pn**	**02 47 22.6**	**+0.6**
JMM	**Marumori**	**0.70**	**267**	⇓*i* P	**Pn**	**02 47 22.3**	**+0.3**
JMM				⇓S	**Sn**	**02 47 31.9**	**0.0**
JMM	**Marumori**	**0.70**	**267**	A	A	02 47 22.3	
	comp=E,38nm,1.0s,comp=E,21nm,1.3s						
JFK	**Kawauchi**	**0.83**	**230**	⇓*i* P	**Pn**	**02 47 24.1**	**+0.2**
JFK				⇓S	**Sn**	**02 47 35.2**	**+0.1**
JFK	**Kawauchi**	**0.83**	**230**	A	A	02 47 24.1	
	comp=E,14nm,0.9s,comp=E,11nm,1.2s						
JKMT	**Kesennumamotoy**	**0.92**	**350**	*i* P	**Pn**	**02 47 25.1**	**+0.2**
JKMT				S	**Sn**	**02 47 36.6**	**-0.4**
JOFO	**Osakifurukawao**	**0.92**	**319**	A	A	02 47 25.2	
	comp=E,48nm,1.0s,comp=E,52nm,3.5s						
JOU	**Okura**	**0.92**	**300**	⇓*i* P	**Pn**	**02 47 25.4**	**+0.4**
JOU				⇓S	**Sn**	**02 47 37.2**	**+0.1**
JOU	**Okura**	**0.92**	**300**	A	A	02 47 25.4	
	comp=E,28nm,0.7s,comp=E,30nm,1.3s						
JMK	**Ichinoseki**	**1.10**	**341**	P	**Pn**	**02 47 27.9**	**+0.5**
JMK				S	**Sn**	**02 47 41.5**	**0.0**
JMK	**Ichinoseki**	**1.10**	**341**	A	A	02 47 27.9	
	comp=E,6.0nm,1.4s,comp=E,6.0nm,0.3s						
JYAR	**Yonezawaarcadi**	**1.21**	**271**	A	A	02 47 29.4	
	comp=E,17nm,1.3s,comp=E,21nm,1.0s						
JYS	**Shirataka**	**1.31**	**284**	⇓*i* P	**Pn**	**02 47 30.9**	**+0.7**
JYS	**Shirataka**	**1.31**	**284**	A	A	02 47 30.9	
	comp=E,11nm,1.2s,comp=E,11nm,1.3s						
JYK	**Kaneyama**	**1.45**	**315**	⇓*i* P	**Pn**	**02 47 32.7**	**+0.7**
JYK				⇓S	**Sn**	**02 47 50.3**	**+0.4**
JOM	**Ohasama**	**1.59**	**349**	*i* P	**Pn**	**02 47 34.8**	**+0.7**
JOM				S	**Sn**	**02 47 54.6**	**+1.1**
JSB	**Shiboa**	**1.68**	**237**	A	A	02 47 36.4	
	comp=E,6.0nm,1.0s,comp=E,7.0nm,1.0s						
JRG	**Rokugo**	**1.70**	**332**	A	A	02 47 36.5	
	comp=E,8.0nm,1.2s,comp=E,6.0nm,1.2s						
JSD	**Sado**	**2.70**	**274**	Pn	**Pn**	**02 47 49.0**	**-0.3**
JSD	**Sado**	**2.70**	**274**	P	**Pn**	**02 47 50.0**	**+0.7**
JTM	**Tenmabayashi**	**2.92**	**351**		**Pn**	**02 47 53.3**	**+1.1**
MJAR	**Matsushiro Arr**	**3.08**	**245**	P	**Pn**	**02 47 56.0**	**+1.5**
	41nm,0.8s,baz=70,slow=12,SNR=61						
MJAR				S	Sn	02 48 39.8	+10
	32nm,0.5s,baz=72,slow=36,SNR=5.7						
MJAR				LR	LR	02 49 23.0	
	comp=Z,610nm,20.7s,baz=49,slow=44						
MAJO	**Matsushiro**	**3.08**	**245**	Pn	**Pn**	**02 47 55.7**	**+1.1**
MAJO	**Matsushiro**	**3.08**	**245**	P	**Pn**	**02 47 57.6**	**+3.0**
MJB9	**Matsu-Tunnel**	**3.08**	**245**	Pn	**Pn**	**02 47 56.6**	**+2.0**
JGF	**Kuroka**	**4.16**	**238**	Pn	**Pn**	**02 48 11.8**	**+2.4**
ERM	**Erimo**	**4.26**	**15**	Pn	**Pn**	**02 48 12.1**	**+1.5**
INU	**Inuyama**	**4.53**	**237**	Pn	**Pn**	**02 48 15.4**	**+1.0**
JHJ2	**Mitsune**	**5.02**	**198**	Pn	**Pn**	**02 48 21.4**	**+0.3**
JHJ2	**Mitsune**	**5.02**	**198**	P	**Pn**	**02 48 22.2**	**+1.1**
JHJ	**Hachijo jima 2**	**5.02**	**198**	P	**Pn**	**02 48 21.9**	**+0.8**
	76nm,0.3s,baz=342,slow=23,SNR=12						
JHJ				S	**Sn**	**02 49 16.6**	**-1.2**
	178nm,0.3s,baz=262,slow=23,SNR=9.6						
JKA	**Kamikawa-asahi**	**6.24**	**6**	Pn	**Pn**	**02 48 37.9**	**+0.1**
JHS	**Saijyo**	**7.48**	**250**	P	Pn	02 48 59.6	+4.7
JMN	**Monobe**	**7.58**	**239**	Pn	**Pn**	**02 48 57.9**	**+1.6**
USA0B	**Ussuriysk Arra**	**9.64**	**314**	Pn	**Pn**	**02 49 21.4**	**-3.0**
USRK	**Ussuriysk Ar.**	**9.64**	**314**	P	**Pn**	**02 49 26.3**	**+1.9**
	12nm,1.0s,baz=124,slow=14,SNR=11						
USRK				LR	LR	02 52 50.9	
	comp=Z,149nm,20.3s,baz=121,slow=35						
USRK	**Ussuriysk Ar.**	**9.64**	**314**	Pn	**Pn**	**02 49 24.7**	**+0.3**
JCJ	**Chichijima**	**10.79**	**178**	P	**Pn**	**02 49 38.5**	**-1.7**
	66nm,0.9s,baz=282,slow=20,SNR=2.1						
JCJ				S	Sn	02 51 28.8	-11
	40nm,0.5s,baz=283,slow=22,SNR=2.9						
KSRS	**Korea Array**	**10.91**	**272**	P	**Pn**	**02 49 45.2**	**+3.5**
	4.1nm,0.7s,baz=83,slow=14,SNR=8.7						
KSRS				LR	LR	02 53 52.8	
	comp=Z,111nm,18.0s,baz=85,slow=37						
KLR	**Kul'dur**	**13.40**	**331**	LR	LR	02 55 32.7	
	comp=Z,118nm,18.6s,baz=130,slow=37						
PETK	**Petropavlovsk-**	**18.83**	**31**	LR	LR	03 00 10.2	
	comp=Z,19nm,18.0s,baz=219,slow=41						
NJ2	**Nanjing**	**19.57**	**259**	*e*P	**P**	**02 51 32.3**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MA2	**Magadan**	**22.46**	**12**	LR	LR	03 00 18.0	
	comp=Z,76nm,20.2s,baz=82,slow=35						
HHC	**Hu-ho-hao-te**	**23.41**	**287**	*e*P	**P**	**02 52 12.3**	**-0.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,240nm,4.7s						
YAK	**Yakutsk**	**25.27**	**347**	LR	LR	03 02 38.3	
	comp=Z,70nm,18.5s,baz=89,slow=37						
XAN	**Xi'an**	**26.71**	**272**	⇑P	**P**	**02 52 43.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
SONM	**Songino Array**	**27.48**	**303**	P	**P**	**02 52 51.2**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=97,slow=8.6,SNR=9.9						
SONM				LR	LR	03 03 11.8	
	comp=Z,49nm,19.8s,baz=64,slow=35						
	comp=Z,1.8nm,0.9s						
SONM	**Songino Array**	**27.48**	**303**	P	**P**	**02 52 48.7**	**-1.4**
ENH	**Enshi**	**27.62**	**264**	P	**P**	**02 52 49.1**	**-2.3**
ENH				IAmb	IAmb	02 52 53.9	
	comp=Z,29nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	03 23 15.6	
	baz=316,slow=76,SNR=366						
H11N1	**WAKE ISLAND Hy**	**28.44**	**123**	T	T	03 23 21.9	
	baz=316,slow=76,SNR=519						
H11N3	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	03 23 26.2	
	baz=316,slow=76,SNR=452						
H11S1	**WAKE ISLAND Hy**	**29.17**	**125**	T	T	03 24 17.5	
	baz=317,slow=76,SNR=204						
H11S3	**WAKE ISLAND Hy**	**29.17**	**125**	T	T	03 24 16.5	
	baz=317,slow=76,SNR=235						
H11S2	**WAKE ISLAND Hy**	**29.19**	**125**	T	T	03 24 10.3	
	baz=317,slow=76,SNR=189						
LZH	**Lanzhou**	**30.14**	**278**	*e*P	P	02 53 21.3	+7.5
LZH				pP	sP	02 53 36.4	+4.5
LZH				pmax	pmax		
	comp=Z,12nm,1.4s						
TIXI	**Tiksi**	**34.45**	**353**	LR	LR	03 08 42.7	
	comp=Z,42nm,18.2s,baz=38,slow=38						
KMI	**Kunming**	**35.31**	**260**	⇑P	**P**	**02 54 02.3**	**+3.1**
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
PZH	**PanZhiHua**	**35.41**	**263**	P	**P**	**02 54 00.1**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,6.5s						
WMQ	**Urumqi**	**40.64**	**296**	*e*P	**P**	**02 54 44.6**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ZAA0	**Zalesovo Array**	**41.49**	**312**	P	**P**	**02 54 48.8**	**-1.7**
ZALV	**Zalesovo Beam**	**41.49**	**312**	P	**P**	**02 54 50.6**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=90,slow=8.9,SNR=6.6						
ZALV				PcP	**PcP**	**02 56 46.0**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=93,slow=5.8,SNR=3.6						
	comp=Z,1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**41.49**	**312**	P	**P**	**02 54 48.9**	**-1.6**
MK31	**Makanchi Array**	**43.84**	**301**	P	**P**	**02 55 08.8**	**-0.9**
MK31				IAmb	IAmb	02 55 44.8	
	comp=Z,5.8nm,1.1s						
MKAR	**Makanchi Array**	**43.84**	**301**	P	**P**	**02 55 09.7**	**0.0**
	comp=Z,3.2nm,0.9s,baz=89,slow=8.7,SNR=8.7						
	comp=Z,3.2nm,0.9s						
MKAR	**Makanchi Array**	**43.84**	**301**	P	**P**	**02 55 08.8**	**-0.9**
KURK	**Kurchatov**	**45.56**	**307**	P	**P**	**02 55 22.4**	**-0.9**
KURK				IAmb	IAmb	02 55 27.2	
	comp=Z,8.6nm,1.0s						
TARG	**Taragay, Kyrgy**	**48.21**	**296**	P	**P**	**02 55 45.2**	**+0.7**
TARG				IAmb	IAmb	02 55 51.8	
	comp=Z,4.5nm,0.7s						
ILAR	**Eielson Array**	**48.65**	**33**	P	**P**	**02 55 48.2**	**+1.1**
	comp=Z,0.8nm,1.0s,baz=268,slow=5.7,SNR=6.0						
	comp=Z,0.8nm,1.0s						
BMAR	**Burnt Mountain**	**49.47**	**29**	P	**P**	**02 55 52.4**	**-1.1**
BVAR	**Borovoye Array**	**50.14**	**312**	LR	LR	03 18 20.8	
	comp=Z,44nm,18.6s,baz=314,slow=37						
KSH	**Kashi**	**50.24**	**294**	P	P	02 56 04.3	+4.5
KSH				sP	sP	02 56 22.3	+3.9
KSH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BCAR	**Beaver Creek A**	**51.06**	**35**	P	**P**	**02 56 07.0**	**+1.5**
COEN	**Coen**	**51.61**	**178**	P	**P**	**02 56 10.9**	**+0.9**
COEN				IAmb	IAmb	02 56 12.1	
	comp=Z,9.8nm,0.9s						
KK31	**Karatay Array**	**52.87**	**300**	P	**P**	**02 56 16.4**	**-2.9**
KK31				IAmb	IAmb	02 56 24.5	
	comp=Z,3.7nm,1.1s						
KKAR	**Karatay Array**	**52.87**	**300**	P	**P**	**02 56 17.7**	**-1.5**
GAR	**Garm**	**54.52**	**295**	P	**P**	**02 56 29.8**	**-1.8**
GAR				IAmb	IAmb	02 56 42.5	
	comp=Z,5.3nm,1.0s						
KNRA	**Kununurra**	**54.66**	**195**	P	**P**	**02 56 31.8**	**-0.7**
CHGR	**Chuyangaron**	**55.48**	**295**	P	**P**	**02 56 36.9**	**-1.6**
CHGR				IAmb	IAmb	02 56 43.2	
	comp=Z,8.2nm,0.7s						
KBL	**Kabul**	**57.30**	**291**	P	**P**	**02 56 50.3**	**-1.3**
KBL				IAmb	IAmb	02 56 53.3	
	comp=Z,5.2nm,1.1s						
ABKAR	**Akbulak array**	**57.54**	**310**	P	**P**	**02 56 51.3**	**-1.4**
WB0	**Warramunga Arr**	**57.77**	**188**	P	**P**	**02 56 52.9**	**-1.7**
WRAB	**Tennant Creek**	**57.94**	**188**	P	**P**	**02 56 54.8**	**-1.0**
WR0	**Warramunga Arr**	**57.95**	**188**	P	**P**	**02 56 55.2**	**-0.6**
WB2	**Warramunga Arr**	**57.95**	**188**	P	**P**	**02 56 55.3**	**-0.6**
WRA	**Warramunga Arr**	**57.95**	**188**	P	**P**	**02 56 55.6**	**-0.3**
	comp=Z,8.3nm,0.8s,baz=5.8,slow=7.3,SNR=20						
	comp=Z,8.3nm,0.8s						
WRA	**Warramunga Arr**	**57.95**	**188**	P	**P**	**02 56 55.0**	**-0.9**
AS31	**Alice Springs**	**61.68**	**188**	P	**P**	**02 57 20.6**	**-0.9**
ASAR	**Alice Springs**	**61.68**	**188**	P	**P**	**02 57 21.9**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=9.9,slow=6.4,SNR=27						
	comp=Z,3.2nm,0.8s						
ASAR	**Alice Springs**	**61.68**	**188**	P	**P**	**02 57 20.3**	**-1.2**
HRA	**Herat**	**62.36**	**293**	P	**P**	**02 57 25.1**	**-1.2**
HRA				IAmb	IAmb	02 57 27.8	
	comp=Z,3.8nm,1.0s						
YKA	**Yellowknife Ar**	**62.95**	**30**	LR	LR	03 26 29.1	
	comp=Z,27nm,19.5s,baz=343,slow=37						
FINES	**FINESS Array B**	**68.14**	**332**	P	**P**	**02 58 03.0**	**0.0**
	comp=Z,2.6nm,0.8s,baz=64,slow=9.4,SNR=2.3						
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**69.42**	**180**	P	**P**	**02 58 12.0**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=349,slow=11,SNR=3.7						
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**69.42**	**180**	P	**P**	**02 58 11.3**	**+0.1**
FORT	**Forrest**	**69.50**	**192**	P	**P**	**02 58 12.0**	**+0.2**
KBZ	**Khabaz**	**70.49**	**311**	P	**P**	**02 58 17.6**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=29,slow=8.5,SNR=3.7						
	comp=Z,2.5nm,0.8s						
NB2	**NORSAR Subarra**	**73.46**	**337**	P	**P**	**02 58 35.2**	**-0.2**
	comp=Z,1.1nm,1.7s,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**73.46**	**337**	P	**P**	**02 58 35.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=39,slow=5.9,SNR=4.2						
NOA				LR	LR	03 34 30.5	
	comp=Z,24nm,19.9s,baz=30,slow=39						
	comp=Z,1.7nm,0.8s						
AKASG	**Malin Array Be**	**73.74**	**322**	P	**P**	**02 58 37.1**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=46,slow=5.2,SNR=7.2						
	comp=Z,1.4nm,0.6s						
NVAR	**Mina Array Bea**	**74.30**	**53**	P	**P**	**02 58 42.5**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=319,slow=6.1,SNR=5.2						
	comp=Z,0.9nm,0.8s						
H17A	**Grant Village**	**75.30**	**45**	P	**P**	**02 58 48.7**	**+2.0**
H17A				IAmb	IAmb	02 58 50.8	
	comp=Z,4.0nm,1.1s						
PDAR	**Pinedale Array**	**76.91**	**46**	P	**P**	**02 58 56.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=257,slow=2.6,SNR=5.4						
	comp=Z,0.5nm,0.6s						
PDAR	**Pinedale Array**	**76.91**	**46**	P	**P**	**02 58 54.9**	**-0.9**
BURAR	**Bucovina Array**	**77.76**	**322**	P	**P**	**02 58 59.9**	**-0.4**
BRTR	**Keskin Array B**	**78.43**	**312**	P	**P**	**02 59 04.5**	**+0.2**
	comp=Z,1.4nm,1.1s,baz=158,slow=3.9,SNR=3.9						
	comp=Z,1.4nm,1.1s						
MLR	**Muntele Rosu**	**78.85**	**320**	LR	LR	03 35 22.0	
	comp=Z,53nm,21.3s,baz=141,slow=37						
GERES	**GERESS Array B**	**82.08**	**328**	P	**P**	**02 59 23.4**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=64,slow=3.1,SNR=5.3						
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**89.42**	**53**	P	**P**	**03 00 01.4**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=310,slow=2.8,SNR=12						
	comp=Z,0.8nm,0.6s						
LPAZ	**La Paz**	**146.07**	**59**	PKPbc	**PKPbc**	**03 06 44.6**	**+0.4**
	comp=Z,2.8nm,1.0s,baz=346,slow=3.0,SNR=6.3						

*WEL **21** 02:47:09.8±0.2, 42°S±2°×17°4E±°, h11km±2km, M4.1/65, ML4.2/26, MLv4.1/65, Error ellipse: s-maj=0.0km s-min=0.0km az=135.0*
*NOU **21** 02:47:09.2, 41.89S×174.53E, h13km, MLv4.3/13, Cook Strait, New Zealand*

ISC 21 02:47:09.4±1.1, 41.76S±0.04×174.31E±0.03, h18km±5km, n118, σ1§26/121, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**282**	P	**Pg**	**02 47 13.2**	**+0.3**
CMWZ				S	**Sg**	**02 47 15.7**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.33**	**279**	P	**Pg**	**02 47 16.0**	**-0.4**
BSWZ				S	**Sg**	**02 47 20.7**	**-0.5**
TUWZ	**Tuamarina**	**0.43**	**320**	P	**Pg**	**02 47 17.1**	**-1.1**
TUWZ				S	**Sg**	**02 47 22.4**	**-1.8**
SNZO	**South Karori**	**0.54**	**33**	P	**Pg**	**02 47 20.5**	**+0.3**
TCW	**Tory Channel**	**0.55**	**357**	P	**Pg**	**02 47 19.3**	**+1.1**
WEL	**Wellington**	**0.59**	**36**	P	**Pg**	**02 47 21.4**	**+0.3**
PLWZ	**Palliser**	**0.73**	**75**	P	**Pn**	**02 47 25.8**	**+0.9**
MSWZ	**Moikau Station**	**0.79**	**64**	P	**Pn**	**02 47 26.2**	**+0.6**
KHZ	**Kahutara**	**0.87**	**221**	P	**Pn**	**02 47 28.2**	**+1.5**
KHZ	**Kahutara**	**0.87**	**221**	P	**Pn**	**02 47 28.0**	**+1.3**
CAW	**Cannon Point**	**0.87**	**41**	P	**Pb**	**02 47 26.2**	**+0.3**
NNZ	**Nelson**	**0.89**	**308**	P	**Pb**	**02 47 25.1**	**-1.1**
PAWZ	**Paruwai Farm**	**0.92**	**66**	P	**Pn**	**02 47 28.2**	**+0.8**
DUWZ	**D'Urville Isla**	**1.00**	**343**	P	**Pb**	**02 47 27.1**	**-1.1**
KIW	**Kapiti Island**	**1.01**	**27**	P	**Pb**	**02 47 28.1**	**-0.2**
THZ	**Tophouse**	**1.05**	**270**	P	**Pb**	**02 47 29.0**	**-0.1**
MTW	**Mount Morrison**	**1.08**	**56**	P	**Pb**	**02 47 30.2**	**+0.6**
TRWZ	**Traveller**	**1.10**	**71**	P	**Pn**	**02 47 30.6**	**+0.7**
OGWZ	**Otaki Gorge**	**1.15**	**35**	P	**Pn**	**02 47 30.7**	**+0.2**
MRNZ	**Matariki Terra**	**1.22**	**287**	P	**Pn**	**02 47 31.8**	**+0.3**
TKNZ	**Takaka Hill**	**1.25**	**305**	P	**Pn**	**02 47 31.7**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.25**	**47**	P	**Pn**	**02 47 32.6**	**+0.6**
TMWZ	**Te Maipa**	**1.36**	**62**	P	**Pn**	**02 47 33.9**	**+0.4**
MRZ	**Mangatainoka R**	**1.46**	**41**	P	**Pn**	**02 47 35.4**	**+0.6**
GVZ	**Greta Valley S**	**1.53**	**218**	P	**Pn**	**02 47 36.8**	**+1.0**
TIWZ	**Tintock**	**1.54**	**51**	P	**Pn**	**02 47 36.5**	**+0.4**
QRZ	**Quartz Range**	**1.64**	**304**	P	**Pn**	**02 47 38.4**	**+1.1**
QRZ	**Quartz Range**	**1.64**	**304**	P	**Pn**	**02 47 38.2**	**+0.9**
CPWZ	**Castlepoint**	**1.66**	**60**	P	**Pn**	**02 47 38.8**	**+1.3**
OHWZ	**Ohakea**	**1.73**	**26**	P	**Pb**	**02 47 40.9**	**+0.2**
PRWZ	**Pori Road**	**1.74**	**47**	P	**Pn**	**02 47 39.1**	**+0.4**
POWZ	**Post Office Ro**	**1.76**	**39**	P	**Pn**	**02 47 39.6**	**+0.6**
BFZ	**Birch Farm**	**1.82**	**54**	P	**Pn**	**02 47 39.8**	**+0.1**
BFZ	**Birch Farm**	**1.82**	**54**	P	**Pn**	**02 47 39.5**	**-0.2**
LTZ	**Lake Taylor**	**1.82**	**235**	P	**Pn**	**02 47 41.0**	**+1.1**
AMCZ	**Amberley**	**1.87**	**220**	P	**Pn**	**02 47 41.1**	**+0.6**
DSZ	**Denniston Nort**	**1.87**	**270**	P	**Pn**	**02 47 42.5**	**+1.9**
DVHZ	**Dannevirke**	**2.03**	**44**	P	**Pn**	**02 47 42.4**	**-0.2**
WAZ	**Wanganui**	**2.07**	**15**	P	**Pn**	**02 47 44.6**	**+0.1**
TSZ	**Takapari Road**	**2.11**	**37**	P	**Pn**	**02 47 44.2**	**+0.3**
OKCZ	**Okains Bay**	**2.16**	**205**	P	**Pn**	**02 47 44.8**	**+0.2**
MQZ	**McQueen's Vall**	**2.29**	**212**	P	**Pn**	**02 47 45.7**	**-0.6**
OXZ	**Oxford**	**2.29**	**226**	P	**Pn**	**02 47 46.3**	**0.0**
LREZ	**Lake Rotokare**	**2.30**	**2**	P	**Pn**	**02 47 46.1**	**-0.3**
PRHZ	**Porangahau**	**2.31**	**50**	P	**Pn**	**02 47 45.9**	**-0.7**
INZ	**Inchbonnie**	**2.33**	**245**	P	**Pn**	**02 47 47.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVT	**Borgo Val di T**	**0.10**	**0**	P	**Pg**	**03 05 14.3**	**-0.5**
BVT				S	**Sg**	**03 05 16.1**	**-0.4**
MSSA	**Maissana**	**0.20**	**248**	P	**Pg**	**03 05 17.4**	**+0.9**
MSSA				S	**Sg**	**03 05 21.5**	**+2.1**
MSSA	**Maissana**	**0.20**	**248**	⇑P	**Pg**	**03 05 17.4**	**+0.9**
MSSA				S	**Sg**	**03 05 21.3**	**+1.9**
MSSA				AML	AML		
	comp=E,9290μm,0.5s						
MSSA				AML	AML		
	comp=E,9290μm,1.5s						
MSSA				AML	AML		
	comp=N,7565μm,0.2s						
GRAM	**Graiana**	**0.23**	**64**	P	**Pg**	**03 05 16.3**	**-0.8**
GRAM				S	**Sg**	**03 05 18.7**	**-1.6**
GRAM	**Graiana**	**0.23**	**64**	⇑P	**Pg**	**03 05 16.3**	**-0.8**
GRAM				S	**Sg**	**03 05 19.3**	**-1.0**
GRAM				AML	AML		
GRAM				AML	AML		
	comp=N,78000μm,0.3s						
FIVI	**Fivizzano**	**0.29**	**121**	P	**Pb**	**03 05 18.6**	**-1.1**
FIVI				S	**Sb**	**03 05 23.5**	**-1.2**
PLMA	**Palmaria, Port**	**0.35**	**171**	P	**Pb**	**03 05 20.0**	**-0.5**
PLMA				S	**Sb**	**03 05 25.8**	**-0.2**
PLMA	**Palmaria, Port**	**0.35**	**171**	AML	AML		
	comp=N,2610μm,0.4s						
PLMA				AML	AML		
	comp=E,1945μm,0.6s						
EQUI	**Equi**	**0.35**	**129**	P	**Pb**	**03 05 19.6**	**-1.0**
EQUI				S	**Sb**	**03 05 24.7**	**-1.5**
EQUI	**Equi**	**0.35**	**129**	P	**Pb**	**03 05 19.6**	**-1.0**
EQUI				S	**Sb**	**03 05 25.9**	**-0.4**
EQUI				AML	AML		
	comp=N,2510μm,0.6s						
EQUI				AML	AML		
	comp=E,2510μm,0.6s						
GORR	**Gorreto**	**0.41**	**302**	P	**Pg**	**03 05 19.9**	**-0.4**
GORR				S	**Sg**	**03 05 25.9**	**+0.3**
GORR	**Gorreto**	**0.41**	**302**	⇑P	**Pg**	**03 05 19.9**	**-0.4**
GORR				S	**Sg**	**03 05 25.9**	**+0.3**
GORR				AML	AML		
	comp=E,5105μm,0.6s						
GORR				AML	AML		
	comp=N,6760μm,0.8s						
NEVI	**Neviano degli**	**0.43**	**63**	P	**Pg**	**03 05 17.4**	**-3.4**
NEVI				S	**Sg**	**03 05 24.7**	**-1.8**
SARO	**Sassorosso**	**0.50**	**114**	P	**Pb**	**03 05 22.0**	**-1.1**
SARO				S	**Sb**	**03 05 29.3**	**-1.1**
SARO	**Sassorosso**	**0.50**	**114**	AML	AML		
	comp=E,7300μm,0.3s						
SARO				AML	AML		
	comp=E,7305μm,0.3s						
SARO				AML	AML		
	comp=N,8485μm,0.4s						
SARO				AML	AML		
	comp=N,8480μm,0.4s						
VLC	**Villacollemand**	**0.50**	**118**	P	**Pb**	**03 05 22.1**	**-1.0**
VLC				S	**Sb**	**03 05 29.9**	**-0.6**
VLC	**Villacollemand**	**0.50**	**118**	AML	AML		
	comp=E,1430μm,0.7s						
VLC				AML	AML		
	comp=E,1430μm,1.4s						
VLC				AML	AML		
	comp=N,1320μm,0.8s						
VLC				AML	AML		
	comp=E,1430μm,1.3s						
VLC				AML	AML		
	comp=N,1285μm,0.8s						
VLC				AML	AML		
	comp=E,1430μm,0.6s						
PRMA	**PARMA**	**0.54**	**46**	P	**Pg**	**03 05 22.9**	**+0.2**
PRMA				S	**Sb**	**03 05 32.2**	**+0.7**
PRMA	**PARMA**	**0.54**	**46**	P	**Pg**	**03 05 22.9**	**+0.2**
PRMA				AML	AML		
	comp=N,15750μm,0.3s						
PRMA				AML	AML		
	comp=E,12600μm,0.4s						
GSCL	**Gusciola**	**0.58**	**94**	P	**Pg**	**03 05 23.6**	**0.0**
GSCL				S	**Sb**	**03 05 32.8**	**-0.2**
GSCL	**Gusciola**	**0.58**	**94**	P	**Pb**	**03 05 23.7**	**-0.9**
GSCL				S	**Sb**	**03 05 32.3**	**-0.7**
GSCL				AML	AML		
	comp=N,4505μm,0.3s						
GSCL				AML	AML		
	comp=E,4125μm,0.4s						
RNCA	**Ronca, Sant'Ol**	**0.59**	**278**	P	**Pg**	**03 05 23.9**	**+0.1**
RNCA				S	**Sg**	**03 05 32.4**	**+0.7**
RNCA	**Ronca, Sant'Ol**	**0.59**	**278**	P	**Pg**	**03 05 24.0**	**+0.1**
RNCA				S	**Sg**	**03 05 32.3**	**+0.7**
RNCA				AML	AML		
	comp=N,1375μm,0.6s						
RNCA				AML	AML		
	comp=E,1405μm,0.4s						
RNCA				AML	AML		
	comp=N,1375μm,1.4s						
CARD	**Cardoso**	**0.63**	**125**	P	**Pb**	**03 05 24.5**	**-0.8**
CARD	**Cardoso**	**0.63**	**125**	P	**Pb**	**03 05 24.7**	**-0.6**
CARD				AML	AML		
	comp=E,5800μm,0.5s						
CARD				AML	AML		
	comp=N,3915μm,0.5s						
CARD				AML	AML		
	comp=N,3920μm,0.5s						
CARD				AML	AML		
	comp=E,5795μm,0.5s						
BDI	**Bagni Di Lucca**	**0.68**	**119**	P	**Pg**	**03 05 25.1**	**-0.3**
BDI				S	**Sb**	**03 05 34.4**	**-1.3**
BDI	**Bagni Di Lucca**	**0.68**	**119**	P	**Pg**	**03 05 25.1**	**-0.3**
BDI				S	**Sb**	**03 05 34.8**	**-0.9**
BDI				AML	AML		
	comp=E,3485μm,0.5s						
BDI				AML	AML		
	comp=N,1102μm,0.5s						
BDI				AML	AML		
	comp=N,2760μm,0.4s						
BDI				AML	AML		
	comp=E,1455μm,0.5s						
BDI				AML	AML		
	comp=E,3485μm,0.5s						
BDI				AML	AML		
	comp=N,2760μm,1.6s						
MAIM	**Mastiano**	**0.70**	**132**	P	**Pb**	**03 05 26.0**	**-0.6**
MAIM				S	**Sb**	**03 05 36.1**	**-0.2**
MAIM	**Mastiano**	**0.70**	**132**	P	**Pb**	**03 05 25.9**	**-0.7**
MAIM				S	**Sb**	**03 05 36.3**	**0.0**
MAIM				AML	AML		
	comp=N,1795μm,0.5s						
MAIM				AML	AML		
	comp=E,3645μm,0.4s						
PII	**Pisa**	**0.86**	**141**	P	**Pb**	**03 05 28.9**	**-0.4**
PII				S	**Sb**	**03 05 41.8**	**+0.9**
PII	**Pisa**	**0.86**	**141**	⇑P	**Pb**	**03 05 28.9**	**-0.4**
PII				S	**Sn**	**03 05 42.6**	**-0.4**
PII				AML	AML		
	comp=E,3310μm,0.4s						
PII				AML	AML		
	comp=N,2995μm,0.3s						
ZCCA	**Zocca**	**0.86**	**92**	P	**Pn**	**03 05 30.2**	**-0.3**
ZCCA	**Zocca**	**0.86**	**92**	AML	AML		
	comp=E,1910μm,0.6s						
ZCCA				AML	AML		
	comp=N,2525μm,0.5s						
ZCCA				AML	AML		
	comp=N,2520μm,0.5s						
ZCCA				AML	AML		
	comp=N,2470μm,0.5s						
ZCCA				AML	AML		
	comp=E,2025μm,0.6s						
PCP	**Piancastagn**	**0.89**	**280**	P	**Pg**	**03 05 28.9**	**-0.6**
PCP				S	**Sg**	**03 05 41.3**	**+0.2**
PCP	**Piancastagn**	**0.89**	**280**	P	**Pg**	**03 05 29.3**	**-0.2**
PCP				S	**Sg**	**03 05 41.9**	**+0.8**
PCP				AML	AML		
	comp=E,898μm,0.5s						
PCP				AML	AML		
	comp=N,1115μm,0.9s						
MTCR	**Monte La Croce**	**0.95**	**112**	P	**Pb**	**03 05 30.5**	**-0.4**
MTCR				S	**Sn**	**03 05 44.9**	**-0.6**
MTCR	**Monte La Croce**	**0.95**	**112**	P	**Pb**	**03 05 30.6**	**-0.4**
MTCR				S	**Sn**	**03 05 44.9**	**-0.6**
MTCR				AML	AML		
	comp=E,1054μm,0.7s						
MTCR				AML	AML		
	comp=N,2095μm,0.4s						
MTCR				AML	AML		
	comp=E,1052μm,0.7s						
MTCR				AML	AML		
	comp=N,2090μm,0.4s						
GROG	**Isola di Gorgo**	**0.97**	**175**	P	**Pb**	**03 05 31.4**	**+0.3**
GROG				S	**Sn**	**03 05 46.7**	**+1.0**
GROG	**Isola di Gorgo**	**0.97**	**175**	P	**Pn**	**03 05 31.7**	**-0.2**
GROG				AML	AML		
	comp=E,1084μm,1.2s						
GROG				AML	AML		
	comp=E,1083μm,1.2s						
GROG				AML	AML		
	comp=N,872μm,0.6s						
GROG				AML	AML		
	comp=E,1083μm,0.8s						
CAVE	**Cavezzo**	**1.00**	**61**	S	**Sn**	**03 05 51.7**	**+5.3**
ORZI	**Orzinuovi**	**1.02**	**6**	AML	AML		
	comp=N,1930μm,0.9s						
ORZI				AML	AML		
	comp=E,1780μm,0.8s						
ORZI				AML	AML		
	comp=E,1780μm,1.2s						
QLNO	**Quiliano**	**1.03**	**267**	P	**Pg**	**03 05 31.9**	**-0.1**
QLNO				S	**Sg**	**03 05 45.9**	**+0.5**
QLNO	**Quiliano**	**1.03**	**267**	P	**Pg**	**03 05 31.8**	**-0.1**
QLNO				S	**Sg**	**03 05 45.8**	**+0.5**
QLNO				AML	AML		
	comp=E,1052μm,0.6s						
QLNO				AML	AML		
	comp=N,834μm,0.5s						
QLNO				AML	AML		
	comp=E,1052μm,1.4s						
RAVA	**Ravarino**	**1.03**	**69**	P	**Pn**	**03 05 34.6**	**+1.9**
RAVA				S	**Sn**	**03 05 54.1**	**+7.0**
RAVA	**Ravarino**	**1.03**	**69**	AML	AML		
	comp=E,6000μm,0.4s						
RAVA				AML	AML		
	comp=N,7315μm,0.4s						
MPPT	**Montemurlo**	**1.04**	**114**	AML	AML		
	comp=N,908μm,0.4s						
MPPT				AML	AML		
	comp=E,917μm,0.4s						
MPPT				AML	AML		
	comp=E,914μm,0.4s						
MPPT				AML	AML		
	comp=N,908μm,1.6s						
ROTM	**Rocchetta Tana**	**1.11**	**295**	P	**Pn**	**03 05 34.9**	**+1.0**
ROTM	**Rocchetta Tana**	**1.11**	**295**	AML	AML		
	comp=E,4385μm,1.6s						
ROTM				AML	AML		
	comp=N,7565μm,0.5s						
ROTM				AML	AML		
	comp=E,4385μm,0.4s						
CANO	**Canova, Maglio**	**1.12**	**261**	P	**Pg**	**03 05 33.0**	**-0.7**
CANO				S	**Sg**	**03 05 48.4**	**+0.1**
CANO	**Canova, Maglio**	**1.12**	**261**	P	**Pg**	**03 05 33.1**	**-0.7**
CANO				AML	AML		
	comp=E,1925μm,0.9s						
CANO				AML	AML		
	comp=N,1425μm,0.4s						
MTRZ	**Monterenzio**	**1.21**	**90**	P	**Pn**	**03 05 37.8**	**+2.5**
MTRZ				S	Sn	03 06 02.6	+11
TRES	**Parco Tresine**	**1.22**	**26**	P	**Pb**	**03 05 35.4**	**+0.1**
TRES				S	**Sn**	**03 05 52.0**	**+0.2**
SERM	**Sermide**	**1.25**	**60**	AML	AML		
	comp=E,1425μm,0.8s						
SERM				AML	AML		
	comp=N,1105μm,0.4s						
SERM				AML	AML		
	comp=E,1420μm,0.8s						
SERM				AML	AML		
	comp=E,1420μm,1.2s						
RORO	**Rocca Rossa**	**1.26**	**258**	P	**Pg**	**03 05 35.0**	**-1.4**
RORO	**Rocca Rossa**	**1.26**	**258**	P	**Pg**	**03 05 35.1**	**-1.4**
RORO				S	**Sg**	**03 05 52.2**	**-0.6**
RORO				AML	AML		
	comp=N,543μm,1.3s						
RORO				AML	AML		
	comp=E,592μm,1.6s						
RORO				AML	AML		
	comp=N,543μm,0.7s						
RORO				AML	AML		
	comp=E,592μm,0.4s						
BRIS	**BRISIGHELLA**	**1.27**	**100**	AML	AML		
	comp=E,1133μm,0.4s						
BRIS				AML	AML		
	comp=N,1745μm,0.6s						
BRIS				AML	AML		
	comp=E,1133μm,1.6s						
BRIS				AML	AML		
	comp=N,1745μm,1.4s						
RUFI	**Rufina**	**1.37**	**113**	P	**Pg**	**03 05 37.8**	**-0.7**
RUFI	**Rufina**	**1.37**	**113**	P	**Pg**	**03 05 37.8**	**-0.7**
OSSC	**Osservatorio P**	**1.37**	**129**	P	**Pg**	**03 05 37.8**	**-0.8**
OSSC	**Osservatorio P**	**1.37**	**129**	P	**Pb**	**03 05 37.6**	**-0.4**
OSSC				AML	AML		
	comp=E,638μm,0.9s						
OSSC				AML	AML		
	comp=N,652μm,1.6s						
OSSC				AML	AML		
	comp=E,626μm,1.1s						
OSSC				AML	AML		
	comp=E,639μm,0.9s						
OSSC				AML	AML		
	comp=N,654μm,0.9s						
OSSC				AML	AML		
	comp=N,654μm,1.1s						
OSSC				AML	AML		
	comp=E,639μm,1.1s						
OSSC				AML	AML		
	comp=N,652μm,1.6s						
MDI	**Monti di Nese**	**1.39**	**358**	P	**Pn**	**03 05 38.0**	**+0.2**
MDI	**Monti di Nese**	**1.39**	**358**	AML	AML		
	comp=E,2495μm,0.5s						
MDI				AML	AML		
	comp=N,2395μm,0.4s						
MDI				AML	AML		
	comp=N,2565μm,0.4s						
MDI				AML	AML		
	comp=E,2530μm,0.5s						
MDI				AML	AML		
	comp=E,2490μm,0.5s						
MDI				AML	AML		
	comp=E,2530μm,1.5s						
MDI				AML	AML		
	comp=N,2390μm,0.4s						
MDI				AML	AML		
	comp=E,2490μm,1.5s						
ZONE	**Zone**	**1.39**	**10**	AML	AML		
	comp=E,1725μm,0.4s						
ZONE				AML	AML		
	comp=N,2240μm,0.4s						
ZONE				AML	AML		
	comp=N,2235μm,0.4s						
LMD	**Lutirano**	**1.42**	**102**	AML	AML		
	comp=N,740μm,0.8s						
LMD				AML	AML		
	comp=E,466μm,0.6s						
LMD				AML	AML		
	comp=N,740μm,1.2s						
CSNT	**Castellina Chi**	**1.43**	**129**	P	**Pn**	**03 05 38.5**	**+0.1**
CSNT	**Castellina Chi**	**1.43**	**129**	P	**Pn**	**03 05 38.4**	**+0.1**
CSNT				AML	AML		
	comp=E,350μm,1.6s						
CSNT				AML	AML		
	comp=N,661μm,0.5s						
CSNT				AML	AML		
	comp=E,350μm,0.4s						
MGRO	**Montegrosso**	**1.46**	**257**	P	**Pn**	**03 05 38.1**	**-0.7**
MGRO	**Montegrosso**	**1.46**	**257**	P	**Pn**	**03 05 38.4**	**-0.4**
MGRO				AML	AML		
	comp=E,484μm,0.6s						
MGRO				AML	AML		
	comp=N,491μm,0.9s						
MGRO				AML	AML		
	comp=E,484μm,1.4s						
MORSI	**Morsiglia**	**1.47**	**192**	P	**Pn**	**03 05 38.5**	**-0.3**
MORSI				S	**Sg**	**03 06 00.1**	**+0.7**
MONC	**Moncucco Torin**	**1.48**	**298**	P	**Pg**	**03 05 42.2**	**+1.5**
MONC	**Moncucco Torin**	**1.48**	**298**	AML	AML		
	comp=N,1880μm,0.9s						
MONC				AML	AML		
	comp=E,1495μm,1.0s						
BALD	**Monte Baldo**	**1.49**	**29**	P	**Pn**	**03 05 39.5**	**+0.2**
ASQU	**Asqua**	**1.57**	**112**	P	**Pb**	**03 05 41.0**	**-0.4**
ASQU				AML	AML		
	comp=E,478μm,0.6s						
ASQU				AML	AML		
	comp=N,302μm,1.3s						
ASQU				AML	AML		
	comp=N,302μm,0.7s						
SFI	**Santa Sofia**	**1.57**	**107**	AML	AML		
	comp=N,652μm,1.1s						
SFI				AML	AML		
	comp=E,402μm,1.6s						
SFI				AML	AML		
	comp=E,427μm,1.6s						
SFI				AML	AML		
	comp=N,688μm,1.0s						
SFI				AML	AML		
	comp=E,427μm,0.4s						
SFI				AML	AML		
	comp=E,402μm,0.4s						
MUGIO	**Muggio**	**1.62**	**342**	P	**Pn**	**03 05 41.0**	**+0.1**
MUGIO				AML	AML		
	comp=N,616μm,0.7s						
MUGIO				AML	AML		
	comp=E,555μm,0.5s						
SAOF	**Saorge**	**1.65**	**257**	P	**Pn**	**03 05 41.2**	**-0.1**
SAOF				S	**Sn**	**03 06 02.8**	**+0.3**
CELB	**S.Piero in Cam**	**1.67**	**169**	AML	AML		
	comp=N,138μm,0.5s						
CELB				AML	AML		
	comp=E,144μm,1.5s						
CELB				AML	AML		
	comp=E,144μm,0.5s						
CRE	**Caprese Michel**	**1.75**	**115**	P	**Pn**	**03 05 43.5**	**+0.7**
CRE				AML	AML		
	comp=N,520μm,0.4s						
CRE				AML	AML		
	comp=E,764μm,0.7s						
CRE				AML	AML		
	comp=E,764μm,1.3s						
TURF	**col de Turini**	**1.76**	**257**	P	**Pn**	**03 05 43.0**	**0.0**
TURF				S	**Sn**	**03 06 05.3**	**-0.3**
SBF	**Sospel**	**1.77**	**253**	*e*Pn	**Pn**	**03 05 42.9**	**-0.1**
SBF				*e*Sn	**Sn**	**03 06 03.1**	**-2.4**
	comp=E,383nm,0.5s						
LUSI	**Trento, Gardas**	**1.77**	**27**	P	**Pn**	**03 05 42.6**	**-0.4**
LUSI				AML	AML		
	comp=N,1855μm,0.4s						
LUSI				AML	AML		
	comp=E,1285μm,0.4s						
CASP	**Castiglione de**	**1.79**	**153**	AML	AML		
	comp=E,170μm,0.5s						
CASP				AML	AML		
	comp=N,234μm,0.5s						
DOSS	**Dosso del Somm**	**1.79**	**33**	P	**Pn**	**03 05 43.1**	**-0.4**
DOSS				AML	AML		
	comp=E,1595μm,1.1s						
DOSS				AML	AML		
	comp=N,1610μm,1.1s						
DOSS				AML	AML		
	comp=E,1315μm,0.5s						
DOSS				AML	AML		
	comp=N,1280μm,0.5s						
DOSS				AML	AML		
	comp=N,1610μm,0.9s						
DOSS				AML	AML		
	comp=E,1595μm,0.9s						
ESCA	**l'Escarene**	**1.82**	**253**	P	**Pn**	**03 05 44.2**	**+0.5**
SPIF	**crte de Spivo**	**1.85**	**260**	P	**Pn**	**03 05 44.5**	**+0.3**
SPIF				S	**Sn**	**03 06 08.5**	**+0.7**
PGF	**Pioggiola**	**1.93**	**197**	*e*Pn	**Pn**	**03 05 45.0**	**-0.2**
PGF				*e*Sn	**Sn**	**03 06 06.1**	**-3.4**
	comp=E,36nm,0.3s						
PGF	**Pioggiola**	**1.93**	**197**	AML	AML		
	comp=N,134μm,1.0s						
PGF				AML	AML		
	comp=E,128μm,0.9s						
PGF				AML	AML		
	comp=E,128μm,1.1s						
PGF	**Pioggiola**	**1.93**	**197**	P	**Pn**	**03 05 45.0**	**-0.2**
PGF	**Pioggiola**	**1.93**	**197**	S	**Sn**	**03 06 08.7**	**-0.9**
ISO	**Isola**	**1.97**	**265**	P	**Pn**	**03 05 45.7**	**0.0**
CIRO	**Champorcher**	**1.98**	**308**	P	**Pn**	**03 05 47.0**	**+0.9**
CIRO				AML	AML		
	comp=E,186μm,0.6s						
CIRO				AML	AML		
	comp=N,192μm,1.3s						
CIRO				AML	AML		
	comp=N,192μm,0.7s						
CIRO				AML	AML		
	comp=E,186μm,1.4s						
CGRP	**Cima Grappa**	**2.07**	**43**	P	**Pn**	**03 05 47.0**	**-0.2**
CGRP				AML	AML		
	comp=N,818μm,0.6s						
CGRP				AML	AML		
	comp=E,967μm,0.5s						
CGRP				AML	AML		
	comp=E,967μm,1.5s						
ATMI	**Monte Miggiano**	**2.09**	**119**	AML	AML		
	comp=N,549μm,0.4s						
ATMI				AML	AML		
	comp=E,418μm,0.5s						
ATPI	**Pietralunga -**	**2.12**	**115**	AML	AML		
	comp=E,214μm,0.6s						
ATPI				AML	AML		
	comp=N,212μm,0.7s						
ATPI				AML	AML		
	comp=N,212μm,1.3s						
ATPI				AML	AML		
	comp=E,214μm,1.4s						
CTI	**Castel Tesino**	**2.12**	**38**	P	**Pn**	**03 05 47.8**	**-0.1**
SURF	**Saint Ours**	**2.12**	**273**	P	**Pn**	**03 05 47.9**	**-0.1**
CORF	**Corte**	**2.14**	**192**	P	**Pn**	**03 05 48.6**	**+0.5**
CORF				S	**Sn**	**03 06 15.4**	**+0.7**
CALF	**Calern**	**2.15**	**254**	P	**Pn**	**03 05 48.8**	**+0.4**
CALF				S	**Sn**	**03 06 15.0**	**-0.2**
JAUF	**Jausiers**	**2.17**	**272**	P	**Pn**	**03 05 48.5**	**-0.1**
JAUF				S	**Sn**	**03 06 15.0**	**-0.6**
MBDF	**Montbardon**	**2.17**	**280**	*e*Pn	**Pn**	**03 05 48.4**	**-0.2**
MBDF				*e*Sn	**Sn**	**03 06 14.1**	**-1.6**
	comp=E,87nm,0.4s						
SACS	**San Casciano d**	**2.19**	**134**	P	**Pn**	**03 05 49.9**	**+1.1**
SACS				AML	AML		
	comp=E,72μm,1.0s						
SACS				AML	AML		
	comp=N,72μm,0.9s						
SACS				AML	AML		
	comp=E,72μm,1.0s						
MAON	**Monte Argentar**	**2.20**	**153**	P	**Pn**	**03 05 49.4**	**+0.6**
MAON				AML	AML		
	comp=E,61μm,0.7s						
MAON				AML	AML		
	comp=E,61μm,1.3s						
MAON				AML	AML		
	comp=N,108μm,0.8s						
FUSIO	**Fusio**	**2.21**	**340**	P	**Pn**	**03 05 49.8**	**+0.7**
FUSIO				AML	AML		
	comp=E,239μm,1.5s						
FUSIO				AML	AML		
	comp=N,154μm,0.5s						
FUSIO				AML	AML		
	comp=E,239μm,0.5s						
CREF	**Crivoux**	**2.26**	**275**	P	**Pn**	**03 05 50.3**	**+0.4**
FSSB	**Fossombrone**	**2.28**	**107**	AML	AML		
	comp=E,336μm,1.2s						
FSSB				AML	AML		
	comp=N,546μm,0.8s						
EMBD	**Embd, Matterta**	**2.28**	**324**	P	**Pn**	**03 05 51.8**	**+1.7**
OGAG	**Argentiere**	**2.32**	**273**	P	**Pb**	**03 05 53.7**	**-0.5**
SMPL	**Sampolo**	**2.32**	**189**	P	**Pn**	**03 05 52.4**	**+1.8**
SMPL				S	**Sn**	**03 06 20.5**	**+1.3**
OGMO	**Fort Saint-Gob**	**2.35**	**291**	P	**Pb**	**03 05 53.6**	**-1.0**
REMY	**Saint-Rhmy-en**	**2.35**	**309**	AML	AML		
	comp=E,218μm,0.6s						
REMY				AML	AML		
	comp=N,342μm,0.8s						
REMY				AML	AML		
	comp=N,342μm,1.2s						
KOSI	**Kohlern**	**2.36**	**28**	AML	AML		
	comp=E,434μm,1.3s						
KOSI				AML	AML		
	comp=E,434μm,0.7s						
KOSI				AML	AML		
	comp=N,486μm,0.7s						
KOSI				AML	AML		
	comp=N,486μm,1.3s						
DIX	**Grande Dixence**	**2.38**	**316**	P	**Pb**	**03 05 54.3**	**-1.0**
DAVOX	**Davos/Dischmat**	**2.39**	**2**	AML	AML		
	comp=N,304μm,1.4s						

DAVOX AML AML
comp=N,304µm,0.6s
DAVOX AML AML
comp=E,159µm,1.0s
LPL La Plagne 2.44 299 *e*Pn **Pn 03 05 54.4 +2.1**
LPL *e*Sn **Sn 03 06 21.8 -0.5**
comp=E,37nm,0.3s
TRIGF Trigance 2.51 256 P **Pn 03 05 53.9 +0.7**
OGDI Digne 2.51 265 P **Pb 03 05 56.1 -1.4**
LMR La Mourre 2.59 247 *e*Pn **Pn 03 05 53.7 -0.5**
LMR *e*Sn **Sn 03 06 21.4 -4.3**
comp=E,33nm,0.3s
BNALP Bannalp 2.65 340 AML AML
comp=E,164µm,1.4s
BNALP AML AML
comp=E,164µm,0.6s
BNALP AML AML
comp=N,137µm,0.8s
CESI CESI - Serrava 2.66 120 AML AML
comp=N,377µm,0.3s
CESI AML AML
comp=E,228µm,0.4s
PLONS Plons/SG 2.67 354 *e*Pn **Pn 03 05 57.5 +2.0**
PLONS *e*Sn **Sn 03 06 30.8 +2.8**
OGSI Sixt 2.71 309 P **Pb 03 05 59.7 -1.2**
FETA Feichten 2.71 14 *e*Pn **Pb 03 05 59.8 -1.2**
comp=E,0.4nm,0.1s
FETA *e*Sn **Sb 03 06 34.3 -0.1**
comp=E,37nm,0.7s
FLAF Flassans-sur-I 2.74 250 P **Pn 03 05 56.7 +0.4**
FDMO Fiordimonte 2.76 118 AML AML
comp=E,258µm,0.1s
FDMO AML AML
comp=N,358µm,0.2s
AIGLE Aigle 2.79 315 P **Pb 03 06 00.3 -1.9**
AIGLE Aigle 2.79 315 S **Sn 03 06 34.2 +3.6**
ORIF Oris-en-Rattie 2.83 282 *e*Pn **Pn 03 05 59.8 +2.2**
ORIF *e*Sn **Sn 03 06 28.4 -3.4**
comp=N,85nm,0.5s
ORIF Oris-en-Rattie 2.83 282 S **Sn 03 06 35.4 +3.6**
ORIF Oris-en-Rattie 2.83 282 P **Pn 03 05 59.9 +2.3**
T1256 Bolognola (MC) 2.86 118 AML AML
comp=E,144µm,1.0s
T1256 AML AML
comp=N,155µm,0.6s
T1256 AML AML
comp=E,144µm,1.0s
DAVA Damuels 2.90 1 Pn **Pn 03 06 00.5 +1.9**
comp=E,14nm,0.3s,SNR=20
DAVA *e*Sn **Sn 03 06 37.1 +3.6**
comp=E,21nm,0.3s
DAVA Damuels 2.90 1 *e*Pn **Pn 03 06 00.6 +2.0**
DAVA *e*Sn **Sn 03 06 37.2 +3.6**
GUMA Gualdo di Mace 2.90 116 AML AML
comp=N,386µm,1.2s
GUMA AML AML
comp=E,458µm,0.7s
GUMA AML AML
comp=N,386µm,0.8s
GUMA AML AML
comp=E,458µm,1.3s
T1245 Castelsantange 2.92 121 AML AML
comp=N,266µm,1.5s
T1245 AML AML
comp=N,265µm,1.5s
T1245 AML AML
comp=E,188µm,0.6s
T1245 AML AML
comp=E,188µm,1.4s
T1245 AML AML
comp=N,266µm,0.5s
ARTF Artigues 2.98 256 P **Pn 03 05 59.9 +0.3**
ARTF S **Sn 03 06 35.9 +0.6**
SQTA Sankt Quirin 3.00 19 Pn **Pn 03 06 02.4 +2.4**
comp=N,1.8nm,0.2s,SNR=15
SQTA *e*Sn **Sb 03 06 40.5 -2.1**
comp=N,69nm,0.8s
BSTF la Bastide-des 3.02 262 P **Pn 03 06 01.2 +1.1**
BSTF S **Sn 03 06 36.9 +0.5**
OBER Oberstdorf 3.04 7 *e*Pn **Pn 03 06 02.5 +2.0**
OBER *e*Sn **Sn 03 06 39.7 +2.7**
ABTA Abfaltersbach 3.04 38 *e*Pn **Pn 03 06 01.9 +1.4**
comp=N,8.2nm,0.5s,SNR=19
ABTA *e*Sn **Sn 03 06 39.6 +2.6**
comp=N,46nm,0.6s
SMRF Simiane la Rot 3.05 264 *e*Pn **Pn 03 06 00.5 -0.1**
SMRF *e*Sn **Sn 03 06 32.7 -4.5**
comp=N,52nm,0.5s
LEPF PUYLOUBIER 3.07 255 P **Pn 03 06 01.6 +0.8**
T1241 Roccafluvione, 3.07 119 AML AML
comp=N,107µm,1.6s
T1241 AML AML
comp=E,148µm,0.9s
T1241 AML AML
comp=N,107µm,1.6s
T1241 AML AML
comp=E,148µm,0.9s
T1241 AML AML
comp=E,148µm,1.1s
T1241 AML AML
comp=N,107µm,0.4s
ASEAF Site Antares, 3.07 240 P **Pn 03 06 00.2 -0.3**
WILA Wila 3.08 349 *e*Pn **Pn 03 06 02.1 +1.0**
WILA *e*Sn **Sn 03 06 40.1 +2.1**
ZUR Degenried 3.09 345 P **Pn 03 06 02.5 +1.4**
MOTA Moosalm 3.10 17 Pn **Pn 03 06 03.4 +2.0**
comp=N,2.3nm,0.3s,SNR=13
MOTA *e*Sn **Sb 03 06 42.7 -2.7**
comp=N,14nm,0.5s
RUSF Rustrel 3.12 263 P **Pn 03 06 02.4 +0.9**
RUSF S **Sn 03 06 39.0 +0.1**
SABO M.te Sabotino 3.14 58 AML AML
comp=E,426µm,0.6s
SABO AML AML
comp=N,508µm,0.5s
SABO AML AML
comp=E,1835µm,0.9s
SABO AML AML
comp=N,1980µm,0.8s
SABO AML AML
comp=E,1835µm,1.1s
SABO AML AML
comp=N,1980µm,1.2s
OGSM Saint Maurice 3.14 294 P **Pn 03 06 04.6 +2.8**
OGSM S **Sn 03 06 41.3 +2.0**
ZUGS Zugspitze, Sch 3.14 15 *e*Sn **Sn 03 06 43.6 +3.8**
WTTA Wattenberg 3.15 24 *i* Pn **Pn 03 06 05.0 +2.8**
comp=N,4.6nm,0.3s,SNR=10
WTTA *e*Sn **Sb 03 06 46.2 -0.9**
comp=N,26nm,0.4s
WTTA Wattenberg 3.15 24 *e*Pn **Pn 03 06 03.7 +1.5**
WTTA *e*Sn **Sb 03 06 46.1 -0.9**
RETA Reutte 3.17 12 *i* Pn **Pn 03 06 04.1 +1.8**
comp=N,0.2nm,0.1s,SNR=5.4
RETA *e*Sn **Sn 03 06 43.8 +3.6**
comp=N,21nm,0.4s
WATA Walderalm 3.20 23 Pn **Pn 03 06 05.2 +2.4**
comp=N,1.2nm,0.2s,SNR=5.9
WATA *e*Sn **Sb 03 06 46.2 -2.2**
comp=N,37nm,0.6s
PART Garmisch-Parte 3.24 16 *e*Sn **Sn 03 06 45.4 +3.4**
BALST Balsthal 3.28 334 *e*Pn **Pn 03 06 04.5 +0.7**
BALST *e*Sn **Sn 03 06 44.1 +1.1**
BALST Balsthal 3.28 334 P **Pn 03 06 04.9 +1.0**
UBR Ueberruh 3.30 4 *e*Pn **Pn 03 06 05.4 +1.3**
UBR *e*Sn **Sn 03 06 45.1 +1.7**
SULZ Cheisacher 3.34 340 *e*Pn **Pn 03 06 05.3 +0.7**
SULZ *e*Sn **Sn 03 06 44.2 -0.2**
SULZ Cheisacher 3.34 340 P **Pn 03 06 05.1 +0.5**
SULZ Cheisacher 3.34 340 S **Sn 03 06 44.3 -0.2**
SAUF chteau de Sau 3.39 264 P **Pn 03 06 05.8 +0.6**
WALHA Wallhausen, DE 3.39 353 *e*Pn **Pn 03 06 05.6 +0.3**
OG35 Corcelles 3.40 301 P **Pn 03 06 06.8 +1.4**
OG35 S **Sn 03 06 48.0 +2.1**
CABF La Chapelle 3.41 312 *e*Pn **Pn 03 06 07.1 +1.5**
CABF *e*Sn **Sn 03 06 45.9 -0.3**
comp=N,11nm,0.4s
BRANT Les Verrieres 3.44 319 P **Pn 03 06 08.1 +2.1**
BRANT Les Verrieres 3.44 319 S **Sn 03 06 48.9 +2.0**
METMA Mettma DE 3.49 343 *e*Pn **Pn 03 06 06.7 +0.1**
METMA *e*Sn **Sn 03 06 48.6 +0.7**
BOURR Bourrignon 3.49 330 P **Pn 03 06 07.8 +1.2**
SLE Schleitheim 3.49 346 *e*Pn **Pn 03 06 06.7 +0.1**
SLE *e*Sn **Sn 03 06 48.8 +0.8**
SLE Schleitheim 3.49 346 P **Pn 03 06 06.7 +0.1**

MYKA Terra Mystica 3.52 49 *e*Pn **Pn 03 06 09.8 +2.7**
comp=N,1.7nm,0.2s
MYKA *e*Sn **Sn 03 06 49.8 +0.9**
comp=N,18nm,0.4s
CEY Cerknica 3.56 66 *e*Pn **Pn 03 06 06.9 -0.7**
EMING Emmingen-Lipti 3.56 350 *e*Pn **Pn 03 06 07.6 -0.1**
EMING *e*Sn **Sn 03 06 49.9 +0.1**
CHMF Charmoille 3.60 324 P **Pn 03 06 09.3 +1.2**
BERGE Lenzkirch (DE) 3.65 343 *e*Pn **Pn 03 06 08.8 -0.1**
BERGE *e*Sn **Sn 03 06 50.5 -1.6**
KBA Koelnbreinsper 3.67 42 Pn **Pn 03 06 10.6 +1.4**
comp=N,2.4nm,0.3s,SNR=5.1
KBA *e*Sn **Sn 03 06 54.0 +1.3**
comp=N,28nm,0.8s
KBA Koelnbreinsper 3.67 42 *e*Pn **Pn 03 06 10.8 +1.6**
KBA *e*Sn **Sn 03 06 54.1 +1.5**
VIVF Saint-Julien-l 3.67 279 *e*Pn **Pn 03 06 10.0 +0.9**
VIVF *e*Sn **Sn 03 06 48.8 -3.7**
comp=N,10nm,0.3s
FELD Feldberg im Sc 3.70 341 P **Pn 03 06 09.8 +0.2**
GUT Gutenstein 3.71 353 P **Pn 03 06 09.4 -0.2**
GUT Gutenstein 3.71 353 S **Sn 03 06 52.9 -0.5**
BOUC Bouclans 3.77 321 P **Pn 03 06 11.7 +1.2**
BOUC S **Sn 03 06 55.0 +0.1**
KIZ Kirchzarten 3.79 341 P **Pn 03 06 10.6 -0.1**
SSB Saint Sauveur 3.83 285 P **Pn 03 06 11.9 +0.6**
MOF Molkenrain 3.92 333 P **Pn 03 06 13.4 +0.9**
MOF S **Sn 03 06 58.7 +0.1**
RJOB Jochberg 3.95 31 *e*Pn **Pn 03 06 16.4 +3.4**
RJOB *e*Sn **Sn 03 07 03.6 +4.2**
VOGT Vogtsburg - To 3.97 339 P **Pn 03 06 13.4 +0.2**
RONF Ronchamp 3.97 328 P **Pn 03 06 14.1 +0.9**
RONF S **Sn 03 07 01.4 +1.6**
OBKA Obir 3.97 56 *e*Pn **Pn 03 06 14.1 +0.8**
OBKA Obir 3.97 56 *e*Pn **Pn 03 06 14.1 +0.8**
comp=N,1.3nm,0.2s
OBKA *e*Sn **Sn 03 07 00.9 +1.0**
comp=N,30nm,0.4s
OBKA Obir 3.97 56 *e*Pn **Pn 03 06 15.0 +1.7**
OBKA *e*Sn **Sn 03 07 00.9 +1.0**
HINF Hinteralfeld 3.98 330 *e*Pn **Pn 03 06 13.6 +0.2**
HINF *e*Sn **Sn 03 07 00.6 +0.4**
comp=N,25nm,0.4s
BFO Black Forest 4.07 346 *e*Pn **Pn 03 06 14.4 -0.1**
BFO *e*Sn **Sn 03 07 02.2 0.0**
ECH Echery 4.23 336 *e*Pn **Pn 03 06 17.3 +0.5**
ECH *e*Sn **Sn 03 07 05.2 -1.1**
ECH Echery 4.23 336 P **Pn 03 06 17.6 +0.8**
ECH Echery 4.23 336 P **Pn 03 06 17.2 +0.5**
ECH S **Sn 03 07 04.8 -1.4**
ECH Echery 4.23 336 P **Pn 03 06 17.4 +0.5**
ECH S **Sn 03 07 04.9 -1.4**
BIOA Bad Ischl, Aus 4.26 38 *i* Pn **Pn 03 06 18.5 +1.3**
comp=N,4.6nm,0.3s
BIOA *e*Sn **Sn 03 07 09.0 +2.1**
comp=N,29nm,0.9s
LASF Ste Croix 4.26 268 *e*Pn **Pn 03 06 17.0 -0.3**
LASF *e*Sn **Sn 03 07 03.3 -3.8**
comp=N,2.5nm,0.2s
HAU Haudompre 4.33 328 *e*Pn **Pn 03 06 19.1 +1.0**
HAU *e*Sn **Sn 03 07 08.5 -0.1**
comp=N,34nm,0.4s
SOKA Soboth 4.34 56 *i* Pn **Pn 03 06 19.6 +1.1**
comp=N,0.4nm,0.1s,SNR=6.2
SOKA *e*Sn **Sn 03 07 09.3 +0.2**
comp=N,21nm,0.6s
WLS Welschbruch 4.36 338 P **Pn 03 06 18.9 +0.4**
CDF Champ du Feu 4.38 338 *e*Pn **Pn 03 06 19.1 +0.2**
CDF *e*Sn **Sn 03 07 09.2 -0.8**
comp=N,16nm,0.4s
MOA Molln 4.66 40 *i* Pn **Pn 03 06 23.9 +1.3**
comp=N,3.8nm,0.3s,SNR=13
MOA *e*Sn **Sn 03 07 17.9 +1.0**
comp=N,13nm,0.5s
MOA Molln 4.66 40 *e*Pn **Pn 03 06 24.0 +1.3**
MOA *e*Sn **Sn 03 07 18.2 +1.4**
SMF Signal de Mont 4.74 300 *e*Pn **Pn 03 06 25.6 +1.8**
SMF *e*Sn **Sn 03 07 16.5 -2.3**
comp=N,62nm,0.5s
CIEL Dossenheim-sur 4.74 340 P **Pn 03 06 23.8 -0.1**
CIEL S **Sn 03 07 18.8 -0.1**
A050A Klekovaca 4.84 87 *e*Pn **Pn 03 06 26.0 +0.8**
ARSA Arzberg 4.93 53 *i* Pn **Pn 03 06 27.0 +0.6**
comp=N,2.5nm,0.3s,SNR=12
ARSA *e*Sn **Sn 03 07 23.3 -0.3**
comp=N,11nm,0.9s
ARSA Arzberg 4.93 53 *e*Pn **Pn 03 06 27.2 +0.8**
PAGF Fort de Pagny 5.02 328 *e*Pn **Pn 03 06 29.0 +1.4**
baz=147
PAGF *e*Sn **Sn 03 07 24.6 -1.0**
comp=N,12nm,0.3s
SFTF Sexfontaines 5.03 321 *e*Pn **Pn 03 06 29.6 +1.8**
baz=141
SFTF *e*Sn **Sn 03 07 25.1 -0.9**
comp=N,17nm,0.5s
LOR Lormes 5.04 307 *e*Pn **Pn 03 06 29.9 +2.0**
baz=128
LOR *e*Sn **Sn 03 07 24.0 -2.1**
comp=N,23nm,0.4s
LOR Lormes 5.04 307 P **Pn 03 06 30.1 +2.3**
AVF Avril sur Loir 5.11 300 *e*Pn **Pn 03 06 29.9 +1.1**
AVF *e*Sn **Sn 03 07 23.9 -3.9**
comp=N,3.0nm,0.3s
A051A Mrakovica 5.12 81 *e*Pn **Pn 03 06 29.6 +0.5**
SSF Saint Saulge 5.14 304 *e*Pn **Pn 03 06 30.9 +1.7**
SSF *e*Sn **Sn 03 07 25.8 -2.8**
comp=N,12nm,0.4s
WET Wettzell 5.21 23 *e*Pn **Pn 03 06 31.6 +1.3**
WET *e*Sn **Sn 03 07 28.7 -1.7**
GEC2 GERESS Array S 5.21 30 *e*Pn **Pn 03 06 29.8 -0.6**
GEC2 *e*Sn **Sn 03 07 28.4 -2.1**
GERES GERESS Array B 5.21 30 Pn **Pn 03 06 29.8 -0.6**
comp=N,0.7nm,0.3s,baz=214,slow=16,SNR=15
GERES Sn **Sn 03 07 28.2 -2.3**
comp=N,2.7nm,0.3s,baz=214,slow=22,SNR=9.6
GERES LR LR 03 08 43.7
comp=N,41nm,20.3s,baz=135,slow=42
comp=N,0.8nm,0.3s
MGRS Mrkonjic Grad 5.24 87 *e*Pn **Pn 03 06 31.8 +1.2**
MEZF Maizieres J'vi 5.25 323 *e*Pn **Pn 03 06 32.4 +1.7**
baz=142
MEZF *e*Sn **Sn 03 07 30.4 -0.9**
comp=N,10nm,0.4s
SAVF Savonnieres en 5.30 324 *e*Pn **Pn 03 06 32.7 +1.2**
baz=146
SAVF *e*Sn **Sn 03 07 32.3 -0.4**
comp=N,11nm,0.5s
BLY Banja Luka 5.31 84 *e*Pn **Pn 03 06 32.5 +1.0**
SRKY Kupres RS 5.32 91 *e*Pn **Pn 03 06 34.2 +2.3**
BGF Bois d'Agland 5.33 296 *e*Pn **Pn 03 06 33.3 +1.4**
BGF *e*Sn **Sn 03 07 30.5 -2.9**
comp=N,31nm,0.4s
GRF Grafenberg Arr 5.39 10 *e*Sn **Sn 03 07 31.3 -3.7**
KHC Kasperske Hory 5.41 28 *e*PN **Pn 03 06 33.0 -0.1**
KHC *e*SN **Sn 03 07 32.1 -3.3**
CKRC Cesky Krumlov 5.42 34 *e*PN **Pn 03 06 33.5 +0.4**
CKRC *e*SN **Sn 03 07 33.5 -2.1**
CONA Conrad Observa 5.51 48 *i* Pn **Pn 03 06 35.0 +0.5**
comp=N,0.9nm,0.2s,SNR=5.3
CONA *e*Sn **Sn 03 07 38.3 +0.3**
comp=N,14nm,0.8s
CAF Calviac 5.53 278 *e*Pn **Pn 03 06 35.5 +0.9**
FILF Fillols 5.56 253 P **Pn 03 06 36.8 +1.7**
MTLF Montolieu 5.56 262 *e*Pn **Pn 03 06 34.4 -0.7**
MTLF *e*Sn **Sn 03 07 34.1 -5.0**
comp=N,4.4nm,0.4s
RONA Rosalia, Austr 5.62 52 *i* Pn **Pn 03 06 36.4 +0.5**
comp=N,5.8nm,0.5s
RONA *e*Sn **Sn 03 07 39.8 -0.6**
comp=N,10nm,0.5s
TCF Toulx Ste Croi 5.66 292 *e*Pn **Pn 03 06 37.4 +1.0**
TCF *e*Sn **Sn 03 07 38.2 -3.3**
comp=N,6.5nm,0.3s
HYF Humbligny 5.76 302 *e*Pn **Pn 03 06 39.1 +1.4**
HYF *e*Sn **Sn 03 07 41.2 -2.6**
RJF Les Rejaudoux 5.94 282 *e*Pn **Pn 03 06 41.4 +1.1**
STON Ston 5.95 102 *e*Pn **Pn 03 06 39.5 -0.9**
ZST Bratislava 6.34 51 *e*PN **Pn 03 06 42.4 -3.4**
TREB Trebinje 6.45 102 *e*Pn **Pn 03 06 48.4 +1.1**
MLS Moulis 6.46 260 P **Pn 03 06 49.3 +1.9**
LFF La Frestale 6.47 278 *e*Pn **Pn 03 06 48.3 +0.8**
KRUC Moravsky 6.52 42 *e*PN **Pn 03 06 47.5 -0.7**
KRUC *e*SN **Sn 03 08 00.1 -2.5**
BRY Bratogost 6.53 100 *e*Pn **Pn 03 06 47.2 -1.3**

MODS Modra-Piesok 6.54 50 *e*PN **Pn 03 06 48.5 0.0**
MODS *e*SN **Sn 03 08 00.5 -2.6**
HAPS Han Pijesak,Bl 6.60 89 *e*Pn **Pn 03 06 49.7 +0.3**
GIVF Givet 6.63 331 *e*Pn **Pn 03 06 53.4 +3.7**
VRAC Vranov 6.79 41 LR LR 03 10 02.8
comp=N,47nm,19.7s,baz=254,slow=44
VRAC Vranov 6.79 41 *e*SN **Sn 03 08 05.0 -4.1**
BAIF Baives 6.82 328 *e*Pn **Pn 03 06 55.0 +2.7**
EPF Esparros 6.97 262 *e*Pn **Pn 03 06 54.4 -0.1**
BRG Berggiesshubel 7.07 22 *e*(Pn) **Pn 03 06 59.1 +3.4**
BRG Amp 03 07 02.1
comp=Z,2.7nm,0.7s
BRG *ex* x 03 08 15.1
BRG *ex* x 03 09 01.1
BRG Amp 03 09 13.1
comp=Z,12nm,1.1s
DRME Dracevica, Mon 7.21 105 *e*Pn **Pn 03 06 59.1 +1.4**
MFF Saint Martin d 7.31 291 *e*Pn **Pn 03 06 59.2 +0.1**
VYHS Vyhne 7.48 54 *e*PN **Pn 03 07 00.8 -0.6**
VYHS *e*SN **Sn 03 08 19.8 -6.5**
ETSF Etsaut 7.64 262 *e*Pn **Pn 03 07 03.6 -0.1**
LDF La Druitiere 8.02 305 *e*Pn **Pn 03 07 09.6 +0.9**
LDF *e*Sn **Sn 03 08 35.2 -4.2**
comp=Z,1.3nm,0.4s
FLN La Foliniere 8.31 305 *e*Pn **Pn 03 07 13.2 +0.5**
baz=128
GRR Gorron 8.37 302 *e*Sn **Sn 03 08 43.4 -4.6**
comp=Z,1.6nm,0.2s
KEST Kesra 8.66 182 Pn Pn 03 07 22.6 +5.0
comp=Z,0.4nm,0.3s,baz=285,slow=5.2,SNR=5.7
comp=Z,1.6nm,0.5s
SGMF Saint Gilles 9.37 299 *e*Pn **Pn 03 07 26.8 -0.4**
QUIF Quistinic 9.65 296 *e*Pn **Pn 03 07 31.2 +0.1**
BRTR Keskin Array B 18.30 96 P **P 03 09 29.2 +2.7**
baz=286,slow=12,SNR=1.8
comp=Z,0.5nm,0.9s
MKAR Makanchi Array 49.12 60 P **P 03 14 00.6 +0.8**
comp=Z,0.6nm,0.9s,baz=278,slow=9.2,SNR=4.1
comp=Z,0.6nm,0.9s

IDC 21 03:18:13.8±2.7, 34°24'N×84°66'E, h0km, mb3.4/2, mbtmp3.6/5, ML2.9/3, MS3.4/4, Error ellipse: s-maj=78.5km s-min=27.9km az=72.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.67**	**353**	Pn	Pn	03 21 13.8	-1.6
	0.1nm,0.3s,baz=182,slow=12,SNR=6.5 2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**16.98**	**347**	Pn	Pn	03 22 11.3	-1.3
	baz=165,slow=11,SNR=19 2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**19.71**	**0**	P	Pn	03 22 45.5	-0.5
	0.1nm,0.3s,baz=185,slow=11,SNR=3.6 0.6nm,0.4s						
SONM	**Songino Array**	**21.20**	**44**	P	P	03 23 01.0	0.0
	0.9nm,0.9s,baz=224,slow=6.2,SNR=4.3						
SONM				LR	LR	03 31 22.4	
	comp=Z,68nm,21.6s,baz=164,slow=37 0.9nm,0.9s						
GEYT	**Alibeck**	**21.74**	**287**	LR	LR	03 32 14.5	
	comp=Z,39nm,19.0s,baz=140,slow=39						
KVAR	**Kislovodsk Arr**	**33.67**	**299**	LR	LR	03 40 17.5	
	comp=Z,403nm,20.7s,slow=39						
KSRS	**Korea Array**	**34.99**	**72**	LR	LR	03 39 24.4	
	comp=Z,37nm,18.9s,baz=155,slow=36						
WRA	**Warramunga Arr**	**71.67**	**131**	P	P	03 29 37.6	0.0
	0.4nm,0.6s,baz=326,slow=6.3,SNR=5.1 0.4nm,0.6s						

---

*IDC **21** 03:25:04.8±1.3, 21°.22S×174°.52W, h0km, mb4.2/9, mbtmp4.2/9, MS3.8/22, Error ellipse: s-maj=62.9km s-min=21.3km az=150.0*

ISC 21 03:25:07.7±0.9, 21°.6S×0°.2×174°.2W×0°.1, h25km, n55, σ1s18/27, mb4.2/9, MS3.8/21, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.00**	**17**	Pn	Pn	03 26 54.0	-8.5
	6.1nm,0.3s,baz=355,slow=2.0,SNR=5.2						
AFI				Sn	Sn	03 28 13.7	-19
	11nm,0.3s,baz=202,slow=23,SNR=5.8						
AFI				LR	LR	03 29 45.1	
	comp=Z,271nm,20.3s,baz=213,slow=36						
MSVF	**Nonsavu**	**8.23**	**297**	Pn	**Pn**	**03 27 06.4**	**+0.7**
	1.0nm,0.3s,baz=128,slow=13,SNR=16						
MSVF				LR	LR	03 29 42.9	
	comp=Z,1µm,21.4s,baz=102,slow=36						
DZM	**Mont Dzumac**	**17.95**	**265**	LR	LR	03 35 04.1	
	comp=Z,349nm,19.7s,baz=194,slow=34						
DZM	**Mont Dzumac**	**17.95**	**265**	*e*LR	LR	03 33 29.3	
	comp=Z,322nm,21.4s						
TBI	**Tubuai**	**22.95**	**99**	*e*LR	LR	03 35 45.2	
	comp=Z,810nm,23.2s						
TBI				*e*LR	LR	03 35 45.6	
	comp=Z,5µm,25.2s						
PAE	**Paea**	**23.53**	**85**	*e*T	T	03 54 23.0	
	1.6nm,0.3s						
PPT2	**Papeete2**	**23.55**	**85**	*e*LR	LR	03 35 45.6	
	comp=Z,241nm,28.8s						
PPT2				*e*LR	LR	03 35 46.5	
	comp=Z,431nm,27.8s						
PPT	**Papeete**	**23.56**	**85**	LR	LR	03 39 20.5	
	comp=Z,103nm,18.4s,baz=226,slow=36						
HNR	**Honiara**	**27.62**	**292**	LR	LR	03 40 13.1	
	comp=Z,1µm,18.9s,baz=122,slow=33						
CTA	**Charters Tower**	**36.90**	**265**	LR	LR	03 46 11.8	
	comp=Z,129nm,18.3s,baz=85,slow=35						
KRVT	**Keravat (AS076**	**36.97**	**293**	LR	LR	03 46 03.3	
	comp=Z,104nm,19.2s,baz=242,slow=34						
PMG	**Port Moresby**	**39.02**	**282**	LR	LR	03 47 37.0	
	comp=Z,307nm,18.0s,baz=184,slow=35						
STKA	**Stephens Creek**	**40.52**	**246**	P	**P**	**03 32 46.6**	**+1.6**
	2.2nm,0.9s,baz=97,slow=12,SNR=3.2						
STKA				LR	LR	03 47 46.5	
	comp=Z,98nm,18.2s,baz=40,slow=34 2.2nm,0.9s						
ASAR	**Alice Springs**	**47.71**	**257**	P	**P**	**03 33 41.9**	**-0.8**
	3.7nm,0.8s,baz=91,slow=8.0,SNR=28						
ASAR				PcP	**PcP**	**03 35 11.6**	**-0.4**
	1.3nm,0.9s,baz=105,slow=5.5,SNR=4.2						
ASAR				LR	LR	03 53 09.8	
	comp=Z,90nm,18.2s,baz=160,slow=36 3.7nm,0.8s						
WRA	**Warramunga Arr**	**47.94**	**262**	P	**P**	**03 33 42.4**	**-2.2**
	2.2nm,0.8s,baz=101,slow=5.4,SNR=12						
WRA				LR	LR	03 53 30.6	
	comp=Z,134nm,18.4s,baz=80,slow=36 2.2nm,0.8s						
SIJI	**Sorong**	**56.92**	**284**	LR	LR	03 57 03.0	
	comp=Z,100nm,21.8s,baz=104,slow=34						
RPN	**Rapa Nui**	**58.81**	**109**	LR	LR	03 56 39.1	
	comp=Z,69nm,18.4s,baz=264,slow=32						
BATI	**Baumata**	**60.47**	**270**	LR	LR	04 01 45.3	
	comp=Z,193nm,18.1s,baz=266,slow=37						
NWAO	**Narrogin (SRO)**	**61.03**	**243**	LR	LR	04 00 35.0	
	comp=Z,92nm,18.9s,baz=62,slow=35						
MJAR	**Matsushiro Arr**	**73.22**	**322**	P	**P**	**03 36 34.7**	**-2.0**
	3.0nm,0.8s,baz=159,slow=6.4,SNR=5.4 3.0nm,0.8s						
LPIG	**La Paz**	**76.98**	**57**	LR	LR	04 07 38.6	
	comp=Z,82nm,18.6s,baz=226,slow=33						
NVAR	**Mina Array Bea**	**79.46**	**41**	P	**P**	**03 37 13.2**	**+0.8**
	1.2nm,0.6s,baz=226,slow=7.4,SNR=16 1.2nm,0.6s						
KSRS	**Korea Array**	**80.07**	**317**	P	**P**	**03 37 14.3**	**-1.1**
	2.4nm,1.0s,baz=120,slow=7.4,SNR=5.0 2.4nm,1.0s						
ELK	**Elko**	**82.74**	**41**	LR	LR	04 10 38.7	
	comp=Z,67nm,19.5s,baz=268,slow=33						
TXAR	**Lajitas Array**	**84.72**	**56**	LR	LR	04 10 38.9	
	comp=Z,29nm,19.0s,baz=290,slow=32						
CMIG	**Matias Romero**	**86.69**	**70**	LR	LR	04 06 49.0	
	comp=Z,34nm,21.7s,baz=228,slow=29						
PDAR	**Pinedale Array**	**87.39**	**42**	P	**P**	**03 37 53.4**	**+0.3**
	0.2nm,0.5s,baz=224,slow=5.0,SNR=2.3 0.2nm,0.5s						
ILAR	**Eielson Array**	**88.65**	**11**	P	**P**	**03 37 58.0**	**-0.3**
	0.5nm,0.7s,baz=210,slow=5.4,SNR=6.8 0.5nm,0.7s						
NNA	**Nana**	**92.38**	**104**	LR	LR	04 12 46.6	
	comp=Z,28nm,18.3s,baz=251,slow=31						
ATAH	**Atahualpa**	**92.79**	**99**	LR	LR	04 13 34.4	
	comp=Z,26nm,18.2s,baz=288,slow=31						
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P	**P**	**03 38 24.4**	**+1.1**
	1.6nm,0.4s,baz=110,slow=3.4,SNR=8.6						

1.6nm,0.4s
LPAZ La Paz 98.38 111 LR LR 04 17 28.0
comp=Z,24nm,18.4s,baz=322,slow=32
KURBB Kurchatov Arra 117.25 317 PKP **PKPdf 03 43 50.0 -0.7**
0.5nm,0.7s,baz=70,slow=3.0,SNR=1.4
BVAR Borovoye Array 122.19 320 PKP **PKiKP 03 44 00.1 -0.2**
0.6nm,0.6s,baz=106,slow=3.2,SNR=4.1
AKASG Malin Array Be 145.63 333 PKPbc **PKPdf 03 44 42.9 -0.8**
3.1nm,0.6s,baz=36,slow=4.2,SNR=14
EKA Eskdalemuir Ar 145.66 9 PKPbc **PKPdf 03 44 43.5 -0.2**
2.7nm,0.9s,baz=327,slow=2.5,SNR=6.1
OSTC Ostas 149.96 347 *ex* x 03 45 07.1
OSTC Ostas 149.96 347 *e*PKP **PKPab 03 45 01.0 -0.5**
BRG Berggiesshubel 150.09 350 Amp 03 45 07.6
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 150.09 350 *e*P **PKiKP 03 44 57.3 +0.3**
BRG Berggiesshubel 150.09 350 Amp 03 44 58.4
comp=Z,16nm,1.5s
BRG Berggiesshubel 150.09 350 *ex* x 03 45 06.2
DPC Dobruska-Polom 150.13 346 *ex* x 03 45 03.4
DPC Dobruska-Polom 150.13 346 *e*PKP **PKPbc 03 44 56.3 0.0**
BRTR Keskin Array B 150.17 314 PKPbc **PKPbc 03 44 56.6 -0.2**
comp=Z,1.7nm,0.8s,baz=97,slow=3.4,SNR=9.3
MORC Moravsky Berou 150.38 344 *e* **PKPab 03 45 07.0 +3.8**
MORC Moravsky Berou 150.38 344 *e*PKP **PKPbc 03 44 56.9 0.0**
MLR Muntele Rosu 151.00 330 PKPbc **PKiKP 03 44 58.8 -0.4**
comp=Z,1.7nm,0.8s,baz=85,slow=21,SNR=2.2
KRUC Moravsky 151.32 345 *e* **PKPab 03 45 08.4 +1.3**
KRUC Moravsky 151.32 345 *e*PKP **PKiKP 03 44 59.4 -0.2**
KHC Kasperske Hory 151.84 349 *ex* x 03 45 06.6
KHC Kasperske Hory 151.84 349 *e*PKP **PKPbc 03 45 00.1 -0.2**
CKRC Cesky Krumlov 152.00 348 *ex* x 03 45 08.0
CKRC Cesky Krumlov 152.00 348 *e*PKP **PKiKP 03 45 01.4 +0.4**
GERES GERESS Array B 152.09 349 PKPbc **PKPbc 03 45 00.9 0.0**
comp=Z,0.8nm,0.8s,baz=77,slow=5.9,SNR=5.9

GEN ***21*** *03:33:52.6,44˚.46N×9˚.80E,h11km,Ml2.9*
ROM ***21*** *03:33:52.8±0.1,44˚.429N±0˚.007×9˚.792E±0˚.006,*
h7km,ML3.0/20,Error ellipse: s-maj=0.6km s-min=0.6km
az=21.0
STR ***21*** *03:33:53.7±0.4,44˚N±2˚×1˚0E±˚,h10km,MLv3.4/36,Error*
ellipse: s-maj=0.0km s-min=0.0km az=93.9,preliminary
LDG ***21*** *03:33:54.2±0.1,44˚.36N×9˚.83E,h11km,Ml3.5/25,Error*
ellipse: s-maj=3.2km s-min=2.1km az=26.0
BGR ***21*** *03:33:56.3±0.7,44˚.55N×9˚.73E,h10km,ML3.3/9,Error*
ellipse: s-maj=12.2km s-min=7.8km az=33.0
PRU ***21*** *03:33:57.0±0.0,44˚.62N×9˚.92E,h0km*
ISC 21 03:33:53.2±0.8, 44˚.43N±0˚.01×9˚.79E±0˚.01, h13km±6km,
n198,σ1§48/284, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRAM	**Graiana**	**0.20**	**72**	P	**Pg**	**03 33 57.2**	**-0.6**
GRAM				S	**Sg**	**03 34 00.4**	**-0.6**
GRAM	**Graiana**	**0.20**	**72**	⇑P	**Pg**	**03 33 57.2**	**-0.6**
GRAM				S	**Sg**	**03 34 00.3**	**-0.6**
GRAM				AML	AML		
	comp=N,41200μm,0.3s						
GRAM				AML	AML		
	comp=E,36200μm,0.2s						
MSSA	**Maissana**	**0.23**	**240**	P	**Pg**	**03 33 58.4**	**+0.2**
MSSA				S	**Sg**	**03 34 02.4**	**+0.9**
MSSA	**Maissana**	**0.23**	**240**	⇑P	**Pg**	**03 33 58.4**	**+0.2**
MSSA				S	**Sg**	**03 34 02.5**	**+0.9**
MSSA				AML	AML		
	comp=E,6815μm,0.2s						
MSSA				AML	AML		
	comp=N,7880μm,0.2s						
FIVI	**Fivizzano**	**0.31**	**128**	P	**Pg**	**03 33 59.6**	**+0.1**
FIVI				S	**Sg**	**03 34 04.6**	**+0.9**
FIVI	**Fivizzano**	**0.31**	**128**	P	**Pg**	**03 33 59.5**	**+0.1**
FIVI				S	**Sg**	**03 34 04.2**	**+0.6**
FIVI				AML	AML		
	comp=E,5195μm,1.2s						
FIVI				AML	AML		
	comp=N,4465μm,0.7s						
FIVI				AML	AML		
	comp=E,5200μm,1.2s						
FIVI				AML	AML		
	comp=N,4465μm,1.3s						
EQUI	**Equi**	**0.37**	**135**	P	**Pg**	**03 34 00.5**	**-0.1**
EQUI				S	**Sg**	**03 34 06.0**	**+0.4**
EQUI	**Equi**	**0.37**	**135**	P	**Pg**	**03 34 00.5**	**-0.1**
EQUI				S	**Sg**	**03 34 05.8**	**+0.3**
EQUI				AML	AML		
	comp=N,1755μm,0.3s						
EQUI				AML	AML		
	comp=E,1765μm,0.8s						
PLMA	**Palmaria, Port**	**0.38**	**174**	P	**Pg**	**03 34 00.9**	**+0.1**
PLMA				S	**Sg**	**03 34 06.7**	**+0.7**
PLMA	**Palmaria, Port**	**0.38**	**174**	AML	AML		
	comp=N,2195μm,0.8s						
PLMA				AML	AML		
	comp=E,1980μm,1.3s						
GORR	**Gorreto**	**0.40**	**297**	P	**Pg**	**03 34 01.0**	**-0.2**
GORR				S	**Sg**	**03 34 07.1**	**+0.5**
GORR	**Gorreto**	**0.40**	**297**	P	**Pg**	**03 34 01.0**	**-0.2**
GORR				S	**Sg**	**03 34 07.0**	**+0.5**
GORR				AML	AML		
	comp=E,4270μm,0.6s						
GORR				AML	AML		
	comp=N,5325μm,0.8s						
GORR				AML	AML		
	comp=E,4270μm,1.4s						
NEVI	**Neviano degli**	**0.41**	**67**	P	**Pg**	**03 33 58.4**	**-2.9**
BOB	**Bobbio (Coli)**	**0.42**	**324**	P	**Pg**	**03 34 01.2**	**-0.3**
BOB				S	**Sg**	**03 34 07.8**	**+0.6**
BOB	**Bobbio (Coli)**	**0.42**	**324**	P	**Pg**	**03 34 01.2**	**-0.3**
BOB				S	**Sg**	**03 34 07.6**	**+0.4**
BOB				AML	AML		
	comp=E,2755μm,1.4s						
BOB				AML	AML		
	comp=E,2770μm,1.4s						
BOB				AML	AML		
	comp=E,2750μm,1.4s						
BOB				AML	AML		
	comp=N,3455μm,0.8s						
BOB				AML	AML		
	comp=E,2755μm,1.4s						
BOB				AML	AML		
	comp=N,3455μm,0.8s						
BOB				AML	AML		
	comp=N,3625μm,0.8s						
BOB				AML	AML		
	comp=E,2770μm,0.6s						
BOB				AML	AML		
	comp=E,2755μm,0.6s						
PRMA	**PARMA**	**0.50**	**48**	P	**Pb**	**03 34 03.8**	**-0.1**
PRMA				S	**Sb**	**03 34 12.8**	**+1.7**
PRMA	**PARMA**	**0.50**	**48**	P	**Pb**	**03 34 03.7**	**-0.1**
PRMA				S	**Sb**	**03 34 12.7**	**+1.7**
PRMA				AML	AML		
	comp=E,5245μm,1.5s						
PRMA				AML	AML		
	comp=N,5770μm,0.4s						
PRMA				AML	AML		
	comp=E,5245μm,0.5s						
SARO	**Sassorosso**	**0.50**	**119**	P	**Pg**	**03 34 03.1**	**+0.1**
SARO				S	**Sb**	**03 34 10.7**	**-0.4**
SARO	**Sassorosso**	**0.50**	**119**	AML	AML		
	comp=N,3875μm,0.5s						
SARO				AML	AML		
	comp=E,3635μm,0.3s						
VLC	**Villacollemand**	**0.50**	**122**	P	**Pg**	**03 34 03.1**	**0.0**
VLC				S	**Sb**	**03 34 10.8**	**-0.4**
VLC	**Villacollemand**	**0.50**	**122**	AML	AML		
	comp=E,1002μm,1.5s						
VLC				AML	AML		
	comp=E,998μm,1.5s						
VLC				AML	AML		
	comp=N,871μm,1.5s						
VLC				AML	AML		
	comp=E,999μm,1.5s						
VLC				AML	AML		
	comp=N,882μm,0.8s						
VLC				AML	AML		
	comp=E,1002μm,0.5s						
VLC				AML	AML		
	comp=N,871μm,0.5s						
VLC				AML	AML		
	comp=E,999μm,0.5s						
GSCL	**Gusciola**	**0.57**	**98**	P	**Pg**	**03 34 04.7**	**+0.2**
GSCL				S	**Sb**	**03 34 13.7**	**+0.4**
GSCL	**Gusciola**	**0.57**	**98**	P	**Pg**	**03 34 04.7**	**+0.2**
GSCL				S	**Sb**	**03 34 13.6**	**+0.4**
GSCL				AML	AML		
	comp=N,2155μm,0.5s						
GSCL				AML	AML		
	comp=E,1650μm,0.5s						
GSCL				AML	AML		
	comp=N,2155μm,1.5s						
GSCL				AML	AML		
	comp=E,1650μm,1.5s						
A306A	**Viano (RE)**	**0.58**	**79**	P	**Pb**	**03 34 05.7**	**+0.4**
RNCA	**Ronca, Sant'Ol**	**0.60**	**274**	P	**Pg**	**03 34 05.1**	**+0.1**
RNCA				S	**Sg**	**03 34 13.2**	**+0.2**
RNCA	**Ronca, Sant'Ol**	**0.60**	**274**	P	**Pg**	**03 34 05.1**	**+0.1**
RNCA				S	**Sg**	**03 34 13.2**	**+0.2**
RNCA				AML	AML		
	comp=N,1230μm,1.1s						
RNCA				AML	AML		
	comp=E,1060μm,0.5s						
RNCA				AML	AML		
	comp=N,1230μm,0.9s						
CARD	**Cardoso**	**0.64**	**129**	P	**Pg**	**03 34 05.7**	**0.0**
CARD				S	**Sb**	**03 34 14.7**	**-0.4**
CARD	**Cardoso**	**0.64**	**129**	P	**Pg**	**03 34 05.6**	**0.0**
CARD				AML	AML		
	comp=E,4595μm,0.3s						
CARD				AML	AML		
	comp=N,4750μm,0.2s						
CARD				AML	AML		
	comp=E,4600μm,0.3s						
BDI	**Bagni Di Lucca**	**0.68**	**122**	P	**Pg**	**03 34 06.2**	**-0.3**
BDI				S	**Sb**	**03 34 16.5**	**+0.1**
BDI	**Bagni Di Lucca**	**0.68**	**122**	P	**Pg**	**03 34 06.0**	**-0.5**
BDI				AML	AML		
	comp=E,1805μm,1.6s						
BDI				AML	AML		
	comp=E,806μm,0.4s						
BDI				AML	AML		
	comp=N,660μm,0.6s						
BDI				AML	AML		
	comp=N,660μm,1.4s						
BDI				AML	AML		
	comp=E,1805μm,0.4s						
BDI				AML	AML		
	comp=N,1640μm,0.7s						
BDI				AML	AML		
	comp=E,806μm,1.6s						
MAIM	**Mastiano**	**0.72**	**135**	P	**Pg**	**03 34 07.0**	**-0.2**
MAIM				S	**Sg**	**03 34 16.8**	**+0.2**
MAIM	**Mastiano**	**0.72**	**135**	P	**Pg**	**03 34 07.0**	**-0.2**
MAIM				AML	AML		
	comp=N,1320μm,0.7s						
MAIM				AML	AML		
	comp=E,1775μm,0.4s						
SARZ	**Sarezzano**	**0.77**	**305**	P	**Pb**	**03 34 09.4**	**+0.9**
ZCCA	**Zocca**	**0.85**	**95**	P	**Pn**	**03 34 11.7**	**+0.8**
PII	**Pisa**	**0.88**	**143**	P	**Pg**	**03 34 09.8**	**-0.4**
PII				S	**Sg**	**03 34 21.9**	**+0.2**
PII	**Pisa**	**0.88**	**143**	P	**Pg**	**03 34 09.8**	**-0.4**
PII				S	**Sg**	**03 34 21.6**	**-0.2**
PII				AML	AML		
	comp=N,2720μm,0.2s						
PII				AML	AML		
	comp=E,3010μm,1.0s						
PII				AML	AML		
	comp=E,3010μm,1.0s						
PCP	**Piancastagn**	**0.90**	**278**	P	**Pb**	**03 34 10.4**	**-0.3**
PCP				S	**Sg**	**03 34 22.3**	**-0.1**
PCP	**Piancastagn**	**0.90**	**278**	P	**Pb**	**03 34 10.2**	**-0.5**
PCP				AML	AML		
	comp=E,676μm,0.6s						
PCP				AML	AML		
	comp=N,954μm,0.8s						
MTCR	**Monte La Croce**	**0.95**	**114**	P	**Pg**	**03 34 12.1**	**+0.5**
MTCR	**Monte La Croce**	**0.95**	**114**	P	**Pb**	**03 34 11.8**	**+0.1**
CAVE	**Cavezzo**	**0.97**	**63**	S	**Sn**	**03 34 32.4**	**+6.3**
CAVE	**Cavezzo**	**0.97**	**63**	AML	AML		
	comp=E,2945μm,0.5s						
CAVE				AML	AML		
	comp=N,2890μm,0.5s						
CAVE				AML	AML		
	comp=E,2945μm,1.5s						
CAVE				AML	AML		
	comp=N,2890μm,1.5s						
RAVA	**Ravarino**	**1.00**	**70**	AML	AML		
	comp=E,4410μm,0.5s						
RAVA				AML	AML		
	comp=N,4895μm,0.3s						
GROG	**Isola di Gorgo**	**1.00**	**176**	P	**Pb**	**03 34 12.9**	**+0.5**
GROG				S	**Sb**	**03 34 25.9**	**+0.3**
GROG	**Isola di Gorgo**	**1.00**	**176**	P	**Pb**	**03 34 12.6**	**+0.2**
GROG				AML	AML		
	comp=E,1154μm,0.3s						
GROG				AML	AML		
	comp=N,900μm,0.2s						
QLNO	**Quiliano**	**1.04**	**265**	P	**Pb**	**03 34 13.1**	**-0.1**
QLNO	**Quiliano**	**1.04**	**265**	P	**Pb**	**03 34 12.8**	**-0.3**
QLNO				S	**Sb**	**03 34 26.8**	**+0.1**
QLNO				AML	AML		
	comp=E,770μm,0.5s						
QLNO				AML	AML		
	comp=N,760μm,0.7s						
MPPT	**Montemurlo**	**1.04**	**116**	P	**Pg**	**03 34 13.6**	**+0.2**
MPPT				AML	AML		
	comp=E,424μm,0.5s						
MPPT				AML	AML		
	comp=N,490μm,0.6s						
ROTM	**Rocchetta Tana**	**1.11**	**293**	AML	AML		
	comp=N,5390μm,0.5s						
ROTM				AML	AML		
	comp=E,3825μm,0.6s						
CANO	**Canova, Maglio**	**1.14**	**259**	P	**Pb**	**03 34 14.1**	**-0.7**
CANO	**Canova, Maglio**	**1.14**	**259**	P	**Pb**	**03 34 14.1**	**-0.7**
CANO				S	**Sb**	**03 34 28.9**	**-0.6**
CANO				AML	AML		
	comp=N,1470μm,0.3s						
CANO				AML	AML		
	comp=E,2010μm,1.4s						
CANO				AML	AML		
	comp=N,1465μm,0.3s						
CANO				AML	AML		
	comp=E,2010μm,0.6s						
TRES	**Parco Tresine**	**1.18**	**26**	P	**Pg**	**03 34 16.4**	**+0.6**
BRIS	**BRISIGHELLA**	**1.27**	**102**	AML	AML		
	comp=N,990μm,0.7s						
BRIS				AML	AML		
	comp=N,1026μm,0.7s						
BRIS				AML	AML		
	comp=E,714μm,0.5s						
BRIS				AML	AML		
	comp=E,758μm,0.8s						
BRIS				AML	AML		
	comp=N,990μm,1.3s						
BRIS				AML	AML		
	comp=N,1026μm,1.3s						
RORO	**Rocca Rossa**	**1.28**	**256**	P	**Pn**	**03 34 16.6**	**-0.2**
RORO	**Rocca Rossa**	**1.28**	**256**	P	**Pn**	**03 34 16.4**	**-0.4**
RORO				AML	AML		
	comp=N,497μm,1.2s						
RORO				AML	AML		
	comp=E,418μm,0.5s						
RORO				AML	AML		
	comp=N,497μm,0.8s						
MDI	**Monti di Nese**	**1.35**	**358**	P	**Pg**	**03 34 19.5**	**+0.4**
MDI	**Monti di Nese**	**1.35**	**358**	P	**Pg**	**03 34 19.2**	**+0.1**
MDI				AML	AML		
	comp=E,1815μm,0.5s						
MDI				AML	AML		
	comp=E,1810μm,0.5s						
MDI				AML	AML		
	comp=E,1795μm,0.5s						
MDI				AML	AML		
	comp=N,1305μm,0.4s						
MDI				AML	AML		
	comp=N,1295μm,0.4s						
ZONE	**Zone**	**1.35**	**10**	P	**Pg**	**03 34 19.5**	**+0.2**
ZONE				S	**Sg**	**03 34 38.3**	**+1.4**
ZONE				AML	AML		
	comp=E,1205μm,0.4s						
ZONE				AML	AML		
	comp=N,1530μm,0.6s						
RUFI	**Rufina**	**1.37**	**115**	P	**Pb**	**03 34 18.5**	**-0.1**
RUFI	**Rufina**	**1.37**	**115**	P	**Pn**	**03 34 18.3**	**+0.3**
RUFI				AML	AML		
	comp=E,368μm,0.5s						
RUFI				AML	AML		
	comp=N,371μm,1.3s						
RUFI				AML	AML		
	comp=N,373μm,1.3s						
RUFI				AML	AML		
	comp=E,368μm,0.5s						
OSSC	**Osservatorio P**	**1.39**	**130**	P	**Pn**	**03 34 18.7**	**+0.5**
OSSC	**Osservatorio P**	**1.39**	**130**	P	**Pn**	**03 34 18.7**	**+0.5**
OSSC				AML	AML		
	comp=E,430μm,0.9s						
OSSC				AML	AML		
	comp=E,430μm,1.1s						
OSSC				AML	AML		
	comp=N,382μm,1.0s						
LMD	**Lutirano**	**1.42**	**104**	AML	AML		
	comp=N,390μm,0.8s						
LMD				AML	AML		
	comp=N,390μm,1.2s						
LMD				AML	AML		
	comp=E,278μm,0.8s						
CSNT	**Castellina Chi**	**1.44**	**131**	P	**Pn**	**03 34 19.4**	**+0.3**
BALD	**Monte Baldo**	**1.45**	**30**	P	**Pb**	**03 34 20.4**	**+0.2**
MONC	**Moncucco Torin**	**1.48**	**297**	P	**Pg**	**03 34 23.3**	**+1.7**
MONC	**Moncucco Torin**	**1.48**	**297**	AML	AML		
	comp=N,1330μm,0.8s						
MONC				AML	AML		
	comp=E,1074μm,0.4s						
MONC				AML	AML		
	comp=E,1074μm,1.6s						
MORSI	**Morsiglia**	**1.51**	**192**	P	**Pn**	**03 34 19.6**	**-0.3**
MORSI				S	**Sn**	**03 34 38.6**	**-0.8**
ROVR	**Rover Verones**	**1.52**	**36**	P	**Pb**	**03 34 21.1**	**-0.2**
ROVR				AML	AML		
	comp=N,1375μm,0.3s						
ROVR				AML	AML		
	comp=E,518μm,0.5s						
ROVR				AML	AML		
	comp=N,561μm,0.3s						
ROVR				AML	AML		
	comp=N,1370μm,0.3s						
ROVR				AML	AML		
	comp=E,1320μm,0.5s						
FROS	**Frosini**	**1.57**	**141**	P	**Pn**	**03 34 21.1**	**+0.3**
FROS				AML	AML		
	comp=E,280μm,0.7s						
FROS				AML	AML		
	comp=N,284μm,0.7s						
SFI	**Santa Sofia**	**1.57**	**109**	P	**Pb**	**03 34 21.9**	**-0.2**
SFI				AML	AML		
	comp=E,222μm,0.5s						
SFI				AML	AML		
	comp=N,356μm,1.1s						
ASQU	**Asqua**	**1.57**	**113**	P	**Pn**	**03 34 21.3**	**+0.5**
ASQU				AML	AML		
	comp=E,286μm,0.6s						
ASQU				AML	AML		
	comp=N,222μm,1.2s						
ASQU				AML	AML		
	comp=N,222μm,0.8s						
SAOF	**Saorge**	**1.67**	**255**	P	**Pn**	**03 34 22.0**	**-0.2**
SAOF				AML	AML		
	comp=E,308μm,0.7s						
SAOF				AML	AML		
	comp=N,286μm,0.7s						
SAOF	**Saorge**	**1.67**	**255**	P	**Pn**	**03 34 22.4**	**+0.2**
SAOF				S	**Sn**	**03 34 43.1**	**-0.4**
ENR	**Entracque**	**1.71**	**264**	P	**Pn**	**03 34 22.8**	**0.0**
ENR				AML	AML		
	comp=E,308μm,1.1s						
ENR				AML	AML		
	comp=N,261μm,1.3s						
ENR				AML	AML		
	comp=E,308μm,0.9s						
ENR				AML	AML		
	comp=N,261μm,0.7s						
LUSI	**Trento, Gardas**	**1.73**	**28**	P	**Pn**	**03 34 23.7**	**+0.6**
LUSI				AML	AML		
	comp=E,654μm,0.6s						
LUSI				AML	AML		
	comp=N,1241μm,0.3s						
DOSS	**Dosso del Somm**	**1.76**	**34**	P	**Pn**	**03 34 23.8**	**+0.3**
DOSS				AML	AML		
	comp=E,734μm,0.5s						
DOSS				AML	AML		
	comp=N,1014μm,0.7s						
DOSS				AML	AML		
	comp=E,998μm,0.7s						
DOSS				AML	AML		
	comp=N,727μm,0.6s						
TURF	**col de Turini**	**1.79**	**256**	P	**Pn**	**03 34 24.1**	**+0.2**
TURF				S	**Sn**	**03 34 46.2**	**-0.4**
SBF	**Sospel**	**1.79**	**252**	*e*Pn	**Pn**	**03 34 24.2**	**+0.3**
SBF				*e*Sn	**Sn**	**03 34 46.2**	**-0.3**
	comp=N,338nm,0.5s						
CASP	**Castiglione de**	**1.81**	**154**	P	**Pn**	**03 34 24.2**	**+0.1**
CASP				AML	AML		
	comp=E,105μm,0.6s						
CASP				AML	AML		
	comp=N,156μm,0.6s						
CASP				AML	AML		
	comp=E,105μm,1.4s						
ESCA	**l'Escarene**	**1.84**	**252**	P	**Pn**	**03 34 25.3**	**+0.8**
ESCA				S	**Sn**	**03 34 47.9**	**+0.2**
SPIF	**crte de Spivo**	**1.88**	**259**	P	**Pn**	**03 34 24.3**	**-0.8**
SPIF				S	**Sn**	**03 34 49.1**	**+0.4**
CAFI	**Castiglion Fio**	**1.92**	**124**	P	**Pn**	**03 34 26.3**	**+0.7**
CAFI				AML	AML		
	comp=E,134μm,0.6s						
CAFI				AML	AML		
	comp=N,86μm,0.5s						
CAFI				AML	AML		
	comp=N,89μm,0.5s						
CAFI				AML	AML		
	comp=E,145μm,0.6s						
CIRO	**Champorcher**	**1.97**	**307**	P	**Pn**	**03 34 27.5**	**+1.0**
CIRO				AML	AML		
	comp=N,145μm,0.7s						
CIRO				AML	AML		
	comp=E,137μm,0.6s						
PGF	**Pioggiola**	**1.97**	**197**	*e*Pn	**Pn**	**03 34 26.7**	**+0.4**
PGF				*e*Sn	**Sn**	**03 34 49.0**	**-1.9**
	comp=E,42nm,0.3s						
PGF	**Pioggiola**	**1.97**	**197**	P	**Pn**	**03 34 26.3**	**-0.1**
PGF	**Pioggiola**	**1.97**	**197**	S	**Sn**	**03 34 49.6**	**-1.3**
ISO	**Isola**	**1.98**	**264**	P	**Pn**	**03 34 26.6**	**0.0**
ISO				S	**Sn**	**03 34 51.3**	**0.0**
CGRP	**Cima Grappa**	**2.03**	**44**	P	**Pn**	**03 34 28.4**	**+1.1**
CGRP				AML	AML		
	comp=E,614μm,0.8s						
CGRP				AML	AML		
	comp=N,550μm,0.7s						
CTI	**Castel Tesino**	**2.08**	**38**	P	**Pn**	**03 34 28.2**	**+0.2**
SURF	**Saint Ours**	**2.13**	**272**	P	**Pn**	**03 34 29.0**	**+0.3**
CALF	**Calern**	**2.18**	**253**	P	**Pn**	**03 34 30.0**	**+0.8**
FUSIO	**Fusio**	**2.18**	**339**	P	**Pn**	**03 34 30.3**	**+1.0**
FUSIO				AML	AML		
	comp=E,162μm,0.5s						
FUSIO				AML	AML		
	comp=N,107μm,0.7s						
CORF	**Corte**	**2.18**	**193**	P	**Pn**	**03 34 29.8**	**+0.6**
CORF	**Corte**	**2.18**	**193**	P	**Pn**	**03 34 29.5**	**+0.3**
CORF				S	**Sn**	**03 34 55.9**	**-0.1**
JAUF	**Jausiers**	**2.18**	**271**	P	**Pn**	**03 34 29.6**	**+0.3**
MBDF	**Montbardon**	**2.18**	**279**	*e*Pn	**Pn**	**03 34 29.6**	**+0.3**
MBDF				*e*Sn	**Sn**	**03 34 56.1**	**-0.1**
	comp=N,135nm,0.6s						
EMBD	**Embd, Matterta**	**2.26**	**323**	P	**Pb**	**03 34 33.4**	**-0.5**
VARN	**Col Varnada, M**	**2.26**	**45**	AML	AML		
	comp=N,384μm,1.3s						
VARN				AML	AML		
	comp=E,589μm,0.7s						
VARN				AML	AML		
	comp=N,386μm,0.9s						
VARN				AML	AML		
	comp=N,384μm,0.7s						
VARN				AML	AML		
	comp=N,386μm,1.1s						
VARN				AML	AML		
	comp=E,586μm,0.7s						
CREF	**Crivoux**	**2.27**	**274**	P	**Pn**	**03 34 31.5**	**+0.9**
OGAG	**Argentiere**	**2.33**	**272**	P	**Pn**	**03 34 33.3**	**+1.9**
OGMO	**Fort Saint-Gob**	**2.34**	**291**	P	**Pb**	**03 34 34.2**	**-1.2**
DAVOX	**Davos/Dischmat**	**2.35**	**1**	P	**Pb**	**03 34 34.1**	**-1.4**
DAVOX				AML	AML		
	comp=E,120μm,0.8s						
DAVOX				AML	AML		
	comp=N,194μm,0.6s						

DIX	**Grande Dixence**	**2.36**	**315**	P		**Pn**	**03 34 34.3**	**+2.4**
SMPL	**Sampolo**	**2.36**	**189**	P		**Pn**	**03 34 33.4**	**+1.7**
SMPL				S		**Sn**	**03 35 00.9**	**+0.3**
LPL	**La Plagne**	**2.43**	**298**	*e*Pn		**Pn**	**03 34 34.1**	**+1.3**
LPL				*e*Sn		**Sn**	**03 35 02.9**	**+0.4**
	comp=N,38nm,0.4s							
OGDI	**Digne**	**2.53**	**264**	P		**Pn**	**03 34 36.7**	**+2.7**
TRIGF	**Trigance**	**2.53**	**256**	P		**Pn**	**03 34 35.2**	**+1.1**
LMR	**La Mourre**	**2.61**	**246**	*e*Pn		**Pn**	**03 34 34.5**	**-0.6**
LMR				*e*Sn		**Sn**	**03 35 04.7**	**-2.0**
	comp=N,51nm,0.3s							
PLONS	**Plons/SG**	**2.64**	**354**	*e*Pn		**Pb**	**03 34 38.8**	**-1.5**
PLONS				*e*Sn		**Sn**	**03 35 08.7**	**+1.3**
FETA	**Feichten**	**2.67**	**14**	*e*Pn		**Pb**	**03 34 40.8**	**-0.3**
	comp=N,4.7nm,0.6s							
FETA				*e*Sn		**Sb**	**03 35 13.6**	**-0.2**
	comp=N,22nm,0.5s							
FLAF	**Flassans-sur-I**	**2.76**	**249**	P		**Pn**	**03 34 38.1**	**+0.9**
FLAF				S		**Sn**	**03 35 09.2**	**-1.2**
ORIF	**Oris-en-Rattie**	**2.83**	**281**	*e*Pn		**Pn**	**03 34 39.7**	**+1.4**
ORIF				*e*Sn		**Sn**	**03 35 11.6**	**-0.7**
	comp=N,102nm,0.7s							
ORIF	**Oris-en-Rattie**	**2.83**	**281**	P		**Pn**	**03 34 41.3**	**+3.1**
DAVA	**Damuels**	**2.86**	**1**	Pn		**Pn**	**03 34 41.6**	**+2.9**
	comp=N,6.5nm,0.3s,SNR=13							
DAVA				*e*Sn		**Sb**	**03 35 19.8**	**+0.7**
	comp=N,149nm,0.6s							
DAVA	**Damuels**	**2.86**	**1**	*e*Pn		**Pb**	**03 34 42.0**	**-2.2**
SQTA	**Sankt Quirin**	**2.96**	**19**	Pn		**Pb**	**03 34 43.7**	**-2.2**
	comp=N,1.6nm,0.2s,SNR=9.0							
SQTA				*e*Sn		**Sb**	**03 35 21.6**	**-0.4**
	comp=N,29nm,0.5s							
ARTF	**Artigues**	**3.00**	**255**	P		**Pn**	**03 34 41.1**	**+0.7**
OBER	**Oberstdorf**	**3.00**	**7**	*e*Pn		**Pn**	**03 34 43.6**	**+3.1**
ABTA	**Abfaltersbach**	**3.00**	**39**	Pn		**Pn**	**03 34 42.4**	**+1.8**
	comp=N,5.9nm,0.6s,SNR=14							
ABTA				*e*Sn		**Sb**	**03 35 20.5**	**-2.7**
	comp=N,23nm,0.7s							
BSTF	**la Bastide-des**	**3.04**	**261**	P		**Pn**	**03 34 42.2**	**+1.3**
BSTF				S		**Sn**	**03 35 17.9**	**+0.8**
WILA	**Wila**	**3.05**	**349**	*e*Pn		**Pn**	**03 34 43.2**	**+2.0**
MOTA	**Moosalm**	**3.06**	**17**	Pn		**Pn**	**03 34 44.4**	**+3.0**
	comp=N,3.2nm,0.3s,SNR=12							
MOTA				*e*Sn		**Sb**	**03 35 24.5**	**-0.3**
	comp=N,7.1nm,0.3s							
SMRF	**Simiane la Rot**	**3.07**	**263**	*e*Pn		**Pn**	**03 34 42.3**	**+0.9**
SMRF				*e*Sn		**Sn**	**03 35 18.1**	**+0.1**
	comp=N,129nm,0.9s							
LEPF	**PUYLOUBIER**	**3.09**	**254**	P		**Pn**	**03 34 42.9**	**+1.3**
WTTA	**Wattenberg**	**3.11**	**24**	Pn		**Pb**	**03 34 46.1**	**-2.5**
	comp=N,0.9nm,0.2s,SNR=9.7							
WTTA				*e*Sn		**Sb**	**03 35 27.1**	**+0.6**
	comp=N,16nm,0.4s							
WTTA	**Wattenberg**	**3.11**	**24**	*e*Pn		**Pn**	**03 34 45.1**	**+3.0**
RETA	**Reutte**	**3.13**	**12**	Pn		**Pn**	**03 34 45.7**	**+3.4**
	comp=N,0.7nm,0.2s,SNR=5.5							
RETA				*e*Sn		**Sb**	**03 35 23.7**	**-3.2**
	comp=N,21nm,0.4s							
OGSM	**Saint Maurice**	**3.13**	**294**	P		**Pn**	**03 34 45.7**	**+3.4**
OGSM				S		**Sn**	**03 35 23.5**	**+3.8**
RUSF	**Rustrel**	**3.14**	**263**	P		**Pn**	**03 34 43.5**	**+1.2**
RUSF				S		**Sn**	**03 35 20.7**	**+1.0**
WATA	**Walderalm**	**3.16**	**23**	Pn		**Pn**	**03 34 45.9**	**+3.0**
	comp=N,2.0nm,0.2s,SNR=12							
WATA				*e*Sn		**Sb**	**03 35 25.3**	**-2.5**
	comp=N,25nm,0.5s							
BALST	**Balsthal**	**3.26**	**334**	*e*Pn		**Pn**	**03 34 45.9**	**+1.9**
BALST	**Balsthal**	**3.26**	**334**	P		**Pn**	**03 34 45.9**	**+1.9**
UBR	**Ueberruh**	**3.26**	**4**	*e*Pn		**Pn**	**03 34 46.4**	**+2.3**
UBR				*e*Sn		**Sn**	**03 35 22.5**	**-0.3**
SULZ	**Cheisacher**	**3.31**	**340**	*e*Pn		**Pn**	**03 34 46.4**	**+1.6**
SULZ				*e*Sn		**Sn**	**03 35 24.9**	**+0.9**
SULZ	**Cheisacher**	**3.31**	**340**	P		**Pn**	**03 34 46.5**	**+1.7**
CABF	**La Chapelle**	**3.40**	**311**	*e*Pn		**Pn**	**03 34 48.0**	**+2.0**
CABF				*e*Sn		**Sn**	**03 35 26.2**	**0.0**
	comp=N,51nm,0.9s							
BRANT	**Les Verrieres**	**3.42**	**318**	P		**Pn**	**03 34 48.7**	**+2.4**
BRANT	**Les Verrieres**	**3.42**	**318**	S		**Sn**	**03 35 29.9**	**+3.1**
METMA	**Mettma DE**	**3.46**	**342**	*e*Pn		**Pn**	**03 34 47.7**	**+1.0**
METMA				*e*Sn		**Sn**	**03 35 26.9**	**-0.6**
SLE	**Schleitheim**	**3.46**	**345**	*e*Pn		**Pn**	**03 34 47.8**	**+1.0**
SLE	**Schleitheim**	**3.46**	**345**	P		**Pn**	**03 34 48.0**	**+1.2**
BOURR	**Bourrignon**	**3.46**	**330**	P		**Pn**	**03 34 48.8**	**+1.9**
MYKA	**Terra Mystica**	**3.49**	**50**	*e*Pn		**Pb**	**03 34 52.4**	**-2.4**
	comp=N,1.1nm,0.2s							
MYKA				*e*Sn		**Sn**	**03 35 32.7**	**+4.3**
	comp=N,10nm,0.3s							
EMING	**Emmingen-Lipti**	**3.53**	**350**	*e*Pn		**Pn**	**03 34 48.9**	**+1.2**
EMING				*e*Sn		**Sn**	**03 35 29.6**	**+0.2**
CHMF	**Charmoille**	**3.57**	**323**	P		**Pn**	**03 34 50.4**	**+2.1**
CHMF				S		**Sn**	**03 35 32.8**	**+2.3**
BERGE	**Lenzkirch (DE)**	**3.62**	**343**	*e*Pn		**Pn**	**03 34 49.9**	**+0.8**
BERGE				*e*Sn		**Sn**	**03 35 30.8**	**-0.9**
KBA	**Koelnbreinsper**	**3.63**	**42**	Pn		**Pn**	**03 34 51.5**	**+2.2**
	comp=N,2.5nm,0.4s,SNR=4.1							
KBA	**Koelnbreinsper**	**3.63**	**42**	*e*Pn		**Pn**	**03 34 52.4**	**+3.1**
GUT	**Gutenstein**	**3.67**	**353**	P		**Pn**	**03 34 50.4**	**+0.6**
VIVF	**Saint-Julien-I**	**3.68**	**278**	*e*Pn		**Pn**	**03 34 52.0**	**+2.2**
VIVF				*e*Sn		**Sn**	**03 35 32.0**	**-1.1**
	comp=N,14nm,0.5s							
BOUC	**Bouclans**	**3.75**	**320**	P		**Pn**	**03 34 52.7**	**+1.9**
KIZ	**Kirchzarten**	**3.76**	**340**	P		**Pn**	**03 34 51.7**	**+0.8**
MOF	**Molkenrain**	**3.89**	**333**	P		**Pn**	**03 34 54.4**	**+1.7**
RJOB	**Jochberg**	**3.91**	**31**	*e*Pn		**Pn**	**03 34 56.6**	**+3.5**
VOGT	**Vogtsburg - To**	**3.94**	**339**	P		**Pn**	**03 34 54.2**	**+0.9**
VOGT	**Vogtsburg - To**	**3.94**	**339**	S		**Sn**	**03 35 38.8**	**-0.7**
OBKA	**Obir**	**3.94**	**56**	*e*Pn		**Pn**	**03 34 56.9**	**+3.4**
	comp=N,0.3nm,0.1s							
OBKA				*e*Sn		**Sn**	**03 35 41.4**	**+1.8**
	comp=N,21nm,0.5s							
RONF	**Ronchamp**	**3.94**	**327**	P		**Pn**	**03 34 55.3**	**+1.8**
RONF				S		**Sn**	**03 35 41.6**	**+2.0**
HINF	**Hinteralfeld**	**3.96**	**330**	*e*Pn		**Pn**	**03 34 54.3**	**+0.7**
HINF				*e*Sn		**Sn**	**03 35 40.2**	**+0.3**
	comp=N,25nm,0.5s							
BFO	**Black Forest**	**4.03**	**346**	*e*Pn		**Pn**	**03 34 55.4**	**+0.7**
BFO				*e*Sn		**Sn**	**03 35 39.1**	**-2.6**
ECH	**Echery**	**4.21**	**335**	*e*Pn		**Pn**	**03 34 58.2**	**+1.2**
ECH				*e*Sn		**Sn**	**03 35 46.2**	**+0.2**
ECH	**Echery**	**4.21**	**335**	P		**Pn**	**03 34 58.3**	**+1.3**
BIOA	**Bad Ischl, Aus**	**4.22**	**38**	*e*Pn		**Pn**	**03 34 58.1**	**+0.9**
	comp=N,0.9nm,0.2s							
BIOA				*e*Sn		**Sn**	**03 35 50.4**	**+4.0**
	comp=N,22nm,1.0s							
LASF	**Ste Croix**	**4.28**	**267**	*e*Pn		**Pn**	**03 34 58.5**	**+0.5**
LASF				*e*Sn		**Sn**	**03 35 45.7**	**-2.1**
HAU	**Haudompre**	**4.30**	**327**	*e*Pn		**Pn**	**03 34 59.5**	**+1.1**
HAU				*e*Sn		**Sn**	**03 35 48.7**	**+0.3**
	comp=N,38nm,0.4s							
SOKA	**Soboth**	**4.31**	**57**	*e*Pn		**Pn**	**03 34 57.3**	**-1.2**
	comp=N,2.7nm,0.5s							
SOKA				*e*Sn		Sn	03 35 38.4	-10
	comp=N,14nm,0.9s							
WLS	**Welschbruch**	**4.33**	**338**	P		**Pn**	**03 34 59.9**	**+1.2**
CDF	**Champ du Feu**	**4.35**	**337**	*e*Pn		**Pn**	**03 35 00.1**	**+1.1**
CDF				*e*Sn		**Sn**	**03 35 49.9**	**+0.3**
	comp=N,19nm,0.5s							
MOA	**Molln**	**4.62**	**41**	*i* Pn		**Pn**	**03 35 04.6**	**+1.9**
	comp=N,2.1nm,0.3s,SNR=7.9							
MOA	**Molln**	**4.62**	**41**	*e*Pn		**Pn**	**03 35 04.8**	**+2.1**
SMF	**Signal de Mont**	**4.73**	**300**	*e*Pn		**Pn**	**03 35 04.8**	**+0.5**
SMF				*e*Sn		**Sn**	**03 35 58.3**	**-0.7**
	comp=N,46nm,0.4s							
ARSA	**Arzberg**	**4.90**	**53**	*e*Pn		**Pn**	**03 35 08.1**	**+1.5**
	comp=N,1.8nm,0.3s							
ARSA	**Arzberg**	**4.90**	**53**	*e*Pn		**Pn**	**03 35 08.3**	**+1.8**
PAGF	**Fort de Pagny**	**4.99**	**327**	*e*Pn		**Pn**	**03 35 09.7**	**+1.9**
	baz=143							
PAGF				*e*Sn		**Sn**	**03 36 04.8**	**-0.6**
	comp=N,26nm,0.6s							
SFTF	**Sexfontaines**	**5.01**	**321**	*e*Pn		**Pn**	**03 35 09.4**	**+1.3**
	baz=142							
SFTF				*e*Sn		**Sn**	**03 36 04.8**	**-1.0**
	comp=N,17nm,0.6s							
LOR	**Lormes**	**5.03**	**306**	*e*Pn		**Pn**	**03 35 09.7**	**+1.4**
	baz=130							
LOR				*e*Sn		**Sn**	**03 36 05.5**	**-0.7**
	comp=N,23nm,0.4s							
AVF	**Avril sur Loir**	**5.10**	**300**	*e*Pn		**Pn**	**03 35 11.2**	**+1.9**
AVF				*e*Sn		**Sn**	**03 36 06.7**	**-1.3**
	comp=N,6.4nm,0.6s							
SSF	**Saint Saulge**	**5.13**	**303**	*e*Pn		**Pn**	**03 35 11.3**	**+1.6**
SSF				*e*Sn		**Sn**	**03 36 07.6**	**-1.1**
	comp=N,14nm,0.5s							

GEC2	**GERESS Array S**	**5.17**	**30**	*e*Pn		**Pn**	**03 35 08.9**	**-1.4**
GEC2				*e*Sn		**Sn**	**03 36 09.6**	**-0.4**
MEZF	**Maizieres J'vi**	**5.23**	**323**	*e*Pn		**Pn**	**03 35 12.4**	**+1.4**
	baz=139							
MEZF				*e*Sn		**Sn**	**03 36 10.2**	**-0.9**
	comp=N,14nm,0.5s							
SAVF	**Savonnieres en**	**5.28**	**324**	*e*Pn		**Pn**	**03 35 13.2**	**+1.4**
	baz=145							
SAVF				*e*Sn		**Sn**	**03 36 11.5**	**-1.0**
	comp=N,11nm,0.4s							
BGF	**Bois d'Agland**	**5.33**	**296**	*e*Pn		**Pn**	**03 35 13.5**	**+1.1**
BGF				*e*Sn		**Sn**	**03 36 12.3**	**-1.3**
	comp=N,32nm,0.5s							
KHC	**Kasperske Hory**	**5.37**	**28**	*e*PN		**Pn**	**03 35 14.6**	**+1.5**
KHC				*e*SN		**Sn**	**03 36 13.1**	**-1.7**
CKRC	**Cesky Krumlov**	**5.38**	**34**	*e*PN		**Pn**	**03 35 15.2**	**+2.0**
CKRC				*e*SN		**Sn**	**03 36 13.9**	**-1.1**
CONA	**Conrad Observa**	**5.48**	**48**	*e*Pn		**Pn**	**03 35 15.9**	**+1.3**
	comp=N,1.3nm,0.4s							
CAF	**Calviac**	**5.53**	**278**	*e*Pn		**Pn**	**03 35 15.7**	**+0.4**
CAF				*e*Sn		**Sn**	**03 36 15.1**	**-3.7**
MTLF	**Montolieu**	**5.58**	**261**	*e*Pn		**Pn**	**03 35 15.3**	**-0.6**
MTLF				*e*Sn		**Sn**	**03 36 16.6**	**-3.3**
RONA	**Rosalia, Austr**	**5.58**	**52**	*e*Pn		**Pn**	**03 35 17.2**	**+1.2**
	comp=N,0.2nm,0.1s							
RONA				*e*Sn		**Sn**	**03 36 19.4**	**-0.6**
	comp=N,4.8nm,0.4s							
TCF	**Toulx Ste Croi**	**5.66**	**292**	*e*Pn		**Pn**	**03 35 19.0**	**+2.0**
TCF				*e*Sn		**Sn**	**03 36 20.2**	**-1.6**
	comp=N,11nm,0.5s							
HYF	**Humbligny**	**5.75**	**302**	*e*Pn		**Pn**	**03 35 19.0**	**+0.8**
HYF				*e*Sn		**Sn**	**03 36 22.3**	**-1.7**
RJF	**Les Rejaudoux**	**5.95**	**281**	*e*Pn		**Pn**	**03 35 20.8**	**-0.1**
RJF				*e*Sn		**Sn**	**03 36 25.7**	**-3.2**
LFF	**La Frestale**	**6.47**	**278**	*e*Pn		**Pn**	**03 35 28.8**	**+0.6**
MODS	**Modra-Piesok**	**6.51**	**50**	*e*PN		Pn	03 35 34.5	+5.9
MODS				*e*SN		**Sn**	**03 36 41.6**	**-1.1**
CLL	**Collm**	**7.21**	**16**	*e*Sg		**Sg**	**03 37 41.0**	**-3.5**
VYHS	**Vyhne**	**7.45**	**54**	*e*PN		Pn	03 35 47.7	+6.1
VYHS				*e*SN		**Sn**	**03 37 02.0**	**-3.9**
VYHS				*e*			03 44 59.9	
VYHS				*e*			03 45 09.1	
ETSF	**Etsaut**	**7.66**	**262**	*e*Pn		**Pn**	**03 35 45.0**	**+0.5**
ETSF				*e*Sn		**Sn**	**03 37 06.5**	**-4.7**
SJPF	**Ste Jean**	**8.08**	**264**	*e*Pn		**Pn**	**03 35 50.1**	**-0.2**

*TRN **21** 03:40:39.9, 10°.65N×62°.50W, h64km, MD3.2*
*FUNV **21** 03:40:42.1, 10°.68N×62°.40W, h30km, MW3.0*

ISC 21 03:40:40.1±1.4, 10°.68N±0°.06×62°.45W±0°.05, h83km±15km, n15, σ1s57/24, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CRUV	**Carupano**	**0.77**	**270**	⇓*e*P	**Pn**	**03**	**40**	**57.1**	**+0.4**
CRUV				*e*S	**Sn**	**03**	**41**	**08.8**	**-0.3**
TRN	**Trinidad (W)**	**1.03**	**91**	*e*P	**Pn**	**03**	**41**	**00.3**	**+0.6**
TRN				*e*S	**Sn**	**03**	**41**	**12.7**	**-1.6**
GRFF	**Grenada Fort F**	**1.53**	**27**	*e*P	**Pn**	**03**	**41**	**06.2**	**+0.2**
GRFF				*e*S	**Sn**	**03**	**41**	**24.6**	**-1.0**
GRGR	**Grenville**	**1.65**	**28**	*e*P	**Pn**	**03**	**41**	**07.9**	**+0.4**
GRGR				*e*S	**Sn**	**03**	**41**	**28.5**	**+0.3**
TOSP	**Speyside**	**1.98**	**72**	*e*P	**Pn**	**03**	**41**	**12.7**	**+1.0**
TOSP				*e*S	**Sn**	**03**	**41**	**35.4**	**-0.5**
GCMP	**Grenada, Carri**	**2.06**	**29**	*e*P	**Pn**	**03**	**41**	**13.5**	**+0.6**
GCMP				*e*S	**Sn**	**03**	**41**	**37.7**	**-0.2**
PCRV	**Puerto La Cruz**	**2.21**	**257**	*e*P	**Pn**	**03**	**41**	**16.5**	**+1.7**
PCRV				*e*S	**Sn**	**03**	**41**	**42.0**	**+0.5**
SVB	**Belmont**	**2.83**	**24**	*e*P	**Pn**	**03**	**41**	**24.6**	**+1.4**
PRGV	**PARIAGUAN**	**2.88**	**229**	*e*P	**Pn**	**03**	**41**	**25.0**	**+1.1**
PRGV				*e*S	**Sn**	**03**	**41**	**57.6**	**0.0**
SLBI	**Saint Lucia, B**	**3.63**	**23**	*e*P	**Pn**	**03**	**41**	**34.2**	**+0.3**
MPOM	**Morne Pois Mar**	**4.06**	**22**	*e*P	**Pn**	**03**	**41**	**40.2**	**+0.4**
CACV	**CAICARA DEL OR**	**5.08**	**233**	*e*P	Pn	03	41	49.8	-4.0
CACV				*e*S	Sn	03	42	40.2	-11
BENV	**Beln**	**5.11**	**262**	*e*P	**Pn**	**03**	**41**	**56.1**	**+1.8**
BENV				*e*S	**Sn**	**03**	**42**	**50.8**	**-1.4**
BAUV	**El Baul**	**5.77**	**253**	*e*S	**Sn**	**03**	**43**	**03.5**	**-4.6**
BAUV	**El Baul**	**5.77**	**253**	*e*P	**Pn**	**03**	**42**	**04.5**	**+1.3**
BAUV				*e*S	**Sn**	**03**	**43**	**05.2**	**-2.9**

*PRU **21** 03:43:05.7±0.0, 42°.85N×13°.56E, h0km*
*ROM **21** 03:43:07.0±0.1, 42°.985N±0°.003×13°.044E±0°.005, h6km, ML3.0/17, Error ellipse: s-maj=0.4km s-min=0.1km az=67.0*

ISC 21 03:43:07.5±0.9, 42°.99N±0°.02×13°.05E±0°.02, h3km±7km, n53, σ1s17/73, 12C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
FEMA	**Monte Fema**	**0.02**	**173**	⇓P	**Pg**	**03**	**43**	**08.2**	**-0.1**
FEMA				S	**Sg**	**03**	**43**	**08.8**	**0.0**
FDMO	**Fiordimonte**	**0.06**	**31**	⇑P	**Pg**	**03**	**43**	**08.8**	**0.0**
FDMO				S	**Sg**	**03**	**43**	**09.9**	**+0.3**
FDMO				AML	AML				
	comp=E,55000μm,0.2s								
FDMO				AML	AML				
	comp=N,42100μm,0.2s								
T1219	**Muccia, Frazio**	**0.08**	**338**	⇑P	**Pg**	**03**	**43**	**09.1**	**0.0**
T1219				S	**Sg**	**03**	**43**	**10.5**	**+0.4**
T1219				AML	AML				
	comp=N,16050μm,0.4s								
T1219				AML	AML				
	comp=E,14950μm,0.4s								
T1219				AML	AML				
	comp=E,14700μm,0.4s								
T1219				AML	AML				
	comp=E,14950μm,0.4s								
T1219				AML	AML				
	comp=N,14600μm,0.4s								
T1219				AML	AML				
	comp=N,14550μm,0.4s								
T1219				AML	AML				
	comp=E,14650μm,0.4s								
T1216	**Preci, Frazion**	**0.10**	**192**	⇓P	**Pg**	**03**	**43**	**09.6**	**+0.3**
T1216				S	**Sg**	**03**	**43**	**11.6**	**+0.9**
T1216				AML	AML				
	comp=E,16850μm,0.3s								
T1216				AML	AML				
	comp=N,15800μm,0.6s								
T1216				AML	AML				
	comp=N,15750μm,0.6s								
T1216				AML	AML				
	comp=N,15800μm,0.6s								
CESI	**CESI - Serrava**	**0.11**	**281**	⇑P	**Pg**	**03**	**43**	**09.8**	**+0.2**
CESI				S	**Sg**	**03**	**43**	**12.0**	**+1.0**
CESI				AML	AML				
	comp=N,24900μm,0.7s								
CESI				AML	AML				
	comp=E,22100μm,0.4s								
T1256	**Bolognola (MC)**	**0.13**	**81**	⇑P	**Pg**	**03**	**43**	**10.4**	**+0.3**
T1256				S	**Sg**	**03**	**43**	**12.9**	**+0.9**
T1256				AML	AML				
	comp=E,8505μm,1.2s								
T1256				AML	AML				
	comp=N,7115μm,0.4s								
T1256				AML	AML				
	comp=E,8170μm,1.2s								
T1256				AML	AML				
	comp=N,7810μm,0.4s								
CSP1	**Cessapalombo**	**0.16**	**48**	⇑P	**Pg**	**03**	**43**	**10.8**	**+0.2**
CSP1				S	**Sg**	**03**	**43**	**13.7**	**+1.0**
CSP1				AML	AML				
	comp=E,9130μm,0.6s								
CSP1				AML	AML				
	comp=E,9150μm,0.6s								
CSP1				AML	AML				
	comp=N,12050μm,0.6s								
CSP1				AML	AML				
	comp=E,9145μm,0.6s								
CSP1				AML	AML				
	comp=N,12100μm,0.6s								
NRCA	**Norcia**	**0.16**	**162**	⇓P	**Pg**	**03**	**43**	**10.9**	**+0.3**
NRCA				S	**Sg**	**03**	**43**	**13.6**	**+0.9**
T1245	**Castelsantange**	**0.17**	**141**	⇑P	**Pg**	**03**	**43**	**11.0**	**+0.3**
T1245				S	**Sg**	**03**	**43**	**14.0**	**+1.0**
SEF1	**Sefro**	**0.18**	**336**	⇓P	**Pg**	**03**	**43**	**11.2**	**+0.2**
SEF1				S	**Sg**	**03**	**43**	**14.2**	**+0.9**
SEF1				AML	AML				
	comp=E,9195μm,0.2s								
SEF1				AML	AML				
	comp=E,9205μm,0.2s								
SEF1				AML	AML				
	comp=N,11200μm,0.2s								
MMO1	**Montemonaco**	**0.22**	**113**	⇑P	**Pg**	**03**	**43**	**12.1**	**+0.3**
MMO1				S	**Sg**	**03**	**43**	**16.0**	**+1.3**
GUMA	**Gualdo di Mace**	**0.23**	**70**	⇓P	**Pg**	**03**	**43**	**12.8**	**+0.9**
GUMA				S	**Sg**	**03**	**43**	**16.6**	**+1.8**
GUMA				AML	AML				
	comp=N,10650μm,0.5s								
GUMA				AML	AML				
	comp=N,15250μm,0.4s								
GUMA				AML	AML				
	comp=E,18250μm,0.4s								
GUMA				AML	AML				
	comp=E,14100μm,0.4s								
SNTG	**Esanatoglia**	**0.28**	**344**	⇓P	**Pg**	**03**	**43**	**13.1**	**+0.2**
SNTG				S	**Sg**	**03**	**43**	**17.9**	**+1.3**
SNTG				AML	AML				
	comp=E,2395μm,1.2s								
SNTG				AML	AML				
	comp=N,2885μm,0.1s								
SNTG				AML	AML				
	comp=E,2390μm,1.2s								
SNTG				AML	AML				
	comp=N,2885μm,0.2s								
SNTG				AML	AML				
	comp=E,2325μm,1.1s								
SNTG				AML	AML				
	comp=N,3170μm,0.1s								
SNTG				AML	AML				
	comp=E,2390μm,1.1s								
ASSB	**Assisi San Ben**	**0.29**	**282**	⇑P	**Pg**	**03**	**43**	**13.1**	**+0.1**
ASSB				AML	AML				
	comp=E,11400μm,0.2s								
ASSB				AML	AML				
	comp=N,11975μm,0.2s								
T1241	**Roccafluvione,**	**0.31**	**114**	⇑P	**Pg**	**03**	**43**	**13.7**	**+0.2**
T1241				S	**Sg**	**03**	**43**	**18.8**	**+1.3**
T1241				AML	AML				
	comp=E,2390μm,0.4s								
T1241				AML	AML				
	comp=N,1750μm,0.5s								
T1241				AML	AML				
	comp=E,2395μm,0.4s								
T1241				AML	AML				
	comp=N,1755μm,0.5s								
T1218	**Civita (PG)**	**0.32**	**171**	⇑P	**Pg**	**03**	**43**	**13.7**	**0.0**
T1218				S	**Sg**	**03**	**43**	**18.9**	**+1.1**
EL6	**Elcito**	**0.35**	**7**	⇓P	**Pg**	**03**	**43**	**14.3**	**+0.1**
EL6				S	**Sg**	**03**	**43**	**20.1**	**+1.4**
EL6				AML	AML				
	comp=N,5320μm,1.0s								
EL6				AML	AML				
	comp=E,4565μm,1.3s								
FOSV	**Fossato di Vic**	**0.37**	**326**	S	**Sb**	**03**	**43**	**22.0**	**-1.1**
LNSS	**Leonessa**	**0.38**	**181**	P	**Pb**	**03**	**43**	**15.7**	**-1.3**
LNSS				S	**Sg**	**03**	**43**	**21.0**	**+1.2**
ARRO	**Arrone**	**0.46**	**207**	S	**Sb**	**03**	**43**	**24.0**	**-1.3**
MURB	**Monte Urbino**	**0.47**	**306**	⇓P	**Pg**	**03**	**43**	**16.6**	**+0.1**
MURB				S	**Sb**	**03**	**43**	**25.0**	**-0.9**
MURB				AML	AML				
	comp=E,5430μm,0.5s								
MURB				AML	AML				
	comp=E,5630μm,0.4s								
MURB				AML	AML				
	comp=N,6625μm,0.3s								
MURB				AML	AML				
	comp=N,6375μm,0.3s								
OFFI	**Offida**	**0.47**	**96**	P	**Pb**	**03**	**43**	**17.7**	**-0.8**
OFFI				AML	AML				
	comp=E,2165μm,0.4s								
OFFI				AML	AML				
	comp=N,2490μm,0.4s								
OFFI				AML	AML				
	comp=N,2495μm,0.4s								
CESX	**Cesi**	**0.51**	**223**	⇑P	**Pg**	**03**	**43**	**17.4**	**+0.2**
CESX				AML	AML				
	comp=E,1062μm,1.3s								
CESX				AML	AML				
	comp=N,1220μm,0.4s								
ATFO	**Monte Foce - G**	**0.52**	**318**	⇑P	**Pg**	**03**	**43**	**17.6**	**+0.2**
ATFO				AML	AML				
	comp=N,942μm,1.2s								
ATFO				AML	AML				
	comp=E,987μm,0.4s								
ARVD	**Arcevia**	**0.52**	**352**	S	**Sb**	**03**	**43**	**27.0**	**-0.2**
CAMP	**Campotosto**	**0.52**	**149**	⇓P	**Pg**	**03**

T1219					AML	AML		
	comp=E,40900μm,0.8s							
T1219					AML	AML		
	comp=N,50300μm,1.0s							
FEMA	**Monte Fema**	**0.08**	**209**	P	**Pg**	**03 45 53.2**	**-1.3**	
FEMA				S	**Sg**	**03 45 54.5**	**-1.8**	
FEMA				AML	AML			
FEMA				AML	AML			
FEMA				AML	AML			
T1256	**Bolognola (MC)**	**0.09**	**106**	⇑P	**Pg**	**03 45 54.0**	**-0.6**	
T1256				S	**Sg**	**03 45 56.1**	**-0.4**	
T1256				AML	AML			
	comp=N,20200μm,0.4s							
T1256				AML	AML			
	comp=E,27400μm,0.3s							
T1256				AML	AML			
	comp=N,20200μm,0.4s							
T1256				AML	AML			
	comp=N,19200μm,0.4s							
T1256				AML	AML			
	comp=E,27450μm,0.3s							
T1256				AML	AML			
	comp=E,27300μm,0.3s							
CSP1	**Cessapalombo**	**0.10**	**51**	⇑P	**Pg**	**03 45 54.2**	**-0.4**	
CSP1				S	**Sg**	**03 45 56.3**	**-0.2**	
CSP1				AML	AML			
	comp=E,33750μm,1.4s							
CSP1				AML	AML			
	comp=N,40200μm,0.3s							
CESI	**CESI - Serrava**	**0.15**	**259**	⇑P	**Pg**	**03 45 54.5**	**-0.8**	
CESI				S	**Sg**	**03 45 56.8**	**-0.8**	
CESI				AML	AML			
	comp=E,26250μm,0.5s							
CESI				AML	AML			
	comp=N,24600μm,0.3s							
T1216	**Preci, Frazion**	**0.15**	**204**	⇑P	**Pg**	**03 45 54.5**	**-0.9**	
T1216				S	**Sg**	**03 45 56.7**	**-1.1**	
T1216				AML	AML			
	comp=E,31450μm,0.4s							
T1216				AML	AML			
	comp=E,31450μm,0.4s							
T1216				AML	AML			
	comp=N,24150μm,1.6s							
T1216				AML	AML			
	comp=N,24150μm,1.6s							
MDAR	**Monte D'Aria**	**0.16**	**10**	⇓P	**Pg**	**03 45 55.4**	**-0.2**	
MDAR				AML	AML			
	comp=E,11715μm,0.6s							
MDAR				AML	AML			
	comp=N,10275μm,0.4s							
MDAR				AML	AML			
	comp=E,11750μm,0.6s							
MDAR				AML	AML			
	comp=N,10285μm,0.4s							
SEF1	**Sefro**	**0.16**	**315**	P	**Pg**	**03 45 54.9**	**-0.6**	
SEF1				AML	AML			
	comp=E,45800μm,0.3s							
SEF1				AML	AML			
	comp=N,57000μm,0.3s							
SEF1				AML	AML			
	comp=E,45750μm,0.3s							
GUMA	**Gualdo di Mace**	**0.17**	**80**	⇑P	**Pg**	**03 45 55.9**	**+0.2**	
GUMA				S	**Sg**	**03 45 58.2**	**0.0**	
GUMA				AML	AML			
	comp=E,45300μm,0.4s							
GUMA				AML	AML			
	comp=N,65500μm,0.3s							
GUMA				AML	AML			
	comp=E,81550μm,0.3s							
GUMA				AML	AML			
	comp=E,45300μm,0.4s							
GUMA				AML	AML			
	comp=N,65500μm,0.3s							
GUMA				AML	AML			
	comp=N,34950μm,0.2s							
T1245	**Castelsantange**	**0.19**	**161**	P	**Pg**	**03 45 55.4**	**-0.6**	
T1245				AML	AML			
	comp=E,38100μm,0.7s							
T1245				AML	AML			
	comp=N,27700μm,1.3s							
T1245				AML	AML			
	comp=E,35200μm,0.7s							
T1245				AML	AML			
	comp=E,38150μm,0.7s							
T1245				AML	AML			
	comp=N,28150μm,0.3s							
NRCA	**Norcia**	**0.20**	**178**	P	**Pg**	**03 45 55.4**	**-0.8**	
NRCA				AML	AML			
	comp=E,29350μm,0.7s							
NRCA				AML	AML			
	comp=E,29350μm,0.6s							
NRCA				AML	AML			
	comp=N,26900μm,1.5s							
NRCA				AML	AML			
	comp=E,30600μm,0.7s							
NRCA				AML	AML			
	comp=N,28300μm,1.5s							
SNTG	**Esanatoglia**	**0.25**	**332**	AML	AML			
	comp=N,15700μm,0.3s							
SNTG				AML	AML			
	comp=E,11010μm,0.2s							
SNTG				AML	AML			
	comp=N,14300μm,1.2s							
SNTG				AML	AML			
	comp=E,10435μm,1.5s							
EL6	**Elcito**	**0.30**	**360**	AML	AML			
	comp=N,19350μm,0.3s							
EL6				AML	AML			
	comp=E,16500μm,0.3s							
EL6				AML	AML			
	comp=N,19300μm,0.3s							
T1241	**Roccafluvione,**	**0.30**	**126**	AML	AML			
	comp=E,4855μm,0.4s							
T1241				AML	AML			
	comp=E,4975μm,0.5s							
T1241				AML	AML			
	comp=N,4005μm,0.7s							
T1241				AML	AML			
	comp=E,4980μm,0.5s							
T1241				AML	AML			
	comp=N,3795μm,0.7s							
ASSB	**Assisi San Ben**	**0.33**	**272**	AML	AML			
	comp=N,14500μm,0.3s							
ASSB				AML	AML			
	comp=E,11935μm,0.4s							
CING	**Cingoli**	**0.35**	**11**	AML	AML			
	comp=E,7325μm,1.2s							
CING				AML	AML			
	comp=N,6110μm,0.9s							
FOSV	**Fossato di Vic**	**0.36**	**316**	AML	AML			
	comp=N,9260μm,0.3s							
FOSV				AML	AML			
	comp=E,7160μm,1.4s							
FOSV				AML	AML			
	comp=N,9265μm,0.3s							
T1218	**Civita (PG)**	**0.36**	**179**	AML	AML			
	comp=N,5780μm,1.4s							
T1218				AML	AML			
	comp=E,4250μm,1.0s							
T1218				AML	AML			
	comp=N,5710μm,1.4s							
T1218				AML	AML			
	comp=E,4255μm,1.0s							
T1218				AML	AML			
	comp=E,4120μm,1.0s							
T1218				AML	AML			
	comp=N,5775μm,1.4s							
ATCC	**AVT- Casa Cast**	**0.37**	**294**	AML	AML			
	comp=E,10900μm,0.2s							
ATCC				AML	AML			
	comp=N,12800μm,0.3s							
ATCC				AML	AML			
	comp=N,12850μm,0.3s							
MMUR	**Monte Murano**	**0.42**	**349**	AML	AML			
	comp=N,11750μm,0.2s							
MMUR				AML	AML			
	comp=N,11750μm,0.2s							
MMUR				AML	AML			
	comp=E,18250μm,0.3s							
LNSS	**Leonessa**	**0.43**	**186**	AML	AML			
	comp=N,5205μm,0.4s							
LNSS				AML	AML			
	comp=E,1865μm,0.6s							
LNSS				AML	AML			
	comp=N,5210μm,0.4s							
OFFI	**Offida**	**0.44**	**103**	AML	AML			
	comp=E,4365μm,0.4s							
OFFI				AML	AML			
	comp=N,5445μm,0.6s							
SSFR	**Montelago di S**	**0.47**	**330**	AML	AML			
	comp=N,12900μm,0.2s							
SSFR				AML	AML			
	comp=E,12400μm,0.2s							
SSFR				AML	AML			
	comp=E,13150μm,0.2s							
SSFR				AML	AML			
	comp=N,12400μm,0.2s							
ARVD	**Arcevia**	**0.48**	**346**	AML	AML			
	comp=N,1326μm,0.1s							
ARVD				AML	AML			
	comp=E,6260μm,0.2s							
ARVD				AML	AML			
	comp=N,3190μm,0.4s							
ARVD				AML	AML			
	comp=E,2149μm,0.2s							
MURB	**Monte Urbino**	**0.48**	**299**	AML	AML			
	comp=N,5635μm,0.3s							
MURB				AML	AML			
	comp=E,8865μm,0.3s							
MURB				AML	AML			
	comp=N,6390μm,0.3s							
MURB				AML	AML			
	comp=E,9880μm,0.3s							
PP3	**Marolino**	**0.51**	**47**	AML	AML			
	comp=E,3825μm,0.6s							
PP3				AML	AML			
	comp=E,3800μm,0.6s							
PP3				AML	AML			
	comp=N,3505μm,0.6s							
PP3				AML	AML			
	comp=E,3820μm,0.6s							
PP3				AML	AML			
	comp=E,3795μm,0.6s							
PP3				AML	AML			
	comp=N,3505μm,0.6s							
PP3				AML	AML			
	comp=N,3470μm,0.7s							
ATFO	**Monte Foce - G**	**0.51**	**311**	AML	AML			
	comp=E,2355μm,0.6s							
ATFO				AML	AML			
	comp=N,2110μm,0.6s							
ARRO	**Arrone**	**0.52**	**209**	AML	AML			
	comp=E,1770μm,0.2s							
ARRO				AML	AML			
	comp=E,1765μm,0.2s							
ARRO				AML	AML			
	comp=N,1990μm,0.2s							
CAMP	**Campotosto**	**0.55**	**156**	AML	AML			
	comp=E,1600μm,1.2s							
CAMP				AML	AML			
	comp=N,1675μm,1.5s							
TERO	**Teramo**	**0.55**	**138**	AML	AML			
	comp=E,2295μm,0.7s							
TERO				AML	AML			
	comp=E,2415μm,0.7s							
TERO				AML	AML			
	comp=N,2885μm,0.5s							
TERO				AML	AML			
	comp=N,2790μm,0.5s							
FRON	**Frontone**	**0.56**	**330**	AML	AML			
	comp=N,4850μm,0.3s							
FRON				AML	AML			
	comp=E,2810μm,1.2s							
FRON				AML	AML			
	comp=N,4855μm,0.3s							
CESX	**Cesi**	**0.57**	**223**	AML	AML			
	comp=N,4855μm,0.4s							
CESX				AML	AML			
	comp=E,4785μm,0.4s							
COR1	**Corinaldo**	**0.60**	**353**	AML	AML			
	comp=N,5415μm,0.3s							
COR1				AML	AML			
	comp=E,5965μm,0.5s							
COR1				AML	AML			
COR1				AML	AML			
	comp=E,3180μm,0.5s							
COR1				AML	AML			
	comp=E,5970μm,0.5s							
COR1				AML	AML			
COR1				AML	AML			
	comp=E,3175μm,0.5s							
T1247	**Pizzolo (AQ)**	**0.61**	**166**	AML	AML			
	comp=E,2070μm,0.5s							
T1247				AML	AML			
	comp=N,2495μm,1.2s							
ATVO	**AVT- Monte Val**	**0.62**	**305**	AML	AML			
	comp=E,1036μm,1.5s							
ATVO				AML	AML			
	comp=N,1019μm,0.3s							
MPAG	**Monte Paganucc**	**0.65**	**337**	AML	AML			
	comp=E,2765μm,0.3s							
MPAG				AML	AML			
	comp=N,3500μm,0.7s							
PIEI	**Pieia**	**0.65**	**321**	AML	AML			
	comp=E,1885μm,0.3s							
PIEI				AML	AML			
	comp=N,1320μm,0.3s							
ATPI	**Pietralunga -**	**0.66**	**309**	AML	AML			
	comp=N,1630μm,0.4s							
ATPI				AML	AML			
	comp=E,1560μm,0.8s							
ATPI				AML	AML			
	comp=E,1565μm,0.8s							
GIGS	**Gran Sasso**	**0.68**	**149**	AML	AML			
	comp=E,502μm,0.8s							
GIGS				AML	AML			
	comp=N,531μm,0.4s							
ATMI	**Monte Miggiano**	**0.68**	**297**	AML	AML			
	comp=E,508μm,0.5s							
ATMI				AML	AML			
	comp=N,2670μm,0.3s							
ATMI				AML	AML			
	comp=E,2140μm,0.6s							
ATMI				AML	AML			
	comp=N,609μm,0.6s							
NARO	**Abbazia di Nar**	**0.69**	**327**	AML	AML			
	comp=N,1345μm,0.5s							
NARO				AML	AML			
	comp=E,1680μm,0.6s							
FSSB	**Fossombrone**	**0.70**	**340**	AML	AML			
	comp=N,19600μm,0.3s							
FSSB				AML	AML			
	comp=E,9190μm,0.3s							
AQU	**L'Aquila**	**0.71**	**162**	AML	AML			
	comp=N,1220μm,1.1s							
AQU				AML	AML			
	comp=E,1485μm,1.2s							
AQU				AML	AML			
	comp=N,1230μm,1.1s							
AQU				AML	AML			
	comp=E,1485μm,1.2s							
AQU				AML	AML			
	comp=E,1480μm,1.2s							
AQU				AML	AML			
	comp=N,1225μm,1.1s							
MGAB	**Montegabbione**	**0.74**	**261**	AML	AML			
	comp=E,2170μm,1.1s							
MGAB				AML	AML			
	comp=E,1765μm,0.4s							
MGAB				AML	AML			
	comp=N,2940μm,0.5s							
MGAB				AML	AML			
	comp=E,1770μm,0.4s							
MGAB				AML	AML			
	comp=N,2945μm,0.5s							
MGAB				AML	AML			
	comp=N,2800μm,0.4s							
FIAM	**Fiamignano**	**0.76**	**179**	AML	AML			
	comp=N,1092μm,0.6s							
FIAM				AML	AML			
	comp=E,1065μm,0.9s							
FIAM				AML	AML			
	comp=N,1092μm,0.6s							
PE3	**Peglio**	**0.80**	**326**	AML	AML			
	comp=N,16μm,0.7s							
PE3				AML	AML			
	comp=E,14μm,0.4s							
PE3				AML	AML			
	comp=N,16μm,0.7s							
PE3				AML	AML			
	comp=E,14μm,0.4s							
VCEL	**Villa Celiera**	**0.84**	**139**	AML	AML			
	comp=E,2205μm,0.5s							
VCEL				AML	AML			
	comp=N,2325μm,0.4s							
FAGN	**Fagnano**	**0.84**	**155**	AML	AML			
	comp=E,1895μm,0.3s							
FAGN				AML	AML			
	comp=N,2105μm,0.5s							
CAFI	**Castiglion Fio**	**0.88**	**290**	AML	AML			
	comp=E,548μm,0.7s							
CAFI				AML	AML			
	comp=N,557μm,1.1s							
CAFI				AML	AML			
	comp=E,568μm,0.7s							
CAFI				AML	AML			
	comp=N,585μm,1.1s							
SACS	**San Casciano d**	**0.90**	**259**	AML	AML			
	comp=E,646μm,1.5s							
SACS				AML	AML			
	comp=N,1235μm,0.6s							
SACS				AML	AML			
	comp=E,642μm,1.4s							
SACS				AML	AML			
	comp=N,1220μm,0.6s							
SRES	**S.Oreste - Sor**	**0.91**	**209**	AML	AML			
	comp=N,850μm,0.5s							
SRES				AML	AML			
	comp=E,787μm,0.5s							
PESA	**Pesaro**	**0.93**	**348**	AML	AML			
	comp=E,3170μm,0.3s							
PESA				AML	AML			
	comp=N,2745μm,0.3s							
T0110	**Collepietro**	**0.95**	**148**	AML	AML			
	comp=N,1645μm,0.5s							
T0110				AML	AML			
	comp=E,1550μm,0.5s							
CERT	**Cerreto**	**1.09**	**185**	⇓P	**Pb**	**03 46 11.8**	**-1.0**	
CERT				AML	AML			
	comp=E,750μm,0.6s							
CERT				AML	AML			
	comp=N,514μm,0.8s							
GIUL	**Giuliano Di Ro**	**1.48**	**176**	⇓P	**Pg**	**03 46 19.8**	**-0.5**	
A050A	**Klekovaca**	**2.88**	**59**	*e*Pn	**Pb**	**03 46 41.5**	**-1.8**	
SRKY	**Kupres RS**	**3.13**	**69**	*e*Pn	**Pb**	**03 46 45.4**	**-2.3**	
MGRS	**Mrkonjic Grad**	**3.20**	**63**	*e*Pn	**Pb**	**03 46 46.3**	**-2.5**	
PRIJ	**Prijedor**	**3.25**	**52**	*e*Pn	**Pb**	**03 46 50.9**	**+1.2**	
STON	**Ston**	**3.38**	**91**	*e*Pn	**Pn**	**03 46 47.5**	**+2.8**	
A051A	**Mrakovica**	**3.38**	**53**	*e*Pn	**Pb**	**03 46 48.2**	**-3.8**	
BLY	**Banja Luka**	**3.41**	**58**	*e*Pn	**Pb**	**03 46 49.2**	**-3.2**	
MYKA	**Terra Mystica**	**3.62**	**6**	*e*Pn	**Pn**	**03 46 50.9**	**+2.8**	
	comp=N,9.3nm,0.4s,SNR=6.0							
MYKA				*e*Sn	**Sn**	**03 47 33.0**	**+2.2**	
	comp=N,3.2nm,0.3s							
OBKA	**Obir**	**3.62**	**16**	*e*Pn	**Pn**	**03 46 50.1**	**+1.9**	
OBKA	**Obir**	**3.62**	**16**	*e*Pn	**Pb**	**03 46 52.8**	**-3.3**	
	comp=N,3.9nm,0.4s							
OBKA				*e*Sn	**Sb**	**03 47 39.9**	**-0.3**	
	comp=N,8.2nm,0.4s							
ABTA	**Abfaltersbach**	**3.74**	**354**	Pn	**Pn**	**03 46 51.1**	**+1.3**	
	comp=N,6.1nm,0.4s,SNR=14							
ABTA				*e*Sn	**Sn**	**03 47 35.2**	**+1.4**	
	comp=N,14nm,0.9s							
SOKA	**Soboth**	**3.89**	**20**	*e*Pn	**Pb**	**03 46 56.2**	**-4.5**	
	comp=N,2.6nm,0.4s							
SOKA				*e*Sn	**Sb**	**03 47 43.1**	**-4.8**	
	comp=N,4.0nm,0.6s							
BRY	**Bratogost**	**3.99**	**90**	*e*Pn	**Pn**	**03 46 57.0**	**+3.7**	
HCY	**Herceg Novi**	**4.01**	**97**	*e*Pn	**Pn**	**03 46 56.3**	**+2.9**	
KBA	**Koelnbreinsper**	**4.05**	**2**	Pn	**Pn**	**03 46 56.8**	**+2.7**	
	comp=N,6.0nm,0.4s,SNR=7.8							
KBA				*e*Sn	**Sn**	**03 47 44.7**	**+3.1**	
	comp=N,16nm,0.5s							
FETA	**Feichten**	**4.33**	**338**	*e*Pn	**Pn**	**03 47 00.9**	**+3.0**	
	comp=N,0.5nm,0.2s							
FETA				*e*Sn	**Sn**	**03 47 51.9**	**+3.4**	
	comp=N,3.5nm,0.4s							
WTTA	**Wattenberg**	**4.36**	**347**	*e*Pn	**Pn**	**03 47 01.1**	**+2.7**	
	comp=N,0.6nm,0.1s							
WTTA				*e*Sn	**Sn**	**03 47 54.3**	**+5.1**	
	comp=N,16nm,0.4s							
HAPS	**Han Pijesak,Bl**	**4.38**	**74**	*e*Pn	Pn	03 47 02.9	+4.3	
SQTA	**Sankt Quirin**	**4.40**	**343**	Pn	**Pn**	**03 47 01.7**	**+2.8**	
	comp=N,7.3nm,0.3s,SNR=13							
SQTA				*e*Sn	**Sn**	**03 47 54.6**	**+4.4**	
	comp=N,5.0nm,0.4s							
WATA	**Walderalm**	**4.44**	**346**	*e*Pn	Pb	03 47 04.2	-5.7	
	comp=N,1.6nm,0.1s							
WATA				*e*Sn	**Sn**	**03 47 55.4**	**+4.2**	
	comp=N,9.5nm,0.4s							
MOTA	**Moosalm**	**4.54**	**343**	*e*Pn	Pn	03 47 05.2	+4.4	
	comp=N,0.2nm,0.1s							
MOTA				*e*Sn	**Sn**	**03 47 57.4**	**+3.8**	
	comp=N,6.1nm,0.6s							
ARSA	**Arzberg**	**4.55**	**21**	*e*Pn	**Pn**	**03 47 03.7**	**+2.8**	
	comp=N,1.1nm,0.3s							
ARSA				*e*Sn	**Sn**	**03 47 54.8**	**+1.0**	
	comp=N,1.9nm,0.3s							
DRME	**Dracevica, Mon**	**4.57**	**99**	*e*Pn	**Pn**	**03 47 02.4**	**+1.4**	
BIOA	**Bad Ischl, Aus**	**4.67**	**4**	*e*Pn	**Pn**	**03 47 05.5**	**+3.0**	
	comp=N,6.1nm,0.3s							
BIOA				*e*Sn	**Sn**	**03 48 01.5**	**+4.7**	
	comp=N,15nm,0.7s							
RETA	**Reutte**	**4.75**	**340**	*e*Pn	**Pn**	**03 47 06.3**	**+2.6**	
	comp=N,2.6nm,0.3s							
RETA				*e*Sn	**Sn**	**03 48 00.3**	**+1.5**	
	comp=N,1.4nm,0.3s							
DAVA	**Damuels**	**4.83**	**333**	*e*Pn	**Pn**	**03 47 07.9**	**+3.2**	
	comp=N,0.6nm,0.2s							
DAVA				*e*Sn	**Sn**	**03 48 04.7**	**+3.9**	
	comp=N,2.6nm,0.3s							
MOA	**Molln**	**4.89**	**9**	Pn	**Pn**	**03 47 06.6**	**+1.1**	
	comp=N,5.9nm,0.5s,SNR=6.4							
MOA				*e*Sn	**Sn**	**03 48 04.7**	**+2.7**	
	comp=N,4.3nm,0.4s							
CONA	**Conrad Observa**	**5.26**	**21**	*e*Pn	**Pn**	**03 47 12.5**	**+1.8**	
	comp=N,1.1nm,0.2s							
CONA				*e*Sn	**Sn**	**03 48 11.4**	**0.0**	
	comp=N,4.2nm,0.6s							
CKRC	**Cesky Krumlov**	**5.85**	**8**	*e*PN	**Pn**	**03 47 18.7**	**0.0**	
CKRC				*e*SN	**Sn**	**03 48 24.5**	**-1.3**	
KHC	**Kasperske Hory**	**6.11**	**3**	*e*PN	**Pn**	**03 47 22.1**	**-0.1**	
KHC				*e*SN	**Sn**	**03 48 32.6**	**+0.4**	

NEIC ***21*** *03:48:17.9±1.2, 42°.95N±0°.08×138°.9E±0°.1, h210km±7km, mb4.1/60, Error ellipse: s-maj=11.8km s-min=11.1km az=210.0*

BJI ***21*** *03:48:18.3±0.0, 43°.24N×139°.11E, h237km, mb4.4/10, mB4.6/3*

IDC ***21*** *03:48:18.4±1.5, 42°.92N×138°.90E, h219km±14km, mb3.6/21, mbtmp4.1/25, Error ellipse: s-maj=11.8km s-min=10.1km az=71.0*

JMA ***21*** *03:48:18.4±0.2, 42°.9N±0°.9×13°9E±°, h220km±1km, MV3.5/37, SW OFF HOKKAIDO*

ISC 21 03:48:18.3±0.6**, 42°.93N**±0°.06×**139°.00E**±0°.06**, h219**km±5km, n135, s0s89/147, mb4.0**/51**, 3C-7D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
JSH	**Shimam**	**0.82**	**110**	*e*P	**Pn**	**03**	**48**	**49.2**	**+0.2**
JSH				*e*S	**S**	**03**	**49**	**12.7**	**-0.2**
JHST	**Hiyamasetana**	**0.82**	**128**	*e*P	**Pn**	**03**	**48**	**49.1**	**+0.1**
JHST				*e*S	**S**	**03**	**49**	**12.8**	**-0.1**
JOSM	**Okushiri--Mats**	**0.92**	**157**	*e*P	**Pn**	**03**	**48**	**49.8**	**+0.2**
JOSM				*e*S	**S**	**03**	**49**	**14.1**	**+0.2**
JSK	**Shakotan**	**1.16**	**68**	*e*S	**S**	**03**	**49**	**16.1**	**-0.4**
JYM2	**Yakumo 2**	**1.30**	**128**	*e*P	**Pn**	**03**	**48**	**52.4**	**+0.3**
JYM2				*e*S	**S**	**03**	**49**	**18.9**	**+0.5**
JNB	**Noboribetsu**	**1.57**	**106**	*e*P	**Pn**	**03**	**48**	**54.2**	**-0.1**
JOMM	**Oshimamatsumae**	**1.59**	**152**	*e*P	**Pn**	**03**	**48**	**54.7**	**+0.2**
JOMM				*e*S	**S**	**03**	**49**	**22.8**	**+0.3**
JSR	**Shiriuchi**	**1.75**	**143**	*e*P	**Pn**	**03**	**48**	**56.3**	**+0.3**
JSR				*e*S	**S**	**03**	**49**	**25.9**	**+0.8**
JEW	**Eniwo**	**1.80**	**92**	*e*P	**Pn**	**03**	**48**	**56.8**	**+0.5**
JISS	**Ishikarishitsu**	**1.81**	**78**	*e*P	**Pn**	**03**	**48**	**56.9**	**+0.6**
JKB	**Kayabe**	**1.83**	**124**	*e*P	**Pn**	**03**	**48**	**56.6**	**0.0**
JHR	**Hokuryu**	**2.15**	**67**	*e*P	**Pn**	**03**	**49**	**00.3**	**+0.6**
JOT	**Ohata**	**2.17**	**135**	*e*P	**Pn**	**03**	**48**	**59.7**	**-0.3**
JSS	**Shosan**	**2.54**	**54**	*e*P	**Pn**	**03**	**49**	**04.6**	**+0.9**
JTM	**Tenmabayashi**	**2.64**	**144**	Pn	**Pn**	**03**	**49**	**04.5**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.85**	**102**	*e*P	**Pn**	**03**	**49**	**06.8**	**-0.4**
JKA	**Kamikawa-asahi**	**2.87**	**64**	Pn	**Pn**	**03**	**49**	**06.9**	**-0.5**
JKK2	**Kamakawa 2**	**2.89**	**70**	*e*P	**Pn**	**03**	**49**	**08.1**	**+0.4**
JKK2				*e*S	**S**	**03**	**49**	**46.4**	**+0.3**
JANG	**Nango**	**3.18**	**143**	*e*P	**Pn**	**03**	**49**	**09.7**	**-1.3**
JANG				*e*S	**S**	**03**	**49**	**49.7**	**-2.4**
ERM	**Erimo**	**3.21**	**105**	Pn	**Pn**	**03**	**49**	**10.6**	**-0.8**
JCH	**Churui**	**3.23**	**94**	*e*P	**Pn**	**03**	**49**	**10.2**	**-1.3**

JCH				eS	S	03 49 50.4	-2.7
JSE	**Soyaes**	**3.29**	**51**	*e*P	**Pn**	**03 49 13.2**	**+1.0**
JAR	**Ashorobuto**	**3.51**	**82**	*e*P	**Pn**	**03 49 14.4**	**-0.5**
JAR				eS	S	03 49 57.1	-1.9
JMM	**Marumori**	**5.24**	**164**	Pn	**Pn**	**03 49 34.9**	**-1.3**
USA0B	**Ussuriysk Arra**	**5.25**	**286**	Pn	**Pn**	**03 49 34.9**	**-1.3**
USRK	**Ussuriysk Ar.**	**5.25**	**286**	P	**Pn**	**03 49 35.6**	**-0.6**
	8.7nm,0.6s,baz=93,slow=13,SNR=12						
USRK	**Ussuriysk Ar.**	**5.25**	**286**	Pn	**Pn**	**03 49 34.9**	**-1.3**
MJAR	**Matsushiro Arr**	**6.41**	**186**	P	**Pn**	**03 49 51.8**	**+0.6**
	3.7nm,0.8s,baz=5.2,slow=14,SNR=6.8						
MDJ	**Mudanjiang**	**7.01**	**287**	Pn	**Pn**	**03 49 57.9**	**-0.8**
JGF	**Kuroka**	**7.43**	**190**	Pn	**Pn**	**03 50 04.5**	**+0.2**
KLR	**Kul'dur**	**8.06**	**324**	P	**Pn**	**03 50 11.3**	**-0.8**
	4.9nm,0.9s,baz=127,slow=13,SNR=10						
KSRS	**Korea Array**	**10.08**	**241**	P	**Pn**	**03 50 39.2**	**+1.0**
	2.2nm,0.8s,baz=53,slow=13,SNR=5.2						
SONM	**Songino Array**	**23.31**	**293**	P	**P**	**03 53 05.2**	**-1.6**
	1.4nm,0.6s,baz=87,slow=8.5,SNR=9.6						
	1.4nm,0.6s						
SONM	**Songino Array**	**23.31**	**293**	P	**P**	**03 53 04.6**	**-2.1**
SONM				IAmb	IAmb	03 53 07.7	
	comp=Z,4.8nm,1.3s						
ZALV	**Zalesovo Beam**	**36.73**	**307**	P	**P**	**03 55 03.9**	**-0.3**
	comp=Z,4.3nm,0.3s,baz=97,slow=12,SNR=5.5						
ZALV				PcP	**PcP**	**03 57 20.8**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=122,slow=5.2,SNR=2.4						
ZALV				ScP	**ScP**	**04 00 47.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=101,slow=4.7,SNR=4.7						
	comp=Z,4.3nm,0.3s						
MK31	**Makanchi Array**	**39.64**	**296**	P	**P**	**03 55 27.9**	**-0.7**
MK31				IAmb	IAmb	03 55 28.9	
	comp=Z,3.5nm,0.7s						
MKAR	**Makanchi Array**	**39.64**	**296**	P	**P**	**03 55 28.1**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=84,slow=11,SNR=31						
	comp=Z,2.7nm,0.6s						
MAKZ	**Makanchi**	**39.84**	**296**	P	**P**	**03 55 29.6**	**-0.7**
MAKZ				IAmb	IAmb	03 55 32.8	
	comp=Z,6.2nm,0.9s						
KURK	**Kurchatov**	**41.00**	**303**	P	**P**	**03 55 38.8**	**-0.9**
KURK				IAmb	IAmb	03 55 39.9	
	comp=Z,7.2nm,1.0s						
KURK	**Kurchatov**	**41.00**	**303**	⇓S	**P**	**03 55 38.8**	**-0.9**
	comp=Z,1.2nm,0.5s						
KUR14	**Kurchatov Arra**	**41.04**	**302**	⇓S	**P**	**03 55 39.5**	**-0.5**
KUR15	**Kurchatov Arra**	**41.06**	**302**	⇓S	**P**	**03 55 39.5**	**-0.6**
KUR04	**Kurchatov Arra**	**41.06**	**303**	⇑S	**P**	**03 55 39.4**	**-0.7**
KUR05	**Kurchatov Arra**	**41.07**	**303**	⇑S	**P**	**03 55 39.3**	**-0.9**
KURBB	**Kurchatov Arra**	**41.08**	**302**	P	**P**	**03 55 39.8**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=79,slow=8.9,SNR=25						
	comp=Z,4.3nm,0.7s						
KURBB	**Kurchatov Arra**	**41.08**	**302**	⇓S	**P**	**03 55 39.1**	**-1.3**
	comp=Z,4.3nm,0.8s						
KUR06	**Kurchatov Arra**	**41.09**	**302**	⇓S	**P**	**03 55 39.5**	**-0.9**
KUR07	**Kurchatov Arra**	**41.10**	**302**	⇓S	**P**	**03 55 40.0**	**-0.5**
KUR16	**Kurchatov Arra**	**41.10**	**303**	⇑S	**P**	**03 55 39.6**	**-0.9**
KUR17	**Kurchatov Arra**	**41.12**	**303**	⇓S	**P**	**03 55 39.7**	**-0.9**
N18K	**Kilae Creek**	**42.02**	**42**	P	**P**	**03 55 49.5**	**+1.7**
N18K				IAmb	IAmb	03 56 02.1	
	comp=Z,13nm,1.2s						
O18K	**Koktuh Hills**	**42.45**	**43**	P	**P**	**03 55 52.8**	**+1.5**
PPLA	**Purkeypile**	**43.54**	**38**	P	**P**	**03 56 01.7**	**+1.5**
KTH	**Kantishna Hill**	**44.04**	**37**	P	**P**	**03 56 04.9**	**+0.9**
TOLK	**Toolik Lake Re**	**44.18**	**30**	P	**P**	**03 56 04.4**	**-0.6**
SUA	**Susitna One**	**44.40**	**40**	P	**P**	**03 56 05.9**	**-1.0**
MDM	**Murphy Dome**	**45.03**	**35**	P	**P**	**03 56 12.3**	**+0.6**
GHO	**Glory Hole Cre**	**45.21**	**40**	P	**P**	**03 56 13.1**	**-0.2**
GHO				IAmb	IAmb	03 56 31.2	
	comp=Z,18nm,1.4s						
BOOM	**Boomskoye usch**	**45.34**	**292**	P	**P**	**03 56 14.8**	**+0.1**
BVAR	**Borovoye Array**	**45.36**	**308**	P	**P**	**03 56 14.3**	**-0.2**
	comp=Z,4.7nm,0.5s,baz=70,slow=9.1,SNR=37						
	comp=Z,4.7nm,0.5s						
KNK	**Knik Glacier**	**45.49**	**40**	P	**P**	**03 56 15.9**	**+0.5**
IL31		**45.62**	**35**	P	**P**	**03 56 15.4**	**-1.0**
ILAR	**Eielson Array**	**45.62**	**35**	P	**P**	**03 56 16.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=280,slow=7.8,SNR=12						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**45.62**	**35**	P	**P**	**03 56 16.3**	**-0.1**
PWL	**Port Wells**	**45.66**	**41**	P	**P**	**03 56 15.7**	**-1.0**
DHY	**Denali Highway**	**45.69**	**38**	P	**P**	**03 56 16.9**	**-0.3**
DHY				IAmb	IAmb	03 56 19.6	
	comp=Z,16nm,1.5s						
SCM	**Sheep Creek Mo**	**45.94**	**39**	P	**P**	**03 56 19.9**	**+0.9**
PRP	**Porcupine Dome**	**46.08**	**34**	P	**P**	**03 56 20.2**	**+0.2**
BMAR	**Burnt Mountain**	**46.16**	**31**	P	**P**	**03 56 20.9**	**+0.3**
AAK	**Ala-Archa**	**46.27**	**293**	P	**P**	**03 56 21.9**	**0.0**
	comp=Z,1.4nm,0.3s,baz=105,slow=5.8,SNR=6.1						
	comp=Z,1.4nm,0.3s						
AAK	**Ala-Archa**	**46.27**	**293**	P	**P**	**03 56 22.2**	**+0.3**
J25K	**Salcha River,**	**46.30**	**35**	P	**P**	**03 56 22.6**	**+0.9**
J25K				IAmb	IAmb	03 56 35.2	
	comp=Z,7.6nm,1.5s						
M24K	**Tolsona, Glenn**	**46.42**	**39**	P	**P**	**03 56 23.5**	**+0.8**
KSH	**Kashi**	**46.54**	**288**	P	**P**	**03 56 26.8**	**+2.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KLU	**Klutina**	**46.67**	**40**	P	**P**	**03 56 25.1**	**+0.4**
KLU				IAmb	IAmb	03 56 57.0	
	comp=Z,16nm,1.4s						
SCRK	**Sand Creek**	**47.01**	**36**	P	**P**	**03 56 27.4**	**+0.1**
SCRK				IAmb	IAmb	03 56 27.9	
	comp=Z,3.4nm,0.8s						
N25K	**Chitina, Valde**	**47.26**	**39**	P	**P**	**03 56 29.9**	**+0.7**
N25K				IAmb	IAmb	03 56 37.4	
	comp=Z,18nm,1.4s						
L26K	**Log Cabin Wild**	**47.50**	**37**	P	**P**	**03 56 31.7**	**+0.7**
L26K				IAmb	IAmb	03 57 02.8	
	comp=Z,8.3nm,1.3s						
GLB	**Gilahina Butte**	**47.67**	**39**	P	**P**	**03 56 33.7**	**+1.4**
GLB				IAmb	IAmb	03 57 09.2	
	comp=Z,18nm,1.3s						
M26K	**Nabesna, AK**	**47.80**	**38**	P	**P**	**03 56 34.7**	**+1.4**
M26K				IAmb	IAmb	03 56 48.1	
	comp=Z,9.7nm,1.4s						
K27K	**Chicken**	**47.82**	**36**	P	**P**	**03 56 34.1**	**+0.8**
K27K				IAmb	IAmb	03 56 34.6	
	comp=Z,3.9nm,0.5s						
EGAK	**Eagle**	**48.03**	**35**	P	**P**	**03 56 34.8**	**-0.2**
EGAK				IAmb	IAmb	03 57 13.3	
	comp=Z,8.7nm,1.4s						
MCARA	**McCarthy VSAT**	**48.05**	**39**	P	**P**	**03 56 36.9**	**+1.7**
L27K	**Beaver Creek,**	**48.16**	**37**	P	**P**	**03 56 37.3**	**+1.3**
L27K				IAmb	IAmb	03 56 38.2	
	comp=Z,7.4nm,1.2s						
BCAR	**Beaver Creek A**	**48.18**	**37**	P	**P**	**03 56 37.0**	**+0.8**
M27K	**Edge Creek, AK**	**48.32**	**38**	P	**P**	**03 56 38.5**	**+1.2**
M27K				IAmb	IAmb	03 57 13.3	
	comp=Z,15nm,1.5s						
KK31	**Karatay Array**	**48.75**	**295**	P	**P**	**03 56 40.5**	**-0.3**
KKAR	**Karatay Array**	**48.75**	**295**	P	**P**	**03 56 40.1**	**-0.7**
BARN	**Barnard Glacie**	**48.77**	**39**	P	**P**	**03 56 42.0**	**+1.1**
BARN				IAmb	IAmb	03 56 51.6	
	comp=Z,14nm,1.3s						
DAWY	**Dawson**	**48.95**	**35**	P	**P**	**03 56 42.4**	**+0.3**
EPYK	**Eagle Plains**	**49.41**	**32**	P	**P**	**03 56 46.5**	**+1.0**
EPYK				IAmb	IAmb	03 56 47.2	
	comp=Z,4.7nm,0.7s						
INK	**Inuvik**	**50.05**	**29**	P	**P**	**03 56 50.9**	**+0.7**
	comp=Z,2.7nm,0.4s,baz=279,slow=6.8,SNR=32						
	comp=Z,2.7nm,0.4s						
INK	**Inuvik**	**50.05**	**29**	P	**P**	**03 56 50.9**	**+0.7**
M30M	**Minto, Yukon**	**50.52**	**37**	P	**P**	**03 56 54.3**	**+0.5**
HYT	**Haines Junctio**	**50.77**	**39**	P	**P**	**03 56 53.5**	**-2.4**
HYT				IAmb	IAmb	03 56 59.2	
	comp=Z,15nm,1.4s						
ARU	**Arti**	**50.79**	**315**	P	**P**	**03 56 56.8**	**+0.9**
	comp=Z,2.9nm,0.3s,baz=48,slow=6.7,SNR=4.0						
	comp=Z,2.9nm,0.3s						
N31M	**Braeburn, Yuko**	**51.33**	**38**	P	**P**	**03 57 00.5**	**+0.6**
A36M	**Sachs Harbour**	**51.53**	**23**	P	**P**	**03 57 01.7**	**+0.6**
A36M				IAmb	IAmb	03 57 02.8	
	comp=Z,4.0nm,0.7s						
ABKAR	**Akbulak array**	**52.84**	**306**	P	**P**	**03 57 10.6**	**-0.5**
EUNU	**Eureka**	**54.64**	**9**	P	**P**	**03 57 23.6**	**-0.2**
EUNU				IAmb	IAmb	03 57 25.5	
	comp=Z,5.0nm,1.3s						
MTN	**Manton Dam**	**55.97**	**189**	P	**P**	**03 57 34.0**	**+0.1**
RES	**Resolute Bay**	**57.37**	**15**	P	**P**	**03 57 42.6**	**-0.4**
ARCES	**ARCESS Array B**	**57.84**	**338**	P	**P**	**03 57 47.9**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=46,slow=10,SNR=3.8						
	comp=Z,0.9nm,0.6s						
KNRA	**Kununurra**	**59.07**	**192**	P	**P**	**03 57 55.9**	**+0.4**
WB0	**Warramunga Arr**	**62.53**	**185**	P	**P**	**03 58 18.3**	**-0.4**
WB2	**Warramunga Arr**	**62.71**	**185**	P	**P**	**03 58 19.3**	**-0.6**
WB2				IAmb	IAmb	03 58 54.9	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**62.71**	**185**	P	**P**	**03 58 19.4**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=2.0,slow=6.9,SNR=45						
WRA				PcP	**PcP**	**03 58 56.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=360,slow=4.7,SNR=9.6						
	comp=Z,1.5nm,0.4s						
WRA	**Warramunga Arr**	**62.71**	**185**	P	**P**	**03 58 19.5**	**-0.4**
WR0	**Warramunga Arr**	**62.71**	**185**	P	**P**	**03 58 19.2**	**-0.7**
WR0				IAmb	IAmb	03 58 38.7	
	comp=Z,4.6nm,1.1s						
FIA1	**FINESS Array S**	**62.76**	**330**	P	**P**	**03 58 18.2**	**-1.5**
FINES	**FINESS Array B**	**62.76**	**330**	P	**P**	**03 58 19.1**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=51,slow=7.2,SNR=12						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**66.43**	**185**	P	**P**	**03 58 44.0**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=359,slow=4.8,SNR=9.8						
	comp=Z,1.3nm,0.9s						
ASAR	**Alice Springs**	**66.43**	**185**	P	**P**	**03 58 44.5**	**+0.5**
HFS	**Hagfors**	**67.97**	**334**	P	**P**	**03 58 53.1**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=47,slow=6.9,SNR=8.6						
	comp=Z,1.6nm,0.7s						
PINE	**Pine Mountain**	**67.97**	**50**	P	**P**	**03 58 55.4**	**+1.6**
PINE				IAmb	IAmb	03 58 56.0	
	comp=Z,4.2nm,0.8s						
NOA	**NORSAR Array B**	**68.04**	**335**	P	**P**	**03 58 53.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=38,slow=7.9,SNR=3.9						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**68.54**	**320**	P	**P**	**03 58 56.4**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=44,slow=6.6,SNR=7.0						
	comp=Z,0.6nm,0.4s						
PLID	**Pearl Lake**	**69.86**	**47**	P	**P**	**03 59 06.3**	**+0.9**
HRY	**Holter Researc**	**70.94**	**43**	P	**P**	**03 59 12.7**	**+0.9**
EGMT	**Eagleton**	**71.07**	**41**	P	**P**	**03 59 12.2**	**-0.3**
EGMT				IAmb	IAmb	03 59 14.0	
	comp=Z,4.5nm,0.7s						
BOZ	**Bozeman (W)**	**71.81**	**44**	P	**P**	**03 59 17.7**	**+0.7**
BOZ				IAmb	IAmb	03 59 20.0	
	comp=Z,1.5nm,0.7s						
KVN	**Kaiserville**	**72.65**	**53**	P	**P**	**03 59 23.0**	**+0.8**
KVN				IAmb	IAmb	03 59 24.4	
	comp=Z,2.1nm,0.6s						
NVAR	**Mina Array Bea**	**72.94**	**53**	P	**P**	**03 59 24.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=290,slow=5.0,SNR=5.6						
	comp=Z,0.4nm,0.6s						
STKA	**Stephens Creek**	**74.48**	**178**	P	**P**	**03 59 32.9**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=332,slow=5.4,SNR=3.6						
	comp=Z,1.4nm,0.4s						
STKA	**Stephens Creek**	**74.48**	**178**	P	**P**	**03 59 33.2**	**+0.9**
R11A	**Troy Canyon, C**	**74.58**	**52**	P	**P**	**03 59 33.9**	**+0.5**
BW06	**Boulder Array**	**74.84**	**45**	P	**P**	**03 59 35.2**	**+0.3**
BW06				IAmb	IAmb	03 59 36.2	
	comp=Z,1.7nm,0.7s						
PD31	**Pinedale Array**	**74.84**	**45**	P	**P**	**03 59 35.3**	**+0.5**
PDAR	**Pinedale Array**	**74.84**	**45**	P	**P**	**03 59 35.5**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=293,slow=1.8,SNR=20						
	comp=Z,1.7nm,0.6s						
PDAR	**Pinedale Array**	**74.84**	**45**	P	**P**	**03 59 35.3**	**+0.5**
ULM	**Lac du Bonnet**	**75.58**	**33**	P	**P**	**03 59 38.4**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=303,slow=3.5,SNR=4.2						
	comp=Z,4.1nm,0.6s						
TXAR	**Lajitas Array**	**87.92**	**51**	P	**P**	**04 00 44.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=286,slow=3.2,SNR=7.7						
	comp=Z,0.3nm,0.6s						
LPAZ	**La Paz**	**144.78**	**49**	PKP	PKPbc	04 07 29.5	0.0
	comp=Z,0.5nm,0.3s,baz=290,slow=5.2,SNR=6.0						
PB16	**IPOC Station P**	**145.61**	**53**	PKPdf	**PKPab**	**04 07 32.7**	**+0.1**
SNAA	**Sanae**	**145.74**	**200**	PKPdf	**PKPdf**	**04 07 29.5**	**+0.2**

*WEL **21** 03:48:50.7±0.3,42°S±3'×17°4E±', h10km±3km, M3.8/46, ML4.0/22, MLv3.8/46, Error ellipse: s-maj=0.0km s-min=0.0km az=138.7*
*NOU **21** 03:48:53.3,42°12S×173°81E, h20km, MLv4.0/9, South Island, New Zealand*
ISC 21 03:48:50.2±1.0, 42°05S±0°03×174°07E±0°03, h17km, n97, s158/99, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.32**	**19**	P	**Pb**	**03 48 57.9**	**+0.5**
CMWZ				S	**Sb**	**03 49 03.5**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.37**	**336**	P	**Pg**	**03 48 56.8**	**-1.1**
BSWZ				S	**Sg**	**03 49 01.3**	**-1.7**
KHZ	**Kahutara**	**0.54**	**227**	P	**Pg**	**03 49 02.1**	**+1.2**
KHZ	**Kahutara**	**0.54**	**227**	P	**Pg**	**03 49 02.1**	**+1.2**
TUWZ	**Tuamarina**	**0.63**	**351**	P	**Pg**	**03 49 02.1**	**-0.6**
TCW	**Tory Channel**	**0.85**	**10**	P	**Pb**	**03 49 06.3**	**-0.2**
THZ	**Tophouse**	**0.92**	**288**	P	**Pb**	**03 49 06.9**	**-0.8**
WEL	**Wellington**	**0.93**	**34**	P	**Pn**	**03 49 09.2**	**+0.8**
NNZ	**Nelson**	**0.98**	**328**	P	**Pb**	**03 49 07.7**	**-1.0**
PLWZ	**Palliser**	**1.01**	**62**	P	**Pb**	**03 49 10.3**	**+1.0**
MSWZ	**Moikau Station**	**1.09**	**55**	P	**Pb**	**03 49 11.3**	**+0.8**
MRNZ	**Matariki Terra**	**1.18**	**303**	P	**Pb**	**03 49 11.8**	**-0.4**
GVZ	**Greta Valley S**	**1.19**	**220**	P	**Pn**	**03 49 13.0**	**+0.8**
CAW	**Cannon Point**	**1.20**	**39**	P	**Pn**	**03 49 12.9**	**+0.6**
PAWZ	**Paruwai Farm**	**1.22**	**57**	P	**Pn**	**03 49 12.8**	**+0.3**
DUVZ	**Puriville Isla**	**1.25**	**355**	P	**Pn**	**03 49 12.9**	**-0.1**
TKNZ	**Takaka Hill**	**1.32**	**320**	P	**Pn**	**03 49 13.8**	**0.0**
KIW	**Kapiti Island**	**1.35**	**28**	P	**Pn**	**03 49 15.1**	**+0.8**
TRWZ	**Traveller**	**1.38**	**62**	P	**Pn**	**03 49 14.8**	**+0.2**
MTW	**Mount Morrison**	**1.40**	**51**	P	**Pn**	**03 49 15.1**	**+0.2**
OGWZ	**Otaki Gorge**	**1.48**	**34**	P	**Pn**	**03 49 16.7**	**+0.5**
LTZ	**Lake Taylor**	**1.52**	**241**	P	**Pn**	**03 49 17.5**	**+0.8**
AMCZ	**Amberley**	**1.54**	**223**	P	**Pn**	**03 49 17.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.58**	**44**	P	**Pn**	**03 49 17.6**	**+0.1**
TMWZ	**Te Maipa**	**1.66**	**56**	P	**Pn**	**03 49 18.5**	**-0.1**
QRZ	**Quartz Range**	**1.69**	**316**	P	**Pb**	**03 49 20.3**	**-0.5**
QRZ	**Quartz Range**	**1.69**	**316**	P	**Pb**	**03 49 20.2**	**-0.6**
DSZ	**Denniston Nort**	**1.72**	**280**	P	**Pb**	**03 49 21.0**	**-0.4**
MRZ	**Mangatainoka R**	**1.79**	**40**	P	**Pn**	**03 49 20.5**	**+0.2**
OKCZ	**Okains Bay**	**1.83**	**204**	P	**Pn**	**03 49 21.2**	**+0.3**
MQZ	**McQueen's Vall**	**1.95**	**212**	P	**Pn**	**03 49 22.0**	**-0.5**
OXZ	**Oxford**	**1.97**	**229**	P	**Pn**	**03 49 22.6**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.01**	**205**	P	**Pn**	**03 49 23.7**	**+0.4**
INZ	**Inchbonnie**	**2.06**	**250**	P	**Pn**	**03 49 25.0**	**+0.9**
PRWZ	**Portville**	**2.07**	**44**	P	**Pn**	**03 49 24.1**	**-0.1**
BFZ	**Birch Farm**	**2.13**	**51**	P	**Pn**	**03 49 24.8**	**-0.3**
RACZ	**Rakaia**	**2.19**	**220**	P	**Pn**	**03 49 25.7**	**-0.2**
DVHZ	**Dannevirke**	**2.36**	**43**	P	**Pn**	**03 49 27.4**	**-0.8**
MHCZ	**Mount Hutt**	**2.36**	**230**	P	**Pn**	**03 49 27.9**	**-0.3**
WAZ	**Wanganui**	**2.40**	**17**	P	**Pb**	**03 49 31.4**	**-1.5**
TSZ	**Takapari Road**	**2.45**	**36**	P	**Pn**	**03 49 29.5**	**0.0**
WACZ	**Wakanui South**	**2.50**	**220**	P	**Pn**	**03 49 30.0**	**0.0**
LREZ	**Lake Rotokare**	**2.60**	**6**	P	**Pb**	**03 49 34.7**	**-1.6**
WVZ	**Waitaha Valley**	**2.67**	**246**	P	**Pn**	**03 49 33.4**	**+1.0**
PNHZ	**Pukenui**	**2.68**	**38**	P	**Pn**	**03 49 32.3**	**-0.2**
KHEZ	**Kahui Hut**	**2.75**	**359**	P	**Pb**	**03 49 37.7**	**-1.3**
KHEZ	**Kahui Hut**	**2.75**	**359**	P	**Pb**	**03 49 37.2**	**-1.8**
RPZ	**Rata Peaks**	**2.77**	**232**	P	**Pn**	**03 49 34.1**	**+0.3**
RPZ	**Rata Peaks**	**2.77**	**232**	P	**Pn**	**03 49 33.9**	**+0.1**
NEZ	**North Egmont**	**2.78**	**0**	P	**Pb**	**03 49 37.8**	**-1.6**
NBEZ	**Newall Road No**	**2.79**	**357**	P	**Pb**	**03 49 38.0**	**-1.5**
ARCZ	**Arundel**	**2.84**	**227**	P	**Pn**	**03 49 34.6**	**-0.3**
PKE	**Pukeiti**	**2.86**	**359**	P	**Pb**	**03 49 38.8**	**-1.9**
MTVZ	**Mangateitei**	**2.87**	**22**	P	**Pn**	**03 49 38.4**	**+3.1**
PKVZ	**Pokaka**	**2.92**	**20**	P	**Pn**	**03 49 38.2**	**+2.2**
MOVZ	**Moawhango**	**2.94**	**26**	P	**Pn**	**03 49 37.0**	**+0.8**
WNVZ	**Wahianoa**	**2.96**	**24**	P	**Pn**	**03 49 38.2**	**+1.6**
TRVZ	**Turoa**	**2.97**	**23**	P	**Pn**	**03 49 39.9**	**+3.1**
VRZ	**Vera Road**	**2.97**	**10**	P	**Pn**	**03 49 38.9**	**+2.4**
BHHZ	**Black Hill Sta**	**2.97**	**31**	P	**Pn**	**03 49 37.6**	**+1.0**
DRZ	**Dome Shelter**	**3.00**	**23**	P	**Pb**	**03 49 43.3**	**0.0**
WHVZ	**Whangaehu Hut**	**3.00**	**23**	P	**Pn**	**03 49 39.2**	**+2.1**
FWVZ	**Far West T-bar**	**3.01**	**22**	P	**Pn**	**03 49 38.8**	**+1.5**
TUVZ	**Tukino**	**3.03**	**24**	P	**Pn**	**03 49 39.4**	**+1.8**
GCSZ	**Gaunt Creek Bo**	**3.04**	**244**	P	**Pn**	**03 49 38.4**	**+0.9**
KAHZ	**Kahuranaki**	**3.10**	**44**	P	**Pn**	**03 49 37.2**	**-1.2**
NGZ	**Ngauruhoe**	**3.10**	**23**	P	**Pn**	**03 49 41.8**	**+3.3**
SNVZ	**South Ngauruho**	**3.10**	**23**	P	**Pb**	**03 49 44.9**	**-0.1**
OTVZ	**Oturere**	**3.13**	**23**	P	**Pb**	**03 49 44.5**	**-1.0**
NNVZ	**North Ngauruho**	**3.15**	**22**	P	**Pn**	**03 49 42.6**	**+3.5**
WTVZ	**West Tongariro**	**3.15**	**22**	P	**Pb**	**03 49 44.7**	**-1.1**
TWVZ	**Taurewa**	**3.15**	**20**	P	**Pb**	**03 49 43.7**	**-2.2**
ETVZ	**East Tongariro**	**3.17**	**24**	P	**Pn**	**03 49 40.7**	**+1.3**
TMVZ	**Te Maari**	**3.19**	**24**	P	**Pn**	**03 49 41.5**	**+1.9**
NTVZ	**North Tongarir**	**3.19**	**23**	P	**Pn**	**03 49 41.1**	**+1.3**
TMZ	**Timaru**	**3.23**	**223**	P	**Pn**	**03 49 39.8**	**-0.4**
BKZ	**Black Stump Fm**	**3.42**	**33**	P	**Pb**	**03 49 48.8**	**-1.6**
RATZ	**Rangitukua**	**3.44**	**23**	P	**Pb**	**03 49 50.3**	**-0.3**
FOZ	**Fox Glacier**	**3.46**	**243**	P	**Pn**	**03 49 44.5**	**+1.1**
ARHZ	**Aropaoanui**	**3.56**	**40**	P	**Pn**	**03 49 46.4**	**+1.7**
HIZ	**Hauiti**	**3.59**	**10**	P	**Pn**	**03 49 48.6**	**+3.6**
HIZ	**Hauiti**	**3.59**	**10**	P	**Pn**	**03 49 48.6**	**+3.6**
NMHZ	**Naumai**	**3.61**	**36**	P	**Pb**	**03 49 50.8**	**-2.8**
LBZ	**Lake Benmore**	**3.68**	**229**	P	**Pn**	**03 49 46.2**	**0.0**
TLZ	**Tolley Road**	**3.88**	**17**	P	**Pn**	**03 49 51.8**	**+2.6**
ODZ	**Otahua Downs**	**3.89**	**219**	P	**Pn**	**03 49 48.7**	**-0.5**
ODZ	**Otahua Downs**	**3.89**	**219**	P	**Pn**	**03 49 48.7**	**-0.5**
JCZ	**Jackson Bay**	**4.37**	**241**	P	**Pn**	**03 49 56.7**	**+0.8**
JCZ	**Jackson Bay**	**4.37**	**241**	P	**Pn**	**03 49 56.2**	**+0.3**
URZ	**Urewera**	**4.45**	**33**	P	**Pn**	**03 50 01.6**	**+4.8**
URZ	**Urewera**	**4.45**	**33**	P	**Pb**	**03 50 04.9**	**-3.0**
TOZ	**Tahuroa Road**	**4.45**	**15**	P	**Pn**	**03 50 00.4**	**+3.5**
WKZ	**Wanaka**	**4.61**	**231**	P	**Pn**	**03 49 58.9**	**-0.2**
EAZ	**Earnscleugh**	**4.70**	**226**	P	**Pn**	**03 50 00.1**	**-0.2**
RUGZ	**Raukumara Rang**	**4.93**	**35**	P	**Pn**	**03 50 04.7**	**+1.0**
AWAZ	**Awhitu Peninsu**	**5.00**	**5**	P	**Pn**	**03 50 07.8**	**+3.3**
MKAZ	**Moumakai**	**5.01**	**10**	P	**Pn**	**03 50 08.2**	**+3.6**

*PRU **21** 03:49:03.6±0.0,42°.96N×12°.87E, h10km*
*ROM **21** 03:49:04.5±0.1,43°.014N±0°.004×13°.076E±0°.006, h9km, ML3.2/8, Error ellipse: s-maj=0.6km s-min=0.2km az=227.0*
ISC 21 03:49:05.0±0.9, 43°.02N±0°.02×13°.06E±0°.03, h9km±5km, n33, s71/63, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1219	**Muccia, Frazio**	**0.05**	**317**	P	**Pg**	**03 49 06.8**	**-0.1**
T1219				S	**Sg**	**03 49 08.2**	**-0.1**
CESI	**CESI - Serrava**	**0.11**	**263**	P	**Pg**	**03 49 07.9**	**+0.3**
CESI				S	**Sg**	**03 49 10.5**	**+1.0**
T1256	**Bolognola (MC)**	**0.13**	**95**	P	**Pg**	**03 49 07.5**	**-0.5**
T1256				S	**Sg**	**03 49 09.4**	**-0.6**
T1256				AML	AML		
	comp=E,11200µm,0.3s						
T1256				AML	AML		
	comp=N,6265µm,1.6s						
T1256				AML	AML		
	comp=E,11250µm,0.3s						

WTTA				*e*Sn	**Sn**	**03 51 05.2**	**+2.4**
	comp=N,5.1nm,0.4s								
SQTA	**Sankt Quirin**	**4.40**	**343**	*e*Pn	**Pn**	**03 50 08.3**	**-3.8**
	comp=N,3.4nm,0.4s								
SQTA				*e*Sn	**Sn**	**03 51 05.3**	**+1.7**
	comp=N,5.4nm,0.4s								
WATA	**Walderalm**	**4.44**	**347**	*e*Pn	**Pn**	**03 50 10.6**	**-2.1**
	comp=N,1.7nm,0.3s								
WATA				*e*Sn	**Sn**	**03 51 05.6**	**+1.0**
	comp=N,6.1nm,0.3s								
MOTA	**Moosalm**	**4.54**	**343**	*e*Pn	**Pn**	**03 50 15.0**	**+0.9**
	comp=N,1.4nm,0.3s								
MOTA				*e*Sn	**Sn**	**03 51 04.3**	**-2.8**
	comp=N,4.9nm,0.6s								
BIOA	**Bad Ischl, Aus**	**4.69**	**5**	*e*Pn	**Pn**	**03 50 16.8**	**+0.8**
	comp=N,2.0nm,0.3s								
BIOA				*e*Sn	**Sn**	**03 51 13.7**	**+3.1**
	comp=N,13nm,0.6s								
RETA	**Reutte**	**4.75**	**341**	*e*Pn	**Pn**	**03 50 16.4**	**-0.5**
	comp=N,1.4nm,0.5s								
RETA				*e*Sn	**Sn**	**03 51 15.1**	**+2.9**
	comp=N,1.2nm,0.3s								
DAVA	**Damuels**	**4.82**	**333**	*e*Pn	**Pn**	**03 50 17.3**	**-0.6**
	comp=N,1.1nm,0.5s								
DAVA				*e*Sn	**Sn**	**03 51 18.3**	**+4.2**
	comp=N,5.8nm,0.5s								
MOA	**Molln**	**4.91**	**10**	*e*Pn	**Pn**	**03 50 19.4**	**+0.4**
	comp=N,1.9nm,0.4s								
CONA	**Conrad Observa**	**5.29**	**21**	*e*Pn	**Pn**	**03 50 21.8**	**-2.5**
	comp=N,1.7nm,0.5s								
KHC	**Kasperske Hory**	**6.12**	**3**	*e*PN	**Pn**	**03 50 34.4**	**-1.3**
KHC				*e*SN	**Sn**	**03 51 42.8**	**-3.1**
CLL	**Collm**	**8.29**	**360**	*e*Sg	**Sg**	**03 53 26.0**	**-5.0**

IDC ***21*** *03:58:06.3±0.6, 41°.12N×142°.96E, h0km, mb4.6/34, mbtmp4.6/38, ML4.1/4, MS3.9/40, Error ellipse: s-maj=14.5km s-min=12.9km az=106.0*

MOS ***21*** *03:58:07.7±1.1, 41°.05N×142°.86E, h21km, mb5.1/43, Error ellipse: s-maj=7.1km s-min=4.2km az=115.6*

NIED ***21*** *03:58:10.3, 41°.02N×142°.96E, h29km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.85; Mθθ2.52; Mφφ-5.37; Mrθ2.93; Mθφ0.68; Mφr5.12; Fault plane solution: M₀7.52000×10¹⁵ NP1: φs139.00000°, δ31.00000°, λ27.00000°. NP2: φs26.00000°, δ77.00000°, λ118.00000°.*

BJI ***21*** *03:58:10.5±0.0, 41°.07N×142°.89E, h46km, mb4.8/65, mB4.9/39, Ms4.2/40, Ms7 4.0/41*

JMA ***21*** *03:58:10.3±0.1, 41°.0N±0°.5×143°.0E±0°.7, h29km, MD4.6/37, MV4.6/37, E OFF AOMORI PREF*

JMA Felt I J1 at E OFF AOMORI PREF .

NEIC ***21*** *03:58:11.8±2.2, 41°.11N±0°.06×142°.9E±0°.1, h33km±2km, mb4.9/98, Error ellipse: s-maj=12.7km s-min=7.7km az=110.0*

ISC 21 03:58:11.4±0.4, 41°.08N±0°.04×142°.96E±0°.05, h38km±3km, h39km:pP-P, n434, σ1§47/399, mb4.8/151, MS4.0/56, 28C-30D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.95**	**9**	Pn	**Pn**	**03 58 28.2**	**+0.1**
ERM	**Erimo**	**0.95**	**9**	*ce*P	**Pn**	**03 58 28.5**	**+0.4**
ERM				pmax	pmax		
	comp=Z,5μm,1.3s						
JEM	**Erimo**	**0.95**	**9**	P	**Pn**	**03 58 28.6**	**+0.4**
JEM				*e*S	**Sn**	**03 58 42.2**	**+1.8**
JEM	**Erimo**	**0.95**	**9**	A	A	03 58 28.6	
	comp=Z,10.0nm,1.4s,comp=Z,14nm,3.1s						
JARK	**Aomorirokkasho**	**1.21**	**267**	⇓*i*P	**Pn**	**03 58 31.3**	**-0.4**
JARK	**Aomorirokkasho**	**1.21**	**267**	A	A	03 58 31.3	
	comp=Z,8.0nm,0.6s,comp=Z,10.0nm,1.0s						
JNBK	**Urakawa-nobuka**	**1.21**	**353**	*i* P	**Pn**	**03 58 32.8**	**+1.1**
JNBK	**Urakawa-nobuka**	**1.21**	**353**	A	A	03 58 32.8	
	comp=Z,20nm,1.1s,comp=Z,20nm,0.8s						
JAHD	**Aomorihigashid**	**1.24**	**279**	⇓*i*P	**Pn**	**03 58 32.1**	**-0.1**
JAHD	**Aomorihigashid**	**1.24**	**279**	A	A	03 58 32.1	
	comp=Z,25nm,1.4s,comp=Z,25nm,0.8s						
JKEN	**Kujiedanarisaw**	**1.29**	**228**	⇓*i*P	**Pn**	**03 58 32.0**	**-0.9**
JKEN	**Kujiedanarisaw**	**1.29**	**228**	A	A	03 58 32.0	
	comp=Z,10.0nm,1.4s,comp=Z,16nm,0.7s						
JANG	**Nango**	**1.30**	**238**	⇓*i*P	**Pn**	**03 58 32.5**	**-0.6**
JANG	**Nango**	**1.30**	**238**	A	A	03 58 32.5	
	comp=Z,5.0nm,0.3s,comp=Z,6.0nm,0.6s						
JTM	**Tenmabayashi**	**1.46**	**259**	Pn	**Pn**	**03 58 35.5**	**+0.2**
JTM	**Tenmabayashi**	**1.46**	**259**	⇓*i*P	**Pn**	**03 58 35.5**	**+0.2**
JTM				⇓S	**Sn**	**03 58 53.7**	**+0.6**
JTM	**Tenmabayashi**	**1.46**	**259**	A	A	03 58 35.5	
	comp=Z,9.0nm,1.6s,comp=Z,21nm,0.8s						
JOT	**Ohata**	**1.47**	**282**	⇓*i*P	**Pn**	**03 58 35.7**	**+0.3**
JOT	**Ohata**	**1.47**	**282**	A	A	03 58 35.7	
	comp=Z,8.0nm,1.2s,comp=Z,7.0nm,1.7s						
JCH	**Churui**	**1.56**	**11**	P	**Pn**	**03 58 37.1**	**+0.5**
JCH				S	**Sn**	**03 58 57.3**	**+1.7**
JCH	**Churui**	**1.56**	**11**	A	A	03 58 37.1	
	comp=Z,6.0nm,2.8s,comp=Z,5.0nm,1.2s						
JKB	**Kayabe**	**1.66**	**300**	⇓*i*P	**Pn**	**03 58 38.5**	**+0.6**
JKB				⇓*e*S	**Sn**	**03 58 58.7**	**+0.8**
JKB	**Kayabe**	**1.66**	**300**	A	A	03 58 38.5	
	comp=Z,10.0nm,4.1s,comp=Z,9.0nm,2.8s						
JIAM	**Iburiatsuma**	**1.73**	**334**	P	**Pn**	**03 58 41.2**	**+2.3**
JIAM	**Iburiatsuma**	**1.73**	**334**	A	A	03 58 41.2	
	comp=Z,38nm,1.1s,comp=Z,31nm,1.6s						
JBT2	**Biratori 2**	**1.76**	**346**	P	**Pn**	**03 58 40.6**	**+1.4**
JBT2	**Biratori 2**	**1.76**	**346**	A	A	03 58 40.6	
	comp=Z,7.0nm,1.9s,comp=Z,7.0nm,3.9s						
JSI2	**Shiura 2**	**1.93**	**270**	A	A	03 58 42.2	
	comp=Z,20nm,0.9s,comp=Z,17nm,0.9s						
JOB	**Onbets**	**1.94**	**19**	A	A	03 58 43.2	
	comp=Z,9.0nm,4.1s,comp=Z,11nm,1.9s						
JSR	**Shiriuchi**	**1.97**	**284**	A	A	03 58 43.0	
	comp=Z,14nm,1.3s,comp=Z,11nm,1.5s						
JAH	**Hinai**	**1.98**	**244**	A	A	03 58 42.5	
	comp=Z,9.0nm,1.0s,comp=Z,9.0nm,0.9s						
JHHS	**Hirosakihyakuz**	**2.02**	**259**	A	A	03 58 43.3	
	comp=Z,15nm,2.4s,comp=Z,17nm,5.1s						
JSZI	**Iwateshizukuis**	**2.03**	**230**	A	A	03 58 43.1	
	comp=Z,18nm,2.1s,comp=Z,13nm,2.1s						
JOM	**Ohasama**	**2.05**	**219**	P	**Pn**	**03 58 43.9**	**+0.6**
JOM	**Ohasama**	**2.05**	**219**	A	A	03 58 43.9	
	comp=Z,8.0nm,0.6s,comp=Z,10.0nm,0.6s						
JEW	**Eniwo**	**2.09**	**328**	*i* P	**Pn**	**03 58 45.9**	**+2.1**
JEW	**Eniwo**	**2.09**	**328**	A	A	03 58 45.9	
	comp=Z,17nm,1.8s,comp=Z,30nm,1.1s						
JYM2	**Yakumo 2**	**2.20**	**299**	A	A	03 58 46.6	
	comp=Z,10.0nm,1.5s,comp=Z,9.0nm,1.8s						
JOMM	**Oshimamatsumae**	**2.27**	**282**	P	**Pn**	**03 58 48.2**	**+1.9**
JNTW	**Noshirotokiwa**	**2.28**	**250**	A	A	03 58 46.9	
	comp=Z,26nm,1.6s,comp=Z,22nm,2.7s						
JAR	**Ashorobuto**	**2.30**	**15**	P	**Pn**	**03 58 47.2**	**+0.5**
JAR				S	**Sn**	**03 59 13.8**	**+0.1**
JAK	**Akkeshi**	**2.31**	**33**	⇓*i*P	**Pn**	**03 58 46.8**	**-0.1**
JAK				⇓S	**Sn**	**03 59 12.7**	**-1.4**
JRG	**Rokugo**	**2.45**	**227**	A	A	03 58 49.0	
	comp=Z,9.0nm,0.7s,comp=Z,12nm,0.9s						
JAB	**Ashibetsu**	**2.48**	**348**	A	A	03 58 51.1	
	comp=Z,7.0nm,3.0s,comp=Z,9.0nm,3.7s						
JYW	**Yuwa**	**2.61**	**235**	A	A	03 58 51.4	
	comp=Z,12nm,1.5s,comp=Z,12nm,1.9s						
JKA	**Kamikawa-asahi**	**3.05**	**355**	Pn	**Pn**	**03 58 57.8**	**+0.8**
ASAJ	**Asahikawa**	**3.05**	**355**	P	**Pn**	**03 58 57.8**	**+0.8**
NMR	**Nemuro--Hokkai**	**3.08**	**41**	⇓*i*P	**Pn**	**03 58 56.6**	**-0.8**
NMR				*i* S	**Sn**	**03 59 29.6**	**-3.3**
RUSJ	**Misakicho**	**3.46**	**28**	⇓*i*P	**Pn**	**03 59 03.9**	**+1.2**
RUSJ				*i* S	**Sn**	**03 59 42.9**	**+0.5**
JMM	**Marumori**	**3.62**	**208**	Pn	**Pn**	**03 59 04.9**	**0.0**
YUK	**Yuzh-Kuril'sk**	**3.65**	**35**	*d*iP	**Pn**	**03 59 05.7**	**+0.4**
YUK				*i* S	**Sn**	**03 59 44.2**	**-2.8**
YUK				pmax	pmax		
	comp=Z,437nm,0.3s						
YUK				pmax	pmax		
	comp=N,59nm,0.1s						
YUK				pmax	pmax		
	comp=E,140nm,0.3s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
JSD	**Sado**	**4.74**	**232**	Pn	**Pn**	**03 59 21.7**	**+1.5**
KUR	**Kuril'sk**	**5.49**	**39**	⇑*i*P	**Pn**	**03 59 31.5**	**+1.0**
KUR				*e*S	**Sn**	**04 00 29.9**	**-2.4**
KUR				pmax	pmax		
	comp=Z,393nm,0.7s						
KUR				smax	smax		
	comp=N,203nm,0.6s						
KUR				smax	smax		
	comp=E,416nm,0.6s						
MJB9	**Matsu-Tunnel**	**5.85**	**221**	Pn	**Pn**	**03 59 37.3**	**+1.7**
MAJO	**Matsushiro**	**5.86**	**221**	Pn	**Pn**	**03 59 36.9**	**+1.3**
MAJO	**Matsushiro**	**5.86**	**221**	P	**Pn**	**03 59 36.9**	**+1.3**
MJAR	**Matsushiro Arr**	**5.86**	**221**	Pn	**Pn**	**03 59 36.8**	**+1.1**
	comp=E,0.6nm,0.3s,baz=33,slow=13,SNR=38 comp=E,11nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.88**	**359**	Pn	**Pn**	**03 59 37.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**5.88**	**359**	*e*P	**Pn**	**03 59 37.3**	**+1.5**
YSS				*e*S	**Sn**	**04 00 44.1**	**+2.3**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				smax	smax		
	comp=N,70nm,1.1s						
YSS				MLR	MLR		
	comp=Z,1μm,13.0s						
TEY	**Ternei**	**6.11**	**312**	⇑*e*P	**Pn**	**03 59 40.6**	**+1.6**
TEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
TEY				pmax	pmax		
	comp=E,20nm,1.1s						
TEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
JGF	**Kuroka**	**7.02**	**221**	Pn	**Pn**	**03 59 52.3**	**+0.7**
INU	**Inuyama**	**7.39**	**221**	Pn	**Pn**	**03 59 57.0**	**+0.4**
JHJ	**Hachijo jima 2**	**8.34**	**199**	Pn	**Pn**	**04 00 09.2**	**-0.4**
	comp=Z,5.0nm,0.3s,baz=46,slow=12,SNR=2.2						
JHJ				Sn	**Sn**	**04 01 36.9**	**-5.7**
	comp=Z,7.5nm,0.3s,baz=251,slow=22,SNR=1.1 comp=Z,138nm,0.8s						
USRK	**Ussuriysk Ar.**	**8.67**	**295**	Pn	**Pn**	**04 00 16.1**	**+2.0**
	comp=Z,4.6nm,0.3s,baz=103,slow=15,SNR=31						
USRK				LR	LR	04 03 44.8	
	comp=Z,764nm,18.9s,baz=101,slow=39						
USRK	**Ussuriysk Ar.**	**8.67**	**295**	Pn	**Pn**	**04 00 16.3**	**+2.2**
USRK	**Ussuriysk Ar.**	**8.67**	**295**	P	**Pn**	**04 00 16.3**	**+2.2**
USA0B	**Ussuriysk Arra**	**8.67**	**295**	Pn	**Pn**	**04 00 16.8**	**+2.6**
USA0B	**Ussuriysk Arra**	**8.67**	**295**	P	**Pn**	**04 00 16.8**	**+2.6**
TYV	**Tymovskoe**	**9.79**	**359**	*e*P	**Pn**	**04 00 31.6**	**+2.2**
TYV				*e*S	**Sn**	**04 02 17.4**	**-0.6**
TYV				pmax	pmax		
	comp=Z,27nm,0.8s						
TYV				pmax	pmax		
	comp=Z,700nm,3.5s						
TYV				smax	smax		
	comp=N,600nm,3.3s						
TYV				smax	smax		
	comp=E,1μm,3.3s						
TYV				smax	smax		
	comp=N,36nm,1.5s						
TYV				smax	smax		
	comp=E,42nm,1.5s						
JHS	**Saijyo**	**9.85**	**235**	Pn	**Pn**	**04 00 33.1**	**+2.7**
MDJ	**Mudanjiang**	**10.43**	**294**	Pn	**Pn**	**04 00 40.4**	**+2.1**
MDJ	**Mudanjiang**	**10.43**	**294**	P	**Pn**	**04 00 38.8**	**+0.5**
MDJ				pmax	pmax		
	comp=E,230nm,3.9s						
MDJ				LR	LR		
	comp=E,470nm,15.7s						
MDJ				LR	LR		
	comp=E,690nm,18.5s						
MDJ				LR	LR		
	comp=E,1μm,16.9s						
KLR	**Kul'dur**	**11.35**	**320**	Pn	**Pn**	**04 00 51.5**	**+0.6**
	comp=E,0.2nm,0.3s,baz=123,slow=14,SNR=18						
KLR				LR	LR	04 05 26.6	
	comp=E,416nm,20.6s,baz=128,slow=39 comp=E,7.0nm,0.8s						
KLR	**Kul'dur**	**11.35**	**320**	*i* P	**Pn**	**04 00 53.1**	**+2.3**
KLR				pmax	pmax		
	comp=Z,18nm,1.4s						
KSRS	**Korea Array**	**12.20**	**258**	Pn	**Pn**	**04 01 05.7**	**+3.2**
	comp=Z,1.4nm,0.3s,baz=63,slow=14,SNR=14						
KSRS				Sn	Sn	04 03 27.8	+11
	comp=Z,0.4nm,0.3s,baz=68,slow=25,SNR=5.0						
BNX	**BinXian**	**12.23**	**298**	⇓P	**Pn**	**04 01 05.3**	**+2.4**
BNX				pmax	pmax		
	comp=Z,41nm,0.8s						
BNX				pmax	pmax		
	comp=Z,270nm,4.2s						
HEH	**HeiHe**	**14.20**	**315**	*e*P	**Pn**	**04 01 28.3**	**-1.4**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,180nm,4.0s						
HEH				LR	LR		
	comp=Z,440nm,14.3s						
HEH				LR	LR		
	comp=Z,540nm,14.3s						
HEH				LR	LR		
	comp=Z,720nm,14.8s						
PETK	**Petropavlovsk-**	**15.63**	**35**	LR	LR	04 08 10.0	
	comp=Z,175nm,20.1s,baz=217,slow=39						
ZEA	**Zeya**	**16.49**	**325**	*e*P	**Pn**	**04 01 58.1**	**-1.5**
ZEA				pmax	pmax		
	comp=E,30nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.3s						
ZEA				MLR	MLR		
	comp=Z,300nm,18.0s						
HIA	**Hailar**	**18.25**	**304**	P	**Pn**	**04 02 19.0**	**-2.5**
HIA	**Hailar**	**18.25**	**304**	P	**Pn**	**04 02 19.0**	**-2.5**
HIA				pmax	pmax		
	comp=Z,15nm,0.8s						
JOW	**Kunigami**	**18.68**	**225**	LR	LR	04 10 48.4	
	comp=Z,111nm,18.2s,baz=121,slow=41						
MA2	**Magadan**	**19.15**	**12**	P	**P**	**04 02 29.6**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=195,slow=16,SNR=2.4 comp=Z,9.7nm,0.7s						
XLT	**XiLinHaoTe**	**19.99**	**287**	*e*P	**P**	**04 02 39.1**	**-1.5**
XLT				pmax	pmax		
	comp=Z,23nm,0.7s						
XLT				pmax	pmax		
	comp=Z,170nm,4.4s						
BJI	**Beijing**	**20.35**	**276**	P	**P**	**04 02 43.5**	**-0.9**
BJI				pmax	pmax		
	comp=Z,15nm,1.1s						
BJI				LR	LR		
	comp=Z,250nm,18.2s						
BJI				LR	LR		
	comp=Z,320nm,17.8s						
BJI				LR	LR		
	comp=Z,370nm,19.7s						
BJT	**Baijiatuau**	**20.36**	**276**	P	**P**	**04 02 43.0**	**-1.6**
BJT	**Baijiatuau**	**20.36**	**276**	P	**P**	**04 02 43.0**	**-1.6**
BJT				pmax	pmax		
	comp=Z,23nm,1.3s						
TIA	**Tai'an**	**20.73**	**265**	P	**P**	**04 02 47.1**	**-1.4**
TIA				pmax	pmax		
	comp=Z,35nm,1.0s						
NJ2	**Nanjing**	**21.30**	**253**	⇑*i*P	**P**	**04 02 53.8**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,37nm,0.8s						
NJ2				LR	LR		
	comp=Z,400nm,15.2s						
NJ2				LR	LR		
	comp=Z,510nm,15.2s						
NJ2				LR	LR		
	comp=Z,690nm,21.1s						
HNS	**HongShan**	**22.15**	**270**	⇓P	**P**	**04 03 01.1**	**-2.6**
HNS				pP	**pP**	**04 03 11.3**	**-1.9**
HNS				PP	**PnPn**	**04 03 29.0**	**+2.4**
HNS				S	**S**	**04 07 02.6**	**-2.9**
HNS				pmax	pmax		
	comp=Z,21nm,0.9s						
HNS				LR	LR		
	comp=Z,220nm,16.7s						
HNS				LR	LR		
	comp=Z,250nm,19.6s						
YAK	**Yakutsk**	**22.46**	**344**	P	**P**	**04 03 04.3**	**-2.6**
	comp=Z,26nm,0.6s,baz=351,slow=2.7,SNR=11 comp=Z,26nm,0.6s						
YAK	**Yakutsk**	**22.46**	**344**	P	**P**	**04 03 03.2**	**-3.7**
YAK	**Yakutsk**	**22.46**	**344**	*e*P	**P**	**04 03 04.0**	**-2.8**
YAK				*e**PP	**pP**	**04 03 09.3**	**-7.0**
YAK				*e*		04 03 30.0	
YAK				*e*S	**S**	**04 07 06.4**	**-4.3**
YAK				*e*SSS	SSS	04 07 59.0	
YAK				pmax	pmax		
	comp=Z,51nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,21nm,0.6s						
YAK				smax	smax		
	comp=E,55nm,1.5s						
YAK				smax	smax		
	comp=N,99nm,2.0s						
YAK				MLR	MLR		
	comp=Z,316nm,17.0s						
YAK				MLR	MLR		
	comp=E,53nm,12.0s						
YAK				MLR	MLR		
	comp=N,195nm,16.0s						
SEY	**Seymchan**	**22.59**	**11**	P	**P**	**04 03 06.0**	**-2.2**
	comp=N,12nm,0.6s,baz=199,slow=7.8,SNR=13 comp=N,12nm,0.6s						
SEY	**Seymchan**	**22.59**	**11**	*i* P	**P**	**04 03 06.1**	**-2.2**
SEY				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.65**	**280**	*e*P	**P**	**04 03 20.9**	**+1.7**
HHC				S	**S**	**04 07 24.3**	**-7.0**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,5.1s						
HHC				LR	LR		
	comp=Z,260nm,13.3s						
HHC				LR	LR		
	comp=Z,320nm,13.3s						
HHC				LR	LR		
	comp=Z,750nm,13.3s						
LYN	**LuoYang**	**24.87**	**265**	⇓P	**P**	**04 03 31.4**	**+1.0**
LYN				pmax	pmax		
	comp=Z,70nm,3.5s						
LYN				LR	LR		
	comp=Z,200nm,17.1s						
LYN				LR	LR		
	comp=Z,170nm,22.0s						
BOD	**Bodaibo**	**24.91**	**322**	*e*P	**P**	**04 03 29.8**	**-0.7**
BOD				pmax	pmax		
	comp=Z,17nm,0.9s						
WHN	**Wuhan**	**25.37**	**255**	⇓P	**P**	**04 03 35.4**	**+0.5**
WHN				pmax	pmax		
	comp=Z,56nm,0.7s						
WHN				LR	LR		
	comp=Z,810nm,14.3s						
WHN				LR	LR		
	comp=Z,900nm,13.7s						
WHN				LR	LR		
	comp=Z,1μm,17.1s						
ULN	**Ulaanbaatar**	**26.33**	**297**	P	**P**	**04 03 43.6**	**0.0**
ULN				IAmb	IAmb	04 03 45.9	
	comp=Z,16nm,0.7s						
ULN	**Ulaanbaatar**	**26.33**	**297**	*ce*P	**P**	**04 03 43.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,16nm,0.7s						
SONM	**Songino Array**	**26.77**	**297**	P	**P**	**04 03 47.5**	**-0.1**
	comp=Z,9.7nm,0.6s,baz=81,slow=9.0,SNR=59						
SONM				LR	LR	04 15 12.3	
	comp=Z,405nm,18.9s,baz=113,slow=38 comp=Z,9.7nm,0.6s						
SONM	**Songino Array**	**26.77**	**297**	P	**P**	**04 03 47.9**	**+0.3**
GUMO	**Guam**	**27.44**	**176**	LR	LR	04 14 06.3	
	comp=Z,73nm,20.5s,baz=50,slow=35						
XAN	**Xi'an**	**27.76**	**266**	⇑P	**P**	**04 03 57.4**	**+0.9**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				LR	LR		
	comp=Z,170nm,14.0s						
XAN				LR	LR		
	comp=Z,260nm,14.3s						
XAN				LR	LR		
	comp=Z,210nm,15.6s						
ZAK	**Zakamensk**	**28.91**	**302**	*e*P	**P**	**04 04 06.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ENH	**Enshi**	**29.09**	**259**	P	**P**	**04 04 07.2**	**-1.2**
ENH				IAmb	IAmb	04 04 10.2	
	comp=Z,12nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.47**	**129**	T	T	04 35 27.4	
	baz=323,slow=74,SNR=409						
H11N1	**WAKE ISLAND Hy**	**29.48**	**129**	T	T	04 35 37.1	
	baz=323,SNR=182						
H11N3	**WAKE ISLAND Hy**	**29.49**	**129**	T	T	04 35 02.7	
	baz=323,slow=74,SNR=242						
BILL	**Bilibino**	**29.81**	**17**	⇑*e*P	**P**	**04 04 14.7**	**+0.4**
BILL				*e*		04 05 15.0	
BILL				pmax	pmax		
	comp=Z,17nm,2.5s						
BILL				MLR	MLR		
	comp=Z,75nm,16.0s						
H11S1	**WAKE ISLAND Hy**	**30.32**	**131**	T	T	04 36 46.2	
	baz=324,slow=76,SNR=121						
H11S3	**WAKE ISLAND Hy**	**30.32**	**131**	T	T	04 36 48.6	
	baz=324,slow=76,SNR=82						
H11S2	**WAKE ISLAND Hy**	**30.34**	**131**	T	T	04 36 45.6	
	baz=324,slow=76,SNR=86						
LZH	**Lanzhou**	**30.80**	**274**	⇑P	**P**	**04 04 25.3**	**+1.7**
LZH				pP	pP	04 04 32.4	-1.4
LZH				pmax	pmax		
	comp=Z,13nm,1.5s						
LZH				LR	LR		
	comp=Z,140nm,15.8s						
LZH				LR	LR		
	comp=Z,260nm,15.1s						
LZH				LR	LR		
	comp=Z,180nm,14.4s						
TIXI	**Tiksi**	**31.45**	**351**	LR	LR	04 19 01.4	
	comp=Z,184nm,19.2s,baz=186,slow=40						
KNGR	**Kungurtug, Tuv**	**32.60**	**303**	*i* P	**P**	**04 04 40.1**	**+0.9**
GTA	**Gaotai**	**32.73**	**282**	*e*P	**P**	**04 04 40.5**	**0.0**
GTA				pP	pP	04 04 51.0	+0.3
GTA				sP	sP	04 04 57.3	+1.9
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,110nm,4.7s						
GTA				LR	LR		
	comp=Z,170nm,16.4s						
GTA				LR	LR		
	comp=Z,280nm,17.5s						
GTA				LR	LR		
	comp=Z,330nm,17.1s						
CD2	**Chengdu**	**33.06**	**265**	P	**P**	**04 04 43.3**	**-0.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
GYA	**Guiyang**	**33.25**	**255**	⇓P	**P**	**04 04 45.3**	**+0.2**
GYA				pP	sP	04 04 59.1	-1.1
GYA				pmax	pmax		
	comp=Z,31nm,0.7s						
GYA				LR	LR		
	comp=Z,350nm,12.8s						
GYA				LR	LR		
	comp=Z,300nm,16.9s						
GYA				LR	LR		
	comp=Z,440nm,17.4s						
PZH	**PanZhiHua**	**36.86**	**260**	⇑P	**P**	**04 05 16.4**	**+0.2**
PZH				pmax	pmax		
	comp=Z,30nm,0.8s						
PZH				pmax	pmax		
	comp=Z,80nm,3.8s						
KMI	**Kunming**	**36.90**	**257**	⇑P	**P**	**04 05 16.9**	**+0.2**
KMI				sP	sP	04 05 32.3	+0.5
KMI				pmax	pmax		
	comp=Z,17nm,1.0s						
KMI				pmax	pmax		
	comp=Z,78nm,4.1s						
KMI				LR	LR		
	comp=Z,260nm,16.4s						
KMI				LR	LR		
	comp=Z,200nm,17.7s						
K

NRIK Noril'sk 40.16 333 P **P** 04 05 42.6 -0.7
comp=Z,6.1nm,0.6s,baz=101,slow=12,SNR=6.4
NRIK LR LR 04 23 53.7
comp=Z,429nm,18.9s,baz=110,slow=39
comp=Z,6.1nm,0.6s
NRIK Noril'sk 40.16 333 P **P** 04 05 42.5 -0.7
NRIK Noril'sk 40.16 333*c*eP **P** 04 05 43.2 0.0
NRIK pmax pmax
comp=Z,15nm,1.2s
ZAA0 Zalesovo Array 40.20 309 P **P** 04 05 43.2 -0.5
ZAA0 IAmb IAmb 04 05 57.9
comp=Z,18nm,0.9s
ZALV Zalesovo Beam 40.20 309 P **P** 04 05 44.1 +0.4
comp=Z,16nm,0.6s,baz=85,slow=7.8,SNR=24
ZALV LR LR 04 23 27.4
comp=Z,248nm,19.0s,baz=70,slow=38
comp=Z,16nm,0.6s
ZALV Zalesovo Beam 40.20 309 P **P** 04 05 43.1 -0.7
ZALV Zalesovo Beam 40.20 309 P **P** 04 05 43.1 -0.7
WMQ Urumqi 40.23 293 *e*P **P** 04 05 44.3 0.0
WMQ sP sP 04 05 58.6 -0.6
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ LR LR
comp=Z,200nm,17.1s
WMQ LR LR
comp=Z,310nm,16.5s
WMQ LR LR
comp=Z,230nm,19.5s
ZSN Zaisan 41.24 299 *e*P **P** 04 05 52.4 -0.2
baz=299
ZSN Zaisan 41.24 299 *e*P **P** 04 05 52.3 -0.2
J20K Nowinta River 42.33 35 P **P** 04 06 03.3 +2.2
IMAR Indian Mountai 42.58 33 P **P** 04 06 04.7 +1.5
PHRA Phrae 42.83 251 P **P** 04 06 06.5 +0.8
H21K Melozitna Rive 42.95 33 P **P** 04 06 08.0 +1.7
H21K IAmb IAmb 04 06 22.5
comp=Z,14nm,0.8s
MK31 Makanchi Array 43.11 299 P **P** 04 06 06.5 -1.2
MK31 IAmb IAmb 04 06 22.1
comp=Z,16nm,0.8s
MK31 Makanchi Array 43.11 299 *i* P **P** 04 06 07.8 0.0
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 43.11 299 P **P** 04 06 08.0 +0.2
comp=Z,7.8nm,0.6s,baz=85,slow=10,SNR=41
MKAR LR LR 04 25 18.5
comp=Z,225nm,19.2s,baz=120,slow=38
comp=Z,7.8nm,0.6s
MKAR Makanchi Array 43.11 299 P **P** 04 06 07.5 -0.3
MKAR Makanchi Array 43.11 299 P **P** 04 06 07.5 -0.3
LSA Lhasa 43.17 272 P **P** 04 06 08.9 0.0
LSA Lhasa 43.17 272 P **P** 04 06 08.9 0.0
LSA pmax pmax
comp=Z,15nm,1.2s
CAST Castle Rocks 43.23 37 P **P** 04 06 10.7 +2.2
MAKZ Makanchi 43.31 299 P **P** 04 06 09.8 +0.4
MAKZ Makanchi 43.31 299 P **P** 04 06 09.8 +0.4
MAKZ pmax pmax
comp=Z,55nm,1.4s
MAKZ Makanchi 43.31 299 P **P** 04 06 09.7 +0.2
MAKZ sP **sP** 04 06 23.0 -1.3
CHTO Chiang Mai 43.55 253 P **P** 04 06 11.7 +0.1
CHTO Chiang Mai 43.55 253 P **P** 04 06 11.7 +0.1
CHTO pmax pmax
comp=Z,9.0nm,0.7s
KTH Kantishna Hill 43.75 36 P **P** 04 06 14.6 +1.9
KTH IAmb IAmb 04 06 29.6
comp=Z,20nm,0.8s
CM31 Chiang Mai Arr 43.78 252 P **P** 04 06 13.8 +0.4
CMAR Chiang Mai Arr 43.78 252 P **P** 04 06 14.3 +0.9
comp=Z,3.7nm,0.7s,baz=41,slow=6.7,SNR=17
CMAR LR LR 04 24 19.1
comp=Z,116nm,21.7s,baz=185,slow=36
comp=Z,3.7nm,0.7s
CMAR Chiang Mai Arr 43.78 252 P **P** 04 06 13.4 0.0
TRF Thorofare Moun 44.04 36 P **P** 04 06 15.4 +0.2
TRF IAmb IAmb 04 07 49.7
comp=Z,52nm,1.9s
COLD Coldfoot 44.05 31 P **P** 04 06 16.6 +1.5
H23K Yukon River 44.30 33 P **P** 04 06 17.8 +0.7
TOLK Toolik Lake Re 44.34 29 P **P** 04 06 18.7 +1.3
I23K Minto, Yukon-K 44.39 34 P **P** 04 06 18.9 +1.1
I23K IAmb IAmb 04 06 34.9
comp=Z,21nm,1.5s
KURK Kurchatov 44.49 305 P **P** 04 06 18.5 -0.2
KURK Kurchatov 44.49 305*c*eP **P** 04 06 18.8 +0.1
KURK pmax pmax
comp=Z,12nm,0.6s
KURK Kurchatov 44.49 305 P **P** 04 06 18.7 +0.1
KURK sP **pwP** 04 06 32.0 +0.7
NEA2 Nenana 44.53 35 P **P** 04 06 21.1 +2.2
NEA2 IAmb IAmb 04 06 35.0
comp=Z,13nm,0.6s
KURBB Kurchatov Arra 44.56 305 P **P** 04 06 19.4 +0.1
comp=Z,16nm,0.5s,baz=78,slow=9.0,SNR=124
comp=Z,16nm,0.5s
KURBB Kurchatov Arra 44.56 305 P **P** 04 06 19.0 -0.3
SHL Shillong 44.77 266 P **P** 04 06 19.7 -1.8
SHL IAmb IAmb 04 06 23.4
comp=Z,12nm,1.0s
SHL Shillong 44.77 266 P **P** 04 06 19.7 -1.8
SHL pmax pmax
comp=Z,13nm,1.0s
GHO Glory Hole Cre 44.78 39 P **P** 04 06 22.6 +1.6
GHO IAmb IAmb 04 06 36.9
comp=Z,19nm,0.9s
MDM Murphy Dome 44.88 34 P **P** 04 06 23.4 +1.7
COLA College 45.04 34 P **P** 04 06 25.9 +3.0
COLA pP **pwP** 04 06 35.8 0.0
COLA sP **sP** 04 06 40.2 +2.0
CCB Clear Creek Bu 45.07 35 P **P** 04 06 24.7 +1.5
POKR Poker Plat Res 45.20 34 P **P** 04 06 25.2 +1.0
POKR IAmb IAmb 04 06 40.8
comp=Z,16nm,0.8s
DHY Denali Highway 45.38 37 P **P** 04 06 26.2 +0.4
DHY IAmb IAmb 04 06 41.2
comp=Z,11nm,0.8s
IL31 45.46 34 IAmb IAmb 04 06 45.0
comp=Z,12nm,0.8s
ILAR Eielson Array 45.46 34 P **P** 04 06 27.0 +0.7
comp=Z,2.6nm,1.0s,baz=258,slow=5.7,SNR=26
comp=Z,2.6nm,1.0s
ILAR Eielson Array 45.46 34 P **P** 04 06 27.4 +1.1
PRP Porcupine Dome 45.98 33 P **P** 04 06 31.5 +1.0
PRP IAmb IAmb 04 06 46.8
comp=Z,9.5nm,0.7s
SHLS Shalkode 46.13 295 *e*P **P** 04 06 28.1 -4.0
baz=294
SHLS Shalkode 46.13 295 *e*P **P** 04 06 28.0 -4.0
TDK Taldyqorghan 46.23 297 *e*P **P** 04 06 31.9 -0.8
baz=296
TDK Taldyqorghan 46.23 297 *e*P **P** 04 06 31.8 -0.8
KPKS Kokpek 46.56 295 *e*P **P** 04 06 34.7 -0.6
baz=295
KPKS Kokpek 46.56 295 *e*P **P** 04 06 34.7 -0.6
SCRK Sand Creek 46.79 35 P **P** 04 06 37.7 +0.8
SCRK IAmb IAmb 04 06 52.2
comp=Z,13nm,0.7s
ARXS Arharly 46.88 297 *e*P **P** 04 06 37.5 -0.4
SATY Saty 46.89 295 *e*P **P** 04 06 37.1 -0.9
baz=295
SATY Saty 46.89 295 *e*P **P** 04 06 37.1 -0.9
CHKK Chushkaly 47.58 296 *e*P **P** 04 06 41.8 -1.4
baz=296
CHKK Chushkaly 47.58 296 *e*P **P** 04 06 41.8 -1.4
L27K Beaver Creek, 47.88 36 P **P** 04 06 45.8 +0.5
L27K IAmb IAmb 04 07 02.3
comp=Z,14nm,0.9s
EGAK Eagle 47.90 34 P **P** 04 06 46.6 +1.3
EGAK IAmb IAmb 04 07 01.8
comp=Z,7.8nm,0.8s
TNSS Tian-Shan 47.90 295 *e*P **P** 04 06 44.9 -1.2
baz=295
TNSS Tian-Shan 47.90 295 *e*P **P** 04 06 44.9 -1.2
JIRN Jiri 47.95 272 *e*P **P** 04 06 48.1 +1.4
comp=Z,18nm,0.5s
KUU Kurty 48.00 297 *e*P **P** 04 06 45.6 -0.9
comp=Z,13nm,0.8s,baz=297
KUU Kurty 48.00 297 *e*P **P** 04 06 45.6 -0.9
KUU pmax pmax
comp=Z,13nm,0.8s
GUN Gumba 48.06 273 *e*P **P** 04 06 47.9 +0.4
comp=Z,59nm,0.4s
BRZS Berezniki 48.35 306 *e*P **P** 04 06 47.8 -1.2
comp=Z,4.6nm,0.5s,baz=306
BRZS Berezniki 48.35 306 *e*P **P** 04 06 47.8 -1.2
BRZS pmax pmax
comp=Z,5.0nm,0.5s
PKI Pulchoki 48.59 273 *e*P **P** 04 06 54.0 +2.4
comp=Z,19nm,0.6s
PKIN Phulchoki 48.60 273 *e*P **P** 04 06 54.1 +2.5
comp=Z,22nm,0.8s
DMN Daman 48.80 273 *e*P **P** 04 06 55.9 +2.8
comp=Z,9.7nm,0.6s
BVA0 Borovoye Array 48.82 310 P **P** 04 06 52.2 -0.4
BVAR Borovoye Array 48.82 310 P **P** 04 06 53.0 +0.4
comp=Z,5.0nm,0.5s,baz=72,slow=8.4,SNR=35
BVAR LR LR 04 29 04.5
comp=Z,196nm,19.4s,baz=74,slow=38
comp=Z,5.0nm,0.5s
BVAR Borovoye Array 48.82 310 P **P** 04 06 53.0 +0.4
BRVK Borovoye 48.87 310 P **P** 04 06 52.6 -0.4
BRVK Borovoye 48.87 310*c*eP **P** 04 06 53.4 +0.4
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 48.87 310 P **P** 04 06 53.4 +0.4
BRVK sP **sP** 04 07 07.1 -1.0
GKN Gorkha 48.95 274 *e*P **P** 04 06 55.7 +1.6
comp=Z,31nm,0.5s
BTLS Baital 49.12 299 *e*P **P** 04 06 54.0 -1.0
baz=299
BTLS Baital 49.12 299 *e*P **P** 04 06 54.0 -1.0
SGDS Sogindy 49.32 297 *e*P **P** 04 06 55.1 -1.5
baz=297
SGDS Sogindy 49.32 297 *e*P **P** 04 06 55.1 -1.5
DANN Dangsing 49.43 275 *e*P **P** 04 06 58.5 +0.5
comp=Z,90nm,0.5s
EPYK Eagle Plains 49.44 32 IAmb IAmb 04 07 13.4
comp=Z,10nm,0.8s
AAK Ala-Archa 49.72 296 LR LR 04 29 51.7
comp=Z,157nm,20.7s,baz=66,slow=38
AAK Ala-Archa 49.72 296 *i* P **P** 04 07 00.6 +0.8
AAK pmax pmax
comp=Z,3.0nm,0.8s
KSH Kashi 49.95 292 P P 04 07 08.4 +6.8
KSH pmax pmax
comp=Z,5.0nm,0.8s
SRIT Nakonsritamara 50.15 242 P **P** 04 07 04.7 +1.5
INK Inuvik 50.25 29 P **P** 04 07 04.0 +0.8
comp=Z,4.3nm,0.6s,baz=270,slow=5.1,SNR=21
INK LR LR 04 30 33.3
comp=Z,82nm,18.1s,baz=296,slow=39
comp=Z,4.3nm,0.6s
INK Inuvik 50.25 29 P **P** 04 07 05.2 +1.9
HYT Haines Junctio 50.36 39 P **P** 04 07 07.0 +2.6
KULM Kulim 51.93 238 P **P** 04 07 17.9 +1.4
KULM IAmb IAmb 04 07 18.8
comp=Z,14nm,0.9s
A36M Sachs Harbour 52.07 23 IAmb IAmb 04 07 33.8
comp=Z,20nm,0.9s
KK31 Karatay Array 52.22 298 IAmb IAmb 04 07 24.3
comp=Z,7.3nm,0.7s
KK31 Karatay Array 52.22 298 *i* P **P** 04 07 18.0 -0.4
KKAR Karatay Array 52.22 298 IAmb IAmb 04 07 24.3
comp=Z,7.3nm,0.7s
HNR Honiara 52.64 159 LR LR 04 30 22.6
comp=Z,373nm,19.1s,baz=307,slow=37
SVE Sverdlovsk 52.96 317 *e*P P 04 07 28.7 +5.0
SVE pmax pmax
comp=Z,20nm,0.9s
BTK Batken 53.31 294 P **P** 04 07 25.6 -1.0
BTK Batken 53.31 294 P **P** 04 07 25.6 -1.0
BTK pmax pmax
comp=Z,5.0nm,0.8s
GAR Garm 54.13 293 IAmb IAmb 04 07 47.6
comp=Z,11nm,0.9s
ARU Arti 54.18 317 P **P** 04 07 32.5 -0.1
comp=Z,4.3nm,0.4s,baz=58,slow=5.8,SNR=9.8
ARU LR LR 04 33 17.1
comp=Z,208nm,18.8s,baz=77,slow=39
comp=Z,4.3nm,0.4s
ARU Arti 54.18 317 P **P** 04 07 32.2 -0.3
ARU IAmb IAmb 04 07 41.5
comp=Z,16nm,1.1s
ARU Arti 54.18 317*c i* P **P** 04 07 33.0 +0.4
ARU 04 08 36.5
ARU PPP PPP 04 10 48.1
ARU S **S** **04 15 09.7 +3.0**
ARU SS **SS** **04 18 47.3 -0.8**
ARU pmax pmax
comp=Z,14nm,1.1s
ARU MLR MLR
comp=Z,249nm,17.0s
NIL Nilore 54.57 286 P **P** 04 07 36.8 +1.0
NIL IAmb IAmb 04 07 55.1
comp=Z,19nm,1.1s
NIL Nilore 54.57 286 P **P** 04 07 36.8 +1.0
NIL pmax pmax
comp=Z,19nm,1.1s
CHGR Chuyangaron 55.09 294 P **P** 04 07 39.3 -0.3
CHGR Chuyangaron 55.09 294 P **P** 04 07 39.3 -0.3
CHGR pmax pmax
comp=Z,27nm,0.8s
SIMJ Simiganj 55.19 294 P **P** 04 07 40.1 -0.3
BKNI Bangkinang 55.51 234 P **P** 04 07 42.9 +0.2
ALE Alert 56.00 4 P **P** 04 07 46.2 +0.8
ALE sP **sP** **04 07 59.7 -1.2**
EUNU Eureka 56.01 9 IAmb IAmb 04 08 00.9
comp=Z,16nm,1.1s
AB31 Akbulak array 56.31 309 *i* P **P** 04 07 47.9 -0.1
ABKAR Akbulak array 56.31 309 P **P** 04 07 47.9 -0.2
SPITS Spitsbergen Ar 56.80 349 LR LR 04 34 20.6
comp=Z,104nm,20.4s,baz=12,slow=38
AKTO Aktyubinsk 56.92 311 P **P** 04 07 52.0 -0.4
KBL Kabul 57.16 289 P **P** 04 07 53.9 -0.7
KBL IAmb IAmb 04 07 55.3
comp=Z,7.3nm,0.8s
KBL Kabul 57.16 289 P **P** 04 07 53.9 -0.7
KBL pmax pmax
comp=Z,7.0nm,0.8s
LEM Lembang 57.65 223 LR LR 04 33 33.7
comp=Z,117nm,18.9s,baz=266,slow=37
KIRV Kirov 57.78 322 P **P** 04 07 59.1 +0.8
comp=Z,24nm,0.7s,baz=110,slow=1.6,SNR=11
comp=Z,24nm,0.7s
KIRV Kirov 57.78 322*c*eP **P** 04 07 58.5 +0.2
PRGR Permogore 58.06 326 *e*P **P** 04 07 59.7 -0.5
PRGR pmax pmax
comp=Z,20nm,0.8s
BBB Bella Bella 58.36 46 LR LR 04 31 18.2
comp=Z,35nm,21.8s,baz=246,slow=34
RES Resolute Bay 58.39 15 IAmb IAmb 04 08 04.1
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 60.65 339 P **P** 04 08 18.4 +0.4
comp=Z,5.1nm,1.0s,baz=46,slow=8.7,SNR=10
ARCES LR LR 04 39 07.5
comp=Z,123nm,18.8s,baz=68,slow=41
comp=Z,5.1nm,1.0s
TULEG Thule 60.94 8 P **P** 04 08 19.6 -0.3
TULEG IAmb IAmb 04 08 35.6
comp=Z,13nm,1.1s
KLMR Klimovskoe 61.00 327 *e*P **P** 04 08 19.5 -1.0
KLMR AMP 04 08 21.2
comp=Z,15nm,0.8s
KLMR *e*PP **PP** **04 10 31.2 -3.4**
KLMR Klimovskoe 61.00 327 *e*P **P** 04 08 19.5 -1.0
KLMR *e* 04 10 31.1
KLMR pmax pmax
comp=Z,15nm,0.8s
WRA Warramunga Arr 61.23 189 P **P** 04 08 22.1 -0.4
comp=Z,2.0nm,0.6s,baz=6.3,slow=6.8,SNR=26
comp=Z,2.0nm,0.6s
NEEM North Greenlan 61.43 3 *i* P **P** 04 08 23.4 -0.1
NEEM IAmb IAmb 04 08 30.4
comp=Z,7.3nm,0.7s
BELG Belogornoye 61.69 316 P **P** 04 08 25.3 0.0
comp=Z,32nm,0.8s,baz=63,slow=1.5,SNR=7.0
BELG LR LR 04 37 40.2
comp=Z,246nm,19.1s,baz=145,slow=38
comp=Z,32nm,0.8s
BELG Belogornoye 61.69 316 *i* P **P** 04 08 26.3 +1.0
BELG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 61.85 355 *i* P **P** 04 08 24.4 -1.6
DAG IAmb IAmb 04 08 26.8
comp=Z,4.2nm,1.0s
HRA Herat 62.04 292 P **P** 04 08 27.7 -0.5
GEYT Alibeck 62.97 298 P **P** 04 08 34.2 0.0
comp=Z,6.4nm,0.6s,baz=26,slow=3.8,SNR=11
GEYT LR LR 04 38 21.6
comp=Z,210nm,18.0s,baz=70,slow=38
comp=Z,6.4nm,0.6s
AS31 Alice Springs 64.96 189 P **P** 04 08 47.4 +0.2
ASAR Alice Springs 64.96 189 P **P** 04 08 47.6 +0.5
comp=Z,1.9nm,0.8s,baz=12,slow=6.6,SNR=19
comp=Z,1.9nm,0.8s
ASAR Alice Springs 64.96 189 P **P** 04 08 47.4 +0.2
ASAR Alice Springs 64.96 189 P **P** 04 08 47.4 +0.2
VRH Novokhopyorsk 65.41 317 *e*P **P** 04 08 49.3 -0.5
VRH pmax pmax
comp=Z,20nm,0.6s
OBN Obninsk 65.59 323 P **P** 04 08 50.8 -0.2
comp=Z,5.0nm,0.5s,baz=33,slow=4.8,SNR=4.9
OBN LR LR 04 39 12.2
comp=Z,30nm,21.4s,baz=171,slow=38
comp=Z,5.0nm,0.5s
OBN Obninsk 65.59 323*de*P **P** 04 08 50.8 -0.2
OBN *e* 04 11 17.8
OBN pmax pmax
comp=Z,58nm,2.5s
OBN MLR MLR
comp=Z,101nm,15.0s
FINES FINESS Array B 65.81 332 P **P** 04 08 52.4 +0.2
comp=Z,20nm,0.7s,baz=48,slow=7.7,SNR=84
FINES LR LR 04 40 32.4
comp=Z,212nm,18.9s,baz=41,slow=39
comp=Z,20nm,0.7s
FINES FINESS Array B 65.81 332 P **P** 04 08 52.3 +0.1
FINES FINESS Array B 65.81 332 P **P** 04 08 52.3 +0.1
LPSR Galich'ya Gora 65.99 320 *e*P **P** 04 08 52.9 -0.6
LPSR pmax pmax
comp=Z,30nm,0.8s
VORR Voronezh 66.41 319 *e*P **P** 04 08 56.6 +0.4
VORR pmax pmax
comp=Z,60nm,0.4s
NEW Newport 66.42 46 LR LR 04 35 12.2
comp=Z,22nm,21.9s,baz=300,slow=34
DZM Mont Dzumac 66.51 156 LR LR 04 33 43.1
comp=Z,104nm,21.3s,baz=214,slow=32
DZM Mont Dzumac 66.51 156 *e*LR LR 04 29 01.5
comp=Z,158nm,23.9s
SUMG Summit 66.64 0 *i* P **P** 04 08 58.3 +0.4
SUMG IAmb IAmb 04 08 59.8
comp=Z,10nm,0.7s
VSR Storozhevoye 66.70 318 *e*P **P** 04 08 57.0 -1.1
VSR pmax pmax
comp=Z,20nm,0.7s
PINE Pine Mountain 66.84 52 P **P** 04 09 00.4 +1.0
PINE IAmb IAmb 04 09 16.2
comp=Z,18nm,1.1s
MSVF Nonsavu 66.96 143 LR LR 04 32 07.6
comp=Z,73nm,20.4s,baz=125,slow=30
YBH Yreka Blue Hor 66.96 54 LR LR 04 37 07.4
comp=Z,22nm,19.3s,baz=308,slow=35
AKT Akhty 67.66 306 *e*P **P** 04 09 05.1 +0.6
AKT *e* 04 09 33.2
AKT pmax pmax
comp=Z,13nm,0.9s
AFI Afiamalu 68.88 132 LR LR 04 30 35.2
comp=Z,60nm,22.0s,baz=264,slow=28
NCK Nalchik 68.94 310 *i* P **P** 04 09 13.9 +1.5
NCK pmax pmax
comp=Z,12nm,0.8s
KVAR Kislovodsk Arr 69.18 311 P **P** 04 09 16.1 +2.0
comp=Z,17nm,0.9s,baz=258,slow=22,SNR=5.0
comp=Z,17nm,0.9s
ZEI Tsey 69.18 309 *e*P **P** 04 09 13.7 -0.5
ZEI pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 69.18 311 P **P** 04 09 15.3 +1.3
KIV Kislovodsk 69.18 311 *e*P **P** 04 09 15.9 +1.9
KIV pmax pmax
comp=Z,46nm,1.1s
KIV Kislovodsk 69.18 311 P **P** 04 09 15.8 +1.8
KIV sP **sP** **04 09 29.4 0.0**
KBZ Khabaz 69.20 310 P **P** 04 09 15.6 +1.7
comp=Z,14nm,0.9s,baz=62,slow=4.7,SNR=16
KBZ LR LR 04 42 10.1
comp=Z,69nm,21.0s,baz=51,slow=38
comp=Z,14nm,0.9s
ONI Oni 69.56 309 P **P** 04 09 17.8 +1.4
ONI IAmb IAmb 04 09 19.0
comp=Z,12nm,0.9s
ONI Oni 69.56 309 P **P** 04 09 17.8 +1.4
ONI pmax pmax
comp=Z,12nm,0.9s
MNK Minsk 69.83 326 *i* P **P** 04 09 18.0 +0.4
comp=E,3.0nm,0.8s
MNK *i* P **P** 04 09 18.0 +0.4
comp=N,37nm,0.9s
MNK *i* P **P** 04 09 18.0 +0.4
comp=Z,30nm,0.9s,baz=47
MNK *i* PP **PP** **04 11 51.7 -0.1**
MNK *i* PPP PPP 04 13 34.7
MNK *i* S **S** **04 18 25.7 +1.5**
MNK *i* SS **SS** **04 22 55.0 +2.8**
MNK *i* SSS SSS 04 26 14.4
MNK *i* LQ LQ 04 35 08.5
MNK *i* LR LR 04 40 22.2
MNK *i* LRM MLR 04 42 46.0
comp=E,114nm,20.4s
MNK *i* LRM MLR 04 42 58.1
comp=N,623nm,18.5s
MNK *i* LRM MLR 04 43 03.2
comp=Z,215nm,17.2s
MNK Minsk 69.83 326 *i* P **P** 04 09 18.0 +0.4
MNK *i* 04 11 51.7
MNK *i* PPP PPP 04 13 34.7
MNK *i* S **S** **04 18 25.6 +1.5**
MNK *i* SS **SS** **04 22 55.0 +2.8**
MNK pmax pmax
comp=N,37nm,0.9s
MNK pmax pmax
comp=Z,30nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=E,114nm,20.0s
MNK MLR MLR
comp=N,623nm,19.0s
MNK MLR MLR
comp=Z,215nm,17.0s
NACGM Naroch 70.02 327 *e*P **P** 04 09 19.2 +0.4
comp=Z,61nm,1.0s,baz=46
ICESG Greenland Ices 70.13 1 *i* P **P** 04 09 20.3 +0.5
ICESG IAmb IAmb 04 09 21.4
comp=Z,8.1nm,0.8s
HRY Holter Researc 70.21 45 P **P** 04 09 21.1 +0.7
YERR Yerington 70.72 55 IAmb IAmb 04 09 39.9
comp=Z,21nm,1.4s
HFS Hagfors 70.90 336 P **P** 04 09 24.5 +0.4
comp=Z,6.4nm,0.6s,baz=37,slow=6.0,SNR=17
HFS LR LR 04 44 14.2
comp=Z,112nm,19.3s,baz=36,slow=39
comp=Z,6.4nm,0.6s
NB2 NORSAR Subarra 70.92 337 P **P** 04 09 24.1 -0.2
comp=Z,3.3nm,0.8s,baz=36,slow=6.5
NOA NORSAR Array B 70.92 337 P **P** 04 09 24.8 +0.5
comp=Z,5.3nm,0.8s,baz=37,slow=6.1,SNR=18
NOA LR LR 04 43 56.1
comp=Z,118nm,21.5s,baz=35,slow=39
comp=Z,5.3nm,0.8s
BOZ Bozeman (W) 71.03 46 IAmb IAmb 04 09 41.3
comp=Z,12nm,1.1s
KVN Kaiserville 71.38 54 IAmb IAmb 04 09 43.9
comp=Z,14nm,1.2s
ANN Anapa 71.60 314 *e*P **P** 04 09 24.7 -3.9
ANN *e*PP **pP** **04 09 34.3 -5.3**
ANN *e* 04 09 41.7
ANN *e*PPP PPP 04 13 48.4
ANN *e*S **S** **04 18 39.7 -5.3**
ANN *e*SSS SSS 04 26 33.3
ANN pmax pmax
comp=Z,33nm,1.0s
ANN MLR MLR
comp=Z,789nm,23.0s
NVAR Mina Array Bea 71.64 55 P **P** 04 09 30.9 +1.6
comp=Z,1.2nm,0.8s,baz=286,slow=6.1,SNR=8.9
comp=Z,1.2nm,0.8s
NVAR Mina Array Bea 71.64 55 P **P** 04 09 31.5 +2.2
SFJD Kangerlussuaq 71.75 6 LR LR 04 44 39.7
comp=Z,64nm,18.1s,baz=341,slow=39
AKASG Malin Array Be 71.84 322 P **P** 04 09 30.2 +0.2
comp=Z,19nm,0.6s,baz=44,slow=6.1,SNR=71
AKASG LR LR 04 45 01.7
comp=Z,87nm,18.2s,baz=58,slow=39
comp=Z,19nm,0.6s

AKASG	**Malin Array Be**	**71.84**	**322**	P	**P**	**04 09 29.8**	**-0.2**
AKASG	**Malin Array Be**	**71.84**	**322**	P	**P**	**04 09 29.8**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AKBB	**Malin Array Si**	**71.84**	**322**	P	**P**	**04 09 29.6**	**-0.3**
AKBB	**Malin Array Si**	**71.84**	**322**	*c*eP	**P**	**04 09 29.5**	**-0.4**
GCMT	**Greycliff**	**71.96**	**45**	P	**P**	**04 09 31.9**	**+0.9**
H17A	**Grant Village**	**72.38**	**46**	IAmb	IAmb	04 09 51.4	
	comp=Z,14nm,1.1s						
FRB	**Frobisher Bay**	**72.56**	**14**	LR	LR	04 46 29.1	
	comp=Z,99nm,18.2s,baz=13,slow=40						
GURO	**Guroymak-BITLI**	**72.91**	**306**	IAmb	IAmb	04 09 39.2	
	comp=Z,11nm,0.8s						
SIM	**Simferopol'**	**73.29**	**315**	*e*P	**P**	**04 09 38.4**	**-0.3**
SIM				pmax	pmax		
	comp=Z,29nm,0.7s						
BORG	**Borgarnes**	**73.79**	**353**	LR	LR	04 43 40.7	
	comp=Z,17nm,18.3s,baz=0.1,slow=37						
PDAR	**Pinedale Array**	**74.00**	**47**	P	**P**	**04 09 44.5**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=278,slow=2.1,SNR=10						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**74.00**	**47**	P	**P**	**04 09 43.9**	**+0.6**
MARD	**Mardin**	**74.46**	**306**	P	**P**	**04 09 45.9**	**0.0**
LVV	**L'vov**	**74.82**	**324**	*e*P	**P**	**04 09 48.6**	**+1.1**
RDMU	**Red Mountain**	**75.45**	**49**	P	**P**	**04 09 52.8**	**+1.1**
RDMU				IAmb	IAmb	04 10 07.9	
	comp=Z,18nm,1.2s						
BUR08	**Bucovina Ar. S**	**75.87**	**322**	P	**P**	**04 09 54.5**	**+0.7**
BUR08				IAmb	IAmb	04 09 55.6	
	comp=Z,12nm,0.7s						
STHS	**Stebnicka Huta**	**76.34**	**325**	*e*P	**P**	**04 09 57.2**	**+0.9**
STHS	**Stebnicka Huta**	**76.34**	**325**	*e*P	**P**	**04 09 57.2**	**+0.9**
STHS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OJC	**Ojcow**	**76.35**	**326**	*e*P	**P**	**04 09 54.7**	**-1.6**
UZH	**Uzhgorod**	**76.47**	**324**	*e*P	**P**	**04 09 57.5**	**+0.5**
UZH				*e*		04 10 01.0	
UZH				*e*		04 10 09.6	
CRVS	**Cervenica-Dubn**	**76.63**	**325**	*e*P	**P**	**04 09 59.1**	**+1.2**
CRVS	**Cervenica-Dubn**	**76.63**	**325**	*e*P	**P**	**04 09 59.1**	**+1.2**
CRVS				pmax	pmax		
	comp=Z,11nm,0.9s						
NIE	**Niedzica**	**76.74**	**326**	*e*P	**P**	**04 10 00.1**	**+1.5**
BR131	**Keskin Array S**	**77.07**	**312**	IAmb	IAmb	04 10 17.6	
	comp=Z,29nm,2.0s						
BR131	**Keskin Array S**	**77.07**	**312**	*i* P	**P**	**04 10 01.4**	**+0.7**
BRTR	**Keskin Array B**	**77.07**	**312**	P	**P**	**04 10 01.4**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=109,slow=3.1,SNR=10.0						
	comp=Z,1.7nm,0.6s						
BRTR	**Keskin Array B**	**77.07**	**312**	P	**P**	**04 10 00.7**	**0.0**
BRTR	**Keskin Array B**	**77.07**	**312**	P	**P**	**04 10 00.7**	**0.0**
MLR	**Muntele Rosu**	**77.07**	**320**	P	**P**	**04 10 01.3**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=332,slow=7.0,SNR=5.6						
MLR				LR	LR	04 48 10.9	
	comp=Z,112nm,18.7s,baz=42,slow=39						
	comp=Z,1.3nm,0.4s						
VOIR		**77.55**	**320**	⇑P	**P**	**04 10 05.1**	**+1.9**
VOIR		**77.55**	**320**	⇑P	**P**	**04 10 05.1**	**+1.9**
MORC	**Moravsky Berou**	**77.62**	**327**	⇓P	**P**	**04 10 05.1**	**+1.6**
MORC	**Moravsky Berou**	**77.62**	**327**	IAmb	IAmb	04 10 05.7	
	comp=Z,11nm,0.9s						
MORC	**Moravsky Berou**	**77.62**	**327**	*e*P	**P**	**04 10 04.6**	**+1.1**
MORC	**Moravsky Berou**	**77.62**	**327**	⇓P	**P**	**04 10 05.1**	**+1.6**
DPC	**Dobruska-Polom**	**77.67**	**328**	*e*P	**P**	**04 10 04.9**	**+1.1**
DPC	**Dobruska-Polom**	**77.67**	**328**	*e*P	**P**	**04 10 04.9**	**+1.1**
UPC	**Upice**	**77.67**	**329**	*e*P	**P**	**04 10 05.0**	**+1.3**
UPC	**Upice**	**77.67**	**329**	*e*P	**P**	**04 10 05.0**	**+1.3**
ARR	**Arges**	**77.80**	**321**	⇑P	**P**	**04 10 06.6**	**+2.0**
PSZ	**Piszkesteto**	**78.06**	**325**	⇑P	**P**	**04 10 07.5**	**+1.5**
PSZ	**Piszkesteto**	**78.06**	**325**	IAmb	IAmb	04 10 08.4	
	comp=Z,12nm,0.9s						
PSZ	**Piszkesteto**	**78.06**	**325**	⇑P	**P**	**04 10 07.5**	**+1.5**
VYHS	**Vyhne**	**78.07**	**326**	*e*P	**P**	**04 10 07.1**	**+1.1**
VYHS	**Vyhne**	**78.07**	**326**	*e*P	**P**	**04 10 07.1**	**+1.1**
VYHS				pmax	pmax		
	comp=Z,12nm,1.2s						
CLL	**Collm**	**78.18**	**331**	*i* P	**P**	**04 10 06.8**	**+0.3**
	comp=Z,13nm,1.2s						
CLL				*i* pP	**pwP**	**04 10 20.3**	**+0.3**
CLL				*e*(PP)		04 12 59.0	
CLL				Lm	MLR	04 46 00.0	
	comp=Z,100nm,20.8s						
CLL	**Collm**	**78.18**	**331**	*i* P	**P**	**04 10 06.8**	**+0.3**
CLL				*i* *PP	**pwP**	**04 10 20.3**	**+0.3**
CLL				pmax	pmax		
	comp=Z,13nm,1.2s						
VRAC	**Vranov**	**78.38**	**327**	⇑P	**P**	**04 10 09.8**	**+2.1**
VRAC	**Vranov**	**78.38**	**327**	P	**P**	**04 10 09.2**	**+1.5**
	comp=Z,3.3nm,0.4s,baz=34,slow=7.0,SNR=6.8						
VRAC				LR	LR	04 48 39.5	
	comp=Z,122nm,18.2s,baz=31,slow=39						
	comp=Z,3.3nm,0.4s						
VRAC	**Vranov**	**78.38**	**327**	*e*P	**P**	**04 10 08.9**	**+1.2**
VRAC	**Vranov**	**78.38**	**327**	⇑P	**P**	**04 10 09.8**	**+2.1**
SIRR	**Siria**	**78.52**	**323**	⇓P	**P**	**04 10 09.9**	**+1.4**
KRUC	**Moravsky**	**78.65**	**327**	*e*P	**P**	**04 10 10.2**	**+1.0**
SMOL	**Smolenice**	**78.65**	**327**	*e*P	**P**	**04 10 11.5**	**+2.3**
PRU	**Pruhonice**	**78.65**	**329**	*e*P	**P**	**04 10 09.3**	**+0.1**
PRU	**Pruhonice**	**78.65**	**329**	*e*P	**P**	**04 10 09.3**	**+0.1**
GZR	**Gura Zlata**	**78.66**	**322**	⇓P	**P**	**04 10 10.4**	**+1.0**
GZR	**Gura Zlata**	**78.66**	**322**	⇓P	**P**	**04 10 10.4**	**+1.0**
SURR	**Surduc**	**78.69**	**322**	⇑P	**P**	**04 10 11.0**	**+1.5**
SRO	**Srobarova**	**78.82**	**326**	*e*P	**P**	**04 10 12.0**	**+1.9**
SRO	**Srobarova**	**78.82**	**326**	*e*P	**P**	**04 10 12.0**	**+1.9**
SRO				pmax	pmax		
	comp=Z,18nm,1.0s						
MODS	**Modra-Piesok**	**78.82**	**326**	*e*P	**P**	**04 10 11.7**	**+1.5**
MODS	**Modra-Piesok**	**78.82**	**326**	*e*P	**P**	**04 10 11.7**	**+1.5**
MODS				pmax	pmax		
	comp=Z,12nm,1.0s						
TREC	**Trest**	**78.83**	**328**	*e*P	**P**	**04 10 11.6**	**+1.4**
TREC	**Trest**	**78.83**	**328**	*e*P	**P**	**04 10 11.6**	**+1.4**
BZS	**Buzias**	**79.03**	**322**	⇓P	**P**	**04 10 12.2**	**+0.9**
BZS	**Buzias**	**79.03**	**322**	⇓P	**P**	**04 10 12.2**	**+0.9**
HERR	**Herculane**	**79.21**	**321**	⇓P	**P**	**04 10 13.2**	**+0.9**
CKRC	**Cesky Krumlov**	**79.68**	**328**	*e*P	**P**	**04 10 15.4**	**+0.6**
CKRC				*ex*	x	04 10 26.7	
EKA	**Eskdalemuir Ar**	**79.71**	**341**	P	**P**	**04 10 14.8**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=33,slow=4.5,SNR=10.0						
EKA				LR	LR	04 51 24.3	
	comp=Z,64nm,18.8s,baz=355,slow=40						
	comp=Z,2.6nm,0.7s						
KHC	**Kasperske Hory**	**79.72**	**329**	IAmb	IAmb	04 10 17.1	
	comp=Z,10nm,1.1s						
KHC	**Kasperske Hory**	**79.72**	**329**	*e*P	**P**	**04 10 15.6**	**+0.5**
KHC				*e*pP	**pP**	**04 10 26.2**	**0.0**
KHC	**Kasperske Hory**	**79.72**	**329**	*e*P	**P**	**04 10 15.6**	**+0.5**
KHC				*e*		04 10 26.2	
CONA	**Conrad Observa**	**79.76**	**327**	*i* P	**P**	**04 10 17.1**	**+1.8**
	comp=Z,6.8nm,1.0s,SNR=4.5						
RONA	**Rosalia, Austr**	**79.76**	**327**	*e*P	**P**	**04 10 16.7**	**+1.3**
	comp=Z,12nm,0.9s						
GERES	**GERESS Array B**	**79.90**	**329**	P	**P**	**04 10 16.5**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=33,slow=5.1,SNR=11						
GERES				LR	LR	04 49 41.5	
	comp=Z,107nm,18.1s,baz=39,slow=39						
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**79.90**	**329**	P	**P**	**04 10 16.1**	**0.0**
GERES	**GERESS Array B**	**79.90**	**329**	P	**P**	**04 10 16.1**	**0.0**
MORH	**Mrgy, Hungar**	**79.92**	**324**	⇓P	**P**	**04 10 16.8**	**+0.7**
RAYN	**Ar Rayn**	**80.23**	**293**	P	**P**	**04 10 18.0**	**-0.3**
RAYN				IAmb	IAmb	04 10 19.4	
	comp=Z,26nm,1.9s						
RAYN	**Ar Rayn**	**80.23**	**293**	⇓P	**P**	**04 10 18.8**	**+0.5**
ARSA	**Arzberg**	**80.44**	**327**	*e*P	**P**	**04 10 20.3**	**+1.3**
	comp=Z,4.0nm,0.8s						
RDO	**Rodhopi**	**80.44**	**317**	IAmb	IAmb	04 10 21.2	
	comp=Z,15nm,1.0s						
MOA	**Molln**	**80.47**	**328**	*e*P	**P**	**04 10 20.6**	**+1.5**
	comp=Z,12nm,2.2s						
VTS	**Vitosha**	**80.51**	**319**	⇑P	**P**	**04 10 20.2**	**+0.6**
VTS	**Vitosha**	**80.51**	**319**	IAmb	IAmb	04 10 21.9	
	comp=Z,12nm,0.8s						
VTS	**Vitosha**	**80.51**	**319**	⇑P	**P**	**04 10 20.2**	**+0.6**
BIOA	**Bad Ischl, Aus**	**80.85**	**328**	*e*P	**P**	**04 10 22.5**	**+1.4**
	comp=Z,8.5nm,1.1s						
SOKA	**Soboth**	**81.10**	**327**	*i* P	**P**	**04 10 23.7**	**+1.1**
	comp=Z,16nm,1.0s,SNR=13						
OBKA	**Obir**	**81.43**	**327**	*e*P	**P**	**04 10 25.6**	**+1.2**
	comp=Z,12nm,0.9s						
KBA	**Koelnbreinsper**	**81.47**	**328**	*e*P	**P**	**04 10 26.1**	**+1.5**
	comp=Z,16nm,1.7s						
MYKA	**Terra Mystica**	**81.71**	**327**	*e*P	**P**	**04 10 26.4**	**+0.6**
	comp=Z,11nm,1.2s						

WATA	**Walderalm**	**81.96**	**329**	*e*P	**P**	**04 10 28.3**	**+1.1**
	comp=Z,0.2nm,0.3s						
WTTA	**Wattenberg**	**81.99**	**329**	*e*P	**P**	**04 10 28.5**	**+1.1**
	comp=Z,8.2nm,1.0s						
MOTA	**Moosalm**	**82.13**	**329**	*e*P	**P**	**04 10 29.0**	**+0.8**
	comp=Z,14nm,1.0s						
RETA	**Reutte**	**82.15**	**330**	*i* P	**P**	**04 10 29.3**	**+1.2**
	comp=Z,12nm,1.0s,SNR=5.6						
CLUD	**Cludinico**	**82.16**	**328**	IAmb	IAmb	04 10 29.1	
	comp=Z,12nm,1.1s						
SQTA	**Sankt Quirin**	**82.19**	**329**	*e*P	**P**	**04 10 29.3**	**+0.9**
	comp=Z,8.3nm,1.2s						
STAL	**STALIGIAL**	**82.39**	**328**	IAmb	IAmb	04 10 29.7	
	comp=Z,10.0nm,1.1s						
FETA	**Feichten**	**82.54**	**329**	*i* P	**P**	**04 10 31.3**	**+1.0**
	comp=Z,6.1nm,1.0s,SNR=4.7						
PDG	**Podgorica**	**82.56**	**322**	⇑P	**P**	**04 10 30.9**	**+0.7**
DAVA	**Damuels**	**82.65**	**330**	*e*P	**P**	**04 10 31.1**	**+0.3**
	comp=Z,8.2nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**83.06**	**329**	IAmb	IAmb	04 10 48.9	
	comp=Z,7.1nm,0.8s						
DAVOX	**Davos/Dischmat**	**83.07**	**330**	P	**P**	**04 10 32.9**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=267,slow=3.8,SNR=5.5						
	comp=Z,1.5nm,0.5s						
KBN	**Korca**	**83.22**	**320**	P	**P**	**04 10 33.9**	**+0.1**
KBN	**Korca**	**83.22**	**320**	P	**P**	**04 10 33.9**	**+0.1**
KBN				pmax	pmax		
	comp=Z,16nm,0.9s						
GDL2	**Guadalupe Moun**	**84.26**	**52**	P	**P**	**04 10 39.9**	**+0.6**
MATE	**Matera**	**85.15**	**322**	⇑P	**P**	**04 10 44.4**	**+1.0**
PPT2	**Papeete2**	**85.42**	**118**	*e*LR	LR	04 37 46.5	
	comp=Z,170nm,22.5s						
PPT2				*e*LR	LR	04 37 46.7	
	comp=Z,184nm,23.0s						
TXAR	**Lajitas Array**	**86.72**	**53**	P	**P**	**04 10 52.2**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=298,slow=1.9,SNR=8.6						
	comp=Z,0.7nm,0.9s						
TBI	**Tubuai**	**89.60**	**122**	*e*LR	LR	04 39 42.3	
	comp=Z,445nm,27.5s						
TBI				*e*LR	LR	04 39 42.4	
	comp=Z,2μm,24.0s						
TROLL	**Troll, Antarti**	**143.44**	**199**	PKPdf	PKPab	04 17 38.1	+1.2
LPAZ	**La Paz**	**143.53**	**57**	PKP	**PKPdf**	**04 17 43.6**	**+0.5**
	comp=Z,2.1nm,1.2s,baz=315,slow=4.3,SNR=3.9						
SNAA	**Sanae**	**144.96**	**198**	PKPdf	**PKPbc**	**04 17 42.9**	**+0.3**
VNA2	**Neumayer--Watz**	**146.53**	**197**	PKPdf	**PKPbc**	**04 17 47.8**	**+0.4**
	baz=129,slow=2.7						
VNA3	**Neumayer Olymp**	**146.78**	**196**	PKPdf	**PKPdf**	**04 17 48.0**	**+1.8**
VNA1	**Neumayer--Stat**	**146.93**	**197**	PKPdf	**PKPbc**	**04 17 49.0**	**+0.6**
BO02	**Sierra Bellavi**	**152.77**	**88**	PKPbc	**PKiKP**	**04 18 05.5**	**+1.2**
BDFB	**Brasilia**	**152.93**	**24**	PKPbc	**PKPbc**	**04 18 05.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=0.0,slow=1.0,SNR=2.3						

WEL 21 04:03:23.4±0.4, 42°S±3°×17°4E±°, h12km, M3.2/39, ML3.5/15, MLv3.2/39, Error ellipse: s-maj=0.0km s-min=0.0km az=118.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**217**	P	Pb	04 03 29.2	-0.4
KHZ				S	Sg	04 03 33.3	+1.5
BSWZ	**Blackbirch Sta**	**0.52**	**12**	P	Pg	04 03 33.9	+0.3
CMWZ	**Cape Campbell**	**0.59**	**37**	P	Pb	04 03 36.6	+0.8
THZ	**Tophouse**	**0.77**	**307**	P	Pb	04 03 38.8	0.0
TUWZ	**Tuamarina**	**0.81**	**11**	P	Pb	04 03 39.2	-0.2
TUWZ				S	Sb	04 03 51.2	+0.9
GVZ	**Greta Valley S**	**0.90**	**215**	P	Pb	04 03 41.2	+0.2
NNZ	**Nelson**	**1.04**	**345**	P	Pb	04 03 43.1	-0.2
TCW	**Tory Channel**	**1.09**	**22**	P	Pb	04 03 43.4	-0.8
MRNZ	**Matariki Terra**	**1.10**	**318**	P	Pn	04 03 44.8	+0.1
LTZ	**Lake Taylor**	**1.22**	**242**	P	Pn	04 03 45.9	-0.3
WEL	**Wellington**	**1.22**	**40**	P	Pn	04 03 45.0	-1.2
AMCZ	**Amberley**	**1.24**	**220**	P	Pn	04 03 45.6	-1.0
PLWZ	**Palliser**	**1.31**	**60**	P	Pn	04 03 45.6	-2.0
TKNZ	**Takaka Hill**	**1.32**	**334**	P	Pb	04 03 48.0	-0.2
MSWZ	**Moikau Station**	**1.39**	**55**	P	Pn	04 03 46.7	-1.9
DUWZ	**D'Urville Isla**	**1.43**	**6**	P	Pn	04 03 48.7	-0.5
CAW	**Cannon Point**	**1.50**	**42**	P	Pn	04 03 48.7	-1.4
DSZ	**Denniston Nort**	**1.52**	**288**	P	Pb	04 03 51.2	-0.3
PAWZ	**Paruwai Farm**	**1.52**	**57**	P	Pn	04 03 48.2	-2.2
OKCZ	**Okains Bay**	**1.58**	**198**	P	Pn	04 03 49.7	-1.5
KIW	**Kapiti Island**	**1.62**	**33**	P	Pn	04 03 50.9	-0.9
OXZ	**Oxford**	**1.66**	**228**	P	Pn	04 03 50.9	-1.5
QRZ	**Quartz Range**	**1.67**	**327**	P	Pb	04 03 53.4	-0.6
TRWZ	**Traveller**	**1.68**	**61**	P	Pn	04 03 50.6	-2.0
MQZ	**McQueen's Vall**	**1.68**	**208**	P	Pn	04 03 50.4	-2.2
MTW	**Mount Morrison**	**1.70**	**52**	P	Pn	04 03 50.9	-2.0
AKCZ	**Akaroa Harbour**	**1.75**	**200**	P	Pn	04 03 51.9	-1.7
INZ	**Inchbonnie**	**1.77**	**253**	P	Pn	04 03 53.9	+0.1
OGWZ	**Ohaki Gorge**	**1.77**	**38**	P	Pn	04 03 52.5	-1.4
HOWZ	**Holdsworth Sta**	**1.88**	**46**	P	Pn	04 03 54.0	-1.4
RACZ	**Rakaia**	**1.90**	**217**	P	Pn	04 03 54.0	-1.6
TMWZ	**Te Maipa**	**1.96**	**56**	P	Pn	04 03 54.0	-2.5
MHCZ	**Mount Hutt**	**2.06**	**230**	P	Pn	04 03 56.3	-1.6
MRZ	**Mangatainoka R**	**2.09**	**42**	P	Pn	04 03 56.4	-1.8
WACZ	**Wakanui South**	**2.21**	**218**	P	Pn	04 03 58.4	-1.4
WVZ	**Waitaha Valley**	**2.37**	**248**	P	Pn	04 04 02.0	0.0
RPZ	**Rata Peaks**	**2.47**	**232**	P	Pn	04 04 02.1	-1.3
ARCZ	**Arundel**	**2.54**	**227**	P	Pn	04 04 03.2	-1.3
WAZ	**Wanganui**	**2.64**	**21**	P	Pn	04 04 06.8	+0.9
GCSZ	**Gaunt Creek Bo**	**2.74**	**245**	P	Pn	04 04 07.2	+0.1
TMZ	**Timaru**	**2.94**	**222**	P	Pn	04 04 08.6	-1.3
KHEZ	**Kahui Hut**	**2.94**	**4**	P	Pn	04 04 12.2	+2.3
NEZ	**North Egmont**	**2.96**	**5**	P	Pb	04 04 14.2	-2.0
FOZ	**Fox Glacier**	**3.16**	**244**	P	Pn	04 04 13.3	+0.3
VRZ	**Vara Road**	**3.19**	**14**	P	Pn	04 04 14.3	+0.9
WNVZ	**Wahianoa**	**3.22**	**27**	P	Pn	04 04 14.5	+0.6
TRVZ	**Turoa**	**3.23**	**26**	P	Pn	04 04 15.3	+1.1
BHHZ	**Black Hill Sta**	**3.25**	**34**	P	Pn	04 04 16.2	+1.9
FWVZ	**Far West T-bar**	**3.27**	**26**	P	Pn	04 04 14.6	-0.1
TUVZ	**Tukino**	**3.29**	**27**	P	Pn	04 04 15.7	+0.8
LBZ	**Lake Benmore**	**3.37**	**229**	P	Pn	04 04 14.8	-1.0
NNVZ	**North Ngauruho**	**3.41**	**25**	P	Pn	04 04 17.6	+1.1
ETVZ	**East Tongariro**	**3.43**	**27**	P	Pn	04 04 17.7	+0.8
TMVZ	**Te Maari**	**3.45**	**26**	P	Pn	04 04 17.0	0.0
ODZ	**Otahua Downs**	**3.60**	**217**	P	Pn	04 04 17.1	-1.9
BKZ	**Black Stump Fm**	**3.71**	**35**	P	Pn	04 04 24.4	+3.9
HIZ	**Hauiti**	**3.81**	**13**	P	Pn	04 04 22.7	+0.8
JCZ	**Jackson Bay**	**4.07**	**241**	P	Pn	04 04 25.1	-0.4
EAZ	**Earnscleugh**	**4.39**	**225**	P	Pn	04 04 28.8	-1.1
AWAZ	**Awhitu Peninsu**	**5.20**	**8**	P	Pn	04 04 41.6	+0.6

*NEIC **21** 04:09:18.4±1.6, 42°24N±0°.07×141°.0E±0°.1, h129km±9km, mb4.1/12, Error ellipse: s-maj=15.6km s-min=8.9km az=116.0*
*JMA **21** 04:09:19.0±0.2, 42°.2N±0°.4×140°.8E±0°.8, h123km±1km, MV3.3/39, UCHIURA BAY REGION*
*IDC **21** 04:09:20.4±2.5, 42°.20N×140°.76E, h144km±23km, mb3.5/13, mbtmp3.9/15, Error ellipse: s-maj=18.6km s-min=13.5km az=73.0*

ISC 21 04:09:18.4±0.7, 42°20N±0°.04×140°83E±0°.04, h126km±5km, n56, σ0°90/66, mb4.0/18, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.31**	**30**	P	**Pn**	**04 09 36.1**	**+0.1**
JNB				*e*S	**Sn**	**04 09 49.1**	**-0.3**
JKB	**Kayabe**	**0.35**	**154**	*e*P	**Pn**	**04 09 36.4**	**+0.2**
JKB				*e*S	**Sn**	**04 09 49.5**	**-0.1**
JYM2	**Yakumo 2**	**0.35**	**256**	*e*P	**Pn**	**04 09 36.5**	**+0.4**
JSH	**Shimam**	**0.73**	**308**	*e*P	**Pn**	**04 09 39.0**	**+0.5**
JHST	**Hiyamasetana**	**0.74**	**288**	*e*P	**Pn**	**04 09 38.8**	**+0.3**
JHST				*e*S	**Sn**	**04 09 53.5**	**-0.3**
JSR	**Shiriuchi**	**0.74**	**205**	*e*P	**Pn**	**04 09 38.9**	**+0.3**
JSR				*e*S	**Sn**	**04 09 53.9**	**0.0**
JEW	**Eniwo**	**0.79**	**36**	P	**Pn**	**04 09 39.8**	**+0.8**
JOT	**Ohata**	**0.84**	**168**	*e*P	**Pn**	**04 09 39.7**	**+0.3**
JOT				*e*S	**Sn**	**04 09 55.5**	**+0.2**
JIAM	**Iburiatsuma**	**0.91**	**62**	*e*S	**Sn**	**04 09 58.0**	**+1.6**
JOMM	**Oshimamatsumae**	**0.91**	**222**	P	**Pn**	**04 09 40.7**	**+0.6**
JOMM				*e*S	**Sn**	**04 09 56.9**	**+0.4**
JOSM	**Okushiri--Mats**	**1.01**	**264**	P	**Pn**	**04 09 41.2**	**+0.2**
JOSM				*e*S	**Sn**	**04 09 58.0**	**-0.1**
JISS	**Ishikarishitsu**	**1.16**	**22**	*e*P	**Pn**	**04 09 43.6**	**+1.2**
JBT2	**Biratori 2**	**1.27**	**63**	*e*P	**Pn**	**04 09 44.8**	**+1.1**
JBT2				*e*S	**Sn**	**04 10 03.9**	**+1.0**
JTM	**Tenmabayashi**	**1.43**	**173**	Pn	**Pn**	**04 09 45.5**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.43**	**86**	*e*P	**Pn**	**04 09 45.7**	**+0.4**
JNBK				*e*S	**Sn**	**04 10 06.7**	**+0.7**
JHR	**Hokuryu**	**1.68**	**23**	*e*P	**Pn**	**04 09 49.8**	**+1.7**

ERM	**Erimo**	**1.74**	**95**	Pn	**Pn**	**04 09 49.0**	**+0.1**
JANG	**Nango**	**1.90**	**164**	*e*P	**Pn**	**04 09 50.5**	**-0.4**
JCH	**Churui**	**1.92**	**77**	*e*P	**Pn**	**04 09 51.5**	**+0.3**
JCH				*e*S	**Sn**	**04 10 16.3**	**+0.1**
JKA	**Kamikawa-asahi**	**2.31**	**34**	Pn	**Pn**	**04 09 55.3**	**-0.7**
JMM	**Marumori**	**4.33**	**180**	Pn	**Pn**	**04 10 22.4**	**-0.1**
JSD	**Sado**	**4.60**	**206**	Pn	**Pn**	**04 10 28.7**	**+2.7**
MJAR	**Matsushiro Arr**	**6.00**	**201**	P	**Pn**	**04 10 48.2**	**+3.3**
	1.9nm,0.5s,baz=18,slow=11,SNR=5.7						
USRK	**Ussuriysk Ar.**	**6.76**	**290**	P	**Pn**	**04 10 55.9**	**+0.9**
	7.6nm,0.7s,baz=108,slow=13,SNR=12						
SEY	**Seymchan**	**21.85**	**14**	P	**P**	**04 13 59.4**	**-1.1**
	0.7nm,0.3s,baz=90,slow=23,SNR=1.3						
	0.7nm,0.3s						
SONM	**Songino Array**	**24.84**	**295**	P	**P**	**04 14 29.1**	**0.0**
	0.5nm,0.4s,baz=95,slow=8.7,SNR=5.2						
	0.5nm,0.4s						
SONM	**Songino Array**	**24.84**	**295**	P	**P**	**04 14 29.3**	**+0.2**
ZAA0	**Zalesovo Array**	**38.24**	**308**	P	**P**	**04 16 25.0**	**-0.9**
ZALV	**Zalesovo Beam**	**38.24**	**308**	P	**P**	**04 16 26.0**	**+0.1**
	2.7nm,0.3s,baz=89,slow=8.3,SNR=17						
	2.7nm,0.3s						
ZALV	**Zalesovo Beam**	**38.24**	**308**	P	**P**	**04 16 25.6**	**-0.2**
MK31	**Makanchi Array**	**41.17**	**297**	P	**P**	**04 16 50.1**	**-0.2**
MK31				IAmb	IAmb	04 17 08.1	
	comp=Z,4.8nm,1.2s						
MKAR	**Makanchi Array**	**41.17**	**297**	P	**P**	**04 16 50.6**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=83,slow=10,SNR=15						
	comp=Z,1.4nm,0.5s						
MKAR	**Makanchi Array**	**41.17**	**297**	P	**P**	**04 16 50.0**	**-0.3**
MAKZ	**Makanchi**	**41.37**	**297**	P	**P**	**04 16 52.0**	**+0.1**
KURBB	**Kurchatov Arra**	**42.61**	**304**	P	**P**	**04 17 01.7**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=78,slow=8.9,SNR=16						
	comp=Z,1.5nm,0.4s						
SCRK	**Sand Creek**	**46.81**	**36**	P	**P**	**04 17 35.5**	**+0.4**
SCRK				IAmb	IAmb	04 18 04.8	
	comp=Z,4.3nm,1.3s						
BVAR	**Borovoye Array**	**46.87**	**309**	P	**P**	**04 17 35.7**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=76,slow=8.5,SNR=16						
	comp=Z,1.2nm,0.3s						
K27K	**Chicken**	**47.63**	**36**	P	**P**	**04 17 41.6**	**+0.3**
K27K				IAmb	IAmb	04 17 55.3	
	comp=Z,4.1nm,1.3s						
BCAR	**Beaver Creek A**	**47.95**	**37**	P	**P**	**04 17 45.1**	**+1.2**
INK	**Inuvik**	**50.04**	**29**	P	**P**	**04 18 00.6**	**+1.1**
	comp=Z,0.4nm

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**15.71**	**312**	Pn	**Pn**	**04 29 28.4**	**+0.1**
SOE				IAmb	IAmb	04 29 40.3	
	comp=Z,91nm,1.5s						
SUR	**Sutherland**	**18.66**	**303**	LR	LR	04 35 56.9	
	comp=Z,306nm,18.4s,baz=128,slow=33						
SUR	**Sutherland**	**18.66**	**303**	P	**P**	**04 30 04.6**	**-0.6**
SUR				IAmb	IAmb	04 30 26.3	
	comp=Z,79nm,1.5s						
BOSA	**Boshof**	**19.19**	**320**	P	**Pn**	**04 30 13.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=4.5						
BOSA				LR	LR	04 36 09.3	
	comp=Z,602nm,20.2s,baz=169,slow=32						
	comp=Z,2.9nm,0.7s						
BOSA	**Boshof**	**19.19**	**320**	P	**P**	**04 30 09.2**	**-1.7**
LBTB	**Lobatse**	**22.17**	**325**	P	**P**	**04 30 43.0**	**-0.1**
	comp=Z,6.0nm,0.9s,baz=150,slow=9.5,SNR=4.1						
LBTB				LR	LR	04 37 50.2	
	comp=Z,545nm,20.6s,baz=152,slow=33						
	comp=Z,6.0nm,0.9s						
LBTB	**Lobatse**	**22.17**	**325**	P	**P**	**04 30 40.9**	**-2.2**
LBTB				IAmb	IAmb	04 30 59.9	
	comp=Z,17nm,1.2s						
OPO	**Ambohidratompo**	**26.40**	**17**	LR	LR	04 40 04.0	
	comp=Z,304nm,20.3s,baz=19,slow=32						
MAW	**Mawson**	**26.57**	**160**	LR	LR	04 39 15.4	
	comp=Z,366nm,21.8s,baz=340,slow=31						
LSZ	**Lusaka**	**30.35**	**338**	LR	LR	04 42 15.0	
	comp=Z,310nm,21.8s,baz=159,slow=32						
TSUM	**Tsumeb**	**30.84**	**317**	LR	LR	04 43 22.1	
	comp=Z,426nm,19.3s,baz=148,slow=34						
TROLL	**Troll, Antarti**	**32.92**	**200**	P	**P**	**04 32 22.3**	**+1.2**
SNAA	**Sanae**	**34.12**	**202**	P	**P**	**04 32 34.3**	**+2.8**
SNAA	**Sanae**	**34.12**	**202**	P	**P**	**04 32 32.0**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=45,slow=5.0,SNR=9.5						
SNAA				LR	LR	04 44 31.0	
	comp=Z,268nm,18.6s,baz=12,slow=33						
	comp=Z,3.3nm,0.9s						
SNAA	**Sanae**	**34.12**	**202**	P	**P**	**04 32 31.2**	**-0.2**
SNAA				IAmb	IAmb	04 32 37.8	
	comp=Z,17nm,1.2s						
VNA2	**Neumayer--Watz**	**35.08**	**205**	P	**P**	**04 32 42.4**	**+2.7**
	baz=37,slow=8.8						
BELA	**Belgrano 2**	**43.84**	**197**	P	**P**	**04 33 52.0**	**-0.7**
BELA				IAmb	IAmb	04 33 58.2	
	comp=Z,10nm,1.4s						
MBAR	**Mbarara**	**44.08**	**348**	LR	LR	04 51 47.4	
	comp=Z,352nm,18.3s,baz=133,slow=35						
QSPA	**South Pole Qui**	**46.01**	**180**	P	**P**	**04 34 10.0**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=260,slow=6.5,SNR=6.2						
QSPA				LR	LR	04 51 43.5	
	comp=Z,291nm,21.1s,baz=249,slow=34						
	comp=Z,1.5nm,0.9s						
QSPA	**South Pole Qui**	**46.01**	**180**	P	**P**	**04 34 09.8**	**-0.4**
QSPA				IAmb	IAmb	04 34 29.3	
	comp=Z,16nm,1.4s						
VNDA	**Vanda**	**53.56**	**167**	P	**P**	**04 35 06.5**	**-0.7**
	comp=Z,2.4nm,1.3s,baz=240,slow=9.2,SNR=3.4						
VNDA				LR	LR	04 56 22.9	
	comp=Z,198nm,19.7s,baz=230,slow=34						
	comp=Z,2.4nm,1.3s						
VNDA	**Vanda**	**53.56**	**167**	P	**P**	**04 35 06.5**	**-0.7**
VNDA				IAmb	IAmb	04 35 23.6	
	comp=Z,7.3nm,1.4s						
PMSA	**Palmer Station**	**56.18**	**210**	LR	LR	04 53 43.9	
	comp=Z,216nm,22.0s,baz=127,slow=30						
H10S2	**ASCENSION HYDR**	**58.29**	**290**	T	T	05 38 30.8	
	baz=85,slow=74,SNR=10						
H10S3	**ASCENSION HYDR**	**58.31**	**290**	T	T	05 38 26.5	
	baz=135,slow=74,SNR=25						
NWAO	**Narrogin (SRO)**	**59.84**	**108**	LR	LR	04 56 47.2	
	comp=Z,108nm,20.0s,baz=272,slow=31						
PALK	**Pallekele**	**63.40**	**47**	LR	LR	04 56 48.5	
	comp=Z,150nm,21.8s,baz=318,slow=29						
DBIC	**Dimbokro**	**64.39**	**310**	LR	LR	05 02 10.0	
	comp=Z,56nm,18.0s,baz=160,slow=34						
WSAR	**Wadi Sarin**	**69.41**	**19**	LR	LR	05 02 24.2	
	comp=Z,186nm,19.6s,baz=212,slow=32						
TAM	**Tamanrasset**	**73.50**	**328**	P	**P**	**04 37 19.8**	**0.0**
TAM				IAmb	IAmb	04 37 26.4	
	comp=Z,6.2nm,1.4s						
EIL	**Elat**	**73.63**	**356**	LR	LR	05 06 02.0	
	comp=Z,76nm,22.0s,baz=239,slow=33						
PLCA	**Paso Flores**	**74.57**	**228**	LR	LR	05 07 32.2	
	comp=Z,56nm,18.0s,baz=106,slow=34						
STKA	**Stephens Creek**	**76.41**	**121**	P	**P**	**04 37 37.5**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=175,slow=4.9,SNR=4.5						
	comp=Z,3.3nm,0.8s						
STKA	**Stephens Creek**	**76.41**	**121**	P	**P**	**04 37 36.9**	**+0.3**
MMAI	**Mount Meron Ar**	**76.94**	**357**	LR	LR	05 10 35.1	
	comp=Z,90nm,19.8s,baz=74,slow=35						
ASAR	**Alice Springs**	**77.03**	**110**	P	**P**	**04 37 39.9**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=216,slow=5.6,SNR=12						
	comp=Z,2.5nm,0.9s						
ASAR	**Alice Springs**	**77.03**	**110**	P	**P**	**04 37 40.8**	**+0.5**
AS31	**Alice Springs**	**77.03**	**110**	P	**P**	**04 37 38.0**	**-2.3**
BBTS	**Babate**	**77.52**	**305**	LR	LR	05 08 34.0	
	comp=Z,62nm,20.0s,baz=81,slow=33						
KAPI	**Kappang**	**79.67**	**87**	LR	LR	05 07 32.6	
	comp=Z,40nm,19.6s,baz=228,slow=32						
WRA	**Warramunga Arr**	**79.85**	**108**	P	**P**	**04 37 56.1**	**+0.3**
	comp=Z,3.5nm,1.2s,baz=227,slow=5.5,SNR=11						
WRA				LR	LR	05 07 50.0	
	comp=Z,158nm,19.6s,baz=196,slow=32						
	comp=Z,3.5nm,1.2s						
WRA	**Warramunga Arr**	**79.85**	**108**	P	**P**	**04 37 56.5**	**+0.6**
WB2	**Warramunga Arr**	**79.86**	**108**	P	**P**	**04 37 55.3**	**-0.6**
WB2				IAmb	IAmb	04 38 03.6	
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**79.86**	**108**	P	**P**	**04 37 56.5**	**+0.5**
WRAB				IAmb	IAmb	04 38 07.8	
	comp=Z,21nm,1.5s						
IDI	**Anoyia**	**80.20**	**348**	LR	LR	05 13 27.4	
	comp=Z,83nm,21.8s,baz=176,slow=36						
CMAR	**Chiang Mai Arr**	**82.74**	**56**	LR	LR	05 08 29.4	
	comp=Z,40nm,21.8s,baz=235,slow=31						
CMAR	**Chiang Mai Arr**	**82.74**	**56**	P	**P**	**04 38 11.0**	**0.0**
NIL	**Nilore**	**83.43**	**28**	P	**P**	**04 38 14.7**	**+0.4**
GEYT	**Alibeck**	**83.51**	**15**	LR	LR	05 13 01.8	
	comp=Z,46nm,19.1s,baz=168,slow=34						
BRTR	**Keskin Array B**	**83.71**	**356**	LR	LR	05 16 04.2	
	comp=Z,50nm,18.4s,baz=138,slow=36						
AC02	**Maricunga**	**83.75**	**239**	P	**P**	**04 38 16.5**	**-0.4**
KEST	**Kesra**	**84.09**	**336**	P	**P**	**04 38 19.6**	**+1.9**
	comp=Z,4.4nm,1.2s,baz=138,slow=8.0,SNR=4.5						
KEST				LR	LR	05 15 35.1	
	comp=Z,123nm,21.6s,baz=284,slow=36						
	comp=Z,4.4nm,1.2s						
GNI	**Garni**	**84.12**	**4**	LR	LR	05 14 18.0	
	comp=Z,109nm,21.9s,baz=179,slow=35						
SHL	**Shillong**	**84.46**	**46**	P	**P**	**04 38 19.7**	**-0.2**
SIV	**San Ignacio**	**86.24**	**251**	P	**P**	**04 38 28.8**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=150,slow=3.5,SNR=3.7						
	comp=Z,0.7nm,0.9s						
MDT	**Midelt**	**86.47**	**324**	LR	LR	05 17 30.2	
	comp=Z,136nm,18.1s,baz=142,slow=36						
KBZ	**Khabaz**	**87.61**	**3**	LR	LR	05 17 36.7	
	comp=Z,51nm,20.0s,baz=182,slow=36						
MLR	**Muntele Rosu**	**90.10**	**351**	LR	LR	05 21 29.4	
	comp=Z,67nm,20.4s,baz=198,slow=37						
AAK	**Ala-Archa**	**92.02**	**25**	LR	LR	05 16 24.6	
	comp=Z,83nm,21.3s,baz=203,slow=33						
ESDC	**Sonseca Array**	**92.16**	**328**	LR	LR	05 20 45.1	
	comp=Z,181nm,18.9s,baz=144,slow=36						
DAVOX	**Davos/Dischmat**	**94.26**	**340**	LR	LR	05 22 28.0	
	comp=Z,83nm,21.7s,baz=94,slow=36						
AKASG	**Malin Array Be**	**94.93**	**354**	LR	LR	05 23 33.6	
	comp=Z,40nm,20.5s,baz=208,slow=36						
VRAC	**Vranov**	**95.23**	**345**	LR	LR	05 26 42.6	
	comp=Z,39nm,19.3s,baz=125,slow=38						
GERES	**GERESS Array B**	**95.35**	**343**	LR	LR	05 27 12.2	
	comp=Z,60nm,18.3s,baz=124,slow=39						
PMG	**Port Moresby**	**96.01**	**109**	LR	LR	05 18 27.4	
	comp=Z,70nm,18.6s,baz=200,slow=33						
BELG	**Belogornoye**	**96.49**	**5**	LR	LR	05 22 52.7	
	comp=Z,113nm,21.4s,baz=152,slow=36						
TXAR	**Lajitas Array**	**147.14**	**256**	PKPbc	**PKPbc**	**04 45 29.5**	**-0.7**
	comp=Z,3.5nm,1.0s,baz=132,slow=5.4,SNR=21						
ULM	**Lac du Bonnet**	**149.34**	**297**	PKPbc	**PKPbc**	**04 45 34.3**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=252,slow=2.5,SNR=2.6						
PDAR	**Pinedale Array**	**157.43**	**277**	PKPab	**PKPab**	**04 46 13.0**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=107,slow=1.2,SNR=2.6						
NVAR	**Mina Array Bea**	**162.24**	**259**	PKPab	**PKPab**	**04 46 36.3**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=94,slow=2.7,SNR=2.1						

*JMA **21** 04:27:50.3±0.1,23°.6N±0°.4×121°.7E±0°.7,h24km±1km, TAIWAN REGION*
*TAP **21** 04:27:51.6,23°.68N×121°.64E,h32km,ML3.0,C*
ISC 21 04:27:51.7±0.9,**23°.68N**±0°.02×**121°.64E**±0°.02,**h31**km±5km, **n67**,σ0s**77**/126,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.09**	**287**	P	**Pb**	**04 27 57.6**	**+0.4**
	baz=287						
TEGC				S	**Sb**	**04 28 02.0**	**+1.0**
	baz=287						
TEYL	**Yanliau Villag**	**0.19**	**349**	P	**Pn**	**04 27 58.6**	**+0.2**
	baz=355						
TEYL				S	**Sn**	**04 28 03.8**	**+1.3**
	baz=355						
EGFH	**Guangfu**	**0.19**	**266**	P	**Pn**	**04 27 58.3**	**-0.2**
	baz=277						
EGFH				S	**Sn**	**04 28 02.8**	**+0.1**
	baz=277						
ESL	**Shilin**	**0.23**	**305**	*i* P	**Pb**	**04 27 58.3**	**-0.1**
	baz=296						
ESL				*i* S	**Sb**	**04 28 03.2**	**+0.2**
	baz=296						
HGSD	**Ruisui**	**0.27**	**226**	P	**Pn**	**04 27 59.4**	**-0.1**
	baz=228						
HGSD				*e*S	**Sn**	**04 28 05.6**	**+1.0**
	baz=228						
HWA	**Hwalien**	**0.29**	**354**	P	**Pb**	**04 27 59.4**	**+0.2**
	baz=358						
HWA				*e*S	**Sn**	**04 28 05.8**	**+0.6**
	baz=358						
ETM	**Tongmen**	**0.31**	**335**	*i* P	**Pb**	**04 27 59.5**	**0.0**
	baz=323						
ETM				S	**Sn**	**04 28 05.2**	**-0.4**
	baz=323						
EHY	**Hungye**	**0.34**	**239**	P	**Pb**	**04 27 59.6**	**-0.2**
	baz=249						
EHY				S	**Sb**	**04 28 05.2**	**-0.2**
	baz=249						
TWD	**Chiawan**	**0.40**	**354**	P	**Pb**	**04 28 00.4**	**-0.2**
	baz=360						
TWD				*i* S	**Sn**	**04 28 07.7**	**0.0**
	baz=360						
ECBN	**Changbin**	**0.40**	**205**	*e*P	**Pb**	**04 28 00.2**	**-0.5**
	baz=202						
ECBN				*e*S	**Sb**	**04 28 07.1**	**+0.3**
	baz=202						
YULB	**Yu-li**	**0.42**	**227**	*e*P	**Pb**	**04 28 00.9**	**-0.2**
	baz=240						
YULB				*e*S	**Sb**	**04 28 07.4**	**-0.1**
	baz=240						
EYUL	**Yuli**	**0.44**	**221**	*i* P	**Pb**	**04 28 01.4**	**+0.1**
	baz=236						
EYUL				S	**Sn**	**04 28 08.6**	**-0.2**
	baz=236						
TWF1	**Yuli**	**0.45**	**224**	P	**Pb**	**04 28 01.3**	**-0.2**
	baz=236						
VWDT	**VWDT**	**0.46**	**279**	P	**Pb**	**04 28 01.8**	**+0.2**
	baz=279						
VWDT				S	**Sb**	**04 28 08.7**	**+0.3**
	baz=279						
ETL	**Fush Village**	**0.47**	**358**	P	**Pb**	**04 28 01.3**	**-0.6**
	baz=2.0						
ETL				S	**Sb**	**04 28 09.0**	**+0.2**
	baz=2.0						
NACB	**Ninganchiao**	**0.49**	**355**	P	**Pb**	**04 28 01.6**	**-0.5**
	baz=359						
NACB				*e*S	**Sb**	**04 28 09.2**	**0.0**
	baz=359						
ETLH	**Xiulin Townshi**	**0.54**	**345**	P	**Pb**	**04 28 02.4**	**-0.6**
	baz=334						
ETLH				*e*S	**Sb**	**04 28 09.7**	**-0.9**
	baz=334						
CHGB	**Renai**	**0.57**	**312**	P	**Pb**	**04 28 03.4**	**0.0**
	baz=311						
CHGB				*i* S	**Sb**	**04 28 11.6**	**+0.1**
	baz=311						
WUSB	**Renai**	**0.57**	**303**	P	**Pb**	**04 28 03.2**	**-0.1**
	baz=303						
WUSB				S	**Sb**	**04 28 11.2**	**-0.2**
	baz=303						
WHF	**Hehuan Shan**	**0.57**	**324**	*i* P	**Pb**	**04 28 03.0**	**-0.7**
	baz=323						
WHF				S	**Sb**	**04 28 11.5**	**-0.5**
	baz=323						
FULB	**Fuli**	**0.58**	**213**	P	**Pn**	**04 28 03.8**	**0.0**
	baz=229						
FULB				S	**Sn**	**04 28 12.4**	**+0.3**
	baz=229						
CHKT	**Chengkung**	**0.63**	**203**	*e*P	**Pn**	**04 28 05.0**	**+0.5**
	baz=193						
CHKT				*e*S	**Sn**	**04 28 14.8**	**+1.4**
	baz=193						
SSLB	**Suanglung**	**0.64**	**280**	P	**Pb**	**04 28 04.1**	**-0.3**
	baz=280						
SSLB				S	**Sn**	**04 28 13.8**	**+0.2**
	baz=280						
YUS	**Yu-Shan**	**0.66**	**253**	*e*P	**Pb**	**04 28 05.1**	**0.0**
	baz=254						
YUS				*i* S	**Sb**	**04 28 13.8**	**-0.4**
	baz=254						
ECS	**Chishang**	**0.70**	**213**	P	**Pn**	**04 28 04.4**	**-1.0**
	baz=215						
ECS				S	**Sn**	**04 28 15.4**	**+0.2**
	baz=215						
SMLT	**Sun Moon Lake**	**0.70**	**287**	P	**Pn**	**04 28 05.4**	**-0.2**
	baz=289						
SMLT				S	**Sn**	**04 28 15.6**	**+0.2**
	baz=289						
WPL	**Puli Township**	**0.70**	**298**	P	**Pn**	**04 28 05.3**	**-0.2**
	baz=304						
WPL				S	**Sb**	**04 28 14.9**	**-0.1**
	baz=304						
TWT	**Tachien**	**0.71**	**323**	P	**Pb**	**04 28 05.8**	**0.0**
	baz=315						
TWT				S	**Sb**	**04 28 14.8**	**-0.6**
	baz=315						
TDCB	**Techi**	**0.72**	**322**	*e*P	**Pn**	**04 28 05.8**	**0.0**
	baz=315						
TDCB				S	**Sb**	**04 28 14.8**	**-0.8**
	baz=315						
WHYT	**Xinyi Township**	**0.72**	**271**	P	**Pb**	**04 28 05.8**	**-0.1**
	baz=268						
WHYT				S	**Sb**	**04 28 15.1**	**-0.3**
	baz=268						
DPDB	**Guoxing**	**0.74**	**298**	P	**Pn**	**04 28 05.9**	**-0.1**
	baz=302						
DPDB				*e*S	**Sn**	**04 28 17.1**	**+0.8**
	baz=302						
ENA	**Nanau**	**0.75**	**7**	*i* P	**Pn**	**04 28 05.7**	**-0.4**
	baz=16						
ENA				S	**Sb**	**04 28 15.9**	**-0.4**
	baz=16						
TYC	**Yuchr**	**0.75**	**287**	*e*P	**Pn**	**04 28 06.0**	**-0.1**
	baz=293						
TYC				*e*S	**Sb**	**04 28 17.0**	**+0.8**
	baz=293						
ELDTW	**Lidau**	**0.75**	**229**	P	**Pn**	**04 28 05.5**	**-0.7**
	baz=230						
ELDTW				S	**Sb**	**04 28 16.0**	**-0.5**
	baz=230						
WCS	**Beigang Elemen**	**0.76**	**299**	*e*P	**Pn**	**04 28 05.3**	**-1.0**
	baz=303						
EDH	**Donghe**	**0.77**	**204**	P	**Pn**	**04 28 05.7**	**-0.6**
	baz=196						
EDH				*e*S	**Sn**	**04 28 16.1**	**-0.8**
	baz=196						
NNSB	**Datong**	**0.78**	**343**	*e*P	**Pn**	**04 28 06.4**	**-0.2**
	baz=341						
NNSB				S	**Sn**	**04 28 16.2**	**-1.1**
	baz=341						
NNSH	**Datong**	**0.78**	**343**	P	**Pn**	**04 28 05.3**	**-1.3**
	baz=341						
NNSH				*e*S	**Sn**	**04 28 15.1**	**-2.3**
	baz=341						
ALS	**Alishan**	**0.78**	**258**	*e*P	**Pb**	**04 28 07.3**	**+0.2**
	baz=267						
ALS				*e*S	**Sb**	**04 28 17.6**	**+0.1**
	baz=267						
NNS	**Nan Shan**	**0.79**	**342**	P	**Pn**	**04 28 05.8**	**-1.0**
	baz=342						
NNS				*e*S	**Sn**	**04 28 15.6**	**-2.0**
	baz=342						
WJS	**Zhushan**	**0.84**	**280**	*e*S	**Sb**	**04 28 20.6**	**+1.6**
	baz=280						
LATG	**Datong**	**0.85**	**353**	*i* P	**Pn**	**04 28 07.2**	**-0.5**
	baz=342						
LATG				*e*S	**Sn**	**04 28 17.9**	**-1.3**
	baz=342						
CHN5	**Tsauling**	**0.88**	**265**	P	**Pn**	**04 28 08.2**	**+0.1**
	baz=266						
CHN5				*e*S	**Sn**	**04 28 19.8**	**0.0**
	baz=266						
WNT	**Mingjian**	**0.90**	**283**	*e*P	**Pb**	**04 28 09.7**	**+0.9**
	baz=283						
WNT				*e*S	**Sb**	**04 28 22.1**	**+1.7**
	baz=283						
LONT	**Longtian**	**0.90**	**211**	P	**Pn**	**04 28 07.1**	**-1.1**
	baz=213						
LONT				S	**Sn**	**04 28 19.5**	**-0.7**
	baz=213						
WWF	**Wufeng**	**0.93**	**293**	P	**Pb**	**04 28 09.2**	**-0.2**
	baz=281						
WWF				*e*S	**Sb**	**04 28 23.3**	**+1.8**
	baz=281						
STYH	**Taoyuan**	**0.94**	**237**	P	**Pn**	**04 28 08.1**	**-0.6**
	baz=239						
STYH				*i* S	**Sn**	**04 28 20.8**	**-0.3**
	baz=239						
TWC	**Suao**	**0.94**	**12**	P	**Pb**	**04 28 09.4**	**-0.2**
	baz=11						
TWC				*e*S	**Sb**	**04 28 22.4**	**+0.7**
	baz=11						
ENTT	**Nioudou**	**0.96**	**356**	*e*P	**Pn**	**04 28 07.8**	**-1.2**
	baz=355						
STYT	**Tauyuan**	**0.96**	**238**	P	**Pb**	**04 28 09.5**	**-0.3**
	baz=238						
WCKO	**Fanlu**	**0.98**	**256**	*e*P	**Pn**	**04 28 09.0**	**-0.2**
	baz=257						
WCKO				*e*S	**Sn**	**04 28 21.9**	**-0.2**
	baz=257						
TCU	**Taichung**	**0.99**	**298**	*e*P	**Pb**	**04 28 11.8**	**+1.4**
	baz=297						
TCU				*e*S	**Sb**	**04 28 25.3**	**+2.1**
	baz=297						
TPUB	**Ta-pu**	**1.00**	**248**	*e*P	**Pb**	**04 28 10.8**	**+0.3**
	baz=256						
TPUB				*e*S	**Sb**	**04 28 24.5**	**+1.1**
	baz=256						
YHNB	**Yeheng**	**1.01**	**346**	*e*P	**Pn**	**04 28 10.1**	**+0.3**
	baz=345						
YHNB				*i* S	**Sn**	**04 28 22.7**	**-0.3**
	baz=345						
LDUT	**Ludao**	**1.02**	**189**	*e*P	**Pn**	**04 28 08.2**	**-1.5**
	baz=183						
LDUT				*e*S	**Sn**	**04 28 20.7**	**-2.2**
	baz=183						
NSK	**Sanguang**	**1.02**	**346**	*e*P	**Pn**	**04 28 09.2**	**-0.8**
	baz=345						
NSK				*e*S	**Sn**	**04 28 22.0**	**-1.2**
	baz=345						
TWQ1	**Liyutan**	**1.03**	**310**	*e*P	**Pb**	**04 28 11.6**	**+0.6**
	baz=309						
TWQ1				*e*S	**Sb**	**04 28 26.0**	**+1.7**
	baz=309						
TWE	**Neicheng**	**1.03**	**1**	P	**Pn**	**04 28 10.3**	**+0.3**
	baz=350						
NFF	**Wufeng Townshi**	**1.06**	**333**	P	**Pn**	**04 28 10.3**	**-0.1**
	baz=332						
NFF				*e*S	**Sn**	**04 28 23.6**	**-0.6**
	baz=332						
FUSB	**Fushanzhiwuyua**	**1.07**	**358**	P	**Pn**	**04 28 10.6**	**-0.1**
	baz=347						
FUSB				*e*S	**Sn**	**04 28 24.2**	**-0.3**
	baz=347						
JYNG	**Yonagunijimaku**	**1.42**	**57**	P	**Pn**	**04 28 15.3**	**0.0**
JYNG				S	**Sn**	**04 28 33.2**	**+0.2**
YOJ	**Yonaguni jima**	**1.48**	**58**	P	**Pn**	**04 28 16.4**	**+0.3**
	baz=56						
YOJ				S	**Sn**	**04 28 34.8**	**+0.5**
	baz=56						
HATJ	**Hateruma jima**	**2.02**	**79**	*e*S	**Sn**	**04 28 47.8**	**+0.1**
IRIF	**Iriomote-Funau**	**2.02**	**71**	P	**Pn**	**04 28 24.1**	**+0.6**
IRIF				*e*S	**Sn**	**04 28 48.6**	**+0.9**
JKRS	**Kuro-shima**	**2.24**	**75**	*e*P	**Pn**	**04 28 27.7**	**+1.1**
JKRS				*e*S	**Sn**	**04 28 54.2**	**+1.0**
JIJ	**Ishigaki jima**	**2.39**	**73**	P	**Pn**	**04 28 28.9**	**+0.3**
JIJ				S	**Sn**	**04 28 56.5**	**-0.3**
JISG	**Ishigakijimahi**	**2.60**	**69**	S	**Sn**	**04 29 01.8**	**-0.4**

*IDC **21** 04:31:32.7±1.5,31°.54S×69°.22W,h0km,mbtmp3.7/2, ML3.6/2,Error ellipse: s-maj=110.4km s-min=42.6km az=134.0*
*GUC **21** 04:31:48.0±0.7,31°.54S×69°.15W,h171km±9km,ML3.6*
ISC 21 04:31:49.0±1.3,**31°.56S**±0°.05×**69°.1W**±0°.2,**h161**km±14km, **n16**,σ1s**22**/26,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**1.72**	**225**	*e*P	**Pn**	**04 32 21.9**	**+0.1**
VA03				*i* S	**Sn**	**04 32 47.8**	**+0.7**
VA03				IAML		04 32 50.2	
	comp=N,526nm,0.5s						
CO01	**Juntas del Tor**	**1.80**	**331**	*e*P	**Pn**	**04 32 23.0**	**+0.2**
CO01				*i* S	**Sn**	**04 32 49.1**	**+0.3**
GO04	**Tololo Observa**	**2.01**	**313**	*e*P	**Pn**	**04 32 25.0**	**-0.2**
GO04				*i* S	**Sn**	**04 32 53.3**	**+0.2**
ROCH	**El Roble**	**2.15**	**229**	*e*P	**Pn**	**04 32 26.8**	**+0.1**
ROCH				*i* S	**Sn**	**04 32 56.0**	**+0.2**
ROCH				IAML		04 33 02.7	
	comp=N,463nm,0.4s						
MT03	**Universidad Ad**	**2.27**	**211**	*e*P	**Pn**	**04 32 27.9**	**-0.1**
MT03				*i* S	**Sn**	**04 32 59.0**	**+0.9**
MT03				IAML		04 33 04.7	
	comp=N,352nm,0.2s						
MT05	**Renca**	**2.29**	**217**	*e*P	**Pn**	**04 32 28.4**	**+0.1**
MT05				*i* S	**Sn**	**04 32 59.1**	**+0.5**
MT02	**Curacav**	**2.42**	**225**	*e*P	**Pn**	**04 32 29.1**	**-0.6**
MT02				*i* S	**Sn**	**04 33 00.8**	**-0.4**
MT02				IAML		04 33 14.6	
	comp=N,74nm,0.5s						
CO05	**La Serena**	**2.46**	**311**	*e*P	**Pn**	**04 32 30.4**	**+0.2**
CO05				*i* S	**Sn**	**04 33 01.4**	**-0.7**
MT09	**Talagante**	**2.73**	**215**	*e*P	**Pn**	**04 32 33.0**	**-0.5**
MT09				*i* S	**Sn**	**04 33 08.0**	**0.0**
MT09				IAML		04 33 09.9	
	comp=N,251nm,0.8s						
MT01	**Popeta**	**2.93**	**218**	*e*P	**Pn**	**04 32 34.9**	**-1.0**
MT01				*i* S	**Sn**	**04 33 11.3**	**-1.0**
MT01				IAML		04 33 12.0	
	comp=E,109nm,0.3s						
VA05	**Santo Domingo**	**2.98**	**225**	*e*P	**Pn**	**04 32 35.8**	**-0.7**
VA05				*i* S	**Sn**	**04 33 12.9**	**-0.5**
CPUP	**Villa Florida**	**11.54**	**66**	Pn	Pn	04 34 21.6	-7.5
	comp=E,0.2nm,0.3s,baz=237,slow=17,SNR=4.1						
	comp=E,1.4nm,0.6s						
SIV	**San Ignacio**	**17.14**	**27**	P	**Pn**	**04 35

	comp=Z,128nm,18.1s,baz=41,slow=40 4.0nm,0.9s							
ASAR	**Alice Springs**	**23.59**	**210**	P		**P**	**04 40 12.6**	**0.0**
	2.6nm,0.9s,baz=41,slow=9.1,SNR=14							
ASAR				LR		LR	04 50 23.5	
	comp=Z,114nm,21.1s,baz=348,slow=39 2.6nm,0.9s							
KAPI	**Kappang**	**26.83**	**266**	LR		LR	04 54 42.9	
	comp=Z,89nm,18.1s,baz=62,slow=44							
JOW	**Kunigami**	**34.89**	**331**	LR		LR	04 53 13.2	
	comp=Z,45nm,20.5s,baz=312,slow=31							
JHJ	**Hachijo jima 2**	**36.89**	**350**	LR		LR	04 53 22.4	
	comp=Z,49nm,21.8s,baz=287,slow=30							
AFI	**Afiamalu**	**42.37**	**107**	LR		LR	05 00 03.4	
	comp=Z,65nm,18.8s,baz=186,slow=35							
KSRS	**Korea Array**	**44.20**	**339**	P		**P**	**04 43 10.9**	**+0.3**
	1.5nm,0.5s,baz=160,slow=11,SNR=5.5 1.5nm,0.5s							
ASAJ	**Asahikawa**	**47.44**	**356**	LR		LR	05 02 46.4	
	comp=Z,12nm,20.1s,baz=134,slow=35							
USRK	**Ussuriysk Ar.**	**49.17**	**346**	P		**P**	**04 43 50.0**	**+0.5**
	3.1nm,0.6s,baz=184,slow=8.1,SNR=2.9 3.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**51.71**	**297**	P		**P**	**04 44 10.2**	**+0.9**
	1.7nm,0.5s,baz=119,slow=6.4,SNR=6.1 1.7nm,0.5s							
KLR	**Kul'dur**	**53.98**	**348**	LR		LR	05 06 00.4	
	comp=Z,19nm,18.9s,baz=288,slow=34							
PETK	**Petropavlovsk-**	**57.08**	**8**	P		**P**	**04 44 48.1**	**+0.5**
	3.3nm,0.9s,baz=191,slow=6.9,SNR=1.2 3.3nm,0.9s							
MKAR	**Makanchi Array**	**75.26**	**320**	P		**P**	**04 46 44.5**	**0.0**
	2.0nm,1.0s,baz=99,slow=7.5,SNR=5.2 2.0nm,1.0s							
ZALV	**Zalesovo Beam**	**76.62**	**328**	P		**P**	**04 46 50.7**	**-1.4**
	1.0nm,0.5s,baz=98,slow=3.0,SNR=4.6 1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**78.93**	**323**	P		**P**	**04 47 04.2**	**-0.8**
	1.0nm,1.0s,baz=107,slow=3.7,SNR=5.7 1.0nm,1.0s							
ILAR	**Eielson Array**	**83.27**	**23**	P		**P**	**04 47 27.4**	**-0.5**
	0.6nm,0.7s,baz=242,slow=4.3,SNR=4.8 0.6nm,0.7s							
BVAR	**Borovoye Array**	**84.45**	**324**	P		**P**	**04 47 33.2**	**-0.9**
	1.6nm,0.7s,baz=103,slow=6.4,SNR=8.5 1.6nm,0.7s							

*IDC **21** 04:50:00.3±0.7, 34.°80S×108.°89W, h0km, mb4.1/9, mbtmp4.1/9, MS4.0/29, Error ellipse: s-maj=24.5km s-min=20.3km az=77.0*

*NEIC **21** 04:50:01.5±1.9, 34.°9S±0.°1×108.°8W±0.°2, h10km±1km, mb4.8/22, Error ellipse: s-maj=27.6km s-min=21.1km az=268.0*

ISC 21 04:50:01.4±0.7, 34.°9S±0.°1×108.°8W±0.°1, h10km, n70, σ1§10/39, mb4.7/18, MS4.1/29, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.74**	**356**	LR	LR	04 54 09.3	
	comp=Z,868nm,18.1s,baz=159,slow=32						
GO06	**Curarrehue**	**29.91**	**110**	P	**P**	**04 56 08.0**	**-1.5**
PLCA	**Paso Flores**	**30.57**	**112**	P	**P**	**04 56 15.3**	**0.0**
	6.7nm,0.9s,baz=281,slow=9.3,SNR=9.7 6.7nm,0.9s						
PLCA	**Paso Flores**	**30.57**	**112**	P	**P**	**04 56 14.7**	**-0.6**
PLCA				IAmb	IAmb	04 56 16.0	
	comp=Z,15nm,1.1s						
MG05	**Puerto Natales**	**30.88**	**134**	P	**P**	**04 56 18.1**	**+0.4**
MG05				IAmb	IAmb	04 56 19.7	
	comp=Z,16nm,1.0s						
PB03	**IPOC Station P**	**36.36**	**80**	P	**P**	**04 57 07.6**	**+1.6**
PB03				IAmb	IAmb	04 57 24.2	
	comp=Z,20nm,1.5s						
LVC	**Limon Verde**	**36.77**	**81**	P	**P**	**04 57 09.9**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=224,slow=13,SNR=1.6						
LVC				LR	LR	05 08 13.6	
	comp=Z,284nm,19.5s,baz=242,slow=30 comp=Z,1.9nm,0.7s						
NNA	**Nana**	**36.83**	**60**	LR	LR	05 08 05.6	
	comp=Z,469nm,20.8s,baz=210,slow=29						
TRQA	**Tornquist**	**37.44**	**109**	P	**P**	**04 57 13.6**	**-1.3**
ATAH	**Atahualpa**	**39.25**	**52**	LR	LR	05 09 28.2	
	comp=Z,289nm,18.9s,baz=218,slow=30						
PMSA	**Palmer Station**	**40.12**	**152**	LR	LR	05 09 17.4	
	comp=Z,264nm,21.9s,baz=302,slow=29						
PPT	**Papeete**	**40.16**	**285**	LR	LR	05 09 36.2	
	comp=Z,166nm,19.1s,baz=148,slow=29						
LPAZ	**La Paz**	**40.71**	**73**	P	**P**	**04 57 45.2**	**+2.2**
	comp=Z,1.5nm,0.9s,baz=242,slow=8.3,SNR=5.4 comp=Z,1.5nm,0.9s						
LPAZ	**La Paz**	**40.71**	**73**	P	**P**	**04 57 42.6**	**-0.5**
CPUP	**Villa Florida**	**44.66**	**94**	P	**P**	**04 58 17.1**	**+2.6**
	comp=Z,1.8nm,0.9s,baz=243,slow=9.6,SNR=3.2						
CPUP				LR	LR	05 13 28.9	
	comp=Z,183nm,18.9s,baz=250,slow=32 comp=Z,1.8nm,0.9s						
SIV	**San Ignacio**	**46.50**	**79**	LR	LR	05 15 43.0	
	comp=Z,131nm,18.5s,baz=270,slow=33						
RAR	**Rarotonga**	**46.59**	**273**	LR	LR	05 14 26.1	
	comp=Z,81nm,18.1s,baz=164,slow=32						
AQDB	**Aquidauana**	**48.59**	**87**	P	**P**	**04 58 44.9**	**-0.5**
AQDB				IAmb	IAmb	04 58 54.9	
	comp=Z,8.6nm,1.0s						
JTS	**Las Juntas de**	**50.25**	**31**	LR	LR	05 14 51.4	
	comp=Z,235nm,19.5s,baz=172,slow=30						
BELA	**Belgrano 2**	**52.85**	**165**	P	**P**	**04 59 16.9**	**+0.2**
BELA				IAmb	IAmb	04 59 25.2	
	comp=Z,18nm,1.3s						
CMIG	**Matias Romero**	**53.33**	**17**	LR	LR	05 16 20.2	
	comp=Z,94nm,20.1s,baz=190,slow=30						
MACA	**Manacapuru-AM**	**54.56**	**66**	P	**P**	**04 59 28.4**	**-1.7**
MACA				IAmb	IAmb	04 59 41.5	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**55.33**	**180**	P	**P**	**04 59 36.3**	**+1.2**
	comp=Z,5.6nm,1.1s,baz=123,slow=4.9,SNR=8.4						
QSPA				LR	LR	05 20 28.6	
	comp=Z,100nm,18.7s,baz=102,slow=33 comp=Z,5.6nm,1.1s						
QSPA	**South Pole Qui**	**55.33**	**180**	P	**P**	**04 59 35.2**	**+0.1**
QSPA				IAmb	IAmb	04 59 43.7	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**56.12**	**195**	P	**P**	**04 59 41.5**	**+1.1**
	comp=Z,2.3nm,1.2s,baz=54,slow=6.4,SNR=3.1 comp=Z,2.3nm,1.2s						
VNDA	**Vanda**	**56.12**	**195**	P	**P**	**04 59 40.1**	**-0.3**
SDV	**Santo Domingo**	**56.50**	**47**	LR	LR	05 20 22.9	
	comp=Z,124nm,18.8s,baz=221,slow=32						
BDFB	**Brasilia**	**57.33**	**87**	LR	LR	05 22 14.4	
	comp=Z,188nm,18.7s,baz=180,slow=34						
SLBS	**Sierra La Lagu**	**58.25**	**359**	P	**P**	**04 59 56.1**	**0.0**
SLBS				IAmb	IAmb	04 59 57.9	
	comp=Z,14nm,1.4s						
LPIG	**La Paz**	**58.67**	**358**	LR	LR	05 19 04.4	
	comp=Z,54nm,19.1s,baz=212,slow=30						
AFI	**Afiamalu**	**60.13**	**274**	LR	LR	05 20 05.5	
	comp=Z,150nm,18.4s,baz=112,slow=30						
VNA3	**Neumayer Olymp**	**60.23**	**158**	P	**P**	**05 00 07.8**	**-1.5**
RPZ	**Rata Peaks**	**60.43**	**235**	LR	LR	05 20 54.9	
	comp=Z,126nm,18.2s,baz=70,slow=31						
VNA2	**Neumayer--Watz**	**61.03**	**158**	P	**P**	**05 00 13.4**	**-1.3**
	baz=257,slow=4.5						
PCRV	**Puerto La Cruz**	**61.23**	**51**	LR	LR	05 23 50.0	
	comp=Z,197nm,21.8s,slow=33						
SNAA	**Sanae**	**62.05**	**160**	P	**P**	**05 00 20.7**	**-1.0**
SNAA	**Sanae**	**62.05**	**160**	P	**P**	**05 00 21.1**	**-0.7**
SNAA				IAmb	IAmb	05 00 30.4	
	comp=Z,4.7nm,0.9s						
TROLL	**Troll, Antarti**	**63.37**	**161**	P	P	05 00 17.8	-13
TX31	**Lajitas Ar. Si**	**64.04**	**5**	P	**P**	**05 00 35.1**	**-0.3**
TXAR	**Lajitas Array**	**64.04**	**5**	P	**P**	**05 00 35.5**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=188,slow=9.0,SNR=13 comp=Z,1.1nm,0.8s						
TXAR	**Lajitas Array**	**64.04**	**5**	P	**P**	**05 00 34.6**	**-0.7**
JCT	**Junction City**	**65.55**	**8**	P	**P**	**05 00 45.1**	**0.0**
MDP	**Montagnes des**	**66.02**	**65**	LR	LR	05 26 19.9	
	comp=Z,377nm,19.4s,baz=228,slow=33						
SJG	**San Juan**	**66.43**	**45**	LR	LR	05 26 52.9	
	comp=Z,40nm,18.2s,baz=211,slow=33						
MSVF	**Nonsavu**	**66.50**	**264**	LR	LR	05 24 17.9	
	comp=Z,96nm,20.0s,baz=107,slow=31						
LENM	**Lemitar**	**68.70**	**2**	P	**P**	**05 01 04.6**	**-0.6**
X18A	**Snowflake**	**69.05**	**359**	P	**P**	**05 01 07.5**	**0.0**
X18A				IAmb	IAmb	05 01 15.1	
	comp=Z,12nm,1.4s						
DSP	**Deep Springs**	**72.39**	**352**	P	**P**	**05 01 28.5**	**+1.1**
LHV	**Little Huntoon**	**73.32**	**352**	P	**P**	**05 01 34.2**	**+1.3**
NVAR	**Mina Array Bea**	**73.47**	**352**	P	**P**	**05 01 35.0**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=187,slow=7.3,SNR=22 comp=Z,3.3nm,0.8s						
DZM	**Mont Dzumac**	**73.64**	**254**	LR	LR	05 25 37.9	
	comp=Z,121nm,20.3s,baz=208,slow=29						
TKL	**Tuckaleechee C**	**73.94**	**21**	LR	LR	05 28 19.4	
	comp=Z,64nm,21.4s,baz=180,slow=31						
PD31	**Pinedale Array**	**77.27**	**359**	P	**P**	**05 01 54.9**	**-1.0**
PDAR	**Pinedale Array**	**77.27**	**359**	P	**P**	**05 01 54.9**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=163,slow=6.2,SNR=12 comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**77.27**	**359**	P	**P**	**05 01 54.7**	**-1.2**
HLID	**Hailey**	**78.23**	**356**	P	**P**	**05 02 01.3**	**+0.1**
HLID				IAmb	IAmb	05 02 08.9	
	comp=Z,13nm,1.3s						
SADO	**Sadowa**	**83.70**	**21**	LR	LR	05 34 25.5	
	comp=Z,79nm,21.2s,baz=175,slow=32						
HNR	**Honiara**	**85.75**	**262**	LR	LR	05 32 17.6	
	comp=Z,1µm,21.0s,baz=144,slow=30						
STKA	**Stephens Creek**	**86.34**	**233**	LR	LR	05 35 07.3	
	comp=Z,101nm,19.1s,baz=44,slow=31						
KRVT	**Keravat (AS076**	**95.11**	**261**	LR	LR	05 37 60.0	
	comp=Z,75nm,21.8s,baz=276,slow=30						
PMG	**Port Moresby**	**96.04**	**254**	LR	LR	05 37 52.0	
	comp=Z,40nm,21.6s,baz=190,slow=30						
ASAR	**Alice Springs**	**96.84**	**235**	LR	LR	05 43 51.1	
	comp=Z,92nm,18.1s,baz=156,slow=33						
WRA	**Warramunga Arr**	**99.04**	**238**	LR	LR	05 44 54.4	
	comp=Z,131nm,19.6s,baz=124,slow=33						
H01W1	**Cape Leeuwin H**	**99.85**	**215**	T	T	06 55 52.7	
	baz=144,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**99.85**	**215**	T	T	06 55 50.9	
	baz=144,slow=76,SNR=7.0						
H01W3	**Cape Leeuwin H**	**99.86**	**215**	T	T	06 55 52.4	
	baz=144,slow=76,SNR=5.1						
AKASG	**Malin Array Be**	**145.86**	**49**	PKPbc	**PKPab**	**05 09 42.8**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=280,slow=1.6,SNR=5.2						
BRTR	**Keskin Array B**	**149.84**	**70**	PKPbc	**PKPbc**	**05 09 51.2**	**-0.6**
	comp=Z,2.0nm,1.1s,baz=198,slow=6.5,SNR=4.9						
CMAR	**Chiang Mai Arr**	**150.48**	**244**	PKPbc	**PKPbc**	**05 09 53.9**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=196,slow=2.1,SNR=13						
SONM	**Songino Array**	**150.88**	**307**	PKPbc	**PKPbc**	**05 09 53.0**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=130,slow=1.8,SNR=3.9						

*IDC **21** 04:50:36.2±1.0, 31.°45N×94.°16E, h0km, mb3.7/8, mbtmp3.7/11, ML3.5/3, MS3.5/3, Error ellipse: s-maj=47.1km s-min=16.6km az=55.0*

*BJI **21** 04:50:40.0±0.0, 31.°47N×93.°93E, h5km, mb4.3/5, mB4.4/2, ML3.5/7, Ms3.7/3, Ms7 3.5/4*

*NEIC **21** 04:50:41.0±2.4, 31.°46N±0.°10×94.°2E±0.°1, h33km±5km, mb4.1/17, ML4.2(BJI), Error ellipse: s-maj=16.0km s-min=14.3km az=84.0*

ISC 21 04:50:38.8±0.6, 31.°48N±0.°05×93.°96E±0.°07, h10km, n40, σ1§68/40, mb3.9/13, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.00**	**234**	Pn	**Pn**	**04 51 29.4**	**+2.6**
GOMU	**GeErMu**	**4.76**	**8**	Pn	**Pn**	**04 51 51.8**	**+0.9**
GOMU				Pg	**Pb**	**04 52 02.4**	**-0.1**
GOMU				Sn	**Sb**	**04 52 59.8**	**-0.2**
GOMU				Sg	**Sg**	**04 53 10.9**	**-0.7**
GOMU				smax	smax		
	comp=N,13nm,1.0s						
GOMU				smax	smax		
	comp=E,12nm,1.7s						
SHL	**Shillong**	**6.17**	**198**	Pn	**Pn**	**04 52 09.4**	**-0.7**
PZH	**PanZhiHua**	**8.43**	**124**	P	**Pn**	**04 52 41.8**	**+0.7**
PZH				S	**Sn**	**04 54 21.8**	**+5.3**
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,6.5s						
PZH				LR	LR		
	comp=N,140nm,6.2s						
PZH				LR	LR		
	comp=E,150nm,6.8s						
PZH				LR	LR		
	comp=Z,130nm,6.5s						
LZH	**Lanzhou**	**9.42**	**58**	*e*P	Pn	04 53 03.0	+8.3
LZH				pP		04 53 07.0	
LZH				sP		04 53 11.0	
LZH				pmax	pmax		
	comp=Z,11nm,1.4s						
LZH				LR	LR		
	comp=N,300nm,6.2s						
LZH				LR	LR		
	comp=E,170nm,7.6s						
LZH				LR	LR		
	comp=Z,150nm,6.2s						
MND	**Mandalay**	**9.62**	**168**	Pn	**Pn**	**04 52 54.4**	**-3.0**
WMQ	**Urumqi**	**13.27**	**340**	*e*P	**Pn**	**04 53 48.3**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
TARG	**Taragay, Kyrgy**	**16.49**	**313**		**Pn**	**04 54 33.0**	**+2.5**
NIL	**Nilore**	**17.59**	**283**		**Pn**	**04 54 44.4**	**+0.3**
NIL				IAmb	IAmb	04 54 53.7	
	comp=Z,7.0nm,0.7s						
MKAR	**Makanchi Array**	**17.73**	**333**	P	**Pn**	**04 54 45.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=137,slow=13,SNR=6.6						
MKAR				LR	LR	05 01 32.2	
	comp=Z,41nm,21.2s,baz=156,slow=37 comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**17.73**	**333**		**Pn**	**04 54 45.3**	**-0.5**
BOOM	**Boomskoye usch**	**18.07**	**312**		**Pn**	**04 54 49.8**	**-0.3**
BOOM				IAmb	IAmb	04 55 04.2	
	comp=Z,27nm,1.4s						
SONM	**Songino Array**	**18.89**	**27**	P	**P**	**04 54 58.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=12 comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**18.89**	**27**	P	**P**	**04 54 58.3**	**-1.1**
AAK	**Ala-Archa**	**19.06**	**311**	P	**P**	**04 55 02.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=4.0 comp=Z,1.2nm,0.5s						
BTK	**Batken**	**20.59**	**301**	P	**P**	**04 55 20.6**	**+2.6**
GAR	**Garm**	**20.68**	**298**	P	**P**	**04 55 20.0**	**+1.0**
GAR				IAmb	IAmb	04 55 26.4	
	comp=Z,4.3nm,0.5s						
KBL	**Kabul**	**21.10**	**285**	P	**P**	**04 55 22.7**	**-1.0**
KBL				IAmb	IAmb	04 55 31.1	
	comp=Z,15nm,1.1s						
CHGR	**Chuyangaron**	**21.48**	**296**	P	**P**	**04 55 27.1**	**-0.5**
CHGR				IAmb	IAmb	04 55 41.0	
	comp=Z,8.0nm,0.7s						
KK31	**Karatay Array**	**21.89**	**309**	P	**P**	**04 55 33.0**	**+1.2**
KKAR	**Karatay Array**	**21.89**	**309**	P	**P**	**04 55 33.5**	**+1.6**
KURBB	**Kurchatov Arra**	**22.30**	**333**	P	**P**	**04 55 35.5**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=142,slow=11,SNR=17 comp=Z,2.2nm,0.8s						
KURK	**Kurchatov**	**22.34**	**334**	P	**P**	**04 55 36.0**	**-0.5**
KURK				IAmb	IAmb	04 55 40.8	
	comp=Z,3.8nm,0.8s						
ZALV	**Zalesovo Beam**	**23.40**	**346**	P	**P**	**04 55 46.6**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=151,slow=6.9,SNR=6.5 comp=Z,0.6nm,0.4s						
BVAR	**Borovoye Array**	**27.48**	**328**	P	**P**	**04 56 26.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=127,slow=3.8,SNR=2.3 comp=Z,0.2nm,0.4s						
ABKAR	**Akbulak array**	**31.06**	**315**	P	**P**	**04 56 58.8**	**+2.0**
ABKAR				IAmb	IAmb	04 57 02.9	
	comp=Z,3.2nm,1.1s						
AKASG	**Malin Array Be**	**50.73**	**312**	P	**P**	**04 59 37.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=73,slow=6.9,SNR=4.3 comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**52.38**	**326**	P	**P**	**04 59 52.0**	**+1.2**
	comp=Z,6.5nm,1.1s,baz=102,slow=13,SNR=3.0 comp=Z,6.5nm,1.1s						
BURAR	**Bucovina Array**	**53.68**	**309**	P	**P**	**05 00 01.6**	**+0.8**
BUR08	**Bucovina Ar. S**	**53.69**	**309**	P	**P**	**04 59 59.4**	**-1.4**
NOA	**NORSAR Array B**	**59.57**	**326**	P	**P**	**05 00 41.5**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=81,slow=6.7,SNR=2.6 comp=Z,0.8nm,0.9s						
WB0	**Warramunga Arr**	**64.04**	**137**	P	**P**	**05 01 11.0**	**-1.9**
WRA	**Warramunga Arr**	**64.15**	**137**	P	**P**	**05 01 11.6**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=333,slow=6.6,SNR=6.2 comp=Z,0.4nm,0.7s						
WB2	**Warramunga Arr**	**64.16**	**137**	P	**P**	**05 01 10.9**	**-2.7**
ASAR	**Alice Springs**	**66.85**	**140**	P	**P**	**05 01 29.5**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=327,slow=6.8,SNR=8.2 comp=Z,0.6nm,0.5s						
TOLK	**Toolik Lake Re**	**69.88**	**20**	P	**P**	**05 01 48.2**	**-1.3**
TOLK				IAmb	IAmb	05 02 02.7	
	comp=Z,3.2nm,1.1s						
BMAR	**Burnt Mountain**	**72.11**	**20**	P	**P**	**05 02 02.6**	**-0.4**
BCAR	**Beaver Creek A**	**75.90**	**23**	P	P	05 02 22.9	-2.4
FRB	**Frobisher Bay**	**84.08**	**352**	LR	LR	05 45 18.3	
	comp=Z,60nm,18.9s,baz=192,slow=39						
TSUM	**Tsumeb**	**88.83**	**247**	LR	LR	05 46 42.0	
	comp=Z,40nm,18.1s,baz=290,slow=38						

*WEL **21** 05:06:00, 41.°93S×174.°00E, h13km, ML4.6, Mw4.2, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁵ Nm; Mrr0.07; Mθθ2.67; Mϕϕ-2.74; Mrθ0.34; Mθϕ0.91; Mϕr-0.79; Fault plane solution: M₀2.97000×10¹⁵ NP1: ϕs37.00000°, δ76.00000°, λ-173.00000°. NP2: ϕs305.00000°, δ83.00000°, λ-14.00000°. Principal axes: T 283.5800, Plg5.0000°, Azm352.0000°; N -310.4700, Plg74.0000°, Azm99.0000°; P 26.8900, Plg15.0000°, Azm261.0000°;*

*IDC **21** 05:06:40.5±1.3, 41.°68S×173.°73E, h0km, mb4.0/5, mbtmp4.1/6, ML4.8/1, MS3.3/5 Error ellipse: s-maj=39.7km s-min=23.9km az=63.0*

*NOU **21** 05:06:41.9, 42.°13S×174.°25E, h14km, MLv4.8/16, Off E. Coast of S. Island, N.Z.*

*NEIC **21** 05:06:42.2±1.7, 41.°96S±0.°02×174.°06E±0.°04, h18km±3km, mb4.3/7, Mwr4.2/38, Error ellipse: s-maj=4.7km s-min=1.5km az=127.0*

*WEL **21** 05:06:42.1±0.3, 42.°5S±3.°×17.°4E±.°, h10km±2km, M4.6/56, ML4.8/22, MLv4.6/56, Error ellipse: s-maj=0.0km s-min=0.0km az=132.7*

*NEIC **21** 05:06:42.1, 41.°96S×174.°06E, h15km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.27; Mθθ2.48; Mϕϕ-2.21; Mrθ0.38; Mθϕ0.28; Mϕr-0.81; Fault plane solution: M₀2.54000×10¹⁵ NP1:ϕs310.04000°, δ80.97000°, λ-19.75000°. NP2:ϕs43.26000°, δ70.51000°, λ-170.42000°. Principal axes: T 2.5353, Plg7.0000°, Azm358.0000°; N -0.0004, Plg68.0000°, Azm106.0000°; P -2.5349, Plg20.0000°, Azm265.0000°;*

ISC 21 05:06:40.8±1.2, 42.°01S±0.°03×174.°12E±0.°03, h10km±8km, n195, σ1§32/205, mb4.3/9, MS3.5/4, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.27**	**16**		**Pb**	**05 06 48.0**	**+0.2**
CMWZ				Sg	**Sb**	**05 06 53.7**	**+1.4**
CMWZ	**Cape Campbell**	**0.27**	**16**	P	**Pb**	**05 06 48.1**	**+0.4**
CMWZ				S	**Sb**	**05 06 53.6**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.34**	**328**		**Pg**	**05 06 47.9**	**+0.3**
BSWZ				Sg	**Sg**	**05 06 52.2**	**0.0**
BSWZ	**Blackbirch Sta**	**0.34**	**328**	P	**Pg**	**05 06 47.9**	**+0.3**
BSWZ				S	**Sg**	**05 06 52.2**	**0.0**
KHZ	**Kahutara**	**0.59**	**226**	Pg	**Pn**	**05 06 54.6**	**-0.7**
KHZ				Sg	**Sn**	**05 07 03.8**	**-1.1**
KHZ	**Kahutara**	**0.59**	**226**	P	**Pn**	**05 06 54.5**	**-0.7**
KHZ	**Kahutara**	**0.59**	**226**	P	**Pn**	**05 06 54.6**	**-0.7**
KHZ				S	**Sn**	**05 07 03.8**	**-1.1**
TUWZ	**Tuamarina**	**0.59**	**347**		**Pg**	**05 06 52.7**	**+0.5**
TUWZ				Sg	**Sg**	**05 07 00.8**	**-0.8**
TUWZ	**Tuamarina**	**0.59**	**347**	P	**Pg**	**05 06 52.8**	**+0.5**
TUWZ				S	**Sg**	**05 07 00.1**	**+0.1**
TCW	**Tory Channel**	**0.81**	**9**	Pg	**Pb**	**05 06 56.7**	**-0.2**
TCW					**Sn**	**05 07 08.6**	**-1.6**
TCW	**Tory Channel**	**0.81**	**9**	P	**Pb**	**05 06 56.7**	**-0.2**
TCW				S	**Sn**	**05 07 08.8**	**-1.4**
SNZO	**South Karori**	**0.82**	**33**	Pg	**Pn**	**05 06 58.3**	**-0.1**
SNZO	**South Karori**	**0.82**	**33**	P	**Pn**	**05 06 58.7**	**+0.3**
WEL	**Wellington**	**0.87**	**34**	P	**Pn**	**05 06 59.3**	**+0.2**
THZ	**Tophouse**	**0.94**	**285**	Pg	**Pg**	**05 06 59.0**	**+0.2**
THZ	**Tophouse**	**0.94**	**285**	P	**Pg**	**05 06 59.1**	**+0.2**
THZ				S	**Sg**	**05 07 10.8**	**-0.2**
PLWZ	**Palliser**	**0.96**	**63**		**Pn**	**05 07 00.2**	**-0.1**
PLWZ	**Palliser**	**0.96**	**63**	P	**Pn**	**05 07 00.5**	**+0.2**
NNZ	**Nelson**	**0.96**	**325**	Pg	**Pg**	**05 06 59.1**	**-0.3**
NNZ				Sg	**Sg**	**05 07 11.0**	**-0.8**
NNZ	**Nelson**	**0.96**	**325**	P	**Pg**	**05 06 59.0**	**-0.3**
MSWZ	**Moikau Station**	**1.03**	**56**		**Pn**	**05 07 01.5**	**+0.1**
MSWZ					**Sn**	**05 07 16.7**	**+0.8**
CAW	**Cannon Point**	**1.15**	**39**	P	**Pg**	**05 07 03.3**	**+0.4**
PAWZ	**Paruwai Farm**	**1.16**	**58**	P	**Pb**	**05 07 03.1**	**+0.1**
MRNZ	**Matariki Terra**	**1.18**	**300**		**Pn**	**05 07 03.4**	**0.0**
MRNZ	**Matariki Terra**	**1.18**	**300**	P	**Pn**	**05 07 03.5**	**0.0**
DUWZ	**D'Urville Isla**	**1.21**	**353**	P	**Pn**	**05 07 03.5**	**-0.3**
GVZ	**Greta Valley S**	**1.25**	**219**	Pn	**Pb**	**05 07 05.0**	**+0.5**
GVZ	**Greta Valley S**	**1.25**	**219**	P	**Pb**	**05 07 05.0**	**+0.5**
KIW	**Kapiti Island**	**1.29**	**28**	P	**Pb**	**05 07 05.4**	**+0.2**
TKNZ	**Takaka Hill**	**1.30**	**318**		**Pn**	**05 07 05.1**	**+0.1**
TKNZ	**Takaka Hill**	**1.30**	**318**	P	**Pn**	**05 07 05.2**	**+0.1**
TRWZ	**Traveller**	**1.33**	**63**	P	**Pn**	**05 07 05.2**	**-0.2**
MTW	**Mount Morrison**	**1.34**	**51**	P	**Pn**	**05 07 05.5**	**-0.1**
OGWZ	**Otaki Gorge**	**1.43**	**34**	P	**Pn**	**05 07 07.1**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.53**	**44**	P	**Pn**	**05 07 08.1**	**0.0**
LTZ	**Lake Taylor**	**1.57**	**240**	Pn	**Pn**	**05 07 09.5**	**+0.7**
LTZ	**

KAHZ	Kahuranaki	3.04	44	P		Pn	05 07 27.7	-1.3
NGZ	Ngauruhoe	3.05	22	P		Pn	05 07 30.3	+1.1
SNVZ	South Ngauruho	3.05	23	P		Pn	05 07 32.0	+2.8
OTVZ	Oturere	3.08	23	P		Pn	05 07 32.4	+2.8
GCSZ	Gaunt Creek Bo	3.08	244	P		Pn	05 07 30.4	+0.9
NNVZ	North Ngauruho	3.09	22	P		Pn	05 07 31.1	+1.3
WTVZ	West Tongariro	3.10	22	P		Pn	05 07 32.2	+2.3
TWVZ	Taurewa	3.10	19	P		Pb	05 07 33.1	-3.0
ETVZ	East Tongariro	3.12	23	P		Pn	05 07 31.1	+1.1
KWHZ	Kaweka Forest	3.12	35	P		Pn	05 07 29.4	-0.7
TMVZ	Te Maari	3.13	23	P		Pn	05 07 31.1	+0.7
KRVZ	Karewarewa	3.13	22	P		Pb	05 07 35.3	-1.4
NTVZ	North Tongarir	3.14	23	P		Pn	05 07 31.4	+1.0
MCHZ	McNeill Hill	3.23	38	P		Pn	05 07 30.7	-0.8
KATZ	Kakaramea	3.26	22	P		Pn	05 07 39.4	+0.6
TMZ	Timaru	3.29	223	P		Pn	05 07 32.0	-0.4
RITZ	Rihia Road	3.31	24	P		Pb	05 07 39.0	-0.5
BKZ	Black Stump Fm	3.37	33	Pn		Pn	05 07 32.1	-1.3
BKZ	Black Stump Fm	3.37	33	P		Pn	05 07 34.0	+0.5
BKZ	Black Stump Fm	3.37	33	P		Pn	05 07 32.4	-1.1
RATZ	Rangitukua	3.38	22	P		Pb	05 07 40.1	-0.8
HATZ	Hinemaiaia	3.46	26	P		Pb	05 07 40.9	-1.2
ARHZ	Aropaoanui	3.51	40	P		Pn	05 07 35.3	-0.1
FOZ	Fox Glacier	3.51	243	Pn		Pn	05 07 36.2	+0.8
FOZ	Fox Glacier	3.51	243	P		Pn	05 07 36.0	+0.6
HIZ	Hauiti	3.54	9	Pn		Pn	05 07 36.4	+0.7
HIZ	Hauiti	3.54	9	P		Pn	05 07 39.0	+3.2
HIZ	Hauiti	3.54	9	P		Pn	05 07 37.7	+1.9
NMHZ	Naumai	3.56	36	P		Pn	05 07 35.2	-0.9
LBZ	Lake Benmore	3.73	229	Pn		Pn	05 07 38.3	-0.2
LBZ	Lake Benmore	3.73	229	P		Pn	05 07 38.2	-0.2
MTHZ	Maungataniwha	3.78	34	P		Pn	05 07 39.1	0.0
TLZ	Tolley Road	3.83	17	P		Pn	05 07 41.9	+2.0
ALRZ	Allen Road	3.84	27	P		Pn	05 07 39.4	-0.6
ODZ	Otahua Downs	3.95	219	Pn		Pn	05 07 40.8	-0.6
ODZ	Otahua Downs	3.95	219	P		Pn	05 07 41.3	-0.1
ODZ	Otahua Downs	3.95	219	P		Pn	05 07 40.6	-0.8
MHGZ	Mahia Peninsul	4.06	47	P		Pn	05 07 42.7	-0.3
RIGZ	Rimuhau	4.32	41	P		Pn	05 07 45.1	-1.4
LIRZ	Lichensteins R	4.36	24	P		Pn	05 07 45.5	-1.6
URZ	Urewera	4.39	33	P		Pn	05 07 48.0	+0.5
URZ	Urewera	4.39	33	P		Pn	05 07 46.2	-1.3
TOZ	Tahuroa Road	4.40	14	P		Pn	05 07 49.3	+1.7
JCZ	Jackson Bay	4.42	240	P		Pn	05 07 49.0	+1.0
JCZ	Jackson Bay	4.42	240	P		Pn	05 07 47.9	-0.1
OPRZ	Ohinepanea	4.56	25	P		Pb	05 07 57.2	-3.7
HHSZ	Highcliff Hill	4.63	212	P		Pn	05 07 51.0	+0.2
WKZ	Wanaka	4.66	231	Pn		Pn	05 07 50.5	-0.8
WKZ	Wanaka	4.66	231	P		Pn	05 07 50.6	-0.6
EAZ	Earnscleugh	4.75	226	P		Pn	05 07 52.0	-0.4
TWGZ	Tauwhareparae	4.84	39	P		Pn	05 07 52.5	-1.2
RUGZ	Raukumara Rang	4.88	35	P		Pn	05 07 52.4	-1.9
AWAZ	Awhitu Peninsu	4.95	5	P		Pn	05 07 58.3	+3.1
MKAZ	Moumakai	4.96	10	P		Pn	05 07 56.7	+1.3
WTAZ	Waiatarua	5.08	4	P		Pn	05 08 00.1	+3.1
ETAZ	East Tamaki Re	5.09	7	P		Pn	05 07 59.7	+2.6
TUZ	Tuapeka	5.10	218	P		Pn	05 07 57.2	0.0
MSZ	Milford Sound	5.24	237	P		Pn	05 08 00.8	+1.6
RVAZ	Riverhead Bore	5.24	4	P		Pn	05 08 02.2	+3.0
MBAZ	Motutapu North	5.27	7	P		Pn	05 08 04.0	+4.5
WIAZ	Waiheke Island	5.27	9	P		Pn	05 08 01.5	+2.0
KUZ	Kuaotunu	5.40	14	P		Pn	05 08 02.8	+1.4
KUZ	Kuaotunu	5.40	14	P		Pn	05 08 03.5	+2.2
ABAZ	Army Bay	5.43	6	P		Pn	05 08 04.6	+2.9
MXZ	Matakaoa Point	5.49	37	Pn		Pn	05 08 03.2	+0.7
MXZ	Matakaoa Point	5.49	37	P		Pn	05 08 05.2	+2.6
MXZ	Matakaoa Point	5.49	37	P		Pn	05 08 03.7	+1.2
MLZ	Mavora Lakes	5.49	230	Pn		Pn	05 08 01.9	-0.7
MLZ	Mavora Lakes	5.49	230	P		Pn	05 08 02.1	-0.6
SYZ	Scrubby Hill	5.77	217	P		Pn	05 08 07.0	+0.6
SYZ	Scrubby Hill	5.77	217	P		Pn	05 08 06.9	+0.6
DCZ	Deep Cove	6.11	233	Pn		Pn	05 08 09.4	-1.7
APZ	The Paps	6.52	220	P		Pn	05 08 17.0	+0.3
PYZ	Puysegur Point	6.78	230	P		Pn	05 08 20.8	+0.5
PYZ	Puysegur Point	6.78	230	P		Pn	05 08 24.0	+3.7
OUZ	Omahuta	6.79	356			Pn	05 08 20.8	+0.3
OUZ	Omahuta	6.79	356	P		Pn	05 08 22.6	+2.2
OUZ	Omahuta	6.79	356	P		Pn	05 08 22.8	+2.4
VNDA	Vanda	35.98	185	LR		LR	05 26 04.5	
	comp=Z,48nm,18.2s,baz=3.5,slow=32							
ASAR	Alice Springs	38.00	286	P		P	05 13 57.0	-2.0
	0.8nm,0.4s,baz=122,slow=6.7,SNR=13							
	0.8nm,0.4s							
ASAR	Alice Springs	38.00	286	P		P	05 13 56.9	-2.2
WB2	Warramunga Arr	40.09	291	P		P	05 14 15.1	-1.4
WB2				IAmb		IAmb	05 14 34.6	
	comp=Z,6.1nm,1.3s							
WRAB	Tennant Creek	40.10	291	P		P	05 14 16.0	-0.6
WRAB				IAmb		IAmb	05 14 22.9	
	comp=Z,6.4nm,0.8s							
WRA	Warramunga Arr	40.10	291	P		P	05 14 15.2	-1.5
	comp=Z,1.0nm,0.4s,baz=134,slow=7.4,SNR=20							
	comp=Z,1.0nm,0.4s							
WRA	Warramunga Arr	40.10	291	P		P	05 14 15.2	-1.5
WB0	Warramunga Arr	40.18	291	P		P	05 14 15.8	-1.5
WB0				IAmb		IAmb	05 14 19.1	
	comp=Z,9.1nm,1.4s							
QSPA	South Pole Qui	48.12	180	P		P	05 15 23.6	+3.1
	comp=Z,0.9nm,0.7s,baz=1.6,slow=3.5,SNR=4.0							
	comp=Z,0.9nm,0.7s							
QSPA	South Pole Qui	48.12	180	P		P	05 15 20.6	0.0
QSPA				IAmb		IAmb	05 15 29.9	
	comp=Z,4.2nm,1.2s							
PSA00	Pilbara Seismi	49.55	277	P		P	05 15 30.4	-1.5
SNAA	Sanae	66.61	181	P		P	05 17 35.5	+4.7
	comp=Z,1.0nm,0.9s,baz=181,slow=4.1,SNR=3.1							
	comp=Z,1.0nm,0.9s							
SNAA	Sanae	66.61	181	P		P	05 17 32.5	+1.6
SNAA				IAmb		IAmb	05 17 58.0	
	comp=Z,6.7nm,1.5s							
MJAR	Matsushiro Arr	84.78	332	LR		LR	05 51 59.2	
	comp=Z,27nm,21.4s,baz=121,slow=32							
NJ2	Nanjing	89.51	316	*eP*		P	05 19 37.8	-0.2
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KSRS	Korea Array	89.61	325	LR		LR	05 58 31.1	
	comp=Z,10nm,18.9s,baz=235,slow=35							
CMAR	Chiang Mai Arr	91.65	293	P		P	05 19 48.4	0.0
	comp=Z,1.2nm,0.4s,baz=158,slow=5.1,SNR=4.3							
	comp=Z,1.2nm,0.4s							
LPIG	La Paz	95.80	63	LR		LR	05 53 40.1	
	comp=Z,30nm,21.6s,baz=246,slow=29							
ARCES	ARCESS Array B	147.98	340	PKPbc		PKPbc	05 26 25.2	+0.1
	comp=Z,3.7nm,1.0s,baz=10,slow=2.0,SNR=2.9							
FINES	FINESS Array B	152.69	326	PKPbc		PKPbc	05 26 35.3	-1.4
	comp=Z,2.9nm,0.9s,baz=45,slow=2.2,SNR=3.1							

WEL ***21*** *05:21:43.4±0.3, 42°S±3°×17°4E±°, h12km, M3.6/55, ML3.8/23, MLv3.6/55, Error ellipse: s-maj=0.0km s-min=0.0km az=151.3*

NOU ***21*** *05:21:48.0, 41°.84S×174°.09E, h51km, MLv4.0/7, Cook Strait, New Zealand*

ISC 21 05:21:43.3±1.1, 41°.67S±0°.03×174°.40E±0°.02, h19km±3km, n95, σ0.98/98, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.16	242	P	Pg	05 21 48.1	+0.3
CMWZ				S	Sg	05 21 52.2	+1.3
BSWZ	Blackbirch Sta	0.40	264	P	Pg	05 21 51.7	+0.1
BSWZ				S	Sb	05 21 58.3	+0.6
TUWZ	Tuamarina	0.42	305	P	Pg	05 21 51.4	-0.6
TUWZ				S	Sg	05 21 57.2	-0.7
TCW	Tory Channel	0.47	348	P	Pg	05 21 52.0	-1.0
WEL	Wellington	0.48	35	P	Pg	05 21 52.6	-0.4
PLWZ	Palliser	0.65	81	P	Pg	05 21 56.6	+0.5
MSWZ	Moikau Station	0.69	68	P	Pn	05 21 58.0	-0.1
CAW	Cannon Point	0.75	42	P	Pb	05 21 57.5	-0.4
PAWZ	Paruwai Farm	0.82	70	P	Pb	05 21 59.3	+0.3
NNZ	Nelson	0.89	300	P	Pb	05 21 59.8	-0.5
KIW	Kapiti Island	0.90	25	P	Pb	05 21 59.6	-0.6
DUWZ	D'Urville Isla	0.94	337	P	Pb	05 22 00.4	-0.7
MTW	Mount Morrison	0.97	58	P	Pb	05 22 01.8	+0.2
KHZ	Kahutara	0.98	221	P	Pg	05 22 02.8	+0.4
KHZ	Kahutara	0.98	221	P	Pg	05 22 02.7	+0.2
TRWZ	Traveller	1.00	75	P	Pb	05 22 02.1	0.0
OGWZ	Otaki Gorge	1.03	34	P	Pb	05 22 02.0	-0.6
THZ	Tophouse	1.12	265	P	Pn	05 22 04.4	+0.3
HOWZ	Holdsworth Sta	1.14	48	P	Pn	05 22 04.2	-0.1
TMWZ	Te Maipa	1.25	64	P	Pn	05 22 05.4	-0.5
TKNZ	Takaka Hill	1.26	300	P	Pn	05 22 06.2	+0.3
MRNZ	Matariki Terra	1.27	282	P	Pn	05 22 06.6	+0.6
MRZ	Mangatainoka R	1.35	42	P	Pn	05 22 07.2	+0.1
TIWZ	Tintock	1.43	52	P	Pn	05 22 08.3	0.0
CPWZ	Castlepoint	1.56	61	P	Pg	05 22 14.6	+1.3
OHWZ	Ohakea	1.62	26	P	Pb	05 22 13.0	+0.3
PRWZ	Pori Road	1.63	47	P	Pn	05 22 10.8	-0.2
GVZ	Greta Valley S	1.64	218	P	Pn	05 22 11.4	+0.2
POWZ	Post Office Ro	1.65	39	P	Pn	05 22 12.4	+1.2
QRZ	Quartz Range	1.65	300	P	Pb	05 22 13.3	+0.2
QRZ	Quartz Range	1.65	300	P	Pb	05 22 12.5	+1.3
DVHZ	Dannevirke	1.92	45	P	Pn	05 22 14.2	-0.8
LTZ	Lake Taylor	1.93	234	P	Pn	05 22 15.6	+0.4
DSZ	Denniston Nort	1.95	267	P	Pn	05 22 16.7	+1.3
WAZ	Wanganui	1.97	13	P	Pb	05 22 18.6	+0.1
AMCZ	Amberley	1.98	220	P	Pn	05 22 15.7	-0.2
TSZ	Takapari Road	2.00	37	P	Pn	05 22 16.0	-0.2
LREZ	Lake Rotokare	2.21	0	P	Pn	05 22 22.4	-0.3
PNHZ	Pukenui	2.23	38	P	Pn	05 22 18.8	-0.5
WPHZ	Waipukurau	2.23	45	P	Pn	05 22 18.9	-0.4
OKCZ	Okains Bay	2.28	205	P	Pn	05 22 19.2	-0.7
KHEZ	Kahui Hut	2.40	353	P	Pb	05 22 26.3	+0.4
KHEZ	Kahui Hut	2.40	353	P	Pb	05 22 26.4	+0.6
OXZ	Oxford	2.41	226	P	Pn	05 22 20.8	-0.9
MQZ	McQueen's Vall	2.41	212	P	Pn	05 22 20.3	-1.4
NEZ	North Egmont	2.41	354	P	Pb	05 22 27.5	+1.3
MTVZ	Mangateitei	2.43	20	P	Pb	05 22 27.6	+1.2
INZ	Inchbonnie	2.44	243	P	Pn	05 22 22.6	+0.5
NBEZ	Newall Road No	2.44	350	P	Pb	05 22 28.5	+2.0
AKCZ	Akaroa Harbour	2.46	206	P	Pn	05 22 21.5	-0.9
DREZ	Durham Road	2.49	356	P	Pg	05 22 29.8	-1.2
MOVZ	Moawhango	2.49	25	P	Pn	05 22 25.5	+2.6
PKVZ	Pokaka	2.49	17	P	Pb	05 22 27.6	+0.2
PKE	Pukeiti	2.50	353	P	Pb	05 22 29.6	+2.0
WNVZ	Wahianoa	2.51	22	P	Pn	05 22 24.6	+1.2
BHHZ	Black Hill Sta	2.52	31	P	Pn	05 22 24.3	+1.0
TRVZ	Turoa	2.53	21	P	Pb	05 22 27.8	-0.5
WHVZ	Whangaehu Hut	2.55	21	P	Pb	05 22 28.4	-0.3
DRZ	Dome Shelter	2.55	21	P	Pb	05 22 29.9	+1.2
VRZ	Vera Road	2.56	6	P	Pb	05 22 28.3	-0.3
FWVZ	Far West T-bar	2.57	20	P	Pb	05 22 28.2	-0.8
RACZ	Rakaia	2.65	218	P	Pn	05 22 23.8	-1.1
KAHZ	Kahuranaki	2.66	46	P	Pn	05 22 23.8	-1.4
NGZ	Ngauruhoe	2.66	21	P	Pb	05 22 30.5	+0.1
SNVZ	South Ngauruho	2.66	21	P	Pb	05 22 30.6	+0.2
OTVZ	Oturere	2.69	21	P	Pb	05 22 31.3	+0.4
NNVZ	North Ngauruho	2.70	20	P	Pn	05 22 27.4	+1.5
WTVZ	West Tongariro	2.71	20	P	Pb	05 22 31.4	+0.1
TWVZ	Taurewa	2.72	17	P	Pb	05 22 32.1	+0.7
KWHZ	Kaweka Forest	2.72	35	P	Pb	05 22 33.1	+1.7
ETVZ	East Tongariro	2.72	22	P	Pn	05 22 27.4	+1.2
TMVZ	Te Maari	2.74	22	P	Pn	05 22 27.3	+0.9
KRVZ	Karewarewa	2.74	21	P	Pb	05 22 32.4	+0.6
NTVZ	North Tongarir	2.75	21	P	Pn	05 22 27.7	+1.2
MHCZ	Mount Hutt	2.80	227	P	Pn	05 22 25.9	-1.2
RITZ	Rihia Road	2.91	23	P	Pb	05 22 35.6	+0.9
WACZ	Wakanui South	2.95	219	P	Pn	05 22 28.3	-0.9
BKZ	Black Stump Fm	2.97	33	P	Pb	05 22 36.4	+0.8
BKZ	Black Stump Fm	2.97	33	P	Pb	05 22 36.4	+0.8
WVZ	Waitaha Valley	3.06	242	P	Pn	05 22 30.7	+0.1
HIZ	Hauiti	3.17	6	P	Pb	05 22 38.3	-0.8
HIZ	Hauiti	3.17	6	P	Pb	05 22 37.9	-1.2
RPZ	Rata Peaks	3.20	229	P	Pn	05 22 32.0	-0.6
RPZ	Rata Peaks	3.20	229	P	Pn	05 22 32.1	-0.6
ARCZ	Arundel	3.29	225	P	Pn	05 22 33.3	-0.5
GCSZ	Gaunt Creek Bo	3.43	240	P	Pn	05 22 36.6	+0.8
TMZ	Timaru	3.68	221	P	Pn	05 22 38.4	-0.8
FOZ	Fox Glacier	3.80	240	P	Pn	05 22 38.5	+0.6
TOZ	Tahuroa Road	4.03	13	P	Pb	05 22 51.2	-2.4
LBZ	Lake Benmore	4.11	227	P	Pn	05 22 45.1	-0.1
ODZ	Otahua Downs	4.34	218	P	Pn	05 22 47.5	-0.8
ODZ	Otahua Downs	4.34	218	P	Pn	05 22 47.1	-1.2
MKAZ	Moumakai	4.60	8	P	Pb	05 22 59.5	-3.9
JCZ	Jackson Bay	4.77	238	P	Pn	05 22 54.7	+0.4
EAZ	Earnscleugh	5.14	224	P	Pn	05 22 58.8	-0.4

NNC ***21*** *05:21:53.4±5.1, 53°.44N×87°.50E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=37.9km s-min=27.4km az=86.0, Suspected Mining explosion.*

IDC 21 05:21:50.5±2.6, 53°.57N×87°.82E, h0km, mbtmp3.1/2, ML2.9/2, 3C-5D, Error ellipse: s-maj=23.2km s-min=16.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.82	283	I	I	05 32 20.0	
	baz=99,slow=348,SNR=9.4						
ZAA0	Zalesovo Array	1.82	283	⇓Pn	Pn	05 22 22.8	-0.3
	0.2nm,0.2s						
ZAA0				⇑Sn	Sn	05 22 47.4	+0.6
	2.7nm,0.6s						
ZALV	Zalesovo Beam	1.82	283	Pn	Pn	05 22 22.9	-0.1
	1.8nm,0.3s,baz=102,slow=14,SNR=23						
ZALV				Lg	Lg	05 22 48.2	
	3.8nm,0.3s,baz=105,slow=30,SNR=22						
KURK	Kurchatov	6.34	247	⇓Pn	Pn	05 23 28.1	+2.9
	0.2nm,0.4s						
KURK				⇓Sn	Sn	05 24 35.7	-2.5
	2.1nm,1.0s						
KURK				⇓Lg	Lg	05 25 09.2	
	4.9nm,1.0s						
KURBB	Kurchatov Arra	6.44	246	Pn	Pn	05 23 27.1	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=10						
KURBB				Sn	Sn	05 24 39.8	-0.8
	baz=67,slow=24,SNR=3.6						
KURBB				Lg	Lg	05 25 15.3	
	baz=64,slow=30,SNR=8.5						
	0.9nm,0.4s						
KURBB	Kurchatov Arra	6.44	246	⇑Pn	Pn	05 23 27.2	+0.7
	1.0nm,0.3s,baz=64,slow=14						
KURBB				⇑Sn	Sn	05 24 38.2	-2.4
	4.7nm,0.7s						
KURBB				⇓Lg	Lg	05 25 10.9	
	4.6nm,0.7s						
MKAR	Makanchi Array	7.66	210	Pn	Pn	05 23 44.1	+1.0
	0.3nm,0.3s,baz=29,slow=14,SNR=12						
MKAR				Lg	Lg	05 25 55.4	
	0.1nm,0.3s,baz=20,slow=26,SNR=2.1						
	0.3nm,0.3s						

WEL 21 05:24:47.2±0.3, 42°S±2°×17°4E±°, h9km±2km, M3.7/23, ML4.0/24, MLv3.7/23, Error ellipse: s-maj=0.0km s-min=0.0km az=132.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.08	62	P	Pg	05 24 50.4	+0.9
CMWZ				S	Sg	05 24 53.1	+2.1
BSWZ	Blackbirch Sta	0.19	292	P	Pg	05 24 51.8	+0.6
BSWZ				S	Sg	05 24 55.1	+1.2
TUWZ	Tuamarina	0.38	340	P	Pb	05 24 55.4	-0.7
TUWZ				S	Sb	05 25 01.5	-0.6
TCW	Tory Channel	0.59	12	P	Pg	05 24 59.0	+0.4
WEL	Wellington	0.70	44	P	Pb	05 25 01.7	+0.1
KHZ	Kahutara	0.76	214	P	Pb	05 25 02.7	+0.1
NNZ	Nelson	0.79	316	P	Pg	05 25 02.6	+0.2
PLWZ	Palliser	0.88	76	P	Pb	05 25 04.5	-0.2
THZ	Tophouse	0.91	271	P	Pg	05 25 04.8	+0.2
MSWZ	Moikau Station	0.93	67	P	Pb	05 25 05.6	+0.1
CAW	Cannon Point	0.99	47	P	Pb	05 25 06.6	+0.2
DUWZ	D'Urville Isla	1.00	352	P	Pg	05 25 06.1	-0.2
PAWZ	Paruwai Farm	1.06	68	P	Pg	05 25 07.1	-0.5
MRNZ	Matariki Terra	1.09	290	P	Pb	05 25 08.4	+0.1
KIW	Kapiti Island	1.10	33	P	Pg	05 25 08.3	-0.1
TKNZ	Takaka Hill	1.15	311	P	Pg	05 25 09.0	-0.2
MTW	Mount Morrison	1.22	59	P	Pb	05 25 09.3	-1.1
TRWZ	Traveller	1.24	72	P	Pb	05 25 09.2	-1.5
OGWZ	Otaki Gorge	1.25	40	P	Pb	05 25 10.7	-0.2
HOWZ	Holdsworth Sta	1.38	50	P	Pn	05 25 11.7	-1.0
GVZ	Greta Valley S	1.43	214	P	Pn	05 25 12.4	-0.9
TMWZ	Te Maipa	1.50	64	P	Pn	05 25 12.7	-1.6
QRZ	Quartz Range	1.53	308	P	Pb	05 25 15.6	-0.2
MRZ	Mangatainoka R	1.58	45	P	Pn	05 25 14.7	-0.7
TIWZ	Tintock	1.67	53	P	Pn	05 25 16.4	-0.3
LTZ	Lake Taylor	1.69	233	P	Pn	05 25 16.6	-0.4
DSZ	Denniston Nort	1.73	271	P	Pb	05 25 18.5	-0.7
AMCZ	Amberley	1.76	217	P	Pn	05 25 17.5	-0.4
PRWZ	Pori Road	1.87	49	P	Pn	05 25 18.2	-1.1
POWZ	Post Office Ro	1.87	42	P	Pn	05 25 19.1	-0.3
BFZ	Birch Farm	1.95	56	P	Pn	05 25 18.7	-1.8
OKCZ	Okains Bay	2.08	202	P	Pn	05 25 20.5	-1.9
WAZ	Wanganui	2.14	18	P	Pb	05 25 25.6	-0.5
DVHZ	Dannevirke	2.15	47	P	Pn	05 25 21.6	-1.6
OXZ	Oxford	2.17	224	P	Pn	05 25 22.5	-1.0
INZ	Inchbonnie	2.19	244	P	Pn	05 25 24.2	+0.4
MQZ	McQueen's Vall	2.20	209	P	Pn	05 25 21.2	-2.7
TSZ	Takapari Road	2.22	40	P	Pn	05 25 23.5	-0.8
AKCZ	Akaroa Harbour	2.26	203	P	Pn	05 25 22.9	-2.0
LREZ	Lake Rotokare	2.34	5	P	Pb	05 25 29.6	+0.2
NMEZ	Namu Road	2.38	356	P	Pb	05 25 31.0	+0.8
RACZ	Rakaia	2.42	216	P	Pn	05 25 25.4	-1.6
KHEZ	Kahui Hut	2.49	358	P	Pb	05 25 31.5	-0.7
NEZ	North Egmont	2.52	360	P	Pb	05 25 31.8	-0.8
NBEZ	Newall Road No	2.52	356	P	Pb	05 25 32.8	+0.1
MHCZ	Mount Hutt	2.56	226	P	Pn	05 25 27.4	-1.6
PKE	Pukeiti	2.59	358	P	Pb	05 25 33.5	-0.4
DREZ	Durham Road	2.60	1	P	Pb	05 25 32.6	-1.3
MTVZ	Mangateitei	2.61	24	P	Pg	05 25 35.8	-1.4
PKVZ	Pokaka	2.67	21	P	Pn	05 25 32.1	+1.7
MOVZ	Moawhango	2.69	28	P	Pn	05 25 31.2	+0.5
WNVZ	Wahianoa	2.71	25	P	Pn	05 25 32.9	+1.8
VRZ	Vera Road	2.71	11	P	Pb	05 25 33.5	-2.2
TRVZ	Turoa	2.72	24	P	Pn	05 25 33.1	+1.9
BHHZ	Black Hill Sta	2.73	33	P	Pn	05 25 31.5	+0.2
WHVZ	Whangaehu Hut	2.74	25	P	Pn	05 25 33.1	+1.5
FWVZ	Far West T-bar	2.76	24	P	Pn	05 25 33.8	+2.0
TUVZ	Tukino	2.78	25	P	Pn	05 25 33.1	+1.1
WVZ	Waitaha Valley	2.81	242	P	Pn	05 25 33.3	+1.0
NGZ	Ngauruhoe	2.84	24	P	Pb	05 25 37.6	-0.7
SNVZ	South Ngauruho	2.85	25	P	Pb	05 25 38.6	+0.3
OTVZ	Oturere	2.88	25	P	Pb	05 25 37.8	-1.0
NNVZ	North Ngauruho	2.89	24	P	Pn	05 25 35.3	+1.7
TWVZ	Taurewa	2.90	21	P	Pb	05 25 37.6	-1.5
WTVZ	West Tongariro	2.90	23	P	Pb	05 25 38.3	-0.8
ETVZ	East Tongariro	2.92	25	P	Pn	05 25 35.2	+1.3
KRVZ	Karewarewa	2.93	24	P	Pb	05 25 41.3	+1.6
TMVZ	Te Maari	2.93	25	P	Pn	05 25 35.2	+1.1
NTVZ	North Tongarir	2.94	24	P	Pn	05 25 35.2	+1.0
RPZ	Rata Peaks	2.96	228	P	Pn	05 25 33.3	-1.2
ARCZ	Arundel	3.05	224	P	Pn	05 25 34.7	-1.0
MCHZ	McNeill Hill	3.06	41	P	Pb	05 25 42.1	+0.3
CKHZ	Cape Kidnapper	3.10	48	P	Pb	05 25 41.4	-1.1
GCSZ	Gaunt Creek Bo	3.19	240	P	Pn	05 25 40.9	-3.1
HIZ	Hauiti	3.32	10	P	Pn	05 25 41.5	+2.2
ARHZ	Aropaoanui	3.34	42	P	Pb	05 25 45.3	-1.4
NMHZ	Naumai	3.38	38	P	Pb	05 25 46.9	-0.5
TMZ	Timaru	3.45	220	P	Pn	05 25 39.9	-1.3
MTHZ	Maungataniwha	3.60	36	P	Pb	05 25 49.5	-1.5
WHHZ	Waihua	3.61	42	P	Pb	05 25 48.5	-2.7
FOZ	Fox Glacier	3.62	240	P	Pn	05 25 43.1	-0.3

ATAH Atahualpa 5.07 314 P **Pn** 05 29 33.8 +1.7
20nm,0.3s,baz=147,slow=6.1,SNR=97
8.3nm,0.3s
TBTG Tabatinga, AM 8.00 37 **Pn** 05 30 13.6 +1.6
TBTG Tabatinga, AM 8.00 37 *eP* **Pn** 05 30 13.8 +1.9
MCRA Macar, Loja 8.15 320 **Pn** 05 30 13.6 -0.5
BOSC San Juan Bosco 8.37 333 **Pn** 05 30 15.8 -1.4
ETMB Extrema 8.39 85 Pn **Pn** 05 30 18.5 +1.2
ETMB Extrema 8.39 85 *eP* **Pn** 05 30 18.3 +1.0
LPAZ La Paz 8.48 132 P **Pn** 05 30 19.6 +0.5
0.5nm,0.3s,baz=303,slow=5.7,SNR=17
1.6nm,0.4s
LPAZ La Paz 8.48 132 Pn **Pn** 05 30 19.9 +0.8
LPAZ La Paz 8.48 132 *eP* **Pn** 05 30 19.6 +0.5
PB18 Visviri 8.53 144 **Pn** 05 30 19.6 -0.2
ARNL Arenillas 8.86 323 **Pn** 05 30 23.8 0.0
PB12 IPOC Station P 8.95 152 Pn **Pn** 05 30 24.3 -0.9
PB16 IPOC Station P 9.12 147 **Pn** 05 30 28.7 +0.8
COHC Cochancay 9.32 331 **Pn** 05 30 30.5 +0.3
MNMC Minye Minye 9.74 150 **Pn** 05 30 34.8 -1.4
PSGCX Pisagua 9.91 154 Pn **Pn** 05 30 39.0 +0.7
PORT Chimborazo Vol 10.01 336 **Pn** 05 30 40.8 +0.8
CHSH Refugio Sur-Vo 10.02 335 **Pn** 05 30 40.2 0.0
PB11 IPOC Station P 10.26 152 Pn **Pn** 05 30 43.6 +0.5
GO01 Chusmiza 10.40 150 **Pn** 05 30 45.4 0.0
SLOR San Lorenzo - 10.57 339 **Pn** 05 30 47.4 -0.4
PB08 IPOC Station P 10.82 151 **Pn** 05 30 50.9 -0.1
IMBA Imbabura, San 11.42 342 Pn **Pn** 05 30 58.1 -1.3
PB01 IPOC Station P 11.46 155 Pn **Pn** 05 30 58.9 -0.6
PB02 IPOC Station P 11.55 157 Pn **Pn** 05 30 59.8 -0.9
TULM Tulcn-Chalpat 11.72 345 Pn **Pn** 05 31 02.4 -1.1
PB07 IPOC Station P 11.92 158 Pn **Pn** 05 31 04.4 -1.4
PB09 IPOC Station P 12.23 155 Pn **Pn** 05 31 07.5 -2.7
PB03 IPOC Station P 12.26 158 Pn **Pn** 05 31 08.1 -2.4
PB04 IPOC Station P 12.39 160 Pn **Pn** 05 31 09.6 -2.6
PB06 IPOC Station P 12.93 158 Pn **Pn** 05 31 15.7 -4.0
LVC Limon Verde 13.10 156 LR LR 05 36 41.6
comp=Z,251nm,19.3s,baz=318,slow=38
LVC Limon Verde 13.10 156 Pn **Pn** 05 31 20.4 -1.7
LVC Limon Verde 13.10 156 *eP* **Pn** 05 31 22.4 +0.2
PB15 IPOC Station P 13.43 159 Pn **Pn** 05 31 26.2 -0.3
SIV San Ignacio 14.27 113 P **Pn** 05 31 36.6 -1.3
0.1nm,0.3s,baz=285,slow=11,SNR=14
SIV LR LR 05 38 12.1
comp=Z,143nm,19.4s,baz=302,slow=42
1.9nm,0.5s
PRAC Prado 14.29 359 **Pn** 05 31 36.5 -1.7
VILB Vilhena 14.37 101 Pn **Pn** 05 31 39.3 +0.1
VILB Vilhena 14.37 101 *eP* **Pn** 05 31 40.0 +0.8
BBSD Serra de San D 15.12 117 *eP* **Pn** 05 31 49.4 +0.1
GO02 Mina Guanaco 15.21 162 Pn **Pn** 05 31 48.5 -2.2
MACA Manacapuru-AM 15.77 63 Pn **Pn** 05 31 56.2 -1.6
MACA IAmb IAmb 05 32 11.1
comp=Z,54nm,0.6s
PTLB Pontes e Lacer 15.88 109 Pn **Pn** 05 31 57.2 -1.9
PTLB IAmb IAmb 05 32 05.6
comp=Z,19nm,0.8s
BBRB Robore, Bolivi 16.27 119 *eP* **Pn** 05 32 03.5 -0.6
AC02 Maricunga 16.91 163 **Pn** 05 32 12.8 +0.1
AC02 IAmb IAmb 05 32 16.2
comp=Z,34nm,0.9s
AC06 Mina Casimiro 17.09 167 Pn **Pn** 05 32 11.1 -3.4
PDRB Porto dos Gac 17.65 95 *eP* **Pn** 05 32 22.1 +0.6
PAYG Puerto Ayora 18.41 302 P **P** 05 32 27.7 -2.9
AC05 El Transito 18.54 169 P **P** 05 32 30.2 -1.8
CLDB Colider 18.56 92 *eP* **Pn** 05 32 33.4 +0.7
LCO Las Campanas 18.63 169 P **Pn** 05 32 33.9 +0.3
BOAV Boa Vista 19.16 48 P **P** 05 32 38.1 -0.7
BOAV IAmb IAmb 05 33 10.7
comp=Z,9.2nm,0.8s
BOAV Boa Vista 19.16 48 *eP* **Pn** 05 32 40.8 +0.9
SALV Santo Antonio 19.20 108 *eP* **Pn** 05 32 40.5 +0.2
PANT Pantanal (Braz 19.32 117 *eP* **Pn** 05 32 42.8 +1.1
CO05 La Serena 19.42 171 P **P** 05 32 40.8 -0.7
CO05 IAmb IAmb 05 32 53.4
comp=Z,36nm,1.1s
NPGB Novo Progresso 19.44 81 *eP* **P** 05 32 42.2 +0.4
COJI Juntas del Tor 19.68 168 P **P** 05 32 43.3 -1.4
MURT Porto Murtinho 19.69 126 *eP* **Pn** 05 32 46.0 -0.2
GO04 Tololo Observa 19.74 170 P **P** 05 32 44.2 -1.1
GO04 IAmb IAmb 05 32 57.3
comp=Z,30nm,1.1s
ITTB Itaituba 19.80 73 *eP* **P** 05 32 46.5 +0.7
SDV Santo Domingo 19.84 12 P **P** 05 32 47.4 +0.9
comp=Z,0.6nm,0.3s,baz=350,slow=7.2,SNR=3.0
comp=Z,1.9nm,0.3s
SDV Santo Domingo 19.84 12 P **P** 05 32 46.1 -0.4
SDV Santo Domingo 19.84 12 *eP* **Pn** 05 32 49.0 +0.8
CO03 El Pedregal 20.41 170 P **P** 05 32 51.0 -1.4
BAUV El Baul 20.58 19 P **P** 05 32 53.1 -1.1
BAUV IAmb IAmb 05 33 03.2
comp=Z,27nm,0.8s
AQDB Aquidauana 20.71 120 P **P** 05 32 54.8 -0.8
AQDB Aquidauana 20.71 120 *eP* **P** 05 32 56.5 +0.8
CO02 Combarbal 20.72 171 P **P** 05 32 55.0 -0.7
CO02 IAmb IAmb 05 33 01.2
comp=Z,22nm,0.8s
ZON Zonda 21.51 166 P **P** 05 33 05.4 +1.2
VA06 Catapilco 22.01 172 P **P** 05 33 09.8 +0.4
VA06 IAmb IAmb 05 33 10.9
comp=Z,13nm,0.7s
MALB Monte Alegre 22.09 68 *eP* **P** 05 33 12.6 +2.0
VA03 San Esteban 22.32 171 P **P** 05 33 09.7 -3.2
VA03 IAmb IAmb 05 33 16.7
comp=Z,13nm,0.8s
URIC Uribia, Colomb 22.39 7 P **P** 05 33 13.2 -0.4
URIC IAmb IAmb 05 33 42.7
comp=Z,14nm,1.1s
ROC1 El Roble 22.46 172 P **P** 05 33 12.7 -1.9
ROC1 IAmb IAmb 05 33 16.1
comp=Z,17nm,0.8s
CPUP Villa Florida 22.62 136 P **P** 05 33 16.3 +0.2
comp=Z,4.8nm,0.7s,baz=322,slow=11,SNR=15
CPUP LR LR 05 42 45.5
comp=Z,52nm,21.4s,baz=318,slow=38
comp=Z,4.8nm,0.7s
CPUP Villa Florida 22.62 136 P **P** 05 33 15.9 -0.2
ARAG Araguaiana, MT 22.82 105 *eP* **P** 05 33 18.6 +0.2
SNDB Serra Nova Dou 22.98 96 *eP* **P** 05 33 20.2 +0.3
PCRV Puerto La Cruz 23.00 26 LR LR 05 43 12.6
comp=Z,236nm,18.5s,slow=39
MT03 Universidad Ad 23.04 171 P **P** 05 33 21.8 +1.3
MT03 IAmb IAmb 05 33 48.6
comp=Z,30nm,1.4s
MT09 Talagante 23.25 172 P **P** 05 33 21.7 -0.9
MT01 Popeta 23.30 173 P **P** 05 33 22.8 -0.2
MT01 IAmb IAmb 05 33 24.6
comp=Z,11nm,0.8s
LMEL Las Melosas 23.43 171 P **P** 05 33 25.4 +1.0
LMEL IAmb IAmb 05 33 31.1
comp=Z,15nm,1.1s
BO04 La Punta 23.51 171 P **P** 05 33 24.1 -1.0
BO01 Tunca 23.84 173 P **P** 05 33 26.6 -1.6
BO01 IAmb IAmb 05 33 30.2
comp=Z,19nm,1.3s
BO02 Sierra Bellavi 24.28 172 P **P** 05 33 31.8 -0.5
AZCA Azaras, Argent 24.66 137 *eP* **P** 05 33 37.1 +1.3
MCPB Macapa, AP 24.72 67 *eP* **P** 05 33 37.3 +0.9
ITRB Iturama 25.11 114 *eP* **P** 05 33 40.7 +0.7
ML02 Panimavida 25.16 174 P **P** 05 33 39.2 -0.9
ML02 IAmb IAmb 05 33 43.1
comp=Z,18nm,1.0s
ITQB Itaqui 25.33 141 P **P** 05 33 42.4 +0.6
ITQB IAmb IAmb 05 33 44.4
comp=Z,20nm,0.9s
PTGB Pitanga 25.63 126 *eP* **P** 05 33 45.4 +0.7
GRGR Grenville 26.09 30 P **P** 05 33 49.0 +0.2
BDFB Brasilia 26.43 104 P **P** 05 33 52.5 +0.4
comp=Z,1.9nm,0.7s,baz=335,slow=2.0,SNR=3.9
comp=Z,1.9nm,0.7s
BDFB Brasilia 26.43 104 P **P** 05 33 51.7 -0.4
BDFB IAmb IAmb 05 34 16.9
comp=Z,18nm,1.5s
ITAB Concordia 26.88 131 P **P** 05 33 56.3 +0.4
MDP Montagnes des 26.97 56 LR LR 05 45 03.2
comp=Z,139nm,18.3s,baz=230,slow=37
PLTB Pedras Altas 28.65 140 P **P** 05 34 12.1 +0.4
PLTB IAmb IAmb 05 34 12.8
comp=Z,12nm,1.0s
GO06 Curarrehue 28.94 175 P **P** 05 34 13.3 -1.0
CELP Cerrillos 29.66 16 P **P** 05 34 20.9 +0.1
CELP IAmb IAmb 05 34 30.2
comp=Z,16nm,0.9s

SJG San Juan 29.82 17 LR LR 05 46 01.4
comp=Z,50nm,21.4s,baz=172,slow=36
MTP Monte Pirata 29.97 18 P **P** 05 34 22.9 -0.6
CBYP Canovanas 30.05 17 P **P** 05 34 23.8 -0.4
PLCA Paso Flores 30.16 174 P **P** 05 34 25.2 +0.2
comp=Z,5.7nm,0.9s,baz=345,slow=9.4,SNR=14
PLCA LR LR 05 45 05.1
comp=Z,52nm,19.1s,baz=348,slow=33
comp=Z,5.7nm,0.9s
PLCA Paso Flores 30.16 174 P **P** 05 34 25.3 +0.2
PLCA IAmb IAmb 05 34 26.1
comp=Z,7.4nm,0.9s
CMIG Matias Romero 34.05 324 LR LR 05 47 05.2
comp=Z,69nm,20.9s,baz=160,slow=33
RPN Rapa Nui 36.47 238 LR LR 05 47 30.5
comp=Z,47nm,21.9s,baz=228,slow=32
RCBR Riachuelo 38.67 86 LR LR 05 52 00.5
comp=Z,211nm,18.9s,baz=48,slow=37
MG05 Puerto Natales 40.93 178 P **P** 05 35 57.4 +0.3
MG02 Cerro Sombrero 42.23 175 P **P** 05 36 07.2 -0.5
255A Hazlehurst 43.01 350 P **P** 05 36 15.3 +1.1
CPCT Cooper Cave 46.80 349 P **P** 05 36 43.9 -0.6
CPCT IAmb IAmb 05 37 11.4
comp=Z,6.8nm,1.1s
TKL Tuckaleechee C 46.87 350 LR LR 05 59 16.5
comp=Z,23nm,18.6s,baz=146,slow=40
V48A Smith Brothers 47.56 347 P **P** 05 36 50.7 +0.3
V48A IAmb IAmb 05 37 19.6
comp=Z,11nm,1.4s
T57A Hurt 47.61 355 P **P** 05 36 50.1 -0.6
TXAR Lajitas Array 48.61 326 P **P** 05 36 59.5 +0.8
comp=Z,0.2nm,0.5s,baz=151,slow=7.3,SNR=5.4
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 48.61 326 P **P** 05 36 58.4 -0.4
TX31 Lajitas Ar. Si 48.61 326 P **P** 05 36 58.5 -0.2
TX32 Lajitas Array 48.61 326 P **P** 05 36 58.3 -0.5
TX32 IAmb IAmb 05 37 07.9
comp=Z,4.9nm,1.1s
WHAR Wooly Hollow 48.65 341 P **P** 05 36 58.9 +0.1
WHAR IAmb IAmb 05 36 59.9
comp=Z,11nm,1.4s
P43A Skaggs, Pawnee 51.92 345 P **P** 05 37 22.9 -0.6
319A Douglas 53.36 323 P **P** 05 37 33.6 -0.9
KSU1 Kansas State U 53.56 339 P **P** 05 37 34.6 -1.1
KSU1 IAmb IAmb 05 38 17.5
comp=Z,9.5nm,1.2s
T25A Trinidad 55.14 331 P **P** 05 37 48.4 +0.9
X18A Snowflake 56.02 325 P **P** 05 37 53.5 -0.4
X18A IAmb IAmb 05 38 03.5
comp=Z,9.7nm,1.3s
SDCO Great Sand Dun 56.15 331 P **P** 05 37 56.0 +1.2
WUAZ Wupatki 57.54 325 P **P** 05 38 03.7 -0.9
WUAZ IAmb IAmb 05 38 18.4
comp=Z,6.5nm,0.8s
SMCO Snowmass 57.98 331 P **P** 05 38 05.9 -1.9
SMCO IAmb IAmb 05 38 27.5
comp=Z,4.2nm,0.9s
PV13 Radium Mtn., P 58.12 329 P **P** 05 38 08.9 +0.3
KNB Kanab 59.43 325 P **P** 05 38 17.0 -0.7
KNB IAmb IAmb 05 38 27.7
comp=Z,6.1nm,0.9s
P17A Butcher Ranch, 60.09 328 P **P** 05 38 20.8 -1.4
P17A IAmb IAmb 05 38 31.4
comp=Z,6.2nm,1.1s
CCUT Cedar City 60.11 325 P **P** 05 38 22.3 -0.1
RDMU Red Mountain 60.33 330 P **P** 05 38 22.2 -1.7
SHPR Sheep Range 60.43 323 P **P** 05 38 22.7 -1.9
PSUT Pine Spring 61.08 326 P **P** 05 38 29.9 +0.8
PSUT IAmb IAmb 05 38 43.4
comp=Z,4.0nm,0.8s
NLU North Lily Min 61.14 328 P **P** 05 38 29.3 -0.1
NLU IAmb IAmb 05 38 39.0
comp=Z,5.1nm,1.1s
DUG Dugway, Tooele 61.70 328 P **P** 05 38 34.0 +0.8
R11A Troy Canyon, C 61.93 324 P **P** 05 38 34.1 -0.6
R11A IAmb IAmb 05 38 44.8
comp=Z,4.2nm,1.2s
PDAR Pinedale Array 62.00 332 P **P** 05 38 35.1 0.0
comp=Z,0.3nm,0.4s,baz=131,slow=8.9,SNR=5.1
comp=Z,0.3nm,0.4s
HWUT Hardware Ranch 62.10 329 P **P** 05 38 35.7 -0.1
ULM Lac du Bonnet 63.43 345 P **P** 05 38 44.4 +0.1
comp=Z,2.1nm,0.5s,baz=153,slow=8.2,SNR=2.2
comp=Z,2.1nm,0.5s
NVAR Mina Array Bea 63.57 323 P **P** 05 38 47.1 +1.4
comp=Z,0.1nm,0.3s,baz=91,slow=9.0,SNR=1.9
comp=Z,0.1nm,0.3s
GCMT Greycliff 64.40 334 P **P** 05 38 52.1 +1.2
YBH Yreka Blue Hor 68.28 323 LR LR 06 08 25.9
comp=Z,36nm,18.3s,baz=116,slow=35
BUCK Buck Mountain 69.97 325 P **P** 05 39 25.6 -0.5
BELA Belgrano 2 70.19 172 P **P** 05 39 27.6 +0.6
BELA IAmb IAmb 05 39 28.9
comp=Z,3.3nm,0.7s
DBIC Dimbokro 71.62 79 P **P** 05 39 36.8 +0.1
comp=Z,3.2nm,0.7s,baz=272,slow=7.0,SNR=4.5
DBIC LR LR 06 08 34.8
comp=Z,72nm,19.6s,baz=194,slow=34
comp=Z,3.2nm,0.7s
VNA3 Neumayer Olymp 72.04 162 P **P** 05 39 39.1 +0.8
VNA2 Neumayer--Watz 72.64 161 P **P** 05 39 42.6 +0.8
baz=281,slow=6.1
SNAA Sanae 74.25 162 P **P** 05 39 52.3 +0.9
SNAA Sanae 74.25 162 P **P** 05 39 52.0 +0.6
SNAA IAmb IAmb 05 39 53.1
comp=Z,7.1nm,0.8s
TROLL Troll, Antarti 75.97 162 P **P** 05 40 02.4 +1.0
TOA0 Torodi Ar. Sit 79.41 74 P **P** 05 40 19.7 -1.7
TOA0 IAmb IAmb 05 40 29.3
comp=Z,4.3nm,0.8s
QSPA South Pole Qui 79.45 180 P **P** 05 40 19.4 -1.5
QSPA IAmb IAmb 05 40 22.4
comp=Z,2.6nm,0.7s
ESDC Sonseca Array 82.33 47 P **P** 05 40 38.4 +1.8
comp=Z,0.9nm,0.8s,baz=270,slow=4.8,SNR=4.8
ESDC LR LR 06 11 39.1
comp=Z,22nm,21.3s,baz=269,slow=32
comp=Z,0.9nm,0.8s
ILAR Eielson Array 92.14 336 P **P** 05 41 24.2 +0.5
comp=Z,0.3nm,0.8s,baz=151,slow=2.1,SNR=2.0
comp=Z,0.3nm,0.8s
ASAR Alice Springs 135.88 219 PKP **PKPdf** 05 47 36.4 +0.1
comp=Z,0.5nm,0.5s,baz=139,slow=3.1,SNR=7.2
WRA Warramunga Arr 138.26 223 PKP **PKPdf** 05 47 41.1 +0.4
comp=Z,0.9nm,0.5s,baz=133,slow=1.9,SNR=12
SONM Songino Array 142.95 359 PKP **PKPdf** 05 47 46.0 -2.4
comp=Z,0.4nm,0.4s,baz=323,slow=2.2,SNR=2.3
PZH PanZhiHua 163.89 12 PKP **PKPdf** 05 48 17.9 -0.7

NNC 21 05:57:20.8±1.8, 53.58N×88.13E, h0km, mb3.5, mpv3.1, 8C-3D, Error ellipse: s-maj=13.2km s-min=8.4km az=70.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**2.00**	**282**	⇓Pn	Pn	05 57 55.3	-0.5
ZAA0	1.5nm,0.7s			⇑Sn	Sb	05 58 22.9	-0.6
	2.3nm,0.5s						
KURK	**Kurchatov**	**6.52**	**248**	⇓Pn	Pn	05 58 58.3	+0.4
KURK	1.0nm,0.6s			⇑Sn	Sn	06 00 14.0	+1.1
	0.4nm,0.5s			⇑Lg	Lg	06 00 49.0	
	2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**6.61**	**247**	⇑Pn	Pn	05 58 58.9	-0.3
KURBB	1.5nm,0.3s			⇓Sn	Sn	06 00 15.4	+0.1
	2.7nm,0.6s			⇑Lg	Lg	06 00 50.1	
	3.7nm,0.7s						
MK31	**Makanchi Array**	**7.76**	**211**	⇑Pn	Pn	05 59 16.4	+1.5
MK31	5.4nm,1.2s,baz=34,slow=12,SNR=6.3			⇑Sn	Sn	06 00 45.6	+2.1
	1.8nm,0.8s			⇑Lg	Lg	06 01 24.6	
MK31	1.7nm,0.8s						

*IDC **21** 05:59:41.3±6.5, 28.84S×73.87E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=177.9km s-min=41.1km az=52.0*
*NEIC **21** 05:59:45.6±1.4, 28.6S±0.2×74.35E±0.08, h10km±1km, mb4.4/8, Error ellipse: s-maj=29.7km s-min=11.3km az=189.0*

ISC 21 05:59:45.2±1.1, 28.6S±0.2×74.4E±0.2, h10km, n18, σ0s92/15, mb4.2/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**20.92**	**355**	T	T	06 26 01.0	
	baz=176,slow=76,SNR=15						
H08S1	**Diego Carcia H**	**20.93**	**355**	T	T	06 26 03.9	
	baz=176,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**20.94**	**355**	T	T	06 26 01.0	
	baz=176,slow=76,SNR=16						
NWAO	**Narrogin (SRO)**	**36.88**	**108**	P	**P**	**06 06 54.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**52.46**	**30**	P	**P**	**06 08 59.5**	**+1.3**
	0.9nm,0.3s,baz=227,slow=5.3,SNR=2.0						
	0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**52.46**	**30**	P	**P**	**06 08 56.9**	**-1.4**
ASAR	**Alice Springs**	**53.19**	**99**	P	**P**	**06 09 04.7**	**+0.8**
	0.7nm,0.8s,baz=244,slow=6.0,SNR=5.2						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**53.19**	**99**	P	**P**	**06 09 02.5**	**-1.4**
AS31	**Alice Springs**	**53.19**	**99**	P	**P**	**06 09 02.5**	**-1.4**
WRA	**Warramunga Arr**	**54.84**	**95**	P	**P**	**06 09 16.7**	**+0.7**
	1.4nm,0.8s,baz=253,slow=7.5,SNR=7.6						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**54.84**	**95**	P	**P**	**06 09 16.4**	**+0.4**
WB2	**Warramunga Arr**	**54.85**	**95**	P	**P**	**06 09 16.0**	**0.0**
WB2				IAmb	IAmb	06 09 24.2	
	comp=Z,6.3nm,1.1s						
WB0	**Warramunga Arr**	**54.96**	**95**	P	**P**	**06 09 16.5**	**-0.3**
WR0	**Warramunga Arr**	**55.02**	**95**	P	**P**	**06 09 17.4**	**+0.2**
WR0				IAmb	IAmb	06 09 47.1	
	comp=Z,5.0nm,1.1s						
SNAA	**Sanae**	**59.12**	**201**	P	**P**	**06 09 45.5**	**0.0**
SNAA				IAmb	IAmb	06 10 07.1	
	comp=Z,2.6nm,1.1s						
KK31	**Karatay Array**	**71.44**	**357**	P	**P**	**06 11 06.5**	**+0.9**
KK31				IAmb	IAmb	06 11 06.8	
	comp=Z,3.8nm,1.2s						
KKAR	**Karatay Array**	**71.44**	**357**	P	**P**	**06 11 05.8**	**+0.2**
MKAR	**Makanchi Array**	**75.38**	**6**	P	**P**	**06 11 28.0**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=191,slow=7.6,SNR=1.7						
	comp=Z,1.0nm,1.0s						

*IDC **21** 06:02:51.7±4.3, 28.86S×73.93E, h0km, mb4.1/7, mbtmp4.1/7, MS3.8/26, Error ellipse: s-maj=119.2km s-min=29.0km az=52.0*
*NEIC **21** 06:02:55.0±1.2, 28.5S±0.1×74.2E±0.2, h10km±2km, mb4.6/12, Error ellipse: s-maj=41.6km s-min=8.2km az=242.0*

ISC 21 06:02:52.9±2.9, 28.9S±0.4×73.9E±0.4, h10km, n49, σ0s69/24, mb4.4/12, MS3.8/26, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**21.17**	**356**	T	T	06 29 10.9	
	baz=176,slow=76,SNR=113						
H08S1	**Diego Carcia H**	**21.17**	**356**	T	T	06 29 11.4	
	baz=176,slow=76,SNR=45						
H08S3	**Diego Garcia H**	**21.19**	**356**	T	T	06 29 12.7	
	baz=176,slow=76,SNR=102						
PALK	**Pallekele**	**36.53**	**11**	P	**P**	**06 09 58.7**	**-0.1**
	16nm,0.9s,baz=180,slow=11,SNR=5.1						
PALK				LR	LR	06 21 39.4	
	comp=Z,141nm,18.3s,baz=292,slow=31						
	16nm,0.9s						
NWAO	**Narrogin (SRO)**	**37.18**	**107**	LR	LR	06 23 08.2	
	comp=Z,107nm,20.6s,baz=310,slow=33						
LEM	**Lembang**	**38.62**	**62**	LR	LR	06 22 12.0	
	comp=Z,188nm,21.3s,baz=192,slow=30						
MAW	**Mawson**	**39.31**	**187**	LR	LR	06 23 05.4	
	comp=Z,135nm,20.7s,baz=346,slow=31						
BOSA	**Boshof**	**42.43**	**258**	LR	LR	06 24 25.4	
	comp=Z,201nm,21.7s,baz=156,slow=30						
LBTB	**Lobatse**	**43.03**	**263**	LR	LR	06 25 59.7	
	comp=Z,93nm,19.3s,baz=103,slow=32						
LSZ	**Lusaka**	**44.23**	**278**	LR	LR	06 27 26.8	
	comp=Z,155nm,19.1s,baz=161,slow=33						
SUR	**Sutherland**	**45.46**	**252**	LR	LR	06 26 10.7	
	comp=Z,92nm,21.9s,baz=107,slow=31						
KAPI	**Kappang**	**49.41**	**70**	LR	LR	06 32 05.3	
	comp=Z,76nm,18.1s,baz=217,slow=36						
MBAR	**Mbarara**	**49.88**	**296**	LR	LR	06 28 21.2	
	comp=Z,88nm,22.0s,baz=133,slow=31						
TSUM	**Tsumeb**	**51.95**	**267**	LR	LR	06 31 19.8	
	comp=Z,179nm,20.2s,baz=152,slow=33						
CMAR	**Chiang Mai Arr**	**52.91**	**30**	P	**P**	**06 12 09.5**	**+0.2**
	0.8nm,0.3s,baz=209,slow=5.7,SNR=5.4						
CMAR				LR	LR	06 31 50.9	
	comp=Z,85nm,18.9s,baz=210,slow=33						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**53.55**	**99**	P	**P**	**06 12 14.0**	**-0.2**
	0.8nm,0.4s,baz=248,slow=6.9,SNR=15						
ASAR				LR	LR	06 31 28.4	
	comp=Z,95nm,21.7s,baz=277,slow=32						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**53.55**	**99**	P	**P**	**06 12 14.3**	**+0.1**
AS31	**Alice Springs**	**53.55**	**99**	P	**P**	**06 12 14.5**	**+0.3**
BRDH	**Bariadhala**	**54.03**	**20**	LR	LR	06 31 21.9	
	comp=Z,197nm,20.9s,baz=256,slow=32						
WRA	**Warramunga Arr**	**55.23**	**95**	P	**P**	**06 12 27.3**	**+0.9**
	1.1nm,0.6s,baz=252,slow=7.2,SNR=18						
WRA				LR	LR	06 34 06.7	
	comp=Z,182nm,18.5s,baz=262,slow=34						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**55.23**	**95**	P	**P**	**06 12 25.4**	**-1.1**
WB2	**Warramunga Arr**	**55.24**	**95**	P	**P**	**06 12 25.7**	**-0.8**
WB2				IAmb	IAmb	06 12 35.8	
	comp=Z,8.3nm,1.2s						
WRAB	**Tennant Creek**	**55.24**	**95**	P	**P**	**06 12 25.6**	**-0.9**
WB0	**Warramunga Arr**	**55.34**	**95**	P	**P**	**06 12 27.4**	**+0.1**
WB0				IAmb	IAmb	06 12 35.9	
	comp=Z,6.4nm,1.0s						
WR0	**Warramunga Arr**	**55.40**	**95**	P	**P**	**06 12 27.8**	**+0.1**
WR0				IAmb	IAmb	06 12 51.7	
	comp=Z,9.4nm,1.2s						
STKA	**Stephens Creek**	**57.58**	**111**	LR	LR	06 35 10.9	
	comp=Z,71nm,18.3s,baz=205,slow=34						
DAV	**Davao City (W)**	**61.23**	**63**	LR	LR	06 37 44.2	
	comp=Z,66nm,19.8s,baz=92,slow=34						
CTA	**Charters Tower**	**65.52**	**100**	LR	LR	06 41 13.7	
	comp=Z,131nm,18.3s,baz=261,slow=35						
GEYT	**Alibeck**	**68.09**	**347**	LR	LR	06 39 33.0	
	comp=Z,52nm,20.0s,baz=168,slow=32						
EIL	**Elat**	**69.10**	**324**	LR	LR	06 40 01.4	
	comp=Z,42nm,18.3s,baz=242,slow=32						
AAK	**Ala-Archa**	**71.17**	**0**	LR	LR	06 43 39.7	
	comp=Z,74nm,18.1s,baz=190,slow=34						
AAK	**Ala-Archa**	**71.17**	**0**	P	**P**	**06 14 12.3**	**+0.5**
AAK				IAmb	IAmb	06 14 15.2	
	comp=Z,6.6nm,1.2s						
KK31	**Karatay Array**	**71.70**	**357**	P	**P**	**06 14 13.3**	**-1.5**
KKAR	**Karatay Array**	**71.70**	**357**	P	**P**	**06 14 14.2**	**-0.6**
MK31	**Makanchi Array**	**75.70**	**6**	P	**P**	**06 14 37.0**	**-1.2**
MKAR	**Makanchi Array**	**75.70**	**6**	P	**P**	**06 14 38.7**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=185,slow=6.7,SNR=2.9						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**75.70**	**6**	P	**P**	**06 14 38.9**	**+0.7**
KRVT	**Keravat (AS076**	**77.51**	**88**	LR	LR	06 49 05.8	
	comp=Z,41nm,18.2s,baz=343,slow=36						
ABKAR	**Akbulak array**	**78.78**	**351**	P	**P**	**06 14 55.5**	**+0.1**
KURK	**Kurchatov**	**79.36**	**3**	P	**P**	**06 14 59.0**	**+0.5**
KURK				IAmb	IAmb	06 15 01.1	
	comp=Z,8.7nm,1.4s						
GUMO	**Guam**	**80.43**	**69**	LR	LR	06 51 26.1	
	comp=Z,20nm,18.2s,baz=76,slow=36						
PMSA	**Palmer Station**	**81.08**	**197**	LR	LR	06 49 32.3	
	comp=Z,97nm,18.2s,baz=139,slow=34						
SONM	**Songino Array**	**81.75**	**21**	P	**P**	**06 15 12.4**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=195,slow=8.7,SNR=4.6						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**83.03**	**6**	P	**P**	**06 15 18.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=194,slow=3.1,SNR=4.7						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**83.03**	**6**	P	**P**	**06 15 18.6**	**+0.6**
KSAR	**Wonju Array Be**	**83.12**	**40**	P	**P**	**06 15 18.4**	**-0.5**
KS19	**Wonju Array Si**	**83.15**	**40**	P	**P**	**06 15 19.0**	**0.0**
DBIC	**Dimbokro**	**83.46**	**281**	LR	LR	06 50 03.6	
	comp=Z,42nm,18.6s,baz=166,slow=34						
ARU	**Arti**	**85.97**	**352**	LR	LR	06 53 03.0	
	comp=Z,39nm,18.4s,baz=152,slow=35						

*IDC **21** 06:30:59.2±5.2, 22.15S×179.46W, h586km, 31km, mb3.2/6,*

mbtmp4.2/7, Error ellipse: s-maj=103.9km s-min=24.8km az=135.0

ISC 21 06:31:01.1±3.1, 21.9S±0.4×179.7W±0.4, h600km, n9, σ0.97/8, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**333**	P		**P**		**06 32 31.5**	**-0.4**
	33nm,0.4s,baz=181,slow=5.6,SNR=53								
CTA	**Charters Tower**	**31.82**	**267**	P		**P**		**06 36 38.2**	**-0.4**
	1.9nm,0.5s,baz=93,slow=9.2,SNR=1.8								
	1.9nm,0.5s								
STKA	**Stephens Creek**	**35.76**	**246**	P		**P**		**06 37 11.0**	**-0.4**
	1.2nm,0.6s,baz=101,slow=9.3,SNR=3.5								
	1.2nm,0.6s								
ASAR	**Alice Springs**	**42.68**	**258**	P		**P**		**06 38 07.3**	**+0.4**
	2.0nm,0.6s,baz=98,slow=8.1,SNR=22								
	2.0nm,0.6s								
WRA	**Warramunga Arr**	**42.87**	**264**	P		**P**		**06 38 08.2**	**-0.2**
	0.6nm,0.3s,baz=96,slow=7.8,SNR=24								
	0.6nm,0.3s								
PETK	**Petropavlovsk-**	**77.27**	**346**	P		**P**		**06 41 54.4**	**0.0**
	2.5nm,0.7s,baz=145,slow=5.3,SNR=1.9								
	2.5nm,0.7s								
CMAR	**Chiang Mai Arr**	**89.13**	**290**	P		**P**		**06 42 56.0**	**+1.7**
	0.9nm,0.3s,baz=148,slow=3.6,SNR=5.2								
	0.9nm,0.3s								
AKASG	**Malin Array Be**	**143.47**	**329**	PKP		PKPbc		06 49 25.8	-1.2
	1.5nm,0.4s,baz=40,slow=4.5,SNR=12								
BRTR	**Keskin Array B**	**146.59**	**310**	PKPbc		**PKiKP**		**06 49 37.7**	**-1.1**
	0.4nm,0.5s,baz=46,slow=6.2,SNR=2.0								

IDC 21 06:33:11.6±3.0, 43.39N×141.84E, h140km±32km, mb3.6/12, mbtmp4.1/14, Error ellipse: s-maj=21.1km s-min=17.2km az=162.0

NIED 21 06:33:13.9, 43.37N×141.80E, h158km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.31; $M_{\theta\theta}$=2.61; $M_{\phi\phi}$=0.70; $M_{r\theta}$=-2.99; $M_{\theta\phi}$=0.50; $M_{r\phi}$=-2.16; Fault plane solution: M_0=4.74000×10^{14} NP1: ϕ_s=263.00000°, δ21.00000°, λ=-68.00000°. NP2:ϕ_s=60.00000°, δ71.00000°, λ=-98.00000°.

JMA 21 06:33:13.9±0.2, 43.4N±0.6×141.8E±0.8, h158km±1km, MV3.5/38, ISHIKARI DEPRESSION

ISC 21 06:33:13.5±0.7, 43.35N±0.04×141.83E±0.05, h162km±5km, n33, σ0.79/49, mb3.8/11, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JISS	**Ishikarishitsu**	**0.31**	**256**	P			**Pn**	**06 33 35.8**	**+0.3**
JISS					*e*S		**Sn**	**06 33 52.0**	**-0.2**
JAB	**Ashibetsu**	**0.33**	**62**	*e*P			**Pn**	**06 33 35.7**	**+0.1**
JAB					*e*S		**Sn**	**06 33 52.0**	**-0.5**
JHR	**Hokuryu**	**0.40**	**349**	*e*P			**Pn**	**06 33 36.1**	**+0.3**
JHR					*e*S		**Sn**	**06 33 53.0**	**0.0**
JEW	**Eniwo**	**0.58**	**208**	P			**Pn**	**06 33 37.0**	**+0.4**
JEW					*e*S		**Sn**	**06 33 54.7**	**+0.3**
JBT2	**Biratori 2**	**0.70**	**145**	*e*P			**Pn**	**06 33 37.4**	**+0.1**
JBT2					*e*S		**Sn**	**06 33 55.6**	**+0.1**
JIAM	**Iburiatsuma**	**0.73**	**174**	*e*P			**Pn**	**06 33 38.1**	**+0.6**
JIAM					*e*S		**Sn**	**06 33 57.0**	**+1.1**
JKK2	**Kamakawa 2**	**0.85**	**52**	*e*P			**Pn**	**06 33 38.5**	**+0.2**
JKK2					*e*S		**Sn**	**06 33 56.8**	**-0.6**
JSS	**Shosan**	**1.05**	**1**	*e*P			**Pn**	**06 33 40.0**	**+0.3**
JSS					*e*S		**Sn**	**06 34 00.0**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.27**	**147**	*e*P			**Pn**	**06 33 42.4**	**+0.7**
JNBK					*e*S		**Sn**	**06 34 04.7**	**+1.2**
JCH	**Churui**	**1.35**	**123**	*e*P			**Pn**	**06 33 41.9**	**-0.6**
JCH					*e*S		**Sn**	**06 34 02.9**	**-1.8**
JAR	**Ashorobuto**	**1.42**	**92**	*e*P			**Pn**	**06 33 44.0**	**+0.9**
JAR					*e*S		**Sn**	**06 34 07.2**	**+1.2**
JTKR	**Abashiri--Toko**	**1.63**	**67**	*e*P			**Pn**	**06 33 46.1**	**+0.8**
JTKR					*e*S		**Sn**	**06 34 10.6**	**+0.7**
JSE	**Soyaes**	**1.70**	**19**	*e*P			**Pn**	**06 33 46.0**	**0.0**
JSE					*e*S		**Sn**	**06 34 09.8**	**-1.3**
JWK2	**Keihoku**	**1.96**	**1**	*e*P			**Pn**	**06 33 49.4**	**+0.5**
JOT	**Ohata**	**2.05**	**197**	*e*P			**Pn**	**06 33 49.6**	**-0.3**
JOT					*e*S		**Sn**	**06 34 17.3**	**-0.8**
JAK	**Akkeshi**	**2.13**	**99**	*e*P			**Pn**	**06 33 50.5**	**-0.3**
JAK					*e*S		**Sn**	**06 34 18.7**	**-0.9**
JRBN	**Rebuntou**	**2.14**	**346**	*e*P			**Pn**	**06 33 50.6**	**-0.3**
JOMM	**Oshimamatsumae**	**2.27**	**217**	*e*S			**Sn**	**06 34 22.7**	**+0.2**
MJAR	**Matsushiro Arr**	**7.35**	**203**	P			**Pn**	**06 34 57.8**	**-0.4**
	2.3nm,0.4s,baz=20,slow=11,SNR=6.6								
JHJ	**Hachijo jima 2**	**10.34**	**190**	P			**Pn**	**06 35 35.0**	**-2.8**
	44nm,0.5s,baz=353,slow=19,SNR=7.9								
SEY	**Seymchan**	**20.56**	**14**	P			**P**	**06 37 37.9**	**-1.2**
	7.9nm,1.1s,baz=203,slow=13,SNR=2.6								
	7.9nm,1.1s								
SONM	**Songino Array**	**25.05**	**293**	P			**P**	**06 38 23.1**	**+0.4**
	2.7nm,0.6s,baz=81,slow=8.8,SNR=14								
	2.7nm,0.6s								
MKAR	**Makanchi Array**	**41.31**	**296**	P			**P**	**06 40 43.1**	**+0.2**
	1.4nm,0.6s,baz=79,slow=12,SNR=15								
	1.4nm,0.6s								
KURBB	**Kurchatov Arra**	**42.60**	**303**	P			**P**	**06 40 53.5**	**+0.3**
	3.2nm,0.2s,baz=72,slow=8.9,SNR=13								
	3.2nm,0.2s								
ILAR	**Eielson Array**	**44.08**	**36**	P			**P**	**06 41 05.5**	**+0.5**
	0.7nm,0.8s,baz=262,slow=8.2,SNR=7.6								
	0.7nm,0.8s								
BVAR	**Borovoye Array**	**46.73**	**308**	P			**P**	**06 41 26.4**	**+0.4**
	1.5nm,0.4s,baz=74,slow=9.1,SNR=12								
BVAR				PcP			**PcP**	**06 42 57.2**	**+0.6**
	0.7nm,0.5s,baz=64,slow=3.4,SNR=3.9								
	1.5nm,0.4s								
INK	**Inuvik**	**48.68**	**30**	P			**P**	**06 41 41.3**	**+0.7**
	0.5nm,0.3s,baz=258,slow=5.1,SNR=8.1								
	0.5nm,0.3s								
ARCES	**ARCESS Array B**	**58.23**	**338**	P			**P**	**06 42 50.0**	**-0.2**
	2.3nm,0.8s,baz=46,slow=3.5,SNR=3.6								
	2.3nm,0.8s								
WRA	**Warramunga Arr**	**63.35**	**188**	P			**P**	**06 43 26.4**	**+1.0**
	0.1nm,0.5s,baz=5.1,slow=6.9,SNR=1.3								
	0.1nm,0.5s								
FINES	**FINESS Array B**	**63.41**	**331**	P			**P**	**06 43 24.9**	**-0.3**
	2.2nm,0.5s,baz=51,slow=7.1,SNR=19								
	2.2nm,0.5s								
NB2	**NORSAR Subarra**	**68.50**	**337**	P			**P**	**06 43 57.9**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=38,slow=6.5								
NOA	**NORSAR Array B**	**68.50**	**337**	P			**P**	**06 43 57.5**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=37,slow=6.3,SNR=5.3								
	comp=Z,1.1nm,0.6s								
PDAR	**Pinedale Array**	**73.06**	**47**	P			**P**	**06 44 25.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=263,slow=2.3,SNR=3.9								
	comp=Z,0.2nm,0.5s								

IDC 21 06:35:31.0±2.4, 54.18N×86.36E, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=19.3km s-min=11.6km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**256**	I			I	06 41 10.0	
	0.3nm,0.9s,baz=75,slow=346,SNR=34								
ZALV	**Zalesovo Beam**	**0.94**	**256**	Pg			Pg	06 35 47.4	-1.5
	2.4nm,0.3s,baz=74,slow=17,SNR=33								
ZALV				Lg			Lg	06 36 02.4	
	5.8nm,0.3s,baz=78,slow=30,SNR=35								
ZALV				Rg			Rg	06 36 05.4	
	3.3nm,0.3s,baz=76,slow=24,SNR=6.6								
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn			Pn	06 37 01.6	+1.0
	0.3nm,0.3s,baz=53,slow=13,SNR=7.3								
KURBB				Lg			Lg	06 38 43.3	
	0.1nm,0.3s,baz=48,slow=31,SNR=4.4								
	1.7nm,0.2s								
MKAR	**Makanchi Array**	**7.83**	**201**	Pn			Pn	06 37 27.2	+1.0
	0.2nm,0.3s,baz=24,slow=14,SNR=11								
	0.5nm,0.4s								

JMA 21 06:38:40.0±0.3, 22.9N±0.8×121.1E±, h0km, MV3.7/10, TAIWAN REGION

TAP 21 06:38:42.8, 23.10N×120.70E, h6km, ML3.9, C

ASIES 21 06:38:42.6, 23.11N×120.71E, h15km, MW3.7

ISC 21 06:38:43.4±0.8, 23.10N±0.01×120.71E±0.01, h10km±5km, n162, σ0.86/227, 24C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.08**	**35**	⇑*i*P			**Pg**	**06 38 45.6**	**-0.3**
	baz=45								
STYT				*i* S			**Sg**	**06 38 47.4**	**-0.2**
	baz=45								
SGST	**Jiashian**	**0.11**	**263**	⇑*i*P			**Pg**	**06 38 45.0**	**-1.2**
	baz=261								
SGST				*i* S			**Sg**	**06 38 47.1**	**-1.1**
	baz=261								
SLGT	**Liugui**	**0.12**	**208**	⇑P			**Pg**	**06 38 46.0**	**-0.2**
	baz=203								
SLGT				*i* S			**Sg**	**06 38 48.3**	**+0.1**
	baz=203								
WTP	**Ta-pu**	**0.17**	**330**	⇓*i*P			**Pg**	**06 38 47.2**	**+0.1**
	baz=337								
WTP				*i* S			**Sg**	**06 38 50.1**	**+0.3**
	baz=337								
CHN1	**Nanshi**	**0.19**	**298**	⇓*i*P			**Pg**	**06 38 47.6**	**+0.3**
	baz=301								
CHN1				*i* S			**Sg**	**06 38 51.0**	**+0.9**
	baz=301								
TPUB	**Ta-pu**	**0.22**	**341**	P			**Pg**	**06 38 49.6**	**+1.7**
TPUB	**Ta-pu**	**0.22**	**341**	*e*P			**Pg**	**06 38 48.2**	**+0.3**
	baz=340								
TPUB				*e*S			**Sg**	**06 38 51.6**	**+0.7**
	baz=340								
SNST	**Tainan City**	**0.23**	**303**	⇓*e*P			**Pg**	**06 38 50.4**	**+2.3**
	baz=316								
TWK	**Hsinying**	**0.26**	**310**	⇓*i*P			**Pb**	**06 38 49.3**	**-1.0**
	baz=315								
TWK				*e*S			**Sb**	**06 38 54.4**	**-0.5**
	baz=315								
CHN4	**Tsaushan**	**0.28**	**338**	⇓*e*P			**Pg**	**06 38 48.5**	**-0.5**
	baz=342								
CHN4				*e*S			**Sg**	**06 38 53.0**	**+0.3**
	baz=342								
SCST	**Cishan**	**0.29**	**223**	*e*P			**Pb**	**06 38 49.9**	**-0.7**
	baz=206								
ELDTW	**Lidau**	**0.30**	**72**	⇑*i*P			**Pb**	**06 38 50.0**	**-1.0**
	baz=74								
ELDTW				*i* S			**Sb**	**06 38 54.7**	**-1.3**
	baz=74								
CHN3	**Shinhua**	**0.32**	**267**	*e*P			**Pb**	**06 38 51.4**	**+0.3**
	baz=266								
CHN3				*e*S			**Sb**	**06 38 57.9**	**+1.6**
	baz=266								
SHHT	**Tainan City**	**0.34**	**257**	*e*P			**Pb**	**06 38 50.8**	**-0.7**
	baz=257								
WCKO	**Fanlu**	**0.35**	**345**	*e*P			**Pg**	**06 38 48.9**	**-1.5**
	baz=348								
SSD	**Sandimen**	**0.35**	**191**	⇑*i*P			**Pb**	**06 38 50.8**	**-1.0**
	baz=178								
SSD				*i* S			**Sg**	**06 38 55.6**	**+0.5**
	baz=178								
TWM1	**Shoushan**	**0.38**	**224**	*e*P			**Pb**	**06 38 52.3**	**+0.2**
	baz=208								
SSHA	**Shanhua**	**0.39**	**276**	*e*P			**Pb**	**06 38 52.5**	**+0.1**
	baz=288								
SSHA				*e*S			**Sb**	**06 38 59.8**	**+1.4**
	baz=288								
TSMG	**Majia**	**0.39**	**188**	*e*P			**Pb**	**06 38 51.2**	**-1.2**
	baz=177								
SGLT	**Jiouru**	**0.42**	**208**	*e*P			**Pb**	**06 38 52.2**	**-0.6**
	baz=194								
ALS	**Alishan**	**0.42**	**12**	⇑*i*P			**Pb**	**06 38 52.1**	**-1.0**
	baz=26								
ALS				*i* S			**Sb**	**06 38 58.6**	**-1.1**
	baz=26								
LONT	**Longtian**	**0.43**	**116**	*e*P			**Pb**	**06 38 52.5**	**-0.6**
	baz=109								
LONT				*e*S			**Sg**	**06 38 58.2**	**+0.6**
	baz=109								
TWG	**Pinlang**	**0.43**	**129**	⇓*i*P			**Pb**	**06 38 52.8**	**-0.3**
	baz=127								
TWG				*e*S			**Sb**	**06 38 59.9**	**+0.2**
	baz=127								
TWGBT	**Beinan**	**0.44**	**129**	P			**Pb**	**06 38 52.8**	**-0.5**
TWGBT	**Beinan**	**0.44**	**129**	⇓*i*P			**Pb**	**06 38 52.8**	**-0.5**
	baz=128								
TWGBT				S			**Sb**	**06 38 59.6**	**-0.3**
	baz=128								
TAI1	**Yung-k'ang**	**0.44**	**263**	*e*P			**Pn**	**06 38 54.7**	**-1.1**
	baz=280								
YUS	**Yu-Shan**	**0.45**	**30**	⇑*i*P			**Pb**	**06 38 52.8**	**-0.9**
	baz=34								
YUS				S			**Sb**	**06 38 59.8**	**-1.0**
	baz=34								
TSPT	**Pingtung City**	**0.46**	**205**	*e*P			**Pb**	**06 38 54.1**	**+0.6**
	baz=192								
ECS	**Chishang**	**0.47**	**90**	*e*P			**Pb**	**06 38 53.4**	**-0.4**
	baz=85								
ECS				*e*S			**Sb**	**06 39 00.6**	**-0.3**
	baz=85								
ICHU	**Yijhu**	**0.47**	**304**	*e*P			**Pb**	**06 38 54.1**	**+0.3**
	baz=306								
CHY	**Chiayi**	**0.48**	**327**	⇓P			**Pb**	**06 38 53.6**	**-0.3**
	baz=331								
SCLT	**Jiali**	**0.48**	**280**	*e*P			**Pb**	**06 38 54.3**	**+0.4**
	baz=298								
CHN2	**Minshiung**	**0.48**	**334**	*e*P			**Pb**	**06 38 53.8**	**-0.2**
	baz=338								
MASBT	**Mashibuluo**	**0.49**	**188**	⇑*i*P			**Pb**	**06 38 53.1**	**-0.9**
	baz=178								
MASBT				*e*S			**Sg**	**06 38 58.8**	**-0.5**
	baz=178								
CHN5	**Tsauling**	**0.50**	**357**	*e*P			**Pg**	**06 38 51.7**	**-1.4**
CHN8	**Yiju**	**0.52**	**299**	*e*P			**Pb**	**06 38 54.5**	**-0.1**
	baz=301								
TTN	**Taitung**	**0.53**	**130**	*e*P			**Pb**	**06 38 55.3**	**+0.6**
	baz=129								
ECL	**Taimali**	**0.55**	**155**	*e*P			**Pb**	**06 38 54.1**	**-0.9**
	baz=144								
ECL				*e*S			**Sg**	**06 39 01.3**	**+0.1**
	baz=144								
FULB	**Fuli**	**0.55**	**79**	⇑*i*P			**Pb**	**06 38 55.2**	**0.0**
	baz=73								
FULB				*e*S			**Sb**	**06 39 03.9**	**+0.8**
	baz=73								
EDH	**Donghe**	**0.56**	**102**	*e*P			**Pb**	**06 38 55.2**	**-0.2**
	baz=103								
EDH				*e*S			**Sb**	**06 39 03.5**	**+0.1**
	baz=103								
TSCK	**Chigu Township**	**0.57**	**275**	*e*P			**Pb**	**06 38 54.7**	**-0.8**
	baz=293								
TWF1	**Yuli**	**0.60**	**65**	⇑*i*P			**Pb**	**06 38 55.4**	**-0.6**
	baz=74								
TWF1				*e*S			**Sg**	**06 39 02.9**	**-0.1**
	baz=74								
WGK	**Gukeng**	**0.60**	**347**	*e*P			**Pb**	**06 38 56.4**	**+0.4**
	baz=351								
WGK				*e*S			**Sb**	**06 39 05.7**	**+1.1**
	baz=351								
CHKT	**Chengkung**	**0.61**	**90**	⇑*i*P			**Pb**	**06 38 56.7**	**+0.6**
	baz=90								
CHKT				*e*S			**Sb**	**06 39 05.9**	**+1.2**
	baz=90								
WDLH	**Douliu**	**0.61**	**345**	*e*P			**Pb**	**06 38 56.6**	**+0.5**
	baz=348								
WDLH				*e*S			**Sn**	**06 39 06.7**	**-1.3**
	baz=348								
WSSB	**Gushan**	**0.61**	**222**	*e*P			**Pn**	**06 38 57.7**	**-0.4**
	baz=239								
WSL	**Shuilin Townsh**	**0.61**	**314**	*e*P			**Pb**	**06 38 55.4**	**-0.8**
	baz=316								
WHYT	**Xinyi Township**	**0.61**	**13**	⇑P			**Pb**	**06 38 55.5**	**-0.8**
	baz=23								
WHYT				*e*S			**Sb**	**06 39 05.7**	**+0.8**
	baz=23								
EYUL	**Yuli**	**0.62**	**66**	⇑P			**Pb**	**06 38 55.5**	**-0.7**
	baz=72								
EYUL				*e*S			**Sb**	**06 39 05.1**	**+0.1**
	baz=72								
YULB	**Yu-li**	**0.62**	**61**	P			**Pb**	**06 38 55.6**	**-0.7**
YULB	**Yu-li**	**0.62**	**61**	⇑*i*P			**Pb**	**06 38 55.5**	**-0.7**
	baz=63								
YULB				*e*S			**Sg**	**06 39 03.1**	**-0.4**
	baz=63								
WTK	**Tuku**	**0.66**	**334**	*e*P			**Pn**	**06 38 57.7**	**-1.1**
	baz=336								
EHY	**Hungye**	**0.70**	**54**	⇑*i*P			**Pb**	**06 38 57.1**	**-0.5**
	baz=61								
EHY				S			**Sb**	**06 39 07.0**	**-0.4**
	baz=61								
WSF	**Szhu**	**0.70**	**321**	*e*P			**Pb**	**06 38 57.6**	**0.0**
	baz=323								
ECBN	**Changbin**	**0.72**	**72**	*i* P			**Pb**	**06 38 57.6**	**-0.4**
	baz=67								
EAST	**Anshuo**	**0.72**	**170**	*e*P			**Pb**	**06 38 57.3**	**-0.8**
	baz=167								
WJS	**Zhushan**	**0.72**	**2**	*e*P			**Pb**	**06 38 58.5**	**+0.4**
	baz=5.0								
WJS				*e*S			**Sb**	**06 39 08.9**	**+0.8**
	baz=5.0								
SCZT	**Fangliau**	**0.72**	**186**	*e*P			**Pb**	**06 38 57.5**	**-0.6**
	baz=174								
SSLB	**Suanglung**	**0.72**	**18**	P			**Pb**	**06 38 57.3**	**-0.8**
SSLB	**Suanglung**	**0.72**	**18**	⇑*i*P			**Pb**	**06 38 57.3**	**-0.8**
	baz=29								
SSLB				S			**Sb**	**06 39 08.6**	**+0.4**
	baz=29								
TAW	**Tawu**	**0.76**	**167**	*e*P			**Pb**	**06 38 57.8**	**-0.8**
	baz=170								
VWDT	**VWDT**	**0.77**	**31**	⇑*i*P			**Pb**	**06 38 58.2**	**-0.6**
	baz=41								
HGSD	**Ruisui**	**0.77**	**59**	⇑*i*P			**Pb**	**06 38 59.1**	**+0.3**
	baz=61								
HGSD				S			**Sn**	**06 39 11.2**	**-0.7**
	baz=61								
TAWH	**Dawu Township**	**0.77**	**167**	⇓*e*P			**Pg**	**06 38 57.4**	**-0.8**
	baz=171								
WNT	**Mingjian**	**0.78**	**359**	*e*P			**Pn**	**06 38 59.4**	**-1.1**
	baz=3.0								
WNT				*e*S			**Sb**	**06 39 10.7**	**+1.0**
	baz=3.0								
SMLT	**Sun Moon Lake**	**0.80**	**13**	*i* P			**Pb**	**06 38 59.3**	**-0.2**
	baz=24								
SMLT				*i* S			**Sn**	**06 39 12.8**	**-0.2**
	baz=24								
WNT1	**Nantou City**	**0.81**	**358**	*e*P			**Pn**	**06 39 00.1**	**-0.7**
	baz=2.0								
TWP	**Hsiaoliuchiu**	**0.81**	**203**	*e*P			**Pn**	**06 39 02.3**	**+1.5**
	baz=199								
TYC	**Yuchr**	**0.82**	**10**	*i* P			**Pb**	**06 38 59.7**	**+0.1**
	baz=14								
TYC				*i* S			**Sn**	**06 39 12.4**	**-0.7**
	baz=14								
LDUT	**Ludao**	**0.82**	**121**	*e*P			**Pb**	**06 38 59.0**	**-0.7**
	baz=108								
WMLT	**Mailiao**	**0.83**	**328**	*e*P			**Pb**	**06 38 59.1**	**-0.8**
	baz=330								
WRL	**Guolierlin Hig**	**0.86**	**339**	*e*P			**Pb**	**06 39 00.2**	**-0.2**
	baz=343								
WYL	**Yuanlin Townsh**	**0.87**	**352**	*e*P			**Pb**	**06 39 00.8**	**-0.9**
	baz=356								
EGFH	**Guangfu**	**0.87**	**49**	*e*P			**Pb**	**06 39 00.5**	**-0.1**
	baz=51								
SLIU	**Shizi**	**0.88**	**174**	*e*P			**Pb**	**06 39 00.1**	**-0.7**
	baz=166								
WPL	**Puli Township**	**0.94**	**14**	*e*P			**Pb**	**06 39 01.6**	**-0.2**
	baz=18								
WWF	**Wufeng**	**0.94**	**360**	*e*P			**Pg**	**06 39 00.9**	**-0.7**
	baz=4.0								
DPDB	**Guoxing**	**0.95**	**12**	*e*P			**Pn**	**06 39 02.2**	**-0.8**
	baz=16								
WUSB	**Renai**	**0.97**	**23**	⇑*e*P			**Pg**	**06 39 01.5**	**-0.6**
	baz=34								
WUSB				*e*S			**Sn**	**06 39 16.5**	**-0.5**
	baz=34								
WCS	**Beigang Elemen**	**0.97**	**11**	*e*P			**Pg**	**06 39 01.6**	**-0.5**
	baz=15								
WDGT	**Dungji**	**0.98**	**280**	P			**Pb**	**06 39 02.0**	**-0.3**
	baz=279								
WDGT				S			**Sb**	**06 39 15.3**	**0.0**
	baz=279								
ESL	**Shilin**	**0.98**	**43**	P			**Pb**	**06 39 02.3**	**-0.1**
	baz=46								
ESL				*e*S			**Sb**	**06 39 15.9**	**+0.5**
	baz=46								
TEGC	**Jichi Village**	**0.98**	**51**	*e*P			**Pn**	**06 39 03.0**	**-0.1**
	baz=55								
WCHH	**Zhanghua**	**0.99**	**352**	*e*P			**Pn**	**06 39 03.3**	**0.0**
	baz=356								
TCU	**Taichung**	**1.05**	**358**	*e*P			**Pn**	**06 39 03.5**	**-0.6**
	baz=346								
CHGB	**Renai**	**1.05**	**24**	⇑*i*P			**Pb**	**06 39 03.2**	**-0.6**
	baz=36								
CHGB				S			**Sn**	**06 39 19.8**	**+0.6**
	baz=36								
SMST	**Manzhou Townsh**	**1.08**	**174**	*e*P			**Pn**	**06 39 05.2**	**+0.7**
	baz=157								
HEN	**Hengchun**	**1.08**	**178**	*e*P			**Pn**	**06 39 05.0**	**+0.4**
	baz=168								
PHUB	**P'eng-hu**	**1.12**	**292**	*e*P			**Pg**	**06 39 03.9**	**-1.0**
	baz=292								
PHUB				*e*S			**Sb**	**06 39 18.9**	**-0.7**
	baz=292								
TEYL	**Yanliau Villag**	**1.12**	**47**	*e*P			**Pn**	**06 39 05.3**	**+0.1**
	baz=48								
ETM	**Tongmen**	**1.13**	**40**	*e*P			**Pb**	**06 39 04.7**	**-0.3**
	baz=44								
TWK1	**Hengchun**	**1.15**	**175**	*e*P			**Pn**	**06 39 06.7**	**+1.1**
	baz=171								
TWKBT	**Hengchun**	**1.15**	**175**	P			**Pn**	**06 39 06.3**	**+0.8**
	baz=172								
TWKBT				*e*S			**Sn**	**06 39 23.2**	**+1.8**
	baz=172								
PNG	**Penghu**	**1.16**	**294**	⇓P			**Pg**	**06 39 04.5**	**-1.2**
	baz=294								
PNG				*e*S			**Sb**	**06 39 20.4**	**-0.2**
	baz=294								
WHF	**Hehuan Shan**	**1.16**	**26**	⇑*e*P			**Pg**	**06 39 05.2**	**-0.6**
	baz=18								
WHF				*e*S			**Sn**	**06 39 23.5**	**+1.2**
	baz=18								
VCHM	**Qimei**	**1.18**	**276**	P			**Pb**	**06 39 05.2**	**-0.6**
	baz=291								
VCHM				*e*S			**Sg**	**06 39 19.7**	**-1.7**
	baz=291								
WHP	**Taichung City**	**1.20**	**11**	*

	baz=53								
NSK	**Sanguang**	**1.68**	**21**	*eP*		**Pb**	**06 39 13.5**	**-1.0**
	baz=26								
YHNB	**Yeheng**	**1.68**	**21**	P		**Pg**	**06 39 15.1**	**-0.6**
YHNB	**Yeheng**	**1.68**	**21**	*eP*		**Pb**	**06 39 14.4**	**-0.1**
	baz=27								
YHNB				*eS*		**Sg**	**06 39 37.7**	**+0.1**
	baz=27								
SBCB	**Hsinchu**	**1.71**	**9**	*eP*		**Pg**	**06 39 16.9**	**+0.7**
	baz=357								
ENTT	**Nioudou**	**1.73**	**27**	*eP*		**Pb**	**06 39 14.8**	**-0.4**
	baz=22								
ENTT				*eS*		**Sg**	**06 39 38.5**	**-0.4**
	baz=22								
NWLT	**Wulai**	**1.83**	**23**	*eP*		**Pb**	**06 39 16.8**	**-0.1**
	baz=30								
TWC	**Suao**	**1.83**	**35**	*eP*		**Pg**	**06 39 17.7**	**-0.9**
	baz=51								
TWC				*eS*		**Sg**	**06 39 42.0**	**-0.4**
	baz=51								
FUSB	**Fushanzhiwuyua**	**1.84**	**26**	*eP*		**Pg**	**06 39 18.0**	**-0.7**
	baz=22								
FUSB				*eS*		**Sg**	**06 39 42.2**	**-0.4**
	baz=22								
TWE	**Neicheng**	**1.84**	**28**	*eP*		**Pg**	**06 39 17.8**	**-0.9**
	baz=35								
TWE				*eS*		**Sg**	**06 39 42.0**	**-0.6**
	baz=35								
TATO	**Taipei**	**2.00**	**21**	*eP*		**Pg**	**06 39 21.0**	**-0.8**
	baz=28								
TATO				*eS*		**Sg**	**06 39 46.6**	**-1.2**
	baz=28								
NHDH	**Xindian Distri**	**2.00**	**22**	*eP*		**Pb**	**06 39 20.0**	**+0.1**
	baz=28								
TWA	**Mucha**	**2.04**	**23**	*eP*		**Pg**	**06 39 21.7**	**-0.8**
	baz=13								
EGS		**2.07**	**33**	*eP*		**Pg**	**06 39 21.8**	**-1.3**
	baz=53								
TIPB	**Shuangxi**	**2.13**	**28**	*eP*		**Pb**	**06 39 21.5**	**-0.6**
	baz=52								
YM01	**YM01**	**2.19**	**21**	*eP*		**Pb**	**06 39 23.0**	**-0.1**
	baz=14								
NWF	**Wu-fen Shan**	**2.20**	**26**	*eP*		**Pb**	**06 39 23.4**	**+0.1**
	baz=16								
WFSB	**Wu-fen Shan**	**2.20**	**26**	*eP*		**Pb**	**06 39 23.1**	**-0.1**
	baz=16								
VWUC	**VWUC**	**2.21**	**329**	*eP*		**Pn**	**06 39 19.2**	**-0.9**
	baz=334								
YM08	**YM08**	**2.23**	**21**	*eP*		**Pg**	**06 39 25.4**	**-0.8**
	baz=28								
TWB1	**Santiao Chiao**	**2.24**	**31**	*eP*		**Pb**	**06 39 24.0**	**+0.1**
	baz=52								
SXI1	**Grass Mountain**	**2.26**	**28**	*eP*		**Pb**	**06 39 24.6**	**+0.3**
	baz=16								
PTMZ	**Houxiangcun**	**2.42**	**323**	*eP*		**Pn**	**06 39 22.2**	**-0.7**
	baz=329								
JYNG	**Yonagunijimaku**	**2.46**	**56**	*eP*		**Pn**	**06 39 24.1**	**+0.7**
JYNG				S		**Sb**	**06 39 56.9**	**-1.0**
KNM	**Kinmen**	**2.46**	**303**	*eP*		**Pn**	**06 39 24.4**	**+0.8**
	baz=304								
YOJ	**Yonaguni jima**	**2.51**	**57**	P		**Pb**	**06 39 26.5**	**-2.1**
YOJ	**Yonaguni jima**	**2.51**	**57**	*eP*		**Pn**	**06 39 26.1**	**+1.8**
	baz=60								
YOJ	**Yonaguni jima**	**2.51**	**57**	S		**Sb**	**06 39 58.3**	**-1.2**
KNMB	**Chin-men Tao**	**2.52**	**303**	*eP*		**Pn**	**06 39 23.3**	**-1.1**
	baz=306								
ZPLA	**Ao Xicun**	**2.84**	**288**	*eP*		**Pn**	**06 39 28.3**	**-0.4**
	baz=289								
HATJ	**Hateruma jima**	**3.00**	**71**	*eP*		**Pn**	**06 39 31.5**	**+0.5**
HATJ				*eS*		**Sn**	**06 40 08.7**	**+1.8**
IRIF	**Iriomote-Funau**	**3.03**	**65**	P		**Pn**	**06 39 32.8**	**+1.3**
IRIF				*eS*		**Sn**	**06 40 10.8**	**+2.9**
AXDP	**Jialang**	**3.08**	**306**	*eP*		**Pn**	**06 39 31.3**	**-0.7**
	baz=310								
MATB	**Ma-tsu**	**3.12**	**347**	*eP*		**Pn**	**06 39 31.8**	**-0.9**
	baz=354								
JKRS	**Kuro-shima**	**3.23**	**69**	*eP*		**Pn**	**06 39 34.9**	**+0.7**
JKRS				S		**Sn**	**06 40 14.7**	**+1.9**
MHZQ	**Yeshan**	**3.36**	**333**	*eP*		**Pn**	**06 39 36.1**	**+0.3**
	baz=339								
JIJ	**Ishigaki jima**	**3.39**	**67**	*eP*		**Pn**	**06 39 37.0**	**+0.7**
JIJ				*eS*		**Sn**	**06 40 18.6**	**+1.9**
LYJJ	**Jianjiangzhen**	**3.54**	**346**	*eP*		**Pn**	**06 39 38.9**	**+0.4**
	baz=353								
JISG	**Ishigakijimahi**	**3.62**	**65**	P		**Pn**	**06 39 39.6**	**+0.1**
JISG				*eS*		**Sn**	**06 40 24.3**	**+2.1**
XPSS	**Dashiqiu**	**3.85**	**353**	*eP*		**Pn**	**06 39 42.5**	**-0.1**
	baz=1.0								
SXFK	**Yanhouchang**	**4.31**	**320**	*eP*		**Pn**	**06 39 47.7**	**-1.3**
	baz=322								
NJ2	**Nanjing**	**9.07**	**350**	*eP*		**Pn**	**06 40 54.8**	**+0.4**
NJ2				pmax	pmax				
	comp=Z,8.0nm,0.6s								

IDC 21 06:39:29.5±2.8, 53°.62N×86°.89E, h0km, mbtmp2.9/1, ML2.8/1, Error ellipse: s-maj=26.0km s-min=15.1km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**286**	I		06 46 48.3	
	0.1nm,1.0s,baz=105,slow=350,SNR=39						
ZALV	**Zalesovo Beam**	**1.27**	**286**	Pg	Pg	06 39 52.3	-1.6
	1.0nm,0.3s,baz=106,slow=15,SNR=12						
ZALV				Lg	Lg	06 40 11.5	
	1.7nm,0.3s,baz=108,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**5.96**	**243**	Lg	Lg	06 42 41.5	
	baz=63,slow=33						
MKAR	**Makanchi Array**	**7.44**	**205**	Pn	Pn	06 41 21.1	+1.8
	0.1nm,0.3s,baz=27,slow=14,SNR=5.3						
	0.2nm,0.3s						

*IDC **21** 06:42:38.8±5.4, 28°.36S×74°.42E, h0km, mb3.9/5, mbtmp3.9/5, MS3.5/11, Error ellipse: s-maj=152.8km s-min=36.8km az=51.0*

*NEIC **21** 06:42:40.1±1.2, 28°.6S±0°.1×74°.19E±0°.06, h10km±1km, mb4.5/12, Error ellipse: s-maj=22.6km s-min=9.2km az=187.0*

ISC 21 06:42:39.1±0.7, 28°.5S±0°.1×74°.2E±0°.1, h10km, n34, σ0s89/20, mb4.3/11, MS3.5/11, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**9.67**	**164**	Pn	**Pn**	**06 44 58.7**	**+0.4**
H08S2	**Diego Garcia H**	**20.82**	**355**	T	T	07 08 54.1	
	baz=176,slow=76,SNR=29						
H08S1	**Diego Carcia H**	**20.82**	**355**	T	T	07 08 52.7	
	baz=176,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**20.84**	**355**	T	T	07 08 51.7	
	baz=176,slow=76,SNR=33						
PALK	**Pallekele**	**36.13**	**11**	LR	LR	07 00 44.6	
	comp=Z,56nm,18.1s,baz=218,slow=30						
NWAO	**Narrogin (SRO)**	**37.06**	**108**	LR	LR	07 02 00.4	
	comp=Z,69nm,20.2s,baz=274,slow=32						
SOE	**Somerset East**	**41.79**	**252**	P	**P**	**06 50 30.4**	**+1.4**
BOSA	**Boshof**	**42.74**	**258**	LR	LR	07 04 30.7	
	comp=Z,48nm,19.8s,baz=178,slow=30						
BOSA	**Boshof**	**42.74**	**258**	P	**P**	**06 50 35.6**	**-1.3**
BOSA				IAmb	IAmb	06 51 16.8	
	comp=Z,16nm,1.4s						
KIBK	**Kibwezi**	**43.18**	**301**	P	**P**	**06 50 39.7**	**-0.8**
LBTB	**Lobatse**	**43.31**	**263**	LR	LR	07 04 41.8	
	comp=Z,22nm,20.4s,baz=181,slow=30						
LSZ	**Lusaka**	**44.43**	**277**	LR	LR	07 07 20.1	
	comp=Z,51nm,18.7s,baz=178,slow=33						
SUR	**Sutherland**	**45.80**	**251**	LR	LR	07 05 42.8	
	comp=Z,73nm,21.6s,baz=126,slow=30						
TSUM	**Tsumeb**	**52.21**	**267**	LR	LR	07 11 03.5	
	comp=Z,50nm,20.2s,baz=341,slow=32						
CMAR	**Chiang Mai Arr**	**52.47**	**30**	P	**P**	**06 51 51.5**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=206,slow=8.0,SNR=1.3						
	comp=Z,0.8nm,0.3s						
ASAR	**Alice Springs**	**53.37**	**99**	P	**P**	**06 51 59.1**	**0.0**
	comp=Z,1.0nm,0.7s,baz=249,slow=6.4,SNR=13						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**53.37**	**99**	P	**P**	**06 51 58.9**	**-0.2**
AS31	**Alice Springs**	**53.37**	**99**	P	**P**	**06 51 59.3**	**+0.1**
BRDH	**Bariadhala**	**53.60**	**20**	LR	LR	07 14 02.4	
	comp=Z,66nm,18.4s,baz=260,slow=35						
WRA	**Warramunga Arr**	**55.02**	**95**	P	**P**	**06 52 10.9**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=252,slow=7.3,SNR=13						
	comp=Z,1.9nm,0.7s						
WRA	**Warramunga Arr**	**55.02**	**95**	P	**P**	**06 52 11.5**	**+0.3**
WB2	**Warramunga Arr**	**55.03**	**95**	P	**P**	**06 52 11.2**	**-0.1**
WB2				IAmb	IAmb	06 52 18.9	
	comp=Z,6.9nm,1.2s						
WRAB	**Tennant Creek**	**55.03**	**95**	P	**P**	**06 52 11.6**	**+0.4**
WRAB				IAmb	IAmb	06 52 37.5	
	comp=Z,8.0nm,1.4s						
WB0	**Warramunga Arr**	**55.13**	**95**	P	**P**	**06 52 11.7**	**-0.3**
WB0				IAmb	IAmb	06 52 19.2	
	comp=Z,4.5nm,0.9s						
WR0	**Warramunga Arr**	**55.19**	**95**	P	**P**	**06 52 12.6**	**+0.2**
WR0				IAmb	IAmb	06 52 19.6	
	comp=Z,4.2nm,0.9s						
KBL	**Kabul**	**62.91**	**355**	P	**P**	**06 53 05.8**	**+0.1**
CTA	**Charters Tower**	**65.35**	**100**	LR	LR	07 18 29.4	
	comp=Z,40nm,18.4s,baz=94,slow=33						
ARMA	**Armidale**	**66.12**	**113**	P	**P**	**06 53 25.9**	**-1.1**
KK31	**Karatay Array**	**71.35**	**357**	P	**P**	**06 54 00.6**	**+1.6**
KK31				IAmb	IAmb	06 54 08.0	
	comp=Z,2.1nm,0.8s						
KKAR	**Karatay Array**	**71.35**	**357**	P	**P**	**06 54 00.3**	**+1.4**
KBZ	**Khabaz**	**77.41**	**337**	LR	LR	07 24 39.6	
	comp=Z,40nm,19.4s,baz=168,slow=33						
SONM	**Songino Array**	**81.33**	**21**	P	**P**	**06 54 57.0**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=193,slow=5.9,SNR=2.6						
	comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**82.63**	**6**	P	**P**	**06 55 01.8**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=180,slow=5.3,SNR=1.9						
	comp=Z,0.4nm,0.5s						
KSRS	**Korea Array**	**82.71**	**40**	LR	LR	07 31 23.4	
	comp=Z,25nm,18.2s,baz=230,slow=36						

WEL 21 06:46:00.4±0.4, 42°.S±3°×17°.4E±°, h10km±3km, M2.2/11, ML2.9/13, MLv2.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=149.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**53**	P	Pb	06 46 04.9	-0.5
CMWZ				S	Sg	06 46 08.5	+2.2
BSWZ	**Blackbirch Sta**	**0.18**	**314**	P	Pg	06 46 05.0	+0.7
BSWZ				S	Sg	06 46 08.6	+1.6
TUWZ	**Tuamarina**	**0.42**	**349**	P	Pb	06 46 09.4	-0.6
TUWZ				S	Sb	06 46 16.0	-0.3
TCW	**Tory Channel**	**0.65**	**15**	P	Pg	06 46 13.3	+0.2
KHZ	**Kahutara**	**0.69**	**213**	P	Pb	06 46 14.5	0.0
KHZ				P	Pb	06 46 14.5	0.0
WEL	**Wellington**	**0.78**	**44**	P	Pb	06 46 15.9	-0.1
NNZ	**Nelson**	**0.80**	**321**	P	Pg	06 46 16.0	+0.1
THZ	**Tophouse**	**0.86**	**275**	P	Pg	06 46 17.2	+0.2
DUWZ	**D'Urville Isla**	**1.04**	**355**	P	Pg	06 46 20.2	-0.3
CAW	**Cannon Point**	**1.06**	**47**	P	Pg	06 46 20.5	-0.3
MRNZ	**Matariki Terra**	**1.06**	**294**	P	Pn	06 46 21.6	+0.2
KIW	**Kapiti Island**	**1.18**	**34**	P	Pb	06 46 22.5	-0.3
MTW	**Mount Morrison**	**1.29**	**58**	P	Pn	06 46 23.0	-1.5
OGWZ	**Otaki Gorge**	**1.33**	**40**	P	Pn	06 46 24.5	-0.5
GVZ	**Greta Valley S**	**1.35**	**213**	P	Pn	06 46 24.2	-1.1
MRZ	**Mangatainoka R**	**1.65**	**45**	P	Pn	06 46 28.5	-0.9
DSZ	**Denniston Nort**	**1.68**	**273**	P	Pb	06 46 31.0	-0.5
CPWZ	**Castlepoint**	**1.87**	**61**	P	Pg	06 46 36.3	0.0

WEL 21 06:46:38.9±0.5, 40°.S±4°×17°.6E±°, h39km±5km, M2.9/25, ML3.4/17, MLv2.9/25, Error ellipse: s-maj=0.0km s-min=0.0km az=115.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	**Waipukurau**	**0.14**	**23**	P	Pn	06 46 47.2	-0.2
WPHZ	**Waipukurau**	**0.14**	**23**	P	Pn	06 46 47.2	-0.3
WPHZ				S	Sn	06 46 53.4	-1.2
DVHZ	**Dannevirke**	**0.19**	**236**	P	Pn	06 46 47.6	+0.5
DVHZ				S	Sn	06 46 53.4	-0.4
PRHZ	**Porangahau**	**0.22**	**109**	P	Pn	06 46 47.8	+0.8
PRHZ	**Porangahau**	**0.22**	**109**	P	Pn	06 46 47.8	+0.8
ANWZ	**Angora Road**	**0.28**	**163**	P	Pn	06 46 48.6	+1.6
ANWZ				S	Sn	06 46 55.7	+2.4
PNHZ	**Pukenui**	**0.31**	**335**	P	Pn	06 46 48.4	+1.1
TSZ	**Takapari Road**	**0.34**	**293**	P	Pn	06 46 48.8	+1.2
PXZ	**Pawanui**	**0.41**	**67**	P	Pn	06 46 49.3	+0.9
PXZ	**Pawanui**	**0.41**	**67**	P	Pn	06 46 49.2	+0.9
PRWZ	**Pori Road**	**0.47**	**220**	P	Pn	06 46 50.7	+1.5
BFZ	**Birch Farm**	**0.49**	**191**	P	Pn	06 46 50.6	+1.0
POWZ	**Post Office Ro**	**0.50**	**247**	P	Pn	06 46 51.1	+1.5
KAHZ	**Kahuranaki**	**0.56**	**44**	P	Pn	06 46 51.3	+0.7
KAHZ	**Kahuranaki**	**0.56**	**44**	P	Pn	06 46 51.2	+0.7
TIWZ	**Tintock**	**0.69**	**212**	P	Pn	06 46 53.1	+0.8
CPWZ	**Castlepoint**	**0.72**	**190**	P	Pn	06 46 53.9	+1.2
BHHZ	**Black Hill Sta**	**0.74**	**341**	P	Pn	06 46 53.6	+0.6
MRZ	**Mangatainoka R**	**0.76**	**232**	P	Pn	06 46 53.8	+0.6
CKHZ	**Cape Kidnapper**	**0.77**	**46**	P	Pn	06 46 53.4	+0.2
CKHZ	**Cape Kidnapper**	**0.77**	**46**	P	Pn	06 46 53.3	+0.1
KWHZ	**Kaweka Forest**	**0.77**	**3**	P	Pn	06 46 53.8	+0.4
KWHZ	**Kaweka Forest**	**0.77**	**3**	P	Pn	06 46 53.9	+0.5
MCHZ	**McNeill Hill**	**0.79**	**19**	P	Pn	06 46 54.2	+0.6
MCHZ	**McNeill Hill**	**0.79**	**19**	P	Pn	06 46 54.2	+0.6
MOVZ	**Moawhango**	**0.92**	**329**	P	Pn	06 46 56.4	+1.0
HOWZ	**Holdsworth Sta**	**0.96**	**223**	P	Pn	06 46 56.1	+0.2
TMWZ	**Te Maipa**	**0.98**	**202**	P	Pn	06 46 56.2	0.0
BKZ	**Black Stump Fm**	**1.03**	**5**	P	Pn	06 46 57.1	+0.2
ARHZ	**Arapoaonui**	**1.05**	**28**	P	Pn	06 46 57.6	+0.5
WNHZ	**Wahianoa**	**1.05**	**325**	P	Pn	06 46 58.7	+1.4
MTVZ	**Mangateitei**	**1.06**	**319**	P	Pn	06 46 59.0	+1.4
TRVZ	**Turoa**	**1.10**	**324**	P	Pn	06 46 59.4	+1.4
DRZ	**Dome Shelter**	**1.11**	**326**	P	Pn	06 46 59.7	+1.5
FWVZ	**Far West T-bar**	**1.13**	**326**	P	Pn	06 46 59.8	+1.4
NMHZ	**Naumai**	**1.15**	**17**	P	Pn	06 46 59.0	+0.5
WAZ	**Wanganui**	**1.15**	**292**	P	Pn	06 47 00.5	+2.0
SNVZ	**South Ngauruho**	**1.15**	**331**	P	Pn	06 46 60.0	+1.3
OTVZ	**Oturere**	**1.17**	**332**	P	Pn	06 47 00.1	+1.3
MTW	**Mount Morrison**	**1.17**	**214**	P	Pn	06 46 55.5	-3.3
NGZ	**Ngauruhoe**	**1.18**	**330**	P	Pn	06 47 00.3	+1.3
NTVZ	**North Tongarir**	**1.22**	**334**	P	Pn	06 47 00.6	+1.1
WTVZ	**West Tongariro**	**1.23**	**331**	P	Pn	06 47 01.0	+1.2
KIW	**Kapiti Island**	**1.30**	**239**	P	Pn	06 46 53.9	-6.6
HATZ	**Hinemaiaia**	**1.32**	**351**	P	Pn	06 47 01.1	+0.3
TWVZ	**Taurewa**	**1.33**	**327**	P	Pn	06 47 02.2	+1.1
CAW	**Cannon Point**	**1.35**	**227**	P	Pn	06 46 52.1	-9.1
MRHZ	**Matea Rd**	**1.36**	**2**	P	Pn	06 47 01.9	+0.5
PAWZ	**Paruwai Farm**	**1.38**	**211**	P	Pn	06 46 53.9	-7.8
MTHZ	**Maungataniwha**	**1.39**	**15**	P	Pn	06 46 55.6	-6.2
RAHZ	**Arahi**	**1.39**	**24**	P	Pn	06 47 01.8	0.0
RATZ	**Rangitukua**	**1.41**	**341**	P	Pn	06 47 04.0	+2.0
SNGZ	**Shannon Statio**	**1.60**	**28**	P	Pn	06 47 04.4	-0.3
ALRZ	**Allen Road**	**1.63**	**359**	P	Pn	06 47 05.0	-0.1
RTZ	**Ruatahuna**	**1.65**	**17**	P	Pn	06 47 05.2	-0.2
MUGZ	**Murupara**	**1.74**	**10**	P	Pn	06 47 05.5	-1.1
RIGZ	**Rimuhau**	**1.84**	**36**	P	Pn	06 47 07.2	-0.8
RAGZ	**Rawiri**	**1.88**	**26**	P	Pn	06 47 07.9	-0.8
HSRZ	**Hossack Road**	**1.88**	**357**	P	Pn	06 47 08.4	-0.2
TARZ	**Mount Tarawera**	**1.96**	**3**	P	Pn	06 47 09.6	-0.1
TLZ	**Tolley Road**	**1.97**	**341**	P	Pn	06 47 09.9	0.0
HIZ	**Hauiti**	**2.05**	**325**	P	Pn	06 47 11.5	+0.7
MWZ	**Matawai**	**2.06**	**26**	P	Pn	06 47 10.0	-1.1
RUGZ	**Raukumara Rang**	**2.45**	**25**	P	Pn	06 47 15.3	-1.1
HAZ	**Te Kaha**	**2.67**	**25**	P	Pn	06 47 18.0	-1.4
WMGZ	**Waiomatatini S**	**2.86**	**35**	P	Pn	06 47 20.5	-1.5
MXZ	**Matakaoa Point**	**3.03**	**31**	P	Pn	06 47 22.3	-1.2
OUZ	**Omahuta**	**5.43**	**335**	P	Pn	06 47 57.2	-0.1

*NEIC **21** 07:15:11.9±0.9, 42°.53S±0°.04×173°.75E±0°.03, h2km±7km, mb4.2/2, ML4.2(WEL), Error ellipse: s-maj=5.4km s-min=3.5km az=189.0*

*NOU **21** 07:15:12.5, 42°.56S×173°.70E, h0km, MLv4.4/11, South Island, New Zealand*

*WEL **21** 07:15:14.0±0.4, 42°.S±3°×17°.4E±°, h5km, M3.9/39, ML4.4/13, MLv3.9/39, Error ellipse: s-maj=0.0km s-min=0.0km az=146.3*

ISC 21 07:15:11.5±0.8, 42°.52S±0°.03×173°.76E±0°.03, h10km, n133, σ1s82/135, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**303**	Pg	**Pg**	**07 15 14.7**	**-0.9**
KHZ				Sg	**Sg**	**07 15 16.1**	**-2.2**
KHZ	**Kahutara**	**0.19**	**303**	P	**Pg**	**07 15 14.8**	**-0.7**
KHZ	**Kahutara**	**0.19**	**303**	P	**Pg**	**07 15 14.7**	**-0.9**
KHZ				S	**Sg**	**07 15 16.1**	**-2.2**
GVZ	**Greta Valley S**	**0.69**	**230**	Pg	**Pn**	**07 15 28.3**	**+0.9**
GVZ	**Greta Valley S**	**0.69**	**230**	P	**Pn**	**07 15 28.2**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.81**	**6**		**Pb**	**07 15 27.9**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.81**	**6**	P	**Pn**	**07 15 28.1**	**-0.9**
CMWZ	**Cape Campbell**	**0.84**	**24**		**Pn**	**07 15 30.7**	**+1.3**
CMWZ	**Cape Campbell**	**0.84**	**24**	P	**Pn**	**07 15 30.5**	**+1.1**
THZ	**Tophouse**	**0.99**	**320**	Pg	**Pb**	**07 15 30.3**	**-0.4**
THZ	**Tophouse**	**0.99**	**320**	P	**Pg**	**07 15 30.0**	**-0.5**
AMCZ	**Amberley**	**1.04**	**231**		**Pn**	**07 15 34.3**	**+2.1**
AMCZ	**Amberley**	**1.04**	**231**	P	**Pn**	**07 15 34.0**	**+1.8**
TUWZ	**Tuamarina**	**1.10**	**7**		**Pn**	**07 15 33.4**	**+0.5**
TUWZ	**Tuamarina**	**1.10**	**7**	P	**Pn**	**07 15 33.4**	**+0.5**
LTZ	**Lake Taylor**	**1.13**	**256**	Pn	**Pn**	**07 15 34.3**	**+0.9**
LTZ	**Lake Taylor**	**1.13**	**256**	P	**Pn**	**07 15 33.8**	**+0.5**
OKCZ	**Okains Bay**	**1.31**	**203**	P	**Pg**	**07 15 37.6**	**+1.0**
NNZ	**Nelson**	**1.33**	**348**		**Pg**	**07 15 37.2**	**+0.1**
NNZ	**Nelson**	**1.33**	**348**	P	**Pg**	**07 15 36.7**	**-0.4**
MRNZ	**Matariki Terra**	**1.35**	**326**		**Pg**	**07 15 36.7**	**-0.6**
MRNZ	**Matariki Terra**	**1.35**	**326**	P	**Pg**	**07 15 36.9**	**-0.4**
TCW	**Tory Channel**	**1.36**	**17**		**Pg**	**07 15 37.7**	**0.0**
TCW	**Tory Channel**	**1.36**	**17**	P	**Pg**	**07 15 37.5**	**-0.2**
SNZO	**South Karori**	**1.40**	**31**		**Pg**	**07 15 38.7**	**+0.4**
SNZO	**South Karori**	**1.40**	**31**	P	**Pg**	**07 15 39.3**	**+0.9**
MQZ	**McQueen's Vall**	**1.44**	**214**	Pn	**Pg**	**07 15 38.6**	**-0.4**
MQZ	**McQueen's Vall**	**1.44**	**214**	P	**Pg**	**07 15 38.3**	**-0.7**
WEL	**Wellington**	**1.45**	**32**	P	**Pg**	**07 15 39.2**	**-0.1**
PLWZ	**Palliser**	**1.47**	**50**		**Pg**	**07 15 39.3**	**-0.3**
PLWZ	**Palliser**	**1.47**	**50**	P	**Pg**	**07 15 38.9**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.49**	**204**	P	**Pg**	**07 15 39.7**	**-0.3**
OXZ	**Oxford**	**1.50**	**237**		**Pg**	**07 15 39.4**	**-0.8**
OXZ	**Oxford**	**1.50**	**237**	P	**Pb**	**07 15 39.1**	**-0.3**
TKNZ	**Takaka Hill**	**1.60**	**338**		**Pg**	**07 15 41.5**	**-0.7**
TKNZ	**Takaka Hill**	**1.60**	**338**	P	**Pg**	**07 15 41.5**	**-0.7**
DSZ	**Denniston Nort**	**1.65**	**297**		**Pb**	**07 15 41.8**	**-0.1**
DSZ	**Denniston Nort**	**1.65**	**297**	P	**Pb**	**07 15 41.7**	**-0.3**
PAWZ	**Paruwai Farm**	**1.69**	**48**	P	**Pb**	**07 15 41.8**	**-0.9**
RACZ	**Rakaia**	**1.69**	**224**	P	**Pb**	**07 15 42.1**	**-0.6**
CAW	**Cannon Point**	**1.72**	**35**	P	**Pb**	**07 15 42.5**	**-0.6**
INZ	**Inchbonnie**	**1.72**	**262**		**Pb**	**07 15 42.8**	**-0.3**
INZ	**Inchbonnie**	**1.72**	**262**	P	**Pb**	**07 15 42.7**	**-0.5**
DUWZ	**D'Urville Isla**	**1.72**	**4**	P	**Pb**	**07 15 43.0**	**-0.2**
TRWZ	**Traveller**	**1.82**	**53**	P	**Pb**	**07 15 44.1**	**-0.9**
KIW	**Kapiti Island**	**1.87**	**28**	P	**Pb**	**07 15 44.9**	**-0.9**
MTW	**Mount Morrison**	**1.88**	**44**	P	**Pn**	**07 15 44.4**	**+0.6**
MHCZ	**Mount Hutt**	**1.90**	**237**	P	**Pb**	**07 15 44.5**	**-1.7**
QRZ	**Quartz Range**	**1.93**	**331**		**Pb**	**07 15 46.4**	**-0.3**
QRZ	**Quartz Range**	**1.93**	**331**	P	**Pb**	**07 15 46.9**	**+0.2**
QRZ	**Quartz Range**	**1.93**	**331**	P	**Pb**	**07 15 46.4**	**-0.3**
WACZ	**Wakanui South**	**2.00**	**224**	P	**Pb**	**07 15 46.5**	**-1.3**
OGWZ	**Otaki Gorge**	**2.00**	**32**	P	**Pn**	**07 15 46.3**	**+0.9**
HOWZ	**Holdsworth Sta**	**2.09**	**40**	P	**Pn**	**07 15 47.6**	**+1.1**
TMWZ	**Te Maipa**	**2.13**	**49**	P	**Pn**	**07 15 47.6**	**+0.4**
WVZ	**Waitaha Valley**	**2.29**	**255**	P	**Pb**	**07 15 51.0**	**-1.9**
MRZ	**Mangatainoka R**	**2.31**	**37**	Pn	**Pb**	**07 15 51.2**	**-1.9**
MRZ	**Mangatainoka R**	**2.31**	**37**	P	**Pn**	**07 15 50.4**	**+0.8**
RPZ	**Rata Peaks**	**2.31**	**238**	Pn	**Pn**	**07 15 50.5**	**+0.9**
RPZ	**Rata Peaks**	**2.31**	**238**	P	**Pn**	**07 15 50.7**	**+1.1**
RPZ	**Rata Peaks**	**2.31**	**238**	P	**Pn**	**07 15 50.4**	**+0.8**
ARCZ	**Arundel**	**2.37**	**232**	P	**Pn**	**07 15 51.6**	**+1.2**
PRWZ	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.37**	**180**	P	Pb	07 18 00.7	-0.9
GVZ				S	Sb	07 18 06.8	-0.9
KHZ	**Kahutara**	**0.41**	**64**	P	Pg	07 18 00.9	+0.4
KHZ				S	Sg	07 18 06.9	+1.0
LTZ	**Lake Taylor**	**0.59**	**251**	P	Pg	07 18 04.4	+0.5
AMCZ	**Amberley**	**0.65**	**206**	P	Pb	07 18 05.9	-0.3
THZ	**Tophouse**	**0.84**	**353**	P	Pg	07 18 08.6	+0.1
OXZ	**Oxford**	**1.03**	**225**	P	Pg	07 18 11.4	-0.9
BSWZ	**Blackbirch Sta**	**1.08**	**36**	P	Pg	07 18 13.3	+0.2
OKCZ	**Okains Bay**	**1.13**	**179**	P	Pg	07 18 12.8	-1.3
MQZ	**McQueen's Vall**	**1.15**	**194**	P	Pg	07 18 12.1	-2.4
INZ	**Inchbonnie**	**1.18**	**263**	P	Pg	07 18 14.6	-0.5
MRNZ	**Matariki Terra**	**1.21**	**350**	P	Pg	07 18 15.4	-0.4
DSZ	**Denniston Nort**	**1.25**	**312**	P	Pg	07 18 16.0	-0.4
AKCZ	**Akaroa Harbour**	**1.28**	**184**	P	Pg	07 18 14.3	-2.7
RACZ	**Rakaia**	**1.31**	**210**	P	Pn	07 18 14.9	-2.5
TUWZ	**Tuamarina**	**1.35**	**30**	P	Pn	07 18 17.2	-0.8
NNZ	**Nelson**	**1.40**	**11**	P	Pn	07 18 18.4	-0.3
MHCZ	**Mount Hutt**	**1.43**	**228**	P	Pn	07 18 16.7	-2.4
TKNZ	**Takaka Hill**	**1.56**	**358**	P	Pn	07 18 20.9	0.0
WACZ	**Wakanui South**	**1.60**	**213**	P	Pn	07 18 19.1	-2.4
TCW	**Tory Channel**	**1.67**	**34**	P	Pn	07 18 21.1	-1.2
WVZ	**Waitaha Valley**	**1.76**	**253**	P	Pn	07 18 22.7	-0.9
QRZ	**Quartz Range**	**1.81**	**348**	P	Pn	07 18 24.7	+0.4
RPZ	**Rata Peaks**	**1.83**	**232**	P	Pn	07 18 22.6	-2.0
WEL	**Wellington**	**1.84**	**45**	P	Pn	07 18 23.1	-1.6
DUWZ	**D'Urville Isla**	**1.91**	**21**	P	Pn	07 18 25.5	-0.2
ARCZ	**Arundel**	**1.92**	**225**	P	Pn	07 18 23.4	-2.4
GCSZ	**Gaunt Creek Bo**	**2.12**	**249**	P	Pn	07 18 27.8	-0.7
CAW	**Cannon Point**	**2.12**	**46**	P	Pn	07 18 26.7	-2.0
TMZ	**Timaru**	**2.32**	**219**	P	Pn	07 18 28.9	-2.4
OGWZ	**Otaki Gorge**	**2.39**	**43**	P	Pn	07 18 30.4	-1.9
FOZ	**Fox Glacier**	**2.54**	**247**	P	Pn	07 18 33.7	-0.6
LBZ	**Lake Benmore**	**2.74**	**228**	P	Pn	07 18 35.1	-2.0
ODZ	**Otahua Downs**	**3.00**	**214**	P	Pn	07 18 37.9	-2.7
PKE	**Pukeiti**	**3.47**	**12**	P	Pn	07 18 50.3	+3.1
HHSZ	**Highcliff Hill**	**3.73**	**207**	P	Pn	07 18 47.8	-2.8
EAZ	**Earnscleugh**	**3.77**	**224**	P	Pn	07 18 48.8	-2.5
TUZ	**Tuapeka**	**4.15**	**215**	P	Pn	07 18 53.8	-2.6
SYZ	**Scrubby Hill**	**4.83**	**214**	P	Pn	07 19 03.4	-2.3
APZ	**The Paps**	**5.56**	**219**	P	Pn	07 19 12.7	-3.1
MKAZ	**Moumakai**	**5.72**	**17**	P	Pn	07 19 17.6	-0.4
WIAZ	**Waiheke Island**	**6.02**	**16**	P	Pn	07 19 22.4	+0.3

*ISK **21** 07:20:56.2, 39°.99N×38°.58E, h5km, ML3.7/9*
*DDA **21** 07:20:56.7±0.0, 39°.95N×38°.59E, h11km±1km, MW3.8*
*IDC **21** 07:20:56.1±1.8, 39°.72N×38°.59E, h0km, mb3.9/3, mbtmp3.8/5, ML3.4/3, MS2.4/1, Error ellipse: s-maj=34.3km s-min=10.5km az=162.0*

ISC 21 07:20:57.2±1.1, 39°.94N±0°.02×38°.59E±0°.01, h2km±9km, n59, σ1°45/94, mb4.0/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZN**	**0.14**	**102**	P	**Pg**	**07 21 00.4**	**+0.6**
REFA				S	**Sg**	**07 21 02.5**	**+0.8**
SUSE	**Susehri**	**0.40**	**313**	P	**Pg**	**07 21 04.7**	**-0.3**
SUSE				S	**Sg**	**07 21 10.8**	**+0.6**
ALUC	**Giresun/Alucra**	**0.43**	**19**	P	**Pg**	**07 21 06.0**	**+0.5**
ALUC				S	**Sg**	**07 21 10.9**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.63**	**266**	P	**Pg**	**07 21 09.3**	**0.0**
CUZAR				S	**Sg**	**07 21 18.1**	**+0.6**
KEMA	**Kemaliye**	**0.67**	**186**	P	**Pg**	**07 21 10.2**	**+0.3**
KEMA				S	**Sb**	**07 21 20.2**	**-1.2**
GUMT	**Gumushane**	**0.86**	**52**	PG	**Pg**	**07 21 13.2**	**-0.4**
GUMT				SG	**Sb**	**07 21 25.8**	**-1.2**
ARPR	**Arapgir-MALATY**	**0.86**	**193**	PG	**Pb**	**07 21 14.2**	**-0.8**
ARPR				SG	**Sn**	**07 21 28.6**	**-1.2**
EUZM	**Uzumlu**	**0.88**	**105**	P	**Pg**	**07 21 13.8**	**-0.3**
EUZM				S	**Sb**	**07 21 26.5**	**-1.1**
CUKAN	**kangal_SIVAS**	**1.06**	**235**	P	**Pg**	**07 21 17.4**	**-0.2**
CUKAN				S	**Sn**	**07 21 33.4**	**-1.4**
TNCL	**Tunceli-Merkez**	**1.10**	**138**	P	**Pg**	**07 21 17.7**	**-0.5**
TNCL				S	**Sb**	**07 21 32.5**	**-1.3**
SCER	**sogukcermik**	**1.13**	**267**	P	**Pb**	**07 21 17.9**	**-1.6**
SCER				S	**Sn**	**07 21 34.5**	**-1.9**
ORDU	**Ordu-Boztepe**	**1.19**	**332**	P	**Pb**	**07 21 19.2**	**-1.4**
ORDU				S	**Sb**	**07 21 34.5**	**-2.0**
BAYB	**BAYBURT**	**1.32**	**75**	P	**Pn**	**07 21 21.1**	**-1.8**
BAYB				S	**Sb**	**07 21 37.4**	**-2.9**
MACK	**Trabzon**	**1.35**	**41**	P	**Pb**	**07 21 22.1**	**-1.1**
MACK				S	**Sb**	**07 21 38.8**	**-2.2**
ELZG	**Elazig**	**1.47**	**168**	P	**Pb**	**07 21 24.3**	**-1.0**
ELZG				S	**Sg**	**07 21 44.6**	**+0.3**
KOPT	**Kop Dagi**	**1.47**	**86**	P	**Pb**	**07 21 24.7**	**-0.7**
KOPT				S	**Sg**	**07 21 46.9**	**+2.5**
KOVA	**Elazig, Kovanc**	**1.55**	**142**	P	**Pb**	**07 21 25.9**	**-0.8**
KOVA				S	**Sb**	**07 21 45.5**	**-1.4**
CUAYA	**Sivas-Altinyay**	**1.57**	**245**	P	**Pg**	**07 21 27.1**	**-0.2**
CUAYA				S	**Sg**	**07 21 50.8**	**+3.1**
CUGUR	**Gurin_SVAS**	**1.58**	**221**	P	**Pg**	**07 21 27.5**	**0.0**
CUGUR				S	**Sg**	**07 21 49.9**	**+1.9**
TOKT	**Tokat**	**1.61**	**284**	PN	**Pb**	**07 21 26.6**	**-1.1**
TOKT				SN	**Sg**	**07 21 48.8**	**-0.2**
TOKA	**Tokat**	**1.67**	**284**	P	**Pb**	**07 21 27.4**	**-1.2**
TOKA				S	**Sg**	**07 21 50.5**	**-0.1**
AKCD	**Akcadag**	**1.72**	**198**	P	**Pb**	**07 21 29.1**	**-0.5**
AKCD				S	**Sg**	**07 21 54.2**	**+1.9**
KRIK	**Erzurum-spir**	**1.84**	**77**	P	**Pb**	**07 21 30.5**	**-1.1**
KRIK				S	**Sn**	**07 21 52.1**	**-1.8**
ECAT	**Cat-ERZURUM**	**1.87**	**99**	P	**Sb**	**07 30.6**	**-1.5**
ECAT				S	**Sg**	**07 21 58.3**	**+1.2**
CUSAR	**Sarkisla-SIVAS**	**1.88**	**255**	P	**Pb**	**07 21 31.3**	**-1.0**
CUSAR				S	**Sg**	**07 21 58.0**	**+0.4**
ELBS	**KAHRAMANMARAS**	**1.97**	**216**	P	**Pg**	**07 21 34.0**	**-0.9**
ELBS				S	**Sg**	**07 22 01.5**	**+1.1**
CHAY	**Cayeli-Rize**	**1.99**	**54**	PN	**Pb**	**07 21 32.3**	**-1.8**
KARO	**Karliova-Bingo**	**2.00**	**107**	PN	**Pb**	**07 21 33.0**	**-1.4**
SLHN	**Bingol, Solhan**	**2.12**	**117**	P	**Pg**	**07 21 37.0**	**-0.8**
SLHN				S	**Sg**	**07 22 04.8**	**-0.6**
ERZM	**Erzurum**	**2.13**	**90**	P	**Pg**	**07 21 37.5**	**-0.6**
HACI	**Hacifakili, Ak**	**2.21**	**265**	P	**Pb**	**07 21 35.5**	**-2.5**
HACI				S	**Sb**	**07 22 03.1**	**-2.9**
KIZO	**Buyukkizoglu-L**	**2.25**	**296**	PN	**Pn**	**07 21 35.5**	**0.0**
SAMS	**Samsun-Alacam**	**2.32**	**309**	P	**Pb**	**07 21 38.6**	**-1.1**
SAMS				S	**Sb**	**07 22 09.1**	**+0.3**
CKRK	**Yozgat, Cekere**	**2.38**	**274**	P	**Sb**	**07 21 38.0**	**-2.7**
CKRK				S	**Sb**	**07 22 09.9**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**2.51**	**88**	PN	**Pb**	**07 21 40.1**	**-3.0**
YOZ	**Yozgat**	**2.54**	**264**	PN	**Pn**	**07 21 40.1**	**+0.6**
MUSM	**Mu-Merkez**	**2.57**	**117**	P	**Pb**	**07 21 43.1**	**-0.9**
DDEM	**Demirkent**	**2.59**	**67**	P	**Pb**	**07 21 43.3**	**-1.2**
DDEM				S	**Sb**	**07 22 17.0**	**+0.1**
DBAD	**Bademkaya**	**2.60**	**64**	P	**Pb**	**07 21 42.1**	**-2.5**
DBAD				S	**Sb**	**07 22 15.5**	**-1.6**
HOPA	**Hopa-Artvin**	**2.61**	**55**	PN	**Pn**	**07 21 41.4**	**+1.0**
GZT	**Gaziantep**	**2.70**	**198**	P	**Pn**	**07 21 41.8**	**0.0**
SIRC	**Yozgat**	**2.72**	**258**	P	**Pn**	**07 21 42.7**	**+0.6**
SIRC				S	**Sg**	**07 22 22.8**	**-1.8**
KMRS	**Kahramanmaras**	**2.76**	**209**	PN	**Pn**	**07 21 43.8**	**+1.3**
DAGI	**Agillar**	**2.78**	**65**	P	**Pb**	**07 21 45.5**	**-2.1**
COAL	**Corum-Alaca**	**2.78**	**278**	P	**Pn**	**07 21 43.7**	**+0.8**
ANDN	**Andirin**	**2.93**	**217**	P	**Pb**	**07 21 46.7**	**-3.6**
KOZK	**Kozakli-Nevseh**	**2.97**	**257**	PN	**Pn**	**07 21 46.3**	**+0.9**
GURO	**Guroymak-BITLI**	**3.01**	**116**	PN	**Pn**	**07 21 47.7**	**+1.7**
KIRS	**Kirsehir-Merke**	**3.70**	**259**	P	**Pn**	**07 21 56.5**	**+1.0**
AKDM	**Akdamar-Van**	**3.77**	**114**	PN	**Pn**	**07 21 58.2**	**+1.7**
BRTR	**Keskin Array B**	**3.82**	**268**	Pn	**Pn**	**07 21 57.7**	**+0.6**
	2.3nm,0.3s,baz=92,slow=14,SNR=36						
BRTR				Pg	**Pb**	**07 22 06.2**	**+0.9**
	5.4nm,0.3s,baz=103,slow=17,SNR=12						
BRTR				Lg	Lg	07 22 59.6	
	4.6nm,0.3s,baz=101,slow=26,SNR=5.4						
	8.0nm,0.4s						
KBZ	**Khabaz**	**4.97**	**39**	Pn	**Pn**	**07 22 15.5**	**+2.7**
	0.3nm,0.3s,baz=169,slow=16,SNR=6.2						
	3.1nm,0.5s						
SUDU	**Sudak**	**5.62**	**333**	*e*P	**Pn**	**07 22 21.8**	**+0.1**
SUDU				Pm		07 22 23.2	
	comp=Z,7.0nm,0.3s						
SUDU				*e*S	**Sn**	**07 23 27.8**	**+1.0**
SUDU				Sm		07 23 33.0	
	comp=N,12nm,0.3s						
SUDU				Sm		07 23 33.0	
	comp=E,9.0nm,0.5s						
SEV	**Sevastopol'**	**5.88**	**323**	*e*P	**Pn**	**07 22 24.9**	**-0.4**
SEV				Pm		07 22 26.0	
	comp=Z,2.0nm,0.4s						
SEV				*e*S	**Sn**	**07 23 34.9**	**+1.7**
SEV				Sm		07 23 37.7	
	comp=N,4.0nm,0.4s						
SEV				Sm		07 23 37.7	
	comp=E,1.0nm,0.4s						
AKASG	**Malin Array Be**	**12.61**	**332**	Pn	**Pn**	**07 23 57.8**	**+0.3**
	comp=E,1.2nm,0.3s,baz=140,slow=14,SNR=6.4						
FINES	**FINESS Array B**	**22.87**	**344**	P	**P**	**07 26 04.6**	**+3.0**
	comp=E,3.5nm,0.7s,baz=153,slow=13,SNR=5.1						
	comp=E,3.5nm,0.7s						
NOA	**NORSAR Array B**	**27.02**	**330**	LR	LR	07 38 23.5	
	comp=E,7.1nm,18.6s,baz=100,slow=38						
KURBB	**Kurchatov Arra**	**29.73**	**56**	P	**P**	**07 27 05.7**	**+1.1**
	comp=E,0.8nm,0.3s,baz=276,slow=8.3,SNR=3.2						
	comp=E,0.8nm,0.3s						
MKAR	**Makanchi Array**	**32.17**	**63**	P	**P**	**07 27 27.3**	**+1.0**
	comp=E,0.6nm,0.8s,baz=280,slow=8.6,SNR=2.1						
	comp=E,0.6nm,0.8s						

WEL 21 07:24:09.7±0.6, 42°.S±3°×17°.4E±°, h9km±4km, M2.8/12, ML3.1/10, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=31.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**110**	P	Pg	07 24 12.9	+0.8
CMWZ				S	Sg	07 24 15.5	+1.6
BSWZ	**Blackbirch Sta**	**0.17**	**271**	P	Pg	07 24 14.1	+0.8
BSWZ				S	Sg	07 24 17.6	+1.8
TUWZ	**Tuamarina**	**0.31**	**338**	P	Pg	07 24 16.6	+0.7
TCW	**Tory Channel**	**0.53**	**15**	P	Pg	07 24 20.1	+0.2
WEL	**Wellington**	**0.67**	**50**	P	Pb	07 24 23.0	-0.4
WEL	**Wellington**	**0.67**	**50**	P	Pg	07 24 22.8	+0.3
NNZ	**Nelson**	**0.74**	**313**	P	Pg	07 24 24.3	+0.3
PLWZ	**Palliser**	**0.88**	**81**	P	Pb	07 24 27.4	+0.2
DUWZ	**D'Urville Isla**	**0.93**	**352**	P	Pb	07 24 27.5	0.0
CAW	**Cannon Point**	**0.95**	**50**	P	Pb	07 24 28.3	-0.1
CAW	**Cannon Point**	**0.95**	**50**	P	Pb	07 24 28.4	0.0
KIW	**Kapiti Island**	**1.05**	**36**	P	Pg	07 24 29.5	-0.4
PAWZ	**Paruwai Farm**	**1.05**	**72**	P	Pg	07 24 29.7	-0.3
MRNZ	**Matariki Terra**	**1.05**	**287**	P	Pb	07 24 30.1	0.0
MTW	**Mount Morrison**	**1.20**	**63**	P	Pb	07 24 31.5	-1.0
MTW	**Mount Morrison**	**1.20**	**63**	P	Pb	07 24 31.5	-1.0
OGWZ	**Otaki Gorge**	**1.21**	**42**	P	Pb	07 24 32.3	-0.4
OGWZ	**Otaki Gorge**	**1.21**	**42**	P	Pb	07 24 32.3	-0.5
TRWZ	**Traveller**	**1.24**	**76**	P	Pn	07 24 32.0	-1.2
HOWZ	**Holdsworth Sta**	**1.35**	**53**	P	Pn	07 24 33.7	-1.0
TMWZ	**Te Maipa**	**1.48**	**66**	P	Pn	07 24 35.3	-1.2
MRZ	**Mangatainoka R**	**1.54**	**47**	P	Pn	07 24 36.6	-0.7
PRWZ	**Pori Road**	**1.83**	**51**	P	Pn	07 24 41.2	-0.2
BFZ	**Birch Farm**	**1.92**	**58**	P	Pn	07 24 43.1	+0.5
WAZ	**Wanganui**	**2.07**	**19**	P	Pb	07 24 48.3	+0.8
DVHZ	**Dannevirke**	**2.11**	**49**	P	Pb	07 24 48.0	-0.1
MOVZ	**Moawhango**	**2.63**	**29**	P	Pb	07 24 56.0	-1.0
WNVZ	**Wahianoa**	**2.65**	**26**	P	Pb	07 24 57.2	-0.2
BHHZ	**Black Hill Sta**	**2.68**	**35**	P	Pb	07 24 57.1	-0.8
TUVZ	**Tukino**	**2.72**	**26**	P	Pn	07 24 55.6	+1.9
NGZ	**Ngauruhoe**	**2.79**	**25**	P	Pb	07 25 00.7	+1.0
SNVZ	**South Ngauruho**	**2.79**	**25**	P	Pb	07 24 59.9	+0.1
NNVZ	**North Ngauruho**	**2.83**	**25**	P	Pb	07 25 01.6	+1.1
WTVZ	**West Tongariro**	**2.84**	**24**	P	Pb	07 25 01.1	+0.5
ETVZ	**East Tongariro**	**2.86**	**26**	P	Pb	07 25 01.2	+0.3
TMVZ	**Te Maari**	**2.87**	**26**	P	Pb	07 25 01.9	+0.7
NTVZ	**North Tongarir**	**2.88**	**25**	P	Pb	07 25 02.3	+1.0
MRHZ	**Matea Rd**	**3.38**	**32**	P	Pn	07 24 53.5	-9.3
OPRZ	**Ohinepanea**	**4.31**	**27**	P	Pb	07 25 24.0	-1.6

IDC 21 07:27:57.5±2.8, 53°.72N×86°.78E, h0km, mbtmp2.9/2, ML2.6/1, Error ellipse: s-maj=23.8km s-min=14.8km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.18**	**282**	I		07 35 10.0	
	0.1nm,0.7s,baz=100,slow=351,SNR=33						
ZALV	**Zalesovo Beam**	**1.18**	**282**	Pg	Pg	07 28 18.9	-1.3
	0.9nm,0.3s,baz=104,slow=14,SNR=9.4						
ZALV				Lg	Lg	07 28 36.4	
	1.0nm,0.3s,baz=104,slow=29,SNR=6.8						
KURBB	**Kurchatov Arra**	**5.95**	**242**	Pn	Pn	07 29 27.6	+0.9
	1.3nm,0.7s,baz=59,slow=14,SNR=4.5						
KURBB				Lg	Lg	07 31 08.2	
	baz=60,slow=37,SNR=2.2						
MKAR	**Makanchi Array**	**7.51**	**204**	Pn	Pn	07 29 49.4	+1.3
	0.1nm,0.3s,baz=20,slow=9.7,SNR=2.4						
	0.2nm,0.3s						

IDC 21 07:34:49.7±2.8, 53°.98N×86°.56E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=22.8km s-min=13.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**269**	I		07 40 54.6	
	0.1nm,0.7s,baz=87,slow=350,SNR=22						
ZALV	**Zalesovo Beam**	**1.03**	**269**	Pg	Pg	07 35 07.9	-1.6
	0.4nm,0.3s,baz=85,slow=17,SNR=7.9						
ZALV				Lg	Lg	07 35 24.4	
	1.3nm,0.3s,baz=91,slow=28,SNR=11						
ZALV				Rg	Rg	07 35 29.1	
	2.9nm,0.3s,baz=90,slow=24,SNR=21						
KURBB	**Kurchatov Arra**	**5.96**	**239**	Pn	Pn	07 36 20.7	+1.5
	0.1nm,0.3s,baz=57,slow=14,SNR=3.3						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn	07 36 43.9	+0.9
	0.1nm,0.3s,baz=26,slow=14,SNR=6.2						
	0.6nm,0.8s						

*NEIC **21** 07:36:32.4±2.1, 20°.4S±0°.1×177°.7W±0°.1, h482km±11km, mb4.3/18, Error ellipse: s-maj=21.9km s-min=12.5km az=218.0*
*IDC **21** 07:36:33.1±3.1, 20°.38S×177°.91W, h477km±26km, mb3.5/8, mbtmp4.3/9, Error ellipse: s-maj=65.1km s-min=16.4km az=149.0*

ISC 21 07:36:30.8±0.6, 20°.6S±0°.2×177°.73W±0°.09, h450km, n38, σ1°71/37, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.89**	**305**	P	**P**	**07 37 56.1**	**+1.8**
	25nm,0.4s,baz=137,slow=6.2,SNR=46						
MSVF	**Nonsavu**	**4.89**	**305**	P	**P**	**07 37 57.2**	**+2.8**
NIUE	**Niue**	**7.50**	**80**	P	**P**	**07 38 21.6**	**+0.7**
AFI	**Afiamalu**	**8.74**	**42**	S	S	07 40 06.9	-9.0
	22nm,0.4s,baz=58,slow=23,SNR=6.9						
AFI	**Afiamalu**	**8.74**	**42**	P	P	07 38 31.5	-3.0
KOUNC	**Koumac, New Ca**	**16.84**	**267**	P	**P**	**07 40 03.4**	**+1.8**
EIDS	**Eidsvold**	**29.07**	**255**	P	**P**	**07 41 52.3**	**-1.0**
EIDS				IAmb	IAmb	07 42 14.4	
	comp=Z,15nm,1.2s						
CTAO	**Charters Tower**	**33.73**	**264**	P	**P**	**07 42 33.3**	**-0.2**
COEN	**Coen**	**37.84**	**274**	P	**P**	**07 43 07.5**	**-0.3**
COEN				IAmb	IAmb	07 43 07.9	
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**37.98**	**244**	P	**P**	**07 43 08.7**	**-0.1**
	comp=Z,3.6nm,0.4s,baz=86,slow=14,SNR=4.5						
	comp=Z,3.6nm,0.4s						
BBOO	**Buckleboo**	**42.74**	**244**	P	**P**	**07 43 47.2**	**+0.1**
WR0	**Warramunga Arr**	**44.65**	**262**	P	**P**	**07 44 00.8**	**-1.4**
AS31	**Alice Springs**	**44.74**	**257**	P	**P**	**07 44 01.0**	**-2.0**
ASAR	**Alice Springs**	**44.74**	**257**	P	**P**	**07 44 02.1**	**-0.9**
	comp=Z,8.4nm,0.9s,baz=95,slow=7.8,SNR=56						
ASAR				PcP	**pwP**	**07 45 35.4**	**+2.7**
	comp=Z,1.1nm,0.5s,baz=107,slow=3.9,SNR=6.9						
	comp=Z,8.4nm,0.9s						
ASAR	**Alice Springs**	**44.74**	**257**	P	**P**	**07 44 01.6**	**-1.4**
WB0	**Warramunga Arr**	**44.82**	**262**	P	**P**	**07 44 01.6**	**-1.9**
WB0				IAmb	IAmb	07 44 03.4	
	comp=Z,4.4nm,0.8s						
WB2	**Warramunga Arr**	**44.83**	**262**	P	**P**	**07 44 01.8**	**-1.8**
WB2				IAmb	IAmb	07 44 04.0	
	comp=Z,5.0nm,0.8s						
WRAB	**Tennant Creek**	**44.83**	**262**	P	**P**	**07 44 01.8**	**-1.9**
WRAB				IAmb	IAmb	07 44 04.0	
	comp=Z,9.4nm,1.2s						
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**07 44 02.2**	**-1.5**
	comp=Z,3.9nm,0.9s,baz=97,slow=7.7,SNR=45						
	comp=Z,3.9nm,0.9s						
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**07 44 02.0**	**-1.7**
MTN	**Manton Dam**	**49.41**	**271**	P	**P**	**07 44 37.3**	**-1.2**
MTN				IAmb	IAmb	07 44 46.7	
	comp=Z,23nm,1.5s						
KNRA	**Kununurra**	**50.90**	**266**	P	**P**	**07 44 48.2**	**-1.2**
KNRA				IAmb	IAmb	07 44 50.4	
	comp=Z,25nm,1.4s						
MBWA	**Marble Bar**	**58.08**	**257**	P	**P**	**07 45 39.1**	**-1.1**
MBWA				IAmb	IAmb	07 46 02.0	
	comp=Z,24nm,1.4s						
MORW	**Morawa**	**60.03**	**248**	P	**P**	**07 45 52.7**	**-0.5**
MORW				IAmb	IAmb	07 46 10.2	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**69.49**	**180**	P	**P**	**07 46 53.9**	**+1.2**
KKM	**Kota Kinabalu**	**70.02**	**285**	P	**P**	**07 46 55.5**	**-1.3**
KKM				IAmb	IAmb	07 46 59.9	
	comp=Z,8.1nm,0.9s						
BELA	**Belgrano 2**	**79.44**	**173**	P	**P**	**07 47 48.6**	**-0.2**
NVAR	**Mina Array Bea**	**80.91**	**43**	P	**P**	**07 47 57.4**	**0.0**
	comp=Z,1.4nm,0.9s,baz=220,slow=8.9,SNR=5.8						
	comp=Z,1.4nm,0.9s						
TRF	**Thorofare Moun**	**86.48**	**12**	P	**P**	**07 48 22.2**	**-2.2**
TXAR	**Lajitas Array**	**86.89**	**57**	P	**P**	**07 48 27.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=216,slow=6.7,SNR=13						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**88.34**	**13**	P	**P**	**07 48 30.9**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=217,slow=5.7,SNR=9.1						
	comp=Z,0.5nm,0.6s						
PDAR	**Pinedale Array**	**88.85**	**43**	P	**P**	**07 48 35.0**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=212,slow=2.5,SNR=6.9						
	comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.38**	**289**	P	**P**	**07 48 43.6**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=130,slow=3.0,SNR=10.0						
	comp=Z,1.5nm,0.4s						
MKAR	**Makanchi Array**	**111.44**	**313**	PKiKP	**PKiKP**	**07 54 11.3**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=12,slow=0.7,SNR=4.7						
BVAR	**Borovoye Array**	**119.30**	**320**	PKP	**PKPdf**	**07 54 26.1**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=51,slow=1.7,SNR=8.7						
BRTR	**Keskin Array B**	**147.08**	**312**	PKPbc	**PKPdf**	**07 55 21.4**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=145,slow=4.9,SNR=5.5						
CLL	**Collm**	**148.20**	**347**	*e*PKPbc	**PKPdf**	**07 55 24.0**	**+3.0**
	comp=Z,6.0nm,0.7s						
GERES	**GERESS Array B**	**150.35**	**345**	PKPbc	**PKPdf**	**07 55 28.8**	**+4.1**
	comp=Z,1.1nm,0.8s,baz=42,slow=4.2,SNR=6.3						

IDC 21 07:49:04.0±2.9, 54°.06N×86°.57E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=23.7km s-min=14.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**264**	I		07 55 00.0	
	0.3nm,0.8s,baz=83,slow=350,SNR=24						
ZALV	**Zalesovo Beam**	**1.04**	**264**	Pg	Pg	07 49 22.4	-1.6
	0.7nm,0.3s,baz=82,slow=17,SNR=8.2						
ZALV				Lg	Lg	07 49 39.0	
	1.8nm,0.3s,baz=84,slow=34,SNR=10.0						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	07 50 35.5	+1.3
	0.1nm,0.3s,baz=55,slow=14,SNR=7.1						
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	Pn	07 50 59.0	+0.7
	0.1nm,0.3s,baz=20,slow=13,SNR=4.4						
	0.4nm,0.5s						

*NNC **21** 07:56:24.6±6.2, 54°.41N×86°.60E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=67.3km s-min=32.9km az=

CGP eS Sb 08 12 46.7 0.0
LSIP Lazi, Siquijor 1.99 235⇑eP Pn 08 12 21.9 +0.9
LSIP i S Sn 08 12 46.9 +1.8
BIPH Bislig 2.35 153⇑eP Pn 08 12 27.1 +1.1
BIPH eS Sb 08 12 59.1 -0.3
DCPH Dipolog City 2.55 228⇓eP Pn 08 12 27.3 -1.4
DCPH eS Sn 08 12 59.7 +0.9
MMPH Masbate 2.62 322⇑iP Pn 08 12 29.7 +0.1
MMPH i S Sb 08 13 06.4 -0.6
RCP Roxas 2.79 297⇓eP Pn 08 12 31.1 -0.9
RCP eS Sn 08 13 04.8 0.0
DAV Davao City (W) 3.21 175 Pn Pn 08 12 39.2 +1.3
60nm,0.3s,baz=217,slow=13,SNR=2.2
DAV LR LR 08 14 20.2
comp=Z,14µm,20.5s,baz=360,slow=47
264nm,0.5s
DAV Davao City (W) 3.21 175 Pn 08 12 39.0 +1.2
DAV Davao City (W) 3.21 175 P Pb 08 12 42.7 -2.8
CTBH Cotabato--PC H 3.22 199⇓iP Pn 08 12 39.0 +1.1
KCP Kidapawan 3.27 183⇑eP Pn 08 12 40.3 +1.7
KCP i S Sn 08 13 18.4 +1.7
GSPH General Santos 4.19 184 eP Pn 08 12 56.8 +5.3
LQP Lukban 5.27 316⇓eP Pn 08 13 06.2 -0.1
TGY Tagaytay City 5.69 312 eP Pn 08 13 11.5 -0.4
SGSI Sangihe 6.57 178 P Pn 08 13 27.8 +3.8
1.4nm210nm,0.5s
PCPH Palayan 6.64 323⇑eP Pn 08 13 26.6 +1.7
MYLDM Lahad Datu 8.42 233 Pn Pn 08 13 49.7 +0.3
GAMI Galela, Maluku 8.76 163 P Pn 08 13 58.5 +4.4
3µm2µm191nm,1.0s
I39PW PALAU INFRASON 9.56 106 I I 09 09 00.0
baz=289,slow=306,SNR=1.7
TNTI Ternate 9.68 167 Pn Pn 08 14 07.6 +0.8
TNTI Ternate 9.68 167 P Pn 08 14 10.7 +3.9
64nm,1.0s
GTOI Gorontalo 9.85 193 P Pn 08 14 10.7 +1.6
KKM Kota Kinabalu 9.91 245 Pn Pn 08 14 09.9 -0.1
TOLI2 Tolitoli 10.15 206 Pn Pn 08 14 12.8 -0.5
MRSI Marisa 10.30 199 P Pn 08 14 20.0 +4.8
854nm53nm,0.8s
LBMI Labuha 11.08 168 P Pn 08 14 27.3 +1.4
LUWI Luwuk 11.53 193 Pn Pn 08 14 36.4 +4.3
LUWI Luwuk 11.53 193 P Pn 08 14 37.4 +5.3
218nm,1.2s
APSI Ampana 11.70 198 P Pn 08 14 40.5 +6.1
1µm98nm,1.4s
SANI Sanana 12.28 177 P Pn 08 14 40.0 -2.4
SIJI Sorong 12.59 151 Pn Pn 08 14 46.7 +0.1
1.2nm,0.3s,baz=335,slow=11,SNR=9.2
18nm,0.7s
SIJI Sorong 12.59 151 P Pn 08 14 47.8 +1.2
21nm,0.7s
NLAI Namlea 13.56 172 P Pn 08 14 58.2 -1.7
KRAI Karang Ratu 13.87 167 P Pn 08 15 06.1 +2.0
40nm,1.0s
MSAI Masohi 14.03 165 P P 08 15 20.5 +6.7
BKB Balikpapan 14.19 216 Pn Pn 08 15 09.9 +1.5
YOJ Yonaguni jima 14.26 352 Pn Pn 08 15 08.5 -0.8
MMSI Mamuju 14.37 207 P P 08 15 37.0 +19
FAKI Fak Fak 14.85 152 Pn Pn 08 15 19.4 +2.0
FAKI Fak Fak 14.85 152 P Pn 08 15 19.6 +2.2
1µm882nm47nm,0.8s
PMSI Majene 15.10 205 P P 08 15 27.1 +1.4
2µm97nm,1.6s
SBUM Sibu 15.13 240 Pn Pn 08 15 21.6 +0.4
SBUM IAmb IAmb 08 15 35.2
comp=Z,89nm,1.4s
SBUM Sibu 15.13 240 P P 08 15 25.4 -0.6
comp=Z,479nmcomp=Z,41nm,1.3s
SPSI Sidrap Palu 15.19 201 P P 08 15 26.7 0.0
comp=Z,2µmcomp=Z,1µmcomp=Z,61nm,1.0s
MTKI Muara Teweh, K 15.21 223 P P 08 15 27.4 +0.5
comp=Z,13µmcomp=Z,83nm,0.9s
BNDI Bandanaira 15.42 162 P P 08 15 48.1 +19
BNSI Bone 15.48 200 P P 08 15 29.0 -0.9
comp=Z,710nmcomp=Z,44nm,1.2s
QZH Quanzhou 15.90 337⇑iP Pn 08 15 29.8 -1.3
QZH S Sn 08 18 34.3 +7.7
QZH LR LR
comp=Z,820nm,11.4s
QZH LR LR
comp=Z,560nm,15.6s
QZH LR LR
comp=Z,700nm,13.7s
HKPS Hong Kong Po S 15.99 320 Pn Pn 08 15 32.0 -0.3
HKPS IAmb IAmb 08 15 54.0
comp=Z,154nm,1.5s
KAPI Kappang 16.17 200 Pn Pn 08 15 36.2 +1.5
comp=Z,0.3nm,0.3s,baz=247,slow=1.7,SNR=2.7
KAPI LR LR 08 22 37.3
comp=Z,479nm,20.8s,baz=4.0,slow=40
comp=Z,27nm,1.1s
KAPI Kappang 16.17 200 Pn Pn 08 15 35.2 +0.5
KAPI IAmb IAmb 08 15 58.2
comp=Z,67nm,1.2s
BKSI Bulukumba 16.34 199 P P 08 15 42.2 +2.7
comp=Z,858nmcomp=Z,28nm,0.8s
JMZ Minamidaito 2 16.44 19 Pn Pn 08 15 37.0 -1.1
JOW Kunigami 16.70 9 LR LR 08 20 35.0
comp=Z,1µm,21.8s,baz=182,slow=32
QIZ Qiongzhong 17.26 302 P P 08 15 50.3 +0.6
QIZ S Sn 08 19 03.5 +3.7
QIZ pmax pmax
comp=Z,330nm,8.7s
QIZ LR LR
comp=Z,630nm,13.5s
QIZ LR LR
comp=Z,690nm,15.1s
QIZ LR LR
comp=Z,1µm,18.2s
KSM Kuching 17.26 240 P 08 15 50.0 +0.3
KSM Kuching 17.26 240 P P 08 15 52.4 +2.6
comp=Z,9.7nm,0.8s
SMPI Sarmi 18.10 132 P Pn 08 15 59.1 +0.3
comp=Z,36µmcomp=Z,89nm,0.8s
MMRI Maumere 19.04 189 P Pn 08 16 11.0 +0.7
MMRI IAmb IAmb 08 16 29.8
comp=Z,58nm,0.7s
GUMO Guam 19.45 78 LR LR 08 22 04.4
comp=Z,696nm,21.8s,baz=256,slow=32
UBPT Khong Chiam 19.93 286 P Pn 08 16 23.0 +2.1
comp=Z,26nm,1.4s
SOEI Soe 19.94 183 P Pn 08 16 21.2 +0.1
SOEI Soe 19.94 183 P Pn 08 16 22.7 +1.6
comp=Z,2µmcomp=Z,80nm,1.8s
BWJI Bawean 20.37 219 P Pn 08 16 28.9 +2.8
comp=Z,410nm,1.2s
PLAI Plampang 20.41 202 P Pn 08 16 28.7 +2.2
comp=Z,46nm,1.1s
BATI Baumata 20.43 185 P P 08 16 25.1 +0.6
comp=Z,95nm,0.9s,baz=20,slow=7.0,SNR=7.4
BATI LR LR 08 26 05.4
comp=Z,644nm,20.2s,baz=7.0,slow=42
comp=Z,95nm,0.9s
BATI Baumata 20.43 185 P Pn 08 16 29.2 +2.5
comp=Z,2µmcomp=Z,173nm,1.1s
TWSI Taliwang, Sumb 20.67 204 P Pn 08 16 29.9 +0.4
KLNI Mataram 20.71 207 P P 08 16 28.8 +1.2
SSE Sheshan 21.05 350 P P 08 16 30.9 -0.2
SSE S S 08 20 22.9 -1.2
SSE pmax pmax
comp=Z,11nm,1.0s
SSE pmax pmax
comp=Z,150nm,4.4s
SSE LR LR
comp=Z,390nm,16.8s
SSE LR LR
comp=Z,470nm,16.9s
JAGI Jajag, Banyuwa 21.68 211 P P 08 16 39.1 +1.1
JAGI IAmb IAmb 08 16 50.3
comp=Z,64nm,1.0s
JAGI Jajag, Banyuwa 21.68 211 P P 08 16 40.6 +2.6
NJ2 Nanjing 22.45 346 eP P 08 16 46.9 +0.7
NJ2 sP sP 08 17 03.8 +6.9
NJ2 S S 08 20 51.1 -0.2
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 LR LR
comp=Z,1µm,19.4s
NJ2 LR LR
comp=Z,1µm,14.1s
NJ2 LR LR
comp=Z,1µm,18.0s
MTN Manton Dam 23.71 166 P P 08 16 59.5 +0.4
GYA Guiyang 23.83 315 ⇑P P 08 17 00.4 +0.1
GYA S S 08 21 14.5 -0.3
GYA pmax pmax
comp=Z,26nm,1.9s
GYA pmax pmax
comp=Z,230nm,3.5s
GYA LR LR
comp=Z,980nm,14.6s
GYA LR LR
comp=Z,2µm,15.7s
GYA LR LR
comp=Z,1µm,19.6s
LEM Lembang 24.46 227 LR LR 08 27 49.2
comp=Z,1µm,18.8s,baz=36,slow=39
SKLT Songkhla 24.56 265 P P 08 17 11.6 +4.6
comp=Z,1µmcomp=Z,13nm,1.4s
JMN Monobe 24.63 17 P P 08 17 07.4 -0.1
JMN IAmb IAmb 08 17 36.4
comp=Z,56nm,1.3s
IPM Ipoh 24.72 258 P P 08 17 09.0 +0.5
IPM IAmb IAmb 08 17 11.7
comp=Z,25nm,1.0s
IPM Ipoh 24.72 258 P P 08 17 10.8 +2.3
comp=Z,28nm,1.2s
ENH Enshi 24.73 326 P P 08 17 07.7 -0.7
ENH IAmb IAmb 08 17 21.1
comp=Z,26nm,1.0s
KULM Kulim 24.89 260 P P 08 17 08.8 -1.2
KULM IAmb IAmb 08 17 33.8
comp=Z,38nm,1.5s
MANU Manus Island 25.17 118 P P 08 17 12.6 0.0
PHRA Phrae 25.57 291 P P 08 17 16.1 0.0
JHS Saijyo 25.61 15 P P 08 17 16.9 +0.5
JHS IAmb IAmb 08 17 38.8
comp=Z,34nm,1.1s
KMI Kunming 25.98 308 ⇑P P 08 17 24.1 +4.0
KMI S S 08 21 50.0 +0.5
KMI pmax pmax
comp=Z,15nm,0.7s
KMI pmax pmax
comp=Z,200nm,4.8s
KMI LR LR
comp=Z,470nm,16.8s
KMI LR LR
comp=Z,600nm,22.2s
KMI LR LR
comp=Z,570nm,23.7s
KNRA Kununurra 26.03 172 P P 08 17 21.0 +0.7
SDSI Sungai Dareh 26.22 246 P P 08 17 25.4 +3.4
comp=Z,14nm,1.7s
JHJ Hachijo jima 2 26.35 28 LR LR 08 28 46.0
comp=Z,356nm,18.0s,baz=258,slow=39
CMAR Chiang Mai Arr 26.74 291 P P 08 17 28.0 +1.2
comp=Z,1.2nm,0.3s,baz=103,slow=7.1,SNR=7.9
CMAR LR LR 08 29 18.6
comp=Z,359nm,18.1s,baz=120,slow=39
comp=Z,1.2nm,0.3s
CMAR Chiang Mai Arr 26.74 291 P P 08 17 27.5 +0.8
CHTO Chiang Mai 26.83 291 P P 08 17 28.0 +0.5
LYN LuoYang 26.84 336 ⇑P P 08 17 32.4 +5.0
LYN S S 08 22 04.4 +2.1
LYN pmax pmax
comp=Z,100nm,5.8s
LYN LR LR
comp=Z,710nm,18.0s
LYN LR LR
comp=Z,1µm,20.6s
LYN LR LR
comp=Z,440nm,17.1s
KSAR Wonju Array Be 27.14 5 P P 08 17 28.6 -1.4
KSRS Korea Array 27.15 5 P P 08 17 29.6 -0.6
comp=Z,2.9nm,0.7s,baz=186,slow=9.6,SNR=9.1
comp=Z,2.9nm,0.7s
PSI Prapat 27.20 256 P P 08 17 35.9 +4.9
comp=Z,9.5nm,1.8s,comp=Z,464nm,1.8s,comp=Z,16nm,1.9s
PSI P P 08 17 36.0 +4.9
comp=Z,9.5nm,1.8s,comp=Z,464nm,1.8s,comp=Z,16nm,1.9s
PZH PanZhiHua 27.46 309 P P 08 17 36.9 +3.6
PZH S S 08 22 10.6 -2.0
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,4.9s
PZH LR LR
comp=Z,2µm,17.7s
PZH LR LR
comp=Z,1µm,17.7s
PZH LR LR
comp=Z,1µm,17.2s
XAN Xi'an 27.99 330 ⇑P P 08 17 39.3 +1.5
XAN S S 08 22 25.6 +5.0
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN LR LR
comp=Z,1µm,19.0s
XAN LR LR
comp=Z,1µm,17.1s
XAN LR LR
comp=Z,1µm,15.5s
FITZ Fitzroy Crossi 28.21 179 P P 08 17 40.1 +0.3
HNS HongShan 28.62 342 ⇓P P 08 17 42.4 -0.9
HNS S S 08 22 34.4 +4.1
HNS LR LR
comp=Z,380nm,16.3s
HNS LR LR
comp=Z,1µm,19.4s
HNS LR LR
comp=Z,740nm,15.1s
MJAR Matsushiro Arr 28.64 22 LR LR 08 29 10.7
comp=Z,606nm,18.9s,baz=202,slow=37
CD2 Chengdu 28.64 319 P P 08 17 43.3 -0.4
CD2 S S 08 22 29.8 -1.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,590nm,12.0s
CD2 LR LR
comp=Z,500nm,10.6s
CD2 LR LR
comp=Z,450nm,12.0s
TNCH TengChong 29.32 303 eP P 08 17 52.3 +2.3
TNCH pmax pmax
comp=Z,47nm,0.5s
COEN Coen 29.93 143 P P 08 17 55.3 +0.1
COEN IAmb IAmb 08 18 23.4
comp=Z,16nm,0.9s
KRVT Keravat (AS076 30.33 117 LR LR 08 31 08.1
comp=Z,371nm,18.1s,baz=69,slow=38
WB0 Warramunga Arr 31.19 163 P P 08 18 07.0 +0.7
WB0 IAmb IAmb 08 18 26.5
comp=Z,31nm,1.4s
WRAB Tennant Creek 31.34 163 P P 08 18 08.5 +1.0
WRAB Tennant Creek 31.34 163 P P 08 18 08.1 +0.6
WRAB pP sP 08 18 18.4 -0.1
WRAB sP pP 08 18 22.1 +6.8
WRA Warramunga Arr 31.34 163 P P 08 18 07.0 -0.6
comp=Z,4.6nm,1.0s,baz=329,slow=11,SNR=18
comp=Z,4.6nm,1.0s
WRA Warramunga Arr 31.34 163 P P 08 18 06.0 -1.6
WB2 Warramunga Arr 31.34 163 P P 08 18 06.1 -1.5
WR0 Warramunga Arr 31.41 163 P P 08 18 09.2 +1.0
WR0 IAmb IAmb 08 18 28.6
comp=Z,20nm,1.2s
SNY Shenyang 31.45 358 ⇓P P 08 18 09.5 +1.2
SNY S S 08 23 15.8 +1.2
SNY pmax pmax
comp=Z,21nm,1.8s
SNY pmax pmax
comp=Z,260nm,3.2s
SNY LR LR
comp=Z,750nm,12.3s
SNY LR LR
comp=Z,1µm,13.7s
SNY LR LR
comp=Z,940nm,17.4s
PSA00 Pilbara Seismi 32.11 190 P P 08 18 13.1 -1.3
PSA00 IAmb IAmb 08 18 17.3
comp=Z,15nm,0.9s
LZH Lanzhou 32.21 326 ⇑P P 08 18 18.5 +3.2
LZH S S 08 23 25.8 -1.2
LZH pmax pmax
comp=Z,14nm,1.5s
LZH pmax pmax
comp=Z,93nm,4.1s
LZH LR LR
comp=Z,2µm,16.1s
LZH LR LR
comp=Z,1µm,16.8s
LZH LR LR
comp=Z,680nm,15.1s
HHC Hu-ho-hao-te 32.76 341 eP P 08 18 24.4 +4.4
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,350nm,5.8s
HHC LR LR
comp=Z,1µm,14.0s
HHC LR LR
comp=Z,790nm,14.6s
HHC LR LR
comp=Z,1µm,15.2s
USRK Ussuriysk Ar. 34.28 9 P P 08 18 32.2 -0.8
comp=Z,5.8nm,0.6s,baz=236,slow=10,SNR=3.6
comp=Z,5.8nm,0.6s
USRK Ussuriysk Ar. 34.28 9 P P 08 18 31.5 -1.6
XLT XiLinHaoTe 34.42 348 eP P 08 18 37.3 +2.9
XLT pmax pmax
comp=Z,11nm,1.7s
XLT pmax pmax
comp=Z,150nm,3.8s
XLT LR LR
comp=Z,510nm,12.8s
XLT LR LR
comp=Z,640nm,17.4s
BRDH Bariadhala 34.43 295 P P 08 18 36.4 +1.8
comp=Z,47nm,0.3s,baz=33,slow=15,SNR=6.1
BRDH LR LR 08 32 39.4
comp=Z,364nm,19.1s,baz=106,slow=36
AS31 Alice Springs 34.79 166 P P 08 18 38.1 +0.4
ASAR Alice Springs 34.79 166 P P 08 18 38.1 +0.4
comp=Z,4.2nm,0.6s,baz=341,slow=7.3,SNR=75
ASAR PcP PcP 08 21 10.6 -0.4
comp=Z,1.8nm,0.9s,baz=20,slow=3.0,SNR=2.9
comp=Z,4.2nm,0.6s
ASAR Alice Springs 34.79 166 P P 08 18 37.8 +0.1
SHL Shillong 35.08 300 P P 08 18 40.1 -0.4
BNX BinXian 35.37 3 ⇑P P 08 18 44.3 +1.9
BNX pmax pmax
comp=Z,8.0nm,1.1s
BNX pmax pmax
comp=Z,160nm,4.9s
CTA Charters Tower 36.58 146 P P 08 18 53.1 0.0
comp=Z,9.1nm,1.1s,baz=340,slow=14,SNR=3.9
comp=Z,9.1nm,1.1s
CTAO Charters Tower 36.58 146 P P 08 18 51.6 -1.4
CTAO pP pP 08 18 59.8 -1.1
GTA Gaotai 36.81 326 eP P 08 19 01.4 +6.3
GTA S S 08 24 46.6 +8.7
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,1µm,20.7s
GTA LR LR
comp=Z,1µm,21.4s
GTA LR LR
comp=Z,510nm,21.4s
ASAJ Asahikawa 36.89 21 LR LR 08 34 52.9
comp=Z,202nm,19.1s,baz=206,slow=38
GOMU GeErMu 37.77 318 P P 08 19 06.9 +3.4
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU pmax pmax
comp=Z,77nm,4.4s
GOMU LR LR
comp=Z,280nm,14.4s
GOMU LR LR
comp=Z,210nm,15.5s
GOMU LR LR
comp=Z,300nm,14.7s
KLR Kul'dur 39.19 7 P P 08 19 14.3 -0.5
comp=Z,0.8nm,0.4s,baz=335,slow=5.9,SNR=2.6
comp=Z,0.8nm,0.4s
TAPN Taplejung 39.20 301 eP P 08 19 17.3 +1.7
HNR Honiara 39.68 118 LR LR 08 34 13.3
comp=Z,3µm,21.8s,baz=296,slow=34
HEH HeiHe 39.88 2 eP P 08 19 22.4 +1.9
HEH pmax pmax
comp=Z,7.0nm,1.1s
RAMN Ramite 40.02 300 eP P 08 19 22.8 +0.4
ULN Ulaanbaatar 40.48 341 P P 08 19 25.4 -0.3
comp=Z,28nm,1.3s
JIRN Jiri 40.58 301 eP P 08 19 27.2 +0.1
comp=Z,40nm,0.6s
SONM Songino Array 40.66 340 P P 08 19 26.6 -0.7
comp=Z,1.0nm,0.6s,baz=153,slow=10.0,SNR=6.3
SONM LR LR 08 38 26.7
comp=Z,398nm,18.2s,baz=156,slow=39
comp=Z,1.0nm,0.6s
SONM Songino Array 40.66 340 P P 08 19 25.7 -1.6
H11S3 WAKE ISLAND Hy 40.85 74 T T 09 02 29.3
baz=318,slow=73,SNR=13
H11S1 WAKE ISLAND Hy 40.87 74 T T 09 02 46.0
baz=318,slow=73,SNR=7.4
H11S2 WAKE ISLAND Hy 40.87 74 T T 09 02 28.6
baz=318,slow=73,SNR=6.1
GUN Gumba 40.91 301 eP P 08 19 29.8 -0.1
comp=Z,50nm,0.9s
FORT Forrest 40.92 176 P P 08 19 30.9 +1.5
H11N1 WAKE ISLAND Hy 41.18 72 T T 09 02 59.1
baz=265,slow=74,SNR=57
H11N2 WAKE ISLAND Hy 41.19 72 T T 09 02 59.5
baz=265,slow=74,SNR=30
H11N3 WAKE ISLAND Hy 41.20 72 T T 09 03 00.5
baz=265,slow=74,SNR=60
DMN Daman 41.48 300 eP P 08 19 33.8 -0.6
DANN Dangsing 42.83 301 eP P 08 19 44.4 -1.1
comp=Z,36nm,0.9s
PALK Pallekele 44.13 270 LR LR 08 38 24.3
comp=Z,236nm,20.4s,baz=189,slow=36
STKA Stephens Creek 44.74 160 P P 08 19 59.7 -0.7
comp=Z,9.1nm,0.9s,baz=341,slow=8.8,SNR=8.8
comp=Z,9.1nm,0.9s
STKA Stephens Creek 44.74 160 P P 08 20 01.2 +0.9
WMQ Urumqi 46.61 323 eP P 08 20 17.3 +2.2
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ LR LR
comp=Z,2µm,18.3s
WMQ LR LR
comp=Z,580nm,18.3s
WMQ LR LR
comp=Z,620nm,23.3s
PETK Petropavlovsk- 50.03 25 P P 08 20 39.5 -1.7
comp=Z,5.5nm,0.9s,baz=256,slow=4.3,SNR=1.8
PETK LR LR 08 41 44.3
comp=Z,117nm,18.8s,baz=215,slow=36
comp=Z,5.5nm,0.9s
ZSN Zaisan 50.29 325 eP P 08 20 41.2 -2.2
baz=325
CAN Canberra 50.61 155 P P 08 20 48.2 +2.3
CAN pP sP 08 20 58.2 +1.1
MK31 Makanchi Array 51.42 323 P P 08 20 51.1 -0.8
MKAR Makanchi Array 51.42 323 P P 08 20 51.0 -0.8
comp=Z,5.4nm,0.8s,baz=119,slow=8.3,SNR=23
comp=Z,5.4nm,0.8s
MKAR Makanchi Array 51.42 323 P P 08 20 50.6 -1.3
SHLS Shalkode 51.47 318 eP P 08 20 48.1 -4.4
baz=318
MAKZ Makanchi 51.61 323 P P 08 20 53.0 -0.3
MAKZ IAmb IAmb 08 21 21.1
comp=Z,9.6nm,0.9s
MAKZ Makanchi 51.61 323 P P 08 20 54.8 +1.5
MAKZ pP sP 08 21 04.4 -0.3
MAKZ sP pP 08 21 09.3 +7.9
DZM Mont Dzumac 51.62 129 eLR LR 08 35 49.4
comp=Z,328nm,26.1s
YAK Yakutsk 51.75 3 LR LR 08 46 07.6
comp=Z,205nm,18.3s,baz=114,slow=40
YAK Yakutsk 51.75 3 P P 08 20 53.2 -0.8
KPKS Kolpek 52.12 318 eP P 08 20 54.4 -2.8
baz=318
SATY Saty 52.13 317 eP P 08 20 56.0 -1.3
baz=317
ZHN Zhinishke 52.16 317 eP P 08 20 54.6 -2.9
baz=318
KSH Kashi 52.49 312 P P 08 21 03.5 +3.4
KSH pP sP 08 21 18.0 +6.5
KSH pmax pmax
comp=Z,4.0nm,1.4s
NIL Nilore 52.91 304 P P 08 21 03.6 +0.3
NIL IAmb IAmb 08 21 13.7
comp=Z,16nm,0.9s

TNSS	Tian-Shan	53.10	317	*e*P		P	08 21 01.5	-3.4
	baz=317							
KUU	Kurty	53.84	318	*e*P		P	08 21 07.5	-2.3
	baz=318							
ZAA0	Zalesovo Array	54.14	332	P		P	08 21 10.6	-1.2
ZALV	Zalesovo Beam	54.14	332	P		P	08 21 10.3	-1.5
	comp=Z,4.4nm,0.7s,baz=122,slow=7.5,SNR=18							
ZALV				LR	LR		08 44 44.1	
	comp=Z,312nm,20.7s,baz=123,slow=37							
	comp=Z,4.4nm,0.7s							
ZALV	Zalesovo Beam	54.14	332	P		P	08 21 11.4	-0.4
AAK	Ala-Archa	54.62	315	LR	LR		08 44 57.8	
	comp=Z,292nm,21.5s,baz=93,slow=36							
KURK	Kurchatov	55.50	326	P		P	08 21 20.6	-1.1
KURK				IAmb	IAmb		08 21 48.5	
	comp=Z,18nm,1.1s							
KURK	Kurchatov	55.50	326	P		P	08 21 22.3	+0.6
KURK				sP		sP	08 21 37.1	+4.0
BTLS	Baital	55.80	318	*e*P		P	08 21 21.7	-2.3
	baz=318							
GAR	Garm	56.53	310	P		P	08 21 28.8	-0.6
CHGR	Chuyangaron	57.32	309	P		P	08 21 34.2	-0.9
CHGR				IAmb	IAmb		08 21 49.7	
	comp=Z,14nm,1.0s							
KK31	Karatay Array	57.54	315	P		P	08 21 35.7	-0.7
KKAR	Karatay Array	57.54	315	P		P	08 21 36.0	-0.4
IUG	Iuzhnay	57.60	314	*e*P		P	08 21 33.8	-3.1
	baz=314							
BVAR	Borovoye Array	61.09	326	LR	LR		08 49 17.2	
	comp=Z,219nm,20.0s,baz=110,slow=37							
BRVK	Borovoye	61.16	326	P		P	08 22 01.0	-0.3
BRVK				IAmb	IAmb		08 22 23.4	
	comp=Z,6.5nm,0.8s							
BRVK	Borovoye	61.16	326	P		P	08 22 00.7	-0.5
BRVK				pP		pP	08 22 10.0	+0.4
BRVK				sP		sP	08 22 14.4	+1.7
TIXI	Tiksi	61.35	1	LR	LR		08 52 36.8	
	comp=Z,162nm,18.1s,baz=73,slow=40							
TIXI	Tiksi	61.35	1	P		P	08 22 02.6	+0.5
TIXI				IAmb	IAmb		08 22 04.7	
	comp=Z,7.5nm,0.9s							
NRIK	Noril'sk	63.75	346	P		P	08 22 18.4	+0.1
	comp=Z,9.3nm,0.9s,baz=142,slow=6.9,SNR=8.0							
NRIK				LR	LR		08 50 58.4	
	comp=Z,304nm,20.2s,baz=152,slow=37							
	comp=Z,9.3nm,0.9s							
NRIK	Noril'sk	63.75	346	P		P	08 22 18.2	0.0
NRIK				IAmb	IAmb		08 22 21.1	
	comp=Z,12nm,1.0s							
GEYT	Alibeck	65.75	307	LR	LR		08 52 57.8	
	comp=Z,276nm,21.9s,baz=83,slow=38							
ABKAR	Akbulak array	66.22	319	P		P	08 22 33.7	-0.9
BKZ	Black Stump Fm	68.44	139	P		P	08 22 48.5	-0.4
ARU	Arti	68.67	327	LR	LR		08 52 20.2	
	comp=Z,299nm,21.6s,baz=96,slow=36							
KIRV	Kirov	73.91	328	LR	LR		08 57 42.0	
	comp=Z,238nm,20.1s,slow=37							
BELG	Belogornoye	74.38	322	LR	LR		08 58 46.8	
	comp=Z,112nm,19.0s,baz=135,slow=38							
GNI	Garni	76.23	309	LR	LR		09 03 23.4	
	comp=Z,126nm,18.9s,baz=88,slow=41							
IMAR	Indian Mountai	76.99	25	P		P	08 23 39.9	+0.7
H21K	Melozitna Rive	77.36	25	P		P	08 23 41.9	+0.6
H21K				IAmb	IAmb		08 24 01.3	
	comp=Z,24nm,1.4s							
CAST	Castle Rocks	77.57	27	P		P	08 23 42.7	+0.1
CAST				IAmb	IAmb		08 24 00.7	
	comp=Z,15nm,1.1s							
MLY	Manley	78.20	26	P		P	08 23 45.8	-0.3
MLY				IAmb	IAmb		08 24 05.0	
	comp=Z,14nm,1.2s							
COLD	Coldfoot	78.46	23	P		P	08 23 47.5	+0.1
COLD				IAmb	IAmb		08 24 04.0	
	comp=Z,9.7nm,1.0s							
TOLK	Toolik Lake Re	78.72	22	P		P	08 23 48.9	0.0
TOLK				IAmb	IAmb		08 24 08.9	
	comp=Z,13nm,1.2s							
MCK	McKinley	78.98	27	P		P	08 23 49.4	-1.0
MCK				IAmb	IAmb		08 24 13.4	
	comp=Z,14nm,0.9s							
KLMR	Klimovskoe	79.02	330	*e*P		P	08 23 46.7	-3.9
KLMR				AMP			08 23 58.9	
	comp=Z,18nm,1.5s							
KLMR				LQ	LQ		08 51 24.2	
KLMR				LQ	LQ		08 51 24.2	
KLMR				LR	LR		08 52 15.9	
KLMR				AMP			09 00 34.8	
	comp=Z,263nm,13.9s							
H24K	Noodor Dome	79.39	25	P		P	08 23 53.0	+0.4
ILAR	Eielson Array	79.85	26	P		P	08 23 54.1	-0.9
	comp=Z,1.3nm,0.8s,baz=242,slow=4.4,SNR=14							
	comp=Z,1.3nm,0.8s							
BMAR	Burnt Mountain	80.63	23	P		P	08 24 00.7	+1.4
BCAR	Beaver Creek A	82.24	27	P		P	08 24 08.2	+0.3
SPITS	Spitsbergen Ar	83.80	349	LR	LR		09 04 54.7	
	comp=Z,201nm,21.4s,baz=35,slow=38							
ARCES	ARCESS Array B	83.83	340	P		P	08 24 14.2	-1.7
	comp=Z,2.7nm,0.9s,baz=81,slow=5.8,SNR=1.9							
ARCES				LR	LR		09 03 56.4	
	comp=Z,158nm,18.9s,baz=92,slow=37							
	comp=Z,2.7nm,0.9s							
MMAI	Mount Meron Ar	84.37	302	LR	LR		09 05 57.7	
	comp=Z,99nm,18.9s,baz=240,slow=38							
INK	Inuvik	84.62	21	P		P	08 24 20.0	+0.1
INK				IAmb	IAmb		08 24 27.9	
	comp=Z,16nm,1.4s							
BRTR	Keskin Array B	84.76	309	P		P	08 24 20.9	-0.6
	comp=Z,0.7nm,0.6s,baz=150,slow=6.1,SNR=2.2							
BRTR				LR	LR		09 04 19.1	
	comp=Z,112nm,21.1s,baz=73,slow=37							
	comp=Z,0.7nm,0.6s							
N31M	Braeburn, Yuko	85.28	28	P		P	08 24 22.0	-1.4
FINES	FINESS Array B	85.41	332	P		P	08 24 21.9	-2.1
	comp=Z,1.0nm,0.6s,baz=77,slow=8.6,SNR=5.3							
FINES				LR	LR		09 05 26.7	
	comp=Z,202nm,20.7s,baz=76,slow=38							
	comp=Z,1.0nm,0.6s							
WHY	Whitehorse	85.89	29	P		P	08 24 25.8	-0.8
AKASG	Malin Array Be	85.93	321	LR	LR		09 05 47.3	
	comp=Z,112nm,20.1s,baz=66,slow=38							
MNK	Minsk	85.97	325	*i* P		P	08 24 24.2	-2.8
	comp=E,3.0nm,0.9s							
MNK				*i* P		P	08 24 24.2	-2.8
	comp=N,33nm,1.1s							
MNK				*i* P		P	08 24 24.2	-2.8
	comp=Z,10.0nm,0.6s,baz=78							
MNK				*i* PP		PP	08 27 44.3	-2.4
MNK				*i* PPP		PPP	08 29 37.2	
MNK				*i* S		S	08 34 43.9	-15
MNK				*i* SS		SS	08 40 29.1	-7.4
MNK				*i* SSS		SSS	08 44 05.1	
MNK				*i* LQ		LQ	08 56 53.6	
MNK				*i* LR		LR	09 01 37.3	
MNK				*i* LRM		MLR	09 04 30.8	
	comp=Z,169nm,18.5s							
MNK				*i* LRM		MLR	09 04 51.8	
	comp=E,144nm,16.0s							
MNK				*i* LRM		MLR	09 04 55.4	
	comp=N,792nm,23.0s							
A36M	Sachs Harbour	86.18	17	P		P	08 24 27.8	+0.1
FARO	Faro, Yukon	86.22	27	P		P	08 24 28.3	+0.2
PPT2	Papeete2	88.51	108	*e*LR		LR	08 52 54.6	
	comp=N,186nm,22.2s							
MLR	Muntele Rosu	89.20	316	LR	LR		09 08 44.2	
	comp=N,279nm,21.9s,baz=54,slow=38							
TBI	Tubuai	89.73	114	*e*LR		LR	08 53 27.7	
	comp=N,7μm,23.2s							
TBI				*e*LR		LR	08 53 27.9	
	comp=N,2μm,26.0s							
VNDA	Vanda	90.08	173	P		P	08 24 45.1	-0.9
	comp=N,3.0nm,0.8s,baz=318,slow=7.0,SNR=12							
	comp=N,3.0nm,0.8s							
VNDA	Vanda	90.08	173	P		P	08 24 46.5	+0.5
VNDA				IAmb	IAmb		08 24 54.8	
	comp=Z,8.1nm,1.1s							
HFS	Hagfors	91.58	332	LR	LR		09 09 26.8	
	comp=Z,247nm,19.3s,baz=64,slow=38							
NOA	NORSAR Array B	92.31	334	LR	LR		09 08 54.4	
	comp=Z,216nm,20.6s,baz=55,slow=37							
JMIC	Jan Mayen	93.18	346	LR	LR		09 11 29.0	
	comp=Z,80nm,19.0s,baz=3.0,slow=38							
VRAC	Vranov	94.14	322	LR	LR		09 07 59.7	
	comp=Z,160nm,21.1s,baz=96,slow=36							
TAOE	Nuku Hiva Isla	96.01	98	*e*LR		LR	08 56 22.7	
	comp=Z,387nm,27.1s							
GERES	GERESS Array B	96.07	322	LR	LR		09 10 27.7	
	comp=Z,148nm,21.7s,baz=83,slow=37							
DAVOX	Davos/Dischmat	99.27	321	LR	LR		09 13 24.1	
	comp=Z,118nm,20.1s,baz=81,slow=37							
TXAR	Lajitas Array	118.55	49	PKP		PKPdf	08 30 35.0	-0.3
	comp=Z,0.6nm,0.8s,baz=293,slow=1.4,SNR=7.4							
PLCA	Paso Flores	146.60	158	PKPbc		PKPbc	08 31 29.7	+1.0
	comp=Z,10nm,1.0s,baz=293,slow=3.1,SNR=12							
PLCA	Paso Flores	146.60	158	PKPdf		PKPdf	08 31 24.8	-2.4
GO06	Curarrehue	147.24	156	PKPdf		PKPdf	08 31 25.8	-2.5
GO02	Mina Guanaco	159.56	138	PKPdf		PKPdf	08 31 42.8	-3.8
GO02				PKPab		PKPab	08 32 23.1	-1.6
PB15	IPOC Station P	160.94	134	PKPdf		PKPdf	08 31 43.3	-4.8
PB15				PKPab		PKPab	08 32 25.0	-5.6
PB12	IPOC Station P	162.78	120	PKPdf		PKPdf	08 31 46.2	-3.7
PB12				PKPab		PKPab	08 32 37.8	-0.9
LPAZ	La Paz	165.66	116	PKP		PKPdf	08 31 53.0	-0.2
	comp=Z,0.4nm,0.5s,baz=147,slow=2.5,SNR=3.6							

NOU ***21*** *08:13:35.2, 42.˚48S×173.˚80E, h7km, MLv4.1/11, South Island, New Zealand*

WEL ***21*** *08:13:36.5±0.3, 42.˚5S±2.˚×17.˚4E±.˚, h5km, M3.5/26, ML4.0/13, MLv3.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=116.4*

ISC 21 08:13:35.9±1.1, 42.˚34S±0.˚04×173.˚72E±0.˚04, h18km±5km, n74, σ1§92/76, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.15	242	P		Pg	08 13 40.0	-0.1
KHZ	Kahutara	0.15	242	P		Pg	08 13 40.1	-0.1
KHZ				S		Sg	08 13 43.0	0.0
BSWZ	Blackbirch Sta	0.64	11	P		Pg	08 13 48.1	-0.4
BSWZ				S		Sb	08 13 57.2	+0.1
CMWZ	Cape Campbell	0.70	32	P		Pb	08 13 51.0	+1.5
GVZ	Greta Valley S	0.80	219	P		Pb	08 13 52.9	+1.6
THZ	Tophouse	0.84	314	P		Pg	08 13 50.1	-2.2
TUWZ	Tuamarina	0.93	10	P		Pg	08 13 53.3	-0.7
AMCZ	Amberley	1.15	223	P		Pg	08 13 57.2	-0.8
NNZ	Nelson	1.15	347	P		Pg	08 13 56.3	-1.9
LTZ	Lake Taylor	1.16	247	P		Pg	08 13 56.9	-1.3
MRNZ	Matariki Terra	1.19	322	P		Pb	08 13 56.9	-0.9
TCW	Tory Channel	1.21	20	P		Pg	08 13 58.1	-1.0
SNZO	South Karori	1.27	36	P		Pn	08 13 59.8	+1.1
WEL	Wellington	1.32	37	P		Pn	08 14 00.1	+0.8
PLWZ	Palliser	1.38	56	P		Pn	08 14 00.5	+0.2
TKNZ	Takaka Hill	1.43	336	P		Pn	08 14 01.0	+0.1
MSWZ	Moikau Station	1.47	51	P		Pn	08 14 01.8	+0.3
DUWZ	D'Urville Isla	1.55	6	P		Pn	08 14 02.8	+0.3
CAW	Cannon Point	1.59	40	P		Pn	08 14 03.6	+0.4
PAWZ	Paruwai Farm	1.60	54	P		Pn	08 14 03.3	0.0
KIW	Kapiti Island	1.73	31	P		Pn	08 14 05.8	+0.8
TRWZ	Traveller	1.75	58	P		Pn	08 14 05.1	-0.2
QRZ	Quartz Range	1.76	329	P		Pb	08 14 06.5	-1.2
QRZ	Quartz Range	1.76	329	P		Pb	08 14 06.4	-1.2
MTW	Mount Morrison	1.78	49	P		Pn	08 14 05.6	-0.2
OGWZ	Otaki Gorge	1.88	36	P		Pn	08 14 07.2	+0.2
HOWZ	Holdsworth Sta	1.98	44	P		Pn	08 14 08.7	+0.2
TMWZ	Te Maipa	2.04	53	P		Pn	08 14 09.0	-0.4
MRZ	Mangatainoka R	2.19	40	P		Pn	08 14 11.1	-0.2
RPZ	Rata Peaks	2.39	234	P		Pn	08 14 13.7	-0.4
PRWZ	Pori Road	2.46	44	P		Pn	08 14 15.9	+0.8
BFZ	Birch Farm	2.52	50	P		Pn	08 14 16.4	+0.5
BFZ	Birch Farm	2.52	50	P		Pn	08 14 15.3	-0.6
DVHZ	Dannevirke	2.75	43	P		Pn	08 14 18.9	-0.2
WAZ	Wanganui	2.76	21	P		Pn	08 14 21.6	+2.4
LREZ	Lake Rotokare	2.93	10	P		Pb	08 14 26.2	-1.3
NMEZ	Namu Road	2.93	2	P		Pn	08 14 25.2	+3.7
KHEZ	Kahui Hut	3.06	4	P		Pn	08 14 26.9	+3.6
KHEZ	Kahui Hut	3.06	4	P		Pn	08 14 26.5	+3.2
PNHZ	Pukenui	3.07	38	P		Pn	08 14 22.8	-0.6
NBEZ	Newall Road No	3.08	2	P		Pn	08 14 26.2	+2.7
NEZ	North Egmont	3.08	5	P		Pn	08 14 27.1	+3.4
PKE	Pukeiti	3.15	4	P		Pn	08 14 28.3	+3.6
DREZ	Durham Road	3.17	7	P		Pn	08 14 27.5	+2.6
PKVZ	Pokaka	3.29	23	P		Pn	08 14 28.0	+1.5
VRZ	Vera Road	3.31	14	P		Pn	08 14 29.6	+2.8
MOVZ	Moawhango	3.31	28	P		Pn	08 14 29.7	+2.8
WNVZ	Wahianoa	3.33	26	P		Pn	08 14 29.0	+1.7
TRVZ	Turoa	3.34	25	P		Pn	08 14 30.2	+2.8
BHHZ	Black Hill Sta	3.36	33	P		Pn	08 14 28.1	+0.6
WHVZ	Whangaehu Hut	3.37	25	P		Pn	08 14 31.9	+4.1
FWVZ	Far West T-bar	3.38	25	P		Pn	08 14 31.9	+3.9
NGZ	Ngauruhoe	3.47	25	P		Pn	08 14 33.5	+4.3
ODZ	Otahua Downs	3.50	219	P		Pn	08 14 28.8	-0.6
OTVZ	Oturere	3.50	26	P		Pb	08 14 36.4	-1.0
NNVZ	North Ngauruho	3.52	25	P		Pn	08 14 31.8	+2.0
WTVZ	West Tongariro	3.52	24	P		Pb	08 14 37.3	-0.4
ETVZ	East Tongariro	3.54	26	P		Pn	08 14 34.2	+4.0
TMVZ	Te Maari	3.56	26	P		Pn	08 14 31.9	+1.6
NTVZ	North Tongarir	3.57	25	P		Pn	08 14 31.8	+1.4
HIZ	Hauiti	3.92	13	P		Pn	08 14 37.3	+2.1
HIZ	Hauiti	3.92	13	P		Pn	08 14 37.3	+2.1
JCZ	Jackson Bay	4.00	243	P		Pn	08 14 37.7	+1.4
JCZ	Jackson Bay	4.00	243	P		Pn	08 14 38.3	+2.0
TLZ	Tolley Road	4.24	20	P		Pn	08 14 41.0	+1.3
EAZ	Earnscleugh	4.30	226	P		Pn	08 14 39.6	-0.8
TOZ	Tahuroa Road	4.81	17	P		Pn	08 14 48.1	+0.8
AWAZ	Awhitu Peninsu	5.32	8	P		Pn	08 14 55.9	+1.5
SYZ	Scrubby Hill	5.32	216	P		Pn	08 14 54.5	+0.1
MKAZ	Moumakai	5.35	12	P		Pn	08 14 55.5	+0.8
ETAZ	East Tamaki Re	5.46	10	P		Pn	08 14 57.8	+1.5
MBAZ	Motutapu North	5.64	10	P		Pn	08 15 00.6	+1.8
OUZ	Omahuta	7.12	359	P		Pn	08 15 22.5	+3.5
OUZ	Omahuta	7.12	359	P		Pn	08 15 22.5	+3.5

IDC ***21*** *08:31:37.0±0.5, 53.˚84S×141.˚07E, h0km, mb4.6/11, mbtmp4.7/11, MS5.0/42, Error ellipse: s-maj=26.1km s-min=14.2km az=86.0*

NEIC ***21*** *08:31:38.4±1.2, 53.˚75S±0.˚07×140.˚5E±0.˚2, h10km±1km, mb5.0/48, Ms_20 5.2/168, Mwb5.5/19, Error ellipse: s-maj=17.3km s-min=11.8km az=85.0*

NEIC ***21*** *08:31:38.3, 53.˚77S×140.˚40E, h14km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=0.18; Mθθ1.18; Mφφ-1.00; Mrθ-0.56; Mrφ-1.57; Mθφ-0.42; Fault plane solution: M=2.04000×1017 NP1:φ=341.34000°, δ70.87000°, λ-7.99000°. NP2:φ=73.97000°, δ82.45000°, λ-160.69000°. Principal axes: T 2.0492, Plg8.0000°, Azm206.0000°; N -0.0103, Plg69.0000°, Azm95.0000°; P -2.0389, Plg19.0000°, Azm299.0000°;*

GCMT ***21*** *08:31:41.3±0.1, 53.˚78S±0.˚01×140.˚68E±0.˚01, h15km, MW5.5/146, Moment Tensor Solution. s113,c179; s146,c277; Duration: 1s4 Moment tensor: Scale 1017 Nm; Mrr-0.06±.03; Mθθ0.30±.03; Mφφ-0.24±.03; Mrθ-0.50±.10; Mθφ-2.47±.03; Mφr0.02±.09; Best double couple: M=2.53500×1017 NP1:φ=267.00000°, δ89.00000°, λ169.00000°. NP2:φ=357.00000°, δ79.00000°, λ1.00000°. Principal axes: T 2.5700, Plg8.0000°, Azm221.0000°; N -0.0710, Plg79.0000°, Azm84.0000°; P -2.4990, Plg8.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 08:31:38.3±0.3, 53.˚83S±0.˚06×140.˚55E±0.˚07, h10km, n274, σ1§37/157, mb5.0/36, MS5.2/119, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	10.81	101	P		Pn	08 34 20.8	+7.8
	baz=11							
MCQ	Macquarie Isla	10.81	101	Pn		Pn	08 34 13.3	+0.3
TAU	Tasmania Unive	11.81	25	Pn		Pn	08 34 26.0	-0.8
MOO	Moorlands	12.22	24	P		Pn	08 34 36.0	+3.6
	baz=12							
TOO	Toolangi	16.62	14	P		P	08 35 33.7	0.0
	baz=16,SNR=8.0							
TOO	Toolangi	16.62	14	Pn		Pn	08 35 30.0	-1.2
ARPS	Mount Arapiles	17.09	4	P		Pn	08 35 38.0	+0.9
	baz=17,SNR=8.2							
PYZ	Puysegur Point	18.39	76	P		P	08 35 53.6	+0.5
PYZ				IAmb		IAmb	08 35 57.0	
	comp=Z,96nm,1.3s							
CASY	Casey	19.23	218	P		P	08 36 02.9	+0.7
CASY				IAmb		IAmb	08 36 11.6	
	comp=Z,79nm,1.2s							
WHZ	Wether Hill Ro	19.27	77	P		P	08 36 02.2	-0.7
CAN	Canberra	19.44	21	P		P	08 36 03.7	-1.1
MLZ	Mavora Lakes	19.67	76	P		P	08 36 07.4	+0.2
MLZ				IAmb		IAmb	08 36 21.2	
	comp=Z,86nm,1.3s							
HTT	Hallett	20.43	356	P		P	08 36 16.0	+0.3
	baz=20,SNR=9.9							
WKZ	Wanaka	20.50	76	P		P	08 36 16.4	+0.1
WKZ				IAmb		IAmb	08 36 30.1	
	comp=Z,55nm,1.0s							
WKZ				IAMs_20		IAMs_20	08 41 53.6	
	comp=Z,10μm,20.0s							
BBOO	Buckleboo	21.26	350	P		P	08 36 22.8	-1.7
	baz=21,SNR=4.9							
BBOO	Buckleboo	21.26	350	P		P	08 36 22.9	-1.7
BBOO				IAmb		IAmb	08 36 30.3	
	comp=Z,47nm,1.1s							
ODZ	Otahua Downs	21.32	78	P		P	08 36 25.1	0.0
LBZ	Lake Benmore	21.44	76	P		P	08 36 26.0	-0.4
LBZ				IAmb		IAmb	08 36 35.7	
	comp=Z,101nm,1.4s							
LBZ				IAMs_20		IAMs_20	08 42 34.3	
	comp=Z,8μm,20.0s							
STKA	Stephens Creek	21.96	2	P		P	08 36 30.8	-1.3
	comp=Z,28nm,0.8s,baz=165,slow=11,SNR=38							
	comp=Z,28nm,0.8s							
STKA	Stephens Creek	21.96	2	P		P	08 36 31.8	-0.2
	baz=22,SNR=20							
STKA	Stephens Creek	21.96	2	P		P	08 36 31.1	-0.9
RPZ	Rata Peaks	22.34	76	P		P	08 36 32.2	-3.9
	comp=Z,33nm,1.2s,baz=28,slow=19,SNR=6.1							
RPZ				LR		LR	08 43 32.9	
	comp=Z,11μm,19.3s,baz=236,slow=32							
	comp=Z,33nm,1.2s							
RPZ	Rata Peaks	22.34	76	P		P	08 36 36.0	-0.1
RPZ				IAmb		IAmb	08 36 49.5	
	comp=Z,60nm,0.9s							
RPZ				IAMs_20		IAMs_20	08 43 11.2	
	comp=Z,11μm,20.0s							
CMSA	Cobar Meteorol	22.59	11	P		P	08 36 39.6	+0.8
	baz=22,SNR=24							
OXZ	Oxford	23.14	76	IAMs_20		IAMs_20	08 43 55.5	
	comp=Z,9μm,18.0s							
INZ	Inchbonnie	23.18	74	P		P	08 36 44.4	-0.5
INZ				IAmb		IAmb	08 36 56.6	
	comp=Z,48nm,1.2s							
LTZ	Lake Taylor	23.62	75	IAMs_20		IAMs_20	08 43 52.0	
	comp=Z,9μm,21.0s							
GVZ	Greta Valley S	23.94	76	IAMs_20		IAMs_20	08 44 10.5	
	comp=Z,8μm,21.0s							
KHZ	Kahutara	24.57	76	IAMs_20		IAMs_20	08 44 41.3	
	comp=Z,8μm,20.0s							
THZ	Tophouse	24.63	74	P		P	08 36 58.3	-0.5
THZ				IAmb		IAmb	08 37 10.8	
	comp=Z,47nm,0.9s							
THZ				IAMs_20		IAMs_20	08 44 46.7	
	comp=Z,6μm,19.0s							
ARMA	Armidale	24.74	23	P		P	08 37 00.0	+0.1
	baz=25,SNR=10							
ARMA	Armidale	24.74	23	P		P	08 36 59.2	-0.7
FORT	Forrest	24.75	334	P		P	08 36 58.0	-1.9
MRNZ	Matariki Terra	24.78	73	P		P	08 37 00.5	+0.4
VNDA	Vanda	25.01	169	P		P	08 36 59.9	-1.9
	comp=Z,8.9nm,0.8s,baz=328,slow=9.5,SNR=32							
VNDA				LR		LR	08 45 01.0	
	comp=Z,2μm,18.6s,baz=336,slow=32							
	comp=Z,8.9nm,0.8s							
VNDA	Vanda	25.01	169	P		P	08 37 02.0	+0.2
QRZ	Quartz Range	25.04	72	P		P	08 37 03.3	+1.0
NNZ	Nelson	25.26	73	IAMs_20		IAMs_20	08 44 57.3	
	comp=Z,5μm,20.0s							
SBA	Scott Base	25.87	168	P		P	08 37 10.4	+0.8
SBA				IAmb		IAmb	08 37 44.6	
	comp=Z,28nm,1.2s							
SNZO	South Karori	25.95	75	IAMs_20		IAMs_20	08 45 47.7	
	comp=Z,5μm,19.0s							
H01W1	Cape Leeuwin H	26.48	305	T		T	09 04 57.5	
	baz=143,slow=75,SNR=90							
H01W2	Cape Leeuwin H	26.49	305	T		T	09 04 58.8	
	baz=143,slow=75,SNR=130							
H01W3	Cape Leeuwin H	26.50	305	T		T	09 04 59.7	
	baz=143,slow=75,SNR=104							
NWAO	Narrogin (SRO)	26.68	312	LR		LR	08 45 23.7	
	comp=Z,7μm,20.4s,baz=8.0,slow=31							
NWAO	Narrogin (SRO)	26.68	312	P		P	08 37 16.6	-0.8
NWAO				IAmb		IAmb	08 37 32.2	
	comp=Z,52nm,1.5s							
NWAO	Narrogin (SRO)	26.68	312	IAMs_20		IAMs_20	08 45 02.3	
	comp=Z,7μm,21.0s							
MRZ	Mangatainoka R	26.88	75	IAMs_20		IAMs_20	08 46 27.2	
	comp=Z,6μm,19.0s							
BFZ	Birch Farm	27.25	76	IAMs_20		IAMs_20	08 46 14.0	
	comp=Z,4μm,18.0s							
RMQ	Roma	27.99	16	P		P	08 37 28.7	-0.5
	baz=28,SNR=12							
BKZ	Black Stump Fm	28.40	74	P		P	08 37 33.7	+1.0
BKZ				IAmb		IAmb	08 38 02.8	
	comp=Z,48nm,1.6s							
BKZ				IAMs_20		IAMs_20	08 47 09.4	
	comp=Z,9μm,21.0s

comp=Z,6µm,20.0s
LIFNC LIFOU 38.78 42 IAMs_20 IAMs_20 08 51 50.5
comp=Z,3µm,20.0s
RAO Raoul Island 38.80 68 LR LR 08 52 08.6
comp=Z,3µm,20.8s,baz=206,slow=32
RAO Raoul Island 38.80 68 IAMs_20 IAMs_20 08 50 11.8
comp=Z,5µm,22.0s
KNRA Kununurra 39.18 342 P **P** **08 39 06.0 -0.2**
baz=39,SNR=5.4
KNRA Kununurra 39.18 342 P **P** **08 39 03.4 -2.9**
KDU Kakadu 41.54 348 P **P** **08 39 24.8 -1.1**
baz=42,SNR=7.4
MTN Manton Dam 41.57 346 P **P** **08 39 23.6 -2.4**
baz=42,SNR=4.2
MTN Manton Dam 41.57 346 P **P** **08 39 24.6 -1.5**
PMG Port Moresby 44.62 9 LR LR 08 56 52.7
comp=Z,2µm,20.6s,baz=190,slow=34
PMG Port Moresby 44.62 9 IAMs_20 IAMs_20 08 56 30.5
comp=Z,2µm,19.0s
BATI Baumata 45.57 336 LR LR 08 58 04.0
comp=Z,5µm,21.4s,baz=188,slow=35
MSVF Nonsavu 46.21 53 LR LR 08 55 31.7
comp=Z,4µm,20.2s,baz=194,slow=31
MSVF Nonsavu 46.21 53 IAMs_20 IAMs_20 08 55 22.5
comp=Z,4µm,20.0s
SAUI Saumlaki 46.33 347 P **P** **08 40 02.1 -2.2**
HNR Honiara 46.94 27 LR LR 08 57 13.6
comp=Z,19µm,19.2s,baz=186,slow=33
MMRI Maumere 47.43 335 IAMs_20 IAMs_20 08 58 33.4
comp=Z,2µm,21.0s
BELA Belgrano 2 48.52 181 P **P** **08 40 20.9 +0.2**
BELA IAmb IAmb 08 40 22.4
comp=Z,20nm,1.0s
JAGI Jajag, Banyuwa 49.98 325 IAMs_20 IAMs_20 08 59 51.9
comp=Z,2µm,20.0s
KRVT Keravat (AS076 50.26 15 LR LR 09 00 01.1
comp=Z,1µm,20.6s,baz=321,slow=34
TROLL Troll, Antarti 51.05 196 P **P** **08 40 40.5 +0.3**
FAKI Fak Fak 51.21 349 **P** **08 40 39.6 -2.2**
KAPI Kappang 51.54 333 LR LR 09 02 07.5
comp=Z,2µm,19.6s,baz=156,slow=35
KAPI Kappang 51.54 333 IAMs_20 IAMs_20 09 01 56.5
comp=Z,2µm,19.0s
UGM Wanagama 51.79 321 IAMs_20 IAMs_20 09 00 37.8
comp=Z,2µm,20.0s
SNAA Sanae 52.16 194 P **P** **08 40 48.7 +0.4**
SNAA Sanae 52.16 194 P **P** **08 40 48.0 -0.4**
comp=Z,4.8nm,0.6s,baz=214,slow=6.4,SNR=17
SNAA LR LR 09 02 38.7
comp=Z,6µm,19.9s,baz=145,slow=36
comp=Z,4.8nm,0.6s
SNAA Sanae 52.16 194 P **P** **08 40 47.6 -0.7**
SNAA IAmb IAmb 08 41 07.4
comp=Z,13nm,1.0s
SMRI Semarang 52.62 321 IAMs_20 IAMs_20 08 59 52.7
comp=Z,2µm,20.0s
SIJI Sorong 53.34 348 LR LR 09 04 31.1
comp=Z,772nm,21.6s,baz=162,slow=37
VNA3 Neumayer Olymp 53.44 192 P **P** **08 40 58.2 +0.4**
VNA2 Neumayer--Watz 53.45 193 P **P** **08 40 57.0 -0.9**
baz=154,slow=8.0
VNA1 Neumayer--Stat 53.82 192 P **P** **08 40 56.6 -3.9**
LEM Lembang 53.91 318 LR LR 09 01 15.5
comp=Z,2µm,21.3s,baz=160,slow=33
AFI Afiamalu 54.55 62 LR LR 09 00 05.2
comp=Z,1µm,22.0s,baz=209,slow=32
LUWI Luwuk 54.63 338 IAMs_20 IAMs_20 09 04 00.4
comp=Z,2µm,20.0s
RAR Rarotonga 55.32 78 LR LR 09 00 19.3
comp=Z,493nm,21.0s,baz=222,slow=31
BKB Balikpapan 55.92 331 IAMs_20 IAMs_20 09 02 52.2
comp=Z,2µm,21.0s
SMAI San Martin Ant 56.63 168 P **P** **08 41 21.4 +0.6**
SMAI IAmb IAmb 08 41 22.7
comp=Z,12nm,1.0s
TOLI2 Tolitoli 57.17 336 IAMs_20 IAMs_20 09 07 26.7
comp=Z,2µm,19.0s
TBI Tubuai 59.75 89 *e*S **S** **08 49 55.8 +1.7**
comp=Z,960nm,21.8s
TBI *e*LR LR 08 59 20.5
comp=Z,27µm,23.8s
TBI *e*LR LR 08 59 21.0
comp=Z,6µm,24.8s
PMSA Palmer Station 60.21 168 LR LR 09 05 13.2
comp=Z,943nm,18.4s,baz=192,slow=34
KSM Kuching 60.57 325 P **P** **08 41 47.8 -1.2**
KSM Kuching 60.57 325 P **P** **08 41 48.7 -0.2**
comp=Z,22nm,0.9s
SBUM Sibu 60.85 327 **P** **08 41 48.6 -2.2**
SBUM Sibu 60.85 327 P **P** **08 41 49.6 -1.2**
comp=Z,3.9nm,0.8s
MYLDM Lahad Datu 61.65 335 IAMs_20 IAMs_20 09 07 49.3
comp=Z,2µm,22.0s
DAV Davao City (W) 61.98 343 LR LR 09 08 12.0
comp=Z,765nm,21.6s,baz=160,slow=35
KKM Kota Kinabalu 63.07 333 IAMs_20 IAMs_20 09 09 06.1
comp=Z,1µm,21.0s
BKNI Bangkinang 63.08 314 IAMs_20 IAMs_20 09 05 49.9
comp=Z,2µm,20.0s
MYKOM Kota Tinggi 63.26 318 IAMs_20 IAMs_20 09 06 32.6
comp=Z,1µm,20.0s
PPT2 Papeete2 64.12 84 *e*S **S** **08 50 51.5 +1.8**
comp=Z,258nm,28.0s
PPT2 Papeete2 64.12 84 *e*LR LR 09 01 23.1
comp=Z,1µm,30.0s
PPT2 *e*LR LR 09 01 23.4
comp=Z,1µm,23.0s
PPT Papeete 64.14 84 LR LR 09 04 07.1
comp=Z,731nm,20.5s,baz=228,slow=31
GSI Gunungsitoli 65.46 311 IAMs_20 IAMs_20 09 03 10.8
comp=Z,1µm,18.0s
RPSI Rantau Prapat 66.11 313 P **P** **08 42 23.8 -1.8**
RPSI IAmb IAmb 08 42 35.0
comp=Z,10nm,0.9s
RPSI IAMs_20 IAMs_20 09 06 22.1
comp=Z,1µm,21.0s
PSI Prapat 66.21 314 P **P** **08 42 25.5 -0.9**
comp=Z,15nm,1.0s
IPM Ipoh 66.84 316 P **P** **08 42 30.6 +0.3**
comp=Z,26nm,0.9s
GUMO Guam 67.25 5 LR LR 09 09 05.7
comp=Z,513nm,21.7s,baz=172,slow=33
KULM Kulim 67.73 316 **P** **08 42 35.3 -0.6**
KULM Kulim 67.73 316 P **P** **08 42 34.8 -1.1**
comp=Z,31nm,0.9s
SKLT Songkhla 69.44 317 P **P** **08 42 46.6 0.0**
H08S2 Diego Garcia H 70.97 283 T T 10 00 38.7
baz=144,slow=76,SNR=5.8
H08S1 Diego Garcia H 70.98 283 T T 10 00 37.8
baz=144,slow=76,SNR=8.0
H08S3 Diego Garcia H 70.99 283 T T 10 00 36.1
baz=144,slow=76,SNR=64
TAOE Nuku Hiva Isla 76.59 87 *e*LR LR 09 07 09.0
comp=Z,1µm,23.4s
OPO Ambohidratompo 77.17 256 LR LR 09 10 33.1
comp=Z,719nm,20.7s,baz=0.0,slow=30
PALK Pallekele 78.81 299 LR LR 09 13 14.0
comp=Z,1µm,19.2s,baz=253,slow=32
PALK Pallekele 78.81 299 IAMs_20 IAMs_20 09 10 56.1
comp=Z,2µm,21.0s
SUR Sutherland 79.60 228 LR LR 09 12 16.3
comp=Z,2µm,20.6s,baz=147,slow=31
CMAR Chiang Mai Arr 80.38 320 P **P** **08 43 50.5 +0.9**
comp=Z,1.1nm,0.3s,baz=175,slow=5.2,SNR=14
CMAR LR LR 09 17 32.6
comp=Z,806nm,20.5s,baz=165,slow=34
comp=Z,1.1nm,0.3s
JCJ Chichijima 80.60 1 LR LR 09 18 15.6
comp=Z,129nm,21.8s,baz=156,slow=35
CHTO Chiang Mai 80.70 320 IAMs_20 IAMs_20 09 17 10.9
comp=Z,1µm,20.0s
BOSA Boshof 80.73 234 LR LR 09 12 22.8
comp=Z,2µm,21.5s,baz=171,slow=30
LL03 Petrohue 81.25 155 P **P** **08 43 53.8 -0.4**
PLCA Paso Flores 82.08 157 P **P** **08 43 58.0 -0.7**
comp=Z,3.3nm,0.9s,baz=179,slow=9.6,SNR=5.1
PLCA LR LR 09 13 44.9
comp=Z,453nm,19.6s,baz=196,slow=31
comp=Z,3.3nm,0.9s
PLCA Paso Flores 82.08 157 P **P** **08 43 58.1 -0.7**
PLCA IAmb IAmb 08 44 11.2
comp=Z,12nm,1.2s
GO06 Curarrehue 82.94 156 P **P** **08 44 03.1 -0.3**
GO06 IAmb IAmb 08 44 22.6
comp=Z,10nm,0.9s
LBTB Lobatse 83.58 236 LR LR 09 15 19.3
comp=Z,1µm,19.9s,baz=171,slow=31
LBTB Lobatse 83.58 236 P **P** **08 44 07.9 +1.1**

H03S1 Juan Fernandez 86.24 148 T T 10 20 18.4
baz=200,slow=74,SNR=13
H03S2 Juan Fernandez 86.24 148 T T 10 20 17.6
baz=200,slow=74,SNR=12
H03S3 Juan Fernandez 86.25 148 T T 10 20 26.7
baz=200,slow=74,SNR=11
TRQA Tornquist 86.43 162 IAMs_20 IAMs_20 09 16 17.5
comp=Z,7.2nm,21.0s
JHJ Hachijo jima 2 86.60 359 LR LR 09 20 47.4
comp=Z,449nm,20.6s,baz=165,slow=34
PZH PanZhiHua 86.77 326 P **P** **08 44 25.0 +2.5**
PZH SKS **SKSac** **08 54 48.6 -0.5**
PZH S **S** **08 55 00.8 +0.9**
PZH SS **SS** **09 00 47.5 +5.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,200nm,10.2s
PZH LR LR
comp=Z,520nm,21.1s
PZH LR LR
comp=Z,340nm,21.1s
PZH LR LR
comp=Z,650nm,21.6s
BRDH Bariadhala 87.07 316 LR LR 09 23 30.8
comp=Z,614nm,20.7s,baz=154,slow=36
NJ2 Nanjing 87.58 342 *e*P **P** **08 44 28.3 +2.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
HYBB Hyderabad (bro 88.51 303 *e*P **P** **08 44 30.2 -0.7**
SHL Shillong 89.55 317 P **P** **08 44 35.5 -0.3**
MJAR Matsushiro Arr 90.03 358 P **P** **08 44 37.4 -0.2**
comp=Z,1.7nm,0.8s,baz=210,slow=7.2,SNR=2.8
MJAR LR LR 09 24 25.9
comp=Z,213nm,18.6s,baz=173,slow=35
comp=Z,1.7nm,0.8s
LSZ Lusaka 90.39 243 LR LR 09 21 20.9
comp=Z,2µm,18.1s,baz=154,slow=33
CO03 El Pedregal 91.44 153 P **P** **08 44 43.7 -1.0**
CO03 IAmb IAmb 08 44 55.0
comp=Z,9.0nm,0.9s
KSRS Korea Array 91.57 350 LR LR 09 25 21.5
comp=Z,293nm,21.5s,baz=200,slow=35
TSUM Tsumeb 92.38 233 LR LR 09 22 07.5
comp=Z,1µm,18.4s,baz=149,slow=33
TSUM Tsumeb 92.38 233 IAMs_20 IAMs_20 09 21 28.6
comp=Z,1µm,18.0s
CO01 Juntas del Tor 92.41 154 P **P** **08 44 49.6 +0.2**
CO01 IAmb IAmb 08 44 52.3
comp=Z,9.5nm,1.1s
KIBK Kibwezi 95.48 259 IAMs_20 IAMs_20 09 19 23.0
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 96.92 259 IAMs_20 IAMs_20 09 20 16.5
comp=Z,898nm,20.0s
HHC Hu-ho-hao-te 97.56 338 *e*P Pdif 08 45 14.4 +2.2
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.2s
HHC LR LR
comp=Z,680nm,17.8s
HHC LR LR
comp=Z,590nm,17.8s
HHC LR LR
comp=Z,510nm,17.8s
ASAJ Asahikawa 97.59 1 LR LR 09 27 23.8
comp=Z,263nm,21.8s,baz=172,slow=34
USRK Usurysk Ar. 97.93 354 LR LR 09 27 30.5
comp=Z,235nm,21.8s,baz=164,slow=34
CPUP Villa Florida 98.68 164 LR LR 09 27 51.8
comp=Z,213nm,18.6s,baz=184,slow=34
LVC Limon Verde 99.73 153 LR LR 09 20 22.2
comp=Z,235nm,20.5s,baz=189,slow=29
MBAR Mbarara 101.10 253 IAMs_20 IAMs_20 09 24 03.1
comp=Z,1µm,21.0s
LODK Lodwar 101.70 260 IAMs_20 IAMs_20 09 26 56.1
comp=Z,687nm,19.0s
FURI Furi 104.14 266 IAMs_20 IAMs_20 09 24 24.6
comp=Z,723nm,21.0s
UOSS Minazif 106.55 290 IAMs_20 IAMs_20 09 26 38.1
comp=Z,826nm,20.0s
MKAR Makanchi Array 111.78 321 PP **PP** **08 51 00.1 +4.3**
comp=Z,0.5nm,0.6s,baz=133,slow=6.8,SNR=3.6
RCBR Riachuelo 120.48 184 IAMs_20 IAMs_20 09 37 52.5
comp=Z,674nm,20.0s
BVAR Boroye Array 121.36 318 PKP **PKiKP** **08 50 33.0 +2.3**
comp=Z,0.8nm,0.6s,baz=178,slow=4.0,SNR=3.7
GHAJ Ghor Haditha 123.20 279 IAMs_20 IAMs_20 09 42 03.4
comp=Z,409nm,19.0s
GNI Garni 124.28 293 IAMs_20 IAMs_20 09 37 28.6
comp=Z,425nm,21.0s
BCIP Isla Barro Col 124.98 129 IAMs_20 IAMs_20 09 32 04.9
comp=Z,611nm,20.0s
NVAR Mina Array Bea 126.05 72 PKP **PKiKP** **08 50 41.2 +0.5**
comp=Z,0.6nm,0.6s,baz=201,slow=4.8,SNR=2.7
KVN Naiserville 126.60 72 **PKiKP** **08 50 42.4 +0.6**
TORD Torodi Ar. Bea 128.09 235 PKP **PKPdf** **08 50 44.8 +0.2**
comp=Z,1.1nm,1.0s,baz=91,slow=2.6,SNR=3.6
TXAR Lajitas Array 128.15 91 PKP **PKiKP** **08 50 45.2 +0.2**
comp=Z,0.2nm,0.8s,baz=191,slow=4.4,SNR=2.0
WVOR Wild Horse Val 128.59 68 IAMs_20 IAMs_20 09 36 45.5
comp=Z,835nm,20.0s
MCARA McCarthy VSAT 129.72 37 IAMs_20 IAMs_20 09 34 41.5
comp=Z,854nm,22.0s
KVTX Kingsville 130.24 98 IAMs_20 IAMs_20 09 43 47.7
comp=Z,779nm,20.0s
DUG Dugway, Tooele 130.37 74 IAMs_20 IAMs_20 09 42 14.9
comp=Z,503nm,20.0s
P29M Windy Craggy 130.56 41 IAMs_20 IAMs_20 09 35 09.2
comp=Z,696nm,22.0s
RIDG Independent Ri 130.64 34 IAMs_20 IAMs_20 09 38 50.9
comp=Z,801nm,22.0s
ILAR Eielson Array 130.66 33 PKP **PKPdf** **08 50 47.9 0.0**
comp=Z,0.4nm,0.7s,baz=274,slow=3.5,SNR=2.3
POKR Poker Flat Res 130.72 32 IAMs_20 IAMs_20 09 40 41.8
comp=Z,672nm,20.0s
J26L Joseph Creek 131.57 34 IAMs_20 IAMs_20 09 39 55.3
comp=Z,572nm,20.0s
K27K Chicken 131.77 35 IAMs_20 IAMs_20 09 40 59.7
comp=Z,703nm,22.0s
HWUT Hardware Ranch 132.01 74 IAMs_20 IAMs_20 09 42 20.3
comp=Z,478nm,20.0s
HATO Hato, Curacao 132.31 139 IAMs_20 IAMs_20 09 40 27.7
comp=Z,410nm,20.0s
TOLK Toolik Lake Re 132.43 28 IAMs_20 IAMs_20 09 43 18.1
comp=Z,699nm,20.0s
A21K Barrow 132.48 23 IAMs_20 IAMs_20 09 40 40.9
comp=Z,637nm,22.0s
SMCO Snowmass 133.07 79 IAMs_20 IAMs_20 09 44 41.4
comp=Z,504nm,20.0s
M31M Drury Creek, Y 133.43 40 IAMs_20 IAMs_20 09 38 01.0
comp=Z,788nm,21.0s
I29M Ogilvie Camp, 133.87 35 IAMs_20 IAMs_20 09 40 31.1
comp=Z,541nm,22.0s
PDAR Pinedale Array 133.90 74 PKP **PKiKP** **08 50 56.8 +0.4**
comp=Z,0.3nm,0.7s,baz=101,slow=4.9,SNR=2.5
OK038 West end E0370 136.11 88 IAMs_20 IAMs_20 09 40 13.2
comp=Z,603nm,19.0s
OK035 E0210 Rd and N 136.29 88 IAMs_20 IAMs_20 09 32 46.9
comp=Z,348nm,21.0s
OK033 Mehan 136.89 90 IAMs_20 IAMs_20 09 50 46.8
comp=Z,528nm,21.0s
OK050 Pawnee Station 137.10 90 IAMs_20 IAMs_20 09 42 26.4
comp=Z,750nm,20.0s
OK046 Pawnee Station 137.15 90 IAMs_20 IAMs_20 09 42 38.6
comp=Z,746nm,20.0s
OK045 Pawnee Station 137.17 90 IAMs_20 IAMs_20 09 42 49.2
comp=Z,730nm,20.0s
TUL1 Leonard 137.47 91 IAMs_20 IAMs_20 09 32 27.4
comp=Z,516nm,19.0s
RSSD Black Hills 137.90 76 IAMs_20 IAMs_20 09 45 47.1
comp=Z,498nm,20.0s
MLR Muntele Rosu 138.25 286 IAMs_20 IAMs_20 10 02 20.6
comp=Z,516nm,20.0s
CEL Celeste 139.64 270 IAMs_20 IAMs_20 09 56 32.9
comp=Z,484nm,20.0s
TIP Timpagrande 139.73 272 IAMs_20 IAMs_20 09 52 21.1
comp=Z,425nm,22.0s
SMRT St. Maarten 139.88 144 IAMs_20 IAMs_20 09 37 01.8
comp=Z,349nm,22.0s
AQU L'Aquila 143.70 274 IAMs_20 IAMs_20 09 57 40.2
comp=Z,471nm,21.0s
VYHS Vyhne 143.96 286 *e*PKP **PKiKP** **08 51 16.6 +0.1**
MODS Modra-Piesok 144.79 285 *e*PKP **PKiKP** **08 51 19.3 +1.1**
RONA Rosalia, Austr 145.01 283 *e*P **PKPdf** **08 51 16.1 +1.3**
comp=Z,17nm,0.8s
OKC Ostrava-Krasne 145.03 287 *e*PKP **PKiKP** **08 51 20.0 +1.4**
L42A Oliver, Polo 145.05 89 **PKPbc** **08 51 14.3 -0.2**

SOKA Soboth 145.20 281 *e*P **PKiKP** **08 51 17.3 -1.9**
comp=Z,11nm,1.0s
ARSA Arzberg 145.22 282 *e*P **PKPdf** **08 51 17.1 +1.9**
comp=Z,33nm,0.8s
JFWS Jewell Farm 145.25 87 **PKPbc** **08 51 13.9 -1.2**
MORC Moravsky Berou 145.34 287 PKPbc **PKPab** **08 51 16.0 +0.6**
MORC Moravsky Berou 145.34 287 *e*PKP **PKPbc** **08 51 14.9 -0.3**
R49A Shelbyville 145.35 98 **PKPbc** **08 51 14.7 -0.8**
CONA Conrad Observa 145.38 283 *e*P **PKPab** **08 51 17.2 +1.5**
comp=Z,16nm,1.1s
OBKA Obir 145.39 280 *e*P **PKiKP** **08 51 21.8 +2.3**
comp=Z,6.5nm,0.9s
KMSC Kings Mountain 145.40 106 **PKPbc** **08 51 15.6 -0.2**
FIA1 FINESS Array S 145.52 309 PKPdf **PKPdf** **08 51 14.9 -0.3**
FINES FINESS Array B 145.52 309 PKPbc **PKiKP** **08 51 17.5 -1.7**
comp=Z,7.7nm,0.8s,baz=93,slow=3.8,SNR=9.8
FINES FINESS Array B 145.52 309 PKPdf **PKPdf** **08 51 14.2 -1.0**
KRUC Moravsky 145.64 285 *e*PKP **PKPab** **08 51 17.0 +0.5**
VRAC Vranov 145.65 286 *e*PKP **PKPdf** **08 51 15.4 -0.5**
SABO M.te Sabotino 145.66 279 PKPdf **PKPdf** **08 51 15.4 -0.6**
S51A Beattyville 145.84 100 PKPdf **PKPdf** **08 51 16.0 -0.5**
R50A Paris 145.84 99 PKPdf **PKPdf** **08 51 14.2 -2.3**
ULM Lac du Bonnet 145.89 73 PKPbc **PKPbc** **08 51 16.9 +0.1**
comp=Z,2.6nm,0.7s,baz=230,slow=5.5,SNR=4.0
P48A Milroy 145.97 96 PKPdf **PKPbc** **08 51 17.7 +0.2**
MYKA Terra Mystica 145.99 280 *e*P **PKiKP** **08 51 19.7 -1.1**
comp=Z,0.9nm,0.4s
W57A Gilead 146.17 107 PKPdf **PKPdf** **08 51 15.5 -1.7**
MOA Molln 146.26 282 *e*P **PKPbc** **08 51 18.2 +0.1**
comp=Z,5.7nm,1.1s
DPC Dobruska-Polom 146.31 287 *e*PKP **PKiKP** **08 51 20.3 -1.0**
DPC *ex* x 08 51 24.0
CLUD Cludinico 146.34 279 PKPdf **PKPdf** **08 51 15.2 -2.0**
KBA Koelnbreinsper 146.40 280 *e*P **PKPab** **08 51 20.1 +0.5**
comp=Z,11nm,1.1s
OSTC Ostas 146.46 288 *e*PKP **PKiKP** **08 51 20.9 -0.6**
OSTC *ex* x 08 51 24.5
BIOA Bad Ischl, Aus 146.54 282 *e*P **PKiKP** **08 51 21.1 -0.7**
comp=Z,6.0nm,0.6s
ABTA Abfaltersbach 146.71 279 *e*P **PKPab** **08 51 21.0 +0.2**
comp=Z,3.1nm,0.6s
CKRC Cesky Krumlov 146.72 284 *e*PKP **PKPab** **08 51 20.2 -0.5**
CKRC *ex* x 08 51 24.6
GERES GERESS Array B 147.08 283 PKPbc **PKPbc** **08 51 21.3 +0.8**
comp=Z,2.7nm,0.7s,baz=170,slow=3.8,SNR=10
KHC Kasperske Hory 147.29 284 *e*PKP **PKPab** **08 51 22.8 -0.1**
KHC *ex* x 08 51 42.5
ARCES ARCESS Array B 147.37 324 PKPbc **PKPab** **08 51 22.1 -0.5**
comp=Z,6.1nm,0.7s,baz=96,slow=1.2,SNR=9.4
WTTA Wattenberg 147.49 280 *e*P **PKPbc** **08 51 22.8 +1.0**
comp=Z,16nm,1.4s
WATA Walderalm 147.56 280 *e*P **PKPab** **08 51 25.6 +1.4**
comp=Z,25nm,1.5s
SQTA Sankt Quirin 147.72 279 *e*P **PKPab** **08 51 26.8 +2.0**
comp=Z,14nm,0.8s
MOTA Moosalm 147.84 279 *e*P **PKPab** **08 51 27.7 +2.4**
comp=Z,8.6nm,0.9s
BRG Berggiesshubel 147.89 287 *e*PKP **PKiKP** **08 51 23.9 -0.5**
BRG Amp 08 51 25.7
comp=Z,5.0nm,0.9s
BRG *ex* x 08 51 29.6
BRG Amp 08 51 31.1
comp=Z,6.2nm,0.9s
BRG *ex* x 08 51 48.1
BRG Amp 08 51 51.9
comp=Z,10nm,1.2s
FETA Feichten 147.90 279 *e*P **PKiKP** **08 51 24.1 -0.7**
comp=Z,8.4nm,1.2s
RETA Reutte 148.12 279 *e*P **PKiKP** **08 51 25.7 +0.6**
comp=Z,7.1nm,0.8s
DAVA Damuels 148.53 278 *e*P **PKiKP** **08 51 27.0 +0.9**
comp=Z,5.8nm,0.7s
ESDC Sonseca Array 152.21 254 PKPbc **PKiKP** **08 51 34.5 +0.7**
comp=Z,2.1nm,0.6s,baz=68,slow=1.2,SNR=10
NB2 NORSAR Subarra152.43 306 P **PKPab** **08 51 45.9 +2.2**
comp=Z,3.0nm,0.8s,baz=98,slow=4.6
NOA NORSAR Array B 152.43 306 PKPab **PKPab** **08 51 44.2 +0.6**
comp=Z,2.6nm,0.8s,baz=96,slow=4.7,SNR=7.8
TULEG Thule 154.69 16 IAMs_20 IAMs_20 10 13 22.2
comp=Z,381nm,19.0s

---

*IDC **21** 08:36:24.4±0.6, 53.75S×140.33E, h0km, mb4.7/10, mbtmp4.8/10, Error ellipse: s-maj=31.8km s-min=14.6km az=85.0*
*NEIC **21** 08:36:25.4±1.5, 53.74S±0.08×140.82E±0.09, h10km±1km, mb5.0/47, Error ellipse: s-maj=14.6km s-min=5.1km az=148.0*
*BJI **21** 08:36:26.2±0.0, 54.06S×140.86E, h27km, mb5.2/7, mB5.3/2, Ms5.2/4, Ms7 5.0/4*

ISC 21 08:36:25.6±0.3,**53.78S**±0.06×**140.88E**±0.08,**h10km**,**n149**, σ1.3**8**/142,**mb5.0**/38,**MS5.0**/4,**West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
MCQ	**Macquarie Isla**	**10.63**	**101**	Pn	**Pn**	**08**	**38**	**56.7**	**-1.1**
TAU	**Tasmania Unive**	**11.68**	**24**	Pn	**Pn**	**08**	**39**	**10.1**	**-2.2**
GLAD	**Gladstone**	**13.67**	**23**	P	**Pn**	**08**	**39**	**42.2**	**+2.8**
BRAT	**Ballarat**	**16.37**	**9**	P	**P**	**08**	**40**	**19.0**	**+0.8**
TOO	**Toolangi**	**16.52**	**13**	Pn	**Pn**	**08**	**40**	**16.1**	**-1.2**
TOO	**Toolangi**	**16.52**	**13**	P	**P**	**08**	**40**	**21.3**	**+1.3**
ARPS	**Mount Arapiles**	**17.02**	**3**	P	**P**	**08**	**40**	**24.5**	**-1.0**
CAN	**Canberra**	**19.32**	**20**	P	**P**	**08**	**40**	**48.7**	**-2.1**
CAN	**Canberra**	**19.32**	**20**	P	**Pn**	**08**	**40**	**54.9**	**+3.0**
CASY	**Casey**	**19.40**	**218**	P	**P**	**08**	**40**	**51.1**	**-0.3**
CNB	**Canberra Magne**	**19.40**	**21**	P	**Pn**	**08**	**40**	**56.2**	**+3.3**
HTT	**Hallett**	**20.39**	**355**	P	Pn	08	41	03.6	-1.0
PTPS	**Port Pirie**	**20.70**	**353**	P	Pn	08	41	07.3	-0.9
WHYH	**Whyalla**	**20.87**	**352**	P	**P**	**08**	**41**	**07.9**	**+0.2**
ODZ	**Otahua Downs**	**21.11**	**78**	P	**P**	**08**	**41**	**09.1**	**-1.1**
ODZ				IAmb	IAmb	08	41	18.5	
	comp=Z,62nm,1.5s								
LBZ	**Lake Benmore**	**21.23**	**76**	P	**P**	**08**	**41**	**12.3**	**+0.8**
BBOO	**Buckleboo**	**21.24**	**349**	P	**P**	**08**	**41**	**09.2**	**-2.5**
BBOO				IAmb	IAmb	08	41	16.2	
	comp=Z,64nm,1.0s								
BBOO	**Buckleboo**	**21.24**	**349**	P	**P**	**08**	**41**	**11.6**	**-0.1**
STKA	**Stephens Creek**	**21.90**	**2**	P	**P**	**08**	**41**	**18.6**	**-0.1**
	comp=Z,40nm,0.7s,baz=157,slow=11,SNR=48								
	comp=Z,40nm,0.7s								
STKA	**Stephens Creek**	**21.90**	**2**	P	**P**	**08**	**41**	**17.8**	**-0.9**
STKA	**Stephens Creek**	**21.90**	**2**	P	**P**	**08**	**41**	**19.6**	**+0.9**
RPZ	**Rata Peaks**	**22.14**	**75**	P	**P**	**08**	**41**	**24.4**	**+3.1**
	comp=Z,16nm,0.8s,baz=23,slow=10,SNR=4.9								
	comp=Z,16nm,0.8s								
RPZ	**Rata Peaks**	**22.14**	**75**	P	**P**	**08**	**41**	**21.2**	**-0.1**
AUDCS	**Dubbo College**	**22.25**	**18**	P	**P**	**08**	**41**	**25.9**	**+3.5**
CMSA	**Cobar Meteorol**	**22.50**	**11**	P	**P**	**08**	**41**	**27.7**	**+2.5**
LCRK	**Leigh Creek**	**23.40**	**354**	P	**P**	**08**	**41**	**34.3**	**-0.2**
AUPHS	**Peel High Scho**	**23.79**	**22**	P	**P**	**08**	**41**	**41.0**	**+2.6**
MULG	**Mulgathing**	**24.00**	**345**	P	**P**	**08**	**41**	**39.7**	**-0.6**
ARMA	**Armidale**	**24.61**	**23**	P	**P**	**08**	**41**	**43.9**	**-2.2**
ARMA	**Armidale**	**24.61**	**23**	P	**P**	**08**	**41**	**47.4**	**+1.3**
FORT	**Forrest**	**24.79**	**333**	P	**P**	**08**	**41**	**46.3**	**-1.2**
FORT	**Forrest**	**24.79**	**333**	P	**P**	**08**	**41**	**46.7**	**-0.8**
AULRC	**Lightning Ridg**	**24.88**	**15**	P	**P**	**08**	**41**	**50.3**	**+2.0**
VNDA	**Vanda**	**25.02**	**169**	P	**P**	**08**	**41**	**49.5**	**+0.2**
	comp=Z,11nm,0.7s,baz=330,slow=9.6,SNR=24								
	comp=Z,11nm,0.7s								
VNDA	**Vanda**	**25.02**	**169**	P	**P**	**08**	**41**	**49.5**	**+0.2**
SBA	**Scott Base**	**25.88**	**168**	P	**P**	**08**	**41**	**58.2**	**+1.1**
SBA				IAmb	IAmb	08	42	07.3	
	comp=Z,20nm,0.9s								
INKA	**Innaminka**	**26.01**	**360**	P	**P**	**08**	**41**	**59.2**	**+0.6**
OOD	**Oodnadatta**	**26.24**	**350**	P	**P**	**08**	**42**	**01.7**	**+1.0**
H01W1	**Cape Leeuwin H**	**26.61**	**304**	T	T	09	09	42.9	
	baz=143,slow=76,SNR=38								
H01W2	**Cape Leeuwin H**	**26.62**	**304**	T	T	09	09	43.2	
	baz=143,slow=76,SNR=38								
H01W3	**Cape Leeuwin H**	**26.63**	**304**	T	T	09	09	45.2	
	baz=143,slow=76,SNR=33								
QLP	**Quilpie**	**27.28**	**7**	P	**P**	**08**	**42**	**11.2**	**+1.1**
RMQ	**Roma**	**27.89**	**15**	P	**P**	**08**	**42**	**16.4**	**+0.9**
EIDS	**Eidsvold**	**29.38**	**19**	P	**P**	**08**	**42**	**29.0**	**+0.2**
EIDS				IAmb	IAmb	08	42	31.5	
	comp=Z,16nm,0.9s								
WRKA	**Warakurna**	**30.21**	**337**	P	**P**	**08**	**42**	**35.1**	**-1.1**
MXZ	**Matakaoa Point**	**30.33**	**73**	P	**P**	**08**	**42**	**36.1**	**-1.0**
MXZ				IAmb	IAmb	08	42	57.8	
	comp=Z,44nm,1.0s								
AS01	**Alice Springs**	**30.52**	**347**	P	**P**	**08**	**42**	**38.3**	**-0.7**
ASAR	**Alice Springs**	**30.53**	**347**	P	**P**	**08**	**42**	**38.1**	**-0.9**
	comp=Z,14nm,0.7s,baz=166,slow=9.8,SNR=142								

ASAR PcP **PcP** **08 45 36.6 -1.2**
comp=Z,0.6nm,0.6s,baz=160,slow=2.6,SNR=3.2
comp=Z,14nm,0.7s
ASAR Alice Springs 30.53 347 P **08 42 37.8 -1.2**
AS31 Alice Springs 30.53 347 P P 08 42 37.8 -1.3
QIS Mount Isa 33.18 358 P P 08 43 02.1 -0.2
WR0 Warramunga Arr 34.11 349 P P 08 43 08.5 -1.9
WR0 IAmb IAmb 08 43 11.8
comp=Z,12nm,0.7s
WB1 Warramunga Ar. 34.13 349 P P 08 43 09.6 -1.0
WB2 Warramunga Arr 34.15 349 P P 08 43 08.3 -2.5
WRA Warramunga Arr 34.15 349 P P 08 43 09.6 -1.2
comp=Z,27nm,0.9s,baz=175,slow=7.7,SNR=70
WRA PcP **PcP** **08 45 46.4 -1.3**
comp=Z,0.8nm,0.6s,baz=187,slow=2.1,SNR=3.4
comp=Z,27nm,0.9s
WRA Warramunga Arr 34.15 349 P P 08 43 08.6 -2.2
WRAB Tennant Creek 34.16 349 P P 08 43 09.4 -1.5
WRAB Tennant Creek 34.16 349 P P 08 43 09.8 -1.0
WB0 Warramunga Arr 34.32 349 P P 08 43 10.3 -1.9
WB0 IAmb IAmb 08 43 12.9
comp=Z,19nm,0.8s
MTSU Mount Surprise 35.68 6 P P 08 43 25.1 +1.2
PSA00 Pilbara Seismi 35.92 325 P P 08 43 24.6 -1.5
PSA00 IAmb IAmb 08 43 27.2
comp=Z,43nm,1.6s
QSPA South Pole Qui 36.33 180 P P 08 43 29.5 +0.2
comp=Z,23nm,1.0s,baz=336,slow=2.0,SNR=28
comp=Z,23nm,1.0s
QSPA South Pole Qui 36.33 180 P P 08 43 29.4 +0.2
QSPA IAmb IAmb 08 43 31.9
comp=Z,28nm,1.1s
MBWA Marble Bar 36.35 325 P P 08 43 28.6 -1.0
MBWA IAmb IAmb 08 43 30.1
comp=Z,26nm,1.1s
KNRA Kununurra 39.19 341 P P 08 43 52.8 -0.8
KNRA IAmb IAmb 08 43 53.9
comp=Z,25nm,0.9s
KNRA Kununurra 39.19 341 P P 08 43 52.9 -0.8
KDU Kakadu 41.53 348 P P 08 44 12.4 -0.7
MTN Manton Dam 41.56 346 P P 08 44 12.3 -1.1
MTN IAmb IAmb 08 44 13.5
comp=Z,19nm,0.8s
MTN Manton Dam 41.56 346 P P 08 44 13.0 -0.3
PMG Port Moresby 44.54 9 P P 08 44 37.0 -0.5
PMG IAmb IAmb 08 44 40.7
comp=Z,17nm,0.9s
AIS Amsterdam Isla 45.39 264 P P 08 44 42.9 -1.1
SOEI Soe 45.89 337 P P 08 44 46.3 -2.0
SOEI IAmb IAmb 08 44 58.9
comp=Z,38nm,1.1s
SOEI Soe 45.89 337 P P 08 44 58.7 +10
SOEI Soe 45.89 337 P P 08 44 48.2 -0.1
MSVF Nonsavu 46.02 53 P P 08 44 48.6 -0.7
BELA Belgrano 2 48.58 181 P P 08 45 07.9 -0.6
BELA IAmb IAmb 08 45 10.6
comp=Z,17nm,0.9s
TROLL Troll, Antarti 51.16 195 P P 08 45 28.1 -0.2
FAKI Fak Fak 51.19 349 P P 08 45 29.1 +0.1
FAKI IAmb IAmb 08 45 31.2
comp=Z,15nm,0.9s
SNAA Sanae 52.26 194 P P 08 45 36.3 -0.1
SNAA Sanae 52.26 194 P P 08 45 36.4 -0.1
comp=Z,7.9nm,1.0s,baz=171,slow=13,SNR=20
comp=Z,7.9nm,1.0s
SNAA Sanae 52.26 194 P P 08 45 35.9 -0.5
SNAA IAmb IAmb 08 45 37.7
comp=Z,20nm,1.3s
VNA3 Neumayer Olymp 53.53 191 P P 08 45 44.4 -1.4
VNA2 Neumayer--Watz 53.55 192 P P 08 45 45.5 -0.4
baz=163,slow=8.0
VNA1 Neumayer--Stat 53.91 192 P P 08 45 48.9 +0.4
SMAI San Martin Ant 56.64 168 P P 08 46 09.2 +1.0
SMAI IAmb IAmb 08 46 11.3
comp=Z,14nm,0.9s
SDSI Sungai Dareh 61.89 314 P P 08 46 44.8 -0.4
RPSI Rantau Prapat 66.22 313 P P 08 47 12.7 -0.9
RPSI IAmb IAmb 08 47 13.7
comp=Z,22nm,1.4s
IPM Ipoh 66.94 316 P P 08 47 18.5 +0.3
IPM Ipoh 66.94 316 P P 08 47 18.8 +0.6
comp=Z,24nm,0.9s
KCSI Kotacane, Aceh 67.46 312 P P 08 47 23.5 +2.0
KULM Kulim 67.83 316 P P 08 47 23.3 -0.5
SKLT Songkhla 69.54 317 P P 08 47 34.4 -0.1
H08S2 Diego Garcia H 71.16 283 T T 10 05 27.5
baz=144,slow=76,SNR=12
H08S1 Diego Garcia H 71.17 283 T T 10 05 24.9
baz=144,slow=76,SNR=8.6
H08S3 Diego Garcia H 71.17 283 T T 10 05 30.3
baz=144,slow=76,SNR=18
MG05 Puerto Natales 71.26 159 P P 08 47 44.6 0.0
MG05 IAmb IAmb 08 47 51.2
comp=Z,26nm,1.1s
COYC Coyhaique 77.11 157 P P 08 48 19.1 +0.3
COYC IAmb IAmb 08 48 21.1
comp=Z,24nm,1.5s
CMAR Chiang Mai Arr 80.46 320 P P 08 48 37.0 -0.5
comp=Z,1.3nm,0.3s,baz=180,slow=4.9,SNR=10
comp=Z,1.3nm,0.3s
CMAR Chiang Mai Arr 80.46 320 P P 08 48 36.1 -1.3
CHTO Chiang Mai 80.78 320 P P 08 48 39.2 +0.1
PLCA Paso Flores 82.05 156 P P 08 48 46.9 +1.0
comp=Z,4.9nm,1.1s,baz=159,slow=9.3,SNR=4.1
comp=Z,4.9nm,1.1s
PZH PanZhiHua 86.83 325 P P 08 49 12.0 +1.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,6.7s
NJ2 Nanjing 87.59 341 *e*P **P 08 49 14.9 +1.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
BO02 Sierra Bellavi 87.62 154 P P 08 49 14.6 +0.5
BO02 IAmb IAmb 08 49 17.8
comp=Z,16nm,1.2s
BO01 Tunca 87.92 154 P P 08 49 14.8 -0.7
BO01 IAmb IAmb 08 49 33.9
comp=Z,17nm,1.4s
MT01 Popeta 88.38 154 P P 08 49 17.7 +0.1
BO04 La Punta 88.43 154 P P 08 49 17.9 0.0
MT09 Talagante 88.53 154 P P 08 49 18.3 -0.2
VA01 Torpederas 89.07 153 P P 08 49 20.8 -0.1
VA03 San Esteban 89.61 154 P P 08 49 23.2 -0.3
VA03 IAmb IAmb 08 49 27.2
comp=Z,30nm,1.6s
SHL Shillong 89.64 317 P P 08 49 23.3 -0.2
SHL IAmb IAmb 08 49 24.4
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 89.98 358 P P 08 49 24.8 +0.1
comp=Z,2.7nm,0.7s,baz=186,slow=6.3,SNR=4.5
comp=Z,2.7nm,0.7s
LZH Lanzhou 95.06 331 *e*P **P 08 49 49.6 +1.2**
LZH pP pwP 08 49 54.6 -0.1
LZH pmax pmax
comp=Z,9.0nm,1.3s
LZH LR LR
comp=Z,340nm,15.1s
LZH LR LR
comp=Z,270nm,14.8s
LZH LR LR
comp=Z,530nm,14.4s
HHC Hu-ho-hao-te 97.58 338 *e*P Pdif 08 50 01.9 +2.2
HHC pmax pmax
comp=Z,27nm,0.9s
HHC LR LR
comp=Z,410nm,15.2s
HHC LR LR
comp=Z,510nm,15.2s
HHC LR LR
comp=Z,440nm,15.9s
CN2 Changchun 98.10 349 *e*P Pdif 08 50 03.6 +1.8
CN2 *e*PP **PP** **08 54 06.4 +4.8**
CN2 *e*S **S** **09 01 27.8 -0.4**
CN2 LR LR
comp=Z,260nm,21.0s
CN2 LR LR
comp=Z,240nm,21.0s
CN2 LR LR
comp=Z,360nm,22.0s
WMQ Urumqi 107.33 323 *e*P **Pdif** **08 50 45.1 +2.2**
WMQ LR LR
comp=N,380nm,19.1s
WMQ LR LR
comp=E,200nm,19.9s
WMQ LR LR
comp=Z,490nm,26.7s
NVAR Mina Array Bea 125.85 72 PKP **PKiKP** **08 55 29.5 +1.8**
comp=Z,0.5nm,0.8s,baz=231,slow=5.2,SNR=2.9
VYHS Vyhne 144.14 286 *e*PKP **PKiKP** **08 56 05.4 +1.3**
MODS Modra-Piesok 144.97 285 *e*PKP **PKiKP** **08 56 06.7 +0.8**
RONA Rosalia, Austr 145.19 283 *e*P **PKPdf** **08 56 02.5 0.0**
comp=Z,13nm,1.2s
SOKA Soboth 145.39 281 *e*P **PKiKP** **08 56 04.9 -1.9**
comp=Z,8.2nm,1.3s
ARSA Arzberg 145.40 282 *e*P **PKPab** **08 56 02.8 -0.3**
comp=Z,7.8nm,1.1s
MORC Moravsky Berou 145.51 287 *e*PKP **PKPdf** **08 56 02.4 -0.6**
CONA Conrad Observa 145.56 283 *e*P **PKiKP** **08 56 07.4 +0.2**
comp=Z,9.3nm,1.5s
OBKA Obir 145.58 280 *e*P **PKPdf** **08 56 03.0 -0.3**
comp=Z,8.6nm,1.2s
ULM Lac du Bonnet 145.69 72 PKPbc **PKiKP** **08 56 06.4 -0.8**
comp=Z,2.6nm,0.7s,baz=336,slow=2.6,SNR=2.2
KRUC Moravsky 145.82 285 *e*PKP **PKPdf** **08 56 03.3 -0.2**
VRAC Vranov 145.83 286 *e*PKP **PKPab** **08 56 05.4 +0.9**
MYKA Terra Mystica 146.17 280 *e*P **PKiKP** **08 56 11.8 +3.3**
comp=Z,16nm,1.2s
MOA Molln 146.44 282 *e*P **PKPbc** **08 56 05.6 -0.4**
comp=Z,2.7nm,0.4s
DPC Dobruska-Polom 146.48 287 *e*PKP **PKPab** **08 56 06.6 -0.4**
KBA Koelnbreinsper 146.58 280 *e*P **PKPbc** **08 56 05.9 -0.7**
comp=Z,2.6nm,0.7s
OSTC Ostas 146.64 287 *e*PKP **PKiKP** **08 56 11.0 +1.8**
BIOA Bad Ischl, Aus 146.73 281 *e*P **PKiKP** **08 56 13.3 +3.7**
comp=Z,12nm,1.2s
ABTA Abfaltersbach 146.90 279 *e*P **PKiKP** **08 56 11.7 +1.7**
comp=Z,4.8nm,0.8s
GERES GERESS Array B 147.26 283 PKPbc **PKPbc** **08 56 07.5 -0.9**
comp=Z,1.2nm,0.6s,baz=95,slow=1.5,SNR=6.7
ARCES ARCESS Array B 147.45 324 PKPbc **PKPbc** **08 56 07.4 -0.7**
comp=Z,6.5nm,0.8s,baz=64,slow=5.6,SNR=8.6
KHC Kasperske Hory 147.47 284 *e*PKP **PKPab** **08 56 10.2 -0.8**
WTTA Wattenberg 147.68 279 *e*P **PKPab** **08 56 13.3 +1.3**
comp=Z,4.9nm,0.6s
WATA Walderalm 147.75 280 *e*P **PKPab** **08 56 13.3 +1.0**
comp=Z,4.6nm,0.6s
SQTA Sankt Quirin 147.91 279 *e*P **PKPab** **08 56 15.0 +2.2**
comp=Z,4.5nm,0.5s
MOTA Moosalm 148.03 279 *e*P **PKPab** **08 56 15.0 +1.6**
comp=Z,3.2nm,0.6s
BRG Berggiesshubel 148.07 287 *e*PKP **PKPbc** **08 56 09.8 -0.6**
BRG Amp 08 56 13.9
comp=Z,4.5nm,0.7s
FETA Feichten 148.09 278 *e*P **PKiKP** **08 56 12.5 0.0**
comp=Z,5.4nm,0.7s
RETA Reutte 148.30 279 *e*P **PKiKP** **08 56 13.1 +0.3**
comp=Z,3.5nm,0.6s
DAVA Damuels 148.72 278 *e*P **PKPab** **08 56 17.9 +1.7**
comp=Z,5.7nm,0.7s
CLL Collm 148.79 287 *e*(PKPab) **PKPab** **08 56 17.0 +0.9**
CLL LmV 09 14 00.0
comp=Z,200nm,18.8s
CLL LmV 10 27 00.0
comp=Z,300nm,18.7s
SPITS Spitsbergen Ar 148.97 341 PKPbc **PKPbc** **08 56 10.7 -1.2**
comp=Z,11nm,0.9s,baz=76,slow=6.1,SNR=2.6
ESDC Sonseca Array 152.41 254 PKPbc **PKiKP** **08 56 21.7 +0.2**
comp=Z,1.8nm,0.8s,baz=112,slow=1.3,SNR=7.1

MAN 21 08:59:54.9,9.63N×126.93E,h1km,mb4.0,ML2.8,MS2.4, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.54**	**202**	⇓*e*P	Pn	09 00 23.2	-0.5
CGP	**Cagayan de Oro**	**2.50**	**242**	⇑*e*P	Pg	09 00 50.1	+7.2
CGP				*e*S	Sb	09 01 11.4	-0.6
GHBP	**Garcia Hernand**	**2.58**	**270**	⇑*e*P	Pn	09 00 38.1	+0.3
GHBP				*e*S	Sn	09 01 11.0	+1.2

NNC 21 09:04:07.3±4.3,53.44N×87.54E,h0km,mb3.7,mpv3.3, 2C-4D,Error ellipse: s-maj=31.9km s-min=22.4km az=82.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.70**	**289**	Pn	Pn	09 04 37.6	-0.5
ZAA0				Sn	Sb	09 05 01.5	+0.2
KURK	**Kurchatov**	**6.14**	**247**	⇑Pn	Pn	09 05 40.1	+1.0
KURK	0.8nm,0.5s			⇓Sn	Sn	09 06 49.0	-0.9
	1.0nm,0.6s						
KURK				⇓Lg	Lg	09 07 21.4	
	4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**6.23**	**247**	⇑Pn	Pn	09 05 42.1	+1.6
	2.2nm,0.4s,baz=65,slow=14						
KURBB	1.3nm,0.4s			⇓Sn	Sn	09 06 54.7	+2.3
KURBB				⇓Lg	Lg	09 07 29.5	
	3.5nm,0.6s,baz=61,slow=29						

*CRAAG **21** 09:05:01.7,36.32N×1.08E,Ml2.9*
*MDD **21** 09:05:02.4±0.7,36.47N×1.07E,h11km±7km,Mb3.8/24, M_mb3.1/25,Error ellipse: s-maj=6.0km s-min=3.0km az=141.0*
ISC 21 09:05:00.6±1.7,36.47N±0.08×1.08E±0.06,h16km±17km, n25,σ1°32/36,20C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECHA	**Ech Chlef**	**0.39**	**144**	P	**Pg**	**09 05 08.2**	**-0.5**
EBNR	**Beni Rached**	**0.40**	**116**	P	**Pb**	**09 05 10.3**	**+0.9**
EANR	**'Ain N'Sour**	**0.52**	**178**	P	**Pg**	**09 05 10.1**	**-0.9**
ODJA	**Bouhanifia**	**1.51**	**222**	P	Pg	09 05 36.0	+6.3
EMUR	**La Murta**	**2.31**	**307**	P	**Pn**	**09 05 37.4**	**-0.5**
EMUR				⇑*i*Vmb_V		09 05 40.4	
	247nm,SNR=0.7						
EMUR				S	**Sn**	**09 06 04.8**	**-1.2**
AFON	**Font Roja**	**2.54**	**330**	P	**Pn**	**09 05 42.7**	**+1.4**
AFON				⇑*i*Vmb_V		09 05 46.1	
	167nm,SNR=0.7						
AFON				S	**Sn**	**09 06 12.5**	**+0.5**
EZAR	**Zarzadilla de**	**2.62**	**303**	P	**Pn**	**09 05 41.5**	**-0.9**
EZAR				⇑*i*Vmb_V		09 05 44.7	
	307nm,SNR=0.9						
EZAR				S	**Sn**	**09 06 14.3**	**+0.4**
ENIJ	**Nijar**	**2.69**	**282**	P	**Pn**	**09 05 44.3**	**+1.1**
ENIJ				⇑*i*Vmb_V		09 05 48.3	
	153nm,SNR=0.8						
ENIJ				S	**Sn**	**09 06 12.2**	**-3.2**
ETOB	**Tobarra**	**3.01**	**317**	P	**Pn**	**09 05 48.5**	**+0.8**
ETOB				⇑*i*Vmb_V		09 05 52.4	
	149nm,SNR=0.7						
ETOB				S	**Sn**	**09 06 22.6**	**-0.9**
EBER	**Berja**	**3.22**	**279**	P	**Pn**	**09 05 51.2**	**+0.5**
EBER				⇑*i*Vmb_V		09 05 54.5	
	118nm,SNR=0.7						
EBER				S	**Sn**	**09 06 27.1**	**-1.7**
EALB	**Alboran**	**3.37**	**262**	⇑*i*Vmb_V		09 05 56.7	
	264nm,SNR=0.8						
EALB				S	**Sn**	**09 06 30.8**	**-1.4**
EMEL	**Melilla**	**3.48**	**252**	P	**Pn**	**09 05 54.8**	**+0.7**
ETOS	**Mallorca**	**3.57**	**22**	P	**Pn**	**09 05 55.4**	**+0.1**
ETOS				⇑*i*Vmb_V		09 05 57.9	
	283nm,SNR=0.6						
ETOS				S	**Sn**	**09 06 34.9**	**-2.3**
EQES	**Quesada**	**3.57**	**293**	P	**Pn**	**09 05 56.7**	**+1.3**
EQES				⇑*i*Vmb_V		09 05 59.8	
	159nm,SNR=1.0						
EQES				S	**Sn**	**09 06 37.5**	**+0.1**
EQUE	**Quentar**	**3.70**	**283**	P	**Pn**	**09 05 58.0**	**+0.8**
EQUE				⇑*i*Vmb_V		09 06 01.6	
	84nm,SNR=0.7						
EQUE				S	**Sn**	**09 06 42.1**	**+1.6**
ELGU	**Los Guajares,**	**3.80**	**277**	P	**Pn**	**09 05 59.5**	**+0.9**
ELGU				⇑*i*Vmb_V		09 06 03.6	
	83nm,SNR=0.6						
ELGU				S	**Sn**	**09 06 41.7**	**-1.4**
EMOS	**Mosqueruela**	**4.08**	**343**	P	**Pn**	**09 06 03.8**	**+1.3**
EMOS				⇑*i*Vmb_V		09 06 08.2	
	137nm,SNR=0.6						
EMOS				S	**Sn**	**09 06 47.7**	**-2.2**
ERTA	**Horta de San J**	**4.52**	**353**	P	**Pn**	**09 06 09.9**	**+1.5**
ERTA				⇑*i*Vmb_V		09 06 13.6	
	107nm,SNR=0.8						
EMIJ	**Mijas**	**4.71**	**273**	P	**Pn**	**09 06 12.6**	**+1.5**
EMIJ				⇑*i*Vmb_V		09 06 15.1	
	44nm,SNR=0.3						
EADA	**Adamuz**	**4.82**	**292**	P	**Pn**	**09 06 13.2**	**+0.7**
EADA				⇑*i*Vmb_V		09 06 16.0	
	82nm,SNR=0.5						
EPOB	**Poblet**	**4.88**	**360**	P	**Pn**	**09 06 14.4**	**+1.0**
EPOB				⇑*i*Vmb_V		09 06 17.6	
	81nm,SNR=0.4						
EPOB				S	**Sn**	**09 07 08.9**	**-0.7**
ESDC	**Sonseca Array**	**5.11**	**310**	P	**Pn**	**09 06 18.1**	**+1.6**
ESDC				⇑*i*Vmb_V		09 06 21.8	
	56nm,SNR=0.4						
PAB	**San Pablo**	**5.27**	**307**	P	**Pn**	**09 06 18.8**	**0.0**
PAB				⇑*i*Vmb_V		09 06 21.7	
	112nm,SNR=0.9						
ECAB	**El Cabril**	**5.42**	**289**	P	**Pn**	**09 06 20.6**	**-0.3**
ECAB				⇑*i*Vmb_V		09 06 24.6	
	86nm,SNR=0.6						
EMIN	**Mina Concepcio**	**6.33**	**284**	P	**Pn**	**09 06 35.1**	**+1.9**
EMIN				⇑*i*Vmb_V		09 06 38.5	
	234nm,SNR=1.1						

*KRNET **21** 09:28:17.7±0.1,39.92N×78.57E,mb3.4*
*SOME **21** 09:28:20.1,40.00N×78.17E,h15km*
*NNC **21** 09:28:21.7±0.9,40.04N×78.07E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=6.0km s-min=5.9km az=16.0*
ISC 21 09:28:25.7±2.6,40.0N±0.1×78.22E±0.06,h23km,n46, σ2957/73,11C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.79**	**350**	⇑*i*P	Pn	**09 28 52.9**	**-2.7**
TARG	baz=42			⇑*i*S	Sn	**09 29 18.7**	**+0.8**
ULHL	**Ulahol**	**2.73**	**327**	⇑*e*P	Pn	**09 29 07.4**	**-0.9**
ULHL	baz=24			⇑*i*S	Sn	**09 29 43.6**	**+3.0**
ANVS	**Anan'yevo**	**2.85**	**352**	⇓*i*P	Pn	**09 29 07.8**	**-2.1**
ANVS	baz=47			⇓*i*S	Sn	**09 29 44.3**	**+0.7**
SATY	**Saty**	**3.09**	**3**	*e*P	Pb	**09 29 17.4**	**-2.8**
SATY	13nm,0.5s			*e*S	Sb	**09 29 58.4**	**+0.9**
SATY	44nm,0.5s **Saty**	**3.09**	**3**	Pg	Pb	**09 29 17.4**	**-2.8**
SATY	13nm,0.5s			Lg	Lg	09 29 58.4	
ZHN	44nm,0.5s **Zhinishke**	**3.20**	**3**	*e*P	Pb	**09 29 19.3**	**-2.7**
ZHN	4.8nm,0.5s			*e*S	Sb	**09 30 02.2**	**+1.6**
ZHN	23nm,0.6s **Zhinishke**	**3.20**	**3**	Pg	Pb	**09 29 19.3**	**-2.7**
ZHN	4.8nm,0.5s			Lg	Lg	09 30 02.2	
TNSS	23nm,0.6s **Tian-Shan**	**3.21**	**343**	*e*P	Pb	**09 29 19.1**	**-3.2**
TNSS	11nm,0.4s			*e*S	Sb	**09 30 01.7**	**+0.5**
TNSS	12nm,0.5s **Tian-Shan**	**3.21**	**343**	Pg	Pb	**09 29 19.1**	**-3.2**
TNSS	11nm,0.4s			Lg	Lg	09 30 01.7	
IZV	12nm,0.5s **Izvestkoviy**	**3.30**	**339**	*e*P	Pb	**09 29 20.4**	**-3.2**
IZV	7.0nm,0.5s			*e*S	Sb	**09 30 04.3**	**+0.9**
IZV	27nm,0.4s **Izvestkoviy**	**3.30**	**339**	Pg	Pb	**09 29 20.5**	**-3.2**
IZV	7.0nm,0.5s			Lg	Lg	09 30 04.3	
MDOK	27nm,0.4s **Medeo**	**3.31**	**345**	*e*P	Pb	**09 29 20.2**	**-3.7**
MDOK	6.8nm,0.5s			*e*S	Sb	**09 30 03.3**	**-0.5**
MDOK	19nm,0.6s **Medeo**	**3.31**	**345**	Pg	Pb	**09 29 20.2**	**-3.7**
MDOK	6.8nm,0.5s			Pg	Pn	**09 29 20.4**	**+4.0**
	5.9nm,0.5s,baz=121,slow=16						
MDOK				Lg	Lg	09 30 03.3	
MDOK	19nm,0.6s			Lg	Lg	09 30 04.0	
SHLS	18nm,0.7s,baz=121,slow=16 **Shalkode**	**3.32**	**16**	*e*P	Pb	**09 29 22.7**	**-1.4**
SHLS				*e*S	Sb	**09 30 08.0**	**+3.9**
SHLS	**Shalkode**	**3.32**	**16**	Pg	Pb	**09 29 22.7**	**-1.4**
SHLS				Lg	Lg	09 30 08.0	
KOTS	**Kotyrbulak**	**3.37**	**346**	*e*P	Pb	**09 29 22.0**	**-2.8**
KOTS	7.6nm,0.6s			*e*S	Sb	**09 30 06.7**	**+1.2**
KOTS	42nm,0.5s **Kotyrbulak**	**3.37**	**346**	Pg	Pb	**09 29 22.0**	**-2.8**
KOTS	7.6nm,0.6s			Lg	Lg	09 30 06.7	
MTBS	42nm,0.5s **Maitube**	**3.44**	**338**	*e*P	Pb	**09 29 23.0**	**-2.9**
MTBS	4.4nm,0.2s			*e*S	Sb	**09 30 07.8**	**+0.5**
MTBS	20nm,0.5s **Maitube**	**3.44**	**338**	Pg	Pb	**09 29 22.0**	**-3.9**
MTBS	4.4nm,0.2s			Lg	Lg	09 30 07.8	
ARLS	20nm,0.5s **Aral**	**3.51**	**304**	⇓*e*P	Pn	**09 29 18.9**	**-0.1**
ARLS	baz=2.0			⇓*i*S	Sn	**09 30 03.5**	**+3.6**
KST	baz=2.0 **Kastek**	**3.51**	**332**	*e*P	Pb	**09 29 23.8**	**-3.5**
KST	8.2nm,0.5s			*e*S	Sb	**09 30 09.7**	**+0.2**
KST	17nm,0.6s **Kastek**	**3.51**	**332**	Pg	Pb	**09 29 23.8**	**-3.5**
KST	8.2nm,0.5s			Lg	Lg	09 30 09.7	
KPKS	17nm,0.6s **Kokpek**	**3.52**	**6**	*e*P	Pb	**09 29 24.8**	**-2.5**
KPKS	11nm,0.5s			*e*S	Sb	**09 30 11.3**	**+1.7**
KPKS	33nm,0.5s **Kokpek**	**3.52**	**6**	Pg	Pb	**09 29 24.8**	**-2.5**
KPKS	11nm,0.5s			Lg	Lg	09 30 11.3	
KURS	33nm,0.5s **Kuram**	**3.52**	**359**	*e*P	Pb	**09 29 24.9**	**-2.5**
KURS	13nm,0.7s			*e*S	Sb	**09 30 10.8**	**+1.1**
KURS	18nm,1.1s **Kuram**	**3.52**	**359**	Pg	Pb	**09 29 24.9**	**-2.5**
KURS	13nm,0.7s			Lg	Lg	09 30 10.8	
TKM2	18nm,1.1s **Tokmak 2**	**3.55**	**327**	⇑*i*P	Pn	**09 29 18.8**	**-0.8**
TKM2	baz=24			⇑*i*S	Sn	**09 30 03.5**	**+2.5**
TKM2	baz=24 **Tokmak 2**	**3.55**	**327**	⇑Pg	Pb	**09 29 24.3**	**-3.7**
TKM2	2.7nm,0.5s,baz=121,slow=16			⇑Lg	Lg	09 30 11.4	
UCH	12nm,0.6s,baz=121,slow=16 **Uchtor**	**3.60**	**310**	⇓*i*P	Pn	**09 29 20.3**	**-0.2**
UCH	baz=8.0			⇓*i*S	Sn	**09 30 05.9**	**+3.4**
KBK	baz=8.0 **Karagaybulak**	**3.65**	**319**	⇑*e*P	Pn	**09 29 20.5**	**-0.4**
KBK	baz=16			⇑*i*S	Sn	**09 30 06.3**	**+3.0**
DGS	baz=16 **Degeres**	**3.75**	**332**	*e*P	Pb	**09 29 27.9**	**-3.4**
DGS	8.8nm,0.5s			*e*S	Sb	**09 30 16.9**	**+0.4**
DGS	12nm,0.6s **Degeres**	**3.75**	**332**	Pg	Pb	**09 29 27.9**	**-3.4**
DGS	8.8nm,0.5s			Lg	Lg	09 30 16.9	
KTBS	12nm,0.6s **Karatobe**	**3.92**	**343**	*e*P	Pb	**09 29 31.3**	**-2.8**
KTBS	2.5nm,0.4s			*e*S	Sb	**09 30 22.2**	**+1.1**
KTBS	21nm,0.7s **Karatobe**	**3.92**	**343**	Pg	Pb	**09 29 31.3**	**-2.8**
	2.5nm,0.4s						

KTBS				Lg	Lg	09 30 22.2		
	21nm,0.7s							
CHKK	**Chushkaly**	**3.99**	**347**	*eP*	**Pb**	**09 29 33.2**	**-2.2**
CHKK				*eS*	**Sb**	**09 30 25.7**	**+2.5**
CHKK	**Chushkaly**	**3.99**	**347**	Pg	**Pb**	**09 29 33.2**	**-2.2**
CHKK				Lg	Lg	09 30 25.7	
BLB	**Baldybastay**	**4.13**	**3**	*eP*	**Pb**	**09 29 35.3**	**-2.6**
	11nm,0.6s							
BLB				*eS*	**Sb**	**09 30 29.6**	**+2.2**
	12nm,0.4s							
BLB	**Baldybastay**	**4.13**	**3**	Pg	**Pb**	**09 29 35.3**	**-2.6**
	11nm,0.6s							
BLB				Lg	Lg	09 30 29.6		
	12nm,0.4s							
KUU	**Kurty**	**4.17**	**341**	*eP*	**Pb**	**09 29 35.0**	**-3.4**
	1.3nm,0.8s							
KUU				*eS*	**Sb**	**09 30 29.2**	**+0.9**
	14nm,0.9s							
KUU	**Kurty**	**4.17**	**341**	Pg	**Pb**	**09 29 35.0**	**-3.4**
	1.3nm,0.8s							
KUU				Lg	Lg	09 30 29.2		
	14nm,0.9s							
KRBS	**Karabastau**	**4.18**	**334**	*eP*	**Pb**	**09 29 35.1**	**-3.6**
	5.2nm,0.6s							
KRBS				*eS*	**Sb**	**09 30 28.8**	**0.0**
	17nm,1.1s							
KRBS	**Karabastau**	**4.18**	**334**	Pg	**Pb**	**09 29 35.1**	**-3.6**
	5.2nm,0.6s							
KRBS				Lg	Lg	09 30 28.8		
	17nm,1.1s							
USP	**Ospenovka**	**4.32**	**321**	⇓*eP*	**Pn**	**09 29 29.6**	**-0.4**
	baz=19							
USP				⇓*iS*	**Sn**	**09 30 22.0**	**+2.3**
	baz=19							
SGDS	**Sogindy**	**4.40**	**324**	*eP*	**Pb**	**09 29 39.3**	**-3.1**
	2.5nm,0.6s							
SGDS				*eS*	**Sb**	**09 30 36.4**	**+1.4**
	6.2nm,0.4s							
SGDS	**Sogindy**	**4.40**	**324**	Pg	**Pb**	**09 29 39.3**	**-3.1**
	2.5nm,0.6s							
SGDS				Lg	Lg	09 30 36.4		
	6.2nm,0.4s							
KK31	**Karatay Array**	**6.58**	**301**	⇓Pg	**Pb**	**09 30 19.4**	**-0.1**
	0.4nm,0.5s,baz=121,slow=16,SNR=5.0							
KK31				⇑Lg	Lg	09 31 44.9		
	0.8nm,0.6s,baz=121,slow=16,SNR=3.8							

*WEL **21** 09:33:05.0±0.6,40°S±3°×17°7E±°,h12km±4km,M3.9/59, ML4.3/19,MLv3.9/59,Error ellipse: s-maj=0.0km s-min=0.0km az=122.2*
*IDC **21** 09:33:08.9±3.6,40°.29S×175°.62E,h0km,mb3.5/2, mbtmp3.6/3,MS3.6/2,Error ellipse: s-maj=74.4km s-min=38.4km az=121.0*

ISC 21 09:33:03.7±1.3,40°38S±0°.03×176°87E±0°.04,h15km±8km, n115,σ1§03/120,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.21**	**303**	P	**Pb**	**09 33 08.9**	**-0.3**
PRHZ				S	**Sg**	**09 33 11.9**	**+0.1**
ANWZ	**Angora Road**	**0.31**	**255**	P	**Pb**	**09 33 12.1**	**+1.2**
PXZ	**Pawanui**	**0.35**	**359**	P	**Pb**	**09 33 12.4**	**+0.9**
WPHZ	**Waipukurau**	**0.45**	**314**	P	**Pb**	**09 33 13.1**	**-0.3**
WPHZ				S	**Sb**	**09 33 19.8**	**-0.1**
DVHZ	**Dannevirke**	**0.54**	**278**	P	**Pb**	**09 33 15.0**	**+0.1**
DVHZ				S	**Sb**	**09 33 22.8**	**+0.4**
BFZ	**Birch Farm**	**0.56**	**237**	P	**Pb**	**09 33 16.9**	**+1.7**
KAHZ	**Kahuranaki**	**0.58**	**1**	P	**Pb**	**09 33 17.1**	**+1.5**
PNHZ	**Pukenui**	**0.69**	**312**	P	**Pb**	**09 33 17.3**	**-0.1**
PNHZ				S	**Sb**	**09 33 26.9**	**+0.2**
PRWZ	**Pori Road**	**0.71**	**255**	P	**Pb**	**09 33 18.9**	**+1.3**
PRWZ				S	**Sn**	**09 33 30.0**	**+0.3**
CPWZ	**Castlepoint**	**0.73**	**224**	P	**Pb**	**09 33 20.5**	**+2.4**
CKHZ	**Cape Kidnapper**	**0.74**	**13**	P	**Pb**	**09 33 19.3**	**+1.1**
TSZ	**Takapari Road**	**0.76**	**295**	P	**Pg**	**09 33 18.5**	**-0.1**
TSZ				S	**Sb**	**09 33 28.7**	**-0.2**
POWZ	**Post Office Ro**	**0.84**	**269**	P	**Pb**	**09 33 20.7**	**+0.8**
POWZ				S	**Sn**	**09 33 33.0**	**0.0**
TIWZ	**Tintock**	**0.85**	**242**	P	**Pb**	**09 33 21.5**	**+1.5**
MCHZ	**McNeill Hill**	**0.94**	**352**	P	**Pb**	**09 33 22.5**	**+0.8**
KWHZ	**Kaweka Forest**	**1.01**	**340**	P	**Pb**	**09 33 23.2**	**+0.3**
MRZ	**Mangatainoka R**	**1.02**	**264**	P	**Pg**	**09 33 22.8**	**-0.6**
TMWZ	**Te Maipa**	**1.04**	**225**	P	**Pb**	**09 33 23.7**	**+0.4**
BHHZ	**Black Hill Sta**	**1.08**	**325**	P	**Pg**	**09 33 23.6**	**-1.1**
ARHZ	**Aropaoanui**	**1.12**	**5**	P	**Pb**	**09 33 24.7**	**0.0**
HOWZ	**Holdsworth Sta**	**1.15**	**243**	P	**Pb**	**09 33 24.7**	**-0.5**
OHWZ	**Ohakea**	**1.20**	**278**	P	**Pg**	**09 33 27.0**	**+0.2**
BKZ	**Black Stump Fm**	**1.25**	**346**	P	**Pb**	**09 33 26.2**	**-0.7**
NMHZ	**Naumai**	**1.28**	**358**	P	**Pn**	**09 33 27.3**	**+0.2**
MOVZ	**Moawhango**	**1.30**	**318**	P	**Pn**	**09 33 27.2**	**-0.1**
MTW	**Mount Morrison**	**1.30**	**233**	P	**Pn**	**09 33 26.6**	**-0.6**
WHHZ	**Waihua**	**1.33**	**12**	P	**Pn**	**09 33 27.8**	**+0.1**
TRWZ	**Traveller**	**1.35**	**221**	P	**Pn**	**09 33 29.2**	**+1.2**
OGWZ	**Otaki Gorge**	**1.36**	**251**	P	**Pn**	**09 33 27.6**	**-0.5**
WNVZ	**Wahianoa**	**1.44**	**317**	P	**Pn**	**09 33 30.0**	**+0.7**
TUVZ	**Tukino**	**1.45**	**320**	P	**Pb**	**09 33 30.6**	**+0.1**
MTVZ	**Mangateitei**	**1.46**	**312**	P	**Pb**	**09 33 30.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.47**	**34**	P	**Pn**	**09 33 29.5**	**-0.1**
RAHZ	**Arahi**	**1.47**	**7**	P	**Pn**	**09 33 29.4**	**-0.2**
WHVZ	**Whangaehu Hut**	**1.47**	**310**	P	**Pb**	**09 33 30.7**	**+0.8**
PAWZ	**Paruwai Farm**	**1.48**	**227**	P	**Pn**	**09 33 29.4**	**-0.4**
TRVZ	**Turoa**	**1.48**	**316**	P	**Pn**	**09 33 30.8**	**+0.8**
DRZ	**Dome Shelter**	**1.49**	**317**	P	**Pb**	**09 33 31.6**	**+0.4**
KNZ	**Kokohu**	**1.49**	**25**	P	**Pn**	**09 33 29.3**	**-0.6**
FWVZ	**Far West T-bar**	**1.51**	**318**	P	**Pb**	**09 33 31.4**	**-0.1**
SNVZ	**South Ngauruho**	**1.52**	**321**	P	**Pn**	**09 33 31.2**	**+0.7**
MTHZ	**Maungataniwha**	**1.53**	**359**	P	**Pn**	**09 33 30.3**	**-0.1**
OTVZ	**Oturere**	**1.53**	**322**	P	**Pn**	**09 33 31.2**	**+0.7**
ETVZ	**East Tongariro**	**1.53**	**324**	P	**Pn**	**09 33 31.2**	**+0.7**
CAW	**Cannon Point**	**1.55**	**241**	P	**Pn**	**09 33 30.3**	**-0.4**
NGZ	**Ngauruhoe**	**1.55**	**321**	P	**Pn**	**09 33 31.7**	**+0.9**
TMVZ	**Te Maari**	**1.55**	**324**	P	**Pn**	**09 33 31.5**	**+0.7**
KIW	**Kapiti Island**	**1.56**	**251**	P	**Pn**	**09 33 31.0**	**0.0**
WAZ	**Wanganui**	**1.57**	**293**	P	**Pn**	**09 33 32.2**	**+1.2**
NTVZ	**North Tongarir**	**1.57**	**324**	P	**Pn**	**09 33 31.9**	**+0.7**
NNVZ	**North Ngauruho**	**1.58**	**322**	P	**Pn**	**09 33 32.0**	**+0.8**
MRHZ	**Matea Rd**	**1.58**	**347**	P	**Pn**	**09 33 31.5**	**+0.3**
KRVZ	**Karewarewa**	**1.59**	**323**	P	**Pn**	**09 33 33.1**	**+0.3**
PKVZ	**Pokaka**	**1.60**	**312**	P	**Pb**	**09 33 32.6**	**-0.3**
WTVZ	**West Tongariro**	**1.60**	**322**	P	**Pb**	**09 33 33.0**	**0.0**
HATZ	**Hinemaiaia**	**1.60**	**338**	P	**Pg**	**09 33 34.3**	**-0.2**
MSWZ	**Moikau Station**	**1.60**	**229**	P	**Pn**	**09 33 30.7**	**-0.8**
SNGZ	**Shannon Statio**	**1.64**	**13**	P	**Pn**	**09 33 31.8**	**-0.1**
KATZ	**Kakaramea**	**1.67**	**327**	P	**Pg**	**09 33 35.0**	**-0.7**
PLWZ	**Palliser**	**1.70**	**225**	P	**Pn**	**09 33 32.6**	**-0.2**
TWVZ	**Taurewa**	**1.71**	**319**	P	**Pb**	**09 33 34.5**	**-0.3**
RATZ	**Rangitukua**	**1.73**	**330**	P	**Pb**	**09 33 35.9**	**+0.8**
RTZ	**Ruatahuna**	**1.77**	**3**	P	**Pn**	**09 33 33.6**	**-0.1**
RIGZ	**Rimuhau**	**1.81**	**23**	P	**Pn**	**09 33 33.7**	**-0.6**
WEL	**Wellington**	**1.83**	**240**	P	**Pn**	**09 33 34.0**	**-0.6**
WHTZ	**Whakaora**	**1.85**	**337**	P	**Pg**	**09 33 39.3**	**+0.1**
ALRZ	**Allen Road**	**1.86**	**347**	P	**Pn**	**09 33 35.7**	**+0.7**
RAGZ	**Rawiri**	**1.93**	**13**	P	**Pn**	**09 33 35.6**	**-0.4**
HRRZ	**Handcock Road**	**2.04**	**347**	P	**Pb**	**09 33 39.8**	**-0.6**
VRZ	**Vera Road**	**2.05**	**307**	P	**Pb**	**09 33 39.5**	**-1.1**
RRRZ	**Republican Roa**	**2.06**	**352**	P	**Pn**	**09 33 38.2**	**+0.5**
TKGZ	**Te Karaka**	**2.08**	**22**	P	**Pn**	**09 33 37.2**	**-0.8**
LREZ	**Lake Rotokare**	**2.11**	**295**	P	**Pb**	**09 33 41.3**	**-0.2**
MWZ	**Matawai**	**2.11**	**14**	P	**Pn**	**09 33 37.3**	**-1.1**
GRRZ	**Galatos Road**	**2.11**	**344**	P	**Pg**	**09 33 45.2**	**+1.1**
HSRZ	**Hossack Road**	**2.12**	**347**	P	**Pn**	**09 33 38.9**	**+0.4**
URZ	**Urewera**	**2.13**	**5**	P	**Pn**	**09 33 38.0**	**-0.6**
TCW	**Tory Channel**	**2.13**	**246**	P	**Pn**	**09 33 37.8**	**-0.9**
CNGZ	**Carnagh Statio**	**2.16**	**29**	P	**Pn**	**09 33 38.5**	**-0.5**
TARZ	**Mount Tarawera**	**2.16**	**352**	P	**Pn**	**09 33 39.4**	**+0.3**
DUWZ	**D'Urville Isla**	**2.28**	**258**	P	**Pn**	**09 33 41.3**	**+0.5**
TLZ	**Tolley Road**	**2.29**	**333**	P	**Pn**	**09 33 41.2**	**+0.2**
MHEZ	**Mangahewa**	**2.35**	**303**	P	**Pb**	**09 33 46.2**	**+0.4**
TWGZ	**Tauwhareparae**	**2.36**	**22**	P	**Pn**	**09 33 41.3**	**-0.6**
DREZ	**Durham Road**	**2.37**	**299**	P	**Pb**	**09 33 46.3**	**+0.2**
NEZ	**North Egmont**	**2.41**	**297**	P	**Pn**	**09 33 44.7**	**+2.2**
HIZ	**Hauiti**	**2.43**	**319**	P	**Pn**	**09 33 43.9**	**+1.1**
KHEZ	**Kahui Hut**	**2.45**	**295**	P	**Pb**	**09 33 46.1**	**-1.3**
TUWZ	**Tuamarina**	**2.45**	**244**	P	**Pn**	**09 33 42.2**	**-0.9**
RUGZ	**Raukumara Rang**	**2.49**	**15**	P	**Pn**	**09 33 42.8**	**-0.9**
NMEZ	**Namu Road**	**2.49**	**292**	P	**Pb**	**09 33 47.7**	**-0.4**
PKE	**Pukeiti**	**2.52**	**297**	P	**Pb**	**09 33 48.3**	**-0.2**
OPRZ	**Ohinepanea**	**2.54**	**354**	P	**Pn**	**09 33 44.9**	**+0.6**
PUZ	**Puketiti**	**2.55**	**26**	P	**Pn**	**09 33 42.9**	**-1.5**
NBEZ	**Newall Road No**	**2.56**	**295**	P	**Pb**	**09 33 49.8**	**+0.5**
PKGZ	**Pakihiroa**	**2.66**	**21**	P	**Pn**	**09 33 45.2**	**-0.8**
HAZ	**Te Kaha**	**2.71**	**16**	P	**Pn**	**09 33 45.8**	**-0.9**
NNZ	**Nelson**	**2.78**	**251**	P	**Pn**	**09 33 48.0**	**+0.5**
WMGZ	**Waiomatatini S**	**2.83**	**26**	P	**Pn**	**09 33 47.1**	**-1.1**
TOZ	**Tahuroa Road**	**2.85**	**338**	P	**Pn**	**09 33 49.1**	**+0.5**
MXZ	**Matakaoa Point**	**3.03**	**22**	P	**Pn**	**09 33 49.9**	**-1.2**
TKNZ	**Takaka Hill**	**3.04**	**256**	P	**Pb**	**09 33 55.8**	**-1.7**
MRNZ	**Matariki Terra**	**3.28**	**251**	P	**Pn**	**09 33 54.5**	**0.0**
QRZ	**Quartz Range**	**3.33**	**261**	P	**Pn**	**09 33 54.9**	**-0.3**
MKAZ	**Moumakai**	**3.53**	**337**	P	**Pn**	**09 33 58.4**	**+0.5**
WACZ	**Wakanui South**	**5.16**	**225**	P	**Pn**	**09 34 21.9**	**+1.6**
RPZ	**Rata Peaks**	**5.46**	**231**	Pn	**Pn**	**09 34 22.4**	**-2.1**
	14nm,1.1s,baz=51,slow=6.5,SNR=3.1							
RPZ				Sn	**Sn**	**09 35 20.9**	**-6.1**
	3.0nm,0.3s,baz=45,slow=19,SNR=11							
ARCZ	**Arundel**	**5.53**	**228**	P	Pn	09 34 31.5	+6.1
TMZ	**Timaru**	**5.90**	**225**	P	**Pn**	**09 34 31.3**	**+0.8**
ODZ	**Otahua Downs**	**6.54**	**222**	P	**Pn**	**09 34 40.1**	**+0.9**
RAO	**Raoul Island**	**11.90**	**23**	LR	LR	09 40 02.0		
	comp=Z,52nm,19.6s,baz=119,slow=34							
ASAR	**Alice Springs**	**39.63**	**282**	P	**P**	**09 40 34.9**	**0.0**
	0.5nm,0.8s,baz=117,slow=6.5,SNR=7.6							
	0.5nm,0.8s							
WRA	**Warranunga Arr**	**41.55**	**287**	P	**P**	**09 40 50.1**	**-0.6**
	0.5nm,0.5s,baz=125,slow=8.3,SNR=13							
	0.5nm,0.5s							
PLCA	**Paso Flores**	**78.67**	**134**	LR	LR	10 13 52.9		
	comp=Z,148nm,18.3s,baz=96,slow=31							
ARCES	**ARCESS Array B**	**147.13**	**342**	PKPbc	**PKiKP**	**09 52 51.0**	**+3.7**
	3.3nm,0.9s,baz=17,slow=1.2,SNR=2.1							

*NCEDC **21** 09:33:36.0±2.1,38°.636N±0°.009×121°.89W±0°.01, h15km±4km,ML3.0/38,ML3.0/42(NEIC),Error ellipse: s-maj=1.9km s-min=1.1km az=59.0*

NEIC 21 09:33:35.8±1.6,38°.63N±0°.02×121°.92W±0°.03,h29km±7km, Error ellipse: s-maj=3.9km s-min=3.1km az=79.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDHM	**Dunnigan Hills**	**0.14**	**3**		**Pb**	**09 33 40.4**	**-0.9**
NBPM	**Berryessa Peak**	**0.21**	**280**		**Pb**	**09 33 41.6**	**-0.4**
NAPC	**Atlas Peak**	**0.32**	**234**		**Pb**	**09 33 43.6**	**+0.1**
NGVM		**0.42**	**213**		**Pb**	**09 33 44.8**	**-0.1**
NMTM	**Middletown**	**0.45**	**293**		**Pb**	**09 33 45.7**	**+0.4**
MNRC	**McLaughlin Min**	**0.48**	**302**		**Pn**	**09 33 46.5**	**-0.2**
HMR	**Hamilton Ranch**	**0.48**	**169**		**Pn**	**09 33 46.5**	**-0.2**
CVS	**Carmenet Viney**	**0.51**	**236**		**Pb**	**09 33 46.4**	**+0.1**
NLHM	**Lake Herman**	**0.54**	**199**		**Pb**	**09 33 46.7**	**-0.1**
NHSM	**Mount Saint He**	**0.54**	**273**		**Pb**	**09 33 47.1**	**+0.1**
CTAM	**Taylor**	**0.61**	**187**		**Pb**	**09 33 48.0**	**+0.1**
SUTB	**Sutter Butte**	**0.61**	**10**		**Pb**	**09 33 46.9**	**-1.1**
SUTB					**Sb**	**09 33 56.2**	**0.0**
SNT	**Sears Point**	**0.61**	**223**		**Pb**	**09 33 47.6**	**-0.3**
GWKM	**Walker Ridge**	**0.61**	**314**		**Pn**	**09 33 48.5**	**0.0**
NBRB	**Beebe Ranch Br**	**0.62**	**233**		**Pb**	**09 33 48.1**	**0.0**
GBGM	**Boggs Mountain**	**0.62**	**287**		**Pb**	**09 33 48.4**	**+0.2**
NTYM	**Taylor**	**0.63**	**248**		**Pb**	**09 33 48.4**	**+0.2**
MAC	**Mark West Spri**	**0.63**	**263**		**Pn**	**09 33 48.6**	**-0.2**
GCRM	**Castle Rock Sp**	**0.64**	**283**		**Pb**	**09 33 48.5**	**0.0**
OSUM	**Sutter Buttes**	**0.64**	**5**		**Pb**	**09 33 47.8**	**-0.7**
GAXM	**Alexander Vall**	**0.66**	**277**		**Pb**	**09 33 48.7**	**0.0**
GSGM	**Seigler Mounta**	**0.66**	**291**		**Pn**	**09 33 49.3**	**+0.2**
HERB	**Hercules**	**0.67**	**204**		**Pb**	**09 33 48.8**	**-0.2**
BDM	**Black Diamond**	**0.68**	**176**		**Pb**	**09 33 49.0**	**-0.7**
GBMM	**Baldy Mountain**	**0.68**	**319**		**Pn**	**09 33 50.0**	**+0.5**
CPIM	**Pinole Ridge**	**0.68**	**200**		**Pb**	**09 33 49.0**	**-0.1**
GDXM	**Geysers**	**0.70**	**285**		**Pn**	**09 33 49.8**	**0.0**
GDXM	**Geysers**	**0.70**	**285**	IAML		**09 34 01.2**	
	comp=N,363nm,0.2s						
CRPB	**Russellman Par**	**0.72**	**179**		**Pb**	**09 33 48.4**	**-1.4**
CSPM	**San Pablo Ridg**	**0.74**	**205**		**Pb**	**09 33 50.0**	**-0.1**
GFC	**Funks Creek**	**0.75**	**338**		**Pn**	**09 33 50.5**	**+0.1**
CRHM	**Round Hill Res**	**0.77**	**184**		**Pb**	**09 33 50.3**	**-0.4**
GACM	**Adobe Creek**	**0.77**	**289**		**Pn**	**09 33 51.1**	**+0.3**
CPMM	**Point Molate**	**0.78**	**209**		**Pn**	**09 33 50.6**	**-0.2**
CVPM	**Vollmer Peak**	**0.78**	**198**		**Pb**	**09 33 50.2**	**-0.7**
OHCM	**Honcut**	**0.78**	**26**		**Pn**	**09 33 49.9**	**-0.9**
BKS	**Berkeley--Byer**	**0.79**	**198**		**Pn**	**09 33 50.2**	**-0.8**
VAK	**Adit at Lawren**	**0.79**	**199**		**Pn**	**09 33 50.5**	**-0.5**
BL67	**Building 67, L**	**0.80**	**199**		**Pn**	**09 33 50.5**	**-0.6**
BRK	**Berkeley--Havi**	**0.80**	**200**		**Pn**	**09 33 50.5**	**-0.6**
SMCB	**Saint Mary's C**	**0.80**	**191**		**Pn**	**09 33 50.4**	**-0.7**
AFDM	**Forest Hills D**	**0.81**	**67**		**Pn**	**09 33 50.4**	**-0.8**
AFDM	**Forest Hills D**	**0.81**	**67**	IAML		**09 34 02.7**	
	comp=N,606nm,0.4s						
AFDM				IAML		**09 34 03.0**	
	comp=E,688nm,0.4s						
BGC	**Bolinger Road**	**0.82**	**188**		**Pn**	**09 33 50.4**	**-1.0**
CMOB	**Morgan Territo**	**0.82**	**173**		**Pn**	**09 33 50.6**	**-0.9**
GPMM	**Pine Mountain**	**0.83**	**285**		**Pn**	**09 33 50.3**	**-1.3**
CBSNC	**Byron Hot Spri**	**0.84**	**165**		**Pb**	**09 33 51.8**	**0.0**
GSSM	**Skaggs Springs**	**0.86**	**275**		**Pb**	**09 33 52.0**	**-0.1**
GHGM	**Hogback Ridge**	**0.86**	**306**		**Pb**	**09 33 52.2**	**-0.1**
GTSM	**Trough Springs**	**0.86**	**322**		**Pb**	**09 33 52.6**	**+0.3**
GCVM	**Cloverdale**	**0.86**	**280**		**Pn**	**09 33 52.0**	**0.0**
CMCM	**Mills College**	**0.87**	**193**		**Pn**	**09 33 51.5**	**-0.5**
PAM	**Palermo**	**0.88**	**21**		**Pn**	**09 33 51.2**	**-0.9**
CYBM	**Yerba Buena Is**	**0.89**	**203**		**Pn**	**09 33 51.6**	**-0.6**
OWYM	**Wyandotte**	**0.89**	**22**		**Pn**	**09 33 51.4**	**-1.0**
MCCM	**Marconi Confer**	**0.90**	**238**		**Pn**	**09 33 52.3**	**0.0**
MCCM	**Marconi Confer**	**0.90**	**238**	IAML		**09 34 15.7**	
	comp=E,550nm,0.9s						
MCCM				IAML		**09 34 18.5**	
	comp=N,263nm,1.0s						
NOLM	**Olema**	**0.90**	**230**		**Pn**	**09 33 52.4**	**-0.1**
CSLM	**San Leandro Hi**	**0.92**	**190**		**Pn**	**09 33 51.9**	**-0.8**
GHLM	**Highland Sprin**	**0.95**	**296**		**Pb**	**09 33 53.5**	**-0.2**
HOPS	**Hopland Field**	**0.97**	**292**		**Pn**	**09 33 53.6**	**+0.2**
ORV	**Oroville**	**0.98**	**19**		**Pn**	**09 33 52.9**	**-0.7**
GCK	**Clark Valley**	**1.00**	**336**		**Pb**	**09 33 54.3**	**-0.2**
CVLM	**Vallecito**	**1.00**	**176**		**Pn**	**09 33 53.6**	**-0.3**
WENL	**Wente Vineyard**	**1.01**	**173**		**Pn**	**09 33 54.0**	**-0.1**
CNIC	**Niles Canyon**	**1.02**	**182**		**Pn**	**09 33 53.4**	**-0.7**
JSBM	**San Bruno Moun**	**1.02**	**202**		**Pn**	**09 33 53.7**	**-0.4**
KPK	**Kanaka Peak**	**1.07**	**27**		**Pn**	**09 33 54.5**	**-0.3**
NPRM	**Point Reyes**	**1.07**	**234**		**Pb**	**09 33 55.9**	**+0.3**
JCPM	**Coyote Point**	**1.09**	**197**		**Pn**	**09 33 54.8**	**-0.3**
GHMM	**Hull Mountain**	**1.17**	**318**		**Pb**	**09 33 57.2**	**-0.2**
JCHM	**Cahill Ridge**	**1.17**	**198**		**Pn**	**09 33 55.9**	**-0.2**
GWRM	**Wonder Ranch**	**1.22**	**299**		**Pn**	**09 33 57.5**	**+0.6**
CMMM	**Mount Mocho**	**1.22**	**164**		**Pn**	**09 33 56.7**	**-0.3**
JSFB	**Stanford Teles**	**1.24**	**189**		**Pn**	**09 33 57.3**	**+0.2**
JRSC	**Jasper Ridge**	**1.25**	**192**		**Pn**	**09 33 57.2**	**0.0**
JSJM	**St Joseph**	**1.30**	**186**		**Pn**	**09 33 58.3**	**+0.4**
MHC	**Mount Hamilton**	**1.30**	**170**		**Pn**	**09 33 58.3**	**+0.2**
ARRN	**Arnold Ranch**	**1.31**	**166**		**Pn**	**09 33 58.4**	**+0.1**
BGH	**Bear Gulch**	**1.33**	**194**		**Pn**	**09 33 59.1**	**+0.7**
GHOM	**Hamilton Openi**	**1.33**	**289**		**Pn**	**09 33 58.8**	**+0.4**
CMB	**Columbia Colle**	**1.35**	**116**		**Pn**	**09 33 58.7**	**+0.1**
JSGM	**Saratoga Golf**	**1.35**	**184**		**Pn**	**09 33 59.1**	**+0.5**
CMPM	**Mikes Peak**	**1.36**	**159**		**Pn**	**09 33 59.4**	**+0.6**
CCOB	**Coe Ranch Numb**	**1.38**	**172**		**Pn**	**09 33 59.6**	**+0.5**
JJOM	**Saint Joseph's**	**1.42**	**182**		**Pn**	**09 33 59.8**	**+0.2**
DONR	**Donner Summit**	**1.44**	**60**		**Pn**	**09 34 00.9**	**+0.8**
EMB	**Emerald Bay**	**1.46**	**76**		**Pb**	**09 34 01.8**	**-0.7**
AMC	**Almaden**	**1.47**	**178**		**Pn**	**09 34 00.6**	**+0.3**
JLAB	**Laurel Hill**	**1.48**	**174**		**Pn**	**09 34 00.8**	**+0.4**
KFPM	**Farley Peak**	**1.54**	**311**		**Pn**	**09 34 02.1**	**+0.8**
LCMM	**Colby Mountain**	**1.55**	**11**		**Pn**	**09 34 02.6**	**+1.1**
LTCM	**Tuscan Springs**	**1.58**	**354**		**Pn**	**09 34 02.2**	**+0.3**
JRGM	**Rodeo Gulch Ro**	**1.59**	**181**		**Pn**	**09 34 02.2**	**+0.2**
JTGM	**Trout Gulch Ro**	**1.60**	**179**		**Pn**	**09 34 02.9**	**+0.8**
MPK	**Martis Peak**	**1.62**	**65**		**Pb**	**09 34 04.9**	**-0.3**
MPK				IAML		**09 34 32.1**	
	comp=E,384nm,0.8s						
HPCM	**Pacheco Lake**	**1.65**	**162**		**Pn**	**09 34 03.5**	**+0.7**
SLD	**San Luis Dam**	**1.65**	**160**		**Pn**	**09 34 04.0**	**+1.2**
LOY	**Loyalton**	**1.67**	**51**		**Pb**	**09 34 05.2**	**-0.7**
HFEM	**San Felipe**	**1.69**	**166**		**Pn**	**09 34 04.0**	**+0.6**
MYLM	**Yosemite Lake**	**1.72**	**136**		**Pn**	**09 34 04.1**	**+0.4**
BEKR	**Beckworth**	**1.73**	**44**		**Pb**	**09 34 06.0**	**-1.0**
BEKR	**Beckworth**	**1.73**	**44**	IAML		**09 34 30.2**	
	comp=N,231nm,0.6s						
MBUM	**Mount Bullion**	**1.81**	**126**		**Pn**	**09 34 06.0**	**+0.9**
PEAR	**Peavine Mounta**	**1.81**	**57**		**Pb**	**09 34 07.7**	**-0.7**
HTUM	**Tustin Road**	**1.81**	**173**		**Pn**	**09 34 04.9**	**-0.1**
HSFM	**Saint Francis**	**1.85**	**169**		**Pn**	**09 34 06.9**	**+1.4**
PNTR	**Pine Nut**	**1.87**	**75**		**Pb**	**09 34 08.6**	**-0.8**
PNTR	**Pine Nut**	**1.87**	**75**	IAML		**09 34 39.0**	
	comp=N,268nm,0.9s						
VCNR	**Virginia City**	**1.89**	**69**		**Pb**	**09 34 08.8**	**-0.9**
SAO	**San Andreas Ge**	**1.90**	**168**	Pn	Pn	**09 34 06.7**	**+0.5**
WAKR	**Walker**	**1.95**	**93**		**Pb**	**09 34 09.8**	**-0.9**
WAKR	**Walker**	**1.95**	**93**	IAML		**09 34 36.2**	
	comp=N,152nm,0.4s						
WAKR				IAML		**09 34 37.0**	
	comp=E,173nm,0.6s						
BPCNC	**Pine Canyon**	**2.07**	**173**		Pn	**09 34 08.4**	**-0.1**
SCZ	**Santa Cruz**	**2.07**	**168**		Pn	**09 34 09.1**	**+0.5**
MMIM	**Miami Mountain**	**2.10**	**124**		Pn	**09 34 10.8**	**+1.6**
BAVM	**Antelope Valle**	**2.10**	**160**		Pn	**09 34 09.7**	**+0.7**
YERR	**Yerington**	**2.12**	**80**		Pn	**09 34 11.6**	**+2.1**
BVL	**Bear Valley**	**2.13**	**164**		Pn	**09 34 09.9**	**+0.5**
LSHM	**Sage Hen Hill**	**2.16**	**358**		Pn	**09 34 11.4**	**+1.5**
MHDM	**Hidden Dam**	**2.20**	**133**		Pn	**09 34 12.0**	**+1.6**
LUL	**Lundy Lake**	**2.23**	**104**		Pb	**09 34 14.4**	**-1.1**
PAHR	**Pah Rah Range**	**2.25**	**61**		Pn	**09 34 13.0**	**+1.9**
BSMM	**Soledad Missio**	**2.28**	**170**		Pn	**09 34 12.3**	**+0.8**
MDPB	**Devils Postpil**	**2.45**	**113**		Pb	**09 34 16.9**	**-2.5**
MDPB	**Devils Postpil**	**2.45**	**113**	IAML		**09 34 59.2**	
	comp=E,104nm,0.7s						
MDPB				IAML		**09 35 01.0**	
	comp=N,144nm,0.5s						
MINS	**Minaret Summit**	**2.46**	**112**		Pn	**09 34 16.6**	**+2.4**
**MD

ISC 21 09:51:47.9±0.8, 7°3S±0°.1×145°0E±0°.1, h35km, n14, σ2$05/11, mb4.0/4, MS3.8/3, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.05**	**134**	Pn	**Pn**	**09 52 33.5**	**-0.1**
	5.7nm,0.3s,baz=357,slow=4.1,SNR=12						
PMG				Sn	**Sn**	**09 53 08.3**	**-0.6**
	24nm,0.3s,baz=221,slow=16,SNR=9.6						
	43nm,0.7s						
PMG	**Port Moresby**	**3.05**	**134**	P	**Pn**	**09 52 34.1**	**+0.5**
FAKI	**Fak Fak**	**13.37**	**288**	P	**P**	**09 55 01.3**	**-3.0**
	35nm,0.7s						
SIJI	**Sorong**	**15.05**	**294**	LR	LR	10 03 03.5	
	comp=Z,100nm,21.2s,baz=106,slow=45						
WRA	**Warramunga Arr**	**16.27**	**218**	Pn	**P**	**09 55 35.1**	**-1.5**
	2.8nm,0.6s,baz=36,slow=13,SNR=30						
WRA				Lg	Lg	10 00 26.6	
	0.1nm,0.3s,baz=23,slow=27,SNR=4.5						
WRA				LR	LR	10 02 39.7	
	comp=Z,131nm,19.4s,baz=79,slow=40						
ASAR	**Alice Springs**	**19.45**	**212**	P	**Pn**	**09 56 15.4**	**+2.4**
	31nm,0.8s,baz=39,slow=11,SNR=118						
ASAR				Lg	Lg	10 02 07.9	
	baz=29,slow=31,SNR=2.2						
ASAR				LR	LR	10 04 38.5	
	comp=Z,254nm,18.7s,baz=38,slow=39						
MSVF	**Nonsavu**	**33.89**	**111**	LR	LR	10 10 31.8	
	comp=Z,79nm,19.0s,baz=78,slow=34						
CMAR	**Chiang Mai Arr**	**52.08**	**300**	P	**P**	**10 00 56.0**	**+1.1**
	1.2nm,0.3s,baz=106,slow=6.0,SNR=1.4						
	1.2nm,0.3s						
SONM	**Songino Array**	**64.54**	**332**	P	**P**	**10 02 23.4**	**+1.9**
	0.3nm,0.4s,baz=165,slow=6.0,SNR=2.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**77.19**	**321**	P	**P**	**10 03 40.6**	**+2.4**
	0.7nm,0.7s,baz=96,slow=6.2,SNR=2.8						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**79.01**	**329**	LR	LR	10 41 53.6	
	comp=Z,41nm,18.5s,baz=304,slow=38						
AAK	**Ala-Archa**	**80.79**	**315**	LR	LR	10 41 26.9	
	comp=Z,49nm,21.8s,baz=330,slow=37						
ILAR	**Eielson Array**	**87.44**	**23**	P	**P**	**10 04 29.1**	**-2.4**
	1.2nm,0.8s,baz=256,slow=5.1,SNR=13						
	1.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**143.40**	**282**	PKP	**PKPdf**	**10 11 19.0**	**-0.8**
	0.2nm,0.4s,baz=94,slow=9.1,SNR=2.8						

WEL 21 09:56:49.3±0.3, 42°S±3°×17°4E±°, h5km, M2.2/17, ML2.4/16, MLv2.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=151.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**196**	P	Pg	09 56 50.1	-0.3
CMWZ				S	Sg	09 56 51.9	+0.7
BSWZ	**Blackbirch Sta**	**0.26**	**270**	P	Pg	09 56 54.4	0.0
BSWZ				S	Sg	09 56 59.2	+1.4
TUWZ	**Tuamarina**	**0.36**	**324**	P	Pg	09 56 56.4	+0.2
TUWZ				S	Sg	09 57 02.3	+1.4
TCW	**Tory Channel**	**0.51**	**4**	P	Pg	09 56 58.9	-0.1
WEL	**Wellington**	**0.59**	**43**	P	Pg	09 57 00.9	+0.2
PLWZ	**Palliser**	**0.79**	**79**	P	Pb	09 57 05.5	+0.1
NNZ	**Nelson**	**0.81**	**308**	P	Pg	09 57 04.0	-0.7
MSWZ	**Moikau Station**	**0.82**	**69**	P	Pb	09 57 05.9	-0.2
CAW	**Cannon Point**	**0.88**	**46**	P	Pg	09 57 06.1	0.0
PAWZ	**Paruwai Farm**	**0.96**	**70**	P	Pg	09 57 07.9	+0.2
MTW	**Mount Morrison**	**1.11**	**60**	P	Pg	09 57 10.0	-0.5
MRNZ	**Matariki Terra**	**1.15**	**286**	P	Pb	09 57 11.8	+0.2
OGWZ	**Otaki Gorge**	**1.15**	**39**	P	Pg	09 57 11.4	+0.1
TKNZ	**Takaka Hill**	**1.17**	**305**	P	Pb	09 57 12.1	+0.1
HOWZ	**Holdsworth Sta**	**1.27**	**50**	P	Pg	09 57 12.6	-1.0
TMWZ	**Te Maipa**	**1.39**	**65**	P	Pn	09 57 13.6	-1.8
MRZ	**Mangatainoka R**	**1.47**	**44**	P	Pn	09 57 15.4	-1.0
GVZ	**Greta Valley S**	**1.53**	**215**	P	Pn	09 57 07.6	-10
QRZ	**Quartz Range**	**1.56**	**304**	P	Pb	09 57 18.8	+0.2
LTZ	**Lake Taylor**	**1.80**	**233**	P	Pn	09 57 12.5	-8.5
DSZ	**Denniston Nort**	**1.81**	**268**	P	Pn	09 57 19.1	-2.0
OTVZ	**Oturere**	**2.78**	**24**	P	Pb	09 57 39.9	+0.5
TOZ	**Tahuroa Road**	**4.10**	**14**	P	Pn	09 57 54.0	+1.4

*NOU **21** 09:57:26.6, 42°.03S×174°.45E, h0km, MLv4.2/10, Off E. Coast of S. Island, N.Z.*
*IDC **21** 09:57:27.2±2.2, 41°.76S×173°.93E, h0km, mb3.7/2, mbtmp3.8/3, ML3.8/1, MS4.3/1, Error ellipse: s-maj=47.1km s-min=37.1km az=116.0*
*WEL **21** 09:57:28.2±0.3, 42°S±3°×17°4E±°, h5km±3km, M4.1/67, ML4.2/24, MLv4.1/67, Error ellipse: s-maj=0.0km s-min=0.0km az=139.4*
*NEIC **21** 09:57:28.6±1.4, 41°.80S±0°.05×174°.20E±0°.02, h13km±8km, mb3.9/3, ML4.1(WEL), Error ellipse: s-maj=7.6km s-min=1.1km az=166.0*

ISC 21 09:57:26.5±1.2, 41°92S±0°.03×174°30E±0°.03, h6km±9km, n157, σ1$27/160, mb3.9/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.18**	**340**		**Pg**	**09 57 29.9**	**-0.1**
CMWZ	**Cape Campbell**	**0.18**	**340**	P	**Pg**	**09 57 29.9**	**-0.1**
CMWZ				S	**Sg**	**09 57 32.4**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.37**	**303**		**Pg**	**09 57 33.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.37**	**303**	P	**Pg**	**09 57 33.9**	**+0.1**
TUWZ	**Tuamarina**	**0.56**	**331**		**Pg**	**09 57 37.0**	**-0.2**
TUWZ	**Tuamarina**	**0.56**	**331**	P	**Pg**	**09 57 37.0**	**-0.2**
TUWZ				S	**Sg**	**09 57 44.2**	**-0.2**
SNZO	**South Karori**	**0.68**	**27**		**Pb**	**09 57 40.9**	**+0.2**
SNZO	**South Karori**	**0.68**	**27**	P	**Pb**	**09 57 41.0**	**+0.2**
TCW	**Tory Channel**	**0.71**	**359**		**Pg**	**09 57 40.0**	**-0.1**
TCW	**Tory Channel**	**0.71**	**359**	P	**Pg**	**09 57 40.1**	**0.0**
TCW				S	**Sg**	**09 57 49.0**	**-0.2**
WEL	**Wellington**	**0.72**	**29**	P	**Pb**	**09 57 41.9**	**+0.3**
KHZ	**Kahutara**	**0.75**	**228**		**Pn**	**09 57 44.5**	**+0.9**
KHZ	**Kahutara**	**0.75**	**228**	P	**Pn**	**09 57 44.6**	**+0.9**
PLWZ	**Palliser**	**0.80**	**64**		**Pn**	**09 57 44.8**	**+0.4**
PLWZ	**Palliser**	**0.80**	**64**	P	**Pn**	**09 57 44.9**	**+0.5**
MSWZ	**Moikau Station**	**0.87**	**55**		**Pn**	**09 57 45.8**	**+0.4**
MSWZ	**Moikau Station**	**0.87**	**55**	P	**Pn**	**09 57 46.0**	**+0.6**
NNZ	**Nelson**	**0.98**	**315**		**Pg**	**09 57 44.7**	**-0.6**
NNZ	**Nelson**	**0.98**	**315**	P	**Pg**	**09 57 44.8**	**-0.5**
CAW	**Cannon Point**	**0.99**	**36**	P	**Pn**	**09 57 46.8**	**-0.2**
PAWZ	**Paruwai Farm**	**1.00**	**58**	P	**Pn**	**09 57 47.5**	**+0.4**
THZ	**Tophouse**	**1.05**	**278**	Pn	**Pb**	**09 57 47.1**	**-0.1**
THZ	**Tophouse**	**1.05**	**278**	P	**Pn**	**09 57 47.3**	**-0.5**
DUWZ	**D'Urville Isla**	**1.15**	**346**	P	**Pg**	**09 57 47.8**	**-0.8**
KIW	**Kapiti Island**	**1.15**	**24**	P	**Pb**	**09 57 48.8**	**0.0**
TRWZ	**Traveller**	**1.17**	**64**	P	**Pn**	**09 57 49.6**	**+0.2**
MTW	**Mount Morrison**	**1.18**	**50**	P	**Pn**	**09 57 49.8**	**+0.2**
MRNZ	**Matariki Terra**	**1.26**	**294**		**Pg**	**09 57 50.7**	**-0.1**
MRNZ	**Matariki Terra**	**1.26**	**294**	P	**Pg**	**09 57 50.9**	**+0.2**
OGWZ	**Otaki Gorge**	**1.28**	**31**	P	**Pg**	**09 57 51.3**	**+0.2**
TKNZ	**Takaka Hill**	**1.34**	**311**		**Pn**	**09 57 51.1**	**-0.6**
TKNZ	**Takaka Hill**	**1.34**	**311**	P	**Pn**	**09 57 51.3**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.37**	**42**	P	**Pn**	**09 57 52.4**	**+0.2**
GVZ	**Greta Valley S**	**1.40**	**221**	Pn	**Pg**	**09 57 54.0**	**+0.5**
GVZ	**Greta Valley S**	**1.40**	**221**	P	**Pg**	**09 57 54.0**	**+0.5**
TMWZ	**Te Maipa**	**1.45**	**56**	P	**Pn**	**09 57 53.3**	**+0.1**
MRZ	**Mangatainoka R**	**1.58**	**38**	Pn	**Pn**	**09 57 55.3**	**+0.2**
MRZ	**Mangatainoka R**	**1.58**	**38**	P	**Pn**	**09 57 55.3**	**+0.2**
TIWZ	**Tintock**	**1.65**	**47**	P	**Pn**	**09 57 56.4**	**+0.2**
QRZ	**Quartz Range**	**1.72**	**309**		**Pb**	**09 57 57.7**	**-0.8**
QRZ	**Quartz Range**	**1.72**	**309**	P	**Pb**	**09 57 58.1**	**-0.4**
QRZ	**Quartz Range**	**1.72**	**309**	P	**Pb**	**09 57 57.9**	**-0.6**
LTZ	**Lake Taylor**	**1.73**	**239**		**Pb**	**09 57 58.3**	**-0.5**
LTZ	**Lake Taylor**	**1.73**	**239**	P	**Pb**	**09 57 58.3**	**-0.5**
AMCZ	**Amberley**	**1.75**	**223**		**Pg**	**09 58 00.5**	**+0.5**
AMCZ	**Amberley**	**1.75**	**223**	P	**Pb**	**09 57 58.4**	**-0.6**
CPWZ	**Castlepoint**	**1.75**	**56**	P	**Pb**	**09 57 58.6**	**-0.5**
PRWZ	**Pori Road**	**1.86**	**43**	P	**Pn**	**09 57 59.0**	**+0.1**
DSZ	**Denniston Nort**	**1.87**	**274**		**Pb**	**09 58 00.7**	**-0.4**
DSZ	**Denniston Nort**	**1.87**	**274**	P	**Pb**	**09 58 00.8**	**-0.3**
OHWZ	**Ohakea**	**1.88**	**25**	P	**Pb**	**09 58 00.7**	**-0.5**
POWZ	**Post Office Ro**	**1.89**	**37**	P	**Pn**	**09 58 00.3**	**+1.0**
BFZ	**Birch Farm**	**1.92**	**51**	Pn	**Pn**	**09 58 00.1**	**+0.3**
BFZ	**Birch Farm**	**1.92**	**51**	P	**Pn**	**09 58 00.1**	**+0.3**
BFZ	**Birch Farm**	**1.92**	**51**	P	**Pn**	**09 57 59.3**	**-0.4**
OKCZ	**Okains Bay**	**2.02**	**206**	P	**Pn**	**09 58 01.8**	**+0.6**
DVHZ	**Dannevirke**	**2.15**	**42**	P	**Pn**	**09 58 02.3**	**-0.7**
MQZ	**McQueen's Vall**	**2.16**	**214**		**Pn**	**09 58 02.8**	**-0.2**
MQZ	**McQueen's Vall**	**2.16**	**214**	P	**Pn**	**09 58 03.0**	**0.0**
OXZ	**Oxford**	**2.18**	**229**		**Pn**	**09 58 03.4**	**0.0**
OXZ	**Oxford**	**2.18**	**229**	P	**Pn**	**09 58 04.0**	**+0.7**
AKCZ	**Akaroa Harbour**	**2.20**	**207**	P	**Pn**	**09 58 03.0**	**-0.7**
WAZ	**Wanganui**	**2.22**	**14**	P	**Pb**	**09 58 06.5**	**-0.6**
TSZ	**Takapari Road**	**2.25**	**35**	P	**Pn**	**09 58 04.3**	**0.0**
INZ	**Inchbonnie**	**2.26**	**248**		**Pn**	**09 58 05.5**	**+1.0**
INZ	**Inchbonnie**	**2.26**	**248**	P	**Pn**	**09 58 05.9**	**+1.4**
RACZ	**Rakaia**	**2.41**	**221**	P	**Pn**	**09 58 06.6**	**+0.2**
LREZ	**Lake Rotokare**	**2.46**	**2**	P	**Pb**	**09 58 09.0**	**-2.1**
WPHZ	**Waipukurau**	**2.46**	**42**	P	**Pn**	**09 58 07.1**	**-0.1**
PNHZ	**Pukenui**	**2.47**	**36**	P	**Pn**	**09 58 06.8**	**-0.5**
NMEZ	**Namu Road**	**2.52**	**353**	P	**Pb**	**09 58 13.1**	**+1.0**
MHCZ	**Mount Hutt**	**2.58**	**230**	P	**Pn**	**09 58 09.0**	**+0.1**
KHEZ	**Kahui Hut**	**2.63**	**355**	P	**Pn**	**09 58 14.0**	**-0.1**
KHEZ	**Kahui Hut**	**2.63**	**355**	P	**Pb**	**09 58 13.5**	**-0.6**
NEZ	**North Egmont**	**2.65**	**357**	P	**Pb**	**09 58 13.8**	**-0.6**
NBEZ	**Newall Road No**	**2.67**	**353**	P	**Pb**	**09 58 13.6**	**-1.1**
MTVZ	**Mangateitei**	**2.68**	**20**	P	**Pb**	**09 58 15.0**	**0.0**
PXZ	**Pawanui**	**2.71**	**47**	P	**Pn**	**09 58 12.4**	**+1.9**
WACZ	**Wakanui South**	**2.71**	**221**	P	**Pn**	**09 58 11.4**	**+0.8**
DREZ	**Durham Road**	**2.73**	**358**	P	**Pb**	**09 58 14.2**	**-1.5**
PKE	**Pukeiti**	**2.73**	**355**	P	**Pb**	**09 58 15.0**	**-0.8**
MOVZ	**Moawhango**	**2.74**	**24**	P	**Pn**	**09 58 12.4**	**+1.3**
PKVZ	**Pokaka**	**2.75**	**17**	P	**Pb**	**09 58 14.0**	**-2.0**
WNVZ	**Wahianoa**	**2.77**	**21**	P	**Pn**	**09 58 12.8**	**+1.2**
BHHZ	**Black Hill Sta**	**2.77**	**30**	P	**Pn**	**09 58 12.6**	**+1.1**
TRVZ	**Turoa**	**2.78**	**20**	P	**Pb**	**09 58 14.5**	**-2.3**
DRZ	**Dome Shelter**	**2.81**	**21**	P	**Pb**	**09 58 18.5**	**+1.2**
WHVZ	**Whangaehu Hut**	**2.81**	**21**	P	**Pn**	**09 58 14.3**	**+2.0**
VRZ	**Vera Road**	**2.81**	**7**	P	**Pn**	**09 58 14.0**	**+2.0**
FWVZ	**Far West T-bar**	**2.83**	**20**	P	**Pn**	**09 58 14.6**	**+2.2**
MHEZ	**Mangahewa**	**2.84**	**0**	P	**Pb**	**09 58 16.5**	**-1.1**
TUVZ	**Tukino**	**2.84**	**22**	P	**Pn**	**09 58 14.3**	**+1.8**
WVZ	**Waitaha Valley**	**2.88**	**245**	P	**Pn**	**09 58 14.7**	**+1.9**
KAHZ	**Kahuranaki**	**2.89**	**44**	P	**Pn**	**09 58 12.5**	**-0.6**
NGZ	**Ngauruhoe**	**2.91**	**20**	P	**Pn**	**09 58 15.8**	**+2.2**
SNVZ	**South Ngauruho**	**2.91**	**21**	P	**Pn**	**09 58 15.5**	**+1.9**
OTVZ	**Oturere**	**2.94**	**21**	P	**Pn**	**09 58 15.8**	**+1.8**
NNVZ	**North Ngauruho**	**2.96**	**20**	P	**Pn**	**09 58 15.8**	**+1.6**
WTVZ	**West Tongariro**	**2.97**	**20**	P	**Pb**	**09 58 18.8**	**-1.1**
KWHZ	**Kaweka Forest**	**2.97**	**34**	P	**Pb**	**09 58 21.2**	**+1.3**
TWVZ	**Taurewa**	**2.97**	**17**	P	**Pb**	**09 58 17.4**	**-2.6**
ETVZ	**East Tongariro**	**2.98**	**22**	P	**Pn**	**09 58 15.6**	**+1.1**
RPZ	**Rata Peaks**	**2.99**	**232**	Pn	**Pn**	**09 58 14.5**	**+0.1**
	13nm,0.3s,baz=63,slow=1.8,SNR=24						
RPZ				Sn	**Sn**	**09 58 50.1**	**-0.5**
	5.5nm,0.3s,baz=15,slow=9.7,SNR=12						
	40nm,0.4s						
RPZ	**Rata Peaks**	**2.99**	**232**	Pn	**Pn**	**09 58 14.7**	**+0.3**
RPZ	**Rata Peaks**	**2.99**	**232**	P	**Pn**	**09 58 14.9**	**+0.5**
RPZ	**Rata Peaks**	**2.99**	**232**	P	**Pn**	**09 58 15.0**	**+0.5**
TMVZ	**Te Maari**	**3.00**	**21**	P	**Pn**	**09 58 15.7**	**+1.0**
KRVZ	**Karewarewa**	**3.00**	**20**	P	**Pb**	**09 58 21.4**	**+1.0**
NTVZ	**North Tongarir**	**3.01**	**21**	P	**Pn**	**09 58 15.9**	**+1.1**
ARCZ	**Arundel**	**3.06**	**227**	P	**Pn**	**09 58 15.9**	**+0.4**
MCHZ	**McNeill Hill**	**3.07**	**37**	P	**Pn**	**09 58 15.6**	**0.0**
CKHZ	**Cape Kidnapper**	**3.09**	**44**	P	**Pb**	**09 58 22.5**	**+0.7**
KATZ	**Kakaramea**	**3.13**	**20**	P	**Pb**	**09 58 22.5**	**-0.1**
BKZ	**Black Stump Fm**	**3.22**	**32**	Pn	**Pn**	**09 58 18.0**	**+0.4**
BKZ	**Black Stump Fm**	**3.22**	**32**	P	**Pn**	**09 58 17.4**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**3.25**	**243**	P	**Pn**	**09 58 21.0**	**+3.0**
RATZ	**Rangitukua**	**3.25**	**21**	P	**Pb**	**09 58 25.9**	**+1.3**
HIZ	**Hauiti**	**3.43**	**7**	Pn	**Pn**	**09 58 22.4**	**+1.9**
HIZ	**Hauiti**	**3.43**	**7**	P	**Pn**	**09 58 22.8**	**+2.3**
HIZ	**Hauiti**	**3.43**	**7**	P	**Pn**	**09 58 22.8**	**+2.3**
TMZ	**Timaru**	**3.44**	**223**	P	**Pn**	**09 58 21.4**	**+0.7**
MRHZ	**Matea Rd**	**3.48**	**28**	P	**Pn**	**09 58 21.6**	**+0.3**
FOZ	**Fox Glacier**	**3.67**	**242**		**Pn**	**09 58 25.4**	**+1.5**
FOZ	**Fox Glacier**	**3.67**	**242**	P	**Pn**	**09 58 25.6**	**+1.7**
RAHZ	**Arahi**	**3.68**	**36**	P	**Pn**	**09 58 23.5**	**-0.4**
ALRZ	**Allen Road**	**3.70**	**26**	P	**Pb**	**09 58 32.0**	**-0.3**
TLZ	**Tolley Road**	**3.71**	**15**	P	**Pn**	**09 58 26.1**	**+1.7**
RTZ	**Ruatahuna**	**3.88**	**33**	P	**Pn**	**09 58 29.0**	**+2.1**
LBZ	**Lake Benmore**	**3.89**	**229**	P	**Pn**	**09 58 28.0**	**+1.2**
SNGZ	**Shannon Statio**	**3.90**	**38**	P	**Pn**	**09 58 27.1**	**+0.1**
ODZ	**Otahua Downs**	**4.10**	**219**	P	**Pn**	**09 58 30.0**	**+0.3**
ODZ	**Otahua Downs**	**4.10**	**219**	P	**Pn**	**09 58 29.6**	**-0.1**
URZ	**Urewera**	**4.24**	**31**	P	**Pn**	**09 58 31.9**	**+0.2**
TOZ	**Tahuroa Road**	**4.28**	**13**	P	**Pn**	**09 58 34.9**	**+2.7**
OPRZ	**Ohinepanea**	**4.42**	**24**	P	**Pn**	**09 58 36.0**	**+1.9**
JCZ	**Jackson Bay**	**4.58**	**240**	P	**Pn**	**09 58 38.6**	**+2.2**
JCZ	**Jackson Bay**	**4.58**	**240**	P	**Pn**	**09 58 39.0**	**+2.6**
TWGZ	**Tauwhareparae**	**4.69**	**38**	P	**Pn**	**09 58 41.0**	**+3.2**
RUGZ	**Raukumara Rang**	**4.73**	**34**	P	**Pn**	**09 58 38.0**	**-0.4**
MKAZ	**Moumakai**	**4.85**	**8**	P	**Pn**	**09 58 42.8**	**+2.8**
AWAZ	**Awhitu Peninsu**	**4.86**	**3**	P	**Pn**	**09 58 43.0**	**+2.9**
EAZ	**Earnscleugh**	**4.91**	**226**	P	**Pn**	**09 58 41.5**	**+0.7**
HAZ	**Te Kaha**	**4.95**	**34**	P	**Pn**	**09 58 41.6**	**+0.3**
ETAZ	**East Tamaki Re**	**4.98**	**6**	P	**Pn**	**09 58 46.0**	**+4.2**
WIAZ	**Waiheke Island**	**5.16**	**8**	P	**Pn**	**09 58 48.0**	**+3.7**
MBAZ	**Motutapu North**	**5.16**	**5**	P	**Pn**	**09 58 48.3**	**+4.0**
KUZ	**Kuaotunu**	**5.28**	**13**	P	**Pn**	**09 58 47.3**	**+1.3**
OUZ	**Omahuta**	**6.71**	**355**	Pn	**Pn**	**09 59 05.9**	**+0.3**
OUZ	**Omahuta**	**6.71**	**355**	P	**Pn**	**09 59 08.6**	**+3.1**
HNR	**Honiara**	**34.74**	**335**	LR	LR	10 15 43.9	
	comp=Z,539nm,20.2s,baz=196,slow=32						
ASAR	**Alice Springs**	**38.11**	**286**	P	**P**	**10 04 45.3**	**-1.0**
	1.1nm,0.9s,baz=123,slow=6.9,SNR=10.0						
	1.1nm,0.9s						
WB2	**Warramunga Arr**	**40.19**	**291**	P	**P**	**10 05 02.6**	**-1.1**
WB2				IAmb	IAmb	10 05 28.3	
	comp=Z,8.2nm,1.2s						
WRA	**Warramunga Arr**	**40.19**	**291**	P	**P**	**10 05 02.5**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=127,slow=8.2,SNR=7.1						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**40.19**	**291**	P	**P**	**10 05 02.6**	**-1.2**
WRA				IAmb	IAmb	10 05 14.9	
	comp=Z,0.2nm,1.5s						
WB0	**Warramunga Arr**	**40.27**	**291**	P	**P**	**10 05 03.2**	**-1.2**
WB0				IAmb	IAmb	10 05 46.1	
	comp=Z,6.4nm,1.2s						
BRTR	**Keskin Array B**	**150.32**	**279**	PKPbc	**PKiKP**	**10 17 19.2**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=116,slow=6.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**150.62**	**195**	PKPbc	**PKiKP**	**10 17 21.2**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=140,slow=2.4,SNR=3.4						

IDC 21 10:09:22.5±2.0, 2°05N×127°70E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=137.1km s-min=25.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.81**	**164**	P	P	10 14 27.9	+0.7
	2.7nm,0.5s,baz=344,slow=11,SNR=43						
	2.7nm,0.5s						
ASAR	**Alice Springs**	**26.27**	**167**	P	P	10 14 59.1	-0.7
	0.4nm,0.4s,baz=346,slow=7.7,SNR=18						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.47**	**325**	P	P	10 19 27.6	+0.2
	0.3nm,0.4s,baz=119,slow=7.4,SNR=4.9						
	0.3nm,0.4s						

BER 21 10:18:37.5±1.6, 61°98N×5°66E, h0km, ML0.9, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**0.48**	**218**	*e*S	Sg	10 18 52.3	-0.7
AKN	**Aaknes**	**0.66**	**72**	*e*P	Pg	10 18 48.5	-1.6
AKN				*e*S	Sg	10 18 57.6	-1.0
AKN				IAML		10 19 00.3	
	comp=Z,3.9nm,0.1s						
HYA	**Hoyanger**	**0.86**	**163**	*e*P	Pg	10 18 53.0	-0.9
HYA				*e*S	Sg	10 19 05.4	+0.4
HYA				IAML		10 19 07.2	
	comp=Z,3.9nm,0.4s						
SUE	**Sulen**	**1.02**	**205**	*e*P	Pg	10 18 55.6	-1.5
SUE				*e*S	Sg	10 19 09.6	-0.7
SUE				IAML		10 19 12.0	
	comp=Z,2.5nm,0.2s						
ASK	**Askoy**	**1.52**	**189**	*e*P	Pn	10 19 04.3	-1.6
ASK				*e*S	Sg	10 19 24.0	-2.3
ASK				IAML		10 19 26.2	
	comp=Z,6.1nm,0.4s						
DOMB	**Dombas**	**1.61**	**86**	*e*P	Pn	10 19 05.9	-1.2
DOMB				*e*S	Sn	10 19 27.6	-0.9
DOMB				IAML		10 19 31.8	
	comp=Z,2.3nm,0.1s						
SKAR	**Skarslia**	**1.82**	**135**	*e*Pg	Pn	10 19 09.7	-0.5
SKAR				*e*Sg	Sn	10 19 33.8	-0.2
SKAR				IAML		10 19 36.3	
	comp=Z,3.1nm,0.3s						
ODD1	**Odda**	**2.13**	**167**	*e*Sg	Sb	10 19 43.0	-0.9

*HEL **21** 10:19:27.8±0.1, 61°.52N×26°.66E, h0km, ML1.2, Explosion*
ISC 21 10:19:27.1±0.9, 61°51N±0°.03×26°70E±0°.03, h0km, n10, σ0$68/20, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA1	**FINESS Array S**	**0.30**	**258**	*e*P	**Pg**	**10 19 32.7**	**-0.2**
FIA1				*e*S	**Sg**	**10 19 36.4**	**-0.4**
FIA0	**FINESS Array S**	**0.31**	**257**	*e*P	**Pg**	**10 19 32.7**	**-0.2**
FIA0				*e*S	**Sg**	**10 19 36.4**	**-0.4**
KAF	**Kangasniemi**	**0.63**	**343**	*e*P	**Pg**	**10 19 39.1**	**-0.1**
KAF				*e*S	**Sg**	**10 19 46.4**	**-1.0**
PVF	**Pernaja**	**1.05**	**203**	*e*P	**Pg**	**10 19 46.6**	**-0.5**
PVF				*e*S	**Sg**	**10 20 00.3**	**-0.5**
VJF	**Virojoki**	**1.06**	**156**	*e*P	**Pg**	**10 19 46.8**	**-0.6**
VJF				*e*S	**Sg**	**10 20 01.4**	**+0.3**
RUF	**Ruokolahti**	**1.08**	**94**	*e*P	**Pg**	**10 19 47.0**	**-0.8**
RUF				*e*S	**Sg**	**10 20 01.8**	**0.0**
KEF	**Keuruu**	**1.09**	**308**	*e*P	**Pg**	**10 19 47.4**	**-0.5**
KEF				*e*S	**Sg**	**10 20 01.3**	**-0.7**
MEF	**Metsahovi**	**1.72**	**222**	*e*P	**Pn**	**10 19 59.0**	**+0.8**
MEF				*e*S	**Sn**	**10 20 20.7**	**-0.1**
MEF				MSG		10 20 24.7	
	comp=Z,1.2nm,0.1s						
NIF	**Nilsia**	**1.96**	**15**	*e*P	**Pn**	**10 20 02.2**	**+0.7**
NIF				*e*S	**Sn**	**10 20 27.3**	**+0.7**
NIF				MSG		10 20 29.6	
	comp=Z,1.0nm,0.1s						
KPF	**Kankaanpaa**	**2.23**	**280**	*e*P	**Pn**	**10 20 06.6**	**+1.3**
KPF				*e*SG	**Sb**	**10 20 35.6**	**-0.7**

*ISK **21** 10:32:10.9, 34°.85N×32°.90E, h15km, ML3.3/19*
*DDA **21** 10:32:10.0±0.0, 34°.97N×32°.77E, h15km±8km, MW3.4*
*NIC **21** 10:32:10.4±0.0, 34°.85N×32°.90E, h24km, MI3.4/8*
*GII **21** 10:32:12.6±0.0, 34°.88N×32°.88E, h30km, MD2.2/3, Mm2.6/3*
ISC 21 10:32:11.4±0.9, 34°86N±0°.02×32°89E±0°.02, h20km±2km, n56, σ1$18/85, 3C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROD	**Troodos**	**0.09**	**349**	*e*P	**Pg**	**10 32 15.1**	**-0.3**
TROD				S	**Sg**	**10 32 18.9**	**+0.7**
TROD				AML	AML	10 32 19.8	

MMA0B	**Mount Meron ar**	**2.79**	**131**	Pn	**Pn**	**10 32 55.6**	**+0.6**
MMA0B				Sn	**Sn**	**10 33 27.9**	**-0.2**
GEM	**Giv'at Ha'Em**	**2.83**	**125**	Pn	**Pn**	**10 32 56.0**	**+0.4**
GEM				Sn	**Sn**	**10 33 29.3**	**+0.2**
OFRI	**`Ofer**	**2.84**	**141**	Pn	**Pn**	**10 32 55.8**	**+0.2**
OFRI				Sn	**Sn**	**10 33 28.9**	**-0.4**
NATI	**Neve Ativ**	**2.85**	**123**	Pn	**Pn**	**10 32 56.7**	**+0.9**
NATI				Sn	**Sn**	**10 33 29.9**	**+0.3**
GULE	**Gulek**	**2.86**	**32**	P	**Pn**	**10 32 59.0**	**+2.9**
GULE				S	**Sb**	**10 33 34.2**	**-2.3**
MMLI	**Mount Malkishu**	**3.21**	**138**	Pn	**Pn**	**10 33 00.9**	**+0.1**
MMLI				Sn	**Sn**	**10 33 39.4**	**+0.9**
HMDT	**Nahal Hemdat**	**3.41**	**139**	Pn	**Pn**	**10 33 04.2**	**+0.7**
YVAC	**Isparta, Yalva**	**3.65**	**339**	P	**Pn**	**10 33 09.1**	**+2.2**
YVAC				S	**Sb**	**10 33 56.6**	**-2.6**
YAHY	**KAYSERI_Yahyal**	**3.79**	**31**	P	**Pn**	**10 33 12.4**	**+3.5**
YAHY				S	**Sb**	**10 34 00.1**	**-3.2**
KAMA	**Osmaniye**	**3.84**	**52**	P	**Pn**	**10 33 10.0**	**+0.5**
KAMA				S	**Sn**	**10 33 56.7**	**+2.5**
DSI	**Dead Sea**	**3.89**	**147**	Pn	**Pn**	**10 33 11.3**	**+1.2**
DSI				Sn	**Sn**	**10 33 56.2**	**+0.9**
KRMI	**Paran Flat**	**4.98**	**161**	Pn	**Pn**	**10 33 25.6**	**+0.5**
MBRI	**Mt Berech**	**5.34**	**161**	Pn	**Pn**	**10 33 30.5**	**+0.4**
EIL	**Elat**	**5.46**	**161**	Pn	**Pn**	**10 33 31.6**	**-0.1**

*IDC **21** 10:34:02.2±0.5, 8.36S×124.53E, h0km, mb4.4/14, mbtmp4.4/17, ML4.9/2, MS4.2/45, Error ellipse: s-maj=21.3km s-min=12.6km az=75.0*
*DJA **21** 10:34:06.2±0.1, 9.2S±1.2×122.5E±0.2, h10km, M4.9/42, mb5.0/42, mB5.5/34, MLv5.2/21, Mw(mB)4.9/34, MwMwp4.8/7, Mwp5.1/7*
*GCMT **21** 10:34:07.2±0.2, 8.53S±0.01×124.62E±0.02, h24km±1km, MW5.1/112, Moment Tensor Solution. s56,c70; s112,c156; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.42±.19; Mθθ-0.71±.15; Mϕϕ0.28±.17; Mrθ-2.50±.36; Mθϕ-4.85±.11; Mϕr-2.15±.38; Best double couple: Ms5.64700×10^16^ NP1ϕs96.00000°, δ74.00000°, λ-161.00000°. NP2ϕs360.00000°, δ71.00000°, λ-17.00000°. Principal axes: T 4.6660, Plg1.0000°, Azm227.0000°; N 1.9630, Plg65.0000°, Azm134.0000°; P -6.6280, Plg25.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 10:34:08.2±3.0, 8.67S±0.05×124.52E±0.06, h32km±5km, mb4.9/34 Error ellipse: s-maj=8.0km s-min=7.2km az=106.0*
ISC 21 10:34:06.7±0.3, 8.68S±0.03×124.63E±0.04, h20km, n276, σ1s89/260, mb4.7/41, MS4.3/46, 1C-3D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.13**	**198**	Pn	**Pn**	**10 34 26.7**	**-0.8**
SOEI	**Soe**	**1.13**	**198**	P	**Pn**	**10 34 27.2**	**-0.3**
SOEI	**Soe**	**1.13**	**198**	P	**Pn**	**10 34 27.2**	**-0.3**
BATI	**Baumata**	**1.80**	**212**	Pn	**Pb**	**10 34 37.9**	**-1.0**
	611nm,0.3s,baz=62,slow=0.8,SNR=220						
BATI				LR	LR	10 35 15.2	
	comp=Z,3μm,20.4s,baz=89,slow=36 3μm,0.5s						
BATI	**Baumata**	**1.80**	**212**	P	**Pn**	**10 34 36.7**	**+0.1**
BATI				Pg	**Pb**	**10 34 40.0**	**+1.0**
BATI				S	**Sn**	**10 34 58.7**	**-0.1**
MMRI	**Maumere**	**2.37**	**271**	Pn	**Pn**	**10 34 43.8**	**-0.6**
MMRI	**Maumere**	**2.37**	**271**	P	**Pn**	**10 34 43.2**	**-1.2**
MMRI				Pg	**Pb**	**10 34 50.7**	**+2.1**
MMRI				S	**Sn**	**10 35 12.9**	**0.0**
MMRI	**Maumere**	**2.37**	**271**	P	**Pn**	**10 34 44.8**	**+0.4**
BBSI	**Bau Bau**	**3.77**	**327**	P	**Pn**	**10 35 02.4**	**-1.3**
BBSI				Pg	**Pb**	**10 35 13.7**	**+1.1**
BSSI	**Bau Bau, Buton**	**4.81**	**301**	P	**Pn**	**10 35 17.5**	**-0.6**
KKSI	**Kolaka, Sulawe**	**5.36**	**326**	P	**Pn**	**10 35 25.0**	**-0.7**
	2.4nm4μm436nm,0.7s						
BKSI	**Bulukumba**	**5.58**	**306**	P	**Pn**	**10 35 27.6**	**-1.0**
	0.9nm6μm2μm225nm,0.6s						
NLAI	**Namlea**	**5.93**	**25**	P	**Pn**	**10 35 35.4**	**+1.9**
	0.9nm4μm242nm,0.8s						
KAPI	**Kappang**	**6.06**	**307**	Pn	Pn	10 35 29.7	-5.4
	7.3nm,0.9s,baz=132,slow=14,SNR=1.5						
KAPI				LR	LR	10 37 54.2	
	comp=Z,2μm,21.9s,baz=139,slow=40						
KAPI	**Kappang**	**6.06**	**307**	Pn	**Pn**	**10 35 35.9**	**+0.7**
KAPI	**Kappang**	**6.06**	**307**	P	**Pn**	**10 35 35.6**	**+0.4**
	0.5nm1μm124nm,1.0s						
KAPI	**Kappang**	**6.06**	**307**	P	**Pn**	**10 35 37.3**	**+2.1**
AAI	**Ambon**	**6.09**	**36**	P	**Pn**	**10 35 37.6**	**+1.9**
	0.7nm2μm160nm,0.8s						
BNSI	**Bone**	**6.18**	**313**	P	**Pn**	**10 35 37.6**	**+0.7**
	1.2nm3μm4μm353nm,0.7s						
DBNI	**Kabupaten Domp**	**6.25**	**271**	P	**Pn**	**10 35 37.9**	**+0.1**
	1.9nm5μm598nm,0.8s						
KRAI	**Karang Ratu**	**6.51**	**35**	P	**Pn**	**10 35 43.3**	**+1.9**
	0.3nm2μm51nm,0.8s						
SAUI	**Saumlaki**	**6.64**	**85**	Pn	**Pn**	**10 35 43.5**	**+0.3**
SAUI	**Saumlaki**	**6.64**	**85**	P	**Pn**	**10 35 43.7**	**+0.5**
	2.4nm8μm312nm,0.9s						
BNDI	**Bandanaira**	**6.67**	**52**	P	**Pn**	**10 35 44.3**	**+0.7**
	1.1nm4μm245nm,1.2s						
SANI	**Sanana**	**6.72**	**12**	P	**Pn**	**10 35 44.6**	**+0.3**
	1.2nm5μm377nm,0.8s						
SANI	**Sanana**	**6.72**	**12**	P	**Pn**	**10 35 45.5**	**+1.2**
SPSI	**Sidrap Palu**	**6.72**	**314**	P	**Pn**	**10 35 44.6**	**+0.2**
	0.5nm2μm151nm,0.7s						
PLAI	**Plampang**	**6.78**	**268**	P	**Pn**	**10 35 44.7**	**-0.4**
	2.1nm6μm642nm,0.7s						
PLAI	**Plampang**	**6.78**	**268**	P	**Pn**	**10 35 47.1**	**+2.0**
MSAI	**Masohi**	**6.80**	**39**	P	**Pn**	**10 35 47.8**	**+2.3**
MTN	**Manton Dam**	**7.62**	**124**	P	**Pn**	**10 35 57.7**	**+1.1**
	baz=7.7,SNR=730						
MTN				S	**Sn**	**10 37 19.0**	**-3.3**
	baz=7.7						
MTN	**Manton Dam**	**7.62**	**124**	Pn	**Pn**	**10 35 58.1**	**+1.5**
MTN	**Manton Dam**	**7.62**	**124**	P	**Pn**	**10 35 58.3**	**+1.7**
TWSI	**Taliwang, Sumb**	**7.66**	**269**	P	**Pn**	**10 35 57.2**	**0.0**
	0.8nm2μm238nm,0.8s						
PMSI	**Majene**	**7.66**	**312**	P	**Pn**	**10 35 57.9**	**+0.6**
	0.5nm3μm1μm135nm,0.9s						
LUWI	**Luwuk**	**7.80**	**346**	Pn	**Pn**	**10 35 59.8**	**+0.5**
LUWI	**Luwuk**	**7.80**	**346**	P	**Pn**	**10 35 58.5**	**-0.7**
	3.3nm11μm638nm,0.9s						
KNRA	**Kununurra**	**8.05**	**150**	P	**Pn**	**10 36 02.8**	**+0.3**
	baz=8.1,SNR=878						
KNRA				S	**Sn**	**10 37 31.0**	**-2.0**
	baz=8.1						
KNRA	**Kununurra**	**8.05**	**150**	Pn	**Pn**	**10 36 03.4**	**+0.9**
KNRA	**Kununurra**	**8.05**	**150**	P	**Pn**	**10 36 03.4**	**+0.9**
MMSI	**Mamuju**	**8.23**	**316**	P	**Pn**	**10 36 06.0**	**+0.9**
	591nm34nm,0.8s						
APSI	**Ampana**	**8.26**	**339**	P	**Pn**	**10 36 05.5**	**0.0**
	2μm4μm283nm,0.8s						
KLNI	**Mataram**	**8.44**	**271**	P	**Pn**	**10 36 08.0**	**0.0**
	2μm130nm,0.7s						
LBMI	**Labuha**	**8.48**	**20**	P	**Pn**	**10 36 10.3**	**+1.8**
	4μm294nm,1.1s						
KDU	**Kakadu**	**8.68**	**118**	P	**Pn**	**10 36 11.8**	**+0.6**
	baz=8.8,SNR=206						
KDU				S	**Sn**	**10 37 45.7**	**-2.8**
	baz=8.8						
KDU	**Kakadu**	**8.68**	**118**	P	**Pn**	**10 36 12.3**	**+1.1**
SRBI	**Singaraja**	**9.34**	**273**	P	**Pn**	**10 36 20.3**	**+0.1**
	82nm,1.3s						
IGBI	**Denpasar**	**9.38**	**268**	P	**Pn**	**10 36 20.4**	**-0.4**
	2μm109nm,0.9s						
MRSI	**Marisa**	**9.48**	**343**	P	**Pn**	**10 36 21.1**	**-1.1**
	1μm86nm,0.9s						
FAKI	**Fak Fak**	**9.49**	**53**	Pn	**Pn**	**10 36 22.7**	**+0.3**
FAKI	**Fak Fak**	**9.49**	**53**	P	**Pn**	**10 36 25.2**	**+2.8**
	1μm79nm,0.7s						
FAKI	**Fak Fak**	**9.49**	**53**	P	**Pn**	**10 36 25.5**	**+3.1**
TNTI	**Ternate**	**9.77**	**16**	Pn	**Pn**	**10 36 29.5**	**+3.2**
TNTI	**Ternate**	**9.77**	**16**	P	**Pn**	**10 36 28.8**	**+2.6**
	1μm58nm,1.0s						
SIJI	**Sorong**	**10.19**	**41**	Pn	**Pn**	**10 36 33.9**	**+1.9**
	1.6nm,0.3s,baz=298,slow=6.1,SNR=20						
SIJI				LR	LR	10 40 31.1	
	comp=Z,910nm,21.5s,baz=206,slow=39						
SIJI	**Sorong**	**10.19**	**41**	P	**Pn**	**10 36 33.8**	**+1.9**
	1μm83nm,0.8s						
JAGI	**Jajag, Banyuwa**	**10.36**	**270**	Pn	**Pn**	**10 36 33.0**	**-1.3**
JAGI	**Jajag, Banyuwa**	**10.36**	**270**	P	**Pn**	**10 36 34.9**	**+0.6**
TOLI2	**Tolitoli**	**10.45**	**338**	Pn	**Pn**	**10 36 37.1**	**+1.6**
TOLI2	**Tolitoli**	**10.45**	**338**	P	**Pn**	**10 36 38.4**	**+2.9**
GAMI	**Galela, Maluku**	**10.91**	**17**	P	**Pn**	**10 36 44.3**	**+2.5**
	2μm125nm,1.1s						
RKPI	**Ransiki, Papua**	**11.87**	**54**	P	**Pn**	**10 36 58.1**	**+3.1**
	8μm168nm,1.0s						
MWPI	**Manokwari, Pap**	**12.12**	**51**	P	**Pn**	**10 37 01.6**	**+3.2**
	3μm250nm,1.0s						
PWJI	**Pagerwojo**	**12.71**	**272**	P	**Pn**	**10 37 04.6**	**-1.8**
	50nm,0.6s						
SJI	**Sawahan**	**12.77**	**273**	P	**Pn**	**10 37 07.3**	**0.0**
	62nm,0.7s						
NGJI	**Ngawi**	**13.10**	**275**	P	**Pn**	**10 37 11.9**	**+0.1**
	110nm,1.0s						
MBWA	**Marble Bar**	**13.28**	**200**	Pn	**Pn**	**10 37 12.5**	**-1.7**
MBWA	**Marble Bar**	**13.28**	**200**	P	**Pn**	**10 37 13.7**	**-0.5**
PCJI	**Pacitan**	**13.32**	**271**	P	**Pn**	**10 37 13.0**	**-1.7**
	149nm,1.1s						
PSA00	**Pilbara Seismi**	**13.63**	**199**	Pn	**Pn**	**10 37 18.0**	**-0.9**
PSA00	**Pilbara Seismi**	**13.63**	**199**	P	**Pn**	**10 37 17.8**	**-1.2**
PSA00	**Pilbara Seismi**	**13.63**	**199**	P	**Pn**	**10 37 18.7**	**-0.2**
UGM	**Wanagama**	**13.98**	**272**	P	**Pn**	**10 37 25.5**	**+1.7**
WB0	**Warramunga Arr**	**14.52**	**140**	Pn	**Pn**	**10 37 28.0**	**-3.2**
WRA	**Warramunga Arr**	**14.62**	**141**	Pn	**Pn**	**10 37 28.5**	**-4.0**
	13nm,0.3s,baz=323,slow=13,SNR=321						
WRA				Sn	Sn	10 40 03.2	-11
	14nm,0.3s,baz=312,slow=23,SNR=15						
WRA				LR	LR	10 44 29.8	
	comp=Z,2μm,18.5s,baz=320,slow=42						
WRA	**Warramunga Arr**	**14.62**	**141**	Pn	**Pn**	**10 37 29.6**	**-2.9**
WRAB	**Tennant Creek**	**14.62**	**141**		**Pn**	**10 37 29.9**	**-2.6**
WRAB	**Tennant Creek**	**14.62**	**141**	P	**Pn**	**10 37 30.8**	**-1.8**
WB2	**Warramunga Arr**	**14.63**	**141**	Pn	**Pn**	**10 37 29.8**	**-2.9**
WB1	**Warramunga Ar.**	**14.64**	**141**	P	**Pn**	**10 37 30.3**	**-2.5**
WC3	**Warramunga Arr**	**14.65**	**141**	⇓P	**Pn**	**10 37 29.6**	**-3.4**
	baz=15						
WR0	**Warramunga Arr**	**14.76**	**141**		**Pn**	**10 37 30.9**	**-3.5**
MYLDM	**Lahad Datu**	**15.06**	**336**	P	**Pn**	**10 37 39.9**	**+1.4**
MYLDM	**Lahad Datu**	**15.06**	**336**	P	**Pn**	**10 37 40.0**	**+1.5**
	1μm44nm,1.4s						
CTJI	**Waduk Cacaban**	**15.39**	**275**	P	**Pn**	**10 37 40.7**	**-2.2**
	89nm,1.1s						
SBUM	**Sibu**	**16.59**	**311**		**Pn**	**10 37 59.1**	**+0.8**
SBUM	**Sibu**	**16.59**	**311**	P	**Pn**	**10 37 58.7**	**+0.4**
	262nm17nm,1.6s						
WRKA	**Warakurna**	**16.64**	**168**	P	**Pn**	**10 37 57.0**	**-2.0**
	baz=17,SNR=68						
WRKA	**Warakurna**	**16.64**	**168**	P	**Pn**	**10 37 57.7**	**-1.3**
BBJI	**Bungbulang**	**16.86**	**273**	P	**P**	**10 38 03.9**	**+0.2**
KKM	**Kota Kinabalu**	**16.86**	**330**	P	**P**	**10 38 03.3**	**-0.5**
KKM				IAmb	IAmb	10 38 07.8	
	comp=Z,155nm,2.0s						
KKM	**Kota Kinabalu**	**16.86**	**330**	P	P	10 38 14.5	+11
LEM	**Lembang**	**16.96**	**275**	Pn	**Pn**	**10 37 58.5**	**-4.6**
	comp=Z,2.7nm,0.3s,baz=71,slow=18,SNR=1.5						
LEM				LR	LR	10 44 55.3	
	comp=Z,2μm,21.3s,baz=84,slow=39 comp=Z,1nm,0.4s						
GIRL	**Giralia**	**17.10**	**215**	P	**Pn**	**10 38 04.5**	**-0.2**
	baz=17,SNR=4.2						
GIRL	**Giralia**	**17.10**	**215**	P	**Pn**	**10 38 05.6**	**+0.9**
AS31	**Alice Springs**	**17.35**	**150**	Pn	**Pn**	**10 38 05.6**	**-2.3**
ASAR	**Alice Springs**	**17.35**	**150**	P	**Pn**	**10 38 05.2**	**-2.6**
	comp=Z,50nm,0.6s,baz=318,slow=11,SNR=259						
ASAR				S	**Sn**	**10 41 11.4**	**-9.1**
	comp=Z,88nm,1.0s,baz=324,slow=22,SNR=12						
ASAR				LR	LR	10 45 24.4	
	comp=Z,1μm,21.9s,baz=328,slow=39						
ASAR	**Alice Springs**	**17.35**	**150**	Pn	**Pn**	**10 38 05.8**	**-2.0**
AS01	**Alice Springs**	**17.37**	**150**	P	**Pn**	**10 38 07.2**	**-0.9**
KSM	**Kuching**	**17.48**	**305**		**Pn**	**10 38 08.7**	**-0.7**
KSM	**Kuching**	**17.48**	**305**	P	P	10 38 19.2	+8.7
CBJI	**Citeko**	**17.77**	**276**	P	**Pn**	**10 38 11.8**	**-1.2**
	comp=Z,132nm,0.6s						
QIS	**Mount Isa**	**18.68**	**131**	P	**P**	**10 38 23.3**	**-0.4**
	baz=19,SNR=57						
QIS	**Mount Isa**	**18.68**	**131**	P	**Pn**	**10 38 24.6**	**+0.4**
MEEK	**Meekatharra**	**18.75**	**197**	P	**P**	**10 38 24.7**	**+0.1**
	baz=19,SNR=16						
MEEK	**Meekatharra**	**18.75**	**197**	P	**Pn**	**10 38 25.8**	**+0.7**
COEN	**Coen**	**18.92**	**108**	P	**P**	**10 38 26.4**	**0.0**
	baz=19,SNR=43						
COEN	**Coen**	**18.92**	**108**	P	**P**	**10 38 26.6**	**+0.2**
COEN				IAmb	IAmb	10 38 36.0	
	comp=Z,53nm,0.8s						
COEN	**Coen**	**18.92**	**108**	P	**P**	**10 38 26.5**	**0.0**
MTSU	**Mount Surprise**	**21.31**	**118**	P	**P**	**10 38 54.4**	**+1.9**
	baz=21,SNR=46						
MTSU	**Mount Surprise**	**21.31**	**118**	P	**P**	**10 38 54.4**	**+1.9**
DSRI	**Dabo**	**21.57**	**291**	P	**P**	**10 38 52.8**	**-2.4**
OOD	**Oodnadatta**	**21.70**	**153**	P	**P**	**10 38 58.2**	**+1.7**
MORW	**Morawa**	**21.84**	**201**	P	**P**	**10 38 57.7**	**-0.3**
	baz=22,SNR=12						
MORW	**Morawa**	**21.84**	**201**	P	**P**	**10 38 57.4**	**-0.6**
MORW	**Morawa**	**21.84**	**201**	P	**P**	**10 38 58.8**	**+0.8**
FORT	**Forrest**	**22.23**	**172**	P	**P**	**10 39 03.0**	**+0.9**
	baz=22,SNR=22						
FORT	**Forrest**	**22.23**	**172**	P	**P**	**10 39 02.9**	**+0.8**
FORT	**Forrest**	**22.23**	**172**	P	**P**	**10 39 03.5**	**+1.4**
PMG	**Port Moresby**	**22.26**	**94**	P	**P**	**10 39 03.2**	**+0.5**
	comp=Z,12nm,0.7s,baz=185,slow=14,SNR=2.6						
PMG				LR	LR	10 49 30.9	
	comp=Z,704nm,18.2s,baz=250,slow=42 comp=Z,12nm,0.7s						
PMG	**Port Moresby**	**22.26**	**94**	P	**P**	**10 39 04.7**	**+2.0**
PMG	**Port Moresby**	**22.26**	**94**	P	P	10 39 11.3	+8.6
PMG	**Port Moresby**	**22.26**	**94**	P	**P**	**10 39 06.2**	**+3.6**
PMG	**Port Moresby**	**22.26**	**94**	P	**P**	**10 39 06.3**	**+3.6**
KMBL	**Kambalda**	**22.72**	**186**	P	**P**	**10 39 07.8**	**+0.4**
	baz=23,SNR=18						
KMBL	**Kambalda**	**22.72**	**186**	P	**P**	**10 39 08.4**	**+0.9**
BLDU	**Ballidu**	**23.05**	**198**	P	**P**	**10 39 10.4**	**-0.5**
	baz=23,SNR=41						
BLDU	**Ballidu**	**23.05**	**198**	P	**P**	**10 39 10.7**	**-0.2**
MULG	**Mulgathing**	**23.24**	**159**	P	**P**	**10 39 14.9**	**+2.1**
KLBR	**Kellerberrin**	**23.68**	**195**	P	**P**	**10 39 17.6**	**+0.4**
	baz=24,SNR=38						
KLBR	**Kellerberrin**	**23.68**	**195**	P	**P**	**10 39 17.9**	**+0.7**
CTA	**Charters Tower**	**23.79**	**121**	P	**P**	**10 39 19.4**	**+1.1**
	comp=Z,13nm,0.8s,baz=298,slow=11,SNR=6.8						
CTA				LR	LR	10 50 27.6	
	comp=Z,713nm,19.9s,baz=283,slow=41 comp=Z,13nm,0.8s						
CTA	**Charters Tower**	**23.79**	**121**	P	**P**	**10 39 21.7**	**+3.4**
CTAO	**Charters Tower**	**23.79**	**121**	P	**P**	**10 39 18.8**	**+0.5**
CTAO	**Charters Tower**	**23.79**	**121**	P	**P**	**10 39 21.8**	**+3.4**
TV1H	**Townsville Har**	**23.92**	**118**	P	**P**	**10 39 22.1**	**+2.6**
INKA	**Innaminka**	**24.32**	**143**	P	**P**	**10 39 26.6**	**+3.5**
SDSI	**Sungai Dareh**	**24.35**	**287**	P	**P**	**10 39 23.7**	**+0.1**
MUN	**Mundaring**	**24.47**	**197**	P	**P**	**10 39 25.4**	**+0.9**
	baz=24,SNR=9.9						
MUN	**Mundaring**	**24.47**	**197**	P	**P**	**10 39 24.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**25.09**	**195**	P	**P**	**10 39 30.7**	**+0.7**
	comp=Z,66nm,1.2s,baz=262,slow=7.7,SNR=9.1						
NWAO				LR	LR	10 51 12.0	
	comp=Z,1μm,18.2s,baz=14,slow=41 comp=Z,66nm,1.2s						
NWAO	**Narrogin (SRO)**	**25.09**	**195**	P	**P**	**10 39 31.3**	**+1.3**
	baz=25,SNR=6.6						
NWAO				P	**P**	**10 39 31.3**	**+1.3**
	baz=25,SNR=6.6						
NWAO	**Narrogin (SRO)**	**25.09**	**195**	P	**P**	**10 39 30.4**	**+0.3**
NWAO				IAmb	IAmb	10 39 31.8	
	comp=Z,40nm,0.9s						
NWAO	**Narrogin (SRO)**	**25.09**	**195**	P	**P**	**10 39 30.8**	**+0.7**
NWAO				IAmb	IAmb	10 39 31.8	
	comp=Z,34nm,1.0s						
NWAO	**Narrogin (SRO)**	**25.09**	**195**	P	**P**	**10 39 31.7**	**+1.7**
LCRK	**Leigh Creek**	**25.11**	**151**	P	**P**	**10 39 34.1**	**+3.8**
QLP	**Quilpie**	**25.74**	**136**	P	**P**	**10 39 38.2**	**+2.1**
	baz=26,SNR=16						
QLP	**Quilpie**	**25.74**	**136**	P	**P**	**10 39 40.4**	**+4.3**
BBOO	**Buckleboo**	**26.25**	**158**	P	**P**	**10 39 41.8**	**+1.2**
	baz=26,SNR=33						
BBOO	**Buckleboo**	**26.25**	**158**	P	**P**	**10 39 40.7**	**+0.1**
BBOO				IAmb	IAmb	10 39 42.9	
	comp=Z,45nm,0.7s						
BBOO	**Buckleboo**	**26.25**	**158**	P	**P**	**10 39 42.0**	**+1.4**
HTT	**Hallett**	**27.95**	**154**	P	**P**	**10 39 57.7**	**+1.7**
	baz=28,SNR=8.7						
HTT	**Hallett**	**27.95**	**154**	P	**P**	**10 39 58.2**	**+2.3**
STKA	**Stephens Creek**	**27.96**	**148**	P	**P**	**10 39 57.1**	**+1.1**
	comp=Z,7.2nm,0.9s,baz=317,slow=8.7,SNR=10						
STKA				LR	LR	10 51 34.1	
	comp=Z,794nm,21.2s,baz=326,slow=37 comp=Z,7.2nm,0.9s						
STKA	**Stephens Creek**	**27.96**	**148**	P	**P**	**10 39 57.7**	**+1.7**
	baz=28,SNR=8.9						
STKA	**Stephens Creek**	**27.96**	**148**	P	**P**	**10 39 56.5**	**+0.6**
STKA	**Stephens Creek**	**27.96**	**148**	P	**P**	**10 39 57.9**	**+1.9**
SKLT	**Songkhla**	**28.64**	**303**	P	**P**	**10 40 02.7**	**+0.4**
	comp=Z,12nm,1.3s						
RMQ	**Roma**	**28.94**	**131**	P	**P**	**10 40 06.4**	**+1.6**
	baz=29,SNR=6.7						
RMQ	**Roma**	**28.94**	**131**	P	**P**	**10 40 08.6**	**+3.8**
GUMO	**Guam**	**29.88**	**42**	LR	LR	10 51 21.9	
	comp=Z,114nm,19.9s,baz=212,slow=35						
CMSA	**Cobar Meteorol**	**30.02**	**142**	P	**P**	**10 40 16.5**	**+2.1**
	baz=30,SNR=12						
CMSA	**Cobar Meteorol**	**30.02**	**142**	P	**P**	**10 40 16.8**	**+2.4**
QIZ	**Qiongzhong**	**31.15**	**332**	P	**P**	**10 40 25.6**	**+1.2**
QIZ				S	**S**	**10 45 33.3**	**+3.9**
QIZ				LR	LR		
	comp=N,340nm,20.3s						
QIZ				LR	LR		
	comp=E,270nm,16.7s						
QIZ				LR	LR		
	comp=Z,350nm,27.8s						
ARPS	**Mount Arapiles**	**32.04**	**153**	P	**P**	**10 40 34.4**	**+2.4**
	baz=32,SNR=19						
ARPS	**Mount Arapiles**	**32.04**	**153**	P	**P**	**10 40 34.7**	**+2.6**
CAN	**Canberra**	**34.64**	**144**	P	**P**	**10 40 57.7**	**+2.8**
CNB	**Canberra Magne**	**34.85**	**143**	P	**P**	**10 40 59.6**	**+2.8**
	baz=35,SNR=7.0						
CNB	**Canberra Magne**	**34.85**	**143**	P	**P**	**10 40 59.9**	**+3.2**
HNR	**Honiara**	**34.88**	**94**	LR	LR	10 56 08.8	
	comp=Z,3μm,20.8s,baz=267,slow=38						
CMAR	**Chiang Mai Arr**	**37.01**	**317**	P	**P**	**10 41 13.3**	**-1.9**
	comp=Z,1.1nm,0.4s,baz=140,slow=7.1,SNR=1.5 comp=Z,1.1nm,0.4s						
CHTO	**Chiang Mai**	**37.25**	**317**	P	**P**	**10 41 18.9**	**+1.5**
CHTO				IAmb	IAmb	10 41 29.9	
	comp=Z,10nm,1.1s						
GYA	**Guiyang**	**39.04**	**334**	*e*P	**P**	**10 41 33.4**	**+1.0**
GYA				pmax	pmax		
	comp=Z,18nm,1.2s						
WHN	**Wuhan**	**40.22**	**346**	P	**P**	**10 41 43.6**	**+1.5**
NJ2	**Nanjing**	**40.87**	**352**	*e*P	**P**	**10 41 50.1**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ENH	**Enshi**	**41.37**	**340**	P	**P**	**10 41 51.8**	**+0.2**
ENH				IAmb	IAmb	10 42 00.6	
	comp=Z,14nm,1.0s						
PZH	**PanZhiHua**	**41.43**	**328**	P	**P**	**10 41 55.3**	**+3.0**
PZH				S	**S**	**10 48 07.4**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,3.7s						
PZH				LR	LR		
	comp=N,540nm,18.8s						
PZH				LR	LR		
	comp=E,900nm,18.4s						
PZH				LR	LR		
	comp=Z,640nm,16.7s						
TNCH	**TengChong**	**42.07**	**323**	P	**P**	**10 41 57.9**	**+0.3**
TNCH				pP	sP	10 42 05.9	+1.0
TNCH				pmax	pmax		
	comp=Z,47nm,0.4s						
DZM	**Mont Dzumac**	**42.31**	**113**	LR	LR	10 59 04.2	
	comp=Z,485nm,21.6s,baz=210,slow=35						
DZM	**Mont Dzumac**	**42.31**	**113**	*e*S	**S**	**10 48 20.9**	**+1.1**
	comp=Z,281nm,32.2s						
DZM				*e*LR	LR	10 53 44.5	
	comp=Z,821nm,22.8s						
CD2	**Chengdu**	**44.16**	**334**	*e*P	**P**	**10 42 15.3**	**+1.1**
XAN	**Xi'an**	**45.02**	**341**	P	**P**	**10 42 19.6**	**-1.5**
XAN				pP	pwP	10 42 36.1	+5.6
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KSRS	**Korea Array**	**45.99**	**4**	P	**P**	**10 42 24.3**	**-4.3**
	comp=Z,1.2nm,1.0s,baz=180,slow=8.7,SNR=2.0						
KSRS				LR	LR	11 02 19.3	
	comp=Z,93nm,20.9s,baz=185,slow=37 comp=Z,1.2nm,1

	comp=Z,18nm,1.2s						
KLR	**Kulʻdur**	**57.99**	**5**	LR	LR	11 08 04.0	
	comp=Z,69nm,21.9s,baz=152,slow=35						
CASY	**Casey**	**58.33**	**187**	P	**P**	**10 44 00.4**	**+0.4**
CASY	**Casey**	**58.33**	**187**	P	**P**	**10 44 01.1**	**+1.1**
CASY				pP	**pwP**	**10 44 09.5**	**-0.1**
CASY				sP	**sP**	**10 44 12.7**	**+5.2**
ULN	**Ulaanbaatar**	**58.41**	**346**	P	**P**	**10 44 00.1**	**-0.9**
ULN				IAmb	IAmb	10 44 09.5	
	comp=Z,8.6nm,0.8s						
ULN	**Ulaanbaatar**	**58.41**	**346**	P	**P**	**10 44 01.7**	**+0.7**
ULN	**Ulaanbaatar**	**58.41**	**346**	P	**P**	**10 44 00.8**	**-0.2**
ULN				pP	**sP**	**10 44 09.3**	**+0.8**
ULN				sP	**pwP**	**10 44 12.3**	**+1.8**
SONM	**Songino Array**	**58.54**	**346**	P	**P**	**10 43 59.2**	**-2.6**
	comp=Z,4.1nm,0.9s,baz=160,slow=8.8,SNR=13						
	comp=Z,4.1nm,0.9s						
SONM	**Songino Array**	**58.54**	**346**	P	**P**	**10 44 01.2**	**-0.7**
SONM				IAmb	IAmb	10 44 17.3	
	comp=Z,7.9nm,1.0s						
HEH	**HeiHe**	**58.73**	**2**	*eP*	**P**	**10 44 01.4**	**-1.6**
HEH				pmax	pmax		
	comp=Z,12nm,1.0s						
HEH				pmax	pmax		
	comp=Z,280nm,5.0s						
DRV	**Dumont d'Urvil**	**58.86**	**173**	P	**P**	**10 44 04.4**	**+0.8**
DRV				pP	**sP**	**10 44 12.2**	**+1.1**
WMQ	**Urumqi**	**62.05**	**331**	*eP*	**P**	**10 44 28.1**	**+2.1**
WMQ				LR	LR		
	comp=Z,120nm,20.7s						
AFI	**Afiamalu**	**62.43**	**101**	LR	LR	11 10 15.7	
	comp=Z,107nm,21.4s,baz=270,slow=35						
KSH	**Kashi**	**65.78**	**320**	P	**P**	**10 44 50.3**	**-0.4**
KSH				pP	sP	10 44 57.8	-0.4
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CCD	**Concordia, Ant**	**66.40**	**180**	P	**P**	**10 44 55.9**	**+1.5**
CCD				pP	**pwP**	**10 45 04.2**	**+0.1**
MK31	**Makanchi Array**	**66.84**	**330**	P	**P**	**10 44 55.8**	**-1.4**
MK31				IAmb	IAmb	10 45 06.6	
	comp=Z,12nm,1.2s						
MKAR	**Makanchi Array**	**66.84**	**330**	P	**P**	**10 44 54.1**	**-3.1**
	comp=Z,2.7nm,0.5s,baz=130,slow=7.7,SNR=32						
	comp=Z,2.7nm,0.5s						
MKAR	**Makanchi Array**	**66.84**	**330**	P	**P**	**10 44 56.0**	**-1.2**
PETK	**Petropavlovsk-**	**67.67**	**21**	P	**P**	**10 44 59.1**	**-3.1**
	comp=Z,2.3nm,0.9s,baz=225,slow=3.1,SNR=5.4						
	comp=Z,2.3nm,0.9s						
AAK	**Ala-Archa**	**68.50**	**322**	P	**P**	**10 45 05.0**	**-2.9**
AAK				IAmb	IAmb	10 45 17.5	
	comp=Z,5.7nm,0.8s						
AAK	**Ala-Archa**	**68.50**	**322**	P	**P**	**10 45 06.4**	**-1.5**
AAK				pP	**pP**	**10 45 14.4**	**+1.0**
AAK				sP	**pwP**	**10 45 17.2**	**-0.4**
ZAA0	**Zalesovo Array**	**70.85**	**336**	P	**P**	**10 45 20.7**	**-1.2**
ZAA0				IAmb	IAmb	10 45 31.7	
	comp=Z,10nm,1.1s						
ZALV	**Zalesovo Beam**	**70.85**	**336**	P	**P**	**10 45 18.9**	**-3.0**
	comp=Z,1.8nm,0.5s,baz=141,slow=5.4,SNR=9.1						
	comp=Z,1.8nm,0.5s						
ZALV	**Zalesovo Beam**	**70.85**	**336**	P	**P**	**10 45 19.3**	**-2.6**
KURK	**Kurchatov**	**71.28**	**331**	P	**P**	**10 45 22.5**	**-2.1**
KURK				IAmb	IAmb	10 45 33.1	
	comp=Z,17nm,1.1s						
KURK	**Kurchatov**	**71.28**	**331**	P	**P**	**10 45 22.5**	**-2.1**
KURK				pP	**pP**	**10 45 30.4**	**+0.2**
KURK				sP	**pwP**	**10 45 34.1**	**-0.1**
MAW	**Mawson**	**71.48**	**201**	LR	LR	11 12 49.9	
	comp=Z,267nm,21.6s,baz=57,slow=32						
VNDA	**Vanda**	**71.49**	**172**	P	**P**	**10 45 26.4**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=323,slow=7.0,SNR=15						
VNDA				LR	LR	11 17 24.3	
	comp=Z,176nm,18.8s,baz=327,slow=36						
	comp=Z,2.7nm,0.6s						
VNDA	**Vanda**	**71.49**	**172**	P	**P**	**10 45 26.3**	**+0.8**
VNDA	**Vanda**	**71.49**	**172**	P	**P**	**10 45 26.5**	**+1.0**
VNDA				pP	**pwP**	**10 45 34.7**	**-0.5**
WSAR	**Wadi Sarin**	**71.87**	**298**	LR	LR	11 20 28.2	
	comp=Z,181nm,18.5s,baz=130,slow=39						
RAR	**Rarotonga**	**73.54**	**110**	LR	LR	11 19 28.6	
	comp=Z,40nm,18.7s,baz=266,slow=37						
GEYT	**Alibeck**	**77.30**	**312**	LR	LR	11 24 27.2	
	comp=Z,154nm,21.6s,baz=149,slow=39						
TIXI	**Tiksi**	**80.20**	**1**	LR	LR	11 24 32.3	
	comp=Z,54nm,19.9s,baz=84,slow=38						
TIXI	**Tiksi**	**80.20**	**1**	P	**P**	**10 46 13.2**	**-2.1**
ABKAR	**Akbulak array**	**80.57**	**323**	P	**P**	**10 46 15.2**	**-2.6**
QSPA	**South Pole Qui**	**81.31**	**180**	LR	LR	11 22 37.8	
	comp=Z,270nm,18.7s,baz=326,slow=36						
QSPA	**South Pole Qui**	**81.31**	**180**	P	**P**	**10 46 21.3**	**-0.3**
QSPA				IAmb	IAmb	10 46 33.5	
	comp=Z,26nm,1.1s						
NRIK	**Norilʻsk**	**81.96**	**348**	P	**P**	**10 46 20.6**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=101,slow=5.2,SNR=1.7						
	comp=Z,1.0nm,0.3s						
TBI	**Tubuai**	**82.89**	**113**	*e*LR	LR	11 12 33.5	
	comp=Z,902nm,24.8s						
PPT2	**Papeete2**	**83.44**	**107**	*e*LR	LR	11 12 50.5	
	comp=Z,196nm,25.5s						
PPT2				*e*LR	LR	11 12 51.8	
	comp=Z,177nm,25.2s						
PPT	**Papeete**	**83.45**	**107**	LR	LR	11 22 01.3	
	comp=Z,22nm,18.2s,baz=244,slow=34						
RAYN	**Ar Rayn**	**83.58**	**295**	P	**P**	**10 46 33.3**	**-0.9**
RAYN				IAmb	IAmb	10 46 46.5	
	comp=Z,15nm,1.4s						
ATD	**Arta Tunnel**	**83.76**	**283**	LR	LR	11 21 58.2	
	comp=Z,52nm,19.6s,baz=38,slow=34						
GNI	**Garni**	**87.89**	**311**	LR	LR	11 32 23.4	
	comp=Z,36nm,20.8s,baz=124,slow=40						
BELG	**Belogornoye**	**88.98**	**323**	LR	LR	11 31 40.6	
	comp=Z,90nm,19.6s,baz=156,slow=39						
KBZ	**Khabaz**	**90.01**	**314**	LR	LR	11 35 55.0	
	comp=Z,53nm,19.0s,baz=88,slow=41						
TROLL	**Troll, Antarti**	**91.19**	**195**	P	**P**	**10 47 11.4**	**+1.2**
ASF	**Jabal al Asfar**	**92.65**	**302**	LR	LR	11 36 06.5	
	comp=Z,114nm,18.5s,baz=106,slow=40						
SNAA	**Sanae**	**92.76**	**195**	P	**P**	**10 47 17.9**	**+0.5**
SNAA	**Sanae**	**92.76**	**195**	LR	LR	11 26 17.0	
	comp=Z,237nm,21.9s,baz=58,slow=34						
SNAA	**Sanae**	**92.76**	**195**	P	**P**	**10 47 16.9**	**-0.4**
SNAA				IAmb	IAmb	10 47 27.5	
	comp=Z,14nm,1.3s						
BELA	**Belgrano 2**	**92.81**	**184**	P	**P**	**10 47 17.3**	**-0.1**
MBAR	**Mbarara**	**93.76**	**269**	LR	LR	11 26 28.2	
	comp=Z,92nm,19.4s,baz=80,slow=34						
LSZ	**Lusaka**	**93.89**	**254**	LR	LR	11 23 25.4	
	comp=Z,88nm,20.9s,baz=124,slow=32						
EIL	**Elat**	**93.95**	**299**	LR	LR	11 34 40.9	
	comp=Z,128nm,20.0s,baz=66,slow=39						
MMAI	**Mount Meron Ar**	**94.02**	**303**	LR	LR	11 34 54.0	
	comp=Z,111nm,18.4s,baz=341,slow=39						
BOSA	**Boshof**	**94.03**	**240**	LR	LR	11 23 33.8	
	comp=Z,152nm,21.0s,baz=156,slow=32						
VNA2	**Neumayer--Watz**	**94.36**	**194**	P	**P**	**10 47 27.7**	**+3.0**
	baz=297,slow=7.2						
LBTB	**Lobatse**	**94.46**	**244**	LR	LR	11 23 49.0	
	comp=Z,117nm,21.6s,baz=170,slow=32						
BRTR	**Keskin Array B**	**96.23**	**309**	LR	LR	11 39 28.9	
	comp=Z,51nm,18.2s,baz=110,slow=41						
SUR	**Sutherland**	**96.89**	**236**	LR	LR	11 27 10.6	
	comp=Z,106nm,19.1s,baz=148,slow=33						
AKASG	**Malin Array Be**	**100.07**	**320**	LR	LR	11 38 37.0	
	comp=Z,107nm,21.6s,baz=83,slow=39						
NVAR	**Mina Array Bea**	**116.49**	**51**	PKP	**PKiKP**	**10 52 51.3**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=9.2,slow=7.3,SNR=1.9						
PDAR	**Pinedale Array**	**121.83**	**45**	PKP	**PKPdf**	**10 52 58.4**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=222,slow=2.0,SNR=1.7						
ESDC	**Sonseca Array**	**124.84**	**313**	PKP	**PKPdf**	**10 53 02.9**	**-2.7**
	comp=Z,0.4nm,0.5s,baz=5.7,slow=2.6,SNR=2.1						
PLCA	**Paso Flores**	**128.88**	**165**	PKP	**PKiKP**	**10 53 14.0**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=270,slow=5.9,SNR=4.4						
TXAR	**Lajitas Array**	**130.34**	**59**	PKP	**PKPdf**	**10 53 13.8**	**-2.7**
	comp=Z,0.2nm,0.6s,baz=316,slow=3.8,SNR=2.0						
CPUP	**Villa Florida**	**145.15**	**177**	PKPbc	**PKPdf**	**10 53 43.8**	**+0.1**
	comp=Z,8.4nm,0.7s,baz=195,slow=2.1,SNR=15						
LPAZ	**La Paz**	**152.17**	**153**	PKPbc	**PKPbc**	**10 54 02.1**	**-0.6**
	comp=Z,3.6nm,0.7s,baz=238,slow=2.2,SNR=8.0						
LPAZ				PKPab	**PKPab**	**10 54 13.7**	**+1.6**
	comp=Z,12nm,0.7s,baz=205,slow=3.0,SNR=18						

IDC 21 11:23:17.8±2.6,7°.63S×128°.04E, h0km, mb3.3/1, mbtmp3.2/3, ML3.3/2, MS3.8/1, Error ellipse: s-maj=295.3km s-min=33.5km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.68**	**154**	Pn	Pn	11 26 32.1	-1.2
	0.1nm,0.3s,baz=330,slow=13,SNR=11						
WRA				Sn	Sn	11 28 50.8	-15
	0.5nm,0.3s,baz=340,slow=22,SNR=17						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**16.91**	**161**	Pn	Pn	11 27 17.1	+1.0
	0.2nm,0.3s,baz=343,slow=9.4,SNR=15						
ASAR				Sn	Sn	11 30 12.4	-12
	0.1nm,0.3s,baz=341,slow=24,SNR=2.7						
	0.4nm,0.6s						
RAO	**Raoul Island**	**55.06**	**120**	LR	LR	11 54 39.8	
	comp=Z,94nm,21.9s,baz=126,slow=34						
MKAR	**Makanchi Array**	**67.70**	**328**	P	P	11 34 17.0	0.0
	0.2nm,0.5s,baz=123,slow=5.6,SNR=1.5						
	0.2nm,0.5s						

*NEIC **21** 11:25:09.8±1.2,21°.9S±0°.1×174°.3W±0°.1, h35km±2km, mb4.5/13, Error ellipse: s-maj=23.2km s-min=16.8km az=343.0*
*IDC **21** 11:25:18.0±2.1, 19°.79S×176°.66W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=176.8km s-min=34.0km az=157.0*
ISC 21 11:25:08.4±0.7, 21°.9S±0°.1×174°.3W±0°.1, h27km, n20, σ1s44/19, mb4.4/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.53**	**90**	Pn	**Pn**	**11 28 19.1**	**+0.5**
THZ	**Tophouse**	**22.57**	**206**	P	**P**	**11 30 04.8**	**-1.8**
THZ				IAmb	IAmb	11 30 30.3	
	comp=Z,49nm,1.5s						
STKA	**Stephens Creek**	**40.35**	**246**	P	**P**	**11 32 48.0**	**+4.0**
	comp=Z,1.5nm,0.6s,baz=54,slow=8.7,SNR=1.9						
	comp=Z,1.5nm,0.6s						
BBOO	**Buckleboo**	**45.07**	**245**	P	**P**	**11 33 23.1**	**+0.8**
AS31	**Alice Springs**	**47.58**	**257**	P	**P**	**11 33 42.0**	**-0.2**
ASAR	**Alice Springs**	**47.59**	**257**	P	**P**	**11 33 42.8**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.8,SNR=15						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**47.59**	**257**	P	**P**	**11 33 41.6**	**-0.6**
WR0	**Warramunga Arr**	**47.66**	**262**	P	**P**	**11 33 41.4**	**-1.3**
WR0				IAmb	IAmb	11 34 10.0	
	comp=Z,6.4nm,1.3s						
WB0	**Warramunga Arr**	**47.83**	**263**	P	**P**	**11 33 43.2**	**-0.9**
WB0				IAmb	IAmb	11 33 54.0	
	comp=Z,6.3nm,1.3s						
WB2	**Warramunga Arr**	**47.83**	**262**	P	**P**	**11 33 42.2**	**-1.9**
WB2				IAmb	IAmb	11 34 13.3	
	comp=Z,4.7nm,1.2s						
WRA	**Warramunga Arr**	**47.84**	**262**	P	**P**	**11 33 43.1**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=97,slow=7.5,SNR=29						
	comp=Z,0.5nm,0.3s						
WRA	**Warramunga Arr**	**47.84**	**262**	P	**P**	**11 33 43.1**	**-1.1**
MIDW	**Midway**	**49.89**	**356**	P	**P**	**11 34 00.4**	**+0.9**
KNRA	**Kununurra**	**54.02**	**266**	P	**P**	**11 34 29.8**	**-1.0**
VNDA	**Vanda**	**56.88**	**186**	P	**P**	**11 34 50.4**	**0.0**
VNDA				IAmb	IAmb	11 35 14.6	
	comp=Z,4.8nm,1.5s						
QSPA	**South Pole Qui**	**68.20**	**180**	P	**P**	**11 36 06.8**	**+0.4**
CBX	**Cerro Bola**	**77.05**	**47**	P	**P**	**11 36 59.2**	**-0.2**
CBX				IAmb	IAmb	11 37 00.4	
	comp=Z,8.0nm,0.6s						
PETK	**Petropavlovsk-**	**78.53**	**343**	P	**P**	**11 37 05.6**	**-1.4**
TXAR	**Lajitas Array**	**84.92**	**56**	P	P	11 37 58.9	+17
	comp=Z,0.2nm,0.9s,baz=225,slow=3.5,SNR=1.6						
	comp=Z,0.2nm,0.9s						
SNAA	**Sanae**	**86.52**	**177**	P	**P**	**11 37 48.1**	**-0.5**
SNAA				IAmb	IAmb	11 37 58.5	
	comp=Z,5.1nm,1.5s						

*NEIC **21** 11:43:45.5±1.9, 18°.9S±0°.1×169°.8E±0°.1, h254km±9km, mb4.2/16, Error ellipse: s-maj=19.6km s-min=16.9km az=100.0*
*IDC **21** 11:43:47.5±2.7, 18°.84S×169°.42E, h262km±36km, mb3.5/6, mbtmp4.1/8, Error ellipse: s-maj=77.6km s-min=16.6km az=156.0*
*NOU **21** 11:43:49.3, 19°.16S×169°.65E, h240km, MLv4.3/11, Vanuatu Islands*
ISC 21 11:43:45.7±0.7, 19°.05S±0°.08×169°.7E±0°.1, h250km, n40, σ1s55/39, mb4.0/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.97**	**312**	P	**Pn**	**11 44 31.1**	**+3.2**
MARNC	**Mare, Loyalty**	**2.90**	**213**	Pn	**Pn**	**11 44 38.3**	**+1.3**
MARNC	**Mare, Loyalty**	**2.90**	**213**	P	**Pn**	**11 44 38.5**	**+1.5**
LIFNC	**LIFOU**	**2.91**	**233**		**Pn**	**11 44 37.8**	**+0.7**
LIFNC	**LIFOU**	**2.91**	**233**	P	**Pn**	**11 44 38.4**	**+1.3**
YATNC	**Mamie plateau,**	**4.01**	**221**	P	**Pn**	**11 44 50.3**	**+0.8**
DZM	**Mont Dzumac**	**4.30**	**225**	P	**Pn**	**11 44 55.1**	**+2.0**
	28nm,0.6s,baz=62,slow=16,SNR=18						
DZM	**Mont Dzumac**	**4.30**	**225**		**Pn**	**11 44 55.0**	**+1.9**
DZM	**Mont Dzumac**	**4.30**	**225**	P	**Pn**	**11 44 55.3**	**+2.2**
OUENC	**Ouen Island, N**	**4.31**	**218**	Pn	**Pn**	**11 44 54.0**	**+0.9**
OUENC	**Ouen Island, N**	**4.31**	**218**	P	**Pn**	**11 44 54.7**	**+1.6**
ONTNC	**Ouen Toro**	**4.46**	**223**	Pn	**Pn**	**11 44 56.8**	**+1.8**
ONTNC	**Ouen Toro**	**4.46**	**223**	P	**Pn**	**11 44 57.3**	**+2.4**
KOUNC	**Koumac, New Ca**	**5.34**	**253**	Pn	**Pn**	**11 45 07.0**	**+1.4**
KOUNC	**Koumac, New Ca**	**5.34**	**253**	P	**Pn**	**11 45 08.4**	**+2.8**
MSVF	**Nonsavu**	**8.01**	**82**	P	Pn	11 45 44.3	+5.1
	9.0nm,0.7s,baz=283,slow=13,SNR=4.7						
OUZ	**Omahuta**	**16.47**	**169**	P	**Pn**	**11 47 24.3**	**+1.1**
ARMA	**Armidale**	**19.93**	**232**	P	**P**	**11 48 00.2**	**+1.1**
ARMA				IAmb	IAmb	11 48 23.2	
	comp=Z,16nm,1.5s						
BKZ	**Black Stump Fm**	**20.88**	**165**	P	**P**	**11 48 10.5**	**+1.4**
BKZ				IAmb	IAmb	11 48 12.4	
	comp=Z,13nm,1.1s						
BFZ	**Birch Farm**	**22.27**	**167**	P	**P**	**11 48 22.6**	**+0.6**
MSWZ	**Moikau Station**	**22.79**	**169**	P	**P**	**11 48 27.0**	**+0.3**
TOO	**Toolangi**	**28.08**	**224**	P	**P**	**11 49 14.0**	**-0.4**
STKA	**Stephens Creek**	**28.34**	**238**	P	**P**	**11 49 16.1**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=73,slow=7.7,SNR=5.5						
	comp=Z,2.9nm,0.7s						
STKA	**Stephens Creek**	**28.34**	**238**	P	**P**	**11 49 16.4**	**-0.3**
WB0	**Warramunga Arr**	**33.30**	**263**	P	**P**	**11 49 58.5**	**-1.8**
WB0				IAmb	IAmb	11 50 29.0	
	comp=Z,5.5nm,1.2s						
WB2	**Warramunga Arr**	**33.33**	**262**	P	**P**	**11 49 58.5**	**-2.0**
WB2				IAmb	IAmb	11 50 20.2	
	comp=Z,7.3nm,1.4s						
WRA	**Warramunga Arr**	**33.34**	**262**	P	**P**	**11 49 58.7**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=81,slow=5.9,SNR=17						
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**33.34**	**262**	P	**P**	**11 49 58.8**	**-1.8**
AS31	**Alice Springs**	**33.62**	**256**	P	**P**	**11 50 02.2**	**-0.9**
AS31				IAmb	IAmb	11 50 03.1	
	comp=Z,2.9nm,0.6s						
ASAR	**Alice Springs**	**33.62**	**256**	P	**P**	**11 50 02.0**	**-1.1**
	comp=Z,5.7nm,0.5s,baz=83,slow=9.1,SNR=170						
	comp=Z,5.7nm,0.5s						
KNRA	**Kununurra**	**39.18**	**268**	P	**P**	**11 50 48.6**	**-1.3**
VNDA	**Vanda**	**58.63**	**182**	P	**P**	**11 53 16.2**	**-0.1**
SBA	**Scott Base**	**58.86**	**181**	P	**P**	**11 53 18.8**	**+1.1**
SBA				IAmb	IAmb	11 53 19.4	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**71.00**	**180**	P	**P**	**11 54 35.6**	**-0.6**
QSPA				IAmb	IAmb	11 54 59.5	
	comp=Z,4.7nm,1.5s						
PETK	**Petropavlovsk-**	**72.61**	**352**	P	**P**	**11 54 44.5**	**-1.1**
BELA	**Belgrano 2**	**82.25**	**175**	P	**P**	**11 55 37.2**	**-1.4**
SONM	**Songino Array**	**87.35**	**323**	P	**P**	**11 56 04.7**	**+0.2**
	comp=Z,1.1nm,1.1s,baz=124,slow=2.6,SNR=2.8						
	comp=Z,1.1nm,1.1s						
NVAR	**Mina Array Bea**	**88.33**	**48**	P	**P**	**11 56 11.0**	**+1.5**
	comp=Z,1.2nm,1.1s,baz=240,slow=7.6,SNR=6.0						
	comp=Z,1.2nm,1.1s						
SNAA	**Sanae**	**89.37**	**182**	P	**P**	**11 56 14.3**	**+0.7**
SNAA				IAmb	IAmb	11 56 27.2	
	comp=Z,3.7nm,1.3s						
ILAR	**Eielson Array**	**89.91**	**17**	P	**P**	**11 56 13.9**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=233,slow=5.5,SNR=1.4						
	comp=Z,0.2nm,0.5s						

MAN 21 11:52:15.7, 10°.29N×125°.19E, h23km, mb4.0, ML2.8, MS2.4, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABP	**Talibon, Bohol**	**0.87**	**257**	*e*P	Pn	11 52 32.4	-0.2
TABP				*e*S	Sn	11 52 44.9	+0.4
GHBP	**Garcia Hernand**	**1.08**	**233**	*e*P	Pb	11 52 37.4	+1.6
GHBP				*i* S	Sn	11 52 53.8	+4.0

*PDG **21** 11:57:29.5±0.0, 42°.17N×19°.25E, h20km, MD2.3/1, ML2.2/12, Error ellipse: s-maj=0.0km s-min=0.1km az=0.0*
*RHSSO **21** 11:57:31.1±0.7, 42°.18N×19°.28E, h6km±3km, ML2.1/6*
*BEO **21** 11:57:32.4±0.6, 42°.26N×19°.37E, h0km, ML1.8/7*
ISC 21 11:57:31.1±0.8, 42°.19N±0°.03×19°.26E±0°.02, h12km±5km, n36, σ1s25/68, 6C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRME	**Dracevica, Mon**	**0.06**	**264**	*i*Pg	**Pg**	**11 57 33.3**	**-0.2**
DRME				*e*Sg	**Sg**	**11 57 34.7**	**-0.6**
DRME	**Dracevica, Mon**	**0.06**	**264**	*e*Pg	**Pg**	**11 57 33.0**	**-0.5**
DRME				*i* Sg	**Sg**	**11 57 35.9**	**+0.6**
ULC	**Ulcinj**	**0.23**	**184**	*i*Pg	**Pg**	**11 57 34.5**	**-1.5**
ULC				*i* Sg	**Sg**	**11 57 38.7**	**-0.6**
PDG	**Podgorica**	**0.24**	**358**	*e*Pg	**Pg**	**11 57 35.6**	**-0.5**
PDG				*e*Sg	**Sg**	**11 57 38.2**	**-1.3**
TTG	**Podgorica**	**0.24**	**358**	*i*Pg	**Pg**	**11 57 35.4**	**-0.7**
TTG				*i* Sg	**Sg**	**11 57 40.3**	**+0.8**
BUM	**Brajici-Budva**	**0.29**	**291**	*e*Pg	**Pg**	**11 57 36.0**	**-1.2**
BUM				*i* Sg	**Sg**	**11 57 41.4**	**+0.1**
CEME	**Cevo**	**0.44**	**324**	*e*Pg	**Pg**	**11 57 38.5**	**-1.3**
CEME				*i* Sg	**Sg**	**11 57 46.1**	**+0.5**
NKME	**Niksic**	**0.62**	**338**	*i*Pg	**Pg**	**11 57 41.7**	**-1.5**
NKME				*i* Sg	**Sg**	**11 57 52.2**	**+0.8**
HCY	**Herceg Novi**	**0.62**	**294**	*i*Pg	**Pg**	**11 57 42.0**	**-1.3**
HCY				*e*Sg	**Sg**	**11 57 52.1**	**+0.6**
HCY	**Herceg Novi**	**0.62**	**294**	*i*Pg	**Pg**	**11 57 41.5**	**-1.8**
HCY				*i* Sg	**Sg**	**11 57 51.8**	**+0.3**
PVY	**Plav**	**0.65**	**52**	*i*Pg	**Pg**	**11 57 42.4**	**-1.4**
PVY				*i* Sg	**Sb**	**11 57 53.4**	**-0.2**
KOME	**Kolasin**	**0.68**	**16**	*e*Pg	**Pg**	**11 57 43.0**	**-1.4**
KOME				*i* Sg	**Sb**	**11 57 54.5**	**0.0**
IVA	**Berane**	**0.82**	**34**	*e*Pg	**Pg**	**11 57 45.5**	**-1.5**
IVA				*i* Sg	**Sb**	**11 57 59.1**	**+0.6**
TREB	**Trebinje**	**0.85**	**308**	*e*Pg	**Pg**	**11 57 46.5**	**-1.1**
TREB				*e*Sg	**Sg**	**11 57 59.2**	**+0.4**
BRY	**Bratogost**	**0.89**	**323**	*i*Pg	**Pg**	**11 57 47.0**	**-1.3**
BRY				*e*Sg	**Sg**	**11 58 00.6**	**+0.7**
BRY	**Bratogost**	**0.89**	**323**	*i*Pg	**Pg**	**11 57 46.5**	**-1.8**
BRY				*i* Sg	**Sb**	**11 58 01.0**	**+0.6**
DBRK	**Dubrovnik**	**0.95**	**300**	*e*Pg	**Pg**	**11 57 46.7**	**-2.8**
DBRK				Sg	**Sg**	**11 58 00.8**	**-1.2**
UPM	**Unac-Piva**	**1.04**	**345**	*e*Pg	**Pg**	**11 57 50.6**	**-0.7**
UPM				*e*Sg	**Sg**	**11 58 04.3**	**-0.6**
UPM	**Unac-Piva**	**1.04**	**345**	*i*Pg	**Pg**	**11 57 49.5**	**-1.8**
UPM				*i* Sg	**Sb**	**11 58 06.4**	**+1.4**
PLE	**Pljevlja**	**1.14**	**5**	*i*Pg	**Pg**	**11 57 51.3**	**-1.8**
PLE				*i* Sg	**Sn**	**11 58 09.5**	**+0.8**
SJES	**Sjenica**	**1.19**	**26**	*e*Pg	**Pg**	**11 57 51.9**	**-2.1**
SJES				*e*Sg	**Sg**	**11 58 07.4**	**-2.1**
STON	**Ston**	**1.34**	**301**	*e*Pg	**Pn**	**11 57 54.7**	**-0.9**
STON				*e*Sg	**Sb**	**11 58 13.7**	**+0.4**
STON	**Ston**	**1.34**	**301**	*e*Pg	**Pn**	**11 57 52.8**	**-2.9**
STON				Sg	**Sb**	**11 58 12.6**	**-0.6**
IVAS	**Ivanjica**	**1.53**	**25**	*e*Pg	**Pn**	**11 57 58.3**	**0.0**
IVAS				*e*Sg	**Sn**	**11 58 16.3**	**-1.9**
OHR	**Ohrid**	**1.58**	**133**	*e*Sg	**Sg**	**11 58 22.2**	**+0.3**
OHR	**Ohrid**	**1.58**	**133**	*i* Pn	**Pb**	**11 58 00.1**	**-0.2**
OHR				*i* Sn	**Sg**	**11 58 23.6**	**+1.7**
BBLS	**Lazići**	**1.68**	**3**	*i*Pn	**Pn**	**11 58 01.7**	**+1.4**
BBLS				*e*Sn	**Sn**	**11 58 23.0**	**+1.2**
BBLS	**Lazići**	**1.68**	**3**	*e*Pn	**Pn**	**11 58 01.9**	**+1.6**
BBLS				*e*Sg	**Sb**	**11 58 24.0**	**+1.0**
SELS	**Selova**	**1.71**	**52**	*e*Pg	**Pn**	**11 58 01.1**	**+0.3**
SELS				*e*Sg	**Sn**	**11 58 23.8**	**+1.2**
**LS

WHVZ	Whangaehu Hut	3.10	26	P		Pn	12 00 41.6	+3.4
FWVZ	Far West T-bar	3.12	25	P		Pb	12 00 43.8	-1.2
TUVZ	Tukino	3.14	27	P		Pn	12 00 41.8	+3.1
NGZ	Ngauruhoe	3.20	25	P		Pn	12 00 41.9	+2.4
SNVZ	South Ngauruho	3.21	26	P		Pn	12 00 44.1	+4.4
OTVZ	Oturere	3.24	26	P		Pn	12 00 41.2	+1.2
NNVZ	North Ngauruho	3.25	25	P		Pn	12 00 43.6	+3.4
WTVZ	West Tongariro	3.26	25	P		Pb	12 00 46.1	-1.2
ETVZ	East Tongariro	3.28	26	P		Pn	12 00 44.0	+3.5
TMVZ	Te Maari	3.29	26	P		Pn	12 00 43.7	+3.0
FOZ	Fox Glacier	3.30	243	P		Pn	12 00 40.8	+0.2
NTVZ	North Tongarir	3.30	26	P		Pn	12 00 44.5	+3.6
LBZ	Lake Benmore	3.52	228	P		Pn	12 00 43.6	-0.2
HIZ	Hauiti	3.66	13	P		Pn	12 00 48.4	+3.2
HIZ	Hauiti	3.66	13	P		Pn	12 00 49.0	+3.3
ODZ	Otahua Downs	3.76	217	P		Pn	12 00 46.4	-0.6
ODZ	Otahua Downs	3.76	217	P		Pn	12 00 46.1	-0.9
TLZ	Tolley Road	3.98	20	P		Pn	12 00 53.4	+3.3
JCZ	Jackson Bay	4.20	240	P		Pn	12 00 54.2	+1.0
JCZ	Jackson Bay	4.20	240	P		Pn	12 00 54.2	+1.0
AWAZ	Awhitu Peninsu	5.06	7	P		Pn	12 01 08.0	+3.1
MKAZ	Moumakai	5.08	12	P		Pn	12 01 07.7	+2.4
EPAZ	Eden Park BICE	5.25	8	P		Pn	12 01 11.2	+3.6

WEL 21 12:00:28.7, 40˚S±35˚×17˚5E±2˚5, h25km±36km, M2.5/10, ML2.8/8, MLv2.5/10, Error ellipse: s-maj=0.1km s-min=0.0km az=23.7, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIWZ	Tintock	0.67	151	P	Pb	12 00 41.7	0.0
WPHZ	Waipukurau	0.76	81	P	Pb	12 00 43.1	-0.3
BHHZ	Black Hill Sta	0.84	34	P	Pb	12 00 44.4	-0.3
BHHZ	Black Hill Sta	0.84	34	P	Pb	12 00 44.4	-0.3
KWHZ	Kaweka Forest	1.07	44	P	Pb	12 00 49.3	+0.8
KRVZ	Karewarewa	1.11	7	P	Pn	12 00 47.7	-1.0
KAHZ	Kahuranaki	1.16	70	P	Pn	12 00 48.2	-1.2
MCHZ	McNeill Hill	1.21	52	P	Pb	12 00 52.4	+1.4
BKZ	Black Stump Fm	1.30	38	P	Pb	12 00 51.9	-0.6
NMHZ	Naumai	1.51	44	P	Pb	12 00 57.5	+1.4
MRHZ	Matea Rd	1.55	29	P	Pb	12 00 57.2	+0.6
MTHZ	Maungataniwha	1.71	39	P	Pb	12 00 59.6	+0.1
RTZ	Ruatahuna	1.97	37	P	Pb	12 01 03.1	-0.7

*IDC **21** 12:08:50.1±1.2, 6˚.20S×128˚.74E, h283km±15km, mb3.1/1, mbtmp4.6/5, Error ellipse: s-maj=19.0km s-min=10.9km az=95.0*
*NEIC **21** 12:08:51.5±1.3, 6˚.17S±0˚.09×128˚.64E±0˚.07, h291km±10km, mb4.5/9, Error ellipse: s-maj=15.7km s-min=6.6km az=147.0*
*DJA **21** 12:08:51.9±0.4, 6˚S±3˚×12˚9E±˚, h289km±7km, M4.4/15, mb4.5/7, mB5.1/6, MLv4.3/15, Mw(mB)4.5/6*
ISC 21 12:08:51.5±0.6, 6˚.15S±0˚.06×128˚.67E±0˚.06, h322km, n49, σ1§87/56, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.03	37	P	Pn	12 09 40.0	-0.5
BNDI	Bandanaira	2.03	37	P	Pn	12 09 40.2	-0.3
AAI	Ambon	2.49	349	P	Pn	12 09 42.5	-1.8
MSAI	Masohi	2.80	5	P	Pn	12 09 45.4	-1.6
KRAI	Karang Ratu	2.83	354	P	Pn	12 09 46.1	-1.1
SAUI	Saumlaki	3.18	125	P	Pn	12 09 49.9	-0.7
SAUI				S	S	12 10 34.1	-0.8
NLAI	Namlea	3.29	332	P	Pn	12 09 51.7	+0.1
FAKI	Fak Fak	4.80	48	Pn	Pn	12 10 06.6	-1.1
FAKI				Sn	S	12 11 04.9	-4.2
FAKI	Fak Fak	4.80	48	P	Pn	12 10 06.5	-1.2
FAKI	Fak Fak	4.80	48	P	Pn	12 10 06.9	-0.8
SANI	Sanana	4.87	327	P	Pn	12 10 08.2	-0.3
SANI	Sanana	4.87	327	P	Pn	12 10 08.6	+0.1
LBMI	Labuha	5.60	348	P	Pn	12 10 17.0	+0.2
	0.2nm47nm,0.8s						
SOEI	Soe	5.64	230	Pn	Pn	12 10 15.9	-1.5
SOEI				Sn	S	12 11 21.9	-4.9
SOEI	Soe	5.64	230	P	Pn	12 10 16.2	-1.2
	0.3nm2μm56nm,0.6s						
SOEI	Soe	5.64	230	P	Pn	12 10 16.5	-0.9
SIJI	Sorong	5.85	26	P	Pn	12 10 18.6	-1.1
	24nm,0.3s,baz=221,slow=20,SNR=75						
SIJI				S	S	12 11 25.7	-5.4
	10.0nm,0.3s,baz=221,slow=19,SNR=12						
SIJI	Sorong	5.85	26	P	Pn	12 10 18.4	-1.4
	0.5nm5μm30nm,0.5s						
BBSI	Bau Bau	6.10	276	P	Pn	12 10 22.0	-0.7
	0.1nm14nm,1.0s						
BATI	Baumata	6.39	231	P	Pn	12 10 25.3	-0.8
	230nm,0.4s,baz=0.0,slow=2.0,SNR=40						
BATI				S	S	12 11 38.0	-4.6
	29nm,0.4s,baz=72,slow=20,SNR=7.2						
BATI	Baumata	6.39	231	P	Pn	12 10 24.7	-1.4
	1.1nm3μm233nm,0.5s						
MTN	Manton Dam	7.08	160	Pn	Pn	12 10 33.2	-1.1
MTN	Manton Dam	7.08	160	P	Pn	12 10 33.4	-0.9
RKPI	Ransiki, Papua	7.17	50	P	Pn	12 10 36.3	+0.9
	0.7nm5μm65nm,0.5s						
KDU	Kakadu	7.50	150	P	Pn	12 10 38.6	-0.7
KNRA	Kununurra	9.47	179		Pn	12 11 02.6	-0.5
KNRA	Kununurra	9.47	179	P	Pn	12 11 02.3	-0.8
WB0	Warramunga Arr	14.64	158	P	Pn	12 12 04.8	-0.3
WRAB	Tennant Creek	14.77	159	P	Pn	12 12 06.2	-0.5
WRA	Warramunga Arr	14.78	159	P	Pn	12 12 06.3	-0.4
	5.0nm,0.4s,baz=334,slow=13,SNR=82						
WRA				S	S	12 14 44.0	-1.8
	0.9nm,0.4s,baz=337,slow=21,SNR=10						
WRA	Warramunga Arr	14.78	159	P	P	12 12 05.1	0.0
WB2	Warramunga Arr	14.78	159	P	Pn	12 12 06.8	0.0
WR0	Warramunga Arr	14.87	158	P	Pn	12 12 07.5	-0.2
COEN	Coen	16.25	120	P	Pn	12 12 23.4	-0.4
COEN				IAmb	IAmb	12 12 24.3	
	comp=Z,11nm,0.7s						
COEN	Coen	16.25	120	P	Pn	12 12 23.7	-0.2
SJI	Sawahan	16.85	264	P	Pn	12 12 30.5	-0.5
MBWA	Marble Bar	17.25	209	P	P	12 12 32.6	+0.6
MBWA				IAmb	IAmb	12 13 14.2	
	comp=Z,20nm,1.2s						
PSA00	Pilbara Seismi	17.55	208	P	P	12 12 36.0	+0.8
PSA00				IAmb	IAmb	12 12 36.7	
	comp=Z,22nm,0.9s						
PSA00	Pilbara Seismi	17.55	208	P	P	12 12 36.2	+1.0
AS31	Alice Springs	18.13	164	P	P	12 12 43.7	+2.3
AS31				IAmb	IAmb	12 12 44.1	
	comp=Z,7.4nm,0.5s						
ASAR	Alice Springs	18.13	164	P	P	12 12 43.2	+1.8
	comp=Z,19nm,0.7s,baz=344,slow=12,SNR=295						
ASAR				S	S	12 15 53.2	+1.0
	comp=Z,3.5nm,0.8s,baz=341,slow=18,SNR=22						
FORT	Forrest	24.51	181	P	P	12 13 44.6	+2.1
BBOO	Buckleboo	27.41	166	P	P	12 14 09.7	+1.4
BBOO				IAmb	IAmb	12 14 13.5	
	comp=Z,28nm,1.4s						
MCQ	Macquarie Isla	54.04	159	P	P	12 17 43.1	-0.1
PETK	Petropavlovsk-	63.94	19	P	P	12 18 53.7	+3.0
MK31	Makanchi Array	66.80	327	P	P	12 19 11.4	+2.3
MKAR	Makanchi Array	66.80	327	P	P	12 19 12.0	+2.9
	comp=Z,0.4nm,0.5s,baz=117,slow=8.3,SNR=9.2						
	comp=Z,0.4nm,0.5s						
MKAR	Makanchi Array	66.80	327	P	P	12 19 11.6	+2.5
QSPA	South Pole Qui	83.82	180	P	P	12 20 46.8	+1.6

*INET **21** 12:09:06.4±0.8, 12˚.49N×88˚.79W, h15km±65km, MW3.8*
*SNET **21** 12:09:07.5±3.2, 12˚.62N×88˚.86W, h70km, ML4.0*
*NEIC **21** 12:09:07.2±0.6, 12˚.60N±0˚.10×88˚.9W±0˚.1, h55km±18km, mb4.1/1, Md4.0(SNET), Error ellipse: s-maj=19.0km s-min=9.4km az=50.0*
*IDC **21** 12:09:10.9±2.1, 12˚.72N×88˚.44W, h54km±22km, mb3.3/7, mbtmp3.5/9, ML3.1/2, Error ellipse: s-maj=57.6km s-min=11.3km az=42.0*
ISC 21 12:09:09.6±1.3, 12.63N±0˚.06×88.67W±0˚.05, h44km±14km, n51, σ1§44/60, mb3.6/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.70	8	eP	Pn	12 09 22.5	-0.7
ALJI				eS	Sn	12 09 33.0	0.0
COEB	Comit de Eme	0.88	9	eP	Pn	12 09 24.9	-0.8
COEB				eS	Sn	12 09 38.1	+0.8
PACA	Pacayal	0.90	22	eP	Pn	12 09 26.5	+0.4
PACA				eS	Sn	12 09 38.8	+0.8
PACA	Pacayal	0.90	22	eP	Pn	12 09 26.0	-0.1
PACA				eS	Sn	12 09 36.5	-1.5
BLLM	Bellamira	0.91	28	eP	Pn	12 09 24.8	-1.4
PQSS	Presa 15 de Se	1.00	6	eP	Pn	12 09 26.8	-0.4
COEG	Centro de Oper	1.00	348	eP	Pn	12 09 26.4	-1.0
LCND	La Caada	1.02	48	eP	Pn	12 09 26.8	-0.7
LCND				eS	Sn	12 09 42.0	+1.3
CNCH	Conchagua	1.04	52	eP	Pn	12 09 28.1	+0.1
SCLA	Alcaldia de Sa	1.07	357	eP	Pn	12 09 27.9	-0.4
PAVA	Las Pavas	1.11	347	eP	Pn	12 09 27.7	-1.2
SNET	Serv Nac Est T	1.18	333	Pn	Pn	12 09 26.9	-3.0
LFU	La Fuente	1.19	339	eP	Pn	12 09 28.9	-1.1
BOQS	Boqueron	1.25	332	eP	Pn	12 09 30.0	-0.8
JAYA	Jayaque - finc	1.27	324	eP	Pn	12 09 30.0	-1.1
P5NO	Presa 5 de nov	1.35	357	eP	Pn	12 09 32.0	-0.1
P5NO				eS	Sn	12 09 50.3	+1.4
SBLS	San Blas	1.52	323	eP	Pn	12 09 34.2	-0.3
RTR	El Retiro	1.58	323	eP	Pn	12 09 34.4	-0.9
CRIN	San Cristobal	1.59	87	Pn	Pn	12 09 35.1	-0.2
CRIN	San Cristobal	1.59	87	eP	Pn	12 09 34.9	-0.5
CRIN				eS	Sn	12 09 54.9	+0.2
NUBE	Las Nubes	1.66	320	eP	Pn	12 09 34.9	-1.6
MTO3	Montecristo	1.88	339	Pn	Pn	12 09 36.4	-3.1
CNGN	Cerro Negro	1.93	94	Pn	Pn	12 09 39.5	-0.5
CNGN	Cerro Negro	1.93	94	eP	Pn	12 09 41.2	+1.1
TGUH	Tegucigalpa,Un	1.97	44	Pn	Pn	12 09 40.6	0.0
ESQI	Esquipulas	2.03	341	Pn	Pn	12 09 38.4	-3.0
MOMN	Momotombo	2.10	96	eP	Pn	12 09 40.7	-1.6
MATN	Matagalpa	2.70	83	Pn	Pn	12 09 50.8	+0.2
MATN	Matagalpa	2.70	83	eP	Pn	12 09 50.1	-0.5
BOAB	BOACO BROADBAN	2.94	93	Pn	Pn	12 09 53.2	-0.7
BOAB	BOACO BROADBAN	2.94	93	eP	Pn	12 09 52.5	-1.3
ACON	Acoyapa	3.48	100	Pn	Pn	12 10 02.2	+0.9
ACON	Acoyapa	3.48	100	eP	Pn	12 10 04.5	+3.2
HZTE	Horizontes, Gu	3.57	122	Pn	Pn	12 10 01.9	-0.5
ORTG	Ortega, Santa	3.87	125	Pn	Pn	12 10 06.3	-0.5
DUNO	Dulce Nombre,	4.02	129	Pn	Pn	12 10 08.9	+0.2
ESPN	Las Esperanzas	4.29	95	Pn	Pn	12 10 12.6	+0.1
JTS	Las Juntas de	4.33	122	P	Pn	12 10 12.5	-0.4
	1.1nm,0.3s,baz=241,slow=17,SNR=2.7						
JTS				S	Sn	12 11 00.6	-1.5
	13nm,0.5s,baz=321,slow=19,SNR=3.9						
	3.6nm,0.3s						
RIMA	Rio Macho	5.51	121	Pn	Pn	12 10 30.2	+0.8
PEZE	Perez Zeledon,	5.87	123	Pn	Pn	12 10 34.1	-0.1
SRBA	San Rafael, Bu	6.21	122	Pn	Pn	12 10 39.3	+0.3
CMIG	Matias Romero	7.46	307	P	Pn	12 10 58.2	+2.2
	0.3nm,0.3s,baz=156,slow=5.4,SNR=5.8						
CMIG				S	Sn	12 12 24.9	+5.5
	3.2nm,0.7s,baz=112,slow=22,SNR=2.2						
	2.9nm,0.8s						
BAUV	El Baul	20.59	98	P	P	12 13 43.2	-2.0
BAUV				IAmb	IAmb	12 14 01.1	
	comp=Z,11nm,1.1s						
TXAR	Lajitas Array	21.69	322	P	P	12 13 57.7	+0.8
	comp=Z,0.7nm,0.6s,baz=144,slow=11,SNR=9.7						
	comp=Z,0.7nm,0.6s						
PDAR	Pinedale Array	35.06	333	P	P	12 15 59.0	+0.4
	comp=Z,0.1nm,0.4s,baz=212,slow=14,SNR=2.1						
	comp=Z,0.1nm,0.4s						
LPAZ	La Paz	35.19	144	P	P	12 16 00.5	+0.1
	comp=Z,1.1nm,0.7s,baz=320,slow=7.5,SNR=3.7						
	comp=Z,1.1nm,0.7s						
NVAR	Mina Array Bea	36.79	320	P	P	12 16 15.6	+2.1
	comp=Z,0.1nm,0.5s,baz=123,slow=6.6,SNR=2.5						
	comp=Z,0.1nm,0.5s						
CPUP	Villa Florida	49.28	142	P	P	12 17 52.9	-1.3
	comp=Z,1.3nm,0.6s,baz=301,slow=6.6,SNR=3.6						
	comp=Z,1.3nm,0.6s						
INK	Inuvik	62.68	343	P	P	12 19 29.3	-0.2
	comp=Z,0.7nm,0.6s,baz=98,slow=7.5,SNR=4.8						
	comp=Z,0.7nm,0.6s						
ILAR	Eielson Array	65.38	336	P	P	12 19 47.5	+0.2
	comp=Z,0.5nm,0.9s,baz=178,slow=5.5,SNR=5.7						
	comp=Z,0.5nm,0.9s						
WRA	Warramunga Arr	138.17	254	PKP	PKiKP	12 28 31.7	-1.1
	comp=Z,0.2nm,0.7s,baz=128,slow=5.0,SNR=1.2						

JMA 21 12:18:20.6±0.1, 32˚.5N±0˚.2×130˚.6E±0˚.3, h7km±1km, MV0.6/28, SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.14	80	P	Pg	12 18 23.5	-0.1
JIU3				eS	Sg	12 18 25.7	0.0
JZO	Okuchi	0.39	186	eS	Sg	12 18 33.0	-0.2
JTA	Tamana	0.45	348	eP	Pg	12 18 29.6	+0.2

*JMA **21** 12:37:42.9±0.2, 26˚N±1˚×12˚6E±˚, h84km±2km, MV3.0/21, NW OFF OKINAWAJIMA IS*
*IDC **21** 12:37:44.0±6.5, 26˚.06N×126˚.21E, h98km±76km, mb3.2/5, mbtmp3.5/6, ML2.6/1, MS3.3/1, Error ellipse: s-maj=74.2km s-min=18.3km az=62.0*
ISC 21 12:37:43.0±0.9, 26˚.02N±0˚.09×126˚.04E±0˚.07, h86km±10km, n25, σ0§68/36, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.74	65	P	Pn	12 37 59.5	0.0
JKE				S	Sn	12 38 11.5	-0.3
JAGN	Aguni-jima	1.22	62	P	Pn	12 38 05.3	+0.3
JAGN				eS	Sn	12 38 21.4	-0.2
JIKM	Ikemajima	1.30	213	P	Pn	12 38 06.3	+0.3
JIKM				eS	Sn	12 38 23.5	+0.1
JOGS	Gusukube	1.38	205	P	Pn	12 38 07.3	+0.3
JOGS				eS	Sn	12 38 25.5	+0.4
JIRB	Irabujima	1.42	214	P	Pn	12 38 07.5	0.0
JIRB				eS	Sn	12 38 25.7	-0.3
JMJ2	Miyako jima3	1.42	207	P	Pn	12 38 08.1	+0.5
JMJ2				S	Sn	12 38 26.3	+0.2
JJT3	Tamagusuku3	1.58	85	P	Pn	12 38 09.8	+0.3
JJT3				S	Sn	12 38 29.6	0.0
JTJ	Tarama	1.83	222	P	Pn	12 38 13.1	+0.3
JTJ				S	Sn	12 38 34.8	-0.6
JNTH	Nagotoyohara	1.85	74	P	Pn	12 38 13.1	0.0
JIH	Iheya	2.00	59	P	Pn	12 38 15.8	+0.8
JISG	Ishigakijimahi	2.11	228	P	Pn	12 38 16.6	+0.1
JISG				S	Sn	12 38 41.4	-0.8
JOW	Kunigami	2.17	68	P	Pn	12 38 17.8	+0.6
	3.6nm,0.3s,baz=234,slow=12,SNR=24						
JOW				S	Sn	12 38 41.7	-1.7
	36nm,0.3s,baz=113,slow=25,SNR=8.1						
	12nm,0.3s						
JOW	Kunigami	2.17	68	P	Pn	12 38 17.6	+0.4
JIJ	Ishigaki jima	2.38	227	P	Pn	12 38 19.7	-0.4
JIJ				eS	Sn	12 38 47.2	-1.3
JYRO	Yoronjima	2.38	65	P	Pn	12 38 20.4	+0.2
JKRS	Kuro-shima	2.55	226	eP	Pn	12 38 22.8	+0.4
JKRS				eS	Sn	12 38 52.3	-0.3
JOKE	Okinoerabujima	2.63	59	eP	Pn	12 38 23.8	+0.3
IRIF	Iriomote-Funau	2.68	232	eP	Pn	12 38 24.5	+0.4
JTK	Tokunoshima	3.14	55	P	Pn	12 38 30.6	+0.3
SONM	Songino Array	26.70	330	P	P	12 43 16.4	+2.2
	0.4nm,0.4s,baz=144,slow=11,SNR=4.2						
	0.4nm,0.4s						
MKAR	Makanchi Array	40.22	313	P	P	12 45 10.5	-0.7
	0.4nm,0.6s,baz=98,slow=9.9,SNR=6.0						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	41.24	324	P	P	12 45 18.6	-0.8
	0.4nm,0.4s,baz=98,slow=8.9,SNR=2.2						
	0.4nm,0.4s						
WRA	Warramunga Arr	46.39	169	P	P	12 46 00.3	-0.7
	0.7nm,0.6s,baz=350,slow=8.4,SNR=9.3						
	0.7nm,0.6s						
BVAR	Borovoye Array	49.13	319	LR	LR	13 07 48.4	
	comp=Z,28nm,19.6s,baz=311,slow=37						
ASAR	Alice Springs	49.98	171	P	P	12 46 28.8	+0.2
	0.3nm,0.8s,baz=355,slow=15,SNR=4.8						
	0.3nm,0.8s						

*JMA **21** 12:41:58.7±0.3, 37˚.0N±0˚.6×14˚2E±˚, h29km±4km, MV3.0/25, E OFF FUKUSHIMA PREF*
*IDC **21** 12:41:58.5±3.2, 36˚.65N×142˚.24E, h0km, mb3.1/2, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=52.3km s-min=43.9km az=37.0*
ISC 21 12:41:57.8±1.5, 37˚.06N±0˚.06×142˚.1E±0˚.1, h19km, n18, σ1§42/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.99	288	P	Pb	12 42 16.0	-0.4
JMST	Minamisoumatoc	1.14	306	P	Pn	12 42 18.7	0.0
JMST				eS	Sb	12 42 33.2	-0.2
JFFD	Fukushimafurud	1.19	272	P	Pn	12 42 18.5	-1.0
JHO	Hitachi	1.27	250	P	Pn	12 42 19.4	-1.2
JMM	Marumori	1.28	309	P	Pn	12 42 21.0	+0.2
JIO	Ouri	1.50	338	P	Pb	12 42 24.2	-0.8
JOU	Okura	1.71	320	eP	Pb	12 42 28.0	-0.6
JOU				S	Sb	12 42 49.4	-0.3
JAG	Ashikaga	2.18	254	eP	Pn	12 42 33.3	+0.2
MJAR	Matsushiro Arr	3.13	262	Pn	Pn	12 42 50.0	+3.9
	0.3nm,0.3s,baz=90,slow=21,SNR=6.7						
	3.1nm,0.4s						
JHJ	Hachijo jima 2	4.35	206	Pn	Pn	12 43 02.9	0.0
	4.4nm,0.3s,baz=62,slow=14,SNR=2.2						
JHJ				Sn	Sn	12 43 51.3	-1.7
	3.2nm,0.3s,baz=271,slow=18,SNR=1.5						
	30nm,0.5s						
H11N2	WAKE ISLAND Hy 27.72	122		T	T	13 16 45.4	
	baz=314,slow=75,SNR=8.1						
H11N1	WAKE ISLAND Hy 27.73	122		T	T	13 16 43.2	
	baz=314,slow=75,SNR=6.0						
H11N3	WAKE ISLAND Hy 27.74	122		T	T	13 16 46.9	
	baz=314,slow=75,SNR=6.1						
H11S1	WAKE ISLAND Hy 28.45	124		T	T	13 17 46.1	
	baz=316,slow=76,SNR=6.6						
H11S3	WAKE ISLAND Hy 28.45	124		T	T	13 17 43.3	
	baz=316,slow=76,SNR=4.6						
H11S2	WAKE ISLAND Hy 28.46	124		T	T	13 17 40.3	
	baz=316,slow=76,SNR=5.1						
WRA	Warramunga Arr	57.16	189	P	P	12 51 43.9	+0.5
	0.1nm,0.4s,baz=5.2,slow=7.1,SNR=5.9						
	0.1nm,0.4s						
ASAR	Alice Springs	60.89	189	P	P	12 52 10.6	+1.4
	0.2nm,0.8s,baz=356,slow=6.0,SNR=1.7						
	0.2nm,0.8s						

*NOU **21** 12:45:40.9, 42˚.03S×174˚.34E, h3km, MLv3.8/8, Off E. Coast of S. Island, N.Z.*
*WEL **21** 12:45:41.8±0.4, 42˚.2S±4˚×17˚4E±˚, h6km±4km, M3.3/40, ML3.6/17, MLv3.3/40, Error ellipse: s-maj=0.0km s-min=0.0km az=142.9*
ISC 21 12:45:40.6±1.4, 41˚.92S±0˚.03×174˚.20E±0˚.03, h5km±14km, n83, σ1§45/85, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.17	5	P	Pg	12 45 44.6	+0.5
BSWZ	Blackbirch Sta	0.32	311	P	Pg	12 45 46.7	0.0
BSWZ				S	Sg	12 45 51.0	+0.1
TUWZ	Tuamarina	0.53	339	P	Pg	12 45 50.8	+0.1
KHZ	Kahutara	0.69	225	P	Pb	12 45 56.3	+1.1
TCW	Tory Channel	0.72	5	P	Pg	12 45 54.4	+0.1
TCW				S	Sb	12 46 04.3	-1.4
SNZO	South Karori	0.72	32	P	Pb	12 45 56.0	+0.3
WEL	Wellington	0.77	34	P	Pb	12 45 56.9	+0.4
PLWZ	Palliser	0.87	66	P	Pb	12 45 59.4	+1.2
NNZ	Nelson	0.94	319	P	Pg	12 45 57.9	-0.6
MSWZ	Moikau Station	0.94	58	P	Pb	12 46 00.3	+0.9
THZ	Tophouse	0.98	279	P	Pg	12 45 59.7	+0.3
CAW	Cannon Point	1.05	39	P	Pb	12 46 01.8	+0.6
PAWZ	Paruwai Farm	1.07	60	P	Pg	12 46 01.8	+0.7
DUWZ	D'Urville Isla	1.14	350	P	Pg	12 46 01.6	-0.9
KIW	Kapiti Island	1.19	27	P	Pg	12 46 03.6	+0.2
MRNZ	Matariki Terra	1.20	295	P	Pg	12 46 03.6	0.0
TRWZ	Traveller	1.24	65	P	Pg	12 46 04.0	-0.3
MTW	Mount Morrison	1.24	52	P	Pg	12 46 04.2	-0.2
TKNZ	Takaka Hill	1.28	313	P	Pg	12 46 04.3	-1.0
OGWZ	Otaki Gorge	1.33	34	P	Pn	12 46 05.8	0.0
GVZ	Greta Valley S	1.35	219	P	Pn	12 46 06.8	+0.6
HOWZ	Holdsworth Sta	1.43	45	P	Pn	12 46 06.7	-0.5
TMWZ	Te Maipa	1.51	58	P	Pn	12 46 07.6	-0.9
MRZ	Mangatainoka R	1.64	40	P	Pn	12 46 09.6	-0.5
LTZ	Lake Taylor	1.66	238	P	Pn	12 46 11.2	+0.7
QRZ	Quartz Range	1.67	311	P	Pn	12 46 10.9	+0.4
QRZ	Quartz Range	1.67	311	P	Pn	12 46 10.8	+0.3
AMCZ	Amberley	1.69	222	P	Pn	12 46 12.5	+1.7
DSZ	Denniston Nort	1.79	275	P	Pn	12 46 13.5	+1.2
PRWZ	Pori Road	1.91	45	P	Pn	12 46 13.3	-0.6
BFZ	Birch Farm	1.98	52	P	Pn	12 46 13.6	-1.2
BFZ	Birch Farm	1.98	52	P	Pn	12 46 13.5	-1.4
OKCZ	Okains Bay	1.98	205	P	Pn	12 46 14.7	-0.2
MQZ	McQueen's Vall	2.11	212	P	Pn	12 46 16.0	-0.7
OXZ	Oxford	2.12	228	P	Pn	12 46 16.5	-0.3
INZ	Inchbonnie	2.19	248	P	Pn	12 46 19.5	+1.8
DVHZ	Dannevirke	2.20	43	P	Pn	12 46 16.6	-1.3
WAZ	Wanganui	2.25	16	P	Pb	12

LC02	**Puerto Saavedr**	**0.77**	**148**			**Pb**	**12 52 04.2**	**+0.3**
LC02				Sg		**Sb**	**12 52 14.9**	**+0.9**
LC02	**Puerto Saavedr**	**0.77**	**148**	⇓*iP*		**Pb**	**12 52 04.2**	**+0.3**
LC02				*eS*		**Sb**	**12 52 14.2**	**+0.2**
LC02				IAML			12 52 19.9	
	comp=N,142μm,0.5s							
CCSP	**San Pedro de C**	**1.44**	**26**	*eS*		**Sb**	**12 52 33.4**	**0.0**
BI05	**Punta Hualpn**	**1.50**	**22**			**Pn**	**12 52 15.5**	**+0.4**
BI05	**Punta Hualpn**	**1.50**	**22**	⇑*iP*		**Pn**	**12 52 15.5**	**+0.4**
BI05				*eS*		**Sb**	**12 52 34.8**	**-0.4**
LR02	**Universidad Au**	**1.74**	**163**	*iP*		**Pn**	**12 52 19.3**	**+1.0**
LR02				*eS*		**Sn**	**12 52 37.6**	**-2.4**
LR02				IAML			12 52 48.6	
	comp=E,23μm,0.2s							
LR04	**Corral**	**1.77**	**168**	Pn		**Pn**	**12 52 18.6**	**-0.3**
LR04	**Corral**	**1.77**	**168**	*iP*		**Pn**	**12 52 18.6**	**-0.3**
LR04				*eS*		**Sn**	**12 52 37.1**	**-3.9**
LR04				IAML			12 52 48.1	
	comp=E,18μm,0.3s							
LR03	**Panguipulli**	**1.92**	**141**	⇑*iP*		**Pn**	**12 52 21.5**	**+0.6**
LR03				*eS*		**Sn**	**12 52 45.1**	**+0.5**
GO06	**Curarrehue**	**2.38**	**128**	Pn		**Pn**	**12 52 28.5**	**+1.1**
GO06	**Curarrehue**	**2.38**	**128**	⇑*iP*		**Pn**	**12 52 28.4**	**+1.1**
GO06				*eS*		**Sb**	**12 52 57.9**	**-2.7**
LL04	**Puerto Octay**	**3.00**	**158**			**Pn**	**12 52 35.5**	**-0.1**
LL04	**Puerto Octay**	**3.00**	**158**	*iP*		**Pn**	**12 52 35.4**	**-0.3**
LL04				*eS*		**Sn**	**12 53 09.3**	**-1.8**
LL04				IAML			12 53 10.1	
	comp=N,2μm,0.2s							
ML02	**Panimavida**	**3.10**	**41**	Pn		**Pn**	**12 52 37.2**	**+0.1**
ML02	**Panimavida**	**3.10**	**41**	*eP*		**Pn**	**12 52 37.2**	**+0.1**
LL05	**Los Muermos**	**3.28**	**174**			**Pn**	**12 52 39.8**	**+0.3**
LL05	**Los Muermos**	**3.28**	**174**	*iP*		**Pn**	**12 52 39.6**	**+0.1**
LL05				*eS*		**Sn**	**12 53 16.9**	**-1.1**
GO05	**Huala**	**3.51**	**28**	⇑*iP*		**Pn**	**12 52 42.6**	**-0.1**
PLCA	**Paso Flores**	**3.67**	**136**	Pn		**Pn**	**12 52 44.5**	**-0.5**
	comp=N,2.0nm,0.3s,baz=297,slow=9.1,SNR=53							
PLCA				Lg		Lg	12 53 36.3	
	comp=N,21nm,0.3s,baz=229,slow=11,SNR=3.5							
	comp=N,9.4nm,0.5s							
PLCA	**Paso Flores**	**3.67**	**136**	Pn		**Pn**	**12 52 46.4**	**+1.5**
PLCA	**Paso Flores**	**3.67**	**136**	*eP*		**Pn**	**12 52 46.4**	**+1.5**
BO03	**Pichilemu**	**3.96**	**24**	⇑*iP*		**Pn**	**12 52 48.8**	**-0.2**
LL06	**Loncomilla**	**4.07**	**177**			**Pn**	**12 52 51.1**	**+0.7**
LL06	**Loncomilla**	**4.07**	**177**	*iP*		**Pn**	**12 52 50.7**	**+0.2**
LL06				*eS*		**Sn**	**12 53 33.0**	**-4.6**
BO02	**Sierra Bellavi**	**4.18**	**38**			**Pn**	**12 52 52.6**	**+0.5**
BO02	**Sierra Bellavi**	**4.18**	**38**	*iP*		**Pn**	**12 52 52.5**	**+0.4**
BO01	**Tunca**	**4.38**	**32**			**Pn**	**12 52 54.9**	**+0.1**
BO01	**Tunca**	**4.38**	**32**	⇑*iP*		**Pn**	**12 52 54.8**	**+0.1**
MT01	**Popeta**	**4.78**	**28**			**Pn**	**12 53 00.1**	**-0.1**
VA05	**Santo Domingo**	**4.85**	**23**			**Pn**	**12 53 00.2**	**-0.9**
BO04	**La Punta**	**4.93**	**34**	⇑*iP*		**Pn**	**12 53 02.0**	**-0.3**
LMEL	**Las Melosas**	**5.23**	**36**			**Pn**	**12 53 07.4**	**+0.9**
MT02	**Curacav**	**5.37**	**26**	Pn		**Pn**	**12 53 07.5**	**-0.7**
VA01	**Torpederas**	**5.43**	**20**			**Pn**	**12 53 08.8**	**-0.3**
ROC1	**El Roble**	**5.67**	**25**			**Pn**	**12 53 12.2**	**-0.4**
H03S1	**Juan Fernandez**	**5.90**	**315**	Pn		**Pn**	**12 53 16.6**	**+1.3**
	baz=103,slow=9.9							
H03S1				T		T	12 59 13.1	
	baz=136,slow=74,SNR=1115							
H03S3	**Juan Fernandez**	**5.92**	**315**	Pn		**Pn**	**12 53 16.8**	**+1.2**
	baz=103,slow=9.9							
H03S3				T		T	12 59 14.0	
	baz=136,slow=74,SNR=843							
H03S2	**Juan Fernandez**	**5.92**	**315**	Pn		**Pn**	**12 53 16.6**	**+1.0**
	baz=103,slow=9.9							
H03S2				T		T	12 59 17.9	
	baz=136,slow=74,SNR=898							
VA03	**San Esteban**	**6.02**	**28**			**Pn**	**12 53 16.7**	**-0.7**
H03N3	**Juan Fernandez**	**6.21**	**317**	T		T	12 59 45.6	
	baz=133,slow=76,SNR=56							
H03N1	**Juan Fernandez**	**6.21**	**318**	Pn		**Pn**	**12 53 21.5**	**+1.9**
H03N1				T		T	12 59 44.8	
	baz=133,slow=76,SNR=37							
H03N2	**Juan Fernandez**	**6.22**	**317**	T		T	12 59 42.2	
	baz=133,slow=76,SNR=37							
CO03	**El Pedregal**	**7.75**	**21**	Pn		**Pn**	**12 53 40.9**	**-0.2**
TRQA	**Tornquist**	**9.40**	**93**	Pn		**Pn**	**12 54 05.5**	**+1.9**
LCO	**Las Campanas**	**9.49**	**17**	Pn		**Pn**	**12 54 03.9**	**-1.2**
PB15	**IPOC Station P**	**15.36**	**16**	Pn		**Pn**	**12 55 25.4**	**+0.2**
LVC	**Limon Verde**	**16.07**	**17**	Pn		**Pn**	**12 55 35.5**	**+1.0**
	comp=N,0.4nm,0.3s,baz=159,slow=17,SNR=1.6							
LVC				LR		LR	13 01 23.8	
	comp=N,460nm,19.8s,baz=189,slow=36							
	comp=N,1.7nm,0.5s							
EFI	**East Falkland**	**17.52**	**146**	P		**Pn**	**12 55 52.0**	**-0.3**
EFI				IAmb		IAmb	12 55 58.0	
	comp=Z,137nm,1.8s							
PLTB	**Pedras Altas**	**17.80**	**75**	*eP*		**P**	**12 55 56.6**	**+0.1**
CPUP	**Villa Florida**	**18.28**	**55**	P		**Pn**	**12 55 59.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=250,slow=16,SNR=2.4							
CPUP				LR		LR	13 03 47.1	
	comp=Z,2μm,18.2s,baz=230,slow=40							
	comp=Z,3.2nm,0.8s							
CPUP	**Villa Florida**	**18.28**	**55**	*eP*		**P**	**12 56 02.0**	**+0.2**
MNMC	**Minye Minye**	**19.31**	**12**	P		**P**	**12 56 11.2**	**-2.3**
ITAB	**Concordia**	**21.26**	**66**	*eP*		**P**	**12 56 34.5**	**+0.2**
MURT	**Porto Murtinho**	**21.61**	**45**	*eP*		**P**	**12 56 37.9**	**-0.2**
MCR1	**Marechal Candi**	**21.72**	**57**	*eP*		**P**	**12 56 39.3**	**0.0**
LPAZ	**La Paz**	**22.36**	**15**	P		**P**	**12 56 46.2**	**-0.6**
	comp=Z,5.6nm,1.0s,baz=184,slow=8.6,SNR=9.9							
	comp=Z,5.6nm,1.0s							
LPAZ	**La Paz**	**22.36**	**15**	P		**P**	**12 56 45.9**	**-0.9**
LPAZ				IAmb		IAmb	12 56 59.0	
	comp=Z,60nm,1.9s							
TER01	**Tubaro-SC**	**22.75**	**72**	*eP*		**P**	**12 56 50.9**	**+0.5**
PTGB	**Pitanga**	**22.87**	**61**	*eP*		**P**	**12 56 51.7**	**0.0**
BBRB	**Robore, Bolivi**	**23.31**	**36**	*eP*		**P**	**12 56 55.9**	**-0.3**
AQDB	**Aquidauana**	**23.63**	**47**	P		**P**	**12 56 59.1**	**-0.1**
AQDB				IAmb		IAmb	12 57 01.7	
	comp=Z,66nm,1.9s							
AQDB	**Aquidauana**	**23.63**	**47**	*eP*		**P**	**12 57 00.0**	**+0.8**
TRCB	**Terra Rica**	**23.79**	**56**	P		**P**	**12 56 59.0**	**-1.8**
BBSD	**Serra de San D**	**23.91**	**33**	*eP*		**P**	**12 57 02.7**	**+0.7**
SIV	**San Ignacio**	**24.80**	**31**	P		**P**	**12 57 10.3**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=219,slow=9.8,SNR=9.3							
SIV				LR		LR	13 09 09.9	
	comp=Z,653nm,18.3s,baz=222,slow=42							
	comp=Z,3.0nm,0.9s							
FRTB	**Fartura**	**25.50**	**62**	*eP*		**P**	**12 57 16.9**	**+0.5**
PCMB	**Pacaembu**	**25.53**	**56**	*eP*		**P**	**12 57 17.4**	**+0.7**
PTLB	**Pontes e Lacer**	**26.10**	**34**	P		**P**	**12 57 22.4**	**+0.6**
PTLB				IAmb		IAmb	12 57 30.7	
	comp=Z,18nm,1.3s							
PTLB	**Pontes e Lacer**	**26.10**	**34**	*eP*		**P**	**12 57 21.9**	**+0.1**
NNA	**Nana**	**26.18**	**353**	P		**P**	**12 57 19.3**	**-3.4**
NNA				IAmb		IAmb	12 57 41.2	
	comp=Z,28nm,1.5s							
C2SB	**Chapadao do Su**	**26.64**	**49**	*eP*		**P**	**12 57 28.2**	**+1.5**
PMSA	**Palmer Station**	**27.30**	**171**	LR		LR	13 09 05.3	
	comp=Z,395nm,19.0s,baz=310,slow=38							
SALV	**Santo Antonio**	**27.36**	**41**	*eP*		**P**	**12 57 34.4**	**+1.2**
ITRB	**Iturama**	**27.48**	**55**	*eP*		**P**	**12 57 36.7**	**+2.4**
RCLB	**Rio Claro- Sao**	**27.52**	**63**	*eP*		**P**	**12 57 36.5**	**+1.8**
VAO	**Valinhos**	**27.54**	**65**	*eP*		**P**	**12 57 36.4**	**+1.5**
BB19B	**Bebedouro**	**27.73**	**59**	*eP*		**P**	**12 57 38.8**	**+2.2**
VILB	**Vilhena**	**27.90**	**30**	*eP*		**P**	**12 57 39.6**	**+1.6**
ETMB	**Extrema**	**29.04**	**16**	P		**P**	**12 57 48.6**	**+0.4**
ETMB				IAmb		IAmb	12 57 58.9	
	comp=Z,18nm,1.3s							
ETMB	**Extrema**	**29.04**	**16**	*eP*		**P**	**12 57 50.0**	**+1.8**
VAS01	**Vassouras-RJ**	**30.53**	**68**	*eP*		**P**	**12 58 03.1**	**+1.7**
PDRB	**Porto dos Gac**	**30.56**	**35**	*eP*		**P**	**12 58 02.7**	**+1.0**
SAML	**Samuel**	**30.63**	**21**	P		**P**	**12 58 02.6**	**+0.3**
SAML				IAmb		IAmb	12 58 18.1	
	comp=Z,18nm,1.9s							
DUB01	**Friburgo-RJ**	**31.43**	**68**	*eP*		**P**	**12 58 10.8**	**+1.3**
RPN	**Rapa Nui**	**31.62**	**280**	LR		LR	13 07 23.2	
	comp=Z,387nm,19.1s,baz=110,slow=29							
CLDB	**Colider**	**31.63**	**36**	*eP*		**P**	**12 58 12.0**	**+0.8**
BDFB	**Brasilia**	**31.98**	**53**	LR		LR	13 10 37.2	
	comp=Z,255nm,21.0s,baz=212,slow=36							
SNDB	**Serra Nova Dou**	**32.96**	**44**	*eP*		**P**	**12 58 23.0**	**+0.2**
MC01	**Montes Claros**	**33.86**	**59**	*eP*		**P**	**12 58 31.0**	**+0.2**
SJMB	**Sao Joao De Ma**	**34.43**	**65**	*eP*		**P**	**12 58 35.0**	**-0.6**
RIB01	**Linhares ES**	**34.60**	**67**	*eP*		**P**	**12 58 38.8**	**+1.7**
JANB	**Januaria**	**34.80**	**57**	*eP*		**P**	**12 58 39.9**	**+0.1**
NAN01	**Guarapari, ES**	**35.75**	**65**	*eP*		**P**	**12 58 47.4**	**+0.4**
SDBA	**SAO DESIDERIO**	**36.39**	**53**	*eP*		**P**	**12 58 53.0**	**+0.4**
GUA01	**Guaratinga, BA**	**36.81**	**64**	*eP*		**P**	**12 58 57.7**	**+1.6**
SMTB	**Santa Maria do**	**37.57**	**46**	*eP*		**P**	**12 59 03.9**	**+1.3**
CMC01	**Camacan, BA**	**37.85**	**63**	*eP*		**P**	**12 59 06.2**	**+1.4**
SGCB	**S£o Gabriel d**	**38.36**	**11**	*eP*		**P**	**12 59 09.5**	**+0.4**
BELA	**Belgrano 2**	**43.10**	**169**	P		**P**	**12 59 46.7**	**-0.9**
VNA3	**Neumayer Olymp**	**46.14**	**156**	P		P	13 00 22.0	+10
VNA1	**Neumayer--Stat**	**46.51**	**155**	P		P	13 00 24.5	+10
VNA2	**Neumayer--Watz**	**46.83**	**156**	P		**P**	**13 00 19.7**	**+2.3**
	baz=286,slow=11							
RCBR	**Riachuelo**	**47.14**	**57**	LR		LR	13 21 53.2	
	comp=Z,1μm,18.0s,baz=358,slow=38							
BAUV	**El Baul**	**47.16**	**8**	P		**P**	**13 00 20.5**	**0.0**
SNAA	**Sanae**	**48.36**	**156**	P		**P**	**13 00 30.6**	**+1.2**
SNAA	**Sanae**	**48.36**	**156**	P		**P**	**13 00 30.8**	**+1.5**
SNAA				IAmb		IAmb	13 00 32.3	
	comp=Z,15nm,1.2s							
TROLL	**Troll, Antarti**	**50.05**	**157**	P		**P**	**13 00 44.1**	**+1.7**
QSPA	**South Pole Qui**	**52.10**	**180**	P		**P**	**13 00 58.2**	**+0.4**
	comp=Z,2.8nm,1.1s,baz=137,slow=2.1,SNR=5.5							
	comp=Z,2.8nm,1.1s							
QSPA	**South Pole Qui**	**52.10**	**180**	P		**P**	**13 00 57.3**	**-0.6**
SBA	**Scott Base**	**58.72**	**192**	P		**P**	**13 01 44.5**	**-0.5**
SBA				IAmb		IAmb	13 03 15.2	
	comp=Z,27nm,1.8s							
VNDA	**Vanda**	**59.75**	**192**	P		**P**	**13 01 49.9**	**-2.3**
VNDA				IAmb		IAmb	13 03 08.5	
	comp=Z,11nm,1.8s							
TBI	**Tubuai**	**64.97**	**259**	*eLR*		LR	13 21 48.4	
	comp=Z,932nm,25.0s							
TBI				*eLR*		LR	13 21 48.8	
	comp=Z,4μm,23.0s							
TAOE	**Nuku Hiva Isla**	**65.92**	**278**	*eLR*		LR	13 22 14.9	
	comp=Z,229nm,24.3s							
PPT2	**Papeete2**	**68.23**	**264**	*eLR*		LR	13 23 19.0	
	comp=Z,186nm,25.8s							
PPT2				*eLR*		LR	13 23 19.2	
	comp=Z,175nm,26.8s							
MAW	**Mawson**	**69.64**	**164**	LR		LR	13 32 06.9	
	comp=Z,182nm,21.6s,baz=220,slow=35							
LPIG	**La Paz**	**70.72**	**325**	LR		LR	13 27 37.4	
	comp=Z,142nm,18.1s,baz=164,slow=30							
143A	**Socs Landing,**	**72.34**	**345**	P		**P**	**13 03 11.7**	**-1.9**
TX31	**Lajitas Ar. Si**	**72.67**	**333**	P		**P**	**13 03 13.8**	**-1.9**
TXAR	**Lajitas Array**	**72.67**	**333**	P		**P**	**13 03 18.3**	**+2.6**
	comp=Z,0.5nm,0.7s,baz=148,slow=8.0,SNR=6.7							
TXAR				LR		LR	13 31 28.1	
	comp=Z,60nm,21.1s,baz=143,slow=33							
	comp=Z,0.5nm,0.7s							
TXAR	**Lajitas Array**	**72.67**	**333**	P		**P**	**13 03 14.7**	**-1.0**
SUR	**Sutherland**	**74.16**	**119**	LR		LR	13 29 37.2	
	comp=Z,190nm,21.8s,baz=189,slow=31							
LIC	**Lamto**	**77.51**	**72**	⇑*iP*		**P**	**13 03 45.3**	**+1.4**
	comp=Z,53nm,1.0s							
TIC	**Toumodi**	**77.79**	**71**	⇑*iP*		**P**	**13 03 46.5**	**+1.0**
	comp=Z,9.5nm,0.5s							
KIC	**Kosan Boka**	**77.81**	**72**	⇑*iP*		**P**	**13 03 47.1**	**+1.5**
	comp=Z,3.9nm,0.5s							
DBIC	**Dimbokro**	**77.93**	**72**	P		**P**	**13 03 46.2**	**0.0**
	comp=Z,3.9nm,0.9s,baz=260,slow=9.2,SNR=3.7							
	comp=Z,3.9nm,0.9s							
DBIC	**Dimbokro**	**77.93**	**72**			**P**	**13 03 46.2**	**0.0**
BOSA	**Boshof**	**79.47**	**118**	P		**P**	**13 03 53.7**	**-1.1**
	comp=Z,5.0nm,0.9s,baz=222,slow=5.4,SNR=6.1							
BOSA				LR		LR	13 35 20.4	
	comp=Z,118nm,20.2s,baz=199,slow=33							
	comp=Z,5.0nm,0.9s							
TSUM	**Tsumeb**	**79.53**	**106**	LR		LR	13 33 45.1	
	comp=Z,157nm,18.7s,baz=313,slow=32							
T25A	**Trinidad**	**80.03**	**336**	P		**P**	**13 03 55.2**	**-2.2**
T25A				IAmb		IAmb	13 04 10.1	
	comp=Z,11nm,1.0s							
LBTB	**Lobatse**	**81.92**	**115**	P		**P**	**13 04 08.2**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=234,slow=13,SNR=3.5							
LBTB				LR		LR	13 40 41.3	
	comp=Z,62nm,18.2s,baz=210,slow=36							
	comp=Z,2.6nm,0.7s							
NVAR	**Mina Array Bea**	**86.46**	**327**	P		**P**	**13 04 34.3**	**+3.7**
	comp=Z,0.1nm,0.4s,baz=123,slow=9.8,SNR=2.3							
	comp=Z,0.1nm,0.4s							
PDAR	**Pinedale Array**	**86.81**	**335**	P		**P**	**13 04 34.1**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=105,slow=9.8,SNR=1.9							
	comp=Z,0.1nm,0.3s							
LSZ	**Lusaka**	**89.91**	**109**	LR		LR	13 43 47.9	
	comp=Z,101nm,18.0s,baz=206,slow=35							
DZM	**Mont Dzumac**	**97.59**	**234**	LR		LR	13 41 17.1	
	comp=Z,621nm,18.9s,baz=194,slow=30							
DZM	**Mont Dzumac**	**97.59**	**234**	*eLR*		LR	13 36 56.6	
	comp=Z,221nm,26.3s							
H11S2	**WAKE ISLAND Hyd**	**24.15**	**267**	T		T	15 27 06.3	
	baz=126,slow=74,SNR=8.9							
H11S1	**WAKE ISLAND Hyd**	**24.15**	**267**	T		T	15 27 07.3	
	baz=126,slow=74,SNR=6.7							
H11S3	**WAKE ISLAND Hyd**	**24.15**	**267**	T		T	15 27 07.6	
	baz=126,slow=74,SNR=5.1							
ZALV	**Zalesovo Beam**	**158.50**	**36**	PKPab		**PKPab**	**13 12 21.2**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=278,slow=4.3,SNR=4.6							
MKAR	**Makanchi Array**	**160.48**	**56**	PKPab		**PKPab**	**13 12 29.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=289,slow=3.7,SNR=4.0							
PZH	**PanZhiHua**	**167.83**	**161**	PKP		**PKPdf**	**13 11 53.1**	**-1.5**
SONM	**Songino Array**	**170.31**	**359**	PKPab		**PKPab**	**13 13 14.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=299,slow=46,SNR=3.1							

MOS ***21*** *13:00:22.8± 1.0, 44.˚14S×38.˚47E, h10km, mb5.2/19, Error ellipse: s-maj=17.5km s-min=9.1km az=91.2*

IDC ***21*** *13:00:23.3± 0.4, 44.˚23S×38.˚55E, h0km, mb4.6/24, mbtmp4.6/25, ML4.6/1, MS4.6/53, Error ellipse: s-maj=16.4km s-min=12.9km az=87.0*

NEIC ***21*** *13:00:24.3± 2.1, 44.˚15S± 0.˚09×38.˚3E± 0.˚1, h10km± 1km, mb5.1/70, Error ellipse: s-maj=17.0km s-min=14.8km az=74.0*

BJI ***21*** *13:00:25.2± 0.0, 44.˚21S×38.˚36E, h24km, mb5.2/16, mB5.3/5, Ms5.2/3, Ms7 4.7/5*

GCMT ***21*** *13:00:27.3± 0.2, 44.˚17S± 0.˚01×38.˚22E± 0.˚02, h12km, MW5.2/119, Moment Tensor Solution. s53,c74; s119,c181; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.45±.15; Mθθ 5.49±.15; Mϕϕ -3.04±.14; Mrθ 1.31±.38; Mθϕ 5.37±.13; Mϕr 0.23±.40; Best double couple: M₀ 6.95600×10¹⁶ NP1:ϕs 109.00000°, δ90.00000°, λ10.00000°. NP2:ϕs 19.00000°, δ80.00000°, λ180.00000°. Principal axes: T 8.2360, Plg7.0000°, Azm334.0000°; N -2.5600, Plg80.0000°, Azm109.0000°; P -5.6760, Plg7.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 13:00:24.5± 0.3, 44.˚14S± 0.˚05×38.˚27E± 0.˚06, h10km, n327, σ1 8 77/263, mb5.0/80, MS4.6/61, 12C-4D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOE	**Somerset East**	**15.12**	**315**	Pn		**Pn**	**13 03 56.1**	**-2.2**
SOE				IAmb		IAmb	13 04 03.1	
	comp=Z,113nm,1.5s							
SOE	**Somerset East**	**15.12**	**315**	*eP*		**Pn**	**13 04 00.7**	**+2.4**
SOE				IAmb		IAmb	13 04 06.0	
	comp=Z,628nm,2.2s							
KSTD	**Kokstad**	**15.24**	**329**	*eP*		**Pn**	**13 03 57.9**	**-2.1**
KSTD				IAmb		IAmb	13 04 09.3	
	comp=Z,495nm,2.3s							
GRAF	**Camdeboo Natio**	**16.02**	**313**	*eP*		**Pn**	**13 04 10.1**	**+0.2**
GRAF				IAmb		IAmb	13 04 25.9	
	comp=Z,177nm,1.6s							
BFON	**Badsfontein, M**	**16.82**	**312**	*eP*		**Pn**	**13 04 19.1**	**-1.2**
BFON				IAmb		IAmb	13 04 36.4	
	comp=Z,471nm,2.1s							
BRAK	**Brakfontein**	**17.26**	**310**	*eP*		**Pn**	**13 04 24.1**	**-1.6**
BRAK				IAmb		IAmb	13 04 28.5	
	comp=Z,564nm,2.6s							
GRAN	**Grantham**	**17.27**	**308**	*eP*		**Pn**	**13 04 25.8**	**-0.1**
GRAN				IAmb		IAmb	13 04 31.5	
	comp=Z,25nm,0.7s							
MERW	**Merweville**	**17.38**	**306**	*eP*		**P**	**13 04 28.0**	**-0.6**
MERW				IAmb		IAmb	13 04 41.5	
	comp=Z,1μm,3.5s							
POGA	**Pongola**	**17.57**	**340**			**Pn**	**13 04 29.0**	**-0.5**
POGA	**Pongola**	**17.57**	**340**	*eP*		**P**	**13 04 31.2**	**+0.6**
POGA				IAmb		IAmb	13 04 32.2	
	comp=Z,36nm,1.0s							
NWCL	**Newcastle**	**17.70**	**335**	*eP*		**P**	**13 04 32.0**	**-0.2**
NWCL				IAmb		IAmb	13 04 33.6	
	comp=Z,194nm,2.0s							
FRAZ	**Fraserburg**	**17.99**	**307**	*eP*		**Pn**	**13 04 34.9**	**+0.1**
FRAZ				IAmb		IAmb	13 04 48.0	
	comp=Z,45nm,1.0s							
SUR	**Sutherland**	**18.01**	**305**	P		**Pn**	**13 04 33.1**	**-2.0**
	comp=Z,5.3nm,0.5s,baz=131,slow=15,SNR=13							
SUR				S		Sn	13 07 43.2	-13
	comp=Z,2.3nm,0.6s,baz=246,slow=14,SNR=1.4							
SUR				LR		LR	13 10 22.2	
	comp=Z,2μm,18.2s,baz=133,slow=33							
SUR	**Sutherland**	**18.01**	**305**	Pn		**Pn**	**13 04 33.4**	**-1.7**
SUR	**Sutherland**	**18.01**	**305**	*iP*		**Pn**	**13 04 31.7**	**-3.4**
SUR	**Sutherland**	**18.01**	**305**	*iP*		**Pn**	**13 04 31.7**	**-3.4**
CER	**Ceres**	**18.26**	**300**	*eP*		**Pn**	**13 04 37.7**	**-0.3**
CER				IAmb		IAmb	13 04 39.4	
	comp=Z,99nm,1.8s							
BOSA	**Boshof**	**18.66**	**322**	P		**Pn**	**13 04 43.2**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=156,slow=11,SNR=17							
BOSA				S		Sn	13 07 58.5	-13
	comp=Z,3.0nm,0.9s,baz=235,slow=19,SNR=1.7							
BOSA				LR		LR	13 10 37.7	
	comp=Z,4μm,20.2s,baz=147,slow=33							
	comp=Z,23nm,0.9s							
BOSA	**Boshof**	**18.66**	**322**	P		**P**	**13 04 41.9**	**-0.9**
BOSA	**Boshof**	**18.66**	**322**	*eP*		**P**	**13 04 41.8**	**-0.9**
BOSA				IAmb		IAmb	13 04 46.0	
	comp=Z,545nm,2.7s							
BOSA	**Boshof**	**18.66**	**322**	*iP*		**Pn**	**13 04 43.8**	**+0.7**
BOSA	**Boshof**	**18.66**	**322**	*iP*		**Pn**	**13 04 43.8**	**+0.7**
MMAL	**MMAL**	**18.93**	**340**	*eP*		**P**	**13 04 45.8**	**+0.1**
MMAL				IAmb		IAmb	13 04 52.1	
	comp=Z,58nm,1.0s							
CVNA	**Calvinia**	**19.27**	**305**	*eP*		**Pn**	**13 04 50.9**	**+0.5**
CVNA				IAmb		IAmb	13 04 56.9	
	comp=Z,68nm,1.0s							
CRLN	**Carolina, Mapu**	**19.30**	**337**	*eP*		**Pn**	**13 04 51.5**	**+0.7**
CRLN				IAmb		IAmb	13 04 54.2	
	comp=Z,50nm,1.2s							
PRYS	**Parys**	**19.30**	**329**	*eP*		**P**	**13 04 50.0**	**+0.3**
PRYS				IAmb		IAmb	13 04 52.4	
	comp=Z,83nm,1.3s							
WDLM	**Western Deep L**	**19.73**	**330**	*eP*		**P**	**13 04 55.2**	**+0.6**
WDLM				IAmb		IAmb	13 04 57.7	
	comp=Z,248nm,1.8s							
SWZ	**Schweizer**	**19.88**	**324**	*eP*		**P**	**13 04 55.6**	**-0.4**
SWZ				IAmb		IAmb	13 05 00.1	
	comp=Z,63nm,1.1s							
SLR	**Silverton**	**20.07**	**333**	*eP*		**P**	**13 04 58.4**	**+0.2**
SLR				IAmb		IAmb	13 05 01.4	
	comp=Z,209nm,1.4s							
KEIM	**Keimoes**	**20.70**	**312**	*eP*		**P**	**13 05 05.3**	**+0.4**
KEIM				IAmb		IAmb	13 05 07.6	
	comp=Z,203nm,1.9s							
MOPA	**Mopani**	**21.33**	**342**	*eP*		**P**	**13 05 11.9**	**+0.2**
MOPA				IAmb		IAmb	13 05 14.6	
	comp=Z,175nm,1.5s							
MOPA	**Mopani**	**21.33**	**342**	*iP*		**P**	**13 05 12.3**	**+0.7**
MOPA	**Mopani**	**21.33**	**342**	*iP*		**P**	**13 05 12.3**	**+0.7**
LBTB	**Lobatse**	**21.70**	**327**	P		**P**	**13 05 15.4**	**-0.3**
	comp=Z,71nm,0.9s,baz=157,slow=10,SNR=32							
LBTB				S		**S**	**13 09

ATD Arta Tunnel 55.55 5 P **P** 13 09 58.0 -2.1
ATD IAmb IAmb 13 10 09.1
comp=Z,35nm,1.2s
PMSA Palmer Station 55.87 210 LR LR 13 28 08.7
comp=Z,186nm,21.9s,baz=120,slow=30
H10S2 ASCENSION HYDF 57.57 291 T T 14 12 36.5
baz=135,slow=74,SNR=77
H10S3 ASCENSION HYDF 57.59 291 T T 14 12 36.4
baz=85,slow=74,SNR=196
EFI East Falkland 60.43 225 *i* P **P** **13 10 35.5 +1.6**
NWAO Narrogin (SRO) 60.57 109 LR LR 13 31 54.4
comp=Z,514nm,18.2s,baz=116,slow=31
KIC Kosan Boka 63.45 311 ⇓ *i* P P 13 11 00.1 +5.4
comp=Z,2.8nm,0.4s
LIC Lamto 63.50 310 ⇑ *e*P **P** **13 10 58.6 +3.6**
comp=Z,29nm,0.5s
DBIC Dimbokro 63.77 311 P **P** **13 10 58.0 +1.3**
comp=Z,17nm,0.8s,baz=140,slow=8.2,SNR=17
comp=Z,17nm,0.8s
DBIC Dimbokro 63.77 311 P **P** **13 10 56.0 -0.7**
DBIC IAmb IAmb 13 11 03.0
comp=Z,19nm,0.8s
TIC Toumodi 63.84 311 ⇑ *i* P P 13 11 03.0 +5.7
comp=Z,3.3nm,0.3s
PALK Pallekele 63.90 48 LR LR 13 31 47.9
comp=Z,312nm,18.3s,baz=314,slow=30
TORD Torodi Ar. Bea 66.02 321 LR LR 13 37 49.7
comp=Z,613nm,21.1s,baz=101,slow=34
CAM01 Campos-RJ 68.07 260 *e*P P 13 11 30.7 +6.2
RIB01 Linhares ES 68.79 263 *e*P P 13 11 34.8 +5.8
TER01 Tubaro-SC 69.00 250 *e*P P 13 11 37.1 +6.9
VAS01 Vassouras-RJ 69.04 259 *e*P P 13 11 37.3 +6.7
KASI Kota Agung 69.19 77 P **P** **13 11 33.1 +1.6**
comp=Z,75nm,1.3s
NAN01 Guarapari, ES 69.56 265 *e*P P 13 11 39.4 +5.6
MBWA Marble Bar 69.58 100 P **P** **13 11 33.6 -0.3**
MBWA IAmb IAmb 13 13 43.9
comp=Z,20nm,1.1s
WSAR Wadi Sarin 69.59 20 P **P** **13 11 34.7 +1.0**
comp=Z,11nm,0.8s,baz=217,slow=5.7,SNR=8.6
WSAR LR LR 13 36 31.1
comp=Z,426nm,21.8s,baz=219,slow=31
comp=Z,11nm,0.8s
SJMB Sao Joao De Ma 69.75 263 *e*P P 13 11 40.8 +5.8
POO Poona 70.34 36 *ex* **P** **13 11 40.0 +1.6**
LEM Lembang 70.48 80 LR LR 13 35 58.8
comp=Z,231nm,19.0s,baz=196,slow=30
TIJ01 Guaruva-PR 70.97 253 *e*P P 13 11 48.1 +5.6
TRQA Tornquist 71.05 235 P **P** **13 11 43.0 +0.3**
TRQA IAmb IAmb 13 11 45.0
comp=Z,40nm,1.5s
TRQA Tornquist 71.05 235 P **P** **13 11 43.0 +0.3**
TRQA pmax pmax
comp=Z,40nm,1.5s
KCSI Kotacane, Aceh 71.19 65 P **P** **13 11 46.5 +2.7**
comp=Z,22nm,1.4s
RPSI Rantau Prapat 71.33 67 P **P** **13 11 43.7 -0.9**
PSI Prapat 71.41 67 P **P** **13 11 43.7 -1.5**
PSI pmax pmax
comp=Z,9.0nm,1.0s
HYBB Hyderabad (bro 71.46 41 *e*P **P** **13 11 45.4 +0.1**
DIAM Diamantina, MG 71.80 262 *e*P P 13 11 53.2 +5.6
AY01 Puyuhuapi 72.56 225 P **P** **13 11 51.9 +0.4**
AY01 IAmb IAmb 13 11 58.9
comp=Z,18nm,1.1s
FRTB Fartura 72.64 254 *e*P P 13 11 59.2 +6.7
SJI Sawahan 72.81 84 P **P** **13 11 54.1 +0.5**
comp=Z,2µmcomp=Z,30nm,1.5s
DSRI Dabo 72.83 73 P **P** **13 11 54.0 +0.4**
comp=Z,9.1nm,1.2s
MC01 Montes Claros 73.04 263 *e*P P 13 12 00.5 +5.5
ITQB Itaqui 73.25 245 P **P** **13 11 54.5 -1.5**
BB19B Bebedouro 73.41 257 *e*P P 13 12 04.0 +6.9
PTGB Pitanga 73.46 252 *e*P P 13 12 04.2 +6.8
EIL Elat 73.51 357 LR LR 13 41 31.2
comp=Z,292nm,20.9s,baz=238,slow=34
IPM Ipoh 74.05 67 P **P** **13 11 59.6 -1.2**
IPM IAmb IAmb 13 12 02.4
comp=Z,29nm,1.5s
IPM Ipoh 74.05 67 P **P** **13 12 01.2 +0.4**
comp=Z,9.2nm,1.1s
PLCA Paso Flores 74.07 228 P **P** **13 12 00.7 0.0**
comp=Z,2.0nm,0.9s,baz=137,slow=8.0,SNR=6.3
PLCA LR LR 13 40 53.0
comp=Z,89nm,18.4s,baz=128,slow=33
comp=Z,2.0nm,0.9s
PLCA Paso Flores 74.07 228 P **P** **13 12 00.2 -0.5**
PLCA IAmb IAmb 13 12 08.5
comp=Z,18nm,1.3s
PLCA Paso Flores 74.07 228 *e*P P 13 12 05.8 +5.1
JANB Januaria 74.40 264 *e*P P 13 12 07.9 +5.0
KULM Kulim 74.40 66 P **P** **13 12 02.0 -0.9**
KULM IAmb IAmb 13 12 04.3
comp=Z,40nm,1.2s
KULM Kulim 74.40 66 P **P** **13 12 03.4 +0.6**
comp=Z,397nmcomp=Z,29nm,1.3s
IPMB Ipameri, GO 75.23 259 *e*P P 13 12 13.7 +6.0
GO06 Curarrehue 75.38 229 P **P** **13 12 05.5 -2.9**
GO06 IAmb IAmb 13 12 15.9
comp=Z,18nm,1.1s
TWSI Taliwang, Sumb 75.80 88 P **P** **13 12 10.6 -0.3**
comp=Z,21nm,1.3s
CPUP Villa Florida 75.93 247 P **P** **13 12 13.3 +1.7**
comp=Z,5.5nm,0.6s,baz=99,slow=3.6,SNR=8.2
CPUP LR LR 13 39 21.0
comp=Z,162nm,21.3s,baz=147,slow=31
comp=Z,5.5nm,0.6s
CPUP Villa Florida 75.93 247 P **P** **13 12 09.1 -2.5**
CPUP IAmb IAmb 13 12 17.5
comp=Z,31nm,1.5s
ASF Jabal al Asfar 75.95 359 P **P** **13 12 11.4 +0.1**
comp=Z,1.0nm,0.4s,baz=158,slow=5.4,SNR=3.1
ASF LR LR 13 45 33.8
comp=Z,341nm,19.0s,baz=202,slow=36
comp=Z,1.0nm,0.4s
PLAI Plampang 76.38 89 P **P** **13 12 14.1 -0.2**
comp=Z,43nm,1.2s
SDBA SAO DESIDERIO 76.60 266 *e*P P 13 12 21.1 +5.5
BDFB Brasilia 76.65 261 P **P** **13 12 17.8 +1.9**
comp=Z,8.6nm,0.9s,baz=114,slow=9.8,SNR=5.4
BDFB LR LR 13 41 13.7
comp=Z,178nm,18.1s,baz=150,slow=32
comp=Z,8.6nm,0.9s
BDFB Brasilia 76.65 261 *e*P P 13 12 22.8 +6.8
MMAI Mount Meron Ar 76.83 358 LR LR 13 43 36.7
comp=Z,244nm,21.8s,baz=44,slow=34
BBTS Babate 76.87 306 LR LR 13 43 46.7
comp=Z,213nm,19.1s,baz=150,slow=34
DBNI Kabupaten Domp 76.99 89 P **P** **13 12 18.4 +0.7**
comp=Z,24nm,1.2s
STKA Stephens Creek 77.08 122 P **P** **13 12 17.4 -0.6**
comp=Z,7.4nm,0.9s,baz=216,slow=4.6,SNR=8.6
STKA LR LR 13 40 52.6
comp=Z,440nm,18.2s,baz=210,slow=32
comp=Z,7.4nm,0.9s
STKA Stephens Creek 77.08 122 P **P** **13 12 15.8 -2.3**
ASAR Alice Springs 77.75 111 P **P** **13 12 21.2 -0.7**
comp=Z,2.2nm,0.7s,baz=219,slow=5.1,SNR=17
ASAR LR LR 13 40 36.9
comp=Z,311nm,20.6s,baz=230,slow=31
comp=Z,2.2nm,0.7s
ASAR Alice Springs 77.75 111 P **P** **13 12 19.8 -2.2**
AS31 Alice Springs 77.75 111 P **P** **13 12 19.1 -2.8**
AQDB Aquidauana 78.78 252 P **P** **13 12 26.9 -0.7**
AQDB IAmb IAmb 13 12 34.6
comp=Z,20nm,1.1s
BO04 La Punta 78.90 233 P **P** **13 12 27.0 -1.2**
BO04 IAmb IAmb 13 12 35.3
comp=Z,70nm,1.9s
ARAG Araguaiana, MT 79.30 259 *e*P P 13 12 37.9 +7.3
BATI Baumata 79.68 94 LR LR 13 42 56.9
comp=Z,280nm,18.5s,baz=240,slow=32
IDI Anoyia 79.98 349 LR LR 13 51 22.3
comp=Z,364nm,18.3s,baz=174,slow=38
SBUM Sibu 80.24 77 P **P** **13 12 33.0 -2.6**
SBUM Sibu 80.24 77 P **P** **13 12 36.2 +0.6**
comp=Z,4.8nm,1.4s
KAPI Kappang 80.41 88 LR LR 13 43 41.5
comp=Z,72nm,18.3s,baz=212,slow=32
BKSI Bulukumba 80.47 88 P **P** **13 12 37.6 +0.8**
comp=Z,366nmcomp=Z,23nm,1.6s
WRA Warramunga Arr 80.58 109 P **P** **13 12 36.6 -0.8**
comp=Z,5.0nm,1.1s,baz=221,slow=4.3,SNR=17
WRA LR LR 13 43 17.6
comp=Z,500nm,18.6s,baz=214,slow=32
comp=Z,5.0nm,1.1s

WRA Warramunga Arr 80.58 109 P **P** **13 12 36.8 -0.7**
WRA Warramunga Arr 80.58 109 P **P** **13 12 36.8 -0.7**
WRA pmax pmax
comp=Z,3.0nm,1.7s
WB2 Warramunga Arr 80.58 109 P **P** **13 12 36.1 -1.4**
WB2 IAmb IAmb 13 12 49.0
comp=Z,27nm,1.2s
WRAB Tennant Creek 80.59 109 P **P** **13 12 35.6 -1.9**
WRAB Tennant Creek 80.59 109 *i* P **P** **13 12 36.0 -1.5**
WRAB pmax pmax
comp=Z,15nm,1.2s
WB0 Warramunga Arr 80.73 108 P **P** **13 12 36.7 -1.6**
WB0 IAmb IAmb 13 12 46.1
comp=Z,18nm,1.2s
SMTB Santa Maria do 80.94 266 *e*P P 13 12 45.7 +6.3
HRA Herat 81.14 20 P **P** **13 12 39.1 -1.0**
CO03 El Pedregal 81.22 235 P **P** **13 12 39.6 -1.2**
CO03 IAmb IAmb 13 12 47.4
comp=Z,24nm,1.1s
MMSI Mamuju 81.41 85 P **P** **13 12 38.6 -3.3**
BRDH Bariadhala 82.48 48 LR LR 13 43 18.2
comp=Z,274nm,21.7s,baz=265,slow=31
ROSB Rosario 82.53 273 *e*P P 13 12 53.1 +5.3
RPZ Rata Peaks 82.92 148 LR LR 13 45 01.8
comp=Z,422nm,18.5s,baz=210,slow=32
AC02 Maricunga 83.16 239 P **P** **13 12 51.8 +0.2**
KBL Kabul 83.16 25 P **P** **13 12 50.9 +0.1**
KBL IAmb IAmb 13 13 03.2
comp=Z,12nm,1.2s
KBL Kabul 83.16 25 P **P** **13 12 50.9 +0.1**
KBL pmax pmax
comp=Z,12nm,1.3s
DMN Daman 83.27 41 *e*P **P** **13 12 51.3 -0.2**
DANN Dangsing 83.27 39 *e*P **P** **13 12 51.0 -0.6**
comp=Z,128nm,1.4s
CM31 Chiang Mai Arr 83.31 56 P **P** **13 12 50.2 -1.4**
CM31 IAmb IAmb 13 12 59.2
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 83.31 56 P **P** **13 12 51.0 -0.6**
comp=Z,0.8nm,0.4s,baz=227,slow=5.3,SNR=15
CMAR LR LR 13 45 08.0
comp=Z,126nm,18.0s,baz=225,slow=32
comp=Z,0.8nm,0.4s
CMAR Chiang Mai Arr 83.31 56 P **P** **13 12 49.9 -1.7**
CMAR Chiang Mai Arr 83.31 56 P **P** **13 12 51.0 -0.6**
AC04 Llanos de Chal 83.36 237 P **P** **13 12 50.4 -1.5**
PKI Pulchoki 83.38 41 *e*P **P** **13 12 51.7 -0.5**
PKIN Phulchoki 83.38 41 *e*P **P** **13 12 51.6 -0.5**
GKN Gorkha 83.38 40 *e*P **P** **13 12 51.5 -0.5**
comp=Z,98nm,1.3s
RAMN Ramite 83.42 42 *e*P **P** **13 12 52.5 +0.2**
comp=Z,137nm,1.3s
AC06 Mina Casimiro 83.53 238 P **P** **13 12 51.2 -1.6**
BRTR Keskin Array B 83.58 356 P **P** **13 12 53.5 +0.8**
comp=Z,0.9nm,0.7s,baz=160,slow=7.5,SNR=5.0
BRTR LR LR 13 50 42.7
comp=Z,173nm,18.4s,baz=186,slow=36
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 83.58 356 P **P** **13 12 52.0 -0.7**
BR131 Keskin Array S 83.58 356 *i* P **P** **13 12 52.2 -0.5**
CHTO Chiang Mai 83.59 56 P **P** **13 12 51.4 -1.7**
CHTO IAmb IAmb 13 12 59.9
comp=Z,9.9nm,1.0s
CHTO Chiang Mai 83.59 56 P **P** **13 12 51.4 -1.7**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
GEYT Alibeck 83.64 16 P **P** **13 12 53.8 +0.9**
comp=Z,2.8nm,0.7s,baz=188,slow=5.7,SNR=5.1
GEYT LR LR 13 48 01.2
comp=Z,151nm,20.0s,baz=198,slow=34
comp=Z,2.8nm,0.7s
GEYT Alibeck 83.64 16 P **P** **13 12 52.5 -0.4**
GEYT IAmb IAmb 13 13 00.6
comp=Z,13nm,1.1s
GYA0B ALIBECK ARRAY 83.64 16 P **P** **13 12 52.5 -0.3**
GYA0B IAmb IAmb 13 13 00.6
comp=Z,19nm,1.3s
KEST Kesra 83.73 337 P **P** **13 12 54.8 +1.3**
comp=Z,2.0nm,0.5s,baz=155,slow=4.1,SNR=1.6
KEST LR LR 13 51 50.7
comp=Z,883nm,18.4s,baz=138,slow=37
comp=Z,2.0nm,0.5s
KEST Kesra 83.73 337 P **P** **13 12 54.2 +0.8**
KEST IAmb IAmb 13 13 02.8
comp=Z,12nm,0.9s
JIRN Jiri 83.82 41 *e*P **P** **13 12 54.4 -0.1**
comp=Z,113nm,0.9s
GUN Gumba 83.89 41 *e*P **P** **13 12 54.7 -0.1**
comp=Z,137nm,0.9s
VAE Valguarnera 84.06 341 LR LR 13 50 54.1
comp=Z,519nm,19.4s,baz=161,slow=36
GNI Garni 84.11 5 LR LR 13 51 14.5
comp=Z,186nm,19.3s,baz=197,slow=36
PHRA Phrae 84.12 57 P **P** **13 12 54.5 -1.2**
PTLB Pontes e Lacer 84.60 254 P **P** **13 12 57.1 -1.3**
PTLB IAmb IAmb 13 13 05.3
comp=Z,16nm,1.0s
PTLB Pontes e Lacer 84.60 254 *e*P **P** **13 13 01.6 +3.2**
SHL Shillong 84.95 47 P **P** **13 12 58.7 -1.3**
SHL Shillong 84.95 47 P **P** **13 12 58.7 -1.3**
SHL pmax pmax
comp=Z,23nm,0.9s
SIV San Ignacio 85.55 252 P **P** **13 13 04.8 +1.6**
comp=Z,4.2nm,1.0s,baz=162,slow=3.3,SNR=5.8
SIV LR LR 13 46 56.8
comp=Z,195nm,18.4s,baz=120,slow=33
comp=Z,4.2nm,1.0s
PDRB Porto dos Gac 85.57 258 *e*P P 13 13 09.8 +6.5
FNA Florina 85.89 347 P **P** **13 13 03.3 -0.9**
FNA Florina 85.89 347 P **P** **13 13 03.3 -0.9**
FNA pmax pmax
comp=Z,5.0nm,0.9s
TUWZ Tuamarina 85.98 148 P **P** **13 13 03.1 -1.8**
MDT Midelt 85.98 325 LR LR 13 51 21.3
comp=Z,803nm,18.9s,baz=160,slow=36
LVC Limon Verde 86.06 242 P **P** **13 13 07.2 +1.1**
comp=Z,7.1nm,0.8s,baz=135,slow=1.4,SNR=3.4
LVC LR LR 13 45 10.3
comp=Z,225nm,21.7s,baz=150,slow=31
comp=Z,7.1nm,0.8s
LVC Limon Verde 86.06 242 P **P** **13 13 05.3 -0.8**
LVC IAmb IAmb 13 13 13.4
comp=Z,17nm,1.2s
LVC Limon Verde 86.06 242 *e*P P 13 13 11.1 +5.0
MYLDM Lahad Datu 86.59 80 P **P** **13 13 08.2 -0.1**
ZEI Tsey 86.69 4 *e*P **P** **13 13 10.8 +2.6**
ZEI pmax pmax
comp=Z,6.0nm,1.3s
PB09 IPOC Station P 86.86 243 P **P** **13 13 09.2 -0.6**
PB09 IAmb IAmb 13 13 17.6
comp=Z,30nm,1.4s
CHGR Chuyangaron 87.01 24 P **P** **13 13 09.0 -0.8**
CHGR Chuyangaron 87.01 24 P **P** **13 13 09.0 -0.8**
CHGR pmax pmax
comp=Z,70nm,1.6s
MAK Makhachkala 87.10 7 *e*P **P** **13 13 06.8 -3.2**
MAK *e* 13 23 31.3
MAK *e*SSS SSS 13 32 57.9
MAK pmax pmax
comp=Z,546nm,1.4s
MAK MLR MLR
comp=Z,192nm,16.0s
BFZ Birch Farm 87.49 149 P **P** **13 13 12.1 -0.2**
KBZ Khabaz 87.58 3 P **P** **13 13 13.6 +1.4**
comp=Z,2.6nm,0.9s,baz=171,slow=5.1,SNR=3.5
KBZ LR LR 13 52 15.3
comp=Z,224nm,19.6s,baz=182,slow=36
comp=Z,2.6nm,0.9s
SHA1 Shidzhatmaz 87.58 3 *i* P **P** **13 13 12.0 -0.6**
NPGB Novo Progresso 87.75 262 *e*P P 13 13 20.0 +6.0
TNCH TengChong 88.15 52 ⇓ P **P** **13 13 14.6 -1.1**
TNCH pP pwP 13 13 20.4 -1.4
TNCH SKS **SKSac** **13 23 37.8 -6.7**
TNCH S **S** **13 23 58.0 -2.1**
TNCH pmax pmax
comp=Z,18nm,0.8s
TNCH pmax pmax
comp=Z,130nm,4.5s
TNCH LR LR
comp=Z,95nm,4.3s
TNCH LR LR
comp=Z,110nm,6.7s
TNCH LR LR
comp=Z,160nm,15.3s
CTA Charters Tower 88.39 117 LR LR 13 46 51.3
comp=Z,416nm,21.1s,baz=234,slow=32

PB11 IPOC Station P 88.60 244 P **P** **13 13 17.4 -0.8**
MLR Muntele Rosu 89.91 351 ⇑ P **P** **13 13 23.7 +0.3**
MLR Muntele Rosu 89.91 351 P **P** **13 13 24.7 +1.3**
comp=Z,8.1nm,0.8s,baz=159,slow=6.7,SNR=3.9
MLR LR LR 13 55 09.7
comp=Z,304nm,20.8s,baz=195,slow=36
comp=Z,8.1nm,0.8s
MLR Muntele Rosu 89.91 351 P **P** **13 13 24.0 +0.6**
MLR IAmb IAmb 13 13 43.7
comp=Z,24nm,1.3s
MLR Muntele Rosu 89.91 351 P **P** **13 13 24.0 +0.6**
MLR pmax pmax
comp=Z,24nm,1.3s
KSH Kashi 89.95 28 P **P** **13 13 21.8 -1.9**
KSH pP pwP 13 13 29.0 -0.8
KSH pmax pmax
comp=Z,4.0nm,1.3s
VOIR 89.96 351 ⇑ P P 13 13 16.5 -7.0
LPAZ La Paz 90.11 247 P **P** **13 13 27.9 +2.1**
comp=Z,0.9nm,0.8s,baz=129,slow=9.5,SNR=2.6
LPAZ LR LR 13 51 14.5
comp=Z,155nm,18.4s,baz=118,slow=34
comp=Z,0.9nm,0.8s
LPAZ La Paz 90.11 247 *e*P **P** **13 13 30.5 +4.7**
PLOR Plostina 90.19 352 ⇑ P **P** **13 13 26.0 +1.4**
VRI Vrincioaia 90.20 352 ⇑ P **P** **13 13 25.4 +0.8**
COVR Voineasa-Covas 90.23 352 ⇑ P P 13 13 30.2 +5.4
MALB Monte Alegre 90.55 267 *e*P P 13 13 32.2 +5.1
SIRR Siria 91.21 349 ⇑ P **P** **13 13 32.3 +2.9**
KK31 Karatay Array 91.51 23 P **P** **13 13 30.6 -0.2**
KK31 Karatay Array 91.51 23 P **P** **13 13 30.6 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,1.2s
KKAR Karatay Array 91.51 23 P **P** **13 13 30.5 -0.3**
KKAR Karatay Array 91.51 23 P **P** **13 13 30.7 -0.1**
KKAR IAmb IAmb 13 13 37.9
comp=Z,6.5nm,1.1s
KKAR Karatay Array 91.51 23 P **P** **13 13 30.5 -0.3**
KKAR 13 13 30.7
KKAR pmax pmax
comp=Z,7.0nm,1.2s
SIJI Sorong 91.55 93 LR LR 13 48 51.7
comp=Z,65nm,19.8s,baz=144,slow=32
ESDC Sonseca Array 91.71 329 P **P** **13 13 33.3 +1.4**
comp=Z,1.2nm,1.1s,baz=326,slow=37,SNR=2.4
ESDC LR LR 13 56 02.2
comp=Z,1µm,18.2s,baz=146,slow=36
comp=Z,1.2nm,1.1s
SAML Samuel 91.95 256 P **P** **13 13 33.4 -0.2**
SAML IAmb IAmb 13 13 40.5
comp=Z,12nm,1.1s
SAML Samuel 91.95 256 P **P** **13 13 33.4 -0.2**
SAML pmax pmax
comp=Z,13nm,1.1s
BURAR Bucovina Array 92.09 351 ⇓ P **P** **13 13 36.7 +3.2**
BURAR Bucovina Array 92.09 351 P **P** **13 13 34.0 +0.6**
BURAR IAmb IAmb 13 13 41.6
comp=Z,5.9nm,1.0s
AAK Ala-Archa 92.27 26 LR LR 13 51 36.2
comp=Z,139nm,20.5s,baz=225,slow=33
ETMB Extrema 93.44 253 P **P** **13 13 39.7 -0.8**
ETMB IAmb IAmb 13 13 46.6
comp=Z,5.7nm,1.0s
ETMB Extrema 93.44 253 *e*P P 13 13 45.4 +4.9
DAVOX Davos/Dischmat 93.94 341 LR LR 13 57 44.9
comp=Z,511nm,21.2s,baz=263,slow=37
VRAC Vranov 94.97 346 LR LR 14 02 43.4
comp=Z,231nm,18.2s,baz=176,slow=39
GERES GERESS Array B 95.07 344 LR LR 14 02 21.3
comp=Z,356nm,18.1s,baz=180,slow=39
CD2 Chengdu 95.62 52 *e*P **P** **13 13 50.5 +0.4**
PMG Port Moresby 96.73 110 LR LR 13 53 18.2
comp=Z,165nm,19.1s,baz=228,slow=33
WMQ Urumqi 98.03 34 *e*P Pdif 13 14 01.8 +1.1
MKAR Makanchi Array 98.54 29 *e*P Pdif 13 14 09.1 +6.3
MKAR pmax pmax
comp=Z,1.0nm,0.9s
DZM Mont Dzumac 98.83 132 *e*LR LR 13 46 10.5
comp=Z,954nm,28.1s
OBN Obninsk 98.89 359 LR LR 13 58 18.4
comp=Z,20nm,21.0s,baz=194,slow=35
NNA Nana 98.97 244 LR LR 13 55 27.6
comp=Z,83nm,19.0s,baz=150,slow=33
NACGM Naroch 99.15 353 *e*P **Pdif** **13 14 14.5 +9.3**
comp=Z,27nm,0.9s,baz=172
LZH Lanzhou 99.54 48 *e*P **Pdif** **13 14 08.1 +0.3**
LZH pmax pmax
comp=Z,7.0nm,1.4s
LZH LR LR
comp=Z,210nm,10.7s
LZH LR LR
comp=Z,120nm,11.3s
LZH LR LR
comp=Z,200nm,12.4s
RAO Raoul Island 99.81 148 LR LR 13 56 47.4
comp=Z,144nm,20.1s,baz=135,slow=34
ZALV Zalesovo Beam 105.48 26 Pdiff **Pdif** **13 14 33.4 -0.1**
comp=Z,0.5nm,0.4s,baz=239,slow=16,SNR=2.6
TBI Tubuai 112.47 172 *e*LR LR 13 52 30.2
comp=Z,2µm,39.5s
TBI *e*LR LR 13 52 31.0
comp=Z,3µm,23.2s
PPT2 Papeete2 118.16 172 *e*LR LR 13 55 07.9
comp=Z,444nm,23.5s
PPT2 *e*LR LR 13 55 08.2
comp=Z,412nm,37.0s
KLR Kul'dur 123.55 52 *c i* PKIKP **PKiKP** **13 19 27.5 +5.8**
KLR pmax pmax
comp=Z,14nm,2.5s
TAOE Nuku Hiva Isla 127.24 182 *e*LR LR 13 59 21.0
comp=Z,366nm,22.7s
TIXI Tiksi 131.34 25 *c i* PKIKP **PKiKP** **13 19 42.2 +5.7**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
BILL Bilibino 144.07 30 *d i* PKIKP **PKiKP** **13 20 09.4 +6.8**
BILL *e* 13 23 23.2
BILL *e* 13 26 22.6
BILL *e*SS SS 13 42 36.7 +39
BILL pmax pmax
comp=Z,33nm,2.5s
BILL MLR MLR
comp=Z,93nm,20.0s
LOOK Love County 144.34 269 PKPbc 13 19 59.1 +0.1
JCT Junction City 144.36 262 **PKPab** **13 19 58.6 -0.4**
JCT Junction City 144.36 262 P **PKiKP** **13 20 04.6 +0.2**
baz=124
JCT Junction City 144.36 262 PKIKP **PKPab** **13 19 58.6 -0.4**
T35A Sooner Cattle 145.24 274 **PKPbc** **13 20 01.1 -0.8**
ABTX Abilene, Hawle 145.42 265 P **PKiKP** **13 20 07.7 +1.1**
baz=122
EYMN Ely 145.42 294 P **PKiKP** **13 20 07.8 +1.7**
baz=103
SPMN Marine on St. 145.62 289 P **PKiKP** **13 20 07.3 +0.8**
baz=106
WMOK Wichita Mounta 145.86 269 P **PKiKP** **13 20 06.1 -1.3**
baz=119
KSU1 Kansas State U 146.23 277 P **PKiKP** **13 20 10.3 +2.3**
baz=114
F36A Milaca 146.28 290 **PKPab** **13 20 05.7 +0.1**
TX32 Lajitas Array 146.44 257 **PKPbc** **13 20 05.8 -0.1**
TXAR Lajitas Array 146.44 257 PKPbc **PKPbc** **13 20 06.3 +0.4**
comp=Z,4.8nm,0.8s,baz=138,slow=5.7,SNR=38
TXAR Lajitas Array 146.44 257 **PKPbc** **13 20 05.9 0.0**
TXAR Lajitas Array 146.44 257 PKP2 **PKPbc** **13 20 05.9 0.0**
TX31 Lajitas Ar. Si 146.44 257 **PKPbc** **13 20 05.9 0.0**
ECSD EROS Data Cent 147.82 285 **PKPbc** **13 20 09.2 0.0**
ECSD EROS Data Cent 147.82 285 P **PKPbc** **13 20 09.6 +0.4**
baz=107
AMTX Amarillo 148.02 267 P **PKPbc** **13 20 10.4 +0.3**
baz=119
CLNB Carlsbad 148.25 261 PKPbc **PKPbc** **13 20 11.0 +0.2**
CLN7 Carlsbad 7 148.28 261 **PKPab** **13 20 14.1 +0.1**
MSTX Muleshoe 148.35 265 **PKPbc** **13 20 11.1 +0.1**
MSTX Muleshoe 148.35 265 P **PKiKP** **13 20 12.1 -0.6**
baz=120
AGMN Agassiz Nation 148.36 294 **PKPbc** **13 20 10.7 +0.2**
AGMN Agassiz Nation 148.36 294 P **PKiKP** **13 20 11.4 -0.7**
baz=100
GDL2 Guadalupe Moun 148.56 261 PKPbc **PKPbc** **13 20 11.0 -0.7**
ULM Lac du Bonnet 148.65 298 PKPbc **PKPbc** **13 20 11.8 +0.6**
comp=Z,12nm,0.9s,baz=110,slow=2.8,SNR=8.2
ULM Lac du Bonnet 148.65 298 **PKPbc** **13 20 10.7 -0.5**
CPRX Cap Rock 148.65 262 **PKPbc** **13 20 11.9 0.0**
OGNE Ogallala 150.78 278 **PKPbc** **13 20 16.5 -0.3**
OGNE Ogallala 150.78 278 P **PKiKP** **13 20 17.7 +0.3**
baz=110

T25A	**Trinidad**	**151.02**	**269**			**PKPbc**	**13 20 17.2**	**-0.5**
T25A	**Trinidad** baz=116	**151.02**	**269**	P		**PKiKP**	**13 20 18.6**	**+0.3**
121A	**Cookes Peak, D** baz=124	**151.16**	**258**	P		**PKiKP**	**13 20 18.8**	**+0.2**
CRNM	**Carthage**	**151.18**	**261**			**PKPbc**	**13 20 17.4**	**-0.6**
BNM	**Barren Site**	**151.20**	**262**			**PKPbc**	**13 20 17.9**	**-0.3**
HSIG		**151.25**	**249**			**PKPbc**	**13 20 17.1**	**-1.0**
ANMO	**Albuquerque**	**151.48**	**263**	*c i* PKiKP		**PKPbc**	**13 20 18.9**	**+0.1**
ANMO	comp=Z,15nm,1.7s			pmax	pmax			
319A	**Douglas**	**151.55**	**254**			**PKPbc**	**13 20 18.1**	**-0.8**
TUC	**Tucson** baz=125	**153.14**	**254**	P		**PKPbc**	**13 20 21.7**	**-0.7**
N23A	**Red Feather La**	**153.56**	**276**	PKPbc		**PKPbc**	**13 20 20.7**	**-2.6**
N23A	**Red Feather La** baz=109	**153.56**	**276**	P		**PKPbc**	**13 20 21.3**	**-2.0**
X18A	**Snowflake**	**153.76**	**259**	PKPbc		**PKPbc**	**13 20 21.1**	**-2.7**
MVCO	**Mesa Verde**	**153.99**	**266**			**PKPbc**	**13 20 21.8**	**-2.5**
MVCO	**Mesa Verde** baz=116	**153.99**	**266**	P		**PKPbc**	**13 20 22.2**	**-2.2**
C27K	**Jago River** baz=357	**154.42**	**2**	P		**PKiKP**	**13 20 30.9**	**+6.9**
PV15	**Paradox Valley**	**154.45**	**268**			**PKPbc**	**13 20 22.3**	**-3.0**
D25K	**Kavik River** baz=352	**154.63**	**4**	P		**PKiKP**	**13 20 31.4**	**+7.0**
LAO	**LASA Array** baz=97	**155.07**	**288**	P	PKPab		13 20 31.4	-11
TOLK	**Toolik Lake Re** baz=346	**155.09**	**7**	P	PKPab		13 20 31.7	-10
E22K	**Anaktuvuk Pass** baz=342	**155.36**	**9**	P	PKPab		13 20 31.6	-11
PDAR	**Pinedale Array** comp=Z,2.8nm,1.1s,baz=108,slow=2.9,SNR=7.4	**156.68**	**278**	PKP		**PKPdf**	**13 20 21.2**	**+1.5**
PDAR	comp=Z,1.0nm,0.8s,baz=118,slow=7.7,SNR=4.2			PKPab		**PKPab**	**13 20 49.6**	**+0.4**
ILAR	**Eielson Array** comp=Z,0.1nm,0.6s,baz=323,slow=34,SNR=1.2	**159.12**	**6**	PKP		**PKPdf**	**13 20 21.5**	**-0.2**
ILAR	comp=Z,2.1nm,0.9s,baz=339,slow=5.9,SNR=9.3			PKPab		**PKPab**	**13 20 59.2**	**+0.6**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.6s,baz=116,slow=2.1,SNR=3.4	**161.52**	**260**	PKP		**PKPdf**	**13 20 26.5**	**+1.0**
NVAR	comp=Z,0.1nm,0.5s,baz=118,slow=3.5,SNR=1.5			PKPab		**pPKPab**	**13 21 11.8**	**-1.1**

WEL 21 13:06:45.0±0.3, 42°S±2°×17°4E±°, h5km, M3.9/48, ML4.2/18, MLv3.9/48, Error ellipse: s-maj=0.0km s-min=0.0km az=119.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**174**	P	Pg	13 06 49.4	+0.5
KHZ				S	Sg	13 06 52.6	+1.0
BSWZ	**Blackbirch Sta**	**0.57**	**29**	P	Pg	13 06 56.3	+0.3
THZ	**Tophouse**	**0.64**	**315**	P	Pg	13 06 57.9	+0.5
CMWZ	**Cape Campbell**	**0.70**	**48**	P	Pb	13 06 59.4	-0.3
GVZ	**Greta Valley S**	**0.83**	**205**	P	Pb	13 07 01.7	-0.2
TUWZ	**Tuamarina**	**0.85**	**22**	P	Pg	13 07 01.4	+0.1
MRNZ	**Matariki Terra**	**0.99**	**325**	P	Pg	13 07 04.3	+0.3
NNZ	**Nelson**	**1.00**	**354**	P	Pg	13 07 04.0	-0.3
LTZ	**Lake Taylor**	**1.08**	**238**	P	Pg	13 07 05.1	-0.5
AMCZ	**Amberley**	**1.15**	**213**	P	Pg	13 07 06.3	-0.8
TCW	**Tory Channel**	**1.16**	**30**	P	Pg	13 07 06.4	-0.8
TKNZ	**Takaka Hill**	**1.25**	**341**	P	Pg	13 07 08.7	-0.4
WEL	**Wellington**	**1.32**	**46**	P	Pn	13 07 08.8	-1.4
DSZ	**Denniston Nort**	**1.36**	**290**	P	Pn	13 07 10.8	+0.1
DUWZ	**D'Urville Isla**	**1.45**	**12**	P	Pn	13 07 10.9	-1.0
PLWZ	**Palliser**	**1.46**	**64**	P	Pn	13 07 09.6	-2.4
MSWZ	**Moikau Station**	**1.53**	**59**	P	Pn	13 07 10.7	-2.2
OKCZ	**Okains Bay**	**1.54**	**192**	P	Pn	13 07 10.9	-2.3
OXZ	**Oxford**	**1.55**	**224**	P	Pn	13 07 11.1	-2.2
QRZ	**Quartz Range**	**1.57**	**332**	P	Pb	13 07 14.1	-0.5
CAW	**Cannon Point**	**1.61**	**47**	P	Pn	13 07 12.4	-1.7
INZ	**Inchbonnie**	**1.61**	**251**	P	Pn	13 07 13.8	-0.3
MQZ	**McQueen's Vall**	**1.61**	**203**	P	Pn	13 07 11.1	-3.0
PAWZ	**Paruwai Farm**	**1.66**	**60**	P	Pn	13 07 12.2	-2.6
AKCZ	**Akaroa Harbour**	**1.71**	**195**	P	Pn	13 07 13.2	-2.3
KIW	**Kapiti Island**	**1.71**	**38**	P	Pn	13 07 14.4	-1.1
RACZ	**Rakaia**	**1.81**	**213**	P	Pn	13 07 14.3	-2.6
TRWZ	**Traveller**	**1.82**	**64**	P	Pn	13 07 14.2	-2.8
MTW	**Mount Morrison**	**1.83**	**55**	P	Pn	13 07 14.5	-2.6
OGWZ	**Otaki Gorge**	**1.87**	**42**	P	Pn	13 07 16.1	-1.6
HOWZ	**Holdsworth Sta**	**2.00**	**49**	P	Pn	13 07 17.1	-2.4
TMWZ	**Te Maipa**	**2.10**	**59**	P	Pn	13 07 17.9	-2.9
WACZ	**Wakanui South**	**2.12**	**215**	P	Pn	13 07 18.5	-2.6
MRZ	**Mangatainoka R**	**2.20**	**46**	P	Pn	13 07 20.0	-2.2
WVZ	**Waitaha Valley**	**2.22**	**246**	P	Pn	13 07 21.9	-0.6
TIWZ	**Tintock**	**2.29**	**52**	P	Pn	13 07 20.7	-2.8
RPZ	**Rata Peaks**	**2.34**	**229**	P	Pn	13 07 22.3	-1.9
OHWZ	**Ohakea**	**2.43**	**35**	P	Pn	13 07 25.3	0.0
ARCZ	**Arundel**	**2.43**	**224**	P	Pn	13 07 23.4	-2.0
PRWZ	**Pori Road**	**2.49**	**49**	P	Pn	13 07 23.4	-2.7
POWZ	**Post Office Ro**	**2.49**	**44**	P	Pn	13 07 24.2	-2.0
BFZ	**Birch Farm**	**2.57**	**54**	P	Pn	13 07 23.8	-3.4
GCSZ	**Gaunt Creek Bo**	**2.59**	**244**	P	Pn	13 07 27.3	-0.2
WAZ	**Wanganui**	**2.70**	**25**	P	Pn	13 07 29.7	+0.5
DVHZ	**Dannevirke**	**2.77**	**47**	P	Pn	13 07 26.9	-3.2
NMEZ	**Namu Road**	**2.81**		P	Pb	13 07 33.3	-2.5
TMZ	**Timaru**	**2.83**	**219**	P	Pn	13 07 29.1	-1.9
LREZ	**Lake Rotokare**	**2.84**	**14**	P	Pn	13 07 32.5	+1.5
TSZ	**Takapari Road**	**2.84**	**41**	P	Pn	13 07 28.7	-2.4
KHEZ	**Kahui Hut**	**2.94**	**8**	P	Pn	13 07 34.9	+2.4
NBEZ	**Newall Road No**	**2.96**	**5**	P	Pn	13 07 34.6	+1.9
NEZ	**North Egmont**	**2.98**	**9**	P	Pn	13 07 35.7	+2.7
FOZ	**Fox Glacier**	**3.02**	**243**	P	Pn	13 07 33.3	-0.1
PKE	**Pukeiti**	**3.04**	**7**	P	Pn	13 07 36.1	+2.3
DREZ	**Durham Road**	**3.07**	**10**	P	Pn	13 07 35.8	+1.6
PNHZ	**Pukenui**	**3.07**	**42**	P	Pn	13 07 31.5	-2.8
WPHZ	**Waipukurau**	**3.09**	**47**	P	Pn	13 07 31.7	-2.7
MTVZ	**Mangateitei**	**3.20**	**28**	P	Pn	13 07 36.2	+0.2
MHEZ	**Mangahewa**	**3.20**	**11**	P	Pn	13 07 38.7	+2.7
VRZ	**Vera Road**	**3.23**	**17**	P	Pn	13 07 37.1	+0.7
PKVZ	**Pokaka**	**3.24**	**26**	P	Pn	13 07 36.5	-0.1
LBZ	**Lake Benmore**	**3.25**	**227**	P	Pn	13 07 35.1	-1.7
MOVZ	**Moawhango**	**3.28**	**32**	P	Pn	13 07 36.0	-1.2
WNVZ	**Wahianoa**	**3.29**	**29**	P	Pn	13 07 36.8	-0.6
TRVZ	**Turoa**	**3.30**	**29**	P	Pn	13 07 37.1	-0.4
WHVZ	**Whangaehu Hut**	**3.33**	**29**	P	Pn	13 07 37.6	-0.4
FWVZ	**Far West T-bar**	**3.34**	**28**	P	Pn	13 07 37.7	-0.4
BHHZ	**Black Hill Sta**	**3.34**	**36**	P	Pn	13 07 36.1	-1.9
TUVZ	**Tukino**	**3.37**	**30**	P	Pn	13 07 37.9	-0.5
NGZ	**Ngauruhoe**	**3.43**	**28**	P	Pn	13 07 38.7	-0.5
SNVZ	**South Ngauruho**	**3.43**	**29**	P	Pn	13 07 38.7	-0.6
OTVZ	**Oturere**	**3.46**	**29**	P	Pn	13 07 39.1	-0.7
TWVZ	**Taurewa**	**3.47**	**26**	P	Pn	13 07 39.2	-0.6
NNVZ	**North Ngauruho**	**3.47**	**28**	P	Pn	13 07 39.3	-0.5
WTVZ	**West Tongariro**	**3.48**	**28**	P	Pn	13 07 39.3	-0.6
ETVZ	**East Tongariro**	**3.50**	**29**	P	Pn	13 07 39.5	-0.7
ODZ	**Otahua Downs**	**3.51**	**215**	P	Pn	13 07 37.5	-2.7
KAHZ	**Kahuranaki**	**3.51**	**48**	P	Pn	13 07 36.6	-3.7
KRVZ	**Karewarewa**	**3.52**	**28**	P	Pn	13 07 39.8	-0.6
TMVZ	**Te Maari**	**3.52**	**29**	P	Pn	13 07 39.8	-0.7
NTVZ	**North Tongarir**	**3.52**	**29**	P	Pn	13 07 40.0	-0.5
MCHZ	**McNeill Hill**	**3.68**	**42**	P	Pn	13 07 39.4	-3.1
BKZ	**Black Stump Fm**	**3.80**	**38**	P	Pn	13 07 41.6	-2.7
HIZ	**Hauiti**	**3.84**	**16**	P	Pn	13 07 45.5	+0.7
JCZ	**Jackson Bay**	**3.92**	**240**	P	Pn	13 07 45.0	-1.0
NMHZ	**Naumai**	**4.00**	**40**	P	Pn	13 07 44.7	-2.3
WKZ	**Wanaka**	**4.18**	**230**	P	Pn	13 07 50.3	+0.8
TLZ	**Tolley Road**	**4.18**	**22**	P	Pn	13 07 48.7	-0.8
MTHZ	**Maungataniwha**	**4.21**	**38**	P	Pn	13 07 47.2	-2.7
RAHZ	**Arahi**	**4.28**	**41**	P	Pn	13 07 50.4	-0.4
EAZ	**Earnscleugh**	**4.28**	**224**	P	Pn	13 07 48.9	-2.0
SNGZ	**Shannon Statio**	**4.50**	**42**	P	Pn	13 07 50.0	-4.0
TOZ	**Tahuroa Road**	**4.74**	**20**	P	Pn	13 07 56.5	-0.5
TGRZ	**Tauranga**	**4.96**	**26**	P	Pn	13 07 58.6	-1.4
MLZ	**Mavora Lakes**	**5.01**	**229**	P	Pn	13 08 01.9	+1.0
AWAZ	**Awhitu Peninsu**	**5.22**	**10**	P	Pn	13 08 04.3	+0.6
MKAZ	**Moumakai**	**5.26**	**15**	P	Pn	13 08 04.0	-0.3
RUGZ	**Raukumara Rang**	**5.31**	**38**	P	Pn	13 08 01.6	-3.5
WTAZ	**Waiatarua**	**5.34**	**9**	P	Pn	13 08 06.5	+1.1
ETAZ	**East Tamaki Re**	**5.37**	**12**	P	Pn	13 08 06.2	+0.5
RVAZ	**Riverhead Bore**	**5.50**	**9**	P	Pn	13 08 08.6	+1.0
HAZ	**Te Kaha**	**5.53**	**38**	P	Pn	13 08 04.9	-3.1
MBAZ	**Motutapu North**	**5.55**	**12**	P	Pn	13 08 08.8	+0.6
WIAZ	**Waiheke Island**	**5.56**	**14**	P	Pn	13 08 08.7	+0.3
ABAZ	**Army Bay**	**5.70**	**11**	P	Pn	13 08 10.8	+0.5
KUZ	**Kuaotunu**	**5.73**	**18**	P	Pn	13 08 09.8	-0.9
OUZ	**Omahuta**	**6.99**	**1**	P	Pn	13 08 29.5	+1.6

*MDD **21** 13:08:49.8±0.5, 35°.58N×3°.82W, h4km±4km, mb_Lg2.4/9, Error ellipse: s-maj=3.8km s-min=3.3km az=41.0*
CNRM 21 13:08:51.2, 35°.46N×3°.76W, h21km, ml2.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**212**	P	Pb	13 08 57.8	+0.1
PALE				S	Sb	13 09 02.5	+0.2
PVLZ	**Peæn de**	**0.53**	**237**	P	Pb	13 09 01.3	-0.6
PVLZ				S	Sb	13 09 09.1	0.0
GOG	**Mont Gurugu**	**0.66**	**111**	P	Pb	13 09 04.2	0.0
GOG				S	Sb	13 09 13.4	+0.4
EMEL	**Melilla**	**0.67**	**104**	Pg	Pb	13 09 04.0	-0.2
EMEL				Sg	Sb	13 09 13.9	+0.8
EMEL				*i* Vmb_Lg		13 09 15.5	
WMELI	**Melilla**	**0.67**	**102**	P	Pb	13 09 03.6	-0.7
WMELI				S	Sb	13 09 13.6	+0.4
EALB	**Alboran**	**0.76**	**51**	Pg	Pb	13 09 04.8	-0.9
EALB				Sg	Sb	13 09 14.5	-1.1
EALB				*i* Vmb_Lg		13 09 16.5	
CHAS	**Isla Isabel II**	**1.12**	**104**	P	Pn	13 09 10.5	-1.1
CHAS				S	Sb	13 09 24.7	-1.2
TAF	**Taforalt**	**1.27**	**120**	P	Pn	13 09 13.6	-0.3
TAF				S	Sb	13 09 32.0	+1.5
EMIJ	**Mijas**	**1.38**	**323**	Pg	Pn	13 09 12.6	-2.7
EMIJ				Sg	Sn	13 09 29.5	-3.4
EMIJ				*i* Vmb_Lg		13 09 37.8	
CEU	**Ceuta**	**1.39**	**289**	S	Sn	13 09 31.6	-1.5
ELGU	**Los Guajares,**	**1.41**	**4**	Pg	Pn	13 09 14.2	-1.6
ELGU				Sg	Sn	13 09 30.0	-3.7
ELGU				*i* Vmb_Lg		13 09 35.4	
EMAL	**Malaga-Limoner**	**1.41**	**337**	S	Sn	13 09 32.5	-1.1
JBK	**JBK**	**1.49**	**139**	P	Pn	13 09 16.6	-0.3
JBK				S	Sn	13 09 35.6	-0.2
EBER	**Berja**	**1.60**	**26**	Pn	Pn	13 09 15.8	-2.6
EBER				Sn	Sn	13 09 36.5	-2.0
EBER				*i* Vmb_Lg		13 09 40.6	
EGOR	**Sierra Gorda,**	**1.67**	**350**	Pn	Pn	13 09 17.4	-2.1
EGOR				Sn	Sn	13 09 37.9	-2.4
EGOR				*i* Vmb_Lg		13 09 46.7	
ENIJ	**Nijar**	**1.96**	**39**	Sn	Sn	13 09 44.3	-3.0
ENIJ				*i* Vmb_Lg		13 09 53.2	
EQES	**Quesada**	**2.40**	**13**	Pn	Pn	13 09 27.3	-2.2
EQES				*i* Vmb_Lg		13 09 55.1	
EQES				Sn	Sn	13 09 55.3	-3.0
EADA	**Adamuz**	**2.78**	**347**	Pg	Pb	13 09 38.4	-1.9
EADA				Sn	Sn	13 10 04.4	-3.1
EADA				Sg	Sb	13 10 12.6	-1.2
EADA				*i* Vmb_Lg		13 10 46.1	

*SFS **21** 13:18:51.0, 35°.47N×3°.76W, h22km, ML2.4, ALBORAN SUR*
MDD 21 13:18:19.9±1.0, 36°.86N×2°.53W, h10km±22km, mb_Lg1.6/6, Error ellipse: s-maj=5.4km s-min=3.4km az=156.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.28**	**67**	Pg	Pg	13 18 24.0	-1.6
ENIJ				Sg	Sg	13 18 29.5	+0.1
ENIJ				*i* Vmb_Lg		13 18 36.0	
EBER	**Berja**	**0.29**	**277**	Pg	Pg	13 18 25.3	-0.6
EBER				Sg	Sg	13 18 30.5	+0.7
EBER				*i* Vmb_Lg		13 18 36.4	
EQUE	**Quentar**	**0.81**	**296**	Pg	Pg	13 18 33.6	-1.9
EQUE				Sg	Sg	13 18 44.3	-1.7
EQUE				*i* Vmb_Lg		13 18 44.7	
ELGU	**Los Guajares,**	**0.88**	**271**	Pg	Pg	13 18 36.6	-0.3
ELGU				Sg	Sg	13 18 47.8	-0.5
ELGU				*i* Vmb_Lg		13 19 02.0	
EALB	**Alboran**	**1.00**	**204**	Sg	Sb	13 18 52.8	0.0
EALB				*i* Vmb_Lg		13 18 57.3	
EQES	**Quesada**	**1.03**	**336**	Pg	Pg	13 18 39.9	0.0
EQES				Sg	Sb	13 18 54.2	+0.4
EQES				*i* Vmb_Lg		13 19 13.0	

WEL 21 13:19:49.6±1.4, 38°S±13°×18°0W±°, h12km, M2.6/9, ML2.8/9, MLv2.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=175.6, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.34**	**278**	P	Pn	13 20 13.8	-0.3
PUZ	**Puketiti**	**1.45**	**268**	P	Pn	13 20 14.9	-0.7
PUZ				S	Sn	13 20 34.6	+0.1
MXZ	**Matakaoa Point**	**1.49**	**288**	P	Pn	13 20 16.1	0.0
PKGZ	**Pakihiroa**	**1.60**	**274**	P	Pn	13 20 17.3	-0.4
PKGZ				S	Sn	13 20 38.7	+0.4
HAZ	**Te Kaha**	**1.84**	**278**	P	Pn	13 20 20.7	-0.3
HAZ				S	Sn	13 20 45.0	+0.7
RUGZ	**Raukumara Rang**	**1.91**	**271**	P	Pn	13 20 21.5	-0.5
RIGZ	**Rimuhau**	**1.95**	**249**	P	Pn	13 20 22.0	-0.6
RIGZ				S	Sn	13 20 48.1	+1.2
MWZ	**Matawai**	**2.04**	**261**	P	Pn	13 20 23.2	-0.6
MWZ				S	Sn	13 20 49.1	-0.1
URZ	**Urewera**	**2.36**	**263**	P	Pn	13 20 29.1	+1.0
URZ				S	Sn	13 20 57.8	+0.8
RTZ	**Ruatahuna**	**2.52**	**256**	P	Pn	13 20 30.7	+0.4
MTHZ	**Maungataniwha**	**2.68**	**251**	P	Pn	13 20 32.7	+0.2

WEL 21 13:27:19.3±0.3, 42°S±3°×17°4E±°, h10km±2km, M3.4/49, ML3.6/19, MLv3.4/49, Error ellipse: s-maj=0.0km s-min=0.0km az=139.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**44**	P	Pb	13 27 23.8	-0.5
CMWZ				S	Sg	13 27 27.8	+2.6
BSWZ	**Blackbirch Sta**	**0.21**	**316**	P	Pg	13 27 24.3	+0.7
TUWZ	**Tuamarina**	**0.44**	**348**	P	Pb	13 27 28.6	-0.6
TUWZ				S	Sb	13 27 35.2	-0.6
TCW	**Tory Channel**	**0.67**	**14**	P	Pg	13 27 32.5	+0.2
WEL	**Wellington**	**0.78**	**42**	P	Pb	13 27 35.2	+0.2
NNZ	**Nelson**	**0.83**	**321**	P	Pg	13 27 35.5	+0.2
THZ	**Tophouse**	**0.88**	**276**	P	Pb	13 27 36.8	+0.1
PLWZ	**Palliser**	**0.94**	**72**	P	Pb	13 27 37.6	0.0
MSWZ	**Moikau Station**	**0.99**	**64**	P	Pb	13 27 38.6	0.0
CAW	**Cannon Point**	**1.06**	**45**	P	Pn	13 27 40.1	-0.2
DUWZ	**D'Urville Isla**	**1.07**	**354**	P	Pg	13 27 39.4	-0.4
MRNZ	**Matariki Terra**	**1.09**	**295**	P	Pn	13 27 40.6	0.0
PAWZ	**Paruwai Farm**	**1.13**	**65**	P	Pb	13 27 40.2	-0.7
TKNZ	**Takaka Hill**	**1.18**	**315**	P	Pb	13 27 41.7	0.0
KIW	**Kapiti Island**	**1.19**	**33**	P	Pb	13 27 41.8	-0.1
MTW	**Mount Morrison**	**1.29**	**57**	P	Pn	13 27 42.4	-1.0
TRWZ	**Traveller**	**1.30**	**70**	P	Pn	13 27 42.5	-1.0
OGWZ	**Otaki Gorge**	**1.33**	**39**	P	Pn	13 27 43.8	-0.2
GVZ	**Greta Valley S**	**1.34**	**214**	P	Pb	13 27 44.6	0.0
HOWZ	**Holdsworth Sta**	**1.46**	**49**	P	Pn	13 27 44.9	-0.8
QRZ	**Quartz Range**	**1.55**	**311**	P	Pn	13 27 46.8	-0.2
TMWZ	**Te Maipa**	**1.56**	**62**	P	Pn	13 27 45.9	-1.3
LTZ	**Lake Taylor**	**1.62**	**235**	P	Pn	13 27 45.3	-2.6
MRZ	**Mangatainoka R**	**1.66**	**44**	P	Pn	13 27 47.7	-0.7
AMCZ	**Amberley**	**1.68**	**218**	P	Pn	13 27 47.7	-1.1
DSZ	**Denniston Nort**	**1.70**	**273**	P	Pb	13 27 50.6	0.0
TIWZ	**Tintock**	**1.75**	**52**	P	Pn	13 27 49.0	-0.8
CPWZ	**Castlepoint**	**1.87**	**60**	P	Pg	13 27 57.8	+2.7
PRWZ	**Pori Road**	**1.94**	**48**	P	Pn	13 27 51.7	-0.7
POWZ	**Post Office Ro**	**1.95**	**42**	P	Pn	13 27 52.4	-0.1
OKCZ	**Okains Bay**	**2.00**	**201**	P	Pn	13 27 49.5	-3.7
BFZ	**Birch Farm**	**2.02**	**55**	P	Pn	13 27 52.3	-1.2
OXZ	**Oxford**	**2.09**	**225**	P	Pn	13 27 53.0	-1.4
INZ	**Inchbonnie**	**2.13**	**245**	P	Pn	13 27 55.5	+0.6
AKCZ	**Akaroa Harbour**	**2.18**	**203**	P	Pn	13 27 54.5	-1.2
WAZ	**Wanganui**	**2.22**	**19**	P	Pb	13 27 58.2	-1.3
DVHZ	**Dannevirke**	**2.23**	**46**	P	Pn	13 27 55.0	-1.3
ANWZ	**Angora Road**	**2.29**	**53**	P	Pb	13 28 01.9	+1.1
TSZ	**Takapari Road**	**2.30**	**39**	P	Pn	13 27 56.9	-0.5
RACZ	**Rakaia**	**2.34**	**217**	P	Pn	13 27 56.2	-1.7
LREZ	**Lake Rotokare**	**2.41**	**6**	P	Pb	13 28 02.0	-0.8
NMEZ	**Namu Road**	**2.45**	**357**	P	Pg	13 28 04.9	-1.4
MHCZ	**Mount Hutt**	**2.48**	**227**	P	Pn	13 27 58.9	-1.0
PRHZ	**Porangahau**	**2.51**	**51**	P	Pn	13 27 58.1	-2.1
PNHZ	**Pukenui**	**2.53**	**40**	P	Pn	13 27 59.4	-1.1
WPHZ	**Waipukurau**	**2.54**	**46**	P	Pn	13 28 00.7	+0.1
KHEZ	**Kahui Hut**	**2.57**	**359**	P	Pb	13 28 04.3	-1.2
NEZ	**North Egmont**	**2.59**	**0**	P	Pb	13 28 05.4	-0.5
NBEZ	**Newall Road No**	**2.60**	**357**	P	Pb	13 28 03.9	-2.1
WACZ	**Wakanui South**	**2.65**	**217**	P	Pn	13 28 00.7	-1.3
PKE	**Pukeiti**	**2.67**	**359**	P	Pb	13 28 05.5	-1.7
DREZ	**Durham Road**	**2.67**	**2**	P	Pb	13 28 05.8	-1.5
MTVZ	**Mangateitei**	**2.70**	**24**	P	Pb	13 28 07.0	-0.7
WVZ	**Waitaha Valley**	**2.75**	**243**	P	Pn	13 28 03.9	+0.5
PKVZ	**Pokaka**	**2.75**	**21**	P	Pb	13 28 08.2	-0.4
MOVZ	**Moawhango**	**2.77**	**28**	P	Pn	13 28 04.7	+0.9
VRZ	**Vera Road**	**2.79**	**11**	P	Pn	13 28 05.9	+2.0
WNVZ	**Wahianoa**	**2.79**	**25**	P	Pn	13 28 05.6	+1.4
TRVZ	**Turoa**	**2.80**	**24**	P	Pn	13 28 06.5	+2.1
BHHZ	**Black Hill Sta**	**2.81**	**33**	P	Pn	13 28 04.4	0.0
DRZ	**Dome Shelter**	**2.83**	**24**	P	Pb	13 28 11.6	+1.5
WHVZ	**Whangaehu Hut**	**2.83**	**25**	P	Pn	13 28 06.3	+1.6
FWVZ	**Far West T-bar**	**2.84**	**24**	P	Pb	13 28 10.2	-0.1
TUVZ	**Tukino**	**2.86**	**26**	P	Pn	13 28 06.1	+1.0
RPZ	**Rata Peaks**	**2.89**	**229**	P	Pn	13 28 04.6	-0.8
NGZ	**Ngauruhoe**	**2.93**	**24**	P	Pn	13 28 07.4	+1.3
SNVZ	**South Ngauruho**	**2.93**	**25**	P	Pn	13 28 07.9	+1.8
OTVZ	**Oturere**	**2.96**	**25**	P	Pn	13 28 07.5	+1.0
KAHZ	**Kahuranaki**	**2.97**	**47**	P	Pn	13 28 05.5	-1.0
NNVZ	**North Ngauruho**	**2.97**	**24**	P	Pn	13 28 08.6	+1.9
ARCZ	**Arundel**	**2.98**	**225**	P	Pn	13 28 05.6	-1.0
TWVZ	**Taurewa**	**2.98**	**21**	P	Pb	13 28 10.9	-1.6
WTVZ	**West Tongariro**	**2.98**	**23**	P	Pn	13 28 09.2	+2.4
ETVZ	**East Tongariro**	**3.00**	**25**	P	Pb	13 28 10.0	-2.9
KRVZ	**Karewarewa**	**3.02**	**24**	P	Pb	13 28 11.0	-2.2
TMVZ	**Te Maari**	**3.02**	**25**	P	Pn	13 28 08.9	+1.7
NTVZ	**North Tongarir**	**3.02**	**24**	P	Pn	13 28 09.2	+1.9
GCSZ	**Gaunt Creek Bo**	**3.12**	**241**	P	Pn	13 28 09.5	+1.0
KATZ	**Kakaramea**	**3.14**	**24**	P	Pb	13 28 15.5	+0.2
BKZ	**Black Stump Fm**	**3.27**	**35**	P	Pn	13 28 09.5	-1.1
TMZ	**Timaru**	**3.37**	**221**	P	Pn	13 28 10.6	-1.4
HIZ	**Hauiti**	**3.40**	**10**	P	Pn	13 28 14.3	+1.9
MRHZ	**Matea Rd**	**3.52**	**31**	P	Pb	13 28 18.1	-3.6
FOZ	**Fox Glacier**	**3.55**	**241**	P	Pn	13 28 14.8	+0.4
TLZ	**Tolley Road**	**3.71**	**18**	P	Pn	13 28 18.1	+1.5
LBZ	**Lake Benmore**	**3.80**	**227**	P	Pn	13 28 17.0	-0.9
ODZ	**Otahua Downs**	**4.04**	**217**	P	Pn	13 28 19.4	-1.8
TOZ	**Tahuroa Road**	**4.27**	**15**	P	Pn	13 28 27.2	+2.8
JCZ	**Jackson Bay**	**4.46**	**239**	P	Pn	13 28 28.5	+1.4
MKAZ	**Moumakai**	**4.83**	**10**	P	Pn	13 28 34.7	+2.7
ETAZ	**East Tamaki Re**	**4.95**	**8**	P	Pn	13 28 36.9	+3.2

BER 21 13:27:22.4±1.6, 60°.55N×6°.36E, h0km±25km, ML1.0, Southern Norway

|

PSGCX	Pisagua	3.80	345	Pn	Pn	13 29 02.6	-1.9
MNMC	Minye Minye	4.16	353		Pn	13 29 08.5	-1.1
AC06	Mina Casimiro	4.22	196		Pn	13 29 08.9	-1.3
GO03	Copiap	4.42	194	Pn	Pn	13 29 11.7	-1.2
AC04	Llanos de Chal	5.22	200	Pn	Pn	13 29 21.6	-2.1
AC05	El Transito	5.63	191	Pn	Pn	13 29 28.3	-1.1
LPAZ	La Paz	7.02	7	eP	Pn	13 29 47.6	-1.1
GO04	Tololo Observa	7.03	192	Pn	Pn	13 29 46.2	-2.3
BBSD	Serra de San D	9.99	54	eP	Pn	13 30 26.7	-2.0
BBRB	Robore, Bolivi	9.99	62	eP	Pn	13 30 27.8	-1.0
MURT	Porto Murtinho	10.72	84	eP	Pn	13 30 37.8	-0.8
PTLB	Pontes e Lacer	12.18	52	Pn	Pn	13 30 57.1	-1.3
PTLB	Pontes e Lacer	12.18	52	eP	Pn	13 30 57.2	-1.2
VILB	Vilhena	13.28	41	eP	Pn	13 31 11.6	-1.4
MCR1	Marechal Candi	13.80	98	eP	Pn	13 31 20.1	+0.3
UNIS	Unistalda (Bra	13.82	118	eP	Pn	13 31 19.6	-0.3
SALV	Santo Antonio	14.58	62	eP	Pn	13 31 29.5	-0.3
PTGB	Pitanga	15.60	99	eP	Pn	13 31 44.9	+2.0
ITAB	Concordia	15.82	108	P	P	13 31 47.4	+0.1
ITAB				IAmb	IAmb	13 32 17.8	
	comp=Z,33nm,1.4s						
ITAB	Concordia	15.82	108	eP	Pn	13 31 45.4	0.0
TRQA	Tornquist	15.93	159	P	P	13 31 49.7	+1.2
TRQA				IAmb	IAmb	13 31 58.8	
	comp=Z,10nm,1.2s						
PLTB	Pedras Altas	16.09	125	eP	Pn	13 31 49.2	+0.4
PDRB	Porto dos Gac	16.52	47	eP	P	13 31 55.4	+0.2
CLDB	Colider	17.68	48	eP	P	13 32 08.1	+0.1
ITRB	Iturama	17.77	82	eP	Pn	13 32 10.3	+0.8
LL04	Puerto Octay	17.80	188	P	P	13 32 09.1	0.0
LL04				IAmb	IAmb	13 32 23.5	
	comp=Z,9.1nm,1.2s						
FRTB	Fartura	17.92	94	eP	P	13 32 10.9	+0.4
ARAG	Araguaiana, MT	17.92	68	eP	P	13 32 10.9	+0.3
BB19B	Bebedouro	19.15	87	eP	P	13 32 24.1	0.0
IPMB	Ipameri, GO	20.21	79	eP	P	13 32 35.9	+0.2
VAO	Valinhos	20.33	94	eP	P	13 32 36.5	-0.4
BDFB	Brasilia	21.24	73	eP	P	13 32 46.4	-0.4
PARB	Paraibuna	21.53	95	eP	P	13 32 49.2	-0.6
ITTB	Itaituba	22.80	36	eP	P	13 33 01.4	-1.6
SGCB	SÃo Gabriel d	23.11	5	eP	P	13 33 07.9	+1.8
JANB	Januaria	24.75	75	eP	P	13 33 21.6	+0.5
ALF01	Guarapari-ES	26.40	90	eP	P	13 33 35.0	-1.0

JMA ***21*** *13:38:03.0±0.3, 44°N±1°×14°8E±°, h0km, MV3.6/24, E OFF HOKKAIDO*
SKHL ***21*** *13:38:03.7±0.2, 44°30N×148°00E, h38km±5km, mb4.2/4*
ISC 21 13:38:00.7±3.1, 44°2N±0°1×148°3E±0°2, h35km, n13, σ1§40/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	1.12	345	eP		Pn	13 38 20.2	+0.3
KUR					AMB	AMB	13 38 20.7	
	90nm,0.2s							
KUR				*i* S		Sn	13 38 32.8	-1.2
KUR					A	A	13 38 35.8	
	250nm,0.2s							
KUR					A	A	13 38 35.8	
	350nm,0.2s							
YUK	**Yuzh-Kuril'sk**	1.75	267	eP		Pn	13 38 29.0	+0.4
YUK					AMB	AMB	13 38 30.4	
	70nm,0.3s							
YUK				eS		Sn	13 38 47.8	-1.9
YUK					A	A	13 38 52.9	
	270nm,0.2s							
YUK					A	A	13 38 52.9	
	350nm,0.2s							
NEM2	**Nemuro 2**	2.01	248	eP		Pn	13 38 32.5	+0.4
NEM2				eS		Sn	13 38 53.6	-2.3
NMR	**Nemuro--Hokkai**	2.02	248	eP		Pn	13 38 32.5	+0.3
NMR					AMB	AMB	13 38 32.7	
	30nm,0.2s							
NMR				eS		Sn	13 38 54.0	-2.1
NMR					A	A	13 39 00.3	
	20nm,0.2s							
NMR					A	A	13 39 00.3	
	60nm,0.2s							
JRA	**Rausu**	2.29	266	eP		Pn	13 38 37.4	+1.4
JRA				eS		Sn	13 39 03.4	+0.4
JNSB	**Nemuroshibetsu**	2.40	262	eP		Pn	13 38 38.8	+1.3
JKHN	**Kushirohamanak**	2.51	246	eP		Pn	13 38 39.9	+0.9
JKHN				eS		Sn	13 39 07.1	-1.3
JNK	**Nakash**	2.64	259	eP		Pn	13 38 42.0	+1.2
JNK				eS		Sn	13 39 10.9	-0.8
AKK	**Akkeshi**	2.75	247	eP		Pn	13 38 43.1	+0.8
AKK					AMB	AMB	13 38 44.4	
	10.0nm,0.4s							
AKK				eS		Sn	13 39 12.3	-2.0
AKK					A	A	13 39 21.5	
	50nm,0.3s							
AKK					A	A	13 39 21.5	
	10.0nm,0.3s							
JAK	**Akkeshi**	2.86	247	eP		Pn	13 38 44.6	+0.9
JAK				eS		Sn	13 39 15.3	-1.6
JAR	**Ashorobuto**	3.39	257	eP		Pn	13 38 53.4	+2.3
JAR				eS		Sn	13 39 30.3	+0.3
JOB	**Onbets**	3.47	250	eP		Pn	13 38 53.9	+1.6
JOB				eS		Sn	13 39 31.9	-0.2
JCH	**Churui**	3.91	248	eP		Pn	13 38 59.3	+1.1

WEL ***21*** *13:43:46.6±0.5, 40°S±3°×17°7E±°, h14km±3km, M3.9/61, ML4.3/18, MLv3.9/61, Error ellipse: s-maj=0.0km s-min=0.0km az=123.7*
IDC ***21*** *13:43:54.6±3.4, 39°80S×174°81E, h0km, mb3.4/2, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=70.2km s-min=36.8km az=109.0*
ISC 21 13:43:45.3±1.1, 40°37S±0°03×176°81E±0°04, h17km±6km, n112, σ1§09/120, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	0.17	308	P		Pg	13 43 50.0	+0.4
PRHZ				S		Sg	13 43 53.0	+0.4
ANWZ	**Angora Road**	0.27	250	P		Pg	13 43 49.9	-1.4
PXZ	**Pawanui**	0.34	7	P		Pb	13 43 53.9	+0.9
PXZ				S		Sb	13 43 59.8	+1.7
WPHZ	**Waipukurau**	0.41	317	P		Pb	13 43 54.2	0.0
WPHZ				S		Sb	13 44 00.5	+0.3
DVHZ	**Dannevirke**	0.50	278	P		Pb	13 43 56.0	+0.4
DVHZ				S		Sb	13 44 03.3	+0.7
BFZ	**Birch Farm**	0.53	234	P		Pb	13 43 58.1	+1.9
KAHZ	**Kahuranaki**	0.58	5	P		Pb	13 43 58.6	+1.6
PNHZ	**Pukenui**	0.65	314	P		Pb	13 43 58.4	+0.1
PRWZ	**Pori Road**	0.67	254	P		Pb	13 44 00.0	0.0
CPWZ	**Castlepoint**	0.71	220	P		Pn	13 44 01.8	+1.2
TSZ	**Takapari Road**	0.72	295	P		Pb	13 43 59.5	+0.1
TSZ				S		Sb	13 44 09.3	+0.2
CKHZ	**Cape Kidnapper**	0.74	16	P		Pb	13 44 00.7	+0.9
POWZ	**Post Office Ro**	0.80	268	P		Pb	13 44 01.7	+1.0
POWZ				S		Sn	13 44 13.5	+0.2
TIWZ	**Tintock**	0.81	240	P		Pb	13 44 02.5	+1.5
MCHZ	**McNeill Hill**	0.93	355	P		Pb	13 44 03.8	+0.9
MRZ	**Mangatainoka R**	0.98	252	P		Pb	13 44 04.1	+0.2
KWHZ	**Kaweka Forest**	0.99	342	P		Pb	13 44 04.3	+0.3
TMWZ	**Te Maipa**	1.01	223	P		Pb	13 44 04.9	+0.5
BHHZ	**Black Hill Sta**	1.05	327	P		Pb	13 44 04.8	-0.3
BHHZ				S		Sg	13 44 18.4	-1.0
ARHZ	**Aropaoanui**	1.11	7	P		Pb	13 44 06.1	0.0
HOWZ	**Holdsworth Sta**	1.12	241	P		Pb	13 44 06.0	-0.2
OHWZ	**Ohakea**	1.15	278	P		Pg	13 44 07.9	+0.3
BKZ	**Black Stump Fm**	1.23	348	P		Pb	13 44 10.5	-0.6
MOVZ	**Moawhango**	1.26	319	P		Pn	13 44 08.4	+0.2
MTW	**Mount Morrison**	1.27	231	P		Pn	13 44 07.8	-0.5
NMHZ	**Naumai**	1.27	360	P		Pn	13 44 08.7	+0.3
OGWZ	**Otaki Gorge**	1.32	250	P		Pn	13 44 08.9	-0.1
WHHZ	**Waihua**	1.33	14	P		Pn	13 44 09.1	0.0
TRWZ	**Traveller**	1.33	219	P		Pn	13 44 10.1	+0.9
WNVZ	**Wahianoa**	1.40	318	P		Pn	13 44 10.8	+0.6
TUVZ	**Tukino**	1.42	321	P		Pg	13 44 11.8	-0.8
MTVZ	**Mangateitei**	1.42	313	P		Pg	13 44 12.2	-0.5
WHVZ	**Whangaehu Hut**	1.44	319	P		Pb	13 44 11.6	-0.1
TRVZ	**Turoa**	1.44	317	P		Pb	13 44 11.7	-0.2
DRZ	**Dome Shelter**	1.45	318	P		Pb	13 44 12.4	+0.3
PAWZ	**Paruwai Farm**	1.46	226	P		Pn	13 44 10.5	-0.4
RAHZ	**Arahi**	1.47	8	P		Pn	13 44 10.9	-0.2
FWVZ	**Far West T-bar**	1.48	319	P		Pb	13 44 12.4	0.0
MHGZ	**Mahia Peninsul**	1.48	35	P		Pn	13 44 10.8	-0.5
SNVZ	**South Ngauruho**	1.49	322	P		Pn	13 44 12.2	+0.8
OTVZ	**Oturere**	1.49	323	P		Pb	13 44 12.5	-0.2
ETVZ	**East Tongariro**	1.50	325	P		Pn	13 44 12.4	+0.8
KNZ	**Kokohu**	1.50	27	P		Pn	13 44 10.8	-0.7
NGZ	**Ngauruhoe**	1.51	322	P		Pb	13 44 12.9	-0.1
CAW	**Cannon Point**	1.52	240	P		Pn	13 44 11.2	-0.5
TMVZ	**Te Maari**	1.52	325	P		Pn	13 44 12.6	+0.9
MTHZ	**Maungataniwha**	1.52	1	P		Pn	13 44 11.7	-0.1
KIW	**Kapiti Island**	1.53	251	P		Pn	13 44 11.9	0.0
WAZ	**Wanganui**	1.53	293	P		Pb	13 44 13.0	-0.2
NNVZ	**North Ngauruho**	1.54	323	P		Pb	13 44 13.7	+0.2
NTVZ	**North Tongarir**	1.54	325	P		Pb	13 44 13.5	0.0
KRVZ	**Karewarewa**	1.56	324	P		Pb	13 44 13.9	+0.1
PKVZ	**Pokaka**	1.56	313	P		Pb	13 44 13.7	0.0
MRHZ	**Matea Rd**	1.56	349	P		Pb	13 44 12.8	+0.4
WTVZ	**West Tongariro**	1.57	323	P		Pb	13 44 13.7	-0.2
HATZ	**Himeaiaia**	1.58	339	P		Pg	13 44 15.6	0.0
MSWZ	**Moikau Station**	1.58	228	P		Pn	13 44 11.9	-0.7
KATZ	**Kakaramea**	1.64	328	P		Pg	13 44 16.0	-0.8
SNGZ	**Shannon Statio**	1.64	15	P		Pn	13 44 13.1	-0.3
TWVZ	**Taurewa**	1.67	320	P		Pb	13 44 15.5	-0.3
PLWZ	**Palliser**	1.68	224	P		Pn	13 44 13.3	-0.7
RATZ	**Rangitukua**	1.70	332	P		Pg	13 44 17.4	-0.6
RTZ	**Ruatahuna**	1.76	4	P		Pn	13 44 14.8	-0.3
WEL	**Wellington**	1.80	239	P		Pn	13 44 15.0	-0.6
RIGZ	**Rimuhau**	1.82	24	P		Pn	13 44 15.0	-0.9
WHTZ	**Whakaora**	1.82	339	P		Pg	13 44 20.5	+0.2
ALRZ	**Allen Road**	1.84	349	P		Pn	13 44 16.8	+0.6
MUGZ	**Murupara**	1.89	359	P		Pn	13 44 17.1	+0.2
RAGZ	**Rawiri**	1.93	14	P		Pn	13 44 16.8	-0.6
VRZ	**Vera Road**	2.01	308	P		Pb	13 44 21.5	+0.1
HRRZ	**Handcock Road**	2.02	348	P		Pn	13 44 19.1	+0.5
RRRZ	**Republican Roa**	2.04	353	P		Pb	13 44 22.0	+0.1
LREZ	**Lake Rotokare**	2.06	295	P		Pb	13 44 22.9	+0.6
TCW	**Tory Channel**	2.10	246	P		Pn	13 44 19.0	-0.7
HSRZ	**Hossack Road**	2.10	348	P		Pn	13 44 21.7	+1.9
MWZ	**Matawai**	2.11	16	P		Pn	13 44 18.9	-1.0
URZ	**Urewera**	2.12	6	P		Pn	13 44 19.3	-0.7
TARZ	**Mount Tarawera**	2.14	354	P		Pn	13 44 20.6	+0.2
CNGZ	**Carnagh Statio**	2.17	30	P		Pn	13 44 19.8	-0.9
DUWZ	**D'Urville Isla**	2.24	258	P		Pn	13 44 22.4	+0.7
TLZ	**Tolley Road**	2.26	334	P		Pn	13 44 23.3	+1.3
MHEZ	**Mangahewa**	2.31	303	P		Pg	13 44 27.9	-1.7
DREZ	**Durham Road**	2.33	300	P		Pb	13 44 26.7	-0.2
NEZ	**North Egmont**	2.36	297	P		Pb	13 44 25.7	-1.7
TWGZ	**Tauwhareparae**	2.37	23	P		Pn	13 44 22.6	-0.9
HIZ	**Hauiti**	2.39	320	P		Pn	13 44 25.1	+1.4
KHEZ	**Kahui Hut**	2.41	296	P		Pg	13 44 29.6	-1.8
TUWZ	**Tuamarina**	2.42	243	P		Pn	13 44 23.3	-0.7
NMEZ	**Namu Road**	2.45	292	P		Pb	13 44 30.1	+1.2
PKEZ	**Pukeiti**	2.47	297	P		Pb	13 44 30.5	+1.2
RUGZ	**Raukumara Rang**	2.50	16	P		Pn	13 44 24.1	-1.2
WHRZ	**Whale Island**	2.51	3	P		Pn	13 44 25.3	-0.1
NBEZ	**Newall Road No**	2.52	295	P		Pg	13 44 31.6	-1.9
OPRZ	**Ohinepanea**	2.53	355	P		Pn	13 44 25.3	-0.4
PUZ	**Puketiti**	2.56	27	P		Pn	13 44 24.2	-1.8
BSWZ	**Blackbirch Sta**	2.59	238	P		Pn	13 44 25.2	-1.3
PKGZ	**Pakihiroa**	2.67	22	P		Pn	13 44 26.0	-1.6
HAZ	**Te Kaha**	2.72	17	P		Pn	13 44 27.2	-1.0
TOZ	**Tahuroa Road**	2.83	338	P		Pn	13 44 30.2	+0.6
WMGZ	**Waiomatatini S**	2.84	27	P		Pn	13 44 28.2	-1.7
MXZ	**Matakaoa Point**	3.04	23	P		Pn	13 44 31.4	-1.1
MRNZ	**Matariki Terra**	3.24	250	P		Pn	13 44 35.3	0.0
THZ	**Tophouse**	3.26	243	P		Pn	13 44 34.4	-1.4
QRZ	**Quartz Range**	3.29	261	P		Pn	13 44 35.9	-0.2
MKAZ	**Moumakai**	3.51	338	P		Pn	13 44 39.8	+0.7
RPZ	**Rata Peaks**	5.43	230	Pn		Pn	13 45 08.2	+2.6
	0.6nm,0.3s,baz=191,slow=22,SNR=1.2							
RPZ					Sn	Sn	13 46 04.3	-3.4
	3.3nm,0.3s,baz=175,slow=23,SNR=9.8 4.3nm,0.7s							
ARCZ	**Arundel**	5.50	228	P		Pn	13 45 07.4	+0.9
TMZ	**Timaru**	5.88	225	P		Pn	13 45 10.6	-1.1
CTZ	**Chatham Island**	5.94	127	P		Pn	13 45 12.5	+0.1
ASAR	**Alice Springs**	39.59	282	P		P	13 51 14.5	-1.4
	0.3nm,0.7s,baz=117,slow=6.8,SNR=7.1 0.3nm,0.7s							
WRA	**Warramunga Arr**	41.50	287	P		P	13 51 29.7	-2.0
	0.5nm,0.6s,baz=127,slow=8.0,SNR=8.1 0.5nm,0.6s							
ARCES	**ARCESS Array B**	147.11	342	PKPbc		PKiKP	14 03 34.6	+6.0
	2.6nm,0.8s,baz=15,slow=3.9,SNR=2.3							

TAP ***21*** *13:45:35.4, 24°65N×122°46E, h10km, ML3.6, D*
JMA ***21*** *13:45:35.8±0.1, 25°N±1°×122°5E±0°4, h30km±1km, MV3.1/11, NW OFF ISHIGAKIJIMA IS*
ISC 21 13:45:36.0±1.0, 24°62N±0°02×122°50E±0°02, h22km±6km, n106, σ1§17/192, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	0.44	112	P		Pb	13 45 45.1	0.0
JYNG				S		Sb	13 45 51.9	+0.7
YOJ	**Yonaguni jima**	0.49	108	P		Pb	13 45 45.8	-0.1
YOJ	baz=110			S		Sb	13 45 54.3	+1.6
	baz=110							
YOJ	**Yonaguni jima**	0.49	108	P		Pb	13 45 45.9	0.0
YOJ				S		Sb	13 45 53.7	+0.9
EGS		0.56	294	*i* P		Pb	13 45 46.0	-1.1
EGS	baz=292			*i* S		Sb	13 45 54.9	+0.1
	baz=292							
TWC	**Suao**	0.59	270	*i* P		Pb	13 45 46.0	-1.6
TWC	baz=265			*i* S		Sb	13 45 55.2	-0.4
	baz=265							
TWB1	**Santiao Chiao**	0.60	310	*i* P		Pb	13 45 46.9	-1.0
TWB1	baz=309			*i* S		Sb	13 45 54.2	-1.9
	baz=309							
NTC	**Toucheng**	0.65	292	P		Pb	13 45 48.1	-0.6
NTC	baz=289			*i* S		Sb	13 45 57.5	+0.2
	baz=289							
ILA	**Ilan**	0.70	283	*i* P		Pb	13 45 48.6	-0.8
ILA	baz=268			*i* S		Sn	13 45 59.0	-1.6
	baz=268							
TIPB	**Shuangxi**	0.70	300	*i* P		Pb	13 45 48.9	-0.7
TIPB	baz=299			S		Sb	13 45 58.1	-0.8
	baz=299							
NDS	**Dongshan**	0.71	272	*i* P		Pb	13 45 47.6	-2.0
NDS	baz=257			*i* S		Sb	13 45 58.0	-1.0
	baz=257							
ENA	**Nanau**	0.71	255	*i* P		Pb	13 45 48.5	-1.2
ENA	baz=262			*i* S		Sb	13 45 58.8	-0.3
	baz=262							
SXI1	**Grass Mountain**	0.74	310	P		Pb	13 45 50.1	-0.1
SXI1	baz=309			S		Sb	13 46 00.0	+0.1
	baz=309							
TWE	**Neicheng**	0.76	278	*i* P		Pb	13 45 49.3	-1.2
TWE	baz=266			*i* S		Sb	13 46 00.2	-0.3
	baz=266							
NWF	**Wu-fen Shan**	0.79	305	*i* P		Pn	13 45 51.2	-0.7
NWF	baz=303			*i* S		Sn	13 46 02.0	-1.1
	baz=303							
WFSB	**Wu-fen Shan**	0.79	305	P		Pn	13 45 51.1	-0.7
WFSB	baz=304			S		Sn	13 46 01.8	-1.3
	baz=304							
FUSB	**Fushanzhiwuyua**	0.84	280	P		Pb	13 45 50.9	-1.0
FUSB	baz=277			S		Sb	13 46 02.4	-0.3
	baz=277							
TNOU	**National Taiwa**	0.84	309	P		Pb	13 45 51.6	-0.4
TNOU	baz=308			S		Sb	13 46 02.7	-0.2
	baz=308							
ENTT	**Nioudou**	0.85	272	*i* P		Pb	13 45 49.9	-2.1
ENTT	baz=259			*i* S		Sb	13 46 01.8	-1.2
	baz=259							
LATG	**Datong**	0.89	265	P		Pb	13 45 52.0	-0.8
LATG	baz=251			S		Sb	13 46 03.5	-0.6
	baz=251							
NDT	**Datong Townshi**	0.90	269	P		Pb	13 45 50.9	-1.9
NDT	baz=256			S		Sb	13 46 03.2	-1.2
	baz=256							
TWA	**Mucha**	0.91	294	*i* P		Pn	13 45 53.1	-0.3
TWA	baz=292			*i* S		Sb	13 46 04.4	-0.2
	baz=292							
ETL	**Fush Village**	0.92	240	P		Pb	13 45 52.8	-0.4
ETL	baz=247			S		Sn	13 46 05.8	-0.3
	baz=247							
NWLT	**Wulai**	0.92	280	*i* P		Pb	13 45 51.8	-1.4
NWLT	baz=277			S		Sb	13 46 04.1	-0.9
	baz=277							
NACB	**Ninganchiao**	0.93	242	P		Pb	13 45 52.5	-0.9
NACB	baz=239			S		Sb	13 46 04.6	-0.7
	baz=239							
NHDH	**Xindian Distri**	0.95	292	*i* P		Pn	13 45 54.1	+0.2
NHDH	baz=289			*i* S		Sn	13 46 05.8	-1.0
	baz=289							
TWD	**Chiawan**	0.98	237	*i* P		Pn	13 45 53.9	-0.5
TWD	baz=243			S		Sn	13 46 08.4	+0.8
	baz=243							
TAP1	**Taipei**	0.98	296	S		Sn	13 46 07.8	+0.2
YM01	baz=293 **YM01**	0.99	302	P		Pn	13 45 54.2	-0.5
YM01	baz=300			S		Sn	13 46 07.7	-0.4
	baz=300							
TAP	**Taipei**	0.99	295	P		Pn	13 45 55.0	+0.4
TAP	baz=293			*i* S		Sn	13 46 08.1	+0.2
	baz=293							
ETLH	**Xiulin Townshi**	1.01	246	P		Pb	13 45 54.1	-0.7
ETLH	baz=254			S		Sn	13 46 08.1	-0.4
	baz=254							
YHNB	**Yeheng**	1.02	273	P		Pb	13 45 54.5	-0.5
YHNB	baz=264			S		Sb	13 46 06.9	-1.1
	baz=264							
BACT	**New Taipei Cit**	1.03	292	*e*S		Sn	13 46 09.8	+0.9
HWA	baz=289 **Hwalien**	1.03	232	*i* P		Pn	13 45 55.9	+0.8
HWA	baz=229			S		Sn	13 46 10.2	+1.3
	baz=229							
NNSB	**Datong**	1.03	260	P		Pb	13 45 54.5	-0.7
NNSB	baz=257			S		Sb	13 46 07.5	-0.8
	baz=257							
NNS	**Nan Shan**	1.04	261	*i* P		Pb	13 45 53.8	-1.5
NNS	baz=257			*i* S		Sb	13 46 07.4	-1.1
	baz=257							
NSK	**Sanguang**	1.04	274	*i* P		Pb	13 45 53.6	-1.6
NSK	baz=264			*i* S		Sb	13 46 06.5	-2.0
	baz=264							
TWY	**Chenhua**	1.05	309	*i* P		Pb	13 45 54.8	-0.6
TWY	baz=308			*i* S		Sn	13 46 09.3	+0.1
	baz=308							
ANP	**Anpu**	1.05	303	*i* P		Pn	13 45 55.6	+0.1
ANP	baz=301			S		Sn	13 46 08.8	-0.7
	baz=301							
PCYT	**Pengchaiyu**	1.08	339	*i* P		Pb	13 45 55.0	-1.0
TWS1	baz=340 **Kuangyinshan**	1.09	297	*i* P		Pb	13 45 56.6	+0.5
TWS1	baz=294			*i* S		Sn	13 46 10.5	+0.1
	baz=294							
NTST	**Danshui**	1.10	300	*i* P		Pb	13 45 56.7	+0.5
NTST	baz=298			*i* S		Sn	13 46 11.7	+1.2
	baz=298							
IRIF	**Iriomote-Funau**	1.16	104	P		Pn	13 45 56.4	-0.5
IRIF				*e*S		Sb	13 46 12.2	+0.3
FUSS	**Fushou**	1.20	252	*i* P		Pb	13 45 57.9	-0.2
FUSS	baz=249			S		Sn	13 46 14.5	+1.1
	baz=249							
WHF	**Hehuan Shan**	1.22	248	*i* P		Pb	13 45 57.9	-0.6
WHF	baz=253			*i* S		Sn	13 46 13.6	-0.5
	baz=253							
NCU	**National Centr**	1.24	287	*i* P		Pb	13 45 59.7	+1.0
NCU	baz=284			S		Sn	13 46 16.5	+2.5
	baz=284							
NCUH	**Zhongli**	1.24	287	*i* P		Pb	13 45 59.5	+0.7
NCUH	baz=284			*i* S		Sn	13 46 16.8	+2.7
	baz=284							
NFF	**Wufeng Townshi**	1.25	271	P		Pb	13 45 58.2	-0.8
NFF	baz=258			S		Sn	13 46 15.3	+0.8
	baz=258							
ESL	**Shilin**	1.26	231	*i* P		Pb	13 45 58.5	-0.5
ESL	baz=228			S		Sb	13 46 15.7	+1.0
	baz=228							
TWT	**Tachien**	1.26	254	*i* P		Pb	13 45 59.7	+0.6
TWT	baz=251			S		Sn	13 46 16.1	+1.4
	baz=251							
TDCB	**Techi**	1.27	254	P		Pb	13 45 59.2	-0.1
TDCB	baz=251			S		Sn	13 46 16.4	+1.3
	baz=251							
HATJ	**Hateruma jima**	1.32	115	P		Pn	13 45 59.1	+0.1
CHGB	**Renai**	1.33	246	P		Pb	13 46 00.2	-0.1
CHGB	baz=224			S		Sb	13 46 18.4	+1.5
	baz=224							
LIOB	**Emei**	1.35	272	*i* P		Pb	13 46 01.5	+1.0
LIOB	baz=268			*i* S		Sb	13 46 19.6	+2.2
	baz=268							
NSTT	**Nanjuang**	1.36	271	*i* P		Pb	13 46 01.7	+1.0
NSTT	baz=268			*i* S		Sb	13 46 18.9	+1.2
	baz=268							
SBCB	**Hsinchu**	1.39	278	P		Pb	13 46 01.3	+0.1
SBCB	baz=293			S		Sb	13 46 20.5	+2.1
	baz=293							
HSN	**Hsinchu**	1.40	278	S		Sb	13 46 19.9	+1.0
WUSB	baz=295 **Renai**

SSLB				S		Sb	13 46 25.7	+0.2
	baz=222							
YULB	**Yu-li**	**1.64**	**222**	P		Pn	13 46 03.5	0.0
	baz=221							
YULB				S		Sb	13 46 25.5	-0.2
	baz=221							
JISG	**Ishigakijimahi**	**1.65**	**91**	P		Pn	13 46 03.2	-0.5
TYC	**Yuchr**	**1.66**	**245**	*i* P		Pb	13 46 05.9	+0.1
	baz=228							
TYC				S		Sb	13 46 27.4	+1.3
	baz=228							
EYUL	**Yuli**	**1.66**	**221**	*i* P		Pb	13 46 04.5	-1.3
	baz=205							
WDJ	**Dajia District**	**1.71**	**261**	P		Pb	13 46 07.5	+0.7
	baz=275							
WDJ				S		Sb	13 46 30.0	+2.2
	baz=275							
TCU	**Taichung**	**1.72**	**255**	*i* P		Pb	13 46 08.4	+1.5
	baz=251							
WHYT	**Xinyi Township**	**1.76**	**239**	*i* P		Pb	13 46 07.1	-0.5
	baz=222							
WHYT				*i* S		Sb	13 46 30.3	+1.1
	baz=222							
FULB	**Fuli**	**1.79**	**218**	*i* P		Pn	13 46 06.0	+0.4
	baz=201							
WJS	**Zhushan**	**1.80**	**244**	*i* P		Pb	13 46 09.0	+0.8
	baz=225							
WJS				*i* S		Sb	13 46 33.3	+3.0
	baz=225							
YUS	**Yu-Shan**	**1.80**	**232**	*i* P		Pb	13 46 07.4	-1.2
	baz=230							
WNT	**Mingjian**	**1.81**	**246**	*i* P		Pb	13 46 09.4	+1.0
	baz=226							
WNT				*i* S		Sb	13 46 33.7	+3.1
	baz=226							
WCHH	**Zhanghua**	**1.85**	**254**	S		Sb	13 46 34.7	+3.0
	baz=251							
ALS	**Alishan**	**1.90**	**235**	*i* P		Pb	13 46 09.2	-0.9
	baz=233							
ELDTW	**Lidau**	**1.96**	**224**	*i* P		Pn	13 46 08.4	+0.4
	baz=223							
EDH	**Donghe**	**1.97**	**214**	*i* P		Pn	13 46 07.5	-0.4
	baz=199							
EDH				*i* S		Sn	13 46 31.7	-0.3
	baz=199							
JTJ	**Tarama**	**2.01**	**89**	P		Pn	13 46 09.3	+0.7
WDLH	**Douliu**	**2.01**	**243**	*i* P		Pb	13 46 11.8	-0.1
	baz=225							
WDLH				S		Sb	13 46 39.0	+2.6
	baz=225							
WRL	**Guolierlin Hig**	**2.06**	**250**	*i* P		Pn	13 46 10.3	+1.0
	baz=248							
WRL				S		Sb	13 46 38.3	+0.4
	baz=248							
WCKO	**Fanlu**	**2.09**	**236**	P		Pb	13 46 11.3	-1.9
	baz=235							
WCKO				S		Sb	13 46 40.0	+1.3
	baz=235							
LONT	**Longtian**	**2.11**	**217**	*i* P		Pn	13 46 10.6	+0.6
	baz=215							
LONT				S		Sn	13 46 36.0	+0.4
	baz=215							
STYH	**Taoyuan**	**2.13**	**228**	*i* P		Pn	13 46 11.1	+0.8
	baz=214							
STYH				S		Sn	13 46 37.3	+1.3
	baz=214							
CHN4	**Tsaushan**	**2.15**	**235**	*i* P		Pb	13 46 12.3	-1.8
	baz=217							
CHN4				S		Sb	13 46 39.6	-0.8
	baz=217							
LDUT	**Ludao**	**2.15**	**206**	*i* P		Pn	13 46 10.8	+0.2
	baz=205							
LDUT				*i* S		Sn	13 46 35.5	-1.0
	baz=205							
STYT	**Tauyuan**	**2.15**	**228**	P		Pb	13 46 12.5	-1.8
	baz=213							
STYT				S		Sb	13 46 39.4	-1.1
	baz=213							
TPUB	**Ta-pu**	**2.15**	**233**	P		Pb	13 46 13.0	-1.3
	baz=219							
TPUB				S		Sb	13 46 40.3	-0.2
	baz=219							
CHY	**Chiayi**	**2.20**	**240**	*i* P		Pb	13 46 12.9	-2.1
	baz=222							
CHY				S		Sb	13 46 41.7	-0.1
	baz=222							
WTP	**Ta-pu**	**2.20**	**232**	*i* P		Pb	13 46 13.4	-1.6
	baz=231							
WTP				S		Sb	13 46 42.3	+0.5
	baz=231							
TWGBT	**Beinan**	**2.21**	**216**	P		Pn	13 46 11.9	+0.5
	baz=215							
TWGBT				S		Sn	13 46 38.6	+0.6
	baz=215							
TWG	**Pinlang**	**2.21**	**216**	*i* P		Pn	13 46 11.5	+0.1
	baz=215							
TWG				S		Sn	13 46 39.2	+1.2
	baz=215							
TWK	**Hsinying**	**2.27**	**234**	*i* P		Pb	13 46 14.9	-1.5
	baz=233							
TWK				S		Sb	13 46 43.7	-0.4
	baz=233							
WSF	**Szhu**	**2.29**	**245**	S		Sb	13 46 45.9	+1.3
	baz=243							
CHN1	**Nanshi**	**2.29**	**232**	*i* P		Pb	13 46 14.7	-2.0
	baz=231							
CHN1				S		Sb	13 46 43.5	-1.2
	baz=231							
SGST	**Jiashian**	**2.32**	**229**	*i* P		Pb	13 46 14.8	-2.4
	baz=228							
SGST				S		Sb	13 46 45.3	-0.1
	baz=228							
WSL	**Shuilin Townsh**	**2.34**	**243**	P		Pn	13 46 14.7	+1.5
	baz=241							
WSL				*i* S		Sb	13 46 46.0	0.0
	baz=241							
CHN8	**Yiju**	**2.44**	**239**	S		Sb	13 46 49.4	+0.5
	baz=221							
SCST	**Cishan**	**2.52**	**227**	*i* P		Pb	13 46 18.4	-2.0
	baz=226							
SCST				S		Sb	13 46 50.0	-1.0
	baz=226							
SSD	**Sandimen**	**2.53**	**223**	*i* P		Pb	13 46 17.9	-2.8
	baz=222							
SSD				*i* S		Sb	13 46 50.3	-1.0
	baz=222							
TSMG	**Majia**	**2.55**	**222**	*i* P		Pb	13 46 18.6	-2.4
	baz=221							
TSMG				*i* S		Sb	13 46 51.0	-1.0
	baz=221							

*NEIC **21** 14:08:53.5±1.0, 37.°59**N**±0.°07×72.°3**E**±0.°1, h200km±3km, mb4.4/8, Error ellipse: s-maj=11.6km s-min=9.8km az=101.0*
*NNC **21** 14:09:02.1±4.4, 38.°42**N**×72.°49**E**, h254km±47km, mb2.3, mpv3.5, Error ellipse: s-maj=53.4km s-min=27.3km az=173.0*

ISC 21 14:08:53.5±1.0, **37.°66N**±0.°09×**72.°32E**±0.°08, **h200**km, **n41**, σ1§**43**/43, **mb4.4**/5, **4C-2D**, **Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.86**	**348**	Pn	**Pn**	**14 09 30.8**	**0.0**
GAR	**Garm**	**2.06**	**311**	Pn	**Pn**	**14 09 33.3**	**+0.5**
BTK	**Batken**	**2.66**	**334**	Pn	**Pn**	**14 09 41.0**	**+1.7**
CHGR	**Chuyangaron**	**2.68**	**293**	Pn	**Pn**	**14 09 39.4**	**-0.1**
NIL	**Nilore**	**4.08**	**169**	Pn	**Pn**	**14 09 55.6**	**-0.8**
KBL	**Kabul**	**4.09**	**221**		**Pn**	**14 09 55.8**	**-0.8**
TAS	**Tashkent**	**4.34**	**328**	Pn	**Pn**	**14 10 00.7**	**+1.2**
AML	**Almayashu**	**4.59**	**13**	P	**Pn**	**14 10 04.0**	**+1.0**
	SNR=177						
UCH	**Uchtor**	**4.86**	**20**	P	**Pn**	**14 10 07.5**	**+1.1**
	SNR=10						
EKS2	**Erkin-Say**	**5.12**	**12**	P	**Pn**	**14 10 10.8**	**+1.3**
	SNR=13						
AAK	**Ala-Archa**	**5.24**	**18**	P	**Pn**	**14 10 12.6**	**+1.6**
	SNR=11						
AAK	**Ala-Archa**	**5.24**	**18**		**Pn**	**14 10 12.3**	**+1.2**
KBK	**Karagaybulak**	**5.38**	**21**	P	**Pn**	**14 10 15.0**	**+2.2**
	SNR=7.7						
ULHL	**Ulahol**	**5.48**	**32**	P	**Pn**	**14 10 14.7**	**+0.5**
	SNR=8.5						
BOOM	**Boomskoye usch**	**5.56**	**29**	Pn	**Pn**	**14 10 16.1**	**+0.9**
KK31	**Karatay Array**	**5.61**	**346**		**Pn**	**14 10 16.4**	**+0.9**
KK31	**Karatay Array**	**5.61**	**346**	⇑P	**Pn**	**14 10 16.5**	**+0.9**
	1.6nm,0.2s,baz=164,slow=14,SNR=124						
KK31				⇑S	**Sn**	**14 11 18.4**	**-2.2**
	4.2nm,0.3s,baz=174,slow=26,SNR=4.2						
KKAR	**Karatay Array**	**5.61**	**346**		**Pn**	**14 10 16.4**	**+0.8**
TKM2	**Tokmak 2**	**5.82**	**24**	P	**Pn**	**14 10 19.9**	**+1.4**
	SNR=6.7						
TKM2	**Tokmak 2**	**5.82**	**24**	⇓P	**Pn**	**14 10 19.6**	**+1.0**
	4.8nm,0.5s						
TKM2				⇓S	**Sn**	**14 11 20.5**	**-5.3**
	1.7nm,0.5s						
USP	**Ospenovka**	**5.84**	**16**	P	**Pn**	**14 10 19.7**	**+1.1**
	SNR=5.7						
TARG	**Taragay, Kyrgy**	**5.86**	**44**	Pn	**Pn**	**14 10 20.1**	**+0.8**
GEYT	**Alibeck**	**11.24**	**276**	Pn	**Pn**	**14 11 27.5**	**-1.2**
GYA0B	**ALIBECK ARRAY**	**11.24**	**276**	Pn	**Pn**	**14 11 27.5**	**-1.2**
MKAR	**Makanchi Array**	**11.73**	**36**	P	**P**	**14 11 42.6**	**+2.6**
	0.1nm,0.3s,baz=214,slow=10,SNR=5.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**11.73**	**36**	Pn	**Pn**	**14 11 34.6**	**-0.2**
KURK	**Kurchatov**	**13.80**	**17**	P	**P**	**14 12 04.1**	**+1.2**
AB31	**Akbulak array**	**14.64**	**326**	⇑P	**P**	**14 12 11.8**	**-0.4**
	0.5nm,0.4s,baz=135,slow=13,SNR=19						
ABKAR	**Akbulak array**	**14.64**	**326**		**Pn**	**14 12 11.3**	**+0.2**
BRVK	**Borovoye**	**15.46**	**355**	P	**P**	**14 12 21.8**	**+0.6**
AKTO	**Aktyubinsk**	**16.35**	**326**	⇑P	**P**	**14 12 29.5**	**-1.6**
	0.7nm,0.6s						
ZAA0	**Zalesovo Array**	**18.42**	**24**	P	**P**	**14 12 54.0**	**+0.3**
ZALV	**Zalesovo Beam**	**18.42**	**24**	P	**Pn**	**14 12 55.7**	**-0.5**
	1.5nm,0.4s,baz=207,slow=9.0,SNR=9.2						
	1.5nm,0.4s						
ZALV	**Zalesovo Beam**	**18.42**	**24**	P	**P**	**14 12 53.4**	**-0.3**
ARCES	**ARCESS Array B**	**40.48**	**337**	P	**P**	**14 16 14.4**	**+2.1**
	2.0nm,0.9s,baz=105,slow=9.7,SNR=3.7						
	2.0nm,0.9s						
SPB2	**Spitsbergen Ar**	**46.60**	**346**	P	**P**	**14 17 01.2**	**+0.3**
SPB2				IAmb	IAmb	14 17 30.7	
	comp=Z,32nm,1.3s						
ILULI	**Ilulissat**	**65.65**	**341**	P	**P**	**14 19 14.7**	**-1.0**
RDOG	**Red Dog Mine**	**66.82**	**20**	P	**P**	**14 19 24.4**	**+1.3**
RDOG				IAmb	IAmb	14 20 02.1	
	comp=Z,5.4nm,0.7s						
TOLK	**Toolik Lake Re**	**69.53**	**15**	P	**P**	**14 19 39.5**	**-0.6**
TOLK				IAmb	IAmb	14 20 03.3	
	comp=Z,6.2nm,1.4s						
IMAR	**Indian Mountai**	**70.74**	**18**	P	**P**	**14 19 48.0**	**+0.6**
PPLA	**Purkeypile**	**73.64**	**20**	P	**P**	**14 20 05.2**	**+0.4**
PPLA				IAmb	IAmb	14 20 32.4	
	comp=Z,14nm,1.3s						

IDC 21 14:13:22.1±1.2, **15.°73N**×**145.°61E**, **h0**km, **mb3.6**/4, **mbtmp4.0**/5, **ML4.5**/1, **Error ellipse: s-maj=97.0km s-min=20.5km az=103.0**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**18.10**	**344**	P	Pn	14 17 33.9	-1.2
	6.1nm,0.3s,baz=139,slow=19,SNR=1.0						
	125nm,0.7s						
WRA	**Warramunga Arr**	**37.14**	**198**	P	P	14 20 35.2	+0.4
	1.0nm,0.7s,baz=20,slow=9.2,SNR=16						
	1.0nm,0.7s						
PETK	**Petropavlovsk-**	**38.50**	**12**	P	P	14 20 46.7	+0.7
	7.0nm,1.1s,baz=210,slow=8.3,SNR=11						
	7.0nm,1.1s						
ASAR	**Alice Springs**	**40.79**	**197**	P	P	14 21 04.5	-0.9
	0.1nm,0.4s,baz=16,slow=7.7,SNR=1.4						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**66.34**	**26**	P	P	14 24 11.6	-0.8
	0.3nm,0.8s,baz=251,slow=4.5,SNR=1.8						
	0.3nm,0.8s						

ROM 21 14:21:27.4±0.1, **42.°785N**±0.°005×**13.°233E**±0.°006, **h7**km, **ML2.2**/9, **8C-5D**, **Error ellipse: s-maj=0.6km s-min=0.3km az=36.0**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1245	**Castelsantange**	**0.08**	**335**	P	Pg	14 21 29.9	+0.4
T1245				S	Sg	14 21 31.8	+0.8
T1245				AML	AML		
	comp=N,1345μm,0.5s						
T1245				AML	AML		
	comp=E,860μm,1.6s						
T1245				AML	AML		
	comp=E,860μm,1.6s						
T1245				AML	AML		
	comp=E,876μm,0.2s						
T1245				AML	AML		
	comp=N,1220μm,0.5s						
T1245				AML	AML		
	comp=N,1350μm,0.5s						
NRCA	**Norcia**	**0.10**	**299**	P	Pg	14 21 30.1	+0.4
NRCA				S	Sg	14 21 31.9	+0.5
NRCA				AML	AML		
	comp=E,1540μm,1.0s						
NRCA				AML	AML		
	comp=N,1440μm,0.1s						
MMO1	**Montemonaco**	**0.13**	**31**	P	Pg	14 21 30.6	+0.3
MMO1				S	Sg	14 21 33.2	+0.9
T1218	**Civita (PG)**	**0.14**	**217**	⇓P	Pg	14 21 31.2	+0.8
T1218				S	Sg	14 21 33.9	+1.4
T1218				AML	AML		
	comp=E,454μm,0.6s						
T1218				AML	AML		
	comp=N,647μm,0.9s						
T1218				AML	AML		
	comp=E,693μm,0.1s						
T1218				AML	AML		
	comp=N,3270μm,0.2s						
T1218				AML	AML		
	comp=E,694μm,0.1s						
T1241	**Roccafluvione,**	**0.16**	**64**	P	Pg	14 21 30.9	+0.2
T1241				S	Sg	14 21 34.2	+1.1
T1241				AML	AML		
	comp=E,395μm,0.1s						
T1241				AML	AML		
	comp=N,418μm,1.4s						
T1241				AML	AML		
	comp=E,396μm,0.1s						
T1241				AML	AML		
	comp=E,1152μm,0.2s						
T1241				AML	AML		
	comp=E,1150μm,0.2s						
T1241				AML	AML		
	comp=N,478μm,0.2s						
T1243	**Rocca Santa Ma**	**0.18**	**119**	⇑P	Pg	14 21 31.7	+0.6
T1243				S	Sg	14 21 35.0	+1.4
T1216	**Preci, Frazion**	**0.19**	**304**	⇓P	Pg	14 21 31.4	+0.2
T1216				S	Sg	14 21 34.3	+0.5
T1216				AML	AML		
	comp=E,1954μm,0.3s						
T1216				AML	AML		
	comp=N,1840μm,0.3s						
T1216				AML	AML		
	comp=E,1950μm,0.3s						
T1216				AML	AML		
	comp=N,1846μm,0.3s						
T1216				AML	AML		
	comp=N,1836μm,0.3s						
T1216				AML	AML		
	comp=E,1958μm,0.3s						
T1256	**Bolognola (MC)**	**0.22**	**359**	P	Pg	14 21 31.9	0.0
T1256				AML	AML		
	comp=N,1300μm,0.7s						
T1256				AML	AML		
	comp=E,1100μm,0.4s						
T1256				AML	AML		
	comp=N,1305μm,0.7s						
T1256				AML	AML		
	comp=E,1105μm,0.4s						
T1215	**Vallo di Nera,**	**0.27**	**274**	⇑P	Pg	14 21 32.7	0.0
FDMO	**Fiordimonte**	**0.27**	**337**	⇓P	Pb	14 21 34.7	+0.1
FDMO				AML	AML		
	comp=N,4915μm,0.2s						
FDMO				AML	AML		
	comp=E,6810μm,0.2s						
FDMO				AML	AML		
	comp=N,4910μm,0.2s						
RM33	**Pellescritta (**	**0.28**	**183**	P	Pg	14 21 33.5	+0.6
RM33				S	Sg	14 21 38.0	+1.5
RM33				AML	AML		
	comp=E,148μm,0.3s						
RM33				AML	AML		
	comp=N,108μm,0.5s						
CSP1	**Cessapalombo**	**0.31**	**356**	⇑P	Pg	14 21 33.4	0.0
CSP1				AML	AML		
	comp=E,2915μm,0.9s						
CSP1				AML	AML		
	comp=N,4810μm,0.2s						
CSP1				AML	AML		
	comp=N,4815μm,0.2s						
T1219	**Muccia, Frazio**	**0.32**	**329**	P	Pg	14 21 33.5	-0.2
T1219				AML	AML		
T1219				AML	AML		
	comp=N,13150μm,0.2s						
T1219				AML	AML		
	comp=E,11400μm,0.2s						
T1219				AML	AML		
	comp=E,10950μm,0.2s						
T1219				AML	AML		
	comp=N,13100μm,0.2s						
T1219				AML	AML		
	comp=N,12225μm,0.2s						
T1219				AML	AML		
	comp=N,12200μm,0.2s						
T1219				AML	AML		
	comp=E,11400μm,0.2s						
T1219				AML	AML		
	comp=E,10950μm,0.2s						
TERO	**Teramo**	**0.32**	**121**	P	Pg	14 21 34.1	+0.5
TERO				AML	AML		
	comp=E,142μm,0.5s						
TERO				AML	AML		
	comp=N,116μm,0.9s						
TERO				AML	AML		
	comp=N,216μm,0.4s						
TERO				AML	AML		
	comp=E,217μm,0.1s						
SNTG	**Esanatoglia**	**0.52**	**336**	⇑P	Pg	14 21 37.5	+0.1
SNTG				AML	AML		
	comp=N,442μm,1.1s						
SNTG				AML	AML		
	comp=E,414μm,0.4s						
SNTG				AML	AML		
	comp=N,422μm,0.2s						
SNTG				AML	AML		
	comp=E,380μm,0.4s						
EL6	**Elcito**	**0.55**	**350**	P	Pg	14 21 35.4	-2.7
FAGN	**Fagnano**	**0.58**	**153**	⇑P	Pg	14 21 37.3	-1.3
FAGN				AML	AML		
	comp=N,240μm,0.2s						
FAGN				AML	AML		
	comp=E,304μm,0.1s						
CING	**Cingoli**	**0.59**	**357**	⇑P	Pb	14 21 39.5	-0.6
CING				AML	AML		
	comp=E,1096μm,0.5s						
CING				AML	AML		
	comp=N,690μm,0.1s						
FOSV	**Fossato di Vic**	**0.62**	**326**	⇓P	Pg	14 21 39.6	+0.4
FOSV				AML	AML		
	comp=E,308μm,0.2s						
FOSV				AML	AML		
	comp=N,432μm,0.3s						
SSFR	**Montelago di S**	**0.73**	**333**	P	Pg	14 21 39.2	-2.2
SSFR				AML	AML		
	comp=E,590μm,1.2s						
SSFR				AML	AML		
	comp=N,428μm,0.2s						
SSFR				AML	AML		
	comp=N,556μm,0.2s						
SSFR				AML	AML		
	comp=E,516μm,1.2s						
PTQR	**Pietraquaria**	**0.77**	**171**	P	Pg	14 21 42.1	-0.1
ATVO	**AVT- Monte Val**	**0.85**	**315**	⇑P	Pb	14 21 44.2	-0.2
ATVO				AML	AML		
	comp=E,100μm,0.2s						
ATVO				AML	AML		
	comp=N,91μm,0.2s						
ATPI	**Pietralunga -**	**0.90**	**318**	⇓P	Pb	14 21 45.1	-0.2
ATPI				S	Sg	14 21 56.0	-0.4
ATPI				AML	AML		
	comp=E,74μm,0.4s						
ATPI				AML	AML		
	comp=N,72μm,0.3s						
ATPI				AML	AML		
	comp=E,74μm,0.4s						
ATPI				AML	AML		
	comp=N,72μm,0.3s						
PIEI	**Pieia**	**0.91**	**326**	S	Sg	14 21 55.0	-1.6
PIEI				AML	AML		
	comp=E,148μm,0.1s						
PIEI				AML	AML		
	comp=N,93μm,0.3s						
MPAG	**Monte Paganucc**	**0.91**	**338**	P	Pb	14 21 45.2	-0.3
MPAG				AML	AML		
	comp=E,96μm,0.7s						
MPAG				AML	AML		
	comp=N,79μm,0.3s						
MPAG				AML	AML		
	comp=E,95μm,0.7s						
MPAG				AML	AML		
	comp=N,79μm,0.3s						
FSSB	**Fossombrone**	**0.97**	**340**	⇑P	Pb	14 21 46.2	-0.2
FSSB				S	Sg	14 21 57.0	-1.5
FSSB				AML	AML		
	comp=N,302μm,0.3s						
FSSB				AML	AML		
	comp=E,208μm,0.6s						
VBKN	**Vesuvio Bunker**	**2.15**	**155**	AML	AML		
	comp=E,616μm,0.9s						
VBKN				AML	AML		
	comp=N,634μm,1.1s						

*NOU **21** 14:26:57.5, 42.°81S×173.°06E, h0km, MLv4.1/11, South Island, New Zealand*
*WEL **21** 14:26:59.7±0.3, 43.°5±2.°×17.°3E±.°, h8km±2km, M3.5/32, ML3.8/13, MLv3.5/32, Error ellipse: s-maj=0.0km s-min=0.0km az=104.4*

ISC 21 14:26:59.7±1.0, **42.°72S**±0.°03×**172.°97E**±0.°04, **h15**km, **n97**, σ1§**33**/98, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.25**	**169**	P	**Pb**	**14 27 07.5**	**+1.6**
GVZ				S	**Sb**	**14 27 13.2**	**+3.1**
AMCZ	**Amberley**	**0.51**	**207**	P	**Pn**	**14 27 11.6**	**-0.9**
LTZ	**Lake Taylor**	**0.52**	**263**	P	**Pg**	**14 27 09.2**	**-0.7**
OXZ	**Oxford**	**0.91**	**228**	P	**Pb**	**14 27 17.1**	**-0.1**
THZ	**Tophouse**	**0.96**	**357**	P	**Pb**	**14 27 16.5**	**-1.6**
OKCZ	**Okains Bay**	**1.00**	**176**	P	**Pn**	**14 27 19.7**	**+0.4**
INZ	**Inchbonnie**	**1.12**	**269**	P	**Pb**	**14 27 19.8**	**-1.0**
AKCZ	**Akaroa Harbour**	**1.15**	**182**	P	**Pn**	**14 27 20.9**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.21**	**34**	P	**Pn**	**14 27 22.4**	**+0.3**
TUWZ	**Tuamarina**	**1.48**	**30**	P	**Pn**	**14 27 26.0**	**+0.2**
NNZ	**Nelson**	**1.54**	**12**	P	**Pn**	**14 27 26.6**	**+0.1**
WVZ	**Waitaha Valley**	**1.68**	**257**	P	**Pn**	**14 27 28.1**	**-0.4**
TKNZ	**Takaka Hill**	**1.69**	**360**	P	**Pn**	**14 27 28.2**	**-0.4**
RPZ	**Rata Peaks**	**1.71**	**234**	P	**Pn**	**14 27 28.1**	**-0.9**
RPZ	**Rata Peaks**	**1.71**	**234**	P	**Pn**	**14 27 26.8**	**-2.2**
TCW	**Tory Channel**	**1.80**	**33**	P	**Pn**	**14 27 30.0**	**-0.1**
QRZ	**Quartz Range**	**1.93**	**350**	P	**Pn**	**14 27 32.2**	**+0.3**
QRZ	**Quartz Range**	**1.93**	**350**	P	**Pn**	**14 27 31.2**	**-0.7**
WEL	**Wellington**	**1.97**	**44**	P	**Pn**	**14 27 32.1**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.03**	**252**	P	**Pn**	**14 27 33.3**	**0.0**
DUWZ	**D'Urville Isla**	**2.05**	**21**	P	**Pn**	**14 27 34.1**	**+0.5**
PLWZ	**Palliser**	**2.05**	**57**	P	**Pn**	**14 27 32.8**	**-0.9**
MSWZ	**Moikau Station**	**2.14**	**53**	P	**Pn**	**14 27 34.1**	**-0.8**
TMZ	**Timaru**	**2.19**	**220**	P	**Pn**	**14 27 34.6**	**-1.0**
CAW	**Cannon Point**	**2.25**	**45**	P	**Pn**	**14 27 35.7**	**-0.6**
PAWZ	**Paruwai Farm**	**2.27**	**55**	P	**Pn**	**14 27 35.5**	**-1.2**
KIW	**Kapiti Island**	**2.36**	**39**	P	**Pn**	**14 27 37.6**	**-0.3**
TRWZ	**Traveller**	**2.42**	**58**	P	**Pn**	**14 27 37.4**	**-1.3**
FOZ	**Fox Glacier**	**2.45**	**250**	P	**Pn**	**14 27 39.0**	**0.0**
MTW	**Mount Morrison**	**2.45**	**51**	P	**Pn**	**14 27 38.0**	**-1.1**
OGWZ	**Otaki Gorge**	**2.52**	**42**	P	**Pn**	**14 27 39.4**	**-0.7**
LBZ	**Lake Benmore**	**2.62**	**230**	P	**Pn**	**14 27 40.6**	**-0.8**
HOWZ	**Holdsworth Sta**	**2.64**	**47**	P	**Pn**	**14 27 40.8**	**-0.9**
TMWZ	**Te Maipa**	**2.71**	**54**	P	**Pn**	**14 27 41.2**	**-1.5**
MRZ	**Mangatainoka R**	**2.84**	**44**	P	**Pn**	**14 27 43.2**	**-1.2**
ODZ	**Otahua Downs**	**2.86**	**215**	P	**Pn**	**14 27 43.9**	**-0.9**
ODZ	**Otahua Downs**	**2.86**	**215**	P	**Pn**	**14 27 43.8**	**-0.9**
BFZ	**Birch Farm**	**3.19**	**51**	P	**Pn**	**14 27 48.6**	**-0.7**
BFZ	**Birch Farm**	**3.19**	**51**	P	**Pn**	**14 27 47.4**	**-1.9**
WAZ	**Wanganui**	**3.33**	**28**	P	**Pn**	**14 27 52.5**	**+1.3**
JCZ	**Jackson Bay**	**3.33**	**245**	P	**Pn**	**14 27 51.2**	**-0.2**
JCZ	**Jackson Bay**	**3.33**	**245**	P	**Pn**	**14 27 50.8**	**-0.5**
NMEZ	**Namu Road**	**3.38**	**12**	P	**Pn**	**14 27 54.3**	**+2.4**
DVHZ	**Dannevirke**	**3.41**	**46**	P	**Pn**	**14 27 50.3**	**-2.0**
LREZ	**Lake Rotokare**	**3.44**	**19**	P	**Pn**	**14 27 55.5**	**+2.8**
TSZ	**Takapari Road**	**3.49**	**41**	P	**P

KHEZ	Kahui Hut	3.52	13	P		Pn	14 27 55.0 +1.1
KHEZ	Kahui Hut	3.52	13	P		Pn	14 27 55.9 +2.1
NBEZ	Newall Road No	3.52	11	P		Pn	14 27 55.6 +1.8
WKZ	Wanaka	3.55	232	P		Pn	14 27 52.7 -1.5
NEZ	North Egmont	3.55	14	P		Pn	14 27 56.8 +2.4
PKE	Pukeiti	3.61	13	P		Pn	14 27 57.2 +2.1
EAZ	Earnscleugh	3.64	225	P		Pn	14 27 53.9 -1.6
DREZ	Durham Road	3.65	15	P		Pn	14 27 57.4 +1.7
PNHZ	Pukenui	3.71	42	P		Pn	14 27 54.7 -1.8
MHEZ	Mangahewa	3.79	16	P		Pn	14 27 59.7 +2.3
MTVZ	Mangateitei	3.83	30	P		Pn	14 28 00.1 +1.9
VRZ	Vera Road	3.84	21	P		Pn	14 27 59.9 +1.6
PKVZ	Pokaka	3.87	28	P		Pn	14 27 59.4 +0.6
MOVZ	Moawhango	3.92	33	P		Pn	14 27 59.0 -0.4
WNVZ	Wahianoa	3.93	31	P		Pn	14 27 60.0 +0.3
TRVZ	Turoa	3.94	31	P		Pn	14 27 59.9 +0.1
WHVZ	Whangaehu Hut	3.97	31	P		Pn	14 28 00.2 0.0
BHHZ	Black Hill Sta	3.99	37	P		Pn	14 27 59.4 -0.9
TUVZ	Tukino	4.01	31	P		Pn	14 28 01.1 +0.5
TUZ	Tuapeka	4.02	215	P		Pn	14 27 59.7 -0.9
NGZ	Ngauruhoe	4.07	30	P		Pn	14 28 01.7 +0.2
SNVZ	South Ngauruho	4.07	31	P		Pn	14 28 01.6 0.0
OTVZ	Oturere	4.10	31	P		Pn	14 28 02.2 +0.2
NNVZ	North Ngauruho	4.11	30	P		Pn	14 28 02.4 +0.3
WTVZ	West Tongariro	4.12	30	P		Pn	14 28 02.4 +0.3
ETVZ	East Tongariro	4.14	31	P		Pn	14 28 02.7 +0.2
TMVZ	Te Maari	4.16	31	P		Pn	14 28 02.6 -0.1
NTVZ	North Tongariro	4.16	30	P		Pn	14 28 02.9 +0.2
MLZ	Mavora Lakes	4.38	231	P		Pn	14 28 04.1 -1.6
RATZ	Rangitukua	4.40	30	P		Pn	14 28 10.2 +4.2
BKZ	Black Stump Fm	4.44	38	P		Pn	14 28 06.0 -0.6
BKZ	Black Stump Fm	4.44	38	P		Pn	14 28 05.0 -1.6
HIZ	Hauiti	4.44	19	P		Pn	14 28 01.1 +0.6
HIZ	Hauiti	4.44	19	P		Pn	14 28 06.9 +0.4
MRHZ	Matea Rd	4.69	35	P		Pn	14 28 07.7 -2.2
SYZ	Scrubby Hill	4.69	214	P		Pn	14 28 09.0 -0.9
SYZ	Scrubby Hill	4.69	214	P		Pn	14 28 09.1 -0.8
TLZ	Tolley Road	4.81	25	P		Pn	14 28 12.5 +1.0
TOZ	Tahuroa Road	5.35	22	P		Pn	14 28 19.4 +0.4
MWZ	Matawai	5.59	40	P		Pn	14 28 19.4 -3.0
AWAZ	Awhitu Peninsu	5.80	13	P		Pn	14 28 26.9 +1.8
MKAZ	Moumakai	5.86	17	P		Pn	14 28 26.4 +0.4
ETAZ	East Tamaki Re	5.96	15	P		Pn	14 28 28.2 +0.9
RUGZ	Raukumara Rang	5.96	39	P		Pn	14 28 26.3 -1.1
RVAZ	Riverhead Bore	6.07	12	P		Pn	14 28 30.7 +1.8
MBAZ	Motutapu North	6.13	15	P		Pn	14 28 32.1 +2.4
WIAZ	Waiheke Island	6.15	16	P		Pn	14 28 30.7 +0.7
KUZ	Kuaotunu	6.34	20	P		Pn	14 28 32.9 +0.4
KUZ	Kuaotunu	6.34	20	P		Pn	14 28 33.0 +0.4
WMGZ	Waiomatatini S	6.43	42	P		Pn	14 28 32.2 -1.6
OUZ	Omahuta	7.51	4	P		Pn	14 28 48.9 +0.3

MAN 21 14:56:54.5,8°.63N×123°.38E,h3km,mb4.0,ML2.8,MS2.4, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	0.05	211⇓	*eP*	Pg	14 57 00.8	+5.1
DCPH				*eS*	Sg	14 57 04.6	+8.2
LSIP	**Lazi, Siquijor**	0.56	26⇑	*eP*	Pb	14 57 07.1	+0.2
LSIP				*i* S	Sb	14 57 15.0	-0.3
TABP	**Talibon, Bohol**	1.73	33⇑	*eP*	Pb	14 57 26.5	-0.4
TABP				*eS*	Sn	14 57 48.5	+0.4

IDC 21 15:02:28.6±1.9,2°.56S×123°.90E,h0km,mb3.0/3, mbtmp3.1/3,Error ellipse: s-maj=389.6km s-min=27.5km az=62.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	20.06	150	P	P	15 07 03.5	-0.1
	0.4nm,0.9s,baz=324,slow=12,SNR=1.5 0.4nm,0.9s						
ASAR	**Alice Springs**	23.10	156	P	P	15 07 36.4	+0.1
	0.5nm,0.9s,baz=344,slow=12,SNR=2.7 0.5nm,0.9s						
MKAR	**Makanchi Array**	61.26	329	P	P	15 12 45.6	-0.1
	0.4nm,0.7s,baz=140,slow=7.6,SNR=5.8 0.4nm,0.7s						

WEL 21 15:24:45.2±0.5,42°S±3°×17°3E±°,h5km,M2.7/10,ML2.8/9, MLv2.7/10,Error ellipse: s-maj=0.0km s-min=0.0km az=109.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	0.56	208	P	Pg	15 24 56.4	+0.4
GVZ				S	Sb	15 25 04.9	-0.8
THZ	**Tophouse**	0.80	333	P	Pg	15 25 01.0	+0.3
LTZ	**Lake Taylor**	0.88	250	P	Pg	15 25 01.9	-0.3
AMCZ	**Amberley**	0.89	218	P	Pg	15 25 01.8	-0.4
MRNZ	**Matariki Terra**	1.18	336	P	Pg	15 25 07.7	-0.1
NNZ	**Nelson**	1.26	360	P	Pg	15 25 09.4	0.0
OKCZ	**Okains Bay**	1.27	191	P	Pg	15 25 07.1	-2.5
OXZ	**Oxford**	1.31	229	P	Pn	15 25 07.4	-2.8
MQZ	**McQueen's Vall**	1.34	204	P	Pn	15 25 07.3	-3.3
DSZ	**Denniston Nort**	1.39	301	P	Pn	15 25 10.6	-0.7
DSZ				S	Sb	15 25 29.8	0.0
INZ	**Inchbonnie**	1.46	260	P	Pn	15 25 11.0	-1.3
TKNZ	**Takaka Hill**	1.48	347	P	Pn	15 25 12.6	0.0
MHCZ	**Mount Hutt**	1.70	231	P	Pn	15 25 12.8	-2.9
QRZ	**Quartz Range**	1.77	338	P	Pn	15 25 16.8	+0.2
TRWZ	**Traveller**	2.02	59	P	Pn	15 25 19.6	-0.4
PRWZ	**Pori Road**	2.73	46	P	Pn	15 25 29.4	-0.3
BFZ	**Birch Farm**	2.79	51	P	Pn	15 25 31.2	+0.6
WAZ	**Wanganui**	2.98	24	P	Pn	15 25 33.9	+0.8
TSZ	**Takapari Road**	3.10	40	P	Pn	15 25 34.8	0.0
PKE	**Pukeiti**	3.31	8	P	Pn	15 25 39.3	+1.6
VRZ	**Vera Road**	3.51	18	P	Pn	15 25 40.6	+0.2
WNVZ	**Wahianoa**	3.56	29	P	Pn	15 25 43.7	+2.4
BHHZ	**Black Hill Sta**	3.60	35	P	Pn	15 25 43.5	+1.7
NGZ	**Ngauruhoe**	3.70	28	P	Pn	15 25 45.5	+2.3
SNVZ	**South Ngauruho**	3.70	28	P	Pn	15 25 45.5	+2.2
OTVZ	**Oturere**	3.73	28	P	Pn	15 25 46.2	+2.6
NNVZ	**North Ngauruho**	3.74	27	P	Pn	15 25 46.7	+2.9
WTVZ	**West Tongariro**	3.75	27	P	Pn	15 25 46.3	+2.4
ETVZ	**East Tongariro**	3.77	28	P	Pn	15 25 46.4	+2.2
TMVZ	**Te Maari**	3.79	28	P	Pn	15 25 46.6	+2.2
NTVZ	**North Tongarir**	3.79	28	P	Pn	15 25 47.1	+2.7
BKZ	**Black Stump Fm**	4.06	36	P	Pn	15 25 51.2	+3.2

WEL 21 15:24:56.6±0.3,42°S±2°×17°4E±°,h5km,M2.5/18, ML2.8/14,MLv2.5/18,Error ellipse: s-maj=0.0km s-min=0.0km az=151.6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	0.10	206	P	Pg	15 24 59.4	+0.7
CMWZ				S	Sg	15 25 01.8	+1.7
BSWZ	**Blackbirch Sta**	0.30	260	P	Pg	15 25 02.5	+0.1
BSWZ				S	Sg	15 25 07.4	+1.1
TUWZ	**Tuamarina**	0.34	314	P	Pg	15 25 03.7	+0.6
TUWZ				S	Sb	15 25 09.5	-1.3
TCW	**Tory Channel**	0.45	1	P	Pg	15 25 05.1	-0.3
WEL	**Wellington**	0.53	45	P	Pb	15 25 07.8	-0.7
PLWZ	**Palliser**	0.74	83	P	Pb	15 25 11.9	-0.2
MSWZ	**Moikau Station**	0.78	72	P	Pb	15 25 12.3	-0.3
NNZ	**Nelson**	0.80	303	P	Pg	15 25 11.9	-0.2
CAW	**Cannon Point**	0.82	47	P	Pg	15 25 12.7	+0.4
DUWZ	**D'Urville Isla**	0.90	343	P	Pg	15 25 14.3	+0.4
PAWZ	**Paruwai Farm**	0.91	72	P	Pg	15 25 14.2	+0.1
KIW	**Kapiti Island**	0.94	31	P	Pg	15 25 14.7	+0.1
MTW	**Mount Morrison**	1.06	62	P	Pg	15 25 16.4	-0.4
OGWZ	**Otaki Gorge**	1.08	39	P	Pg	15 25 17.2	-0.2
MRNZ	**Matariki Terra**	1.17	283	P	Pg	15 25 18.4	-0.5
HOWZ	**Holdsworth Sta**	1.21	51	P	Pg	15 25 19.1	-0.8
TMWZ	**Te Maipa**	1.34	66	P	Pn	15 25 19.9	-2.1
MRZ	**Mangatainoka R**	1.41	45	P	Pn	15 25 22.1	-0.9
QRZ	**Quartz Range**	1.56	302	P	Pn	15 25 24.9	-0.1
GVZ	**Greta Valley S**	1.59	215	P	Pg	15 25 27.1	0.0
DVHZ	**Dannevirke**	1.98	47	P	Pn	15 25 31.6	+0.8

*NEIC **21** 15:28:46.8±2.7,17°.19N±0°.06×101°.84W±0°.03,h10km±1km, Md4.5/129(MEX),Error ellipse: s-maj=9.8km s-min=5.0km az=164.0*
*IDC **21** 15:28:47.0±2.8,17°.47N×101°.59W,h0km,mb3.5/3,*
mbtmp3.3/5,ML2.9/2,MS3.1/3,Error ellipse: s-maj=53.6km s-min=23.1km az=25.0
*MEX **21** 15:28:49.1±1.1,17°.24N×101°.90W,h16km±22km,MD4.5*

ISC 21 15:28:46.5±1.3,17°.24N±0°.03×101°.74W±0°.03,h6km±9km, n117,σ1s89/192,mb3.5/3,1C,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	0.45	36		Pg	15 28 55.2	+0.1
ZIIG					Sg	15 29 00.8	-0.3
ZIIG	**Zihuatanejo**	0.45	36	*eP*	Pg	15 28 55.2	+0.1
ZIIG				*eS*	Sg	15 29 00.8	-0.3
UON	**La Union**	0.73	354	*eP*	Pg	15 29 00.2	-0.3
UON				*eS*	Sg	15 29 09.8	-0.2
ATYC	**Atoyac**	1.25	91	*eP*	Pn	15 29 09.7	-0.9
ATYC				*eS*	Sb	15 29 26.0	-0.9
CAIG	**El Cayaco**	1.42	98		Pn	15 29 12.8	-0.1
CAIG					Sn	15 29 31.4	-0.5
CAIG	**El Cayaco**	1.42	98	*eP*	Pn	15 29 12.8	-0.1
CAIG				*eS*	Sn	15 29 31.4	-0.5
ARIG	**Puente Sto Nin**	1.68	52		Pn	15 29 15.3	-1.3
ARIG					Sn	15 29 37.3	-1.2
ARIG	**Puente Sto Nin**	1.68	52	*eP*	Pn	15 29 15.7	-0.8
ARIG				*eS*	Sn	15 29 37.3	-1.2
ACP2	**Acapulco**	1.81	101		Pb	15 29 20.0	-0.1
ACP2					Sn	15 29 42.9	+1.3
ACP2	**Acapulco**	1.81	101	*eP*	Pb	15 29 20.0	-0.1
ACP2				*eS*	Sn	15 29 42.9	+1.3
MMIG	**Aquila**	1.85	305		Pn	15 29 17.0	-1.8
MMIG					Sg	15 29 50.4	+4.4
MMIG	**Aquila**	1.85	305	*e*	Pn	15 29 17.0	-1.8
MMIG				*e*		15 29 37.5	
VNTA	**La Mica**	1.87	100	*eP*	Pb	15 29 20.9	-0.1
VNTA				*eS*	Sn	15 29 42.3	-0.6
DAIG	**Los Arroyos**	2.01	96		Pn	15 29 22.0	+1.0
DAIG					Sn	15 29 46.7	+0.2
DAIG	**Los Arroyos**	2.01	96	*eP*	Pn	15 29 22.0	+1.0
DAIG				*eS*	Sn	15 29 46.7	+0.2
MEIG	**Mezcala**	2.13	71		Pn	15 29 24.4	+1.6
MEIG					Sn	15 29 48.5	-1.3
MEIG	**Mezcala**	2.13	71	*eP*	Pn	15 29 24.0	+1.2
MEIG				*eS*	Sn	15 29 48.5	-1.3
TEJU	**Tejupilco**	2.24	42	*eP*	Pn	15 29 25.2	+1.0
TEJU				*eS*	Sn	15 29 52.6	+0.3
PLIG	**Platanillo**	2.42	61		Pn	15 29 28.4	+1.7
PLIG					Sb	15 30 00.1	-0.6
PLIG	**Platanillo**	2.42	61	*eP*	Pn	15 29 28.2	+1.4
PLIG				*eS*	Sn	15 29 57.9	+1.1
MOIG	**Morelia**	2.48	12		Pn	15 29 27.5	-0.2
MOIG	**Morelia**	2.48	12	*eP*	Pn	15 29 27.8	+0.1
MOIG				*eS*	Sn	15 29 56.5	-2.0
CRIG	**Cruz Grande**	2.55	101		Pn	15 29 27.9	-0.5
CRIG					Sn	15 30 00.1	+0.3
CRIG	**Cruz Grande**	2.55	101	*eP*	Pn	15 29 27.9	-0.5
CRIG				*eS*	Sn	15 30 00.1	+0.3
MAVM	**Malinalco, Edo**	2.73	51		Pg	15 29 40.9	+2.0
MAVM					Sg	15 30 14.3	-0.1
MAVM	**Malinalco, Edo**	2.73	51	*e*	Pg	15 29 40.9	+2.0
MAVM				*e*		15 30 13.2	
MAVM				*eS*	Sg	15 30 14.3	-0.1
ACAM	**Acambaro**	2.95	19	*eP*	Pb	15 29 39.6	-0.1
ACAM				*eS*	Sb	15 30 15.5	-0.6
MGIG	**Malinaltepec**	2.97	90		Pn	15 29 34.6	+0.2
MGIG					Sn	15 30 12.2	+1.8
MGIG	**Malinaltepec**	2.97	90	*eP*	Pn	15 29 34.6	+0.2
MGIG				*eS*	Sn	15 30 12.2	+1.8
YAIG	**Yautepec**	3.01	57		Pn	15 29 37.0	+2.1
YAIG					Sn	15 30 10.7	-0.7
YAIG	**Yautepec**	3.01	57	*eP*	Pn	15 29 36.7	+1.7
YAIG				*eS*	Sn	15 30 10.7	-0.7
INVM	**La Marquesa**	3.03	47	*eP*	Pn	15 29 36.3	+1.0
INVM				*eS*	Sn	15 30 12.8	+0.5
TLIG	**Tlapa**	3.05	83		Pn	15 29 35.5	+0.1
TLIG	**Tlapa**	3.05	83	*eP*	Pn	15 29 38.6	+3.2
TLIG				*eS*	Sn	15 30 12.4	+0.1
AOVM	**Tlapan**	3.06	48	*eP*	Pn	15 29 36.3	+0.5
AOVM				*eS*	Sn	15 30 11.1	-1.9
HMTT	**Tlapaneco**	3.09	79		Pb	15 29 40.6	-1.3
HMTT					Sb	15 30 21.5	+1.6
HMTT	**Tlapaneco**	3.09	79	*eP*	Pn	15 29 37.2	+1.3
HMTT				*i* P	Pb	15 29 40.6	-1.3
HMTT				*eS*	Sn	15 30 15.8	+2.6
TLVM	**San Miguel Top**	3.14	51	*eP*	Pn	15 29 38.2	+1.2
TLVM				*eS*	Sn	15 30 15.6	+0.6
CJVM	**Cuajimalpa**	3.15	48	*eP*	Pn	15 29 37.8	+0.9
CJVM				*eS*	Sn	15 30 15.8	+0.9
XCVM	**Xochimilco**	3.20	51	*eP*	Pn	15 29 38.5	+0.9
XCVM				*eS*	Sn	15 30 14.8	-1.4
CUIG	**Ciudad Univers**	3.20	49		Pb	15 29 42.9	-1.1
CUIG					Sn	15 30 19.6	+3.3
UNM	**Universidad Na**	3.20	49		Pn	15 29 39.4	+1.7
UNM	**Universidad Na**	3.20	49	*eP*	Pn	15 29 41.8	-2.2
UNM				*eP*	Pn	15 29 42.9	+5.2
UNM				*eS*	Sn	15 30 16.8	+0.5
UNM				*eS*	Sb	15 30 19.1	-3.8
COYM	**Coyoacan**	3.23	49	*e*	Sg	15 30 29.3	-1.1
MHVM	**Bosque de Chap**	3.23	48	*eP*	Pn	15 29 39.2	+1.2
MHVM				*eS*	Sn	15 30 17.0	0.0
BJVM	**Benito Juarez**	3.24	49	*eP*	Pn	15 29 38.9	+0.8
BJVM				*eS*	Sn	15 30 17.5	+0.3
ACIG	**Acambay**	3.25	33		Pb	15 29 42.1	-2.6
ACIG					Sn	15 30 17.1	-0.2
ACIG	**Acambay**	3.25	33	*eP*	Pn	15 29 38.9	+0.7
ACIG				*eS*	Sn	15 30 17.1	-0.2
MPVM	**San Francisco**	3.25	53	*eP*	Pn	15 29 39.0	+0.8
MPVM				*eS*	Sn	15 30 17.4	+0.1
APVM	**Azcapotzalco**	3.28	47	*eP*	Pn	15 29 39.7	+0.9
APVM				*eS*	Sn	15 30 17.5	-0.8
THVM	**De Xico**	3.34	52	*eP*	Pb	15 29 44.8	-1.5
THVM				*eS*	Sn	15 30 20.1	+0.3
GMVM	**Gustavo A Made**	3.35	48	*eP*	Pn	15 29 40.0	+0.2
GMVM				*eS*	Sn	15 30 19.3	-0.9
AMVM	**AMECAMECA**	3.38	56		Pb	15 29 44.2	-2.8
AMVM					Sb	15 30 25.1	-3.4
AMVM	**AMECAMECA**	3.38	56	*eP*	Pn	15 29 41.2	+1.1
AMVM				*eS*	Sb	15 30 25.1	-3.4
PTVM	**Pico Tres Padr**	3.42	46		Sb	15 30 31.6	+1.9
PTVM	**Pico Tres Padr**	3.42	46	*e*	Sb	15 30 31.6	+1.9
PPIG	**Popocatepetl**	3.47	58		Pn	15 29 44.1	+2.6
PPIG					Sn	15 30 23.7	+0.4
PPM	**Popocatepetl**	3.47	58	*eP*	Pn	15 29 40.5	-1.1
PPM				*eS*	Sn	15 30 23.7	+0.4
CIHU	**Emiliano Zapat**	3.48	306	*eP*	Pn	15 29 38.9	-2.4
CIHU				*eS*	Sn	15 30 16.5	-6.5
FTIG	**Fresnillo de T**	3.50	79		Pn	15 29 42.6	+0.9
FTIG					Sn	15 30 24.0	+0.4
FTIG	**Fresnillo de T**	3.50	79	*eP*	Pn	15 29 41.4	-0.3
FTIG				*eS*	Sn	15 30 24.0	+0.4
IGIG	**Irapuato, Guan**	3.52	6		Pb	15 29 50.5	+1.2
IGIG					Sg	15 30 36.5	-3.0
IGIG	**Irapuato, Guan**	3.52	6	*eP*	Pn	15 29 42.9	+1.0
IGIG				*eS*	Sn	15 30 23.4	-0.6
PNIG	**Pinotepa**	3.56	103		Pb	15 29 49.7	-0.3
PNIG					Sn	15 30 27.0	+2.1
PNIG	**Pinotepa**	3.56	103	*eP*	Pb	15 29 49.7	-0.3
PNIG				*eS*	Sn	15 30 27.0	+2.1
ZUVM	**ZUMPANGO**	3.61	44		Pn	15 29 45.9	+2.7
ZUVM					Sn	15 30 27.3	+1.0
ZUVM	**ZUMPANGO**	3.61	44	*eP*	Pn	15 29 44.4	+1.2
ZUVM				*eS*	Sn	15 30 27.3	+1.0
JRQG	**Juriquilla Cam**	3.66	19	*eP*	Pn	15 29 44.8	+0.9
JRQG				*eS*	Sn	15 30 27.9	+0.4
VTVM	**Tizayuca**	3.77	48		Pn	15 29 49.8	+4.2
VTVM					Sn	15 30 30.2	-0.3
VTVM	**Tizayuca**	3.77	48	*eP*	Pn	15 29 46.5	+1.0
VTVM				*eS*	Sn	15 30 30.2	-0.3
TXIG	**Tlaxiaco**	3.80	89		Pn	15 29 46.9	+1.0
TXIG					Sn	15 30 33.2	+2.1
TXIG	**Tlaxiaco**	3.80	89	*eP*	Pn	15 29 46.7	+0.8
TXIG				*eS*	Sn	15 30 33.2	+2.1
HLIG	**Huajuapan de L**	3.80	81		Pn	15 29 48.5	+2.7
HLIG					Sn	15 30 32.6	+1.5
HLIG	**Huajuapan de L**	3.80	81	*eP*	Pn	15 29 48.5	+2.7
HLIG				*eS*	Sn	15 30 32.6	+1.5
CJM	**Chamela**	3.86	306	*eP*	Pn	15 29 45.5	-0.9
CJM				⇑*eS*	Sn	15 30 28.1	-4.1
DHIG	**Demacu**	3.98	40		Pb	15 29 59.0	+1.8
DHIG					Sn	15 30 31.9	-3.5
DEIG	**Demacu**	3.98	40	*eP*	Pn	15 29 49.7	+1.3
DEIG				*eS*	Sn	15 30 35.4	-0.1
YOIG	**Yosondua**	4.03	95		Pn	15 29 50.0	+0.9
YOIG					Sn	15 30 39.3	+2.5
YOIG	**Yosondua**	4.03	95	*eP*	Pn	15 29 49.3	+0.2
YOIG				*eS*	Sn	15 30 39.3	+2.5
ESTA	**Talpa de Allen**	4.30	317	*eP*	Pn	15 29 51.4	-1.3
ESTA				*eS*	Sn	15 30 39.2	-4.1
TPIG	**Tehuac#an**	4.33	74		Pb	15 30 00.0	-3.2
TPIG					Sn	15 30 45.4	+1.2
TPIG	**Tehuac#an**	4.33	74	*eP*	Pb	15 30 00.0	-3.2
TPIG				*eS*	Sn	15 30 45.4	+1.2
TOIG	**Toxpalan**	4.54	79		Pb	15 30 02.6	-4.1
TOIG					Sn	15 30 49.1	0.0
TOIG	**Toxpalan**	4.54	79	*eP*	Pb	15 30 02.6	-4.1
TOIG				*eS*	Sn	15 30 49.1	0.0
PEIG	**Puerto Escondi**	4.57	105		Pn	15 29 55.4	-0.9
PEIG	**Puerto Escondi**	4.57	105	*e*	Pn	15 29 55.4	-0.9
PEIG				*e*		15 31 12.1	
OZST	**Orizaba**	4.71	69	*e*	Sg	15 31 14.3	-3.4
AAIG	**Aguscalientes**	4.74	353	*e*	Pb	15 30 05.0	-5.2
AAIG				*e*		15 31 09.9	
OXIG	**Oaxaca**	4.79	91		Pn	15 29 59.7	+0.3
VHO	**Vista Hermosa**	4.79	91	*e*	Pn	15 29 59.7	+0.3
VHO				*e*		15 31 14.9	
OXLC	**Oaxaca**	4.82	91	*e*	Sg	15 31 15.5	-5.8
CXUV	**Coxquihui**	4.90	53	*e*	Pn	15 30 02.5	+1.8
CXUV				*e*		15 31 15.7	
RPIG	**Rio Verde**	4.91	19		Pb	15 30 13.4	+0.4
RPIG					Sb	15 31 15.4	+3.0
RPIG	**Rio Verde**	4.91	19	*e*	Pb	15 30 13.4	+0.4
RPIG				*e*		15 31 15.4	
JAUV	**Jalcomulco**	5.14	65	*e*	Pn	15 30 10.4	+6.2
JAUV				*e*		15 31 21.6	
ZAIG	**Zacatecas**	5.55	352	Pn	Pn	15 30 09.2	-0.8
ZAIG	**Zacatecas**	5.55	352	*e*	Pg	15 30 32.4	-0.5
ZAIG				*e*		15 31 38.8	
HUIG	**Huatulco**	5.60	104		Sn	15 31 07.1	-8.0
HUIG	**Huatulco**	5.60	104	*e*	Pb	15 30 27.6	+2.9
HUIG				*e*		15 31 41.2	
LVIG	**Laguna Verde**	5.62	63	*e*	Pb	15 30 28.5	+3.4
LVIG				*e*		15 31 40.9	
NEUV	**Arroyo Zacate**	5.69	84	*e*	Pn	15 30 11.3	-0.2
NEUV				*e*		15 31 40.2	
GTIG	**Gomez Farias**	6.28	22		Pb	15 30 40.4	+4.2
GTIG	**Gomez Farias**	6.28	22	*e*	Pb	15 30 40.4	+4.2
GTIG				*e*		15 32 01.2	
CMIG	**Matias Romero**	6.56	90	Pn	Pn	15 30 23.8	+0.3
	0.2nm,0.3s,baz=277,slow=14,SNR=2.0						
CMIG				Sn	Sn	15 31 34.9	-3.8
	1.0nm,0.3s,baz=257,slow=14,SNR=2.8						
CMIG				Lg	Lg	15 32 10.5	
	3.4nm,0.3s,baz=185,slow=4.3,SNR=10						
CMIG				LR	LR	15 33 16.5	
	comp=Z,200nm,18.4s,baz=260,slow=42 1.1nm,0.3s						
CMIG	**Matias Romero**	6.56	90		Pn	15 30 23.4	-0.2
CMIG					Sb	15 32 01.5	+1.8
CMIG	**Matias Romero**	6.56	90	*e*	Pn	15 30 23.4	-0.2
CMIG				*e*		15 32 01.5	
H06E1	**SOCORRO T-PHAS**	8.87	281	T	T	15 39 57.9	
	SNR=36						
LPIG	**La Paz**	10.53	312	LR	LR	15 34 44.8	
	comp=Z,108nm,18.0s,baz=44,slow=34						
TXAR	**Lajitas Array**	12.17	352	Pn	Pn	15 31 42.0	+1.5
	baz=168,slow=9.2,SNR=2.3						
TXAR				Lg	Lg	15 35 06.1	
	baz=192,slow=27 0.1nm,0.5s						
143A	**Socs Landing,**	18.00	29		Pn	15 32 57.5	+0.1
NVAR	**Mina Array Bea**	25.61	329	P	P	15 34 18.5	+1.5
	0.7nm,0.6s,baz=147,slow=12,SNR=8.1 0.7nm,0.6s						
PDAR	**Pinedale Array**	26.30	347	P	P	15 34 21.5	-1.7
	0.6nm,0.9s,baz=166,slow=12,SNR=4.1						
PDAR				LR	LR	15 44 08.7	
	comp=Z,28nm,19.9s,baz=193,slow=35 0.6nm,0.9s						
MCMT	**

	2.5nm,0.4s						
ALFC				AML	AML	15 37 36.9	
	2.5nm,0.4s						
ALFC				AML	AML	15 37 37.2	
	3.3nm,0.6s						
ALFC				AML	AML	15 37 37.2	
	3.3nm,0.6s						
AKMS	**Akamas**	**0.73**	**309**	P	**Pb**	**15 37 22.5**	**-0.6**
AKMS				S	**Sg**	**15 37 34.8**	**+2.3**
AKMS				AML	AML	15 37 37.5	
	2.3nm,0.2s						
AKMS				AML	AML	15 37 37.5	
	2.3nm,0.2s						
AKMS				AML	AML	15 37 38.9	
	2.2nm,0.3s						
AKMS				AML	AML	15 37 38.9	
	2.2nm,0.3s						
LFK	**Lefkose**	**0.83**	**30**	PG	**Pb**	**15 37 24.7**	**-0.2**
EREN	**Erenkoy**	**1.35**	**44**	PN	**Pb**	**15 37 33.7**	**0.0**
EREN				SN	**Sg**	**15 37 53.3**	**+1.1**
TEKE	**Tekeli-Mersin**	**1.59**	**3**	PN	**Pn**	**15 37 36.6**	**+0.3**
TEKE				SN	**Sb**	**15 37 58.6**	**+1.0**
OSC2	**CSNet OBS 4**	**1.60**	**203**	S	**Sn**	**15 37 55.2**	**-1.7**
AKKU	**Akkuyu-Mersin**	**1.66**	**15**	PN	**Pb**	**15 37 37.9**	**-1.0**
GULN	**MERSIN_Gulnar**	**1.68**	**14**	P	**Pn**	**15 37 37.6**	**0.0**
GULN				S	**Sb**	**15 38 00.7**	**+0.4**
TISA	**Tisan-Mersin**	**1.69**	**18**	PN	**Pb**	**15 37 38.4**	**-1.0**
KARG	**Kargicak-Mersi**	**1.74**	**19**	PN	**Pb**	**15 37 39.7**	**-0.5**
IKL	**Isikli**	**1.77**	**18**	PN	**Pb**	**15 37 39.9**	**-0.8**
GAZI	**Gazipasa**	**1.77**	**341**	PN	**Pn**	**15 37 39.2**	**+0.3**
GAZI	**Gazipasa**	**1.77**	**341**	P	**Pn**	**15 37 38.3**	**-0.5**
GAZI				S	**Sn**	**15 38 01.7**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.91**	**10**	PN	**Pb**	**15 37 41.9**	**-1.3**
ERMK	**Ermenek**	**2.08**	**358**	P	**Pn**	**15 37 42.9**	**-0.4**
ERMK				S	**Sg**	**15 38 15.0**	**-0.6**
ERMK				*i* AML	AML	15 38 25.0	
	comp=N,31nm,0.4s						
KIZK	**Mersin**	**2.13**	**25**	PN	**Pn**	**15 37 44.9**	**+1.2**
KIZK	**Mersin**	**2.13**	**25**	P	**Pn**	**15 37 43.4**	**-0.2**
HDMB	**Hadim**	**2.44**	**350**	PN	**Pn**	**15 37 49.4**	**+1.1**
MMA0B	**Mount Meron ar**	**2.50**	**127**	Pn	**Pn**	**15 37 50.0**	**+1.1**
MMA0B				Sn	**Sn**	**15 38 19.8**	**+0.5**
OFRI	**`Ofer**	**2.53**	**139**	Pn	**Pn**	**15 37 50.2**	**+1.0**
OFRI				Sn	**Sn**	**15 38 19.6**	**-0.3**
GEM	**Giv'at Ha'Em**	**2.57**	**121**	Pn	**Pn**	**15 37 50.1**	**+0.3**
GEM				Sn	**Sn**	**15 38 21.6**	**+0.7**
MERS	**Mersin**	**2.61**	**27**	PN	**Pn**	**15 37 52.1**	**+1.7**
KEPZ	**Antalya-Kepez**	**2.61**	**334**	P	**Pn**	**15 37 50.4**	**0.0**
KEPZ				S	**Sn**	**15 38 22.4**	**+0.4**
KRMN	**Karaman**	**2.62**	**4**	PN	**Pn**	**15 37 52.0**	**+1.4**
KKBE	**Karaman, Kazim**	**2.66**	**359**	P	**Pb**	**15 37 53.9**	**-2.1**
DED	**Mersin**	**2.80**	**30**	P	**Pn**	**15 37 53.0**	**+0.1**
MMLI	**Mount Malkishu**	**2.91**	**136**	Pn	**Pn**	**15 37 55.7**	**+1.2**
MMLI				Sn	**Sn**	**15 38 29.6**	**+0.3**
KERG	**Konya-Eregli**	**2.99**	**17**	P	**Pn**	**15 37 57.6**	**+1.9**
KERG				S	**Sb**	**15 38 37.0**	**-1.2**
KERG				*i* AML	AML	15 38 39.0	
	comp=E,16nm,0.8s						
KERG				*i* AML	AML	15 38 49.0	
	comp=N,15nm,0.4s						
SEDI	**Konya, Seydise**	**3.07**	**341**	P	**Pn**	**15 37 58.9**	**+2.1**
SEDI				S	**Sn**	**15 38 35.1**	**+1.7**
SEDI				*i* AML	AML	15 38 50.0	
	comp=E,18nm,0.9s						
SEDI				*i* AML	AML	15 38 54.0	
	comp=N,13nm,0.6s						
GULE	**Gulek**	**3.07**	**27**	P	**Pn**	**15 37 56.5**	**-0.4**
HMDT	**Nahal Hemdat**	**3.10**	**137**	Pn	**Pn**	**15 37 58.1**	**+1.0**
HMDT				Sn	**Sn**	**15 38 35.1**	**+1.1**
DSI	**Dead Sea**	**3.57**	**146**	Pn	**Pn**	**15 38 04.3**	**+0.7**
YTIR	**Yattir**	**3.63**	**151**	Pn	**Pn**	**15 38 05.5**	**+1.0**
YTIR				Sn	**Sn**	**15 38 47.8**	**+0.5**
PRNI	**Paran**	**4.51**	**158**	Pn	**Pn**	**15 38 16.7**	**+0.2**
PRNI				Sn	**Sn**	**15 39 08.3**	**-0.5**
KRMI	**Paran Flat**	**4.65**	**162**	Pn	**Pn**	**15 38 18.3**	**-0.1**
KRMI				Sn	**Sn**	**15 39 12.4**	**+0.1**
HRFI	**Mount Harif**	**4.82**	**159**	Pn	**Pn**	**15 38 20.7**	**0.0**
HRFI				Sn	**Sn**	**15 39 15.9**	**-0.4**
MBRI	**Mt Berech**	**5.01**	**161**	Pn	**Pn**	**15 38 23.4**	**0.0**
MBRI				Sn	**Sn**	**15 39 21.6**	**+0.5**
EIL	**Elat**	**5.14**	**161**	Pn	**Pn**	**15 38 24.9**	**-0.2**
EIL				Sn	**Sn**	**15 39 23.9**	**-0.3**

IDC 21 15:45:30.8±4.9, 20°07S×168°82E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=256.3km s-min=37.0km az=152.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.36**	**264**	P	P	15 52 02.4	+0.1
	0.3nm,0.8s,baz=89,slow=7.9,SNR=1.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**32.55**	**257**	P	P	15 52 03.7	-0.3
	0.7nm,0.6s,baz=88,slow=8.7,SNR=20						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**91.14**	**17**	P	P	15 58 36.6	-0.5
	0.7nm,1.1s,baz=215,slow=6.2,SNR=2.5						
	0.7nm,1.1s						
ARCES	**ARCESS Array B**	**125.76**	**345**	PKP	PKiKP	16 04 34.2	-0.1
	2.2nm,0.9s,baz=12,slow=2.1,SNR=3.9						

WEL 21 15:57:24.9±0.6, 42°S±4″×17°3E±°, h5km±3km, M2.6/13, ML4.5/1, MLv2.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=151.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**59**	P	Pg	15 57 32.0	+0.2
BSWZ				S	Sg	15 57 37.9	+1.5
THZ	**Tophouse**	**0.44**	**288**	P	Pg	15 57 34.0	+0.6
THZ				S	Sg	15 57 40.3	+1.1
CMWZ	**Cape Campbell**	**0.58**	**75**	P	Pn	15 57 38.7	-1.1
TUWZ	**Tuamarina**	**0.59**	**37**	P	Pg	15 57 36.5	+0.3
MRNZ	**Matariki Terra**	**0.73**	**313**	P	Pg	15 57 39.4	+0.5
TCW	**Tory Channel**	**0.92**	**42**	P	Pg	15 57 41.9	-0.5
TKNZ	**Takaka Hill**	**0.94**	**336**	P	Pg	15 57 42.9	-0.1
GVZ	**Greta Valley S**	**1.11**	**197**	P	Pg	15 57 46.2	0.0
GVZ				S	Sg	15 57 57.1	-3.6
LTZ	**Lake Taylor**	**1.25**	**225**	P	Pg	15 57 47.3	-1.5
DSZ	**Denniston Nort**	**1.25**	**277**	P	Pb	15 57 49.0	-0.1
AMCZ	**Amberley**	**1.41**	**205**	P	Pn	15 57 50.7	-0.5
CAW	**Cannon Point**	**1.44**	**57**	P	Pn	15 57 50.9	-0.7
INZ	**Inchbonnie**	**1.71**	**241**	P	Pn	15 57 55.2	-0.2
OXZ	**Oxford**	**1.77**	**216**	P	Pn	15 57 54.8	-1.5
MQZ	**McQueen's Vall**	**1.90**	**198**	P	Pn	15 57 55.2	-2.8
MHCZ	**Mount Hutt**	**2.15**	**220**	P	Pn	15 58 00.0	-1.5
TMZ	**Timaru**	**3.07**	**215**	P	Pn	15 58 12.7	-1.3
TWVZ	**Taurewa**	**3.20**	**29**	P	Pn	15 58 15.5	-0.4

*IDC **21** 15:58:08.9±0.9, 42°.40S×173°.10E, h0km, mb4.3/7, mbtmp4.3/7, MS3.3/2, Error ellipse: s-maj=26.7km s-min=22.1km az=62.0*

*NEIC **21** 15:58:10.4±1.1, 42°.55S±0°.04×173°.25E±0°.06, h10km±1km, mb4.2/6, Error ellipse: s-maj=9.7km s-min=3.3km az=315.0*

*WEL **21** 15:58:11.7±0.3, 42°S±2″×17°3E±°, h5km, M4.4/53, ML4.7/16, MLv4.4/53, Error ellipse: s-maj=0.0km s-min=0.0km az=115.1*

*NOU **21** 15:58:12.2, 42°.71S×173°.58E, h64km, MLv4.7/14, South Island, New Zealand*

ISC 21 15:58:10.9±0.5, 42°.58S±0°.03×173°.34E±0°.04, h10km, n192, σ1.9 31/196, mb4.2/11, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.45**	**210**		**Pb**	**15 58 21.7**	**+0.8**
GVZ	**Greta Valley S**	**0.45**	**210**	P	**Pb**	**15 58 21.8**	**+0.9**
GVZ				S	**Sb**	**15 58 29.9**	**+2.3**
AMCZ	**Amberley**	**0.78**	**220**		**Pb**	**15 58 27.4**	**+0.8**
AMCZ	**Amberley**	**0.78**	**220**	P	**Pb**	**15 58 27.7**	**+1.1**
LTZ	**Lake Taylor**	**0.81**	**255**		**Pg**	**15 58 26.2**	**-0.3**
LTZ	**Lake Taylor**	**0.81**	**255**	P	**Pg**	**15 58 26.3**	**-0.2**
LTZ				S	**Sg**	**15 58 36.6**	**-0.5**
THZ	**Tophouse**	**0.88**	**339**		**Pg**	**15 58 26.3**	**-1.5**
THZ	**Tophouse**	**0.88**	**339**	P	**Pg**	**15 58 26.6**	**-1.2**
THZ				S	**Sg**	**15 58 36.6**	**-2.6**
BSWZ	**Blackbirch Sta**	**0.95**	**25**		**Pg**	**15 58 28.7**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.95**	**25**	P	**Pg**	**15 58 29.3**	**+0.1**
CMWZ	**Cape Campbell**	**1.06**	**39**	P	**Pn**	**15 58 32.5**	**+0.8**
OKCZ	**Okains Bay**	**1.16**	**190**	P	**Pb**	**15 58 33.0**	**-0.1**
OXZ	**Oxford**	**1.21**	**231**		**Pn**	**15 58 32.9**	**-1.0**
OXZ	**Oxford**	**1.21**	**231**	P	**Pn**	**15 58 33.1**	**-0.8**
MQZ	**McQueen's Vall**	**1.23**	**204**		**Pn**	**15 58 32.7**	**-1.4**
MQZ	**McQueen's Vall**	**1.23**	**204**	P	**Pn**	**15 58 32.9**	**-1.2**
TUWZ	**Tuamarina**	**1.24**	**22**		**Pn**	**15 58 34.0**	**-0.2**
TUWZ	**Tuamarina**	**1.24**	**22**	P	**Pn**	**15 58 34.2**	**0.0**
MRNZ	**Matariki Terra**	**1.26**	**340**		**Pn**	**15 58 33.2**	**-1.3**
MRNZ	**Matariki Terra**	**1.26**	**340**	P	**Pn**	**15 58 33.5**	**-1.0**
AKCZ	**Akaroa Harbour**	**1.33**	**193**	P	**Pn**	**15 58 35.1**	**-0.4**
NNZ	**Nelson**	**1.36**	**1**		**Pn**	**15 58 35.4**	**-0.6**
NNZ	**Nelson**	**1.36**	**1**	P	**Pn**	**15 58 35.8**	**-0.1**
INZ	**Inchbonnie**	**1.40**	**263**	P	**Pn**	**15 58 35.8**	**-0.7**
DSZ	**Denniston Nort**	**1.41**	**306**	P	**Pn**	**15 58 35.8**	**-0.9**
RACZ	**Rakaia**	**1.44**	**217**	P	**Pn**	**15 58 36.2**	**-0.8**
TCW	**Tory Channel**	**1.54**	**28**		**Pn**	**15 58 37.9**	**-0.5**
TCW	**Tory Channel**	**1.54**	**28**	P	**Pn**	**15 58 38.2**	**-0.2**
TKNZ	**Takaka Hill**	**1.57**	**350**	P	**Pn**	**15 58 38.7**	**-0.1**
MHCZ	**Mount Hutt**	**1.61**	**233**	P	**Pn**	**15 58 38.4**	**-1.0**
SNZO	**South Karori**	**1.63**	**39**		**Pn**	**15 58 39.3**	**-0.3**
SNZO	**South Karori**	**1.63**	**39**	P	**Pn**	**15 58 39.3**	**-0.3**
WEL	**Wellington**	**1.68**	**40**	P	**Pn**	**15 58 40.2**	**-0.1**
WACZ	**Wakanui South**	**1.75**	**218**	P	**Pn**	**15 58 40.4**	**-0.8**
PLWZ	**Palliser**	**1.75**	**55**		**Pn**	**15 58 40.4**	**-1.0**
PLWZ	**Palliser**	**1.75**	**55**	P	**Pn**	**15 58 40.6**	**-0.7**
DUWZ	**D'Urville Isla**	**1.83**	**14**	P	**Pn**	**15 58 42.5**	**+0.1**
MSWZ	**Moikau Station**	**1.84**	**51**		**Pn**	**15 58 41.7**	**-0.9**
MSWZ	**Moikau Station**	**1.84**	**51**	P	**Pn**	**15 58 41.9**	**-0.7**
QRZ	**Quartz Range**	**1.85**	**341**	P	**Pn**	**15 58 43.2**	**+0.5**
QRZ	**Quartz Range**	**1.85**	**341**	P	**Pn**	**15 58 42.8**	**+0.1**
CAW	**Cannon Point**	**1.96**	**42**	P	**Pn**	**15 58 43.7**	**-0.4**
PAWZ	**Paruwai Farm**	**1.97**	**53**	P	**Pn**	**15 58 43.4**	**-0.9**
WVZ	**Waitaha Valley**	**1.97**	**255**	P	**Pn**	**15 58 44.0**	**-0.4**
RPZ	**Rata Peaks**	**2.02**	**235**	Pn	**Pn**	**15 58 43.9**	**-1.1**
	246nm,0.3s,baz=94,slow=2.5,SNR=522						
RPZ				Sn	**Sn**	**15 59 08.7**	**-1.6**
	225nm,0.3s,baz=18,slow=21,SNR=28						
RPZ				LR	LR	15 59 24.7	
	comp=Z,201nm,20.5s,baz=130,slow=38						
RPZ	**Rata Peaks**	**2.02**	**235**	P	**Pn**	**15 58 44.5**	**-0.5**
RPZ	**Rata Peaks**	**2.02**	**235**	P	**Pn**	**15 58 44.1**	**-0.9**
KIW	**Kapiti Island**	**2.08**	**35**	P	**Pn**	**15 58 45.8**	**-0.1**
ARCZ	**Arundel**	**2.09**	**228**	P	**Pn**	**15 58 44.9**	**-1.1**
TRWZ	**Traveller**	**2.12**	**57**	P	**Pn**	**15 58 45.3**	**-1.0**
MTW	**Mount Morrison**	**2.15**	**49**	P	**Pn**	**15 58 45.8**	**-1.0**
OGWZ	**Otaki Gorge**	**2.23**	**39**	P	**Pn**	**15 58 47.5**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.33**	**251**	P	**Pn**	**15 58 49.4**	**+0.1**
HOWZ	**Holdsworth Sta**	**2.34**	**45**	P	**Pn**	**15 58 48.4**	**-1.1**
TMWZ	**Te Maipa**	**2.41**	**53**	P	**Pn**	**15 58 49.2**	**-1.3**
TMZ	**Timaru**	**2.47**	**222**	P	**Pn**	**15 58 50.1**	**-1.2**
MRZ	**Mangatainoka R**	**2.55**	**42**	P	**Pn**	**15 58 51.3**	**-1.0**
TIWZ	**Tintock**	**2.63**	**48**	P	**Pn**	**15 58 52.4**	**-1.0**
CPWZ	**Castlepoint**	**2.72**	**53**	P	**Pn**	**15 58 54.9**	**+0.3**
FOZ	**Fox Glacier**	**2.75**	**249**	P	**Pn**	**15 58 54.8**	**-0.2**
OHWZ	**Ohakea**	**2.80**	**33**	P	**Pn**	**15 58 56.4**	**+0.7**
PRWZ	**Pori Road**	**2.83**	**45**	P	**Pn**	**15 58 54.9**	**-1.3**
POWZ	**Post Office Ro**	**2.85**	**41**	P	**Pn**	**15 58 55.4**	**-1.1**
BFZ	**Birch Farm**	**2.89**	**50**	P	**Pn**	**15 58 55.6**	**-1.4**
BFZ	**Birch Farm**	**2.89**	**50**	P	**Pn**	**15 58 55.2**	**-1.8**
LBZ	**Lake Benmore**	**2.92**	**231**		**Pn**	**15 58 56.4**	**-1.0**
LBZ	**Lake Benmore**	**2.92**	**231**	P	**Pn**	**15 58 56.6**	**-0.7**
WAZ	**Wanganui**	**3.08**	**24**	P	**Pn**	**15 59 00.9**	**+1.2**
DVHZ	**Dannevirke**	**3.12**	**44**	P	**Pn**	**15 58 58.3**	**-1.8**
ODZ	**Otahua Downs**	**3.14**	**217**	Pn	**Pn**	**15 58 59.2**	**-1.2**
ODZ	**Otahua Downs**	**3.14**	**217**	P	**Pn**	**15 58 59.6**	**-0.8**
ODZ	**Otahua Downs**	**3.14**	**217**	P	**Pn**	**15 58 59.3**	**-1.2**
NMEZ	**Namu Road**	**3.19**	**8**	P	**Pn**	**15 59 03.5**	**+2.4**
TSZ	**Takapari Road**	**3.20**	**39**	P	**Pn**	**15 59 00.1**	**-1.2**
LREZ	**Lake Rotokare**	**3.22**	**15**	P	**Pn**	**15 59 03.4**	**+1.9**
KHEZ	**Kahui Hut**	**3.32**	**9**	P	**Pn**	**15 59 04.4**	**+1.4**
KHEZ	**Kahui Hut**	**3.32**	**9**	P	**Pn**	**15 59 04.7**	**+1.7**
NBEZ	**Newall Road No**	**3.33**	**7**	P	**Pn**	**15 59 04.5**	**+1.5**
NEZ	**North Egmont**	**3.36**	**10**	P	**Pn**	**15 59 04.7**	**+1.3**
PRHZ	**Porangahau**	**3.39**	**48**	P	**Pn**	**15 59 03.1**	**-0.8**
PKE	**Pukeiti**	**3.42**	**9**	P	**Pn**	**15 59 06.1**	**+1.8**
PNHZ	**Pukenui**	**3.43**	**40**	P	**Pn**	**15 59 02.9**	**-1.6**
WPHZ	**Waipukurau**	**3.43**	**44**	P	**Pn**	**15 59 02.8**	**-1.6**
DREZ	**Durham Road**	**3.45**	**11**	P	**Pn**	**15 59 06.2**	**+1.5**
MTVZ	**Mangateitei**	**3.58**	**28**	P	**Pn**	**15 59 07.0**	**+0.5**
MHEZ	**Mangahewa**	**3.58**	**12**	P	**Pn**	**15 59 08.2**	**+1.8**
VRZ	**Vera Road**	**3.62**	**18**	P	**Pn**	**15 59 08.1**	**+1.1**
PKVZ	**Pokaka**	**3.62**	**26**	P	**Pn**	**15 59 07.4**	**+0.2**
JCZ	**Jackson Bay**	**3.64**	**244**	P	**Pn**	**15 59 06.9**	**-0.5**
JCZ	**Jackson Bay**	**3.64**	**244**	P	**Pn**	**15 59 06.7**	**-0.7**
MOVZ	**Moawhango**	**3.66**	**31**	P	**Pn**	**15 59 06.9**	**-0.7**
WNVZ	**Wahianoa**	**3.67**	**29**	P	**Pn**	**15 59 08.2**	**+0.3**
PXZ	**Pawanui**	**3.68**	**47**	P	**Pn**	**15 59 07.3**	**-0.5**
TRVZ	**Turoa**	**3.68**	**28**	P	**Pn**	**15 59 08.4**	**+0.3**
DRZ	**Dome Shelter**	**3.71**	**28**	P	**Pn**	**15 59 09.0**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.71**	**28**	P	**Pn**	**15 59 08.7**	**+0.2**
BHHZ	**Black Hill Sta**	**3.71**	**35**	P	**Pn**	**15 59 07.7**	**-0.6**
FWVZ	**Far West T-bar**	**3.72**	**28**	P	**Pn**	**15 59 09.0**	**+0.4**
TUVZ	**Tukino**	**3.75**	**29**	P	**Pn**	**15 59 09.0**	**+0.1**
NGZ	**Ngauruhoe**	**3.81**	**28**	P	**Pn**	**15 59 10.0**	**+0.3**
SNVZ	**South Ngauruho**	**3.81**	**28**	P	**Pn**	**15 59 10.0**	**+0.2**
OTVZ	**Oturere**	**3.84**	**28**	P	**Pn**	**15 59 10.4**	**+0.1**
HHSZ	**Highcliff Hill**	**3.84**	**218**	P	**Pn**	**15 59 09.1**	**-1.0**
TWVZ	**Taurewa**	**3.85**	**25**	P	**Pn**	**15 59 10.6**	**+0.3**
WKZ	**Wanaka**	**3.85**	**233**		**Pn**	**15 59 09.0**	**-1.2**
WKZ	**Wanaka**	**3.85**	**233**	P	**Pn**	**15 59 09.2**	**-1.0**
NNVZ	**North Ngauruho**	**3.85**	**27**	P	**Pn**	**15 59 10.6**	**+0.2**
KAHZ	**Kahuranaki**	**3.86**	**45**	P	**Pn**	**15 59 09.2**	**-1.2**
WTVZ	**West Tongariro**	**3.86**	**27**	P	**Pn**	**15 59 10.6**	**+0.1**
ETVZ	**East Tongariro**	**3.88**	**28**	P	**Pn**	**15 59 10.9**	**+0.1**
KRVZ	**Karewarewa**	**3.90**	**27**	P	**Pn**	**15 59 11.0**	**0.0**
TMVZ	**Te Maari**	**3.90**	**28**	P	**Pn**	**15 59 11.0**	**+0.1**
NTVZ	**North Tongarir**	**3.91**	**28**	P	**Pn**	**15 59 11.2**	**+0.2**
KWHZ	**Kaweka Forest**	**3.92**	**38**	P	**Pn**	**15 59 09.4**	**-1.8**
EAZ	**Earnscleugh**	**3.94**	**226**	P	**Pn**	**15 59 10.1**	**-1.3**
KATZ	**Kakaramea**	**4.02**	**27**	P	**Pn**	**15 59 14.3**	**+1.7**
MCHZ	**McNeill Hill**	**4.04**	**40**	P	**Pn**	**15 59 10.9**	**-1.8**
RATZ	**Rangitukua**	**4.15**	**27**	P	**Pn**	**15 59 15.1**	**+0.8**
BKZ	**Black Stump Fm**	**4.17**	**36**	P	**Pn**	**15 59 12.9**	**-1.7**
BKZ	**Black Stump Fm**	**4.17**	**36**	P	**Pn**	**15 59 12.6**	**-2.0**
HIZ	**Hauiti**	**4.22**	**16**	P	**Pn**	**15 59 16.5**	**+1.2**
HIZ	**Hauiti**	**4.22**	**16**	P	**Pn**	**15 59 16.1**	**+0.8**
TUZ	**Tuapeka**	**4.29**	**217**	P	**Pn**	**15 59 15.4**	**-0.8**
ARHZ	**Aropaoanui**	**4.32**	**41**	P	**Pn**	**15 59 15.6**	**-1.0**
NMHZ	**Naumai**	**4.36**	**38**	P	**Pn**	**15 59 15.9**	**-1.4**
MRHZ	**Matea Rd**	**4.42**	**33**	P	**Pn**	**15 59 16.0**	**-2.0**
MSZ	**Milford Sound**	**4.45**	**240**	P	**Pn**	**15 59 16.8**	**-1.5**
TLZ	**Tolley Road**	**4.57**	**22**	P	**Pn**	**15 59 19.8**	**-0.3**
MTHZ	**Maungataniwha**	**4.58**	**37**	P	**Pn**	**15 59 18.1**	**-2.1**
ALRZ	**Allen Road**	**4.62**	**31**	P	**Pn**	**15 59 19.1**	**-1.7**
RAHZ	**Arahi**	**4.64**	**39**	P	**Pn**	**15 59 18.6**	**-2.4**
MLZ	**Mavora Lakes**	**4.68**	**232**	Pn	**Pn**	**15 59 19.9**	**-1.7**
MLZ	**Mavora Lakes**	**4.68**	**232**	P	**Pn**	**15 59 20.2**	**-1.5**
RTZ	**Ruatahuna**	**4.83**	**36**	P	**Pn**	**15 59 21.6**	**-2.2**
SNGZ	**Shannon Statio**	**4.86**	**40**	P	**Pn**	**15 59 22.3**	**-1.9**
MHGZ	**Mahia Peninsul**	**4.87**	**47**	P	**Pn**	**15 59 23.0**	**-1.3**
SYZ	**Scrubby Hill**	**4.96**	**216**	P	**Pn**	**15 59 24.9**	**-0.5**
SYZ	**Scrubby Hill**	**4.96**	**216**	P	**Pn**	**15 59 24.7**	**-0.7**
OMRZ	**Omarita**	**5.04**	**28**	P	**Pn**	**15 59 27.2**	**+0.7**
WHZ	**Wether Hill Ro**	**5.09**	**228**	P	**Pn**	**15 59 25.1**	**-2.1**
TOZ	**Tahuroa Road**	**5.12**	**20**	P	**Pn**	**15 59 27.6**	**0.0**
RIGZ	**Rimuhau**	**5.13**	**42**	P	**Pn**	**15 59 25.0**	**-2.8**
URZ	**Urewera**	**5.19**	**35**	P	**Pn**	**15 59 26.6**	**-2.0**
URZ	**Urewera**	**5.19**	**35**	P	**Pn**	**15 59 25.5**	**-3.0**
OPRZ	**Ohinepanea**	**5.33**	**29**	P	**Pn**	**15 59 29.4**	**-1.1**
TGRZ	**Tauranga**	**5.34**	**26**	P	**Pn**	**15 59 29.9**	**-0.7**
TKGZ	**Te Karaka**	**5.38**	**41**	P	**Pn**	**15 59 30.9**	**-0.3**
AWAZ	**Awhitu Peninsu**	**5.60**	**11**	P	**Pn**	**15 59 35.0**	**+0.8**
MKAZ	**Moumakai**	**5.65**	**15**	P	**Pn**	**15 59 34.8**	**-0.1**
TWGZ	**Tauwhareparae**	**5.65**	**40**	P	**Pn**	**15 59 32.5**	**-2.4**
RUGZ	**Raukumara Rang**	**5.68**	**37**	P	**Pn**	**15 59 32.9**	**-2.6**
APZ	**The Paps**	**5.71**	**220**	P	**Pn**	**15 59 34.9**	**-0.8**
WTAZ	**Waiatarua**	**5.72**	**10**	P	**Pn**	**15 59 36.8**	**+0.9**
ETAZ	**East Tamaki Re**	**5.75**	**13**	P	**Pn**	**15 59 36.9**	**+0.6**
EPAZ	**Eden Park BICE**	**5.80**	**11**	P	**Pn**	**15 59 37.9**	**+1.0**
HBAZ	**Herne Bay Bore**	**5.82**	**11**	P	**Pn**	**15 59 38.3**	**+1.0**
RVAZ	**Riverhead Bore**	**5.88**	**10**	P	**Pn**	**15 59 38.8**	**+0.7**
HAZ	**Te Kaha**	**5.90**	**37**	P	**Pn**	**15 59 35.7**	**-2.6**
PKGZ	**Pakihiroa**	**5.93**	**39**	P	**Pn**	**15 59 37.4**	**-1.4**
MBAZ	**Motutapu North**	**5.93**	**12**	P	**Pn**	**15 59 39.3**	**+0.6**
WIAZ	**Waiheke Island**	**5.94**	**14**	P	**Pn**	**15 59 39.2**	**+0.2**
ABAZ	**Army Bay**	**6.08**	**11**	P	**Pn**	**15 59 41.7**	**+0.9**
KUZ	**Kuaotunu**	**6.11**	**18**	P	**Pn**	**15 59 40.5**	**-0.7**
KUZ	**Kuaotunu**	**6.11**	**18**	P	**Pn**	**15 59 40.5**	**-0.7**
WMGZ	**Waiomatatini S**	**6.14**	**41**	P	**Pn**	**15 59 38.7**	**-3.0**
MXZ	**Matakaoa Point**	**6.30**	**39**	P	**Pn**	**15 59 41.0**	**-2.8**
OUZ	**Omahuta**	**7.35**	**2**	P	**Pn**	**15 59 59.4**	**+1.1**
OUZ	**Omahuta**	**7.35**	**2**	P	**Pn**	**16 00 00.2**	**+1.9**
VNDA	**Vanda**	**35.37**	**184**	LR	LR	16 16 03.4	
	comp=Z,45nm,20.4s,baz=290,slow=30						
AS31	**Alice Springs**	**37.61**	**287**	P	**P**	**16 05 23.9**	**-2.0**
ASAR	**Alice Springs**	**37.61**	**287**	P	**P**	**16 05 23.3**	**-2.6**
	1.7nm,0.6s,baz=125,slow=7.2,SNR=52						
ASAR				PcP	**PcP**	**16 07 41.4**	**-2.1**
	0.3nm,0.6s,baz=122,slow=4.0,SNR=6.0						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**37.61**	**287**	P	**P**	**16 05 23.9**	**-2.0**
WB2	**Warramunga Arr**	**39.76**	**292**	P	**P**	**16 05 42.4**	**-1.5**
WB2				IAmb	IAmb	16 05 43.3	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**39.77**	**292**	P	**P**	**16 05 42.2**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=131,slow=8.2,SNR=41						
WRA				PcP	**PcP**	**16 07 48.1**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=130,slow=3.4,SNR=3.3						
	comp=Z,2.3nm,0.8s						
WB0	**Warramunga Arr**	**39.85**	**293**	P	**P**	**16 05 42.8**	**-1.9**
WB0				IAmb	IAmb	16 05 52.6	
	comp=Z,4.9nm,1.1s						
PMG	**Port Moresby**	**40.23**	**318**	LR	LR	16 23 03.8	
	comp=Z,44nm,18.9s,baz=88,slow=37						
MTN	**Manton Dam**	**46.96**	**296**	P	**P**	**16 06 41.0**	**-1.0**
QSPA	**South Pole Qui**	**47.55**	**180**	P	**P**	**16 06 48.5**	**+2.2**
	comp=Z,3.8nm,0.8s,baz=49,slow=2.4,SNR=9.8						
	comp=Z,3.8nm,0.8s						
FAKI	**Fak Fak**

MTHZ	**Maungataniwha**	**4.57**	**36**	P		**Pn**	**16 14 49.7**	**-1.4**
TLZ	**Tolley Road**	**4.57**	**22**	P		**Pn**	**16 14 51.2**	**0.0**
MLZ	**Mavora Lakes**	**4.71**	**232**	P		**Pn**	**16 14 52.6**	**-0.4**
RTZ	**Ruatahuna**	**4.83**	**35**	P		**Pn**	**16 14 52.9**	**-1.8**
SYZ	**Scrubby Hill**	**4.97**	**216**	P		**Pn**	**16 14 57.1**	**+0.5**
WHZ	**Wether Hill Ro**	**5.11**	**228**	P		Pn	16 15 04.6	+6.0
TOZ	**Tahuroa Road**	**5.13**	**19**	P		**Pn**	**16 14 59.0**	**+0.2**
URZ	**Urewera**	**5.18**	**34**	P		**Pn**	**16 14 58.2**	**-1.3**
AWAZ	**Awhitu Peninsu**	**5.62**	**10**	P		**Pn**	**16 15 06.6**	**+1.1**
TWGZ	**Tauwhareparae**	**5.64**	**40**	P		**Pn**	**16 15 03.8**	**-2.0**
MKAZ	**Moumakai**	**5.66**	**14**	P		**Pn**	**16 15 06.3**	**+0.2**
RUGZ	**Raukumara Rang**	**5.67**	**37**	P		**Pn**	**16 15 04.4**	**-1.9**
ETAZ	**East Tamaki Re**	**5.77**	**12**	P		**Pn**	**16 15 08.4**	**+0.9**
HAZ	**Te Kaha**	**5.89**	**36**	P		**Pn**	**16 15 07.3**	**-1.9**
RVAZ	**Riverhead Bore**	**5.90**	**9**	P		**Pn**	**16 15 09.4**	**0.0**
PKGZ	**Pakihiroa**	**5.92**	**39**	P		**Pn**	**16 15 09.1**	**-0.6**
MBAZ	**Motutapu North**	**5.95**	**12**	P		**Pn**	**16 15 11.1**	**+1.1**
WIAZ	**Waiheke Island**	**5.96**	**13**	P		**Pn**	**16 15 10.7**	**+0.5**
ABAZ	**Army Bay**	**6.10**	**11**	P		**Pn**	**16 15 13.2**	**+1.1**
KUZ	**Kuaotunu**	**6.12**	**18**	P		**Pn**	**16 15 11.9**	**-0.5**
KUZ	**Kuaotunu**	**6.12**	**18**	P		**Pn**	**16 15 11.9**	**-0.5**
WMGZ	**Waiomatatini S**	**6.13**	**40**	P		**Pn**	**16 15 10.8**	**-1.7**

MAN 21 16:27:38.8, 8°69N×126°74E, h15km, mb4.0, ML2.8, MS2.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.63**	**217**	*i*	P	16 27 51.9	+0.3
BIPH				*i*	S	16 28 01.1	+0.8
CGP	**Cagayan de Oro**	**2.04**	**263**	*e*	P	16 28 13.6	+1.0
CGP				*e*	S	16 28 38.9	+1.1

*IDC **21** 16:29:27.5±1.7, 1°17S×128°66E, h0km, mb3.6/2, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=31.0km s-min=27.9km az=55.0*
*DJA **21** 16:29:30.9±0.8, 1°S±2°×12°9E±°, h10km±5km, M4.2/10, mb5.0/1, mB5.1/1, MLv3.7/10, Mw(mB)4.4/1*
ISC 21 16:29:29.0±2.0, **0°99S**±0°04×**128°71E**±0°05, **h4**km±14km, **n27**, σ1°**54**/31, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.26**	**286**	P	**Pg**	**16 29 53.8**	**+0.5**
LBMI				S	**Sn**	**16 30 10.5**	**-0.4**
TNTI	**Ternate**	**2.21**	**322**	P	**Pn**	**16 30 06.7**	**+0.2**
TNTI				S	**Sn**	**16 30 34.5**	**+0.1**
TNTI	**Ternate**	**2.21**	**322**	P	**Pb**	**16 30 08.8**	**-0.8**
KRAI	**Karang Ratu**	**2.33**	**188**	P	**Pn**	**16 30 09.7**	**+1.5**
MSAI	**Masohi**	**2.35**	**175**	P	**Pn**	**16 30 10.5**	**+2.1**
SIJI	**Sorong**	**2.56**	**87**	Pn	**Pn**	**16 30 11.8**	**+0.5**
	5.1nm,0.3s,baz=288,slow=19,SNR=54						
SIJI				Sn	**Sn**	**16 30 42.8**	**-0.1**
	5.0nm,0.3s,baz=232,slow=13,SNR=4.7 14nm,0.3s						
SIJI	**Sorong**	**2.56**	**87**	P	**Pn**	**16 30 12.0**	**+0.7**
AAI	**Ambon**	**2.73**	**191**	P	**Pn**	**16 30 14.9**	**+1.3**
AAI				S	**Sn**	**16 30 48.3**	**+1.2**
NLAI	**Namlea**	**2.75**	**216**	P	**Pn**	**16 30 14.8**	**+0.8**
NLAI				S	**Sn**	**16 30 47.6**	**-0.1**
SANI	**Sanana**	**2.92**	**249**	P	**Pn**	**16 30 15.8**	**-0.5**
SANI	**Sanana**	**2.92**	**249**	P	**Pn**	**16 30 16.6**	**+0.3**
GAMI	**Galela, Maluku**	**2.96**	**342**	P	**Pn**	**16 30 18.5**	**+1.6**
BNDI	**Bandanaira**	**3.70**	**161**	P	**Pn**	**16 30 28.1**	**+1.0**
FAKI	**Fak Fak**	**4.02**	**118**	P	**Pn**	**16 30 31.2**	**-0.2**
APSI	**Ampana**	**7.06**	**271**	P	**Pn**	**16 31 14.0**	**+0.7**
TOLI2	**Tolitoli**	**8.20**	**285**	P	**Pn**	**16 31 33.3**	**+4.3**
MTN	**Manton Dam**	**12.02**	**169**	P	**Pn**	**16 32 20.0**	**-1.2**
KDU	**Kakadu**	**12.20**	**162**	P	Pn	16 32 20.2	-3.6
KNRA	**Kununurra**	**14.59**	**180**	P	**Pn**	**16 32 54.5**	**-2.0**
WRAB	**Tennant Creek**	**19.61**	**164**	P	**P**	**16 33 56.4**	**-2.3**
WRA	**Warramunga Arr**	**19.62**	**164**	P	**P**	**16 33 55.8**	**-3.0**
	0.3nm,0.3s,baz=346,slow=12,SNR=22						
WRA				S	S	16 37 21.3	-20
	0.3nm,0.6s,baz=350,slow=21,SNR=2.2 1.3nm,0.7s						
QIS	**Mount Isa**	**22.17**	**152**	P	**P**	**16 34 26.5**	**+0.2**
ASAR	**Alice Springs**	**23.09**	**168**	P	**P**	**16 34 33.8**	**-2.3**
	2.2nm,0.7s,baz=350,slow=12,SNR=24						
ASAR				S	S	16 38 37.2	-11
	0.3nm,0.8s,baz=346,slow=18,SNR=1.3 2.2nm,0.7s						
AS01	**Alice Springs**	**23.10**	**168**	P	**P**	**16 34 35.2**	**-1.0**
WRKA	**Warakurna**	**23.91**	**181**	P	**P**	**16 34 44.2**	**0.0**
WHYH	**Whyalla**	**32.94**	**166**	P	**P**	**16 36 06.5**	**+1.7**
MKAR	**Makanchi Array**	**62.55**	**326**	P	**P**	**16 39 53.8**	**-0.4**
	0.4nm,0.6s,baz=107,slow=10,SNR=2.5 0.4nm,0.6s						

*NEIC **21** 16:37:41.3±1.9, 17°6S±0°1×178°5W±0°1, h579km±13km, mb4.5/27, Error ellipse: s-maj=21.7km s-min=19.0km az=206.0*
*IDC **21** 16:37:41.6±1.5, 17°51S×178°55W, h583km±22km, mb3.4/6, mbtmp4.4/9, Error ellipse: s-maj=42.6km s-min=26.0km az=6.0*
ISC 21 16:37:41.6±0.8, **17°5S**±0°1×**178°49W**±0°10, **h600**km, **n40**, σ1**°25**/40, **mb4.3**/19, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.31**	**265**	P	**P**	**16 39 01.1**	**-1.6**
	40nm,0.7s,baz=114,slow=10,SNR=20						
AFI	**Afiamalu**	**7.38**	**62**	P	**P**	**16 39 35.0**	**-0.3**
	17nm,0.5s,baz=201,slow=8.6,SNR=5.4						
AFI	**Afiamalu**	**7.38**	**62**	P	**P**	**16 39 33.8**	**-1.5**
NIUE	**Niue**	**8.29**	**102**	P	**P**	**16 39 42.5**	**-1.1**
MARNC	**Mare, Loyalty**	**13.31**	**250**	P	**P**	**16 40 30.8**	**-2.8**
OUENC	**Ouen Island, N**	**14.63**	**248**	P	**P**	**16 40 44.9**	**-1.5**
DZM	**Mont Dzumac**	**14.89**	**250**	P	**P**	**16 40 46.9**	**-2.0**
	15nm,0.8s,baz=74,slow=15,SNR=3.2						
KOUNC	**Koumac, New Ca**	**16.57**	**257**	P	**P**	**16 41 03.0**	**-1.2**
TARA	**Tarawa**	**20.55**	**335**	P	**P**	**16 41 40.0**	**-0.4**
RTZ	**Ruatahuna**	**21.42**	**190**	P	**P**	**16 41 45.5**	**-2.5**
RTZ				IAmb	IAmb	16 42 08.7	
	comp=Z,16nm,1.4s						
NNZ	**Nelson**	**24.66**	**195**	P	**P**	**16 42 15.2**	**-1.4**
LHI	**Lord Howe Isla**	**24.68**	**231**	P	**P**	**16 42 15.9**	**-1.0**
THZ	**Tophouse**	**25.29**	**195**	P	**P**	**16 42 21.4**	**-0.9**
DSZ	**Denniston Nort**	**25.57**	**197**	P	**P**	**16 42 24.0**	**-0.6**
DSZ				IAmb	IAmb	16 42 56.7	
	comp=Z,26nm,0.7s						
WKZ	**Wanaka**	**29.20**	**198**	P	**P**	**16 42 54.0**	**-2.3**
MLZ	**Mavora Lakes**	**29.96**	**199**	P	**P**	**16 43 02.5**	**-0.3**
MLZ				IAmb	IAmb	16 43 10.3	
	comp=Z,35nm,1.4s						
ARMA	**Armidale**	**30.08**	**239**	P	**P**	**16 43 04.8**	**+0.5**
ARMA				IAmb	IAmb	16 43 32.0	
	comp=Z,19nm,1.5s						
CTA	**Charters Tower**	**33.44**	**260**	P	**P**	**16 43 32.8**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=75,slow=12,SNR=1.4 comp=Z,4.5nm,1.0s						
CTAO	**Charters Tower**	**33.44**	**260**	P	**P**	**16 43 32.9**	**+0.2**
CTAO				IAmb	IAmb	16 43 38.0	
	comp=Z,21nm,1.4s						
PMG	**Port Moresby**	**34.31**	**279**	P	**P**	**16 43 41.5**	**+1.5**
	comp=Z,13nm,0.8s,baz=90,slow=10.0,SNR=4.2 comp=Z,13nm,0.8s						
PMG	**Port Moresby**	**34.31**	**279**	P	**P**	**16 43 41.5**	**+1.5**
PMG				IAmb	IAmb	16 43 43.0	
	comp=Z,13nm,0.8s						
COEN	**Coen**	**37.02**	**270**	P	**P**	**16 44 03.8**	**+1.4**
COEN				IAmb	IAmb	16 44 32.6	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**16 44 17.1**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=69,slow=8.3,SNR=9.5 comp=Z,2.1nm,0.5s						
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**16 44 17.0**	**+0.8**
BBOO	**Buckleboo**	**43.54**	**241**	P	**P**	**16 44 54.5**	**+0.6**
BBOO				IAmb	IAmb	16 45 28.5	
	comp=Z,32nm,1.4s						
WB0	**Warramunga Arr**	**44.60**	**259**	P	**P**	**16 45 02.2**	**0.0**
WB2	**Warramunga Arr**	**44.62**	**259**	P	**P**	**16 45 02.4**	**0.0**
WB2				IAmb	IAmb	16 45 02.9	
	comp=Z,6.7nm,1.2s						
WRAB	**Tennant Creek**	**44.62**	**259**	P	**P**	**16 45 02.2**	**-0.2**
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**16 45 02.1**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=91,slow=6.9,SNR=70 comp=Z,1.5nm,0.5s						
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**16 45 02.4**	**-0.1**
AS31	**Alice Springs**	**44.83**	**254**	P	**P**	**16 45 04.6**	**+0.7**
AS31				IAmb	IAmb	16 45 05.2	
	comp=Z,4.5nm,0.7s						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**16 45 04.6**	**+0.6**
	comp=Z,12nm,0.4s,baz=89,slow=7.7,SNR=504 comp=Z,12nm,0.4s						
KNRA	**Kununurra**	**50.45**	**264**	P	**P**	**16 45 46.9**	**+1.1**
KNRA				IAmb	IAmb	16 46 19.0	
	comp=Z,16nm,0.6s						
PSA00	**Pilbara Seismi**	**57.94**	**255**	P	**P**	**16 46 39.1**	**+0.9**
PSA00				IAmb	IAmb	16 47 03.9	
	comp=Z,28nm,1.4s						
MBWA	**Marble Bar**	**58.10**	**256**	P	**P**	**16 46 39.6**	**+0.3**
MBWA				IAmb	IAmb	16 47 10.1	
	comp=Z,30nm,1.4s						
VNDA	**Vanda**	**60.85**	**185**	P	**P**	**16 46 57.7**	**+1.1**
	comp=Z,0.8nm,1.0s,baz=1.3,slow=5.8,SNR=3.0 comp=Z,0.8nm,1.0s						
VNDA	**Vanda**	**60.85**	**185**	P	**P**	**16 46 56.5**	**-0.1**
CASY	**Casey**	**66.48**	**205**	P	**P**	**16 47 33.7**	**+1.2**
CASY				IAmb	IAmb	16 48 09.4	
	comp=Z,14nm,1.3s						
QSPA	**South Pole Qui**	**72.56**	**180**	P	**P**	**16 48 10.7**	**+1.9**
QSPA				IAmb	IAmb	16 48 12.0	
	comp=Z,10nm,1.4s						
BELA	**Belgrano 2**	**82.59**	**173**	P	**P**	**16 49 03.8**	**+1.4**

*KRSC **21** 16:40:29.6±1.2, 54°18N×159°35E, h193km±10km, ML3.8*
*NEIC **21** 16:40:31.2±1.0, 54°4N±0°1×158°7E±0°2, h169km±8km, mb4.3/53, Error ellipse: s-maj=21.1km s-min=6.2km az=141.0*
*IDC **21** 16:40:31.3±1.1, 54°45N×158°89E, h165km±24km, mb3.5/7, mbtmp4.0/9, Error ellipse: s-maj=34.8km s-min=23.3km az=24.0*
ISC 21 16:40:31.9±0.6, **54°26N**±0°05×**159°05E**±0°06, **h181**km±5km, **n100**, σ1°**27**/122, **mb4.2**/32, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**0.86**	**230**	*e*P	**Pn**	**16 40 58.4**	**-0.5**
GNL				*e*S	**Sn**	**16 41 19.3**	**-0.4**
KRER	**Koryakskii**	**0.97**	**191**	*e*P	**Pn**	**16 40 59.9**	**+0.1**
KRER				*e*S	**Sn**	**16 41 22.5**	**+1.3**
SDLR	**Sedlovina**	**0.99**	**186**	*e*P	**Pn**	**16 40 59.6**	**-0.2**
SDLR				*e*S	**Sn**	**16 41 22.0**	**+0.8**
KOK	**Koryaka**	**1.00**	**194**	*e*P	**Pn**	**16 41 00.0**	**+0.2**
KOK				*e*S	**Sn**	**16 41 22.5**	**+1.2**
SMAR	**Somma**	**1.01**	**189**	*e*P	**Pn**	**16 41 00.1**	**+0.1**
SMAR				*e*S	**Sn**	**16 41 22.5**	**+0.8**
AVH	**Avacha**	**1.01**	**191**	*e*P	**Pn**	**16 41 00.1**	**+0.2**
AVH				*e*S	**Sn**	**16 41 22.1**	**+0.7**
UGLR	**Uglovaya**	**1.06**	**187**	*e*P	**Pn**	**16 41 00.4**	**+0.1**
UGLR				*e*S	**Sn**	**16 41 23.3**	**+1.2**
NLC	**Nalytchevo**	**1.10**	**171**	*e*P	**Pn**	**16 40 59.4**	**-1.0**
NLC				*e*S	**Sn**	**16 41 21.5**	**-0.9**
TUMR	**Tumrok**	**1.21**	**31**	*e*P	**Pn**	**16 41 01.6**	**+0.2**
TUMR				*e*S	**Sn**	**16 41 24.7**	**+0.3**
TUMD	**Tumrok D**	**1.23**	**39**	P	**Pn**	**16 41 00.7**	**-0.8**
TUMD				*e*S	**Sn**	**16 41 24.0**	**-0.5**
DALK	**Dalny**	**1.24**	**188**	*e*P	**Pn**	**16 41 01.0**	**-0.6**
DALK				S	**Sn**	**16 41 24.0**	**-0.5**
PET	**Petropavlovsk**	**1.26**	**191**		**Pn**	**16 41 01.4**	**-0.4**
PET				Sn	**Sn**	**16 41 23.6**	**-1.1**
PET	**Petropavlovsk**	**1.26**	**191**	*e*P	**Pn**	**16 41 01.4**	**-0.4**
PET				*e*S	**Sn**	**16 41 24.3**	**-0.5**
SPN	**Mys Shipunski**	**1.30**	**153**	*e*P	**Pn**	**16 41 00.6**	**-1.5**
SPN				*e*S	**Sn**	**16 41 22.7**	**-2.7**
PEA0B	**Petropavlovsk-**	**1.41**	**215**		**Pn**	**16 41 02.6**	**-0.5**
PETK	**Petropavlovsk-**	**1.41**	**215**	P	**Pn**	**16 41 01.7**	**-1.3**
	31nm,0.4s,baz=54,slow=12,SNR=101						
PETK				S	**Sn**	**16 41 26.2**	**-0.9**
	11nm,0.7s,baz=59,slow=45,SNR=2.7						
PETK	**Petropavlovsk-**	**1.41**	**215**		**Pn**	**16 41 01.4**	**-1.6**
KRMR	**Karymshinskiy**	**1.53**	**201**	*e*P	**Pn**	**16 41 03.8**	**-0.4**
KRMR				*e*S	**Sn**	**16 41 29.3**	**+0.1**
KMNR	**Kamenistaya**	**1.65**	**24**	*e*P	**Pn**	**16 41 05.8**	**+0.4**
APC	**Apacha**	**1.75**	**221**	*e*P	**Pn**	**16 41 06.5**	**+0.2**
APC				*e*S	**Sn**	**16 41 33.3**	**+0.3**
GRL	**Gorelyy**	**1.81**	**199**	*e*P	**Pn**	**16 41 07.4**	**+0.3**
MTVR	**Mutnovka**	**1.85**	**197**	*e*P	**Pn**	**16 41 07.8**	**+0.2**
MTVR				*e*S	**Sn**	**16 41 36.1**	**+0.9**
RUS	**Russkaya**	**1.86**	**190**	*e*P	**Pn**	**16 41 06.5**	**-1.0**
RUS				*e*S	**Sn**	**16 41 32.9**	**-2.1**
SRDR	**Sredinnyy**	**2.10**	**10**	*e*P	**Pn**	**16 41 09.8**	**-0.3**
KLYF	**Klyuchi**	**2.25**	**23**	*e*P	**Pn**	**16 41 12.7**	**+1.0**
KDTR	**Khodutka, Kamc**	**2.52**	**194**	*e*P	**Pn**	**16 41 13.4**	**-1.5**
KDTR				*e*S	**Sn**	**16 41 45.4**	**-2.8**
BDR	**Baidarnaya**	**2.62**	**27**	*e*P	**Pn**	**16 41 16.5**	**+0.5**
SRKR	**Sorokina**	**2.69**	**26**	*e*P	**Pn**	**16 41 17.5**	**+0.7**
KBG	**Krutoberegovo**	**2.89**	**45**	*e*P	**Pn**	**16 41 18.7**	**-0.5**
KBG				*e*S	**Sn**	**16 41 53.3**	**-2.8**
KBTR	**Krutoberegovo**	**2.91**	**46**	*e*P	**Pn**	**16 41 18.1**	**-1.3**
KBTR				*e*S	**Sn**	**16 41 53.0**	**-3.5**
BKI	**Bering**	**4.12**	**74**	*e*S	**Sn**	**16 42 17.8**	**-5.7**
YSS	**Yuzh-Sakhalins**	**12.65**	**241**	Pn	**Pn**	**16 43 24.1**	**-1.4**
KIWB	**Kanaga Island**	**14.49**	**90**		**P**	**16 43 53.7**	**+3.5**
ERM	**Erimo**	**16.16**	**227**		**P**	**16 44 06.9**	**-1.7**
ERM				IAmb	IAmb	16 44 45.8	
	comp=Z,39nm,1.2s						
YAK	**Yakutsk**	**17.21**	**309**	P	**P**	**16 44 17.5**	**-2.5**
	comp=Z,3.0nm,0.4s,baz=107,slow=6.3,SNR=3.2						
YAK	**Yakutsk**	**17.21**	**309**	P	**P**	**16 44 17.9**	**-2.1**
YAK				IAmb	IAmb	16 44 18.7	
	comp=Z,6.8nm,0.4s						
KLR	**Kul'dur**	**17.58**	**265**	P	**P**	**16 44 24.1**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=20,slow=12,SNR=2.2						
TIXI	**Tiksi**	**21.76**	**335**	P	**P**	**16 45 07.5**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=2.2,slow=2.8,SNR=3.6 comp=Z,1.4nm,0.3s						
N18K	**Kilae Creek**	**24.65**	**57**	P	**P**	**16 45 36.8**	**+1.4**
N18K				IAmb	IAmb	16 45 42.9	
	comp=Z,22nm,1.3s						
L19K	**White Mountain**	**25.04**	**53**	P	**P**	**16 45 39.9**	**+1.0**
L19K				IAmb	IAmb	16 45 58.1	
	comp=Z,13nm,1.3s						
M19K	**Big River Lodg**	**25.27**	**54**	P	**P**	**16 45 42.2**	**+1.1**
M19K				IAmb	IAmb	16 45 45.7	
	comp=Z,13nm,1.2s						
N19K	**Bonanza Creek**	**25.32**	**56**	P	**P**	**16 45 43.0**	**+1.4**
N19K				IAmb	IAmb	16 46 05.6	
	comp=Z,28nm,1.4s						
J20K	**Nowinta River**	**25.33**	**48**	P	**P**	**16 45 42.1**	**+0.6**
J20K				IAmb	IAmb	16 46 00.7	
	comp=Z,10nm,1.5s						
K20K	**Telida**	**25.36**	**50**	P	**P**	**16 45 42.8**	**+1.0**
K20K				IAmb	IAmb	16 46 20.6	
	comp=Z,12nm,1.5s						
IMAR	**Indian Mountai**	**25.58**	**44**	P	**P**	**16 45 43.2**	**-0.5**
A21K	**Barrow**	**25.60**	**31**	P	**P**	**16 45 43.3**	**-0.6**
H21K	**Melozitna Rive**	**25.94**	**45**	P	**P**	**16 45 46.9**	**-0.2**
CAST	**Castle Rocks**	**26.25**	**50**	P	**P**	**16 45 50.9**	**+1.0**
CAST				IAmb	IAmb	16 46 13.4	
	comp=Z,6.6nm,1.4s						
CNPM	**China Poot**	**27.12**	**59**	P	**P**	**16 45 57.5**	**-0.1**
TOLK	**Toolik Lake Re**	**27.42**	**38**	P	**P**	**16 46 00.1**	**-0.2**
MCK	**McKinley**	**27.64**	**49**	P	**P**	**16 46 03.4**	**+1.2**
MCK				IAmb	IAmb	16 46 43.6	
	comp=Z,14nm,1.5s						
IL31		**28.45**	**47**	P	**P**	**16 46 09.4**	**+0.1**
IL31				IAmb	IAmb	16 46 14.4	
	comp=Z,7.3nm,1.5s						
ILAR	**Eielson Array**	**28.45**	**47**	P	**P**	**16 46 09.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=259,slow=7.3,SNR=9.1 comp=Z,0.9nm,0.7s						
SCM	**Sheep Creek Mo**	**28.60**	**53**	P	**P**	**16 46 11.7**	**+0.9**
BMAR	**Burnt Mountain**	**29.25**	**41**	P	**P**	**16 46 16.9**	**+0.4**
SCRK	**Sand Creek**	**29.79**	**48**	P	**P**	**16 46 20.7**	**-0.6**
SCRK				IAmb	IAmb	16 46 49.9	
	comp=Z,6.1nm,1.3s						
L27K	**Beaver Creek,**	**30.90**	**50**	P	**P**	**16 46 32.1**	**+1.1**
L27K				IAmb	IAmb	16 46 42.1	
	comp=Z,7.6nm,1.4s						
BCAR	**Beaver Creek A**	**30.92**	**50**	P	**P**	**16 46 32.2**	**+1.0**
M27K	**Edge Creek, AK**	**31.02**	**51**	P	**P**	**16 46 33.5**	**+1.3**
M27K				IAmb	IAmb	16 47 00.4	
	comp=Z,12nm,1.4s						
ISLE	**Juniper Island**	**31.22**	**54**	P	**P**	**16 46 34.4**	**+0.4**
BARN	**Barnard Glacie**	**31.43**	**53**	P	**P**	**16 46 36.6**	**+0.7**
I29M	**Ogilvie Camp,**	**31.98**	**45**	P	**P**	**16 46 40.8**	**+0.4**
I29M				IAmb	IAmb	16 46 41.2	
	comp=Z,4.5nm,1.1s						
J29M	**Klondike Camp**	**32.19**	**46**	P	**P**	**16 46 42.7**	**+0.3**
PCA	**Pinnacle**	**32.36**	**55**	P	**P**	**16 46 44.3**	**+0.4**
EPYK	**Eagle Plains**	**32.45**	**43**	P	**P**	**16 46 44.8**	**+0.3**
M30M	**Minto, Yukon**	**33.26**	**49**	P	**P**	**16 46 52.6**	**+1.0**
M30M				IAmb	IAmb	16 47 08.9	
	comp=Z,9.9nm,1.5s						
INK	**Inuvik**	**33.33**	**39**	P	**P**	**16 46 52.4**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=295,slow=8.5,SNR=39 comp=Z,2.0nm,0.3s						
INK	**Inuvik**	**33.33**	**39**	P	**P**	**16 46 52.4**	**+0.3**
HYT	**Haines Junctio**	**33.44**	**53**	P	**P**	**16 46 54.4**	**+1.1**
HYT				IAmb	IAmb	16 47 35.9	
	comp=Z,9.4nm,1.2s						
M31M	**Drury Creek, Y**	**34.44**	**50**	P	**P**	**16 47 03.1**	**+1.3**
M31M				IAmb	IAmb	16 47 06.0	
	comp=Z,7.9nm,1.2s						
WHY	**Whitehorse**	**34.72**	**52**	P	**P**	**16 47 05.8**	**+1.5**
WHY				IAmb	IAmb	16 47 24.8	
	comp=Z,11nm,1.4s						
FARO	**Faro, Yukon**	**34.90**	**49**	P	**P**	**16 47 06.6**	**+0.9**
FARO				IAmb	IAmb	16 47 39.7	
	comp=Z,5.6nm,1.4s						
P33M	**Teslin, Yukon**	**35.83**	**52**	P	**P**	**16 47 14.4**	**+0.7**
P33M				IAmb	IAmb	16 47 20.9	
	comp=Z,8.0nm,1.1s						
EUNU	**Eureka**	**40.97**	**14**	P	**P**	**16 47 55.8**	**-0.4**
YKA	**Yellowknife Ar**	**42.73**	**43**	P	**P**	**16 48 10.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=316,slow=8.5,SNR=4.7 comp=Z,0.8nm,0.5s						
C03A	**Quillayute Air**	**46.18**	**65**	P	**P**	**16 48 39.3**	**+1.2**
EDM	**Edmonton**	**48.56**	**53**	P	**P**	**16 48 56.8**	**+0.4**
EDM				IAmb	IAmb	16 49 31.3	
	comp=Z,6.5nm,1.0s						
PLID	**Pearl Lake**	**52.54**	**63**	P	**P**	**16 49 27.6**	**+1.0**
WVOR	**Wild Horse Val**	**52.95**	**67**	P	**P**	**16 49 30.9**	**+1.5**
FCC	**Fort Churchill**	**52.96**	**39**	P	**P**	**16 49 28.7**	**-0.3**
WAKR	**Walker**	**55.25**	**71**	P	**P**	**16 49 48.1**	**+1.9**
GCMT	**Greycliff**	**55.29**	**58**	P	**P**	**16 49 47.4**	**+1.0**
KVN	**Kaiserville**	**55.60**	**69**	P	**P**	**16 49 50.4**	**+1.7**
KVN				IAmb	IAmb	16 50 27.8	
	comp=Z,6.2nm,1.4s						
NVAR	**Mina Array Bea**	**55.93**	**70**	P	**P**	**16 49 52.4**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=294,slow=8.0,SNR=5.4 comp=Z,0.5nm,0.5s						
MZP	**Montezuma Peak**	**56.95**	**70**	P	**P**	**16 49 59.9**	**+1.5**
BW06	**Boulder Array**	**57.49**	**61**	P	**P**	**16 50 03.2**	**+1.1**
PD31	**Pinedale Array**	**57.49**	**61**	P	**P**	**16 50 03.2**	**+1.1**
PDAR	**Pinedale Array**	**57.49**	**61**	P	**P**	**16 50 03.1**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=352,slow=3.2,SNR=13 comp=Z,1.0nm,0.6s						
SPR3	**Spring Creek 3**	**57.69**	**67**	P	**P**	**16 50 05.1**	**+1.5**
SPR3				IAmb	IAmb	16 50 06.7	
	comp=Z,2.0nm,0.8s						
KULM	**Kulim**	**67.65**	**247**	P	**P**	**16 51 07.4**	**-1.9**
KULM				IAmb	IAmb	16 51 32.4	
	comp=Z,4.9nm,1.1s						
KIV	**Kislovodsk**	**68.17**	**316**	P	**P**	**16 51 11.6**	**-0.7**
KIV				IAmb	IAmb	16 51 44.2	
	comp=Z,8.0nm,1.1s						
TX31	**Lajitas Ar. Si**	**70.75**	**67**	P	**P**	**16 51 29.3**	**+1.0**
TX31				IAmb	IAmb	16 51 29.9	
	comp=Z,5.1nm,1.1s						
TX32	**Lajitas Array**	**70.75**	**67**	P	**P**	**16 51 29.3**	**+1.0**
TXAR	**Lajitas Array**	**70.75**	**67**	P	**P**	**16 51 29.4**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=302,slow=5.1,SNR=16 comp=Z,0.5nm,0.4s						
TXAR	**Lajitas Array**	**70.75**	**67**	P	**P**	**16 51 29.1**	**+0.8**
L56A	**Greenwood**	**72.47**	**41**	P	**P**	**16 51 38.9**	**+0.5**
O52A	**Adamsville**	**72.49**	**45**	P	**P**	**16 51 40.3**	**+1.9**
M55A	**Ridgway**	**72.58**	**42**	P	**P**	**16 51 39.3**	**+0.3**
R49A	**Shelbyville**	**72.61**	**48**	P	**P**	**16 51 40.7**	**+1.6**
R49A			

PSA00	**Pilbara Seismi**	**17.54**	**215**	P	**P**	**16 48 20.7**	**+0.6**
PSA00				IAmb	IAmb	16 48 35.3		
	comp=Z,17nm,1.2s							
PSA00	**Pilbara Seismi**	**17.54**	**215**	P	**P**	**16 48 20.7**	**+0.6**
WRKA	**Warakurna**	**17.69**	**187**	P	**Pn**	**16 48 19.6**	**-1.8**
OOD	**Oodnadatta**	**20.85**	**167**	P	**P**	**16 48 57.3**	**+1.1**
INKA	**Innaminka**	**22.39**	**156**	P	**P**	**16 49 13.8**	**+1.0**
MULG	**Mulgathing**	**23.00**	**172**	P	**P**	**16 49 20.0**	**+0.9**
FORT	**Forrest**	**23.39**	**186**	P	**P**	**16 49 25.1**	**+2.1**
LCRK	**Leigh Creek**	**24.01**	**164**	P	**P**	**16 49 30.5**	**+1.8**
BBOO	**Buckleboo**	**25.79**	**169**	P	**P**	**16 49 45.1**	**+0.2**
BBOO	**Buckleboo**	**25.79**	**169**	P	**P**	**16 49 45.7**	**+0.8**
STKA	**Stephens Creek**	**26.42**	**159**	P	**P**	**16 49 50.6**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=332,slow=9.2,SNR=4.8							
	comp=Z,2.2nm,0.7s							
STKA	**Stephens Creek**	**26.42**	**159**	P	**P**	**16 49 50.3**	**-0.3**
STKA	**Stephens Creek**	**26.42**	**159**	P	**P**	**16 49 52.0**	**+1.4**
BLDU	**Ballidu**	**26.54**	**208**	P	**P**	**16 49 53.3**	**+1.6**
CMSA	**Cobar Meteorol**	**27.83**	**152**	P	**P**	**16 50 05.5**	**+2.2**
ARPS	**Mount Arapiles**	**30.98**	**162**	P	**P**	**16 50 33.5**	**+2.4**
YHNB	**Yeheng**	**33.12**	**344**	P	P	16 50 55.8	+5.7
CMAR	**Chiang Mai Arr**	**40.47**	**310**	P	**P**	**16 51 52.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=139,slow=7.1,SNR=9.6							
	comp=Z,0.5nm,0.3s							
MAJO	**Matsushiro**	**44.27**	**9**	P	**P**	**16 52 22.0**	**-1.3**
MJAR	**Matsushiro Arr**	**44.27**	**9**	P	**P**	**16 52 23.2**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=187,slow=9.3,SNR=6.6							
	comp=Z,2.9nm,0.7s							
MJB9	**Matsu-Tunnel**	**44.28**	**9**	P	**P**	**16 52 22.0**	**-1.3**
MJB9				IAmb	IAmb	16 52 25.2		
	comp=Z,8.3nm,1.0s							
USRK	**Ussuriysk Ar.**	**51.36**	**1**	P	**P**	**16 53 18.1**	**0.0**
	comp=Z,1.3nm,0.6s,baz=177,slow=6.1,SNR=5.1							
	comp=Z,1.3nm,0.6s							
SONM	**Songino Array**	**59.01**	**341**	P	**P**	**16 54 14.1**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=170,slow=5.7,SNR=2.7							
	comp=Z,0.3nm,0.5s							
MK31	**Makanchi Array**	**68.90**	**327**	P	**P**	**16 55 19.4**	**+1.2**
MK31				IAmb	IAmb	16 55 56.6		
	comp=Z,4.6nm,1.2s							
MKAR	**Makanchi Array**	**68.90**	**327**	P	**P**	**16 55 19.4**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=116,slow=8.0,SNR=17							
	comp=Z,1.6nm,0.5s							
VNDA	**Vanda**	**71.98**	**173**	P	**P**	**16 55 37.5**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=354,slow=6.9,SNR=3.6							
	comp=Z,0.4nm,0.6s							
CPUP	**Villa Florida**	**145.60**	**167**	PKPbc	**PKPab**	**17 03 54.4**	**+1.8**
	comp=Z,2.6nm,0.7s,baz=116,slow=1.9,SNR=5.1							
LPAZ	**La Paz**	**150.02**	**142**	PKPbc	**PKiKP**	**17 04 07.2**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=111,slow=5.7,SNR=4.4							

*IDC **21** 16:55:00.5±2.0, 1°.16S×134°.08E, h0km, mb3.5/3, mbtmp3.6/5, ML3.5/2, MS3.3/2, Error ellipse: s-maj=45.4km s-min=23.1km az=58.0*
*DJA **21** 16:55:00.9±0.9, 1°.5S×13°.4E±°, h10km±4km, M4.3/9, mb4.4/5, mB5.0/3, MLv4.2/9, Mw(mB)4.3/3*
ISC 21 16:55:03.4±1.0, 1°.07S±0.07×134°.26E±0.05, h27km, n14, σ2s50/19, mb3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.44**	**191**	P	**Pn**	**16 55 13.6**	**-0.4**
RKPI				S	**Sn**	**16 55 24.7**	**+3.6**
SRPI	**Serui, Papua**	**2.13**	**112**	P	**Pn**	**16 55 37.3**	**0.0**
SRPI				S	**Sn**	**16 56 04.7**	**+1.8**
FAKI	**Fak Fak**	**2.72**	**228**	P	**Pn**	**16 55 47.4**	**+2.0**
FAKI				S	**Sb**	**16 56 23.1**	**-1.3**
SIJI	**Sorong**	**3.00**	**274**	Pn	**Pn**	**16 55 46.9**	**-2.3**
	6.1nm,0.3s,baz=268,slow=22,SNR=40							
SIJI				Sn	**Sn**	**16 56 24.1**	**-0.2**
	7.8nm,0.3s,baz=268,slow=23,SNR=2.1							
	11nm,0.2s							
SIJI	**Sorong**	**3.00**	**274**	P	**Pn**	**16 55 49.0**	**-0.2**
SIJI				S	**Sn**	**16 56 26.9**	**+2.6**
SMPI	**Sarmi**	**4.54**	**102**	P	**Pn**	**16 56 09.6**	**-0.8**
BNDI	**Bandanaira**	**5.54**	**232**	P	**Pn**	**16 56 26.1**	**+2.0**
	0.7nm78nm,1.0s							
KRAI	**Karang Ratu**	**6.27**	**249**	P	**Pn**	**16 56 34.8**	**+0.6**
	0.1nm1μm18nm,0.8s							
AAI	**Ambon**	**6.59**	**247**	P	**Pn**	**16 56 40.0**	**+1.4**
	0.1nm1μm34nm,0.7s							
PMG	**Port Moresby**	**15.27**	**123**	LR	LR	17 06 51.5		
	comp=Z,109nm,19.8s,baz=268,slow=46							
WRA	**Warramunga Arr**	**18.75**	**180**	P	**P**	**16 59 20.5**	**+0.1**
	0.2nm,0.3s,baz=359,slow=12,SNR=15							
WRA				S	**Sn**	**17 02 42.8**	**-7.4**
	0.3nm,0.6s,baz=349,slow=24,SNR=2.4							
WRA				LR	LR	17 08 09.3		
	comp=Z,90nm,20.4s,baz=242,slow=42							
	1.3nm,0.7s							
ASAR	**Alice Springs**	**22.46**	**181**	P	**P**	**17 00 00.5**	**-0.1**
	0.7nm,0.6s,baz=2.8,slow=10.0,SNR=17							
	0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**39.78**	**301**	P	**P**	**17 02 33.5**	**-0.9**
	0.4nm,0.8s,baz=110,slow=7.8,SNR=5.4							
	0.4nm,0.8s							
MKAR	**Makanchi Array**	**65.81**	**324**	P	**P**	**17 05 48.4**	**+2.0**
	0.6nm,0.6s,baz=111,slow=7.7,SNR=2.4							
	0.6nm,0.6s							

*NOU **21** 17:07:21.4, 42°.76S×173°.78E, h13km, MLv3.8/8, South Island, New Zealand*
*WEL **21** 17:07:23.5±0.3, 43°.5±3°×17°.3E±°, h5km, M3.3/37, ML3.6/13, MLv3.3/37, Error ellipse: s-maj=0.0km s-min=0.0km az=127.1*
ISC 21 17:07:21.9±1.0, 42°.61S±0.04×173°.59E±0.04, h10km, n76, σ1s40/77, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.54**	**228**	P	**Pg**	**17 07 34.5**	**+2.0**
GVZ				S	**Sb**	**17 07 43.3**	**+1.9**
AMCZ	**Amberley**	**0.89**	**230**	P	**Pg**	**17 07 40.0**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.92**	**14**	P	**Pg**	**17 07 39.9**	**+0.3**
CMWZ	**Cape Campbell**	**0.98**	**29**	P	**Pb**	**17 07 42.2**	**+1.3**
LTZ	**Lake Taylor**	**0.98**	**259**	P	**Pg**	**17 07 41.0**	**+0.1**
THZ	**Tophouse**	**0.98**	**329**	P	**Pg**	**17 07 39.7**	**-1.1**
OKCZ	**Okains Bay**	**1.18**	**199**	P	**Pn**	**17 07 44.7**	**+0.2**
TUWZ	**Tuamarina**	**1.21**	**13**	P	**Pb**	**17 07 44.8**	**-0.1**
MQZ	**McQueen's Vall**	**1.29**	**212**	P	**Pn**	**17 07 44.8**	**-1.2**
OXZ	**Oxford**	**1.34**	**237**	P	**Pn**	**17 07 45.7**	**-1.0**
AKCZ	**Akaroa Harbour**	**1.36**	**201**	P	**Pn**	**17 07 46.8**	**-0.2**
MRNZ	**Matariki Terra**	**1.36**	**333**	P	**Pn**	**17 07 46.5**	**-0.4**
NNZ	**Nelson**	**1.40**	**354**	P	**Pn**	**17 07 47.2**	**-0.3**
TCW	**Tory Channel**	**1.49**	**20**	P	**Pn**	**17 07 48.2**	**-0.5**
RACZ	**Rakaia**	**1.54**	**223**	P	**Pn**	**17 07 48.6**	**-0.8**
SNZO	**South Karori**	**1.54**	**33**	P	**Pn**	**17 07 49.2**	**-0.2**
DSZ	**Denniston Nort**	**1.58**	**302**	P	**Pn**	**17 07 49.6**	**-0.4**
INZ	**Inchbonnie**	**1.58**	**265**	P	**Pn**	**17 07 49.7**	**-0.3**
WEL	**Wellington**	**1.59**	**34**	P	**Pn**	**17 07 49.6**	**-0.5**
PLWZ	**Palliser**	**1.62**	**51**	P	**Pn**	**17 07 49.8**	**-0.7**
TKNZ	**Takaka Hill**	**1.64**	**343**	P	**Pb**	**17 07 51.2**	**-1.1**
MSWZ	**Moikau Station**	**1.72**	**47**	P	**Pn**	**17 07 51.2**	**-0.7**
MHCZ	**Mount Hutt**	**1.74**	**237**	P	**Pn**	**17 07 51.0**	**-1.3**
DUWZ	**D'Urville Isla**	**1.82**	**8**	P	**Pn**	**17 07 53.7**	**+0.4**
PAWZ	**Paruwai Farm**	**1.84**	**49**	P	**Pn**	**17 07 52.7**	**-0.9**
WACZ	**Wakanui South**	**1.84**	**223**	P	**Pn**	**17 07 52.9**	**-0.8**
CAW	**Cannon Point**	**1.86**	**37**	P	**Pn**	**17 07 53.3**	**-0.6**
QRZ	**Quartz Range**	**1.95**	**336**	P	**Pb**	**17 07 56.0**	**-1.5**
QRZ	**Quartz Range**	**1.95**	**336**	P	**Pn**	**17 07 55.6**	**+0.6**
TRWZ	**Traveller**	**1.98**	**53**	P	**Pn**	**17 07 54.6**	**-0.9**
KIW	**Kapiti Island**	**2.01**	**30**	P	**Pn**	**17 07 55.7**	**-0.2**
MTW	**Mount Morrison**	**2.04**	**45**	P	**Pn**	**17 07 55.2**	**-1.0**
OGWZ	**Otaki Gorge**	**2.15**	**34**	P	**Pn**	**17 07 57.2**	**-0.6**
RPZ	**Rata Peaks**	**2.16**	**238**	P	**Pn**	**17 07 57.2**	**-0.7**
RPZ	**Rata Peaks**	**2.16**	**238**	P	**Pn**	**17 07 56.9**	**-1.0**
ARCZ	**Arundel**	**2.21**	**232**	P	**Pn**	**17 07 57.6**	**-1.1**
HOWZ	**Holdsworth Sta**	**2.24**	**41**	P	**Pn**	**17 07 58.2**	**-0.8**
TMWZ	**Te Maipa**	**2.28**	**50**	P	**Pn**	**17 07 58.4**	**-1.2**
MRZ	**Mangatainoka R**	**2.45**	**38**	P	**Pn**	**17 08 00.9**	**-1.1**
GCSZ	**Gaunt Creek Bo**	**2.50**	**252**	P	**Pn**	**17 08 02.8**	**+0.2**
TMZ	**Timaru**	**2.58**	**226**	P	**Pn**	**17 08 03.1**	**-0.7**
PRWZ	**Pori Road**	**2.72**	**42**	P	**Pn**	**17 08 04.5**	**-1.2**
BFZ	**Birch Farm**	**2.77**	**47**	P	**Pn**	**17 08 04.9**	**-1.5**
BFZ	**Birch Farm**	**2.77**	**47**	P	**Pn**	**17 08 04.7**	**-1.7**
FOZ	**Fox Glacier**	**2.91**	**250**	P	**Pn**	**17 08 08.9**	**+0.7**
DVHZ	**Dannevirke**	**3.01**	**41**	P	**Pn**	**17 08 12.3**	**+2.6**
WAZ	**Wanganui**	**3.04**	**21**	P	**Pb**	**17 08 15.2**	**-0.9**
LBZ	**Lake Benmore**	**3.05**	**233**	P	**Pn**	**17 08 09.4**	**-0.8**
ODZ	**Otahua Downs**	**3.23**	**220**	P	**Pn**	**17 08 12.1**	**-0.6**
ODZ	**Otahua Downs**	**3.23**	**220**	P	**Pn**	**17 08 11.9**	**-0.9**
PRHZ	**Porangahau**	**3.28**	**45**	P	**Pn**	**17 08 13.3**	**0.0**
KHEZ	**Kahui Hut**	**3.33**	**6**	P	**Pn**	**17 08 16.4**	**+2.3**
KHEZ	**Kahui Hut**	**3.33**	**6**	P	**Pb**	**17 08 18.4**	**-2.7**
PKVZ	**Pokaka**	**3.57**	**22**	P	**Pn**	**17 08 21.0**	**+3.6**
VRZ	**Vera Road**	**3.59**	**15**	P	**Pn**	**17 08 19.7**	**+2.0**
WNVZ	**Wahianoa**	**3.62**	**26**	P	**Pn**	**17 08 19.5**	**+1.4**
TRVZ	**Turoa**	**3.62**	**25**	P	**Pn**	**17 08 20.3**	**+2.0**
BHHZ	**Black Hill Sta**	**3.64**	**32**	P	**Pn**	**17 08 18.2**	**-0.1**
WHVZ	**Whangaehu Hut**	**3.65**	**25**	P	**Pn**	**17 08 22.0**	**+3.3**
NGZ	**Ngauruhoe**	**3.75**	**25**	P	**Pn**	**17 08 23.5**	**+3.5**
SNVZ	**South Ngauruho**	**3.76**	**25**	P	**Pn**	**17 08 21.9**	**+1.9**
OTVZ	**Oturere**	**3.79**	**25**	P	**Pn**	**17 08 22.0**	**+1.6**
JCZ	**Jackson Bay**	**3.79**	**246**	P	**Pn**	**17 08 20.6**	**+0.1**
JCZ	**Jackson Bay**	**3.79**	**246**	P	**Pn**	**17 08 19.8**	**-0.7**
NNVZ	**North Ngauruho**	**3.80**	**25**	P	**Pn**	**17 08 22.4**	**+1.7**
WTVZ	**West Tongariro**	**3.81**	**24**	P	**Pb**	**17 08 26.9**	**-2.4**
ETVZ	**East Tongariro**	**3.83**	**26**	P	**Pn**	**17 08 23.6**	**+2.7**
KWHZ	**Kaweka Forest**	**3.84**	**35**	P	**Pn**	**17 08 22.5**	**+1.4**
TMVZ	**Te Maari**	**3.84**	**25**	P	**Pn**	**17 08 23.7**	**+2.5**
EAZ	**Earnscleugh**	**4.05**	**228**	P	**Pn**	**17 08 22.9**	**-1.0**
HIZ	**Hauiti**	**4.20**	**14**	P	**Pn**	**17 08 26.6**	**+0.5**
HIZ	**Hauiti**	**4.20**	**14**	P	**Pn**	**17 08 27.5**	**+1.4**
MLZ	**Mavora Lakes**	**4.81**	**233**	P	**Pn**	**17 08 32.8**	**-1.6**
URZ	**Urewera**	**5.11**	**33**	P	**Pn**	**17 08 38.1**	**-0.4**
AWAZ	**Awhitu Peninsu**	**5.60**	**9**	P	**Pn**	**17 08 45.7**	**+0.5**
WIAZ	**Waiheke Island**	**5.93**	**12**	P	**Pn**	**17 08 50.4**	**+0.7**

*SOME **21** 17:15:19.1, 39°.58N×72°.98E, h20km*
*KRNET **21** 17:15:22.7±0.1, 39°.48N×73°.53E, mb2.8*
NNC 21 17:15:24.2±4.3, 39°.63N×73°.65E, h0km, mb3.4, mpv3.0, 16C-2D, Error ellipse: s-maj=30.6km s-min=16.5km az=0.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.11**	**323**	↑*i*P	Pg	17 15 45.3	-0.2
	baz=32						
OHH				↑*i*S	Sb	17 16 01.9	+0.4
	baz=32						
DRK	**Karamyk**	**1.44**	**265**	↑*i*P	Pg	17 15 48.1	-3.7
	baz=71						
DRK				↑*i*S	Sg	17 16 06.5	-4.0
	baz=71						
BTK	**Batken**	**2.22**	**282**	↑*i*P	Pn	17 16 01.8	-0.6
	baz=86						
BTK				↑*i*S	Sn	17 16 30.5	-0.2
	baz=86						
ARLS	**Aral**	**2.28**	**13**	↑*i*P	Pb	17 16 05.7	-0.7
	baz=14						
ARLS				↑*i*S	Sg	17 16 37.2	-0.4
	baz=14						
ARK	**Arkit**	**2.52**	**330**	↓*i*P	Pn	17 16 08.0	+1.5
	baz=33						
ARK				↓*i*S	Sb	17 16 41.1	-0.8
	baz=33						
GAR	**Garm**	**2.67**	**257**	↑*i*P	Pn	17 16 07.1	-1.4
	baz=60						
GAR				↑*i*S	Sn	17 16 39.4	-2.2
	baz=60						
UCH	**Uchtor**	**2.67**	**14**	↑*i*P	Pb	17 16 11.5	-1.7
	baz=15						
UCH				↑*i*S	Sb	17 16 47.2	+0.5
	baz=15						
TRKS	**Terek-Say**	**2.69**	**316**	↑*i*P	Pn	17 16 09.0	0.0
	baz=19						
TRKS				↑*i*S	Sn	17 16 42.8	+0.4
	baz=19						
MRKS	**Merke**	**3.13**	**354**	*e*P	Pn	17 16 17.3	+2.4
	1.0nm,0.2s						
MRKS				*e*S	Sb	17 16 58.8	-0.6
	3.3nm,0.5s						
MRKS	**Merke**	**3.13**	**354**	Pg	Pn	17 16 17.3	+2.4
	1.0nm,0.2s						
MRKS				Lg	Lg	17 16 58.8	
	3.3nm,0.5s						
IUG	**Iuzhnay**	**3.72**	**314**	*e*P	Pn	17 16 19.9	-3.1
	2.4nm,0.6s						
IUG				*e*S	Sn	17 17 03.8	-3.9
	3.9nm,0.5s						
IUG	**Iuzhnay**	**3.72**	**314**	Pg	Pn	17 16 24.1	+1.0
	4.9nm,0.3s						
IUG				Lg	Lg	17 17 10.9	
	3.9nm,0.5s						
KST	**Kastek**	**3.83**	**26**	*e*P	Pb	17 16 34.4	+1.8
	2.7nm,0.5s						
KST				*e*S	Sg	17 17 28.1	+1.0
	4.9nm,0.8s						
KST	**Kastek**	**3.83**	**26**	Pg	Pb	17 16 34.4	+1.8
	2.7nm,0.5s						
KST				Lg	Lg	17 17 28.1	
	4.9nm,0.8s						
SGDS	**Sogindy**	**3.89**	**11**	*e*P	Pb	17 16 35.0	+1.4
	0.9nm,0.4s						
SGDS				*e*S	Sg	17 17 29.4	+0.3
	2.2nm,0.6s						
SGDS	**Sogindy**	**3.89**	**11**	Pg	Pb	17 16 35.0	+1.4
	0.9nm,0.4s						
SGDS				Lg	Lg	17 17 29.4	
	2.2nm,0.6s						
KK31	**Karatay Array**	**4.20**	**327**	↑Pn	Pn	17 16 30.4	+0.9
	0.3nm,0.5s,baz=138,slow=14,SNR=5.7						
KK31				↑Sn	Sn	17 17 22.7	+3.5
	0.4nm,0.3s,baz=138,slow=14						
KK31				Lg	Lg	17 17 36.6	
	1.2nm,0.5s,baz=138,slow=14,SNR=3.8						
TNSS	**Tian-Shan**	**4.21**	**35**	*e*P	Pb	17 16 41.0	+1.6
	1.8nm,0.3s						
TNSS				*e*S	Sg	17 17 40.5	+1.1
	4.0nm,0.5s						
TNSS	**Tian-Shan**	**4.21**	**35**	Pg	Pb	17 16 41.0	+1.6
	1.8nm,0.3s						
TNSS				Lg	Lg	17 17 40.5	
	4.0nm,0.5s						
MDOK	**Medeo**	**4.35**	**35**	*e*P	Pb	17 16 43.5	+1.8
	1.7nm,0.4s						
MDOK				*e*S	Sg	17 17 44.4	+0.3
	2.6nm,1.1s						
MDOK	**Medeo**	**4.35**	**35**	Pg	Pb	17 16 43.5	+1.8
	1.7nm,0.4s						
MDOK				Lg	Lg	17 17 44.4	
	2.6nm,1.1s						
KOTS	**Kotyrbulak**	**4.44**	**35**	*e*P	Pb	17 16 46.0	+2.9
	1.2nm,0.5s						
KOTS				*e*S	Sg	17 17 48.4	+1.6
	4.4nm,0.5s						
KOTS	**Kotyrbulak**	**4.44**	**35**	Pg	Pb	17 16 46.0	+2.9
	1.2nm,0.5s						
KOTS				Lg	Lg	17 17 48.4	
	4.4nm,0.5s						
KTBS	**Karatobe**	**4.66**	**28**	*e*P	Pb	17 16 48.9	+2.0
	0.6nm,0.3s						
KTBS				*e*S	Sg	17 17 53.1	-0.9
	3.2nm,0.5s						
KTBS	**Karatobe**	**4.66**	**28**	Pg	Pb	17 16 48.8	+2.0
	0.6nm,0.3s						
KTBS				Lg	Lg	17 17 53.1	
	3.2nm,0.5s						
KUU	**Kurty**	**4.71**	**24**	*e*P	Pb	17 16 49.7	+2.1
	0.7nm,0.3s						
KUU				*e*S	Sg	17 17 54.9	-0.5
	1.9nm,0.6s						
KUU	**Kurty**	**4.71**	**24**	Pg	Pb	17 16 49.7	+2.1
	0.7nm,0.3s						
KUU				Lg	Lg	17 17 54.9	
	1.9nm,0.6s						

*IDC **21** 17:33:38.6±0.7, 23°.39N×65°.14E, h0km, mb4.0/23, mbtmp4.0/25, ML3.4/2, MS3.5/31, Error ellipse: s-maj=16.0km s-min=14.0km az=164.0*
*MOS **21** 17:33:39.6±1.1, 23°.53N×65°.08E, h16km, mb4.5/13, Error ellipse: s-maj=16.0km s-min=8.5km az=96.2*
*NEIC **21** 17:33:41.7±1.4, 23°.6N±0°.1×65°.00E±0°.09, h10km±2km, mb4.3/24, Error ellipse: s-maj=19.8km s-min=13.7km az=170.0*
*DSN **21** 17:33:44.5±2.2, 23°.98N×64°.95E, h10km, mb4.8/1, ML3.8/7, Ms2.9/8, Error ellipse: s-maj=42.9km s-min=8.6km az=159.0*
ISC 21 17:33:39.8±0.5, 23°.52N±0°.07×65°.23E±0°.04, h10km, n148, σ2s09/123, mb4.2/38, MS3.5/32, 5C, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**4.08**	**93**	*e*P	**Pn**	**17 34 43.5**	**+1.2**
BHUJ				*e*S	**Sn**	**17 35 27.9**	**-2.1**
BHUJ				IAML		17 35 31.8	
	comp=E,329nm,0.4s						
BHUJ				IAML		17 35 32.0	
	comp=N,393nm,0.5s						
WSAR	**Wadi Sarin**	**6.07**	**269**	Pn	**Pn**	**17 35 08.6**	**-1.0**
	comp=N,4.1nm,0.3s,baz=126,slow=11,SNR=108						
WSAR				Sn	**Sn**	**17 36 11.8**	**-7.4**
	comp=N,1.2nm,0.3s,baz=52,slow=16,SNR=1.7						
	comp=N,8.9nm,0.3s						
MDH	**Madha**	**8.33**	**284**	P	**Pn**	**17 35 40.4**	**-0.3**
UOSS	**Minazif**	**8.36**	**282**	Pn	**Pn**	**17 35 39.0**	**-2.0**
UOSS	**Minazif**	**8.36**	**282**	P	**Pn**	**17 35 38.8**	**-2.3**
HATD	**Hatta, Dubai**	**8.41**	**281**	P	**Pn**	**17 35 43.0**	**+1.3**
ASHO	**Ashiyiah**	**8.46**	**280**	P	**Pn**	**17 35 44.2**	**+1.7**
ASHO				S	**Sn**	**17 37 14.9**	**-3.2**
BANOM	**Banah**	**8.46**	**288**	P	**Pn**	**17 35 42.0**	**-0.6**
MSFE	**Esma-Masafi**	**8.46**	**284**	P	**Pn**	**17 35 43.3**	**+0.7**
SHME	**Shamm**	**8.63**	**289**	P	**Pn**	**17 35 44.7**	**-0.2**
FAQ	**Al Faqa, Dubai**	**8.89**	**280**	P	**Pn**	**17 35 50.0**	**+1.7**
AJM	**Ajmer**	**9.04**	**69**	*e*P	**Pn**	**17 35 50.7**	**+0.3**
ASUD	**Al Ashush, Dub**	**9.11**	**279**	P	**Pn**	**17 35 51.3**	**-0.2**
POO	**Poona**	**9.46**	**120**	*ex*	x	17 35 51.0	
THW	**Thaname Wali**	**10.88**	**30**	P	**Pn**	**17 36 16.2**	**+0.5**
KUDL	**Kundal**	**11.14**	**63**	*e*P	**Pn**	**17 36 18.4**	**-0.7**
HRA	**Herat**	**11.14**	**347**	Pn	**Pn**	**17 36 18.5**	**-0.9**
BHPL	**Bhopal**	**11.21**	**89**	*e*P	**Pn**	**17 36 19.0**	**-1.2**
BHPL				*e*S	**Sn**	**17 38 19.4**	**-6.3**
BHPL				IAML		17 38 25.4	
	comp=E,77nm,0.4s						
BHPL				IAML		17 38 39.5	
	comp=N,155nm,0.5s						
AKL	**Akola**	**11.28**	**102**	*e*P	**Pn**	**17 36 20.6**	**-0.5**
KBL	**Kabul**	**11.48**	**16**	Pn	**Pn**	**17 36 25.5**	**+1.4**
CEP	**Cherat**	**11.82**	**28**	P	**Pn**	**17 36 30.2**	**+1.5**
JHNI	**Jhansi**	**12.28**	**78**	*e*P	**Pn**	**17 36 36.0**	**+1.2**
NIL	**Nilore**	**12.31**	**33**	Pn	**Pn**	**17 36 35.4**	**+0.2**
JMU	**Jammu**	**12.52**	**41**	*e*P	**Pn**	**17 36 38.6**	**+0.6**
BHK	**Bhakra**	**12.67**	**49**	*e*P	**Pn**	**17 36 40.1**	**0.0**
BHK				*e*S	**Sn**	**17 38 56.5**	**-4.8**
SMLA	**Simla**	**13.04**	**52**	*e*P	**Pn**	**17 36 45.9**	**+0.8**
SMLA				*e*S	**Sn**	**17 39 03.9**	**-6.4**
HYBB	**Hyderabad (bro**	**13.88**	**113**	*e*P	**Pn**	**17 36 54.7**	**-2.0**
LGTI	**Lohaghat**	**14.69**	**63**	*e*P	**Pn**	**17 37 04.4**	**-3.3**
LGTI				*e*S	**Sn**	**17 39 43.2**	**-7.2**
LGTI				*e*S	**Sn**	**17 39 43.3**	**-7.2**
PTH	**Pithoragarh**	**14.70**	**63**	*e*P	**Pn**	**17 37 06.9**	**-1.1**
PTH				*e*S	**Sn**	**17 39 46.8**	**-4.2**
CHGR	**Chuyangaron**	**15.46**	**12**		**Pn**	**17 37 20.0**	**+1.9**
CHGR				IAmb	IAmb	17 37 30.9	
	comp=Z,16nm,0.7s						
GEYT	**Alibeck**	**15.61**	**339**	Pn	**Pn**	**17 37 21.4**	**+1.5**
	baz=150,slow=12,SNR=7.2						
	comp=Z,4.7nm,1.0s						
GAR	**Garm**	**16.03**	**14**	P	**Pn**	**17 37 27.2**	**+1.7**
DRK	**Karamyk**	**16.86**	**18**	Pn	**Pn**	**17 37 36.4**	**+0.1**
DRK				IAmb	IAmb	17 37 45.5	
	comp=Z,23nm,1.1s						
BTK	**Batken**	**17.16**	**15**		**Pn**	**17 37 40.7**	**+0.9**
VLK	**Valmikinagar**	**17.26**	**73**	*e*P	**P**	**17 37 44.8**	**+2.3**
DANN	**Dangsing**	**17.35**	**70**	*e*P	**P**	**17 37 44.3**	**+0.5**
	comp=Z,60nm,0.9s						
DANN	**Dangsing**	**17.35**	**70**	*e*P	**P**	**17 37 44.5**	**+0.7**
	comp=Z,60nm,0.9s						
GKN	**Gorkha**	**18.04**	**72**	*e*P	**Pn**	**17 37 51.5**	**+0.6**
	comp=Z,100nm,1.2s						
GKN	**Gorkha**	**18.04**	**72**	*e*P	**P**	**17 37 52.2**	**+0.8**
	comp=Z,100nm,1.2s						
DMN	**Daman**	**18.39**	**73**	*e*P	**Pn**	**17 37 53.6**	**-1.7**
	comp=Z,9.6nm,0.4s						
DMN	**Daman**	**18.39**	**73**	*e*P	**Pn**	**17 37 54.2**	**-1.1**
KKN	**Kakani**	**18.57**	**73**	*e*P	**P**	**17 37 56.7**	**-0.5**
PKIN	**Phulchoki**	**18.64**	**73**	*e*P	**P**	**17 37 56.5**	**-1.6**
	comp=Z,25nm,0.8s						
PKIN

KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,23nm,15.0s
EIL Elat 27.71 289 LR LR 17 52 42.5
comp=Z,86nm,19.4s,baz=64,slow=41
KURBB Kurchatov Arra 28.97 18 P **P 17 39 41.1 +1.7**
comp=Z,1.6nm,0.9s,baz=212,slow=8.9,SNR=5.9
comp=Z,1.6nm,0.9s
KURK Kurchatov 29.08 18 *i* P **P 17 39 41.4 +1.0**
KURK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 29.73 6 P **P 17 39 48.1 +2.0**
comp=Z,1.8nm,0.6s,baz=177,slow=8.9,SNR=11
BVAR LR LR 17 54 08.3
comp=Z,102nm,20.7s,baz=190,slow=41
comp=Z,1.8nm,0.6s
BRVK Borovoye 29.75 6*ce*P **P 17 39 48.2 +1.9**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
ANN Anapa 31.05 320 *e*P P 17 39 43.9 -14
ANN *e**PP pP 17 39 53.1 -7.2
ANN *e* 17 40 56.3
ANN pmax pmax
comp=Z,110nm,1.4s
BRTR Keskin Array B 31.18 309 P **P 17 39 59.5 +0.3**
comp=Z,0.4nm,0.6s,baz=103,slow=5.2,SNR=2.3
BRTR LR LR 17 54 57.4
comp=Z,106nm,18.1s,baz=122,slow=41
comp=Z,0.4nm,0.6s
DGZ Jazzator, Alta 31.40 28 *i* P **P 17 39 58.6 -2.5**
DGZ pmax pmax
comp=Z,7.0nm,2.0s
CHTO Chiang Mai 31.74 92 P **P 17 40 06.9 +2.6**
CHTO IAmb IAmb 17 40 07.6
comp=Z,4.4nm,1.1s
BELG Belogornoye 31.82 339 LR LR 17 56 38.4
comp=Z,104nm,19.0s,baz=189,slow=43
CMAR Chiang Mai Arr 31.83 93 P **P 17 40 06.3 +1.2**
comp=Z,0.2nm,0.3s,baz=274,slow=8.6,SNR=8.9
CMAR LR LR 17 55 13.8
comp=Z,90nm,18.2s,baz=265,slow=41
comp=Z,0.2nm,0.3s
CMAR Chiang Mai Arr 31.83 93 P **P 17 40 07.9 +2.8**
CMAR Chiang Mai Arr 31.83 93 *i* P **P 17 40 08.3 +3.2**
PHRA Phrae 33.00 92 P **P 17 40 17.9 +2.6**
SIM Simferopol' 33.13 318 *e*P **P 17 40 16.1 -0.1**
SIM pmax pmax
comp=Z,49nm,0.6s
ARU Arti 33.24 353 LR LR 17 55 58.3
comp=Z,98nm,19.3s,baz=172,slow=40
ZALV Zalesovo Beam 33.78 21 P **P 17 40 22.8 +1.1**
comp=Z,0.9nm,0.4s,baz=228,slow=10,SNR=7.4
ZALV LR LR 17 56 28.4
comp=Z,61nm,19.2s,baz=222,slow=40
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 33.78 21 P **P 17 40 22.6 +0.9**
ZALV Zalesovo Beam 33.78 21 *e*P **P 17 40 23.1 +1.4**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
VORR Voronezh 34.50 331 *e*P **P 17 40 27.1 -0.9**
VORR pmax pmax
comp=Z,60nm,0.5s
IDI Anoyia 36.81 298 LR LR 18 00 31.4
comp=Z,42nm,18.9s,baz=112,slow=44
KIRV Kirov 36.81 346*ce*P **P 17 40 49.2 +1.5**
AKASG Malin Array Be 38.88 323 P **P 17 41 06.3 +1.0**
comp=Z,0.9nm,0.7s,baz=120,slow=7.2,SNR=4.9
AKASG LR LR 18 01 00.6
comp=Z,41nm,18.1s,baz=92,slow=42
comp=Z,0.9nm,0.7s
BURAR Bucovina Array 39.84 317 P **P 17 41 13.2 -0.3**
BUR08 Bucovina Ar. S 39.86 317 P **P 17 41 15.2 +1.5**
BUR08 IAmb IAmb 17 41 34.4
comp=Z,5.2nm,1.0s
FNA Florina 40.46 306 P **P 17 41 16.7 -2.0**
SONM Songino Array 40.65 43 P **P 17 41 22.6 +2.4**
comp=Z,2.8nm,0.8s,baz=243,slow=7.0,SNR=22
SONM LR LR 18 01 36.7
comp=Z,60nm,18.8s,baz=188,slow=41
comp=Z,2.8nm,0.8s
SONM Songino Array 40.65 43 P 17 41 23.6 +3.4
SONM Songino Array 40.65 43 *e*P **P 17 41 23.6 +3.4**
SONM pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 41.07 43 P **P 17 41 26.0 +2.2**
KLMR Klimovskoe 41.34 341 *e*P **P 17 41 25.7 +0.2**
KLMR AMP 17 41 45.6
comp=Z,22nm,1.6s
KLMR Klimovskoe 41.34 341 *e*P **P 17 41 25.7 +0.2**
KLMR pmax pmax
comp=Z,22nm,1.6s
VRAC Vranov 45.81 317 LR LR 18 05 53.0
comp=Z,23nm,18.1s,baz=140,slow=42
FINES FINESS Array B 46.37 335 P **P 17 42 06.8 +0.8**
comp=Z,3.0nm,0.9s,baz=136,slow=8.8,SNR=9.0
FINES LR LR 18 03 39.4
comp=Z,40nm,19.0s,baz=262,slow=39
comp=Z,3.0nm,0.9s
FINES FINESS Array B 46.37 335 *i* P **P 17 42 07.0 +1.0**
FINES pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 47.54 315 P **P 17 42 15.4 0.0**
comp=Z,0.3nm,0.5s,baz=118,slow=7.9,SNR=1.7
comp=Z,0.3nm,0.5s
NRIK Noril'sk 47.76 10 P **P 17 42 18.1 +1.4**
comp=Z,1.0nm,0.4s,baz=207,slow=2.3,SNR=1.1
NRIK LR LR 18 06 39.3
comp=Z,92nm,18.2s,baz=196,slow=41
comp=Z,1.0nm,0.4s
NRIK Noril'sk 47.76 10 *i* P **P 17 42 17.3 +0.6**
NRIK pmax pmax
comp=Z,14nm,3.0s
CLL Collm 48.56 319 *e*Px Px 17 42 26.0
DAVOX Davos/Dischmat 49.69 312 LR LR 18 06 01.0
comp=Z,50nm,18.3s,baz=84,slow=39
HFS Hagfors 51.00 330 LR LR 18 05 21.7
comp=Z,29nm,21.7s,baz=82,slow=37
ARCES ARCESS Array B 51.70 343 P **P 17 42 47.6 +0.8**
comp=Z,1.2nm,0.5s,baz=133,slow=7.1,SNR=9.1
ARCES LR LR 18 09 06.9
comp=Z,89nm,18.6s,baz=112,slow=41
comp=Z,1.2nm,0.5s
ARCES ARCESS Array B 51.70 343 *e*P **P 17 42 47.7 +0.9**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 52.48 330 P **P 17 42 53.0 +0.3**
comp=Z,1.5nm,0.8s,baz=112,slow=7.4
NOA NORSAR Array B 52.48 330 P **P 17 42 52.9 +0.3**
comp=Z,0.9nm,0.8s,baz=110,slow=7.4,SNR=4.1
comp=Z,0.9nm,0.8s
KSRS Korea Array 54.88 60 P **P 17 43 11.4 +0.9**
comp=Z,2.0nm,0.7s,baz=270,slow=8.0,SNR=8.1
KSRS LR LR 18 08 25.2
comp=Z,59nm,19.6s,baz=275,slow=38
comp=Z,2.0nm,0.7s
KLR Kul'dur 57.36 46*ce*P **P 17 43 28.3 +0.1**
KLR pmax pmax
comp=Z,21nm,2.5s
SPITS Spitsbergen Ar 59.15 350 LR LR 18 14 55.9
comp=Z,32nm,18.9s,baz=96,slow=42
TIXI Tiksi 59.64 19 LR LR 18 14 02.9
comp=Z,78nm,18.2s,baz=67,slow=41
TORD Torodi Ar. Bea 60.78 272 P **P 17 43 52.9 +0.5**
comp=Z,0.9nm,0.8s,baz=81,slow=6.5,SNR=4.9
TORD LR LR 18 12 36.3
comp=Z,30nm,19.4s,baz=218,slow=38
comp=Z,0.9nm,0.8s
TSUM Tsumeb 62.95 232 LR LR 18 12 07.3
comp=Z,52nm,18.5s,baz=150,slow=37
BOSA Boshof 64.56 219 P **P 17 44 17.1 -0.4**
comp=Z,6.2nm,0.8s,baz=36,slow=5.6,SNR=8.5
comp=Z,6.2nm,0.8s
BORG Borgarnes 67.54 332 LR LR 18 16 38.2
comp=Z,22nm,18.8s,baz=10,slow=38
MA2 Magadan 67.80 33 LR LR 18 16 36.5
comp=Z,45nm,18.6s,baz=98,slow=38
DBIC Dimbokro 69.12 268 LR LR 18 16 58.4
comp=Z,70nm,18.1s,baz=78,slow=38
SFJD Kangerlussuaq 78.02 339 LR LR 18 21 58.6
comp=Z,35nm,19.6s,baz=28,slow=37
WRA Warramunga Arr 80.02 117 P **P 17 45 50.0 +0.1**
comp=Z,0.6nm,0.8s,baz=310,slow=4.7,SNR=5.5
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 80.02 117 *i* P **P 17 45 51.4 +1.5**
WRA pmax pmax
comp=Z,1.0nm,0.7s
RES Resolute Bay 81.20 355 LR LR 18 27 18.6
comp=Z,34nm,18.5s,baz=5.5,slow=40
ASAR Alice Springs 81.51 120 P **P 17 45 58.5 +0.6**
comp=Z,0.7nm,0.9s,baz=310,slow=5.0,SNR=5.7
comp=Z,0.7nm,0.9s
ILAR Eielson Array 88.55 13 P **P 17 46 33.0 +0.4**
comp=Z,0.5nm,0.6s,baz=316,slow=4.3,SNR=7.6
comp=Z,0.5nm,0.6s
ILAR Eielson Array 88.55 13 *e*P **P 17 46 32.4 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 126.38 348 PKP **PKPdf 17 52 43.9 +0.2**
comp=Z,0.3nm,0.8s,baz=169,slow=1.3,SNR=4.5
CPUP Villa Florida 128.19 254 PKP **PKPdf 17 52 46.6 -0.3**
comp=Z,0.9nm,0.6s,baz=120,slow=7.9,SNR=2.8

*IDC **21** 17:35:23.5±1.5,8.°64S×150.°16E,h0km,mb3.6/3,*
mbtmp3.6/5,ML3.5/1,Error ellipse: s-maj=47.9km
s-min=28.9km az=138.0
ISC 21 17:35:24.4±1.1,8.°5S±0.°1×150.°2E±0.°1,h10km,n7,σ1s54/8,
mb3.9/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.11**	**253**	Pn	**Pn**	**17 36 14.7**	**+1.2**
	16nm,0.3s,baz=34,slow=7.7,SNR=18						
PMG				Sn	**Sb**	**17 36 57.0**	**-0.8**
	14nm,0.3s,baz=216,slow=16,SNR=5.9						
KRVT	**Keravat (AS076**	**4.57**	**24**	Sn	**Sb**	**17 37 38.5**	**-1.6**
	4.1nm,0.3s,baz=256,slow=22,SNR=5.6						
WRA	**Warramunga Arr**	**19.07**	**232**	P	**Pn**	**17 39 47.0**	**-1.0**
	0.2nm,0.3s,baz=56,slow=10,SNR=12						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**21.67**	**224**	P	**P**	**17 40 14.0**	**-1.5**
	0.9nm,0.6s,baz=55,slow=9.2,SNR=28						
	0.9nm,0.6s						
VNDA	**Vanda**	**69.24**	**177**	P	**P**	**17 46 30.9**	**-0.3**
	0.6nm,0.7s,baz=342,slow=5.0,SNR=3.5						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**86.57**	**22**	P	**P**	**17 48 09.6**	**+2.0**
	0.8nm,1.0s,baz=256,slow=5.5,SNR=3.5						
	0.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**148.72**	**281**	PKPbc	**PKPbc**	**17 55 12.9**	**-0.2**
	0.2nm,0.4s,baz=101,slow=2.9,SNR=2.3						

*ROM **21** 17:42:27.1±0.1,42.°976N±0.°003×13.°069E±0.°004,*
h9km,ML2.8/33,Error ellipse: s-maj=0.3km s-min=0.2km
az=36.0
*PRU **21** 17:42:28.5±0.0,42.°98N×14.°61E,h10km*
ISC 21 17:42:27.6±0.8,42.°98N±0.°02×13.°10E±0.°02,h7km±5km,
n74,σ1s22/108,32C-14D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.04**	**237**	⇑P	**Pg**	**17 42 28.8**	**-0.4**
FEMA				S	**Sg**	**17 42 29.7**	**-0.6**
T1219	**Muccia, Frazio**	**0.10**	**318**	⇑P	**Pg**	**17 42 29.8**	**-0.1**
T1219				S	**Sg**	**17 42 31.8**	**+0.3**
T1219				AML	AML		
	comp=N,36300μm,0.2s						
T1219				AML	AML		
	comp=N,33850μm,0.2s						
T1219				AML	AML		
	comp=E,27400μm,0.6s						
T1219				AML	AML		
	comp=N,36350μm,0.2s						
T1219				AML	AML		
	comp=E,30000μm,0.2s						
T1219				AML	AML		
	comp=N,33800μm,0.2s						
T1219				AML	AML		
	comp=E,27400μm,0.6s						
T1219				AML	AML		
	comp=E,30050μm,0.3s						
T1219				AML	AML		
	comp=E,30000μm,0.3s						
T1256	**Bolognola (MC)**	**0.10**	**77**	⇑P	**Pg**	**17 42 30.3**	**+0.3**
T1256				S	**Sg**	**17 42 33.1**	**+1.5**
T1256				AML	AML		
	comp=E,13050μm,0.5s						
T1256				AML	AML		
	comp=E,13050μm,0.5s						
T1256				AML	AML		
	comp=N,12500μm,0.8s						
T1256				AML	AML		
	comp=N,12300μm,0.3s						
T1256				AML	AML		
	comp=N,12250μm,0.3s						
T1256				AML	AML		
	comp=E,13300μm,0.5s						
T1256				AML	AML		
	comp=N,12500μm,0.8s						
T1256				AML	AML		
	comp=E,13100μm,0.5s						
T1216	**Preci, Frazion**	**0.11**	**211**	P	**Pg**	**17 42 30.0**	**-0.1**
T1216				S	**Sg**	**17 42 32.0**	**+0.3**
T1216				AML	AML		
	comp=E,29250μm,0.4s						
T1216				AML	AML		
	comp=E,29300μm,0.4s						
T1216				AML	AML		
	comp=E,29250μm,0.4s						
T1216				AML	AML		
	comp=N,34200μm,0.2s						
CSP1	**Cessapalombo**	**0.13**	**36**	⇑P	**Pg**	**17 42 30.9**	**+0.4**
CSP1				S	**Sg**	**17 42 33.7**	**+1.2**
CSP1				AML	AML		
	comp=N,17400μm,0.6s						
CSP1				AML	AML		
	comp=N,17450μm,0.6s						
CSP1				AML	AML		
	comp=E,13600μm,0.4s						
CESI	**CESI - Serrava**	**0.14**	**278**	⇑P	**Pg**	**17 42 30.7**	**0.0**
CESI				S	**Sg**	**17 42 33.2**	**+0.6**
CESI				AML	AML		
	comp=E,17950μm,0.3s						
CESI				AML	AML		
	comp=N,22900μm,0.3s						
T1245	**Castelsantange**	**0.14**	**152**	P	**Pg**	**17 42 30.9**	**+0.2**
T1245				S	**Sg**	**17 42 33.9**	**+1.1**
T1245				AML	AML		
	comp=E,29900μm,0.8s						
T1245				AML	AML		
	comp=E,31000μm,0.8s						
T1245				AML	AML		
	comp=N,32600μm,1.3s						
T1245				AML	AML		
	comp=N,31850μm,1.3s						
T1245				AML	AML		
	comp=E,29950μm,0.8s						
T1245				AML	AML		
	comp=N,32600μm,1.3s						
NRCA	**Norcia**	**0.15**	**175**	⇑P	**Pg**	**17 42 31.0**	**+0.2**
NRCA				S	**Sg**	**17 42 33.8**	**+0.9**
NRCA				AML	AML		
	comp=E,15750μm,1.4s						
NRCA				AML	AML		
	comp=N,15250μm,1.1s						
NRCA				AML	AML		
	comp=E,16900μm,1.4s						
NRCA				AML	AML		
	comp=E,15750μm,1.4s						
NRCA				AML	AML		
	comp=N,14050μm,1.2s						
MMO1	**Montemonaco**	**0.19**	**117**	P	**Pg**	**17 42 31.9**	**+0.4**
MMO1				S	**Sg**	**17 42 35.5**	**+1.5**
GUMA	**Gualdo di Mace**	**0.19**	**66**	⇑P	**Pg**	**17 42 32.4**	**+0.9**
GUMA				S	**Sg**	**17 42 36.6**	**+2.5**
GUMA				AML	AML		
	comp=E,26200μm,0.5s						
GUMA				AML	AML		
	comp=N,15550μm,0.5s						
GUMA				AML	AML		
	comp=N,15500μm,0.5s						
GUMA				AML	AML		
	comp=E,17050μm,0.5s						
GUMA				AML	AML		
	comp=N,24650μm,0.5s						
GUMA				AML	AML		
	comp=E,26200μm,0.5s						
SEF1	**Sefro**	**0.20**	**326**	⇓P	**Pg**	**17 42 31.8**	**+0.2**
SEF1				S	**Sg**	**17 42 35.2**	**+1.0**
SEF1				AML	AML		
	comp=E,14350μm,0.3s						
SEF1				AML	AML		
	comp=N,9415μm,0.6s						
SEF1				AML	AML		
	comp=E,14350μm,0.3s						
SEF1				AML	AML		
	comp=N,9420μm,0.6s						
T1215	**Vallo di Nera,**	**0.25**	**223**	⇑P	**Pg**	**17 42 32.6**	**0.0**
T1215				S	**Sg**	**17 42 36.7**	**+0.9**
T1215				AML	AML		
	comp=E,3375μm,0.7s						
T1215				AML	AML		
	comp=E,3310μm,0.7s						
T1215				AML	AML		
	comp=N,2550μm,0.3s						
T1215				AML	AML		
	comp=N,2560μm,1.0s						
T1215				AML	AML		
	comp=E,3316μm,0.7s						
T1215				AML	AML		
	comp=N,2556μm,0.3s						
T1215				AML	AML		
	comp=N,2555μm,0.3s						
T1215				AML	AML		
	comp=E,3380μm,0.7s						
T1215				AML	AML		
	comp=E,3315μm,0.7s						
T1215				AML	AML		
	comp=N,2565μm,1.0s						
T1241	**Roccafluvione,**	**0.28**	**117**	⇑P	**Pg**	**17 42 33.5**	**+0.4**
T1241				S	**Sg**	**17 42 38.6**	**+1.9**
T1241				AML	AML		
	comp=N,4030μm,0.5s						
T1241				AML	AML		
	comp=N,4045μm,0.8s						
T1241				AML	AML		
	comp=E,5210μm,0.4s						
T1241				AML	AML		
	comp=E,5330μm,0.5s						
T1241				AML	AML		
	comp=N,4030μm,0.5s						
T1241				AML	AML		
	comp=E,5205μm,0.4s						
SNTG	**Esanatoglia**	**0.29**	**337**	P	**Pg**	**17 42 33.5**	**0.0**
SNTG				S	**Sb**	**17 42 39.0**	**-1.5**
SNTG				AML	AML		
	comp=E,2255μm,0.1s						
SNTG				AML	AML		
	comp=E,2290μm,0.1s						
SNTG				AML	AML		
	comp=N,2625μm,0.5s						
SNTG				AML	AML		
	comp=N,2630μm,0.5s						
T1218	**Civita (PG)**	**0.31**	**177**	P	**Pg**	**17 42 33.8**	**0.0**
T1218				AML	AML		
	comp=E,2025μm,0.4s						
T1218				AML	AML		
	comp=N,3935μm,0.4s						
T1218				AML	AML		
	comp=E,2180μm,0.4s						
T1218				AML	AML		
	comp=N,3890μm,0.4s						
T1218				AML	AML		
	comp=E,2028μm,0.4s						
T1218				AML	AML		
	comp=N,3948μm,0.4s						
T1218				AML	AML		
	comp=E,2030μm,0.4s						
T1218				AML	AML		
	comp=N,3945μm,0.4s						
T1218				AML	AML		
	comp=N,3895μm,0.4s						
T1218				AML	AML		
	comp=E,2180μm,0.4s						
EL6	**Elcito**	**0.34**	**1**	⇓P	**Pb**	**17 42 34.7**	**-1.5**
LNSS	**Leonessa**	**0.38**	**186**	P	**Pg**	**17 42 35.2**	**+0.1**
LNSS				AML	AML		
	comp=N,3440μm,0.6s						
LNSS				AML	AML		
	comp=E,1195μm,1.2s						
T1243	**Rocca Santa Ma**	**0.39**	**138**	⇑P	**Pg**	**17 42 35.2**	**0.0**
ATCC	**AVT- Casa Cast**	**0.39**	**301**	⇑P	**Pg**	**17 42 35.2**	**0.0**
ATCC				AML	AML		
	comp=E,2950μm,0.3s						
ATCC				AML	AML		
	comp=N,3510μm,0.5s						
SMA1	**SAN MARTINO**	**0.40**	**153**	⇓P	**Pg**	**17 42 35.4**	**0.0**
SMA1				AML	AML		
	comp=N,3080μm,0.5s						
SMA1				AML	AML		
	comp=E,3805μm,0.3s						
SMA1				AML	AML		
	comp=N,3085μm,0.5s						
FOSV	**Fossato di Vic**	**0.40**	**322**	⇑P	**Pg**	**17 42 35.4**	**+0.1**
FOSV				AML	AML		
	comp=E,2265μm,0.4s						
FOSV				AML	AML		
	comp=N,4555μm,0.3s						
FOSV				AML	AML		
	comp=E,2270μm,0.4s						
CING	**Cingoli**	**0.40**	**10**	⇑P	**Pb**	**17 42 35.6**	**-1.5**
CING				AML	AML		
	comp=N,1600μm,1.0s						
CING				AML	AML		
	comp=E,2445μm,1.1s						
OFFI	**Offida**	**0.44**	**96**	⇑P	**Pb**	**17 42 37.3**	**-0.4**
OFFI				AML	AML		
	comp=N,4610μm,0.5s						
OFFI				AML	AML		
	comp=E,3440μm,1.0s						
ARRO	**Arrone**	**0.47**	**211**	⇑P	**Pg**	**17 42 36.6**	**-0.1**
ARRO				AML	AML		
	comp=E,1530μm,0.2s						
ARRO				AML	AML		
	comp=N,1326μm,0.8s						
ARRO				AML	AML		
	comp=E,1535μm,0.2s						
ARRO				AML	AML		
	comp=N,1324μm,0.8s						
RM33	**Pellescritta (**	**0.48**	**170**	⇓P	**Pg**	**17 42 36.8**	**-0.2**
RM33				AML	AML		
	comp=E,1014μm,0.4s						
RM33				AML	AML		
	comp=N,1460μm,0.3s						
RM33				AML	AML		
	comp=E,973μm,0.4s						
RM33				AML	AML		
	comp=N,1450μm,0.3s						
RM33				AML	AML		
	comp=N,1455μm,0.3s						
RM33				AML	AML		
	comp=E,1012μm,0.4s						
RM33				AML	AML		
	comp=E,974μm,0.4s						
RM33				AML	AML		
	comp=N,1460μm,0.3s						
MURB	**Monte Urbino**	**0.50**	**304**	⇑P	**Pg**	**17 42 37.3**	**0.0**
MURB				S	**Sg**	**17 42 46.0**	**+2.0**
MURB				AML	AML		
	comp=E,4715μm,1.0s						
MURB				AML	AML		
	comp=N,4545μm,0.3s						
MURB				AML	AML		
	comp=E,5460μm,1.1s						
MURB				AML	AML		
	comp=N,4180μm,0.3s						
MURB				AML	AML		
	comp=N,4540μm,0.3s						
MURB				AML	AML		
	comp=E,4715μm,1.0s						
CAMP	**Campotosto**	**0.50**	**153**	P	**Pg**	**17 42 37.2**	**-0.2**
CAMP				AML	AML		
	comp=N,1024μm,0.3s						
CAMP				AML	AML		
	comp=E,944μm,0.3s						
SSFR	**Montelago di S**	**0.51**	**333**	⇓P	**Pg**	**17 42 37.5**	**+0.1**
SSFR				S	**Sb**	**17 42 47.0**	**+0.4**
SSFR				AML	AML		
	comp=N,4515μm,0.7s						
SSFR				AML	AML		
	comp=E,3130μm,0.2s						
SSFR				AML	AML		
	comp=N,4550μm,0.2s						
SSFR				AML	AML		
	comp=E,3115μm,0.2s						
TERO	**Teramo**	**0.52**	**134**	⇑P	**Pg**	**17 42 37.5**	**-0.2**
TERO				S	**Sb**	**17 42 47.0**	**+0.1**
TERO				AML	AML		
	comp=E,4150μm,0.3s						
TERO				AML	AML		

comp=E,3950µm,0.3s
TERO AML AML
comp=N,3215µm,0.3s
TERO AML AML
comp=N,3025µm,0.5s
ARVD Arcevia 0.53 348 ⇓P **Pb 17 42 37.8 -1.5**
ARVD S **Sb 17 42 47.0 -0.1**
ARVD AML AML
comp=E,1165µm,0.2s
ARVD AML AML
comp=N,789µm,0.3s
CESX Cesi 0.53 226 ⇑P **Pg 17 42 37.5 -0.4**
CESX S **Sg 17 42 46.0 +1.1**
CESX AML AML
comp=E,2215µm,0.8s
CESX AML AML
comp=N,2140µm,0.6s
ATFO Monte Foce - G 0.54 315 ⇑P **Pg 17 42 38.0 -0.1**
ATFO AML AML
comp=E,888µm,0.9s
ATFO AML AML
comp=N,905µm,0.5s
ATFO AML AML
comp=E,888µm,0.9s
ATFO AML AML
comp=N,904µm,0.5s
PP3 Marolino 0.54 43 ⇑P **Pn 17 42 39.5 -2.4**
PP3 AML AML
comp=N,2265µm,0.7s
PP3 AML AML
comp=N,2250µm,0.6s
PP3 AML AML
comp=E,1680µm,0.6s
PP3 AML AML
comp=E,1670µm,0.6s
FRON Frontone 0.60 333 ⇓P **Pg 17 42 39.1 -0.1**
FRON AML AML
comp=E,988µm,0.5s
FRON AML AML
comp=E,988µm,0.5s
FRON AML AML
comp=N,1460µm,0.3s
TRTR Tortoreto Alta 0.63 106 ⇑P **Pn 17 42 41.1 -1.9**
TRTR AML AML
comp=N,3450µm,0.3s
TRTR AML AML
comp=E,5690µm,0.3s
GIGS Gran Sasso 0.64 147 P **Pg 17 42 39.4 -0.5**
GIGS S **Sb 17 42 50.0 -0.4**
GIGS AML AML
comp=N,504µm,0.3s
GIGS AML AML
comp=E,418µm,0.9s
ATVO AVT- Monte Val 0.64 308 ⇑P **Pg 17 42 39.6 -0.4**
ATVO AML AML
comp=N,688µm,1.5s
ATVO AML AML
comp=E,830µm,0.4s
COR1 Corinaldo 0.65 354 ⇓P **Pn 17 42 41.3 -2.1**
COR1 AML AML
comp=E,2290µm,1.6s
COR1 AML AML
comp=N,2050µm,1.3s
COR1 AML AML
comp=E,798µm,0.5s
COR1 AML AML
comp=N,1350µm,0.4s
COR1 AML AML
comp=E,2290µm,1.6s
AOI Ancona 0.68 33 S **Sn 17 42 53.0 -1.6**
PIEI Pieia 0.69 324 ⇑P **Pg 17 42 40.4 -0.5**
PIEI S **Sb 17 42 53.0 +1.2**
PIEI AML AML
comp=E,624µm,0.2s
PIEI AML AML
comp=N,670µm,0.3s
ATPI Pietralunga - 0.69 313 ⇓P **Pg 17 42 40.8 -0.1**
ATPI S **Sb 17 42 52.0 +0.2**
ATPI AML AML
comp=E,543µm,0.3s
ATPI AML AML
comp=N,604µm,0.5s
ATPI AML AML
comp=E,544µm,0.3s
MPAG Monte Paganucc 0.69 339 ⇓P **Pb 17 42 40.7 -1.4**
MPAG AML AML
comp=E,596µm,0.8s
MPAG AML AML
comp=N,766µm,0.6s
ATMI Monte Miggiano 0.70 300 ⇓P **Pg 17 42 41.8 +0.7**
ATMI AML AML
comp=E,1545µm,0.6s
ATMI AML AML
comp=N,2305µm,0.8s
FIAM Fiamignano 0.72 179 ⇑P **Pg 17 42 40.7 -0.7**
FIAM S **Sg 17 42 53.0 +2.3**
FIAM AML AML
comp=E,492µm,1.0s
FIAM AML AML
comp=N,485µm,0.4s
MGAB Montegabbione 0.73 265 ⇑P **Pg 17 42 41.1 -0.5**
MGAB AML AML
comp=E,1165µm,1.6s
MGAB AML AML
comp=N,1450µm,0.5s
MGAB AML AML
comp=E,1355µm,0.5s
MGAB AML AML
comp=E,1160µm,1.6s
MGAB AML AML
comp=N,1450µm,0.5s
NARO Abbazia di Nar 0.73 329 ⇑P **Pg 17 42 41.2 -0.5**
NARO S **Sb 17 42 54.0 +1.0**
NARO AML AML
comp=E,459µm,0.6s
NARO AML AML
comp=N,428µm,1.1s
FSSB Fossombrone 0.74 342 ⇓P **Pb 17 42 41.9 -1.1**
FSSB S **Sn 17 42 55.0 -1.3**
FSSB AML AML
comp=N,2590µm,0.4s
FSSB AML AML
comp=E,2595µm,0.3s
FAGN Fagnano 0.80 153 ⇓P **Pg 17 42 42.5 -0.6**
FAGN S **Sb 17 42 56.0 +0.9**
FAGN AML AML
comp=N,1190µm,1.3s
FAGN AML AML
comp=E,1525µm,0.6s
VCEL Villa Celiera 0.81 137 P **Pb 17 42 42.9 -1.2**
VCEL AML AML
comp=E,1325µm,0.5s
VCEL AML AML
comp=E,1320µm,0.5s
VCEL AML AML
comp=N,1095µm,0.8s
BADI Badiali 0.81 310 P **Pg 17 42 42.7 -0.6**
PE3 Peglio 0.83 329 P **Pb 17 42 44.3 -0.3**
SRES S.Oreste - Sor 0.86 210 S **Sg 17 42 57.0 +1.6**
SACS San Casciano d 0.88 262 ⇑P **Pg 17 42 45.0 +0.5**
SACS AML AML
comp=E,458µm,0.5s
SACS AML AML
comp=E,419µm,0.4s
SACS AML AML
comp=N,426µm,0.6s
SACS AML AML
comp=N,410µm,0.6s
CAFI Castiglion Fio 0.90 293 P **Pg 17 42 44.5 -0.3**
CAFI AML AML
comp=E,559µm,0.5s
CAFI AML AML
comp=N,536µm,0.6s
CAFI AML AML
comp=E,560µm,0.5s
CAFI AML AML
comp=E,570µm,0.5s
CAFI AML AML
comp=N,545µm,0.6s
CAFI AML AML
comp=N,536µm,0.6s
T0110 Collepietro 0.91 146 ⇑P **Pg 17 42 44.2 -0.9**
T0110 AML AML
comp=N,1038µm,0.5s
T0110 AML AML
comp=E,1345µm,0.5s

PTQR Pietraquaria 0.99 167 P **Pg 17 42 43.5 -3.1**
CPGN Carpegna, Ital 0.99 326 P **Pn 17 42 47.4 -0.8**
CPGN AML AML
comp=E,535µm,0.7s
CPGN AML AML
comp=N,566µm,1.3s
CRE Caprese Michel 1.05 308 ⇑P **Pn 17 42 49.3 +0.4**
SFI Santa Sofia 1.29 316 ⇑P **Pn 17 42 50.7 -1.5**
SFI AML AML
comp=E,114µm,0.6s
SFI AML AML
comp=N,150µm,1.6s
LATB Latina 1.49 184 ⇓P **Pb 17 42 56.3 +0.6**
MIDA Miranda 1.59 147 P **Pg 17 42 57.7 -0.5**
TRIV Trivento 1.62 138 ⇑P **Pg 17 42 60.0 +1.2**
BRJN Brijuni 1.98 14 ⇑P **Pb 17 43 01.2 -2.8**
MYKA Terra Mystica 3.67 6 *i* Sn **Sn 17 44 08.9 +0.5**
comp=N,2.8nm,0.3s
ABTA Abfaltersbach 3.79 354 *i* Pn **Pn 17 43 27.6 +1.1**
comp=N,4.9nm,0.5s
ABTA *i* Sn **Sn 17 44 11.9 +0.5**
comp=N,8.3nm,0.6s
KBA Koelnbreinsper 4.10 2 *i* Pn **Pn 17 43 31.7 +0.8**
comp=N,1.2nm,0.1s
KBA *i* Sn **Sn 17 44 19.2 0.0**
comp=N,3.9nm,0.5s
WTTA Wattenberg 4.40 347 *e*Pn **Pn 17 43 36.8 +1.8**
comp=N,2.8nm,0.4s
WTTA *i* Sn **Sn 17 44 28.4 +1.7**
comp=N,6.5nm,0.6s
SQTA Sankt Quirin 4.44 343 *i* Pn **Pn 17 43 36.8 +1.2**
comp=N,1.0nm,0.2s
SQTA *i* Sn **Sn 17 44 29.2 +1.6**
comp=N,8.4nm,0.5s
MOTA Moosalm 4.58 343 *e*Pn **Pn 17 43 39.7 +2.2**
comp=N,0.9nm,0.2s
BIOA Bad Ischl, Aus 4.72 4 *i* Pn **Pn 17 43 40.6 +1.2**
comp=N,3.8nm,0.3s
BIOA *e*Sn **Sn 17 44 36.0 +1.7**
comp=N,4.6nm,0.3s
RETA Reutte 4.79 341 *e*Pn **Pn 17 43 40.2 -0.2**
comp=N,1.4nm,0.2s
RETA *i* Sn **Sn 17 44 38.3 +2.1**
comp=N,2.0nm,0.4s
DAVA Damuels 4.87 333 *i* Pn **Pn 17 43 42.1 +0.6**
comp=N,1.0nm,0.3s
DAVA *i* Sn **Sn 17 44 41.1 +3.0**
comp=N,2.8nm,0.3s
CKRC Cesky Krumlov 5.90 8 *e*SN **Sn 17 44 58.9 -4.4**
KHC Kasperske Hory 6.16 3 *e*PN **Pn 17 43 59.5 +0.5**
KHC *e*SN **Sn 17 45 08.0 -1.7**

*WEL **21** 17:51:00.42˚19S×173˚64E,h9km,ML4.9,Mw4.7, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.26; Mθθ 0.82; Mϕϕ-0.56; Mrθ 0.00; Mθϕ-1.19; Mϕr 0.41; Fault plane solution: M₀1.45000×10¹⁶ NP1: ϕs256.00000°,δ72.00000°,λ-172.00000°. NP2: ϕs163.00000°,δ82.00000°,λ-18.00000°. Principal axes: T 1526.6500, Plg7.0000°, Azm211.0000°; N -1364.1500, Plg70.0000°, Azm320.0000°; P -162.5000, Plg19.0000°, Azm118.0000°;*

*NEIC **21** 17:51:36.6,42˚24S×173˚69E,h17km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.34; Mθθ0.36; Mϕϕ-0.70; Mrθ-0.21; Mθϕ-1.23; Mϕr0.20; Fault plane solution: M₀1.40000×10¹⁶ NP1:ϕs257.18000°, δ76.95000°,λ168.95000°. NP2:ϕs349.71000°,δ79.24000°, λ13.29000°. Principal axes: T 1.2557, Plg17.0000°, Azm214.0000°; N 0.2542, Plg73.0000°, Azm28.0000°; P -1.5099, Plg2.0000°, Azm123.0000°;*

*NEIC **21** 17:51:37.0±2.1,42˚19S±0˚02×173˚68E±0˚05,h22km±4km, mb4.5/11,Mwr4.7/40 Error ellipse: s-maj=6.1km s-min=3.1km az=109.0*

*WEL **21** 17:51:37.0±0.3,42˚5±2˚×17˚4E±˚,h5km,M5.0/58, ML5.2/16,MLv5.0/58,Error ellipse: s-maj=0.0km s-min=0.0km az=128.4*

*NOU **21** 17:51:37.3,42˚36S×173˚82E,h23km,MLv5.2/14,South Island, New Zealand*

*IDC **21** 17:51:38.1±0.6,42˚25S×172˚93E,h0km,mb4.2/9, mbtmp4.3/10,ML4.2/1,MS3.8/22,Error ellipse: s-maj=19.7km s-min=18.4km az=44.0*

ISC 21 17:51:35.7±1.1,**42˚24S**±0˚03×**173˚67E**±0˚03,**h2**km±7km, **n235,σ1§68/219,mb4.3/17,MS3.9/25,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.54**	**17**	Pg		**Pg**		**17 51 47.0**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.54**	**17**	P		**Pg**		**17 51 47.1**	**+1.0**
BSWZ				S		**Sb**		**17 51 54.8**	**-1.4**
CMWZ	**Cape Campbell**	**0.63**	**40**	Pg		**Pb**		**17 51 49.0**	**+0.4**
CMWZ	**Cape Campbell**	**0.63**	**40**	P		**Pb**		**17 51 50.2**	**+0.7**
THZ	**Tophouse**	**0.74**	**310**	Pg		**Pg**		**17 51 49.8**	**-0.1**
THZ	**Tophouse**	**0.74**	**310**	P		**Pg**		**17 51 49.9**	**0.0**
THZ				S		**Sb**		**17 51 59.2**	**-2.7**
TUWZ	**Tuamarina**	**0.83**	**14**	Pg		**Pg**		**17 51 52.2**	**+0.5**
TUWZ	**Tuamarina**	**0.83**	**14**	P		**Pg**		**17 51 52.3**	**+0.7**
GVZ	**Greta Valley S**	**0.87**	**212**			**Pg**		**17 51 54.8**	**+2.5**
GVZ	**Greta Valley S**	**0.87**	**212**	P		**Pg**		**17 51 54.9**	**+2.5**
NNZ	**Nelson**	**1.04**	**348**			**Pg**		**17 51 55.2**	**-0.4**
NNZ	**Nelson**	**1.04**	**348**	P		**Pg**		**17 51 55.4**	**-0.2**
MRNZ	**Matariki Terra**	**1.08**	**321**			**Pg**		**17 51 56.0**	**-0.4**
MRNZ	**Matariki Terra**	**1.08**	**321**	P		**Pb**		**17 51 56.3**	**-0.8**
TCW	**Tory Channel**	**1.12**	**24**			**Pg**		**17 51 57.0**	**-0.2**
TCW	**Tory Channel**	**1.12**	**24**	P		**Pg**		**17 51 57.3**	**+0.1**
TCW				S		**Sn**		**17 52 13.4**	**-1.0**
LTZ	**Lake Taylor**	**1.17**	**242**			**Pg**		**17 51 58.3**	**+0.2**
LTZ	**Lake Taylor**	**1.17**	**242**	P		**Pg**		**17 51 58.5**	**+0.4**
AMCZ	**Amberley**	**1.20**	**218**			**Pg**		**17 51 59.1**	**+0.4**
AMCZ	**Amberley**	**1.20**	**218**	P		**Pg**		**17 51 59.1**	**+0.4**
SNZO	**South Karori**	**1.21**	**40**			**Pg**		**17 51 58.9**	**+0.1**
SNZO	**South Karori**	**1.21**	**40**	P		**Pg**		**17 51 59.1**	**+0.3**
WEL	**Wellington**	**1.26**	**41**	P		**Pg**		**17 51 59.3**	**-0.5**
TKNZ	**Takaka Hill**	**1.31**	**336**	Pn		**Pg**		**17 51 59.7**	**-1.2**
TKNZ	**Takaka Hill**	**1.31**	**336**	P		**Pg**		**17 52 00.0**	**-0.8**
TKNZ				S		**Sb**		**17 52 16.3**	**-2.1**
PLWZ	**Palliser**	**1.36**	**61**	Pn		**Pn**		**17 52 00.0**	**-1.7**
PLWZ	**Palliser**	**1.36**	**61**	P		**Pn**		**17 52 00.8**	**-0.9**
MSWZ	**Moikau Station**	**1.44**	**56**			**Pn**		**17 52 01.4**	**-1.4**
MSWZ	**Moikau Station**	**1.44**	**56**	P		**Pn**		**17 52 01.8**	**-1.0**
DUWZ	**D'Urville Isla**	**1.45**	**8**	P		**Pn**		**17 52 02.7**	**-0.2**
DSZ	**Denniston Nort**	**1.47**	**289**			**Pn**		**17 52 03.0**	**-0.3**
DSZ	**Denniston Nort**	**1.47**	**289**	P		**Pg**		**17 52 03.6**	**-0.4**
CAW	**Cannon Point**	**1.54**	**43**	P		**Pn**		**17 52 03.4**	**-0.8**
PAWZ	**Paruwai Farm**	**1.57**	**58**	P		**Pn**		**17 52 03.4**	**-1.2**
OXZ	**Oxford**	**1.62**	**227**			**Pn**		**17 52 03.9**	**-1.4**
OXZ	**Oxford**	**1.62**	**227**	P		**Pn**		**17 52 04.1**	**-1.2**
MQZ	**McQueen's Vall**	**1.65**	**207**			**Pn**		**17 52 04.0**	**-1.7**
MQZ	**McQueen's Vall**	**1.65**	**207**	P		**Pn**		**17 52 04.1**	**-1.5**
QRZ	**Quartz Range**	**1.65**	**328**	Pn		**Pn**		**17 52 05.5**	**-0.2**
QRZ	**Quartz Range**	**1.65**	**328**	P		**Pn**		**17 52 05.6**	**-0.1**
KIW	**Kapiti Island**	**1.66**	**35**	P		**Pn**		**17 52 05.4**	**-0.4**
INZ	**Inchbonnie**	**1.72**	**253**			**Pn**		**17 52 06.2**	**-0.4**
INZ	**Inchbonnie**	**1.72**	**253**	P		**Pn**		**17 52 06.3**	**-0.3**
TRWZ	**Traveller**	**1.73**	**62**	P		**Pn**		**17 52 05.2**	**-1.5**
AKCZ	**Akaroa Harbour**	**1.73**	**199**	P		**Pn**		**17 52 05.9**	**-0.8**
MTW	**Mount Morrison**	**1.75**	**52**	P		**Pn**		**17 52 05.6**	**-1.4**
OGWZ	**Otaki Gorge**	**1.81**	**39**	P		**Pn**		**17 52 07.1**	**-0.8**
RACZ	**Rakaia**	**1.86**	**216**	P		**Pn**		**17 52 07.2**	**-1.4**
HOWZ	**Holdsworth Sta**	**1.93**	**47**	P		**Pn**		**17 52 08.6**	**-0.9**
TMWZ	**Te Maipa**	**2.01**	**57**	P		**Pn**		**17 52 09.0**	**-1.7**
MHCZ	**Mount Hutt**	**2.02**	**229**	P		**Pn**		**17 52 09.4**	**-1.4**
MRZ	**Mangatainoka R**	**2.13**	**43**	Pn		**Pn**		**17 52 10.8**	**-1.5**
MRZ	**Mangatainoka R**	**2.13**	**43**	P		**Pn**		**17 52 11.0**	**-1.3**
WACZ	**Wakanui South**	**2.17**	**218**	P		**Pn**		**17 52 11.5**	**-1.3**
TIWZ	**Tintock**	**2.21**	**49**	P		**Pn**		**17 52 12.4**	**-1.1**
WVZ	**Waitaha Valley**	**2.32**	**248**	P		**Pn**		**17 52 14.6**	**-0.3**
OHWZ	**Ohakea**	**2.38**	**32**	P		**Pn**		**17 52 16.3**	**+0.6**
PRWZ	**Pori Road**	**2.41**	**47**	P		**Pn**		**17 52 14.7**	**-1.5**
RPZ	**Rata Peaks**	**2.42**	**232**	Pn		**Pn**		**17 52 15.4**	**-1.0**
RPZ	82nm,0.3s,baz=116,slow=1.8,SNR=139			Sn		**Sn**		**17 52 44.5**	**-2.0**
RPZ	157nm,0.3s,baz=341,slow=23,SNR=21			LR		LR		17 53 06.5	
	642nm,0.4s comp=Z,1µm,18.6s,baz=282,slow=44								
RPZ	**Rata Peaks**	**2.42**	**232**	Pn		**Pn**		**17 52 13.9**	**-2.5**
RPZ	**Rata Peaks**	**2.42**	**232**	P		**Pn**		**17 52 15.1**	**-1.2**
RPZ	**Rata Peaks**	**2.42**	**232**	P		**Pn**		**17 52 14.9**	**-1.4**
POWZ	**Post Office Ro**	**2.43**	**41**	P		**Pn**		**17 52 15.2**	**-1.2**

BFZ Birch Farm 2.48 52 Pn **Pn 17 52 15.5 -1.7**
BFZ Birch Farm 2.48 52 P **Pn 17 52 15.8 -1.3**
BFZ Birch Farm 2.48 52 P **Pn 17 52 15.0 -2.1**
ARCZ Arundel 2.50 226 P **Pn 17 52 16.0 -1.4**
WAZ Wanganui 2.67 22 P **Pn 17 52 21.0 +1.2**
GCSZ Gaunt Creek Bo 2.69 245 P **Pn 17 52 19.6 -0.3**
DVHZ Dannevirke 2.70 45 P **Pn 17 52 18.1 -2.0**
ANWZ Angora Road 2.76 51 P **Pn 17 52 19.6 -1.3**
TSZ Takapari Road 2.78 39 P **Pn 17 52 19.7 -1.6**
NMEZ Namu Road 2.83 3 P **Pb 17 52 24.4 -2.4**
LREZ Lake Rotokare 2.83 12 P **Pb 17 52 24.5 -2.4**
TMZ Timaru 2.90 221 P **Pn 17 52 21.7 -1.1**
KHEZ Kahui Hut 2.95 5 P **Pn 17 52 25.3 +1.7**
KHEZ Kahui Hut 2.95 5 P **Pn 17 52 25.7 +2.1**
NBEZ Newall Road No 2.97 3 P **Pn 17 52 26.2 +2.4**
PRHZ Porangahau 2.98 50 P **Pn 17 52 21.8 -2.2**
NEZ North Egmont 2.98 6 P **Pn 17 52 26.3 +2.3**
PNHZ Pukenui 3.01 40 P **Pn 17 52 22.4 -2.0**
WPHZ Waipukurau 3.02 45 P **Pn 17 52 22.8 -1.7**
PKE Pukeiti 3.05 5 P **Pn 17 52 27.3 +2.3**
DREZ Durham Road 3.07 8 P **Pn 17 52 28.0 +2.8**
FOZ Fox Glacier 3.11 244 Pn **Pn 17 52 25.4 -0.4**
FOZ Fox Glacier 3.11 244 P **Pn 17 52 25.4 -0.4**
MTVZ Mangateitei 3.16 26 P **Pn 17 52 27.0 +0.5**
MHEZ Mangahewa 3.20 9 P **Pb 17 52 30.6 -2.6**
PKVZ Pokaka 3.21 24 P **Pn 17 52 27.2 +0.1**
VRZ Vera Road 3.22 15 P **Pn 17 52 28.7 +1.5**
MOVZ Moawhango 3.24 30 P **Pn 17 52 26.7 -0.9**
WNVZ Wahianoa 3.25 27 P **Pn 17 52 28.2 +0.3**
TRVZ Turoa 3.26 27 P **Pn 17 52 28.1 0.0**
PXZ Pawanui 3.27 49 P **Pn 17 52 25.1 -2.8**
BHHZ Black Hill Sta 3.29 34 P **Pn 17 52 27.3 -1.0**
DRZ Dome Shelter 3.29 27 P **Pn 17 52 28.9 +0.4**
WHVZ Whangaehu Hut 3.29 27 P **Pn 17 52 28.5 +0.1**
FWVZ Far West T-bar 3.30 26 P **Pn 17 52 28.9 +0.2**
TUVZ Tukino 3.33 28 P **Pn 17 52 27.7 -1.2**
LBZ Lake Benmore 3.33 229 Pn **Pn 17 52 27.4 -1.4**
LBZ Lake Benmore 3.33 229 P **Pn 17 52 27.6 -1.2**
NGZ Ngauruhoe 3.39 26 P **Pn 17 52 29.8 0.0**
SNVZ South Ngauruho 3.40 27 P **Pn 17 52 30.0 +0.2**
OTVZ Oturere 3.42 27 P **Pn 17 52 30.2 0.0**
NNVZ North Ngauruho 3.44 26 P **Pn 17 52 30.3 -0.1**
KAHZ Kahuranaki 3.44 46 P **Pn 17 52 27.8 -2.5**
WTVZ West Tongariro 3.44 26 P **Pn 17 52 30.3 -0.2**
ETVZ East Tongariro 3.46 27 P **Pn 17 52 31.1 +0.3**
KRVZ Karewarewa 3.48 26 P **Pn 17 52 30.8 -0.1**
TMVZ Te Maari 3.48 27 P **Pn 17 52 30.8 -0.1**
NTVZ North Tongarir 3.49 27 P **Pn 17 52 31.0 0.0**
KWHZ Kaweka Forest 3.50 38 P **Pn 17 52 29.4 -1.8**
ODZ Otahua Downs 3.56 217 Pn **Pn 17 52 30.4 -1.7**
ODZ Otahua Downs 3.56 217 P **Pn 17 52 30.8 -1.2**
ODZ Otahua Downs 3.56 217 P **Pn 17 52 30.3 -1.7**
KATZ Kakaramea 3.60 26 P **Pb 17 52 37.8 -2.4**
KATZ P Pn 17 52 38.0 +5.3
MCHZ McNeill Hill 3.61 40 P **Pn 17 52 30.7 -2.0**
RATZ Rangitukua 3.73 26 P **Pn 17 52 37.4 +3.1**
BKZ Black Stump Fm 3.74 36 Pn **Pn 17 52 34.0 -0.6**
BKZ Black Stump Fm 3.74 36 P **Pn 17 52 33.9 -0.6**
BKZ Black Stump Fm 3.74 36 P **Pn 17 52 32.9 -1.6**
HIZ Hauiti 3.83 14 Pn **Pn 17 52 36.1 +0.4**
HIZ Hauiti 3.83 14 P **Pn 17 52 37.2 +1.6**
HIZ Hauiti 3.83 14 P **Pn 17 52 37.2 +1.6**
ARHZ Aropaoanui 3.90 41 P **Pn 17 52 33.9 -2.7**
MRHZ Matea Rd 3.99 33 P **Pn 17 52 35.7 -2.2**
JCZ Jackson Bay 4.02 241 P **Pn 17 52 37.0 -1.3**
JCZ Jackson Bay 4.02 241 P **Pn 17 52 37.1 -1.2**
MTNZ Maungataniwha 4.16 37 P **Pn 17 52 38.1 -1.8**
TLZ Tolley Road 4.16 21 P **Pn 17 52 44.1 +3.9**
RAHZ Arahi 4.21 39 P **Pn 17 52 41.5 +0.5**
WKZ Wanaka 4.26 231 Pn **Pn 17 52 40.2 -1.4**
WKZ Wanaka 4.26 231 P **Pn 17 52 39.9 -1.7**
HHSZ Highcliff Hill 4.27 210 P **Pn 17 52 40.3 -1.4**
EAZ Earnscleugh 4.35 225 P **Pn 17 52 41.1 -1.7**
RTZ Ruatahuna 4.41 36 Pg **Pb 17 52 52.4 -1.6**
RTZ Ruatahuna 4.41 36 P **Pn 17 52 41.3 -2.5**
MHGZ Mahia Peninsul 4.46 48 P **Pn 17 52 42.6 -1.7**
RIGZ Rimuhau 4.71 43 P **Pn 17 52 45.0 -2.8**
TOZ Tahuroa Road 4.71 18 P **Pn 17 52 47.7 -0.1**
TUZ Tuapeka 4.72 217 P **Pn 17 52 46.9 -1.0**
URZ Urewera 4.77 35 P **Pn 17 52 46.4 -2.1**
URZ Urewera 4.77 35 P **Pn 17 52 45.3 -3.2**
MSZ Milford Sound 4.84 238 P **Pn 17 52 47.5 -2.0**
TGRZ Tauranga 4.92 25 P **Pn 17 52 54.4 +3.7**
MLZ Mavora Lakes 5.09 230 Pn **Pn 17 52 50.8 -2.2**
MLZ Mavora Lakes 5.09 230 P **Pn 17 52 50.9 -2.1**
CNGZ Carnegh Statio 5.11 44 P **Pn 17 52 56.1 +3.0**
AWAZ Awhitu Peninsu 5.22 9 P **Pn 17 52 55.8 +1.0**
MKAZ Moumakai 5.25 13 P **Pn 17 52 55.2 0.0**
RUGZ Raukumara Rang 5.26 37 P **Pn 17 52 52.3 -3.0**
WTAZ Waiatarua 5.34 8 P **Pn 17 52 57.8 +1.4**
ETAZ East Tamaki Re 5.37 11 P **Pn 17 52 58.0 +1.3**
SYZ Scrubby Hill 5.39 216 P **Pn 17 52 56.3 -0.7**
SYZ Scrubby Hill 5.39 216 P **Pn 17 52 56.1 -0.9**
EPAZ Eden Park BICE 5.42 9 P **Pn 17 53 00.4 +2.9**
HAZ Te Kaha 5.48 37 P **Pn 17 52 56.0 -2.3**
PKGZ Pakihiroa 5.50 39 P **Pn 17 52 55.9 -2.8**
WHZ Wether Hill Ro 5.51 227 Pn **Pn 17 52 56.9 -1.7**
WHZ Wether Hill Ro 5.51 227 P **Pn 17 52 57.0 -1.7**
MBAZ Motutapu North 5.54 10 P **Pn 17 53 00.4 +1.2**
WIAZ Waiheke Island 5.55 12 P **Pn 17 53 00.1 +0.8**
ABAZ Army Bay 5.70 9 P **Pn 17 53 03.4 +2.1**
KUZ Kuaotunu 5.71 17 P **Pn 17 53 02.0 +0.5**
KUZ Kuaotunu 5.71 17 P **Pn 17 53 01.8 +0.4**
DCZ Deep Cove 5.71 233 Pn **Pn 17 52 58.0 -3.4**
DCZ Deep Cove 5.71 233 P **Pn 17 53 01.2 -0.3**
WMGZ Waiomatatini S 5.72 41 P **Pn 17 52 58.5 -3.1**
MXZ Matakaoa Point 5.87 39 Pn **Pn 17 53 00.4 -3.3**
MXZ Matakaoa Point 5.87 39 P **Pn 17 53 02.3 -1.4**
APZ The Paps 6.13 220 P **Pn 17 53 06.0 -1.3**
GRZ Great Barrier 6.14 14 P **Pn** 17 53 13.1 +5.7
WCZ Waipu Caves 6.31 5 P **Pn 17 53 11.4 +1.6**
OUZ Omahuta 7.01 360 Pn **Pn 17 53 18.9 -0.4**
OUZ Omahuta 7.01 360 P **Pn 17 53 20.9 +1.6**
OUZ Omahuta 7.01 360 P **Pn 17 53 21.0 +1.6**
CTZ Chatham Island 7.28 105 P **Pn 17 53 21.2 -1.8**
CTZ Chatham Island 7.28 105 P **Pn 17 53 21.5 -1.4**
DZM Mont Dzumac 21.00 341 LR LR 18 03 51.1
comp=Z,314nm,18.3s,baz=198,slow=35
DZM Mont Dzumac 21.00 341 eLR LR 18 01 10.0
comp=Z,372nm,26.4s
MSVF Nonsavu 24.71 10 P **P 17 57 02.2 +3.8**
15nm,0.8s,baz=162,slow=13,SNR=5.0
MSVF LR LR 18 05 30.6
comp=Z,584nm,19.9s,baz=199,slow=34
15nm,0.8s
STKA Stephens Creek 27.46 282 P **P 17 57 22.1 -1.1**
1.1nm,0.9s,baz=112,slow=16,SNR=1.4
STKA LR LR 18 06 53.1
comp=Z,240nm,18.6s,baz=154,slow=34
1.1nm,0.9s
RAR Rarotonga 30.60 55 P P 17 57 58.0 +7.0
20nm,0.8s,baz=136,slow=15,SNR=1.6
RAR LR LR 18 11 15.3
comp=Z,46nm,18.8s,baz=231,slow=38
20nm,0.8s
AFI Afiamalu 30.91 28 LR LR 18 10 47.0
comp=Z,96nm,18.6s,baz=202,slow=37
CTA Charters Tower 31.98 305 LR LR 18 09 00.0
comp=Z,120nm,18.4s,baz=114,slow=33
HNR Honiara 34.83 336 LR LR 18 10 24.4
comp=Z,2µm,18.6s,baz=149,slow=32
VNDA Vanda 35.73 184 P **P 17 58 37.2 +2.0**
0.2nm,0.8s,baz=261,slow=2.6,SNR=1.4
TBI Tubuai 35.91 70 eLR LR 18 07 16.8
comp=Z,3µm,24.0s
TBI *e*LR LR 18 07 49.5
comp=Z,896nm,28.5s
AS31 Alice Springs 37.75 287 P **P 17 58 50.0 -3.1**
ASAR Alice Springs 37.75 287 P **P 17 58 50.6 -2.5**
0.9nm,0.6s,baz=128,slow=6.6,SNR=16
ASAR PcP **PcP 18 01 09.9 -0.2**
0.6nm,0.8s,baz=134,slow=4.0,SNR=1.9
ASAR LR LR 18 14 24.8
comp=Z,104nm,18.1s,baz=144,slow=37
0.9nm,0.6s
ASAR Alice Springs 37.75 287 P **P 17 58 50.4 -2.7**
FORT Forrest 37.99 272 P **P 17 58 51.3 -3.7**
WR0 Warramunga Arr 39.72 292 P **P 17 59 08.6 -1.0**
WR0 IAmb IAmb 17 59 23.2
comp=Z,7.5nm,1.1s
PPT2 Papeete2 39.77 63 *e*LR LR 18 10 06.7
comp=Z,192nm,24.2s

PPT Papeete 39.78 63 LR LR 18 12 06.7
comp=Z,140nm,21.8s,baz=222,slow=30
WB2 Warramunga Arr 39.87 292 P **P** **17 59 08.5 -2.3**
WB2 IAmb IAmb 17 59 15.4
comp=Z,7.1nm,0.9s
WRAB Tennant Creek 39.87 292 P **P** **17 59 08.8 -2.1**
WRAB IAmb IAmb 17 59 16.6
comp=Z,7.8nm,0.9s
WRA Warramunga Arr 39.87 292 P **P** **17 59 08.4 -2.5**
comp=Z,3.4nm,0.9s,baz=127,slow=8.4,SNR=21
WRA PcP **PcP** **18 01 17.4 +0.7**
comp=Z,1.0nm,0.9s,baz=121,slow=3.5,SNR=2.4
WRA LR LR 18 15 41.7
comp=Z,173nm,18.3s,baz=122,slow=37
comp=Z,3.4nm,0.9s
WRA Warramunga Arr 39.87 292 P **P** **17 59 09.2 -1.8**
WB0 Warramunga Arr 39.95 292 P **P** **17 59 09.6 -2.0**
WB0 IAmb IAmb 17 59 22.1
comp=Z,17nm,1.4s
PMG Port Moresby 40.14 317 LR LR 18 14 27.6
comp=Z,188nm,18.8s,baz=142,slow=34
QSPA South Pole Qui 47.89 180 P **P** **18 00 16.9 +1.9**
comp=Z,5.0nm,0.9s,baz=27,slow=2.2,SNR=13
comp=Z,5.0nm,0.9s
QSPA South Pole Qui 47.89 180 P **P** **18 00 12.2 -2.8**
QSPA IAmb IAmb 18 00 42.0
comp=Z,8.7nm,1.0s
TAOE Nuku Hiva Isla 52.37 64 *e*LR LR 18 15 57.4
comp=Z,238nm,24.6s
BATI Baumata 54.00 291 LR LR 18 23 56.6
comp=Z,254nm,20.0s,baz=49,slow=36
SIJI Sorong 56.05 306 LR LR 18 26 26.2
comp=Z,53nm,18.6s,baz=52,slow=38
MAW Mawson 58.83 205 LR LR 18 25 04.3
comp=Z,188nm,20.5s,baz=118,slow=34
BELA Belgrano 2 58.91 173 P **P** **18 01 35.4 -0.2**
BELA IAmb IAmb 18 01 59.4
comp=Z,2.8nm,0.9s
KAPI Kappang 60.41 292 LR LR 18 27 31.3
comp=Z,54nm,18.3s,baz=143,slow=36
RPN Rapa Nui 63.09 103 P P 18 02 10.9 +6.2
comp=Z,55nm,0.4s,baz=1.8,slow=2.0,SNR=2.9
TROLL Troll, Antarti 65.89 183 P **P** **18 02 22.7 +0.2**
SNAA Sanae 66.37 181 P **P** **18 02 26.0 +0.5**
SNAA Sanae 66.37 181 P **P** **18 02 22.5 -3.1**
SNAA IAmb IAmb 18 02 34.2
comp=Z,3.4nm,0.8s
VNA3 Neumayer Olymp 66.80 179 P **P** **18 02 27.5 -0.8**
VNA2 Neumayer--Watz 67.15 180 P **P** **18 02 30.2 -0.2**
baz=175,slow=6.6
JCJ Chichijima 74.86 331 LR LR 18 32 40.8
comp=Z,95nm,21.7s,baz=116,slow=33
PLCA Paso Flores 79.05 136 P P 18 03 46.5 +5.1
comp=Z,1.3nm,0.7s,baz=224,slow=6.6,SNR=3.9
PLCA LR LR 18 32 59.3
comp=Z,80nm,19.5s,baz=177,slow=31
comp=Z,1.3nm,0.7s
JOW Kunigami 80.49 320 LR LR 18 39 46.5
comp=Z,33nm,18.1s,baz=300,slow=36
QIZ Qiongzhong 84.67 301 P **P** **18 04 08.6 -2.5**
KSRS Korea Array 85.01 325 P **P** **18 04 36.9 +2.4**
comp=Z,1.5nm,0.8s,baz=163,slow=6.9,SNR=3.0
comp=Z,1.5nm,0.8s
CMAR Chiang Mai Arr 91.44 294 P **P** **18 04 42.7 -0.9**
comp=Z,0.3nm,0.6s,baz=155,slow=3.8,SNR=2.4
comp=Z,0.3nm,0.6s
LVC Limon Verde 93.44 125 LR LR 18 39 50.7
comp=Z,25nm,18.8s,baz=300,slow=31
SHEM Shemya Is, Ala 94.59 0 LR LR 18 42 39.4
comp=Z,59nm,20.6s,baz=184,slow=32
LPIG La Paz 96.20 63 LR LR 18 40 05.1
comp=Z,48nm,21.3s,baz=218,slow=30
CPUP Villa Florida 97.12 135 LR LR 18 44 13.1
comp=Z,26nm,19.0s,baz=219,slow=32
MKAR Makanchi Array 119.93 308 PKP **PKiKP** **18 10 28.5 +1.3**
comp=Z,0.7nm,0.9s,baz=163,slow=1.3,SNR=4.3
ULM Lac du Bonnet 121.15 49 PKP **PKiKP** **18 10 32.9 +3.4**
comp=Z,1.2nm,0.5s,baz=309,slow=9.0,SNR=3.3
KURBB Kurchatov Arra 123.96 310 PKP **PKiKP** **18 10 38.3 +3.3**
comp=Z,0.5nm,0.5s,baz=112,slow=1.8,SNR=5.0
KBZ Khabaz 144.38 290 PKP **PKPdf** **18 11 14.1 +1.2**
comp=Z,5.1nm,0.9s,baz=251,slow=3.1,SNR=6.1
DBIC Dimbokro 144.56 183 PKP **PKPdf** **18 11 15.8 +1.6**
comp=Z,1.3nm,0.5s,baz=230,slow=5.3,SNR=1.7
ARCES ARCESS Array B 148.08 339 PKPbc **PKPbc** **18 11 22.5 +0.8**
comp=Z,2.0nm,0.6s,baz=54,slow=4.6,SNR=9.3
BRTR Keskin Array B 149.91 279 PKP **PKPdf** **18 11 23.0 +0.4**
comp=Z,0.8nm,0.8s,baz=15,slow=5.1,SNR=3.9
BRTR PKPbc **pPKPbc** **18 11 30.4 +2.0**
comp=Z,2.4nm,0.9s,baz=110,slow=3.0,SNR=11
TORD Torodi Ar. Bea 150.19 196 PKPbc **PKPbc** **18 11 28.8 +0.2**
comp=Z,6.0nm,0.9s,baz=128,slow=1.0,SNR=10
FINES FINESS Array B 152.70 326 PKPbc **PKiKP** **18 11 34.9 +1.7**
comp=Z,3.4nm,0.8s,baz=106,slow=4.2,SNR=7.0
AKASG Malin Array Be 154.30 302 PKPbc **PKiKP** **18 11 39.1 +2.3**
comp=Z,0.2nm,0.3s,baz=78,slow=1.3,SNR=1.5

*IDC **21** 18:09:13.1±0.7,28°.24N×91°.91E, h0km, mb3.6/13, mbtmp3.6/15, ML3.9/3, Error ellipse: s-maj=32.6km s-min=13.9km az=58.0*
*NDI **21** 18:09:18.0±2.5, 27°.99N×91°.74E, h5km, ML4.0*
ISC 21 18:09:15.6±2.4, 28°.08N±0°.05×91°.74E±0°.04, h12km±16km, n28, σ1°98/38, mb3.7/12, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TEZP	**TEZPUR**	**1.74**	**147**	*e*P		**Pn**	**18 09 46.9**	**+1.3**
TEZP				*e*S		**Sg**	**18 10 10.9**	**-0.6**
TEZP				IAML			18 10 13.6	
	comp=N,1μm,0.2s							
GUWA	**GUWAHATI**	**1.88**	**181**	*e*P		**Pn**	**18 09 48.7**	**+1.1**
GUWA				*e*S		**Sb**	**18 10 13.2**	**-0.2**
GUWA				IAML			18 10 16.1	
	comp=E,782nm,0.3s							
ZIRO	**ZIRO**	**1.95**	**106**	*e*P		**Pn**	**18 09 51.3**	**+2.5**
ZIRO				*e*S		**Sn**	**18 10 15.9**	**+2.5**
ZIRO				IAML			18 10 20.9	
	comp=E,4μm,0.4s							
ITAN	**ITANAGAR**	**1.99**	**117**	*e*P		**Pn**	**18 09 51.7**	**+2.5**
ITAN				*e*S		**Sb**	**18 10 19.0**	**+2.3**
ITAN				IAML			18 10 23.5	
	comp=E,3μm,0.5s							
ITAN				IAML			18 10 23.9	
	comp=N,2μm,0.5s							
SHL	**Shillong**	**2.50**	**177**	*e*P		**Pn**	**18 09 57.3**	**+0.9**
SHL				*e*S		**Sn**	**18 10 28.6**	**+1.5**
DHUB	**DHUBRI**	**2.57**	**218**	*e*P		**Pn**	**18 09 58.7**	**+1.5**
DHUB				IAML			18 10 34.1	
	comp=N,827nm,0.2s							
DHUB				IAML			18 10 37.0	
	comp=E,665nm,0.3s							
JORH	**JORHAT**	**2.60**	**120**	*e*P		**Pb**	**18 10 02.6**	**+0.3**
JORH				*e*S		**Sn**	**18 10 32.3**	**+3.2**
JORH				IAML			18 10 38.6	
	comp=N,2μm,0.4s							
JORH				IAML			18 10 38.9	
	comp=E,2μm,0.3s							
GTK	**Tadong**	**2.88**	**256**	*e*P		**Pn**	**18 10 05.6**	**+4.0**
GTK				*e*S		**Sn**	**18 10 40.6**	**+4.3**
GTK				IAML			18 10 46.0	
	comp=N,587nm,0.4s							
MOKO	**MOKOCHONG**	**3.03**	**125**	*e*P		**Pn**	**18 10 05.4**	**+1.8**
MOKO				*e*S		**Sn**	**18 10 41.3**	**+1.3**
KOHI	**KOHIMA**	**3.16**	**137**	*e*P		**Pn**	**18 10 06.8**	**+1.4**
KOHI				*e*S		**Sn**	**18 10 45.2**	**+2.0**
KOHI				IAML			18 10 47.5	
	comp=E,508nm,0.6s							
KOHI				IAML			18 10 48.3	
	comp=N,408nm,0.3s							
LKP	**Lekhapani**	**3.72**	**101**	*e*P		**Pn**	**18 10 15.0**	**+2.0**
LKP				*e*S		**Sn**	**18 10 58.5**	**+1.8**
BRDH	**Bariadhala**	**5.38**	**181**	Pn		**Pn**	**18 10 36.8**	**+1.0**
	comp=N,23nm,0.3s,baz=274,slow=20,SNR=1.5							
BRDH				Sn		**Sn**	**18 11 39.3**	**+1.6**
	comp=N,41nm,0.3s,baz=269,slow=22,SNR=1.4							
SAIH	**SAIHA**	**5.68**	**168**	*e*P		**Pn**	**18 10 41.0**	**+1.0**
SAIH				*e*S		**Sn**	**18 11 43.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**11.64**	**144**	Pn		**Pn**	**18 12 01.3**	**-0.4**
	comp=N,0.1nm,0.3s,baz=317,slow=12,SNR=9.7							
CMAR				Lg		Lg	18 15 28.5	
	comp=N,0.1nm,0.3s,baz=320,slow=37,SNR=1.3							
	comp=N,0.9nm,0.8s							
MKAR	**Makanchi Array**	**20.10**	**341**	P		**P**	**18 13 47.8**	**-1.4**
	comp=N,0.1nm,0.3s,baz=139,slow=14,SNR=5.8							
	comp=N,0.7nm,0.6s							
AAK	**Ala-Archa**	**20.16**	**321**	P		**P**	**18 13 49.6**	**-0.4**
	comp=N,0.5nm,0.4s,baz=45,slow=2.9,SNR=1.2							
	comp=N,0.5nm,0.4s							
SONM	**Songino Array**	**22.79**	**26**	P		**P**	**18 14 15.1**	**-3.2**
	comp=N,0.4nm,0.8s,baz=213,slow=9.5,SNR=3.8							
	comp=N,0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**24.65**	**340**	P		**P**	**18 14 33.7**	**-2.4**
	comp=N,0.6nm,0.7s,baz=158,slow=8.9,SNR=1.8							
	comp=N,0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**26.34**	**351**	P		**P**	**18 14 49.3**	**-2.1**
	comp=N,1.0nm,0.5s,baz=170,slow=9.0,SNR=8.3							
	comp=N,1.0nm,0.5s							
BVAR	**Borovoye Array**	**29.51**	**333**	P		**P**	**18 15 18.4**	**-1.3**
	comp=N,0.3nm,0.5s,baz=129,slow=13,SNR=1.3							
	comp=N,0.3nm,0.5s							
BRTR	**Keskin Array B**	**48.84**	**300**	P		**P**	**18 18 01.2**	**0.0**
	comp=N,0.3nm,0.7s,baz=98,slow=6.0,SNR=1.8							
	comp=N,0.3nm,0.7s							
AKASG	**Malin Array Be**	**51.63**	**314**	P		**P**	**18 18 23.2**	**+1.1**
	comp=N,0.1nm,0.3s,baz=81,slow=6.4,SNR=4.4							
	comp=N,0.1nm,0.3s							
FINES	**FINESS Array B**	**54.15**	**327**	P		P	18 18 38.6	-1.9
	comp=N,2.6nm,0.9s,baz=104,slow=5.9,SNR=3.4							
	comp=N,2.6nm,0.9s							
NOA	**NORSAR Array B**	**61.33**	**327**	P		P	18 19 28.3	-2.7
	comp=N,0.5nm,0.7s,baz=60,slow=4.2,SNR=3.7							
	comp=N,0.5nm,0.7s							
GERES	**GERESS Array B**	**61.80**	**313**	P		**P**	**18 19 33.2**	**-1.3**
	comp=N,0.9nm,0.7s,baz=60,slow=7.9,SNR=6.5							
	comp=N,0.9nm,0.7s							
WRA	**Warramunga Arr**	**63.06**	**134**	P		**P**	**18 19 42.5**	**-0.5**
	comp=N,2.9nm,0.7s,baz=322,slow=7.2,SNR=20							
	comp=N,2.9nm,0.7s							
ASAR	**Alice Springs**	**65.57**	**137**	P		**P**	**18 19 58.9**	**-0.6**
	comp=N,1.6nm,0.8s,baz=315,slow=6.5,SNR=21							
	comp=N,1.6nm,0.8s							
ILAR	**Eielson Array**	**76.95**	**22**	P		**P**	**18 21 06.9**	**-0.8**
	comp=N,0.4nm,0.8s,baz=282,slow=4.2,SNR=2.9							
	comp=N,0.4nm,0.8s							

*IDC **21** 18:25:47.7±0.5, 37°.35N×141°.39E, h0km, mb4.3/27, mbtmp4.3/30, ML2.7/3, MS3.5/10, Error ellipse: s-maj=14.3km s-min=11.9km az=110.0*
*NIED **21** 18:25:49.3, 37°.36N×141°.56E, h25km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr~1.57; Mθθ0.98; Mφφ0.59; Mrθ0.06; Mθφ0.72; Mφr~0.01; Fault plane solution: M0 1.55000×10^15^ NP1: φ=51.00000°, δ=44.00000°, λ=-92.00000°. NP2: φ=234.00000°, δ=46.00000°, λ=-88.00000°.*
*JMA **21** 18:25:49.3±0.2, 37°.4N±0°.4×141°.6E±0°.9, h25km±1km, MD4.6/40, MV4.5/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*MOS **21** 18:25:50.1±1.3, 37°.48N×141°.46E, h27km, mb4.8/21, Error ellipse: s-maj=9.5km s-min=5.9km az=94.3*
*NEIC **21** 18:25:52.2±1.6, 37°.44N±0°.05×141°.40E±0°.09, h22km±3km, mb4.6/68, Error ellipse: s-maj=11.2km s-min=7.1km az=111.0*
ISC 21 18:25:47.8±1.4, 37°.35N±0°.03×141°.58E±0°.04, h4km±8km, n245, σ1°54/217, mb4.6/78, MS3.6/7, 10C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**272**	*i* P		**Pg**	**18 25 59.9**	**+1.2**
JFK				S		**Sb**	**18 26 07.3**	**-1.3**
JFK	**Kawauchi**	**0.56**	**272**	A		A	18 25 59.9	
	comp=E,19nm,0.5s,comp=E,11nm,0.9s							
JMST	**Minamisoumatoc**	**0.66**	**304**	*i* P		**Pb**	**18 26 01.6**	**-0.4**
JMST				S		**Sn**	**18 26 10.6**	**-4.3**
JMST	**Minamisoumatoc**	**0.66**	**304**	A		A	18 26 01.6	
	comp=E,23nm,1.0s,comp=E,32nm,0.4s							
JMM	**Marumori**	**0.81**	**310**			**Pg**	**18 26 03.6**	**+0.3**
JMM	**Marumori**	**0.81**	**310**	P		**Pb**	**18 26 04.1**	**-0.3**
JMM	**Marumori**	**0.81**	**310**	*i* P		**Pb**	**18 26 04.0**	**-0.5**
JMM				S		**Sn**	**18 26 14.7**	**-3.8**
JMM	**Marumori**	**0.81**	**310**	A		A	18 26 04.0	
	comp=E,25nm,0.4s,comp=E,19nm,0.5s							
JFFD	**Fukushimafurud**	**0.85**	**252**	⇓*i* P		**Pg**	**18 26 04.8**	**+0.6**
JFFD				⇓S		**Sg**	**18 26 16.2**	**+0.9**
JHO	**Hitachi**	**1.10**	**228**	⇓P		**Pb**	**18 26 07.9**	**-1.5**
JHO				⇓S		**Sb**	**18 26 22.5**	**-1.6**
JIO	**Ouri**	**1.11**	**351**	⇓*i* P		**Pb**	**18 26 09.0**	**-0.7**
JIO				⇓S		**Sg**	**18 26 23.4**	**-0.3**
JOU	**Okura**	**1.24**	**325**	*i* P		**Pg**	**18 26 11.9**	**+0.2**
JOU				S		**Sn**	**18 26 28.4**	**-0.9**
JOU	**Okura**	**1.24**	**325**	A		A	18 26 11.9	
	comp=E,25nm,0.8s,comp=E,33nm,0.5s							
JYAR	**Yonezawaarcadi**	**1.27**	**297**	A		A	18 26 11.4	
	comp=E,34nm,1.0s,comp=E,44nm,0.8s							
JHYU	**Hitachinakayam**	**1.29**	**218**	A		A	18 26 11.8	
	comp=E,6.0nm,1.1s,comp=E,6.0nm,0.8s							
JOFO	**Osakifurukawao**	**1.35**	**337**	A		A	18 26 12.8	
	comp=E,49nm,1.3s,comp=E,57nm,1.2s							
JSB	**Shiboa**	**1.38**	**254**	A		A	18 26 13.2	
	comp=E,19nm,4.6s,comp=E,22nm,3.2s							
JYS	**Shirataka**	**1.48**	**306**	*i* P		**Pb**	**18 26 15.6**	**-0.3**
JYS				S		**Sg**	**18 26 35.3**	**0.0**
JYS	**Shirataka**	**1.48**	**306**	A		A	18 26 15.6	
	comp=E,25nm,0.7s,comp=E,21nm,0.5s							
JFY	**Yanaizu**	**1.49**	**273**	P		**Pn**	**18 26 15.4**	**-0.1**
JFY				S		**Sg**	**18 26 35.5**	**-0.3**
JFY	**Yanaizu**	**1.49**	**273**	A		A	18 26 15.4	
	comp=E,13nm,0.8s,comp=E,10.0nm,1.2s							
JYT	**Yasato**	**1.58**	**225**	A		A	18 26 16.2	
	comp=E,9.0nm,0.4s,comp=E,10.0nm,0.8s							
JMK	**Ichinoseki**	**1.62**	**350**	A		A	18 26 16.9	
	comp=E,7.0nm,2.7s,comp=E,4.0nm,1.9s							
JIHU	**Itakohorinouch**	**1.62**	**212**	A		A	18 26 16.9	
	comp=E,30nm,1.6s,comp=E,40nm,2.2s							
OFUJ	**Ofunato**	**1.73**	**2**	A		A	18 26 18.5	
	comp=E,5.0nm,2.3s,comp=E,4.0nm,0.9s							
CHOJ	**Chosi**	**1.75**	**200**	A		A	18 26 18.8	
	comp=E,5.0nm,3.9s,comp=E,5.0nm,5.0s							
JYK	**Kaneyama**	**1.83**	**329**	A		A	18 26 20.0	
	comp=E,8.0nm,0.8s,comp=E,10.0nm,1.0s							
JNS	**Sasagawa**	**1.85**	**285**	A		A	18 26 20.2	
	comp=E,6.0nm,1.0s,comp=E,6.0nm,1.1s							
JYA	**Atsumi**	**1.92**	**311**	A		A	18 26 21.3	
	comp=E,28nm,0.8s,comp=E,15nm,1.2s							
JSMT	**Sammumatsuo**	**1.94**	**208**	A		A	18 26 21.5	
	comp=E,18nm,2.5s,comp=E,20nm,2.0s							
JAG	**Ashikaga**	**1.94**	**242**	A		A	18 26 21.4	
	comp=E,2.0nm,7.1s,comp=E,3.0nm,3.0s							
JYYZ	**Yamagatayuza**	**2.11**	**322**	A		A	18 26 23.9	
	comp=E,20nm,5.0s,comp=E,19nm,3.6s							
JOM	**Ohasama**	**2.13**	**354**	A		A	18 26 24.3	
	comp=E,5.0nm,1.7s,comp=E,3.0nm,0.7s							
JRG	**Rokugo**	**2.17**	**340**	A		A	18 26 24.9	
	comp=E,5.0nm,2.1s,comp=E,7.0nm,4.1s							
JCN	**Nagara**	**2.23**	**210**	A		A	18 26 25.7	
	comp=E,16nm,3.0s,comp=E,15nm,2.3s							
JSZI	**Iwateshizukuis**	**2.43**	**349**	A		A	18 26 28.7	
	comp=E,10.0nm,1.7s,comp=E,11nm,1.1s							
JYW	**Yuwa**	**2.43**	**334**	A		A	18 26 28.7	
	comp=E,15nm,2.6s,comp=E,14nm,1.5s							
JGK	**Kuji**	**2.48**	**252**	A		A	18 26 29.3	
	comp=E,3.0nm,2.0s,comp=E,4.0nm,4.0s							
TATJ	**Tateyama 2**	**2.69**	**211**	A		A	18 26 32.3	
	comp=E,8.0nm,4.2s,comp=E,5.0nm,4.3s							
JSD	**Sado**	**2.72**	**286**			**Pn**	**18 26 32.1**	**-0.2**
JSD	**Sado**	**2.72**	**286**	P		**Pn**	**18 26 33.0**	**+0.7**
MJAR	**Matsushiro Arr**	**2.82**	**254**	Pn		**Pn**	**18 26 33.2**	**-0.5**
	2.4nm,0.3s,baz=78,slow=16,SNR=88							
MJAR				Sn		**Sb**	**18 27 13.4**	**-0.2**
	2.9nm,0.3s,baz=78,slow=12,SNR=4.2							
MJAR				LR		LR	18 27 30.1	
	comp=Z,54nm,19.5s,baz=118,slow=38 9.5nm,0.3s							
MAJO	**Matsushiro**	**2.82**	**254**			**Pn**	**18 26 34.5**	**+0.8**
MAJO	**Matsushiro**	**2.82**	**254**	P		**Pn**	**18 26 35.1**	**+1.4**
MAJO	**Matsushiro**	**2.82**	**254**	*c* P		**Pn**	**18 26 34.4**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.82**	**254**			**Pn**	**18 26 34.2**	**+0.5**
JKEN	**Kujiedanarisaw**	**2.85**	**2**	A		A	18 26 34.7	
	comp=E,8.0nm,0.9s,comp=E,8.0nm,1.1s							
JNTW	**Noshirotokiwa**	**3.12**	**340**	A		A	18 26 38.4	
	comp=E,11nm,4.7s,comp=E,9.0nm,2.2s							
JOG3	**Oga3**	**3.22**	**323**	A		A	18 26 35.5	
	comp=E,4.0nm,2.8s,comp=E,6.0nm,1.8s							
JHHS	**Hirosakihyakuz**	**3.43**	**344**	A		A	18 26 42.8	
	comp=E,6.0nm,4.7s,comp=E,6.0nm,3.9s							
JTM	**Tenmabayashi**	**3.45**	**354**	Pn		**Pn**	**18 26 42.8**	**+0.5**
JTM	**Tenmabayashi**	**3.45**	**354**	P		**Pn**	**18 26 43.4**	**+1.0**
JTT	**Ttatey**	**3.48**	**259**	A		A	18 26 43.5	
	comp=E,4.0nm,2.2s,comp=E,6.0nm,1.6s							
JGF	**Kuroka**	**3.83**	**244**			**Pn**	**18 26 48.7**	**+1.1**
JGF	**Kuroka**	**3.83**	**244**	P		**Pn**	**18 26 49.2**	**+1.6**
JAHD	**Aomorihigashid**	**3.91**	**357**	A		A	18 26 49.7	
	comp=E,8.0nm,1.7s,comp=E,8.0nm,1.2s							
INU	**Inuyama**	**4.19**	**243**			**Pn**	**18 26 53.3**	**+0.8**
INU	**Inuyama**	**4.19**	**243**	P		**Pn**	**18 26 54.6**	**+2.1**
JHJ2	**Mitsune**	**4.47**	**199**	Pn		**Pn**	**18 26 57.7**	**+1.3**
JHJ2	**Mitsune**	**4.47**	**199**	P		**Pn**	**18 26 58.2**	**+1.8**
JHJ	**Hachijo jima 2**	**4.47**	**200**	Pn		**Pn**	**18 26 56.6**	**+0.2**
	99nm,0.3s,baz=293,slow=23,SNR=15							
JHJ				Sn		**Sn**	**18 27 42.7**	**-6.2**
	4.8nm,0.3s,baz=67,slow=19,SNR=1.3							
ERM	**Erimo**	**4.81**	**14**	Pn		**Pn**	**18 27 00.6**	**-0.5**
ERM	**Erimo**	**4.81**	**14**	P		**Pn**	**18 27 01.0**	**-0.1**
ERM	**Erimo**	**4.81**	**14**	*i* P		**Pn**	**18 27 00.1**	**-1.0**
JEM	**Erimo**	**4.81**	**14**	P		**Pn**	**18 27 00.9**	**-0.2**
NMR	**Nemuro--Hokkai**	**6.79**	**26**	*e*P		**Pn**	**18 27 25.9**	**-2.4**
NMR				*e*S		**Sn**	**18 28 39.2**	**-6.8**
ASAJ	**Asahikawa**	**6.80**	**6**	P		**Pn**	**18 27 28.0**	**-0.4**
JKA	**Kamikawa-asahi**	**6.80**	**6**	Pn		**Pn**	**18 27 27.9**	**-0.4**
JHS	**Saijyo**	**7.24**	**254**	Pn		**Pn**	**18 27 34.3**	**-0.1**
JHS	**Saijyo**	**7.24**	**254**	P		**Pn**	**18 27 35.7**	**+1.3**
JMN	**Monobe**	**7.24**	**242**	P		**Pn**	**18 27 37.1**	**+2.6**
RUSJ	**Misakicho**	**7.30**	**21**	*e*P		**Pn**	**18 27 34.1**	**-1.1**
RUSJ				*e*S		**Sn**	**18 28 59.0**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**7.42**	**25**	*e*P		**Pn**	**18 27 33.6**	**-3.3**
YUK				*e*S		**Sn**	**18 28 55.6**	**-6.0**
YUK				pmax	pmax			
	comp=Z,70nm,0.5s							
YUK				pmax	pmax			
	comp=N,43nm,0.4s							
YSS	**Yuzh-Sakhalins**	**9.63**	**5**	*e*P		**Pn**	**18 28 06.6**	**-0.6**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
USRK	**Ussuriysk Ar.**	**9.98**	**316**	Pn		**Pn**	**18 28 13.7**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=115,slow=13,SNR=7.0							
USRK				LR		LR	18 31 44.5	
	comp=Z,255nm,19.3s,baz=140,slow=36							
JCJ	**Chichijima**	**10.24**	**177**	Pn		**Pn**	**18 28 14.2**	**-1.5**
	comp=Z,36nm,0.7s,baz=262,slow=23,SNR=6.5							
JCJ				Sn		Sn	18 30 00.3	-11
	comp=Z,1.8nm,0.3s,baz=286,slow=21,SNR=2.3							
JCJ	**Chichijima**	**10.24**	**177**	P		**Pn**	**18 28 17.5**	**+1.9**
KSRS	**Korea Array**	**10.87**	**275**	Pn		**Pn**	**18 28 22.8**	**-1.4**
	baz=90,slow=14,SNR=1.7							
KSRS				LR		LR	18 32 23.1	
	comp=Z,83nm,19.9s,baz=100,slow=37							
KLR	**Kul'dur**	**13.85**	**332**	Pn		**Pn**	**18 29 05.6**	**+0.8**
	baz=131,slow=17,SNR=1.7							
KLR				LR		LR	18 34 18.2	
	comp=Z,166nm,18.8s,baz=130,slow=37							
HEH	**HeiHe**	**16.42**	**326**	*e*P		**P**	**18 29 40.6**	**-1.3**
HEH				pmax	pmax			
	comp=Z,5.0nm,1.4s							
HEH				pmax	pmax			
	comp=Z,330nm,5.1s							
ZEA	**Zeya**	**19.15**	**333**	*e*P		**Pn**	**18 30 12.1**	**-0.7**
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ZEA				MLR	MLR			
	comp=Z,200nm,16.0s							
NJ2	**Nanjing**	**19.40**	**261**	*e*P		**P**	**18 30 15.0**	**+0.1**
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.6s							
HNS	**HongShan**	**21.33**	**278**	⇑P		**P**	**18 30 33.4**	**-2.4**
HNS				pmax	pmax			
	comp=Z,9.0nm,1.1s							
MA2	**Magadan**	**23.01**	**12**	P		**P**	**18 30 52.8**	**-0.8**
	comp=Z,12nm,0.8s,baz=61,slow=23,SNR=2.2							
	comp=Z,12nm,0.8s							
YAK	**Yakutsk**	**25.79**	**347**	P		**P**	**18 31 19.1**	**-0.4**
	comp=Z,6.6nm,0.5s,baz=170,slow=0.7,SNR=9.0							
YAK				LR		LR	18 41 38.1	
	comp=Z,89nm,18.9s,baz=93,slow=37							
	comp=Z,6.6nm,0.5s							
YAK	**Yakutsk**	**25.79**	**347**	P		**P**	**18 31 18.9**	**-0.6**
YAK				IAmb	IAmb		18 31 21.2	
	comp=Z,18nm,0.8s							
YAK	**Yakutsk**	**25.79**	**347**	*e*P		**P**	**18 31 19.2**	**-0.4**
YAK				pmax	pmax			
	comp=Z,12nm,0.9s							
SEY	**Seymchan**	**26.45**	**11**	P		**P**	**18 31 26.8**	**+1.2**
	comp=Z,12nm,1.0s,baz=213,slow=1.8,SNR=6.4							
	comp=Z,12nm,1.0s							
SEY	**Seymchan**	**26.45**	**11**	*c* eP		**P**	**18 31 27.0**	**+1.4**
SEY				pmax	pmax			
	comp=Z,25nm,1.7s							
ULN	**Ulaanbaatar**	**27.29**	**304**	P		**P**	**18 31 32.1**	**-1.4**
ULN	**Ulaanbaatar**	**27.29**	**304**	*i* P		**P**	**18 31 32.0**	**-1.5**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**27.72**	**303**	P		**P**	**18 31 36.3**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=102,slow=8.8,SNR=20	

KURK Kurchatov 45.84 308 *i* P **P 18 34 10.1 -0.8**
KURK pmax pmax
comp=Z,11nm,0.8s
K20K Telida 45.99 34 P **P 18 34 13.5 +1.6**
K20K IAmb IAmb 18 34 45.3
comp=Z,12nm,1.4s
J20K Nowinta River 46.00 33 P **P 18 34 13.6 +1.6**
J20K IAmb IAmb 18 34 14.5
comp=Z,5.5nm,1.1s
IMAR Indian Mountai 46.31 31 P **P 18 34 16.2 +1.8**
H21K Melozitna Rive 46.67 31 P **P 18 34 18.9 +1.7**
H21K IAmb IAmb 18 34 43.4
comp=Z,11nm,1.5s
JIRN Jiri 47.12 275 *eP* **P 18 34 21.6 -0.1**
comp=Z,3.9nm,0.4s
GUN Gumba 47.26 275 *eP* **P 18 34 22.9 +0.2**
PKI Pulchoki 47.78 275 *eP* **P 18 34 26.1 -0.7**
comp=Z,3.0nm,0.4s
COLD Coldfoot 47.81 29 P **P 18 34 29.0 +2.9**
TOLK Toolik Lake Re 48.13 27 P **P 18 34 30.6 +2.0**
TOLK IAmb IAmb 18 34 31.6
comp=Z,3.6nm,0.8s
GKN Gorkha 48.20 276 *eP* **P 18 34 29.3 -0.5**
comp=Z,6.8nm,0.6s
MDM Murphy Dome 48.58 32 P **P 18 34 33.6 +1.6**
MDM IAmb IAmb 18 34 34.9
comp=Z,6.1nm,1.0s
H24K Noodor Dome 48.71 31 P **P 18 34 35.1 +2.0**
H24K IAmb IAmb 18 35 01.1
comp=Z,9.7nm,1.4s
DANN Dangsing 48.74 277 *eP* **P 18 34 34.2 0.0**
comp=Z,1.3nm,0.6s
POKR Poker Plat Res 48.91 32 P **P 18 34 36.0 +1.4**
POKR IAmb IAmb 18 34 37.6
comp=Z,9.3nm,0.9s
DHY Denali Highway 49.02 35 P **P 18 34 37.6 +1.9**
DHY IAmb IAmb 18 34 57.2
comp=Z,11nm,1.3s
SCM Sheep Creek Mo 49.13 36 P **P 18 34 38.1 +1.6**
SCM Sheep Creek Mo 49.13 36 P **P 18 34 38.1 +1.6**
SCM pmax pmax
comp=Z,34nm,1.4s
IL31 49.16 33 P **P 18 34 37.8 +1.4**
IL31 IAmb IAmb 18 34 40.0
comp=Z,12nm,1.5s
ILAR Eielson Array 49.16 33 P **P 18 34 37.6 +1.1**
comp=Z,2.7nm,0.7s,baz=267,slow=6.2,SNR=31
comp=Z,2.7nm,0.7s
ILAR Eielson Array 49.16 33 P **P 18 34 37.8 +1.3**
PRP Porcupine Dome 49.70 31 P **P 18 34 42.1 +1.4**
PRP IAmb IAmb 18 34 47.7
comp=Z,5.3nm,1.2s
KLU Klutina 49.83 37 P **P 18 34 43.6 +1.9**
BMAR Burnt Mountain 49.99 29 P **P 18 34 45.3 +2.5**
KSH Kashi 50.40 294 P **P 18 34 51.0 +4.6**
SCRK Sand Creek 50.47 33 P **P 18 34 47.9 +1.3**
BRVK Borovoye 50.51 312 *ce*P **P 18 34 46.8 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
J26L Joseph Creek 50.60 33 **P 18 34 48.3 +0.7**
I26K Coal Creek Min 50.70 32 P **P 18 34 48.3 +0.1**
I26K IAmb IAmb 18 35 17.4
comp=Z,9.2nm,1.4s
GLB Gilahina Butte 50.84 37 P **P 18 34 51.0 +1.6**
GLB IAmb IAmb 18 35 15.7
comp=Z,17nm,1.4s
MTN Manton Dam 50.89 193 P **P 18 34 50.5 +0.4**
MTN IAmb IAmb 18 34 59.6
comp=Z,9.4nm,1.0s
L27K Beaver Creek, 51.54 34 P **P 18 34 56.5 +1.9**
L27K IAmb IAmb 18 34 58.3
comp=Z,5.2nm,1.1s
BCAR Beaver Creek A 51.56 34 P **P 18 34 56.7 +2.0**
BARN Barnard Glacie 51.93 37 P **P 18 34 59.1 +1.4**
DAWY Dawson 52.46 33 P **P 18 35 03.6 +2.2**
EPYK Eagle Plains 53.18 30 P **P 18 35 09.0 +2.2**
EPYK IAmb IAmb 18 35 09.8
comp=Z,10nm,0.8s
M30M Minto, Yukon 53.90 35 P **P 18 35 13.4 +1.4**
M30M IAmb IAmb 18 35 15.5
comp=Z,12nm,1.2s
HYT Haines Junctio 53.96 37 P **P 18 35 14.1 +1.5**
HYT IAmb IAmb 18 35 57.9
comp=Z,13nm,1.3s
INK Inuvik 54.04 27 P **P 18 35 14.4 +1.6**
comp=Z,3.3nm,0.6s,baz=304,slow=4.8
comp=Z,3.3nm,0.6s
INK Inuvik 54.04 27 P **P 18 35 14.4 +1.6**
INK IAmb IAmb 18 35 15.4
comp=Z,7.5nm,1.1s
INK Inuvik 54.04 27 P **P 18 35 14.5 +1.6**
INK pmax pmax
comp=Z,7.0nm,1.2s
GSI Gunungsitoli 54.08 239 P **P 18 35 13.7 -0.2**
KNRA Kununurra 54.11 195 P **P 18 35 13.9 0.0**
KNRA IAmb IAmb 18 35 15.5
comp=Z,7.3nm,0.7s
P29M Windy Craggy 54.13 38 P **P 18 35 15.8 +1.9**
P29M IAmb IAmb 18 35 19.1
comp=Z,11nm,1.0s
FARO Faro, Yukon 55.54 34 P **P 18 35 26.0 +2.0**
CHGR Chuyangaron 55.65 295 P **P 18 35 25.5 +0.3**
CHGR Chuyangaron 55.65 295 P **P 18 35 25.5 +0.3**
CHGR pmax pmax
comp=Z,15nm,0.7s
ARU Arti 56.21 318 P **P 18 35 28.3 -0.4**
ARU Arti 56.21 318 *c i*P **P 18 35 28.2 -0.6**
ARU 18 36 22.1
ARU 18 37 31.4
ARU S **S 18 43 20.1 +1.4**
ARU pmax pmax
comp=Z,5.0nm,0.5s
WB0 Warramunga Arr 57.22 188 P **P 18 35 36.0 -0.2**
WB0 IAmb IAmb 18 35 36.8
comp=Z,3.9nm,0.8s
WRAB Tennant Creek 57.38 188 *i* P **P 18 35 39.3 +1.9**
WRAB pmax pmax
comp=Z,4.0nm,0.9s
WR0 Warramunga Arr 57.39 188 P **P 18 35 37.6 +0.2**
WR0 IAmb IAmb 18 35 38.1
comp=Z,3.4nm,0.8s
WB2 Warramunga Arr 57.39 188 P **P 18 35 37.1 -0.4**
WB2 IAmb IAmb 18 35 41.6
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 57.40 188 P **P 18 35 37.2 -0.3**
comp=Z,3.2nm,0.8s,baz=3.7,slow=7.3,SNR=31
comp=Z,3.2nm,0.8s
WRA Warramunga Arr 57.40 188 P **P 18 35 37.1 -0.4**
WRA Warramunga Arr 57.40 188 *i* P **P 18 35 37.4 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 57.83 310 P **P 18 35 39.8 -0.6**
ABKAR IAmb IAmb 18 35 40.8
comp=Z,5.9nm,0.6s
DLBC Dease Lake 58.29 38 P **P 18 35 45.0 +1.4**
comp=Z,3.7nm,0.9s,baz=262,slow=6.1
comp=Z,3.7nm,0.9s
EUNU Eureka 59.85 9 P **P 18 35 54.7 +0.6**
EUNU IAmb IAmb 18 35 55.4
comp=Z,5.3nm,0.8s
KIRV Kirov 60.07 323 *ce*P **P 18 35 55.5 -0.2**
SPITS Spitsbergen Ar 60.24 349 LR LR 19 02 56.2
comp=Z,39nm,18.4s,baz=360,slow=37
ASAR Alice Springs 61.12 188 P **P 18 36 03.3 0.0**
comp=Z,1.6nm,0.7s,baz=18,slow=5.7,SNR=16
comp=Z,1.6nm,0.7s
ASAR Alice Springs 61.12 188 P **P 18 36 02.4 -0.9**
ASAR Alice Springs 61.12 188 P **P 18 36 02.4 -0.9**
YKA Yellowknife Ar 63.47 30 P **P 18 36 19.7 +1.2**
comp=Z,1.7nm,0.7s,baz=194,slow=21,SNR=2.0
comp=Z,1.7nm,0.7s
KLMR Klimovskoe 63.56 328 *eP* **P 18 36 16.4 -2.8**
KLMR AMP 18 36 18.8
comp=Z,19nm,1.9s
KLMR Klimovskoe 63.56 328 *eP* **P 18 36 16.3 -2.9**
KLMR pmax pmax
comp=Z,19nm,1.9s
BELG Belogornoye 63.66 317 *i* P **P 18 36 19.2 -0.8**
BELG pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 63.74 339 P **P 18 36 20.3 -0.1**
comp=Z,4.1nm,0.9s,baz=56,slow=8.0,SNR=6.4
comp=Z,4.1nm,0.9s
GEYT Alibeck 63.80 299 P **P 18 36 21.1 -0.2**
comp=Z,4.3nm,0.7s,baz=27,slow=3.6,SNR=11
comp=Z,4.3nm,0.7s
VORR Voronezh 68.51 319 *e*P **P 18 36 52.2 +1.0**
VORR pmax pmax
comp=Z,20nm,0.4s
FIA1 FINESS Array S 68.59 332 P **P 18 36 51.4 -0.2**
FINES FINESS Array B 68.59 332 P **P 18 36 51.5 0.0**
comp=Z,7.9nm,0.7s,baz=34,slow=8.3,SNR=25
comp=Z,7.9nm,0.7s
FINES FINESS Array B 68.59 332 P **P 18 36 51.3 -0.2**
FINES FINESS Array B 68.59 332 *i* P **P 18 36 51.7 +0.2**
FINES pmax pmax
comp=Z,8.0nm,0.7s
STKA Stephens Creek 68.87 180 P **P 18 36 54.1 +0.6**
comp=Z,2.2nm,0.8s,baz=354,slow=9.3,SNR=3.6
comp=Z,2.2nm,0.8s
FORT Forrest 68.95 192 P **P 18 36 54.7 +0.7**
PINE Pine Mountain 70.03 50 P **P 18 37 02.6 +1.5**
PINE IAmb IAmb 18 37 04.3
comp=Z,6.7nm,0.8s
KBZ Khabaz 70.79 311 P **P 18 37 06.1 +0.7**
comp=Z,3.7nm,0.8s,baz=357,slow=3.1,SNR=8.0
comp=Z,3.7nm,0.8s
KBZ Khabaz 70.79 311 *i* P **P 18 37 05.2 -0.2**
KBZ pmax pmax
comp=Z,12nm,2.0s
KIV Kislovodsk 70.80 311 *eP* **P 18 37 07.0 +1.4**
KIV pmax pmax
comp=Z,13nm,1.1s
UOSS Minazif 71.84 288 P **P 18 37 12.1 0.0**
NWAO Narrogin (SRO) 73.52 201 P **P 18 37 22.4 +0.8**
NWAO Narrogin (SRO) 73.52 201 P **P 18 37 22.4 +0.8**
NWAO IAmb IAmb 18 37 49.9
comp=Z,27nm,1.5s
NWAO Narrogin (SRO) 73.52 201 P **P 18 37 22.4 +0.8**
NWAO pmax pmax
comp=Z,27nm,1.5s
NC405 NORSAR Array S 73.73 337 P **P 18 37 22.7 -0.1**
NC204 NORSAR Array S 73.90 338 P **P 18 37 24.2 +0.5**
NB201 NORSAR Array S 73.91 337 P **P 18 37 24.1 +0.3**
NB2 NORSAR Subarra 73.94 337 P **P 18 37 23.8 -0.2**
comp=Z,9nm,0.8s,baz=38,slow=5.9
NOA NORSAR Array B 73.94 337 P **P 18 37 23.5 -0.5**
comp=Z,3.0nm,0.8s,baz=39,slow=5.9,SNR=12
NOA LR LR 19 13 17.3
comp=Z,30nm,18.5s,baz=155,slow=39
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 74.12 322 P **P 18 37 24.9 -0.4**
comp=Z,3.3nm,0.5s,baz=46,slow=6.1,SNR=37
comp=Z,3.3nm,0.5s
AKASG Malin Array Be 74.12 322 P **P 18 37 25.6 +0.4**
AKASG Malin Array Be 74.12 322 *ce*P **P 18 37 24.8 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 74.12 322 P **P 18 37 25.1 -0.1**
AKBB IAmb IAmb 18 37 25.7
comp=Z,6.3nm,0.7s
AKBB Malin Array Si 74.12 322 *ce*P **P 18 37 24.8 -0.4**
AKBB pmax pmax
comp=Z,5.0nm,0.6s
LHV Little Huntoon 74.67 54 P **P 18 37 31.1 +2.5**
LHV IAmb IAmb 18 37 32.0
comp=Z,7.0nm,1.1s
NVAR Mina Array Bea 74.69 53 P **P 18 37 30.7 +1.6**
comp=Z,1.8nm,0.8s,baz=282,slow=6.0,SNR=11
comp=Z,1.8nm,0.8s
SFJD Kangerlussuaq 75.56 5 LR LR 19 13 47.9
comp=Z,37nm,18.0s,baz=323,slow=38
TPH Tonopah 75.59 53 P **P 18 37 35.9 +1.7**
TPH Tonopah 75.59 53 P **P 18 37 35.9 +1.7**
TPH pmax pmax
comp=Z,13nm,0.9s
H17A Grant Village 75.75 45 P **P 18 37 38.6 +3.5**
H17A IAmb IAmb 18 37 39.5
comp=Z,4.6nm,0.8s
IMW Indian Meadow 75.86 45 P **P 18 37 38.1 +2.3**
FXWY Fox Creek 75.97 46 P **P 18 37 38.3 +2.0**
TPAW Teton Pass 76.10 46 P **P 18 37 39.5 +2.3**
TPNV Topopah Spring 76.88 54 P **P 18 37 42.8 +1.3**
TPNV Topopah Spring 76.88 54 P **P 18 37 42.8 +1.3**
TPNV pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 77.35 46 P **P 18 37 45.1 +1.0**
comp=Z,0.9nm,0.6s,baz=279,slow=2.1,SNR=12
comp=Z,0.9nm,0.6s
BUR08 Bucovina Ar. S 78.13 322 P **P 18 37 48.5 +0.3**
BUR08 IAmb IAmb 18 37 51.6
comp=Z,5.8nm,1.3s
BURAR Bucovina Array 78.14 322 P **P 18 37 48.7 +0.5**
BRTR Keskin Array B 78.74 312 P **P 18 37 51.2 -0.6**
comp=Z,1.3nm,1.0s,baz=38,slow=4.7,SNR=3.6
comp=Z,1.3nm,1.0s
BRTR Keskin Array B 78.74 312 *ce*P **P 18 37 52.9 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
ULM Lac du Bonnet 79.16 33 P **P 18 37 54.0 +0.3**
comp=Z,2.0nm,0.4s,baz=19,slow=2.4,SNR=3.1
comp=Z,2.0nm,0.4s
ULM Lac du Bonnet 79.16 33 P **P 18 37 54.0 +0.3**
VYHS Vyhne 80.54 325 *eP* **P 18 38 05.6 +4.4**
VYHS *e* 19 07 15.9
VYHS Vyhne 80.54 325 *eP* **P 18 38 05.6 +4.4**
PV13 Radium Mtn., P 80.74 49 P **P 18 38 02.9 +0.1**
PV13 IAmb IAmb 18 38 08.9
comp=Z,3.9nm,0.9s
CLL Collm 80.89 330 *eP* **P 18 38 03.0 0.0**
comp=Z,5.0nm,0.9s
CLL LmV 19 30 00.0
comp=Z,100nm,20.4s
CLL Collm 80.89 330 *eP* **P 18 38 03.0 0.0**
CLL pmax pmax
comp=Z,5.0nm,0.9s
S22A 4UR Ranch, Cre 82.19 48 P **P 18 38 12.5 +1.9**
KHC Kasperske Hory 82.34 329 *eP* **P 18 38 10.9 +0.1**
KHC Kasperske Hory 82.34 329 *eP* **P 18 38 10.9 +0.1**
GERES GERESS Array B 82.51 328 P **P 18 38 12.0 +0.2**
comp=Z,0.6nm,0.6s,baz=29,slow=6.7,SNR=3.6
comp=Z,0.6nm,0.6s
GERES GERESS Array B 82.51 328 P **P 18 38 12.0 +0.2**
IDI Anoyia 86.87 313 LR LR 19 19 15.3
comp=Z,55nm,21.8s,baz=162,slow=37
TXAR Lajitas Array 89.82 52 P **P 18 38 49.4 +1.2**
comp=Z,1.1nm,0.6s,baz=295,slow=3.2,SNR=14
comp=Z,1.1nm,0.6s
LPAZ La Paz 146.42 59 PKPbc **PKPbc 18 45 31.6 +0.3**
comp=Z,1.3nm,0.5s,baz=353,slow=2.6,SNR=7.7

*JMA **21** 18:38:17.4±0.2,34.7°N±0.6°×140.6°E±0.7, h55km±2km, MV2.7/32, SE OFF BOSO PENINSULA*
*IDC **21** 18:38:22.0±2.9,34.4°N×140.10E, h60km±19km, mb3.2/3, mbtmp3.4/4, Error ellipse: s-maj=52.1km s-min=6.9km az=76.0*
ISC 21 18:38:18.4±1.1,34°64N±0°04×140°63E±0°06, h44km±10km, n19, σ0°97/26, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.19**	**329**	P		**Pn**	**18 38 25.9**	**+0.2**
BSO3				*eX*			18 38 32.7	
BSO1	**Boso 1**	**0.29**	**87**	*i* P		**Pn**	**18 38 26.8**	**+0.4**
BSO1				X			18 38 33.9	
BSO4	**Boso 4**	**0.42**	**326**	P		**Pn**	**18 38 28.4**	**+0.1**
BSO4				*eX*			18 38 36.9	
KTR	**Katsuura**	**0.57**	**333**	P		**Pn**	**18 38 29.7**	**-0.5**
KTR				S		**Sn**	**18 38 38.1**	**-0.5**
JKUC	**kamogawauchiur**	**0.63**	**326**	P		**Pn**	**18 38 30.3**	**-0.7**
JKUC				S		**Sn**	**18 38 39.4**	**-0.6**
TATJ	**Tateyama 2**	**0.72**	**303**	P		**Pn**	**18 38 32.3**	**0.0**
TATJ				S		**Sn**	**18 38 42.9**	**+0.7**
JIM2	**Oshima 3**	**0.99**	**275**	P		**Pn**	**18 38 35.2**	**-0.7**
JIM2				*eS*		**Sn**	**18 38 47.5**	**-1.2**
JSMT	**Sammumatsuo**	**1.01**	**352**	P		**Pn**	**18 38 35.2**	**-1.0**
JSMT				*eS*		**Sn**	**18 38 47.8**	**-1.4**
JMYK	**Miyake Tsubota**	**1.06**	**237**	P		**Pn**	**18 38 37.1**	**+0.2**
JMYK				*eS*		**Sn**	**18 38 51.0**	**+0.5**
JTHY	**Toshimahigashi**	**1.11**	**264**	P		**Pn**	**18 38 37.2**	**-0.3**
JTHY				S		**Sn**	**18 38 51.5**	**-0.2**
JMKN	**Mikurajimanish**	**1.14**	**229**	P		**Pn**	**18 38 37.7**	**-0.2**
JMKN				S		**Sn**	**18 38 52.0**	**-0.3**
JHJ	**Hachijo jima 2**	**1.67**	**205**	P		**Pn**	**18 38 45.5**	**+0.3**
	257nm,1.1s,baz=36,slow=14,SNR=11							
JHJ				S		**Sn**	**18 39 02.2**	**-3.2**
	126nm,0.3s,baz=99,slow=22,SNR=12							
MJAR	**Matsushiro Arr**	**2.74**	**315**	P		**Pn**	**18 39 00.7**	**+0.9**
	1.7nm,0.3s,baz=140,slow=11,SNR=5.4							
MJAR				S		**Sn**	**18 39 31.2**	**-0.6**
	3.4nm,0.6s,baz=150,slow=19,SNR=6.2							
H11N2	**WAKE ISLAND Hy**	**27.58**	**116**	T		T	19 13 19.2	
	baz=308							
H11N1	**WAKE ISLAND Hy**	**27.59**	**116**	T		T	19 13 36.7	
	baz=308							
H11N3	**WAKE ISLAND Hy**	**27.60**	**116**	T		T	19 13 18.0	
	baz=308							
MKAR	**Makanchi Array**	**44.89**	**304**	P		**P**	**18 46 29.7**	**+1.2**
	0.5nm,0.9s,baz=81,slow=10,SNR=2.1							
	0.5nm,0.9s							
WRA	**Warramunga Arr**	**54.61**	**187**	P		**P**	**18 47 42.2**	**-0.4**
	0.5nm,0.4s,baz=1.9,slow=7.9,SNR=27							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**58.34**	**187**	P		**P**	**18 48 09.3**	**+0.2**
	0.1nm,0.4s,baz=14,slow=9.9,SNR=8.4							
	0.1nm,0.4s							

*IDC **21** 18:39:22.8±0.6,17.83S×65.92E, h0km, mb4.1/15, mbtmp4.1/16, ML4.7/1, MS4.1/52, Error ellipse: s-maj=18.2km s-min=17.4km az=87.0*
*NEIC **21** 18:39:23.5±2.0,17.82S±0.09×65.52E±0.06, h10km±1km, mb4.6/26, Error ellipse: s-maj=16.7km s-min=6.1km az=207.0*
*GCMT **21** 18:39:29.5±0.2,17.58S±0.01×65.55E±0.01, h21km±1km, MW5.2/123, Moment Tensor Solution. s67,c87; s123,c211; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.85±.16; Mθθ-5.36±.14; Mϕϕ6.22±.15; Mrθ-1.01±.26; Mθϕ3.64±.12; Mϕr-0.87±.25; Best double couple: M06.96300×10^16 NP1ϕs241.00000°,δ90.00000°, λ11.00000°. NP2ϕs151.00000°,δ79.00000°,λ180.00000°. Principal axes: T 7.4210, Plg8.0000°, Azm106.0000°; N -0.9100, Plg79.0000°, Azm242.0000°; P -6.5050, Plg7.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 18:39:24.9±0.5,17.85S±0.09×65.69E±0.09, h17km, n93, σ1s36/43, mb4.4/25, MS4.1/54, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.90**	**229**			**Pn**	**18 40 08.0**	**-2.4**
H08S1	**Diego Garcia H**	**12.11**	**34**	T		T	18 54 37.5	
	baz=212,slow=76,SNR=486							
H08S2	**Diego Garcia H**	**12.12**	**34**	T		T	18 54 10.8	
	baz=212,slow=76,SNR=505							
H08S3	**Diego Garcia H**	**12.13**	**34**	T		T	18 54 11.9	
	baz=212,slow=76,SNR=708							
OPO	**Ambohidratompo**	**17.60**	**265**	P		**P**	**18 43 32.1**	**+1.4**
	0.2nm,0.3s,baz=86,slow=12,SNR=8.7							
OPO				S		Sn	18 46 35.9	-10
	1.3nm,0.4s,baz=296,slow=24,SNR=1.6							
	4.7nm,0.4s							
KMBO	**Kilima Mbogo**	**32.51**	**298**	LR		LR	18 57 32.4	
	comp=Z,18nm,18.1s,baz=87,slow=33							
LSZ	**Lusaka**	**36.00**	**268**	LR		LR	18 59 20.8	
	comp=Z,321nm,20.5s,baz=112,slow=33							
LSZ	**Lusaka**	**36.00**	**268**	P		**P**	**18 46 23.7**	**-1.9**
LSZ				IAmb	IAmb		18 46 27.8	
	comp=Z,17nm,1.4s							
LODK	**Lodwar**	**36.62**	**302**	P		**P**	**18 46 27.6**	**-3.2**
ATD	**Arta Tunnel**	**36.90**	**321**	LR		LR	19 00 11.6	
	comp=Z,214nm,18.6s,baz=150,slow=34							
LBTB	**Lobatse**	**37.89**	**252**	P		**P**	**18 46 42.5**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=166,slow=2.4,SNR=4.2							
LBTB				LR		LR	18 59 28.4	
	comp=Z,671nm,20.3s,baz=90,slow=32							
	comp=Z,3.8nm,0.8s							
MBAR	**Mbarara**	**38.39**	**293**	LR		LR	19 00 47.6	
	comp=Z,573nm,18.2s,baz=105,slow=33							
BOSA	**Boshof**	**38.51**	**246**	LR		LR	18 59 43.3	
	comp=Z,403nm,20.3s,baz=88,slow=32							
IPM	**Ipoh**	**41.32**	**61**	P		**P**	**18 47 10.8**	**+0.7**
IPM				IAmb	IAmb		18 47 11.7	
	comp=Z,7.1nm,0.9s							
KULM	**Kulim**	**41.46**	**60**	P		**P**	**18 47 10.6**	**-0.6**
KULM				IAmb	IAmb		18 47 15.1	
	comp=Z,6.3nm,0.9s							
LEM	**Lembang**	**42.30**	**80**	LR		LR	19 01 15.0	
	comp=Z,287nm,20.4s,baz=236,slow=31							
SUR	**Sutherland**	**42.83**	**241**	LR		LR	19 02 28.8	
	comp=Z,355nm,18.7s,baz=82,slow=32							
TSUM	**Tsumeb**	**45.52**	**260**	LR		LR	19 05 07.5	
	comp=Z,263nm,20.2s,baz=87,slow=34							
H01W2	**Cape Leeuwin H**	**46.14**	**121**	T		T	19 37 34.3	
	baz=277,slow=74							
H01W3	**Cape Leeuwin H**	**46.14**	**121**	T		T	19 37 42.6	
	baz=277							
H01W1	**Cape Leeuwin H**	**46.16**	**121**	T		T	19 37 36.9	
	baz=277,slow=74							
BRDH	**Bariadhala**	**47.61**	**33**	LR		LR	19 08 43.5	
	comp=Z,190nm,18.1s,baz=214,slow=37							
NWAO	**Narrogin (SRO)**	**48.47**	**118**	LR		LR	19 03 25.7	
	comp=Z,207nm,21.9s,baz=100,slow=30							
CM31	**Chiang Mai Arr**	**48.69**	**44**	P		**P**	**18 48 07.8**	**-0.8**
CM31				IAmb	IAmb		18 48 13.8	
	comp=Z,9.2nm,1.3s							
CMAR	**Chiang Mai Arr**	**48.69**	**44**	P		**P**	**18 48 08.0**	**-0.6**
	comp=Z,2.5nm,1.1s,baz=232,slow=7.6,SNR=14							
CMAR				LR		LR	19 06 20.5	
	comp=Z,156nm,19.0s,baz=235,slow=33							
	comp=Z,2.5nm,1.1s							
CMAR	**Chiang Mai Arr**	**48.69**	**44**	P		**P**	**18 48 08.7**	**+0.1**
CHTO	**Chiang Mai**	**48.94**	**44**	P		**P**	**18 48 11.8**	**+1.2**
MAW	**Mawson**	**49.76**	**181**	LR		LR	19 05 28.3	
	comp=Z,191nm,18.9s,baz=10.0,slow=31							
SBUM	**Sibu**	**50.08**	**71**	P		**P**	**18 48 19.7**	**+0.3**
SHL	**Shillong**	**50.12**	**31**	P		**P**	**18 48 18.6**	**-1.1**
SHL				IAmb	IAmb		18 48 23.8	
	comp=Z,8.0nm,1.0s							
KAPI	**Kappang**	**54.31**	**83**	LR		LR	19 08 13.4	
	comp=Z,174nm,21.6s,baz=246,slow=32							
EIL	**Elat**	**55.78**	**327**	LR		LR	19 09 43.3	
	comp=Z,144nm,20.8s,baz=139,slow=33							
GAR	**Garm**	**56.72**	**4**	P		**P**	**18 49 07.8**	**0.0**
AAK	**Ala-Archa**	**60.73**	**7**	LR		LR	19 13 11.8	
	comp=Z,94nm,20.2s,baz=200,slow=33							
KK31	**Karatay Array**	**60.81**	**4**	P		**P**	**18 49 37.0**	**+0.9**
KKAR	**Karatay Array**	**60.81**	**4**	P		**P**	**18 49 37.5**	**+1.3**
GNI	**Garni**	**60.92**	**342**	LR		LR	19 16 59.2	
	comp=Z,85nm,18.0s,baz=194,slow=37							
ASAR	**Alice Springs**	**63.53**	**108**	P		**P**	**18 49 54.7**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=272,slow=5.9,SNR=48							
ASAR				LR		LR	19 13 21.3	
	comp=Z,562nm,21.8s,baz=274,slow=32							
	comp=Z,2.4nm,0.7s							
ASAR	**Alice Springs**	**63.53**	**108**	P		**P**	**18 49 53.9**	**-1.0**
AS31	**Alice Springs**	**63.53**	**108**	P		**P**	**18 49 53.9**	**-1.0**
DAV	**Davao City (W)**	**64.08**	**73**	LR		LR	19 15 58.4	
	comp=Z,68nm,20.0s,baz=303,slow=34							
WRA	**Warramunga Arr**	**64.56**	**104**	P		**P**	**18 50 01.5**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=265,slow=5.5,SNR=38							
WRA				LR		LR	19 16 54.8	
	comp=Z,179nm,18.1s,baz=250,slow=35							
	comp=Z,4.4nm,0.9s							
WRA	**Warramunga Arr**	**64.56**	**104**	P		**P**	**18 50 01.6**	**-0.1**
WB2	**Warramunga Arr**	**64.57**	**104**	P		**P**	**18 50 01.5**	**-0.3**
WRAB	**Tennant Creek**	**64.57**	**104**	P		**P**	**18 50 02.0**	**+0.2**
BRTR	**Keskin Array B**	**64.62**	**333**	P		**P**	**18 50 04.0**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=140,slow=8.8,SNR=3.3							
	comp=Z,0.6nm,0.8s							
WB0	**Warramunga Arr**	**64.64**	**104**	P		**P**	**18 50 02.0**	**-0.3**
WB0				IAmb	IAmb		18 50 21.2	
	comp=Z,8.5nm,1.2s							
WR0	**Warramunga Arr**	**64.74**	**104**	P		**P**	**18 50 02.3**	**-0.5**
KBZ	**Khabaz**	**64.75**	**342**	LR		LR	19 18 40.5	
	comp=Z,110nm,19.9s,baz=162,slow=36							
MKAR	**Makanchi Array**	**66.06**	**12**	P		**P**	**18 50 10.8**	**0.0**
	comp=Z,1.5nm,1.0s,baz=211,slow=21,SNR=4.0							
MKAR				LR		LR	19 17 04.4	
	comp=Z,88nm,19.9s,baz=225,slow=34							
	comp=Z,1.5nm,1.0s							
SNAA	**Sanae**	**66.46**	**199**	P		**P**	**18 50 14.8**	**+1.6**
	comp=Z,3.5nm,1.0s,baz=134,slow=11,SNR=3.2							
SNAA				LR		LR	19 14 14.0	
	comp=Z,138nm,19.1s,baz=16,slow=31							
	comp=Z,3.5nm,1.0s							
SNAA	**Sanae**	**66.46**	**199**	P		**P**	**18 50 13.9**	**+0.7**
SNAA				IAmb	IAmb		18 50 20.2	
	comp=Z,4.4nm,1.1s							
ABKAR	**Akbulak array**	**67.00**	**356**	P		**P**	**18 50 15.2**	**-1.5**
ABKAR				IAmb	IAmb		18 50 34.4	
	comp=Z,8.8nm,1.4s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**69.05**	**118**	LR	LR	19 17 07.8	
	comp=Z,123nm,18.7s,baz=219,slow=33						
KURBB	**Kurchatov Arra**	**69.11**	**9**	LR	LR	19 18 21.3	
	comp=Z,125nm,20.0s,baz=141,slow=34						
TORD	**Torodi Ar. Bea**	**70.25**	**292**	P	**P**	**18 50 39.5**	**+1.8**
	comp=Z,1.5nm,1.0s,baz=135,slow=2.7,SNR=4.9						
	comp=Z,1.5nm,1.0s						
BVAR	**Borovoye Array**	**70.70**	**3**	LR	LR	19 19 41.7	
	comp=Z,75nm,21.9s,baz=189,slow=34						
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**18 50 49.9**	**+0.8**
	comp=Z,5.2nm,1.0s,baz=279,slow=3.8,SNR=5.9						
QSPA				LR	LR	19 17 58.0	
	comp=Z,152nm,21.6s,baz=283,slow=32						
	comp=Z,5.2nm,1.0s						
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**18 50 50.6**	**+1.4**
MLR	**Muntele Rosu**	**72.63**	**332**	LR	LR	19 21 31.5	
	comp=Z,99nm,19.6s,baz=116,slow=35						
ZAA0	**Zalesovo Array**	**73.37**	**12**	P	**P**	**18 50 53.2**	**-2.4**
ZAA0				IAmb	IAmb	18 51 13.2	
	comp=Z,6.1nm,1.3s						
ZALV	**Zalesovo Beam**	**73.37**	**12**	P	**P**	**18 50 54.1**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=243,slow=6.5,SNR=4.2						
ZALV				LR	LR	19 20 52.9	
	comp=Z,96nm,20.8s,baz=203,slow=34						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**73.37**	**12**	P	**P**	**18 50 53.6**	**-2.0**
DBIC	**Dimbokro**	**73.75**	**283**	LR	LR	19 21 59.2	
	comp=Z,150nm,19.8s,baz=120,slow=35						
VNDA	**Vanda**	**74.03**	**167**	P	**P**	**18 50 59.7**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=274,slow=8.6,SNR=2.1						
VNDA				LR	LR	19 19 28.5	
	comp=Z,99nm,19.9s,baz=267,slow=32						
	comp=Z,0.9nm,0.9s						
ARU	**Arti**	**74.24**	**356**	LR	LR	19 22 47.5	
	comp=Z,73nm,19.9s,baz=161,slow=35						
DIVS	**Divibare**	**74.46**	**328**	P	**P**	**18 51 02.2**	**-0.1**
DIVS				IAmb	IAmb	18 51 12.6	
	comp=Z,4.0nm,1.0s						
BELA	**Belgrano 2**	**74.83**	**192**	P	**P**	**18 51 03.5**	**-0.5**
BELA				IAmb	IAmb	18 51 32.9	
	comp=Z,4.9nm,1.4s						
SONM	**Songino Array**	**74.85**	**27**	P	**P**	**18 51 04.3**	**-0.3**
SONM				LR	LR	19 22 46.4	
	comp=Z,158nm,20.6s,baz=203,slow=35						
	comp=Z,1.2nm,1.0s						
AKASG	**Malin Array Be**	**75.41**	**337**	P	**P**	**18 51 09.6**	**+2.1**
	comp=Z,1.1nm,0.6s,baz=139,slow=4.8,SNR=6.5						
	comp=Z,1.1nm,0.6s						
CTA	**Charters Tower**	**75.47**	**107**	LR	LR	19 22 06.6	
	comp=Z,192nm,19.7s,baz=256,slow=34						
PMG	**Port Moresby**	**79.11**	**96**	LR	LR	19 26 05.8	
	comp=Z,77nm,19.2s,baz=257,slow=36						
VRAC	**Vranov**	**79.76**	**330**	LR	LR	19 28 34.9	
	comp=Z,26nm,18.8s,baz=129,slow=37						
KSRS	**Korea Array**	**80.29**	**46**	LR	LR	19 24 55.1	
	comp=Z,60nm,21.0s,baz=235,slow=34						
MDT	**Midelt**	**83.92**	**307**	LR	LR	19 30 07.6	
	comp=Z,178nm,19.2s,baz=129,slow=36						
FINES	**FINESS Array B**	**85.11**	**342**	LR	LR	19 29 39.7	
	comp=Z,55nm,21.5s,baz=75,slow=35						
KRVT	**Keravat (AS076**	**85.21**	**93**	LR	LR	19 27 59.0	
	comp=Z,48nm,21.0s,baz=8.1,slow=34						
ESDC	**Sonseca Array**	**86.46**	**314**	P	**P**	**18 52 09.5**	**+2.6**
	comp=Z,0.9nm,0.9s,baz=105,slow=4.5,SNR=3.1						
	comp=Z,0.9nm,0.9s						
MJAR	**Matsushiro Arr**	**87.14**	**50**	P	**P**	**18 52 08.6**	**-1.7**
	comp=Z,2.1nm,0.8s,baz=235,slow=6.2,SNR=4.7						
	comp=Z,2.1nm,0.8s						
BBTS	**Babate**	**87.25**	**286**	LR	LR	19 29 52.4	
	comp=Z,377nm,19.9s,baz=100,slow=35						
NRIK	**Noril'sk**	**88.35**	**8**	LR	LR	19 30 48.2	
	comp=Z,88nm,22.0s,baz=196,slow=35						
RPZ	**Rata Peaks**	**88.46**	**136**	LR	LR	19 23 43.9	
	comp=Z,166nm,18.9s,baz=254,slow=30						
KLR	**Kul'dur**	**88.67**	**37**	LR	LR	19 33 16.0	
	comp=Z,49nm,19.6s,baz=221,slow=36						
PMSA	**Palmer Station**	**89.18**	**199**	LR	LR	19 25 39.4	
	comp=Z,79nm,18.4s,baz=93,slow=31						
NOA	**NORSAR Array B**	**89.82**	**337**	LR	LR	19 35 23.7	
	comp=Z,29nm,18.2s,baz=150,slow=37						
HNR	**Honiara**	**91.15**	**100**	LR	LR	19 31 54.9	
	comp=Z,975nm,19.9s,baz=237,slow=35						
ARCES	**ARCESS Array B**	**91.68**	**347**	LR	LR	19 36 07.1	
	comp=Z,24nm,18.2s,baz=120,slow=37						
DZM	**Mont Dzumac**	**92.92**	**114**	LR	LR	19 31 07.0	
	comp=Z,229nm,19.4s,baz=204,slow=34						
EKA	**Eskdalemuir Ar**	**93.08**	**328**	LR	LR	19 34 35.2	
	comp=Z,22nm,21.1s,baz=0.0,slow=36						
YAK	**Yakutsk**	**94.12**	**25**	LR	LR	19 33 31.4	
	comp=Z,80nm,21.7s,baz=266,slow=35						
TIXI	**Tiksi**	**98.79**	**17**	LR	LR	19 36 30.3	
	comp=Z,77nm,21.6s,baz=266,slow=35						
RCBR	**Riachuelo**	**99.19**	**261**	LR	LR	19 31 12.5	
	comp=Z,228nm,21.4s,baz=265,slow=31						
SPITS	**Spitsbergen Ar**	**99.80**	**351**	LR	LR	19 42 56.1	
	comp=Z,29nm,18.4s,baz=104,slow=38						

*OSPL **21** 18:45:08.4±5.3, 19°.09N×73°.66W, h0km±19km, ML2.6*
*SSNC **21** 18:45:10.2±1.4, 19°.19N×73°.62W, h5km±10km, MD2.9, ML2.5, MW3.2*

ISC 21 18:45:07.3±1.2, 19°.18N±0°.06×73°.52W±0°.05, h15km±11km, n13, σ0°.88/25, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	**Logne**	**1.09**	**127**	*e*P	**Pg**	**18 45 28.4**	**+0.1**
LGNH				*e*S	**Sg**	**18 45 43.7**	**+1.1**
LGNH				IAML		18 45 45.5	
	comp=Z,108nm,0.3s						
MASC	**Masc**	**1.20**	**326**	*e*P	**Pg**	**18 45 30.2**	**-0.2**
MASC				*e*S	**Sb**	**18 45 45.3**	**+0.2**
MASC				IAML		18 45 47.5	
	comp=E,100nm,0.2s						
MASC				IAML		18 45 47.7	
	comp=N,61nm,0.2s						
MASC	**Masc**	**1.20**	**326**	*i* P	**Pg**	**18 45 30.4**	**0.0**
MASC				*e*S	**Sn**	**18 45 45.5**	**-0.1**
MASC				IAML		18 45 48.2	
	comp=Z,67nm,0.4s						
PAPH	**Port-au-Prince**	**1.32**	**119**	*i* P	**Pg**	**18 45 32.6**	**-0.2**
PAPH				*e*S	**Sg**	**18 45 50.8**	**+0.7**
PAPH				IAML		18 45 54.2	
	comp=Z,248nm,0.5s						
GTBY	**Guantanamo Bay**	**1.68**	**297**	*e*P	**Pb**	**18 45 37.1**	**-0.8**
GTBY				*e*S	**Sn**	**18 45 57.4**	**+0.1**
GTBY	**Guantanamo Bay**	**1.68**	**297**	*i* P	**Pb**	**18 45 37.3**	**-0.6**
GTBY				*e*S	**Sn**	**18 45 56.5**	**-0.8**
GTBY				IAML		18 46 02.2	
	comp=Z,30nm,0.7s						
LODA1	**ITESIL, Dajabo**	**1.75**	**78**	*e*S	**Sg**	**18 46 02.9**	**-0.8**
MOAC	**Moa**	**2.00**	**318**	*e*P	**Pb**	**18 45 44.0**	**+0.5**
MOAC				*e*S	**Sb**	**18 46 09.3**	**+1.0**
MOAC				IAML		18 46 10.7	
	comp=E,62nm,0.4s						
MOAC				IAML		18 46 12.5	
	comp=N,33nm,0.4s						
LOPE2	**Hotel El Peder**	**2.03**	**124**	*i* P	**Pb**	**18 45 43.4**	**-0.5**
LOPE2				*e*S	**Sb**	**18 46 08.3**	**-0.6**
LOPE2				IAML		18 46 13.3	
	comp=Z,79nm,0.6s						
SDDR	**Presa de Saban**	**2.12**	**95**	*e*P	**Pb**	**18 45 45.8**	**+0.3**
SDDR				*e*S	**Sg**	**18 46 13.3**	**-2.2**
SDDR	**Presa de Saban**	**2.12**	**95**	*i* P	**Pb**	**18 45 45.9**	**+0.5**
SDDR				*e*S	**Sb**	**18 46 12.2**	**+0.7**
SDDR				IAML		18 46 21.2	
	comp=Z,82nm,0.5s						
RCC	**Rio Carpintero**	**2.21**	**292**	*e*P	**Pn**	**18 45 43.7**	**+0.3**
RCC				*e*S	**Sn**	**18 46 09.0**	**-1.5**
RCC				IAML		18 46 14.0	
	comp=N,34nm,0.2s						
RCC				IAML		18 46 15.0	
	comp=E,32nm,0.2s						
LMGC	**Las Mercedes**	**3.40**	**286**	*e*P	**Pn**	**18 46 01.1**	**+1.3**
LMGC				*e*S	**Sn**	**18 46 39.2**	**-0.8**

*IDC **21** 18:48:41.0±1.4, 17°.84S×178°.27W, h601km±16km, mb3.5/9, mbtmp4.4/10, Error ellipse: s-maj=29.0km s-min=11.4km az=151.0*
*NEIC **21** 18:48:42.1±1.5, 18°.05S±0°.2×178°.4W±0°.1, h600km±4km, mb4.5/19, Error ellipse: s-maj=30.4km s-min=13.8km az=174.0*

ISC 21 18:48:41.0±0.5, 17°.8S±0°.1×178°.31W±0°.09, h600km, n76, σ0°87/77, mb4.4/21, 3C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.47**	**271**	P	**P**	**18 50 03.2**	**+0.2**
	148nm,0.7s,baz=115,slow=4.2,SNR=84						
MSVF	**Nonsavu**	**3.47**	**271**	P	**P**	**18 50 03.4**	**+0.4**
AFI	**Afiamalu**	**7.40**	**59**	P	P	18 50 29.3	-5.6
	28nm,0.4s,baz=337,slow=3.4,SNR=5.3						
NIUE	**Niue**	**8.05**	**100**	P	**P**	**18 50 41.8**	**+1.0**
COEN	**Coen**	**37.20**	**270**	P	**P**	**18 55 04.0**	**+0.8**
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**18 55 16.2**	**+0.8**
	6.7nm,0.5s,baz=96,slow=9.8,SNR=14						
	6.7nm,0.5s						
STKA	**Stephens Creek**	**38.74**	**241**		**P**	**18 55 15.9**	**+0.5**
BBOO	**Buckleboo**	**43.52**	**241**	P	**P**	**18 55 52.6**	**-0.5**
BBOO				IAmb	IAmb	18 56 35.0	
	comp=Z,25nm,1.2s						
WR0	**Warramunga Arr**	**44.54**	**259**		**P**	**18 56 00.8**	**-0.4**
WB0	**Warramunga Arr**	**44.70**	**260**		**P**	**18 56 01.9**	**-0.5**
WB0				IAmb	IAmb	18 56 02.9	
	comp=Z,10.0nm,0.5s						
WB2	**Warramunga Arr**	**44.72**	**259**		**P**	**18 56 01.9**	**-0.7**
WB2				IAmb	IAmb	18 56 03.1	
	comp=Z,9.7nm,0.6s						
WRAB	**Tennant Creek**	**44.73**	**259**	P	**P**	**18 56 01.1**	**-1.4**
WRAB				IAmb	IAmb	18 56 03.0	
	comp=Z,9.4nm,0.6s						
WRA	**Warramunga Arr**	**44.73**	**259**	P	**P**	**18 56 02.2**	**-0.4**
	comp=Z,5.5nm,0.4s,baz=96,slow=7.4,SNR=307						
WRA				PcP	**PcP**	**18 57 31.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=89,slow=3.0,SNR=6.4						
WRA				S	**S**	**19 01 57.4**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=91,slow=14,SNR=2.7						
	comp=Z,5.5nm,0.4s						
WRA	**Warramunga Arr**	**44.73**	**259**		**P**	**18 56 01.4**	**-1.2**
AS31	**Alice Springs**	**44.90**	**254**	P	**P**	**18 56 03.5**	**-0.4**
AS31				IAmb	IAmb	18 56 05.1	
	comp=Z,11nm,0.5s						
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**18 56 03.9**	**+0.1**
	comp=Z,30nm,0.5s,baz=88,slow=8.5,SNR=872						
ASAR				PcP	**PcP**	**18 57 32.2**	**0.0**
	comp=Z,2.6nm,0.5s,baz=103,slow=3.8,SNR=8.8						
ASAR				S	**S**	**19 01 59.6**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=91,slow=15,SNR=12						
	comp=Z,30nm,0.5s						
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**18 56 03.6**	**-0.3**
MTN	**Manton Dam**	**48.89**	**268**	P	**P**	**18 56 33.4**	**-0.5**
MTN				IAmb	IAmb	18 56 34.4	
	comp=Z,9.7nm,0.8s						
FORT	**Forrest**	**50.12**	**245**	P	**P**	**18 56 41.2**	**-1.4**
KNRA	**Kununurra**	**50.59**	**264**	P	**P**	**18 56 45.8**	**-0.4**
PSA00	**Pilbara Seismi**	**58.01**	**255**	P	**P**	**18 57 37.7**	**-0.4**
PSA00				IAmb	IAmb	18 57 38.3	
	comp=Z,8.9nm,0.7s						
MBWA	**Marble Bar**	**58.18**	**256**	P	**P**	**18 57 38.7**	**-0.5**
MBWA				IAmb	IAmb	18 57 39.8	
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**60.52**	**185**	P	**P**	**18 57 53.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=319,slow=9.3,SNR=1.8						
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**18 59 06.0**	**-0.2**
SSLB	**Suanglung**	**72.28**	**303**	P	**P**	**18 59 06.6**	**-0.6**
SSLB				IAmb	IAmb	18 59 45.1	
	comp=Z,14nm,1.1s						
TPUB	**Ta-pu**	**72.30**	**302**	P	**P**	**18 59 06.4**	**-0.9**
KSM	**Kuching**	**72.77**	**277**	P	**P**	**18 59 10.6**	**+0.4**
KSM				IAmb	IAmb	18 59 12.2	
	comp=Z,15nm,0.9s						
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**18 59 14.1**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=134,slow=6.0,SNR=4.7						
	comp=Z,4.3nm,0.8s						
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**18 59 45.5**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=216,slow=9.4,SNR=5.4						
	comp=Z,0.4nm,0.5s						
ENH	**Enshi**	**84.31**	**304**	P	**P**	**19 00 11.6**	**+0.5**
ENH				IAmb	IAmb	19 00 13.9	
	comp=Z,15nm,1.3s						
ILAR	**Eielson Array**	**85.80**	**13**	P	**P**	**19 00 16.1**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=220,slow=5.1,SNR=28						
	comp=Z,0.8nm,0.4s						
TXAR	**Lajitas Array**	**85.88**	**58**	P	**P**	**19 00 19.4**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=221,slow=6.6,SNR=9.9						
	comp=Z,1.2nm,0.8s						
PDAR	**Pinedale Array**	**87.24**	**43**	P	**P**	**19 00 24.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=213,slow=2.7,SNR=5.0						
	comp=Z,0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**88.95**	**290**	P	**P**	**19 00 35.1**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=105,slow=2.7,SNR=11						
	comp=Z,1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**88.95**	**290**	P	**P**	**19 00 34.8**	**+1.5**
MKAR	**Makanchi Array**	**109.16**	**314**	PKiKP	**PKiKP**	**19 06 02.2**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=140,slow=4.3,SNR=9.9						
ARCES	**ARCESS Array B**	**126.27**	**350**	PKP	**PKPdf**	**19 06 34.6**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=55,slow=1.0,SNR=6.7						
FINES	**FINESS Array B**	**133.15**	**344**	PKhKP	PKPpre	19 06 38.9	
	comp=Z,3.1nm,1.0s,baz=31,slow=3.2,SNR=1.8						
NOA	**NORSAR Array B**	**136.32**	**353**	PKP	**PKPdf**	**19 06 54.5**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=7.6,slow=3.7,SNR=1.1						
AKASG	**Malin Array Be**	**140.54**	**332**	PKP	**PKPdf**	**19 07 02.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=42,slow=3.3,SNR=4.5						
BNN	**Bunyan**	**143.68**	**312**		PKPbc	19 07 08.1	0.0
BUR08	**Bucovina Ar. S**	**144.58**	**332**		**PKPdf**	**19 07 10.5**	**+0.2**
BURAR	**Bucovina Array**	**144.60**	**332**	⇑P	**PKPdf**	**19 07 11.3**	**+1.0**
BR131	**Keskin Array S**	**144.80**	**315**		**PKPdf**	**19 07 11.4**	**+0.4**
BRTR	**Keskin Array B**	**144.80**	**315**	PKP	**PKPdf**	**19 07 11.3**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=120,slow=3.7,SNR=18						
VRI	**Vrincioaia**	**145.17**	**329**	⇓P	**PKPdf**	**19 07 12.2**	**+1.0**
TRPA	**Tarpa**	**145.33**	**335**	⇓P	**PKPdf**	**19 07 12.9**	**+1.5**
CLL	**Collm**	**145.42**	**347**		**PKPdf**	**19 07 12.4**	**+1.0**
CLL	**Collm**	**145.42**	**347**	*i*PKPbc	**PKPdf**	**19 07 12.7**	**+1.3**
	comp=Z,9.0nm,0.8s						
DPC	**Dobruska-Polom**	**145.51**	**343**	*e*PKP	**PKPdf**	**19 07 13.3**	**+1.6**
KRLC	**Kraliky**	**145.63**	**343**	*e*PKP	**PKPdf**	**19 07 13.7**	**+1.8**
DOPR	**Dapca**	**145.75**	**310**	⇑P	**PKPbc**	**19 07 14.8**	**+0.9**
PVCC	**Paska Ves**	**145.80**	**345**	*e*PKP	**PKPdf**	**19 07 14.5**	**+2.4**
PRU	**Pruhonice**	**146.31**	**345**	*e*PKP	**PKPdf**	**19 07 15.5**	**+2.5**
ARR	**Arges**	**146.55**	**330**	⇓P	**PKPbc**	**19 07 17.0**	**+0.8**
KHC	**Kasperske Hory**	**147.34**	**345**	*e*PKP	**PKPbc**	**19 07 18.1**	**-0.1**
CKRC	**Cesky Krumlov**	**147.44**	**344**	*e*PKP	**PKPbc**	**19 07 18.6**	**+0.2**
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	**PKPbc**	**19 07 18.8**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=34,slow=3.4,SNR=28						
CONA	**Conrad Observa**	**147.83**	**342**	*e*P	**PKPbc**	**19 07 20.1**	**+0.6**
	comp=Z,3.1nm,0.5s						
RONA	**Rosalia, Austr**	**147.90**	**341**	*e*P	**PKPbc**	**19 07 20.3**	**+0.6**
	comp=Z,3.7nm,0.6s						
SOKA	**Soboth**	**149.20**	**342**	*i* P	**PKPbc**	**19 07 22.5**	**-0.4**
	comp=Z,4.0nm,1.2s						
VTS	**Vitosha**	**149.25**	**328**	⇑P	**PKPbc**	**19 07 23.6**	**+0.3**
KBA	**Koelnbreinsper**	**149.30**	**344**	*i* P	**PKPbc**	**19 07 23.0**	**-0.2**
	comp=Z,3.4nm,0.5s						
WATA	**Walderalm**	**149.48**	**347**	*i* P	**PKPbc**	**19 07 23.4**	**-0.2**
	comp=Z,3.8nm,0.6s						
RETA	**Reutte**	**149.51**	**348**	*i* P	**PKPbc**	**19 07 23.6**	**-0.1**
	comp=Z,1.5nm,0.5s						
WTTA	**Wattenberg**	**149.54**	**347**	*i* P	**PKPbc**	**19 07 23.9**	**0.0**
	comp=Z,8.0nm,0.5s						
MOTA	**Moosalm**	**149.57**	**347**	*i* P	**PKPbc**	**19 07 23.7**	**-0.2**
	comp=Z,4.3nm,0.8s						
DIVS	**Divibare**	**149.62**	**333**		**PKPbc**	**19 07 23.4**	**-0.7**
MYKA	**Terra Mystica**	**149.64**	**344**	*i* P	**PKPbc**	**19 07 23.2**	**-0.8**
	comp=Z,2.7nm,0.5s						
SQTA	**Sankt Quirin**	**149.67**	**347**	*i* P	**PKPbc**	**19 07 24.1**	**0.0**
	comp=Z,4.4nm,0.5s						
ABTA	**Abfaltersbach**	**149.82**	**345**	*i* P	**PKPbc**	**19 07 23.8**	**-0.6**
	comp=Z,6.9nm,0.6s,SNR=8.6						
DAVA	**Damuels**	**149.87**	**349**	*i* P	**PKPbc**	**19 07 24.5**	**-0.2**
	comp=Z,12nm,1.3s						
FETA	**Feichten**	**149.96**	**348**	*i* P	**PKPbc**	**19 07 25.0**	**+0.1**
	comp=Z,3.7nm,0.9s						
CIMO	**Cimolais**	**150.25**	**345**		**PKPbc**	**19 07 24.3**	**-1.0**
FUORN	**Ofenpass-Fuorn**	**150.44**	**348**		**PKPbc**	**19 07 26.3**	**+0.2**
FNA	**Florina**	**151.54**	**328**		**PKPbc**	**19 07 27.6**	**-0.9**

*BJI **21** 19:02:40.9±0.0, 13°.20N×144°.89E, h130km, mb4.8/53, mB4.8/22*
*IDC **21** 19:02:42.4±0.4, 13°.43N×144°.58E, h96km±3km, mb4.3/24, mbtmp4.7/25, MS3.4/5, Error ellipse: s-maj=13.6km s-min=10.4km az=89.0*
*DJA **21** 19:02:42.6±0.5, 14°.N±5°.×14°.5E±°, h99km±6km, M4.2/24, mb4.8/24, mB5.1/6, MLv3.8/1, Mw(mB)4.5/6, MwMwp5.3/2, Mwp5.5/2*
*NEIC **21** 19:02:43.6±1.7, 13°.47N±0°.08×144°.5E±0°.1, h103km±5km, mb4.9/173, Error ellipse: s-maj=15.8km s-min=11.9km az=98.0*

ISC 21 19:02:42.8±0.4, 13°.46N±0°.05×144°.60E±0°.06, h104km±3km, h104km; pP-P, n465, σ0°97/478, mb4.9/138, 7C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.29**	**64**	P	**Pn**	**19 02 58.1**	**+0.4**
	4μm,0.3s,baz=175,slow=22,SNR=643						
GUMO				S	**Sn**	**19 03 09.0**	**0.0**
	7μm,0.3s,baz=259,slow=19,SNR=18						
GUMO	**Guam**	**0.29**	**64**	P	**Pn**	**19 02 58.5**	**+0.8**
PATS	**Pohnpei**	**15.01**	**115**	Pn	**Pn**	**19 06 08.2**	**-1.5**
PATS	**Pohnpei**	**15.01**	**115**	P	**Pn**	**19 06 09.4**	**-0.2**
SIJI	**Sorong**	**19.43**	**224**	P	**Pn**	**19 07 02.6**	**-0.7**
	19nm,1.1s,baz=25,slow=14,SNR=5.6						
SIJI	**Sorong**	**19.43**	**224**	P	**Pn**	**19 07 02.3**	**-1.0**
	32nm,0.8s						
JOW	**Kunigami**	**20.26**	**314**	P	Pn	19 07 12.2	-0.8
	35nm,0.7s,baz=150,slow=9.0,SNR=13						
	35nm,0.7s						
JOW	**Kunigami**	**20.26**	**314**	P	Pn	19 07 12.0	-0.9
JOW	**Kunigami**	**20.26**	**314**	P	Pn	19 07 12.9	-0.1
FAKI	**Fak Fak**	**20.37**	**218**	P	**P**	**19 07 12.7**	**+1.3**
FAKI	**Fak Fak**	**20.37**	**218**	P	Pn	19 07 13.7	-0.6
	434nm28nm,0.9s						
FAKI	**Fak Fak**	**20.37**	**218**	P	Pn	19 07 13.0	-1.3
H11S3	**WAKE ISLAND Hy**	**21.81**	**74**	T	T	19 29 36.6	
	baz=262,slow=74,SNR=19						
H11S1	**WAKE ISLAND Hy**	**21.82**	**74**	T	T	19 30 18.4	
	baz=262,SNR=21						
H11S2	**WAKE ISLAND Hy**	**21.82**	**74**	T	T	19 30 06.5	
	baz=262,slow=74,SNR=17						
LBMI	**Labuha**	**21.99**	**232**	P	**P**	**19 07 29.3**	**+0.7**
	52nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**22.24**	**71**	T	T	19 30 20.0	
	baz=256,slow=74,SNR=36						
H11N2	**WAKE ISLAND Hy**	**22.25**	**71**	T	T	19 30 37.8	
	baz=256,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**22.26**	**71**	T	T	19 30 59.9	
	baz=256,SNR=10						
JMN	**Monobe**	**22.41**	**336**	P	**P**	**19 07 35.0**	**+2.1**
MSAI	**Masohi**	**22.82**	**224**	P	**P**	**19 07 39.0**	**+1.8**
	182nm4.5nm,0.9s						
INU	**Inuyama**	**22.84**	**344**	P	**P**	**19 07 38.5**	**+1.3**
JGF	**Kuroka**	**22.99**	**345**	P	**P**	**19 07 39.3**	**+0.6**
JGF	**Kuroka**	**22.99**	**345**	P	**P**	**19 07 40.4**	**+1.7**
YOJ	**Yonaguni jima**	**23.13**	**301**	P	**P**	**19 07 40.1**	**0.0**
YOJ	**Yonaguni jima**	**23.13**	**301**	P	**P**	**19 07 41.1**	**+1.0**
JNU	**Nakatsue**	**23.23**	**330**	P	**P**	**19 07 41.2**	**+0.2**
JNU	**Nakatsue**	**23.23**	**330**	P	**P**	**19 07 41.9**	**+0.9**
AAI	**Ambon**	**23.57**	**225**	P	**P**	**19 07 44.4**	**+0.2**
	40nm,1.4s						
MJAR	**Matsushiro Arr**	**23.69**	**347**	P	**P**	**19 07 44.8**	**-0.3**
	13nm,0.7s,baz=171,slow=9.0,SNR=31						
MJAR				LR	LR	19 15 29.6	
	comp=Z,130nm,21.6s,baz=173,slow=32						
	13nm,0.7s						
MAJO	**Matsushiro**	**23.69**	**347**	P	**P**	**19 07 44.7**	**-0.4**
MJB9	**Matsu-Tunnel**	**23.69**	**347**	P	**P**	**19 07 45.9**	**+0.8**
JHS	**Saijyo**	**23.82**	**336**	P	**P**	**19 07 46.4**	**+0.1**
JHS	**Saijyo**	**23.82**	**336**	P	**P**	**19 07 47.2**	**+0.9**
SANI	**Sanana**	**24.05**	**232**	P	**P**	**19 07 47.4**	**-1.1**
	3μm13nm,0.7s						
SANI	**Sanana**	**24.05**	**232**	P	**P**	**19 07 47.0**	**-1.5**
YULB	**Yu-li**	**24.18**	**297**	P	**P**	**19 07 49.0**	**-0.7**
YULB	**Yu-li**	**24.18**	**297**	P	**P**	**19 07 50.2**	**+0.5**
TWG	**Pinlang**	**24.19**	**296**	P	**P**	**19 07 48.7**	**-1.0**
JMM	**Marumori**	**24.54**	**353**	P	**P**	**19 07 52.8**	**+0.1**
JMM	**Marumori**	**24.54**	**353**	P	**P**	**19 07 54.0**	**+1.3**
YHNB	**Yeheng**	**24.58**	**300**	P	**P**	**19 07 52.7**	**-0.6**
SSLB	**Suanglung**	**24.61**	**298**	P	**P**	**19 07 52.6**	**-1.0**

JAGI **Jajag, Banyuwa** 37.27 236 P **P** 19 09 42.6 -2.2
JAGI IAmb IAmb 19 09 45.0
comp=Z,18nm,0.7s
JAGI **Jajag, Banyuwa** 37.27 236 P **P** 19 09 43.8 -1.1
GYA **Guiyang** 37.78 296 ⇑P **P** 19 09 51.0 +1.7
GYA sP sP 19 10 33.4 +10
GYA pmax pmax
comp=Z,12nm,0.6s
XAN **Xi'an** 38.27 309 ⇑P **P** 19 09 53.4 +0.2
XAN pmax pmax
comp=Z,13nm,0.7s
AS01 **Alice Springs** 38.34 196 P **P** 19 09 53.4 -0.4
AS31 **Alice Springs** 38.35 196 P **P** 19 09 53.3 -0.6
ASAR **Alice Springs** 38.35 196 P **P** 19 09 53.6 -0.3
comp=Z,2.7nm,0.6s,baz=22,slow=13,SNR=94
ASAR PcP **PcP** 19 12 06.4 +0.7
comp=Z,3.2nm,0.8s,baz=21,slow=3.6,SNR=11
ASAR ScP **S** 19 15 42.2 +1.2
comp=Z,0.4nm,0.9s,baz=8.8,slow=6.7,SNR=4.2
ASAR PKiKP **PKiKP** 19 19 19.2 -1.1
comp=Z,0.3nm,0.7s,baz=245,slow=0.1,SNR=6.0
comp=Z,2.7nm,0.6s
ASAR Alice Springs 38.35 196 P **P** 19 09 53.3 -0.6
ASAR **PcP** 19 12 05.8 +0.1
XLT **XiLinHaoTe** 38.94 327 ⇑*i*P **P** 19 09 59.5 +0.8
XLT pmax pmax
comp=Z,19nm,0.8s
XLT pmax pmax
comp=Z,96nm,5.2s
HEH **HeiHe** 39.29 343 *e*P **P** 19 10 01.6 +0.3
HEH pmax pmax
comp=Z,31nm,1.1s
HEH pmax pmax
comp=Z,290nm,4.7s
HHC **Hu-ho-hao-te** 39.70 320 *e*P **P** 19 10 06.1 +1.0
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.2s
KMI **Kunming** 41.02 293 ⇑P **P** 19 10 17.8 +1.5
KMI pmax pmax
comp=Z,11nm,0.7s
INKA **Innaminka** 41.13 185 P **P** 19 10 16.3 -0.4
HIA **Hailar** 41.15 335 P **P** 19 10 17.2 +0.5
HIA IAmb IAmb 19 10 18.4
comp=Z,16nm,0.6s
HIA Hailar 41.15 335 P **P** 19 10 18.0 +1.2
comp=Z,29nm,1.1s
CD2 **Chengdu** 41.34 302 *e*P **P** 19 10 18.0 -0.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WRKA **Warakurna** 41.44 203 P **P** 19 10 19.6 +0.2
OOD **Oodnadatta** 41.91 192 P **P** 19 10 22.8 -0.4
MYKOM **Kota Tinggi** 41.94 257 P **P** 19 10 23.9 +0.2
MYKOM IAmb IAmb 19 10 24.7
comp=Z,21nm,0.9s
MYKOM **Kota Tinggi** 41.94 257 P **P** 19 10 23.9 +0.2
comp=Z,26nm,0.9s
PZH **PanZhiHua** 42.12 295 P **P** 19 10 25.4 +0.2
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,5.3s
MBWA **Marble Bar** 42.19 216 P **P** 19 10 25.5 -0.1
MBWA IAmb IAmb 19 10 26.3
comp=Z,21nm,0.7s
MBWA **Marble Bar** 42.19 216 P **P** 19 10 25.4 -0.1
MBWA **Marble Bar** 42.19 216 P **P** 19 10 25.4 -0.2
MBWA sP **sP** 19 11 00.8 +1.0
PSA00 **Pilbara Seismi** 42.46 215 P **P** 19 10 27.9 +0.2
PSA00 IAmb IAmb 19 10 28.7
comp=Z,38nm,1.1s
PSA00 **Pilbara Seismi** 42.46 215 P **P** 19 10 28.1 +0.4
PHRA **Phrae** 42.87 283 P **P** 19 10 31.4 +0.2
LZH **Lanzhou** 42.90 309 ⇓P **P** 19 10 33.8 +2.4
LZH pP pP 19 10 56.1 +1.7
LZH pmax pmax
comp=Z,13nm,1.5s
SKLT **Songkhla** 43.67 266 P **P** 19 10 38.6 +0.9
comp=Z,21nm,0.9s
SKLT **Songkhla** 43.67 266 P **P** 19 10 38.7 +1.0
IPM **Ipoh** 43.89 262 P **P** 19 10 38.8 -0.7
KULM **Kulim** 44.06 264 P **P** 19 10 41.1 +0.3
KULM IAmb IAmb 19 10 42.2
comp=Z,20nm,1.1s
KULM Kulim 44.06 264 P **P** 19 10 41.5 +0.7
comp=Z,18nm,1.0s
LCRK **Leigh Creek** 44.09 188 P **P** 19 10 40.9 +0.2
CHTO **Chiang Mai** 44.09 283 P **P** 19 10 40.6 -0.4
CM31 **Chiang Mai Arr** 44.09 283 P **P** 19 10 41.4 +0.4
CM31 IAmb IAmb 19 10 42.5
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 44.09 283 P **P** 19 10 41.7 +0.7
comp=Z,9.2nm,0.6s,baz=83,slow=6.4,SNR=140
CMAR PcP **PP** 19 12 25.4 -0.3
comp=Z,2.7nm,0.9s,baz=85,slow=2.8,SNR=7.7
CMAR LR LR 19 30 10.9
comp=Z,18nm,18.3s,baz=80,slow=37
comp=Z,9.2nm,0.6s
CMAR Chiang Mai Arr 44.09 283 P **P** 19 10 41.3 +0.3
SRIT **Nakonsritamara** 44.38 269 P **P** 19 10 44.1 +0.8
SRIT IAmb IAmb 19 10 45.3
comp=Z,14nm,0.6s
MULG **Mulgathing** 44.66 193 P **P** 19 10 44.4 -0.8
TNCH **TengChong** 44.80 292 P **P** 19 10 46.8 0.0
TNCH S S 19 17 07.3 -9.5
TNCH pmax pmax
comp=Z,15nm,0.7s
TNCH pmax pmax
comp=Z,69nm,4.9s
MNAI **Manna** 44.97 250 P **P** 19 10 46.6 -1.4
comp=Z,303nm,1.3s
STKA **Stephens Creek** 45.17 184 P **P** 19 10 47.6 -1.7
comp=Z,4.0nm,0.5s,baz=345,slow=7.0,SNR=13
comp=Z,4.0nm,0.5s
STKA Stephens Creek 45.17 184 P **P** 19 10 48.8 -0.5
STKA **Stephens Creek** 45.17 184 P **P** 19 10 48.8 -0.5
ULN **Ulaanbaatar** 46.34 325 P **P** 19 10 59.0 +0.4
ULN **Ulaanbaatar** 46.34 325 P **P** 19 10 59.6 +1.1
comp=Z,29nm,1.1s
ULN **Ulaanbaatar** 46.34 325 P **P** 19 10 59.2 +0.7
ULN pP **pwP** 19 11 24.5 -2.2
PSI **Prapat** 46.35 261 P **P** 19 10 59.5 +0.4
comp=Z,15nm,0.8s
RPSI **Rantau Prapat** 46.38 261 P **P** 19 10 58.5 -0.7
SONM **Songino Array** 46.69 325 P **P** 19 11 02.1 +0.9
comp=Z,2.8nm,0.6s,baz=134,slow=7.0,SNR=16
SONM PcP **PcP** 19 12 33.7 +0.5
comp=Z,1.2nm,0.5s,baz=157,slow=3.9,SNR=5.7
comp=Z,2.8nm,0.6s
SONM Songino Array 46.69 325 P **P** 19 11 01.7 +0.5
BBOO **Buckleboo** 46.73 190 P **P** 19 11 01.6 +0.1
FORT **Forrest** 46.77 200 P **P** 19 11 01.5 -0.4
comp=Z,20nm,1.6s
MND **Mandalay** 46.80 288 P **P** 19 11 02.5 +0.2
GTA **Gaotai** 47.06 312 *e*P **P** 19 11 04.3 0.0
GTA pP pwP 19 11 31.1 -1.2
GTA sP sP 19 11 44.8 +5.9
GTA pmax pmax
comp=Z,8.0nm,0.7s
MEEK **Meekatharra** 47.19 212 P **P** 19 11 04.7 -0.5
comp=Z,9.7nm,0.7s
GSI **Gununguitoli** 48.07 259 P **P** 19 11 11.2 -1.1
YAK **Yakutsk** 49.67 351 P **P** 19 11 23.1 -0.7
YAK **Yakutsk** 49.67 351 P **P** 19 11 23.4 -0.3
GOMU **GeErMu** 49.90 306 P **P** 19 11 27.9 +1.5
GOMU pmax pmax
comp=Z,6.0nm,0.7s
GOMU pmax pmax
comp=Z,110nm,5.3s
ARPS **Mount Arapiles** 50.03 183 P **P** 19 11 27.8 +1.1
MORW **Morawa** 50.49 213 P **P** 19 11 29.8 -0.6
MORW IAmb IAmb 19 11 30.3
comp=Z,13nm,0.8s
MORW **Morawa** 50.49 213 P **P** 19 11 30.0 -0.4
TOO **Toolangi** 50.77 179 P **P** 19 11 34.1 +1.7
SHL **Shillong** 50.83 292 P **P** 19 11 32.4 -0.9
BLDU **Ballidu** 51.38 211 P **P** 19 11 36.7 -0.4
LSA **Lhasa** 51.82 297 P **P** 19 11 40.7 -0.4
LSA IAmb IAmb 19 11 43.5
comp=Z,15nm,0.9s
LSA **Lhasa** 51.82 297 P **P** 19 11 41.8 +0.7
MUN **Mundaring** 52.74 211 P **P** 19 11 46.7 -0.4
comp=Z,22nm,1.4s
TAPN **Taplejung** 54.66 294 *e*P **P** 19 12 00.8 -0.9
comp=Z,17nm,0.6s
RAMN **Ramite** 55.63 294 *e*P **P** 19 12 07.8 -0.8
comp=Z,4.4nm,0.2s
JIRN **Jiri** 56.02 294 *e*P **P** 19 12 11.1 -0.4
comp=Z,13nm,0.3s
GUN **Gumba** 56.31 295 *e*P **P** 19 12 13.2 -0.3
comp=Z,9.0nm,0.3s
BILL **Bilibino** 56.33 10 P **P** 19 12 12.6 0.0
BILL IAmb IAmb 19 12 13.5
comp=Z,12nm,1.0s
PKI **Pulchoki** 56.71 294 *e*P **P** 19 12 15.4 -1.0
comp=Z,6.3nm,0.2s
PKIN **Phulchoki** 56.72 294 *e*P **P** 19 12 15.4 -1.0
comp=Z,8.2nm,0.3s
KKN **Kakani** 56.83 294 *e*P **P** 19 12 16.4 -0.7
DMN **Daman** 56.98 294 *e*P **P** 19 12 17.4 -0.8
comp=Z,14nm,0.5s
WMQ **Urumqi** 57.04 314 *e*P **P** 19 12 20.6 +2.5
WMQ pmax pmax
comp=Z,19nm,0.7s
GKN **Gorkha** 57.41 295 *e*P **P** 19 12 19.8 -1.3
comp=Z,10nm,0.4s
DANN **Dangsing** 58.19 295 *e*P **P** 19 12 25.8 -0.9
comp=Z,52nm,0.7s
URZ **Urewera** 59.79 151 P **P** 19 12 36.8 -0.3
BKZ **Black Stump Fm** 60.22 152 P **P** 19 12 39.8 -0.3
BKZ **Black Stump Fm** 60.22 152 P **P** 19 12 40.1 0.0
BFZ **Birch Farm** 61.34 153 P **P** 19 12 46.0 -1.6
MK31 **Makanchi Array** 61.40 316 P **P** 19 12 47.8 -0.2
MK31 IAmb IAmb 19 12 49.6
comp=Z,5.0nm,0.5s
MKAR **Makanchi Array** 61.40 316 P **P** 19 12 48.2 +0.2
comp=Z,4.7nm,0.4s,baz=91,slow=8.6,SNR=135
comp=Z,4.7nm,0.4s
MKAR **Makanchi Array** 61.40 316 P **P** 19 12 47.8 -0.3
ZAA0 **Zalesovo Array** 61.58 324 P **P** 19 12 47.4 -1.6
ZALV **Zalesovo Beam** 61.58 324 P **P** 19 12 48.5 -0.6
comp=Z,1.3nm,0.5s,baz=105,slow=6.3,SNR=8.9
ZALV PcP **PcP** 19 13 29.5 -0.3
comp=Z,1.3nm,0.4s,baz=112,slow=4.2,SNR=6.0
comp=Z,1.3nm,0.5s
ZALV **Zalesovo Beam** 61.58 324 P **P** 19 12 47.9 -1.2
MAKZ **Makanchi** 61.61 316 P **P** 19 12 49.5 0.0
MAKZ IAmb IAmb 19 12 51.1
comp=Z,9.1nm,0.5s
P16K **Nushagak River** 62.03 30 P **P** 19 12 52.5 +0.5
baz=248
O17K **Koliganek Bris** 62.73 29 P **P** 19 12 57.5 +0.8
baz=249
N18K **Kilae Creek** 63.62 28 P **P** 19 13 02.5 0.0
baz=249
O18K **Koktuh Hills** 63.66 29 P **P** 19 13 03.8 +1.0
baz=250
N19K **Bonanza Creek** 64.31 28 P **P** 19 13 07.4 +0.2
baz=251
TTA **Tatalina** 64.38 26 P **P** 19 13 07.7 +0.1
baz=248
KURK **Kurchatov** 64.51 320 P **P** 19 13 08.0 -0.6
KURK **Kurchatov** 64.51 320 P **P** 19 13 08.1 -0.4
KURK pP **pP** 19 13 33.8 +0.6
P19K **Oil Pt** 64.54 30 P **P** 19 13 08.8 +0.3
baz=252
L19K **White Mountain** 64.61 27 P **P** 19 13 09.5 +0.4
baz=250
M19K **Big River Lodg** 64.72 27 P **P** 19 13 10.4 +0.7
baz=250
KSH **Kashi** 65.11 307 P **P** 19 13 14.9 +2.1
KSH pmax pmax
comp=Z,5.0nm,1.1s
L20K **Farewell, AK** 65.14 27 P **P** 19 13 12.8 +0.3
baz=250
M20K **Styx River** 65.28 27 P **P** 19 13 13.9 +0.4
baz=251
K20K **Telida** 65.36 26 P **P** 19 13 14.1 +0.2
baz=250
J20K **Nowinta River** 65.61 25 P **P** 19 13 15.9 +0.5
baz=249
BRLK **Bradley Lake** 65.71 30 P **P** 19 13 15.4 -0.8
BRSE **Bradley Lake S** 65.77 30 P **P** 19 13 16.6 0.0
baz=255
PPLA **Purkeypile** 66.02 27 P **P** 19 13 18.0 -0.2
PPLA **Purkeypile** 66.02 27 P **P** 19 13 18.8 +0.6
baz=252
SKT **Skwentna** 66.03 28 P **P** 19 13 16.8 -1.3
SKT **Skwentna** 66.03 28 P **P** 19 13 18.0 -0.2
baz=253
NRIK **Noril'sk** 66.17 341 P **P** 19 13 20.3 +1.5
comp=Z,2.3nm,0.5s,baz=145,slow=5.5,SNR=4.1
comp=Z,2.3nm,0.5s
CAST **Castle Rocks** 66.23 26 P **P** 19 13 18.9 -0.5
CAST IAmb IAmb 19 13 21.5
comp=Z,8.2nm,0.6s
CAST **Castle Rocks** 66.23 26 P **P** 19 13 19.6 +0.2
baz=252
SUA **Susitna One** 66.24 28 P **P** 19 13 18.6 -1.1
CHUM **Lake Minchumin** 66.28 26 P **P** 19 13 20.3 +0.6
baz=251
RC01 **Rabbit Creek A** 66.61 29 P **P** 19 13 20.9 -0.9
I21K **Tanana** 66.83 24 P **P** 19 13 23.4 +0.3
baz=251
TRF **Thorofare Moun** 67.01 26 P **P** 19 13 23.6 -0.9
TRF **Thorofare Moun** 67.01 26 P **P** 19 13 24.1 -0.4
baz=253
PMR **Palmer** 67.02 28 P **P** 19 13 25.1 +0.7
baz=255
GHO **Glory Hole Cre** 67.16 28 P **P** 19 13 24.9 -0.6
PWL **Port Wells** 67.22 29 P **P** 19 13 25.2 -0.5
PWL **Port Wells** 67.22 29 P **P** 19 13 25.8 +0.1
baz=256
NIL **Nilore** 67.22 301 P **P** 19 13 25.7 -0.6
NIL **Nilore** 67.22 301 P **P** 19 13 26.2 -0.1
NIL pP **pP** 19 13 51.6 +0.5
NIL sP **sP** 19 14 02.0 -0.1
MLY **Manley** 67.28 25 P **P** 19 13 26.3 +0.2
baz=252
KNK **Knik Glacier** 67.29 29 P **P** 19 13 25.5 -0.7
KNK **Knik Glacier** 67.29 29 P **P** 19 13 26.2 0.0
baz=256
SML **Sawmill** 67.44 28 P **P** 19 13 26.4 -0.8
SML **Sawmill** 67.44 28 P **P** 19 13 27.7 +0.5
baz=256
G22K **Bettles** 67.58 23 P **P** 19 13 28.6 +0.8
baz=251
WAT1 **Susitna Watana** 67.60 27 P **P** 19 13 27.9 -0.2
baz=255
WAT6 **Susitna Watana** 67.90 28 P **P** 19 13 30.0 -0.2
baz=256
SCM **Sheep Creek Mo** 67.91 28 P **P** 19 13 29.2 -1.0
SCM **Sheep Creek Mo** 67.91 28 P **P** 19 13 30.8 +0.6
baz=257
DHY **Denali Highway** 68.18 27 P **P** 19 13 32.3 +0.3
baz=256
KLU **Klutina** 68.50 29 P **P** 19 13 33.8 0.0
KLU **Klutina** 68.50 29 P **P** 19 13 34.5 +0.7
baz=258
IL31 68.79 25 P **P** 19 13 33.7 -1.8
ILAR **Eielson Array** 68.79 25 P **P** 19 13 33.9 -1.6
comp=Z,1.1nm,0.5s,baz=262,slow=5.6,SNR=4.3
PAX **Paxson** 69.00 27 P **P** 19 13 37.0 0.0
baz=258
HARP **HAARP** 69.03 28 P **P** 19 13 37.0 0.0
baz=259
K24K **Donnelly Dome** 69.05 26 P **P** 19 13 36.9 -0.3
baz=258
N25K **Chitina, Valde** 69.14 29 P **P** 19 13 38.2 +0.4
N25K IAmb IAmb 19 15 11.6
comp=Z,51nm,1.6s
N25K Chitina, Valde 69.14 29 P **P** 19 13 38.4 +0.6
baz=260
KK31 **Karatay Array** 69.34 311 P **P** 19 13 38.7 -0.6
KKAR **Karatay Array** 69.34 311 P **P** 19 13 38.8 -0.5
KKAR **Karatay Array** 69.34 311 P **P** 19 13 39.1 -0.2
KKAR IAmb IAmb 19 13 40.7
comp=Z,2.6nm,0.7s
BERG **Berg Lake** 69.36 30 P **P** 19 13 40.3 +1.2
J25K **Salcha River,** 69.39 26 P **P** 19 13 38.1 -1.2
J25K IAmb IAmb 19 14 53.6
comp=Z,40nm,1.9s
GAR **Garm** 69.49 307 P **P** 19 13 39.1 -1.4
GAR IAmb IAmb 19 13 42.4
comp=Z,39nm,1.8s
BGLC **Bering Glacier** 69.52 31 P **P** 19 13 39.8 -0.2
baz=261
VRDI **Verde Repeater** 69.62 29 P **P** 19 13 39.7 -1.2
VRDI IAmb IAmb 19 15 39.5
comp=Z,52nm,1.7s
SNH **Sunshine Point** 69.75 31 P **P** 19 13 42.4 +0.8
DOT **Dot Lake** 69.76 27 P **P** 19 13 41.6 +0.1
DOT IAmb IAmb 19 13 42.3
comp=Z,26nm,1.4s
MCARA **McCarthy VSAT** 69.85 29 P **P** 19 13 42.4 +0.3
MCARA **McCarthy VSAT** 69.85 29 P **P** 19 13 42.1 +0.1
baz=261
BVAR **Borovoye Array** 69.86 322 LR LR 19 47 01.8
comp=Z,44nm,18.8s,baz=86,slow=38
BRVK **Borovoye** 69.93 322 P **P** 19 13 42.3 -0.4
BRVK **Borovoye** 69.93 322 P **P** 19 13 42.6 -0.1
L26K **Log Cabin Wild** 69.97 28 P **P** 19 13 43.3 +0.5
baz=260
J26L **Joseph Creek** 70.14 26 P **P** 19 13 44.0 +0.1
baz=259
CHGR **Chuyangaron** 70.41 306 P **P** 19 13 45.8 -0.3
BARN **Barnard Glacie** 70.45 30 P **P** 19 13 46.4 +0.4
BARN IAmb IAmb 19 14 03.2
comp=Z,50nm,1.8s
L27K **Beaver Creek,** 70.66 28 P **P** 19 13 47.2 +0.2
baz=262
PINM **Pinnacle** 71.03 31 P **P** 19 13 49.3 -0.1
baz=264
YUK3 **Moose Creek** 71.11 29 P **P** 19 13 50.6 +0.6
baz=263
O28M **Mount Upton** 71.13 30 P **P** 19 13 49.8 -0.4
baz=264
H27K **Steamboat Moun** 71.28 24 P **P** 19 13 51.4 +0.7
baz=261
YUK8 **Steele Glacier** 71.39 30 P **P** 19 13 51.8 +0.1
baz=264
DAWY **Dawson** 71.87 27 P **P** 19 13 54.6 +0.3
baz=263
YUK4 **Talbot Arm** 71.93 30 P **P** 19 13 55.6 +0.7
baz=265
YUK6 **Outpost Mounta** 72.04 30 P **P** 19 13 56.1 +0.5
baz=265
M29M **Somme Creek** 72.12 28 P **P** 19 13 56.6 +0.7
baz=265
P29M **Windy Craggy** 72.25 31 P **P** 19 13 58.0 +1.4
P29M IAmb IAmb 19 16 29.6
comp=Z,50nm,1.6s
P29M **Windy Craggy** 72.25 31 P **P** 19 13 57.4 +0.7
baz=266
L29M **L29M** 72.33 28 P **P** 19 13 57.8 +0.7
baz=265
HYT **Haines Junctio** 72.45 30 P **P** 19 13 58.7 +0.7
HYT IAmb IAmb 19 15 07.9
comp=Z,32nm,1.6s
HYT **Haines Junctio** 72.45 30 P **P** 19 13 58.1 +0.2
baz=266
I29M **Ogilvie Camp,** 72.48 25 P **P** 19 13 57.7 -0.2
baz=264
K29M **Barlow Dome** 72.67 27 P **P** 19 13 59.6 +0.4
baz=265
P30M **Million Dollar** 72.67 31 P **P** 19 13 59.8 +0.6
baz=267
N30M **Aishikik Lake** 72.69 30 P **P** 19 13 59.8 +0.5
baz=266
M30M **Minto, Yukon** 72.90 28 P **P** 19 14 01.4 +0.9
M30M IAmb IAmb 19 14 43.6
comp=Z,23nm,1.6s
M30M **Minto, Yukon** 72.90 28 P **P** 19 14 00.8 +0.3
baz=266
EPYK **Eagle Plains** 73.22 24 P **P** 19 14 02.7 +0.4
EPYK IAmb IAmb 19 14 05.2
comp=Z,42nm,1.6s
EPYK **Eagle Plains** 73.22 24 P **P** 19 14 02.7 +0.4
baz=265
N31M **Braeburn, Yuko** 73.32 30 P **P** 19 14 04.0 +1.0
N31M IAmb IAmb 19 15 04.4
comp=Z,51nm,1.7s
N31M **Braeburn, Yuko** 73.32 30 P **P** 19 14 03.8 +0.9
baz=267
G30M **tAoh Zraii Nji** 73.47 24 P **P** 19 14 04.1 +0.4
baz=265
WHY **Whitehorse** 73.73 30 P **P** 19 14 07.2 +1.7
WHY IAmb IAmb 19 15 39.9
comp=Z,23nm,1.6s
WHY **Whitehorse** 73.73 30 P **P** 19 14 05.3 -0.2
baz=268
M31M **Drury Creek, Y** 74.00 29 P **P** 19 14 07.1 +0.2
M31M **Drury Creek, Y** 74.00 29 P **P** 19 14 07.3 +0.3
baz=268
F31M **Tsiigehtchic** 74.46 23 P **P** 19 14 09.2 -0.2
baz=268
FARO **Faro, Yukon** 74.49 29 P **P** 19 14 10.2 +0.5
FARO **Faro, Yukon** 74.49 29 P **P** 19 14 09.7 -0.1
baz=269
INK **Inuvik** 74.58 22 P **P** 19 14 10.2 +0.1
comp=Z,7.3nm,0.7s,baz=259,slow=8.9,SNR=7.5
comp=Z,7.3nm,0.7s
INK **Inuvik** 74.58 22 P **P** 19 14 10.2 +0.1
baz=268
N32M **Quiet Lake** 74.61 30 P **P** 19 14 10.6 +0.1
baz=270
P33M **Teslin, Yukon** 74.74 31 P **P** 19 14 10.4 -0.9
P33M IAmb IAmb 19 16 00.8
comp=Z,49nm,2.0s
P33M **Teslin, Yukon** 74.74 31 P **P** 19 14 11.6 +0.3
baz=270
DIB **Dawson Inlet,** 75.11 38 P **P** 19 14 13.7 +0.2
DIB IAmb IAmb 19 16 53.2
comp=Z,38nm,1.2s
MMPY **Sheldon Lake,** 75.46 28 P **P** 19 14 16.4 +1.0
baz=271
S34M **Telegraph Cree** 75.67 33 P **P** 19 14 16.9 +0.4
baz=272
DLBC **Dease Lake** 76.23 33 P **P** 19 14 20.6 +0.8
comp=Z,2.8nm,0.6s,baz=256,slow=4.0,SNR=6.0
comp=Z,2.8nm,0.6s
DLBC **Dease Lake** 76.23 33 P **P** 19 14 20.8 +0.9
baz=273
ABKAR **Akbulak array** 76.46 318 P **P** 19 14 20.0 -1.2
ABKAR **Akbulak array** 76.46 318 P **P** 19 14 19.6 -1.6
TGTN **Hyland Airport** 76.92 29 P **P** 19 14 24.2 +0.5
baz=274
A36M **Sachs Harbour** 77.35 19 P **P** 19 14 25.1 -0.7
A36M IAmb IAmb 19 14 26.5
comp=Z,18nm,0.7s
A36M **Sachs Harbour** 77.35 19 P **P** 19 14 25.9 +0.1
baz=274
C36M **Paulatuk** 77.98 21 P **P** 19 14 28.9 -0.4
baz=276
KOTAN **Kotaneelee Air** 79.12 31 P **P** 19 14 35.9 +0.2
baz=278,SNR=6.0
GEYT **Alibeck** 79.12 307 P **P** 19 14 36.8 +0.6
comp=Z,1.8nm,0.8s,baz=13,slow=3.3,SNR=4.4
comp=Z,1.8nm,0.8s
WAPA **Wapiti River** 82.55 35 P **P** 19 14 54.2 0.0
HUMO **Hull Mountain** 82.80 48 P **P** 19 14 56.8 +1.1
HUMO IAmb IAmb 19 14 58.1
comp=Z,11nm,0.9s
H04A **Detroit Lake** 82.92 46 P **P** 19 14 57.2 +0.9
H04A IAmb IAmb 19 14 57.8
comp=Z,15nm,0.7s
EUNU **Eureka** 83.03 8 P **P** 19 14 56.4 +0.2
YKA **Yellowknife Ar** 83.09 27 P **P** 19 14 56.3 -0.4
comp=Z,6.4nm,0.8s,baz=286,slow=5.3,SNR=14
comp=Z,6.4nm,0.8s
YBH **Yreka Blue Hor** 83.15 49 P **P** 19 14 59.3 +1.7
comp=Z,13nm,0.9s,baz=314,slow=2.2,SNR=25
YBH PP **PP** 19 18 10.3 +0.4
comp=Z,1.8nm,0.9s,baz=72,slow=2.3,SNR=3.7
comp=Z,13nm,0.9s
YBH **Yreka Blue Hor** 83.15 49 P **P** 19 14 59.1 +1.4
YBH IAmb IAmb 19 15 00.0
comp=Z,13nm,0.8s
BRLDA **Berland Lookou** 83.85 36 P **P** 19 15 01.6 +0.6
BRLDA IAmb IAmb 19 15 02.3
comp=Z,18nm,0.9s
PINE **Pine Mountain** 83.99 47 P **P** 19 15 03.2 +1.2
B08A **Colville Reser** 84.04 42 P **P** 19 15 02.1 +0.1
B08A IAmb IAmb 19 15 03.4
comp=Z,17nm,0.7s
K05A **Summer Lake** 84.26 48 P **P** 19 15 04.2 +0.8
K05A IAmb IAmb 19 15 05.5
comp=Z,17nm,0.7s
HAWA **Hanford** 84.37 44 P **P** 19 15 04.2 +0.5
HAWA IAmb IAmb 19 15 05.4
comp=Z,10.0nm,0.8s
ORV **Oroville** 84.52 51 P **P** 19 15 05.0 +0.5
D08A **Wollman Farm,** 84.62 43 P **P** 19 15 05.6 +0.7
RES **Resolute Bay** 84.73 13 P **P** 19 15 05.3 +0.5
comp=Z,8.5nm,0.7s,baz=327,slow=4.6,SNR=15
comp=Z,8.5nm,0.7s
RES **Resolute Bay** 84.73 13 P **P** 19 15 04.8 0.0

RES				IAmb	IAmb	19 15 05.9	
	comp=Z,9.0nm,0.7s						
C09A	**Chrisman Ranch**	**84.87**	**42**	P	**P**	**19 15 06.7**	**+0.6**
MOD	**Modoc Plateau**	**84.87**	**48**	P	**P**	**19 15 06.8**	**+0.4**
I07A	**Izee**	**84.93**	**46**	P	**P**	**19 15 07.0**	**+0.3**
G08A	**Pilot Rock**	**85.02**	**45**	P	**P**	**19 15 07.9**	**+0.8**
G08A				IAmb	IAmb	19 15 08.7	
	comp=Z,34nm,1.8s						
AFDM	**Forest Hills D**	**85.05**	**51**	P	**P**	**19 15 07.9**	**+0.6**
E09A	**Wood Farm, Sta**	**85.27**	**43**	P	**P**	**19 15 09.0**	**+0.8**
E09A				IAmb	IAmb	19 15 11.4	
	comp=Z,12nm,0.9s						
BEKR	**Beckworth**	**85.30**	**50**	P	**P**	**19 15 09.4**	**+0.7**
BEKR				IAmb	IAmb	19 15 10.3	
	comp=Z,9.7nm,0.8s						
NEW	**Newport**	**85.50**	**42**	P	**P**	**19 15 10.2**	**+0.9**
	comp=Z,22nm,0.8s,baz=266,slow=3.5,SNR=35						
	comp=Z,22nm,0.8s						
NEW	**Newport**	**85.50**	**42**	P	**P**	**19 15 09.7**	**+0.4**
NEW	**Newport**	**85.50**	**42**	P	**P**	**19 15 09.4**	**+0.1**
	baz=285						
CMB	**Columbia Colle**	**85.71**	**52**	P	**P**	**19 15 11.4**	**+0.8**
J08A	**Circle Bar Ran**	**85.83**	**47**	P	**P**	**19 15 11.9**	**+0.8**
J08A				IAmb	IAmb	19 15 13.1	
	comp=Z,10nm,0.9s						
WVOR	**Wild Horse Val**	**85.95**	**47**	P	**P**	**19 15 12.5**	**+0.7**
WVOR				IAmb	IAmb	19 15 13.6	
	comp=Z,7.9nm,0.9s						
VCNR	**Virginia City**	**85.97**	**51**	P	**P**	**19 15 11.0**	**-1.0**
F10A	**Beach Ranch, E**	**86.03**	**44**	P	**P**	**19 15 12.6**	**+0.5**
PNTR	**Pine Nut**	**86.06**	**51**	P	**P**	**19 15 13.1**	**-1.2**
PNTR				IAmb	IAmb	19 15 14.7	
	comp=Z,11nm,1.0s						
PAHR	**Pah Rah Range**	**86.07**	**50**	P	**P**	**19 15 13.2**	**+0.7**
BMO	**Blue Mountains**	**86.26**	**45**	P	**P**	**19 15 13.6**	**+0.4**
YERR	**Yerington**	**86.36**	**51**	P	**P**	**19 15 13.8**	**-0.2**
YERR				IAmb	IAmb	19 15 16.0	
	comp=Z,6.8nm,0.8s						
PKM	**Mcpherson Peak**	**86.91**	**55**	P	**P**	**19 15 17.1**	**+0.4**
	baz=284						
LHV	**Little Huntoon**	**87.10**	**52**	P	**P**	**19 15 17.1**	**-0.2**
LHV				IAmb	IAmb	19 15 20.5	
	comp=Z,11nm,1.0s						
ARCES	**ARCESS Array B**	**87.12**	**342**	P	**P**	**19 15 18.0**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=78,slow=6.7,SNR=6.1						
	comp=Z,1.1nm,0.6s						
KVN	**Kaiserville**	**87.20**	**51**	P	**P**	**19 15 18.6**	**+0.5**
KVN				IAmb	IAmb	19 15 20.0	
	comp=Z,16nm,1.2s						
NVAR	**Mina Array Bea**	**87.20**	**51**	P	**P**	**19 15 19.2**	**+1.1**
	comp=Z,6.1nm,0.6s,baz=273,slow=5.6,SNR=38						
	comp=Z,6.1nm,0.6s						
NVAR	**Mina Array Bea**	**87.20**	**51**	P	**P**	**19 15 18.7**	**+0.6**
NV11	**Mina Array Sit**	**87.32**	**51**	P	**P**	**19 15 19.0**	**+0.4**
NV11				IAmb	IAmb	19 15 20.8	
	comp=Z,12nm,1.2s						
WALA	**Waterton Lakes**	**87.32**	**40**	P	**P**	**19 15 18.9**	**+0.6**
WALA				IAmb	IAmb	19 15 20.4	
	comp=Z,9.6nm,0.8s						
BMN	**Battle Mountai**	**87.49**	**49**	P	**P**	**19 15 20.2**	**+0.9**
BMN				IAmb	IAmb	19 15 21.4	
	comp=Z,7.8nm,0.9s						
MFID	**Camas Ranch**	**87.68**	**46**	P	**P**	**19 15 20.6**	**+0.5**
ISA	**Isabella, Lake**	**87.78**	**54**	P	**P**	**19 15 21.0**	**+0.3**
	baz=285						
CWC	**Cottonwood Cre**	**87.89**	**53**	P	**P**	**19 15 21.1**	**-0.3**
	baz=285						
MSO	**Missoula**	**87.97**	**42**	P	**P**	**19 15 21.3**	**-0.1**
	baz=288						
LCH	**Last Change Ra**	**88.02**	**52**	P	**P**	**19 15 22.8**	**+0.8**
LCH				IAmb	IAmb	19 15 24.2	
	comp=Z,20nm,1.7s						
MZP	**Montezuma Peak**	**88.09**	**52**	P	**P**	**19 15 22.1**	**-0.3**
TPH	**Tonopah**	**88.12**	**51**	P	**P**	**19 15 22.9**	**+0.5**
EDW2	**Edwards Air Fo**	**88.36**	**55**	P	**P**	**19 15 24.1**	**+0.6**
	baz=285						
CIS	**Catalina Islan**	**88.41**	**56**	P	**P**	**19 15 23.6**	**-0.1**
	baz=285						
MPMC	**Manual Prospec**	**88.45**	**53**	P	**P**	**19 15 24.4**	**+0.3**
	baz=286,SNR=10.0						
LRMC	**Laurel Mtn Rad**	**88.45**	**54**	P	**P**	**19 15 24.6**	**+0.6**
	baz=285						
HLID	**Hailey**	**88.62**	**46**	P	**P**	**19 15 25.3**	**+0.7**
HLID				IAmb	IAmb	19 15 26.6	
	comp=Z,14nm,0.9s						
HLID	**Hailey**	**88.62**	**46**	P	**P**	**19 15 25.5**	**+0.8**
	baz=287						
NEEM	**North Greenlan**	**88.81**	**3**	*i* P	**P**	**19 15 21.4**	**-3.6**
ELK	**Elko**	**88.86**	**48**	P	**P**	**19 15 27.1**	**+1.2**
	comp=Z,13nm,0.7s,baz=291,slow=5.0,SNR=66						
	comp=Z,13nm,0.7s						
ELK	**Elko**	**88.86**	**48**	P	**P**	**19 15 26.6**	**+0.7**
WCT	**Wildcat Mounta**	**88.92**	**53**	P	**P**	**19 15 27.3**	**+1.2**
WCT				IAmb	IAmb	19 15 28.1	
	comp=Z,8.9nm,0.7s						
QSM	**Queen of Sheba**	**88.96**	**53**	P	**P**	**19 15 27.5**	**+1.3**
QSM				IAmb	IAmb	19 15 28.2	
	comp=Z,9.6nm,0.7s						
GWY	**Greenwater Val**	**89.06**	**53**	P	**P**	**19 15 27.9**	**+1.1**
GWY				IAmb	IAmb	19 15 28.7	
	comp=Z,6.2nm,0.7s						
BCYI	**Bear Canyon**	**89.09**	**45**	P	**P**	**19 15 28.1**	**+1.2**
TPNV	**Topopah Spring**	**89.17**	**52**	P	**P**	**19 15 28.2**	**+0.8**
TPNV	**Topopah Spring**	**89.17**	**52**	P	**P**	**19 15 28.0**	**+0.6**
	baz=286,SNR=16						
GSC	**Goldstone, Bar**	**89.19**	**54**	P	**P**	**19 15 28.5**	**+1.1**
GSC				IAmb	IAmb	19 15 29.5	
	comp=Z,8.6nm,0.8s						
GSC	**Goldstone, Bar**	**89.19**	**54**	P	**P**	**19 15 28.3**	**+0.9**
	baz=286						
LRM	**Limekiln Ridge**	**89.26**	**43**	P	**P**	**19 15 28.1**	**+0.3**
R11A	**Troy Canyon, C**	**89.28**	**51**	P	**P**	**19 15 26.6**	**-1.3**
R11A				IAmb	IAmb	19 15 30.9	
	comp=Z,14nm,1.5s						
R11A	**Troy Canyon, C**	**89.28**	**51**	P	**P**	**19 15 27.9**	**0.0**
	baz=287,SNR=8.8						
MCMT	**McKenzie Canyo**	**89.31**	**44**	P	**P**	**19 15 28.4**	**+0.5**
S11A	**Rachel**	**89.36**	**52**	P	**P**	**19 15 28.4**	**+0.1**
S11A				IAmb	IAmb	19 15 31.2	
	comp=Z,10nm,0.7s						
DAG	**Danmarks Havn**	**89.40**	**356**	*i* P	**P**	**19 15 25.0**	**-2.4**
109C	**Camp Elliot, M**	**89.60**	**56**	P	**P**	**19 15 29.2**	**0.0**
	baz=286						
TUQ	**Turquoise Moun**	**89.84**	**54**	P	**P**	**19 15 31.1**	**+0.6**
	baz=286						
BOZ	**Bozeman (W)**	**89.88**	**43**	P	**P**	**19 15 31.2**	**+0.7**
BOZ	**Bozeman (W)**	**89.88**	**43**	P	**P**	**19 15 31.1**	**+0.7**
	baz=289						
PFO	**Pinyon Flats O**	**89.93**	**56**	P	**P**	**19 15 31.1**	**+0.2**
	baz=286						
TPFO	**Pinon Flats**	**89.93**	**56**	P	**P**	**19 15 31.1**	**+0.2**
	baz=286						
PRN	**Pahroc Range**	**89.96**	**52**	P	**P**	**19 15 32.1**	**+1.1**
PRN				IAmb	IAmb	19 16 55.3	
	comp=Z,8.6nm,0.6s						
SPR3	**Spring Creek 3**	**90.03**	**50**	P	**P**	**19 15 32.5**	**+0.9**
SPR3				IAmb	IAmb	19 15 33.9	
	comp=Z,11nm,1.2s						
SHPR	**Sheep Range**	**90.13**	**52**	P	**P**	**19 15 33.0**	**+1.1**
MONP2	**Monument Peak**	**90.16**	**56**	P	**P**	**19 15 32.7**	**+0.6**
	baz=286						
BELC	**Belle Mtn. Jos**	**90.19**	**55**	P	**P**	**19 15 31.9**	**-0.2**
	baz=286						
GMRC	**Granite Mounta**	**90.24**	**54**	P	**P**	**19 15 33.4**	**+1.1**
	baz=286						
QLMT	**Earthquake Lak**	**90.26**	**44**	P	**P**	**19 15 33.7**	**+1.3**
HVU	**Hansel Valley**	**90.31**	**47**	P	**P**	**19 15 33.8**	**+1.2**
HVU				IAmb	IAmb	19 15 34.8	
	comp=Z,9.8nm,1.1s						
YHB	**Horse Butte**	**90.45**	**44**	P	**P**	**19 15 34.4**	**+1.2**
IKP	**In-Ko-Pah, Jac**	**90.48**	**56**	P	**P**	**19 15 34.4**	**+1.0**
	baz=286						
PSUT	**Pine Spring**	**90.53**	**50**	P	**P**	**19 15 34.4**	**+0.6**
PSUT				IAmb	IAmb	19 15 35.6	
	comp=Z,6.4nm,0.9s						
V12A	**Nelson**	**90.60**	**53**	P	**P**	**19 15 35.4**	**+1.4**
V12A				IAmb	IAmb	19 15 36.4	
	comp=Z,10nm,0.8s						
YMR	**Madison River**	**90.63**	**44**	P	**P**	**19 15 35.8**	**+1.7**
SWSC	**Sam W. Stewart**	**90.64**	**56**	P	**P**	**19 15 34.0**	**-0.1**
	baz=286						
BC3	**Big Chuckawall**	**90.72**	**55**	P	**P**	**19 15 35.2**	**+0.6**
	baz=287						
DUG	**Dugway, Tooele**	**90.78**	**48**	P	**P**	**19 15 35.6**	**+0.8**
DUG				IAmb	IAmb	19 15 36.7	
	comp=Z,16nm,1.4s						
DUG	**Dugway, Tooele**	**90.78**	**48**	P	**P**	**19 15 35.6**	**+0.8**
	baz=288,SNR=6.5						
IRM	**Iron Mountain**	**90.82**	**55**	P	**P**	**19 15 36.0**	**+1.0**
	baz=287						
YPP	**Pitchstone Pla**	**90.87**	**44**	P	**P**	**19 15 36.8**	**+1.5**
IMW	**Indian Meadow**	**90.91**	**44**	P	**P**	**19 15 36.7**	**+1.2**
IMW				IAmb	IAmb	19 15 37.7	
	comp=Z,6.3nm,0.7s						
FXWY	**Fox Creek**	**90.93**	**45**	P	**P**	**19 15 36.1**	**+0.6**
H17A	**Grant Village**	**90.98**	**44**	P	**P**	**19 15 38.1**	**+2.4**
	baz=290,SNR=11						
FLWY	**Flagg Ranch**	**91.01**	**44**	P	**P**	**19 15 37.4**	**+1.6**
TPAW	**Teton Pass**	**91.03**	**45**	P	**P**	**19 15 37.0**	**+0.9**
TPAW				IAmb	IAmb	19 15 38.0	
	comp=Z,20nm,1.8s						
MOOW	**Moose Ponds**	**91.09**	**45**	P	**P**	**19 15 37.0**	**+0.7**
MOOW				IAmb	IAmb	19 15 38.2	
	comp=Z,4.5nm,0.8s						
YMP	**Mirror Lake Pl**	**91.15**	**43**	P	**P**	**19 15 38.2**	**+1.6**
FINES	**FINESS Array B**	**91.17**	**335**	P	**P**	**19 15 33.5**	**-2.4**
	comp=Z,1.2nm,0.3s,baz=70,slow=4.9,SNR=18						
AHID	**Auburn Hatcher**	**91.17**	**46**	P	**P**	**19 15 37.4**	**+0.7**
AHID				IAmb	IAmb	19 15 38.4	
	comp=Z,8.1nm,0.9s						
CCUT	**Cedar City**	**91.20**	**51**	P	**P**	**19 15 38.3**	**+1.4**
HWUT	**Hardware Ranch**	**91.23**	**47**	P	**P**	**19 15 37.1**	**+0.2**
HWUT				IAmb	IAmb	19 15 38.5	
	comp=Z,7.1nm,0.7s						
LOHW	**Long Hollow**	**91.23**	**45**	P	**P**	**19 15 37.9**	**+1.0**
VNDA	**Vanda**	**91.36**	**176**	P	**P**	**19 15 37.4**	**+1.1**
	comp=Z,2.4nm,1.0s,baz=334,slow=5.0,SNR=13						
	comp=Z,2.4nm,1.0s						
VNDA	**Vanda**	**91.36**	**176**	P	**P**	**19 15 37.0**	**+0.7**
VNDA				IAmb	IAmb	19 15 38.1	
	comp=Z,5.8nm,1.1s						
GLA	**Glamis**	**91.40**	**56**	P	**P**	**19 15 38.3**	**+0.6**
	baz=287						
NLU	**North Lily Min**	**91.40**	**48**	P	**P**	**19 15 38.8**	**+1.1**
LCMT	**Little Creek M**	**91.45**	**52**	P	**P**	**19 15 39.4**	**+1.4**
TCUT	**Toone Canyon**	**91.50**	**47**	P	**P**	**19 15 38.9**	**+0.6**
TCUT				IAmb	IAmb	19 15 39.3	
	comp=Z,6.9nm,0.7s						
W13A	**Hualapai Mount**	**91.54**	**53**	P	**P**	**19 15 37.5**	**-1.0**
PDMCI	**Parker Dam,Lak**	**91.57**	**54**	P	**P**	**19 15 39.4**	**+1.0**
	baz=287						
RLMT	**Red Lodge**	**91.61**	**43**	P	**P**	**19 15 39.4**	**+0.8**
RLMT				IAmb	IAmb	19 18 33.4	
	comp=Z,9.5nm,0.9s						
RLMT	**Red Lodge**	**91.61**	**43**	P	**P**	**19 15 39.6**	**+1.0**
	baz=291,SNR=9.3						
JLU	**Jordanelle**	**91.64**	**48**	P	**P**	**19 15 39.1**	**+0.2**
JLU				IAmb	IAmb	19 15 40.6	
	comp=Z,6.1nm,0.8s						
MVU	**Marysvale**	**91.76**	**50**	P	**P**	**19 15 40.6**	**+1.1**
KNB	**Kanab**	**91.77**	**51**	P	**P**	**19 15 40.5**	**+1.1**
KNB				IAmb	IAmb	19 15 42.0	
	comp=Z,6.6nm,0.8s						
BW06	**Boulder Array**	**92.24**	**45**	P	**P**	**19 15 41.9**	**+0.3**
	baz=291						
PD31	**Pinedale Array**	**92.24**	**45**	P	**P**	**19 15 41.7**	**+0.1**
PD31				IAmb	IAmb	19 19 03.1	
	comp=Z,5.7nm,1.1s						
PDAR	**Pinedale Array**	**92.24**	**45**	P	**P**	**19 15 41.9**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=234,slow=2.8,SNR=12						
	comp=Z,1.4nm,0.6s						
Y14A	**Wickenburg**	**92.58**	**54**	P	**P**	**19 15 44.6**	**+1.4**
Y14A				IAmb	IAmb	19 15 45.3	
	comp=Z,2.8nm,0.6s						
SRU	**San Rafael Swe**	**92.81**	**49**	P	**P**	**19 15 44.1**	**-0.2**
LAO	**LASA Array**	**92.99**	**41**	P	**P**	**19 15 44.7**	**-0.1**
LAO	**LASA Array**	**92.99**	**41**	P	**P**	**19 15 45.5**	**+0.8**
	baz=293						
RDMU	**Red Mountain**	**93.00**	**47**	P	**P**	**19 15 45.2**	**+0.1**
WUAZ	**Wupatki**	**93.36**	**52**	P	**P**	**19 15 47.8**	**+1.0**
	baz=289						
MNK	**Minsk**	**93.85**	**329**	*i* P	**P**	**19 15 45.8**	**-2.6**
	comp=E,6.0nm,1.4s						
MNK				*i* P	**P**	**19 15 45.8**	**-2.6**
	comp=N,39nm,0.9s						
MNK				*i* P	**P**	**19 15 45.8**	**-2.6**
	comp=Z,8.0nm,0.7s,baz=61						
MNK				*i* pP	**pP**	**19 16 13.5**	**-1.4**
MNK				*i* PP	**PP**	**19 19 32.3**	**-2.5**
MNK				*i* PPP	PPP	19 21 32.0	
MNK				*i* S	**SKSac**	**19 26 10.8**	**-2.9**
MNK				*i* sS	**ScS**	**19 26 58.1**	**+7.4**
MNK				*i* SS	**SS**	**19 33 08.3**	**-1.4**
MNK				*i* SSS	SSS	19 36 51.4	
MNK				*i* LQ	LQ	19 52 21.1	
MNK				*i* LR	LR	19 55 07.8	
MNK				*i* LRM	MLR	19 57 58.9	
	comp=Z,113nm,14.6s						
MNK				*i* LRM	MLR	19 58 02.7	
	comp=E,222nm,15.3s						
MNK				*i* LRM	MLR	19 58 02.7	
	comp=N,1μm,17.2s						
PV23	**Carpenter Ridg**	**94.14**	**49**	P	**P**	**19 15 50.8**	**+0.3**
PV11	**David Mesa, Pa**	**94.30**	**49**	P	**P**	**19 15 51.2**	**+0.1**
RSSD	**Black Hills**	**95.44**	**42**	P	**P**	**19 15 55.0**	**-1.2**
RSSD	**Black Hills**	**95.44**	**42**	P	**P**	**19 15 55.4**	**-0.8**
	baz=294						
N23A	**Red Feather La**	**95.44**	**46**	P	**P**	**19 15 57.5**	**+1.1**
	baz=293						
NOA	**NORSAR Array B**	**97.08**	**339**	LR	LR	20 02 07.2	
	comp=N,15nm,20.7s,baz=95,slow=37						
TXAR	**Lajitas Array**	**101.64**	**56**	P	**Pdif**	**19 16 24.9**	**+0.7**
	comp=N,0.2nm,0.5s,baz=251,slow=1.5,SNR=4.9			PKiKP	**PKiKP**	**19 20 49.6**	**+2.1**
TXAR	comp=N,0.3nm,0.7s,baz=70,slow=1.9,SNR=4.3						
CLL	**Collm**	**103.02**	**331**	*e*P	**Pdif**	**19 16 31.0**	**+1.3**
LRAL	**Lakeview Retre**	**112.47**	**45**	P	**PKiKP**	**19 21 07.6**	**+0.2**
	baz=304						
TROLL	**Troll, Antarti**	**117.28**	**192**	PKPdf	**PKiKP**	**19 21 15.8**	**+0.2**
SNAA	**Sanae**	**118.61**	**191**	PKPdf	**PKPdf**	**19 21 17.8**	**-0.3**
ESDC	**Sonseca Array**	**119.57**	**332**	PKP	**PKPdf**	**19 21 20.8**	**-0.1**
	comp=N,1.5nm,1.1s,baz=360,slow=38,SNR=2.5						
VNA2	**Neumayer--Watz**	**120.06**	**190**	PKPdf	**PKiKP**	**19 21 21.0**	**+0.1**
	baz=186,slow=0.5						
VNA3	**Neumayer Olymp**	**120.16**	**189**	PKPdf	**PKPdf**	**19 21 20.8**	**-0.1**
BOSA	**Boshof**	**121.96**	**245**	PKP	**PKPdf**	**19 21 25.6**	**-0.3**
	comp=N,1.0nm,0.6s,baz=140,slow=1.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**134.72**	**304**	PKP	**PKiKP**	**19 21 51.1**	**-0.6**
	comp=N,1.0nm,0.5s,baz=41,slow=2.8,SNR=13						
PLCA	**Paso Flores**	**139.01**	**138**	PKP	**PKiKP**	**19 21 59.1**	**-0.7**
	comp=N,2.8nm,0.6s,baz=234,slow=1.6,SNR=15						
DBIC	**Dimbokro**	**143.67**	**302**	PKhKP	PKPpre	19 22 03.9	
	comp=N,11nm,0.6s,baz=70,slow=4.3,SNR=22						
KIC	**Kosan Boka**	**143.74**	**301**	i/PKIKP	PKPbc	19 22 04.6	0.0
	comp=N,6.3nm,0.3s						
TIC	**Toumodi**	**143.82**	**302**	j/PKIKP	PKPab	19 22 04.5	+0.4
	comp=N,16nm,0.3s						
LIC	**Lamto**	**144.05**	**301**	i/PKIKP	**PKPab**	**19 22 05.0**	**0.0**
	comp=N,28nm,0.4s						
LPAZ	**La Paz**	**148.26**	**99**	PKP	**PKPdf**	**19 22 15.8**	**+0.6**
	comp=N,20nm,0.7s,baz=355,slow=2.7,SNR=20						
LPAZ				PKPbc	**PKiKP**	**19 22 19.8**	**-0.4**
	comp=N,20nm,0.7s,baz=317,slow=2.8,SNR=38						
CPUP	**Villa Florida**	**155.78**	**125**	PKPab	**PKPab**	**19 22 53.2**	**+1.0**
	comp=N,0.8nm,0.4s,baz=40,slow=20,SNR=3.6						

IDC 21 19:05:37.3±1.8, 26.54N×101.81E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=48.6km s-min=25.8km az=81.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.47**	**199**	Pg	Pg	19 08 13.1	-6.6
	baz=10,slow=19,SNR=5.2						
CMAR				Lg	Lg	19 10 04.1	
	baz=21,slow=31,SNR=1.4						
MKAR	**Makanchi Array**	**25.44**	**328**	P	P	19 11 06.5	-0.3
	0.6nm,0.8s,baz=140,slow=12,SNR=5.2						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**55.95**	**142**	P	P	19 15 17.9	+0.3
	0.4nm,0.9s,baz=337,slow=7.5,SNR=1.6						
	0.4nm,0.9s						

WEL 21 19:11:57.1±0.3, 42.3°S±2°×177.4E±°, h12km, M3.2/39, ML3.4/18, MLv3.2/39, Error ellipse: s-maj=0.0km s-min=0.0km az=128.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.50**	**27**	P	Pb	19 12 07.7	-0.1
BSWZ				S	Sb	19 12 15.0	+0.1
CMWZ	**Cape Campbell**	**0.63**	**49**	P	Pb	19 12 10.7	+0.7
THZ	**Tophouse**	**0.64**	**308**	P	Pb	19 12 10.4	+0.2
TUWZ	**Tuamarina**	**0.78**	**21**	P	Pb	19 12 12.7	+0.1
GVZ	**Greta Valley S**	**0.90**	**206**	P	Pg	19 12 14.4	-0.1
NNZ	**Nelson**	**0.95**	**351**	P	Pb	19 12 15.7	+0.2
MRNZ	**Matariki Terra**	**0.98**	**321**	P	Pg	19 12 14.5	-1.4
TCW	**Tory Channel**	**1.08**	**29**	P	Pb	19 12 17.8	+0.1
LTZ	**Lake Taylor**	**1.15**	**237**	P	Pb	19 12 18.6	-0.3
TKNZ	**Takaka Hill**	**1.22**	**337**	P	Pg	19 12 20.7	+0.3
AMCZ	**Amberley**	**1.23**	**214**	P	Pn	19 12 19.8	-0.3
WEL	**Wellington**	**1.25**	**46**	P	Pb	19 12 20.6	+0.1
DUWZ	**D'Urville Isla**	**1.38**	**11**	P	Pb	19 12 22.9	+0.1
PLWZ	**Palliser**	**1.38**	**65**	P	Pb	19 12 21.2	-1.1
DSZ	**Dennistone Nort**	**1.39**	**287**	P	Pb	19 12 23.2	+0.3
MSWZ	**Moikau Station**	**1.45**	**60**	P	Pn	19 12 22.3	-0.9
CAW	**Cannon Point**	**1.53**	**47**	P	Pn	19 12 23.9	-0.4
QRZ	**Quartz Range**	**1.55**	**329**	P	Pn	19 12 23.9	-0.6
PAWZ	**Paruwai Farm**	**1.59**	**61**	P	Pn	19 12 23.9	-1.1
OKCZ	**Okains Bay**	**1.61**	**193**	P	Pn	19 12 24.3	-1.1
OXZ	**Oxford**	**1.63**	**224**	P	Pn	19 12 24.7	-0.9
KIW	**Kapiti Island**	**1.64**	**38**	P	Pn	19 12 26.1	+0.4
INZ	**Inchbonnie**	**1.68**	**250**	P	Pn	19 12 27.0	+0.7
MQZ	**McQueen's Vall**	**1.69**	**203**	P	Pn	19 12 24.7	-1.7
TRWZ	**Traveller**	**1.75**	**65**	P	Pn	19 12 25.7	-1.5
MTW	**Mount Morrison**	**1.75**	**56**	P	Pn	19 12 26.1	-1.2
AKCZ	**Akaroa Harbour**	**1.78**	**196**	P	Pn	19 12 26.6	-1.1
OGWZ	**Otaki Gorge**	**1.80**	**42**	P	Pn	19 12 27.6	-0.3
RACZ	**Rakaia**	**1.89**	**213**	P	Pn	19 12 28.2	-1.0
HOWZ	**Holdsworth Sta**	**1.93**	**50**	P	Pn	19 12 28.8	-0.9
MHCZ	**Mount Hutt**	**2.02**	**226**	P	Pn	19 12 30.0	-1.0
TMWZ	**Te Maipa**	**2.03**	**60**	P	Pn	19 12 29.5	-1.6
MRZ	**Mangatainoka R**	**2.12**	**46**	P	Pn	19 12 31.4	-0.9
WACZ	**Wakanui South**	**2.19**	**215**	P	Pn	19 12 32.1	-1.2
WVZ	**Waitaha Valley**	**2.29**	**245**	P	Pn	19 12 35.2	+0.5
RPZ	**Rata Peaks**	**2.42**	**229**	P	Pn	19 12 35.8	-0.7
BFZ	**Birch Farm**	**2.49**	**55**	P	Pn	19 12 35.9	-1.5
ARCZ	**Arundel**	**2.51**	**224**	P	Pn	19 12 36.6	-1.1
GCSZ	**Gaunt Creek Bo**	**2.66**	**243**	P	Pn	19 12 40.2	+0.5
TSZ	**Takapari Road**	**2.77**	**41**	P	Pn	19 12 43.5	+2.2
KHEZ	**Kahui Hut**	**2.88**	**7**	P	Pg	19 12 50.6	-1.6
NBEZ	**Newall Road No**	**2.90**	**4**	P	Pb	19 12 50.1	+1.5
TMZ	**Timaru**	**2.91**	**219**	P	Pn	19 12 42.2	-1.0
NEZ	**North Egmont**	**2.91**	**8**	P	Pb	19 12 50.3	+1.3
PKE	**Pukeiti**	**2.98**	**6**	P	Pb	19 12 50.3	+0.2
PNHZ	**Pukenui**	**2.99**	**42**	P	Pb	19 12 52.3	+2.0
DREZ	**Durham Road**	**3.00**	**9**	P	Pn	19 12 40.9	-3.6
FOZ	**Fox Glacier**	**3.09**	**242**	P	Pn	19 12 46.2	+0.6
MTVZ	**Mangateitei**	**3.12**	**28**	P	Pb	19 12 52.3	-0.2
VRZ	**Vera Road**	**3.16**	**17**	P	Pb	19 12 54.3	+1.1
PKVZ	**Pokaka**	**3.17**	**26**	P	Pb	19 12 54.1	+0.8
MOVZ	**Moawhango**	**3.21**	**32**	P	Pb	19 12 55.3	+1.3
WNVZ	**Wahianoa**	**3.22**	**29**	P	Pb	19 12 53.2	-1.1
TRVZ	**Turoa**	**3.23**	**28**	P	Pb	19 12 55.2	+0.8
WHVZ	**Whangaehu Hut**	**3.25**	**29**	P	Pb	19 12 53.1	-1.8
BHHZ	**Black Hill Sta**	**3.27**	**36**	P	Pb	19 12 54.8	-0.2
FWVZ	**Far West T-bar**	**3.27**	**28**	P	Pb	19 12 56.3	+1.2
LBZ	**Lake Benmore**	**3.33**	**227**	P	Pn	19 12 48.6	-0.4
NGZ	**Ngauruhoe**	**3.35**	**28**	P	Pb	19 12 56.7	+0.2
SNVZ	**South Ngauruho**	**3.36**	**29**	P	Pb	19 12 57.2	+0.6
OTVZ	**Oturere**	**3.39**	**29**	P	Pb	19 12 56.5	-0.6
TWVZ	**Taurewa**	**3.39**	**25**	P	Pb	19 12 58.5	+1.3
NNVZ	**North Ngauruho**	**3.40**	**28**	P	Pb	19 12 58.7	+1.4
WTVZ	**West Tongariro**	**3.40**	**27**	P	Pb	19 12 58.5	+1.1
ETVZ	**East Tongariro**	**3.43**	**29**	P	Pb	19 12 57.9	+0.1
KRVZ	**Karewarewa**	**3.44**	**28**	P	Pb	19 12 59.2	+1.2
TMVZ	**Te Maari**	**3.44**	**29**	P	Pb	19 12 59.2	+

AUQ	Augustine Qik'	1.17	211			Pn	19 16 31.7	+0.3
N19K	Bonanza Creek	1.19	293			Pn	19 16 31.3	-0.4
N19K	Bonanza Creek baz=111	1.19	293	P		Pn	19 16 31.3	-0.4
O22K	Cooper Landing	1.26	84			Pn	19 16 32.2	-0.2
O22K	Cooper Landing baz=266	1.26	84	P		Pn	19 16 32.2	-0.2
FIS	Fire Island	1.27	51	Pn		Pn	19 16 32.8	+0.3
FIS	comp=N,903nm,0.8s			IAML			19 16 52.4	
FIS	comp=E,826nm,0.9s			IAML			19 17 18.1	
SUA	Susitna One	1.32	33			Pn	19 16 33.7	+0.4
SUA	Susitna One comp=N,1µm,0.8s	1.32	33	IAML			19 16 52.8	
SUA	Susitna One baz=214	1.32	33	P		Pn	19 16 33.7	+0.4
SEW	Seward	1.42	99			Pn	19 16 33.8	-0.5
SEW	Seward baz=282	1.42	99	P		Pn	19 16 33.8	-0.5
RC01	Rabbit Creek A	1.43	58			Pn	19 16 34.5	-0.1
RC01	Rabbit Creek A comp=E,946nm,0.4s	1.43	58	IAML			19 16 55.4	
RC01	comp=N,757nm,0.3s			IAML			19 16 55.6	
RC01	Rabbit Creek A baz=241	1.43	58	P		Pn	19 16 34.5	-0.1
O18K	Koktuh Hills	1.57	252			Pn	19 16 36.0	-0.2
O18K	Koktuh Hills baz=70	1.57	252	P		Pn	19 16 36.0	-0.2
M20K	Styx River	1.58	345			Pn	19 16 36.8	+0.3
M20K	Styx River comp=E,414nm,0.6s	1.58	345	IAML			19 16 57.8	
M20K	Styx River baz=164	1.58	345	P		Pn	19 16 36.8	+0.3
Q19K	Cape Douglas,	1.60	207			Pn	19 16 36.6	-0.1
Q19K	Cape Douglas, comp=N,496nm,0.8s	1.60	207	IAML			19 17 00.3	
Q19K	comp=E,838nm,1.4s			IAML			19 17 01.3	
Q19K	Cape Douglas, baz=26	1.60	207	P		Pn	19 16 36.6	-0.1
SKT	Skwentna	1.66	12			Pn	19 16 37.2	-0.2
SKT	Skwentna comp=N,454nm,0.5s	1.66	12	IAML			19 17 01.6	
SKT	comp=E,479nm,0.4s			IAML			19 17 01.8	
SKT	Skwentna baz=192	1.66	12	P		Pn	19 16 37.2	-0.2
M22K	Willow	1.74	36			Pn	19 16 38.4	+0.1
SYI	Shuyak Island	1.76	182			Pn	19 16 39.0	+0.3
Q20K	Shuyak Island baz=2.5	1.76	182	P		Pn	19 16 39.0	+0.3
P18K	Big Mountain,	1.79	238			Pn	19 16 38.9	-0.2
P18K	Big Mountain, baz=56	1.79	238	P		Pn	19 16 38.9	-0.2
N18K	Kilae Creek	1.83	282			Pn	19 16 39.3	-0.2
N18K	Kilae Creek baz=98	1.83	282	P		Pn	19 16 39.3	-0.2
M19K	Big River Lodg	1.86	327			Pn	19 16 40.0	+0.1
M19K	Big River Lodg baz=145	1.86	327	P		Pn	19 16 40.0	+0.1
PMR	Palmer	1.96	50			Pn	19 16 40.8	-0.4
PMR	Palmer comp=E,402nm,0.6s	1.96	50	IAML			19 17 04.9	
PMR	comp=N,380nm,0.4s			IAML			19 17 05.6	
PMR	Palmer baz=232	1.96	50	P		Pn	19 16 40.8	-0.4
PWL	Port Wells	1.99	74			Pn	19 16 40.6	-1.1
PWL	Port Wells comp=E,335nm,0.4s	1.99	74	IAML			19 17 06.3	
PWL	comp=N,406nm,0.3s			IAML			19 17 10.3	
PWL	Port Wells baz=257	1.99	74	P		Pn	19 16 40.6	-1.1
KNK	Knik Glacier	2.13	59			Pn	19 16 42.9	-0.6
KNK	Knik Glacier comp=E,276nm,0.5s	2.13	59	IAML			19 17 10.2	
KNK	comp=N,470nm,0.4s			IAML			19 17 10.4	
KNK	Knik Glacier baz=242	2.13	59	P		Pn	19 16 42.8	-0.6
GHO	Glory Hole Cre	2.15	47			Pn	19 16 43.2	-0.5
GHO	Glory Hole Cre comp=N,263nm,0.3s	2.15	47	IAML			19 17 09.5	
GHO	comp=E,395nm,0.3s			IAML			19 17 11.2	
L19K	White Mountain	2.22	327	Pn		Pn	19 16 44.7	+0.1
KAHC	Katmai Hardscr	2.22	220			Pn	19 16 44.9	+0.1
Q18K	Katmai Hardscr baz=38	2.22	220	P		Pn	19 16 44.9	+0.1
CUT	Chulitna	2.26	24	Pn		Pn	19 16 46.3	+1.2
L20K	Farewell, AK	2.26	340			Pn	19 16 45.5	+0.3
L20K	Farewell, AK baz=159	2.26	340	P		Pn	19 16 45.5	+0.3
SML	Sawmill	2.39	51			Pn	19 16 46.4	-0.5
SML	Sawmill comp=E,209nm,0.6s	2.39	51	IAML			19 17 16.1	
SML	comp=N,184nm,0.7s			IAML			19 17 20.6	
SML	Sawmill baz=234	2.39	51	P		Pn	19 16 46.4	-0.5
P17K	Kvichak River	2.42	243			Pn	19 16 47.6	+0.4
P17K	Kvichak River baz=59	2.42	243	P		Pn	19 16 47.6	+0.4
P23K	Montague Islan	2.45	97			Pn	19 16 47.0	-0.7
P23K	Montague Islan baz=281	2.45	97	P		Pn	19 16 47.0	-0.7
O17K	Koliganek Bris	2.50	258			Pn	19 16 48.2	-0.1
O17K	Koliganek Bris baz=74	2.50	258	P		Pn	19 16 48.2	-0.1
KAKN	Katmai Knife C	2.52	216			Pn	19 16 49.0	+0.2
PPLA	Purkeypile	2.54	1			Pn	19 16 49.6	+0.6
PPLA	Purkeypile baz=181	2.54	1	P		Pn	19 16 49.6	+0.6
M23K	Glacier View	2.62	55			Pn	19 16 49.3	-0.6
M23K	Glacier View baz=239	2.62	55	P		Pn	19 16 49.3	-0.6
ANCK	Angle Creek	2.74	219			Pn	19 16 52.1	+0.6
SCM	Sheep Creek Mo	2.81	56			Pn	19 16 51.9	-0.6
SCM	Sheep Creek Mo comp=E,149nm,0.5s	2.81	56	IAML			19 17 26.2	
SCM	comp=N,169nm,0.7s			IAML			19 17 26.6	
SCM	Sheep Creek Mo baz=240	2.81	56	P		Pn	19 16 51.9	-0.6
CNTC	Contact Creek	2.81	223			Pn	19 16 52.9	+0.4
Q17K	Contact Creek baz=40	2.81	223	P		Pn	19 16 52.9	+0.3
HIN	Hinchinbrook I	2.85	87			Pn	19 16 52.5	-0.5
HIN	Hinchinbrook I comp=E,196nm,2.4s	2.85	87	IAML			19 17 31.8	
HIN	comp=N,246nm,3.6s			IAML			19 17 42.8	
WAT7	Susitna Watana	2.96	32			Pn	19 16 55.0	+0.4
O16K	Kokwok River B	3.04	258			Pn	19 16 55.5	0.0
O16K	Kokwok River B baz=73	3.04	258	P		Pn	19 16 55.5	0.0
WAT1	Susitna Watana	3.04	34			Pn	19 16 56.1	+0.6
WAT1	Susitna Watana baz=217	3.04	34	P		Pn	19 16 56.1	+0.6
CAST	Castle Rocks	3.07	1			Pn	19 16 55.8	-0.1
CAST	Castle Rocks baz=181	3.07	1	P		Pn	19 16 55.8	-0.1
WAT6	Susitna Watana	3.10	42			Pn	19 16 56.2	-0.2
WAT6	Susitna Watana baz=226	3.10	42	P		Pn	19 16 56.3	-0.2
K20K	Telida	3.12	345			Pn	19 16 56.9	+0.3
K20K	Telida baz=163	3.12	345	P		Pn	19 16 56.9	+0.3
TTA	Tatalina	3.14	327			Pn	19 16 56.7	-0.2
TTA	Tatalina baz=143	3.14	327	P		Pn	19 16 56.7	-0.2
OHAK	Old Harbor	3.20	190			Pn	19 16 56.5	-1.1
OHAK	Old Harbor comp=E,89nm,2.9s	3.20	190	IAML			19 17 38.1	
OHAK	comp=N,90nm,3.2s			IAML			19 18 16.2	
OHAK	Old Harbor baz=9.3	3.20	190	P		Pn	19 16 56.5	-1.1
EYAK	Cordova Ski Ar	3.23	84			Pn	19 16 57.2	-0.7
EYAK	Cordova Ski Ar baz=270	3.23	84	P		Pn	19 16 57.3	-0.7
TRF	Thorofare Moun	3.23	16			Pn	19 16 58.2	-0.1
TRF	Thorofare Moun	3.23	16	IAML			19 17 41.2	
TRF	comp=E,120nm,0.7s			IAML			19 17 42.1	
TRF	comp=N,122nm,0.4s Thorofare Moun baz=198	3.23	16	P		Pn	19 16 58.6	+0.4
N16K	Nishlik Lake	3.23	275			Pn	19 16 58.3	+0.2
N16K	Nishlik Lake baz=89	3.23	275	P		Pn	19 16 58.3	+0.2
KTH	Kantishna Hill	3.26	11			Pn	19 16 58.7	+0.2
KTH	Kantishna Hill comp=N,86nm,0.6s	3.26	11	IAML			19 17 41.9	
DIV	Divide	3.27	74			Pn	19 16 57.3	-1.3
KLU	Klutina	3.29	67			Pn	19 16 57.8	-1.1
KLU	Klutina comp=N,141nm,0.3s	3.29	67	IAML			19 17 36.8	
KLU	comp=E,153nm,0.2s			IAML			19 17 37.1	
KLU	Klutina baz=253	3.29	67	P		Pn	19 16 57.8	-1.1
M24K	Tolsona, Glenn	3.42	57			Pn	19 17 00.6	-0.1
M24K	Tolsona, Glenn comp=N,164nm,0.8s	3.42	57	IAML			19 17 42.3	
M24K	comp=E,193nm,0.5s			IAML			19 17 42.7	
M24K	Tolsona, Glenn baz=242	3.42	57	P		Pn	19 17 00.5	-0.1
RND	Reindeer	3.45	26			Pn	19 17 02.0	+1.0
CHUM	Lake Minchumin	3.53	360			Pn	19 17 01.9	-0.1
CHUM	Lake Minchumin baz=179	3.53	360	P		Pn	19 17 02.0	-0.1
DHY	Denali Highway	3.57	38			Pn	19 17 03.1	+0.3
DHY	Denali Highway comp=N,74nm,0.5s	3.57	38	IAML			19 17 47.0	
DHY	comp=E,66nm,0.9s			IAML			19 17 53.9	
DHY	Denali Highway baz=223	3.57	38	P		Pn	19 17 03.1	+0.3
MCK	McKinley	3.72	23	Pn		Pn	19 17 05.0	+0.3
MCK	comp=E,50nm,0.9s			IAML			19 18 07.8	
MCK	comp=N,50nm,0.7s			IAML			19 18 12.8	
GOAT	Goat Mountain	3.73	83			Pn	19 17 02.9	-2.0
RAGM	Ragged Mountai	3.76	86	Pn		Pn	19 17 06.2	+1.0
RAGM	comp=E,140nm,0.4s			IAML			19 17 50.4	
BPAW	Bear Paw Mtn.	3.80	8			Pn	19 17 05.5	-0.2
BPAW	Bear Paw Mtn. baz=189	3.80	8	P		Pn	19 17 05.5	-0.2
BMRM	Bremner River	3.81	78	Pn		Pn	19 17 05.0	-0.9
J20K	Nowinta River	3.93	348			Pn	19 17 07.3	-0.1
J20K	Nowinta River baz=166	3.93	348	P		Pn	19 17 07.3	-0.1
N25K	Chitina, Valde	3.93	68			Pn	19 17 06.5	-1.1
N25K	Chitina, Valde comp=N,49nm,0.7s	3.93	68	IAML			19 17 51.3	
N25K	comp=E,46nm,0.5s			IAML			19 17 52.1	
N25K	Chitina, Valde baz=255	3.93	68	P		Pn	19 17 06.5	-1.1
SII	Sitkinak Islan	3.95	196	Pn		Pn	19 17 07.3	-0.5
HMT	Hamilton	3.97	87	Pn		Pn	19 17 07.3	-0.7
HARP	HAARP	3.98	56			Pn	19 17 07.9	-0.2
HARP	HAARP baz=242	3.98	56	P		Pn	19 17 07.9	-0.2
BWN	Browne	4.04	18			Pn	19 17 09.8	+1.0
BWN	comp=E,90nm,0.9s			IAML			19 18 15.3	
BWN	comp=N,79nm,3.2s			IAML			19 18 43.7	
PAX	Paxson	4.16	48			Pn	19 17 10.7	+0.1
PAX	Paxson baz=234	4.16	48	P		Pn	19 17 10.7	+0.1
BERG	Berg Lake	4.24	86	Pn		Pn	19 17 10.7	-1.0
GLB	Gilahina Butte	4.26	72			Pn	19 17 10.8	-1.2
GLB	Gilahina Butte comp=N,32nm,3.9s	4.26	72	IAML			19 19 05.9	
VRDI	Verde Repeater	4.40	75			Pn	19 17 12.2	-1.7
VRDI	Verde Repeater comp=E,29nm,4.4s	4.40	75	IAML			19 17 54.7	
VRDI	comp=N,36nm,4.0s			IAML			19 18 15.5	
NEA2	Nenana	4.49	18	Pn		Pn	19 17 15.4	+0.3
WRH	Wood River Hil	4.55	23			Pn	19 17 15.8	-0.1
MCARA	McCarthy VSAT	4.62	73			Pn	19 17 15.7	-1.1
MCARA	McCarthy VSAT comp=E,50nm,0.7s	4.62	73	IAML			19 18 12.2	
MCARA	comp=N,61nm,4.4s			IAML			19 18 41.3	
MCARA	McCarthy VSAT baz=261	4.62	73	P		Pn	19 17 15.7	-1.1
WAX	Waxell Ridge	4.66	85	Pn		Pn	19 17 16.8	-0.7
SNH	Sunshine Point	4.69	88	Pn		Pn	19 17 17.9	+0.1
MLY	Manley	4.74	8			Pn	19 17 18.5	+0.1
MLY	Manley comp=E,23nm,4.7s	4.74	8	IAML			19 18 21.2	
MLY	Manley baz=189	4.74	8	P		Pn	19 17 18.5	+0.1
HDA	Harding Lake	4.75	29			Pn	19 17 18.5	0.0
HDA	comp=E,47nm,0.5s			IAML			19 18 12.8	
CCB	Clear Creek Bu	4.76	24			Pn	19 17 18.4	-0.3
CCB	Clear Creek Bu comp=E,24nm,0.4s	4.76	24	IAML			19 18 14.3	
I21K	Tanana	4.84	1			Pn	19 17 19.9	+0.2
I21K	comp=N,29nm,4.1s			IAML			19 18 20.8	
I21K	comp=E,24nm,4.1s			IAML			19 19 28.6	
BARK	Barkley Ridge	4.84	85			Pn	19 17 19.4	-0.5
RIDG	Independent Ri	4.86	43	Pn		Pn	19 17 20.7	+0.7
GCSA	Galena City Sc	4.89	336			Pn	19 17 20.9	+0.5
GCSA	Galena City Sc baz=152	4.89	336	P		Pn	19 17 20.9	+0.5
M26K	Nabesna, AK	4.90	61			Pn	19 17 19.9	-0.7
M26K	Nabesna, AK comp=N,37nm,0.7s	4.90	61	IAML			19 18 16.1	
M26K	Nabesna, AK baz=250	4.90	61	P		Pn	19 17 19.9	-0.7
KIAG	Kiagna River	4.90	79			Pn	19 17 19.6	-1.2
ISLE	Juniper Island	4.91	83	Pn		Pn	19 17 20.4	-0.4
ISLE	comp=E,50nm,3.9s			IAML			19 20 25.7	
BALM	Baldy	4.91	78			Pn	19 17 20.2	-0.7
TCOL	CIGO, UAF Yank	4.96	22			Pn	19 17 21.7	+0.3
COLA	College	4.96	22			Pn	19 17 21.0	-0.4
MDM	Murphy Dome	4.97	20			Pn	19 17 21.3	-0.3
MDM	Murphy Dome comp=N,20nm,4.9s	4.97	20	IAML			19 18 57.0	
I23K	Minto, Yukon-K	4.98	14			Pn	19 17 21.9	+0.3
I23K	Minto, Yukon-K comp=N,23nm,4.9s	4.98	14	IAML			19 18 14.5	
I23K	comp=E,24nm,4.1s			IAML			19 19 31.8	
I23K	Minto, Yukon-K baz=197	4.98	14	P		Pn	19 17 22.0	+0.3
L26K	Log Cabin Wild	5.01	54			Pn	19 17 22.2	+0.1
L26K	comp=N,42nm,0.5s			IAML			19 18 46.5	
L26K	comp=E,34nm,0.4s			IAML			19 18 52.2	
IL31		5.07	27			Pn	19 17 22.6	-0.2
ILAR	Eielson Array	5.07	27			Pn	19 17 22.1	-0.8
DOT	Dot Lake	5.07	46	Pn		Pn	19 17 22.8	-0.2
MESA	MESA	5.13	88	Pn		Pn	19 17 24.2	+0.3
YAH	Yahtse	5.21	85	Pn		Pn	19 17 25.4	+0.4
BARN	Barnard Glacie	5.25	78			Pn	19 17 25.8	+0.3
BARN	comp=N,24nm,1.5s			IAML			19 18 26.3	
BARN	comp=E,23nm,4.0s			IAML			19 18 37.7	
POKR	Poker Plat Res	5.26	23			Pn	19 17 25.8	+0.3
POKR	comp=N,23nm,2.7s			IAML			19 18 29.6	
POKR	comp=E,22nm,4.2s			IAML			19 20 36.1	
SCRK	Sand Creek	5.30	43			Pn	19 17 25.3	-0.8
SCRK	Sand Creek comp=N,23nm,0.7s	5.30	43	IAML			19 18 39.8	
SCRK	comp=E,22nm,0.6s			IAML			19 18 41.8	
SCRK	Sand Creek baz=231	5.30	43	P		Pn	19 17 25.8	-0.4
H21K	Melozitna Rive	5.32	358			Pn	19 17 25.4	-0.9
H21K	Melozitna Rive	5.32	358	IAML			19 19 05.5	
H21K	comp=E,19nm,4.3s			IAML			19 19 19.4	
H21K	comp=N,17nm,5.0s Melozitna Rive baz=177	5.32	358	P		Pn	19 17 25.4	-0.9
J25K	Salcha River,	5.32	34			Pn	19 17 26.5	+0.1
J25K	comp=E,38nm,0.6s			IAML			19 18 38.3	
J25K	comp=N,31nm,0.6s			IAML			19 18 41.3	
M27K	Edge Creek, AK	5.38	64	Pn		Pn	19 17 26.9	-0.2
M27K	comp=E,29nm,4.3s			IAML			19 18 30.4	
M27K	comp=N,28nm,3.9s			IAML			19 20 18.3	
H22K	Ishtalitna Cre	5.56	4			Pn	19 17 29.3	-0.3
H22K	Ishtalitna Cre baz=184	5.56	4	P		Pn	19 17 29.3	-0.3
H23K	Yukon River	5.62	11			Pn	19 17 31.0	+0.7
L27K	Beaver Creek,	5.65	57	Pn		Pn	19 17 30.3	-0.4
BCAR	Beaver Creek A	5.67	57	Pn		Pn	19 17 30.4	-0.6
IMAR	Indian Mountai	5.68	354	Pn		Pn	19 17 31.0	-0.2
J26L	Joseph Creek	5.79	40			Pn	19 17 32.6	0.0
J26L	Joseph Creek baz=228	5.79	40	P		Pn	19 17 32.6	0.0
H24K	Noodor Dome	5.84	18			Pn	19 17 33.9	+0.5
PCA	Pinnacle	5.98	87	Pn		Pn	19 17 35.5	+0.1
PRP	Porcupine Dome	6.01	28			Pn	19 17 35.8	0.0
PRP	Porcupine Dome baz=214	6.01	28	P		Pn	19 17 35.8	0.0
G21K	Allakaket	6.20	355			Pn	19 17 38.1	-0.1
G21K	Allakaket baz=174	6.20	355	P		Pn	19 17 38.1	-0.1
I26K	Coal Creek Min	6.47	36			Pn	19 17 42.8	+0.9
FYU	Fort Yukon	6.97	24	Pn		Pn	19 17 48.8	+0.1
DAWY	Dawson	7.06	53	Pn		Pn	19 17 49.6	-0.4
HYT	Haines Junctio	7.28	80	Pn		Pn	19 17 52.2	-0.7
P29M	Windy Craggy	7.32	89	Pn		Pn	19 17 54.0	+0.5
ANM	Nome	7.39	310	Pn		Pn	19 17 55.0	+0.6
I29M	Ogilvie Camp,	8.10	46	Pn		Pn	19 18 04.5	+0.4
TOLK	Toolik Lake Re	8.39	7	Pn		Pn	19 18 09.2	+1.2
WHY	Whitehorse	8.57	80	Pn		Pn	19 18 09.8	-0.9
TNA	Tin City	8.82	313	Pn		Pn	19 18 16.5	+2.7

*PRU **21** 19:24:20.7±0.0, 49°.84N×18°.55E, h0km, Mining Induced Event Csm, E=9.7e+04*
*VIE **21** 19:24:20.3±0.5, 49°.86N×18°.62E, h0km, mb2.5/1, ml2.1/1, Error ellipse: s-maj=10.7km s-min=3.3km az=166.0 27 km E of Ostrava Suspected Mining induced.*
*IPEC **21** 19:24:21.5±0.3, 49°.82N×18°.56E, h1km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=1.7km az=72.0*

ISC 21 19:24:20.4±0.8, 49°.84N±0°.03×18°.56E±0°.02, h0km, n26, σ0s 80/45, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.27**	**270**	*e*PG	**Pg**	**19 24 26.7**	**+1.2**
OKC	comp=Z,89nm,0.5s			*e*SG	**Sg**	**19 24 29.7**	**+0.7**
MORC	**Moravsky Berou**	**0.66**	**265**	*e*PG	**Pb**	19 24 34.3	-0.6
MORC				*e*SG	**Sg**	19 24 42.3	+0.6
MORC	**Moravsky Berou** baz=86	**0.66**	**265**	*e*Pg	**Pb**	19 24 34.2	-0.6
MORC	48nm,0.4s,baz=86			*e*Sg	**Sg**	19 24 42.2	+0.6
MAUC	**Maruska**	**0.67**	**225**	*e*PG	**Pg**	19 24 33.7	+0.5
MAUC				*e*SG	**Sg**	19 24 40.7	-1.3
OJC	**Ojcow**	**0.88**	**64**	*e*Pg	**Pg**	19 24 36.0	-1.4
OJC	comp=Z,40nm,0.5s			*e*Sg	**Sg**	19 24 48.2	-0.5
JAVC	**Velka Javorina** baz=31	**1.14**	**211**	*e*Pg	**Pb**	19 24 43.3	+0.3
KRLC	**Kraliky**	**1.17**	**282**	*e*PG	**Pg**	19 24 43.3	+0.5
KRLC	comp=Z,24nm,0.6s			*e*SG	**Sg**	19 24 58.1	+0.1
VYHS	**Vyhne**	**1.36**	**172**	*e*PG	**Pg**	19 24 46.3	-0.1
VYHS				*e*SG	**Sn**	19 25 05.5	+0.2
VYHS				*e*LG	Lg	19 25 06.7	
VRAC	**Vranov**	**1.39**	**248**	*e*PG	**Pg**	19 24 47.1	+0.1
VRAC				*e*SG	**Sg**	19 25 04.7	-0.2
VRAC	**Vranov** baz=68	**1.39**	**248**	*e*Pg	**Pg**	19 24 47.0	+0.1
VRAC	28nm,0.4s,baz=68			*e*Sg	**Sg**	19 25 04.6	-0.3
DPC	**Dobruska-Polom**	**1.53**	**290**	*e*PG	**Pn**	19 24 49.3	+0.3
DPC	comp=Z,13nm,0.4s			*e*SG	**Sn**	19 25 09.8	+0.2
KRUC	**Moravsky**	**1.61**	**242**	*e*PG	**Pn**	19 24 50.5	+0.4
KRUC				*e*SG	**Sb**	19 25 11.8	-0.2
KRUC	**Moravsky** baz=61	**1.61**	**242**	*e*Pg	**Pn**	19 24 50.5	+0.4
KRUC	11nm,0.2s,baz=61			*e*Sg	**Sb**	19 25 11.7	-0.2
OSTC	**Ostas**	**1.67**	**296**	*e*PG	**Pb**	19 24 52.1	+0.1
OSTC	comp=Z,32nm,1.1s			*e*SG	**Sb**	19 25 13.8	+0.2
MODS	**Modra-Piesok**	**1.69**	**210**	*e*PG	**Pn**	19 24 51.3	+0.1
MODS				*e*SG	**Sn**	19 25 12.7	-0.9
MODS				*e*LG	Lg	19 25 16.3	
UPC	**Upice**	**1.77**	**293**	*e*PG	**Pb**	19 24 53.8	+0.1
UPC	comp=Z,9.7nm,0.4s			*e*SG	**Sg**	19 25 17.3	+0.1
CHVC	**Chvalec**	**1.78**	**296**	*e*SG	**Sg**	19 25 17.6	+0.2
STHS	**Stebnicka Huta**	**1.79**	**103**	*e*PN	**Pg**	19 24 55.8	+1.0
STHS				*e*SN	**Sg**	19 25 19.5	+1.5
STHS				*e*LG	Lg	19 25 23.0	
TREC	**Trest**	**2.07**	**256**	*e*SG	**Sb**	19 25 25.3	+0.1
GOPC	comp=Z,9.9nm,0.3s **GO Pecny, Ondr**	**2.44**	**273**	*e*SG	**Sg**	19 25 38.1	-0.7
PRU	comp=Z,8.2nm,0.5s **Pruhonice**	**2.60**	**275**	*e*SG	**Sg**	19 25 42.6	-1.3
CONA	comp=Z,7.1nm,0.5s **Conrad Observa**	**2.61**	**224**	*e*Pn	**Pn**	19 25 03.9	0.0
CONA	0.4nm,0.1s			*e*Sn	**Sn**	19 25 35.0	-1.4
PVCC	1.5nm,0.2s **Panska Ves**	**2.66**	**287**	*e*SG	**Sg**	19 25 44.3	-1.4
CKRC	comp=Z,7.7nm,0.2s **Cesky Krumlov**	**2.96**	**251**	*e*PG	**Pb**	19 25 14.7	+0.7
CKRC				*e*SG	**Sg**	19 25 53.5	-2.0
BRG	**Berggiesshubel**	**3.13**	**291**	Sg	**Sg**	19 25 59.8	-1.2
BRG	comp=Z,5.4nm,0.5s			Amp		19 26 06.9	
KHC	**Kasperske Hory**	**3.33**	**260**	*e*PG	**Pb**	19 25 21.4	+1.2
KHC	comp=Z,5.4nm,0.4s			*e*SG	**Sg**	19 26 06.2	-1.0

GUC 21 19:30:22.7±0.6, 38°.11S×73°.96W, h9km±15km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI04	**Isla Mocha**	**0.30**	**170**	*e*P	Pg	19 30 28.4	-0.4
BI04				*e*S	Sg	19 30 32.3	-0.5
BI04	comp=E,13µm,0.1s			IAML		19 30 33.8	
LC02	**Puerto Saavedr**	**0.81**	**147**	*e*P	Pg	19 30 37.3	-1.1
LC02				*e*S	Sg	19 30 48.1	-0.9
LC02	comp=E,5µm,0.4s			IAML		19 30 52.2	
BI05	**Punta Hualpn**	**1.49**	**24**	*e*P	Pn	19 30 48.3	-1.3
BI05				*e*S	Sn	19 31 07.2	-2.0
GO05	**Huala**	**3.50**	**28**	*e*P	Pn	19 31 16.8	-0.5
GO05				*e*S	Sn	19 31 59.0	+0.2
GO05	comp=E,68nm,0.9s			IAML		19 32 38.1	
BO03	**Pichilemu**	**3.95**	**25**	*e*P	Pn	19 31 21.9	-1.6
BO02	**Sierra Bellavi**	**4.19**	**39**	*e*P	Pn	19 31 25.7	-1.1
BO01	**Tunca**	**4.38**	**33**	*e*P	Pn	19 31 28.0	-1.4
MT01	**Popeta**	**4.77**	**28**	*e*P	Pn	19 31 32.6	-2.2
BO04	**La Punta**	**4.93**	**34**	*e*P	Pn	19 31 35.3	-1.7
MT02	**Curacav**	**5.36**	**26**	*e*P	Pn	19 31 40.5	-2.3
FCH	**Farellones**	**5.63**	**33**	*e*P	Pn	19 31 45.2	-1.6

*IDC **21** 19:30:

az=110.0

ISC 21 19:30:45.7±0.5, 41°7'S±0.1'×16°4'W±0.1', h10km, n64, σ0.85/28, mb4.6/16, MS3.9/34, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**30.82**	**172**	LR	LR	19 47 15.6	
	comp=Z,66nm,18.2s,baz=14,slow=32						
SUR	**Sutherland**	**30.95**	**85**	LR	LR	19 46 07.5	
	comp=Z,309nm,20.4s,baz=231,slow=30						
H10S2	**ASCENSION HYDR**	**32.63**	**3**	T	T	20 11 34.4	
	baz=182,slow=74,SNR=38						
H10S3	**ASCENSION HYDR**	**32.63**	**3**	T	T	20 11 34.9	
	baz=38,slow=74,SNR=139						
H10N1	**ASCENSION HYDR**	**33.74**	**4**	T	T	20 12 57.6	
	baz=190,slow=79,SNR=12						
H10N3	**ASCENSION HYDR**	**33.74**	**3**	T	T	20 12 57.1	
	baz=190,slow=79,SNR=85						
H10N2	**ASCENSION HYDR**	**33.76**	**3**	T	T	20 12 59.4	
	baz=190,slow=79,SNR=42						
PMSA	**Palmer Station**	**35.41**	**213**	LR	LR	19 47 56.1	
	comp=Z,78nm,21.8s,baz=79,slow=29						
BOSA	**Boshof**	**36.16**	**82**	LR	LR	19 49 20.4	
	comp=Z,128nm,20.4s,baz=202,slow=31						
TSUM	**Tsumeb**	**36.55**	**63**	LR	LR	19 49 09.8	
	comp=Z,222nm,21.6s,baz=210,slow=30						
CPUP	**Villa Florida**	**36.82**	**281**	P	**P**	**19 37 54.8**	**+0.9**
	3.0nm,0.9s,baz=102,slow=8.3,SNR=3.7						
CPUP				LR	LR	19 51 24.6	
	comp=Z,219nm,18.1s,baz=144,slow=34						
	3.0nm,0.9s						
BELA	**Belgrano 2**	**37.06**	**186**	P	**P**	**19 37 55.2**	**-0.2**
BDFB	**Brasilia**	**37.59**	**304**	P	**P**	**19 38 01.1**	**+0.5**
	2.4nm,0.8s,baz=126,slow=5.6,SNR=3.2						
BDFB				LR	LR	19 50 51.4	
	comp=Z,120nm,18.6s,baz=144,slow=32						
	2.4nm,0.8s						
SMAI	**San Martin Ant**	**37.62**	**208**	P	**P**	**19 37 59.5**	**-0.6**
SMAI				IAmb	IAmb	19 38 37.2	
	comp=Z,15nm,1.4s						
LBTB	**Lobatse**	**38.43**	**78**	P	**P**	**19 38 08.0**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=187,slow=4.8,SNR=4.2						
LBTB				LR	LR	19 51 29.4	
	comp=Z,234nm,18.6s,baz=182,slow=32						
	comp=Z,2.3nm,0.6s						
RCBR	**Riachuelo**	**39.69**	**329**	LR	LR	19 51 41.5	
	comp=Z,91nm,18.2s,baz=300,slow=32						
PLCA	**Paso Flores**	**40.15**	**253**	LR	LR	19 55 03.1	
	comp=Z,169nm,19.1s,baz=124,slow=36						
VA03	**San Esteban**	**43.38**	**264**	P	**P**	**19 38 47.2**	**-1.1**
VA03				IAmb	IAmb	19 38 55.4	
	comp=Z,14nm,1.0s						
CO01	**Juntas del Tor**	**44.39**	**267**	P	**P**	**19 38 55.4**	**-1.3**
GO04	**Tololo Observa**	**44.82**	**267**	P	**P**	**19 39 01.1**	**+0.9**
SIV	**San Ignacio**	**46.04**	**290**	LR	LR	19 55 50.2	
	comp=Z,111nm,19.0s,baz=120,slow=33						
LSZ	**Lusaka**	**46.53**	**69**	LR	LR	19 55 34.1	
	comp=Z,186nm,20.0s,baz=215,slow=32						
LVC	**Limon Verde**	**47.55**	**277**	LR	LR	19 57 38.4	
	comp=Z,119nm,21.6s,baz=138,slow=34						
QSPA	**South Pole Qui**	**48.58**	**180**	LR	LR	19 57 47.0	
	comp=Z,64nm,18.3s,baz=209,slow=33						
QSPA	**South Pole Qui**	**48.58**	**180**	P	**P**	**19 39 29.1**	**+0.1**
PB07	**IPOC Station P**	**48.80**	**277**	P	**P**	**19 39 31.4**	**+0.2**
PB01	**IPOC Station P**	**48.92**	**278**	P	**P**	**19 39 31.6**	**-0.5**
PB01				IAmb	IAmb	19 39 33.4	
	comp=Z,6.9nm,1.2s						
PB08	**IPOC Station P**	**49.22**	**279**	P	**P**	**19 39 35.3**	**+0.6**
PB08				IAmb	IAmb	19 39 42.3	
	comp=Z,9.4nm,1.0s						
DBIC	**Dimbokro**	**49.27**	**15**	LR	LR	19 55 09.4	
	comp=Z,66nm,18.7s,baz=185,slow=30						
GO01	**Chusmiza**	**49.54**	**280**	P	**P**	**19 39 37.5**	**+0.2**
GO01				IAmb	IAmb	19 39 38.5	
	comp=Z,11nm,1.2s						
PB11	**IPOC Station P**	**49.82**	**279**	P	**P**	**19 39 37.6**	**-1.5**
PB11				IAmb	IAmb	19 39 44.8	
	comp=Z,10.0nm,1.2s						
PB16	**IPOC Station P**	**50.60**	**281**	P	**P**	**19 39 45.8**	**+0.3**
PB16				IAmb	IAmb	19 39 47.9	
	comp=Z,3.3nm,0.7s						
LPAZ	**La Paz**	**50.90**	**284**	LR	LR	20 00 22.3	
	comp=Z,183nm,20.3s,baz=118,slow=35						
BBTS	**Babate**	**56.06**	**360**	LR	LR	20 00 18.8	
	comp=Z,107nm,18.6s,baz=164,slow=32						
TORD	**Torodi Ar. Bea**	**57.06**	**21**	P	**P**	**19 40 30.1**	**-1.8**
	comp=Z,2.7nm,1.1s,baz=206,slow=6.2,SNR=7.3						
	comp=Z,2.7nm,1.1s						
MDP	**Montagnes des**	**57.07**	**316**	LR	LR	20 03 05.8	
	comp=Z,114nm,18.0s,baz=58,slow=34						
MBAR	**Mbarara**	**58.93**	**59**	LR	LR	20 03 36.9	
	comp=Z,311nm,18.2s,baz=217,slow=34						
NNA	**Nana**	**60.08**	**281**	LR	LR	20 06 22.5	
	comp=Z,126nm,20.9s,baz=129,slow=36						
SBA	**Scott Base**	**60.72**	**181**	P	**P**	**19 40 57.0**	**+0.3**
SBA				IAmb	IAmb	19 40 58.6	
	comp=Z,6.8nm,0.9s						
VNDA	**Vanda**	**61.07**	**180**	P	**P**	**19 40 59.6**	**+0.5**
	comp=Z,3.2nm,1.1s,baz=198,slow=7.6,SNR=10						
VNDA				LR	LR	20 05 32.6	
	comp=Z,57nm,18.4s,baz=180,slow=34						
	comp=Z,3.2nm,1.1s						
VNDA	**Vanda**	**61.07**	**180**	P	**P**	**19 40 59.1**	**0.0**
VNDA				IAmb	IAmb	19 41 00.5	
	comp=Z,8.3nm,1.3s						
CASY	**Casey**	**64.94**	**159**	P	**P**	**19 41 25.8**	**+0.8**
TAM	**Tamanrasset**	**67.30**	**22**	P	**P**	**19 41 41.1**	**+0.4**
COHC	**Cochancay**	**68.27**	**287**	P	**P**	**19 41 47.2**	**+0.3**
ROSC	**El Rosal**	**70.04**	**296**	LR	LR	20 11 22.8	
	comp=Z,237nm,19.5s,baz=106,slow=35						
RPN	**Rapa Nui**	**74.53**	**247**	LR	LR	20 11 23.3	
	comp=Z,61nm,21.9s,baz=118,slow=33						
MDT	**Midelt**	**74.92**	**10**	LR	LR	20 10 48.3	
	comp=Z,41nm,21.4s,baz=188,slow=32						
ATD	**Arta Tunnel**	**75.92**	**60**	LR	LR	20 13 02.3	
	comp=Z,110nm,21.7s,baz=159,slow=34						
KEST	**Kesra**	**80.58**	**21**	P	**P**	**19 42 58.8**	**+0.7**
	comp=Z,5.5nm,0.9s,baz=215,slow=7.3,SNR=6.0						
KEST				LR	LR	20 15 09.0	
	comp=Z,85nm,19.3s,baz=323,slow=33						
	comp=Z,5.5nm,0.9s						
ESDC	**Sonseca Array**	**81.77**	**10**	P	**P**	**19 43 04.3**	**0.0**
	comp=Z,4.4nm,1.1s,baz=187,slow=5.1,SNR=9.0						
ESDC				LR	LR	20 14 34.2	
	comp=Z,28nm,20.2s,baz=252,slow=32						
	comp=Z,4.4nm,1.1s						
ESDC	**Sonseca Array**	**81.77**	**10**	P	**P**	**19 43 04.2**	**-0.1**
ESDC				IAmb	IAmb	19 43 05.9	
	comp=Z,11nm,1.3s						
EIL	**Elat**	**85.38**	**43**	LR	LR	20 17 27.8	
	comp=Z,86nm,20.9s,baz=222,slow=33						
MMAI	**Mount Meron Ar**	**88.31**	**41**	LR	LR	20 21 18.1	
	comp=Z,102nm,19.3s,baz=102,slow=34						
H01W2	**Cape Leeuwin H**	**91.33**	**141**	T	T	21 26 02.7	
	baz=216,slow=75,SNR=5.5						
H01W1	**Cape Leeuwin H**	**91.34**	**141**	T	T	21 26 04.2	
	baz=216,slow=75,SNR=5.1						
H01W3	**Cape Leeuwin H**	**91.34**	**141**	T	T	21 26 04.7	
	baz=216,slow=75,SNR=6.0						
BRTR	**Keskin Array B**	**92.92**	**36**	P	**P**	**19 43 59.8**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=251,slow=3.8,SNR=4.6						
BRTR				LR	LR	20 23 46.0	
	comp=Z,44nm,21.1s,baz=198,slow=34						
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**93.98**	**19**	LR	LR	20 24 45.3	
	comp=Z,30nm,18.1s,baz=256,slow=34						
WSAR	**Wadi Sarin**	**94.73**	**63**	LR	LR	20 24 16.7	
	comp=Z,80nm,19.8s,baz=233,slow=34						
GNI	**Garni**	**98.55**	**43**	LR	LR	20 28 26.7	
	comp=Z,55nm,18.6s,baz=223,slow=35						
TKL	**Tuckaleechee C**	**98.59**	**311**	LR	LR	20 27 21.3	
	comp=Z,33nm,19.1s,baz=125,slow=34						
CMAR	**Chiang Mai Arr**	**120.88**	**92**	PKP	**PKPdf**	**19 49 37.0**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=240,slow=2.6,SNR=4.7						
SONM	**Songino Array**	**139.75**	**61**	PKP	**PKPdf**	**19 50 12.2**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=235,slow=4.9,SNR=6.0						
ILAR	**Eielson Array**	**143.78**	**326**	PKP	PKPbc	19 50 17.2	-0.3
	comp=Z,1.3nm,1.0s,baz=270,slow=0.2,SNR=8.6						

GUC 21 19:54:15.3±0.5, 23°39'S×67°07'W, h228km±8km, ML3.7, 9C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.86**	**294**	*eP*	Pn	19 54 54.6	-0.6
LVC				*eS*	S	19 55 24.7	-1.5

PB15	**IPOC Station P**	**2.21**	**274**	*eP*	Pn	19 54 58.5	+0.2
PB15				*eS*	S	19 55 31.1	-0.8
PB06	**IPOC Station P**	**2.40**	**286**	*iP*	Pn	19 55 00.5	+0.3
PB06				*eS*	S	19 55 34.4	-0.9
PB06				IAML		19 55 35.0	
	comp=N,126nm,0.3s						
PB09	**IPOC Station P**	**2.56**	**308**	*eP*	Pn	19 55 02.0	+0.1
PB09				*eS*	S	19 55 38.0	-0.3
PB09				IAML		19 55 40.6	
	comp=E,73nm,0.5s						
PB03	**IPOC Station P**	**2.81**	**298**	*iP*	Pn	19 55 04.5	-0.1
PB03				*eS*	S	19 55 41.3	-1.9
PB03				IAML		19 55 42.5	
	comp=N,162nm,0.5s						
GO02	**Mina Guanaco**	**2.90**	**232**	*eP*	Pn	19 55 06.0	+0.3
GO02				*eS*	S	19 55 44.9	-0.2
GO02				IAML		19 55 47.9	
	comp=E,170nm,0.2s						
GO02				IAML		19 55 48.6	
	comp=N,134nm,0.1s						
GO02				*e*		19 55 49.0	
PB04	**IPOC Station P**	**3.03**	**290**	*iP*	Pn	19 55 07.2	+0.2
PB04				*iS*	S	19 55 46.3	-1.1
PB07	**IPOC Station P**	**3.08**	**302**	*eP*	Pn	19 55 07.5	-0.2
PB07				*eS*	S	19 55 46.5	-2.2
PB10	**IPOC Station P**	**3.20**	**267**	*eP*	Pn	19 55 09.5	+0.7
PB10				*eS*	S	19 55 49.5	-1.2
PB01	**IPOC Station P**	**3.24**	**316**	*eP*	Pn	19 55 08.4	-0.9
PB01				*eS*	S	19 55 50.0	-1.7
PB02	**IPOC Station P**	**3.33**	**308**	*iP*	Pn	19 55 09.7	-0.7
PB02				*eS*	S	19 55 50.9	-2.7
PB08	**IPOC Station P**	**3.77**	**329**	*eP*	Pn	19 55 16.1	+0.2
PB08				*eS*	S	19 56 02.3	-1.1
PATCX	**Punta Patache**	**3.84**	**311**	*eP*	Pn	19 55 15.4	-1.0
PATCX				*eS*	S	19 56 00.9	-3.5
TA01	**Diego Aracena**	**4.03**	**314**	*eP*	Pn	19 55 17.4	-1.2
HMBC	**Humberstone**	**4.06**	**319**	*eP*	Pn	19 55 17.5	-1.5
GO01	**Chusmiza**	**4.20**	**332**	*eP*	Pn	19 55 20.9	-0.2
PB11	**IPOC Station P**	**4.34**	**326**	*eP*	Pn	19 55 21.0	-1.5
PSGC	**Pisagua**	**4.73**	**322**	*eP*	Pn	19 55 25.1	-2.1
MNMC	**Mineral de Minye**	**4.85**	**330**	*eP*	Pn	19 55 27.9	-1.0
PB16	**IPOC Station P**	**5.52**	**335**	*eP*	Pn	19 55 37.2	-0.5
PB12	**IPOC Station P**	**5.64**	**327**	*eP*	Pn	19 55 36.9	-1.8

*PGC **21** 20:00:23.2±0.2, 65°.98N×135°.20W, h20km, ML3.5/15, 166km Ssw of Fort McPherson, Nt Northern Yukon Territory, Canada*
*ANF **21** 20:00:23.7±0.4, 65°.97N×135°.27W, h29km±3km, ML3.5/30, Error ellipse: s-maj=2.6km s-min=1.7km az=70.0*

ISC 21 20:00:19.6±1.6, 65°.95N±0°.03×135°.08W±0°.03, h10km±12km, n90, σ1.99/138, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPYK	**Eagle Plains**	**0.79**	**303**	P	**Pn**	**20 00 37.4**	**+0.6**
EPYK				S	**Sb**	**20 00 47.7**	**+1.6**
EPYK	**Eagle Plains**	**0.79**	**303**	P	**Pn**	**20 00 37.2**	**+0.5**
	baz=122,SNR=233						
EPYK				S	**Sb**	**20 00 47.6**	**+1.5**
	baz=122						
G30M	**tAoh Zraii Nji**	**1.13**	**337**	P	**Pn**	**20 00 42.6**	**+1.1**
	baz=157,SNR=1000						
G30M				S	**Sn**	**20 00 57.8**	**+0.7**
	baz=157						
I29M	**Ogilvie Camp,**	**1.46**	**248**	Pn	**Pb**	**20 00 47.2**	**+0.3**
I29M				Sg	**Sg**	**20 01 06.7**	**+0.1**
I29M	**Ogilvie Camp,**	**1.46**	**248**	P	**Pb**	**20 00 47.2**	**+0.3**
	baz=63,SNR=163						
I29M				S	**Sn**	**20 01 06.0**	**+0.7**
	baz=63						
F31M	**Tsiigehtchic**	**1.59**	**19**	P	**Pb**	**20 00 49.7**	**+0.8**
	baz=202,SNR=108						
F31M				S	**Sb**	**20 01 09.9**	**+0.9**
	baz=202						
J29M	**Klondike Camp**	**2.00**	**223**	Pn	**Pb**	**20 00 55.8**	**-0.3**
J29M				Sg	**Sg**	**20 01 24.3**	**+0.3**
J29M	**Klondike Camp**	**2.00**	**223**	S	**Sn**	**20 01 19.8**	**+1.2**
	baz=38						
K29M	**Barlow Dome**	**2.36**	**207**	Pn	**Pn**	**20 01 00.7**	**+2.2**
K29M				Sg	**Sg**	**20 01 33.6**	**-1.8**
K29M	**Barlow Dome**	**2.36**	**207**	P	**Pn**	**20 01 00.3**	**+1.8**
	baz=24						
K29M				S	**Sn**	**20 01 28.7**	**+1.3**
	baz=24						
MAYO	**Mayo, Yukon**	**2.39**	**189**	Sn	**Sn**	**20 01 29.9**	**+1.9**
INK	**Inuvik**	**2.44**	**14**	Pn	**Pn**	**20 01 01.0**	**+1.6**
INK				Sn	**Sn**	**20 01 29.0**	**-0.2**
INK	**Inuvik**	**2.44**	**14**	P	**Pn**	**20 01 01.0**	**+1.6**
	baz=196,SNR=199						
INK				S	**Sn**	**20 01 30.3**	**+1.1**
	baz=196						
DAWY	**Dawson**	**2.63**	**226**	Pn	**Pn**	**20 01 04.0**	**+1.8**
DAWY				Sn	**Sn**	**20 01 34.1**	**0.0**
DAWY	**Dawson**	**2.63**	**226**	P	**Pn**	**20 01 03.9**	**+1.8**
	baz=41,SNR=96						
DAWY				S	**Sn**	**20 01 35.7**	**+1.6**
	baz=41						
H27K	**Steamboat Moun**	**2.64**	**279**	Pn	**Pn**	**20 01 03.4**	**+1.2**
H27K				Sn	**Sn**	**20 01 33.0**	**-1.2**
H27K	**Steamboat Moun**	**2.64**	**279**	P	**Pn**	**20 01 03.2**	**+1.0**
	baz=93						
H27K				S	**Sn**	**20 01 33.3**	**-1.0**
	baz=93						
I27K	**Kandik River**	**2.72**	**266**	Pn	**Pn**	**20 01 04.7**	**+1.4**
I27K				Sn	**Sn**	**20 01 35.4**	**-0.8**
I27K	**Kandik River**	**2.72**	**266**	P	**Pn**	**20 01 04.4**	**+1.1**
	baz=79						
I27K				S	**Sn**	**20 01 36.2**	**0.0**
	baz=79						
G27K	**Doyon Strip**	**2.78**	**291**	Pn	**Pn**	**20 01 05.7**	**+1.5**
G27K				Sn	**Sn**	**20 01 37.0**	**-0.7**
G27K	**Doyon Strip**	**2.78**	**291**	P	**Pn**	**20 01 05.5**	**+1.4**
	baz=105						
EGAK	**Eagle**	**2.81**	**248**	P	**Pn**	**20 01 05.6**	**+1.1**
	baz=62						
EGAK				S	**Sn**	**20 01 37.4**	**-0.9**
	baz=62						
L29M	**L29M**	**3.15**	**206**	Pn	**Pn**	**20 01 11.4**	**+2.3**
L29M	**L29M**	**3.15**	**206**	P	**Pn**	**20 01 11.3**	**+2.1**
	baz=22						
E27K	**Coleen River**	**3.40**	**314**	P	**Pn**	**20 01 13.7**	**+1.1**
	baz=129						
I26K	**Coal Creek Min**	**3.41**	**263**	P	**Pn**	**20 01 13.5**	**+0.8**
	baz=75						
M30M	**Minto, Yukon**	**3.47**	**193**	Pn	**Pn**	**20 01 15.8**	**+2.1**
M30M				Sn	**Sn**	**20 01 53.7**	**-1.1**
M30M	**Minto, Yukon**	**3.47**	**193**	P	**Pn**	**20 01 15.5**	**+1.8**
	baz=11						
MMPY	**Sheldon Lake,**	**3.74**	**152**	Pn	**Pn**	**20 01 19.2**	**+1.9**
MMPY				Sn	**Sn**	**20 02 01.1**	**-0.2**
MMPY	**Sheldon Lake,**	**3.74**	**152**	P	**Pn**	**20 01 19.1**	**+1.8**
	baz=335,SNR=55						
MMPY				S	**Sn**	**20 02 01.6**	**+0.3**
	baz=335						
M31M	**Drury Creek, Y**	**3.78**	**175**	Pn	**Pn**	**20 01 19.5**	**+1.7**
FARO	**Faro, Yukon**	**3.81**	**168**	Sn	**Sn**	**20 02 03.9**	**+0.8**
FARO	**Faro, Yukon**	**3.81**	**168**	S	**Sn**	**20 02 04.4**	**+1.3**
	baz=349						
M29M	**Somme Creek**	**3.82**	**204**	Pn	**Pn**	**20 01 20.6**	**+2.2**
M29M				Sn	**Sn**	**20 02 02.1**	**-1.3**
M29M	**Somme Creek**	**3.82**	**204**	P	**Pn**	**20 01 20.4**	**+1.9**
	baz=20,SNR=78						
M29M				S	**Sn**	**20 02 03.5**	**0.0**
	baz=20						
J26L	**Joseph Creek**	**3.86**	**252**	P	**Pn**	**20 01 19.5**	**+0.6**
	baz=63						
J26L				S	**Sn**	**20 02 02.5**	**-1.8**
	baz=63						
F26K	**Sheenjek River**	**3.99**	**300**	P	**Pn**	**20 01 21.8**	**+1.1**
	baz=112						
F26K				S	**Sn**	**20 02 05.7**	**-1.7**
	baz=112						
L27K	**Beaver Creek,**	**4.11**	**228**	Pn	**Pn**	**20 01 24.2**	**+1.8**
L27K				Sn	**Sn**	**20 02 08.6**	**-1.9**
L27K	**Beaver Creek,**	**4.11**	**228**	P	**Pn**	**20 01 24.0**	**+1.6**
	baz=41						
SCRK	**Sand Creek**	**4.27**	**246**	P	**Pn**	**20 01 25.9**	**+1.2**
	baz=58						
PRP	**Porcupine Dome**	**4.33**	**269**	P	**Pn**	**20 01 25.8**	**+0.2**
	baz=79						
PRP				S	**Sn**	**20 02 14.5**	**-1.6**
	baz=79						
BVCY	**Beaver Creek**	**4.36**	**218**	Pn	**Pn**	**20 01 27.5**	**+1.7**
BVCY	**Beaver Creek**	**4.36**	**218**	P	**Pn**	**20 01 27.7**	**+1.9**
	baz=32,SNR=15						
N31M	**Braeburn, Yuko**	**4.50**	**184**	Pn	**Pn**	**20 01 30.4**	**+2.8**
N31M				Sn	**Sn**	**20 02 19.8**	**-0.1**
N31M	**Braeburn, Yuko**	**4.50**	**184**	P	**Pn**	**20 01 30.5**	**+2.8**
	baz=3.0,SNR=12						
J25K	**Salcha River,**	**4.53**	**257**	P	**Pn**	**20 01 28.7**	**+0.6**
	baz=68						
N30M	**Aishikik Lake**	**4.60**	**192**	Pn	**Pn**	**20 01 31.5**	**+2.3**
N30M				Sn	**Sn**	**20 02 21.8**	**-0.7**
N30M	**Aishikik Lake**	**4.60**	**192**	P	**Pn**	**20 01 31.4**	**+2.3**
	baz=9.7						
E25K	**Arctic Village**	**4.65**	**303**	P	**Pn**	**20 01 31.4**	**+1.6**
	baz=113,SNR=10						
M27K	**Edge Creek, AK**	**4.68**	**223**	Pn	**Pn**	**20 01 31.6**	**+1.3**
M27K	**Edge Creek, AK**	**4.68**	**223**	P	**Pn**	**20 01 31.6**	**+1.3**
	baz=36						
YUK3	**Moose Creek**	**4.82**	**212**	Pn	**Pn**	**20 01 34.5**	**+2.2**
YUK3				Sn	**Sn**	**20 02 27.2**	**-1.0**
YUK3	**Moose Creek**	**4.82**	**212**	P	**Pn**	**20 01 34.2**	**+1.9**
	baz=26						
YUK4	**Talbot Arm**	**4.89**	**201**	Pn	**Pn**	**20 01 34.6**	**+1.3**
YUK4	**Talbot Arm**	**4.89**	**201**	P	**Pn**	**20 01 34.2**	**+1.0**
	baz=17						
YUK2	**White River**	**4.90**	**214**	Pn	**Pn**	**20 01 35.2**	**+2.0**
YUK2				Sn	**Sn**	**20 02 27.9**	**-2.0**
N32M	**Quiet Lake**	**4.90**	**169**	Pn	**Pn**	**20 01 36.0**	**+2.7**
N32M				Sn	**Sn**	**20 02 29.7**	**-0.3**
N32M				Sg	**Sg**	**20 02 55.6**	**-1.2**
N32M	**Quiet Lake**	**4.90**	**169**	P	**Pn**	**20 01 35.7**	**+2.5**
	baz=350						
C27K	**Jago River**	**4.93**	**322**	P	**Pn**	**20 01 36.2**	**+2.6**
	baz=135						
M26K	**Nabesna, AK**	**4.97**	**228**	P	**Pn**	**20 01 35.7**	**+1.5**
	baz=40						
YUK5	**Granite Creek**	**5.00**	**196**	Pn	**Pn**	**20 01 37.1**	**+2.4**
YUK5				Sg	**Sg**	**20 02 58.1**	**-1.8**
YUK8	**Steele Glacier**	**5.13**	**206**	Pn	**Pn**	**20 01 40.7**	**+4.1**
YUK8				Sn	**Sn**	**20 02 34.8**	**-1.1**
O30N	**Mendenhall**	**5.22**	**185**	P	**Pn**	**20 01 40.5**	**+2.8**
	baz=4.0,SNR=11						
YUK6	**Outpost Mounta**	**5.24**	**198**	Pn	**Pn**	**20 01 40.7**	**+2.6**
YUK6				Sg	**Sg**	**20 03 07.3**	**-0.3**
YUK6	**Outpost Mounta**	**5.24**	**198**	P	**Pn**	**20 01 40.8**	**+2.6**
	baz=14,SNR=22						
HYT	**Haines Junctio**	**5.26**	**193**	Pn	**Pn**	**20 01 41.1**	**+2.8**
HYT				Sn	**Sn**	**20 02 38.1**	**-0.9**
HYT				Sg	**Sg**	**20 03 07.8**	**-0.6**
HYT	**Haines Junctio**	**5.26**	**193**	P	**Pn**	**20 01 41.1**	**+2.8**
	baz=10,SNR=28						
F24K	**Squaw Lake**	**5.31**	**293**	P	**Pn**	**20 01 40.3**	**+1.4**
	baz=101						
WHY	**Whitehorse**	**5.32**	**179**	Pn	**Pn**	**20 01 41.8**	**+2.8**
WHY				Sg	**Sg**	**20 03 08.8**	**-1.3**
TGTN	**Hyland Airport**	**5.37**	**143**	Pn	**Pn**	**20 01 42.2**	**+2.5**
TGTN	**Hyland Airport**	**5.37**	**143**	P	**Pn**	**20 01 42.2**	**+2.5**
	baz=328						
C36M	**Paulatuk**	**5.41**	**46**	Pn	**Pn**	**20 01 42.0**	**+1.9**
C36M				Sn	**Sn**	**20 02 39.1**	**-3.1**
C36M	**Paulatuk**	**5.41**	**46**	P	**Pn**	**20 01 41.9**	**+1.9**
	baz=237						
YUK7	**Dusty Glacier**	**5.62**	**196**	Pn	**Pn**	**20 01 46.7**	**+3.5**
YUK7				Sg	**Sg**	**20 03 17.4**	**-2.4**
E24K	**Your Creek**	**5.67**	**298**	P	**Pn**	**20 01 45.1**	**+1.4**
	baz=106						
O28M	**Mount Upton**	**5.69**	**206**	Pn	**Pn**	**20 01 47.5**	**+3.2**
P33M	**Teslin, Yukon**	**5.85**	**169**	Pn	**Pn**	**20 01 48.2**	**+1.8**
P33M				Sn	**Sn**	**20 02 51.9**	**-1.6**
P33M				Sg	**Sg**	**20 03 23.6**	**-3.8**
P33M	**Teslin, Yukon**	**5.85**	**169**	P	**Pn**	**20 01 48.2**	**+1.8**
	baz=350,SNR=11						
O29M	**Mount Kennedy**	**5.89**	**197**	Pn	**Pn**	**20 01 49.0**	**+2.2**
E23K	**Chandalar**	**6.07**	**297**	P	**Pn**	**20 01 51.3**	**+1.9**
	baz=104						
COLD	**Coldfoot**	**6.16**	**289**	Pn	**Pn**	**20 01 52.6**	**+2.2**
COLD				Sn	**Sn**	**20 02 57.0**	**-3.9**
TOLK	**Toolik Lake Re**	**6.22**	**302**	P	**Pn**	**20 01 53.1**	**+1.8**
	baz=109,SNR=12						
P32M	**Atlin**	**6.42**	**174**	Pn	**Pn**	**20 01 56.8**	**+2.7**
P29M	**Windy Craggy**	**6.46**	**192**	Pn	**Pn**	**20 01 57.1**	**+2.5**
P29M				Sg	**Sg**	**20 03 44.0**	**-2.8**
PLBC	**Pleasant Camp**	**6.55**	**186**	Sg	**Sg**	**20 03 44.1**	**-4.4**
R33M	**Jennings River**	**6.85**	**162**	Sn	**Sn**	**20 03 14.8**	**-3.2**
A36M	**Sachs Harbour**	**7.01**	**26**	Pn	**Pn**	**20 02 04.1**	**+2.1**
A36M				Sn	**Sn**	**20 03 17.2**	**-4.3**
KUKN	**Kugluktuk,NWT**	**8.07**	**68**	Pn	**Pn**	**20 02 17.4**	**+0.7**
KUKN				Sn	**Sn**	**20 03 42.3**	**-5.5**
FNBB	**Fort Nelson**	**9.01**	**136**	Sn	**Sn**	**20 04 07.2**	**-3.8**
NBC6	**NorthernBC 6**	**9.76**	**133**	Pn	**Pn**	**20 02 41.5**

UGLR	Uglovaya	4.88	24	PN	Pn	20 09 53.9	+0.7
KOK	Koryaka	4.91	22	eP	Pn	20 09 54.9	+1.3
KOK	Koryaka	4.91	22	eP	Pn	20 09 54.9	+1.3
KOK	Koryaka	4.91	22	PN	Pn	20 09 54.9	+1.3
AVH	Avacha	4.91	23	eP	Pn	20 09 55.3	+1.7
AVH	Avacha	4.91	23	PN	Pn	20 09 55.3	+1.7
SMAR	Somma	4.92	24	eP	Pn	20 09 55.2	+1.3
SMAR	Somma	4.92	24	PN	Pn	20 09 55.2	+1.3
SPN	Mys Shipunski	5.16	32	P	Pn	20 09 55.6	-1.3
SPN				S	Sn	20 10 53.4	-1.7
SPN	Mys Shipunski	5.16	32	eP	Pn	20 09 55.6	-1.3
SPN	Mys Shipunski	5.16	32	PN	Pn	20 09 55.6	-1.3
SPN				S	Sn	20 10 53.4	-1.7
KUR	Kuril'sk	6.33	239	eS	Sn	20 11 16.5	-7.2
KUR				A	A	20 11 27.2	
	comp=N,60nm,0.4s						
KUR				A	A	20 11 27.2	
	comp=N,20nm,0.4s						
TUMR	Tumrok	7.09	22	P	Pn	20 10 23.2	0.0
TUMR	Tumrok	7.09	22	PN	Pn	20 10 23.2	0.0
KBTR	Krutoberegovo	8.65	28	P	Pn	20 10 43.1	-1.1
KBTR	Krutoberegovo	8.65	28	PN	Pn	20 10 43.1	-1.1
KLR	Kul'dur	15.59	281	P	P	20 12 17.4	-0.8
	comp=N,0.6nm,0.5s,baz=68,slow=11,SNR=2.4						
KSRS	Korea Array	22.99	251	P	P	20 13 37.7	-0.4
	comp=N,1.3nm,0.5s,baz=42,slow=9.1,SNR=4.4						
	comp=N,1.3nm,0.5s						
TIXI	Tiksi	26.01	341	P	P	20 14 04.3	-0.9
	comp=N,0.8nm,0.6s,baz=206,slow=0.9,SNR=4.3						
	comp=N,0.8nm,0.6s						
H11N2	WAKE ISLAND Hy	30.41	158	T	T	20 46 41.0	
	baz=345,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy	30.43	158	T	T	20 46 41.7	
	baz=345,slow=76,SNR=31						
H11N3	WAKE ISLAND Hy	30.43	158	T	T	20 46 52.5	
	baz=345,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	31.54	159	T	T	20 48 14.2	
	baz=345,slow=76,SNR=344						
H11S3	WAKE ISLAND Hy	31.55	159	T	T	20 48 13.0	
	baz=345,slow=76,SNR=522						
H11S2	WAKE ISLAND Hy	31.56	159	T	T	20 48 08.2	
	baz=345,slow=76,SNR=315						
ZALV	Zalesovo Beam	42.76	305	P	P	20 16 28.6	-0.5
	comp=N,0.3nm,0.3s,baz=77,slow=6.4,SNR=2.2						
	comp=N,0.3nm,0.3s						
MKAR	Makanchi Array	47.46	297	P	P	20 17 06.2	-0.3
	comp=N,0.2nm,0.6s,baz=73,slow=8.5,SNR=2.0						
	comp=N,0.2nm,0.6s						
CMAR	Chiang Mai Arr	54.43	257	P	P	20 17 59.9	+0.9
	comp=N,0.7nm,0.7s,baz=29,slow=7.3,SNR=7.3						
	comp=N,0.7nm,0.7s						
FINES	FINESS Array B	62.87	335	P	P	20 18 57.5	+0.6
	comp=N,4.2nm,1.1s,baz=5.7,slow=4.2,SNR=4.5						
	comp=N,4.2nm,1.1s						
WRA	Warramunga Arr	71.00	201	P	P	20 19 50.5	+1.7
	comp=N,0.3nm,0.9s,baz=16,slow=6.6,SNR=1.7						
	comp=N,0.3nm,0.9s						
ASAR	Alice Springs	74.68	201	P	P	20 20 13.5	+2.9
	comp=N,0.2nm,0.5s,baz=14,slow=4.9,SNR=4.2						
	comp=N,0.2nm,0.5s						
H03N2	Juan Fernandez	137.13	90	T	T	23 01 05.9	
	baz=311,slow=77,SNR=12						
H03N1	Juan Fernandez	137.14	90	T	T	23 01 04.6	
	baz=311,slow=77,SNR=17						
H03N3	Juan Fernandez	137.14	90	T	T	23 01 01.3	
	baz=311,slow=77,SNR=14						

*IDC **21** 20:11:36.2±1.0,42°.89N×104°.92W,h0km,mb3.7/2, mbtmp3.6/7,ML3.4/5,MS3.2/9,Error ellipse: s-maj=18.8km s-min=9.6km az=158.0*
*NEIC **21** 20:11:42.8±1.1,43°.56N±0°.06×105°.24W±0°.04,h0km±1km, ML3.5/62,Error ellipse: s-maj=10.8km s-min=5.2km az=358.0*

ISC 21 20:11:40.7±0.9,43°.56N±0°.05×105°.12W±0°.07,h0km,n77, σ1§18/66,MS3.2/3,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.96	54	Pg		Pn	Pn	20 12 00.6	-1.1
K22A	Casper	1.38	229			Pn	Pn	20 12 05.6	-1.8
PHWY	Pilot Hill	2.27	186			Pn	Pn	20 12 21.2	+1.4
RWWY	Rawlins	2.43	220			Pn	Pn	20 12 22.6	+0.7
RWWY				IAML				20 13 02.9	
	304nm,0.9s								
N23A	Red Feather La	2.74	193			Pn	Pn	20 12 28.0	+1.8
N23A				IAML				20 13 10.6	
	comp=N,201nm,0.6s								
N23A				IAML				20 13 13.1	
	comp=E,198nm,0.8s								
BRIGG	Briggsdale	3.04	168			Pb	Pn	20 12 33.1	-2.6
PD31	Pinedale Array	3.34	258			Pn	Pn	20 12 34.1	-0.4
PDAR	Pinedale Array	3.34	258	Pn		Pn	Pn	20 12 34.1	-0.4
	comp=E,3.1nm,0.3s,baz=72,slow=16,SNR=51								
PDAR				Lg		Lg		20 13 21.9	
	comp=E,11nm,0.3s,baz=72,slow=35,SNR=3.7								
	comp=E,6.4nm,0.4s								
PDAR	Pinedale Array	3.34	258	Pn		Pn	Pn	20 12 33.9	-0.6
BW06	Boulder Array	3.35	258			Pn	Pn	20 12 34.1	-0.4
BW06				IAML				20 13 30.0	
	comp=E,72nm,1.4s								
RLMT	Red Lodge	3.36	299			Pn	Pn	20 12 34.4	-0.3
RLMT				IAML				20 13 36.2	
	comp=E,100nm,1.0s								
RLMT				IAML				20 14 42.8	
	comp=E,88nm,4.2s								
OGNE	Ogallala	3.48	138	Pn		Pn	Pn	20 12 38.6	+2.4
YMP	Mirror Lake Pl	3.81	290			Pn	Pn	20 12 41.3	+0.3
GCMT	Greycliff	3.94	306			Pn	Pn	20 12 42.6	+0.1
LKWY	Lake	3.94	287			Pn	Pn	20 12 43.5	+0.9
LKWY				IAML				20 13 08.6	
	comp=E,72nm,0.6s								
LKWY				IAML				20 15 14.2	
	comp=E,57nm,4.8s								
LOHW	Long Hollow	3.99	273			Pn	Pn	20 12 43.8	+0.5
LOHW				IAML				20 14 09.7	
	comp=E,53nm,1.0s								
H17A	Grant Village	4.03	284			Pn	Pn	20 12 45.1	+1.2
H17A				IAML				20 13 51.7	
	comp=E,44nm,1.1s								
H17A				IAML				20 13 52.1	
	comp=N,57nm,1.8s								
FLWY	Flagg Ranch	4.07	279			Pn	Pn	20 12 45.5	+1.0
FLWY				IAML				20 14 06.1	
	comp=N,71nm,2.3s								
MOOW	Moose Ponds	4.09	275	Pn		Pn	Pn	20 12 45.7	+1.0
SNOW	Snow King Moun	4.10	271			Pn	Pn	20 12 45.2	+0.3
SNOW				IAML				20 14 08.5	
	comp=N,83nm,2.1s								
O20A	White River Ci	4.15	215			Pn	Pn	20 12 46.8	+1.4
O20A				IAML				20 14 04.5	
	comp=N,84nm,2.1s								
REDW	Red Top Meadow	4.18	269			Pn	Pn	20 12 47.0	+1.0
IMW	Indian Meadow	4.23	277			Pn	Pn	20 12 47.4	+0.7
IMW				IAML				20 14 02.8	
	comp=N,36nm,1.2s								
IMW				IAML				20 14 09.7	
	comp=N,53nm,0.6s								
TPAW	Teton Pass	4.24	271			Pn	Pn	20 12 47.2	+0.3
TPAW				IAML				20 14 05.4	
	comp=N,69nm,0.8s								
TPAW				IAML				20 14 06.1	
	comp=N,48nm,0.9s								
FXWY	Fox Creek	4.29	273			Pn	Pn	20 12 47.8	+0.3
YMR	Madison River	4.35	287			Pn	Pn	20 12 49.3	+1.0
YMR				IAML				20 14 11.3	
	comp=E,70nm,1.0s								
AHID	Auburn Hatcher	4.45	262			Pn	Pn	20 12 50.3	+0.6
AHID				IAML				20 14 13.9	
	comp=E,56nm,0.9s								
RDMU	Red Mountain	4.46	229			Pn	Pn	20 12 50.5	+0.7
RDMU				IAML				20 14 06.5	
	comp=N,47nm,1.1s								
YHB	Horse Butte	4.53	287			Pn	Pn	20 12 51.4	+0.6
YHB				IAML				20 15 39.7	
	comp=E,29nm,4.8s								
ECR	Eagle Creek	4.59	266			Pn	Pn	20 12 52.5	+0.9
QLMT	Earthquake Lak	4.71	288			Pn	Pn	20 12 54.5	+1.2
DGMT	Dagmar	4.95	7			Pn	Pn	20 12 58.7	+2.3
BOZ	Bozeman (W)	5.08	296			Pn	Pn	20 12 59.5	+1.3
BOZ				IAML				20 16 00.4	
	comp=E,24nm,4.5s								
BOZ				IAML				20 16 04.6	
	comp=E,22nm,3.9s								
HWUT	Hardware Ranch	5.15	250	Pn		Pn	Pn	20 12 59.6	+0.4
HWUT				IAML				20 14 36.5	
	comp=E,45nm,1.1s								
HWUT				IAML				20 14 55.6	
	comp=E,42nm,1.1s								
TCUT	Toone Canyon	5.26	244			Pn	Pn	20 13 00.8	-0.1
P18A	Preston Nutter	5.50	226			Pn	Pn	20 13 05.2	+1.1
EGMT	Eagleton	5.51	326			Pn	Pn	20 13 05.4	+1.3
LRM	Limekiln Ridge	5.70	296			Pn	Pn	20 13 08.2	+1.4
HRY	Holter Researc	5.70	306			Pn	Pn	20 13 07.3	+0.7
MCMT	McKenzie Canyo	5.70	285	Pn		Pn	Pn	20 13 07.8	+0.9
PV07	Paradox Valley	5.78	209			Pn	Pn	20 13 08.6	+0.8
PV15	Paradox Valley	5.80	207			Pn	Pn	20 13 09.0	+0.7
SDCO	Great Sand Dun	5.82	183			Pn	Pn	20 13 09.6	+1.1
P17A	Butcher Ranch,	5.87	228			Pn	Pn	20 13 09.3	+0.1
SPUT	South Promonto	5.88	250	Pn		Pn	Pn	20 13 09.6	+0.4
PV23	Carpenter Ridg	5.89	211			Pn	Pn	20 13 09.7	+0.2
HVU	Hansel Valley	5.92	255			Pn	Pn	20 13 09.9	+0.1
S22A	4UR Ranch, Cre	5.96	193	Pn		Pn	Pn	20 13 12.4	+2.0
PV11	David Mesa, Pa	5.98	210			Pn	Pn	20 13 12.4	+1.8
SRU	San Rafael Swe	6.03	224			Pn	Pn	20 13 11.9	+0.6
BCYI	Bear Canyon	6.03	280			Pn	Pn	20 13 12.7	+1.3
PV13	Radium Mtn., P	6.08	209			Pn	Pn	20 13 13.6	+1.4
CBKS	Cedar Bluff	6.24	138			Pn	Pn	20 13 19.0	+4.9
TMUT	Trail Mountain	6.25	229			Pn	Pn	20 13 15.8	+1.3
NLU	North Lily Min	6.33	238	Pn		Pn	Pn	20 13 15.5	+0.1
BGU	Big Grassy Mou	6.44	249	Pn		Pn	Pn	20 13 17.1	+0.3
Q16A	Castle Valley	6.51	227			Pn	Pn	20 13 18.5	+0.6
DUG	Dugway, Tooele	6.66	242	Pn		Pn	Pn	20 13 20.1	+0.2
HLID	Hailey	6.75	273	Pn		Pn	Pn	20 13 20.9	-0.3
MSU	Marysvale	7.34	229	Pn		Pn	Pn	20 13 28.7	-0.7
MVU	Marysvale	7.37	229			Pn	Pn	20 13 30.1	+0.4
MTPU	Mount Pierson	7.69	227			Pn	Pn	20 13 35.2	+1.0
ELK	Elko	8.03	253	Pn		Pn	Pn	20 13 36.0	-2.8
	comp=E,0.1nm,0.3s,baz=54,slow=14,SNR=2.0								
ELK				LR		LR	LR	20 16 36.6	
	comp=E,83nm,20.2s,baz=46,slow=38								
	comp=E,0.6nm,0.5s								
PSUT	Pine Spring	8.29	236	Pn		Pn	Pn	20 13 43.5	+1.1
I10CA	LAC DU BONNET	9.10	40	I				21 04 50.0	
	comp=E,0.1nm,1.3s,baz=223,slow=322,SNR=6.4								
ULM	Lac du Bonnet	9.20	40	Pn		Pn	Pn	20 13 53.1	-1.4
	comp=E,1.4nm,0.3s,baz=226,slow=12,SNR=8.3								
ULM				Lg		Lg	Lg	20 16 30.9	
	comp=E,0.7nm,0.3s,baz=325,slow=18,SNR=2.5								
ULM				LR		LR	LR	20 17 30.3	
	comp=E,159nm,19.8s,baz=24,slow=37								
	comp=E,2.4nm,0.3s								
NEW	Newport	9.60	304	LR		LR	LR	20 18 04.0	
	comp=E,190nm,21.6s,baz=118,slow=38								
TXAR	Lajitas Array	14.25	175	Pn		Pn	Pn	20 14 50.6	-13
	comp=E,0.1nm,0.3s,baz=14,slow=15,SNR=1.7								
	comp=E,0.1nm,0.5s								
BBB	Bella Bella	17.61	307	LR		LR	LR	20 22 55.8	
	comp=E,194nm,18.1s,baz=308,slow=37								
TKL	Tuckaleechee C	18.21	108	P		Pn	Pn	20 15 46.8	-8.0
	comp=E,0.3nm,0.3s,baz=268,slow=6.0,SNR=3.5								
	comp=E,4.8nm,0.9s								
YKA	Yellowknife Ar	19.76	347	LR		LR	LR	20 23 11.1	
	comp=E,44nm,21.2s,baz=312,slow=34								
LPIG	La Paz	19.88	194	LR		LR	LR	20 22 49.7	
	comp=E,57nm,21.0s,baz=70,slow=35								
INK	Inuvik	28.93	339	LR		LR	LR	20 30 43.8	
	comp=E,57nm,19.8s,baz=153,slow=39								
FRB	Frobisher Bay	28.99	33	LR		LR	LR	20 28 24.8	
	comp=E,55nm,19.2s,baz=120,slow=34								
ILAR	Eielson Array	31.48	327	P		P	P	20 18 06.6	+2.8
	comp=E,0.7nm,1.1s,baz=91,slow=7.9,SNR=4.8								
	comp=E,0.7nm,1.1s								
JTS	Las Juntas de	37.49	146	LR		LR	LR	20 36 10.3	
	comp=E,28nm,18.9s,baz=111,slow=40								
ARCES	ARCESS Array B	61.55	18	P		P	P	20 21 58.1	-0.9
	comp=E,0.7nm,0.5s,baz=338,slow=6.8,SNR=5.6								
	comp=E,0.7nm,0.5s								

MAN 21 20:28:38.6,9°.78N×122°.75E,h53km,mb4.0,ML2.8,MS2.4, 2C,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSIP	Lazi, Siquijor	1.08	127	eP		Pn	Pn	20 28 58.5	+1.0
LSIP				eS		Sn	Sn	20 29 12.9	+1.3
TABP	Talibon, Bohol	1.59	79	eP		Pn	Pn	20 29 02.4	-0.9
TABP				eS		Sn	Sn	20 29 19.7	-4.1

*KRSC **21** 20:32:58.5±1.3,55°.73N×161°.21E,h169km±11km,ML3.8*
*IDC **21** 20:32:59.2±4.0,55°.88N×161°.24E,h158km±31km,mb3.0/6, mbtmp3.4/7,Error ellipse: s-maj=51.7km s-min=24.8km az=85.0*

ISC 21 20:33:00.1±0.8,55°.75N±0°.05×161°.16E±0°.05,h166km±5km, n38,σ1§32/61,mb3.2/6,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BZGR	Bezymyannyi-Gr	0.33	307	eP		Pn	Pn	20 33 23.1	+0.3
BZGR				eS		Sn	Sn	20 33 40.2	0.0
ZLN	Zelenaya	0.34	324	eP		Pn	Pn	20 33 23.4	+0.6
ZLN				eS		Sn	Sn	20 33 41.0	+0.7
BZMR	Bezymyannaya	0.42	297	eP		Pn	Pn	20 33 23.1	-0.1
BZMR				eS		Sn	Sn	20 33 41.5	+0.7
BZWR	Bezymyannyi-We	0.43	301	eP		Pn	Pn	20 33 23.4	+0.2
BZWR				eS		Sn	Sn	20 33 41.2	+0.2
KIRR	Kirishev	0.51	295	eP		Pn	Pn	20 33 23.3	-0.2
KIRR				eS		Sn	Sn	20 33 40.7	-0.8
KMNR	Kamenistaya	0.52	272	eP		Pn	Pn	20 33 23.7	+0.2
KMNR				eS		Sn	Sn	20 33 42.5	+1.0
KPT	Kopyto	0.57	293	eP		Pn	Pn	20 33 23.5	-0.3
KPT				eS		Sn	Sn	20 33 41.2	-0.7
KRSR	Krestovskiy	0.58	325	eP		Pn	Pn	20 33 23.3	-0.5
KRSR				eS		Sn	Sn	20 33 41.5	-0.5
KLY	Klyuchi	0.64	334	eP		Pn	Pn	20 33 23.7	-0.2
KLY				eS		Sn	Sn	20 33 41.6	-0.7
TUMD	Tumrok D	0.69	219	eP		Pn	Pn	20 33 24.3	-0.1
TUMD				eS		Sn	Sn	20 33 42.7	-0.2
TUMR	Tumrok	0.74	232	eP		Pn	Pn	20 33 25.4	+0.6
TUMR				eS		Sn	Sn	20 33 44.0	+0.4
KOZ	Kozyrevsk	0.79	294	eP		Pn	Pn	20 33 24.4	-0.5
KOZ				eS		Sn	Sn	20 33 43.7	-0.3
BDR	Baidarnaya	0.82	2	eP		Pn	Pn	20 33 25.0	-0.2
BDR				eS		Sn	Sn	20 33 44.0	-0.6
SMKR	Semkarok	0.86	12	eP		Pn	Pn	20 33 25.0	-0.4
SMKR				eS		Sn	Sn	20 33 45.2	+0.2
SRKR	Sorokina	0.91	0	eP		Pn	Pn	20 33 24.5	-1.3
SRKR				eS		Sn	Sn	20 33 45.5	-0.2
SRDR	Sredinnyy	0.99	306	eP		Pn	Pn	20 33 26.2	-0.2
SRDR				eS		Sn	Sn	20 33 45.8	-0.9
KBG	Krutoberegovo	1.01	59	eP		Pn	Pn	20 33 26.3	-0.1
KBG				eS		Sn	Sn	20 33 46.2	-0.5
KBTR	Krutoberegovo	1.04	63	eP		Pn	Pn	20 33 26.5	-0.2
KBTR				eS		Sn	Sn	20 33 46.1	-1.1
SPN	Mys Shipunski	2.73	195	eS		Sn	Sn	20 34 16.1	-3.4
NLC	Nalytchevo	2.79	203	eS		Sn	Sn	20 34 19.0	-1.7
BKI	Bering	2.79	99	eP		Pn	Pn	20 33 46.7	+1.2
BKI				eS		Sn	Sn	20 34 20.6	-0.1
SDLR	Sedlovina	2.81	209	S		Sn	Sn	20 34 21.1	-0.2
SMAR	Somma	2.84	210	P		Pn	Pn	20 33 47.4	+1.0
SMAR				S		Sn	Sn	20 34 20.8	-1.4
AVH	Avacha	2.86	211	P		Pn	Pn	20 33 47.7	+1.2
AVH				S		Sn	Sn	20 34 21.8	-0.6
KOK	Koryaka	2.87	212	P		Pn	Pn	20 33 48.1	+1.6
UGLR	Uglovaya	2.88	209	S		Sn	Sn	20 34 22.2	-0.8
DALK	Dalny	3.06	208	eS		Sn	Sn	20 34 26.1	-0.6
PET	Petropavlovsk	3.10	209	S		Sn	Sn	20 34 26.2	-1.2
PETK	Petropavlovsk-	3.33	219	P		Pn	Pn	20 33 52.6	+0.4
	3.2nm,0.5s,baz=60,slow=13,SNR=9.9								
PETK				S			Sn	20 34 38.1	+5.5
	1.7nm,0.4s,baz=85,slow=16,SNR=1.5								
KRMR	Karymshinskiy	3.42	213	eP		Pn	Pn	20 33 52.1	-1.2
KRMR				eS		Sn	Sn	20 34 33.4	-1.3
MTVR	Mutnovka	3.71	209	S		Sn	Sn	20 34 39.6	-2.0
KDTR	Khodutka, Kamc	4.35	206	eS		Sn	Sn	20 34 51.6	-4.4
SONM	Songino Array	33.98	280	P		P	P	20 39 29.3	+1.7
	0.1nm,0.5s,baz=79,slow=9.0,SNR=1.2								
	0.1nm,0.5s								
MKAR	Makanchi Array	47.60	294	P		P	P	20 41 17.6	-1.3
	0.4nm,0.4s,baz=47,slow=6.4,SNR=10								
	0.4nm,0.4s								
FINES	FINESS Array B	57.93	336	P		P	P	20 42 33.4	-0.8
	0.7nm,0.4s,baz=31,slow=9.2,SNR=8.8								
	0.7nm,0.4s								
NOA	NORSAR Array B	61.16	344	P		P	P	20 42 56.1	-0.4
	0.2nm,0.5s,baz=19,slow=7.1,SNR=2.2								
	0.2nm,0.5s								
WRA	Warramunga Arr	78.75	206	P		P	P	20 44 44.8	+0.9
	0.3nm,0.9s,baz=12,slow=6.0,SNR=1.4								
	0.3nm,0.9s								
ASAR	Alice Springs	82.43	205	P		P	P	20 45 04.3	+0.8
	0.2nm,0.4s,baz=14,slow=5.1,SNR=1.8								
	0.2nm,0.4s								

*JMA **21** 20:42:50.7±0.2,41°.07N±0°.05×143°.35E±0°.07,h25km±15km, n18,σ0§83/26,mb3.3/4,Hokkaido region*
*IDC **21** 20:42:54.5±8.0,40°.14N×141°.35E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=279.6km s-min=34.0km az=62.0*

ISC 21 20:42:51.0±2.2,41°.07N±0°.06×143°.35E±0°.07,h25km±15km, n18,σ0§83/26,mb3.3/4,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.95	351	P		Pn	Pn	20 43 08.5	-0.4
JEM				eS		Sn	Sn	20 43 21.1	-0.5
JTHR	Tokachihiroo	1.22	358	P		Pn	Pn	20 43 12.6	+0.2
JTHR				eS		Sb	Sb	20 43 28.7	+0.1
JNBK	Urakawa-nobuka	1.29	340	P		Pn	Pn	20 43 13.3	-0.1
JNBK				eS		Sb	Sb	20 43 30.6	0.0
JANG	Nango	1.56	244	P		Pn	Pn	20 43 16.8	-0.4
JTM	Tenmabayashi	1.75	261	P		Pn	Pn	20 43 19.8	0.0
JTM				eS		Sn	Sn	20 43 41.1	-0.2
JOT	Ohata	1.76	281	P		Pn	Pn	20 43 19.6	-0.3
JBT2	Biratori 2	1.86	337	P		Pn	Pn	20 43 21.3	+0.1
JOB	Onbets	1.86	11	P		Pn	Pn	20 43 21.6	+0.2
JOB				eS		Sn	Sn	20 43 44.2	+0.1
JIAM	Iburiatsuma	1.88	326	eP		Pb	Pn	20 43 24.5	-0.2
JKB	Kayabe	1.92	296	P		Pn	Pn	20 43 22.2	+0.1
JKB				eS		Sn	Sn	20 43 45.0	-0.5
JAK	Akkeshi	2.17	27	P		Pn	Pn	20 43 25.6	+0.2
JAK				eS		Sn	Sn	20 43 51.5	-0.1
JOM	Ohasama	2.24	225	P		Pn	Pn	20 43 27.3	+0.8
JAR	Ashorobuto	2.24	8	P		Pn	Pn	20 43 26.3	-0.3
JAR				S		Sn	Sn	20 43 52.5	-0.9
JEW	Eniwo	2.27	322	eP		Pn	Pn	20 43 28.6	+1.7
SONM	Songino Array	27.04	297	P		P	P	20 48 30.5	-0.8
	0.3nm,0.7s,baz=81,slow=8.9,SNR=1.4								
	0.3nm,0.7s								
ZALV	Zalesovo Beam	40.43	309	P		P	P	20 50 29.8	+2.8
	0.7nm,0.6s,baz=86,slow=7.1,SNR=3.9								
	0.7nm,0.6s								
MKAR	Makanchi Array	43.37	299	P		P	P	20 50 50.3	-0.9
	0.2nm,0.5s,baz=86,slow=10.0,SNR=1.9								
	0.2nm,0.5s								
WRA	Warramunga Arr	61.28	190	P		P	P	20 53 03.7	-0.5
	0.2nm,0.6s,baz=7.0,slow=6.7,SNR=1.4								
	0.2nm,0.6s								

*JMA **21** 20:51:32.8±0.9,46°.N±6°.×15°.2E±°,h30km,MV4.2/12, KURILE ISLANDS REGION*
*SKHL **21** 20:51:35.6±0.5,45°.30N×152°.20E,h60km±4km,mb4.6/7*
*MOS **21** 20:51:38.2±1.5,45°.92N×151°.60E,h77km,mb4.4/2,Error ellipse: s-maj=18.4km s-min=11.0km az=79.4*
*NEIC **21** 20:51:39.1±1.9,46°.1N±0°.2×151°.4E±0°.3,h49km±21km, mb4.2/6,Error ellipse: s-maj=47.0km s-min=3.2km az=138.0*
*IDC **21** 20:51:44.3±3.3,46°.04N×151°.79E,h114km±30km, mb3.4/13,mbtmp3.8/16,Error ellipse: s-maj=22.0km s-min=16.2km az=120.0*

ISC 21 20:51:36.2±0.7,45°.67N±0°.09×151°.93E±0°.08,h50km,n58, σ1§89/62,mb3.7/16,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.89	263	eP		Pn	Pn	20 52 21.2	+1.5
KUR				AMB	AMB			20 52 21.8	
	70nm,0.3s								
KUR				eS		Sn	Sn	20 52 55.4	+2.1
KUR				A	A			20 52 59.3	
	280nm,0.4s								
KUR				A	A			20 52 59.3	
	150nm,0.4s								
KUR	Kuril'sk	2.89	263	ePN		Pn	Pn	20 52 21.2	+1.5
KUR				eS		Sn	Sn	20 52 55.4	+2.1
KUR				pmax	pmax				
	comp=Z,145nm,0.3s								
KUR				pmax	pmax				
	comp=N,32nm,0.4s								
KUR				pmax	pmax				
	comp=E,22nm,0.3s								
KUR				smax	smax				
	comp=N,277nm,0.3s								
KUR				smax	smax				
	comp=E,152nm,

baz=339,slow=75,SNR=18
H11S1 WAKE ISLAND Hy 29.73 151 T T 21 29 25.1
baz=339,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 29.74 151 T T 21 29 14.1
baz=339,slow=76,SNR=4.2
H11S2 WAKE ISLAND Hy 29.75 151 T T 21 29 13.5
baz=339,slow=76,SNR=24
ILAR Eielson Array 37.91 38 P **P** **20 58 47.2 -0.9**
comp=Z,0.2nm,0.5s,baz=269,slow=7.3,SNR=1.6
comp=Z,0.2nm,0.5s
ZALV Zalesovo Beam 42.59 306 PcP **PcP** **21 01 18.5 +0.2**
comp=Z,0.5nm,0.3s,baz=46,slow=4.4,SNR=2.8
MKAR Makanchi Array 46.72 298 P **P** **21 00 00.7 +0.7**
comp=Z,0.6nm,0.7s,baz=64,slow=8.5,SNR=4.0
MKAR PcP **PcP** **21 01 33.1 +0.4**
comp=Z,0.7nm,0.6s,baz=76,slow=2.6,SNR=4.0
comp=Z,0.6nm,0.7s
CMAR Chiang Mai Arr 51.32 256 P **P** **21 00 37.4 +2.0**
comp=Z,0.5nm,0.7s,baz=35,slow=6.5,SNR=4.6
comp=Z,0.5nm,0.7s
ABKAR Akbulak array 58.49 310 P **P** **21 01 25.6 -1.3**
ABKAR IAmb IAmb 21 01 28.2
comp=Z,1.8nm,1.2s
CHGR Chuyangaron 59.16 295 P **P** **21 01 31.1 -0.7**
CHGR IAmb IAmb 21 01 32.1
comp=Z,5.1nm,0.9s
CHGR Chuyangaron 59.16 295 P **P** **21 01 31.1 -0.7**
CHGR pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 64.67 334 P **P** **21 02 06.4 -1.8**
comp=Z,2.3nm,0.9s,baz=15,slow=5.8,SNR=1.6
comp=Z,2.3nm,0.9s
PDAR Pinedale Array 66.05 53 P **P** **21 02 18.9 +1.0**
comp=Z,0.6nm,0.8s,baz=329,slow=2.6,SNR=5.8
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 67.23 198 P **P** **21 02 26.8 +1.6**
comp=Z,0.6nm,0.8s,baz=18,slow=7.1,SNR=5.1
comp=Z,0.6nm,0.8s
NOA NORSAR Array B 68.98 341 P **P** **21 02 34.1 -1.7**
comp=Z,0.3nm,0.5s,baz=29,slow=6.7,SNR=6.5
comp=Z,0.3nm,0.5s
ASAR Alice Springs 70.93 197 P **P** **21 02 50.8 +2.7**
comp=Z,0.2nm,0.5s,baz=5.8,slow=5.8,SNR=4.6
comp=Z,0.2nm,0.5s
AKASG Malin Array Be 71.98 326 P **P** **21 02 53.0 -1.2**
comp=Z,0.4nm,0.3s,baz=34,slow=6.3,SNR=4.3
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 71.98 326 P **P** **21 02 53.0 -1.2**
BUR08 Bucovina Ar. S 76.02 326 P **P** **21 03 17.4 -0.5**
BUR08 IAmb IAmb 21 03 17.9
comp=Z,1.9nm,0.8s
BURAR Bucovina Array 76.03 326 P **P** **21 03 17.6 -0.4**
BURAR IAmb IAmb 21 03 18.5
comp=Z,1.8nm,0.7s
TXAR Lajitas Array 78.74 60 P **P** **21 03 34.7 +1.2**
comp=Z,0.4nm,0.6s,baz=297,slow=5.5,SNR=4.4
comp=Z,0.4nm,0.6s
GERES GERESS Array B 79.06 333 P **P** **21 03 34.5 -0.5**
comp=Z,0.4nm,0.5s,baz=56,slow=5.0,SNR=4.2
comp=Z,0.4nm,0.5s
H03N2 Juan Fernandez 139.56 91 T T 23 46 38.6
baz=308,slow=77,SNR=7.9
H03N3 Juan Fernandez 139.58 91 T T 23 46 30.6
baz=308,slow=77,SNR=11
H03N1 Juan Fernandez 139.58 91 T T 23 46 40.6
baz=308,slow=77,SNR=13

*NEIC **21** 20:54:21.5±1.9, 0.°54N±0.°06×97.°3E±0.°1, h10km±2km, mb4.1/8, Error ellipse: s-maj=19.2km s-min=8.9km az=282.0*
*IDC **21** 20:54:22.0±2.0, 0.°77N×97.°41E, h0km, mb3.7/7, mbtmp3.7/8, ML4.0/1, MS3.2/1, Error ellipse: s-maj=85.8km s-min=20.5km az=57.0*
*DJA **21** 20:54:25.9±0.8, 1.°1N±5.°×9.°7E±.°, h34km±7km, M3.9/8, mb4.3/1, MLv3.6/8*
ISC 21 20:54:24.7±0.8, 0.°75N±0.°06×97.°25E±0.°07, h23km, n41, σ1871/35, mb4.1/9, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.64**	**31**	Pg	**Pb**	**20 54 37.6**	**+0.3**
GSI	**Gunungsitoli**	**0.64**	**31**	P	**Pb**	**20 54 37.6**	**+0.3**
GSI				S	**Sn**	**20 54 48.2**	**+0.3**
PBSI	**Pulau Batu**	**1.30**	**128**	P	**Pb**	**20 54 49.4**	**+0.9**
SNSI	**Sinabang, Aceh**	**1.89**	**331**	P	**Pn**	**20 54 55.0**	**-0.6**
SNSI				S	**Sn**	**20 55 17.6**	**-1.1**
TRSI	**Tarutung**	**2.13**	**53**	P	**Pn**	**20 54 58.6**	**-0.4**
MNSI	**Mandailing Nat**	**2.33**	**89**	P	**Pn**	**20 55 00.2**	**-1.4**
RPSI	**Rantau Prapat**	**2.56**	**41**	Pn	**Pn**	**20 55 03.0**	**-1.8**
PSI	**Prapat**	**2.64**	**39**	P	Pb	20 55 05.5	-5.9
PSI				P	**Pn**	**20 55 04.6**	**-1.4**
KCSI	**Kotacane, Aceh**	**2.81**	**11**	P	**Pn**	**20 55 06.7**	**-1.5**
BKNI	**Bangkinang**	**3.81**	**96**	Pn	**Pn**	**20 55 18.9**	**-3.2**
IPM	**Ipoh**	**5.29**	**45**	Pn	**Pn**	**20 55 42.6**	**+0.3**
IPM	**Ipoh**	**5.29**	**45**	P	**Pn**	**20 55 42.8**	**+0.4**
KULM	**Kulim**	**5.65**	**37**	Pn	**Pn**	**20 55 46.8**	**-0.5**
LEM	**Lembang**	**12.79**	**126**	LR	LR	21 01 42.0	
	comp=Z,108nm,21.8s,baz=224,slow=35						
CMAR	**Chiang Mai Arr**	**17.68**	**5**	P	**Pn**	**20 58 28.7**	**-0.9**
	0.2nm,0.3s,baz=195,slow=12,SNR=9.9						
	0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**17.68**	**5**		**Pn**	**20 58 29.9**	**+0.3**
MTKI	**Muara Teweh, K**	**17.73**	**95**	P	**P**	**20 58 36.0**	**+5.0**
CHTO	**Chiang Mai**	**18.03**	**5**	Pn	**Pn**	**20 58 32.1**	**-1.9**
MMSI	**Mamuju**	**21.92**	**99**	P	**P**	**20 59 20.2**	**+3.5**
SHL	**Shillong**	**25.21**	**349**	P	**P**	**20 59 49.8**	**+0.7**
SHL				IAmb	IAmb	20 59 51.1	
	comp=Z,4.5nm,0.9s						
H08S2	**Diego Garcia H**	**26.06**	**251**	T	T	21 26 53.7	
	baz=72,slow=76,SNR=418						
H08S3	**Diego Garcia H**	**26.06**	**251**	T	T	21 26 59.0	
	baz=72,slow=76,SNR=338						
H08S1	**Diego Carcia H**	**26.08**	**251**	T	T	21 26 57.8	
	baz=72,slow=76,SNR=217						
LSA	**Lhasa**	**29.37**	**349**	P	**P**	**21 00 26.5**	**-0.2**
LSA				IAmb	IAmb	21 00 29.3	
	comp=Z,2.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**33.63**	**125**	P	**P**	**21 01 00.9**	**-2.9**
H01W3	**Cape Leeuwin H**	**38.81**	**158**	T	T	21 43 02.8	
	baz=333,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**38.82**	**158**	T	T	21 43 08.3	
	baz=333,slow=76,SNR=26						
H01W1	**Cape Leeuwin H**	**38.83**	**158**	T	T	21 43 00.5	
	baz=333,slow=76,SNR=23						
WRA	**Warramunga Arr**	**41.76**	**122**	P	**P**	**21 02 11.7**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=302,slow=8.9,SNR=4.6						
	comp=Z,0.5nm,0.9s						
ASAR	**Alice Springs**	**43.09**	**127**	P	**P**	**21 02 23.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=302,slow=7.9,SNR=6.3						
	comp=Z,0.3nm,0.5s						
DRK	**Karamyk**	**45.01**	**332**	P	**P**	**21 02 39.9**	**+1.0**
TJN	**Taejon**	**45.11**	**35**	P	P	21 02 34.1	-5.3
INCN	**Inchon**	**45.50**	**33**	P	P	**21 02 39.1**	**-3.3**
INCN	**Inchon**	**45.50**	**33**	⇑P	**P**	**21 02 41.4**	**-1.1**
SONM	**Songino Array**	**47.57**	**8**	P	**P**	**21 02 59.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=189,slow=9.2,SNR=4.6						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**47.69**	**346**	P	**P**	**21 03 00.8**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=161,slow=9.2,SNR=12						
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.69**	**346**	P	**P**	**21 02 58.1**	**-1.4**
KURBB	**Kurchatov Arra**	**52.18**	**345**	P	**P**	**21 03 34.7**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=167,slow=7.0,SNR=6.5						
	comp=Z,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**54.01**	**351**	P	**P**	**21 03 47.6**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=190,slow=5.5,SNR=6.6						
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**54.01**	**351**	P	**P**	**21 03 46.7**	**-0.2**
FINES	**FINESS Array B**	**80.42**	**333**	P	**P**	**21 06 34.9**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=90,slow=7.4,SNR=1.1						
	comp=Z,1.3nm,0.7s						

*IDC **21** 20:56:33.9±0.7, 35.°85N×138.°91E, h130km±4km, mb3.6/15, mbtmp4.0/17, Error ellipse: s-maj=14.9km s-min=12.5km az=86.0*
*JMA **21** 20:56:34.2±0.2, 36.°0N±0.°7×139.°0E±0.°9, h134km±1km, MD4.0/38, MV4.3/38, WESTERN SAITAMA PREF*
JMA Felt I J1 at WESTERN SAITAMA PREF .
*NEIC **21** 20:56:34.5±1.5, 35.°95N±0.°05×138.°91E±0.°08, h135km±6km, mb4.5/27, Error ellipse: s-maj=8.9km s-min=6.7km az=80.0*
ISC 21 20:56:34.2±0.5, 35.°94N±0.°04×138.°95E±0.°05, h134km±4km,

2016 NOV

n131, σ0.°93/110, mb4.2/29, 6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRY	**Ryogami san**	**0.08**	**331**	P	**Pn**	**20 56 52.7**	**+0.3**
JRY				S	**Sn**	**20 57 06.2**	**-0.1**
JRY	**Ryogami san**	**0.08**	**331**	A	A	20 56 52.7	
	comp=E,13nm,1.1s,comp=E,11nm,1.7s						
JHU	**Hanno**	**0.28**	**109**	P	**Pn**	**20 56 53.1**	**+0.3**
JHU				S	**Sn**	**20 57 07.0**	**+0.1**
JHU	**Hanno**	**0.28**	**109**	A	A	20 56 53.1	
	comp=E,24nm,0.5s,comp=E,30nm,0.7s						
JSGW	**Sagamiharawaka**	**0.40**	**148**	A	A	20 56 53.4	
	comp=E,8.0nm,0.9s,comp=E,13nm,1.0s						
JAG	**Ashikaga**	**0.63**	**40**	P	**Pn**	**20 56 54.5**	**-0.1**
JAG				S	**Sn**	**20 57 09.4**	**-0.6**
JAG	**Ashikaga**	**0.63**	**40**	A	A	20 56 54.5	
	comp=E,17nm,0.9s,comp=E,13nm,1.7s						
JNT	**Takato**	**0.66**	**264**	A	A	20 56 55.1	
	comp=E,9.0nm,0.7s,comp=E,4.0nm,1.5s						
JGK	**Kuni**	**0.67**	**338**	A	A	20 56 54.8	
	comp=E,16nm,0.6s,comp=E,19nm,0.9s						
JOD2	**Odawara 2**	**0.69**	**171**	⇓P	**Pn**	**20 56 54.7**	**-0.3**
JOD2				⇓S	**Sn**	**20 57 10.8**	**+0.1**
JOD2	**Odawara 2**	**0.69**	**171**	A	A	20 56 54.7	
	comp=E,4.0nm,0.5s,comp=E,7.0nm,0.4s						
TOK	**Tokyo**	**0.70**	**111**	A	A	20 56 55.1	
	comp=E,48nm,0.5s,comp=E,28nm,0.6s						
JFNN	**Fujinakano**	**0.78**	**196**	⇓P	**Pn**	**20 56 56.1**	**+0.5**
JFNN				⇓S	**Sn**	**20 57 12.8**	**+0.9**
JNG	**Nsakai**	**0.83**	**304**	A	A	20 56 56.2	
	comp=E,4.0nm,1.8s,comp=E,4.0nm,2.6s						
MJAR	**Matsushiro Arr**	**0.85**	**315**	P	**Pn**	**20 56 55.5**	**-0.7**
	458nm,0.3s,baz=158,slow=7.8,SNR=2828						
MJAR					LR	20 57 02.7	
	comp=Z,43nm,18.3s,baz=334,slow=32						
MJAR				S	**Sn**	**20 57 12.5**	**-0.4**
	371nm,0.5s,baz=156,slow=40,SNR=6.3						
MAJO	**Matsushiro**	**0.85**	**315**		**Pn**	**20 56 55.9**	**-0.3**
MAJO	**Matsushiro**	**0.85**	**315**	P	**Pn**	**20 56 56.2**	**0.0**
MAT	**Matsushiro**	**0.85**	**315**	P	**Pn**	**20 56 56.0**	**-0.2**
MAT				S	**Sn**	**20 57 11.9**	**-1.1**
MJB9	**Matsu-Tunnel**	**0.85**	**315**	Pn	**Pn**	**20 56 56.8**	**+0.6**
JKT	**Katashina**	**0.86**	**16**	P	**Pn**	**20 56 56.4**	**0.0**
JKT				S	**Sn**	**20 57 13.0**	**-0.2**
JYO	**Yokosk**	**0.92**	**141**	A	A	20 56 57.0	
	comp=E,12nm,0.4s,comp=E,11nm,0.6s						
JHTM	**Izuhatsuma**	**0.98**	**177**	A	A	20 56 57.7	
	comp=E,12nm,0.8s,comp=E,12nm,0.8s						
JYT	**Yasato**	**1.05**	**74**	A	A	20 56 57.8	
	comp=E,25nm,0.5s,comp=E,23nm,0.3s						
JNY	**Yasuok**	**1.06**	**237**	A	A	20 56 58.6	
	comp=E,5.0nm,3.2s,comp=E,4.0nm,2.3s						
SHZ3	**Shizuoka 3**	**1.06**	**215**	A	A	20 56 58.6	
	comp=E,3.0nm,1.4s,comp=E,5.0nm,2.9s						
JCN	**Nagara**	**1.14**	**117**	A	A	20 56 58.9	
	comp=E,10.0nm,2.7s,comp=E,10.0nm,0.6s						
TATJ	**Tateyama 2**	**1.19**	**140**	A	A	20 56 59.5	
	comp=E,7.0nm,2.0s,comp=E,8.0nm,0.5s						
JIZS	**Izushimoda**	**1.22**	**183**	A	A	20 57 00.1	
	comp=E,3.0nm,2.0s,comp=E,3.0nm,0.9s						
JSMT	**Sammumatsuo**	**1.25**	**103**	A	A	20 57 00.0	
	comp=E,12nm,2.3s,comp=E,10.0nm,2.2s						
JUON	**Uonuma**	**1.27**	**4**	A	A	20 57 00.0	
	comp=E,5.0nm,0.9s,comp=E,4.0nm,2.5s						
JIHU	**Itakohironouch**	**1.28**	**88**	A	A	20 57 00.1	
	comp=E,21nm,4.7s,comp=E,21nm,5.5s						
JIM2	**Oshima 3**	**1.28**	**162**	A	A	20 57 00.6	
	comp=E,6.0nm,2.4s,comp=E,5.0nm,1.7s						
JSB	**Shiboa**	**1.29**	**37**	A	A	20 57 00.1	
	comp=E,7.0nm,2.8s,comp=E,5.0nm,2.6s						
JJN	**Nakama**	**1.32**	**331**	A	A	20 57 00.8	
	comp=E,11nm,1.8s,comp=E,6.0nm,2.3s						
JGF	**Kuroka**	**1.34**	**256**		**Pn**	**20 57 01.3**	**+0.4**
JGF	**Kuroka**	**1.34**	**256**	P	**Pn**	**20 57 01.5**	**+0.6**
JHYU	**Hitachinakayam**	**1.38**	**73**	A	A	20 57 01.2	
	comp=E,10.0nm,0.5s,comp=E,12nm,0.5s						
JTT	**Ttatey**	**1.47**	**297**	A	A	20 57 02.6	
	comp=E,5.0nm,2.9s,comp=E,7.0nm,0.9s						
JHO	**Hitachi**	**1.47**	**62**	A	A	20 57 02.0	
	comp=E,5.0nm,4.2s,comp=E,4.0nm,1.0s						
CHOJ	**Chosi**	**1.57**	**98**	A	A	20 57 03.3	
	comp=E,4.0nm,1.3s,comp=E,3.0nm,1.9s						
INU	**Inuyama**	**1.68**	**250**		**Pn**	**20 57 04.5**	**-0.2**
INU	**Inuyama**	**1.68**	**250**	P	**Pn**	**20 57 04.9**	**+0.3**
JFFD	**Fukushimafurud**	**1.73**	**48**	A	A	20 57 05.0	
	comp=E,6.0nm,3.2s,comp=E,4.0nm,2.7s						
JYTA	**Yamagatataniai**	**1.84**	**260**	⇓P	**Pn**	**20 57 06.7**	**+0.3**
JYTA				⇓eS	**Sn**	**20 57 31.4**	**+0.4**
JNS	**Sasagawa**	**1.90**	**9**	P	**Pn**	**20 57 07.7**	**+0.6**
JNS	**Sasagawa**	**1.90**	**9**	A	A	20 57 07.7	
	comp=E,1.0nm,1.0s,comp=E,1.0nm,3.0s						
JSZ	**Suzu**	**1.97**	**320**	P	**Pn**	**20 57 07.6**	**-0.4**
JSZ				S	**Sn**	**20 57 33.7**	**-0.2**
BSO1	**Boso 1**	**2.10**	**127**	*eP*	**Pn**	**20 57 08.9**	**-0.1**
JFK	**Kawauchi**	**2.10**	**47**	A	A	20 57 09.5	
	comp=E,4.0nm,2.9s,comp=E,4.0nm,5.2s						
JSD	**Sado**	**2.16**	**345**		**Pn**	**20 57 10.4**	**+0.1**
JSD	**Sado**	**2.16**	**345**	P	**Pn**	**20 57 10.9**	**+0.6**
JMST	**Minamisoumatoc**	**2.36**	**41**	A	A	20 57 12.8	
	comp=E,2.0nm,1.7s,comp=E,4.0nm,3.3s						
JMM	**Marumori**	**2.42**	**37**	Pn	**Pn**	**20 57 14.1**	**+0.6**
JMM	**Marumori**	**2.42**	**37**	P	**Pn**	**20 57 14.6**	**+1.1**
JMM	**Marumori**	**2.42**	**37**	A	A	20 57 13.5	
	comp=E,3.0nm,3.6s,comp=E,5.0nm,3.7s						
JYS	**Shirataka**	**2.44**	**21**	A	A	20 57 13.8	
	comp=E,4.0nm,2.5s,comp=E,7.0nm,2.8s						
JOU	**Okura**	**2.78**	**29**	A	A	20 57 18.1	
	comp=E,3.0nm,0.8s,comp=E,3.0nm,2.7s						
JHJ	**Hachijo jima 2**	**2.90**	**166**	P	**Pn**	**20 57 20.5**	**+0.8**
	166nm,0.4s,baz=336,slow=21,SNR=19						
JHJ				S	**Sn**	**20 57 53.9**	**-0.8**
	321nm,0.6s,baz=79,slow=22,SNR=2.8						
JHJ2	**Mitsune**	**2.91**	**166**	Pn	**Pn**	**20 57 20.3**	**+0.5**
JMN	**Monobe**	**4.72**	**244**		**Pn**	**20 57 43.2**	**-0.5**
JMN	**Monobe**	**4.72**	**244**	P	**Pn**	**20 57 43.8**	**+0.2**
JHS	**Saijyo**	**4.86**	**261**		**Pn**	**20 57 45.5**	**+0.1**
JHS	**Saijyo**	**4.86**	**261**	P	**Pn**	**20 57 46.1**	**+0.7**
JTM	**Tenmabayashi**	**5.11**	**18**	Pn	**Pn**	**20 57 48.9**	**+0.1**
ERM	**Erimo**	**6.89**	**27**		**Pn**	**20 58 10.9**	**-1.7**
JNU	**Nakatsue**	**7.23**	**249**		**Pn**	**20 58 19.9**	**-0.4**
JNU	**Nakatsue**	**7.23**	**249**	P	**Pn**	**20 58 19.5**	**+2.2**
JKA	**Kamikawa-asahi**	**8.63**	**18**	Pn	**Pn**	**20 58 34.3**	**-1.7**
KSRS	**Korea Array**	**8.99**	**283**	P	**Pn**	**20 58 43.6**	**+2.8**
	7.0nm,0.8s,baz=100,slow=14,SNR=12						
JCJ	**Chichijima**	**9.24**	**162**	P	Pn	20 58 39.3	-5.0
	42nm,0.7s,baz=356,slow=21,SNR=8.5						
USRK	**Ussuriysk Ar.**	**9.82**	**329**	P	**Pn**	**20 58 52.3**	**+0.4**
	1.8nm,0.6s,baz=144,slow=12,SNR=2.4						
JOW	**Kunigami**	**12.86**	**228**	P	**Pn**	**20 59 34.8**	**+2.6**
	11nm,0.6s,baz=33,slow=16,SNR=1.5						
KLR	**Kul'dur**	**14.29**	**341**	P	**P**	**20 59 51.7**	**-1.7**
	1.2nm,0.4s,baz=202,slow=7.4,SNR=5.9						
YULB	**Yu-li**	**19.75**	**236**	P	**P**	**21 00 52.3**	**-1.3**
YULB				IAmb	IAmb	21 00 54.2	
	comp=Z,25nm,1.5s						
TPUB	**Ta-pu**	**20.27**	**237**	P	**P**	**21 00 57.0**	**-2.1**
TPUB				IAmb	IAmb	21 01 39.1	
	comp=Z,49nm,1.3s						
PETK	**Petropavlovsk-**	**21.64**	**32**	P	**P**	**21 01 13.6**	**0.0**
	comp=Z,6.6nm,1.0s,baz=220,slow=13,SNR=2.3						
	comp=Z,6.6nm,1.0s						
MA2	**Magadan**	**24.87**	**14**	P	**P**	**21 01 44.6**	**+0.6**
	comp=Z,19nm,0.9s,baz=174,slow=7.2,SNR=4.9						
	comp=Z,19nm,0.9s						
ENH	**Enshi**	**25.27**	**266**	P	**P**	**21 01 46.9**	**-1.0**
SONM	**Songino Array**	**26.79**	**306**	P	**P**	**21 02 03.5**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=104,slow=8.7,SNR=2.2						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**41.20**	**313**	PcP	**PcP**	**21 06 01.5**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=89,slow=3.3,SNR=4.1						
MK31	**Makanchi Array**	**43.03**	**303**	P	**P**	**21 04 20.6**	**+0.3**
MKAR	**Makanchi Array**	**43.03**	**303**	P	**P**	**21 04 20.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=82,slow=10,SNR=8.4						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**43.03**	**303**	P	**P**	**21 04 20.4**	**+0.1**
MAKZ	**Makanchi**	**43.24**	**303**	P	**P**	**21 04 22.3**	**+0.3**
MAKZ				IAmb	IAmb	21 04 32.8	
	comp=Z,5.7nm,1.2s						
TAPN	**Taplejung**	**44.03**	**274**	*eP*	**P**	**21 04 28.5**	**-0.4**
	comp=Z,4.1nm,0.4s						
KURK	**Kurchatov**	**45.05**	**309**	P	**P**	**21 04 36.2**	**-0.2**
KURK				IAmb	IAmb	21 04 38.4	
	comp=Z,4.2nm,0.7s						
RAMN	**Ramite**	**45.10**	**274**	*eP*	**P**	**21 04 36.7**	**-0.6**
	comp=Z,17nm,0.9s						
KURBB	**Kurchatov Arra**	**45.12**	**309**	P	**P**	**21 04 37.5**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=85,slow=7.5,SNR=15						
	comp=Z,2.2nm,0.7s						
JIRN	**Jiri**	**45.14**	**275**	*eP*	**P**	**21 04 37.2**	**-0.6**
	comp=Z,12nm,0.8s						
GUN	**Gumba**	**45.29**	**275**	*eP*	**P**	**21 04 38.5**	**-0.4**
PKI	**Pulchoki**	**45.80**	**275**	*eP*	**P**	**21 04 42.3**	**-0.7**
	comp=Z,3.2nm,0.5s						
PKIN	**Phulchoki**	**45.81**	**275**	*eP*	**P**	**21 04 42.0**	**-1.0**
	comp=Z,4.0nm,0.5s						
GKN	**Gorkha**	**46.25**	**276**	*eP*	**P**	**21 04 45.6**	**-0.7**
	comp=Z,5.2nm,0.5s						
DANN	**Dangsing**	**46.82**	**277**	*eP*	**P**	**21 04 50.9**	**+0.1**
	comp=Z,15nm,0.4s						
BRVK	**Borovoye**	**49.90**	**313**	P	**P**	**21 05 14.6**	**+0.9**
BRLK	**Bradley Lake**	**49.95**	**38**	P	**P**	**21 05 14.9**	**+0.8**
IL31		**51.47**	**32**	P	**P**	**21 05 24.0**	**-1.3**
IL31				IAmb	IAmb	21 06 07.3	
	comp=Z,7.5nm,1.5s						
ILAR	**Eielson Array**	**51.47**	**32**	P	**P**	**21 05 25.9**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=279,slow=5.2,SNR=17						
ILAR				pP	**pP**	**21 05 56.7**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=259,slow=6.8,SNR=5.2						
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**51.47**	**32**	P	**P**	**21 05 24.2**	**-1.1**
GSI	**Gunungsitoli**	**51.54**	**238**	P	**P**	**21 05 24.6**	**-1.9**
GSI				IAmb	IAmb	21 05 33.6	
	comp=Z,28nm,1.3s						
KNRA	**Kunumurra**	**52.24**	**192**	P	**P**	**21 05 30.9**	**-0.6**
BMAR	**Burnt Mountain**	**52.24**	**28**	P	**P**	**21 05 33.4**	**+2.4**
SCRK	**Sand Creek**	**52.80**	**33**	P	**P**	**21 05 35.8**	**+0.5**
SCRK				IAmb	IAmb	21 06 19.5	
	comp=Z,4.1nm,1.3s						
L27K	**Beaver Creek,**	**53.89**	**34**	P	**P**	**21 05 45.0**	**+1.8**
L27K				IAmb	IAmb	21 05 45.9	
	comp=Z,5.8nm,1.4s						
BCAR	**Beaver Creek A**	**53.91**	**34**	P	**P**	**21 05 45.1**	**+1.8**
M27K	**Edge Creek, AK**	**53.98**	**34**	P	**P**	**21 05 45.4**	**+1.4**
M27K				IAmb	IAmb	21 06 14.1	
	comp=Z,13nm,1.4s						
CHGR	**Chuyangaron**	**54.34**	**295**	P	**P**	**21 05 47.0**	**0.0**
CHGR				IAmb	IAmb	21 05 52.0	
	comp=Z,16nm,1.4s						
EPYK	**Eagle Plains**	**55.45**	**29**	P	**P**	**21 05 55.8**	**+1.4**
EPYK				IAmb	IAmb	21 05 57.2	
	comp=Z,8.3nm,0.9s						
WB0	**Warramunga Arr**	**55.57**	**185**	P	**P**	**21 05 54.9**	**-0.8**
WRAB	**Tennant Creek**	**55.74**	**185**	P	**P**	**21 05 55.9**	**-1.0**
WRAB				IAmb	IAmb	21 05 57.0	
	comp=Z,10.0nm,0.8s						
WB2	**Warramunga Arr**	**55.75**	**185**	P	**P**	**21 05 56.2**	**-0.7**
WRA	**Warramunga Arr**	**55.75**	**185**	P	**P**	**21 05 56.2**	**-0.7**
	comp=Z,11nm,0.6s,baz=359,slow=7.4,SNR=133						
WRA	**Warramunga Arr**	**55.75**	**185**	P	**P**	**21 05 55.3**	**-1.7**
WR0	**Warramunga Arr**	**55.75**	**185**	P	**P**	**21 05 56.1**	**-0.9**
M30M	**Minto, Yukon**	**56.25**	**34**	P	**P**	**21 06 01.1**	**+0.9**
M30M				IAmb	IAmb	21 06 25.9	
	comp=Z,7.3nm,1.4s						
INK	**Inuvik**	**56.25**	**27**	P	**P**	**21 06 01.5**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=292,slow=6.2,SNR=8.1						
INK				pP	**pP**	**21 06 31.9**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=325,slow=6.0,SNR=2.7						
	comp=Z,2.2nm,0.8s						
ABKAR	**Akbulak array**	**57.12**	**310**	P	**P**	**21 06 06.5**	**0.0**
ABKAR	**Akbulak array**	**57.12**	**310**	P	**P**	**21 06 06.3**	**-0.1**
ABKAR				IAmb	IAmb	21 06 41.0	
	comp=Z,3.1nm,1.3s						
AS31	**Alice Springs**	**59.48**	**185**	P	**P**	**21 06 22.3**	**-0.8**
ASAR	**Alice Springs**	**59.48**	**185**	P	**P**	**21 06 22.6**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=4.0,slow=4.9,SNR=21						
	comp=Z,1.8nm,0.7s						
EUNU	**Eureka**	**61.55**	**8**	P	**P**	**21 06 37.0**	**+0.5**
EUNU				IAmb	IAmb	21 06 50.7	
	comp=Z,8.9nm,1.5s						
RES	**Resolute Bay**	**64.14**	**14**	P	**P**	**21 06 53.9**	**+0.3**
RES				IAmb	IAmb	21 06 57.7	
	comp=Z,3.1nm,1.0s						
ARCES	**ARCESS Array B**	**64.31**	**339**	P	**P**	**21 06 55.1**	**+0.3**
	comp=Z,2.2nm,0.9s,ba

JFK S Sb 21 00 05.8 +0.9
JFK Kawauchi 0.41 283 A A 20 59 57.9
comp=E,21µm,6.4s,comp=E,13µm,4.2s
JMST Minamisoumatoc 0.59 319 P Pg 20 59 59.7 -0.2
JMST Minamisoumatoc 0.59 319 A A 20 59 59.7
comp=E,6µm,6.6s,comp=E,9µm,8.2s
JFFD Fukushimafurud 0.68 254 ⇓P Pb 21 00 03.0 +0.1
JFFD Fukushimafurud 0.68 254 A A 21 00 03.0
comp=E,5µm,2.7s,comp=E,10µm,5.4s
JMM Marumori 0.75 322 Pg Pg 21 00 02.1 -0.8
JMM Marumori 0.75 322 *i* P Pg 21 00 02.1 -0.8
JMM Marumori 0.75 322 A A 21 00 02.1
comp=E,8µm,6.5s,comp=E,8µm,6.3s
JMM Marumori 0.75 322 ⇑P Pg 21 00 02.4 -0.6
JHO Hitachi 0.93 224 P Pg 21 00 06.1 -0.3
JHO Hitachi 0.93 224 A A 21 00 06.1
comp=E,6µm,3.7s,comp=E,7µm,5.8s
JIKH Ishinomakikobu 1.03 4 A A 21 00 04.4
comp=E,6µm,11.5s,comp=E,6µm,8.0s
JHYU Hitachinakayam 1.13 214 A A 21 00 09.8
comp=E,6µm,7.6s,comp=E,6µm,5.5s
JYAR Yonezawaarcadi 1.17 303 A A 21 00 09.6
comp=E,12µm,6.7s,comp=E,6µm,4.0s
JIO Ouri 1.18 359 ⇓*i* P Pg 21 00 07.0 -4.1
JIO ⇓S Sg 21 00 22.1 -4.3
JIO Ouri 1.18 359 A A 21 00 07.0
comp=E,4µm,7.9s,comp=E,5µm,6.2s
JSB Shiboa 1.20 256 A A 21 00 11.3
comp=E,23µm,4.5s,comp=E,19µm,5.5s
JOU Okura 1.23 333 ⇓P Pg 21 00 09.8 -2.3
JOU ⇓S Sg 21 00 27.1 -0.8
JOU Okura 1.23 333 A A 21 00 09.8
comp=E,9µm,4.9s,comp=E,11µm,6.6s
JFY Yanaizu 1.34 276 A A 21 00 13.1
comp=E,8µm,7.1s,comp=E,8µm,6.6s
JFY Yanaizu 1.34 276 P Pn 21 00 13.8 -0.2
JOFO Osakifurukawao 1.37 345 A A 21 00 10.7
comp=E,27µm,2.8s,comp=E,20µm,4.5s
JYS Shirataka 1.40 313 P Pn 21 00 13.5 -1.4
JYS Shirataka 1.40 313 A A 21 00 13.5
comp=E,6µm,10.7s,comp=E,5µm,3.0s
JYT Yasato 1.41 223 A A 21 00 14.2
comp=E,4µm,4.8s,comp=E,5µm,4.4s
JIHU Itakohorinouch 1.48 208 A A 21 00 14.8
comp=E,42µm,4.8s,comp=E,35µm,5.5s
JKMT Kesennumamotoy 1.53 3 A A 21 00 12.2
comp=E,4µm,9.1s,comp=E,2µm,9.6s
CHOJ Chosi 1.62 195 A A 21 00 16.5
comp=E,6µm,6.5s,comp=E,11µm,5.5s
JMK Ichinoseki 1.68 356 A A 21 00 14.7
comp=E,3µm,7.2s,comp=E,3µm,7.3s
JMK Ichinoseki 1.68 356 ⇓P Pn 21 00 15.1 -3.5
JNS Sasagawa 1.72 289 A A 21 00 18.4
comp=E,5µm,6.5s,comp=E,4µm,5.3s
JAG Ashikaga 1.76 242 A A 21 00 19.5
comp=E,4µm,6.3s,comp=E,4µm,4.5s
JAG Ashikaga 1.76 242 P Pn 21 00 19.2 -0.6
JKT Katashina 1.78 254 P Pb 21 00 21.0 -0.7
JSMT Sammumatsuo 1.79 205 A A 21 00 19.4
comp=E,25µm,4.9s,comp=E,30µm,6.4s
OFUJ Ofunato 1.82 7 A A 21 00 16.2
comp=E,4µm,6.0s,comp=E,2µm,5.3s
JYK Kaneyama 1.82 334 A A 21 00 17.9
comp=E,3µm,6.2s,comp=E,4µm,5.2s
JYK Kaneyama 1.82 334 P Pn 21 00 18.5 -2.2
JUON Uonuma 1.85 269 A A 21 00 20.7
comp=E,5µm,5.2s,comp=E,6µm,3.4s
JUON Uonuma 1.85 269 P Pn 21 00 21.3 +0.3
JYA Atsumi 1.86 316 A A 21 00 19.3
comp=E,5µm,7.1s,comp=E,6µm,7.6s
JYA Atsumi 1.86 316 ⇓P Pn 21 00 20.2 -0.9
TOK Tokyo 2.05 220 A A 21 00 23.5
comp=E,16µm,5.8s,comp=E,16µm,5.3s
JAW Awa shima 2.05 306 A A 21 00 22.5
comp=E,7µm,5.9s,comp=E,3µm,6.9s
JAW Awa shima 2.05 306 P Pn 21 00 24.8 +0.9
JYYZ Yamagatayuza 2.08 327 A A 21 00 21.9
comp=E,15µm,8.2s,comp=E,19µm,7.3s
JCN Nagara 2.08 207 A A 21 00 23.6
comp=E,19µm,5.2s,comp=E,29µm,6.2s
JIZZ Izumozaki 2.14 278 A A 21 00 24.6
comp=E,18µm,7.7s,comp=E,18µm,5.2s
I30JP ISUMI INFRASON 2.14 204 Pg Pg 21 00 31.4 +1.7
baz=44,slow=22
I30JP I I 21 06 30.0
0.2nm,0.6s,baz=8.8,slow=329,SNR=3.1
JOM Ohasama 2.19 358 A A 21 00 22.0
comp=E,3µm,6.7s,comp=E,3µm,5.8s
JOM Ohasama 2.19 358 P Pn 21 00 22.5 -3.3
JRG Rokugo 2.19 345 A A 21 00 22.7
comp=E,5µm,6.3s,comp=E,5µm,5.0s
JRG Rokugo 2.19 345 P Pn 21 00 23.9 -1.9
JHU Hanno 2.21 230 A A 21 00 25.8
comp=E,3µm,6.4s,comp=E,3µm,9.8s
JGK Kuni 2.31 253 A A 21 00 27.4
comp=E,4µm,4.5s,comp=E,4µm,4.7s
JKUC kamogawauchiur 2.32 205 A A 21 00 26.9
comp=E,5µm,5.7s,comp=E,7µm,5.7s
MIYJ Miyakonagasawa 2.32 9 A A 21 00 23.4
comp=E,3µm,6.8s,comp=E,3µm,5.8s
JRY Ryogami san 2.35 238 A A 21 00 28.1
comp=E,2µm,9.3s,comp=E,3µm,4.6s
JRY Ryogami san 2.35 238 P Pn 21 00 27.7 -0.3
JTB Tobi-shima 2.39 324 A A 21 00 26.6
comp=E,4µm,10.5s,comp=E,3µm,6.6s
JSGW Sagamiharawaka 2.42 227 A A 21 00 28.8
comp=E,3µm,6.3s,comp=E,2µm,5.2s
JYW Yuwa 2.44 338 A A 21 00 26.5
comp=E,4µm,3.8s,comp=E,7µm,4.9s
JYO Yokosk 2.47 215 A A 21 00 29.3
comp=E,6µm,8.8s,comp=E,7µm,4.1s
JSZI Iwateshizukuis 2.48 352 A A 21 00 26.4
comp=E,6µm,6.3s,comp=E,6µm,11.0s
TATJ Tateyama 2 2.54 209 A A 21 00 30.2
comp=E,7µm,3.4s,comp=E,8µm,4.7s
JJN Nakama 2.57 267 A A 21 00 31.0
comp=E,6µm,6.6s,comp=E,5µm,5.7s
JSD Sado 2.59 288 Pn Pn 21 00 30.4 -0.7
JSD Sado 2.59 288 P Pb 21 00 35.9 +0.5
JSD Sado 2.59 288 A A 21 00 30.8
comp=E,2µm,6.6s,comp=E,5µm,8.1s
JSD Sado 2.59 288 P Pn 21 00 30.9 -0.2
JSD Sado 2.59 288 ⇓P Pn 21 00 30.8 -0.4
MJAR Matsushiro Arr 2.64 255 Pn Pn 21 00 32.6 +0.7
43nm,0.3s,baz=80,slow=16,SNR=76
558nm,0.3s
MAJO Matsushiro 2.64 255 Pn 21 00 32.8 +0.8
MAJO Matsushiro 2.64 255 P Pg 21 00 38.7 -0.5
MAJO Matsushiro 2.64 255 ⇓P Pn 21 00 33.3 +1.4
MAJO Matsushiro 2.64 255 *i* P Pn 21 00 33.4 +1.4
MAT Matsushiro 2.64 255 P Pn 21 00 32.8 +0.9
MJB9 Matsu-Tunnel 2.64 255 Pn Pn 21 00 31.9 0.0
JTH Tanohata 2.69 8 A A 21 00 28.6
comp=E,3µm,7.3s,comp=E,1µm,8.3s
JKZ Kuzumaki 2.70 359 A A 21 00 29.3
comp=E,3µm,5.7s,comp=E,2µm,12.1s
JOD2 Odawara 2 2.73 223 A A 21 00 33.2
comp=E,3µm,4.7s,comp=E,3µm,5.9s
JOD2 Odawara 2 2.73 223 *e*P Pn 21 00 33.3 +0.1
JNG Nsakai 2.77 253 A A 21 00 34.0
comp=E,2µm,4.7s,comp=E,3µm,6.3s
JKEN Kujiedanarisaw 2.94 5 A A 21 00 32.3
comp=E,3µm,9.5s,comp=E,2µm,5.3s
JNT Takato 2.96 243 A A 21 00 36.7
comp=E,3µm,5.3s,comp=E,2µm,7.3s
JAH Hinai 2.96 349 A A 21 00 33.5
comp=E,2µm,10.5s,comp=E,2µm,9.1s
JAH Hinai 2.96 349 *i* P Pn 21 00 34.3 -2.0
JIM2 Oshima 3 3.00 212 A A 21 00 36.8
comp=E,4µm,3.4s,comp=E,3µm,6.4s
JHTM Izuhatsuma 3.00 220 A A 21 00 37.1
comp=E,3µm,3.0s,comp=E,3µm,5.0s
JFNN Fujinakano 3.01 227 A A 21 00 37.2
comp=E,4µm,5.9s,comp=E,3µm,5.0s
JFNN Fujinakano 3.01 227 *e*P Pn 21 00 38.2 +1.3
JANG Nango 3.10 2 A A 21 00 34.7
comp=E,2µm,4.2s,comp=E,2µm,8.3s
JANG Nango 3.10 2 P Pn 21 00 34.8 -3.3
JNTW Noshirotokiwa 3.14 343 A A 21 00 36.2
comp=E,8µm,4.0s,comp=E,7µm,3.4s
JOG3 Oga3 3.19 326 A A 21 00 33.4
comp=E,3µm,4.2s,comp=E,3µm,4.3s
JSZ Suzu 3.20 274 A A 21 00 39.9
comp=E,2µm,6.6s,comp=E,3µm,4.2s
JTHY Toshimahigashi 3.23 212 A A 21 00 40.0
comp=E,4µm,7.0s,comp=E,4µm,7.4s

JIZS Izushimoda 3.26 219 A A 21 00 40.6
comp=E,2µm,9.5s,comp=E,2µm,4.2s
JIZS Izushimoda 3.26 219 P Pn 21 00 40.2 -0.2
JTT Ttatey 3.31 260 A A 21 00 41.6
comp=E,3µm,5.8s,comp=E,3µm,6.6s
JTT Ttatey 3.31 260 P Pn 21 00 43.4 +2.4
JNIO Niijimaoohara 3.38 211 A A 21 00 42.1
comp=E,3µm,5.5s,comp=E,3µm,7.3s
SHZ3 Shizuoka 3 3.38 230 A A 21 00 42.6
comp=E,2µm,4.5s,comp=E,2µm,6.9s
SHZ3 Shizuoka 3 3.38 230 P Pn 21 00 43.2 +1.1
JSKK Shikinejimakit 3.42 212 A A 21 00 42.8
comp=E,2µm,7.6s,comp=E,2µm,5.4s
JNY Yasuok 3.42 237 A A 21 00 43.2
comp=E,2µm,8.4s,comp=E,2µm,4.0s
JHHS Hirosakihyakuz 3.46 347 A A 21 00 40.6
comp=E,7µm,4.2s,comp=E,4µm,4.7s
JIW Iwasaki 3.48 343 A A 21 00 41.1
comp=E,2µm,11.0s,comp=E,3µm,7.7s
JTM Tenmabayashi 3.51 356 Pn 21 00 41.4 -2.4
JTM Tenmabayashi 3.51 356 P Pn 21 00 44.7 +0.8
JTM Tenmabayashi 3.51 356 A A 21 00 40.9
comp=E,3µm,2.9s,comp=E,2µm,4.4s
JTM Tenmabayashi 3.51 356 P Pn 21 00 41.5 -2.4
JTM Tenmabayashi 3.51 356 ⇓P Pn 21 00 41.4 -2.4
JMYK Miyake Tsubota 3.54 205 A A 21 00 44.2
comp=E,3µm,13.0s,comp=E,3µm,4.4s
JKO Kozu shima 3.58 211 A A 21 00 45.0
comp=E,3µm,3.7s,comp=E,2µm,5.3s
JHG Hegura jima 3.59 281 A A 21 00 45.2
comp=E,1µm,5.7s,comp=E,1µm,14.4s
JGF Kuroka 3.65 244 Pn 21 00 47.3 +1.5
JGF Kuroka 3.65 244 P Pb 21 00 50.9 -2.6
JGF Kuroka 3.65 244 A A 21 00 46.4
comp=E,1µm,10.1s,comp=E,2µm,3.8s
JGF Kuroka 3.65 244 ⇓P Pn 21 00 47.9 +2.1
JSG Sagara 3.67 226 A A 21 00 46.5
comp=E,4µm,4.7s,comp=E,3µm,4.1s
JMKN Mikurajimanish 3.68 204 A A 21 00 46.1
comp=E,3µm,10.1s,comp=E,2µm,10.4s
JJH Hakui 3.69 266 A A 21 00 46.9
comp=E,2µm,6.1s,comp=E,2µm,11.4s
JARK Aomorirokkasho 3.73 360 A A 21 00 43.7
comp=E,2µm,11.7s,comp=E,2µm,4.9s
JKKS Kakegawashinom 3.73 228 A A 21 00 47.5
comp=E,4µm,4.0s,comp=E,3µm,6.1s
HMMJ Hamamatsu 2 3.82 232 A A 21 00 48.8
comp=E,1µm,8.0s,comp=E,1µm,9.4s
JSI2 Shiura 2 3.85 349 A A 21 00 46.0
comp=E,2µm,11.8s,comp=E,1µm,7.2s
JAO Obara 3.88 240 A A 21 00 49.8
comp=E,1µm,5.0s,comp=E,2µm,5.1s
JSSY Shinshiroyabe 3.92 234 A A 21 00 50.2
comp=E,963nm,10.3s,comp=E,1µm,6.3s
JAHD Aomorihigashid 3.98 360 A A 21 00 47.4
comp=E,3µm,7.5s,comp=E,2µm,9.2s
INU Inuyama 4.01 243 Pn 21 00 52.1 +1.3
INU Inuyama 4.01 243 P Pb 21 00 56.7 -3.0
INU Inuyama 4.01 243 ⇓P Pn 21 00 52.6 +1.9
JYTA Yamagatataniai 4.10 247 A A 21 00 52.8
comp=E,1µm,6.0s,comp=E,1µm,5.8s
JYTA Yamagatataniai 4.10 247 P Pn 21 00 54.0 +2.0
JOT Ohata 4.11 357 A A 21 00 49.3
comp=E,2µm,6.9s,comp=E,1µm,4.0s
JOT Ohata 4.11 357 P Pn 21 00 51.0 -1.1
JICN Ichinomiyachia 4.16 243 A A 21 00 53.6
comp=E,1µm,10.8s,comp=E,2µm,7.2s
JKG Kaga 4.17 258 A A 21 00 53.8
comp=E,851nm,13.3s,comp=E,2µm,6.4s
TTO5 TONAKAI O.B.S 4.24 222 A A 21 00 54.6
comp=E,6µm,4.8s,comp=E,5µm,7.1s
JSR Shiriuchi 4.31 350 A A 21 00 52.5
comp=E,2µm,8.7s,comp=E,2µm,5.4s
JAA Atsumi 4.33 234 A A 21 00 56.0
comp=E,1µm,4.7s,comp=E,1µm,7.9s
JHJ2 Mitsune 4.35 198 Pn 21 00 55.7 +0.4
JHJ2 Mitsune 4.35 198 P Pn 21 00 58.0 +2.7
JHJ2 Mitsune 4.35 198 A A 21 00 55.3
comp=E,2µm,10.6s,comp=E,2µm,10.3s
JHJ2 Mitsune 4.35 198 ⇑P Pn 21 00 56.5 +1.1
JHJ Hachijo jima 2 4.35 198 Pn Pn 21 00 56.3 +0.9
2µm,0.3s,baz=296,slow=22,SNR=50
JHJ Sn Sb 21 01 52.7 -5.6
3µm,0.3s,baz=263,slow=23,SNR=6.7
JOMM Oshimamatsumae 4.37 346 A A 21 00 53.5
comp=E,1µm,10.4s,comp=E,1µm,4.5s
JOMM Oshimamatsumae 4.37 346 P Pn 21 00 55.6 0.0
JHCJ Hachijojimakas 4.39 198 A A 21 00 56.0
comp=E,1µm,8.3s,comp=E,1µm,12.1s
TTO4 TONANKAI O.B.S 4.52 225 A A 21 00 58.5
comp=E,4µm,6.5s,comp=E,3µm,7.0s
JEG Eigenji 4.56 244 A A 21 00 59.3
comp=E,923nm,12.6s,comp=E,1µm,5.4s
JKB Kayabe 4.61 357 A A 21 00 56.4
comp=E,1µm,12.7s,comp=E,968nm,8.5s
JFM Mihama 4.69 250 A A 21 01 01.1
comp=E,909nm,4.4s,comp=E,940nm,4.1s
TTO3 TONANKAI O.B.S 4.70 225 A A 21 01 01.1
comp=E,6µm,7.9s,comp=E,5µm,6.7s
JIE Ise 4.76 234 A A 21 01 02.1
comp=E,1µm,5.1s,comp=E,1µm,4.4s
TSUJ Tsu 2 4.76 239 A A 21 01 02.1
comp=E,1µm,5.7s,comp=E,1µm,4.5s
JYM2 Yakumo 2 4.90 351 A A 21 01 00.6
comp=E,2µm,21.1s,comp=E,1µm,10.5s
ERM Erimo 4.93 16 Pn 21 00 59.5 -3.8
ERM Erimo 4.93 16 P Pn 21 01 03.1 -0.2
ERM Erimo 4.93 16 ⇓P Pn 21 00 59.2 -4.1
ERM Erimo 4.93 16 *i* P Pn 21 01 00.2 -3.1
JEM Erimo 4.93 16 P Pn 21 01 03.4 +0.1
JEM Erimo 4.93 16 A A 21 00 60.0
comp=E,760nm,6.1s,comp=E,622nm,5.7s
JAOM Aogashimamukai 4.98 196 A A 21 01 04.2
comp=E,2µm,9.4s,comp=E,2µm,11.6s
TTO2 TONANKAI O.B.S 5.01 226 A A 21 01 05.4
comp=E,5µm,7.0s,comp=E,5µm,12.8s
JOSM Okushiri--Mats 5.02 344 A A 21 01 02.7
comp=E,1µm,13.8s,comp=E,941nm,15.1s
JNBK Urakawa-nobuka 5.11 12 P Pn 21 01 02.8 -3.0
JKN2 Miekihoku 5.14 235 A A 21 01 07.3
comp=E,782nm,11.3s,comp=E,1µm,4.1s
JNB Noboribetsu 5.19 357 A A 21 01 04.5
comp=E,909nm,14.8s,comp=E,553nm,12.4s
JSHD Hidakashinhida 5.20 9 A A 21 01 04.0
comp=E,1µm,4.4s,comp=E,2µm,4.9s
JWT Wachi 5.22 249 A A 21 01 08.6
comp=E,676nm,4.8s,comp=E,811nm,5.3s
JWT Wachi 5.22 249 P Pn 21 01 09.5 +2.2
JTHR Tokachihiroo 5.22 16 A A 21 01 04.1
comp=E,551nm,7.6s,comp=E,469nm,10.1s
TTO1 TONANKAI O.B.S 5.23 227 A A 21 01 08.5
comp=E,5µm,5.6s,comp=E,5µm,12.7s
JHST Hiyamasetana 5.27 348 A A 21 01 06.0
comp=E,1µm,15.5s,comp=E,1µm,6.0s
JHE Heguri 5.30 242 A A 21 01 09.7
comp=E,1µm,9.0s,comp=E,985nm,13.3s
JKY Yasaka 5.32 254 A A 21 01 09.9
comp=E,570nm,8.8s,comp=E,1µm,6.2s
JIAM Iburiatsuma 5.36 4 A A 21 01 06.4
comp=E,1µm,5.4s,comp=E,2µm,8.5s
JNTK Naraterukawa 5.38 238 A A 21 01 10.7
comp=E,727nm,8.9s,comp=E,946nm,4.8s
JSH Shimam 5.46 350 A A 21 01 08.6
comp=E,978nm,6.9s,comp=E,903nm,14.2s
JCH Churui 5.55 15 A A 21 01 08.6
comp=E,506nm,14.7s,comp=E,450nm,8.8s
JBT2 Biratori 2 5.55 8 A A 21 01 09.0
comp=E,675nm,6.2s,comp=E,451nm,9.7s
JEW Eniwo 5.56 1 A A 21 01 09.5
comp=E,1µm,12.6s,comp=E,925nm,6.9s
JMMH Miemihama 5.56 233 A A 21 01 13.2
comp=E,576nm,8.8s,comp=E,504nm,5.6s
JWY Kouya 5.61 239 A A 21 01 13.9
comp=E,701nm,12.9s,comp=E,998nm,4.5s
JKSM Kasumi 5.67 255 A A 21 01 14.8
comp=E,480nm,9.2s,comp=E,745nm,5.2s
JMIK Miki 5.68 246 A A 21 01 15.0
comp=E,1µm,6.5s,comp=E,881nm,5.6s
JTNC Tanabenakahech 5.83 235 A A 21 01 17.0
comp=E,686nm,4.2s,comp=E,1µm,5.3s
JOB Onbets 5.93 18 A A 21 01 13.9
comp=E,696nm,6.2s,comp=E,678nm,6.6s
JAWN Awajishima-nag 5.95 244 A A 21 01 18.7
comp=E,2µm,7.2s,comp=E,1µm,5.0s
JFR Furan 5.95 9 A A 21 01 14.6
comp=E,443nm,9.3s,comp=E,320nm,5.0s
JWKM Wakayamakushim 5.97 232 A A 21 01 18.9
comp=E,773nm,4.2s,comp=E,725nm,12.5s
JWM Minabe 5.98 237 A A 21 01 19.1
comp=E,725nm,4.5s,comp=E,1µm,4.9s
JISS Ishikarishitsu 5.99 0 A A 21 01 15.5
comp=E,1µm,6.2s,comp=E,1µm,7.0s
JSK Shakotan 6.11 354 A A 21 01 17.5
comp=E,739nm,10.0s,comp=E,383nm,6.4s
JAK Akkeshi 6.25 23 A A 21 01 18.3
comp=E,394nm,15.3s,comp=E,423nm,5.4s
JAB Ashibetsu 6.25 6 A A 21 01 19.0
comp=E,688nm,4.9s,comp=E,522nm,4.1s
JAR Ashorobuto 6.29 16 A A 21 01 19.0
comp=E,416nm,8.2s,comp=E,362nm,4.7s
JJS Sakaide 6.71 247 P Pn 21 01 29.8 +2.1
ASAJ Asahikawa 6.90 7 LR LR 21 04 29.7
comp=Z,795µm,19.9s,baz=208,slow=41
ASAJ Asahikawa 6.90 7 P Pn 21 01 25.8 -4.5
JKA Kamikawa-asahi 6.90 7 Pn 21 01 25.8 -4.5
NMR Nemuro--Hokkai 6.93 27 *e*P Pn 21 01 24.4 -6.4
NMR *i* S Sn 21 02 43.9 -6.2
JHS Saijyo 7.06 254 Pn Pn 21 01 32.4 -0.3
JHS Saijyo 7.06 254 P Pn 21 01 38.1 +5.5
JHS Saijyo 7.06 254 P Pn 21 01 34.5 +1.8
JHS Saijyo 7.06 254 ⇓P Pn 21 01 35.4 +2.8
JMN Monobe 7.06 242 Pn 21 01 33.3 +0.6
JMN Monobe 7.06 242 P Pn 21 01 37.7 +5.0
JMN Monobe 7.06 242 ⇓P Pn 21 01 34.5 +1.7
RUSJ Misakicho 7.43 22 *e*P Pn 21 01 32.9 -4.7
RUSJ *e*S Sn 21 02 52.5 -10
JGT2 ShimaneMisato 7.50 256 P Pn 21 01 41.8 +3.1
YUK Yuzh-Kuril'sk 7.56 25 *e*P Pn 21 01 34.6 -4.8
YUK *i* S Sn 21 02 58.7 -6.8
YUK pmax pmax
comp=Z,5µm,0.5s
YUK pmax pmax
comp=E,5µm,0.7s
YUK pmax pmax
comp=N,2µm,0.3s
JHM Kurahashi 7.85 249 *e*P Pn 21 01 46.5 +3.1
TEY Ternei 8.54 337 ⇑*e*P Pn 21 01 56.7 +3.8
TEY *e*S Sn 21 03 25.3 -4.4
TEY pmax pmax
comp=E,20nm,1.2s
TEY pmax pmax
comp=N,50nm,0.9s
TEY pmax pmax
comp=Z,50nm,0.9s
TEY MLR MLR
comp=E,484µm,12.0s
TEY MLR MLR
comp=N,484µm,13.0s
TEY MLR MLR
comp=Z,890µm,13.0s
KUR Kuril'sk 9.33 30 *e*P Pn 21 02 00.1 -3.6
KUR *e*S Sn 21 03 48.4 -0.5
KUR pmax pmax
comp=N,1µm,0.7s
KUR pmax pmax
comp=E,653nm,0.7s
KUR pmax pmax
comp=Z,3µm,0.7s
KUR smax smax
comp=N,2µm,0.7s
KUR smax smax
comp=E,3µm,0.7s
KUR MLR MLR
comp=Z,416µm,12.0s
KUR MLR MLR
comp=E,462µm,15.0s
KUR MLR MLR
comp=N,244µm,9.0s
MSHR Mys Shultsa 9.47 307 *ce*P Pn 21 02 07.7 +2.1
MSHR pmax pmax
comp=Z,845nm,1.7s
JNU Nakatsue 9.54 247 Pn 21 02 07.3 +0.7
JNU Nakatsue 9.54 247 P Pn 21 02 10.0 +3.4
YSS Yuzh-Sakhalins 9.72 6 Pn 21 02 06.2 -2.8
YSS Yuzh-Sakhalins 9.72 6 P Pn 21 02 09.6 +0.5
YSS Yuzh-Sakhalins 9.72 6 ⇓P Pn 21 02 06.0 -3.1
YSS Yuzh-Sakhalins 9.72 6 *c* *i*P Pn 21 02 07.0 -2.1
YSS *e*S Sn 21 03 50.6 -8.1
YSS pmax pmax
comp=Z,2µm,1.0s
YSS pmax pmax
comp=Z,45µm,8.5s
YSS pmax pmax
comp=N,33µm,6.2s
YSS smax smax
comp=N,77µm,9.2s
YSS smax smax
comp=E,79µm,8.9s
YSS MLR MLR
comp=Z,740µm,17.0s
YSS MLR MLR
comp=N,512µm,16.0s
USA0B Ussuriysk Arra 9.92 317 Pn Pn 21 02 11.7 -0.2
USA0B Ussuriysk Arra 9.92 317 P Pn 21 02 11.7 -0.2
USRK Ussuriysk Ar. 9.92 317 Pn Pn 21 02 15.7 +3.8
comp=N,3.4nm,0.3s,baz=133,slow=12,SNR=61
I45RU USSURIYSK INFR 9.93 317 Pn Pn 21 02 19.8 +7.9
baz=148,slow=22
I45RU I I 21 56 00.0
baz=125,slow=346,SNR=3.0
JTU Tsushima 10.10 258 Pn Pn 21 02 14.1 -0.1
JTU Tsushima 10.10 258 P Pn 21 02 17.3 +3.0
JTU Tsushima 10.10 258 ⇓P Pn 21 02 17.2 +3.0
JCJ Chichijima 10.17 176 Pn Pn 21 02 12.7 -2.7
comp=N,71nm,0.3s,baz=295,slow=23,SNR=36
JCJ Sn Sn 21 04 02.5 -7.3
comp=N,585nm,0.3s,baz=56,slow=21,SNR=5.2
JCJ LR LR 21 06 36.5
comp=N,1111µm,20.4s,baz=352,slow=40
JCJ Chichijima 10.17 176 Pn 21 02 11.9 -3.4
JCJ Chichijima 10.17 176 P Pn 21 02 17.1 +1.8
JCJ Chichijima 10.17 176 ⇑P Pn 21 02 12.2 -3.1
JSU Suzuyama 10.70 241 Pn Pn 21 02 23.8 +1.3
KSRS Korea Array 10.71 275 Pn Pn 21 02 28.8 +6.1
comp=N,2.7nm,0.3s,baz=90,slow=14,SNR=45
KSRS LR LR 21 06 32.1
comp=N,468µm,18.5s,baz=85,slow=38
KSAR Wonju Array Be 10.74 275 Pn Pn 21 02 22.7 -0.4
KSAR Wonju Array Be 10.74 275 P Pn 21 02 22.7 -0.4
TJN Taejon 11.27 270 Pn 21 02 30.4 +0.2
TJN Taejon 11.27 270 *ce*P Pn 21 02 32.4 +2.1
MDJ Mudanjiang 11.53 313 Pn 21 02 34.8 +0.9
MDJ Mudanjiang 11.53 313 P Pn 21 02 38.3 +4.4
MDJ pmax pmax
comp=N,160nm,2.9s
MDJ LR LR
comp=N,713µm,18.6s
MDJ LR LR
comp=N,746µm,21.4s
MDJ LR LR
comp=N,1268µm,20.5s
MDJ Mudanjiang 11.53 313 P Pn 21 02 39.2 +5.3
INCN Inchon 11.73 275 Pn 21 02 37.6 +0.9
INCN Inchon 11.73 275 P Pn 21 02 37.7 +1.0
INCN P Pn 21 02 37.7 +1.0
INCN S Sn 21 04 53.1 +5.0
INCN S Sn 21 04 53.1 +5.0
INCN Inchon 11.73 275 P Pn 21 02 37.6 +0.9
UGL Uglegorsk 11.81 2 *e*P Pn 21 02 35.1 -2.5
UGL *e*S Sn 21 04 56.2 +6.5
UGL pmax pmax
comp=Z,300nm,0.8s
UGL pmax pmax
comp=Z,46µm,12.0s
UGL smax smax
comp=E,89µm,12.0s
UGL smax smax
comp=N,108µm,10.0s
UGL MLR MLR
comp=E,1535µm,17.0s
UGL MLR MLR
comp=N,720µm,15.0s
UGL MLR MLR
comp=Z,643µm,16.0s
PYAG Pyongyang 12.42 283 P Pn 21 02 48.5 +2.5
PYAG sP 21 02 53.4
PYAG S Sn 21 05 10.2 +5.3
PYAG AMS AMS
PYAG AMS AMS
PYAG AMS AMS
HJU Haeju 12.43 278 P Pn 21 02 48.4 +2.2
HJU pP 21 02 50.9

HJU S **Sn** **21 05 10.6 +5.6**
HJU AMS AMS
HJU AMS AMS
HJU AMS AMS
BNX BinXian 13.44 313 ⇓P **Pn** **21 02 59.8 -0.1**
BNX pP P 21 03 03.8 -5.7
BNX sP 21 03 05.8
BNX PP **PnPn** **21 03 11.3 +3.5**
BNX S **Sn** **21 05 34.4 +4.7**
BNX pmax pmax
comp=Z,47μm,9.8s
BNX LR LR
comp=Z,587μm,16.3s
BNX LR LR
comp=Z,638μm,19.5s
BNX LR LR
comp=Z,901μm,21.7s
TYV Tymovskoe 13.61 3 *e*P **Pn** **21 03 06.6 +4.3**
TYV pmax pmax
comp=Z,17μm,5.2s
TYV pmax pmax
comp=Z,1μm,1.1s
TYV MLR MLR
comp=N,954μm,14.0s
TYV MLR MLR
comp=Z,1049μm,14.0s
CN2 Changchun 13.74 303 *e*P **Pn** **21 03 03.8 -0.3**
CN2 *e*PP **P** **21 03 14.8 +1.9**
CN2 *e*S **Sn** **21 05 35.8 -1.3**
CN2 *e*sS S 21 05 41.0 -19
CN2 pmax pmax
comp=Z,57μm,12.0s
CN2 LR LR
comp=Z,801μm,14.0s
CN2 LR LR
comp=Z,743μm,14.0s
CN2 LR LR
comp=Z,673μm,16.0s
KLR Kul'dur 13.84 333 Pn **Pn** **21 03 08.5 +3.2**
comp=Z,0.8nm,0.3s,baz=136,slow=13,SNR=15
KLR LR LR 21 08 19.1
comp=Z,867μm,21.4s,baz=144,slow=37
KLR Kul'dur 13.84 333*ce*P **Pn** **21 03 04.4 -0.9**
KLR pmax pmax
comp=Z,92nm,1.7s
GRNR Gornyy 13.95 347⇑*i*P **Pn** **21 03 06.0 -0.8**
GRNR *e*S **Sn** **21 05 46.2 +4.2**
GRNR pmax pmax
comp=E,6.0nm,0.6s
GRNR pmax pmax
comp=N,20nm,0.7s
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR smax smax
comp=E,10.0nm,0.7s
GRNR MLR MLR
comp=N,447μm,15.0s
GRNR MLR MLR
comp=E,394μm,15.0s
GRNR MLR MLR
comp=Z,684μm,15.0s
SNY Shenyang 14.46 294 ⇑P **Pn** **21 03 15.8 +1.9**
SNY S **Sn** **21 06 03.3 +8.7**
SNY pmax pmax
comp=Z,310nm,2.7s
JOW Kunigami 15.21 231 Pn **Pn** **21 03 22.6 -1.5**
comp=Z,0.5nm,0.3s,baz=48,slow=9.2,SNR=4.7
comp=Z,41nm,0.8s
JOW Kunigami 15.21 231 P **Pn** **21 03 24.0 -0.1**
JOW Kunigami 15.21 231 P **Pn** **21 03 24.5 +0.4**
JOW Kunigami 15.21 231 ⇓P **Pn** **21 03 23.1 -1.0**
DL2 Dalian 15.63 282 P **P** **21 03 33.0 -0.9**
DL2 sP **sP** **21 03 38.8 +3.1**
DL2 S **Sn** **21 06 29.3 +6.1**
DL2 pmax pmax
comp=Z,1μm,1.3s
DL2 pmax pmax
comp=Z,112μm,11.3s
DL2 LR LR
comp=Z,679μm,14.7s
DL2 LR LR
comp=Z,484μm,19.1s
DL2 LR LR
comp=Z,773μm,13.1s
NKL Nikolayevsk 15.88 358 *e*P **Pn** **21 03 32.7 0.0**
NKL *e*S **Sn** **21 06 33.8 +4.8**
NKL pmax pmax
comp=E,46nm,0.8s
NKL pmax pmax
comp=N,171nm,1.4s
NKL pmax pmax
comp=Z,414nm,1.3s
NKL MLR MLR
comp=N,462μm,13.0s
NKL MLR MLR
comp=E,296μm,13.0s
NKL MLR MLR
comp=Z,530μm,13.0s
OKH Okha 16.31 3*c i*P Pn 21 03 29.8 -8.4
OKH *i* S **Sn** **21 06 38.6 -0.8**
OKH pmax pmax
comp=Z,38μm,16.0s
OKH smax smax
comp=N,38μm,15.1s
OKH smax smax
comp=E,42μm,17.1s
OKH MLR MLR
comp=E,1040μm,18.0s
OKH MLR MLR
comp=N,784μm,15.0s
OKH MLR MLR
comp=Z,507μm,16.0s
HEH HeiHe 16.39 327 *e*P **Pn** **21 03 37.0 -2.3**
HEH pP **P** **21 03 40.1 -2.1**
HEH S **Sn** **21 06 37.3 -4.2**
HEH sS S 21 06 41.4 -13
HEH pmax pmax
comp=Z,210nm,1.4s
HEH pmax pmax
comp=Z,108μm,11.2s
HEH LR LR
comp=Z,542μm,18.0s
HEH LR LR
comp=Z,350μm,19.6s
HEH LR LR
comp=Z,801μm,18.6s
SSE Sheshan 17.79 256 P **Pn** **21 03 55.8 -1.2**
SSE S **Sn** **21 07 15.6 0.0**
JMJ Miyako jima 2 18.52 232 P **Pn** **21 04 06.7 +0.7**
ZEA Zeya 19.15 334 *e*P **P** **21 04 09.1 -3.5**
ZEA *e*S Sn 21 07 34.3 -14
ZEA pmax pmax
comp=E,70nm,1.3s
ZEA pmax pmax
comp=N,140nm,1.5s
ZEA pmax pmax
comp=Z,260nm,1.4s
ZEA pmax pmax
comp=E,20μm,9.4s
ZEA pmax pmax
comp=N,26μm,8.1s
ZEA pmax pmax
comp=Z,50μm,11.7s
ZEA smax smax
comp=E,33μm,8.8s
ZEA smax smax
comp=N,87μm,12.8s
ZEA MLR MLR
comp=E,300μm,15.0s
ZEA MLR MLR
comp=N,480μm,13.0s
ZEA MLR MLR
comp=Z,520μm,13.0s
NJ2 Nanjing 19.23 261 ⇓*i*P **P** **21 04 12.3 -1.3**
NJ2 sP **sP** **21 04 19.4 +4.0**
NJ2 PP **PnPn** **21 04 31.9 +4.7**
NJ2 S **Sn** **21 07 47.9 -2.5**
NJ2 sS **sS** **21 07 54.8 +0.9**
NJ2 pmax pmax
comp=Z,5μm,1.1s
NJ2 pmax pmax
comp=Z,76μm,10.7s
NJ2 LR LR
comp=Z,695μm,15.7s
NJ2 LR LR
comp=Z,531μm,12.7s
NJ2 LR LR
comp=Z,697μm,14.7s
TIA Tai'an 19.46 274 P **P** **21 04 15.4 -0.7**
TIA sP sP 21 04 27.5 +10
TIA pmax pmax
comp=Z,42μm,11.1s
TIA LR LR
comp=Z,708μm,16.1s
TIA LR LR
comp=Z,345μm,17.5s
TIA LR LR
comp=Z,967μm,13.7s
PEA0B Petropavlovsk- 19.49 31 P **P** **21 04 13.2 -3.2**
PEA0B Petropavlovsk- 19.49 31*ce*P **P** **21 04 11.8 -4.6**
PETK Petropavlovsk- 19.49 31 P **P** **21 04 16.0 -0.4**
comp=Z,1.9nm,0.3s,baz=215,slow=12,SNR=17
PETK LR LR 21 11 52.4
comp=Z,84μm,18.6s,baz=218,slow=37
comp=Z,66nm,0.9s
HIA Hailar 19.71 314 P **P** **21 04 17.2 -1.6**
HIA Hailar 19.71 314 P **Pn** **21 04 19.6 -0.7**
HIA Hailar 19.71 314 P **P** **21 04 17.2 -1.6**
HIA pmax pmax
comp=Z,271nm,1.3s
PET Petropavlovsk 19.83 32 P **P** **21 04 18.6 -1.4**
PET IAmb IAmb 21 04 30.9
comp=Z,6μm,1.8s
PET Petropavlovsk 19.83 32 P **P** **21 04 20.2 +0.2**
PET Petropavlovsk 19.83 32 ⇓P **P** **21 04 17.7 -2.3**
PET Petropavlovsk 19.83 32*di*P **P** **21 04 18.2 -1.8**
PET *e*S **S** **21 07 53.1 -10**
PET pmax pmax
comp=Z,2μm,1.8s
PET pmax pmax
comp=Z,98μm,6.1s
PET pmax pmax
comp=Z,114μm,13.7s
PET smax smax
comp=N,57μm,8.7s
PET smax smax
comp=N,98μm,11.3s
PET smax smax
comp=E,248μm,11.2s
PET smax smax
comp=E,255μm,9.6s
PET MLR MLR
comp=Z,280μm,17.0s
PET MLR MLR
comp=Z,263μm,17.0s
BJI Beijing 19.86 286 P **P** **21 04 17.4 -3.0**
BJI S **S** **21 07 58.0 -6.4**
BJI pmax pmax
comp=Z,570nm,1.5s
BJI pmax pmax
comp=Z,86μm,11.7s
BJI LR LR
comp=Z,379μm,12.2s
BJI LR LR
comp=Z,272μm,13.3s
BJI LR LR
comp=Z,432μm,13.0s
BJT Baijiatuau 19.86 286 P **P** **21 04 18.7 -1.8**
BJT Baijiatuau 19.86 286 P **P** **21 04 20.7 +0.2**
BJT Baijiatuau 19.86 286 P **P** **21 04 18.7 -1.8**
BJT pmax pmax
comp=Z,2μm,1.9s
YOJ Yonaguni jima 20.24 236 P **P** **21 04 23.7 -1.1**
YOJ Yonaguni jima 20.24 236 P **P** **21 04 24.3 -0.4**
YOJ Yonaguni jima 20.24 236 ⇓P **P** **21 04 20.4 -4.3**
YOJ Yonaguni jima 20.24 236 P **P** **21 04 23.7 -1.1**
YOJ pmax pmax
comp=Z,246nm,0.6s
XLT XiLinHaoTe 20.27 297⇓*i*P **P** **21 04 22.4 -2.7**
XLT pP Pn 21 04 27.0 0.0
XLT sP sP 21 04 29.6 +2.7
XLT PP **PnPn** **21 04 41.6 +0.1**
XLT S **S** **21 08 09.3 -3.6**
XLT sS Sn 21 08 16.3 +0.7
XLT pmax pmax
comp=Z,280nm,1.1s
XLT pmax pmax
comp=Z,16μm,8.5s
XLT LR LR
comp=Z,78μm,16.6s
XLT LR LR
comp=Z,669μm,16.8s
XLT LR LR
comp=Z,790μm,18.3s
TATO Taipei 20.93 240 P **P** **21 04 31.1 -1.2**
TATO Taipei 20.93 240 P **P** **21 04 28.9 -3.3**
TATO P **P** **21 04 28.9 -3.3**
TATO S **S** **21 08 21.2 -4.7**
TATO S **S** **21 08 21.2 -4.7**
TATO Taipei 20.93 240 P **P** **21 04 32.1 -0.1**
HNS HongShan 21.18 278 ⇓P **P** **21 04 31.1 -3.8**
HNS S **S** **21 08 24.6 -6.2**
HNS pmax pmax
comp=Z,190nm,0.9s
HNS LR LR
comp=Z,232μm,11.6s
HNS LR LR
comp=Z,994μm,12.6s
HNS LR LR
comp=Z,890μm,12.6s
YHNB Yeheng 21.21 239 P **P** **21 04 33.4 -1.9**
YHNB IAMs_20 IAMs_20 21 13 10.5
comp=Z,385μm,20.0s
YHNB Yeheng 21.21 239 P **P** **21 04 33.7 -1.6**
NACB Ninganchiao 21.39 238 P **P** **21 04 35.2 -1.9**
NACB Ninganchiao 21.39 238 P **P** **21 04 36.6 -0.5**
SSLB Suanglung 22.08 238 P **P** **21 04 41.1 -3.5**
SSLB IAMs_20 IAMs_20 21 13 37.7
comp=Z,421μm,22.0s
SSLB Suanglung 22.08 238 P **P** **21 04 43.6 -1.0**
YULB Yu-li 22.11 237 P **P** **21 04 40.9 -4.1**
TPUB Ta-pu 22.63 238 P **P** **21 04 46.9 -3.6**
TPUB IAMs_20 IAMs_20 21 14 17.0
comp=Z,385μm,20.0s
TWG Pinlang 22.66 236 P **P** **21 04 47.2 -3.6**
TIY Taiyuan 22.93 280 ⇓P **P** **21 04 50.3 -3.4**
TIY S **S** **21 09 01.1 -3.2**
TIY pmax pmax
comp=Z,53μm,9.8s
TIY LR LR
comp=Z,185μm,12.7s
TIY LR LR
comp=Z,695μm,10.8s
TIY LR LR
comp=Z,1040μm,12.9s
QZH Quanzhou 22.99 244⇓*i*P **P** **21 04 50.5 -3.7**
QZH sP **sP** **21 04 57.3 +1.2**
QZH S **S** **21 08 58.5 -6.8**
QZH pmax pmax
comp=Z,360nm,0.8s
QZH pmax pmax
comp=Z,26μm,10.0s
QZH LR LR
comp=Z,321μm,18.0s
QZH LR LR
comp=Z,347μm,17.1s
QZH LR LR
comp=Z,244μm,15.6s
MA2 Magadan 23.12 12 P **P** **21 04 53.1 -2.2**
comp=Z,100nm,0.7s,baz=195,slow=8.7,SNR=27
MA2 S **S** **21 09 05.1 -2.0**
comp=Z,38nm,1.0s,baz=157,slow=22,SNR=1.4
MA2 LR LR 21 13 53.0
comp=Z,178μm,20.4s,baz=204,slow=37
comp=Z,100nm,0.7s
MA2 Magadan 23.12 12 P **P** **21 04 53.5 -1.9**
MA2 IAMs_20 IAMs_20 21 15 14.0
comp=Z,275μm,18.0s
MA2 Magadan 23.12 12 P **P** **21 04 55.6 +0.3**
MA2 Magadan 23.12 12 ⇑P **P** **21 04 53.5 -1.9**
MA2 Magadan 23.12 12*ce*P **P** **21 04 54.6 -0.7**
MA2 pmax pmax
comp=Z,657nm,1.3s
WHN Wuhan 23.37 261 ⇑P **P** **21 04 57.8 -0.2**
WHN sP **sP** **21 05 03.3 +3.4**
WHN S **S** **21 09 11.1 -0.4**
WHN pmax pmax
comp=Z,2μm,1.5s
WHN LR LR
comp=Z,1190μm,14.0s
WHN LR LR
comp=Z,1536μm,15.2s
WHN LR LR
comp=Z,1567μm,16.7s
HHC Hu-ho-hao-te 23.37 288 *e*P **P** **21 04 53.4 -4.7**
HHC S **S** **21 09 05.9 -5.8**
HHC SS Sn 21 10 01.8 +32
HHC pmax pmax
comp=Z,50nm,1.1s
HHC pmax pmax
comp=Z,48μm,9.5s
HHC LR LR
comp=N,376μm,10.8s
HHC LR LR
comp=E,618μm,10.8s
HHC LR LR
comp=Z,686μm,12.1s
HHC Hu-ho-hao-te 23.37 288 *e*P **P** **21 04 54.6 -3.5**
HHC S **S** **21 09 01.8 -10**
HHC pmax pmax
comp=Z,84nm,1.0s
HHC LR LR
comp=Z,378μm,10.5s
HHC LR LR
comp=Z,606μm,10.2s
HHC LR LR
comp=Z,680μm,11.5s
KNMB Chin-men Tao 23.43 244 P **P** **21 04 55.9 -2.9**
KNMB IAMs_20 IAMs_20 21 15 29.1
comp=Z,301μm,18.0s
LYN LuoYang 23.53 272 ⇑P **P** **21 04 56.1 -3.6**
LYN pP pP 21 05 01.0 0.0
LYN S **S** **21 09 04.4 -10**
LYN LR LR
comp=Z,901μm,16.1s
LYN LR LR
comp=Z,498μm,17.1s
LYN LR LR
comp=Z,976μm,14.1s
GUMO Guam 23.80 172 P **P** **21 04 59.6 -2.8**
comp=Z,188nm,1.0s,baz=38,slow=18,SNR=3.6
GUMO LR LR 21 12 45.7
comp=Z,218μm,21.4s,baz=26,slow=33
GUMO Guam 23.80 172 P **P** **21 05 01.8 -0.5**
GUMO Guam 23.80 172 P **P** **21 05 06.7 +4.4**
GUMO Guam 23.80 172 ⇓P **P** **21 04 59.1 -3.3**
GUMO Guam 23.80 172 P **P** **21 05 01.8 -0.5**
GUMO pmax pmax
comp=Z,4μm,1.1s
CIT Chita 24.48 316 *e*P **P** **21 05 07.4 -1.2**
CIT *e* 21 05 42.8
CIT *e*S **S** **21 09 26.0 -3.2**
CIT pmax pmax
comp=Z,9μm,2.1s
BTO Baotou 24.55 288 *e*P **P** **21 05 07.8 -1.6**
BTO S **S** **21 09 30.6 0.0**
CICP Calayan Island 24.99 230⇑*e*P **P** **21 05 13.2 -0.1**
CNSH ChangSha 25.51 257 ⇑P **P** **21 05 17.3 -0.7**
CNSH S **S** **21 09 47.6 +1.6**
CNSH pmax pmax
comp=Z,480nm,1.2s
CNSH LR LR
comp=Z,671μm,15.4s
CNSH LR LR
comp=Z,443μm,15.8s
CNSH LR LR
comp=Z,573μm,15.4s
PACPP Pamplona Cagay 25.69 229⇓*e*P **P** **21 05 20.1 +0.4**
YAK Yakutsk 25.83 347 P **P** **21 05 18.6 -1.9**
comp=Z,96nm,0.6s,baz=152,slow=3.3,SNR=74
YAK S **S** **21 09 50.2 -0.1**
comp=Z,29nm,0.8s,baz=286,slow=21,SNR=0.8
YAK LR LR 21 15 50.5
comp=Z,531μm,21.2s,baz=155,slow=37
YAK P3KPbc 21 38 20.8
comp=Z,2.2nm,0.3s,baz=327,slow=18,SNR=4.3
comp=Z,96nm,0.6s
YAK Yakutsk 25.83 347 P **P** **21 05 18.2 -2.4**
YAK Yakutsk 25.83 347 ⇓P **P** **21 05 17.6 -3.0**
YAK Yakutsk 25.83 347 *e*P **P** **21 05 19.0 -1.5**
YAK *e* 21 06 02.3
YAK *e*S **S** **21 09 53.7 +3.4**
YAK *e*SSS SSS 21 10 52.7
YAK pmax pmax
comp=Z,2μm,1.0s
YAK pmax pmax
comp=N,791nm,1.4s
YAK pmax pmax
comp=E,148nm,0.9s
YAK pmax pmax
comp=Z,1μm,0.9s
YAK pmax pmax
comp=E,548nm,1.3s
YAK pmax pmax
comp=N,3μm,1.8s
YAK smax smax
comp=E,5μm,1.6s
YAK smax smax
comp=N,30μm,3.3s
YAK MLR MLR
comp=Z,748μm,13.0s
YAK MLR MLR
comp=N,566μm,14.0s
YAK MLR MLR
comp=E,129μm,13.0s
XAN Xi'an 26.50 273 ⇓P **P** **21 05 24.0 -3.0**
XAN pP sP 21 05 31.9 +3.0
XAN sP pP 21 05 36.0 +7.7
XAN S **S** **21 10 01.3 -0.3**
XAN pmax pmax
comp=E,66nm,1.5s
XAN pmax pmax
comp=E,40μm,7.3s
XAN LR LR
comp=E,1081μm,17.1s
XAN LR LR
comp=E,492μm,16.5s
XAN LR LR
comp=E,418μm,16.2s
SEY Seymchan 26.56 11 P **P** **21 05 27.1 -0.1**
comp=E,226nm,1.0s,baz=194,slow=7.3,SNR=39
SEY S **S** **21 10 08.9 +7.0**
comp=E,50nm,1.1s,baz=316,slow=21,SNR=1.5
SEY LR LR 21 17 23.9
comp=E,163μm,19.6s,baz=201,slow=40
comp=E,226nm,1.0s
SEY Seymchan 26.56 11*ce*P **P** **21 05 25.8 -1.4**
SEY pmax pmax
comp=Z,501nm,1.3s
SEY MLR MLR
comp=Z,195μm,15.0s
ULN Ulaanbaatar 27.19 304 P **P** **21 05 31.6 -1.7**
ULN Ulaanbaatar 27.19 304 IAMs_20 IAMs_20 21 16 50.2
comp=Z,229μm,18.0s
ULN Ulaanbaatar 27.19 304 P **P** **21 05 34.3 +1.0**
ULN P **P** **21 05 34.3 +1.0**
ULN S **S** **21 10 15.1 +2.5**
ULN S **S** **21 10 15.1 +2.5**
ULN Ulaanbaatar 27.19 304 ⇑P **P** **21 05 31.0 -2.3**
ULN Ulaanbaatar 27.19 304*ce*P **P** **21 05 31.3 -2.0**
ULN pmax pmax
comp=Z,60nm,0.8s
ULN MLR MLR
comp=Z,440μm,16.0s
BOD Bodaibo 27.31 328 *e*P **P** **21 05 33.7 -0.3**
BOD pmax pmax
comp=Z,1μm,2.1s
ENH Enshi 27.32 265 P **P** **21 05 32.4 -2.1**
ENH IAmb IAmb 21 06 02.6
comp=Z,816nm,0.9s
ENH Enshi 27.32 265 P **P** **21 05 33.4 -1.1**
SHEM Shemya Is, Ala 27.52 45 P **P** **21 05 40.8 +4.9**
comp=Z,669nm,1.1s,baz=24,slow=5.0,SNR=11
SHEM S S 21 10 36.8 +20
comp=Z,86nm,0.9s,baz=272,slow=21,SNR=1.7
SMY Shemya 27.52 45 P **P** **21 05 34.8 -1.1**
SMY Shemya 27.52 45 P **P** **21 05 34.8 -1.1**
SMY pmax pmax
comp=Z,5μm,1.8s
SONM Songino Array 27.62 304 P **P** **21 05 36.1 -1.0**
comp=Z,92nm,0.8s,baz=100,slow=8.6,SNR=117
SONM S **S** **21 10 20.5 +1.1**
comp=Z,6.2nm,0.8s,baz=13,slow=40,SNR=1.4
SONM LR LR 21 16 56.4
comp=Z,197μm,20.7s,baz=102,slow=37
SONM P3KPbc 21 38 14.1
comp=Z,2.6nm,1.0s,baz=260,slow=4.8,SNR=7.6

comp=Z,92nm,0.8s
SONM Songino Array 27.62 304 P P 21 05 35.0 -2.2
HKC Hong Kong Obse 27.80 245 ⇑P P 21 05 39.0 +0.3
HKPS Hong Kong Po S 27.84 245 P P 21 05 37.4 -1.7
HKPS Hong Kong Po S 27.84 245 IAMs_20 IAMs_20 21 18 22.8
comp=Z,287µm,20.0s
HKPS Hong Kong Po S 27.84 245 P P 21 05 43.8 +4.7
PCPH Palayan 28.12 225⇑*eP* P 21 05 41.3 -0.3
H11N2 WAKE ISLAND Hy 28.30 121 P P 21 05 48.6 +5.7
baz=279,slow=12,SNR=8.9
H11N2 T T 21 35 18.5
baz=314,slow=76,SNR=3275
H11N1 WAKE ISLAND Hy 28.31 121 P P 21 05 46.9 +3.9
baz=279,slow=12,SNR=6.0
H11N1 T T 21 35 19.8
baz=314,slow=76,SNR=3551
H11N3 WAKE ISLAND Hy 28.32 121 P P 21 05 48.8 +5.7
baz=279,slow=12,SNR=5.7
H11N3 T T 21 35 20.6
baz=314,slow=76,SNR=3618
WAKE Wake Island 28.44 122 P P 21 05 44.0 -0.4
WAKE Wake Island 28.44 122 IAMs_20 IAMs_20 21 14 57.4
comp=Z,302µm,21.0s
WAKE Wake Island 28.44 122 P P 21 05 48.5 +4.1
GQP Guinayangan 28.75 221⇑*eP* P 21 05 47.3 +0.1
GULI GuiLin 28.94 255 P P 21 05 44.8 -4.1
GULI S **S 21 10 38.3 -1.8**
GULI pmax pmax
comp=Z,10µm,1.9s
GULI LR LR
comp=Z,581µm,19.2s
GULI LR LR
comp=Z,407µm,19.5s
GULI LR LR
comp=Z,373µm,12.8s
H11S1 WAKE ISLAND Hy 29.02 123 T T 21 36 52.7
SNR=4309
H11S3 WAKE ISLAND Hy 29.02 123 T T 21 36 17.0
baz=256,slow=74,SNR=3710
H11S2 WAKE ISLAND Hy 29.03 123 T T 21 36 04.8
baz=313,slow=74,SNR=3826
LQP Lukban 29.06 223⇑*eP* P 21 05 53.0 +2.8
IRK Irkutsk 29.91 312 *eP* P 21 06 00.5 +3.2
IRK pmax pmax
comp=Z,2µm,2.5s
LZH Lanzhou 30.00 279 ⇑P P 21 05 57.4 -1.0
LZH pP sP 21 06 02.1 +1.8
LZH sP pP 21 06 03.8 +4.1
LZH PP **PP 21 06 58.8 -7.1**
LZH S **S 21 10 52.4 -4.5**
LZH pmax pmax
comp=Z,630nm,1.6s
LZH pmax pmax
comp=Z,22µm,6.2s
LZH LR LR
comp=Z,466µm,16.1s
LZH LR LR
comp=Z,385µm,14.8s
LZH LR LR
comp=Z,560µm,14.8s
LUBP Lubang 30.08 224⇓*eP* P 21 05 55.1 -3.9
ZAK Zakamensk 30.10 308 *eP* P 21 05 59.1 +0.1
ZAK pmax pmax
comp=Z,383nm,1.4s
AMKA Amchitka 30.20 50 P P 21 05 55.8 -4.0
GYA Guiyang 31.23 260⇓*iP* P 21 06 08.0 -1.3
GYA pP sP 21 06 14.9 +3.7
GYA S **S 21 11 15.4 -0.9**
GYA pmax pmax
comp=Z,450nm,1.2s
GYA pmax pmax
comp=Z,22µm,6.7s
GYA LR LR
comp=Z,395µm,15.2s
GYA LR LR
comp=Z,535µm,15.0s
GYA LR LR
comp=Z,535µm,15.3s
CD2 Chengdu 31.64 270 P P 21 06 12.5 -0.3
CD2 pP sP 21 06 15.9 +1.2
CD2 S **S 21 11 21.6 -1.0**
CD2 pmax pmax
comp=Z,200nm,0.8s
CD2 pmax pmax
comp=Z,25µm,8.6s
CD2 LR LR
comp=Z,257µm,12.3s
CD2 LR LR
comp=Z,317µm,13.3s
CD2 LR LR
comp=Z,448µm,12.9s
TBP Tagbilaran 31.70 214⇓*eP* P 21 06 11.2 -2.0
MOY Mondy 31.76 310 *eP* P 21 06 14.6 +0.9
MOY pmax pmax
comp=Z,2µm,2.4s
CGP Cagayan de Oro 32.44 212⇓*eP* P 21 06 19.2 -0.5
KIWB Kanaga Island 32.46 50 P P 21 06 16.6 -3.1
GTA Gaotai 32.46 287 ⇓P P 21 06 17.8 -2.2
GTA pP sP 21 06 23.4 +1.5
GTA sP pP 21 06 27.3 +5.9
GTA PcP **PcP 21 09 10.6 +3.5**
GTA S **S 21 11 28.3 -7.1**
GTA sS sS 21 11 43.5 +5.9
GTA SS **SnSn 21 13 24.5 -3.4**
GTA pmax pmax
comp=Z,170nm,0.7s
GTA pmax pmax
comp=Z,26µm,10.5s
GTA LR LR
comp=Z,436µm,19.3s
GTA LR LR
comp=Z,221µm,22.5s
GTA LR LR
comp=Z,377µm,24.7s
ADK Adak 32.75 50 P P 21 06 21.4 -0.8
ADK IAmb IAmb 21 06 32.6
comp=Z,852nm,1.4s
ADK Adak 32.75 50 P P 21 06 22.7 +0.5
ADK Adak 32.75 50 P P 21 06 21.4 -0.8
ADK pmax pmax
comp=Z,853nm,1.4s
ADK MLR MLR
comp=Z,98µm,18.0s
DCPH Dipolog City 32.91 214⇓*eP* P 21 06 27.6 +3.7
QIZ Qiongzhong 33.00 245 P P 21 06 23.1 -1.7
QIZ IAmb IAmb 21 06 38.2
comp=Z,954nm,1.7s
QIZ Qiongzhong 33.00 245 P P 21 06 25.4 +0.7
QIZ PP **PP 21 07 40.0 +0.7**
QIZ S **S 21 11 45.1 +1.3**
QIZ pmax pmax
comp=Z,61nm,1.1s
QIZ pmax pmax
comp=Z,24µm,8.4s
QIZ LR LR
comp=Z,383µm,18.4s
QIZ LR LR
comp=Z,373µm,17.7s
QIZ LR LR
comp=Z,176µm,13.8s
QIZ Qiongzhong 33.00 245 P P 21 06 27.3 +2.6
DAV Davao City (W) 33.33 209 P P 21 06 26.7 -0.9
comp=Z,216nm,0.5s,baz=6.4,slow=4.0,SNR=5.5
DAV LR LR 21 21 45.7
comp=Z,109µm,18.1s,baz=41,slow=40
comp=Z,216nm,0.5s
DAV Davao City (W) 33.33 209 P P 21 06 27.3 -0.3
DAV Davao City (W) 33.33 209 P P 21 06 23.4 -4.2
DAV P P 21 06 23.4 -4.2
DAV Davao City (W) 33.33 209 P P 21 06 34.6 +7.0
DAV Davao City (W) 33.33 209 P P 21 06 32.4 +4.8
CTBH Cotabato--PC H 33.73 212⇑*iP* P 21 06 32.3 +1.2
KNGR Kungurtug, Tuv 33.77 307 *i* P P 21 06 30.9 -0.4
KNGR pmax pmax
comp=Z,516nm,1.2s
KNGR MLR MLR
comp=Z,164µm,14.0s
BILL Bilibino 33.80 17 P P 21 06 30.0 -1.3
BILL IAmb IAmb 21 06 42.4
comp=Z,2µm,2.0s
BILL Bilibino 33.80 17*de*P P 21 06 29.3 -1.9
BILL *e* 21 07 43.5
BILL *i* S **S 21 11 54.2 -1.1**
BILL *e*SS **SS 21 14 22.1 +1.2**
BILL pmax pmax
comp=Z,95nm,1.3s
BILL MLR MLR
comp=Z,170µm,14.0s
PATS Pohnpei 34.00 149 P P 21 06 32.9 -0.5
PATS IAmb IAmb 21 06 47.1
comp=Z,946nm,1.1s
PATS Pohnpei 34.00 149 P P 21 06 37.3 +3.9
PPR Puerto Princes 34.17 223⇓*eP* P 21 06 35.8 +0.9
ZCP Zamboanga City 34.94 215⇑*eP* P 21 06 42.3 +0.7
KMI Kunming 34.97 261 ⇓P P 21 06 40.3 -1.8
KMI pP sP 21 06 44.8 +0.8
KMI sP pP 21 06 47.4 +4.0
KMI PcP **PcP 21 09 15.1 +0.6**
KMI S S 21 12 04.1 -11
KMI pmax pmax
comp=Z,580nm,1.3s
KMI pmax pmax
comp=Z,19µm,7.3s
KMI LR LR
comp=Z,578µm,20.4s
KMI LR LR
comp=Z,286µm,20.4s
KMI LR LR
comp=Z,502µm,15.1s
TIXI Tiksi 35.05 353 S **S 21 12 16.8 +2.4**
comp=Z,24nm,1.1s,baz=191,slow=0.0,SNR=1.8
TIXI LR LR 21 21 06.6
comp=Z,301µm,19.1s,baz=221,slow=37
TIXI Tiksi 35.05 353 P **P 21 06 38.4 -3.5**
TIXI Tiksi 35.05 353 P **P 21 06 38.4 -3.5**
TIXI pmax pmax
comp=Z,490nm,1.0s
TIXI MLR MLR
comp=Z,310µm,19.0s
PZH PanZhiHua 35.10 264 P **P 21 06 41.4 -1.7**
PZH sP **sP 21 06 49.5 +4.5**
PZH PP **PP 21 08 06.3 +3.8**
PZH S **S 21 12 12.1 -4.3**
PZH sS **sS 21 12 20.3 +1.7**
PZH ScP **ScP 21 13 00.9 -0.1**
PZH SS **SnSn 21 14 30.0 -2.1**
PZH ScS **ScS 21 17 06.8 +1.7**
PZH pmax pmax
comp=Z,500nm,0.8s
PZH pmax pmax
comp=Z,21µm,8.0s
PZH LR LR
comp=Z,568µm,17.2s
PZH LR LR
comp=Z,340µm,17.2s
PZH LR LR
comp=Z,355µm,14.3s
MIDW Midway 35.62 92 P **P 21 06 44.7 -2.7**
MIDW IAmb IAmb 21 06 54.4
comp=Z,2µm,1.9s
SGSI Sangihe 36.46 207 P **P 21 06 56.2 +1.6**
comp=Z,4µmcomp=Z,15µmcomp=Z,1µm,0.8s
KWAJ Kwajalein Atol 36.98 133 P **P 21 06 59.6 +0.5**
KWAJ IAmb IAmb 21 07 53.7
comp=Z,2µm,1.6s
KWAJ Kwajalein Atol 36.98 133 IAMs_20 IAMs_20 21 19 20.7
comp=Z,139µm,20.0s
KWAJ Kwajalein Atol 36.98 133 P **P 21 07 02.0 +2.9**
KWAJ Kwajalein Atol 36.98 133 P **P 21 06 59.6 +0.5**
KWAJ pmax pmax
comp=Z,2µm,1.6s
KWAJ MLR MLR
comp=Z,139µm,20.0s
GOMU GeErMu 37.04 283 P **P 21 06 59.0 -0.9**
GOMU PcP **PcP 21 09 23.3 +2.6**
GOMU S **S 21 12 39.6 -6.8**
GOMU pmax pmax
comp=Z,270nm,1.1s
GOMU LR LR
comp=Z,146µm,15.0s
GOMU LR LR
comp=Z,298µm,13.5s
GOMU LR LR
comp=Z,295µm,13.3s
SPIA Saint Paul Isl 37.41 42 P **P 21 07 00.5 -1.8**
SPIA Saint Paul Isl 37.41 42 P **P 21 06 59.3 -3.0**
baz=259
SPIA S **S 21 12 55.8 +5.1**
baz=259
SPIA Saint Paul Isl 37.41 42 P **P 21 07 03.8 +1.5**
GAMI Galela, Maluku 37.42 203 P **P 21 07 03.9 +1.1**
comp=Z,122µmcomp=Z,53µmcomp=Z,1µm,1.3s
NIKH Nikolski High 37.64 49 P **P 21 07 02.4 -1.9**
NIKH Nikolski High 37.64 49 P **P 21 07 00.3 -4.0**
baz=266
NIKH Nikolski High 37.64 49 P **P 21 07 03.3 -1.0**
MYLDM Lahad Datu 38.18 219 P **P 21 07 09.1 -0.1**
MYLDM IAMs_20 IAMs_20 21 20 56.2
comp=Z,213µm,20.0s
MYLDM Lahad Datu 38.18 219 P **P 21 07 11.4 +2.2**
comp=Z,167µmcomp=Z,51µmcomp=Z,3µm,1.1s
MYLDM Lahad Datu 38.18 219 ⇓P P 21 07 10.4 +1.1
TNCH TengChong 38.35 264 ⇓P P 21 07 10.6 -0.3
TNCH pP sP 21 07 15.3 +2.5
TNCH sP pP 21 07 17.1 +4.9
TNCH S **S 21 12 58.9 -7.3**
TNCH sS ScP 21 13 11.5 -1.7
TNCH pmax pmax
comp=Z,680nm,1.6s
TNCH pmax pmax
comp=Z,22µm,7.2s
TNCH LR LR
comp=Z,300µm,16.1s
TNCH LR LR
comp=Z,147µm,15.1s
TNCH LR LR
comp=Z,196µm,16.4s
GAMB Gambell 38.52 31 P **P 21 07 10.7 -0.9**
GAMB Gambell 38.52 31 P **P 21 07 09.7 -1.9**
baz=249
GAMB S **S 21 13 11.6 +4.1**
baz=249
NONG Nongkai 38.56 251 P **P 21 07 12.5 +0.1**
comp=Z,2µm,1.0s
TNTI Ternate 38.56 203 P **P 21 07 11.7 -0.7**
TNTI Ternate 38.56 203 P **P 21 07 13.5 +1.1**
comp=Z,87µmcomp=Z,55µmcomp=Z,2µm,2.1s
TNTI Ternate 38.56 203 P **P 21 07 14.2 +1.8**
UBPT Khong Chiam 38.60 245 P **P 21 07 12.3 -0.5**
UBPT IAmb IAmb 21 07 36.7
comp=Z,2µm,1.5s
UBPT Khong Chiam 38.60 245 P **P 21 07 13.2 +0.4**
comp=Z,25µmcomp=Z,984nm,1.6s
UBPT Khong Chiam 38.60 245 P **P 21 07 13.9 +1.1**
UBPT Khong Chiam 38.60 245 ⇑P P 21 07 11.5 -1.3
MWPI Manokwari, Pap 38.62 192 P **P 21 07 14.9 +2.0**
comp=Z,66µmcomp=Z,905nm,2.5s
KKM Kota Kinabalu 38.64 223 P **P 21 07 13.9 +0.7**
KKM IAmb IAmb 21 07 40.4
comp=Z,3µm,1.7s
KKM Kota Kinabalu 38.64 223 P **P 21 07 15.2 +2.0**
comp=Z,119µmcomp=Z,35µmcomp=Z,703nm,1.1s
KKM Kota Kinabalu 38.64 223 P **P 21 07 15.9 +2.7**
KKM Kota Kinabalu 38.64 223 ⇓P P 21 07 13.2 0.0
DLV T Lat 38.78 238 P **P 21 07 15.4 +0.8**
DLV T Lat 38.78 238 ⇑P P 21 07 14.2 -0.3
SIJI Sorong 39.09 196 P **P 21 07 16.8 -0.1**
comp=Z,72nm,0.8s,baz=31,slow=5.5,SNR=33
SIJI S **S 21 13 18.2 +1.1**
comp=Z,8.8nm,0.9s,baz=277,slow=22,SNR=1.3
SIJI LR LR 21 20 46.2
comp=Z,239µm,20.8s,baz=16,slow=32
comp=Z,72nm,0.8s
SIJI Sorong 39.09 196 P **P 21 07 16.9 0.0**
comp=Z,141µmcomp=Z,48µmcomp=Z,673nm,1.5s
UNV Unalaska Valle 39.10 48 P **P 21 07 14.8 -1.7**
UNV Unalaska Valle 39.10 48 P **P 21 07 14.9 -1.7**
baz=267
SMPI Sarmi 39.15 184 P **P 21 07 18.1 +0.8**
comp=Z,74µmcomp=Z,1µm,1.2s
RKPI Ransiki, Papua 39.16 191 P **P 21 07 19.0 +1.5**
comp=Z,150µmcomp=Z,47µmcomp=Z,516nm,1.0s
SRPI Serui, Papua 39.24 188 P **P 21 07 22.4 +4.3**
comp=Z,105µmcomp=Z,29µmcomp=Z,481nm,1.1s
LKP Lekhapani 39.41 269 *eP* P 21 07 19.6 0.0
LKP IAmb IAmb 21 07 32.0
comp=Z,3µm,0.6s
MANU Manus Island 39.51 171 P **P 21 07 19.4 -1.0**
SPMM Sapulut 39.62 221 P **P 21 07 22.0 +0.6**
GENI Genyem 39.68 182 P **P 21 07 23.5 +1.7**
comp=Z,206µmcomp=Z,80µmcomp=Z,2µm,1.4s
GENI Genyem 39.68 182 P **P 21 07 23.3 +1.5**
LBMI Labuha 39.85 202 P **P 21 07 24.6 +1.4**
comp=Z,142µmcomp=Z,75µmcomp=Z,1µm,1.3s
GTOI Gorontalo 40.21 209 P **P 21 07 25.8 -0.4**
comp=Z,58µmcomp=Z,29µmcomp=Z,2µm,1.3s
PHRA Phrae 40.52 254 P **P 21 07 27.9 -0.9**
TNA Tin City 40.66 30 P **P 21 07 28.6 -0.8**
TNA IAmb IAmb 21 07 44.6
comp=Z,847nm,1.0s
TNA Tin City 40.66 30 P **P 21 07 28.3 -1.1**
baz=251,SNR=50
TNA S **S 21 13 42.4 +2.9**
baz=251
TNA Tin City 40.66 30 ⇓P P 21 07 28.3 -1.1
TOLI2 Tolitoli 40.70 213 P **P 21 07 29.6 -0.6**
TOLI2 IAmb IAmb 21 07 43.9
comp=Z,2µm,1.1s
TOLI2 Tolitoli 40.70 213 P **P 21 07 30.8 +0.6**
WMQ Urumqi 40.70 297 *eP* P 21 07 30.8 +0.6
WMQ sP sP 21 07 41.0 +8.9
WMQ PP **PP 21 09 04.3 +0.6**
WMQ S **S 21 13 39.8 -1.1**
WMQ sS sS 21 13 46.3 +3.1
WMQ pmax pmax
comp=Z,160nm,1.3s
WMQ pmax pmax
comp=Z,44µm,5.3s
WMQ LR LR
comp=Z,391µm,18.1s
WMQ LR LR
comp=Z,126µm,19.1s
WMQ LR LR
comp=Z,213µm,22.3s
MRSI Marisa 40.78 211 P **P 21 07 31.4 +0.5**
comp=Z,143µmcomp=Z,78µmcomp=Z,4µm,1.3s
FAKI Fak Fak 40.88 194 P **P 21 07 31.2 -0.5**
FAKI IAMs_20 IAMs_20 21 21 33.1
comp=Z,201µm,21.0s
FAKI Fak Fak 40.88 194 P **P 21 07 31.5 -0.2**
comp=Z,172µmcomp=Z,50µmcomp=Z,758nm,1.2s
FAKI Fak Fak 40.88 194 P **P 21 07 32.4 +0.7**
ZIRO ZIRO 40.92 270 *eP* P 21 07 31.4 -0.9
ZIRO IAmb IAmb 21 07 44.6
comp=Z,1µm,0.8s
MOKO MOKOCHONG 40.93 268 *eP* P 21 07 32.4 +0.1
MOKO IAmb IAmb 21 07 53.3
comp=Z,9µm,1.7s
JORH JORHAT 40.95 269 *eP* P 21 07 34.0 +1.7
JORH IAmb IAmb 21 07 47.2
comp=Z,2µm,0.8s
FALS False Pass 40.95 46 P **P 21 07 32.2 +0.2**
baz=268
ITAN ITANAGAR 41.19 270 *eP* P 21 07 34.7 +0.4
ITAN IAmb IAmb 21 07 55.6
comp=Z,4µm,1.0s
CHTO Chiang Mai 41.32 255 P **P 21 07 34.6 -0.8**
CHTO Chiang Mai 41.32 255 P **P 21 07 34.6 -0.8**
CHTO pmax pmax
comp=Z,722nm,1.6s
CHTO MLR MLR
comp=Z,218µm,18.0s
ANM Nome 41.41 32 P **P 21 07 34.6 -1.0**
ANM IAmb IAmb 21 07 51.7
comp=Z,2µm,1.8s
ANM Nome 41.41 32 P **P 21 07 34.1 -1.4**
baz=255,SNR=17
ANM S **S 21 13 56.0 +5.3**
baz=255
ANM Nome 41.41 32 P **P 21 07 34.6 -1.0**
ANM pmax pmax
comp=Z,2µm,1.8s
ANM MLR MLR
comp=Z,99µm,19.0s
CM31 Chiang Mai Arr 41.53 255 P **P 21 07 37.1 -0.1**
CMAR Chiang Mai Arr 41.53 255 P **P 21 07 37.4 +0.2**
comp=Z,8.1nm,0.7s,baz=45,slow=7.1,SNR=40
CMAR PcP **PcP 21 09 39.1 +4.4**
comp=Z,35nm,0.9s,baz=20,slow=1.8,SNR=6.0
CMAR LR LR 21 26 22.3
comp=Z,135µm,18.2s,baz=50,slow=38
comp=Z,8.1nm,0.7s
CMAR Chiang Mai Arr 41.53 255 P **P 21 07 36.2 -0.9**
CMAR Chiang Mai Arr 41.53 255 P **P 21 07 36.2 -0.9**
KOHI KOHIMA 41.53 268 *eP* P 21 07 37.0 -0.3
KOHI IAmb IAmb 21 08 09.4
comp=Z,916nm,1.1s
SANI Sanana 41.65 204 P **P 21 07 37.0 -1.1**
comp=Z,146µmcomp=Z,56µmcomp=Z,2µm,1.7s
SANI Sanana 41.65 204 P **P 21 07 37.7 -0.4**
ZAA0 Zalesovo Array 41.73 312 P **P 21 07 36.8 -1.5**
ZAA0 IAmb IAmb 21 07 52.6
comp=Z,971nm,0.9s
ZALV Zalesovo Beam 41.73 312 P **P 21 07 36.5 -1.9**
comp=Z,164nm,0.8s,baz=86,slow=8.0,SNR=98
ZALV LR LR 21 25 56.0
comp=Z,341µm,19.6s,baz=77,slow=38
comp=Z,164nm,0.8s
ZALV Zalesovo Beam 41.73 312 P **P 21 07 36.1 -2.2**
S12K Black Hills 41.76 45 P **P 21 07 36.5 -2.1**
baz=268
S12K S **S 21 13 57.9 +1.8**
baz=268
MND Mandalay 41.77 262 P **P 21 07 39.1 0.0**
LUWI Luwuk 41.84 209 P **P 21 07 38.0 -1.6**
LUWI Luwuk 41.84 209 P **P 21 07 39.2 -0.4**
comp=Z,110µmcomp=Z,49µmcomp=Z,2µm,1.1s
LUWI Luwuk 41.84 209 P **P 21 07 39.5 -0.1**
comp=Z,2µm,1.2s
MSAI Masohi 42.04 199 P **P 21 07 45.0 +3.7**
comp=Z,1µmcomp=Z,3µmcomp=Z,173nm,1.2s
ZSN Zaisan 42.13 302 *eP* P 21 07 40.0 -1.8
baz=302
ZSN *eS* **S 21 14 01.9 0.0**
baz=302
ZSN Zaisan 42.13 302 *eP* P 21 07 39.9 -1.8
ZSN *eS* **S 21 14 01.8 0.0**
KRAI Karang Ratu 42.16 200 P **P 21 07 44.1 +1.9**
comp=Z,182µmcomp=Z,78µmcomp=Z,2µm,1.3s
LSA Lhasa 42.16 275 P **P 21 07 41.9 -0.8**
LSA IAMs_20 IAMs_20 21 26 26.7
comp=Z,190µm,18.0s
LSA Lhasa 42.16 275 P **P 21 07 42.2 -0.5**
LSA P P 21 07 42.2 -0.5
LSA P P 21 07 42.2 -0.5
LSA Lhasa 42.16 275 P **P 21 07 42.3 -0.4**
LSA Lhasa 42.16 275 P **P 21 07 41.9 -0.8**
LSA pmax pmax
comp=Z,448nm,0.9s
LSA MLR MLR
comp=Z,190µm,18.0s
APSI Ampana 42.16 210 P **P 21 07 42.0 -0.2**
comp=Z,128µmcomp=Z,94µmcomp=Z,6µm,1.4s
TEZP TEZPUR 42.17 270 *eP* P 21 07 42.2 -0.1
TEZP IAmb IAmb 21 08 19.1
comp=Z,527nm,0.9s
NAYO Nakonayok 42.27 248 P **P 21 07 43.8 +0.6**
NLAI Namlea 42.44 201 P **P 21 07 46.5 +2.0**
comp=Z,23µmcomp=Z,616nm,1.0s
RABL Rabaul 42.46 164 P **P 21 07 44.3 -0.4**
KRVT Keravat (AS076 42.54 164 P **P 21 07 43.8 -1.6**
comp=Z,26nm,0.6s,baz=312,slow=17,SNR=9.8
KRVT LR LR 21 29 07.7
comp=Z,20µm,18.9s,baz=129,slow=41
comp=Z,26nm,0.6s
AAI Ambon 42.56 200 P **P 21 07 46.8 +1.3**
comp=Z,190µmcomp=Z,68µmcomp=Z,2µm,1.5s
SDPT Sand Point 42.65 46 P **P 21 07 43.7 -2.2**
SDPT Sand Point 42.65 46 P **P 21 07 44.7 -1.1**
baz=270
BNDI Bandanaira 42.94 197 P **P 21 07 49.7 +1.2**
comp=Z,199µmcomp=Z,87µmcomp=Z,5µm,1.6s
BNDI Bandanaira 42.94 197 P **P 21 07 49.7 +1.2**
SILR SILCHAR 43.02 267 *eP* P 21 07 51.3 +2.1
NRIK Noril'sk 43.03 335 P **P 21 07 47.2 -1.6**
comp=Z,23nm,0.5s,baz=108,slow=8.1,SNR=20
NRIK S **S 21 14 16.2 +1.6**
comp=Z,15nm,1.0s,baz=274,slow=21,SNR=1.2
NRIK LR LR 21 27 20.3
comp=Z,334µm,19.1s,baz=105,slow=38
comp=Z,23nm,0.5s
NRIK Noril'sk 43.03 335 P **P 21 07 46.6 -2.1**
NRIK IAmb IAmb 21 07 59.3
comp=Z,1µm,1.8s
NRIK Noril'sk 43.03 335*ce*P P 21 07 45.7 -3.1
NRIK pmax pmax
comp=Z,715nm,1.6s

NRIK MLR MLR
comp=Z,337µm,18.0s
CHNA Chernabura Isl 43.17 46 P **P** **21 07 48.2 -1.8**
baz=271
CHNA S **S** **21 14 17.6 +0.7**
baz=271
CNBA Chernabura Isl 43.17 46 P **P** **21 07 48.3 -1.8**
CNBA IAmb IAmb 21 08 03.8
comp=Z,1µm,1.2s
GUWA GUWAHATI 43.24 270 *e*P **P** **21 07 49.4 -1.6**
GUWA IAmb IAmb 21 08 04.8
comp=Z,372nm,0.8s
RDOG Red Dog Mine 43.30 27 P **P** **21 07 49.4 -1.6**
baz=254
SHL Shillong 43.38 269 P **P** **21 07 50.4 -2.0**
SHL Shillong 43.38 269 P **P** **21 07 51.4 -0.9**
SHL Shillong 43.38 269 *e*P **P** **21 07 51.6 -0.7**
SHL IAmb IAmb 21 08 10.9
comp=Z,160nm,0.7s
SHL Shillong 43.38 269 P **P** **21 07 50.4 -2.0**
SHL pmax pmax
comp=Z,459nm,1.2s
SMKI Samarinda 43.69 216 P **P** **21 07 56.3 +1.6**
comp=Z,218µmcomp=Z,81µmcomp=Z,4µm,1.5s
N16K Nishlik Lake 43.75 38 P **P** **21 07 53.5 -1.2**
baz=266
N16K S **S** **21 14 30.4 +5.0**
baz=266
CHGN Chignik 43.81 44 P **P** **21 07 54.0 -1.2**
CHGN Chignik 43.81 44 P **P** **21 07 52.4 -2.8**
baz=271
CHGN S **S** **21 14 25.0 -1.2**
baz=271
SBUM Sibu 43.81 225 P **P** **21 07 55.8 +0.2**
SBUM IAmb IAmb 21 08 10.8
comp=Z,2µm,1.6s
SBUM Sibu 43.81 225 P **P** **21 07 56.4 +0.7**
comp=Z,53µmcomp=Z,19µmcomp=Z,589nm,1.6s
SBUM Sibu 43.81 225 P **P** **21 07 58.0 +2.3**
SBUM Sibu 43.81 225 ⇓P **P** **21 07 55.3 -0.4**
MK31 Makanchi Array 43.96 302 P **P** **21 07 55.5 -1.1**
MK31 Makanchi Array 43.96 302 *i*P **P** **21 07 54.7 -1.9**
MK31 pmax pmax
comp=Z,24nm,0.5s
MKAR Makanchi Array 43.96 302 P **P** **21 07 55.2 -1.4**
comp=Z,126nm,0.7s,baz=86,slow=10.0,SNR=140
MKAR S **S** **21 14 27.4 -1.5**
comp=Z,5.0nm,0.8s,baz=290,slow=28,SNR=1.4
MKAR LR LR 21 26 55.5
comp=Z,158µm,21.7s,baz=94,slow=37
comp=Z,126nm,0.7s
MKAR Makanchi Array 43.96 302 P **P** **21 07 55.1 -1.5**
MKAR Makanchi Array 43.96 302 *i*P **P** **21 07 55.2 -1.4**
MKAR pmax pmax
comp=Z,129nm,0.7s
SAIH SAIHA 44.01 264 *e*P **P** **21 07 56.3 -1.1**
SAIH IAmb IAmb 21 08 09.6
comp=Z,813nm,0.8s
O16K Kokwok River B 44.04 40 P **P** **21 07 56.2 -0.8**
baz=268
O16K S **S** **21 14 31.3 +1.7**
baz=268
P16K Nushagak River 44.07 40 P **P** **21 07 54.8 -2.5**
baz=268,SNR=22
P16K S **S** **21 14 35.5 +5.5**
baz=268
MAKZ Makanchi 44.17 302 P **P** **21 07 57.1 -1.2**
MAKZ IAmb IAmb 21 08 13.7
comp=Z,605nm,0.9s
MAKZ IAMs_20 IAMs_20 21 27 29.7
comp=Z,161µm,18.0s
MAKZ Makanchi 44.17 302 P **P** **21 07 57.1 -1.2**
MAKZ pmax pmax
comp=Z,605nm,1.0s
MAKZ MLR MLR
comp=Z,161µm,18.0s
R16K Pilot Point 44.27 42 P **P** **21 07 57.5 -1.3**
baz=270
R16K S **S** **21 14 38.5 +5.6**
baz=270
BKB Balikpapan 44.55 216 P **P** **21 08 00.1 -1.5**
BKB Balikpapan 44.55 216 P **P** **21 08 01.7 +0.1**
comp=Z,209µmcomp=Z,90µmcomp=Z,4µm,1.4s
BKB Balikpapan 44.55 216 P **P** **21 08 02.9 +1.3**
O17K Koliganek Bris 44.55 39 P **P** **21 07 59.9 -1.2**
baz=268,SNR=45
O17K S **S** **21 14 38.9 +1.9**
baz=268
Q16K King Salmon 44.76 41 P **P** **21 08 00.9 -1.8**
baz=270,SNR=27
Q16K S **S** **21 14 43.4 +3.5**
baz=270
P17K Kvichak River 44.88 40 P **P** **21 08 01.5 -2.2**
baz=269,SNR=10
P17K S **S** **21 14 47.6 +5.9**
baz=269
R17K Ugashik Creek 44.91 42 P **P** **21 08 02.4 -1.5**
baz=271
R17K S **S** **21 14 41.8 -0.4**
baz=271
MMSI Mamuju 44.91 213 P **P** **21 08 07.4 +3.0**
comp=Z,71µmcomp=Z,25µmcomp=Z,702nm,1.3s
BRDH Bariadhala 44.98 266 P **P** **21 08 05.1 +0.1**
comp=Z,139nm,0.4s,baz=67,slow=11,SNR=14
BRDH LR LR 21 27 25.2
comp=Z,220µm,20.0s,baz=76,slow=37
comp=Z,139nm,0.4s
GCSA Galena City Sc 45.03 32 P **P** **21 08 02.7 -2.1**
baz=263,SNR=6.3
GCSA S **S** **21 14 49.1 +5.4**
baz=263
KKSI Kolaka, Sulawe 45.14 208 P **P** **21 08 08.2 +1.9**
comp=Z,158µmcomp=Z,61µmcomp=Z,2µm,1.4s
Q17K Contact Creek 45.16 41 P **P** **21 08 02.8 -3.3**
baz=271,SNR=10
Q17K S **S** **21 14 47.3 +1.1**
baz=271
N18K Kilae Creek 45.18 38 P **P** **21 08 06.2 0.0**
N18K Kilae Creek 45.18 38 P **P** **21 08 04.9 -1.3**
baz=268,SNR=67
N18K S **S** **21 14 53.2 +7.0**
baz=268
GTK Tadong 45.20 273 *e*P **P** **21 08 08.0 +1.1**
GTK IAmb IAmb 21 08 23.1
comp=Z,234nm,0.6s
TTA Tatalina 45.24 35 P **P** **21 08 06.6 0.0**
TTA IAmb IAmb 21 08 22.3
comp=Z,954nm,1.6s
TTA Tatalina 45.24 35 P **P** **21 08 05.0 -1.6**
baz=266,SNR=33
TTA S **S** **21 14 51.5 +4.4**
baz=266
TTA Tatalina 45.24 35 P **P** **21 08 06.6 0.0**
TTA pmax pmax
comp=Z,954nm,1.6s
MTKI Muara Teweh, K 45.25 219 P **P** **21 08 08.0 +0.9**
comp=Z,140µmcomp=Z,75µmcomp=Z,4µm,1.5s
CHIR Chirikof Islan 45.39 45 P **P** **21 08 06.5 -1.3**
CHIR Chirikof Islan 45.39 45 P **P** **21 08 06.0 -1.9**
baz=273,SNR=6.8
CHIR S **S** **21 14 53.5 +4.2**
baz=273
P18K Big Mountain, 45.50 40 P **P** **21 08 08.4 -0.3**
P18K IAmb IAmb 21 08 24.2
comp=Z,1µm,1.2s
P18K Big Mountain, 45.50 40 P **P** **21 08 08.1 -0.6**
baz=270,SNR=23
P18K S **S** **21 14 56.0 +5.2**
baz=270
O18K Koktuh Hills 45.51 39 P **P** **21 08 08.5 -0.2**
O18K Koktuh Hills 45.51 39 P **P** **21 08 08.2 -0.6**
baz=270,SNR=34
O18K S **S** **21 14 55.4 +4.5**
baz=270
Q18K Katmai Hardscr 45.62 41 P **P** **21 08 07.7 -2.0**
baz=271,SNR=21
Q18K S **S** **21 14 54.5 +1.8**
baz=271
SLGI Shiliguri 45.62 273 *e*P **P** **21 08 11.1 +1.1**
PMSI Majene 45.63 212 P **P** **21 08 11.3 +1.1**
comp=Z,130µmcomp=Z,56µmcomp=Z,2µm,1.6s
SPSI Sidrap Palu 45.70 211 P **P** **21 08 10.7 +0.1**
comp=Z,130µmcomp=Z,41µmcomp=Z,1µm,1.2s
KSM Kuching 45.70 226 P **P** **21 08 11.4 +0.7**
KSM Kuching 45.70 226 P **P** **21 08 11.8 +1.1**
comp=Z,116µmcomp=Z,38µmcomp=Z,1µm,1.1s
KSM Kuching 45.70 226 P **P** **21 08 14.0 +3.3**

KSM Kuching 45.70 226 P **P** **21 08 11.8 +1.1**
KSM Kuching 45.70 226 ⇓P **P** **21 08 10.5 -0.2**
L19K White Mountain 45.73 36 P **P** **21 08 10.3 -0.3**
L19K IAmb IAmb 21 08 26.4
comp=Z,806nm,1.4s
L19K White Mountain 45.73 36 P **P** **21 08 08.9 -1.6**
baz=268
KURK Kurchatov 45.76 308 P **P** **21 08 09.2 -1.7**
KURK Kurchatov 45.76 308 P **P** **21 08 12.4 +1.5**
KURK P **P** **21 08 12.4 +1.5**
KURK P **P** **21 08 12.4 +1.5**
KURK S **S** **21 14 58.8 +4.1**
KURK S **S** **21 14 58.8 +4.1**
KURK S **S** **21 14 58.8 +4.1**
KURK Kurchatov 45.76 308 ⇑P **P** **21 08 08.6 -2.2**
KURK Kurchatov 45.76 308 *ce*P **P** **21 08 08.6 -2.2**
KURK pmax pmax
comp=Z,442nm,1.0s
KURK MLR MLR
comp=Z,304µm,21.0s
KURBB Kurchatov Arra 45.83 308 P **P** **21 08 09.4 -1.9**
comp=Z,341nm,1.0s,baz=84,slow=9.7,SNR=116
KURBB LR LR 21 28 26.7
comp=Z,292µm,18.4s,baz=69,slow=38
comp=Z,341nm,1.0s
N19K Bonanza Creek 45.88 38 P **P** **21 08 11.3 -0.5**
N19K IAmb IAmb 21 08 23.9
comp=Z,939nm,1.4s
N19K Bonanza Creek 45.88 38 P **P** **21 08 10.1 -1.7**
baz=270
N19K S **S** **21 14 59.8 +3.5**
baz=270
TAPN Taplejung 45.89 274 *e*P **P** **21 08 10.8 -1.8**
M19K Big River Lodg 45.94 36 P **P** **21 08 12.0 -0.1**
M19K IAmb IAmb 21 08 28.3
comp=Z,1µm,1.5s
M19K Big River Lodg 45.94 36 P **P** **21 08 10.9 -1.2**
baz=268
M19K S **S** **21 15 02.7 +5.6**
baz=268
BNSI Bone 45.95 210 P **P** **21 08 13.2 +0.5**
comp=Z,92µmcomp=Z,37µmcomp=Z,2µm,1.3s
O19K Port Alsworth 45.95 39 P **P** **21 08 11.8 -0.5**
O19K Port Alsworth 45.95 39 P **P** **21 08 10.0 -2.2**
baz=270,SNR=34
O19K S **S** **21 15 03.3 +6.0**
baz=270
SAUI Saumlaki 46.00 194 P **P** **21 08 10.9 -2.2**
SAUI Saumlaki 46.00 194 P **P** **21 08 14.1 +1.1**
comp=Z,281µmcomp=Z,92µmcomp=Z,3µm,1.3s
SAUI Saumlaki 46.00 194 P **P** **21 08 14.7 +1.7**
BBSI Bau Bau 46.02 206 P **P** **21 08 15.1 +1.9**
comp=Z,100µmcomp=Z,31µmcomp=Z,979nm,1.3s
TARA Tarawa 46.07 133 P **P** **21 08 11.4 -2.2**
TARA Tarawa 46.07 133 IAMs_20 IAMs_20 21 25 14.7
comp=Z,155µm,21.0s
TARA Tarawa 46.07 133 P P 21 08 20.1 +6.4
K20K Telida 46.15 34 P **P** **21 08 12.8 -0.9**
K20K Telida 46.15 34 P **P** **21 08 12.5 -1.3**
baz=267
K20K S **S** **21 15 05.4 +5.4**
baz=267
SII Sitkinak Islan 46.15 44 P **P** **21 08 11.3 -2.6**
SII IAmb IAmb 21 08 46.4
comp=Z,1µm,1.2s
SII IAMs_20 IAMs_20 21 27 30.9
comp=Z,95µm,19.0s
SII Sitkinak Islan 46.15 44 P **P** **21 08 11.6 -2.3**
baz=274
SII S **S** **21 15 02.0 +1.8**
baz=274
SII Sitkinak Islan 46.15 44 P **P** **21 08 15.0 +1.1**
J20K Nowinta River 46.16 33 P **P** **21 08 12.5 -1.3**
J20K IAMs_20 IAMs_20 21 30 47.1
comp=Z,110µm,19.0s
J20K Nowinta River 46.16 33 P **P** **21 08 12.9 -0.9**
baz=266
J20K S **S** **21 15 05.8 +5.7**
baz=266
L20K Farewell, AK 46.20 36 P **P** **21 08 11.9 -2.3**
baz=268
L20K S **S** **21 15 05.8 +5.0**
baz=268
A21K Barrow 46.25 23 P **P** **21 08 13.6 -0.8**
A21K Barrow 46.25 23 P **P** **21 08 12.6 -1.8**
baz=257,SNR=56
A21K S **S** **21 15 02.9 +1.8**
baz=257
Q19K Cape Douglas, 46.32 41 P **P** **21 08 12.8 -2.4**
Q19K Cape Douglas, 46.32 41 P **P** **21 08 13.6 -1.6**
baz=272
Q19K S **S** **21 15 05.0 +2.4**
baz=272
ODAN Odare 46.37 273 *e*P **P** **21 08 13.8 -2.4**
IMAR Indian Mountai 46.46 31 P **P** **21 08 15.3 -0.9**
P19K Oil Pt 46.51 40 P **P** **21 08 14.5 -2.2**
P19K Oil Pt 46.51 40 P **P** **21 08 14.7 -1.9**
baz=272,SNR=6.6
P19K S **S** **21 15 11.1 +5.8**
baz=272
M20K Styx River 46.54 36 P **P** **21 08 16.7 -0.3**
M20K IAmb IAmb 21 08 30.3
comp=Z,644nm,1.4s
M20K Styx River 46.54 36 P **P** **21 08 15.7 -1.2**
baz=270
M20K S **S** **21 15 11.0 +5.1**
baz=270
ILSW Iliamna Southw 46.55 39 P **P** **21 08 16.0 -1.1**
ILSW IAmb IAmb 21 08 31.1
comp=Z,900nm,1.6s
OHAK Old Harbor 46.60 43 P **P** **21 08 15.7 -1.6**
OHAK IAmb IAmb 21 08 31.0
comp=Z,760nm,1.0s
OHAK Old Harbor 46.60 43 P **P** **21 08 14.5 -2.8**
baz=274,SNR=15
OHAK S **S** **21 15 09.7 +3.2**
baz=274
G21K Allakaket 46.60 30 P **P** **21 08 16.1 -1.2**
baz=265
G21K S **S** **21 15 11.1 +4.6**
baz=265
KAPI Kappang 46.66 210 P **P** **21 08 17.8 -0.4**
comp=Z,82nm,0.8s,baz=21,slow=6.1,SNR=44
KAPI S **S** **21 15 12.1 +3.9**
comp=Z,4.7nm,0.3s,baz=344,slow=19,SNR=24
KAPI LR LR 21 28 37.0
comp=Z,72µm,19.4s,baz=33,slow=37
comp=Z,82nm,0.8s
KAPI Kappang 46.66 210 P **P** **21 08 18.6 +0.4**
KAPI Kappang 46.66 210 P **P** **21 08 14.9 -3.3**
KAPI P **P** **21 08 14.9 -3.3**
KAPI P **P** **21 08 14.9 -3.3**
KAPI S **S** **21 15 00.4 -7.7**
KAPI S **S** **21 15 00.4 -7.7**
KAPI S **S** **21 15 00.4 -7.7**
KAPI Kappang 46.66 210 P **P** **21 08 18.9 +0.7**
comp=Z,143µmcomp=Z,79µmcomp=Z,3µm,1.4s
KAPI Kappang 46.66 210 P **P** **21 08 19.4 +1.2**
KAPI Kappang 46.66 210 P **P** **21 08 18.6 +0.4**
KAPI pmax pmax
comp=Z,6µm,1.4s
F21K Alatna River 46.68 29 P **P** **21 08 16.0 -1.9**
baz=264,SNR=54
F21K S **S** **21 15 12.8 +5.1**
baz=264
SHLS Shalkode 46.70 297 ⇓*i*P P 21 08 13.7 -4.8
comp=Z,186nm,1.2s,baz=297
SHLS *e*S S 21 14 54.7 -14
comp=Z,4µm,5.5s,baz=297
SHLS Shalkode 46.70 297 *d i*P P 21 08 13.7 -4.8
SHLS *e*S S 21 14 54.6 -14
SHLS pmax pmax
comp=Z,186nm,1.2s
SHLS smax smax
comp=E,4µm,5.5s
RSO Redoubt South 46.73 38 P **P** **21 08 17.4 -1.2**
PMG Port Moresby 46.75 172 P **P** **21 08 17.9 -1.0**
comp=E,15nm,0.8s,baz=28,slow=13,SNR=5.0
PMG S **S** **21 15 17.4 +8.0**
comp=E,3.6nm,0.3s,baz=298,slow=8.2,SNR=3.1
PMG LR LR 21 27 54.5
comp=E,18µm,21.3s,baz=5.5,slow=36
comp=E,15nm,0.8s
PMG Port Moresby 46.75 172 P **P** **21 08 17.4 -1.5**
PMG IAmb IAmb 21 08 58.4
comp=Z,557nm,1.1s

PMG Port Moresby 46.75 172 P **P** **21 08 21.1 +2.2**
comp=Z,208µmcomp=Z,42µmcomp=Z,402nm,1.1s
PMG Port Moresby 46.75 172 P **P** **21 08 20.4 +1.5**
PMG Port Moresby 46.75 172 P **P** **21 08 20.7 +1.8**
PMG Port Moresby 46.75 172 *ce*P **P** **21 08 18.2 -0.7**
PMG pmax pmax
comp=Z,294nm,2.5s
BKSI Bulukumba 46.79 210 P **P** **21 08 19.2 0.0**
comp=Z,145µmcomp=Z,48µmcomp=Z,1µm,1.0s
O20K Slope Mountain 46.81 39 P **P** **21 08 17.0 -2.0**
baz=272,SNR=10.0
O20K S **S** **21 15 11.6 +2.0**
baz=272
H21K Melozitna Rive 46.82 31 P **P** **21 08 17.7 -1.3**
H21K IAMs_20 IAMs_20 21 30 00.6
comp=Z,100µm,18.0s
H21K Melozitna Rive 46.82 31 P **P** **21 08 17.1 -1.9**
baz=266
H21K S **S** **21 15 14.9 +5.3**
baz=266
SURA Surathani 46.91 244 P **P** **21 08 21.8 +1.5**
CHUM Lake Minchumin 46.95 34 P **P** **21 08 18.1 -1.9**
baz=268,SNR=194
CHUM S **S** **21 15 16.3 +4.9**
baz=268
RAMN Ramite 46.96 274 *e*P **P** **21 08 19.6 -1.3**
comp=Z,3µm,1.1s
JIRN Jiri 46.97 275 *e*P **P** **21 08 19.3 -1.8**
comp=Z,4µm,1.5s
TDK Taldyqorghan 46.98 300 ⇓*e*P **P** **21 08 18.7 -1.9**
comp=Z,569nm,1.7s,baz=300
TDK *e*S **S** **21 15 12.3 -0.2**
baz=300
TDK *e*LR LR 21 27 56.6
comp=Z,223µm,15.7s,baz=300
TDK Taldyqorghan 46.98 300 *de*P **P** **21 08 18.6 -1.9**
TDK *e*S **S** **21 15 12.3 -0.2**
TDK pmax pmax
comp=Z,569nm,1.7s
TDK MLR MLR
comp=Z,223µm,16.0s
N20K Mount Spurr 46.98 37 P **P** **21 08 19.1 -1.4**
baz=271,SNR=58
N20K S **S** **21 15 16.9 +4.7**
baz=271
SPCR Spurr Chakacha 46.98 37 P **P** **21 08 19.1 -1.4**
baz=271,SNR=52
SPCR S **S** **21 15 17.6 +5.5**
baz=271
PPLA Purkeypile 46.99 35 P **P** **21 08 20.1 -0.4**
PPLA Purkeypile 46.99 35 P **P** **21 08 19.7 -0.8**
baz=270,SNR=45
PPLA S **S** **21 15 15.9 +3.6**
baz=270
Q20K Shuyak Island 46.99 41 P **P** **21 08 19.8 -0.6**
baz=273,SNR=14
Q20K S **S** **21 15 12.1 0.0**
baz=273
UZB Uzynbulak 47.01 298 *e*P **P** **21 08 19.1 -1.9**
baz=297
UZB *e*S **S** **21 15 12.4 -0.8**
baz=297
UZB Uzynbulak 47.01 298 *e*P **P** **21 08 19.0 -1.9**
UZB *e*S **S** **21 15 12.4 -0.8**
CAST Castle Rocks 47.04 34 P **P** **21 08 19.4 -1.4**
CAST IAmb IAmb 21 08 34.0
comp=Z,845nm,1.3s
CAST Castle Rocks 47.04 34 P **P** **21 08 18.8 -1.9**
baz=269,SNR=53
CAST S **S** **21 15 15.9 +3.1**
baz=269
SPU Mount Spurr 47.06 37 P **P** **21 08 20.6 -0.4**
GUN Gumba 47.10 275 *e*P **P** **21 08 21.3 -0.8**
comp=Z,3µm,1.0s
I21K Tanana 47.14 32 P **P** **21 08 21.2 -0.3**
I21K Tanana 47.14 32 P **P** **21 08 20.2 -1.2**
baz=268
I21K S **S** **21 15 19.5 +5.3**
baz=268
KPKS Kokpek 47.17 298 ⇓*i*P **P** **21 08 20.0 -2.1**
comp=Z,337nm,1.8s,baz=298
KPKS *e*S **S** **21 15 15.7 +0.4**
comp=Z,3µm,5.8s,baz=298
KPKS Kokpek 47.17 298 *d i*P **P** **21 08 20.0 -2.1**
KPKS *e*S **S** **21 15 15.7 +0.4**
KPKS pmax pmax
comp=Z,337nm,1.8s
KPKS smax smax
comp=E,3µm,5.8s
F22K John River 47.21 29 P **P** **21 08 20.0 -2.0**
baz=265
F22K S **S** **21 15 17.9 +2.8**
baz=265
SKT Skwentna 47.30 36 P **P** **21 08 21.1 -1.6**
SKT IAmb IAmb 21 08 34.0
comp=Z,516nm,1.3s
SKT Skwentna 47.30 36 P **P** **21 08 21.1 -1.6**
baz=271,SNR=29
SKT S **S** **21 15 20.4 +3.9**
baz=271
HOM Homer 47.32 39 P **P** **21 08 18.8 -4.1**
HOM Homer 47.32 39 P **P** **21 08 20.7 -2.3**
baz=273
SRIT Nakonsritamara 47.32 244 P **P** **21 08 24.1 +0.6**
SRIT Nakonsritamara 47.32 244 P **P** **21 08 24.4 +0.9**
BSSI Bau Bau, Buton 47.40 209 P **P** **21 08 25.3 +1.3**
comp=Z,156µmcomp=Z,39µmcomp=Z,1µm,1.3s
E22K Anaktuvuk Pass 47.40 28 P **P** **21 08 22.8 -0.8**
baz=265
E22K S **S** **21 15 20.2 +2.3**
baz=265
ZHN Zhinishke 47.42 298 *e*P **P** **21 08 22.1 -2.1**
baz=298
ZHN *e*S **S** **21 15 20.5 +1.5**
baz=298
ZHN Zhinishke 47.42 298 *e*P **P** **21 08 22.0 -2.1**
ZHN *e*S **S** **21 15 20.4 +1.5**
H22K Ishtalitna Cre 47.42 31 P **P** **21 08 22.4 -1.3**
baz=267,SNR=81
H22K S **S** **21 15 23.0 +4.8**
baz=267
G22K Bettles 47.43 30 P **P** **21 08 23.0 -0.7**
baz=266
G22K S **S** **21 15 22.5 +4.3**
baz=266
BBKI Banjar Baru 47.45 217 P **P** **21 08 24.6 +0.1**
comp=Z,134µmcomp=Z,63µmcomp=Z,3µm,1.4s
SATY Saty 47.47 296 ⇓*i*P **P** **21 08 23.1 -1.5**
comp=Z,462nm,2.5s,baz=297
SATY *e*S **S** **21 15 16.1 -3.7**
comp=Z,3µm,4.5s,baz=297
SATY Saty 47.47 298 *d i*P **P** **21 08 23.0 -1.5**
SATY *e*S **S** **21 15 16.0 -3.7**
SATY pmax pmax
comp=Z,463nm,2.5s
SATY smax smax
comp=E,3µm,4.5s
CAPN Captain Cook N 47.51 38 P **P** **21 08 23.2 -1.2**
baz=272
CAPN S **S** **21 15 23.9 +4.4**
baz=272
CNPM China Poot 47.53 40 P **P** **21 08 25.7 +1.0**
BPAW Bear Paw Mtn. 47.54 33 P **P** **21 08 24.0 -0.6**
BPAW IAmb IAmb 21 08 40.5
comp=Z,566nm,1.2s
BPAW Bear Paw Mtn. 47.54 33 P **P** **21 08 24.0 -0.6**
baz=270,SNR=45
BPAW S **S** **21 15 24.0 +4.1**
baz=270
KTH Kantishna Hill 47.56 34 P **P** **21 08 24.9 0.0**
KTH IAMs_20 IAMs_20 21 30 23.8
comp=Z,103µm,19.0s
ARXS Arharly 47.58 299 *e*P **P** **21 08 24.3 -1.0**
SKLT Songkhla 47.60 241 P **P** **21 08 26.4 +0.8**
comp=Z,80µmcomp=Z,20µmcomp=Z,618nm,1.3s
SKLT Songkhla 47.60 241 P **P** **21 08 27.1 +1.5**
PKI Pulchoki 47.62 275 *e*P **P** **21 08 25.4 -0.8**
comp=Z,1µm,1.0s
KKN Kakani 47.63 276 *e*P **P** **21 08 25.5 -0.6**
PKIN Phulchoki 47.63 275 *e*P **P** **21 08 25.2 -1.0**
comp=Z,1µm,1.0s
MLY Manley 47.66 32 P **P** **21 08 24.8 -0.8**
MLY Manley 47.66 32 P **P** **21 08 23.6 -2.0**
baz=269,SNR=187
MLY S **S** **21 15 26.3 +4.6**
baz=269
SUA Susitna One 47.68 37 P **P** **21 08 24.3 -1.6**

SUA IAmb IAmb 21 08 40.5
comp=Z,679nm,1.1s
SUA Susitna One 47.68 37 P P 21 08 23.2 -2.7
baz=272,SNR=42
SUA S **S** **21 15 24.8 +2.7**
baz=272
BRLK Bradley Lake 47.70 39 P P 21 08 24.9 -1.0
BRLK IAmb IAmb 21 08 40.6
comp=Z,1μm,1.4s
JOHN Johnston Islan 47.70 102 P P 21 08 24.7 -1.7
JOHN IAmb IAmb 21 08 33.4
comp=Z,837nm,1.2s
JOHN Johnston Islan 47.70 102 IAMs_20 IAMs_20 21 25 12.7
comp=Z,129μm,21.0s
BRSE Bradley Lake S 47.77 39 P P 21 08 24.2 -2.3
baz=274,SNR=28
BRSE S **S** **21 15 23.7 +0.4**
baz=274
TRF Thorofare Moun 47.85 34 P P 21 08 25.3 -1.9
TRF IAmb IAmb 21 08 39.8
comp=Z,542nm,1.2s
TRF IAMs_20 IAMs_20 21 30 33.9
comp=Z,118μm,18.0s
TRF Thorofare Moun 47.85 34 P P 21 08 26.1 -1.1
baz=271,SNR=33
TRF S **S** **21 15 29.3 +4.7**
baz=271
DMN Daman 47.85 275 *eP* **P 21 08 26.9 -0.9**
CUT Chulitna 47.88 36 P P 21 08 25.4 -1.8
CUT Chulitna 47.88 36 P P 21 08 24.7 -2.5
baz=272,SNR=38
CUT S **S** **21 15 27.1 +2.4**
baz=272
D23K Nanushuk River 47.89 27 P P 21 08 25.1 -2.2
baz=265
D23K S **S** **21 15 28.7 +4.0**
baz=265
COLD Coldfoot 47.96 29 P P 21 08 26.6 -1.2
COLD Coldfoot 47.96 29 P P 21 08 26.5 -1.3
baz=267,SNR=36
COLD S **S** **21 15 28.5 +2.8**
baz=267
M22K Willow 47.97 37 P P 21 08 27.1 -0.8
M22K IAmb IAmb 21 08 42.6
comp=Z,682nm,1.1s
M22K Willow 47.97 37 P P 21 08 25.1 -2.9
baz=272,SNR=8.2
M22K S **S** **21 15 27.4 +1.5**
baz=272
C23K Itkillik River 47.99 26 P P 21 08 26.5 -1.5
baz=265
C23K S **S** **21 15 29.5 +3.4**
baz=265
G23K Bananza Creek 48.00 30 P P 21 08 25.0 -3.3
baz=268
G23K S **S** **21 15 31.7 +5.2**
baz=268
GKN Gorkha 48.05 276 *eP* **P 21 08 28.5 -0.7**
comp=Z,2μm,1.0s
H23K Yukon River 48.17 31 P P 21 08 28.8 -0.8
H23K Yukon River 48.17 31 P P 21 08 25.3 -4.2
baz=269
H23K S **S** **21 15 35.1 +6.3**
baz=269
RC01 Rabbit Creek A 48.19 37 P P 21 08 27.9 -1.7
RC01 IAMs_20 IAMs_20 21 31 50.3
comp=Z,74μm,18.0s
RC01 Rabbit Creek A 48.19 37 P P 21 08 25.8 -3.9
baz=273,SNR=29
RC01 S **S** **21 15 30.4 +1.3**
baz=273
BWN Browne 48.21 33 P P 21 08 30.0 +0.2
E23K Chandalar 48.22 28 P P 21 08 28.6 -1.4
baz=267
E23K S **S** **21 15 32.7 +3.1**
baz=267
O22K Cooper Landing 48.23 38 P P 21 08 28.1 -1.8
O22K Cooper Landing 48.23 38 P P 21 08 26.8 -3.2
baz=274,SNR=23
O22K S **S** **21 15 30.9 +1.2**
baz=274
I23K Minto, Yukon-K 48.25 32 P P 21 08 29.6 -0.4
I23K Minto, Yukon-K 48.25 32 P P 21 08 28.2 -1.9
baz=270,SNR=59
I23K S **S** **21 15 35.0 +5.2**
baz=270
CHKK Chushkaly 48.25 299 *eP* **P 21 08 28.7 -1.8**
baz=299
CHKK Chushkaly 48.25 299 *eP* **P 21 08 28.6 -1.8**
TARG Taragay, Kyrgy 48.27 296 P P 21 08 29.5 -1.6
TARG IAmb IAmb 21 08 56.6
comp=Z,426nm,0.9s
TARG Taragay, Kyrgy 48.27 296 P P 21 08 29.5 -1.6
TARG pmax pmax
comp=Z,426nm,0.9s
TOLK Toolik Lake Re 48.27 27 P P 21 08 28.9 -1.3
TOLK IAMs_20 IAMs_20 21 31 34.1
comp=Z,110μm,18.0s
TOLK Toolik Lake Re 48.27 27 P P 21 08 28.0 -2.3
baz=267,SNR=107
TOLK S **S** **21 15 33.6 +3.4**
baz=267
NEA2 Nenana 48.37 33 P P 21 08 30.7 -0.3
NEA2 Nenana 48.37 33 P P 21 08 27.8 -3.2
baz=271,SNR=48
NEA2 S **S** **21 15 35.8 +4.2**
baz=271
SEW Seward 48.39 39 P P 21 08 30.4 -0.9
SEW Seward 48.39 39 P P 21 08 28.7 -2.5
baz=274,SNR=22
SEW S **S** **21 15 33.4 +1.4**
baz=274
MDOK Medeo 48.40 298 *eP* **P 21 08 30.7 -1.1**
baz=298
MDOK *eS* **S** **21 15 31.4 -1.5**
baz=298
MDOK *eLR* LR 21 28 41.5
comp=Z,201μm,18.3s,baz=298
MDOK Medeo 48.40 298 *eP* **P 21 08 30.6 -1.1**
MDOK *eS* **S** **21 15 31.4 -1.5**
MDOK MLR MLR
comp=Z,201μm,18.0s
MCK McKinley 48.45 34 P P 21 08 30.1 -1.6
MCK IAMs_20 IAMs_20 21 30 48.7
comp=Z,106μm,19.0s
MCK McKinley 48.45 34 P P 21 08 29.1 -2.6
baz=272,SNR=68
MCK S **S** **21 15 34.5 +1.7**
baz=272
MCK McKinley 48.45 34 P P 21 08 30.1 -1.6
MCK pmax pmax
comp=Z,1μm,1.6s
MCK MLR MLR
comp=Z,106μm,19.0s
PMR Palmer 48.45 37 P P 21 08 30.4 -1.3
PMR IAmb IAmb 21 08 45.5
comp=Z,705nm,1.0s
PMR Palmer 48.45 37 P P 21 08 29.1 -2.5
baz=273,SNR=28
PMR S **S** **21 15 35.9 +3.2**
baz=273
PMR Palmer 48.45 37 P P 21 08 30.4 -1.3
PMR pmax pmax
comp=Z,705nm,1.0s
AAA Alma-Ata 48.48 298 *i*P **P 21 08 31.2 -1.1**
comp=Z,1μm,2.0s,baz=298
AAA *eS* **S** **21 15 33.8 -0.1**
baz=298
AAA *eLR* LR 21 29 01.8
comp=Z,338μm,19.8s,baz=298
AAA Alma-Ata 48.48 298 *d i*P **P 21 08 31.2 -1.1**
AAA *eS* **S** **21 15 33.7 -0.1**
AAA pmax pmax
comp=Z,1μm,2.0s
AAA MLR MLR
comp=Z,338μm,20.0s
RND Reindeer 48.49 34 P P 21 08 30.1 -2.0
RND IAmb IAmb 21 08 46.9
comp=Z,1μm,1.4s
RND Reindeer 48.49 34 P P 21 08 30.1 -2.0
RND pmax pmax
comp=Z,1μm,1.4s
RND MLR MLR
comp=Z,70μm,19.0s
TNSS Tian-Shan 48.51 298 *eP* **P 21 08 31.1 -1.8**
baz=298
TNSS Tian-Shan 48.51 298 *eP* **P 21 08 31.1 -1.8**

GHO Glory Hole Cre 48.54 37 P P 21 08 30.6 -1.8
DANN Dangsing 48.59 277 *eP* **P 21 08 33.3 -0.3**
comp=Z,2μm,0.8s
E24K Your Creek 48.65 28 P P 21 08 32.0 -1.2
baz=268
E24K S **S** **21 15 40.8 +5.2**
baz=268
C24K Franklin Bluff 48.65 26 P P 21 08 30.9 -2.1
baz=266
C24K S **S** **21 15 39.3 +4.0**
baz=266
WAT1 Susitna Watana 48.66 35 P P 21 08 30.0 -3.3
baz=273
WAT1 S **S** **21 15 37.5 +1.7**
baz=273
KUU Kurty 48.70 299 ⇓ *i*P **P 21 08 32.0 -1.9**
comp=Z,487nm,1.1s,baz=299
KUU *eS* **S** **21 15 36.5 -0.3**
comp=Z,4μm,3.6s,baz=299
KUU Kurty 48.70 299 *d i*P **P 21 08 32.0 -1.9**
KUU *eS* **S** **21 15 36.5 -0.3**
KUU pmax pmax
comp=Z,487nm,1.1s
KUU smax smax
comp=E,4μm,3.6s
JRMM Jerantut 48.70 237 P P 21 08 35.0 +0.8
MDM Murphy Dome 48.73 32 P P 21 08 33.0 -0.8
KNK Knik Glacier 48.78 37 P P 21 08 32.7 -1.6
KNK IAMs_20 IAMs_20 21 32 12.1
comp=Z,79μm,19.0s
KNK Knik Glacier 48.78 37 P P 21 08 31.7 -2.6
baz=274,SNR=36
KNK S **S** **21 15 39.9 +2.3**
baz=274
WRH Wood River Hil 48.80 33 P P 21 08 33.2 -1.1
WRH IAMs_20 IAMs_20 21 31 21.3
comp=Z,86μm,19.0s
SML Sawmill 48.82 36 P P 21 08 33.3 -1.2
SML Sawmill 48.82 36 P P 21 08 31.9 -2.7
baz=274,SNR=27
SML S **S** **21 15 40.1 +2.0**
baz=274
F24K Squaw Lake 48.86 29 P P 21 08 33.2 -1.6
baz=269
F24K S **S** **21 15 44.6 +6.0**
baz=269
H24K Noodor Dome 48.86 31 P P 21 08 33.4 -1.5
H24K Noodor Dome 48.86 31 P P 21 08 33.2 -1.7
baz=271,SNR=146
H24K S **S** **21 15 45.3 +6.7**
baz=271
PWL Port Wells 48.88 38 P P 21 08 32.8 -2.3
PWL IAmb IAmb 21 08 49.6
comp=Z,969nm,1.2s
PWL IAMs_20 IAMs_20 21 32 11.9
comp=Z,83μm,18.0s
PWL Port Wells 48.88 38 P P 21 08 32.8 -2.3
baz=275,SNR=36
PWL S **S** **21 15 40.6 +1.6**
baz=275
TCOL CIGO, UAF Yank 48.89 32 P P 21 08 33.9 -1.1
TCOL IAmb IAmb 21 08 50.9
comp=Z,657nm,1.0s
TCOL IAMs_20 IAMs_20 21 30 49.6
comp=Z,89μm,18.0s
TCOL CIGO, UAF Yank 48.89 32 P P 21 08 33.1 -1.9
baz=272,SNR=41
TCOL S **S** **21 15 41.3 +2.5**
baz=272
COLA College 48.89 32 P P 21 08 32.3 -2.7
COLA IAmb IAmb 21 08 50.9
comp=Z,710nm,1.1s
COLA College 48.89 32 IAMs_20 IAMs_20 21 30 49.6
comp=Z,85μm,18.0s
COLA College 48.89 32 P P 21 08 33.4 -1.6
baz=272
COLA S **S** **21 15 41.6 +2.7**
baz=272
COLA College 48.89 32 P P 21 08 35.3 +0.3
COLA College 48.89 32 ⇓ **P P 21 08 33.8 -1.2**
COLA College 48.89 32 *i* **P P 21 08 34.6 -0.4**
COLA pmax pmax
comp=Z,400nm,1.1s
COLA MLR MLR
comp=Z,80μm,18.0s
KULM Kulim 48.91 240 P P 21 08 34.9 -0.9
KULM IAmb IAmb 21 08 48.8
comp=Z,892nm,1.3s
KULM IAMs_20 IAMs_20 21 30 32.7
comp=Z,99μm,19.0s
KULM Kulim 48.91 240 P P 21 08 36.4 +0.6
comp=Z,96μm,comp=Z,20μm,comp=Z,640nm,1.7s
KULM Kulim 48.91 240 P P 21 08 37.0 +1.2
KULM Kulim 48.91 240 ⇓ **P P 21 08 35.7 -0.1**
CCB Clear Creek Bu 48.92 33 P P 21 08 34.4 -0.8
CCB IAmb IAmb 21 08 52.9
comp=Z,530nm,1.5s
VLK Valmikinagar 48.96 276 *eP* **P 21 08 36.5 +0.4**
KOLN Koldanda 48.97 276 *eP* **P 21 08 36.2 -0.2**
BOK Bokaro 49.01 271 *eP* **P 21 08 36.8 +0.3**
BOK IAmb IAmb 21 08 53.2
comp=Z,1μm,1.7s
G24K Hadweenzic Riv 49.02 30 P P 21 08 34.7 -1.3
baz=270
G24K S **S** **21 15 47.9 +7.2**
baz=270
WAT6 Susitna Watana 49.04 35 P P 21 08 34.3 -2.1
baz=274,SNR=21
WAT6 S **S** **21 15 43.9 +2.4**
baz=274
POKR Poker Plat Res 49.06 32 P P 21 08 34.9 -1.4
POKR IAMs_20 IAMs_20 21 31 05.2
comp=Z,98μm,19.0s
POKR Poker Plat Res 49.06 32 P P 21 08 34.4 -2.0
baz=272,SNR=323
POKR S **S** **21 15 47.5 +6.2**
baz=272
MMRI Maumere 49.06 205 P P 21 08 36.4 -0.5
MMRI Maumere 49.06 205 P P 21 08 36.8 -0.1
comp=Z,176μm,comp=Z,68μm,comp=Z,2μm,1.1s
MMRI Maumere 49.06 205 P P 21 08 36.8 -0.1
M23K Glacier View 49.10 36 P P 21 08 34.1 -2.6
baz=274,SNR=28
M23K S **S** **21 15 46.5 +4.4**
baz=274
DHY Denali Highway 49.18 35 P P 21 08 35.5 -1.9
DHY IAmb IAmb 21 08 49.5
comp=Z,2μm,1.8s
DHY IAMs_20 IAMs_20 21 31 28.1
comp=Z,99μm,19.0s
DHY Denali Highway 49.18 35 P P 21 08 35.0 -2.5
baz=274,SNR=42
DHY S **S** **21 15 45.0 +1.6**
baz=274
IPM Ipoh 49.24 238 P P 21 08 37.3 -1.1
IPM IAmb IAmb 21 08 50.5
comp=Z,1μm,1.2s
IPM IAMs_20 IAMs_20 21 30 11.5
comp=Z,126μm,20.0s
IPM Ipoh 49.24 238 P P 21 08 38.1 -0.2
comp=Z,86μm,comp=Z,20μm,comp=Z,665nm,0.9s
IPM Ipoh 49.24 238 P P 21 08 39.0 +0.7
IPM Ipoh 49.24 238 P P 21 08 37.9 -0.4
IPM Ipoh 49.24 238 ⇓ **P P 21 08 36.9 -1.4**
SCM Sheep Creek Mo 49.29 36 P P 21 08 36.3 -1.9
SCM Sheep Creek Mo 49.29 36 P P 21 08 35.8 -2.4
baz=275,SNR=24
SCM S **S** **21 15 47.9 +3.1**
baz=275
SCM Sheep Creek Mo 49.29 36 P P 21 08 36.3 -1.9
SCM pmax pmax
comp=Z,1μm,1.2s
HDA Harding Lake 49.30 33 P P 21 08 37.0 -1.2
HDA IAMs_20 IAMs_20 21 31 44.5
comp=Z,76μm,18.0s
HDA Harding Lake 49.30 33 P P 21 08 35.6 -2.6
baz=273,SNR=63
HDA S **S** **21 15 47.9 +3.3**
baz=273
HDA S **S** **21 15 47.9 +3.3**
baz=273
IL31 49.31 32 P P 21 08 36.5 -1.6
IL31 IAmb IAmb 21 08 50.0
comp=Z,1μm,1.2s
ILAR Eielson Array 49.31 32 P P 21 08 36.1 -2.1
comp=Z,68nm,0.8s,baz=267,slow=6.1,SNR=85

ILAR S **S** **21 15 47.7 +2.9**
comp=Z,1.1nm,0.9s,baz=263,slow=3.9,SNR=1.6
ILAR LR LR 21 31 43.6
comp=Z,70μm,18.9s,baz=274,slow=39
ILAR P3KPbc 21 36 43.6
comp=Z,0.6nm,0.9s,baz=83,slow=2.1,SNR=4.6
ILAR PKPPKP P'P'df 21 39 18.1 -27
comp=Z,3.1nm,1.1s,baz=288,slow=0.8,SNR=4.4
ILAR PKP2ab 21 40 33.6
comp=Z,5.1nm,1.2s,baz=70,slow=3.0,SNR=4.2
comp=Z,68nm,0.8s
DGPR DIGLIPUR 49.31 254 *eP* **P 21 08 40.6 +1.7**
DGPR IAmb IAmb 21 08 57.0
comp=Z,983nm,0.9s
MYKOM Kota Tinggi 49.38 233 P P 21 08 39.8 +0.4
MYKOM IAmb IAmb 21 09 06.4
comp=Z,1μm,1.5s
MYKOM IAMs_20 IAMs_20 21 32 07.4
comp=Z,70μm,18.0s
MYKOM Kota Tinggi 49.38 233 P P 21 08 40.8 +1.4
comp=Z,90μmcomp=Z,19μmcomp=Z,486nm,1.6s
MYKOM Kota Tinggi 49.38 233 P P 21 08 42.0 +2.6
MYKOM Kota Tinggi 49.38 233 ⇓ **P P 21 08 39.4 +0.1**
D25K Kavik River 49.45 26 P P 21 08 38.3 -1.1
baz=269
D25K S **S** **21 15 50.5 +3.7**
baz=269
SOEI Soe 49.46 202 P P 21 08 38.8 -1.2
SOEI Soe 49.46 202 P P 21 08 39.5 -0.5
comp=Z,153μmcomp=Z,44μmcomp=Z,2μm,1.1s
SOEI Soe 49.46 202 P P 21 08 40.2 +0.2
TKM2 Tokmak 2 49.49 298 P P 21 08 39.6 -0.6
SNR=103
TKM2 Tokmak 2 49.49 298 *i* **P P 21 08 38.7 -1.5**
TKM2 pmax pmax
comp=Z,1μm,1.2s
G25K Bearman Lake 49.56 30 P P 21 08 38.9 -1.2
baz=272
G25K S **S** **21 15 54.1 +5.9**
baz=272
HNR Honiara 49.62 156 P P 21 08 40.2 -0.9
HNR IAmb IAmb 21 09 50.1
comp=Z,840nm,1.2s
HNR Honiara 49.62 156 IAMs_20 IAMs_20 21 26 48.0
comp=Z,141μm,22.0s
HNR Honiara 49.62 156 P P 21 08 40.2 -0.9
HNR pmax pmax
comp=Z,840nm,1.3s
HNR MLR MLR
comp=Z,141μm,22.0s
TPRI Tanjung Pinang 49.62 232 P P 21 08 42.6 +1.4
comp=Z,87μmcomp=Z,20μmcomp=Z,675nm,1.3s
BRZS Berezniki 49.63 308 ⇓ *i*P **P 21 08 38.9 -2.1**
comp=Z,169nm,1.0s,baz=308
BRZS *eS* **S** **21 15 46.4 -3.5**
baz=308
BRZS Berezniki 49.63 308 *d i*P **P 21 08 38.9 -2.1**
BRZS *eS* **S** **21 15 46.3 -3.5**
BRZS pmax pmax
comp=Z,169nm,1.0s
NRN Naryn 49.65 296 P P 21 08 40.7 -0.9
NRN Naryn 49.65 296 P P 21 08 40.7 -0.9
NRN pmax pmax
comp=Z,474nm,1.4s
H25L Birch Creek 49.69 30 P P 21 08 40.5 -0.6
baz=272
H25L S **S** **21 15 57.7 +7.6**
baz=272
F25K Christian Rive 49.72 29 P P 21 08 41.1 -0.4
baz=271
F25K S **S** **21 15 56.7 +6.1**
baz=271
E25K Arctic Village 49.74 28 P P 21 08 41.7 +0.1
baz=271,SNR=112
E25K S **S** **21 15 56.2 +5.3**
baz=271
BTDF Bukit Timah Da 49.76 233 P P 21 08 44.3 +2.1
comp=Z,54μmcomp=Z,11μmcomp=Z,377nm,1.7s
M24K Tolsona, Glenn 49.81 36 P P 21 08 40.8 -1.4
M24K Tolsona, Glenn 49.81 36 P P 21 08 41.1 -1.1
baz=275,SNR=25
M24K S **S** **21 15 58.1 +6.1**
baz=275
HIN Hinchinbrook I 49.83 38 P P 21 08 41.5 -0.8
PRP Porcupine Dome 49.84 31 P P 21 08 41.2 -1.3
PRP IAMs_20 IAMs_20 21 32 03.9
comp=Z,102μm,18.0s
PRP Porcupine Dome 49.84 31 P P 21 08 40.4 -2.1
baz=273,SNR=147
PRP S **S** **21 15 54.9 +2.3**
baz=273
K24K Donnelly Dome 49.85 34 P P 21 08 39.4 -3.0
baz=274,SNR=32
K24K S **S** **21 15 55.6 +3.2**
baz=274
FYU Fort Yukon 49.91 30 P P 21 08 42.7 -0.1
BTLS Baital 49.96 301 ⇓ *i*P **P 21 08 41.6 -2.0**
comp=Z,52nm,0.5s,baz=301
BTLS *eS* **S** **21 15 51.2 -3.4**
baz=301
BTLS Baital 49.96 301 *d i*P **P 21 08 41.5 -2.0**
BTLS *eS* **S** **21 15 51.1 -3.4**
BTLS pmax pmax
comp=Z,52nm,0.5s
C26K Camden Bay 49.97 26 P P 21 08 41.9 -1.2
baz=270
C26K S **S** **21 15 57.9 +4.0**
baz=270
J25K Salcha River, 49.97 33 P P 21 08 40.6 -2.7
J25K IAmb IAmb 21 09 37.6
comp=Z,764nm,1.7s
J25K Salcha River, 49.97 33 P P 21 08 39.9 -3.5
baz=274
J25K S **S** **21 15 55.7 +1.5**
baz=274
KLU Klutina 49.99 37 P P 21 08 42.7 -0.8
KLU IAmb IAmb 21 08 58.3
comp=Z,941nm,1.1s
KLU IAMs_20 IAMs_20 21 30 04.0
comp=Z,74μm,19.0s
KLU Klutina 49.99 37 P P 21 08 42.5 -1.1
baz=276,SNR=34
KLU S **S** **21 15 58.8 +4.2**
baz=276
SGDS Sogindy 50.01 299 ⇓ *i*P **P 21 08 41.8 -2.2**
baz=299
SGDS *eS* **S** **21 15 55.9 +0.5**
baz=299
SGDS Sogindy 50.01 299 *d i*P **P 21 08 41.8 -2.2**
SGDS *eS* **S** **21 15 55.8 +0.4**
KBK Karagaybulak 50.02 298 P P 21 08 45.9 +1.7
SNR=70
Q23K Middleton Isla 50.02 39 P P 21 08 41.6 -2.1
Q23K Middleton Isla 50.02 39 P P 21 08 42.8 -0.9
baz=278
MID Middleton Isla 50.03 39 P P 21 08 41.9 -1.8
MID Middleton Isla 50.03 39 P P 21 08 41.9 -1.8
MID pmax pmax
comp=Z,3μm,1.8s
PAX Paxson 50.05 35 P P 21 08 43.1 -1.0
PAX IAmb IAmb 21 08 59.4
comp=Z,759nm,1.4s
PAX Paxson 50.05 35 P P 21 08 42.6 -1.4
baz=275,SNR=28
PAX S **S** **21 15 55.5 0.0**
baz=275
PAX Paxson 50.05 35 P P 21 08 43.1 -1.0
PAX pmax pmax
comp=Z,759nm,1.4s
CHMS Chumysh 50.06 299 P P 21 08 45.5 +1.2
SNR=21
CHMS Chumysh 50.06 299 *i* **P P 21 08 42.8 -1.5**
CHMS pmax pmax
comp=Z,439nm,1.4s
BATI Baumata 50.07 203 S S 21 15 59.5 +3.0
comp=Z,111nm,1.0s,baz=113,slow=21,SNR=12
BATI LR LR 21 28 59.2
comp=Z,99μm,21.4s,baz=31,slow=35
BATI Baumata 50.07 203 P P 21 08 44.4 -0.2
comp=Z,124μmcomp=Z,49μmcomp=Z,2μm,1.1s
DIV Divide 50.10 37 P P 21 08 43.6 -0.8
DIV IAmb IAmb 21 08 59.3
comp=Z,1μm,1.1s
BMAR Burnt Mountain 50.13 29 P P 21 08 42.8 -1.7
USP Ospenovka 50.16 299 P P 21 08 45.5 +0.5
SNR=8.5
EYAK Cordova Ski Ar 50.18 38 P P 21 08 43.1 -1.8

EYAK IAmb IAmb 21 08 59.8
comp=Z,871nm,1.1s
EYAK Cordova Ski Ar 50.18 38 P **P** **21 08 43.3 -1.6**
baz=277,SNR=15
EYAK S **S** **21 16 01.8 +4.7**
baz=277
EYAK Cordova Ski Ar 50.18 38 P **P** **21 08 46.6 +1.7**
HARP HAARP 50.25 36 P **P** **21 08 43.2 -2.3**
baz=276,SNR=27
HARP S **S** **21 16 05.0 +6.9**
baz=276
RIDG Independent Ri 50.26 34 P **P** **21 08 44.2 -1.4**
RIDG IAmb IAmb 21 08 59.4
comp=Z,1µm,1.3s
RIDG IAMs_20 IAMs_20 21 32 19.1
comp=Z,76µm,19.0s
RIDG Independent Ri 50.26 34 P **P** **21 08 43.6 -2.0**
baz=275
RIDG S **S** **21 16 00.9 +2.6**
baz=275
KSH Kashi 50.28 294 P **P** **21 08 49.0 +2.8**
KSH sP sP 21 08 55.8 +7.7
KSH PcP **PcP** **21 10 09.8 +4.7**
KSH S S 21 16 08.4 +9.1
KSH pmax pmax
comp=Z,370nm,2.5s
KSH pmax pmax
comp=Z,30µm,8.3s
KSH LR LR
comp=Z,262µm,14.9s
KSH LR LR
comp=Z,289µm,17.0s
KSH LR LR
comp=Z,480µm,16.1s
F26K Sheenjek River 50.29 29 P **P** **21 08 44.7 -1.0**
baz=272
F26K S **S** **21 16 05.9 +7.4**
baz=272
AAK Ala-Archa 50.35 298 P **P** **21 08 46.9 +0.2**
SNR=18
AAK Ala-Archa 50.35 298 LR LR 21 31 26.7
comp=Z,489µm,20.6s,baz=75,slow=38
AAK Ala-Archa 50.35 298 P **P** **21 08 45.5 -1.2**
AAK Ala-Archa 50.35 298 P **P** **21 08 47.8 +1.1**
AAK P **P** **21 08 47.8 +1.1**
AAK P **P** **21 08 47.8 +1.1**
AAK S **S** **21 15 59.1 -1.2**
AAK S **S** **21 15 59.1 -1.2**
AAK S **S** **21 15 59.1 -1.2**
AAK Ala-Archa 50.35 298 *i* P **P** **21 08 45.3 -1.4**
SNR=106
AAK Ala-Archa 50.35 298 ⇓P **P** **21 08 45.5 -1.2**
AAK ⇑P **P** **21 08 46.8 +0.2**
AAK ⇓P **sP** **21 08 49.0 +0.4**
AAK Ala-Archa 50.35 298 *ce*P **P** **21 08 45.6 -1.1**
AAK pmax pmax
comp=Z,64nm,1.3s
AAK MLR MLR
comp=Z,440µm,19.0s
BVAR Borovoye Array 50.39 312 LR LR 21 31 33.2
comp=Z,325µm,18.1s,baz=86,slow=38
C27K Jago River 50.39 26 P **P** **21 08 44.4 -1.9**
baz=271
C27K S **S** **21 16 03.8 +4.1**
baz=271
PBA Port Blair 50.39 253 P **P** **21 08 46.1 -0.9**
PBA IAmb IAmb 21 09 16.7
comp=Z,546nm,0.8s
PBA Port Blair 50.39 253 P **P** **21 08 44.9 -2.2**
PBA Port Blair 50.39 253 *eP* **P** **21 08 47.6 +0.5**
PBA IAmb IAmb 21 09 03.1
comp=Z,325nm,0.7s
PBA Port Blair 50.39 253 ⇓P **P** **21 08 45.9 -1.2**
KDU Kakadu 50.40 191 P **P** **21 08 46.7 -0.3**
KDU Kakadu 50.40 191 ⇓P **P** **21 08 45.8 -1.2**
DBNI Kabupaten Domp 50.40 210 P **P** **21 08 46.5 -0.6**
comp=Z,140µmcomp=Z,52µmcomp=Z,1µm,1.2s
BRVK Borovoye 50.44 312 P **P** **21 08 45.2 -1.9**
BRVK Borovoye 50.44 312 P **P** **21 08 48.1 +1.1**
BRVK P **P** **21 08 48.1 +1.1**
BRVK P **P** **21 08 48.1 +1.1**
BRVK S **S** **21 16 03.9 +3.0**
BRVK S **S** **21 16 03.9 +3.0**
BRVK S **S** **21 16 03.9 +3.0**
BRVK Borovoye 50.44 312 *ce*P **P** **21 08 44.8 -2.2**
BRVK pmax pmax
comp=Z,286nm,2.5s
BRVK MLR MLR
comp=Z,315µm,18.0s
UCH Uchtor 50.46 298 P **P** **21 08 48.4 +0.5**
SNR=17
G26K Porcupine Rive 50.47 30 P **P** **21 08 46.1 -0.9**
baz=273
G26K S **S** **21 16 08.0 +7.1**
baz=273
BWJI Bawean 50.59 218 P **P** **21 08 50.5 +2.0**
comp=Z,112µmcomp=Z,46µmcomp=Z,2µm,1.0s
N25K Chitina, Valde 50.61 36 P **P** **21 08 47.0 -1.3**
N25K IAmb IAmb 21 09 41.0
comp=Z,1µm,1.9s
N25K Chitina, Valde 50.61 36 P **P** **21 08 46.8 -1.4**
baz=277,SNR=21
N25K S **S** **21 16 09.8 +6.6**
baz=277
DOT Dot Lake 50.62 34 P **P** **21 08 46.9 -1.4**
DOT IAmb IAmb 21 09 00.1
comp=Z,1µm,1.6s
SCRK Sand Creek 50.62 33 P **P** **21 08 45.7 -2.7**
SCRK IAmb IAmb 21 09 03.2
comp=Z,1µm,1.3s
SCRK Sand Creek 50.62 33 P **P** **21 08 45.3 -3.1**
baz=276,SNR=72
SCRK S **S** **21 16 07.0 +3.6**
baz=276
DSRI Dabo 50.67 231 P **P** **21 08 51.6 +2.4**
comp=Z,101µmcomp=Z,23µmcomp=Z,507nm,1.4s
BMRM Bremner River 50.68 37 P **P** **21 08 47.3 -1.5**
BMRM Bremner River 50.68 37 P **P** **21 08 47.1 -1.7**
baz=278,SNR=45
BMRM S **S** **21 16 09.7 +5.4**
baz=278
RAGM Ragged Mountai 50.73 38 P **P** **21 08 49.7 +0.6**
RAGM IAmb IAmb 21 09 06.4
comp=Z,939nm,1.1s
RAGM IAMs_20 IAMs_20 21 33 26.3
comp=Z,135µm,19.0s
J26L Joseph Creek 50.75 33 P **P** **21 08 47.6 -1.7**
J26L IAmb IAmb 21 09 00.9
comp=Z,1µm,1.8s
J26L IAMs_20 IAMs_20 21 32 38.0
comp=Z,78µm,18.0s
J26L Joseph Creek 50.75 33 P **P** **21 08 47.2 -2.1**
baz=276
J26L S **S** **21 16 07.3 +2.2**
baz=276
MTN Manton Dam 50.77 193 P **P** **21 08 48.9 -0.9**
MTN IAmb IAmb 21 09 06.5
comp=Z,1µm,1.1s
MTN Manton Dam 50.77 193 P **P** **21 08 49.5 -0.3**
MTN Manton Dam 50.77 193 ⇓P **P** **21 08 48.8 -1.1**
EKS2 Erkin-Say 50.84 298 P **P** **21 08 51.6 +1.2**
SNR=26
I26K Coal Creek Min 50.85 32 P **P** **21 08 48.4 -1.5**
I26K IAMs_20 IAMs_20 21 32 36.5
comp=Z,82µm,18.0s
I26K Coal Creek Min 50.85 32 P **P** **21 08 47.5 -2.4**
baz=275
I26K S **S** **21 16 11.0 +4.8**
baz=275
MENT Mentasta 50.85 35 P **P** **21 08 49.7 -0.4**
MENT IAmb IAmb 21 09 07.7
comp=Z,749nm,1.0s
BWNR Bhubaneshwar 50.85 267 *eP* **P** **21 08 51.8 +1.3**
PTH Pithoragarh 50.86 280 *eP* **P** **21 08 49.7 -1.1**
LGTI Lohaghat 50.88 280 *eP* **P** **21 08 50.7 +0.1**
PLAI Plampang 50.91 211 P **P** **21 08 49.9 -1.0**
comp=Z,124µmcomp=Z,29µmcomp=Z,1µm,1.0s
PLAI Plampang 50.91 211 P **P** **21 08 50.2 -0.7**
KAIM Kayak Island 50.92 39 P **P** **21 08 50.3 -0.2**
KAIM IAmb IAmb 21 09 05.3
comp=Z,665nm,0.9s
KAIM Kayak Island 50.92 39 P **P** **21 08 49.5 -1.0**
baz=279
KAIM S **S** **21 16 13.4 +6.0**
baz=279
HMT Hamilton 50.94 38 P **P** **21 08 49.5 -1.2**

HMT IAmb IAmb 21 09 05.9
comp=Z,826nm,1.2s
HMT IAMs_20 IAMs_20 21 33 30.2
comp=Z,125µm,20.0s
COEN Coen 50.99 178 P **P** **21 08 51.5 0.0**
COEN Coen 50.99 178 P **P** **21 08 52.2 +0.8**
COEN Coen 50.99 178 ⇑P **P** **21 08 50.5 -0.9**
GLB Gilahina Butte 51.00 37 P **P** **21 08 50.4 -0.8**
GLB IAmb IAmb 21 09 07.0
comp=Z,1µm,1.4s
L26K Log Cabin Wild 51.01 35 P **P** **21 08 50.0 -1.2**
L26K IAmb IAmb 21 09 06.4
comp=Z,1µm,1.3s
L26K IAMs_20 IAMs_20 21 32 49.5
comp=Z,117µm,19.0s
L26K Log Cabin Wild 51.01 35 P **P** **21 08 49.2 -2.0**
baz=277,SNR=81
L26K S **S** **21 16 14.2 +5.5**
baz=277
PPBI Pangkal Pinang 51.06 228 P **P** **21 08 54.1 +2.0**
comp=Z,106µmcomp=Z,25µmcomp=Z,859nm,2.2s
AML Almayashu 51.07 298 P **P** **21 08 51.9 -0.5**
SNR=83
TWSI Taliwang, Sumb 51.20 212 P **P** **21 08 52.1 -1.0**
comp=Z,135µmcomp=Z,40µmcomp=Z,1µm,1.0s
VRDI Verde Repeater 51.20 37 P **P** **21 08 51.3 -1.5**
VRDI IAmb IAmb 21 09 07.7
comp=Z,948nm,1.2s
BERG Berg Lake 51.21 38 P **P** **21 08 51.1 -1.6**
BERG IAMs_20 IAMs_20 21 33 46.8
comp=Z,95µm,19.0s
SUCK Suckling Hills 51.22 38 P **P** **21 08 53.6 +0.8**
SUCK IAmb IAmb 21 09 09.0
comp=Z,1µm,1.4s
E27K Coleen River 51.22 28 P **P** **21 08 52.0 -0.7**
baz=274
E27K S **S** **21 16 17.7 +6.3**
baz=274
M26K Nabesna, AK 51.25 35 P **P** **21 08 51.7 -1.4**
M26K IAMs_20 IAMs_20 21 34 24.9
comp=Z,88µm,19.0s
M26K Nabesna, AK 51.25 35 P **P** **21 08 52.0 -1.1**
baz=278
M26K S **S** **21 16 18.8 +6.7**
baz=278
KLNI Mataram 51.26 213 P **P** **21 08 53.6 +0.1**
comp=Z,171µmcomp=Z,88µmcomp=Z,6µm,1.2s
G27K Doyon Strip 51.32 30 P **P** **21 08 53.4 0.0**
baz=276
G27K S **S** **21 16 19.2 +6.4**
baz=276
SRBI Singaraja 51.34 214 P **P** **21 08 54.5 +0.4**
comp=Z,195µmcomp=Z,87µmcomp=Z,2µm,1.4s
MCARA McCarthy VSAT 51.38 37 P **P** **21 08 53.4 -0.6**
MCARA McCarthy VSAT 51.38 37 P **P** **21 08 52.3 -1.7**
baz=279,SNR=36
MCARA S **S** **21 16 20.5 +6.7**
baz=279
H27K Steamboat Moun 51.43 30 P **P** **21 08 53.9 -0.4**
baz=276
H27K S S 21 16 23.9 +10
baz=276
BGLC Bering Glacier 51.46 38 P **P** **21 08 52.9 -1.6**
baz=279
BGLC S **S** **21 16 21.0 +6.3**
baz=279
I27K Kandik River 51.46 31 P **P** **21 08 53.5 -1.1**
baz=276
I27K S **S** **21 16 19.6 +4.8**
baz=276
ABJI Asem Bagus 51.53 215 P **P** **21 08 56.4 +0.8**
comp=Z,188µmcomp=Z,84µmcomp=Z,2µm,1.7s
LHMI Lhok Sumawe 51.55 243 P **P** **21 08 56.9 +1.1**
LHMI Lhok Sumawe 51.55 243 P **P** **21 08 58.7 +2.9**
comp=Z,147µmcomp=Z,55µmcomp=Z,937nm,0.7s
LHMI Lhok Sumawe 51.55 243 P **P** **21 08 57.8 +2.0**
GRJI Gresik 51.59 218 P **P** **21 08 57.3 +1.3**
comp=Z,84µmcomp=Z,44µmcomp=Z,3µm,1.0s
WAX Waxell Ridge 51.61 38 P **P** **21 08 55.3 -0.6**
WAX IAMs_20 IAMs_20 21 34 57.4
comp=Z,69µm,18.0s
TSI Tuntungan 51.63 240 P **P** **21 08 59.8 +3.4**
comp=Z,94µmcomp=Z,24µmcomp=Z,564nm,0.7s
SNH Sunshine Point 51.67 38 P **P** **21 08 55.4 -0.8**
L27K Beaver Creek, 51.69 34 P **P** **21 08 55.1 -1.2**
L27K IAmb IAmb 21 09 11.7
comp=Z,1µm,1.2s
L27K Beaver Creek, 51.69 34 P **P** **21 08 55.6 -0.7**
baz=278
L27K S **S** **21 16 24.9 +6.8**
baz=278
BCAR Beaver Creek A 51.71 34 P **P** **21 08 54.9 -1.6**
JHSG JHARSUGUGA 51.71 270 *eP* **P** **21 08 56.1 -0.9**
EGAK Eagle 51.75 32 P **P** **21 08 55.8 -0.8**
EGAK IAmb IAmb 21 09 08.7
comp=Z,2µm,1.9s
EGAK Eagle 51.75 32 P **P** **21 08 54.4 -2.3**
baz=278,SNR=35
EGAK S **S** **21 16 23.9 +5.2**
baz=278
M27K Edge Creek, AK 51.77 35 P **P** **21 08 57.3 +0.2**
M27K IAmb IAmb 21 09 12.9
comp=Z,777nm,1.1s
M27K IAMs_20 IAMs_20 21 33 47.7
comp=Z,86µm,20.0s
M27K Edge Creek, AK 51.77 35 P **P** **21 08 55.9 -1.2**
baz=279,SNR=41
M27K S **S** **21 16 25.5 +6.0**
baz=279
RTBI Rangdo, Negare 51.80 214 P **P** **21 08 57.6 0.0**
comp=Z,149µmcomp=Z,80µmcomp=Z,3µm,1.5s
TBJI Tambak Boyo 51.82 219 P **P** **21 08 59.4 +1.7**
ISLE Juniper Island 51.84 38 P **P** **21 08 57.0 -0.6**
BYJI Banyuwangi 51.84 215 P **P** **21 08 59.3 +1.4**
comp=Z,188µmcomp=Z,116µmcomp=Z,6µm,1.3s
DNP Denpasar 51.87 214 P **P** **21 09 01.0 +2.9**
comp=Z,157µmcomp=Z,62µmcomp=Z,3µm,1.1s
PSI Prapat 51.89 239 P **P** **21 08 58.3 -0.2**
comp=Z,58µmcomp=Z,15µmcomp=Z,395nm,1.1s,comp=Z,96µm,1.1s,
comp=Z,23µm,1.1s,comp=Z,650nm,1.1s
PSI P **pP** **21 08 58.4 -1.5**
comp=Z,58µmcomp=Z,15µmcomp=Z,395nm,1.1s,comp=Z,96µm,1.1s,
comp=Z,23µm,1.1s,comp=Z,650nm,1.1s
PSI Prapat 51.89 239 P **P** **21 08 59.1 +0.6**
PSI Prapat 51.89 239 P **P** **21 08 57.6 -0.9**
PSI pmax pmax
comp=Z,463nm,1.0s
PSI MLR MLR
comp=Z,97µm,21.0s
RPSI Rantau Prapat 51.97 239 P **P** **21 08 57.6 -1.3**
RPSI IAmb IAmb 21 09 13.8
comp=Z,463nm,1.0s
RPSI IAMs_20 IAMs_20 21 31 22.8
comp=Z,97µm,21.0s
IGBI Denpasar 52.02 214 P **P** **21 09 02.5 +3.3**
comp=Z,70µmcomp=Z,25µmcomp=Z,1µm,1.1s
BARN Barnard Glacie 52.09 37 P **P** **21 08 59.4 -0.1**
BARN IAmb IAmb 21 09 15.1
comp=Z,850nm,1.4s
MESA MESA 52.10 38 P **P** **21 08 58.6 -1.0**
MESA IAMs_20 IAMs_20 21 34 24.9
comp=Z,93µm,20.0s
MESA MESA 52.10 38 P **P** **21 08 58.4 -1.3**
baz=280
JMBI JAMBI 52.16 231 P **P** **21 09 03.6 +3.3**
comp=Z,22µmcomp=Z,617nm,1.3s
JAGI Jajag, Banyuwa 52.16 215 P **P** **21 08 58.8 -1.5**
JAGI IAmb IAmb 21 09 14.7
comp=Z,903nm,1.1s
JAGI Jajag, Banyuwa 52.16 215 P **P** **21 09 01.4 +1.1**
comp=Z,118µmcomp=Z,35µmcomp=Z,945nm,1.1s
JAGI Jajag, Banyuwa 52.16 215 P **P** **21 08 59.8 -0.5**
KCSI Kotacane, Aceh 52.17 241 P **P** **21 09 00.5 +0.1**
comp=Z,62µmcomp=Z,13µmcomp=Z,278nm,1.7s
YAH Yahtse 52.17 38 P **P** **21 08 59.7 -0.5**
YAH IAmb IAmb 21 09 15.0
comp=Z,846nm,1.1s
YAH IAMs_20 IAMs_20 21 34 47.7
comp=Z,80µm,20.0s
DDI Dehra Dun 52.22 282 *eP* **P** **21 09 01.5 +0.8**
DDI IAmb IAmb 21 09 25.4
comp=Z,462nm,0.8s
BVCY Beaver Creek 52.23 35 P **P** **21 08 58.0 -2.4**
baz=280,SNR=32
BKNI Bangkinang 52.31 235 P **P** **21 09 01.4 -0.1**
BKNI IAMs_20 IAMs_20 21 32 32.9
comp=Z,92µm,19.0s
BKNI Bangkinang 52.31 235 P **P** **21 09 02.5 +1.1**
comp=Z,108µmcomp=Z,30µmcomp=Z,2µm,1.2s
BKNI Bangkinang 52.31 235 P **P** **21 09 02.8 +1.4**
GMJI Gumukmas 52.32 216 P **P** **21 09 02.4 +1.0**
comp=Z,106µmcomp=Z,32µmcomp=Z,1µm,1.5s
TRSI Tarutung 52.43 238 P **P** **21 09 05.6 +3.1**
comp=Z,88µmcomp=Z,22µmcomp=Z,1µm,1.1s
TABL Table Mountain 52.45 38 P **P** **21 08 58.7 -3.5**
TABL IAmb IAmb 21 09 13.5
comp=Z,884nm,1.6s
DZA Taraz 52.48 299 ⇓*i*P **P** **21 09 00.6 -2.0**
comp=Z,106nm,0.8s,baz=299
DZA *e*S **S** **21 16 28.5 -1.0**
comp=Z,3µm,7.2s,baz=299
DZA Taraz 52.48 299 *d i*P **P** **21 09 00.5 -2.0**
DZA *e*S **S** **21 16 28.4 -1.0**
DZA pmax pmax
comp=Z,106nm,0.8s
DZA smax smax
comp=E,3µm,7.2s
NGJI Ngawi 52.49 219 P **P** **21 09 05.5 +2.8**
comp=E,201µmcomp=E,57µmcomp=E,1µm,1.0s
PMBI Palembang 52.49 229 P **P** **21 09 02.4 -0.3**
PMBI Palembang 52.49 229 P **P** **21 09 03.7 +1.0**
comp=E,109µmcomp=E,37µmcomp=E,2µm,1.2s
PMBI Palembang 52.49 229 P **P** **21 09 06.5 +3.8**
YUK3 Moose Creek 52.53 36 P **P** **21 09 01.5 -1.3**
baz=280,SNR=42
SMLA Simla 52.56 283 *eP* **P** **21 09 02.2 -1.0**
SMLA IAmb IAmb 21 09 11.5
comp=Z,766nm,1.1s
MLSI Meulaboh, Aceh 52.60 243 P **P** **21 09 03.5 -0.1**
comp=Z,1µmcomp=Z,6µmcomp=Z,677nm,0.7s
DAWY Dawson 52.62 33 P **P** **21 09 01.4 -1.8**
DAWY Dawson 52.62 33 P **P** **21 09 00.8 -2.4**
baz=280,SNR=38
SJI Sawahan 52.65 218 P **P** **21 09 03.7 -0.3**
comp=Z,90µmcomp=Z,34µmcomp=Z,2µm,1.8s
KRKI Karangkates 52.69 217 P **P** **21 09 05.5 +1.3**
comp=Z,5µmcomp=Z,527nm,1.0s
SMRI Semarang 52.73 220 P **P** **21 09 04.9 +0.4**
SMRI Semarang 52.73 220 P **P** **21 09 06.7 +2.2**
comp=Z,182µmcomp=Z,73µmcomp=Z,1µm,1.6s
SMRI Semarang 52.73 220 P **P** **21 09 06.5 +2.0**
BLSP Bilaspur 52.84 271 *eP* **P** **21 09 04.5 -0.8**
O28M Mount Upton 52.85 37 P **P** **21 09 03.5 -1.7**
baz=281
I29M Ogilvie Camp, 52.86 31 P **P** **21 09 03.5 -1.5**
I29M Ogilvie Camp, 52.86 31 P **P** **21 09 03.5 -1.5**
baz=280,SNR=221
PWJI Pagerwojo 52.88 218 P **P** **21 09 05.9 +0.3**
comp=Z,48µmcomp=Z,3µm,0.9s
MNSI Mandailing Nat 52.92 237 P **P** **21 09 05.3 -0.7**
comp=Z,70µmcomp=Z,17µmcomp=Z,567nm,1.3s
YUK8 Steele Glacier 52.95 36 P **P** **21 09 04.9 -1.0**
baz=281,SNR=23
PCA Pinnacle 52.95 38 P **P** **21 09 04.8 -0.9**
PCA IAmb IAmb 21 09 21.2
comp=Z,659nm,1.3s
PINM Pinnacle 52.95 38 P **P** **21 09 04.7 -1.1**
baz=282,SNR=5.8
KK31 Karatay Array 52.98 300 P **P** **21 09 04.9 -1.3**
KK31 Karatay Array 52.98 300 P **P** **21 09 04.9 -1.3**
KK31 pmax pmax
comp=Z,323nm,1.0s
KKAR Karatay Array 52.98 300 P **P** **21 09 04.2 -2.0**
KKAR Karatay Array 52.98 300 P **P** **21 09 03.9 -2.3**
KKAR IAmb IAmb 21 09 21.3
comp=Z,322nm,0.9s
KKAR Karatay Array 52.98 300 ⇓P **P** **21 09 03.8 -2.3**
KKAR ⇑P **pP** **21 09 04.5 -3.0**
KKAR Karatay Array 52.98 300 P **P** **21 09 04.2 -2.0**
SDSI Sungai Dareh 53.01 233 P **P** **21 09 06.7 +0.1**
comp=Z,101µmcomp=Z,31µmcomp=Z,797nm,1.0s
BHK Bhakra 53.02 284 *eP* **P** **21 09 07.0 +0.4**
J29M Klondike Camp 53.05 32 P **P** **21 09 05.9 -0.5**
J29M IAmb IAmb 21 09 22.3
comp=Z,2µm,1.7s
J29M IAMs_20 IAMs_20 21 33 27.8
comp=Z,84µm,20.0s
J29M Klondike Camp 53.05 32 P **P** **21 09 05.3 -1.1**
baz=280,SNR=10
BCPM Bancas Point 53.29 38 P **P** **21 09 07.8 -0.3**
BCPM IAmb IAmb 21 09 23.9
comp=Z,957nm,1.4s
DRK Karamyk 53.32 295 P **P** **21 09 07.7 -1.3**
DRK IAmb IAmb 21 09 23.1
comp=Z,518nm,0.8s
M29M Somme Creek 53.33 35 P **P** **21 09 07.7 -0.8**
baz=282,SNR=60
EPYK Eagle Plains 53.33 30 P **P** **21 09 07.1 -1.3**
EPYK IAMs_20 IAMs_20 21 35 27.0
comp=Z,69µm,18.0s
EPYK Eagle Plains 53.33 30 P **P** **21 09 07.4 -1.1**
baz=280,SNR=248
KKR Kurukshetra 53.34 282 *eP* **P** **21 09 07.8 -1.2**
PCJI Pacitan 53.34 218 P **P** **21 09 09.6 +0.6**
comp=Z,100µmcomp=Z,33µmcomp=Z,856nm,1.7s
L29M L29M 53.34 34 P **P** **21 09 06.8 -1.7**
baz=281
CTJI Waduk Cacaban 53.35 221 P **P** **21 09 09.3 +0.2**
comp=Z,153µmcomp=Z,65µmcomp=Z,2µm,1.3s
JCJI Jatiwangi 53.40 223 P **P** **21 09 13.2 +3.8**
comp=Z,131µmcomp=Z,53µmcomp=Z,2µm,1.1s
G30M tAoh Zraii Nji 53.42 29 P **P** **21 09 07.9 -1.1**
baz=280,SNR=178
UGM Wanagama 53.42 219 P **P** **21 09 08.2 -1.4**
UGM Wanagama 53.42 219 P **P** **21 09 10.0 +0.3**
comp=Z,119µmcomp=Z,72µmcomp=Z,4µm,1.3s
UGM Wanagama 53.42 219 P **P** **21 09 10.2 +0.5**
YOGI Yogyakarta 53.46 220 P **P** **21 09 11.3 +1.4**
comp=Z,63µmcomp=Z,32µmcomp=Z,2µm,1.4s
YUK4 Talbot Arm 53.47 36 P **P** **21 09 08.6 -1.1**
baz=282,SNR=33
PNL Peninsula 53.47 38 P **P** **21 09 07.8 -1.7**
baz=283
PNL Peninsula 53.47 38 P **P** **21 09 11.7 +2.2**
K29M Barlow Dome 53.47 33 P **P** **21 09 07.4 -2.2**
baz=281
BISR Bishrakh 53.47 281 *eP* **P** **21 09 11.0 +1.1**
NDI New Delhi 53.60 281 *eP* **P** **21 09 11.0 +0.1**
NDI *e*S **S** **21 16 46.0 +1.1**
PDSI Padang 53.62 234 P **P** **21 09 14.8 +3.7**
comp=Z,77µmcomp=Z,15µmcomp=Z,258nm,1.0s
IUG Iuzhnay 53.63 299 *eP* **P** **21 09 10.5 -0.7**
baz=299
IUG *e*S **S** **21 16 46.1 +0.7**
baz=299
IUG Iuzhnay 53.63 299 *eP* **P** **21 09 10.4 -0.7**
IUG *e*S **S** **21 16 46.0 +0.7**
JMU Jammu 53.64 286 *eP* **P** **21 09 09.6 -1.5**
YUK6 Outpost Mounta 53.69 37 P **P** **21 09 10.7 -0.7**
baz=283,SNR=33
O29M Mount Kennedy 53.73 37 P **P** **21 09 09.7 -1.9**
baz=283,SNR=37
BTK Batken 53.82 296 P **P** **21 09 11.1 -1.3**
BTK IAmb IAmb 21 09 31.4
comp=Z,923nm,1.4s
BTK Batken 53.82 296 P **P** **21 09 11.1 -1.3**
BTK pmax pmax
comp=Z,923nm,1.4s
CHM Chimkent 53.87 299 ⇓*i*P **P** **21 09 11.5 -1.2**
comp=Z,241nm,1.1s,baz=299
CHM *e*S **S** **21 16 49.4 +1.0**
baz=299
CHM *e*LR LR 21 32 50.9
comp=Z,57µm,14.4s,baz=299
CHM Chimkent 53.87 299 *d i*P **P** **21 09 11.5 -1.2**
CHM *e*S **S** **21 16 49.3 +1.0**
CHM pmax pmax
comp=Z,241nm,1.1s
CHM MLR MLR
comp=Z,57µm,14.0s
GSI Gunungsitoli 53.90 239 P **P** **21 09 11.9 -1.2**
GSI Gunungsitoli 53.90 239 P **P** **21 09 13.1 -0.1**
comp=Z,110µmcomp=Z,71µmcomp=Z,3µm,1.2s
GSI Gunungsitoli 53.90 239 P **P** **21 09 14.0 +0.8**
SONA Sohna 53.90 280 *eP* **P** **21 09 13.5 +0.4**
SCJI Gunung Srandil 53.92 221 P **P** **21 09 14.8 +1.5**
comp=Z,72µmcomp=Z,21µmcomp=Z,727nm,1.3s
SNSI Sinabang, Aceh 53.97 241 P **P** **21 09 16.5 +2.8**
comp=Z,60µmcomp=Z,31µmcomp=Z,733nm,1.0s
KLI Kotabumi 53.98 227 P **P** **21 09 13.8 0.0**
comp=Z,104µmcomp=Z,47µmcomp=Z,3µm,1.1s
KNRA Kununurra 53.99 195 P **P** **21 09 13.0 -0.6**
KNRA Kununurra 53.99 195 P **P** **21 09 14.0 +0.3**

TNG Tangerang 54.03 224 P P 21 09 28.2 +14
LEM Lembang 54.03 223 P **P** **21 09 14.7 +0.4**
comp=Z,309nm,1.0s,baz=55,slow=5.7,SNR=26
LEM S **S** **21 16 52.1 +0.9**
comp=Z,11nm,0.4s,baz=18,slow=5.8,SNR=4.4
LEM LR LR 21 33 36.5
comp=Z,21µm,19.5s,baz=13,slow=38
comp=Z,309nm,1.0s
LEM Lembang 54.03 223 P **P** **21 09 14.9 +0.6**
comp=Z,117µmcomp=Z,47µmcomp=Z,2µm,1.1s
M30M Minto, Yukon 54.05 34 P **P** **21 09 13.0 -0.8**
M30M IAmb IAmb 21 09 29.5
comp=Z,821nm,1.3s
M30M Minto, Yukon 54.05 34 P **P** **21 09 13.3 -0.4**
baz=283
CBJI Citeko 54.12 224 P **P** **21 09 18.4 +3.7**
comp=Z,102µmcomp=Z,35µmcomp=Z,885nm,1.6s
HYT Haines Junctio 54.12 37 P **P** **21 09 14.8 +0.4**
HYT Haines Junctio 54.12 37 P **P** **21 09 13.2 -1.2**
baz=284,SNR=66
OPA Opana 54.16 89 P **P** **21 09 12.9 -2.0**
OPA IAmb IAmb 21 09 22.9
comp=Z,1µm,1.3s
OPA Opana 54.16 89 P **P** **21 09 13.0 -2.0**
OPA pmax pmax
comp=Z,1µm,1.3s
BLSI Bandar Lampung 54.17 226 P **P** **21 09 15.8 +0.7**
comp=Z,77µmcomp=Z,31µmcomp=Z,2µm,0.8s
N30M Aishikik Lake 54.17 36 P **P** **21 09 13.6 -1.1**
baz=283
INK Inuvik 54.18 27 P **P** **21 09 13.9 -0.6**
comp=Z,98nm,0.9s,baz=277,slow=6.7,SNR=48
INK S **S** **21 16 54.0 +2.3**
comp=Z,4.0nm,0.8s,baz=327,slow=28,SNR=0.9
INK LR LR 21 35 27.8
comp=Z,63µm,19.2s,baz=272,slow=40
INK PKPPKP **P'P'df** **21 39 36.1 -2.2**
comp=Z,4.7nm,1.0s,baz=120,slow=2.0,SNR=3.4
comp=Z,98nm,0.9s
INK Inuvik 54.18 27 P **P** **21 09 13.2 -1.3**
INK IAmb IAmb 21 09 30.1
comp=Z,496nm,1.1s
INK Inuvik 54.18 27 P **P** **21 09 12.8 -1.7**
baz=282,SNR=96
INK Inuvik 54.18 27 P **P** **21 09 14.0 -0.6**
MASI Maura Aman, Be 54.20 231 P **P** **21 09 17.1 +1.7**
comp=Z,43µmcomp=Z,19µmcomp=Z,990nm,1.0s
VIS Vishakhapatnam 54.21 266 *e*P **P** **21 09 16.6 +1.1**
VIS IAmb IAmb 21 09 27.9
comp=Z,476nm,1.0s
MAYO Mayo, Yukon 54.23 33 P **P** **21 09 15.4 +0.4**
MAYO Mayo, Yukon 54.23 33 P **P** **21 09 13.9 -1.1**
baz=283,SNR=29
SBJI Serang 54.27 225 P **P** **21 09 17.9 +2.0**
comp=Z,27µmcomp=Z,852nm,1.3s
F31M Tsiigehtchic 54.28 28 P **P** **21 09 14.0 -1.3**
baz=282,SNR=75
KIP Kipapa 54.29 89 P **P** **21 09 15.3 -0.7**
KIP IAmb IAmb 21 09 23.6
comp=Z,580nm,1.4s
KIP Kipapa 54.29 89 P **P** **21 09 17.5 +1.5**
KIP Kipapa 54.29 89 P **P** **21 09 15.3 -0.7**
KIP pmax pmax
comp=Z,580nm,1.4s
KIP MLR MLR
comp=Z,32µm,20.0s
P29M Windy Craggy 54.29 38 P **P** **21 09 15.6 +0.1**
P29M IAMs_20 IAMs_20 21 36 04.9
comp=Z,74µm,19.0s
P29M Windy Craggy 54.29 38 P **P** **21 09 14.1 -1.4**
baz=284
HON Honolulu 54.35 89 P **P** **21 09 13.3 -3.1**
HON Honolulu 54.35 89 P **P** **21 09 13.3 -3.1**
HON pmax pmax
comp=Z,2µm,1.9s
KUDL Kundal 54.41 281 *e*P **P** **21 09 15.7 -1.2**
PBSI Pulau Batu 54.41 237 P **P** **21 09 17.9 +1.0**
comp=Z,92µmcomp=Z,36µmcomp=Z,1µm,1.3s
TAS Tashkent 54.44 298 P **P** **21 09 17.9 +1.0**
TAS IAmb IAmb 21 09 37.8
comp=Z,650nm,1.1s
TAS Tashkent 54.44 298 P **P** **21 09 17.9 +1.0**
TAS pmax pmax
comp=Z,651nm,1.1s
NIL Nilore 54.51 288 P **P** **21 09 16.0 -1.6**
NIL IAmb IAmb 21 09 52.9
comp=Z,793nm,1.1s
NIL Nilore 54.51 288 P **P** **21 09 18.1 +0.6**
NIL Nilore 54.51 288 P **P** **21 09 16.0 -1.6**
NIL pmax pmax
comp=Z,793nm,1.2s
NIL MLR MLR
comp=Z,152µm,19.0s
BBJI Bungbulang 54.54 223 P **P** **21 09 16.6 -1.3**
P30M Million Dollar 54.55 37 P **P** **21 09 16.6 -0.8**
baz=284
GAR Garm 54.57 295 P **P** **21 09 16.8 -1.2**
LWLI Liwa 54.58 228 P **P** **21 09 19.1 +0.9**
comp=Z,88µmcomp=Z,30µmcomp=Z,1µm,0.7s
UBSI University, Be 54.66 230 P **P** **21 09 18.5 -0.2**
comp=Z,92µmcomp=Z,28µmcomp=Z,714nm,1.2s
MNAI Manna 54.72 229 P **P** **21 09 19.3 +0.2**
MNAI Manna 54.72 229 P **P** **21 09 20.4 +1.3**
comp=Z,88µmcomp=Z,28µmcomp=Z,1µm,2.4s
MNAI Manna 54.72 229 P **P** **21 09 20.1 +1.0**
KASI Kota Agung 54.73 227 P **P** **21 09 19.1 -0.1**
comp=Z,76µmcomp=Z,22µmcomp=Z,934nm,1.0s
SKJI Sukabumi 54.76 224 P **P** **21 09 22.4 +3.0**
comp=Z,4µmcomp=Z,334nm,0.5s
N31M Braeburn, Yuko 54.77 36 P **P** **21 09 19.1 +0.1**
N31M IAMs_20 IAMs_20 21 35 01.5
comp=Z,69µm,18.0s
N31M Braeburn, Yuko 54.77 36 P **P** **21 09 18.9 -0.1**
baz=284,SNR=51
O30N Mendenhall 54.81 37 P **P** **21 09 17.9 -1.4**
baz=285,SNR=40
SISI Saibi 54.82 235 P **P** **21 09 21.2 +1.3**
comp=Z,98µmcomp=Z,29µmcomp=Z,656nm,1.0s
SVE Sverdlovsk 54.95 318 *ce*P **P** **21 09 19.3 -1.0**
SVE *e*S **S** **21 17 05.8 +3.5**
SVE *e* 21 20 44.3
SVE pmax pmax
comp=Z,1µm,1.1s
SVE pmax pmax
comp=Z,21µm,13.5s
SVE MLR MLR
comp=N,158µm,16.0s
SVE MLR MLR
comp=Z,425µm,17.0s
SVE MLR MLR
comp=E,333µm,16.0s
PLBC Pleasant Camp 55.02 38 P **P** **21 09 19.7 -1.0**
baz=285,SNR=39
MTSU Mount Surprise 55.18 177 P **P** **21 09 22.7 +0.4**
M31M Drury Creek, Y 55.23 35 P **P** **21 09 21.4 -0.9**
M31M IAmb IAmb 21 09 37.5
comp=Z,756nm,1.4s
M31M Drury Creek, Y 55.23 35 P **P** **21 09 21.9 -0.4**
baz=285,SNR=53
PPSI Pulau Pagai 55.31 233 P **P** **21 09 25.0 +1.6**
comp=Z,95µmcomp=Z,42µmcomp=Z,2µm,1.0s
WHY Whitehorse 55.41 36 P **P** **21 09 23.7 0.0**
WHY Whitehorse 55.41 36 P **P** **21 09 22.5 -1.2**
baz=286,SNR=50
S31K Pelican 55.49 40 P **P** **21 09 23.5 -0.7**
baz=286,SNR=12
SKAG Skagway 55.52 38 P **P** **21 09 25.2 +0.9**
SKAG Skagway 55.52 38 P **P** **21 09 23.7 -0.7**
baz=286,SNR=25
CHGR Chuyangaron 55.53 295 P **P** **21 09 23.5 -1.4**
CHGR Chuyangaron 55.53 295 P **P** **21 09 23.5 -1.4**
CHGR pmax pmax
comp=Z,2µm,0.9s
R31K City Hall, Gus 55.61 39 P **P** **21 09 23.0 -2.0**
baz=286
FARO Faro, Yukon 55.69 34 P **P** **21 09 25.2 -0.5**
FARO IAmb IAmb 21 09 40.9
comp=Z,899nm,1.4s
FARO Faro, Yukon 55.69 34 P **P** **21 09 24.9 -0.8**
baz=286,SNR=59
NGP Nagpur 55.80 272 *e*P **P** **21 09 25.1 -1.8**
KHLH Kahului Airpor 55.83 89 P **P** **21 09 26.6 -0.5**
EGSI Enggano, Bengk 55.91 229 P **P** **21 09 28.6 +0.9**
comp=Z,82µmcomp=Z,24µmcomp=Z,414nm,1.0s
BESE Bessie Mountai 56.01 39 P **P** **21 09 27.3 -0.7**
BESE IAmb IAmb 21 09 44.2
comp=Z,785nm,1.6s
BHPL Bhopal 56.02 275 *e*P **P** **21 09 26.7 -1.9**
BHPL IAmb IAmb 21 09 38.2
comp=Z,592nm,1.5s
HLK Haleakala 56.04 89 P **P** **21 09 27.1 -1.9**
HLK IAmb IAmb 21 09 36.9
comp=Z,677nm,1.2s
A36M Sachs Harbour 56.05 22 P **P** **21 09 26.5 -1.4**
A36M IAmb IAmb 21 09 40.5
comp=Z,799nm,1.1s
A36M IAMs_20 IAMs_20 21 35 53.4
comp=Z,75µm,21.0s
A36M Sachs Harbour 56.05 22 P **P** **21 09 27.3 -0.6**
baz=286,SNR=101
A36M S **S** **21 17 22.6 +6.0**
baz=286
N32M Quiet Lake 56.12 36 P **P** **21 09 28.0 -0.7**
baz=287
N32M S **S** **21 17 24.2 +6.2**
baz=287
ARU Arti 56.16 318 LR LR 21 36 03.9
comp=Z,379µm,18.7s,baz=64,slow=39
ARU Arti 56.16 318 P **P** **21 09 26.8 -2.2**
ARU Arti 56.16 318 *d* P **P** **21 09 26.8 -2.2**
ARU 21 10 30.0
ARU 21 11 29.7
ARU PPP PPP 21 12 50.0
ARU S **S** **21 17 17.8 -0.8**
ARU 21 19 12.8
ARU SS **SS** **21 21 01.9 -2.4**
ARU SSS SSS 21 23 02.4
ARU pmax pmax
comp=Z,382nm,1.1s
ARU pmax pmax
comp=Z,14µm,9.3s
ARU MLR MLR
comp=Z,351µm,18.0s
SIT Sitka 56.22 41 P **P** **21 09 28.7 -0.7**
SIT IAmb IAmb 21 09 48.7
comp=Z,698nm,1.3s
SIT Sitka 56.22 41 P **P** **21 09 29.1 -0.3**
baz=288,SNR=8.3
SIT S **S** **21 17 27.9 +8.6**
baz=288
SIT Sitka 56.22 41 P **P** **21 09 28.7 -0.7**
SIT pmax pmax
comp=Z,698nm,1.3s
R32K Eaglecrest 56.27 39 P **P** **21 09 29.7 -0.1**
baz=288,SNR=25
R32K S **S** **21 17 25.8 +5.8**
baz=288
P32M Atlin 56.27 38 P **P** **21 09 28.7 -1.1**
baz=287,SNR=42
P32M S **S** **21 17 28.7 +8.6**
baz=287
JIS Juneau Island 56.34 39 P **P** **21 09 30.8 +0.6**
JIS IAMs_20 IAMs_20 21 37 11.6
comp=Z,93µm,19.0s
JIS Juneau Island 56.34 39 P **P** **21 09 31.5 +1.3**
TV1H Townsville Har 56.47 174 P **P** **21 09 32.6 +1.1**
S32K Killisnoo 56.48 40 P **P** **21 09 30.6 -0.7**
baz=288,SNR=17
MMPY Sheldon Lake, 56.51 34 P **P** **21 09 30.7 -0.8**
baz=287,SNR=50
P33M Teslin, Yukon 56.52 37 P **P** **21 09 31.7 0.0**
P33M Teslin, Yukon 56.52 37 P **P** **21 09 30.8 -0.8**
baz=288,SNR=69
P33M S **S** **21 17 30.4 +7.0**
baz=288
AJM Ajmer 56.64 280 *e*P **P** **21 09 31.9 -1.1**
HUH Hualalai 56.93 90 P **P** **21 09 35.7 +0.3**
HUH IAmb IAmb 21 09 43.0
comp=Z,1µm,1.6s
VJD Vijayawada 57.01 266 *e*P **P** **21 09 36.7 +1.2**
WB0 Warramunga Arr 57.12 188 P **P** **21 09 34.9 -1.3**
WB0 IAmb IAmb 21 09 60.0
comp=Z,582nm,1.0s
POHA Pohakuloa 57.13 89 P **P** **21 09 37.4 +0.6**
Q32M Nakina River 57.17 38 P **P** **21 09 36.1 -0.3**
baz=289
Q32M S **S** **21 17 39.5 +7.1**
baz=289
C36M Paulatuk 57.22 25 P **P** **21 09 35.6 -0.7**
C36M Paulatuk 57.22 25 P **P** **21 09 34.3 -2.1**
baz=289,SNR=68
C36M S **S** **21 17 36.8 +4.6**
baz=289
MWH Moku'aweowe 57.23 90 P **P** **21 09 36.6 -1.1**
CTA Charters Tower 57.24 175 P **P** **21 09 36.8 -0.2**
comp=Z,20nm,0.8s,baz=356,slow=8.0,SNR=15
CTA S **S** **21 17 36.0 +2.5**
comp=Z,2.0nm,0.5s,baz=280,slow=18,SNR=1.1
CTA LR LR 21 33 34.3
comp=Z,50µm,21.3s,baz=343,slow=35
comp=Z,20nm,0.8s
CTA Charters Tower 57.24 175 P **P** **21 09 38.3 +1.3**
CTAO Charters Tower 57.24 175 P **P** **21 09 35.7 -1.3**
CTAO IAmb IAmb 21 10 01.8
comp=Z,854nm,1.9s
CTAO Charters Tower 57.24 175 P **P** **21 09 38.3 +1.3**
CTAO Charters Tower 57.24 175 ⇓P **P** **21 09 35.8 -1.3**
CTAO ⇑P **pP** **21 09 38.5 0.0**
CTAO ⇑P **sP** **21 09 41.1 +2.2**
CTAO Charters Tower 57.24 175 P **P** **21 09 35.7 -1.3**
CTAO pmax pmax
comp=Z,854nm,1.9s
CTAO MLR MLR
comp=Z,64µm,22.0s
HMH Humu'ula Sheep 57.26 89 P **P** **21 09 35.7 -2.0**
HMH IAmb IAmb 21 09 53.8
comp=Z,1µm,1.5s
WRAB Tennant Creek 57.29 188 P **P** **21 09 36.4 -0.9**
WRAB IAmb IAmb 21 10 01.2
comp=Z,441nm,0.9s
WRAB Tennant Creek 57.29 188 IAMs_20 IAMs_20 21 32 10.8
comp=Z,114µm,22.0s
WRAB Tennant Creek 57.29 188 P **P** **21 09 36.3 -1.0**
WRAB Tennant Creek 57.29 188 *ce*P **P** **21 09 35.5 -1.8**
WRAB pmax pmax
comp=Z,245nm,1.7s
WR0 Warramunga Arr 57.29 188 P **P** **21 09 36.4 -1.0**
WR0 IAmb IAmb 21 10 02.2
comp=Z,364nm,0.8s
WB2 Warramunga Arr 57.30 188 P **P** **21 09 36.3 -1.2**
WB2 IAmb IAmb 21 10 01.8
comp=Z,449nm,0.8s
WRA Warramunga Arr 57.30 188 P **P** **21 09 35.7 -1.7**
comp=Z,79nm,0.9s,baz=4.7,slow=7.4,SNR=71
WRA S **S** **21 17 39.5 +5.3**
comp=Z,3.8nm,1.1s,baz=312,slow=37,SNR=2.3
WRA LR LR 21 34 33.0
comp=Z,31µm,18.1s,baz=349,slow=36
WRA PKPPKP P'P'df 21 39 32.7 +15
comp=Z,8.0nm,1.1s,baz=188,slow=2.0,SNR=5.9
comp=Z,79nm,0.9s
WRA Warramunga Arr 57.30 188 P **P** **21 09 36.1 -1.3**
WRA Warramunga Arr 57.30 188 *i* P **P** **21 09 35.2 -2.2**
WRA pmax pmax
comp=Z,80nm,0.9s
KBL Kabul 57.30 291 P **P** **21 09 36.5 -1.2**
KBL IAmb IAmb 21 09 44.4
comp=Z,497nm,1.2s
KBL Kabul 57.30 291 S **S** **21 17 33.4 -1.3**
KBL Kabul 57.30 291 P **P** **21 09 36.5 -1.2**
KBL pmax pmax
comp=Z,497nm,1.2s
KHU Kahuku 57.34 90 P **P** **21 09 36.0 -2.2**
KHU Kahuku 57.34 90 P **P** **21 09 36.0 -2.2**
KHU pmax pmax
comp=Z,3µm,1.7s
MLH Mauna Loa 57.39 89 P **P** **21 09 36.8 -1.8**
MLH IAmb IAmb 21 09 46.3
comp=Z,897nm,1.3s
AIN Ainahou 57.40 90 P **P** **21 09 37.9 -0.7**
T33K Petersburg 57.53 41 P **P** **21 09 38.0 -0.7**
baz=290
QIS Mount Isa 57.55 182 P **P** **21 09 38.2 -1.0**
HLP Hilina Pali 57.56 90 P **P** **21 09 38.4 -1.1**
HLP IAmb IAmb 21 10 40.8
comp=Z,993nm,1.5s
AKL Akola 57.65 272 *e*P **P** **21 09 39.3 -0.8**
R33M Jennings River 57.67 37 P **P** **21 09 39.2 -0.6**
baz=290,SNR=54
R33M S **S** **21 17 47.3 +8.6**
baz=290
U33K Whale Pass 57.68 41 P **P** **21 09 38.8 -1.0**
baz=290,SNR=24
U33K S **S** **21 17 46.8 +8.2**
baz=290
FUNA Funafuti 57.70 134 P **P** **21 09 39.8 -0.5**
FUNA IAmb IAmb 21 09 58.6
comp=Z,1µm,1.7s
ABKAR Akbulak array 57.76 310 P **P** **21 09 37.7 -2.8**
ABKAR Akbulak array 57.76 310 P **P** **21 09 37.8 -2.7**
ABKAR IAmb IAmb 21 09 59.1
comp=Z,2µm,1.7s
CRAG Craig 57.90 42 P **P** **21 09 40.4 -1.0**
CRAG IAmb IAmb 21 09 57.6
comp=Z,556nm,1.3s
CRAG Craig 57.90 42 P **P** **21 09 41.3 0.0**
baz=290,SNR=7.3
CRAG S **S** **21 17 49.5 +8.0**
baz=290
WRAK Wrangell Islan 57.98 41 P **P** **21 09 42.3 +0.4**
WRAK IAmb IAmb 21 09 55.4
comp=Z,632nm,1.4s
WRAK Wrangell Islan 57.98 41 IAMs_20 IAMs_20 21 35 49.6
comp=Z,66µm,20.0s
WRAK Wrangell Islan 57.98 41 P **P** **21 09 40.2 -1.7**
baz=290,SNR=9.4
WRAK S **S** **21 17 50.0 +7.5**
baz=290
XMI Christmas Isla 58.09 223 P **P** **21 09 47.0 +3.9**
S34M Telegraph Cree 58.09 39 P **P** **21 09 42.9 +0.2**
baz=290,SNR=50
S34M S S 21 17 53.2 +9.2
baz=290
HYBB Hyderabad (bro 58.18 268 *e*P **P** **21 09 43.1 -0.8**
HYBB *e*S **S** **21 17 47.1 +0.8**
HYBB IVMs_BB IVMs_BB 21 34 13.7
comp=Z,16µm,18.2s
HYB Hyderabad 58.18 268 *e*P **P** **21 09 43.3 -0.6**
HYB IAmb IAmb 21 09 58.7
comp=Z,781nm,1.3s
TGTN Hyland Airport 58.20 34 P **P** **21 09 42.3 -1.2**
baz=290,SNR=58
TGTN S **S** **21 17 51.0 +5.6**
baz=290
WTLY Watson Lake, Y 58.45 36 P **P** **21 09 45.7 +0.5**
WTLY Watson Lake, Y 58.45 36 P **P** **21 09 43.8 -1.5**
baz=291
WTLY S **S** **21 17 56.2 +7.4**
baz=291
DLBC Dease Lake 58.45 38 LR LR 21 38 03.0
comp=Z,23µm,19.2s,baz=312,slow=39
DLBC Dease Lake 58.45 38 P **P** **21 09 45.7 +0.4**
DLBC Dease Lake 58.45 38 P **P** **21 09 44.8 -0.5**
baz=291,SNR=54
DLBC S **S** **21 17 57.7 +8.8**
baz=291
V35K Ketchikan 58.76 42 P **P** **21 09 45.3 -2.0**
baz=291
V35K S **S** **21 18 00.8 +8.1**
baz=291
T35M Bob Quinn 58.87 40 P **P** **21 09 47.3 -0.8**
baz=291,SNR=51
T35M S S 21 18 03.9 +10
baz=291
DIB Dawson Inlet, 59.07 44 P **P** **21 09 50.9 +1.4**
DIB IAmb IAmb 21 10 04.8
comp=Z,847nm,1.3s
H02S1 DAWSON INLET T 59.07 44 P **P** **21 09 50.1 +0.6**
SNR=36
MDRS Chennai 59.28 263 *e*P **P** **21 09 52.6 +1.1**
JASL Jaisalmer 59.36 282 *e*P **P** **21 09 51.0 -1.0**
MOBC Moresby Island 59.38 44 P **P** **21 09 51.5 -0.2**
MOBC IAmb IAmb 21 10 03.1
comp=Z,999nm,1.6s
WRGLY Wrigley 59.66 32 P **P** **21 09 52.1 -1.4**
baz=293,SNR=41
WRGLY S **S** **21 18 10.7 +6.6**
baz=293
HOPEN Hopen 59.80 346 *e*P **P** **21 09 54.9 +0.7**
HOPEN IVmB_BB 21 10 05.4
comp=Z,23µm,2.7s
HOPEN *e*S **S** **21 18 06.7 +1.0**
HOPEN IVMs_BB IVMs_BB 21 38 60.0
comp=Z,96µm,14.9s
RUBB Prince Rupert 59.86 43 P **P** **21 09 56.5 +1.6**
EUNU Eureka 59.95 9 P **P** **21 09 53.5 -1.9**
EUNU IAmb IAmb 21 10 08.4
comp=Z,412nm,0.8s
LIRD Liard River Hi 59.98 36 P **P** **21 09 54.0 -1.8**
baz=293,SNR=97
LIRD S **S** **21 18 15.9 +7.4**
baz=293
KIRV Kirov 60.04 323 LR LR 21 38 45.4
comp=Z,134µm,18.7s,baz=68,slow=39
KIRV Kirov 60.04 323 *d* P **P** **21 09 54.0 -2.1**
HG4B Hotspring 60.14 45 P **P** **21 09 55.9 -1.0**
HG4B IAmb IAmb 21 10 12.0
comp=Z,483nm,1.3s
GRNB Grenville Isla 60.21 43 P **P** **21 09 57.1 -0.3**
GRNB IAmb IAmb 21 10 10.2
comp=Z,1µm,1.7s
DVP Devils Point 60.26 150 P **P** **21 10 00.3 +2.3**
SPA0 Spitsbergen Ar 60.28 349 *e*P **P** **21 09 57.0 -0.6**
SPA0 IVmB_BB 21 10 08.7
comp=Z,19µm,2.9s
SPA0 *e*S **S** **21 18 11.9 0.0**
SPA0 IVMs_BB IVMs_BB 21 35 11.1
comp=Z,66µm,20.7s
SPB2 Spitsbergen Ar 60.28 349 P **P** **21 09 56.9 -0.7**
SPB2 IAmb IAmb 21 10 50.7
comp=Z,547nm,1.1s
SPITS Spitsbergen Ar 60.28 349 LR LR 21 37 17.8
comp=Z,177µm,20.4s,baz=3.5,slow=37
SPITS Spitsbergen Ar 60.28 349 P **P** **21 09 56.5 -1.1**
SPITS pmax pmax
comp=Z,1µm,1.5s
KBS Kingsbay 60.41 350 P **P** **21 09 57.4 -1.0**
KBS Kingsbay 60.41 350 IAMs_20 IAMs_20 21 39 17.4
comp=Z,83µm,18.0s
KBS Kingsbay 60.41 350 *i* P **P** **21 10 00.1 +1.7**
KBS *i* S **S** **21 18 18.8 +5.3**
KBS Kingsbay 60.41 350 P **P** **21 09 57.4 -1.0**
KBS pmax pmax
comp=Z,2µm,1.6s
KBS MLR MLR
comp=Z,83µm,18.0s
KBS Kingsbay 60.41 350 *e*P **P** **21 09 58.1 -0.3**
KBS IVmBBB 21 10 09.7
comp=Z,17µm,1.2s
KBS *e*S **S** **21 18 14.2 +0.7**
KBS *e*SS **SS** **21 22 12.6 +2.3**
KBS IVMs_BB IVMs_BB 21 30 10.0
comp=Z,25µm,40.4s
PRGR Permogore 60.55 327 *e*P **P** **21 09 58.9 -0.6**
PRGR *e* 21 10 39.4
PRGR *e* 21 12 13.4
PRGR pmax pmax
comp=Z,161nm,0.8s
KOTAN Kotaneelee Air 60.64 35 P **P** **21 09 59.2 -1.1**
baz=294,SNR=18
KOTAN S **S** **21 18 24.6 +7.7**
baz=294
FLDN Fort Liard 60.86 35 P **P** **21 10 01.3 -0.4**
baz=295
FLDN S **S** **21 18 25.3 +5.7**
baz=295
RK1H Rockhampton Ha 60.95 170 P **P** **21 10 03.9 +1.3**
comp=Z,274nm,1.1s
AS01 Alice Springs 61.02 188 P **P** **21 10 02.9 -0.3**
comp=Z,243nm,0.8s
AS31 Alice Springs 61.02 188 P **P** **21 10 03.2 0.0**
ASAR Alice Springs 61.02 188 P **P** **21 10 02.5 -0.7**
comp=Z,50nm,0.8s,baz=8.9,slow=5.6,SNR=162
ASAR S **S** **21 18 31.0 +8.5**
comp=Z,1.6nm,0.8s,baz=20,slow=11,SNR=1.1
ASAR LR LR 21 33 52.7
comp=Z,52µm,21.5s,baz=3.5,slow=34
ASAR PKPPKP P'P'df 21 39 24.1 +12
comp=Z,3.1nm,0.8s,baz=156,slow=2.0,SNR=5.6
comp=Z,50nm,0.8s
HSPB Hornsund (broa 61.20 348 *e*P **P** **21 10 03.1 -0.7**
HSPB *e*PcP sP 21 10 14.8 +9.0
HSPB *e*PP PP 21 12 28.2 +10
HSPB *e*S **S** **21 18 28.5 +4.9**
HSPB *e*L L 21 37 29.9
comp=Z,166µm,21.9s
KOUNC Koumac, New Ca 61.44 155 P **P** **21 10 05.9 -0.1**
KOUNC IAmb IAmb 21 10 23.3

comp=Z,408nm,1.2s
KOUNC **Koumac, New Ca** 61.44 155 P P 21 10 12.2 +6.2
GD1S **Gladstone Soft** 61.49 170 P P **21 10 07.8 +1.5**
MBWA **Marble Bar** 61.60 203 P P **21 10 06.1 -1.1**
MBWA IAmb IAmb 21 10 23.2
comp=Z,391nm,1.0s
MBWA **Marble Bar** 61.60 203 P P **21 10 05.0 -2.1**
MBWA S S **21 18 24.4 -5.4**
MBWA **Marble Bar** 61.60 203 P P **21 10 07.4 +0.3**
KAD **Karad** 61.73 271 *eP* P **21 10 07.7 -0.6**
SALM **Salem** 61.73 263 *eP* P **21 10 08.7 +0.5**
LVZ **Lovozero** 61.88 336 P P **21 10 06.7 -1.9**
LVZ **Lovozero** 61.88 336 *i* P P **21 10 07.9 -0.7**
LVZ pmax pmax
comp=Z,1μm,2.2s
LVZ MLR MLR
comp=Z,241μm,19.0s
BBB **Bella Bella** 61.91 44 LR LR 21 40 54.4
comp=Z,12μm,18.3s,baz=310,slow=40
BBB **Bella Bella** 61.91 44 P P **21 10 07.7 -1.3**
PSA00 **Pilbara Seismi** 61.95 203 P P **21 10 08.9 -0.6**
PSA00 IAmb IAmb 21 10 25.1
comp=Z,364nm,1.0s
PSA00 **Pilbara Seismi** 61.95 203 P P **21 10 08.7 -0.8**
PSA00 IAmb IAmb 21 10 24.6
comp=Z,202nm,1.0s
PSA00 **Pilbara Seismi** 61.95 203 P P **21 10 09.8 +0.3**
BHUJ **Bhuj** 62.17 279 *eP* P **21 10 12.0 +0.8**
BHUJ IAmb IAmb 21 10 26.3
comp=Z,179nm,0.8s
BJO1 **Bjornoya** 62.22 345 *eP* P **21 10 10.2 -0.5**
BJO1 IVmB_BB 21 10 21.4
comp=Z,18μm,4.7s
BJO1 *e*PP PP **21 12 30.5 +3.5**
BJO1 *e*S S **21 18 36.1 -0.4**
BJO1 *e*SS SS **21 22 44.5 +5.8**
BJO1 IVMs_BB IVMs_BB 21 41 03.1
comp=Z,79μm,15.3s
VADS **Vadso** 62.33 339 *eP* P **21 10 11.3 -0.2**
VADS IVmBBB 21 10 22.0
comp=Z,18μm,1.9s
VADS *e*S S **21 18 38.0 +0.1**
RES **Resolute Bay** 62.37 14 LR LR 21 40 12.6
comp=Z,54μm,19.2s,baz=327,slow=39
RES **Resolute Bay** 62.37 14 P P **21 10 09.9 -1.8**
RES **Resolute Bay** 62.37 14 P P **21 10 09.9 -1.8**
RES pmax pmax
comp=Z,1μm,1.7s
HRA **Herat** 62.39 294 P P **21 10 11.7 -1.1**
HRA IAmb IAmb 21 10 24.3
comp=Z,563nm,1.4s
PALK **Pallekele** 62.39 257 LR LR 21 40 43.0
comp=Z,92μm,18.7s,baz=153,slow=39
PALK **Pallekele** 62.39 257 P P **21 10 11.2 -1.5**
PALK IAmb IAmb 21 10 27.4
comp=Z,275nm,1.0s
PALK **Pallekele** 62.39 257 IAMs_20 IAMs_20 21 38 10.7
comp=Z,97μm,22.0s
PALK **Pallekele** 62.39 257 P P **21 10 10.2 -2.6**
PALK P P **21 10 11.3 -1.5**
PALK S S **21 18 35.5 -4.9**
PALK **Pallekele** 62.39 257 P P **21 10 14.5 +1.7**
comp=Z,61μmcomp=Z,16μmcomp=Z,394nm,1.3s
PALK **Pallekele** 62.39 257 P P **21 10 11.3 -1.5**
PALK pmax pmax
comp=Z,275nm,1.0s
PALK MLR MLR
comp=Z,97μm,22.0s
APA **Apatity** 62.45 336 ⇓ *i* P P **21 10 12.0 -0.4**
APA *i* 21 10 57.0
APA *i* 21 12 27.0
APA *i* PPP PPP 21 14 05.0
APA *i* S S **21 18 34.0 -5.7**
APA *i* PS 21 19 11.0
APA *i* 21 20 00.0
APA *i* SS SS **21 22 41.0 -1.6**
APA *i* SSS SSS 21 25 20.0
APA pmax pmax
comp=Z,397nm,0.9s
APA MLR MLR
comp=Z,292μm,23.0s
LIFNC **LIFOU** 62.68 153 P P **21 10 13.1 -1.2**
EIDS **Eidsvold** 62.98 170 P P **21 10 15.9 -0.4**
EIDS IAmb IAmb 21 10 35.9
comp=Z,636nm,1.4s
EIDS **Eidsvold** 62.98 170 P P **21 10 17.9 +1.6**
GOA **Goa** 63.02 269 *eP* P **21 10 17.1 +0.3**
GOA IAmb IAmb 21 10 31.3
comp=Z,961nm,1.0s
KOD **Kodaikanal** 63.14 262 *eP* P **21 10 18.7 +0.6**
WRKA **Warakurna** 63.19 193 P P **21 10 18.0 +0.2**
KEV **Kevo** 63.20 339 P P **21 10 16.2 -1.1**
KEV IAmb IAmb 21 10 31.2
comp=Z,490nm,1.0s
KEV **Kevo** 63.20 339 P P **21 10 16.2 -1.1**
KEV pmax pmax
comp=Z,490nm,1.0s
KEV MLR MLR
comp=Z,191μm,19.0s
KLMR **Klimovskoe** 63.53 328 ⇓ *i* P P **21 10 17.0 -2.6**
KLMR *eP* P **21 10 17.0 -2.6**
KLMR *eP* P **21 10 17.0 -2.6**
KLMR AMP 21 10 32.5
comp=Z,2μm,1.7s
KLMR PP PP **21 12 35.3 -3.5**
KLMR S S **21 18 55.3 +1.9**
KLMR S S **21 18 55.3 +1.9**
KLMR SS SS **21 23 06.3 +6.6**
KLMR SS SS **21 23 06.3 +6.6**
KLMR LQ LQ 21 29 52.2
KLMR LQ LQ 21 29 52.2
KLMR LR LR 21 30 19.7
KLMR AMP 21 43 21.7
comp=Z,110μm,13.2s
KLMR **Klimovskoe** 63.53 328 *d* *i* P P **21 10 17.0 -2.6**
KLMR 21 12 35.3
KLMR S S **21 18 55.3 +1.9**
KLMR SS SS **21 23 06.2 +6.6**
KLMR pmax pmax
comp=Z,2μm,1.7s
KLMR MLR MLR
comp=Z,110μm,13.0s
QLP **Quilpie** 63.58 177 P P **21 10 20.5 +0.3**
HAMF **Hammerfest** 63.58 341 *eP* P **21 10 19.4 -0.4**
HAMF IVmBBB 21 10 31.0
comp=Z,13μm,1.9s
HAMF *e*S S **21 18 54.8 +1.1**
HAMF *e*SS SS **21 23 00.3 +0.3**
HAMF IVMs_BB IVMs_BB 21 36 03.5
comp=Z,37μm,27.8s
DZM **Mont Dzumac** 63.58 154 S S 21 19 04.9 +10
comp=Z,9.6nm,0.9s,baz=40,slow=19,SNR=1.6
DZM **Mont Dzumac** 63.58 154 *eP* P **21 10 19.6 -0.9**
comp=Z,1μm,1.1s
DZM *e*S S **21 18 55.4 +0.5**
comp=Z,113μm,24.6s
DZM **Mont Dzumac** 63.58 154 *e*LR LR 21 29 19.3
comp=Z,401μm,33.9s
DZM **Mont Dzumac** 63.58 154 P P **21 10 18.8 -1.6**
DZM **Mont Dzumac** 63.58 154 P P **21 10 23.7 +3.2**
YSA **Yasawairara** 63.60 141 P P **21 10 19.2 -1.3**
BELG **Belogornoye** 63.60 317 LR LR 21 39 26.4
comp=Z,103μm,19.9s,baz=60,slow=38
BELG **Belogornoye** 63.60 317 *d* *i* P P **21 10 17.9 -2.3**
BELG pmax pmax
comp=Z,255nm,1.1s
BELG MLR MLR
comp=Z,36μm,16.0s
MARNC **Mare, Loyalty** 63.61 152 P P **21 10 19.6 -1.0**
YKA **Yellowknife Ar** 63.61 30 P P **21 10 19.4 -0.7**
comp=Z,42nm,0.9s,baz=297,slow=7.0,SNR=37
YKA PKPPKP 21 39 11.4
comp=Z,2.7nm,0.9s,baz=159,slow=3.5,SNR=4.2
YKA LR LR 21 42 35.5
comp=Z,31μm,18.2s,baz=309,slow=40
comp=Z,42nm,0.9s
YKA **Yellowknife Ar** 63.61 30 P P **21 10 18.5 -1.7**
YKA **Yellowknife Ar** 63.61 30 *i* P P **21 10 19.3 -0.8**
YKA pmax pmax
comp=Z,43nm,0.9s
MNGI **Mangalore** 63.66 266 *eP* P **21 10 21.7 +0.6**
GEYT **Alibeck** 63.69 299 P P **21 10 20.0 -1.2**
comp=Z,149nm,0.8s,baz=38,slow=2.6,SNR=96
comp=Z,149nm,0.8s
GEYT **Alibeck** 63.69 299 P P **21 10 19.6 -1.5**
GEYT IAmb IAmb 21 10 40.2
comp=Z,446nm,1.0s
YATNC **Mamie plateau,** 63.73 154 P P **21 10 24.2 +2.9**
ARA0 **ARCESS Array S** 63.76 339 *eP* P **21 10 20.7 -0.3**
ARA0 IVmBBB 21 10 31.8
comp=Z,16μm,1.7s
ARA0 *e*S S **21 18 56.1 +0.1**
ARA0 *e*SS SS **21 23 07.7 +4.8**
ARA0 IVMs_BB IVMs_BB 21 36 56.6
comp=Z,48μm,29.8s
ARCES **ARCESS Array B** 63.76 339 P P **21 10 19.2 -1.9**
comp=Z,51nm,0.7s,baz=56,slow=7.4,SNR=34
ARCES S S **21 18 58.9 +2.9**
comp=Z,8.0nm,1.1s,baz=64,slow=2.8,SNR=1.8
ARCES PKPPKP 21 39 26.4
comp=Z,3.9nm,0.8s,baz=224,slow=3.3,SNR=4.4
ARCES LR LR 21 43 43.9
comp=Z,112μm,19.2s,baz=53,slow=41
comp=Z,51nm,0.7s
ARCES **ARCESS Array B** 63.76 339 P P **21 10 19.9 -1.1**
ARCES IAmb IAmb 21 10 35.0
comp=Z,492nm,1.1s
ARCES **ARCESS Array B** 63.76 339 P P **21 10 19.9 -1.1**
ARCES pmax pmax
comp=Z,492nm,1.1s
ONTNC **Ouen Toro** 63.80 154 P P **21 10 20.4 -1.4**
ONTNC IAmb IAmb 21 10 43.9
comp=Z,534nm,1.1s
ONTNC **Ouen Toro** 63.80 154 P P **21 10 25.0 +3.2**
RMQ **Roma** 63.80 173 P P **21 10 22.2 +0.5**
comp=Z,448nm,0.7s
PCHI **Peechi** 63.85 263 ⇓ *eP* P **21 10 20.6 -1.8**
PCHI *e*S S **21 18 59.2 +0.6**
FUTU **Fugatoga** 63.91 135 P P **21 10 26.0 +3.4**
OUENC **Ouen Island, N** 64.04 154 P P **21 10 22.1 -1.2**
OUENC IAmb IAmb 21 10 33.1
comp=Z,905nm,1.5s
OUENC **Ouen Island, N** 64.04 154 P P **21 10 27.6 +4.2**
DGTI **Dogotuki** 64.38 139 P P **21 10 28.9 +3.2**
HILA **High Level** 64.57 35 P P **21 10 25.7 -0.8**
COCO **West Island** 64.57 229 P P **21 10 26.6 -0.4**
COCO **West Island** 64.57 229 P P **21 10 26.6 -0.4**
COCO pmax pmax
comp=Z,5μm,2.0s
TRD **Trivandrum** 64.57 261 *eP* P **21 10 27.7 +0.5**
INKA **Innaminka** 64.68 181 P P **21 10 27.8 +0.4**
MSVF **Nonsavu** 64.71 141 S S 21 19 20.8 +12
comp=Z,2.5nm,0.5s,baz=304,slow=22,SNR=1.5
MSVF LR LR 21 35 33.3
comp=Z,68μm,19.5s,baz=323,slow=33
MSVF **Nonsavu** 64.71 141 P P **21 10 27.2 -0.7**
MSVF IAmb IAmb 21 10 45.2
comp=Z,747nm,1.4s
MSVF **Nonsavu** 64.71 141 IAMs_20 IAMs_20 21 32 39.9
comp=Z,112μm,22.0s
MSVF **Nonsavu** 64.71 141 P P **21 10 31.6 +3.6**
MSVF **Nonsavu** 64.71 141 *i* P P **21 10 28.0 0.0**
MSVF pmax pmax
comp=Z,925nm,2.2s
AUBSH **Beerwah State** 64.72 169 P P **21 10 29.3 +1.6**
KTK1 **Kautokeino** 64.72 339 *eP* P **21 10 25.3 -2.0**
KTK1 IVmBBB 21 10 38.3
comp=Z,12μm,1.9s
KTK1 *e*S S **21 19 08.0 +0.1**
KTK1 *e*SS SS **21 23 17.4 -0.4**
KTK1 IVMs_BB IVMs_BB 21 43 21.1
comp=Z,57μm,15.8s
GIRL **Giralia** 64.85 208 P P **21 10 27.3 -1.4**
OZB **Mount Ozzard** 64.86 47 P P **21 10 27.5 -1.1**
OZB IAmb IAmb 21 10 44.2
comp=Z,765nm,1.6s
TULEG **Thule** 64.86 7 P P **21 10 25.0 -3.1**
TULEG **Thule** 64.86 7 *i* P P **21 10 26.2 -1.9**
TULEG IAmb IAmb 21 10 38.8
comp=Z,830nm,1.3s
TULEG *i* S S **21 19 08.7 -0.7**
TAVE **Taveuni** 64.91 139 P P **21 10 32.6 +3.5**
OOD **Oodnadatta** 64.95 186 P P **21 10 29.4 +0.2**
JETT **Jettan, Norway** 65.14 341 *eP* P **21 10 28.9 -1.2**
JETT IVMs_BB IVMs_BB 21 44 06.9
comp=Z,110μm,15.8s
WAPA **Wapiti River** 65.19 39 P P **21 10 27.5 -3.2**
AUWSH **Wavell State H** 65.26 169 P P **21 10 33.8 +2.6**
NEEM **North Greenlan** 65.29 3 *i* P P **21 10 30.0 -1.3**
NEEM IAmb IAmb 21 10 44.7
comp=Z,929nm,1.2s
NEEM *i* S S **21 19 16.6 +1.4**
TRO **Tromso** 65.47 341 *eP* P **21 10 32.0 -0.2**
TRO IVmB_BB 21 10 43.0
comp=Z,14μm,5.1s
TRO *e*PP PP **21 12 55.9 +0.3**
TRO *e*S S **21 19 18.1 +1.1**
TRO *e*SS SS **21 23 30.3 +0.8**
TRO IVMs_BB IVMs_BB 21 43 54.6
comp=Z,82μm,15.7s
DAG **Danmarks Havn** 65.53 355 *i* P P **21 10 30.2 -2.3**
DAG IAmb IAmb 21 10 41.9
comp=Z,508nm,1.0s
DAG *i* S S **21 19 16.6 -1.0**
C03A **Quillayute Air** 65.89 47 P P **21 10 33.8 -1.4**
XMAS **Kiritimati** 66.07 107 P P **21 10 36.0 -0.8**
LLLB **Lillooet** 66.10 44 P P **21 10 36.1 -0.5**
LLLB IAmb IAmb 21 10 52.0
comp=Z,744nm,1.3s
PGC **Sidney** 66.19 46 P P **21 10 35.8 -1.3**
PGC IAmb IAmb 21 10 52.6
comp=Z,656nm,1.2s
B04A **Port Angeles** 66.45 47 P P **21 10 38.0 -0.9**
B04A IAmb IAmb 21 10 54.8
comp=Z,563nm,1.2s
NLWA **Neilton Lookou** 66.57 48 P P **21 10 39.7 0.0**
AULRC **Lightning Ridg** 66.64 174 P P **21 10 41.6 +1.5**
BRLDA **Berland Lookou** 66.68 39 P P **21 10 39.6 -0.7**
WISH **Wishkah** 66.77 48 P P **21 10 40.7 -0.2**
MOS **Moscow** 67.04 323 *eP* P **21 10 41.1 -1.3**
MOS *e* 21 11 04.0
MOS *e* 21 13 14.0
MOS *i* S S **21 19 38.7 +2.2**
MOS *e* 21 20 35.5
MOS *i* SS SS **21 24 00.6 +6.3**
MOS pmax pmax
comp=Z,14μm,3.2s
MOS pmax pmax
comp=Z,3μm,1.9s
MOS pmax pmax
comp=N,900nm,1.3s
MOS pmax pmax
comp=E,707nm,1.2s
MOS smax smax
comp=N,16μm,6.6s
MOS smax smax
comp=E,30μm,7.0s
MOS MLR MLR
comp=N,118μm,15.0s
MOS MLR MLR
comp=E,63μm,15.0s
MOS MLR MLR
comp=Z,122μm,15.0s
MEEK **Meekatharra** 67.08 202 P P **21 10 42.9 -0.1**
RADR **Rader Ridge** 67.10 48 P P **21 10 43.5 +0.4**
RADR IAmb IAmb 21 10 59.6
comp=Z,1μm,1.4s
E03A **Lebam** 67.18 48 P P **21 10 42.9 -0.6**
AFI **Afiamalu** 67.31 130 S S 21 19 58.0 +17
comp=Z,7.9nm,0.4s,baz=212,slow=20,SNR=1.5
AFI **Afiamalu** 67.31 130 P P **21 10 44.3 -0.4**
AFI **Afiamalu** 67.31 130 P P **21 10 48.5 +3.8**
AFI **Afiamalu** 67.31 130 P P **21 10 44.3 -0.4**
AFI pmax pmax
comp=Z,1μm,1.9s
AFI MLR MLR
comp=Z,49μm,21.0s
VRH **Novokhopyorsk** 67.38 318 *eP* P **21 10 43.1 -1.6**
VRH *e* 21 10 44.6
VRH *e*S S **21 19 38.3 -2.4**
VRH *e*SS SS **21 23 55.7 -4.1**
VRH pmax pmax
comp=Z,1μm,0.8s
VRH smax smax
comp=E,14μm,7.8s
VRH MLR MLR
comp=Z,335μm,15.0s
LCRK **Leigh Creek** 67.44 183 P P **21 10 45.4 +0.3**
F03A **Seaside** 67.50 49 P P **21 10 43.8 -1.8**
MULG **Mulgathing** 67.55 187 P P **21 10 45.6 -0.3**
STEI **Steigen** 67.63 341 *eP* P **21 10 45.6 -0.4**
STEI IVmB_BB 21 10 56.7
comp=Z,14μm,4.9s
STEI *e*S S **21 19 44.7 +1.5**
STEI *e*SS SS **21 24 05.3 +2.5**
STEI IVMs_BB IVMs_BB 21 47 43.6
comp=Z,54μm,13.7s
KULLO **Kullorsuaq** 67.74 5 *i* P P **21 10 45.4 -1.2**
KULLO *i* S S **21 19 44.6 +0.2**
D05A **Enumclaw** 67.78 47 P P **21 10 46.0 -1.4**
MNCI **Minicoy** 67.79 263 P P **21 10 46.3 -1.6**
MNCY **Minicoy** 67.82 263 *eP* P **21 10 48.7 +0.7**
MNCY IAmb IAmb 21 11 03.0
comp=Z,578nm,1.1s
OBN **Obninsk** 67.88 323 ⇑ P P **21 10 48.0 +0.2**
OBN **Obninsk** 67.88 323 LR LR 21 41 38.6
comp=Z,29μm,21.3s,baz=62,slow=37
OBN **Obninsk** 67.88 323 P P **21 10 46.5 -1.3**
OBN **Obninsk** 67.88 323 *d* *i* P P **21 10 45.3 -2.5**
OBN *e* 21 13 19.0
OBN *i* PPP PPP 21 14 57.3
OBN *i* S S **21 19 41.0 -5.6**
OBN pmax pmax
comp=Z,2μm,2.0s
OBN MLR MLR
comp=Z,156μm,16.0s
LOF **Lofoten** 67.92 341 *eP* P **21 10 47.8 -0.1**
LOF IVmBBB 21 11 00.3
comp=Z,12μm,3.2s
LOF *e*S S **21 19 46.7 0.0**
LOF *e*SS SS **21 24 09.8 +2.4**
LOF IVMs_BB IVMs_BB 21 43 53.8
comp=Z,34μm,16.9s
FAUS **Fauske** 68.01 340 *eP* P **21 10 48.2 -0.2**
FAUS IVmB_BB 21 10 59.3
comp=Z,17μm,2.5s
FAUS *e*S S **21 19 48.1 +0.3**
FAUS *e*SS SS **21 24 10.9 +2.1**
FAUS IVMs_BB IVMs_BB 21 44 22.5
comp=Z,82μm,19.2s
DBG **Daneborg** 68.02 355 *i* P P **21 10 48.0 -0.4**
DBG IAmb IAmb 21 11 01.5
comp=Z,286nm,1.2s
DBG *i* S S **21 19 51.5 +3.8**
ARMA **Armidale** 68.02 170 P P **21 10 49.2 +0.2**
ARMA IAmb IAmb 21 11 06.1
comp=Z,282nm,1.1s
ARMA **Armidale** 68.02 170 P P **21 10 50.2 +1.2**
LPSR **Galich'ya Gora** 68.10 320 *eP* P **21 10 47.9 -1.3**
LPSR *e* 21 10 49.7
LPSR *e*S S **21 19 44.5 -4.8**
LPSR *e*SS SS **21 24 10.7 -0.1**
LPSR pmax pmax
comp=Z,910nm,0.8s
LPSR smax smax
comp=N,16μm,12.9s
LPSR MLR MLR
comp=Z,344μm,17.0s
LON **Longmire** 68.11 47 P P **21 10 48.5 -1.0**
LON IAmb IAmb 21 11 10.6
comp=Z,588nm,1.8s
LON **Longmire** 68.11 47 P P **21 10 48.5 -1.0**
LON pmax pmax
comp=Z,588nm,1.8s
MAK **Makhachkala** 68.28 308 *d* *i* P P **21 10 47.5 -3.0**
MAK *e*S S **21 19 48.2 -3.6**
MAK pmax pmax
comp=Z,1μm,2.1s
MAK pmax pmax
comp=Z,20μm,8.4s
COR **Corvallis** 68.34 50 P P **21 10 51.6 +0.7**
COR **Corvallis** 68.34 50 P P **21 10 51.6 +0.7**
COR pmax pmax
comp=Z,1μm,1.2s
VORR **Voronezh** 68.46 319 *eP* P **21 10 50.6 -0.9**
VORR *e* 21 10 50.9
VORR *e*S S **21 19 54.1 +0.5**
VORR pmax pmax
comp=Z,220nm,0.6s
VORR smax smax
comp=N,780nm,1.4s
LTY **Liberty** 68.51 46 P P **21 10 50.6 -1.4**
LTY IAmb IAmb 21 11 15.4
comp=Z,938nm,1.6s
CMSA **Cobar Meteorol** 68.58 176 P P **21 10 52.9 +0.6**
FIA1 **FINESS Array S** 68.58 332 P P **21 10 50.1 -2.0**
FINES **FINESS Array B** 68.59 332 P P **21 10 50.4 -1.7**
comp=Z,155nm,0.8s,baz=57,slow=7.0,SNR=60
FINES S S **21 19 50.9 -4.0**
comp=Z,1.2nm,0.7s,baz=80,slow=22,SNR=0.8
FINES LR LR 21 43 24.7
comp=Z,189μm,20.1s,baz=28,slow=38
comp=Z,155nm,0.8s
FINES **FINESS Array B** 68.59 332 P P **21 10 50.1 -2.0**
KEBM **Edson Butte** 68.59 52 P P **21 10 51.7 -0.9**
AUPHS **Peel High Scho** 68.60 171 P P **21 10 54.1 +1.6**
B08A **Colville Reser** 68.69 45 P P **21 10 52.4 -0.7**
B08A IAmb IAmb 21 11 08.5
comp=Z,779nm,1.4s
VSR **Storozhevoye** 68.73 319 *eP* P **21 10 53.0 -0.2**
VSR *e* 21 10 55.4
VSR *e*S S **21 19 48.3 -8.6**
VSR *e*SS SS **21 24 20.6 0.0**
VSR pmax pmax
comp=Z,2μm,1.9s
VSR smax smax
comp=N,13μm,11.9s
VSR MLR MLR
comp=Z,398μm,16.0s
BUCK **Buck Mountain** 68.74 50 P P **21 10 52.4 -1.1**
STKA **Stephens Creek** 68.80 180 P P **21 10 52.9 -0.7**
comp=Z,76nm,0.7s,baz=349,slow=8.0,SNR=66
STKA S S **21 19 54.4 -3.4**
comp=Z,5.3nm,1.0s,baz=202,slow=8.0,SNR=1.9
STKA PKPPKP 21 39 11.8
comp=Z,9.5nm,0.9s,baz=165,slow=2.9,SNR=8.2
STKA LR LR 21 40 35.7
comp=Z,72μm,20.8s,baz=352,slow=36
comp=Z,76nm,0.7s
STKA **Stephens Creek** 68.80 180 P P **21 10 53.0 -0.6**
STKA **Stephens Creek** 68.80 180 P P **21 10 53.7 +0.1**
STKA **Stephens Creek** 68.80 180 P P **21 10 53.0 -0.6**
STKA pmax pmax
comp=Z,53nm,0.9s
FORT **Forrest** 68.84 192 P P **21 10 53.4 -0.5**
FORT **Forrest** 68.84 192 P P **21 10 54.1 +0.2**
HOOD **Mount Hood Mea** 68.96 49 P P **21 10 54.7 -0.2**
H04A **Detroit Lake** 68.97 49 P P **21 10 54.3 -0.6**
H04A IAmb IAmb 21 11 10.5
comp=Z,662nm,1.2s
KBO **Bosley Butte** 69.01 53 P P **21 10 53.5 -1.7**
MOR8 **Moi Rana** 69.12 340 *eP* P **21 10 54.1 -1.3**
MOR8 *e*S S **21 19 59.6 -1.6**
MOR8 *e*SS SS **21 24 26.5 +0.4**
MOR8 IVMs_BB IVMs_BB 21 48 59.5
comp=Z,52μm,14.2s
DBO **Dodson Butte** 69.15 51 P P **21 10 55.4 -0.7**
DBO IAmb IAmb 21 11 12.1
comp=Z,329nm,1.1s
EDM **Edmonton** 69.17 38 P P **21 10 55.1 -0.9**
EDM **Edmonton** 69.17 38 P P **21 10 55.1 -0.9**
EDM pmax pmax
comp=Z,2μm,1.4s
GROC **Groznyy** 69.23 309 *eP* P **21 10 55.9 -0.5**
GROC *e* 21 11 21.2
GROC *e* 21 13 29.3
GROC *e*S S **21 20 01.3 -1.7**
GROC pmax pmax
comp=Z,152nm,0.5s
GROC MLR MLR
comp=Z,9μm,12.0s
KONS **Konsvik** 69.24 340 *eP* P **21 10 56.0 0.0**
KONS *e*S S **21 20 05.4 +2.9**
STOK **Stokkvaagen** 69.39 340 *eP* P **21 10 55.7 -1.3**
STOK *e*S S **21 20 04.3 +0.1**
AUDCS **Dubbo College** 69.48 173 P P **21 10 59.0 +1.1**
UPNV **Upernavik** 69.56 5 *i* P P **21 10 57.3 -0.7**
UPNV IAmb IAmb 21 11 12.8
comp=Z,516nm,1.4s
UPNV *i* S S **21 20 05.5 -0.6**
C09A **Chrisman Ranch** 69.59 45 P P **21 10 57.6 -1.0**
HUMO **Hull Mountain** 69.60 52 P P **21 10 58.7 0.0**

HUMO IAmb IAmb 21 11 15.0
comp=Z,577nm,1.8s
G06A Carlson Farm, 69.61 48 P **P** **21 10 58.4 -0.5**
G06A IAmb IAmb 21 11 14.6
comp=Z,791nm,1.4s
D08A Wollman Farm, 69.62 46 P **P** **21 10 58.2 -0.7**
D08A IAmb IAmb 21 11 14.2
comp=Z,421nm,1.2s
HAWA Hanford 69.63 47 P **P** **21 10 56.8 -2.1**
F07A Phinny Hill Vi 69.67 47 P **P** **21 10 58.9 -0.2**
F07A IAmb IAmb 21 11 14.9
comp=Z,495nm,1.0s
KRPM Rodgers 69.69 53 P **P** **21 10 58.5 -0.9**
KRPM IAmb IAmb 21 11 08.3
comp=Z,907nm,1.7s
E08A Dider Farm, El 69.85 47 P **P** **21 10 58.6 -1.6**
E08A IAmb IAmb 21 11 15.7
comp=Z,595nm,1.5s
JCC Jacoby Creek, 69.87 54 P **P** **21 10 59.3 -1.1**
JCC IAmb IAmb 21 11 16.7
comp=Z,624nm,1.2s
JMIC Jan Mayen 69.90 350 LR LR 21 41 38.7
comp=Z,28µm,20.0s,baz=36,slow=36
JMIC Jan Mayen 69.90 350 *e*P **P** **21 10 59.8 -0.3**
JMIC IVmB_BB 21 11 12.0
comp=Z,18µm,2.8s
JMIC *e*S **S** **21 20 10.3 +0.2**
JMIC *e*SS **SS** **21 24 39.3 +1.5**
JMIC IVMs_BB IVMs_BB 21 46 54.1
comp=Z,17µm,14.2s
BBOO Buckleboo 69.90 185 P **P** **21 11 00.0 -0.5**
BBOO IAmb IAmb 21 11 15.0
comp=Z,346nm,0.8s
BBOO Buckleboo 69.90 185 P **P** **21 11 00.8 +0.3**
comp=Z,597nm,1.5s
GOF Gofitskoye 69.91 312⍰ *e*P **P** **21 11 01.5 +0.9**
GOF *e*S **S** **21 20 14.4 +3.4**
GOF pmax pmax
comp=Z,1µm,0.8s
GOF smax smax
comp=E,2µm,2.7s
GOF smax smax
comp=N,182nm,1.1s
NEW Newport 69.98 44 LR LR 21 41 32.1
comp=N,14µm,20.9s,baz=322,slow=36
NEW Newport 69.98 44 P **P** **21 11 00.6 -0.4**
NEW IAmb IAmb 21 11 16.4
comp=Z,838nm,1.5s
NEW Newport 69.98 44 IAMs_20 IAMs_20 21 45 29.7
comp=Z,57µm,18.0s
NEW Newport 69.98 44 P **P** **21 10 58.9 -2.1**
baz=304,SNR=65
NEW Newport 69.98 44 P **P** **21 11 00.6 -0.4**
NEW pmax pmax
comp=Z,838nm,1.5s
NEW MLR MLR
comp=Z,57µm,18.0s
MEF Metsahovi 70.01 332 *e*P **P** **21 11 01.7 +0.8**
KMPM Mount Pierce 70.02 54 P **P** **21 11 01.0 -0.6**
KMPM IAmb IAmb 21 11 17.9
comp=Z,556nm,1.2s
KHMM Horse Mountain 70.03 54 P **P** **21 11 01.7 +0.1**
KHMM IAmb IAmb 21 11 17.9
comp=Z,606nm,1.2s
WHYH Whyalla 70.04 183 P **P** **21 11 01.7 +0.4**
MORW Morawa 70.14 203 P **P** **21 11 01.9 -0.2**
MORW IAmb IAmb 21 11 20.7
comp=Z,275nm,0.9s
MORW Morawa 70.14 203 P **P** **21 11 02.1 0.0**
PTPS Port Pirie 70.16 183 P **P** **21 11 03.0 +1.0**
PINE Pine Mountain 70.20 50 P **P** **21 11 01.8 -1.0**
YBH Yreka Blue Hor 70.22 52 P **P** **21 11 01.6 -1.1**
YBH IAmb IAmb 21 11 18.8
comp=Z,411nm,1.1s
YBH Yreka Blue Hor 70.22 52 P **P** **21 11 01.6 -1.1**
YBH pmax pmax
comp=Z,411nm,1.2s
VSU Vasula 70.23 329 *e*P **P** **21 11 02.4 +0.1**
VSU Vasula 70.23 329*d i*P **P** **21 11 01.0 -1.3**
VSU MLR MLR
comp=Z,372µm,17.0s
E09A Wood Farm, Sta 70.37 46 P **P** **21 11 02.9 -0.5**
E09A IAmb IAmb 21 11 19.0
comp=Z,918nm,1.3s
HTT Hallett 70.38 182 P **P** **21 11 03.5 0.0**
KMRM Mail Ridge 70.39 54 P **P** **21 11 01.1 -2.7**
LHI Lord Howe Isla 70.41 164 P **P** **21 11 03.0 -0.6**
LHI IAmb IAmb 21 11 16.4
comp=Z,411nm,1.2s
LHI Lord Howe Isla 70.41 164 P **P** **21 11 06.5 +2.9**
NCK Nalchik 70.42 310 *i*P **P** **21 11 02.8 -1.0**
NCK pmax pmax
comp=Z,624nm,1.3s
NCK MLR MLR
comp=Z,158µm,15.0s
RAF Rauma 70.44 333 *e*P **P** **21 11 03.3 -0.2**
SUMG Summit 70.44 360 *i*P **P** **21 11 02.6 -1.3**
SUMG IAmb IAmb 21 11 18.1
comp=Z,717nm,1.1s
SUMG *i* S **S** **21 20 19.4 +2.2**
NTLH Newcastle Hard 70.48 171 P **P** **21 11 07.0 +3.0**
NFK Norfolk Island 70.52 155 P **P** **21 11 07.6 +3.3**
G08A Pilot Rock 70.57 48 P **P** **21 11 04.1 -0.7**
ZEI Tsey 70.62 309 *e*P **P** **21 11 03.3 -2.0**
ZEI *e*PPP PPP 21 15 23.1
ZEI *e*S **S** **21 20 14.0 -5.9**
ZEI *e* 21 20 59.1
ZEI *e*SS **SS** **21 24 45.6 -5.0**
ZEI pmax pmax
comp=Z,356nm,1.3s
ZEI pmax pmax
comp=N,327nm,0.9s
ZEI pmax pmax
comp=E,265nm,0.9s
ZEI smax smax
comp=E,4µm,13.1s
ZEI smax smax
comp=N,11µm,16.7s
ZEI MLR MLR
comp=Z,70µm,14.0s
ZEI MLR MLR
comp=N,76µm,15.0s
ZEI MLR MLR
comp=E,90µm,15.0s
KMBL Kambalda 70.68 198 P **P** **21 11 05.1 -0.2**
KBZ Khabaz 70.72 311 P **P** **21 11 04.8 -0.7**
comp=E,138nm,0.9s,baz=49,slow=2.5,SNR=89
KBZ S **S** **21 20 24.5 +4.0**
comp=E,3.9nm,0.9s,baz=248,slow=19,SNR=3.7
KBZ PKPPKP 21 39 04.0
comp=E,4.1nm,1.0s,baz=320,slow=2.1,SNR=16
KBZ LR LR 21 45 18.9
comp=E,113µm,19.0s,baz=48,slow=39
comp=E,138nm,0.9s
KBZ Khabaz 70.72 311*d i*P **P** **21 11 03.7 -1.9**
KBZ pmax pmax
comp=Z,434nm,0.8s
KBZ MLR MLR
comp=Z,161µm,18.0s
KIV Kislovodsk 70.72 311 P **P** **21 11 05.4 -0.3**
KIV Kislovodsk 70.72 311 P **P** **21 11 06.8 +1.0**
KIV P **P** **21 11 06.8 +1.0**
KIV S **S** **21 20 22.3 +1.5**
KIV S **S** **21 20 22.3 +1.5**
KIV Kislovodsk 70.72 311 P **P** **21 11 04.1 -1.6**
KIV Kislovodsk 70.72 311 *e*P **P** **21 11 04.4 -1.4**
KIV *e* 21 13 41.4
KIV *e*PPP PPP 21 15 22.2
KIV *e*S **S** **21 20 19.4 -1.4**
KIV *e*SS **SS** **21 24 53.1 +1.2**
KIV pmax pmax
comp=Z,768nm,4.8s
KIV pmax pmax
comp=Z,1µm,1.1s
KIV MLR MLR
comp=Z,84µm,18.0s
KCPM Cahto Peak 70.76 55 P **P** **21 11 05.5 -0.6**
KCPM IAmb IAmb 21 11 21.4
comp=Z,686nm,1.2s
WSAR Wadi Sarin 70.78 285 LR LR 21 46 53.5
comp=Z,86µm,18.6s,baz=92,slow=40
K05A Summer Lake 70.81 51 P **P** **21 11 05.5 -1.0**
WBK Wadi Bani Khal 70.86 284 P **P** **21 11 06.8 0.0**
WBK S **S** **21 20 21.8 -1.0**
I07A Izee 70.91 49 P **P** **21 11 06.5 -0.4**

NUUG Nuugaatsiaq 70.99 5 *i*P **P** **21 11 11.3 +4.5**
NUUG IAmb IAmb 21 11 17.9
comp=Z,381nm,1.8s
NUUG *i* S **S** **21 20 23.4 +0.7**
ONI Oni 71.01 309 P **P** **21 11 06.9 -0.6**
ONI IAmb IAmb 21 11 31.6
comp=Z,452nm,1.0s
BIDO Bidbid 71.01 285 P **P** **21 11 07.9 +0.2**
BIDO P **P** **21 11 07.9 +0.2**
BIDO S **S** **21 20 23.3 -1.3**
BIDO S **S** **21 20 23.3 -1.3**
NSS Namsos 71.05 339 *e*P **P** **21 11 07.0 -0.1**
NSS IVmB_BB 21 11 17.7
comp=Z,14µm,5.0s
NSS *e*S **S** **21 20 24.1 +0.5**
NSS *e*SS **SS** **21 24 56.8 +1.2**
NSS IVMs_BB IVMs_BB 21 47 45.7
comp=Z,59µm,14.9s
BANOM Banah 71.10 288 P **P** **21 11 09.3 +1.1**
BANOM P **P** **21 11 09.3 +1.1**
BANOM S **S** **21 20 27.0 +1.4**
BANOM S **S** **21 20 27.0 +1.4**
BANOM Banah 71.10 288 *i*P **P** **21 11 07.5 -0.8**
SNR=34
SHME Shamm 71.15 289 P **P** **21 11 08.9 +0.4**
SHME P **P** **21 11 08.9 +0.4**
SHME S **S** **21 20 25.5 -0.6**
SHME S **S** **21 20 25.5 -0.6**
SHME Shamm 71.15 289 *i*P **P** **21 11 07.2 -1.3**
SNR=57
F10A Beach Ranch, E 71.20 46 P **P** **21 11 07.9 -0.7**
SYDH Sydney Hard Ro 71.21 172 P **P** **21 11 11.2 +2.8**
MTSE Matsula 71.22 331 *e*P **P** **21 11 08.3 0.0**
WALA Waterton Lakes 71.28 42 P **P** **21 11 08.7 -0.4**
WALA IAmb IAmb 21 11 24.4
comp=Z,853nm,1.3s
SMDO Samad 71.32 285 P **P** **21 11 09.9 +0.2**
SMDO S **S** **21 20 27.2 -1.2**
RIV Riverview 71.33 171 P **P** **21 11 11.6 +2.5**
BLDU Ballidu 71.38 202 P **P** **21 11 09.3 -0.2**
MDH Madha 71.44 288 P **P** **21 11 10.2 -0.1**
MDH P **P** **21 11 10.2 -0.1**
MDH S **S** **21 20 28.4 -1.1**
MDH S **S** **21 20 28.4 -1.1**
MDH Madha 71.44 288 *i*P **P** **21 11 08.7 -1.6**
SNR=11
HOPS Hopland Field 71.47 55 P **P** **21 11 09.8 -0.5**
HOPS IAmb IAmb 21 11 25.7
comp=Z,408nm,1.3s
MASF Masafi 71.51 288 P **P** **21 11 11.6 +0.9**
MASF P **P** **21 11 11.6 +0.9**
MASF S **S** **21 20 29.7 -0.6**
MASF S **S** **21 20 29.7 -0.6**
MSFE Esma-Masafi 71.51 288 *i*P **P** **21 11 09.7 -1.0**
SNR=36
GNI Garni 71.54 307 LR LR 21 45 48.6
comp=Z,155µm,18.1s,baz=74,slow=39
GNI Garni 71.54 307 P **P** **21 11 10.2 -0.6**
GNI Garni 71.54 307 P **P** **21 11 09.7 -1.1**
GNI Garni 71.54 307 *i*P **P** **21 11 09.9 -0.9**
GNI pmax pmax
comp=Z,1µm,1.4s
GNI MLR MLR
comp=Z,123µm,17.0s
HOQ Hoqain 71.60 286 P **P** **21 11 12.1 +0.8**
HOQ P **P** **21 11 12.1 +0.8**
HOQ S **S** **21 20 30.8 -0.6**
HOQ S **S** **21 20 30.8 -0.6**
MOD Modoc Plateau 71.63 51 P **P** **21 11 10.5 -0.9**
MOD IAmb IAmb 21 11 26.3
comp=Z,644nm,1.5s
JMDO Jabal Madar 71.66 284 P **P** **21 11 11.6 0.0**
JMDO S **S** **21 20 32.3 +0.2**
UOSS Minazif 71.70 288 P **P** **21 11 10.3 -1.6**
UOSS IAmb IAmb 21 11 30.6
comp=Z,358nm,0.9s
UOSS Minazif 71.70 288 IAMs_20 IAMs_20 21 45 57.3
comp=Z,93µm,22.0s
UOSS Minazif 71.70 288 P **P** **21 11 11.7 -0.2**
UOSS S **S** **21 20 32.6 0.0**
UOSS Minazif 71.70 288 *i*P **P** **21 11 10.6 -1.3**
SNR=39
GDXM Geysers 71.75 55 P **P** **21 11 12.5 +0.4**
GDXM IAmb IAmb 21 11 28.1
comp=Z,430nm,1.2s
BMO Blue Mountains 71.79 47 P **P** **21 11 10.5 -1.7**
BMO IAmb IAmb 21 11 27.7
comp=Z,482nm,1.2s
BMO Blue Mountains 71.79 47 P **P** **21 11 10.5 -1.7**
BMO pmax pmax
comp=Z,482nm,1.2s
BMO MLR MLR
comp=Z,30µm,19.0s
UMQ Umm Al-Quwin 71.80 288 P **P** **21 11 12.7 +0.3**
UMQ P **P** **21 11 12.7 +0.3**
UMQ S **S** **21 20 33.1 -0.5**
UMQ S **S** **21 20 33.1 -0.5**
UMQ Umm Al-Quwin 71.80 288 P **P** **21 11 12.6 +0.1**
HATD Hatta, Dubai 71.83 288 P **P** **21 11 13.0 +0.4**
HATD S **S** **21 20 33.2 -0.8**
HATD Hatta, Dubai 71.83 288 *i*P **P** **21 11 11.6 -1.0**
SNR=59
WOLH Wollongong Har 71.86 172 P **P** **21 11 14.5 +2.2**
SCO Scoresbysund 71.87 354 P **P** **21 11 11.3 -0.8**
SCO IAMs_20 IAMs_20 21 43 56.7
comp=Z,62µm,19.0s
SCO Scoresbysund 71.87 354 *i*P **P** **21 11 13.2 +1.2**
SCO IAmb IAmb 21 11 26.2
comp=Z,281nm,1.1s
SCO *i* S **S** **21 20 37.4 +4.4**
SCO Scoresbysund 71.87 354 P **P** **21 11 11.3 -0.8**
SCO pmax pmax
comp=Z,267nm,1.0s
SCO MLR MLR
comp=Z,62µm,19.0s
J08A Circle Bar Ran 71.94 49 P **P** **21 11 12.6 -0.6**
J08A IAmb IAmb 21 11 29.1
comp=Z,769nm,1.2s
ASHO Ashiyiah 71.96 288 P **P** **21 11 13.9 +0.4**
ASHO S **S** **21 20 35.2 -0.3**
ASHO Ashiyiah 71.96 288 *i*P **P** **21 11 12.5 -1.0**
SNR=37
KLBR Kellerberrin 71.98 201 P **P** **21 11 13.0 -0.2**
MCCM Marconi Confer 72.06 56 P **P** **21 11 12.8 -1.0**
NAZ Nazwa, Dubai 72.09 288 P **P** **21 11 14.7 +0.5**
NAZ S **S** **21 20 38.3 +1.3**
NAZ Nazwa, Dubai 72.09 288 *i*P **P** **21 11 15.3 +1.1**
SNR=14
BSY Bisya 72.15 285 P **P** **21 11 14.8 +0.2**
BSY P **P** **21 11 14.8 +0.2**
BSY S **S** **21 20 36.9 -0.9**
BSY S **S** **21 20 36.9 -0.9**
ORV Oroville 72.18 54 P **P** **21 11 13.3 -1.1**
ORV Oroville 72.18 54 P **P** **21 11 13.4 -1.1**
ORV pmax pmax
comp=Z,311nm,1.2s
MNK Minsk 72.28 326 *i*P **P** **21 11 14.6 -0.2**
comp=E,34nm,1.4s
MNK *i*P **P** **21 11 14.6 -0.2**
comp=N,186nm,1.4s
MNK *i*P **P** **21 11 14.6 -0.2**
comp=Z,284nm,0.8s,baz=50
MNK *i*PP **PP** **21 13 58.3 +3.5**
MNK *i*PPP PPP 21 15 42.9
MNK *i*S **S** **21 20 38.3 +0.1**
MNK *i*SS **SS** **21 25 21.7 +6.8**
MNK *i*SSS SSS 21 28 39.4
MNK *i*LQ LQ 21 38 04.2
MNK *i*LR LR 21 43 12.8
MNK *i*LRM MLR 21 47 17.5
MNK *i*LRM MLR 21 47 20.7
comp=E,27µm,13.2s
MNK *i*LRM MLR 21 47 21.5
comp=N,64µm,11.0s
MNK Minsk 72.28 326 *i*P **P** **21 11 14.6 -0.2**
MNK *i* 21 13 58.3
MNK *i*PPP PPP 21 15 42.9
MNK *i*S **S** **21 20 38.2 +0.1**
MNK *i*SS **SS** **21 25 21.7 +6.8**
MNK pmax pmax
comp=N,186nm,1.4s
MNK pmax pmax
comp=E,34nm,1.4s

MNK pmax pmax
comp=Z,284nm,0.8s
MNK MLR MLR
comp=Z,119µm,14.0s
MNK MLR MLR
comp=E,27µm,13.0s
MNK MLR MLR
comp=N,64µm,11.0s
FAQ Al Faqa, Dubai 72.28 288 P **P** **21 11 15.6 +0.3**
FAQ P **P** **21 11 15.6 +0.3**
FAQ *S* **S** **21 20 38.3 -0.9**
FAQ *S* **S** **21 20 38.3 -0.9**
FAQ Al Faqa, Dubai 72.28 288 *i*P **P** **21 11 13.7 -1.6**
SNR=31
KARS Kars 72.33 308 P **P** **21 11 15.1 -0.5**
KARS Kars 72.33 308 P **P** **21 11 15.1 -0.5**
KARS pmax pmax
comp=Z,1µm,1.1s
ARQ Araqi 72.34 286 P **P** **21 11 16.1 +0.3**
ARQ P **P** **21 11 16.1 +0.3**
ARQ S **S** **21 20 41.3 +1.3**
ARQ S **S** **21 20 41.3 +1.3**
WVOR Wild Horse Val 72.36 50 P **P** **21 11 14.8 -0.9**
WVOR IAmb IAmb 21 11 30.8
comp=Z,510nm,1.2s
WVOR Wild Horse Val 72.36 50 P **P** **21 11 14.8 -0.9**
WVOR pmax pmax
comp=Z,510nm,1.2s
NIUE Niue 72.42 132 P **P** **21 11 16.0 0.0**
NIUE Niue 72.42 132 P **P** **21 11 19.5 +3.5**
IIGN Ignalina 72.46 327 *e*P **P** **21 11 15.2 -0.6**
NACGM Naroch 72.50 327‖ *i*P **P** **21 11 17.2 +1.1**
comp=Z,9µm,15.5s,baz=50
TBLU Trondheim 72.51 339 *e*P **P** **21 11 18.0 +1.9**
TBLU IVmB_BB 21 11 24.8
comp=Z,14µm,5.1s
TBLU *e*S **S** **21 20 38.6 -2.0**
TBLU *e*SS **SS** **21 25 16.9 -1.2**
TBLU IVMs_BB IVMs_BB 21 45 02.5
comp=Z,51µm,20.0s
MHTO MHTO 72.52 283 P **P** **21 11 16.7 -0.1**
MHTO S **S** **21 20 41.0 -1.0**
ALNE Al Ain 72.54 287 P **P** **21 11 15.7 -1.2**
ALNE P **P** **21 11 15.7 -1.2**
ALNE S **S** **21 20 41.3 -0.9**
ALNE S **S** **21 20 41.3 -0.9**
ALNE Al Ain 72.54 287 *i*P **P** **21 11 15.9 -1.0**
SNR=47
ASUD Al Ashush, Dub 72.54 288 P **P** **21 11 16.2 -0.7**
ASUD P **P** **21 11 16.2 -0.7**
ASUD S **S** **21 20 41.4 -0.8**
ASUD *S* **S** **21 20 41.4 -0.8**
ASUD Al Ashush, Dub 72.54 288 *i*P **P** **21 11 15.8 -1.1**
SNR=31
SLIT Slitere, Latvi 72.56 330 *e*P **P** **21 11 15.9 -0.5**
MSO Missoula 72.56 44 P **P** **21 11 16.1 -0.7**
MSO IAmb IAmb 21 11 31.9
comp=Z,662nm,1.4s
MSO Missoula 72.56 44 P **P** **21 11 14.6 -2.2**
baz=306,SNR=44
CAN Canberra 72.58 173 P **P** **21 11 17.0 +0.3**
CAN IAmb IAmb 21 11 34.5
comp=Z,384nm,1.1s
CAN IAMs_20 IAMs_20 21 42 00.6
comp=Z,49µm,20.0s
CAN Canberra 72.58 173 P **P** **21 11 17.9 +1.2**
CAN Canberra 72.58 173 P **P** **21 11 17.0 +0.3**
CAN pmax pmax
comp=Z,384nm,1.1s
CAN MLR MLR
comp=Z,49µm,20.0s
KAAM Kaadhehdhoo 72.60 257 P **P** **21 11 16.4 -1.0**
KAAM IAmb IAmb 21 11 32.6
comp=Z,823nm,1.1s
KAAM IAMs_20 IAMs_20 21 43 05.4
comp=Z,43µm,20.0s
KAAM Kaadhehdhoo 72.60 257 P **P** **21 11 19.0 +1.7**
comp=Z,84µmcomp=Z,36µmcomp=Z,992nm,1.5s
CNB Canberra Magne 72.61 173 P **P** **21 11 18.0 +1.1**
SOC Sochi 72.71 312*d i*P **P** **21 11 16.0 -1.6**
SOC *e*PPP PPP 21 15 37.2
SOC *e*S **S** **21 20 41.9 -1.6**
SOC *e* 21 21 16.1
SOC *e*SS **SS** **21 25 13.9 -8.2**
SOC MLR MLR
comp=Z,194µm,22.0s
BEKR Beckworth 72.73 53 P **P** **21 11 16.8 -1.3**
BEKR IAmb IAmb 21 11 33.3
comp=Z,418nm,1.1s
AUUHS Ulladulla High 72.76 172 P **P** **21 11 19.8 +2.1**
MUN Mundaring 72.80 202 P **P** **21 11 18.3 +0.3**
PLTX Planet X, Gerl 72.82 52 P **P** **21 11 18.7 +0.2**
PLTX IAmb IAmb 21 11 34.3
comp=Z,599nm,1.0s
AFDM Forest Hills D 72.86 54 P **P** **21 11 17.0 -1.6**
MTKN Mount Kenneth 72.89 203 P **P** **21 11 21.8 +3.3**
VSVD Vaisvydziai 73.01 329 *e*P **P** **21 11 18.4 -0.7**
MPK Martis Peak 73.27 53 P **P** **21 11 20.0 -1.3**
PABE Paberze 73.32 328 P **P** **21 11 20.2 -0.7**
PABE Paberze 73.32 328 *e*P **P** **21 11 20.2 -0.7**
ANN Anapa 73.34 314 *i*P **P** **21 11 17.7 -3.6**
ANN *i* *PP **pP** **21 11 21.0 -1.7**
ANN *i* 21 11 32.0
ANN *e* 21 14 12.5
ANN *i*S **S** **21 20 47.3 -3.3**
ANN pmax pmax
comp=N,46nm,1.1s
ANN pmax pmax
comp=Z,217nm,1.1s
ANN pmax pmax
comp=E,80nm,1.7s
ANN pmax pmax
comp=N,165nm,2.2s
ANN pmax pmax
comp=Z,574nm,1.9s
ANN pmax pmax
comp=E,267nm,1.9s
ANN MLR MLR
comp=Z,140µm,15.0s
ANN MLR MLR
comp=E,46µm,15.0s
NWAO Narrogin (SRO) 73.39 201 P **P** **21 11 19.8 -1.7**
comp=E,35nm,0.6s,baz=245,slow=5.0,SNR=18
NWAO S **S** **21 20 52.0 +1.0**
comp=E,7.7nm,0.9s,baz=352,slow=14,SNR=1.7
NWAO LR LR 21 44 06.2
comp=E,28µm,20.1s,baz=240,slow=36
comp=E,35nm,0.6s
NWAO Narrogin (SRO) 73.39 201 P **P** **21 11 20.6 -0.8**
NWAO IAmb IAmb 21 11 40.5
comp=Z,681nm,1.5s
NWAO Narrogin (SRO) 73.39 201 P **P** **21 11 20.3 -1.2**
NWAO IAmb IAmb 21 11 41.1
comp=Z,490nm,1.4s
NWAO Narrogin (SRO) 73.39 201 IAMs_20 IAMs_20 21 43 14.2
comp=Z,43µm,21.0s
NWAO Narrogin (SRO) 73.39 201 P **P** **21 11 20.3 -1.2**
NWAO P **P** **21 11 20.3 -1.2**
NWAO S **S** **21 20 49.4 -1.6**
NWAO S **S** **21 20 49.4 -1.6**
NWAO Narrogin (SRO) 73.39 201 P **P** **21 11 21.6 +0.1**
NWAO Narrogin (SRO) 73.39 201 P **P** **21 11 21.5 +0.1**
NWAO Narrogin (SRO) 73.39 201 P **P** **21 11 20.7 -0.8**
NWAO pmax pmax
comp=Z,681nm,1.5s
NWAO MLR MLR
comp=Z,43µm,21.0s
EMB Emerald Bay 73.40 54 P **P** **21 11 21.6 -0.5**
EMB IAmb IAmb 21 11 37.6
comp=Z,1µm,1.5s
ILULI Ilulissat 73.42 5 P **P** **21 11 20.5 -0.8**
ILULI IAmb IAmb 21 11 36.3
comp=Z,1µm,1.8s
ILULI Ilulissat 73.42 5 *i*P **P** **21 11 22.4 +1.1**
ILULI *i*S **S** **21 20 51.4 +0.6**
ILULI Ilulissat 73.42 5 P **P** **21 11 20.5 -0.8**
ILULI pmax pmax
comp=Z,1µm,1.8s
ILULI MLR MLR
comp=Z,95µm,18.0s
DQM DQM 73.44 283 P **P** **21 11 22.6 +0.3**
DQM P **P** **21 11 22.6 +0.3**
DQM S **S** **21 20 51.0 -1.5**
DQM S **S** **21 20 51.0 -1.5**

PAHR Pah Rah Range 73.44 53 P P 21 11 20.7 -1.5
PAHR IAmb IAmb 21 11 37.7
comp=Z,510nm,1.1s
MFID Camas Ranch 73.48 48 P P 21 11 21.3 -1.0
MFID IAmb IAmb 21 11 38.0
comp=Z,540nm,1.1s
VCNR Virginia City 73.51 53 P P 21 11 22.4 -0.3
FFC Flin Flon 73.52 33 P P 21 11 20.8 -1.4
FFC IAmb IAmb 21 11 36.1
comp=Z,1µm,1.7s
FFC Flin Flon 73.52 33 P P 21 11 20.8 -1.4
FFC pmax pmax
comp=Z,1µm,1.7s
FFC MLR MLR
comp=Z,37µm,20.0s
AUSMG Snowy Mountain 73.63 174 P P 21 11 25.3 +2.3
GEVA Gevas 73.65 306 P P 21 11 21.8 -1.6
PNTR Pine Nut 73.66 53 P P 21 11 23.0 -0.6
PNTR IAmb IAmb 21 11 39.5
comp=Z,1µm,1.9s
ARPS Mount Arapiles 73.68 180 P P 21 11 23.8 +0.7
comp=Z,459nm,0.8s
UMZA Um Al Zommool 73.73 286 P P 21 11 23.8 -0.1
UMZA S **SKiKP 21 20 54.0 -0.3**
NC405 NORSAR Array S 73.74 337 P P 21 11 22.6 -0.8
CMB Columbia Colle 73.75 54 P P 21 11 23.5 -0.4
CMB IAmb IAmb 21 11 39.4
comp=Z,600nm,1.2s
CMB Columbia Colle 73.75 54 P P 21 11 23.5 -0.4
CMB pmax pmax
comp=Z,600nm,1.2s
NC303 NORSAR Array S 73.76 337 P P 21 11 22.6 -0.9
NC303 IAmb IAmb 21 11 37.5
comp=Z,703nm,1.1s
SAO San Andreas Ge 73.78 56 P P 21 11 23.3 -0.7
SAO San Andreas Ge 73.78 56 P P 21 11 23.3 -0.7
SAO pmax pmax
comp=Z,184nm,1.1s
SAO MLR MLR
comp=Z,30µm,19.0s
FCC Fort Churchill 73.80 27 P P 21 11 22.5 -1.2
FCC Fort Churchill 73.80 27 P P 21 11 22.5 -1.2
FCC pmax pmax
comp=Z,2µm,1.9s
HRY Holter Researc 73.80 43 P P 21 11 23.9 -0.3
PBUR Paburge 73.81 329 eP P 21 11 25.3 +1.5
DOMB Dombas 73.81 339 eP P 21 11 23.3 -0.5
DOMB IVmBBB 21 11 34.9
comp=Z,14µm,2.2s
DOMB eS **S 21 20 55.8 +0.3**
DOMB eSS **SS 21 25 38.4 +0.4**
DOMB IVMs_BB IVMs_BB 21 46 00.9
comp=Z,69µm,19.2s
MOL Molde 73.82 340 eP P 21 11 23.4 -0.4
MOL eS **S 21 20 55.6 +0.3**
MOL eSS **SS 21 25 39.5 +1.5**
HFS Hagfors 73.86 336 LR LR 21 46 54.0
comp=Z,196µm,19.1s,baz=28,slow=38
NC204 NORSAR Array S 73.91 338 P P 21 11 22.4 -2.1
NB201 NORSAR Array S 73.92 337 P P 21 11 23.2 -1.2
ICESG Greenland Ices 73.94 0 i P P 21 11 26.2 +1.4
ICESG i S **S 21 21 00.3 +2.9**
YERR Yerington 73.95 53 P P 21 11 24.7 -0.6
YERR IAmb IAmb 21 11 40.9
comp=Z,654nm,1.1s
NB2 NORSAR Subarra 73.95 337 P P 21 11 23.1 -1.6
comp=Z,6µm,2.5s,baz=39,slow=6.2
NOA NORSAR Array B 73.95 337 P P 21 11 22.1 -2.5
comp=Z,59nm,0.9s,baz=39,slow=5.9,SNR=100
NOA LR LR 21 46 23.8
comp=Z,156µm,22.0s,baz=40,slow=38
comp=Z,59nm,0.9s
LRM Limekiln Ridge 74.00 44 P P 21 11 23.9 -1.6
NC602 NORSAR Array S 74.08 337 P P 21 11 23.9 -1.4
NC602 IAmb IAmb 21 11 39.0
comp=Z,584nm,1.1s
NC602 NORSAR Array S 74.08 337 eP P 21 11 24.9 -0.5
NC602 IVmB_BB 21 11 35.9
comp=Z,13µm,4.9s
NC602 ePP **PP 21 14 13.1 +3.1**
NC602 eS **S 21 20 57.9 -0.6**
NC602 eSS **SS 21 25 45.0 +2.8**
NC602 IVMs_BB IVMs_BB 21 47 19.5
comp=Z,78µm,17.0s
AKASG Malin Array Be 74.09 322 P P 21 11 23.2 -2.3
comp=Z,95nm,0.6s,baz=46,slow=6.1,SNR=104
AKASG S **S 21 21 01.1 +2.3**
comp=Z,0.2nm,0.3s,baz=38,slow=27,SNR=4.3
AKASG PKPPKP 21 38 59.1
comp=Z,0.3nm,0.4s,baz=260,slow=2.2,SNR=5.5
AKASG LR LR 21 46 02.3
comp=Z,190µm,21.7s,baz=46,slow=38
comp=Z,95nm,0.6s
AKASG Malin Array Be 74.09 322 P P 21 11 23.3 -2.3
AKASG IAmb IAmb 21 11 39.0
comp=Z,512nm,0.8s
AKASG Malin Array Be 74.09 322 i P P 21 11 23.2 -2.3
AKASG pmax pmax
comp=Z,97nm,0.6s
AKBB Malin Array Si 74.09 322 P P 21 11 24.6 -1.0
AKBB IAmb IAmb 21 11 39.5
comp=Z,855nm,1.0s
AKBB Malin Array Si 74.09 322 P P 21 11 24.6 -1.0
AKBB pmax pmax
comp=Z,855nm,1.0s
NBO00 NORSAR Array S 74.09 337 P P 21 11 24.7 -0.8
WAKR Walker 74.10 54 P P 21 11 26.1 0.0
EGMT Eagleton 74.11 41 P P 21 11 25.4 -0.5
EGMT IAMs_20 IAMs_20 21 48 08.1
comp=Z,52µm,20.0s
EGMT Eagleton 74.11 41 P P 21 11 24.0 -1.9
baz=308,SNR=67
MZWR Madinat Zayed 74.12 288 P P 21 11 26.6 +0.4
MZWR S **S 21 21 00.8 +0.7**
BBGB Big Mountain B 74.15 56 P P 21 11 25.2 -1.2
BBGB IAmb IAmb 21 11 37.2
comp=Z,350nm,0.9s
GURO Guroymak-BITLI 74.17 306 P P 21 11 25.2 -1.3
NAO01 NORSAR Array S 74.20 337 P P 21 11 24.6 -1.5
HLID Hailey 74.23 47 P P 21 11 26.4 -0.3
HLID Hailey 74.23 47 P P 21 11 26.5 -0.3
baz=307,SNR=108
AKN Aaknes 74.29 340 eP P 21 11 26.2 -0.3
AKN IVmBBB 21 11 39.7
comp=Z,14µm,2.9s
AKN eS **S 21 20 59.8 -1.0**
AKN eSS **SS 21 25 48.4 +3.2**
AKN IVMs_BB IVMs_BB 21 47 52.0
comp=Z,51µm,14.9s
KOPT Kop Dagi 74.30 308 P P 21 11 27.3 -0.1
KOPT IAmb IAmb 21 12 00.4
comp=Z,431nm,1.1s
MILA Mila 74.31 174 P P 21 11 27.9 +1.0
BCYI Bear Canyon 74.36 46 P P 21 11 26.8 -0.9
MCMT McKenzie Canyo 74.37 45 P P 21 11 26.7 -1.0
BMN Battle Mountai 74.38 51 P P 21 11 27.3 -0.4
BMN IAmb IAmb 21 11 43.6
comp=Z,601nm,1.2s
BMN Battle Mountai 74.38 51 P P 21 11 27.3 -0.4
BMN pmax pmax
comp=Z,601nm,1.2s
BRAT Ballarat 74.49 178 P P 21 11 29.0 +1.2
PMPB Monarch Peak 74.52 56 P P 21 11 28.0 -0.4
PMPB IAmb IAmb 21 11 44.1
comp=Z,1µm,1.8s
TOO Toolangi 74.57 177 P P 21 11 28.8 +0.4
TOO IAmb IAmb 21 11 56.5
comp=Z,904nm,2.0s
TOO Toolangi 74.57 177 P P 21 11 30.0 +1.6
TOO Toolangi 74.57 177 P P 21 11 28.8 +0.4
TOO pmax pmax
comp=Z,904nm,2.0s
BOZ Bozeman (W) 74.59 44 P P 21 11 28.2 -0.6
BOZ IAmb IAmb 21 11 44.2
comp=Z,596nm,1.1s
BOZ IAMs_20 IAMs_20 21 48 15.8
comp=Z,50µm,20.0s
BOZ Bozeman (W) 74.59 44 P P 21 11 27.2 -1.6
baz=308,SNR=212
BOZ Bozeman (W) 74.59 44 P P 21 11 28.2 -0.6
BOZ pmax pmax
comp=Z,596nm,1.1s
BOZ MLR MLR
comp=Z,50µm,20.0s
RYN Ryan 74.61 53 P P 21 11 28.7 -0.4
RYN IAmb IAmb 21 11 44.8
comp=Z,420nm,1.1s
KVN Kaiserville 74.64 53 P P 21 11 28.2 -1.0
KVN IAmb IAmb 21 11 45.0
comp=Z,544nm,1.0s
KVN Kaiserville 74.64 53 P P 21 11 28.3 -1.0
KVN pmax pmax
comp=Z,544nm,1.0s
GHWR Ruwais 74.77 289 P P 21 11 30.4 +0.4
GHWR P **P 21 11 30.4 +0.4**
GHWR S **S 21 21 06.8 -0.5**
GHWR S **S 21 21 06.8 -0.5**
MDPB Devils Postpil 74.83 54 P P 21 11 30.4 -0.1
LHV Little Huntoon 74.84 53 P P 21 11 29.6 -0.6
MZR Muzera 74.85 287 P P 21 11 30.8 +0.3
MZR P **P 21 11 30.8 +0.3**
MZR S **S 21 21 08.3 0.0**
MZR S **S 21 21 08.3 0.0**
MZR Muzera 74.85 287 i P P 21 11 28.8 -1.7
SNR=66
NVAR Mina Array Bea 74.87 53 P P 21 11 30.8 +0.1
comp=Z,59nm,0.9s,baz=290,slow=5.2,SNR=92
NVAR S **S 21 21 12.9 +4.4**
comp=Z,1.9nm,0.4s,baz=251,slow=23,SNR=1.9
NVAR LR LR 21 37 12.5
comp=Z,13µm,22.0s,baz=306,slow=30
NVAR PKPPKP 21 38 53.5
comp=Z,0.5nm,0.5s,baz=99,slow=2.0,SNR=3.6
comp=Z,59nm,0.9s
NVAR Mina Array Bea 74.87 53 P P 21 11 29.3 -1.3
NV11 Mina Array Sit 74.96 53 P P 21 11 30.8 -0.3
NV11 IAmb IAmb 21 11 43.7
comp=Z,808nm,1.6s
OSL Oslo 74.96 337 eP P 21 11 28.8 -1.6
OSL IVmB_BB 21 11 41.6
comp=Z,18µm,3.1s
OSL eS **S 21 21 07.5 -0.8**
OSL eSS **SS 21 25 58.9 +3.4**
OSL IVMs_BB IVMs_BB 21 47 46.2
comp=Z,78µm,16.5s
MLAC Mammoth, Mammo 74.99 54 P P 21 11 30.5 -0.9
baz=306
AUHPC Hawkesdale P12 75.02 179 P P 21 11 33.3 +2.5
RKGY Rocky Gully 75.04 201 P P 21 11 34.2 +3.1
SKAR Skarslia 75.11 338 eP P 21 11 30.9 -0.5
SKAR IVmB_BB 21 11 43.1
comp=Z,13µm,2.6s
SKAR eS **S 21 21 10.8 +0.6**
SKAR IVMs_BB IVMs_BB 21 45 29.2
comp=Z,66µm,22.4s
SIM Simferopol' 75.13 315 c iP P 21 11 32.7 +0.9
SIM e 21 11 45.0
SIM e 21 14 23.0
SIM ePPP PPP 21 16 04.0
SIM i S **S 21 21 13.0 +2.2**
SIM eSS **SS 21 25 59.0 +0.1**
SIM pmax pmax
comp=Z,738nm,0.9s
SIM MLR MLR
comp=Z,70µm,16.1s
SHMA Al-Shehemyia 75.14 291 P P 21 11 32.5 +0.4
SHMA S **S 21 21 12.0 +0.6**
AUALB St Joseph's Co 75.15 200 P P 21 11 33.8 +2.1
GEXS Deakin Univers 75.15 178 P P 21 11 35.8 +4.2
QLMT Earthquake Lak 75.17 45 P P 21 11 32.0 -0.3
AUSSC Sale College, 75.19 175 P P 21 11 33.4 +1.6
FOO Floro 75.30 340 eP P 21 11 32.1 -0.2
FOO IVmB_BB 21 11 43.6
comp=Z,13µm,5.3s
FOO eS **S 21 21 12.5 +0.5**
FOO eSS **SS 21 26 03.1 +2.7**
FOO IVMs_BB IVMs_BB 21 48 46.6
comp=Z,51µm,14.2s
HYA Hoyanger 75.33 339 eP P 21 11 32.5 -0.1
Q09A Carvers 75.34 52 P P 21 11 31.8 -1.5
YHB Horse Butte 75.35 45 P P 21 11 33.3 0.0
YHB IAmb IAmb 21 11 49.0
comp=Z,466nm,1.0s
SAKB Bahrain 75.39 292 P P 21 11 33.9 +0.3
SAKB S **S 21 21 11.3 -2.9**
VOG Valley Oaks Go 75.39 55 P P 21 11 31.2 -2.2
baz=306
ELK Elko 75.42 50 P P 21 11 32.9 -0.9
ELK Elko 75.42 50 P P 21 11 32.9 -0.9
ELK pmax pmax
comp=Z,142nm,1.0s
YMR Madison River 75.53 45 P P 21 11 34.5 +0.1
YMR IAmb IAmb 21 11 50.3
comp=Z,1µm,1.4s
KONO Kongsberg 75.54 337 P P 21 11 32.6 -1.2
KONO IAmb IAmb 21 11 45.0
comp=Z,627nm,1.6s
KONO Kongsberg 75.54 337 P P 21 11 32.6 -1.2
KONO pmax pmax
comp=Z,627nm,1.6s
KONO MLR MLR
comp=Z,201µm,20.0s
KONO Kongsberg 75.54 337 eP P 21 11 33.3 -0.5
KONO IVmBBB 21 11 45.0
comp=Z,12µm,3.2s
KONO eS **S 21 21 15.4 +0.6**
KONO eSS **SS 21 26 04.9 +0.6**
KONO IVMs_BB IVMs_BB 21 47 18.7
comp=Z,68µm,19.5s
GCMT Greycliff 75.55 43 P P 21 11 33.9 -0.5
SMMC Simmler 75.57 57 P P 21 11 33.9 -0.6
baz=306,SNR=19
SLWR Sila 75.61 289 P P 21 11 34.6 -0.2
SLWR P **P 21 11 34.6 -0.2**
SLWR S **S 21 21 17.3 +0.7**
SLWR S **S 21 21 17.3 +0.7**
YNM Yellowstone No 75.64 44 P P 21 11 35.4 +0.4
YNM IAmb IAmb 21 11 51.3
comp=Z,756nm,1.3s
SFJD Kangerlussuaq 75.65 5 LR LR 21 45 56.5
comp=Z,50µm,21.5s,baz=352,slow=37
SFJD Kangerlussuaq 75.65 5 P P 21 11 33.6 -0.7
SFJD Kangerlussuaq 75.65 5 IAMs_20 IAMs_20 21 45 34.5
comp=Z,62µm,20.0s
SFJD Kangerlussuaq 75.65 5 i P P 21 11 39.2 +4.9
SFJD i S **S 21 21 16.3 +0.6**
SFJD Kangerlussuaq 75.65 5 P P 21 11 33.6 -0.7
SFJD pmax pmax
comp=Z,163nm,0.8s
SFJD MLR MLR
comp=Z,62µm,20.0s
YNR Norris Junctio 75.66 44 P P 21 11 35.8 +0.6
YNR IAmb IAmb 21 11 51.5
comp=Z,694nm,1.2s
MARD Mardin 75.70 306 P P 21 11 35.1 -0.2
MARD IAmb IAmb 21 11 51.7
comp=Z,361nm,0.8s
DSP Deep Springs 75.70 54 P P 21 11 35.1 0.0
DSP IAmb IAmb 21 11 51.2
comp=Z,578nm,1.1s
TIN Tinemaha, Big 75.72 54 P P 21 11 34.3 -1.1
baz=306,SNR=24
YUF Upper Falls 75.76 44 P P 21 11 35.9 +0.2
TPH Tonopah 75.76 53 P P 21 11 35.5 -0.3
TPH Tonopah 75.76 53 P P 21 11 35.5 -0.3
TPH pmax pmax
comp=Z,3µm,1.1s
SUE Sulen 75.82 340 eP P 21 11 35.7 +0.3
SUE eS **S 21 21 18.9 +1.2**
SUE IVMs_BB IVMs_BB 21 52 46.0
comp=Z,52µm,13.0s
VES Vestal, Richgr 75.87 56 P P 21 11 33.9 -2.2
baz=306,SNR=46
SMRA Abu-Samra 75.87 290 P P 21 11 35.6 -0.7
SMRA S **S 21 21 17.3 -2.2**
MZP Montezuma Peak 75.88 53 P P 21 11 35.7 -0.8
LKWY Lake 75.91 44 P P 21 11 37.8 +1.2
LKWY IAmb IAmb 21 11 52.9
comp=Z,784nm,1.4s
LKWY Lake 75.91 44 P P 21 11 37.8 +1.2
LKWY pmax pmax
comp=Z,784nm,1.4s
LKWY MLR MLR
comp=Z,91µm,20.0s
H17A Grant Village 75.92 45 P P 21 11 36.7 +0.1
H17A IAmb IAmb 21 11 53.9
comp=Z,903nm,1.1s
H17A Grant Village 75.92 45 P P 21 11 35.9 -0.7
baz=309,SNR=160
YMP Mirror Lake Pl 75.94 44 P P 21 11 36.9 +0.2
YMP IAmb IAmb 21 12 15.0
comp=Z,884nm,1.5s
PKM Mcpherson Peak 75.94 57 P P 21 11 36.0 -0.8
baz=306,SNR=38
LCH Last Change Ra 75.99 54 P P 21 11 36.9 -0.1
IMW Indian Meadow 76.02 45 P P 21 11 37.2 -0.1
IMW IAmb IAmb 21 11 53.5
comp=Z,342nm,0.9s
FLWY Flagg Ranch 76.04 45 P P 21 11 37.6 +0.3
H01W3 Cape Leeuwin H 76.13 203 P P 21 11 40.1 +3.1
baz=62,slow=4.4,SNR=40
H01W1 Cape Leeuwin H 76.13 203 P P 21 11 38.8 +1.7
baz=62,slow=4.4,SNR=35
FXWY Fox Creek 76.14 45 P P 21 11 37.8 0.0
FXWY IAmb IAmb 21 11 54.1
comp=Z,343nm,1.1s
H01W2 Cape Leeuwin H 76.14 203 P P 21 11 40.7 +3.6
baz=62,slow=4.4,SNR=24
CWC Cottonwood Cre 76.17 55 P P 21 11 35.7 -2.4
baz=306
ASK Askoy 76.18 339 eP P 21 11 37.5 +0.1
ASK eS **S 21 21 21.9 +0.2**
BCW Bitter Crk WRg 76.18 57 P P 21 11 37.3 -0.8
BCW IAmb IAmb 21 11 54.0
comp=Z,725nm,1.2s
SORM Soroca 76.19 321 ⇓P P 21 11 35.5 -2.1
RLMT Red Lodge 76.19 43 P P 21 11 36.3 -1.8
RLMT IAMs_20 IAMs_20 21 50 32.8
comp=Z,45µm,19.0s
RLMT Red Lodge 76.19 43 P P 21 11 36.4 -1.7
baz=309,SNR=53
GMN Gold Mountain 76.20 54 P P 21 11 37.9 -0.4
BER Bergen 76.22 339 eP P 21 11 37.6 0.0
BER IVmBBB 21 11 49.1
comp=Z,12µm,2.9s
BER eS **S 21 21 22.3 +0.1**
BER IVMs_BB IVMs_BB 21 49 03.2
comp=Z,52µm,14.9s
MOOW Moose Ponds 76.23 45 P P 21 11 37.5 -0.9
MOOW IAmb IAmb 21 11 54.5
comp=Z,884nm,1.6s
ODD1 Odda 76.23 338 eP P 21 11 37.8 -0.1
ODD1 IVmB_BB 21 11 49.2
comp=Z,14µm,5.2s
ODD1 eS **S 21 21 22.2 -0.3**
ODD1 eSS **SS 21 26 17.3 +2.5**
ODD1 IVMs_BB IVMs_BB 21 47 14.2
comp=Z,63µm,21.1s
SBC Santa Barbara 76.27 57 P P 21 11 36.6 -1.8
baz=306
HVU Hansel Valley 76.27 48 P P 21 11 37.9 -0.7
HVU Hansel Valley 76.27 48 P P 21 11 37.9 -0.7
HVU pmax pmax
comp=Z,278nm,1.1s
TPAW Teton Pass 76.27 46 P P 21 11 38.5 -0.1
ECR Eagle Creek 76.30 46 P P 21 11 38.9 +0.1
GRAC Grapevine Rang 76.31 54 P P 21 11 37.7 -1.0
GRAC IAmb IAmb 21 11 54.5
comp=Z,756nm,1.3s
GRAC Grapevine Rang 76.31 54 P P 21 11 36.8 -1.9
baz=307,SNR=12
ISA Isabella, Lake 76.38 56 P P 21 11 38.0 -1.1
ISA Isabella, Lake 76.38 56 P P 21 11 36.2 -3.0
baz=306,SNR=54
ISA Isabella, Lake 76.38 56 P P 21 11 38.0 -1.1
ISA pmax pmax
comp=Z,262nm,1.2s
LOHW Long Hollow 76.39 45 P P 21 11 39.2 0.0
LOHW IAmb IAmb 21 11 54.5
comp=Z,531nm,1.6s
RAO Raoul Island 76.39 144 P P 21 11 43.3 +4.4
comp=Z,89nm,0.3s,baz=66,slow=22,SNR=1.1
RAO LR LR 21 38 20.5
comp=Z,41µm,20.6s,baz=355,slow=30
RAO Raoul Island 76.39 144 P P 21 11 38.3 -0.6
RAO IAMs_20 IAMs_20 21 43 28.7
comp=Z,51µm,20.0s
RAO Raoul Island 76.39 144 P P 21 11 38.3 -0.6
RAO MLR MLR
comp=Z,51µm,20.0s
SNOW Snow King Moun 76.40 45 P P 21 11 39.3 -0.1
SNOW IAmb IAmb 21 11 54.1
comp=Z,340nm,1.1s
REDW Red Top Meadow 76.41 46 P P 21 11 39.1 -0.3
REDW IAmb IAmb 21 11 55.3
comp=Z,678nm,1.4s
DY2G Dye2 76.41 3 i P P 21 11 40.2 +1.2
DY2G IAmb IAmb 21 11 56.6
comp=Z,2µm,1.9s
DY2G i S **S 21 21 25.2 +0.6**
PURM Purcari 76.44 319 ⇓P P 21 11 37.4 -1.8
ARVC Arvin 76.45 56 P P 21 11 36.6 -2.8
baz=306,SNR=30
DIKM Dikmen 76.51 312 ⇓P P 21 11 39.2 -0.5
FRB Frobisher Bay 76.54 13 LR LR 21 48 33.5
comp=Z,74µm,18.7s,baz=340,slow=38
SCZ2 Santa Cruz Isl 76.58 58 P P 21 11 38.4 -1.9
baz=306
TOKA Tokat 76.59 311 P P 21 11 40.2 -0.1
TOKA IAmb IAmb 21 11 59.8
comp=Z,615nm,1.2s
AHID Auburn Hatcher 76.64 46 P P 21 11 40.2 -0.4
AHID IAmb IAmb 21 11 56.1
comp=Z,374nm,1.1s
R11A Troy Canyon, C 76.64 52 P P 21 11 40.3 -0.4
R11A IAmb IAmb 21 11 56.4
comp=Z,493nm,1.1s
R11A Troy Canyon, C 76.64 52 P P 21 11 39.5 -1.2
baz=307,SNR=270
BGU Big Grassy Mou 76.64 49 P P 21 11 40.7 0.0
DGMT Dagmar 76.67 39 P P 21 11 39.8 -0.7
DGMT Dagmar 76.67 39 IAMs_20 IAMs_20 21 45 43.6
comp=Z,43µm,22.0s
DGMT Dagmar 76.67 39 P P 21 11 38.2 -2.3
baz=312
DGMT Dagmar 76.67 39 P P 21 11 38.4 -2.1
baz=312,SNR=53
BLS5 Blasjo 76.68 338 eP P 21 11 40.3 -0.1
BLS5 IVmBBB 21 11 52.1
comp=Z,13µm,2.6s
BLS5 eS **S 21 21 27.6 +0.2**
BLS5 eSS **SS 21 26 23.7 +2.1**
BLS5 IVMs_BB IVMs_BB 21 46 13.8
comp=Z,74µm,24.6s
KIS Kishinev 76.69 319 eP P 21 11 38.0 -2.6
comp=Z,5µm,3.4s
KIS eS **S 21 21 29.0 +1.2**
comp=Z,5µm,9.8s
KIS Kishinev 76.69 319 LRM MLR 21 48 37.0
comp=Z,157µm,16.0s
KIS Kishinev 76.69 319 eP P 21 11 38.0 -2.6
KIS e 21 11 44.0
KIS i 21 11 50.0
KIS eS **S 21 21 29.0 +1.2**
KIS ePS **PnS 21 22 18.0 +14**
KIS e 21 22 21.0
KIS smax smax
comp=N,5µm,9.8s
KIS smax smax
comp=E,11µm,9.8s
KIS MLR MLR
comp=Z,157µm,16.0s
KIS MLR MLR
comp=N,57µm,15.0s
KIS MLR MLR
comp=E,95µm,15.0s
KIS Kishinev 76.69 319 ePS 21 22 18.0
KIS Kishinev 76.69 319 eL L 21 36 43.0
DMTO DMTO 76.72 282 P P 21 11 40.2 -1.0
DMTO P **P 21 11 40.2 -1.0**
DMTO S **S 21 21 29.3 +0.4**
DMTO S **S 21 21 29.3 +0.4**
MILM Milestii Mici 76.74 319 ⇓P P 21 11 38.4 -2.4
MILM Milestii Mici 76.74 319 eP P 21 11 38.0 -2.9
comp=E,10µm,4.2s
MILM i S **S 21 21 30.0 +1.6**
comp=E,14µm,7.0s
MILM Milestii Mici 76.74 319 LRM MLR 21 48 12.0
comp=E,144µm,20.0s
MILM Milestii Mici 76.74 319 eP P 21 11 38.0 -2.9
MILM e 21 11 44.0
MILM i 21 11 50.0
MILM i S **S 21 21 30.0 +1.6**
MILM ePS **PnS 21 22 11.0 +5.8**

MILM *e* 21 22 18.0
MILM *e* 21 26 23.0
MILM smax smax
comp=N,22µm,10.7s
MILM smax smax
comp=E,14µm,7.0s
MILM MLR MLR
comp=E,218µm,16.0s
MILM MLR MLR
comp=Z,332µm,16.0s
MILM Milestii Mici 76.74 319 *e*PS 21 22 11.0
MILM Milestii Mici 76.74 319 *e*L L 21 36 49.0
SPUT South Promonto 76.75 48 P **P** **21 11 40.6 -0.7**
SPUT IAmb IAmb 21 11 57.4
comp=Z,790nm,1.6s
MPMC Manual Prospec 76.79 55 P **P** **21 11 40.1 -1.5**
baz=307,SNR=74
LAO LASA Array 76.81 41 P **P** **21 11 40.5 -0.9**
LAO LASA Array 76.81 41 P **P** **21 11 40.2 -1.2**
baz=311
LAO LASA Array 76.81 41 P **P** **21 11 39.6 -1.8**
baz=311,SNR=54
OSI Osito Audit: C 76.83 57 P **P** **21 11 39.4 -2.3**
baz=306
DOK Doka 76.84 283 P **P** **21 11 41.7 -0.2**
DOK P **P** **21 11 41.7 -0.2**
DOK S **S** **21 21 30.4 +0.1**
DOK S **S** **21 21 30.4 +0.1**
WCT Wildcat Mounta 76.91 54 P **P** **21 11 41.2 -0.9**
FURC Furnace Creek, 76.95 54 P **P** **21 11 40.4 -1.9**
baz=307,SNR=19
S11A Rachel 76.96 53 P **P** **21 11 42.5 0.0**
CCAC Calif City Air 76.98 56 P **P** **21 11 41.7 -0.9**
CCAC IAmb IAmb 21 11 57.9
comp=Z,560nm,1.1s
HOMB Homborsund 76.99 337 *e*P **P** **21 11 42.1 +0.1**
HOMB IVmB_BB 21 11 55.4
comp=Z,15µm,6.7s
HOMB *e*PP **PP** **21 14 34.1 -0.4**
HOMB *e*S **S** **21 21 31.7 +1.1**
HOMB *e*SS **SS** **21 26 27.6 +1.5**
HOMB IVMs_BB IVMs_BB 21 48 55.9
comp=Z,68µm,15.8s
LRMC Laurel Mtn Rad 77.00 55 P **P** **21 11 40.7 -2.1**
baz=307,SNR=25
SPR3 Spring Creek 3 77.03 51 P **P** **21 11 42.7 -0.3**
SPR3 IAmb IAmb 21 11 59.5
comp=Z,1µm,1.9s
BZK Bozkurt 77.05 313 ⇓P **P** **21 11 41.3 -1.4**
BZK Bozkurt 77.05 313 P **P** **21 11 41.8 -0.9**
TPNV Topopah Spring 77.06 53 P **P** **21 11 41.4 -1.7**
TPNV IAmb IAmb 21 11 58.6
comp=Z,430nm,1.1s
TPNV Topopah Spring 77.06 53 P **P** **21 11 41.3 -1.8**
baz=307,SNR=158
TPNV Topopah Spring 77.06 53 P **P** **21 11 41.4 -1.7**
TPNV pmax pmax
comp=Z,430nm,1.1s
TPNV MLR MLR
comp=Z,24µm,18.0s
HWUT Hardware Ranch 77.09 47 P **P** **21 11 42.5 -0.7**
SNCC San Nicolas Is 77.09 58 P **P** **21 11 42.2 -0.9**
SNCC IAmb IAmb 21 11 58.6
comp=Z,754nm,1.1s
SNCC San Nicolas Is 77.09 58 P **P** **21 11 41.3 -1.8**
baz=306
EDW2 Edwards Air Fo 77.15 56 P **P** **21 11 42.2 -1.3**
baz=307,SNR=43
LVV L'vov 77.17 324 *e*P **P** **21 11 42.8 -0.4**
LVV *e* 21 11 56.6
LVV *e*S **S** **21 21 30.5 -2.5**
LVV *e*SS **SS** **21 26 26.7 -2.6**
LVV pmax pmax
comp=Z,1µm,1.5s
LVV MLR MLR
comp=N,128µm,17.0s
LVV MLR MLR
comp=E,136µm,17.0s
LVV MLR MLR
comp=Z,172µm,17.0s
OVD Ostervraa, Den 77.19 335 *i*P **P** **21 11 45.1 +1.9**
OVD IAmb IAmb 21 11 55.7
comp=Z,1µm,1.4s
OVD *i*S **S** **21 21 33.2 +0.3**
IAS Iasi 77.21 320 ⇓P **P** **21 11 42.4 -1.1**
BSD Bornholm Skovb 77.22 332 *e*P **P** **21 11 42.8 -0.5**
BSD Bornholm Skovb 77.22 332 *i*P **P** **21 11 41.2 -2.2**
BSD IAmb IAmb 21 11 54.8
comp=Z,766nm,1.2s
BSD *i*S **S** **21 21 35.2 +1.9**
DUG Dugway, Tooele 77.22 49 P **P** **21 11 42.6 -1.3**
DUG IAmb IAmb 21 11 59.8
comp=Z,1µm,1.6s
DUG Dugway, Tooele 77.22 49 P **P** **21 11 43.1 -0.9**
baz=308,SNR=71
DUG Dugway, Tooele 77.22 49 P **P** **21 11 42.6 -1.3**
DUG pmax pmax
comp=Z,1µm,1.7s
DUG MLR MLR
comp=Z,31µm,19.0s
BEL Belsk 77.23 327 *e*P **P** **21 11 42.7 -0.8**
BEL *e*PcP **PcP** **21 11 54.5 +0.2**
BEL *e*PP PP 21 14 46.1 +9.4
BEL *e*S **S** **21 21 39.6 +6.1**
BEL *e*L L 21 46 58.6
comp=Z,85µm,22.3s
GWY Greenwater Val 77.24 54 P **P** **21 11 42.6 -1.6**
GWY IAmb IAmb 21 11 59.5
comp=Z,1µm,1.4s
QSM Queen of Sheba 77.25 55 P **P** **21 11 42.9 -1.1**
QSM IAmb IAmb 21 11 59.4
comp=Z,814nm,1.1s
DECC Green Verdugo 77.30 57 P **P** **21 11 42.8 -1.6**
baz=307
SNART Snartemo 77.34 337 *e*P **P** **21 11 43.8 -0.2**
BORG Borgarnes 77.40 352 LR LR 21 48 14.4
comp=Z,38µm,19.5s,baz=21,slow=38
BORG Borgarnes 77.40 352 P **P** **21 11 44.1 -0.1**
BORG IAmb IAmb 21 11 59.8
comp=Z,286nm,0.8s
BORG Borgarnes 77.40 352 P **P** **21 11 44.1 -0.1**
BORG pmax pmax
comp=Z,287nm,0.9s
RBK Rabkut 77.42 282 P **P** **21 11 44.9 -0.3**
RBK P **P** **21 11 44.9 -0.3**
RBK S **S** **21 21 36.3 -0.4**
RBK S **S** **21 21 36.3 -0.4**
ANGG Ammassalik, Gr 77.44 360 P **P** **21 11 44.0 -0.4**
ANGG Ammassalik, Gr 77.44 360 *i*P **P** **21 11 46.1 +1.8**
ANGG IAmb IAmb 21 11 55.4
comp=Z,260nm,1.4s
ANGG *i*S **S** **21 21 36.2 +0.9**
PASC Pasadena Art C 77.45 57 P **P** **21 11 44.9 -0.3**
PASC IAmb IAmb 21 12 00.3
comp=Z,756nm,1.7s
TCUT Toone Canyon 77.48 48 P **P** **21 11 44.9 -0.6**
ISOG Isortoq, Green 77.51 0 *i*P **P** **21 11 48.1 +3.3**
ISOG IAmb IAmb 21 11 56.0
comp=Z,2µm,2.3s
BW06 Boulder Array 77.52 45 P **P** **21 11 43.0 -2.7**
BW06 Boulder Array 77.52 45 P **P** **21 11 44.3 -1.4**
baz=310,SNR=52
PD31 Pinedale Array 77.52 45 P **P** **21 11 43.9 -1.7**
PDAR Pinedale Array 77.52 45 P **P** **21 11 43.5 -2.2**
comp=Z,31nm,0.9s,baz=271,slow=2.0,SNR=57
PDAR S **S** **21 21 38.9 +1.3**
comp=Z,0.4nm,0.5s,baz=270,slow=4.4,SNR=0.9
PDAR PKKPbc **PKKPbc** **21 30 53.6 +5.0**
comp=Z,1.5nm,0.9s,baz=117,slow=2.9,SNR=4.3
PDAR PKPPKP 21 38 57.1
comp=Z,1.4nm,0.9s,baz=99,slow=2.0,SNR=5.9
comp=Z,31nm,0.9s
PRN Pahroc Range 77.54 52 P **P** **21 11 44.8 -1.0**
CTU Camp Tracy 77.55 48 P **P** **21 11 45.2 -0.6**
CTU IAmb IAmb 21 12 00.6
comp=Z,742nm,1.6s
PSUT Pine Spring 77.60 51 P **P** **21 11 45.7 -0.5**
PSUT IAmb IAmb 21 12 01.8
comp=Z,513nm,1.1s
FMP Fort Macarthur 77.65 57 P **P** **21 11 44.4 -1.8**
baz=307
SHOC Shoshone, Teco 77.67 54 P **P** **21 11 45.1 -1.3**
baz=307,SNR=30
GSC Goldstone, Bar 77.68 55 P **P** **21 11 46.0 -0.5**
GSC Goldstone, Bar 77.68 55 P **P** **21 11 44.9 -1.7**
baz=307,SNR=39
GSC Goldstone, Bar 77.68 55 P **P** **21 11 46.0 -0.5**
GSC pmax pmax
comp=Z,337nm,1.2s
GKP Gorka Klasztor 77.68 329 *e*P **P** **21 11 44.5 -1.5**
GKP *e*PcP **PcP** **21 11 56.3 +0.2**
GKP *e*PP PP 21 14 49.4 +8.9
GKP *e*S **S** **21 21 43.0 +4.6**
GKP *e*L L 21 47 05.9
comp=Z,159µm,25.2s
GKP Gorka Klasztor 77.68 329 *e*P **P** **21 11 46.0 -0.1**
COP Copenhagen 77.69 333 *i*P **P** **21 11 45.8 -0.2**
COP IAmb IAmb 21 11 57.8
comp=Z,2µm,1.2s
COP *i*S **S** **21 21 39.2 +0.8**
CIS Catalina Islan 77.75 57 P **P** **21 11 44.6 -2.2**
baz=307
BFSC Mount Baldy Ra 77.76 56 P **P** **21 11 46.0 -1.0**
baz=307,SNR=36
JLU Jordanelle 77.78 48 P **P** **21 11 46.1 -1.1**
ILGA Ilgaz 77.79 312 P **P** **21 11 46.5 -0.7**
BIR Birlad 77.79 319 ⇑P **P** **21 11 47.8 +1.0**
NLU North Lily Min 77.81 49 P **P** **21 11 47.0 -0.3**
RRX Edison Barstow 77.81 55 P **P** **21 11 45.6 -1.6**
baz=307
VLDR Vladesti 77.83 319 ⇓P **P** **21 11 45.7 -1.3**
BNN Bunyan 77.88 310 P **P** **21 11 46.4 -1.2**
SCI2 San Clemente I 77.91 58 P **P** **21 11 47.2 -0.5**
baz=307
SCTR Scanteiesti 77.99 319 ⇓P **P** **21 11 46.6 -1.3**
TATR Tatarca 78.01 319 ⇓P **P** **21 11 47.3 -0.7**
SHPR Sheep Range 78.02 53 P **P** **21 11 48.0 -0.4**
GHRR 78.04 319 ⇑P **P** **21 11 47.3 -0.9**
MPU Maple Canyon 78.04 49 P **P** **21 11 48.5 0.0**
MPU IAmb IAmb 21 12 01.3
comp=Z,1µm,1.8s
DGAR Diego Garcia 78.04 251 P **P** **21 11 47.7 -0.9**
DGAR IAmb IAmb 21 12 03.4
comp=Z,842nm,1.3s
DGAR Diego Garcia 78.04 251 IAMs_20 IAMs_20 21 44 58.6
comp=Z,45µm,22.0s
DGAR Diego Garcia 78.04 251 P **P** **21 11 46.7 -1.9**
DGAR P **P** **21 11 46.7 -1.9**
DGAR Diego Garcia 78.04 251 P **P** **21 11 47.7 -0.9**
DGAR pmax pmax
comp=Z,842nm,1.3s
DGAR MLR MLR
comp=Z,45µm,22.0s
LLD Lille Linde 78.05 333 *i*P **P** **21 11 47.1 -0.9**
LLD IAmb IAmb 21 12 00.9
comp=Z,696nm,1.2s
GAZ Gaziantep 78.06 308 P **P** **21 11 47.5 -1.1**
GAZ IAmb IAmb 21 12 04.4
comp=Z,437nm,0.9s
BUR08 Bucovina Ar. S 78.09 322 P **P** **21 11 48.1 -0.5**
BUR08 IAmb IAmb 21 12 03.9
comp=Z,429nm,0.9s
OUZ Omahuta 78.09 154 P **P** **21 11 47.7 -0.7**
OUZ IAMs_20 IAMs_20 21 42 33.2
comp=Z,77µm,21.0s
BURAR Bucovina Array 78.10 322 ⇓P **P** **21 11 47.8 -0.9**
BURAR Bucovina Array 78.10 322 P **P** **21 11 47.9 -0.8**
BURAR IAmb IAmb 21 12 04.4
comp=Z,296nm,0.8s
GLAD Gladstone 78.12 175 P **P** **21 11 50.7 +2.3**
TESR Tescani 78.13 320 ⇓P **P** **21 11 46.9 -1.8**
H08S3 Diego Garcia H 78.16 251 P P 21 11 54.3 +5.4
baz=135,slow=75,SNR=5.1
LRW Lerwick 78.16 342 *e*P **P** **21 11 50.1 +1.6**
LRW IAMs_20 IAMs_20 21 42 04.7
comp=Z,171µm,29.3s
H08S2 Diego Garcia H 78.16 251 P P 21 11 54.9 +5.9
baz=135,slow=75,SNR=4.4
SLCR Slobozia Conac 78.16 319 ⇑P **P** **21 11 48.1 -0.7**
H08S1 Diego Garcia H 78.17 251 P P 21 11 54.9 +5.9
baz=135,slow=75,SNR=3.1
TUQ Turquoise Moun 78.18 54 P **P** **21 11 47.6 -1.7**
baz=308,SNR=95
SCHL Schela 78.19 319 ⇓P **P** **21 11 47.8 -1.2**
IZVR Izvoarele 78.20 319 ⇓P **P** **21 11 48.1 -1.0**
ABTO Aybut 78.21 283 P **P** **21 11 49.2 -0.4**
ABTO P **P** **21 11 49.2 -0.4**
ABTO S **S** **21 21 45.9 +0.5**
ABTO S **S** **21 21 45.9 +0.5**
MUD Monsted U'grnd 78.22 335 *i*P **P** **21 11 50.1 +1.2**
MUD IAmb IAmb 21 12 02.8
comp=Z,610nm,1.3s
MUD *i*S **S** **21 21 47.2 +3.1**
BBRC Big Bear Solar 78.23 56 P **P** **21 11 47.6 -2.2**
baz=307
CFR Carcaliu 78.25 318 ⇓P **P** **21 11 47.2 -2.1**
RGN Rugen 78.25 332 P **P** **21 11 48.4 -0.8**
ELS Elsinore Mount 78.27 57 P **P** **21 11 49.6 -0.2**
ELS IAmb IAmb 21 11 57.5
comp=Z,849nm,1.8s
HEC Hector,Ludlow 78.28 55 P **P** **21 11 48.2 -1.7**
baz=308,SNR=44
TPGR Topolog 78.31 318 ⇓P **P** **21 11 48.9 -0.9**
WTNK Soaring Height 78.31 53 P **P** **21 11 49.4 -0.6**
WTNK IAmb IAmb 21 12 05.7
comp=Z,114nm,1.2s
AULHS Lilydale High 78.33 176 P **P** **21 11 51.7 +2.2**
NUUK Nuuk 78.35 6 *i*P **P** **21 11 50.5 +1.0**
NUUK IAmb IAmb 21 12 03.4
comp=Z,246nm,0.9s
NUUK *i*S **S** **21 21 45.2 0.0**
TCRU Three Creeks R 78.42 50 P **P** **21 11 50.7 -0.1**
TCRU IAmb IAmb 21 12 05.5
comp=Z,649nm,1.4s
MURC Murrieta 78.45 57 P **P** **21 11 48.8 -1.9**
baz=307,SNR=16
CCUT Cedar City 78.52 51 P **P** **21 11 50.6 -0.7**
CCUT IAmb IAmb 21 12 07.2
comp=Z,497nm,1.3s
VRI Vrincioaia 78.52 320 ⇓P **P** **21 11 50.4 -0.5**
CORO Coronation Par 78.53 176 P **P** **21 11 54.1 +3.5**
PLOR Plostina 78.57 320 ⇓P **P** **21 11 48.6 -2.6**
TIRR Tirgusor 78.58 318 P **P** **21 11 50.2 -0.9**
TIRR IAmb IAmb 21 12 05.7
comp=Z,721nm,1.0s
TIRR Tirgusor 78.58 318 P **P** **21 11 50.2 -0.9**
TIRR pmax pmax
comp=Z,721nm,1.0s
MVU Marysvale 78.63 50 P **P** **21 11 52.1 +0.2**
MSU Marysvale 78.65 50 P **P** **21 11 51.9 -0.1**
MSU Marysvale 78.65 50 P **P** **21 11 51.9 -0.1**
SZCU Shurtz Canyon 78.66 51 P **P** **21 11 51.6 -0.5**
SZCU IAmb IAmb 21 12 06.9
comp=Z,854nm,1.9s
BR131 Keskin Array S 78.67 311 P **P** **21 11 50.8 -1.2**
BR131 Keskin Array S 78.67 311 P **P** **21 11 50.8 -1.2**
BR131 pmax pmax
comp=Z,245nm,1.0s
BRTR Keskin Array B 78.67 311 P **P** **21 11 51.7 -0.3**
comp=Z,34nm,1.0s,baz=71,slow=3.5,SNR=89
BRTR PP PP 21 14 58.6 +9.2
comp=Z,18nm,0.9s,baz=60,slow=7.5,SNR=2.8
BRTR PKKPbc **PKKPbc** **21 30 52.9 +7.0**
comp=Z,1.1nm,0.8s,baz=205,slow=3.0,SNR=2.4
BRTR PKPPKP **P'P'df** **21 38 49.0 -7.1**
comp=Z,1.2nm,1.0s,baz=132,slow=1.8,SNR=3.9
BRTR LR LR 21 52 13.9
comp=Z,92µm,18.2s,baz=60,slow=40
comp=Z,34nm,1.0s
BRTR Keskin Array B 78.67 311 P **P** **21 11 50.8 -1.2**
BRTR Keskin Array B 78.67 311 P **P** **21 11 50.8 -1.2**
HARR Harsova 78.68 318 ⇑P **P** **21 11 50.9 -0.8**
V12A Nelson 78.69 54 P **P** **21 11 52.2 0.0**
V12A IAmb IAmb 21 12 07.9
comp=Z,953nm,1.8s
GRER 78.72 319 ⇓P **P** **21 11 52.7 +0.7**
STHS Stebnicka Huta 78.74 325 *e*P **P** **21 11 52.1 +0.1**
STHS Stebnicka Huta 78.74 325 *e*P **P** **21 11 52.1 +0.1**
STHS pmax pmax
comp=Z,358nm,1.1s
GMRC Granite Mounta 78.74 55 P **P** **21 11 51.7 -0.8**
baz=308,SNR=52
BISRR Bisoca 78.75 319 ⇓P **P** **21 11 52.4 +0.2**
TMUT Trail Mountain 78.75 49 P **P** **21 11 52.5 -0.2**
TMUT IAmb IAmb 21 12 08.5
comp=Z,733nm,1.7s
MFTR Murfatlar 78.75 318 ⇓P **P** **21 11 51.5 -0.7**
COVR Voineasa-Covas 78.81 320 ⇑P **P** **21 11 52.5 0.0**
UZH Uzhgorod 78.81 324 ⇑*i*P **P** **21 11 51.0 -1.4**
UZH *i* 21 11 56.5
UZH *i* 21 12 00.0
UZH *e* 21 16 42.0
UZH *i*S **S** **21 21 46.0 -4.7**
UZH *e* 21 22 30.0
UZH *e* 21 30 13.0
UZH MLR MLR
comp=N,30µm,15.0s
UZH MLR MLR
comp=E,68µm,15.0s
UZH MLR MLR
comp=Z,38µm,15.0s
OJC Ojcow 78.82 326 *e*P **P** **21 11 48.4 -4.0**
OJC *e*PcP **PcP** **21 12 00.6 -0.6**
OJC *e*PP **PP** **21 14 54.5 +4.3**
OJC *e*S **S** **21 21 51.4 +0.5**
OJC *e*L L 21 50 08.0
comp=Z,182µm,17.3s
OJC Ojcow 78.82 326 P **P** **21 11 49.2 -3.2**
OJC IAmb IAmb 21 12 04.6
comp=Z,898nm,1.1s
OJC Ojcow 78.82 326 P **P** **21 11 49.2 -3.2**
OJC pmax pmax
comp=Z,898nm,1.1s
OZUR 78.85 320 ⇓P **P** **21 11 51.8 -1.0**
ARCR ARCALIA 78.89 322 ⇓P **P** **21 11 53.1 +0.2**
BMR Baia Mare 78.91 322 ⇓P **P** **21 11 52.4 -0.5**
RDMU Red Mountain 78.91 47 P **P** **21 11 53.3 -0.1**
P17A Butcher Ranch, 78.92 49 P **P** **21 11 52.8 -0.6**
LCMT Little Creek M 78.92 52 P **P** **21 11 53.1 -0.3**
LCMT IAmb IAmb 21 12 09.4
comp=Z,471nm,1.2s
PFO Pinyon Flats O 78.93 56 P **P** **21 11 52.5 -1.0**
PFO Pinyon Flats O 78.93 56 IAMs_20 IAMs_20 21 45 23.2
comp=Z,33µm,18.0s
PFO Pinyon Flats O 78.93 56 P **P** **21 11 51.7 -1.8**
baz=308,SNR=28
PFO Pinyon Flats O 78.93 56 P **P** **21 11 52.5 -1.0**
PFO pmax pmax
comp=Z,432nm,1.3s
PFO MLR MLR
comp=Z,33µm,18.0s
109C Camp Elliot, M 78.94 57 P **P** **21 11 52.4 -0.9**
109C IAmb IAmb 21 12 08.7
comp=Z,490nm,1.4s
109C Camp Elliot, M 78.94 57 P **P** **21 11 52.2 -1.2**
baz=307
TPFO Pinon Flats 78.94 56 P **P** **21 11 51.8 -1.8**
baz=308,SNR=33
MTPU Mount Pierson 78.94 50 P **P** **21 11 52.5 -1.2**
KDZE Karadeniz Ereo 78.94 314 ⇓P **P** **21 11 51.8 -1.5**
PMD Palm Desert 78.96 56 P **P** **21 11 52.1 -1.4**
PMD IAmb IAmb 21 12 08.7
comp=Z,436nm,1.3s
BELC Belle Mtn. Jos 79.00 56 P **P** **21 11 51.8 -2.1**
baz=308,SNR=23
Q16A Castle Valley 79.01 49 P **P** **21 11 53.9 -0.1**
CRVS Cervenica-Dubn 79.01 324 *e*P **P** **21 11 53.3 -0.2**
CRVS *e*PP PP 21 15 02.4 +11
CRVS *e*S **S** **21 21 57.2 +4.3**
CRVS *e*SS SS 21 27 08.5 +11
CRVS *e*L L 21 50 39.9
CRVS Cervenica-Dubn 79.01 324 *e*P **P** **21 11 53.3 -0.2**
CRVS pmax pmax
comp=Z,4µm,2.3s
NEHR Nehoiu 79.04 319 ⇑P **P** **21 11 54.0 +0.2**
TRPA Tarpa 79.05 323 ⇓P **P** **21 11 53.3 -0.4**
TRPA Tarpa 79.05 323 P **P** **21 11 53.7 +0.1**
AMRR Amara 79.05 318 ⇓P **P** **21 11 53.3 -0.4**
ANTO Ankara 79.08 312 ⇓P **P** **21 11 53.1 -1.0**
ANTO Ankara 79.08 312 P **P** **21 11 53.5 -0.7**
ANTO IAmb IAmb 21 12 13.5
comp=Z,471nm,1.0s
ANTO Ankara 79.08 312 IAMs_20 IAMs_20 21 52 45.7
comp=Z,53µm,20.0s
ANTO Ankara 79.08 312 P **P** **21 11 55.6 +1.4**
ANTO P **P** **21 11 55.6 +1.4**
ANTO S **S** **21 21 56.6 +2.5**
ANTO S **S** **21 21 56.6 +2.5**
ANTO Ankara 79.08 312 P **P** **21 11 53.5 -0.7**
ANTO pmax pmax
comp=Z,471nm,1.0s
ANTO MLR MLR
comp=Z,52µm,20.0s
BR231 Keskin MP Arra 79.11 312 P **P** **21 11 54.3 0.0**
BR231 IAmb IAmb 21 12 13.7
comp=Z,399nm,1.1s
P18A Preston Nutter 79.11 48 P **P** **21 11 54.6 0.0**
P18A IAmb IAmb 21 12 10.6
comp=Z,907nm,1.5s
ISR Istrita 79.12 319 ⇓P **P** **21 11 53.8 -0.5**
ICOR Ion Corvin 79.13 318 ⇑P **P** **21 11 52.7 -1.5**
DOPR Dopca 79.14 320 ⇓P **P** **21 11 53.6 -0.7**
MLR Muntele Rosu 79.18 320 ⇓P **P** **21 11 54.0 -0.7**
MLR Muntele Rosu 79.18 320 LR LR 21 50 04.6
comp=Z,263µm,18.6s,baz=46,slow=38
MLR Muntele Rosu 79.18 320 P **P** **21 11 53.6 -1.1**
MLR Muntele Rosu 79.18 320 P **P** **21 11 53.6 -1.1**
MLR pmax pmax
comp=Z,282nm,0.9s
MLR MLR MLR
comp=Z,262µm,20.0s
KNB Kanab 79.18 52 P **P** **21 11 54.9 0.0**
KNB IAmb IAmb 21 12 11.2
comp=Z,1µm,1.4s
KNB Kanab 79.18 52 P **P** **21 11 54.9 0.0**
KNB pmax pmax
comp=Z,1µm,1.4s
PSN Preselentsi 79.21 317 *i*P **P** **21 11 56.0 +1.3**
PKCU Pink Cliffs 79.23 51 P **P** **21 11 55.3 -0.1**
PKCU IAmb IAmb 21 12 28.0
comp=Z,2µm,2.0s
SRU San Rafael Swe 79.28 49 P **P** **21 11 53.8 -1.6**
SRU IAmb IAmb 21 12 10.8
comp=Z,587nm,1.0s
SRU San Rafael Swe 79.28 49 P **P** **21 11 53.8 -1.6**
SRU pmax pmax
comp=Z,587nm,1.0s
K22A Casper 79.30 44 P **P** **21 11 54.7 -0.7**
K22A IAmb IAmb 21 12 10.5
comp=Z,467nm,1.1s
K22A Casper 79.30 44 P **P** **21 11 53.8 -1.6**
baz=311
K22A Casper 79.30 44 P **P** **21 11 53.3 -2.1**
baz=311,SNR=23
ULM Lac du Bonnet 79.32 33 P **P** **21 11 54.0 -1.1**
comp=Z,137nm,1.2s,baz=312,slow=6.5,SNR=28
ULM S **S** **21 21 55.0 -1.1**
comp=Z,3.8nm,0.9s,baz=152,slow=22,SNR=1.5
ULM PKPPKP **P'P'df** **21 38 52.4 -3.0**
comp=Z,4.7nm,1.0s,baz=315,slow=3.1,SNR=4.0
comp=Z,137nm,1.2s
ULM Lac du Bonnet 79.32 33 P **P** **21 11 53.7 -1.5**
ULM IAmb IAmb 21 12 08.7
comp=Z,1µm,1.7s
MDND Maddock 79.33 37 P **P** **21 11 55.0 -0.3**
MDND Maddock 79.33 37 P **P** **21 11 54.0 -1.3**
baz=315
MDND Maddock 79.33 37 P **P** **21 11 52.8 -2.5**
baz=315,SNR=28
BAR Barrett 79.35 57 P **P** **21 11 54.9 -0.9**
MONP2 Monument Peak 79.39 57 P **P** **21 11 54.7 -1.5**
baz=308,SNR=12
LEHL Lehliu 79.41 319 ⇑P **P** **21 11 54.9 -0.8**
NEE2 Needles Airpor 79.43 54 P **P** **21 11 54.2 -1.9**
baz=308
IRM Iron Mountain 79.46 55 P **P** **21 11 54.4 -1.9**
baz=308,SNR=50
TKX Tecate 79.46 57 P **P** **21 11 56.0 -0.3**
MOO Moorlands 79.52 176 P **P** **21 11 58.7 +2.7**
CJR Cluj-Napoca 79.52 322 ⇑P **P** **21 11 56.0 -0.5**
MESR Meseseni 79.54 322 ⇑P **P** **21 11 57.7 +1.3**
ABAH Abaujker 79.54 324 P **P** **21 11 56.7 +0.3**
RWWY Rawlins 79.55 45 P **P** **21 11 55.1 -1.8**
RWWY IAmb IAmb 21 12 11.0
comp=Z,444nm,1.0s
RWWY IAMs_20 IAMs_20 21 52 59.5
comp=Z,36µm,18.0s
BC3 Big Chuckawall 79.57 56 P **P** **21 11 55.0 -2.0**
baz=308,SNR=46
SULR 79.57 319 ⇓P **P** **21 11 55.8 -0.8**
CBX Cerro Bola 79.58 57 P **P** **21 11 56.2 -0.9**
MDUB Mudurnu 79.63 313 P **P** **21 11 55.6 -1.5**
RUE Ruedersdorf 79.66 330 *e*P **P** **21 11 57.3 +0.4**

RSSD **Black Hills** 79.67 42 P P 21 11 55.5 -2.0
RSSD **Black Hills** 79.67 42 IAMs_20 IAMs_20 21 51 13.7
comp=Z,38µm,20.0s
RSSD **Black Hills** 79.67 42 P P 21 11 56.0 -1.4
baz=313
RSSD **Black Hills** 79.67 42 P P 21 11 54.8 -2.7
baz=313
RSSD **Black Hills** 79.67 42 P P 21 11 55.5 -2.0
RSSD pmax pmax
comp=Z,252nm,1.1s
RSSD MLR MLR
comp=Z,38µm,20.0s
VOIR 79.68 320 ⇓P P 21 11 56.7 -0.6
E28A Huff 79.70 38 P P 21 11 56.6 -0.7
E28A Huff 79.70 38 P P 21 11 55.4 -1.9
baz=314
W13A Hualapai Mount 79.70 54 P P 21 11 57.0 -0.8
IKP In-Ko-Pah, Jac 79.75 57 P P 21 11 56.6 -1.3
baz=308,SNR=20
KECS Kecovo 79.76 325 *e*P P 21 11 58.8 +1.2
KECS Kecovo 79.76 325 *e*P P 21 11 58.8 +1.2
SWSC Sam W. Stewart 79.77 56 P P 21 11 55.4 -2.5
baz=308,SNR=16
OKC Ostrava-Krasne 79.83 327 *e*P P 21 11 58.3 +0.4
OKC *e*PCP **PcP** 21 12 05.0 -0.6
OKC *e*S **S** 21 21 55.9 -5.6
OKC AMS AMS 21 53 40.0
comp=Z,202µm,12.8s
OKC Ostrava-Krasne 79.83 327 *e*P P 21 11 58.3 +0.4
OKC *e* 21 12 05.0
OKC *e*S **S** 21 21 55.9 -5.6
OKC MLR MLR
comp=Z,202µm,12.8s
CCX Cicese 79.85 58 P P 21 11 58.4 +0.1
YUH Yuha Desert 79.87 57 P P 21 11 58.0 -0.5
LTVH Ltavrtes, Hu 79.88 323 ⇑P P 21 11 57.9 -0.3
LTVH Ltavrtes, Hu 79.88 323 P P 21 11 58.3 0.0
KSP Ksiaz 79.88 328 *e*P P 21 11 56.6 -1.6
KSP *e*PcP **PcP** 21 12 09.1 +3.3
KSP *e*PP **PP** 21 15 02.1 +3.2
KSP *e*S **S** 21 22 06.7 +4.7
KSP *e*L L 21 54 52.8
comp=Z,157µm,16.8s
DRGR 79.91 322 ⇓P P 21 11 57.4 -1.1
ARR Arges 79.94 320 ⇓P P 21 11 58.5 -0.2
PRD Provadia 79.96 317 *i* P P 21 11 57.8 -0.9
O20A White River Ci 79.97 47 P P 21 11 58.3 -0.8
O20A White River Ci 79.97 47 P P 21 11 57.2 -1.9
baz=311,SNR=58
TAU Tasmania Unive 79.99 176 P P 21 11 57.9 -0.6
TAU Tasmania Unive 79.99 176 IAMs_20 IAMs_20 21 42 24.0
comp=Z,42µm,20.0s
TAU Tasmania Unive 79.99 176 P P 21 12 00.9 +2.3
TAU Tasmania Unive 79.99 176 P P 21 11 57.9 -0.6
TAU pmax pmax
comp=Z,648nm,1.8s
TAU MLR MLR
comp=Z,42µm,20.0s
AUTAR Taroona High S 80.03 176 P P 21 11 59.9 +1.2
PDMCI Parker Dam,Lak 80.03 54 P P 21 11 57.4 -1.9
baz=309,SNR=43
BLYC Blythe 80.12 55 P P 21 11 59.3 -0.5
BLYC IAmb IAmb 21 12 15.4
comp=Z,635nm,1.4s
OSTC Ostas 80.13 328 *e*P P 21 11 59.5 -0.1
OSTC *e*PCP **PcP** 21 12 06.7 -0.2
OSTC *e*S **S** 21 22 01.4 -3.3
OSTC AMS AMS 21 53 10.0
comp=Z,226µm,13.6s
MORC Moravsky Berou 80.14 327 P P 21 11 59.4 -0.3
MORC Moravsky Berou 80.14 327 P P 21 11 59.1 -0.6
MORC IAmb IAmb 21 12 14.6
comp=Z,613nm,1.2s
MORC Moravsky Berou 80.14 327 *e*P P 21 11 58.7 -1.0
MORC *e*PP PP 21 15 09.7 +8.6
MORC *e*S **S** 21 22 10.5 +5.6
MORC Moravsky Berou 80.14 327 P P 21 11 59.1 -0.6
MORC pmax pmax
comp=Z,613nm,1.2s
BORR Bors 80.14 323 ⇑P P 21 11 59.5 -0.2
CHVC Chvalec 80.17 328 *e*S S 21 22 05.2 0.0
CHVC AMS AMS 21 50 40.0
comp=Z,186µm,17.4s
KUZ Kuaotunu 80.23 153 P P 21 12 02.5 +2.5
DPC Dobruska-Polom 80.24 328 *e*P P 21 12 00.0 -0.2
DPC *e*PCP **PcP** 21 12 07.6 +0.2
DPC *e*S **S** 21 22 01.4 -4.5
DPC AMS AMS 21 53 10.0
comp=Z,191µm,13.4s
DPC Dobruska-Polom 80.24 328 *e*P P 21 12 00.0 -0.2
DPC *e* 21 12 07.6
DPC *e*S **S** 21 22 01.4 -4.5
DPC MLR MLR
comp=Z,191µm,13.4s
KRLC Kraliky 80.25 327 *e*P P 21 11 59.7 -0.6
KRLC *e*PCP **PcP** 21 12 06.6 -0.9
KRLC *e*S **S** 21 22 07.5 +1.5
KRLC AMS AMS 21 51 50.0
comp=Z,154µm,15.0s
KRLC Kraliky 80.25 327 *e*P P 21 11 59.7 -0.6
KRLC *e* 21 12 06.6
KRLC *e*S **S** 21 22 07.5 +1.5
KRLC MLR MLR
comp=Z,154µm,15.0s
ESJX Sierra Juarez 80.25 57 P P 21 12 00.3 -0.5
UPC Upice 80.25 328 *e*P P 21 12 00.5 +0.3
UPC *e*PCP **PcP** 21 12 07.3 -0.1
UPC *e*S S 21 22 08.8 +2.9
UPC AMS AMS 21 53 20.0
comp=Z,223µm,14.2s
UPC Upice 80.25 328 *e*P P 21 12 00.5 +0.3
UPC *e* 21 12 07.3
UPC *e*S **S** 21 22 08.8 +2.9
UPC MLR MLR
comp=Z,223µm,14.2s
MLA1 Latheron 80.31 342 *e*P P 21 11 59.9 -0.5
MAUC Maruska 80.32 326 *e*P P 21 12 02.1 +1.5
MAUC *ex* x 21 12 14.4
MAUC *e*S **S** 21 22 11.0 +4.2
MAUC AMS AMS 21 54 00.0
comp=Z,349µm,12.6s
LOT Lotru 80.32 321 P P 21 12 00.0 -0.8
RAR Rarotonga 80.33 126 LR LR 21 44 37.5
comp=Z,65µm,19.0s,baz=312,slow=34
RAR Rarotonga 80.33 126 IAMs_20 IAMs_20 21 45 58.7
comp=Z,69µm,19.0s
HUMR Humele 80.34 319 ⇓P P 21 11 58.0 -2.8
MKAZ Moumakai 80.34 153 P P 21 12 08.8 +8.2
GLA Glamis 80.35 56 P P 21 12 01.0 -0.1
GLA Glamis 80.35 56 P P 21 12 00.2 -1.0
baz=308
GLA Glamis 80.35 56 P P 21 12 01.0 -0.1
GLA pmax pmax
comp=Z,480nm,1.2s
PSZ Piszkesteto 80.44 324 P P 21 12 00.4 -0.9
PSZ Piszkesteto 80.44 324 P P 21 11 59.8 -1.6
PSZ IAmb IAmb 21 12 16.6
comp=Z,692nm,1.1s
PSZ Piszkesteto 80.44 324 P P 21 12 01.2 -0.2
PSZ Piszkesteto 80.44 324 P P 21 11 59.8 -1.6
PSZ pmax pmax
comp=Z,692nm,1.1s
PSZ MLR MLR
comp=Z,198µm,18.0s
BORA Eskisehir 80.45 313 P P 21 11 58.7 -2.9
DEV Deva 80.45 321 ⇑P P 21 12 00.1 -1.3
COPA Copaceanca 80.49 319 ⇑P P 21 11 59.4 -2.2
VYHS Vyhne 80.51 325 *e*P P 21 12 01.7 0.0
VYHS *e*PP PP 21 15 14.8 +11
VYHS *e*S **S** 21 22 13.8 +5.0
VYHS *e*SS SS 21 27 35.6 +16
VYHS Vyhne 80.51 325 *e*P P 21 12 01.7 0.0
VYHS pmax pmax
comp=Z,571nm,1.3s
RAYN Ar Rayn 80.54 292 P P 21 12 03.0 +0.7
RAYN S S 21 22 04.6 -5.3
RAYN Ar Rayn 80.54 292 *i* P P 21 12 00.8 -1.5
SNR=117
PV23 Carpenter Ridg 80.60 49 P P 21 12 01.1 -1.6
PV23 IAmb IAmb 21 12 17.6
comp=Z,732nm,1.0s
PV10 Paradox Valley 80.64 49 P P 21 12 02.9 +0.1
HWQ Hawqa 80.66 306 *e*P P 21 12 01.7 -1.2

SZH Strazhica 80.70 318 *i* P P 21 12 02.0 -0.8
BSZH Besenyszg 80.72 324 ⇓P P 21 12 02.4 -0.3
BSZH Besenyszg 80.72 324 P P 21 12 02.5 -0.3
AGMN Agassiz Nation 80.75 35 P P 21 12 01.1 -1.9
AGMN IAMs_20 IAMs_20 21 52 52.9
comp=Z,50µm,20.0s
AGMN Agassiz Nation 80.75 35 P P 21 12 01.0 -1.9
baz=317
AGMN Agassiz Nation 80.75 35 P P 21 11 59.5 -3.4
baz=317,SNR=60
N23A Red Feather La 80.78 45 P P 21 12 03.1 -0.5
N23A IAmb IAmb 21 12 19.4
comp=Z,626nm,1.1s
N23A Red Feather La 80.78 45 P P 21 12 02.5 -1.1
baz=312,SNR=55
PV11 David Mesa, Pa 80.79 49 P P 21 12 03.0 -0.6
SIRR Siria 80.79 322 ⇓P P 21 12 02.3 -0.9
BRG Berggiesshubel 80.83 329 *i* P P 21 12 02.9 -0.4
BRG Amp 21 12 05.2
comp=Z,114nm,1.4s
BRG *ex* x 21 12 10.0
BRG Amp 21 12 10.8
comp=Z,277nm,1.1s
BRG Berggiesshubel 80.83 329 PP PP 21 15 18.0 +11
BRG Berggiesshubel 80.83 329 *i* P P 21 12 02.9 -0.4
BRG *e* 21 12 10.0
BRG S S 21 22 14.0 +2.0
BRG pmax pmax
comp=Z,114nm,1.4s
BRG MLR MLR
comp=E,194µm,16.1s
BRG MLR MLR
comp=Z,216µm,19.1s
BRG MLR MLR
comp=N,147µm,18.7s
PV07 Paradox Valley 80.83 48 P P 21 12 03.4 -0.5
PV07 IAmb IAmb 21 12 18.5
comp=Z,774nm,1.4s
PVCC Panska Ves 80.84 329 *e*P P 21 12 03.3 0.0
PVCC *e*PCP **PcP** 21 12 10.8 +0.8
PVCC *e*S **S** 21 22 13.7 +1.6
PVCC AMS AMS 21 51 10.0
comp=Z,194µm,16.0s
PVCC Panska Ves 80.84 329 *e*P P 21 12 03.3 0.0
PVCC *e* 21 12 10.8
PVCC *e*S **S** 21 22 13.7 +1.6
PVCC MLR MLR
comp=Z,194µm,16.0s
GZR Gura Zlata 80.86 321 ⇓P P 21 12 02.8 -0.9
CLL Collm 80.87 330 P P 21 12 02.4 -1.1
CLL IAmb IAmb 21 12 17.8
comp=Z,526nm,1.1s
CLL Collm 80.87 330 *i* P P 21 12 02.8 -0.7
comp=Z,147nm,1.2s
CLL *i* pP **sP** 21 12 07.1 +1.6
CLL *i* PcP **PcP** 21 12 09.9 -0.2
comp=Z,345nm,0.9s
CLL *i* Pmax 21 12 12.2
comp=Z,414nm,1.0s
CLL *e*Pmax 21 12 16.0
CLL *e*PP **PP** 21 15 12.0 +4.9
CLL *e*PPP PPP 21 17 00.0
CLL *e*S **S** 21 22 13.0 +0.6
CLL *e*PS **PnS** 21 23 00.0 +2.9
CLL *ex* x 21 24 12.0
CLL *e*SS **SS** 21 27 30.0 +5.3
CLL *e*SSS SSS 21 31 12.0
CLL *e*PKPPKPdf **P'P'df** 21 38 47.0 -5.6
CLL Lmax 21 53 00.0
CLL **Collm** 80.87 330 *i* P P 21 12 02.8 -0.7
CLL *i* 21 12 09.9
CLL *e*S **S** 21 22 13.0 +0.6
CLL pmax pmax
comp=Z,414nm,1.0s
LINV Loch Inver, As 80.89 343 *e*P P 21 12 04.6 +1.2
LINV IAMs_20 IAMs_20 21 49 41.7
comp=Z,85µm,23.4s
JMB Yambol 80.90 317 *i* P P 21 12 03.5 -0.3
VRAC Vranov 80.90 327 ⇓P P 21 12 03.2 -0.6
VRAC Vranov 80.90 327 LR LR 21 50 52.7
comp=Z,111µm,18.2s,baz=33,slow=38
VRAC Vranov 80.90 327 *e*P P 21 12 02.7 -1.0
VRAC *e*PP PP 21 15 16.1 +8.7
VRAC *e*S **S** 21 22 18.3 +5.5
PV13 Radium Mtn., P 80.91 49 P P 21 12 03.7 -0.6
PV13 IAmb IAmb 21 12 19.9
comp=Z,1µm,1.3s
MCD Coleburn Disti 80.92 342 *e*P P 21 12 03.6 -0.1
SURR Surduc 80.93 322 ⇑P P 21 12 03.3 -0.6
Y14A Wickenburg 80.99 54 P P 21 12 04.1 -0.4
PV15 Paradox Valley 80.99 48 P P 21 12 04.1 -0.6
PV15 IAmb IAmb 21 12 20.4
comp=Z,1µm,1.8s
VLAD Vladila 81.00 319 ⇓P P 21 12 03.4 -0.9
TOZ Tahuroa Road 81.02 153 P P 21 12 09.8 +5.6
WUAZ Wupatki 81.04 52 P P 21 12 04.8 -0.1
WUAZ IAmb IAmb 21 12 20.8
comp=Z,566nm,1.2s
WUAZ Wupatki 81.04 52 P P 21 12 03.4 -1.5
baz=310,SNR=84
PVL Pavlikeni 81.06 318 *i* P P 21 12 04.7 +0.1
D32A Dogwood Acres, 81.07 36 P P 21 12 03.5 -1.2
D32A IAmb IAmb 21 12 17.5
comp=Z,385nm,0.8s
D32B Dogwood Acres, 81.07 36 P P 21 12 01.9 -2.8
baz=317
BHL Bhannes 81.08 306 *e*P P 21 12 03.3 -1.8
SMOL Smolenice 81.13 326 *e*P P 21 12 06.4 +1.5
SMOL pmax pmax
comp=Z,247nm,1.2s
SRE Strehaia 81.16 320 ⇓P P 21 12 04.7 -0.5
BUD Budapest 81.16 325 P P 21 12 05.0 -0.1
KRUC Moravsky 81.17 327 *e*P P 21 12 03.8 -1.4
KRUC *e*PP PP 21 15 20.3 +11
KRUC *e*S **S** 21 22 20.1 +4.5
AMBH Ambrzfalva 81.18 323 ⇓P P 21 12 04.8 -0.4
AMBH Ambrzfalva 81.18 323 P P 21 12 05.1 -0.1
GOPC GO Pecny, Ondr 81.21 328 *e*P P 21 12 04.9 -0.5
GOPC *e*PCP **PcP** 21 12 12.6 +0.9
GOPC *e*S S 21 22 14.1 -2.0
GOPC AMS AMS 21 51 10.0
comp=Z,211µm,19.9s
GOPC GO Pecny, Ondr 81.21 328 *e*P P 21 12 04.9 -0.5
GOPC *e* 21 12 12.6
GOPC *e*S **S** 21 22 14.1 -2.0
GOPC MLR MLR
comp=Z,211µm,19.9s
113A Mohawk Valley, 81.23 55 P P 21 12 05.1 -0.6
SRO Srobarova 81.25 325 *e*P P 21 12 07.1 +1.5
SRO Srobarova 81.25 325 *e*P P 21 12 07.1 +1.5
SRO pmax pmax
comp=Z,469nm,1.1s
PRU Pruhonice 81.26 328 *e*P P 21 12 06.1 +0.5
PRU *e*PCP **PcP** 21 12 12.7 +0.9
PRU *e*S **S** 21 22 19.2 +2.7
PRU AMS AMS 21 51 10.0
comp=Z,229µm,19.0s
PRU Pruhonice 81.26 328 *e*P P 21 12 06.1 +0.5
PRU *e* 21 12 12.7
PRU *e*S **S** 21 22 19.2 +2.7
PRU MLR MLR
comp=Z,229µm,19.0s
BZS Buzias 81.27 322 ⇓P P 21 12 04.4 -1.3
MODS Modra-Piesok 81.30 326 *e*P P 21 12 06.1 +0.2
MODS *e*PP PP 21 15 22.4 +12
MODS *e*S S 21 22 18.8 +1.8
MODS *e*SS SS 21 27 52.0 +21
MODS *e*L L 21 53 12.0
MODS Modra-Piesok 81.30 326 *e*P P 21 12 06.1 +0.2
MODS pmax pmax
comp=Z,838nm,1.3s
PLVB Pleven 81.31 319 ⇓P P 21 12 05.0 -1.0
SMCO Snowmass 81.33 47 P P 21 12 06.3 -0.4
SMCO IAmb IAmb 21 12 22.6
comp=Z,641nm,1.6s
ASF Jabal al Asfar 81.35 304 LR LR 21 52 10.7
comp=Z,80µm,19.9s,baz=77,slow=39
TREC Trest 81.39 328 *e*P P 21 12 06.4 +0.1
TREC *e*PCP **PcP** 21 12 13.3 +0.8
TREC *e*S **S** 21 22 16.3 -1.6
TREC AMS AMS 21 52 40.0
comp=Z,248µm,14.5s
TREC Trest 81.39 328 *e*P P 21 12 06.4 +0.1
TREC *e* 21 12 13.3
TREC *e*S **S** 21 22 16.3 -1.6
TREC MLR MLR
comp=Z,248µm,14.5s
HERR Herculane 81.40 321 ⇓P P 21 12 05.4 -1.1
HIZ Hauiti 81.49 154 IAMs_20 IAMs_20 21 41 58.4
comp=Z,48µm,22.0s
HIZ Hauiti 81.49 154 P P 21 12 08.9 +2.2
KAC Achnashellach 81.50 343 *e*P P 21 12 06.9 +0.1
DJES Djerdap 81.50 321 ⇑P P 21 12 06.8 -0.2
DJES Djerdap 81.50 321 P P 21 12 05.8 -1.2
ZST Bratislava 81.51 326 *e*P P 21 12 08.2 +1.2
ZST *e*PP PP 21 15 25.5 +13
ZST *e*S **S** 21 22 22.5 +3.4
ZST *e*L L 21 57 54.0
ZST Bratislava 81.51 326 *e*P P 21 12 08.2 +1.2
ZST pmax pmax
comp=Z,5µm,2.1s
BAIL Bailesti 81.53 320 ⇓P P 21 12 06.0 -1.1
IVI Ivigtut 81.56 5 P P 21 12 06.8 -0.1
IVI Ivigtut 81.56 5 *i* P P 21 12 08.1 +1.2
PUNG Punghina 81.56 320 ⇓P P 21 12 06.3 -1.0
SFX San Felipe 81.58 57 P P 21 12 08.6 +1.0
CSKK Cskako 81.60 325 P P 21 12 07.5 0.0
B35A Bob, Littlefor 81.66 34 P P 21 12 06.2 -1.6
B35A Bob, Littlefor 81.66 34 P P 21 12 05.3 -2.5
baz=319
BANR Banloc 81.68 322 ⇓P P 21 12 07.3 -0.5
ISCO Idaho Springs 81.70 46 P P 21 12 07.6 -1.0
ISCO IAmb IAmb 21 12 18.2
comp=Z,976nm,1.9s
ISCO IAMs_20 IAMs_20 21 52 17.7
comp=Z,38µm,19.0s
ISCO Idaho Springs 81.70 46 P P 21 12 07.5 -1.1
baz=312
ISCO Idaho Springs 81.70 46 P P 21 12 07.8 -0.8
baz=312,SNR=34
ISCO Idaho Springs 81.70 46 P P 21 12 07.6 -1.0
ISCO pmax pmax
comp=Z,976nm,2.0s
ISCO MLR MLR
comp=Z,38µm,19.0s
MVCO Mesa Verde 81.72 49 P P 21 12 07.8 -0.9
MVCO IAmb IAmb 21 12 23.5
comp=Z,471nm,1.1s
MVCO Mesa Verde 81.72 49 P P 21 12 06.7 -1.9
baz=311,SNR=83
KPL Plockton 81.73 343 *e*P P 21 12 08.7 +0.8
KPL IAMs_20 IAMs_20 21 44 57.9
comp=Z,108µm,29.2s
DIM Dimitrovgrad 81.75 317 *i* P P 21 12 08.4 0.0
ISP Isparta 81.75 312 P P 21 12 08.2 -0.4
ISP Isparta 81.75 312 IAMs_20 IAMs_20 21 52 49.4
comp=Z,50µm,21.0s
ISP Isparta 81.75 312 P P 21 12 08.2 -0.4
ISP pmax pmax
comp=Z,229nm,1.0s
ISP MLR MLR
comp=Z,50µm,21.0s
NRS Narsarsuaq 81.75 3 *i* P P 21 12 07.1 -0.9
EDU Dundee 81.78 341 *e*P P 21 12 09.2 +0.9
MMAI Mount Meron Ar 81.80 305 LR LR 21 51 42.7
comp=Z,116µm,21.9s,baz=275,slow=38
MDVR Moldovita 81.82 321 ⇓P P 21 12 07.7 -1.1
HAZ Te Kaha 81.89 152 P P 21 12 10.8 +2.0
CSS Mathiatis 81.89 308 P P 21 12 08.5 -0.8
CSS IAmb IAmb 21 12 28.2
comp=Z,270nm,0.8s
BRIGG Briggsdale 81.91 45 P P 21 12 09.1 -0.3
BRIGG IAmb IAmb 21 12 19.6
comp=Z,359nm,1.0s
MXZ Matakaoa Point 81.92 151 IAMs_20 IAMs_20 21 43 29.6
comp=Z,57µm,22.0s
MXZ Matakaoa Point 81.92 151 P P 21 12 11.9 +2.9
MXZ Matakaoa Point 81.92 151 P P 21 12 16.1 +7.1
NKC Novy Kostel 81.93 330 *e*P P 21 12 09.7 +0.5
NKC *e*PCP **PcP** 21 12 16.1 +1.3
NKC *e*S **S** 21 22 25.6 +2.1
NKC AMS AMS 21 51 50.0
comp=Z,191µm,15.8s
NKC Novy Kostel 81.93 330 *e*P P 21 12 09.7 +0.5
NKC *e* 21 12 16.1
NKC *e*S **S** 21 22 25.6 +2.1
NKC MLR MLR
comp=Z,191µm,15.8s
EGYH Egyhazaskeszo 81.99 325 P P 21 12 10.7 +1.2
RUGZ Raukumara Rang 82.03 152 P P 21 12 10.4 +0.7
SUSD Miller 82.07 39 P P 21 12 08.7 -1.4
SUSD IAmb IAmb 21 12 19.3
comp=Z,588nm,0.9s
SUSD Miller 82.07 39 P P 21 12 07.5 -2.6
baz=316
SUSD Miller 82.07 39 P P 21 12 07.6 -2.5
baz=316,SNR=14
MPLH Magyarpolny 82.08 325 P P 21 12 09.5 -0.5
URZ Urewera 82.08 152 P P 21 12 13.7 +3.9
PKGZ Pakihiroa 82.11 151 P P 21 12 17.6 +7.5
TIH Tihany 82.11 325 P P 21 12 10.5 +0.3
SOP Sopron 82.14 326 P P 21 12 10.7 +0.4
PGB Panagyurishte 82.14 318 *i* P P 21 12 10.8 +0.3
INVG Invergeldie, C 82.15 341 *e*P P 21 12 10.6 +0.4
INVG IAMs_20 IAMs_20 21 43 57.0
comp=Z,180µm,31.6s
PLD Plovdiv 82.16 318 *i* P P 21 12 10.1 -0.4
PIX Pinacate 82.19 56 P P 21 12 10.2 -0.6
PIX IAmb IAmb 21 12 26.1
comp=Z,389nm,1.3s
ESY Stoneypath 82.23 340 *e*P P 21 12 11.3 +0.7
RONA Rosalia, Austr 82.24 326 *i* P P 21 12 10.4 -0.5
comp=Z,9µm,3.7s,SNR=59
RONA *e*P PP 21 15 16.7 -1.8
comp=Z,124nm,1.3s
RONA *e*S S 21 22 29.5 +2.6
comp=Z,16nm,1.6s
CKRC Cesky Krumlov 82.25 328 *e*P P 21 12 09.8 -1.1
CKRC *ex* x 21 12 17.7
CKRC *e*S **S** 21 22 28.9 +2.0
CONA Conrad Observa 82.26 326 *i* P P 21 12 10.5 -0.5
comp=Z,16µm,5.1s,SNR=71
CONA *e*P PP 21 15 15.6 -3.1
comp=Z,107nm,1.4s
CONA *e*S S 21 22 29.3 +2.2
comp=Z,16nm,1.1s
MORH Mrgy, Hungar 82.27 324 P P 21 12 10.3 -0.6
MWZ Matawai 82.30 152 P P 21 12 13.2 +2.2
W18A Petrified Fore 82.32 52 P P 21 12 10.6 -1.2
W18A Petrified Fore 82.32 52 P P 21 12 10.5 -1.2
baz=311,SNR=14
KHC Kasperske Hory 82.32 328 P P 21 12 10.9 -0.3
KHC IAmb IAmb 21 12 26.1
comp=Z,554nm,1.3s
KHC Kasperske Hory 82.32 328 *e*P P 21 12 10.4 -0.9
KHC *e*PCP **PcP** 21 12 18.3 +1.7
KHC *e*S **S** 21 22 26.2 -1.4
KHC AMS AMS 21 53 20.0
comp=Z,245µm,14.7s
KHC Kasperske Hory 82.32 328 *e*P P 21 12 10.4 -0.9
KHC *e* 21 12 18.3
KHC *e*S **S** 21 22 26.2 -1.4
KHC MLR MLR
comp=Z,245µm,14.7s
RTZ Ruatahuna 82.34 153 IAMs_20 IAMs_20 21 45 31.3
comp=Z,61µm,21.0s
F33A 5 Mile Ranch, 82.36 37 P P 21 12 10.3 -1.2
F33A IAmb IAmb 21 12 26.2
comp=Z,636nm,1.1s
F33A 5 Mile Ranch, 82.36 37 P P 21 12 09.6 -1.9
baz=317
214A Organ Pipe Nat 82.36 56 P P 21 12 10.6 -1.3
214A IAmb IAmb 21 12 27.6
comp=Z,1µm,2.0s
214A Organ Pipe Nat 82.36 56 P P 21 12 10.9 -0.9
baz=310,SNR=16
S22A 4UR Ranch, Cre 82.36 48 P P 21 12 11.4 -0.7
S22A IAmb IAmb 21 12 28.2
comp=Z,364nm,1.1s
S22A 4UR Ranch, Cre 82.36 48 P P 21 12 11.3 -0.7
baz=312,SNR=98
RDO Rodhopi 82.37 317 P P 21 12 11.5 -0.1
RDO IAmb IAmb 21 12 26.6
comp=Z,960nm,1.8s
RZN Rozhen 82.44 318 *i* P P 21 12 11.7 -0.5
MANT Manisa 82.47 313 P P 21 12 11.3 -1.2
FRGS Fruska Gora 82.49 323 *e*P P 21 12 11.7 -0.5

GEC2	**GERESS Array S**	**82.49**	**328**		P		**P**	**21 12 10.6**	**-1.7**
GERES	**GERESS Array B**	**82.49**	**328**		P		**P**	**21 12 10.8**	**-1.4**
	comp=Z,17nm,0.6s,baz=357,slow=2.7,SNR=52								
GERES					S		**S**	**21 22 33.3**	**+3.9**
	comp=Z,0.3nm,0.6s,baz=29,slow=3.0,SNR=1.0								
GERES					PKKPbc		**PKKPbc**	**21 30 42.8**	**+5.2**
	comp=Z,2.3nm,0.7s,baz=29,slow=3.0,SNR=9.4								
GERES					PKPPKP		**P'P'df**	**21 38 44.5**	**-5.2**
	comp=Z,0.8nm,0.8s,baz=198,slow=8.4,SNR=5.3								
GERES					LR		LR	21 52 34.7	
	comp=Z,167µm,18.2s,baz=24,slow=38								
	comp=Z,17nm,0.6s								
GERES	**GERESS Array B**	**82.49**	**328**		P		**P**	**21 12 11.1**	**-1.1**
Q24A	**Divide**	**82.53**	**46**		P		**P**	**21 12 11.9**	**-1.0**
Q24A	**Divide**	**82.53**	**46**		P		**P**	**21 12 10.8**	**-2.1**
	baz=313,SNR=18								
X18A	**Snowflake**	**82.56**	**52**		P		**P**	**21 12 12.4**	**-0.6**
X18A					IAmb		IAmb	21 12 28.8	
	comp=Z,500nm,1.4s								
VTS	**Vitosha**	**82.58**	**319**	⇓	P		**P**	**21 12 12.6**	**-0.4**
VTS	**Vitosha**	**82.58**	**319**		P		**P**	**21 12 12.4**	**-0.5**
VTS					IAmb		IAmb	21 12 28.0	
	comp=Z,448nm,1.0s								
VTS	**Vitosha**	**82.58**	**319**	*i*	P		**P**	**21 12 12.5**	**-0.4**
VTS	**Vitosha**	**82.58**	**319**		P		**P**	**21 12 12.4**	**-0.5**
VTS					pmax		pmax		
	comp=Z,448nm,1.0s								
KOVH	**Kovagotottos**	**82.62**	**324**		P		**P**	**21 12 11.8**	**-1.0**
LAWE	**Loch Awe, Argy**	**82.64**	**342**	*eP*			**P**	**21 12 13.3**	**+0.6**
LAWE					IAMs_20		IAMs_20	21 55 12.8	
	comp=Z,88µm,15.2s								
BKZ	**Black Stump Fm**	**82.65**	**153**		P		**P**	**21 12 11.9**	**-1.0**
BKZ	**Black Stump Fm**	**82.65**	**153**		P		**P**	**21 12 14.4**	**+1.5**
BKZ	**Black Stump Fm**	**82.65**	**153**		P		**P**	**21 12 14.1**	**+1.2**
GHAJ	**Ghor Haditha**	**82.77**	**304**		P		**P**	**21 12 13.7**	**-0.2**
GHAJ					IAmb		IAmb	21 12 30.7	
	comp=Z,214nm,0.8s								
BHHZ	**Black Hill Sta**	**82.79**	**154**		P		**P**	**21 12 16.4**	**+2.8**
QRZ	**Quartz Range**	**82.80**	**157**		P		**P**	**21 12 13.8**	**+0.2**
QRZ					IAMs_20		IAMs_20	21 42 56.2	
	comp=Z,59µm,22.0s								
QRZ	**Quartz Range**	**82.80**	**157**		P		**P**	**21 12 16.5**	**+2.9**
QRZ	**Quartz Range**	**82.80**	**157**		P		**P**	**21 12 17.1**	**+3.5**
ELL	**Elmali**	**82.83**	**311**		P		**P**	**21 12 12.5**	**-1.5**
ELL	**Elmali**	**82.83**	**311**		P		**P**	**21 12 12.5**	**-1.8**
ELL					pmax		pmax		
	comp=Z,1µm,1.0s								
GRA1	**Grafenberg Arr**	**82.84**	**330**		P		**P**	**21 12 13.8**	**-0.2**
GRF	**Grafenberg Arr**	**82.84**	**330**		P		**P**	**21 12 13.8**	**-0.2**
GRF					pmax		pmax		
	comp=Z,743nm,1.1s								
GRF					MLR		MLR		
	comp=Z,135µm,22.0s								
GRFO	**Grafenberg**	**82.85**	**330**		P		**P**	**21 12 12.5**	**-1.4**
GRFO					IAmb		IAmb	21 12 28.4	
	comp=Z,678nm,1.1s								
GRFO	**Grafenberg**	**82.85**	**330**		P		**P**	**21 12 12.5**	**-1.4**
GRFO					pmax		pmax		
	comp=Z,678nm,1.1s								
GRFO					MLR		MLR		
	comp=Z,139µm,22.0s								
EKA	**Eskdalemuir Ar**	**82.89**	**340**		LR		LR	21 52 44.5	
	comp=Z,73µm,19.4s,baz=38,slow=38								
ESK	**Eskdalemuir**	**82.92**	**340**	*eP*			**P**	**21 12 15.6**	**+1.3**
ESK					IAMs_20		IAMs_20	21 46 26.8	
	comp=Z,150µm,27.8s								
ESK					IAMs_20		IAMs_20	21 46 28.6	
	comp=Z,520µm,28.0s								
OGNE	**Ogallala**	**82.92**	**43**		P		**P**	**21 12 14.0**	**-0.7**
OGNE					IAMs_20		IAMs_20	21 53 23.2	
	comp=Z,33µm,20.0s								
OGNE	**Ogallala**	**82.92**	**43**		P		**P**	**21 12 11.9**	**-2.7**
	baz=314								
OGNE	**Ogallala**	**82.92**	**43**		P		**P**	**21 12 12.1**	**-2.5**
	baz=314,SNR=23								
ARSA	**Arzberg**	**82.92**	**326**	*i*	P		**P**	**21 12 13.3**	**-1.2**
	comp=Z,11µm,4.8s,SNR=60								
ARSA					*eP*		**PP**	**21 15 24.1**	**0.0**
	comp=Z,50nm,1.1s								
ARSA					*eS*		**S**	**21 22 34.2**	**+0.4**
	comp=Z,22nm,1.7s								
BEHE	**Becsehely**	**82.95**	**325**		P		**P**	**21 12 14.5**	**0.0**
EYMN	**Ely**	**82.95**	**33**		P		**P**	**21 12 13.2**	**-1.3**
EYMN	**Ely**	**82.95**	**33**		IAMs_20		IAMs_20	21 54 24.9	
	comp=Z,44µm,19.0s								
EYMN	**Ely**	**82.95**	**33**		P		**P**	**21 12 12.2**	**-2.4**
	baz=320								
EYMN	**Ely**	**82.95**	**33**		P		**P**	**21 12 12.4**	**-2.2**
	baz=320,SNR=76								
MOA	**Molln**	**83.02**	**327**	*i*	P		**P**	**21 12 13.8**	**-1.1**
	comp=Z,13µm,5.1s,SNR=40								
MOA					*eP*		**PP**	**21 15 25.7**	**+0.9**
	comp=Z,148nm,1.4s								
MOA					*eS*		**S**	**21 22 34.9**	**+0.2**
	comp=Z,28nm,1.9s								
MMB	**Musomiste**	**83.04**	**318**	*i*	P		**P**	**21 12 13.9**	**-1.3**
TEKS	**Tekeris**	**83.07**	**322**	*eP*			**P**	**21 12 13.7**	**-1.5**
TKNZ	**Takaka Hill**	**83.13**	**156**		P		**P**	**21 12 14.6**	**-0.6**
SDCO	**Great Sand Dun**	**83.15**	**47**		P		**P**	**21 12 15.9**	**-0.3**
SDCO	**Great Sand Dun**	**83.15**	**47**		P		**P**	**21 12 14.7**	**-1.4**
	baz=313								
SDCO	**Great Sand Dun**	**83.15**	**47**		P		**P**	**21 12 14.1**	**-2.1**
	baz=313,SNR=49								
DIVS	**Divibare**	**83.17**	**322**		P		**P**	**21 12 15.4**	**-0.4**
DIVS					IAmb		IAmb	21 12 30.4	
	comp=Z,445nm,1.1s								
DIVS	**Divibare**	**83.17**	**322**	*eP*			**P**	**21 12 15.1**	**-0.8**
KKB	**Krupnik**	**83.19**	**319**	*i*	P		**P**	**21 12 16.6**	**+0.7**
KOGS	**Kog**	**83.20**	**325**	*i*	P		**P**	**21 12 13.9**	**-1.9**
KOGS				*e*				21 19 09.2	
KOGS				*eS*			**S**	**21 22 38.9**	**+2.3**
KOGS				*eP*	P'P'df		**P'P'df**	**21 38 42.2**	**-5.8**
KOGS					IAMS_20		IAMs_20	21 55 32.6	
	comp=Z,107µm,13.1s								
DUWZ	**D'Urville Isla**	**83.23**	**156**		P		P	21 12 20.6	+4.8
TSZ	**Takapari Road**	**83.26**	**154**		P		P	21 12 21.2	+5.2
AKAS	**Kas**	**83.36**	**311**		P		**P**	**21 12 15.2**	**-1.8**
AKAS					IAmb		IAmb	21 12 34.0	
	comp=Z,380nm,0.8s								
NEWG	**New Galloway**	**83.37**	**341**	*eP*			**P**	**21 12 18.3**	**+1.8**
NEWG					IAMs_20		IAMs_20	21 44 31.5	
	comp=Z,182µm,32.0s								
MRNZ	**Matariki Terra**	**83.40**	**157**		P		**P**	**21 12 16.7**	**+0.1**
MRNZ	**Matariki Terra**	**83.40**	**157**		P		**P**	**21 12 19.1**	**+2.5**
BIOA	**Bad Ischl, Aus**	**83.41**	**327**	*i*	P		**P**	**21 12 16.1**	**-0.9**
	comp=Z,6µm,3.3s,SNR=54								
BIOA					*eP*		**PP**	**21 15 26.8**	**-1.3**
	comp=Z,93nm,1.8s								
BIOA					*eS*		**S**	**21 22 38.0**	**-0.7**
	comp=Z,23nm,1.4s								
DSZ	**Denniston Nort**	**83.42**	**158**		P		**P**	**21 12 16.7**	**-0.1**
DSZ					IAMs_20		IAMs_20	21 43 02.4	
	comp=Z,61µm,22.0s								
DSZ	**Denniston Nort**	**83.42**	**158**		P		**P**	**21 12 20.9**	**+4.1**
NNZ	**Nelson**	**83.43**	**156**		P		**P**	**21 12 16.6**	**-0.1**
NNZ	**Nelson**	**83.43**	**156**		P		**P**	**21 12 19.3**	**+2.6**
TUC	**Tucson**	**83.46**	**54**		P		**P**	**21 12 16.2**	**-1.3**
	baz=310								
K31A	**O'Neill**	**83.47**	**40**		P		**P**	**21 12 16.1**	**-1.3**
K31A	**O'Neill**	**83.47**	**40**		P		**P**	**21 12 14.7**	**-2.7**
	baz=316								
DVHZ	**Dannevirke**	**83.54**	**154**		P		P	21 12 22.8	+5.4
SOKA	**Soboth**	**83.58**	**326**	*i*	P		**P**	**21 12 16.3**	**-1.6**
	comp=Z,3µm,1.7s,SNR=119								
SOKA					*eP*		**PP**	**21 15 30.8**	**+1.3**
	comp=Z,154nm,1.8s								
SOKA					*eS*		**S**	**21 22 41.0**	**+0.5**
	comp=Z,30nm,1.7s								
DOB	**Doboj**	**83.62**	**323**	*eP*			**P**	**21 12 18.8**	**+0.8**
BBLS	**Lazići**	**83.63**	**322**	*eP*			**P**	**21 12 17.0**	**-1.2**
F36A	**Milaca**	**83.63**	**35**		P		**P**	**21 12 16.4**	**-1.7**
F36A	**Milaca**	**83.63**	**35**		P		**P**	**21 12 14.7**	**-3.4**
	baz=319								
MRZ	**Mangatainoka R**	**83.66**	**155**		P		**P**	**21 12 17.4**	**-0.6**
MRZ					IAmb		IAmb	21 12 35.4	
	comp=Z,469nm,1.2s								
MRZ					IAMs_20		IAMs_20	21 43 42.8	
	comp=Z,74µm,22.0s								
MRZ	**Mangatainoka R**	**83.66**	**155**		P		**P**	**21 12 21.4**	**+3.4**
HPK	**Haverah Park**	**83.68**	**339**	*eP*			**P**	**21 12 19.2**	**+1.1**
HPK					IAMs_20		IAMs_20	21 48 49.1	
	comp=Z,186µm,26.1s								
HAPS	**Han Pijesak,Bl**	**83.69**	**322**	*eP*			**P**	**21 12 16.8**	**-1.8**
PRWZ	**Pori Road**	**83.70**	**154**		P		**P**	**21 12 20.0**	**+1.8**
GAL1	**Galloway**	**83.72**	**341**	*eP*			**P**	**21 12 18.5**	**+0.2**
GAL1					IAMs_20		IAMs_20	21 44 25.6	
	comp=Z,175µm,31.6s								
ECSD	**EROS Data Cent**	**83.75**	**38**		P		**P**	**21 12 16.9**	**-1.8**
ECSD					IAmb		IAmb	21 12 33.3	
	comp=Z,336nm,1.1s								
ECSD	**EROS Data Cent**	**83.75**	**38**		P		**P**	**21 12 16.4**	**-2.3**
	baz=317								
ECSD	**EROS Data Cent**	**83.75**	**38**		P		**P**	**21 12 15.9**	**-2.8**
	baz=317,SNR=77								
THZ	**Tophouse**	**83.77**	**157**		P		**P**	**21 12 17.7**	**-0.9**
THZ					IAmb		IAmb	21 12 47.5	
	comp=Z,564nm,1.4s								
THZ					IAMs_20		IAMs_20	21 46 10.8	
	comp=Z,49µm,21.0s								
THZ	**Tophouse**	**83.77**	**157**		P		**P**	**21 12 19.3**	**+0.7**
STIP	**Stip**	**83.78**	**319**	*i*	P		**P**	**21 12 17.6**	**-1.3**
TUWZ	**Tuamarina**	**83.80**	**156**		P		**P**	**21 12 18.8**	**+0.1**
VAY	**Valandovo**	**83.85**	**318**	*i*	P		**P**	**21 12 19.3**	**0.0**
HOWZ	**Holdsworth Sta**	**83.85**	**155**		P		P	21 12 25.4	+6.5
CLGH	**Cloghs, Cushen**	**83.88**	**342**	*eP*			**P**	**21 12 19.1**	**0.0**
CLGH					IAMs_20		IAMs_20	21 44 10.2	
	comp=Z,118µm,31.1s								
BFZ	**Birch Farm**	**83.91**	**154**		P		**P**	**21 12 20.1**	**+0.9**
BFZ					IAMs_20		IAMs_20	21 52 03.4	
	comp=Z,34µm,19.0s								
BFZ	**Birch Farm**	**83.91**	**154**		P		**P**	**21 12 20.4**	**+1.1**
BFZ	**Birch Farm**	**83.91**	**154**		P		**P**	**21 12 23.3**	**+4.1**
OBKA	**Obir**	**83.92**	**326**	*eP*			**P**	**21 12 15.9**	**-3.8**
OBKA	**Obir**	**83.92**	**326**	*i*	P		**P**	**21 12 18.1**	**-1.6**
	comp=Z,10µm,4.5s,SNR=18								
OBKA					*eP*		**PP**	**21 15 32.4**	**0.0**
	comp=Z,100nm,1.6s								
OBKA					*eS*		**S**	**21 22 42.6**	**-1.5**
	comp=Z,32nm,1.9s								
KSCO	**Kaye Shedlock'**	**83.93**	**45**		P		**P**	**21 12 18.5**	**-1.5**
KSCO	**Kaye Shedlock'**	**83.93**	**45**		P		**P**	**21 12 17.7**	**-2.3**
	baz=314								
KSCO	**Kaye Shedlock'**	**83.93**	**45**		P		**P**	**21 12 18.1**	**-1.9**
	baz=314,SNR=24								
SNZO	**South Karori**	**83.94**	**155**		IAMs_20		IAMs_20	21 43 44.3	
	comp=Z,37µm,22.0s								
E38A	**The Farm, Brul**	**83.95**	**34**		P		**P**	**21 12 17.4**	**-2.3**
E38A					IAmb		IAmb	21 12 32.4	
	comp=Z,458nm,0.8s								
E38A	**The Farm, Brul**	**83.95**	**34**		P		**P**	**21 12 16.8**	**-3.0**
	baz=320								
SKO	**Skopje**	**83.97**	**319**	*i*	P		**P**	**21 12 20.3**	**+0.4**
KBA	**Koelnbreinsper**	**84.01**	**327**	*i*	P		**P**	**21 12 19.0**	**-1.3**
	comp=Z,8µm,4.7s,SNR=50								
KBA					*eP*		**PP**	**21 15 31.1**	**-2.1**
	comp=Z,153nm,1.1s								
KBA					*eS*		**S**	**21 22 42.0**	**-3.1**
	comp=Z,39nm,1.7s								
PLE	**Pljevlja**	**84.03**	**322**	*eP*			**P**	**21 12 19.7**	**-0.6**
BSWZ	**Blackbirch Sta**	**84.04**	**156**		P		**P**	**21 12 18.2**	**-1.7**
BSWZ	**Blackbirch Sta**	**84.04**	**156**		P		P	21 12 13.0	-6.9
BEBN	**Eben Emael**	**84.04**	**334**	*dP*			**P**	**21 12 20.0**	**0.0**
	comp=Z,204nm,1.0s								
BLY	**Banja Luka**	**84.05**	**324**	*eP*			**P**	**21 12 20.3**	**+0.1**
BTNL	**Ternell**	**84.06**	**333**	*dP*			**P**	**21 12 20.3**	**+0.1**
	comp=Z,110nm,1.2s								
MEM	**Membach**	**84.08**	**333**	*dP*			**P**	**21 12 20.4**	**+0.1**
	comp=Z,119nm,0.9s								
WACR	**West Acre**	**84.09**	**337**	*eP*			**P**	**21 12 21.6**	**+1.4**
WACR					IAMs_20		IAMs_20	21 49 13.1	
	comp=Z,211µm,25.6s								
CPWZ	**Castlepoint**	**84.10**	**154**		P		**P**	**21 12 21.2**	**+1.1**
IVA	**Berane**	**84.11**	**321**	*eP*			**P**	**21 12 19.3**	**-1.4**
TMWZ	**Te Maipa**	**84.16**	**155**		P		P	21 12 26.8	+6.2
CMWZ	**Cape Campbell**	**84.18**	**156**		P		**P**	**21 12 19.2**	**-1.4**
CMWZ	**Cape Campbell**	**84.18**	**156**		P		**P**	**21 12 19.5**	**-1.0**
T25A	**Trinidad**	**84.20**	**47**		P		**P**	**21 12 20.4**	**-1.0**
T25A					IAmb		IAmb	21 12 31.5	
	comp=Z,304nm,0.9s								
T25A	**Trinidad**	**84.20**	**47**		P		**P**	**21 12 19.5**	**-2.0**
	baz=313,SNR=76								
LBWR	**Ladybower, Pea**	**84.20**	**339**	*eP*			**P**	**21 12 21.2**	**+0.4**
INZ	**Inchbonnie**	**84.20**	**158**		P		**P**	**21 12 21.6**	**+0.9**
INZ					IAmb		IAmb	21 12 53.8	
	comp=Z,688nm,2.0s								
INZ					IAMs_20		IAMs_20	21 43 25.2	
	comp=Z,58µm,21.0s								
INZ	**Inchbonnie**	**84.20**	**158**		P		P	21 12 31.6	+11
EIL	**Elat**	**84.22**	**303**		LR		LR	21 53 54.4	
	comp=Z,87µm,21.7s,baz=72,slow=39								
MYKA	**Terra Mystica**	**84.23**	**327**	*i*	P		**P**	**21 12 19.6**	**-1.6**
	comp=Z,8µm,4.9s,SNR=24								
MYKA					*eP*		**PP**	**21 15 40.9**	**+6.0**
	comp=Z,160nm,1.8s								
MYKA					*eS*		**S**	**21 22 47.7**	**+0.6**
	comp=Z,10nm,1.0s								
ARG	**Arkhangelos**	**84.25**	**312**		P		**P**	**21 12 21.0**	**-0.5**
ARG	**Arkhangelos**	**84.25**	**312**		P		**P**	**21 12 21.0**	**-0.5**
ARG					pmax		pmax		
	comp=Z,967nm,0.9s								
BSTI	**Sart Tilman**	**84.26**	**333**	*dP*			**P**	**21 12 21.5**	**+0.3**
	comp=Z,32nm,0.9s								
LJU	**Ljubljana**	**84.29**	**326**	*i*	P		**P**	**21 12 19.4**	**-2.0**
LJU				*i*				21 12 30.5	
LJU				*eP*	P		**PP**	**21 15 35.1**	**-0.1**
LJU				*e*				21 15 48.6	
LJU				*e*				21 17 43.0	
LJU				*e*				21 19 21.5	
LJU				*eS*			**S**	**21 22 44.0**	**-3.5**
LJU				*eSS*			**SS**	**21 28 17.5**	**+1.9**
LJU					IAMS_20		IAMs_20	21 54 32.4	
	comp=Z,170µm,14.6s								
BHOU	**Houvegnez**	**84.29**	**333**	*dP*			**P**	**21 12 20.6**	**-0.8**
	comp=Z,92nm,1.1s								
KOME	**Kolasin**	**84.32**	**321**	*eP*			**P**	**21 12 19.9**	**-1.9**
MGRS	**Mrkonjic Grad**	**84.34**	**323**	*eP*			**P**	**21 12 21.8**	**0.0**
PLWZ	**Palliser**	**84.36**	**155**		P		**P**	**21 12 21.5**	**-0.1**
UPM	**Unac-Piva**	**84.36**	**322**	*eP*			**P**	**21 12 21.2**	**-0.9**
UPM	**Unac-Piva**	**84.36**	**322**	*eP*			**P**	**21 12 19.9**	**-2.2**
STU	**Stuttgart**	**84.38**	**330**		P		**P**	**21 12 22.0**	**+0.1**
STU	**Stuttgart**	**84.38**	**330**		P		**P**	**21 12 22.0**	**+0.1**
STU					pmax		pmax		
	comp=Z,833nm,1.4s								
STU					MLR		MLR		
	comp=Z,103µm,18.0s								
PRED	**Cave del Predi**	**84.41**	**327**		P		**P**	**21 12 20.9**	**-1.2**
GCSZ	**Gaunt Creek Bo**	**84.42**	**159**		P		P	21 12 29.2	+7.4
SPMN	**Marine on St.**	**84.45**	**35**		P		**P**	**21 12 20.9**	**-1.3**
SPMN					IAmb		IAmb	21 12 36.8	
	comp=Z,353nm,1.1s								
SPMN	**Marine on St.**	**84.45**	**35**		P		**P**	**21 12 19.8**	**-2.4**
	baz=320								
SPMN	**Marine on St.**	**84.45**	**35**		P		**P**	**21 12 20.5**	**-1.8**
	baz=320,SNR=32								
FOZ	**Fox Glacier**	**84.48**	**160**		P		**P**	**21 12 21.4**	**-0.6**
FOZ					IAmb		IAmb	21 12 37.5	
	comp=Z,322nm,1.3s								
FOZ					IAMs_20		IAMs_20	21 44 56.6	
	comp=Z,38µm,21.0s								
FOZ	**Fox Glacier**	**84.48**	**160**		P		**P**	**21 12 23.9**	**+1.9**
BCLA	**Clavier**	**84.49**	**334**	*dP*			**P**	**21 12 22.4**	**0.0**
	comp=Z,148nm,1.1s								
LTZ	**Lake Taylor**	**84.50**	**158**		P		**P**	**21 12 26.6**	**+4.3**
ELMS	**Elmsett, Ipswi**	**84.52**	**337**	*eP*			**P**	**21 12 23.0**	**+0.6**
ELMS					IAMs_20		IAMs_20	21 49 16.1	
	comp=Z,215µm,25.5s								
A050A	**Klekovaca**	**84.56**	**324**	*eP*			**P**	**21 12 20.2**	**-2.7**
WATA	**Walderalm**	**84.56**	**328**	*i*	P		**P**	**21 12 21.6**	**-1.4**
	comp=Z,8µm,4.6s,SNR=30								
WATA					*eP*		**PP**	**21 15 38.5**	**+0.9**
	comp=Z,62nm,1.1s								
WATA					S		**S**	**21 22 46.9**	**-3.7**
	comp=Z,12nm,1.3s								
CEY	**Cerknica**	**84.57**	**326**	*eP*			**P**	**21 12 20.6**	**-2.3**
CEY	**Cerknica**	**84.57**	**326**	*i*	P		**P**	**21 12 20.4**	**-2.5**
CEY				*i*				21 12 31.9	
CEY				*eP*	P'P'df		**P'P'df**	**21 38 40.1**	**-5.5**
CEY					IAMS_20		IAMs_20	21 54 39.9	
	comp=Z,82µm,14.0s								
WTTA	**Wattenberg**	**84.59**	**328**	*i*	P		**P**	**21 12 21.9**	**-1.3**
	comp=Z,8µm,0.0s,SNR=28								
WTTA					*eP*		**PP**	**21 15 38.8**	**+0.9**
	comp=Z,75nm,1.1s								
WTTA					*eS*		**S**	**21 22 48.3**	**-2.6**
	comp=Z,28nm,1.9s								
WTTA					*eP*		PKKPbc	21 30 40.9	+8.1
	comp=Z,17nm,1.4s								
BGES	**Gesves**	**84.59**	**334**	*dP*			**P**	**21 12 22.1**	**-0.8**
	comp=Z,130nm,1.1s								
GMM	**Mts of Mourne**	**84.60**	**341**	*eP*			**P**	**21 12 22.4**	**-0.4**
ABTA	**Abfaltersbach**	**84.62**	**327**	*i*	P		**P**	**21 12 20.9**	**-2.4**
	comp=Z,3µm,3.3s,SNR=30								
ABTA				*eP*			**PP**	**21 15 37.7**	**-0.3**
	comp=Z,103nm,2.0s								
ABTA				*eS*			**S**	**21 22 51.5**	**+0.4**
	comp=Z,27nm,1.7s								
ABTA				*eP*		PKKPbc		21 30 40.9	+8.3
	comp=Z,5.8nm,1.0s								
VAH	**Vaihoa**	**84.65**	**114**	*eT*		T		22 44 53.5	
	comp=Z,8.3nm,0.3s								
SBM	**South Baldy**	**84.66**	**51**		P		**P**	**21 12 23.9**	**-0.1**
LENM	**Lemitar**	**84.66**	**51**		P		**P**	**21 12 24.0**	**+0.3**
BGNE	**Belgrade**	**84.66**	**41**		P		**P**	**21 12 22.0**	**-1.4**
BGNE	**Belgrade**	**84.66**	**41**		P		**P**	**21 12 21.1**	**-2.3**
	baz=316								
BGNE	**Belgrade**	**84.66**	**41**		P		**P**	**21 12 20.7**	**-2.8**
	baz=316,SNR=34								
NKME	**Niksic**	**84.66**	**321**	*eP*			**P**	**21 12 22.3**	**-1.1**
CLUD	**Cludinico**	**84.69**	**327**		P		**P**	**21 12 21.6**	**-1.9**
CLUD					IAmb		IAmb	21 12 32.4	
	comp=Z,324nm,0.9s								
JCZ	**Jackson Bay**	**84.70**	**161**		P		P	21 12 28.8	+5.5
JCZ	**Jackson Bay**	**84.70**	**161**		P		**P**	**21 12 25.2**	**+1.9**
RCHB	**Rochefort**	**84.73**	**333**	*dP*			**P**	**21 12 22.9**	**-0.7**
	comp=Z,134nm,1.3s								
SABO	**M.te Sabotino**	**84.75**	**326**		P		**P**	**21 12 21.5**	**-2.3**
SABO					IAmb		IAmb	21 12 52.4	
	comp=Z,553nm,1.6s								
MOTA	**Moosalm**	**84.75**	**329**	*i*	P		**P**	**21 12 22.9**	**-1.0**
	comp=Z,6µm,3.6s,SNR=42								
MOTA				*eP*			**PP**	**21 15 38.3**	**-0.8**
	comp=Z,113nm,1.3s								
MOTA					S		**S**	**21 22 52.9**	**+0.5**
	comp=Z,22nm,1.4s								
MOTA				*i*	P		PKKPbc	21 30 41.4	+9.0
	comp=Z,8.6nm,1.2s								
Y22D	**IRIS PASSCAL I**	**84.75**	**51**		P		**P**	**21 12 22.5**	**-1.7**
	baz=312								
Y22D	**IRIS PASSCAL I**	**84.75**	**51**		P		**P**	**21 12 22.4**	**-1.8**
	baz=312								
Y22F	**Passcal Instru**	**84.75**	**51**		P		**P**	**21 12 21.7**	**-2.5**
	baz=312								
PDG	**Podgorica**	**84.76**	**321**	⇓	P		**P**	**21 12 22.5**	**-1.3**
PDG	**Podgorica**	**84.76**	**321**		P		**P**	**21 12 23.0**	**-0.9**
TTG	**Podgorica**	**84.76**	**321**	*eP*			**P**	**21 12 22.2**	**-1.6**
BRY	**Bratogost**	**84.77**	**322**	*eP*			**P**	**21 12 22.1**	**-2.0**
BRY	**Bratogost**	**84.77**	**322**	*eP*			**P**	**21 12 21.6**	**-2.5**
PPT	**Papeete**	**84.77**	**117**		P		**P**	**21 12 28.9**	**+4.7**
	comp=Z,444nm,1.3s,baz=298,slow=9.6,SNR=6.9								
PPT					LR		LR	21 46 02.9	
	comp=Z,42µm,19.4s,baz=297,slow=33								
SNF	**Seneffe**	**84.77**	**334**	*dP*			**P**	**21 12 24.1**	**+0.3**
	comp=Z,230nm,1.1s								
BMRD	**Maredsous**	**84.78**	**334**	*dP*			**P**	**21 12 22.5**	**-1.3**
	comp=Z,206nm,1.0s								
RETA	**Reutte**	**84.78**	**329**	*i*	P		**P**	**21 12 22.3**	**-1.6**
	comp=Z,3µm,2.5s,SNR=58								
RETA				*eP*			**PP**	**21 15 40.9**	**+1.6**
	comp=Z,76nm,1.3s								
RETA				*eS*			**S**	**21 22 53.1**	**+0.5**
	comp=Z,24nm,1.4s								
PPT2	**Papeete2**	**84.78**	**117**	*eP*			**P**	**21 12 27.8**	**+3.5**
PPT2	**Papeete2**	**84.78**	**117**	*ePKP1*			**P**	**21 12 28.9**	**+4.6**

SCHQ S **S** **21 22 53.5 -2.0**
comp=Z,5.7nm,0.8s,baz=267,slow=13,SNR=2.6
SCHQ LR LR 21 53 00.6
comp=Z,43µm,19.6s,baz=346,slow=38
comp=Z,47nm,0.8s
SCHQ Schefferville 85.11 16 P **P** **21 12 24.7 -0.7**
HCY Herceg Novi 85.12 321 *e*P **P** **21 12 24.1 -1.6**
HCY Herceg Novi 85.12 321 *e*P **P** **21 12 24.2 -1.5**
L34A Svendsen Farm, 85.16 39 P **P** **21 12 25.1 -0.8**
L34A Svendsen Farm, 85.16 39 P **P** **21 12 23.4 -2.6**
baz=318
FETA Feichten 85.16 329 *i* P **P** **21 12 24.4 -1.6**
comp=Z,1.8nm,0.3s,SNR=20
FETA *e*P **PP** **21 15 44.1 +1.6**
comp=Z,74nm,1.3s
FETA *e*S **S** **21 22 57.4 +0.9**
comp=Z,28nm,1.3s
FETA *i* P **PKKPbc** **21 30 37.1 +5.6**
comp=Z,8.3nm,1.4s
APE Apeiranthos 85.19 314 ⇑P **P** **21 12 27.0 +0.8**
STON Ston 85.20 322 *e*P **P** **21 12 23.6 -2.5**
121A Cookes Peak, D 85.23 52 P **P** **21 12 26.2 -0.5**
121A IAmb IAmb 21 12 50.7
comp=Z,298nm,1.1s
121A Cookes Peak, D 85.23 52 P **P** **21 12 25.6 -1.1**
baz=312
121A Cookes Peak, D 85.23 52 P **P** **21 12 25.2 -1.5**
baz=312,SNR=46
LLW Llanuwychllyn 85.24 340 *e*P **P** **21 12 25.6 -0.4**
TIR Tirane 85.24 320 P **P** **21 12 25.0 -1.3**
TIR Tirane 85.24 320 P **P** **21 12 26.5 +0.2**
TIR IAmb IAmb 21 12 40.8
comp=Z,391nm,0.9s
TIR Tirane 85.24 320 P **P** **21 12 26.5 +0.2**
TIR pmax pmax
comp=Z,391nm,0.9s
ARCZ Arundel 85.25 159 P P 21 12 35.3 +9.4
KARP Karpathos 85.28 312 P **P** **21 12 25.7 -1.0**
KBN Korca 85.29 319 P **P** **21 12 25.2 -1.5**
KBN Korca 85.29 319 P **P** **21 12 25.2 -1.5**
KBN pmax pmax
comp=Z,819nm,1.0s
DAVA Damuels 85.30 329 *i* P **P** **21 12 25.2 -1.6**
comp=Z,5µm,3.2s,SNR=34
DAVA *e*P **PP** **21 15 43.7 +0.1**
comp=Z,67nm,1.2s
DAVA *e*S **S** **21 22 56.0 -1.9**
comp=Z,24nm,1.2s
DAVA *i* P **PKKPbc** **21 30 37.9 +6.7**
comp=Z,11nm,1.1s
HLM1 Long Mynd 85.31 339 *e*P **P** **21 12 26.5 0.0**
HLM1 IAMs_20 IAMs_20 21 48 40.1
comp=Z,221µm,28.0s
LBZ Lake Benmore 85.37 160 P **P** **21 12 25.5 -1.1**
LBZ IAmb IAmb 21 12 42.2
comp=Z,372nm,1.2s
LBZ IAMs_20 IAMs_20 21 43 13.1
comp=Z,50µm,21.0s
LBZ Lake Benmore 85.37 160 P **P** **21 12 28.1 +1.6**
COWI Conover 85.40 33 P **P** **21 12 25.6 -1.5**
COWI Conover 85.40 33 P **P** **21 12 22.8 -4.2**
baz=322
MQZ McQueen's Vall 85.46 158 IAMs_20 IAMs_20 21 46 30.5
comp=Z,56µm,21.0s
WKZ Wanaka 85.46 161 IAMs_20 IAMs_20 21 46 21.6
comp=Z,53µm,22.0s
HSIG 85.47 57 P **P** **21 12 27.0 -0.7**
N33A J Bar K, Exete 85.51 41 P **P** **21 12 26.2 -1.5**
N33A IAmb IAmb 21 12 41.7
comp=Z,440nm,1.2s
N33B J Bar K, Exete 85.51 41 P **P** **21 12 24.9 -2.8**
baz=317
CTI Castel Tesino 85.54 328 P **P** **21 12 25.9 -2.0**
CTI IAmb IAmb 21 12 41.0
comp=Z,321nm,1.2s
CTI Castel Tesino 85.54 328 P **P** **21 12 25.9 -2.0**
CTI pmax pmax
comp=Z,321nm,1.2s
G40A Rib Lake 85.59 34 P **P** **21 12 25.8 -2.2**
G40A IAmb IAmb 21 12 40.6
comp=Z,284nm,0.8s
G40A Rib Lake 85.59 34 P **P** **21 12 24.5 -3.5**
baz=321
DSB Dublin 85.61 341 P **P** **21 12 27.5 -0.4**
DSB IAmb IAmb 21 12 41.5
comp=Z,215nm,0.8s
ECH Echery 85.62 331 P **P** **21 12 27.1 -1.1**
ECH IAmb IAmb 21 12 41.6
comp=Z,244nm,0.9s
ECH Echery 85.62 331 P **P** **21 12 27.1 -1.1**
ECH pmax pmax
comp=Z,244nm,0.9s
ECH MLR MLR
comp=Z,91µm,20.0s
CBKS Cedar Bluff 85.67 43 P **P** **21 12 27.3 -1.3**
CBKS IAmb IAmb 21 12 42.8
comp=Z,645nm,1.2s
CBKS Cedar Bluff 85.67 43 P **P** **21 12 25.6 -3.0**
baz=316
CBKS Cedar Bluff 85.67 43 P **P** **21 12 25.2 -3.4**
baz=316,SNR=31
CBKS Cedar Bluff 85.67 43 P **P** **21 12 27.3 -1.3**
CBKS pmax pmax
comp=Z,645nm,1.3s
FUORN Ofenpass-Fuorn 85.67 329 P **P** **21 12 28.1 -0.7**
FUORN IAmb IAmb 21 12 39.1
comp=Z,309nm,0.9s
DAVOX Davos/Dischmat 85.70 329 LR LR 21 54 18.0
comp=Z,191µm,18.2s,baz=21,slow=38
SANT Santorini 85.72 313 P **P** **21 12 27.2 -1.7**
SANT IAmb IAmb 21 12 42.0
comp=Z,552nm,1.1s
SANT IAMs_20 IAMs_20 21 57 31.3
comp=Z,51µm,21.0s
MLZ Mavora Lakes 85.73 161 P **P** **21 12 29.2 +0.9**
MLZ IAMs_20 IAMs_20 21 46 45.7
comp=Z,37µm,21.0s
MLZ Mavora Lakes 85.73 161 P P 21 12 35.1 +6.8
STRD Stroud 85.76 338 *e*P **P** **21 12 29.0 +0.3**
STRD IAMs_20 IAMs_20 21 50 32.1
comp=Z,246µm,25.5s
HMNX Herstmonceux 85.78 336 *e*P **P** **21 12 29.1 +0.3**
HMNX IAMs_20 IAMs_20 21 53 09.2
comp=Z,203µm,23.0s
MCH1 Michaelchurch 85.81 339 *e*P **P** **21 12 29.2 +0.3**
MCH1 IAMs_20 IAMs_20 21 49 07.8
comp=Z,433µm,27.7s
SWN1 Swindon 85.88 338 *e*P **P** **21 12 28.7 -0.6**
SWN1 IAMs_20 IAMs_20 21 50 49.0
comp=Z,224µm,25.7s
WOL Wolverton 85.88 338 *e*P **P** **21 12 30.0 +0.7**
MONM Monmouth 85.89 339 *e*P **P** **21 12 30.1 +0.8**
MONM IAMs_20 IAMs_20 21 49 11.2
comp=Z,231µm,28.5s
EAZ Earnscleugh 85.91 161 P P 21 12 35.9 +6.6
OLDB Oldbury-Upon-S 85.97 338 *e*P **P** **21 12 31.5 +1.7**
OLDB IAMs_20 IAMs_20 21 50 22.9
comp=Z,222µm,26.1s
LPW Lampeter 86.01 339 *e*P **P** **21 12 30.5 +0.6**
MEH Mehetia 86.05 116 *e*T T 22 47 08.6
comp=Z,364nm,0.3s
VLO Vlora 86.07 320 P **P** **21 12 30.4 0.0**
VLO IAmb IAmb 21 12 45.2
comp=Z,691nm,1.1s
VLO Vlora 86.07 320 P **P** **21 12 30.4 0.0**
VLO pmax pmax
comp=Z,691nm,1.1s
TEOL Teolo 86.08 327 P **P** **21 12 29.2 -1.2**
E43A Lone Tree Farm 86.08 31 P **P** **21 12 29.4 -1.0**
E43A IAmb IAmb 21 12 43.3
comp=Z,265nm,0.8s
E43A Lone Tree Farm 86.08 31 P **P** **21 12 27.8 -2.6**
baz=323
F42A Maple Grove Fa 86.10 32 P **P** **21 12 29.8 -0.7**
F42A IAmb IAmb 21 12 44.2
comp=Z,1µm,1.9s
F42A Maple Grove Fa 86.10 32 P **P** **21 12 27.8 -2.7**
baz=323
ODZ Otahua Downs 86.10 160 P **P** **21 12 31.4 +1.2**
ODZ IAMs_20 IAMs_20 21 45 10.5
comp=Z,48µm,22.0s
ODZ Otahua Downs 86.10 160 P **P** **21 12 34.6 +4.4**
PYZ Puysegur Point 86.13 163 P **P** **21 12 34.6 +4.4**
PYZ Puysegur Point 86.13 163 P P 21 12 38.5 +8.3
TUE Stuetta 86.17 329 P **P** **21 12 30.7 -0.5**
TUE IAmb IAmb 21 12 48.0
comp=Z,323nm,1.1s
WHZ Wether Hill Ro 86.18 162 IAMs_20 IAMs_20 21 52 17.6
comp=Z,31µm,19.0s
TAOE Nuku Hiva Isla 86.26 104 *e*P **P** **21 12 31.9 +0.1**
comp=Z,13µm,26.3s
TAOE Nuku Hiva Isla 86.26 104 *e*PP **PP** **21 15 51.2 -1.6**
comp=Z,7µm,24.4s
TAOE *e*S **S** **21 23 06.2 -1.8**
comp=Z,40µm,27.1s
TAOE Nuku Hiva Isla 86.26 104 *e*LR LR 21 38 41.2
comp=Z,291µm,33.9s
TAOE Nuku Hiva Isla 86.26 104 *e*T T 22 47 27.0
comp=Z,129nm,0.2s
RSBS Rosebush, Pemb 86.34 340 *e*P **P** **21 12 32.1 +0.6**
RSBS IAMs_20 IAMs_20 21 48 21.8
comp=Z,154µm,30.8s
N35A Tabor 86.35 40 P **P** **21 12 31.6 -0.3**
N35A Tabor 86.35 40 P **P** **21 12 29.6 -2.3**
baz=318
K38A Parkersburg 86.42 37 P **P** **21 12 31.2 -0.9**
K38A IAmb IAmb 21 12 44.0
comp=Z,341nm,1.2s
K38A Parkersburg 86.42 37 P **P** **21 12 27.9 -4.3**
baz=320
KEK Kerkira 86.47 319 P **P** **21 12 32.2 -0.2**
KEK IAmb IAmb 21 12 46.4
comp=Z,409nm,1.0s
I40A Norwalk 86.47 35 P **P** **21 12 31.1 -1.3**
I40A Norwalk 86.47 35 P **P** **21 12 29.6 -2.8**
baz=321
R32A Long Quarter, 86.52 43 P **P** **21 12 31.9 -0.9**
R32A IAmb IAmb 21 12 39.7
comp=Z,616nm,1.8s
R32A Long Quarter, 86.52 43 P **P** **21 12 30.1 -2.7**
baz=316
KIDD KIDD Seismic O 86.55 52 P **P** **21 12 31.1 -2.0**
baz=312
SCIA State Center 86.77 38 P **P** **21 12 33.1 -0.8**
SCIA IAMs_20 IAMs_20 21 55 33.4
comp=Z,35µm,21.0s
SCIA State Center 86.77 38 P **P** **21 12 31.0 -2.9**
baz=320
SCIA S **S** **21 23 04.5 -7.7**
baz=320
SCIA State Center 86.77 38 P **P** **21 12 31.5 -2.5**
baz=320,SNR=13
IDI Anoyia 86.80 313 ⇓P **P** **21 12 31.7 -2.6**
IDI Anoyia 86.80 313 LR LR 21 56 35.8
comp=Z,41µm,18.6s,baz=38,slow=39
IDI Anoyia 86.80 313 P **P** **21 12 32.9 -1.3**
IDI IAmb IAmb 21 12 48.6
comp=Z,421nm,0.9s
IDI IAMs_20 IAMs_20 21 56 52.0
comp=Z,61µm,21.0s
SGRT San Giovanni R 87.00 322 P **P** **21 12 33.9 -1.2**
SENIN Lac Senin/Sane 87.09 330 P **P** **21 12 35.1 -0.5**
SENIN IAmb IAmb 21 13 02.7
comp=Z,596nm,1.2s
PRMA PARMA 87.14 327 P **P** **21 12 35.1 -0.4**
PRMA IAmb IAmb 21 12 51.5
comp=Z,406nm,1.4s
KSU1 Kansas State U 87.15 41 P **P** **21 12 34.2 -1.5**
KSU1 IAmb IAmb 21 12 44.6
comp=Z,364nm,0.8s
KSU1 Kansas State U 87.15 41 IAMs_20 IAMs_20 21 52 35.8
comp=Z,39µm,19.0s
KSU1 Kansas State U 87.15 41 P **P** **21 12 33.2 -2.6**
baz=318
KSU1 S **S** **21 23 12.8 -3.1**
baz=318
KSU1 Kansas State U 87.15 41 P **P** **21 12 33.4 -2.4**
baz=318,SNR=30
ITM Ithomi 87.15 316 P **P** **21 12 34.2 -1.7**
ZCCA Zocca 87.18 327 P **P** **21 12 36.0 +0.1**
ZCCA IAmb IAmb 21 13 04.8
comp=Z,800nm,1.7s
E46A Sault Ste Mari 87.18 30 P **P** **21 12 34.4 -1.4**
E46A Sault Ste Mari 87.18 30 P **P** **21 12 33.6 -2.2**
baz=325
I42A Draeger Farm, 87.24 34 P **P** **21 12 35.4 -0.8**
I42A IAmb IAmb 21 12 49.4
comp=Z,334nm,0.9s
I42A Draeger Farm, 87.24 34 P **P** **21 12 33.8 -2.3**
baz=322
FDMO Fiordimonte 87.27 325 P **P** **21 12 35.5 -0.8**
H43A Windswept, Lux 87.28 33 P **P** **21 12 35.9 -0.5**
H43A IAmb IAmb 21 12 49.8
comp=Z,455nm,0.8s
H43A Windswept, Lux 87.28 33 P **P** **21 12 34.5 -1.8**
baz=323
H43A S **SKSac** **21 23 07.4 +2.8**
baz=323
CPRX Cap Rock 87.33 50 P **P** **21 12 36.3 -0.7**
MSTX Muleshoe 87.34 48 P **P** **21 12 35.8 -1.2**
MSTX Muleshoe 87.34 48 P **P** **21 12 33.7 -3.3**
baz=314
MSTX Muleshoe 87.34 48 P **P** **21 12 34.2 -2.8**
baz=314,SNR=29
MURB Monte Urbino 87.34 325 P **P** **21 12 36.5 -0.3**
MURB IAmb IAmb 21 12 54.5
comp=Z,353nm,1.1s
AMTX Amarillo 87.35 47 P **P** **21 12 36.0 -1.0**
AMTX IAmb IAmb 21 12 47.4
comp=Z,274nm,0.8s
AMTX Amarillo 87.35 47 P **P** **21 12 35.4 -1.6**
baz=315
AMTX Amarillo 87.35 47 P **P** **21 12 35.2 -1.8**
baz=315
MATE Matera 87.36 321 ⇓P **P** **21 12 35.1 -1.6**
JFWS Jewell Farm 87.40 35 P **P** **21 12 35.7 -1.2**
JFWS IAmb IAmb 21 12 49.6
comp=Z,194nm,0.8s
JFWS Jewell Farm 87.40 35 IAMs_20 IAMs_20 21 54 52.9
comp=Z,48µm,19.0s
JFWS Jewell Farm 87.40 35 P **P** **21 12 33.7 -3.2**
baz=321
JFWS Jewell Farm 87.40 35 P **P** **21 12 33.5 -3.5**
baz=321,SNR=28
JFWS Jewell Farm 87.40 35 P **P** **21 12 35.7 -1.2**
JFWS pmax pmax
comp=Z,194nm,0.9s
JFWS MLR MLR
comp=Z,48µm,19.0s
NRCA Norcia 87.41 325 P **P** **21 12 36.2 -0.9**
NRCA IAmb IAmb 21 12 51.6
comp=Z,862nm,1.6s
DYA Yadsworthy 87.47 339 *e*P **P** **21 12 36.8 -0.3**
DYA IAMs_20 IAMs_20 21 51 14.5
comp=Z,166µm,23.3s
CAMP Campotosto 87.51 324 P **P** **21 12 36.2 -1.4**
CAMP IAmb IAmb 21 12 58.6
comp=Z,207nm,1.0s
CLF Chambon-Foret 87.58 334 P **P** **21 12 37.2 -0.4**
CLF IAmb IAmb 21 12 51.4
comp=Z,227nm,0.9s
GDL2 Guadalupe Moun 87.59 51 P **P** **21 12 37.4 -0.8**
N38A Joes South For 87.61 38 P **P** **21 12 37.3 -0.7**
N38A IAmb IAmb 21 12 47.4
comp=Z,436nm,0.9s
N38A Joes South For 87.61 38 P **P** **21 12 34.6 -3.4**
baz=320
L40A Anamosa 87.61 36 P **P** **21 12 36.5 -1.5**
L40A IAmb IAmb 21 12 47.5
comp=Z,387nm,1.1s
L40A Anamosa 87.61 36 P **P** **21 12 35.6 -2.3**
baz=321
AQU L'Aquila 87.65 324 P **P** **21 12 37.9 -0.3**
AQU IAmb IAmb 21 12 52.6
comp=Z,520nm,1.1s
AQU L'Aquila 87.65 324 P **P** **21 12 37.9 -0.3**
AQU pmax pmax
comp=Z,520nm,1.1s
AQU MLR MLR
comp=Z,170µm,22.0s
OSSC Osservatorio P 87.71 326 P **P** **21 12 37.2 -1.2**
G45A Suttons Bay 87.72 31 P **P** **21 12 38.1 -0.3**
G45A IAmb IAmb 21 12 51.9
comp=Z,426nm,0.8s
G45A Suttons Bay 87.72 31 P **P** **21 12 35.4 -3.0**
baz=324
G45A P **P** **21 12 35.4 -3.0**
baz=324
KAN12 Harper NE Stat 87.72 43 P **P** **21 12 37.4 -1.2**
KAN12 IAmb IAmb 21 12 53.4
comp=Z,565nm,1.3s
OK035 E0210 Rd and N 87.75 44 P **P** **21 12 37.7 -1.0**
OK035 IAMs_20 IAMs_20 21 53 49.9
comp=Z,42µm,19.0s
KAN08 Anthony NE Sta 87.78 43 P **P** **21 12 37.6 -1.3**
KAN08 IAmb IAmb 21 12 52.9
comp=Z,661nm,1.5s
KAN10 Anthony SW Sta 87.79 44 P **P** **21 12 38.3 -0.6**
CLN7 Carlsbad 7 87.79 50 P **P** **21 12 38.1 -1.1**
ELIS Ellis County 87.82 45 P **P** **21 12 38.9 -0.2**
ELIS IAmb IAmb 21 12 53.1
comp=Z,492nm,1.1s
U32A Winter Ranch, 87.83 45 P **P** **21 12 37.6 -1.5**
baz=316
U32A S **S** **21 23 24.3 +1.7**
baz=316
KAN06 Argonia West S 87.83 43 P **P** **21 12 38.2 -0.9**
KAN06 IAmb IAmb 21 12 53.2
comp=Z,516nm,1.5s
CESX Cesi 87.83 325 P **P** **21 12 37.2 -1.8**
CLNB Carlsbad 87.85 50 P **P** **21 12 38.6 -0.8**
HTMS Hat Mesa 87.86 50 P **P** **21 12 39.0 -0.5**
OK038 West end E0370 87.90 44 P **P** **21 12 38.6 -0.9**
OK038 IAMs_20 IAMs_20 21 53 56.8
comp=Z,32µm,21.0s
OK032 Salt Plains WL 87.96 44 P **P** **21 12 39.3 -0.5**
KAN14 Manchester OK 87.98 44 P **P** **21 12 39.0 -0.9**
KAN14 IAmb IAmb 21 12 54.0
comp=Z,453nm,1.3s
KAN17 Caldwell West 88.03 43 P **P** **21 12 39.2 -0.9**
JSA Saint Aubin 88.04 337 *e*P **P** **21 12 39.9 +0.1**
JSA IAMs_20 IAMs_20 21 56 20.7
comp=Z,133µm,19.8s
GC02 Grant County # 88.12 44 P **P** **21 12 39.2 -1.3**
PAOL Paolisi 88.12 323 P **P** **21 12 38.9 -1.6**
LATE Laterza 88.18 325 P **P** **21 12 40.2 -0.6**
LATE IAmb IAmb 21 12 54.4
comp=Z,415nm,1.3s
I45A Fountain 88.29 32 P **P** **21 12 40.0 -1.2**
I45A Fountain 88.29 32 P **P** **21 12 38.9 -2.2**
baz=324
I45A P **P** **21 12 38.9 -2.2**
baz=324
CUC Castrocucco 88.30 321 P **P** **21 12 40.6 -0.7**
CROK Carrier 88.30 44 P **P** **21 12 40.8 -0.6**
CROK IAmb IAmb 21 12 55.6
comp=Z,710nm,1.5s
GLMI Grayling 88.32 31 P **P** **21 12 40.3 -1.0**
GLMI IAMs_20 IAMs_20 21 58 03.9
comp=Z,33µm,20.0s
GLMI Grayling 88.32 31 P **P** **21 12 39.7 -1.6**
baz=325
GLMI Grayling 88.32 31 P **P** **21 12 40.4 -0.9**
baz=325,SNR=14
P38A Dawn 88.34 39 P **P** **21 12 39.7 -1.8**
baz=319
L42A Oliver, Polo 88.38 35 P **P** **21 12 39.6 -2.0**
L42A IAmb IAmb 21 12 54.3
comp=Z,225nm,0.8s
L42A Oliver, Polo 88.38 35 P **P** **21 12 37.6 -4.1**
baz=322
BNI Bardonecchia 88.41 330 P **P** **21 12 41.0 -0.9**
BNI Bardonecchia 88.41 330 P **P** **21 12 41.0 -0.9**
BNI pmax pmax
comp=Z,93nm,1.2s
BNI MLR MLR
comp=Z,188µm,21.0s
K43A Burlington 88.44 34 P **P** **21 12 40.7 -1.2**
K43A IAmb IAmb 21 12 54.2
comp=Z,200nm,0.9s
K43A Burlington 88.44 34 P **P** **21 12 39.1 -2.8**
baz=323
TIP Timpagrande 88.44 320 ⇓P **P** **21 12 40.9 -1.1**
TIP Timpagrande 88.44 320 P **P** **21 12 41.7 -0.3**
TIP IAmb IAmb 21 13 00.6
comp=Z,197nm,1.0s
CSTR Hydro, Custer 88.53 45 **P** **21 12 41.6 -0.9**
CSTR IAmb IAmb 21 12 54.5
comp=Z,104nm,1.8s
BLOK Blackwell 88.54 43 **P** **21 12 41.6 -0.9**
BLOK IAmb IAmb 21 12 56.6
comp=Z,647nm,1.6s
TBI Tubuai 88.68 121 *e*P **P** **21 12 43.8 +0.7**
TBI Tubuai 88.68 121 *e*P **P** **21 12 44.8 +1.7**
comp=Z,555nm,1.3s
TBI Tubuai 88.68 121 *e*PP **PP** **21 16 10.6 -1.5**
comp=Z,29µm,29.0s
TBI *e*S **S** **21 23 28.4 -2.2**
comp=Z,179µm,28.8s
TBI *e*SS **SS** **21 29 22.0 -0.4**
comp=Z,107µm,27.0s
TBI Tubuai 88.68 121 *e*LR LR 21 39 43.7
comp=Z,2979µm,28.5s
TBI *e*LR LR 21 39 50.9
comp=Z,1455µm,32.8s
TBI Tubuai 88.68 121 *e*T T 22 50 25.9
comp=Z,626nm,0.3s
T35A Sooner Cattle 88.81 43 **P** **21 12 43.3 -0.5**
T35A IAmb IAmb 21 12 58.0
comp=Z,650nm,1.6s
T35B Sooner Cattle 88.81 43 P **P** **21 12 41.7 -2.0**
baz=318
T35B S **S** **21 23 27.8 -4.0**
baz=318
N41A Harden Midland 88.83 37 P **P** **21 12 42.7 -1.1**
N41A Harden Midland 88.83 37 P **P** **21 12 41.6 -2.2**
baz=321
OK045 Pawnee Station 88.92 43 **P** **21 12 43.1 -1.2**
OK045 IAMs_20 IAMs_20 21 58 31.9
comp=Z,40µm,19.0s
OK051 E0350 and S346 88.93 43 IAMs_20 IAMs_20 21 58 30.0
comp=Z,41µm,20.0s
OK050 Pawnee Station 88.93 43 P **P** **21 12 43.9 -0.5**
OK050 IAmb IAmb 21 12 58.5
comp=Z,635nm,1.7s
OK050 IAMs_20 IAMs_20 21 58 32.1
comp=Z,41µm,19.0s
OK048 Pawnee Station 88.94 43 **P** **21 12 43.8 -0.6**
OK048 IAmb IAmb 21 12 58.5
comp=Z,605nm,1.7s
OK048 IAMs_20 IAMs_20 21 58 32.2
comp=Z,41µm,19.0s
OK046 Pawnee Station 88.97 43 P **P** **21 12 43.9 -0.6**
OK046 IAMs_20 IAMs_20 21 58 33.1
comp=Z,41µm,19.0s
L44A Lake County Fo 89.04 34 P **P** **21 12 43.4 -1.3**
L44A IAmb IAmb 21 12 57.8
comp=Z,343nm,0.9s
L44A IAMs_20 IAMs_20 21 57 31.2
comp=Z,33µm,21.0s
L44A Lake County Fo 89.04 34 P **P** **21 12 42.9 -1.8**
baz=323
L44A Lake County Fo 89.04 34 P **P** **21 12 42.9 -1.8**
baz=323
L44A S **S** **21 23 33.7 -0.1**
baz=323
OK044 Pawnee Station 89.05 43 **P** **21 12 44.3 -0.6**
OK044 IAmb IAmb 21 12 56.7
comp=Z,433nm,1.5s
OK044 IAMs_20 IAMs_20 21 58 34.2
comp=Z,40µm,19.0s
SSB Saint Sauveur 89.06 331 P **P** **21 12 44.6 -0.3**
SSB IAmb IAmb 21 13 12.3
comp=Z,439nm,2.0s
SSB Saint Sauveur 89.06 331 P **P** **21 12 44.6 -0.3**
SSB pmax pmax
comp=Z,439nm,2.0s
SSB MLR MLR
comp=Z,109µm,18.0s
LPIG La Paz 89.09 60 LR LR 21 52 35.1
comp=Z,10µm,18.2s,baz=308,slow=36
OK029 Liberty Lake 89.11 44 **P** **21 12 44.9 -0.3**
OK029 IAmb IAmb 21 12 58.8
comp=Z,312nm,0.8s
BCOK Bluff Creek, N 89.12 44 **P** **21 12 44.9 -0.3**
BCOK IAmb IAmb 21 12 55.1
comp=Z,291nm,1.1s
WMOK Wichita Mounta 89.13 46 **P** **21 12 44.1 -1.2**
WMOK IAmb IAmb 21 12 59.4
comp=Z,373nm,1.5s
WMOK Wichita Mounta 89.13 46 IAMs_20 IAMs_20 21 58 22.8
comp=Z,43µm,20.0s
WMOK Wichita Mounta 89.13 46 P **P** **21 12 43.6 -1.7**
baz=316
WMOK S **S** **21 23 36.4 +1.5**
baz=316
WMOK Wichita Mounta 89.13 46 P **P** **21 12 44.6 -0.8**

baz=316,SNR=82
WMOK S **S** **21 23 38.3 +3.3**

baz=316
WMOK Wichita Mounta 89.13 46 P **P** **21 12 44.1 -1.2**
WMOK pmax pmax
comp=Z,373nm,1.5s
WMOK MLR MLR
comp=Z,43µm,20.0s
P40A Paris 89.16 38 P **P** **21 12 44.2 -1.1**
P40A IAmb IAmb 21 13 00.3
comp=Z,666nm,1.4s
P40A Paris 89.16 38 P **P** **21 12 43.0 -2.3**
baz=320
P40A S **S** **21 23 33.7 -1.3**
baz=320
OK033 Mehan 89.21 44 **P** **21 12 44.4 -1.3**
OK033 IAmb IAmb 21 13 00.6
comp=Z,312nm,1.2s
OK033 IAMs_20 IAMs_20 21 58 42.5
comp=Z,47µm,19.0s
QUOK Quay 89.25 43 **P** **21 12 44.8 -1.0**
QUOK IAmb IAmb 21 12 59.3
comp=Z,254nm,1.0s
OK053 SW of W Deep R 89.32 44 **P** **21 12 45.7 -0.5**
OK053 IAmb IAmb 21 13 00.4
comp=Z,691nm,1.6s
OK053 IAMs_20 IAMs_20 21 58 45.3
comp=Z,45µm,20.0s
OK052 Battle Ridge R 89.33 44 **P** **21 12 45.3 -0.9**
OK052 IAmb IAmb 21 12 59.2
comp=Z,224nm,1.0s
OK052 IAMs_20 IAMs_20 21 58 45.5
comp=Z,47µm,19.0s
OK025 Westminster Rd 89.33 44 **P** **21 12 45.9 -0.3**
OK025 IAmb IAmb 21 12 59.3
comp=Z,259nm,0.8s
OK031 S. Brethren Rd 89.33 44 **P** **21 12 45.2 -1.0**
OK031 IAmb IAmb 21 13 00.5
comp=Z,623nm,1.6s
OK031 IAMs_20 IAMs_20 21 58 45.7
comp=Z,47µm,20.0s
OK034 N. Norfolk Rd. 89.36 43 **P** **21 12 45.5 -0.9**
OK034 IAMs_20 IAMs_20 21 58 46.5
comp=Z,43µm,19.0s
HQIL Hanson Quary C 89.37 34 IAMs_20 IAMs_20 21 57 41.9
comp=Z,32µm,20.0s
OK030 Cody Creek RV 89.38 44 P **P** **21 12 44.7 -1.8**
OK030 IAmb IAmb 21 13 00.7
comp=Z,495nm,1.5s
OK030 IAMs_20 IAMs_20 21 58 48.0
comp=Z,46µm,19.0s
FNO Franklin 89.53 44 **P** **21 12 46.6 -0.6**
FNO IAmb IAmb 21 12 58.5
comp=Z,332nm,1.0s
J47A Sunmer 89.53 32 P **P** **21 12 46.8 -0.2**
J47A IAmb IAmb 21 13 00.9
comp=Z,493nm,0.9s
J47A Sunmer 89.53 32 P **P** **21 12 45.2 -1.8**
baz=325
J47A P **P** **21 12 45.2 -1.8**
baz=325
MSEY Mahe Island 89.54 264 P **P** **21 12 47.7 +0.2**
MSEY IAmb IAmb 21 13 01.5
comp=Z,254nm,1.1s
MSEY Mahe Island 89.54 264 IAMs_20 IAMs_20 21 52 59.5
comp=Z,41µm,20.0s
MSEY Mahe Island 89.54 264 P **P** **21 12 46.9 -0.6**
MSEY S **SKSac** **21 23 14.8 -4.1**
MSEY Mahe Island 89.54 264 *i* P **P** **21 12 46.7 -0.8**
SNR=18
MSEY Mahe Island 89.54 264 P **P** **21 12 47.7 +0.2**
MSEY pmax pmax
comp=Z,255nm,1.2s
MSEY MLR MLR
comp=Z,41µm,20.0s
CEL Celeste 89.58 320 P **P** **21 12 46.1 -1.3**
CEL IAmb IAmb 21 13 01.8
comp=Z,471nm,1.0s
M44A Midewin, Midew 89.61 35 P **P** **21 12 46.2 -1.2**
M44A Midewin, Midew 89.61 35 P **P** **21 12 44.4 -3.1**
baz=323
SLBS Sierra La Lagu 89.62 60 P **P** **21 12 47.3 -0.5**
SLBS IAmb IAmb 21 13 08.9
comp=Z,458nm,1.9s
HDIL Hopedale 89.69 36 P **P** **21 12 47.3 -0.5**
HDIL IAmb IAmb 21 13 02.6
comp=Z,528nm,1.1s
HDIL IAMs_20 IAMs_20 21 58 05.5
comp=Z,37µm,19.0s
HDIL Hopedale 89.69 36 P **P** **21 12 45.4 -2.4**
baz=322
HDIL S **S** **21 23 39.9 0.0**
baz=322
HDIL Hopedale 89.69 36 P **P** **21 12 46.3 -1.5**
baz=322,SNR=21
HDIL S **S** **21 23 41.6 +1.7**
baz=322
X34A Smith Ranch, M 89.77 45 **P** **21 12 47.7 -0.6**
X34A IAmb IAmb 21 13 00.4
comp=Z,871nm,1.7s
I49A Point Hope 89.78 30 P **P** **21 12 46.3 -1.9**
baz=326
I49A P **P** **21 12 46.3 -1.9**
baz=326
ATD Arta Tunnel 89.78 284 P **P** **21 12 49.5 +0.8**
comp=Z,8.5nm,0.8s,baz=0.5,slow=2.9,SNR=8.1
ATD PP PP 21 16 34.0 +13
comp=Z,4.4nm,0.5s,baz=63,slow=5.6,SNR=3.9
ATD S **SKSac** **21 23 25.7 +5.2**
comp=Z,2.0nm,0.3s,baz=123,slow=22,SNR=2.0
ATD LR LR 21 58 33.1
comp=Z,22µm,18.3s,baz=42,slow=39
comp=Z,8.5nm,0.8s
L46A Eue Claire 89.89 33 P **P** **21 12 48.5 -0.2**
L46A IAmb IAmb 21 13 02.0
comp=Z,350nm,0.9s
L46A Eue Claire 89.89 33 P **P** **21 12 47.3 -1.5**
baz=324
L46A P **P** **21 12 47.3 -1.5**
baz=324
L46A S **S** **21 23 41.9 +0.1**
baz=324
L46A S **S** **21 23 41.9 +0.1**
baz=324
S39A Bolivar 89.92 40 P **P** **21 12 47.4 -1.6**
S39A Bolivar 89.92 40 P **P** **21 12 47.5 -1.4**
baz=320
S39A S **S** **21 23 42.7 +0.5**
baz=320
TUL1 Leonard 89.94 43 **P** **21 12 48.5 -0.6**
TUL1 Leonard 89.94 43 P **P** **21 12 47.4 -1.6**
baz=318
TUL1 S **S** **21 23 43.9 +1.5**
baz=318
TUL1 Leonard 89.94 43 P **P** **21 12 47.0 -2.1**
baz=318,SNR=30
TUL1 S **S** **21 23 44.4 +2.0**
baz=318
TX31 Lajitas Ar. Si 90.00 52 P **P** **21 12 47.8 -1.8**
TX31 IAmb IAmb 21 12 58.8
comp=Z,275nm,0.8s
TX31 Lajitas Ar. Si 90.00 52 P **P** **21 12 46.6 -3.0**
baz=314
TX31 S **S** **21 23 43.9 +0.5**
baz=314
R40A Maddies Statio 90.00 39 P **P** **21 12 48.3 -1.0**
R40A IAmb IAmb 21 13 03.9
comp=Z,790nm,1.8s
R40A Maddies Statio 90.00 39 P **P** **21 12 46.7 -2.5**
baz=320
R40A S **S** **21 23 44.6 +1.8**
baz=320
TX32 Lajitas Array 90.00 52 P **P** **21 12 47.8 -1.8**
TXAR Lajitas Array 90.00 52 P **P** **21 12 47.8 -1.8**
comp=Z,30nm,0.9s,baz=294,slow=3.0,SNR=90
TXAR PP PP 21 16 36.1 +14
comp=Z,56nm,1.2s,baz=308,slow=3.0,SNR=5.4
TXAR PKKPbc **PKKPbc** **21 30 24.2 +4.8**
comp=Z,2.6nm,0.9s,baz=148,slow=4.9,SNR=4.6
TXAR PKPPKP **P'P'df** **21 38 33.0 -1.7**
comp=Z,0.5nm,0.8s,baz=114,slow=8.3,SNR=4.0
comp=Z,30nm,0.9s
ABTX Abilene, Hawle 90.15 48 P **P** **21 12 49.5 -0.7**
ABTX IAmb IAmb 21 13 04.4
comp=Z,977nm,1.8s
ABTX Abilene, Hawle 90.15 48 P **P** **21 12 47.9 -2.2**
baz=316
ABTX S **S** **21 23 43.4 -1.1**
baz=316
ABTX Abilene, Hawle 90.15 48 P **P** **21 12 48.4 -1.7**
baz=316,SNR=41
ABTX S **S** **21 23 47.0 +2.4**
baz=316
RLO Rose Lookout 90.17 42 **P** **21 12 49.2 -0.9**
RLO IAmb IAmb 21 13 02.8
comp=Z,137nm,0.8s
U38A Gravette 90.30 42 P **P** **21 12 49.3 -1.4**
U38A Gravette 90.30 42 P **P** **21 12 47.7 -3.0**
baz=319
U38A S **S** **21 23 48.3 +2.5**
baz=319
P43A Skaggs, Pawnee 90.30 37 P **P** **21 12 50.1 -0.5**
P43A Skaggs, Pawnee 90.30 37 P **P** **21 12 46.9 -3.8**
baz=322
P43A S **S** **21 23 44.4 -1.2**
baz=322
HPIG 90.35 55 P **P** **21 12 50.8 -0.5**
O44A Mansfield 90.40 36 P **P** **21 12 50.0 -1.1**
O44A IAmb IAmb 21 13 01.8
comp=Z,349nm,1.6s
O44A Mansfield 90.40 36 P **P** **21 12 48.9 -2.2**
baz=323
O44A S **S** **21 23 47.0 +0.5**
baz=323
SADO Sadowa 90.50 28 LR LR 21 58 11.3
comp=Z,46µm,18.6s,baz=0.0,slow=39
SADO Sadowa 90.50 28 P **P** **21 12 50.6 -0.9**
LOOK Love County 90.58 45 **P** **21 12 51.5 -0.6**
LOOK IAmb IAmb 21 13 01.4
comp=Z,182nm,0.9s
HHAR Hobbs 90.66 42 P **P** **21 12 50.8 -1.6**
HHAR Hobbs 90.66 42 P **P** **21 12 49.9 -2.5**
baz=319
HHAR S **S** **21 23 48.3 -0.8**
baz=319
CCM Cathedral Cave 90.69 39 IAMs_20 IAMs_20 21 59 46.4
comp=Z,40µm,18.0s
CCM Cathedral Cave 90.69 39 P **P** **21 12 49.9 -2.7**
baz=321
CCM S **S** **21 23 49.5 +0.2**
baz=321
CCM Cathedral Cave 90.69 39 P **P** **21 12 50.1 -2.4**
baz=321
CCM S **S** **21 23 51.7 +2.4**
baz=321
SLM Saint Louis 90.74 38 P **P** **21 12 51.7 -1.0**
SLM IAmb IAmb 21 13 07.4
comp=Z,683nm,1.6s
SLM Saint Louis 90.74 38 P **P** **21 12 50.2 -2.5**
baz=322
SLM S **S** **21 23 50.8 +1.1**
baz=322
SLM Saint Louis 90.74 38 P **P** **21 12 51.7 -1.0**
SLM pmax pmax
comp=Z,683nm,1.6s
L48A N Adams 90.76 32 P **P** **21 12 51.6 -1.2**
L48A IAmb IAmb 21 13 06.3
comp=Z,377nm,0.9s
L48A N Adams 90.76 32 P **P** **21 12 50.9 -1.9**
baz=325
L48A P **P** **21 12 50.9 -1.9**
baz=325
L48A S **S** **21 23 44.8 -5.0**
baz=325
L48A S **S** **21 23 44.8 -5.0**
baz=325
AAM Ann Arbor 90.79 32 P **P** **21 12 50.6 -2.3**
AAM IAMs_20 IAMs_20 21 56 38.3
comp=Z,45µm,21.0s
AAM Ann Arbor 90.79 32 P **P** **21 12 50.9 -2.0**
baz=326
AAM S **S** **21 23 51.4 +1.4**
baz=326
AAM Ann Arbor 90.79 32 P **P** **21 12 51.4 -1.5**
baz=326
AAM S **S** **21 23 52.5 +2.5**
baz=326
AAM Ann Arbor 90.79 32 P **P** **21 12 50.6 -2.3**
AAM pmax pmax
comp=Z,156nm,0.9s
AAM MLR MLR
comp=Z,45µm,21.0s
TRQ Mont Tremblant 90.83 24 P **P** **21 12 52.3 -0.8**
K50A Casco 90.83 31 P **P** **21 12 51.7 -1.3**
K50A IAmb IAmb 21 13 06.5
comp=Z,240nm,0.9s
K50A Casco 90.83 31 P **P** **21 12 51.3 -1.7**
baz=326
K50A P **P** **21 12 51.3 -1.7**
baz=326
K50A S **S** **21 23 51.0 +0.7**
baz=326
K50A S **S** **21 23 51.0 +0.7**
baz=326
SFIN Lafayette 90.85 35 P **P** **21 12 52.0 -1.2**
SFIN Lafayette 90.85 35 P **P** **21 12 51.1 -2.1**
baz=324
SFIN Lafayette 90.85 35 P **P** **21 12 50.4 -2.8**
baz=324,SNR=14
SFIN S **S** **21 23 50.9 +0.3**
baz=324
MGMO Mountain Grove 90.87 40 P **P** **21 12 51.9 -1.5**
VAE Valguarnera 90.93 321 LR LR 21 57 55.4
comp=Z,103µm,18.5s,baz=32,slow=38
Z35A Perchaven, San 91.02 46 P **P** **21 12 53.1 -1.1**
Z35A Perchaven, San 91.02 46 P **P** **21 12 51.2 -3.0**
baz=317
Z35A S **S** **21 23 51.7 -0.7**
baz=317
N47A Urbana 91.08 34 P **P** **21 12 52.8 -1.5**
N47A Urbana 91.08 34 P **P** **21 12 51.3 -3.0**
baz=324
N47A P **P** **21 12 51.3 -3.0**
baz=324
Q44A Meyer Farm, Va 91.12 37 P **P** **21 12 53.7 -0.8**
Q44A IAmb IAmb 21 13 09.3
comp=Z,302nm,1.2s
Q44A Meyer Farm, Va 91.12 37 P **P** **21 12 50.7 -3.8**
baz=322
Q44A S **S** **21 23 53.1 -0.1**
baz=322
X37A Clayton 91.15 44 **P** **21 12 53.7 -1.0**
X37A Clayton 91.15 44 P **P** **21 12 51.2 -3.5**
baz=318
X37A S **S** **21 23 56.6 +3.0**
baz=318
FVM French Village 91.16 38 P **P** **21 12 54.3 -0.4**
FVM IAmb IAmb 21 13 08.6
comp=Z,323nm,1.6s
FVM French Village 91.16 38 P **P** **21 12 51.6 -3.1**
baz=321
FVM S **S** **21 23 54.9 +1.3**
baz=321
FVM French Village 91.16 38 P **P** **21 12 54.3 -0.4**
FVM pmax pmax
comp=Z,323nm,1.6s
FW02 City of Haslet 91.25 46 P **P** **21 12 55.6 +0.4**
FW02 IAmb IAmb 21 13 09.3
comp=Z,723nm,1.8s
DELO Deloro Mine 91.27 27 P **P** **21 12 53.1 -2.0**
DELO IAmb IAmb 21 13 08.3
comp=Z,170nm,0.9s
P46A Rosedale 91.41 35 P **P** **21 12 55.4 -0.4**
P46A Rosedale 91.41 35 P **P** **21 12 53.8 -2.0**
baz=323
P46A S **S** **21 23 54.9 -0.8**
baz=323
JCT Junction City 91.58 49 P **P** **21 12 55.2 -1.7**
JCT Junction City 91.58 49 P **P** **21 12 53.5 -3.3**
baz=316
JCT S **S** **21 23 58.7 +1.0**
baz=316
JCT Junction City 91.58 49 P **P** **21 12 54.8 -2.0**
baz=316,SNR=27
JCT S **S** **21 23 59.0 +1.2**
baz=316
JCT Junction City 91.58 49 P **P** **21 12 55.2 -1.7**
JCT pmax pmax
comp=Z,117nm,0.8s
JCT MLR MLR
comp=Z,24µm,19.0s
OLIL Olney 91.69 36 P **P** **21 12 56.8 -0.4**
OLIL IAmb IAmb 21 13 12.2
comp=Z,347nm,1.1s
OLIL Olney 91.69 36 P **P** **21 12 54.6 -2.6**
baz=323
N49A Columbus Grove 91.70 33 P **P** **21 12 56.8 -0.4**
N49A IAmb IAmb 21 13 10.5
comp=Z,193nm,0.9s
N49A Columbus Grove 91.70 33 P **P** **21 12 52.8 -4.4**
baz=325
N49A P **P** **21 12 52.8 -4.4**
baz=325
MNTQ Montreal, Queb 91.77 24 P **P** **21 12 56.9 -0.4**
M50A Fremont 91.79 32 P **P** **21 12 56.3 -1.3**
baz=326
M50A P **P** **21 12 56.3 -1.3**
baz=326
O48B Farmland 91.82 34 P **P** **21 12 54.7 -3.0**
baz=325
O48B Farmland 91.82 34 P **P** **21 12 55.2 -2.5**
baz=325,SNR=12
O48B S **S** **21 24 00.8 +1.3**
baz=325
WHTX Lake Whitney, 91.88 47 P **P** **21 12 57.6 -0.5**
WHTX IAmb IAmb 21 13 08.4
comp=Z,368nm,0.9s
WHTX Lake Whitney, 91.88 47 P **P** **21 12 55.5 -2.7**
baz=317
WHTX S **S** **21 24 00.1 -0.2**
baz=317
WHTX Lake Whitney, 91.88 47 P **P** **21 12 55.1 -3.0**
baz=317,SNR=45
WHTX S **S** **21 24 04.1 +3.8**
baz=317
FCAR Ozark Folk Cen 91.91 41 P **P** **21 12 56.6 -1.6**
FCAR IAmb IAmb 21 13 10.9
comp=Z,191nm,1.0s
S44A Carbondale 91.96 38 P **P** **21 12 57.3 -1.1**
S44A Carbondale 91.96 38 P **P** **21 12 56.3 -2.1**
baz=322
S44A S **S** **21 24 02.9 +2.1**
baz=322
J54A Appleton 91.97 28 P **P** **21 12 57.6 -0.7**
baz=329
J54A P **P** **21 12 57.6 -0.7**
baz=329
E62A Clayton Lake 92.00 21 P **P** **21 12 57.7 -0.7**
E62A Clayton Lake 92.00 21 P **P** **21 12 55.7 -2.7**
baz=336
E62A P **P** **21 12 55.7 -2.7**
baz=336
PECO Prince Edward 92.00 27 P **P** **21 12 56.2 -2.3**
H06N1 SOCORRO T-PHAS 92.01 65 T T 22 55 21.3
SNR=13
BMNY Brushton-Moira 92.06 25 P **P** **21 12 56.2 -2.5**
baz=332
CGM3 Cape Girardeau 92.07 38 P **P** **21 12 57.8 -1.1**
CGM3 IAmb IAmb 21 13 43.9
comp=Z,197nm,1.6s
PBMO Poplar Bluff 92.09 39 S **S** **21 24 02.5 +0.5**
baz=321
H06E1 SOCORRO T-PHAS 92.11 65 P **P** **21 13 00.8 +1.3**
SNR=6.6
H06E1 T T 22 55 20.4
SNR=145
H06S1 SOCORRO T 92.11 65 P **P** **21 13 02.4 +3.0**
SNR=49
H06S1 T T 22 55 35.4
SNR=19
MIAR Mount Ida 92.16 43 P **P** **21 12 58.2 -1.2**
MIAR IAmb IAmb 21 13 09.0
comp=Z,242nm,0.9s
MIAR IAMs_20 IAMs_20 21 58 39.5
comp=Z,32µm,20.0s
MIAR Mount Ida 92.16 43 P **P** **21 12 57.4 -2.0**
baz=319
MIAR S **S** **21 24 02.3 -0.4**
baz=319
MIAR Mount Ida 92.16 43 P **P** **21 12 58.6 -0.8**
baz=319,SNR=113
MIAR S **S** **21 24 05.3 +2.5**
baz=319
MIAR Mount Ida 92.16 43 P **P** **21 12 58.2 -1.2**
MIAR pmax pmax
comp=Z,242nm,1.0s
MIAR MLR MLR
comp=Z,32µm,20.0s
DRLN Deer Lake 92.23 12 P **P** **21 12 58.5 -0.9**
LONY Lake Ozonia 92.23 25 P **P** **21 12 58.4 -1.2**
LONY Lake Ozonia 92.23 25 P **P** **21 12 57.9 -1.6**
baz=332
LONY S **S** **21 24 03.7 +0.7**
baz=332
O49A Covington 92.24 33 P **P** **21 12 58.1 -1.5**
O49A Covington 92.24 33 S **S** **21 24 05.2 +1.9**
baz=325
O49A S **S** **21 24 05.2 +1.9**
baz=325
LCAR Lake Charles 92.27 40 P **P** **21 12 58.5 -1.4**
LCAR IAmb IAmb 21 13 44.8
comp=Z,398nm,1.9s
LCAR Lake Charles 92.27 40 P **P** **21 12 57.0 -2.9**
baz=321
LCAR S **S** **21 24 06.0 +2.4**
baz=321
J55A Hilton 92.28 28 P **P** **21 12 57.5 -2.3**
baz=330
J55A P **P** **21 12 57.5 -2.3**
baz=330
WHAR Wooly Hollow 92.28 41 P **P** **21 12 58.6 -1.3**
WHAR IAmb IAmb 21 13 12.9
comp=Z,291nm,0.9s
BATG Bathurst New B 92.31 18 P **P** **21 12 59.5 -0.4**
BATG IAmb IAmb 21 13 13.5
comp=Z,132nm,0.8s
P48A Milroy 92.35 34 P **P** **21 12 59.6 -0.5**
P48A IAmb IAmb 21 13 13.8
comp=Z,332nm,1.7s
P48A Milroy 92.35 34 P P 21 12 55.1 -5.1
baz=325
P48A P P 21 12 55.1 -5.1
baz=325
P48A S **S** **21 24 05.1 +0.9**
baz=325
P48A S **S** **21 24 05.1 +0.9**
baz=325
Z38A Mt. Pleasant 92.35 44 P **P** **21 12 60.0 -0.3**
Z38A Mt. Pleasant 92.35 44 P **P** **21 12 58.7 -1.6**
baz=318
Z38A S **S** **21 24 06.5 +2.0**
baz=318
PQI Presque Isle 92.37 20 P **P** **21 12 59.9 -0.2**
M52A Chesterland 92.37 31 P **P** **21 12 58.0 -2.3**
baz=327
M52A P **P** **21 12 58.0 -2.3**
baz=327
M52A S **S** **21 24 05.7 +1.3**
baz=327
M52A S **S** **21 24 05.7 +1.3**
baz=327
WCNY West Carthage 92.43 26 P **P** **21 12 57.4 -3.1**
baz=331
ERPA Erie 92.43 29 IAMs_20 IAMs_20 21 59 10.6
comp=Z,50µm,19.0s
ERPA Erie 92.43 29 P **P** **21 12 59.6 -0.9**
baz=328
ERPA Erie 92.43 29 P **P** **21 12 59.3 -1.3**
baz=328
ERPA S **S** **21 24 06.8 +1.9**
baz=328
N51A Ashland 92.47 32 P **P** **21 13 00.2 -0.5**
N51A Ashland 92.47 32 P **P** **21 12 59.6 -1.2**
baz=327
N51A P **P** **21 12 59.6 -1.2**
baz=327
N51A S **S** **21 24 07.3 +2.0**
baz=327
N51A S **S** **21 24 07.3 +2.0**
baz=327
E63A Oxbow 92.48 20 P **P** **21 12 59.0 -1.6**
baz=337
E63A P **P** **21 12 59.0 -1.6**
baz=337
DESE Dese 92.51 286 *e*P **P** **21 13 05.2 +3.5**
DESE IAMs_20 IAMs_20 21 59 23.7
comp=N,63µm,18.0s
F62A Pittston Farm, 92.53 21 P **P** **21 13 00.2 -0.7**
F62A IAmb IAmb 21 13 14.6
comp=Z,201nm,0.8s
F62A Pittston Farm, 92.53 21 P **P** **21 12 56.8 -4.1**

baz=336
F62A P P 21 12 56.8 -4.1
baz=336
P49A Miami Univ. Ec 92.61 34 P P 21 13 00.1 -1.2
P49A IAMs_20 IAMs_20 21 58 33.5
comp=Z,43µm,20.0s
P49A Miami Univ. Ec 92.61 34 P P 21 12 60.0 -1.4
baz=325
P49A S S 21 24 08.5 +1.9
baz=325
P49A Miami Univ. Ec 92.61 34 P P 21 12 58.2 -3.2
baz=325,SNR=12
P49A S S 21 24 07.9 +1.3
baz=325
J56A Wolcott 92.62 27 P P 21 12 58.7 -2.7
baz=330
J56A P P 21 12 58.7 -2.7
baz=330
UALR University of 92.64 42 P P 21 13 00.3 -1.3
ROCAM Rodrigues Isla 92.67 247 IAMs_20 IAMs_20 21 55 58.3
comp=Z,43µm,19.0s
435B Jarrell 92.69 48 P P 21 13 00.8 -1.1
435B IAmb IAmb 21 13 16.0
comp=Z,623nm,1.9s
435B IAMs_20 IAMs_20 22 01 00.2
comp=Z,46µm,19.0s
435B Jarrell 92.69 48 P P 21 13 00.1 -1.8
baz=317
435B S S 21 24 10.8 +3.2
baz=317
435B Jarrell 92.69 48 P P 21 13 00.2 -1.7
baz=317
435B S S 21 24 09.9 +2.3
baz=317
WVNY West Valley, N 92.72 28 P P 21 12 59.5 -2.3
WVNY IAmb IAmb 21 13 16.1
comp=Z,161nm,1.0s
WVNY West Valley, N 92.72 28 P P 21 13 01.0 -0.9
baz=329
M53A WI Miller and 92.73 30 IAMs_20 IAMs_20 22 01 32.6
comp=Z,41µm,19.0s
M53A WI Miller and 92.73 30 P P 21 13 00.0 -1.9
baz=328
M53A S S 21 24 07.6 0.0
baz=328
ALLY Alegheny Colle 92.77 30 P P 21 13 00.3 -1.8
baz=328
ALLY S S 21 24 09.7 +1.7
baz=328
ACSO Alum Creek Sta 92.79 32 P P 21 13 00.7 -1.5
ACSO IAmb IAmb 21 13 15.4
comp=Z,192nm,0.8s
ACSO IAMs_20 IAMs_20 22 01 22.2
comp=Z,48µm,18.0s
ACSO Alum Creek Sta 92.79 32 P P 21 13 01.3 -0.9
baz=326
ACSO S S 21 24 10.4 +2.2
baz=326
ACSO Alum Creek Sta 92.79 32 P P 21 13 00.3 -1.9
baz=326,SNR=13
ACSO S S 21 24 09.8 +1.7
baz=326
T45B Paducah 92.79 38 P P 21 12 59.2 -3.1
baz=322
T45B S S 21 24 09.4 +1.2
baz=322
J57A Williamstown 92.81 26 P P 21 13 00.1 -2.1
J57A Williamstown 92.81 26 P P 21 13 00.1 -2.1
baz=331
J57A P P 21 13 00.1 -2.1
baz=331
237A Washetta, Mont 92.82 46 P P 21 13 01.6 -0.9
237A IAmb IAmb 21 13 16.6
comp=Z,587nm,1.8s
237A Washetta, Mont 92.82 46 P P 21 12 58.0 -4.5
baz=318
HBAR Harrisburg 92.92 40 S S 21 24 14.4 +4.9
baz=321
NCB Newcomb 92.93 25 P P 21 13 02.3 -0.5
NCB IAmb IAmb 21 13 16.6
comp=Z,588nm,1.9s
NCB Newcomb 92.93 25 P P 21 13 02.3 -0.5
baz=332
WCI Wyandotte Cave 92.95 36 P P 21 13 01.4 -1.5
WCI Wyandotte Cave 92.95 36 IAMs_20 IAMs_20 21 59 46.7
comp=Z,35µm,19.0s
WCI Wyandotte Cave 92.95 36 P P 21 13 02.4 -0.6
baz=324
WCI Wyandotte Cave 92.95 36 P P 21 13 01.1 -1.9
baz=324
WCI S S 21 24 13.7 +4.1
baz=324
WCI Wyandotte Cave 92.95 36 P P 21 13 01.4 -1.5
WCI pmax pmax
comp=Z,97nm,0.8s
WCI MLR MLR
comp=Z,36µm,19.0s
F63A Nahmakanta, Br 92.95 21 P P 21 13 02.4 -0.4
F63A Nahmakanta, Br 92.95 21 P P 21 13 02.6 -0.3
baz=336
F63A P P 21 13 02.6 -0.3
baz=336
G62A West of Eustis 92.98 22 P P 21 13 01.6 -1.4
G62A IAmb IAmb 21 13 16.9
comp=Z,168nm,0.9s
G62A West of Eustis 92.98 22 P P 21 13 02.1 -0.9
baz=335
G62A P P 21 13 02.1 -0.9
baz=335
G62A S S 21 24 12.7 +3.0
baz=335
G62A S S 21 24 12.7 +3.0
baz=335
F64A Sherman 93.02 20 P P 21 13 02.5 -0.7
F64A Sherman 93.02 20 P P 21 13 03.1 -0.1
baz=337
F64A P P 21 13 03.1 -0.1
baz=337
VT1 Waterbury 93.09 24 P P 21 13 02.8 -0.7
VT1 Waterbury 93.09 24 P P 21 13 01.8 -1.7
baz=334
LNXT Lenox 93.09 39 P P 21 13 02.7 -1.0
baz=322
J58A Remsen 93.10 26 P P 21 13 03.1 -0.5
J58A Remsen 93.10 26 P P 21 13 02.5 -1.1
baz=332
J58A P P 21 13 02.5 -1.1
baz=332
J58A S S 21 24 11.7 +0.9
baz=332
J58A S S 21 24 11.7 +0.9
baz=332
N53A Lisbon 93.20 31 P P 21 13 02.9 -1.2
N53A IAmb IAmb 21 13 17.3
comp=Z,148nm,0.8s
N53A Lisbon 93.20 31 P P 21 13 01.1 -3.0
baz=328
N53A P P 21 13 01.1 -3.0
baz=328
N53A S S 21 24 10.6 -1.2
baz=328
N53A S S 21 24 10.6 -1.2
baz=328
K57A Scipio Center 93.22 27 P P 21 13 01.1 -3.0
baz=331
K57A S S 21 24 11.7 -0.2
baz=331
J59A Piesco 93.28 25 P P 21 13 03.9 -0.5
J59A Piesco 93.28 25 P P 21 13 02.0 -2.4
baz=332
J59A P P 21 13 02.0 -2.4
baz=332
PKME Peaks-Kenny Pk 93.30 21 P P 21 13 03.8 -0.7
PKME IAmb IAmb 21 13 18.2
comp=Z,147nm,0.9s
PKME Peaks-Kenny Pk 93.30 21 P P 21 13 03.9 -0.5
baz=336
PKME Peaks-Kenny Pk 93.30 21 P P 21 13 02.5 -2.0
baz=336,SNR=7.7
PKME S S 21 24 15.0 +2.6
baz=336
L56A Greenwood 93.35 28 P P 21 13 04.4 -0.4
L56A Greenwood 93.35 28 P P 21 13 03.4 -1.4
baz=330
L56A P P 21 13 03.4 -1.4
baz=330
L56A S S 21 24 12.9 -0.3
baz=330
L56A S S 21 24 12.9 -0.3
baz=330
MCVT Middlebury Col 93.35 24 P P 21 13 02.1 -2.6
baz=333
MCVT S S 21 24 15.0 +2.0
baz=333
833A Chaparral WMA, 93.37 50 P P 21 13 04.7 -0.4
833A IAmb IAmb 21 13 20.6
comp=Z,196nm,1.2s
833A Chaparral WMA, 93.37 50 P P 21 13 03.6 -1.4
baz=316
833A S S 21 24 14.0 +0.4
baz=316
833A Chaparral WMA, 93.37 50 P P 21 13 03.4 -1.7
baz=316,SNR=16
833A S S 21 24 17.5 +3.8
baz=316
O52A Adamsville 93.37 32 P P 21 13 04.5 -0.4
O52A IAmb IAmb 21 13 17.9
comp=Z,155nm,0.9s
O52A Adamsville 93.37 32 P P 21 13 02.3 -2.6
baz=327
O52A P P 21 13 02.3 -2.6
baz=327
O52A S S 21 24 13.6 +0.3
baz=327
O52A S S 21 24 13.6 +0.3
baz=327
H62A Milan 93.37 23 P P 21 13 04.6 -0.2
H62A IAmb IAmb 21 13 19.2
comp=Z,244nm,0.9s
H62A Milan 93.37 23 P P 21 13 03.2 -1.6
baz=335
H62A P P 21 13 03.2 -1.6
baz=335
H62A S S 21 24 16.1 +3.0
baz=335
H62A S S 21 24 16.1 +3.0
baz=335
P51A Williamsport 93.38 33 P P 21 13 04.4 -0.5
P51A IAmb IAmb 21 13 17.7
comp=Z,150nm,0.9s
P51A Williamsport 93.38 33 P P 21 13 04.1 -0.8
baz=326
P51A P P 21 13 04.1 -0.8
baz=326
P51A S S 21 24 15.8 +2.4
baz=326
P51A S S 21 24 15.8 +2.4
baz=326
ANKE Ethiopia-Afar 93.38 285 *e*P P 21 13 08.1 +2.3
R49A Shelbyville 93.41 35 P P 21 13 04.5 -0.6
R49A IAmb IAmb 21 13 16.2
comp=Z,393nm,1.9s
R49A Shelbyville 93.41 35 P P 21 13 02.8 -2.3
baz=325
R49A P P 21 13 02.8 -2.3
baz=325
R49A S S 21 24 16.0 +2.3
baz=325
R49A S S 21 24 16.0 +2.3
baz=325
LBNH Lisbon 93.43 23 P P 21 13 04.0 -1.1
baz=334
LBNH S S 21 24 16.4 +2.7
baz=334
LBNH Lisbon 93.43 23 P P 21 13 03.4 -1.7
baz=334
LBNH S S 21 24 17.9 +4.2
baz=334
M55A Ridgway 93.46 29 P P 21 13 04.4 -0.9
M55A IAmb IAmb 21 13 14.4
comp=Z,366nm,1.6s
M55A Ridgway 93.46 29 P P 21 13 04.4 -0.9
baz=329
M55A P P 21 13 04.4 -0.9
baz=329
M55A S S 21 24 15.6 +1.4
baz=329
M55A S S 21 24 15.6 +1.4
baz=329
O53A New Philadelph 93.52 31 P P 21 13 04.6 -1.0
O53A IAmb IAmb 21 13 18.7
comp=Z,195nm,0.9s
O53A IAMs_20 IAMs_20 21 58 46.4
comp=Z,51µm,19.0s
O53A New Philadelph 93.52 31 P P 21 13 02.6 -2.9
baz=327,SNR=6.9
O53A S S 21 24 17.3 +2.7
baz=327
T47A Sharon Grove 93.56 37 P P 21 13 02.5 -3.3
baz=323
CCAR Cane Creek 93.61 42 P P 21 13 04.5 -1.6
baz=320
Q51A Peebles 93.63 33 P P 21 13 04.8 -1.3
Q51A IAmb IAmb 21 13 19.3
comp=Z,214nm,0.8s
Q51A Peebles 93.63 33 P P 21 13 04.2 -1.9
baz=326
Q51A P P 21 13 04.2 -1.9
baz=326
Q51A S S 21 24 17.5 +1.9
baz=326
Q51A S S 21 24 17.5 +1.9
baz=326
ACCN Adirondack Com 93.63 25 P P 21 13 05.7 -0.3
ACCN Adirondack Com 93.63 25 P P 21 13 03.0 -3.0
baz=333
ACCN S S 21 24 16.3 +0.8
baz=333
P52A Corning 93.65 32 P P 21 13 05.2 -1.0
P52A IAMs_20 IAMs_20 22 01 32.9
comp=Z,34µm,19.0s
P52A Corning 93.65 32 P P 21 13 04.2 -1.9
baz=327
P52A S S 21 24 17.2 +1.4
baz=327
NATX Nacogdoches 93.65 45 IAMs_20 IAMs_20 22 02 51.0
comp=Z,42µm,20.0s
NATX Nacogdoches 93.65 45 P P 21 13 05.0 -1.3
baz=319
NATX Nacogdoches 93.65 45 P P 21 13 04.6 -1.8
baz=319
NATX S S 21 24 20.6 +4.5
baz=319
MAHO Mahon 93.69 328 P P 21 13 11.7 +5.4
MAHO S **SKSac 21 23 42.9 +1.2**
PSDB Penn State Uni 93.76 29 P P 21 13 04.7 -2.0
baz=329
PSDB S S 21 24 18.5 +1.8
baz=329
HNH Hanover 93.80 24 P P 21 13 05.6 -1.1
baz=334
HNH S S 21 24 19.2 +2.3
baz=334
R50A Paris 93.80 34 P P 21 13 06.1 -0.8
R50A Paris 93.80 34 P P 21 13 05.9 -1.1
baz=325
R50A P P 21 13 05.9 -1.1
baz=325
R50A S S 21 24 18.9 +1.7
baz=325
R50A S S 21 24 18.9 +1.7
baz=325
UPAO U. Pittsburgh 93.81 30 P P 21 13 05.4 -1.5
baz=328
UPAO S S 21 24 18.3 +1.1
baz=328
WVL Waterville 93.83 22 P P 21 13 06.5 -0.4
G65A Princeton 93.84 20 P P 21 13 06.0 -0.9
baz=337
G65A P P 21 13 06.0 -0.9
baz=337
G65A S S 21 24 16.1 -1.1
baz=337
G65A S S 21 24 16.1 -1.1
baz=337
BINY Binghamton 93.87 27 IAMs_20 IAMs_20 22 01 41.4
comp=Z,44µm,20.0s
WVT Waverly 93.89 38 IAMs_20 IAMs_20 22 00 17.9
comp=Z,36µm,20.0s
WVT Waverly 93.89 38 P P 21 13 06.6 -0.8
baz=323
WVT Waverly 93.89 38 P P 21 13 05.2 -2.2
baz=323
WVT S S 21 24 20.5 +2.5
baz=323
O54A Avella 93.92 31 P P 21 13 07.2 -0.3
O54A IAmb IAmb 21 13 20.7
comp=Z,150nm,0.8s
O54A Avella 93.92 31 P P 21 13 04.2 -3.2
baz=328
O54A P P 21 13 04.2 -3.2
baz=328
O54A S S 21 24 19.8 +1.7
baz=328
O54A S S 21 24 19.8 +1.7
baz=328
I62A Tamworth 93.95 23 P P 21 13 05.5 -2.0
baz=334
I62A P P 21 13 05.5 -2.0
baz=334
I62A S S 21 24 22.0 +3.8
baz=334
I62A S S 21 24 22.0 +3.8
baz=334
735A Kenedy 93.95 49 P P 21 13 06.9 -0.8
baz=317
W45A Hickory Valley 93.98 39 P P 21 13 06.0 -1.8
W45A IAmb IAmb 21 13 40.0
comp=Z,214nm,1.1s
W45A Hickory Valley 93.98 39 P P 21 13 06.6 -1.2
baz=322
W45A S S 21 24 22.0 +3.1
baz=322
HCNY Howe Caverns 93.99 26 P P 21 13 06.1 -1.6
baz=332
I63A Otisfield 94.02 22 P P 21 13 07.3 -0.4
I63A IAmb IAmb 21 13 22.0
comp=Z,194nm,0.9s
I63A Otisfield 94.02 22 P P 21 13 05.4 -2.4
baz=335
I63A P P 21 13 05.4 -2.4
baz=335
I63A S S 21 24 22.3 +3.5
baz=335
I63A S S 21 24 22.3 +3.5
baz=335
J61A Chester 94.03 24 P P 21 13 05.0 -2.8
baz=334
J61A P P 21 13 05.0 -2.8
baz=334
P53A Whipple 94.08 32 P P 21 13 07.6 -0.5
P53A Whipple 94.08 32 P P 21 13 07.1 -1.1
baz=327
P53A P P 21 13 07.1 -1.1
baz=327
P53A S S 21 24 19.5 0.0
baz=327
P53A S S 21 24 19.5 0.0
baz=327
Q52A Bidwell 94.15 33 P P 21 13 07.6 -0.9
baz=327
Q52A P P 21 13 07.6 -0.9
baz=327
M57A Sunshine Farm, 94.20 28 P P 21 13 07.9 -0.8
M57A Sunshine Farm, 94.20 28 P P 21 13 06.3 -2.4
baz=330
M57A P P 21 13 06.3 -2.4
baz=330
M57A S S 21 24 22.7 +2.2
baz=330
M57A S S 21 24 22.7 +2.2
baz=330
FFD Franklin Falls 94.21 23 IAMs_20 IAMs_20 21 56 36.3
comp=Z,56µm,21.0s
FFD Franklin Falls 94.21 23 P P 21 13 06.3 -2.4
baz=334
L59A Walton 94.22 26 P P 21 13 07.8 -1.0
L59A Walton 94.22 26 P P 21 13 05.7 -3.1
baz=332
L59A P P 21 13 05.7 -3.1
baz=332
L59A S S 21 24 17.9 -2.8
baz=332
L59A S S 21 24 17.9 -2.8
baz=332
HKT Hockley 94.32 47 IAMs_20 IAMs_20 22 01 03.6
comp=Z,37µm,19.0s
HKT Hockley 94.32 47 P P 21 13 07.2 -2.1
baz=318
EMMW East Machias 94.33 20 P P 21 13 08.6 -0.5
baz=337
EMMW S S 21 24 21.0 -0.4
baz=337
OXF Oxford 94.38 40 P P 21 13 08.0 -1.6
OXF IAmb IAmb 21 13 19.1
comp=Z,188nm,1.1s
OXF IAMs_20 IAMs_20 22 01 42.4
comp=Z,46µm,20.0s
OXF Oxford 94.38 40 P P 21 13 08.6 -1.0
baz=322
OXF S S 21 24 23.2 +0.9
baz=322
OXF Oxford 94.38 40 P P 21 13 07.1 -2.5
baz=322,SNR=15
OXF S S 21 24 24.2 +2.0
baz=322
OXF Oxford 94.38 40 P P 21 13 08.0 -1.6
OXF pmax pmax
comp=Z,188nm,1.1s
OXF MLR MLR
comp=Z,46µm,20.0s
AAE Adis Abeba 94.47 285 *e*P P 21 13 12.1 +1.3
AAE *e*S **SKSac 21 23 50.0 +2.6**
AAE Adis Abeba 94.47 285 *e*P P 21 13 16.4 +5.6
AAE *e*S SKSac 21 24 00.3 +13
KSPA Keystone Colle 94.51 27 P P 21 13 03.9 -6.2
baz=331
KSPA S S 21 24 24.6 +1.4
baz=331
SSPA Standing Stone 94.52 29 IAMs_20 IAMs_20 21 55 59.7
comp=Z,36µm,22.0s
SSPA Standing Stone 94.52 29 P P 21 13 07.8 -2.4
baz=330
SSPA Standing Stone 94.52 29 P P 21 13 07.5 -2.6
baz=330
SSPA S S 21 24 25.5 +2.2
baz=330
U49A Red Boiling Sp 94.57 36 P P 21 13 09.9 -0.6
U49A Red Boiling Sp 94.57 36 P P 21 13 09.0 -1.5
baz=324
U49A S S 21 24 25.7 +1.7
baz=324
MCWV Mont Chateau 94.58 31 P P 21 13 09.1 -1.4
MCWV Mont Chateau 94.58 31 P P 21 12 59.0 -11
baz=328
MCWV S S 21 24 22.9 -1.0
baz=328
MCWV Mont Chateau 94.58 31 P P 21 13 07.5 -2.9
baz=328,SNR=6.9
MCWV S S 21 24 27.1 +3.2
baz=328
T50A Nancy 94.60 35 P P 21 13 09.3 -1.3
T50A Nancy 94.60 35 P P 21 13 07.8 -2.8
baz=325
T50A P P 21 13 07.8 -2.8
baz=325
T50A S S 21 24 26.8 +2.6
baz=325
T50A S S 21 24 26.8 +2.6
baz=325
FURI Furi 94.62 285 *e*P P 21 13 13.3 +1.9
FURI *e*S **SKSac 21 23 50.3 +2.1**
FURI Furi 94.62 285 *e*P P 21 13 14.6 +3.1
PSWB Penn State Wil 94.64 27 P P 21 13 12.5 +1.8
baz=331
PSWB S S 21 24 25.8 +1.4
baz=331
CLTN Cedars of Leba 94.65 37 P P 21 13 09.8 -1.0
S51A Beattyville 94.66 34 P P 21 13 10.3 -0.6
S51A Beattyville 94.66 34 P P 21 13 08.3 -2.6
baz=326
S51A P P 21 13 08.3 -2.6
baz=326
S51A S S 21 24 26.0 +1.3
baz=326
S51A S S 21 24 26.0 +1.3
baz=326
PLAL Pickwick Lake 94.68 39 P P 21 13 10.1 -0.9
PLAL IAMs_20 IAMs_20 22 00 15.9
comp=Z,42µm,20.0s
V48A Smith Brothers 94.69 37 P P 21 13 10.4 -0.6
V48A Smith Brothers 94.69 37 P P 21 13 09.6 -1.5

baz=324
V48A S **S** **21 24 26.2 +1.2**
baz=324
143A Socs Landing, 94.73 42 P **P** **21 13 09.9 -1.4**
baz=321
143A S **S** **21 24 28.7 +3.3**
baz=321
Q54A Coxs Mills 94.74 32 P **P** **21 13 10.9 -0.3**
Q54A Coxs Mills 94.74 32 P **P** **21 13 08.8 -2.4**
baz=328
Q54A P **P** **21 13 08.8 -2.4**
baz=328
Q54A S **S** **21 24 25.8 +0.5**
baz=328
Q54A S **S** **21 24 25.8 +0.5**
baz=328
K62A Royalston 94.75 24 P **P** **21 13 10.2 -1.0**
baz=334
K62A P **P** **21 13 10.2 -1.0**
baz=334
K62A S **S** **21 24 28.9 +3.7**
baz=334
K62A S **S** **21 24 28.9 +3.7**
baz=334
N58A Sunbury 94.79 28 P **P** **21 13 11.1 -0.2**
N58A Sunbury 94.79 28 P P 21 13 05.6 -5.8
baz=330
N58A P P 21 13 05.6 -5.8
baz=330
N58A S **S** **21 24 23.2 -2.4**
baz=330
N58A S **S** **21 24 23.2 -2.4**
baz=330
L61B Northampton 94.79 25 P **P** **21 13 08.7 -2.6**
baz=334
L61B Northampton 94.79 25 P **P** **21 13 09.0 -2.3**
baz=334
L61B S **S** **21 24 26.3 +0.7**
baz=334
UNH University of 94.80 23 S **S** **21 24 28.6 +3.0**
baz=335
KEST Kesra 94.81 323 P **P** **21 13 11.8 +0.1**
comp=Z,22nm,1.0s,baz=310,slow=3.2,SNR=9.6
KEST PP PP 21 17 10.9 +11
comp=Z,16nm,0.9s,baz=56,slow=3.0,SNR=7.5
KEST S **SKSac** **21 23 47.0 -1.2**
comp=Z,4.8nm,0.9s,baz=282,slow=4.9,SNR=2.5
KEST LR LR 22 02 03.8
comp=Z,84µm,18.6s,baz=346,slow=39
comp=Z,22nm,1.0s
KEST Kesra 94.81 323 P **P** **21 13 11.0 -0.7**
R53A Hurricane 94.81 33 P **P** **21 13 10.0 -1.6**
R53A Hurricane 94.81 33 P **P** **21 13 09.4 -2.2**
baz=327
R53A P **P** **21 13 09.4 -2.2**
baz=327
R53A S **S** **21 24 24.5 -1.5**
baz=327
R53A S **S** **21 24 24.5 -1.5**
baz=327
Y45A Yeager Farm, C 94.81 40 P **P** **21 13 11.0 -0.6**
Y45A IAmb IAmb 21 13 24.6
comp=Z,184nm,0.9s
Y45A Yeager Farm, C 94.81 40 P **P** **21 13 10.8 -0.8**
baz=322
Y45A S **S** **21 24 29.0 +2.9**
baz=322
KVTX Kingsville 94.85 50 P **P** **21 13 12.3 +0.4**
baz=317
NPNY Mohonk Preserv 94.91 26 P **P** **21 13 07.4 -4.5**
baz=332
NPNY S **S** **21 24 29.2 +2.4**
baz=332
QUA2 Belchertown 95.06 24 P **P** **21 13 11.6 -0.9**
baz=334
QUA2 S **S** **21 24 30.9 +3.0**
baz=334
HRV Adam Dziewonsk 95.11 24 IAMs_20 IAMs_20 21 58 48.1
comp=Z,33µm,20.0s
HRV Adam Dziewonsk 95.11 24 P **P** **21 13 12.5 -0.3**
baz=334
HRV S **S** **21 24 26.8 -1.6**
baz=334
HRV Adam Dziewonsk 95.11 24 P **P** **21 13 11.8 -1.0**
baz=334
HRV S **S** **21 24 31.6 +3.2**
baz=334
441A DeRidder 95.24 45 P **P** **21 13 12.5 -1.1**
baz=320
441A S **S** **21 24 35.9 +6.0**
baz=320
ZAIG Zacatecas 95.24 56 P **P** **21 13 13.6 -0.6**
342B Flagon Creek P 95.25 44 P **P** **21 13 12.9 -0.7**
baz=320
BRNY Black Rk. Fore 95.26 26 P **P** **21 13 10.7 -2.9**
baz=332
BRNY S **S** **21 24 28.6 -1.2**
baz=332
WES Weston 95.30 24 IAMs_20 IAMs_20 21 56 33.0
comp=Z,59µm,22.0s
WES Weston 95.30 24 P **P** **21 13 16.9 +3.3**
baz=334
ODNJ Ogdensburg 95.34 26 P **P** **21 13 13.2 -0.7**
baz=332
ODNJ S **S** **21 24 31.7 +1.2**
baz=332
Q56A Snyder Ridge, 95.37 31 P **P** **21 13 12.7 -1.4**
baz=329
Q56A P **P** **21 13 12.7 -1.4**
baz=329
Q56A S **S** **21 24 31.3 +0.5**
baz=329
Q56A S **S** **21 24 31.3 +0.5**
baz=329
BCX Boston College 95.39 24 IAMs_20 IAMs_20 22 00 02.4
comp=Z,49µm,19.0s
P57A Homestead Farm 95.46 30 P **P** **21 13 13.3 -1.1**
baz=330
P57A P **P** **21 13 13.3 -1.1**
baz=330
P57A S **S** **21 24 32.8 +1.2**
baz=330
P57A S **S** **21 24 32.8 +1.2**
baz=330
S54A Dingess, Beckl 95.53 33 P **P** **21 13 14.0 -0.9**
S54A Dingess, Beckl 95.53 33 P **P** **21 13 14.1 -0.8**
baz=327
S54A P **P** **21 13 14.1 -0.8**
baz=327
S54A S **S** **21 24 26.2 -6.2**
baz=327
S54A S **S** **21 24 26.2 -6.2**
baz=327
VBMS Vicksburg 95.58 42 IAMs_20 IAMs_20 22 02 24.2
comp=Z,38µm,19.0s
VBMS Vicksburg 95.58 42 P **P** **21 13 12.7 -2.4**
baz=321
VBMS Vicksburg 95.58 42 P **P** **21 13 13.3 -1.8**
baz=321
VBMS S **S** **21 24 37.9 +5.1**
baz=321
TZTN Tazewell 95.58 35 P **P** **21 13 14.9 -0.2**
TZTN IAMs_20 IAMs_20 21 59 56.5
comp=Z,53µm,21.0s
TZTN Tazewell 95.58 35 P **P** **21 13 12.3 -2.8**
baz=326
TZTN S **S** **21 24 33.5 +0.7**
baz=326
TZTN Tazewell 95.58 35 P **P** **21 13 13.1 -2.0**
baz=326,SNR=22
TZTN S **S** **21 24 34.0 +1.2**
baz=326
X48A Hartselle 95.62 38 P **P** **21 13 13.4 -1.9**
X48A Hartselle 95.62 38 P **P** **21 13 12.8 -2.5**
baz=323
X48A S **S** **21 24 32.6 -0.5**
baz=323
R55A Marlinton 95.63 32 P **P** **21 13 15.1 -0.2**
R55A Marlinton 95.63 32 P **P** **21 13 12.7 -2.7**
baz=328
R55A P **P** **21 13 12.7 -2.7**
baz=328
R55A S **S** **21 24 34.7 +1.4**
baz=328
R55A S **S** **21 24 34.7 +1.4**
baz=328
PAL Palisades 95.66 26 P **P** **21 13 14.0 -1.4**
baz=332
PAL S **S** **21 24 33.6 +0.5**
baz=332
PAL Palisades 95.66 26 P **P** **21 13 12.3 -3.0**
baz=332
PAL S **S** **21 24 33.2 0.0**
baz=332
BRNJ Basking Ridge 95.71 27 P **P** **21 13 13.4 -2.2**
baz=332
BRNJ S **S** **21 24 36.6 +2.9**
baz=332
YLE Yale 95.72 25 IAMs_20 IAMs_20 22 00 10.3
comp=Z,51µm,20.0s
FOR Fordham 95.79 26 P **P** **21 13 12.5 -3.4**
baz=333
FOR S **S** **21 24 36.4 +2.1**
baz=333
V51A Loudon 95.82 36 P **P** **21 13 15.6 -0.6**
V51A Loudon 95.82 36 P **P** **21 13 15.1 -1.1**
baz=325
V51A S **S** **21 24 34.6 -0.3**
baz=325
L64A Middleborough 95.86 24 P **P** **21 13 15.4 -0.7**
baz=335
L64A P **P** **21 13 15.4 -0.7**
baz=335
W50A Signal Mountai 95.86 37 P **P** **21 13 14.4 -2.0**
baz=324
W50A S **S** **21 24 31.5 -3.7**
baz=324
N62A Caumsett State 95.88 26 P **P** **21 13 13.5 -2.8**
baz=333
N62A P **P** **21 13 13.5 -2.8**
baz=333
PANJ Princeton 95.93 27 P **P** **21 13 14.4 -2.2**
baz=332
PANJ S **S** **21 24 34.3 -1.2**
baz=332
M63A Gales Ferry 95.94 25 P **P** **21 13 16.3 -0.3**
baz=334
M63A P **P** **21 13 16.3 -0.3**
baz=334
M63A S **S** **21 24 34.9 -0.7**
baz=334
M63A S **S** **21 24 34.9 -0.7**
baz=334
TUPA Temple Univers 95.94 27 P **P** **21 13 13.4 -3.3**
baz=332
TUPA S **S** **21 24 36.0 +0.3**
baz=332
146A Union 96.03 41 P **P** **21 13 15.9 -1.2**
baz=322
146A S **S** **21 24 37.2 +0.5**
baz=322
CPCT Cooper Cave 96.03 36 P **P** **21 13 16.3 -0.9**
PSUB Penn St. - Bra 96.05 28 P **P** **21 13 14.3 -2.8**
baz=331
344A Westbrook Farm 96.06 43 P **P** **21 13 16.6 -0.8**
baz=321
PBRG Braganca 96.08 337 *e*P P 21 13 25.6 +8.3
comp=Z,74nm,1.6s
PBRG Braganca 96.08 337 *e*PP PP 21 17 21.2 +12
GEDE Greenville 96.09 28 P **P** **21 13 15.9 -1.4**
baz=331
GEDE S **S** **21 24 35.6 -1.3**
baz=331
Z47A Carrollton 96.09 40 P **P** **21 13 15.0 -2.5**
baz=323
V52A Sevierville 96.14 35 P **P** **21 13 17.0 -0.6**
V52A Sevierville 96.14 35 P **P** **21 13 16.5 -1.1**
baz=326
TKL Tuckaleechee C 96.21 36 P **P** **21 13 16.7 -1.3**
TKL Tuckaleechee C 96.21 36 P **P** **21 13 14.9 -3.0**
baz=326
TKL S **S** **21 24 40.1 +1.9**
baz=326
TKL Tuckaleechee C 96.21 36 P **P** **21 13 16.7 -1.3**
TKL pmax pmax
comp=Z,64nm,0.9s
UCM Universidad Co 96.24 334 P P 21 13 26.2 +8.1
UCM S **SKSac** **21 23 58.7 +3.2**
U54A Nelsons Funny 96.38 34 P P 21 13 13.6 -5.2
baz=327
U54A P P 21 13 13.6 -5.2
baz=327
U54A S **S** **21 24 38.7 -1.1**
baz=327
U54A S **S** **21 24 38.7 -1.1**
baz=327
Y49A Blount Mountai 96.41 38 P **P** **21 13 17.6 -1.3**
Y49A IAmb IAmb 21 13 33.3
comp=Z,241nm,2.0s
Y49A Blount Mountai 96.41 38 P **P** **21 13 15.9 -3.0**
baz=324
PGAV Gavieira, Arco 96.41 338 *e*P P 21 13 27.3 +8.4
comp=Z,127nm,2.0s
PGAV Gavieira, Arco 96.41 338 *e*PP PP 21 17 21.0 +10
PGAV *e*SKS **SKSac** **21 23 59.4 +3.0**
PGAV *e*SS SS 21 31 22.7 +12
PGAV Gavieira, Arco 96.41 338 *e*LQ LQ 21 42 51.8
PGAV *e*LR LR 21 45 40.0
comp=Z,76µm,20.0s
BLA Blacksburg 96.41 32 P **P** **21 13 17.3 -1.6**
BLA IAMs_20 IAMs_20 22 04 15.1
comp=Z,43µm,19.0s
BLA Blacksburg 96.41 32 P P 21 13 12.4 -6.5
baz=328
BLA S **S** **21 24 37.7 -2.3**
baz=328
BLA Blacksburg 96.41 32 P **P** **21 13 15.2 -3.7**
baz=328
BLA S **S** **21 24 39.6 -0.4**
baz=328
BLA Blacksburg 96.41 32 P **P** **21 13 17.3 -1.6**
BLA pmax pmax
comp=Z,91nm,1.0s
BLA MLR MLR
comp=Z,43µm,19.0s
DILA Dilla 96.45 283 *e*P **P** **21 13 22.7 +3.0**
P61A Hammonton 96.52 27 P **P** **21 13 16.0 -3.3**
baz=332
P61A P **P** **21 13 16.0 -3.3**
baz=332
S57A Dark Hollow, R 96.56 31 P **P** **21 13 17.9 -1.6**
baz=329
S57A P **P** **21 13 17.9 -1.6**
baz=329
S57A S **S** **21 24 41.6 +0.4**
baz=329
S57A S **S** **21 24 41.6 +0.4**
baz=329
PCAB Cabril 96.56 337 *e*P P 21 13 27.4 +7.9
comp=Z,121nm,1.7s
PCAB Cabril 96.56 337 *e*PP PP 21 17 25.5 +13
X51A Calhoun 96.59 37 P **P** **21 13 18.8 -0.9**
baz=325
X51A P **P** **21 13 18.8 -0.9**
baz=325
W52A Murphy 96.60 36 P **P** **21 13 18.8 -1.0**
baz=325
W52A S **S** **21 24 46.2 +4.5**
baz=325
V53A Saluda 96.64 35 P **P** **21 13 17.9 -2.1**
V53A Saluda 96.64 35 P **P** **21 13 19.0 -1.0**
baz=326
V53A P **P** **21 13 19.0 -1.0**
baz=326
V53A S **S** **21 24 47.4 +5.4**
baz=326
V53A S **S** **21 24 47.4 +5.4**
baz=326
MVO Moncorvo 96.75 337 *e*P P 21 13 28.8 +8.4
comp=Z,87nm,1.4s
MVO Moncorvo 96.75 337 *e*PP PP 21 17 26.3 +12
MVO *e*SKS **SKSac** **21 24 01.7 +3.5**
MVO *e*SS SS 21 31 39.4 +24
MVO Moncorvo 96.75 337 *e*LQ LQ 21 41 50.1
MVO *e*LR LR 21 46 00.0
comp=Z,106µm,22.0s
LRAL Lakeview Retre 96.77 39 IAMs_20 IAMs_20 22 03 05.1
comp=Z,32µm,20.0s
LRAL Lakeview Retre 96.77 39 P **P** **21 13 17.6 -3.0**
baz=323
LRAL S **S** **21 24 41.1 -2.0**
baz=323
LRAL Lakeview Retre 96.77 39 P **P** **21 13 18.3 -2.3**
baz=323
LRAL S **S** **21 24 43.5 +0.5**
baz=323
346A Big Creek Wild 96.79 42 P **P** **21 13 17.1 -3.5**
baz=322
POLO Lamas de Olo 96.80 337 *e*P P 21 13 29.1 +8.4
comp=Z,45nm,1.2s
POLO Lamas de Olo 96.80 337 *e*PP PP 21 17 24.1 +10
CBN Corbin Frederi 96.81 30 IAMs_20 IAMs_20 22 00 18.6
comp=Z,35µm,20.0s
CBN Corbin Frederi 96.81 30 P **P** **21 13 18.2 -2.4**
baz=330
CBN Corbin Frederi 96.81 30 P **P** **21 13 16.3 -4.3**
baz=330
CBN S **S** **21 24 42.9 -0.3**
baz=330
R58B Mineral 96.82 30 P **P** **21 13 18.2 -2.4**
baz=330
R58B P **P** **21 13 18.2 -2.4**
baz=330
PVRL Vila Real 96.86 337 *e*P P 21 13 31.1 +10
comp=Z,94nm,1.7s
PVRL Vila Real 96.86 337 *e*PP PP 21 17 27.8 +13
ESDC Sonseca Array 97.06 334 P **P** **21 13 21.8 0.0**
comp=Z,6.4nm,1.0s,baz=18,slow=4.7,SNR=12
ESDC PP **PP** **21 17 24.0 +7.4**
comp=Z,24nm,1.0s,baz=25,slow=7.8,SNR=5.3
ESDC PKKPbc **PKKPdf** **21 30 07.7 +6.1**
comp=Z,0.9nm,0.7s,baz=304,slow=0.5,SNR=3.9
ESDC LR LR 22 00 19.1
comp=Z,127µm,21.2s,baz=16,slow=38
comp=Z,6.4nm,1.0s
ESDC Sonseca Array 97.06 334 P **P** **21 13 20.7 -1.1**
T57A Hurt 97.08 32 P **P** **21 13 21.3 -0.6**
T57A Hurt 97.08 32 P **P** **21 13 20.3 -1.6**
baz=329
T57A P **P** **21 13 20.3 -1.6**
baz=329
T57A S **S** **21 24 43.4 -2.3**
baz=329
T57A S **S** **21 24 43.4 -2.3**
baz=329
BG3 Lake Jocassee 97.14 35 P **P** **21 13 20.8 -1.5**
CASEE Lake Jocassee 97.14 35 P **P** **21 13 20.0 -2.2**
baz=326
CASEE S **S** **21 24 45.9 -0.4**
baz=326
U56A King 97.15 33 P **P** **21 13 21.1 -1.2**
baz=328
U56A P **P** **21 13 21.1 -1.2**
baz=328
V55A Taylorsville 97.20 34 P **P** **21 13 21.5 -1.0**
baz=327
V55A P **P** **21 13 21.5 -1.0**
baz=327
545B Wilberts Farm, 97.28 43 P Pdif 21 13 23.1 +0.2
baz=321
PVIS Viseu 97.43 337 *e*P Pdif 21 13 33.6 +10
comp=Z,146nm,1.7s
PVIS Viseu 97.43 337 *e*PP **PP** **21 17 24.3 +5.0**
Z51A Franklin 97.45 38 P **P** **21 13 21.2 -2.5**
Z51A IAmb IAmb 21 13 37.8
comp=Z,239nm,1.9s
Z51A Franklin 97.45 38 P **P** **21 13 21.7 -2.0**
baz=324
Z51A S **S** **21 24 42.5 -6.4**
baz=324
Y52A Lilburn 97.54 37 P **P** **21 13 22.3 -1.8**
baz=325
Y52A P **P** **21 13 22.3 -1.8**
baz=325
Y52A S **S** **21 24 48.8 -0.9**
baz=325
Y52A S **S** **21 24 48.8 -0.9**
baz=325
MTE Manteigas 97.61 337 *e*P Pdif 21 13 33.5 +9.2
comp=Z,92nm,1.5s
MTE Manteigas 97.61 337 *e*PP **PP** **21 17 27.8 +7.1**
MTE *e*SKS **SKSac** **21 24 05.3 +2.7**
MTE *e*SS SS 21 31 39.6 +12
MTE Manteigas 97.61 337 *e*LQ LQ 21 43 39.4
MTE *e*LR LR 21 46 26.0
comp=Z,98µm,22.0s
KMSC Kings Mountain 97.75 34 P **P** **21 13 24.4 -0.5**
KMSC Kings Mountain 97.75 34 P **P** **21 13 22.9 -2.0**
baz=327
KMSC Kings Mountain 97.75 34 P **P** **21 13 22.2 -2.7**
baz=327
KMSC S **S** **21 24 50.1 -1.4**
baz=327
CART Cartagena 97.79 331 P Pdif 21 13 29.6 +4.4
CART S **SKSac** **21 24 02.7 -0.8**
PAULI Pauline 97.80 35 P **P** **21 13 23.0 -2.2**
PAULI Pauline 97.80 35 P P 21 13 19.8 -5.4
baz=327
T59A Double "B" Far 97.81 31 P **P** **21 13 22.7 -2.5**
baz=330
T59A P **P** **21 13 22.7 -2.5**
baz=330
S61A Accomac 97.93 29 P **P** **21 13 24.1 -1.6**
baz=331
S61A P **P** **21 13 24.1 -1.6**
baz=331
250A Grady 97.98 39 P **P** **21 13 25.4 -0.7**
baz=324
T60A Surry 97.99 30 P **P** **21 13 25.0 -1.0**
baz=330
T60A P **P** **21 13 25.0 -1.0**
baz=330
COI Coimbra 98.05 337 *e*P Pdif 21 13 32.7 +6.5
comp=Z,134nm,1.9s
COI Coimbra 98.05 337 *e*PP PP 21 17 32.0 +8.0
HODGE Hodges 98.08 35 P **P** **21 13 24.7 -1.8**
HODGE Hodges 98.08 35 P **P** **21 13 23.8 -2.6**
baz=326
PCBR Castelo Branco 98.09 336 *e*P **P** **21 13 25.0 -1.4**
comp=Z,59nm,1.8s
PCBR Castelo Branco 98.09 336 *e*PP PP 21 17 32.5 +8.2
V58A Windy Hill, Pi 98.17 32 P **P** **21 13 25.6 -1.2**
baz=329
V58A P **P** **21 13 25.6 -1.2**
baz=329
GOGA Godfrey 98.20 37 IAMs_20 IAMs_20 22 02 53.8
comp=Z,36µm,20.0s
GOGA Godfrey 98.20 37 P **P** **21 13 24.5 -2.4**
baz=326
GOGA Godfrey 98.20 37 P **P** **21 13 23.4 -3.6**
baz=326
GOGA S **S** **21 24 53.1 -2.2**
baz=326
152A Waverly Hall 98.20 38 P **P** **21 13 25.2 -1.8**
baz=325
PCAS Casmilo, Conde 98.22 337 *e*P Pdif 21 13 36.4 +9.4
comp=Z,138nm,1.9s
PCAS Casmilo, Conde 98.22 337 *e*PP **PP** **21 17 32.8 +7.5**
BRAL Brewton 98.23 40 P **P** **21 13 23.9 -3.2**
baz=323
BRAL Brewton 98.23 40 P **P** **21 13 25.2 -1.9**
baz=323
BRAL S **S** **21 24 54.8 -0.9**
baz=323
U59A Littleton 98.24 31 P **P** **21 13 25.7 -1.4**
baz=330
U59A P **P** **21 13 25.7 -1.4**
baz=330
W57A Gilead 98.33 33 P **P** **21 13 26.3 -1.2**
W57A Gilead 98.33 33 P **P** **21 13 26.1 -1.4**
baz=328
W57A P **P** **21 13 26.1 -1.4**
baz=328
PMRV Marv??o 98.44 336 *e*P Pdif 21 13 35.9 +7.9
comp=Z,79nm,1.6s
PMRV Marv??o 98.44 336 *e*PP PP 21 17 39.3 +12
PMRV *e*SKS **SKSac** **21 24 11.7 +4.9**
PMRV *e*SS SS 21 31 53.5 +14
PMRV Marv??o 98.44 336 *e*LQ LQ 21 43 38.2
PMRV *e*LR LR 21 47 38.4
comp=Z,107µm,24.0s
JSC Jenkinsville 98.50 35 P **P** **21 13 26.1 -2.2**
baz=327
BIRD Birdtown, Kers 98.55 34 P **P** **21 13 25.4 -3.1**
baz=328
PSBE So Bento 98.81 337 *e*P Pdif 21 13 42.7 +13
comp=Z,128nm,1.7s
PSBE So Bento 98.81 337 *e*PP PP 21 17 42.7 +13
PESTR Estremoz 99.01 336 *e*P **Pdif** **21 13 34.9 +4.3**
comp=Z,46nm,1.9s
PESTR Estremoz 99.01 336 *e*PP PP 21 17 42.1 +11
154A Montrose 99.02 37 P **Pdif** **21 13 28.0 -2.7**

baz=326
PMTG Montargil 99.03 336 *e*P **Pdif** **21 13 39.6 +9.0**
PMTG Montargil 99.03 336 *e*PP PP 21 17 43.2 +12
352A Blakely 99.06 39 P **Pdif** **21 13 28.6 -2.2**
baz=324
HAW Hawthorne Fire 99.11 35 P **Pdif** **21 13 28.4 -2.7**
baz=327
HAW S **S** **21 25 00.1 -2.9**
baz=327
Y57A Sumter 99.11 34 P **Pdif** **21 13 29.0 -2.1**
baz=328
Y57A P **Pdif** **21 13 29.0 -2.1**
baz=328
X58A Rowland 99.12 33 P **Pdif** **21 13 27.5 -3.5**
baz=328
X58A P **Pdif** **21 13 27.5 -3.5**
baz=328
CNNC Cliffs of the 99.16 32 IAMs_20 IAMs_20 22 02 26.7
comp=Z,42µm,20.0s
CNNC Cliffs of the 99.16 32 P **Pdif** **21 13 25.8 -5.4**
baz=329
CNNC Cliffs of the 99.16 32 Pdiff **Pdif** **21 13 27.8 -3.4**
baz=329
CNNC S **S** **21 25 00.1 -3.1**
baz=329
SBV Sambava 99.16 260 P **Pdif** **21 13 30.4 -1.1**
V61A Roper 99.22 30 P **Pdif** **21 13 30.4 -1.0**
baz=330
V61A P **Pdif** **21 13 30.4 -1.0**
baz=330
451A Vernon 99.34 40 P **Pdif** **21 13 29.5 -2.6**
baz=324
EVO Evora 99.45 336 P **Pdif** **21 13 37.9 +5.4**
EVO S **SKSac** **21 24 16.1 +4.3**
EVO Evora 99.45 336 *e*P **Pdif** **21 13 38.1 +5.6**
EVO Evora 99.45 336 *e*PP PP 21 17 46.1 +11
PBAR Barrancos 99.46 335 *e*P **Pdif** **21 13 38.8 +6.3**
PBAR Barrancos 99.46 335 *e*PP PP 21 17 44.9 +10
PMAFR Mafra 99.47 337 *e*P **Pdif** **21 13 40.4 +7.8**
PMAFR Mafra 99.47 337 *e*PP PP 21 17 43.2 +8.3
PACT Alcochete 99.50 337 *e*P **Pdif** **21 13 43.9 +11**
PACT Alcochete 99.50 337 *e*PP **PP** **21 17 40.6 +5.5**
Y58A Scranton 99.53 34 P **Pdif** **21 13 31.5 -1.4**
baz=328
Y58A P **Pdif** **21 13 31.5 -1.4**
baz=328
PMST Lisbon--Monsan 99.64 337 *e*P **Pdif** **21 13 44.0 +11**
PMST Lisbon--Monsan 99.64 337 *e*PP PP 21 17 48.0 +12
LIS Lisbon 99.65 337 *e*Pdif **Pdif** **21 13 32.2 -1.1**
LIS *e*PP **PP** **21 17 35.8 -0.4**
LIS *e*SKSac **SKSac** **21 24 10.6 -2.1**
LIS *e*SS **SS** **21 31 57.0 +0.9**
LIS IAMs_20 IAMs_20 21 56 00.9
comp=Z,139µm,16.3s
LIS Lisbon 99.65 337 *e*P **Pdif** **21 13 32.2 -1.1**
LIS *e* 21 17 35.7
LIS *e* 21 24 10.6
LIS *e*SS SS 21 31 57.0 +0.9
TIGA Tifton 99.75 38 P **Pdif** **21 13 31.7 -2.2**
baz=325
TIGA Tifton 99.75 38 Pdiff **Pdif** **21 13 31.6 -2.4**
baz=325
Y59A Loris 99.80 33 P **Pdif** **21 13 32.0 -2.1**
baz=329
Y59A P **Pdif** **21 13 32.0 -2.1**
baz=329
EMAL Malaga-Limoner 99.81 333 P **Pdif** **21 13 41.4 +7.3**
EMAL S **SKSac** **21 24 14.0 +0.4**
PBEJ Beja 99.87 336 *e*P **Pdif** **21 13 44.9 +11**
PBEJ Beja 99.87 336 *e*PP PP 21 17 51.5 +14
255A Hazlehurst 99.89 37 P **Pdif** **21 13 32.7 -1.8**
baz=326
UNM Universidad Na 99.90 57 IAMs_20 IAMs_20 22 05 58.5
comp=Z,23µm,18.0s
NHSC New Hope 99.97 34 P **Pdif** **21 13 32.0 -2.9**
baz=328
NHSC New Hope 99.97 34 Pdiff **Pdif** **21 13 33.1 -1.7**
baz=328
PNCL Nicolau / Gran 100.00 336 *e*P **Pdif** **21 13 43.7 +8.8**
PNCL Nicolau / Gran 100.00 336 *e*PP PP 21 17 50.7 +12
Y60A Bolivia 100.07 33 P **Pdif** **21 13 32.6 -2.7**
baz=329
Y60A P **Pdif** **21 13 32.6 -2.7**
baz=329
MESJ Messejana 100.15 336 *e*Pdif **Pdif** **21 13 34.4 -1.2**
MESJ *e*PP **PP** **21 17 39.7 -0.4**
MESJ *e*SKSac **SKSac** **21 24 13.2 -2.1**
MESJ *e*SS **SS** **21 32 04.1 +0.8**
MESJ IAMs_20 IAMs_20 22 00 19.6
comp=Z,174µm,15.7s
MESJ Messejana 100.15 336 *e*P **Pdif** **21 13 44.8 +9.2**
MESJ Messejana 100.15 336 *e*PP **PP** **21 17 45.0 +4.9**
MESJ Messejana 100.15 336 *e*P **Pdif** **21 13 34.4 -1.2**
MESJ *e* 21 17 39.6
MESJ *e* 21 24 13.2
MESJ *e*SS SS 21 32 04.1 +0.8
ARNO Arenosillo 100.33 335 P **Pdif** **21 13 45.1 +8.7**
ARNO S **SKSac** **21 24 19.5 +3.4**
PVAQ Vaqueiros 100.38 335 *e*P **Pdif** **21 13 46.9 +10**
PVAQ Vaqueiros 100.38 335 *e*PP PP 21 17 53.7 +12
PVAQ *e*SKS 21 24 18.0
PVAQ *e*SS SS 21 32 21.9 +15
PVAQ Vaqueiros 100.38 335 *e*LQ LQ 21 43 37.4
PVAQ *e*LR LR 21 48 21.0
comp=Z,144µm,22.0s
CHAS Isla Isabel II 100.45 331 P **Pdif** **21 13 38.0 +1.1**
CHAS S **SKSac** **21 24 17.9 +1.1**
257A Skidaway Islan 100.53 36 P **Pdif** **21 13 35.8 -1.6**
baz=327
WMELI Melilla 100.53 331 P **Pdif** **21 13 39.8 +2.4**
WMELI S **SKSac** **21 24 19.1 +1.8**
LODK Lodwar 100.60 283 P **Pdif** **21 13 36.4 -1.6**
LODK Lodwar 100.60 283 *e*P **Pdif** **21 13 40.8 +2.7**
LODK IAMs_20 IAMs_20 21 52 33.3
comp=N,51µm,31.7s
SFS San Fernando 100.72 334 P **Pdif** **21 13 45.0 +6.8**
SFS S **SKSac** **21 24 22.2 +4.1**
MORF Marmelete 100.78 336 *e*Pdif **Pdif** **21 13 37.2 -1.3**
MORF *e*PP **PP** **21 17 44.4 -0.5**
MORF *e*SKSac **SKSac** **21 24 16.3 -2.2**
MORF *e*SS **SS** **21 32 12.8 +0.6**
MORF IAMs_20 IAMs_20 22 00 27.5
comp=Z,199µm,22.6s
MORF Marmelete 100.78 336 A A 21 14 32.6
comp=Z,85nm,1.8s
MORF Marmelete 100.78 336 *e*PP **PKiKP** **21 17 56.8 -7.5**
MORF Marmelete 100.78 336 *e*P **Pdif** **21 13 37.2 -1.3**
MORF *e* 21 17 44.3
MORF *e* 21 24 16.2
MORF *e*SS SS 21 32 12.7 +0.6
CEU Ceuta 100.93 333 P **Pdif** **21 13 44.7 +5.7**
CEU S **SKSac** **21 24 19.3 +0.2**
PFVI Vila Bisbo 100.99 336 *e*P **Pdif** **21 13 51.5 +12**
PFVI Vila Bisbo 100.99 336 *e*PP **PKiKP** **21 17 58.8 -5.8**
456A Hilliard 101.10 37 P **Pdif** **21 13 35.8 -4.2**
baz=326
PVLZ Peæn de 101.18 332 P **Pdif** **21 13 43.9 +3.7**
PVLZ S **SKSac** **21 24 17.9 -2.4**
KMBO Kilima Mbogo 101.91 278 P **Pdif** **21 13 45.6 +1.5**
comp=Z,0.4nm,0.7s,baz=277,slow=22,SNR=3.0
KMBO PP **PKiKP** **21 18 04.2 -2.9**
comp=Z,0.3nm,0.3s,baz=44,slow=23,SNR=5.6
KMBO S **SKSac** **21 24 22.2 -2.8**
comp=Z,1.0nm,0.7s,baz=236,slow=5.1,SNR=5.7
KMBO Kilima Mbogo 101.91 278 IAMs_20 IAMs_20 22 07 04.3
comp=Z,32µm,19.0s
KMBO Kilima Mbogo 101.91 278 P **Pdif** **21 13 43.0 -1.1**
KMBO S **SKSac** **21 24 24.9 -0.1**
KMBO Kilima Mbogo 101.91 278 *e*P **Pdif** **21 13 47.6 +3.5**
KMBO Kilima Mbogo 101.91 278 *i*P **Pdif** **21 13 44.9 +0.8**
SNR=10
656A Willston 101.97 38 P **Pdif** **21 13 40.9 -2.9**
baz=326
KIBK Kibwezi 102.02 276 IAMs_20 IAMs_20 22 08 03.6
comp=Z,34µm,18.0s
DWPF Disney Wildern 103.55 38 IAMs_20 IAMs_20 22 02 49.6
comp=Z,40µm,21.0s
DWPF Disney Wildern 103.55 38 P **Pdif** **21 13 47.3 -3.5**
baz=326
DWPF Disney Wildern 103.55 38 Pdiff **Pdif** **21 13 49.8 -1.1**
baz=326
PTCN Pitcairn Islan 103.63 111 IAMs_20 IAMs_20 22 05 21.5
comp=Z,34µm,18.0s
AVE Averroes 104.00 333 P **Pdif** **21 13 58.9 +6.1**

AVE S **SKSac** **21 24 35.7 +1.9**
OPO Ambohidratompo 104.25 257 Pdiff **Pdif** **21 13 53.7 -0.6**
comp=Z,5.1nm,0.9s,baz=190,slow=4.2,SNR=3.5
CMLA Cha da Macela 104.36 349 IAMs_20 IAMs_20 22 10 43.5
comp=Z,38µm,19.0s
060A Indiantown 104.97 38 P **Pdif** **21 13 51.5 -5.7**
baz=327
061Z Ochoppi 105.67 39 P **Pdif** **21 13 57.6 -2.8**
baz=326
TEIG Tepich 106.12 48 IAMs_20 IAMs_20 22 11 57.6
comp=Z,26µm,21.0s
VOI Vohitsoka 106.43 255 IAMs_20 IAMs_20 22 02 43.3
comp=Z,31µm,18.0s
BBSR BB Station 106.56 23 P **Pdif** **21 13 59.5 -4.7**
baz=339
MBAR Mbarara 106.70 282 *e*P **Pdif** **21 14 10.9 +5.5**
PMPST Porto Santo, M 106.98 341 *e*PP PP 21 18 43.7 +13
PMPS Porto Santo 107.00 341 *e*PP PP 21 18 43.2 +12
PMOZ Porto Moniz, M 107.45 341 *e*PP PP 21 18 46.0 +11
PMOZ *e*SKS SKSac 21 25 03.5 +14
PMOZ *e*SS SS 21 33 54.9 +11
PMOZ Porto Moniz, M 107.45 341 *e*LR LR 21 51 36.0
comp=Z,32µm,20.0s
PMAR Madeira 107.47 341 *e*PP PP 21 18 47.1 +12
FUL Funchal 107.54 341 *e*PP **PP** **21 18 37.9 +2.8**
TGUH Tegucigalpa,Un 111.46 52 IAMs_20 IAMs_20 22 11 50.3
comp=Z,24µm,22.0s
GTBY Guantanamo Bay 113.52 38 IAMs_20 IAMs_20 22 06 03.8
comp=Z,31µm,21.0s
BOAB BOACO BROADBAN 118.69 51 IAMs_20 IAMs_20 22 16 38.3
comp=Z,35µm,19.0s
MTDJ Mount Denham 113.73 41 IAMs_20 IAMs_20 22 10 23.6
comp=Z,33µm,21.0s
VNDA Vanda 115.22 175 Pdiff **Pdif** **21 14 56.3 +15**
comp=Z,0.8nm,1.0s,baz=329,slow=2.8,SNR=3.8
VNDA PKP **PKPdf** **21 18 29.7 -0.1**
comp=Z,3.8nm,0.9s,baz=329,slow=4.4,SNR=9.0
VNDA PP **PP** **21 19 34.9 +4.0**
comp=Z,12nm,1.0s,baz=331,slow=6.7,SNR=5.1
VNDA PKKPbc **PKKPbc** **21 29 05.2 -1.3**
comp=Z,1.0nm,0.7s,baz=259,slow=1.5,SNR=6.2
VNDA Vanda 115.22 175 **PKPdf** **21 18 28.8 -1.0**
VNDA Vanda 115.22 175 PKIKP **PKPdf** **21 18 28.8 -1.0**
CRZF Crozet Islands 115.52 230 IAMs_20 IAMs_20 22 08 43.5
comp=Z,19µm,19.0s
SBA Scott Base 115.90 174 **PKiKP** **21 18 31.1 0.0**
SBA Scott Base 115.90 174 PKIKP **PKiKP** **21 18 31.1 0.0**
SBA MLR MLR
comp=Z,16µm,21.0s
CHIPN CHIPINGE 116.61 264 *i*P **PKiKP** **21 18 37.3 +3.0**
CHIPN CHIPINGE 116.61 264 *i*P **PKiKP** **21 18 37.3 +3.0**
TORD Torodi Ar. Bea 117.14 315 PKP **PKiKP** **21 18 36.7 +1.3**
LSZ Lusaka 117.45 271 *i*P **PKiKP** **21 18 38.5 +2.4**
LSZ Lusaka 117.45 271 *i*P **PKiKP** **21 18 38.5 +2.4**
SJG San Juan 119.11 30 IAMs_20 IAMs_20 22 17 03.0
comp=Z,20µm,19.0s
MOPA Mopani 119.30 262 *i*P **PKiKP** **21 18 41.6 +2.2**
MOPA Mopani 119.30 262 *i*P **PKiKP** **21 18 41.6 +2.2**
MAW Mawson 119.74 206 PKP **PKiKP** **21 18 40.4 +1.6**
comp=Z,4.1nm,0.7s,baz=82,slow=7.0,SNR=2.2
MAW PP **PP** **21 20 07.7 +5.1**
comp=Z,14nm,1.0s,baz=78,slow=13,SNR=1.7
MAW PKKPbc **PKKPbc** **21 28 53.5 +3.4**
comp=Z,12nm,0.8s,baz=271,slow=6.8,SNR=6.3
BCIP Isla Barro Col 119.81 49 IAMs_20 IAMs_20 22 20 12.0
comp=Z,23µm,20.0s
MUSN Musina, Limpop 119.89 264 *i*P **PKiKP** **21 18 41.8 +1.2**
MUSN Musina, Limpop 119.89 264 *i*P **PKiKP** **21 18 41.8 +1.2**
SMRT St. Maarten 120.34 27 IAMs_20 IAMs_20 22 13 23.4
comp=Z,28µm,21.0s
SMRT St. Maarten 120.34 27 *e*P **Pdif** **21 15 09.9 +4.1**
SABA Saba 120.67 28 IAMs_20 IAMs_20 22 14 47.3
comp=Z,34µm,20.0s
SABA Saba 120.67 28 *e*P **Pdif** **21 15 16.6 +9.4**
SEUS St. Eustatius 120.89 27 IAMs_20 IAMs_20 22 15 00.9
comp=Z,27µm,20.0s
SEUS St. Eustatius 120.89 27 *e*P **Pdif** **21 15 16.6 +8.5**
ANWB Willy Bob 121.15 26 IAMs_20 IAMs_20 22 12 01.8
comp=Z,22µm,22.0s
ANWB Willy Bob 121.15 26 *e*P **Pdif** **21 15 17.8 +8.5**
ANBD Bethesda, Anti 121.73 26 *e*P **Pdif** **21 15 16.8 +4.8**
ABD La Joyeuse, An 122.36 26 IAMs_20 IAMs_20 22 12 35.9
comp=Z,27µm,22.0s
ABD La Joyeuse, An 122.36 26 *e*P **Pdif** **21 15 24.7 +10**
GDHS Morne Mazeau, 122.45 27 IAMs_20 IAMs_20 22 14 36.3
comp=Z,24µm,21.0s
GDSD La Dsirde Is 122.66 26 IAMs_20 IAMs_20 22 11 21.7
comp=Z,29µm,22.0s
HATO Hato, Curacao 123.14 36 IAMs_20 IAMs_20 22 16 01.6
comp=Z,30µm,20.0s
DSLB Salisbury 123.34 27 *e*P **Pdif** **21 15 23.7 +4.6**
DSLB Salisbury 123.34 27 *e* **PKiKP** **21 18 54.5 +6.9**
FDF Fort de France 124.09 27 IAMs_20 IAMs_20 22 15 44.8
comp=Z,24µm,22.0s
ILAM Ilet Lapin Mar 124.15 26 IAMs_20 IAMs_20 22 16 32.3
comp=Z,26µm,20.0s
BIM Bigot 124.32 27 IAMs_20 IAMs_20 22 16 01.8
comp=Z,24µm,20.0s
BIM Bigot 124.32 27 *e*P **Pdif** **21 15 33.9 +10**
BIM Bigot 124.32 27 *e* **PKiKP** **21 18 54.5 +5.0**
MPOM Morne Pois Mar 124.46 26 IAMs_20 IAMs_20 22 16 21.4
comp=Z,28µm,20.0s
MPOM Morne Pois Mar 124.46 26 *e*P **Pdif** **21 15 33.1 +9.1**
LBTB Lobatse 124.64 263 PKPdf **PKPdf** **21 18 48.6 -1.0**
LBTB Lobatse 124.64 263 *i*P **PKiKP** **21 18 51.2 +1.3**
LBTB Lobatse 124.64 263 *i*P **PKiKP** **21 18 51.2 +1.3**
LBTB Lobatse 124.64 263 PKIKP **PKPdf** **21 18 48.6 -1.0**
SLBI Saint Lucia, B 124.81 27 *e*P **Pdif** **21 15 36.3 +11**
MCLT Moule a Chique 125.11 27 *e*P **Pdif** **21 15 37.7 +11**
SDV Santo Domingo 125.16 40 PKP **PKPdf** **21 18 50.8 -0.3**
SDV Santo Domingo 125.16 40 PKPdf **PKPdf** **21 18 49.6 -1.5**
SVB Belmont 125.40 27 *e*P **Pdif** **21 15 35.4 +7.1**
SVB Belmont 125.40 27 *e* **PKiKP** **21 18 52.3 +0.7**
GCMP Grenada, Carri 126.06 28 *e*P **Pdif** **21 15 40.6 +9.4**
DBIC Dimbokro 126.09 317 PKP **PKPdf** **21 18 52.2 -0.4**
comp=Z,19nm,1.0s,baz=30,slow=2.1,SNR=10
DBIC PP **PP** **21 20 47.6 +2.2**
comp=Z,52nm,0.8s,baz=32,slow=7.0,SNR=4.9
DBIC Dimbokro 126.09 317 PKPdf **PKPdf** **21 18 52.0 -0.6**
DBIC Dimbokro 126.09 317 PKIKP **PKPdf** **21 18 52.0 -0.6**
BBGH Gun Hill 126.12 26 IAMs_20 IAMs_20 22 12 53.5
comp=Z,33µm,21.0s
SACV Santiago Islan 126.14 342 IAMs_20 IAMs_20 22 15 02.1
comp=Z,34µm,21.0s
TIC Toumodi 126.20 317⇑ *i*P PKiKP 21 19 02.6 +9.3
comp=Z,43nm,0.7s
KIC Kosan Boka 126.29 317⇑ *i*P PKiKP 21 19 01.8 +8.3
comp=Z,34nm,0.6s
GRGR Grenville 126.30 28 IAMs_20 IAMs_20 22 18 23.4
comp=Z,21µm,20.0s
GRGR Grenville 126.30 28 *e*P **Pdif** **21 15 39.9 +7.6**
GRGR Grenville 126.30 28 *e* **PKPdf** **21 18 49.0 -4.0**
BAUV El Baul 126.39 37 PKPdf **PKPdf** **21 18 51.5 -1.7**
BAUV El Baul 126.39 37 *e*P **Pdif** **21 15 41.5 +8.8**
ROSC El Rosal 126.51 46 PKP **PKPdf** **21 18 53.0 -1.0**
comp=Z,17nm,0.6s,baz=355,slow=3.1,SNR=8.5
ROSC PP **PP** **21 20 50.7 +1.9**
comp=Z,6.3nm,0.4s,baz=114,slow=21,SNR=1.0
ROSC El Rosal 126.51 46 PKIKP **PKPdf** **21 18 53.0 -1.0**
LIC Lamto 126.56 317⇑ *i*P PKiKP 21 19 03.3 +9.3
comp=Z,134nm,0.9s
BOSA Boshof 126.59 259 PKP **PKPdf** **21 18 52.8 -0.5**
comp=Z,7.8nm,0.7s,baz=61,slow=2.9,SNR=10
BOSA PP **PP** **21 20 51.6 +1.7**
comp=Z,20nm,1.1s,baz=157,slow=12,SNR=2.3
BOSA Boshof 126.59 259 PKPdf **PKPdf** **21 18 51.8 -1.5**
BOSA Boshof 126.59 259 *i*P **PKPdf** **21 18 52.4 -0.9**
BOSA Boshof 126.59 259 *i*P **PKPdf** **21 18 52.4 -0.9**
BOSA Boshof 126.59 259 PKIKP **PKPdf** **21 18 51.8 -1.5**
PCRV Puerto La Cruz 126.86 33 PKP **PKPdf** **21 18 54.3 +0.1**
comp=Z,9.9nm,0.7s,baz=322,slow=13,SNR=1.2
PCRV PP **PP** **21 20 53.1 +2.8**
comp=Z,10.0nm,0.9s,baz=8.4,slow=16,SNR=1.5
QSPA South Pole Qui 127.02 180 PKP **PKPdf** **21 18 52.9 +0.1**
comp=Z,56nm,1.0s,baz=322,slow=1.0,SNR=2.7
QSPA PP **PP** **21 20 55.1 +3.4**
comp=Z,39nm,1.0s,baz=329,slow=3.3,SNR=4.6
PRAC Prado 127.09 48 **PKPdf** **21 18 52.9 -1.7**
TOSP Speyside 127.48 27 *e* **PKiKP** **21 18 59.8 +4.0**
TRN Trinidad (W) 127.75 29 *e*P **Pdif** **21 15 48.7 +10**
TRN Trinidad (W) 127.75 29 *e* PKiKP 21 19 05.0 +8.7
TSUM Tsumeb 128.06 274 PKPdf **PKPdf** **21 18 56.0 -0.4**
SOE Somerset East 128.11 255 **PKPdf** **21 18 56.1 +0.1**
MCRA Macar, Loja 130.01 59 **PKPdf** **21 18 59.0 -1.1**
BOSC San Juan Bosco 130.11 57 **PKPdf** **21 18 57.8 -2.7**

SUR Sutherland 131.65 257 PKP **PKiKP** **21 19 05.2 +1.3**
comp=Z,7.7nm,0.7s,baz=123,slow=5.5,SNR=7.9
SUR Sutherland 131.65 257 *i*P **PKPdf** **21 18 59.4 -3.5**
SUR Sutherland 131.65 257 *i*P **PKPdf** **21 18 59.4 -3.5**
ATAH Atahualpa 133.07 60 PP **PP** **21 21 33.0 +1.0**
comp=Z,7.9nm,0.9s,baz=35,slow=12,SNR=1.2
BOAV Boa Vista 135.60 32 *e*P **PKPdf** **21 19 06.2 -4.4**
MDP Montagnes des 135.86 20 PKP **PKPdf** **21 19 09.4 -1.7**
comp=Z,4.9nm,0.6s,baz=271,slow=9.2,SNR=1.8
MDP PP **PP** **21 21 48.7 +0.6**
comp=Z,9.0nm,0.9s,baz=314,slow=7.4,SNR=1.9
TBTG Tabatinga, AM 136.36 49 *e*P **PKPdf** **21 19 10.2 -1.9**
CZSB Cruzeiro do Su 137.34 55 PKPpre 21 19 03.0
CZSB Cruzeiro do Su 137.34 55 *e*P **PKPdf** **21 19 11.1 -2.7**
NVL N'lazarevskaya 137.50 202 *e*PKHKP PKPpre 21 19 00.6
NVL *e*SSS SSS 21 45 18.7
NVL pmax pmax
comp=Z,33nm,1.2s
NNA Nana 137.53 64 PKPdf **PKPdf** **21 19 10.8 -3.4**
NNA Nana 137.53 64 PKIKP **PKPdf** **21 19 10.8 -3.4**
NNA MLR MLR
comp=Z,30µm,20.0s
TEFE Tefe 138.78 42 *e*P **PKPdf** **21 19 14.0 -2.5**
TROLL Troll, Antarti 139.45 198 PKPdf **PKPdf** **21 19 09.2 -6.9**
TROLL Troll, Antarti 139.45 198 PP PP 21 22 14.4 +3.5
SNAA Sanae 140.97 197 PKPdf PKPdf 21 19 10.2 -8.6
SNAA Sanae 140.97 197 PP PP 21 22 29.2 +9.1
SNAA Sanae 140.97 197 PKPpre 21 19 10.0
SNAA IAMs_20 IAMs_20 22 20 02.1
comp=Z,31µm,22.0s
SNAA Sanae 140.97 197 PKHKP PKPpre 21 19 10.0
SNAA MLR MLR
comp=Z,31µm,22.0s
MCPB Macapa, AP 141.22 22 *e*P **PKPdf** **21 19 14.9 -6.0**
MALB Monte Alegre 141.92 26 *e*P **PKPdf** **21 19 19.8 -2.4**
VNA2 Neumayer--Watz 142.54 196 PKPdf **PKPdf** **21 19 16.9 -4.6**
baz=105,slow=1.4
VNA2 Neumayer--Watz 142.54 196 PP PP 21 22 34.0 +4.4
baz=130,slow=5.2
VNA3 Neumayer Olymp 142.79 195 PKPdf **PKPdf** **21 19 18.0 -4.0**
VNA3 Neumayer Olymp 142.79 195 PP PP 21 22 31.5 +0.4
VNA1 Neumayer--Stat 142.94 196 PKPdf **PKPdf** **21 19 19.5 -2.7**
ETMB Extrema 143.03 49 PKPpre 21 19 16.4
ETMB Extrema 143.03 49 *e*P PKPab 21 19 19.5 +0.2
ASCN Ascension 143.42 317 IAMs_20 IAMs_20 22 28 49.4
comp=Z,20µm,21.0s
ITTB Itaituba 143.69 30 *e*P PKPbc 21 19 22.9 +0.1
SHEL Horse Pasture 144.02 297 PKPdf **PKPab** **21 19 23.0 -0.2**
SHEL Horse Pasture 144.02 297 IAMs_20 IAMs_20 22 33 18.0
comp=Z,25µm,20.0s
SHEL Horse Pasture 144.02 297 PKIKP **PKPab** **21 19 23.0 -0.2**
SHEL MLR MLR
comp=Z,24µm,20.0s
SAML Samuel 144.10 44 **PKPab** **21 19 22.3 -1.2**
SAML Samuel 144.10 44 PKIKP **PKPab** **21 19 22.3 -1.2**
TMAB Tom-Au,PA,Br 144.19 16 *e*P PKPbc 21 19 24.4 +0.2
SMAI San Martin Ant 145.27 162 **PKPbc** **21 19 25.0 -1.1**
ROSB Rosrio 145.41 10 *e*P **PKPbc** **21 19 25.7 -2.5**
NPGB Novo Progresso 146.27 31 *e*P **PKPdf** **21 19 28.4 -1.4**
LPAZ La Paz 146.60 59 PKP **PKPdf** **21 19 29.7 -1.3**
comp=Z,19nm,0.6s,baz=320,slow=2.6,SNR=61
LPAZ PKPbc **sPKPdf** **21 19 32.8 -0.2**
comp=Z,93nm,0.5s,baz=358,slow=4.8,SNR=59
LPAZ La Paz 146.60 59 *e*P **PKPdf** **21 19 29.6 -1.3**
PB12 IPOC Station P 146.61 65 **PKPdf** **21 19 29.9 -0.4**
PB16 IPOC Station P 147.02 64 **PKPdf** **21 19 31.4 -0.2**
H03N2 Juan Fernandez 147.08 96 PKPbc **PKPab** **21 19 33.9 0.0**
baz=162,slow=15,SNR=15
H03N2 T T 00 03 59.3
baz=291,slow=76,SNR=3103
H03N3 Juan Fernandez 147.09 96 PKPbc **PKPab** **21 19 33.6 -0.4**
baz=162,slow=15,SNR=7.2
H03N3 T T 00 04 02.1
baz=291,slow=76,SNR=2918
H03N1 Juan Fernandez 147.09 96 PKPbc **PKPab** **21 19 33.9 0.0**
baz=162,slow=15,SNR=8.3
H03N1 T T 00 03 55.2
baz=291,slow=76,SNR=2678
H03S2 Juan Fernandez 147.21 96 PKPbc **PKiKP** **21 19 40.3 +5.3**
baz=219,slow=74,SNR=4.6
H03S1 Juan Fernandez 147.22 96 PKPbc **PKiKP** **21 19 38.6 +3.6**
baz=201,slow=74,SNR=4.5
PSGCX Pisagua 147.38 66 **PKPdf** **21 19 30.5 -1.1**
PRPB Parauapebas 147.40 21 *e*P **PKPdf** **21 19 30.6 -1.0**
MNMC Minye Minye 147.47 65 **PKPdf** **21 19 31.7 -0.2**
TA02 Huaiquique 147.80 67 **PKPdf** **21 19 32.0 -0.1**
PB11 IPOC Station P 147.83 66 **PKPdf** **21 19 31.8 -0.6**
TA01 Diego Aracena 147.94 68 **PKPdf** **21 19 32.5 +0.2**
GO01 Chusmiza 148.10 65 **PKPdf** **21 19 32.6 -0.6**
PATCX Punta Patache 148.12 68 **PKPdf** **21 19 33.4 +0.6**
PB08 IPOC Station P 148.43 66 **PKPdf** **21 19 31.4 -2.3**
RCBR Riachuelo 148.60 355 PKPbc **PKPbc** **21 19 36.7 -0.6**
comp=Z,56nm,1.0s,baz=163,slow=2.5,SNR=14
RCBR Riachuelo 148.60 355 **PKPdf** **21 19 32.1 -1.6**
RCBR Riachuelo 148.60 355 IAMs_20 IAMs_20 22 36 15.5
comp=Z,25µm,21.0s
RCBR Riachuelo 148.60 355 *e*P **PKPdf** **21 19 31.8 -1.9**
PMSA Palmer Station 148.61 159 **PKPdf** **21 19 32.6 +0.6**
PMSA Palmer Station 148.61 159 IAMs_20 IAMs_20 22 17 08.8
comp=Z,23µm,22.0s
PMSA Palmer Station 148.61 159 *e*P **PKPdf** **21 19 30.9 -1.2**
PB02 IPOC Station P 148.61 68 **PKPdf** **21 19 34.0 +0.5**
PB07 IPOC Station P 148.87 69 **PKPdf** **21 19 34.5 +0.5**
PB04 IPOC Station P 149.03 70 **PKPdf** **21 19 33.7 -0.6**
VILB Vilhena 149.03 44 *e*P **PKPdf** **21 19 32.1 -2.2**
PB03 IPOC Station P 149.16 69 **PKPdf** **21 19 33.9 -0.6**
CLDB Colider 149.50 35 *e*P **PKPdf** **21 19 34.2 -0.9**
PB06 IPOC Station P 149.68 70 **PKPdf** **21 19 34.2 -1.1**
PDRB Porto dos Gac 149.71 37 *e*P **PKPdf** **21 19 34.2 -1.2**
PB15 IPOC Station P 150.04 71 **PKPdf** **21 19 33.6 -2.4**
LVC Limon Verde 150.12 69 PKPbc **PKPbc** **21 19 41.2 -0.1**
comp=Z,131nm,1.1s,baz=280,slow=2.3,SNR=5.8
LVC Limon Verde 150.12 69 **PKPdf** **21 19 35.8 -0.5**
LVC Limon Verde 150.12 69 *e*P **PKPdf** **21 19 34.5 -1.8**
LVC Limon Verde 150.12 69 PKIKP **PKPdf** **21 19 35.8 -0.5**
LVC MLR MLR
comp=Z,36µm,22.0s
SMTB Santa Maria do 150.57 18 *e*P **PKPdf** **21 19 34.7 -2.1**
SIV San Ignacio 150.95 49 PKP **PKPdf** **21 19 37.0 -0.3**
comp=Z,8.3nm,0.9s,baz=21,slow=0.8,SNR=19
SIV PKPbc **PKPbc** **21 19 41.4 -1.6**
comp=Z,81nm,1.0s,baz=312,slow=1.3,SNR=48
GO02 Mina Guanaco 151.03 74 **PKPdf** **21 19 38.5 +0.9**
AC06 Mina Casimiro 151.53 79 **PKPbc** **21 19 42.1 -2.0**
PTLB Pontes e Lacer 151.65 45 *e*P **PKPdf** **21 19 37.2 -1.1**
GO03 Copiap 151.74 79 **PKPbc** **21 19 43.1 -1.5**
CO06 Fray Jorge 151.94 86 **PKPbc** **21 19 43.4 -1.5**
LCO Las Campanas 152.01 82 **PKPbc** **21 19 43.4 -2.0**
LCO Las Campanas 152.01 82 PKIKP **PKPbc** **21 19 43.4 -2.0**
LCO MLR MLR
comp=Z,28µm,19.0s
BBSD Serra de San D 152.15 50 *e*P **PKPdf** **21 19 37.7 -1.3**
MG05 Puerto Natales 152.16 132 **PKPbc** **21 19 44.4 -0.2**
SNDB Serra Nova Dou 152.36 28 *e*P **PKPdf** **21 19 37.9 -1.6**
VA01 Torpederas 152.75 91 **PKPbc** **21 19 43.1 -3.5**
LR04 Corral 152.77 106 **PKPbc** **21 19 44.3 -2.1**
VA06 Catapilco 152.88 90 PKPdf **PKPdf** **21 19 37.5 -2.2**
VA05 Santo Domingo 152.97 92 **PKPdf** **21 19 38.8 -1.0**
GO05 Huala 153.09 95 **PKPbc** **21 19 44.7 -2.6**
AY01 Puyuhuapi 153.43 116 **PKPdf** **21 19 43.6 +3.5**
BBRB Robore, Bolivi 153.47 50 *e*P **PKPdf** **21 19 39.3 -1.7**
ML02 Panimavida 153.67 97 **PKPbc** **21 19 45.3 -3.3**
COYC Coyhaique 153.73 119 **PKPbc** **21 19 46.0 -2.4**
SALV Santo Antonio 153.89 40 *e*P **PKPdf** **21 19 40.0 -1.6**
BO02 Sierra Bellavi 153.94 94 **PKPdf** **21 19 39.5 -1.8**
LMEL Las Melosas 154.15 92 **PKPdf** **21 19 40.2 -1.5**
SDBA SAO DESIDERIO 154.60 14 *e*P **PKPdf** **21 19 41.1 -1.7**
PLCA Paso Flores 155.03 108 PKP **PKPdf** **21 19 43.0 +0.5**
comp=Z,5.5nm,0.9s,baz=271,slow=0.8,SNR=13
PLCA PKPab **pPKPab** **21 20 08.5 0.0**
comp=Z,34nm,0.9s,baz=260,slow=4.4,SNR=12
PLCA Paso Flores 155.03 108 *e*P **PKPdf** **21 19 40.8 -1.8**
ARAG Araguaiana, MT 155.54 32 *e*P **PKPdf** **21 19 41.7 -2.2**
PANT Pantanal (Braz 155.92 46 *e*P **PKPdf** **21 19 42.7 -1.6**
BDFB Brasilia 156.90 24 PKP **PKPdf** **21 19 46.8 +1.0**
comp=Z,21nm,1.2s,baz=346,slow=3.3,SNR=7.3
BDFB PKPab **pPKPab** **21 20 16.6 -0.4**
comp=Z,34nm,0.7s,baz=312,slow=3.4,SNR=7.9
BDFB PP **PP** **21 23 53.8 +1.0**
comp=Z,31nm,1.0s,baz=339,slow=12,SNR=4.0
BDFB Brasilia 156.90 24 *e*P **PKPdf** **21 19 44.1 -1.7**
JANB Januaria 157.30 14 *e*P **PKPdf** **21 19 44.9 -1.4**
MURT Porto Murtinho 157.36 52 *e*P **PKPdf** **21 19 44.7 -1.5**

AQDB	**Aquidauana**	**157.62**	**46**	*e*P	**PKPdf**	**21 19 45.0**	**-1.4**
C2SB	**Chapadao do Su**	**157.75**	**38**	*e*P	**PKPdf**	**21 19 44.9**	**-1.8**
MC01	**Montes Claros**	**158.98**	**14**	*e*P	**PKPdf**	**21 19 46.9**	**-1.4**
IPMB	**Ipameri, GO**	**159.01**	**26**	*e*P	**PKPdf**	**21 19 46.7**	**-1.6**
GUA01	**Guaratinga, BA**	**159.36**	**3**	*e*P	**PKPdf**	**21 19 47.0**	**-1.7**
ITRB	**Iturama**	**159.71**	**34**	*e*P	**PKPdf**	**21 19 47.6**	**-1.4**
DIAM	**Diamantina, MG**	**160.58**	**15**	*e*P	**PKPdf**	**21 19 48.6**	**-1.6**
CPUP	**Villa Florida**	**160.75**	**61**	PKP	**PKPdf**	**21 19 49.7**	**-0.3**
	comp=Z,7.8nm,1.1s,baz=140,slow=4.1,SNR=5.7						
CPUP				PKPab	**PKPab**	**21 20 32.7**	**+0.7**
	comp=Z,17nm,1.0s,baz=307,slow=3.4,SNR=4.2						
CPUP				PP	**PP**	**21 24 16.9**	**+2.2**
	comp=Z,11nm,1.0s,baz=342,slow=6.3,SNR=3.7						
PCMB	**Pacaembu**	**160.93**	**39**	*e*P	**PKPdf**	**21 19 48.8**	**-1.5**
TRCB	**Terra Rica**	**161.18**	**44**	*e*P	**PKPdf**	**21 19 49.4**	**-1.2**
SJMB	**Sao Joao De Ma**	**161.36**	**8**	*e*P	**PKPdf**	**21 19 49.6**	**-1.2**
BB19B	**Bebedouro**	**161.70**	**31**	*e*P	**PKPdf**	**21 19 49.9**	**-1.3**
RIB01	**Linhares ES**	**162.04**	**5**	*e*P	**PKPdf**	**21 19 49.9**	**-1.6**
AZCA	**Azaras, Argent**	**162.77**	**63**	*e*P	**PKPdf**	**21 19 51.4**	**-0.6**
PTGB	**Pitanga**	**163.01**	**46**	*e*P	**PKPdf**	**21 19 51.0**	**-1.4**
ITQB	**Itaqui**	**163.19**	**68**	*e*P	**PKPdf**	**21 19 50.3**	**-2.0**
FRTB	**Fartura**	**163.23**	**37**	*e*P	**PKPdf**	**21 19 51.6**	**-1.0**
RCLB	**Rio Claro- Sao**	**163.31**	**30**	*e*P	**PKPdf**	**21 19 51.6**	**-1.1**
CRSM	**Crissiumal (Br**	**163.75**	**58**	*e*P	**PKPdf**	**21 19 51.7**	**-1.2**
UNIS	**Unistalda (Bra**	**164.00**	**64**	*e*P	**PKPdf**	**21 19 52.1**	**-1.0**
VAO	**Valinhos**	**164.06**	**29**	*e*P	**PKPdf**	**21 19 51.7**	**-1.7**
LPA	**La Plata**	**164.21**	**87**	*i* PKIKP	**PKPdf**	**21 19 55.0**	**+1.9**
VAS01	**Vassouras-RJ**	**164.49**	**17**	*e*P	**PKPdf**	**21 19 53.1**	**-0.7**
DUB01	**Friburgo-RJ**	**164.51**	**13**	*e*P	**PKPdf**	**21 19 52.6**	**-1.2**
PARB	**Paraibuna**	**164.86**	**25**	*e*P	**PKPdf**	**21 19 52.4**	**-1.7**
PET01	**Itanhaem-SP**	**165.08**	**32**	*e*P	**PKPdf**	**21 19 53.5**	**-0.7**
TIJ01	**Guaruva-PR**	**165.16**	**40**	*e*P	**PKPdf**	**21 19 51.9**	**-2.5**
PLTB	**Pedras Altas**	**166.49**	**70**	*e*P	**PKPdf**	**21 19 54.3**	**-0.9**

IDC ***21*** *21:08:07.2±0.9,37°.14N×141°.36E,h0km,mb4.4/9, mbtmp4.4/11,ML3.8/2,Error ellipse: s-maj=26.1km s-min=17.7km az=113.0*

NEIC ***21*** *21:08:08.6±1.5,37°.21N±0°.04×141°.48E±0°.06,h10km±1km, mb5.0/9,Error ellipse: s-maj=9.0km s-min=6.4km az=48.0*

JMA ***21*** *21:08:09.6±0.2,37°.2N±0°.3×141°.3E±1°.0,h29km±1km, MV4.5/27,E OFF FUKUSHIMA PREF .*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

ISC 21 21:08:07.6±1.8,37°.16N±0°.04×141°.43E±0°.06,h5km±10km, n39,σ0.995/47,mb4.8/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**295**	P	**Pb**	**21 08 18.2**	**-0.5**
JFK				S	**Sb**	**21 08 24.9**	**-1.3**
JFFD	**Fukushimafurud**	**0.70**	**265**	P	**Pb**	**21 08 21.7**	**-0.5**
JFFD				S	**Sg**	**21 08 29.8**	**-0.3**
JMST	**Minamisoumatoc**	**0.71**	**323**	P	**Pb**	**21 08 22.3**	**-0.1**
JMST				S	**Sb**	**21 08 32.1**	**-0.4**
JMM	**Marumori**	**0.87**	**325**	Pg	**Pg**	**21 08 24.9**	**+0.6**
JMM				Sg	**Sb**	**21 08 36.4**	**-0.6**
JMM	**Marumori**	**0.87**	**325**	P	**Pb**	**21 08 25.1**	**0.0**
JMM				*e*S	**Sb**	**21 08 36.6**	**-0.5**
JHO	**Hitachi**	**0.88**	**232**	P	**Pg**	**21 08 24.6**	**+0.2**
JHO				S	**Sg**	**21 08 35.3**	**-0.6**
MJAR	**Matsushiro Arr**	**2.66**	**258**	Pn	**Pn**	**21 08 51.6**	**+0.6**
	6.8nm,0.3s,baz=84,slow=25,SNR=5.4						
MJAR				Sn	**Sn**	**21 09 24.7**	**+1.1**
	5.3nm,0.3s,baz=335,slow=43,SNR=5.3 46nm,0.3s						
MAJO	**Matsushiro**	**2.66**	**258**	Pn	**Pn**	**21 08 51.7**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.66**	**258**	Pn	**Pn**	**21 08 51.6**	**+0.6**
JSD	**Sado**	**2.67**	**290**	Pn	**Pn**	**21 08 50.7**	**-0.4**
JGF	**Kuroka**	**3.63**	**246**	Pn	**Pn**	**21 09 05.8**	**+1.3**
JTM	**Tenmabayashi**	**3.63**	**356**	Pn	**Pn**	**21 09 04.2**	**-0.3**
INU	**Inuyama**	**4.00**	**244**	Pn	**Pn**	**21 09 10.4**	**+1.0**
JHJ2	**Mitsune**	**4.25**	**199**	Pn	**Pn**	**21 09 12.9**	**+0.1**
JHJ	**Hachijo jima 2**	**4.25**	**199**	Pn	**Pn**	**21 09 14.7**	**+1.8**
	47nm,0.3s,baz=72,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**21 10 01.6**	**-1.2**
	32nm,0.3s,baz=233,slow=20,SNR=1.3 246nm,0.6s						
JKA	**Kamikawa-asahi**	**7.01**	**7**	Pn	**Pn**	**21 09 50.4**	**-0.4**
JHS	**Saijyo**	**7.07**	**255**	Pn	**Pn**	**21 09 54.0**	**+2.3**
SSLB	**Suanglung**	**22.05**	**239**	P	**P**	**21 13 04.5**	**+1.3**
ENH	**Enshi**	**27.36**	**265**	P	**P**	**21 13 53.1**	**-0.5**
ENH				IAmb	IAmb	21 14 11.8	
	comp=Z,32nm,1.1s						
KKM	**Kota Kinabalu**	**38.58**	**223**	P	**P**	**21 15 33.0**	**+1.4**
KKM				IAmb	IAmb	21 15 49.5	
	comp=Z,57nm,1.4s						
FAKI	**Fak Fak**	**40.78**	**194**	P	**P**	**21 15 49.6**	**-0.1**
FAKI				IAmb	IAmb	21 16 17.5	
	comp=Z,30nm,1.3s						
LUWI	**Luwuk**	**41.76**	**209**	P	**P**	**21 15 56.1**	**-1.7**
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**21 15 58.4**	**+0.2**
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**21 16 16.5**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=81,slow=8.9,SNR=1.3 comp=Z,2.8nm,0.7s						
MAKZ	**Makanchi**	**44.27**	**302**	P	**P**	**21 16 17.5**	**-0.5**
MAKZ				IAmb	IAmb	21 16 31.1	
	comp=Z,41nm,1.4s						
IL31		**49.38**	**32**	P	**P**	**21 16 56.0**	**-1.6**
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**21 16 59.0**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=261,slow=6.3,SNR=5.2 comp=Z,3.7nm,0.7s						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**21 16 58.3**	**+0.6**
INK	**Inuvik**	**54.27**	**27**	P	**P**	**21 17 35.5**	**+1.5**
	comp=Z,8.7nm,1.1s,baz=290,slow=3.8,SNR=3.7 comp=Z,8.7nm,1.1s						
INK	**Inuvik**	**54.27**	**27**	P	**P**	**21 17 34.2**	**+0.2**
INK				IAmb	IAmb	21 17 50.7	
	comp=Z,18nm,1.3s						
WRA	**Warramunga Arr**	**57.18**	**188**	P	**P**	**21 17 55.1**	**-0.4**
	comp=Z,9.0nm,0.9s,baz=8.0,slow=7.5,SNR=6.4 comp=Z,9.0nm,0.9s						
ABKAR	**Akbulak array**	**57.87**	**310**	P	**P**	**21 17 58.4**	**-1.7**
ASAR	**Alice Springs**	**60.91**	**188**	P	**P**	**21 18 21.6**	**+0.2**
	comp=Z,4.9nm,1.0s,baz=19,slow=5.9,SNR=3.0 comp=Z,4.9nm,1.0s						
ARCES	**ARCESS Array B**	**63.89**	**339**	P	**P**	**21 18 41.0**	**+0.3**
	comp=Z,7.7nm,1.0s,baz=56,slow=8.0,SNR=4.8 comp=Z,7.7nm,1.0s						
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**21 19 45.0**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=45,slow=6.3,SNR=5.8 comp=Z,2.7nm,0.6s						
CLL	**Collm**	**81.00**	**330**	*e*P	**P**	**21 20 23.0**	**0.0**
GERES	**GERESS Array B**	**82.61**	**328**	P	**P**	**21 20 31.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=46,slow=5.6,SNR=1.1 comp=Z,0.7nm,0.5s						
TXAR	**Lajitas Array**	**90.03**	**52**	P	**P**	**21 21 10.0**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=313,slow=2.4,SNR=3.7 comp=Z,1.3nm,0.7s						
LPAZ	**La Paz**	**146.62**	**59**	PKPbc	**PKPdf**	**21 27 50.3**	**+0.4**

MOS ***21*** *21:10:19.0±0.9,37°.29N×141°.59E,h17km,mb5.4/29,Error ellipse: s-maj=8.8km s-min=6.0km az=94.6*

BJI ***21*** *21:10:20.4±0.0,37°.26N×141°.93E,h36km,mb5.0/14, mB5.0/2*

NEIC ***21*** *21:10:20.9±1.8,37°.25N±0°.04×141°.47E±0°.06,h10km±1km, mb5.4/94,Error ellipse: s-maj=9.4km s-min=6.3km az=60.0*

IDC ***21*** *21:10:21.5±0.5,37°.19N×141°.59E,h20km±2km,mb4.5/36, mbtmp4.7/41,ML3.9/4,Error ellipse: s-maj=12.9km s-min=10.4km az=96.0*

JMA ***21*** *21:10:21.9±0.2,37°.3N±0°.4×141°.1E±1°,h35km±1km, MV5.0/37,E OFF FUKUSHIMA PREF .*

JMA Felt III J1 at E OFF FUKUSHIMA PREF .

ISC 21 21:10:21.4±0.4,37°.25N±0°.03×141°.55E±0°.04,h17km±2km, h17km:pP-P,n363,σ1.945/366,mb5.2/102,10C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.55**	**282**	*e*P	**Pg**	**21 10 31.9**	**-0.6**
JFK				*e*S	**Sg**	**21 10 39.2**	**-0.7**
JMST	**Minamisoumatoc**	**0.71**	**312**	*e*P	**Pb**	**21 10 34.4**	**-1.0**
JMST				*e*S	**Sg**	**21 10 43.9**	**-0.9**
JFFD	**Fukushimafurud**	**0.81**	**259**	*e*P	**Pb**	**21 10 35.8**	**-1.2**
JFFD				*e*S	**Sb**	**21 10 46.1**	**-1.6**
JMM	**Marumori**	**0.86**	**316**		**Pb**	**21 10 36.8**	**-1.2**
JMM				Sg	**Sb**	**21 10 47.5**	**-1.7**
JMM	**Marumori**	**0.86**	**316**	P	**Pb**	**21 10 36.8**	**-1.2**
JMM				*e*S	**Sb**	**21 10 48.0**	**-1.2**
JHO	**Hitachi**	**1.01**	**231**	*e*S	**Sb**	**21 10 51.5**	**-2.1**
JIO	**Ouri**	**1.21**	**352**	*e*P	**Pn**	**21 10 42.2**	**-1.4**
JIO				*e*S	**Sb**	**21 10 57.1**	**-2.3**
JOU	**Okura**	**1.32**	**328**	*e*P	**Pn**	**21 10 44.6**	**-0.5**
JOU				*e*S	**Sn**	**21 11 01.5**	**-0.8**
JSB	**Shiboa**	**1.33**	**258**	*e*S	**Sn**	**21 11 02.6**	**-0.2**
JFY	**Yanaizu**	**1.48**	**277**	*e*P	**Pn**	**21 10 47.3**	**0.0**
JFY				*e*S	**Sn**	**21 11 05.8**	**-0.5**
JSD	**Sado**	**2.73**	**288**		**Pn**	**21 11 03.1**	**-1.3**
MJAR	**Matsushiro Arr**	**2.77**	**256**	Pn	**Pn**	**21 11 04.8**	**-0.3**
	13nm,0.3s,baz=80,slow=17,SNR=9.3						
MJAR				Sn	**Sn**	**21 11 39.9**	**+1.8**
	18nm,0.3s,baz=310,slow=38,SNR=2.9 49nm,0.3s						
MAJO	**Matsushiro**	**2.77**	**256**	Pn	**Pn**	**21 11 04.1**	**-1.0**
MAJO	**Matsushiro**	**2.77**	**256**	*i* P	**Pn**	**21 11 06.4**	**+1.3**
MJB9	**Matsu-Tunnel**	**2.77**	**256**	Pn	**Pn**	**21 11 04.7**	**-0.5**
JTM	**Tenmabayashi**	**3.55**	**354**	Pn	**Pn**	**21 11 15.1**	**-0.7**
JGF	**Kuroka**	**3.76**	**245**	Pn	**Pn**	**21 11 18.6**	**-0.2**
INU	**Inuyama**	**4.12**	**244**	Pn	**Pn**	**21 11 24.3**	**+0.6**
JHJ2	**Mitsune**	**4.37**	**200**	Pn	**Pn**	**21 11 26.8**	**-0.1**
JHJ	**Hachijo jima 2**	**4.37**	**200**	Pn	**Pn**	**21 11 27.6**	**+0.6**
	126nm,0.3s,baz=71,slow=18,SNR=6.2						
JHJ				Sn	**Sn**	**21 12 14.8**	**-2.8**
	73nm,0.3s,baz=53,slow=20,SNR=1.3 219nm,0.3s						
ERM	**Erimo**	**4.92**	**14**	Pn	**Pn**	**21 11 34.2**	**-0.3**
ERM	**Erimo**	**4.92**	**14**	P	**Pn**	**21 11 34.2**	**-0.3**
NMR	**Nemuro--Hokkai**	**6.89**	**26**	*e*P	**Pn**	**21 11 59.8**	**-1.9**
NMR				*e*S	**Sn**	**21 13 13.7**	**-6.0**
ASAJ	**Asahikawa**	**6.91**	**6**	P	**Pn**	**21 11 59.9**	**-1.9**
JKA	**Kamikawa-asahi**	**6.91**	**6**	Pn	**Pn**	**21 11 59.9**	**-2.0**
JMN	**Monobe**	**7.18**	**243**	Pn	**Pn**	**21 12 06.0**	**+0.3**
JHS	**Saijyo**	**7.19**	**254**	Pn	**Pn**	**21 12 05.8**	**+0.1**
RUSJ	**Misakicho**	**7.40**	**21**	*e*P	**Pn**	**21 12 07.5**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**7.53**	**24**	*e*P	**Pn**	**21 12 08.7**	**-1.6**
YUK				*e*S	**Sn**	**21 13 29.6**	**-5.6**
YUK				pmax	pmax		
	comp=N,233nm,0.3s						
YUK				pmax	pmax		
	comp=Z,273nm,0.3s						
YUK				pmax	pmax		
	comp=E,55nm,0.2s						
KUR	**Kuril'sk**	**9.28**	**29**	*e*P	**Pn**	**21 12 34.4**	**0.0**
KUR				*e*S	**Sn**	**21 14 13.9**	**-4.5**
KUR				pmax	pmax		
	comp=Z,118nm,0.6s						
KUR				smax	smax		
	comp=E,197nm,0.7s						
KUR				smax	smax		
	comp=N,152nm,0.8s						
MSHR	**Mys Shultsa**	**9.59**	**307**	*i* P	**Pn**	**21 12 38.6**	**-0.1**
JNU	**Nakatsue**	**9.66**	**248**	Pn	**Pn**	**21 12 41.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**9.74**	**5**	Pn	**Pn**	**21 12 39.8**	**-0.8**
YSS	**Yuzh-Sakhalins**	**9.74**	**5**	*e*P	**Pn**	**21 12 41.1**	**+0.4**
USA0B	**Ussuriysk Arra**	**10.04**	**317**	Pn	**Pn**	**21 12 44.1**	**-0.7**
USA0B	**Ussuriysk Arra**	**10.04**	**317**	P	**Pn**	**21 12 44.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**10.04**	**317**	Pn	**Pn**	**21 12 45.7**	**+0.9**
	comp=N,0.4nm,0.3s,baz=129,slow=14,SNR=5.1 comp=N,18nm,0.7s						
JCJ	**Chichijima**	**10.14**	**177**	Pn	**Pn**	**21 12 43.8**	**-2.5**
	comp=N,184nm,0.5s,baz=270,slow=20,SNR=2.1						
KSRS	**Korea Array**	**10.85**	**275**	Pn	**Pn**	**21 13 00.8**	**+4.8**
	comp=N,0.6nm,0.3s,baz=86,slow=16,SNR=3.3						
KLR	**Kul'dur**	**13.93**	**332**	Pn	**Pn**	**21 13 40.9**	**+2.9**
	comp=N,0.3nm,0.3s,baz=253,slow=11,SNR=2.2 comp=N,4.1nm,0.7s						
ZEA	**Zeya**	**19.23**	**334**	*e*P	Pn	21 14 55.9	+10
BJT	**Baijiatuan**	**20.00**	**286**	P	**P**	**21 14 52.1**	**-1.1**
BJT	**Baijiatuan**	**20.00**	**286**	P	**P**	**21 14 52.1**	**-1.1**
NACB	**Ninganchiao**	**21.49**	**238**	P	**P**	**21 15 07.8**	**-1.6**
SSLB	**Suanglung**	**22.18**	**239**	P	**P**	**21 15 14.2**	**-2.7**
YULB	**Yu-li**	**22.22**	**237**	P	**P**	**21 15 17.0**	**-0.2**
TPUB	**Ta-pu**	**22.73**	**238**	P	**P**	**21 15 18.3**	**-4.4**
TPUB				IAmb	IAmb	21 15 24.8	
	comp=Z,113nm,1.4s						
MA2	**Magadan**	**23.12**	**12**	P	**P**	**21 15 27.1**	**+0.7**
	comp=Z,14nm,0.7s,baz=201,slow=9.3,SNR=6.8						
MA2				pP	**sP**	**21 15 33.9**	**+0.5**
	comp=Z,67nm,0.8s,baz=195,slow=9.4,SNR=12 comp=Z,14nm,0.7s						
MA2	**Magadan**	**23.12**	**12**	P	**P**	**21 15 26.2**	**-0.1**
MA2				IAmb	IAmb	21 15 35.9	
	comp=Z,67nm,0.8s						
MA2	**Magadan**	**23.12**	**12**	*i* P	**P**	**21 15 28.7**	**+2.3**
MA2				pmax	pmax		
	comp=Z,80nm,0.9s						
HHC	**Hu-ho-hao-te**	**23.51**	**288**	*e*P	**P**	**21 15 30.4**	**-0.2**
YAK	**Yakutsk**	**25.88**	**347**	P	**P**	**21 15 51.6**	**-0.5**
	comp=Z,22nm,0.6s,baz=168,slow=1.7,SNR=6.8 comp=Z,22nm,0.6s						
YAK	**Yakutsk**	**25.88**	**347**	P	**P**	**21 15 51.1**	**-1.0**
YAK				IAmb	IAmb	21 15 60.0	
	comp=Z,124nm,0.9s						
YAK	**Yakutsk**	**25.88**	**347**	*e*P	**P**	**21 15 57.7**	**+5.6**
YAK				pmax	pmax		
	comp=Z,112nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,34nm,1.0s						
SEY	**Seymchan**	**26.56**	**11**	P	**P**	**21 15 58.2**	**+0.1**
	comp=N,8.8nm,0.9s,baz=322,slow=17,SNR=3.5 comp=N,8.8nm,0.9s						
SEY	**Seymchan**	**26.56**	**11**	*i* P	**P**	**21 15 59.4**	**+1.2**
SEY				pmax	pmax		
	comp=Z,368nm,4.6s						
ULN	**Ulaanbaatar**	**27.33**	**304**	P	**P**	**21 16 04.8**	**-0.7**
ULN	**Ulaanbaatar**	**27.33**	**304**	*i* P	**P**	**21 16 04.3**	**-1.2**
ULN				pmax	pmax		
	comp=Z,23nm,1.1s						
ENH	**Enshi**	**27.46**	**265**	P	**P**	**21 16 04.2**	**-2.5**
ENH				IAmb	IAmb	21 16 11.0	
	comp=Z,204nm,1.9s						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**21 16 09.7**	**+0.4**
	comp=Z,7.0nm,0.8s,baz=106,slow=8.9,SNR=8.2						
SONM				pP	**sP**	**21 16 16.0**	**-0.5**
	comp=Z,16nm,0.8s,baz=100,slow=9.7,SNR=9.9 comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**21 16 07.1**	**-2.2**
SONM				IAmb	IAmb	21 16 17.1	
	comp=Z,39nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	21 45 39.9	
	baz=314,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	21 45 37.8	
	baz=314,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	21 45 36.3	
	baz=314,slow=76,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	21 46 32.0	
	baz=316,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	21 46 29.2	
	baz=316,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	21 46 32.9	
	baz=316,slow=76,SNR=13						
BILL	**Bilibino**	**33.79**	**16**	*e*P	**P**	**21 17 03.1**	**+1.0**
BILL				*e*		21 18 15.2	
BILL				*e*S	**S**	**21 22 25.8**	**+1.0**
BILL				pmax	pmax		
	comp=Z,14nm,1.4s						
BILL				MLR	MLR		
	comp=Z,40μm,14.0s						
TIXI	**Tiksi**	**35.09**	**353**	P	**P**	**21 17 13.3**	**0.0**
	comp=Z,4.7nm,0.6s,baz=225,slow=0.0,SNR=2.3 comp=Z,4.7nm,0.6s						
TIXI	**Tiksi**	**35.09**	**353**	P	**P**	**21 17 11.8**	**-1.5**
TIXI				IAmb	IAmb	21 17 14.3	
	comp=Z,103nm,1.7s						
KMI	**Kunming**	**35.10**	**261**	P	**P**	**21 17 16.3**	**+2.1**
KMI				pmax	pmax		
	comp=Z,23nm,1.1s						
PZH	**PanZhiHua**	**35.23**	**264**	P	**P**	**21 17 14.6**	**-0.6**
PZH				pmax	pmax		
	comp=Z,40nm,1.1s						
TNCH	**TengChong**	**38.49**	**264**	P	**P**	**21 17 43.9**	**+0.9**
TNCH				PP	**PnPn**	**21 19 12.6**	**-0.4**
TNCH				pmax	pmax		
	comp=Z,110nm,4.3s						
UBPT	**Khong Chiam**	**38.72**	**245**	P	**P**	**21 17 45.4**	**+0.6**
UBPT				IAmb	IAmb	21 17 51.8	
	comp=Z,68nm,1.3s						
DGZ	**Jazzator, Alta**	**40.36**	**306**	*i* P	**P**	**21 17 58.9**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,31nm,0.9s						
TNA	**Tin City**	**40.61**	**30**	P	**P**	**21 18 01.8**	**+1.9**
PHRA	**Phrae**	**40.65**	**254**	P	**P**	**21 17 59.4**	**-1.4**
WMQ	**Urumqi**	**40.84**	**297**	*e*P	**P**	**21 18 00.5**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,14nm,1.9s						
FAKI	**Fak Fak**	**40.89**	**194**	P	**P**	**21 18 02.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.66**	**255**	P	**P**	**21 18 09.4**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=62,slow=6.3,SNR=3.0 comp=Z,1.9nm,0.8s						
ZAA0	**Zalesovo Array**	**41.85**	**312**	P	**P**	**21 18 09.7**	**-0.6**
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**21 18 10.2**	**-0.1**
	comp=Z,23nm,0.8s,baz=85,slow=6.5,SNR=18 comp=Z,23nm,0.8s						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**21 18 09.8**	**-0.5**
ZALV	**Zalesovo Beam**	**41.85**	**312**	*i* P	**P**	**21 18 10.5**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,23nm,0.8s						
N16K	**Nishlik Lake**	**43.69**	**38**	P	**P**	**21 18 26.4**	**+1.3**
	baz=266						
O16K	**Kokwok River B**	**43.97**	**40**	P	**P**	**21 18 29.1**	**+1.7**
	baz=267						
MK31	**Makanchi Array**	**44.10**	**302**	P	**P**	**21 18 28.2**	**-0.4**
MK31	**Makanchi Array**	**44.10**	**302**	*i* P	**P**	**21 18 28.9**	**+0.2**
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**21 18 28.8**	**+0.1**
	comp=Z,8.3nm,0.7s,baz=84,slow=13,SNR=10 comp=Z,8.3nm,0.7s						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**21 18 28.6**	**0.0**
MAKZ	**Makanchi**	**44.31**	**302**	P	**P**	**21 18 30.0**	**-0.3**
MAKZ	**Makanchi**	**44.31**	**302**	P	**P**	**21 18 30.0**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,21nm,1.1s						
O17K	**Koliganek Bris**	**44.48**	**39**	P	**P**	**21 18 32.9**	**+1.4**
	baz=268						
N18K	**Kilae Creek**	**45.12**	**38**	P	**P**	**21 18 38.0**	**+1.4**
N18K				IAmb	IAmb	21 19 29.6	
	comp=Z,102nm,1.8s						
N18K	**Kilae Creek**	**45.12**	**38**	P	**P**	**21 18 38.4**	**+1.8**
	baz=268						
O18K	**Koktuh Hills**	**45.44**	**39**	P	**P**	**21 18 40.9**	**+1.7**
L19K	**White Mountain**	**45.67**	**36**	P	**P**	**21 18 42.4**	**+1.4**
	baz=268						
KURK	**Kurchatov**	**45.89**	**308**	P	**P**	**21 18 42.1**	**-0.6**
KURK	**Kurchatov**	**45.89**	**308**	*i* P	**P**	**21 18 42.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,214nm,2.1s						
O19K	**Port Alsworth**	**45.89**	**39**	P	**P**	**21 18 44.5**	**+1.9**
	baz=270						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**21 18 43.3**	**0.0**
	baz=83,slow=8.3						
K20K	**Telida**	**46.09**	**34**	P	**P**	**21 18 45.4**	**+1.2**
K20K				IAmb	IAmb	21 19 03.0	
	comp=Z,40nm,1.6s						
K20K	**Telida**	**46.09**	**34**	P	**P**	**21 18 45.9**	**+1.7**
	baz=267						
J20K	**Nowinta River**	**46.10**	**33**	P	**P**	**21 18 46.1**	**+1.8**
	baz=266						
L20K	**Farewell, AK**	**46.14**	**36**	P	**P**	**21 18 46.7**	**+2.0**
	baz=268						
H21K	**Melozitna Rive**	**46.77**	**31**	P	**P**	**21 18 51.0**	**+1.5**
N20K	**Mount Spurr**	**46.92**	**37**	P	**P**	**21 18 52.6**	**+1.8**
	baz=271						
SPCR	**Spurr Chakacha**	**46.92**	**37**	P	**P**	**21 18 52.6**	**+1.8**
	baz=271						
PPLA	**Purkeypile**	**46.93**	**35**	P	**P**	**21 18 52.3**	**+1.4**
CAST	**Castle Rocks**	**46.98**	**34**	P	**P**	**21 18 53.0**	**+1.7**
CAST				IAmb	IAmb	21 20 12.5	
	comp=Z,68nm,2.0s						
SKT	**Skwentna**	**47.23**	**36**	P	**P**	**21 18 54.3**	**+1.0**
SKT				IAmb	IAmb	21 19 32.9	
	comp=Z,116nm,2.0s						
SKT	**Skwentna**	**47.23**	**36**	P	**P**	**21 18 55.1**	**+1.9**
	baz=271						
E22K	**Anaktuvuk Pass**	**47.36**	**28**	P	**P**	**21 18 55.8**	**+1.7**
	baz=265						
G22K	**Bettles**	**47.38**	**30**	P	**P**	**21 18 55.5**	**+1.3**
	baz=266						
SRIT	**Nakonsritamara**	**47.44**	**244**	P	**P**	**21 18 55.5**	**+0.2**
SRIT				IAmb	IAmb	21 19 02.9	
	comp=Z,44nm,0.9s						
TRF	**Thorofare Moun**	**47.79**	**34**	P	**P**	**21 19 00.1**	**+2.4**

AAK IAmb IAmb 21 20 28.6
comp=Z,120nm,1.9s
BVAR Borovoye Array 50.51 312 P **P** **21 19 18.5 +0.1**
comp=Z,3.9nm,0.5s,baz=92,slow=10,SNR=2.1
comp=Z,3.9nm,0.5s
BRVK Borovoye 50.56 312 P **P** **21 19 18.1 -0.8**
BRVK IAmb IAmb 21 19 52.5
comp=Z,36nm,1.2s
BRVK Borovoye 50.56 312 P **P** **21 19 18.1 -0.8**
BRVK pmax pmax
comp=Z,36nm,1.3s
SCRK Sand Creek 50.56 33 P **P** **21 19 19.5 +0.6**
SCRK Sand Creek 50.56 33 P **P** **21 19 19.4 +0.5**
baz=276
BMRM Bremner River 50.62 37 P **P** **21 19 20.9 +1.6**
baz=278
MTN Manton Dam 50.78 193 P **P** **21 19 20.1 -0.7**
MTN IAmb IAmb 21 19 36.6
comp=Z,34nm,1.2s
L26K Log Cabin Wild 50.95 35 P **P** **21 19 23.4 +1.8**
baz=277
E27K Coleen River 51.18 28 P **P** **21 19 25.0 +1.7**
baz=274
H27K Steamboat Moun 51.38 30 P **P** **21 19 26.5 +1.6**
baz=276
L27K Beaver Creek, 51.63 34 P **P** **21 19 27.3 +0.5**
L27K IAmb IAmb 21 19 29.4
comp=Z,25nm,1.1s
L27K Beaver Creek, 51.63 34 P **P** **21 19 28.5 +1.7**
baz=278
KK31 Karatay Array 53.11 300 P **P** **21 19 37.6 -0.5**
KK31 IAmb IAmb 21 19 46.9
comp=Z,41nm,1.3s
KK31 Karatay Array 53.11 300 P **P** **21 19 37.6 -0.5**
KK31 pmax pmax
comp=Z,41nm,1.3s
KKAR Karatay Array 53.11 300 P **P** **21 19 37.6 -0.5**
KKAR Karatay Array 53.11 300 P **P** **21 19 37.7 -0.4**
KKAR IAmb IAmb 21 19 46.9
comp=Z,41nm,1.3s
KKAR Karatay Array 53.11 300 P **P** **21 19 37.7 -0.4**
KKAR pmax pmax
comp=Z,41nm,1.3s
M29M Somme Creek 53.27 35 P **P** **21 19 41.0 +2.0**
baz=281
EPYK Eagle Plains 53.28 30 P **P** **21 19 40.5 +1.5**
EPYK IAmb IAmb 21 19 41.5
comp=Z,53nm,0.9s
EPYK Eagle Plains 53.28 30 P **P** **21 19 40.8 +1.8**
baz=280
L29M L29M 53.29 34 P **P** **21 19 41.6 +2.6**
baz=281
G30M tAoh Zraii Nji 53.37 29 P **P** **21 19 40.9 +1.2**
baz=280
YUK4 Talbot Arm 53.40 36 P **P** **21 19 42.0 +1.9**
baz=282
K29M Barlow Dome 53.41 33 P **P** **21 19 41.9 +1.9**
baz=281
O29M Mount Kennedy 53.66 37 P **P** **21 19 43.2 +1.2**
baz=283
BTK Batken 53.95 296 P **P** **21 19 43.8 -0.6**
BTK Batken 53.95 296 P **P** **21 19 43.8 -0.6**
BTK pmax pmax
comp=Z,178nm,1.9s
KNRA Kununurra 54.00 195 P **P** **21 19 44.2 -0.4**
GSI Gunungsitoli 54.01 239 P **P** **21 19 44.8 -0.1**
INK Inuvik 54.14 27 P **P** **21 19 44.0 -1.2**
comp=Z,12nm,1.0s,baz=304,slow=9.6,SNR=4.8
comp=Z,12nm,1.0s
INK Inuvik 54.14 27 P **P** **21 19 45.6 +0.5**
INK Inuvik 54.14 27 P **P** **21 19 46.1 +1.0**
baz=281
INK Inuvik 54.14 27 P **P** **21 19 45.6 +0.5**
INK pmax pmax
comp=Z,17nm,1.1s
P29M Windy Craggy 54.23 38 P **P** **21 19 46.2 +0.2**
P29M IAmb IAmb 21 20 00.8
comp=Z,46nm,1.2s
P29M Windy Craggy 54.23 38 P **P** **21 19 47.5 +1.5**
baz=284
F31M Tsiigehtchic 54.24 28 P **P** **21 19 47.0 +1.2**
baz=282
P30M Million Dollar 54.49 37 P **P** **21 19 49.6 +1.6**
baz=284
NIL Nilore 54.65 288 P **P** **21 19 49.3 -0.2**
NIL IAmb IAmb 21 20 32.5
comp=Z,101nm,1.6s
NIL Nilore 54.65 288 P **P** **21 19 49.3 -0.2**
NIL pmax pmax
comp=Z,101nm,1.7s
GAR Garm 54.71 295 P **P** **21 19 49.8 -0.2**
N31M Braeburn, Yuko 54.71 36 P **P** **21 19 51.5 +2.0**
baz=284
SVE Sverdlovsk 55.06 319 *e*P P 21 19 58.5 +6.5
SVE pmax pmax
comp=Z,47nm,0.9s
M31M Drury Creek, Y 55.17 35 P **P** **21 19 53.8 +1.0**
baz=285
FARO Faro, Yukon 55.64 34 P **P** **21 19 57.3 +1.2**
FARO IAmb IAmb 21 21 24.4
comp=Z,58nm,1.9s
CHGR Chuyangaron 55.67 295 P **P** **21 19 56.6 -0.2**
CHGR Chuyangaron 55.67 295 P **P** **21 19 56.6 -0.2**
CHGR pmax pmax
comp=Z,123nm,1.1s
A36M Sachs Harbour 56.02 22 P **P** **21 19 59.7 +1.0**
baz=286
ARU Arti 56.27 318 P **P** **21 20 00.4 -0.3**
comp=Z,11nm,0.5s,baz=71,slow=5.0,SNR=16
comp=Z,11nm,0.5s
ARU Arti 56.27 318 P **P** **21 20 00.5 -0.2**
ARU IAmb IAmb 21 20 07.5
comp=Z,56nm,1.0s
ARU Arti 56.27 318 *d* iP P 21 20 07.0 +6.3
ARU 21 22 11.2
ARU S S 21 28 01.1 +11
ARU pmax pmax
comp=Z,63nm,1.0s
P33M Teslin, Yukon 56.46 37 P **P** **21 20 04.1 +2.0**
P33M IAmb IAmb 21 20 04.4
comp=Z,20nm,1.1s
P33M Teslin, Yukon 56.46 37 P **P** **21 20 04.2 +2.1**
baz=287
MMPY Sheldon Lake, 56.46 34 P **P** **21 20 03.5 +1.4**
baz=287
WB0 Warramunga Arr 57.11 188 P **P** **21 20 05.5 -1.5**
WB0 IAmb IAmb 21 20 21.4
comp=Z,71nm,1.2s
WRAB Tennant Creek 57.28 188 P **P** **21 20 07.2 -1.0**
WRAB Tennant Creek 57.28 188 P **P** **21 20 07.2 -1.0**
WRAB pmax pmax
comp=Z,198nm,2.0s
WR0 Warramunga Arr 57.28 188 P **P** **21 20 06.8 -1.4**
WB2 Warramunga Arr 57.29 188 P **P** **21 20 07.5 -0.7**
WRA Warramunga Arr 57.29 188 P **P** **21 20 07.2 -1.1**
comp=Z,2.7nm,0.4s,baz=5.5,slow=6.9,SNR=18
WRA pP **pP** **21 20 13.2 -0.4**
comp=Z,3.5nm,0.5s,baz=4.8,slow=7.3,SNR=3.2
comp=Z,2.7nm,0.4s
ABKAR Akbulak array 57.88 310 P **P** **21 20 11.7 -0.6**
ABKAR IAmb IAmb 21 20 18.9
comp=Z,30nm,0.8s
TGTN Hyland Airport 58.14 34 P **P** **21 20 15.8 +1.9**
baz=290
DLBC Dease Lake 58.39 38 P **P** **21 20 18.2 +2.5**
baz=291
T35M Bob Quinn 58.80 40 P **P** **21 20 21.0 +2.5**
baz=291
LIRD Liard River Hi 59.92 36 P **P** **21 20 28.4 +2.2**
baz=293
EUNU Eureka 59.96 9 P **P** **21 20 26.1 -0.2**
KIRV Kirov 60.14 323 P **P** **21 20 27.1 -0.6**
comp=Z,15nm,0.5s,baz=33,slow=4.7,SNR=3.6
KIRV pP **pP** **21 20 33.8 +0.7**
comp=Z,67nm,0.9s,baz=4.5,slow=0.5,SNR=12
comp=Z,15nm,0.5s
PRGR Permogore 60.65 327 *e*P **P** **21 20 33.6 +2.5**
PRGR pmax pmax
comp=Z,32nm,1.1s
AS31 Alice Springs 61.02 188 P **P** **21 20 33.7 -0.4**
ASAR Alice Springs 61.02 188 P **P** **21 20 33.3 -0.8**
comp=Z,2.8nm,0.7s,baz=359,slow=4.6,SNR=6.5
comp=Z,2.8nm,0.7s
ASAR Alice Springs 61.02 188 P **P** **21 20 33.7 -0.4**
ASAR Alice Springs 61.02 188 P **P** **21 20 33.7 -0.4**
RES Resolute Bay 62.36 14 P **P** **21 20 42.5 0.0**

RES IAmb IAmb 21 20 49.5
comp=Z,28nm,1.2s
RES Resolute Bay 62.36 14 P **P** **21 20 42.5 0.0**
RES pmax pmax
comp=Z,28nm,1.3s
APA Apatity 62.54 336 ⇓ *i* P P 21 20 38.5 -5.3
APA pmax pmax
comp=Z,17nm,0.9s
APA MLR MLR
comp=Z,73µm,14.0s
YKA Yellowknife Ar 63.57 30 P **P** **21 20 50.4 -0.3**
comp=Z,4.3nm,0.8s,baz=303,slow=6.5,SNR=4.6
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 63.57 30 *i* P **P** **21 20 51.0 +0.3**
YKA pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 63.63 328 *e*P **P** **21 20 55.3 +4.1**
KLMR AMP 21 20 58.8
comp=Z,70nm,1.6s
KLMR Klimovskoe 63.63 328 *e*P **P** **21 20 55.2 +4.1**
KLMR pmax pmax
comp=Z,70nm,1.6s
BELG Belogornoye 63.72 317 P **P** **21 20 51.2 -0.6**
comp=Z,55nm,1.1s,baz=54,slow=2.5,SNR=8.3
BELG pP **pP** **21 20 58.2 +1.0**
comp=Z,71nm,0.9s,baz=185,slow=0.7,SNR=5.2
comp=Z,55nm,1.1s
GEYT Alibeck 63.83 299 P **P** **21 20 53.7 +0.7**
comp=Z,3.4nm,0.8s,baz=191,slow=2.9,SNR=1.9
GEYT pP **pP** **21 20 59.3 +1.0**
comp=Z,31nm,1.0s,baz=40,slow=2.5,SNR=11
comp=Z,3.4nm,0.8s
ARCES ARCESS Array B 63.83 339 P **P** **21 20 52.3 -0.1**
comp=Z,4.1nm,0.7s,baz=64,slow=7.1,SNR=15
comp=Z,4.1nm,0.7s
ARCES ARCESS Array B 63.83 339 P **P** **21 20 51.9 -0.5**
VORR Voronezh 68.57 319 *e*P **P** **21 21 25.7 +2.7**
VORR pmax pmax
comp=Z,50nm,0.6s
FIA1 FINESS Array S 68.67 332 P **P** **21 21 22.5 -1.0**
FIA1 IAmb IAmb 21 21 30.6
comp=Z,41nm,0.9s
FINES FINESS Array B 68.67 332 P **P** **21 21 23.8 +0.3**
comp=Z,4.0nm,0.4s,baz=33,slow=8.0,SNR=22
FINES pP **pP** **21 21 29.9 +1.0**
comp=Z,23nm,0.9s,baz=72,slow=6.2,SNR=9.3
comp=Z,4.0nm,0.4s
FINES FINESS Array B 68.67 332 P **P** **21 21 22.8 -0.7**
FINES FINESS Array B 68.67 332 *i* P **P** **21 21 23.3 -0.2**
FINES pmax pmax
comp=Z,4.0nm,0.4s
STKA Stephens Creek 68.77 180 P **P** **21 21 23.5 -0.8**
comp=Z,8.0nm,0.8s,baz=0.9,slow=6.8,SNR=4.5
comp=Z,8.0nm,0.8s
STKA Stephens Creek 68.77 180 P **P** **21 21 24.1 -0.3**
STKA Stephens Creek 68.77 180 P **P** **21 21 24.1 -0.3**
STKA pmax pmax
comp=Z,10.0nm,1.6s
FORT Forrest 68.84 192 P **P** **21 21 24.9 +0.1**
PINE Pine Mountain 70.11 50 P **P** **21 21 34.1 +1.1**
PINE IAmb IAmb 21 21 35.7
comp=Z,39nm,1.0s
NCK Nalchik 70.55 310 *i* P **P** **21 21 35.7 +0.2**
NCK pmax pmax
comp=Z,23nm,1.1s
K05A Summer Lake 70.72 51 P **P** **21 21 36.9 +0.1**
K05A IAmb IAmb 21 21 39.4
comp=Z,29nm,1.1s
ZEI Tsey 70.75 309 *e*P **P** **21 21 41.4 +4.5**
ZEI pmax pmax
comp=Z,17nm,1.3s
KBZ Khabaz 70.85 311 P **P** **21 21 37.5 +0.4**
comp=Z,4.2nm,0.8s,baz=53,slow=10,SNR=1.9
KBZ pP **sP** **21 21 44.0 -0.6**
comp=Z,26nm,1.0s,baz=58,slow=2.8,SNR=8.2
comp=Z,4.2nm,0.8s
KIV Kislovodsk 70.85 311 ⇑P **P** **21 21 38.2 +0.8**
KIV Kislovodsk 70.85 311 P **P** **21 21 39.6 +2.2**
KIV Kislovodsk 70.85 311 *e*P **P** **21 21 38.1 +0.8**
KIV pmax pmax
comp=Z,74nm,1.0s
BMO Blue Mountains 71.70 47 P **P** **21 21 43.4 +0.9**
BMO Blue Mountains 71.70 47 P **P** **21 21 43.4 +0.9**
BMO pmax pmax
comp=Z,10.0nm,1.0s
UOSS Minazif 71.85 288 P **P** **21 21 41.8 -1.8**
UOSS IAmb IAmb 21 22 28.8
comp=Z,78nm,1.4s
MSO Missoula 72.49 44 P **P** **21 21 48.3 +1.1**
baz=306
NWAO Narrogin (SRO) 73.41 201 P **P** **21 21 52.1 -0.4**
comp=Z,3.7nm,0.6s,baz=108,slow=3.2,SNR=1.4
comp=Z,3.7nm,0.6s
NC405 NORSAR Array S 73.82 337 P **P** **21 21 54.3 -0.4**
NC405 IAmb IAmb 21 22 02.3
comp=Z,77nm,1.2s
LRM Limekiln Ridge 73.92 44 P **P** **21 21 57.2 +1.4**
HFS Hagfors 73.94 336 P **P** **21 21 55.4 0.0**
comp=Z,2.2nm,0.3s,baz=38,slow=7.5,SNR=21
HFS pP **sP** **21 22 02.2 -0.7**
comp=Z,3.9nm,0.4s,baz=64,slow=3.4,SNR=4.7
comp=Z,2.2nm,0.3s
NB2 NORSAR Subarra 74.03 337 P **P** **21 21 55.3 -0.7**
baz=39,slow=6.2
NB2 NORSAR Subarra 74.03 337 P **P** **21 21 55.3 -0.7**
comp=Z,48nm,1.4s,baz=39,slow=6.2
NOA NORSAR Array B 74.03 337 P **P** **21 21 55.3 -0.7**
comp=Z,5.8nm,1.0s,baz=40,slow=6.0,SNR=5.7
NOA pP **pP** **21 22 02.3 +0.9**
comp=Z,9.6nm,1.0s,baz=39,slow=5.8,SNR=11
comp=Z,5.8nm,1.0s
EGMT Eagleton 74.03 41 P **P** **21 21 57.1 +0.8**
baz=308
AKASG Malin Array Be 74.19 322 P **P** **21 21 56.1 -0.9**
comp=Z,2.9nm,0.3s,baz=46,slow=5.9,SNR=30
AKASG pP **pP** **21 22 03.1 +0.7**
comp=Z,7.6nm,0.5s,baz=45,slow=6.2,SNR=12
comp=Z,2.9nm,0.3s
AKASG Malin Array Be 74.19 322 P **P** **21 21 56.6 -0.5**
AKASG IAmb IAmb 21 22 04.4
comp=Z,23nm,1.2s
AKASG Malin Array Be 74.19 322 *i* P **P** **21 21 56.4 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKBB Malin Array Si 74.19 322 P **P** **21 21 56.1 -0.8**
AKBB IAmb IAmb 21 22 03.9
comp=Z,51nm,1.1s
AKBB Malin Array Si 74.19 322 P **P** **21 21 56.2 -0.8**
AKBB pmax pmax
comp=Z,51nm,1.1s
BOZ Bozeman (W) 74.51 44 P **P** **21 22 00.0 +0.8**
BOZ Bozeman (W) 74.51 44 P **P** **21 22 00.1 +0.8**
baz=308
BOZ Bozeman (W) 74.51 44 P **P** **21 22 00.0 +0.8**
BOZ pmax pmax
comp=Z,15nm,1.0s
NVAR Mina Array Bea 74.77 53 P **P** **21 22 01.4 +0.4**
comp=Z,6.6nm,0.9s,baz=281,slow=6.7,SNR=4.9
comp=Z,6.6nm,0.9s
YHB Horse Butte 75.27 45 P **P** **21 22 05.0 +1.3**
H17A Grant Village 75.84 45 P **P** **21 22 08.9 +1.9**
H17A IAmb IAmb 21 22 10.8
comp=Z,20nm,0.9s
H17A Grant Village 75.84 45 P **P** **21 22 09.8 +2.8**
baz=309
IMW Indian Meadow 75.94 45 P **P** **21 22 07.6 0.0**
IMW IAmb IAmb 21 22 10.4
comp=Z,16nm,1.0s
MOOW Moose Ponds 76.14 45 P **P** **21 22 09.2 +0.5**
SORM Soroca 76.30 321 ⇑P **P** **21 22 08.6 -0.5**
R11A Troy Canyon, C 76.54 52 P **P** **21 22 12.2 +1.2**
baz=307
MPMC Manual Prospec 76.69 55 P **P** **21 22 12.8 +0.9**
baz=307
LAO LASA Array 76.74 41 P **P** **21 22 13.2 +1.4**
baz=311
LRMC Laurel Mtn Rad 76.90 55 P **P** **21 22 13.9 +0.9**
baz=307
PDAR Pinedale Array 77.44 46 P **P** **21 22 15.7 -0.4**
comp=Z,2.4nm,0.8s,baz=278,slow=3.2,SNR=6.2
comp=Z,2.4nm,0.8s
PDAR Pinedale Array 77.44 46 P **P** **21 22 16.4 +0.3**
TATR Tatarca 78.12 319 ⇑P **P** **21 22 18.1 -1.4**
BUR08 Bucovina Ar. S 78.20 322 P **P** **21 22 20.3 +0.2**
BURAR Bucovina Array 78.21 322 P **P** **21 22 20.3 +0.2**
BURAR Bucovina Array 78.21 322 P **P** **21 22 19.5 -0.6**
TESR Tescani 78.24 320 ⇓P **P** **21 22 20.5 +0.4**

BRTR Keskin Array B 78.79 312 pP pP 21 22 29.9 +0.9
comp=Z,8.8nm,1.0s,baz=120,slow=3.4,SNR=7.6
BISRR Bisoca 78.86 319 ⇑P **P** **21 22 25.1 +1.4**
COVR Voineasa-Covas 78.92 320 ⇑P **P** **21 22 24.2 +0.3**
TRPA Tarpa 79.15 323 ⇓P **P** **21 22 26.2 +1.1**
ULM Lac du Bonnet 79.26 33 P **P** **21 22 25.7 0.0**
comp=Z,10nm,0.9s,baz=215,slow=2.0,SNR=3.8
comp=Z,10nm,0.9s
MLR Muntele Rosu 79.29 320 P **P** **21 22 26.4 +0.3**
MLR Muntele Rosu 79.29 320 P **P** **21 22 26.4 +0.3**
MLR pmax pmax
comp=Z,131nm,1.8s
IRM Iron Mountain 79.36 55 P **P** **21 22 27.6 +1.0**
baz=308
PDMCI Parker Dam,Lak 79.93 55 P **P** **21 22 30.7 +1.1**
baz=308
MORC Moravsky Berou 80.24 327 *e*P **P** **21 22 31.3 +0.2**
DPC Dobruska-Polom 80.33 328 *e*pP pP 21 22 38.3 +1.2
DPC Dobruska-Polom 80.33 328 *e*P P 21 22 38.3 +6.7
KRLC Kraliky 80.34 328 *e*pP pP 21 22 37.8 +0.7
KRLC Kraliky 80.34 328 *e*P P 21 22 37.8 +6.2
VYHS Vyhne 80.61 325 *e*P P 21 22 40.3 +7.3
VYHS *e* 21 38 47.2
VYHS Vyhne 80.61 325 *e*P P 21 22 40.3 +7.3
RAYN Ar Rayn 80.68 292 P **P** **21 22 33.5 -0.4**
RAYN IAmb IAmb 21 22 45.0
comp=Z,68nm,1.9s
RAYN Ar Rayn 80.68 292 P **P** **21 22 33.5 -0.4**
RAYN pmax pmax
comp=Z,68nm,2.0s
PVCC Panska Ves 80.93 329 *e*pP pP 21 22 41.5 +1.3
PVCC Panska Ves 80.93 329 *e*P P 21 22 41.5 +6.8
CLL Collm 80.97 330 *e*P **P** **21 22 35.0 +0.2**
CLL *e*PcP **PcP** **21 22 41.0 -0.3**
comp=Z,43nm,1.3s
CLL Collm 80.97 330 *e*P **P** **21 22 35.0 +0.2**
CLL pmax pmax
comp=Z,43nm,1.3s
VRAC Vranov 81.00 327 P **P** **21 22 35.3 +0.1**
comp=Z,2.6nm,0.6s,baz=99,slow=1.4,SNR=2.1
comp=Z,2.6nm,0.6s
VRAC Vranov 81.00 327 *e*P **P** **21 22 35.2 +0.1**
SURR Surduc 81.03 322 ⇑P **P** **21 22 35.6 +0.2**
KRUC Moravsky 81.27 327 *e*P **P** **21 22 34.2 -2.3**
PRU Pruhonice 81.36 329 *e*pP pP 21 22 43.0 +0.5
PRU Pruhonice 81.36 329 *e*P P 21 22 43.0 +6.0
MODS Modra-Piesok 81.40 326 *e*P P 21 22 45.0 +7.8
MODS Modra-Piesok 81.40 326 *e*P P 21 22 45.0 +7.8
MVCO Mesa Verde 81.63 49 P **P** **21 22 39.5 +0.5**
baz=311
MMAI Mount Meron Ar 81.93 305 P **P** **21 22 41.1 +0.7**
comp=Z,2.2nm,0.7s,baz=64,slow=8.2,SNR=3.1
MMAI pP **sP** **21 22 47.3 -0.6**
comp=Z,11nm,0.8s,baz=57,slow=8.2,SNR=7.8
comp=Z,2.2nm,0.7s
S22A 4UR Ranch, Cre 82.28 48 P **P** **21 22 43.6 +1.2**
baz=312
CKRC Cesky Krumlov 82.35 328 *e*P **P** **21 22 42.0 -0.2**
CKRC *ex* x 21 22 48.6
KHC Kasperske Hory 82.42 329 P **P** **21 22 42.7 +0.1**
KHC IAmb IAmb 21 23 18.9
comp=Z,96nm,1.9s
KHC Kasperske Hory 82.42 329 *e*P **P** **21 22 40.3 -2.3**
KHC *e*pP **pP** **21 22 48.0 -0.1**
KHC Kasperske Hory 82.42 329 P **P** **21 22 42.7 +0.1**
KHC pmax pmax
comp=Z,96nm,1.9s
GERES GERESS Array B 82.59 328 P **P** **21 22 43.1 -0.5**
comp=Z,1.3nm,0.4s,baz=46,slow=6.0,SNR=14
GERES pP **pP** **21 22 50.0 +0.9**
comp=Z,2.2nm,0.7s,baz=47,slow=6.3,SNR=5.4
comp=Z,1.3nm,0.4s
VTS Vitosha 82.69 319 P **P** **21 22 44.8 +0.5**
VTS IAmb IAmb 21 23 05.5
comp=Z,98nm,1.9s
VTS Vitosha 82.69 319 P **P** **21 22 44.8 +0.5**
VTS pmax pmax
comp=Z,98nm,1.9s
EYMN Ely 82.90 33 P **P** **21 22 44.4 -0.7**
EYMN IAmb IAmb 21 22 46.0
comp=Z,35nm,1.2s
EYMN Ely 82.90 33 P **P** **21 22 45.3 +0.2**
baz=320
SDCO Great Sand Dun 83.06 47 P **P** **21 22 47.5 +1.0**
baz=312
EIL Elat 84.35 303 pP pP 21 22 59.6 +1.2
comp=Z,32nm,1.1s,baz=78,slow=3.4,SNR=6.1
ANMO Albuquerque 84.36 50 *e*P **P** **21 22 55.1 +2.0**
ANMO pmax pmax
comp=Z,14nm,2.5s
BMRD Maredsous 84.86 334 *d* P **P** **21 22 54.2 -0.8**
PDG Podgorica 84.86 321 ⇓P **P** **21 22 54.9 -0.3**
DAVOX Davos/Dischmat 85.80 329 P **P** **21 23 00.1 0.0**
comp=Z,2.7nm,0.6s,baz=285,slow=19,SNR=4.4
comp=Z,2.7nm,0.6s
IDI Anoyia 86.92 313 P **P** **21 23 04.2 -1.5**
comp=Z,11nm,1.1s,baz=225,slow=20,SNR=1.8
comp=Z,11nm,1.1s
AMTX Amarillo 87.27 47 P **P** **21 23 08.7 +1.4**
baz=315
TXAR Lajitas Array 89.90 52 P **P** **21 23 18.1 -1.8**
comp=Z,1.8nm,0.7s,baz=309,slow=3.9,SNR=4.0
comp=Z,1.8nm,0.7s
MIAR Mount Ida 92.08 43 P **P** **21 23 30.8 +0.9**
baz=319
VNDA Vanda 115.18 175 **PKPdf** **21 29 06.0 +5.6**
VNDA Vanda 115.18 175 *i* PKIKP **PKPdf** **21 29 06.1 +5.6**
BAUV El Baul 126.33 37 PKPdf **PKPdf** **21 29 23.9 0.0**
BELA Belgrano 2 139.24 181 PKPpre PKPpre 21 29 36.3
SNAA Sanae 140.99 197 PKPpre PKPpre 21 29 41.5
SNAA Sanae 140.99 197 PKHKP PKPpre 21 29 41.5
LPAZ La Paz 146.49 59 PKPbc **PKPbc** **21 30 02.8 -0.1**
comp=Z,5.5nm,0.7s,baz=22,slow=2.0,SNR=8.8
LPAZ La Paz 146.49 59 PKPbc **PKPbc** **21 30 02.5 -0.4**
LPAZ La Paz 146.49 59 PKP2 **PKPbc** **21 30 02.5 -0.4**
PB16 IPOC Station P 146.90 64 PKPbc **PKPbc** **21 30 04.5 +0.4**
MNMC Minye Minye 147.35 65 PKPbc **PKPbc** **21 30 05.5 +0.6**
TA01 Diego Aracena 147.82 68 PKPbc **PKPbc** **21 30 05.5 -0.3**
PATCX Punta Patache 148.00 68 PKPbc **PKPbc** **21 30 06.3 -0.1**
SIV San Ignacio 150.86 49 PKPbc **PKPbc** **21 30 13.6 +0.1**
comp=Z,13nm,1.0s,baz=245,slow=1.8,SNR=5.0
CO06 Fray Jorge 151.80 86 PKPbc **PKPbc** **21 30 14.9 -0.4**
AC05 El Transito 152.13 82 PKPbc **PiKP** **21 30 16.7 0.0**

---

*NOU **21** 21:15:02.8, 37.˚50S×176.˚78E, h250km, MLv4.6/12, North Island, New Zealand*
*NEIC **21** 21:15:07.3±2.1, 37.˚66S±0.˚08×176.˚35E±0.˚08, h190km±8km, mb4.7/13, ML4.2(WEL), Error ellipse: s-maj=12.5km s-min=8.8km az=196.0*
*WEL **21** 21:15:08.5±0.8, 37.˚5S±6.˚4×17.˚7E±.˚, h186km±7km, M4.3/142, ML3.6/9, MLv4.3/142, Error ellipse: s-maj=0.0km s-min=0.0km az=37.0*
*IDC **21** 21:15:08.3±9.7, 38.˚11S×176.˚78E, h239km±88km, mb3.9/3, mbtmp4.5/4, Error ellipse: s-maj=92.7km s-min=37.6km az=27.0*

ISC 21 21:15:07.3±0.7, 37.˚70S±0.˚06×176.˚42E±0.˚05, h200km, n221, σ1°73/226, mb4.6/10, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.13**	**257**	P	**Pn**	**21 15 34.1**	**+0.6**
OPRZ	**Ohinepanea**	**0.18**	**143**	P	**Pn**	**21 15 33.8**	**+0.3**
OPRZ				S	**Sn**	**21 15 54.9**	**+0.9**
LIRZ	**Lichensteins R**	**0.30**	**185**	P	**Pn**	**21 15 34.9**	**+1.1**
KARZ	**Kaharoa**	**0.35**	**203**	P	**Pn**	**21 15 35.2**	**+1.3**
MARZ	**Manawahe**	**0.35**	**145**	P	**Pn**	**21 15 34.6**	**+0.6**
MARZ				S	**Sn**	**21 15 56.9**	**+2.1**
KMRZ	**Kaimai**	**0.41**	**249**	P	**Pn**	**21 15 35.4**	**+1.2**
OMRZ	**Omania**	**0.41**	**185**	P	**Pn**	**21 15 35.3**	**+1.2**
OMRZ				S	**Sn**	**21 15 58.6**	**+3.5**
MKRZ	**Makatiti**	**0.44**	**175**	P	**Pn**	**21 15 36.1**	**+1.8**
NGRZ	**Ngongotaha**	**0.44**	**204**	P	**Pn**	**21 15 35.8**	**+1.6**
MYRZ	**Mayor Island**	**0.44**	**341**	P	**Pn**	**21 15 34.2**	**-0.1**
WHRZ	**Whale Island**	**0.47**	**110**	P	**Pn**	**21 15 35.2**	**+0.9**
EDRZ	**Edgecumbe**	**0.48**	**148**	P	**Pn**	**21 15 35.8**	**+1.4**
UTU	**Utuhina**	**0.51**	**200**	P	**Pn**	**21 15 36.3**	**+1.9**
TARZ	**Mount Tarawera**	**0.54**	**173**	P	**Pn**	**21 15 36.3**	**+1.6**
HLRZ	**Highlands Stat**	**0.55**	**185**	P	**Pn**	**21 15 36.6**	**+1.9**
HSRZ	**Hossack Road**	**0.62**	**193**	P	**Pn**	**21 15 37.5**	**+2.6**
WSRZ	**White Island S**	**0.63**	**73**	P	**Pn**	**21 15 35.0**	**0.0**
WIZ	**White Island**	**0.64**	**74**	P	**Pn**	**21 15 34.5**	**-0.5**
RRRZ	**Republican Roa**	**0.64**	**173**	P	**Pn**	**21 15 36.7**	**+1.7**

GRRZ	Galatos Road	0.69	201	P	Pn	21 15 37.2 +1.9
HRRZ	Handcock Road	0.70	189	P	Pn	21 15 37.2 +1.9
TOZ	Tahuroa Road	0.73	267	P	Pn	21 15 36.8 +1.4
URZ	Urewera	0.78	136	P	Pn	21 15 36.1 +0.4
URZ	Urewera	0.78	136	P	Pn	21 15 35.9 +0.3
URZ				S	Sn	21 15 57.2 -0.5
MUGZ	Murupara	0.82	160	P	Pn	21 15 37.3 +1.4
MUGZ				S	Sn	21 15 59.3 +0.9
ALRZ	Allen Road	0.86	184	P	Pn	21 15 38.2 +2.0
TLZ	Tolley Road	0.94	228	P	Pn	21 15 39.1 +2.4
RTZ	Ruatahuna	1.01	154	Pn	Pn	21 15 38.2 +1.0
RTZ	Ruatahuna	1.01	154	P	Pn	21 15 38.5 +1.3
WHTZ	Whakaora	1.03	201	P	Pn	21 15 40.4 +3.1
RUGZ	Raukumara Rang	1.03	105	P	Pn	21 15 36.2 -1.2
MWZ	Matawai	1.08	126	P	Pn	21 15 37.8 +0.1
HAZ	Te Kaha	1.08	93	P	Pn	21 15 36.5 -1.1
KUZ	Kuaotunu	1.10	329	P	Pn	21 15 36.9 -0.9
RAGZ	Rawiri	1.12	136	P	Pn	21 15 38.8 +0.8
MRHZ	Matea Rd	1.13	180	P	Pn	21 15 40.0 +1.9
MKAZ	Moumakai	1.17	300	P	Pn	21 15 38.7 +0.5
MTHZ	Maungataniwha	1.20	164	P	Pn	21 15 40.1 +1.6
HATZ	Hinemaiaia	1.22	192	P	Pn	21 15 41.1 +2.4
RATZ	Rangitukua	1.27	203	P	Pn	21 15 41.8 +2.7
SNGZ	Shannon Statio	1.30	146	P	Pn	21 15 40.8 +1.5
RAHZ	Arahi	1.32	157	P	Pn	21 15 41.6 +2.1
TWGZ	Tauwhareparae	1.32	112	P	Pn	21 15 39.8 +0.2
PKGZ	Pakihiroa	1.33	99	P	Pn	21 15 39.0 -0.6
TKGZ	Te Karaka	1.35	124	P	Pn	21 15 40.2 +0.5
RITZ	Rihia Road	1.35	199	P	Pn	21 15 42.7 +3.0
WIAZ	Waiheke Island	1.37	311	P	Pn	21 15 39.7 -0.2
KATZ	Kakaramea	1.39	204	P	Pn	21 15 42.9 +2.7
ETAZ	East Tamaki Re	1.40	302	P	Pn	21 15 40.7 +0.5
NMHZ	Naumai	1.43	168	P	Pn	21 15 42.9 +2.5
RIGZ	Rimuhau	1.46	134	P	Pn	21 15 42.1 +1.4
BKZ	Black Stump Fm	1.46	178	Pn	Pn	21 15 42.1 +1.4
BKZ	Black Stump Fm	1.46	178	P	Pn	21 15 42.6 +1.8
BKZ	Black Stump Fm	1.46	178	P	Pn	21 15 42.5 +1.8
HIZ	Hauiti	1.48	236	Pn	Pn	21 15 43.5 +2.8
HIZ	Hauiti	1.48	236	P	Pn	21 15 43.6 +2.8
HIZ	Hauiti	1.48	236	P	Pn	21 15 43.7 +2.9
PUZ	Puketiti	1.50	105	P	Pn	21 15 40.5 -0.5
MXZ	Matakaoa Point	1.50	85	Pn	Pn	21 15 39.5 -1.5
MXZ	Matakaoa Point	1.50	85	P	Pn	21 15 39.9 -1.2
MXZ	Matakaoa Point	1.50	85	P	Pn	21 15 39.8 -1.2
NTVZ	North Tongarir	1.51	202	P	Pn	21 15 43.9 +2.6
WHHZ	Waihua	1.52	155	P	Pn	21 15 43.2 +2.0
KRVZ	Karewarewa	1.52	203	P	Pn	21 15 44.0 +2.7
TMVZ	Te Maari	1.52	201	P	Pn	21 15 43.9 +2.6
MBAZ	Motutapu North	1.53	307	P	Pn	21 15 41.5 +0.2
ETVZ	East Tongariro	1.54	201	P	Pn	21 15 44.1 +2.7
AWAZ	Awhitu Peninsu	1.55	294	P	Pn	21 15 42.1 +0.6
WTVZ	West Tongariro	1.56	204	P	Pn	21 15 44.2 +2.6
NNVZ	North Ngauruho	1.56	204	P	Pn	21 15 44.5 +2.8
TWVZ	Taurewa	1.57	209	P	Pn	21 15 44.5 +2.8
OTVZ	Oturere	1.58	202	P	Pn	21 15 44.7 +2.9
WMGZ	Waiomatatini S	1.59	95	P	Pn	21 15 41.1 -0.7
HBAZ	Herne Bay Bore	1.59	302	P	Pn	21 15 42.1 +0.3
SNVZ	South Ngauruho	1.60	202	P	Pn	21 15 44.8 +2.7
NGZ	Ngauruhoe	1.61	203	P	Pn	21 15 44.9 +2.7
CNGZ	Carnagh Statio	1.61	120	P	Pn	21 15 42.8 +0.8
ARHZ	Aropaoanui	1.62	164	P	Pn	21 15 44.4 +2.4
GRZ	Great Barrier	1.64	332	P	Pn	21 15 41.0 -1.3
KNZ	Kokohu	1.65	144	P	Pn	21 15 43.8 +1.5
WTAZ	Waiatarua	1.66	297	P	Pn	21 15 43.1 +0.6
TUVZ	Tukino	1.68	201	P	Pn	21 15 45.5 +2.7
ABAZ	Army Bay	1.68	310	P	Pn	21 15 42.7 +0.1
FWVZ	Far West T-bar	1.69	208	P	Pn	21 15 44.8 +2.4
WHVZ	Whangaehu Hut	1.71	202	P	Pn	21 15 45.6 +2.5
DRZ	Dome Shelter	1.71	203	P	Pn	21 15 46.2 +2.9
KWHZ	Kaweka Forest	1.72	180	P	Pn	21 15 45.4 +2.4
TRVZ	Turoa	1.74	203	P	Pn	21 15 45.9 +2.5
RVAZ	Riverhead Bore	1.74	302	P	Pn	21 15 43.2 0.0
WNVZ	Wahianoa	1.75	201	P	Pn	21 15 46.0 +2.5
MCHZ	McNeill Hill	1.75	173	P	Pn	21 15 46.0 +2.6
MOVZ	Moawhango	1.78	197	P	Pn	21 15 45.7 +2.0
PKVZ	Pokaka	1.80	208	P	Pn	21 15 46.6 +2.8
BHHZ	Black Hill Sta	1.81	189	P	Pn	21 15 46.1 +2.1
MTVZ	Mangateitei	1.84	204	P	Pn	21 15 47.0 +2.8
MHGZ	Mahia Peninsul	1.86	142	P	Pn	21 15 45.9 +1.6
VRZ	Vera Road	1.93	222	P	Pn	21 15 48.7 +3.7
CKHZ	Cape Kidnapper	2.02	165	P	Pn	21 15 48.2 +2.3
KAHZ	Kahuranaki	2.12	170	P	Pn	21 15 49.5 +2.4
MHEZ	Mangahewa	2.14	230	P	Pn	21 15 52.0 +4.7
PNHZ	Pukenui	2.22	184	P	Pn	21 15 50.0 +1.9
WAZ	Wanganui	2.34	209	P	Pn	21 15 52.3 +2.9
PXZ	Pawanui	2.35	172	P	Pn	21 15 53.3 +3.8
WPHZ	Waipukurau	2.36	180	P	Pn	21 15 51.5 +1.9
LREZ	Lake Rotokare	2.36	221	P	Pn	21 15 53.4 +3.8
TSZ	Takapari Road	2.38	188	P	Pn	21 15 51.7 +1.9
NEZ	North Egmont	2.40	229	P	Pn	21 15 54.4 +4.2
WCZ	Waipu Caves	2.42	316	P	Pn	21 15 49.7 -0.7
PKE	Pukeiti	2.42	231	P	Pn	21 15 54.4 +4.1
KHEZ	Kahui Hut	2.47	229	P	Pn	21 15 54.9 +4.0
KHEZ	Kahui Hut	2.47	229	P	Pn	21 15 54.9 +4.0
NBEZ	Newall Road No	2.54	231	P	Pn	21 15 55.6 +4.0
PRHZ	Porangahau	2.57	176	P	Pn	21 15 53.6 +1.7
DVHZ	Dannevirke	2.60	184	P	Pn	21 15 53.9 +1.5
NMEZ	Namu Road	2.63	229	P	Pn	21 15 56.5 +4.0
OHWZ	Ohakea	2.65	199	P	Pn	21 15 55.5 +2.7
POWZ	Post Office Ro	2.73	190	P	Pn	21 15 55.5 +1.7
ANWZ	Angora Road	2.76	179	P	Pn	21 15 55.8 +1.7
PRWZ	Pori Road	2.87	187	P	Pn	21 15 57.1 +1.7
BFZ	Birch Farm	2.98	183	Pn	Pn	21 15 57.9 +1.3
BFZ	Birch Farm	2.98	183	P	Pn	21 15 57.8 +1.2
BFZ	Birch Farm	2.98	183	P	Pn	21 15 57.9 +1.3
MRZ	Mangatainoka R	3.03	192	Pn	Pn	21 15 58.4 +1.2
MRZ	Mangatainoka R	3.03	192	P	Pn	21 15 58.5 +1.2
TIWZ	Tintock	3.10	188	P	Pn	21 15 59.4 +1.3
CPWZ	Castlepoint	3.21	183	P	Pn	21 16 01.1 +1.7
OGWZ	Otaki Gorge	3.26	197	P	Pn	21 16 01.1 +1.2
HOWZ	Holdsworth Sta	3.27	192	P	Pn	21 16 00.9 +0.8
OUZ	Omahuta	3.36	317	Pn	Pn	21 15 59.9 -1.4
OUZ	Omahuta	3.36	317	P	Pn	21 16 00.2 -1.1
OUZ	Omahuta	3.36	317	P	Pn	21 16 00.3 -1.0
KIW	Kapiti Island	3.37	200	P	Pn	21 16 02.2 +0.9
TMWZ	Te Maipa	3.43	187	P	Pn	21 16 02.7 +0.8
MTW	Mount Morrison	3.52	191	P	Pn	21 16 03.7 +0.5
CAW	Cannon Point	3.56	197	P	Pn	21 16 04.3 +0.7
DUWZ	D'Urville Isla	3.65	211	P	Pn	21 16 05.5 +0.7
TRWZ	Traveller	3.74	198	P	Pn	21 16 06.4 +0.5
PAWZ	Paruwai Farm	3.75	191	P	Pn	21 16 06.3 +0.3
WEL	Wellington	3.80	199	P	Pn	21 16 07.4 +0.9
MSWZ	Moikau Station	3.82	193	Pn	Pn	21 16 06.5 -0.3
MSWZ	Moikau Station	3.82	193	P	Pn	21 16 07.1 +0.3
SNZO	South Karori	3.84	200	Pn	Pn	21 16 07.5 +0.5
SNZO	South Karori	3.84	200	P	Pn	21 16 07.5 +0.5
TCW	Tory Channel	3.88	205	Pn	Pn	21 16 07.7 +0.3
TCW	Tory Channel	3.88	205	P	Pn	21 16 07.4 -0.1
PLWZ	Palliser	3.97	193	Pn	Pn	21 16 08.6 0.0
PLWZ	Palliser	3.97	193	P	Pn	21 16 08.8 +0.2
TUWZ	Tuamarina	4.19	206	Pn	Pn	21 16 11.5 +0.2
TUWZ	Tuamarina	4.19	206	P	Pn	21 16 11.3 0.0
NNZ	Nelson	4.23	213	Pn	Pn	21 16 11.2 -0.6
NNZ	Nelson	4.23	213	P	Pn	21 16 11.8 0.0
TKNZ	Takaka Hill	4.27	218	Pn	Pn	21 16 12.0 -0.4
TKNZ	Takaka Hill	4.27	218	P	Pn	21 16 12.9 +0.5
QRZ	Quartz Range	4.34	223	Pn	Pn	21 16 13.3 0.0
QRZ	Quartz Range	4.34	223	P	Pn	21 16 14.1 +0.8
QRZ	Quartz Range	4.34	223	P	Pn	21 16 13.7 +0.4
BSWZ	Blackbirch Sta	4.46	205	Pn	Pn	21 16 14.1 -0.7
BSWZ	Blackbirch Sta	4.46	205	P	Pn	21 16 15.6 +0.8
MRNZ	Matariki Terra	4.65	216	Pn	Pn	21 16 17.6 +0.4
THZ	Tophouse	4.88	213	Pn	Pn	21 16 20.4 +0.2
THZ	Tophouse	4.88	213	P	Pn	21 16 20.3 +0.2
DSZ	Denniston Nort	5.38	220	Pn	Pn	21 16 26.0 -0.5
DSZ	Denniston Nort	5.38	220	P	Pn	21 16 26.6 +0.1
GVZ	Greta Valley S	5.86	205	Pn	Pn	21 16 32.0 -0.7
GVZ	Greta Valley S	5.86	205	P	Pn	21 16 32.4 -0.2
LTZ	Lake Taylor	5.99	211	Pn	Pn	21 16 33.2 -1.1
LTZ	Lake Taylor	5.99	211	P	Pn	21 16 34.2 -0.1
AMCZ	Amberley	6.18	207	Pn	Pn	21 16 35.3 -1.5
AMCZ	Amberley	6.18	207	P	Pn	21 16 36.2 -0.5
INZ	Inchbonnie	6.30	216	Pn	Pn	21 16 37.5 -0.8
INZ	Inchbonnie	6.30	216	P	Pn	21 16 38.0 -0.3
OKCZ	Okains Bay	6.54	202	P	Pn	21 16 40.9 -0.5
OXZ	Oxford	6.54	209	Pn	Pn	21 16 40.4 -1.0
OXZ	Oxford	6.54	209	P	Pn	21 16 40.3 -1.1
MQZ	McQueen's Vall	6.64	204	Pn	Pn	21 16 40.9 -1.9
MQZ	McQueen's Vall	6.64	204	P	Pn	21 16 41.2 -1.6
AKCZ	Akaroa Harbour	6.71	202	P	Pn	21 16 43.7 0.0
RACZ	Rakaia	6.84	207	P	Pn	21 16 44.1 -1.2
MHCZ	Mount Hutt	6.89	211	P	Pn	21 16 45.2 -0.9
WVZ	Waitaha Valley	6.90	217	P	Pn	21 16 45.6 -0.5
RPZ	Rata Peaks	7.26	212	P	Pn	21 16 50.4 -0.4
	14nm,0.4s,baz=218,slow=3.9,SNR=19					
RPZ				S	Sn	21 18 10.6 -2.5
	33nm,0.3s,baz=14,slow=3.5,SNR=13					
RPZ	Rata Peaks	7.26	212	Pn	Pn	21 16 50.1 -0.7
RPZ	Rata Peaks	7.26	212	P	Pn	21 16 51.1 +0.3
RPZ	Rata Peaks	7.26	212	P	Pn	21 16 50.4 -0.4
GCSZ	Gaunt Creek Bo	7.28	218	P	Pn	21 16 50.8 -0.2
ARCZ	Arundel	7.40	211	P	Pn	21 16 51.7 -0.9
FOZ	Fox Glacier	7.69	219	Pn	Pn	21 16 54.9 -1.5
FOZ	Fox Glacier	7.69	219	P	Pn	21 16 55.5 -0.8
TMZ	Timaru	7.83	210	P	Pn	21 16 57.3 -0.9
LBZ	Lake Benmore	8.17	213	P	Pn	21 17 01.8 -0.9
ODZ	Otahua Downs	8.52	209	Pn	Pn	21 17 06.6 -0.7
ODZ	Otahua Downs	8.52	209	P	Pn	21 17 07.1 -0.1
ODZ	Otahua Downs	8.52	209	P	Pn	21 17 06.8 -0.4
JCZ	Jackson Bay	8.60	220	P	Pn	21 17 06.7 -1.6
JCZ	Jackson Bay	8.60	220	P	Pn	21 17 07.1 -1.2
WKZ	Wanaka	9.04	216	P	Pn	21 17 13.2 -0.7
EAZ	Earnscleugh	9.22	213	P	Pn	21 17 15.4 -1.0
MLZ	Mavora Lakes	9.86	216	P	Pn	21 17 24.8 +0.1
WHZ	Wether Hill Ro	10.34	215	Pn	Pn	21 17 29.5 -1.3
WHZ	Wether Hill Ro	10.34	215	P	Pn	21 17 30.2 -0.6
SYZ	Scrubby Hill	10.35	209	P	Pn	21 17 32.7 +1.8
APZ	The Paps	11.05	212	P	Pn	21 17 40.9 +0.9
EIDS	Eidsvold	24.76	292	P	P	21 20 12.1 +1.4
STKA	Stephens Creek	29.07	271	P	P	21 20 51.1 +2.0
BBOO	Buckleboo	33.13	266	P	P	21 21 24.9 +0.3
AS31	Alice Springs	38.82	279	P	P	21 22 12.8 -0.2
ASAR	Alice Springs	38.82	279	P	P	21 22 13.5 +0.5
	4.0nm,0.6s,baz=120,slow=8.2,SNR=21					
	4.0nm,0.6s					
FORT	Forrest	40.21	265	P	P	21 22 25.2 +0.8
FORT				IAmb	IAmb	21 22 30.4
	comp=Z,31nm,0.9s					
WR0	Warramunga Arr	40.34	284	P	P	21 22 25.4 -0.1
WR0				IAmb	IAmb	21 22 43.1
	comp=Z,28nm,1.4s					
WB2	Warramunga Arr	40.50	284	P	P	21 22 26.8 0.0
WB2				IAmb	IAmb	21 22 41.3
	comp=Z,40nm,1.4s					
WRAB	Tennant Creek	40.50	284	P	P	21 22 26.4 -0.5
WRAB				IAmb	IAmb	21 22 41.3
	comp=Z,30nm,1.4s					
WRA	Warramunga Arr	40.51	284	P	P	21 22 26.6 -0.4
	comp=Z,4.4nm,0.6s,baz=123,slow=8.2,SNR=15					
	comp=Z,4.4nm,0.6s					
WB0	Warramunga Arr	40.57	284	P	P	21 22 26.8 -0.6
WB0				IAmb	IAmb	21 22 49.9
	comp=Z,28nm,1.4s					
MBWA	Marble Bar	51.31	272	P	P	21 23 49.6 -1.6
QSPA	South Pole Qui	52.42	180	P	P	21 24 03.6 +4.6
SNAA	Sanae	70.93	180	P	P	21 26 02.8 +0.5
SNAA				IAmb	IAmb	21 26 30.0
	comp=Z,15nm,1.5s					
PLCA	Paso Flores	80.79	135	P	P	21 27 01.3 +2.7
PLCA				IAmb	IAmb	21 27 08.5
	comp=Z,23nm,1.5s					
CMAR	Chiang Mai Arr	91.63	292	P	P	21 27 51.8 0.0
	comp=Z,1.0nm,0.6s,baz=138,slow=3.2,SNR=7.2					
	comp=Z,1.0nm,0.6s					
KURBB	Kurchatov Arra	122.60	312	PKP	PKPdf	21 33 35.1 -3.2
	comp=Z,0.5nm,0.6s,baz=103,slow=2.2,SNR=4.2					
ARCES	ARCESS Array B	144.47	343	PKP	PKPab	21 34 14.7 -2.8
	comp=Z,0.8nm,0.5s,baz=19,slow=3.3,SNR=6.0					
FINES	FINESS Array B	149.91	332	PKPbc	PKPbc	21 34 29.6 -3.2
	comp=Z,4.9nm,0.9s,baz=60,slow=3.7,SNR=2.9					

*IDC **21** 21:15:47.3±1.3,37.°14N×141.°21E,h0km,mb3.9/9, mbtmp3.9/10,ML2.2/1,Error ellipse: s-maj=31.8km s-min=24.0km az=75.0*
*NEIC **21** 21:15:49.3±1.0,37.°21N±0.°05×141.°2E±0.°1,h15km±6km, mb4.5/8,Error ellipse: s-maj=15.9km s-min=3.8km az=63.0*
*JMA **21** 21:15:50.1±0.1,37.°3N±0.°2×141.°5E±0.°5,h23km±1km, MV4.1/21,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 21 21:15:48.9±2.0,37.°22N±0.°06×141.°28E±0.°08,h13km±11km, n40,σ°86/43,mb4.0/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.36	294	P		Pn	21 15 59.6	-0.1
JFK					eS	Sn	21 16 06.8	+0.1
JFFD	Fukushimafurud	0.59	258	P		Pn	21 16 03.9	+1.0
JFFD					eS	Sn	21 16 14.1	+1.7
JMST	Minamisoumatoc	0.59	328	P		Pn	21 16 02.5	-0.5
JMST					eS	Sn	21 16 11.8	-0.7
JMM	Marumori	0.75	329	Pg		Pg	21 16 03.5	0.0
JMM				Sg		Sg	21 16 13.0	-0.5
JIO	Ouri	1.23	2	eP		Pn	21 16 11.6	-0.2
JIO				eS		Sb	21 16 26.7	-1.1
JOU	Okura	1.25	337	eP		Pg	21 16 13.1	+0.2
JOU				eS		Sg	21 16 30.3	+1.2
MJAR	Matsushiro Arr	2.56	256	Pn		Pn	21 16 27.7	-2.3
	0.6nm,0.3s,baz=80,slow=16,SNR=2.1							
	14nm,0.4s							
MAJO	Matsushiro	2.56	256	Pn		Pn	21 16 28.5	-1.5
MJB9	Matsu-Tunnel	2.56	256	Pn		Pn	21 16 28.3	-1.7
INU	Inuyama	3.92	243	Pn		Pn	21 16 47.7	-1.0
PETK	Petropavlovsk-	19.58	31	P		P	21 20 16.8	+0.4
SONM	Songino Array	27.59	304	P		P	21 21 35.9	+0.1
	1.4nm,0.7s,baz=99,slow=8.2,SNR=2.3							
	1.4nm,0.7s							
H11N2	WAKE ISLAND Hy	28.33	121	T		T	21 51 35.1	
	baz=313,slow=74,SNR=5.1							
H11N1	WAKE ISLAND Hy	28.34	121	T		T	21 51 34.6	
	baz=313,slow=74,SNR=5.3							
H11N3	WAKE ISLAND Hy	28.35	121	T		T	21 51 36.7	
	baz=313,slow=74,SNR=5.4							
ZALV	Zalesovo Beam	41.71	312	P		P	21 23 38.1	+0.9
	1.3nm,0.4s,baz=96,slow=7.4,SNR=3.1							
	1.3nm,0.4s							
ZALV	Zalesovo Beam	41.71	312	P		P	21 23 37.0	-0.1
MK31	Makanchi Array	43.93	302	P		P	21 23 55.5	+0.2
MKAR	Makanchi Array	43.93	302	P		P	21 23 55.8	+0.5
	1.8nm,0.7s,baz=96,slow=8.7,SNR=4.3							
	1.8nm,0.7s							
MKAR	Makanchi Array	43.93	302	P		P	21 23 54.9	-0.4
MAKZ	Makanchi	44.14	302	P		P	21 23 57.0	0.0
KURK	Kurchatov	45.74	308	P		P	21 24 09.2	-0.4
KURK				IAmb		IAmb	21 24 11.7	
	comp=Z,5.8nm,0.9s							
KURBB	Kurchatov Arra	45.81	308	P		P	21 24 10.7	+0.6
	comp=Z,1.6nm,0.4s,baz=83,slow=8.5,SNR=4.3							
	comp=Z,1.6nm,0.4s							
TARG	Taragay, Kyrgy	48.23	296	P		P	21 24 28.8	-0.9
TARG				IAmb		IAmb	21 24 28.9	
	comp=Z,3.1nm,0.9s							
RC01	Rabbit Creek A	48.28	37	P		P	21 24 29.1	-0.2
IL31		49.39	32	P		P	21 24 38.0	+0.3
ILAR	Eielson Array	49.39	32	P		P	21 24 38.5	+0.7
	comp=Z,0.7nm,0.7s,baz=268,slow=6.0,SNR=2.8							
	comp=Z,0.7nm,0.7s							
ILAR	Eielson Array	49.39	32	P		P	21 24 37.9	0.0
BVAR	Borovoye Array	50.37	312	P		P	21 24 46.5	+1.1
	comp=Z,1.0nm,0.5s,baz=70,slow=4.7,SNR=1.9							
	comp=Z,1.0nm,0.5s							
SCRK	Sand Creek	50.71	33	P		P	21 24 46.7	-1.3
SCRK				IAmb		IAmb	21 24 50.7	
	comp=Z,12nm,1.5s							
INK	Inuvik	54.27	27	P		P	21 25 14.9	+0.8
WB0	Warramunga Arr	57.05	188	P		P	21 25 34.4	-0.2
WB0				IAmb		IAmb	21 25 35.4	
	comp=Z,7.8nm,1.2s							
WB2	Warramunga Arr	57.23	188	P		P	21 25 36.6	+0.8
WRA	Warramunga Arr	57.23	188	P		P	21 25 35.5	-0.4
	comp=Z,0.5nm,0.5s,baz=5.0,slow=7.2,SNR=1.5							
	comp=Z,0.5nm,0.5s							
WRA	Warramunga Arr	57.23	188	P		P	21 25 35.1	-0.8
ABKAR	Akbulak array	57.74	310	P		P	21 25 38.7	-0.5
ASAR	Alice Springs	60.96	188	P		P	21 26 02.1	+0.5
	comp=Z,0.4nm,0.7s,baz=26,slow=6.2,SNR=1.7							
	comp=Z,0.4nm,0.7s							
FIA1	FINESS Array S	68.60	332	P		P	21 26 51.7	+0.6
FINES	FINESS Array B	68.60	332	P		P	21 26 51.8	+0.8
	comp=Z,2.1nm,0.7s,baz=24,slow=14,SNR=2.5							
	comp=Z,2.1nm,0.7s							
FINES	FINESS Array B	68.60	332	P		P	21 26 51.3	+0.2

*IDC **21** 21:16:14.2±0.7,37.°23N×141.°34E,h0km,mb4.3/22, mbtmp4.3/23,ML2.6/1,Error ellipse: s-maj=17.8km s-min=17.4km az=124.0*
*JMA **21** 21:16:16.5±0.3,37.°2N±0.°5×14.°1E±.°,h31km±2km, MV4.1/23,E OFF FUKUSHIMA PREF*
*NEIC **21** 21:16:16.1±1.8,37.°22N±0.°10×141.°2E±0.°1,h10km±2km, mb5.0/22,Error ellipse: s-maj=24.8km s-min=4.0km az=131.0*

ISC 21 21:16:15.7±0.5,37.°16N±0.°06×141.°36E±0.°06,h10km,n93, σ1°03/94,mb4.6/34,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.44	298	eP		Pg	21 16 26.1	+1.8
JFK					eS	Sb	21 16 32.8	+0.7
JFFD	Fukushimafurud	0.64	264	eP		Pg	21 16 29.4	+1.3
JFFD					eS	Sb	21 16 39.2	+1.2
JMST	Minamisoumatoc	0.68	326	S		Sb	21 16 39.0	+0.1
JMM	Marumori	0.83	328	S		Sb	21 16 43.4	-0.2
MJAR	Matsushiro Arr	2.60	257	Pn		Pn	21 16 58.0	+0.2
	1.1nm,0.3s,baz=88,slow=16,SNR=2.1							
	38nm,0.6s							
MAJO	Matsushiro	2.60	257	Pn		Pn	21 16 55.9	-1.9
MJB9	Matsu-Tunnel	2.60	257			Pn	21 16 56.8	-1.1
JGF	Kuroka	3.58	245	Pn		Pn	21 17 11.4	+0.1
JKA	Kamikawa-asahi	7.01	7			Pn	21 17 58.0	-0.4
MA2	Magadan	23.24	12	P		P	21 21 21.9	-0.9
SEY	Seymchan	26.67	11	P		P	21 21 53.6	-0.9
	9.0nm,0.9s,baz=221,slow=12,SNR=4.5							
	9.0nm,0.9s							
ZALV	Zalesovo Beam	41.80	312	P		P	21 24 04.7	-0.5
	3.9nm,0.7s,baz=89,slow=6.8,SNR=5.6							
	3.9nm,0.7s							
MK31	Makanchi Array	44.01	302	P		P	21 24 21.8	-1.5
MKAR	Makanchi Array	44.01	302	P		P	21 24 23.2	-0.1
	3.1nm,0.8s,baz=90,slow=8.5,SNR=5.0							
	3.1nm,0.8s							
MKAR	Makanchi Array	44.01	302	P		P	21 24 22.9	-0.5
KURK	Kurchatov	45.82	308	P		P	21 24 37.3	-0.2
KURK				IAmb		IAmb	21 26 18.3	
	comp=Z,19nm,1.1s							
KURBB	Kurchatov Arra	45.89	308	P		P	21 24 38.1	0.0
	comp=Z,5.8nm,0.7s,baz=85,slow=8.7,SNR=7.1							
	comp=Z,5.8nm,0.7s							
IMAR	Indian Mountai	46.56	31	P		P	21 24 44.6	+1.4
P19K	Oil Pt	46.61	39	P		P	21 24 43.2	-0.5
N20K	Mount Spurr	47.08	37	P		P	21 24 49.0	+1.5
	baz=271							
SPCR	Spurr Chakacha	47.08	37	P		P	21 24 49.2	+1.8
	baz=271							
CAST	Castle Rocks	47.14	34	P		P	21 24 48.8	+1.0
CAST				IAmb		IAmb	21 24 56.9	
	comp=Z,36nm,1.9s							
F22K	John River	47.32	29	P		P	21 24 50.7	+1.6
	baz=265							
E22K	Anaktuvuk Pass	47.51	28	P		P	21 24 51.7	+1.0
	baz=265							
G22K	Bettles	47.53	30	P		P	21 24 51.4	+0.7
	baz=266							
MLY	Manley	47.76	32	P		P	21 24 53.6	+1.0
	baz=269							
TRF	Thorofare Moun	47.95	34	P		P	21 24 55.2	+1.0
TRF				IAmb		IA

comp=Z,6.3nm,0.8s,baz=57,slow=7.0,SNR=7.8
comp=Z,6.3nm,0.8s
FINES FINESS Array B 68.68 332 P **P** 21 27 18.6 -0.3
STKA Stephens Creek 68.68 180 P **P** 21 27 19.1 0.0
comp=Z,2.8nm,0.8s,baz=343,slow=9.1,SNR=3.3
comp=Z,2.8nm,0.8s
PINE Pine Mountain 70.29 50 P **P** 21 27 29.7 +0.3
PINE IAmb IAmb 21 27 31.5
comp=Z,7.6nm,0.8s
KBZ Khabaz 70.78 311 P **P** 21 27 32.1 -0.1
comp=Z,4.2nm,0.8s,baz=52,slow=2.3,SNR=4.4
comp=Z,4.2nm,0.8s
FFC Flin Flon 73.62 33 P **P** 21 27 49.0 0.0
FFC IAmb IAmb 21 27 49.8
comp=Z,8.1nm,0.9s
NB2 NORSAR Subarra 74.05 337 P **P** 21 27 51.2 -0.3
comp=Z,3.2nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 74.05 337 P **P** 21 27 51.4 -0.1
comp=Z,2.0nm,0.7s,baz=39,slow=5.8,SNR=3.9
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 74.17 322 P **P** 21 27 51.6 -0.7
comp=Z,3.3nm,0.7s,baz=47,slow=6.0,SNR=8.7
comp=Z,3.3nm,0.7s
BOZ Bozeman (W) 74.68 44 P **P** 21 27 56.2 +0.6
NVAR Mina Array Bea 74.95 53 P **P** 21 27 57.4 +0.1
comp=Z,1.2nm,0.7s,baz=304,slow=5.7,SNR=5.3
comp=Z,1.2nm,0.7s
PDAR Pinedale Array 77.61 45 P **P** 21 28 12.2 -0.1
comp=Z,1.1nm,0.7s,baz=271,slow=1.7,SNR=5.7
comp=Z,1.1nm,0.7s
PDAR Pinedale Array 77.61 45 P **P** 21 28 12.0 -0.4
BRTR Keskin Array B 78.73 311 P **P** 21 28 18.4 -0.2
comp=Z,1.2nm,0.8s,baz=56,slow=4.6,SNR=3.8
comp=Z,1.2nm,0.8s
PV10 Paradox Valley 80.72 49 P **P** 21 28 30.7 +1.1
PV10 IAmb IAmb 21 28 57.5
comp=Z,14nm,1.0s
GERES GERESS Array B 82.58 328 P **P** 21 28 37.9 -1.1
comp=Z,0.5nm,0.6s,baz=23,slow=7.9,SNR=2.2
comp=Z,0.5nm,0.6s
EYMN Ely 83.05 33 P **P** 21 28 40.9 -0.4
TXAR Lajitas Array 90.08 52 P **P** 21 29 16.6 +0.4
comp=Z,1.4nm,0.7s,baz=280,slow=1.4,SNR=6.3
comp=Z,1.4nm,0.7s
LPAZ La Paz 146.67 59 PKPbc **PKPdf** 21 35 58.2 +1.0
comp=Z,2.3nm,0.5s,baz=294,slow=1.2,SNR=9.8

*IDC **21** 21:17:31.3±0.8,37°.15N×141°.35E,h0km,mb4.1/14, mbtmp4.1/15,ML2.6/1,Error ellipse: s-maj=25.9km s-min=18.4km az=75.0*
*NEIC **21** 21:17:32.4±1.1,37°.23N±0°.08×141°.5E±0°.1,h10km±1km, mb4.6/6,Error ellipse: s-maj=18.6km s-min=9.5km az=51.0.*
ISC 21 21:17:33.0±0.8,37°.23N±0°.09×141°.4E±0°.1,h10km,n36, σ0s80/31,mb4.2/18,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMM	**Marumori**	**0.78**	**325**		**Pg**	**21 17 48.5**	**+0.4**
JSD	**Sado**	**2.59**	**289**	Pn	**Pn**	**21 18 13.7**	**-1.2**
MJAR	**Matsushiro Arr**	**2.62**	**256**	Pn	**Pn**	**21 18 15.5**	**+0.1**
	1.1nm,0.3s,baz=77,slow=17,SNR=1.6						
	42nm,0.7s						
MAJO	**Matsushiro**	**2.62**	**256**	Pn	**Pn**	**21 18 15.4**	**0.0**
MJB9	**Matsu-Tunnel**	**2.62**	**256**	Pn	**Pn**	**21 18 15.8**	**+0.4**
JHS	**Saijyo**	**7.04**	**254**	Pn	**Pn**	**21 19 18.1**	**+2.0**
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**21 23 21.4**	**+0.5**
	1.6nm,0.6s,baz=104,slow=8.7,SNR=6.1						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**21 25 22.0**	**-0.1**
	5.0nm,0.9s,baz=100,slow=6.2,SNR=4.0						
	5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**21 25 20.8**	**-1.3**
MK31	**Makanchi Array**	**43.98**	**302**	P	**P**	**21 25 40.0**	**-0.4**
MKAR	**Makanchi Array**	**43.98**	**302**	P	**P**	**21 25 40.5**	**+0.1**
	2.1nm,0.7s,baz=87,slow=9.9,SNR=4.4						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**43.98**	**302**	P	P	21 25 38.0	-2.3
MAKZ	**Makanchi**	**44.19**	**302**	P	**P**	**21 25 41.1**	**-0.9**
KURK	**Kurchatov**	**45.78**	**308**	P	**P**	**21 25 53.2**	**-1.3**
KURBB	**Kurchatov Arra**	**45.85**	**308**	P	**P**	**21 25 54.7**	**-0.4**
	4.7nm,0.7s,baz=84,slow=8.6,SNR=4.2						
	4.7nm,0.7s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**21 26 22.8**	**+0.7**
	2.0nm,0.8s,baz=268,slow=6.6,SNR=3.7						
	2.0nm,0.8s						
BVAR	**Borovoye Array**	**50.41**	**312**	P	**P**	**21 26 30.5**	**+0.1**
	1.7nm,0.7s,baz=63,slow=4.0,SNR=3.9						
	1.7nm,0.7s						
KK31	**Karatay Array**	**52.99**	**300**	P	**P**	**21 26 50.7**	**+0.9**
KNRA	**Kununurra**	**53.94**	**195**	P	**P**	**21 26 56.7**	**-0.2**
KNRA				IAmb	IAmb	21 26 57.6	
	comp=Z,20nm,1.4s						
CHGR	**Chuyangaron**	**55.55**	**295**	P	**P**	**21 27 08.8**	**+0.2**
WB0	**Warramunga Arr**	**57.07**	**188**	P	P	21 27 18.0	-1.3
WB0				IAmb	IAmb	21 27 22.1	
	comp=Z,3.8nm,0.7s						
WR0	**Warramunga Arr**	**57.24**	**188**	P	**P**	**21 27 19.7**	**-0.9**
WB2	**Warramunga Arr**	**57.25**	**188**	P	P	21 27 19.4	-1.2
WB2				IAmb	IAmb	21 27 20.3	
	comp=Z,9.7nm,1.1s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	P	21 27 19.4	-1.2
	comp=Z,2.3nm,0.7s,baz=4.3,slow=7.2,SNR=6.0						
	comp=Z,2.3nm,0.7s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**21 27 19.6**	**-1.0**
ABKAR	**Akbulak array**	**57.78**	**310**	P	**P**	**21 27 23.6**	**-0.6**
ASAR	**Alice Springs**	**60.97**	**188**	P	**P**	**21 27 46.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=12,slow=9.7,SNR=4.7						
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**63.80**	**339**	P	**P**	**21 28 04.8**	**0.0**
	comp=Z,1.7nm,0.8s,baz=71,slow=9.1,SNR=4.9						
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**68.62**	**332**	P	**P**	**21 28 35.6**	**-0.2**
	comp=Z,3.4nm,0.7s,baz=85,slow=4.2,SNR=4.7						
	comp=Z,3.4nm,0.7s						
FINES	**FINESS Array B**	**68.62**	**332**	P	**P**	**21 28 35.5**	**-0.4**
STKA	**Stephens Creek**	**68.75**	**180**	P	**P**	**21 28 35.8**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=331,slow=10,SNR=3.1						
	comp=Z,2.1nm,0.8s						
FORT	**Forrest**	**68.79**	**192**	P	P	21 28 35.8	-1.3
NOA	**NORSAR Array B**	**73.99**	**337**	P	**P**	**21 29 08.7**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=38,slow=5.8,SNR=3.3						
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**77.56**	**45**	P	**P**	**21 29 30.6**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=271,slow=4.1,SNR=2.2						
	comp=Z,0.4nm,0.5s						
BURAR	**Bucovina Array**	**78.14**	**322**	P	**P**	**21 29 31.6**	**-0.7**
BURAR				IAmb	IAmb	21 29 34.1	
	comp=Z,2.5nm,1.0s						
GERES	**GERESS Array B**	**82.53**	**328**	P	**P**	**21 29 55.7**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=64,slow=6.7,SNR=2.0						
	comp=Z,0.5nm,0.6s						

*IDC **21** 21:17:48.8±1.2,37°.17N×141°.58E,h0km,mb4.5/17, mbtmp4.5/19,ML3.5/2,Error ellipse: s-maj=37.4km s-min=21.6km az=72.0*
*NEIC **21** 21:17:51.6±1.4,37°.40N±0°.06×141°.44E±0°.08,h10km±1km, mb4.6/7,Error ellipse: s-maj=13.6km s-min=6.6km az=230.0*
*JMA **21** 21:17:52.7±0.2,37°.3N±0°.4×14°.1E±°,h28km±2km, MV4.5/27,E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 21 21:17:51.0±0.7,37°.28N±0°.04×141°.51E±0°.06,h10km,n52, σ1s08/50,mb4.6/21,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.52**	**280**	P	**Pg**	**21 18 01.7**	**+0.6**
JFK				S	**Sg**	**21 18 08.6**	**+0.7**
JMST	**Minamisoumatoc**	**0.67**	**312**	*e*P	**Pg**	**21 18 04.3**	**+0.4**
JMST				S	**Sg**	**21 18 13.4**	**+0.7**
JFFD	**Fukushimafurud**	**0.78**	**257**	P	**Pg**	**21 18 06.1**	**+0.1**
JFFD				*e*S	**Sg**	**21 18 16.1**	**-0.1**
JMM	**Marumori**	**0.82**	**316**	Pg	**Pg**	**21 18 05.6**	**-1.2**
JMM	**Marumori**	**0.82**	**316**	P	**Pg**	**21 18 06.9**	**+0.1**
JMM				S	**Sg**	**21 18 17.5**	**0.0**
JIO	**Ouri**	**1.18**	**354**	*e*P	**Pb**	**21 18 12.9**	**-0.6**
JIO				*e*S	**Sb**	**21 18 27.4**	**-1.5**
JOU	**Okura**	**1.28**	**329**	*e*P	**Pb**	**21 18 15.0**	**-0.1**
JOU				S	**Sb**	**21 18 31.7**	**+0.1**
MJAR	**Matsushiro Arr**	**2.75**	**256**	Pn	**Pn**	**21 18 35.6**	**+0.5**
	5.1nm,0.3s,baz=30,slow=17,SNR=4.8						
MJAR				Sn	**Sb**	**21 19 12.8**	**-1.1**
	6.0nm,0.3s,baz=78,slow=31,SNR=5.8						
	70nm,0.6s						
JTM	**Tenmabayashi**	**3.52**	**355**	Pn	**Pn**	**21 18 45.5**	**-0.2**
JHJ2	**Mitsune**	**4.38**	**199**	Pn	**Pn**	**21 18 59.3**	**+1.7**
JHJ	**Hachijo jima 2**	**4.38**	**199**	Pn	**Pn**	**21 18 59.3**	**+1.8**
	13nm,0.3s,baz=60,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**21 19 44.9**	**-3.8**
	18nm,0.3s,baz=73,slow=19,SNR=1.1						
JMN	**Monobe**	**7.16**	**243**	Pn	**Pn**	**21 19 37.9**	**+2.1**
USRK	**Ussuriysk Ar.**	**10.00**	**317**	Pn	**Pn**	**21 20 16.2**	**+1.6**
	0.6nm,0.3s,baz=125,slow=14,SNR=5.1						
	6.9nm,0.7s						
ULN	**Ulaanbaatar**	**27.28**	**304**	P	**P**	**21 23 35.1**	**-0.5**
ENH	**Enshi**	**27.43**	**265**	P	**P**	**21 23 35.3**	**-1.7**
ENH				IAmb	IAmb	21 23 42.3	
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**21 23 39.8**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=102,slow=8.3,SNR=5.5						
	comp=Z,3.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	21 53 09.4	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	21 53 09.8	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	21 53 11.5	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	21 54 04.5	
	baz=316,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	21 54 04.7	
	baz=316,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	21 54 06.9	
	baz=316,slow=75,SNR=16						
GSTR	**Great Sitkin T**	**33.09**	**50**	P	P	21 24 25.5	-1.3
ZAA0	**Zalesovo Array**	**41.81**	**312**	P	**P**	**21 25 39.1**	**-1.4**
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**21 25 40.6**	**+0.1**
	comp=Z,8.4nm,0.8s,baz=101,slow=7.7,SNR=8.2						
	comp=Z,8.4nm,0.8s						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**21 25 39.5**	**-1.1**
MK31	**Makanchi Array**	**44.06**	**302**	P	**P**	**21 25 58.2**	**-0.7**
MK31				IAmb	IAmb	21 25 59.1	
	comp=Z,4.6nm,0.8s						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**21 25 58.8**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=83,slow=9.9,SNR=8.2						
	comp=Z,4.4nm,0.7s						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**21 25 58.3**	**-0.6**
MAKZ	**Makanchi**	**44.27**	**302**	P	**P**	**21 26 00.3**	**-0.3**
KURK	**Kurchatov**	**45.84**	**308**	P	**P**	**21 26 12.5**	**-0.6**
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**21 26 13.5**	**-0.1**
	comp=Z,4.8nm,0.4s,baz=84,slow=8.9,SNR=13						
	comp=Z,4.8nm,0.4s						
IMAR	**Indian Mountai**	**46.40**	**31**	P	**P**	**21 26 17.8**	**+0.5**
TARG	**Taragay, Kyrgy**	**48.36**	**296**	P	P	21 26 30.4	-3.0
TARG				IAmb	IAmb	21 26 53.9	
	comp=Z,7.1nm,0.9s						
BVAR	**Borovoye Array**	**50.47**	**312**	P	**P**	**21 26 48.7**	**0.0**
	comp=Z,1.4nm,0.5s,baz=80,slow=8.9,SNR=6.2						
	comp=Z,1.4nm,0.5s						
BRVK	**Borovoye**	**50.52**	**312**	P	**P**	**21 26 47.3**	**-1.9**
GAR	**Garm**	**54.66**	**295**	P	**P**	**21 27 18.8**	**-1.5**
GAR				IAmb	IAmb	21 27 45.4	
	comp=Z,5.5nm,0.9s						
ARU	**Arti**	**56.23**	**318**	P	**P**	**21 27 30.9**	**-0.2**
	comp=Z,5.6nm,0.5s,baz=48,slow=7.0,SNR=7.8						
	comp=Z,5.6nm,0.5s						
ARU	**Arti**	**56.23**	**318**	P	**P**	**21 27 30.4**	**-0.6**
ARU				IAmb	IAmb	21 27 36.8	
	comp=Z,6.4nm,0.9s						
WRA	**Warramunga Arr**	**57.31**	**188**	P	P	21 27 37.4	-1.6
	comp=Z,1.5nm,0.6s,baz=5.7,slow=7.4,SNR=2.8						
	comp=Z,1.5nm,0.6s						
ABKAR	**Akbulak array**	**57.84**	**310**	P	**P**	**21 27 41.7**	**-0.9**
KIRV	**Kirov**	**60.10**	**323**	P	**P**	**21 27 58.1**	**0.0**
	comp=Z,23nm,0.8s,baz=28,slow=2.2,SNR=7.3						
	comp=Z,23nm,0.8s						
BELG	**Belogornoye**	**63.68**	**317**	P	**P**	**21 28 22.1**	**-0.1**
	comp=Z,9.5nm,0.7s,baz=168,slow=3.0,SNR=4.3						
	comp=Z,9.5nm,0.7s						
GEYT	**Alibeck**	**63.79**	**299**	P	**P**	**21 28 23.5**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=28,slow=3.5,SNR=6.0						
	comp=Z,5.0nm,0.7s						
ARCES	**ARCESS Array B**	**63.80**	**339**	P	**P**	**21 28 23.3**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=36,slow=7.8,SNR=2.3						
	comp=Z,3.3nm,0.9s						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**21 28 54.0**	**+0.1**
	comp=Z,4.8nm,0.6s,baz=31,slow=8.3,SNR=11						
	comp=Z,4.8nm,0.6s						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**21 28 53.7**	**-0.2**
STKA	**Stephens Creek**	**68.80**	**180**	P	P	21 28 53.9	-1.3
	comp=Z,2.2nm,0.8s,baz=4.4,slow=13,SNR=2.8						
	comp=Z,2.2nm,0.8s						
KBZ	**Khabaz**	**70.80**	**311**	P	**P**	**21 29 07.3**	**-0.3**
	comp=Z,5.5nm,0.8s,baz=346,slow=2.8,SNR=4.7						
	comp=Z,5.5nm,0.8s						
HFS	**Hagfors**	**73.90**	**336**	P	**P**	**21 29 26.6**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=55,slow=5.6,SNR=8.5						
	comp=Z,1.3nm,0.4s						
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**21 29 27.6**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=46,slow=5.9,SNR=7.8						
	comp=Z,3.4nm,0.7s						
DAVOX	**Davos/Dischmat**	**85.76**	**329**	P	**P**	**21 30 32.5**	**+1.9**
	comp=Z,3.9nm,0.9s,baz=209,slow=0.5,SNR=4.4						
	comp=Z,3.9nm,0.9s						

JMA 21 21:18:34.2±0.1,37°.2N±0°.3×141°.5E±0°.6,h21km±1km, MV4.0/13,E OFF FUKUSHIMA PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**288**	*e*P	Pb	21 18 43.9	-0.2
JFK				*e*S	Sb	21 18 51.1	+0.2
JMST	**Minamisoumatoc**	**0.68**	**318**	P	Pb	21 18 47.3	-0.1
JMST				*e*S	Sb	21 18 56.5	0.0
JFFD	**Fukushimafurud**	**0.73**	**261**	*e*P	Pb	21 18 47.9	-0.2
JFFD				*e*S	Sb	21 18 57.9	+0.2
JMM	**Marumori**	**0.84**	**321**	*e*S	Sb	21 19 00.9	0.0

*IDC **21** 21:19:50.3±2.9,37°.29N×141°.91E,h0km,mb3.7/3, mbtmp3.7/4,Error ellipse: s-maj=69.3km s-min=36.5km az=64.0*
*JMA **21** 21:19:54.2±0.2,37°.2N±0°.3×141°.5E±0°.8,h19km±2km, MV3.8/26,E OFF FUKUSHIMA PREF*
ISC 21 21:19:53.3±1.6,37°.21N±0°.08×141°.6E±0°.1,h10km,n7, σ1s22/8,mb3.7/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMST	**Minamisoumatoc**	**0.74**	**314**	S	**Sg**	**21 20 17.6**	**+0.2**
JFFD	**Fukushimafurud**	**0.81**	**262**	S	**Sg**	**21 20 18.1**	**-1.4**
JMM	**Marumori**	**0.90**	**317**	*e*P	**Pg**	**21 20 10.2**	**-0.4**
JMM				S	**Sg**	**21 20 21.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.77**	**257**	Pn	**Pn**	**21 20 39.9**	**+2.1**
	9.6nm,0.4s,baz=78,slow=11,SNR=0.9						
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**21 28 01.8**	**-0.1**
	0.9nm,0.7s,baz=82,slow=6.4,SNR=2.7						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.99**	**308**	P	**P**	**21 28 16.1**	**-0.5**
	1.3nm,0.6s,baz=83,slow=8.0,SNR=3.1						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**21 29 40.3**	**-0.7**
	0.4nm,0.6s,baz=2.6,slow=7.7,SNR=0.8						
	0.4nm,0.6s						

*IDC **21** 21:20:33.4±0.6,37°.22N×141°.44E,h0km,mb4.4/24, mbtmp4.4/26,ML3.4/2,Error ellipse: s-maj=18.6km s-min=13.2km az=88.0*
*NEIC **21** 21:20:34.7±2.0,37°.29N±0°.06×141°.63E±0°.08,h10km±1km, mb4.8/17,Error ellipse: s-maj=11.2km s-min=8.6km az=56.0*
*JMA **21** 21:20:36.1±0.2,37°.3N±0°.3×141°.4E±0°.9,h26km±1km, MV4.5/29,E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 21 21:20:34.0±2.3,37°.22N±0°.05×141°.56E±0°.08,h5km±12km, n79,σ1s10/78,mb4.6/31,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.56**	**285**	P	**Pg**	**21 20 45.2**	**+0.5**
JFK				S	**Sg**	**21 20 52.1**	**0.0**
JMST	**Minamisoumatoc**	**0.73**	**313**	P	**Pg**	**21 20 48.0**	**0.0**
JMST				*e*S	**Sg**	**21 20 57.1**	**-0.4**
JFFD	**Fukushimafurud**	**0.81**	**261**	P	**Pg**	**21 20 49.5**	**+0.1**
JFFD				S	**Sg**	**21 20 59.4**	**-0.5**
JMM	**Marumori**	**0.88**	**317**		**Pg**	**21 20 50.5**	**-0.5**
JMM	**Marumori**	**0.88**	**317**	P	**Pg**	**21 20 50.4**	**-0.5**
JMM				S	**Sg**	**21 21 01.9**	**-0.5**
JSD	**Sado**	**2.74**	**288**	Pn	**Pn**	**21 21 19.1**	**+0.6**
MJAR	**Matsushiro Arr**	**2.77**	**257**	Pn	**Pn**	**21 21 19.5**	**+0.6**
	3.0nm,0.3s,baz=82,slow=16,SNR=4.4						
MJAR				Sn	**Sb**	**21 21 56.0**	**-2.1**
	10nm,0.3s,baz=79,slow=31,SNR=7.6						
	52nm,0.5s						
MAJO	**Matsushiro**	**2.77**	**257**	Pn	**Pn**	**21 21 20.2**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.77**	**257**	Pn	**Pn**	**21 21 21.5**	**+2.5**
JTM	**Tenmabayashi**	**3.58**	**354**	Pn	**Pn**	**21 21 29.5**	**-0.6**
JGF	**Kuroka**	**3.75**	**246**	Pn	**Pn**	**21 21 32.8**	**+0.3**
INU	**Inuyama**	**4.12**	**244**	Pn	**Pn**	**21 21 40.0**	**+2.5**
JHJ2	**Mitsune**	**4.34**	**200**	Pn	**Pn**	**21 21 41.2**	**+0.7**
JHJ	**Hachijo jima 2**	**4.34**	**200**	Pn	**Pn**	**21 21 40.7**	**+0.1**
	13nm,0.3s,baz=50,slow=18,SNR=1.7						
	113nm,0.4s						
ERM	**Erimo**	**4.94**	**14**	Pn	**Pn**	**21 21 48.6**	**-0.2**
JHS	**Saijyo**	**7.18**	**255**	Pn	**Pn**	**21 22 22.3**	**+2.6**
USRK	**Ussuriysk Ar.**	**10.06**	**317**	Pn	**Pn**	**21 23 01.9**	**+2.9**
	0.3nm,0.3s,baz=126,slow=12,SNR=6.7						
KSRS	**Korea Array**	**10.86**	**275**	Pn	**Pn**	**21 23 14.0**	**+4.0**
	0.2nm,0.3s,baz=86,slow=14,SNR=2.6						
TPUB	**Ta-pu**	**22.72**	**238**	P	**P**	**21 25 36.0**	**-0.8**
TPUB				IAmb	IAmb	21 25 41.6	
	comp=Z,68nm,1.7s						
YAK	**Yakutsk**	**25.91**	**347**	P	**P**	**21 26 05.9**	**-0.7**
	comp=Z,3.2nm,0.4s,baz=335,slow=1.3,SNR=4.6						
	comp=Z,3.2nm,0.4s						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**21 26 23.0**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=100,slow=7.8,SNR=7.4						
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**21 26 23.4**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	21 56 06.3	
	baz=314,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	21 56 06.6	
	baz=314,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	21 56 07.4	
	baz=314,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	21 56 56.0	
	baz=316,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	21 56 54.5	
	baz=316,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	21 56 58.0	
	baz=316,slow=76,SNR=16						
CMAR	**Chiang Mai Arr**	**41.66**	**255**	P	**P**	**21 28 24.1**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=46,slow=7.7,SNR=1.9						
	comp=Z,0.9nm,0.6s						
ZAA0	**Zalesovo Array**	**41.87**	**312**	P	**P**	**21 28 24.4**	**-0.4**
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**21 28 24.2**	**-0.6**
	comp=Z,9.4nm,0.9s,baz=90,slow=7.4,SNR=13						
	comp=Z,9.4nm,0.9s						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**21 28 24.4**	**-0.4**
MK31	**Makanchi Array**	**44.12**	**302**	P	**P**	**21 28 42.4**	**-0.7**
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**21 28 42.5**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=89,slow=10,SNR=9.9						
	comp=Z,3.7nm,0.7s						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**21 28 42.1**	**-1.0**
MAKZ	**Makanchi**	**44.33**	**302**	P	**P**	**21 28 43.7**	**-1.1**
KURK	**Kurchatov**	**45.91**	**308**	P	**P**	**21 28 56.1**	**-1.1**
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**21 28 56.9**	**-0.9**
	comp=Z,7.0nm,0.8s,baz=84,slow=8.8,SNR=10.0						
	comp=Z,7.0nm,0.8s						
TAPN	**Taplejung**	**46.04**	**274**	*e*P	**P**	**21 28 58.3**	**-0.7**
KAPI	**Kappang**	**46.68**	**211**	P	**P**	**21 29 02.3**	**-1.4**
	comp=Z,12nm,0.4s,baz=169,slow=6.9,SNR=9.5						
	comp=Z,12nm,0.4s						
RAMN	**Ramite**	**47.10**	**274**	*e*P	**P**	**21 29 06.7**	**-0.6**
JIRN	**Jiri**	**47.11**	**275**	*e*P	**P**	**21 29 07.4**	**-0.1**
GUN	**Gumba**	**47.25**	**276**	*e*P	**P**	**21 29 08.2**	**-0.3**
PKIN	**Phulchoki**	**47.78**	**275**	*e*P	**P**	**21 29 11.8**	**-0.8**
	comp=Z,4.3nm,0.4s						
GKN	**Gorkha**	**48.20**	**276**	*e*P	**P**	**21 29 14.9**	**-0.8**
TARG	**Taragay, Kyrgy**	**48.42**	**296**	P	**P**	**21 29 19.0**	**+1.5**
DANN	**Dangsing**	**48.74**	**277**	*e*P	**P**	**21 29 19.4**	**-0.6**
	comp=Z,44nm,0.8s						
ILAR	**Eielson Array**	**49.27**	**32**	P	**P**	**21 29 23.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=275,slow=5.6,SNR=4.4						
	comp=Z,1.0nm,0.8s						
BATI	**Baumata**	**50.08**	**203**	P	**P**	**21 29 31.0**	**+1.1**
	comp=Z,11nm,0.5s,baz=32,slow=1.1,SNR=4.5						
	comp=Z,11nm,0.5s						
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**21 29 32.3**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=71,slow=9.8,SNR=3.6						
	comp=Z,1.3

ISC 21 21:21:57.0±0.9, 37.15N±0.09×141.4E±0.1, h33km, n15, σ1§13/18, mb4.0/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**296**	P	**Pn**	**21 22 07.4**	**-0.3**
JFK				S	**Sn**	**21 22 15.1**	**0.0**
JMST	**Minamisoumatoc**	**0.71**	**324**	P	**Pn**	**21 22 09.5**	**-1.2**
JMST				S	**Sn**	**21 22 19.0**	**-1.5**
JMM	**Marumori**	**0.87**	**325**	P	**Pn**	**21 22 11.8**	**-1.2**
JMM				*e*S	**Sn**	**21 22 23.2**	**-1.2**
JCJ	**Chichijima**	**10.05**	**176**	Pn	**Pn**	**21 24 17.3**	**-1.7**
	3.2nm,0.3s,baz=270,slow=20,SNR=1.0						
	36nm,0.5s						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**21 27 42.6**	**+0.3**
	1.3nm,0.8s,baz=107,slow=9.2,SNR=1.7						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**21 29 43.5**	**-0.1**
	3.1nm,0.7s,baz=90,slow=6.8,SNR=3.9						
	3.1nm,0.7s						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**21 30 01.7**	**+0.1**
	1.6nm,0.7s,baz=80,slow=9.3,SNR=2.6						
	1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.94**	**308**	P	**P**	**21 30 16.3**	**-0.1**
	1.7nm,0.4s,baz=82,slow=8.2,SNR=5.3						
	1.7nm,0.4s						
ILAR	**Eielson Array**	**49.39**	**32**	P	**P**	**21 30 43.5**	**+0.4**
	0.9nm,0.9s,baz=280,slow=7.2,SNR=1.7						
	0.9nm,0.9s						
BVAR	**Borovoye Array**	**50.50**	**312**	P	**P**	**21 30 53.5**	**+1.8**
	0.8nm,0.5s,baz=81,slow=7.0,SNR=2.1						
	0.8nm,0.5s						
ARU	**Arti**	**56.28**	**318**	P	**P**	**21 31 35.5**	**+1.5**
	2.8nm,0.4s,baz=71,slow=4.4,SNR=6.0						
	2.8nm,0.4s						
WRA	**Warramunga Arr**	**57.18**	**188**	P	**P**	**21 31 41.0**	**+0.3**
	1.2nm,0.7s,baz=5.8,slow=7.5,SNR=1.0						
	1.2nm,0.7s						
FINES	**FINESS Array B**	**68.71**	**332**	P	**P**	**21 32 58.7**	**+1.8**
	5.9nm,1.1s,baz=45,slow=6.5,SNR=1.8						
	5.9nm,1.1s						
HFS	**Hagfors**	**73.98**	**336**	P	**P**	**21 33 28.8**	**0.0**
	3.2nm,1.0s,baz=60,slow=8.8,SNR=4.4						
	3.2nm,1.0s						
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**21 33 29.6**	**-0.6**
	0.5nm,0.4s,baz=46,slow=6.3,SNR=4.1						
	0.5nm,0.4s						

*IDC **21** 21:22:34.9±1.1, 37.30N×141.54E, h0km, mb4.1/12, mbtmp4.1/14, Error ellipse: s-maj=26.9km s-min=21.3km az=102.0*
*NEIC **21** 21:22:35.7±2.3, 37.47N±0.07×141.72E±0.06, h10km±1km, mb4.4/3, Error ellipse: s-maj=12.0km s-min=6.4km az=204.0*
*JMA **21** 21:22:38.1±0.2, 37.3N±0.3×141.5E±0.9, h24km±1km, MV4.3/24, E OFF FUKUSHIMA PREF*

ISC 21 21:22:35.2±2.2, 37.35N±0.05×141.68E±0.08, h6km±12km, n39, σ1§14/45, mb4.0/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.64**	**271**	P	**Pg**	**21 22 48.2**	**+0.5**
JFK				S	**Sg**	**21 22 55.6**	**-0.4**
JMST	**Minamisoumatoc**	**0.73**	**301**	P	**Pg**	**21 22 50.1**	**+0.8**
JMST				S	**Sg**	**21 22 59.2**	**+0.4**
JMM	**Marumori**	**0.87**	**306**	Pg	**Pg**	**21 22 52.3**	**+0.3**
JMM				Sg	**Sg**	**21 23 02.6**	**-0.7**
JMM	**Marumori**	**0.87**	**306**	P	**Pg**	**21 22 52.6**	**+0.6**
JMM				S	**Sg**	**21 23 03.5**	**+0.2**
JFFD	**Fukushimafurud**	**0.93**	**254**	P	**Pg**	**21 22 52.7**	**-0.4**
JFFD				S	**Sg**	**21 23 03.4**	**-1.9**
JSD	**Sado**	**2.80**	**285**	Pn	**Pn**	**21 23 20.5**	**0.0**
MJAR	**Matsushiro Arr**	**2.90**	**255**	Pn	**Pn**	**21 23 20.1**	**-1.8**
	20nm,0.5s,baz=82,slow=16,SNR=0.6						
MJAR					Sn	**Sn**	**21 23 58.0**	**+1.0**
	2.0nm,0.3s,baz=334,slow=24,SNR=2.3						
MAJO	**Matsushiro**	**2.90**	**255**	Pn	**Pn**	**21 23 21.3**	**-0.6**
MJB9	**Matsu-Tunnel**	**2.90**	**255**	Pn	**Pn**	**21 23 22.0**	**+0.1**
JTM	**Tenmabayashi**	**3.46**	**352**	Pn	**Pn**	**21 23 28.2**	**-1.4**
JGF	**Kuroka**	**3.90**	**245**	Pn	**Pn**	**21 23 38.1**	**+2.4**
INU	**Inuyama**	**4.26**	**243**	Pn	**Pn**	**21 23 43.0**	**+2.4**
JHJ	**Hachijo jima 2**	**4.50**	**201**	Pn	**Pn**	**21 23 44.8**	**+0.8**
	56nm,0.3s,baz=72,slow=20,SNR=1.0						
JHJ					Sn	**Sn**	**21 24 34.5**	**-2.1**
	23nm,0.3s,baz=253,slow=19,SNR=1.0						
USRK	**Ussuriysk Ar.**	**10.03**	**316**	Pn	Pn	21 25 05.8	+6.0
	0.3nm,0.3s,baz=101,slow=18,SNR=1.4						
SONM	**Songino Array**	**27.79**	**303**	P	**P**	**21 28 26.2**	**+1.2**
	1.2nm,0.7s,baz=99,slow=9.0,SNR=1.5						
	1.2nm,0.7s						
SONM	**Songino Array**	**27.79**	**303**	P	**P**	**21 28 23.5**	**-1.4**
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**21 30 25.2**	**-0.6**
	1.6nm,0.6s,baz=68,slow=6.6,SNR=2.3						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**21 30 25.0**	**-0.8**
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**21 30 44.7**	**+0.3**
	1.9nm,0.7s,baz=80,slow=9.7,SNR=1.8						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**21 30 42.1**	**-2.3**
MAKZ	**Makanchi**	**44.34**	**302**	P	**P**	**21 30 44.3**	**-1.7**
KURK	**Kurchatov**	**45.90**	**308**	P	**P**	**21 30 58.2**	**-0.1**
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**21 30 58.9**	**0.0**
	1.1nm,0.4s,baz=81,slow=7.6,SNR=4.0						
	1.1nm,0.4s						
ILAR	**Eielson Array**	**49.11**	**33**	P	**P**	**21 31 24.4**	**+1.3**
	0.9nm,0.7s,baz=266,slow=4.8,SNR=4.3						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**49.11**	**33**	P	**P**	**21 31 22.8**	**-0.3**
BMAR	**Burnt Mountain**	**49.95**	**29**	P	**P**	**21 31 29.1**	**-0.5**
ARU	**Arti**	**56.26**	**318**	P	**P**	**21 32 16.4**	**+0.3**
	2.3nm,0.4s,baz=74,slow=5.8,SNR=5.2						
	2.3nm,0.4s						
WR0	**Warramunga Arr**	**57.40**	**188**	P	**P**	**21 32 23.9**	**-0.6**
WR0				IAmb	IAmb	21 32 58.9	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**57.41**	**188**	P	**P**	**21 32 23.8**	**-0.8**
WB2				IAmb	IAmb	21 32 43.8	
	comp=Z,9.8nm,1.2s						
WRA	**Warramunga Arr**	**57.41**	**188**	P	**P**	**21 32 24.1**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=5.3,slow=7.2,SNR=1.3						
	comp=Z,1.1nm,1.0s						
WRA	**Warramunga Arr**	**57.41**	**188**	P	**P**	**21 32 23.9**	**-0.6**
WRA				IAmb	IAmb	21 32 57.6	
	comp=Z,0.4nm,1.2s						
ABKAR	**Akbulak array**	**57.90**	**310**	P	**P**	**21 32 27.1**	**-0.7**
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**21 33 39.1**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=46,slow=8.0,SNR=2.3						
	comp=Z,3.2nm,0.8s						
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**21 33 37.2**	**-1.5**
HFS	**Hagfors**	**73.88**	**336**	P	**P**	**21 34 10.9**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=57,slow=5.5,SNR=4.3						
	comp=Z,0.7nm,0.4s						
NB2	**NORSAR Subarra**	**73.97**	**337**	P	**P**	**21 34 11.7**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**73.97**	**337**	P	**P**	**21 34 12.1**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=41,slow=6.0,SNR=2.4						
	comp=Z,1.4nm,0.9s						
AKASG	**Malin Array Be**	**74.17**	**322**	P	**P**	**21 34 12.7**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=46,slow=6.1,SNR=3.2						
	comp=Z,0.6nm,0.4s						
TXAR	**Lajitas Array**	**89.76**	**53**	P	**P**	**21 35 36.6**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=305,slow=3.6,SNR=5.3						
	comp=Z,0.5nm,0.6s						

*IDC **21** 21:26:01.4±2.3, 37.04N×141.59E, h0km, mb3.6/6, mbtmp3.5/7, ML2.3/1, Error ellipse: s-maj=58.3km s-min=32.2km az=69.0*
*JMA **21** 21:26:03.8±0.2, 37.3N±0.4×14°1E±°, h27km±1km, MV3.5/20, E OFF FUKUSHIMA PREF*

ISC 21 21:26:05.3±1.8, 37.27N±0.08×141.3E±0.1, h10km, n10, σ0§52/12, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.34**	**287**	P	**Pg**	**21 26 12.6**	**+0.5**
JFK				*e*S	**Sb**	**21 26 19.0**	**0.0**
JMST	**Minamisoumatoc**	**0.56**	**326**	P	**Pg**	**21 26 15.6**	**-0.5**
JMST				S	**Sb**	**21 26 24.8**	**-0.3**
JFFD	**Fukushimafurud**	**0.60**	**253**	P	**Pg**	**21 26 16.5**	**-0.4**
JFFD				*e*S	**Sb**	**21 26 26.0**	**-0.4**
MJAR	**Matsushiro Arr**	**2.57**	**255**	Pn	**Pn**	**21 26 47.1**	**+0.1**
	0.5nm,0.3s,baz=86,slow=18,SNR=1.6						
	5.5nm,0.4s						
SONM	**Songino Array**	**27.57**	**304**	P	**P**	**21 31 53.0**	**+0.5**
	0.3nm,0.6s,baz=106,slow=8.6,SNR=1.9						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**41.68**	**312**	P	**P**	**21 33 54.6**	**+0.8**
	0.6nm,0.7s,baz=78,slow=9.1,SNR=2.9						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**43.91**	**302**	P	**P**	**21 34 11.8**	**-0.2**
	0.6nm,0.9s,baz=82,slow=11,SNR=1.8						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**45.78**	**308**	P	**P**	**21 34 26.0**	**-0.8**
	0.7nm,0.7s,baz=82,slow=8.4,SNR=3.1						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	P	21 35 49.4	-3.8
	0.7nm,0.9s,baz=6.2,slow=7.6,SNR=2.4						
	0.7nm,0.9s						
AKASG	**Malin Array Be**	**74.05**	**322**	P	**P**	**21 37 41.3**	**+0.1**
	0.4nm,0.4s,baz=50,slow=5.2,SNR=2.3						
	0.4nm,0.4s						

*IDC **21** 21:26:15.1±1.9, 37.56N×141.28E, h0km, mb3.9/7, mbtmp3.9/8, ML2.9/1, Error ellipse: s-maj=48.1km s-min=27.7km az=78.0*
*JMA **21** 21:26:15.6±0.1, 37.3N±0.2×141.4E±0.5, h19km±1km, MV4.1/22, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 21 21:26:15.5±1.2, 37.30N±0.07×141.43E±0.09, h10km, n12, σ1§26/15, mb3.8/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.45**	**279**	P	**Pg**	**21 26 24.8**	**+0.5**
JFK				S	**Sg**	**21 26 31.3**	**+1.0**
JMST	**Minamisoumatoc**	**0.61**	**315**	P	**Pg**	**21 26 27.8**	**+0.4**
JMST				S	**Sg**	**21 26 36.7**	**+1.4**
JFFD	**Fukushimafurud**	**0.72**	**254**	P	**Pg**	**21 26 29.3**	**-0.2**
JFFD				S	**Sg**	**21 26 38.7**	**-0.3**
JMM	**Marumori**	**0.76**	**319**	*e*S	**Sg**	**21 26 40.7**	**+0.5**
MJAR	**Matsushiro Arr**	**2.69**	**255**	Pn	**Pn**	**21 26 58.9**	**0.0**
	2.4nm,0.3s,baz=76,slow=17,SNR=7.0						
	10.0nm,0.3s						
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**21 32 01.2**	**-2.3**
	1.3nm,0.9s,baz=107,slow=9.2,SNR=4.8						
	1.3nm,0.9s						
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**21 34 04.0**	**-0.6**
	1.1nm,0.6s,baz=98,slow=6.6,SNR=5.1						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**21 34 22.6**	**-0.4**
	1.0nm,0.7s,baz=92,slow=9.7,SNR=4.7						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.85**	**308**	P	**P**	**21 34 37.0**	**-0.7**
	1.6nm,0.5s,baz=83,slow=8.3,SNR=5.0						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**57.32**	**188**	P	**P**	**21 36 06.5**	**+2.8**
	0.4nm,0.6s,baz=347,slow=7.7,SNR=5.3						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**68.59**	**332**	P	**P**	**21 37 17.8**	**-0.4**
	4.2nm,1.0s,baz=37,slow=7.6,SNR=3.9						
	4.2nm,1.0s						
AKASG	**Malin Array Be**	**74.10**	**322**	P	**P**	**21 37 50.6**	**-1.1**
	0.5nm,0.5s,baz=48,slow=5.8,SNR=4.1						
	0.5nm,0.5s						

*IDC **21** 21:28:21.8±0.5, 37.26N×141.37E, h0km, mb4.6/31, mbtmp4.5/34, ML3.8/3, Error ellipse: s-maj=14.8km s-min=10.2km az=104.0*
*MOS **21** 21:28:21.9±1.2, 37.31N×141.35E, h13km, mb4.9/30, Error ellipse: s-maj=8.7km s-min=5.6km az=109.4*
*BJI **21** 21:28:22.9±0.0, 37.25N×141.78E, h40km, mb4.6/23*
*JMA **21** 21:28:23.3±0.2, 37.3N±0.3×141.5E±0.8, h27km±1km, MD5.2/40, MV4.9/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **21** 21:28:23.7±2.2, 37.29N±0.04×141.43E±0.06, h10km±1km, mb4.8/77, Error ellipse: s-maj=9.6km s-min=6.1km az=55.0*

ISC 21 21:28:22.5±1.4, 37.23N±0.03×141.50E±0.05, h8km±8km, n277, σ1§39/265, mb4.7/94, 10C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.52**	**286**	P	**Pg**	**21 28 33.0**	**+0.4**
JFK				*e*S	**Sg**	**21 28 40.4**	**+1.1**
JFK	**Kawauchi**	**0.52**	**286**	A	A	21 28 33.0	
	comp=E,141nm,4.5s,comp=E,78nm,4.2s						
JMST	**Minamisoumatoc**	**0.70**	**316**	P	**Pg**	**21 28 35.8**	**-0.1**
JMST				S	**Sg**	**21 28 44.8**	**-0.2**
JFFD	**Fukushimafurud**	**0.76**	**260**	*i* P	**Pg**	**21 28 37.4**	**+0.3**
JFFD				S	**Sg**	**21 28 47.4**	**+0.4**
JFFD	**Fukushimafurud**	**0.76**	**260**	A	A	21 28 37.4	
	comp=E,56nm,3.4s,comp=E,140nm,2.4s						
JMM	**Marumori**	**0.85**	**319**		**Pg**	**21 28 38.1**	**-0.7**
JMM				Sg	**Sg**	**21 28 48.7**	**-1.2**
JMM	**Marumori**	**0.85**	**319**	P	**Pg**	**21 28 38.4**	**-0.4**
JMM	**Marumori**	**0.85**	**319**	*i* P	**Pg**	**21 28 38.3**	**-0.6**
JHO	**Hitachi**	**0.96**	**231**	P	**Pg**	**21 28 40.4**	**-0.6**
JHO	**Hitachi**	**0.96**	**231**	A	A	21 28 40.4	
	comp=E,48nm,6.1s,comp=E,57nm,3.1s						
JHYU	**Hitachinakayam**	**1.15**	**220**	A	A	21 28 44.0	
	comp=E,97nm,2.6s,comp=E,50nm,5.0s						
JIO	**Ouri**	**1.23**	**355**	*e*P	**Pn**	**21 28 44.2**	**-1.8**
JIO				*e*S	**Sb**	**21 28 59.9**	**-2.1**
JYAR	**Yonezawaarcadi**	**1.28**	**303**	A	A	21 28 45.1	
	comp=E,81nm,4.0s,comp=E,79nm,0.7s						
JSB	**Shiboa**	**1.29**	**259**	*i* P	**Pn**	**21 28 46.6**	**-0.2**
JSB				S	**Sb**	**21 29 03.7**	**0.0**
JSB	**Shiboa**	**1.29**	**259**	A	A	21 28 46.6	
	comp=E,214nm,7.6s,comp=E,204nm,3.8s						
JOU	**Okura**	**1.32**	**330**	*i* P	**Pn**	**21 28 46.4**	**-0.8**
JOU				*e*S	**Sb**	**21 29 03.4**	**-1.2**
JOU	**Okura**	**1.32**	**330**	A	A	21 28 46.4	
	comp=E,56nm,4.0s,comp=E,70nm,4.8s						
JYT	**Yasato**	**1.45**	**227**	A	A	21 28 48.5	
	comp=E,62nm,4.3s,comp=E,47nm,2.1s						
JOFO	**Osakifurukawao**	**1.45**	**342**	A	A	21 28 47.6	
	comp=E,180nm,5.1s,comp=E,165nm,1.4s						
JIHU	**Itakohorinouch**	**1.48**	**212**	A	A	21 28 49.2	
	comp=E,232nm,1.5s,comp=E,278nm,3.8s						
JYS	**Shirataka**	**1.51**	**312**	A	A	21 28 48.6	
	comp=E,63nm,7.4s,comp=E,54nm,4.0s						
JGK	**Kuni**	**2.38**	**255**	A	A	21 29 01.9	
	comp=E,36nm,3.8s,comp=E,48nm,3.9s						
JSD	**Sado**	**2.69**	**288**	Pn	**Pn**	**21 29 05.5**	**-0.6**
MJAR	**Matsushiro Arr**	**2.72**	**256**	Pn	**Pn**	**21 29 07.1**	**+0.5**
	15nm,0.3s,baz=81,slow=17,SNR=38						
MJAR					Sn	**Sn**	**21 29 40.3**	**+0.6**
	14nm,0.3s,baz=157,slow=17,SNR=5.5						
	77nm,0.3s						
MAJO	**Matsushiro**	**2.73**	**257**	Pn	**Pn**	**21 29 07.2**	**+0.6**
MAJO	**Matsushiro**	**2.73**	**257**	P	**Pn**	**21 29 07.7**	**+1.1**
MAJO	**Matsushiro**	**2.73**	**257**	*i* P	**Pn**	**21 29 07.5**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.73**	**257**		**Pn**	**21 29 08.2**	**+1.6**
JTT	**Ttatey**	**3.40**	**261**	A	A	21 29 16.2	
	comp=E,47nm,2.9s,comp=E,53nm,2.6s						
JTM	**Tenmabayashi**	**3.57**	**355**	Pn	**Pn**	**21 29 18.2**	**0.0**
JTM	**Tenmabayashi**	**3.57**	**355**	P	**Pn**	**21 29 18.5**	**+0.3**
JGF	**Kuroka**	**3.71**	**245**	Pn	**Pn**	**21 29 20.9**	**+0.7**
JGF	**Kuroka**	**3.71**	**245**	P	**Pn**	**21 29 21.9**	**+1.7**
INU	**Inuyama**	**4.08**	**244**	Pn	**Pn**	**21 29 26.2**	**+1.1**
JHJ2	**Mitsune**	**4.33**	**199**	Pn	**Pn**	**21 29 29.5**	**+0.9**
JHJ2	**Mitsune**	**4.33**	**199**	P	**Pn**	**21 29 30.5**	**+1.9**
JHJ	**Hachijo jima 2**	**4.33**	**199**	Pn	**Pn**	**21 29 29.4**	**+0.8**
	41nm,0.3s,baz=138,slow=22,SNR=8.8						
JHJ					Sn	**Sn**	**21 30 18.8**	**-0.5**
	81nm,0.3s,baz=120,slow=20,SNR=7.5						
	70nm,0.3s						
ERM	**Erimo**	**4.95**	**14**	Pn	**Pn**	**21 29 37.0**	**-0.1**
ERM	**Erimo**	**4.95**	**14**	P	**Pn**	**21 29 38.5**	**+1.4**
ERM	**Erimo**	**4.95**	**14**	*i* P	**Pn**	**21 29 37.1**	**-0.1**
JEM	**Erimo**	**4.95**	**14**	P	**Pn**	**21 29 38.3**	**+1.2**
JKA	**Kamikawa-asahi**	**6.93**	**7**	Pn	**Pn**	**21 30 03.1**	**-1.3**
ASAJ	**Asahikawa**	**6.94**	**7**	P	**Pn**	**21 30 03.1**	**-1.3**
JMN	**Monobe**	**7.13**	**243**	Pn	**Pn**	**21 30 07.1**	**+0.1**
JHS	**Saijyo**	**7.14**	**254**	Pn	**Pn**	**21 30 09.2**	**+1.9**
JHS	**Saijyo**	**7.14**	**254**	P	**Pn**	**21 30 09.9**	**+2.7**
YSS	**Yuzh-Sakhalins**	**9.77**	**5**	Pn	**Pn**	**21 30 43.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**9.77**	**5**	*e*P	**Pn**	**21 30 44.1**	**+0.9**
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
USA0B	**Ussuriysk Arra**	**10.03**	**317**	Pn	**Pn**	**21 30 48.9**	**+2.2**
USA0B	**Ussuriysk Arra**	**10.03**	**317**	*i* P	**Pn**	**21 30 47.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**10.03**	**317**	Pn	**Pn**	**21 30 50.5**	**+3.8**
	comp=Z,0.7nm,0.3s,baz=130,slow=13,SNR=16						
JCJ	**Chichijima**	**10.12**	**177**	Pn	**Pn**	**21 30 46.3**	**-1.8**
	comp=Z,8.8nm,0.3s,baz=270,slow=20,SNR=1.6						
JCJ					Sn	**Sn**	**21 32 34.3**	**-7.4**
	comp=Z,7.4nm,0.3s,baz=287,slow=19,SNR=1.2						
JCJ	**Chichijima**	**10.12**	**177**	P	Pn	21 30 53.7	+5.6
	comp=Z,207nm,1.8s						
KSRS	**Korea Array**	**10.81**	**275**	Pn	**Pn**	**21 31 01.1**	**+3.6**
	comp=Z,0.5nm,0.3s,baz=90,slow=14,SNR=12						
KSAR	**Wonju Array Be**	**10.84**	**275**	Pn	**Pn**	**21 30 57.7**	**-0.3**
KSAR	**Wonju Array Be**	**10.84**	**275**	P	**Pn**	**21 30 57.7**	**-0.3**
KLR	**Kul'dur**	**13.93**	**333**	Pn	**Pn**	**21 31 41.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=148,slow=9.5,SNR=2.4						
	comp=Z,0.9nm,0.4s						
KLR	**Kul'dur**	**13.93**	**333**	*i* P	**Pn**	**21 31 40.8**	**+0.7**
HEH	**HeiHe**	**16.49**	**327**	*e*P	**Pn**	**21 32 15.4**	**+1.4**
HEH				pmax	pmax		
	comp=Z,15nm,1.2s						
ZEA	**Zeya**	**19.24**	**334**	*e*P	**Pn**	**21 32 48.1**	**+0.2**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
HIA	**Hailar**	**19.82**	**314**	*i* P	**P**	**21 32 51.2**	**-2.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HNS	**HongShan**	**21.29**	**279**	⇑P	**P**	**21 33 07.0**	**-2.4**
HNS				pmax	pmax		
	comp=Z,18nm,0.9s						
MA2	**Magadan**	**23.15**	**12**	P	**P**	**21 33 29.1**	**+0.1**
	comp=Z,20nm,0.7s,baz=196,slow=12,SNR=7.6						
	comp=Z,20nm,0.7s						
HHC	**Hu-ho-hao-te**	**23.48**	**288**	*e*P	**P**	**21 33 32.0**	**-0.6**
YAK	**Yakutsk**	**25.90**	**347**	P	**P**	**21 33 55.9**	**+1.4**
	comp=Z,13nm,0.7s,baz=147,slow=2.6,SNR=12						
	comp=Z,13nm,0.7s						
YAK	**Yakutsk**	**25.90**	**347**	P	**P**	**21 33 54.1**	**-0.5**
YAK	**Yakutsk**	**25.90**	**347**	*e*P	**P**	**21 33 56.0**	**+1.4**
YAK				pmax	pmax		
	comp=Z,51nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,25nm,1.1s						
SEY	**Seymchan**	**26.59**	**11**	P	**P**	**21 34 02.4**	**+1.5**
	comp=N,17nm,1.1s,baz=182,slow=9.6,SNR=5.2						
	comp=N,17nm,1.1s						
SEY	**Seymchan**	**26.59**	**11**	*i* P	**P**	**21 33 59.4**	**-1.5**
SEY				pmax	pmax		
	comp=Z,172nm,4.0s						
XAN	**Xi'an**	**26.60**	**273**	P	**P**	**21 34 04.5**	**+3.2**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.30**	**304**	P	**P**	**21 34 05.9**	**-1.8**
ULN	**Ulaanbaatar**	**27.30**	**304**	*i* P	**P**	**21 34 07.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BOD	**Bodaibo**	**27.40**	**328**	*e*P	**P**	**21 34 08.5**	**+0.3**
BOD				pmax	pmax		
	comp=Z,14nm,0.9s						
ENH	**Enshi**	**27.42**	**265**	P	**P**	**21 34 06.6**	**-2.1**
ENH				IAmb	IAmb	21 34 29.4	
	comp=Z,30nm,0.9s						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**21 34 11.1**	**-0.4**
	comp=Z,7.6nm,1.0s,baz=105,slow=8.2,SNR=22						
	comp=Z,7.6nm,1.0s						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**21 34 10.3**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	22 03 44.1	
	baz=314,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	22 03 43.1	
	baz=314,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	22 03 41.9	
	baz=314,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	22 04 39.2	
	baz=316,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	22 04 37.3	
	baz=316,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	22 04 37.9	
	baz=316,slow=76,SNR=35						
ZAK	**Zakamensk**	**30.20**	**308**	*e*P	**P**	**21 34 29.8**	**-3.6**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GYA	**Guiyang**	**31.32**	**260**	*e*P	**P**	**21 34 43.4**	**-0.1**
GYA

comp=Z,42nm,1.1s
KURBB **Kurchatov Arra** 45.94 308 P P 21 36 44.9 -0.7
comp=Z,7.6nm,0.4s,baz=81,slow=7.7,SNR=39
comp=Z,7.6nm,0.4s
TAPN **Taplejung** 45.99 274 *eP* P 21 36 45.5 -1.3
comp=Z,5.3nm,0.4s
A21K **Barrow** 46.26 23 P P 21 36 49.9 +2.1
IMAR **Indian Mountai** 46.45 31 P P 21 36 52.6 +3.1
KAPI **Kappang** 46.66 210 P P 21 36 53.2 +1.6
comp=Z,18nm,0.9s,baz=26,slow=6.8,SNR=12
comp=Z,18nm,0.9s
KAPI **Kappang** 46.66 210 P P 21 36 52.4 +0.8
KAPI **Kappang** 46.66 210 *ceP* P 21 36 54.2 +2.6
CAST **Castle Rocks** 47.03 34 P P 21 36 54.5 +0.4
RAMN **Ramite** 47.06 274 *eP* P 21 36 54.3 -0.7
JIRN **Jiri** 47.07 275 *eP* P 21 36 54.7 -0.6
comp=Z,11nm,0.2s
GUN **Gumba** 47.20 276 *eP* P 21 36 55.6 -0.7
comp=Z,17nm,0.5s
SRIT **Nakonsritamara** 47.39 244 P P 21 36 57.5 +0.1
KTH **Kantishna Hill** 47.55 34 P P 21 37 00.1 +1.9
MLY **Manley** 47.65 32 P P 21 37 00.3 +1.4
MLY IAmb IAmb 21 37 07.1
comp=Z,11nm,1.4s
PKI **Pulchoki** 47.73 275 *eP* P 21 36 59.1 -1.2
PKIN **Phulchoki** 47.73 275 *eP* P 21 36 58.9 -1.4
comp=Z,8.8nm,0.5s
TRF **Thorofare Moun** 47.84 34 P P 21 37 00.8 +0.3
TRF IAmb IAmb 21 37 17.3
comp=Z,17nm,1.2s
GKN **Gorkha** 48.15 276 *eP* P 21 37 02.2 -1.2
comp=Z,8.1nm,0.4s
H23K **Yukon River** 48.17 31 P P 21 37 03.0 +0.1
H23K IAmb IAmb 21 37 11.3
comp=Z,17nm,1.3s
TOLK **Toolik Lake Re** 48.27 27 P P 21 37 05.4 +1.7
TARG **Taragay, Kyrgy** 48.38 296 P P 21 37 04.8 -0.5
TARG **Taragay, Kyrgy** 48.38 296 P P 21 37 04.8 -0.5
GHO **Glory Hole Cre** 48.52 36 P P 21 37 06.8 +1.1
DANN **Dangsing** 48.69 277 *eP* P 21 37 07.1 -0.7
comp=Z,44nm,0.6s
MDM **Murphy Dome** 48.72 32 P P 21 37 08.9 +1.7
MDM IAmb IAmb 21 37 14.9
comp=Z,27nm,1.5s
POKR **Poker Plat Res** 49.05 32 P P 21 37 10.6 +0.9
POKR IAmb IAmb 21 37 17.0
comp=Z,16nm,1.1s
MMRI **Maumere** 49.06 206 P P 21 37 10.3 +0.1
IL31 49.30 32 P P 21 37 13.2 +1.7
IL31 IAmb IAmb 21 37 22.7
comp=Z,7.3nm,0.9s
ILAR **Eielson Array** 49.30 32 P P 21 37 12.7 +1.2
comp=Z,2.4nm,0.8s,baz=266,slow=6.3,SNR=17
comp=Z,2.4nm,0.8s
ILAR **Eielson Array** 49.30 32 P P 21 37 11.5 0.0
IPM **Ipoh** 49.30 239 P P 21 37 11.7 -0.5
IPM IAmb IAmb 21 37 39.4
comp=Z,22nm,1.5s
SOEI **Soe** 49.45 203 P P 21 37 14.7 +1.4
BATI **Baumata** 50.06 203 P P 21 37 19.2 +1.4
comp=Z,41nm,0.7s,baz=285,slow=2.9,SNR=2.1
comp=Z,41nm,0.7s
BMAR **Burnt Mountain** 50.13 29 P P 21 37 19.2 +1.3
AAK **Ala-Archa** 50.46 298 P P 21 37 19.3 -1.6
AAK **Ala-Archa** 50.46 298 *i P* P 21 37 18.6 -2.3
AAK pmax pmax
comp=Z,5.0nm,0.9s
BRVK **Borovoye** 50.55 312 P P 21 37 19.8 -1.4
BRVK **Borovoye** 50.55 312 *i P* P 21 37 20.2 -1.0
BRVK pmax pmax
comp=Z,6.0nm,1.1s
DOT **Dot Lake** 50.61 34 P P 21 37 24.1 +2.5
SCRK **Sand Creek** 50.61 33 P P 21 37 22.6 +0.9
MTN **Manton Dam** 50.75 193 P P 21 37 22.9 -0.1
MTN IAmb IAmb 21 37 44.5
comp=Z,19nm,1.2s
GLB **Gilahina Butte** 50.98 37 P P 21 37 26.1 +1.7
GLB IAmb IAmb 21 37 32.9
comp=Z,14nm,1.2s
BCAR **Beaver Creek A** 51.70 34 P P 21 37 32.0 +2.2
KK31 **Karatay Array** 53.09 300 P P 21 37 39.0 -1.3
KK31 **Karatay Array** 53.09 300 P P 21 37 39.0 -1.3
KKAR **Karatay Array** 53.09 300 P P 21 37 39.2 -1.1
KKAR **Karatay Array** 53.09 300 P P 21 37 39.3 -1.1
KKAR 21 37 39.3
EPYK **Eagle Plains** 53.33 30 P P 21 37 43.6 +1.8
EPYK IAmb IAmb 21 37 49.8
comp=Z,27nm,1.1s
DRK **Karamyk** 53.43 295 P P 21 37 41.9 -1.4
DRK IAmb IAmb 21 38 08.0
comp=Z,7.0nm,0.8s
GSI **Gunungsitoli** 53.96 239 P P 21 37 47.3 +0.3
KNRA **Kununurra** 53.97 195 P P 21 37 46.1 -0.8
M30M **Minto, Yukon** 54.04 34 P P 21 37 48.9 +1.9
M30M IAmb IAmb 21 38 09.6
comp=Z,16nm,1.4s
LEM **Lembang** 54.06 223 P P 21 37 48.7 +0.8
comp=Z,23nm,0.7s,baz=80,slow=9.2,SNR=6.9
comp=Z,23nm,0.7s
INK **Inuvik** 54.18 27 P P 21 37 49.1 +1.2
comp=Z,3.5nm,0.9s,baz=276,slow=3.7,SNR=6.6
comp=Z,3.5nm,0.9s
INK **Inuvik** 54.18 27 P P 21 37 50.2 +2.3
INK IAmb IAmb 21 37 54.9
comp=Z,13nm,1.1s
NIL **Nilore** 54.62 288 P P 21 37 51.0 -0.7
NIL IAmb IAmb 21 38 04.6
comp=Z,7.0nm,0.7s
NIL **Nilore** 54.62 288 P P 21 37 51.0 -0.7
NIL pmax pmax
comp=Z,7.0nm,0.7s
GAR **Garm** 54.68 295 P P 21 37 51.3 -0.8
CHGR **Chuyangaron** 55.65 295 P P 21 37 57.6 -1.5
CHGR **Chuyangaron** 55.65 295 P P 21 37 57.6 -1.5
CHGR pmax pmax
comp=Z,23nm,0.7s
ARU **Arti** 56.26 318 *c i P* P 21 38 02.4 -0.7
ARU 21 40 03.2
ARU S S 21 45 54.8 +1.9
ARU pmax pmax
comp=Z,71nm,1.6s
WB0 **Warramunga Arr** 57.08 188 P P 21 38 09.2 -0.1
WB0 IAmb IAmb 21 38 36.3
comp=Z,6.9nm,0.8s
WRAB **Tennant Creek** 57.25 188 P P 21 38 09.1 -1.3
WRAB IAmb IAmb 21 38 37.9
comp=Z,8.2nm,1.1s
WRAB **Tennant Creek** 57.25 188 *ceP* P 21 38 10.8 +0.4
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WR0 **Warramunga Arr** 57.25 188 P P 21 38 10.0 -0.5
WR0 IAmb IAmb 21 38 12.7
comp=Z,14nm,1.2s
WB2 **Warramunga Arr** 57.26 188 P P 21 38 09.9 -0.7
WB2 IAmb IAmb 21 38 37.6
comp=Z,7.2nm,0.8s
WRA **Warramunga Arr** 57.26 188 P P 21 38 09.9 -0.6
comp=Z,4.3nm,0.8s,baz=5.6,slow=7.2,SNR=24
comp=Z,4.3nm,0.8s
WRA **Warramunga Arr** 57.26 188 P P 21 38 09.9 -0.6
WRA **Warramunga Arr** 57.26 188 *i P* P 21 38 09.6 -0.9
WRA pmax pmax
comp=Z,4.0nm,0.8s
ABKAR **Akbulak array** 57.87 310 P P 21 38 13.6 -1.0
EUNU **Eureka** 59.99 9 P P 21 38 29.2 +0.3
EUNU IAmb IAmb 21 38 47.0
comp=Z,4.7nm,0.9s
PRGR **Permogore** 60.64 327 *eP* P 21 38 31.4 -2.2
PRGR pmax pmax
comp=Z,20nm,1.1s
AS31 **Alice Springs** 60.98 188 P P 21 38 36.1 -0.2
ASAR **Alice Springs** 60.99 188 P P 21 38 36.2 -0.1
comp=Z,2.7nm,0.9s,baz=8.3,slow=5.5,SNR=14
comp=Z,2.7nm,0.9s
ASAR **Alice Springs** 60.99 188 P P 21 38 36.5 +0.2
ASAR **Alice Springs** 60.99 188 P P 21 38 36.5 +0.2
LVZ **Lovozero** 61.96 336 P P 21 38 43.4 +0.9
LVZ **Lovozero** 61.96 336 P P 21 38 43.4 +0.9
LVZ pmax pmax
comp=Z,63nm,1.5s
RES **Resolute Bay** 62.40 14 P P 21 38 45.6 +0.3
comp=Z,3.1nm,0.9s,baz=316,slow=11,SNR=5.3
comp=Z,3.1nm,0.9s
RES **Resolute Bay** 62.40 14 P P 21 38 45.7 +0.5
RES IAmb IAmb 21 38 59.4
comp=Z,8.7nm,1.2s
RES **Resolute Bay** 62.40 14 P P 21 38 45.7 +0.5
RES pmax pmax
comp=Z,9.0nm,1.2s
KLMR **Klimovskoe** 63.63 328 *eP* P 21 38 52.3 -1.4
KLMR AMP 21 38 55.4
comp=Z,19nm,0.8s
KLMR *ePcP* PcP 21 39 22.9 -7.0
KLMR **Klimovskoe** 63.63 328 *eP* P 21 38 52.2 -1.4
KLMR pmax pmax
comp=Z,19nm,0.8s
BELG **Belogornoye** 63.71 317 *i P* P 21 38 53.0 -1.3
BELG pmax pmax
comp=Z,6.0nm,1.1s
GEYT **Alibeck** 63.80 299 P P 21 38 55.2 0.0
comp=Z,15nm,1.1s,baz=48,slow=2.2,SNR=15
comp=Z,15nm,1.1s
GEYT **Alibeck** 63.80 299 P P 21 38 54.2 -1.1
GEYT IAmb IAmb 21 38 56.5
comp=Z,6.9nm,0.9s
ARCES **ARCESS Array B** 63.84 339 P P 21 38 54.5 -0.4
comp=Z,4.1nm,0.8s,baz=60,slow=7.4,SNR=9.7
comp=Z,4.1nm,0.8s
NEEM **North Greenlan** 65.33 3 *i P* P 21 39 07.8 +2.8
DAG **Danmarks Havn** 65.59 355 *i P* P 21 39 07.1 +0.9
MOS **Moscow** 67.14 323 *eP* P 21 39 06.3 -10
MOS pmax pmax
comp=Z,197nm,2.5s
VRH **Novokhopyorsk** 67.48 318 *eP* P 21 39 11.4 -7.3
VRH pmax pmax
comp=Z,10.0nm,1.0s
LPSR **Galich'ya Gora** 68.20 320 *eP* P 21 39 16.2 -7.0
LPSR pmax pmax
comp=Z,20nm,1.1s
VORR **Voronezh** 68.56 319 *eP* P 21 39 15.3 -10
VORR pmax pmax
comp=Z,60nm,0.4s
FIA1 **FINESS Array S** 68.67 332 P P 21 39 25.3 -0.7
FINES **FINESS Array B** 68.68 332 P P 21 39 25.7 -0.3
comp=Z,9.2nm,0.6s,baz=51,slow=6.2,SNR=20
comp=Z,9.2nm,0.6s
FINES **FINESS Array B** 68.68 332 P P 21 39 25.5 -0.5
FINES **FINESS Array B** 68.68 332 *i P* P 21 39 26.0 0.0
FINES pmax pmax
comp=Z,9.0nm,0.6s
STKA **Stephens Creek** 68.75 180 P P 21 39 27.4 +0.7
comp=Z,4.4nm,0.8s,baz=7.0,slow=7.3,SNR=3.1
comp=Z,4.4nm,0.8s
PINE **Pine Mountain** 70.16 50 P P 21 39 37.1 +1.2
KBZ **Khabaz** 70.83 311 P P 21 39 39.2 -0.4
comp=Z,8.7nm,1.1s,baz=54,slow=5.7,SNR=6.2
comp=Z,8.7nm,1.1s
KIV **Kislovodsk** 70.83 311 ⇓P P 21 39 37.1 -2.6
KIV **Kislovodsk** 70.83 311 *eP* P 21 39 36.8 -3.0
KIV pmax pmax
comp=Z,37nm,1.1s
PABE **Paberze** 73.41 328 P P 21 39 55.0 +0.2
NC405 **NORSAR Array S** 73.83 337 P P 21 39 57.3 +0.1
LRM **Limekiln Ridge** 73.96 44 P P 21 39 59.9 +1.2
NB2 **NORSAR Subarra** 74.04 337 P P 21 39 57.9 -0.6
comp=Z,1.1nm,0.7s,baz=39,slow=6.2
NOA **NORSAR Array B** 74.04 337 P P 21 39 58.2 -0.3
comp=Z,3.9nm,0.7s,baz=38,slow=6.0,SNR=16
comp=Z,3.9nm,0.7s
NBO00 **NORSAR Array S** 74.18 337 P P 21 39 58.8 -0.5
NBO00 IAmb IAmb 21 40 26.6
comp=Z,5.1nm,0.8s
AKASG **Malin Array Be** 74.19 322 P P 21 39 59.0 -0.5
comp=Z,2.9nm,0.5s,baz=46,slow=6.3,SNR=14
comp=Z,2.9nm,0.5s
BOZ **Bozeman (W)** 74.56 44 P P 21 40 02.9 +0.9
BOZ **Bozeman (W)** 74.56 44 P P 21 40 02.9 +0.9
BOZ pmax pmax
comp=Z,4.0nm,0.9s
KVN **Kaiserville** 74.59 53 P P 21 40 03.1 +0.8
KVN IAmb IAmb 21 40 10.8
comp=Z,7.9nm,1.2s
KVN **Kaiserville** 74.59 53 P P 21 40 03.1 +0.8
KVN pmax pmax
comp=Z,8.0nm,1.2s
NVAR **Mina Array Bea** 74.82 53 P P 21 40 05.2 +1.5
comp=Z,1.2nm,0.7s,baz=295,slow=4.9,SNR=6.6
comp=Z,1.2nm,0.7s
NVAR **Mina Array Bea** 74.82 53 P P 21 40 05.5 +1.8
IMW **Indian Meadow** 75.99 45 P P 21 40 12.3 +1.8
IMW IAmb IAmb 21 40 31.4
comp=Z,12nm,1.4s
SORM **Soroca** 76.29 321 ⇑P P 21 40 10.0 -1.6
R11A **Troy Canyon, C** 76.59 52 P P 21 40 15.0 +1.2
R11A IAmb IAmb 21 40 25.4
comp=Z,6.5nm,1.3s
DUG **Dugway, Tooele** 77.18 49 P P 21 40 18.3 +1.2
DUG IAmb IAmb 21 40 30.3
comp=Z,9.1nm,1.3s
DUG **Dugway, Tooele** 77.18 49 P P 21 40 18.3 +1.2
DUG pmax pmax
comp=Z,9.0nm,1.3s
PDAR **Pinedale Array** 77.48 46 P P 21 40 20.1 +1.2
comp=Z,1.0nm,0.7s,baz=250,slow=2.8,SNR=4.1
comp=Z,1.0nm,0.7s
PDAR **Pinedale Array** 77.48 46 P P 21 40 19.7 +0.9
BUR08 **Bucovina Ar. S** 78.19 322 P P 21 40 22.9 +0.4
BUR08 IAmb IAmb 21 40 27.6
comp=Z,11nm,1.4s
BURAR **Bucovina Array** 78.20 322 ⇓P P 21 40 21.7 -0.9
BURAR **Bucovina Array** 78.20 322 P P 21 40 22.7 +0.1
TESR **Tescani** 78.23 320 ⇑P P 21 40 22.7 +0.1
BRTR **Keskin Array B** 78.78 312 P P 21 40 26.1 +0.1
comp=Z,3.8nm,1.1s,baz=87,slow=4.2,SNR=7.0
comp=Z,3.8nm,1.1s
BRTR **Keskin Array B** 78.78 312 P P 21 40 26.0 +0.1
BRTR **Keskin Array B** 78.78 312 *i P* P 21 40 25.7 -0.2
BRTR pmax pmax
comp=Z,3.0nm,1.0s
MTPU **Mount Pierson** 78.90 51 P P 21 40 28.7 +1.8
MTPU IAmb IAmb 21 40 50.4
comp=Z,11nm,1.4s
UZH **Uzhgorod** 78.91 324 *eP* P 21 40 26.8 +0.5
UZH *e* 21 40 41.0
SRU **San Rafael Swe** 79.23 49 P P 21 40 29.1 +0.6
SRU **San Rafael Swe** 79.23 49 P P 21 40 29.1 +0.6
SRU pmax pmax
comp=Z,7.0nm,1.2s
DOPR **Dopca** 79.24 320 ⇑P P 21 40 28.1 -0.1
DPC **Dobruska-Polom** 80.33 328 *eP* P 21 40 34.6 +0.5
DPC **Dobruska-Polom** 80.33 328 *eP* P 21 40 34.6 +0.5
PSZ **Piszkesteto** 80.54 324 P P 21 40 35.9 +0.6
PSZ IAmb IAmb 21 40 40.9
comp=Z,16nm,1.2s
PSZ **Piszkesteto** 80.54 324 P P 21 40 35.9 +0.6
PSZ pmax pmax
comp=Z,16nm,1.2s
PV13 **Radium Mtn., P** 80.87 49 P P 21 40 38.5 +1.1
PV13 IAmb IAmb 21 40 47.0
comp=Z,18nm,1.4s
CLL **Collm** 80.96 330 *eP* P 21 40 37.0 -0.3
comp=Z,11nm,1.2s
CLL *ex* x 21 40 54.0
CLL **Collm** 80.96 330 *eP* P 21 40 37.0 -0.3
CLL pmax pmax
comp=Z,11nm,1.2s
VRAC **Vranov** 81.00 327 P P 21 40 37.7 +0.2
comp=Z,8.3nm,1.2s,baz=270,slow=10,SNR=3.4
comp=Z,8.3nm,1.2s
VRAC **Vranov** 81.00 327 *eP* P 21 40 37.8 +0.2
KRUC **Moravsky** 81.27 327 *eP* P 21 40 38.4 -0.6
PRU **Pruhonice** 81.36 329 *eP* P 21 40 41.8 +2.3
PRU **Pruhonice** 81.36 329 ⇓P P 21 40 41.8 +2.3
BZS **Buzias** 81.38 322 ⇑P P 21 40 39.2 -0.5
KHC **Kasperske Hory** 82.42 328 *eP* P 21 40 44.9 -0.2
KHC **Kasperske Hory** 82.42 328 *eP* P 21 40 44.9 -0.2
GERES **GERESS Array B** 82.58 328 P P 21 40 46.1 +0.1
comp=Z,1.2nm,0.6s,baz=26,slow=6.5,SNR=6.0
comp=Z,1.2nm,0.6s
GERES **GERESS Array B** 82.58 328 P P 21 40 45.6 -0.5
GERES **GERESS Array B** 82.58 328 P P 21 40 45.6 -0.5
T25A **Trinidad** 84.16 47 P P 21 40 56.4 +1.8
T25A IAmb IAmb 21 41 04.6
comp=Z,2.9nm,0.8s
PDG **Podgorica** 84.86 321 ⇑P P 21 40 56.7 -1.0
FUORN **Ofenpass-Fuorn** 85.77 329 P P 21 41 02.9 +0.3
TXAR **Lajitas Array** 89.95 52 P P 21 41 23.4 +0.7
comp=Z,1.1nm,0.7s,baz=302,slow=3.2,SNR=9.1
comp=Z,1.1nm,0.7s
LPAZ **La Paz** 146.54 59 PKPbc PKPbc 21 48 06.2 +0.5
comp=Z,3.0nm,0.5s,baz=357,slow=4.6,SNR=12

IDC ***21*** *21:31:02.1±2.7, 37.51N×141.91E, h0km, mb3.9/5, mbtmp4.0/7, ML3.2/2, Error ellipse: s-maj=62.9km s-min=27.2km az=76.0*
JMA ***21*** *21:31:05.9±0.2, 37.3N±0.3×141.6E±0.7, h23km±1km, MV4.0/33, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 21 21:31:04.5±1.2, 37.35N±0.05×141.64E±0.09, h10km, n14, σ1§13/18, mb3.9/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.61**	**272**	P	**Pg**	**21 31 16.9**	**+0.5**
JFK				*eS*	**Sg**	**21 31 24.5**	**0.0**
JMST	**Minamisoumatoc**	**0.71**	**302**	P	**Pg**	**21 31 18.7**	**+0.4**
JMM	**Marumori**	**0.85**	**308**	*eP*	**Pg**	**21 31 21.1**	**+0.1**
JMM				*eS*	**Sg**	**21 31 32.2**	**+0.1**
JFFD	**Fukushimafurud**	**0.90**	**254**	*eS*	**Sg**	**21 31 32.8**	**-0.8**
JHO	**Hitachi**	**1.13**	**230**	S	**Sg**	**21 31 38.4**	**-2.5**
JIO	**Ouri**	**1.13**	**348**	*eS*	**Sb**	**21 31 40.1**	**-0.8**
JOU	**Okura**	**1.28**	**323**	*eP*	**Pn**	**21 31 28.3**	**-0.1**
JOU				*eS*	**Sb**	**21 31 45.2**	**-0.1**
MJAR	**Matsushiro Arr**	**2.87**	**255**	Pn	**Pn**	**21 31 52.4**	**+2.2**
	0.7nm,0.3s,baz=30,slow=13,SNR=0.8						
	12nm,0.4s						
JHJ	**Hachijo jima 2**	**4.48**	**200**	Pn	**Pn**	**21 32 13.8**	**+1.4**
	10nm,0.3s,baz=31,slow=19,SNR=1.4						
JHJ				Sn	**Sn**	**21 33 03.0**	**-1.7**
	20nm,0.3s,baz=72,slow=19,SNR=2.0						
	150nm,0.7s						
SONM	**Songino Array**	**27.77**	**303**	P	**P**	**21 36 53.5**	**0.0**
	0.9nm,0.8s,baz=95,slow=7.4,SNR=2.4						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**21 38 53.7**	**-0.6**
	1.3nm,0.5s,baz=75,slow=6.2,SNR=2.7						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**21 39 11.9**	**-1.0**
	0.9nm,0.6s,baz=79,slow=10,SNR=2.3						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**21 39 27.5**	**+0.1**
	0.7nm,0.4s,baz=85,slow=8.5,SNR=1.4						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**57.39**	**188**	P	**P**	**21 40 53.9**	**+0.7**
	2.7nm,1.1s,baz=7.4,slow=7.5,SNR=1.2						
	2.7nm,1.1s						

IDC ***21*** *21:32:29.6±1.0, 37.27N×141.49E, h0km, mb4.0/12, mbtmp4.0/14, ML3.3/2, Error ellipse: s-maj=26.5km s-min=19.1km az=88.0*
NEIC ***21*** *21:32:30.9±1.2, 37.28N±0.0×141.49E±0.0, h10km±1km, mb4.3/12, Error ellipse: s-maj=18.3km s-min=7.7km az=38.0*
JMA ***21*** *21:32:32.3±0.2, 37.3N±0.3×141.5E±0.9, h27km±1km, MV4.1/38, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 21 21:32:31.6±1.9, 37.29N±0.04×141.45E±0.08, h14km±10km, n45, σ0§73/51, mb4.1/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.46**	**280**	P	**Pb**	**21 32 41.5**	**-0.2**
JFK				*eS*	**Sb**	**21 32 48.6**	**+0.2**
JMST	**Minamisoumatoc**	**0.62**	**314**	*eP*	**Pb**	**21 32 44.1**	**-0.2**
JMST				S	**Sb**	**21 32 53.0**	**+0.2**
JFFD	**Fukushimafurud**	**0.74**	**255**	P	**Pb**	**21 32 46.0**	**-0.2**
JFFD				S	**Sg**	**21 32 56.1**	**+0.5**
JMM	**Marumori**	**0.78**	**318**	Pg	**Pg**	**21 32 46.6**	**-0.1**
JMM	**Marumori**	**0.78**	**318**	*eP*	**Pb**	**21 32 46.8**	**-0.1**
JMM				*eS*	**Sg**	**21 32 57.3**	**+0.4**
JHO	**Hitachi**	**0.98**	**226**	S	**Sg**	**21 33 02.8**	**-0.6**
JIO	**Ouri**	**1.17**	**356**	S	**Sb**	**21 33 07.4**	**-1.1**
JOU	**Okura**	**1.24**	**330**	*eP*	**Pn**	**21 32 54.6**	**+0.1**
JOU				S	**Sg**	**21 33 11.6**	**-0.1**
JSB	**Shiboa**	**1.26**	**256**	*eP*	**Pb**	**21 32 55.4**	**+0.2**
JSB				*eS*	**Sg**	**21 33 12.5**	**+0.1**
MJAR	**Matsushiro Arr**	**2.70**	**255**	Pn	**Pn**	**21 33 15.6**	**+0.9**
	3.2nm,0.3s,baz=78,slow=17,SNR=4.3						
	16nm,0.3s						
MAJO	**Matsshiro**	**2.70**	**255**	Pn	**Pn**	**21 33 13.9**	**-0.8**
MJB9	**Matsu-Tunnel**	**2.71**	**255**	Pn	**Pn**	**21 33 14.6**	**-0.2**
JGF	**Kuroka**	**3.71**	**244**	Pn	**Pn**	**21 33 29.5**	**+1.0**
INU	**Inuyama**	**4.07**	**243**	Pn	**Pn**	**21 33 33.9**	**+0.5**
JHJ	**Hachijo jima 2**	**4.38**	**199**	Pn	**Pn**	**21 33 38.6**	**+0.9**
	6.2nm,0.3s,baz=233,slow=20,SNR=1.9						
JHJ				Sn	**Sn**	**21 34 28.1**	**-0.4**
	9.3nm,0.3s,baz=270,slow=20,SNR=2.3						
	214nm,0.9s						
JHS	**Saijyo**	**7.12**	**254**	Pn	**Pn**	**21 34 16.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**9.95**	**317**	Pn	Pn	21 35 00.2	+6.0
	1.3nm,0.3s,baz=121,slow=13,SNR=4.5						
TPUB	**Ta-pu**	**22.68**	**238**	P	**P**	**21 37 31.6**	**-1.1**
SONM	**Songino Array**	**27.67**	**304**	P	**P**	**21 38 20.0**	**+0.9**
	3.4nm,0.9s,baz=105,slow=8.4,SNR=5.9						
	3.4nm,0.9s						
ZAA0	**Zalesovo Array**	**41.76**	**312**	P	**P**	**21 40 20.1**	**-0.2**
ZAA0				IAmb	IAmb	21 40 36.1	
	comp=Z,5.1nm,1.2s						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**21 40 20.6**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=86,slow=8.2,SNR=4.5						
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**41.76**	**312**		**P**	**21 40 19.9**	**-0.3**
MK31	**Makanchi Array**	**44.01**	**302**	P	**P**	**21 40 38.7**	**+0.1**
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**21 40 39.1**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=88,slow=10,SNR=5.7						
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**21 40 38.7**	**+0.1**
MAKZ	**Makanchi**	**44.22**	**302**	P	**P**	**21 40 39.2**	**-1.0**
KURK	**Kurchatov**	**45.80**	**308**	P	**P**	**21 40 52.4**	**-0.3**
KURBB	**Kurchatov Arra**	**45.87**	**308**	P	**P**	**21 40 53.2**	**0.0**
	comp=Z,4.3nm,0.7s,baz=84,slow=8.1,SNR=8.8						
	comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**49.26**	**32**	P	**P**	**21 41 20.3**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=278,slow=6.1,SNR=2.6						
	comp=Z,0.8nm,0.8s						
BRVK	**Borovoye**	**50.48**	**312**	P	**P**	**21 41 29.4**	**+0.5**
BRVK				IAmb	IAmb	21 42 09.7	
	comp=Z,2.8nm,1.1s						
GSI	**Gunungsitoli**	**53.96**	**239**	P	**P**	**21 41 54.3**	**-0.9**
ARU	**Arti**	**56.19**	**318**	P	**P**	**21 42 10.7**	**-0.1**
ARU				IAmb	IAmb	21 42 53.7	
	comp=Z,4.4nm,1.4s						
WRAB	**Tennant Creek**	**57.31**	**188**	P	**P**	**21 42 18.6**	**-0.5**
WRAB				IAmb	IAmb	21 42 23.5	
	comp=Z,7.6nm,1.2s						
WR0	**Warramunga Arr**	**57.31**	**188**	P	**P**	**21 42 18.3**	**-0.8**
WB2	**Warramunga Arr**	**57.32**	**188**	P	**P**	**21 42 16.2**	**-2.9**
WB2				IAmb	IAmb	21 42 33.7	
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**57.32**	**188**	P	**P**	**21 42 18.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=7.4,slow=7.6,SNR=1.6						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**57.32**	**188**	P	**P**	**21 42 18.2**	**-0.9**
ABKAR	**Akbulak array**	**57.80**	**310**	P	**P**	**21 42 21.9**	**-0.3**
ASAR	**Alice Springs**	**61.05**	**188**	P	**P**	**21 42 44.6**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=24,slow=9.2,SNR=2.3						
	comp=Z,0.8nm,0.9s						
FINES	**FINESS Array B**	**68.60**	**332**	P	**P**	**21 43 33.6**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=50,slow=13,SNR=2.1						
	comp=Z,1.9nm,0.7s						
KBZ	**Khabaz**	**70.76**	**311**	P	**P**	**21 43 48.0**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=4.4,slow=13,SNR=2.4						
	comp=Z,2.1nm,0.7s						
NOA	**NORSAR Array B**	**73.96**	**337**	P	**P**	**21 44 05.6**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=40,slow=5.9,SNR=3.0						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**74.11**	**322**	P	**P**	**21 44 07.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=46,slow=6.2,SNR=5.7						
	comp=Z,1.1nm,0.5s						
BURAR	**Bucovina Array**	**78.13**	**322**	P	**P**	**21 44 30.7**	**+0.4**
BURAR				IAmb	IAmb	21 44 32.2	
	comp=Z,1.2nm,0.8s						
TXAR	**Lajitas Array**	**89.94**	**52**	P	**P**	**21 45 31.7**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=316,slow=3.5,SNR=3.4						
	comp=Z,0.3nm,0.7s						

JMA ***21*** *21:36:04.9±0.2, 37.2N±0.5×141.5E±0.8, h25km±1km, MV3.8/32, E OFF FUKUSHIMA PREF*
IDC ***21*** *21:36:04.8±3.8, 37.25N×141.16E, h0km, mb3.6/6, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=125.4km s-min=20.9km az=68.0*

ISC 21 21:36:04.9±1.2, 37°27'N±0°05'×141°52'E±0°08, h10km, n15, σ0.86/18, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.52	281	P	Pg	21 36 15.4	+0.3
JFK				eS	Sg	21 36 22.7	+0.7
JMST	Minamisoumatoc	0.68	313	P	Pg	21 36 18.2	+0.2
JMST				S	Sg	21 36 27.9	+0.9
JFFD	Fukushimafurud	0.78	257	S	Sg	21 36 29.6	-0.6
JMM	Marumori	0.83	316	P	Pg	21 36 20.7	-0.3
JMM				S	Sg	21 36 32.1	+0.3
JHO	Hitachi	1.00	230	S	Sg	21 36 35.7	-1.5
JIO	Ouri	1.20	354	P	Pn	21 36 26.5	-1.2
JOU	Okura	1.29	329	eS	Sb	21 36 46.0	+0.1
JSB	Shiboa	1.31	257	eS	Sb	21 36 46.6	+0.1
JHJ	Hachijo jima 2 8.6nm,0.3s,baz=66,slow=20,SNR=1.4 108nm,0.7s	4.37	199	Pn	Pn	21 37 11.5	+0.1
SONM	Songino Array 0.5nm,0.7s,baz=102,slow=10,SNR=2.5 0.5nm,0.7s	27.73	304	P	P	21 41 53.2	-0.3
ZALV	Zalesovo Beam 0.7nm,0.6s,baz=72,slow=9.3,SNR=3.3 0.7nm,0.6s	41.82	312	P	P	21 43 54.4	-0.1
MKAR	Makanchi Array 0.6nm,0.7s,baz=80,slow=9.1,SNR=3.0 0.6nm,0.7s	44.07	302	P	P	21 44 12.1	-0.8
KURBB	Kurchatov Arra 0.7nm,0.4s,baz=83,slow=8.4,SNR=2.4 0.7nm,0.4s	45.92	308	P	P	21 44 27.2	-0.4
WRA	Warramunga Arr 0.4nm,0.7s,baz=4.1,slow=7.4,SNR=3.7 0.4nm,0.7s	57.30	188	P	P	21 45 53.1	+0.2
ASAR	Alice Springs 0.5nm,0.9s,baz=17,slow=6.8,SNR=3.0 0.5nm,0.9s	61.03	188	P	P	21 46 20.8	+2.1

*IDC **21** 21:36:27.6±1.1, 37.60N×141.14E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=36.5km s-min=23.3km az=77.0*
*JMA **21** 21:36:28.9±0.2, 37.1N±0.4×141.3E±0.8, h24km±1km, MV4.1/30, E OFF FUKUSHIMA PREF .*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 21 21:36:28.1±1.0, 37.18N±0.06×141.37E±0.07, h10km, n13, σ2.09/17, mb3.8/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.44	295	eP	Pg	21 36 37.5	+0.8
JFK				eS	Sg	21 36 43.9	+1.5
JFFD	Fukushimafurud	0.65	262	P	Pg	21 36 40.8	0.0
JFFD				S	Sg	21 36 49.1	-0.1
JMST	Minamisoumatoc	0.67	325	eP	Pg	21 36 41.9	+1.0
JMST				S	Sg	21 36 51.4	+1.8
JMM	Marumori	0.82	326	eS	Sg	21 36 56.0	+1.3
JIO	Ouri	1.27	359	eP	Pn	21 36 52.1	+0.2
JIO				eS	Sb	21 37 08.6	+0.1
JFY	Yanaizu	1.35	280	S	Sb	21 37 10.9	+0.2
SONM	Songino Array 0.8nm,0.7s,baz=102,slow=8.8,SNR=2.2 0.8nm,0.7s	27.67	304	P	P	21 42 12.1	-4.1
MKAR	Makanchi Array 0.8nm,0.8s,baz=75,slow=12,SNR=3.5 0.8nm,0.8s	44.01	302	P	P	21 44 33.9	-1.8
KURBB	Kurchatov Arra 0.6nm,0.3s,baz=82,slow=8.1,SNR=4.3 0.6nm,0.3s	45.88	308	P	P	21 44 48.9	-1.6
ILAR	Eielson Array 0.7nm,0.6s,baz=268,slow=6.1,SNR=7.6 0.7nm,0.6s	49.39	32	P	P	21 45 16.2	-1.3
WRA	Warramunga Arr 0.7nm,0.6s,baz=2.7,slow=7.6,SNR=6.0 0.7nm,0.6s	57.20	188	P	P	21 46 19.1	+3.7
ASAR	Alice Springs 0.8nm,0.9s,baz=2.8,slow=5.8,SNR=4.8 0.8nm,0.9s	60.93	188	P	P	21 46 44.9	+3.7
FINES	FINESS Array B 3.1nm,0.8s,baz=90,slow=1.4,SNR=3.1 3.1nm,0.8s	68.67	332	P	P	21 47 30.4	-0.9

*WEL **21** 21:36:55.9±0.4, 43°S±3°×17°4E±°, h12km, M4.0/44, ML4.1/23, MLv4.0/44, Error ellipse: s-maj=0.0km s-min=0.0km az=126.1*
*NOU **21** 21:36:55.8, 42.67S×174.24E, h18km, MLv4.4/11, Off E. Coast of S. Island, N.Z.*
*NEIC **21** 21:36:56.1±1.0, 42.58S±0.04×174.08E±0.07, h22km±8km, mb4.1/5, ML3.9(WEL), Error ellipse: s-maj=9.8km s-min=0.9km az=128.0*

ISC 21 21:36:55.9±0.8, 42.60S±0.03×174.11E±0.04, h21km, n113, σ1.31/117, mb4.1/3, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.85	5		Pn	21 37 13.5	+0.8
CMWZ	Cape Campbell	0.85	5	P	Pb	21 37 15.5	-1.6
GVZ	Greta Valley S	0.87	245		Pb	21 37 12.8	-0.2
GVZ	Greta Valley S	0.87	245	P	Pn	21 37 13.3	+0.3
GVZ				S	Sn	21 37 26.3	+1.2
BSWZ	Blackbirch Sta	0.90	349		Pb	21 37 12.6	-0.3
BSWZ	Blackbirch Sta	0.90	349	P	Pb	21 37 13.1	+0.2
TUWZ	Tuamarina	1.18	354	Pn	Pn	21 37 16.9	-0.3
TUWZ	Tuamarina	1.18	354	P	Pb	21 37 17.5	0.0
AMCZ	Amberley	1.22	241	Pn	Pb	21 37 18.1	-0.1
AMCZ	Amberley	1.22	241	P	Pb	21 37 18.1	-0.1
AMCZ				S	Sn	21 37 36.1	+2.6
THZ	Tophouse	1.23	313	Pn	Pn	21 37 17.4	-0.4
THZ	Tophouse	1.23	313	P	Pn	21 37 17.2	-0.7
THZ				S	Sn	21 37 33.8	-0.1
PLWZ	Palliser	1.34	40	Pn	Pb	21 37 20.0	-0.3
PLWZ	Palliser	1.34	40	P	Pb	21 37 20.0	-0.3
OKCZ	Okains Bay	1.36	214	P	Pb	21 37 21.0	+0.3
SNZO	South Karori	1.36	19	Pn	Pn	21 37 19.7	0.0
SNZO	South Karori	1.36	19	P	Pn	21 37 20.4	-0.3
LTZ	Lake Taylor	1.37	262	Pn	Pn	21 37 19.2	-0.6
LTZ	Lake Taylor	1.37	262	P	Pn	21 37 19.9	+0.1
TCW	Tory Channel	1.39	5	Pn	Pn	21 37 19.7	-0.5
WEL	Wellington	1.40	21	P	Pb	21 37 21.2	-0.2
MSWZ	Moikau Station	1.46	36	P	Pb	21 37 21.6	-0.7
NNZ	Nelson	1.48	338	Pn	Pn	21 37 21.5	+0.1
NNZ	Nelson	1.48	338	P	Pn	21 37 21.6	+0.2
MQZ	McQueen's Vall	1.54	223	Pn	Pn	21 37 21.8	-0.2
MQZ	McQueen's Vall	1.54	223	P	Pn	21 37 22.2	+0.2
MQZ				S	Sb	21 37 42.0	-0.7
PAWZ	Paruwai Farm	1.56	39	P	Pn	21 37 22.9	+0.4
MRNZ	Matariki Terra	1.57	320	Pn	Pn	21 37 22.5	0.0
OXZ	Oxford	1.69	244	Pn	Pn	21 37 23.5	-0.6
TKNZ	Takaka Hill	1.79	331	Pn	Pn	21 37 25.4	-0.1
TKNZ	Takaka Hill	1.79	331	P	Pn	21 37 26.3	+0.7
DSZ	Denniston Nort	1.92	296	Pn	Pn	21 37 26.9	-0.4
DSZ	Denniston Nort	1.92	296	P	Pn	21 37 27.7	+0.3
OGWZ	Otaki Gorge	1.95	24	P	Pn	21 37 28.7	+0.9
INZ	Inchbonnie	1.97	265	Pn	Pn	21 37 27.6	-0.4
INZ	Inchbonnie	1.97	265	P	Pn	21 37 28.1	+0.1
TMWZ	Te Maipa	2.00	42	P	Pn	21 37 29.3	+0.8
HOWZ	Holdsworth Sta	2.00	32	P	Pn	21 37 29.3	+0.8
MHCZ	Mount Hutt	2.08	243	P	Pn	21 37 29.3	-0.4
QRZ	Quartz Range	2.13	326	Pn	Pn	21 37 30.9	+0.7
QRZ	Quartz Range	2.13	326	P	Pn	21 37 31.8	+1.5
QRZ	Quartz Range	2.13	326	P	Pn	21 37 31.6	+1.3
WACZ	Wakanui South	2.13	230	P	Pn	21 37 30.6	+0.3
MRZ	Mangatainoka R	2.23	30	Pn	Pn	21 37 31.9	+0.3
MRZ	Mangatainoka R	2.23	30	P	Pn	21 37 32.4	+0.8
BFZ	Birch Farm	2.50	41	P	Pn	21 37 35.4	+0.1
RPZ	Rata Peaks	2.50	242	Pn	Pn	21 37 35.0	-0.3
RPZ	Rata Peaks	2.50	242	P	Pn	21 37 35.1	-0.2
RPZ	Rata Peaks	2.50	242	P	Pn	21 37 35.1	-0.3
WVZ	Waitaha Valley	2.53	258	P	Pn	21 37 36.1	+0.5
ARCZ	Arundel	2.53	237	P	Pn	21 37 35.5	-0.3
GCSZ	Gaunt Creek Bo	2.87	254	P	Pn	21 37 41.1	+0.8
TMZ	Timaru	2.88	231	P	Pn	21 37 40.8	+0.3
FOZ	Fox Glacier	3.28	252	P	Pn	21 37 47.4	+1.3
KHEZ	Kahui Hut	3.30	359	P	Pn	21 37 47.5	+1.0
KHEZ	Kahui Hut	3.30	359	P	Pn	21 37 50.2	+3.7
NEZ	North Egmont	3.33	360	P	Pb	21 37 52.7	-1.5
LBZ	Lake Benmore	3.37	237	Pn	Pn	21 37 47.3	0.0
LBZ	Lake Benmore	3.37	237	P	Pn	21 37 47.8	+0.5
PKE	Pukeiti	3.40	358	P	Pb	21 37 54.5	-1.0
MOVZ	Moawhango	3.42	22	P	Pn	21 37 49.9	+1.8
BHHZ	Black Hill Sta	3.44	26	P	Pn	21 37 49.9	+1.6
WNVZ	Wahianoa	3.46	20	P	Pn	21 37 50.6	+1.9
TRVZ	Turoa	3.47	19	P	Pn	21 37 50.9	+2.0
KAHZ	Kahuranaki	3.50	38	P	Pn	21 37 49.9	+0.9
WHVZ	Whangaehu Hut	3.50	19	P	Pn	21 37 52.0	+2.7
ODZ	Otahua Downs	3.50	225	Pn	Pn	21 37 49.2	+0.1
ODZ	Otahua Downs	3.50	225	P	Pn	21 37 49.4	+0.3
ODZ	Otahua Downs	3.50	225	P	Pn	21 37 49.5	+0.4
VRZ	Vera Road	3.51	8	P	Pn	21 37 51.5	+2.4
FWVZ	Far West T-bar	3.52	19	P	Pn	21 37 51.7	+2.2
SNVZ	South Ngauruho	3.60	19	P	Pn	21 37 52.2	+1.6
NGZ	Ngauruhoe	3.60	19	P	Pn	21 37 52.2	+1.6
KWHZ	Kaweka Forest	3.62	30	P	Pn	21 37 52.2	+1.4
OTVZ	Oturere	3.63	19	P	Pn	21 37 53.0	+1.9
NNVZ	North Ngauruho	3.65	19	P	Pn	21 37 53.0	+1.7
WTVZ	West Tongariro	3.66	18	P	Pn	21 37 55.0	+3.6
ETVZ	East Tongariro	3.67	20	P	Pn	21 37 53.6	+2.1
TWVZ	Taurewa	3.67	16	P	Pn	21 37 54.8	+3.3
TMVZ	Te Maari	3.69	20	P	Pn	21 37 53.3	+1.5
KRVZ	Karewarewa	3.69	19	P	Pb	21 37 56.6	-3.9
NTVZ	North Tongarir	3.69	19	P	Pn	21 37 53.4	+1.5
BKZ	Black Stump Fm	3.88	29	Pn	Pn	21 37 54.2	-0.1
BKZ	Black Stump Fm	3.88	29	P	Pn	21 37 58.4	+4.0
HIZ	Hauiti	4.12	8	Pn	Pn	21 37 59.1	+1.5
HIZ	Hauiti	4.12	8	P	Pn	21 37 59.7	+2.1
HIZ	Hauiti	4.12	8	P	Pn	21 37 59.6	+1.9
HHSZ	Highcliff Hill	4.14	216	P	Pn	21 37 58.9	+1.0
JCZ	Jackson Bay	4.15	247	P	Pn	21 37 59.4	+1.2
JCZ	Jackson Bay	4.15	247	P	Pn	21 37 59.1	+0.9
MTHZ	Maungataniwha	4.28	30	P	Pn	21 38 02.1	+2.2
RAHZ	Arahi	4.32	33	P	Pn	21 38 02.2	+1.8
EAZ	Earnscleugh	4.35	231	P	Pn	21 38 01.0	+0.2
SNGZ	Shannon Statio	4.54	34	P	Pn	21 38 04.1	+0.7
URZ	Urewera	4.90	29	P	Pn	21 38 09.2	+0.8
MSZ	Milford Sound	4.94	243	P	Pn	21 38 09.5	+0.6
TOZ	Tahuroa Road	4.98	13	P	Pn	21 38 11.6	+2.2
MWZ	Matawai	5.00	33	P	Pn	21 38 09.5	-0.2
MLZ	Mavora Lakes	5.13	235	P	Pn	21 38 11.3	-0.3
SYZ	Scrubby Hill	5.30	220	P	Pn	21 38 14.9	+1.1
SYZ	Scrubby Hill	5.30	220	P	Pn	21 38 14.8	+1.1
AWAZ	Awhitu Peninsu	5.54	4	P	Pn	21 38 19.0	+1.9
MKAZ	Moumakai	5.55	9	P	Pn	21 38 17.9	+0.7
WIAZ	Waiheke Island	5.85	8	P	Pn	21 38 23.1	+1.6
MXZ	Matakaoa Point	5.97	34	Pn	Pn	21 38 22.0	-1.0
MXZ	Matakaoa Point	5.97	34	P	Pn	21 38 22.3	-0.7
MXZ	Matakaoa Point	5.97	34	P	Pn	21 38 23.1	+0.1
APZ	The Paps	6.08	224	P	Pn	21 38 25.4	+0.9
WB2	Warramunga Arr	40.30	292	P	P	21 44 32.8	+1.0
WB2				IAmb	IAmb	21 44 38.8	
	comp=Z,3.6nm,0.8s						
WRAB	Tennant Creek	40.31	292	P	P	21 44 31.6	-0.2
WRAB				IAmb	IAmb	21 44 51.5	
	comp=Z,4.1nm,1.1s						
WRA	Warramunga Arr	40.31	292	P	P	21 44 31.4	-0.5
WB0	Warramunga Arr	40.39	292	P	P	21 44 31.9	-0.6
WB0				IAmb	IAmb	21 44 39.3	
	comp=Z,4.1nm,0.8s						
SNAA	Sanae	66.02	181	P	P	21 47 39.4	-0.9

*NEIC **21** 21:37:26.9±2.9, 37.69N±0.08×141.81E±0.04, h10km±1km, mb4.4/7, Error ellipse: s-maj=13.8km s-min=4.8km az=192.0*
*IDC **21** 21:37:28.4±20.0, 37.97N×141.73E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=476.4km s-min=102.8km az=167.0*
*JMA **21** 21:37:29.0±0.2, 37.4N±0.3×141.5E±1.0, h23km±1km, MV3.5/30, E OFF FUKUSHIMA PREF*

ISC 21 21:37:25.4±2.5, 37.36N±0.05×141.73E±0.10, h6km±13km, n33, σ1.51/38, mb4.3/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.68	271	P	Pg	21 37 39.3	+0.8
JFK				S	Sg	21 37 47.0	-0.4
JMST	Minamisoumatoc	0.76	299	P	Pg	21 37 40.9	+0.9
JMM	Marumori	0.90	304		Pg	21 37 43.1	+0.5
JMM				Sg	Sg	21 37 53.5	-0.8
JMM	Marumori	0.90	304	P	Pg	21 37 43.3	+0.7
JMM				S	Sg	21 37 53.8	-0.5
JFFD	Fukushimafurud	0.97	254	P	Pg	21 37 44.2	+0.2
JFFD				S	Sg	21 37 55.6	-1.1
JIO	Ouri	1.13	345	S	Sg	21 38 02.0	+0.3
JHO	Hitachi	1.20	231	P	Pb	21 37 48.5	+0.1
JHO				S	Sb	21 38 02.6	-1.5
JOU	Okura	1.31	320	P	Pn	21 37 51.0	+0.8
JOU				S	Sb	21 38 06.9	-0.5
JSD	Sado	2.83	285	Pn	Pn	21 38 12.0	+0.9
MAJO	Matsushiro	2.94	255	Pn	Pn	21 38 14.6	+2.0
MJB9	Matsu-Tunnel	2.94	255	Pn	Pb	21 38 16.0	-2.1
JGF	Kuroka	3.94	245	Pn	Pn	21 38 29.8	+3.5
ERM	Erimo	4.77	13	Pn	Pn	21 38 32.9	-4.8
USRK	Ussuriysk Ar.	10.06	316	Pn	Pn	21 39 49.5	-0.7
SONM	Songino Array 0.5nm,0.6s,baz=95,slow=8.5,SNR=2.3 0.5nm,0.6s	27.81	303	P	P	21 43 16.3	+1.0
SONM	Songino Array	27.81	303	P	P	21 43 16.9	+1.6
ZALV	Zalesovo Beam 0.6nm,0.6s,baz=92,slow=10,SNR=2.3 0.6nm,0.6s	41.88	312	P	P	21 45 16.3	+0.2
MK31	Makanchi Array	44.16	302	P	P	21 45 35.3	+0.6
MKAR	Makanchi Array 1.3nm,0.8s,baz=87,slow=10,SNR=4.4 1.3nm,0.8s	44.16	302	P	P	21 45 36.0	+1.3
MKAR	Makanchi Array	44.16	302	P	P	21 45 35.1	+0.4
KURBB	Kurchatov Arra 0.9nm,0.4s,baz=84,slow=8.4,SNR=2.4 0.9nm,0.4s	46.00	308	P	P	21 45 50.3	+1.1
IL31		49.08	33	P	P	21 46 13.0	+0.1
IL31				IAmb	IAmb	21 46 36.0	
	comp=Z,3.4nm,1.2s						
ILAR	Eielson Array	49.08	33	P	P	21 46 11.0	-2.0
J25K	Salcha River,	49.74	33	P	P	21 46 16.5	-1.6
J25K				IAmb	IAmb	21 46 30.9	
	comp=Z,6.1nm,1.1s						
BMAR	Burnt Mountain	49.92	29	P	P	21 46 17.5	-1.9
DOT	Dot Lake	50.39	34	P	P	21 46 19.5	-3.5
DOT				IAmb	IAmb	21 46 36.8	
	comp=Z,2.5nm,0.7s						
J26L	Joseph Creek	50.53	33	P	P	21 46 23.6	-0.5
J26L				IAmb	IAmb	21 46 42.2	
	comp=Z,4.7nm,0.9s						
BVAR	Borovoye Array comp=Z,2.9nm,0.7s,baz=76,slow=6.1,SNR=2.7 comp=Z,2.9nm,0.7s	50.54	312	P	P	21 46 26.0	+1.7
BRVK	Borovoye	50.59	312	P	P	21 46 22.1	-2.6
BRVK				IAmb	IAmb	21 46 34.1	
	comp=Z,9.3nm,1.1s						
BCAR	Beaver Creek A	51.48	34	P	P	21 46 28.4	-2.8
ABKAR	Akbulak array	57.92	310	P	P	21 47 18.3	+0.2
FINES	FINESS Array B comp=Z,3.6nm,1.1s,baz=64,slow=6.3,SNR=1.6 comp=Z,3.6nm,1.1s	68.64	332	P	P	21 48 29.5	+0.6
EGMT	Eagleton	73.86	42	P	P	21 49 01.2	+0.3

JMA 21 21:39:18.8±0.2, 37.3N±0.4×14.1E±°, h26km±1km, MV3.6/29, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.45	281	P	Pb	21 39 27.8	-0.5
JMST	Minamisoumatoc	0.62	316	P	Pb	21 39 30.8	-0.3
JMST				S	Sb	21 39 40.1	+0.7
JFFD	Fukushimafurud	0.72	255	P	Pb	21 39 32.1	-0.7
JFFD				eS	Sb	21 39 42.0	-0.3
JMM	Marumori	0.78	319	P	Pb	21 39 33.3	-0.4
JIO	Ouri	1.18	357	eP	Pn	21 39 39.6	0.0
JOU	Okura	1.24	331	eS	Sb	21 39 58.4	+1.2
JSB	Shiboa	1.25	256	eS	Sb	21 39 58.3	+0.9

*BJI **21** 21:39:39.7±0.0, 37.03N×141.28E, h11km, mb4.8/51*
*IDC **21** 21:39:40.7±0.4, 37.27N×141.20E, h0km, mb4.9/37, mbtmp4.9/40, ML3.8/3, Error ellipse: s-maj=11.9km s-min=9.2km az=104.0*
*MOS **21** 21:39:41.2±1.4, 37.32N×141.24E, h17km, mb5.5/57, Error ellipse: s-maj=6.2km s-min=4.0km az=109.8*
*JMA **21** 21:39:41.4±0.2, 37.2N±0.3×141.4E±0.8, h22km±1km, MD5.7/34, MV5.2/34, E OFF FUKUSHIMA PREF*

JMA Felt III J1 at E OFF FUKUSHIMA PREF .
*NEIC **21** 21:39:44.5±1.7, 37.30N±0.05×141.20E±0.05, h25km±3km, mb5.3/338, Error ellipse: s-maj=7.5km s-min=5.7km az=156.0*

ISC 21 21:39:43.7±0.6, 37.31N±0.03×141.29E±0.04, h19km±2km, h20km:pP-P, n1069, σ1.64/926, mb5.3/318, 27C-52D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.34	280	eP	Pg	21 39 49.8	-1.2
JFK				S	Sb	21 39 56.3	+0.2
JFK	Kawauchi comp=E,337nm,2.4s,comp=E,541nm,2.4s	0.34	280	A	A	21 39 49.8	
JMST	Minamisoumatoc	0.52	322	P	Pb	21 39 53.2	-1.0
JMST				eS	Sg	21 40 01.8	+0.4
JMST	Minamisoumatoc comp=E,253nm,1.3s,comp=E,172nm,6.3s	0.52	322	A	A	21 39 53.2	
JFFD	Fukushimafurud	0.62	250	P	Pb	21 39 53.9	-2.0
JFFD	Fukushimafurud comp=E,157nm,4.2s,comp=E,139nm,4.9s	0.62	250	A	A	21 39 53.9	
JMM	Marumori	0.68	325		Pb	21 39 56.0	-0.9
JMM	Marumori	0.68	325	P	Pb	21 39 56.1	-0.7
JMM				eS	Sg	21 40 06.5	+0.2
JMM	Marumori comp=E,144nm,4.7s,comp=E,198nm,5.0s	0.68	325	A	A	21 39 56.1	
JHO	Hitachi comp=E,104nm,3.7s,comp=E,104nm,7.5s	0.91	220	A	A	21 39 58.1	
JHYU	Hitachinakayam comp=E,143nm,4.1s,comp=E,86nm,1.5s	1.12	210	A	A	21 40 01.3	
JIO	Ouri	1.14	2	S	Sb	21 40 18.1	-1.1
JIO	Ouri comp=E,105nm,1.4s,comp=E,89nm,5.1s	1.14	2	A	A	21 40 18.1	
JSB	Shiboa	1.15	253	eS	Sb	21 40 18.9	-0.5
JSB	Shiboa comp=E,328nm,4.1s,comp=E,236nm,4.2s	1.15	253	A	A	21 40 18.9	
JOU	Okura comp=E,199nm,2.4s,comp=E,284nm,6.3s	1.16	335	A	A	21 40 03.8	
JFY	Yanaizu comp=E,101nm,1.9s,comp=E,136nm,6.4s	1.27	275	A	A	21 40 05.1	
JOFO	Osakifurukawao comp=E,2µm,1.3s,comp=E,1µm,1.5s	1.32	347	A	A	21 40 06.0	
JYS	Shirataka comp=E,281nm,0.7s,comp=E,356nm,1.2s	1.33	313	A	A	21 40 06.4	
JYT	Yasato comp=E,76nm,2.2s,comp=E,75nm,2.9s	1.40	219	A	A	21 40 05.8	
JIHU	Itakohorinouch comp=E,709nm,5.0s,comp=E,488nm,2.7s	1.48	205	A	A	21 40 06.7	
JKMT	Kesennumamotoy comp=E,108nm,3.6s,comp=E,77nm,5.3s	1.50	5	A	A	21 40 08.5	
JMK	Ichinoseki comp=E,172nm,1.3s,comp=E,75nm,6.3s	1.64	358	A	A	21 40 10.6	
CHOJ	Chosi comp=E,185nm,5.8s,comp=E,288nm,5.1s	1.64	192	A	A	21 40 08.8	
JNS	Sasagawa comp=E,106nm,3.6s,comp=E,151nm,6.4s	1.65	288	A	A	21 40 11.0	
JAG	Ashikaga comp=E,52nm,10.1s,comp=E,53nm,3.1s	1.72	240	A	A	21 40 11.1	
JYK	Kaneyama comp=E,133nm,5.8s,comp=E,133nm,5.0s	1.77	336	A	A	21 40 12.7	
JUON	Uonuma comp=E,54nm,3.4s,comp=E,123nm,1.9s	1.79	267	A	A	21 40 12.7	
JYA	Atsumi comp=E,338nm,1.2s,comp=E,369nm,1.1s	1.79	316	A	A	21 40 13.2	
OFUJ	Ofunato comp=E,83nm,3.6s,comp=E,57nm,5.4s	1.79	9	A	A	21 40 12.6	
JSMT	Sammumatsuo comp=E,395nm,2.6s,comp=E,466nm,7.1s	1.80	202	A	A	21 40 11.4	
JAW	Awa shima comp=E,139nm,6.1s,comp=E,93nm,3.3s	1.98	306	A	A	21 40 15.9	
JYYZ	Yamagatayuza comp=E,729nm,2.4s,comp=E,442nm,5.9s	2.01	328	A	A	21 40 16.3	
JIZZ	Izumozaki comp=E,320nm,9.3s,comp=E,315nm,4.6s	2.07	277	A	A	21 40 16.9	
JCN	Nagara comp=E,345nm,2.3s,comp=E,368nm,5.0s	2.08	205	A	A	21 40 15.6	
JRG	Rokugo comp=E,102nm,4.2s,comp=E,133nm,4.7s	2.15	346	A	A	21 40 18.1	
I30JP	ISUMI INFRASON baz=29,slow=22	2.15	202	Pn	Pn	21 40 20.1	+1.7
JOM	Ohasama comp=E,86nm,4.0s,comp=E,58nm,4.7s	2.16	0	A	A	21 40 18.1	
JGK	Kuni comp=E,54nm,5.3s,comp=E,51nm,3.8s	2.25	251	A	A	21 40 19.1	
MIYJ	Miyakonagasawa comp=E,83nm,6.3s,comp=E,56nm,3.9s	2.30	10	A	A	21 40 19.9	
JYW	Yuwa comp=E,205nm,1.4s,comp=E,198nm,2.7s	2.38	339	A	A	21 40 21.6	
JSZI	Iwateshizukuis comp=E,231nm,4.5s,comp=E,183nm,2.4s	2.44	354	A	A	21 40 22.2	
JJN	Nakama comp=E,86nm,1.9s,comp=E,97nm,7.4s	2.51	266	A	A	21 40 23.0	
JSD	Sado	2.51	288	Pn	Pn	21 40 23.6	+0.2
JSD	Sado	2.51	288	P	Pn	21 40 25.2	+1.8
MJAR	Matsushiro Arr 12nm,0.3s,baz=81,slow=15,SNR=20	2.59	254	Pn	Pn	21 40 24.5	0.0
MJAR				Sn	Sb	21 41 00.9	+0.1
	28nm,0.3s,baz=52,slow=26,SNR=9.9 157nm,0.6s						
MAJO	Matsushiro	2.59	254	Pn	Pn	21 40 24.6	+0.1
MAJO	Matsushiro	2.59	254	P	Pn	21 40 26.6	+2.1
MAJO	Matsushiro	2.59	254	P	Pn	21 40 24.6	+0.1
MJB9	Matsu-Tunnel	2.59	254	Pn	Pn	21 40 25.7	+1.2
JTH	Tanohata comp=E,62nm,2.4s,comp=E,65nm,4.9s	2.66	10	A	A	21 40 25.1	
JKZ	Kuzumaki comp=E,85nm,3.5s,comp=E,45nm,2.0s	2.67	1	A	A	21 40 25.4	
JKEN	Kujiedanarisaw comp=E,108nm,3.8s,comp=E,93nm,1.6s	2.91	6	A	A	21 40 28.7	
JAH	Hinai comp=E,75nm,6.5s,comp=E,55nm,4.0s	2.92	350	A	A	21 40 29.1	
JFNN	Fujinakano comp=E,72nm,10.0s,comp=E,47nm,10

KUR smax smax
comp=N,135nm,0.7s
MSHR Mys Shultsa 9.39 307 *i* P **Pn** **21 42 02.0 +4.2**
JNU Nakatsue 9.49 247 Pn **Pn** **21 41 57.8 -1.4**
JNU Nakatsue 9.49 247 P **Pn** **21 42 00.7 +1.4**
YSS Yuzh-Sakhalins 9.70 6 Pn **Pn** **21 42 01.3 -0.7**
YSS Yuzh-Sakhalins 9.70 6 P **Pn** **21 42 03.2 +1.2**
YSS Yuzh-Sakhalins 9.70 6 *e*P **Pn** **21 42 01.4 -0.7**
YSS *e*S **Sn** **21 43 45.0 -5.3**
YSS pmax pmax
comp=Z,50nm,0.9s
USA0B Ussuriysk Arra 9.85 317 Pn **Pn** **21 42 07.8 +3.6**
USA0B Ussuriysk Arra 9.85 317 *i* P **Pn** **21 42 05.4 +1.2**
USRK Ussuriysk Ar. 9.85 317 Pn **Pn** **21 42 08.5 +4.3**
comp=Z,1.0nm,0.3s,baz=130,slow=14,SNR=16
USRK Ussuriysk Ar. 9.85 317 Pn **Pn** **21 42 07.5 +3.3**
USRK Ussuriysk Ar. 9.85 317 P **Pn** **21 42 07.5 +3.3**
JCJ Chichijima 10.21 176 Pn **Pn** **21 42 05.2 -4.0**
comp=Z,31nm,0.3s,baz=101,slow=22,SNR=9.8
JCJ Sn Sn 21 43 51.6 -12
comp=Z,17nm,0.3s,baz=270,slow=20,SNR=2.9
JCJ Chichijima 10.21 176 Pn **Pn** **21 42 06.0 -3.2**
KSRS Korea Array 10.64 275 Pn **Pn** **21 42 19.4 +4.4**
comp=Z,0.4nm,0.3s,baz=90,slow=13,SNR=29
JSU Suzuyama 10.66 240 P **Pn** **21 42 18.0 +2.7**
KSAR Wonju Array Be 10.67 275 Pn **Pn** **21 42 14.9 -0.5**
KSAR Wonju Array Be 10.67 275 P **Pn** **21 42 14.9 -0.5**
KS19 Wonju Array Si 10.68 275 Pn **Pn** **21 42 14.8 -0.8**
TJN Taejon 11.20 269 P **Pn** **21 42 24.4 +1.7**
MDJ Mudanjiang 11.46 313 P Pn 21 42 32.4 +6.2
MDJ pmax pmax
comp=Z,55nm,1.8s
MDJ Mudanjiang 11.46 313 P **Pn** **21 42 28.2 +2.0**
INCN Inchon 11.66 275 P **Pn** **21 42 32.2 +3.2**
BNX BinXian 13.37 313 ⇓P **P** **21 43 01.5 -0.2**
BNX pmax pmax
comp=Z,33nm,1.4s
TYV Tymovskoe 13.58 4 *e*P **Pn** **21 42 57.3 +2.2**
TYV *e*S **Sn** **21 45 31.2 +5.8**
TYV pmax pmax
comp=Z,43nm,1.0s
TYV pmax pmax
comp=Z,13μm,5.1s
TYV smax smax
comp=N,25nm,1.8s
TYV smax smax
comp=E,24nm,1.8s
TYV smax smax
comp=N,16μm,9.1s
CN2 Changchun 13.67 303 *e*P **Pn** **21 42 57.9 +1.5**
CN2 pmax pmax
comp=N,10.0nm,1.2s
KLR Kul'dur 13.78 333 Pn **Pn** **21 43 01.6 +3.9**
comp=N,0.2nm,0.3s,baz=136,slow=11,SNR=9.5
KLR Kul'dur 13.78 333 *i* P **Pn** **21 42 58.1 +0.3**
KLR pmax pmax
comp=Z,88nm,1.5s
JOW Kunigami 15.18 230 P **Pn** **21 43 19.4 +2.4**
HEH HeiHe 16.33 327 *e*P **Pn** **21 43 31.9 +0.2**
HEH pmax pmax
comp=Z,23nm,1.2s
ZEA Zeya 19.09 334 *e*P **Pn** **21 44 06.3 +0.5**
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=N,40nm,0.9s
ZEA pmax pmax
comp=Z,70nm,1.0s
NJ2 Nanjing 19.17 261 *e*P **P** **21 44 04.4 -1.6**
NJ2 pmax pmax
comp=Z,13nm,0.8s
TIA Tai'an 19.39 274 P **P** **21 44 07.5 -0.8**
TIA pmax pmax
comp=Z,24nm,1.2s
PEA0B Petropavlovsk- 19.50 31 P **P** **21 44 08.9 -0.5**
PEA0B IAmb IAmb 21 44 19.7
comp=Z,217nm,1.6s
PEA0B Petropavlovsk- 19.50 31 *i* P **P** **21 44 09.5 +0.1**
PETK Petropavlovsk- 19.50 31 P **Pn** **21 44 10.2 -0.5**
comp=Z,0.4nm,0.3s,baz=219,slow=12,SNR=5.7
comp=Z,15nm,1.0s
HIA Hailar 19.64 314 P **P** **21 44 09.0 -2.1**
HIA Hailar 19.64 314 P **Pn** **21 44 14.1 +1.6**
HIA Hailar 19.64 314 *i* P **P** **21 44 08.1 -3.0**
HIA pmax pmax
comp=Z,28nm,1.0s
BJI Beijing 19.78 286 P **P** **21 44 12.3 -0.3**
BJI pmax pmax
comp=Z,31nm,1.2s
BJT Baijiatuan 19.79 286 **P** **21 44 10.8 -1.9**
BJT Baijiatuan 19.79 286 P **P** **21 44 12.6 -0.1**
BJT Baijiatuan 19.79 286 P **P** **21 44 10.8 -1.9**
BJT pmax pmax
comp=Z,39nm,1.2s
HNS HongShan 21.11 278 ⇑P **P** **21 44 24.4 -2.7**
HNS pmax pmax
comp=Z,81nm,1.4s
YHNB Yeheng 21.17 239 P **P** **21 44 25.1 -2.7**
NACB Ninganchiao 21.35 238 P **P** **21 44 28.0 -1.7**
SSLB Suanglung 22.04 238 P **P** **21 44 34.5 -2.7**
YULB Yu-li 22.08 237 P **P** **21 44 35.1 -2.4**
TPUB Ta-pu 22.59 238 P **P** **21 44 40.4 -2.6**
TWG Pinlang 22.62 236 P **P** **21 44 42.1 -1.3**
MA2 Magadan 23.10 12 P **P** **21 44 48.5 +0.5**
comp=Z,101nm,1.1s,baz=192,slow=9.8,SNR=9.1
comp=Z,101nm,1.1s
MA2 Magadan 23.10 12 P **P** **21 44 47.2 -0.8**
MA2 IAmb IAmb 21 45 00.6
comp=Z,98nm,0.9s
MA2 Magadan 23.10 12 P **P** **21 44 49.3 +1.2**
MA2 Magadan 23.10 12 *i* P **P** **21 44 47.8 -0.3**
MA2 pmax pmax
comp=Z,103nm,1.1s
HHC Hu-ho-hao-te 23.29 288 *e*P **P** **21 44 50.4 +0.1**
KNMB Chin-men Tao 23.39 243 P **P** **21 44 49.7 -1.5**
CIT Chita 24.41 316 *e*P **P** **21 45 01.0 +0.2**
CIT *e* 21 45 49.6
CIT *e* 21 49 14.0
CIT *e* 21 50 21.0
YAK Yakutsk 25.78 347 P **P** **21 45 13.1 +0.1**
comp=Z,16nm,0.6s,baz=150,slow=8.6,SNR=16
comp=Z,16nm,0.6s
YAK Yakutsk 25.78 347 P **P** **21 45 11.5 -1.4**
YAK IAmb IAmb 21 45 28.3
comp=Z,89nm,0.8s
YAK Yakutsk 25.78 347 *e*P **P** **21 45 13.2 +0.3**
YAK *e*S **S** **21 49 46.9 +6.0**
YAK pmax pmax
comp=Z,78nm,1.1s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK smax smax
comp=E,8μm,9.7s
YAK smax smax
comp=N,12μm,9.5s
XAN Xi'an 26.43 273 ⇑P **P** **21 45 18.9 -0.3**
XAN pP sP 21 45 28.4 +0.9
XAN pmax pmax
comp=N,9.0nm,0.8s
SEY Seymchan 26.54 11 P **P** **21 45 20.9 +1.1**
comp=N,133nm,1.1s,baz=199,slow=8.8,SNR=31
comp=N,133nm,1.1s
SEY Seymchan 26.54 11 ⇓*i*P **P** **21 45 21.5 +1.7**
SEY pmax pmax
comp=Z,197nm,1.3s
ULN Ulaanbaatar 27.12 304 P **P** **21 45 23.5 -1.9**
ULN Ulaanbaatar 27.12 304 *i* P **P** **21 45 25.2 -0.2**
ULN pmax pmax
comp=Z,18nm,1.1s
BOD Bodaibo 27.24 328 *e*P **P** **21 45 25.1 -1.1**
BOD pmax pmax
comp=Z,40nm,1.5s
ENH Enshi 27.26 265 P **P** **21 45 25.7 -1.0**
ENH Enshi 27.26 265 P **P** **21 45 26.9 +0.2**
SONM Songino Array 27.55 304 P **P** **21 45 29.2 0.0**
comp=Z,12nm,0.7s,baz=107,slow=7.6,SNR=47
comp=Z,12nm,0.7s
SONM Songino Array 27.55 304 P **P** **21 45 28.2 -1.1**
SONM Songino Array 27.55 304 P **P** **21 45 28.2 -1.1**
SONM pmax pmax
comp=Z,28nm,1.1s
H11N2 WAKE ISLAND Hy 28.37 121 T T 22 15 10.8
baz=314,slow=75,SNR=294
H11N1 WAKE ISLAND Hy 28.38 121 T T 22 15 10.9
baz=314,slow=75,SNR=379
H11N3 WAKE ISLAND Hy 28.39 121 T T 22 15 11.5
baz=314,slow=75,SNR=435
GULI GuiLin 28.88 254 *e*P **P** **21 45 37.5 -3.7**
H11S1 WAKE ISLAND Hy 29.09 123 T T 22 16 04.6
baz=316,slow=76,SNR=240
H11S3 WAKE ISLAND Hy 29.09 123 T T 22 16 04.4
baz=316,slow=76,SNR=220
H11S2 WAKE ISLAND Hy 29.11 123 T T 22 16 05.9
baz=316,slow=76,SNR=93
LZH Lanzhou 29.93 279 ⇑P **P** **21 45 52.0 +1.4**
LZH sP sP 21 46 02.6 +3.8
LZH pmax pmax
comp=Z,26nm,1.5s
ZAK Zakamensk 30.02 308 *e*P **P** **21 45 49.7 -1.5**
ZAK pmax pmax
comp=Z,19nm,1.3s
GYA Guiyang 31.17 260 *e*P **P** **21 46 00.6 -1.0**
GYA pmax pmax
comp=Z,21nm,1.3s
GTA Gaotai 32.39 287 *e*P **P** **21 46 11.3 -0.9**
GTA pP pP 21 46 14.4 -3.7
GTA sP sP 21 46 17.4 -3.1
GTA PcP **PcP** **21 49 00.8 +1.3**
GTA pmax pmax
comp=Z,5.0nm,0.7s
BILL Bilibino 33.79 17 P **P** **21 46 23.7 -0.2**
BILL IAmb IAmb 21 46 26.1
comp=Z,43nm,1.4s
BILL Bilibino 33.79 17 *de*P **P** **21 46 23.9 0.0**
BILL *e* 21 47 34.8
BILL *e*S **S** **21 51 43.5 -2.9**
BILL pmax pmax
comp=Z,18nm,1.2s
KMI Kunming 34.91 261 ⇑P **P** **21 46 32.8 -1.6**
KMI pmax pmax
comp=Z,24nm,1.2s
TIXI Tiksi 35.00 353 P **P** **21 46 33.6 -0.7**
comp=Z,7.1nm,1.0s,baz=16,slow=0.4,SNR=11
comp=Z,7.1nm,1.0s
TIXI Tiksi 35.00 353 P **P** **21 46 33.8 -0.5**
TIXI Tiksi 35.00 353 *i* P **P** **21 46 33.7 -0.7**
TIXI pmax pmax
comp=Z,10.0nm,1.2s
PZH PanZhiHua 35.03 264 P **P** **21 46 34.8 -0.5**
PZH pmax pmax
comp=Z,20nm,1.0s
GAMI Galela, Maluku 37.43 203 P **P** **21 46 58.5 +2.8**
comp=Z,113nm,1.2s
MYLDM Lahad Datu 38.16 219 P **P** **21 47 02.3 +0.4**
MYLDM IAmb IAmb 21 47 13.7
comp=Z,84nm,1.1s
MYLDM Lahad Datu 38.16 219 P **P** **21 47 04.0 +2.1**
comp=Z,86nm,1.2s
TNCH TengChong 38.29 264 P **P** **21 47 03.0 -0.1**
TNCH sP sP 21 47 10.8 -0.7
TNCH pmax pmax
comp=Z,47nm,1.3s
NONG Nongkai 38.51 251 P **P** **21 47 04.9 +0.1**
UBPT Khong Chiam 38.55 245 P **P** **21 47 04.2 -1.1**
UBPT IAmb IAmb 21 47 09.9
comp=Z,48nm,1.1s
UBPT Khong Chiam 38.55 245 P **P** **21 47 05.5 +0.3**
comp=Z,48nm,1.2s
UBPT Khong Chiam 38.55 245 P **P** **21 47 06.3 +1.1**
TNTI Ternate 38.57 203 P **P** **21 47 04.8 -0.4**
TNTI Ternate 38.57 203 P **P** **21 47 06.7 +1.4**
comp=Z,123nm,1.4s
TNTI Ternate 38.57 203 P **P** **21 47 07.0 +1.7**
KKM Kota Kinabalu 38.62 222 P **P** **21 47 07.4 +1.6**
comp=Z,39nm,1.2s
MWPI Manokwari, Pap 38.64 192 P **P** **21 47 09.8 +3.9**
comp=Z,95nm,1.1s
DLV T Lat 38.74 238 P **P** **21 47 07.9 +0.9**
comp=Z,66nm,1.1s
SIJI Sorong 39.11 196 P **P** **21 47 08.8 -1.0**
comp=Z,17nm,0.7s,baz=56,slow=2.9,SNR=11
comp=Z,17nm,0.7s
SIJI Sorong 39.11 196 P **P** **21 47 11.5 +1.7**
comp=Z,30nm,0.8s
GENI Genyem 39.72 182 P **P** **21 47 18.1 +3.3**
comp=Z,104nm,0.9s
GENI Genyem 39.72 182 P **P** **21 47 16.9 +2.1**
LBMI Labuha 39.86 202 P **P** **21 47 18.6 +2.5**
comp=Z,93nm,1.8s
DGZ Jazzator, Alta 40.15 306 *i* P **P** **21 47 18.4 0.0**
DGZ pmax pmax
comp=Z,46nm,0.9s
GTOI Gorontalo 40.21 209 P **P** **21 47 19.3 +0.3**
comp=Z,107nm,1.3s
PHRA Phrae 40.46 254 P **P** **21 47 19.9 -1.2**
WMQ Urumqi 40.63 297 *e*P **P** **21 47 25.3 +3.0**
WMQ pP pP 21 47 28.1 -0.2
WMQ pmax pmax
comp=Z,25nm,1.3s
TNA Tin City 40.66 30 P **P** **21 47 23.7 +1.5**
TNA IAmb IAmb 21 47 26.1
comp=Z,86nm,1.2s
TNA Tin City 40.66 30 P **P** **21 47 24.0 +1.8**
baz=251
TOLI2 Tolitoli 40.69 212 P **P** **21 47 21.5 -1.5**
TOLI2 IAmb IAmb 21 47 27.0
comp=Z,83nm,1.2s
TOLI2 Tolitoli 40.69 212 P **P** **21 47 22.7 -0.3**
MRSI Marisa 40.78 210 P **P** **21 47 23.9 +0.2**
comp=Z,236nm,1.4s
FAKI Fak Fak 40.90 194 P **P** **21 47 24.3 -0.4**
FAKI Fak Fak 40.90 194 P **P** **21 47 27.3 +2.6**
comp=Z,51nm,1.5s
FAKI Fak Fak 40.90 194 P **P** **21 47 25.2 +0.5**
CHTO Chiang Mai 41.27 255 P **P** **21 47 27.1 -0.7**
CHTO Chiang Mai 41.27 255 P **P** **21 47 27.1 -0.7**
CHTO pmax pmax
comp=Z,12nm,1.2s
CM31 Chiang Mai Arr 41.47 255 P **P** **21 47 28.9 -0.6**
CMAR Chiang Mai Arr 41.47 255 P **P** **21 47 29.3 -0.2**
comp=Z,5.1nm,1.1s,baz=46,slow=5.9,SNR=9.8
CMAR PcP **PcP** **21 49 28.9 +1.8**
comp=Z,1.2nm,0.4s,baz=34,slow=1.5,SNR=7.1
CMAR Chiang Mai Arr 41.47 255 P **P** **21 47 27.4 -2.1**
CMAR Chiang Mai Arr 41.47 255 P **P** **21 47 27.4 -2.1**
ZAA0 Zalesovo Array 41.66 312 P **P** **21 47 29.2 -1.3**
ZAA0 IAmb IAmb 21 47 40.8
comp=Z,56nm,1.1s
ZALV Zalesovo Beam 41.66 312 P **P** **21 47 30.1 -0.5**
comp=Z,32nm,0.9s,baz=93,slow=5.9,SNR=48
ZALV PcP **PcP** **21 49 26.1 -1.0**
comp=Z,5.9nm,0.7s,baz=69,slow=3.0,SNR=3.5
comp=Z,32nm,0.9s
ZALV Zalesovo Beam 41.66 312 P **P** **21 47 29.2 -1.3**
ZALV Zalesovo Beam 41.66 312 P **P** **21 47 29.3 -1.3**
SANI Sanana 41.66 203 P **P** **21 47 31.9 +1.0**
comp=Z,143nm,1.5s
SANI Sanana 41.66 203 P **P** **21 47 29.7 -1.2**
MND Mandalay 41.71 262 P **P** **21 47 32.4 +1.0**
LUWI Luwuk 41.84 208 P **P** **21 47 32.6 +0.2**
LUWI Luwuk 41.84 208 P **P** **21 47 35.4 +3.0**
comp=Z,115nm,1.2s
LUWI Luwuk 41.84 208 P **P** **21 47 34.6 +2.2**
ZSN Zaisan 42.05 302 *e*P **P** **21 47 32.2 -1.7**
baz=302
ZSN Zaisan 42.05 302 *e*P **P** **21 47 32.2 -1.7**
LSA Lhasa 42.09 275 P **P** **21 47 35.1 +0.2**
LSA Lhasa 42.09 275 P **P** **21 47 35.3 +0.3**
LSA Lhasa 42.09 275 P **P** **21 47 35.1 +0.2**
LSA pmax pmax
comp=Z,23nm,1.0s
APSI Ampana 42.16 210 P **P** **21 47 35.3 +0.3**
comp=Z,258nm,1.4s
KRAI Karang Ratu 42.16 199 P **P** **21 47 36.8 +1.7**
comp=Z,152nm,1.5s
NAYO Nakonayok 42.22 248 P **P** **21 47 37.4 +1.9**
NLAI Namlea 42.45 201 P **P** **21 47 41.5 +4.2**
comp=Z,33nm,1.5s
AAI Ambon 42.57 200 P **P** **21 47 42.2 +3.8**
comp=Z,134nm,1.3s
BNDI Bandanaira 42.95 197 P **P** **21 47 45.7 +4.3**
comp=Z,304nm,1.1s
BNDI Bandanaira 42.95 197 P **P** **21 47 45.3 +3.9**
NRIK Noril'sk 42.98 335 P **P** **21 47 40.6 -0.5**
comp=Z,7.3nm,1.1s,baz=98,slow=9.4,SNR=2.9
comp=Z,7.3nm,1.1s
NRIK Noril'sk 42.98 335 P **P** **21 47 39.9 -1.2**
NRIK Noril'sk 42.98 335 P **P** **21 47 39.9 -1.2**
NRIK pmax pmax
comp=Z,19nm,1.1s
CHNA Chernabura Isl 43.19 47 P **P** **21 47 44.9 +1.9**
baz=271
SHL Shillong 43.31 269 P **P** **21 47 42.2 -2.4**
SHL Shillong 43.31 269 P **P** **21 47 42.2 -2.4**
SHL pmax pmax
comp=Z,34nm,1.2s
N16K Nishlik Lake 43.77 38 P **P** **21 47 49.9 +2.2**
baz=266,SNR=6.4
SBUM Sibu 43.79 225 P **P** **21 47 46.3 -2.0**
SBUM Sibu 43.79 225 P **P** **21 47 51.7 +3.4**
comp=Z,16nm,1.4s
MK31 Makanchi Array 43.89 302 P **P** **21 47 47.9 -1.0**
MK31 Makanchi Array 43.89 302 *i* P **P** **21 47 48.1 -0.7**
MK31 pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 43.89 302 P **P** **21 47 48.4 -0.4**
comp=Z,14nm,0.8s,baz=82,slow=8.7,SNR=40
comp=Z,14nm,0.8s
O16K Kokwok River B 44.06 40 P **P** **21 47 51.6 +1.7**
baz=268
P16K Nushagak River 44.09 40 P **P** **21 47 52.1 +1.9**
baz=268
MAKZ Makanchi 44.10 302 P **P** **21 47 49.7 -0.8**
MAKZ IAmb IAmb 21 48 08.4
comp=Z,42nm,0.9s
MAKZ Makanchi 44.10 302 P **P** **21 47 49.7 -0.8**
MAKZ pmax pmax
comp=Z,42nm,1.0s
O17K Koliganek Bris 44.57 39 P **P** **21 47 55.8 +1.8**
baz=268
Q16K King Salmon 44.78 41 P **P** **21 47 57.3 +1.7**
baz=270
MMSI Mamuju 44.90 213 P **P** **21 47 59.2 +2.0**
comp=Z,27nm,1.6s
KKSI Kolaka, Sulawe 45.14 208 P **P** **21 48 02.4 +3.4**
comp=Z,120nm,1.4s
Q17K Contact Creek 45.18 42 P **P** **21 48 00.1 +1.0**
baz=271
N18K Kilae Creek 45.20 38 P **P** **21 48 00.7 +1.6**
baz=268
MTKI Muara Teweh, K 45.23 219 P **P** **21 48 01.1 +1.3**
comp=Z,126nm,1.7s
TTA Tatalina 45.25 35 P **P** **21 48 01.0 +1.5**
baz=266
P18K Big Mountain, 45.51 40 P **P** **21 48 03.0 +1.4**
baz=270
O18K Koktuh Hills 45.52 39 P **P** **21 48 03.4 +1.7**
baz=270
PMSI Majene 45.63 212 P **P** **21 48 04.8 +1.9**
comp=Z,91nm,1.6s
Q18K Katmai Hardscr 45.64 41 P **P** **21 48 03.9 +1.3**
baz=271
KSM Kuching 45.67 226 IAmb IAmb 21 48 08.6
KSM Kuching 45.67 226 P **P** **21 48 04.4 +1.1**
comp=Z,57nm,1.5s
KSM Kuching 45.67 226 P **P** **21 48 03.8 +0.5**
KURK Kurchatov 45.68 308 P **P** **21 48 02.3 -0.7**
KURK Kurchatov 45.68 308 P **P** **21 48 02.3 -0.7**
KURK pmax pmax
comp=Z,133nm,0.9s
SPSI Sidrap Palu 45.69 211 P **P** **21 48 04.3 +0.9**
comp=Z,70nm,1.5s
L19K White Mountain 45.74 36 P **P** **21 48 05.2 +1.8**
baz=268
KURBB Kurchatov Arra 45.75 308 P **P** **21 48 03.4 -0.2**
comp=Z,45nm,0.8s,baz=84,slow=8.6,SNR=74
comp=Z,45nm,0.8s
TAPN Taplejung 45.82 274 *e*P **P** **21 48 04.4 -0.4**
comp=Z,140nm,1.2s
N19K Bonanza Creek 45.89 38 P **P** **21 48 06.6 +2.0**
baz=270
BNSI Bone 45.95 210 P **P** **21 48 06.3 +0.9**
comp=Z,89nm,1.4s
M19K Big River Lodg 45.95 36 P **P** **21 48 06.9 +1.9**
baz=268
O19K Port Alsworth 45.97 39 P **P** **21 48 06.8 +1.7**
baz=270
BBSI Bau Bau 46.02 206 P **P** **21 48 08.0 +2.0**
comp=Z,42nm,1.8s
K20K Telida 46.16 34 IAmb IAmb 21 48 10.5
comp=Z,34nm,1.1s
K20K Telida 46.16 34 P **P** **21 48 08.5 +1.9**
baz=267
J20K Nowinta River 46.16 33 IAmb IAmb 21 48 10.4
comp=Z,57nm,1.2s
J20K Nowinta River 46.16 33 P **P** **21 48 08.3 +1.7**
baz=266
L20K Farewell, AK 46.21 36 P **P** **21 48 09.2 +2.2**
baz=268
A21K Barrow 46.24 23 P **P** **21 48 07.3 +0.3**
A21K Barrow 46.24 23 P **P** **21 48 09.2 +2.1**
baz=257
IMAR Indian Mountai 46.46 31 P **P** **21 48 09.0 0.0**
M20K Styx River 46.55 36 P **P** **21 48 12.0 +2.2**
baz=270
G21K Allakaket 46.61 30 P **P** **21 48 12.5 +2.4**
baz=265,SNR=14
OHAK Old Harbor 46.62 43 P **P** **21 48 10.6 +0.4**
baz=274
SHLS Shalkode 46.62 297 *e*P **P** **21 48 06.1 -4.6**
baz=297
SHLS Shalkode 46.62 297 *e*P **P** **21 48 06.1 -4.6**
KAPI Kappang 46.65 210 P **P** **21 48 11.9 +1.0**
KAPI Kappang 46.65 210 P **P** **21 48 12.9 +2.0**
comp=Z,162nm,1.6s
KAPI Kappang 46.65 210 P **P** **21 48 12.9 +2.0**
KAPI Kappang 46.65 210 *ce*P **P** **21 48 13.2 +2.3**
F21K Alatna River 46.68 29 P **P** **21 48 12.7 +2.0**
baz=264
BKSI Bulukumba 46.78 210 P **P** **21 48 15.0 +3.0**
comp=Z,37nm,1.1s
PMG Port Moresby 46.80 172 P **P** **21 48 12.3 +0.3**
comp=Z,3.7nm,0.3s,baz=342,slow=20,SNR=1.8
comp=Z,3.7nm,0.3s
H21K Melozitna Rive 46.83 31 IAmb IAmb 21 48 15.5
comp=Z,38nm,1.2s
H21K Melozitna Rive 46.83 31 P **P** **21 48 14.3 +2.5**
baz=266
SURA Surathani 46.87 244 P **P** **21 48 12.5 -0.2**
RAMN Ramite 46.89 274 *e*P **P** **21 48 12.7 -0.4**
comp=Z,253nm,1.2s
JIRN Jiri 46.90 275 *e*P **P** **21 48 12.8 -0.5**
comp=Z,247nm,1.2s
TDK Taldyqorghan 46.91 300 *e*P **P** **21 48 11.7 -1.1**
baz=300
TDK Taldyqorghan 46.91 300 *e*P **P** **21 48 11.6 -1.1**
UZB Uzynbulak 46.94 298 *e*P **P** **21 48 11.0 -2.1**
baz=298
UZB Uzynbulak 46.94 298 *e*P **P** **21 48 11.0 -2.1**
CHUM Lake Minchumin 46.96 34 P **P** **21 48 15.3 +2.5**
baz=268,SNR=7.4
N20K Mount Spurr 47.00 37 P **P** **21 48 15.4 +2.1**
baz=271,SNR=12
PPLA Purkeypile 47.00 35 P **P** **21 48 15.4 +2.0**
baz=270
SPCR Spurr Chakacha 47.00 37 P **P** **21 48 15.9 +2.6**
baz=271,SNR=10
GUN Gumba 47.03 275 *e*P **P** **21 48 13.7 -0.6**
CAST Castle Rocks 47.05 34 P **P** **21 48 13.8 +0.2**
CAST IAmb IAmb 21 48 30.3
comp=Z,36nm,1.3s
CAST Castle Rocks 47.05 34 P **P** **21 48 15.2 +1.6**
baz=269,SNR=7.8
KPKS Kokpek 47.09 298 *e*P **P** **21 48 12.5 -1.9**
baz=298
KPKS Kokpek 47.09 298 *e*P **P** **21 48 12.4 -1.9**
I21K Tanana 47.15 32 IAmb IAmb 21 48 18.4
comp=Z,46nm,1.4s
I21K Tanana 47.15 32 P **P** **21 48 16.5 +2.2**
baz=268
F22K John River 47.21 29 P **P** **21 48 16.5 +1.7**
baz=265
SRIT Nakonsritamara 47.28 244 P **P** **21 48 15.2 -0.7**
SRIT Nakonsritamara 47.28 244 P **P** **21 48 16.2 +0.3**
SKT Skwentna 47.31 36 P **P** **21 48 17.2 +1.6**
baz=271,SNR=6.0
ZHN Zhinishke 47.34 298 *e*P **P** **21 48 15.2 -1.2**
baz=298
ZHN Zhinishke 47.34 298 *e*P **P** **21 48 15.1 -1.2**
SATY Saty 47.39 298 *e*P **P** **21 48 14.1 -2.7**
baz=298
SATY Saty 47.39 298 *e*P **P** **21 48 14.0 -2.7**
E22K Anaktuvuk Pass 47.41 28 P **P** **21 48 18.3 +1.9**
baz=265

H22K **Ishtalitna Cre** 47.43 31 P P 21 48 18.2 +1.7
baz=268,SNR=14
G22K **Bettles** 47.43 30 P P 21 48 18.2 +1.7
baz=266
BBKI **Banjar Baru** 47.44 217 P P 21 48 19.8 +2.7
comp=Z,12µmcomp=Z,154nm,1.5s
BPAW **Bear Paw Mtn.** 47.55 33 P P 21 48 19.4 +1.9
baz=270
SKLT **Songkhla** 47.55 241 P P 21 48 19.1 +1.1
comp=Z,42nm,2.4s
SKLT **Songkhla** 47.55 241 P P 21 48 18.3 +0.3
PKI **Pulchoki** 47.55 275 eP P 21 48 17.4 -1.0
comp=Z,202nm,1.5s
PKIN **Phulchoki** 47.56 275 eP P 21 48 18.0 -0.4
comp=Z,159nm,1.6s
MLY **Manley** 47.67 32 IAmb IAmb 21 48 22.3
comp=Z,61nm,1.4s
MLY **Manley** 47.67 32 P P 21 48 20.1 +1.7
baz=269,SNR=18
SUA **Susitna One** 47.70 37 IAmb IAmb 21 48 49.1
comp=Z,51nm,1.2s
SUA **Susitna One** 47.70 37 P P 21 48 18.8 0.0
baz=272
DMN **Daman** 47.78 275 eP P 21 48 19.3 -0.7
BRSE **Bradley Lake S** 47.78 39 P P 21 48 19.9 +0.5
baz=274
D23K **Nanushuk River** 47.89 27 P P 21 48 21.5 +1.4
baz=265,SNR=19
COLD **Coldfoot** 47.96 29 P P 21 48 21.7 +1.1
COLD **Coldfoot** 47.96 29 P P 21 48 22.3 +1.8
baz=267,SNR=7.2
GKN **Gorkha** 47.98 276 eP P 21 48 20.6 -0.8
comp=Z,293nm,1.3s
C23K **Itkillik River** 47.99 26 P P 21 48 22.5 +1.8
baz=265
G23K **Bananza Creek** 48.01 30 P P 21 48 22.7 +1.6
baz=268
CHKK **Chushkaly** 48.18 299 eP P 21 48 20.6 -2.1
baz=299
CHKK **Chushkaly** 48.18 299 eP P 21 48 20.5 -2.1
H23K **Yukon River** 48.18 31 P P 21 48 24.2 +1.9
baz=269
TARG **Taragay, Kyrgy** 48.19 296 IAmb IAmb 21 48 37.9
comp=Z,49nm,1.0s
RC01 **Rabbit Creek A** 48.20 37 P P 21 48 20.1 -2.4
baz=273
BWN **Browne** 48.21 33 P P 21 48 24.2 +1.7
E23K **Chandalar** 48.22 28 P P 21 48 24.6 +1.9
baz=267
I23K **Minto, Yukon-K** 48.25 32 IAmb IAmb 21 48 29.9
comp=Z,46nm,1.2s
I23K **Minto, Yukon-K** 48.25 32 P P 21 48 24.8 +2.0
baz=270,SNR=7.4
TOLK **Toolik Lake Re** 48.27 27 IAmb IAmb 21 48 26.7
comp=Z,46nm,1.2s
TOLK **Toolik Lake Re** 48.27 27 P P 21 48 24.9 +1.8
baz=267,SNR=18
MDOK **Medeo** 48.32 298 eP P 21 48 21.8 -2.1
baz=298
MDOK **Medeo** 48.32 298 eP P 21 48 21.8 -2.1
NEA2 **Nenana** 48.38 33 P P 21 48 26.2 +2.3
baz=271,SNR=7.7
AAA **Alma-Ata** 48.40 298 eP P 21 48 23.3 -1.2
baz=298
AAA **Alma-Ata** 48.40 298 eP P 21 48 23.2 -1.2
SEW **Seward** 48.41 39 P P 21 48 26.0 +1.9
baz=274
TNSS **Tian-Shan** 48.43 298 eP P 21 48 22.9 -2.1
baz=298
TNSS **Tian-Shan** 48.43 298 eP P 21 48 22.9 -2.1
MCK **McKinley** 48.46 34 IAmb IAmb 21 48 26.7
comp=Z,38nm,1.3s
MCK **McKinley** 48.46 34 P P 21 48 26.6 +2.1
baz=272,SNR=7.1
PMR **Palmer** 48.46 37 P P 21 48 25.1 +0.7
baz=273
RND **Reindeer** 48.51 34 IAmb IAmb 21 48 27.6
comp=Z,43nm,1.3s
DANN **Dangsing** 48.52 277 eP P 21 48 25.2 -0.6
comp=Z,231nm,1.0s
KUU **Kurty** 48.62 299 eP P 21 48 23.7 -2.3
baz=299
KUU **Kurty** 48.62 299 eP P 21 48 23.7 -2.3
C24K **Franklin Bluff** 48.64 26 P P 21 48 27.3 +1.5
baz=267
E24K **Your Creek** 48.65 28 P P 21 48 28.3 +2.4
baz=268
WAT1 **Susitna Watana** 48.67 35 P P 21 48 27.5 +1.3
baz=273
KNK **Knik Glacier** 48.80 37 P P 21 48 27.7 +0.6
baz=274
SML **Sawmill** 48.83 36 IAmb IAmb 21 49 02.4
comp=Z,46nm,1.1s
SML **Sawmill** 48.83 36 P P 21 48 28.4 +0.9
baz=274
F24K **Squaw Lake** 48.86 29 P P 21 48 29.5 +1.9
baz=269
H24K **Noodor Dome** 48.87 31 IAmb IAmb 21 48 34.3
comp=Z,53nm,1.3s
H24K **Noodor Dome** 48.87 31 P P 21 48 29.3 +1.6
baz=271
KULM **Kulim** 48.87 239 IAmb IAmb 21 48 33.2
comp=Z,64nm,1.5s
COLA **College** 48.90 32 P P 21 48 27.8 0.0
COLA IAmb IAmb 21 48 34.7
comp=Z,60nm,1.4s
COLA **College** 48.90 32 P P 21 48 29.7 +1.9
COLA **College** 48.90 32 ceP P 21 48 30.4 +2.6
COLA pmax pmax
comp=Z,35nm,1.3s
PWL **Port Wells** 48.90 38 P P 21 48 29.5 +1.6
baz=275
KOLN **Koldanda** 48.90 276 eP P 21 48 26.9 -1.7
comp=Z,24nm,1.7s
CCB **Clear Creek Bu** 48.92 33 IAmb IAmb 21 48 44.4
comp=Z,32nm,1.5s
G24K **Hadweenzic Riv** 49.02 30 P P 21 48 31.2 +2.4
baz=270
WAT6 **Susitna Watana** 49.05 35 P P 21 48 30.2 +0.9
baz=274
POKR **Poker Plat Res** 49.07 32 P P 21 48 31.3 +2.1
baz=272,SNR=16
MMRI **Maumere** 49.07 205 P P 21 48 28.0 -1.6
MMRI **Maumere** 49.07 205 P P 21 48 32.5 +2.9
comp=Z,88nm,1.5s
MMRI **Maumere** 49.07 205 P P 21 48 33.5 +3.9
M23K **Glacier View** 49.12 36 P P 21 48 30.9 +1.3
baz=274
DHY **Denali Highway** 49.19 35 IAmb IAmb 21 48 51.2
comp=Z,35nm,1.2s
DHY **Denali Highway** 49.19 35 P P 21 48 31.7 +1.4
baz=274
IPM **Ipoh** 49.20 238 IAmb IAmb 21 48 34.9
comp=Z,56nm,1.3s
IPM **Ipoh** 49.20 238 P P 21 48 30.2 -0.6
comp=Z,28nm,1.2s
IPM **Ipoh** 49.20 238 P P 21 48 30.9 +0.1
comp=Z,28nm,1.2s
SCM **Sheep Creek Mo** 49.30 36 P P 21 48 32.6 +1.5
baz=275
HDA **Harding Lake** 49.30 33 IAmb IAmb 21 48 33.4
comp=Z,48nm,1.2s
HDA **Harding Lake** 49.30 33 P P 21 48 31.7 +0.8
baz=273,SNR=14
ILAR **Eielson Array** 49.31 32 P P 21 48 31.6 +0.6
comp=Z,18nm,1.0s,baz=266,slow=5.9,SNR=47
comp=Z,18nm,1.0s
TKM2 **Tokmak 2** 49.41 298 P P 21 48 32.2 -0.2
SNR=18
TKM2 **Tokmak 2** 49.41 298 i P P 21 48 31.9 -0.5
TKM2 pmax pmax
comp=Z,84nm,1.1s
D25K **Kavik River** 49.45 26 P P 21 48 33.7 +1.6
baz=269
SOEI **Soe** 49.47 202 P P 21 48 35.4 +2.6
comp=Z,146nm,1.1s
SOEI **Soe** 49.47 202 P P 21 48 37.4 +4.6
BRZS **Berezniki** 49.56 308 eP P 21 48 31.1 -2.1
baz=308
BRZS **Berezniki** 49.56 308 eP P 21 48 31.0 -2.1
G25K **Bearman Lake** 49.56 30 P P 21 48 34.9 +2.0
baz=272
NRN **Naryn** 49.57 296 P P 21 48 33.9 +0.2
NRN **Naryn** 49.57 296 P P 21 48 33.9 +0.2
NRN pmax pmax
comp=Z,18nm,1.0s
TPRI **Tanjung Pinang** 49.59 232 P P 21 48 35.1 +1.4
comp=Z,27nm,0.5s
H25L **Birch Creek** 49.70 30 P P 21 48 36.1 +2.2
baz=272
F25K **Christian Rive** 49.72 29 P P 21 48 36.8 +2.6
baz=271
E25K **Arctic Village** 49.74 28 P P 21 48 36.7 +2.4
baz=271,SNR=15
M24K **Tolsona, Glenn** 49.82 36 P P 21 48 36.2 +1.2
baz=276
PRP **Porcupine Dome** 49.85 31 P P 21 48 36.7 +1.4
baz=273,SNR=12
K24K **Donnelly Dome** 49.85 34 P P 21 48 36.5 +1.3
baz=274
BTLS **Baital** 49.89 301 eP P 21 48 34.2 -1.5
baz=301
BTLS **Baital** 49.89 301 eP P 21 48 34.2 -1.5
SGDS **Sogindy** 49.93 299 eP P 21 48 34.2 -1.9
baz=299
SGDS **Sogindy** 49.93 299 eP P 21 48 34.2 -1.9
KBK **Karagaybulak** 49.95 298 P P 21 48 37.3 +0.9
SNR=17
C26K **Camden Bay** 49.96 26 P P 21 48 38.1 +2.3
baz=270,SNR=29
J25K **Salcha River,** 49.97 33 P P 21 48 36.7 +0.6
baz=274
CHMS **Chumysh** 49.98 299 i P P 21 48 35.0 -1.5
CHMS pmax pmax
comp=Z,34nm,1.7s
KLU **Klutina** 50.00 37 P P 21 48 37.2 +0.8
baz=276,SNR=5.7
PAX **Paxson** 50.06 35 P P 21 48 38.4 +1.6
baz=275,SNR=5.2
BATI **Baumata** 50.08 203 P P 21 48 38.0 +0.7
comp=Z,20nm,0.4s,baz=204,slow=6.8,SNR=6.5
comp=Z,20nm,0.4s
USP **Ospenovka** 50.08 299 P P 21 48 37.3 0.0
SNR=11
BMAR **Burnt Mountain** 50.14 29 P P 21 48 38.9 +1.5
EYAK **Cordova Ski Ar** 50.20 38 P P 21 48 38.9 +1.1
baz=277
KSH **Kashi** 50.20 294 P P 21 48 42.4 +4.1
KSH pmax pmax
comp=Z,13nm,1.3s
HARP **HAARP** 50.26 36 P P 21 48 40.1 +1.8
baz=276
AAK **Ala-Archa** 50.27 298 P P 21 48 39.0 +0.1
SNR=6.3
AAK **Ala-Archa** 50.27 298 P P 21 48 38.8 0.0
comp=Z,2.4nm,0.4s,baz=114,slow=7.6,SNR=13
comp=Z,2.4nm,0.4s
AAK **Ala-Archa** 50.27 298 P P 21 48 38.9 +0.1
AAK **Ala-Archa** 50.27 298 i P P 21 48 38.8 0.0
SNR=7.5
AAK **Ala-Archa** 50.27 298 ceP P 21 48 40.0 +1.2
AAK pmax pmax
comp=Z,48nm,1.3s
F26K **Sheenjek River** 50.29 29 P P 21 48 40.6 +2.1
baz=273
BVAR **Borovoye Array** 50.31 312 P P 21 48 39.5 +0.7
comp=Z,8.0nm,0.9s,baz=77,slow=6.4,SNR=10
BVAR PcP PcP 21 49 57.3 0.0
comp=Z,9.8nm,0.8s,baz=83,slow=5.3,SNR=4.6
comp=Z,8.0nm,0.9s
BRVK **Borovoye** 50.37 312 P P 21 48 39.5 +0.3
BRVK IAmb IAmb 21 48 49.4
comp=Z,33nm,0.9s
BRVK **Borovoye** 50.37 312 ceP P 21 48 40.2 +1.0
BRVK pmax pmax
comp=Z,29nm,1.3s
C27K **Jago River** 50.38 26 P P 21 48 41.5 +2.4
baz=271
DBNI **Kabupaten Domp** 50.40 210 P P 21 48 41.6 +1.8
comp=Z,46nm,1.4s
G26K **Porcupine Rive** 50.47 30 P P 21 48 41.7 +1.9
baz=274
N25K **Chitina, Valde** 50.62 36 P P 21 48 42.0 +1.0
baz=277
DOT **Dot Lake** 50.63 34 IAmb IAmb 21 48 43.7
comp=Z,84nm,1.8s
SCRK **Sand Creek** 50.63 33 IAmb IAmb 21 48 43.9
comp=Z,58nm,1.2s
SCRK **Sand Creek** 50.63 33 P P 21 48 42.1 +1.0
baz=276,SNR=17
BMRM **Bremner River** 50.70 37 P P 21 48 42.8 +1.1
baz=278
J26L **Joseph Creek** 50.76 33 P P 21 48 43.1 +1.0
baz=276
I26K **Coal Creek Min** 50.86 32 P P 21 48 44.1 +1.4
baz=275
MENT **Mentasta** 50.86 35 IAmb IAmb 21 49 06.1
comp=Z,29nm,1.0s
PLAI **Plampang** 50.91 211 P P 21 48 44.6 +1.0
comp=Z,68nm,1.2s
PLAI **Plampang** 50.91 211 P P 21 48 44.9 +1.3
AML **Almayashu** 50.99 298 P P 21 48 45.5 +0.9
SNR=14
GLB **Gilahina Butte** 51.01 37 IAmb IAmb 21 48 47.7
comp=Z,54nm,1.4s
L26K **Log Cabin Wild** 51.02 35 IAmb IAmb 21 48 47.8
comp=Z,62nm,1.2s
L26K **Log Cabin Wild** 51.02 35 P P 21 48 46.1 +2.1
baz=277,SNR=16
COEN **Coen** 51.02 178 P P 21 48 42.7 -1.7
COEN IAmb IAmb 21 48 49.3
comp=Z,34nm,1.2s
COEN **Coen** 51.02 178 P P 21 48 44.6 +0.1
PPBI **Pangkal Pinang** 51.04 228 P P 21 48 46.6 +1.9
comp=Z,22nm,0.9s
TWSI **Taliwang, Sumb** 51.20 212 P P 21 48 45.8 0.0
comp=Z,60nm,1.1s
E27K **Coleen River** 51.22 28 P P 21 48 47.3 +1.9
baz=274
KLNI **Maraam** 51.25 213 P P 21 48 47.0 +0.8
comp=Z,238nm,1.2s
M26K **Nabesna, AK** 51.26 35 IAmb IAmb 21 48 53.1
comp=Z,58nm,1.4s
M26K **Nabesna, AK** 51.26 35 P P 21 48 47.6 +1.8
baz=278
G27K **Doyon Strip** 51.32 30 P P 21 48 48.8 +2.6
baz=276
SRBI **Singaraja** 51.33 214 P P 21 48 48.1 +1.3
comp=Z,53nm,0.9s
MCARA **McCarthy VSAT** 51.40 37 P P 21 48 49.5 +2.7
baz=279,SNR=5.9
H27K **Steamboat Moun** 51.43 30 P P 21 48 49.6 +2.5
baz=276,SNR=16
I27K **Kandik River** 51.46 31 P P 21 48 49.6 +2.3
baz=276,SNR=5.7
LHMI **Lhok Sumawe** 51.50 243 P P 21 48 49.3 +1.1
comp=Z,98nm,1.5s
GRJI **Gresik** 51.58 218 P P 21 48 51.5 +2.8
comp=Z,60nm,1.2s
L27K **Beaver Creek,** 51.70 34 P P 21 48 51.0 +1.8
baz=278
EGAK **Eagle** 51.76 32 IAmb IAmb 21 48 53.2
comp=Z,37nm,1.3s
EGAK **Eagle** 51.76 32 P P 21 48 50.8 +1.3
baz=278
M27K **Edge Creek, AK** 51.78 35 IAmb IAmb 21 49 04.9
comp=Z,61nm,1.2s
M27K **Edge Creek, AK** 51.78 35 P P 21 48 51.8 +1.9
baz=279
BYJI **Banyuwangi** 51.83 215 P P 21 48 53.6 +3.0
comp=Z,16µmcomp=Z,183nm,1.3s
PSI **Prapat** 51.85 239 P P 21 48 51.8 +0.8
comp=Z,13nm,0.8s,comp=Z,20nm,1.2s
PSI **Prapat** 51.85 239 P P 21 48 51.5 +0.6
comp=Z,13nm,0.8s,comp=Z,20nm,1.2s
PSI **Prapat** 51.85 239 P P 21 48 51.7 +0.8
JAGI **Jajag, Banyuwa** 52.15 215 P P 21 48 56.6 +3.6
comp=Z,54nm,1.4s
BVCY **Beaver Creek** 52.24 35 P P 21 48 55.0 +1.8
baz=280
BKNI **Bangkinang** 52.27 235 P P 21 48 52.8 -1.1
BKNI **Bangkinang** 52.27 235 P P 21 48 55.3 +1.4
comp=Z,108nm,1.4s
BKNI **Bangkinang** 52.27 235 P P 21 48 57.5 +3.6
comp=Z,106nm,1.4s
GMJI **Gumukmas** 52.30 216 P P 21 48 56.6 +2.5
comp=Z,41nm,1.0s
DZA **Taraz** 52.40 299 eP P 21 48 53.3 -1.4
baz=299
DZA **Taraz** 52.40 299 eP P 21 48 53.3 -1.4
YUK3 **Moose Creek** 52.54 36 P P 21 48 57.1 +1.5
baz=280,SNR=6.5
MLSI **Meulaboh, Aceh** 52.56 242 P P 21 48 57.3 +1.3
comp=Z,17nm,0.9s
DAWY **Dawson** 52.62 33 P P 21 48 57.5 +1.5
baz=280,SNR=5.5
SJI **Sawahan** 52.64 218 P P 21 48 58.9 +2.2
comp=Z,66nm,1.5s
KRKI **Karangkates** 52.67 217 P P 21 48 58.7 +1.9
comp=Z,45nm,1.0s
I29M **Ogilvie Camp,** 52.87 31 P P 21 48 59.1 +1.4
baz=280,SNR=31
KK31 **Karatay Array** 52.90 300 IAmb IAmb 21 49 16.5
comp=Z,32nm,1.1s
KKAR **Karatay Array** 52.90 300 P P 21 48 57.9 -0.4
KKAR **Karatay Array** 52.90 300 P P 21 48 57.9 -0.4
SDSI **Sungai Dareh** 52.98 233 P P 21 48 59.8 +0.7
comp=Z,54nm,1.4s
J29M **Klondike Camp** 53.06 32 IAmb IAmb 21 49 01.8
comp=Z,35nm,0.7s
DRK **Karamyk** 53.24 295 P P 21 49 00.3 -1.0
DRK IAmb IAmb 21 49 21.1
comp=Z,32nm,1.0s
CTJI **Waduk Cacaban** 53.33 221 P P 21 49 02.7 +1.0
EPYK **Eagle Plains** 53.33 30 P P 21 49 03.1 +1.9
baz=280,SNR=8.9
M29M **Somme Creek** 53.34 35 P P 21 49 03.2 +1.9
baz=282
L29M **L29M** 53.35 34 P P 21 49 03.6 +2.2
baz=281
G30M **tAoh Zraii Nji** 53.42 29 P P 21 49 03.3 +1.5
baz=280
K29M **Barlow Dome** 53.48 33 P P 21 49 04.0 +1.7
baz=281
YUK4 **Talbot Arm** 53.48 36 P P 21 49 04.7 +2.2
baz=282,SNR=5.4
IUG **Iuzhnay** 53.56 299 eP P 21 49 02.2 -1.1
baz=299
IUG **Iuzhnay** 53.56 299 eP P 21 49 02.2 -1.1
YUK6 **Outpost Mounta** 53.70 37 P P 21 49 05.9 +1.7
baz=283
BTK **Batken** 53.74 296 IAmb IAmb 21 49 15.4
comp=Z,38nm,1.4s
O29M **Mount Kennedy** 53.74 37 P P 21 49 06.7 +2.4
baz=283
CHM **Chimkent** 53.80 299 eP P 21 49 03.5 -1.5
baz=299
CHM **Chimkent** 53.80 299 eP P 21 49 03.4 -1.5
GSI **Gunungsitoli** 53.86 239 P P 21 49 05.2 -0.4
comp=Z,114nm,1.1s
GSI **Gunungsitoli** 53.86 239 P P 21 49 05.3 -0.4
LHSI **Lahat** 53.92 229 P P 21 49 08.6 +2.6
comp=Z,46nm,0.5s
KNRA **Kununurra** 54.01 195 P P 21 49 05.0 -1.5
KNRA **Kununurra** 54.01 195 P P 21 49 06.2 -0.3
LEM **Lembang** 54.01 223 P P 21 49 07.2 +0.3
comp=Z,20nm,0.7s,baz=111,slow=10.0,SNR=3.9
comp=Z,20nm,0.7s
LEM **Lembang** 54.01 223 P P 21 49 09.0 +2.1
comp=Z,102nm,0.9s
M30M **Minto, Yukon** 54.06 34 IAmb IAmb 21 49 29.1
comp=Z,23nm,1.1s
M30M **Minto, Yukon** 54.06 34 P P 21 49 08.3 +1.8
baz=283
HYT **Haines Junctio** 54.13 37 P P 21 49 10.6 +3.4
baz=284,SNR=14
MASI **Maura Aman, Be** 54.17 231 P P 21 49 09.4 +1.5
comp=Z,71nm,1.1s
N30M **Aishikik Lake** 54.18 36 P P 21 49 09.7 +2.2
baz=283
INK **Inuvik** 54.18 27 P P 21 49 08.6 +1.3
comp=Z,12nm,0.6s,baz=299,slow=6.2,SNR=39
comp=Z,12nm,0.6s
INK **Inuvik** 54.18 27 IAmb IAmb 21 49 10.6
comp=Z,47nm,1.3s
INK **Inuvik** 54.18 27 P P 21 49 08.5 +1.2
baz=282,SNR=24
F31M **Tsiigehtchic** 54.28 28 P P 21 49 10.0 +2.0
baz=282,SNR=9.4
P29M **Windy Craggy** 54.31 38 P P 21 49 10.1 +1.7
baz=284
NIL **Nilore** 54.44 288 P P 21 49 09.1 -0.6
NIL **Nilore** 54.44 288 P P 21 49 09.1 -0.6
NIL pmax pmax
comp=Z,201nm,2.0s
GAR **Garm** 54.49 295 IAmb IAmb 21 49 21.8
comp=Z,35nm,0.8s
P30M **Million Dollar** 54.57 37 P P 21 49 11.8 +1.5
baz=284
N31M **Braeburn, Yuko** 54.79 36 P P 21 49 13.8 +2.0
baz=284,SNR=8.0
O30N **Mendenhall** 54.82 37 P P 21 49 14.6 +2.5
baz=285
SVE **Sverdlovsk** 54.88 318 eP P 21 49 12.7 +0.2
SVE pmax pmax
comp=Z,43nm,0.9s
PLBC **Pleasant Camp** 55.03 38 P P 21 49 15.6 +2.0
baz=285
MTSU **Mount Surprise** 55.22 176 P P 21 49 16.3 +0.9
M31M **Drury Creek, Y** 55.24 35 IAmb IAmb 21 49 18.9
comp=Z,28nm,1.2s
M31M **Drury Creek, Y** 55.24 35 P P 21 49 17.1 +2.0
baz=285,SNR=8.2
WHY **Whitehorse** 55.42 36 P P 21 49 18.6 +2.1
baz=286,SNR=6.0
FARO **Faro, Yukon** 55.70 34 P P 21 49 19.9 +1.5
FARO IAmb IAmb 21 49 34.8
comp=Z,42nm,1.5s
FARO **Faro, Yukon** 55.70 34 P P 21 49 20.4 +2.0
baz=286,SNR=6.3
A36M **Sachs Harbour** 56.04 22 IAmb IAmb 21 49 35.7
comp=Z,31nm,0.9s
A36M **Sachs Harbour** 56.04 22 P P 21 49 22.9 +2.3
baz=286,SNR=11
ARU **Arti** 56.09 318 P P 21 49 20.6 -0.6
ARU IAmb IAmb 21 49 44.9
comp=Z,48nm,1.1s
ARU **Arti** 56.09 318 c i P P 21 49 21.6 +0.4
ARU S S 21 57 11.8 +3.0
ARU SS SS 22 00 54.4 -0.2
ARU pmax pmax
comp=Z,85nm,1.6s
N32M **Quiet Lake** 56.13 36 P P 21 49 23.7 +2.2
baz=287
R32K **Eaglecrest** 56.28 39 P P 21 49 24.6 +2.0
baz=288
JIS **Juneau Island** 56.35 39 P P 21 49 24.9 +1.9
S32K **Killisnoo** 56.50 40 P P 21 49 26.3 +2.1
baz=288
MMPY **Sheldon Lake,** 56.52 34 P P 21 49 26.0 +1.7
baz=287,SNR=6.1
P33M **Teslin, Yukon** 56.53 37 IAmb IAmb 21 49 27.9
comp=Z,34nm,1.1s
P33M **Teslin, Yukon** 56.53 37 P P 21 49 26.7 +2.2
baz=288,SNR=9.4
WB0 **Warramunga Arr** 57.14 188 IAmb IAmb 21 49 32.9
comp=Z,44nm,1.1s
Q32M **Nakina River** 57.19 38 P P 21 49 31.3 +2.1
baz=289
C36M **Paulatuk** 57.22 25 P P 21 49 30.2 +1.2
baz=289,SNR=5.3
KBL **Kabul** 57.23 291 P P 21 49 28.6 -1.3
KBL IAmb IAmb 21 49 34.4
comp=Z,59nm,1.6s
KBL **Kabul** 57.23 291 P P 21 49 28.6 -1.3
KBL pmax pmax
comp=Z,59nm,1.6s
WRAB **Tennant Creek** 57.31 188 P P 21 49 28.3 -2.0
WRAB IAmb IAmb 21 49 34.1
comp=Z,39nm,1.1s
WRAB **Tennant Creek** 57.31 188 P P 21 49 29.0 -1.2
WRAB **Tennant Creek** 57.31 188 ceP P 21 49 29.3 -0.9
WRAB pmax pmax
comp=Z,45nm,1.3s
WR0 **Warramunga Arr** 57.32 188 P P 21 49 28.3 -2.0
WR0 IAmb IAmb 21 49 34.2
comp=Z,33nm,1.1s
WB2 **Warramunga Arr** 57.32 188 P P 21 49 28.9 -1.4
WB2 IAmb IAmb 21 49 34.2
comp=Z,35nm,1.1s
WRA **Warramunga Arr** 57.32 188 P P 21 49 28.9 -1.5
comp=Z,15nm,0.9s,baz=5.7,slow=7.2,SNR=34
comp=Z,15nm,0.9s
WRA **Warramunga Arr** 57.32 188 P P 21 49 28.8 -1.5
WRA **Warramunga Arr** 57.32 188 i P P 21 49 28.7 -1.6
WRA pmax pmax
comp=Z,7.0nm,0.6s
QIS **Mount Isa** 57.58 182 P P 21 49 31.1 -1.0
R33M **Jennings River** 57.68 37 P P 21 49 34.4 +1.8
baz=290
ABKAR **Akbulak array** 57.69 310 P P 21 49 31.6 -1.0
U33K **Whale Pass** 57.70 41 P P 21 49 34.7 +2.1

baz=290
S34M Telegraph Cree 58.10 39 P P 21 49 37.8 +2.3
baz=290,SNR=5.2
HYBB Hyderabad (bro 58.11 268 eP P
TGTN Hyland Airport 58.21 34 P P 21 49 38.4 +2.2
baz=290,SNR=9.3
DLBC Dease Lake 58.47 38 P P 21 49 40.3 +2.2
comp=Z,14nm,1.1s,baz=278,slow=9.1,SNR=6.9
comp=Z,14nm,1.1s
DLBC Dease Lake 58.47 38 P P 21 49 40.3 +2.2
baz=291,SNR=6.2
T35M Bob Quinn 58.88 40 P P 21 49 43.1 +2.1
baz=292,SNR=8.7
EUNU Eureka 59.93 9 P P 21 49 46.7 -1.2
EUNU IAmb IAmb 21 50 05.2
comp=Z,16nm,0.9s
LIRD Liard River Hi 59.99 36 P P 21 49 50.9 +2.4
baz=293,SNR=13
SPITS Spitsbergen Ar 60.23 349 P P 21 49 50.5 +0.6
comp=Z,2.7nm,0.5s,baz=73,slow=6.2,SNR=5.9
comp=Z,2.7nm,0.5s
PRGR Permogore 60.48 327 eP P 21 49 50.4 -1.4
PRGR pmax pmax
comp=Z,40nm,1.0s
KOTAN Kotaneelee Air 60.65 35 P P 21 49 54.5 +1.5
baz=294
NOR Nord 60.77 356 i P P 21 49 52.5 -1.1
NOR IAmb IAmb 21 49 57.5
comp=Z,4.3nm,0.9s
AS01 Alice Springs 61.04 188 P P 21 49 56.7 +0.6
AS31 Alice Springs 61.05 188 P P 21 49 54.0 -2.1
ASAR Alice Springs 61.05 188 P P 21 49 55.2 -0.9
comp=Z,3.9nm,0.8s,baz=12,slow=5.6,SNR=18
comp=Z,3.9nm,0.8s
MBWA Marble Bar 61.60 203 P P 21 50 03.6 +3.7
PSA00 Pilbara Seismi 61.96 203 P P 21 50 02.9 +0.7
HRA Herat 62.31 294 P P 21 50 04.0 -0.9
HRA IAmb IAmb 21 50 25.8
comp=Z,18nm,1.1s
PALK Pallekele 62.33 257 P P 21 50 03.6 -1.5
comp=Z,8.6nm,1.0s,baz=157,slow=7.7,SNR=2.3
comp=Z,8.6nm,1.0s
RES Resolute Bay 62.36 14 P P 21 50 04.3 +0.1
RES IAmb IAmb 21 50 06.5
comp=Z,30nm,1.3s
RES Resolute Bay 62.36 14 P P 21 50 04.4 +0.1
RES pmax pmax
comp=Z,31nm,1.3s
APA Apatity 62.40 336 ⇓i P P 21 49 53.7 -11
APA pmax pmax
comp=Z,18nm,0.8s
WRKA Warakurna 63.21 193 P P 21 50 10.8 +0.2
KLMR Klimovskoe 63.47 328 eP P 21 50 10.0 -2.0
KLMR AMP 21 50 13.9
comp=Z,75nm,1.4s
KLMR Klimovskoe 63.47 328 eP P 21 50 09.9 -2.0
KLMR pmax pmax
comp=Z,75nm,1.4s
QLP Quilpie 63.61 177 P P 21 50 11.1 -2.1
GEYT Alibeck 63.62 299 P P 21 50 13.4 0.0
comp=Z,15nm,0.9s,baz=42,slow=2.4,SNR=30
comp=Z,15nm,0.9s
GEYT Alibeck 63.62 299 P P 21 50 13.3 0.0
GEYT IAmb IAmb 21 50 15.3
comp=Z,21nm,1.0s
YKA Yellowknife Ar 63.62 30 P P 21 50 13.3 +0.4
comp=Z,6.4nm,1.0s,baz=300,slow=6.8,SNR=7.6
comp=Z,6.4nm,1.0s
YKA Yellowknife Ar 63.62 30 i P P 21 50 12.3 -0.6
YKA pmax pmax
comp=Z,6.0nm,0.9s
DZM Mont Dzumac 63.64 154 P P 21 50 16.2 +2.6
ARCES ARCESS Array B 63.70 339 P P 21 50 13.6 +0.3
comp=Z,3.4nm,0.5s,baz=57,slow=7.1,SNR=33
comp=Z,3.4nm,0.5s
RMQ Roma 63.85 173 P P 21 50 15.1 +0.4
HILA High Level 64.58 35 P P 21 50 19.9 +0.6
INKA Innaminka 64.71 181 P P 21 50 24.3 +4.0
comp=Z,37nm,1.0s
TULEG Thule 64.84 7 P P 21 50 20.1 -0.5
TULEG IAmb IAmb 21 50 34.0
comp=Z,19nm,0.9s
TULEG Thule 64.84 7 i P P 21 50 20.1 -0.5
TULEG IAmb IAmb 21 50 23.5
comp=Z,3.2nm,0.7s
OOD Oodnadatta 64.97 185 P P 21 50 22.1 +0.1
WAPA Wapiti River 65.21 39 P P 21 50 23.7 +0.2
NEEM North Greenlan 65.26 3 i P P 21 50 24.4 +0.7
DAG Danmarks Havn 65.49 355 i P P 21 50 23.8 -1.1
DAG IAmb IAmb 21 50 26.2
comp=Z,10.0nm,0.6s
LLLB Lillooet 66.12 44 P P 21 50 29.7 +0.2
LLLB IAmb IAmb 21 50 32.6
comp=Z,36nm,1.2s
BRLDA Berland Lookou 66.69 39 P P 21 50 33.8 +0.7
MOS Moscow 66.97 323 eP P 21 50 34.4 -0.3
MOS eS S 21 59 32.3 +5.6
MOS pmax pmax
comp=Z,101nm,1.5s
VRH Novokhopyorsk 67.31 318 eP P 21 50 34.5 -2.4
VRH pmax pmax
comp=Z,60nm,1.5s
LCRK Leigh Creek 67.47 183 P P 21 50 38.0 0.0
MULG Mulgathing 67.58 187 P P 21 50 38.7 0.0
OBN Obninsk 67.81 323 ⇓P P 21 50 40.3 +0.3
OBN Obninsk 67.81 323 P P 21 50 39.7 -0.3
OBN Obninsk 67.81 323 j i P P 21 50 40.2 +0.2
OBN e 21 53 07.9
OBN pmax pmax
comp=Z,105nm,1.5s
LPSR Galich'ya Gora 68.03 320 eP P 21 50 40.7 -0.7
LPSR pmax pmax
comp=Z,50nm,1.1s
ARMA Armidale 68.07 170 P P 21 50 43.5 +1.6
MAK Makhachkala 68.21 308 eP P 21 50 37.8 -4.9
MAK eS S 21 59 32.8 -9.2
MAK pmax pmax
comp=Z,306nm,1.3s
VORR Voronezh 68.39 319 eP P 21 50 43.0 -0.7
VORR pmax pmax
comp=Z,30nm,0.6s
FIA1 FINESS Array S 68.52 332 P P 21 50 43.5 -0.8
FINES FINESS Array B 68.52 332 P P 21 50 44.3 -0.1
comp=Z,21nm,0.7s,baz=57,slow=7.0,SNR=36
comp=Z,21nm,0.7s
FINES FINESS Array B 68.52 332 P P 21 50 44.1 -0.3
LTY Liberty 68.53 46 P P 21 50 44.6 -0.2
LTY IAmb IAmb 21 50 59.4
comp=Z,30nm,1.4s
CMSA Cobar Meteorol 68.61 176 P P 21 50 45.5 +0.3
VSR Storozhevoye 68.66 319 eP P 21 50 44.3 -1.1
VSR pmax pmax
comp=Z,90nm,1.8s
B08A Colville Reser 68.71 45 P P 21 50 46.0 +0.1
B08A IAmb IAmb 21 50 49.0
comp=Z,32nm,1.4s
STKA Stephens Creek 68.83 180 P P 21 50 46.4 -0.2
comp=Z,12nm,0.9s,baz=345,slow=7.8,SNR=15
comp=Z,12nm,0.9s
STKA Stephens Creek 68.83 180 P P 21 50 45.8 -0.7
STKA Stephens Creek 68.83 180 P P 21 50 46.7 +0.2
STKA Stephens Creek 68.83 180 P P 21 50 45.8 -0.7
STKA pmax pmax
comp=Z,3.0nm,0.9s
FORT Forrest 68.86 192 P P 21 50 47.1 +0.4
H04A Detroit Lake 69.00 49 P P 21 50 48.5 +0.8
GROC Groznyy 69.15 309 eP P 21 50 49.5 +0.9
C09A Chrisman Ranch 69.61 45 P P 21 50 51.4 0.0
C09A IAmb IAmb 21 50 53.9
comp=Z,28nm,1.1s
G06A Carlson Farm, 69.64 48 IAmb IAmb 21 50 55.1
comp=Z,42nm,1.4s
D08A Wollman Farm, 69.65 46 P P 21 50 51.6 0.0
D08A IAmb IAmb 21 50 54.1
comp=Z,20nm,1.1s
HAWA Hanford 69.66 47 P P 21 50 51.8 +0.1
F07A Phinny Hill Vi 69.70 47 P P 21 50 51.9 0.0
F07A IAmb IAmb 21 50 55.4
comp=Z,26nm,1.0s
E08A Dider Farm, El 69.88 47 IAmb IAmb 21 50 56.2
comp=Z,19nm,1.1s
MEF Metsahovi 69.94 332 eP P 21 50 52.7 -0.5
NEW Newport 70.00 44 P P 21 50 54.2 +0.3
NEW IAmb IAmb 21 50 56.8
comp=Z,39nm,1.4s
NEW Newport 70.00 44 P P 21 50 54.9 +1.0
baz=304
NEW Newport 70.00 44 P P 21 50 54.2 +0.3
NEW pmax pmax
comp=Z,39nm,1.4s
MORW Morawa 70.15 203 P P 21 50 57.0 +2.2
VSU Vasula 70.17 329 eP P 21 50 56.3 +1.7
PINE Pine Mountain 70.23 50 P P 21 50 56.6 +1.0
YBH Yreka Blue Hor 70.25 52 IAmb IAmb 21 50 59.4
comp=Z,42nm,1.4s
NCK Nalchik 70.35 310 ceP P 21 50 55.4 -0.7
NCK pmax pmax
comp=Z,16nm,1.1s
RAF Rauma 70.38 333 eP P 21 50 56.1 +0.3
E09A Wood Farm, Sta 70.39 46 P P 21 50 57.2 +0.9
E09A IAmb IAmb 21 50 59.6
comp=Z,49nm,1.3s
SUMG Summit 70.41 360 i P P 21 50 56.8 +0.5
SUMG IAmb IAmb 21 50 58.4
comp=Z,6.0nm,0.9s
HTT Hallett 70.41 182 P P 21 50 56.0 -0.3
ZEI Tsey 70.55 309 eP P 21 50 55.3 -2.2
ZEI pmax pmax
comp=Z,23nm,1.4s
KBZ Khabaz 70.65 311 P P 21 50 58.0 +0.2
comp=Z,31nm,1.2s,baz=47,slow=3.7,SNR=12
comp=Z,31nm,1.2s
KIV Kislovodsk 70.65 311 ⇓P P 21 50 58.8 +0.8
KIV Kislovodsk 70.65 311 P P 21 50 58.5 +0.5
KIV Kislovodsk 70.65 311 i P P 21 50 58.5 +0.5
SNR=12
KIV Kislovodsk 70.65 311 eP P 21 50 59.3 +1.3
KIV pmax pmax
comp=Z,64nm,1.1s
KMBL Kambalda 70.69 198 P P 21 50 58.2 +0.2
ONI Oni 70.93 309 IAmb IAmb 21 51 11.3
comp=Z,23nm,1.0s
BANOM Banah 71.03 288 P P 21 51 00.7 +0.2
SHME Shamm 71.08 289 P P 21 51 00.6 -0.1
F10A Beach Ranch, E 71.22 46 P P 21 51 02.9 +1.5
WALA Waterton Lakes 71.30 42 IAmb IAmb 21 51 05.0
comp=Z,53nm,1.4s
MDH Madha 71.37 288 P P 21 51 02.4 -0.1
BLDU Ballidu 71.38 202 P P 21 51 02.7 +0.5
MSFE Esma-Masafi 71.44 288 P P 21 51 03.7 +0.7
GNI Garni 71.46 307 P P 21 51 01.6 -1.4
GNI Garni 71.46 307 P P 21 51 04.1 +1.0
GNI Garni 71.46 307 ceP P 21 51 06.1 +3.0
GNI pmax pmax
comp=Z,49nm,1.3s
UOSS Minazif 71.63 288 P P 21 51 03.9 -0.2
MOD Modoc Plateau 71.66 51 P P 21 51 04.2 -0.1
HATD Hatta, Dubai 71.75 288 P P 21 51 05.0 +0.2
BMO Blue Mountains 71.81 47 IAmb IAmb 21 51 07.6
comp=Z,20nm,0.9s
ASHO Ashiyiah 71.88 287 P P 21 51 05.4 -0.2
J08A Circle Bar Ran 71.97 49 IAmb IAmb 21 51 09.6
comp=Z,39nm,1.2s
KLBR Kellerberrin 71.99 201 P P 21 51 08.2 +2.3
FAQ Al Faqa, Dubai 72.20 288 P P 21 51 06.6 -0.9
MNK Minsk 72.21 326 i P P 21 51 08.4 +1.4
comp=E,10.0nm,1.4s
MNK i P P 21 51 08.4 +1.4
comp=N,54nm,1.4s
MNK i P P 21 51 08.4 +1.4
comp=Z,89nm,1.4s,baz=50
MNK i PP PP 21 53 44.7 -2.3
MNK i PPP PPP 21 55 31.6
MNK i S S 22 00 32.3 +3.8
MNK i SS SS 22 05 07.5 +2.3
MNK i SSS SSS 22 08 29.7
MNK i LQ LQ 22 17 55.9
MNK i LR LR 22 21 35.0
MNK i LRM MLR 22 26 42.8
comp=E,2μm,12.7s
MNK i LRM MLR 22 26 45.4
comp=Z,16μm,15.3s
MNK i LRM MLR 22 27 35.0
comp=N,11μm,19.1s
MNK Minsk 72.21 326 i P P 21 51 08.4 +1.4
MNK i 21 53 44.7
MNK i PPP PPP 21 55 31.5
MNK i S S 22 00 32.2 +3.8
MNK i SS SS 22 05 07.5 +2.3
MNK pmax pmax
comp=Z,89nm,1.4s
MNK pmax pmax
comp=N,54nm,1.4s
MNK pmax pmax
comp=E,10.0nm,1.4s
MNK MLR MLR
comp=E,2μm,13.0s
MNK MLR MLR
comp=Z,16μm,15.0s
MNK MLR MLR
comp=N,11μm,19.0s
ORV Oroville 72.21 54 IAmb IAmb 21 51 10.0
comp=Z,37nm,1.4s
WVOR Wild Horse Val 72.39 50 IAmb IAmb 21 51 12.1
comp=Z,55nm,1.6s
IIGN Ignalina 72.39 327 eP P 21 51 09.1 +1.0
NACGM Naroch 72.44 327 eP P 21 51 09.2 +0.8
comp=Z,97nm,1.3s,baz=49
ASUD Al Ashush, Dub 72.47 288 P P 21 51 08.9 -0.2
MSO Missoula 72.59 44 P P 21 51 10.5 +0.9
baz=306
CAN Canberra 72.62 173 P P 21 51 13.9 +4.3
comp=Z,38nm,1.2s
BEKR Beckworth 72.77 53 IAmb IAmb 21 51 13.9
comp=Z,35nm,1.2s
MUN Mundaring 72.81 202 P P 21 51 13.7 +3.0
PABE Paberze 73.25 328 eP P 21 51 13.2 0.0
ANN Anapa 73.27 314 ceP P 21 51 15.6 +2.1
ANN pmax pmax
comp=Z,68nm,1.3s
MPK Martis Peak 73.30 53 IAmb IAmb 21 51 18.2
comp=Z,60nm,1.2s
NWAO Narrogin (SRO) 73.39 201 P P 21 51 12.6 -1.6
NWAO Narrogin (SRO) 73.39 201 P P 21 51 17.8 +3.6
NWAO Narrogin (SRO) 73.39 201 P P 21 51 12.6 -1.6
NWAO pmax pmax
comp=Z,79nm,1.5s
EMB Emerald Bay 73.44 54 IAmb IAmb 21 51 18.2
comp=Z,47nm,1.4s
PAHR Pah Rah Range 73.48 53 IAmb IAmb 21 51 18.2
comp=Z,38nm,1.3s
MFID Camas Ranch 73.51 48 IAmb IAmb 21 51 18.5
comp=Z,85nm,1.8s
VCNR Virginia City 73.54 53 P P 21 51 16.6 +1.1
VCNR IAmb IAmb 21 51 18.9
comp=Z,50nm,1.8s
PNTR Pine Nut 73.69 53 P P 21 51 16.7 +0.2
PNTR IAmb IAmb 21 51 20.0
comp=Z,51nm,1.5s
ARPS Mount Arapiles 73.71 180 P P 21 51 20.7 +4.8
comp=Z,29nm,1.1s
CMB Columbia Colle 73.79 54 IAmb IAmb 21 51 19.9
comp=Z,41nm,1.2s
NB2 NORSAR Subarra 73.89 337 P P 21 51 16.8 -0.2
baz=39,slow=6.2
NB2 NORSAR Subarra 73.89 337 P P 21 51 16.8 -0.2
comp=Z,105nm,1.7s,baz=39,slow=6.2
NOA NORSAR Array B 73.89 337 P P 21 51 16.8 -0.2
comp=Z,16nm,0.8s,baz=39,slow=5.9,SNR=39
comp=Z,16nm,0.8s
ICESG Greenland Ices 73.91 0 i P P 21 51 16.2 -1.1
ICESG IAmb IAmb 21 51 26.6
comp=Z,7.4nm,0.8s
YERR Yerington 73.98 53 IAmb IAmb 21 51 21.4
comp=Z,43nm,1.3s
AKASG Malin Array Be 74.02 322 P P 21 51 17.4 -0.4
comp=Z,5.6nm,0.4s,baz=45,slow=6.6,SNR=58
comp=Z,5.6nm,0.4s
AKASG Malin Array Be 74.02 322 P P 21 51 17.0 -0.8
AKASG IAmb IAmb 21 51 19.5
comp=Z,59nm,1.6s
AKASG Malin Array Be 74.02 322 i P P 21 51 17.3 -0.5
AKASG pmax pmax
comp=Z,6.0nm,0.4s
NBO00 NORSAR Array S 74.03 337 IAmb IAmb 21 51 33.5
comp=Z,24nm,1.0s
EGMT Eagleton 74.13 41 P P 21 51 18.9 +0.2
baz=308,SNR=6.7
HLID Hailey 74.25 47 P P 21 51 20.9 +1.3
baz=307,SNR=16
MCMT McKenzie Canyo 74.39 45 P P 21 51 20.1 -0.4
BMN Battle Mountai 74.41 51 IAmb IAmb 21 51 24.2
comp=Z,58nm,1.5s
BOZ Bozeman (W) 74.61 44 IAmb IAmb 21 51 24.1
comp=Z,26nm,1.0s
BOZ Bozeman (W) 74.61 44 P P 21 51 22.6 +1.0
baz=308,SNR=27
KVN Kaiserville 74.67 53 IAmb IAmb 21 51 25.5
comp=Z,44nm,1.3s
MZR Muzara 74.78 287 i P P 21 51 20.8 -2.0
SNR=6.6
NVAR Mina Array Bea 74.90 53 P P 21 51 25.0 +1.5
comp=Z,15nm,1.0s,baz=287,slow=5.5,SNR=44
comp=Z,15nm,1.0s
NVAR Mina Array Bea 74.90 53 P P 21 51 24.2 +0.7
SIM Simferopol' 75.06 315 eP P 21 51 25.2 +1.2
SIM pmax pmax
comp=Z,31nm,0.7s
QLMT Earthquake Lak 75.19 45 P P 21 51 24.9 -0.1
YHB Horse Butte 75.37 45 IAmb IAmb 21 51 29.4
comp=Z,20nm,0.9s
YMR Madison River 75.55 45 IAmb IAmb 21 51 30.9
comp=Z,86nm,1.8s
MARD Mardin 75.62 306 IAmb IAmb 21 51 33.1
comp=Z,33nm,1.2s
YNR Norris Junctio 75.68 44 IAmb IAmb 21 51 35.4
comp=Z,44nm,1.4s
VES Vestal, Richgr 75.90 56 P P 21 51 30.8 +1.8
baz=306,SNR=6.8
H17A Grant Village 75.94 45 P P 21 51 31.9 +2.5
baz=309,SNR=37
YMP Mirror Lake Pl 75.96 44 IAmb IAmb 21 51 46.6
comp=Z,71nm,1.8s
PKM Mcpherson Peak 75.98 57 P P 21 51 30.8 +1.1
baz=306
LCH Last Change Ra 76.02 54 P P 21 51 30.2 +0.4
IMW Indian Meadow 76.05 45 IAmb IAmb 21 51 33.4
comp=Z,23nm,1.0s
FLWY Flagg Ranch 76.07 45 IAmb IAmb 21 51 34.5
comp=Z,33nm,1.1s
SORM Soroca 76.11 321 ⇓P P 21 51 29.8 -0.1
RLMT Red Lodge 76.21 43 P P 21 51 32.1 +1.2
baz=309,SNR=9.3
CWC Cottonwood Cre 76.21 55 P P 21 51 32.1 +1.2
baz=306
MOOW Moose Ponds 76.25 45 IAmb IAmb 21 51 35.0
comp=Z,30nm,1.4s
TPAW Teton Pass 76.29 46 IAmb IAmb 21 51 38.0
comp=Z,27nm,1.2s
GRAC Grapevine Rang 76.34 54 IAmb IAmb 21 51 35.1
comp=Z,36nm,1.2s
GRAC Grapevine Rang 76.34 54 P P 21 51 33.4 +1.8
baz=307,SNR=7.7
DY2G Dye2 76.38 3 i P P 21 51 32.7 +1.2
DY2G IAmb IAmb 21 51 33.7
comp=Z,4.3nm,0.7s
ISA Isabella, Lake 76.41 56 P P 21 51 31.9 0.0
ISA Isabella, Lake 76.41 56 P P 21 51 32.5 +0.5
baz=306
ISA Isabella, Lake 76.41 56 P P 21 51 32.0 0.0
ISA pmax pmax
comp=Z,23nm,1.6s
REDW Red Top Meadow 76.43 46 IAmb IAmb 21 51 35.8
comp=Z,30nm,1.2s
ARVC Arvin 76.49 56 P P 21 51 33.2 +0.8
baz=306
TOKA Tokat 76.52 311 IAmb IAmb 21 51 38.2
comp=Z,34nm,1.3s
R11A Troy Canyon, C 76.67 52 IAmb IAmb 21 51 36.9
comp=Z,60nm,1.5s
R11A Troy Canyon, C 76.67 52 P P 21 51 35.0 +1.5
baz=307,SNR=28
MILM Milestii Mici 76.67 319 ⇑P P 21 51 33.1 -0.1
DGMT Dagmar 76.68 38 IAmb IAmb 21 51 35.9
comp=Z,52nm,1.3s
DGMT Dagmar 76.68 38 P P 21 51 34.5 +1.2
baz=312
MPMC Manual Prospec 76.82 55 P P 21 51 36.0 +1.6
baz=307,SNR=15
LAO LASA Array 76.83 41 P P 21 51 35.2 +1.1
LAO IAmb IAmb 21 51 37.5
comp=Z,48nm,1.2s
LAO LASA Array 76.83 41 P P 21 51 36.4 +2.2
baz=311
LAO LASA Array 76.83 41 P P 21 51 35.5 +1.4
baz=311,SNR=6.3
FURC Furnace Creek, 76.98 54 P P 21 51 36.7 +1.6
baz=307
CCAC Calif City Air 77.01 56 IAmb IAmb 21 51 38.4
comp=Z,53nm,1.4s
LRMC Laurel Mtn Rad 77.04 55 P P 21 51 37.1 +1.5
baz=307
SPR3 Spring Creek 3 77.06 51 IAmb IAmb 21 51 40.7
comp=Z,18nm,1.1s
TPNV Topopah Spring 77.09 53 IAmb IAmb 21 51 39.1
comp=Z,38nm,1.3s
TPNV Topopah Spring 77.09 53 P P 21 51 37.3 +1.4
baz=307,SNR=18
HWUT Hardware Ranch 77.11 47 IAmb IAmb 21 51 39.6
comp=Z,54nm,1.4s
IAS Iasi 77.14 320 ⇓P P 21 51 36.8 +1.0
EDW2 Edwards Air Fo 77.19 56 P P 21 51 37.7 +1.3
baz=307,SNR=5.7
DUG Dugway, Tooele 77.25 49 IAmb IAmb 21 51 40.2
comp=Z,65nm,1.6s
DUG Dugway, Tooele 77.25 49 P P 21 51 38.5 +1.8
baz=308,SNR=11
GWY Greenwater Val 77.28 54 IAmb IAmb 21 51 43.3
comp=Z,72nm,1.7s
QSM Queen of Sheba 77.28 54 IAmb IAmb 21 51 40.6
comp=Z,64nm,1.3s
BW06 Boulder Array 77.54 45 P P 21 51 39.4 +0.9
baz=310,SNR=13
PDAR Pinedale Array 77.54 45 P P 21 51 38.8 +0.4
comp=Z,4.9nm,0.6s,baz=284,slow=1.4,SNR=45
comp=Z,4.9nm,0.6s
PDAR Pinedale Array 77.54 45 P P 21 51 37.7 -0.8
PSUT Pine Spring 77.63 51 IAmb IAmb 21 51 44.9
comp=Z,32nm,1.3s
GSC Goldstone, Bar 77.72 55 P P 21 51 40.5 +1.1
baz=307
VLDR Vladesti 77.76 319 ⇓P P 21 51 39.4 +0.1
CIS Catalina Islan 77.79 57 P P 21 51 41.1 +1.4
baz=307
BFSC Mount Baldy Ra 77.79 56 P P 21 51 41.1 +1.2
baz=307
VARL Varlezi 77.85 319 ⇓P P 21 51 40.1 +0.4
SCTR Scanteiesti 77.92 319 ⇓P P 21 51 41.1 +0.9
GHRR 77.97 319 ⇓P P 21 51 41.7 +1.3
BUR08 Bucovina Ar. S 78.02 322 P P 21 51 40.0 -0.9
BUR08 IAmb IAmb 21 51 46.5
comp=Z,36nm,1.2s
BURAR Bucovina Array 78.03 322 ⇓P P 21 51 41.1 +0.2
BURAR Bucovina Array 78.03 322 P P 21 51 40.5 -0.5
TESR Tescani 78.06 320 ⇑P P 21 51 41.2 +0.3
MPU Maple Canyon 78.07 49 IAmb IAmb 21 51 44.8
comp=Z,56nm,1.6s
IZVR Izvoarele 78.13 319 ⇓P P 21 51 41.7 +0.4
CFR Carcaliu 78.17 318 ⇓P P 21 51 42.4 +0.8
TUQ Turquoise Moun 78.21 54 P P 21 51 43.7 +1.5
baz=308,SNR=12
TPGR Topolog 78.24 318 ⇓P P 21 51 42.5 +0.5
HEC Hector,Ludlow 78.31 55 P P 21 51 44.2 +1.6
baz=307
ODBI Odobesti 78.35 319 ⇑P P 21 51 42.5 0.0
VRI Vrincioaia 78.45 320 ⇓P P 21 51 44.6 +1.4
MURC Murrieta 78.48 57 P P 21 51 45.5 +1.9
baz=307
PLOR Plostina 78.50 320 ⇓P P 21 51 44.3 +0.9
CCUT Cedar City 78.55 51 IAmb IAmb 21 51 47.7
comp=Z,36nm,1.5s
BR131 Keskin Array S 78.59 311 P P 21 51 42.5 -1.6
BR131 IAmb IAmb 21 51 49.6
comp=Z,33nm,1.1s
BR131 Keskin Array S 78.59 311 P P 21 51 42.6 -1.6
BR131 pmax pmax
comp=Z,33nm,1.2s
BRTR Keskin Array B 78.59 311 P P 21 51 43.9 -0.4
comp=Z,9.1nm,1.1s,baz=100,slow=5.1,SNR=22
comp=Z,9.1nm,1.1s
BRTR Keskin Array B 78.59 311 i P P 21 51 44.7 +0.5
BRTR pmax pmax
comp=Z,12nm,1.1s
STHS Stebnicka Huta 78.68 325 eP P 21 51 45.0 +0.7
STHS ePP PP 21 54 41.2 -0.6
STHS Stebnicka Huta 78.68 325 eP P 21 51 45.0 +0.7
STHS pmax pmax

comp=Z,29nm,1.1s
SZCU Shurtz Canyon 78.69 51 IAmb IAmb 21 51 48.2
comp=Z,35nm,1.6s
COVR Voineasa-Covas 78.74 320 ⇓P P 21 51 45.8 +1.0
UZH Uzhgorod 78.74 324 ⇓P P 21 51 45.7 +1.1
UZH i 21 51 49.2
UZH i 21 51 53.3
GMRC Granite Mounta 78.78 55 P P 21 51 46.9 +1.6
baz=308,SNR=5.4
OZUR 78.78 320 ⇑P P 21 51 45.8 +0.8
ARCR ARCALIA 78.82 322 ⇑P P 21 51 45.6 +0.5
BMR Baia Mare 78.84 322 ⇑P P 21 51 46.1 +0.9
CRVS Cervenica-Dubn 78.94 324 eP P 21 51 47.3 +1.5
CRVS Cervenica-Dubn 78.94 324 eP P 21 51 47.3 +1.5
CRVS pmax pmax
comp=Z,66nm,1.5s
P17A Butcher Ranch, 78.94 49 P P 21 51 46.2 +0.1
LCMT Little Creek M 78.95 52 IAmb IAmb 21 51 49.8
comp=Z,36nm,1.3s
PFO Pinyon Flats O 78.97 56 P P 21 51 47.6 +1.3
baz=308
PFO Pinyon Flats O 78.97 56 ceP P 21 51 48.8 +2.5
MTPU Mount Pierson 78.97 50 IAmb IAmb 21 51 50.7
comp=Z,63nm,1.7s
TPFO Pinon Flats 78.97 56 P P 21 51 48.0 +1.7
baz=308
TRPA Tarpa 78.98 323 ⇓P P 21 51 46.6 +0.7
TRPA Tarpa 78.98 323 P P 21 51 46.7 +0.8
PMD Palm Desert 79.00 56 IAmb IAmb 21 51 49.1
comp=Z,23nm,1.3s
BELC Belle Mtn. Jos 79.03 56 P P 21 51 48.0 +1.2
baz=308
Q16A Castle Valley 79.04 49 IAmb IAmb 21 51 50.5
comp=Z,50nm,1.4s
ISR Istrita 79.05 319 ⇑P P 21 51 47.3 +0.8
DOPR Dopca 79.07 320 ⇑P P 21 51 47.6 +1.0
MLR Muntele Rosu 79.11 320 ⇓P P 21 51 47.9 +1.0
P18A Preston Nutter 79.14 48 IAmb IAmb 21 51 50.9
comp=Z,29nm,1.2s
KNB Kanab 79.22 52 IAmb IAmb 21 51 51.6
comp=Z,56nm,1.4s
ULM Lac du Bonnet 79.33 33 P P 21 51 47.8 0.0
comp=Z,6.6nm,0.8s,baz=329,slow=7.0,SNR=7.3
comp=Z,6.6nm,0.8s
ULM Lac du Bonnet 79.33 33 IAmb IAmb 21 51 49.9
comp=Z,39nm,1.4s
MDND Maddock 79.35 37 P P 21 51 49.9 +1.9
baz=315
MDND Maddock 79.35 37 P P 21 51 49.1 +1.1
baz=315
CBBR Cluj-Babes-Bol 79.44 322 ⇓P P 21 51 48.9 +0.3
CJR Cluj-Napoca 79.45 322 ⇓P P 21 51 48.8 +0.2
MESR Mesesenii 79.47 322 ⇓P P 21 51 48.8 +0.1
ABAH Abaujker 79.48 324 P P 21 51 48.9 +0.3
IRM Iron Mountain 79.50 55 P P 21 51 50.9 +1.7
baz=308,SNR=8.5
SULR 79.50 319 ⇓P P 21 51 49.8 +0.9
BC3 Big Chuckawall 79.60 56 P P 21 51 51.1 +1.3
baz=308
VOIR 79.61 320 ⇓P P 21 51 50.6 +1.1
RSSD Black Hills 79.69 42 P P 21 51 49.7 -0.5
RSSD IAmb IAmb 21 51 52.7
comp=Z,64nm,1.9s
RSSD Black Hills 79.69 42 P P 21 51 50.6 +0.4
baz=313
RSSD Black Hills 79.69 42 P P 21 51 51.0 +0.7
baz=313
RSSD Black Hills 79.69 42 P P 21 51 49.7 -0.5
RSSD pmax pmax
comp=Z,64nm,1.9s
E28A Huff 79.71 38 P P 21 51 51.5 +1.4
baz=314
OKC Ostrava-Krasne 79.76 327 eP P 21 51 50.9 +0.7
OKC Ostrava-Krasne 79.76 327 eP P 21 51 50.9 +0.7
IKP In-Ko-Pah, Jac 79.78 57 P P 21 51 51.8 +1.0
baz=308
SWSC Sam W. Stewart 79.81 56 P P 21 51 52.3 +1.5
baz=308
ARR Arges 79.87 320 ⇓P P 21 51 52.0 +1.1
O20A White River Ci 79.99 47 IAmb IAmb 21 51 54.7
comp=Z,31nm,1.2s
O20A White River Ci 79.99 47 P P 21 51 53.0 +1.1
baz=311,SNR=5.8
PDMCI Parker Dam,Lak 80.06 54 P P 21 51 53.5 +1.4
baz=309
MORC Moravsky Berou 80.07 327 ⇓P P 21 51 53.1 +1.2
MORC Moravsky Berou 80.07 327 eP P 21 51 52.7 +0.7
BLYC Blythe 80.16 55 IAmb IAmb 21 51 55.9
comp=Z,40nm,1.5s
DPC Dobruska-Polom 80.17 328 eP P 21 51 53.1 +0.6
DPC epP sP 21 52 02.3 +1.1
DPC Dobruska-Polom 80.17 328 eP P 21 51 53.1 +0.6
DPC e 21 52 02.3
KRLC Kraliky 80.18 327 eP P 21 51 53.9 +1.4
KRLC Kraliky 80.18 327 eP P 21 51 53.9 +1.4
UPC Upice 80.19 328 eP P 21 51 53.9 +1.4
UPC Upice 80.19 328 eP P 21 51 53.9 +1.4
LOT Lotru 80.25 321 ⇓P P 21 51 53.6 +0.5
PSZ Piszkesteto 80.38 324 ⇓P P 21 51 54.8 +1.2
PSZ Piszkesteto 80.38 324 P P 21 51 54.6 +0.9
DEV Deva 80.38 321 ⇓P P 21 51 54.8 +1.2
GLA Glamis 80.39 56 P P 21 51 55.3 +1.3
baz=308
VYHS Vyhne 80.44 325 eP P 21 51 54.7 +0.8
VYHS ePP PP 21 54 53.7 -2.7
VYHS Vyhne 80.44 325 eP P 21 51 54.7 +0.8
VYHS e 21 54 53.7
RAYN Ar Rayn 80.46 292 P P 21 51 52.6 -1.9
RAYN IAmb IAmb 21 51 56.3
comp=Z,79nm,1.8s
RAYN Ar Rayn 80.46 292 i P P 21 51 53.4 -1.1
SNR=19
RAYN Ar Rayn 80.46 292 P P 21 51 52.6 -1.9
RAYN pmax pmax
comp=Z,79nm,1.8s
SIRR Siria 80.72 322 ⇓P P 21 51 56.4 +0.9
AGMN Agassiz Nation 80.76 35 P P 21 51 56.4 +0.7
baz=317
AGMN Agassiz Nation 80.76 35 P P 21 51 55.9 +0.3
baz=317
BRG Berggiesshubel 80.76 329 i P P 21 51 56.5 +0.8
BRG Amp 21 51 58.0
comp=Z,56nm,1.4s
BRG ex x 21 52 05.9
BRG Amp 21 52 07.8
comp=Z,14nm,0.9s
BRG ex x 21 52 42.3
BRG Amp 21 52 43.5
comp=Z,6.3nm,1.0s
BRG PP PP 21 54 55.2 -3.8
BRG Amp 21 54 56.3
comp=Z,41nm,1.6s
BRG Berggiesshubel 80.76 329 i P P 21 51 56.4 +0.8
BRG e 21 52 05.9
BRG 21 54 55.1
BRG pmax pmax
comp=Z,56nm,1.4s
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,41nm,1.6s
PVCC Panska Ves 80.77 329 eP P 21 51 57.1 +1.5
PVCC epP sP 21 52 06.1 +1.8
PVCC Panska Ves 80.77 329 eP P 21 51 57.1 +1.5
PVCC e 21 52 06.1
GZR Gura Zlata 80.79 321 ⇓P P 21 51 55.9 -0.1
CLL Collm 80.81 330 IAmb IAmb 21 51 57.8
comp=Z,38nm,1.1s
CLL Collm 80.81 330 i P P 21 51 55.9 +0.1
comp=Z,39nm,1.1s
CLL esP sP 21 52 06.0 +1.5
CLL Collm 80.81 330 i P P 21 51 55.9 +0.1
CLL e 21 52 06.0
CLL pmax pmax
comp=Z,39nm,1.1s
N23A Red Feather La 80.81 45 IAmb IAmb 21 51 59.8
comp=Z,50nm,1.3s
N23A Red Feather La 80.81 45 P P 21 51 57.8 +1.5
baz=312
PHWY Pilot Hill 80.81 45 IAmb IAmb 21 51 59.3
comp=Z,45nm,1.8s
PV11 David Mesa, Pa 80.81 49 P P 21 51 56.5 +0.1
VRAC Vranov 80.83 327 ⇓P P 21 51 57.4 +1.4
VRAC Vranov 80.83 327 eP P 21 51 56.5 +0.5
SURR Surduc 80.86 322 ⇓P P 21 51 56.4 +0.2
VLAD Vladila 80.93 319 ⇓P P 21 51 57.5 +0.9
PV15 Paradox Valley 81.02 48 IAmb IAmb 21 52 00.7
comp=Z,86nm,2.0s
SMOL Smolenice 81.06 326 eP P 21 51 58.4 +1.2
SMOL pmax pmax
comp=Z,25nm,1.4s
WUAZ Wupatki 81.07 52 IAmb IAmb 21 52 01.1
comp=Z,26nm,1.1s
WUAZ Wupatki 81.07 52 P P 21 51 59.4 +1.7
baz=310
BUD Budapest 81.09 325 P P 21 51 57.7 +0.3
KRUC Moravsky 81.11 327 eP P 21 51 57.6 +0.1
GOPC GO Pecny, Ondr 81.15 328 eP P 21 51 59.1 +1.4
GOPC epP sP 21 52 07.3 +0.9
GOPC GO Pecny, Ondr 81.15 328 eP P 21 51 59.1 +1.4
GOPC e 21 52 07.3
SRO Srobarova 81.18 325 eP P 21 51 59.5 +1.7
SRO Srobarova 81.18 325 eP P 21 51 59.6 +1.7
PRU Pruhonice 81.19 328 eP P 21 51 57.8 -0.1
PRU epP sP 21 52 07.2 +0.6
PRU Pruhonice 81.19 328 eP P 21 51 57.8 -0.1
PRU e 21 52 07.2
BZS Buzias 81.20 322 ⇓P P 21 51 57.9 -0.1
MODS Modra-Piesok 81.23 326 eP P 21 52 00.1 +1.9
MODS Modra-Piesok 81.23 326 eP P 21 52 00.1 +1.9
PLVB Pleven 81.24 319 ⇓P P 21 51 58.8 +0.5
TREC Trest 81.32 328 eP P 21 51 59.4 +0.8
TREC Trest 81.32 328 eP P 21 51 59.4 +0.8
HERR Herculane 81.33 321 ⇓P P 21 51 59.0 +0.3
SMCO Snowmass 81.36 47 IAmb IAmb 21 52 02.8
comp=Z,36nm,1.7s
ZST Bratislava 81.44 326 eP P 21 52 01.9 +2.7
ZST Bratislava 81.44 326 eP P 21 52 01.9 +2.7
ZST pmax pmax
comp=Z,1μm,3.6s
BAIL Bailesti 81.47 320 ⇑P P 21 52 00.4 +1.0
B35A Bob, Littlefor 81.67 34 P P 21 52 00.4 0.0
baz=319
MVCO Mesa Verde 81.75 49 IAmb IAmb 21 52 04.6
comp=Z,47nm,1.5s
MVCO Mesa Verde 81.75 49 P P 21 52 03.2 +1.8
baz=311
NKC Novy Kostel 81.86 330 eP P 21 52 03.0 +1.5
NKC Novy Kostel 81.86 330 eP P 21 52 03.0 +1.5
BRIGG Briggsdale 81.93 44 IAmb IAmb 21 52 05.3
comp=Z,46nm,1.2s
MPLH Magyarpolny 82.01 325 P P 21 52 02.4 +0.1
SOP Sopron 82.07 326 P P 21 52 03.5 +0.9
RONA Rosalia, Austr 82.17 326 eP P 21 52 04.3 +1.1
comp=Z,49nm,1.7s,SNR=10
CONA Conrad Observa 82.19 326 eP P 21 52 04.4 +1.1
comp=Z,39nm,1.5s,SNR=11
MORH Mrgy, Hungar 82.20 324 ⇑P P 21 52 03.3 +0.1
MORH Mrgy, Hungar 82.20 324 P P 21 52 03.2 -0.1
KHC Kasperske Hory 82.26 328 IAmb IAmb 21 52 05.6
comp=Z,19nm,0.9s
KHC Kasperske Hory 82.26 328 eP P 21 52 03.6 0.0
KHC epP sP 21 52 12.9 +0.6
KHC Kasperske Hory 82.26 328 eP P 21 52 03.6 0.0
KHC e 21 52 12.9
RDO Rodhopi 82.30 317 IAmb IAmb 21 52 06.4
comp=Z,85nm,1.9s
S22A 4UR Ranch, Cre 82.39 48 P P 21 52 05.5 +0.6
S22A 4UR Ranch, Cre 82.39 48 P P 21 52 06.8 +2.0
baz=312
214A Organ Pipe Nat 82.40 56 P P 21 52 06.0 +1.4
baz=310
GERES GERESS Array B 82.42 328 P P 21 52 04.5 -0.1
comp=Z,3.6nm,0.5s,baz=35,slow=4.9,SNR=29
comp=Z,3.6nm,0.5s
VTS Vitosha 82.51 319 ⇓P P 21 52 06.3 +1.2
KOVH Kovagotottos 82.55 324 P P 21 52 04.6 -0.5
Q24A Divide 82.56 46 P P 21 52 06.8 +1.1
baz=313
GRFO Grafenberg 82.78 330 P P 21 52 05.8 -0.4
GRFO Grafenberg 82.78 330 P P 21 52 05.9 -0.4
GRFO pmax pmax
comp=Z,64nm,1.2s
ARSA Arzberg 82.86 326 eP P 21 52 07.1 +0.4
comp=Z,19nm,1.3s,SNR=6.8
OGNE Ogallala 82.94 43 P P 21 52 08.2 +0.9
baz=314
OGNE Ogallala 82.94 43 P P 21 52 08.3 +0.9
baz=314
MOA Molln 82.95 327 eP P 21 52 07.6 +0.4
comp=Z,26nm,1.3s,SNR=7.2
EYMN Ely 82.96 33 IAmb IAmb 21 52 09.3
comp=Z,42nm,1.4s
EYMN Ely 82.96 33 P P 21 52 07.2 0.0
baz=320
EYMN Ely 82.96 33 P P 21 52 07.9 +0.7
baz=320
DIVS Divibare 83.10 322 IAmb IAmb 21 52 10.3
comp=Z,49nm,1.5s
SDCO Great Sand Dun 83.17 47 P P 21 52 10.6 +1.7
baz=313
SDCO Great Sand Dun 83.17 47 P P 21 52 09.8 +0.9
baz=313
BIOA Bad Bachl, Aus 83.34 327 eP P 21 52 09.8 +0.5
comp=Z,30nm,1.3s,SNR=9.9
TUC Tucson 83.50 54 P P 21 52 10.2 -0.2
TUC Tucson 83.50 54 P P 21 52 11.7 +1.3
baz=310
TUC Tucson 83.50 54 P P 21 52 10.2 -0.2
TUC pmax pmax
comp=Z,11nm,1.1s
SOKA Soboth 83.51 326 eP P 21 52 10.5 +0.3
comp=Z,55nm,1.3s,SNR=27
STIP Stip 83.71 319 i P P 21 52 10.9 -0.3
MRZ Mangatainoka R 83.72 154 P P 21 52 10.6 -0.3
ECSD EROS Data Cent 83.76 38 IAmb IAmb 21 52 13.6
comp=Z,23nm,1.1s
ECSD EROS Data Cent 83.76 38 P P 21 52 11.7 +0.2
baz=317
ECSD EROS Data Cent 83.76 38 P P 21 52 12.1 +0.7
baz=317
VAY Valandovo 83.78 318 i P P 21 52 12.0 +0.5
SKO Skopje 83.90 319 i P P 21 52 13.2 +1.0
KBA Koelnbreinsper 83.94 327 i P P 21 52 13.8 +1.3
comp=Z,18nm,1.0s,SNR=6.6
E38A The Farm, Brul 83.96 34 IAmb IAmb 21 52 14.1
comp=Z,32nm,1.1s
E38A The Farm, Brul 83.96 34 P P 21 52 12.1 -0.3
baz=320
BTNL Ternell 83.99 333 dP P 21 52 13.5 +1.0
comp=Z,8.8nm,1.1s
MEM Membach 84.02 333 dP P 21 52 11.2 -1.4
MYKA Terra Mystica 84.16 327 eP P 21 52 13.1 -0.4
comp=Z,16nm,1.0s,SNR=5.2
T25A Trinidala 84.22 47 IAmb IAmb 21 52 16.6
comp=Z,26nm,1.0s
T25A Trinidad 84.22 47 P P 21 52 15.2 +1.0
baz=313
BHOU Houvegnez 84.23 333 dP P 21 52 15.0 +1.3
BCLA Clavier 84.43 333 dP P 21 52 15.2 +0.6
SPMN Marine on St. 84.46 35 IAmb IAmb 21 52 17.9
comp=Z,30nm,1.3s
SPMN Marine on St. 84.46 35 P P 21 52 15.5 +0.6
baz=320
ANMO Albuquerque 84.48 50 ceP P 21 52 17.5 +2.0
ANMO pmax pmax
comp=Z,29nm,1.3s
BGES Gesves 84.53 334 dP P 21 52 16.0 +0.7
comp=Z,12nm,1.3s
ABTA Abfaltersbach 84.56 327 eP P 21 52 14.1 -1.5
comp=Z,11nm,1.1s
CLUD Cludinico 84.63 327 IAmb IAmb 21 52 25.6
comp=Z,19nm,0.8s
RCHB Rochefort 84.67 333 dP P 21 52 15.7 -0.2
comp=Z,13nm,1.4s
MOTA Moosalm 84.69 329 eP P 21 52 15.9 -0.4
comp=Z,38nm,1.7s,SNR=9.7
PDG Podgorica 84.69 321 ⇓P P 21 52 16.5 +0.4
RETA Reutte 84.71 329 eP P 21 52 16.1 -0.2
comp=Z,34nm,1.1s,SNR=9.2
BMRD Maredsous 84.72 334 dP P 21 52 16.0 -0.1
comp=Z,16nm,1.3s
SQTA Sankt Quirin 84.74 328 eP P 21 52 16.5 0.0
comp=Z,18nm,1.5s
Y22A Socorro 84.85 51 P P 21 52 18.2 +0.8
baz=312
STAL STALIGIAL 84.85 327 IAmb IAmb 21 52 28.6
comp=Z,17nm,0.8s
OHR Ohrid 84.86 319 i P P 21 52 16.6 -0.6
CIMO Cimolais 84.93 327 IAmb IAmb 21 52 28.9
comp=Z,12nm,1.0s
DOU Dourbes 84.95 334 dP P 21 52 18.3 +1.0
BFO Black Forest 85.01 331 P P 21 52 17.1 -0.6
BFO Black Forest 85.01 331 P P 21 52 17.1 -0.6
BFO pmax pmax
comp=Z,48nm,1.1s
FETA Feichten 85.10 329 eP P 21 52 18.4 0.0
comp=Z,14nm,1.0s
I37B Waseca 85.10 36 P P 21 52 19.1 +0.9
baz=319
DAVA Damuels 85.23 329 eP P 21 52 19.1 +0.1
comp=Z,30nm,1.0s,SNR=7.0
121A Cookes Peak, D 85.27 52 IAmb IAmb 21 52 22.2
comp=Z,18nm,1.0s
121A Cookes Peak, D 85.27 52 P P 21 52 20.7 +1.2
baz=312
121A Cookes Peak, D 85.27 52 P P 21 52 20.6 +1.1
baz=312
CTI Castel Tesino 85.48 327 IAmb IAmb 21 52 21.1
comp=Z,26nm,1.3s
ECH Echery 85.56 331 IAmb IAmb 21 52 32.2
comp=Z,21nm,0.8s
G40A Rib Lake 85.60 34 IAmb IAmb 21 52 35.1
comp=Z,36nm,1.4s
G40A Rib Lake 85.60 34 P P 21 52 20.4 -0.2
baz=321
FUORN Ofenpass-Fuorn 85.61 329 IAmb IAmb 21 52 32.7
comp=Z,20nm,0.7s
MATE Matera 87.29 321 ⇓P P 21 52 29.0 0.0
AMTX Amarillo 87.38 47 P P 21 52 29.9 +0.1
AMTX IAmb IAmb 21 52 32.6
comp=Z,31nm,1.1s
AMTX Amarillo 87.38 47 P P 21 52 31.0 +1.3
baz=315
AMTX Amarillo 87.38 47 P P 21 52 30.7 +1.0
baz=315
JFWS Jewell Farm 87.41 35 P P 21 52 30.0 +0.3
baz=321
ELIS Ellis County 87.84 45 IAmb IAmb 21 52 34.9
comp=Z,28nm,0.9s
TIP Timpagrande 88.37 320 ⇑P P 21 52 34.2 -0.2
WMOK Wichita Mounta 89.15 46 IAmb IAmb 21 52 40.6
comp=Z,14nm,1.1s
WMOK Wichita Mounta 89.15 46 P P 21 52 38.8 +0.7
baz=316
TUL1 Leonard 89.96 43 P P 21 52 42.7 +1.0
baz=318
R40A Maddies Statio 90.01 39 IAmb IAmb 21 52 44.2
comp=Z,41nm,1.6s
TX31 Lajitas Ar. Si 90.03 52 P P 21 52 41.9 -0.5
TX31 IAmb IAmb 21 52 44.4
comp=Z,25nm,0.9s
TXAR Lajitas Array 90.03 52 P P 21 52 43.0 +0.7
comp=Z,4.8nm,0.7s,baz=302,slow=3.0,SNR=49
comp=Z,4.8nm,0.7s
ABTX Abilene, Hawle 90.17 48 IAmb IAmb 21 52 45.6
comp=Z,17nm,0.9s
ABTX Abilene, Hawle 90.17 48 P P 21 52 43.3 +0.4
baz=316
CCM Cathedral Cave 90.71 39 P P 21 52 44.9 -0.3
CCM IAmb IAmb 21 52 48.3
comp=Z,31nm,1.4s
CCM Cathedral Cave 90.71 39 P P 21 52 45.8 +0.6
baz=321
CCM Cathedral Cave 90.71 39 P P 21 52 44.9 -0.3
CCM pmax pmax
comp=Z,31nm,1.4s
WHTX Lake Whitney, 91.91 47 P P 21 52 51.7 +0.8
baz=317
MIAR Mount Ida 92.18 42 P P 21 52 52.9 +0.8
baz=319
WHAR Wooly Hollow 92.30 41 P P 21 52 52.0 -0.7
WHAR IAmb IAmb 21 52 54.6
comp=Z,11nm,0.9s
ESDC Sonseca Array 97.00 334 P P 21 53 13.7 -0.4
comp=Z,0.8nm,0.8s,baz=17,slow=4.1,SNR=4.1
comp=Z,0.8nm,0.8s
KMBO Kilima Mbogo 101.84 278 i P Pdif 21 53 43.5 +7.1
KMBO pmax pmax
comp=Z,2.0nm,0.5s
TORD Torodi Ar. Bea 117.07 315 PKP PKiKP 21 58 27.8 0.0
comp=Z,1.9nm,1.1s,baz=338,slow=0.5,SNR=4.8
SDV Santo Domingo 125.17 40 PKP PKPdf 21 58 43.8 +0.1
baz=307,slow=3.4
DBIC Dimbokro 126.02 317 PKP PKPdf 21 58 44.0 -1.0
comp=Z,7.6nm,1.1s,baz=285,slow=2.3,SNR=3.3
BOSA Boshof 126.53 259 PKP PKiKP 21 58 46.1 0.0
comp=Z,3.1nm,0.9s,baz=314,slow=2.5,SNR=4.5
QSPA South Pole Qui 127.05 180 PKPdf 21 58 44.6 -0.9
SNAA Sanae 140.98 197 PKPdf PKPdf 21 59 04.7 -6.6
VNA2 Neumayer--Watz 142.56 196 PKPdf PKPdf 21 59 09.8 -4.3
baz=112,slow=3.2
VNA3 Neumayer Olymp 142.81 195 PKPdf PKPdf 21 59 10.6 -4.0
VNA1 Neumayer--Stat 142.96 196 PKPdf PKPdf 21 59 10.3 -4.4
ETTB Extrema 143.06 49 PKPdf PKPbc 21 59 13.7 +0.2
ITTB Itaituba 143.69 30 eP PKPab 21 59 14.7 +0.1
TMAB Tom-Au,PA,Br 144.17 16 eP PKPdf 21 59 20.2 +1.5
SMAI San Martin Ant 145.32 162 PKPdf 21 59 18.9 0.0
NPGB Novo Progresso 146.28 31 eP PKPbc 21 59 22.9 -0.5
LPAZ La Paz 146.64 59 PKPbc PKPbc 21 59 25.3 +0.1
comp=Z,12nm,0.8s,baz=350,slow=5.7,SNR=24
LPAZ La Paz 146.64 59 eP PKPbc 21 59 25.1 -0.1
PRPB Parauapebas 147.39 21 eP PKPbc 21 59 26.9 +0.3
RCBR Riachuelo 148.56 355 PKPbc PKPbc 21 59 29.2 -0.6
comp=Z,12nm,0.9s,baz=80,slow=6.0,SNR=2.5
VILB Vilhena 149.06 44 eP PKPbc 21 59 30.9 -0.1
PB04 IPOC Station P 149.08 70 PKPdf 21 59 23.3 -3.6
CLDB Colider 149.51 35 eP PKPbc 21 59 31.5 -0.6
PDRB Porto dos Gac 149.72 37 eP PKPdf 21 59 29.2 +1.2
PDRB Porto dos Gac 149.72 37 eP PKPbc 21 59 32.0 -0.7
LVC Limon Verde 150.17 69 PKPbc PKPbc 21 59 32.3 -1.7
comp=Z,9.7nm,0.8s,baz=257,slow=2.2,SNR=4.0
LVC Limon Verde 150.17 69 eP PKPbc 21 59 32.5 -1.5
SMTB Santa Maria do 150.56 18 eP PKPbc 21 59 33.3 -1.4
SIV San Ignacio 150.98 49 PKP PKPdf 21 59 30.3 +0.4
comp=Z,5.2nm,0.8s,baz=254,slow=4.8
SIV PKPbc PKPbc 21 59 35.7 +0.1
comp=Z,10nm,0.7s,baz=277,slow=1.7,SNR=32
PTLB Pontes e Lacer 151.68 45 eP PKPdf 21 59 32.0 +1.1
SNDB Serra Nova Dou 152.36 27 eP PKPbc 21 59 36.0 -2.8
BBRB Robore, Bolivi 153.50 50 eP PKPbc 21 59 38.0 -3.3
MT05 Renca 153.66 91 PKPbc 21 59 41.2 -0.1
PLCA Paso Flores 155.10 108 PKPab PKPab 22 00 00.8 +0.8
comp=Z,7.2nm,1.0s,baz=255,slow=4.1,SNR=7.9
PLCA Paso Flores 155.10 108 PKPdf 21 59 43.7 +8.5
BDFB Brasilia 156.89 23 PKPab PKPab 22 00 07.7 -0.4
comp=Z,3.9nm,0.8s,baz=54,slow=4.6,SNR=5.1

JMA 21 21:41:03.2±0.2, 37.3N±0.4×141.4E±0.9, h22km±1km, MV4.1/28, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.45	281	P	Pb	21 41 12.2	-0.2
JFK				S	Sb	21 41 18.7	+0.1
JMST	Minamisoumatoc	0.62	316	P	Pb	21 41 15.2	-0.2
JFFD	Fukushimafurud	0.71	255	P	Pb	21 41 16.5	-0.5
JFFD				eS	Sb	21 41 26.4	0.0
JMM	Marumori	0.77	320	P	Pb	21 41 17.7	-0.2
JMM				S	Sb	21 41 28.9	+0.9
JHO	Hitachi	0.96	226	S	Sb	21 41 32.7	-0.6
JOU	Okura	1.24	331	P	Pb	21 41 25.9	-0.1
JOU				S	Sb	21 41 41.9	+0.4

*IDC **21** 21:42:35.0±0.6, 37.12N×141.47E, h0km, mb4.6/27, mbtmp4.6/30, ML4.2/3, Error ellipse: s-maj=16.0km s-min=13.4km az=102.0*
*NEIC **21** 21:42:37.2±2.5, 37.14N±0.05×141.45E±0.08, h10km±1km, mb5.0/55, Error ellipse: s-maj=10.7km s-min=7.7km az=69.0*
*JMA **21** 21:42:37.1±0.2, 37.2N±0.5×14 1E±, h29km±1km, MD5.3/34, MV4.9/34, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .

ISC 21 21:42:35.9±1.6, 37.15N±0.04×141.49E±0.05, h6km±9km, n171, σ1$29/168, mb4.9/56, 11C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

*IDC **21** 21:43:05.7±0.4,37.2°21N×141.1°17E,h0km,mb4.8/26, mbtmp4.8/28,ML5.0/2,Error ellipse: s-maj=15.4km s-min=11.9km az=95.0*
*NEIC **21** 21:43:07.2±1.3,37.2°20N±0.1°06×141.2°2E±0.1°1,h10km±1km, mb5.1/75,Error ellipse: s-maj=14.7km s-min=8.2km az=67.0*
*JMA **21** 21:43:08.5±0.1,37.2°2N±0.1°3×141.2°3E±0.1°7,h25km±1km, MV4.7/37,E OFF FUKUSHIMA PREF*
ISC 21 21:43:07.1±0.4,37.18N±0.04×141.29E±0.05,h10km,n231, σ1s20/230,mb5.0/63,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.38**	**299**	*eS*	**Sg**	**21 43 21.2**	**+1.7**
JFFD	**Fukushimafurud**	**0.58**	**261**	P	**Pg**	**21 43 19.4**	**+1.0**
JMST	**Minamisoumatoc**	**0.63**	**330**	P	**Pg**	**21 43 20.1**	**+0.9**
JMST				S	**Sg**	**21 43 28.8**	**+1.3**
JMM	**Marumori**	**0.79**	**330**	Pg	**Pg**	**21 43 22.0**	**-0.3**
JMM	**Marumori**	**0.79**	**330**	P	**Pg**	**21 43 22.7**	**+0.5**
JMM				S	**Sb**	**21 43 33.8**	**+0.2**
JSB	**Shiboa**	**1.11**	**259**	*eS*	**Sb**	**21 43 44.6**	**+1.6**
JIO	**Ouri**	**1.27**	**2**	S	**Sb**	**21 43 46.7**	**-0.8**
JFY	**Yanaizu**	**1.28**	**281**	S	**Sg**	**21 43 48.9**	**+0.6**
JOU	**Okura**	**1.28**	**338**	S	**Sb**	**21 43 48.5**	**+0.7**
JGF	**Kuroka**	**3.54**	**245**	Pn	**Pn**	**21 44 02.1**	**-0.1**
JHJ2	**Mitsune**	**4.24**	**197**	Pn	**Pn**	**21 44 12.6**	**+1.0**
JHJ	**Hachijo jima 2**	**4.24**	**197**	Pn	**Pn**	**21 44 12.8**	**+1.2**
	98nm,0.3s,baz=103,slow=23,SNR=5.4						
JHJ				Sn	**Sn**	**21 45 01.2**	**0.0**
	109nm,0.3s,baz=60,slow=20,SNR=3.1 315nm,0.3s						
JCJ	**Chichijima**	**10.09**	**175**	Pn	**Pn**	**21 45 34.2**	**+2.2**
	37nm,0.3s,baz=290,slow=18,SNR=2.2 74nm,0.3s						
JCJ	**Chichijima**	**10.09**	**175**	Pn	**Pn**	**21 45 33.5**	**+1.5**
SONM	**Songino Array**	**27.62**	**304**	P	**P**	**21 48 54.6**	**-0.1**
	7.5nm,0.7s,baz=100,slow=8.3,SNR=7.1 7.5nm,0.7s						
SONM	**Songino Array**	**27.62**	**304**	P	**P**	**21 48 54.7**	**-0.1**
SONM				IAmb	IAmb	21 48 56.2	
	comp=Z,55nm,1.9s						
H11N2	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	22 18 30.4	
	baz=314,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	22 18 29.2	
	baz=314,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	22 18 31.0	
	baz=314,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	22 19 22.5	
	baz=316,SNR=22						
H11S3	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	22 19 20.0	
	baz=316,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	22 19 23.9	
	baz=316,slow=74,SNR=18						
MYLDM	**Lahad Datu**	**38.06**	**219**	P	**P**	**21 50 25.2**	**-0.7**
MYLDM				IAmb	IAmb	21 50 29.1	
	comp=Z,78nm,1.2s						
TNTI	**Ternate**	**38.45**	**203**	P	**P**	**21 50 28.3**	**-0.8**
TNTI				IAmb	IAmb	21 50 31.7	
	comp=Z,80nm,1.4s						
SIJI	**Sorong**	**38.98**	**196**	P	**P**	**21 50 33.8**	**+0.2**
	comp=Z,12nm,0.7s,baz=74,slow=6.7,SNR=3.7 comp=Z,12nm,0.7s						
TOLI2	**Tolitoli**	**40.58**	**213**	P	**P**	**21 50 45.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**41.44**	**255**	P	**P**	**21 50 53.0**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=45,slow=7.3,SNR=2.5						
CMAR				PcP	**PcP**	**21 52 52.9**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=30,slow=2.7,SNR=4.5 comp=Z,0.9nm,0.4s						
ZAA0	**Zalesovo Array**	**41.74**	**312**	P	**P**	**21 50 54.7**	**-1.4**
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**21 50 55.4**	**-0.7**
	comp=Z,13nm,0.8s,baz=85,slow=6.4,SNR=5.1 comp=Z,13nm,0.8s						
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**21 50 54.8**	**-1.3**
LSA	**Lhasa**	**42.09**	**275**	P	**P**	**21 51 00.1**	**+0.3**
SBUM	**Sibu**	**43.70**	**225**	P	**P**	**21 51 11.1**	**-1.3**
MK31	**Makanchi Array**	**43.95**	**302**	P	**P**	**21 51 12.8**	**-1.4**
MKAR	**Makanchi Array**	**43.95**	**302**	P	**P**	**21 51 13.9**	**-0.3**
	comp=Z,10nm,0.8s,baz=88,slow=10,SNR=6.0 comp=Z,10nm,0.8s						
MKAR	**Makanchi Array**	**43.95**	**302**	P	**P**	**21 51 13.2**	**-1.0**
MAKZ	**Makanchi**	**44.16**	**302**	P	**P**	**21 51 14.8**	**-1.0**
KSM	**Kuching**	**45.58**	**226**	P	**P**	**21 51 27.3**	**-0.2**
KSM				IAmb	IAmb	21 51 29.1	
	comp=Z,18nm,0.8s						
P18K	**Big Mountain,**	**45.62**	**40**	P	**P**	**21 51 28.5**	**+1.2**
	baz=270						
KURK	**Kurchatov**	**45.76**	**308**	P	**P**	**21 51 27.8**	**-0.6**
KURK				IAmb	IAmb	21 51 28.9	
	comp=Z,34nm,0.8s						
KURBB	**Kurchatov Arra**	**45.83**	**308**	P	**P**	**21 51 28.9**	**-0.1**
	comp=Z,14nm,0.7s,baz=83,slow=7.9,SNR=4.0 comp=Z,14nm,0.7s						
O19K	**Port Alsworth**	**46.07**	**39**	P	**P**	**21 51 33.7**	**+2.9**
	baz=270						
K20K	**Telida**	**46.26**	**34**	P	**P**	**21 51 32.8**	**+0.4**
K20K				IAmb	IAmb	21 51 34.9	
	comp=Z,16nm,0.8s						
K20K	**Telida**	**46.26**	**34**	P	**P**	**21 51 34.2**	**+1.9**
	baz=267						
J20K	**Nowinta River**	**46.27**	**33**	P	**P**	**21 51 34.0**	**+1.7**
	baz=266						
KAPI	**Kappang**	**46.54**	**210**	P	**P**	**21 51 34.5**	**-0.5**
M20K	**Styx River**	**46.66**	**36**	P	**P**	**21 51 38.0**	**+2.5**
	baz=270						
OHAK	**Old Harbor**	**46.72**	**43**	P	**P**	**21 51 36.2**	**+0.4**
G21K	**Allakaket**	**46.72**	**30**	P	**P**	**21 51 37.4**	**+1.6**
	baz=265						
H21K	**Melozitna Rive**	**46.94**	**31**	P	**P**	**21 51 39.2**	**+1.7**
	baz=266						
N20K	**Mount Spurr**	**47.10**	**37**	P	**P**	**21 51 41.1**	**+2.1**
	baz=271						
SPCR	**Spurr Chakacha**	**47.10**	**37**	P	**P**	**21 51 41.1**	**+2.1**
	baz=271						
CAST	**Castle Rocks**	**47.16**	**34**		**P**	**21 51 40.2**	**+0.8**
CAST	**Castle Rocks**	**47.16**	**34**	P	**P**	**21 51 41.2**	**+1.9**
	baz=269						
SRIT	**Nakonsritamara**	**47.22**	**244**	P	**P**	**21 51 39.8**	**-0.5**
SRIT				IAmb	IAmb	21 51 41.8	
	comp=Z,27nm,0.8s						
I21K	**Tanana**	**47.26**	**32**	P	**P**	**21 51 42.0**	**+1.9**
	baz=268						
F22K	**John River**	**47.33**	**29**	P	**P**	**21 51 42.4**	**+1.8**
	baz=265						
E22K	**Anaktuvuk Pass**	**47.52**	**28**	P	**P**	**21 51 43.1**	**+1.0**
	baz=265						
H22K	**Ishtalitna Cre**	**47.54**	**31**	P	**P**	**21 51 43.9**	**+1.6**
	baz=268						
G22K	**Bettles**	**47.55**	**30**	P	**P**	**21 51 43.6**	**+1.3**
	baz=266						
MLY	**Manley**	**47.78**	**32**	P	**P**	**21 51 45.9**	**+1.7**
	baz=269						
D23K	**Nanushuk River**	**48.01**	**27**	P	**P**	**21 51 47.3**	**+1.5**
	baz=265						
C23K	**Itkillik River**	**48.11**	**26**	P	**P**	**21 51 48.2**	**+1.6**
	baz=265						
G23K	**Bananza Creek**	**48.12**	**30**	P	**P**	**21 51 48.1**	**+1.4**
	baz=268						
E23K	**Chandalar**	**48.34**	**28**	P	**P**	**21 51 50.0**	**+1.5**
	baz=267						
O22K	**Cooper Landing**	**48.35**	**38**	P	**P**	**21 51 50.1**	**+1.6**
	baz=274						
TOLK	**Toolik Lake Re**	**48.39**	**27**	P	**P**	**21 51 50.3**	**+1.5**
	baz=267						
NEA2	**Nenana**	**48.49**	**33**	P	**P**	**21 51 51.1**	**+1.5**
	baz=271						
C24K	**Franklin Bluff**	**48.76**	**26**	P	**P**	**21 51 52.5**	**+0.9**
	baz=267						
E24K	**Your Creek**	**48.76**	**28**	P	**P**	**21 51 54.0**	**+2.2**
	baz=268						
MDM	**Murphy Dome**	**48.84**	**32**	P	**P**	**21 51 53.6**	**+1.2**
MDM				IAmb	IAmb	21 51 54.7	
	comp=Z,32nm,1.0s						
SML	**Sawmill**	**48.94**	**36**	P	**P**	**21 51 53.7**	**+0.5**
SML				IAmb	IAmb	21 52 18.5	
	comp=Z,34nm,1.1s						
SML	**Sawmill**	**48.94**	**36**	P	**P**	**21 51 54.1**	**+1.0**
	baz=274						
H24K	**Noodor Dome**	**48.98**	**31**	P	**P**	**21 51 54.8**	**+1.4**
	baz=271						
PWL	**Port Wells**	**49.00**	**38**	P	**P**	**21 51 53.8**	**+0.2**
PWL	**Port Wells**	**49.00**	**38**	P	**P**	**21 51 54.4**	**+0.8**
	baz=275						
TCOL	**CIGO, UAF Yank**	**49.00**	**32**	P	**P**	**21 51 54.3**	**+0.8**
	baz=272						
COLA	**College**	**49.01**	**32**	P	**P**	**21 51 54.3**	**+0.8**

JFK	**Kawauchi**	**0.54**	**294**	P	**Pg**	**21 42 46.7**	**+0.4**
JFK				S	**Sg**	**21 42 54.0**	**+0.7**
JFFD	**Fukushimafurud**	**0.74**	**266**	P	**Pg**	**21 42 50.6**	**+0.4**
JFFD				S	**Sg**	**21 43 00.6**	**+0.7**
JFFD	**Fukushimafurud**	**0.74**	**266**	A	A	21 42 50.6	
	comp=E,79nm,3.3s,comp=E,187nm,1.6s						
JMST	**Minamisoumatoc**	**0.75**	**321**	P	**Pg**	**21 42 50.0**	**-0.4**
JMST				*eS*	**Sg**	**21 42 59.4**	**-0.8**
JMM	**Marumori**	**0.91**	**323**	Pg	**Pb**	**21 42 52.8**	**-1.2**
JMM	**Marumori**	**0.91**	**323**	P	**Pb**	**21 42 52.6**	**-1.4**
JMM				S	**Sb**	**21 43 04.5**	**-1.9**
JHO	**Hitachi**	**0.91**	**234**	*eP*	**Pb**	**21 42 53.2**	**-0.9**
JHO				*eS*	**Sb**	**21 43 05.5**	**-0.9**
JSB	**Shiboa**	**1.27**	**262**	P	**Pb**	**21 43 00.5**	**+0.3**
JSB				S	**Sn**	**21 43 16.8**	**-0.7**
JIO	**Ouri**	**1.31**	**355**	P	**Pn**	**21 42 59.7**	**-1.1**
JIO				S	**Sb**	**21 43 16.0**	**-2.0**
JYAR	**Yonezawaarcadi**	**1.32**	**306**	A	A	21 42 59.1	
	comp=E,275nm,1.0s,comp=E,183nm,1.1s						
JOU	**Okura**	**1.38**	**332**	P	**Pn**	**21 43 00.9**	**-0.9**
JOU				S	**Sn**	**21 43 18.7**	**-1.7**
JYT	**Yasato**	**1.39**	**229**	A	A	21 43 01.4	
	comp=E,56nm,3.8s,comp=E,53nm,5.6s						
JFY	**Yanaizu**	**1.45**	**281**	A	A	21 43 01.5	
	comp=E,75nm,4.2s,comp=E,52nm,1.6s						
JYS	**Shirataka**	**1.56**	**314**	A	A	21 43 02.7	
	comp=E,171nm,1.1s,comp=E,140nm,1.6s						
MJAR	**Matsushiro Arr**	**2.70**	**258**	Pn	**Pn**	**21 43 20.3**	**+0.5**
	7.6nm,0.3s,baz=80,slow=15,SNR=5.3						
MJAR				Sn	**Sb**	**21 43 58.8**	**+0.8**
	14nm,0.3s,baz=81,slow=7.5,SNR=6.0 61nm,0.3s						
MAJO	**Matsushiro**	**2.70**	**258**	Pn	**Pn**	**21 43 20.5**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.70**	**258**	Pn	**Pn**	**21 43 21.6**	**+1.7**
JSD	**Sado**	**2.71**	**290**	Pn	**Pn**	**21 43 19.1**	**-0.9**
JTM	**Tenmabayashi**	**3.65**	**355**	Pn	**Pn**	**21 43 34.3**	**+1.4**
JGF	**Kuroka**	**3.67**	**246**	Pn	**Pn**	**21 43 33.6**	**+0.4**
INU	**Inuyama**	**4.04**	**245**	Pn	**Pn**	**21 43 38.6**	**+0.4**
JHJ2	**Mitsune**	**4.25**	**199**	Pn	**Pn**	**21 43 40.5**	**-0.6**
JHJ	**Hachijo jima 2**	**4.25**	**200**	Pn	**Pn**	**21 43 42.1**	**+0.9**
	68nm,0.3s,baz=110,slow=20,SNR=8.1 216nm,0.4s						
JKA	**Kamikawa-asahi**	**7.01**	**7**	Pn	**Pn**	**21 44 20.6**	**+1.5**
JHS	**Saijyo**	**7.11**	**255**	Pn	**Pn**	**21 44 21.6**	**+1.1**
JCJ	**Chichijima**	**10.04**	**176**	Pn	**Pn**	**21 44 58.7**	**-1.9**
	6.5nm,0.3s,baz=108,slow=20,SNR=1.1 55nm,0.5s						
USA0B	**Ussuriysk Arra**	**10.08**	**317**	Pn	**Pn**	**21 45 02.6**	**+1.4**
USRK	**Ussuriysk Ar.**	**10.08**	**317**	Pn	**Pn**	**21 45 04.1**	**+3.0**
	0.7nm,0.3s,baz=132,slow=13,SNR=5.8						
USRK	**Ussuriysk Ar.**	**10.08**	**317**	Pn	**Pn**	**21 45 03.9**	**+2.8**
KSRS	**Korea Array**	**10.81**	**276**	Pn	Pn	21 45 17.9	+6.8
	0.4nm,0.3s,baz=89,slow=14,SNR=7.9						
KSAR	**Wonju Array Be**	**10.85**	**276**	Pn	**Pn**	**21 45 12.5**	**+0.9**
KS19	**Wonju Array Si**	**10.86**	**276**	Pn	**Pn**	**21 45 14.5**	**+2.7**
MDJ	**Mudanjiang**	**11.69**	**313**	Pn	**Pn**	**21 45 25.3**	**+2.2**
TPUB	**Ta-pu**	**22.63**	**238**	P	**P**	**21 47 34.0**	**-3.6**
TPUB				IAmb	IAmb	21 47 49.5	
	comp=Z,78nm,1.5s						
YAK	**Yakutsk**	**25.98**	**347**	P	**P**	**21 48 08.4**	**-0.6**
	comp=Z,13nm,0.6s,baz=169,slow=1.2,SNR=3.0 comp=Z,13nm,0.6s						
SEY	**Seymchan**	**26.67**	**11**	P	**P**	**21 48 16.5**	**+1.2**
	comp=Z,7.3nm,0.5s,baz=169,slow=10,SNR=7.3 comp=Z,7.3nm,0.5s						
ENH	**Enshi**	**27.40**	**265**	P	**P**	**21 48 20.4**	**-1.9**
ENH				IAmb	IAmb	21 48 24.2	
	comp=Z,55nm,1.5s						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**21 48 24.7**	**-0.8**
	comp=Z,6.0nm,0.8s,baz=101,slow=8.6,SNR=4.9 comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**21 48 24.8**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	22 17 56.5	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	22 17 55.6	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	22 17 57.5	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	22 18 48.0	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	22 18 47.8	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	22 18 48.2	
	baz=314						
PZH	**PanZhiHua**	**35.17**	**264**	P	**P**	**21 49 29.8**	**-1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TIXI	**Tiksi**	**35.19**	**353**	P	**P**	**21 49 29.0**	**-1.2**
TIXI				IAmb	IAmb	21 49 37.7	
	comp=Z,18nm,1.2s						
MYLDM	**Lahad Datu**	**38.13**	**219**	P	**P**	**21 49 57.0**	**+1.1**
MYLDM				IAmb	IAmb	21 49 59.3	
	comp=Z,68nm,1.1s						
TNTI	**Ternate**	**38.48**	**203**	P	**P**	**21 49 58.0**	**-0.7**
TNTI				IAmb	IAmb	21 50 01.2	
	comp=Z,36nm,1.2s						
UBPT	**Khong Chiam**	**38.63**	**245**	P	**P**	**21 49 59.6**	**-0.5**
UBPT				IAmb	IAmb	21 50 01.8	
	comp=Z,43nm,1.4s						
UNV	**Unalaska Valle**	**39.12**	**48**	P	**P**	**21 50 05.8**	**+2.0**
TOLI2	**Tolitoli**	**40.63**	**213**	P	**P**	**21 50 15.8**	**-1.0**
TOLI2				IAmb	IAmb	21 50 17.5	
	comp=Z,28nm,1.2s						
FAKI	**Fak Fak**	**40.78**	**194**	P	**P**	**21 50 16.8**	**-1.1**
FAKI				IAmb	IAmb	21 50 19.2	
	comp=Z,24nm,1.1s						
CM31	**Chiang Mai Arr**	**41.58**	**255**	P	**P**	**21 50 25.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**41.58**	**255**	P	**P**	**21 50 25.5**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=47,slow=8.8,SNR=2.4 comp=Z,1.1nm,0.5s						
ZAA0	**Zalesovo Array**	**41.88**	**312**	P	**P**	**21 50 28.0**	**+1.3**
ZAA0				IAmb	IAmb	21 50 30.2	
	comp=Z,32nm,1.1s						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**21 50 26.1**	**-0.6**
	comp=Z,12nm,0.8s,baz=93,slow=6.9,SNR=5.4 comp=Z,12nm,0.8s						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**21 50 29.0**	**+2.3**
LSA	**Lhasa**	**42.26**	**275**	P	**P**	**21 50 32.5**	**+1.9**
SBUM	**Sibu**	**43.78**	**225**	P	**P**	**21 50 42.1**	**-0.4**
MK31	**Makanchi Array**	**44.11**	**302**	P	**P**	**21 50 44.0**	**-0.9**
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**21 50 44.5**	**-0.4**
	comp=Z,5.8nm,0.7s,baz=84,slow=10,SNR=8.7 comp=Z,5.8nm,0.7s						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**21 50 44.0**	**-0.9**
MAKZ	**Makanchi**	**44.32**	**302**	P	**P**	**21 50 48.7**	**+2.1**
MAKZ				IAmb	IAmb	21 50 59.8	
	comp=Z,24nm,1.1s						
KSM	**Kuching**	**45.67**	**226**	P	**P**	**21 50 57.9**	**+0.3**
KURK	**Kurchatov**	**45.91**	**308**	P	**P**	**21 51 01.1**	**+2.0**
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**21 50 59.5**	**-0.2**
	comp=Z,27nm,0.9s,baz=82,slow=8.6,SNR=8.6 comp=Z,27nm,0.9s						
KAPI	**Kappang**	**46.59**	**211**	P	**P**	**21 51 04.4**	**-0.4**
N20K	**Mount Spurr**	**47.03**	**37**	P	**P**	**21 51 08.2**	**+0.3**
	baz=271						
SPCR	**Spurr Chakacha**	**47.03**	**37**	P	**P**	**21 51 08.2**	**+0.3**
	baz=271						
CAST	**Castle Rocks**	**47.10**	**34**	P	**P**	**21 51 11.6**	**+3.2**
CAST				IAmb	IAmb	21 51 13.4	
	comp=Z,22nm,1.4s						
SRIT	**Nakonsritamara**	**47.35**	**244**	P	**P**	**21 51 10.6**	**-0.2**
SRIT				IAmb	IAmb	21 51 16.1	
	comp=Z,26nm,0.9s						
E22K	**Anaktuvuk Pass**	**47.48**	**28**	P	**P**	**21 51 13.0**	**+1.8**
	baz=265						
C23K	**Itkillik River**	**48.07**	**26**	P	**P**	**21 51 17.4**	**+1.7**
	baz=264						
E23K	**Chandalar**	**48.29**	**28**	P	**P**	**21 51 19.3**	**+1.7**
	baz=267						
E24K	**Your Creek**	**48.72**	**28**	P	**P**	**21 51 22.5**	**+1.7**
	baz=268						
C24K	**Franklin Bluff**	**48.72**	**26**	P	**P**	**21 51 22.1**	**+1.4**
	baz=266						
MDM	**Murphy Dome**	**48.79**	**32**	P	**P**	**21 51 23.3**	**+1.9**
MDM				IAmb	IAmb	21 51 27.9	
	comp=Z,16nm,1.0s						
POKR	**Poker Plat Res**	**49.12**	**32**	P	**P**	**21 51 25.3**	**+1.4**
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**21 51 25.9**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=266,slow=5.8,SNR=5.9 comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**21 51 26.4**	**+0.6**
D25K	**Kavik River**	**49.52**	**26**	P	**P**	**21 51 28.2**	**+1.3**
	baz=269						
PRP	**Porcupine Dome**	**49.91**	**31**	P	**P**	**21 51 32.3**	**+2.2**
F26K	**Sheenjek River**	**50.36**	**29**	P	**P**	**21 51 35.5**	**+2.2**
	baz=272						

C27K	**Jago River**	**50.47**	**26**	P	**P**	**21 51 35.7**	**+1.6**
	baz=271						
AAK	**Ala-Archa**	**50.49**	**298**	P	**P**	**21 51 35.8**	**+1.0**
	comp=Z,3.5nm,0.7s,baz=136,slow=3.3,SNR=4.0 comp=Z,3.5nm,0.7s						
BVAR	**Borovoye Array**	**50.54**	**312**	P	**P**	**21 51 34.5**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=73,slow=8.2,SNR=7.2 comp=Z,2.9nm,0.5s						
L26K	**Log Cabin Wild**	**51.07**	**35**	P	**P**	**21 51 39.9**	**+1.2**
	baz=277						
BCAR	**Beaver Creek A**	**51.77**	**34**	P	**P**	**21 51 45.2**	**+1.2**
BKNI	**Bangkinang**	**52.30**	**235**	P	**P**	**21 51 47.7**	**-0.8**
KK31	**Karatay Array**	**53.12**	**300**	P	**P**	**21 51 53.4**	**-0.9**
KK31				IAmb	IAmb	21 52 08.4	
	comp=Z,23nm,1.1s						
KKAR	**Karatay Array**	**53.12**	**300**	P	**P**	**21 51 53.9**	**-0.4**
EPYK	**Eagle Plains**	**53.40**	**30**	P	**P**	**21 51 57.8**	**+1.8**
	baz=280						
GSI	**Gunungsitoli**	**53.91**	**239**	P	**P**	**21 51 59.9**	**-0.5**
LEM	**Lembang**	**54.00**	**223**	P	**P**	**21 51 60.0**	**-1.2**
	comp=Z,47nm,0.9s,baz=108,slow=6.8,SNR=6.2 comp=Z,47nm,0.9s						
INK	**Inuvik**	**54.26**	**27**	P	**P**	**21 52 02.0**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=282,slow=5.4,SNR=3.5 comp=Z,3.4nm,0.8s						
CHGR	**Chuyangaron**	**55.67**	**295**	P	**P**	**21 52 12.6**	**-0.4**
ARU	**Arti**	**56.32**	**319**	P	**P**	**21 52 18.8**	**+1.6**
WB0	**Warramunga Arr**	**57.00**	**188**	P	**P**	**21 52 21.5**	**-0.9**
WB0				IAmb	IAmb	21 52 22.8	
	comp=Z,25nm,1.3s						
WRA	**Warramunga Arr**	**57.18**	**188**	P	**P**	**21 52 23.1**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=4.9,slow=7.4,SNR=4.1 comp=Z,4.2nm,0.9s						
WRA	**Warramunga Arr**	**57.18**	**188**	P	**P**	**21 52 22.3**	**-1.3**
KBL	**Kabul**	**57.43**	**291**	P	**P**	**21 52 27.5**	**+1.7**
KBL				IAmb	IAmb	21 52 38.4	
	comp=Z,17nm,1.1s						
ABKAR	**Akbulak array**	**57.91**	**310**	P	**P**	**21 52 27.9**	**-0.7**
EUNU	**Eureka**	**60.07**	**9**	P	**P**	**21 52 42.7**	**-0.5**
EUNU				IAmb	IAmb	21 52 48.9	
	comp=Z,28nm,1.6s						
ASAR	**Alice Springs**	**60.91**	**188**	P	**P**	**21 52 49.0**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=12,slow=6.3,SNR=3.2 comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**60.91**	**188**	P	**P**	**21 52 48.6**	**-0.9**
MBWA	**Marble Bar**	**61.51**	**203**	P	**P**	**21 52 52.0**	**-1.7**
MBWA				IAmb	IAmb	21 53 07.9	
	comp=Z,25nm,1.2s						
RES	**Resolute Bay**	**62.48**	**14**	P	**P**	**21 52 59.1**	**-0.4**
RES				IAmb	IAmb	21 53 04.4	
	comp=Z,11nm,1.1s						
YKA	**Yellowknife Ar**	**63.68**	**30**	P	**P**	**21 53 07.6**	**0.0**
	comp=Z,2.7nm,0.7s,baz=293,slow=6.0,SNR=3.9 comp=Z,2.7nm,0.7s						
GEYT	**Alibeck**	**63.83**	**299**	P	**P**	**21 53 09.3**	**+0.1**
	comp=Z,13nm,0.9s,baz=46,slow=4.3,SNR=8.1 comp=Z,13nm,0.9s						
GEYT	**Alibeck**	**63.83**	**299**	P	**P**	**21 53 08.8**	**-0.3**
GEYT				IAmb	IAmb	21 53 14.0	
	comp=Z,14nm,1.1s						
ARCES	**ARCESS Array B**	**63.91**	**339**	P	**P**	**21 53 09.9**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=45,slow=5.7,SNR=12 comp=Z,2.2nm,0.5s						
STKA	**Stephens Creek**	**68.66**	**180**	P	**P**	**21 53 39.8**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=30,slow=7.0,SNR=4.2 comp=Z,3.9nm,0.7s						
STKA	**Stephens Creek**	**68.66**	**180**	P	**P**	**21 53 39.7**	**-0.1**
FORT	**Forrest**	**68.73**	**192**	P	**P**	**21 53 39.8**	**-0.5**
FIA1	**FINESS Array S**	**68.74**	**332**	P	**P**	**21 53 39.1**	**-1.0**
FINES	**FINESS Array B**	**68.74**	**332**	P	**P**	**21 53 40.2**	**+0.1**
	comp=Z,14nm,0.8s,baz=47,slow=6.9,SNR=9.0 comp=Z,14nm,0.8s						
FINES	**FINESS Array B**	**68.74**	**332**	P	**P**	**21 53 39.0**	**-1.2**
PINE	**Pine Mountain**	**70.22**	**50**	P	**P**	**21 53 51.2**	**+1.3**
PINE				IAmb	IAmb	21 53 56.8	
	comp=Z,18nm,1.1s						
KBZ	**Khabaz**	**70.88**	**311**	P	**P**	**21 53 54.3**	**+0.7**
	comp=Z,11nm,0.9s,baz=64,slow=7.0,SNR=5.1 comp=Z,11nm,0.9s						
BMO	**Blue Mountains**	**71.81**	**47**	P	**P**	**21 54 00.2**	**+0.8**
BMO				IAmb	IAmb	21 54 04.4	
	comp=Z,33nm,1.8s						
NWAO	**Narrogin (SRO)**	**73.30**	**201**	P	**P**	**21 54 07.6**	**-0.4**
NWAO				IAmb	IAmb	21 54 26.4	
	comp=Z,28nm,1.4s						
LRM	**Limekiln Ridge**	**74.03**	**44**	P	**P**	**21 54 13.5**	**+0.8**
NC204	**NORSAR Array S**	**74.06**	**338**	P	**P**	**21 54 12.4**	**+0.1**
NC204				IAmb	IAmb	21 54 17.9	
	comp=Z,20nm,1.1s						
NB201	**NORSAR Array S**	**74.08**	**337**	P	**P**	**21 54 13.1**	**+0.7**
NB2	**NORSAR Subarra**	**74.11**	**337**	P	**P**	**21 54 12.5**	**-0.1**
	baz=39,slow=6.2						
NB2	**NORSAR Subarra**	**74.11**	**337**	P	**P**	**21 54 12.5**	**-0.1**
	comp=Z,20nm,1.1s,baz=39,slow=6.2

baz=272
G24K **Hadweenzic Riv** 49.13 30 P P 21 51 56.3 +1.8
baz=270
POKR **Poker Plat Res** 49.18 32 P P 21 51 56.3 +1.4
POKR **Poker Plat Res** 49.18 32 P P 21 51 56.5 +1.6
baz=272
DHY **Denali Highway** 49.30 35 P P 21 51 55.9 -0.1
DHY IAmb IAmb 21 51 59.0
comp=Z,65nm,1.8s
HDA **Harding Lake** 49.41 33 P P 21 51 57.0 +0.3
baz=273
IL31 49.42 32 P P 21 51 56.4 -0.3
IL31 IAmb IAmb 21 51 58.0
comp=Z,18nm,0.8s
ILAR **Eielson Array** 49.42 32 P P 21 51 57.0 +0.2
comp=Z,11nm,0.8s,baz=269,slow=6.3,SNR=9.3
comp=Z,11nm,0.8s
ILAR **Eielson Array** 49.42 32 P P 21 51 56.4 -0.4
D25K **Kavik River** 49.56 26 P P 21 51 58.6 +0.8
baz=269
F25K **Christian Rive** 49.84 29 P P 21 52 02.2 +2.3
baz=271
BATI **Baumata** 49.96 203 P P 21 52 02.5 +1.2
comp=Z,52nm,0.8s,baz=254,slow=2.0,SNR=4.7
comp=Z,52nm,0.8s
PRP **Porcupine Dome** 49.96 31 P P 21 52 01.6 +0.6
PRP IAmb IAmb 21 52 03.1
comp=Z,15nm,0.9s
PRP **Porcupine Dome** 49.96 31 P P 21 52 02.0 +1.0
baz=273
KLU **Klutina** 50.11 37 P P 21 52 01.6 -0.5
KLU IAmb IAmb 21 52 04.1
comp=Z,40nm,1.3s
DIV **Divide** 50.22 37 P P 21 52 01.9 -1.0
BMAR **Burnt Mountain** 50.25 29 P P 21 52 03.9 +0.8
BVAR **Borovoye Array** 50.40 312 P P 21 52 05.0 +0.7
comp=Z,4.6nm,0.7s,baz=92,slow=7.5,SNR=2.6
BVAR PcP PcP 21 53 22.3 -0.3
comp=Z,6.0nm,0.8s,baz=96,slow=1.5,SNR=3.5
comp=Z,4.6nm,0.7s
F26K **Sheenjek River** 50.41 29 P P 21 52 06.7 +2.5
baz=273
C27K **Jago River** 50.50 26 P P 21 52 06.7 +1.8
baz=271
MTN **Manton Dam** 50.67 193 P P 21 52 05.8 -0.9
MTN IAmb IAmb 21 52 08.9
comp=Z,34nm,1.2s
SCRK **Sand Creek** 50.74 33 P P 21 52 07.5 +0.6
baz=276
MENT **Mentasta** 50.97 35 P P 21 52 09.4 +0.8
MENT IAmb IAmb 21 53 21.7
comp=Z,20nm,0.7s
L26K **Log Cabin Wild** 51.13 35 P P 21 52 11.6 +1.8
baz=277
E27K **Coleen River** 51.34 28 P P 21 52 13.2 +2.0
baz=274
I27K **Kandik River** 51.58 31 P P 21 52 14.9 +1.9
baz=276
L27K **Beaver Creek,** 51.81 34 P P 21 52 16.8 +1.9
baz=278
BCAR **Beaver Creek A** 51.83 34 P P 21 52 14.6 -0.4
M27K **Edge Creek, AK** 51.89 35 P P 21 52 17.4 +1.9
baz=279
BKNI **Bangkinang** 52.19 235 P P 21 52 17.8 -0.5
DAWY **Dawson** 52.73 33 P P 21 52 21.4 -0.3
DAWY **Dawson** 52.73 33 P P 21 52 22.8 +1.1
baz=280
KKAR **Karatay Array** 52.96 300 P P 21 52 24.6 +0.9
I29M **Ogilvie Camp,** 52.98 31 P P 21 52 22.9 -0.5
I29M IAmb IAmb 21 52 25.7
comp=Z,36nm,0.8s
I29M **Ogilvie Camp,** 52.98 31 P P 21 52 25.1 +1.6
baz=280
M29M **Somme Creek** 53.44 35 P P 21 52 29.3 +2.3
baz=282
EPYK **Eagle Plains** 53.45 30 P P 21 52 27.8 +0.8
EPYK **Eagle Plains** 53.45 30 P P 21 52 28.8 +1.8
baz=280
L29M **L29M** 53.46 34 P P 21 52 29.7 +2.6
baz=281
G30M **tAoh Zraii Nji** 53.54 29 P P 21 52 29.0 +1.5
baz=280
YUK4 **Talbot Arm** 53.58 36 P P 21 52 30.0 +1.8
baz=282
K29M **Barlow Dome** 53.59 33 P P 21 52 29.5 +1.4
baz=281
GSI **Gunungsitoli** 53.79 239 P P 21 52 28.4 -1.6
O29M **Mount Kennedy** 53.84 37 P P 21 52 31.5 +1.5
baz=283
HYT **Haines Junctio** 54.24 37 P P 21 52 32.8 -0.1
HYT IAmb IAmb 21 52 36.1
comp=Z,49nm,1.3s
INK **Inuvik** 54.30 27 P P 21 52 33.5 +0.5
comp=Z,8.8nm,0.9s,baz=276,slow=4.8,SNR=4.5
comp=Z,8.8nm,0.9s
INK **Inuvik** 54.30 27 P P 21 52 34.2 +1.2
baz=282
F31M **Tsiigehtchic** 54.40 28 P P 21 52 35.0 +1.3
baz=282
P29M **Windy Craggy** 54.41 38 P P 21 52 36.2 +2.2
baz=284
P30M **Million Dollar** 54.67 37 P P 21 52 38.1 +2.1
baz=284
PLBC **Pleasant Camp** 55.13 38 P P 21 52 41.6 +2.3
baz=285
WHY **Whitehorse** 55.53 36 P P 21 52 44.0 +1.8
baz=286
ARU **Arti** 56.18 318 P P 21 52 45.6 -1.2
ARU IAmb IAmb 21 52 47.4
comp=Z,29nm,1.1s
MMPY **Sheldon Lake,** 56.63 34 P P 21 52 51.9 +1.9
baz=287
P33M **Teslin, Yukon** 56.64 37 P P 21 52 51.0 +0.9
P33M IAmb IAmb 21 52 52.8
comp=Z,19nm,1.1s
P33M **Teslin, Yukon** 56.64 37 P P 21 52 52.1 +2.0
baz=288
WB0 **Warramunga Arr** 57.01 188 P P 21 52 51.4 -1.6
WB0 IAmb IAmb 21 52 52.7
comp=Z,20nm,0.8s
WR0 **Warramunga Arr** 57.19 188 P P 21 52 53.5 -0.8
WR0 IAmb IAmb 21 53 09.9
comp=Z,33nm,1.4s
WRA **Warramunga Arr** 57.19 188 P P 21 52 53.5 -0.8
comp=Z,13nm,0.8s,baz=5.9,slow=7.4,SNR=7.4
comp=Z,13nm,0.8s
WRA **Warramunga Arr** 57.19 188 P P 21 52 53.7 -0.7
ABKAR **Akbulak array** 57.77 310 P P 21 52 57.9 -0.2
R33M **Jennings River** 57.78 37 P P 21 53 00.5 +2.2
baz=290
TGTN **Hyland Airport** 58.32 34 P P 21 53 03.7 +1.8
baz=290
DLBC **Dease Lake** 58.57 38 P P 21 53 05.2 +1.5
comp=Z,9.6nm,0.9s,baz=278,slow=8.4,SNR=5.4
comp=Z,9.6nm,0.9s
DLBC **Dease Lake** 58.57 38 P P 21 53 06.2 +2.4
baz=291
T35M **Bob Quinn** 58.98 40 P P 21 53 09.3 +2.7
baz=291
EUNU **Eureka** 60.06 9 P P 21 53 13.9 +0.2
EUNU IAmb IAmb 21 53 24.4
comp=Z,10nm,0.8s
ASAR **Alice Springs** 60.92 188 P P 21 53 20.2 +0.1
comp=Z,6.1nm,0.8s,baz=9.9,slow=6.2,SNR=6.3
comp=Z,6.1nm,0.8s
ASAR **Alice Springs** 60.92 188 P P 21 53 18.6 -1.6
MBWA **Marble Bar** 61.48 203 P P 21 53 23.7 -0.2
GEYT **Alibeck** 63.67 299 P P 21 53 38.2 -0.4
comp=Z,9.5nm,0.8s,baz=48,slow=2.2,SNR=5.5
comp=Z,9.5nm,0.8s
GEYT **Alibeck** 63.67 299 P P 21 53 37.0 -1.6
GEYT IAmb IAmb 21 53 39.5
comp=Z,11nm,0.9s
YKA **Yellowknife Ar** 63.73 30 P P 21 53 38.8 +0.3
comp=Z,4.4nm,0.8s,baz=293,slow=6.5,SNR=5.0
comp=Z,4.4nm,0.8s
ARCES **ARCESS Array B** 63.82 339 P P 21 53 38.0 -1.1
comp=Z,11nm,0.9s,baz=56,slow=7.4,SNR=7.7
comp=Z,11nm,0.9s
ARCES **ARCESS Array B** 63.82 339 P P 21 53 38.1 -0.9
WAPA **Wapiti River** 65.31 39 P P 21 53 49.1 0.0
FIA1 **FINESS Array S** 68.63 332 P P 21 54 08.4 -1.6
FINES **FINESS Array B** 68.64 332 P P 21 54 09.4 -0.6
comp=Z,12nm,0.7s,baz=54,slow=8.0,SNR=6.3
comp=Z,12nm,0.7s
FINES **FINESS Array B** 68.64 332 P P 21 54 08.7 -1.3
STKA **Stephens Creek** 68.70 180 P P 21 54 09.8 -0.9
comp=Z,8.9nm,0.8s,baz=346,slow=7.4,SNR=8.3
comp=Z,8.9nm,0.8s
FORT **Forrest** 68.73 192 P P 21 54 09.8 -1.0
H04A **Detroit Lake** 69.09 49 P P 21 54 12.7 -0.5
H04A IAmb IAmb 21 54 15.3
comp=Z,26nm,1.0s
NEW **Newport** 70.09 44 P P 21 54 19.3 -0.1
NEW IAmb IAmb 21 54 21.1
comp=Z,16nm,1.2s
NEW **Newport** 70.09 44 P P 21 54 20.2 +0.9
baz=304
PINE **Pine Mountain** 70.32 50 P P 21 54 20.7 -0.3
E09A **Wood Farm, Sta** 70.49 46 P P 21 54 22.1 +0.4
E09A IAmb IAmb 21 54 23.7
comp=Z,19nm,1.1s
KBZ **Khabaz** 70.73 311 P P 21 54 23.4 +0.2
comp=Z,11nm,0.9s,baz=247,slow=0.6,SNR=3.8
comp=Z,11nm,0.9s
KIV **Kislovodsk** 70.73 311 P P 21 54 21.8 -1.6
KIV IAmb IAmb 21 54 25.2
comp=Z,27nm,0.9s
K05A **Summer Lake** 70.93 51 P P 21 54 24.7 0.0
BMO **Blue Mountains** 71.90 47 P P 21 54 30.6 +0.1
MSO **Missoula** 72.68 44 P P 21 54 35.9 +0.8
baz=306
BEKR **Beckworth** 72.85 53 P P 21 54 36.4 +0.1
BEKR IAmb IAmb 21 54 38.1
comp=Z,13nm,1.0s
MFID **Camas Ranch** 73.60 48 P P 21 54 40.8 +0.2
FFC **Flin Flon** 73.64 33 P P 21 54 40.4 -0.1
FFC IAmb IAmb 21 54 41.8
comp=Z,20nm,1.1s
NC405 **NORSAR Array S** 73.80 337 P P 21 54 40.8 -0.5
NOA **NORSAR Array B** 74.01 337 P P 21 54 42.4 -0.2
comp=Z,11nm,0.9s,baz=39,slow=5.9,SNR=7.8
comp=Z,11nm,0.9s
LRM **Limekiln Ridge** 74.11 44 P P 21 54 43.4 -0.4
AKASG **Malin Array Be** 74.12 322 P P 21 54 42.8 -0.5
comp=Z,7.0nm,0.6s,baz=48,slow=6.2,SNR=6.3
comp=Z,7.0nm,0.6s
AKBB **Malin Array Si** 74.12 322 P P 21 54 42.5 -0.9
EGMT **Eagleton** 74.23 41 P P 21 54 45.2 +1.1
baz=308
HLID **Hailey** 74.35 47 P P 21 54 46.3 +1.2
baz=307
BOZ **Bozeman (W)** 74.71 44 P P 21 54 47.0 -0.1
BOZ IAmb IAmb 21 54 49.0
comp=Z,14nm,0.9s
BOZ **Bozeman (W)** 74.71 44 P P 21 54 48.2 +1.1
baz=308
NVAR **Mina Array Bea** 74.98 53 P P 21 54 50.2 +1.4
comp=Z,4.9nm,0.8s,baz=287,slow=5.9,SNR=7.3
comp=Z,4.9nm,0.8s
NVAR **Mina Array Bea** 74.98 53 P P 21 54 48.3 -0.6
YHB **Horse Butte** 75.47 45 P P 21 54 51.8 +0.1
YHB IAmb IAmb 21 54 53.3
comp=Z,12nm,0.8s
YMR **Madison River** 75.65 45 P P 21 54 52.9 +0.3
YMR IAmb IAmb 21 54 54.5
comp=Z,12nm,0.8s
H17A **Grant Village** 76.04 45 P P 21 54 56.9 +2.0
H17A IAmb IAmb 21 54 58.7
comp=Z,26nm,1.1s
H17A **Grant Village** 76.04 45 P P 21 54 58.0 +3.1
baz=309
IMW **Indian Meadow** 76.14 45 P P 21 54 54.8 -0.8
IMW IAmb IAmb 21 54 57.8
comp=Z,12nm,0.8s
FXWY **Fox Creek** 76.25 45 P P 21 54 56.0 -0.1
CWC **Cottonwood Cre** 76.29 55 P P 21 54 56.9 +0.5
baz=306
R11A **Troy Canyon, C** 76.75 52 P P 21 55 00.1 +1.1
baz=307
MPMC **Manual Prospec** 76.90 55 P P 21 55 00.3 +0.4
baz=307
TPNV **Topopah Spring** 77.17 53 P P 21 55 02.5 +1.1
baz=307
DUG **Dugway, Tooele** 77.34 49 P P 21 55 03.2 +1.0
DUG **Dugway, Tooele** 77.34 49 P P 21 55 03.7 +1.5
baz=308
BW06 **Boulder Array** 77.64 45 P P 21 55 04.0 +0.1
BW06 **Boulder Array** 77.64 45 P P 21 55 03.8 -0.1
baz=310
PDAR **Pinedale Array** 77.64 45 P P 21 55 03.7 -0.2
comp=Z,3.0nm,0.7s,baz=280,slow=1.9,SNR=9.0
comp=Z,3.0nm,0.7s
PDAR **Pinedale Array** 77.64 45 P P 21 55 04.4 +0.5
ILGA **Ilgaz** 77.80 312 P P 21 55 04.9 +0.1
BURAR **Bucovina Array** 78.13 322 P P 21 55 06.2 -0.3
BURAR IAmb IAmb 21 55 07.8
comp=Z,11nm,0.9s
MSU **Marysvale** 78.77 50 P P 21 55 11.4 +1.1
MTPU **Mount Pierson** 79.06 50 P P 21 55 13.3 +1.3
P18A **Preston Nutter** 79.23 48 P P 21 55 12.7 -0.2
SRU **San Rafael Swe** 79.39 49 P P 21 55 13.1 -0.6
SRU IAmb IAmb 21 55 15.0
comp=Z,10nm,0.7s
MORC **Moravsky Berou** 80.18 327 eP P 21 55 17.9 +0.4
DPC **Dobruska-Polom** 80.28 328 eP P 21 55 17.5 -0.5
PV23 **Carpenter Ridg** 80.72 49 P P 21 55 20.5 -0.4
PV23 IAmb IAmb 21 55 22.5
comp=Z,13nm,0.8s
BRG **Berggiesshubel** 80.87 329 i (P) P 21 55 21.4 +0.3
BRG Amp 21 55 22.2
comp=Z,9.0nm,0.8s
CLL **Collm** 80.92 330 i P P 21 55 21.3 0.0
VRAC **Vranov** 80.94 327 eP P 21 55 21.9 +0.3
PV13 **Radium Mtn., P** 81.03 49 P P 21 55 22.7 +0.2
PV13 IAmb IAmb 21 55 24.1
comp=Z,14nm,0.9s
WUAZ **Wupatki** 81.15 52 P P 21 55 23.9 +0.7
baz=310
KRUC **Moravsky** 81.21 327 eP P 21 55 23.1 +0.1
PRU **Pruhonice** 81.30 328 eP P 21 55 23.1 -0.3
TREC **Trest** 81.43 328 eP P 21 55 24.0 -0.2
MVCO **Mesa Verde** 81.83 49 P P 21 55 27.5 +0.7
baz=311
NKC **Novy Kostel** 81.97 330 eP P 21 55 26.8 -0.2
S22A **4UR Ranch, Cre** 82.48 48 P P 21 55 31.5 +1.2
baz=312
GEC2 **GERESS Array S** 82.53 328 P P 21 55 29.3 -0.7
GERES **GERESS Array B** 82.53 328 P P 21 55 29.7 -0.3
comp=Z,5.8nm,0.9s,baz=47,slow=5.9,SNR=6.9
comp=Z,5.8nm,0.9s
GERES **GERESS Array B** 82.53 328 P P 21 55 29.5 -0.6
VTS **Vitosha** 82.60 319 P P 21 55 30.6 0.0
VTS IAmb IAmb 21 55 59.1
comp=Z,13nm,1.2s
Q24A **Divide** 82.65 46 P P 21 55 32.0 +0.9
baz=313
ECSD **EROS Data Cent** 83.86 38 P P 21 55 36.9 0.0
baz=317
T25A **Trinidad** 84.31 47 P P 21 55 40.9 +1.2
baz=313
SCHQ **Scheiterville** 85.22 16 P P 21 55 42.8 -0.8
comp=Z,5.8nm,0.8s,baz=93,slow=2.8,SNR=3.9
comp=Z,5.8nm,0.8s
TXAR **Lajitas Array** 90.11 52 P P 21 56 08.3 +0.6
comp=Z,2.3nm,0.7s,baz=301,slow=3.4,SNR=8.1
comp=Z,2.3nm,0.7s
BOSA **Boshof** 126.50 259 PKP PKPdf 22 02 10.4 -0.3
comp=Z,4.3nm,0.9s,baz=98,slow=3.7,SNR=4.4
LPAZ **La Paz** 146.71 59 PKPbc PKPdf 22 02 49.7 +1.0
comp=Z,7.1nm,0.6s,baz=359,slow=2.0,SNR=6.6
LVC **Limon Verde** 150.22 69 PKPbc PKPbc 22 03 00.6 +1.5
comp=Z,15nm,0.9s,baz=307,slow=2.3,SNR=6.0
SIV **San Ignacio** 151.06 49 PKPbc PKPbc 22 03 01.3 +0.4
comp=Z,11nm,0.8s,baz=241,slow=1.7,SNR=8.5
PLCA **Paso Flores** 155.06 108 PKPab PKPab 22 03 26.1 +1.4
comp=Z,3.2nm,0.8s,baz=283,slow=6.6,SNR=4.6

IDC ***21*** *21:49:03.6±0.5, 37.˚15N×141.˚38E, h0km, mb4.2/20, mbtmp4.2/23, ML3.7/3, Error ellipse: s-maj=16.6km s-min=13.5km az=100.0*
JMA ***21*** *21:49:05.3±0.3, 37.˚2N±0.˚5×14˚1E±˚, h32km±2km, MD4.7/36, MV4.3/36, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NEIC ***21*** *21:49:05.2±2.5, 37.˚27N±0.˚05×141.˚43E±0.˚07, h10km±1km, mb4.6/14, Error ellipse: s-maj=11.9km s-min=3.7km az=51.0*
ISC 21 21:49:08.5±0.5, 37˚21N±0˚04×141˚35E±0˚05, h33km, n78, σ1§37/72, **mb4.3**/27, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	0.41	292	eP	Pb	21 49 15.1	-2.6
JFK				S	Sb	21 49 22.6	-1.4
JMST	**Minamisoumatoc**	0.63	325	S	Sb	21 49 28.6	-1.2
JMST	**Minamisoumatoc**	0.63	325	A	A	21 49 28.6	
	comp=N,18nm,1.4s						
JFFD	**Fukushimafurud**	0.64	259	P	Pn	21 49 19.2	-2.0
JFFD				S	Sb	21 49 28.9	-1.2
JMM	**Marumori**	0.79	326	Pg	Pn	21 49 20.2	-3.1
JMM	**Marumori**	0.79	326	S	Sn	21 49 32.8	-1.1
JHO	**Hitachi**	0.87	226	S	Sn	21 49 33.9	-1.9
JSB	**Shiboa**	1.17	258	eP	Pn	21 49 28.6	+0.1
JSB				S	Sb	21 49 45.6	+0.6
JYAR	**Yonezawaarcadi**	1.18	307	A	A	21 49 27.3	
	comp=E,56nm,1.2s,comp=E,50nm,0.9s						
JIO	**Ouri**	1.24	0	eS	Sn	21 49 43.0	-2.1
JOU	**Okura**	1.27	335	eS	Sn	21 49 47.3	+1.4
JFY	**Yanaizu**	1.32	279	S	Sb	21 49 49.7	+0.3
JYS	**Shirataka**	1.43	315	A	A	21 49 30.9	
	comp=E,22nm,1.1s,comp=E,19nm,1.4s						
JYA	**Atsumi**	1.89	317	A	A	21 49 37.6	
	comp=E,10.0nm,0.9s,comp=E,13nm,1.7s						
JSD	**Sado**	2.58	289	Pn	Pn	21 49 48.6	+0.6
MJAR	**Matsushiro Arr**	2.60	256	Pn	Pn	21 49 48.3	0.0
	1.8nm,0.3s,baz=22,slow=13,SNR=8.0						
MJAR				Sn	Sb	21 50 25.5	-0.5
	5.9nm,0.3s,baz=76,slow=31,SNR=5.0						
	10nm,0.3s						
MAJO	**Matsushiro**	2.60	256		Pn	21 49 48.0	-0.3
MJB9	**Matsu-Tunnel**	2.61	256	Pn	Pn	21 49 49.1	+0.8
JTM	**Tenmabayashi**	3.58	357	Pn	Pn	21 50 00.8	-0.8
JGF	**Kuroka**	3.60	245	Pn	Pn	21 50 02.5	+0.6
INU	**Inuyama**	3.96	243	Pn	Pn	21 50 08.6	+1.6
JHJ	**Hachijo jima 2**	4.28	198	Pn	Pn	21 50 11.2	-0.1
	16nm,0.3s,baz=252,slow=20,SNR=1.7						
JHJ				Sn	Sn	21 50 58.0	-2.1
	17nm,0.3s,baz=73,slow=20,SNR=1.3						
	106nm,0.7s						
JHS	**Saijyo**	7.02	254	Pn	Pn	21 50 51.3	+2.4
USRK	**Ussuriysk Ar.**	9.95	317	Pn	Pn	21 51 34.3	+5.2
	0.2nm,0.3s,baz=122,slow=13,SNR=4.5						
JCJ	**Chichijima**	10.11	176	Pn	Pn	21 51 28.4	-3.0
	3.6nm,0.3s,baz=108,slow=20,SNR=2.2						
	49nm,0.6s						
KSRS	**Korea Array**	10.69	275	Pn	Pn	21 51 45.1	+5.8
	0.1nm,0.3s,baz=92,slow=13,SNR=2.7						
YAK	**Yakutsk**	25.88	347	P	P	21 54 41.3	+4.4
	4.8nm,0.4s,baz=300,slow=20,SNR=4.6						
SONM	**Songino Array**	27.64	304	P	P	21 54 53.7	+0.5
	2.4nm,0.8s,baz=96,slow=8.7,SNR=7.7						
	2.4nm,0.8s						
SONM	**Songino Array**	27.64	304	P	P	21 54 53.3	+0.2
H11N2	**WAKE ISLAND Hy**	28.29	121	T	T	22 24 23.6	
	baz=313						
H11N1	**WAKE ISLAND Hy**	28.29	121	T	T	22 24 23.8	
	baz=313,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	28.30	121	T	T	22 24 24.1	
	baz=313,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hy**	29.00	123	T	T	22 25 14.1	
	baz=316,slow=76,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	29.00	123	T	T	22 25 14.3	
	baz=316,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	29.02	123	T	T	22 25 15.2	
	baz=316,slow=76,SNR=8.8						
CMAR	**Chiang Mai Arr**	41.49	255	P	P	21 56 54.4	+1.8
	0.4nm,0.4s,baz=72,slow=4.7,SNR=4.1						
	0.4nm,0.4s						
ZAA0	**Zalesovo Array**	41.76	312	P	P	21 56 54.9	+0.6
ZALV	**Zalesovo Beam**	41.76	312	P	P	21 56 55.0	+0.6
	4.7nm,0.8s,baz=88,slow=6.5,SNR=9.9						
	4.7nm,0.8s						
ZALV	**Zalesovo Beam**	41.76	312	P	P	21 56 55.2	+0.9
MK31	**Makanchi Array**	43.98	302	P	P	21 57 10.4	-2.1
MKAR	**Makanchi Array**	43.98	302	P	P	21 57 13.2	+0.7
	5.1nm,1.1s,baz=92,slow=10.0,SNR=8.6						
	5.1nm,1.1s						
MKAR	**Makanchi Array**	43.98	302	P	P	21 57 09.2	-3.3
MAKZ	**Makanchi**	44.19	302	P	P	21 57 12.1	-2.1
MAKZ				IAmb	IAmb	21 57 15.9	
	comp=Z,8.9nm,1.1s						
KURK	**Kurchatov**	45.78	308	P	P	21 57 26.4	-0.3
KURK				IAmb	IAmb	21 57 28.1	
	comp=Z,10nm,0.8s						
KAPI	**Kappang**	46.59	210	P	P	21 57 32.7	-0.6
	comp=Z,4.4nm,0.3s,baz=15,slow=11,SNR=3.6						
	comp=Z,4.4nm,0.3s						
ILAR	**Eielson Array**	49.37	32	P	P	21 57 54.8	+0.4
	comp=Z,2.4nm,0.8s,baz=267,slow=6.3,SNR=14						
	comp=Z,2.4nm,0.8s						
ILAR	**Eielson Array**	49.37	32	P	P	21 57 54.7	+0.3
KKAR	**Karatay Array**	52.99	300	P	P	21 58 22.3	+0.4
KNRA	**Kununurra**	53.93	195	P	P	21 58 27.9	-0.9
INK	**Inuvik**	54.25	27	P	P	21 58 31.8	+1.1
	comp=Z,2.7nm,0.8s,baz=249,slow=7.2,SNR=6.7						
	comp=Z,2.7nm,0.8s						
INK	**Inuvik**	54.25	27	P	P	21 58 31.4	+0.8
INK				IAmb	IAmb	21 58 32.9	
	comp=Z,4.9nm,1.1s						
CHGR	**Chuyangaron**	55.54	295	P	P	21 58 41.0	+0.4
WB0	**Warramunga Arr**	57.05	188	P	P	21 58 49.2	-2.1
WB0				IAmb	IAmb	21 59 00.4	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	57.23	188	P	P	21 58 50.7	-1.8
WR0				IAmb	IAmb	21 58 52.3	
	comp=Z,5.2nm,1.2s						
WB2	**Warramunga Arr**	57.23	188	P	P	21 58 51.1	-1.4
WB2				IAmb	IAmb	21 58 57.3	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	57.23	188	P	P	21 58 51.5	-1.0
	comp=Z,1.6nm,0.7s,baz=5.7,slow=7.4,SNR=9.1						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	57.23	188	P	P	21 58 50.5	-2.1
ABKAR	**Akbulak array**	57.78	310	P	P	21 58 56.2	-0.1
EUNU	**Eureka**	60.02	9	P	P	21 59 11.1	-0.3
EUNU				IAmb	IAmb	21 59 12.8	
	comp=Z,4.5nm,0.9s						
ASAR	**Alice Springs**	60.96	188	P	P	21 59 17.7	-0.7
	comp=Z,1.0nm,0.7s,baz=8.8,slow=5.7,SNR=6.6						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	60.96	188	P	P	21 59 18.5	+0.1
GEYT	**Alibeck**	63.70	299	P	P	21 59 37.4	+0.6
	comp=Z,2.0nm,0.2s,baz=46,slow=4.8,SNR=5.5						
	comp=Z,2.0nm,0.2s						
FINES	**FINESS Array B**	68.63	332	P	P	22 00 08.1	+0.2
	comp=Z,5.1nm,0.7s,baz=132,slow=5.4,SNR=6.6						
	comp=Z,5.1nm,0.7s						
FINES	**FINESS Array B**	68.63	332	P	P	22 00 07.9	0.0
STKA	**Stephens Creek**	68.73	180	P	P	22 00 08.8	0.0
	comp=Z,0.9nm,0.3s,baz=350,slow=7.3,SNR=3.2						
	comp=Z,0.9nm,0.3s						
FORT	**Forrest**	68.77	192	P	P	22 00 09.3	+0.2
KBZ	**Khabaz**	70.75	311	P	P	22 00 21.7	+0.5
	comp=Z,5.4nm,0.9s,baz=278,slow=1.6,SNR=6.2						
	comp=Z,5.4nm,0.9s						
NB2	**NORSAR Subarra**	74.00	337	P	P	22 00 40.6	+0.2
	comp=Z,2.7nm,0.9s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	74.00	337	P	P	22 00 40.9	+0.5
	comp=Z,2.0nm,0.8s,baz=39,slow=5.7,SNR=8.5						
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	74.12	322	P	P	22 00 41.2	-0.1
	comp=Z,2.2nm,0.6s,baz=47,slow=6.1,SNR=13						
	comp=Z,2.2nm,0.6s						
NVAR	**Mina Array Bea**	74.92	53	P	P	22 00 47.5	+1.1
	comp=Z,1.2nm,0.7s,baz=287,slow=9.1,SNR=5.1						
	comp=Z,1.2nm,0.7s						
PDAR	**Pinedale Array**	77.58	45	P	P	22 01 01.9	+0.4
	comp=Z,0.6nm,0.7s,baz=296,slow=2.3,SNR=5.3						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	78.69	311	P	P	22 01 07.6	0.0
	comp=Z,1.1nm,0.8s,baz=79,slow=6.3,SNR=4.5						
	comp=Z,1.1nm,0.8s						
CLL	**Collm**	80.92	330	eP	P	22 01 19.0	-0.2
GERES	**GERESS Array B**	82.53	328	P	P	22 01 27.8	-0.1
	comp=Z,0.6nm,0.7s,baz=15,slow=5.5,SNR=4.1						
	comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	90.05	52	P	P	22 02 06.1	+0.9
	comp=Z,0.8nm,0.8s,baz=302,slow=2.0,SNR=5.8						
	comp=Z,0.8nm,0.8s						
LPAZ	**La Paz**	146.65	59	PKPbc	PKPbc	22 08 48.0	0.0
	comp=Z,1.7nm,0.6s,baz=335,slow=3.2,SNR=7.0						
SIV	**San Ignacio**	151.01	49	PKP	PKPdf	22 08 54.0	+1.4
	comp=Z,4.6nm,1.1s,baz=270,slow=5.1,SNR=2.9						
SIV				PKPbc	PKPbc	22 08 58.4	0.0
	comp=Z,4.0nm,1.0s,baz=284,slow=1.7,SNR=7.2						

BJI **21** *21:50:52.8±0.0,37.°11N×141.°47E,h6km,mb4.7/40*
IDC **21** *21:50:54.8±0.4,37.°25N×141.°43E,h0km,mb4.7/36, mbtmp4.7/38,ML4.1/2,Error ellipse: s-maj=12.7km s-min=10.7km az=110.0*
MOS **21** *21:50:54.2±1.1,37.°27N×141.°48E,h13km,mb5.1/38,Error ellipse: s-maj=8.5km s-min=5.3km az=110.4*
NEIC **21** *21:50:55.7±1.3,37.°25N±0.°05×141.°54E±0.°07,h10km±1km, mb4.9/151,Error ellipse: s-maj=9.8km s-min=7.7km az=61.0*
JMA **21** *21:50:57.1±0.2,37.°3N±0.°3×141.°5E±0.°8,h33km±1km, MD5.0/40,MV4.9/40,E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
ISC 21 21:50:57.0±0.8,37.°24N±0.°03×141.°55E±0.°04,h20km±3km, n402,σ1§21/350,mb4.9/165,MS6.0/3,23C-16D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**283**	P		**Pg**		**21 51 07.9**	**-0.3**
JFK				S		**Sg**		**21 51 15.2**	**-0.4**
JFK	**Kawauchi**	**0.55**	**283**	A		A		21 51 07.9	
comp=E,132nm,0.6s,comp=E,70nm,0.6s									
JMST	**Minamisoumatoc**	**0.71**	**313**	*i* P		**Pb**		**21 51 10.3**	**-0.4**
JMST				S		**Sb**		**21 51 19.6**	**-0.5**
JMST	**Minamisoumatoc**	**0.71**	**313**	A		A		21 51 10.3	
comp=E,50nm,1.0s,comp=E,89nm,0.3s									
JFFD	**Fukushimafurud**	**0.80**	**259**	⇓P		**Pb**		**21 51 11.7**	**-0.7**
JFFD				⇓*e*S		**Sb**		**21 51 22.0**	**-0.8**
JFFD	**Fukushimafurud**	**0.80**	**259**	A		A		21 51 11.7	
comp=E,32nm,1.7s,comp=E,32nm,0.7s									
JMM	**Marumori**	**0.86**	**316**			**Pb**		**21 51 12.1**	**-1.3**
JMM	**Marumori**	**0.86**	**316**	P		**Pb**		**21 51 12.6**	**-0.7**
JMM				S		**Sb**		**21 51 23.7**	**-0.9**
JMM	**Marumori**	**0.86**	**316**	A		A		21 51 12.6	
comp=E,25nm,2.7s,comp=E,34nm,3.5s									
JHO	**Hitachi**	**1.01**	**231**	P		**Pb**		**21 51 14.5**	**-1.3**
JHO				S		**Sb**		**21 51 27.0**	**-1.7**
JHYU	**Hitachinakayam**	**1.19**	**221**	A		A		21 51 17.9	
comp=E,27nm,1.8s,comp=E,39nm,1.3s									
JIO	**Ouri**	**1.22**	**353**	P		**Pn**		**21 51 17.8**	**-1.2**
JIO				S		**Sb**		**21 51 33.4**	**-1.3**
JYAR	**Yonezawaarcadi**	**1.30**	**301**	A		A		21 51 19.4	
comp=E,79nm,1.5s,comp=E,98nm,1.3s									
JOU	**Okura**	**1.32**	**328**	P		**Pn**		**21 51 20.4**	**0.0**
JOU				S		**Sn**		**21 51 37.2**	**-0.3**
JOU	**Okura**	**1.32**	**328**	A		A		21 51 20.4	
comp=E,43nm,1.0s,comp=E,64nm,1.0s									
JSB	**Shiboa**	**1.33**	**259**	P		**Pn**		**21 51 21.0**	**+0.4**
JSB				S		**Sn**		**21 51 37.9**	**+0.2**
JSB	**Shiboa**	**1.33**	**259**	A		A		21 51 21.0	
comp=E,73nm,0.8s,comp=E,68nm,0.7s									
JOFO	**Osakifurukawao**	**1.45**	**340**	A		A		21 51 21.6	
comp=E,138nm,1.8s,comp=E,151nm,2.0s									
JFY	**Yanaizu**	**1.48**	**277**	P		**Pn**		**21 51 23.1**	**+0.5**
JFY				S		**Sn**		**21 51 41.8**	**+0.4**
JFY	**Yanaizu**	**1.48**	**277**	A		A		21 51 23.1	
comp=E,16nm,0.7s,comp=E,29nm,1.9s									
JYT	**Yasato**	**1.49**	**227**	A		A		21 51 22.4	
comp=E,67nm,0.4s,comp=E,54nm,0.4s									
JYS	**Shirataka**	**1.53**	**310**	A		A		21 51 22.8	
comp=E,48nm,1.1s,comp=E,60nm,1.9s									
JYA	**Atsumi**	**1.98**	**313**	A		A		21 51 29.4	
comp=E,26nm,1.2s,comp=E,32nm,1.9s									
JSD	**Sado**	**2.73**	**288**	Pn		**Pn**		**21 51 38.6**	**-1.1**
MJAR	**Matsushiro Arr**	**2.77**	**256**	Pn		**Pn**		**21 51 41.0**	**+0.7**
8.5nm,0.3s,baz=73,slow=8.9,SNR=14									
MJAR				Sn		**Sn**		**21 52 16.1**	**+3.0**
17nm,0.3s,baz=78,slow=15,SNR=5.0									
57nm,0.5s									
MJAR	**Matsushiro Arr**	**2.77**	**256**	P		**Pn**		**21 51 41.0**	**+0.7**
MAJO	**Matsushiro**	**2.77**	**256**	Pn		**Pn**		**21 51 41.1**	**+0.8**
MAJO	**Matsushiro**	**2.77**	**256**	*i* P		**Pn**		**21 51 40.7**	**+0.4**
MJB9	**Matsu-Tunnel**	**2.77**	**256**	Pn		**Pn**		**21 51 41.8**	**+1.5**
JKEN	**Kujiedanarisaw**	**2.96**	**2**	A		A		21 51 43.4	
comp=E,24nm,1.2s,comp=E,36nm,0.9s									
JTM	**Tenmabayashi**	**3.56**	**354**	Pn		**Pn**		**21 51 51.5**	**+0.4**
JGF	**Kuroka**	**3.76**	**245**	Pn		**Pn**		**21 51 55.6**	**+1.6**
JAHD	**Aomorihigashid**	**4.02**	**358**	A		A		21 51 58.4	
comp=E,20nm,1.0s,comp=E,20nm,1.3s									
INU	**Inuyama**	**4.12**	**244**	Pn		**Pn**		**21 51 59.9**	**+1.0**
JHJ2	**Mitsune**	**4.36**	**199**	Pn		**Pn**		**21 52 03.0**	**+0.9**
JHJ	**Hachijo jima 2**	**4.36**	**200**	Pn		**Pn**		**21 52 03.2**	**+1.1**
103nm,0.3s,baz=302,slow=22,SNR=13									
JHJ				Sn		**Sn**		**21 52 50.9**	**-1.6**
261nm,0.3s,baz=245,slow=23,SNR=9.2									
224nm,0.3s									
ERM	**Erimo**	**4.92**	**14**	Pn		**Pn**		**21 52 08.9**	**-0.9**
ERM	**Erimo**	**4.92**	**14**	*i* P		**Pn**		**21 52 09.0**	**-0.9**
ASAJ	**Asahikawa**	**6.91**	**6**	P		**Pn**		**21 52 35.4**	**-1.8**
JKA	**Kamikawa-asahi**	**6.91**	**6**	Pn		**Pn**		**21 52 35.4**	**-1.8**
JMN	**Monobe**	**7.17**	**243**	Pn		**Pn**		**21 52 40.4**	**-0.4**
JHS	**Saijyo**	**7.18**	**254**	Pn		**Pn**		**21 52 43.7**	**+2.8**
KUR	**Kuril'sk**	**9.29**	**29**	*e*P		**Pn**		**21 53 11.9**	**+2.1**
KUR				*e*S		**Sn**		**21 54 57.4**	**+3.8**
YSS	**Yuzh-Sakhalins**	**9.74**	**5**	Pn		**Pn**		**21 53 15.2**	**-0.8**
YSS	**Yuzh-Sakhalins**	**9.74**	**5**	*e*P		**Pn**		**21 53 15.6**	**-0.4**
YSS				pmax		pmax			
comp=E,50nm,0.7s									
USRK	**Ussuriysk Ar.**	**10.04**	**317**	Pn		Pn		21 53 24.5	+4.4
comp=Z,0.7nm,0.3s,baz=133,slow=13,SNR=8.2									
USRK	**Ussuriysk Ar.**	**10.04**	**317**	Pn		**Pn**		**21 53 21.8**	**+1.7**
USRK	**Ussuriysk Ar.**	**10.04**	**317**	P		**Pn**		**21 53 21.8**	**+1.7**
USA0B	**Ussuriysk Arra**	**10.04**	**317**	Pn		**Pn**		**21 53 21.3**	**+1.2**
USA0B	**Ussuriysk Arra**	**10.04**	**317**	*i* P		**Pn**		**21 53 20.5**	**+0.4**
JCJ	**Chichijima**	**10.13**	**177**	Pn		Pn		21 53 18.6	-2.9
comp=Z,16nm,0.3s,baz=268,slow=19,SNR=15									
JCJ				Sn		Sn		21 55 03.6	-11
comp=Z,25nm,0.3s,baz=285,slow=23,SNR=6.6									
JCJ	**Chichijima**	**10.13**	**177**	Pn		**Pn**		**21 53 19.8**	**-1.6**
KSRS	**Korea Array**	**10.85**	**275**	Pn		**Pn**		**21 53 34.8**	**+3.6**
comp=Z,0.5nm,0.3s,baz=92,slow=13,SNR=8.3									
KLR	**Kul'dur**	**13.93**	**332**	Pn		**Pn**		**21 54 16.1**	**+2.9**
comp=Z,0.5nm,0.3s,baz=156,slow=7.1,SNR=7.8									
KLR	**Kul'dur**	**13.93**	**332**	*i* P		**Pn**		**21 54 13.4**	**+0.2**
JOW	**Kunigami**	**15.29**	**231**	P		**P**		**21 54 36.6**	**+0.1**
HEH	**HeiHe**	**16.50**	**326**	*e*P		**Pn**		**21 54 46.0**	**-1.1**
ZEA	**Zeya**	**19.24**	**334**	*e*P		**P**		**21 55 20.5**	**+0.6**
ZEA				pmax		pmax			
comp=N,20nm,0.6s									
ZEA				pmax		pmax			
comp=Z,30nm,0.7s									
NJ2	**Nanjing**	**19.36**	**261**	*e*P		**P**		**21 55 20.9**	**-0.5**
NJ2				pmax		pmax			
comp=Z,11nm,0.7s									
TIA	**Tai'an**	**19.60**	**274**	P		**P**		**21 55 22.9**	**-1.1**
TIA				pmax		pmax			
comp=Z,10.0nm,0.8s									
BJT	**Baijiatuau**	**20.00**	**286**	P		**P**		**21 55 27.6**	**-0.8**
BJT	**Baijiatuau**	**20.00**	**286**	P		**P**		**21 55 27.6**	**-0.8**
BJT				pmax		pmax			
comp=Z,29nm,1.4s									
YHNB	**Yeheng**	**21.31**	**240**	P		**P**		**21 55 40.9**	**-1.8**
YHNB				IAmb		IAmb		21 55 57.4	
comp=Z,61nm,1.8s									
HNS	**HongShan**	**21.33**	**279**	⇑P		**P**		**21 55 40.5**	**-2.2**
HNS				pmax		pmax			
comp=Z,30nm,0.9s									
NACB	**Ninganchiao**	**21.49**	**238**	P		**P**		**21 55 41.8**	**-2.8**
YULB	**Yu-li**	**22.21**	**237**	P		**P**		**21 55 48.7**	**-3.6**
YULB				IAmb		IAmb		21 56 04.5	
comp=Z,89nm,2.0s									
TPUB	**Ta-pu**	**22.73**	**238**	P		**P**		**21 55 54.4**	**-3.4**
TWG	**Pinlang**	**22.75**	**237**	P		**P**		**21 55 57.7**	**-0.4**
TWG				IAmb		IAmb		21 56 02.7	
comp=Z,27nm,0.6s									
MA2	**Magadan**	**23.13**	**12**	P		**P**		**21 56 02.0**	**+0.4**
comp=Z,18nm,0.7s,baz=201,slow=10,SNR=9.2									
comp=Z,18nm,0.7s									
MA2	**Magadan**	**23.13**	**12**	P		**P**		**21 56 01.7**	**+0.1**
MA2	**Magadan**	**23.13**	**12**	P		**P**		**21 56 01.7**	**+0.1**
MA2				pmax		pmax			
comp=Z,390nm,2.0s									
HHC	**Hu-ho-hao-te**	**23.51**	**288**	*e*P		**P**		**21 56 05.3**	**-0.5**
YAK	**Yakutsk**	**25.89**	**347**	P		**P**		**21 56 27.1**	**-0.2**
comp=Z,62nm,0.7s,baz=358,slow=2.2,SNR=33									
comp=Z,62nm,0.7s									
YAK	**Yakutsk**	**25.89**	**347**	P		**P**		**21 56 27.1**	**-0.2**
YAK	**Yakutsk**	**25.89**	**347**	*c i*P		**P**		**21 56 26.8**	**-0.5**
YAK				pmax		pmax			
comp=Z,90nm,0.8s									
SEY	**Seymchan**	**26.56**	**11**	P		**P**		**21 56 34.8**	**+1.4**
comp=Z,12nm,0.8s,baz=185,slow=8.7,SNR=9.0									
comp=Z,12nm,0.8s									
SEY	**Seymchan**	**26.56**	**11**	*i* P		**P**		**21 56 35.2**	**+1.8**
SEY				pmax		pmax			
comp=Z,20nm,1.0s									
XAN	**Xi'an**	**26.64**	**273**	⇓P		**P**		**21 56 34.0**	**-0.4**
XAN				pmax		pmax			
comp=Z,9.0nm,0.6s									
ULN	**Ulaanbaatar**	**27.33**	**304**	P		**P**		**21 56 40.8**	**+0.2**
ULN	**Ulaanbaatar**	**27.33**	**304**	P		**P**		**21 56 41.7**	**+1.1**
ULN	**Ulaanbaatar**	**27.33**	**304**	*i* P		**P**		**21 56 39.9**	**-0.7**
ULN				pmax		pmax			
comp=Z,10.0nm,1.0s									
BOD	**Bodaibo**	**27.41**	**327**	*e*P		**P**		**21 56 40.5**	**-0.6**
BOD				pmax		pmax			
comp=Z,12nm,0.7s									
ENH	**Enshi**	**27.46**	**265**	P		**P**		**21 56 41.5**	**-0.3**
ENH				IAmb		IAmb		21 56 42.7	
comp=Z,29nm,1.1s									
SONM	**Songino Array**	**27.76**	**304**	P		**P**		**21 56 43.8**	**-0.7**
comp=Z,14nm,0.9s,baz=100,slow=8.8,SNR=33									
SONM				PcP		**PcP**		**22 00 01.2**	**+0.6**
comp=Z,0.8nm,0.6s,baz=149,slow=1.8,SNR=3.6									
comp=Z,14nm,0.9s									
SONM	**Songino Array**	**27.76**	**304**	P		**P**		**21 56 44.1**	**-0.4**
SONM	**Songino Array**	**27.76**	**304**	P		**P**		**21 56 44.1**	**-0.4**
SONM				pmax		pmax			
comp=Z,13nm,1.0s									
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T		T		22 26 19.9	
baz=314,slow=75,SNR=20									
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T		T		22 26 15.4	
baz=314,slow=75,SNR=28									
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T		T		22 26 12.9	
baz=314,slow=75,SNR=29									
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T		T		22 27 08.7	
baz=316,slow=76,SNR=28									
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T		T		22 27 09.6	
baz=316,slow=76,SNR=19									
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T		T		22 27 08.1	
baz=316,slow=76,SNR=23									
ZAK	**Zakamensk**	**30.23**	**308**	*e*P		**P**		**21 57 04.5**	**-1.8**
ZAK				pmax		pmax			
comp=Z,9.0nm,1.0s									
GYA	**Guiyang**	**31.36**	**260**	⇑P		**P**		**21 57 15.8**	**-0.8**
GYA				pmax		pmax			
comp=Z,21nm,1.3s									
GTA	**Gaotai**	**32.60**	**287**	⇓P		**P**		**21 57 26.9**	**-0.5**
GTA				pP		pP		21 57 31.5	-1.9
GTA				sP		sP		21 57 34.1	-1.6
GTA				pmax		pmax			
comp=Z,6.0nm,0.7s									
BILL	**Bilibino**	**33.80**	**16**	*i* P		**P**		**21 57 35.6**	**-1.7**
BILL				*e*				21 58 54.3	
BILL				pmax		pmax			
comp=Z,7.0nm,1.2s									
BILL				MLR		MLR			
comp=Z,8μm,13.0s									
TIXI	**Tiksi**	**35.09**	**353**	P		**P**		**21 57 48.3**	**-0.1**
comp=Z,3.0nm,0.5s,baz=35,slow=0.2,SNR=18									
comp=Z,3.0nm,0.5s									
TIXI	**Tiksi**	**35.09**	**353**	P		**P**		**21 57 47.1**	**-1.4**
TIXI	**Tiksi**	**35.09**	**353**	*i* P		**P**		**21 57 47.6**	**-0.9**
TIXI				pmax		pmax			
comp=Z,6.0nm,1.9s									
KMI	**Kunming**	**35.10**	**261**	⇓P		**P**		**21 57 49.4**	**+0.1**
KMI				pmax		pmax			
comp=Z,27nm,0.8s									
PZH	**PanZhiHua**	**35.23**	**264**	P		**P**		**21 57 49.8**	**-0.5**
PZH				pmax		pmax			
comp=Z,20nm,0.7s									
MYLDM	**Lahad Datu**	**38.24**	**219**	P		**P**		**21 58 17.6**	**+1.7**
MYLDM	**Lahad Datu**	**38.24**	**219**	P		P		21 58 24.5	+8.6
comp=Z,50nm,1.1s									
TNCH	**TengChong**	**38.49**	**264**	P		**P**		**21 58 18.4**	**+0.3**
TNCH				pP		pP		21 58 22.4	-1.7
TNCH				sP		sP		21 58 24.3	-2.2
TNCH				pmax		pmax			
comp=Z,18nm,1.1s									
MWPI	**Manokwari, Pap**	**38.62**	**192**	P		P		21 58 27.7	+8.7
comp=Z,43nm,1.2s									
UBPT	**Khong Chiam**	**38.71**	**245**	P		**P**		**21 58 19.8**	**-0.1**
UBPT				IAmb		IAmb		21 58 21.5	
comp=Z,20nm,0.8s									
UBPT	**Khong Chiam**	**38.71**	**245**	P		P		**21 58 23.4**	**+3.5**
comp=Z,26nm,1.3s									
GTOI	**Gorontalo**	**40.25**	**209**	P		P		21 58 39.7	+7.0
comp=Z,19nm,1.3s									
DGZ	**Jazzator, Alta**	**40.36**	**306**	*i* P		**P**		**21 58 34.3**	**+0.9**
DGZ				pmax		pmax			
comp=Z,48nm,0.9s									
PHRA	**Phrae**	**40.64**	**254**	P		**P**		**21 58 35.6**	**-0.3**
MRSI	**Marisa**	**40.83**	**211**	P		P		21 58 44.8	+7.4
comp=Z,22nm,0.9s									
WMQ	**Urumqi**	**40.84**	**297**	*e*P		**P**		**21 58 39.6**	**+2.2**
WMQ				pmax		pmax			
comp=Z,42nm,0.9s									
FAKI	**Fak Fak**	**40.88**	**194**	P		**P**		**21 58 36.9**	**-0.9**
FAKI	**Fak Fak**	**40.88**	**194**	P		P		21 58 46.5	+8.6
comp=Z,18nm,0.8s									
CHTO	**Chiang Mai**	**41.45**	**256**	P		**P**		**21 58 41.5**	**-1.1**
CHTO	**Chiang Mai**	**41.45**	**256**	P		**P**		**21 58 45.7**	**+3.1**
comp=Z,3μmcomp=Z,149nm,1.0s									
CHTO	**Chiang Mai**	**41.45**	**256**	P		**P**		**21 58 41.5**	**-1.1**
CHTO				pmax		pmax			
comp=Z,11nm,1.3s									
CM31	**Chiang Mai Arr**	**41.66**	**255**	P		**P**		**21 58 44.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**41.66**	**255**	P		**P**		**21 58 44.7**	**+0.4**
comp=Z,3.3nm,0.7s,baz=47,slow=5.9,SNR=24									
CMAR				PcP		**PcP**		**22 00 42.3**	**+1.3**
comp=Z,1.4nm,0.8s,baz=356,slow=2.9,SNR=4.9									
comp=Z,3.3nm,0.7s									
CMAR	**Chiang Mai Arr**	**41.66**	**255**	P		**P**		**21 58 43.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**41.66**	**255**	*i* P		**P**		**21 58 45.2**	**+0.9**
CMAR				pmax		pmax			
comp=Z,3.0nm,0.7s									
ZAA0	**Zalesovo Array**	**41.85**	**312**	P		**P**		**21 58 44.8**	**-0.7**
ZAA0				IAmb		IAmb		21 58 47.0	
comp=Z,30nm,0.9s									
ZALV	**Zalesovo Beam**	**41.85**	**312**	P		**P**		**21 58 46.1**	**+0.6**
comp=Z,24nm,0.8s,baz=90,slow=7.4,SNR=49									
ZALV				PcP		**PcP**		**22 00 41.2**	**+0.2**
comp=Z,1.4nm,0.5s,baz=96,slow=5.8,SNR=2.4									
comp=Z,24nm,0.8s									
ZALV	**Zalesovo Beam**	**41.85**	**312**	P		**P**		**21 58 44.9**	**-0.5**
ZALV	**Zalesovo Beam**	**41.85**	**312**	*i* P		**P**		**21 58 45.7**	**+0.2**
ZALV				pmax		pmax			
comp=Z,24nm,0.8s									
LUWI	**Luwuk**	**41.88**	**209**	P		P		21 58 53.8	+7.8
comp=Z,41nm,1.0s									
KRAI	**Karang Ratu**	**42.17**	**200**	P		P		21 58 57.6	+9.2
comp=Z,39nm,1.0s									
APSI	**Ampana**	**42.20**	**210**	P		P		21 58 56.4	+7.7
comp=Z,46nm,1.2s									
LSA	**Lhasa**	**42.30**	**275**	P		**P**		**21 58 49.8**	**-0.2**
LSA	**Lhasa**	**42.30**	**275**	P		**P**		**21 58 49.8**	**-0.2**
LSA				pmax		pmax			
comp=Z,9.0nm,0.7s									
NLAI	**Namlea**	**42.46**	**202**	P		P		21 58 58.3	+7.5
comp=Z,7.3nm,0.6s									
NRIK	**Noril'sk**	**43.12**	**335**	P		**P**		**21 58 55.7**	**+0.1**
comp=Z,3.1nm,0.5s,baz=100,slow=12,SNR=3.5									
NRIK				PcP		**PcP**		**22 00 45.9**	**+0.9**
comp=Z,4.0nm,0.6s,baz=111,slow=9.0,SNR=2.6									
comp=Z,3.1nm,0.5s									
NRIK	**Noril'sk**	**43.12**	**335**	P		**P**		**21 58 55.0**	**-0.6**
SBUM	**Sibu**	**43.89**	**225**	P		P		21 59 09.7	+7.3
comp=Z,12nm,1.3s									
MK31	**Makanchi Array**	**44.10**	**302**	P		P		**21 59 03.4**	**-0.4**
MK31				IAmb		IAmb		21 59 05.0	
comp=Z,17nm,0.8s									
MK31	**Makanchi Array**	**44.10**	**302**	*i* P		**P**		**21 59 03.6**	**-0.2**
MKAR	**Makanchi Array**	**44.10**	**302**	P		**P**		**21 59 04.3**	**+0.5**
comp=Z,17nm,0.8s,baz=89,slow=9.5,SNR=47									
comp=Z,17nm,0.8s									
MKAR	**Makanchi Array**	**44.10**	**302**	P		**P**		**21 59 03.0**	**-0.8**
MAKZ	**Makanchi**	**44.31**	**302**	P		**P**		**21 59 05.0**	**-0.5**
MAKZ				IAmb		IAmb		21 59 06.7	
comp=Z,19nm,0.8s									
MAKZ	**Makanchi**	**44.31**	**302**	P		**P**		**21 59 05.0**	**-0.5**
MAKZ				pmax		pmax			
comp=Z,19nm,0.9s									
MMSI	**Mamuju**	**44.96**	**213**	P		P		21 59 18.4	+7.5
comp=Z,3μmcomp=Z,14nm,0.5s									
MTKI	**Muara Teweh, K**	**45.31**	**219**	P		P		21 59 21.0	+7.3
SPSI	**Sidrap Palu**	**45.74**	**211**	P		P		21 59 24.7	+7.6
comp=Z,19nm,1.1s									
KSM	**Kuching**	**45.77**	**226**	P		**P**		**21 59 18.3**	**+0.9**
KSM	**Kuching**	**45.77**	**226**	P		P		21 59 22.9	+5.5
comp=Z,38nm,0.8s									
KURK	**Kurchatov**	**45.89**	**308**	P		**P**		**21 59 16.9**	**-1.0**
KURK	**Kurchatov**	**45.89**	**308**	P		**P**		**21 59 18.5**	**+0.6**
KURBB	**Kurchatov Arra**	**45.96**	**308**	P		**P**		**21 59 18.5**	**0.0**
comp=Z,12nm,0.4s,baz=81,slow=7.7,SNR=23									
comp=Z,12nm,0.4s									
TAPN	**Taplejung**	**46.03**	**274**	*e*P		**P**		**21 59 19.5**	**-0.3**
comp=Z,13nm,0.4s									
IMAR	**Indian Mountai**	**46.42**	**31**	P		**P**		**21 59 22.1**	**+0.2**
KAPI	**Kappang**	**46.70**	**211**	P		**P**		**21 59 24.7**	**+0.1**
comp=Z,8.0nm,0.6s,baz=7.0,slow=4.7,SNR=4.2									
comp=Z,8.0nm,0.6s									
KAPI	**Kappang**	**46.70**	**211**	P		P		21 59 33.4	+8.8
comp=Z,41nm,1.0s									
I21K	**Tanana**	**47.09**	**32**	P		**P**		**21 59 27.8**	**+0.6**
RAMN	**Ramite**	**47.10**	**274**	*e*P		**P**		**21 59 28.1**	**+0.1**
comp=Z,66nm,1.0s									
JIRN	**Jiri**	**47.11**	**275**	*e*P		**P**		**21 59 28.6**	**+0.3**
comp=Z,9.0nm,0.4s									
GUN	**Gumba**	**47.24**	**276**	*e*P		**P**		**21 59 29.4**	**+0.1**
SRIT	**Nakonsritamara**	**47.43**	**244**	P		**P**		**21 59 30.8**	**+0.3**
MLY	**Manley**	**47.62**	**32**	IAmb		IAmb		21 59 34.3	
comp=Z,9.8nm,1.2s									
SKLT	**Songkhla**	**47.70**	**242**	P		**P**		**21 59 35.4**	**+2.9**
PKI	**Pulchoki**	**47.77**	**275**	*e*P		**P**		**21 59 33.5**	**+0.2**
comp=Z,10nm,0.6s									
PKIN	**Phulchoki**	**47.77**	**275**	*e*P		**P**		**21 59 33.0**	**-0.3**
comp=Z,7.5nm,0.5s									
DMN	**Daman**	**47.99**	**276**	*e*P		**P**		**21 59 34.8**	**-0.2**
comp=Z,8.2nm,0.5s									
GKN	**Gorkha**	**48.19**	**276**	*e*P		**P**		**21 59 36.2**	**-0.2**
TOLK	**Toolik Lake Re**	**48.23**	**27**	P		**P**		**21 59 37.3**	**+1.2**
GHO	**Glory Hole Cre**	**48.48**	**37**	P		**P**		**21 59 37.4**	**-0.7**
GHO				IAmb		IAmb		21 59 47.0	
comp=Z,19nm,0.9s									
MDM	**Murphy Dome**	**48.68**	**32**	P		**P**		**21 59 39.5**	**0.0**
MDM				IAmb		IAmb		21 59 41.9	
comp=Z,12nm,1.0s									
KNK	**Knik Glacier**	**48.73**	**37**	P		**P**		**21 59 39.9**	**-0.1**
DANN	**Dangsing**	**48.73**	**277**	*e*P		**P**		**21 59 41.3**	**+0.6**
comp=Z,94nm,0.9s									
SML	**Sawmill**	**48.76**	**36**	P		**P**		**21 59 40.1**	**-0.1**
SML				IAmb		IAmb		21 59 49.2	
comp=Z,16nm,0.8s									
KULM	**Kulim**	**49.02**	**240**	P		**P**		**21 59 42.8**	**+0.1**
KULM				IAmb		IAmb		21 59 49.9	
comp=Z,15nm,1.4s									
KOLN	**Koldanda**	**49.11**	**277**	*e*P		**P**		**21 59 43.6**	**0.0**
HDA	**Harding Lake**	**49.25**	**33**	IAmb		IAmb		21 59 45.5	
comp=Z,7.9nm,0.9s									
IL31		**49.26**	**32**	IAmb		IAmb		21 59 45.9	
comp=Z,9.0nm,0.8s									
ILAR	**Eielson Array**	**49.26**	**32**	P		**P**		**21 59 45.0**	**+1.1**
comp=Z,5.2nm,0.8s,baz=269,slow=6.5,SNR=22									
comp=Z,5.2nm,0.8s									
ILAR	**Eielson Array**	**49.26**	**32**	P		**P**		**21 59 44.1**	**+0.2**
IPM	**Ipoh**	**49.34**	**239**	P		**P**		**21 59 44.7**	**-0.5**
IPM				IAmb		IAmb		21 59 52.6	
comp=Z,14nm,0.6s									
IPM	**Ipoh**	**49.34**	**239**	P		**P**		**21 59 49.6**	**+4.4**
comp=Z,19nm,0.8s	

WRAB pmax pmax
comp=Z,17nm,1.2s
WR0 Warramunga Arr 57.28 188 IAmb IAmb 22 00 50.2
comp=Z,9.1nm,0.7s
WB2 Warramunga Arr 57.28 188 P **P** **22 00 43.0 -0.4**
WB2 IAmb IAmb 22 00 50.3
comp=Z,11nm,0.8s
WRA Warramunga Arr 57.28 188 P **P** **22 00 43.4 +0.1**
comp=Z,6.4nm,0.7s,baz=6.0,slow=7.4,SNR=22
comp=Z,6.4nm,0.7s
WRA Warramunga Arr 57.28 188 *i* P **P** **22 00 43.0 -0.4**
WRA pmax pmax
comp=Z,6.0nm,0.7s
KBL Kabul 57.44 291 P **P** **22 00 43.4 -1.4**
KBL IAmb IAmb 22 00 45.9
comp=Z,17nm,1.1s
KBL Kabul 57.44 291 P **P** **22 00 43.4 -1.4**
KBL pmax pmax
comp=Z,17nm,1.1s
ABKAR Akbulak array 57.89 310 P **P** **22 00 47.0 -0.4**
EUNU Eureka 59.96 9 P **P** **22 01 01.4 -0.1**
EUNU IAmb IAmb 22 01 02.8
comp=Z,11nm,0.7s
PRGR Permogore 60.65 327 *e*P **P** **22 01 05.5 -0.8**
PRGR *e* 22 01 48.3
PRGR pmax pmax
comp=Z,26nm,1.2s
AS31 Alice Springs 61.01 188 P **P** **22 01 08.0 -1.2**
ASAR Alice Springs 61.01 188 P **P** **22 01 09.3 +0.1**
comp=Z,3.6nm,0.8s,baz=9.5,slow=5.6,SNR=16
comp=Z,3.6nm,0.8s
ASAR Alice Springs 61.01 188 P **P** **22 01 08.8 -0.4**
HRA Herat 62.53 294 P **P** **22 01 19.4 -0.3**
HRA IAmb IAmb 22 01 21.5
comp=Z,18nm,1.3s
YKA Yellowknife Ar 63.57 30 *i* P **P** **22 01 26.8 +0.9**
comp=Z,2.8nm,0.8s,baz=299,slow=6.7,SNR=3.8
comp=Z,2.8nm,0.8s
YKA Yellowknife Ar 63.57 30 *i* P **P** **22 01 26.5 +0.6**
YKA pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 63.64 328 *e*P **P** **22 01 23.0 -3.3**
KLMR AMP 22 01 27.5
comp=Z,37nm,1.6s
KLMR Klimovskoe 63.64 328 *e*P **P** **22 01 23.0 -3.3**
KLMR pmax pmax
comp=Z,37nm,1.6s
BELG Belogornoye 63.72 317 *i* P **P** **22 01 25.8 -1.2**
BELG pmax pmax
comp=Z,7.0nm,0.9s
GEYT Alibeck 63.83 299 P **P** **22 01 28.9 +0.8**
comp=Z,16nm,0.6s,baz=60,slow=7.0,SNR=1.2
comp=Z,16nm,0.6s
ARCES ARCESS Array B 63.84 339 P **P** **22 01 28.3 +0.7**
comp=Z,8.7nm,0.8s,baz=58,slow=7.6,SNR=29
comp=Z,8.7nm,0.8s
ARCES ARCESS Array B 63.84 339 P **P** **22 01 27.7 +0.2**
WAPA Wapiti River 65.13 39 P **P** **22 01 37.0 +0.7**
VRH Novokhopyorsk 67.50 318 *e*P **P** **22 01 49.8 -1.6**
VRH pmax pmax
comp=Z,20nm,0.6s
OBN Obninsk 67.99 323↓ *e*P **P** **22 01 54.0 -0.5**
OBN *e* 22 04 22.6
OBN pmax pmax
comp=Z,16nm,1.1s
OBN MLR MLR
comp=Z,7μm,16.0s
LPSR Galich'ya Gora 68.21 320 *e*P **P** **22 01 53.9 -2.0**
LPSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 68.57 319 *e*P **P** **22 01 58.0 -0.2**
VORR pmax pmax
comp=Z,40nm,0.4s
FIA1 FINESS Array S 68.68 332 P **P** **22 01 59.0 +0.3**
FINES FINESS Array B 68.68 332 P **P** **22 01 59.0 +0.3**
comp=Z,9.6nm,0.7s,baz=40,slow=8.0,SNR=25
comp=Z,9.6nm,0.7s
FINES FINESS Array B 68.68 332 P **P** **22 01 57.5 -1.2**
FINES FINESS Array B 68.68 332 *i* P **P** **22 01 58.7 0.0**
FINES pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 68.76 180 P **P** **22 02 00.1 +0.6**
comp=Z,3.2nm,0.6s,baz=356,slow=11,SNR=6.8
comp=Z,3.2nm,0.6s
STKA Stephens Creek 68.76 180 P **P** **22 01 59.5 0.0**
VSR Storozhevoye 68.84 319 *e*P **P** **22 01 58.3 -1.6**
VSR pmax pmax
comp=Z,20nm,1.2s
EDM Edmonton 69.11 38 P **P** **22 02 02.5 +0.9**
EDM Edmonton 69.11 38 P **P** **22 02 02.5 +0.9**
EDM pmax pmax
comp=Z,25nm,1.3s
NEW Newport 69.90 44 P **P** **22 02 08.0 +1.5**
comp=Z,2.0nm,0.6s,baz=325,slow=10,SNR=4.0
comp=Z,2.0nm,0.6s
YBH Yreka Blue Hor 70.13 52 P **P** **22 02 10.1 +2.0**
comp=Z,2.2nm,0.8s,baz=16,slow=22,SNR=4.4
comp=Z,2.2nm,0.8s
NCK Nalchik 70.55 310 *ce*P **P** **22 02 08.8 -1.8**
NCK pmax pmax
comp=Z,9.0nm,1.0s
K05A Summer Lake 70.73 51 P **P** **22 02 11.3 -0.6**
K05A IAmb IAmb 22 02 15.2
comp=Z,20nm,1.1s
ZEI Tsey 70.75 309 *e*P **P** **22 02 10.8 -1.3**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
KBZ Khabaz 70.85 311 P **P** **22 02 13.2 +0.9**
comp=Z,10.0nm,0.9s,baz=20,slow=0.8,SNR=9.8
comp=Z,10.0nm,0.9s
KIV Kislovodsk 70.85 311 ↑P **P** **22 02 13.1 +0.6**
KIV Kislovodsk 70.85 311 P **P** **22 02 12.3 -0.3**
KIV Kislovodsk 70.85 311 P **P** **22 02 14.2 +1.7**
KIV Kislovodsk 70.85 311 *e*P **P** **22 02 14.4 +1.9**
KIV pmax pmax
comp=Z,30nm,1.0s
BANOM Banah 71.24 289 P **P** **22 02 16.0 +0.9**
SHME Shamm 71.30 289 P **P** **22 02 16.1 +0.7**
MOD Modoc Plateau 71.55 51 IAmb IAmb 22 02 19.6
comp=Z,11nm,1.3s
MSFE Esma-Masafi 71.66 288 P **P** **22 02 18.1 +0.5**
GNI Garni 71.67 307 P **P** **22 02 18.5 +0.9**
BMO Blue Mountains 71.71 47 IAmb IAmb 22 02 26.7
comp=Z,6.4nm,0.8s
UOSS Minazif 71.85 288 P **P** **22 02 18.8 +0.1**
J08A Circle Bar Ran 71.86 49 IAmb IAmb 22 02 28.0
comp=Z,8.7nm,1.0s
HATD Hatta, Dubai 71.97 288 P **P** **22 02 20.1 +0.6**
ASHO Ashiyiah 72.10 288 P **P** **22 02 20.1 -0.2**
FAQ Al Faqa, Dubai 72.42 288 P **P** **22 02 22.4 +0.2**
BEKR Beckworth 72.64 53 P **P** **22 02 24.3 +0.8**
BEKR IAmb IAmb 22 02 25.9
comp=Z,7.5nm,1.0s
ASUD Al Ashush, Dub 72.69 288 P **P** **22 02 24.0 +0.3**
MFID Camas Ranch 73.40 48 IAmb IAmb 22 02 30.0
comp=Z,8.6nm,1.1s
HRY Holter Researc 73.73 43 P **P** **22 02 31.2 +1.5**
NB2 NORSAR Subarra 74.03 337 P **P** **22 02 31.4 +0.3**
comp=Z,12nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 74.03 337 P **P** **22 02 31.4 +0.3**
comp=Z,3.8nm,0.6s,baz=39,slow=6.0,SNR=23
comp=Z,3.8nm,0.6s
EGMT Eagleton 74.04 41 IAmb IAmb 22 03 27.5
comp=Z,23nm,1.2s
AKASG Malin Array Be 74.20 322 P **P** **22 02 32.1 0.0**
comp=Z,4.9nm,0.4s,baz=46,slow=6.1,SNR=54
comp=Z,4.9nm,0.4s
AKASG Malin Array Be 74.20 322 P **P** **22 02 31.6 -0.6**
AKASG Malin Array Be 74.20 322 *i* P **P** **22 02 32.0 -0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKBB Malin Array Si 74.20 322 P **P** **22 02 32.0 -0.2**
AKBB IAmb IAmb 22 02 32.6
comp=Z,12nm,0.6s
AKBB Malin Array Si 74.20 322 P **P** **22 02 32.0 -0.2**
AKBB pmax pmax
comp=Z,12nm,0.6s
MCMT McKenzie Canyo 74.30 45 P **P** **22 02 33.8 +0.6**
BOZ Bozeman (W) 74.52 44 IAmb IAmb 22 02 36.8
comp=Z,7.1nm,0.8s
KVN Kaiserville 74.55 53 IAmb IAmb 22 02 37.5
comp=Z,8.0nm,1.0s
LHV Little Huntoon 74.75 53 IAmb IAmb 22 02 45.5
comp=Z,13nm,1.0s
NVAR Mina Array Bea 74.78 53 P **P** **22 02 36.3 +0.2**
comp=Z,3.7nm,0.8s
NVAR Mina Array Bea 74.78 53 P **P** **22 02 37.0 -0.3**
MZR Muzera 74.99 288 P **P** **22 02 37.0 -0.3**
QLMT Earthquake Lak 75.10 45 P **P** **22 02 39.0 +1.2**
ELK Elko 75.33 50 P **P** **22 02 41.3 +2.1**
comp=Z,0.8nm,0.6s,baz=326,slow=3.5,SNR=4.1
comp=Z,0.8nm,0.6s
GCMT Greycliff 75.48 43 P **P** **22 02 39.5 -0.4**
MARD Mardin 75.83 306 P **P** **22 02 42.5 +0.5**
IMW Indian Meadow 75.95 45 IAmb IAmb 22 02 52.6
comp=Z,9.7nm,0.8s
TPNV Topopah Spring 76.96 53 IAmb IAmb 22 02 57.5
comp=Z,6.4nm,0.9s
HWUT Hardware Ranch 77.01 47 IAmb IAmb 22 02 58.1
comp=Z,9.7nm,1.2s
DUG Dugway, Tooele 77.14 49 IAmb IAmb 22 02 58.8
comp=Z,6.3nm,0.8s
QSM Queen of Sheba 77.15 55 IAmb IAmb 22 02 51.9
comp=Z,11nm,1.1s
TCUT Tonque Canyon 77.40 48 IAmb IAmb 22 02 53.7
comp=Z,39nm,1.9s
PDAR Pinedale Array 77.44 46 P **P** **22 02 52.2 +1.0**
comp=Z,2.0nm,0.8s,baz=279,slow=2.9,SNR=10.0
comp=Z,2.0nm,0.8s
VLDR Vladesti 77.95 319 ↑P **P** **22 02 54.2 +0.6**
BUR08 Bucovina Ar. S 78.20 322 P **P** **22 02 55.5 +0.3**
BUR08 IAmb IAmb 22 03 03.3
comp=Z,8.2nm,1.1s
BURAR Bucovina Array 78.21 322 ↓P **P** **22 02 54.7 -0.5**
BURAR Bucovina Array 78.21 322 P **P** **22 02 54.8 -0.5**
BURAR IAmb IAmb 22 03 03.7
comp=Z,8.0nm,1.0s
TESR Tescani 78.24 320 ↑P **P** **22 02 54.7 -0.6**
CFR Carcaliu 78.36 318 ↑P **P** **22 02 56.1 +0.2**
TPGR Topolog 78.42 318 ↓P **P** **22 02 56.8 +0.4**
CCUT Cedar City 78.43 52 IAmb IAmb 22 03 06.1
comp=Z,9.6nm,1.3s
VRI Vrincioaia 78.64 320 ↓P **P** **22 02 59.3 +1.8**
PLOR Plostina 78.69 320 ↑P **P** **22 02 58.7 +0.9**
BRTR Keskin Array B 78.79 312 P **P** **22 02 59.1 +0.5**
comp=Z,1.7nm,0.6s,baz=79,slow=3.8,SNR=8.3
comp=Z,1.7nm,0.6s
HARR Harsova 78.80 318 ↓P **P** **22 02 58.8 +0.4**
TLBR Topalu 78.83 318 ↑P **P** **22 02 59.2 +0.7**
RDMU Red Mountain 78.83 47 IAmb IAmb 22 03 01.7
comp=Z,11nm,1.1s
P17A Butcher Ranch, 78.83 49 P **P** **22 02 58.4 -0.5**
P17A IAmb IAmb 22 03 01.8
comp=Z,13nm,1.3s
STHS Stebnicka Huta 78.85 325 *eP* **P** **22 02 58.8 +0.2**
STHS Stebnicka Huta 78.85 325 *eP* **P** **22 02 58.8 +0.2**
MTPU Mount Pierson 78.85 51 IAmb IAmb 22 03 08.3
comp=Z,32nm,1.9s
UZH Uzhgorod 78.92 324 *eP* P 22 03 05.7 +6.8
UZH *e* 22 03 13.0
COVR Voineasa-Covas 78.92 320 ↑P **P** **22 03 00.1 +1.0**
P18A Preston Nutter 79.03 48 IAmb IAmb 22 03 44.5
comp=Z,30nm,2.0s
TRPA Tarpa 79.16 323 ↑P **P** **22 03 01.1 +0.9**
DOPR Dopca 79.25 320 ↑P **P** **22 03 02.0 +1.1**
MLR Muntele Rosu 79.30 320 ↑P **P** **22 03 00.8 -0.4**
RSSD Black Hills 79.60 42 P **P** **22 03 01.6 -1.5**
RSSD IAmb IAmb 22 03 04.2
comp=Z,14nm,1.4s
RSSD Black Hills 79.60 42 P **P** **22 03 01.6 -1.5**
RSSD pmax pmax
comp=Z,14nm,1.5s
CBBR Cluj-Babes-Bol 79.62 322 ↑P **P** **22 03 03.8 +1.0**
MESR Meseseni 79.65 322 ↓P **P** **22 03 04.3 +1.3**
VOIR 79.79 320 ↑P **P** **22 03 05.4 +1.5**
ARR Arges 80.05 320 ↓P **P** **22 03 06.6 +1.4**
MORC Moravsky Berou 80.24 327 ↑P **P** **22 03 07.2 +1.0**
MORC Moravsky Berou 80.24 327 *eP* **P** **22 03 06.7 +0.5**
MORC *e* 22 03 13.5
DPC Dobruska-Polom 80.34 328 *eP* **P** **22 03 07.7 +1.0**
DPC Dobruska-Polom 80.34 328 *eP* **P** **22 03 07.7 +1.0**
PSZ Piszkesteto 80.55 325 ↑P **P** **22 03 09.1 +1.2**
VYHS Vyhne 80.61 325 *eP* **P** **22 03 09.3 +1.1**
VYHS Vyhne 80.61 325 *eP* **P** **22 03 09.3 +1.1**
RAYN Ar Rayn 80.68 292 P **P** **22 03 08.2 -0.8**
RAYN Ar Rayn 80.68 292 P **P** **22 03 09.1 +0.1**
RAYN Ar Rayn 80.68 292 P **P** **22 03 08.2 -0.8**
RAYN pmax pmax
comp=Z,5.0nm,0.7s
PV11 David Mesa, Pa 80.70 49 IAmb IAmb 22 03 18.8
comp=Z,35nm,1.5s
PV13 Radium Mtn., P 80.83 49 IAmb IAmb 22 03 12.6
comp=Z,21nm,1.4s
BRG Berggiesshubel 80.93 329 *eP* **P** **22 03 10.6 +0.8**
BRG Amp 22 03 12.5
comp=Z,3.4nm,0.9s
BRG *ex* x 22 03 17.6
BRG Amp 22 03 21.8
comp=Z,6.8nm,1.2s
BRG Berggiesshubel 80.93 329 *eP* **P** **22 03 10.6 +0.8**
BRG *e* 22 03 17.6
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 80.97 330 P **P** **22 03 09.3 -0.6**
CLL IAmb IAmb 22 03 11.1
comp=Z,17nm,1.1s
CLL Collm 80.97 330 *i* P **P** **22 03 10.5 +0.5**
CLL Collm 80.97 330 *i* P **P** **22 03 10.5 +0.5**
GZR Gura Zlata 80.97 321 ↓P **P** **22 03 10.5 +0.3**
VRAC Vranov 81.00 327 ↓P **P** **22 03 10.9 +0.7**
VRAC Vranov 81.00 327 *eP* **P** **22 03 10.9 +0.7**
VRAC *e* 22 03 16.5
KRUC Moravsky 81.28 327 *eP* **P** **22 03 12.1 +0.4**
KRUC *e* 22 03 19.1
PRU Pruhonice 81.36 329 *eP* **P** **22 03 12.8 +0.7**
PRU Pruhonice 81.36 329 *eP* **P** **22 03 12.8 +0.7**
BZS Buzias 81.39 322 ↓P **P** **22 03 12.6 +0.3**
PLVB Pleven 81.43 319 ↑P **P** **22 03 12.2 -0.4**
F33A 5 Mile Ranch, 82.30 37 IAmb IAmb 22 03 25.4
comp=Z,10nm,1.0s
RONA Rosalia, Austr 82.34 326 *i* P **P** **22 03 18.9 +1.5**
comp=Z,4.0nm,0.6s
CONA Conrad Observa 82.36 327 *i* P **P** **22 03 19.0 +1.4**
comp=Z,6.6nm,1.0s,SNR=4.3
MORH Mrgy, Hungar 82.38 324 ↑P **P** **22 03 17.1 -0.5**
KHC Kasperske Hory 82.42 329 *eP* **P** **22 03 18.1 +0.3**
KHC *ex* x 22 03 24.6
KHC Kasperske Hory 82.42 329 *eP* **P** **22 03 18.1 +0.3**
KHC *e* 22 03 24.6
GEC2 GERESS Array S 82.59 328 IAmb IAmb 22 03 19.7
comp=Z,8.7nm,1.2s
GERES GERESS Array B 82.59 328 P **P** **22 03 19.0 +0.3**
comp=Z,2.6nm,0.6s,baz=42,slow=6.1,SNR=29
comp=Z,2.6nm,0.6s
VTS Vitosha 82.69 319 ↑P **P** **22 03 20.8 +1.4**
EYMN Ely 82.90 33 P **P** **22 03 20.3 +0.1**
EYMN IAmb IAmb 22 03 28.7
comp=Z,10nm,0.9s
ARSA Arzberg 83.03 326 *eP* **P** **22 03 21.9 +0.9**
comp=Z,6.6nm,1.3s
MOA Molln 83.12 327 *i* P **P** **22 03 22.8 +1.4**
comp=Z,7.5nm,1.2s
BIOA Bad Ischl, Aus 83.51 328 *i* P **P** **22 03 24.4 +1.0**
comp=Z,6.2nm,0.7s
SOKA Soboth 83.68 326 *eP* **P** **22 03 25.2 +0.8**
comp=Z,12nm,1.2s,SNR=8.2
ECSD EROS Data Cent 83.69 38 P **P** **22 03 23.6 -0.8**
ECSD IAmb IAmb 22 03 32.4
comp=Z,6.3nm,0.9s
T25A Trinidad 84.12 47 IAmb IAmb 22 03 29.4
comp=Z,12nm,1.1s
MYKA Tera Mystica 84.33 327 *i* P **P** **22 03 27.6 -0.1**
comp=Z,3.2nm,0.5s
ANMO Albuquerque 84.37 50 *i* P **P** **22 03 29.0 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
MOTA Moosalm 84.85 329 *i* P **P** **22 03 30.9 +0.5**
comp=Z,8.3nm,1.3s
BMRD Maredsous 84.87 334 *dP* **P** **22 03 31.1 +0.9**
PDG Podgorica 84.87 321 ↑P **P** **22 03 30.7 +0.3**
RETA Reutte 84.88 329 *i* P **P** **22 03 31.2 +0.8**
comp=Z,6.3nm,0.7s
SCHQ Schefferville 85.11 16 P **P** **22 03 32.3 +1.0**
comp=Z,5.2nm,0.8s,baz=328,slow=5.5,SNR=4.1
comp=Z,5.2nm,0.8s
DAVA Damuels 85.40 329 *i* P **P** **22 03 33.8 +0.6**
comp=Z,8.3nm,0.8s
FUORN Ofenpass-Fuorn 85.78 329 IAmb IAmb 22 03 36.6
comp=Z,11nm,1.1s
TX31 Lajitas Ar. Si 89.91 52 IAmb IAmb 22 07 13.4
comp=Z,14nm,1.1s
TX32 Lajitas Array 89.91 52 P **P** **22 03 52.2 -2.9**
TXAR Lajitas Array 89.91 52 P **P** **22 03 56.1 +1.1**
comp=Z,1.5nm,0.7s,baz=293,slow=3.1,SNR=13
comp=Z,1.5nm,0.7s
FCAR Ozark Folk Cen 91.84 41 P **P** **22 04 01.9 -2.0**
MIAR Mount Ida 92.09 43 P **P** **22 04 04.2 -0.8**
MIAR Mount Ida 92.09 43 P **P** **22 04 04.2 -0.8**
MIAR pmax pmax
comp=Z,25nm,1.6s
ESDC Sonseca Array 97.15 334 P **P** **22 04 27.9 -0.2**
comp=Z,1.1nm,1.0s,baz=355,slow=4.4,SNR=2.7
comp=Z,1.1nm,1.0s
SDV Santo Domingo 125.09 40 PKP **PKiKP** **22 09 57.7 +0.5**
comp=Z,3.7nm,0.5s,baz=298,slow=3.4,SNR=4.0
DBIC Dimbokro 126.21 317 PKP **PKPdf** **22 09 58.8 +0.1**
comp=Z,2.5nm,0.8s,baz=99,slow=3.6,SNR=3.5
QSPA South Pole Qui 126.99 180 PKP **PKPdf** **22 09 58.7 +0.1**
comp=Z,2.9nm,0.8s,baz=314,slow=2.1,SNR=3.6
TROLL Troll, Antarti 139.47 198 PKPdf **PKPdf** **22 10 22.8 +0.8**
SNAA Sanae 140.98 197 PKPdf PKPdf 22 10 17.0 -7.7
VNA2 Neumayer--Watz 142.55 196 PKPdf **PKPdf** **22 10 23.2 -4.2**
baz=86,slow=1.5
VNA3 Neumayer Olymp 142.80 195 PKPdf **PKPdf** **22 10 23.8 -4.1**
VNA1 Neumayer--Stat 142.95 196 PKPdf **PKPdf** **22 10 26.1 -2.0**
LPAZ La Paz 146.49 59 PKPbc **PKPbc** **22 10 38.5 +0.4**
comp=Z,3.8nm,0.6s,baz=5.4,slow=2.3,SNR=10.0
LVC Limon Verde 150.00 70 PKP **PKPdf** **22 10 43.9 +1.9**
comp=Z,8.8nm,0.9s,baz=277,slow=4.0,SNR=1.6
LVC PKPbc **pPKPdf** **22 10 48.7 +0.1**
comp=Z,7.6nm,0.8s,baz=265,slow=3.0,SNR=5.5

*NOU **21** 21:54:33.7, 42.44S× 174.36E, h0km, MLv3.9/5, Off E. Coast of S. Island, N.Z.*
*WEL **21** 21:54:40.5± 0.3, 42.5S± 3.1× 17.4E± .1, h13km± 2km, M3.3/42, ML3.5/21, MLv3.3/42, Error ellipse: s-maj=0.0km s-min=0.0km az=151.8*
ISC 21 21:54:39.7±1.5, **41.91S**±0.04× **174.17E**±0.03, **h16**km±15km, **n76**,σ1.9 **05/79**, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.16**	**12**	P	**Pb**	**21 54 44.6**	**+0.2**
CMWZ				S	**Sb**	**21 54 48.0**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.29**	**311**	P	**Pb**	**21 54 45.8**	**-0.8**
BSWZ				S	**Sb**	**21 54 49.7**	**-1.6**
TUWZ	**Tuamarina**	**0.51**	**340**	P	**Pb**	**21 54 49.7**	**-0.6**
TUWZ				S	**Sb**	**21 54 56.1**	**-1.4**
TCW	**Tory Channel**	**0.70**	**7**	P	**Pb**	**21 54 53.2**	**-0.4**
SNZO	**South Karori**	**0.72**	**34**	P	**Pb**	**21 54 54.5**	**+0.6**
WEL	**Wellington**	**0.77**	**36**	P	**Pb**	**21 54 55.6**	**+0.9**
PLWZ	**Palliser**	**0.88**	**68**	P	**Pg**	**21 54 57.7**	**+0.9**
NNZ	**Nelson**	**0.91**	**319**	P	**Pb**	**21 54 56.7**	**-0.5**
MSWZ	**Moikau Station**	**0.95**	**59**	P	**Pb**	**21 54 58.7**	**+0.9**
THZ	**Tophouse**	**0.96**	**278**	P	**Pb**	**21 54 58.3**	**+0.3**
CAW	**Cannon Point**	**1.05**	**40**	P	**Pg**	**21 55 00.2**	**+0.2**
PAWZ	**Paruwai Farm**	**1.08**	**61**	P	**Pb**	**21 55 00.2**	**+0.1**
DUWZ	**D'Urville Isla**	**1.12**	**350**	P	**Pb**	**21 55 00.4**	**-0.4**
MRNZ	**Matariki Terra**	**1.17**	**295**	P	**Pg**	**21 55 02.0**	**-0.4**
KIW	**Kapiti Island**	**1.19**	**28**	P	**Pg**	**21 55 02.3**	**-0.3**
TRWZ	**Traveller**	**1.25**	**66**	P	**Pn**	**21 55 02.3**	**-0.3**
MTW	**Mount Morrison**	**1.25**	**54**	P	**Pn**	**21 55 02.4**	**-0.2**
TKNZ	**Takaka Hill**	**1.26**	**314**	P	**Pb**	**21 55 02.8**	**-0.4**
OGWZ	**Otaki Gorge**	**1.33**	**35**	P	**Pn**	**21 55 04.0**	**+0.4**
GVZ	**Greta Valley S**	**1.35**	**218**	P	**Pn**	**21 55 04.8**	**+0.9**
HOWZ	**Holdsworth Sta**	**1.43**	**45**	P	**Pn**	**21 55 04.9**	**-0.2**
TMWZ	**Te Maipa**	**1.52**	**59**	P	**Pn**	**21 55 05.9**	**-0.4**
MRZ	**Mangatainoka R**	**1.64**	**41**	P	**Pn**	**21 55 07.8**	**-0.1**
QRZ	**Quartz Range**	**1.64**	**311**	P	**Pb**	**21 55 09.7**	**+0.1**
QRZ	**Quartz Range**	**1.64**	**311**	P	**Pb**	**21 55 09.2**	**-0.4**
LTZ	**Lake Taylor**	**1.66**	**238**	P	**Pn**	**21 55 09.1**	**+0.9**
AMCZ	**Amberley**	**1.69**	**221**	P	**Pn**	**21 55 09.4**	**+0.8**
TIWZ	**Tintock**	**1.72**	**49**	P	**Pn**	**21 55 08.7**	**-0.3**
DSZ	**Denniston Nort**	**1.77**	**275**	P	**Pb**	**21 55 11.4**	**-0.6**
PRWZ	**Peri Road**	**1.92**	**46**	P	**Pn**	**21 55 11.4**	**-0.4**
POWZ	**Post Office Ro**	**1.94**	**39**	P	**Pn**	**21 55 12.1**	**+0.1**
BFZ	**Birch Farm**	**1.99**	**53**	P	**Pn**	**21 55 12.0**	**-0.7**
BFZ	**Birch Farm**	**1.99**	**53**	P	**Pn**	**21 55 11.7**	**-1.0**
OKCZ	**Okains Bay**	**1.99**	**204**	P	**Pn**	**21 55 13.1**	**+0.4**
MQZ	**McQueen's Vall**	**2.11**	**211**	P	**Pn**	**21 55 14.0**	**-0.4**
OXZ	**Oxford**	**2.12**	**227**	P	**Pn**	**21 55 14.8**	**+0.3**
INZ	**Inchbonnie**	**2.18**	**247**	P	**Pn**	**21 55 16.4**	**+1.0**
DVHZ	**Dannevirke**	**2.21**	**44**	P	**Pn**	**21 55 14.8**	**-0.9**
WAZ	**Wanganui**	**2.24**	**16**	P	**Pb**	**21 55 19.3**	**-0.6**
TSZ	**Takapari Road**	**2.29**	**37**	P	**Pn**	**21 55 16.6**	**-0.3**
MHCZ	**Mount Hutt**	**2.51**	**229**	P	**Pn**	**21 55 20.3**	**+0.3**
PNHZ	**Pukenui**	**2.52**	**38**	P	**Pn**	**21 55 19.4**	**-0.6**
KHEZ	**Kahui Hut**	**2.62**	**357**	P	**Pb**	**21 55 25.4**	**-0.8**
KHEZ	**Kahui Hut**	**2.62**	**357**	P	**Pb**	**21 55 25.5**	**-0.8**
NBEZ	**Newall Road No**	**2.65**	**355**	P	**Pb**	**21 55 26.9**	**+0.1**
PKWZ	**Pokaka**	**2.77**	**19**	P	**Pb**	**21 55 28.0**	**-0.8**
MOVZ	**Moawhango**	**2.77**	**26**	P	**Pb**	**21 55 28.8**	**-0.2**
WVZ	**Waitaha Valley**	**2.79**	**244**	P	**Pn**	**21 55 25.3**	**+1.5**
WNVZ	**Wahianoa**	**2.80**	**23**	P	**Pn**	**21 55 26.5**	**+2.5**
TRVZ	**Turoa**	**2.81**	**22**	P	**Pb**	**21 55 29.1**	**-0.6**
BHHZ	**Black Hill Sta**	**2.81**	**31**	P	**Pn**	**21 55 24.2**	**+0.1**
VRZ	**Vera Road**	**2.82**	**9**	P	**Pb**	**21 55 28.5**	**-1.1**
WHVZ	**Whangaehu Hut**	**2.84**	**23**	P	**Pb**	**21 55 29.7**	**-0.4**
FWVZ	**Far West T-bar**	**2.85**	**22**	P	**Pb**	**21 55 29.7**	**-0.7**
TUVZ	**Tukino**	**2.87**	**24**	P	**Pn**	**21 55 23.3**	**-1.7**
RPZ	**Rata Peaks**	**2.92**	**231**	P	**Pn**	**21 55 25.9**	**+0.4**
NGZ	**Ngauruhoe**	**2.94**	**22**	P	**Pn**	**21 55 27.3**	**+1.4**
SNVZ	**South Ngauruho**	**2.94**	**23**	P	**Pn**	**21 55 27.2**	**+1.2**
KAHZ	**Kahuranaki**	**2.95**	**45**	P	**Pn**	**21 55 24.4**	**-1.6**
OTVZ	**Oturere**	**2.97**	**23**	P	**Pn**	**21 55 27.4**	**+1.0**
NNVZ	**North Ngauruho**	**2.98**	**22**	P	**Pn**	**21 55 27.9**	**+1.3**
WTVZ	**West Tongariro**	**2.99**	**22**	P	**Pn**	**21 55 28.0**	**+1.4**
ARCZ	**Arundel**	**3.00**	**226**	P	**Pn**	**21 55 26.8**	**+0.2**
TWVZ	**Taurewa**	**3.00**	**19**	P	**Pb**	**21 55 32.3**	**-0.5**
ETVZ	**East Tongariro**	**3.01**	**23**	P	**Pb**	**21 55 32.6**	**-0.4**
TMVZ	**Te Maari**	**3.03**	**23**	P	**Pb**	**21 55 31.8**	**-1.5**
KRVZ	**Karewarewa**	**3.03**	**22**	P	**Pb**	**21 55 33.2**	**-0.1**
NTVZ	**North Tongarir**	**3.03**	**23**	P	**Pb**	**21 55 33.0**	**-0.5**
KATZ	**Kakaramea**	**3.15**	**22**	P	**Pb**	**21 55 35.5**	**0.0**
GCSZ	**Gaunt Creek Bo**	**3.17**	**242**	P	**Pb**	**21 55 34.3**	**-1.3**
TMZ	**Timaru**	**3.39**	**222**	P	**Pn**	**21 55 32.6**	**+0.6**
HIZ	**Hauiti**	**3.43**	**9**	P	**Pn**	**21 55 36.2**	**+3.6**
HIZ	**Hauiti**	**3.43**	**9**	P	**Pn**	**21 55 35.7**	**+3.2**
FOZ	**Fox Glacier**	**3.59**	**242**	P	**Pn**	**21 55 36.4**	**+1.7**
LBZ	**Lake Benmore**	**3.83**	**228**	P	**Pn**	**21 55 39.2**	**+1.2**
JCZ	**Jackson Bay**	**4.50**	**239**	P	**Pn**	**21 55 49.7**	**+2.4**

*NEIC **21** 21:56:41.8± 1.3, 37.25N± 0.06× 141.83E± 0.08, h10km± 1km, mb4.4/14, Error ellipse: s-maj=12.1km s-min=9.2km az=57.0*
*IDC **21** 21:56:41.4± 0.8, 37.29N× 141.48E, h0km, mb4.1/22, mbtmp4.1/24, ML3.0/2, Error ellipse: s-maj=20.1km s-min=17.5km az=168.0*
*JMA **21** 21:56:44.2± 0.2, 37.3N± 0.4× 14.2E± .1, h29km± 1km, MD4.4/36, MV4.3/36, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 21 21:56:41.6±1.7, **37.25N**±0.04× **141.55E**±0.06, **h6**km±10km, **n81**,σ0.8 **7/79**, **mb4.2**/29, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.55**	**282**	P	**Pn**	**21 56 54.7**	**-1.4**
JFK				S	**Sb**	**21 57 02.1**	**+0.2**
JFK	**Kawauchi**	**0.55**	**282**	A	A	21 56 54.7	
comp=E,26nm,0.9s,comp=E,26nm,0.5s							
JMST	**Minamisoumatoc**	**0.70**	**312**	P	**Pn**	**21 56 57.0**	**-1.1**
JMST				S	**Sb**	**21 57 06.2**	**-0.1**
JMST	**Minamisoumatoc**	**0.70**	**312**	A	A	21 56 57.0	
comp=E,16nm,7.0s							
JFFD	**Fukushimafurud**	**0.80**	**259**	P	**Pn**	**21 56 58.7**	**-0.9**
JFFD				*eS*	**Sb**	**21 57 09.6**	**+0.4**
JMM	**Marumori**	**0.86**	**316**	Pg	**Pn**	**21 56 59.4**	**-0.9**
JMM	**Marumori**	**0.86**	**316**	P	**Pn**	**21 56 59.5**	**-0.7**
JMM				S	**Sb**	**21 57 10.2**	**-0.5**
JHO	**Hitachi**	**1.01**	**231**	P	**Pb**	**21 57 01.6**	**0.

JOU				S	Sg	21 57 23.7	-0.2
JSB	**Shiboa**	**1.33 258**		P	Pg	21 57 07.9	+0.7
JSB				S	Sg	21 57 25.8	+1.3
JSD	**Sado**	**2.72 288**		Pn	Pb	21 57 30.8	0.0
MJAR	**Matsushiro Arr**	**2.77 256**		Pn	Pn	21 57 27.4	+0.8
	0.5nm,0.3s,baz=80,slow=15,SNR=2.1						
MJAR				Sn	Sb	21 58 04.0	-1.8
	1.3nm,0.3s,baz=91,slow=27,SNR=4.5 13nm,0.5s						
MAJO	**Matsushiro**	**2.77 256**		Pn	Pb	21 57 29.9	-1.7
MJB9	**Matsu-Tunnel**	**2.77 256**		Pn	Pb	21 57 30.6	-1.1
JTM	**Tenmabayashi**	**3.55 354**		Pn	Pn	21 57 37.4	+0.1
JHJ2	**Mitsune**	**4.37 199**		Pn	Pn	21 57 48.9	+0.4
JHJ	**Hachijo jima 2**	**4.37 200**		Pn	Pn	21 57 50.0	+1.3
	14nm,0.3s,baz=142,slow=21,SNR=6.1						
JHJ				Sn	Sn	21 58 38.1	-1.8
	14nm,0.3s,baz=8.8,slow=14,SNR=1.8 121nm,0.8s						
ERM	**Erimo**	**4.92 14**			Pn	21 57 56.0	-0.1
JKA	**Kamikawa-asahi**	**6.90 6**		Pn	Pn	21 58 23.1	-0.3
JHS	**Saijyo**	**7.18 254**			Pn	21 58 30.1	+2.8
USRK	**Ussuriysk Ar.**	**10.03 317**		Pn	Pn	21 59 12.6	+6.3
	0.4nm,0.3s,baz=119,slow=13,SNR=3.2						
JCJ	**Chichijima**	**10.14 177**		Pn	Pn	21 59 05.8	-2.0
	4.7nm,0.3s,baz=279,slow=19,SNR=1.5						
KSRS	**Korea Array**	**10.85 275**		Pn	Pn	21 59 25.2	+7.8
	baz=90,slow=14						
YAK	**Yakutsk**	**25.88 347**		P	P	22 02 13.6	-0.3
	17nm,0.8s,baz=225,slow=1.2,SNR=4.7 17nm,0.8s						
SONM	**Songino Array**	**27.75 304**		P	P	22 02 31.6	+0.4
	2.1nm,0.9s,baz=102,slow=9.0,SNR=7.4 2.1nm,0.9s						
SONM	**Songino Array**	**27.75 304**		P	P	22 02 31.9	+0.7
H11N2	**WAKE ISLAND Hy**	**28.17 121**		T	T	22 31 59.3	
	baz=314,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.18 121**		T	T	22 32 00.7	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.19 121**		T	T	22 32 02.1	
	baz=314,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.89 123**		T	T	22 32 54.8	
	baz=316,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.89 123**		T	T	22 32 55.8	
	baz=316,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.91 123**		T	T	22 32 55.1	
	baz=316,slow=76,SNR=13						
TIXI	**Tiksi**	**35.09 353**		P	P	22 03 34.6	-0.6
	1.2nm,0.5s,baz=29,slow=1.0,SNR=8.1 1.2nm,0.5s						
TIXI	**Tiksi**	**35.09 353**		P	P	22 03 34.8	-0.3
TIXI				IAmb	IAmb	22 03 53.9	
	comp=Z,10nm,1.4s						
ZAA0	**Zalesovo Array**	**41.85 312**		P	P	22 04 32.7	+0.5
ZAA0				IAmb	IAmb	22 04 33.2	
	comp=Z,4.7nm,0.9s						
ZALV	**Zalesovo Beam**	**41.85 312**		P	P	22 04 32.5	+0.3
	comp=Z,4.5nm,0.7s,baz=85,slow=6.6,SNR=12 comp=Z,4.5nm,0.7s						
ZALV	**Zalesovo Beam**	**41.85 312**		P	P	22 04 32.7	+0.5
MK31	**Makanchi Array**	**44.09 302**		P	P	22 04 50.2	-0.4
MK31				IAmb	IAmb	22 04 52.0	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**44.09 302**		P	P	22 04 51.0	+0.5
	comp=Z,2.6nm,0.7s,baz=88,slow=9.6,SNR=10 comp=Z,2.6nm,0.7s						
MAKZ	**Makanchi**	**44.30 302**		P	P	22 04 51.5	-0.8
MAKZ				IAmb	IAmb	22 04 53.5	
	comp=Z,4.4nm,0.8s						
KURBB	**Kurchatov Arra**	**45.95 308**		P	P	22 05 05.4	+0.1
	comp=Z,1.5nm,0.4s,baz=82,slow=8.4,SNR=7.7 comp=Z,1.5nm,0.4s						
TAPN	**Taplejung**	**46.03 274**	*eP*		P	22 05 04.7	-1.9
RAMN	**Ramite**	**47.09 274**	*eP*		P	22 05 15.2	+0.4
GUN	**Gumba**	**47.24 276**	*eP*		P	22 05 15.1	-1.0
PKI	**Pulchoki**	**47.76 275**	*eP*		P	22 05 20.5	+0.4
PKIN	**Phulchoki**	**47.77 275**	*eP*		P	22 05 20.8	+0.7
GKN	**Gorkha**	**48.19 276**	*eP*		P	22 05 23.3	+0.1
DANN	**Dangsing**	**48.73 277**	*eP*		P	22 05 27.9	+0.4
ILAR	**Eielson Array**	**49.25 32**	P		P	22 05 31.4	+0.7
	comp=Z,1.3nm,0.8s,baz=267,slow=6.9,SNR=7.8 comp=Z,1.3nm,0.8s						
BVAR	**Borovoye Array**	**50.50 312**	P		P	22 05 40.5	+0.1
	comp=Z,1.1nm,0.6s,baz=68,slow=8.4,SNR=4.6 comp=Z,1.1nm,0.6s						
KK31	**Karatay Array**	**53.11 300**	P		P	22 05 59.2	-0.8
KK31				IAmb	IAmb	22 06 09.0	
	comp=Z,4.1nm,1.1s						
KKAR	**Karatay Array**	**53.11 300**	P		P	22 05 59.4	-0.6
INK	**Inuvik**	**54.14 27**	P		P	22 06 08.7	+1.6
	comp=Z,2.5nm,0.9s,baz=313,slow=5.3,SNR=5.6 comp=Z,2.5nm,0.9s						
CHGR	**Chuyangaron**	**55.67 295**	P		P	22 06 18.9	+0.1
ARU	**Arti**	**56.27 318**	P		P	22 06 23.0	+0.3
	comp=Z,4.0nm,0.4s,baz=87,slow=5.9,SNR=11 comp=Z,4.0nm,0.4s						
WB0	**Warramunga Arr**	**57.11 188**	P		P	22 06 27.9	-1.1
WB0				IAmb	IAmb	22 06 48.0	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**57.29 188**	P		P	22 06 29.0	-1.3
WB2				IAmb	IAmb	22 06 56.1	
	comp=Z,9.2nm,1.3s						
WRA	**Warramunga Arr**	**57.29 188**	P		P	22 06 30.3	0.0
	comp=Z,0.7nm,0.5s,baz=5.8,slow=7.4,SNR=4.6 comp=Z,0.7nm,0.5s						
WRA	**Warramunga Arr**	**57.29 188**	P		P	22 06 29.6	-0.7
ABKAR	**Akbulak array**	**57.88 310**	P		P	22 06 34.0	-0.2
GEYT	**Alibeck**	**63.82 299**	P		P	22 07 15.6	+0.7
	comp=Z,2.7nm,0.6s,baz=48,slow=2.2,SNR=5.1 comp=Z,2.7nm,0.6s						
ARCES	**ARCESS Array B**	**63.83 339**	P		P	22 07 14.7	+0.3
	comp=Z,2.1nm,0.7s,baz=53,slow=8.1,SNR=6.9 comp=Z,2.1nm,0.7s						
FIA1	**FINESS Array S**	**68.67 332**	P		P	22 07 45.5	+0.1
FINES	**FINESS Array B**	**68.67 332**	P		P	22 07 45.7	+0.2
	comp=Z,2.8nm,0.6s,baz=30,slow=8.8,SNR=7.8 comp=Z,2.8nm,0.6s						
FINES	**FINESS Array B**	**68.67 332**	P		P	22 07 45.4	-0.1
HFS	**Hagfors**	**73.93 336**	P		P	22 08 17.9	+0.6
	comp=Z,1.0nm,0.4s,baz=60,slow=5.7,SNR=2.3 comp=Z,1.0nm,0.4s						
NC204	**NORSAR Array S**	**73.98 338**	P		P	22 08 18.1	+0.4
NB2	**NORSAR Subarra**	**74.03 337**	P		P	22 08 18.0	0.0
	comp=Z,2.1nm,0.8s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.03 337**	P		P	22 08 18.0	0.0
	comp=Z,0.7nm,0.5s,baz=39,slow=5.9,SNR=4.9 comp=Z,0.7nm,0.5s						
AKASG	**Malin Array Be**	**74.19 322**	P		P	22 08 19.1	0.0
	comp=Z,1.5nm,0.4s,baz=46,slow=6.2,SNR=15 comp=Z,1.5nm,0.4s						
NVAR	**Mina Array Bea**	**74.77 53**	P		P	22 08 24.5	+1.6
	comp=Z,0.9nm,0.8s,baz=270,slow=4.1,SNR=4.8 comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**77.44 46**	P		P	22 08 39.0	+1.0
	comp=Z,0.5nm,0.7s,baz=274,slow=2.4,SNR=5.0 comp=Z,0.5nm,0.7s						
BUR08	**Bucovina Ar. S**	**78.19 322**	P		P	22 08 41.0	-1.1
BUR08				IAmb	IAmb	22 09 12.5	
	comp=Z,11nm,1.4s						
BURAR	**Bucovina Array**	**78.20 322**	P		P	22 08 42.5	+0.4
BRTR	**Keskin Array B**	**78.79 312**	P		P	22 08 45.3	-0.2
	comp=Z,0.6nm,0.7s,baz=14,slow=12,SNR=3.6 comp=Z,0.6nm,0.7s						
GERES	**GERESS Array B**	**82.58 328**	P		P	22 09 05.3	-0.3
	comp=Z,0.8nm,0.7s,baz=38,slow=6.8,SNR=5.6 comp=Z,0.8nm,0.7s						
GERES	**GERESS Array B**	**82.58 328**	P		P	22 09 06.0	+0.4
TXAR	**Lajitas Array**	**89.90 52**	P		P	22 09 43.1	+1.1
	comp=Z,0.5nm,0.7s,baz=307,slow=3.1,SNR=4.7 comp=Z,0.5nm,0.7s						
LPAZ	**La Paz**	**146.49 59**	PKPbc		**PKPbc**	22 16 24.4	-0.6
	comp=Z,0.6nm,0.5s,baz=284,slow=4.2,SNR=2.4						

*JMA **21** 22:01:17.5±0.2,37°.2N±0°.3×141°.3E±1°.0,h32km±1km, MV3.5/19,E OFF FUKUSHIMA PREF .*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **21** 22:01:22.5±3.2,37°.07N×141°.15E,h59km±29km,mb3.5/14, mbtmp3.8/16,ML3.0/2,Error ellipse: s-maj=24.2km s-min=14.1km az=61.0*
ISC 21 22:01:16.5±0.7,37°.15N±0°.05×141°.31E±0°.07,h10km±,n29, σ0s92/24,mb3.7/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.41**	**301**	P		P	**Pb**	**22 01 26.3**	**+0.4**
JFK				*eS*		S	**Sb**	**22 01 32.5**	**+0.3**
JMST	**Minamisoumatoc**	**0.66**	**329**	P		P	**Pg**	**22 01 29.8**	**+0.4**
JMST						S	**Sg**	**22 01 38.8**	**+0.7**
JHO	**Hitachi**	**0.81**	**228**	P		P	**Pg**	**22 01 32.9**	**+0.9**
JMM	**Marumori**	**0.82**	**330**	S		S	**Sg**	**22 01 43.5**	**+0.3**
MJAR	**Matsushiro Arr**	**2.56**	**257**	P		P	**Pn**	**22 01 58.6**	**+0.5**
	1.0nm,0.3s,baz=306,slow=24,SNR=5.9								
MJAR				S		Sn	**Sn**	**22 02 28.6**	**-0.8**
	10nm,0.6s,baz=39,slow=19,SNR=2.6 7.9nm,0.5s								
JHJ	**Hachijo jima 2**	**4.21**	**198**	P		P	**Pn**	**22 02 21.0**	**+0.2**
	7.9nm,0.3s,baz=73,slow=19,SNR=0.9								
JHJ				S		Sn	**Sn**	**22 03 10.9**	**+0.8**
	101nm,0.6s,baz=73,slow=19,SNR=1.9 203nm,1.0s								
SONM	**Songino Array**	**27.65**	**304**	P		P	**P**	**22 07 03.4**	**-1.1**
	0.7nm,0.7s,baz=100,slow=9.3,SNR=3.9 0.7nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.28**	**121**	T		T		22 36 40.2	
	baz=314,slow=75,SNR=20								
H11N1	**WAKE ISLAND Hy**	**28.29**	**121**	T		T		22 36 40.4	
	baz=314,slow=75,SNR=37								
H11N3	**WAKE ISLAND Hy**	**28.30**	**121**	T		T		22 36 41.2	
	baz=314,slow=75,SNR=35								
H11S1	**WAKE ISLAND Hy**	**28.99**	**123**	T		T		22 37 33.6	
	baz=316,slow=76,SNR=18								
H11S3	**WAKE ISLAND Hy**	**28.99**	**123**	T		T		22 37 32.2	
	baz=316,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy**	**29.01**	**123**	T		T		22 37 34.0	
	baz=316,slow=76,SNR=12								
ZALV	**Zalesovo Beam**	**41.77**	**312**	P		P	**P**	**22 09 04.4**	**-1.4**
	0.5nm,0.5s,baz=99,slow=8.9,SNR=2.5 0.5nm,0.5s								
MKAR	**Makanchi Array**	**43.99**	**302**	P		P	**P**	**22 09 23.3**	**-0.6**
	0.5nm,0.8s,baz=97,slow=7.4,SNR=3.1 0.5nm,0.8s								
KURBB	**Kurchatov Arra**	**45.87**	**308**	P		P	**P**	**22 09 38.0**	**-0.8**
	2.2nm,0.2s,baz=83,slow=8.1,SNR=2.6 2.2nm,0.2s								
ILAR	**Eielson Array**	**49.44**	**32**	P		P	**P**	**22 10 07.0**	**+0.6**
	1.0nm,0.7s,baz=268,slow=6.0,SNR=7.7 1.0nm,0.7s								
WRA	**Warramunga Arr**	**57.17**	**188**	P		P	**P**	**22 11 00.8**	**-2.8**
	0.6nm,0.6s,baz=6.1,slow=7.4,SNR=8.1 0.6nm,0.6s								
ASAR	**Alice Springs**	**60.90**	**188**	P		P	**P**	**22 11 29.7**	**+0.2**
	0.2nm,0.5s,baz=22,slow=8.4,SNR=2.1 0.2nm,0.5s								
ARCES	**ARCESS Array B**	**63.86**	**339**	P		P	**P**	**22 11 49.0**	**+0.3**
	4.1nm,1.1s,baz=70,slow=7.8,SNR=4.5 4.1nm,1.1s								
FINES	**FINESS Array B**	**68.67**	**332**	P		P	**P**	**22 12 19.9**	**+0.3**
	2.3nm,0.8s,baz=67,slow=11,SNR=2.3 2.3nm,0.8s								
NOA	**NORSAR Array B**	**74.05**	**337**	P		P	**P**	**22 12 51.8**	**-0.5**
	0.3nm,0.3s,baz=18,slow=8.4,SNR=1.5 0.3nm,0.3s								
AKASG	**Malin Array Be**	**74.15**	**322**	P		P	**P**	**22 12 52.3**	**-0.7**
	0.2nm,0.3s,baz=45,slow=6.2,SNR=4.3 0.2nm,0.3s								
PDAR	**Pinedale Array**	**77.64**	**45**	P		P	**P**	**22 13 13.9**	**+0.5**
	0.2nm,0.6s,baz=289,slow=2.8,SNR=1.5 0.2nm,0.6s								
GERES	**GERESS Array B**	**82.57**	**328**	P		P	**P**	**22 13 39.7**	**0.0**
	0.3nm,0.5s,baz=46,slow=5.6,SNR=2.5 0.3nm,0.5s								
TXAR	**Lajitas Array**	**90.11**	**52**	P		P	**P**	**22 14 18.2**	**+1.0**
	0.3nm,0.7s,baz=310,slow=5.6,SNR=2.3 0.3nm,0.7s								
H03N2	**Juan Fernandez**	**147.12**	**96**	T		T	T	01 05 15.1	
	baz=292								
H03N3	**Juan Fernandez**	**147.13**	**96**	T		T	T	01 05 15.4	
	baz=292								
H03N1	**Juan Fernandez**	**147.13**	**96**	T		T	T	01 05 15.6	
	baz=292								

*JMA **21** 22:03:18.2±0.2,37°.3N±0°.3×141°.5E±0°.8,h24km±1km, MV3.9/36,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **21** 22:03:22.4±2.9,37°.21N×141°.15E,h46km±28km,mb3.5/10, mbtmp3.7/14,ML3.0/3,Error ellipse: s-maj=32.3km s-min=16.6km az=123.0*
ISC 21 22:03:17.8±1.7,37°.23N±0°.05×141°.41E±0°.07,h14km±10km, n27,σ0s84/30,mb3.7/10,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**288**	P		P	**Pb**	**22 03 27.5**	**-0.1**
JFK				S		S	**Sb**	**22 03 34.5**	**+0.4**
JMST	**Minamisoumatoc**	**0.65**	**320**	P		P	**Pg**	**22 03 30.6**	**+0.1**
JMST				S		S	**Sg**	**22 03 40.0**	**+1.0**
JFFD	**Fukushimafurud**	**0.69**	**259**	P		P	**Pb**	**22 03 31.8**	**+0.1**
JFFD				S		S	**Sb**	**22 03 41.4**	**+0.3**
JMM	**Marumori**	**0.81**	**323**	P		P	**Pg**	**22 03 33.1**	**-0.4**
JMM				S		S	**Sg**	**22 03 44.3**	**+0.3**
JHO	**Hitachi**	**0.91**	**228**	P		P	**Pb**	**22 03 35.4**	**0.0**
JHO				*eS*		S	**Sb**	**22 03 47.8**	**+0.4**
JSB	**Shiboa**	**1.22**	**258**	P		P	**Pn**	**22 03 41.1**	**+0.6**
JSB				S		S	**Sn**	**22 03 57.9**	**+1.1**
JOU	**Okura**	**1.28**	**333**	P		P	**Pn**	**22 03 41.4**	**0.0**
JOU				S		S	**Sg**	**22 03 58.7**	**-0.5**
MJAR	**Matsushiro Arr**	**2.66**	**256**	P		P	**Pn**	**22 04 01.0**	**+0.7**
	1.2nm,0.3s,baz=81,slow=16,SNR=5.6								
MJAR				S		Sn	**Sn**	**22 04 32.8**	**+0.6**
	37nm,0.7s,baz=182,slow=20,SNR=4.5 7.1nm,0.3s								
JHJ	**Hachijo jima 2**	**4.31**	**198**	P		P	**Pn**	**22 04 23.5**	**+0.6**
	45nm,0.3s,baz=253,slow=19,SNR=1.4								
JHJ				S		Sn	**Sn**	**22 05 13.2**	**+0.2**
	63nm,0.3s,baz=90,slow=20,SNR=2.2								
USRK	**Ussuriysk Ar.**	**9.98**	**317**	P		P	**Pn**	**22 05 41.0**	**+0.2**
	0.1nm,0.3s,baz=130,slow=14,SNR=3.3 0.8nm,0.7s								
KSRS	**Korea Array**	**10.74**	**275**	P		P	**Pn**	**22 05 49.6**	**-1.6**
	0.2nm,0.3s,baz=93,slow=14,SNR=2.3 1.2nm,0.6s								
SONM	**Songino Array**	**27.68**	**304**	P		P	**P**	**22 09 05.6**	**+0.1**
	0.7nm,0.7s,baz=99,slow=9.0,SNR=4.6 0.7nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T		T		22 38 39.2	
	baz=314								
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T		T		22 38 42.3	
	baz=314								
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T		T		22 38 40.6	
	baz=314								
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T		T		22 39 31.1	
	baz=316								
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T		T		22 39 33.4	
	baz=316								
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T		T		22 39 33.8	
	baz=316								
ZALV	**Zalesovo Beam**	**41.78**	**312**	P		P	**P**	**22 11 04.6**	**-2.0**
	1.7nm,0.8s,baz=79,slow=7.7,SNR=5.5 1.7nm,0.8s								
MKAR	**Makanchi Array**	**44.01**	**302**	P		P	**P**	**22 11 23.5**	**-1.3**
	0.7nm,0.7s,baz=85,slow=9.3,SNR=4.3 0.7nm,0.7s								
KURBB	**Kurchatov Arra**	**45.88**	**308**	P		P	**P**	**22 11 38.3**	**-1.3**
	0.9nm,0.4s,baz=84,slow=8.6,SNR=5.8 0.9nm,0.4s								
ILAR	**Eielson Array**	**49.33**	**32**	P		P	**P**	**22 12 07.1**	**+0.8**
	0.5nm,0.8s,baz=250,slow=6.4,SNR=2.7 0.5nm,0.8s								
WRA	**Warramunga Arr**	**57.25**	**188**	P		P	**P**	**22 13 04.1**	**-0.8**
	0.7nm,0.8s,baz=4.6,slow=7.3,SNR=3.4 0.7nm,0.8s								
FINES	**FINESS Array B**	**68.64**	**332**	P		P	**P**	**22 14 20.2**	**0.0**
	3.9nm,1.0s,baz=33,slow=8.3,SNR=2.2 3.9nm,1.0s								
NOA	**NORSAR Array B**	**74.01**	**337**	P		P	**P**	**22 14 53.4**	**+0.7**
	0.2nm,0.3s,baz=36,slow=6.0,SNR=3.7 0.2nm,0.3s								
AKASG	**Malin Array Be**	**74.14**	**322**	P		P	**P**	**22 14 53.4**	**-0.3**
	0.7nm,0.4s,baz=46,slow=6.0,SNR=1.4 0.7nm,0.4s								
TXAR	**Lajitas Array**	**90.01**	**52**	P		P	**P**	**22 16 18.6**	**+1.2**
	0.1nm,0.5s,baz=316,slow=5.0,SNR=1.6 0.1nm,0.5s								

*IDC **21** 22:04:16.1±1.2,37°.38N×141°.68E,h0km,mb3.8/10, mbtmp3.9/12,ML4.0/1,Error ellipse: s-maj=26.1km s-min=23.2km az=12.0*
*NEIC **21** 22:04:18.8±1.0,37°.33N±0°.05×141°.63E±0°.07,h10km±1km, mb4.3/7,Error ellipse: s-maj=11.5km s-min=6.7km az=47.0*
*JMA **21** 22:04:20.6±0.1,37°.3N±0°.3×141°.5E±0°.7,h36km±1km, MV3.9/28,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 21 22:04:17.2±2.0,37°.26N±0°.05×141°.67E±0°.08,h8km±11km, n40,σ1s13/43,mb4.0/13,2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.64**	**280**	P		P	**Pb**	**22 04 30.7**	**+0.1**
JFK				S		S	**Sg**	**22 04 38.3**	**+0.3**
JMST	**Minamisoumatoc**	**0.78**	**307**	||P	P	**Pn**	**22 04 33.3**	**-1.1**
JMST				||S	S	**Sg**	**22 04 42.2**	**-0.1**
JFFD	**Fukushimafurud**	**0.90**	**260**	P		P	**Pb**	**22 04 34.9**	**-0.2**
JFFD				S		S	**Sg**	**22 04 44.9**	**-1.4**
JMM	**Marumori**	**0.92**	**311**	Pg		P	**Pn**	**22 04 35.3**	**-1.1**
JMM				Sg		S	**Sg**	**22 04 46.1**	**-0.9**
JMM	**Marumori**	**0.92**	**311**	P		P	**Pn**	**22 04 35.5**	**-0.9**
JMM				S		S	**Sg**	**22 04 46.4**	**-0.6**
JHO	**Hitachi**	**1.09**	**234**	P		P	**Pn**	**22 04 37.9**	**-0.9**
JHO				S		S	**Sb**	**22 04 49.6**	**-3.1**
JIO	**Ouri**	**1.22**	**348**	P		P	**Pg**	**22 04 41.5**	**+0.9**
JIO				S		S	**Sn**	**22 04 56.5**	**-0.7**
MJAR	**Matsushiro Arr**	**2.86**	**257**	Pn		P	**Pn**	**22 05 04.0**	**+0.9**
	15nm,0.5s,baz=120,slow=29,SNR=1.0								
MJAR				Sn		Sn	**Sn**	**22 05 40.5**	**+2.7**
	baz=79,slow=17								
MAJO	**Matsushiro**	**2.87**	**257**	Pn		P	**Pn**	**22 05 03.4**	**+0.2**
JTM	**Tenmabayashi**	**3.56**	**353**			P	**Pn**	**22 05 11.8**	**-0.8**
JHJ2	**Mitsune**	**4.41**	**201**	Pn		P	**Pn**	**22 05 25.7**	**+1.4**
JHJ	**Hachijo jima 2**	**4.41**	**201**	Pn		P	**Pn**	**22 05 26.4**	**+2.0**
	23nm,0.3s,baz=60,slow=20,SNR=2.1								
JHJ				Sn		Sn	**Sn**	**22 06 13.9**	**-1.9**
	15nm,0.3s,baz=73,slow=19,SNR=1.7 149nm,0.7s								
ERM	**Erimo**	**4.89**	**13**				**Pn**	**22 05 30.6**	**-0.3**
JKA	**Kamikawa-asahi**	**6.89**	**6**	Pn		Pn	**Pn**	**22 05 59.4**	**+1.0**
SONM	**Songino Array**	**27.83**	**304**	P		P	**P**	**22 10 07.0**	**0.0**
	1.2nm,0.8s,baz=107,slow=9.4,SNR=4.1 1.2nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.09**	**121**	T		T		22 39 37.4	
	baz=314,slow=76,SNR=11								
H11N1	**WAKE ISLAND Hy**	**28.10**	**122**	T		T		22 39 33.2	
	baz=314,slow=76,SNR=12								
H11N3	**WAKE ISLAND Hy**	**28.11**	**121**	T		T		22 39 38.4	
	baz=314,slow=76,SNR=9.3								
H11S1	**WAKE ISLAND Hy**	**28.81**	**124**	T		T		22 40 31.9	
	baz=316,slow=75,SNR=15								
H11S3	**WAKE ISLAND Hy**	**28.81**	**124**	T		T		22 40 29.1	
	baz=316,slow=75,SNR=5.7								
H11S2	**WAKE ISLAND Hy**	**28.83**	**124**	T		T		22 40 31.2	
	baz=316,slow=75,SNR=10								
ZAA0	**Zalesovo Array**	**41.92**	**312**	P		P	**P**	**22 12 08.5**	**+0.6**
ZAA0				IAmb		IAmb	**P**	**22 12 09.5**	
	comp=Z,2.6nm,0.8s								
ZALV	**Zalesovo Beam**	**41.92**	**312**	P		P	**P**	**22 12 05.8**	**-2.2**
	comp=Z,2.0nm,0.7s,baz=88,slow=6.7,SNR=7.1 comp=Z,2.0nm,0.7s								
ZALV	**Zalesovo Beam**	**41.92**	**312**	P		P	**P**	**22 12 07.8**	**-0.1**
MK31	**Makanchi Array**	**44.17**	**302**	P		P	**P**	**22 12 27.2**	**+0.9**
MK31				IAmb		IAmb	**P**	**22 12 42.4**	
	comp=Z,7.0nm,1.4s								
MKAR	**Makanchi Array**	**44.17**	**302**	P		P	**P**	**22 12 25.4**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=87,slow=8.9,SNR=5.5 comp=Z,1.3nm,0.7s								
MKAR	**Makanchi Array**	**44.17**	**302**	P		P	**P**	**22 12 26.9**	**+0.6**
MAKZ	**Makanchi**	**44.38**	**302**	P		P	**P**	**22 12 28.9**	**+0.8**
MAKZ				IAmb		IAmb	**P**	**22 13 01.8**	
	comp=Z,4.7nm,1.1s								
KURBB	**Kurchatov Arra**	**46.03**	**308**	P		P	**P**	**22 12 40.7**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=80,slow=7.8,SNR=2.5 comp=Z,1.2nm,0.5s								
ILAR	**Eielson Array**	**49.20**	**32**	P		P	**P**	**22 13 05.9**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=273,slow=5.9,SNR=2.3 comp=Z,0.4nm,0.8s								
KKAR	**Karatay Array**	**53.19**	**300**	P		P	**P**	**22 13 35.9**	**+0.1**
CHGR	**Chuyangaron**	**55.75**	**295**	P		P	**P**	**22 13 54.8**	**+0.3**
CHGR				IAmb		IAmb	**P**	**22 13 56.1**	
	comp=Z,4.4nm,0.7s								
ARU	**Arti**	**56.33**	**318**	P		P	**P**	**22 13 58.7**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=92,slow=5.4,SNR=5.6 comp=Z,2.2nm,0.5s								
ARU	**Arti**	**56.33**	**318**	P		P	**P**	**22 13 59.0**	**+0.8**
ARU				IAmb		IAmb	**P**	**22 13 59.6**	
	comp=Z,2.3nm,0.6s								
WRA	**Warramunga Arr**	**57.31**	**188**	P		P	**P**	**22 14 06.2**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=4.6,slow=7.3,SNR=1.7 comp=Z,0.4nm,0.8s	

WHVZ	Whangaehu Hut	1.50	319	P		Pn	22 05 23.6	+1.2
TRVZ	Turoa	1.51	317	P		Pn	22 05 23.6	+1.0
RAHZ	Arahi	1.51	7	P		Pn	22 05 22.5	+0.1
DRZ	Dome Shelter	1.52	318	P		Pb	22 05 24.6	+0.3
CAW	Cannon Point	1.53	243	P		Pb	22 05 23.2	-1.1
KNZ	Kokohu	1.53	24	P		Pn	22 05 22.4	-0.2
FWVZ	Far West T-bar	1.54	319	P		Pn	22 05 24.3	+1.3
KIW	Kapiti Island	1.55	253	P		Pn	22 05 23.7	+0.8
SNVZ	South Ngauruho	1.55	322	P		Pb	22 05 25.0	+0.2
OTVZ	Oturere	1.56	323	P		Pn	22 05 24.3	+1.2
ETVZ	East Tongariro	1.56	325	P		Pn	22 05 24.2	+1.1
MTHZ	Maungataniwha	1.57	359	P		Pn	22 05 23.2	+0.1
MSWZ	Moikau Station	1.58	230	Pn		Pb	22 05 23.8	-1.3
MSWZ	Moikau Station	1.58	230	P		Pn	22 05 23.6	+0.4
NGZ	Ngauruhoe	1.58	322	P		Pn	22 05 24.7	+1.3
TMVZ	Te Maari	1.58	325	P		Pn	22 05 24.5	+1.1
WAZ	Wanganui	1.59	294	P		Pb	22 05 26.1	+0.8
NNVZ	North Ngauruho	1.61	323	P		Pn	22 05 25.0	+1.2
NTVZ	North Tongarir	1.61	325	P		Pn	22 05 24.8	+1.1
MRHZ	Matea Rd	1.62	348	P		Pn	22 05 24.5	+0.6
PKVZ	Pokaka	1.63	314	P		Pb	22 05 25.7	-0.3
KRVZ	Karewarewa	1.63	324	P		Pn	22 05 25.4	+1.4
WTVZ	West Tongariro	1.63	323	P		Pb	22 05 25.9	-0.2
RITZ	Rihia Road	1.64	331	P		Pb	22 05 25.7	-0.5
HATZ	Hinemaiaia	1.64	338	P		Pb	22 05 26.4	+0.2
PLWZ	Palliser	1.67	226	Pn		Pn	22 05 24.9	+0.4
PLWZ	Palliser	1.67	226	P		Pb	22 05 25.3	-1.5
SNGZ	Shannon Statio	1.68	13	P		Pn	22 05 24.6	0.0
KATZ	Kakaramea	1.70	328	P		Pb	22 05 27.4	+0.1
TWVZ	Taurewa	1.74	320	P		Pb	22 05 27.6	-0.4
RATZ	Rangitukua	1.77	331	P		Pb	22 05 28.9	+0.6
RTZ	Ruatahuna	1.81	3	Pn		Pn	22 05 26.1	-0.3
RTZ	Ruatahuna	1.81	3	P		Pn	22 05 26.5	+0.1
WEL	Wellington	1.81	241	P		Pn	22 05 27.0	+0.6
RIGZ	Rimuhau	1.85	22	P		Pn	22 05 26.7	-0.3
SNZO	South Karori	1.86	241	Pn		Pn	22 05 26.6	-0.5
WHTZ	Whakaora	1.89	338	P		Pb	22 05 31.5	+1.0
ALRZ	Allen Road	1.90	348	P		Pn	22 05 29.0	+1.3
MUGZ	Murupara	1.94	358	P		Pn	22 05 28.5	+0.3
RAGZ	Rawiri	1.97	13	P		Pn	22 05 28.5	-0.2
VRZ	Vera Road	2.08	308	P		Pb	22 05 33.2	-0.4
HRRZ	Handcock Road	2.08	347	P		Pb	22 05 34.5	+0.9
RRRZ	Republican Roa	2.10	352	P		Pb	22 05 36.8	+2.8
TCW	Tory Channel	2.12	247	Pn		Pn	22 05 30.3	-0.3
TCW	Tory Channel	2.12	247	P		Pn	22 05 30.9	+0.3
LREZ	Lake Rotokare	2.12	296	P		Pb	22 05 36.1	+1.7
TKGZ	Te Karaka	2.12	21	P		Pn	22 05 30.5	-0.2
MWZ	Matawai	2.15	14	P		Pn	22 05 30.4	-0.7
GRRZ	Galatos Road	2.15	344	P		Pb	22 05 36.3	+1.4
HSRZ	Hossack Road	2.16	347	P		Pb	22 05 35.5	+0.4
URZ	Urewera	2.17	5	P		Pn	22 05 31.0	-0.3
URZ	Urewera	2.17	5	P		Pn	22 05 31.0	-0.3
CNGZ	Carnagh Statio	2.20	29	P		Pn	22 05 31.5	-0.2
TARZ	Mount Tarawera	2.20	353	P		Pn	22 05 32.3	+0.4
DUWZ	D'Urville Isla	2.27	259	P		Pn	22 05 34.4	+1.7
MKRZ	Makatiti	2.30	352	P		Pb	22 05 36.3	-1.2
TLZ	Tolley Road	2.33	333	P		Pb	22 05 37.3	-0.6
OMRZ	Omania	2.34	350	P		Pn	22 05 34.1	+0.3
OMRZ				P		Pn	22 05 34.1	+0.3
MHEZ	Mangahewa	2.38	304	P		Pb	22 05 38.4	-0.3
DREZ	Durham Road	2.39	300	P		Pb	22 05 40.8	+1.8
TWGZ	Tauwhareparae	2.40	21	P		Pn	22 05 34.1	-0.5
NEZ	North Egmont	2.42	297	P		Pb	22 05 38.0	-1.5
TUWZ	Tuamarina	2.43	245	Pn		Pn	22 05 35.1	+0.3
TUWZ	Tuamarina	2.43	245	P		Pn	22 05 35.2	+0.3
HIZ	Hauiti	2.46	320	Pn		Pn	22 05 36.8	+1.4
HIZ	Hauiti	2.46	320	P		Pb	22 05 38.7	-1.5
HIZ	Hauiti	2.46	320	P		Pb	22 05 38.6	-1.5
KHEZ	Kahui Hut	2.47	296	P		Pb	22 05 40.2	-0.1
KHEZ	Kahui Hut	2.47	296	P		Pb	22 05 39.9	-0.4
NMEZ	Namu Road	2.51	293	P		Pb	22 05 41.1	+0.1
PKE	Pukeiti	2.53	298	P		Pb	22 05 41.5	+0.1
RUGZ	Raukumara Rang	2.53	15	P		Pn	22 05 35.9	-0.5
WHRZ	Whale Island	2.56	2	P		Pn	22 05 36.7	-0.1
NBEZ	Newall Road No	2.58	296	P		Pb	22 05 42.7	+0.5
PUZ	Puketiti	2.58	25	P		Pn	22 05 35.9	-1.2
BSWZ	Blackbirch Sta	2.60	239	Pn		Pn	22 05 36.9	-0.4
BSWZ	Blackbirch Sta	2.60	239	P		Pn	22 05 37.2	-0.1
PKGZ	Pakihiroa	2.70	21	P		Pn	22 05 38.0	-0.7
NNZ	Nelson	2.76	252	Pn		Pn	22 05 38.6	-0.8
NNZ	Nelson	2.76	252	P		Pn	22 05 41.4	+2.0
TOZ	Tahuroa Road	2.89	338	P		Pb	22 05 49.2	+1.8
TKNZ	Takaka Hill	3.03	257	P		Pn	22 05 44.5	+1.3
MXZ	Matakaoa Point	3.07	22	Pn		Pn	22 05 42.8	-0.9
MXZ	Matakaoa Point	3.07	22	P		Pn	22 05 42.4	-0.7
MXZ	Matakaoa Point	3.07	22	P		Pn	22 05 42.4	-1.3
MRNZ	Matariki Terra	3.26	251	Pn		Pn	22 05 46.6	+0.2
MRNZ	Matariki Terra	3.26	251	P		Pn	22 05 47.6	+1.3
THZ	Tophouse	3.28	245	Pn		Pn	22 05 44.9	-1.8
THZ	Tophouse	3.28	245	P		Pn	22 05 46.1	-0.5
QRZ	Quartz Range	3.32	262	Pn		Pn	22 05 47.9	+0.7
QRZ	Quartz Range	3.32	262	P		Pn	22 05 47.9	+0.7
MKAZ	Moumakai	3.57	338	P		Pn	22 05 51.8	+1.2
AWAZ	Awhitu Peninsu	3.78	332	P		Pn	22 05 55.8	+2.4
KUZ	Kuaotunu	3.78	346	P		Pn	22 05 54.2	+0.7
GVZ	Greta Valley S	3.83	227	P		Pn	22 05 56.6	+2.4
LTZ	Lake Taylor	4.17	234	Pn		Pn	22 05 57.6	-1.4
LTZ	Lake Taylor	4.17	234	P		Pn	22 05 57.8	-1.1
OKCZ	Okains Bay	4.35	219	P		Pn	22 06 01.9	+0.6
MQZ	McQueen's Vall	4.54	222	Pn		Pn	22 06 03.9	0.0
MQZ	McQueen's Vall	4.54	222	P		Pn	22 06 04.5	+0.7
INZ	Inchbonnie	4.67	239	Pn		Pn	22 06 04.2	-1.5
WVZ	Waitaha Valley	5.29	238	P		Pn	22 06 17.6	+3.3
RPZ	Rata Peaks	5.43	231	Pn		Pn	22 06 16.3	+0.1
	0.7nm,0.3s,baz=104,slow=8.3,SNR=1.4							
RPZ				Sn		Sn	22 07 12.8	-5.2
	3.8nm,0.3s,baz=149,slow=22,SNR=12							
	5.3nm,0.8s							
ARCZ	Arundel	5.50	228	P		Pn	22 06 20.8	+3.7
TMZ	Timaru	5.87	226	P		Pn	22 06 23.2	+1.0
CTZ	Chatham Island	5.87	126	P		Pn	22 06 25.2	+3.0
LBZ	Lake Benmore	6.33	229	Pn		Pn	22 06 27.3	-1.3
ODZ	Otahua Downs	6.50	223	Pn		Pn	22 06 29.1	-1.7
ODZ	Otahua Downs	6.50	223	P		Pn	22 06 32.1	+2.0
JCZ	Jackson Bay	7.02	229	P		Pn	22 06 44.9	+6.9
ASAR	Alice Springs	39.64	282	P		P	22 12 26.9	+0.1
	0.6nm,0.7s,baz=137,slow=9.2,SNR=8.3							
	0.6nm,0.7s							
WR0	Warramunga Arr	41.40	287	P		P	22 12 41.8	+0.5
WB2	Warramunga Arr	41.55	287	P		P	22 12 42.5	0.0
WB2				IAmb		IAmb	22 12 49.6	
	comp=Z,3.6nm,0.6s							
WRAB	Tennant Creek	41.55	287	P		P	22 12 42.9	+0.4
WRAB				IAmb		IAmb	22 13 22.8	
	comp=Z,6.8nm,1.3s							
WRA	Warramunga Arr	41.56	287	P		P	22 12 42.6	0.0
	comp=Z,1.3nm,0.6s,baz=127,slow=7.9,SNR=24							
	comp=Z,1.3nm,0.6s							
WRA	Warramunga Arr	41.56	287	P		P	22 12 42.7	+0.1
WB0	Warramunga Arr	41.63	287	P		P	22 12 42.2	-1.0
WB0				IAmb		IAmb	22 13 08.3	
	comp=Z,8.3nm,1.4s							
ARCES	ARCESS Array B	147.17	342	PKPbc		PKiKP	22 24 38.2	-0.9
	comp=Z,1.9nm,0.9s,baz=46,slow=3.9,SNR=4.5							

*IDC **21** 22:08:34.2±1.6,37°.10N×141°.35E,h0km,mb3.5/2, mbtmp3.6/4,ML2.6/2,Error ellipse: s-maj=37.4km s-min=23.8km az=126.0*
*JMA **21** 22:08:35.8±0.1,37°.2N±0°.2×141°.3E±0°.6,h14km±1km, MV3.8/25,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 21 22:08:35.4±1.1,37°.16N±0°.05×141°.33E±0°.07,h10km,n14, σ0§47/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.42	299	P	Pg	22 08 43.8	+0.1
JFK				S	Sg	22 08 49.5	+0.2
JFFD	Fukushimafurud	0.62	264	P	Pg	22 08 47.7	+0.2
JFFD				S	Sg	22 08 55.7	0.0
JMST	Minamisoumatoc	0.66	328	P	Pg	22 08 48.2	-0.1
JMST				S	Sg	22 08 57.1	+0.1
JMM	Marumori	0.82	329	S	Sg	22 09 01.7	-0.4
MJAR	Matsushiro Arr	2.58	257	Pn	Pn	22 09 17.0	-0.4
	0.2nm,0.3s,baz=78,slow=17,SNR=1.5						
MJAR				Sn	Sn	22 09 49.1	+0.3
	0.6nm,0.3s,baz=76,slow=14,SNR=2.1						
	3.6nm,0.3s						
JHJ	Hachijo jima 2	4.23	198	Pn	Pn	22 09 40.5	+0.5
	8.2nm,0.3s,baz=348,slow=14,SNR=2.0						
JHJ				Sn	Sn	22 10 28.4	-1.0
	7.3nm,0.3s,baz=72,slow=20,SNR=1.1						
	87nm,0.6s						
H11N2	WAKE ISLAND Hy	28.27	121	T	T	22 43 51.4	
	baz=314						
H11N1	WAKE ISLAND Hy	28.28	121	T	T	22 44 02.9	
	baz=314						
H11N3	WAKE ISLAND Hy	28.29	121	T	T	22 44 01.5	
	baz=314						
H11S1	WAKE ISLAND Hy	28.98	123	T	T	22 44 45.7	
	baz=316						
H11S3	WAKE ISLAND Hy	28.98	123	T	T	22 44 50.1	
	baz=316						
H11S2	WAKE ISLAND Hy	29.00	123	T	T	22 44 47.9	
	baz=316						
ILAR	Eielson Array	49.42	32	P	P	22 17 25.7	+0.6
	0.4nm,0.7s,baz=271,slow=6.7,SNR=4.1						
	0.4nm,0.7s						
WRA	Warramunga Arr	57.18	188	P	P	22 18 22.1	-0.5
	0.5nm,0.7s,baz=5.6,slow=7.5,SNR=2.0						
	0.5nm,0.7s						

*IDC **21** 22:09:58.6±0.9,37°.30N×141°.29E,h0km,mb3.8/10, mbtmp3.9/14,ML2.8/3,Error ellipse: s-maj=22.3km s-min=20.3km az=87.0*
*NEIC **21** 22:10:00.3±1.2,37°.21N±0°.05×141°.37E±0°.09,h10km±1km, mb4.2/7,Error ellipse: s-maj=12.7km s-min=7.7km az=68.0*
*JMA **21** 22:10:01.6±0.2,37°.2N±0°.3×141°.4E±0°.8,h23km±1km, MV3.8/35,E OFF FUKUSHIMA PREF*

ISC 21 22:10:01.6±0.7,37°.26N±0°.04×141°.34E±0°.07,h21km±3km, n44,σ0§86/45,mb4.0/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.39	287	P	Pb	22 10 10.1	+0.5
JMST	Minamisoumatoc	0.59	323	P	Pb	22 10 13.6	+0.2
JMST				S	Sn	22 10 23.1	-0.7
JFFD	Fukushimafurud	0.64	255	P	Pb	22 10 14.0	-0.2
JFFD				S	Sb	22 10 23.4	+0.6
JMM	Marumori	0.75	325	Pg	Pb	22 10 15.8	-0.1
JMM	Marumori	0.75	325	P	Pb	22 10 16.1	+0.2
JMM				S	Sn	22 10 26.9	-0.7
JHO	Hitachi	0.89	224	S	Sb	22 10 30.0	+0.3
JIO	Ouri	1.20	0	P	Pn	22 10 23.0	-0.1
JIO				S	Sb	22 10 38.1	-0.5
JOU	Okura	1.23	334	P	Pb	22 10 24.7	+0.5
JOU				S	Sn	22 10 41.6	+2.0
JSD	Sado	2.56	289	Pn	Pn	22 10 42.5	+0.6
MJAR	Matsushiro Arr	2.61	255	Pn	Pn	22 10 42.6	+0.1
	0.3nm,0.3s,baz=104,slow=11,SNR=1.5						
MJAR				Sn	Sb	22 11 18.7	-0.5
	0.4nm,0.3s,baz=102,slow=16,SNR=1.9						
	4.2nm,0.4s						
MAJO	Matsushiro	2.61	255	Pn	Pn	22 10 43.1	+0.6
MJB9	Matsu-Tunnel	2.61	255	Pn	Pn	22 10 42.2	-0.4
JTM	Tenmabayashi	3.53	357	Pn	Pn	22 10 55.0	-0.2
JHJ	Hachijo jima 2	4.32	198	Pn	Pn	22 11 06.8	+0.7
	6.6nm,0.3s,baz=35,slow=19,SNR=1.6						
JHJ				Sn	Sn	22 11 54.0	-1.7
	10nm,0.3s,baz=45,slow=17,SNR=2.2						
	165nm,0.9s						
JKA	Kamikawa-asahi	6.92	8	Pn	Pn	22 11 39.8	-1.9
USRK	Ussuriysk Ar.	9.92	317	Pn	Pn	22 12 20.0	-2.8
	0.2nm,0.3s,baz=112,slow=31,SNR=1.8						
	1.4nm,0.6s						
JCJ	Chichijima	10.15	176	Pn	Pn	22 12 27.6	+1.4
	75nm,1.0s,baz=287,slow=19,SNR=1.3						
SONM	Songino Array	27.61	304	P	P	22 15 47.6	+0.1
	0.6nm,0.5s,baz=103,slow=8.4,SNR=4.0						
	0.6nm,0.5s						
H11N2	WAKE ISLAND Hy	28.31	121	T	T	22 45 22.6	
	baz=314						
H11N1	WAKE ISLAND Hy	28.32	121	T	T	22 45 21.9	
	baz=314						
H11N3	WAKE ISLAND Hy	28.33	121	T	T	22 45 23.5	
	baz=314						
H11S1	WAKE ISLAND Hy	29.03	123	T	T	22 46 18.4	
	baz=316						
H11S3	WAKE ISLAND Hy	29.03	123	T	T	22 46 16.9	
	baz=316						
H11S2	WAKE ISLAND Hy	29.05	123	T	T	22 46 19.1	
	baz=316						
ZALV	Zalesovo Beam	41.72	312	P	P	22 17 48.9	+0.1
	1.1nm,0.6s,baz=98,slow=9.1,SNR=5.7						
	1.1nm,0.6s						
MK31	Makanchi Array	43.95	302	P	P	22 18 07.4	+0.4
MK31				IAmb	IAmb	22 18 43.9	
	comp=Z,4.6nm,1.4s						
MKAR	Makanchi Array	43.95	302	P	P	22 18 06.3	-0.7
	comp=Z,0.4nm,0.7s,baz=84,slow=9.8,SNR=4.6						
	comp=Z,0.4nm,0.7s						
MKAR	Makanchi Array	43.95	302	P	P	22 18 07.4	+0.4
KURK	Kurchatov	45.75	308	P	P	22 18 21.2	0.0
KURK				IAmb	IAmb	22 18 22.7	
	comp=Z,1.9nm,0.7s						
KURBB	Kurchatov Arra	45.82	308	P	P	22 18 21.3	-0.4
	comp=Z,1.4nm,0.5s,baz=84,slow=8.4,SNR=7.3						
	comp=Z,1.4nm,0.5s						
IL31		49.34	32	P	P	22 18 49.7	+0.8
ILAR	Eielson Array	49.34	32	P	P	22 18 49.1	+0.2
	comp=Z,0.9nm,0.8s,baz=266,slow=6.1,SNR=8.0						
	comp=Z,0.9nm,0.8s						
INK	Inuvik	54.22	27	P	P	22 19 25.2	0.0
	comp=Z,0.7nm,0.6s,baz=248,slow=8.8,SNR=3.2						
	comp=Z,0.7nm,0.6s						
INK	Inuvik	54.22	27	P	P	22 19 26.4	+1.2
INK				IAmb	IAmb	22 19 35.9	
	comp=Z,2.5nm,1.1s						
GAR	Garm	54.55	295	P	P	22 19 28.9	+0.6
GAR				IAmb	IAmb	22 19 39.5	
	comp=Z,3.2nm,1.2s						
CHGR	Chuyangaron	55.52	295	P	P	22 19 35.4	+0.2
CHGR				IAmb	IAmb	22 19 37.2	
	comp=Z,5.6nm,1.1s						
WRA	Warramunga Arr	57.27	188	P	P	22 19 46.5	-1.2
	comp=Z,0.4nm,0.7s,baz=5.5,slow=7.8,SNR=2.5						
	comp=Z,0.4nm,0.7s						
WRA	Warramunga Arr	57.27	188	P	P	22 19 47.4	-0.2
ABKAR	Akbulak array	57.75	310	P	P	22 19 50.4	-0.4
FINES	FINESS Array B	68.59	332	P	P	22 21 02.5	0.0
	comp=Z,1.9nm,0.8s,baz=348,slow=6.1,SNR=1.4						
	comp=Z,1.9nm,0.8s						
FINES	FINESS Array B	68.59	332	P	P	22 21 02.7	+0.2
AKASG	Main Array Be	74.09	322	P	P	22 21 35.9	0.0
	comp=Z,0.6nm,0.5s,baz=46,slow=6.1,SNR=4.9						
	comp=Z,0.6nm,0.5s						
TXAR	Lajitas Array	90.03	52	P	P	22 23 00.6	+0.5
	comp=Z,0.3nm,0.7s,baz=313,slow=4.5,SNR=2.6						
	comp=Z,0.3nm,0.7s						
LPAZ	La Paz	146.63	59	PKPbc	PKPbc	22 29 43.3	+0.5
	comp=Z,0.9nm,0.5s,baz=309,slow=14,SNR=3.9						

*JMA **21** 22:12:36.1±0.2,37°.4N±0°.4×14°.2E±°,h26km±1km, MV3.7/34,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **21** 22:12:37.8±2.8,36°.92N×141°.33E,h0km,mb3.4/2, mbtmp3.5/4,ML2.6/2,Error ellipse: s-maj=58.3km s-min=25.9km az=76.0*

ISC 21 22:12:34.0±2.3,37°.29N±0°.05×141°.56E±0°.08,h4km±14km, n19,σ1§60/21,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.56	279	P	Pb	22 12 46.7	+0.4
JFK				S	Sb	22 12 54.2	-0.5
JMST	Minamisoumatoc	0.69	309	P	Pb	22 12 48.5	-0.2
JMST				S	Sb	22 12 57.5	-1.1
JFFD	Fukushimafurud	0.82	257	P	Pn	22 12 51.3	-1.1
JFFD				S	Sb	22 13 02.3	-0.1
JMM	Marumori	0.84	314	P	Pb	22 12 50.7	-0.5
JMM				S	Sb	22 13 01.5	-1.4
JHO	Hitachi	1.04	230	P	Pb	22 12 54.6	0.0
JOU	Okura	1.29	327	P	Pg	22 12 58.3	-0.5
JOU				S	Sb	22 13 14.9	-1.0
JFY	Yanaizu	1.49	275	P	Pg	22 13 03.3	+0.8
JFY				S	Sg	22 13 22.2	+0.4
JYS	Shirataka	1.51	309	P	Pg	22 13 02.7	-0.3
JYS				S	Sg	22 13 22.0	-0.6
MJAR	Matsushiro Arr	2.79	256	Pn	Pn	22 13 20.2	+0.7
	0.2nm,0.3s,baz=80,slow=17,SNR=2.0						
MJAR				Sn	Sb	22 13 58.0	-1.0
	0.5nm,0.3s,baz=83,slow=19,SNR=2.0						
	1.7nm,0.4s						
JHJ	Hachijo jima 2	4.41	200	Pn	Pn	22 13 40.7	-0.9
	6.7nm,0.3s,baz=90,slow=20,SNR=1.5						
JHJ				Sn	Sn	22 14 29.4	-4.0
	7.1nm,0.3s,baz=54,slow=19,SNR=1.5						
	38nm,0.4s						
SONM	Songino Array	27.75	304	P	P	22 18 27.7	+3.9
	0.4nm,0.3s,baz=98,slow=10,SNR=3.1						
	0.4nm,0.3s						
H11N2	WAKE ISLAND Hy	28.17	121	T	T	22 48 17.9	
	baz=314						
H11N1	WAKE ISLAND Hy	28.18	121	T	T	22 48 19.1	
	baz=314						
H11N3	WAKE ISLAND Hy	28.19	121	T	T	22 48 20.8	
	baz=314						
H11S1	WAKE ISLAND Hy	28.90	123	T	T	22 49 12.2	
	baz=316						
H11S3	WAKE ISLAND Hy	28.90	124	T	T	22 49 10.4	
	baz=316						
H11S2	WAKE ISLAND Hy	28.91	123	T	T	22 49 11.0	
	baz=316						
KURBB	Kurchatov Arra	45.94	308	P	P	22 21 03.6	+5.8
	0.8nm,0.5s,baz=86,slow=8.3,SNR=3.7						
WRA	Warramunga Arr	57.33	188	P	P	22 22 24.5	+1.3
	0.1nm,0.6s,baz=3.1,slow=7.4,SNR=1.2						
	0.1nm,0.6s						

*IDC **21** 22:14:16.3±1.5,37°.32N×142°.05E,h0km,mb3.5/6, mbtmp3.6/8,ML3.2/2,Error ellipse: s-maj=30.5km s-min=25.8km az=110.0*
*JMA **21** 22:14:20.8±0.2,37°.3N±0°.3×141°.5E±0°.8,h26km±1km, MV3.9/35,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 21 22:14:18.9±1.8,37°.26N±0°.05×141°.55E±0°.07,h12km±11km, n22,σ1§14/24,mb3.4/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.55	282	P	Pb	22 14 30.7	+0.2
JFK				eS	Sb	22 14 38.0	-0.3
JMST	Minamisoumatoc	0.70	312	P	Pn	22 14 33.5	-1.1
JMST				S	Sb	22 14 43.1	+0.4
JFFD	Fukushimafurud	0.80	258	P	Pn	22 14 34.8	-1.3
JFFD				S	Sb	22 14 44.9	-0.8
JMM	Marumori	0.85	316	P	Pn	22 14 36.1	-0.7
JMM				S	Sb	22 14 47.1	0.0
JHO	Hitachi	1.01	231	P	Pn	22 14 38.2	-0.8
JHO				eS	Sb	22 14 50.7	-1.0
JIO	Ouri	1.21	353	P	Pg	22 14 42.1	0.0
JIO				S	Sg	22 14 57.8	-0.1
JOU	Okura	1.31	328	P	Pg	22 14 44.3	+0.2
JOU				S	Sg	22 15 01.6	+0.5
JSB	Shiboa	1.33	258	S	Sg	22 15 01.3	-0.5
MJAR	Matsushiro Arr	2.77	256	Pn	Pb	22 15 07.8	-0.5
	1.1nm,0.3s,baz=105,slow=4.4,SNR=2.0						
MJAR				Sn	Sg	22 15 48.7	+0.8
	0.8nm,0.3s,baz=39,slow=45,SNR=1.9						
	6.0nm,0.3s						
JHJ	Hachijo jima 2	4.37	200	Pn	Pn	22 15 25.8	+0.7
	8.6nm,0.3s,baz=55,slow=13,SNR=1.5						
	142nm,0.9s						
SONM	Songino Array	27.75	304	P	P	22 20 09.6	+2.2
	0.7nm,1.0s,baz=98,slow=9.1,SNR=2.1						
	0.7nm,1.0s						
H11N2	WAKE ISLAND Hy	28.17	121	T	T	22 49 38.5	
	baz=314						
H11N1	WAKE ISLAND Hy	28.18	121	T	T	22 49 38.9	
	baz=314,slow=74						
H11N3	WAKE ISLAND Hy	28.19	121	T	T	22 49 39.9	
	baz=314,slow=74						
H11S1	WAKE ISLAND Hy	28.89	123	T	T	22 50 30.8	
	baz=316,slow=76,SNR=3.1						
H11S3	WAKE ISLAND Hy	28.89	123	T	T	22 50 34.0	
	baz=316,slow=76,SNR=9.1						
H11S2	WAKE ISLAND Hy	28.91	123	T	T	22 50 31.4	
	baz=316,slow=76,SNR=8.6						
ZALV	Zalesovo Beam	41.84	312	P	P	22 22 10.7	+2.2
	0.3nm,0.4s,baz=81,slow=4.5,SNR=1.5						
	0.3nm,0.4s						
MKAR	Makanchi Array	44.09	302	P	P	22 22 28.2	+1.4
	0.4nm,0.8s,baz=67,slow=11,SNR=1.9						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	45.95	308	P	P	22 22 41.1	-0.4
	0.8nm,0.3s,baz=60,slow=5.6,SNR=1.8						
	0.8nm,0.3s						
ILAR	Eielson Array	49.25	32	P	P	22 23 04.5	-2.5
	0.2nm,0.5s,baz=234,slow=5.5,SNR=1.7						
	0.

0.2nm,0.3s,baz=89,slow=14,SNR=2.1
0.5nm,0.3s

HHC	**Hu-ho-hao-te**	**23.48**	**288**	*eP*	**P**	**22 22 25.1**	**-0.9**
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**22 23 02.2**	**-2.8**
	1.1nm,0.9s,baz=96,slow=8.9,SNR=4.8						
	1.1nm,0.9s						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**22 23 04.4**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	22 52 35.4	
	baz=314,slow=75,SNR=1.4						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	22 52 35.8	
	baz=314,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	22 52 36.5	
	baz=314,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	22 53 25.5	
	baz=316,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	22 53 28.0	
	baz=316,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	22 53 31.6	
	baz=316,slow=76,SNR=6.2						
PZH	**PanZhiHua**	**35.17**	**264**	P	**P**	**22 24 12.3**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WMQ	**Urumqi**	**40.83**	**297**	*eP*	**P**	**22 25 01.0**	**+3.2**
CMAR	**Chiang Mai Arr**	**41.59**	**255**	P	**P**	**22 25 02.8**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=92,slow=3.0,SNR=2.2						
	comp=Z,0.7nm,0.3s						
ZAA0	**Zalesovo Array**	**41.86**	**312**	P	**P**	**22 25 06.2**	**+0.2**
ZAA0				IAmb	IAmb	22 25 14.4	
	comp=Z,4.8nm,0.9s						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**22 25 04.8**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=80,slow=8.1,SNR=4.7						
	comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**22 25 06.6**	**+0.6**
MK31	**Makanchi Array**	**44.09**	**302**	P	**P**	**22 25 24.4**	**+0.1**
MK31				IAmb	IAmb	22 25 32.6	
	comp=Z,2.8nm,0.9s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**22 25 23.0**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=84,slow=13,SNR=4.8						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**22 25 24.2**	**-0.1**
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**22 25 38.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=84,slow=8.4,SNR=6.3						
	comp=Z,0.8nm,0.4s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**22 26 05.5**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=272,slow=6.4,SNR=13						
	comp=Z,1.4nm,0.7s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**22 26 05.2**	**+0.1**
BMAR	**Burnt Mountain**	**50.18**	**29**	P	**P**	**22 26 12.6**	**+1.0**
SCRK	**Sand Creek**	**50.66**	**33**	P	**P**	**22 26 16.3**	**+1.1**
MTN	**Manton Dam**	**50.70**	**193**	P	**P**	**22 26 16.6**	**+0.8**
EPYK	**Eagle Plains**	**53.38**	**30**	P	**P**	**22 26 37.4**	**+2.0**
EPYK				IAmb	IAmb	22 26 38.4	
	comp=Z,7.7nm,0.8s						
KNRA	**Kununurra**	**53.92**	**195**	P	**P**	**22 26 39.8**	**+0.1**
INK	**Inuvik**	**54.23**	**27**	P	**P**	**22 26 42.4**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=270,slow=4.2,SNR=4.5						
	comp=Z,0.5nm,0.4s						
INK	**Inuvik**	**54.23**	**27**	P	**P**	**22 26 42.7**	**+1.2**
INK				IAmb	IAmb	22 26 60.0	
	comp=Z,4.6nm,1.4s						
GAR	**Garm**	**54.69**	**295**	P	**P**	**22 26 44.9**	**-0.5**
GAR				IAmb	IAmb	22 26 58.8	
	comp=Z,7.6nm,1.3s						
CHGR	**Chuyangaron**	**55.65**	**295**	P	**P**	**22 26 51.6**	**-0.8**
CHGR				IAmb	IAmb	22 27 27.6	
	comp=Z,5.8nm,0.9s						
ARU	**Arti**	**56.29**	**318**	P	**P**	**22 26 56.3**	**-0.2**
ARU				IAmb	IAmb	22 26 57.8	
	comp=Z,3.7nm,1.0s						
WB0	**Warramunga Arr**	**57.03**	**188**	P	**P**	**22 27 01.7**	**-0.4**
WB0				IAmb	IAmb	22 27 13.5	
	comp=Z,3.2nm,0.8s						
WR0	**Warramunga Arr**	**57.20**	**188**	P	**P**	**22 27 02.4**	**-0.9**
WR0				IAmb	IAmb	22 27 14.2	
	comp=Z,7.2nm,1.4s						
WB2	**Warramunga Arr**	**57.21**	**188**	P	**P**	**22 27 02.5**	**-0.9**
WB2				IAmb	IAmb	22 27 19.6	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**57.21**	**188**	P	**P**	**22 27 02.4**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=5.6,slow=7.1,SNR=8.1						
	comp=Z,0.9nm,0.8s						
WRA	**Warramunga Arr**	**57.21**	**188**	P	**P**	**22 27 02.1**	**-1.3**
ABKAR	**Akbulak array**	**57.89**	**310**	P	**P**	**22 27 07.5**	**-0.5**
ASAR	**Alice Springs**	**60.94**	**188**	P	**P**	**22 27 28.6**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=14,slow=5.9,SNR=5.8						
	comp=Z,0.6nm,0.8s						
GEYT	**Alibeck**	**63.81**	**299**	P	**P**	**22 27 47.8**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=132,slow=2.2,SNR=4.8						
	comp=Z,1.8nm,0.8s						
ARCES	**ARCESS Array B**	**63.88**	**339**	P	**P**	**22 27 48.2**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=53,slow=8.0,SNR=1.7						
	comp=Z,2.4nm,1.0s						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**22 28 19.4**	**0.0**
	comp=Z,2.3nm,0.8s,baz=136,slow=33,SNR=3.5						
	comp=Z,2.3nm,0.8s						
FORT	**Forrest**	**68.76**	**192**	P	**P**	**22 28 20.8**	**+0.8**
PINE	**Pine Mountain**	**70.21**	**50**	P	**P**	**22 28 30.0**	**+0.7**
NB2	**NORSAR Subarra**	**74.08**	**337**	P	**P**	**22 28 52.2**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.08**	**337**	P	**P**	**22 28 51.9**	**0.0**
	comp=Z,1.6nm,1.0s,baz=39,slow=5.8,SNR=4.3						
	comp=Z,1.6nm,1.0s						
AKASG	**Malin Array Be**	**74.22**	**322**	P	**P**	**22 28 52.1**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=45,slow=5.9,SNR=7.3						
	comp=Z,0.7nm,0.4s						
PDAR	**Pinedale Array**	**77.53**	**46**	P	**P**	**22 29 12.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=284,slow=3.6,SNR=3.2						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**77.53**	**46**	P	**P**	**22 29 12.5**	**+0.3**
BURAR	**Bucovina Array**	**78.23**	**322**	P	**P**	**22 29 16.2**	**+0.3**
GERES	**GERESS Array B**	**82.62**	**328**	P	**P**	**22 29 38.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=56,slow=5.2,SNR=2.5						
	comp=Z,0.3nm,0.5s						
VTS	**Vitosha**	**82.71**	**319**	P	**P**	**22 29 41.2**	**+1.1**
VTS				IAmb	IAmb	22 29 47.4	
	comp=Z,6.3nm,1.4s						
TXAR	**Lajitas Array**	**89.99**	**52**	P	**P**	**22 30 17.1**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=310,slow=3.4,SNR=4.3						
	comp=Z,0.4nm,0.8s						
H03N2	**Juan Fernandez**	**146.98**	**96**	T	T	01 21 18.8	
	baz=291,slow=76,SNR=9.0						
H03N3	**Juan Fernandez**	**147.00**	**96**	T	T	01 21 18.8	
	baz=291,slow=76,SNR=10						
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	01 21 20.0	
	baz=291,slow=76,SNR=11						

*IDC **21** 22:19:45.6±1.5,37.°04N×141.°06E,h0km,mb3.6/5, mbtmp3.6/8,ML2.9/3,Error ellipse: s-maj=34.9km s-min=23.2km az=76.0*
*JMA **21** 22:19:47.7±0.2,37.°3N±0.°3×141.°4E±0.°9,h23km±1km, MV3.7/34,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 21 22:19:47.0±1.2,37.°19N±0.°07×141.°3E±0.°1,h22km±7km, n19,σ1°05/19,mb3.5/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.40**	**296**	P	**Pn**	**22 19 56.1**	**-1.4**
JFK				S	**Sn**	**22 20 02.5**	**-1.9**
JFFD	**Fukushimafurud**	**0.62**	**261**	P	**Pn**	**22 20 00.4**	**-0.1**
JFFD				S	**Sn**	**22 20 09.7**	**-0.1**
JMST	**Minamisoumatoc**	**0.64**	**327**	P	**Pb**	**22 19 59.3**	**-0.2**
JMST				S	**Sb**	**22 20 08.6**	**+0.6**
JMM	**Marumori**	**0.80**	**328**	P	**Pb**	**22 20 01.9**	**-0.3**
JMM				*eS*	**Sb**	**22 20 12.7**	**+0.2**
JOU	**Okura**	**1.29**	**336**	P	**Pb**	**22 20 10.4**	**-0.1**
JOU				S	**Sb**	**22 20 27.5**	**+0.9**
MJAR	**Matsushiro Arr**	**2.58**	**256**	Pn	**Pn**	**22 20 26.4**	**-1.1**
	0.8nm,0.3s,baz=19,slow=13,SNR=1.6						
MJAR				Sn	**Sn**	**22 20 59.2**	**+1.0**
	0.5nm,0.3s,baz=223,slow=34,SNR=2.1						
	5.3nm,0.4s						
JHJ	**Hachijo jima 2**	**4.25**	**198**	Pn	**Pn**	**22 20 49.3**	**-1.2**
	6.4nm,0.3s,baz=56,slow=16,SNR=1.5						
JHJ				Sn	**Sn**	**22 21 39.4**	**0.0**
	5.0nm,0.3s,baz=46,slow=15,SNR=1.7						
	108nm,0.8s						
USRK	**Ussuriysk Ar.**	**9.96**	**318**	Pn	**Pn**	**22 22 08.2**	**-0.5**
	0.1nm,0.3s,baz=143,slow=42,SNR=1.7						
	1.2nm,0.7s						
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**22 25 35.3**	**+2.2**
	0.4nm,0.7s,baz=113,slow=11,SNR=2.0						
	0.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	22 55 10.3	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	22 55 10.9	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	22 55 11.8	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	22 56 02.3	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	22 56 01.9	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	22 56 03.5	
	baz=316						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**22 27 35.0**	**+0.7**
	0.6nm,0.5s,baz=129,slow=7.7,SNR=3.0						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**43.98**	**302**	P	**P**	**22 27 53.2**	**+0.7**
	0.5nm,0.8s,baz=87,slow=9.7,SNR=1.9						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**22 29 32.0**	**-0.4**
	0.4nm,0.7s,baz=5.6,slow=7.4,SNR=2.4						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**90.08**	**52**	P	P	22 32 50.1	+4.6
	0.4nm,0.9s,baz=135,slow=0.1,SNR=2.3						
	0.4nm,0.9s						

*JMA **21** 22:26:20.2±0.2,37.°2N±0.°4×141.°5E±1.°0,h35km±1km, MV3.7/31,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **21** 22:26:26.0±3.0,37.°10N×141.°17E,h65km±26km,mb3.3/7, mbtmp3.7/10,ML3.1/3,Error ellipse: s-maj=24.1km s-min=14.0km az=68.0*
ISC 21 22:26:22.0±1.6,37.°16N±0.°05×141.°33E±0.°09,h26km±11km, n25,σ1°18/22,mb3.6/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.42**	**300**	P	**Pb**	**22 26 30.9**	**-0.1**
JFK				S	**Sb**	**22 26 37.4**	**+0.2**
JFFD	**Fukushimafurud**	**0.62**	**264**	P	**Pb**	**22 26 34.0**	**-0.3**
JFFD				S	**Sn**	**22 26 43.7**	**-0.5**
JMST	**Minamisoumatoc**	**0.67**	**328**	S	**Sb**	**22 26 43.3**	**-0.7**
JHO	**Hitachi**	**0.82**	**228**	P	**Pb**	**22 26 36.3**	**-1.3**
JHO				S	**Sn**	**22 26 48.6**	**-0.5**
JMM	**Marumori**	**0.83**	**329**	P	**Pb**	**22 26 36.4**	**-1.4**
JMM				S	**Sb**	**22 26 48.0**	**-0.5**
MJAR	**Matsushiro Arr**	**2.58**	**257**	P	**Pn**	**22 27 02.7**	**+0.6**
	1.6nm,0.3s,baz=84,slow=25,SNR=19						
MJAR				S	**Sn**	**22 27 32.8**	**+0.2**
	25nm,0.6s,baz=316,slow=6.2,SNR=6.4						
	10nm,0.3s						
JHJ	**Hachijo jima 2**	**4.22**	**198**	P	**Pn**	**22 27 25.9**	**+1.2**
	5.3nm,0.3s,baz=22,slow=19,SNR=1.0						
JHJ				S	**Sn**	**22 28 13.9**	**+0.7**
	95nm,0.7s,baz=78,slow=20,SNR=1.4						
	61nm,0.7s						
USRK	**Ussuriysk Ar.**	**9.98**	**318**	P	**Pn**	**22 28 46.8**	**+3.1**
	0.3nm,0.3s,baz=135,slow=14,SNR=1.6						
	1.3nm,0.2s						
H11N2	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	23 01 37.3	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	23 01 38.8	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	23 01 38.7	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	23 02 29.6	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	23 02 29.5	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	23 02 33.3	
	baz=316						
ZALV	**Zalesovo Beam**	**41.78**	**312**	P	**P**	**22 34 07.2**	**-1.8**
	0.6nm,0.5s,baz=113,slow=6.7,SNR=2.9						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**22 34 25.6**	**-1.5**
	0.5nm,0.6s,baz=84,slow=9.3,SNR=6.1						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**22 35 09.7**	**+0.4**
	0.8nm,0.7s,baz=264,slow=5.3,SNR=3.7						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**22 36 05.4**	**-1.3**
	0.3nm,0.5s,baz=5.0,slow=7.3,SNR=12						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**60.90**	**188**	P	**P**	**22 36 31.9**	**-0.6**
	0.5nm,0.8s,baz=27,slow=4.3,SNR=4.4						
	0.5nm,0.8s						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**22 37 55.5**	**-0.5**
	0.5nm,0.4s,baz=45,slow=6.4,SNR=5.8						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**90.10**	**52**	P	**P**	**22 39 20.4**	**+0.4**
	0.2nm,0.5s,baz=289,slow=2.8,SNR=2.3						
	0.2nm,0.5s						
LPAZ	**La Paz**	**146.69**	**59**	PKPbc	**PKPdf**	**22 46 01.7**	**+0.7**
	0.7nm,0.5s,baz=18,slow=5.2,SNR=2.8						
H03N2	**Juan Fernandez**	**147.10**	**96**	T	T	01 30 16.4	
	baz=291						
H03N3	**Juan Fernandez**	**147.11**	**96**	T	T	01 30 16.4	
	baz=291						
H03N1	**Juan Fernandez**	**147.12**	**96**	T	T	01 30 17.8	
	baz=291						

*ANF **21** 22:27:27.9±0.1,60.°77N×150.°24W,h38km±2km,ML4.4/85, ML4.4/84,Error ellipse: s-maj=1.2km s-min=0.9km az=142.0*
*AEIC **21** 22:27:27.8±1.9,60.°77N±0.°02×150.°20W±0.°05,h50km±4km, ML4.0,mb4.5/54(NEIC),ML4.2/170(NEIC),Error ellipse: s-maj=3.9km s-min=3.5km az=64.0*
*NEIC **21** 22:27:27.5±1.8,60.°80N±0.°02×150.°24W±0.°05,h48km±5km, Error ellipse: s-maj=3.7km s-min=2.8km az=95.0*
*IDC **21** 22:27:29.1±3.5,60.°89N×150.°52W,h72km±29km,mb3.6/18, mbtmp3.9/22,Error ellipse: s-maj=28.5km s-min=12.1km az=50.0*
ISC 21 22:27:27.3±0.6,60.°79N±0.°03×150.°23W±0.°02,h49km±6km, n439,σ1°07/475,mb4.3/42,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**0.29**	**179**		**Pn**	**22 27 36.1**	**-0.2**
SLKM					**Sn**	**22 27 43.0**	**+0.3**
FIS	**Fire Island**	**0.35**	**1**		**Pn**	**22 27 37.2**	**+0.4**
RC01	**Rabbit Creek A**	**0.38**	**39**	Pn	**Pn**	**22 27 37.0**	**-0.2**
RC01	**Rabbit Creek A**	**0.38**	**39**	P	**Pn**	**22 27 37.1**	**-0.1**
	baz=219,SNR=660						
RC01				S	**Sn**	**22 27 44.4**	**+0.2**
	baz=219						
O22K	**Cooper Landing**	**0.40**	**141**		**Pn**	**22 27 37.4**	**+0.1**
O22K					**Sn**	**22 27 44.4**	**-0.1**
O22K	**Cooper Landing**	**0.40**	**141**	P	**Pn**	**22 27 37.5**	**+0.1**
	baz=320,SNR=938						
CAPN	**Captain Cook N**	**0.46**	**267**		**Pn**	**22 27 38.8**	**+0.9**
CAPN					**Sn**	**22 27 48.2**	**+2.7**
CAPN	**Captain Cook N**	**0.46**	**267**	P	**Pn**	**22 27 38.9**	**+1.0**
	baz=88,SNR=34						
SUA	**Susitna One**	**0.72**	**340**	Pn	**Pn**	**22 27 40.9**	**-0.5**
SUA					**Sn**	**22 27 51.1**	**-0.5**
SUA				IAML		22 27 52.0	
	comp=E,10μm,0.3s						
SUA	**Susitna One**	**0.72**	**340**	P	**Pn**	**22 27 40.9**	**-0.5**
	baz=160,SNR=510						
SUA				S	**Sn**	**22 27 51.3**	**-0.2**
	baz=160						
SEW	**Seward**	**0.79**	**151**	Pn	**Pn**	**22 27 41.9**	**-0.2**
SEW	**Seward**	**0.79**	**151**		**Sn**	**22 27 53.4**	**+0.4**
SEW	**Seward**	**0.79**	**151**	P	**Pn**	**22 27 42.0**	**-0.2**
	baz=331,SNR=184						
SEW				S	**Sn**	**22 27 53.4**	**+0.4**
	baz=331						
PWL	**Port Wells**	**0.93**	**85**	Pn	**Pn**	**22 27 44.1**	**0.0**
PWL					**Sn**	**22 27 57.0**	**+0.6**
PWL	**Port Wells**	**0.93**	**85**	P	**Pn**	**22 27 44.3**	**+0.2**
	baz=266,SNR=284						
PWL				S	**Sn**	**22 27 57.3**	**+1.0**
	baz=266						
PMR	**Palmer**	**0.96**	**33**		**Pn**	**22 27 44.4**	**0.0**
PMR				Sn	**Sn**	**22 27 56.9**	**-0.2**
PMR	**Palmer**	**0.96**	**33**	P	**Pn**	**22 27 44.5**	**0.0**
	baz=214,SNR=152						
PMR				S	**Sn**	**22 27 57.4**	**+0.4**
	baz=214						
M22K	**Willow**	**0.96**	**3**	Pn	**Pn**	**22 27 44.1**	**-0.3**
M22K				Sn	**Sn**	**22 27 57.6**	**+0.5**
M22K	**Willow**	**0.96**	**3**	P	**Pn**	**22 27 44.4**	**0.0**
	baz=183,SNR=102						
M22K				S	**Sn**	**22 27 57.9**	**+0.8**
	baz=183						
SPU	**Mount Spurr**	**0.97**	**294**		**Pn**	**22 27 44.0**	**-0.6**
SPCG	**Spurr Capps Gl**	**1.00**	**301**		**Pn**	**22 27 44.9**	**-0.3**
SPCG					**Sn**	**22 27 58.5**	**+0.2**
N20K	**Mount Spurr**	**1.05**	**294**	P	**Pn**	**22 27 45.2**	**-0.5**
	baz=113,SNR=1000						
N20K				S	**Sn**	**22 27 58.7**	**-0.6**
	baz=113						
SPCR	**Spurr Chakacha**	**1.05**	**294**		**Pn**	**22 27 45.2**	**-0.5**
SPCR					**Sn**	**22 27 59.0**	**-0.3**
SPCR	**Spurr Chakacha**	**1.05**	**294**		**Pn**	**22 27 45.2**	**-0.5**
SPCR					**Sn**	**22 27 59.2**	**-0.1**
SPCR	**Spurr Chakacha**	**1.05**	**294**	P	**Pn**	**22 27 45.3**	**-0.5**
	baz=113,SNR=925						
SPCR				S	**Sn**	**22 27 58.9**	**-0.4**
	baz=113						
SPCP	**Crater Peak Br**	**1.05**	**298**		**Pn**	**22 27 45.5**	**-0.3**
SPCP					**Sn**	**22 27 59.9**	**+0.4**
STLK	**Strandline Lak**	**1.05**	**313**		**Pn**	**22 27 45.5**	**-0.3**
KNK	**Knik Glacier**	**1.06**	**53**	Pn	**Pn**	**22 27 46.3**	**+0.5**
KNK				Sn	**Sn**	**22 28 00.3**	**+0.8**
KNK	**Knik Glacier**	**1.06**	**53**	P	**Pn**	**22 27 46.3**	**+0.5**
	baz=235,SNR=352						
KNK				S	**Sn**	**22 28 00.8**	**+1.3**
	baz=235						
BRLK	**Bradley Lake**	**1.08**	**198**	Pn	**Pn**	**22 27 46.3**	**+0.1**
BRLK				IAML		22 28 02.0	
	comp=N,4μm,0.5s						
BRLK				IAML		22 28 02.8	
	comp=E,5μm,0.6s						
BRSE	**Bradley Lake S**	**1.09**	**194**		**Pn**	**22 27 46.2**	**0.0**
BRSE					**Sn**	**22 28 00.4**	**+0.3**
BRSE	**Bradley Lake S**	**1.09**	**194**	P	**Pn**	**22 27 46.3**	**0.0**
	baz=13,SNR=78						
BRSE				S	**Sn**	**22 28 00.2**	**+0.1**
	baz=13						
RDT	**Redoubt**	**1.09**	**259**		**Pn**	**22 27 45.9**	**-0.4**
CKL	**Chakachamna La**	**1.10**	**292**		**Pn**	**22 27 46.1**	**-0.5**
GHO	**Glory Hole Cre**	**1.17**	**32**	Pn	**Pn**	**22 27 47.3**	**0.0**
GHO				Sn	**Sn**	**22 28 02.5**	**+0.3**
GHO				IAML		22 28 05.0	
	comp=N,4μm,0.4s						
RDJH	**Redoubt Jeurge**	**1.28**	**262**		**Pn**	**22 27 48.5**	**-0.5**
RDSO	**Redoubt South**	**1.28**	**256**		**Pn**	**22 27 48.7**	**-0.3**
RSO	**Redoubt South**	**1.29**	**256**	Pn	**Pn**	**22 27 48.1**	**-1.0**
RED	**Redoubt Volcan**	**1.31**	**254**		**Pn**	**22 27 48.9**	**-0.3**
HOM	**Homer**	**1.34**	**212**	Pn	**Pn**	**22 27 50.1**	**+0.5**
HOM				IAML		22 28 08.3	
	comp=E,7μm,0.6s						
HOM	**Homer**	**1.34**	**212**	P	**Pn**	**22 27 50.3**	**+0.7**
	baz=31						
HOM				S	**Sn**	**22 28 07.1**	**+0.8**
	baz=31						
SKT	**Skwentna**	**1.34**	**333**	Pn	**Pn**	**22 27 49.8**	**+0.1**
SKT	**Skwentna**	**1.34**	**333**	P	**Pn**	**22 27 50.0**	**+0.3**
	baz=152,SNR=1000						
SKT				S	**Sn**	**22 28 07.5**	**+1.0**
	baz=152						
CNPM	**China Poot**	**1.37**	**202**	Pn	**Pn**	**22 27 50.3**	**+0.3**
CNPM				IAML		22 28 11.1	
	comp=E,3μm,0.5s						
SML	**Sawmill**	**1.37**	**41**	Pn	**Pn**	**22 27 50.6**	**+0.5**
SML				IAML		22 28 09.3	
	comp=E,3μm,0.4s						
SML				IAML		22 28 12.2	
	comp=N,3μm,0.7s						
SML	**Sawmill**	**1.37**	**41**	P	**Pn**	**22 27 50.4**	**+0.3**
	baz=223,SNR=82						
SML				S	**Sn**	**22 28 08.1**	**+1.0**
	baz=223						
O20K	**Slope Mountain**	**1.39**	**240**		**Pn**	**22 27 50.7**	**+0.4**
O20K	**Slope Mountain**	**1.39**	**240**	P	**Pn**	**22 27 50.8**	**+0.5**
	baz=58,SNR=54						
O20K				S	**Sn**	**22 28 08.7**	**+1.2**
	baz=58						
M23K	**Glacier View**	**1.57**	**49**		**Pn**	**22 27 53.1**	**+0.4**
M23K	**Glacier View**	**1.57**	**49**	P	**Pn**	**22 27 53.1**	**+0.4**
	baz=231,SNR=227						
M23K				S	**Sn**	**22 28 13.3**	**+1.3**
	baz=231						
IVE	**Iliamna Volcan**	**1.59**	**242**		**Pn**	**22 27 53.0**	**-0.1**
CUT	**Chulitna**	**1.62**	**359**	Pn	**Pn**	**22 27 53.8**	**+0.5**
CUT	**Chulitna**	**1.62**	**359**	P	**Pn**	**22 27 54.4**	**+1.0**
	baz=180,SNR=104						
CUT				S	**Sn**	**22 28 15.1**	**+2.1**
	baz=180						
ILS	**Iliamna Low So**	**1.64**	**240**		**Pn**	**22 27 54.0**	**+0.2**
ILSW	**Iliamna Southw**	**1.66**	**242**	Pn	**Pn**	**22 27 53.9**	**-0.2**
ILSW				IAML		22 28 16.6	
	comp=N,2μm,0.8s						
ILSW				IAML		22 28 17.6	
	comp=E,2μm,0.7s						
SCM	**Sheep Creek Mo**	**1.75**	**52**	Pn	**Pn**	**22 27 55.7**	**+0.5**
SCM				IAML		22 28 22.5	
	comp=N,2μm,0.8s						
SCM				IAML		22 28 23.0	
	comp=E,2μm,0.7s						
SCM	**Sheep Creek Mo**	**1.75**	**52**	P	**Pn**	**22 27 55.7**	**+0.5**
	baz=234,SNR=63						
SCM				S	**Sn**	**22 28 17.4**	**+1.1**
	baz=234						
M20K	**Styx River**	**1.77**	**309**		**Pn**	**22 27 55.8**	**+0.2**
M20K	**Styx River**	**1.77**	**309**	P	**Pn**	**22 27 56.2**	**+0.6**
	baz=127						
M20K				S	**Sn

MID IAML 22 28 53.0
comp=E,1µm,0.8s
MID IAML 22 29 09.0
comp=N,831nm,1.4s
L20K Farewell, AK 2.43 316 Pn Pn 22 28 04.5 0.0
L20K Farewell, AK 2.43 316 P **Pn 22 28 04.5 0.0**
baz=133
SYI Shuyak Island 2.45 208 Pn 22 28 05.2 +0.5
Q20K Shuyak Island 2.45 208 P **Pn 22 28 05.3 +0.5**
baz=26
Q19K Cape Douglas, 2.54 224 Pn **Pn 22 28 06.6 +0.6**
Q19K Cape Douglas, 2.54 224 P **Pn 22 28 06.7 +0.6**
baz=41,SNR=17
L19K White Mountain 2.62 304 Pn **Pn 22 28 07.5 +0.3**
L19K IAML 22 28 54.0
comp=E,774nm,1.4s
L19K White Mountain 2.62 304 P **Pn 22 28 07.7 +0.6**
baz=120
PS11 TAPS Pump St11 2.62 58 Pn 22 28 08.1 +1.0
O18K Koktuh Hills 2.65 251 Pn **Pn 22 28 07.1 -0.4**
O18K IAML 22 28 51.8
comp=N,640nm,0.7s
O18K Koktuh Hills 2.65 251 P **Pn 22 28 07.0 -0.6**
baz=67,SNR=27
DHY Denali Highway 2.66 29 Pn **Pn 22 28 09.3 +1.5**
DHY IAML 22 28 48.3
comp=E,591nm,0.4s
DHY Denali Highway 2.66 29 P **Pn 22 28 08.7 +0.9**
baz=212,SNR=35
TRF Thorofare Moun 2.67 359 Pn **Pn 22 28 09.2 +1.3**
TRF IAML 22 28 54.2
comp=N,1µm,0.5s
TRF IAML 22 28 57.1
comp=E,655nm,0.6s
TRF Thorofare Moun 2.67 359 P **Pn 22 28 08.3 +0.4**
baz=179,SNR=93
RND Reindeer 2.70 13 Pn **Pn 22 28 10.7 +2.4**
GOAT Goat Mountain 2.71 92 Pn 22 28 07.7 -0.8
BMRM Bremner River 2.75 84 Pn **Pn 22 28 08.3 -0.7**
BMRM Bremner River 2.75 84 P **Pn 22 28 08.3 -0.7**
baz=269,SNR=62
RAGM Ragged Mountai 2.77 96 Pn **Pn 22 28 10.2 +0.9**
CAST Castle Rocks 2.77 342 Pn **Pn 22 28 10.1 +0.8**
CAST IAML 22 29 00.3
comp=N,726nm,0.8s
CAST IAML 22 29 03.0
comp=E,796nm,0.8s
CAST Castle Rocks 2.77 342 P **Pn 22 28 09.9 +0.7**
baz=161,SNR=181
N18K Kilae Creek 2.78 270 Pn **Pn 22 28 08.4 -1.0**
N18K IAML 22 28 58.1
comp=N,581nm,0.5s
N18K Kilae Creek 2.78 270 P **Pn 22 28 08.9 -0.5**
baz=85
KTH Kantishna Hill 2.79 354 Pn **Pn 22 28 11.1 +1.6**
KTH IAML 22 28 47.7
comp=E,958nm,0.7s
KTH IAML 22 28 50.7
comp=N,1µm,0.7s
N25K Chitina, Valde 2.84 71 Pn **Pn 22 28 10.7 +0.5**
N25K IAML 22 28 44.9
comp=E,1µm,0.5s
N25K IAML 22 28 53.6
comp=N,1µm,0.4s
N25K Chitina, Valde 2.84 71 P **Pn 22 28 10.6 +0.4**
baz=256,SNR=30
P18K Big Mountain, 2.87 243 Pn **Pn 22 28 11.1 +0.5**
P18K Big Mountain, 2.87 243 P **Pn 22 28 10.8 +0.2**
baz=59
HARP HAARP 2.91 54 Pn 22 28 12.7 +1.6
HARP HAARP 2.91 54 P **Pn 22 28 11.8 +0.7**
baz=238,SNR=77
HMT Hamilton 2.98 96 Pn **Pn 22 28 10.9 -1.2**
MCK McKinley 3.01 11 Pn **Pn 22 28 15.0 +2.5**
MCK IAML 22 29 05.0
comp=N,423nm,0.7s
MCK McKinley 3.01 11 P **Pn 22 28 13.6 +1.1**
baz=192,SNR=78
KAIM Kayak Island 3.02 104 Pn **Pn 22 28 10.7 -1.8**
KAIM IAML 22 28 51.6
comp=E,938nm,0.6s
KAIM IAML 22 28 51.6
comp=N,729nm,0.5s
WACK Wrangell Chich 3.08 65 Pn 22 28 14.0 +0.4
WASW Wrangell South 3.13 66 Pn 22 28 14.6 +0.3
PAX Paxson 3.14 44 Pn **Pn 22 28 15.6 +1.3**
PAX Paxson 3.14 44 P **Pn 22 28 15.3 +1.0**
baz=228,SNR=75
K20K Telida 3.14 327 Pn **Pn 22 28 13.8 -0.5**
K20K IAML 22 28 58.6
comp=E,804nm,0.7s
K20K Telida 3.14 327 P **Pn 22 28 14.3 +0.1**
baz=143
NICHA Nichawak Mount 3.15 98 Pn 22 28 12.7 -1.6
GLB Gilahina Butte 3.18 75 Pn **Pn 22 28 15.1 +0.3**
GLB IAML 22 29 01.4
comp=N,876nm,0.8s
GLB IAML 22 29 01.6
comp=E,530nm,0.8s
KAHC Katmai Hardscr 3.24 230 Pn 22 28 15.7 0.0
Q18K Katmai Hardscr 3.24 230 P **Pn 22 28 15.6 -0.1**
baz=46,SNR=5.5
BERG Berg Lake 3.25 94 Pn **Pn 22 28 13.3 -2.4**
CHUM Lake Minchumin 3.25 343 Pn 22 28 16.7 +1.0
CHUM Lake Minchumin 3.25 343 P **Pn 22 28 16.6 +1.0**
baz=162,SNR=150
SUCK Suckling Hills 3.28 100 Pn **Pn 22 28 16.5 +0.3**
SUCK IAML 22 29 16.0
comp=N,446nm,0.4s
VRDI Verde Repeater 3.33 80 Pn **Pn 22 28 16.6 -0.4**
VRDI IAML 22 29 08.6
comp=N,428nm,0.9s
BPAW Bear Paw Mtn. 3.34 354 Pn **Pn 22 28 18.8 +1.9**
BPAW IAML 22 29 03.4
comp=N,416nm,0.8s
BPAW IAML 22 29 11.8
comp=E,334nm,0.5s
BPAW Bear Paw Mtn. 3.34 354 P **Pn 22 28 17.9 +0.9**
baz=174,SNR=22
BWN Browne 3.41 6 Pn 22 28 16.9 -1.0
BWN IAML 22 29 17.9
comp=E,774nm,1.0s
BWN IAML 22 29 22.8
comp=N,874nm,0.9s
GRIN Grindle Hills 3.45 96 Pn 22 28 17.0 -1.6
KHIT Khitrov Hills 3.46 93 Pn 22 28 17.1 -1.5
TTA Tatalina 3.48 311 Pn 22 28 18.7 -0.3
TTA IAML 22 29 28.4
comp=E,380nm,0.9s
TTA Tatalina 3.48 311 P **Pn 22 28 18.6 -0.3**
baz=126,SNR=28
P17K Kvichak River 3.51 246 Pn 22 28 20.2 +0.9
P17K Kvichak River 3.51 246 P **Pn 22 28 20.1 +0.9**
baz=60,SNR=26
KAKN Katmai Knife C 3.51 227 Pn 22 28 19.6 +0.2
MCARA McCarthy VSAT 3.55 77 Pn 22 28 19.8 0.0
MCARA McCarthy VSAT 3.55 77 P **Pn 22 28 19.7 -0.2**
baz=263
O17K Koliganek Bris 3.57 256 P **Pn 22 28 19.9 -0.2**
baz=70
WAX Waxell Ridge 3.65 92 Pn 22 28 20.3 -1.0
WAX IAML 22 29 30.0
comp=E,654nm,0.6s
K24K Donnelly Dome 3.67 33 P **Pn 22 28 23.6 +2.1**
baz=216,SNR=20
SNH Sunshine Point 3.71 96 Pn **Pn 22 28 21.3 -0.7**
SNH IAML 22 29 06.1
comp=N,291nm,0.9s
SNH IAML 22 29 22.2
comp=E,267nm,0.7s
ANCK Angle Creek 3.74 228 Pn 22 28 22.8 +0.3
M26K Nabesna, AK 3.81 62 Pn **Pn 22 28 23.6 +0.1**
M26K IAML 22 29 42.1
comp=N,259nm,0.6s
M26K Nabesna, AK 3.81 62 P **Pn 22 28 24.4 +0.9**
baz=248
WRH Wood River Hil 3.82 14 Pn **Pn 22 28 24.1 +0.6**
BARK Barkley Ridge 3.84 92 Pn 22 28 22.8 -1.0
CNTC Contact Creek 3.84 231 Pn 22 28 24.4 +0.5
Q17K Contact Creek 3.84 231 P **Pn 22 28 24.2 +0.3**
baz=46
J20K Nowinta River 3.85 334 Pn **Pn 22 28 24.3 +0.3**
J20K IAML 22 29 34.8
comp=N,532nm,1.1s
J20K IAML 22 29 36.3
comp=E,368nm,0.7s
J20K Nowinta River 3.85 334 P **Pn 22 28 24.4 +0.5**
baz=150
NEA2 Nenana 3.85 7 Pn **Pn 22 28 24.9 +0.9**
NEA2 Nenana 3.85 7 P **Pn 22 28 24.3 +0.3**
baz=188
KIAG Kiagna River 3.85 85 Pn 22 28 23.5 -0.7
BALM Baldy 3.86 83 Pn 22 28 23.6 -0.5
RIDG Independent Ri 3.88 38 Pn **Pn 22 28 24.9 +0.4**
RIDG IAML 22 29 40.2
comp=N,436nm,0.9s
RIDG IAML 22 29 44.4
comp=E,404nm,0.7s
RIDG Independent Ri 3.88 38 P **Pn 22 28 25.2 +0.8**
baz=223
ISLE Juniper Island 3.88 89 Pn **Pn 22 28 24.2 -0.4**
ISLE IAML 22 29 30.5
comp=E,414nm,0.8s
ISLE IAML 22 29 35.3
comp=N,537nm,1.0s
Q16K King Salmon 3.88 240 P **Pn 22 28 25.0 +0.6**
baz=54,SNR=7.9
OHAK Old Harbor 3.92 205 Pn 22 28 23.8 -1.0
OHAK Old Harbor 3.92 205 P **Pn 22 28 23.5 -1.3**
baz=22
HDA Harding Lake 3.93 21 Pn **Pn 22 28 26.6 +1.5**
HDA IAML 22 29 24.2
comp=E,238nm,0.4s
HDA IAML 22 29 32.9
comp=N,342nm,0.6s
HDA Harding Lake 3.93 21 P **Pn 22 28 26.7 +1.6**
baz=204,SNR=35
L26K Log Cabin Wild 3.95 52 Pn **Pn 22 28 25.1 -0.3**
L26K IAML 22 29 31.4
comp=E,338nm,0.6s
L26K IAML 22 29 35.1
comp=N,261nm,0.8s
L26K Log Cabin Wild 3.95 52 P **Pn 22 28 26.1 +0.7**
baz=238,SNR=14
BAGL Bagley Icefiel 4.02 91 Pn 22 28 25.5 -0.8
CCB Clear Creek Bu 4.03 15 Pn **Pn 22 28 27.5 +1.2**
DOT Dot Lake 4.07 43 Pn **Pn 22 28 28.3 +1.4**
PS08 TAPS Pump Stn8 4.08 21 Pn 22 28 28.7 +1.6
O16K Kokwok River B 4.11 256 Pn 22 28 27.3 -0.2
O16K Kokwok River B 4.11 256 P **Pn 22 28 27.2 -0.3**
baz=70
MESA MESA 4.14 95 Pn **Pn 22 28 28.0 -0.2**
MESA IAML 22 29 19.5
comp=E,405nm,0.4s
MESA IAML 22 29 34.9
comp=N,422nm,0.4s
BARN Barnard Glacie 4.19 83 Pn **Pn 22 28 28.7 -0.1**
BARN IAML 22 29 36.4
comp=E,281nm,0.8s
BARN IAML 22 29 37.5
comp=N,311nm,0.8s
YAH Yahtse 4.21 92 Pn **Pn 22 28 27.7 -1.3**
YAH IAML 22 29 41.0
comp=E,196nm,0.7s
YAH IAML 22 29 54.8
comp=N,245nm,1.3s
N16K Nishlik Lake 4.22 269 Pn 22 28 29.1 +0.1
N16K Nishlik Lake 4.22 269 P **Pn 22 28 29.1 +0.1**
baz=82
TCOL CIGO, UAF Yank 4.24 14 Pn **Pn 22 28 30.9 +1.7**
TCOL CIGO, UAF Yank 4.24 14 P **Pn 22 28 30.7 +1.5**
baz=196,SNR=22
COLA College 4.24 14 Pn **Pn 22 28 30.6 +1.4**
COLA College 4.24 14 P **Pn 22 28 30.7 +1.4**
baz=196
MLY Manley 4.26 357 Pn Pn 22 28 30.8 +1.2
MLY Manley 4.26 357 P **Pn 22 28 30.9 +1.3**
baz=177,SNR=100
IL31 4.28 20 Pn **Pn 22 28 31.2 +1.4**
ILAR Eielson Array 4.28 20 P **Pn 22 28 31.0 +1.2**
comp=N,13nm,0.4s,baz=202,slow=14,SNR=164
ILAR S **Sn 22 29 17.4 -0.9**
comp=N,21nm,0.5s,baz=189,slow=16,SNR=8.4
ILAR Eielson Array 4.28 20 Pn **Pn 22 28 31.2 +1.4**
MDM Murphy Dome 4.28 11 Pn **Pn 22 28 31.2 +1.3**
P16K Nushagak River 4.29 249 Pn 22 28 30.8 +0.8
P16K Nushagak River 4.29 249 P **Pn 22 28 30.8 +0.8**
baz=62,SNR=7.4
M27K Edge Creek, AK 4.29 65 Pn **Pn 22 28 30.3 +0.2**
M27K Edge Creek, AK 4.29 65 P **Pn 22 28 31.0 +0.9**
baz=252
SCRK Sand Creek 4.32 40 Pn **Pn 22 28 30.6 +0.1**
SCRK Sand Creek 4.32 40 P **Pn 22 28 30.6 +0.1**
baz=225,SNR=10
I23K Minto, Yukon-K 4.39 5 Pn **Pn 22 28 32.6 +1.4**
I23K IAML 22 29 58.0
comp=N,241nm,0.7s
I23K Minto, Yukon-K 4.39 5 P **Pn 22 28 32.5 +1.2**
baz=186,SNR=56
J25K Salcha River, 4.44 28 Pn **Pn 22 28 33.0 +0.9**
J25K IAML 22 29 36.4
comp=N,182nm,0.5s
J25K IAML 22 29 53.7
comp=E,152nm,0.9s
J25K Salcha River, 4.44 28 P **Pn 22 28 33.3 +1.2**
baz=212
R17K Ugashik Creek 4.47 228 P **Pn 22 28 33.1 +0.6**
baz=42
I21K Tanana 4.47 350 Pn **Pn 22 28 33.5 +1.0**
I21K IAML 22 29 54.9
comp=N,183nm,0.8s
I21K IAML 22 29 59.2
comp=E,245nm,1.1s
I21K Tanana 4.47 350 P **Pn 22 28 33.8 +1.3**
baz=169
TABL Table Mountain 4.49 91 Pn **Pn 22 28 32.1 -0.8**
TABL IAML 22 29 48.0
comp=E,214nm,1.1s
TABL IAML 22 29 50.3
comp=N,286nm,0.7s
POKR Poker Plat Res 4.52 15 Pn **Pn 22 28 34.6 +1.4**
POKR Poker Plat Res 4.52 15 P **Pn 22 28 34.4 +1.2**
baz=198,SNR=25
L27K Beaver Creek, 4.58 57 Pn **Pn 22 28 34.4 +0.5**
L27K Beaver Creek, 4.58 57 P **Pn 22 28 33.8 -0.1**
baz=244
BCAR Beaver Creek A 4.59 57 Pn **Pn 22 28 35.2 +1.0**
YUK2 White River 4.64 74 Pn 22 28 35.1 +0.3
SII Sitkinak Islan 4.72 208 Pn **Pn 22 28 34.6 -1.3**
SII IAML 22 30 38.3
comp=E,255nm,3.1s
BVCY Beaver Creek 4.76 66 P **Pn 22 28 37.1 +0.7**
baz=254
YUK3 Moose Creek 4.81 74 Pn 22 28 37.7 +0.3
YUK3 Moose Creek 4.81 74 P **Pn 22 28 37.8 +0.3**
baz=262,SNR=9.0
J26L Joseph Creek 4.83 37 Pn **Pn 22 28 37.6 +0.2**
J26L IAML 22 30 04.8
comp=N,138nm,0.7s
J26L IAML 22 30 07.4
comp=E,126nm,0.6s
J26L Joseph Creek 4.83 37 P **Pn 22 28 37.8 +0.4**
baz=222
O28M Mount Upton 4.92 86 Pn 22 28 38.9 0.0
O28M Mount Upton 4.92 86 P **Pn 22 28 39.1 +0.2**
baz=274,SNR=9.5
PCA Pinnacle 4.99 94 Pn **Pn 22 28 38.7 -1.0**
PINM Pinnacle 4.99 94 P **Pn 22 28 40.2 +0.6**
baz=282
GCSA Galena City Sc 5.00 325 Pn 22 28 41.4 +1.6
GCSA Galena City Sc 5.00 325 P **Pn 22 28 40.8 +1.1**
baz=140
H21K Melozitna Rive 5.02 348 Pn **Pn 22 28 41.0 +1.0**
H21K IAML 22 30 12.9
comp=N,107nm,0.9s
H21K IAML 22 30 15.8
comp=E,109nm,1.3s
H21K Melozitna Rive 5.02 348 P **Pn 22 28 41.3 +1.3**
baz=166
H23K Yukon River 5.06 3 Pn **Pn 22 28 41.7 +1.1**
H23K Yukon River 5.06 3 P **Pn 22 28 41.7 +1.1**
baz=184
YUK8 Steele Glacier 5.11 80 P **Pn 22 28 42.5 +1.0**
baz=269
H22K Ishtalitna Cre 5.15 355 P **Pn 22 28 43.6 +1.9**
baz=174,SNR=46
H24K Noodor Dome 5.17 11 Pn **Pn 22 28 43.3 +1.2**
H24K IAML 22 30 26.1
comp=E,88nm,1.6s
H24K Noodor Dome 5.17 11 P **Pn 22 28 43.5 +1.3**
baz=193
PRP Porcupine Dome 5.20 22 Pn **Pn 22 28 43.7 +1.1**
PRP IAML 22 29 53.1
comp=N,103nm,0.5s
PRP IAML 22 30 09.9
comp=E,96nm,1.0s
PRP Porcupine Dome 5.20 22 P **Pn 22 28 43.9 +1.3**
baz=206,SNR=26
BCPM Bancas Point 5.33 94 Pn **Pn 22 28 44.5 +0.3**
BCPM IAML 22 30 15.1
comp=N,132nm,1.0s
BCPM IAML 22 30 16.6
comp=E,157nm,1.8s
IMAR Indian Mountai 5.44 345 Pn **Pn 22 28 46.9 +1.1**
PNL Peninsula 5.51 97 Pn 22 28 45.7 -1.1
I26K Coal Creek Min 5.55 32 Pn **Pn 22 28 47.4 +0.1**
I26K Coal Creek Min 5.55 32 P **Pn 22 28 48.2 +0.9**
baz=219
YUK4 Talbot Arm 5.65 79 P **Pn 22 28 49.7 +0.8**
baz=269
EGAK Eagle 5.77 42 Pn **Pn 22 28 50.5 +0.3**
EGAK Eagle 5.77 42 P **Pn 22 28 50.9 +0.7**
baz=230,SNR=5.7
O29M Mount Kennedy 5.77 90 Pn 22 28 50.5 +0.1
O29M Mount Kennedy 5.77 90 P **Pn 22 28 51.3 +0.9**
baz=280
YUK6 Outpost Mounta 5.80 83 Pn 22 28 51.0 +0.1
YUK6 Outpost Mounta 5.80 83 P **Pn 22 28 51.2 +0.3**
baz=274
H25L Birch Creek 5.84 18 P **Pn 22 28 52.4 +1.2**
baz=202
M29M Somme Creek 5.85 68 P **Pn 22 28 52.0 +0.5**
baz=259
G21K Allakaket 5.93 347 P **Pn 22 28 53.6 +1.2**
baz=164
G23K Bananza Creek 5.94 1 P **Pn 22 28 53.9 +1.3**
baz=181,SNR=32
DAWY Dawson 6.01 52 Pn **Pn 22 28 53.8 +0.2**
DAWY Dawson 6.01 52 P **Pn 22 28 54.4 +0.9**
baz=242,SNR=6.9
YUK5 Granite Creek 6.04 81 Pn 22 28 54.1 0.0
G24K Hadweenzic Riv 6.05 10 P **Pn 22 28 54.7 +0.6**
baz=193
L29M L29M 6.16 63 P **Pn 22 28 56.6 +0.9**
baz=253
G22K Bettles 6.18 355 P **Pn 22 28 57.3 +1.5**
baz=174
I27K Kandik River 6.20 35 P **Pn 22 28 56.8 +0.6**
baz=223
FYU Fort Yukon 6.20 19 Pn Pn 22 28 57.5 +1.3
CHGN Chignik 6.21 227 Pn Pn 22 28 56.5 +0.2
HYT Haines Junctio 6.23 84 Pn Pn 22 28 56.5 -0.1
HYT Haines Junctio 6.23 84 P **Pn 22 28 56.5 -0.1**
baz=275
G25K Bearman Lake 6.27 15 P **Pn 22 28 58.0 +1.0**
baz=199
P29M Windy Craggy 6.33 95 Pn Pn 22 28 57.7 -0.3
P29M Windy Craggy 6.33 95 P **Pn 22 28 58.5 +0.5**
baz=286
N30M Aishikik Lake 6.40 78 Pn 22 28 58.1 -0.9
N30M Aishikik Lake 6.40 78 P **Pn 22 28 58.5 -0.4**
baz=270
COLD Coldfoot 6.46 0 Pn Pn 22 29 00.9 +1.2
COLD Coldfoot 6.46 0 P **Pn 22 29 01.0 +1.2**
baz=180,SNR=32
P30M Million Dollar 6.60 90 P **Pn 22 29 02.8 +1.2**
baz=282
F21K Alatna River 6.61 349 P **Pn 22 29 03.9 +2.1**
baz=166
M30M Minto, Yukon 6.64 69 Pn Pn 22 29 02.4 +0.3
M30M Minto, Yukon 6.64 69 P **Pn 22 29 03.3 +1.1**
baz=260
K29M Barlow Dome 6.66 57 P **Pn 22 29 04.1 +1.5**
baz=248
H27K Steamboat Moun 6.70 32 P **Pn 22 29 03.3 +0.3**
baz=220
F22K John River 6.79 354 P **Pn 22 29 06.1 +1.8**
baz=172
G26K Porcupine Rive 6.80 22 P **Pn 22 29 05.2 +0.8**
baz=208,SNR=10.0
F24K Squaw Lake 6.83 8 P **Pn 22 29 05.5 +0.8**
baz=190
O30N Mendenhall 6.92 84 P **Pn 22 29 05.2 -0.9**
baz=276
N31M Braeburn, Yuko 7.03 78 Pn Pn 22 29 07.0 -0.5
N31M Braeburn, Yuko 7.03 78 P **Pn 22 29 08.1 +0.5**
baz=271
I29M Ogilvie Camp, 7.08 45 Pn Pn 22 29 08.7 +0.4
I29M Ogilvie Camp, 7.08 45 P **Pn 22 29 09.3 +1.0**
baz=235
BMAR Burnt Mountain 7.10 18 Pn Pn 22 29 08.7 +0.2
F25K Christian Rive 7.11 14 P **Pn 22 29 09.5 +0.9**
baz=198
G27K Doyon Strip 7.12 28 P **Pn 22 29 09.3 +0.5**
baz=216,SNR=6.8
E23K Chandalar 7.30 2 P **Pn 22 29 13.0 +1.7**
baz=182
E24K Your Creek 7.35 5 P **Pn 22 29 13.6 +1.7**
baz=187
E22K Anaktuvuk Pass 7.40 355 P **Pn 22 29 14.1 +1.5**
baz=174
F26K Sheenjek River 7.41 18 P **Pn 22 29 13.9 +1.1**
baz=204
WHY Whitehorse 7.53 84 Pn Pn 22 29 13.5 -0.9
WHY Whitehorse 7.53 84 P **Pn 22 29 14.3 -0.1**
baz=278
E25K Arctic Village 7.62 13 P **Pn 22 29 16.7 +1.1**
baz=198,SNR=11
M31M Drury Creek, Y 7.71 73 Pn Pn 22 29 16.5 -0.3
M31M Drury Creek, Y 7.71 73 P **Pn 22 29 17.4 +0.6**
baz=266
TOLK Toolik Lake Re 7.88 2 Pn Pn 22 29 21.2 +2.0
TOLK Toolik Lake Re 7.88 2 P **Pn 22 29 22.3 +3.1**
baz=182,SNR=28
ANM Nome 7.92 305 Pn Pn 22 29 20.1 +0.4
FARO Faro, Yukon 8.20 73 Pn Pn 22 29 23.4 -0.1
FARO Faro, Yukon 8.20 73 P **Pn 22 29 23.7 +0.2**
baz=267
D23K Nanushuk River 8.21 359 P **Pn 22 29 26.4 +2.8**
baz=178
E27K Coleen River 8.29 23 P **Pn 22 29 25.5 +0.7**
baz=211
JIS Juneau Island 8.44 100 Pn Pn 22 29 25.4 -1.3
SIT Sitka 8.57 109 Pn Pn 22 29 27.7 -0.9
P33M Teslin, Yukon 8.61 86 Pn Pn 22 29 28.1 -1.1
D25K Kavik River 8.71 9 P **Pn 22 29 31.7 +1.1**
baz=193
G30M tAoh Zraii Nji 8.74 39 P **Pn 22 29 31.7 +0.8**
baz=231
C24K Franklin Bluff 8.99 3 P **Pn 22 29 35.7 +1.5**
baz=185
C23K Itkillik River 9.08 359 P **Pn 22 29 37.1 +1.6**
baz=179
MMPY Sheldon Lake, 9.19 70 P **Pn 22 29 37.5 +0.4**
baz=267
C27K Jago River 9.27 14 P **Pn 22 29 40.5 +2.3**
baz=200
TNA Tin City 9.30 308 Pn Pn 22 29 39.8 +1.3
C26K Camden Bay 9.42 11 P **Pn 22 29 41.8 +1.7**
baz=196
INK Inuvik 10.38 36 P **Pn 22 29 54.4 +1.2**
comp=E,2.4nm,0.8s,baz=233,slow=16,SNR=8.7
INK S **Sn 22 31 51.5 +3.7**
comp=E,3.6nm,0.8s,baz=270,slow=11,SNR=1.4
INK Inuvik 10.38 36 Pn **Pn 22 29 54.0 +0.8**
INK Inuvik 10.38 36 P **Pn 22 29 54.4 +1.2**
baz=232
DLBC Dease Lake 10.49 94 P **Pn 22 29 58.7 +3.7**
comp=E,1.3nm,0.4s,baz=139,slow=20,SNR=1.9
DLBC S **Sn 22 31 47.0 -3.9**
comp=E,2.2nm,0.6s,baz=188,slow=7.1,SNR=1.6
C36M Paulatuk 13.84 41 Pn **Pn 22 30 37.5 -2.9**
A36M Sachs Harbour 14.87 31 P **Pn 22 30 59.1 +0.3**
A36M Sachs Harbour 14.87 31 P **Pn 22 30 54.7 +0.7**
baz=234,SNR=9.6
YKA Yellowknife Ar 16.88 69 P **P 22 31 21.1 0.0**
comp=E,2.4nm,0.6s,baz=278,slow=10,SNR=17
YKA Yellowknife Ar 16.88 69 Pn **Pn 22 31 18.6 -1.1**
WAPA Wapiti River 17.24 95 Pn 22 31 24.0 -0.3
WAPA IAmb IAmb 22 31 46.8
comp=Z,14nm,0.8s
EDM Edmonton 21.22 94 P **P 22 32 09.2 +0.5**
EDM IAmb IAmb 22 32 10.2
comp=Z,21nm,1.2s
NEW Newport 22.65 109 P **P 22 32 25.7 +1.6**
comp=Z,4.5nm,0.7s,baz=300,slow=8.3,SNR=6.7
comp=Z,4.5nm,0.7s
NEW Newport 22.65 109 P **P 22 32 22.6 -1.4**

NEW	Newport	22.65	109	P		P		22 32 25.6	+1.6
	baz=316								
WALA	Waterton Lakes	23.60	103	P		P		22 32 34.5	+0.9
WALA				IAmb		IAmb		22 32 35.5	
	comp=Z,5.4nm,0.6s								
RES	Resolute Bay	23.90	33	P		P		22 32 35.7	-0.2
	comp=Z,1.9nm,0.6s,baz=262,slow=8.7,SNR=7.6								
	comp=Z,1.9nm,0.6s								
RES	Resolute Bay	23.90	33	P		P		22 32 35.5	-0.4
HUMO	Hull Mountain	24.54	125	P		P		22 32 42.6	+0.5
MSO	Missoula	25.18	107	P		P		22 32 48.5	+0.6
	baz=317								
YBH	Yreka Blue Hor	25.38	126	P		P		22 32 51.0	+1.2
	comp=Z,2.7nm,0.9s,baz=320,slow=0.9,SNR=4.6								
	comp=Z,2.7nm,0.9s								
EGMT	Eagleton	26.32	101	P		P		22 32 58.9	+0.7
	baz=314								
EUNU	Eureka	26.39	21	P		P		22 32 58.4	-0.2
BOZ	Bozeman (W)	27.17	106	P		P		22 33 06.5	+0.6
	baz=318								
HLID	Hailey	27.43	113	P		P		22 33 08.7	+0.4
	baz=322								
BEKR	Beckworth	27.90	125	P		P		22 33 13.5	+0.8
GCMT	Greycliff	27.95	104	P		P		22 33 14.4	+1.4
H17A	Grant Village	28.56	107	P		P		22 33 19.0	+0.4
	baz=319								
RLMT	Red Lodge	28.64	104	P		P		22 33 20.1	+0.9
RLMT				IAmb		IAmb		22 33 21.9	
	comp=Z,5.8nm,0.8s								
RLMT	Red Lodge	28.64	104	P		P		22 33 20.8	+1.7
	baz=318,SNR=5.8								
FLWY	Flagg Ranch	28.74	107	P		P		22 33 21.9	+1.8
FLWY				IAmb		IAmb		22 33 33.8	
	comp=Z,9.9nm,1.5s								
IMW	Indian Meadow	28.77	108	P		P		22 33 22.2	+1.8
IMW				IAmb		IAmb		22 33 23.4	
	comp=Z,7.7nm,0.9s								
FXWY	Fox Creek	28.93	108	P		P		22 33 23.3	+1.6
REDW	Red Top Meadow	29.22	109	P		P		22 33 26.4	+2.0
REDW				IAmb		IAmb		22 33 27.1	
	comp=Z,4.4nm,0.9s								
ELK	Elko	29.32	117	P		P		22 33 26.6	+1.3
	comp=Z,2.4nm,0.8s,baz=325,slow=9.8,SNR=8.7								
	comp=Z,2.4nm,0.8s								
ELK	Elko	29.32	117	P		P		22 33 27.3	+2.1
NVAR	Mina Array Bea	29.96	124	P		P		22 33 31.9	+0.9
	comp=Z,1.4nm,0.7s,baz=320,slow=9.6,SNR=5.4								
	comp=Z,1.4nm,0.7s								
NV11	Mina Array Sit	30.02	124	P		P		22 33 32.9	+1.6
BW06	Boulder Array	30.29	108	P		P		22 33 35.0	+1.2
	baz=321								
PDAR	Pinedale Array	30.29	108	P		P		22 33 34.2	+0.5
	comp=Z,0.9nm,0.7s,baz=326,slow=4.3,SNR=9.1								
	comp=Z,0.9nm,0.7s								
PDAR	Pinedale Array	30.29	108	P		P		22 33 34.7	+0.9
DUG	Dugway, Tooele	30.84	115	P		P		22 33 39.8	+1.2
	baz=324								
R11A	Troy Canyon, C	31.16	120	P		P		22 33 42.8	+1.3
R11A	Troy Canyon, C	31.16	120	P		P		22 33 42.6	+1.2
	baz=328								
CWC	Cottonwood Cre	31.76	125	P		P		22 33 48.8	+2.1
	baz=330								
RSSD	Black Hills	31.89	100	P		P		22 33 49.0	+1.2
RSSD				IAmb		IAmb		22 33 50.1	
	comp=Z,4.8nm,0.5s								
RSSD	Black Hills	31.89	100	P		P		22 33 49.2	+1.4
	baz=318								
TPNV	Topopah Spring	32.07	123	P		P		22 33 50.9	+1.4
	baz=329								
ISA	Isabella, Lake	32.28	127	P		P		22 33 52.7	+1.5
	baz=331								
MSU	Marysvale	32.50	116	P		P		22 33 55.2	+1.9
CCUT	Cedar City	32.78	118	P		P		22 33 57.7	+1.9
AGMN	Agassiz Nation	32.91	87	P		P		22 33 57.2	+0.7
	baz=313								
KNB	Kanab	33.46	118	P		P		22 34 03.2	+1.6
KNB				IAmb		IAmb		22 34 04.7	
	comp=Z,6.0nm,0.7s								
PV07	Paradox Valley	34.14	112	P		P		22 34 09.3	+1.7
PV07				IAmb		IAmb		22 34 19.3	
	comp=Z,8.8nm,1.5s								
WUAZ	Wupatki	35.35	118	P		P		22 34 17.7	-0.3
	baz=328								
MONP2	Monument Peak	35.52	126	P		P		22 34 20.6	+1.1
	baz=332								
S22A	4UR Ranch, Cre	35.54	110	P		P		22 34 21.5	+1.8
ECSD	EROS Data Cent	35.78	94	P		P		22 34 21.8	+0.4
	baz=318								
SDCO	Great Sand Dun	36.15	109	P		P		22 34 26.1	+1.2
	baz=324								
W18A	Petrified Fore	36.41	116	P		P		22 34 28.2	+1.2
	baz=328								
G40A	Rib Lake	37.81	86	P		P		22 34 39.3	+0.7
G40A				IAmb		IAmb		22 34 39.6	
	comp=Z,5.2nm,0.7s								
KSU1	Kansas State U	39.31	99	P		P		22 34 51.2	0.0
	baz=322								
121A	Cookes Peak, D	39.45	116	P		P		22 34 54.7	+2.0
	baz=329								
AMTX	Amarillo	40.27	108	P		P		22 35 00.5	+1.2
	baz=325								
MSTX	Muleshoe	40.51	110	P		P		22 35 01.9	+0.5
	baz=326								
WMOK	Wichita Mounta	41.75	105	P		P		22 35 12.4	+0.9
WMOK				IAmb		IAmb		22 35 47.4	
	comp=Z,6.1nm,1.3s								
WMOK	Wichita Mounta	41.75	105	P		P		22 35 12.1	+0.6
	baz=325								
SCHQ	Schefferville	41.98	59	P		P		22 35 12.7	-0.3
	comp=Z,5.7nm,1.0s,baz=348,slow=9.0,SNR=6.7								
	comp=Z,5.7nm,1.0s								
SCHQ	Schefferville	41.98	59	P		P		22 35 12.7	-0.3
SCHQ				IAmb		IAmb		22 35 19.6	
	comp=Z,30nm,1.4s								
U38A	Gravette	42.49	99	P		P		22 35 17.1	-0.3
U38A				IAmb		IAmb		22 35 17.4	
	comp=Z,6.5nm,0.6s								
N47A	Urbana	43.28	87	P		P		22 35 23.3	-0.4
TX31	Lajitas Ar. Si	44.01	114	P		P		22 35 31.2	+1.3
TX32	Lajitas Array	44.01	114	P		P		22 35 30.4	+0.5
TXAR	Lajitas Array	44.01	114	P		P		22 35 30.5	+0.6
	comp=Z,0.9nm,0.7s,baz=309,slow=6.0,SNR=11								
	comp=Z,0.9nm,0.7s								
TXAR	Lajitas Array	44.01	114	P		P		22 35 31.0	+1.2
O48B	Farmland	44.02	87	P		P		22 35 28.9	-0.8
	baz=320								
MIAR	Mount Ida	44.40	100	P		P		22 35 32.1	-0.7
	baz=324								
HEH	HeiHe	44.76	295	*eP*		P		22 35 33.4	-2.1
JCT	Junction City	44.80	109	P		P		22 35 36.6	+0.5
JCT				IAmb		IAmb		22 35 38.4	
	comp=Z,8.1nm,0.8s								
JCT	Junction City	44.80	109	P		P		22 35 36.8	+0.7
	baz=328								
WCI	Wyandotte Cave	45.03	90	P		P		22 35 37.8	0.0
	baz=322								
ERPA	Erie	45.12	81	P		P		22 35 38.9	+0.4
	baz=319								
M53A	WI Miller and	45.30	82	P		P		22 35 39.8	-0.1
M53A	WI Miller and	45.30	82	P		P		22 35 40.4	+0.5
	baz=320								
Q51A	Peebles	45.85	87	P		P		22 35 44.1	-0.2
Q51A				IAmb		IAmb		22 35 44.3	
	comp=Z,9.1nm,0.6s								
M55A	Ridgway	46.20	81	P		P		22 35 47.0	0.0
L56A	Greenwood	46.28	79	P		P		22 35 48.3	+0.7
O54A	Avella	46.41	83	P		P		22 35 48.2	-0.4
O54A				IAmb		IAmb		22 35 54.6	
	comp=Z,16nm,1.1s								
NCB	Newcomb	46.48	75	P		P		22 35 48.5	-0.7
T50A	Nancy	46.69	90	P		P		22 35 50.6	-0.3
T50A				IAmb		IAmb		22 35 51.8	
	comp=Z,6.3nm,0.7s								
PLAL	Pickwick Lake	46.73	94	P		P		22 35 51.1	-0.1
PLAL				IAmb		IAmb		22 35 51.9	
	comp=Z,6.3nm,0.9s								
MCWV	Mont Chateau	47.07	83	P		P		22 35 53.6	-0.2
	baz=321								
SSPA	Standing Stone	47.27	81	P		P		22 35 55.6	+0.3
	baz=321								
SWET	Sewanee	47.59	92	P		P		22 35 57.3	-0.7
SWET				IAmb		IAmb		22 35 58.1	
	comp=Z,5.9nm,0.6s								
TZTN	Tazewell	47.70	89	P		P		22 35 58.9	+0.1
	baz=323								
BATG	Bathurst New B	47.77	66	P		P		22 35 59.1	0.0
F64A	Sherman	47.79	69	P		P		22 35 58.6	-0.7
V51A	Loudon	47.90	90	P		P		22 35 59.5	-0.7
V51A				IAmb		IAmb		22 36 00.9	
	comp=Z,8.2nm,0.6s								
P57A	Homestead Farm	48.10	82	P		P		22 36 01.4	-0.4
FPAL	Fort Paine	48.29	92	P		P		22 36 03.4	0.0
FPAL				IAmb		IAmb		22 36 04.0	
	comp=Z,7.9nm,0.6s								
TKL	Tuckaleechee C	48.29	90	P		P		22 36 03.3	-0.1
TKL				IAmb		IAmb		22 36 24.8	
	comp=Z,5.5nm,0.8s								
ODNJ	Ogdensburg	48.51	78	P		P		22 36 04.7	-0.2
T57A	Hurt	49.44	85	P		P		22 36 12.0	-0.1
T57A				IAmb		IAmb		22 36 30.9	
	comp=Z,16nm,1.4s								
ARCES	ARCESS Array B	49.93	2	P		P		22 36 13.1	-2.3
	comp=Z,1.9nm,0.9s,baz=26,slow=8.4,SNR=1.8								
	comp=Z,1.9nm,0.9s								
DRLN	Deer Lake	49.98	59	P		P		22 36 15.8	-0.2
W57A	Gilead	50.55	87	P		P		22 36 20.1	-0.4
SONM	Songino Array	55.42	307	P		P		22 36 55.9	-0.5
	comp=Z,0.9nm,0.7s,baz=33,slow=5.9,SNR=4.3								
	comp=Z,0.9nm,0.7s								
ZALV	Zalesovo Beam	57.53	325	P		P		22 37 09.2	-1.9
	comp=Z,0.7nm,0.5s,baz=42,slow=8.1,SNR=3.0								
	comp=Z,0.7nm,0.5s								
NB2	NORSAR Subarra	57.66	11	P		P		22 37 10.4	-1.5
	comp=Z,0.8nm,0.7s,baz=351,slow=6.9								
NOA	NORSAR Array B	57.66	11	P		P		22 37 10.5	-1.5
	comp=Z,0.7nm,0.7s,baz=350,slow=7.2,SNR=4.8								
	comp=Z,0.7nm,0.7s								
FINES	FINESS Array B	58.06	2	P		P		22 37 13.1	-1.5
	comp=Z,3.9nm,1.0s,baz=355,slow=7.0,SNR=5.6								
	comp=Z,3.9nm,1.0s								
HHC	Hu-ho-hao-te	59.02	299	*eP*		P		22 37 25.4	+3.5
HHC				LR		LR			
	comp=N,10μm,8.9s								
HHC				LR		LR			
	comp=E,8μm,9.8s								
HHC				LR		LR			
	comp=Z,12μm,11.1s								
BVAR	Borovoye Array	61.99	334	P		P		22 37 39.6	-2.2
	comp=Z,0.6nm,0.5s,baz=57,slow=5.3,SNR=2.8								
	comp=Z,0.6nm,0.5s								
KURBB	Kurchatov Arra	62.23	327	P		P		22 37 42.4	-1.1
	comp=Z,0.7nm,0.4s,baz=31,slow=6.8,SNR=3.4								
	comp=Z,0.7nm,0.4s								
MKAR	Makanchi Array	64.65	323	P		P		22 37 55.9	-3.6
	comp=Z,0.7nm,0.7s,baz=32,slow=7.3,SNR=4.0								
	comp=Z,0.7nm,0.7s								
MKAR	Makanchi Array	64.65	323	P		P		22 37 57.3	-2.2
MAKZ	Makanchi	64.73	323	P		P		22 37 58.0	-2.0
MAKZ				IAmb		IAmb		22 38 27.8	
	comp=Z,6.9nm,1.4s								
WMQ	Urumqi	65.62	318	*eP*		P		22 38 10.1	+4.2
ABKAR	Akbulak array	67.63	339	P		P		22 38 18.2	-0.3
AKASG	Malin Array Be	68.86	0	P		P		22 38 24.1	-2.0
	comp=Z,0.4nm,0.4s,baz=3.5,slow=6.6,SNR=4.1								
	comp=Z,0.4nm,0.4s								
KKAR	Karatay Array	71.27	330	P		P		22 38 43.2	+2.2
KSH	Kashi	73.16	324	P		P		22 38 57.4	+4.9
CHGR	Chuyangaron	75.80	329	P		P		22 39 09.9	+2.1
CHGR				IAmb		IAmb		22 39 24.3	
	comp=Z,7.6nm,0.6s								
ESDC	Sonseca Array	76.15	26	P		P		22 39 10.0	+0.2
	comp=Z,0.5nm,0.8s,baz=336,slow=6.0,SNR=4.2								
	comp=Z,0.5nm,0.8s								
BAUV	El Baul	78.44	92	P		P		22 39 22.5	-0.3

NEIC ***21*** *22:27:36.9±1.2, 37.°23N±0.°04×141.°36E±0.°07, h10km±1km, mb4.1/6, Error ellipse: s-maj=9.8km s-min=7.0km az=112.0*
JMA ***21*** *22:27:37.4±0.2, 37.°2N±0.°3×141.°4E±0.°8, h24km±1km, MV3.8/25, E OFF FUKUSHIMA PREF*
IDC ***21*** *22:27:41.5±3.2, 37.°17N×141.°24E, h47km±30km, mb3.6/11, mbtmp3.9/13, ML3.5/2, Error ellipse: s-maj=27.2km s-min=16.0km az=55.0*

ISC 21 22:27:36.4±0.7, 37.°20N±0.°04×141.°39E±0.°06, h10km, n46, σ0s81/40, mb3.8/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JFK	Kawauchi	0.44	292	S		Sb		22 27 52.4	-0.7
JMST	Minamisoumatoc	0.66	323	S		Sg		22 27 58.9	+1.1
JFFD	Fukushimafurud	0.67	261	P		Pg		22 27 50.0	+0.6
JFFD				S		Sb		22 27 59.3	-0.4
JMM	Marumori	0.81	324	Pg		Pg		22 27 51.6	-0.5
JMM	Marumori	0.81	324	*eP*		Pg		22 27 52.3	+0.2
JMM				S		Sg		22 28 03.2	+0.5
JHO	Hitachi	0.89	228	P		Pg		22 27 53.3	-0.2
JHO				S		Sg		22 28 05.2	+0.2
MJAR	Matsushiro Arr	2.64	256	P		Pn		22 28 19.2	+0.1
	2.4nm,0.3s,baz=321,slow=16,SNR=6.6								
MJAR				S		Sn		22 28 49.3	-1.8
	11nm,0.4s,baz=217,slow=37,SNR=0.9								
	24nm,0.4s								
MAJO	Matsushiro	2.64	256	Pn		Pn		22 28 19.6	+0.6
MJB9	Matsu-Tunnel	2.64	257	Pn		Pn		22 28 20.9	+1.8
JTM	Tenmabayashi	3.59	356	Pn		Pn		22 28 32.3	+0.3
INU	Inuma	3.99	244	Pn		Pn		22 28 34.3	-3.3
JHJ	Hachijo jima 2	4.28	198	P		Pn		22 28 42.6	+1.0
	32nm,0.3s,baz=76,slow=22,SNR=5.1								
JHJ				S		Sn		22 29 31.7	0.0
	96nm,0.8s,baz=49,slow=20,SNR=1.4								
	56nm,0.3s								
JKA	Kamikawa-asahi	6.96	7	Pn		Pn		22 29 18.4	-0.1
JHS	Saijyo	7.05	254	Pn		Pn		22 29 21.8	+2.1
SONM	Songino Array	27.68	304	P		P		22 33 24.5	-0.1
	1.2nm,0.6s,baz=104,slow=8.5,SNR=4.9								
	1.2nm,0.6s								
SONM	Songino Array	27.68	304	P		P		22 33 24.5	-0.1
SONM				IAmb		IAmb		22 34 06.8	
	comp=Z,0.2nm,0.6s								
H11N2	WAKE ISLAND Hy	28.25	121	T		T		23 03 01.0	
	baz=314,slow=75,SNR=36								
H11N1	WAKE ISLAND Hy	28.26	121	T		T		23 03 01.7	
	baz=314,slow=75,SNR=34								
H11N3	WAKE ISLAND Hy	28.27	121	T		T		23 03 02.4	
	baz=314,slow=75,SNR=28								
H11S1	WAKE ISLAND Hy	28.97	123	T		T		23 03 53.8	
	baz=316,slow=76,SNR=25								
H11S3	WAKE ISLAND Hy	28.97	123	T		T		23 03 53.7	
	baz=316,slow=76,SNR=33								
H11S2	WAKE ISLAND Hy	28.98	123	T		T		23 03 54.8	
	baz=316,slow=76,SNR=24								
CMAR	Chiang Mai Arr	41.52	255	P		P		22 35 23.6	-0.4
	comp=Z,0.4nm,0.4s,baz=50,slow=8.8,SNR=1.3								
	comp=Z,0.4nm,0.4s								
ZALV	Zalesovo Beam	41.79	312	P		P		22 35 25.1	-0.8
	comp=Z,1.1nm,0.6s,baz=90,slow=5.9,SNR=5.3								
	comp=Z,1.1nm,0.6s								
ZALV	Zalesovo Beam	41.79	312	P		P		22 35 25.4	-0.4
MK31	Makanchi Array	44.01	302	P		P		22 35 44.0	0.0
MK31				IAmb		IAmb		22 36 26.2	
	comp=Z,3.5nm,1.2s								
MKAR	Makanchi Array	44.01	302	P		P		22 35 43.2	-0.8
	comp=Z,1.2nm,0.7s,baz=83,slow=10,SNR=5.8								
	comp=Z,1.2nm,0.7s								
MKAR	Makanchi Array	44.01	302	P		P		22 35 44.0	0.0
KURBB	Kurchatov Arra	45.88	308	P		P		22 35 57.8	-0.9
	baz=82,slow=7.8								
ILAR	Eielson Array	49.36	32	P		P		22 36 26.4	+0.8
	comp=Z,0.8nm,0.8s,baz=273,slow=6.1,SNR=2.5								
	comp=Z,0.8nm,0.8s								
ILAR	Eielson Array	49.36	32	P		P		22 36 27.1	+1.4
WR0	Warramunga Arr	57.05	188	P		P		22 37 22.0	-0.6
WR0	Warramunga Arr	57.22	188	P		P		22 37 23.0	-0.9
WR0				IAmb		IAmb		22 37 39.9	
	comp=Z,7.6nm,1.4s								
WB2	Warramunga Arr	57.23	188	P		P		22 37 22.9	-1.0
WB2				IAmb		IAmb		22 38 02.2	
	comp=Z,7.1nm,1.4s								
WRA	Warramunga Arr	57.23	188	P		P		22 37 23.1	-0.8
	comp=Z,0.9nm,0.6s,baz=5.1,slow=7.4,SNR=5.9								
	comp=Z,0.9nm,0.6s								
WRA	Warramunga Arr	57.23	188	P		P		22 37 22.1	-1.8
ABKAR	Akbulak array	57.82	310	P		P		22 37 27.4	-0.4
FINES	FINESS Array B	58.66	332	P		P		22 38 39.0	-0.4
	comp=Z,1.6nm,0.6s,baz=44,slow=8.4,SNR=1.8								
	comp=Z,1.6nm,0.6s								
FINES	FINESS Array B	58.66	332	P		P		22 38 39.6	+0.2
NOA	NORSAR Array B	74.02	337	P		P		22 39 12.2	+0.2
	comp=Z,0.6nm,0.7s,baz=42,slow=5.6,SNR=3.4								
	comp=Z,0.6nm,0.7s								
AKASG	Malin Array Be	74.15	322	P		P		22 39 12.7	-0.2
	comp=Z,0.9nm,0.4s,baz=46,slow=6.2,SNR=10								
	comp=Z,0.9nm,0.4s								
GERES	GERESS Array B	82.56	328	P		P		22 39 59.5	0.0
	comp=Z,0.2nm,0.4s,baz=43,slow=5.9,SNR=1.9								
	comp=Z,0.2nm,0.4s								
TXAR	Lajitas Array	90.03	52	P		P		22 40 37.6	+0.9
	comp=Z,0.1nm,0.5s,baz=325,slow=4.4,SNR=1.6								
	comp=Z,0.1nm,0.5s								
H03N2	Juan Fernandez	147.06	96	T		T		01 31 35.2	
	baz=291,slow=76,SNR=7.4								
H03N3	Juan Fernandez	147.07	96	T		T		01 31 41.5	
	baz=291,slow=76,SNR=6.8								
H03N1	Juan Fernandez	147.08	96	T		T		01 31 47.6	
	baz=291,slow=76,SNR=8.4								

NEIC ***21*** *22:32:10.5±1.6, 22.°621S±0.°009×70.°37W±0.°04, h27km±9km, Error ellipse: s-maj=6.0km s-min=1.4km az=91.0*
GUC ***21*** *22:32:11.6±0.7, 22.°63S×70.°30W, h34km±3km, ML4.0*
IDC ***21*** *22:32:11.2±4.1, 22.°74S×70.°41W, h45km±30km, mb3.9/1, mbtmp4.0/4, ML3.9/3, Error ellipse: s-maj=44.7km s-min=23.8km az=22.0*

ISC 21 22:32:10.4±1.2, 22.°63S±0.°03×70.°36W±0.°05, h33km±5km, n52, σ1s12/72, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PB04	IPOC Station P	0.35	34			Pb		22 32 18.6	-0.4
PB04						Sg	Sn	22 32 24.6	-0.5
PB04	IPOC Station P	0.35	34	||*iP*	Pb		22 32 19.3	+0.3
PB04				*eS*		Sn		22 32 25.0	-0.1
PB04				IAML				22 32 25.7	
	comp=E,30μm,0.1s								
PB06	IPOC Station P	0.73	96			Pn		22 32 24.1	-0.5
PB06						Sg	Sn	22 32 33.4	-1.2
PB06	IPOC Station P	0.73	96	*iP*		Pn		22 32 24.6	0.0
PB06				*eS*		Sn		22 32 33.6	-1.1
PB03	IPOC Station P	0.81	44			Pn		22 32 25.2	-0.4
PB03						Sn	Sn	22 32 35.6	-0.9
PB03	IPOC Station P	0.81	44	||*iP*	Pn		22 32 25.6	0.0
PB03				*eS*		Sn		22 32 36.0	-0.5
PB03				IAML				22 32 37.1	
	comp=N,9μm,0.5s								
PB10	IPOC Station P	0.90	191			Pn		22 32 27.2	+0.5
PB10						Sn	Sb	22 32 40.2	+0.9
PB10	IPOC Station P	0.90	191	*iP*		Pn		22 32 27.2	+0.5
PB10				*eS*		Sn		22 32 39.4	+0.8
PB07	IPOC Station P	1.00	26	Pn		Pn		22 32 28.4	+0.2
PB07				Sn		Sn		22 32 40.9	-0.4
PB07	IPOC Station P	1.00	26	||*iP*	Pn		22 32 28.5	+0.2
PB07				*eS*		Sn		22 32 41.3	0.0
PB07				IAML				22 32 44.0	
	comp=N,13μm,0.5s								
PB15	IPOC Station P	1.00	125	Pn		Pn		22 32 28.2	-0.1
PB15				Sn		Sn		22 32 42.3	+0.9
PB15	IPOC Station P	1.00	125	*iP*		Pn		22 32 28.8	+0.4
PB15				*eS*		Sn		22 32 42.1	+0.6
PB15				IAML				22 32 49.6	
	comp=N,4μm,0.3s								
PB09	IPOC Station P	1.33	52			Pn		22 32 33.8	+1.1
PB09						Sn		22 32 51.1	+1.7
PB09	IPOC Station P	1.33	52	*iP*		Pn		22 32 33.9	+1.1
PB09				*eS*		Sn		22 32 50.9	+1.6
PB09				IAML				22 32 54.4	
	comp=E,3μm,0.3s								
LVC	Limon Verde	1.34	90	P		Pn		22 32 34.4	+1.3
	comp=E,170nm,0.3s,baz=277,slow=5.1,SNR=402								
LVC				S		Sn		22 32 51.8	+1.9
	comp=E,668nm,0.3s,baz=102,slow=14,SNR=20								
LVC	Limon Verde	1.34	90			Pn		22 32 34.1	+1.0
LVC						Sn		22 32 51.1	+1.1
LVC	Limon Verde	1.34	90	*iP*		Pn		22 32 34.2	+1.0
LVC				*eS*		Sn		22 32 50.8	+0.8
PB02	IPOC Station P	1.37	18			Pn		22 32 33.8	+0.5
PB02						Sn		22 32 51.3	+0.9
PB02	IPOC Station P	1.37	18	*iP*		Pn		22 32 34.0	+0.7
PB02				*eS*		Sn		22 32 51.6	+1.2
PB02				IAML				22 32 55.2	
	comp=E,9μm,0.3s								
PB01	IPOC Station P	1.77	27	Pn		Pn		22 32 39.6	+0.8
PB01				Sn		Sn		22 33 02.1	+1.8
PB01	IPOC Station P	1.77	27	*iP*		Pn		22 32 40.2	+1.4
PB01				*eS*		Sn		22 33 01.7	+1.4
PB01				IAML				22 33 05.9	
	comp=E,3μm,0.4s								
PATCX	Punta Patache	1.81	6	Pn		Pn		22 32 39.4	+0.1
PATCX	Punta Patache	1.81	6	||*iP*	Pn		22 32 39.6	+0.3
PATCX				*eS*		Sn		22 33 04.0	+2.9
PATCX				IAML				22 33 08.4	
	comp=E,3μm,0.3s								
PB14	IPOC Station P	1.99	181	Pn		Pn		22 32 42.1	+0.1
TA01	Diego Aracena	2.06	5	Pn		Pn

800nm,0.4s
PRK Paraskevi 0.31 150 P **Pb** **22 32 44.7 +0.3**
PRK S **Sb** **22 32 49.4 0.0**
PRK AML AML 22 32 51.2
comp=N,1600μm,0.3s
PRK AML AML 22 32 51.3
comp=E,1582μm,0.4s
BOZC Bozcaada 0.33 357 PG **Pg** **22 32 44.0 +0.2**
BOZC SG **Sg** **22 32 49.0 +0.7**
SIGR SIGRI 0.35 209 PG **Pg** **22 32 44.7 +0.5**
SIGR SG **Sg** **22 32 50.3 +1.4**
SIGR SIGRI 0.35 209 P **Pg** **22 32 44.4 +0.2**
SIGR S **Sg** **22 32 49.8 +0.9**
comp=E,358nm,0.4s
SIGR SIGRI 0.35 209 P **Pg** **22 32 44.4 +0.2**
SIGR S **Sg** **22 32 49.6 +0.7**
SIGR AML AML 22 32 52.5
comp=E,627μm,0.3s
SIGR AML AML 22 32 53.7
comp=N,716μm,0.3s
EZN Ezine 0.37 32 PG **Pg** **22 32 44.5 0.0**
EZN SG **Sg** **22 32 49.9 +0.5**
EZN Ezine 0.37 32 P **Pg** **22 32 44.5 0.0**
EZN S **Sg** **22 32 50.0 +0.5**
comp=N,345nm,0.1s
BAYC CANAKKALE_Bayr 0.43 58 P **Pg** **22 32 45.3 -0.4**
BAYC S **Sg** **22 32 51.0 -0.4**
AYVA Ayvalik 0.52 113 P **Pg** **22 32 48.1 +0.7**
AYVA S **Sn** **22 32 58.5 -0.4**
AYVA *i* AML AML 22 33 00.0
comp=N,130nm,0.3s
GOKA anakkale-Gk 0.69 349 P **Pg** **22 32 50.1 -0.4**
GOKA S **Sb** **22 33 00.0 -0.3**
GOKA *i* AML AML 22 33 02.0
comp=N,126nm,0.2s
GOKA *i* AML AML 22 33 04.0
comp=N,204nm,0.2s
GADA Gvkgeada 0.69 349 PG **Pg** **22 32 50.5 0.0**
BUHA Balikesir, Bur 0.78 91 P **Pg** **22 32 51.8 -0.3**
BUHA S **Sb** **22 33 03.1 +0.2**
BUHA *i* AML AML 22 33 06.0
comp=N,100nm,0.6s
GELI Tayfur-Gelibol 0.93 19 PG **Pg** **22 32 55.2 0.0**
GELI SG **Sn** **22 33 08.5 -0.7**
ZEDA zmir-Bergama 0.95 125 P **Pg** **22 32 55.5 0.0**
ZEDA *i* AML AML 22 33 09.0
comp=N,51nm,0.8s
ZEDA S **Sn** **22 33 09.6 0.0**
ZEDA *i* AML AML 22 33 11.0
comp=N,52nm,0.2s
LPK Lapseki 1.01 31 PG **Pb** **22 32 56.5 +0.1**
LPK SG **Sn** **22 33 10.9 -0.1**
SMTH Samothraki Isl 1.04 337 P **Pb** **22 32 56.8 -0.3**
SMTH S **Sg** **22 33 11.0 +0.1**
comp=N,90nm,0.2s
SMTH Samothraki Isl 1.04 337 P **Pb** **22 32 56.7 -0.3**
SMTH S **Sg** **22 33 10.9 +0.1**
PSRA Psara 1.05 202 P **Pb** **22 32 56.6 -0.6**
CHOS Chios island 1.13 181 PN **Pb** **22 32 59.3 +0.8**
CHOS Chios island 1.13 181 P **Pb** **22 32 57.8 -0.7**
CHOS S **Sb** **22 33 12.2 -0.8**
ERIK Erikli-Kesan 1.20 16 PN **Pn** **22 32 59.8 +0.2**
BALY Balya 1.21 79 P **Pn** **22 32 58.5 -1.3**
BALY S **Sb** **22 33 14.6 -1.0**
BALY *i* AML AML 22 33 16.0
comp=N,50nm,0.3s
ENEZ Enez 1.22 3 PN **Pg** **22 33 00.7 +0.1**
ENEZ Enez 1.22 3 P **Pn** **22 32 59.6 -0.3**
ENEZ S **Sn** **22 33 16.6 +0.3**
comp=N,142nm,0.4s
URLA Izmir 1.22 160 PN **Pg** **22 33 01.1 +0.4**
URLA Izmir 1.22 160 P **Pn** **22 32 57.8 -2.1**
STEP BALIKESIR_Sava 1.28 96 P **Pn** **22 33 00.4 -0.3**
STEP S **Sg** **22 33 19.8 +1.4**
STEP *i* AML AML 22 33 24.0
comp=N,34nm,0.7s
KRBG Karabiga-Canak 1.29 47 PN **Pb** **22 33 01.3 +0.1**
ZEYE Izmir, Ürla-Ze 1.32 165 P **Pn** **22 33 01.6 +0.4**
ZEYE S **Sb** **22 33 18.1 -0.3**
ZEYE *i* AML AML 22 33 23.0
comp=N,67nm,0.4s
ZEYE *i* AML AML 22 33 23.0
comp=N,61nm,0.3s
GONE Gonen-Balikesi 1.35 66 PN **Pg** **22 33 02.9 -0.2**
KESN Edirne-Kesan 1.39 19 P **Pn** **22 33 02.2 -0.3**
KESN *i* AML AML 22 33 21.0
comp=N,48nm,0.4s
KESN S **Sn** **22 33 21.3 +0.4**
KESN *i* AML AML 22 33 22.0
comp=N,87nm,0.5s
RKY Sarkoy-Tekirda 1.45 35 PN **Pb** **22 33 03.8 -0.1**
THAS Thassos island 1.51 317 P **Pn** **22 33 03.0 -0.8**
THAS S **Sn** **22 33 22.3 -1.0**
comp=N,28nm,0.3s
MRMT Marmara Adasi 1.59 47 PN **Pb** **22 33 06.3 -0.2**
EDC Edincik 1.61 58 PN **Pb** **22 33 06.7 +0.1**
UKOP Uzunkopru-Edir 1.67 15 PN **Pb** **22 33 07.4 -0.3**
RDO Rodhopi 1.68 346 PN **Pb** **22 33 07.4 -0.5**
DURS Dursunbey 1.86 87 P **Pn** **22 33 06.9 -1.8**
DURS S **Sn** **22 33 30.2 -1.9**
DURS *i* AML AML 22 33 34.0
comp=N,27nm,1.5s
KCTX Karacabey (Bur 1.91 66 PN **Pn** **22 33 10.8 +1.4**
KDZ Kurdzhali 2.19 347 PN **Pn** **22 33 14.7 +1.5**
MDNY Mudanya-Bursa 2.32 68 PN **Pn** **22 33 16.8 +1.8**
SLVT Silivri 2.37 43 PN **Pn** **22 33 17.1 +1.5**
ARMT Armutlu 2.38 63 PN **Pn** **22 33 17.8 +1.9**
EDRB Edirne 2.38 12 PN **Pn** **22 33 17.6 +1.7**

JMA ***21*** *22:32:46.9±0.1, 37°.2N±0°.3×141°.4E±0°.8, h26km±1km, MV3.5/34, E OFF FUKUSHIMA PREF*
IDC ***21*** *22:32:51.3±3.2, 37°.01N×141°.41E, h61km±29km, mb3.5/9, mbtmp3.8/12, ML3.2/3, Error ellipse: s-maj=26.9km s-min=15.9km az=66.0*
ISC 21 22:32:44.8±2.1, 37°.12N±0°.04×141°.53E±0°.09, h6km±11km, n24, σ1$11/25, mb3.9/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.58**	**295**	P	**Pg**	**22 32 56.1**	**+0.2**
JFK				S	**Sg**	**22 33 02.9**	**-0.6**
JFFD	**Fukushimafurud**	**0.77**	**268**	P	**Pg**	**22 32 59.7**	**0.0**
JFFD				S	**Sg**	**22 33 08.8**	**-1.0**
JMST	**Minamisoumatoc**	**0.79**	**320**	P	**Pg**	**22 33 00.2**	**+0.2**
JMST				S	**Sg**	**22 33 09.9**	**-0.4**
JHO	**Hitachi**	**0.92**	**237**	P	**Pg**	**22 33 02.5**	**-0.1**
JHO				S	**Sg**	**22 33 13.8**	**-0.7**
JMM	**Marumori**	**0.95**	**322**	P	**Pg**	**22 33 02.7**	**-0.3**
JMM				S	**Sg**	**22 33 14.5**	**-0.9**
JIO	**Ouri**	**1.34**	**354**	P	**Pn**	**22 33 09.4**	**-0.7**
MJAR	**Matsushiro Arr**	**2.73**	**259**	P	**Pn**	**22 33 29.7**	**+0.5**
	0.7nm,0.3s,baz=84,slow=25,SNR=7.9						
MJAR				S	**Sn**	**22 34 02.7**	**+0.3**
	8.8nm,0.5s,baz=248,slow=33,SNR=2.6 5.6nm,0.4s						
JHJ	**Hachijo jima 2**	**4.24**	**200**	P	**Pn**	**22 33 51.1**	**+1.2**
	8.2nm,0.3s,baz=72,slow=20,SNR=1.6						
JHJ				S	**Sn**	**22 34 38.5**	**-1.2**
	51nm,0.6s,baz=107,slow=19,SNR=1.0 113nm,0.9s						
USRK	**Ussuriysk Ar.**	**10.12**	**317**	P	**Pn**	**22 35 13.9**	**+3.3**
	0.7nm,0.3s,baz=139,slow=11,SNR=2.1 1.2nm,0.3s						
SONM	**Songino Array**	**27.81**	**304**	P	**P**	**22 38 34.2**	**-0.6**
	0.6nm,0.6s,baz=113,slow=9.9,SNR=2.7 0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	23 08 10.4	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	23 08 09.2	
	baz=314,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	23 08 11.1	
	baz=314,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	23 09 03.8	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	23 09 04.3	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.84**	**123**	T	T	23 09 05.9	
	baz=316						
ZALV	**Zalesovo Beam**	**41.93**	**312**	P	**P**	**22 40 34.8**	**-1.2**
	1.0nm,0.7s,baz=90,slow=8.6,SNR=4.7 1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**22 40 53.7**	**-0.4**
	0.6nm,0.7s,baz=83,slow=9.5,SNR=4.1 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**46.02**	**308**	P	**P**	**22 41 07.3**	**-1.6**
	1.2nm,0.7s,baz=85,slow=8.2,SNR=7.3 1.2nm,0.7s						
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**22 41 36.1**	**+1.4**
	0.7nm,0.6s,baz=266,slow=7.1,SNR=3.6 0.7nm,0.6s						
WRA	**Warramunga Arr**	**57.16**	**188**	P	**P**	**22 42 31.4**	**-1.1**
	0.2nm,0.8s,baz=5.0,slow=7.3,SNR=1.7 0.2nm,0.8s						
ARCES	**ARCESS Array B**	**63.95**	**339**	P	**P**	**22 43 18.7**	**+0.4**
	1.7nm,0.9s,baz=55,slow=10.0,SNR=4.6 1.7nm,0.9s						
FINES	**FINESS Array B**	**68.78**	**332**	P	**P**	**22 43 48.6**	**-0.7**
	2.5nm,1.0s,baz=79,slow=7.2,SNR=1.2 2.5nm,1.0s						
AKASG	**Malin Array Be**	**74.29**	**322**	P	**P**	**22 44 22.1**	**-0.6**
	0.6nm,0.5s,baz=47,slow=5.6,SNR=3.6 0.6nm,0.5s						

IDC ***21*** *22:37:06.5±2.5, 37°.14N×141°.38E, h0km, mb3.5/6, mbtmp3.6/8, ML2.4/2, Error ellipse: s-maj=60.4km s-min=25.8km az=75.0*
JMA ***21*** *22:37:11.0±0.2, 37°.3N±0°.5×14°1E±°, h34km±1km, MV3.3/29, E OFF FUKUSHIMA PREF*
ISC 21 22:37:07.2±2.1, 37°.22N±0°.06×141°.65E±0°.08, h13km±11km, n19, σ1$11/19, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.64**	**284**	P	**Pb**	**22 37 20.9**	**+0.7**
JFK				S	**Sg**	**22 37 28.2**	**+0.1**
JMST	**Minamisoumatoc**	**0.79**	**310**	P	**Pb**	**22 37 23.4**	**+0.5**
JMST				S	**Sg**	**22 37 32.4**	**-0.6**
JFFD	**Fukushimafurud**	**0.88**	**262**	P	**Pg**	**22 37 25.1**	**+0.8**
JFFD				S	**Sb**	**22 37 35.1**	**-1.0**
JMM	**Marumori**	**0.94**	**314**	P	**Pb**	**22 37 25.7**	**+0.3**
JMM				S	**Sb**	**22 37 36.5**	**-1.3**
JIO	**Ouri**	**1.26**	**349**	P	**Pb**	**22 37 31.4**	**+0.6**
JIO				S	**Sb**	**22 37 45.9**	**-0.9**
MJAR	**Matsushiro Arr**	**2.84**	**257**	Pn	**Pn**	**22 37 50.2**	**-2.1**
	0.1nm,0.3s,baz=77,slow=4.0,SNR=1.6						
MJAR				Sn	**Sn**	**22 38 28.0**	**+1.6**
	0.3nm,0.3s,baz=70,slow=36,SNR=1.8 2.6nm,0.5s						
JHJ	**Hachijo jima 2**	**4.37**	**201**	Pn	**Pn**	**22 38 11.1**	**-2.1**
	3.9nm,0.3s,baz=81,slow=19,SNR=2.0 182nm,1.0s						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**22 42 56.6**	**+0.2**
	0.4nm,0.8s,baz=82,slow=10,SNR=3.1 0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	23 12 24.0	
	baz=314,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	23 12 25.1	
	baz=314,slow=75,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	23 12 27.6	
	baz=314,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	23 13 18.9	
	baz=316,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	23 13 21.4	
	baz=316,slow=76,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	23 13 24.3	
	baz=316,slow=76,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.93**	**312**	P	**P**	**22 44 57.2**	**-0.1**
	0.5nm,0.6s,baz=91,slow=9.6,SNR=4.1 0.5nm,0.6s						
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**22 45 15.8**	**+0.1**
	0.8nm,0.7s,baz=79,slow=8.8,SNR=6.0 0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**46.04**	**308**	P	**P**	**22 45 30.2**	**-0.2**
	0.5nm,0.4s,baz=76,slow=9.7,SNR=2.1 0.5nm,0.4s						
BVAR	**Borovoye Array**	**50.59**	**312**	P	**P**	**22 46 06.3**	**+0.9**
	0.3nm,0.5s,baz=76,slow=7.6,SNR=2.6 0.3nm,0.5s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**22 46 55.2**	**+0.7**
	0.4nm,1.0s,baz=2.9,slow=7.4,SNR=2.3 0.4nm,1.0s						

IDC ***21*** *22:44:04.9±0.9, 37°.14N×141°.26E, h0km, mb3.6/12, mbtmp3.6/14, ML3.0/2, Error ellipse: s-maj=25.4km s-min=18.6km az=96.0*
JMA ***21*** *22:44:08.3±0.2, 37°.2N±0°.3×141°.4E±0°.9, h28km±1km, MV4.0/23, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 21 22:44:07.6±1.8, 37°.18N±0°.04×141°.39E±0°.08, h17km±10km, n25, σ1$92/25, mb3.6/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.46**	**295**	P	**Pg**	**22 44 17.7**	**+0.8**
JFK				S	**Sb**	**22 44 24.4**	**+0.8**
JFFD	**Fukushimafurud**	**0.67**	**263**	P	**Pb**	**22 44 21.7**	**+0.9**
JFFD				S	**Sb**	**22 44 31.2**	**+1.3**
JMST	**Minamisoumatoc**	**0.68**	**324**	P	**Pg**	**22 44 21.0**	**0.0**
JMST				S	**Sg**	**22 44 30.4**	**+0.4**
JMM	**Marumori**	**0.84**	**326**	P	**Pg**	**22 44 23.2**	**-0.8**
JMM				S	**Sg**	**22 44 34.6**	**-0.4**
JHO	**Hitachi**	**0.87**	**230**	*e*P	**Pg**	**22 44 24.1**	**-0.4**
JHO				S	**Sg**	**22 44 36.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.63**	**257**	Pn	**Pn**	**22 44 46.5**	**-2.7**
	0.9nm,0.3s,baz=79,slow=17,SNR=5.0						
MJAR				Sn	**Sb**	**22 45 26.7**	**+0.5**
	1.7nm,0.3s,baz=189,slow=22,SNR=6.2 4.2nm,0.3s						
JHJ	**Hachijo jima 2**	**4.26**	**199**	Pn	Pn	22 45 09.1	-2.5
	11nm,0.3s,baz=49,slow=20,SNR=1.1						
JHJ				Sn	**Sn**	**22 46 01.6**	**+0.7**
	8.6nm,0.3s,baz=53,slow=20,SNR=1.7 78nm,0.7s						
SONM	**Songino Array**	**27.69**	**304**	P	**P**	**22 49 54.9**	**+0.1**
	0.2nm,0.6s,baz=90,slow=7.5,SNR=1.8 0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	23 19 27.1	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	23 19 29.7	
	baz=314,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	23 19 30.5	
	baz=314,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	23 20 20.2	
	baz=316,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	23 20 20.6	
	baz=316,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	23 20 19.9	
	baz=316,slow=75						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**22 51 54.8**	**-1.3**
	0.5nm,0.4s,baz=104,slow=6.1,SNR=2.2 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.90**	**308**	P	**P**	**22 52 28.7**	**-0.3**
	0.6nm,0.5s,baz=82,slow=8.0,SNR=1.7 0.6nm,0.5s						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**22 52 56.3**	**+0.5**
	0.5nm,0.7s,baz=278,slow=6.3,SNR=3.5 0.5nm,0.7s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**22 53 53.4**	**-0.3**
	0.3nm,0.5s,baz=6.2,slow=7.4,SNR=5.7 0.3nm,0.5s						
ASAR	**Alice Springs**	**60.93**	**188**	P	**P**	**22 54 19.5**	**-0.1**
	0.2nm,0.3s,baz=9.7,slow=6.6,SNR=1.5 0.2nm,0.3s						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**22 55 09.3**	**-0.4**
	2.4nm,0.8s,baz=44,slow=8.3,SNR=2.3 2.4nm,0.8s						
NOA	**NORSAR Array B**	**74.05**	**337**	P	**P**	**22 55 43.2**	**+1.0**
	0.5nm,0.8s,baz=53,slow=6.6,SNR=1.7 0.5nm,0.8s						
AKASG	**Malin Array Be**	**74.17**	**322**	P	**P**	**22 55 42.6**	**-0.4**
	0.2nm,0.3s,baz=45,slow=6.1,SNR=2.4 0.2nm,0.3s						
PDAR	**Pinedale Array**	**77.58**	**45**	P	**P**	**22 56 03.6**	**+0.6**
	0.2nm,0.6s,baz=306,slow=3.1,SNR=2.4 0.2nm,0.6s						
GERES	**GERESS Array B**	**82.58**	**328**	P	**P**	**22 56 29.7**	**0.0**
	0.3nm,0.5s,baz=24,slow=5.4,SNR=1.6 0.3nm,0.5s						
TXAR	**Lajitas Array**	**90.05**	**52**	P	**P**	**22 57 07.6**	**+0.9**
	0.2nm,0.6s,baz=309,slow=4.3,SNR=2.8 0.2nm,0.6s						

JMA ***21*** *22:47:09.8±0.4, 37°.2N±0°.6×14°1E±°, h26km±2km, MV3.0/28, E OFF FUKUSHIMA PREF*
IDC ***21*** *22:47:14.8±3.6, 37°.00N×141°.22E, h38km±31km, mb3.5/18, mbtmp3.8/21, ML3.2/3, Error ellipse: s-maj=24.6km s-min=16.1km az=79.0*
ISC 21 22:47:10.8±0.6, 37°.12N±0°.05×141°.37E±0°.08, h10km, n36, σ1$22/29, mb3.8/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.65**	**268**	*e*P	**Pg**	**22 47 22.8**	**-0.6**
JMST	**Minamisoumatoc**	**0.72**	**328**	*e*P	**Pg**	**22 47 23.1**	**-1.6**
JHO	**Hitachi**	**0.82**	**232**	*e*P	**Pg**	**22 47 25.2**	**-1.4**
JMM	**Marumori**	**0.88**	**328**	*e*P	**Pg**	**22 47 25.8**	**-1.9**
MJAR	**Matsushiro Arr**	**2.60**	**258**	Pn	**Pn**	**22 47 52.7**	**-0.3**
	1.2nm,0.3s,baz=76,slow=10,SNR=5.9						
MJAR				Sn	**Sn**	**22 48 25.8**	**+1.1**
	1.7nm,0.3s,baz=81,slow=16,SNR=5.4 8.4nm,0.4s						
JHJ	**Hachijo jima 2**	**4.20**	**199**	Pn	**Pn**	**22 48 14.3**	**-0.6**
	6.8nm,0.3s,baz=0.0,slow=20,SNR=1.0						
JHJ				Sn	**Sn**	**22 49 06.0**	**+1.9**
	7.4nm,0.3s,baz=90,slow=20,SNR=1.5 72nm,0.7s						
USRK	**Ussuriysk Ar.**	**10.04**	**318**	Pn	**Pn**	**22 49 36.0**	**+1.0**
	0.7nm,0.3s,baz=233,slow=20,SNR=4.9 0.9nm,0.3s						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**22 52 59.1**	**-0.2**
	0.4nm,0.6s,baz=82,slow=10,SNR=3.1 0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	23 22 31.0	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	23 22 29.5	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	23 22 30.3	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	23 23 23.7	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	23 23 24.1	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	23 23 24.9	
	baz=316						
TIXI	**Tiksi**	**35.20**	**353**	P	**P**	**22 54 06.3**	**+1.6**
	0.6nm,0.3s,baz=180,slow=0.4,SNR=1.6 0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**22 54 59.0**	**-1.6**
	1.0nm,0.7s,baz=91,slow=7.9,SNR=5.1 1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**22 55 17.6**	**-1.1**
	1.0nm,0.8s,baz=82,slow=11,SNR=5.4 1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**22 55 32.6**	**-0.9**
	1.4nm,0.7s,baz=86,slow=8.6,SNR=6.4 1.4nm,0.7s						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**22 56 01.9**	**+1.3**
	1.0nm,0.7s,baz=258,slow=5.9,SNR=9.0 1.0nm,0.7s						
INK	**Inuvik**	**54.32**	**27**	P	**P**	**22 56 37.6**	**+0.7**
	0.7nm,0.8s,baz=256,slow=1.2,SNR=1.8 0.7nm,0.8s						
WRA	**Warramunga Arr**	**57.14**	**188**	P	**P**	**22 56 55.4**	**-2.4**
	0.5nm,0.8s,baz=5.8,slow=7.4,SNR=5.1 0.6nm,0.8s						
ASAR	**Alice Springs**	**60.87**	**188**	P	**P**	**22 57 23.8**	**+0.2**
	0.1nm,0.3s,baz=21,slow=5.4,SNR=1.8 0.1nm,0.3s						
GEYT	**Alibeck**	**63.76**	**299**	P	**P**	**22 57 43.2**	**+0.2**
	0.3nm,0.4s,baz=333,slow=1.9,SNR=2.0 0.3nm,0.4s						
ARCES	**ARCESS Array B**	**63.90**	**339**	P	**P**	**22 57 43.2**	**-0.1**
	1.0nm,0.7s,baz=57,slow=8.7,SNR=1.2 1.0nm,0.7s						
STKA	**Stephens Creek**	**68.64**	**180**	P	**P**	**22 58 13.1**	**-1.0**
	0.5nm,0.3s,baz=307,slow=5.1,SNR=1.3 0.5nm,0.3s						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**22 58 15.6**	**+1.2**
	4.7nm,0.8s,baz=25,slow=7.6,SNR=1.7 4.7nm,0.8s						
NB2	**NORSAR Subarra**	**74.09**	**337**	P	**P**	**22 58 49.1**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.09**	**337**	P	**P**	**22 58 47.3**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=39,slow=5.7,SNR=3.3 comp=Z,1.1nm,0.9s						
NOA	**NORSAR Array B**	**74.09**	**337**	P	**P**	**22 58 47.3**	**+0.5**
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**22 58 48.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=47,slow=6.6,SNR=5.4 comp=Z,0.7nm,0.5s						
BRTR	**Keskin Array B**	**78.77**	**312**	P	**P**	**22 59 14.3**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=98,slow=5.0,SNR=2.3 comp=Z,0.4nm,0.8s						
GERES	**GERESS Array B**	**82.62**	**328**	P	**P**	**22 59 34.5**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=35,slow=6.0,SNR=3.7 comp=Z,0.1nm,0.4s						
TXAR	**Lajitas Array**	**90.09**	**52**	P	**P**	**23 00 11.0**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=269,slow=2.8,SNR=1.6 comp=Z,0.1nm,0.5s						
H03N2	**Juan Fernandez**	**147.07**	**96**	T	T	01 51 11.2	
	baz=291						
H03N3	**Juan Fernandez**	**147.08**	**96**	T	T	01 51 12.8	
	baz=291						
H03N1	**Juan Fernandez**	**147.08**	**96**	T	T	01 51 11.7	
	baz=291						

NEIC ***21*** *22:47:16.6±1.2, 37°.25N±0°.06×141°.63E±0°.08, h10km±1km, mb4.4/20, Error ellipse: s-maj=12.0km s-min=9.3km az=54.0*
JMA ***21*** *22:47:19.0±0.1, 37°.2N±0°.3×141°.4E±0°.7, h27km±1km, MV4.0/35, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 21 22:47:17.2±1.9, 37°.23N±0°.04×141°.49E±0°.07, h14km±10km, n42, σ0$93/50, mb4.5/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.51**	**286**	P	**Pb**	**22 47 28.1**	**+0.1**
JFK				S	**Sg**	**22 47 34.4**	**+0.2**
JMST	**Minamisoumatoc**	**0.69**	**316**	P	**Pb**	**22 47 31.1**	**+0.1**
JMST				S	**Sg**	**22 47 39.8**	**0.0**
JFFD	**Fukushimafurud**	**0.76**	**260**	P	**Pg**	**22 47 32.0**	**+0.1**
JFFD				S	**Sg**	**22 47 41.1**	**-0.8**
JMM	**Marumori**	**0.85**	**319**	Pg	**Pb**	**22 47 33.6**	**-0.1**
JMM	**Marumori**	**0.85**	**319**	P	**Pg**	**22 47 33.8**	**+0.1**
JMM				*e*S	**Sb**	**22 47 44.1**	**-0.8**
JHO	**Hitachi**	**0.96**	**231**	P	**Pb**	**22 47 35.4**	**-0.3**
JHO				S	**Sb**	**22 47 47.0**	**-1.2**
JIO	**Ouri**	**1.23**	**355**	P	**Pb**	**22 47 40.0**	**-0.3**
JIO				S	**Sb**	**22 47 54.5**	**-1.5**
JSB	**Shiboa**	**1.28**	**259**	P	**Pb**	**22 47 41.3**	**+0.2**
JSB				S	**Sb**	**22 47 57.4**	**-0.1**
JOU	**Okura**	**1.31**	**330**	P	**Pb**	**22 47 41.9**	**+0.3**
JOU				*e*S	**Sn**	**22 47 57.9**	**-0.6**
JSD	**Sado**	**2.69**	**289**	Pn	**Pb**	**22 48 03.6**	**-1.5**
MAJO	**Matsushiro**	**2.72**	**256**	Pn	**Pn**	**22 48 02.2**	**+1.7**
MJB9	**Matsu-Tunnel**	**2.72**	**257**	Pn	**Pb**	**22 48 03.6**	**-2.1**
JTM	**Tenmabayashi**	**3.57**	**355**	Pn	**Pn**	**22 48 13.8**	**+1.6**
JGF	**Kuroka**	**3.71**	**245**	Pn	**Pn**	**22 48 16.3**	**+2.2**
INU	**Inuyama**	**4.07**	**244**	Pn	**Pn**	**22 48 21.0**	**+1.9**
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**22 53 05.2**	**0.0**
TIXI	**Tiksi**	**35.11**	**353**	P	**P**	**22 54 09.3**	**-0.3**
TIXI				IAmb	IAmb	22 54 39.0	
	comp=Z,6.2nm,1.5s						
ZAA0	**Zalesovo Array**	**41.83**	**312**	P	**P**	**22 55 05.7**	**-0.6**
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**22 55 06.8**	**+0.5**
MK31	**Makanchi Array**	**44.07**	**302**	P	**

WR0 IAmb IAmb 22 57 35.2
comp=Z,5.7nm,1.3s
WB2 Warramunga Arr 57.26 188 P P 22 57 04.4 +0.1
WB2 IAmb IAmb 22 57 12.6
comp=Z,7.8nm,1.4s
WRA Warramunga Arr 57.26 188 P P 22 57 04.4 +0.1
ABKAR Akbulak array 57.86 310 P P 22 57 08.4 +0.1
ABKAR Akbulak array 57.86 310 P P 22 57 08.3 -0.1
ABKAR IAmb IAmb 22 57 09.1
comp=Z,3.2nm,0.6s
RES Resolute Bay 62.40 14 P P 22 57 40.1 +1.1
RES IAmb IAmb 22 58 16.5
comp=Z,5.9nm,1.3s
GEYT Alibeck 63.80 299 P P 22 57 49.2 +0.3
GEYT IAmb IAmb 22 57 50.3
comp=Z,2.2nm,0.8s
ARCES ARCESS Array B 63.84 339 P P 22 57 48.8 +0.1
FIA1 FINESS Array S 68.67 332 P P 22 58 19.9 +0.2
FINES FINESS Array B 68.67 332 P P 22 58 19.6 -0.1

*IDC **21** 22:48:22.2±0.5, 37.°18N×141.°36E, h0km, mb4.3/21, mbtmp4.3/25, ML3.5/5, Error ellipse: s-maj=16.1km s-min=13.7km az=88.0*
*JMA **21** 22:48:24.6±0.2, 37.°2N±0.°3×141.°5E±0.°9, h28km±1km, MD4.6/38, MV4.5/38, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **21** 22:48:24.3±2.2, 37.°22N±0.°05×141.°40E±0.°09, h10km±1km, mb4.7/33, Error ellipse: s-maj=14.2km s-min=3.6km az=55.0*

ISC 21 22:48:23.4±1.6, 37.°17N±0.°04×141.°44E±0.°06, h8km±9km, n113, σ1§05/101, mb4.5/38, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**294**	P	**Pb**	**22 48 34.2**	**-0.2**
JFK				S	**Sb**	**22 48 41.3**	**-0.5**
JFFD	**Fukushimafurud**	**0.71**	**264**	P	**Pb**	**22 48 38.1**	**+0.2**
JFFD				S	**Sb**	**22 48 47.6**	**-0.3**
JMST	**Minamisoumatoc**	**0.71**	**322**	P	**Pg**	**22 48 37.6**	**+0.5**
JMST				S	**Sb**	**22 48 47.4**	**-0.6**
JMM	**Marumori**	**0.87**	**324**	Pg	**Pg**	**22 48 40.0**	**-0.2**
JMM	**Marumori**	**0.87**	**324**	P	**Pg**	**22 48 40.1**	**0.0**
JMM				S	**Sb**	**22 48 51.6**	**-0.9**
JHO	**Hitachi**	**0.89**	**232**	P	**Pg**	**22 48 40.7**	**+0.1**
JHO				S	**Sg**	**22 48 52.4**	**+0.2**
JHO	**Hitachi**	**0.89**	**232**	A	A	22 48 40.7	
comp=E,7.0nm,5.1s,comp=E,7.0nm,2.4s							
JHYU	**Hitachinakayam**	**1.07**	**220**	A	A	22 48 44.1	
comp=E,11nm,2.0s,comp=E,13nm,0.8s							
JSB	**Shiboa**	**1.23**	**261**	S	**Sn**	**22 49 04.1**	**+0.3**
JSB	**Shiboa**	**1.23**	**261**	A	A	22 49 04.1	
comp=E,30nm,1.2s,comp=E,20nm,0.8s							
JYAR	**Yonezawaarcadi**	**1.27**	**306**	A	A	22 48 46.5	
comp=E,46nm,1.2s,comp=E,48nm,1.0s							
JIO	**Ouri**	**1.29**	**357**	P	**Pn**	**22 48 46.9**	**-0.8**
JIO				S	**Sb**	**22 49 02.4**	**-2.2**
JOU	**Okura**	**1.35**	**333**	S	**Sb**	**22 49 05.8**	**-0.5**
JOU	**Okura**	**1.35**	**333**	A	A	22 49 05.8	
comp=E,13nm,1.0s,comp=E,22nm,0.9s							
JYT	**Yasato**	**1.37**	**227**	A	A	22 48 48.6	
comp=E,13nm,0.5s,comp=E,10.0nm,0.5s							
JFY	**Yanaizu**	**1.41**	**280**	A	A	22 48 48.8	
comp=E,10.0nm,1.9s,comp=E,7.0nm,0.6s							
JIHU	**Itakohorinouch**	**1.41**	**212**	A	A	22 48 49.2	
comp=E,40nm,1.7s,comp=E,33nm,4.3s							
JOFO	**Osakifurukawao**	**1.49**	**344**	A	A	22 48 49.8	
comp=E,45nm,2.2s,comp=E,56nm,2.0s							
JYS	**Shirataka**	**1.52**	**314**	A	A	22 48 50.2	
comp=E,23nm,1.2s,comp=E,28nm,1.4s							
JYA	**Atsumi**	**1.97**	**317**	A	A	22 48 57.0	
comp=E,11nm,1.0s,comp=E,11nm,1.3s							
JGK	**Kuni**	**2.33**	**256**	A	A	22 49 02.5	
comp=E,5.0nm,7.0s,comp=E,5.0nm,2.9s							
MJAR	**Matsushiro Arr**	**2.67**	**257**	Pn	**Pn**	**22 49 06.2**	**-0.4**
1.9nm,0.3s,baz=91,slow=16,SNR=1.7							
MJAR				Sn	**Sb**	**22 49 43.4**	**-0.9**
1.5nm,0.3s,baz=66,slow=29,SNR=2.4							
31nm,0.4s							
MAJO	**Matsushiro**	**2.67**	**257**	Pn	**Pn**	**22 49 07.1**	**+0.4**
MJB9	**Matsu-Tunnel**	**2.67**	**258**	Pn	**Pn**	**22 49 07.9**	**+1.2**
JSD	**Sado**	**2.67**	**290**	Pn	**Pn**	**22 49 07.2**	**+0.5**
JHJ	**Hachijo jima 2**	**4.26**	**199**	Pn	**Pn**	**22 49 27.9**	**-0.7**
22nm,0.3s,baz=143,slow=20,SNR=2.0							
JHJ				Sn	**Sn**	**22 50 16.7**	**-1.7**
17nm,0.3s,baz=73,slow=19,SNR=1.5							
88nm,0.4s							
JHS	**Saijyo**	**7.08**	**255**	Pn	**Pn**	**22 50 09.9**	**+2.6**
USRK	**Ussuriysk Ar.**	**10.04**	**317**	Pn	**Pn**	**22 50 51.9**	**+4.0**
baz=99,slow=12							
JCJ	**Chichijima**	**10.06**	**176**	Pn	**Pn**	**22 50 46.7**	**-1.5**
3.6nm,0.3s,baz=307,slow=20,SNR=2.0							
JCJ				Sn	Sn	22 52 31.2	-10
5.8nm,0.3s,baz=270,slow=20,SNR=1.4							
58nm,0.8s							
KSRS	**Korea Array**	**10.77**	**276**	Pn	**Pn**	**22 50 57.6**	**-0.3**
0.3nm,0.3s,baz=86,slow=14,SNR=1.3							
0.6nm,0.2s							
KLR	**Kul'dur**	**13.96**	**333**	Pn	**Pn**	**22 51 40.9**	**-0.6**
0.1nm,0.3s,baz=175,slow=11,SNR=1.1							
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**22 54 11.6**	**-0.8**
2.1nm,0.8s,baz=110,slow=7.6,SNR=6.8							
2.1nm,0.8s							
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**22 54 11.1**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	23 23 46.6	
baz=314,slow=75,SNR=56							
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	23 23 46.8	
baz=314,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	23 23 48.1	
baz=314,slow=75,SNR=50							
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	23 24 36.5	
baz=316,slow=76,SNR=9.4							
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	23 24 36.8	
baz=316,slow=76,SNR=37							
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	23 24 38.4	
baz=316,slow=76,SNR=35							
ZAA0	**Zalesovo Array**	**41.84**	**312**	P	**P**	**22 56 12.4**	**-1.2**
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**22 56 13.1**	**-0.5**
2.6nm,0.6s,baz=102,slow=7.1,SNR=8.5							
ZALV				PcP	**PcP**	**22 58 08.6**	**-0.7**
0.9nm,0.7s,baz=90,slow=2.9,SNR=2.8							
2.6nm,0.6s							
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**22 56 12.4**	**-1.2**
MK31	**Makanchi Array**	**44.07**	**302**	P	**P**	**22 56 31.1**	**-0.6**
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**22 56 31.2**	**-0.5**
2.5nm,0.8s,baz=89,slow=9.8,SNR=7.9							
MKAR				PcP	**PcP**	**22 58 17.2**	**+0.2**
0.7nm,0.7s,baz=70,slow=2.0,SNR=2.1							
2.5nm,0.8s							
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**22 56 30.4**	**-1.3**
MAKZ	**Makanchi**	**44.28**	**302**	P	**P**	**22 56 32.9**	**-0.6**
MAKZ				IAmb	IAmb	22 56 49.2	
comp=Z,8.4nm,1.1s							
KURK	**Kurchatov**	**45.87**	**308**	P	**P**	**22 56 45.2**	**-0.8**
KURK				IAmb	IAmb	22 57 01.4	
comp=Z,9.9nm,0.8s							
KURBB	**Kurchatov Arra**	**45.94**	**308**	P	**P**	**22 56 46.2**	**-0.3**
comp=Z,4.8nm,0.7s,baz=83,slow=8.2,SNR=8.1							
comp=Z,4.8nm,0.7s							
IMAR	**Indian Mountai**	**46.53**	**31**	P	**P**	**22 56 53.3**	**+2.3**
CAST	**Castle Rocks**	**47.10**	**34**	P	**P**	**22 56 56.6**	**+1.1**
KTH	**Kantishna Hill**	**47.63**	**34**	P	**P**	**22 57 00.8**	**+1.1**
MDM	**Murphy Dome**	**48.79**	**32**	P	**P**	**22 57 08.8**	**+0.2**
MDM				IAmb	IAmb	22 57 11.4	
comp=Z,20nm,1.3s							
H24K	**Noodor Dome**	**48.93**	**31**	P	**P**	**22 57 11.4**	**+1.8**
H24K				IAmb	IAmb	22 57 38.6	
comp=Z,7.1nm,1.4s							
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**22 57 13.2**	**+0.2**
comp=Z,2.8nm,0.8s,baz=271,slow=6.5,SNR=13							
comp=Z,2.8nm,0.8s							
PRP	**Porcupine Dome**	**49.91**	**31**	P	**P**	**22 57 18.7**	**+1.4**
PRP				IAmb	IAmb	22 57 19.6	
comp=Z,6.4nm,1.0s							
BMAR	**Burnt Mountain**	**50.20**	**29**	P	**P**	**22 57 20.1**	**+0.7**
BCAR	**Beaver Creek A**	**51.77**	**34**	P	**P**	**22 57 31.4**	**+0.1**
KKAR	**Karatay Array**	**53.08**	**300**	P	**P**	**22 57 41.4**	**+0.3**
EPYK	**Eagle Plains**	**53.40**	**30**	P	**P**	**22 57 45.1**	**+1.8**
EPYK				IAmb	IAmb	22 57 45.8	
comp=Z,15nm,0.9s							
GSI	**Gunungsitoli**	**53.89**	**239**	P	**P**	**22 57 47.0**	**-0.3**
KNRA	**Kununurra**	**53.90**	**195**	P	**P**	**22 57 47.6**	**+0.3**
LEM	**Lembang**	**53.99**	**223**	P	**P**	**22 57 49.3**	**+1.1**
comp=Z,23nm,0.6s,baz=113,slow=6.4,SNR=4.4							
comp=Z,23nm,0.6s							
INK	**Inuvik**	**54.26**	**27**	P	**P**	**22 57 50.1**	**+0.7**
comp=Z,3.7nm,0.9s,baz=272,slow=7.3,SNR=9.3							
comp=Z,3.7nm,0.9s							
INK	**Inuvik**	**54.26**	**27**	P	**P**	**22 57 49.1**	**-0.2**
INK				IAmb	IAmb	22 57 51.9	
comp=Z,4.9nm,1.0s							
GAR	**Garm**	**54.66**	**295**	P	**P**	**22 57 53.0**	**0.0**
GAR				IAmb	IAmb	22 58 11.1	
comp=Z,6.7nm,0.9s							
A36M	**Sachs Harbour**	**56.13**	**22**	P	**P**	**22 58 03.6**	**+0.8**
A36M				IAmb	IAmb	22 58 10.1	
comp=Z,7.0nm,0.8s							
ARU	**Arti**	**56.28**	**318**	P	**P**	**22 58 02.8**	**-1.3**
ARU				IAmb	IAmb	22 58 04.7	
comp=Z,11nm,1.1s							
WB0	**Warramunga Arr**	**57.02**	**188**	P	**P**	**22 58 08.5**	**-1.2**
WB0				IAmb	IAmb	22 58 14.1	
comp=Z,4.8nm,0.9s							
WRAB	**Tennant Creek**	**57.18**	**188**	P	**P**	**22 58 09.6**	**-1.3**
WR0	**Warramunga Arr**	**57.19**	**188**	P	**P**	**22 58 09.9**	**-1.0**
WR0				IAmb	IAmb	22 58 10.8	
comp=Z,6.0nm,1.0s							
WB2	**Warramunga Arr**	**57.19**	**188**	P	**P**	**22 58 09.9**	**-1.0**
WB2				IAmb	IAmb	22 58 17.1	
comp=Z,7.5nm,1.1s							
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**22 58 10.0**	**-1.0**
comp=Z,2.3nm,0.8s,baz=6.0,slow=7.4,SNR=9.5							
comp=Z,2.3nm,0.8s							
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**22 58 10.3**	**-0.6**
ABKAR	**Akbulak array**	**57.87**	**310**	P	**P**	**22 58 14.3**	**-1.2**
EUNU	**Eureka**	**60.05**	**9**	P	**P**	**22 58 30.7**	**+0.4**
EUNU				IAmb	IAmb	22 58 31.5	
comp=Z,4.2nm,0.9s							
ASAR	**Alice Springs**	**60.92**	**188**	P	**P**	**22 58 36.7**	**-0.1**
comp=Z,1.7nm,0.8s,baz=13,slow=6.6,SNR=9.9							
comp=Z,1.7nm,0.8s							
GEYT	**Alibeck**	**63.79**	**299**	P	**P**	**22 58 56.0**	**-0.1**
comp=Z,3.8nm,0.9s,baz=20,slow=4.6,SNR=8.2							
comp=Z,3.8nm,0.9s							
ARCES	**ARCESS Array B**	**63.88**	**339**	P	**P**	**22 58 55.0**	**-1.1**
comp=Z,2.4nm,0.8s,baz=51,slow=7.1,SNR=2.6							
comp=Z,2.4nm,0.8s							
ARCES	**ARCESS Array B**	**63.88**	**339**	P	**P**	**22 58 55.6**	**-0.5**
STKA	**Stephens Creek**	**68.69**	**180**	P	**P**	**22 59 27.7**	**+0.5**
comp=Z,1.8nm,0.7s,baz=343,slow=12,SNR=4.1							
comp=Z,1.8nm,0.7s							
FIA1	**FIINESS Array S**	**68.70**	**332**	P	**P**	**22 59 26.8**	**-0.3**
FINES	**FINESS Array B**	**68.71**	**332**	P	**P**	**22 59 26.5**	**-0.6**
comp=Z,5.6nm,0.7s,baz=75,slow=8.1,SNR=9.4							
comp=Z,5.6nm,0.7s							
FORT	**Forrest**	**68.74**	**192**	P	**P**	**22 59 27.2**	**-0.4**
MORW	**Morawa**	**70.06**	**204**	P	**P**	**22 59 36.6**	**+0.7**
PINE	**Pine Mountain**	**70.24**	**50**	P	**P**	**22 59 38.6**	**+1.4**
PINE				IAmb	IAmb	22 59 39.9	
comp=Z,11nm,0.9s							
KBZ	**Khabaz**	**70.83**	**311**	P	**P**	**22 59 40.5**	**-0.1**
comp=Z,4.5nm,0.8s,baz=119,slow=3.2,SNR=5.7							
comp=Z,4.5nm,0.8s							
NB2	**NORSAR Subarra**	**74.07**	**337**	P	**P**	**22 59 59.6**	**0.0**
comp=Z,5.4nm,0.9s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**74.07**	**337**	P	**P**	**22 59 59.6**	**0.0**
comp=Z,2.0nm,0.8s,baz=39,slow=6.0,SNR=6.1							
comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**22 59 60.0**	**-0.5**
comp=Z,3.1nm,0.6s,baz=45,slow=6.0,SNR=12							
comp=Z,3.1nm,0.6s							
BOZ	**Bozeman (W)**	**74.63**	**44**	P	**P**	**23 00 04.8**	**+1.5**
BOZ				IAmb	IAmb	23 00 10.0	
comp=Z,3.7nm,0.8s							
NVAR	**Mina Array Bea**	**74.89**	**53**	P	**P**	**23 00 06.2**	**+1.1**
comp=Z,2.1nm,0.8s,baz=267,slow=7.9,SNR=6.7							
comp=Z,2.1nm,0.8s							
SORM	**Soroca**	**76.30**	**321**	⇑P	**P**	**23 00 12.0**	**-0.6**
PDAR	**Pinedale Array**	**77.56**	**45**	P	**P**	**23 00 19.6**	**-0.5**
comp=Z,0.4nm,0.4s,baz=297,slow=4.0,SNR=4.6							
comp=Z,0.4nm,0.4s							
BUR08	**Bucovina Ar. S**	**78.21**	**322**	P	**P**	**23 00 23.2**	**-0.3**
BURAR	**Bucovina Array**	**78.22**	**322**	⇑P	**P**	**23 00 23.8**	**+0.3**
BURAR	**Bucovina Array**	**78.22**	**322**	P	**P**	**23 00 23.7**	**+0.2**
BRTR	**Keskin Array B**	**78.78**	**312**	P	**P**	**23 00 26.4**	**-0.5**
comp=Z,1.2nm,0.8s,baz=56,slow=5.2,SNR=4.9							
comp=Z,1.2nm,0.8s							
TRPA	**Tarpa**	**79.17**	**323**	⇓P	**P**	**23 00 29.4**	**+0.8**
ARR	**Arges**	**80.06**	**320**	⇑P	**P**	**23 00 34.6**	**+1.0**
DPC	**Dobruska-Polom**	**80.36**	**328**	*e*P	**P**	**23 00 38.9**	**+3.8**
GZR	**Gura Zlata**	**80.97**	**321**	⇑P	**P**	**23 00 38.6**	**0.0**
CLL	**Collm**	**80.99**	**330**	*e*P	**P**	**23 00 38.1**	**-0.3**
comp=Z,10.0nm,1.3s							
SURR	**Surduc**	**81.04**	**322**	⇑P	**P**	**23 00 39.2**	**+0.4**
CKRC	**Cesky Krumlov**	**82.37**	**328**	*e*P	P	23 00 50.7	+4.9
KHC	**Kasperske Hory**	**82.44**	**328**	*e*P	**P**	**23 00 45.6**	**-0.6**
GERES	**GERESS Array B**	**82.61**	**328**	P	**P**	**23 00 46.3**	**-0.8**
comp=Z,0.9nm,0.8s,baz=36,slow=8.6,SNR=5.1							
comp=Z,0.9nm,0.8s							
TX31	**Lajitas Ar. Si**	**90.02**	**52**	P	**P**	**23 01 24.3**	**+0.4**
TX31				IAmb	IAmb	23 01 25.9	
comp=Z,3.9nm,0.9s							
TX32	**Lajitas Array**	**90.02**	**52**	P	**P**	**23 01 25.1**	**+1.1**
TXAR	**Lajitas Array**	**90.02**	**52**	P	**P**	**23 01 24.4**	**+0.4**
comp=Z,1.1nm,0.8s,baz=297,slow=3.6,SNR=10							
comp=Z,1.1nm,0.8s							
LPAZ	**La Paz**	**146.61**	**59**	PKPbc	**PKPbc**	**23 08 07.0**	**+0.3**
comp=Z,2.4nm,0.5s,baz=346,slow=2.0,SNR=12							
H03N2	**Juan Fernandez**	**147.02**	**96**	T	T	01 52 26.3	
baz=291,slow=76,SNR=8.1							
H03N3	**Juan Fernandez**	**147.03**	**96**	T	T	01 52 27.4	
baz=291,slow=76,SNR=7.3							
H03N1	**Juan Fernandez**	**147.03**	**96**	T	T	01 52 27.6	
baz=291,slow=76,SNR=14							

*JMA **21** 22:56:26.1±0.2, 37.°2N±0.°3×141.°4E±0.°8, h25km±1km, MV3.8/34, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **21** 22:56:29.9±3.7, 37.°23N×141.°23E, h51km±35km, mb3.2/8, mbtmp3.5/10, ML2.9/2, Error ellipse: s-maj=31.2km s-min=24.2km az=70.0*

ISC 21 22:56:26.2±0.9, 37.°20N±0.°05×141.°4E±0.°1, h20km±6km, n22, σ1§05/22, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.41**	**294**	P	**Pb**	**22 56 34.5**	**-0.2**
JFK				S	**Sb**	**22 56 40.6**	**+0.1**
JFFD	**Fukushimafurud**	**0.64**	**261**	P	**Pb**	**22 56 38.5**	**-0.3**
JFFD				S	**Sb**	**22 56 47.2**	**0.0**
JMST	**Minamisoumatoc**	**0.64**	**325**	P	**Pb**	**22 56 38.4**	**-0.3**
JMST				S	**Sb**	**22 56 47.4**	**+0.1**
JMM	**Marumori**	**0.80**	**327**	P	**Pb**	**22 56 40.9**	**-0.4**
JMM				S	**Sb**	**22 56 52.0**	**+0.2**
JHO	**Hitachi**	**0.86**	**227**	*e*P	**Pb**	**22 56 41.4**	**-1.0**
JSB	**Shiboa**	**1.17**	**259**	*e*P	**Pb**	**22 56 47.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.60**	**256**	P	**Pn**	**22 57 08.7**	**+1.6**
1.2nm,0.3s,baz=96,slow=9.9,SNR=14							
MJAR				S	**Sb**	**22 57 43.7**	**0.0**
7.5nm,0.4s,baz=73,slow=15,SNR=6.7							
2.5nm,0.3s							
JHJ	**Hachijo jima 2**	**4.27**	**198**	P	**Pn**	**22 57 31.8**	**+1.9**
3.7nm,0.3s,baz=106,slow=20,SNR=1.4							
JHJ				S	**Sn**	**22 58 17.6**	**-1.6**
83nm,0.7s,baz=229,slow=20,SNR=1.3							
90nm,0.8s							
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**23 02 12.4**	**-0.2**
0.3nm,0.7s,baz=106,slow=10.0,SNR=2.1							
0.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	23 31 47.7	
baz=314,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	23 31 51.1	
baz=314,slow=75,SNR=19							
H11N3	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	23 31 51.8	
baz=314,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	23 32 43.2	
baz=316,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	23 32 41.4	
baz=316,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	23 32 43.4	
baz=316,slow=76,SNR=14							
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**23 04 31.9**	**-0.1**
0.4nm,0.7s,baz=78,slow=13,SNR=2.5							
0.4nm,0.7s							
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**23 05 12.7**	**-1.3**
0.4nm,0.7s,baz=269,slow=6.2,SNR=4.9							
0.4nm,0.7s							
WRA	**Warramunga Arr**	**57.22**	**188**	P	**P**	**23 06 11.8**	**-0.2**
0.7nm,1.0s,baz=3.1,slow=7.5,SNR=9.2							
0.7nm,1.0s							
NOA	**NORSAR Array B**	**74.02**	**337**	P	**P**	**23 07 59.1**	**-0.9**
0.3nm,0.7s,baz=38,slow=6.3,SNR=2.0							
0.3nm,0.7s							
AKASG	**Malin Array Be**	**74.14**	**322**	P	**P**	**23 07 59.1**	**-1.7**
0.4nm,0.4s,baz=77,slow=1.0,SNR=2.9							
0.4nm,0.4s							
PDAR	**Pinedale Array**	**77.59**	**45**	P	**P**	**23 08 22.5**	**+1.5**
0.2nm,0.6s,baz=259,slow=1.8,SNR=2.0							
0.2nm,0.6s							
TXAR	**Lajitas Array**	**90.06**	**52**	P	**P**	**23 09 26.4**	**+1.5**
0.3nm,0.9s,baz=346,slow=1.1,SNR=1.7							
0.3nm,0.9s							

*JMA **21** 23:00:50.9±0.2, 37.°2N±0.°4×14.°1E±.°, h37km±1km, MV3.3/33, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **21** 23:00:53.6±4.0, 37.°19N×141.°20E, h50km±39km, mb3.3/6, mbtmp3.6/8, ML3.0/2, Error ellipse: s-maj=37.7km s-min=20.7km az=74.0*

ISC 21 23:00:51.6±0.9, 37.°25N±0.°05×141.°29E±0.°07, h33km, n21, σ0§73/20, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.35**	**290**	P	**Pb**	**23 00 59.9**	**-0.2**
JFK				S	**Sn**	**23 01 06.7**	**+0.6**
JMST	**Minamisoumatoc**	**0.57**	**326**	P	**Pb**	**23 01 02.9**	**-0.5**
JMST				S	**Sn**	**23 01 11.8**	**+0.1**
JFFD	**Fukushimafurud**	**0.60**	**255**	P	**Pn**	**23 01 03.7**	**-0.2**
JFFD				S	**Sn**	**23 01 12.8**	**+0.3**
JMM	**Marumori**	**0.73**	**328**	*e*S	**Sb**	**23 01 16.4**	**+0.6**
JHO	**Hitachi**	**0.86**	**222**	P	**Pn**	**23 01 06.9**	**-0.5**
JSB	**Shiboa**	**1.13**	**256**	P	**Pb**	**23 01 13.1**	**+0.4**
JIO	**Ouri**	**1.20**	**2**	*e*S	**Sn**	**23 01 26.7**	**-0.6**
MJAR	**Matsushiro Arr**	**2.57**	**255**	P	**Pn**	**23 01 31.8**	**+0.9**
0.9nm,0.3s,baz=78,slow=17,SNR=9.3							
MJAR				S	**Sb**	**23 02 06.8**	**-1.4**
7.4nm,0.3s,baz=66,slow=21,SNR=6.1							
4.3nm,0.3s							
JHJ	**Hachijo jima 2**	**4.30**	**197**	P	**Pn**	**23 01 55.4**	**+0.7**
7.4nm,0.3s,baz=328,slow=20,SNR=10							
JHJ				S	**Sn**	**23 02 43.8**	**0.0**
156nm,0.9s,baz=114,slow=17,SNR=2.0							
28nm,0.3s							
SONM	**Songino Array**	**27.58**	**304**	P	**P**	**23 06 34.5**	**-1.3**
0.4nm,0.7s,baz=105,slow=9.1,SNR=2.2							
0.4nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	23 36 09.9	
baz=313,slow=75,SNR=9.1							
H11N1	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	23 36 12.4	
baz=313,slow=75,SNR=10							
H11N3	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	23 36 12.3	
baz=313,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	23 37 05.6	
baz=314,slow=76,SNR=8.9							
H11S3	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	23 37 06.2	
baz=314,slow=76,SNR=7.9							
H11S2	**WAKE ISLAND Hy**	**29.07**	**123**	T	T	23 37 06.4	
baz=314,slow=76,SNR=7.7							
ZALV	**Zalesovo Beam**	**41.70**	**312**	P	**P**	**23 08 36.5**	**-0.4**
0.7nm,0.4s,baz=104,slow=11,SNR=4.4							
0.7nm,0.4s							
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**23 08 55.3**	**+0.1**
0.7nm,0.7s,baz=84,slow=9.9,SNR=4.4							
0.7nm,0.7s							
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**23 09 37.7**	**+0.2**
0.6nm,0.9s,baz=255,slow=7.1,SNR=3.5							
0.6nm,0.9s							
WRA	**Warramunga Arr**	**57.26**	**188**	P	**P**	**23 10 35.5**	**-0.4**
0.2nm,0.5s,baz=4.1,slow=7.4,SNR=1.6							
0.2nm,0.5s							
ARCES	**ARCESS Array B**	**63.76**	**339**	P	**P**	**23 11 21.1**	**+1.4**
1.4nm,0.8s,baz=48,slow=8.6,SNR=1.6							
1.4nm,0.8s							

*JMA **21** 23:04:25.3±0.2, 37.°3N±0.°4×14.°2E±.°, h23km±1km, MV3.8/34, E OFF FUKUSHIMA PREF*
*IDC **21** 23:04:31.3±2.8, 37.°05N×141.°27E, h65km±26km, mb3.4/10, mbtmp3.7/14, ML3.1/3, Error ellipse: s-maj=27.8km s-min=15.0km az=79.0*

**ISC 21 23:04:28.3±0.7, 37.°23N±0.°05×141.°34E±0.°07, h33km, n28, σ1§65/

MV3.6/34,E OFF FUKUSHIMA PREF
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 21 23:07:03.8±2.5,37°21N±0°05×141°56E±0°07,h17km±14km, n20,σ1§08/21,mb3.6/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**287**	P	**Pb**	**23 07 15.7**	**+0.4**
JFK				*eS*	**Sg**	**23 07 22.8**	**+0.1**
JMST	**Minamisoumatoc**	**0.74**	**314**	P	**Pn**	**23 07 19.1**	**-0.4**
JMST				S	**Sb**	**23 07 27.9**	**-0.2**
JFFD	**Fukushimafurud**	**0.80**	**262**	P	**Pb**	**23 07 19.4**	**+0.1**
JFFD				S	**Sb**	**23 07 28.5**	**-1.4**
JMM	**Marumori**	**0.90**	**318**	*eS*	**Sb**	**23 07 32.1**	**-0.5**
JHO	**Hitachi**	**0.99**	**233**	P	**Pb**	**23 07 22.3**	**-0.2**
JHO				S	**Sb**	**23 07 33.2**	**-2.1**
JSB	**Shiboa**	**1.33**	**260**	P	**Pb**	**23 07 28.8**	**+0.5**
JSB				*eS*	**Sn**	**23 07 45.0**	**0.0**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=87,slow=15,SNR=2.1	**2.77**	**257**	Pn	**Pn**	**23 07 46.4**	**-0.9**
MJAR				Sn	**Sn**	**23 08 22.1**	**+1.7**
JHJ	**Hachijo jima 2** 2.0nm,0.3s,baz=132,slow=45,SNR=2.7 2.2nm,0.3s	**4.33**	**200**	Pn	**Pn**	**23 08 10.2**	**+1.3**
JHJ	14nm,0.3s,baz=49,slow=15,SNR=1.5			Sn	**Sn**	**23 08 58.8**	**-0.1**
	14nm,0.3s,baz=66,slow=21,SNR=1.4 46nm,0.4s						
SONM	**Songino Array** 0.7nm,0.8s,baz=106,slow=9.4,SNR=4.3 0.7nm,0.8s	**27.78**	**304**	P	**P**	**23 12 52.5**	**+0.6**
H11N2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=18	**28.14**	**121**	T	T	23 42 22.8	
H11N1	**WAKE ISLAND Hy** baz=314,SNR=16	**28.15**	**121**	T	T	23 42 22.8	
H11N3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=18	**28.16**	**121**	T	T	23 42 22.8	
H11S1	**WAKE ISLAND Hy** baz=314	**28.86**	**123**	T	T	23 43 17.1	
H11S3	**WAKE ISLAND Hy** baz=314,SNR=4.8	**28.86**	**123**	T	T	23 43 16.3	
H11S2	**WAKE ISLAND Hy** baz=314	**28.87**	**123**	T	T	23 43 17.4	
ZALV	**Zalesovo Beam** 0.9nm,0.9s,baz=98,slow=11,SNR=2.3 0.9nm,0.9s	**41.88**	**312**	P	**P**	**23 14 54.5**	**+1.6**
MKAR	**Makanchi Array** 1.0nm,0.9s,baz=89,slow=8.3,SNR=4.8 1.0nm,0.9s	**44.12**	**302**	P	**P**	**23 15 12.1**	**+0.8**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=270,slow=7.2,SNR=2.7 0.4nm,0.9s	**49.29**	**32**	P	**P**	**23 15 49.9**	**-1.5**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=4.2,slow=7.1,SNR=8.1 0.3nm,0.4s	**57.25**	**188**	P	**P**	**23 16 50.9**	**+0.6**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=343,slow=5.9,SNR=1.6 0.2nm,0.3s	**74.79**	**53**	P	**P**	**23 18 42.5**	**-0.9**

*NOU **21** 23:14:09.3,42°.54S×174°.06E,h9km,MLv4.2/10,Off E. Coast of S. Island, N.Z.*
*WEL **21** 23:14:11.2±0.5,42°.S±.3°×17°.4E±°,h8km±3km,M3.6/41, ML4.0/15,MLv3.6/41,Error ellipse: s-maj=0.0km s-min=0.0km az=123.0*
ISC 21 23:14:10.5±1.1,42°46S±0°04×173°98E±0°05,h21km,n87, σ1§08/89,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.74**	**14**	P	**Pb**	**23 14 25.7**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.75**	**354**	P	**Pb**	**23 14 23.5**	**-1.3**
BSWZ				S	**Sb**	**23 14 35.0**	**+0.3**
GVZ	**Greta Valley S**	**0.86**	**234**	P	**Pb**	**23 14 27.3**	**+0.6**
GVZ				S	**Sn**	**23 14 40.4**	**+1.2**
TUWZ	**Tuamarina**	**1.03**	**359**	P	**Pb**	**23 14 29.1**	**-0.6**
THZ	**Tophouse**	**1.06**	**311**	P	**Pb**	**23 14 27.9**	**-2.2**
AMCZ	**Amberley**	**1.21**	**233**	P	**Pn**	**23 14 32.2**	**+0.1**
TCW	**Tory Channel**	**1.27**	**10**	P	**Pn**	**23 14 32.7**	**-0.3**
SNZO	**South Karori**	**1.27**	**26**	P	**Pn**	**23 14 33.2**	**+0.2**
LTZ	**Lake Taylor**	**1.30**	**255**	P	**Pn**	**23 14 32.9**	**-0.5**
PLWZ	**Palliser**	**1.31**	**47**	P	**Pn**	**23 14 33.8**	**+0.3**
WEL	**Wellington**	**1.32**	**27**	P	**Pn**	**23 14 34.0**	**+0.3**
NNZ	**Nelson**	**1.32**	**340**	P	**Pn**	**23 14 33.0**	**-0.7**
MRNZ	**Matariki Terra**	**1.40**	**319**	P	**Pn**	**23 14 34.5**	**-0.3**
MSWZ	**Moikau Station**	**1.41**	**43**	P	**Pn**	**23 14 35.2**	**+0.2**
OKCZ	**Okains Bay**	**1.43**	**208**	P	**Pn**	**23 14 35.6**	**+0.4**
PAWZ	**Paruwai Farm**	**1.53**	**46**	P	**Pn**	**23 14 36.6**	**0.0**
MQZ	**McQueen's Vall**	**1.57**	**218**	P	**Pn**	**23 14 36.5**	**-0.6**
CAW	**Cannon Point**	**1.58**	**31**	P	**Pn**	**23 14 37.5**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.61**	**209**	P	**Pn**	**23 14 38.1**	**+0.4**
TKNZ	**Takaka Hill**	**1.62**	**332**	P	**Pn**	**23 14 37.9**	**+0.1**
DUWZ	**D'Urville Isla**	**1.66**	**359**	P	**Pn**	**23 14 38.8**	**+0.4**
TRWZ	**Traveller**	**1.66**	**51**	P	**Pn**	**23 14 38.6**	**+0.2**
OXZ	**Oxford**	**1.67**	**238**	P	**Pn**	**23 14 37.7**	**-0.7**
MTW	**Mount Morrison**	**1.73**	**42**	P	**Pn**	**23 14 39.3**	**0.0**
KIW	**Kapiti Island**	**1.75**	**24**	P	**Pn**	**23 14 39.9**	**+0.3**
DSZ	**Denniston Nort**	**1.77**	**293**	P	**Pn**	**23 14 40.0**	**+0.1**
RACZ	**Rakaia**	**1.84**	**226**	P	**Pn**	**23 14 40.3**	**-0.5**
OGWZ	**Otaki Gorge**	**1.87**	**29**	P	**Pn**	**23 14 41.3**	**0.0**
INZ	**Inchbonnie**	**1.89**	**261**	P	**Pn**	**23 14 41.3**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.94**	**37**	P	**Pn**	**23 14 42.2**	**-0.1**
QRZ	**Quartz Range**	**1.96**	**326**	P	**Pn**	**23 14 43.2**	**+0.8**
QRZ	**Quartz Range**	**1.96**	**326**	P	**Pn**	**23 14 43.2**	**+0.7**
TMWZ	**Te Maipa**	**1.97**	**47**	P	**Pn**	**23 14 42.4**	**-0.3**
MHCZ	**Mount Hutt**	**2.06**	**238**	P	**Pn**	**23 14 43.0**	**-1.0**
WACZ	**Wakanui South**	**2.15**	**226**	P	**Pn**	**23 14 44.7**	**-0.4**
MRZ	**Mangatainoka R**	**2.17**	**34**	P	**Pn**	**23 14 45.1**	**-0.2**
PRWZ	**Pori Road**	**2.42**	**39**	P	**Pn**	**23 14 48.7**	**-0.2**
WVZ	**Waitaha Valley**	**2.46**	**255**	P	**Pn**	**23 14 49.6**	**+0.2**
BFZ	**Birch Farm**	**2.46**	**44**	P	**Pn**	**23 14 49.0**	**-0.4**
BFZ	**Birch Farm**	**2.46**	**44**	P	**Pn**	**23 14 48.9**	**-0.6**
RPZ	**Rata Peaks**	**2.48**	**239**	P	**Pn**	**23 14 49.9**	**+0.2**
RPZ	**Rata Peaks**	**2.48**	**239**	P	**Pn**	**23 14 49.0**	**-0.7**
ARCZ	**Arundel**	**2.53**	**233**	P	**Pn**	**23 14 49.7**	**-0.6**
DVHZ	**Dannevirke**	**2.72**	**38**	P	**Pn**	**23 14 52.3**	**-0.7**
WAZ	**Wanganui**	**2.81**	**16**	P	**Pn**	**23 14 56.1**	**+1.9**
GCSZ	**Gaunt Creek Bo**	**2.81**	**251**	P	**Pn**	**23 14 55.1**	**+0.9**
TMZ	**Timaru**	**2.89**	**227**	P	**Pn**	**23 14 55.3**	**0.0**
PRHZ	**Porangahau**	**2.91**	**43**	P	**Pn**	**23 14 55.7**	**-0.7**
PNHZ	**Pukenui**	**3.05**	**34**	P	**Pn**	**23 14 56.7**	**-0.8**
KHEZ	**Kahui Hut**	**3.17**	**1**	P	**Pn**	**23 15 01.2**	**+2.0**
KHEZ	**Kahui Hut**	**3.17**	**1**	P	**Pn**	**23 15 03.0**	**+3.9**
NEZ	**North Egmont**	**3.19**	**2**	P	**Pb**	**23 15 05.0**	**-1.6**
NBEZ	**Newall Road No**	**3.19**	**358**	P	**Pb**	**23 15 05.5**	**-1.0**
FOZ	**Fox Glacier**	**3.23**	**249**	P	**Pn**	**23 15 00.9**	**+0.9**
PKE	**Pukeiti**	**3.27**	**0**	P	**Pb**	**23 15 05.0**	**-2.7**
MOVZ	**Moawhango**	**3.34**	**24**	P	**Pn**	**23 15 02.0**	**+0.5**
PKVZ	**Pokaka**	**3.34**	**19**	P	**Pn**	**23 15 02.8**	**+1.3**
LBZ	**Lake Benmore**	**3.36**	**234**	P	**Pn**	**23 15 01.9**	**+0.1**
BHHZ	**Black Hill Sta**	**3.37**	**29**	P	**Pn**	**23 15 02.6**	**+0.8**
BHHZ				P	Pb	23 15 03.4	-6.0
WNVZ	**Wahianoa**	**3.37**	**22**	P	**Pn**	**23 15 02.7**	**+0.7**
TRVZ	**Turoa**	**3.38**	**21**	P	**Pn**	**23 15 03.6**	**+1.4**
VRZ	**Vera Road**	**3.39**	**10**	P	**Pn**	**23 15 03.8**	**+1.6**
WHVZ	**Whangaehu Hut**	**3.41**	**22**	P	**Pn**	**23 15 04.0**	**+1.4**
FWVZ	**Far West T-bar**	**3.42**	**21**	P	**Pn**	**23 15 04.4**	**+1.6**
KAHZ	**Kahuranaki**	**3.45**	**40**	P	**Pn**	**23 15 02.6**	**-1.0**
SNVZ	**South Ngauruho**	**3.51**	**22**	P	**Pn**	**23 15 05.2**	**+1.7**
ODZ	**Otahua Downs**	**3.53**	**222**	P	**Pn**	**23 15 03.7**	**-0.4**
ODZ	**Otahua Downs**	**3.53**	**222**	P	**Pn**	**23 15 03.8**	**-0.4**
OTVZ	**Oturere**	**3.54**	**22**	P	**Pn**	**23 15 05.1**	**+0.8**
NNVZ	**North Ngauruho**	**3.55**	**21**	P	**Pn**	**23 15 05.7**	**+1.1**
TWVZ	**Taurewa**	**3.57**	**19**	P	**Pn**	**23 15 04.5**	**-0.2**
ETVZ	**East Tongariro**	**3.58**	**22**	P	**Pn**	**23 15 06.1**	**+1.3**
TMVZ	**Te Maari**	**3.59**	**22**	P	**Pn**	**23 15 05.8**	**+0.8**
NTVZ	**North Tongarir**	**3.60**	**22**	P	**Pn**	**23 15 06.2**	**+1.1**
BKZ	**Black Stump Fm**	**3.81**	**31**	P	**Pn**	**23 15 09.4**	**+1.4**
HIZ	**Hauiti**	**4.00**	**10**	P	**Pn**	**23 15 11.9**	**+1.3**
HIZ	**Hauiti**	**4.00**	**10**	P	**Pn**	**23 15 12.1**	**+1.5**
JCZ	**Jackson Bay**	**4.12**	**245**	P	**Pn**	**23 15 12.7**	**+0.4**
JCZ	**Jackson Bay**	**4.12**	**245**	P	**Pn**	**23 15 12.6**	**+0.4**
EAZ	**Earnscleugh**	**4.37**	**229**	P	**Pn**	**23 15 15.5**	**-0.1**
MSZ	**Milford Sound**	**4.92**	**241**	P	**Pn**	**23 15 24.8**	**+1.7**
WHRZ	**Whale Island**	**5.14**	**28**	P	**Pn**	**23 15 30.0**	**+3.7**
SYZ	**Scrubby Hill**	**5.34**	**219**	P	**Pn**	**23 15 29.7**	**+0.8**
SYZ	**Scrubby Hill**	**5.34**	**219**	P	**Pn**	**23 15 29.6**	**+0.6**
AWAZ	**Awhitu Peninsu**	**5.42**	**6**	P	**Pn**	**23 15 30.9**	**+0.9**
MKAZ	**Moumakai**	**5.43**	**10**	P	**Pn**	**23 15 30.7**	**+0.5**
MXZ	**Matakaoa Point**	**5.92**	**36**	P	**Pn**	**23 15 37.5**	**+0.6**

*IDC **21** 23:14:40.6±2.2,37°.29N×141°.79E,h0km,mb3.5/4, mbtmp3.6/6,ML3.0/2,Error ellipse: s-maj=43.5km s-min=26.4km az=76.0*
*JMA **21** 23:14:44.8±0.2,37°.3N±0°.4×14°2E±°, h35km±1km, MV3.5/35,E OFF FUKUSHIMA PREF*
ISC 21 23:14:43.4±2.2,37°25N±0°05×141°58E±0°09,h17km±12km, n18,σ0§92/19,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.58**	**282**	P	**Pg**	**23 14 55.3**	**+0.4**
JFK				S	**Sg**	**23 15 02.8**	**+0.2**
JMST	**Minamisoumatoc**	**0.73**	**311**	P	**Pg**	**23 14 57.5**	**-0.2**
JMST				S	**Sg**	**23 15 07.4**	**0.0**
JFFD	**Fukushimafurud**	**0.83**	**260**	P	**Pb**	**23 14 59.2**	**-0.2**
JFFD				S	**Sb**	**23 15 09.6**	**-0.7**
JMM	**Marumori**	**0.88**	**315**	P	**Pb**	**23 14 59.8**	**-0.4**
JHO	**Hitachi**	**1.03**	**232**	P	**Pb**	**23 15 01.8**	**-1.0**
JHO				S	**Sb**	**23 15 14.8**	**-1.3**
JIO	**Ouri**	**1.22**	**351**	P	**Pn**	**23 15 05.6**	**-0.1**
JIO				S	**Sb**	**23 15 20.6**	**-0.9**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=76,slow=14,SNR=3.1	**2.79**	**256**	Pn	**Pn**	**23 15 29.1**	**+1.8**
MJAR	1.0nm,0.3s,baz=73,slow=25,SNR=5.5 2.8nm,0.3s			Sn	**Sb**	**23 16 05.2**	**-1.7**
JHJ	**Hachijo jima 2** 8.7nm,0.3s,baz=30,slow=2.8,SNR=1.7	**4.37**	**200**	Pn	**Pn**	**23 15 49.8**	**+0.7**
JHJ	9.1nm,0.3s,baz=101,slow=22,SNR=1.3 112nm,0.8s			Sn	**Sn**	**23 16 38.8**	**-0.8**
SONM	**Songino Array** 0.3nm,0.6s,baz=99,slow=7.8,SNR=2.3 0.3nm,0.6s	**27.78**	**304**	P	**P**	**23 20 31.4**	**-0.1**
H11N2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=6.7	**28.14**	**121**	T	T	23 49 59.0	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=5.8	**28.15**	**121**	T	T	23 50 03.0	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=5.4	**28.16**	**121**	T	T	23 50 04.5	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=5.2	**28.86**	**123**	T	T	23 50 52.1	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=4.5	**28.86**	**123**	T	T	23 50 54.8	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=4.6	**28.88**	**123**	T	T	23 50 56.2	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=79,slow=7.5,SNR=5.5 0.6nm,0.4s	**41.87**	**312**	P	**P**	**23 22 33.5**	**+1.1**
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=85,slow=9.5,SNR=6.1 0.7nm,0.7s	**44.12**	**302**	P	**P**	**23 22 51.4**	**+0.5**
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=5.5,slow=7.2,SNR=2.0 0.3nm,0.8s	**57.29**	**188**	P	**P**	**23 24 30.4**	**+0.2**

*IDC **21** 23:16:37.7±2.0,36°.97N×141°.73E,h0km,mb3.4/3, mbtmp3.5/5,ML2.7/2,Error ellipse: s-maj=38.0km s-min=25.3km az=131.0*
*JMA **21** 23:16:42.0±0.2,37°.3N±0°.4×141°.5E±0°.9,h34km±1km, MV3.3/28,E OFF FUKUSHIMA PREF*
ISC 21 23:16:41.5±1.7,37°17N±0°05×141°5E±0°1,h33km,n10, σ1§87/14,mb3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**293**	P	**Pb**	**23 16 52.4**	**0.0**
JFK				S	**Sb**	**23 16 59.8**	**0.0**
JMST	**Minamisoumatoc**	**0.72**	**320**	P	**Pb**	**23 16 54.6**	**-1.1**
JMST				S	**Sn**	**23 17 04.1**	**-1.2**
JFFD	**Fukushimafurud**	**0.73**	**264**	P	**Pb**	**23 16 56.6**	**+0.8**
JFFD				S	**Sb**	**23 17 06.3**	**+0.7**
JMM	**Marumori**	**0.88**	**322**	S	**Sn**	**23 17 08.1**	**-1.1**
JHO	**Hitachi**	**0.91**	**233**	S	**Sb**	**23 17 11.5**	**+0.8**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=81,slow=16,SNR=1.8	**2.69**	**258**	Pn	**Pb**	**23 17 26.3**	**-2.7**
MJAR	0.5nm,0.3s,baz=42,slow=20,SNR=1.8 1.9nm,0.3s			Sn	**Sb**	**23 18 01.8**	**+0.3**
JHJ	**Hachijo jima 2** 9.3nm,0.3s,baz=93,slow=23,SNR=1.4	**4.27**	**199**	Pn	**Pn**	**23 17 41.0**	**-3.2**
JHJ	6.0nm,0.3s,baz=72,slow=19,SNR=1.0 146nm,0.9s			Sn	**Sn**	**23 18 34.3**	**+1.4**
SONM	**Songino Array** 0.3nm,0.5s,baz=94,slow=10,SNR=2.3 0.3nm,0.5s	**27.75**	**304**	P	**P**	**23 22 30.0**	**+2.9**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=92,slow=7.2,SNR=3.1 0.4nm,0.7s	**44.09**	**302**	P	**P**	**23 24 48.6**	**+2.2**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=249,slow=6.7,SNR=1.8 0.3nm,0.8s	**49.36**	**32**	P	P	23 25 29.8	+2.5

WEL 21 23:18:33.2±0.7,41°S±5°×17°7E±°,h33km,M3.9/83, ML4.2/30,MLv3.9/83,Error ellipse: s-maj=0.0km s-min=0.0km az=126.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.63**	**292**	P	Pb	23 18 46.2	+0.3
ANWZ				S	Sn	23 18 55.5	+0.8
PRHZ	**Porangahau**	**0.63**	**313**	P	Pb	23 18 45.9	0.0
PXZ	**Pawanui**	**0.73**	**337**	P	Pn	23 18 47.0	-0.1
PXZ				S	Sb	23 18 58.4	+1.2
BFZ	**Birch Farm**	**0.76**	**271**	P	Pb	23 18 47.9	-0.1
CPWZ	**Castlepoint**	**0.82**	**255**	P	Pb	23 18 49.3	+0.4
CPWZ				S	Sb	23 19 02.1	+2.5
WPHZ	**Waipukurau**	**0.88**	**316**	P	Pn	23 18 49.6	+0.3
DVHZ	**Dannevirke**	**0.91**	**296**	P	Pn	23 18 49.9	+0.2
KAHZ	**Kahuranaki**	**0.95**	**343**	P	Pn	23 18 50.4	+0.2
PRWZ	**Pori Road**	**0.98**	**278**	P	Pb	23 18 51.3	-0.4
CKHZ	**Cape Kidnapper**	**1.05**	**353**	P	Pn	23 18 51.5	0.0
CKHZ				S	Sn	23 19 05.1	+0.1
TMWZ	**Te Maipa**	**1.10**	**248**	P	Pn	23 18 52.5	+0.2
PNHZ	**Pukenui**	**1.12**	**314**	P	Pn	23 18 52.9	+0.4
POWZ	**Post Office Ro**	**1.16**	**285**	P	Pb	23 18 54.0	-0.7
TSZ	**Takapari Road**	**1.17**	**303**	P	Pn	23 18 53.7	+0.5
MRZ	**Mangatainoka R**	**1.26**	**271**	P	Pn	23 18 54.9	+0.3
MRZ				S	Sn	23 19 10.7	+0.3
MCHZ	**McNeill Hill**	**1.32**	**341**	P	Pn	23 18 55.8	+0.5
HOWZ	**Holdsworth Sta**	**1.32**	**261**	P	Pn	23 18 55.5	+0.1
HOWZ				S	Sn	23 19 12.1	+0.2
TRWZ	**Traveller**	**1.36**	**239**	P	Pn	23 18 55.7	-0.2
MTW	**Mount Morrison**	**1.39**	**250**	P	Pn	23 18 56.3	0.0
KWHZ	**Kaweka Forest**	**1.42**	**334**	P	Pn	23 18 57.1	+0.4
ARHZ	**Aropaoanui**	**1.45**	**352**	P	Pn	23 18 57.4	+0.4
BHHZ	**Black Hill Sta**	**1.51**	**323**	P	Pn	23 18 58.4	+0.4
PAWZ	**Paruwai Farm**	**1.53**	**243**	P	Pn	23 18 57.9	-0.3
OGWZ	**Otaki Gorge**	**1.58**	**265**	P	Pn	23 18 59.3	+0.5
WHHZ	**Waihua**	**1.62**	**360**	P	Pn	23 18 59.7	+0.3
MHGZ	**Mahia Peninsul**	**1.63**	**19**	P	Pn	23 18 58.8	-0.7
NMHZ	**Naumai**	**1.64**	**348**	P	Pn	23 19 00.2	+0.5
BKZ	**Black Stump Fm**	**1.64**	**339**	P	Pn	23 19 00.1	+0.4
MSWZ	**Moikau Station**	**1.67**	**244**	P	Pn	23 18 59.7	-0.3
CAW	**Cannon Point**	**1.70**	**255**	P	Pn	23 19 00.7	+0.2
KNZ	**Kokohu**	**1.71**	**11**	P	Pn	23 18 60.0	-0.6
MOVZ	**Moawhango**	**1.72**	**318**	P	Pn	23 19 02.3	+1.4
PLWZ	**Palliser**	**1.73**	**239**	P	Pn	23 19 00.2	-0.8
KIW	**Kapiti Island**	**1.78**	**264**	P	Pn	23 19 02.3	+0.7
RAHZ	**Arahi**	**1.79**	**356**	P	Pn	23 19 02.0	+0.3
WNVZ	**Wahianoa**	**1.86**	**317**	P	Pb	23 19 04.8	-1.9
MTHZ	**Maungataniwha**	**1.87**	**350**	P	Pn	23 19 03.0	+0.1
TUVZ	**Tukino**	**1.88**	**319**	P	Pb	23 19 05.2	-1.8
MTVZ	**Mangateitei**	**1.89**	**313**	P	Pb	23 19 05.7	-1.4
WHVZ	**Whangaehu Hut**	**1.90**	**318**	P	Pb	23 19 05.4	-1.9
TRVZ	**Turoa**	**1.91**	**317**	P	Pb	23 19 05.6	-1.9
SNGZ	**Shannon Statio**	**1.92**	**2**	P	Pn	23 19 03.5	-0.1
FWVZ	**Far West T-bar**	**1.94**	**318**	P	Pn	23 19 06.0	+2.0
SNVZ	**South Ngauruho**	**1.95**	**320**	P	Pn	23 19 05.9	+1.8
OTVZ	**Oturere**	**1.96**	**321**	P	Pb	23 19 06.3	-2.0
ETVZ	**East Tongariro**	**1.96**	**323**	P	Pn	23 19 06.1	+1.9
WAZ	**Wanganui**	**1.97**	**298**	P	Pb	23 19 06.6	-1.7
MRHZ	**Matea Rd**	**1.97**	**341**	P	Pn	23 19 05.0	+0.8
TMVZ	**Te Maari**	**1.98**	**323**	P	Pn	23 19 06.3	+1.9
NTVZ	**North Tongarir**	**2.00**	**323**	P	Pn	23 19 06.9	+2.1
NNVZ	**North Ngauruho**	**2.00**	**321**	P	Pn	23 19 06.9	+2.1
KRVZ	**Karewarewa**	**2.02**	**322**	P	Pb	23 19 07.2	-2.1
RITZ	**Rihia Road**	**2.02**	**328**	P	Pn	23 19 06.9	+1.9
PKVZ	**Pokaka**	**2.02**	**313**	P	Pb	23 19 07.7	-1.7
RIGZ	**Rimuhau**	**2.03**	**12**	P	Pn	23 19 04.7	-0.4
RTZ	**Ruatahuna**	**2.09**	**354**	P	Pn	23 19 06.2	+0.2
KATZ	**Kakaramea**	**2.09**	**325**	P	Pb	23 19 09.4	-1.2
RATZ	**Rangitukua**	**2.15**	**328**	P	Pn	23 19 08.3	+1.5
RAGZ	**Rawiri**	**2.21**	**4**	P	Pn	23 19 07.2	-0.4
MUGZ	**Murupara**	**2.25**	**351**	P	Pn	23 19 08.2	+0.1
TCW	**Tory Channel**	**2.30**	**256**	P	Pn	23 19 09.1	+0.3
CNGZ	**Carnagh Statio**	**2.34**	**19**	P	Pn	23 19 08.7	-0.5
MWZ	**Matawai**	**2.37**	**5**	P	Pn	23 19 08.8	-1.0
URZ	**Urewera**	**2.44**	**358**	P	Pn	23 19 10.4	-0.3
DUWZ	**D'Urville Isla**	**2.52**	**267**	P	Pn	23 19 13.1	+1.2
TARZ	**Mount Tarawera**	**2.53**	**347**	P	Pn	23 19 12.6	+0.6
TWGZ	**Tauwhareparae**	**2.58**	**13**	P	Pn	23 19 12.1	-0.6
MKRZ	**Makatiti**	**2.63**	**347**	P	Pn	23 19 14.9	+1.5
OMRZ	**Omania**	**2.68**	**345**	P	Pn	23 19 14.3	+0.3
RUGZ	**Raukumara Rang**	**2.75**	**7**	P	Pn	23 19 14.3	-0.8
NEZ	**North Egmont**	**2.81**	**300**	P	Pn	23 19 19.2	+3.4
KHEZ	**Kahui Hut**	**2.85**	**299**	P	Pb	23 19 20.7	-2.6
WHRZ	**Whale Island**	**2.85**	**356**	P	Pn	23 19 17.1	+0.8
HIZ	**Hauiti**	**2.86**	**319**	P	Pn	23 19 17.8	+1.4
PKGZ	**Pakihiroa**	**2.88**	**13**	P	Pn	23 19 15.8	-1.0
NNZ	**Nelson**	**2.97**	**259**	P	Pn	23 19 18.7	+0.7
HAZ	**Te Kaha**	**2.97**	**8**	P	Pn	23 19 17.2	-0.8
WMGZ	**Waiomatatini S**	**3.02**	**18**	P	Pn	23 19 18.1	-0.6
MXZ	**Matakaoa Point**	**3.24**	**15**	P	Pn	23 19 21.2	-0.5
TKNZ	**Takaka Hill**	**3.26**	**263**	P	Pn	23 19 23.2	+1.2
THZ	**Tophouse**	**3.44**	**251**	P	Pn	23 19 23.8	-0.6
MRNZ	**Matariki Terra**	**3.46**	**257**	P	Pn	23 19 25.4	+0.6
QRZ	**Quartz Range**	**3.58**	**266**	P	Pn	23 19 26.6	+0.3
GVZ	**Greta Valley S**	**3.87**	**233**	P	Pn	23 19 29.5	-0.9
MKAZ	**Moumakai**	**3.94**	**335**	P	Pn	23 19 32.4	+1.1
WIAZ	**Waiheke Island**	**4.23**	**336**	P	Pn	23 19 36.4	+1.0
TMZ	**Timaru**	**5.89**	**229**	P	Pn	23 20 00.3	+2.1

*JMA **21** 23:19:08.2±0.2,37°.1N±0°.3×141°.4E±0°.8,h30km±1km, MV3.2/33,E OFF FUKUSHIMA PREF*
*IDC **21** 23:19:09.3±3.0,36°.47N×141°.23E,h0km,mb3.3/3, mbtmp3.2/4,ML2.1/1,Error ellipse: s-maj=72.6km s-min=33.7km az=59.0*
ISC 21 23:19:07.5±1.5,37°10N±0°06×141°4E±0°1,h20km±7km, n17,σ0§92/17,mb3.1/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**302**	*i* P	**Pb**	**23 19 17.8**	**0.0**
JFK				S	**Sb**	**23 19 24.6**	**-0.2**
JFFD	**Fukushimafurud**	**0.69**	**270**	P	**Pb**	**23 19 20.6**	**-0.2**
JFFD				S	**Sb**	**23 19 29.2**	**-0.7**
JMST	**Minamisoumatoc**	**0.76**	**326**	P	**Pb**	**23 19 21.9**	**-0.1**
JMST				S	**Sb**	**23 19 31.7**	**-0.2**
JHO	**Hitachi**	**0.84**	**235**	P	**Pn**	**23 19 23.0**	**-1.2**
JHO				S	**Sb**	**23 19 33.0**	**-1.2**
JMM	**Marumori**	**0.92**	**327**	P	**Pn**	**23 19 24.6**	**-0.6**
JMM				S	**Sn**	**23 19 35.9**	**-1.9**
JIO	**Ouri**	**1.36**	**358**	P	**Pn**	**23 19 31.6**	**+0.4**
JIO				S	**Sn**	**23 19 47.9**	**-0.7**
JFY	**Yanaizu**	**1.40**	**283**	P	**Pb**	**23 19 33.8**	**+0.8**
JFY				S	**Sb**	**23 19 51.0**	**+0.5**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=93,slow=17,SNR=4.8	**2.64**	**259**	Pn	**Pn**	**23 19 50.2**	**+1.3**

JYK	**Kaneyama**	**1.90**	**334**	A		A	23 23 47.1	
	comp=E,13nm,2.7s,comp=E,16nm,2.9s							
JYA	**Atsumi**	**1.93**	**316**	A		A	23 23 47.8	
	comp=E,15nm,0.8s,comp=E,26nm,1.2s							
JAW	**Awa shima**	**2.12**	**306**	A		A	23 23 50.6	
	comp=E,8.0nm,6.5s,comp=E,7.0nm,9.8s							
JYYZ	**Yamagatayuza**	**2.15**	**327**	A		A	23 23 50.8	
	comp=E,30nm,1.8s,comp=E,36nm,2.8s							
JIZZ	**Izumozaki**	**2.19**	**279**	A		A	23 23 51.6	
	comp=E,28nm,2.5s,comp=E,24nm,2.9s							
JHU	**Hanno**	**2.20**	**232**	A		A	23 23 51.4	
	comp=E,15nm,1.7s,comp=E,12nm,2.0s							
JOM	**Ohasama**	**2.26**	**357**	A		A	23 23 52.0	
	comp=E,13nm,3.2s,comp=E,6.0nm,0.8s							
JRG	**Rokugo**	**2.27**	**344**	A		A	23 23 52.3	
	comp=E,14nm,4.1s,comp=E,10.0nm,1.7s							
JGK	**Kuni**	**2.33**	**255**	A		A	23 23 53.5	
	comp=E,8.0nm,3.6s,comp=E,13nm,3.2s							
JSGW	**Sagamiharawaka**	**2.41**	**229**	A		A	23 23 54.3	
	comp=E,6.0nm,1.3s,comp=E,7.0nm,1.8s							
JYW	**Yuwa**	**2.51**	**338**	A		A	23 23 55.9	
	comp=E,23nm,0.9s,comp=E,27nm,1.9s							
TATJ	**Tateyama 2**	**2.51**	**210**	A		A	23 23 55.5	
	comp=E,14nm,2.0s,comp=E,15nm,5.1s							
JSZI	**Iwateshizukuis**	**2.55**	**352**	A		A	23 23 56.2	
	comp=E,19nm,1.6s,comp=E,22nm,1.1s							
JJN	**Nakama**	**2.61**	**269**	A		A	23 23 57.6	
	comp=E,8.0nm,1.3s,comp=E,10.0nm,3.8s							
JSD	**Sado**	**2.65**	**289**	Pn		**Pn**	**23 23 58.1**	**-0.2**
JSD	**Sado**	**2.65**	**289**	P		**Pb**	**23 24 01.7**	**-1.3**
MJAR	**Matsushiro Arr**	**2.67**	**256**	Pn		**Pn**	**23 23 55.9**	**-2.8**
	1.9nm,0.3s,baz=82,slow=16,SNR=14							
MJAR				Sn		**Sb**	**23 24 37.3**	**+1.0**
	2.9nm,0.3s,baz=77,slow=22,SNR=5.1							
	9.9nm,0.3s							
MAJO	**Matsushiro**	**2.67**	**256**	Pn		**Pn**	**23 23 59.8**	**+1.1**
MAJO	**Matsushiro**	**2.67**	**256**	P		**Pn**	**23 24 00.9**	**+2.2**
MJB9	**Matsu-Tunnel**	**2.67**	**256**			**Pn**	**23 24 00.2**	**+1.4**
JOD2	**Odawara 2**	**2.72**	**225**	A		A	23 23 58.7	
	comp=E,8.0nm,1.9s,comp=E,9.0nm,1.6s							
JHTM	**Izuhatsuma**	**2.99**	**222**	A		A	23 24 02.5	
	comp=E,11nm,1.6s,comp=E,10.0nm,1.6s							
JKEN	**Kujiedanarisaw**	**2.99**	**4**	A		A	23 24 02.4	
	comp=E,19nm,2.4s,comp=E,15nm,1.0s							
JAH	**Hinai**	**3.03**	**348**	A		A	23 24 03.2	
	comp=E,8.0nm,4.1s,comp=E,5.0nm,4.6s							
JNTW	**Noshirotokiwa**	**3.21**	**342**	A		A	23 24 05.7	
	comp=E,24nm,6.3s,comp=E,23nm,3.6s							
JOG3	**Oga3**	**3.27**	**326**	A		A	23 24 02.6	
	comp=E,12nm,4.6s,comp=E,9.0nm,4.9s							
JTT	**Ttatey**	**3.34**	**261**	A		A	23 24 07.9	
	comp=E,5.0nm,3.5s,comp=E,7.0nm,2.2s							
JTM	**Tenmabayashi**	**3.58**	**356**	Pn		**Pn**	**23 24 09.8**	**-1.3**
JTM	**Tenmabayashi**	**3.58**	**356**	P		**Pn**	**23 24 12.1**	**+1.0**
JTM	**Tenmabayashi**	**3.58**	**356**	A		A	23 24 10.8	
	comp=E,5.0nm,5.4s,comp=E,7.0nm,7.0s							
JSG	**Sagara**	**3.65**	**227**	A		A	23 24 12.0	
	comp=E,8.0nm,3.9s,comp=E,9.0nm,2.6s							
JGF	**Kuroka**	**3.66**	**245**	Pn		**Pn**	**23 24 13.9**	**+1.6**
JGF	**Kuroka**	**3.66**	**245**	P		**Pn**	**23 24 13.4**	**+1.1**
INU	**Inuyama**	**4.02**	**244**	Pn		**Pn**	**23 24 19.0**	**+1.8**
INU	**Inuyama**	**4.02**	**244**	P		**Pn**	**23 24 19.1**	**+1.8**
JAHD	**Aomorihigashid**	**4.04**	**359**	A		A	23 24 17.3	
	comp=E,19nm,1.3s,comp=E,13nm,1.1s							
JOT	**Ohata**	**4.17**	**356**	A		A	23 24 19.2	
	comp=E,7.0nm,4.1s,comp=E,3.0nm,4.4s							
JHJ2	**Mitsune**	**4.30**	**198**	Pn		**Pn**	**23 24 21.2**	**+0.2**
JHJ2	**Mitsune**	**4.30**	**198**	P		**Pn**	**23 24 21.3**	**+0.2**
JHJ	**Hachije jima 2**	**4.30**	**199**	Pn		**Pn**	**23 24 19.8**	**-1.4**
	19nm,0.3s,baz=287,slow=23,SNR=6.6							
JHJ				Sn		**Sn**	**23 25 09.7**	**-1.9**
	40nm,0.3s,baz=87,slow=23,SNR=2.4							
	109nm,0.5s							
ERM	**Erimo**	**4.97**	**15**	Pn		**Pn**	**23 24 29.1**	**-1.2**
ERM	**Erimo**	**4.97**	**15**	P		**Pn**	**23 24 29.4**	**-0.9**
JEM	**Erimo**	**4.98**	**15**	P		**Pn**	**23 24 29.4**	**-0.9**
JKA	**Kamikawa-asahi**	**6.95**	**7**	Pn		**Pn**	**23 24 56.6**	**-0.9**
JMN	**Monobe**	**7.07**	**243**	Pn		Pn	23 25 04.7	+5.4
JHS	**Saijyo**	**7.08**	**254**	Pn		**Pn**	**23 25 02.0**	**+2.6**
JHS	**Saijyo**	**7.08**	**254**	P		**Pn**	**23 25 01.8**	**+2.4**
USRK	**Uesuriysk Ar.**	**10.00**	**317**	Pn		**Pn**	**23 25 39.5**	**+0.3**
	0.2nm,0.3s,baz=115,slow=12,SNR=1.6							
	4.2nm,0.6s							
KSAR	**Wonju Array Be**	**10.79**	**275**			**Pn**	**23 25 48.7**	**-1.4**
KS19	**Wonju Array Si**	**10.80**	**276**			**Pn**	**23 25 50.3**	**0.0**
HEH	**HeiHe**	**16.47**	**327**	*e*P		**P**	**23 27 08.0**	**-1.4**
HEH				pmax		pmax		
	comp=E,5.0nm,1.3s							
HNS	**HongShan**	**21.24**	**279**	⇓P		**P**	**23 27 58.8**	**-2.9**
HNS				pmax		pmax		
	comp=E,9.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**23.43**	**288**	*e*P		**P**	**23 28 24.9**	**-0.1**
HHC				pmax		pmax		
	comp=E,19nm,1.0s							
HHC				pmax		pmax		
	comp=E,5μm,5.7s							
YAK	**Yakutsk**	**25.89**	**347**	P		**P**	**23 28 50.7**	**+3.2**
	comp=E,8.3nm,0.4s,baz=155,slow=1.0,SNR=4.6							
XAN	**Xi'an**	**26.54**	**273**	⇑P		**P**	**23 28 56.4**	**+2.7**
XAN				pP		sP	23 29 00.8	+3.8
XAN				pmax		pmax		
	comp=E,4.0nm,0.8s							
SEY	**Seymchan**	**26.61**	**11**	P		**P**	**23 28 53.6**	**-0.3**
	comp=E,3.1nm,0.9s,baz=208,slow=22,SNR=1.5							
	comp=E,3.1nm,0.9s							
SONM	**Songino Array**	**27.69**	**304**	P		**P**	**23 29 02.5**	**-1.6**
	comp=E,1.9nm,0.7s,baz=104,slow=9.2,SNR=14							
	comp=E,1.9nm,0.7s							
SONM	**Songino Array**	**27.69**	**304**	P		**P**	**23 29 03.9**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	23 58 30.2	
	baz=314							
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	23 58 32.3	
	baz=314,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	23 58 33.0	
	baz=314,slow=74							
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	23 59 28.4	
	baz=316,slow=76,SNR=90							
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	23 59 26.5	
	baz=316,slow=76,SNR=74							
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T		T	23 59 29.6	
	baz=316,slow=76,SNR=69							
GTA	**Gaotai**	**32.52**	**287**	*e*P		**P**	**23 29 45.9**	**-0.9**
GTA				pP		sP	23 29 53.6	+3.5
GTA				sP		pP	23 29 57.6	+8.4
GTA				pmax		pmax		
	comp=E,2.0nm,0.7s							
PZH	**PanZhiHua**	**35.13**	**264**	P		**P**	**23 30 10.0**	**+0.4**
PZH				pmax		pmax		
	comp=E,10.0nm,0.5s							
TNCH	**TengChong**	**38.39**	**264**	*e*P		P	23 30 44.0	+6.5
TNCH				pmax		pmax		
	comp=E,12nm,0.4s							
WMQ	**Urumqi**	**40.77**	**297**	*e*P		**P**	**23 30 58.5**	**+1.5**
ZAA0	**Zalesovo Array**	**41.80**	**312**	P		**P**	**23 31 04.4**	**-0.8**
ZALV	**Zalesovo Beam**	**41.80**	**312**	P		**P**	**23 31 04.5**	**-0.7**
	comp=E,3.3nm,0.7s,baz=93,slow=6.8,SNR=14							
	comp=E,3.3nm,0.7s							
ZALV	**Zalesovo Beam**	**41.80**	**312**	P		**P**	**23 31 05.2**	**-0.1**
MK31	**Makanchi Array**	**44.03**	**302**	P		**P**	**23 31 22.5**	**-1.0**
MKAR	**Makanchi Array**	**44.03**	**302**	P		**P**	**23 31 22.9**	**-0.6**
	comp=E,1.9nm,0.7s,baz=91,slow=10.0,SNR=16							
	comp=E,1.9nm,0.7s							
MKAR	**Makanchi Array**	**44.03**	**302**	P		**P**	**23 31 22.5**	**-1.0**
MAKZ	**Makanchi**	**44.24**	**302**	P		**P**	**23 31 23.9**	**-1.2**
MAKZ				IAmb		IAmb	23 31 38.8	
	comp=E,9.0nm,0.9s							
KURK	**Kurchatov**	**45.83**	**308**	P		**P**	**23 31 36.9**	**-0.7**
KURBB	**Kurchatov Arra**	**45.90**	**308**	P		**P**	**23 31 37.4**	**-0.8**
	comp=E,3.2nm,0.7s,baz=84,slow=8.4,SNR=21							
	comp=E,3.2nm,0.7s							
TAPN	**Taplejung**	**45.94**	**274**	*e*P		**P**	**23 31 38.2**	**-1.0**
	comp=E,7.2nm,0.7s							
RAMN	**Ramite**	**47.00**	**274**	*e*P		**P**	**23 31 46.9**	**-0.6**
	comp=E,43nm,1.1s							
JIRN	**Jiri**	**47.01**	**275**	*e*P		**P**	**23 31 47.8**	**+0.1**
GUN	**Gumba**	**47.15**	**275**	*e*P		**P**	**23 31 48.2**	**-0.6**
GKN	**Gorkha**	**48.10**	**276**	*e*P		**P**	**23 31 55.2**	**-0.7**
DANN	**Dangsing**	**48.64**	**277**	*e*P		**P**	**23 31 59.5**	**-0.7**
	comp=E,39nm,0.7s							
IL31		**49.33**	**32**	P		**P**	**23 32 07.3**	**+2.7**
IL31				IAmb		IAmb	23 32 22.8	
	comp=E,12nm,1.4s							
ILAR	**Eielson Array**	**49.33**	**32**	P		**P**	**23 32 04.8**	**+0.1**
	comp=E,1.1nm,0.8s,baz=262,slow=7.0,SNR=8.2							
	comp=E,1.1nm,0.8s							
ILAR	**Eielson Array**	**49.33**	**32**	P		**P**	**23 32 06.8**	**+2.1**
BRVK	**Borovoye**	**50.52**	**312**	P		**P**	**23 32 12.9**	**-1.0**
KK31	**Karatay Array**	**53.04**	**300**	P		**P**	**23 32 33.3**	**+0.4**
KK31				IAmb		IAmb	23 32 49.6	
	comp=E,10.0nm,1.4s							
KKAR	**Karatay Array**	**53.04**	**300**	P		**P**	**23 32 33.1**	**+0.2**
KKAR	**Karatay Array**	**53.04**	**300**	P		**P**	**23 32 33.6**	**+0.6**
KKAR				IAmb		IAmb	23 32 49.6	
	comp=E,10.0nm,1.4s							
GAR	**Garm**	**54.63**	**295**	P		**P**	**23 32 44.3**	**-0.4**
GAR				IAmb		IAmb	23 33 02.4	
	comp=E,14nm,1.3s							
A36M	**Sachs Harbour**	**56.09**	**22**	P		**P**	**23 32 56.1**	**+1.6**
A36M				IAmb		IAmb	23 33 24.4	
	comp=E,11nm,1.3s							
ARU	**Arti**	**56.23**	**318**	P		**P**	**23 32 55.0**	**-0.8**
ARU				IAmb		IAmb	23 33 31.3	
	comp=E,15nm,1.5s							
WR0	**Warramunga Arr**	**57.24**	**188**	P		**P**	**23 33 06.9**	**+3.7**
WR0				IAmb		IAmb	23 33 37.9	
	comp=E,8.1nm,1.2s							
WB2	**Warramunga Arr**	**57.24**	**188**	P		**P**	**23 33 07.0**	**+3.7**
WB2				IAmb		IAmb	23 33 41.7	
	comp=E,13nm,1.4s							
WRA	**Warramunga Arr**	**57.24**	**188**	P		**P**	**23 33 01.4**	**-1.9**
	comp=E,1.5nm,0.8s,baz=5.2,slow=7.5,SNR=11							
	comp=E,1.5nm,0.8s							
WRA	**Warramunga Arr**	**57.24**	**188**	P		**P**	**23 33 07.0**	**+3.7**
ABKAR	**Akbulak array**	**57.83**	**310**	P		**P**	**23 33 06.3**	**-0.9**
ABKAR				IAmb		IAmb	23 33 17.6	
	comp=E,4.4nm,0.9s							
EUNU	**Eureka**	**60.01**	**9**	P		**P**	**23 33 21.7**	**-0.3**
EUNU				IAmb		IAmb	23 34 04.6	
	comp=E,7.4nm,1.4s							
ASAR	**Alice Springs**	**60.97**	**188**	P		**P**	**23 33 27.2**	**-1.9**
	comp=E,0.6nm,0.7s,baz=10,slow=6.8,SNR=8.4							
	comp=E,0.6nm,0.7s							
GEYT	**Alibeck**	**63.76**	**299**	P		**P**	**23 33 47.3**	**-0.5**
	comp=E,1.1nm,0.8s,baz=8.5,slow=2.9,SNR=2.7							
	comp=E,1.1nm,0.8s							
ARCES	**ARCESS Array B**	**63.83**	**339**	P		**P**	**23 33 47.4**	**-0.3**
	comp=E,2.7nm,0.8s,baz=64,slow=8.5,SNR=7.2							
	comp=E,2.7nm,0.8s							
ARCES	**ARCESS Array B**	**63.83**	**339**	P		**P**	**23 33 47.8**	**0.0**
OUENC	**Ouen Island, N**	**63.97**	**154**	P		**P**	**23 33 50.6**	**+1.5**
TULEG	**Thule**	**64.92**	**7**	P		**P**	**23 33 56.9**	**+2.1**
FINES	**FINESS Array B**	**68.66**	**332**	P		**P**	**23 34 18.5**	**-0.3**
	comp=E,2.9nm,0.9s,baz=35,slow=7.0,SNR=5.8							
	comp=E,2.9nm,0.9s							
FINES	**FINESS Array B**	**68.66**	**332**	P		**P**	**23 34 16.7**	**-2.1**
STKA	**Stephens Creek**	**68.74**	**180**	P		**P**	**23 34 18.1**	**-1.4**
	comp=E,1.3nm,0.5s,baz=356,slow=7.6,SNR=3.2							
	comp=E,1.3nm,0.5s							
PINE	**Pine Mountain**	**70.21**	**50**	P		**P**	**23 34 30.2**	**+1.2**
PINE				IAmb		IAmb	23 34 40.7	
	comp=E,7.1nm,1.1s							
NB2	**NORSAR Subarra**	**74.02**	**337**	P		**P**	**23 34 50.7**	**-0.6**
	comp=E,6.1nm,1.4s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**74.02**	**337**	P		**P**	**23 34 51.2**	**-0.1**
	comp=E,0.6nm,0.7s,baz=39,slow=5.8,SNR=3.8							
	comp=E,0.6nm,0.7s							
AKASG	**Malin Array Be**	**74.16**	**322**	P		**P**	**23 34 51.5**	**-0.7**
	comp=E,0.9nm,0.5s,baz=46,slow=6.3,SNR=6.4							
	comp=E,0.9nm,0.5s							
NVAR	**Mina Array Bea**	**74.87**	**53**	P		**P**	**23 34 58.1**	**+1.2**
	comp=E,2.0nm,0.3s,baz=255,slow=3.5,SNR=2.7							
	comp=E,2.0nm,0.3s							
PDAR	**Pinedale Array**	**77.53**	**45**	P		**P**	**23 35 13.1**	**+1.2**
	comp=E,0.3nm,0.6s,baz=298,slow=2.6,SNR=4.2							
	comp=E,0.3nm,0.6s							
PDAR	**Pinedale Array**	**77.53**	**45**	P		**P**	**23 35 13.6**	**+1.6**
BRTR	**Keskin Array B**	**78.74**	**312**	P		**P**	**23 35 18.3**	**-0.3**
	comp=E,0.4nm,0.7s,baz=109,slow=2.6,SNR=1.9							
	comp=E,0.4nm,0.7s							
RAYN	**Ar Rayn**	**80.60**	**292**	P		**P**	**23 35 28.5**	**-0.3**
RAYN				IAmb		IAmb	23 35 48.9	
	comp=E,5.1nm,1.4s							
GERES	**GERESS Array B**	**82.56**	**328**	P		**P**	**23 35 39.1**	**+0.2**
	comp=E,0.3nm,0.6s,baz=36,slow=5.0,SNR=2.3							
	comp=E,0.3nm,0.6s							
TXAR	**Lajitas Array**	**90.00**	**52**	P		**P**	**23 36 14.3**	**-1.5**
	comp=E,0.3nm,0.8s,baz=221,slow=3.6,SNR=3.2							
	comp=E,0.3nm,0.8s							
LPAZ	**La Paz**	**146.59**	**59**	PKPbc		**PKPab**	**23 42 59.5**	**-0.2**
	comp=E,0.9nm,0.6s,baz=355,slow=3.8,SNR=4.5							
H03N2	**Juan Fernandez**	**147.03**	**96**	T		T	02 27 06.0	
	baz=297,slow=72							
H03N3	**Juan Fernandez**	**147.04**	**96**	T		T	02 27 11.5	
	baz=297,slow=72							
H03N1	**Juan Fernandez**	**147.05**	**96**	T		T	02 27 07.8	
	baz=297,slow=72							

*DJA **21** 23:25:13.7±1.0,6˚S±6˚×10˚4E±˚, h12km±6km, M3.8/6, MLv3.8/6*
*IDC **21** 23:25:32.3±10.0,5˚44S×103˚80E, h162km±96km, mb3.3/7, mbtmp3.8/7, Error ellipse: s-maj=89.0km s-min=17.9km az=55.0*

ISC 21 23:25:18.0±1.6,6˚0S±0˚1×103˚69E±0˚05, h53km±13km, n16, σ1s76/20, mb4.0/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KASI	**Kota Agung**	**0.94**	**59**	P		**Pn**	**23 25 32.6**	**-2.4**
KASI				S		**Sn**	**23 25 47.1**	**-0.3**
LWLI	**Liwa**	**1.05**	**20**	P		**Pn**	**23 25 36.1**	**-0.6**
LWLI				S		**Sn**	**23 25 52.0**	**+1.5**
EGSI	**Enggano, Bengk**	**1.56**	**295**	P		**Pn**	**23 25 42.0**	**-1.3**
EGSI				S		**Sn**	**23 26 03.6**	**+1.2**
KLI	**Kotabumi**	**1.63**	**45**	P		**Pn**	**23 25 43.8**	**-0.5**
KLI				S		**Sn**	**23 26 06.9**	**+2.7**
BLSI	**Bandar Lampung**	**1.67**	**67**	P		**Pn**	**23 25 43.9**	**-1.1**
BLSI				S		**Sn**	**23 26 05.9**	**+0.6**
MNAI	**Manna**	**1.80**	**336**	P		**Pn**	**23 25 46.7**	**0.0**
LHSI	**Lahat**	**2.18**	**356**	P		**Pn**	**23 25 52.2**	**+0.3**
KSI	**Kapahiang**	**2.59**	**335**	P		**Pn**	**23 25 57.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**24.76**	**349**	P		**P**	**23 30 34.1**	**-0.8**
	1.6nm,0.3s,baz=179,slow=9.1,SNR=9.8							
	1.6nm,0.3s							
WRA	**Warramunga Arr**	**32.83**	**118**	P		**P**	**23 31 51.6**	**+4.7**
	0.1nm,0.6s,baz=309,slow=8.8,SNR=7.3							
	0.1nm,0.6s							
ASAR	**Alice Springs**	**33.94**	**124**	P		P	23 32 03.5	+6.9
	0.2nm,0.4s,baz=295,slow=13,SNR=1.7							
	0.2nm,0.4s							
SONM	**Songino Array**	**53.67**	**2**	P		**P**	**23 34 33.6**	**-0.9**
	1.5nm,0.8s,baz=179,slow=7.2,SNR=7.2							
	1.5nm,0.8s							
MKAR	**Makanchi Array**	**55.90**	**342**	P		**P**	**23 34 49.5**	**-1.0**
	0.7nm,0.6s,baz=151,slow=8.0,SNR=5.9							
	0.7nm,0.6s							
KLR	**Kul'dur**	**60.21**	**21**	P		**P**	**23 35 19.1**	**-1.5**
	0.8nm,0.5s,baz=225,slow=5.7,SNR=4.3							
	0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**61.81**	**347**	P		**P**	**23 35 30.1**	**-1.2**
	1.4nm,0.5s,baz=153,slow=5.2,SNR=7.5							
	1.4nm,0.5s							
TXAR	**Lajitas Array**	**145.29**	**45**	PKP		**PKPbc**	**23 44 50.0**	**-0.6**
	0.3nm,0.5s,baz=325,slow=1.1,SNR=8.6							

*IDC **21** 23:27:34.3±1.0,37˚43N×141˚61E, h0km, mb3.9/12, mbtmp3.9/12, ML2.3/1, MS4.5/1, Error ellipse: s-maj=23.4km s-min=20.7km az=127.0*
*JMA **21** 23:27:37.0±0.2,37˚4N±0˚3×141˚6E±0˚8, h25km±1km, MV3.9/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 21 23:27:35.1±3.8,37˚35N±0˚05×141˚58E±0˚07, h6km±23km, n29, σ0s80/31, mb3.9/12, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.56**	**272**	P		**Pb**	**23 27 47.9**	**+0.5**
JFK				S		**Sb**	**23 27 55.3**	**-0.3**
JMST	**Minamisoumatoc**	**0.67**	**304**	*i* P		**Pb**	**23 27 49.6**	**+0.5**
JMST				S		**Sb**	**23 27 58.7**	**+0.1**
JMM	**Marumori**	**0.81**	**310**	⇓P		**Pb**	**23 27 51.8**	**+0.2**
JMM				⇓S		**Sb**	**23 28 02.5**	**-0.2**
JFFD	**Fukushimafurud**	**0.85**	**253**	P		**Pb**	**23 27 52.3**	**0.0**
JFFD				*e*S		**Sb**	**23 28 03.4**	**-0.6**
JHO	**Hitachi**	**1.09**	**228**	*e*P		**Pn**	**23 27 56.1**	**-0.9**
JHO				S		**Sb**	**23 28 10.2**	**-0.7**
JIO	**Ouri**	**1.12**	**351**	P		**Pn**	**23 27 56.6**	**-0.7**
JIO				*e*S		**Sb**	**23 28 11.1**	**-0.6**
JOU	**Okura**	**1.25**	**325**	*i* P		**Pb**	**23 27 59.5**	**+0.5**
JOU				S		**Sn**	**23 28 16.2**	**+0.1**
JSB	**Shiboa**	**1.38**	**255**	P		**Pb**	**23 28 01.9**	**+0.7**
JSB				S		**Sb**	**23 28 20.1**	**+1.0**
MJAR	**Matsushiro Arr**	**2.82**	**254**	Pn		**Pn**	**23 28 21.4**	**+0.7**
	0.5nm,0.3s,baz=85,slow=27,SNR=2.4							
MJAR				Sn		**Sb**	**23 28 58.4**	**-2.2**
	0.6nm,0.3s,baz=183,slow=9.2,SNR=4.2							
USRK	**Ussuriysk Ar.**	**9.98**	**316**	Pn		Pn	23 30 04.5	+5.5
	baz=282,slow=23							
USRK				LR		LR	23 33 35.0	
	comp=Z,3μm,18.3s,baz=346,slow=36							
SEY	**Seymchan**	**26.46**	**11**	P		**P**	**23 33 11.3**	**-1.2**
	1.7nm,0.3s,baz=319,slow=18,SNR=4.5							
	1.7nm,0.3s							
SONM	**Songino Array**	**27.72**	**303**	P		**P**	**23 33 24.3**	**+0.1**
	1.5nm,0.8s,baz=102,slow=8.1,SNR=6.6							
	1.5nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.20**	**122**	T		T	00 02 55.7	
	baz=314,slow=75,SNR=21							
H11N1	**WAKE ISLAND Hy**	**28.20**	**122**	T		T	00 02 54.8	
	baz=314,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**28.21**	**122**	T		T	00 02 59.7	
	baz=314,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hy**	**28.92**	**124**	T		T	00 03 48.3	
	baz=316,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T		T	00 03 49.6	
	baz=316,slow=76,SNR=18							
H11S2	**WAKE ISLAND Hy**	**28.94**	**124**	T		T	00 03 52.1	
	baz=316,slow=76,SNR=15							
ZALV	**Zalesovo Beam**	**41.80**	**312**	P		**P**	**23 35 25.6**	**+0.3**
	1.9nm,0.7s,baz=86,slow=7.0,SNR=6.6							
	1.9nm,0.7s							
MKAR	**Makanchi Array**	**44.06**	**302**	P		**P**	**23 35 44.2**	**+0.5**
	1.4nm,0.7s,baz=91,slow=9.3,SNR=7.8							
	1.4nm,0.7s							
KURBB	**Kurchatov Arra**	**45.91**	**308**	P		**P**	**23 35 58.2**	**-0.1**
	2.0nm,0.6s,baz=82,slow=7.8,SNR=9.9							
	2.0nm,0.6s							
ILAR	**Eielson Array**	**49.16**	**33**	P		**P**	**23 36 23.6**	**+0.2**
	0.8nm,0.8s,baz=265,slow=6.4,SNR=6.9							
	0.8nm,0.8s							
WRA	**Warramunga Arr**	**57.39**	**188**	P		**P**	**23 37 24.2**	**-0.1**
	1.1nm,0.8s,baz=4.2,slow=7.0,SNR=2.8							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**61.12**	**188**	P		**P**	**23 37 51.0**	**+0.9**
	0.2nm,0.3s,baz=331,slow=37,SNR=1.9							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**68.60**	**332**	P		**P**	**23 38 36.9**	**-1.5**
	2.6nm,0.8s,baz=351,slow=6.2,SNR=4.5							
	2.6nm,0.8s							
NB2	**NORSAR Subarra**	**73.95**	**337**	P		**P**	**23 39 11.4**	**+0.5**
	comp=E,1.5nm,0.8s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**73.95**	**337**	P		**P**	**23 39 10.2**	**-0.7**
	comp=E,0.5nm,0.6s,baz=40,slow=5.9,SNR=3.6							
	comp=E,0.5nm,0.6s							
AKASG	**Malin Array Be**	**74.13**	**322**	P		**P**	**23 39 12.1**	**0.0**
	comp=E,0.5nm,0.4s,baz=44,slow=6.2,SNR=4.8							
	comp=E,0.5nm,0.4s							
TXAR	**Lajitas Array**	**89.82**	**52**	P		**P**	**23 40 36.2**	**+1.2**
	comp=E,0.3nm,0.7s,baz=293,slow=2.4,SNR=3.9							
	comp=E,0.3nm,0.7s							

IDC 21 23:33:45.0±4.0, 4˚87S×158˚29E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=119.8km s-min=39.0km az=104.0, Bougainville-Solomon Islands region

| Code | Station Name | Δ° | AZ° |

STKA	**Stephens Creek**	**41.34**	**132**	P	**P**	23 44 45.1	**+1.0**
STKA				IAmb	IAmb	23 44 45.8	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**57.34**	**341**	P	**P**	**23 46 42.4**	**-3.1**
	comp=Z,0.4nm,0.6s,baz=148,slow=8.3,SNR=6.5						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**63.03**	**346**	P	**P**	**23 47 20.6**	**-3.5**
	comp=Z,0.4nm,0.4s,baz=156,slow=4.6,SNR=2.2						
	comp=Z,0.4nm,0.4s						
VNDA	**Vanda**	**76.43**	**169**	P	**P**	**23 48 46.5**	**+0.5**
BRTR	**Keskin Array B**	**81.13**	**312**	P	**P**	**23 49 11.6**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=133,slow=7.2,SNR=9.9						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**83.35**	**180**	P	**P**	**23 49 23.2**	**-0.3**
QSPA				IAmb	IAmb	23 50 03.1	
	comp=Z,3.1nm,1.2s						
VRI	**Vrincioaia**	**87.56**	**317**	⇑P	**P**	**23 49 45.3**	**+0.7**
NEHR	**Nehoiu**	**87.77**	**316**	⇓P	**P**	**23 49 46.5**	**+0.9**
MLR	**Muntele Rosu**	**88.02**	**316**	⇑P	**P**	**23 49 47.0**	**0.0**
BURAR	**Bucovina Array**	**88.93**	**318**	⇓P	**P**	**23 49 51.1**	**-0.1**
PDAR	**Pinedale Array**	**132.06**	**36**	PKP	**PKPdf**	**23 56 10.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=204,slow=0.9,SNR=2.1						
TXAR	**Lajitas Array**	**143.78**	**48**	PKP	PKPab	23 56 29.2	+0.2
	comp=Z,0.3nm,0.4s,baz=259,slow=0.9,SNR=9.7						

*IDC **21** 23:37:28.5±1.4, 37.00N×141.83E, h0km, mb3.5/5, mbtmp3.6/7, ML2.9/2, MS3.9/1, Error ellipse: s-maj=29.2km s-min=23.0km az=104.0*
*JMA **21** 23:37:30.6±0.2, 37.3N±0.4×14 2E±, h29km±1km, MV3.8/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 21 23:37:28.6±2.1, 37.26N±0.04×141.57E±0.08, h6km±12km, n23, σ1s54/22, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.57**	**281**	P	**Pb**	**23 37 40.9**	**-0.1**
JFK				S	**Sb**	**23 37 48.5**	**-1.0**
JMST	**Minamisoumatoc**	**0.72**	**311**	*e*P	**Pb**	**23 37 43.1**	**-0.4**
JMST				S	**Sb**	**23 37 52.5**	**-1.2**
JFFD	**Fukushimafurud**	**0.83**	**259**	P	**Pg**	**23 37 45.0**	**+0.5**
JFFD				*e*S	**Sg**	**23 37 55.3**	**+0.1**
JMM	**Marumori**	**0.87**	**315**	P	**Pb**	**23 37 45.7**	**-0.4**
JMM				S	**Sg**	**23 37 56.5**	**-0.1**
JHO	**Hitachi**	**1.03**	**232**	*e*P	**Pb**	**23 37 48.1**	**-0.8**
JHO				*e*S	**Sg**	**23 38 01.2**	**-0.6**
JIO	**Ouri**	**1.21**	**352**	P	**Pn**	**23 37 51.0**	**-1.1**
JIO				S	**Sb**	**23 38 06.0**	**-1.8**
JOU	**Okura**	**1.32**	**327**	P	**Pn**	**23 37 53.3**	**-0.4**
JOU				S	**Sn**	**23 38 09.9**	**-1.8**
MJAR	**Matsushiro Arr**	**2.79**	**256**	Pn	**Pn**	**23 38 14.9**	**+1.0**
	0.5nm,0.3s,baz=76,slow=17,SNR=6.0						
MJAR				Sn	**Sb**	**23 38 51.5**	**-1.9**
	1.1nm,0.3s,baz=79,slow=16,SNR=5.3						
	7.3nm,0.4s						
JHJ	**Hachijo jima 2**	**4.38**	**200**	Pn	**Pn**	**23 38 35.7**	**-0.1**
	6.9nm,0.3s,baz=66,slow=24,SNR=6.2						
JHJ				Sn	**Sn**	**23 39 24.6**	**-2.5**
	14nm,0.3s,baz=268,slow=21,SNR=1.3						
JHJ				LR	LR	23 40 14.1	
	comp=Z,1μm,19.7s,baz=100,slow=39						
	93nm,0.7s						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**23 43 22.3**	**+4.0**
	0.5nm,0.7s,baz=95,slow=8.8,SNR=2.1						
	0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	00 12 47.0	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	00 12 46.7	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	00 12 47.7	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	00 13 42.1	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	00 13 42.1	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	00 13 42.1	
	baz=318						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	P	23 45 24.6	+5.2
	0.6nm,0.4s,baz=75,slow=7.8,SNR=4.6						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**23 45 39.4**	**+1.7**
	0.5nm,0.7s,baz=83,slow=12,SNR=2.9						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**49.24**	**32**	P	**P**	**23 46 18.3**	**+0.7**
	0.4nm,0.8s,baz=276,slow=8.1,SNR=2.7						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.30**	**188**	P	**P**	**23 47 16.3**	**-1.0**
	0.1nm,0.4s,baz=5.6,slow=7.0,SNR=4.6						
	0.1nm,0.4s						
H03N2	**Juan Fernandez**	**146.92**	**96**	T	T	02 41 21.7	
	baz=291,slow=76,SNR=6.7						
H03N3	**Juan Fernandez**	**146.93**	**96**	T	T	02 41 21.5	
	baz=291,slow=76,SNR=13						
H03N1	**Juan Fernandez**	**146.94**	**96**	T	T	02 41 21.4	
	baz=291,slow=76,SNR=7.6						

JMA 21 23:39:29.4±0.2, 37.2N±0.3×141.4E±0.9, h27km±1km, MV3.6/34, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.42**	**291**	*i* P	Pb	23 39 38.0	-0.5
JFK				S	Sb	23 39 44.2	-0.4
JMST	**Minamisoumatoc**	**0.64**	**323**	P	Pb	23 39 41.5	-0.4
JMST				S	Sb	23 39 50.8	+0.3
JFFD	**Fukushimafurud**	**0.66**	**259**	*i* P	Pb	23 39 41.9	-0.4
JFFD				S	Sb	23 39 50.9	-0.2
JMM	**Marumori**	**0.79**	**325**	P	Pb	23 39 44.2	-0.4
JMM				S	Sb	23 39 55.2	+0.3
JHO	**Hitachi**	**0.88**	**227**	P	Pn	23 39 45.2	-0.8
JHO				S	Sb	23 39 56.5	-0.9
JSB	**Shiboa**	**1.18**	**258**	S	Sb	23 40 07.6	+1.5
JIO	**Ouri**	**1.24**	**359**	P	Pn	23 39 50.9	+0.1

ATH 21 23:39:51.1, 38.23N×21.80E, h24km±2km, ML2.2/8, Error ellipse: s-maj=2.6km s-min=0.9km az=114.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAKA	**Lakka**	**0.14**	**85**	P	Pb	23 39 55.7	-0.2
LAKA				S	Sb	23 39 58.9	-0.3
LAKA				AML	AML	23 39 59.1	
	comp=E,1024μm,0.2s						
LAKA				AML	AML	23 39 59.1	
	comp=N,1055μm,0.2s						
EFP	**Efpalio**	**0.21**	**22**	P	Pb	23 39 56.4	-0.4
EFP				S	Sb	23 40 00.5	-0.2
EFP				AML	AML	23 40 01.0	
	comp=E,1644μm,0.2s						
EFP				AML	AML	23 40 01.0	
	comp=N,1358μm,0.2s						
SERG	**Sergoula**	**0.27**	**47**	P	Pb	23 39 57.4	-0.2
SERG				S	Sb	23 40 02.3	+0.2
SERG				AML	AML	23 40 02.9	
	comp=N,2208μm,0.2s						
SERG				AML	AML	23 40 03.4	
	comp=E,1634μm,0.3s						
DRO	**Drossia**	**0.29**	**195**	P	Pb	23 39 57.6	-0.2
DRO				S	Sb	23 40 02.7	+0.3
DRO				AML	AML	23 40 03.1	
	comp=N,2429μm,0.3s						
DRO				AML	AML	23 40 07.0	
	comp=E,3559μm,0.3s						
RLS	**Riolos of Patr**	**0.32**	**237**	P	Pb	23 39 58.0	-0.2
RLS				S	Sb	23 40 03.6	+0.5
RLS				AML	AML	23 40 03.7	
	comp=N,2011μm,0.2s						
RLS				AML	AML	23 40 03.9	
	comp=E,797μm,0.3s						
ANX	**Ano Chora**	**0.38**	**14**	P	Pb	23 39 58.9	-0.3
ANX				S	Sb	23 40 05.1	+0.3
ANX				AML	AML	23 40 05.5	
	comp=E,859μm,0.5s						
ANX				AML	AML	23 40 06.4	
	comp=N,837μm,0.6s						
PVO	**Paravola**	**0.44**	**331**	P	Pb	23 39 60.0	-0.4
PVO				S	Sb	23 40 06.9	+0.3
EVR	**Evrytania**	**0.69**	**0**	P	Pb	23 40 04.2	-0.3
EVR				AML	AML	23 40 19.5	
	comp=N,120μm,0.4s						
EVR				AML	AML	23 40 20.7	
	comp=E,130μm,0.4s						
THAL	**Thalero**	**0.70**	**105**	P	Pb	23 40 04.4	-0.3
MAKR	**Makrakomi, Fth**	**0.82**	**18**	P	Pb	23 40 06.7	-0.1
AXAR	**Agios Charalam**	**0.86**	**51**	P	Pb	23 40 07.2	-0.2
VLS	**Valsamata**	**0.96**	**267**	P	Pb	23 40 08.1	-0.9
LKR	**Lokris**	**1.03**	**65**	P	Pn	23 40 09.6	-0.4
LKR				AML	AML	23 40 26.9	
	comp=E,162μm,0.3s						
LKR				AML	AML	23 40 27.0	
	comp=N,108μm,0.3s						
ITM	**Ithomi**	**1.05**	**175**	P	Pn	23 40 10.4	0.0

*BJI **21** 23:39:49.8±0.0, 37.10N×141.63E, h24km, mb4.8/53, mB5.3/4, Ms5.0/8, Ms7.4.9/7*
*MOS **21** 23:39:52.5±0.9, 37.22N×141.37E, h25km, mb5.1/58, Error ellipse: s-maj=7.0km s-min=4.6km az=110.6*
*NIED **21** 23:39:53.4, 37.21N×141.47E, h31km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=9.36; Mθθ=4.71; Mφφ=4.65; Mrθ=2.22; Mθφ=4.56; Mφr=0.49; Fault plane solution: M0=9.56000×10^15 NP1:φs=35.00000°, δ=42.00000°, λ=-106.00000°. NP2:φs=236.00000°, δ=50.00000°, λ=-76.00000°.*
*JMA **21** 23:39:53.4±0.1, 37.2N±0.3×141.5E±0.8, h31km±1km, MD4.8/39, MV4.9/39, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
*IDC **21** 23:39:54.5±3.2, 37.16N×141.38E, h28km±22km, mb4.6/33, mbtmp4.7/39, ML3.9/4, Error ellipse: s-maj=12.5km s-min=8.8km az=95.0*
*NEIC **21** 23:39:54.8±1.1, 37.21N±0.05×141.40E±0.08, h24km±4km, mb4.9/259, Error ellipse: s-maj=8.7km s-min=6.9km az=82.0*

ISC 21 23:39:53.3±0.3, 37.18N±0.03×141.47E±0.04, h19km±1km, h19km:pP-P, n838, σ1s96/780, mb4.9/243, 23C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.51**	**292**	*i* P	**Pb**	**23 40 03.5**	**-0.1**
JFK				S	**Sb**	**23 40 10.5**	**0.0**
JFK	**Kawauchi**	**0.51**	**292**	A	A	23 40 03.5	
	comp=E,88nm,1.9s,comp=E,64nm,0.6s						
JMST	**Minamisoumatoc**	**0.71**	**320**	P	**Pb**	**23 40 06.5**	**-0.5**
JMST				S	**Sb**	**23 40 16.1**	**-0.3**
JMST	**Minamisoumatoc**	**0.71**	**320**	A	A	23 40 06.5	
	comp=E,44nm,0.7s,comp=E,56nm,1.5s						
JFFD	**Fukushimafurud**	**0.73**	**263**	P	**Pg**	**23 40 07.3**	**-0.3**
JFFD				S	**Sg**	**23 40 16.6**	**-0.7**
JFFD	**Fukushimafurud**	**0.73**	**263**	A	A	23 40 07.3	
	comp=E,24nm,1.9s,comp=E,26nm,0.8s						
JMM	**Marumori**	**0.87**	**322**		**Pb**	**23 40 08.8**	**-0.9**
JMM				Sn	**Sb**	**23 40 18.8**	**-2.1**
JMM	**Marumori**	**0.87**	**322**	P	**Pb**	**23 40 08.9**	**-0.8**
JMM				S	**Sb**	**23 40 20.2**	**-0.7**
JMM	**Marumori**	**0.87**	**322**	A	A	23 40 08.9	
	comp=E,22nm,2.7s,comp=E,22nm,1.1s						
JHO	**Hitachi**	**0.92**	**232**	P	**Pb**	**23 40 09.7**	**-0.8**
JHO				S	**Sb**	**23 40 21.0**	**-1.3**
JHO	**Hitachi**	**0.92**	**232**	A	A	23 40 09.7	
	comp=E,14nm,0.4s,comp=E,16nm,1.6s						
JHYU	**Hitachinakayam**	**1.10**	**220**	A	A	23 40 13.2	
	comp=E,26nm,0.6s,comp=E,30nm,0.7s						
JSB	**Shiboa**	**1.25**	**261**	P	**Pb**	**23 40 16.1**	**-0.2**
JSB				*e*S	**Sg**	**23 40 32.4**	**-1.6**
JSB	**Shiboa**	**1.25**	**261**	A	A	23 40 16.1	
	comp=E,79nm,1.1s,comp=E,70nm,3.3s						
JIO	**Ouri**	**1.27**	**356**	P	**Pn**	**23 40 15.1**	**-0.9**
JIO				S	**Sn**	**23 40 30.5**	**-2.1**
JIO	**Ouri**	**1.27**	**356**	A	A	23 40 15.1	
	comp=E,32nm,1.0s,comp=E,10.0nm,1.6s						
JYAR	**Yonezawaarcadi**	**1.28**	**305**	A	A	23 40 15.5	
	comp=E,109nm,0.7s,comp=E,133nm,1.3s						
JOU	**Okura**	**1.34**	**332**	P	**Pn**	**23 40 17.1**	**+0.1**
JOU				S	**Sn**	**23 40 34.2**	**-0.1**
JOU	**Okura**	**1.34**	**332**	A	A	23 40 17.1	
	comp=E,56nm,1.5s,comp=E,54nm,0.7s						
JYT	**Yasato**	**1.40**	**227**	A	A	23 40 17.7	
	comp=E,38nm,0.4s,comp=E,21nm,0.4s						
JFY	**Yanaizu**	**1.42**	**280**	P	**Pb**	**23 40 18.8**	**-0.4**
JFY				*e*S	**Sb**	**23 40 36.4**	**-0.5**
JFY	**Yanaizu**	**1.42**	**280**	A	A	23 40 18.8	
	comp=E,23nm,3.2s,comp=E,21nm,1.8s						
JIHU	**Itakohorinouch**	**1.43**	**212**	A	A	23 40 18.2	
	comp=E,107nm,1.3s,comp=E,111nm,2.1s						
JOFO	**Osakifurukawao**	**1.48**	**343**	A	A	23 40 18.4	
	comp=E,118nm,2.4s,comp=E,174nm,2.3s						
JYS	**Shirataka**	**1.52**	**313**	A	A	23 40 19.1	
	comp=E,59nm,0.9s,comp=E,63nm,2.4s						
CHOJ	**Chosi**	**1.56**	**199**	A	A	23 40 20.1	
	comp=E,18nm,3.1s,comp=E,16nm,1.4s						
JKMT	**Kesennumamotoy**	**1.63**	**0**	A	A	23 40 20.5	
	comp=E,14nm,1.7s,comp=E,8.0nm,0.6s						
JSMT	**Samuratsuo**	**1.74**	**208**	A	A	23 40 22.8	
	comp=E,43nm,2.4s,comp=E,52nm,1.8s						
JMK	**Ichinoseki**	**1.78**	**354**	A	A	23 40 22.7	
	comp=E,24nm,0.5s,comp=E,16nm,0.6s						
JAG	**Ashikaga**	**1.78**	**246**	A	A	23 40 23.3	
	comp=E,7.0nm,1.3s,comp=E,10.0nm,3.1s						
JNS	**Sasagawa**	**1.82**	**291**	A	A	23 40 23.7	
	comp=E,13nm,1.0s,comp=E,9.0nm,1.9s						
OFUJ	**Ofunato**	**1.90**	**5**	A	A	23 40 24.5	
	comp=E,11nm,5.6s,comp=E,8.0nm,4.4s						
JUON	**Uonuma**	**1.92**	**272**	A	A	23 40 25.2	
	comp=E,9.0nm,2.2s,comp=E,27nm,1.5s						
JYK	**Kaneyama**	**1.94**	**334**	A	A	23 40 25.2	
	comp=E,12nm,3.0s,comp=E,13nm,1.7s						
JYA	**Atsumi**	**1.98**	**316**	A	A	23 40 25.8	
	comp=E,34nm,1.2s,comp=E,36nm,1.3s						
TOK	**Tokyo**	**2.03**	**223**	A	A	23 40 26.9	
	comp=E,29nm,1.8s,comp=E,28nm,2.6s						
JCN	**Nagara**	**2.04**	**210**	A	A	23 40 27.0	
	comp=E,39nm,4.9s,comp=E,30nm,2.0s						
JAW	**Awa shima**	**2.17**	**307**	A	A	23 40 28.6	
	comp=E,7.0nm,3.5s,comp=E,8.0nm,3.6s						
JYYZ	**Yamagatayuza**	**2.20**	**327**	A	A	23 40 28.8	
	comp=E,37nm,2.2s,comp=E,31nm,5.0s						
JHU	**Hanno**	**2.20**	**234**	A	A	23 40 29.4	
	comp=E,6.0nm,3.0s,comp=E,6.0nm,5.0s						
JIZZ	**Izumozaki**	**2.22**	**280**	A	A	23 40 29.5	
	comp=E,52nm,2.1s,comp=E,34nm,1.4s						
JKUC	**kamogawauchiur**	**2.26**	**307**	A	A	23 40 30.3	
	comp=E,12nm,3.9s,comp=E,9.0nm,6.0s						
JOM	**Ohasama**	**2.29**	**357**	A	A	23 40 30.1	
	comp=E,13nm,1.3s,comp=E,7.0nm,0.6s						
JRG	**Rokugo**	**2.31**	**344**	A	A	23 40 30.4	
	comp=E,12nm,0.6s,comp=E,21nm,0.8s						
JGK	**Kuni**	**2.35**	**256**	A	A	23 40 31.4	
	comp=E,12nm,5.3s,comp=E,13nm,3.5s						
JRY	**Ryogami san**	**2.37**	**241**	A	A	23 40 31.8	
	comp=E,9.0nm,1.4s,comp=E,8.0nm,3.0s						
JYO	**Yokosk**	**2.44**	**217**	A	A	23 40 32.8	
	comp=E,17nm,2.4s,comp=E,16nm,2.8s						
TATJ	**Tateyama 2**	**2.50**	**211**	A	A	23 40 33.6	
	comp=E,16nm,2.8s,comp=E,17nm,2.8s						
JYW	**Yuwa**	**2.55**	**338**	A	A	23 40 34.0	
	comp=E,27nm,1.6s,comp=E,29nm,1.6s						
JSZI	**Iwateshizukuis**	**2.59**	**351**	A	A	23 40 34.3	
	comp=E,24nm,1.4s,comp=E,21nm,0.9s						
JJN	**Nakama**	**2.64**	**269**	A	A	23 40 35.5	
	comp=E,15nm,2.5s,comp=E,15nm,4.5s						
JSD	**Sado**	**2.69**	**290**	Pn	**Pn**	**23 40 35.0**	**-0.4**
JSD	**Sado**	**2.69**	**290**	P	**Pb**	**23 40 39.7**	**-1.0**
MJAR	**Matsushiro Arr**	**2.69**	**257**	Pn	**Pn**	**23 40 35.6**	**+0.1**
	15nm,0.3s,baz=84,slow=26,SNR=48						
MJAR				Sn	**Sb**	**23 41 12.6**	**-0.7**
	16nm,0.3s,baz=174,slow=7.7,SNR=2.8						
	70nm,0.3s						
MAJO	**Matsushiro**	**2.69**	**257**	Pn	**Pn**	**23 40 35.6**	**+0.1**
MAJO	**Matsushiro**	**2.69**	**257**	P	**Pn**	**23 40 37.2**	**+1.7**
MAJO	**Matsushiro**	**2.69**	**257**	*i* P	**Pn**	**23 40 36.1**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.69**	**257**	Pn	**Pn**	**23 40 35.4**	**-0.1**
JOD2	**Odawara 2**	**2.71**	**226**	A	A	23 40 36.7	
	comp=E,7.0nm,1.4s,comp=E,7.0nm,3.9s						
JTH	**Tanohata**	**2.77**	**6**	A	A	23 40 37.0	
	comp=E,9.0nm,2.7s,comp=E,6.0nm,1.0s						
JNG	**Nsakai**	**2.81**	**255**	A	A	23 40 38.0	
	comp=E,4.0nm,6.5s,comp=E,6.0nm,3.9s						
JIM2	**Oshima 3**	**2.96**	**214**	A	A	23 40 40.3	
	comp=E,9.0nm,2.1s,comp=E,7.0nm,1.8s						
JHTM	**Izuhatsuma**	**2.98**	**223**	A	A	23 40 40.5	
	comp=E,11nm,1.0s,comp=E,13nm,1.3s						
JKEN	**Kujiedanarisaw**	**3.02**	**4**	A	A	23 40 40.6	
	comp=E,22nm,1.6s,comp=E,24nm,1.3s						
JAH	**Hinai**	**3.07**	**348**	A	A	23 40 41.3	
	comp=E,11nm,1.8s,comp=E,10.0nm,1.3s						
JANG	**Nango**	**3.19**	**1**	A	A	23 40 42.9	
	comp=E,6.0nm,1.9s,comp=E,6.0nm,2.2s						
JNTW	**Noshirotokiwa**	**3.25**	**342**	A	A	23 40 43.8	
	comp=E,28nm,5.2s,comp=E,33nm,2.0s						
JOG3	**Oga3**	**3.31**	**326**	A	A	23 40 40.7	
	comp=E,14nm,2.0s,comp=E,27nm,2.9s						
JTT	**Ttatey**	**3.36**	**261**	A	A	23 40 45.8	
	comp=E,13nm,4.2s,comp=E,16nm,2.4s						
JNY	**Yasuok**	**3.43**	**239**	A	A	23 40 46.9	
	comp=E,4.0nm,1.6s,comp=E,6.0nm,1.1s						
JHHS	**Hirosakihyakuz**	**3.57**	**346**	A	A	23 40 48.3	
	comp=E,16nm,3.2s,comp=E,17nm,1.5s						
JIW	**Iwasaki**	**3.59**	**342**	A	A	23 40 48.7	
	comp=E,4.0nm,4.9s,comp=E,4.0nm,1.6s						
JTM	**Tenmabayashi**	**3.61**	**355**	Pn	**Pn**	**23 40 48.9**	**+0.7**
JTM	**Tenmabayashi**	**3.61**	**355**	A	A	23 40 49.0	
	comp=E,10.0nm,2.9s,comp=E,5.0nm,2.9s						
JGF	**Kuroka**	**3.67**	**246**	Pn	**Pn**	**23 40 50.2**	**+1.2**
JGF	**Kuroka**	**3.67**	**246**	P	**Pn**	**23 40 50.8**	**+1.8**
JJH	**Hakui**	**3.76**	**267**	A	A	23 40 51.3	
	comp=E,4.0nm,2.4s,comp=E,5.0nm,2.4s						
JSI2	**Shiura 2**	**3.96**	**348**	A	A	23 40 53.8	
	comp=E,5.0nm,1.2s,comp=E,5.0nm,3.0s						
INU	**Inuyama**	**4.03**	**244**	Pn	**Pn**	**23 40 55.2**	**+1.2**
INU	**Inuyama**	**4.03**	**244**	P	**Pn**	**23 40 56.0**	**+2.0**
JAHD	**Aomorihigashid**	**4.08**	**359**	A	A	23 40 55.5	
	comp=E,15nm,1.2s,comp=E,18nm,1.7s						
JHJ2	**Mitsune**	**4.28**	**199**	Pn	**Pn**	**23 40 58.4**	**+1.0**
JHJ	**Hachijo jima 2**	**4.28**	**199**	Pn	**Pn**	**23 40 57.6**	**+0.2**
	100nm,0.3s,baz=315,slow=13,SNR=13						
JHJ				Sn	**Sn**	**23 41 46.3**	**-0.5**
	168nm,0.3s,baz=76,slow=23,SNR=7.4						
	253nm,0.3s						
ERM	**Erimo**	**5.00**	**15**	Pn	**Pn**	**23 41 07.8**	**+0.6**
ERM	**Erimo**	**5.00**	**15**	*i* P	**Pn**	**23 41 08.7**	**+1.5**
JKA	**Kamikawa-asahi**	**6.98**	**7**	Pn	**Pn**	**23 41 34.2**	**-0.2**
ASAJ	**Asahikawa**	**6.98**	**7**	P	**Pn**	**23 41 34.2**	**-0.2**
JMN	**Monobe**	**7.08**	**243**	Pn	**Pn**	**23 41 37.6**	**+1.7**
JMN	**Monobe**	**7.08**	**243**	P	**Pn**	**23 41 38.8**	**+2.9**
JHS	**Saijyo**	**7.10**	**255**	Pn	**Pn**	**23 41 37.2**	**+1.0**
JHS	**Saijyo**	**7.10**	**255**	P	**Pn**	**23 41 38.8**	**+2.6**
JNU	**Nakatsue**	**9.57**	**248**	Pn	**Pn**	**23 42 11.0**	**+1.0**
JNU	**Nakatsue**	**9.57**	**248**	P	**Pn**	**23 42 11.4**	**+1.4**
YSS	**Yuzh-Sakhalins**	**9.81**	**5**	*e*P	**Pn**	**23 42 12.9**	**-0.3**
YSS				*e*S	**Sn**	**23 43 58.5**	**-4.3**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
USA0B	**Ussuriysk Arra**	**10.04**	**317**	Pn	**Pn**	**23 42 18.2**	**+1.8**
USA0B	**Ussuriysk Arra**	**10.04**	**317**	P	**Pn**	**23 42 18.2**	**+1.8**
USRK	**Ussuriysk Ar.**	**10.04**	**317**	Pn	Pn	23 42 21.4	+5.1
	comp=Z,0.6nm,0.3s,baz=126,slow=13,SNR=11						
USRK	**Ussuriysk Ar.**	**10.04**	**317**	Pn	**Pn**	**23 42 18.4**	**+2.0**
USRK	**Ussuriysk Ar.**	**10.04**	**317**	P	**Pn**	**23 42 18.4**	**+2.0**
JCJ	**Chichijima**	**10.07**	**176**	Pn	**Pn**	**23 42 15.2**	**-1.7**
	comp=Z,46nm,0.3s,baz=88,slow=21,SNR=9.5						
JCJ				Sn	Sn	23 43 57.8	-12
	comp=Z,18nm,0.3s,baz=272,slow=24,SNR=3.6						
JCJ	**Chichijima**	**10.07**	**176**	Pn	**Pn**	**23 42 15.8**	**-1.2**
KSRS	**Korea Array**	**10.79**	**276**	Pn	**Pn**	**23 42 31.0**	**+4.3**
	comp=Z,0.4nm,0.3s,baz=86,slow=13,SNR=11						
KSRS	**Korea Array**	**10.79**	**276**		**Pn**	**23 42 31.0**	**+4.3**
KSRS	**Korea Array**	**10.79**	**276**	P	**Pn**	**23 42 31.0**	**+4.3**
KSAR	**Wonju Array Be**	**10.82**	**275**	Pn	**Pn**	**23 42 28.4**	**+1.3**
KSAR	**Wonju Array Be**	**10.82**	**275**	P	**Pn**	**23 42 28.4**	**+1.3**
KS19	**Wonju Array Si**	**10.83**	**276**	Pn	**Pn**	**23 42 27.9**	**+0.7**
MDJ	**Mudanjiang**	**11.65**	**313**	Pn	**Pn**	**23 42 38.6**	**+0.3**
MDJ	**Mudanjiang**	**11.65**	**313**	P	Pn	23 42 44.1	+5.7
MDJ				pmax	pmax		
	comp=Z,23nm,1.5s						
CN2	**Changchun**	**13.86**	**303**	*e*P	**P**	**23 43 16.8**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**13.96**	**333**	Pn	**Pn**	**23 43 10.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=161,slow=8.2,SNR=6.2						
	comp=Z,1.8nm,0.6s						
JOW	**Kunigami**	**15.21**	**231**	Pn	**Pn**	**23 43 28.5**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=34,slow=11,SNR=3.7						
	comp=Z,19nm,0.7s						
JOW	**Kunigami**	**15.21**	**231**	Pn	**Pn**	**23 43 28.6**	**+1.7**
HEH	**HeiHe**	**16.51**	**327**	*e*P	**Pn**	**23 43 43.6**	**0.0**
HEH				LR	LR		
	comp=Z,2μm,12.2s						
HEH				LR	LR		
	comp=Z,2μm,13.0s						
HEH				LR	LR		

ULN Ulaanbaatar 27.31 304 P P 23 45 36.5 -0.3
ULN Ulaanbaatar 27.31 304 P P 23 45 37.0 +0.2
comp=E,45nm,0.9s
ULN Ulaanbaatar 27.31 304 *ce* P **P 23 45 36.7 -0.1**
ULN pmax pmax
comp=Z,14nm,1.3s
ENH Enshi 27.39 265 P P 23 45 36.7 -0.8
ENH IAmb IAmb 23 45 45.0
comp=Z,29nm,0.8s
BOD Bodaibo 27.43 328 *eP* **P 23 45 36.5 -1.0**
BOD pmax pmax
comp=Z,15nm,0.9s
SONM Songino Array 27.74 304 P P 23 45 39.6 -1.0
comp=Z,13nm,0.8s,baz=103,slow=8.2,SNR=64
comp=Z,13nm,0.8s
SONM Songino Array 27.74 304 P P 23 45 40.4 -0.2
SONM IAmb IAmb 23 45 49.0
comp=Z,15nm,0.8s
SONM Songino Array 27.74 304 P P 23 45 40.4 -0.2
SONM pmax pmax
comp=Z,15nm,0.8s
H11N2 WAKE ISLAND Hy 28.19 121 T T 00 15 12.6
baz=314,slow=75,SNR=32
H11N1 WAKE ISLAND Hy 28.20 121 T T 00 15 12.6
baz=314,slow=75,SNR=39
H11N3 WAKE ISLAND Hy 28.21 121 T T 00 15 14.8
baz=314,slow=75,SNR=30
H11S1 WAKE ISLAND Hy 28.91 123 T T 00 16 00.9
baz=316,slow=76,SNR=267
H11S3 WAKE ISLAND Hy 28.91 123 T T 00 16 01.9
baz=316,slow=76,SNR=44
H11S2 WAKE ISLAND Hy 28.92 123 T T 00 16 03.9
baz=316,slow=76,SNR=36
LZH Lanzhou 30.08 279 *eP* **P 23 46 00.0 -1.6**
LZH pP pP 23 46 05.8 -1.6
LZH sP sP 23 46 08.9 -0.8
LZH pmax pmax
comp=Z,8.0nm,1.4s
ZAK Zakamensk 30.21 308 *eP* **P 23 46 01.6 -0.9**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
GYA Guiyang 31.29 260 ⇑P **P 23 46 11.3 -0.9**
GYA pmax pmax
comp=Z,18nm,0.7s
CD2 Chengdu 31.71 270 P P 23 46 14.4 -1.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MOY Mondy 31.88 310 *eP* **P 23 46 15.9 -1.3**
GTA Gaotai 32.56 287 ⇓P **P 23 46 22.4 -0.9**
GTA pP pP 23 46 25.9 -3.3
GTA PcP **PcP 23 49 10.5 +0.9**
GTA pmax pmax
comp=Z,11nm,0.7s
BILL Bilibino 33.87 16 P P 23 46 34.5 +0.2
BILL Bilibino 33.87 16 *de* P **P 23 46 33.6 -0.7**
BILL *e* 23 47 44.1
BILL pmax pmax
comp=Z,21nm,2.5s
BILL MLR MLR
comp=Z,3μm,21.0s
KMI Kunming 35.02 261 ⇑P **P 23 46 44.3 -0.7**
KMI sP sP 23 46 57.5 +4.3
KMI pmax pmax
comp=Z,23nm,1.1s
TIXI Tiksi 35.15 353 P P 23 46 44.2 -1.0
comp=Z,2.4nm,0.5s,baz=184,slow=0.1,SNR=5.3
comp=Z,2.4nm,0.5s
TIXI Tiksi 35.15 353 P P 23 46 44.2 -1.0
TIXI IAmb IAmb 23 46 53.4
comp=Z,8.1nm,0.9s
TIXI Tiksi 35.15 353 *ce* P **P 23 46 44.0 -1.2**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
PZH PanZhiHua 35.16 264 P P 23 46 45.0 -1.0
PZH pmax pmax
comp=Z,40nm,0.7s
GOMU GeErMu 37.13 283 P P 23 47 02.5 -0.6
GOMU pmax pmax
comp=Z,9.0nm,0.5s
NIKH Nikolski High 37.65 49 P P 23 47 07.3 +0.5
baz=266
MYLDM Lahad Datu 38.15 219 P P 23 47 12.4 +1.0
MYLDM Lahad Datu 38.15 219 P P 23 47 13.0 +1.6
comp=Z,39nm,1.1s
TNCH TengChong 38.41 264 P P 23 47 13.8 0.0
TNCH pP pP 23 47 18.5 -1.2
TNCH sP sP 23 47 20.4 -1.6
TNCH pmax pmax
comp=Z,32nm,0.7s
TNTI Ternate 38.50 203 P P 23 47 14.7 +0.4
TNTI IAmb IAmb 23 47 28.0
comp=Z,18nm,0.6s
NONG Nongkai 38.60 251 P P 23 47 15.6 +0.4
UBPT Khong Chiam 38.63 245 P P 23 47 15.8 +0.3
UBPT IAmb IAmb 23 47 16.7
comp=Z,34nm,1.0s
UBPT Khong Chiam 38.63 245 P P 23 47 15.5 0.0
comp=Z,34nm,1.0s
UBPT Khong Chiam 38.63 245 P P 23 47 16.1 +0.6
DLV T Lat 38.79 238 P P 23 47 18.3 +1.2
SIJI Sorong 39.02 196 P P 23 47 16.7 -2.0
comp=Z,3.6nm,0.4s,baz=2.4,slow=17,SNR=3.6
comp=Z,3.6nm,0.4s
SIJI Sorong 39.02 196 P P 23 47 19.3 +0.6
comp=Z,16nm,0.8s
GTOI Gorontalo 40.17 209 P P 23 47 28.4 +0.2
comp=Z,429nmcomp=Z,19nm,0.8s
DGZ Jazzator, Alta 40.34 306 *d* iP **P 23 47 30.2 +0.6**
DGZ pmax pmax
comp=Z,42nm,0.9s
PHRA Phrae 40.56 254 P P 23 47 31.2 -0.4
TOLI2 Tolitoli 40.66 213 P P 23 47 31.3 -1.0
TOLI2 Tolitoli 40.66 213 P P 23 47 33.1 +0.8
TNA Tin City 40.70 30 P P 23 47 33.2 +1.0
baz=251
FAKI Fak Fak 40.81 194 P P 23 47 31.9 -1.7
FAKI IAmb IAmb 23 47 41.9
comp=Z,15nm,0.9s
FAKI Fak Fak 40.81 194 P P 23 47 33.0 -0.6
comp=Z,18nm,1.0s
FAKI Fak Fak 40.81 194 P P 23 47 33.5 -0.1
WMQ Urumqi 40.81 297 *eP* **P 23 47 34.5 +1.0**
WMQ pP pP 23 47 40.0 +0.6
WMQ sP sP 23 47 45.8 +4.1
WMQ pmax pmax
comp=Z,30nm,1.1s
CHTO Chiang Mai 41.37 256 P P 23 47 37.8 -0.4
CHTO Chiang Mai 41.37 256 P P 23 47 37.8 -0.4
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 41.58 255 P P 23 47 37.9 -2.1
comp=Z,3.2nm,0.6s,baz=45,slow=5.2,SNR=18
CMAR PcP **PcP 23 49 38.1 +1.1**
comp=Z,0.9nm,0.3s,baz=4.5,slow=1.6,SNR=6.0
comp=Z,3.2nm,0.6s
SANI Sanana 41.60 204 P P 23 47 39.7 -0.3
comp=Z,31nm,0.8s
SANI Sanana 41.60 204 P P 23 47 39.2 -0.8
MPSI Mapaga 41.73 214 P P 23 47 42.3 +1.1
comp=Z,8.6nm,0.9s
S12K Black Hills 41.77 45 P P 23 47 40.1 -1.0
baz=268
MND Mandalay 41.83 262 P P 23 47 41.4 -0.6
ZAA0 Zalesovo Array 41.85 312 P P 23 47 41.1 -0.6
ZAA0 IAmb IAmb 23 47 49.6
comp=Z,24nm,0.8s
ZALV Zalesovo Beam 41.85 312 P P 23 47 41.4 -0.4
comp=Z,21nm,0.9s,baz=90,slow=7.4,SNR=58
ZALV PcP **PcP 23 49 37.0 -0.3**
comp=Z,2.4nm,0.7s,baz=49,slow=4.1,SNR=2.4
comp=Z,21nm,0.9s
ZALV Zalesovo Beam 41.85 312 P P 23 47 41.1 -0.6
KRAI Karang Ratu 42.09 200 P P 23 47 46.6 +2.5
comp=Z,44nm,0.8s
APSI Ampana 42.12 210 P P 23 47 43.8 -0.5
comp=Z,2μmcomp=Z,86nm,1.1s
LSA Lhasa 42.24 275 P P 23 47 46.1 +0.3
LSA Lhasa 42.24 275 P P 23 47 46.1 +0.3
LSA pmax pmax
comp=Z,8.0nm,0.7s
NRIK Noril'sk 43.15 335 P P 23 47 51.6 -0.5
comp=Z,2.2nm,0.5s,baz=107,slow=14,SNR=7.5
comp=Z,2.2nm,0.5s
NRIK Noril'sk 43.15 335 P P 23 47 52.3 +0.1
NRIK Noril'sk 43.15 335 *i* P **P 23 47 51.8 -0.3**
NRIK pmax pmax
comp=Z,8.0nm,1.0s
CHNA Chernabura Isl 43.18 46 P P 23 47 53.2 +0.7
baz=271
SHL Shillong 43.45 269 P P 23 47 53.9 -1.4
SHL IAmb IAmb 23 48 06.0
comp=Z,9.7nm,0.7s
SHL Shillong 43.45 269 P P 23 47 53.9 -1.4
SHL pmax pmax
comp=Z,10.0nm,0.7s
SMKI Samarinda 43.66 217 P P 23 47 56.5 -0.3
comp=Z,12μmcomp=Z,584nm,0.5s
N16K Nishlik Lake 43.78 38 P P 23 47 58.1 +0.7
baz=266
SBUM Sibu 43.80 225 P P 23 47 58.0 +0.1
SBUM IAmb IAmb 23 48 06.6
comp=Z,13nm,1.1s
SBUM Sibu 43.80 225 P P 23 47 59.9 +1.9
comp=Z,13nm,1.2s
O16K Kokwok River B 44.07 40 P P 23 48 00.3 +0.7
baz=267
MK31 Makanchi Array 44.08 302 P P 23 47 59.8 -0.2
MK31 IAmb IAmb 23 48 01.2
comp=Z,16nm,0.8s
MK31 Makanchi Array 44.08 302 *d* iP **P 23 47 59.5 -0.4**
MKAR Makanchi Array 44.08 302 P P 23 47 59.5 -0.4
comp=Z,14nm,0.8s,baz=89,slow=9.7,SNR=71
MKAR PcP **PcP 23 49 45.8 +0.8**
comp=Z,1.1nm,0.6s,baz=73,slow=7.7,SNR=1.7
comp=Z,14nm,0.8s
MKAR Makanchi Array 44.08 302 P P 23 48 00.0 +0.1
MKAR Makanchi Array 44.08 302 *ce* P **P 23 48 00.1 +0.1**
MKAR pmax pmax
comp=Z,15nm,0.7s
P16K Nushagak River 44.10 40 P P 23 48 00.5 +0.7
baz=268
MAKZ Makanchi 44.28 302 P P 23 48 01.7 +0.1
MAKZ IAmb IAmb 23 48 02.5
comp=Z,18nm,0.9s
MAKZ Makanchi 44.28 302 P P 23 48 01.7 +0.1
MAKZ pmax pmax
comp=Z,18nm,0.9s
Q16K King Salmon 44.78 41 P P 23 48 06.1 +0.8
baz=270
Q17K Contact Creek 45.19 41 P P 23 48 08.6 -0.1
baz=271
O18K Koktuh Hills 45.54 39 P P 23 48 11.2 -0.2
baz=270
KSM Kuching 45.69 226 P P 23 48 13.4 +0.4
KSM pP **sP 23 48 21.4 +0.1**
KSM Kuching 45.69 226 P P 23 48 14.8 +1.8
comp=Z,50nm,0.9s
KSM Kuching 45.69 226 P P 23 48 14.8 +1.8
L19K White Mountain 45.77 36 P P 23 48 14.0 +0.8
baz=268
KURK Kurchatov 45.87 308 P P 23 48 13.8 -0.4
KURK pP **sP 23 48 21.4 -1.0**
KURK Kurchatov 45.87 308 *ce* P **P 23 48 13.3 -0.8**
KURK pmax pmax
comp=Z,35nm,1.3s
BNSI Bone 45.91 210 P P 23 48 16.2 +1.5
comp=Z,20nm,1.1s
TAPN Taplejung 45.97 274 *eP* **P 23 48 15.4 -0.2**
comp=Z,23nm,0.5s
TAPN Taplejung 45.97 274 *eP* **P 23 48 15.6 0.0**
comp=Z,22nm,0.6s
SII Sitkinak Islan 46.17 44 P P 23 48 17.0 +0.6
baz=274
K20K Telida 46.18 34 P P 23 48 17.5 +1.1
baz=267
J20K Nowinta River 46.20 33 P P 23 48 17.1 +0.6
J20K IAmb IAmb 23 48 18.9
comp=Z,11nm,1.1s
J20K Nowinta River 46.20 33 P P 23 48 17.4 +1.0
baz=266
L20K Farewell, AK 46.23 36 P P 23 48 16.6 -0.3
baz=268
A21K Barrow 46.30 23 P P 23 48 19.1 +1.9
KAPI Kappang 46.61 210 P P 23 48 20.0 -0.2
comp=Z,18nm,0.8s,baz=353,slow=5.4,SNR=10.0
comp=Z,18nm,0.8s
KAPI Kappang 46.61 210 P P 23 48 20.5 +0.3
KAPI pP **sP 23 48 29.3 +0.8**
KAPI Kappang 46.61 210 P P 23 48 20.7 +0.5
comp=Z,28nm,1.0s
KAPI Kappang 46.61 210 P P 23 48 20.5 +0.3
KAPI *PP **sP 23 48 29.3 +0.8**
KAPI pmax pmax
comp=Z,27nm,1.0s
OHAK Old Harbor 46.62 43 P P 23 48 20.4 +0.5
baz=274
G21K Allakaket 46.65 30 P P 23 48 20.8 +0.8
baz=265
F21K Alatna River 46.73 29 P P 23 48 21.8 +1.1
baz=264
BKSI Bulukumba 46.74 210 P P 23 48 23.2 +1.9
comp=Z,15nm,0.7s
H21K Melozitna Rive 46.87 31 P P 23 48 22.8 +1.1
H21K IAmb IAmb 23 48 31.4
comp=Z,6.0nm,0.9s
H21K Melozitna Rive 46.87 31 P P 23 48 22.7 +0.9
baz=266
CHUM Lake Minchumin 46.99 34 P P 23 48 24.0 +1.3
baz=268
N20K Mount Spurr 47.02 37 P P 23 48 24.0 +1.0
baz=271
SPCR Spurr Chakacha 47.02 37 P P 23 48 23.6 +0.6
baz=271
PPLA Purkeypile 47.02 35 P P 23 48 24.3 +1.1
baz=269
RAMN Ramite 47.03 274 *eP* **P 23 48 23.7 -0.2**
comp=Z,86nm,0.9s
RAMN Ramite 47.03 274 *eP* **P 23 48 23.9 0.0**
comp=Z,34nm,0.7s
JIRN Jiri 47.05 275 *eP* **P 23 48 23.9 -0.2**
comp=Z,14nm,0.4s
JIRN Jiri 47.05 275 *eP* **P 23 48 24.1 0.0**
comp=Z,71nm,1.1s
CAST Castle Rocks 47.08 34 P P 23 48 24.7 +1.2
CAST IAmb IAmb 23 48 32.7
comp=Z,5.9nm,0.8s
CAST Castle Rocks 47.08 34 P P 23 48 24.9 +1.4
baz=269
GUN Gumba 47.18 276 *eP* **P 23 48 25.1 0.0**
GUN Gumba 47.18 276 *eP* **P 23 48 25.2 +0.1**
comp=Z,46nm,0.6s
I21K Tanana 47.18 32 P P 23 48 25.7 +1.5
baz=267
F22K John River 47.26 29 P P 23 48 25.7 +0.9
baz=265
SKT Skwentna 47.33 36 P P 23 48 26.2 +0.8
baz=271
SRIT Nakonsritamara 47.35 244 P P 23 48 26.6 +0.5
E22K Anaktuvuk Pass 47.45 28 P P 23 48 27.2 +0.9
baz=265
H22K Ishtalitna Cre 47.47 31 P P 23 48 27.9 +1.4
baz=267
G22K Bettles 47.47 30 P P 23 48 27.2 +0.8
baz=266
KTH Kantishna Hill 47.60 34 P P 23 48 28.1 +0.5
KTH IAmb IAmb 23 48 39.9
comp=Z,14nm,1.0s
SKLT Songkhla 47.61 241 P P 23 48 28.2 +0.1
comp=Z,13nm,0.8s
MLY Manley 47.70 32 P P 23 48 28.9 +0.6
MLY IAmb IAmb 23 48 30.7
comp=Z,8.6nm,1.0s
MLY Manley 47.70 32 P P 23 48 29.7 +1.4
baz=269,SNR=5.1
PKI Pulchoki 47.71 275 *eP* **P 23 48 28.4 -0.8**
PKI Pulchoki 47.71 275 *eP* **P 23 48 28.4 -0.8**
comp=Z,23nm,0.8s
PKIN Phulchoki 47.71 275 *eP* **P 23 48 28.6 -0.6**
comp=Z,4.7nm,0.3s
PKIN Phulchoki 47.71 275 *eP* **P 23 48 28.7 -0.5**
comp=Z,22nm,0.8s
TRF Thorofare Moun 47.89 34 P P 23 48 30.8 +0.9
baz=270
DMN Daman 47.93 276 *eP* **P 23 48 30.4 -0.4**
comp=Z,16nm,0.4s
D23K Nanushuk River 47.94 27 P P 23 48 31.5 +1.4
baz=265
C23K Itkillik River 48.05 26 P P 23 48 32.3 +1.5
baz=264
G23K Bananza Creek 48.05 30 P P 23 48 32.4 +1.4
baz=268
GKN Gorkha 48.13 276 *eP* **P 23 48 32.0 -0.2**
GKN Gorkha 48.13 276 *eP* **P 23 48 32.1 -0.2**
comp=Z,72nm,0.8s
H23K Yukon River 48.22 31 P P 23 48 33.8 +1.5
H23K IAmb IAmb 23 48 43.6
comp=Z,17nm,1.1s
H23K Yukon River 48.22 31 P P 23 48 33.8 +1.5
baz=269
E23K Chandalar 48.27 28 P P 23 48 34.4 +1.7
baz=267
I23K Minto, Yukon-K 48.29 32 P P 23 48 33.7 +1.0
I23K Minto, Yukon-K 48.29 32 P P 23 48 34.8 +2.1
baz=270
TOLK Toolik Lake Re 48.32 27 P P 23 48 33.3 +0.2
TOLK IAmb IAmb 23 48 42.7
comp=Z,14nm,1.0s
TOLK Toolik Lake Re 48.32 27 P P 23 48 34.3 +1.3
baz=266,SNR=6.4
TARG Taragay, Kyrgy 48.37 296 IAmb IAmb 23 48 44.1
comp=Z,13nm,0.9s
NEA2 Nenana 48.41 33 P P 23 48 34.7 +0.9
NEA2 IAmb IAmb 23 48 35.9
comp=Z,11nm,1.0s
NEA2 Nenana 48.41 33 P P 23 48 34.4 +0.6
baz=271
SEW Seward 48.42 39 P P 23 48 34.3 +0.5
baz=274
PMR Palmer 48.48 37 P P 23 48 34.9 +0.6
baz=273
MCK McKinley 48.49 34 P P 23 48 34.5 +0.1
baz=272
GHO Glory Hole Cre 48.57 36 P P 23 48 35.4 +0.3
DANN Dangsing 48.67 277 *eP* **P 23 48 36.5 -0.1**
comp=Z,86nm,0.7s
DANN Dangsing 48.67 277 *eP* **P 23 48 36.7 +0.1**
comp=Z,66nm,0.7s
WAT1 Susitna Watana 48.69 35 P P 23 48 36.3 +0.3
baz=273
E24K Your Creek 48.70 28 P P 23 48 37.0 +1.0
baz=268
C24K Franklin Bluff 48.70 26 P P 23 48 36.7 +0.8
baz=266,SNR=14
MDM Murphy Dome 48.77 32 P P 23 48 37.8 +1.2
MDM IAmb IAmb 23 48 38.7
comp=Z,19nm,1.0s
SML Sawmill 48.85 36 P P 23 48 38.2 +1.0
baz=274
H24K Noodor Dome 48.90 31 P P 23 48 38.9 +1.3
H24K IAmb IAmb 23 48 39.7
comp=Z,9.7nm,1.1s
H24K Noodor Dome 48.90 31 P P 23 48 38.8 +1.2
baz=271
F24K Squaw Lake 48.91 29 P P 23 48 38.6 +1.0
baz=269
PWL Port Wells 48.91 38 P P 23 48 38.0 +0.3
baz=275
KULM Kulim 48.93 240 P P 23 48 38.5 +0.2
TCOL CIGO, UAF Yank 48.93 32 P P 23 48 38.1 +0.5
TCOL IAmb IAmb 23 48 40.2
comp=Z,15nm,0.8s
COLA College 48.93 32 P P 23 48 38.4 +0.7
COLA College 48.93 32 P P 23 48 38.4 +0.7
COLA pmax pmax
comp=Z,20nm,0.4s
MMRI Maumere 49.01 206 P P 23 48 37.9 -1.0
G24K Hadweenzic Riv 49.06 30 P P 23 48 40.3 +1.6
baz=270
WAT6 Susitna Watana 49.08 35 P P 23 48 39.4 +0.3
baz=274
POKR Poker Plat Res 49.10 32 P P 23 48 39.5 +0.4
POKR Poker Plat Res 49.10 32 P P 23 48 40.4 +1.3
baz=272,SNR=6.8
M23K Glacier View 49.14 36 P P 23 48 39.9 +0.5
baz=274
DHY Denali Highway 49.22 35 P P 23 48 40.8 +0.7
DHY IAmb IAmb 23 48 48.3
comp=Z,6.3nm,0.9s
DHY Denali Highway 49.22 35 P P 23 48 40.6 +0.5
baz=273
IPM Ipoh 49.25 239 IAmb IAmb 23 48 49.2
comp=Z,12nm,0.9s
IPM Ipoh 49.25 239 P P 23 48 40.6 -0.2
comp=Z,17nm,1.2s
SCM Sheep Creek Mo 49.32 36 P P 23 48 41.4 +0.6
baz=275
HDA Harding Lake 49.34 33 IAmb IAmb 23 48 41.9
comp=Z,14nm,1.0s
HDA Harding Lake 49.34 33 P P 23 48 41.3 +0.5
baz=273
IL31 49.35 32 IAmb IAmb 23 48 43.7
comp=Z,12nm,0.9s
ILAR Eielson Array 49.35 32 P P 23 48 41.1 +0.2
comp=Z,8.0nm,0.8s,baz=270,slow=6.4,SNR=52
comp=Z,8.0nm,0.8s
SOEI Soe 49.40 203 P P 23 48 42.8 +0.8
SOEI Soe 49.40 203 P P 23 48 42.1 +0.1
comp=Z,67nm,1.0s
D25K Kavik River 49.50 26 P P 23 48 43.3 +1.2
baz=269
G25K Bearman Lake 49.61 30 P P 23 48 44.1 +1.3
baz=271
NRN Naryn 49.75 296 P P 23 48 46.0 +1.2
NRN Naryn 49.75 296 P P 23 48 46.0 +1.2
NRN pmax pmax
comp=Z,4.0nm,0.7s
F25K Christian Rive 49.77 29 P P 23 48 45.9 +1.7
baz=271
E25K Arctic Village 49.79 28 P P 23 48 45.9 +1.6
baz=271,SNR=6.6
K24K Donnelly Dome 49.88 34 P P 23 48 45.5 +0.4
baz=274
PRP Porcupine Dome 49.89 31 P P 23 48 45.9 +0.7
PRP IAmb IAmb 23 48 54.1
comp=Z,9.2nm,0.9s
PRP Porcupine Dome 49.89 31 P P 23 48 46.1 +0.9
baz=273,SNR=7.4
FYU Fort Yukon 49.96 30 P P 23 48 46.4 +0.9
FYU IAmb IAmb 23 48 57.7
comp=Z,12nm,0.9s
J25K Salcha River, 50.01 33 P P 23 48 45.2 -0.8
baz=274
BATI Baumata 50.01 203 P P 23 48 46.8 +0.2
comp=Z,28nm,0.4s,baz=349,slow=4.3,SNR=7.0
comp=Z,28nm,0.4s
BATI Baumata 50.01 203 P P 23 48 47.1 +0.6
comp=Z,67nm,1.0s
C26K Camden Bay 50.02 26 P P 23 48 47.6 +1.6
baz=270
KLU Klutina 50.02 37 P P 23 48 46.8 +0.6
baz=276
BMAR Burnt Mountain 50.18 29 P P 23 48 48.7 +1.4
HARP HAARP 50.29 35 P P 23 48 48.7 +0.6
baz=276
F26K Sheenjek River 50.34 29 P P 23 48 50.5 +2.1
baz=272
KSH Kashi 50.38 294 P P 23 48 52.9 +3.6
KSH sP sP 23 49 00.8 +3.1
KSH pmax pmax
comp=Z,8.0nm,1.1s
C27K Jago River 50.44 26 P P 23 48 50.5 +1.4
baz=271
AAK Ala-Archa 50.45 298 P P 23 48 49.8 -0.1
comp=Z,2.0nm,0.4s,baz=118,slow=4.9,SNR=12
comp=Z,2.0nm,0.4s
AAK Ala-Archa 50.45 298 P P 23 48 49.5 -0.4
AAK Ala-Archa 50.45 298 P P 23 48 49.7 -0.2
AAK Ala-Archa 50.45 298 *i* P **P 23 48 49.0 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.9s
G26K Porcupine Rive 50.52 29 P P 23 48 51.5 +1.8
baz=273
BRVK Borovoye 50.56 312 P P 23 48 50.3 0.0
BRVK IAmb IAmb 23 48 51.6
comp=Z,12nm,0.8s
BRVK Borovoye 50.56 312 P P 23 48 50.3 0.0
BRVK pmax pmax
comp=Z,12nm,0.8s
N25K Chitina, Valde 50.64 36 P P 23 48 50.9 0.0
baz=277
DOT Dot Lake 50.66 34 IAmb IAmb 23 48 59.6
comp=Z,7.7nm,0.8s
SCRK Sand Creek 50.66 33 P P 23 48 51.1 +0.1
SCRK IAmb IAmb 23 48 52.4
comp=Z,15nm,1.0s
SCRK pP **sP 23 48 58.3 -1.1**
SCRK Sand Creek 50.66 33 P P 23 48 51.5 +0.4
baz=276,SNR=8.8
J26L Joseph Creek 50.79 33 P P 23 48 52.0 0.0
baz=276

MENT	**Mentasta**	**50.89**	**35**	P	**P**	**23 48 53.6**	**+1.0**	WRAB			pmax	pmax		
MENT				IAmb	IAmb	23 49 01.5			comp=Z,13nm,1.0s					
	comp=Z,11nm,0.9s							**WR0**	**Warramunga Arr**	**57.21**	**188**	IAmb	IAmb	23 49 46.7
I26K	**Coal Creek Min**	**50.89**	**32**	P	**P**	**23 48 53.1**	**+0.5**		comp=Z,12nm,0.9s					
	baz=275							**WB2**	**Warramunga Arr**	**57.21**	**188**	IAmb	IAmb	23 49 43.1
L26K	**Log Cabin Wild**	**51.05**	**35**	P	**P**	**23 48 54.8**	**+1.0**		comp=Z,9.0nm,0.8s					
L26K				IAmb	IAmb	23 49 03.2		**WRA**	**Warramunga Arr**	**57.21**	**188**	P	**P**	**23 49 38.1**	**-1.0**
	comp=Z,12nm,0.9s								comp=Z,6.0nm,0.5s,baz=5.3,slow=7.1,SNR=88					
L26K	**Log Cabin Wild**	**51.05**	**35**	P	**P**	**23 48 55.0**	**+1.1**	**WRA**	**Warramunga Arr**	**57.21**	**188**	P	**P**	**23 49 38.3**	**-0.9**
	baz=277,SNR=5.8							**WRA**	**Warramunga Arr**	**57.21**	**188**	P	**P**	**23 49 38.3**	**-0.9**
KLNI	**Mataram**	**51.22**	**213**	P	**P**	**23 48 56.0**	**+0.4**	WRA				pmax	pmax		
	comp=Z,2µmcomp=Z,51nm,1.0s								comp=Z,1.0nm,1.1s					
E27K	**Coleen River**	**51.27**	**28**	P	**P**	**23 48 56.9**	**+1.5**	**C36M**	**Paulatuk**	**57.28**	**25**	P	**P**	**23 49 39.9**	**+0.8**
	baz=274,SNR=6.8							C36M				IAmb	IAmb	23 49 40.2	
M26K	**Nabesna, AK**	**51.29**	**35**	P	**P**	**23 48 57.2**	**+1.5**		comp=Z,11nm,0.7s						
	baz=278							**C36M**	**Paulatuk**	**57.28**	**25**	P	**P**	**23 49 39.7**	**+0.6**
G27K	**Doyon Strip**	**51.36**	**30**	P	**P**	**23 48 58.1**	**+1.9**		baz=289,SNR=5.9						
	baz=275							**KBL**	**Kabul**	**57.40**	**291**	P	**P**	**23 49 40.2**	**-0.6**
MCARA	**McCarthy VSAT**	**51.42**	**37**	P	**P**	**23 48 57.8**	**+1.2**	KBL				IAmb	IAmb	23 49 41.6	
	baz=278								comp=Z,17nm,1.1s						
H27K	**Steamboat Moun**	**51.47**	**30**	P	**P**	**23 48 58.5**	**+1.5**	**KBL**	**Kabul**	**57.40**	**291**	P	**P**	**23 49 40.2**	**-0.6**
	baz=276							KBL				pmax	pmax		
I27K	**Kandik River**	**51.50**	**31**	P	**P**	**23 48 58.7**	**+1.5**		comp=Z,17nm,1.1s						
	baz=276							**R33M**	**Jennings River**	**57.70**	**37**	P	**P**	**23 49 42.6**	**+0.2**
L27K	**Beaver Creek,**	**51.73**	**34**	P	**P**	**23 48 59.8**	**+0.8**		baz=289						
L27K				IAmb	IAmb	23 49 01.5		**U33K**	**Whale Pass**	**57.70**	**41**	P	**P**	**23 49 42.7**	**+0.4**
	comp=Z,16nm,1.1s								baz=290						
L27K	**Beaver Creek,**	**51.73**	**34**	P	**P**	**23 48 60.0**	**+1.0**	**ABKAR**	**Akbulak array**	**57.88**	**310**	P	**P**	**23 49 43.3**	**-0.3**
	baz=278							ABKAR				pP	**pP**	**23 49 50.5**	**+0.8**
BCAR	**Beaver Creek A**	**51.75**	**34**	P	**P**	**23 48 59.9**	**+0.8**	**ABKAR**	**Akbulak array**	**57.88**	**310**	P	**P**	**23 49 43.4**	**-0.3**
EGAK	**Eagle**	**51.79**	**32**	P	**P**	**23 48 59.8**	**+0.5**	**S34M**	**Telegraph Cree**	**58.12**	**39**	P	**P**	**23 49 46.6**	**+1.5**
EGAK	**Eagle**	**51.79**	**32**	P	**P**	**23 49 00.1**	**+0.7**		baz=290						
	baz=277							**TGTN**	**Hyland Airport**	**58.24**	**34**	P	**P**	**23 49 47.3**	**+1.3**
M27K	**Edge Creek, AK**	**51.81**	**35**	P	**P**	**23 49 00.7**	**+1.0**		baz=290						
M27K				IAmb	IAmb	23 49 10.1		**DLBC**	**Dease Lake**	**58.48**	**38**	P	**P**	**23 49 49.0**	**+1.2**
	comp=Z,9.4nm,0.9s								baz=291						
M27K	**Edge Creek, AK**	**51.81**	**35**	P	**P**	**23 49 00.7**	**+1.0**	**T35M**	**Bob Quinn**	**58.89**	**40**	P	**P**	**23 49 52.2**	**+1.5**
	baz=279								baz=291						
PSI	**Prapat**	**51.91**	**239**	P	**P**	**23 49 01.2**	**+0.2**	**LIRD**	**Liard River Hi**	**60.02**	**36**	P	**P**	**23 50 00.3**	**+2.0**
PSI				P	**P**	**23 49 01.2**	**+0.2**		baz=293,SNR=7.8						
	comp=Z,6.0nm,0.7s							**EUNU**	**Eureka**	**60.03**	**9**	P	**P**	**23 49 58.3**	**0.0**
	comp=Z,13nm,0.9s							EUNU				IAmb	IAmb	23 49 59.0	
RPSI	**Rantau Prapat**	**51.98**	**239**	IAmb	IAmb	23 49 01.5			comp=Z,9.1nm,0.8s						
	comp=Z,10nm,0.9s							**KIRV**	**Kirov**	**60.16**	**323**	*ce*P	**P**	**23 49 59.4**	**+0.2**
BVCY	**Beaver Creek**	**52.27**	**35**	P	**P**	**23 49 04.3**	**+1.3**	**SPA0**	**Spitsbergen Ar**	**60.39**	**349**	*e*P	**P**	**23 50 01.1**	**+0.4**
	baz=280							**SPB2**	**Spitsbergen Ar**	**60.39**	**349**	P	**P**	**23 50 01.1**	**+0.5**
YUK3	**Moose Creek**	**52.56**	**36**	P	**P**	**23 49 05.9**	**+0.5**	**SPITS**	**Spitsbergen Ar**	**60.39**	**349**	P	**P**	**23 50 00.9**	**+0.3**
	baz=280							SPITS				pmax	pmax		
DAWY	**Dawson**	**52.66**	**33**	P	**P**	**23 49 06.4**	**+0.5**		comp=Z,12nm,1.1s						
	baz=280							**PRGR**	**Permogore**	**60.66**	**327**	*e*P	**P**	**23 50 01.7**	**-1.0**
PWJI	**Pagerwojo**	**52.85**	**218**	P	**P**	**23 49 07.5**	**-0.3**	PRGR				*e*		23 50 44.3	
	comp=Z,88nm,0.8s							PRGR				pmax	pmax		
I29M	**Ogilvie Camp,**	**52.90**	**31**	P	**P**	**23 49 08.6**	**+1.0**		comp=Z,15nm,0.8s						
I29M	**Ogilvie Camp,**	**52.90**	**31**	P	**P**	**23 49 09.0**	**+1.4**	**NOR**	**Nord**	**60.91**	**356**	*i* P	**P**	**23 50 03.5**	**-0.6**
	baz=279,SNR=12							NOR				IAmb	IAmb	23 50 04.4	
SDSI	**Sungai Dareh**	**53.01**	**234**	P	**P**	**23 49 08.6**	**-0.4**		comp=Z,3.8nm,0.7s						
	comp=Z,22nm,1.1s							**AS31**	**Alice Springs**	**60.94**	**188**	P	**P**	**23 50 05.2**	**+0.2**
KK31	**Karatay Array**	**53.09**	**300**	IAmb	IAmb	23 49 11.4		**ASAR**	**Alice Springs**	**60.94**	**188**	P	**P**	**23 50 04.2**	**-0.8**
	comp=Z,13nm,1.0s								comp=Z,5.2nm,0.7s,baz=7.4,slow=6.7,SNR=42						
KKAR	**Karatay Array**	**53.09**	**300**	IAmb	IAmb	23 49 11.4			comp=Z,5.2nm,0.7s						
	comp=Z,13nm,1.0s							**ASAR**	**Alice Springs**	**60.94**	**188**	P	**P**	**23 50 04.8**	**-0.1**
M29M	**Somme Creek**	**53.36**	**35**	P	**P**	**23 49 12.5**	**+1.3**	**ASAR**	**Alice Springs**	**60.94**	**188**	P	**P**	**23 50 04.9**	**-0.1**
	baz=281							**MBWA**	**Marble Bar**	**61.54**	**203**	P	**P**	**23 50 08.8**	**-0.3**
EPYK	**Eagle Plains**	**53.38**	**30**	P	**P**	**23 49 12.8**	**+1.6**	**VADS**	**Vadso**	**62.44**	**339**	*e*P	**P**	**23 50 14.9**	**+0.4**
EPYK	**Eagle Plains**	**53.38**	**30**	P	**P**	**23 49 12.4**	**+1.3**	VADS				IAmb	IAmb	23 50 22.3	
	baz=280,SNR=17								comp=Z,22nm,0.6s						
L29M	**L29M**	**53.38**	**34**	P	**P**	**23 49 12.6**	**+1.4**	**RES**	**Resolute Bay**	**62.45**	**14**	P	**P**	**23 50 14.5**	**0.0**
	baz=281							RES				IAmb	IAmb	23 50 15.3	
UGM	**Wanagama**	**53.40**	**219**	P	**P**	**23 49 11.3**	**-0.5**		comp=Z,9.4nm,0.9s						
DRK	**Karamyk**	**53.42**	**295**	P	**P**	**23 49 11.2**	**-1.0**	**RES**	**Resolute Bay**	**62.45**	**14**	P	**P**	**23 50 14.5**	**0.0**
DRK				IAmb	IAmb	23 49 22.4		RES				pmax	pmax		
	comp=Z,11nm,0.5s								comp=Z,9.0nm,1.0s						
G30M	**tAoh Zraii Nji**	**53.47**	**29**	P	**P**	**23 49 13.2**	**+1.4**	**EIDS**	**Eidsvold**	**62.87**	**170**	P	**P**	**23 50 18.3**	**+0.4**
	baz=280							EIDS				IAmb	IAmb	23 50 25.5	
YUK4	**Talbot Arm**	**53.50**	**36**	P	**P**	**23 49 13.7**	**+1.4**		comp=Z,6.5nm,0.9s						
	baz=282							**KEV**	**Kevo**	**63.32**	**339**	P	**P**	**23 50 20.7**	**+0.3**
K29M	**Barlow Dome**	**53.51**	**33**	P	**P**	**23 49 13.2**	**+1.0**	**KEV**	**Kevo**	**63.32**	**339**	P	**P**	**23 50 20.7**	**+0.3**
	baz=281							KEV				pmax	pmax		
YUK6	**Outpost Mounta**	**53.72**	**37**	P	**P**	**23 49 15.1**	**+1.2**		comp=Z,9.0nm,0.6s						
	baz=283							**DZM**	**Mont Dzumac**	**63.47**	**154**	P	**P**	**23 50 22.4**	**+0.4**
O29M	**Mount Kennedy**	**53.76**	**37**	P	**P**	**23 49 15.6**	**+1.5**		comp=Z,26nm,1.1s,baz=88,slow=14,SNR=3.5						
	baz=283								comp=Z,26nm,1.1s						
GSI	**Gunungsitoli**	**53.91**	**239**	P	**P**	**23 49 15.5**	**-0.2**	**KLMR**	**Klimovskoe**	**63.65**	**328**	*e*P	**P**	**23 50 21.4**	**-1.4**
	comp=Z,51nm,1.1s							KLMR				AMP		23 50 30.4	
BTK	**Batken**	**53.92**	**296**	P	**P**	**23 49 15.8**	**+0.2**		comp=Z,32nm,0.8s						
BTK				IAmb	IAmb	23 49 35.1		**KLMR**	**Klimovskoe**	**63.65**	**328**	*e*P	**P**	**23 50 21.4**	**-1.4**
	comp=Z,5.7nm,0.7s							KLMR				pmax	pmax		
BTK	**Batken**	**53.92**	**296**	P	**P**	**23 49 15.8**	**+0.2**		comp=Z,32nm,0.8s						
BTK				pmax	pmax			**YKA**	**Yellowknife Ar**	**63.66**	**30**	P	**P**	**23 50 22.2**	**-0.6**
	comp=Z,6.0nm,0.7s								comp=Z,3.2nm,0.8s,baz=295,slow=7.1,SNR=6.0						
LEM	**Lembang**	**54.01**	**223**	P	**P**	**23 49 16.3**	**-0.2**		comp=Z,3.2nm,0.8s						
	comp=Z,84nm,0.9s							**HAMF**	**Hammerfest**	**63.69**	**341**	*e*P	**P**	**23 50 22.5**	**-0.4**
M30M	**Minto, Yukon**	**54.09**	**34**	IAmb	IAmb	23 49 26.0		**GEYT**	**Alibeck**	**63.80**	**299**	P	**P**	**23 50 24.1**	**-0.1**
	comp=Z,8.2nm,1.0s								comp=Z,20nm,1.0s,baz=29,slow=3.4,SNR=34						
M30M	**Minto, Yukon**	**54.09**	**34**	P	**P**	**23 49 17.5**	**+1.1**		comp=Z,20nm,1.0s						
	baz=283							**GEYT**	**Alibeck**	**63.80**	**299**	P	**P**	**23 50 24.6**	**+0.4**
HYT	**Haines Junctio**	**54.16**	**37**	P	**P**	**23 49 18.3**	**+1.3**	**GYA0B**	**ALIBECK ARRAY**	**63.80**	**299**	P	**P**	**23 50 24.8**	**+0.6**
HYT				IAmb	IAmb	23 49 27.7		**ARA0**	**ARCESS Array S**	**63.87**	**339**	*e*P	**P**	**23 50 24.4**	**+0.3**
	comp=Z,21nm,1.1s							ARA0				IAmb	IAmb	23 50 28.9	
HYT	**Haines Junctio**	**54.16**	**37**	P	**P**	**23 49 18.3**	**+1.3**		comp=Z,246nm,2.6s						
	baz=283,SNR=6.5							**ARCES**	**ARCESS Array B**	**63.87**	**339**	P	**P**	**23 50 24.1**	**-0.1**
N30M	**Aishikik Lake**	**54.20**	**36**	P	**P**	**23 49 17.3**	**0.0**		comp=Z,4.7nm,0.7s,baz=58,slow=7.8,SNR=22						
	baz=283								comp=Z,4.7nm,0.7s						
INK	**Inuvik**	**54.23**	**27**	P	**P**	**23 49 17.7**	**+0.4**	**ARCES**	**ARCESS Array B**	**63.87**	**339**	P	**P**	**23 50 24.2**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=281,slow=7.3,SNR=20							ARCES				IAmb	IAmb	23 50 32.4	
	comp=Z,6.6nm,0.7s								comp=Z,16nm,1.1s						
INK	**Inuvik**	**54.23**	**27**	IAmb	IAmb	23 49 26.1		**ARCES**	**ARCESS Array B**	**63.87**	**339**	P	**P**	**23 50 24.2**	**+0.1**
	comp=Z,14nm,0.9s							ARCES				pmax	pmax		
INK	**Inuvik**	**54.23**	**27**	P	**P**	**23 49 18.2**	**+1.0**		comp=Z,16nm,1.2s						
	baz=281,SNR=8.5							**KTK1**	**Kautokeino**	**64.83**	**339**	*e*P	**P**	**23 50 30.9**	**+0.5**
MAYO	**Mayo, Yukon**	**54.27**	**33**	P	**P**	**23 49 19.8**	**+2.2**	**TULEG**	**Thule**	**64.95**	**7**	P	**P**	**23 50 31.0**	**0.0**
	baz=283							TULEG				IAmb	IAmb	23 50 31.3	
P29M	**Windy Craggy**	**54.32**	**38**	P	**P**	**23 49 20.2**	**+2.1**		comp=Z,6.1nm,0.9s						
P29M				IAmb	IAmb	23 49 20.7		**JETT**	**Jettan, Norway**	**65.25**	**341**	*e*P	**P**	**23 50 33.3**	**+0.2**
	comp=Z,11nm,0.8s							**NEEM**	**North Greenlan**	**65.38**	**3**	*i* P	**P**	**23 50 34.3**	**+0.1**
P29M	**Windy Craggy**	**54.32**	**38**	P	**P**	**23 49 20.0**	**+1.8**	NEEM				IAmb	IAmb	23 50 42.1	
	baz=284								comp=Z,8.3nm,0.8s						
F31M	**Tsiigehtchic**	**54.33**	**28**	P	**P**	**23 49 19.1**	**+1.1**	**TRO**	**Tromso**	**65.59**	**341**	*e*P	**P**	**23 50 35.2**	**0.0**
	baz=282,SNR=8.5							**DAG**	**Danmarks Havn**	**65.63**	**355**	*i* P	**P**	**23 50 34.3**	**-1.1**
P30M	**Million Dollar**	**54.58**	**37**	P	**P**	**23 49 21.6**	**+1.6**	DAG				IAmb	IAmb	23 50 35.5	
	baz=284								comp=Z,7.1nm,0.7s						
NIL	**Nilore**	**54.61**	**288**	P	**P**	**23 49 21.1**	**+0.5**	**MOS**	**Moscow**	**67.16**	**323**	*e*P	**P**	**23 50 43.4**	**-2.1**
NIL	**Nilore**	**54.61**	**288**	P	**P**	**23 49 21.1**	**+0.5**	MOS				*e*		23 50 51.2	
NIL				pmax	pmax			MOS				pmax	pmax		
	comp=Z,22nm,0.7s								comp=Z,30nm,1.2s						
N31M	**Braeburn, Yuko**	**54.81**	**36**	P	**P**	**23 49 23.4**	**+1.8**	**VRH**	**Novokhopyorsk**	**67.50**	**318**	*e*P	**P**	**23 50 46.3**	**-1.4**
N31M				IAmb	IAmb	23 49 24.5		VRH				pmax	pmax		
	comp=Z,11nm,1.0s								comp=Z,30nm,0.6s						
N31M	**Braeburn, Yuko**	**54.81**	**36**	P	**P**	**23 49 23.1**	**+1.4**	**STEI**	**Steigen**	**67.74**	**341**	*e*P	**P**	**23 50 49.0**	**0.0**
	baz=284							STEI				IAmb	IAmb	23 50 53.9	
PLBC	**Pleasant Camp**	**55.04**	**38**	P	**P**	**23 49 24.2**	**+0.9**		comp=Z,48nm,1.3s						
	baz=285							**OBN**	**Obninsk**	**68.00**	**323**	*ce*P	**P**	**23 50 50.7**	**-0.1**
SVE	**Sverdlovsk**	**55.06**	**319**	*e*P	**P**	**23 49 23.8**	**+0.3**	OBN				*e*		23 51 13.4	
SVE				pmax	pmax			OBN				*e*		23 53 20.3	
	comp=Z,51nm,0.9s							OBN				*e*S	**SKiKP**	**00 00 43.3**	**-2.2**
M31M	**Drury Creek, Y**	**55.27**	**35**	P	**P**	**23 49 26.4**	**+1.4**	OBN				pmax	pmax		
M31M				IAmb	IAmb	23 49 33.7			comp=Z,51nm,2.5s						
	comp=Z,11nm,1.1s							**FAUS**	**Fauske**	**68.12**	**340**	*e*P	**P**	**23 50 51.5**	**+0.1**
M31M	**Drury Creek, Y**	**55.27**	**35**	P	**P**	**23 49 26.3**	**+1.4**	**LPSR**	**Galich'ya Gora**	**68.22**	**320**	*e*P	**P**	**23 50 51.3**	**-0.9**
	baz=285							LPSR				pmax	pmax		
WHY	**Whitehorse**	**55.44**	**36**	P	**P**	**23 49 26.9**	**+0.6**		comp=Z,40nm,0.8s						
	baz=286							**VORR**	**Voronezh**	**68.58**	**319**	*e*P	**P**	**23 50 53.9**	**-0.6**
FARO	**Faro, Yukon**	**55.73**	**34**	P	**P**	**23 49 28.8**	**+0.5**	VORR				pmax	pmax		
	baz=286								comp=Z,10.0nm,0.4s						
A36M	**Sachs Harbour**	**56.11**	**22**	P	**P**	**23 49 32.1**	**+1.4**	**FIA1**	**FINESS Array S**	**68.70**	**332**	P	**P**	**23 50 55.5**	**+0.4**
A36M	**Sachs Harbour**	**56.11**	**22**	P	**P**	**23 49 32.2**	**+1.4**	FIA1				pP	**sP**	**23 51 02.4**	**-1.2**
	baz=286,SNR=8.3							**STKA**	**Stephens Creek**	**68.70**	**180**	P	**P**	**23 50 55.4**	**0.0**
ARU	**Arti**	**56.28**	**318**	P	**P**	**23 49 32.1**	**-0.1**		comp=Z,9.4nm,0.8s,baz=342,slow=6.6,SNR=16						
ARU	**Arti**	**56.28**	**318**	*d* iP	**P**	**23 49 31.8**	**-0.4**		comp=Z,9.4nm,0.8s						
ARU				S	**S**	**23 57 25.0**	**+4.0**	**STKA**	**Stephens Creek**	**68.70**	**180**	P	**P**	**23 50 55.6**	**+0.2**
ARU				SS	**SS**	**00 01 01.3**	**-5.9**	**STKA**	**Stephens Creek**	**68.70**	**180**	P	**P**	**23 50 55.6**	**+0.2**
ARU				pmax	pmax			STKA				pmax	pmax		
	comp=Z,54nm,1.0s								comp=Z,2.0nm,0.8s						
MMPY	**Sheldon Lake,**	**56.55**	**34**	P	**P**	**23 49 35.2**	**+1.0**	**FIA0**	**FINESS Array S**	**68.70**	**332**	P	**P**	**23 50 55.7**	**+0.6**
	baz=287							**FIA0**	**FINESS Array S**	**68.70**	**332**	P	**P**	**23 50 55.7**	**+0.6**
P33M	**Teslin, Yukon**	**56.55**	**37**	P	**P**	**23 49 35.8**	**+1.5**	**FINES**	**FINESS Array B**	**68.70**	**332**	P	**P**	**23 50 54.8**	**-0.3**
P33M				IAmb	IAmb	23 49 43.9			comp=Z,9.9nm,0.8s,baz=47,slow=7.3,SNR=18						
	comp=Z,13nm,1.1s								comp=Z,9.9nm,0.8s						
P33M	**Teslin, Yukon**	**56.55**	**37**	P	**P**	**23 49 35.7**	**+1.5**	**FINES**	**FINESS Array B**	**68.70**	**332**	P	**P**	**23 50 55.1**	**-0.1**
	baz=287							FINES				pP	**sP**	**23 51 02.7**	**-0.9**
WB0	**Warramunga Arr**	**57.03**	**188**	P	**P**	**23 49 37.0**	**-1.0**	**FINES**	**FINESS Array B**	**68.70**	**332**	*ce*P	**P**	**23 50 55.2**	**+0.1**
WB0				IAmb	IAmb	23 49 37.4		FINES				pmax	pmax		
	comp=Z,10.0nm,0.7s								comp=Z,10.0nm,0.8s						
WRAB	**Tennant Creek**	**57.20**	**188**	P	**P**	**23 49 38.2**	**-0.9**	**FORT**	**Forrest**	**68.76**	**192**	P	**P**	**23 50 56.4**	**+0.6**
WRAB				IAmb	IAmb	23 49 46.0									
	comp=Z,13nm,0.9s														
WRAB	**Tennant Creek**	**57.20**	**188**	P	**P**	**23 49 38.2**	**-0.9**								

VSR	**Storozhevoye**	**68.85**	**319**	*e*P	**P**	**23 50 55.4**	**-0.8**
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
H04A	**Detroit Lake**	**68.98**	**49**	P	**P**	**23 50 58.3**	**+1.1**
H04A				IAmb	IAmb	23 50 59.1	
	comp=Z,14nm,1.1s						
MOR8	**Moi Rana**	**69.24**	**340**	*e*P	**P**	**23 50 57.2**	**-1.2**
MOR8				IAmb	IAmb	23 51 04.7	
	comp=Z,15nm,0.8s						
NEW	**Newport**	**69.99**	**44**	P	**P**	**23 51 03.7**	**+0.2**
	baz=304						
PINE	**Pine Mountain**	**70.21**	**50**	P	**P**	**23 51 05.7**	**+0.6**
SUMG	**Summit**	**70.54**	**360**	*i* P	**P**	**23 51 05.5**	**-1.3**
SUMG				IAmb	IAmb	23 51 09.4	
	comp=Z,6.7nm,0.8s						
ZEI	**Tsey**	**70.74**	**309**	*e*P	**P**	**23 51 05.5**	**-2.8**
ZEI				pmax	pmax		
	comp=Z,12nm,0.9s						
K05A	**Summer Lake**	**70.82**	**51**	P	**P**	**23 51 10.0**	**+1.2**
K05A				IAmb	IAmb	23 51 10.8	
	comp=Z,13nm,0.9s						
KBZ	**Khabaz**	**70.84**	**311**	P	**P**	**23 51 08.7**	**+0.1**
	comp=Z,12nm,0.9s,baz=50,slow=3.1,SNR=14						
	comp=Z,12nm,0.9s						
KBZ	**Khabaz**	**70.84**	**311**	*ce*P	**P**	**23 51 09.4**	**+0.8**
KIV	**Kislovodsk**	**70.84**	**311**	P	**P**	**23 51 09.1**	**+0.3**
KIV	**Kislovodsk**	**70.84**	**311**	P	**P**	**23 51 09.8**	**+1.0**
KIV	**Kislovodsk**	**70.84**	**311**	*e*P	**P**	**23 51 09.3**	**+0.5**
KIV				pmax	pmax		
	comp=Z,56nm,1.0s						
ONI	**Oni**	**71.12**	**309**	P	**P**	**23 51 10.9**	**+0.4**
ONI				IAmb	IAmb	23 51 19.0	
	comp=Z,14nm,0.9s						
ONI	**Oni**	**71.12**	**309**	P	**P**	**23 51 10.9**	**+0.4**
ONI				pmax	pmax		
	comp=Z,14nm,0.9s						
NSS	**Namsos**	**71.16**	**339**	*e*P	**P**	**23 51 10.9**	**+0.7**
BANOM	**Banah**	**71.20**	**289**	P	**P**	**23 51 11.3**	**+0.1**
SHME	**Shamm**	**71.25**	**289**	P	**P**	**23 51 11.6**	**+0.2**
MSFE	**Esma-Masafi**	**71.61**	**288**	P	**P**	**23 51 13.8**	**+0.1**
GNI	**Garni**	**71.65**	**307**	P	**P**	**23 51 13.4**	**-0.4**
GNI				IAmb	IAmb	23 51 27.7	
	comp=Z,17nm,1.0s						
GNI	**Garni**	**71.65**	**307**	P	**P**	**23 51 14.3**	**+0.5**
GNI	**Garni**	**71.65**	**307**	P	**P**	**23 51 13.4**	**-0.4**
GNI				pmax	pmax		
	comp=Z,17nm,1.0s						
BMO	**Blue Mountains**	**71.80**	**47**	P	**P**	**23 51 15.2**	**+0.6**
BMO				IAmb	IAmb	23 51 15.8	
	comp=Z,5.4nm,0.8s						
BMO	**Blue Mountains**	**71.80**	**47**	P	**P**	**23 51 15.2**	**+0.6**
BMO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
UOSS	**Minazif**	**71.80**	**288**	P	**P**	**23 51 14.9**	**+0.1**
UOSS	**Minazif**	**71.80**	**288**	P	**P**	**23 51 14.6**	**-0.2**
HATD	**Hatta, Dubai**	**71.92**	**288**	P	**P**	**23 51 15.5**	**0.0**
J08A	**Circle Bar Ran**	**71.94**	**49**	P	**P**	**23 51 16.5**	**+1.0**
J08A				IAmb	IAmb	23 51 17.1	
	comp=Z,3.9nm,0.6s						
ORV	**Oroville**	**72.18**	**54**	P	**P**	**23 51 17.3**	**+0.5**
ORV	**Oroville**	**72.18**	**54**	P	**P**	**23 51 17.3**	**+0.5**
ORV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WVOR	**Wild Horse Val**	**72.37**	**50**	P	**P**	**23 51 18.8**	**+0.7**
WVOR	**Wild Horse Val**	**72.37**	**50**	P	**P**	**23 51 18.8**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MNK	**Minsk**	**72.39**	**326**	*i* P	**P**	**23 51 17.5**	**-0.3**
	comp=E,4.0nm,0.8s						
MNK				*i* P	**P**	**23 51 17.5**	**-0.3**
	comp=N,41nm,1.0s						
MNK				*i* P	**P**	**23 51 17.5**	**-0.3**
	comp=Z,23nm,0.9s,baz=50						
MNK				*i* PP	**PP**	**23 53 57.5**	**-0.8**
MNK				*i* PPP	PPP	23 55 43.1	
MNK				*i* S	**S**	**00 00 43.2**	**+3.0**
MNK				*i* SS	SS	**00 05 22.9**	**+5.2**
MNK				*i* SSS	SSS	00 08 41.1	
MNK				*i* LQ	LQ	00 18 13.4	
MNK				*i* LR	LR	00 23 14.4	
MNK				*i* LRM	MLR	00 25 11.9	
	comp=N,1µm,17.8s						
MNK				*i* LRM	MLR	00 25 33.1	
	comp=E,100nm,14.0s						
MNK				*i* LRM	MLR	00 26 10.4	
	comp=Z,317nm,11.0s						
MNK	**Minsk**	**72.39**	**326**	*i* P	**P**	**23 51 17.4**	**-0.3**
MNK				*i*		23 53 57.4	
MNK				*i* PPP	PPP	23 55 43.1	
MNK				*i* S	**S**	**00 00 43.2**	**+3.0**
MNK				*i* SS	**SS**	**00 05 22.8**	**+5.2**
MNK				pmax	pmax		
	comp=Z,23nm,0.9s						
MNK				pmax	pmax		
	comp=E,4.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,41nm,1.0s						
MNK				MLR	MLR		
	comp=N,1µm,18.0s						
MNK				MLR	MLR		
	comp=E,100nm,14.0s						
MNK				MLR	MLR		
	comp=Z,317nm,11.0s						
KARS	**Kars**	**72.44**	**308**	P	**P**	**23 51 18.5**	**0.0**
KARS	**Kars**	**72.44**	**308**	P	**P**	**23 51 18.5**	**0.0**
KARS				pmax	pmax		
	comp=Z,48nm,0.8s						
MSO	**Missoula**	**72.58**	**44**	P	**P**	**23 51 19.2**	**0.0**
	baz=306						
NACGM	**Naroch**	**72.62**	**327**	*i* P	P	23 51 26.8	+7.7
	comp=Z,52nm,0.9s,baz=50						
ASUD	**Al Ashush, Dub**	**72.64**	**288**	P	**P**	**23 51 19.6**	**-0.2**
BEKR	**Beckworth**	**72.73**	**53**	P	**P**	**23 51 20.8**	**+0.5**
BEKR				IAmb	IAmb	23 51 21.9	
	comp=Z,6.7nm,0.9s						
SOC	**Sochi**	**72.83**	**312**	*e*P	**P**	**23 51 17.8**	**-2.8**
SOC				*e*S	**S**	**00 00 45.6**	**0.0**
PAHR	**Pah Rah Range**	**73.44**	**53**	P	**P**	**23 51 25.1**	**+0.6**
MFID	**Camas Ranch**	**73.50**	**48**	P	**P**	**23 51 25.6**

comp=Z,13nm,0.9s
HLID Hailey 74.24 47 P P 23 51 29.6 +0.5
HLID Hailey 74.24 47 P P 23 51 29.5 +0.4
baz=307
AK05 Malin Array Si 74.27 322 P P 23 51 28.3 -0.6
GURO Guroymak-BITLI 74.28 307 P P 23 51 30.0 +0.6
GURO IAmb IAmb 23 51 38.0
comp=Z,12nm,0.7s
BMN Battle Mountai 74.39 51 P P 23 51 29.8 -0.2
BMN Battle Mountai 74.39 51 P P 23 51 29.8 -0.2
AKN Aaknes 74.40 340 eP P 23 51 30.7 +1.2
BOZ Bozeman (W) 74.61 44 IAmb IAmb 23 51 33.0
comp=Z,11nm,1.1s
BOZ Bozeman (W) 74.61 44 P P 23 51 32.0 +0.8
baz=308,SNR=12
RYN Ryan 74.61 53 P P 23 51 32.0 +0.6
KVN Kaiserville 74.64 53 P P 23 51 32.5 +1.0
KVN IAmb IAmb 23 51 33.5
comp=Z,10nm,1.1s
KVN Kaiserville 74.64 53 P P 23 51 32.5 +1.0
KVN pmax pmax
comp=Z,10.0nm,1.1s
MDPB Devils Postpil 74.83 54 P P 23 51 33.2 +0.5
LHV Little Huntoon 74.84 53 P P 23 51 33.3 +0.9
LHV IAmb IAmb 23 51 35.1
comp=Z,16nm,1.1s
NVAR Mina Array Bea 74.87 53 P P 23 51 33.5 +0.6
comp=Z,3.9nm,0.8s,baz=286,slow=6.3,SNR=21
comp=Z,3.9nm,0.8s
NVAR Mina Array Bea 74.87 53 P P 23 51 33.7 +0.8
MZR Muzera 74.95 288 P P 23 51 32.5 -0.8
SKAR Skarsila 75.23 338 eP P 23 51 34.9 +0.5
YHB Horse Butte 75.37 45 P P 23 51 36.3 +0.6
YHB IAmb IAmb 23 51 37.5
comp=Z,5.9nm,0.9s
ELK Elko 75.42 50 P P 23 51 37.1 +1.0
ELK Elko 75.42 50 P P 23 51 37.1 +1.0
ELK pmax pmax
comp=Z,2.0nm,0.7s
GCMT Greycliff 75.57 43 P P 23 51 37.6 +0.8
KONO Kongsberg 75.66 337 eP P 23 51 38.0 +1.3
DSP Deep Springs 75.70 54 P P 23 51 38.1 +0.7
DSP IAmb IAmb 23 51 39.9
comp=Z,8.3nm,1.1s
TPH Tonopah 75.76 53 P P 23 51 38.7 +0.7
TPH Tonopah 75.76 53 P P 23 51 38.7 +0.7
TPH pmax pmax
comp=Z,30nm,0.9s
LKWY Lake 75.93 44 P P 23 51 39.9 +1.0
LKWY Lake 75.93 44 P P 23 51 39.9 +1.0
LKWY pmax pmax
comp=Z,5.0nm,0.9s
PKM Mcpherson Peak 75.93 57 P P 23 51 39.9 +0.9
baz=306
H17A Grant Village 75.94 45 P P 23 51 40.4 +1.4
H17A IAmb IAmb 23 51 42.6
comp=Z,18nm,1.1s
H17A Grant Village 75.94 45 P P 23 51 41.2 +2.2
baz=309,SNR=10
IMW Indian Meadow 76.04 45 P P 23 51 40.6 +0.9
IMW IAmb IAmb 23 51 41.7
comp=Z,6.3nm,0.8s
FLWY Flagg Ranch 76.06 45 P P 23 51 40.5 +0.9
FLWY IAmb IAmb 23 51 42.7
comp=Z,8.8nm,1.0s
FXWY Fox Creek 76.15 45 P P 23 51 40.8 +0.5
FXWY IAmb IAmb 23 51 42.7
comp=Z,7.3nm,1.1s
GMN Gold Mountain 76.20 54 P P 23 51 40.8 +0.2
RLMT Red Lodge 76.21 43 P P 23 51 41.1 +0.6
RLMT Red Lodge 76.21 43 P P 23 51 40.8 +0.3
baz=309
MOOW Moose Ponds 76.24 45 P P 23 51 41.5 +0.7
HVU Hansel Valley 76.28 48 P 23 51 41.5 +0.6
HVU Hansel Valley 76.28 48 P P 23 51 41.5 +0.6
HVU pmax pmax
comp=Z,3.0nm,0.7s
TPAW Teton Pass 76.28 46 P P 23 51 41.4 +0.3
ASK Askoy 76.29 339 eP P 23 51 41.8 +1.5
SORM Soroca 76.30 321 ⇑P P 23 51 39.6 -1.1
REDW Red Top Meadow 76.42 46 P P 23 51 42.6 +0.8
SCZ2 Santa Cruz Isl 76.57 58 P P 23 51 42.6 +0.2
baz=306
R11A Troy Canyon, C 76.64 52 P P 23 51 43.1 +0.1
R11A Troy Canyon, C 76.64 52 P P 23 51 43.4 +0.4
baz=307,SNR=6.7
MPMC Manual Prospec 76.78 55 P P 23 51 43.7 -0.2
baz=307
LAO LASA Array 76.83 41 P P 23 51 44.3 +0.5
baz=311
WCT Wildcat Mounta 76.91 54 P P 23 51 44.8 +0.4
SPR3 Spring Creek 3 77.03 51 P P 23 51 45.6 +0.3
SPR3 IAmb IAmb 23 51 47.3
comp=Z,4.7nm,1.2s
TPNV Topopah Spring 77.05 53 P P 23 51 45.4 0.0
TPNV Topopah Spring 77.05 53 P P 23 51 45.3 -0.1
baz=307,SNR=5.3
TPNV Topopah Spring 77.05 53 P P 23 51 45.4 0.0
TPNV pmax pmax
comp=Z,4.0nm,0.8s
HWUT Hardware Ranch 77.10 47 P P 23 51 45.9 +0.3
EDW2 Edwards Air Fo 77.15 56 P P 23 51 45.7 -0.1
baz=306
DUG Dugway, Tooele 77.23 49 P P 23 51 46.8 +0.5
DUG Dugway, Tooele 77.23 49 P P 23 51 46.8 +0.5
baz=308,SNR=5.3
DUG Dugway, Tooele 77.23 49 P P 23 51 46.8 +0.5
DUG pmax pmax
comp=Z,4.0nm,0.7s
GWY Greenwater Val 77.24 54 P P 23 51 46.8 +0.4
GWY IAmb IAmb 23 51 47.5
comp=Z,5.2nm,0.8s
QSM Queen of Sheba 77.24 55 P P 23 51 46.9 +0.6
QSM IAmb IAmb 23 51 48.0
comp=Z,10nm,1.1s
LVV L'vov 77.28 324 eP P 23 51 46.4 +0.2
BW06 Boulder Array 77.53 45 P P 23 51 48.5 +0.4
BW06 Boulder Array 77.53 45 P P 23 51 48.1 +0.1
baz=310,SNR=6.1
PD31 Pinedale Array 77.53 45 P P 23 51 48.2 +0.1
PDAR Pinedale Array 77.53 45 P P 23 51 48.5 +0.5
comp=Z,2.2nm,0.7s,baz=275,slow=2.2,SNR=29
comp=Z,2.2nm,0.7s
PRN Pahroc Range 77.54 52 P P 23 51 49.1 +1.1
PSUT Pine Spring 77.61 51 P P 23 51 49.3 +0.8
GSC Goldstone, Bar 77.68 55 P P 23 51 48.9 +0.1
GSC IAmb IAmb 23 51 49.7
comp=Z,7.8nm,1.1s
GSC Goldstone, Bar 77.68 55 P P 23 51 49.0 +0.1
baz=307
GSC Goldstone, Bar 77.68 55 P P 23 51 48.9 +0.1
GSC pmax pmax
comp=Z,8.0nm,1.1s
JLU Jordanelle 77.79 48 P P 23 51 49.6 +0.1
NLU North Lily Min 77.82 49 P P 23 51 50.7 +1.0
ILGA Ilgaz 77.90 313 P P 23 51 50.1 0.0
VLDR Vladesti 77.95 319 P P 23 51 50.3 +0.3
BNN Bunyan 77.99 310 P P 23 51 49.9 -0.6
SHPR Sheep Range 78.02 53 P P 23 51 51.4 +0.6
MPU Maple Canyon 78.05 49 P P 23 51 51.8 +0.9
SCTR Scanteiesti 78.11 319 P P 23 51 51.2 +0.3
GAZ Gaziantep 78.17 308 P P 23 51 52.4 +0.9
TUQ Turquoise Moun 78.17 55 P P 23 51 51.8 +0.2
baz=307
BUR08 Bucovina Ar. S 78.21 322 IAmb IAmb 23 51 59.8
comp=Z,9.3nm,0.8s
BURAR Bucovina Array 78.22 322 P P 23 51 52.0 +0.5
BURAR Bucovina Array 78.22 322 IAmb IAmb 23 52 00.2
comp=Z,13nm,0.8s
TESR Tescani 78.25 320 ⇓P P 23 51 51.7 +0.1
TPGR Topolog 78.43 318 P P 23 51 53.0 +0.3
CCUT Cedar City 78.52 52 P P 23 51 54.4 +0.8
MVU Marysvale 78.64 50 P P 23 51 55.2 +0.9
MVU IAmb IAmb 23 51 57.8
comp=Z,17nm,1.1s
VRI Vrincioaia 78.64 320 ⇑P P 23 51 54.4 +0.6
MSU Marysvale 78.66 50 P P 23 51 55.3 +1.0
MSU Marysvale 78.66 50 P P 23 51 55.3 +1.0
V12A Nelson 78.69 54 P P 23 51 55.3 +0.9
TMUT Trail Mountain 78.75 49 P P 23 51 55.7 +0.7
BR131 Keskin Array S 78.78 312 IAmb IAmb 23 52 05.8
comp=Z,11nm,0.9s
BRTR Keskin Array B 78.78 312 P P 23 51 55.0 +0.1
comp=Z,3.1nm,0.9s,baz=84,slow=3.3,SNR=12
comp=Z,3.1nm,0.9s
BRTR Keskin Array B 78.78 312 P P 23 51 55.0 +0.1
TLBR Topalu 78.83 318 P P 23 51 55.1 +0.3
STHS Stebnicka Huta 78.86 325 eP P 23 51 55.5 +0.5
STHS e 23 52 02.5
STHS Stebnicka Huta 78.86 325 eP P 23 51 55.5 +0.5
STHS e 23 52 02.5
STHS pmax pmax
comp=Z,11nm,0.9s
BISRR Bisoca 78.86 319 ⇓P P 23 51 55.8 +0.7
RDMU Red Mountain 78.92 47 P P 23 51 56.7 +1.0
RDMU IAmb IAmb 23 52 05.4
comp=Z,15nm,1.2s
LCMT Little Creek M 78.92 52 P P 23 51 56.6 +0.9
P17A Butcher Ranch, 78.92 49 P P 23 51 56.0 +0.3
P17A IAmb IAmb 23 51 57.2
comp=Z,5.6nm,0.6s
COVR Voineasa-Covas 78.92 320 P P 23 51 55.9 +0.4
UZH Uzhgorod 78.93 324 ⇑iP P 23 51 55.8 +0.5
UZH i 23 52 02.6
UZH i 23 52 09.5
OJC Ojcow 78.94 326 P P 23 51 53.5 -1.9
OJC Ojcow 78.94 326 P P 23 51 53.5 -1.9
OJC pmax pmax
comp=Z,20nm,0.9s
MTPU Mount Pierson 78.94 51 P P 23 51 57.3 +1.2
OZUR 78.97 320 ⇑P P 23 51 56.8 +1.1
P18A Preston Nutter 79.12 48 P P 23 51 58.3 +1.3
CRVS Cervenica-Dubn 79.13 324 e P 23 52 04.5 +8.1
CRVS Cervenica-Dubn 79.13 324 eP P 23 52 04.5 +8.1
TRPA Tarpa 79.17 323 ⇓P P 23 51 57.3 +0.7
TRPA Tarpa 79.17 323 PP P 23 52 04.9 +8.3
TRPA Tarpa 79.17 323 P P 23 51 56.8 +0.2
KNB Kanab 79.19 52 P P 23 51 57.8 +0.6
KNB Kanab 79.19 52 P P 23 51 57.8 +0.6
KNB pmax pmax
comp=Z,7.0nm,1.1s
ICOR Ion Corvin 79.25 318 P P 23 51 57.8 +0.6
SRU San Rafael Swe 79.28 49 IAmb IAmb 23 51 58.9
comp=Z,7.1nm,0.6s
MLR Muntele Rosu 79.30 320 ⇑P P 23 51 57.8 +0.2
K22A Casper 79.31 44 P P 23 51 58.0 +0.2
baz=311
ULM Lac du Bonnet 79.36 33 P P 23 51 57.4 -0.3
comp=Z,8.3nm,0.9s,baz=281,slow=5.4,SNR=6.1
comp=Z,8.3nm,0.9s
IRM Iron Mountain 79.46 55 P P 23 51 59.1 +0.5
baz=308
BC3 Big Chuckawall 79.56 56 P P 23 51 59.8 +0.6
baz=308
CJR Cluj-Napoca 79.64 322 P P 23 52 00.5 +1.1
ABAH Abaujker 79.66 324 P P 23 51 59.6 +0.3
RSSD Black Hills 79.69 42 P P 23 51 59.4 -0.5
baz=312
VOIR 79.80 320 ⇑P P 23 51 58.5 -1.7
U15A North Rim 79.89 52 P P 23 52 02.0 +0.9
O20A White River Ci 79.98 47 P P 23 52 01.6 +0.2
baz=311
PDMCI Parker Dam,Lak 80.02 55 P P 23 52 01.9 +0.4
baz=308
ARR Arges 80.06 320 ⇑P P 23 52 02.7 +1.1
MORC Moravsky Berou 80.26 327 IAmb IAmb 23 52 11.1
comp=Z,12nm,1.0s
MORC Moravsky Berou 80.26 327 eP P 23 52 03.0 +0.4
MORC e 23 52 10.2
GLA Glamis 80.34 56 P P 23 52 04.2 +0.8
baz=308
DPC Dobruska-Polom 80.36 328 eP P 23 52 02.8 -0.3
DPC epP PcP 23 52 10.3 +0.1
DPC Dobruska-Polom 80.36 328 eP P 23 52 02.8 -0.3
DPC e 23 52 10.3
PSZ Piszkesteto 80.56 324 P P 23 52 04.5 +0.2
PV21 Cone Mtn., Par 80.56 48 P P 23 52 05.2 +0.5
PV21 IAmb IAmb 23 52 06.0
comp=Z,6.9nm,0.7s
PV23 Carpenter Ridg 80.61 49 P P 23 52 05.8 +0.7
PV23 IAmb IAmb 23 52 08.6
comp=Z,9.1nm,0.6s
VYHS Vyhne 80.63 325 eP P 23 52 05.2 +0.6
VYHS e 23 52 12.2
VYHS Vyhne 80.63 325 eP P 23 52 05.2 +0.6
VYHS e 23 52 12.3
VYHS pmax pmax
comp=Z,16nm,1.2s
RAYN Ar Rayn 80.64 292 P P 23 52 04.9 -0.2
RAYN IAmb IAmb 23 52 12.9
comp=Z,8.2nm,0.8s
RAYN Ar Rayn 80.64 292 P P 23 52 04.9 -0.2
RAYN Ar Rayn 80.64 292 P P 23 52 04.9 -0.2
RAYN pmax pmax
comp=Z,8.0nm,0.8s
PV10 Paradox Valley 80.64 49 P P 23 52 06.5 +1.4
PV14 Lion Creek, Pa 80.66 49 P P 23 52 05.9 +0.6
PV14 IAmb IAmb 23 52 06.5
comp=Z,11nm,0.7s
PV22 Blue Mesa, Par 80.69 48 P P 23 52 05.6 +0.3
PV22 IAmb IAmb 23 52 06.6
comp=Z,6.6nm,0.9s
PV04 Paradox Valley 80.71 49 P P 23 52 06.3 +0.9
PV04 IAmb IAmb 23 52 08.3
comp=Z,4.9nm,0.7s
PV19 Morning Glory 80.72 49 P P 23 52 05.8 +0.2
PV19 IAmb IAmb 23 52 08.2
comp=Z,9.8nm,0.6s
PV17 East Wray Mesa 80.75 49 P P 23 52 06.5 +0.8
PV17 IAmb IAmb 23 52 07.1
comp=Z,9.3nm,0.7s
PV16 Nyswonger Mesa 80.76 49 P P 23 52 06.1 +0.4
PV16 IAmb IAmb 23 52 14.7
comp=Z,7.3nm,0.7s
AGMN Agassiz Nation 80.79 35 P P 23 52 05.2 -0.2
baz=317
PV11 David Mesa, Pa 80.79 49 P P 23 52 06.5 +0.6
PV11 IAmb IAmb 23 52 08.6
comp=Z,11nm,0.7s
N23A Red Feather La 80.80 45 P P 23 52 06.8 +0.8
N23A IAmb IAmb 23 52 08.0
comp=Z,7.1nm,0.9s
N23A Red Feather La 80.80 45 P P 23 52 06.4 +0.4
baz=312,SNR=6.0
PV18 Skein Mesa, Pa 80.81 49 P P 23 52 06.1 +0.1
PV18 IAmb IAmb 23 52 07.4
comp=Z,6.2nm,0.8s
PV03 Paradox Valley 80.84 49 P P 23 52 06.4 +0.3
PV03 IAmb IAmb 23 52 08.9
comp=Z,6.4nm,1.0s
PV13 Radium Mtn., P 80.92 49 P P 23 52 06.8 +0.2
PV13 IAmb IAmb 23 52 09.2
comp=Z,10nm,1.0s
BRG Berggiesshubel 80.95 329 Amp 23 52 15.5
comp=Z,9.4nm,1.1s
BRG Berggiesshubel 80.95 329 eP P 23 52 06.6 +0.4
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 80.95 329 eP P 23 52 06.6 +0.4
CLL Collm 80.99 330 PcP 23 52 13.6 +0.7
CLL IAmb IAmb 23 52 14.3
comp=Z,14nm,0.9s
CLL Collm 80.99 330 ⇓iP P 23 52 06.0 -0.4
comp=Z,11nm,0.9s
CLL i pP PcP 23 52 13.3 +0.5
comp=Z,19nm,1.0s
CLL Collm 80.99 330 ⇓iP P 23 52 06.0 -0.4
CLL i 23 52 13.3
CLL pmax pmax
comp=Z,11nm,0.9s
VRAC Vranov 81.02 327 eP P 23 52 07.3 +0.7
VRAC e 23 52 14.4
WUAZ Wupatki 81.04 52 P P 23 52 06.5 -0.7
baz=310
SURR Surduc 81.05 322 ⇑P P 23 52 07.3 +0.5
PV01 Paradox Valley 81.08 49 P P 23 52 07.3 -0.2
SMOL Smolenice 81.25 326 eP P 23 52 15.7 +7.8
KRUC Moravsky 81.29 327 eP P 23 52 08.4 +0.3
KRUC e 23 52 15.7
PRU Pruhonice 81.38 329 eP P 23 52 08.8 +0.3
PRU epP pP 23 52 14.7 -0.1
PRU Pruhonice 81.38 329 eP P 23 52 08.8 +0.3
PRU e 23 52 14.7
MODS Modra-Piesok 81.42 326 e P 23 52 15.3 +6.5
MODS Modra-Piesok 81.42 326 eP P 23 52 15.4 +6.6
TREC Trest 81.51 328 eP P 23 52 09.7 +0.5
TREC epP sP 23 52 16.6 -1.2
TREC Trest 81.51 328 eP P 23 52 09.7 +0.5
TREC e 23 52 16.6
MVCO Mesa Verde 81.73 49 P P 23 52 11.2 +0.3
MVCO Mesa Verde 81.73 49 P P 23 52 11.6 +0.7
baz=311
MPLH Magyarpolny 82.19 325 P P 23 52 20.4 +7.6
214A Organ Pipe Nat 82.36 56 P P 23 52 14.6 +0.5
baz=309
RONA Rosalia, Austr 82.36 326 iP P 23 52 14.9 +1.1
comp=Z,17nm,1.2s
CKRC Cesky Krumlov 82.37 328 eP P 23 52 13.3 -0.5
CKRC ex x 23 52 20.7
S22A 4UR Ranch, Cre 82.38 48 P P 23 52 14.9 +0.6
S22A pP sP 23 52 22.3 -0.7
S22A 4UR Ranch, Cre 82.38 48 P P 23 52 14.8 +0.4
baz=312,SNR=5.2
CONA Conrad Observa 82.38 327 eP P 23 52 14.9 +1.0
comp=Z,9.6nm,0.9s
F33A 5 Mile Ranch, 82.39 37 pP pP 23 52 21.3 +1.1
F33A IAmb IAmb 23 52 22.1
comp=Z,15nm,1.1s
KHC Kasperske Hory 82.44 328 pP pP 23 52 21.6 +1.1
KHC IAmb IAmb 23 52 22.5
comp=Z,9.5nm,0.8s
KHC Kasperske Hory 82.44 328 eP P 23 52 13.9 -0.3
KHC epP pP 23 52 20.3 -0.2
KHC Kasperske Hory 82.44 328 eP P 23 52 13.9 -0.3
KHC e 23 52 20.3
RDO Rodhopi 82.49 317 P P 23 52 15.9 +1.4
RDO IAmb IAmb 23 52 23.8
comp=Z,13nm,1.0s
GERES GERESS Array B 82.61 328 P P 23 52 14.9 -0.3
comp=Z,1.0nm,0.4s,baz=43,slow=5.9,SNR=16
comp=Z,1.0nm,0.4s
VTS Vitosha 82.70 319 ⇑P P 23 52 15.6 -0.2
VTS Vitosha 82.70 319 IAmb IAmb 23 52 24.4
comp=Z,8.2nm,0.7s
EYMN Ely 82.99 33 P P 23 52 16.8 -0.3
EYMN IAmb IAmb 23 52 24.9
comp=Z,13nm,1.0s
EYMN Ely 82.99 33 P P 23 52 16.9 -0.1
baz=320
ARSA Arzberg 83.04 326 eP P 23 52 17.8 +0.4
comp=Z,7.0nm,1.2s
SDCO Great Sand Dun 83.16 47 P P 23 52 18.8 +0.4
baz=312
DIVS Divibare 83.29 322 IAmb IAmb 23 52 27.5
comp=Z,9.3nm,1.1s
TUC Tucson 83.46 54 P P 23 52 19.9 +0.1
baz=310
BIOA Bad Ischl, Aus 83.53 328 iP P 23 52 20.2 +0.4
comp=Z,7.2nm,0.8s
SOKA Soboth 83.69 326 eP P 23 52 21.1 +0.3
comp=Z,22nm,1.0s
ECSD EROS Data Cent 83.78 38 IAmb IAmb 23 52 21.9
comp=Z,9.8nm,1.0s
ECSD EROS Data Cent 83.78 38 P P 23 52 21.4 +0.2
baz=317,SNR=5.7
KBA Koelnbreinsper 84.13 327 eP P 23 52 23.1 0.0
comp=Z,10nm,0.9s
T25A Trinidad 84.21 47 P P 23 52 24.4 +0.6
T25A IAmb IAmb 23 52 25.5
comp=Z,10nm,0.9s
T25A Trinidad 84.21 47 P P 23 52 24.3 +0.5
baz=313,SNR=6.4
ANMO Albuquerque 84.46 50 P P 23 52 24.4 -0.7
baz=312
SPMN Marine on St. 84.48 35 P P 23 52 24.6 -0.1
baz=320
ABTA Abfaltersbach 84.74 328 eP P 23 52 25.0 -1.1
comp=Z,4.5nm,1.0s
MOTA Moosalm 84.87 329 eP P 23 52 26.6 -0.2
comp=Z,10nm,1.3s
RETA Reutte 84.90 329 iP P 23 52 27.1 +0.2
comp=Z,9.4nm,1.0s
STAL STALIGIAL 85.04 327 IAmb IAmb 23 52 34.5
comp=Z,11nm,1.0s
I37A Lemond, Waseca 85.12 36 P P 23 52 28.4 +0.5
SCHQ Schefferville 85.18 16 P P 23 52 28.4 +0.3
comp=Z,6.5nm,0.7s,baz=340,slow=8.5,SNR=6.3
comp=Z,6.5nm,0.7s
BFO Black Forest 85.19 331 P P 23 52 28.3 0.0
BFO Black Forest 85.19 331 P P 23 52 28.3 0.0
BFO pmax pmax
comp=Z,17nm,1.0s
121A Cookes Peak, D 85.24 52 P P 23 52 28.9 -0.1
baz=312
FETA Feichten 85.28 329 eP P 23 52 28.9 0.0
comp=Z,7.1nm,1.3s
KBN Korca 85.41 319 P P 23 52 29.1 -0.4
KBN Korca 85.41 319 P P 23 52 29.1 -0.4
KBN pmax pmax
comp=Z,19nm,0.8s
DAVA Damuels 85.42 329 iP P 23 52 29.7 +0.2
comp=Z,6.9nm,0.9s
G40A Rib Lake 85.63 34 IAmb IAmb 23 52 31.3
comp=Z,7.5nm,0.8s
ECH Echery 85.74 331 P P 23 52 30.9 -0.1
ECH Echery 85.74 331 P P 23 52 30.9 -0.1
ECH pmax pmax
comp=Z,19nm,1.1s
AMTX Amarillo 87.36 47 P P 23 52 39.5 +0.2
AMTX IAmb IAmb 23 52 40.9
comp=Z,11nm,0.9s
AMTX Amarillo 87.36 47 P P 23 52 39.5 +0.2
baz=315
MURB Monte Urbino 87.46 325 P P 23 52 40.8 +1.2
GDL2 Guadalupe Moun 87.60 51 P P 23 52 40.2 -0.3
CLNB Carlsbad 87.86 50 P P 23 52 41.5 -0.2
WMOK Wichita Mounta 89.14 46 P P 23 52 47.8 +0.1
baz=316
TUL1 Leonard 89.96 43 P P 23 52 50.7 -0.7
baz=318
TX31 Lajitas Ar. Si 90.00 52 P P 23 52 52.5 +0.6
TX31 IAmb IAmb 23 52 52.7
comp=Z,7.4nm,0.7s
TX32 Lajitas Array 90.00 52 P P 23 52 52.5 +0.7
TXAR Lajitas Array 90.00 52 P P 23 52 52.2 +0.4
comp=Z,2.6nm,0.7s,baz=302,slow=2.8,SNR=29
comp=Z,2.6nm,0.7s
TXAR Lajitas Array 90.00 52 P P 23 52 52.6 +0.8
ABTX Abilene, Hawle 90.16 48 P P 23 52 51.9 -0.5
baz=316
CCM Cathedral Cave 90.72 39 P P 23 52 53.8 -1.1
baz=321
SFIN Lafayette 90.89 35 P P 23 52 55.2 -0.4
baz=323
JCT Junction City 91.59 49 P P 23 52 58.6 -0.5
baz=316
WHTX Lake Whitney, 91.89 47 P P 23 53 00.3 -0.2
baz=317
FCAR Ozark Folk Cen 91.93 41 IAmb IAmb 23 53 00.6
comp=Z,6.0nm,0.9s
MIAR Mount Ida 92.18 43 P P 23 53 01.9 +0.1
MIAR Mount Ida 92.18 43 P P 23 53 01.8 +0.1
baz=319,SNR=5.0
MIAR Mount Ida 92.18 43 P P 23 53 01.9 +0.1
MIAR pmax pmax
comp=Z,7.0nm,0.9s
WHAR Wooly Hollow 92.30 41 P P 23 53 02.2 -0.1
KMBO Kilima Mbogo 101.99 278 P Pdif 23 53 46.4 -0.3
comp=Z,1.5nm,0.3s,baz=88,slow=2.8,SNR=8.9
VNDA Vanda 115.12 175 PKP PKPdf 23 58 31.6 -0.2
comp=Z,0.5nm,0.8s,baz=315,slow=5.9,SNR=3.6
TORD Torodi Ar. Bea 117.26 315 PKP PKPdf 23 58 36.8 -1.0
comp=Z,0.4nm,0.5s,baz=5.0,slow=1.3,SNR=2.4
BOSA Boshof 126.64 259 PKP PKiKP 23 58 56.0 -0.1
comp=Z,3.2nm,0.8s,baz=159,slow=5.1,SNR=5.4
BOSA Boshof 126.64 259 PKIKP PKiKP 23 58 56.0 -0.1
SNAA Sanae 140.90 197 PKPdf PKPdf 23 59 13.3 -7.6
VNA2 Neumayer--Watz 142.47 196 PKPdf PKPdf 23 59 19.5 -4.1
baz=118,slow=1.6
VNA3 Neumayer Olymp 142.72 195 PKPdf PKPdf 23 59 20.6 -3.5
ITTB Itaituba 143.74 30 eP PKPbc 23 59 25.3 +0.2
ROSB Rosrio 145.50 10 eP PKPdf 23 59 30.5 -0.2
NPGB Novo Progresso 146.32 31 eP PKPbc 23 59 33.0 -0.2
LPAZ La Paz 146.58 59 PKPbc PKPbc 23 59 34.7 +0.1
comp=Z,6.6nm,0.5s,baz=5.4,slow=1.7,SNR=43
H03N2 Juan Fernandez 147.00 96 T T 02 43 50.1
baz=291,slow=74,SNR=16
H03N3 Juan Fernandez 147.01 96 T T 02 43 51.9
baz=291,SNR=19
H03N1 Juan Fernandez 147.01 96 T T 02 43 45.9
baz=291,slow=74,SNR=26
PRPB Parauapebas 147.46 21 eP PKPdf 23 59 34.9 +0.9
VILB Vilhena 149.05 44 eP PKPdf 23 59 36.4 -0.1
CLDB Colider 149.54 35 eP PKPdf 23 59 38.4 +1.1

LVC	**Limon Verde**	**150.08**	**70**	*e*P	**PKPdf**	**23 59 38.7**	**+0.3**
SMTB	**Santa Maria do**	**150.64**	**18**	*e*P	**PKPdf**	**23 59 39.5**	**+0.4**
PTLB	**Pontes e Lacer**	**151.67**	**46**	*e*P	**PKPdf**	**23 59 40.5**	**0.0**
SNDB	**Serra Nova Dou**	**152.41**	**28**	*e*P	**PKPdf**	**23 59 42.7**	**+1.0**
AQDB	**Aquidauana**	**157.63**	**47**	*e*P	**PKPdf**	**23 59 49.8**	**+1.1**
VAO	**Valinhos**	**164.11**	**30**	*e*P	**PKPdf**	**23 59 56.5**	**+0.8**

THE 21 23:40:40.0, 38.65N×20.67E, h13km±1km, ML0.8/5, Error ellipse: s-maj=2.7km s-min=0.4km az=100.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVGI	**Lefkada island**	**0.03**	**197**	P	Pg	23 40 42.4	0.0
EVGI				S	Sg	23 40 44.1	0.0
	660nm,0.1s						
NYDR	**Nydri-Lefkada**	**0.07**	**21**	P	Pg	23 40 42.7	0.0
NYDR				S	Sg	23 40 44.8	+0.2
	68nm,0.1s						
LKD2	**Lefkada island**	**0.14**	**357**	P	Pg	23 40 43.4	-0.2
LKD2				S	Sg	23 40 45.9	-0.2
	28nm,0.3s						
TSLK	**Tsoukalades, L**	**0.17**	**357**	P	Pg	23 40 44.1	0.0
TSLK				S	Sg	23 40 47.4	+0.5
	48nm,0.4s						
FSK	**Fiskardo**	**0.21**	**203**	P	Pg	23 40 44.4	-0.2
FSK				S	Sg	23 40 48.3	+0.6
	28nm,0.1s						

PRU 21 23:42:07.3±0.0, 50.27N×19.02E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.50**	**95**	*e*Pg	Pg	23 42 14.5	-2.4
OJC				*e*Sg	Sg	23 42 21.3	-2.1
OKC	**Ostrava-Krasne**	**0.71**	**233**	*e*SG	Sg	23 42 29.7	-0.4
MORC	**Moravsky Berou**	**1.07**	**243**	*e*PG	Pg	23 42 27.7	-0.1
MORC				*e*SG	Sg	23 42 41.5	-0.2
STHS	**Stebnicka Huta**	**1.67**	**120**	*e*PN	Pn	23 42 38.3	+0.4
STHS				*e*SN	Sg	23 43 01.5	+0.5
DPC	**Dobruska-Polom**	**1.73**	**274**	*e*PG	Pn	23 42 38.9	+0.2
DPC				*e*SG	Sg	23 43 04.1	+1.2
	comp=Z,4.7nm,0.9s						
VYHS	**Vyhne**	**1.78**	**184**	*e*PN	Pn	23 42 38.4	-0.9
VYHS				*e*SN	Sn	23 43 00.9	-1.8
VYHS				*e*LG	Lg	23 43 02.3	
VRAC	**Vranov**	**1.84**	**239**	*e*PN	Pn	23 42 40.9	+0.7
VRAC				*e*SG	Sn	23 43 04.4	+0.2
KHC	**Kasperske Hory**	**3.71**	**254**	*e*SG	Sg	23 44 06.0	-0.5

ROM 21 23:49:30.1±0.1, 42.762N±0.004×13.20E±0.02, h11km, ML1.4/5, 8C-2D, Error ellipse: s-maj=1.3km s-min=0.3km az=281.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.09**	**320**	P	Pg	23 49 33.2	+0.3
NRCA				S	Sg	23 49 35.1	+0.3
NRCA				AML	AML		
	comp=E,422μm,0.1s						
NRCA				AML	AML		
	comp=N,329μm,0.1s						
T1245	**Castelsantange**	**0.10**	**357**	P	Pg	23 49 33.3	+0.4
T1245				AML	AML		
	comp=E,279μm,0.6s						
T1245				AML	AML		
	comp=N,318μm,1.2s						
T1218	**Civita (PG)**	**0.11**	**213**	⇑P	Pg	23 49 33.5	+0.4
T1218				S	Sg	23 49 35.8	+0.7
SMA1	**SAN MARTINO**	**0.17**	**142**	P	Pb	23 49 34.8	-0.6
MMO1	**Montemonaco**	**0.17**	**35**	P	Pg	23 49 34.4	+0.5
MMO1				S	Sg	23 49 37.8	+1.2
T1216	**Preci, Frazion**	**0.18**	**315**	⇑P	Pb	23 49 35.0	-0.5
T1243	**Rocca Santa Ma**	**0.20**	**109**	P	Pg	23 49 34.7	+0.3
T1215	**Vallo di Nera,**	**0.24**	**280**	P	Pb	23 49 36.0	-0.7
T1256	**Bolognola (MC)**	**0.24**	**5**	⇑P	Pg	23 49 33.7	-1.6
T1256				AML	AML		
	comp=N,502μm,0.6s						
T1256				AML	AML		
	comp=E,465μm,0.2s						
T1256				AML	AML		
	comp=N,436μm,0.6s						
T1256				AML	AML		
	comp=N,503μm,0.6s						
T1256				AML	AML		
	comp=E,486μm,0.2s						
T1256				AML	AML		
	comp=E,464μm,0.2s						
RM33	**Pellescritta (**	**0.25**	**177**	P	Pg	23 49 35.9	+0.5
RM33				S	Sb	23 49 40.2	-1.1
RM33				AML	AML		
	comp=N,27μm,1.3s						
RM33				AML	AML		
	comp=E,31μm,1.4s						
FDMO	**Fiordimonte**	**0.29**	**344**	⇑P	Pg	23 49 34.9	-1.1
FDMO				AML	AML		
	comp=E,106μm,0.5s						
FDMO				AML	AML		
	comp=N,137μm,0.2s						
GUMA	**Gualdo di Mace**	**0.32**	**19**	⇓P	Pg	23 49 36.0	-0.6
GUMA				AML	AML		
	comp=N,266μm,0.5s						
GUMA				AML	AML		
	comp=E,287μm,0.6s						
T1219	**Muccia, Frazio**	**0.33**	**335**	⇓P	Pg	23 49 36.1	-0.6
CSP1	**Cessapalombo**	**0.33**	**1**	⇑P	Pg	23 49 35.2	-1.6
TERO	**Teramo**	**0.33**	**115**	⇑P	Pg	23 49 37.0	+0.2
ASSB	**Assisi San Ben**	**0.48**	**306**	S	Sg	23 49 41.0	-5.1
SNTG	**Esanatoglia**	**0.53**	**339**	⇑P	Pg	23 49 39.6	-0.8
CING	**Cingoli**	**0.61**	**0**	⇑P	Pg	23 49 40.8	-1.3

IDC 21 23:50:56.3±6.2, 18.62S×178.08W, h633km±50km, mb2.4/3, mbtmp3.4/4, Error ellipse: s-maj=327.0km s-min=29.8km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.79**	**283**	P	P	23 52 22.8	-0.1
	9.4nm,0.6s,baz=155,slow=9.9,SNR=5.3						
WRA	**Warramunga Arr**	**44.82**	**260**	P	P	23 58 16.2	-0.2
	0.2nm,0.4s,baz=96,slow=6.9,SNR=5.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**44.91**	**255**	P	P	23 58 17.3	+0.3
	0.1nm,0.3s,baz=93,slow=7.9,SNR=4.8						
	0.1nm,0.3s						
TXAR	**Lajitas Array**	**86.11**	**57**	P	P	00 02 32.4	+0.1
	0.4nm,0.8s,baz=230,slow=5.6,SNR=4.6						
	0.4nm,0.8s						

*IDC **21** 23:52:02.0±0.8, 37.34N×141.44E, h0km, mb3.9/17, mbtmp3.9/19, ML3.1/2, Error ellipse: s-maj=19.8km s-min=17.0km az=90.0*
*JMA **21** 23:52:04.4±0.2, 37.4N±0.3×141.5E±0.8, h25km±1km, MV3.9/37, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NEIC **21** 23:52:07.0±1.6, 37.37N±0.06×141.45E±0.09, h34km±3km, mb4.5/9, Error ellipse: s-maj=10.4km s-min=8.2km az=89.0.*

ISC 21 23:52:04.9±1.2, 37.36N±0.04×141.50E±0.05, h19km±4km, n59, σ0.877/58, mb4.0/22, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.50**	**271**	*i* P	**Pb**	**23 52 14.7**	**-0.4**
JFK				S	**Sb**	**23 52 22.0**	**0.0**
JMST	**Minamisoumatoc**	**0.61**	**307**	*i* P	**Pb**	**23 52 16.5**	**-0.3**
JMST				S	**Sg**	**23 52 25.6**	**+0.3**
JMM	**Marumori**	**0.76**	**313**	Pn	**Pb**	**23 52 18.8**	**-0.7**
JMM					**Sb**	**23 52 29.7**	**+0.4**
JMM	**Marumori**	**0.76**	**313**	*i* P	**Pb**	**23 52 18.8**	**-0.7**
JMM				S	**Sb**	**23 52 29.8**	**+0.4**
JFFD	**Fukushimafurud**	**0.79**	**251**	P	**Pb**	**23 52 19.2**	**-0.9**
JFFD				S	**Sb**	**23 52 30.0**	**-0.5**
JHO	**Hitachi**	**1.05**	**225**	S	**Sb**	**23 52 36.6**	**-1.2**
JIO	**Ouri**	**1.10**	**354**	P	**Pn**	**23 52 23.7**	**-1.6**
JOU	**Okura**	**1.21**	**327**	⇓*i* P	**Pn**	**23 52 26.5**	**-0.2**
JOU				⇓S	**Sg**	**23 52 43.4**	**-0.7**
JYS	**Shirataka**	**1.43**	**308**	P	**Pb**	**23 52 30.4**	**-0.5**
JYS				S	**Sg**	**23 52 50.4**	**-0.7**
JFY	**Yanaizu**	**1.43**	**273**	P	**Pn**	**23 52 30.4**	**+0.5**
JFY				S	**Sb**	**23 52 50.3**	**+1.5**
JSD	**Sado**	**2.66**	**286**	Pn	**Pn**	**23 52 46.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.76**	**254**	Pn	**Pn**	**23 52 48.4**	**+0.3**
	0.6nm,0.3s,baz=49,slow=40,SNR=2.4						
MJAR				Sn	**Sb**	**23 53 26.9**	**-0.2**
	0.9nm,0.3s,baz=308,slow=33,SNR=5.3						
	6.1nm,0.5s						
MAJO	**Matsushiro**	**2.76**	**254**		**Pn**	**23 52 49.2**	**+1.0**
MJB9	**Matsu-Tunnel**	**2.76**	**254**	Pn	**Pn**	**23 52 49.8**	**+1.6**
JTM	**Tenmabayashi**	**3.44**	**355**	Pn	**Pn**	**23 52 58.4**	**+0.9**
JGF	**Kuroka**	**3.77**	**244**	Pn	**Pn**	**23 53 02.4**	**+0.4**
INU	**Inuyama**	**4.13**	**242**	Pn	**Pn**	**23 53 07.8**	**+0.8**
JHJ2	**Mitsune**	**4.45**	**198**	Pn	**Pn**	**23 53 10.5**	**-0.9**
JHJ	**Hachijo jima 2**	**4.45**	**199**	Pn	**Pn**	**23 53 11.1**	**-0.3**
	14nm,0.3s,baz=17,slow=19,SNR=1.1						
JHJ				Sn	**Sn**	**23 54 02.7**	**0.0**
	7.9nm,0.3s,baz=60,slow=21,SNR=1.1						
	31nm,0.3s						
ERM	**Erimo**	**4.83**	**15**	Pn	**Pn**	**23 53 17.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.93**	**316**	Pn	Pn	23 54 32.0	+5.4
	0.4nm,0.3s,baz=139,slow=40,SNR=1.9						
KSRS	**Korea Array**	**10.80**	**275**	Pn	Pn	23 54 50.5	+12
	0.4nm,0.3s,baz=87,slow=15,SNR=3.1						
SONM	**Songino Array**	**27.66**	**303**	P	**P**	**23 57 51.0**	**-0.6**
	1.4nm,0.8s,baz=98,slow=8.1,SNR=9.5						
	1.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	00 27 24.9	
	baz=314,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	00 27 21.4	
	0.4nm,0.3s,baz=314,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	00 27 24.5	
	baz=314,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	00 28 16.8	
	baz=316,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	00 28 16.9	
	baz=316,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy**	**29.00**	**124**	T	T	00 28 18.0	
	baz=316,slow=76,SNR=32						
TIXI	**Tiksi**	**34.98**	**353**	P	**P**	**23 58 54.8**	**-0.6**
	0.6nm,0.2s,baz=48,slow=1.1,SNR=3.5						
	0.6nm,0.2s						
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**23 59 52.5**	**-0.1**
	2.9nm,0.7s,baz=95,slow=7.4,SNR=11						
	2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**23 59 51.8**	**-0.7**
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**00 00 10.2**	**-0.8**
	2.0nm,0.7s,baz=87,slow=10.0,SNR=12						
	2.0nm,0.7s						
KURK	**Kurchatov**	**45.79**	**308**	P	**P**	**00 00 25.0**	**-0.1**
KURK				IAmb	IAmb	00 00 42.3	
	comp=Z,4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**45.86**	**308**	P	**P**	**00 00 25.5**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=81,slow=7.7,SNR=17						
	comp=Z,1.3nm,0.4s						
ILAR	**Eielson Array**	**49.19**	**33**	P	**P**	**00 00 51.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=266,slow=6.1,SNR=5.9						
	comp=Z,0.6nm,0.7s						
CHGR	**Chuyangaron**	**55.59**	**295**	P	**P**	**00 01 39.1**	**-0.3**
ARU	**Arti**	**56.16**	**318**	P	**P**	**00 01 43.1**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=82,slow=6.6,SNR=7.0						
	comp=Z,2.4nm,0.4s						
WRAB	**Tennant Creek**	**57.38**	**188**	P	**P**	**00 01 52.1**	**+0.1**
WRAB				IAmb	IAmb	00 02 32.3	
	comp=Z,5.0nm,1.2s						
WB2	**Warramunga Arr**	**57.39**	**188**	P	**P**	**00 01 50.3**	**-1.8**
WB2				IAmb	IAmb	00 02 13.7	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**57.39**	**188**	P	**P**	**00 01 51.3**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=5.4,slow=7.5,SNR=7.1						
	comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**57.39**	**188**	P	**P**	**00 01 51.2**	**-0.9**
ABKAR	**Akbulak array**	**57.78**	**310**	P	**P**	**00 01 54.1**	**-0.6**
EUNU	**Eureka**	**59.86**	**9**	P	**P**	**00 02 08.7**	**0.0**
EUNU				IAmb	IAmb	00 02 40.4	
	comp=Z,8.3nm,1.5s						
ASAR	**Alice Springs**	**61.12**	**188**	P	**P**	**00 02 17.9**	**0.0**
	comp=Z,0.5nm,0.8s,baz=23,slow=6.8,SNR=4.0						
	comp=Z,0.5nm,0.8s						
RES	**Resolute Bay**	**62.27**	**14**	P	**P**	**00 02 24.8**	**-0.2**
RES				IAmb	IAmb	00 02 41.5	
	comp=Z,3.9nm,1.1s						
GEYT	**Alibeck**	**63.74**	**299**	P	**P**	**00 02 36.1**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=232,slow=1.7,SNR=3.8						
	comp=Z,1.4nm,0.7s						
LLLB	**Lilooet**	**65.97**	**44**	P	**P**	**00 02 50.7**	**+0.9**
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**00 03 05.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=284,slow=7.7,SNR=4.2						
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**00 03 05.6**	**-0.3**
AKASG	**Malin Array Be**	**74.08**	**322**	P	**P**	**00 03 39.0**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=297,slow=33,SNR=2.9						
	comp=Z,0.5nm,0.4s						
NVAR	**Mina Array Bea**	**74.74**	**53**	P	**P**	**00 03 45.4**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=112,slow=43,SNR=2.3						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**77.39**	**46**	P	**P**	**00 03 59.8**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=244,slow=6.4,SNR=1.8						
	comp=Z,0.2nm,0.6s						
BRTR	**Keskin Array B**	**78.69**	**312**	P	**P**	**00 04 07.4**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=23,slow=5.9,SNR=1.6						
	comp=Z,0.3nm,0.6s						
GERES	**GERESS Array B**	**82.47**	**328**	P	**P**	**00 04 25.7**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=40,slow=6.6,SNR=1.9						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**89.87**	**52**	P	**P**	**00 05 03.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=249,slow=2.1,SNR=5.1						
	comp=Z,0.2nm,0.5s						
H03N2	**Juan Fernandez**	**146.99**	**96**	T	T	02 55 51.7	
	baz=291,slow=76,SNR=11						
H03N3	**Juan Fernandez**	**147.00**	**96**	T	T	02 55 54.6	
	baz=291,slow=76,SNR=16						
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	02 55 55.2	
	baz=291,slow=76,SNR=11						

*IDC **21** 23:55:55.2±1.4, 37.24N×141.44E, h0km, mb3.8/8, mbtmp3.8/10, ML2.9/2, Error ellipse: s-maj=33.6km s-min=22.7km az=85.0*
*JMA **21** 23:55:58.0±0.2, 37.2N±0.3×141.4E±0.9, h26km±1km, MV3.9/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 21 23:55:57.9±1.7, 37.26N±0.04×141.39E±0.06, h17km±10km, n27, σ1.901/26, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.43**	**285**	*i* P	**Pb**	**23 56 07.0**	**-0.2**
JFK				S	**Sb**	**23 56 13.4**	**+0.1**
JMST	**Minamisoumatoc**	**0.62**	**319**	*i* P	**Pb**	**23 56 10.6**	**+0.3**
JMST				S	**Sn**	**23 56 19.9**	**-1.6**
JFFD	**Fukushimafurud**	**0.69**	**256**	*i* P	**Pb**	**23 56 10.7**	**-0.7**
JFFD				S	**Sb**	**23 56 19.7**	**-0.9**
JMM	**Marumori**	**0.77**	**322**	*i* P	**Pn**	**23 56 13.2**	**-0.9**
JMM				S	**Sn**	**23 56 24.4**	**-0.9**
JHO	**Hitachi**	**0.92**	**226**	P	**Pb**	**23 56 13.4**	**-2.1**
JIO	**Ouri**	**1.20**	**358**	P	**Pb**	**23 56 19.7**	**-0.5**
JSB	**Shiboa**	**1.21**	**257**	P	**Pb**	**23 56 20.5**	**0.0**
JSB				S	**Sn**	**23 56 36.1**	**-0.1**
JOU	**Okura**	**1.25**	**333**	P	**Pg**	**23 56 21.8**	**-0.3**
JOU				S	**Sg**	**23 56 39.3**	**+0.9**
MJAR	**Matsushiro Arr**	**2.65**	**255**	Pn	**Pn**	**23 56 40.1**	**+0.2**
	0.6nm,0.3s,baz=70,slow=9.9,SNR=4.0						
MJAR				Sn	**Sb**	**23 57 19.5**	**+2.2**
	1.4nm,0.3s,baz=201,slow=24,SNR=5.7						
	3.3nm,0.3s						
JHJ	**Hachijo jima 2**	**4.33**	**198**	Pn	**Pn**	**23 57 03.6**	**+0.6**
	8.0nm,0.3s,baz=316,slow=3.5,SNR=1.2						
JHJ				Sn	**Sn**	**23 57 54.1**	**+0.9**
	8.1nm,0.3s,baz=245,slow=20,SNR=1.3						
	75nm,0.6s						
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**00 01 46.1**	**+1.2**
	0.5nm,0.6s,baz=101,slow=9.8,SNR=3.0						
	0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	00 31 20.1	
	baz=314,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	00 31 19.7	
	baz=314,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	00 31 21.4	
	baz=314,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	00 32 06.9	
	baz=316,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	00 32 11.1	
	baz=316,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	00 32 08.3	
	baz=316,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**00 03 46.3**	**+0.3**
	1.0nm,0.8s,baz=95,slow=8.7,SNR=2.7						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**00 04 03.0**	**-1.3**
	0.5nm,0.7s,baz=82,slow=12,SNR=2.6						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**45.85**	**308**	P	**P**	**00 04 18.8**	**-0.2**
	1.4nm,0.8s,baz=82,slow=7.8,SNR=10						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**00 05 43.8**	**-1.0**
	0.5nm,0.9s,baz=4.9,slow=7.4,SNR=2.5						
	0.5nm,0.9s						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**00 07 00.4**	**+0.8**
	4.2nm,1.0s,baz=36,slow=5.5,SNR=2.5						
	4.2nm,1.0s						
AKASG	**Malin Array Be**	**74.11**	**322**	P	**P**	**00 07 33.1**	**0.0**
	0.8nm,0.5s,baz=44,slow=5.9,SNR=4.5						
	0.8nm,0.5s						
TXAR	**Lajitas Array**	**90.00**	**52**	P	**P**	**00 08 57.4**	**+0.5**
	0.2nm,0.7s,baz=338,slow=2.1,SNR=3.1						
	0.2nm,0.7s						
H03N2	**Juan Fernandez**	**147.06**	**96**	T	T	02 59 58.9	
	baz=291,slow=76,SNR=4.9						
H03N3	**Juan Fernandez**	**147.07**	**96**	T	T	03 00 02.1	
	baz=291,slow=76,SNR=4.9						
H03N1	**Juan Fernandez**	**147.08**	**96**	T	T	02 59 59.2	
	baz=291,slow=76,SNR=5.9						

*JMA **21** 23:59:00.1±0.2, 37.2N±0.3×141.5E±0.9, h25km±1km, MV3.6/36, E OFF FUKUSHIMA PREF*
*IDC **21** 23:59:01.8±2.8, 36.06N×141.05E, h0km, mb3.5/3, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=69.0km s-min=26.1km az=66.0*

ISC 21 23:58:57.3±2.4, 37.19N±0.06×141.56E±0.10, h14km±13km, n18, σ0.883/15, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**288**	P	**Pb**	**23 59 09.6**	**+0.4**
JFK				*e*S	**Sb**	**23 59 16.5**	**-0.8**
JMST	**Minamisoumatoc**	**0.75**	**315**	P	**Pb**	**23 59 12.8**	**+0.5**
JMST				S	**Sb**	**23 59 22.3**	**-0.1**
JFFD	**Fukushimafurud**	**0.80**	**263**	P	**Pb**	**23 59 13.8**	**+0.7**
JFFD				S	**Sg**	**23 59 23.3**	**-0.2**
JMM	**Marumori**	**0.91**	**318**	P	**Pb**	**23 59 15.4**	**+0.5**
JMM				S	**Sb**	**23 59 26.5**	**-0.3**
JIO	**Ouri**	**1.27**	**353**	S	**Sg**	**23 59 37.8**	**-0.5**
JSB	**Shiboa**	**1.33**	**261**	P	**Pg**	**23 59 22.9**	**0.0**
JSB				S	**Sg**	**23 59 39.7**	**-0.5**
JOU	**Okura**	**1.37**	**329**	S	**Sg**	**23 59 40.9**	**-0.7**
MJAR	**Matsushiro Arr**	**2.76**	**257**	Pn	**Pn**	**23 59 42.7**	**+1.5**
	0.6nm,0.3s,baz=85,slow=16,SNR=4.4						
MJAR				Sn	**Sb**	**00 00 19.0**	**-1.3**
	0.7nm,0.3s,baz=273,slow=9.4,SNR=4.5						
	2.4nm,0.3s						
JHJ	**Hachijo jima 2**	**4.32**	**200**	Pn	Pn	23 59 50.0	-13
	35nm,0.3s,baz=234,slow=24,SNR=7.1						
	128nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	00 34 20.3	
	baz=319						
H11N1	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	00 34 20.4	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	00 34 21.7	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	00 35 15.8	
	baz=315						
H11S3	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	00 35 14.6	
	baz=315						
H11S2	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	00 35 15.4	
	baz=315						
MKAR	**Makanchi Array**	**44.13**	**302**	P	P	00 07 13.6	+8.3
	0.6nm,0.8s,baz=90,slow=10.0,SNR=2.6						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**46.00**	**308**	P	P	00 07 28.9	+8.8
	0.8nm,0.7s,baz=84,slow=7.9,SNR=6.0						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**57.23**	**188**	P	**P**	**00 08 43.3**	**-1.0**
	0.2nm,0.6s,baz=5.1,slow=7.2,SNR=7.0						
	0.2nm,0.6s						

*IDC **22** 00:01:10.1±2.3, 37.98N×141.99E, h0km, mb3.4/4, mbtmp3.3/5, ML2.3/1, Error ellipse: s-maj=46.7km s-min=32.7km az=82.0*
*JMA **22** 00:01:13.4±0.3, 37.3N±0.5×14°1E±°, h28km±2km, MV3.5/27, E OFF FUKUSHIMA PREF*

ISC 22 00:01:13.1±1.4, 37.40N±0.07×141.47E±0.10, h10km, n16, σ1.967/12, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**266**	*e*P	**Pg**	**00 01 23.1**	**+0.7**
JMM	**Marumori**	**0.71**	**311**	*e*P	**Pg**	**00 01 27.5**	**+0.8**
JMM				*e*S	**Sg**	**00 01 36.8**	**+0.8**
JFFD	**Fukushimafurud**	**0.79**	**247**	*e*P	**Pg**	**00 01 27.5**	**-0.8**
JIO	**Ouri**	**1.05**	**355**	*e*P	**Pb**	**00 01 32.7**	**-0.7**
JOU	**Okura**	**1.15**	**327**	*e*P	**Pn**	**00 01 35.4**	**0.0**
MJAR	**Matsushiro Arr**	**2.75**	**253**	Pn	**Pg**	**00 02 04.3**	**-1.4**
	0.3nm,0.3s,baz=76,slow=17,SNR=1.4						
MJAR				Sn	**Sg**	**00 02 42.8**	**+1.4**
	0.4nm,0.3s,baz=46,slow=21,SNR=1.9						
	1.7nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	00 36 37.1	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	00 36 34.2	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	00 36 36.8	
	baz=317						

MVM	**Montagne Vaucl**	**2.67**	**3**	*eP*	Pn	00 02 42.9	+1.5
ZAM	**Aeronautique**	**2.69**	**0**	*eP*	Pn	00 02 43.5	+2.0
LPMF	**Morne Lapointe**	**2.69**	**1**	*eP*	Pn	00 02 43.4	+1.8
FDF	**Fort de France**	**2.85**	**358**	*eP*	Pn	00 02 45.7	+1.8
FDF				*eS*	Sn	00 03 17.5	+0.3
ILAM	**Ilet Lapin Mar**	**2.89**	**3**	*eP*	Pn	00 02 46.1	+1.7
ILAM				*eS*	Sn	00 03 19.1	+0.9
PML	**Morne Lenard**	**2.90**	**357**	*eP*	Pn	00 02 46.0	+1.5
GBMF	**Grand Be**	**2.92**	**357**	*eP*	Pn	00 02 46.2	+1.5
CXM	**Morne La Croix**	**2.93**	**357**	*eP*	Pn	00 02 45.7	+0.7
BAMF	**Morne Balai**	**2.93**	**358**	*eP*	Pn	00 02 46.6	+1.6
PCM	**Pelee Case Pet**	**2.94**	**357**	*eP*	Pn	00 02 46.4	+1.4
DLPL	**La Plaine**	**3.45**	**357**	*eP*	Pn	00 02 54.2	+2.1
DLPL				*eS*	Sn	00 03 33.7	+1.7
DSLB	**Salisbury**	**3.57**	**354**	*eP*	Pn	00 02 55.4	+1.6
DSLB				*eS*	Sn	00 03 34.7	-0.2
MDCT	**Cottage Hill,**	**3.75**	**354**	*eP*	Pn	00 02 58.9	+2.6
MDCT				*eS*	Sn	00 03 40.0	+0.7
TDBA	**Terre de Bas,**	**4.00**	**352**	*eP*	Pn	00 03 01.9	+2.3
TDBA				*eS*	Sn	00 03 46.1	+0.6
TBG	**Guadaloupe-3**	**4.01**	**352**	*eP*	Pn	00 03 02.0	+2.3
TBG				*eS*	Sn	00 03 45.6	0.0
CBE	**Ff, Capester**	**4.21**	**352**	*eP*	Pn	00 03 05.0	+2.3
CBE	**Ff, Capester**	**4.21**	**352**	*eS*	Sn	00 03 52.6	+1.8
ABD	**La Joyeuse, An**	**4.60**	**355**	*eP*	Pn	00 03 10.6	+2.7
ABD	**La Joyeuse, An**	**4.60**	**355**	*eS*	Sn	00 04 01.3	+1.0
MBFL	**Flemmings, Mon**	**4.99**	**347**	*eP*	Pn	00 03 16.0	+2.8
MBFL	**Flemmings, Mon**	**4.99**	**347**	*eS*	Sn	00 04 09.9	+0.1
ANBD	**Bethesda, Anti**	**5.20**	**352**	*eP*	Pn	00 03 18.7	+2.6
ANBD	**Bethesda, Anti**	**5.20**	**352**	*eS*	Sn	00 04 15.0	0.0
ANWB	**Willy Bob**	**5.81**	**353**	*eP*	Pn	00 03 26.8	+2.3
ANWB	**Willy Bob**	**5.81**	**353**	*eS*	Sn	00 04 29.7	-0.5
BAUV	**El Baul**	**7.48**	**248**	*eP*	Pn	00 03 46.7	-0.8
BAUV	**El Baul**	**7.48**	**248**	*eS*	Sn	00 05 07.7	-3.7

ROM 22 00:02:02.0±0.1,**42°836N**×0°002×**13°158E**±0°004,
h8km,**ML1.2**/4,**1D**,**Error ellipse: s-maj=0.3km**
s-min=0.0km az=121.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.03**	**47**	P	Pg	00 02 03.8	+0.1
T1245				S	Sg	00 02 04.8	0.0
T1245				AML	AML		
	comp=E,165μm,0.4s						
T1245				AML	AML		
	comp=N,162μm,0.8s						
T1245				AML	AML		
	comp=E,438μm,1.1s						
T1245				AML	AML		
	comp=N,500μm,1.4s						
T1245				AML	AML		
	comp=N,417μm,1.1s						
T1245				AML	AML		
	comp=E,358μm,1.2s						
T1245				AML	AML		
	comp=N,219μm,0.5s						
T1245				AML	AML		
	comp=N,140μm,0.2s						
T1245				AML	AML		
	comp=E,195μm,0.1s						
NRCA	**Norcia**	**0.03**	**265**	P	Pg	00 02 03.8	+0.2
NRCA				S	Sg	00 02 04.9	+0.1
NRCA				AML	AML		
	comp=E,94μm,0.1s						
NRCA				AML	AML		
	comp=N,200μm,0.2s						
NRCA				AML	AML		
	comp=E,226μm,0.1s						
NRCA				AML	AML		
	comp=N,374μm,0.1s						
NRCA				AML	AML		
	comp=E,81μm,0.2s						
NRCA				AML	AML		
	comp=N,185μm,0.1s						
NRCA				AML	AML		
	comp=E,109μm,0.8s						
NRCA				AML	AML		
	comp=N,266μm,0.2s						
T1216	**Preci, Frazion**	**0.12**	**298**	P	Pg	00 02 05.1	+0.5
T1216				S	Sg	00 02 07.2	+0.8
MMO1	**Montemonaco**	**0.14**	**63**	⇓P	Pg	00 02 05.4	+0.4
MMO1				S	Sg	00 02 07.8	+0.7
T1218	**Civita (PG)**	**0.17**	**191**	P	Pg	00 02 06.1	+0.6
T1218				S	Sg	00 02 09.2	+1.2
T1256	**Bolognola (MC)**	**0.18**	**16**	P	Pg	00 02 06.2	+0.5
T1256				S	Sg	00 02 09.5	+1.2
FDMO	**Fiordimonte**	**0.21**	**345**	P	Pg	00 02 06.5	+0.3
FDMO				AML	AML		
	comp=E,26μm,1.3s						
FDMO				AML	AML		
	comp=N,26μm,1.5s						
FDMO				AML	AML		
	comp=E,52μm,0.2s						
FDMO				AML	AML		
	comp=N,39μm,0.2s						
T1215	**Vallo di Nera,**	**0.22**	**261**	P	Pg	00 02 07.1	+0.7
T1215				S	Sg	00 02 10.5	+1.2
T1215				AML	AML		
	comp=N,114μm,7.9s						
T1215				AML	AML		
	comp=E,84μm,2.9s						
T1219	**Muccia, Frazio**	**0.25**	**333**	P	Pg	00 02 07.1	+0.1
T1219				AML	AML		
	comp=N,67μm,2.6s						
LNSS	**Leonessa**	**0.25**	**200**	P	Pg	00 02 07.7	+0.7
LNSS				S	Sg	00 02 11.9	+1.5
CSP1	**Cessapalombo**	**0.26**	**8**	P	Pb	00 02 08.3	-0.7
CSP1				S	Sg	00 02 12.2	+1.5

ATH **22** *00:02:44.7,41°.28N×19°.78E,h17km±12km,ML2.7/2,Error ellipse: s-maj=13.1km s-min=1.7km az=332.0*
SKO **22** *00:02:45.0,41°.06N×19°.72E,h3km*
BEO **22** *00:02:45.5±0.6,41°.08N×19°.79E,h10km±2km,ML2.4/11*
TIR **22** *00:02:45.7,41°.15N×19°.98E,h2km,Md3.0*
THE **22** *00:02:46.3,41°.14N×19°.89E,h0km±3km,ML2.3/4,Error ellipse: s-maj=3.4km s-min=0.7km az=245.0*
PDG **22** *00:02:46.2±0.5,41°.18N×19°.89E,h11km,ML2.8/12,Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*
ISC 22 00:02:46.4±0.9,**41°13N**±0°02×**19°83E**±0°02,**h13**km±6km,
n78,σ1**°00**/128,**15C-12D**,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.22**	**8**	⇑P	**Pg**	**00 02 50.6**	**-0.5**
TIR				⇓S	**Sg**	**00 02 54.7**	**+0.4**
TIR	**Tirane**	**0.22**	**8**	P	**Pg**	**00 02 50.6**	**-0.5**
TIR				S	**Sg**	**00 02 53.6**	**-0.7**
	1μm,0.2s						
TIR	**Tirane**	**0.22**	**8**	*e*Pg	**Pg**	**00 02 50.5**	**-0.5**
TIR				*e*Sg	**Sg**	**00 02 55.9**	**+1.6**
TIR	**Tirane**	**0.22**	**8**	*i* Pg	**Pg**	**00 02 50.6**	**-0.5**
TIR				*i* Sg	**Sg**	**00 02 55.6**	**+1.3**
TIR	**Tirane**	**0.22**	**8**	P	**Pg**	**00 02 50.7**	**-0.4**
	baz=336						
TIR				S	**Sg**	**00 02 54.8**	**+0.4**
	baz=336						
VLO	**Vlora**	**0.71**	**201**	P	**Pb**	**00 03 00.5**	**-0.1**
VLO	**Vlora**	**0.71**	**201**	P	**Pb**	**00 03 00.8**	**+0.2**
	baz=209						
VLO				S	**Sn**	**00 03 14.9**	**+2.1**
	baz=209						
OHR	**Ohrid**	**0.74**	**91**	*e*Pg	**Pg**	**00 02 59.6**	**-1.1**
OHR				*e*Sg	**Sg**	**00 03 10.3**	**0.0**
OHR	**Ohrid**	**0.74**	**91**	*i* Pg	**Pg**	**00 03 00.0**	**-0.7**
OHR				*i* Sg	**Sb**	**00 03 11.2**	**+0.1**
OHR				*e*Lg	Lg	00 03 12.9	
	comp=N,71nm,0.3s						
OHR				*e*Lg	Lg	00 03 14.7	
	comp=E,140nm,0.9s						
KBN	**Korca**	**0.89**	**125**	P	**Pg**	**00 03 01.9**	**-1.7**
KBN				S	**Sb**	**00 03 15.2**	**-0.3**
	comp=E,180nm,0.4s						
KBN	**Korca**	**0.89**	**125**	P	**Pg**	**00 03 01.9**	**-1.7**
	baz=130						
KBN				S	**Sb**	**00 03 15.3**	**-0.2**
	baz=130						
ULC	**Ulcinj**	**0.94**	**332**	*i* Pg	**Pg**	**00 03 02.4**	**-2.0**
ULC	**Ulcinj**	**0.94**	**332**	⇓*i* Pg	**Pg**	**00 03 02.8**	**-1.7**
ULC				*i* Sg	**Sg**	**00 03 16.7**	**0.0**
LSK	**Leskovik**	**1.15**	**149**	P	**Pb**	**00 03 06.8**	**-1.3**
LSK	**Leskovik**	**1.15**	**149**	P	**Pb**	**00 03 07.4**	**-0.7**
	baz=154						
LSK				S	**Sn**	**00 03 24.9**	**+1.2**
	baz=154						
DRME	**Dracevica, Mon**	**1.16**	**336**	⇑*i* Pg	**Pb**	**00 03 07.0**	**-1.2**
DRME				*i* Sg	**Sg**	**00 03 23.9**	**+0.2**
NEST	**Nestorio**	**1.17**	**127**	P	**Pb**	**00 03 08.1**	**-0.5**
NEST				S	**Sn**	**00 03 24.7**	**+0.2**
	comp=E,135nm,0.5s						
NEST	**Nestorio**	**1.17**	**127**	P	**Pb**	**00 03 07.6**	**-1.0**
NEST				S	**Sn**	**00 03 24.9**	**+0.4**
NEST				AML	AML	00 03 30.5	
	comp=E,396μm,0.4s						
NEST				AML	AML	00 03 31.9	
	comp=N,308μm,0.5s						
FNA	**Florina**	**1.23**	**106**	P	**Pn**	**00 03 08.2**	**-1.0**
FNA				S	**Sg**	**00 03 25.9**	**0.0**
	comp=N,375nm,0.4s						
FNA	**Florina**	**1.23**	**106**	*e*Pg	**Pn**	**00 03 07.9**	**-1.3**
FNA				*e*Sg	**Sb**	**00 03 25.4**	**+0.2**
FNA	**Florina**	**1.23**	**106**	*i* Pg	**Pn**	**00 03 08.0**	**-1.2**
FNA				*i* Sg	**Sn**	**00 03 28.6**	**+2.9**
FNA	**Florina**	**1.23**	**106**	P	**Pn**	**00 03 08.6**	**-0.7**
FNA				S	**Sb**	**00 03 25.4**	**+0.2**
FNA				AML	AML	00 03 30.5	
	comp=N,935μm,0.5s						
FNA				AML	AML	00 03 30.8	
	comp=E,556μm,0.4s						
BCI	**Bajram Curri**	**1.25**	**8**	P	**Pn**	**00 03 08.9**	**-0.6**
	baz=2.0						
BCI				S	**Sn**	**00 03 28.0**	**+1.8**
	baz=2.0						
SRN	**Sarande**	**1.26**	**174**	P	**Pg**	**00 03 10.0**	**-0.6**
SRN	**Sarande**	**1.26**	**174**	P	**Pg**	**00 03 10.8**	**+0.2**
	baz=179						
SRN				S	**Sn**	**00 03 29.2**	**+2.8**
	baz=179						
BUM	**Brajici-Budva**	**1.36**	**329**	⇓*i* Pg	**Pn**	**00 03 11.1**	**0.0**
BUM				*i* Sg	**Sg**	**00 03 31.2**	**+1.0**
PDG	**Podgorica**	**1.36**	**342**	⇑P	**Pn**	**00 03 11.2**	**+0.1**
PDG	**Podgorica**	**1.36**	**342**	*e*Pg	**Pn**	**00 03 10.3**	**-0.8**
PDG				*e*Sg	**Sg**	**00 03 31.1**	**+0.8**
PDG	**Podgorica**	**1.36**	**342**	*i* Pg	**Pn**	**00 03 10.4**	**-0.7**
PDG				*i* Sg	**Sg**	**00 03 31.9**	**+1.6**
TTG	**Podgorica**	**1.36**	**342**	⇑*i* Pg	**Pn**	**00 03 10.7**	**-0.4**
TTG				*i* Sg	**Sg**	**00 03 30.5**	**+0.2**
PENT	**Pentalofos**	**1.37**	**133**	P	**Pn**	**00 03 11.3**	**0.0**
PENT	**Pentalofos**	**1.37**	**133**	P	**Pn**	**00 03 11.1**	**-0.2**
KASA	**Kassiopi**	**1.39**	**176**	P	**Pg**	**00 03 12.1**	**-1.0**
KASA				S	**Sg**	**00 03 32.1**	**+1.0**
KEK	**Kerkira**	**1.42**	**181**	P	**Pg**	**00 03 12.6**	**-1.0**
PVY	**Plav**	**1.46**	**4**	⇑*i* Pg	**Pn**	**00 03 12.0**	**-0.6**
PVY				*i* Sg	**Sb**	**00 03 32.8**	**+0.7**
SKO	**Skopje**	**1.47**	**55**	*e*Pg	**Pn**	**00 03 12.8**	**+0.2**
SKO				*e*Sg	**Sg**	**00 03 33.9**	**+0.1**
SKO	**Skopje**	**1.47**	**55**	*i* Pn	**Pn**	**00 03 13.0**	**+0.3**
SKO				*i* Sn	**Sg**	**00 03 34.1**	**+0.3**
SKO				*e*Lg	Lg	00 03 38.0	
	comp=N,12nm,0.4s						
SKO				*e*Lg	Lg	00 03 38.1	
	comp=E,5.5nm,0.4s						
SCTE	**Santa Cesarea**	**1.48**	**225**	P	**Pn**	**00 03 12.5**	**-0.2**
CEME	**Cevo**	**1.57**	**335**	⇓*i* Pg	**Pb**	**00 03 14.9**	**-0.3**
CEME				*i* Sg	**Sg**	**00 03 37.4**	**+0.6**
IGT	**Igoumenitsa**	**1.65**	**166**	P	**Pb**	**00 03 15.7**	**-0.8**
IGT	**Igoumenitsa**	**1.65**	**166**	*i* Pn	**Pb**	**00 03 15.6**	**-1.0**
IGT				*i* Sn	**Sg**	**00 03 39.8**	**+0.5**
IGT	**Igoumenitsa**	**1.65**	**166**	P	**Pb**	**00 03 16.4**	**-0.2**
HCY	**Herceg Novi**	**1.65**	**323**	⇓*i* Pn	**Pb**	**00 03 16.3**	**-0.3**
HCY				*i* Sn	**Sg**	**00 03 40.2**	**+0.8**
KPRO	**Kipourio**	**1.66**	**135**	P	**Pb**	**00 03 16.6**	**-0.2**
JAN	**Janina**	**1.67**	**152**	P	**Pb**	**00 03 16.8**	**-0.2**
KZN	**Kozani**	**1.69**	**119**	P	**Pn**	**00 03 16.5**	**+0.8**
KOME	**Kolasin**	**1.73**	**352**	⇓*i* Pn	**Pn**	**00 03 16.8**	**+0.6**
KOME				*i* Sn	**Sb**	**00 03 40.9**	**+1.1**
BEY	**Berane**	**1.74**	**2**	*i* Pn	**Pn**	**00 03 17.2**	**+0.9**
IVA	**Berane**	**1.74**	**2**	⇓*i* Pn	**Pn**	**00 03 16.6**	**+0.3**
IVA				*i* Sn	**Sb**	**00 03 40.8**	**+0.8**
NKME	**Niksic**	**1.76**	**339**	*e*Pn	**Pn**	**00 03 17.5**	**+0.9**
NKME				*i* Sn	**Sg**	**00 03 42.1**	**-0.8**
STIP	**Stip**	**1.86**	**72**	*i* Pn	**Pb**	**00 03 20.2**	**0.0**
STIP				*i* Sn	**Sg**	**00 03 48.6**	**+2.4**
STIP				*e*Lg	Lg	00 03 51.5	
	comp=E,7.4nm,0.4s						
STIP				*e*Lg	Lg	00 03 53.6	
	comp=N,7.0nm,0.3s						
TREB	**Trebinje**	**1.93**	**326**	*e*Pn	**Pn**	**00 03 17.9**	**-1.0**
BRY	**Bratogost**	**2.01**	**332**	⇑*i* Pn	**Pn**	**00 03 21.2**	**+1.1**
BRY				*i* Sn	**Sb**	**00 03 48.6**	**+0.8**
VAY	**Valandovo**	**2.08**	**84**	*i* Pn	**Pn**	**00 03 20.9**	**0.0**
VAY				*i* Sn	**Sn**	**00 03 44.1**	**-2.6**
VAY				*e*Lg	Lg	00 03 52.1	
	comp=E,12nm,0.8s						
UPM	**Unac-Piva**	**2.18**	**342**	⇑*i* Pn	**Pn**	**00 03 23.3**	**+0.8**
UPM				*i* Sn	**Sb**	**00 03 52.2**	**-0.5**
PLE	**Pljevlja**	**2.22**	**352**	⇓*i* Pn	**Pn**	**00 03 23.6**	**+0.6**
PLE				*i* Sn	**Sb**	**00 03 52.8**	**-1.0**
BARS	**Barje**	**2.24**	**41**	*e*Pn	**Pn**	**00 03 23.5**	**+0.3**
BARS				*e*Sn	**Sn**	**00 03 51.8**	**+1.1**
SELS	**Selova**	**2.30**	**24**	*e*Pn	**Pn**	**00 03 24.6**	**+0.7**
SELS				*e*Sn	**Sn**	**00 03 52.6**	**+0.5**
KNT	**Kendrikon**	**2.32**	**88**	*i* Pn	**Pn**	**00 03 23.7**	**-0.6**
MATE	**Matera**	**2.41**	**259**	⇑P	**Pb**	**00 03 30.3**	**+0.7**
MATE				⇓S	**Sg**	**00 04 01.2**	**-2.7**
THE	**Thessaloniki**	**2.43**	**101**	*i* Pn	**Pn**	**00 03 26.2**	**+0.4**
THE				*i* Sn	**Sn**	**00 03 57.2**	**+1.8**
IVAS	**Ivanjica**	**2.45**	**6**	*e*Pn	**Pn**	**00 03 26.1**	**0.0**
IVAS				*e*Sn	**Sn**	**00 03 57.7**	**+1.7**
SOH	**Sokhos**	**2.69**	**95**	*i* Pn	**Pn**	**00 03 29.6**	**+0.2**
BBLS	**Lazići**	**2.75**	**354**	*e*Pn	**Pn**	**00 03 30.8**	**+0.6**
BBLS				*e*Sn	**Sn**	**00 04 04.4**	**+1.1**
GRUS	**Gruza**	**2.83**	**13**	*e*Pn	**Pn**	**00 03 31.1**	**-0.2**
SRS	**Serrai**	**2.85**	**89**	*e*Pn	**Pn**	**00 03 31.3**	**-0.2**
SRS	**Serrai**	**2.85**	**89**	*i* Pn	**Pn**	**00 03 31.5**	**0.0**
VTS	**Vitosha**	**2.95**	**59**	⇑P	**Pn**	**00 03 33.7**	**+0.7**
VTS				⇑S	**Sn**	**00 04 10.2**	**+1.9**
DIVS	**Divibare**	**2.97**	**2**	*e*Pn	**Pn**	**00 03 33.5**	**+0.3**
DIVS				*e*Sn	**Sn**	**00 04 08.9**	**+0.2**
ZAPS	**Zavoj**	**2.99**	**43**	*e*Pn	**Pn**	**00 03 34.1**	**+0.6**
ZAPS				*e*Sn	**Sn**	**00 04 09.1**	**-0.1**
ZAGS	**Zajecar**	**3.22**	**33**	*e*Pn	**Pn**	**00 03 36.7**	**+0.2**
HERR	**Herculane**	**4.20**	**26**	⇑P	**Pn**	**00 03 50.8**	**+0.7**
BZS	**Buzias**	**4.67**	**16**	⇓S	**Sn**	**00 04 49.1**	**-1.4**
BZS	**Buzias**	**4.67**	**16**	⇓P	**Pn**	**00 03 56.8**	**+0.3**
GZR	**Gura Zlata**	**4.77**	**26**	⇑P	**Pn**	**00 03 58.8**	**+0.8**
GZR				⇑S	**Sn**	**00 04 52.4**	**-0.8**
SURR	**Surduc**	**4.91**	**19**	⇑S	**Sn**	**00 04 54.8**	**-1.8**
SURR	**Surduc**	**4.91**	**19**	⇑P	**Pn**	**00 04 00.9**	**+1.0**
SIRR	**Siria**	**5.30**	**14**	⇓P	**Pn**	**00 04 05.7**	**+0.4**

IDC **22** *00:02:49.8±0.7,37°.37N×141°.32E,h0km,mb4.0/20, mbtmp4.0/23,ML4.2/2,Error ellipse: s-maj=19.6km s-min=15.9km az=71.0*
JMA **22** *00:02:50.7±0.2,37°.2N±0°.4×141°.4E±0°.9,h26km±1km, MV3.7/27,E OFF FUKUSHIMA PREF*
NEIC **22** *00:02:51.6±1.3,37°.29N±0°.04×141°.30E±0°.08,h10km±1km, mb4.2/15,Error ellipse: s-maj=11.8km s-min=4.6km az=56.0*
ISC 22 00:02:50.9±0.6,**37°23N**±0°05×**141°38E**±0°06,**h10**km,**n55**,
σ1**°06**/59,**mb4.0**/27,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.42**	**289**	*e*P	**Pg**	**00 03 00.3**	**+1.1**
JFK				*e*S	**Sg**	**00 03 06.8**	**+2.0**
JMT	**Minamisoumatoc**	**0.63**	**322**	P	**Pg**	**00 03 04.2**	**+1.1**
JMST				S	**Sg**	**00 03 14.1**	**+2.7**
JFFD	**Fukushimafurud**	**0.67**	**258**	*e*P	**Pg**	**00 03 03.8**	**0.0**
JFFD				*e*S	**Sg**	**00 03 12.7**	**+0.2**
JMM	**Marumori**	**0.79**	**324**		**Pg**	**00 03 05.2**	**-0.9**
JMM	**Marumori**	**0.79**	**324**	*e*P	**Pg**	**00 03 06.7**	**+0.6**
JMM				*e*S	**Sg**	**00 03 18.6**	**+2.1**
JSD	**Sado**	**2.60**	**289**	Pn	**Pn**	**00 03 31.8**	**-1.2**
MJAR	**Matsushiro Arr**	**2.63**	**256**	Pn	**Pn**	**00 03 33.7**	**+0.2**
	14nm,0.4s,baz=82,slow=15,SNR=8.2						
MAJO	**Matsushiro**	**2.63**	**256**	Pn	**Pn**	**00 03 33.1**	**-0.3**
MJB9	**Matsu-Tunnel**	**2.63**	**256**	Pn	**Pn**	**00 03 33.7**	**+0.3**
JTM	**Tenmabayashi**	**3.56**	**356**	Pn	**Pn**	**00 03 46.4**	**+0.2**
JGF	**Kuroka**	**3.63**	**245**	Pn	**Pn**	**00 03 47.0**	**-0.1**
JHJ	**Hachijo jima 2**	**4.30**	**198**	Pn	**Pn**	**00 03 59.6**	**+3.3**

	19nm,0.3s,baz=40,slow=7.9,SNR=1.8						
	58nm,0.3s						
JKA	**Kamikawa-asahi**	**6.94**	**7**	Pn	**Pn**	**00 04 32.3**	**-0.3**
JHS	**Saijyo**	**7.05**	**254**	Pn	**Pn**	**00 04 35.5**	**+1.4**
USRK	**Ussuriysk Ar.**	**9.96**	**317**	Pn	**Pn**	**00 05 13.2**	**-0.7**
JCJ	**Chichijima**	**10.12**	**176**	Pn	**Pn**	**00 05 17.3**	**+1.0**
	3.9nm,0.3s,baz=301,slow=23,SNR=1.4						
	30nm,0.5s						
ULN	**Ulaanbaatar**	**27.22**	**304**		**P**	**00 08 34.5**	**-0.5**
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**00 08 38.1**	**-0.7**
	1.5nm,0.7s,baz=106,slow=8.8,SNR=12						
	1.5nm,0.7s						
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**00 08 38.3**	**-0.5**
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**00 10 39.4**	**-0.7**
	2.5nm,0.7s,baz=86,slow=6.1,SNR=12						
	2.5nm,0.7s						
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**00 10 58.0**	**-0.3**
	1.7nm,0.8s,baz=75,slow=11,SNR=9.9						
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**00 10 58.5**	**+0.2**
MAKZ	**Makanchi**	**44.20**	**302**		**P**	**00 10 60.0**	**0.0**
MAKZ					IAmb	IAmb	00 11 00.1
	comp=Z,4.1nm,0.9s						
KURK	**Kurchatov**	**45.79**	**308**	P	**P**	**00 11 11.4**	**-1.1**
KURBB	**Kurchatov Arra**	**45.86**	**308**	P	**P**	**00 11 12.9**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=84,slow=8.4,SNR=22						
	comp=Z,3.6nm,0.7s						
TARG	**Taragay, Kyrgy**	**48.29**	**296**	P	**P**	**00 11 32.9**	**+0.2**
TARG					IAmb	IAmb	00 11 44.1
	comp=Z,2.3nm,1.0s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**00 11 40.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=264,slow=5.7,SNR=2.9						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**50.42**	**312**	P	**P**	**00 11 47.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=64,slow=7.2,SNR=3.7						
	comp=Z,0.5nm,0.5s						
KKAR	**Karatay Array**	**53.00**	**300**	P	**P**	**00 12 07.8**	**+0.1**
INK	**Inuvik**	**54.23**	**27**	P	**P**	**00 12 17.6**	**+1.3**
INK					IAmb	IAmb	00 12 22.4
	comp=Z,1.5nm,0.8s						
CHGR	**Chuyangaron**	**55.56**	**295**	P	**P**	**00 12 25.9**	**-0.6**
ARU	**Arti**	**56.20**	**318**	P	**P**	**00 12 30.2**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=56,slow=7.6,SNR=5.4						
	comp=Z,0.9nm,0.3s						
WB0	**Warramunga Arr**	**57.07**	**188**	P	**P**	**00 12 36.9**	**-0.3**
WB0					IAmb	IAmb	00 12 43.2
	comp=Z,4.8nm,1.1s						
WRAB	**Tennant Creek**	**57.24**	**188**	P	**P**	**00 12 39.3**	**+0.9**
WRAB					IAmb	IAmb	00 12 45.2
	comp=Z,2.5nm,0.9s						
WR0	**Warramunga Arr**	**57.24**	**188**	P	**P**	**00 12 40.4**	**+1.9**
WR0					IAmb	IAmb	00 12 48.2
	comp=Z,1.8nm,1.1s						
WB2	**Warramunga Arr**	**57.25**	**188**	P	**P**	**00 12 39.9**	**+1.4**
WB2					IAmb	IAmb	00 12 51.0
	comp=Z,2.9nm,1.0s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**00 12 39.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=5.2,slow=7.4,SNR=13						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**00 12 39.4**	**+0.9**
ABKAR	**Akbulak array**	**57.79**	**310**	P	**P**	**00 12 41.5**	**-0.7**
KIRV	**Kirov**	**60.08**	**323**	P	**P**	**00 12 58.0**	**+0.2**
	comp=Z,8.4nm,0.6s,baz=52,slow=12,SNR=5.8						
	comp=Z,8.4nm,0.6s						
ASAR	**Alice Springs**	**60.98**	**188**	P	**P**	**00 13 05.6**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=7.8,slow=7.5,SNR=3.7						
	comp=Z,0.6nm,0.8s						
GEYT	**Alibeck**	**63.72**	**299**	P	**P**	**00 13 22.6**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=44,slow=4.6,SNR=2.7						
	comp=Z,1.0nm,0.5s						
GEYT	**Alibeck**	**63.72**	**299**	P	**P**	**00 13 21.9**	**-0.9**
GEYT					IAmb	IAmb	00 13 23.0
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**63.81**	**339**	P	**P**	**00 13 22.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=52,slow=7.9,SNR=4.0						
	comp=Z,2.3nm,0.8s						
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**00 13 53.5**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=70,slow=8.3,SNR=8.2						
	comp=Z,4.2nm,0.8s						
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**00 13 53.3**	**-0.5**
FORT	**Forrest**	**68.79**	**192**	P	**P**	**00 13 54.3**	**-0.7**
NOA	**NORSAR Array B**	**74.00**	**337**	P	**P**	**00 14 25.5**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=39,slow=5.8,SNR=4.7						
	comp=Z,1.7nm,0.9s		

comp=E,33nm,2.3s,comp=E,23nm,1.5s
JFY Yanaizu 1.36 270 A A 00 03 35.0
comp=E,13nm,2.0s,comp=E,16nm,4.7s
JKMT Kesennumamotoy 1.40 2 A A 00 03 34.4
comp=E,18nm,5.9s,comp=E,7.0nm,3.1s
JYT Yasato 1.53 220 A A 00 03 36.5
comp=E,13nm,3.9s,comp=E,13nm,1.1s
JMK Ichinoseki 1.54 354 A A 00 03 36.9
comp=E,27nm,2.4s,comp=E,7.0nm,1.9s
JIHU Itakohorinouch 1.61 207 A A 00 03 37.1
comp=E,119nm,1.5s,comp=E,86nm,2.9s
OFUJ Ofunato 1.68 7 A A 00 03 38.5
comp=E,14nm,2.6s,comp=E,7.0nm,3.7s
JNS Sasagawa 1.71 284 A A 00 03 40.2
comp=E,9.0nm,8.8s,comp=E,8.0nm,3.4s
JYK Kaneyama 1.72 331 A A 00 03 39.9
comp=E,22nm,1.0s,comp=E,20nm,1.1s
CHOJ Chosi 1.76 195 A A 00 03 39.1
comp=E,22nm,2.1s,comp=E,16nm,2.4s
JYA Atsumi 1.79 312 A A 00 03 41.1
comp=E,24nm,1.7s,comp=E,17nm,1.1s
JAG Ashikaga 1.85 238 A A 00 03 41.6
comp=E,7.0nm,3.0s,comp=E,10.0nm,2.6s
JSMT Sammumatsuo 1.93 204 A A 00 03 41.8
comp=E,37nm,4.2s,comp=E,46nm,2.0s
JYYZ Yamagatayuza 1.98 324 A A 00 03 43.8
comp=E,43nm,2.1s,comp=E,50nm,2.9s
JAW Awa shima 2.00 302 A A 00 03 44.5
comp=E,11nm,5.5s,comp=E,6.0nm,2.3s
JOM Ohasama 2.06 357 A A 00 03 44.3
comp=E,10.0nm,2.6s,comp=E,6.0nm,3.8s
JRG Rokugo 2.07 343 A A 00 03 44.8
comp=E,19nm,3.4s,comp=E,13nm,2.9s
JIZZ Izumozaki 2.15 274 A A 00 03 46.6
comp=E,27nm,2.5s,comp=E,30nm,2.8s
TOK Tokyo 2.18 218 A A 00 03 45.8
comp=E,22nm,3.9s,comp=E,28nm,4.5s
JCN Nagara 2.22 207 A A 00 03 46.0
comp=E,41nm,2.6s,comp=E,38nm,3.4s
JTB Tobi-shima 2.30 321 A A 00 03 48.6
comp=E,13nm,2.7s,comp=E,10.0nm,1.9s
JHU Hanno 2.32 228 A A 00 03 48.0
comp=E,6.0nm,4.5s,comp=E,8.0nm,3.5s
JYW Yuwa 2.33 336 A A 00 03 48.6
comp=E,26nm,1.5s,comp=E,31nm,1.4s
JSZI Iwateshizukuis 2.35 351 A A 00 03 48.6
comp=E,23nm,5.0s,comp=E,22nm,4.9s
JGK Kuni 2.38 250 A A 00 03 49.4
comp=E,9.0nm,2.3s,comp=E,12nm,2.8s
JKUC kamogawauchiur 2.45 204 A A 00 03 49.3
comp=E,9.0nm,5.0s,comp=E,11nm,2.4s
JSD Sado 2.58 285 Pn **Pn** **00 03 52.2 +1.9**
JSD Sn **Sb** **00 04 26.4 -0.1**
JYO Yokosk 2.60 213 A A 00 03 51.6
comp=E,12nm,6.9s,comp=E,11nm,4.2s
JJN Nakama 2.61 264 A A 00 03 53.0
comp=E,9.0nm,2.4s,comp=E,8.0nm,2.8s
TATJ Tateyama 2 2.68 208 A A 00 03 52.6
comp=E,16nm,4.0s,comp=E,14nm,2.3s
MJAR Matsushiro Arr 2.71 252 Pn **Pn** **00 03 51.7 -0.4**
6.1nm,0.3s,baz=86,slow=15,SNR=7.0
24nm,0.5s
MAJO Matsushiro 2.71 252 Pn **Pn** **00 03 54.2 +2.1**
MAJO Matsushiro 2.71 252 P **Pn** **00 03 54.2 +2.1**
MJB9 Matsu-Tunnel 2.71 252 Pn **Pn** **00 03 53.7 +1.5**
JKEN Kujiedanarisaw 2.80 5 A A 00 03 54.6
comp=E,16nm,2.7s,comp=E,11nm,1.8s
JAH Hinai 2.84 348 A A 00 03 55.6
comp=E,10.0nm,2.6s,comp=E,6.0nm,1.7s
JNG Nsakai 2.84 250 A A 00 03 56.0
comp=E,4.0nm,3.2s,comp=E,5.0nm,3.3s
JOD2 Odawara 2 2.85 222 A A 00 03 55.5
comp=E,8.0nm,2.8s,comp=E,6.0nm,4.6s
JANG Nango 2.96 2 A A 00 03 57.0
comp=E,11nm,3.3s,comp=E,6.0nm,3.4s
JNTW Noshirotokiwa 3.02 341 A A 00 03 58.3
comp=E,38nm,5.3s,comp=E,32nm,2.3s
JOG3 Oga3 3.10 325 A A 00 03 55.4
comp=E,14nm,2.8s,comp=E,15nm,2.6s
JSZ Suzu 3.22 272 A A 00 04 01.8
comp=E,3.0nm,4.5s,comp=E,5.0nm,8.4s
JTM Tenmabayashi 3.38 356 Pn **Pn** **00 04 01.1 -0.2**
JGF Kuroka 3.73 242 Pn **Pn** **00 04 08.1 +1.9**
JAHD Aomorihigashid 3.85 359 A A 00 04 09.6
comp=E,14nm,1.6s,comp=E,9.0nm,2.2s
JAO Obara 3.98 239 A A 00 04 11.9
comp=E,4.0nm,3.6s,comp=E,4.0nm,3.1s
INU Inuyama 4.10 241 Pn **Pn** **00 04 12.8 +1.6**
JHJ2 Mitsune 4.49 197 Pn **Pn** **00 04 17.3 +0.8**
JHJ Hachijo jima 2 4.49 198 Pn **Pn** **00 04 16.6 +0.1**
53nm,0.3s,baz=75,slow=20,SNR=9.2
JHJ Sn **Sn** **00 05 04.9 -3.5**
37nm,0.3s,baz=249,slow=23,SNR=1.3
95nm,0.3s
ERM Erimo 4.79 16 Pn **Pn** **00 04 18.2 -2.4**
ERM Erimo 4.79 16 *i* P **Pn** **00 04 22.9 +2.3**
ASAJ Asahikawa 6.76 7 P **Pn** **00 04 48.1 +0.4**
JKA Kamikawa-asahi 6.76 7 Pn **Pn** **00 04 48.1 +0.5**
JHS Saijyo 7.13 253 Pn **Pn** **00 04 55.6 +2.8**
JMN Monobe 7.15 241 Pn **Pn** **00 04 56.7 +3.4**
YSS Yuzh-Sakhalins 9.59 6 *i* P **Pn** **00 05 29.0 +2.5**
USRK Ussuriysk Ar. 9.85 316 Pn **Pn** **00 05 26.3 -3.7**
0.5nm,0.3s,baz=146,slow=14,SNR=2.8
USRK Ussuriysk Ar. 9.85 316 Pn **Pn** **00 05 29.4 -0.6**
USRK Ussuriysk Ar. 9.85 316 P **Pn** **00 05 29.4 -0.6**
JCJ Chichijima 10.31 176 Pn **Pn** **00 05 34.2 -2.2**
4.4nm,0.3s,baz=336,slow=20,SNR=1.7
JCJ Sn Sn 00 07 17.5 -14
4.3nm,0.3s,baz=328,slow=21,SNR=1.4
40nm,0.5s
KSRS Korea Array 10.73 274 Pn **Pn** **00 05 40.0 -2.2**
0.3nm,0.3s,baz=89,slow=14,SNR=5.4
3.1nm,0.7s
KSRS Korea Array 10.73 274 P **Pn** **00 05 40.0 -2.2**
CN2 Changchun 13.70 303 *e*P **Pn** **00 06 18.8 -3.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 13.73 332 Pn **Pn** **00 06 19.0 -4.1**
0.1nm,0.3s,baz=138,slow=17,SNR=1.8
KLR LR LR 00 12 01.5
comp=Z,3μm,21.9s,baz=52,slow=39
KLR Kul'dur 13.73 332 P **Pn** **00 06 23.3 +0.2**
HEH HeiHe 16.30 326 *e*P **Pn** **00 06 55.4 -1.9**
NJ2 Nanjing 19.28 261 *e*P Pn 00 07 43.1 +8.8
NJ2 pmax pmax
comp=Z,13nm,0.6s
LYN LuoYang 23.56 272 *e*P P 00 08 26.3 +7.4
LYN sP sP 00 08 32.8 +7.4
LYN pmax pmax
comp=Z,10.0nm,0.6s
YAK Yakutsk 25.70 347 P **P** **00 08 39.1 +0.8**
comp=Z,7.3nm,0.4s,baz=133,slow=6.3,SNR=4.1
comp=Z,7.3nm,0.4s
YAK Yakutsk 25.70 347 *e*P **P** **00 08 38.2 -0.1**
YAK *e**PP **sP** **00 08 44.5 -0.4**
YAK *e*S **S** **00 13 04.4 -1.8**
YAK *e*SSS SSS 00 14 10.0
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax smax
comp=E,189nm,3.0s
YAK smax smax
comp=N,133nm,3.2s
YAK MLR MLR
comp=Z,2μm,19.0s
YAK MLR MLR
comp=N,1μm,19.0s
YAK MLR MLR
comp=E,743nm,20.0s
SEY Seymchan 26.42 11 P **P** **00 08 45.5 +0.6**
comp=E,9.4nm,1.0s,baz=172,slow=19,SNR=3.8
comp=E,9.4nm,1.0s
SEY Seymchan 26.42 11 *ce*P **P** **00 08 46.2 +1.4**
SEY pmax pmax
comp=Z,53nm,2.5s
XAN Xi'an 26.52 273 ⇑P **P** **00 08 46.1 0.0**
XAN pP sP 00 08 54.8 +2.1
ULN Ulaanbaatar 27.14 304 P **P** **00 08 53.4 +1.7**
ULN Ulaanbaatar 27.14 304 *e*P **P** **00 08 51.6 -0.1**
ULN pmax pmax
comp=Z,8.0nm,1.2s
SONM Songino Array 27.58 303 P **P** **00 08 55.8 +0.2**
comp=Z,5.9nm,1.1s,baz=107,slow=7.2,SNR=13
comp=Z,5.9nm,1.1s
SONM Songino Array 27.58 303 P **P** **00 08 54.7 -0.8**
H11N2 WAKE ISLAND Hy 28.34 121 T T 00 38 27.4
baz=314,slow=75,SNR=90
H11N1 WAKE ISLAND Hy 28.35 121 T T 00 38 25.8
baz=314,slow=75,SNR=73
H11N3 WAKE ISLAND Hy 28.36 121 T T 00 38 27.5
baz=314,slow=75,SNR=77
H11S1 WAKE ISLAND Hy 29.07 123 T T 00 39 20.8
baz=316,slow=76,SNR=51
H11S3 WAKE ISLAND Hy 29.07 123 T T 00 39 21.8
baz=316,slow=76,SNR=59
H11S2 WAKE ISLAND Hy 29.08 123 T T 00 39 21.0
baz=316,slow=76,SNR=43
BILL Bilibino 33.66 17 *e*P **P** **00 09 50.9 +2.0**
BILL *e**PP **pP** **00 09 53.7 +0.1**
BILL *i* 00 11 02.1
BILL pmax pmax
comp=Z,28nm,2.8s
TIXI Tiksi 34.91 353 P **P** **00 09 59.3 -0.3**
comp=Z,1.2nm,0.5s,baz=360,slow=0.7,SNR=4.2
comp=Z,1.2nm,0.5s
TIXI Tiksi 34.91 353 *ce*P **P** **00 09 58.2 -1.5**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
PZH PanZhiHua 35.14 264 P **P** **00 10 02.3 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
MYLDM Lahad Datu 38.30 219 P **P** **00 10 30.1 +0.9**
TNCH TengChong 38.40 264 P **P** **00 10 32.5 +2.4**
TNCH pP sP 00 10 37.3 +0.5
TNCH pmax pmax
comp=Z,32nm,0.5s
UBPT Khong Chiam 38.69 245 P **P** **00 10 32.8 +0.4**
UBPT IAmb IAmb 00 10 50.0
comp=Z,20nm,1.1s
DGZ Jazzator, Alta 40.17 305 *i* P **P** **00 10 45.0 +0.3**
DGZ pmax pmax
comp=Z,16nm,0.8s
FAKI Fak Fak 41.02 194 P **P** **00 10 52.5 +0.8**
CHTO Chiang Mai 41.39 255 P **P** **00 10 55.5 +0.7**
CHTO Chiang Mai 41.39 255 P **P** **00 10 55.5 +0.7**
CMAR Chiang Mai Arr 41.59 255 P **P** **00 10 56.7 +0.2**
comp=Z,0.9nm,0.3s,baz=60,slow=7.4,SNR=1.8
CMAR PcP **PcP** **00 12 53.7 +0.1**
comp=Z,0.6nm,0.3s,baz=57,slow=3.3,SNR=1.3
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 41.59 255 P **P** **00 10 58.8 +2.3**
ZAA0 Zalesovo Array 41.66 312 P **P** **00 10 57.0 +0.3**
ZALV Zalesovo Beam 41.66 312 P **P** **00 10 56.6 0.0**
comp=Z,4.9nm,0.8s,baz=90,slow=5.8,SNR=14
ZALV PcP **PcP** **00 12 53.5 +0.3**
comp=Z,0.7nm,0.5s,baz=104,slow=1.6,SNR=1.3
comp=Z,4.9nm,0.8s
ZALV Zalesovo Beam 41.66 312 **P** **00 10 57.0 +0.3**
ZALV Zalesovo Beam 41.66 312 P **P** **00 10 57.0 +0.3**
LSA Lhasa 42.18 275 P **P** **00 11 02.7 +0.9**
LSA Lhasa 42.18 275 P **P** **00 11 02.7 +0.9**
LSA pmax pmax
comp=Z,8.0nm,1.1s
NRIK Noril'sk 42.92 335 P **P** **00 11 06.2 -0.6**
comp=Z,1.9nm,0.6s,baz=117,slow=4.5,SNR=1.5
comp=Z,1.9nm,0.6s
MK31 Makanchi Array 43.92 302 P **P** **00 11 16.1 +1.0**
MK31 Makanchi Array 43.92 302 *i* P **P** **00 11 15.4 +0.3**
MKAR Makanchi Array 43.92 302 P **P** **00 11 15.4 +0.3**
comp=Z,5.0nm,0.7s,baz=86,slow=8.6,SNR=22
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 43.92 302 P **P** **00 11 15.8 +0.7**
MKAR Makanchi Array 43.92 302 P **P** **00 11 15.8 +0.7**
MAKZ Makanchi 44.13 302 P **P** **00 11 17.7 +0.9**
MAKZ Makanchi 44.13 302 P **P** **00 11 17.7 +0.9**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 45.70 308 P **P** **00 11 30.2 +1.0**
KURK Kurchatov 45.70 308 *i* P **P** **00 11 28.8 -0.4**
KURK pmax pmax
comp=Z,23nm,1.0s
KURBB Kurchatov Arra 45.77 308 P **P** **00 11 30.1 +0.3**
comp=Z,14nm,1.0s,baz=81,slow=7.6,SNR=9.9
comp=Z,14nm,1.0s
ILAR Eielson Array 49.18 33 P **P** **00 11 56.5 +0.4**
comp=Z,1.4nm,0.8s,baz=264,slow=5.9,SNR=3.9
comp=Z,1.4nm,0.8s
KSH Kashi 50.25 294 P **P** **00 12 08.8 +4.0**
KSH sP sP 00 12 15.1 +3.6
BVAR Borovoye Array 50.32 312 P **P** **00 12 04.4 -0.6**
comp=Z,1.5nm,0.6s,baz=73,slow=8.6,SNR=5.1
BVAR PcP **PcP** **00 13 23.8 +0.2**
comp=Z,1.3nm,0.6s,baz=59,slow=3.7,SNR=2.2
comp=Z,1.5nm,0.6s
BRVK Borovoye 50.37 312 *ce*P **P** **00 12 04.4 -0.9**
BRVK pmax pmax
comp=Z,12nm,2.5s
KK31 Karatay Array 52.94 300 P **P** **00 12 25.3 +0.6**
KK31 Karatay Array 52.94 300 P **P** **00 12 25.3 +0.6**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 52.94 300 P **P** **00 12 24.7 0.0**
KKAR Karatay Array 52.94 300 P **P** **00 12 24.7 0.0**
GSI Gunungsitoli 53.99 239 P **P** **00 12 33.0 +0.3**
INK Inuvik 54.05 27 P **P** **00 12 33.0 +0.6**
comp=Z,1.6nm,0.7s,baz=289,slow=5.3,SNR=3.0
comp=Z,1.6nm,0.7s
INK Inuvik 54.05 27 P **P** **00 12 33.3 +0.9**
INK IAmb IAmb 00 12 39.8
comp=Z,6.4nm,0.8s
INK Inuvik 54.05 27 P **P** **00 12 33.3 +0.9**
INK pmax pmax
comp=Z,6.0nm,0.9s
KNRA Kununurra 54.13 195 P **P** **00 12 34.1 +0.6**
SVE Sverdlovsk 54.87 318 *e*P **P** **00 12 39.2 +0.7**
SVE pmax pmax
comp=Z,19nm,1.1s
CHGR Chuyangaron 55.50 295 P **P** **00 12 44.3 +0.8**
CHGR Chuyangaron 55.50 295 P **P** **00 12 44.3 +0.8**
CHGR pmax pmax
comp=Z,27nm,0.8s
ARU Arti 56.08 318 P **P** **00 12 48.0 +0.7**
comp=Z,4.2nm,0.4s,baz=73,slow=6.1,SNR=12
comp=Z,4.2nm,0.4s
ARU Arti 56.08 318 P **P** **00 12 48.0 +0.7**
ARU Arti 56.08 318 *d* iP **P** **00 12 47.9 +0.7**
ARU 00 13 43.7
ARU 00 14 49.5
ARU PPP PPP 00 16 08.3
ARU S **S** **00 20 35.6 +0.4**
ARU SSS SSS 00 26 33.5
ARU pmax pmax
comp=Z,26nm,1.3s
C36M Paulatuk 57.09 25 P **P** **00 12 53.4 -0.8**
C36M IAmb IAmb 00 13 00.9
comp=Z,12nm,1.1s
WB0 Warramunga Arr 57.26 188 P **P** **00 12 55.0 -0.9**
WRAB Tennant Creek 57.42 188 P **P** **00 12 56.4 -0.8**
WRAB IAmb IAmb 00 13 02.9
comp=Z,15nm,1.1s
WRAB Tennant Creek 57.42 188 *ce*P **P** **00 12 57.5 +0.4**
WRAB pmax pmax
comp=Z,22nm,2.5s
WR0 Warramunga Arr 57.43 188 P **P** **00 12 56.4 -0.8**
WB2 Warramunga Arr 57.43 188 P **P** **00 12 56.8 -0.4**
WB2 IAmb IAmb 00 13 02.9
comp=Z,14nm,1.0s
WRA Warramunga Arr 57.43 188 P **P** **00 12 55.7 -1.5**
comp=Z,3.7nm,0.8s,baz=3.7,slow=1.7,SNR=15
comp=Z,3.7nm,0.8s
WRA Warramunga Arr 57.43 188 P **P** **00 12 56.8 -0.4**
WRA Warramunga Arr 57.43 188 P **P** **00 12 56.8 -0.4**
WRA pmax pmax
comp=Z,1.0nm,1.1s
ABKAR Akbulak array 57.70 310 P **P** **00 12 59.3 +0.5**
EUNU Eureka 59.81 9 P **P** **00 13 13.3 +0.1**
EUNU IAmb IAmb 00 13 20.4
comp=Z,5.3nm,0.8s
KIRV Kirov 59.95 323 P **P** **00 13 14.3 +0.1**
comp=Z,16nm,0.8s,baz=108,slow=6.4,SNR=8.7
comp=Z,16nm,0.8s
KIRV Kirov 59.95 323 *ce*P **P** **00 13 14.0 -0.3**
PRGR Permogore 60.45 327 *e*P **P** **00 13 16.9 -0.8**
PRGR pmax pmax
comp=Z,12nm,0.9s
AS31 Alice Springs 61.16 188 P **P** **00 13 21.9 -1.0**
ASAR Alice Springs 61.16 188 P **P** **00 13 22.9 -0.1**
comp=Z,2.3nm,0.8s,baz=13,slow=5.6,SNR=16
comp=Z,2.3nm,0.8s
ASAR Alice Springs 61.16 188 P **P** **00 13 21.7 -1.3**
RES Resolute Bay 62.23 14 P **P** **00 13 29.7 +0.1**
comp=Z,1.6nm,0.6s,baz=322,slow=7.0,SNR=6.9
comp=Z,1.6nm,0.6s
RES Resolute Bay 62.23 14 P **P** **00 13 28.9 -0.6**
RES IAmb IAmb 00 13 36.2
comp=Z,7.4nm,0.8s
HRA Herat 62.37 294 P **P** **00 13 32.2 +0.8**
HRA IAmb IAmb 00 13 33.7
comp=Z,7.0nm,1.3s
KLMR Klimovskoe 63.44 328 *e*P **P** **00 13 36.2 -1.6**
KLMR AMP 00 13 44.8
comp=Z,19nm,1.1s
KLMR Klimovskoe 63.44 328 *e*P **P** **00 13 36.2 -1.6**
KLMR pmax pmax
comp=Z,19nm,1.1s
YKA Yellowknife Ar 63.48 30 P **P** **00 13 38.7 +0.6**
comp=Z,1.0nm,0.8s,baz=307,slow=7.5,SNR=2.4
comp=Z,1.0nm,0.8s
BELG Belogornoye 63.52 317 P **P** **00 13 38.9 +0.4**
comp=Z,13nm,0.8s,baz=86,slow=5.9,SNR=4.9
comp=Z,13nm,0.8s
BELG Belogornoye 63.52 317 *i* P **P** **00 13 37.1 -1.4**
BELG pmax pmax
comp=Z,5.0nm,1.1s
ARCES ARCESS Array B 63.64 339 P **P** **00 13 40.1 +1.0**
comp=Z,3.1nm,0.9s,baz=54,slow=6.2,SNR=5.2
comp=Z,3.1nm,0.9s
GEYT Alibeck 63.65 299 P **P** **00 13 40.2 +0.5**
comp=Z,7.0nm,1.0s,baz=31,slow=3.4,SNR=11
comp=Z,7.0nm,1.0s
GYA0B ALIBECK ARRAY 63.65 299 P **P** **00 13 39.7 0.0**
GYA0B IAmb IAmb 00 13 41.7
comp=Z,6.9nm,0.8s
MOS Moscow 66.95 323 *e*P **P** **00 14 00.5 -0.1**
VRH Novokhopyorsk 67.30 318 *e*P **P** **00 14 02.4 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 67.79 323 *e*P **P** **00 14 04.5 -1.5**
OBN *i* 00 14 12.9
OBN pmax pmax
comp=Z,25nm,0.9s
LPSR Galich'ya Gora 68.01 320 *e*P **P** **00 14 06.9 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
VORR Voronezh 68.38 319 *e*P **P** **00 14 10.7 +1.0**
VORR pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 68.48 332 P **P** **00 14 11.0 +0.8**
comp=Z,4.3nm,0.7s,baz=44,slow=8.6,SNR=12
comp=Z,4.3nm,0.7s
FINES FINESS Array B 68.48 332 P **P** **00 14 11.0 +0.8**
VSR Storozhevoye 68.65 319 *e*P **P** **00 14 10.8 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
STKA Stephens Creek 68.93 180 P **P** **00 14 12.7 -0.6**
comp=Z,2.2nm,0.7s,baz=334,slow=9.7,SNR=3.4
comp=Z,2.2nm,0.7s
FORT Forrest 68.98 192 P **P** **00 14 13.6 0.0**
ZEI Tsey 70.56 309 *e*P **P** **00 14 23.1 -0.6**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 70.66 311 P **P** **00 14 24.6 +0.7**
comp=Z,5.9nm,1.1s,baz=38,slow=18,SNR=4.6
comp=Z,5.9nm,1.1s
KBZ Khabaz 70.66 311 *i* P **P** **00 14 23.1 -0.9**
KBZ pmax pmax
comp=Z,16nm,1.2s
KIV Kislovodsk 70.66 311 *e*P **P** **00 14 23.2 -0.9**
KIV pmax pmax
comp=Z,21nm,1.1s
BMO Blue Mountains 71.67 47 P **P** **00 14 29.2 -1.1**
BMO IAmb IAmb 00 14 37.8
comp=Z,6.5nm,1.0s
BMO Blue Mountains 71.67 47 P **P** **00 14 29.2 -1.1**
BMO pmax pmax
comp=Z,7.0nm,1.0s
MNK Minsk 72.18 326 *i* P **P** **00 14 33.6 +0.6**
comp=E,2.0nm,0.8s
MNK *i* P **P** **00 14 33.6 +0.6**
comp=N,34nm,0.9s
MNK *i* P **P** **00 14 33.6 +0.6**
comp=Z,16nm,0.9s,baz=230
MNK *i* PcP **PcP** **00 14 52.9 +1.7**
MNK *i* PP **PP** **00 17 11.8 -1.0**
MNK *i* PPP PPP 00 18 55.1
MNK *i* S **S** **00 23 52.7 -2.0**
MNK *i* ScS **ScS** **00 24 38.4 -0.2**
MNK *i* SS **SS** **00 28 28.3 -3.0**
MNK *i* SSS SSS 00 31 47.6
MNK *i* LQ LQ 00 41 55.9
MNK *i* LR LR 00 46 02.5
MNK *i* LRM MLR 00 48 28.4
comp=Z,495nm,17.9s
MNK *i* LRM MLR 00 48 28.8
comp=E,124nm,20.4s
MNK *i* LRM MLR 00 48 36.5
comp=N,411nm,14.1s
MNK Minsk 72.18 326 *i* P **P** **00 14 33.6 +0.6**
MNK *i* 00 14 52.9
MNK *i* 00 17 11.8
MNK *i* PPP PPP 00 18 55.1
MNK *i* S **S** **00 23 52.7 -2.0**
MNK *i* 00 24 38.3
MNK *i* SS **SS** **00 28 28.2 -3.0**
MNK *i* SSS SSS 00 31 47.5
MNK pmax pmax
comp=N,34nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK MLR MLR
comp=Z,495nm,18.0s
MNK MLR MLR
comp=E,124nm,20.0s
MNK MLR MLR
comp=N,411nm,14.0s
NC405 NORSAR Array S 73.63 337 P **P** **00 14 42.2 +0.7**
HFS Hagfors 73.74 336 P **P** **00 14 43.1 +1.0**
comp=N,1.2nm,0.4s,baz=64,slow=6.6,SNR=9.6
comp=N,1.2nm,0.4s
NC204 NORSAR Array S 73.79 338 P **P** **00 14 42.9 +0.4**
NB201 NORSAR Array S 73.81 337 P **P** **00 14 42.4 -0.2**
NB2 NORSAR Subarra 73.84 337 P **P** **00 14 43.2 +0.4**
baz=40,slow=5.9
NB2 NORSAR Subarra 73.84 337 P **P** **00 14 43.2 +0.4**
comp=Z,23nm,1.4s,baz=40,slow=5.9
NOA NORSAR Array B 73.84 337 P **P** **00 14 43.0 +0.2**
comp=Z,1.6nm,0.6s,baz=39,slow=6.0,SNR=8.5
comp=Z,1.6nm,0.6s
NOA NORSAR Array B 73.84 337 P **P** **00 14 43.0 +0.2**
EGMT Eagleton 73.99 41 P **P** **00 14 43.5 -0.5**
AKASG Malin Array Be 74.00 322 P **P** **00 14 43.6 -0.2**
comp=Z,2.3nm,0.6s,baz=45,slow=6.7,SNR=16
comp=Z,2.3nm,0.6s
AKASG Malin Array Be 74.00 322 P **P** **00 14 43.6 -0.2**
AKASG Malin Array Be 74.00 322 *i* P **P** **00 14 44.0 +0.2**
AKASG pmax pmax
comp=Z,2μm,0.5s
AKBB Malin Array Si 74.00 322 P **P** **00 14 43.1 -0.7**
AKBB Malin Array Si 74.00 322 P **P** **00 14 43.1 -0.7**
AKBB pmax pmax
comp=Z,24nm,1.2s
BBGB Big Mountain B 74.05 56 P **P** **00 14 42.2 -2.4**
HLID Hailey 74.11 47 P **P** **00 14 44.3 -0.6**
BCYI Bear Canyon 74.25 46 P **P** **00 14 44.3 -1.5**
BMN Battle Mountai 74.27 51 P **P** **00 14 44.6 -1.2**
BMN IAmb IAmb 00 14 53.7
comp=Z,14nm,1.2s
BMN Battle Mountai 74.27 51 P **P** **00 14 44.6 -1.2**
BMN pmax pmax
comp=Z,14nm,1.2s
BOZ Bozeman (W) 74.47 44 P **P** **00 14 46.9 0.0**
BOZ IAmb IAmb 00 14 54.4
comp=Z,8.9nm,1.1s
BOZ Bozeman (W) 74.47 44 P **P** **00 14 46.9 0.0**
BOZ pmax pmax
comp=Z,9.0nm,1.1s
KVN Kaiserville 74.53 53 P **P** **00 14 47.0 -0.4**
KVN IAmb IAmb 00 14 55.0
comp=Z,13nm,1.1s
KVN Kaiserville 74.53 53 P **P** **00 14 47.0 -0.4**
KVN pmax pmax
comp=Z,13nm,1.1s
MDPB Devils Postpil 74.73 54 P **P** **00 14 48.1 -0.5**

LHV	Little Huntoon	74.74	53	P		P	00 14 47.5	-0.8
NVAR	Mina Array Bea	74.76	53	P		P	00 14 49.6	+0.8
	comp=Z,1.7nm,0.8s,baz=299,slow=6.1,SNR=9.0							
	comp=Z,1.7nm,0.8s							
NVAR	Mina Array Bea	74.76	53	P		P	00 14 48.9	+0.1
NV11	Mina Array Sit	74.86	53	P		P	00 14 48.5	-0.8
NV11				IAmb		IAmb	00 14 56.8	
	comp=Z,12nm,1.2s							
QLMT	Earthquake Lak	75.05	45	P		P	00 14 50.4	0.0
YHB	Horse Butte	75.23	45	P		P	00 14 49.4	-2.0
YHB				IAmb		IAmb	00 14 59.1	
	comp=Z,8.3nm,1.1s							
ELK	Elko	75.31	50	P		P	00 14 50.9	-1.0
ELK	Elko	75.31	50	P		P	00 14 50.9	-1.0
ELK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
YMR	Madison River	75.41	45	P		P	00 14 51.4	-1.0
GCMT	Greycliff	75.43	43	P		P	00 14 51.5	-0.9
YNR	Norris Junctio	75.54	44	P		P	00 14 51.5	-1.7
DSP	Deep Springs	75.60	54	P		P	00 14 52.5	-0.8
DSP				IAmb		IAmb	00 15 01.2	
	comp=Z,11nm,1.1s							
MARD	Mardin	75.64	306	P		P	00 14 54.4	+0.6
TPH	Tonopah	75.66	53	P		P	00 14 53.7	-0.2
TPH	Tonopah	75.66	53	P		P	00 14 53.7	-0.2
TPH				pmax		pmax		
	comp=Z,54nm,1.1s							
LKWY	Lake	75.79	44	P		P	00 14 54.3	-0.4
LKWY				IAmb		IAmb	00 15 06.0	
	comp=Z,8.4nm,1.1s							
LKWY	Lake	75.79	44	P		P	00 14 54.3	-0.4
LKWY				pmax		pmax		
	comp=Z,8.0nm,1.1s							
H17A	Grant Village	75.80	45	P		P	00 14 54.6	-0.1
H17A				IAmb		IAmb	00 15 04.7	
	comp=Z,15nm,1.1s							
YMP	Mirror Lake Pl	75.82	44	P		P	00 14 53.2	-1.7
YMP				IAmb		IAmb	00 15 15.5	
	comp=Z,15nm,1.5s							
LCH	Last Change Ra	75.89	54	P		P	00 14 53.6	-1.6
IMW	Indian Meadow	75.91	45	P		P	00 14 55.2	-0.2
IMW				IAmb		IAmb	00 15 03.7	
	comp=Z,10nm,1.0s							
FLWY	Flagg Ranch	75.93	45	P		P	00 14 56.1	+0.7
FXWY	Fox Creek	76.02	46	P		P	00 14 55.9	0.0
FXWY				IAmb		IAmb	00 15 04.1	
	comp=Z,11nm,1.2s							
RLMT	Red Lodge	76.07	44	P		P	00 14 56.2	+0.1
RLMT				IAmb		IAmb	00 15 04.2	
	comp=Z,8.5nm,1.2s							
GMN	Gold Mountain	76.09	54	P		P	00 14 55.4	-1.1
MOOW	Moose Ponds	76.11	45	P		P	00 14 56.1	-0.4
MOOW				IAmb		IAmb	00 15 04.7	
	comp=Z,8.6nm,1.2s							
HVU	Hansel Valley	76.16	48	P		P	00 14 55.1	-1.6
HVU				IAmb		IAmb	00 15 07.1	
	comp=Z,6.9nm,1.1s							
HVU	Hansel Valley	76.16	48	P		P	00 14 55.1	-1.6
HVU				pmax		pmax		
	comp=Z,7.0nm,1.1s							
REDW	Red Top Meadow	76.29	46	P		P	00 14 55.8	-1.6
REDW				IAmb		IAmb	00 15 05.5	
	comp=Z,9.3nm,1.2s							
AHID	Auburn Hatcher	76.52	46	P		P	00 14 58.0	-0.8
R11A	Troy Canyon, C	76.53	52	P		P	00 14 57.5	-1.3
R11A				IAmb		IAmb	00 15 06.5	
	comp=Z,15nm,1.2s							
WCT	Wildcat Mounta	76.80	54	P		P	00 14 59.9	-0.4
WCT				IAmb		IAmb	00 15 07.7	
	comp=Z,8.3nm,1.3s							
CCAC	Calif City Air	76.88	56	P		P	00 15 00.6	-0.2
SPR3	Spring Creek 3	76.92	51	P		P	00 15 00.5	-0.7
SPR3				IAmb		IAmb	00 15 09.3	
	comp=Z,16nm,1.5s							
HWUT	Hardware Ranch	76.97	47	P		P	00 15 00.6	-0.7
HWUT				IAmb		IAmb	00 15 09.3	
	comp=Z,13nm,1.1s							
DUG	Dugway, Tooele	77.11	49	P		P	00 15 01.4	-0.7
DUG				IAmb		IAmb	00 15 09.8	
	comp=Z,8.5nm,1.1s							
DUG	Dugway, Tooele	77.11	49	P		P	00 15 01.4	-0.7
DUG				pmax		pmax		
	comp=Z,8.0nm,1.2s							
GWY	Greenwater Val	77.14	54	P		P	00 15 01.4	-1.0
GWY				IAmb		IAmb	00 15 09.5	
	comp=Z,8.5nm,1.1s							
QSM	Queen of Sheba	77.14	55	P		P	00 15 01.4	-0.8
TCUT	Toone Canyon	77.37	48	P		P	00 15 03.7	0.0
TCUT				IAmb		IAmb	00 15 11.3	
	comp=Z,9.1nm,1.1s							
BW06	Boulder Array	77.40	46	P		P	00 15 03.5	-0.3
PD31	Pinedale Array	77.40	46	P		P	00 15 03.7	0.0
PDAR	Pinedale Array	77.40	46	P		P	00 15 04.2	+0.4
	comp=Z,1.2nm,0.9s,baz=261,slow=2.7,SNR=5.6							
	comp=Z,1.2nm,0.9s							
PDAR	Pinedale Array	77.40	46	P		P	00 15 02.8	-1.0
CTU	Camp Tracy	77.44	48	P		P	00 15 03.6	-0.3
CTU				IAmb		IAmb	00 15 11.5	
	comp=Z,11nm,1.5s							
PRN	Pahroc Range	77.44	52	P		P	00 15 02.4	-1.6
PRN				IAmb		IAmb	00 15 11.7	
	comp=Z,8.2nm,1.1s							
PSUT	Pine Spring	77.50	51	P		P	00 15 03.5	-0.8
GSC	Goldstone, Bar	77.58	55	P		P	00 15 03.4	-1.3
GSC	Goldstone, Bar	77.58	55	P		P	00 15 03.4	-1.3
GSC				pmax		pmax		
	comp=Z,6.0nm,1.1s							
JLU	Jordanelle	77.67	48	P		P	00 15 04.0	-1.3
JLU				IAmb		IAmb	00 15 12.5	
	comp=Z,13nm,1.4s							
NLU	North Lily Min	77.70	49	P		P	00 15 05.7	+0.2
ILGA	Ilgaz	77.72	312	P		P	00 15 06.3	+0.8
SHPR	Sheep Range	77.92	53	P		P	00 15 06.3	-0.4
MPU	Maple Canyon	77.93	49	P		P	00 15 06.8	+0.1
MPU				IAmb		IAmb	00 15 13.8	
	comp=Z,9.3nm,1.2s							
BUR08	Bucovina Ar. S	78.00	322	P		P	00 15 07.4	+0.5
BUR08				IAmb		IAmb	00 15 15.0	
	comp=Z,6.8nm,1.0s							
BURAR	Bucovina Array	78.02	322	P		P	00 15 06.3	-0.7
WTNK	Soaring Height	78.20	53	P		P	00 15 06.4	-1.7
WTNK				IAmb		IAmb	00 15 15.8	
	comp=Z,4.8nm,1.3s							
TCRU	Three Creeks R	78.31	50	P		P	00 15 08.1	-0.8
TCRU				IAmb		IAmb	00 15 17.0	
	comp=Z,9.5nm,1.3s							
CCUT	Cedar City	78.41	52	P		P	00 15 08.7	-0.8
MVU	Marysvale	78.52	50	P		P	00 15 09.3	-0.8
MSU	Marysvale	78.54	50	P		P	00 15 09.9	-0.3
MSU	Marysvale	78.54	50	P		P	00 15 09.9	-0.3
SZCU	Shurtz Canyon	78.55	51	P		P	00 15 08.4	-1.9
V12A	Nelson	78.59	54	P		P	00 15 09.2	-1.1
BR131	Keskin Array S	78.60	311	P		P	00 15 10.5	+0.1
BR131	Keskin Array S	78.60	311	P		P	00 15 10.5	+0.1
BR131				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BRTR	Keskin Array B	78.60	311	P		P	00 15 10.9	+0.5
	comp=Z,1.9nm,1.1s,baz=46,slow=4.2,SNR=6.3							
	comp=Z,1.9nm,1.1s							
BRTR	Keskin Array B	78.60	311	P		P	00 15 10.1	-0.3
BRTR	Keskin Array B	78.60	311	*i* P		P	00 15 12.1	+1.7
BRTR				pmax		pmax		
	comp=Z,2.0nm,1.1s							
TMUT	Trail Mountain	78.64	49	P		P	00 15 09.7	-1.1
STHS	Stebnicka Huta	78.65	325	*eP*		P	00 15 17.6	+7.3
STHS	Stebnicka Huta	78.65	325	*e*		P	00 15 17.6	+7.3
UZH	Uzhgorod	78.72	324	*eP*		P	00 15 19.7	+9.1
OJC	Ojcow	78.73	326	P		P	00 15 09.9	-0.7
OJC	Ojcow	78.73	326	P		P	00 15 10.0	-0.7
OJC				pmax		pmax		
	comp=Z,17nm,1.1s							
RDMU	Red Mountain	78.80	47	P		P	00 15 09.6	-1.9
P17A	Butcher Ranch,	78.80	49	P		P	00 15 10.9	-0.7
P17A				IAmb		IAmb	00 15 19.3	
	comp=Z,13nm,1.1s							
LCMT	Little Creek M	78.81	52	P		P	00 15 10.2	-1.4
LCMT				IAmb		IAmb	00 15 19.5	
	comp=Z,14nm,1.2s							
MTPU	Mount Pierson	78.83	51	P		P	00 15 11.3	-0.7
MTPU				IAmb		IAmb	00 15 20.2	
	comp=Z,11nm,1.2s							
Q16A	Castle Valley	78.90	49	P		P	00 15 11.6	-0.4
Q16A				IAmb		IAmb	00 15 21.6	
	comp=Z,12nm,1.2s							
P18A	Preston Nutter	79.00	48	P		P	00 15 12.1	-0.7
P18A				IAmb		IAmb	00 15 20.4	
	comp=Z,9.7nm,1.3s							
KNB	Kanab	79.08	52	P		P	00 15 11.8	-1.3
KNB				IAmb		IAmb	00 15 21.2	
	comp=Z,20nm,1.4s							
KNB	Kanab	79.08	52	P		P	00 15 11.8	-1.3
KNB				pmax		pmax		
	comp=Z,20nm,1.4s							
MLR	Muntele Rosu	79.10	320	P		P	00 15 12.5	-0.5
MLR				IAmb		IAmb	00 15 19.9	
	comp=Z,10nm,1.3s							
MLR	Muntele Rosu	79.10	320	P		P	00 15 12.5	-0.5
MLR				pmax		pmax		
	comp=Z,10.0nm,1.3s							
SRU	San Rafael Swe	79.16	49	P		P	00 15 12.8	-0.7
SRU				IAmb		IAmb	00 15 21.0	
	comp=Z,8.5nm,1.1s							
SRU	San Rafael Swe	79.16	49	P		P	00 15 12.9	-0.7
SRU				pmax		pmax		
	comp=Z,9.0nm,1.1s							
K22A	Casper	79.18	44	P		P	00 15 11.8	-1.8
K22A				IAmb		IAmb	00 15 20.6	
	comp=Z,12nm,1.4s							
ULM	Lac du Bonnet	79.19	33	P		P	00 15 13.7	+0.5
	comp=Z,3.8nm,0.8s,baz=18,slow=3.2,SNR=3.1							
	comp=Z,3.8nm,0.8s							
RWWY	Rawlins	79.43	45	P		P	00 15 14.2	-0.8
RWWY				IAmb		IAmb	00 15 21.0	
	comp=Z,8.0nm,0.9s							
RSSD	Black Hills	79.55	42	P		P	00 15 14.9	-0.7
RSSD				IAmb		IAmb	00 15 21.7	
	comp=Z,11nm,1.2s							
RSSD	Black Hills	79.55	42	P		P	00 15 14.9	-0.7
RSSD				pmax		pmax		
	comp=Z,11nm,1.3s							
MDUB	Mudurnu	79.56	313	P		P	00 15 14.8	-0.7
W13A	Hualapai Mount	79.60	54	P		P	00 15 14.8	-1.2
U15A	North Rim	79.78	52	P		P	00 15 16.2	-0.9
U15A				IAmb		IAmb	00 15 25.1	
	comp=Z,15nm,1.2s							
MORC	Moravsky Berou	80.04	327	P		P	00 15 18.9	+1.0
MORC				IAmb		IAmb	00 15 25.7	
	comp=Z,14nm,1.3s							
MORC	Moravsky Berou	80.04	327	P		P	00 15 18.9	+1.0
MORC				pmax		pmax		
	comp=Z,14nm,1.3s							
PSZ	Piszkesteto	80.35	324	P		P	00 15 20.3	+0.6
PSZ				IAmb		IAmb	00 15 28.2	
	comp=Z,15nm,1.1s							
PSZ	Piszkesteto	80.35	324	P		P	00 15 20.3	+0.6
PSZ				pmax		pmax		
	comp=Z,15nm,1.1s							
BORA	Eskisehir	80.38	313	P		P	00 15 18.3	-1.7
BORA				IAmb		IAmb	00 15 22.5	
	comp=Z,12nm,1.4s							
VYHS	Vyhne	80.41	325	*eP*		P	00 15 21.4	+1.5
VYHS				*e*			00 15 27.3	
VYHS	Vyhne	80.41	325	*eP*		P	00 15 21.4	+1.5
VYHS				*e*			00 15 27.3	
PV23	Carpenter Ridg	80.49	49	P		P	00 15 19.5	-1.3
PV10	Paradox Valley	80.52	49	P		P	00 15 20.7	-0.3
AGMN	Agassiz Nation	80.62	35	P		P	00 15 20.8	-0.2
AGMN				IAmb		IAmb	00 15 27.3	
	comp=Z,12nm,1.2s							
N23A	Red Feather La	80.67	45	P		P	00 15 21.2	-0.6
N23A				IAmb		IAmb	00 15 29.0	
	comp=Z,22nm,1.5s							
PHWY	Pilot Hill	80.67	45	P		P	00 15 21.1	-0.7
PHWY				IAmb		IAmb	00 15 29.0	
	comp=Z,13nm,1.4s							
PV11	David Mesa, Pa	80.67	49	P		P	00 15 21.4	-0.3
PV11				IAmb		IAmb	00 15 29.4	
	comp=Z,14nm,1.0s							
PV07	Paradox Valley	80.72	48	P		P	00 15 21.0	-1.0
PV07				IAmb		IAmb	00 15 29.5	
	comp=Z,13nm,1.4s							
BRG	Berggiesshubel	80.73	329	*eP*		P	00 15 21.2	-0.3
BRG				Amp			00 15 23.8	
	comp=Z,6.8nm,1.2s							
BRG				*ex*		x	00 15 27.6	
BRG				Amp			00 15 29.6	
	comp=Z,11nm,1.3s							
BRG	Berggiesshubel	80.73	329	*eP*		P	00 15 21.2	-0.3
BRG				*e*			00 15 27.5	
BRG				pmax		pmax		
	comp=Z,7.0nm,1.2s							
BRG				pmax		pmax		
	comp=Z,11nm,1.3s							
CLL	Collm	80.77	330	P		P	00 15 22.1	+0.4
CLL				IAmb		IAmb	00 15 29.4	
	comp=Z,10nm,1.0s							
CLL	Collm	80.77	330	*eP*		P	00 15 23.0	+1.3
	comp=Z,18nm,1.6s							
CLL				*ep*P		pP	00 15 26.0	-0.8
CLL				*i* sP		sP	00 15 27.9	-0.7
	comp=Z,19nm,1.3s							
CLL	Collm	80.77	330	P		P	00 15 22.1	+0.4
CLL				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PV13	Radium Mtn., P	80.80	49	P		P	00 15 21.4	-1.0
VRAC	Vranov	80.80	327	P		P	00 15 23.1	+1.1
	comp=Z,2.4nm,1.0s,baz=36,slow=6.6,SNR=4.3							
	comp=Z,2.4nm,1.0s							
PV15	Paradox Valley	80.88	48	P		P	00 15 22.3	-0.6
PV15				IAmb		IAmb	00 15 30.4	
	comp=Z,12nm,1.4s							
Y14A	Wickenburg	80.89	54	P		P	00 15 21.9	-0.9
WUAZ	Wupatki	80.93	52	P		P	00 15 22.6	-0.5
WUAZ				IAmb		IAmb	00 15 31.5	
	comp=Z,14nm,1.1s							
PRU	Pruhonice	81.16	328	*eP*		P	00 15 25.4	+1.6
PRU				*ep*P		PcP	00 15 31.7	+1.6
PRU	Pruhonice	81.16	328	*eP*		P	00 15 25.4	+1.6
PRU				*e**PP		PcP	00 15 31.7	+1.6
SMCO	Snowmass	81.22	47	P		P	00 15 24.0	-0.9
ASF	Jabal al Asfar	81.30	304	P		P	00 15 26.1	+1.1
	comp=Z,2.4nm,0.8s,baz=170,slow=6.1,SNR=3.3							
	comp=Z,2.4nm,0.8s							
DJES	Djerdap	81.41	321	P		P	00 15 25.9	+0.6
MVCO	Mesa Verde	81.61	49			P	00 15 25.7	-1.1
MVCO				IAmb		IAmb	00 15 34.3	
	comp=Z,13nm,1.3s							
MMAI	Mount Meron Ar	81.75	305	P		P	00 15 28.5	+1.1
	comp=Z,4.3nm,0.9s,baz=24,slow=7.9,SNR=3.0							
	comp=Z,4.3nm,0.9s							
SUSD	Miller	81.94	39	P		P	00 15 28.8	+0.7
RONA	Rosalia, Austr	82.14	326	*eP*		P	00 15 30.5	+1.3
	comp=Z,10nm,0.9s							
CKRC	Cesky Krumlov	82.15	328	*eP*		P	00 15 29.7	+0.6
CKRC				*ep*P		sP	00 15 36.2	+0.1
CONA	Conrad Observa	82.16	326	*eP*		P	00 15 30.1	+0.8
	comp=Z,9.9nm,1.1s							
KHC	Kasperske Hory	82.22	328	P		P	00 15 30.1	+0.6
KHC				IAmb		IAmb	00 15 37.1	
	comp=Z,16nm,1.3s							
KHC	Kasperske Hory	82.22	328	*eP*		P	00 15 30.6	+1.1
KHC				*ep*P		sP	00 15 36.4	0.0
KHC	Kasperske Hory	82.22	328	P		P	00 15 30.1	+0.6
KHC				pmax		pmax		
	comp=Z,16nm,1.3s							
F33A	5 Mile Ranch,	82.23	37	P		P	00 15 29.6	+0.1
S22A	4UR Ranch, Cre	82.25	48	P		P	00 15 29.4	-0.9
S22A				IAmb		IAmb	00 15 38.2	
	comp=Z,8.9nm,1.3s							
GEC2	GERESS Array S	82.39	328	P		P	00 15 31.8	+1.3
GEC2				IAmb		IAmb	00 15 37.4	
	comp=Z,15nm,1.4s							
GERES	GERESS Array B	82.39	328	P		P	00 15 31.0	+0.5
	comp=Z,0.9nm,0.8s,baz=51,slow=6.4,SNR=4.8							
	comp=Z,0.9nm,0.8s							
GERES	GERESS Array B	82.39	328	P		P	00 15 30.8	+0.3
GERES	GERESS Array B	82.39	328	P		P	00 15 31.0	+0.5
X18A	Snowflake	82.46	52	P		P	00 15 31.2	0.0
X18A				IAmb		IAmb	00 15 39.0	
	comp=Z,8.8nm,1.3s							
VTS	Vitosha	82.50	319	P		P	00 15 31.6	+0.4
VTS	Vitosha	82.50	319	P		P	00 15 31.6	+0.4
VTS				pmax		pmax		
	comp=Z,5.0nm,0.9s							
EYMN	Ely	82.82	33	P		P	00 15 30.4	-2.3
ARSA	Arzberg	82.83	326	*eP*		P	00 15 31.7	-1.0
	comp=Z,2.5nm,0.9s							
DIVS	Divibare	83.08	322	P		P	00 15 35.7	+1.6
DIVS				IAmb		IAmb	00 15 42.1	
	comp=Z,9.8nm,1.2s							
BIOA	Bad Ischl, Aus	83.31	327	*eP*		P	00 15 33.6	-1.6
	comp=Z,8.3nm,1.0s							
TUC	Tucson	83.36	54	P		P	00 15 35.5	-0.3
TUC				IAmb		IAmb	00 15 43.3	
	comp=Z,9.9nm,1.4s							
TUC	Tucson	83.36	54	P		P	00 15 35.5	-0.3
TUC				pmax		pmax		
	comp=Z,10.0nm,1.5s							
SOKA	Soboth	83.48	326	*eP*		P	00 15 35.7	-0.5
	comp=Z,14nm,1.2s							
ECSD	EROS Data Cent	83.62	38	P		P	00 15 36.4	-0.4
ECSD				IAmb		IAmb	00 15 43.5	
	comp=Z,10nm,1.2s							
T25A	Trinidad	84.08	47	P		P	00 15 38.6	-1.0
T25A				IAmb		IAmb	00 15 47.6	
	comp=Z,7.7nm,0.9s							
EIL	Elat	84.17	303	P		P	00 15 38.9	-1.0
	comp=Z,5.2nm,0.9s,baz=20,slow=15,SNR=2.8							
	comp=Z,5.2nm,0.9s							
IDI	Anoyia	86.73	313	P		P	00 15 54.1	+1.5
	comp=Z,8.1nm,0.9s,baz=30,slow=20,SNR=1.9							
	comp=Z,8.1nm,0.9s							
MSTX	Muleshoe	87.23	49	P		P	00 15 54.9	-0.3
MSTX				IAmb		IAmb	00 16 01.4	
	comp=Z,4.5nm,0.8s							
L40A	Anamosa	87.48	36	P		P	00 15 55.8	-0.3
TX32	Lajitas Array	89.89	52	P		P	00 16 07.8	-0.1
TX32				IAmb		IAmb	00 16 14.9	
	comp=Z,5.4nm,1.1s							
TXAR	Lajitas Array	89.89	52	P		P	00 16 07.5	-0.3
	comp=Z,0.6nm,0.7s,baz=289,slow=2.8,SNR=8.2							
TXAR				PKKPbc		PKKPbc	00 33 41.4	+3.1
	comp=Z,1.2nm,1.1s,baz=225,slow=3.4,SNR=4.8							
	comp=Z,0.6nm,0.7s							
TXAR	Lajitas Array	89.89	52	P		P	00 16 08.2	+0.3
ABTX	Abilene, Hawle	90.03	48	P		P	00 16 08.1	-0.3
ABTX				IAmb		IAmb	00 16 15.4	
	comp=Z,6.8nm,0.9s							
P46A	Rosedale	91.28	35	P		P	00 16 14.1	+0.1
TORD	Torodi Ar. Bea	117.06	315	PKP		PKPdf	00 21 53.4	-0.5
	comp=Z,0.3nm,0.8s,baz=66,slow=1.7,SNR=2.1							
LPAZ	La Paz	146.50	59	PKPbc		PKPbc	00 22 51.1	+0.2
	comp=Z,2.1nm,0.7s,baz=358,slow=5.3,SNR=9.0							
H03N2	Juan Fernandez	147.06	95	T		T	03 06 59.2	
	baz=291,slow=76,SNR=28							
H03N3	Juan Fernandez	147.07	95	T		T	03 06 58.4	
	baz=291,slow=76,SNR=32							
H03N1	Juan Fernandez	147.08	95	T		T	03 06 58.6	
	baz=291,slow=76,SNR=34							

IDC ***22*** *00:04:34.1±1.4,37.˚35N×141.˚77E,h0km,mb3.9/9, mbtmp3.9/9,Error ellipse: s-maj=42.5km s-min=31.1km az=54.0*
JMA ***22*** *00:04:37.9±0.2,37.˚4N±0.˚3×141.˚5E±0.˚8,h25km±1km, MV4.1/28,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 00:04:36.0±1.0,37.˚34N±0.˚07×141.˚63E±0.˚07,h10km,n21, σ0s57/17,mb3.9/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.60	273	P		Pg		00 04 48.4	+0.8
JFK				S		Sg		00 04 55.7	+0.1
JFK	Kawauchi	0.60	273	A		A		00 04 48.4	
	comp=E,22nm,0.2s,comp=E,7.0nm,0.2s								
JMST	Minamisoumatoc	0.70	303	P		Pg		00 04 49.7	+0.2
JMST				S		Sg		00 04 58.3	-0.5
JMM	Marumori	0.85	309	*eS*		Sg		00 05 02.3	-1.0
JFFD	Fukushimafurud	0.89	254	P		Pg		00 04 53.0	-0.1
JFFD				S		Sg		00 05 04.2	-0.4
JHO	Hitachi	1.12	230	P		Pb		00 04 56.9	-0.5
SONM	Songino Array	27.76	303	P		P		00 10 25.4	+0.6
	1.1nm,0.8s,baz=101,slow=11,SNR=1.4								
	1.1nm,0.8s								
H11N2	WAKE ISLAND Hy	28.16	122	T		T		00 39 57.7	
	baz=315								
H11N1	WAKE ISLAND Hy	28.17	122	T		T		00 39 57.5	
	baz=315								
H11N3	WAKE ISLAND Hy	28.18	122	T		T		00 39 56.7	
	baz=315								
H11S1	WAKE ISLAND Hy	28.88	124	T		T		00 40 54.4	
	baz=316								
H11S3	WAKE ISLAND Hy	28.88	124	T		T		00 40 54.4	
	baz=316								
H11S2	WAKE ISLAND Hy	28.90	124	T		T		00 40 54.4	
	baz=316								
ZALV	Zalesovo Beam	41.84	312	P		P		00 12 26.1	+0.3
	1.3nm,0.6s,baz=85,slow=7.7,SNR=1.8								
	1.3nm,0.6s								
MKAR	Makanchi Array	44.10	302	P		P		00 12 44.7	+0.4
	1.0nm,0.6s,baz=91,slow=9.3,SNR=1.6								
	1.0nm,0.6s								
KURBB	Kurchatov Arra	45.95	308	P		P		00 12 58.8	-0.1
	1.0nm,0.4s,baz=82,slow=7.3,SNR=1.2								
	1.0nm,0.4s								
WRA	Warramunga Arr	57.39	188	P		P		00 14 24.4	-0.1
	1.3nm,0.7s,baz=7.1,slow=7.4,SNR=1.7								
	1.3nm,0.7s								
FINES	FINESS Array B	68.62	332	P		P		00 15 38.2	-0.6
	1.4nm,0.7s,baz=32,slow=8.2,SNR=1.4								
	1.4nm,0.7s								
NOA	NORSAR Array B	73.97	337	P		P		00 16 11.7	+0.5
	0.6nm,0.6s,baz=38,slow=6.1,SNR=1.4								
	0.6nm,0.6s								
AKASG	Malin Array Be	74.16	322	P		P		00 16 13.2	+0.7
	0.9nm,0.5s,baz=47,slow=6.1,SNR=2.8								
	0.9nm,0.5s								
PDAR	Pinedale Array	77.33	46	P		P		00 16 30.5	-0.6
	0.2nm,0.5s,baz=288,slow=3.7,SNR=1.2								
	0.2nm,0.5s								

IDC ***22*** *00:06:28.4±7.8,37.˚00N×141.˚08E,h0km,mb3.6/5, mbtmp

*IDC **22** 00:08:06.0±2.4, 37.15N×141.39E, h50km±23km, mb3.8/26, mbtmp4.1/28, ML3.6/2, Error ellipse: s-maj=19.1km s-min=12.4km az=68.0*

ISC 22 00:08:01.6±1.6, **37°22N**±0.04×**141°51E**±0.06, **h14**km±9km, **n112**, σ1s 19/93, **mb4.3**/39, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**287**	P	**Pg**	**00 08 12.7**	**+0.7**
JFK				S	**Sg**	**00 08 19.9**	**+0.9**
JFK	**Kawauchi**	**0.53**	**287**	A	A	00 08 12.7	
	comp=E,27nm,1.5s,comp=E,11nm,1.1s						
JMST	**Minamisoumatoc**	**0.71**	**316**	*i* P	**Pg**	**00 08 15.2**	**-0.2**
JMST				S	**Sg**	**00 08 24.3**	**-0.4**
JMST	**Minamisoumatoc**	**0.71**	**316**	A	A	00 08 15.2	
	comp=E,11nm,0.6s,comp=E,15nm,0.4s						
JFFD	**Fukushimafurud**	**0.77**	**261**	P	**Pg**	**00 08 16.7**	**+0.2**
JFFD				*e*S	**Sg**	**00 08 26.5**	**0.0**
JFFD	**Fukushimafurud**	**0.77**	**261**	A	A	00 08 16.7	
	comp=E,6.0nm,1.8s,comp=E,11nm,0.9s						
JMM	**Marumori**	**0.86**	**319**	P	**Pb**	**00 08 17.9**	**-0.5**
JMM				S	**Sb**	**00 08 28.7**	**-1.1**
JMM	**Marumori**	**0.86**	**319**	A	A	00 08 17.9	
	comp=E,7.0nm,0.3s,comp=E,7.0nm,1.2s						
JHO	**Hitachi**	**0.96**	**232**	P	**Pb**	**00 08 19.2**	**-0.8**
JHO				S	**Sb**	**00 08 32.2**	**-0.5**
JHYU	**Hitachinakayam**	**1.14**	**221**	A	A	00 08 23.1	
	comp=E,5.0nm,0.9s,comp=E,7.0nm,1.4s						
JIO	**Ouri**	**1.24**	**354**	P	**Pn**	**00 08 23.3**	**-1.2**
JIO				S	**Sb**	**00 08 37.7**	**-3.1**
JYAR	**Yonezawaarcadi**	**1.29**	**303**	A	A	00 08 24.4	
	comp=E,20nm,1.1s,comp=E,23nm,1.3s						
JSB	**Shiboa**	**1.29**	**260**	P	**Pn**	**00 08 25.8**	**+0.5**
JSB				*e*S	**Sn**	**00 08 43.4**	**+1.0**
JSB	**Shiboa**	**1.29**	**260**	A	A	00 08 25.8	
	comp=E,16nm,0.8s,comp=E,17nm,0.9s						
JOU	**Okura**	**1.33**	**330**	P	**Pn**	**00 08 25.6**	**-0.2**
JOU				S	**Sb**	**00 08 42.2**	**-1.0**
JOU	**Okura**	**1.33**	**330**	A	A	00 08 25.6	
	comp=E,10.0nm,1.4s,comp=E,11nm,0.8s						
JYT	**Yasato**	**1.44**	**227**	A	A	00 08 27.5	
	comp=E,11nm,0.4s,comp=E,10.0nm,0.4s						
JFY	**Yanaizu**	**1.45**	**278**	A	A	00 08 27.1	
	comp=E,5.0nm,4.7s,comp=E,4.0nm,2.3s						
JOFO	**Osakifurukawao**	**1.46**	**341**	A	A	00 08 26.7	
	comp=E,29nm,1.9s,comp=E,30nm,1.1s						
JIHU	**Itakohorinouch**	**1.48**	**213**	A	A	00 08 28.1	
	comp=E,24nm,4.2s,comp=E,20nm,1.8s						
JYS	**Shirataka**	**1.52**	**312**	A	A	00 08 27.9	
	comp=E,10.0nm,1.1s,comp=E,12nm,1.8s						
JYK	**Kaneyama**	**1.93**	**332**	A	A	00 08 33.6	
	comp=E,3.0nm,3.8s,comp=E,5.0nm,3.0s						
JYA	**Atsumi**	**1.98**	**315**	A	A	00 08 34.4	
	comp=E,5.0nm,0.8s,comp=E,5.0nm,5.8s						
JGK	**Kuni**	**2.39**	**255**	A	A	00 08 41.0	
	comp=E,3.0nm,1.3s,comp=E,2.0nm,2.8s						
JYW	**Yuwa**	**2.54**	**337**	A	A	00 08 42.3	
	comp=E,6.0nm,1.6s,comp=E,8.0nm,2.8s						
JSD	**Sado**	**2.71**	**289**	Pn	**Pb**	**00 08 48.5**	**-1.2**
MJAR	**Matsushiro Arr**	**2.73**	**257**	P	**Pn**	**00 08 45.9**	**+0.8**
	3.1nm,0.3s,baz=35,slow=25,SNR=10						
MJAR				S	**Sb**	**00 09 21.2**	**-2.3**
	41nm,0.4s,baz=271,slow=14,SNR=1.5						
	31nm,0.6s						
MAJO	**Matsushiro**	**2.73**	**257**	Pn	**Pn**	**00 08 46.5**	**+1.5**
MJB9	**Matsu-Tunnel**	**2.73**	**257**		**Pn**	**00 08 47.1**	**+2.0**
JTM	**Tenmabayashi**	**3.58**	**355**		**Pn**	**00 09 00.4**	**+3.6**
JGF	**Kuroka**	**3.71**	**246**		**Pn**	**00 09 00.1**	**+1.5**
INU	**Inuyama**	**4.08**	**244**	Pn	**Pn**	**00 09 05.5**	**+2.0**
JHJ2	**Mitsune**	**4.32**	**199**	Pn	**Pn**	**00 09 07.8**	**+1.0**
JHJ	**Hachijo jima 2**	**4.32**	**200**	P	**Pn**	**00 09 07.6**	**+0.7**
	41nm,0.3s,baz=74,slow=20,SNR=12						
JHJ				S	**Sn**	**00 09 56.4**	**-0.8**
	177nm,0.3s,baz=80,slow=24,SNR=7.1						
	87nm,0.3s						
ERM	**Erimo**	**4.96**	**14**	Pn	**Pn**	**00 09 20.4**	**+4.7**
JMN	**Monobe**	**7.13**	**243**	Pn	**Pn**	**00 09 48.0**	**+2.5**
JHS	**Saijyo**	**7.14**	**254**		**Pn**	**00 09 47.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.04**	**317**	P	Pn	00 10 32.6	+7.3
	9.5nm,0.8s,baz=116,slow=16,SNR=6.6						
JCJ	**Chichijima**	**10.11**	**177**	P	**Pn**	**00 10 23.1**	**-3.2**
	69nm,1.0s,baz=325,slow=23,SNR=2.1						
JCJ				S	Sn	00 12 10.0	-9.5
	30nm,0.4s,baz=287,slow=20,SNR=2.1						
KSRS	**Korea Array**	**10.82**	**275**	P	Pn	00 10 42.8	+6.8
	0.6nm,0.3s,baz=92,slow=14,SNR=1.7						
PEA0B	**Petropavlovsk-**	**19.49**	**30**	P	**Pn**	**00 12 30.7**	**+1.4**
PEA0B				IAmb	IAmb	00 12 35.4	
	comp=Z,163nm,1.6s						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**00 13 49.3**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=100,slow=8.2,SNR=12						
	comp=Z,2.2nm,0.6s						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**00 13 50.2**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	00 43 16.3	
	baz=314,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	00 43 17.2	
	baz=314,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	00 43 13.8	
	baz=314,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	00 44 10.2	
	baz=316,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	00 44 10.0	
	baz=316,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	00 44 11.2	
	baz=316,slow=76,SNR=23						
CMAR	**Chiang Mai Arr**	**41.62**	**255**	P	**P**	**00 15 49.5**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=46,slow=6.9,SNR=5.6						
	comp=Z,0.8nm,0.3s						
ZAA0	**Zalesovo Array**	**41.85**	**312**	P	**P**	**00 15 50.5**	**-0.3**
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**00 15 50.3**	**-0.6**
	comp=Z,4.4nm,0.8s,baz=86,slow=7.6,SNR=12						
	comp=Z,4.4nm,0.8s						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**00 15 50.7**	**-0.2**
MK31	**Makanchi Array**	**44.09**	**302**	P	**P**	**00 16 09.4**	**+0.2**
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**00 16 09.3**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=87,slow=10.0,SNR=14						
	comp=Z,3.2nm,0.7s						
MAKZ	**Makanchi**	**44.30**	**302**	P	**P**	**00 16 10.9**	**0.0**
KURK	**Kurchatov**	**45.88**	**308**	P	**P**	**00 16 23.0**	**-0.3**
KURK				IAmb	IAmb	00 16 31.2	
	comp=Z,6.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**00 16 23.2**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=81,slow=7.7,SNR=25						
	comp=Z,2.7nm,0.4s						
TARG	**Taragay, Kyrgy**	**48.39**	**296**	P	**P**	**00 16 43.9**	**+0.3**
TARG				IAmb	IAmb	00 18 19.4	
	comp=Z,50nm,1.8s						
KNK	**Knik Glacier**	**48.77**	**37**	P	**P**	**00 16 48.0**	**+2.2**
SCM	**Sheep Creek Mo**	**49.28**	**36**	P	**P**	00 16 55.1	+5.4
IL31		**49.30**	**32**	P	**P**	**00 16 50.7**	**+1.1**
ILAR	**Eielson Array**	**49.30**	**32**	P	**P**	**00 16 49.8**	**0.0**
	comp=Z,0.8nm,0.8s,baz=264,slow=6.3,SNR=3.7						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**49.30**	**32**	P	**P**	**00 16 50.2**	**+0.4**
AAK	**Ala-Archa**	**50.47**	**298**	P	**P**	**00 16 58.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=66,slow=20,SNR=1.9						
	comp=Z,0.8nm,0.6s						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**00 16 58.4**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=72,slow=8.9,SNR=7.4						
	comp=Z,1.6nm,0.5s						
WAX	**Waxell Ridge**	**51.60**	**38**	P	**P**	**00 17 08.5**	**+1.3**
INK	**Inuvik**	**54.19**	**27**	P	**P**	**00 17 27.2**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=286,slow=8.8,SNR=1.7						
	comp=Z,0.8nm,0.7s						
NIL	**Nilore**	**54.63**	**288**	P	**P**	**00 17 29.6**	**-0.3**
NIL				IAmb	IAmb	00 17 32.1	
	comp=Z,6.7nm,0.7s						
GAR	**Garm**	**54.69**	**295**	P	**P**	**00 17 30.3**	**-0.1**
GAR				IAmb	IAmb	00 18 30.1	
	comp=Z,25nm,1.8s						
CHGR	**Chuyangaron**	**55.66**	**295**	P	**P**	**00 17 37.5**	**+0.1**
CHGR				IAmb	IAmb	00 17 37.9	
	comp=Z,20nm,0.7s						
A36M	**Sachs Harbour**	**56.06**	**22**	P	**P**	**00 17 41.4**	**+1.8**
ARU	**Arti**	**56.27**	**318**	P	**P**	**00 17 40.9**	**-0.4**
	comp=Z,3.3nm,0.4s,baz=75,slow=6.5,SNR=7.8						
	comp=Z,3.3nm,0.4s						
ARU	**Arti**	**56.27**	**318**		**P**	**00 17 41.1**	**-0.3**
ARU				IAmb	IAmb	00 17 41.8	
	comp=Z,9.3nm,1.1s						
WB0	**Warramunga Arr**	**57.07**	**188**	P	**P**	**00 17 46.9**	**-0.5**
WB0				IAmb	IAmb	00 18 32.2	
	comp=Z,15nm,1.6s						
WRAB	**Tennant Creek**	**57.24**	**188**	P	**P**	**00 17 47.8**	**-0.7**
WRAB				IAmb	IAmb	00 18 59.5	
	comp=Z,21nm,1.8s						
WR0	**Warramunga Arr**	**57.24**	**188**	P	**P**	**00 17 48.0**	**-0.5**
WR0				IAmb	IAmb	00 18 39.2	
	comp=Z,19nm,1.7s						
WB2	**Warramunga Arr**	**57.25**	**188**	P	**P**	**00 17 47.9**	**-0.7**
WB2				IAmb	IAmb	00 18 39.3	
	comp=Z,18nm,1.6s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**00 17 47.6**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=5.4,slow=7.1,SNR=15						
	comp=Z,2.1nm,0.7s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**00 17 47.9**	**-0.8**
ABKAR	**Akbulak array**	**57.88**	**310**	P	**P**	**00 17 52.5**	**-0.3**
ABKAR				IAmb	IAmb	00 17 53.0	
	comp=Z,4.9nm,0.7s						
EUNU	**Eureka**	**60.00**	**9**	P	**P**	**00 18 07.6**	**+0.4**
EUNU				IAmb	IAmb	00 19 46.4	
	comp=Z,24nm,2.0s						
KIRV	**Kirov**	**60.15**	**323**	P	**P**	**00 18 08.1**	**-0.3**
	comp=Z,9.2nm,0.6s,baz=72,slow=3.5,SNR=4.2						
	comp=Z,9.2nm,0.6s						
ASAR	**Alice Springs**	**60.98**	**188**	P	**P**	**00 18 13.1**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=7.1,slow=5.6,SNR=9.5						
	comp=Z,1.5nm,0.9s						
GEYT	**Alibeck**	**63.81**	**299**	P	**P**	**00 18 33.2**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=29,slow=3.3,SNR=5.3						
	comp=Z,2.7nm,0.7s						
GEYT	**Alibeck**	**63.81**	**299**	P	**P**	**00 18 33.2**	**-0.3**
GEYT				IAmb	IAmb	00 18 34.2	
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**63.85**	**339**	P	**P**	**00 18 32.9**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=58,slow=7.5,SNR=9.2						
	comp=Z,1.3nm,0.6s						
ARCES	**ARCESS Array B**	**63.85**	**339**	P	**P**	**00 18 33.0**	**-0.2**
BRLDA	**Berland Lookou**	**66.66**	**39**	P	**P**	**00 18 53.4**	**+1.6**
BRLDA				IAmb	IAmb	00 18 54.5	
	comp=Z,12nm,0.6s						
FIA1	**FINESS Array S**	**68.69**	**332**	P	**P**	**00 19 04.4**	**+0.1**
FIA1				IAmb	IAmb	00 20 58.3	
	comp=Z,23nm,1.1s						
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**00 19 03.3**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=45,slow=8.6,SNR=8.5						
	comp=Z,1.7nm,0.7s						
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**00 19 04.2**	**0.0**
STKA	**Stephens Creek**	**68.73**	**180**	P	**P**	**00 19 03.6**	**-1.2**
	comp=Z,3.0nm,1.0s,baz=4.8,slow=12,SNR=3.3						
	comp=Z,3.0nm,1.0s						
FORT	**Forest**	**68.80**	**192**	P	**P**	**00 19 05.4**	**+0.2**
NC405	**NORSAR Array S**	**73.84**	**337**	P	**P**	**00 19 35.4**	**-0.1**
HFS	**Hagfors**	**73.95**	**336**	P	**P**	**00 19 35.3**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=64,slow=6.6,SNR=8.8						
	comp=Z,0.8nm,0.4s						
LRM	**Limekiln Ridge**	**73.97**	**44**	P	**P**	**00 19 37.8**	**+1.0**
NC204	**NORSAR Array S**	**74.00**	**338**	P	**P**	**00 19 36.5**	**+0.1**
NB201	**NORSAR Array S**	**74.02**	**337**	P	**P**	**00 19 36.7**	**+0.2**
NB2	**NORSAR Subarra**	**74.05**	**337**	P	**P**	**00 19 36.4**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**74.05**	**337**	P	**P**	**00 19 36.0**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=39,slow=6.0,SNR=6.1						
	comp=Z,1.1nm,0.7s						
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**00 19 37.0**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=48,slow=5.8,SNR=14						
	comp=Z,1.4nm,0.4s						
NVAR	**Mina Array Bea**	**74.82**	**53**	P	**P**	**00 19 42.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=278,slow=6.3,SNR=2.9						
	comp=Z,0.2nm,0.3s						
PDAR	**Pinedale Array**	**77.49**	**46**	P	**P**	**00 19 57.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=270,slow=1.8,SNR=3.9						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**78.79**	**312**	P	**P**	**00 20 03.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=28,slow=6.5,SNR=2.4						
	comp=Z,0.5nm,0.6s						
MLR	**Muntele Rosu**	**79.30**	**320**	P	**P**	**00 20 06.8**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=48,slow=14,SNR=1.9						
	comp=Z,1.1nm,0.7s						
GERES	**GERESS Array B**	**82.60**	**328**	P	**P**	**00 20 23.3**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=50,slow=6.5,SNR=8.5						
	comp=Z,0.5nm,0.4s						
TXAR	**Lajitas Array**	**89.95**	**52**	P	**P**	**00 21 01.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=306,slow=3.2,SNR=3.9						
	comp=Z,0.3nm,0.6s						
LPAZ	**La Paz**	**146.54**	**59**	PKPbc	**PKPbc**	**00 27 43.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=336,slow=2.7,SNR=4.7						
H03N2	**Juan Fernandez**	**146.97**	**96**	T	T	03 11 49.2	
	baz=291,slow=76,SNR=7.1						
H03N3	**Juan Fernandez**	**146.98**	**96**	T	T	03 11 52.8	
	baz=291,slow=76,SNR=5.3						
H03N1	**Juan Fernandez**	**146.98**	**96**	T	T	03 11 52.8	
	baz=291,slow=76,SNR=3.6						

*IDC **22** 00:08:48.3±0.9, 37.36N×141.52E, h0km, mb4.0/13, mbtmp4.0/13, Error ellipse: s-maj=30.3km s-min=21.3km az=65.0*

*JMA **22** 00:08:51.5±0.2, 37.4N±0.3×141.5E±0.8, h27km±1km, MD4.2/26, MV4.3/26, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

ISC 22 00:08:49.9±0.8, **37.39N**±0.06×**141.61E**±0.06, **h10**km, **n36**, σ0s **79**/26, **mb4.1**/14, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.59**	**268**	P	**Pg**	**00 09 01.8**	**+0.5**
JFK				S	**Sg**	**00 09 09.1**	**0.0**
JFK	**Kawauchi**	**0.59**	**268**	A	A	00 09 01.8	
	comp=E,32nm,0.4s,comp=E,24nm,0.8s						
JMST	**Minamisoumatoc**	**0.67**	**301**	P	**Pg**	**00 09 03.1**	**+0.3**
JMST				S	**Sg**	**00 09 11.4**	**-0.1**
JMST	**Minamisoumatoc**	**0.67**	**301**	A	A	00 09 03.1	
	comp=E,13nm,0.9s,comp=E,19nm,0.4s						
JMM	**Marumori**	**0.81**	**307**	P	**Pg**	**00 09 05.3**	**-0.2**
JMM				S	**Sg**	**00 09 15.4**	**-0.6**
JMM	**Marumori**	**0.81**	**307**	A	A	00 09 05.3	
	comp=E,11nm,0.4s,comp=E,12nm,0.6s						
JFFD	**Fukushimafurud**	**0.89**	**251**	P	**Pg**	**00 09 06.6**	**-0.4**
JFFD				S	**Sg**	**00 09 17.2**	**-1.3**
JFFD	**Fukushimafurud**	**0.89**	**251**	A	A	00 09 06.6	
	comp=E,6.0nm,1.4s,comp=E,5.0nm,6.6s						
JOU	**Okura**	**1.23**	**323**	S	**Sb**	**00 09 28.8**	**-0.4**
JOU	**Okura**	**1.23**	**323**	A	A	00 09 28.8	
	comp=E,10.0nm,0.4s,comp=E,18nm,0.6s						
JYAR	**Yonezawaarcadi**	**1.28**	**295**	A	A	00 09 12.9	
	comp=E,28nm,1.2s,comp=E,26nm,0.3s						
JSB	**Shiboa**	**1.42**	**253**	A	A	00 09 14.9	
	comp=E,16nm,1.1s,comp=E,9.0nm,1.2s						
JYS	**Shirataka**	**1.48**	**305**	A	A	00 09 16.1	
	comp=E,8.0nm,2.0s,comp=E,7.0nm,0.9s						
JFY	**Yanaizu**	**1.52**	**271**	A	A	00 09 16.5	
	comp=E,6.0nm,0.7s,comp=E,5.0nm,0.3s						
MJAR	**Matsushiro Arr**	**2.85**	**254**	Sn	**Sn**	**00 10 12.5**	**+2.6**
	baz=144,slow=12						
SONM	**Songino Array**	**27.72**	**303**	P	**P**	**00 14 38.7**	**+0.2**
	1.6nm,0.8s,baz=99,slow=8.8,SNR=3.7						
	1.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	00 44 07.7	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	00 44 09.9	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.21**	**122**	T	T	00 44 09.3	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	00 45 00.2	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	00 45 04.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.94**	**124**	T	T	00 45 04.1	
	baz=316						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**00 16 39.1**	**-0.3**
	0.6nm,0.4s,baz=93,slow=8.8,SNR=1.7						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**00 16 57.9**	**0.0**
	1.8nm,0.6s,baz=87,slow=11,SNR=5.7						
	1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**00 17 11.8**	**-0.7**
	1.4nm,0.4s,baz=81,slow=8.5,SNR=4.9						
	1.4nm,0.4s						
ILAR	**Eielson Array**	**49.11**	**33**	P	**P**	**00 17 38.3**	**+1.1**
	0.8nm,0.7s,baz=270,slow=5.8,SNR=2.3						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**50.45**	**312**	P	**P**	**00 17 47.1**	**-0.5**
	0.9nm,0.6s,baz=81,slow=9.2,SNR=2.0						
BVAR				PcP	**PcP**	**00 19 04.6**	**-1.1**
	0.7nm,0.5s,baz=88,slow=3.5,SNR=2.5						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**57.43**	**188**	P	**P**	**00 18 38.7**	**-0.1**
	2.2nm,0.7s,baz=5.4,slow=7.4,SNR=6.4						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**61.16**	**188**	P	**P**	**00 19 04.3**	**-0.3**
	0.9nm,0.7s,baz=9.9,slow=8.2,SNR=3.0						
	0.9nm,0.7s						
ARCES	**ARCESS Array B**	**63.72**	**339**	P	**P**	**00 19 21.4**	**+0.2**
	2.4nm,0.8s,baz=46,slow=9.1,SNR=2.6						
	2.4nm,0.8s						
FINES	**FINESS Array B**	**68.58**	**332**	P	**P**	**00 19 52.2**	**-0.3**
	2.6nm,0.7s,baz=52,slow=7.7,SNR=3.4						
	2.6nm,0.7s						
HFS	**Hagfors**	**73.83**	**336**	P	**P**	**00 20 24.2**	**-0.2**
	2.6nm,0.9s,baz=48,slow=12,SNR=1.6						
	2.6nm,0.9s						
NB2	**NORSAR Subarra**	**73.92**	**337**	P	**P**	**00 20 24.7**	**-0.2**
	comp=Z,18nm,1.7s,baz=40,slow=6.2						
AKASG	**Malin Array Be**	**74.11**	**322**	P	**P**	**00 20 25.5**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=46,slow=6.3,SNR=2.2						
	comp=Z,1.1nm,0.6s						
TXAR	**Lajitas Array**	**89.78**	**52**	P	**P**	**00 21 49.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=298,slow=4.2,SNR=3.9						
	comp=Z,0.3nm,0.6s						
LPAZ	**La Paz**	**146.38**	**59**	PKPbc	**PKPdf**	**00 28 31.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=270,slow=6.1,SNR=1.9						

*IDC **22** 00:14:18.4±1.4, 37.21N×141.49E, h0km, mb3.5/5, mbtmp3.5/7, ML3.0/2, Error ellipse: s-maj=29.4km s-min=24.3km az=68.0*

*JMA **22** 00:14:21.9±0.2, 37.2N±0.3×141.4E±0.8, h27km±1km, MV3.7/37, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 22 00:14:20.0±1.8, **37.17N**±0.05×**141.44E**±0.07, **h11**km±10km, **n20**, σ0s **94**/22, **mb3.6**/5, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**294**	P	**Pb**	**00 14 30.6**	**-0.1**
JFK				S	**Sb**	**00 14 36.8**	**-1.2**
JFFD	**Fukushimafurud**	**0.71**	**264**	*i* P	**Pb**	**00 14 34.3**	**0.0**
JFFD				S	**Sg**	**00 14 42.7**	**-0.3**
JMST	**Minamisoumatoc**	**0.71**	**322**	*i* P	**Pb**	**00 14 34.4**	**0.0**
JMST				S	**Sb**	**00 14 43.6**	**-0.6**
JMM	**Marumori**	**0.87**	**324**	*i* P	**Pb**	**00 14 37.0**	**-0.1**
JMM				S	**Sb**	**00 14 48.1**	**-0.6**
JHO	**Hitachi**	**0.89**	**232**	P	**Pg**	**00 14 37.2**	**0.0**
JHO				S	**Sg**	**00 14 48.4**	**-0.4**
JSB	**Shiboa**	**1.23**	**261**	P	**Pg**	**00 14 44.0**	**+0.3**
JSB				S	**Sn**	**00 14 59.3**	**-0.5**
JIO	**Ouri**	**1.29**	**357**	P	**Pb**	**00 14 43.8**	**-0.4**
MJAR	**Matsushiro Arr**	**2.67**	**257**	Pn	**Pn**	**00 15 03.4**	**+0.5**
	0.8nm,0.3s,baz=78,slow=16,SNR=7.2						
MJAR				Sn	**Sn**	**00 15 36.7**	**+1.5**
	0.6nm,0.3s,baz=72,slow=13,SNR=4.5						
	5.8nm,0.4s						
JHJ	**Hachijo jima 2**	**4.26**	**199**	Pn	**Pn**	**00 15 26.1**	**+1.4**
	6.3nm,0.3s,baz=116,slow=23,SNR=6.4						
JHJ				Sn	**Sn**	**00 16 12.0**	**-2.5**
	12nm,0.3s,baz=63,slow=15,SNR=2.2						
	171nm,0.9s						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**00 20 08.5**	**+0.1**
	0.3nm,0.8s,baz=90,slow=7.2,SNR=2.1						
	0.3nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	00 49 44.2	
	baz=314,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	00 49 44.2	
	baz=314,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	00 49 44.8	
	baz=314,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	00 50 36.9	
	baz=315						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	00 50 34.7	
	baz=315						
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	00 50 35.2	
	baz=315						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**00 22 26.8**	**-1.1**

n17,σ1ᵍ37/16,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.62**	**289**	P	**Pg**	**00 19 13.5**	**+0.9**
JFK				S	**Sg**	**00 19 20.5**	**-0.2**
JMST	**Minamisoumatoc**	**0.80**	**314**	P	**Pb**	**00 19 16.4**	**-0.3**
JMST				S	**Sb**	**00 19 26.1**	**-1.6**
JFFD	**Fukushimafurud**	**0.85**	**265**	P	**Pb**	**00 19 17.1**	**-0.4**
JMM	**Marumori**	**0.95**	**317**	P	**Pb**	**00 19 19.0**	**-0.4**
JHO	**Hitachi**	**1.01**	**237**	P	**Pb**	**00 19 19.6**	**-0.6**
JHO				*e*S	**Sb**	**00 19 31.1**	**-2.5**
JIO	**Ouri**	**1.30**	**351**	P	**Pn**	**00 19 25.1**	**+0.1**
JIO				*e*S	**Sb**	**00 19 40.2**	**-1.9**
MJAR	**Matsushiro Arr**	**2.80**	**258**	Pn	**Pn**	**00 19 45.9**	**+0.1**
	0.1nm,0.3s,baz=84,slow=26,SNR=1.1						
MJAR				Sn	**Sn**	**00 20 22.0**	**+2.2**
	1.1nm,0.3s,baz=38,slow=22,SNR=2.2						
	7.8nm,0.3s						
SONM	**Songino Arbay**	**27.84**	**304**	P	**P**	**00 24 50.2**	**-0.4**
	0.3nm,0.5s,baz=81,slow=8.9,SNR=3.0						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	00 53 09.5	
	baz=315,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	00 53 09.5	
	baz=315,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	00 53 09.5	
	baz=315,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	00 54 02.5	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	00 54 02.5	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	00 54 02.5	
	baz=316						
ZALV	**Zalesovo Beam**	**41.94**	**312**	P	**P**	**00 26 53.3**	**+1.7**
	0.4nm,0.5s,baz=81,slow=8.9,SNR=1.7						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**00 27 09.9**	**0.0**
	0.6nm,0.8s,baz=94,slow=8.8,SNR=3.0						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**00 27 24.4**	**-0.1**
	0.4nm,0.5s,baz=82,slow=8.0,SNR=2.0						
	0.4nm,0.5s						

WEL 22 00:19:06.0±0.5,42˚S×3˚×17˚4E±˚,h8km±6km,M3.1/12, ML3.4/12,MLv3.1/12,Error ellipse: s-maj=0.0km s-min=0.0km az=128.5,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.50**	**23**	P	Pg	00 19 16.4	+0.7
BSWZ				S	Sb	00 19 23.7	-0.8
CMWZ	**Cape Campbell**	**0.62**	**46**	P	Pb	00 19 19.4	+0.4
THZ	**Tophouse**	**0.68**	**308**	P	Pg	00 19 19.1	+0.1
THZ				S	Sg	00 19 28.0	+0.2
TUWZ	**Tuamarina**	**0.79**	**18**	P	Pb	00 19 21.7	-0.2
GVZ	**Greta Valley S**	**0.90**	**209**	P	Pg	00 19 21.3	-2.0
GVZ				S	Sn	00 19 37.4	-0.8
NNZ	**Nelson**	**0.98**	**349**	P	Pg	00 19 24.6	-0.2
MRNZ	**Matariki Terra**	**1.01**	**320**	P	Pg	00 19 25.5	+0.1
MRNZ				S	Sb	00 19 39.2	0.0
TCW	**Tory Channel**	**1.08**	**27**	P	Pg	00 19 26.5	-0.3
TCW				S	Sn	00 19 42.2	-0.6
LTZ	**Lake Taylor**	**1.17**	**238**	P	Pg	00 19 27.8	-0.6
AMCZ	**Amberley**	**1.23**	**215**	P	Pb	00 19 28.7	-0.7
TKNZ	**Takaka Hill**	**1.25**	**336**	P	Pn	00 19 29.4	-0.3
PLWZ	**Palliser**	**1.36**	**64**	P	Pn	00 19 30.1	-1.3
DUWZ	**D'Urville Isla**	**1.39**	**9**	P	Pn	00 19 31.6	-0.2
DSZ	**Denniston Nort**	**1.42**	**287**	P	Pb	00 19 32.8	0.0
MSWZ	**Moikau Station**	**1.44**	**59**	P	Pn	00 19 30.5	-1.9
CAW	**Cannon Point**	**1.52**	**46**	P	Pn	00 19 32.6	-1.0
QRZ	**Quartz Range**	**1.58**	**328**	P	Pn	00 19 34.8	+0.5
OKCZ	**Okains Bay**	**1.60**	**195**	P	Pn	00 19 33.2	-1.4
KIW	**Kapiti Island**	**1.63**	**37**	P	Pn	00 19 34.6	-0.5
OXZ	**Oxford**	**1.64**	**225**	P	Pg	00 19 37.0	-0.3
MQZ	**McQueen's Vall**	**1.68**	**205**	P	Pn	00 19 33.5	-2.2
INZ	**Inchbonnie**	**1.70**	**251**	P	Pn	00 19 35.8	-0.2
MTW	**Mount Morrison**	**1.74**	**55**	P	Pn	00 19 35.0	-1.6
OGWZ	**Otaki Gorge**	**1.79**	**41**	P	Pn	00 19 34.8	-2.4
MRZ	**Mangatainoka R**	**2.11**	**45**	P	Pn	00 19 40.1	-1.6
WPHZ	**Waipukurau**	**3.00**	**46**	P	Pb	00 19 58.2	-1.5
WNVZ	**Wahianoa**	**3.22**	**28**	P	Pn	00 19 57.6	+0.5
KAHZ	**Kahuranaki**	**3.43**	**47**	P	Pn	00 19 58.9	-0.9
KWHZ	**Kaweka Forest**	**3.48**	**39**	P	Pn	00 20 05.6	-2.3
MCHZ	**McNeill Hill**	**3.59**	**42**	P	Pn	00 20 04.3	+2.3
CKHZ	**Cape Kidnapper**	**3.63**	**47**	P	Pn	00 20 00.0	-2.6
ARHZ	**Aropaoanui**	**3.88**	**42**	P	Pn	00 20 05.9	-0.1
NMHZ	**Naumai**	**3.92**	**39**	P	Pn	00 20 08.7	+2.2
MTHZ	**Maungataniwha**	**4.13**	**38**	P	Pn	00 20 11.5	+2.1
WHHZ	**Waihua**	**4.14**	**43**	P	Pn	00 20 08.2	-1.3
RAHZ	**Arahi**	**4.19**	**40**	P	Pn	00 20 10.4	+0.1
SNGZ	**Shannon Statio**	**4.42**	**41**	P	Pn	00 20 12.0	-1.4

*WEL **22** 00:19:00,40.67S×177.23E,h17km,ML5.5,Mw6.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{18}Nm; M_{rr}0.92; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-0.43; $M_{r\theta}$0.03; $M_{\theta\phi}$-0.94; $M_{\phi r}$0.54; Fault plane solution: $M_0$1.32000×10^{18} NP1: ϕ_s253.00000°,δ42.00000°,λ132.00000°. NP2: ϕ_s22.00000°,δ60.00000°,λ59.00000°. Principal axes: T -147233.8600, Plg61.0000°, Azm243.0000°; N 29744.4300, Plg27.0000°, Azm38.0000°; P 117489.4200, Plg10.0000°, Azm134.0000°;*

*IDC **22** 00:19:41.1±0.5,40.30S×177.09E,h0km,mb4.8/14, mbtmp4.8/14,MS5.8/38 Error ellipse: s-maj=23.1km s-min=14.6km az=53.0*

*NOU **22** 00:19:41.4,40.67S×177.34E,h0km,ML5.8/94,Off E. Coast of N. Island, N.Z.*

*BJI **22** 00:19:41.7±0.0,40.75S×176.92E,h13km,mb5.5/17, mB6.3/10,Ms6.0/30,Ms7 5.9/29*

*WEL **22** 00:19:42.5±0.9,41˚S±4˚×17˚7E±˚,h29km±7km,M5.5/19, mB6.0/10,ML5.7/19,MLv5.4/19,Mw(mB)5.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6*

*MOS **22** 00:19:43.1±1.2,40.47S×176.99E,h18km,mb5.6/15, MS5.9/10,Error ellipse: s-maj=16.2km s-min=10.6km az=122.9*

*NEIC **22** 00:19:43.0±1.9,40.60S±0.06×177.04E±0.10,h9km±3km, mb5.6/120,Ms_20 6.1/383,Mww5.9, Error ellipse: s-maj=10.8km s-min=8.5km az=108.0*

*GCMT **22** 00:19:50.0±0.2,40.79S±0.01×177.58E±0.02,h12km, MW6.0/122,Moment Tensor Solution. s86,c123; s122,c180; Duration: 28.7 Moment tensor: Scale 10^{18} Nm; M_{rr}0.54±.02; $M_{\theta\theta}$-0.23±.01; $M_{\phi\phi}$-0.31±.01; $M_{r\theta}$0.57±.04; $M_{\theta\phi}$-0.32±.01; $M_{\phi r}$1.00±.04; Best double couple: $M_0$1.28200×10^{18} NP1:ϕ_s31.00000°,δ77.00000°, λ85.00000°. NP2:ϕ_s233.00000°,δ14.00000°,λ112.00000°. Principal axes: T 1.2660, Plg58.0000°, Azm294.0000°; N 0.0310, Plg5.0000°, Azm32.0000°; P -1.2980, Plg32.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **22** 00:19:53,40.99S×177.67E,h20km,Moment Tensor Solution. Duration: 20s0 Moment tensor: Scale 10^{17}Nm; M_{rr}2.18; $M_{\theta\theta}$0.45; $M_{\phi\phi}$-2.64; $M_{r\theta}$5.07; $M_{\theta\phi}$-3.03; $M_{\phi r}$7.50; Fault plane solution: $M_0$9.86000×10^{17} NP1: ϕ_s203.00000°,δ10.00000°,λ79.00000°. NP2:ϕ_s34.00000°, δ80.00000°,λ92.00000°. Principal axes: T 8.5090, Plg55.0000°, Azm307.0000°; N 2.2908, Plg2.0000°, Azm214.0000°; P -10.7998, Plg35.0000°, Azm123.0000°;*

ISC 22 00:19:43.8±0.6,40.64S±0.02×177.18E±0.03,h16km±3km, n950,σ1ᵍ95/761,mb5.6/122,MS6.1/245,35C-14D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.56**	**312**	P	**Pg**	**00 19 54.6**	**-0.3**
PRHZ	**Porangahau**	**0.56**	**312**	P	**Pg**	**00 19 54.4**	**-0.5**
PRHZ				S	**Sn**	**00 20 06.1**	**0.0**
ANWZ	**Angora Road**	**0.57**	**289**	P	**Pg**	**00 19 55.1**	**+0.1**
ANWZ	**Angora Road**	**0.57**	**289**	P	**Pg**	**00 19 54.9**	**-0.1**
ANWZ				S	**Sn**	**00 20 06.5**	**+0.3**
PXZ	**Pawanui**	**0.66**	**338**	P	**Pg**	**00 19 55.6**	**-1.1**
PXZ	**Pawanui**	**0.66**	**338**	P	**Pg**	**00 19 55.9**	**-0.8**
PXZ				S	**Sb**	**00 20 05.9**	**+0.1**
BFZ	**Birch Farm**	**0.71**	**267**	Pg	**Pg**	**00 19 56.9**	**-0.7**
BFZ	**Birch Farm**	**0.71**	**267**	P	**Pb**	**00 19 58.1**	**+0.3**
BFZ	**Birch Farm**	**0.71**	**267**	P	**Pg**	**00 19 57.0**	**-0.7**
BFZ				S	**Sn**	**00 20 08.6**	**-1.2**
CPWZ	**Castlepoint**	**0.79**	**250**	P	**Pb**	**00 19 58.5**	**-0.6**
WPHZ	**Waipukurau**	**0.81**	**315**	P	**Pb**	**00 19 59.2**	**-0.2**
DVHZ	**Dannevirke**	**0.85**	**294**	P	**Pb**	**00 19 58.7**	**-1.4**
KAHZ	**Kahuranaki**	**0.88**	**345**	S	**Sn**	**00 20 13.7**	**-0.3**
PRWZ	**Pori Road**	**0.93**	**275**	P	**Pb**	**00 20 00.3**	**-1.1**
CKHZ	**Cape Kidnapper**	**0.99**	**355**	P	**Pb**	**00 20 00.7**	**-1.8**
CKHZ				S	**Sb**	**00 20 14.5**	**-0.8**
TIWZ	**Tintock**	**0.99**	**262**	P	**Pb**	**00 20 01.0**	**-1.6**
PNHZ	**Pukenui**	**1.04**	**314**	P	**Pb**	**00 20 01.5**	**-2.0**
TMWZ	**Te Maipa**	**1.08**	**244**	P	**Pb**	**00 20 01.8**	**-2.3**
TSZ	**Takapari Road**	**1.10**	**302**	P	**Pb**	**00 20 02.4**	**-2.0**
POWZ	**Post Office Ro**	**1.10**	**283**	P	**Pb**	**00 20 02.9**	**-1.6**
MRZ	**Mangatainoka R**	**1.22**	**269**	Pn	**Pn**	**00 20 04.0**	**-2.1**
MRZ	**Mangatainoka R**	**1.22**	**269**	P	**Pn**	**00 20 04.0**	**-2.1**
MRZ				S	**Sb**	**00 20 20.3**	**-1.6**
HOWZ	**Holdsworth Sta**	**1.29**	**258**	P	**Pn**	**00 20 04.8**	**-2.4**
TRWZ	**Traveller**	**1.36**	**236**	P	**Pn**	**00 20 05.1**	**-3.0**
MTW	**Mount Morrison**	**1.37**	**247**	P	**Pn**	**00 20 05.7**	**-2.6**
BHHZ	**Black Hill Sta**	**1.44**	**323**	P	**Pn**	**00 20 06.8**	**-2.4**
OHWZ	**Ohakea**	**1.49**	**286**	P	**Pn**	**00 20 09.3**	**-0.5**
PAWZ	**Paruwai Farm**	**1.52**	**240**	P	**Pn**	**00 20 07.4**	**-2.9**
PAWZ				S	**Sn**	**00 20 27.8**	**-1.9**
OGWZ	**Otaki Gorge**	**1.54**	**263**	P	**Pn**	**00 20 08.4**	**-2.1**
BKZ	**Black Stump Fm**	**1.57**	**340**	Pn	**Pn**	**00 20 09.1**	**-1.9**
BKZ				Sn	**Sn**	**00 20 25.8**	**-5.1**
BKZ	**Black Stump Fm**	**1.57**	**340**	P	**Pn**	**00 20 09.9**	**-1.1**
BKZ	**Black Stump Fm**	**1.57**	**340**	P	**Pn**	**00 20 08.6**	**-2.4**
MHGZ	**Mahia Peninsul**	**1.59**	**21**	P	**Pn**	**00 20 07.4**	**-3.8**
MSWZ	**Moikau Station**	**1.65**	**241**		**Pn**	**00 20 10.1**	**-2.0**
MSWZ	**Moikau Station**	**1.65**	**241**	P	**Pn**	**00 20 09.4**	**-2.7**
KNZ	**Kokohu**	**1.66**	**13**	P	**Pn**	**00 20 08.6**	**-3.6**
KNZ				S	**Sn**	**00 20 28.1**	**-5.1**
CAW	**Cannon Point**	**1.67**	**253**	P	**Pn**	**00 20 09.9**	**-2.4**
PLWZ	**Palliser**	**1.72**	**237**	Pn	**Pn**	**00 20 10.6**	**-2.6**
PLWZ	**Palliser**	**1.72**	**237**	P	**Pn**	**00 20 09.7**	**-3.5**
KIW	**Kapiti Island**	**1.74**	**262**	P	**Pn**	**00 20 11.5**	**-1.8**
KIW				S	**Sn**	**00 20 32.5**	**-2.6**
WNVZ	**Wahianoa**	**1.79**	**317**	P	**Pn**	**00 20 13.5**	**-0.6**
MTVZ	**Mangateitei**	**1.82**	**313**	P	**Pn**	**00 20 14.1**	**-0.3**
WHVZ	**Whangaehu Hut**	**1.83**	**317**	P	**Pn**	**00 20 14.0**	**-0.7**
TRVZ	**Turoa**	**1.84**	**316**	P	**Pn**	**00 20 15.1**	**+0.3**
DRZ	**Dome Shelter**	**1.85**	**317**	P	**Pn**	**00 20 15.5**	**+0.4**
FWVZ	**Far West T-bar**	**1.87**	**317**	P	**Pn**	**00 20 14.6**	**-0.6**
SNVZ	**South Ngauruho**	**1.88**	**320**	P	**Pn**	**00 20 14.8**	**-0.6**
ETVZ	**East Tongariro**	**1.88**	**323**	P	**Pn**	**00 20 14.8**	**-0.6**
MRHZ	**Matea Rd**	**1.90**	**342**	P	**Pn**	**00 20 13.7**	**-1.9**
WAZ	**Wanganui**	**1.90**	**297**	P	**Pn**	**00 20 17.0**	**-1.0**
TMVZ	**Te Maari**	**1.90**	**323**	P	**Pn**	**00 20 14.9**	**-0.8**
NTVZ	**North Tongarir**	**1.93**	**323**	P	**Pn**	**00 20 15.1**	**-0.9**
NNVZ	**North Ngauruho**	**1.93**	**321**	P	**Pn**	**00 20 15.5**	**-0.6**
WEL	**Wellington**	**1.94**	**250**	P	**Pn**	**00 20 13.5**	**-2.5**
HATZ	**Hinemaiaia**	**1.94**	**334**	P	**Pn**	**00 20 15.7**	**-0.4**
KRVZ	**Karewarewa**	**1.95**	**322**	P	**Pn**	**00 20 15.8**	**-0.5**
RITZ	**Rihia Road**	**1.95**	**328**	P	**Pn**	**00 20 15.3**	**-0.9**
PKVZ	**Pokaka**	**1.95**	**313**	P	**Pn**	**00 20 16.0**	**-0.3**
RIGZ	**Rimuhau**	**1.99**	**13**	P	**Pn**	**00 20 13.3**	**-3.5**
SNZO	**South Karori**	**1.99**	**250**		**Pn**	**00 20 14.9**	**-1.8**
SNZO	**South Karori**	**1.99**	**250**	P	**Pn**	**00 20 16.2**	**-0.5**
KATZ	**Kakaramea**	**2.02**	**325**	P	**Pn**	**00 20 17.3**	**+0.1**
RTZ	**Ruatahuna**	**2.03**	**356**	Pn	**Pn**	**00 20 14.5**	**-2.8**
RTZ	**Ruatahuna**	**2.03**	**356**	P	**Pn**	**00 20 14.6**	**-2.7**
TWVZ	**Taurewa**	**2.06**	**319**	P	**Pn**	**00 20 17.1**	**-0.8**
RATZ	**Rangitukua**	**2.08**	**328**	P	**Pn**	**00 20 17.6**	**-0.5**
RAGZ	**Rawiri**	**2.15**	**5**	P	**Pn**	**00 20 15.7**	**-3.3**
ALLZ	**Allen Road**	**2.18**	**343**	P	**Pn**	**00 20 18.0**	**-1.2**
MUGZ	**Murupara**	**2.19**	**352**	P	**Pn**	**00 20 17.3**	**-2.2**
WHTZ	**Whakaora**	**2.19**	**334**	P	**Pn**	**00 20 19.2**	**-0.4**
TKGZ	**Te Karaka**	**2.26**	**13**	P	**Pn**	**00 20 16.8**	**-3.6**
TCW	**Tory Channel**	**2.27**	**255**		**Pn**	**00 20 18.2**	**-2.4**
TCW	**Tory Channel**	**2.27**	**255**	P	**Pn**	**00 20 18.3**	**-2.3**
CNGZ	**Carnagh Statio**	**2.30**	**21**	P	**Pn**	**00 20 17.6**	**-3.4**
MWZ	**Matawai**	**2.32**	**7**	P	**Pn**	**00 20 17.6**	**-3.8**
HRRZ	**Handcock Road**	**2.35**	**343**	P	**Pn**	**00 20 20.9**	**-0.9**
RRRZ	**Republican Roa**	**2.36**	**347**	P	**Pn**	**00 20 21.8**	**-0.1**
URZ	**Urewera**	**2.38**	**359**	P	**Pn**	**00 20 20.4**	**-1.7**
URZ	**Urewera**	**2.38**	**359**	P	**Pn**	**00 20 18.9**	**-3.2**
VRZ	**Vera Road**	**2.40**	**308**	P	**Pn**	**00 20 22.0**	**-0.4**
GRRZ	**Galatos Road**	**2.44**	**340**	P	**Pn**	**00 20 21.8**	**-1.1**
HSRZ	**Hossack Road**	**2.44**	**342**	P	**Pn**	**00 20 21.7**	**-1.2**
TARZ	**Mount Tarawera**	**2.46**	**348**	P	**Pn**	**00 20 21.1**	**-2.2**
HLRZ	**Highlands Stat**	**2.47**	**345**	P	**Pn**	**00 20 23.5**	**+0.1**
DUWZ	**D'Urville Isla**	**2.48**	**265**	P	**Pn**	**00 20 22.4**	**-1.1**
CMWZ	**Cape Campbell**	**2.50**	**241**		**Pn**	**00 20 22.3**	**-1.4**
CMWZ	**Cape Campbell**	**2.50**	**243**	P	**Pn**	**00 20 22.3**	**-1.4**
TWGZ	**Tauwhareparae**	**2.54**	**14**	P	**Pn**	**00 20 20.7**	**-3.6**
EDRZ	**Edgecumbe**	**2.56**	**352**	P	**Pn**	**00 20 23.2**	**-1.4**
MKRZ	**Makatiti**	**2.56**	**347**	P	**Pn**	**00 20 23.6**	**-1.0**
TUWZ	**Tuamarina**	**2.57**	**251**		**Pn**	**00 20 23.0**	**-1.7**
TUWZ	**Tuamarina**	**2.57**	**251**	P	**Pn**	**00 20 21.4**	**-3.3**
UTU	**Utuhina**	**2.58**	**342**	P	**Pn**	**00 20 24.5**	**-0.3**
OMRZ	**Omania**	**2.61**	**346**	P	**Pn**	**00 20 22.8**	**-2.5**
TLZ	**Tolley Road**	**2.64**	**331**	P	**Pn**	**00 20 24.1**	**-1.6**
MARZ	**Manawahe**	**2.68**	**351**	P	**Pn**	**00 20 25.0**	**-1.3**
MHEZ	**Mangahewa**	**2.70**	**305**	P	**Pn**	**00 20 27.5**	**+1.0**
PUZ	**Puketiti**	**2.70**	**18**	P	**Pn**	**00 20 22.9**	**-3.6**
RUGZ	**Raukumara Rang**	**2.70**	**8**	P	**Pn**	**00 20 22.9**	**-3.7**
DREZ	**Durham Road**	**2.71**	**301**	P	**Pn**	**00 20 28.1**	**+1.5**
BSWZ	**Blackbirch Sta**	**2.71**	**246**		**Pn**	**00 20 23.9**	**-2.8**
BSWZ	**Blackbirch Sta**	**2.71**	**246**	P	**Pn**	**00 20 23.7**	**-3.0**
KARZ	**Kaharoa**	**2.72**	**344**	P	**Pn**	**00 20 25.7**	**-1.1**
NEZ	**North Egmont**	**2.74**	**299**	P	**Pn**	**00 20 28.1**	**+0.9**
KHEZ	**Kahui Hut**	**2.78**	**298**	P	**Pn**	**00 20 30.3**	**+2.6**
KHEZ	**Kahui Hut**	**2.78**	**298**	P	**Pn**	**00 20 29.2**	**+1.5**
HIZ	**Hauiti**	**2.78**	**319**	Pn	**Pn**	**00 20 25.8**	**-1.9**
HIZ	**Hauiti**	**2.78**	**319**	P	**Pn**	**00 20 27.9**	**+0.2**
HIZ	**Hauiti**	**2.78**	**319**	P	**Pn**	**00 20 26.5**	**-1.2**
WHRZ	**Whale Island**	**2.79**	**357**	P	**Pn**	**00 20 26.1**	**-1.7**
NMEZ	**Namu Road**	**2.82**	**295**	P	**Pb**	**00 20 31.4**	**-2.2**
OPRZ	**Ohinepanea**	**2.84**	**350**	P	**Pn**	**00 20 26.5**	**-1.9**
PKGZ	**Pakihiroa**	**2.84**	**14**	P	**Pn**	**00 20 24.6**	**-3.9**
PKE	**Pukeiti**	**2.85**	**299**	P	**Pn**	**00 20 30.1**	**+1.5**
NBEZ	**Newall Road No**	**2.89**	**297**	P	**Pn**	**00 20 31.4**	**+2.2**
HAZ	**Te Kaha**	**2.92**	**9**	P	**Pn**	**00 20 26.5**	**-3.0**
NNZ	**Nelson**	**2.94**	**257**		**Pn**	**00 20 28.1**	**-1.6**
NNZ	**Nelson**	**2.94**	**257**	P	**Pn**	**00 20 27.5**	**-2.2**
KMRZ	**Kaimai**	**2.95**	**341**	P	**Pn**	**00 20 29.4**	**-0.6**
WMGZ	**Waiomatatini S**	**2.98**	**19**	P	**Pn**	**00 20 26.6**	**-3.7**
TOZ	**Tahuroa Road**	**3.19**	**335**	P	**Pn**	**00 20 31.9**	**-1.3**
MXZ	**Matakaoa Point**	**3.20**	**16**	Pn	**Pn**	**00 20 30.9**	**-2.5**
MXZ	**Matakaoa Point**	**3.20**	**16**	P	**Pn**	**00 20 30.5**	**-2.8**
MXZ	**Matakaoa Point**	**3.20**	**16**	P	**Pn**	**00 20 29.3**	**-4.1**
TKNZ	**Takaka Hill**	**3.23**	**262**		**Pn**	**00 20 31.9**	**-1.8**
TKNZ	**Takaka Hill**	**3.23**	**262**	P	**Pn**	**00 20 32.0**	**-1.8**
KHZ	**Kahutara**	**3.26**	**236**		**Pn**	**00 20 31.6**	**-2.5**
THZ	**Tophouse**	**3.41**	**249**	Pn	**Pn**	**00 20 34.8**	**-1.6**
THZ	**Tophouse**	**3.41**	**249**	P	**Pn**	**00 20 33.5**	**-2.9**
MRNZ	**Matariki Terra**	**3.43**	**256**		**Pn**	**00 20 35.0**	**-1.6**
MRNZ	**Matariki Terra**	**3.43**	**256**	P	**Pn**	**00 20 34.3**	**-2.3**
MYRZ	**Mayor Island**	**3.44**	**347**	P	**Pn**	**00 20 36.2**	**-0.5**
QRZ	**Quartz Range**	**3.54**	**266**	Pn	**Pn**	**00 20 36.4**	**-1.6**
QRZ	**Quartz Range**	**3.54**	**266**	P	**Pn**	**00 20 36.1**	**-2.0**
MKAZ	**Moumakai**	**3.87**	**335**	P	**Pn**	**00 20 41.1**	**-1.5**
GVZ	**Greta Valley S**	**3.87**	**232**	Pn	**Pn**	**00 20 39.2**	**-3.4**
GVZ	**Greta Valley S**	**3.87**	**232**	P	**Pn**	**00 20 39.2**	**-3.4**
KUZ	**Kuaotunu**	**4.05**	**343**	P	**Pn**	**00 20 43.6**	**-1.5**
KUZ	**Kuaotunu**	**4.05**	**343**	P	**Pn**	**00 20 44.1**	**-1.1**
ETAZ	**East Tamaki Re**	**4.08**	**334**	P	**Pn**	**00 20 46.3**	**+0.8**
AWAZ	**Awhitu Peninsu**	**4.08**	**330**	P	**Pn**	**00 20 44.7**	**-0.8**
WIAZ	**Waiheke Island**	**4.16**	**337**	P	**Pn**	**00 20 45.0**	**-1.6**
DSZ	**Denniston Nort**	**4.20**	**253**	Pn	**Pn**	**00 20 44.4**	**-2.8**
DSZ	**Denniston Nort**	**4.20**	**253**	P	**Pn**	**00 20 44.0**	**-3.2**
EPAZ	**Eden Park BICE**	**4.22**	**332**	P	**Pn**	**00 20 47.7**	**+0.4**
AMCZ	**Amberley**	**4.22**	**232**		**Pn**	**00 20 45.5**	**-1.9**
AMCZ	**Amberley**	**4.22**	**232**	P	**Pn**	**00 20 45.5**	**-1.9**
WTAZ	**Waiatarua**	**4.23**	**330**	P	**Pn**	**00 20 47.4**	**-0.1**
HBAZ	**Herne Bay Bore**	**4.24**	**332**	P	**Pn**	**00 20 48.1**	**+0.4**
LTZ	**Lake Taylor**	**4.25**	**238**	Pn	**Pn**	**00 20 47.4**	**-0.4**
LTZ	**Lake Taylor**	**4.25**	**238**	P	**Pn**	**00 20 45.1**	**-2.7**
MBAZ	**Motutapu North**	**4.26**	**335**	P	**Pn**	**00 20 47.9**	**0.0**
OKCZ	**Okains Bay**	**4.34**	**223**	P	**Pn**	**00 20 45.4**	**-3.7**
RVAZ	**Riverhead Bore**	**4.37**	**331**	P	**Pn**	**00 20 49.4**	**-0.1**
ABAZ	**Army Bay**	**4.43**	**335**	P	**Pn**	**00 20 50.0**	**-0.4**
AKCZ	**Akaroa Harbour**	**4.52**	**223**	P	**Pn**	**00 20 48.3**	**-3.3**
MQZ	**McQueen's Vall**	**4.55**	**226**	Pn	**Pn**	**00 20 48.4**	**-3.5**
MQZ	**McQueen's Vall**	**4.55**	**226**	P	**Pn**	**00 20 48.3**	**-3.5**
GRZ	**Great Barrier**	**4.59**	**342**	P	**Pn**	**00 20 51.4**	**-1.1**
OXZ	**Oxford**	**4.68**	**233**	P	**Pn**	**00 20 50.8**	**-2.8**
INZ	**Inchbonnie**	**4.77**	**242**	P	**Pn**	**00 20 52.2**	**-2.8**
MHCZ	**Mount Hutt**	**5.08**	**234**	P	**Pn**	**00 20 55.5**	**-3.7**
WACZ	**Wakanui South**	**5.15**	**228**	mB			
WCZ	**Waipu Caves**	**5.20**	**334**	mB			
WVZ	**Waitaha Valley**	**5.39**	**241**	mB			
RPZ	**Rata Peaks**	**5.49**	**234**	Pn	**Pn**	**00 21 02.4**	**-2.5**
	8.9nm,0.3s,baz=70,slow=4.6,SNR=9.5						
RPZ				Sn	**Sn**	**00 22 00.7**	**-6.9**
	32nm,0.3s,baz=329,slow=22,SNR=19						
RPZ	**Rata Peaks**	**5.49**	**234**		**Pn**	**00 21 02.6**	**-2.2**
RPZ	**Rata Peaks**	**5.49**	**234**	P	**Pn**	**00 21 02.6**	**-2.2**
RPZ	**Rata Peaks**	**5.49**	**234**	mB			
ARCZ	**Arundel**	**5.54**	**231**	mB			
CTZ	**Chatham Island**	**5.55**	**126**	P	**Pn**	**00 21 04.0**	**-1.6**
CTZ	**Chatham Island**	**5.55**	**126**	P	**Pn**	**00 21 03.5**	**-2.1**
CTZ				S	Sn	00 22 00.2	-8.8
GCSZ	**Gaunt Creek Bo**	**5.76**	**240**	mB			
TMZ	**Timaru**	**5.90**	**229**	mB			
OUZ	**Omahuta**	**6.11**	**331**	P	**Pn**	**00 21 12.5**	**-0.8**
OUZ	**Omahuta**	**6.11**	**331**	mB			
FOZ	**Fox Glacier**	**6.19**	**240**		**Pn**	**00 21 13.3**	**-1.1**
FOZ	**Fox Glacier**	**6.19**	**240**	mB			
LBZ	**Lake Benmore**	**6.38**	**232**		**Pn**	**00 21 14.3**	**-2.8**
LBZ	**Lake Benmore**	**6.38**	**232**	mB			
ODZ	**Otahua Downs**	**6.51**	**225**	P	**Pn**	**00 21 19.3**	**+0.4**
ODZ	**Otahua Downs**	**6.51**	**225**	mB			
JCZ	**Jackson Bay**	**7.10**	**238**	P	**Pn**	**00 21 26.3**	**-0.7**
JCZ	**Jackson Bay**	**7.10**	**238**	mB			
HHSZ	**Highcliff Hill**	**7.11**	**220**	mB			
WKZ	**Wanaka**	**7.32**	**232**	Pn	**Pn**	**00 21 29.1**	**-0.9**
MLZ	**Mavora Lakes**	**8.14**	**232**		**Pn**	**00 21 40.1**	**-1.2**
MLZ	**M

CTAO MLR MLR
comp=Z,27µm,20.0s
BBOO Buckleboo 33.63 270 P **P** **00 26 22.9 -0.6**
baz=34,SNR=19
BBOO Buckleboo 33.63 270 P **P** **00 26 22.1 -1.5**
BBOO Buckleboo 33.63 270 P **P** **00 26 23.8 +0.3**
MTSU Mount Surprise 36.05 299 P **P** **00 26 45.2 +0.7**
baz=36,SNR=6.6
MTSU Mount Surprise 36.05 299 P **P** **00 26 44.6 +0.1**
MULG Mulgathing 36.30 273 P **P** **00 26 47.0 +0.5**
OOD Oodnadatta 36.30 278 P **P** **00 26 47.5 +0.9**
PAE Paea 36.63 61 *e*T T 01 05 28.6
comp=Z,90nm,0.4s
PPT2 Papeete2 36.69 61 *e*S **S** **00 32 36.1 +3.2**
comp=Z,1µm,23.2s
PPT2 *e*LQ LQ 00 35 11.8
comp=Z,15µm,23.2s
PPT2 *e*LR LR 00 36 45.7
comp=Z,28µm,25.0s
PPT2 *e*LR LR 00 36 45.8
comp=Z,20µm,25.0s
PPT2 Papeete2 36.69 61 *e*T T 01 05 32.0
comp=Z,46nm,0.4s
PPT Papeete 36.70 61 LR LR 00 41 00.7
comp=Z,11µm,18.1s,baz=236,slow=35
MEH Mehetia 37.50 63 *e*T T 01 06 39.0
comp=Z,11nm,0.3s
VNDA Vanda 37.54 185 P **P** **00 26 58.8 +2.2**
comp=Z,2.5nm,0.9s,baz=10,slow=8.5,SNR=9.8
VNDA S **S** **00 32 44.9 +0.2**
comp=Z,1.2nm,1.2s,baz=16,slow=7.6,SNR=1.7
comp=Z,2.5nm,0.9s
VNDA Vanda 37.54 185 P **P** **00 26 58.1 +1.6**
SBA Scott Base 37.57 184 P **P** **00 27 00.4 +3.6**
SBA Scott Base 37.57 184 P **P** **00 27 00.4 +3.6**
SBA pmax pmax
comp=Z,100nm,1.7s
SBA MLR MLR
comp=Z,18µm,20.0s
QIS Mount Isa 37.66 291 P **P** **00 26 58.1 -0.1**
baz=38,SNR=13
QIS Mount Isa 37.66 291 P **P** **00 26 58.3 +0.1**
COEN Coen 39.83 302 P **P** **00 27 16.4 -0.1**
baz=40,SNR=4.8
COEN Coen 39.83 302 P **P** **00 27 15.2 -1.3**
COEN Coen 39.83 302 P **P** **00 27 17.7 +1.2**
AS01 Alice Springs 39.89 282 P **P** **00 27 17.0 +0.1**
comp=Z,33nm,1.3s
AS31 Alice Springs 39.92 282 P **P** **00 27 16.8 -0.4**
ASAR Alice Springs 39.92 282 P **P** **00 27 15.3 -1.9**
comp=Z,68nm,1.2s,baz=120,slow=6.9,SNR=60
ASAR PcP **PcP** **00 29 20.3 -2.3**
comp=Z,15nm,1.0s,baz=120,slow=4.3,SNR=5.4
ASAR S S 00 33 05.3 -16
comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=1.3
ASAR LR LR 00 44 47.7
comp=Z,41µm,18.2s,baz=138,slow=38
comp=Z,68nm,1.2s
ASAR Alice Springs 39.92 282 P **P** **00 27 16.9 -0.3**
ASAR Alice Springs 39.92 282 P **P** **00 27 16.9 -0.3**
FORT Forrest 40.62 268 P **P** **00 27 22.8 -0.2**
baz=40,SNR=11
FORT Forrest 40.62 268 P **P** **00 27 22.4 -0.5**
FORT IAmb IAmb 00 27 27.0
comp=Z,108nm,1.1s
FORT Forrest 40.62 268 P **P** **00 27 23.4 +0.5**
PMG Port Moresby 40.93 311 LR LR 00 43 04.8
comp=Z,20µm,19.6s,baz=153,slow=34
PMG Port Moresby 40.93 311 P **P** **00 27 26.6 +1.1**
PMG IAmb IAmb 00 27 31.4
comp=Z,190nm,1.4s
PMG Port Moresby 40.93 311 IAMs_20 IAMs_20 00 43 13.4
comp=Z,22µm,19.0s
PMG Port Moresby 40.93 311 P **P** **00 27 26.5 +0.9**
comp=Z,4µmcomp=Z,116nm,1.7s
PMG Port Moresby 40.93 311 P **P** **00 27 27.5 +1.9**
PMG Port Moresby 40.93 311 *i* P **P** **00 27 25.0 -0.6**
PMG pmax pmax
comp=Z,108nm,1.1s
WR0 Warramunga Arr 41.69 287 P **P** **00 27 30.6 -1.2**
WB1 Warramunga Ar. 41.83 286 P **P** **00 27 31.8 -1.2**
WB2 Warramunga Arr 41.84 287 P **P** **00 27 31.6 -1.5**
baz=42
WB2 Warramunga Arr 41.84 287 P **P** **00 27 31.6 -1.5**
WB2 IAmb IAmb 00 27 41.2
comp=Z,145nm,1.6s
WRAB Tennant Creek 41.85 287 P **P** **00 27 31.2 -1.9**
WRAB IAmb IAmb 00 27 37.2
comp=Z,129nm,1.5s
WRAB Tennant Creek 41.85 287 P **P** **00 27 32.6 -0.5**
WRAB Tennant Creek 41.85 287 P **P** **00 27 31.2 -1.9**
WRAB pmax pmax
comp=Z,129nm,1.5s
WRAB MLR MLR
comp=Z,34µm,18.0s
WRA Warramunga Arr 41.85 287 P **P** **00 27 31.3 -1.8**
comp=Z,20nm,0.8s,baz=124,slow=8.5,SNR=102
WRA PcP **PcP** **00 29 27.4 -1.5**
comp=Z,7.8nm,1.2s,baz=104,slow=3.4,SNR=2.9
WRA ScP **ScP** **00 33 18.9 +0.4**
comp=Z,0.8nm,1.1s,baz=102,slow=3.5,SNR=1.7
WRA LR LR 00 46 08.1
comp=Z,29µm,18.1s,baz=132,slow=38
comp=Z,20nm,0.8s
WB0 Warramunga Arr 41.92 287 P **P** **00 27 32.1 -1.6**
WB0 IAmb IAmb 00 27 40.9
comp=Z,236nm,1.9s
KRVT Keravat (AS076 42.67 321 LR LR 00 44 37.1
comp=Z,8µm,19.3s,baz=248,slow=35
WRKA Warakurna 43.37 276 P **P** **00 27 43.3 -2.1**
baz=43,SNR=29
WRKA Warakurna 43.37 276 P **P** **00 27 44.2 -1.2**
comp=Z,70nm,1.4s
KMBL Kambalda 45.04 264 P **P** **00 27 57.6 -1.1**
baz=45,SNR=5.5
KMBL Kambalda 45.04 264 P **P** **00 27 58.1 -0.6**
comp=Z,150nm,1.1s
NWAO Narrogin (SRO) 47.82 259 LR LR 00 45 49.8
comp=Z,19µm,20.2s,baz=326,slow=33
NWAO Narrogin (SRO) 47.82 259 P **P** **00 28 20.0 -0.5**
baz=48,SNR=4.3
NWAO P **P** **00 28 20.0 -0.5**
baz=48,SNR=4.3
NWAO Narrogin (SRO) 47.82 259 P **P** **00 28 19.7 -0.8**
NWAO IAmb IAmb 00 28 21.9
comp=Z,51nm,1.2s
NWAO Narrogin (SRO) 47.82 259 P **P** **00 28 17.6 -3.0**
NWAO IAmb IAmb 00 28 21.8
comp=Z,40nm,1.2s
NWAO Narrogin (SRO) 47.82 259 IAMs_20 IAMs_20 00 45 27.3
comp=Z,19µm,20.0s
NWAO Narrogin (SRO) 47.82 259 P **P** **00 28 22.2 +1.7**
NWAO Narrogin (SRO) 47.82 259 P **P** **00 28 21.4 +0.9**
NWAO Narrogin (SRO) 47.82 259 P **P** **00 28 19.7 -0.8**
NWAO pmax pmax
comp=Z,51nm,1.2s
KDU Kakadu 47.98 292 P **P** **00 28 20.9 -1.0**
baz=48,SNR=7.6
KDU Kakadu 47.98 292 P **P** **00 28 21.0 -1.0**
KLBR Kellerberrin 48.05 261 P **P** **00 28 21.8 -0.5**
baz=48,SNR=9.4
KLBR Kellerberrin 48.05 261 P **P** **00 28 21.6 -0.7**
KNRA Kununurra 48.65 286 P **P** **00 28 26.8 -0.2**
baz=48,SNR=9.3
KNRA Kununurra 48.65 286 P **P** **00 28 25.8 -1.2**
KNRA IAmb IAmb 00 28 31.6
comp=Z,89nm,1.1s
KNRA Kununurra 48.65 286 P **P** **00 28 27.0 -0.1**
MTN Manton Dam 48.82 291 P **P** **00 28 27.4 -1.0**
baz=49,SNR=8.7
MTN Manton Dam 48.82 291 P **P** **00 28 27.1 -1.3**
MTN Manton Dam 48.82 291 P **P** **00 28 27.9 -0.5**
MUN Mundaring 49.02 260 P **P** **00 28 28.0 -1.8**
baz=49,SNR=6.5
MUN Mundaring 49.02 260 P **P** **00 28 29.8 0.0**
TAOE Nuku Hiva Isla 49.30 62 *e*P **P** **00 28 35.0 +2.8**
comp=Z,975nm,25.5s
TAOE *e*S **S** **00 35 40.6 +2.6**
comp=Z,2µm,21.8s
TAOE *e*LQ LQ 00 40 25.0
comp=Z,14µm,23.2s
TAOE *e*LR LR 00 42 36.0
comp=Z,16µm,25.6s
TAOE Nuku Hiva Isla 49.30 62 P **P** **00 28 29.5 -2.7**
BLDU Ballidu 49.30 262 P **P** **00 28 31.6 -0.4**
baz=49,SNR=4.2
BLDU Ballidu 49.30 262 P **P** **00 28 31.2 -0.8**
FITZ Fitzroy Crossi 49.42 281 P **P** **00 28 31.5 -1.5**
QSPA South Pole Qui 49.49 180 P **P** **00 28 34.9 +1.8**
comp=Z,49nm,1.1s,baz=31,slow=3.8,SNR=36
comp=Z,49nm,1.1s
QSPA South Pole Qui 49.49 180 P **P** **00 28 34.6 +1.5**
QSPA South Pole Qui 49.49 180 IAMs_20 IAMs_20 00 48 44.1
comp=Z,15µm,20.0s
MEEK Meekatharra 49.87 267 P **P** **00 28 34.7 -1.7**
baz=50,SNR=20
MEEK Meekatharra 49.87 267 P **P** **00 28 35.0 -1.4**
MORW Morawa 50.57 263 P **P** **00 28 41.4 -0.3**
baz=50,SNR=4.8
MORW Morawa 50.57 263 P **P** **00 28 39.6 -2.0**
MORW Morawa 50.57 263 P **P** **00 28 41.8 +0.1**
PSA00 Pilbara Seismi 51.72 273 P **P** **00 28 47.6 -2.8**
PSA00 IAmb IAmb 00 28 51.2
comp=Z,134nm,1.5s
PSA00 Pilbara Seismi 51.72 273 P **P** **00 28 50.9 +0.5**
MBWA Marble Bar 52.05 274 P **P** **00 28 50.7 -2.1**
MBWA IAmb IAmb 00 28 53.5
comp=Z,64nm,1.1s
MBWA Marble Bar 52.05 274 P **P** **00 28 52.1 -0.7**
FAKI Fak Fak 55.19 301 P **P** **00 29 13.3 -2.6**
FAKI IAMs_20 IAMs_20 00 54 59.0
comp=Z,15µm,19.0s
FAKI Fak Fak 55.19 301 P **P** **00 29 14.1 -1.8**
FAKI Fak Fak 55.19 301 P **P** **00 29 16.4 +0.5**
SOEI Soe 55.84 288 P **P** **00 29 21.2 +0.5**
SOEI Soe 55.84 288 P **P** **00 29 21.8 +1.1**
comp=Z,4µmcomp=Z,308nm,1.3s
SOEI Soe 55.84 288 P **P** **00 29 22.3 +1.6**
BATI Baumata 55.97 287 LR LR 00 55 10.5
comp=Z,20µm,18.7s,baz=138,slow=38
BATI Baumata 55.97 287 P **P** **00 29 23.1 +1.6**
comp=Z,5µmcomp=Z,139nm,2.2s
SIJI Sorong 57.38 301 LR LR 00 53 43.0
comp=Z,11µm,21.4s,baz=146,slow=36
SIJI Sorong 57.38 301 P **P** **00 29 30.3 -1.2**
comp=Z,2µmcomp=Z,61nm,1.4s
KRAI Karang Ratu 57.46 297 P **P** **00 29 33.8 +1.7**
comp=Z,3µmcomp=Z,32nm,1.6s
MMRI Maumere 58.06 287 P **P** **00 29 36.1 -0.2**
comp=Z,5µmcomp=Z,190nm,1.4s
MMRI Maumere 58.06 287 P **P** **00 29 36.6 +0.3**
NLAI Namlea 58.40 296 P **P** **00 29 39.6 +0.9**
comp=Z,8µmcomp=Z,36nm,1.9s
JOHN Johnston Islan 58.40 15 IAMs_20 IAMs_20 00 51 29.5
comp=Z,11µm,20.0s
SANI Sanana 60.02 296 P **P** **00 29 48.4 -1.5**
comp=Z,3µmcomp=Z,59nm,1.2s
SANI Sanana 60.02 296 P **P** **00 29 50.4 +0.5**
LBMI Labuha 60.03 298 P P 00 29 58.1 +8.1
BELA Belgrano 2 60.17 173 P **P** **00 29 51.0 +1.0**
BELA IAmb IAmb 00 30 00.4
comp=Z,59nm,1.6s
RPN Rapa Nui 60.85 102 LR LR 00 49 43.1
comp=Z,3µm,21.5s,baz=233,slow=30
BSSI Bau Bau, Buton 61.02 288 P **P** **00 29 58.4 +1.7**
comp=Z,2µmcomp=Z,66nm,1.1s
DBNI Kabupaten Domp 61.02 285 P **P** **00 29 57.3 +0.5**
comp=Z,2µmcomp=Z,58nm,1.6s
PLAI Plampang 61.20 284 P **P** **00 29 58.0 +0.1**
comp=Z,2µmcomp=Z,118nm,1.3s
PLAI Plampang 61.20 284 P **P** **00 29 58.1 +0.1**
MAW Mawson 61.36 203 P **P** **00 30 00.6 +2.3**
comp=Z,13nm,1.1s,baz=85,slow=11,SNR=5.0
MAW S **S** **00 38 19.0 +1.1**
comp=Z,3.9nm,0.9s,baz=209,slow=20,SNR=1.7
MAW LR LR 00 57 18.5
comp=Z,32µm,18.8s,baz=108,slow=37
comp=Z,13nm,1.1s
SMAI San Martin Ant 61.45 157 P **P** **00 30 01.0 +2.2**
SMAI IAmb IAmb 00 30 10.6
comp=Z,124nm,1.8s
TWSI Taliwang, Sumb 61.92 283 P **P** **00 30 02.8 0.0**
comp=Z,2µmcomp=Z,96nm,1.7s
KAPI Kappang 62.33 289 LR LR 00 59 59.8
comp=Z,17µm,18.4s,baz=130,slow=39
KAPI Kappang 62.33 289 P **P** **00 30 05.2 -0.4**
KAPI Kappang 62.33 289 P **P** **00 30 06.3 +0.8**
comp=Z,3µmcomp=Z,76nm,1.4s
KAPI Kappang 62.33 289 P **P** **00 30 08.1 +2.6**
KAPI Kappang 62.33 289 P **P** **00 30 05.2 -0.4**
KAPI pmax pmax
comp=Z,134nm,1.4s
BNSI Bone 62.49 289 P **P** **00 30 06.9 +0.3**
comp=Z,2µmcomp=Z,55nm,1.6s
KLNI Mataram 62.72 283 P **P** **00 30 08.4 +0.2**
comp=Z,3µmcomp=Z,78nm,1.1s
LUWI Luwuk 62.97 294 P **P** **00 30 10.0 +0.2**
LUWI IAMs_20 IAMs_20 00 56 17.1
comp=Z,11µm,19.0s
LUWI Luwuk 62.97 294 P **P** **00 30 11.7 +1.9**
comp=Z,19µmcomp=Z,124nm,1.0s
LUWI Luwuk 62.97 294 P **P** **00 30 14.5 +4.7**
SPSI Sidrap Palu 63.03 289 P **P** **00 30 10.6 +0.3**
comp=Z,2µmcomp=Z,43nm,1.3s
DNP Denpasar 63.20 282 P **P** **00 30 16.1 +4.7**
comp=Z,25µmcomp=Z,372nm,0.5s
RTBI Rangdo, Negare 63.55 282 P **P** **00 30 16.2 +2.5**
comp=Z,4µmcomp=Z,131nm,1.4s
SRBI Sinaraja 63.59 283 P **P** **00 30 14.7 +0.7**
comp=Z,3µmcomp=Z,98nm,1.1s
APSI Ampana 63.84 293 P P 00 30 22.7 +7.1
GTOI Gorontalo 64.01 296 P P 00 30 26.4 +10
JAGI Jajag, Banyuwa 64.13 282 P **P** **00 30 17.4 -0.1**
JAGI IAMs_20 IAMs_20 01 02 14.8
comp=Z,14µm,18.0s
JAGI Jajag, Banyuwa 64.13 282 P P 00 30 23.4 +5.9
JAGI Jajag, Banyuwa 64.13 282 P **P** **00 30 21.2 +3.7**
BYJI Banyuwangi 64.14 282 P **P** **00 30 19.7 +2.1**
comp=Z,16µmcomp=Z,270nm,1.5s
ABJI Asem Bagus 64.51 282 P **P** **00 30 21.9 +1.9**
comp=Z,4µmcomp=Z,133nm,1.5s
MMSI Mamuju 64.53 290 P P 00 30 25.8 +5.6
PMSA Palmer Station 64.58 155 *e*P **P** **00 30 22.7 +3.0**
MRSI Marisa 64.63 295 P **P** **00 30 22.9 +2.1**
comp=Z,2µmcomp=Z,38nm,1.2s
GMJI Gumukmas 64.78 281 P **P** **00 30 23.0 +1.2**
comp=Z,3µmcomp=Z,84nm,1.1s
POHA Pohakuloa 65.23 28 IAMs_20 IAMs_20 00 55 32.2
comp=Z,10µm,21.0s
TOLI2 Tolitoli 65.89 294 P **P** **00 30 27.3 -1.6**
TOLI2 IAmb IAmb 00 30 37.4
comp=Z,85nm,1.6s
TOLI2 Tolitoli 65.89 294 P **P** **00 30 30.2 +1.3**
SJI Sawahan 66.39 280 P **P** **00 30 34.3 +2.0**
comp=Z,11µmcomp=Z,59nm,0.8s
PCJI Pacitan 66.53 280 P **P** **00 30 37.0 +3.9**
comp=Z,4µmcomp=Z,112nm,1.4s
BBKI Banjar Baru 66.95 286 P **P** **00 30 38.0 +2.2**
comp=Z,7µmcomp=Z,100nm,1.2s
DAV Davao City (W) 67.06 302 S **S** **00 39 23.9 -5.8**
comp=Z,133nm,0.3s,baz=44,slow=6.2,SNR=1.7
DAV LR LR 01 00 07.5
comp=Z,3µm,21.0s,baz=155,slow=36
UGM Wanagama 67.21 279 IAMs_20 IAMs_20 01 04 17.3
comp=Z,12µm,18.0s
TROLL Troll, Antarti 67.59 182 P **P** **00 30 41.1 +1.9**
SMRI Semarang 67.83 280 P **P** **00 30 40.5 -0.8**
SMRI IAMs_20 IAMs_20 01 05 29.8
comp=Z,10µm,18.0s
SNAA Sanae 67.99 180 P **P** **00 30 43.3 +1.7**
SNAA Sanae 67.99 180 P **P** **00 30 42.8 +1.2**
SNAA IAmb IAmb 00 31 20.4
comp=Z,45nm,1.5s
SNAA IAMs_20 IAMs_20 00 59 58.0
comp=Z,11µm,20.0s
SNAA Sanae 67.99 180 P **P** **00 30 42.8 +1.2**
SNAA pmax pmax
comp=Z,45nm,1.5s
VNA3 Neumayer Olymp 68.31 178 P **P** **00 30 44.1 +0.6**
NVL N'lazarevskaya 68.40 185 *e*P **P** **00 30 44.8 +0.8**
NVL *e*S **S** **00 39 43.8 -0.5**
NVL pmax pmax
comp=Z,19nm,1.0s
NVL MLR MLR
comp=Z,10µm,18.0s
MTKI Muara Teweh, K 68.63 288 P **P** **00 30 47.5 +1.2**
comp=Z,80nm,0.4s
VNA2 Neumayer--Watz 68.69 178 P **P** **00 30 47.1 +1.1**
baz=179,slow=6.0
MIDW Midway 68.69 5 IAMs_20 IAMs_20 00 58 15.6
comp=Z,12µm,20.0s
CTJI Waduk Cacaban 68.80 279 P **P** **00 30 49.8 +2.4**
comp=Z,4µmcomp=Z,104nm,1.3s
VNA1 Neumayer--Stat 68.95 178 P **P** **00 30 49.4 +2.0**
BBJI Bungbulang 69.66 278 P **P** **00 30 55.8 +3.0**
USHA Ushuaia 69.67 146 S **S** **00 39 58.8 -1.0**
comp=Z,9.8nm,0.3s,baz=321,slow=1.1,SNR=1.3
USHA LR LR 00 56 28.2
comp=Z,4µm,18.0s,baz=224,slow=32
MG05 Puerto Natales 69.93 142 P **P** **00 30 55.2 +1.3**
MG01 Puerto William 69.94 146 P **P** **00 30 54.5 +0.7**
LEM Lembang 70.09 278 LR LR 01 02 08.5
comp=Z,14µm,20.3s,baz=126,slow=36
GO09 Cerro Castillo 70.27 141 P **P** **00 30 57.3 +1.3**
GO09 IAmb IAmb 00 31 08.0
comp=Z,106nm,1.4s
MYLDM Lahad Datu 70.38 295 P **P** **00 30 56.6 -0.5**
MYLDM IAmb IAmb 00 31 44.9
comp=Z,76nm,1.3s
MYLDM Lahad Datu 70.38 295 P **P** **00 31 00.3 +3.2**
comp=Z,2µmcomp=Z,46nm,1.4s
AIS Amsterdam Isla 72.82 235 IAMs_20 IAMs_20 00 57 08.0
comp=Z,10µm,21.0s
SBUM Sibu 72.89 289 P **P** **00 31 12.2 -0.1**
SBUM Sibu 72.89 289 P **P** **00 31 14.0 +1.8**
comp=Z,835nmcomp=Z,16nm,2.4s
KSM Kuching 73.61 287 P **P** **00 31 15.3 -1.2**
KSM IAMs_20 IAMs_20 01 08 34.1
comp=Z,10µm,18.0s
KSM Kuching 73.61 287 P **P** **00 31 19.7 +3.2**
comp=Z,2µmcomp=Z,16nm,0.7s
KSM Kuching 73.61 287 P **P** **00 31 19.7 +3.2**
comp=Z,16nm,0.7s
COYC Coyhaique 74.18 137 P **P** **00 31 20.3 +0.8**
COYC IAmb IAmb 00 31 31.0
comp=Z,112nm,1.6s
AY01 Puyuhuapi 74.66 136 P **P** **00 31 23.5 +1.3**
AY01 IAmb IAmb 00 31 34.3
comp=Z,100nm,1.8s
PMBI Palembang 74.78 279 IAMs_20 IAMs_20 01 05 19.8
comp=Z,9µm,19.0s
JCJ Chichijima 74.83 328 LR LR 01 01 38.2
comp=Z,5µm,20.9s,baz=142,slow=34
COCO West Island 74.88 267 IAMs_20 IAMs_20 01 01 58.0
comp=Z,8µm,20.0s
MNAI Manna 75.21 277 IAMs_20 IAMs_20 01 06 52.4
comp=Z,10µm,19.0s
LL07 Hotel Espejo d 75.28 134 P **P** **00 31 27.1 +1.2**
LL06 Loncomilla 75.61 134 P **P** **00 31 27.8 0.0**
LL06 IAmb IAmb 00 31 34.2
comp=Z,125nm,1.4s
LL02 Futaleuf 75.92 135 P **P** **00 31 30.5 +0.9**
EFI East Falkland 76.26 148 P **P** **00 31 31.3 0.0**
EFI East Falkland 76.26 148 *i* P **P** **00 31 31.5 +0.2**
EFI pmax pmax
comp=Z,57nm,1.1s
MASI Maura Aman, Be 76.54 277 P **P** **00 31 37.0 +3.5**
comp=Z,2µmcomp=Z,108nm,1.2s
LL04 Puerto Octay 77.17 133 P **P** **00 31 37.2 +0.6**
LL04 IAmb IAmb 00 31 48.4
comp=Z,107nm,1.8s
LR04 Corral 77.30 132 P **P** **00 31 35.3 -2.0**
LR04 IAmb IAmb 00 31 49.8
comp=Z,82nm,1.4s
PLCA Paso Flores 78.31 134 P **P** **00 31 45.0 +1.9**
comp=Z,22nm,1.2s,baz=224,slow=6.7,SNR=15
PLCA S **S** **00 41 35.6 -2.2**
comp=Z,0.7nm,0.8s,baz=241,slow=20,SNR=1.1
PLCA LR LR 01 01 25.6
comp=Z,2µm,18.1s,baz=220,slow=32
comp=Z,22nm,1.2s
PLCA Paso Flores 78.31 134 P **P** **00 31 43.9 +0.7**
PLCA IAmb IAmb 00 31 55.5
comp=Z,128nm,1.7s
PLCA Paso Flores 78.31 134 *e*P **P** **00 31 45.4 +2.3**
MYKOM Kota Tinggi 78.58 282 IAMs_20 IAMs_20 01 08 25.8
comp=Z,8µm,18.0s
SDSI Sungai Dareh 78.59 279 P **P** **00 31 44.0 -0.9**
comp=Z,1µmcomp=Z,26nm,1.2s
GO06 Curarrehue 78.60 133 P **P** **00 31 44.3 -0.5**
PDSI Padang 79.34 278 P **P** **00 31 48.8 -0.2**
comp=Z,11µmcomp=Z,35nm,1.2s
BKNI Bangkinang 79.71 279 P **P** **00 31 49.6 -1.4**
BKNI Bangkinang 79.71 279 P **P** **00 31 52.2 +1.2**
comp=Z,7µmcomp=Z,101nm,1.1s
BKNI Bangkinang 79.71 279 P **P** **00 31 52.7 +1.7**
CRZF Crozet Islands 80.54 215 IAMs_20 IAMs_20 01 01 36.2
comp=Z,9µm,21.0s
JHJ Hachijo jima 2 81.11 329 LR LR 01 04 15.2
comp=Z,3µm,21.9s,baz=135,slow=33
MNSI Mandailing Nat 81.12 279 P **P** **00 31 58.1 -0.5**
comp=Z,30nm,1.0s
HOPE Hope Point 81.13 161 IAMs_20 IAMs_20 01 11 20.4
comp=Z,5µm,18.0s
ML02 Panimavida 81.28 130 P **P** **00 31 59.5 +0.3**
ML02 IAmb IAmb 00 32 17.9
comp=Z,62nm,1.2s
GO05 Huala 81.50 129 P **P** **00 32 00.8 +0.4**
DLV T Lat 82.11 293 P **P** **00 32 04.0 0.0**
BO02 Sierra Bellavi 82.33 130 P **P** **00 32 04.8 -0.1**
BO01 Tunca 82.43 129 P **P** **00 32 05.5 +0.2**
IPM Ipoh 82.46 282 P **P** **00 32 03.9 -1.8**
IPM IAMs_20 IAMs_20 01 08 11.6
comp=Z,10µm,21.0s
IPM Ipoh 82.46 282 P **P** **00 32 05.7 0.0**
IPM Ipoh 82.46 282 P **P** **00 32 04.9 -0.8**
SSLB Suanglung 82.69 310 P **P** **00 32 04.4 -2.2**
SSLB Suanglung 82.69 310 P **P** **00 32 06.8 +0.2**
RPSI Rantau Prapat 82.85 280 P **P** **00 32 06.8 -1.0**
RPSI IAmb IAmb 00 32 19.9
comp=Z,49nm,1.3s
PSI Prapat 82.92 280 P **P** **00 32 06.8 -1.5**
comp=Z,1µmcomp=Z,33nm,1.3s,comp=Z,860nm,1.3s,
comp=Z,20nm,1.3s
PSI P **P** **00 32 06.7 -1.5**
comp=Z,1µmcomp=Z,33nm,1.3s,comp=Z,860nm,1.3s,
comp=Z,20nm,1.3s
PSI Prapat 82.92 280 P **P** **00 32 06.9 -1.3**
PSI Prapat 82.92 280 P **P** **00 32 06.8 -1.5**
PSI pmax pmax
comp=Z,49nm,1.3s
PSI MLR MLR
comp=Z,22µm,19.0s
GSI Gunungsitoli 82.96 278 P **P** **00 32 07.6 -0.6**
GSI Gunungsitoli 82.96 278 P **P** **00 32 09.4 +1.1**
comp=Z,7µmcomp=Z,113nm,1.3s
GSI Gunungsitoli 82.96 278 P **P** **00 32 11.3 +3.0**
BO04 La Punta 82.99 129 P **P** **00 32 08.9 +0.7**
BO04 IAmb IAmb 00 32 29.0
comp=Z,34nm,1.2s
VA01 Torpederas 83.05 128 P **P** **00 32 09.0 +0.5**
VA01 IAmb IAmb 00 32 20.5
comp=Z,76nm,1.4s
MT02 Curacav 83.19 128 P **P** **00 32 09.1 -0.2**
MT02 IAmb IAmb 00 32 20.3
comp=Z,87nm,1.8s
KULM Kulim 83.28 283 IAmb IAmb 00 32 11.5
comp=Z,52nm,1.3s
KULM IAMs_20 IAMs_20 01 08 35.3
comp=Z,10µm,22.0s
LMEL Las Melosas 83.33 129 P **P** **00 32 13.1 +2.9**
LMEL IAmb IAmb 00 32 22.3
comp=Z,51nm,1.2s
MT05 Renca 83.33 129 P **P** **00 32 10.3 +0.2**
MT03 Universidad Ad 83.40 129 P **P** **00 32 10.2 -0.3**
MT03 IAmb IAmb 00 32 22.2
comp=Z,56nm,1.4s
ROC1 El Roble 83.46 128 P **P** **00 32 09.8 -1.2**
VA06 Catapilco 83.58 128 P **P** **00 32 11.8 +0.5**
VA06 IAmb IAmb 00 32 14.5
comp=Z,40nm,1.2s
TSI Tuntungan 83.65 280 P **P** **00 32 15.5 +3.7**
comp=Z,120nm,0.4s
VA03 San Esteban 83.89 128 P **P** **00 32 14.0 +1.0**
KCSI Kotacane, Aceh 84.26 280 P **P** **00 32 15.2 +0.2**
comp=Z,2µmcomp=Z,36nm,1.3s
SKLT Songkhla 84.55 284 P **P** **00 32 16.4 +0.1**
SKLT Songkhla 84.55 284 P **P** **00 32 16.3 0.0**
CO06 Fray Jorge 84.70 126 P **P** **00 32 16.1 -0.9**
CO06 IAmb IAmb 00 32 34.4
comp=Z,42nm,1.4s
CO02 Combarbal 84.71 127 P **P** **00 32 17.3 +0.1**
CO02 IAmb IAmb 00 32 29.3
comp=Z,65nm,1.4s
MJAR Matsushiro Arr 84.73 329 LR LR 01 07 26.6
comp=Z,3µm,21.1s,baz=142,slow=34
TRQA Tornquist 84.82 137 P **P** **00 32 17.2 -0.2**
TRQA IAmb IAmb 00 32 29.1

comp=Z,74nm,1.7s
TRQA Tornquist 84.82 137 P **P** **00 32 17.3 -0.2**
TRQA pmax pmax
comp=Z,74nm,1.7s
TRQA MLR MLR
comp=Z,5µm,19.0s
JNU Nakatsue 84.93 322 P **P** **00 32 17.1 -0.8**
JNU IAmb IAmb 00 32 52.7
comp=Z,34nm,1.3s
QZH Quanzhou 84.96 309⇑ *i*P **P** **00 32 17.5 -0.6**
QZH PP **PP** **00 35 38.5 +3.2**
QZH S **S** **00 42 45.8 -0.5**
QZH pmax pmax
comp=Z,2µm,8.2s
QZH LR LR
comp=Z,1µm,19.0s
QZH LR LR
comp=Z,2µm,18.0s
QZH LR LR
comp=Z,2µm,17.1s
CO03 El Pedregal 85.16 127 P **P** **00 32 19.4 0.0**
CO03 IAmb IAmb 00 32 31.4
comp=Z,103nm,1.7s
CO05 La Serena 85.47 126 P **P** **00 32 20.6 -0.3**
CO05 IAmb IAmb 00 32 32.5
comp=Z,66nm,1.2s
JHS Saijyo 85.50 325 P **P** **00 32 20.7 0.0**
MLSI Meulaboh, Aceh 85.77 279 P **P** **00 32 23.5 +1.0**
ZON Zonda 85.87 129 P **P** **00 32 23.4 +0.5**
ZON IAmb IAmb 00 32 34.1
comp=Z,71nm,1.5s
ZON Zonda 85.87 129 P **P** **00 32 23.4 +0.5**
ZON pmax pmax
comp=Z,71nm,1.5s
CFA Coronel Fontan 86.09 129 P **P** **00 32 24.9 +0.9**
comp=Z,6.1nm,0.9s,baz=218,slow=2.5,SNR=8.8
CFA LR LR 01 03 19.2
comp=Z,4µm,20.2s,baz=194,slow=30
comp=Z,6.1nm,0.9s
CO01 Juntas del Tor 86.13 127 P **P** **00 32 24.3 -0.2**
QIZ Qiongzhong 86.15 299 P **P** **00 32 23.5 -0.7**
QIZ S **S** **00 42 53.6 -4.8**
QIZ SS **SS** **00 48 38.8 +1.1**
QIZ LR LR
comp=Z,2µm,17.0s
QIZ LR LR
comp=Z,2µm,22.2s
QIZ LR LR
comp=Z,3µm,20.2s
SRIT Nakonsritamara 86.24 285 P **P** **00 32 27.9 +3.1**
UBPT Khong Chiam 86.53 293 P **P** **00 32 27.4 +1.3**
UBPT Khong Chiam 86.53 293 P **P** **00 32 29.6 +3.5**
SURA Surathani 86.60 285 P **P** **00 32 29.4 +2.8**
AC04 Llanos de Chal 86.78 125 P **P** **00 32 26.9 -0.4**
AC04 IAmb IAmb 00 32 38.7
comp=Z,70nm,1.6s
AC05 El Transito 86.83 126 P **P** **00 32 28.3 +0.5**
GO03 Copiap 87.73 125 P **P** **00 32 34.0 +1.9**
GO03 IAmb IAmb 00 32 48.0
comp=Z,39nm,1.3s
AC06 Mina Casimiro 87.83 125 P **P** **00 32 33.4 +0.9**
AC06 IAmb IAmb 00 32 51.7
comp=Z,37nm,1.3s
ERM Erimo 87.86 335 IAMs_20 IAMs_20 01 09 08.5
comp=Z,6µm,20.0s
AC02 Maricunga 88.96 125 P **P** **00 32 40.2 +1.8**
AC02 IAmb IAmb 00 32 55.0
comp=Z,49nm,1.6s
KUR Kuril'sk 89.44 340 P **P** **00 32 39.8 +0.5**
KUR *e*PPP PPP 00 38 07.3
KUR *e*S **SKSac** **00 43 08.8 +0.4**
KUR SS **SS** **00 49 26.8 +1.8**
KUR SSS SSS 00 53 04.1
KUR MLR MLR
comp=Z,3µm,16.0s
KUR MLR MLR
comp=N,3µm,18.0s
PB14 IPOC Station P 89.73 123 P **P** **00 32 42.8 +1.0**
GO02 Mina Guanaco 89.86 124 P **P** **00 32 44.1 +1.6**
GO02 IAmb IAmb 00 32 55.0
comp=Z,54nm,1.2s
KSRS Korea Array 89.87 323 P **P** **00 32 39.2 -2.3**
comp=Z,8.8nm,1.1s,baz=148,slow=5.3,SNR=7.8
KSRS LR LR 01 09 19.8
comp=Z,2µm,21.0s,baz=155,slow=33
comp=Z,8.8nm,1.1s
KSAR Wonju Array Be 89.87 323 P **P** **00 32 41.9 +0.3**
KSAR Wonju Array Be 89.87 323 P **P** **00 32 41.9 +0.3**
ASAJ Asahikawa 89.93 336 LR LR 01 07 18.4
comp=Z,4µm,21.5s,baz=178,slow=32
NONG Nongkai 90.05 294 P **P** **00 32 46.3 +3.5**
NJ2 Nanjing 90.19 314 *e*P **P** **00 32 41.6 -1.6**
NJ2 pP **sP** **00 32 50.1 +0.2**
NJ2 pmax pmax
comp=Z,25nm,1.4s
NJ2 LR LR
comp=Z,3µm,19.0s
NJ2 LR LR
comp=Z,1µm,15.2s
NJ2 LR LR
comp=Z,4µm,18.9s
PB15 IPOC Station P 91.33 122 **P** **00 32 49.3 +0.1**
PB15 IAmb IAmb 00 33 02.3
comp=Z,60nm,1.5s
PB04 IPOC Station P 91.51 121 P **P** **00 32 50.3 +0.3**
PB06 IPOC Station P 91.62 122 **P** **00 32 50.0 -0.6**
PB06 IAmb IAmb 00 33 03.4
comp=Z,34nm,1.1s
PB03 IPOC Station P 91.97 121 **P** **00 32 53.3 +1.1**
PB03 IAmb IAmb 00 33 05.1
comp=Z,57nm,1.7s
PB07 IPOC Station P 92.12 121 **P** **00 32 52.5 -0.3**
PB07 IAmb IAmb 00 33 16.0
comp=Z,33nm,1.3s
LVC Limon Verde 92.12 122 P **P** **00 32 54.2 +1.2**
comp=Z,8.1nm,1.2s,baz=213,slow=4.7,SNR=8.6
LVC LR LR 01 04 25.0
comp=Z,5µm,21.2s,baz=237,slow=29
comp=Z,8.1nm,1.2s
LVC Limon Verde 92.12 122 P **P** **00 32 54.0 +0.9**
LVC IAmb IAmb 00 33 06.8
comp=Z,88nm,1.9s
LVC Limon Verde 92.12 122 IAMs_20 IAMs_20 01 03 50.8
comp=Z,5µm,22.0s
LVC Limon Verde 92.12 122 *e*P **P** **00 32 56.9 +3.9**
LVC Limon Verde 92.12 122 P **P** **00 32 54.0 +0.9**
LVC pmax pmax
comp=Z,88nm,1.9s
ADK Adak 92.30 4 IAMs_20 IAMs_20 01 06 27.8
comp=Z,8µm,22.0s
PHRA Phrae 92.38 292 P **P** **00 32 53.5 -0.2**
PB02 IPOC Station P 92.40 121 P **P** **00 32 53.4 -0.6**
PB02 IAmb IAmb 00 33 07.0
comp=Z,63nm,1.8s
YSS Yuzh-Sakhalins 92.45 337 IAMs_20 IAMs_20 01 11 42.9
comp=Z,7µm,21.0s
YSS Yuzh-Sakhalins 92.45 337 *e*P **P** **00 32 50.9 -2.3**
YSS *e* 00 43 25.6
YSS *e*S **S** **00 43 47.8 -8.2**
YSS *e*SS **SS** **00 50 18.7 +10**
YSS pmax pmax
comp=Z,2µm,12.8s
PB09 IPOC Station P 92.48 122 P **P** **00 32 54.5 -0.1**
PB09 IAmb IAmb 00 33 08.4
comp=Z,47nm,1.4s
PATCX Punta Patache 92.58 120 P **P** **00 32 54.3 -0.6**
PATCX IAmb IAmb 00 33 23.8
comp=Z,25nm,1.2s
TA01 Diego Aracena 92.75 120 P **P** **00 32 54.5 -1.0**
PB01 IPOC Station P 92.86 121 P **P** **00 32 56.9 +0.7**
PB01 IAmb IAmb 00 33 09.1
comp=Z,20nm,1.2s
TA02 Huaiquique 92.99 120 P **P** **00 32 56.9 +0.3**
TA02 IAmb IAmb 00 33 09.3
comp=Z,36nm,1.1s
SHEM Shemya Is, Ala 93.03 358 LR LR 01 07 57.8
comp=Z,7µm,21.9s,baz=133,slow=31
SMY Shemya 93.03 358 P **P** **00 32 54.3 -1.5**
SMY Shemya 93.03 358 P **P** **00 32 54.3 -1.5**
SMY pmax pmax
comp=Z,454nm,1.3s
SLBS Sierra La Lagu 93.08 61 IAMs_20 IAMs_20 01 09 22.1
comp=Z,8µm,19.0s
LPIG La Paz 93.12 61 LR LR 01 04 57.9
comp=Z,6µm,21.8s,baz=222,slow=29

CM31 Chiang Mai Arr 93.26 291 P **P** **00 32 57.8 +0.1**
CM31 IAmb IAmb 00 33 06.2
comp=Z,56nm,1.7s
CMAR Chiang Mai Arr 93.26 291 P **P** **00 32 57.6 -0.2**
comp=Z,4.7nm,0.7s,baz=150,slow=2.9,SNR=34
CMAR PP **PP** **00 36 36.1 -5.7**
comp=Z,0.8nm,0.3s,baz=156,slow=5.4,SNR=4.0
comp=Z,4.7nm,0.7s
CMAR Chiang Mai Arr 93.26 291 *i*P **P** **00 32 58.2 +0.4**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
GYA Guiyang 93.44 302 P **P** **00 32 59.4 +0.8**
GYA SKS **SKSac** **00 43 33.3 +0.9**
GYA S **S** **00 44 04.3 -1.8**
GYA LR LR
comp=Z,1µm,17.7s
GYA LR LR
comp=Z,2µm,19.7s
GYA LR LR
comp=Z,3µm,20.9s
CHTO Chiang Mai 93.50 292 P **P** **00 32 58.3 -0.5**
CHTO Chiang Mai 93.50 292 P **P** **00 32 58.3 -0.5**
CHTO pmax pmax
comp=Z,16nm,1.2s
PB11 IPOC Station P 93.66 120 P **P** **00 33 00.4 +0.5**
USRK Ussuriysk Ar. 93.73 329 LR LR 01 11 23.2
comp=Z,2µm,21.9s,baz=147,slow=33
PLTB Pedras Altas 94.01 139 *e*P **P** **00 33 04.1 +2.9**
GO01 Chusmiza 94.03 120 P **P** **00 33 02.3 +0.3**
NNA Nana 94.08 109 LR LR 01 08 46.9
comp=Z,3µm,18.5s,baz=220,slow=31
NNA Nana 94.08 109 IAMs_20 IAMs_20 01 11 30.6
comp=Z,6µm,18.0s
ROCAM Rodrigues Isla 94.09 240 IAMs_20 IAMs_20 01 09 01.3
comp=Z,6µm,18.0s
ITQB Itaqui 94.10 135 *e*P **P** **00 33 05.7 +4.1**
MNMC Minye Minye 94.15 119 P **P** **00 33 03.6 +1.2**
PET Petropavlovsk 94.66 349 *e*P **P** **00 33 05.9 +2.6**
PET *e* 00 43 36.9
PET *e*S **S** **00 44 15.2 +0.1**
PB16 IPOC Station P 94.77 119 P **P** **00 33 06.7 +1.1**
PB16 IAmb IAmb 00 33 18.5
comp=Z,52nm,2.0s
PETK Petropavlovsk- 94.88 348 LR LR 01 10 49.5
comp=Z,4µm,20.1s,baz=153,slow=32
KMI Kunming 95.10 299⇑ P **P** **00 33 08.6 +2.2**
KMI pP pP 00 33 10.4 -0.9
KMI sP sP 00 33 12.3 -0.8
KMI PP **PP** **00 36 59.3 +2.9**
KMI SKS **SKSac** **00 43 43.4 +1.7**
KMI S **S** **00 44 21.1 +0.2**
KMI pmax pmax
comp=Z,7.0nm,0.9s
KMI LR LR
comp=Z,2µm,22.5s
KMI LR LR
comp=Z,3µm,17.9s
KMI LR LR
comp=Z,3µm,22.9s
BCW Bitter Crk WRg 95.17 48 P **P** **00 33 05.3 -1.0**
PASC Pasadena Art C 95.31 49 IAMs_20 IAMs_20 01 15 24.5
comp=Z,6µm,18.0s
MCCM Marconi Confer 95.66 43 IAMs_20 IAMs_20 01 11 26.8
comp=Z,8µm,20.0s
PFO Pinyon Flats O 95.90 50 IAMs_20 IAMs_20 01 23 08.4
comp=Z,5µm,18.0s
CN2 Changchun 96.10 325 *e*P **P** **00 33 11.9 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ATAH Atahualpa 96.20 105 LR LR 01 10 05.3
comp=Z,2µm,18.1s,baz=242,slow=31
DGAR Diego Garcia 96.24 255 IAMs_20 IAMs_20 01 24 37.1
comp=Z,5µm,18.0s
CPUP Villa Florida 96.33 133 P **P** **00 33 13.1 +1.3**
comp=Z,2.4nm,1.0s,baz=211,slow=11,SNR=2.9
CPUP S **SKSac** **00 43 44.7 -3.4**
comp=Z,0.5nm,0.3s,baz=61,slow=10,SNR=1.5
CPUP LR LR 01 09 29.5
comp=Z,2µm,21.1s,baz=212,slow=31
comp=Z,2.4nm,1.0s
CPUP Villa Florida 96.33 133 *e*P **P** **00 33 16.3 +4.4**
HNS HongShan 96.45 315 *e*P **P** **00 33 12.1 +0.2**
HNS SKS **SKSac** **00 43 51.5 +3.9**
HNS S **S** **00 44 27.5 -4.0**
HNS SS **SS** **00 51 07.8 +2.0**
HNS LR LR
comp=Z,2µm,19.2s
HNS LR LR
comp=Z,3µm,20.0s
HNS LR LR
comp=Z,3µm,21.0s
PZH PanZhiHua 96.69 299 P **P** **00 33 15.1 +1.7**
PZH PP **PP** **00 37 04.9 -3.7**
PZH SKS **SKSac** **00 43 48.5 -1.3**
PZH S **S** **00 44 31.8 -2.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH LR LR
comp=Z,3µm,18.6s
PZH LR LR
comp=Z,2µm,17.5s
PZH LR LR
comp=Z,4µm,18.6s
CMB Columbia Colle 96.89 45 IAMs_20 IAMs_20 01 11 47.7
comp=Z,8µm,20.0s
LPAZ La Paz 97.15 118 S **SKSac** **00 43 50.4 -3.5**
comp=Z,0.3nm,0.5s,baz=279,slow=5.5,SNR=1.4
LPAZ LR LR 01 08 57.8
comp=Z,2µm,20.2s,baz=196,slow=30
LPAZ La Paz 97.15 118 *e*P Pdif 00 33 20.4 +3.9
XAN Xi'an 97.32 309⇑ P Pdif 00 33 17.8 +1.7
XAN PP **PP** **00 37 16.4 +3.1**
XAN pmax pmax
comp=Z,4.0nm,0.8s
ORV Oroville 97.42 43 IAMs_20 IAMs_20 01 21 22.6
comp=Z,6µm,18.0s
UNM Universidad Na 97.69 71 IAMs_20 IAMs_20 01 09 36.5
comp=Z,5µm,19.0s
TNCH TengChong 97.89 296 P Pdif 00 33 20.1 +1.1
TNCH PP **PP** **00 37 16.6 -1.3**
TNCH SKS **SKSac** **00 43 56.4 +0.3**
TNCH S **S** **00 44 40.9 -3.9**
TNCH LR LR
comp=Z,1µm,20.4s
TNCH LR LR
comp=Z,2µm,21.9s
TNCH LR LR
comp=Z,4µm,20.8s
KLR Kul'dur 98.04 332 S **SKSac** **00 43 49.2 -6.1**
comp=Z,0.5nm,0.4s,baz=97,slow=18,SNR=1.6
CD2 Chengdu 98.34 304 P **P** **00 33 20.3 -0.4**
CD2 SKS **SKSac** **00 43 56.8 -1.1**
CD2 S **S** **00 44 47.8 -0.3**
CD2 LR LR
comp=Z,1µm,16.7s
CD2 LR LR
comp=Z,1µm,16.1s
CD2 LR LR
comp=Z,4µm,20.0s
TUC Tucson 98.42 55 IAMs_20 IAMs_20 01 14 24.1
comp=Z,7µm,18.0s
YBH Yreka Blue Hor 98.42 41 LR LR 01 09 41.7
comp=Z,5µm,21.0s,baz=235,slow=31
YBH Yreka Blue Hor 98.42 41 IAMs_20 IAMs_20 01 12 22.8
comp=Z,6µm,20.0s
HUMO Hull Mountain 98.95 40 IAMs_20 IAMs_20 01 09 53.8
comp=Z,5µm,21.0s
CMIG Matias Romero 99.40 76 LR LR 01 10 27.8
comp=Z,2µm,18.7s,baz=232,slow=31
PALK Pallekele 99.60 271 LR LR 01 17 43.9
comp=Z,7µm,18.3s,baz=231,slow=35
WUAZ Wupatki 100.24 52 IAMs_20 IAMs_20 01 21 09.2
comp=Z,5µm,18.0s
HHC Hu-ho-hao-te 100.63 315 *e*P **Pdif** **00 33 31.6 +0.9**
HHC SKS **SKSac** **00 44 10.3 +1.4**
HHC S **Sdif** **00 45 06.4 -0.6**
HHC sS pS 00 45 12.4 -0.9
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC LR LR
comp=Z,3µm,21.4s
HHC LR LR
comp=Z,2µm,22.9s
HHC LR LR
comp=Z,6µm,19.6s
EPT El Paso 100.76 57 IAMs_20 IAMs_20 01 18 46.2
comp=Z,5µm,18.0s
KAAM Kaadhehdhoo 101.07 261 IAMs_20 IAMs_20 01 18 20.4
comp=Z,6µm,18.0s
SNET Serv Nac Est T 101.47 82 IAMs_20 IAMs_20 01 15 04.5
comp=Z,4µm,18.0s
LZH Lanzhou 101.75 308⇓ P **Pdif** **00 33 43.4 +7.5**
LZH pP sPdif 00 33 46.8 +4.2
LZH Lanzhou 101.75 308 S **Sdif** **00 45 26.8 +10**
LZH Lanzhou 101.75 308 SS SS 00 52 19.1 -1.5
LZH pmax pmax
comp=Z,12nm,1.4s
LZH pmax pmax
comp=Z,520nm,5.2s
LZH LR LR
comp=N,1µm,14.1s
LZH LR LR
comp=E,2µm,14.8s
LZH LR LR
comp=Z,2µm,14.4s
NLWA Neilton Lookou 102.09 37 IAMs_20 IAMs_20 01 15 29.5
comp=Z,4µm,20.0s
Q19K Cape Douglas, 102.13 15 IAMs_20 IAMs_20 01 14 45.0
comp=Z,6µm,21.0s
MA2 Magadan 102.22 347 IAMs_20 IAMs_20 01 14 09.3
comp=Z,5µm,21.0s
DUG Dugway, Tooele 102.58 48 IAMs_20 IAMs_20 01 25 14.0
comp=Z,6µm,18.0s
P19K Oil Pt 102.88 15 IAMs_20 IAMs_20 01 15 18.8
comp=Z,8µm,22.0s
MVCO Mesa Verde 103.09 52 IAMs_20 IAMs_20 01 11 11.7
comp=Z,5µm,22.0s
MFID Camas Ranch 103.16 44 IAMs_20 IAMs_20 01 16 09.4
comp=Z,5µm,21.0s
CNPM China Poot 103.17 16 IAMs_20 IAMs_20 01 14 51.5
comp=Z,7µm,20.0s
O19K Port Alsworth 103.18 14 IAMs_20 IAMs_20 01 28 57.6
comp=Z,4µm,19.0s
HOM Homer 103.21 16 IAMs_20 IAMs_20 01 15 14.4
comp=Z,7µm,20.0s
N18K Kilae Creek 103.35 13 IAMs_20 IAMs_20 01 17 29.0
comp=Z,4µm,21.0s
HAWA Hanford 103.39 39 IAMs_20 IAMs_20 01 14 35.2
comp=Z,7µm,20.0s
BRLK Bradley Lake 103.46 16 IAMs_20 IAMs_20 01 14 58.8
comp=Z,6µm,21.0s
KVTX Kingsville 103.81 66 IAMs_20 IAMs_20 01 18 54.4
comp=Z,6µm,18.0s
HLID Hailey 104.00 44 IAMs_20 IAMs_20 01 16 24.8
comp=Z,5µm,20.0s
JCT Junction City 104.34 62 IAMs_20 IAMs_20 01 16 18.2
comp=Z,6µm,19.0s
GAMB Gambell 104.45 5 IAMs_20 IAMs_20 01 17 04.0
comp=Z,5µm,20.0s
M19K Big River Lodg 104.76 13 IAMs_20 IAMs_20 01 27 19.2
comp=Z,4µm,19.0s
L19K White Mountain 104.93 13 IAMs_20 IAMs_20 01 16 44.9
comp=Z,4µm,21.0s
M20K Styx River 104.96 14 IAMs_20 IAMs_20 01 16 46.8
comp=Z,5µm,21.0s
PCHI Peechi 104.98 271 *e*P **Pdif** **00 33 44.2 -6.3**
PCHI *e*S **SKSac** **00 44 27.0 -3.3**
HIN Hinchinbrook I 105.00 18 IAMs_20 IAMs_20 01 17 59.9
comp=Z,5µm,21.0s
PWL Port Wells 105.00 17 IAMs_20 IAMs_20 01 18 04.9
comp=Z,5µm,20.0s
SUA Susitna One 105.04 15 IAMs_20 IAMs_20 01 16 25.9
comp=Z,6µm,20.0s
SDCO Great Sand Dun 105.25 53 IAMs_20 IAMs_20 01 23 21.1
comp=Z,4µm,18.0s
SMCO Snowmass 105.28 51 IAMs_20 IAMs_20 01 22 48.8
comp=Z,4µm,19.0s
SKT Skwentna 105.36 15 IAMs_20 IAMs_20 01 16 48.2
comp=Z,7µm,21.0s
M22K Willow 105.43 15 IAMs_20 IAMs_20 01 18 42.2
comp=Z,5µm,20.0s
KNK Knik Glacier 105.47 16 IAMs_20 IAMs_20 01 18 31.3
comp=Z,4µm,21.0s
HMT Hamilton 105.48 19 IAMs_20 IAMs_20 01 24 32.7
comp=Z,6µm,19.0s
BERG Berg Lake 105.67 19 IAMs_20 IAMs_20 01 24 10.7
comp=Z,6µm,20.0s
WRAK Wrangell Islan 105.68 26 IAMs_20 IAMs_20 01 15 08.8
comp=Z,6µm,20.0s
GHO Glory Hole Cre 105.69 16 IAMs_20 IAMs_20 01 26 35.2
comp=Z,4µm,18.0s
ANM Nome 105.77 8 IAMs_20 IAMs_20 01 19 21.5
comp=Z,7µm,20.0s
TPAW Teton Pass 105.82 46 IAMs_20 IAMs_20 01 17 38.6
comp=Z,6µm,20.0s
AMTX Amarillo 105.84 58 IAMs_20 IAMs_20 01 12 40.9
comp=Z,4µm,22.0s
FXWY Fox Creek 105.88 46 IAMs_20 IAMs_20 01 17 41.1
comp=Z,7µm,20.0s
SNOW Snow King Moun 105.91 46 IAMs_20 IAMs_20 01 17 29.0
comp=Z,6µm,20.0s
CUT Chulitna 105.99 15 IAMs_20 IAMs_20 01 17 07.1
comp=Z,7µm,21.0s
435B Jarrell 106.02 63 IAMs_20 IAMs_20 01 17 10.9
comp=Z,6µm,20.0s
LOHW Long Hollow 106.09 46 IAMs_20 IAMs_20 01 17 47.8
comp=Z,7µm,20.0s
SCM Sheep Creek Mo 106.09 17 IAMs_20 IAMs_20 01 18 49.7
comp=Z,4µm,20.0s
IMW Indian Meadow 106.09 46 IAMs_20 IAMs_20 01 17 46.8
comp=Z,6µm,21.0s
KLU Klutina 106.10 17 IAMs_20 IAMs_20 01 19 06.1
comp=Z,5µm,21.0s
MOOW Moose Ponds 106.10 46 IAMs_20 IAMs_20 01 17 59.1
comp=Z,7µm,20.0s
BW06 Boulder Array 106.12 47 IAMs_20 IAMs_20 01 17 52.6
comp=Z,6µm,20.0s
PDAR Pinedale Array 106.12 47 PP PP 00 38 36.0 +16
comp=Z,0.2nm,0.5s,baz=219,slow=13,SNR=4.7
YAH Yahtse 106.14 20 IAMs_20 IAMs_20 01 18 23.1
comp=Z,6µm,20.0s
FLWY Flagg Ranch 106.35 46 IAMs_20 IAMs_20 01 17 54.6
comp=Z,7µm,20.0s
BCPM Bancas Point 106.35 21 IAMs_20 IAMs_20 01 21 37.9
comp=Z,6µm,20.0s
TABL Table Mountain 106.36 20 IAMs_20 IAMs_20 01 16 10.1
comp=Z,7µm,20.0s
ISCO Idaho Springs 106.49 52 IAMs_20 IAMs_20 01 13 37.7
comp=Z,5µm,22.0s
CAST Castle Rocks 106.57 14 IAMs_20 IAMs_20 01 24 23.3
comp=Z,5µm,20.0s
P29M Windy Craggy 106.61 22 IAMs_20 IAMs_20 01 20 02.9
comp=Z,7µm,20.0s
HKT Hockley 106.71 65 IAMs_20 IAMs_20 01 21 06.3
comp=Z,5µm,19.0s
BARN Barnard Glacie 106.75 20 IAMs_20 IAMs_20 01 18 52.5
comp=Z,6µm,20.0s
RWWY Rawlins 106.75 49 IAMs_20 IAMs_20 01 16 04.6
comp=Z,5µm,21.0s
BOZ Bozeman (W) 106.84 44 IAMs_20 IAMs_20 01 19 36.0
comp=Z,5µm,20.0s
KTH Kantishna Hill 106.91 14 IAMs_20 IAMs_20 01 17 49.2
comp=Z,7µm,20.0s
RND Reindeer 107.18 15 IAMs_20 IAMs_20 01 19 47.4
comp=Z,5µm,20.0s
BPAW Bear Paw Mtn. 107.40 14 IAMs_20 IAMs_20 01 28 52.1
comp=Z,5µm,19.0s
MCK McKinley 107.46 15 IAMs_20 IAMs_20 01 18 12.7
comp=Z,7µm,21.0s
M26K Nabesna, AK 107.58 18 IAMs_20 IAMs_20 01 14 06.2
comp=Z,4µm,22.0s
HYBB Hyderabad (bro 107.58 278 *e*PKiKP **PKiKP** **00 38 08.9 -1.3**
HYBB IVMs_BB IVMs_BB 01 18 13.7
comp=Z,788nm,20.6s
RLMT Red Lodge 107.80 45 IAMs_20 IAMs_20 01 18 43.0
comp=Z,6µm,20.0s
L26K Log Cabin Wild 108.03 18 IAMs_20 IAMs_20 01 16 48.2
comp=Z,4µm,22.0s
WRH Wood River Hil 108.28 15 IAMs_20 IAMs_20 01 18 28.7
comp=Z,4µm,21.0s
MLY Manley 108.29 14 IAMs_20 IAMs_20 01 29 20.6
comp=Z,4µm,18.0s
RIDG Independent Ri 108.32 17 IAMs_20 IAMs_20 01 20 18.6
comp=Z,6µm,21.0s
CCB Clear Creek Bu 108.50 15 IAMs_20 IAMs_20 01 18 46.3
comp=Z,5µm,21.0s
H21K Melozitna Rive 108.50 13 IAMs_20 IAMs_20 01 18 59.2
comp=Z,5µm,20.0s
NATX Nacogdoches 108.60 64 IAMs_20 IAMs_20 01 18 54.3
comp=Z,6µm,20.0s
BILL Bilibino 108.67 356 IAMs_20 IAMs_20 01 21 19.1
comp=Z,4µm,20.0s
N31M Braeburn, Yuko 108.69 22 IAMs_20 IAMs_20 01 21 19.8
comp=Z,6µm,20.0s

TCOL	**CIGO, UAF Yank**	**108.69**	**15**	IAMs_20	IAMs_20	01 18 52.3			
	comp=Z,6μm,21.0s								
COLA	**College**	**108.69**	**15**	IAMs_20	IAMs_20	01 18 52.3			
	comp=Z,6μm,21.0s								
MDM	**Murphy Dome**	**108.69**	**15**	IAMs_20	IAMs_20	01 18 41.5			
	comp=Z,6μm,21.0s								
OK038	**West end E0370**	**108.71**	**58**	IAMs_20	IAMs_20	01 29 43.8			
	comp=Z,5μm,18.0s								
SCRK	**Sand Creek**	**108.71**	**17**	IAMs_20	IAMs_20	01 20 30.0			
	comp=Z,4μm,20.0s								
POKR	**Poker Plat Res**	**108.99**	**15**	IAMs_20	IAMs_20	01 19 01.3			
	comp=Z,6μm,21.0s								
OK025	**Westminster Rd**	**109.09**	**59**	IAMs_20	IAMs_20	01 14 51.8			
	comp=Z,6μm,22.0s								
OK029	**Liberty Lake**	**109.14**	**59**	IAMs_20	IAMs_20	01 18 22.2			
	comp=Z,6μm,19.0s								
H23K	**Yukon River**	**109.22**	**14**	IAMs_20	IAMs_20	01 25 37.4			
	comp=Z,5μm,19.0s								
J26L	**Joseph Creek**	**109.26**	**17**	IAMs_20	IAMs_20	01 20 37.6			
	comp=Z,4μm,20.0s								
OK033	**Mehan**	**109.62**	**59**	IAMs_20	IAMs_20	01 18 46.0			
	comp=Z,6μm,19.0s								
M31M	**Drury Creek, Y**	**109.66**	**22**	IAMs_20	IAMs_20	01 22 20.5			
	comp=Z,6μm,20.0s								
OK050	**Pawnee Station**	**109.80**	**59**	IAMs_20	IAMs_20	01 23 02.7			
	comp=Z,5μm,19.0s								
OK048	**Pawnee Station**	**109.84**	**59**	IAMs_20	IAMs_20	01 23 12.7			
	comp=Z,6μm,18.0s								
OK046	**Pawnee Station**	**109.85**	**59**	IAMs_20	IAMs_20	01 23 13.0			
	comp=Z,6μm,18.0s								
OK045	**Pawnee Station**	**109.87**	**59**	IAMs_20	IAMs_20	01 23 13.5			
	comp=Z,6μm,18.0s								
OK044	**Pawnee Station**	**109.91**	**59**	IAMs_20	IAMs_20	01 23 40.6			
	comp=Z,5μm,18.0s								
EGAK	**Eagle**	**110.04**	**18**	IAMs_20	IAMs_20	01 15 56.2			
	comp=Z,4μm,22.0s								
I26K	**Coal Creek Min**	**110.04**	**17**	IAMs_20	IAMs_20	01 21 12.2			
	comp=Z,4μm,20.0s								
RSSD	**Black Hills**	**110.09**	**49**	IAMs_20	IAMs_20	01 20 16.9			
	comp=Z,6μm,20.0s								
MSEY	**Mahe Island**	**110.25**	**245**	IAMs_20	IAMs_20	01 15 49.8			
	comp=Z,4μm,19.0s								
TUL1	**Leonard**	**110.29**	**60**	IAMs_20	IAMs_20	01 21 08.8			
	comp=Z,4μm,18.0s								
LAO	**LASA Array**	**110.44**	**46**	IAMs_20	IAMs_20	01 20 35.8			
	comp=Z,6μm,20.0s								
FYU	**Fort Yukon**	**110.70**	**15**	IAMs_20	IAMs_20	01 20 05.5			
	comp=Z,4μm,21.0s								
MIAR	**Mount Ida**	**110.97**	**62**	IAMs_20	IAMs_20	01 20 44.9			
	comp=Z,4μm,19.0s								
KSU1	**Kansas State U**	**111.62**	**57**	IAMs_20	IAMs_20	01 22 50.7			
	comp=Z,4μm,20.0s								
TOLK	**Toolik Lake Re**	**111.75**	**12**	IAMs_20	IAMs_20	01 21 04.1			
	comp=Z,4μm,20.0s								
DGMT	**Dagmar**	**112.61**	**45**	IAMs_20	IAMs_20	01 26 21.1			
	comp=Z,4μm,20.0s								
MTDJ	**Mount Denham**	**113.10**	**85**	IAMs_20	IAMs_20	01 22 30.8			
	comp=Z,4μm,18.0s								
A21K	**Barrow**	**113.22**	**9**	IAMs_20	IAMs_20	01 25 22.6			
	comp=Z,6μm,20.0s								
OXF	**Oxford**	**113.79**	**64**	IAMs_20	IAMs_20	01 22 29.5			
	comp=Z,4μm,21.0s								
ECSD	**EROS Data Cent**	**114.23**	**52**	IAMs_20	IAMs_20	01 26 37.7			
	comp=Z,5μm,18.0s								
PLAL	**Pickwick Lake**	**114.96**	**65**	IAMs_20	IAMs_20	01 19 16.6			
	comp=Z,6μm,22.0s								
WMQ	**Urumqi**	**116.28**	**306**	*e*PKP	**PKiKP**	**00 38 26.8**	**+0.8**		
WMQ				LR	LR				
	comp=Z,1μm,19.5s								
WMQ				LR	LR				
	comp=Z,2μm,19.5s								
WMQ				LR	LR				
	comp=Z,1μm,21.5s								
HDIL	**Hopedale**	**117.12**	**59**	IAMs_20	IAMs_20	01 25 38.5			
	comp=Z,6μm,19.0s								
AGMN	**Agassiz Nation**	**117.13**	**49**	IAMs_20	IAMs_20	01 24 30.1			
	comp=Z,3μm,20.0s								
FFC	**Flin Flon**	**117.27**	**40**	IAMs_20	IAMs_20	01 23 14.5			
	comp=Z,4μm,20.0s								
C36M	**Paulatuk**	**117.81**	**20**	IAMs_20	IAMs_20	01 22 56.8			
	comp=Z,5μm,20.0s								
L44A	**Lake County Fo**	**118.84**	**58**	IAMs_20	IAMs_20	01 27 18.0			
	comp=Z,6μm,19.0s								
TZTN	**Tazewell**	**118.91**	**65**	IAMs_20	IAMs_20	01 27 26.1			
	comp=Z,4μm,19.0s								
A36M	**Sachs Harbour**	**119.32**	**18**	PKPdf	**PKiKP**	**00 38 31.4**	**+0.4**		
EYMN	**Ely**	**119.48**	**51**	IAMs_20	IAMs_20	01 27 38.4			
	comp=Z,5μm,19.0s								
ZSN	**Zaisan**	**119.83**	**309**	*e*PKP	**PKPdf**	**00 38 31.7**	**-0.9**		
	baz=309								
ZSN	**Zaisan**	**119.83**	**309**	*e*PKiKP	**PKPdf**	**00 38 31.7**	**-0.9**		
COWI	**Conover**	**120.00**	**53**	IAMs_20	IAMs_20	01 28 06.3			
	comp=Z,5μm,18.0s								
NIL	**Nilore**	**120.71**	**290**	IAMs_20	IAMs_20	01 32 40.6			
	comp=Z,3μm,19.0s								
MKAR	**Makanchi Array**	**121.06**	**307**	PKP	**PKPdf**	**00 38 33.9**	**-1.2**		
	comp=Z,7.5nm,1.0s,baz=113,slow=3.3,SNR=16								
UZB	**Uzynbulak**	**121.41**	**302**	*e*PKP	**PKPdf**	**00 38 34.7**	**-1.3**		
	baz=302								
UZB	**Uzynbulak**	**121.41**	**302**	*e*PKiKP	**PKPdf**	**00 38 34.7**	**-1.3**		
BLA	**Blacksburg**	**121.41**	**66**	IAMs_20	IAMs_20	01 23 09.4			
	comp=Z,4μm,22.0s								
P52A	**Corning**	**121.41**	**63**	IAMs_20	IAMs_20	01 27 19.3			
	comp=Z,5μm,20.0s								
KSH	**Kashi**	**121.71**	**297**	PKP	**PKiKP**	**00 38 38.4**	**+1.6**		
KSH				SKS	**SKSdf**	**00 45 49.6**	**+1.6**		
KSH				LR	LR				
	comp=Z,2μm,20.3s								
KSH				LR	LR				
	comp=Z,1μm,19.6s								
KSH				LR	LR				
	comp=Z,3μm,19.3s								
SATY	**Saty**	**121.77**	**302**	*e*PKP	**PKPdf**	**00 38 36.2**	**-0.6**		
	baz=302								
SATY	**Saty**	**121.77**	**302**	*e*PKiKP	**PKPdf**	**00 38 36.1**	**-0.6**		
KPKS	**Kokpek**	**121.78**	**302**	*e*PKP	**PKPdf**	**00 38 35.5**	**-1.2**		
	baz=302								
KPKS	**Kokpek**	**121.78**	**302**	*e*PKiKP	**PKPdf**	**00 38 35.4**	**-1.2**		
GLMI	**Grayling**	**122.21**	**56**	IAMs_20	IAMs_20	01 27 36.1			
	comp=Z,4μm,20.0s								
O53A	**New Philadelph**	**122.33**	**63**	IAMs_20	IAMs_20	01 22 01.5			
	comp=Z,4μm,22.0s								
TDK	**Taldyqorghan**	**122.66**	**304**	*e*PKP	**PKPdf**	**00 38 37.1**	**-1.1**		
	baz=304								
TDK	**Taldyqorghan**	**122.66**	**304**	*e*PKiKP	**PKPdf**	**00 38 37.1**	**-1.1**		
MDOK	**Medeo**	**122.70**	**301**	*e*PKP	**PKPdf**	**00 38 37.6**	**-1.0**		
	baz=301								
MDOK	**Medeo**	**122.70**	**301**	*e*PKiKP	**PKPdf**	**00 38 37.5**	**-1.0**		
ZALV	**Zalesovo Beam**	**122.81**	**315**	PKP	**PKPdf**	**00 38 36.5**	**-1.6**		
	comp=Z,2.7nm,1.0s,baz=160,slow=4.6,SNR=7.7								
MCWV	**Mont Chateau**	**122.98**	**64**	IAMs_20	IAMs_20	01 27 59.8			
	comp=Z,5μm,21.0s								
KUU	**Kurty**	**123.49**	**302**	*e*PKP	**PKPdf**	**00 38 38.3**	**-1.6**		
	baz=302								
KUU	**Kurty**	**123.49**	**302**	*e*PKiKP	**PKPdf**	**00 38 38.2**	**-1.6**		
CBN	**Corbin Frederi**	**124.01**	**66**	IAMs_20	IAMs_20	01 33 25.1			
	comp=Z,4μm,18.0s								
AAK	**Ala-Archa**	**124.14**	**300**	PKP	**PKPdf**	**00 38 41.4**	**+0.1**		
	comp=Z,1.8nm,0.8s,baz=110,slow=7.6,SNR=3.6								
AAK	**Ala-Archa**	**124.14**	**300**	*i* PKiKP	**PKPdf**	**00 38 41.3**	**0.0**		
SGDS	**Sogindy**	**124.41**	**301**	*e*PKP	**PKPdf**	**00 38 41.0**	**-0.7**		
	baz=301								
SGDS	**Sogindy**	**124.41**	**301**	*e*PKiKP	**PKPdf**	**00 38 41.0**	**-0.7**		
SSPA	**Standing Stone**	**124.76**	**64**	IAMs_20	IAMs_20	01 29 15.9			
	comp=Z,4μm,20.0s								
KURK	**Kurchatov**	**124.95**	**310**	*i* PKiKP	**PKPdf**	**00 38 40.4**	**-1.9**		
KURBB	**Kurchatov Arra**	**124.96**	**310**	PKP	**PKPdf**	**00 38 41.6**	**-0.8**		
	comp=Z,9.7nm,1.1s,baz=122,slow=1.8,SNR=21								
KURBB				PP	**PP**	**00 40 33.1**	**+1.4**		
	comp=Z,3.7nm,1.1s,baz=119,slow=6.5,SNR=4.3								
GAR	**Garm**	**125.36**	**294**		**PKiKP**	**00 38 44.2**	**+0.2**		
BTLS	**Baital**	**125.46**	**302**	*e*PKP	**PKPdf**	**00 38 42.4**	**-1.1**		
	baz=302								
BTLS	**Baital**	**125.46**	**302**	*e*PKiKP	**PKPdf**	**00 38 42.4**	**-1.1**		
DZA	**Taraz**	**126.35**	**299**	*e*PKP	**PKPdf**	**00 38 43.6**	**-1.7**		
	baz=299								
DZA	**Taraz**	**126.35**	**299**	*e*PKiKP	**PKPdf**	**00 38 43.6**	**-1.7**		
IUG	**luzhnay**	**126.92**	**297**	*e*PKP	**PKPdf**	**00 38 45.4**	**-1.2**		
	baz=297								
IUG	**luzhnay**	**126.92**	**297**	*e*PKiKP	**PKPdf**	**00 38 45.3**	**-1.2**		
NRIK	**Noril'sk**	**127.22**	**334**	PKP	**PKPdf**	**00 38 46.0**	**-0.1**		
	comp=Z,3.6nm,0.7s,baz=144,slow=3.5,SNR=6.7								
NRIK	**Noril'sk**	**127.22**	**334**	PKPdf	**PKiKP**	**00 38 46.9**	**+0.3**		
NRIK	**Noril'sk**	**127.22**	**334**	*i* PKiKP	**PKPdf**	**00 38 45.0**	**-1.1**		
PAL	**Palisades**	**127.64**	**65**	IAMs_20	IAMs_20	01 30 46.3			
	comp=Z,5μm,20.0s								
WSPT	**Westport, CT**	**128.11**	**65**	IAMs_20	IAMs_20	01 34 03.7			
	comp=Z,5μm,19.0s								
BRZS	**Berezniki**	**128.21**	**307**	*e*PKP	**PKPdf**	**00 38 47.4**	**-1.2**		
	baz=307								
BRZS	**Berezniki**	**128.21**	**307**	*e*PKiKP	**PKPdf**	**00 38 47.4**	**-1.2**		
YLE	**Yale**	**128.44**	**65**	IAMs_20	IAMs_20	01 31 09.7			
	comp=Z,4μm,20.0s								
MBAR	**Mbarara**	**128.85**	**225**	*i* PKiKP	**PKPdf**	**00 38 50.2**	**-1.0**		
QUA2	**Belchertown**	**129.22**	**64**	IAMs_20	IAMs_20	01 34 18.1			
	comp=Z,5μm,19.0s								
LODK	**Lodwar**	**129.46**	**233**	IAMs_20	IAMs_20	01 30 34.5			
	comp=Z,4μm,20.0s								
BRYW	**Bryant College**	**129.64**	**65**	IAMs_20	IAMs_20	01 36 16.2			
	comp=Z,4μm,19.0s								
VT1	**Waterbury**	**129.73**	**61**	IAMs_20	IAMs_20	01 30 47.3			
	comp=Z,5μm,19.0s								
HRV	**Adam Dziewonsk**	**129.85**	**64**	IAMs_20	IAMs_20	01 36 16.8			
	comp=Z,4μm,18.0s								
WES	**Weston**	**129.97**	**64**	IAMs_20	IAMs_20	01 28 11.8			
	comp=Z,5μm,22.0s								
BCX	**Boston College**	**130.05**	**64**	IAMs_20	IAMs_20	01 28 26.1			
	comp=Z,5μm,22.0s								
BVAR	**Borovoye Array**	**130.53**	**310**	PKP	**PKPdf**	**00 38 51.2**	**-1.8**		
	comp=Z,8.2nm,1.1s,baz=105,slow=4.9,SNR=12								
BRVK	**Borovoye**	**130.60**	**310**	PKPdf	**PKiKP**	**00 38 54.2**	**+0.3**		
BRVK	**Borovoye**	**130.60**	**310**	*i* PKiKP	**PKPdf**	**00 38 53.1**	**+0.1**		
FURI	**Furi**	**131.52**	**241**	IAMs_20	IAMs_20	01 27 09.2			
	comp=Z,5μm,22.0s								
GEYT	**Alibeck**	**133.59**	**287**	PKP	**PKPdf**	**00 38 58.4**	**-0.9**		
	comp=Z,2.8nm,0.9s,baz=127,slow=0.7,SNR=6.5								
GEYT				SKPbc	**SKPbc**	**00 42 27.9**	**+0.8**		
	comp=Z,2.0nm,0.8s,baz=135,slow=0.4,SNR=3.0								
RAYN	**Ar Rayn**	**136.21**	**262**	IAMs_20	IAMs_20	01 33 22.7			
	comp=Z,3μm,19.0s								
SVE	**Sverdlovsk**	**136.79**	**314**	*e*PKiKP	**PKPdf**	**00 39 04.7**	**+0.1**		
SVE				pmax	pmax				
	comp=Z,22nm,1.3s								
ARU	**Arti**	**137.90**	**313**	PKP	**PKPdf**	**00 39 05.6**	**-1.0**		
	comp=Z,13nm,1.1s,baz=113,slow=1.5,SNR=5.5								
ARU	**Arti**	**137.90**	**313**	PKPdf	**PKPdf**	**00 39 06.3**	**-0.3**		
ARU	**Arti**	**137.90**	**313**	*i* PKiKP	**PKPdf**	**00 39 07.0**	**+0.4**		
ARU				SS	SS	01 00 05.1	+0.5		
KBS	**Kingsbay**	**141.15**	**355**	IAMs_20	IAMs_20	01 39 10.2			
	comp=Z,3μm,22.0s								
MAK	**Makhachkala**	**142.86**	**291**	*e*PKiKP	**PKPdf**	**00 39 12.7**	**-3.3**		
MAK				*e*		00 42 22.7			
MAK				*e*PPP	PPP	00 45 31.0			
MAK				*e*		00 46 25.3			
MAK				*e*SSS	SSS	01 06 17.4			
MAK				pmax	pmax				
	comp=Z,513nm,1.8s								
BELG	**Belogornoye**	**144.06**	**306**	PKP	PKPbc	00 39 15.6	-0.2		
	comp=Z,40nm,1.0s,baz=131,slow=11,SNR=12								
GNI	**Garni**	**144.12**	**285**	PKP	**PKPdf**	**00 39 17.7**	**-0.9**		
	comp=Z,9.3nm,1.0s,baz=76,slow=4.8,SNR=4.3								
GROC	**Groznyy**	**144.14**	**291**	*e*PKiKP	**PKPdf**	**00 39 17.5**	**-0.8**		
GROC				*e*		00 46 24.6			
GROC				pmax	pmax				
	comp=Z,7.0nm,0.4s								
PRGR	**Permogore**	**144.20**	**322**	*e*PKiKP	**PKPab**	**00 39 14.3**	**-1.3**		
PRGR				pmax	pmax				
	comp=Z,18nm,1.5s								
ZEI	**Tsey**	**145.40**	**289**	*i* PKP2	**PKPbc**	**00 39 18.2**	**-2.5**		
ZEI				pmax	pmax				
	comp=Z,79nm,1.2s								
LIC	**Lamto**	**145.67**	**176**	⇑*i*P	**PKiKP**	**00 39 28.3**	**+2.4**		
	comp=Z,128nm,0.7s								
KIC	**Kosan Boka**	**145.82**	**177**	⇑*i*P	**PKiKP**	**00 39 27.1**	**+0.9**		
	comp=Z,45nm,0.8s								
LVZ	**Lovozero**	**146.01**	**336**		**PKPdf**	**00 39 20.5**	**-0.3**		
LVZ				IAMs_20	IAMs_20	01 46 41.3			
	comp=Z,2μm,20.0s								
LVZ	**Lovozero**	**146.01**	**336**	PKP2	**PKPdf**	**00 39 20.5**	**-0.3**		
LVZ				MLR	MLR				
	comp=Z,2μm,20.0s								
TIC	**Toumodi**	**146.09**	**176**	⇑*i*P	**PKiKP**	**00 39 29.7**	**+2.9**		
	comp=Z,18nm,0.3s								
VADS	**Vadso**	**146.10**	**341**	*e*P	**PKPab**	**00 39 22.2**	**-0.2**		
VADS				IAmb	IAmb	00 39 29.6			
	comp=Z,312nm,1.5s								
DBIC	**Dimbokro**	**146.12**	**176**	PKPbc	**PKPab**	**00 39 25.1**	**+1.0**		
	comp=Z,12nm,0.7s,baz=192,slow=3.6,SNR=7.9								
KBZ	**Khabaz**	**146.31**	**291**	PKP2	**PKPdf**	**00 39 21.9**	**0.0**		
	comp=Z,28nm,1.1s,baz=95,slow=3.9,SNR=15								
KBZ	**Khabaz**	**146.31**	**291**	PKP2	**PKPdf**	**00 39 22.0**	**0.0**		
GOF	**Gofitskoye**	**146.44**	**293**	⇑*e*PKP2	**PKPbc**	**00 39 23.5**	**-0.1**		
GOF				pmax	pmax				
	comp=Z,117nm,1.0s								
KIV	**Kislovodsk**	**146.50**	**291**	⇑P	**PKPab**	**00 39 25.4**	**+0.5**		
KIV	**Kislovodsk**	**146.50**	**291**	*e*PKiKP	**PKPdf**	**00 39 21.4**	**-1.1**		
KIV				*i*		00 39 25.9			
KIV				*e*		00 42 46.3			
KIV				*e*SS	SS	01 01 46.0	+0.6		
KIV				pmax	pmax				
	comp=Z,23nm,1.0s								
APA	**Apatity**	**146.59**	**336**	⇓*i*PKHKP	PKPpre	00 39 16.2			
APA				pmax	pmax				
	comp=Z,38nm,0.9s								
KEV	**Kevo**	**146.93**	**342**		**PKPbc**	**00 39 24.2**	**0.0**		
KEV				IAMs_20	IAMs_20	01 41 34.0			
	comp=Z,4μm,22.0s								
KEV	**Kevo**	**146.93**	**342**	PKP2	**PKPbc**	**00 39 24.2**	**0.0**		
HAMF	**Hammerfest**	**147.01**	**344**	*e*P	**PKPbc**	**00 39 25.1**	**+0.7**		
HAMF				IAmb	IAmb	00 39 25.6			
	comp=Z,118nm,1.4s								
ASF	**Jabal al Asfar**	**147.16**	**268**	PKPbc	**PKPbc**	**00 39 26.3**	**+0.1**		
	comp=Z,57nm,1.2s,baz=126,slow=3.6,SNR=14								
KLMR	**Klimovskoe**	**147.26**	**322**	*e*PKPdf	**PKPbc**	**00 39 24.6**	**-0.8**		
KLMR				AMP		00 39 32.9			
	comp=Z,210nm,1.7s								
KLMR				LR	LR	01 38 34.8			
KLMR				AMP		01 47 17.6			
	comp=Z,2μm,21.7s								
KLMR	**Klimovskoe**	**147.26**	**322**	*e*PKP2	**PKPbc**	**00 39 24.5**	**-0.8**		
KLMR				pmax	pmax				
	comp=Z,210nm,1.7s								
KLMR				MLR	MLR				
	comp=Z,2μm,22.0s								
ARA0	**ARCESS Array S**	**147.45**	**342**	*e*P	**PKPbc**	**00 39 25.6**	**-0.1**		
ARA0				IAmb	IAmb	00 39 28.2			
	comp=Z,139nm,1.3s								
ARCES	**ARCESS Array B**	**147.45**	**342**	PKPbc	**PKPbc**	**00 39 25.3**	**-0.4**		
	comp=Z,44nm,0.9s,baz=48,slow=1.8,SNR=36								
EIL	**Elat**	**147.46**	**262**	PKPbc	**PKPbc**	**00 39 27.4**	**+0.5**		
	comp=Z,38nm,1.1s,baz=108,slow=3.3,SNR=10								
VRH	**Novokhopyorsk**	**147.73**	**304**	*e*PKP2	**PKPdf**	**00 39 24.9**	**+0.8**		
VRH				pmax	pmax				
	comp=Z,160nm,1.0s								
KTK1	**Kautokeino**	**148.38**	**342**	*e*P	**PKPbc**	**00 39 27.2**	**-1.0**		
KTK1				IAmb	IAmb	00 39 39.6			
	comp=Z,314nm,2.1s								
SCO	**Scoresbysund**	**148.51**	**12**	IAMs_20	IAMs_20	01 44 19.1			
	comp=Z,3μm,21.0s								
SOC	**Sochi**	**148.56**	**290**	*e*PKHKP	**PKPdf**	**00 39 23.4**	**-2.3**		
SOC				*i*		00 39 27.9			
SOC				*e*		00 42 56.3			
SOC				*e*PPP	PPP	00 46 18.2			
MMAI	**Mount Meron Ar**	**148.66**	**268**	PKPbc	**PKPbc**	**00 39 28.9**	**-1.2**		
	comp=Z,22nm,1.1s,baz=122,slow=2.2,SNR=8.4								
SACV	**Santiago Islan**	**148.66**	**139**	IAMs_20	IAMs_20	01 47 05.4			
	comp=Z,2μm,19.0s								
TRO	**Tromso**	**148.78**	**346**	*e*P	**PKPbc**	**00 39 29.1**	**-0.1**		
TRO				IAmb	IAmb	00 39 31.0			
	comp=Z,46nm,1.1s								
VORR	**Voronezh**	**149.28**	**305**	*e*PKP2	**PKPbc**	**00 39 31.2**	**+0.3**		
VORR				pmax	pmax				
	comp=Z,160nm,1.1s								
VSR	**Storozhevoye**	**149.34**	**304**	*e*PKP2	**PKPbc**	**00 39 29.7**	**-1.4**		
VSR				pmax	pmax				
	comp=Z,80nm,1.2s								
LPSR	**Galich'ya Gora**	**149.37**	**307**	*e*PKP2	**PKPbc**	**00 39 29.8**	**-1.3**		
LPSR				pmax	pmax				
	comp=Z,100nm,1.3s								
MOS	**Moscow**	**149.61**	**314**	*e*PKHKP	**PKPdf**	**00 39 29.3**	**+2.3**		
MOS				pmax	pmax				
	comp=Z,215nm,2.0s								
OBN	**Obninsk**	**150.33**	**313**	⇑P	**PKPbc**	**00 39 33.1**	**-0.2**		
OBN	**Obninsk**	**150.33**	**313**	PKPbc	**PKPbc**	**00 39 32.3**	**-1.0**		
	comp=Z,14nm,1.0s,baz=54,slow=2.8,SNR=15								
OBN	**Obninsk**	**150.33**	**313**		**PKiKP**	**00 39 33.9**	**-0.3**		
OBN				IAMs_20	IAMs_20	01 49 38.8			
	comp=Z,3μm,22.0s								
OBN	**Obninsk**	**150.33**	**313**	*e*PKiKP	**PKPdf**	**00 39 30.0**	**+1.9**		
OBN				pmax	pmax				
	comp=Z,322nm,1.7s								
ANN	**Anapa**	**150.35**	**292**	*e*PKiKP	**PKPdf**	**00 39 27.0**	**-1.5**		
ANN				*i*		00 39 32.9			
ANN				*e*		00 43 09.8			
ANN				*e*		00 46 36.5			
ANN				pmax	pmax				
	comp=Z,19nm,0.8s								
ANN				pmax	pmax				
	comp=Z,85nm,1.5s								
STEI	**Steigen**	**150.94**	**346**	*e*P	**PKPbc**	**00 39 34.7**	**+0.3**		
STEI				IAmb	IAmb	00 39 36.5			
	comp=Z,111nm,1.4s								
CSS	**Mathiatis**	**151.02**	**270**	PKPab	**PKiKP**	**00 39 39.5**	**+3.2**		
CSS				IAMs_20	IAMs_20	01 46 37.5			
	comp=Z,3μm,19.0s								
BR131	**Keskin Array S**	**152.25**	**280**		**PKPbc**	**00 39 38.4**	**-0.2**		
BR131	**Keskin Array S**	**152.25**	**280**	PKiKP	**PKPbc**	**00 39 38.4**	**-0.2**		
BRTR	**Keskin Array B**	**152.25**	**280**	PKPbc	**PKPbc**	**00 39 38.4**	**-0.2**		
	comp=Z,5.8nm,0.8s,baz=86,slow=0.5,SNR=21								
TORD	**Torodi Ar. Bea**	**152.32**	**190**	PKPbc	**PKiKP**	**00 39 40.1**	**+0.6**		
	comp=Z,7.3nm,1.1s,baz=135,slow=1.7,SNR=12								
SIM	**Simferopol'**	**152.72**	**291**	*i* PKiKP	**PKiKP**	**00 39 39.4**	**-0.1**		
SIM				pmax	pmax				
	comp=Z,24nm,1.1s								
FINES	**FINESS Array B**	**152.76**	**330**	PKPbc	**PKPbc**	**00 39 37.9**	**-0.9**		
	comp=Z,24nm,1.0s,baz=22,slow=1.5,SNR=15								
ANTO	**Ankara**	**152.92**	**280**	IAMs_20	IAMs_20	01 45 26.9			
	comp=Z,3μm,20.0s								
MNK	**Minsk**	**155.32**	**315**	*i* PKP	**PKPdf**	**00 39 35.0**	**-0.5**		
MNK	comp=E,2.0nm,0.9s								
				i PKP	**PKPdf**	**00 39 35.0**	**-0.5**		
MNK	comp=N,29nm,0.9s								
				i PKP	**PKPdf**	**00 39 35.0**	**-0.5**		
MNK	comp=Z,8.0nm,0.8s,baz=248								
MNK				*i* PP	**PP**	**00 43 36.9**	**-0.8**		
MNK				*i* SKS	**SKSdf**	**00 46 41.7**	**+0.8**		
MNK				*i* PPP	PPP	00 47 07.9			
MNK				*i* SKKS	**SKKSdf**	**00 55 18.2**	**+0.4**		
MNK				*i* SS	**SS**	**01 03 22.7**	**+0.9**		
MNK				*i* SSS	SSS	01 09 17.9			
MNK				*i* LR	LR	01 44 30.4			
MNK				*i* LRM	MLR	01 51 00.1			
	comp=N,2μm,21.7s								
MNK				*i* LRM	MLR	01 51 00.1			
	comp=Z,3μm,21.7s								
MNK				*i* LRM	MLR	01 51 10.3			
	comp=E,367nm,20.4s								
MNK	**Minsk**	**155.32**	**315**	*i* PKiKP	**PKPdf**	**00 39 34.9**	**-0.5**		
MNK				*i*		00 43 36.9			
MNK				*i*		00 46 41.7			
MNK				*i* PPP	PPP	00 47 07.9			
MNK				*i* SS	SS	01 03 22.7	+0.9		
MNK				*i* SSS	SSS	01 09 17.8			
MNK				pmax	pmax				
	comp=E,2.0nm,0.9s								
MNK				pmax	pmax				
	comp=Z,8.0nm,0.8s								
MNK				pmax	pmax				
	comp=N,29nm,0.9s								
AKASG	**Malin Array Be**	**155.63**	**305**	PKPbc	PKPdf	00 39 44.0	+8.0		
	comp=N,2.6nm,0.8s,baz=62,slow=2.5,SNR=14								
AKBB	**Malin Array Si**	**155.63**	**305**		PKPdf	00 39 46.5	+11		
AKBB					**PKPab**	**00 40 01.1**	**-1.2**

TREC	**Trest**	**164.45 310**	AMS	AMS	02 02 40.0		
	comp=Z,3μm,19.5s						
BRG	**Berggiesshubel**	**164.50 317**	*e*PKP	PKPdf	00 39 55.5	+10	
BRG			Amp		00 39 57.6		
	comp=Z,9.6nm,1.5s						
BRG			*ex*	x	00 40 23.8		
BRG			Amp		00 40 26.4		
	comp=Z,12nm,1.5s						
BRG			*ex*	x	00 40 41.2		
BRG			Amp		00 40 44.6		
	comp=Z,13nm,1.5s						
GOPC	**GO Pecny, Ondr**	**164.56 313**	AMS	AMS	02 00 00.0		
	comp=Z,3μm,18.8s						
PRU	**Pruhonice**	**164.65 313**	AMS	AMS	01 59 50.0		
	comp=Z,3μm,22.2s						
CLL	**Collm**	**164.71 320**	*e*PKPdf	**PKPdf**	**00 39 44.0**	**-2.1**	
CLL			*e*PKPab	**PKPab**	**00 40 40.0**	**-1.8**	
CLL			*e*PP	**PP**	**00 44 29.0**	**+0.7**	
CLL			*e*SKSdf	**SKSdf**	**00 46 54.0**	**+4.5**	
CLL			*e*PPPP		00 50 30.0		
CLL			*e*SKKSac	**SKKSac**	**00 51 18.0**	**+3.0**	
CLL			*e*PSKS		00 54 54.0		
CLL			*e*PPS	PPS	00 58 06.0		
CLL			*ex*	x	00 59 42.0		
CLL			*e*SS	**SS**	**01 04 59.0**	**-1.6**	
CLL			*e*PSPS		01 06 37.0		
CLL			*e*SSS	SSS	01 11 24.0		
CLL			*e*SSSS		01 15 24.0		
CLL			LmV		01 59 00.0		
	comp=Z,3μm,21.2s						
CLL			LmH		02 07 00.0		
	comp=N,3μm,20.2s						
CLL			LmH		02 07 00.0		
	comp=E,900nm,21.2s						
CLL			LmH		02 07 00.0		
	comp=Z,3μm,21.0s						
CLL	**Collm**	**164.71 320**	*e*PKIKP	**PKPdf**	**00 39 44.0**	**-2.1**	
CLL			*e*		00 40 40.0		
CLL			MLR	MLR			
	comp=Z,3μm,21.2s						
CONA	**Conrad Observa**	**164.79 305**	*e*P	**PKPab**	**00 40 40.1**	**-2.4**	
	comp=Z,6.0nm,1.2s						
ARSA	**Arzberg**	**165.24 303**	*i* P	**PKPab**	**00 40 44.0**	**-0.4**	
	comp=Z,8.4nm,1.3s						
CKRC	**Cesky Krumlov**	**165.36 310**	*e*PKPAB	**PKPab**	**00 40 44.8**	**0.0**	
CKRC			*e*PP	**PP**	**00 44 34.3**	**+2.3**	
CKRC			AMS	AMS	01 55 40.0		
	comp=Z,3μm,22.0s						
KHC	**Kasperske Hory**	**165.63 312**	*e*PKPAB	**PKPab**	**00 40 46.0**	**0.0**	
KHC			*e*PP	**PP**	**00 44 36.7**	**+3.3**	
KHC			*ex*	x	00 48 23.5		
KHC			AMS	AMS	02 03 10.0		
	comp=Z,3μm,19.2s						
KHC	**Kasperske Hory**	**165.63 312**	*e*PKP2	**PKPab**	**00 40 46.0**	**0.0**	
KHC			*e*		00 44 36.7		
KHC			*e*		00 48 23.5		
KHC			MLR	MLR			
	comp=Z,3μm,19.2s						
NKC	**Novy Kostel**	**165.64 317**	AMS	AMS	02 03 20.0		
	comp=Z,2μm,18.1s						
GERES	**GERESS Array B**	**165.70 310**	PKPab	**PKPab**	**00 40 45.6**	**-0.8**	
	comp=Z,2.5nm,1.0s,baz=46,slow=2.8,SNR=10						
SOKA	**Soboth**	**165.75 301**	*e*P	**PKPab**	**00 40 44.8**	**-2.0**	
	comp=Z,11nm,1.4s						
MOA	**Molln**	**165.81 306**	*e*P	**PKPab**	**00 40 46.8**	**-0.1**	
	comp=Z,20nm,1.5s						
VAE	**Valguarnera**	**166.24 262**	PKPab	**PKPab**	**00 40 50.8**	**+1.6**	
	comp=Z,8.2nm,1.0s,baz=33,slow=19,SNR=2.3						
BIOA	**Bad Ischl, Aus**	**166.26 306**	*i* P	**PKPab**	**00 40 48.4**	**-0.5**	
	comp=Z,5.3nm,0.8s						
ABTA	**Abfaltersbach**	**167.34 304**	*e*P	**PKPab**	**00 40 51.7**	**-2.1**	
	comp=Z,9.1nm,1.2s						
WTTA	**Wattenberg**	**167.67 307**	*e*P	**PKPab**	**00 40 53.2**	**-2.1**	
	comp=Z,15nm,1.1s						
WATA	**Walderalm**	**167.67 308**	*e*P	**PKPab**	**00 40 53.0**	**-2.3**	
	comp=Z,17nm,1.3s						
SQTA	**Sankt Quirin**	**167.95 308**	*i* P	**PKPab**	**00 40 55.5**	**-0.9**	
	comp=Z,15nm,1.3s						
FETA	**Feichten**	**168.33 308**	*e*P	**PKPab**	**00 40 56.7**	**-1.4**	
	comp=Z,15nm,1.3s						
DAVOX	**Davos/Dischmat**	**168.96 308**	PKPab	**PKPab**	**00 41 01.0**	**0.0**	
	comp=Z,15nm,1.1s,baz=250,slow=3.8,SNR=6.2						
KEST	**Kesra**	**169.25 247**	PKPab	**PKPab**	**00 41 01.0**	**-1.5**	
	comp=Z,18nm,1.1s,baz=98,slow=3.5,SNR=5.8						
MORF	**Marmelete**	**174.37 124**	*e*PP	PP	00 45 18.2	+0.8	
MORF			*e*SS	SS	01 06 40.4	+3.0	
MORF			IAMs_20	IAMs_20	02 03 55.1		
	comp=Z,5μm,13.5s						
LIS	**Lisbon**	**174.75 109**	*e*PP	PP	00 45 20.1	+0.5	
LIS			*e*SS	SS	01 06 43.8	+2.2	
LIS			IAMs_20	IAMs_20	01 59 14.1		
	comp=Z,9μm,29.8s						
MESJ	**Messejana**	**174.96 122**	*e*PP	PP	00 45 21.1	+0.8	
MESJ			*e*SS	SS	01 06 46.1	+2.9	
MESJ			IAMs_20	IAMs_20	02 02 33.0		
	comp=Z,6μm,19.2s						
ESDC	**Sonseca Array**	**178.69 137**	PKP	**PKPdf**	**00 39 53.6**	**+0.4**	
	comp=Z,0.4nm,0.9s,baz=299,slow=2.6,SNR=3.1						
ESDC			PKPab	**pPKPab**	**00 41 47.4**	**-1.6**	
	comp=Z,1.5nm,1.1s,baz=218,slow=7.6,SNR=3.1						

*IDC **22** 00:22:54.7±2.2, 37.°24N×141.°66E, h0km, mb3.6/4, mbtmp3.5/5, ML2.2/1, Error ellipse: s-maj=43.7km s-min=32.6km az=69.0*
*JMA **22** 00:22:59.3±0.2, 37.°3N±0.°3×141.°4E±0.°9, h24km±1km, MV3.2/24, E OFF FUKUSHIMA PREF*
ISC 22 00:22:57.1±1.5, **37.°22N**±0.°08×**141.°45E**±0.°09, **h10**km, **n15**, σ0§**80**/12, **mb3.6/4, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**288**	P		**Pg**	**00 23 07.4**	**+0.9**
JFK				*e*S		**Sb**	**00 23 13.8**	**-1.1**
JMST	**Minamisoumatoc**	**0.68**	**318**	P		**Pg**	**00 23 10.8**	**+0.6**
JFFD	**Fukushimafurud**	**0.72**	**260**	P		**Pg**	**00 23 11.7**	**+0.6**
JFFD				S		**Sg**	**00 23 20.6**	**+0.1**
JMM	**Marumori**	**0.83**	**321**	P		**Pg**	**00 23 13.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.69**	**256**	Pn		**Pn**	**00 23 41.0**	**+0.5**
	0.4nm,0.3s,baz=96,slow=21,SNR=1.5							
MJAR				Sn		**Sb**	**00 24 17.1**	**-1.3**
	0.3nm,0.3s,baz=73,slow=13,SNR=4.8 3.5nm,0.5s							
SONM	**Songino Array**	**27.71**	**304**	P		**P**	**00 28 46.4**	**+0.8**
	0.7nm,0.9s,baz=101,slow=7.5,SNR=2.2 0.7nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T		T	00 58 15.9	
	baz=313,slow=75,SNR=8.5							
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	00 58 15.9	
	baz=313,slow=75,SNR=7.3							
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	00 58 15.9	
	baz=313,slow=75,SNR=7.5							
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T		T	00 59 10.6	
	baz=316							
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T		T	00 59 10.6	
	baz=316							
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	00 59 10.6	
	baz=316							
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**	**00 30 46.6**	**-0.2**
	0.5nm,0.5s,baz=71,slow=9.3,SNR=2.6 0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**45.91**	**308**	P		**P**	**00 31 19.4**	**-0.3**
	0.7nm,0.6s,baz=84,slow=7.9,SNR=6.1 0.7nm,0.6s							
WRA	**Warramunga Arr**	**57.25**	**188**	P		**P**	**00 32 44.2**	**-0.6**
	0.5nm,0.7s,baz=6.0,slow=7.3,SNR=2.0 0.5nm,0.7s							

*IDC **22** 00:27:02.5±2.8, 37.°25N×141.°20E, h0km, mb3.3/3, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=64.8km s-min=36.7km az=65.0*
*JMA **22** 00:27:03.0±0.2, 37.°3N±0.°8×141.°6E±1.°0, h32km±3km, MV3.1/12, E OFF FUKUSHIMA PREF*
ISC 22 00:27:02.0±1.6, **37.°32N**±0.°10×**141.°6E**±0.°1, **h10**km, **n13**, σ1§**50**/9, **mb3.4**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.58**	**275**	*e*P		**Pg**	**00 27 14.3**	**+1.1**
JFK				*e*S		**Sg**	**00 27 22.0**	**+1.1**
JMST	**Minamisoumatoc**	**0.70**	**306**	*e*S		**Sg**	**00 27 25.3**	**+0.7**
JMM	**Marumori**	**0.84**	**311**	*e*P		**Pg**	**00 27 18.5**	**+0.2**
JMM				*e*S		**Sg**	**00 27 29.2**	**0.0**
MJAR	**Matsushiro Arr**	**2.83**	**255**	Pn		**Pn**	**00 27 44.3**	**-3.0**
	0.3nm,0.3s,baz=86,slow=15,SNR=3.2 7.8nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T		T	01 02 21.0	
	baz=314							
H11N1	**WAKE ISLAND Hy**	**28.18**	**122**	T		T	01 02 21.3	
	baz=314							
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T		T	01 02 21.6	
	baz=314							
H11S1	**WAKE ISLAND Hy**	**28.89**	**124**	T		T	01 03 16.1	
	baz=316							
H11S3	**WAKE ISLAND Hy**	**28.89**	**124**	T		T	01 03 11.1	
	baz=316							
H11S2	**WAKE ISLAND Hy**	**28.91**	**124**	T		T	01 03 17.2	
	baz=316							
MKAR	**Makanchi Array**	**44.09**	**302**	P		**P**	**00 35 10.1**	**-0.1**
	0.3nm,0.7s,baz=79,slow=7.5,SNR=1.7 0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**45.95**	**308**	P		**P**	**00 35 25.4**	**+0.6**
	0.7nm,0.8s,baz=85,slow=8.8,SNR=4.1 0.7nm,0.8s							
WRA	**Warramunga Arr**	**57.36**	**188**	P		**P**	**00 36 51.7**	**+1.3**
	0.2nm,0.5s,baz=4.8,slow=7.2,SNR=1.4 0.2nm,0.5s							

*IDC **22** 00:27:25.4±1.6, 37.°17N×141.°33E, h0km, mb3.6/7, mbtmp3.6/8, ML2.6/1, Error ellipse: s-maj=33.1km s-min=31.1km az=108.0*
*JMA **22** 00:27:27.5±0.2, 37.°2N±0.°4×141.°1E±.°, h22km±1km, MV3.4/35, E OFF FUKUSHIMA PREF*
ISC 22 00:27:26.9±1.0, **37.°21N**±0.°05×**141.°38E**±0.°07, **h10**km, **n22**, σ0§**57**/18, **mb3.5/7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.43**	**291**	*e*P		**Pg**	**00 27 35.8**	**+0.5**
JFK				*e*S		**Sg**	**00 27 41.6**	**+0.6**
JMST	**Minamisoumatoc**	**0.65**	**323**	*e*S		**Sg**	**00 27 47.9**	**+0.1**
JFFD	**Fukushimafurud**	**0.66**	**260**	*e*P		**Pg**	**00 27 39.9**	**+0.2**
JFFD				*e*S		**Sg**	**00 27 48.9**	**+0.5**
JMM	**Marumori**	**0.80**	**325**	*e*S		**Sg**	**00 27 52.7**	**-0.2**
JHO	**Hitachi**	**0.88**	**228**	*e*P		**Pg**	**00 27 44.1**	**+0.2**
JHO				*e*S		**Sg**	**00 27 55.8**	**+0.4**
JSB	**Shiboa**	**1.19**	**259**	*e*S		**Sb**	**00 28 04.6**	**-0.4**
JOU	**Okura**	**1.28**	**334**	S		**Sb**	**00 28 07.4**	**-0.3**
MJAR	**Matsushiro Arr**	**2.63**	**256**	Pn		**Pn**	**00 28 09.1**	**-0.3**
	1.2nm,0.3s,baz=98,slow=37,SNR=4.6 7.0nm,0.4s							
LYN	**LuoYang**	**23.54**	**272**	*e*P		P	00 32 47.8	+11
LYN						LR	LR	
	comp=N,3μm,19.4s							
LYN						LR	LR	
	comp=E,2μm,20.1s							
SONM	**Songino Array**	**27.66**	**304**	P		**P**	**00 33 15.5**	**+0.5**
	comp=E,0.5nm,0.7s,baz=99,slow=8.9,SNR=4.2 comp=E,0.5nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.26**	**121**	T		T	01 02 56.7	
	baz=313							
H11N1	**WAKE ISLAND Hy**	**28.27**	**121**	T		T	01 02 56.7	
	baz=313							
H11N3	**WAKE ISLAND Hy**	**28.28**	**121**	T		T	01 02 54.7	
	baz=313,slow=75							
H11S1	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	01 03 48.8	
	baz=316							
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	01 03 47.5	
	baz=316,slow=76							
H11S2	**WAKE ISLAND Hy**	**29.00**	**123**	T		T	01 03 45.4	
	baz=316							
ZALV	**Zalesovo Beam**	**41.77**	**312**	P		**P**	**00 35 16.1**	**-0.1**
	comp=E,0.7nm,0.8s,baz=106,slow=5.1,SNR=1.8 comp=E,0.7nm,0.8s							
MKAR	**Makanchi Array**	**44.00**	**302**	P		**P**	**00 35 34.5**	**+0.1**
	comp=E,0.8nm,0.9s,baz=86,slow=12,SNR=2.0 comp=E,0.8nm,0.9s							
KURBB	**Kurchatov Arra**	**45.87**	**308**	P		**P**	**00 35 48.6**	**-0.6**
	comp=E,0.6nm,0.5s,baz=81,slow=8.1,SNR=5.2 comp=E,0.6nm,0.5s							
ILAR	**Eielson Array**	**49.36**	**32**	P		**P**	**00 36 17.5**	**+1.3**
	comp=E,0.3nm,0.7s,baz=253,slow=8.2,SNR=1.8 comp=E,0.3nm,0.7s							
WRA	**Warramunga Arr**	**57.23**	**188**	P		**P**	**00 37 13.9**	**-0.5**
	comp=E,0.3nm,0.5s,baz=4.6,slow=7.2,SNR=2.4 comp=E,0.3nm,0.5s							
FINES	**FINESS Array B**	**68.64**	**332**	P		**P**	**00 38 29.0**	**-0.9**
	comp=E,3.2nm,1.1s,baz=46,slow=9.9,SNR=1.4 comp=E,3.2nm,1.1s							

*IDC **22** 00:28:03.1±0.7, 37.°14N×141.°39E, h0km, mb4.0/17, mbtmp4.0/19, ML3.2/2, Error ellipse: s-maj=18.4km s-min=17.9km az=19.0*
*NEIC **22** 00:28:05.0±2.3, 37.°19N±0.°03×141.°53E±0.°05, h10km±1km, mb4.5/10, Error ellipse: s-maj=7.6km s-min=2.9km az=120.0*
*JMA **22** 00:28:06.8±0.1, 37.°2N±0.°3×141.°4E±0.°7, h30km±1km, MD3.9/28, MV4.1/28, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 22 00:28:06.2±0.9, **37.°14N**±0.°04×**141.°32E**±0.°06, **h19**km±3km, **n62**, σ1§**07**/53, **mb4.1**/22, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.42**	**303**	P		**Pn**	**00 28 16.5**	**-0.7**
JFK				S		**Sn**	**00 28 23.6**	**-0.9**
JFK	**Kawauchi**	**0.42**	**303**	A		A	00 28 16.5	
	comp=E,16nm,0.3s,comp=E,8.0nm,0.4s							
JFFD	**Fukushimafurud**	**0.60**	**266**	P		**Pn**	**00 28 20.2**	**+0.4**
JMST	**Minamisoumatoc**	**0.68**	**330**	P		**Pg**	**00 28 20.0**	**+0.4**
JMST				S		**Sg**	**00 28 29.3**	**+0.6**
JHO	**Hitachi**	**0.80**	**229**	P		**Pn**	**00 28 22.8**	**+0.4**
JHO				S		**Sn**	**00 28 34.3**	**+0.6**
JHO	**Hitachi**	**0.80**	**229**	A		A	00 28 22.8	
	comp=E,5.0nm,0.3s,comp=E,3.0nm,11.0s							
JMM	**Marumori**	**0.84**	**330**			**Pg**	**00 28 22.5**	**-0.2**
JMM				Sg		**Sb**	**00 28 33.1**	**+0.1**
JMM	**Marumori**	**0.84**	**330**	P		**Pb**	**00 28 22.2**	**+0.1**
JMM				S		**Sb**	**00 28 33.4**	**+0.4**
JMM	**Marumori**	**0.84**	**330**	A		A	00 28 22.2	
	comp=E,3.0nm,0.4s,comp=E,4.0nm,1.3s							
JYAR	**Yonezawaarcadi**	**1.21**	**310**	A		A	00 28 28.7	
	comp=E,19nm,0.8s,comp=E,20nm,1.3s							
JYT	**Yasato**	**1.28**	**225**	A		A	00 28 30.4	
	comp=E,9.0nm,0.4s,comp=E,3.0nm,0.7s							
JFY	**Yanaizu**	**1.31**	**282**	A		A	00 28 30.8	
	comp=E,3.0nm,0.7s,comp=E,2.0nm,1.6s							
JOU	**Okura**	**1.33**	**337**	A		A	00 28 30.0	
	comp=E,6.0nm,0.6s,comp=E,6.0nm,0.8s							
JYS	**Shirataka**	**1.47**	**318**	A		A	00 28 32.5	
	comp=E,6.0nm,0.9s,comp=E,8.0nm,1.6s							
MJAR	**Matsushiro Arr**	**2.56**	**258**	Pn		**Pn**	**00 28 47.2**	**+0.5**
	0.5nm,0.3s,baz=82,slow=18,SNR=4.4							
MJAR				Sn		**Sb**	**00 29 22.7**	**0.0**
	2.6nm,0.3s,baz=92,slow=27,SNR=5.6 9.1nm,0.4s							
MAJO	**Matsushiro**	**2.56**	**258**	Pn		**Pb**	**00 28 49.9**	**-1.7**
MJB9	**Matsu-Tunnel**	**2.56**	**258**			**Pb**	**00 28 50.5**	**-1.1**
JSD	**Sado**	**2.59**	**291**			**Pb**	**00 28 50.5**	**-1.4**
JGF	**Kuroka**	**3.54**	**246**	Pn		**Pn**	**00 29 03.9**	**+3.7**
JTM	**Tenmabayashi**	**3.65**	**357**			**Pn**	**00 29 02.5**	**+0.9**
INU	**Inuyama**	**3.91**	**244**	Pn		**Pn**	**00 29 07.6**	**+2.5**
JHJ2	**Mitsune**	**4.20**	**197**	Pn		**Pn**	**00 29 11.1**	**+1.9**
JHJ	**Hachijo jima 2**	**4.20**	**198**	Pn		**Pn**	**00 29 10.8**	**+1.5**
	34nm,0.3s,baz=17,slow=19,SNR=8.6							
JHJ				Sn		**Sn**	**00 29 56.8**	**-0.9**
	27nm,0.3s,baz=49,slow=19,SNR=1.8 46nm,0.3s							
ERM	**Erimo**	**5.08**	**16**	Pn		**Pn**	**00 29 20.7**	**-0.5**
JKA	**Kamikawa-asahi**	**7.04**	**8**	Pn		**Pn**	**00 29 47.5**	**-0.7**
SONM	**Songino Array**	**27.66**	**304**	P		**P**	**00 33 53.2**	**+0.3**
	1.8nm,0.7s,baz=104,slow=8.1,SNR=14 1.8nm,0.7s							
SONM	**Songino Array**	**27.66**	**304**			**P**	**00 33 54.2**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**28.27**	**121**	T		T	01 03 23.2	
	baz=314,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.28**	**121**	T		T	01 03 21.1	
	baz=314,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.29**	**121**	T		T	01 03 23.1	
	baz=314							
H11S1	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	01 04 15.0	
	baz=316,slow=76							
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	01 04 16.2	
	baz=316							
H11S2	**WAKE ISLAND Hy**	**29.00**	**123**	T		T	01 04 16.6	
	baz=316,slow=76							

ZAA0	**Zalesovo Array**	**41.79**	**312**	P	**P**	**00 35 53.0**	**-1.1**
ZAA0				IAmb	IAmb	00 35 56.0	
	comp=Z,4.9nm,1.1s						
ZALV	**Zalesovo Beam**	**41.79**	**312**	P	**P**	**00 35 55.0**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=90,slow=7.2,SNR=10 comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**41.79**	**312**	P	**P**	**00 35 54.6**	**+0.5**
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**00 36 12.9**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=93,slow=8.7,SNR=8.6 comp=Z,1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.88**	**308**	P	**P**	**00 36 26.4**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=80,slow=7.5,SNR=8.2 comp=Z,1.4nm,0.6s						
ILAR	**Eielson Array**	**49.45**	**32**	P	**P**	**00 36 54.4**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=274,slow=6.7,SNR=10 comp=Z,1.3nm,0.7s						
BVAR	**Borovoye Array**	**50.44**	**312**	P	**P**	**00 37 01.4**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=84,slow=7.4,SNR=4.9 comp=Z,1.3nm,0.6s						
INK	**Inuvik**	**54.33**	**27**	P	**P**	**00 37 30.7**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=295,slow=7.3,SNR=4.1 comp=Z,0.9nm,0.6s						
CHGR	**Chuyangaron**	**55.55**	**295**	P	**P**	**00 37 40.9**	**+0.5**
ARU	**Arti**	**56.23**	**318**	P	**P**	**00 37 44.6**	**-0.2**
	comp=Z,4.1nm,0.5s,baz=88,slow=4.2,SNR=11 comp=Z,4.1nm,0.5s						
ARU	**Arti**	**56.23**	**318**		**P**	**00 37 44.9**	**+0.1**
ARU				IAmb	IAmb	00 37 46.1	
	comp=Z,5.7nm,0.9s						
WB0	**Warramunga Arr**	**56.97**	**188**	P	**P**	**00 37 50.0**	**-0.4**
WB0				pP	**sP**	**00 37 58.2**	**-0.7**
WB0				IAmb	IAmb	00 37 59.5	
	comp=Z,8.7nm,1.5s						
WR0	**Warramunga Arr**	**57.15**	**188**	P	**P**	**00 37 50.7**	**-1.0**
WR0				IAmb	IAmb	00 38 06.6	
	comp=Z,6.9nm,1.2s						
WB2	**Warramunga Arr**	**57.15**	**188**	P	**P**	**00 37 51.2**	**-0.5**
WB2				IAmb	IAmb	00 38 25.4	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**57.15**	**188**	P	**P**	**00 37 50.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=4.1,slow=6.9,SNR=6.9 comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**57.15**	**188**	P	**P**	**00 37 49.4**	**-2.3**
EUNU	**Eureka**	**60.10**	**9**	P	**P**	**00 38 11.3**	**-0.3**
EUNU				IAmb	IAmb	00 38 12.6	
	comp=Z,1.9nm,0.8s						
KIRV	**Kirov**	**60.12**	**323**	P	**P**	**00 38 12.3**	**+0.4**
	comp=Z,11nm,0.6s,baz=69,slow=7.1,SNR=4.7 comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**60.88**	**188**	P	**P**	**00 38 17.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=7.6,slow=6.9,SNR=1.9 comp=Z,0.2nm,0.3s						
GEYT	**Alibeck**	**63.72**	**299**	P	**P**	**00 38 37.6**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=97,slow=4.5,SNR=4.4 comp=Z,1.7nm,0.7s						
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**00 39 08.5**	**+0.5**
	comp=Z,4.7nm,1.0s,baz=53,slow=6.6,SNR=2.2 comp=Z,4.7nm,1.0s						
NVAR	**Mina Array Bea**	**74.99**	**53**	P	**P**	**00 39 47.3**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=280,slow=8.0,SNR=2.0 comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**77.65**	**45**	P	**P**	**00 40 00.1**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=323,slow=1.4,SNR=3.5 comp=Z,0.4nm,0.5s						
GERES	**GERESS Array B**	**82.58**	**328**	P	**P**	**00 40 27.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=49,slow=8.1,SNR=2.2 comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**90.12**	**52**	P	**P**	**00 41 05.7**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=326,slow=2.5,SNR=2.7 comp=Z,0.2nm,0.7s						
LPAZ	**La Paz**	**146.71**	**59**	PKPbc	**PKPbc**	**00 47 48.0**	**0.0**
	comp=Z,1.2nm,0.5s,baz=301,slow=5.9,SNR=7.1						
H03N2	**Juan Fernandez**	**147.11**	**96**	T	T	03 32 04.5	
	baz=291,slow=76						
H03N3	**Juan Fernandez**	**147.12**	**96**	T	T	03 32 06.8	
	baz=291,slow=76						
H03N1	**Juan Fernandez**	**147.13**	**96**	T	T	03 32 03.5	
	baz=291,slow=76						

*HEL **22** 00:28:57.3, 67.°83N×20.°19E, h0km, ML2.1, Explosion*
*HEL **22** 00:28:57.0±0.1, 67.°83N×20.°18E, h0km, ML2.1, ML1.0(UPP), Explosion*
*IDC **22** 00:28:57.4±1.4, 67.°67N×21.°23E, h0km, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=23.4km s-min=8.5km az=115.0*
ISC 22 00:28:55.8±1.0, **67.°78N**±0.°03×**20.°20E**±0.°05, **h0**km, **n22**, σ1§**09**/35, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.18**	**17**	*i* P		**Pg**	**00 28 59.3**	**+0.1**
KUA				*i* S		**Sg**	**00 29 01.0**	**-0.6**
KOVU	**Salmi**	**0.44**	**358**	*i* P		**Pg**	**00 29 04.2**	**-0.1**
LANU	**Lannavaara**	**0.73**	**68**	*e*P		**Pb**	**00 29 10.2**	**-1.1**
LANU				*e*S		**Sg**	**00 29 19.5**	**+0.4**
KIF	**Kilpisjarvi**	**1.25**	**10**	*e*PB		**Pb**	**00 29 19.8**	**-0.4**
	baz=186							
KIF				MSG			00 29 34.9	
	comp=Z,27nm,0.2s							
KIF				*e*S		**Sg**	**00 29 35.2**	**-0.6**
KIF	**Kilpisjarvi**	**1.25**	**10**	*e*P		**Pn**	**00 29 20.2**	**-0.2**
PAJU	**Pajala**	**1.36**	**123**	*e*PG		**Pb**	**00 29 22.1**	**0.0**
PAJU	baz=303							
				*e*SB		**Sn**	**00 29 40.9**	**+0.

JFK S Sb 00 29 27.5 -0.7
JMST Minamisoumatoc 0.72 307 P Pg 00 29 22.0 +0.8
JMST eS Sg 00 29 31.1 +0.5
JFFD Fukushimafurud 0.86 257 eP Pg 00 29 23.6 -0.2
JMM Marumori 0.87 312 P Pg 00 29 24.1 +0.1
JMM eS Sg 00 29 35.0 -0.2
JIO Ouri 1.18 350 eP Pb 00 29 29.5 -0.2
JIO eS Sb 00 29 44.3 -0.7
JHJ Hachijo jima 2 4.42 200 LR LR 00 32 21.0
comp=Z,1µm,19.1s,baz=78,slow=44
ZALV Zalesovo Beam 41.86 312 P P 00 36 57.5 +0.3
0.7nm,0.5s,baz=107,slow=7.8,SNR=2.2
0.7nm,0.5s
MKAR Makanchi Array 44.12 302 P P 00 37 14.8 -0.8
0.8nm,0.7s,baz=92,slow=9.1,SNR=2.2
0.8nm,0.7s
KURBB Kurchatov Arra 45.97 308 P P 00 37 30.4 +0.1
0.7nm,0.4s,baz=82,slow=7.7,SNR=4.1
0.7nm,0.4s
ARU Arti 56.27 318 P P 00 38 47.6 0.0
1.4nm,0.4s,baz=90,slow=20,SNR=3.5
1.4nm,0.4s
WRA Warramunga Arr 57.34 188 P P 00 38 55.9 +0.5
0.4nm,0.6s,baz=7.4,slow=6.9,SNR=1.2
0.4nm,0.6s
AKASG Malin Array Be 74.19 322 P P 00 40 43.7 -0.2
0.4nm,0.5s,baz=63,slow=4.3,SNR=0.7
0.4nm,0.5s

*IDC **22** 00:32:38.2±0.7,37°.28N×141°.50E, h0km, mb3.9/21, mbtmp3.9/24, ML3.4/3, Error ellipse: s-maj=17.7km s-min=15.2km az=96.0*
*NEIC **22** 00:32:40.7±1.9,37°.23N±0°.05×141°.42E±0°.07, h10km±1km, mb4.6/15, Error ellipse: s-maj=10.9km s-min=6.6km az=58.0*
*JMA **22** 00:32:40.6±0.2,37°.3N±0°.4×141°.6E±1°.0, h34km±1km, MD4.4/39, MV4.2/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 22 00:32:39.1±2.1, 37°.30N±0°.05×141°.56E±0°.06, h4km±11km, n89, σ1§03/69, mb4.2/30, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.55**	**277**	⇓P	**Pb**	**00 32 51.9**	**+0.6**
JFK				⇓S	**Sb**	**00 32 59.8**	**+0.2**
JFK	**Kawauchi**	**0.55**	**277**	A	A	00 32 51.9	
	comp=E,24nm,0.6s,comp=E,30nm,0.9s						
JMST	**Minamisoumatoc**	**0.69**	**309**	P	**Pb**	**00 32 53.7**	**+0.1**
JMST				S	**Sg**	**00 33 03.0**	**+1.9**
JMST	**Minamisoumatoc**	**0.69**	**309**	A	A	00 32 53.7	
	comp=E,22nm,1.1s,comp=E,21nm,0.5s						
JFFD	**Fukushimafurud**	**0.82**	**256**	eP	**Pb**	**00 32 56.2**	**+0.3**
JFFD				eS	**Sb**	**00 33 07.7**	**+0.3**
JFFD	**Fukushimafurud**	**0.82**	**256**	A	A	00 32 56.2	
	comp=E,4.0nm,2.4s,comp=E,4.0nm,2.3s						
JMM	**Marumori**	**0.83**	**313**		**Pg**	**00 32 54.9**	**-0.1**
JMM					**Sg**	**00 33 06.8**	**+0.9**
JMM	**Marumori**	**0.83**	**313**	P	**Pb**	**00 32 56.0**	**-0.1**
JMM				S	**Sg**	**00 33 06.8**	**+0.9**
JMM	**Marumori**	**0.83**	**313**	A	A	00 32 56.0	
	comp=E,6.0nm,1.3s,comp=E,5.0nm,0.3s						
JHO	**Hitachi**	**1.05**	**230**	P	**Pb**	**00 32 59.7**	**-0.1**
JIO	**Ouri**	**1.17**	**352**	P	**Pg**	**00 33 00.4**	**-1.1**
JIO				S	**Sg**	**00 33 15.7**	**-0.9**
JOU	**Okura**	**1.28**	**327**	eP	**Pn**	**00 33 03.4**	**-0.4**
JOU	**Okura**	**1.28**	**327**	A	A	00 33 03.4	
	comp=E,11nm,0.4s,comp=E,20nm,0.7s						
JYAR	**Yonezawaarcadi**	**1.28**	**299**	A	A	00 33 03.0	
	comp=E,31nm,1.0s,comp=E,29nm,1.2s						
JSB	**Shiboa**	**1.35**	**256**	A	A	00 33 04.3	
	comp=E,9.0nm,1.0s,comp=E,11nm,2.7s						
JOFO	**Osakifurukawao**	**1.40**	**339**	A	A	00 33 04.3	
	comp=E,23nm,0.7s,comp=E,39nm,2.7s						
JFY	**Yanaizu**	**1.48**	**275**	eP	**Pn**	**00 33 07.2**	**+0.6**
JFY	**Yanaizu**	**1.48**	**275**	A	A	00 33 07.2	
	comp=E,3.0nm,1.0s,comp=E,4.0nm,3.0s						
JYS	**Shirataka**	**1.50**	**308**	P	**Pb**	**00 33 07.5**	**0.0**
JYS	**Shirataka**	**1.50**	**308**	A	A	00 33 07.5	
	comp=E,11nm,1.8s,comp=E,8.0nm,1.3s						
JIHU	**Itakohorinouch**	**1.57**	**212**	A	A	00 33 07.5	
	comp=E,21nm,4.5s,comp=E,14nm,3.9s						
JYK	**Kaneyama**	**1.88**	**330**	A	A	00 33 11.4	
	comp=E,7.0nm,0.9s,comp=E,8.0nm,1.2s						
JYA	**Atsumi**	**1.95**	**312**	A	A	00 33 12.7	
	comp=E,11nm,0.8s,comp=E,8.0nm,0.8s						
JYYZ	**Yamagatayuza**	**2.14**	**324**	A	A	00 33 15.3	
	comp=E,9.0nm,2.0s,comp=E,9.0nm,2.7s						
JRG	**Rokugo**	**2.22**	**341**	A	A	00 33 16.2	
	comp=E,3.0nm,3.5s,comp=E,3.0nm,0.8s						
JIZZ	**Izumozaki**	**2.28**	**277**	A	A	00 33 17.7	
	comp=E,9.0nm,3.6s,comp=E,7.0nm,1.7s						
JYW	**Yuwa**	**2.48**	**335**	A	A	00 33 20.0	
	comp=E,8.0nm,2.0s,comp=E,10.0nm,1.6s						
JSZI	**Iwateshizukuis**	**2.49**	**349**	A	A	00 33 20.0	
	comp=E,5.0nm,2.0s,comp=E,6.0nm,5.2s						
JSD	**Sado**	**2.72**	**287**		**Pn**	**00 33 23.0**	**-0.5**
MJAR	**Matsushiro Arr**	**2.79**	**255**	Pn	**Pn**	**00 33 25.3**	**+0.8**
	1.6nm,0.3s,baz=57,slow=13,SNR=11						
MJAR				Sn	**Sb**	**00 34 02.0**	**-2.0**
	1.4nm,0.3s,baz=75,slow=14,SNR=4.8						
	10.0nm,0.4s						
MAJO	**Matsushiro**	**2.79**	**255**	Pn	**Pn**	**00 33 23.7**	**-0.8**
MJB9	**Matsu-Tunnel**	**2.79**	**255**	Pn	**Pn**	**00 33 26.0**	**+1.5**
JTM	**Tenmabayashi**	**3.50**	**354**		**Pn**	**00 33 35.5**	**+1.2**
JGF	**Kuroka**	**3.79**	**245**	Pn	**Pn**	**00 33 39.1**	**+0.9**
INU	**Inuyama**	**4.15**	**243**	Pn	**Pn**	**00 33 43.8**	**+0.6**
JHJ	**Hachijo jima 2**	**4.42**	**200**	Pn	**Pn**	**00 33 46.1**	**-0.7**
	21nm,0.3s,baz=51,slow=20,SNR=1.3						
JHJ				Sn	**Sn**	**00 34 37.6**	**-1.0**
	14nm,0.3s,baz=24,slow=19,SNR=2.2						
	70nm,0.3s						
ERM	**Erimo**	**4.87**	**14**	Pn	**Pn**	**00 33 54.8**	**+1.7**
JKA	**Kamikawa-asahi**	**6.86**	**6**	Pn	**Pn**	**00 34 20.4**	**+0.1**
JMN	**Monobe**	**7.21**	**243**	Pn	**Pn**	**00 34 26.5**	**+1.3**
JHS	**Saijyo**	**7.21**	**254**	Pn	Pn	00 34 30.0	+4.8
USRK	**Ussuriysk Ar.**	**10.01**	**317**	Pn	**Pn**	**00 35 03.5**	**-0.1**
	0.5nm,0.3s,baz=135,slow=13,SNR=2.1						
	1.2nm,0.5s						
KLR	**Kul'dur**	**13.89**	**332**	Pn	**P**	**00 36 03.0**	**-2.0**
	0.1nm,0.3s,baz=151,slow=19,SNR=2.3						
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**00 38 27.9**	**-0.8**
	0.8nm,0.6s,baz=98,slow=8.5,SNR=5.3						
	0.8nm,0.6s						
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**00 38 29.3**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	01 07 56.6	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	01 07 57.9	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	01 07 59.5	
	baz=314,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	01 08 53.7	
	baz=316,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	01 08 53.1	
	baz=316,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	01 08 53.3	
	baz=316,slow=76,SNR=36						
CMAR	**Chiang Mai Arr**	**41.68**	**255**	P	**P**	**00 40 28.8**	**-0.1**
	0.9nm,0.3s,baz=40,slow=4.9,SNR=1.5						
	0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**00 40 28.6**	**-1.1**
	1.4nm,0.7s,baz=89,slow=6.9,SNR=4.4						
	1.4nm,0.7s						
NRIK	**Noril'sk**	**43.08**	**335**	P	**P**	**00 40 41.1**	**+1.5**
	1.6nm,0.5s,baz=117,slow=10,SNR=2.3						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**00 40 48.0**	**-0.1**
	2.4nm,0.8s,baz=87,slow=9.4,SNR=9.0						
	2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**00 41 02.4**	**-0.3**
	2.1nm,0.7s,baz=83,slow=8.1,SNR=7.0						
	2.1nm,0.7s						
ILAR	**Eielson Array**	**49.21**	**32**	P	**P**	**00 41 27.9**	**-0.2**
	0.5nm,0.6s,baz=266,slow=6.7,SNR=6.3						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**50.48**	**312**	P	**P**	**00 41 36.7**	**-1.2**
	1.1nm,0.5s,baz=61,slow=6.9,SNR=7.4						
	1.1nm,0.5s						
INK	**Inuvik**	**54.10**	**27**	P	**P**	**00 42 05.5**	**+1.0**
	0.3nm,0.5s,baz=268,slow=6.0,SNR=1.0						
	0.3nm,0.5s						
CHGR	**Chuyangaron**	**55.66**	**295**	P	**P**	**00 42 16.2**	**-0.2**
ARU	**Arti**	**56.24**	**318**	P	**P**	**00 42 19.2**	**-0.9**
	2.9nm,0.4s,baz=83,slow=6.1,SNR=7.6						
	2.9nm,0.4s						

WR0 Warramunga Arr 57.33 188 P P 00 42 28.1 -0.1
WR0 IAmb IAmb 00 42 37.6
comp=Z,2.6nm,0.6s
WB2 Warramunga Arr 57.34 188 P P 00 42 28.5 +0.2
WB2 IAmb IAmb 00 42 34.9
comp=Z,3.3nm,1.0s
WRA Warramunga Arr 57.34 188 P P 00 42 27.7 -0.6
comp=Z,1.3nm,0.8s,baz=5.1,slow=7.5,SNR=15
comp=Z,1.3nm,0.8s
ABKAR Akbulak array 57.86 310 P P 00 42 31.3 -0.4
ABKAR IAmb IAmb 00 42 44.3
comp=Z,2.5nm,0.7s
EUNU Eureka 59.91 9 P P 00 42 45.3 -0.3
ASAR Alice Springs 61.06 188 P P 00 42 53.4 -0.7
comp=Z,0.7nm,0.8s,baz=17,slow=6.9,SNR=7.3
comp=Z,0.7nm,0.8s
ARCES ARCESS Array B 63.79 339 P P 00 43 11.1 -0.7
comp=Z,1.3nm,0.8s,baz=49,slow=8.8,SNR=1.2
comp=Z,1.3nm,0.8s
ARCES ARCESS Array B 63.79 339 P P 00 43 11.8 -0.1
GEYT Alibeck 63.81 299 P P 00 43 12.2 -0.2
comp=Z,0.7nm,0.3s,baz=48,slow=2.1,SNR=1.8
comp=Z,0.7nm,0.3s
LLLB Lillooet 65.98 44 P P 00 43 30.8 +4.3
FIA1 FINESS Array S 68.64 332 P P 00 43 43.6 +0.6
FIA1 IAmb IAmb 00 43 53.3
comp=Z,9.0nm,1.0s
FINES FINESS Array B 68.64 332 P P 00 43 42.5 -0.4
comp=Z,1.3nm,0.6s,baz=33,slow=8.3,SNR=6.2
comp=Z,1.3nm,0.6s
FINES FINESS Array B 68.64 332 P P 00 43 43.0 +0.1
PINE Pine Mountain 70.08 50 P P 00 43 54.6 +2.1
PINE IAmb IAmb 00 44 01.3
comp=Z,6.2nm,0.9s
K05A Summer Lake 70.69 51 P P 00 43 57.6 +1.4
K05A IAmb IAmb 00 44 04.7
comp=Z,6.0nm,0.9s
NC405 NORSAR Array S 73.78 337 P P 00 44 14.1 0.0
NC204 NORSAR Array S 73.94 338 P P 00 44 15.3 +0.2
NC204 IAmb IAmb 00 44 27.8
comp=Z,13nm,1.1s
NB201 NORSAR Array S 73.96 337 P P 00 44 15.6 +0.3
NB201 IAmb IAmb 00 44 20.9
comp=Z,7.8nm,0.8s
NB2 NORSAR Subarra 73.99 337 P P 00 44 15.2 -0.2
comp=Z,0.8nm,0.4s,baz=39,slow=6.2
NOA NORSAR Array B 73.99 337 P P 00 44 14.8 -0.7
comp=Z,1.2nm,0.7s,baz=40,slow=6.0,SNR=3.9
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 74.16 322 P P 00 44 16.0 -0.6
comp=Z,1.4nm,0.5s,baz=45,slow=5.9,SNR=10
comp=Z,1.4nm,0.5s
NVAR Mina Array Bea 74.74 53 P P 00 44 21.1 +0.7
comp=Z,0.6nm,0.6s,baz=289,slow=2.8,SNR=2.0
comp=Z,0.6nm,0.6s
R11A Troy Canyon, C 76.51 52 P P 00 44 32.0 +1.5
R11A IAmb IAmb 00 44 38.0
comp=Z,1.8nm,0.8s
PDAR Pinedale Array 77.40 46 P P 00 44 35.9 +0.4
comp=Z,0.3nm,0.6s,baz=300,slow=1.8,SNR=4.4
comp=Z,0.3nm,0.6s
GERES GERESS Array B 82.55 328 P P 00 45 02.7 -0.4
comp=Z,0.4nm,0.5s,baz=60,slow=5.8,SNR=2.3
comp=Z,0.4nm,0.5s
TXAR Lajitas Array 89.87 52 P P 00 45 40.1 +0.6
comp=Z,0.3nm,0.5s,baz=303,slow=3.5,SNR=7.1
comp=Z,0.3nm,0.5s
H03N2 Juan Fernandez 146.93 96 T T 03 36 27.8
baz=291,slow=76,SNR=13
H03N3 Juan Fernandez 146.94 96 T T 03 36 29.9
baz=291,slow=76,SNR=15
H03N1 Juan Fernandez 146.95 96 T T 03 36 28.8
baz=291,slow=76,SNR=14

*IDC **22** 00:34:24.5±3.0,37°.09N×141°.62E, h0km, mb3.6/2, mbtmp3.5/3, Error ellipse: s-maj=66.8km s-min=38.3km az=63.0*
*JMA **22** 00:34:26.7±0.3,37°.2N±0°.7×14°.1E±°, h32km±3km, MV3.5/25, E OFF FUKUSHIMA PREF*
ISC 22 00:34:26.0±1.7, 37°.21N±0°.09×141°.5E±0°.1, h10km, n13, σ0§73/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.54**	**286**	eS	**Sg**	**00 34 44.0**	**+0.2**
JMST	**Minamisoumatoc**	**0.72**	**315**	eS	**Sg**	**00 34 49.6**	**+0.1**
JFFD	**Fukushimafurud**	**0.78**	**261**	P	**Pg**	**00 34 41.0**	**-0.1**
JFFD				eS	**Sg**	**00 34 51.0**	**-0.3**
JMM	**Marumori**	**0.88**	**318**	eS	**Sg**	**00 34 53.2**	**-1.1**
MJAR	**Matsushiro Arr**	**2.75**	**257**	Pn	**Pn**	**00 35 10.4**	**+0.3**
	6.0nm,0.5s,baz=82,slow=15,SNR=0.8						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	01 08 50.4	
	baz=315						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	01 08 50.4	
	baz=315						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	01 08 50.4	
	baz=315						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	01 09 45.3	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	01 09 45.3	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	01 09 45.3	
	baz=316						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**00 42 16.9**	**+0.8**
	0.8nm,0.7s,baz=99,slow=8.9,SNR=2.2						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**00 44 13.1**	**-0.6**
	0.4nm,0.6s,baz=5.1,slow=7.2,SNR=1.1						
	0.4nm,0.6s						

*IDC **22** 00:35:59.9±1.4,37°.30N×141°.96E, h0km, mb3.6/8, mbtmp3.6/10, ML3.1/2, Error ellipse: s-maj=30.0km s-min=24.5km az=109.0*
*JMA **22** 00:36:05.0±0.2,37°.3N±0°.4×14°.2E±°, h35km±2km, MV3.8/18, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 00:36:02.0±1.1, 37°.26N±0°.06×141°.68E±0°.07, h10km, n23, σ1§17/19, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.65**	**280**	P	**Pg**	**00 36 15.7**	**+1.1**
JFK				S	**Sb**	**00 36 23.4**	**-1.2**
JMST	**Minamisoumatoc**	**0.78**	**307**	P	**Pg**	**00 36 17.6**	**+0.5**
JMST				S	**Sg**	**00 36 26.8**	**-0.5**
JFFD	**Fukushimafurud**	**0.91**	**260**	P	**Pg**	**00 36 20.0**	**+0.5**
JFFD				eS	**Sg**	**00 36 31.0**	**-0.3**
JMM	**Marumori**	**0.93**	**311**	eP	**Pg**	**00 36 19.9**	**0.0**
JMM				eS	**Sg**	**00 36 30.8**	**-1.2**
MJAR	**Matsushiro Arr**	**2.87**	**257**	Pn	**Pn**	**00 36 49.4**	**+1.6**
	0.8nm,0.3s,baz=76,slow=17,SNR=2.2						
MJAR				Sn	**Sb**	**00 37 27.5**	**-1.0**
	1.7nm,0.3s,baz=40,slow=45,SNR=2.1						
	5.7nm,0.3s						
JHJ	**Hachijo jima 2**	**4.41**	**201**	Pn	**Pn**	**00 37 08.8**	**-0.2**
	8.4nm,0.3s,baz=38,slow=13,SNR=1.4						
JHJ				Sn	**Sn**	**00 37 58.9**	**-1.4**
	8.8nm,0.3s,baz=59,slow=12,SNR=1.5						
	135nm,0.8s						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**00 41 51.3**	**-0.4**
	0.7nm,1.1s,baz=82,slow=10,SNR=2.9						
	0.7nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	01 11 16.1	
	baz=314,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	01 11 17.2	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	01 11 20.0	
	baz=314,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	01 12 13.4	
	baz=316,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	01 12 11.9	
	baz=316,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	01 12 13.3	
	baz=316,slow=76,SNR=17						
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**00 43 53.9**	**+1.4**
	0.5nm,0.6s,baz=88,slow=7.8,SNR=1.5						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**00 44 12.6**	**+1.6**
	0.5nm,0.6s,baz=86,slow=10,SNR=2.4						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**46.03**	**308**	P	**P**	**00 44 26.6**	**+1.1**
	0.6nm,0.4s,baz=83,slow=9.4,SNR=2.2						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**49.20**	**32**	P	P	00 44 48.1	-1.9
	0.2nm,0.7s,baz=259,slow=7.8,SNR=3.3						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**50.58**	**312**	P	**P**	**00 45 01.8**	**+1.1**
	0.3nm,0.5s,baz=94,slow=6.2,SNR=1.9						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**57.31**	**188**	P	**P**	**00 45 50.6**	**+0.5**
	0.4nm,0.8s,baz=5.1,slow=7.4,SNR=2.4						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**00 47 03.5**	**-1.9**
	2.5nm,0.9s,baz=35,slow=5.1,SNR=1.8						
	2.5nm,0.9s						
H03N2	**Juan Fernandez**	**146.84**	**96**	T	T	03 39 52.8	
	baz=290						
H03N3	**Juan Fernandez**	**146.85**	**96**	T	T	03 39 53.2	
	baz=290						
H03N1	**Juan Fernandez**	**146.85**	**96**	T	T	03 39 53.0	
	baz=290						

*IDC **22** 00:37:32.6±1.5,37°.25N×141°.69E, h0km, mb3.6/7, mbtmp3.6/8, ML2.6/1, Error ellipse: s-maj=32.5km s-min=27.9km az=145.0*
*JMA **22** 00:37:36.4±0.2,37°.2N±0°.3×141°.3E±0°.8, h22km±1km, MV3.6/31, E OFF FUKUSHIMA PREF*
ISC 22 00:37:34.5±1.1, 37°.22N±0°.06×141°.49E±0°.08, h10km, n22, σ0§98/16, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.51**	**286**	P	**Pg**	**00 37 44.4**	**0.0**
JMST	**Minamisoumatoc**	**0.69**	**317**	P	**Pg**	**00 37 48.0**	**+0.2**
JMST				S	**Sg**	**00 37 56.9**	**0.0**
JFFD	**Fukushimafurud**	**0.75**	**260**	P	**Pg**	**00 37 48.5**	**-0.5**
JMM	**Marumori**	**0.85**	**320**	P	**Pg**	**00 37 50.7**	**-0.1**
JMM				S	**Sg**	**00 38 01.7**	**-0.1**
JIO	**Ouri**	**1.23**	**355**	eP	**Pn**	**00 37 58.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.71**	**256**	Pn	**Pn**	**00 38 19.8**	**+1.6**
	0.9nm,0.3s,baz=69,slow=10,SNR=1.0						
MJAR				Sn	**Sb**	**00 38 54.2**	**-2.3**
	0.9nm,0.3s,baz=246,slow=38,SNR=1.5						
	7.6nm,0.3s						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**00 43 24.4**	**+1.2**
	0.4nm,0.5s,baz=122,slow=9.1,SNR=3.2						
	0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	01 12 59.9	
	baz=314,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	01 13 01.6	
	baz=314,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	01 13 02.1	
	baz=314,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	01 13 52.1	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	01 13 49.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	01 13 50.3	
	baz=316						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**00 45 24.5**	**+0.2**
	0.6nm,0.7s,baz=95,slow=9.0,SNR=2.1						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**00 45 43.4**	**+0.9**
	0.5nm,0.7s,baz=79,slow=7.5,SNR=2.4						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**00 45 57.3**	**+0.1**
	1.1nm,0.7s,baz=84,slow=8.5,SNR=2.8						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**49.30**	**32**	P	**P**	**00 46 22.0**	**-1.3**
	0.3nm,0.7s,baz=258,slow=4.5,SNR=1.6						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**57.26**	**188**	P	**P**	**00 47 22.2**	**+0.1**
	0.3nm,0.6s,baz=5.9,slow=7.4,SNR=2.3						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**68.67**	**332**	P	**P**	**00 48 37.5**	**-0.1**
	2.0nm,0.9s,baz=46,slow=6.2,SNR=1.6						
	2.0nm,0.9s						
H03N2	**Juan Fernandez**	**146.99**	**96**	T	T	03 41 41.8	
	baz=291						
H03N3	**Juan Fernandez**	**147.00**	**96**	T	T	03 41 40.9	
	baz=291						
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	03 41 42.0	
	baz=291						

*IDC **22** 00:42:50.5±1.6,37°.33N×141°.92E, h0km, mb3.5/5, mbtmp3.4/6, ML2.3/1, Error ellipse: s-maj=33.9km s-min=28.6km az=150.0*
*JMA **22** 00:42:56.9±0.3,37°.3N±0°.5×14°.1E±°, h27km±2km, MV3.2/30, E OFF FUKUSHIMA PREF*
ISC 22 00:42:53.5±1.5, 37°.27N±0°.06×141°.66E±0°.09, h10km, n20, σ1§17/14, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.64**	**279**	P	**Pg**	**00 43 06.6**	**+0.7**
JFK				eS	**Sb**	**00 43 14.1**	**-1.6**
JMST	**Minamisoumatoc**	**0.77**	**306**	eP	**Pg**	**00 43 08.9**	**+0.6**
JMST				S	**Sg**	**00 43 17.8**	**-0.5**
JFFD	**Fukushimafurud**	**0.90**	**259**	eP	**Pg**	**00 43 11.1**	**+0.2**
JFFD				eS	**Sg**	**00 43 20.9**	**-1.7**
JHO	**Hitachi**	**1.10**	**233**	S	**Sg**	**00 43 29.0**	**+0.1**
JOU	**Okura**	**1.35**	**324**	S	**Sb**	**00 43 36.1**	**-0.2**
MJAR	**Matsushiro Arr**	**2.86**	**256**	Pn	**Pn**	**00 43 39.4**	**+0.1**
	0.4nm,0.3s,baz=73,slow=15,SNR=4.7						
MJAR				Sn	**Sn**	**00 44 16.5**	**+2.7**
	0.2nm,0.3s,baz=107,slow=16,SNR=5.2						
	2.7nm,0.4s						
SONM	**Songino Array**	**27.82**	**304**	P	**P**	**00 48 43.5**	**+0.5**
	0.5nm,0.8s,baz=96,slow=9.3,SNR=3.5						
	0.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.10**	**122**	T	T	01 18 14.7	
	baz=314,slow=75,SNR=141						
H11N1	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	01 18 15.3	
	baz=314,slow=75,SNR=99						
H11N3	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	01 18 16.0	
	baz=314,slow=75,SNR=115						
H11S1	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	01 19 09.0	
	baz=316,slow=76,SNR=259						
H11S3	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	01 19 08.9	
	baz=316,slow=76,SNR=190						
H11S2	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	01 19 09.4	
	baz=316,slow=76,SNR=64						
ZALV	**Zalesovo Beam**	**41.90**	**312**	P	**P**	**00 50 43.6**	**-0.3**
	0.4nm,0.5s,baz=76,slow=6.5,SNR=2.7						
	0.4nm,0.5s						
MKAR	**Makanchi Array**

ISC 22 00:45:15.7±2.1, 37°33N±0°.04×141°56E±0°.08, h14km±12km, n26, σ1°01/25, mb3.5/8, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.55**	**274**	P	**Pb**	**00 45 27.0**	**-0.1**
JFK				S	**Sb**	**00 45 34.5**	**-0.4**
JMST	**Minamisoumatoc**	**0.67**	**306**	*i* P	**Pg**	**00 45 29.0**	**+0.3**
JMST				S	**Sb**	**00 45 38.1**	**-0.1**
JMM	**Marumori**	**0.81**	**311**	P	**Pb**	**00 45 31.2**	**-0.3**
JMM				S	**Sb**	**00 45 42.3**	**-0.1**
JFFD	**Fukushimafurud**	**0.83**	**254**	P	**Pb**	**00 45 31.4**	**-0.5**
JFFD				S	**Sb**	**00 45 42.3**	**-0.8**
JHO	**Hitachi**	**1.07**	**228**	P	**Pb**	**00 45 35.0**	**-0.9**
JHO				S	**Sb**	**00 45 48.4**	**-1.4**
JIO	**Ouri**	**1.14**	**351**	P	**Pn**	**00 45 36.1**	**-1.0**
JOU	**Okura**	**1.26**	**326**	⇓P	**Pn**	**00 45 38.9**	**+0.1**
JOU				⇓S	**Sn**	**00 45 55.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.80**	**255**	Pn	**Pn**	**00 46 00.8**	**+0.8**
	1.0nm,0.3s,baz=78,slow=16,SNR=9.5						
MJAR				Sn	**Sb**	**00 46 38.6**	**-1.0**
	0.9nm,0.3s,baz=110,slow=16,SNR=4.8 3.3nm,0.4s						
JHJ	**Hachijo jima 2**	**4.45**	**200**	Pn	**Pn**	**00 46 23.8**	**+1.2**
	11nm,0.3s,baz=35,slow=19,SNR=1.5						
JHJ				Sn	**Sn**	**00 47 12.6**	**-1.6**
	2.0nm,0.3s,baz=280,slow=21,SNR=1.6 210nm,0.9s						
SONM	**Songino Array**	**27.72**	**303**	P	**P**	**00 51 04.1**	**+0.5**
	0.6nm,0.7s,baz=93,slow=7.9,SNR=4.6 0.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	01 20 31.3	
	baz=314,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	01 20 32.5	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	01 20 32.6	
	baz=314,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	01 21 30.4	
	baz=316,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	01 21 28.9	
	baz=316,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.94**	**124**	T	T	01 21 30.7	
	baz=316,slow=75,SNR=14						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**00 53 04.6**	**0.0**
	0.5nm,0.4s,baz=81,slow=8.9,SNR=4.4 0.5nm,0.4s						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**00 53 22.8**	**-0.2**
	0.5nm,0.7s,baz=82,slow=10,SNR=2.4 0.5nm,0.7s						
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**00 54 01.7**	**-1.1**
	0.3nm,0.7s,baz=272,slow=6.1,SNR=2.0 0.3nm,0.7s						
WRA	**Warramunga Arr**	**57.37**	**188**	P	**P**	**00 55 03.2**	**-0.3**
	0.4nm,1.0s,baz=5.5,slow=7.3,SNR=6.4 0.4nm,1.0s						
ASAR	**Alice Springs**	**61.10**	**188**	P	**P**	**00 55 32.3**	**+3.0**
	0.4nm,0.7s,baz=11,slow=5.8,SNR=2.2 0.4nm,0.7s						
ARCES	**ARCESS Array B**	**63.76**	**339**	P	**P**	**00 55 46.7**	**+0.1**
	1.6nm,0.9s,baz=52,slow=5.8,SNR=1.2 1.6nm,0.9s						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**00 56 18.3**	**+0.5**
	4.1nm,1.0s,baz=56,slow=7.4,SNR=2.8 4.1nm,1.0s						
H03N2	**Juan Fernandez**	**146.93**	**96**	T	T	03 49 01.3	
	baz=290						
H03N3	**Juan Fernandez**	**146.95**	**96**	T	T	03 49 00.4	
	baz=290						
H03N1	**Juan Fernandez**	**146.95**	**96**	T	T	03 49 01.5	
	baz=290						

*IDC **22** 00:45:42.5±1.1, 53°.98S×133°.33W, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=44.2km s-min=28.5km az=152.0*
*NEIC **22** 00:45:42.9±1.5, 52°.9S±0°.1×133°.3W±0°.2, h10km±1km, mb5.0/25, Error ellipse: s-maj=20.8km s-min=18.5km az=29.0*

ISC 22 00:45:43.0±0.5, 53°.0S±0°.2×133°.40W±0°.10, h10km, n39, σ1°19/28, mb4.9/18, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAI	**San Martin Ant**	**33.95**	**142**	P	**P**	**00 52 26.4**	**+0.5**
MQZ	**McQueen's Vall**	**36.25**	**263**	P	**P**	**00 52 45.9**	**-0.1**
MQZ				IAmb	IAmb	00 53 10.1	
	comp=Z,18nm,1.3s						
MG05	**Puerto Natales**	**36.26**	**113**	P	**P**	**00 52 45.8**	**-0.1**
MG05				IAmb	IAmb	00 52 48.1	
	comp=Z,45nm,1.2s						
RTZ	**Ruatahuna**	**36.69**	**273**	P	**P**	**00 52 48.6**	**-1.3**
QSPA	**South Pole Qui**	**37.20**	**180**	P	P	00 52 46.7	-7.3
	comp=Z,1.2nm,0.2s,baz=63,slow=4.5,SNR=3.7 comp=Z,1.2nm,0.2s						
RPZ	**Rata Peaks**	**37.20**	**261**	P	**P**	**00 52 52.8**	**-1.3**
RPZ				IAmb	IAmb	00 53 00.3	
	comp=Z,29nm,1.3s						
H03S2	**Juan Fernandez**	**42.78**	**86**	T	T	01 39 23.4	
	baz=223,slow=74,SNR=21						
H03S1	**Juan Fernandez**	**42.79**	**86**	T	T	01 39 22.4	
	baz=223,slow=74,SNR=18						
H03S3	**Juan Fernandez**	**42.80**	**86**	T	T	01 39 22.4	
	baz=223,slow=74,SNR=21						
H03N3	**Juan Fernandez**	**43.05**	**85**	T	T	01 39 38.8	
	baz=226,slow=72,SNR=74						
H03N2	**Juan Fernandez**	**43.05**	**85**	T	T	01 39 37.7	
	baz=226,slow=72,SNR=98						
H03N1	**Juan Fernandez**	**43.06**	**85**	T	T	01 39 37.8	
	baz=226,slow=72,SNR=47						
ROC1	**El Roble**	**48.16**	**91**	P	**P**	**00 54 22.4**	**-1.0**
ROC1				IAmb	IAmb	00 54 24.2	
	comp=Z,14nm,1.4s						
VA06	**Catapilco**	**48.27**	**91**	P	**P**	**00 54 22.7**	**-1.3**
VA06				IAmb	IAmb	00 54 26.2	
	comp=Z,18nm,1.3s						
PB10	**IPOC Station P**	**55.30**	**83**	P	**P**	**00 55 15.4**	**-1.2**
PB10				IAmb	IAmb	00 55 42.0	
	comp=Z,10nm,1.0s						
LPAZ	**La Paz**	**62.29**	**80**	P	**P**	**00 56 07.7**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=191,slow=2.2,SNR=4.9 comp=Z,1.6nm,0.7s						
LPAZ	**La Paz**	**62.29**	**80**	P	**P**	**00 56 07.4**	**+1.4**
ITAB	**Concordia**	**63.62**	**101**	P	**P**	**00 56 14.4**	**+0.4**
ITAB				IAmb	IAmb	00 56 35.4	
	comp=Z,15nm,1.3s						
TARA	**Tarawa**	**70.16**	**301**	P	**P**	**00 56 58.4**	**+2.6**
AS31	**Alice Springs**	**73.03**	**253**	P	**P**	**00 57 12.7**	**-0.4**
ASAR	**Alice Springs**	**73.03**	**253**	P	**P**	**00 57 12.9**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=135,slow=6.7,SNR=7.2 comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**73.03**	**253**	P	**P**	**00 57 12.6**	**-0.5**
H01W1	**Cape Leeuwin H**	**74.71**	**232**	T	T	02 19 09.9	
	baz=144,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**74.71**	**232**	T	T	02 19 09.9	
	baz=144,slow=76,SNR=18						
H01W3	**Cape Leeuwin H**	**74.72**	**232**	T	T	02 19 11.0	
	baz=144,slow=76,SNR=16						
NWAO	**Narrogin (SRO)**	**74.80**	**235**	P	**P**	**00 57 23.3**	**0.0**
NWAO				IAmb	IAmb	00 57 29.5	
	comp=Z,29nm,1.5s						
POHA	**Pohakuloa**	**74.93**	**338**	P	**P**	**00 57 23.9**	**-0.4**
PEZE	**Perez Zeledon,**	**75.12**	**51**	P	**P**	**00 57 26.0**	**+0.8**
WRA	**Warramunga Arr**	**75.67**	**256**	P	**P**	**00 57 28.2**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=146,slow=5.2,SNR=5.9 comp=Z,1.1nm,0.7s						
TEIG	**Tepich**	**82.70**	**42**	P	**P**	**00 58 07.5**	**+0.9**
TEIG				IAmb	IAmb	00 58 08.9	
	comp=Z,29nm,1.2s						
MBWA	**Marble Bar**	**82.99**	**244**	P	**P**	**00 58 08.7**	**+0.3**
MBWA				IAmb	IAmb	00 58 19.6	
	comp=Z,38nm,1.4s						
KVTX	**Kingsville**	**85.94**	**31**	P	**P**	**00 58 21.8**	**-1.1**
TX31	**Lajitas Ar. Si**	**85.97**	**26**	P	**P**	**00 58 24.1**	**+1.0**
TXAR	**Lajitas Array**	**85.97**	**26**	P	P	00 58 28.9	+5.8
	comp=Z,1.0nm,1.1s,baz=188,slow=8.6,SNR=5.2 comp=Z,1.0nm,1.1s						
BBGB	**Big Mountain B**	**89.83**	**10**	P	**P**	**00 58 38.8**	**-2.6**
LHV	**Little Huntoon**	**91.77**	**12**	P	**P**	**00 58 50.4**	**+0.2**
LHV				IAmb	IAmb	00 58 58.5	
	comp=Z,7.8nm,1.1s						
WMOK	**Wichita Mounta**	**92.40**	**28**	P	**P**	**00 58 52.7**	**-0.6**
WMOK				IAmb	IAmb	00 58 55.4	
	comp=Z,3.8nm,0.8s						
YERR	**Yerington**	**92.41**	**11**	P	**P**	**00 58 51.6**	**-1.9**
YERR				IAmb	IAmb	00 58 53.9	
	comp=Z,7.7nm,1.3s						
TZTN	**Tazewell**	**99.10**	**39**	P	**Pdif**	**00 59 24.4**	**+0.7**

*JMA **22** 00:47:10.5±0.2, 37°.4N±0°.3×141°.6E±0°.8, h29km±1km, MD4.3/35, MV4.2/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NEIC **22** 00:47:11.5±1.6, 37°.42N±0°.05×141°.49E±0°.06, h15km±4km, mb4.5/52, Error ellipse: s-maj=8.2km s-min=5.1km az=47.0*
*IDC **22** 00:47:14.0±2.7, 37°.36N×141°.37E, h40km±23km, mb3.9/22, mbtmp4.1/26, ML3.4/4, Error ellipse: s-maj=17.3km s-min=12.6km az=87.0*

ISC 22 00:47:09.4±1.7, 37°.36N±0°.04×141°.61E±0°.05, h8km±10km, n148, σ1°12/126, mb4.4/45, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.58**	**271**	P	**Pg**	**00 47 21.2**	**+0.6**
JFK				S	**Sg**	**00 47 28.6**	**+0.3**
JFK	**Kawauchi**	**0.58**	**271**	A	A	00 47 21.2	
	comp=E,18nm,0.9s,comp=E,16nm,1.0s						
JMST	**Minamisoumatoc**	**0.68**	**303**	P	**Pg**	**00 47 22.6**	**+0.1**
JMST				S	**Sg**	**00 47 31.1**	**-0.2**
JMST	**Minamisoumatoc**	**0.68**	**303**	A	A	00 47 22.6	
	comp=E,17nm,1.1s,comp=E,16nm,0.7s						
JMM	**Marumori**	**0.82**	**309**		**Pb**	**00 47 24.8**	**-1.1**
JMM				Sg	**Sb**	**00 47 35.1**	**-2.0**
JMM	**Marumori**	**0.82**	**309**	*i* P	**Pb**	**00 47 24.9**	**-1.1**
JMM				S	**Sb**	**00 47 35.0**	**-2.2**
JMM	**Marumori**	**0.82**	**309**	A	A	00 47 24.9	
	comp=E,8.0nm,2.6s,comp=E,10.0nm,0.5s						
JFFD	**Fukushimafurud**	**0.88**	**253**	⇓P	**Pb**	**00 47 25.8**	**-1.0**
JFFD				⇓S	**Sb**	**00 47 36.8**	**-1.9**
JFFD	**Fukushimafurud**	**0.88**	**253**	A	A	00 47 25.8	
	comp=E,8.0nm,2.6s,comp=E,7.0nm,2.4s						
JHO	**Hitachi**	**1.11**	**228**	P	**Pb**	**00 47 29.5**	**-1.4**
JHO				S	**Sb**	**00 47 43.9**	**-1.7**
JIO	**Ouri**	**1.11**	**350**	P	**Pb**	**00 47 29.5**	**-1.4**
JIO				S	**Sb**	**00 47 42.8**	**-2.8**
JOU	**Okura**	**1.25**	**324**	⇓*i*P	**Pn**	**00 47 32.5**	**-0.8**
JOU				⇓S	**Sb**	**00 47 48.2**	**-1.4**
JOU	**Okura**	**1.25**	**324**	A	A	00 47 32.5	
	comp=E,13nm,0.7s,comp=E,26nm,1.9s						
JYAR	**Yonezawaarcadi**	**1.29**	**296**	A	A	00 47 32.2	
	comp=E,26nm,0.9s,comp=E,18nm,1.0s						
JOFO	**Osakifurukawao**	**1.36**	**336**	A	A	00 47 33.5	
	comp=E,40nm,2.8s,comp=E,49nm,2.0s						
JSB	**Shiboa**	**1.40**	**254**	A	A	00 47 34.1	
	comp=E,20nm,1.6s,comp=E,10.0nm,1.1s						
JYS	**Shirataka**	**1.50**	**306**	A	A	00 47 35.4	
	comp=E,12nm,1.3s,comp=E,11nm,2.0s						
JFY	**Yanaizu**	**1.52**	**272**	P	**Pn**	**00 47 36.3**	**-0.5**
JFY	**Yanaizu**	**1.52**	**272**	A	A	00 47 36.3	
	comp=E,7.0nm,0.9s,comp=E,5.0nm,2.5s						
JYT	**Yasato**	**1.60**	**226**	A	A	00 47 37.3	
	comp=E,6.0nm,4.9s,comp=E,4.0nm,5.9s						
CHOJ	**Chosi**	**1.76**	**200**	A	A	00 47 39.9	
	comp=E,7.0nm,2.2s,comp=E,4.0nm,1.9s						
JYK	**Kaneyama**	**1.84**	**328**	A	A	00 47 40.6	
	comp=E,6.0nm,2.8s,comp=E,5.0nm,1.2s						
JYA	**Atsumi**	**1.94**	**310**	A	A	00 47 41.9	
	comp=E,8.0nm,2.3s,comp=E,4.0nm,2.1s						
JAG	**Ashikaga**	**1.96**	**242**	A	A	00 47 42.4	
	comp=E,3.0nm,5.0s,comp=E,4.0nm,2.5s						
JYYZ	**Yamagatayuza**	**2.12**	**322**	A	A	00 47 44.5	
	comp=E,12nm,2.0s,comp=E,11nm,6.0s						
JRG	**Rokugo**	**2.17**	**340**	A	A	00 47 45.5	
	comp=E,5.0nm,3.0s,comp=E,4.0nm,1.6s						
JIZZ	**Izumozaki**	**2.31**	**275**	A	A	00 47 47.3	
	comp=E,11nm,3.3s,comp=E,9.0nm,2.3s						
JYW	**Yuwa**	**2.44**	**334**	A	A	00 47 49.3	
	comp=E,7.0nm,4.5s,comp=E,9.0nm,1.5s						
JGK	**Kuni**	**2.50**	**252**	A	A	00 47 50.1	
	comp=E,4.0nm,3.4s,comp=E,4.0nm,2.7s						
JSD	**Sado**	**2.74**	**285**	Pn	**Pn**	**00 47 53.7**	**+0.1**
JSD	**Sado**	**2.74**	**285**	P	**Pb**	**00 47 58.2**	**-0.4**
MJAR	**Matsushiro Arr**	**2.84**	**254**	Pn	**Pn**	**00 47 55.4**	**+0.3**
	1.8nm,0.3s,baz=86,slow=16,SNR=7.6						
MJAR				Sn	**Sn**	**00 48 32.1**	**+2.6**
	0.9nm,0.3s,baz=94,slow=14,SNR=4.7 9.2nm,0.3s						
MAJO	**Matsushiro**	**2.84**	**254**		**Pn**	**00 47 55.8**	**+0.8**
MAJO	**Matsushiro**	**2.84**	**254**	P	**Pn**	**00 47 56.9**	**+1.8**
MJB9	**Matsu-Tunnel**	**2.84**	**254**		**Pn**	**00 47 56.5**	**+1.5**
JKEN	**Kujiedanarisaw**	**2.85**	**2**	A	A	00 47 55.3	
	comp=E,7.0nm,1.3s,comp=E,6.0nm,0.9s						
JTM	**Tenmabayashi**	**3.45**	**353**	Pn	**Pn**	**00 48 03.8**	**+0.4**
JTM	**Tenmabayashi**	**3.45**	**353**	P	**Pn**	**00 48 05.1**	**+1.7**
JGF	**Kuroka**	**3.85**	**244**	Pn	**Pn**	**00 48 10.2**	**+1.3**
JGF	**Kuroka**	**3.85**	**244**	P	**Pn**	**00 48 10.5**	**+1.6**
INU	**Inuyama**	**4.21**	**243**		**Pn**	**00 48 15.1**	**+1.3**
INU	**Inuyama**	**4.21**	**243**	P	**Pn**	**00 48 16.1**	**+2.2**
JHJ2	**Mitsune**	**4.48**	**200**	Pn	**Pn**	**00 48 18.9**	**+1.3**
JHJ	**Hachijo jima 2**	**4.48**	**200**	Pn	**Pn**	**00 48 17.8**	**+0.2**
	18nm,0.3s,baz=53,slow=20,SNR=1.9						
JHJ				Sn	**Sn**	**00 49 08.1**	**-1.9**
	20nm,0.3s,baz=48,slow=21,SNR=1.8 114m,0.6s						
JHJ	**Hachijo jima 2**	**4.48**	**200**		**Pn**	**00 48 17.8**	**+0.2**
ERM	**Erimo**	**4.80**	**14**	Pn	**Pn**	**00 48 22.0**	**0.0**
JKA	**Kamikawa-asahi**	**6.79**	**6**	Pn	**Pn**	**00 48 48.7**	**-0.7**
JHS	**Saijyo**	**7.26**	**254**	Pn	**Pn**	**00 48 58.4**	**+2.6**
JHS	**Saijyo**	**7.26**	**254**	P	**Pn**	**00 48 59.5**	**+3.8**
JMN	**Monobe**	**7.26**	**242**	Pn	Pn	00 48 51.9	-3.9
USA0B	**Ussuriysk Arra**	**9.99**	**316**	Pn	**Pn**	**00 49 34.3**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.99**	**316**	Pn	**Pn**	**00 49 33.8**	**+0.7**
	0.6nm,0.3s,baz=129,slow=14,SNR=4.2 2.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.99**	**316**	Pn	**Pn**	**00 49 34.1**	**+1.0**
KLR	**Kul'dur**	**13.85**	**332**	Pn	**Pn**	**00 50 27.1**	**+1.1**
	0.1nm,0.3s,baz=127,slow=20,SNR=1.7 0.6nm,0.5s						
KLR	**Kul'dur**	**13.85**	**332**		**Pn**	**00 50 27.1**	**+1.1**
SEY	**Seymchan**	**26.45**	**11**	P	**P**	**00 52 46.8**	**+0.3**
	4.4nm,0.9s,baz=188,slow=17,SNR=2.7 4.4nm,0.9s						
SEY	**Seymchan**	**26.45**	**11**	P	**P**	**00 52 46.8**	**+0.3**
ULN	**Ulaanbaatar**	**27.30**	**304**	P	**P**	**00 52 54.7**	**+0.2**
SONM	**Songino Array**	**27.73**	**303**	P	**P**	**00 52 56.5**	**-1.8**
	2.1nm,0.7s,baz=99,slow=8.9,SNR=14 2.1nm,0.7s						
SONM	**Songino Array**	**27.73**	**303**	P	**P**	**00 52 58.1**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**28.18**	**122**	T	T	01 22 29.6	
	baz=314,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.19**	**122**	T	T	01 22 29.4	
	baz=314,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	01 22 34.3	
	baz=314,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	01 23 25.6	
	baz=316,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	01 23 24.1	
	baz=316,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	01 23 27.8	
	baz=316,slow=76,SNR=33						
TIXI	**Tiksi**	**34.99**	**353**	P	**P**	**00 54 00.2**	**-1.5**
	1.3nm,0.6s,baz=246,slow=0.7,SNR=4.8 1.3nm,0.6s						
ZAA0	**Zalesovo Array**	**41.81**	**312**	P	**P**	**00 54 59.6**	**+0.3**
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**00 54 57.6**	**-1.7**
	3.1nm,0.7s,baz=87,slow=7.3,SNR=14						
ZALV				PcP	**PcP**	**00 56 54.2**	**-1.0**
	0.7nm,0.5s,baz=72,slow=4.7,SNR=2.4 3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**00 54 59.0**	**-0.3**
MK31	**Makanchi Array**	**44.08**	**302**	P	**P**	**00 55 17.4**	**-0.4**
MK31				IAmb	IAmb	00 55 18.0	
	comp=Z,4.3nm,0.8s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**00 55 16.9**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=88,slow=9.6,SNR=20 comp=Z,3.3nm,0.7s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**00 55 17.6**	**-0.2**
KURK	**Kurchatov**	**45.85**	**308**	P	**P**	**00 55 31.2**	**-0.6**
K20K	**Telida**	**45.98**	**34**	P	**P**	**00 55 34.1**	**+1.4**
H21K	**Melozitna Rive**	**46.66**	**31**	P	**P**	**00 55 39.3**	**+1.3**
KTH	**Kantishna Hill**	**47.40**	**34**	P	**P**	**00 55 45.1**	**+1.2**
KTH				IAmb	IAmb	00 55 54.1	
	comp=Z,3.7nm,1.0s						
MLY	**Manley**	**47.49**	**32**	P	**P**	**00 55 46.4**	**+1.8**
SUA	**Susitna One**	**47.51**	**37**	P	**P**	**00 55 46.6**	**+1.7**
SUA				IAmb	IAmb	00 55 50.3	
	comp=Z,6.6nm,1.0s						
TOLK	**Toolik Lake Re**	**48.11**	**27**	P	**P**	**00 55 50.9**	**+1.5**
GHO	**Glory Hole Cre**	**48.36**	**37**	P	**P**	**00 55 52.2**	**+0.8**
MDM	**Murphy Dome**	**48.56**	**32**	P	**P**	**00 55 52.1**	**-0.7**
MDM				IAmb	IAmb	00 55 54.9	
	comp=Z,4.8nm,1.0s						
H24K	**Noodor Dome**	**48.70**	**31**	P	**P**	**00 55 55.4**	**+1.6**
PWL	**Port Wells**	**48.71**	**38**	P	**P**	**00 55 54.0**	**0.0**
POKR	**Poker Plat Res**	**48.90**	**32**	P	**P**	**00 55 56.5**	**+1.1**
POKR				IAmb	IAmb	00 56 03.3	
	comp=Z,6.0nm,0.9s						
KULM	**Kulim**	**49.11**	**240**	P	**P**	**00 55 57.7**	**+0.1**
KULM				IAmb	IAmb	00 56 07.9	
	comp=Z,4.3nm,0.6s						
IL31		**49.14**	**33**	P	**P**	**00 55 56.9**	**-0.2**
IL31				IAmb	IAmb	00 56 06.3	
	comp=Z,5.2nm,1.1s						
ILAR	**Eielson Array**	**49.14**	**33**	P	**P**	**00 55 57.9**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=269,slow=6.3,SNR=12 comp=Z,1.4nm,0.7s						
ILAR	**Eielson Array**	**49.14**	**33**	P	**P**	**00 55 57.9**	**+0.7**
PRP	**Porcupine Dome**	**49.68**	**31**	P	**P**	**00 56 02.5**	**+1.0**
BMAR	**Burnt Mountain**	**49.98**	**29**	P	**P**	**00 56 05.8**	**+2.2**
DOT	**Dot Lake**	**50.45**	**34**	P	**P**	**00 56 05.4**	**-1.8**
DOT				IAmb	IAmb	00 56 13.2	
	comp=Z,10nm,1.2s						
SCRK	**Sand Creek**	**50.45**	**33**	P	**P**	**00 56 08.2**	**+0.8**
SCRK				IAmb	IAmb	00 56 08.5	
	comp=Z,3.8nm,0.9s						
MTN	**Manton Dam**	**50.89**	**193**	P	**P**	**00 56 11.0**	**0.0**
MTN				IAmb	IAmb	00 56 17.7	
	comp=Z,11nm,1.0s						
L27K	**Beaver Creek,**	**51.52**	**34**	P	**P**	**00 56 16.6**	**+1.3**
BCAR	**Beaver Creek A**	**51.54**	**34**	P	**P**	**00 56 16.6**	**+1.1**
ISLE	**Juniper Island**	**51.66**	**38**	P	**P**	**00 56 16.9**	**+0.4**
KK31	**Karatay Array**	**53.10**	**300**	P	**P**	**00 56 27.0**	**-0.3**
KKAR	**Karatay Array**	**53.10**	**300**	P	**P**	**00 56 27.3**	**0.0**
KKAR	**Karatay Array**	**53.10**	**300**	IAmb	IAmb	00 56 34.4	
	comp=Z,3.2nm,1.1s						
BTK	**Batken**	**53.95**	**296**	P	**P**	**00 56 34.5**	**+0.8**
HYT	**Haines Junctio**	**53.95**	**37**	P	**P**	**00 56 34.6**	**+1.2**
INK	**Inuvik**	**54.03**	**27**	P	**P**	**00 56 34.5**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=280,slow=6.1,SNR=9.1 comp=Z,1.9nm,0.7s						
GAR	**Garm**	**54.70**	**295**	IAmb	IAmb	00 56 45.5	
	comp=Z,4.6nm,0.7s						
A36M	**Sachs Harbour**	**55.90**	**22**	IAmb	IAmb	00 56 55.3	
	comp=Z,5.9nm,0.7s						
WRAB	**Tennant Creek**	**57.39**	**188**	P	**P**	**00 56 57.9**	**-0.4**
WRAB				IAmb	IAmb	00 56 58.2	
	comp=Z,3.8nm,0.8s						
WR0	**Warramunga Arr**	**57.40**	**188**	P	**P**	**00 56 58.2**	**-0.1**
WR0				IAmb	IAmb	00 57 04.3	
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Arr**	**57.40**	**188**	P	**P**	**00 56 58.2**	**-0.2**
WB2				IAmb	IAmb	00 57 04.3	
	comp=Z,3.4nm,0.7s						
WRA	**Warramunga Arr**	**57.40**	**188**	P	**P**	**00 56 58.0**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=5.4,slow=7.4,SNR=37						
WRA				PcP	**PcP**	**00 57 52.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=6.1,slow=4.8,SNR=1.3 comp=Z,2.3nm,0.6s						
ABKAR	**Akbulak array**	**57.85**	**310**	P	**P**	**00 57 00.7**	**-0.7**
ABKAR				IAmb	IAmb	00 57 01.2	
	comp=Z,4.3nm,0.6s						
EUNU	**Eureka**	**59.85**	**9**	P	**P**	**00 57 15.0**	**+0.1**
EUNU				IAmb	IAmb	00 57 21.7	
	comp=Z,4.2nm,0.8s						
ASAR	**Alice Springs**	**61.13**	**188**	P	**P**	**00 57 23.7**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=10,slow=6.9,SNR=7.9 comp=Z,1.7nm,0.8s						
RES	**Resolute Bay**	**62.25**	**15**	P	**P**	**00 57 31.4**	**+0.3**
RES				IAmb	IAmb	00 57 31.6	
	comp=Z,1.5nm,0.6s						
YKA	**Yellowknife Ar**	**63.45**	**30**	P	**P**	**00 57 40.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=303,slow=6.1,SNR=1.7 comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**63.75**	**339**	P	**P**	**00 57 40.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=60,slow=7.2,SNR=7.0 comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**63.75**	**339**	P	**P**	**00 57 40.9**	**-0.3**
ARCES				IAmb	IAmb	00 57 54.6	
	comp=Z,3.3nm,1.0s						
GEYT	**Alibeck**	**63.81**	**299**	P	**P**	**00 57 41.7**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=66,slow=4.9,SNR=7.4 comp=Z,3.0nm,0.7s						
GEYT	**Alibeck**	**63.81**	**299**	P	**P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**282**	P	**Pb**	**00 49 22.0**	**-0.3**
JMST	**Minamisoumatoc**	**0.65**	**314**	P	**Pb**	**00 49 24.9**	**-0.1**
JMST				S	**Sb**	**00 49 34.1**	**-0.1**
JFFD	**Fukushimafurud**	**0.75**	**257**	P	**Pg**	**00 49 26.4**	**+0.3**
JFFD				S	**Sg**	**00 49 36.2**	**+0.3**
JMM	**Marumori**	**0.81**	**318**		**Pg**	**00 49 27.3**	**+0.2**
JMM					**Sb**	**00 49 38.5**	**-0.1**
JMM	**Marumori**	**0.81**	**318**	P	**Pg**	**00 49 27.3**	**+0.2**
JHO	**Hitachi**	**0.98**	**228**	P	**Pb**	**00 49 29.8**	**-0.7**
JHO				S	**Sb**	**00 49 42.8**	**-0.7**
JOU	**Okura**	**1.27**	**330**	P	**Pn**	**00 49 34.9**	**-0.4**
JOU				S	**Sg**	**00 49 52.6**	**+0.2**
JSB	**Shiboa**	**1.28**	**257**	P	**Pb**	**00 49 35.7**	**0.0**
JSB				S	**Sg**	**00 49 52.8**	**+0.1**
JSD	**Sado**	**2.67**	**288**	Pn	**Pb**	**00 49 57.9**	**-1.4**
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=80,slow=17,SNR=1.1	**2.72**	**256**	Pn	**Pn**	**00 49 55.6**	**+0.4**
MJAR				Sn	**Sn**	**00 50 29.4**	**+1.2**
	1.7nm,0.3s,baz=79,slow=30,SNR=2.8 6.0nm,0.4s						
JHJ	**Hachijo jima 2** comp=Z,1µm,19.1s,baz=321,slow=36	**4.36**	**199**	LR	LR	00 51 45.3	
SONM	**Songino Array** 1.4nm,0.8s,baz=92,slow=7.8,SNR=5.1 1.4nm,0.8s	**27.70**	**304**	P	**P**	**00 54 59.3**	**-0.6**
H11N2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=13	**28.23**	**121**	T	T	01 24 30.4	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=11	**28.23**	**121**	T	T	01 24 35.2	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=9.1	**28.24**	**121**	T	T	01 24 36.4	
H11S1	**WAKE ISLAND Hy** baz=316,slow=75,SNR=16	**28.95**	**123**	T	T	01 25 26.7	
H11S3	**WAKE ISLAND Hy** baz=316,slow=75,SNR=10	**28.95**	**123**	T	T	01 25 28.1	
H11S2	**WAKE ISLAND Hy** baz=316,slow=75,SNR=15	**28.96**	**123**	T	T	01 25 28.2	
ZAA0	**Zalesovo Array** ZAA0 comp=Z,3.6nm,0.9s	**41.80**	**312**	P IAmb	**P** IAmb	**00 56 59.8** 00 57 06.4	**-1.2**
ZALV	**Zalesovo Beam** comp=Z,2.4nm,0.8s,baz=85,slow=6.2,SNR=6.9 comp=Z,2.4nm,0.8s	**41.80**	**312**	P	**P**	**00 57 00.1**	**-0.9**
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**00 56 58.9**	**-2.1**
MK31	**Makanchi Array**	**44.04**	**302**	P	**P**	**00 57 19.7**	**+0.4**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.8s,baz=88,slow=9.1,SNR=4.1 comp=Z,1.4nm,0.8s	**44.04**	**302**	P	**P**	**00 57 18.7**	**-0.6**
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**00 57 19.3**	**0.0**
KURK	**Kurchatov** KURK comp=Z,6.2nm,0.9s	**45.83**	**308**	P IAmb	**P** IAmb	**00 57 34.1** 00 57 34.7	**+0.6**
ILAR	**Eielson Array** comp=Z,0.7nm,0.8s,baz=267,slow=5.9,SNR=1.3 comp=Z,0.7nm,0.8s	**49.27**	**32**	P	**P**	**00 58 01.4**	**+1.4**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.7s,baz=1.0,slow=7.4,SNR=1.9 comp=Z,0.5nm,0.7s	**57.30**	**188**	P	**P**	**00 58 58.9**	**-0.6**
ABKAR	**Akbulak array**	**57.83**	**310**	P	**P**	**00 59 03.2**	**+0.1**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=32,slow=5.5,SNR=2.2 comp=Z,0.3nm,0.5s	**61.02**	**188**	P	**P**	**00 59 25.3**	**0.0**
FIA1	**FINESS Array S**	**68.63**	**332**	P	**P**	**01 00 14.5**	**+0.1**
FINES	**FINESS Array B** comp=Z,2.6nm,0.8s,baz=56,slow=5.2,SNR=2.4 comp=Z,2.6nm,0.8s	**68.63**	**332**	P	**P**	**01 00 14.3**	**-0.1**
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**01 00 14.6**	**+0.2**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=45,slow=4.8,SNR=4.1 comp=Z,0.2nm,0.3s	**74.14**	**322**	P	**P**	**01 00 47.9**	**0.0**
H03N2	**Juan Fernandez** baz=291	**147.00**	**96**	T	T	03 53 06.6	
H03N3	**Juan Fernandez** baz=291	**147.01**	**96**	T	T	03 53 07.8	
H03N1	**Juan Fernandez** baz=291	**147.01**	**96**	T	T	03 53 07.7	

IDC ***22*** *00:52:23.4±2.1,37˚.27N×141˚.74E,h0km,mb3.4/4, mbtmp3.4/5,ML2.5/1,Error ellipse: s-maj=44.5km s-min=30.5km az=63.0*
JMA ***22*** *00:52:26.9±0.2,37˚.2N±0˚.4×14˚1E±˚,h26km±2km, MV3.3/36,E OFF FUKUSHIMA PREF*
ISC 22 00:52:25.8±2.4,37˚24N±0˚.05×141˚.5E±0˚.1,h10km±12km, n20,σ1°02/17,mb3.4/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.66**	**317**	P	**Pg**	**00 52 39.0**	**+0.5**
JMST				S	**Sg**	**00 52 47.2**	**0.0**
JFFD	**Fukushimafurud**	**0.72**	**258**	P	**Pb**	**00 52 39.5**	**-1.0**
JFFD				S	**Sb**	**00 52 48.6**	**-1.9**
JMM	**Marumori**	**0.81**	**320**	P	**Pb**	**00 52 41.3**	**-0.7**
JMM				S	**Sb**	**00 52 52.0**	**-1.0**
JHO	**Hitachi**	**0.95**	**228**	P	**Pb**	**00 52 43.2**	**-1.1**
JSB	**Shiboa**	**1.25**	**258**	P	**Pn**	**00 52 49.3**	**0.0**
JSB				S	**Sb**	**00 53 05.7**	**0.0**
JOU	**Okura**	**1.28**	**331**	P	**Pn**	**00 52 50.0**	**+0.2**
JOU				eS	**Sn**	**00 53 06.9**	**-0.1**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=75,slow=15,SNR=3.0	**2.69**	**256**	Pn	**Pn**	**00 53 10.3**	**+1.2**
MJAR				Sn	**Sb**	**00 53 48.8**	**+1.7**
	1.0nm,0.3s,baz=81,slow=28,SNR=3.8 3.5nm,0.4s						
SONM	**Songino Array** 0.4nm,0.7s,baz=111,slow=7.9,SNR=2.5 0.4nm,0.7s	**27.69**	**304**	P	**P**	**00 58 15.2**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=314,slow=75	**28.23**	**121**	T	T	01 27 48.5	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75	**28.24**	**121**	T	T	01 27 51.1	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75	**28.25**	**121**	T	T	01 27 51.7	
H11S1	**WAKE ISLAND Hy** baz=316	**28.95**	**123**	T	T	01 28 44.5	
H11S3	**WAKE ISLAND Hy** baz=316	**28.95**	**123**	T	T	01 28 44.6	
H11S2	**WAKE ISLAND Hy** baz=316	**28.97**	**123**	T	T	01 28 45.7	
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=93,slow=7.5,SNR=2.2 0.2nm,0.3s	**41.80**	**312**	P	**P**	**01 00 15.3**	**+0.1**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=84,slow=15,SNR=2.3 0.5nm,0.8s	**44.03**	**302**	P	**P**	**01 00 33.9**	**+0.4**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=3.6,slow=7.2,SNR=5.1 0.3nm,0.6s	**57.27**	**188**	P	**P**	**01 02 13.2**	**-0.4**
H03N2	**Juan Fernandez** baz=290	**147.02**	**96**	T	T	03 56 24.5	
H03N3	**Juan Fernandez** baz=290	**147.03**	**96**	T	T	03 56 26.8	
H03N1	**Juan Fernandez** baz=290	**147.03**	**96**	T	T	03 56 28.0	

IDC ***22*** *00:52:58.7±2.3,17˚.40S×179˚.64W,h605km±22km,mb2.8/6, mbtmp3.6/7,Error ellipse: s-maj=124.5km s-min=20.0km az=154.0*
ISC 22 00:52:58.2±1.9,17˚.4S±0˚.7×179˚.6W±0˚.4,h600km,n7, σ1°54/7,mb3.2/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 3.6nm,0.4s,baz=166,slow=4.2,SNR=2.5	**2.26**	**262**	P	**P**	**00 54 14.4**	**+0.7**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=96,slow=7.5,SNR=15 0.2nm,0.3s	**43.60**	**259**	P	**P**	**01 00 11.7**	**+0.6**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=91,slow=8.0,SNR=6.3 0.7nm,0.5s	**43.83**	**254**	P	**P**	**01 00 11.8**	**-1.0**
NVAR	**Mina Array Bea** 0.6nm,0.8s,baz=209,slow=6.6,SNR=2.4 0.6nm,0.8s	**79.88**	**44**	P	**P**	**01 04 08.2**	**+2.2**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=193,slow=3.5,SNR=5.5 0.6nm,0.8s	**85.69**	**13**	P	**P**	**01 04 32.9**	**-1.2**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=219,slow=6.9,SNR=3.9 0.3nm,0.7s	**86.71**	**58**	P	**P**	**01 04 38.8**	**-1.1**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=242,slow=1.9,SNR=2.5	**87.80**	**44**	P	**P**	**01 04 45.4**	**+0.5**
	0.3nm,0.6s						

IDC ***22*** *00:53:14.2±11.0,37˚.76N×142˚.54E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=417.1km s-min=36.7km az=66.0*
JMA ***22*** *00:53:20.7±0.2,37˚.3N±0˚.4×14˚2E±˚,h23km±1km, MV3.6/30,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 00:53:21.2±3.8,37˚.33N±0˚.08×141˚.5E±0˚.2,h25km±21km, n15,σ0°80/13,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**274**	P	**Pb**	**00 53 30.9**	**-0.4**
JFK				S	**Sb**	**00 53 38.7**	**+0.5**
JMST	**Minamisoumatoc**	**0.62**	**309**	P	**Pb**	**00 53 33.2**	**-0.2**
JMST				eS	**Sb**	**00 53 42.2**	**+0.5**
JMM	**Marumori**	**0.77**	**314**	P	**Pn**	**00 53 35.6**	**-0.9**
JMM				S	**Sb**	**00 53 46.4**	**+0.4**
JFFD	**Fukushimafurud**	**0.78**	**252**	eP	**Pn**	**00 53 35.9**	**-0.8**
JFFD				S	**Sb**	**00 53 46.9**	**+0.5**
JHO	**Hitachi**	**1.03**	**226**	S	**Sn**	**00 53 54.2**	**+0.4**
JOU	**Okura**	**1.22**	**328**	S	**Sb**	**00 54 00.1**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=314	**28.25**	**121**	T	T	01 28 40.4	
H11N1	**WAKE ISLAND Hy** baz=314	**28.25**	**121**	T	T	01 28 41.0	
H11N3	**WAKE ISLAND Hy** baz=314	**28.27**	**121**	T	T	01 28 43.2	
H11S1	**WAKE ISLAND Hy** baz=316	**28.97**	**123**	T	T	01 29 36.5	
H11S3	**WAKE ISLAND Hy** baz=316,slow=74	**28.97**	**123**	T	T	01 29 34.0	
H11S2	**WAKE ISLAND Hy** baz=316,slow=74	**28.98**	**123**	T	T	01 29 37.5	
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=97,slow=8.3,SNR=1.8 0.3nm,0.4s	**41.76**	**312**	P	**P**	**01 01 07.3**	**-0.9**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=93,slow=8.7,SNR=2.3 0.4nm,0.5s	**44.02**	**302**	P	**P**	**01 01 27.4**	**+0.8**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=6.6,slow=7.5,SNR=3.0 0.5nm,0.8s	**57.37**	**188**	P	**P**	**01 03 08.0**	**+0.6**

IDC ***22*** *01:09:28.2±0.9,37˚.15N×141˚.34E,h0km,mb3.9/12, mbtmp3.8/13,ML2.9/1,Error ellipse: s-maj=24.3km s-min=20.6km az=75.0*
NEIC ***22*** *01:09:28.3±1.2,37˚.31N±0˚.04×141˚.53E±0˚.09,h10km±2km, mb4.5/4,Error ellipse: s-maj=12.5km s-min=6.0km az=88.0*
JMA ***22*** *01:09:30.3±0.2,37˚.2N±0˚.4×14˚1E±˚,h29km±1km, MD3.9/40,MV4.0/40,E OFF FUKUSHIMA PREF*
ISC 22 01:09:30.5±1.3,37˚.20N±0˚.04×141˚.42E±0˚.05,h19km±4km, n41,σ1°26/46,mb3.9/13,2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**291**	P	**Pg**	**01 09 39.7**	**-0.3**
JFK				S	**Sb**	**01 09 46.6**	**+0.1**
JMST	**Minamisoumatoc**	**0.67**	**321**	P	**Pb**	**01 09 43.4**	**-0.1**
JMST				S	**Sg**	**01 09 53.5**	**+0.7**
JMST	**Minamisoumatoc** comp=E,5.0nm,1.2s,comp=E,10.0nm,2.7s	**0.67**	**321**	A	A	01 09 43.4	
JFFD	**Fukushimafurud**	**0.69**	**261**	||P	**Pb**	**01 09 43.4**	**-0.5**
JFFD				||/S	**Sb**	**01 09 52.8**	**-0.2**
JFFD	**Fukushimafurud** comp=E,6.0nm,0.4s,comp=E,9.0nm,0.4s	**0.69**	**261**	A	A	01 09 43.4	
JMM	**Marumori**	**0.83**	**323**		**Pb**	**01 09 46.1**	**-0.1**
JMM				Sn	**Sg**	**01 09 57.5**	**-0.2**
JMM	**Marumori**	**0.83**	**323**	P	**Pb**	**01 09 46.1**	**-0.1**
JMM				S	**Sg**	**01 09 57.8**	**+0.1**
JMM	**Marumori** comp=E,5.0nm,0.5s,comp=E,8.0nm,0.4s	**0.83**	**323**	A	A	01 09 46.1	
JHO	**Hitachi**	**0.90**	**229**	P	**Pb**	**01 09 45.7**	**-1.7**
JHO				S	**Sb**	**01 09 57.9**	**-1.1**
JSB	**Shiboa**	**1.22**	**259**	P	**Pn**	**01 09 52.7**	**+0.2**
JSB				S	**Sg**	**01 10 09.4**	**-0.6**
JIO	**Ouri**	**1.25**	**358**	P	**Pn**	**01 09 52.3**	**-0.6**
JIO				eS	**Sb**	**01 09 54.8**	**-0.9**
JOU	**Okura**	**1.31**	**333**	P	**Pb**	**01 09 54.8**	**+0.4**
JOU				eS	**Sg**	**01 10 12.1**	**-0.7**
JOU	**Okura** comp=E,4.0nm,4.2s,comp=E,5.0nm,1.5s	**1.31**	**333**	A	A	01 09 54.8	
JFY	**Yanaizu**	**1.38**	**279**	P	**Pb**	**01 09 55.4**	**-0.3**
JFY				S	**Sb**	**01 10 13.8**	**+0.9**
JYS	**Shirataka** comp=E,11nm,0.6s,comp=E,10.0nm,0.5s	**1.48**	**314**	A	A	01 09 56.0	
JSD	**Sado**	**2.64**	**289**	Pn	**Pn**	**01 10 12.1**	**+0.1**
MJAR	**Matsushiro Arr** 2.6nm,0.3s,baz=166,slow=28,SNR=41 18nm,0.3s	**2.66**	**257**	Pn	**Pn**	**01 10 12.7**	**+0.5**
MAJO	**Matsushiro**	**2.66**	**257**	Pn	**Pn**	**01 10 12.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.66**	**257**		**Pn**	**01 10 12.7**	**+0.4**
JTM	**Tenmabayashi**	**3.59**	**356**		**Pn**	**01 10 22.9**	**-2.1**
JGF	**Kuroka**	**3.64**	**245**	Pn	**Pn**	**01 10 26.6**	**+0.8**
INU	**Inuyama**	**4.01**	**244**	Pn	**Pn**	**01 10 31.3**	**+0.6**
JHJ2	**Mitsune**	**4.29**	**198**	Pn	**Pn**	**01 10 35.1**	**+0.5**
JHS	**Saijyo**	**7.07**	**254**	Pn	**Pn**	**01 11 13.6**	**+0.7**
SONM	**Songino Array** 1.2nm,0.7s,baz=105,slow=9.0,SNR=9.1 1.2nm,0.7s	**27.69**	**304**	P	**P**	**01 15 17.5**	**+0.1**
ZALV	**Zalesovo Beam** 1.5nm,0.7s,baz=95,slow=8.2,SNR=8.6 1.5nm,0.7s	**41.80**	**312**	P	**P**	**01 17 19.1**	**+0.5**
MKAR	**Makanchi Array** 1.6nm,0.8s,baz=85,slow=10,SNR=7.4 1.6nm,0.8s	**44.03**	**302**	P	**P**	**01 17 37.3**	**+0.6**
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**01 17 33.1**	**-3.6**
KURK	**Kurchatov**	**45.83**	**308**	P	**P**	**01 17 48.1**	**-2.8**
KURBB	**Kurchatov Arra** 2.2nm,0.7s,baz=83,slow=8.3,SNR=20 2.2nm,0.7s	**45.90**	**308**	P	**P**	**01 17 51.5**	**0.0**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=265,slow=7.2,SNR=7.5 0.8nm,0.7s	**49.35**	**32**	P	**P**	**01 18 19.9**	**+1.8**
WB0	**Warramunga Arr** WB0 comp=Z,5.5nm,1.1s	**57.05**	**188**	P IAmb	**P** IAmb	**01 19 14.3** 01 19 58.0	**-0.9**
WB2	**Warramunga Arr**	**57.23**	**188**	P	**P**	**01 19 15.1**	**-1.4**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.6s,baz=5.1,slow=7.4,SNR=12 comp=Z,0.5nm,0.6s	**57.23**	**188**	P	**P**	**01 19 16.3**	**-0.1**
ABKAR	**Akbulak array**	**57.83**	**310**	P	**P**	**01 19 16.4**	**-4.0**
ASAR	**Alice Springs** comp=Z,0.2nm,0.3s,baz=12,slow=10,SNR=2.8 comp=Z,0.2nm,0.3s	**60.95**	**188**	P	**P**	**01 19 42.8**	**+0.5**
FINES	**FINESS Array B** comp=Z,5.3nm,1.0s,baz=90,slow=4.6,SNR=5.8 comp=Z,5.3nm,1.0s	**68.67**	**332**	P	**P**	**01 20 32.8**	**+0.8**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.5s,baz=46,slow=6.1,SNR=7.9 comp=Z,1.1nm,0.5s	**74.17**	**322**	P	**P**	**01 21 05.8**	**+0.4**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.8s,baz=335,slow=4.1,SNR=2.9 comp=Z,0.4nm,0.8s	**77.55**	**45**	P	**P**	**01 21 27.1**	**+1.8**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.7s,baz=107,slow=7.9,SNR=3.8 comp=Z,0.5nm,0.7s	**78.74**	**312**	P	**P**	**01 21 33.5**	**+1.7**
GERES	**GERESS Array B** comp=Z,0.3nm,0.4s,baz=34,slow=5.9,SNR=2.0 comp=Z,0.3nm,0.4s	**82.57**	**328**	P	**P**	**01 21 53.0**	**+0.9**

JMA ***22*** *01:10:02.8±0.2,37˚.3N±0˚.4×141˚.5E±0˚.9,h32km±1km, MD4.3/37,MV4.4/37,E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
IDC ***22*** *01:10:03.0±0.7,37˚.23N×141˚.48E,h20km±3km,mb3.9/15, mbtmp4.1/17,ML3.5/2,Error ellipse: s-maj=19.7km s-min=14.2km az=88.0*
NEIC ***22*** *01:10:04.7±1.0,37˚.26N±0˚.05×141˚.3E±0˚.2,h27km±7km, mb4.5/8,Error ellipse: s-maj=18.3km s-min=6.8km az=77.0*
ISC 22 01:10:02.1±0.6,37˚.25N±0˚.04×141˚.49E±0˚.05,h15km±2km, n65,σ0°54/56,mb4.2/18,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**283**	P	**Pb**	**01 10 12.9**	**+0.2**
JFK				S	**Sb**	**01 10 20.4**	**+0.5**
JFK	**Kawauchi** comp=E,20nm,0.5s,comp=E,15nm,0.4s	**0.51**	**283**	A	A	01 10 12.9	
JMST	**Minamisoumatoc**	**0.68**	**315**	P	**Pg**	**01 10 15.3**	**0.0**
JMST				S	**Sb**	**01 10 24.9**	**+0.2**
JMST	**Minamisoumatoc** comp=E,14nm,0.2s,comp=E,25nm,0.3s	**0.68**	**315**	A	A	01 10 15.3	
JFFD	**Fukushimafurud**	**0.76**	**258**	P	**Pg**	**01 10 17.0**	**0.0**
JFFD				S	**Sb**	**01 10 27.1**	**-0.1**
JFFD	**Fukushimafurud** comp=E,5.0nm,1.6s,comp=E,7.0nm,0.9s	**0.76**	**258**	A	A	01 10 17.0	
JMM	**Marumori**	**0.83**	**318**	Pn	**Pb**	**01 10 17.9**	**-0.3**
JMM				Sn	**Sg**	**01 10 29.0**	**-0.2**
JMM	**Marumori**	**0.83**	**318**	P	**Pb**	**01 10 17.9**	**-0.3**
JMM				S	**Sg**	**01 10 28.9**	**-0.2**
JMM	**Marumori** comp=E,7.0nm,0.8s,comp=E,6.0nm,0.5s	**0.83**	**318**	A	A	01 10 17.9	
JHO	**Hitachi**	**0.98**	**229**	S	**Sb**	**01 10 32.5**	**-1.0**
JIO	**Ouri**	**1.21**	**355**	P	**Pn**	**01 10 23.3**	**-1.1**
JIO				S	**Sb**	**01 10 38.9**	**-1.2**
JSB	**Shiboa**	**1.29**	**258**	S	**Sg**	**01 10 43.4**	**-0.4**
JSB	**Shiboa** comp=E,14nm,2.3s,comp=E,13nm,3.6s	**1.29**	**258**	A	A	01 10 43.4	
JOU	**Okura**	**1.29**	**330**	P	**Pb**	**01 10 26.0**	**-0.2**
JOU				S	**Sb**	**01 10 42.5**	**0.0**
JOU	**Okura** comp=E,12nm,1.8s,comp=E,15nm,2.9s	**1.29**	**330**	A	A	01 10 26.0	
JOFO	**Osakifurukawao** comp=E,38nm,1.9s,comp=E,31nm,1.6s	**1.43**	**341**	A	A	01 10 27.0	
JFY	**Yanaizu**	**1.44**	**277**	P	**Pb**	**01 10 28.6**	**+0.1**
JFY				S	**Sb**	**01 10 47.0**	**+0.4**
JFY	**Yanaizu** comp=N,5.0nm,1.4s	**1.44**	**277**	A	A	01 10 28.6	
JYS	**Shirataka** comp=E,12nm,1.1s,comp=E,12nm,1.3s	**1.49**	**311**	A	A	01 10 28.1	
JMK	**Ichinoseki** comp=E,6.0nm,2.6s	**1.71**	**353**	A	A	01 10 31.2	
JNS	**Sasagawa** comp=E,2.0nm,3.2s,comp=E,3.0nm,5.1s	**1.82**	**289**	A	A	01 10 33.0	
JYA	**Atsumi** comp=E,5.0nm,0.9s,comp=E,7.0nm,1.0s	**1.94**	**314**	A	A	01 10 34.7	
JYYZ	**Yamagatayuza** comp=E,10.0nm,3.0s,comp=E,8.0nm,2.1s	**2.15**	**325**	A	A	01 10 37.6	
JIZZ	**Izumozaki** comp=E,8.0nm,3.2s,comp=E,7.0nm,1.4s	**2.23**	**278**	A	A	01 10 39.1	
JRG	**Rokugo** comp=E,4.0nm,4.1s,comp=E,4.0nm,1.4s	**2.25**	**343**	A	A	01 10 39.0	
JJN	**Nakama** comp=E,4.0nm,5.9s,comp=E,3.0nm,4.1s	**2.66**	**268**	A	A	01 10 45.2	
MJAR	**Matsushiro Arr** 2.0nm,0.3s,baz=82,slow=12,SNR=5.8 22nm,0.5s	**2.73**	**256**	Pn	**Pn**	**01 10 45.4**	**0.0**
JKEN	**Kujiedanarisaw** comp=E,6.0nm,4.4s,comp=E,9.0nm,0.8s	**2.96**	**3**	A	A	01 10 49.0	
JTM	**Tenmabayashi**	**3.55**	**355**	Pn	**Pn**	**01 10 57.8**	**+1.2**
JHJ	**Hachijo jima 2** 35nm,0.3s,baz=89,slow=22,SNR=6.3	**4.35**	**199**	Pn	**Pn**	**01 11 08.2**	**+0.5**
JHJ	19nm,0.3s,baz=265,slow=23,SNR=2.2 67nm,0.3s			Sn	**Sn**	**01 11 57.4**	**-0.7**
SONM	**Songino Array** 2.1nm,0.9s,baz=104,slow=9.4,SNR=7.1 2.1nm,0.9s	**27.72**	**304**	P	**P**	**01 15 50.5**	**+0.6**
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**01 15 50.1**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=52	**28.20**	**121**	T	T	01 45 20.8	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=414	**28.21**	**121**	T	T	01 45 19.8	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=44	**28.22**	**121**	T	T	01 45 22.2	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=80	**28.92**	**123**	T	T	01 46 14.2	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=147	**28.93**	**123**	T	T	01 46 14.1	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=80	**28.94**	**123**	T	T	01 46 11.5	
ZALV	**Zalesovo Beam** 4.0nm,0.8s,baz=87,slow=7.6,SNR=14	**41.82**	**312**	P	**P**	**01 17 51.5**	**+0.5**
ZALV	2.8nm,0.7s,baz=92,slow=7.4,SNR=5.6 4.0nm,0.8s			pP	**sP**	**01 17 57.8**	**+0.4**
ZALV	**Zalesovo Beam**	**41.82**	**312**	P	**P**	**01 17 50.2**	**-0.7**
MK31	**Makanchi Array**	**44.06**	**302**	P	**P**	**01 18 09.2**	**-0.1**
MKAR	**Makanchi Array** 2.4nm,0.8s,baz=86,slow=9.5,SNR=9.8 2.4nm,0.8s	**44.06**	**302**	P	**P**	**01 18 09.4**	**+0.1**
MAKZ	**Makanchi** MAKZ comp=Z,7.8nm,1.1s	**44.27**	**302**	P IAmb	**P** IAmb	**01 18 10.9** 01 18 12.9	**-0.1**
KURK	**Kurchatov**	**45.85**	**308**	P	**P**	**01 18 23.2**	**-0.2**
KURBB	**Kurchatov Arra** comp=Z,2.1nm,0.4s,baz=81,slow=7.7,SNR=10	**45.92**	**308**	P	**P**	**01 18 23.7**	**-0.2**
KURBB	comp=Z,3.6nm,0.6s,baz=83,slow=8.0,SNR=6.3 comp=Z,2.1nm,0.4s			pP	**sP**	**01 18 30.8**	**+0.3**
K20K	**Telida** K20K comp=Z,6.6nm,1.3s	**46.11**	**34**	P IAmb	**P** IAmb	**01 18 26.1** 01 18 36.5	**+0.8**
CAST	**Castle Rocks**	**47.01**	**34**	P	**P**	**01 18 33.6**	**+1.2**
ILAR	**Eielson Array** comp=Z,1.3nm,0.8s,baz=256,slow=9.5,SNR=5.4 comp=Z,1.3nm,0.8s	**49.28**	**32**	P	**P**	**01 18 49.8**	**-0.1**
INK	**Inuvik** comp=Z,1.6nm,0.9s,baz=318,slow=3.8,SNR=3.7	**54.16**	**27**	P	**P**	**01 19 27.4**	**+1.1**
INK	comp=Z,1.0nm,0.6s,baz=274,slow=8.2,SNR=2.7 comp=Z,1.6nm,0.9s			pP	**sP**	**01 19 33.7**	**+0.9**
WB2	**Warramunga Arr** WB2 comp=Z,4.5nm,0.9s	**57.28**	**188**	P IAmb	**P** IAmb	**01 19 48.5** 01 19 55.3	**-0.7**
WRA	**Warramunga Arr** comp=Z,1.6nm,0.7s,baz=5.2,slow=7.3,SNR=6.3 comp=Z,1.6nm,0.7s	**57.28**	**188**	P	**P**	**01 19 49.9**	**+0.7**
ABKAR	**Akbulak array**	**57.85**	**310**	P	**P**	**01 19 52.7**	**-0.2**
ABKAR	**Akbulak array**	**57.85**	**310**	P	**P**	**01 19 52.6**	**-0.4**
ASAR	**Alice Springs** comp=Z,0.9nm,0.8s,baz=5.5,slow=5.7,SNR=6.5	**61.01**	**188**	P	**P**	**01 20 14.5**	**-0.5**
ASAR	comp=Z,1.3nm,0.7s,baz=10.0,slow=6.6,SNR=6.8 comp=Z,0.9nm,0.8s			pP	**sP**	**01 20 20.9**	**-0.7**
GEYT	**Alibeck** GEYT comp=Z,0.7nm,0.4s,baz=290,slow=6.1,SNR=3.5	**63.79**	**299**	P pP	**P** **sP**	**01 20 33.9** **01 20 40.7**	**+0.2** **+0.4**
ARCES	**ARCESS Array B** comp=Z,1.0nm,0.7s,baz=38,slow=4.3,SNR=6.5 comp=Z,1.0nm,0.7s	**63.82**	**339**	P	**P**	**01 20 33.3**	**0.0**
FINES	**FINESS Array B** comp=Z,3.6nm,0.8s,baz=33,slow=7.2,SNR=6.6 comp=Z,3.6nm,0.8s	**68.65**	**332**	P	**P**	**01 21 04.2**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.5s,baz=36,slow=6.2	**74.01**	**337**	P	**P**	**01 21 36.7**	**-0.1**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.8s,ba

JMST	**Minamisoumatoc**	**0.66 317**	P		Pb	01 11 38.8	-0.4
JMST			S		Sg	01 11 48.0	+0.1
JFFD	**Fukushimafurud**	**0.73 258**	*eS*		Sb	01 11 49.6	-0.3
JMM	**Marumori**	**0.81 320**	P		Pb	01 11 41.4	-0.4

*JMA **22** 01:14:33.8±0.3, 37.1°N±0.6×14.1°E±°, h34km±2km, MV3.0/21, E OFF FUKUSHIMA PREF*
*IDC **22** 01:14:33.7±1.6, 36.9°90N×141.2°25E, h0km, mb3.4/3, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=39.7km s-min=33.2km azr=125.0*
ISC 22 01:14:35.1±1.3, **37.1°14N**±0.1°07×**141.2°28E**±0.1°09, **h10**km, **n13**, σ1♀**40**/9, **mb3.5**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.58**	**265**	P	**Pg**	**01 14 46.2**	**-0.1**
JFFD				S	**Sb**	**01 14 56.3**	**+0.6**
JMST	**Minamisoumatoc**	**0.66**	**332**	*e*P	**Pg**	**01 14 47.2**	**-0.7**
JMM	**Marumori**	**0.82**	**332**	P	**Pg**	**01 14 49.9**	**-1.1**
JMM				*e*S	**Sg**	**01 15 01.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.54**	**257**	Pn	**Pn**	**01 15 16.5**	**+0.1**
	0.3nm,0.3s,baz=77,slow=10,SNR=2.8						
	5.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	01 49 52.8	
	baz=314,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	01 49 55.4	
	baz=314,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	01 49 56.1	
	baz=314,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	01 50 48.4	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	01 50 47.9	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	01 50 49.1	
	baz=312						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**01 22 24.6**	**+0.2**
	0.3nm,0.3s,baz=110,slow=7.8,SNR=1.8						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**49.46**	**32**	P	**P**	**01 23 27.4**	**+2.3**
	0.6nm,0.9s,baz=268,slow=7.8,SNR=2.4						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**57.15**	**188**	P	**P**	**01 24 20.0**	**-2.1**
	0.2nm,0.6s,baz=4.2,slow=7.3,SNR=1.5						
	0.2nm,0.6s						

*IDC **22** 01:18:30.9±1.4, 18.°91N×64.°44W, h0km, mb3.6/4, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=28.3km s-min=24.4km azr=60.0*
*TRN **22** 01:18:34.5, 18.°85N×64.°44W, h31km, M3.6(RSPR)*
*NEIC **22** 01:18:36.0±1.0, 18.°89N±0.°07×64.°41W±0.°04, h35km±66km, Error ellipse: s-maj=11.2km s-min=3.6km azr=206.0*
*RSPR **22** 01:18:36.2, 18.°92N×64.°45W, h9km±1km, MD3.6/19*
ISC 22 01:18:35.6±1.4, **18.°91N**±0.°06×**64.°45W**±0.°03, **h30**km±10km, **n93**, σ0**90**/118, **mb3.6**/4, **15C-14D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.52**	**197**	⇑*e*P	**Pb**	**01 18 46.0**	**-0.4**
TBVI	**Tortola**	**0.52**	**197**		**Pb**	**01 18 46.0**	**-0.4**
TBVI					**Sb**	**01 18 54.3**	**+0.6**
TBVI	**Tortola**	**0.52**	**197**	⇑eP	**Pb**	**01 18 46.0**	**-0.4**
TBVI				*e*S	**Sb**	**01 18 54.3**	**+0.6**
SJVI	**Gifft Hill Sch**	**0.65**	**208**	⇑eP	**Pb**	**01 18 48.0**	**-0.6**
SJVI	**Gifft Hill Sch**	**0.65**	**208**	*e*S	**Sb**	**01 18 57.6**	**+0.2**
SJVI	**Gifft Hill Sch**	**0.65**	**208**		**Pb**	**01 18 48.0**	**-0.6**
SJVI	**Gifft Hill Sch**	**0.65**	**208**		**Sb**	**01 18 57.6**	**+0.2**
SJVI	**Gifft Hill Sch**	**0.65**	**208**	IAML		01 18 57.5	
	comp=E,3μm,0.5s						
SJVI	**Gifft Hill Sch**	**0.65**	**208**	IAML		01 18 58.2	
	comp=N,6μm,0.4s						
STVI	**Saint Thomas**	**0.73**	**220**	⇓*e*P	**Pn**	**01 18 49.2**	**-0.8**
STVI	**Saint Thomas**	**0.73**	**220**		**Pn**	**01 18 49.2**	**-0.8**
STVI					**Sb**	**01 18 59.8**	**+0.1**
STVI	**Saint Thomas**	**0.73**	**220**	IAML		01 19 00.5	
	comp=N,4μm,0.4s						
STVI				IAML		01 19 01.0	
	comp=E,3μm,0.3s						
STVI	**Saint Thomas**	**0.73**	**220**	⇓*e*P	**Pn**	**01 18 49.2**	**-0.8**
STVI				*e*S	**Sb**	**01 18 59.8**	**+0.1**
CUPR	**Culebra, Puert**	**0.99**	**233**	⇓*e*P	**Pn**	**01 18 53.0**	**-0.5**
CUPR	**Culebra, Puert**	**0.99**	**233**	*e*S	**Sn**	**01 19 06.3**	**-0.2**
CUPR	**Culebra, Puert**	**0.99**	**233**		**Pn**	**01 18 53.0**	**-0.5**
CUPR					**Sn**	**01 19 06.3**	**-0.2**
CDVI	**St. Croix**	**1.19**	**194**	⇓*e*P	**Pn**	**01 18 56.2**	**-0.1**
CDVI	**St. Croix**	**1.19**	**194**	*e*S	**Sn**	**01 19 11.9**	**+0.5**
CDVI	**St. Croix**	**1.19**	**194**		**Pn**	**01 18 56.2**	**-0.1**
CDVI					**Sn**	**01 19 11.9**	**+0.5**
CDVI	**St. Croix**	**1.19**	**194**	IAML		01 19 23.0	
	comp=N,4μm,0.5s						
CDVI	**St. Croix**	**1.19**	**194**	*e*P	**Pn**	**01 18 56.3**	**+0.1**
CDVI				*e*S	**Sb**	**01 19 12.9**	**+0.2**
MTP	**Monte Pirata**	**1.32**	**232**	⇓*e*P	**Pn**	**01 18 57.7**	**-0.3**
MTP	**Monte Pirata**	**1.32**	**232**		**Pn**	**01 18 57.7**	**-0.3**
MTP					**Sn**	**01 19 15.2**	**+0.5**
MTP	**Monte Pirata**	**1.32**	**232**	IAML		01 19 19.7	
	comp=E,1μm,0.3s						
MTP				IAML		01 19 23.1	
	comp=N,1μm,0.3s						
MTP	**Monte Pirata**	**1.32**	**232**	⇓*e*P	**Pn**	**01 18 57.7**	**-0.3**
MTP				*e*S	**Sn**	**01 19 15.2**	**+0.5**
CBYP	**Canovanas**	**1.48**	**245**	⇑*e*P	**Pn**	**01 19 00.1**	**-0.1**
CBYP	**Canovanas**	**1.48**	**245**		**Pn**	**01 19 00.1**	**-0.1**
CBYP					**Sn**	**01 19 18.8**	**+0.2**
CBYP	**Canovanas**	**1.48**	**245**	⇑eP	**Pn**	**01 19 00.1**	**-0.1**
CBYP				*e*S	**Sn**	**01 19 18.8**	**+0.2**
HUMP	**Col San Antoni**	**1.53**	**240**	⇓*e*P	**Pn**	**01 19 00.6**	**-0.3**
HUMP	**Col San Antoni**	**1.53**	**240**		**Pn**	**01 19 00.6**	**-0.3**
HUMP					**Sn**	**01 19 19.8**	**0.0**
HUMP	**Col San Antoni**	**1.53**	**240**	IAML		01 19 23.1	
	comp=E,873nm,0.4s						
HUMP				IAML		01 19 28.1	
	comp=N,878nm,0.3s						
HUMP	**Col San Antoni**	**1.53**	**240**	⇓eP	**Pn**	**01 19 00.6**	**-0.3**
HUMP				*e*S	**Sn**	**01 19 19.8**	**0.0**
SMRT	**St. Maarten**	**1.56**	**123**		**Pn**	**01 19 00.9**	**-0.5**
SMRT				IAML		01 19 21.8	
	comp=N,3μm,0.3s						
SMRT				IAML		01 19 23.9	
	comp=E,3μm,0.3s						
SMRT	**St. Maarten**	**1.56**	**123**	*e*P	**Pn**	**01 19 00.9**	**-0.5**
SMRT				*e*S	**Sn**	**01 19 21.3**	**+0.6**
GCPR	**Guaynabo City**	**1.66**	**249**	⇑*e*P	**Pn**	**01 19 02.3**	**-0.4**
GCPR	**Guaynabo City**	**1.66**	**249**	*e*S	**Sn**	**01 19 23.3**	**+0.4**
GCPR	**Guaynabo City**	**1.66**	**249**		**Pn**	**01 19 02.3**	**-0.4**
GCPR					**Sn**	**01 19 23.3**	**+0.4**
SABA	**Saba**	**1.73**	**138**		**Pn**	**01 19 03.7**	**+0.1**
SABA				IAML		01 19 32.9	
	comp=E,2μm,0.8s						
SABA				IAML		01 19 38.7	
	comp=N,2μm,0.5s						
SABA	**Saba**	**1.73**	**138**	*e*P	**Pn**	**01 19 03.7**	**+0.1**
SABA				*e*S	**Sn**	**01 19 25.2**	**+0.6**
SJG	**San Juan**	**1.80**	**244**	Pn	**Pn**	**01 19 04.3**	**-0.2**
	comp=N,35nm,0.3s,baz=322,slow=19,SNR=32						
SJG				Sn	**Sn**	**01 19 27.9**	**+1.5**
	comp=N,107nm,0.3s,baz=269,slow=21,SNR=13						
IGPR	**InterUniversit**	**1.83**	**239**	⇓*e*P	**Pn**	**01 19 05.1**	**+0.1**
IGPR	**InterUniversit**	**1.83**	**239**	*e*S	**Sn**	**01 19 27.1**	**-0.1**
IGPR	**InterUniversit**	**1.83**	**239**		**Pn**	**01 19 05.1**	**+0.1**
IGPR					**Sn**	**01 19 27.1**	**-0.1**
SEUS	**St. Eustatius**	**1.99**	**135**	*e*P	**Pn**	**01 19 07.2**	**0.0**
SEUS				*e*S	**Sn**	**01 19 29.5**	**-1.6**
EMPR	**Esperanza - Ma**	**2.02**	**258**	⇓*e*P	**Pn**	**01 19 07.5**	**0.0**
EMPR	**Esperanza - Ma**	**2.02**	**258**	*e*S	**Sn**	**01 19 32.1**	**+0.3**
EMPR	**Esperanza - Ma**	**2.02**	**258**		**Pn**	**01 19 07.5**	**0.0**
EMPR					**Sn**	**01 19 32.1**	**+0.3**
EMPR	**Esperanza - Ma**	**2.02**	**258**	IAML		01 19 36.1	
	comp=E,1μm,0.8s						
EMPR				IAML		01 19 37.7	
	comp=N,769nm,0.7s						
CELP	**Cerrillos**	**2.18**	**248**	⇓*e*P	**Pn**	**01 19 10.3**	**+0.5**
CELP	**Cerrillos**	**2.18**	**248**		**Pn**	**01 19 10.3**	**+0.5**
CELP					**Sn**	**01 19 37.5**	**+1.6**
CELP	**Cerrillos**	**2.18**	**248**	IAML		01 19 42.8	
	comp=N,504nm,0.5s						
CELP	**Cerrillos**	**2.18**	**248**	⇓eP	**Pn**	**01 19 10.3**	**+0.5**
CELP				*e*S	**Sn**	**01 19 37.5**	**+1.6**
UUPR	**Utuado, UPR, P**	**2.25**	**253**	⇑*e*P	**Pn**	**01 19 11.1**	**+0.3**
UUPR	**Utuado, UPR, P**	**2.25**	**253**		**Pn**	**01 19 11.1**	**+0.3**
AOPR	**Arecibo Observ**	**2.25**	**256**	⇑*e*P	**Pn**	**01 19 11.3**	**+0.4**
AOPR	**Arecibo Observ**	**2.25**	**256**	*e*S	**Sn**	**01 19 38.0**	**+0.3**
AOPR	**Arecibo Observ**	**2.25**	**256**		**Pn**	**01 19 11.3**	**+0.4**
AOPR					**Sn**	**01 19 38.0**	**+0.3**
AOPR	**Arecibo Observ**	**2.25**	**256**	IAML		01 19 43.2	
	comp=N,921nm,0.3s						
AOPR				IAML		01 19 57.6	
	comp=E,1μm,0.5s						
AOPR	**Arecibo Observ**	**2.25**	**256**	*e*P	**Pn**	**01 19 11.2**	**+0.3**
AOPR				*e*S	**Sn**	**01 19 39.6**	**+1.9**
GBPR	**Guanica, Bosqu**	**2.49**	**248**	⇑*e*P	**Pn**	**01 19 15.1**	**+1.1**
GBPR				*e*S	**Sn**	**01 19 44.2**	**+0.8**
GBPR	**Guanica, Bosqu**	**2.49**	**248**	⇑eP	**Pn**	**01 19 15.1**	**+1.1**
GBPR				*e*S	**Sn**	**01 19 44.2**	**+0.8**
AGPR	**Aguadilla, PR**	**2.56**	**260**	⇑*e*P	**Pn**	**01 19 15.4**	**+0.4**
AGPR	**Aguadilla, PR**	**2.56**	**260**		**Pn**	**01 19 15.4**	**+0.4**
AGPR					**Sn**	**01 19 45.9**	**+0.8**
AGPR	**Aguadilla, PR**	**2.56**	**260**	IAML		01 19 50.0	
	comp=N,466nm,0.4s						
AGPR				IAML		01 20 06.2	
	comp=E,410nm,0.7s						
AGPR	**Aguadilla, PR**	**2.56**	**260**	⇑eP	**Pn**	**01 19 15.4**	**+0.4**
AGPR				*e*S	**Sn**	**01 19 45.9**	**+0.8**
MLPR	**Magueyes Islan**	**2.63**	**250**	⇑*e*P	**Pn**	**01 19 16.6**	**+0.6**
MLPR	**Magueyes Islan**	**2.63**	**250**	*e*S	**Sn**	**01 19 47.4**	**+0.4**
MLPR	**Magueyes Islan**	**2.63**	**250**		**Pn**	**01 19 16.6**	**+0.6**
MLPR					**Sn**	**01 19 47.4**	**+0.4**
PRSN	**Puerto Rico Se**	**2.65**	**255**		**Pn**	**01 19 16.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.68**	**251**	⇓*e*P	**Pn**	**01 19 17.4**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.68**	**251**		**Pn**	**01 19 17.4**	**+0.7**
CRPR					**Sn**	**01 19 48.9**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.68**	**251**	IAML		01 19 59.9	
	comp=N,330nm,0.9s						
CRPR	**Cabo Rojo, PR**	**2.68**	**251**	⇓*e*P	**Pn**	**01 19 17.4**	**+0.7**
CRPR				*e*S	**Sn**	**01 19 48.9**	**+0.8**
ANWB	**Willy Bob**	**2.82**	**116**	*e*P	**Pn**	**01 19 17.5**	**-1.1**
ANWB				*e*S	**Sn**	**01 19 52.2**	**+0.5**
IDE	**Isla Desecheo**	**2.91**	**260**	⇑*e*P	**Pn**	**01 19 20.8**	**+0.8**
IDE	**Isla Desecheo**	**2.91**	**260**	⇑eP	**Pn**	**01 19 20.8**	**+0.8**
IDE				*e*S	**Sn**	**01 19 54.2**	**+0.3**
MBFL	**Flemmings, Mon**	**3.03**	**135**	*e*P	**Pn**	**01 19 21.9**	**+0.3**
ANBD	**Bethesda, Anti**	**3.16**	**126**	*e*P	**Pn**	**01 19 22.6**	**-0.7**
ANBD				*e*S	**Sn**	**01 19 57.6**	**-2.4**
GDHS	**Morne Mazeau,**	**3.67**	**135**		**Pn**	**01 19 30.6**	**+0.2**
ABD	**La Joyeuse, An**	**3.73**	**130**	*e*P	**Pn**	**01 19 30.9**	**-0.2**
ABD				*e*S	**Sn**	**01 20 15.5**	**+1.6**
CBE	**Ff, Capester**	**3.92**	**136**	*e*P	**Pn**	**01 19 35.0**	**+1.2**
CBE	**Ff, Capester**	**3.92**	**136**	*e*S	**Sn**	**01 20 24.9**	**+6.0**
H05N1	**Guadeloupe/Mar**	**4.14**	**128**	Pn	**Pn**	**01 19 36.0**	**-0.8**
MDCT	**Cottage Hill,**	**4.35**	**138**	*e*P	**Pn**	**01 19 40.8**	**+1.1**
DSLB	**Salisbury**	**4.51**	**140**	*e*P	**Pn**	**01 19 41.9**	**-0.1**
MPOM	**Morne Pois Mar**	**5.62**	**142**	*e*P	**Pn**	**01 19 57.6**	**+0.4**
SDDR	**Presa de Saban**	**6.47**	**272**	Pn	**Pn**	**01 20 10.7**	**+1.8**
PCRV	**Puerto La Cruz**	**8.69**	**181**	Pn	**Pn**	**01 20 38.5**	**-0.8**
	comp=N,1.0nm,0.3s,baz=353,slow=8.3,SNR=7.5						
	comp=N,3.5nm,0.4s						
TXAR	**Lajitas Array**	**37.11**	**294**	P	**P**	**01 25 42.8**	**-0.9**
	comp=N,0.3nm,0.7s,baz=116,slow=11,SNR=5.1						
	comp=N,0.3nm,0.7s						
PDAR	**Pinedale Array**	**44.76**	**312**	P	**P**	**01 26 47.0**	**+0.2**
	comp=N,0.7nm,0.6s,baz=114,slow=7.9,SNR=7.4						
PDAR				PcP	**PcP**	**01 28 28.2**	**-0.4**
	comp=N,0.2nm,0.5s,baz=115,slow=3.4,SNR=3.7						
	comp=N,0.7nm,0.6s						
NVAR	**Mina Array Bea**	**50.35**	**305**	P	**P**	**01 27 30.8**	**+0.6**
	comp=N,0.3nm,0.5s,baz=96,slow=5.7,SNR=2.1						
	comp=N,0.3nm,0.5s						
NEW	**Newport**	**51.44**	**317**	P	**P**	**01 27 38.4**	**+0.4**
	comp=N,1.8nm,0.6s,baz=114,slow=12,SNR=4.8						
	comp=N,1.8nm,0.6s						
ASAR	**Alice Springs**	**162.26**	**251**	PKPab	**PKPab**	**01 39 20.8**	**-1.4**
	comp=N,0.4nm,0.5s,baz=112,slow=4.6,SNR=5.1						

*IDC **22** 01:19:33.2±3.9, 37.°54N×141.°37E, h0km, mb3.5/5, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=125.0km s-min=24.1km az=68.0*
*JMA **22** 01:19:38.1±0.2, 37.°2N±0.°3×141.°5E±0.°7, h27km±1km, MV3.8/28, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 01:19:36.4±1.9, **37.°24N**±0.°05×**141.°53E**±0.°08, **h12**km±12km, **n19**, σ1♀**15**/17, **mb3.5**/5, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.53**	**283**	P	**Pb**	**01 19 48.6**	**+0.9**
JFK				S	**Sb**	**01 19 55.8**	**+0.4**
JMST	**Minamisoumatoc**	**0.70**	**314**	P	**Pb**	**01 19 51.4**	**+0.9**
JMST				S	**Sb**	**01 20 00.3**	**+0.3**
JFFD	**Fukushimafurud**	**0.79**	**259**	P	**Pb**	**01 19 52.3**	**+0.3**
JFFD				*e*S	**Sb**	**01 20 02.5**	**-0.1**
JMM	**Marumori**	**0.85**	**317**	*e*S	**Sb**	**01 20 04.5**	**+0.1**
JHO	**Hitachi**	**0.99**	**231**	P	**Pg**	**01 19 55.4**	**-0.2**
JHO				S	**Sg**	**01 20 07.6**	**-0.9**
JIO	**Ouri**	**1.22**	**353**	P	**Pb**	**01 19 59.5**	**+0.1**
JIO				S	**Sb**	**01 20 14.4**	**-0.6**
JOU	**Okura**	**1.31**	**329**	S	**Sb**	**01 20 18.1**	**+0.3**
JHJ	**Hachijo jima 2**	**4.36**	**200**	Pn	**Pn**	**01 20 43.8**	**+1.5**
	9.0nm,0.3s,baz=49,slow=21,SNR=1.9						
JHJ				Sn	**Sn**	**01 21 31.5**	**-1.5**
	18nm,0.3s,baz=245,slow=17,SNR=1.3						
	299nm,1.0s						
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**01 25 22.2**	**-2.6**
	0.5nm,0.6s,baz=105,slow=9.6,SNR=3.3						
	0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	01 54 40.0	
	baz=314,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	01 54 40.5	
	baz=314,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	01 54 41.3	
	baz=314,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	01 55 48.4	
	baz=316,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	01 55 49.0	
	baz=316,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	01 55 48.8	
	baz=316,slow=76,SNR=13						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	P	01 27 21.9	-4.0
	0.3nm,0.3s,baz=95,slow=9.4,SNR=1.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	P	01 27 39.8	-4.4
	0.4nm,0.7s,baz=92,slow=13,SNR=2.2						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**01 29 23.8**	**-0.1**
	0.2nm,0.5s,baz=5.4,slow=7.0,SNR=4.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**61.01**	**188**	P	**P**	**01 29 51.3**	**+1.6**
	0.2nm,0.3s,baz=21,slow=8.9,SNR=1.7						
	0.2nm,0.3s						

*ISU **22** 01:27:36, 40.°48N×73.°43E, h18km*
KRNET 22 01:27:30.9±0.1, **39.°45N×73.°58E, mb2.4, 6C-8D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.23**	**331**	⇑*i*P	Pg	01 27 54.0	-0.4
	baz=31						
OHH				⇑*i*S	Sb	01 28 11.2	-0.3
	baz=31						
DRK	**Karamyk**	**1.38**	**272**	⇑*i*P	Pg	01 27 56.8	-0.4
	baz=72						
DRK				⇑*i*S	Sb	01 28 15.8	-0.1
	baz=72						
FRG	**Fergana**	**1.66**	**304**	P	Pg	01 28 04.5	+1.9
FRG				S	Sn	01 28 22.1	-1.1
BTK	**Batken**	**2.21**	**287**	⇓*i*P	Pb	01 28 10.5	-1.3
	baz=87						
BTK				⇓*i*S	Sb	01 28 39.3	-0.4
	baz=87						
MINT	**Mingtut**	**2.24**	**298**	S	Sb	01 28 41.2	+0.7
ARLS	**Aral**	**2.47**	**13**	⇑*i*P	Pn	01 28 14.2	+1.6
	baz=13						
ARLS				⇑*i*S	Sb	01 28 46.1	-1.2
	baz=13						
GAR	**Garm**	**2.57**	**261**	⇓*i*P	Pn	01 28 15.5	+1.6
	baz=61						
GAR				⇓*i*S	Sb	01 28 48.1	-2.1
	baz=61						
TRKS	**Terek-Say**	**2.78**	**319**	⇓*i*P	Pn	01 28 17.5	+0.6
	baz=18						
TRKS				⇓*i*S	Sn	01 28 51.7	+0.5
	baz=18						
UCH	**Uchtor**	**2.86**	**14**	⇓*i*P	Pn	01 28 19.6	+1.4
	baz=14						
UCH				⇓*i*S	Sn	01 28 55.2	+1.7
	baz=14						

*IDC **22** 01:30:45.6±1.0, 37.°30N×141.°53E, h0km, mb3.7/9, mbtmp3.7/10, ML2.2/1, Error ellipse: s-maj=27.1km s-min=23.5km azr=172.0*
*JMA **22** 01:30:47.7±0.2, 37.°3N±0.°3×141.°6E±0.°8, h30km±1km, MV3.9/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 01:30:47.0±1.9, **37.°31N**±0.°05×**141.°56E**±0.°07, **h11**km±10km, **n19**, σ0**65**/28, **mb3.6**/9, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.55**	**276**	P	**Pg**	**01 30 58.4**	**+0.6**
JFK				S	**Sg**	**01 31 06.1**	**+1.0**
JMST	**Minamisoumatoc**	**0.68**	**308**	P	**Pg**	**01 31 00.5**	**+0.3**
JMST				S	**Sg**	**01 31 10.0**	**+0.9**
JMM	**Marumori**	**0.83**	**313**	P	**Pg**	**01 31 02.7**	**-0.3**
JMM				*e*S	**Sg**	**01 31 13.4**	**-0.4**
JFFD	**Fukushimafurud**	**0.83**	**255**	P	**Pg**	**01 31 02.8**	**-0.2**
JFFD				S	**Sg**	**01 31 13.4**	**-0.4**
JHO	**Hitachi**	**1.06**	**229**	P	**Pb**	**01 31 06.5**	**-0.8**
JHO				*e*S	**Sb**	**01 31 19.8**	**-1.4**
JIO	**Ouri**	**1.16**	**352**	*e*P	**Pn**	**01 31 08.4**	**-0.8**
JIO				S	**Sb**	**01 31 22.9**	**-1.2**
JOU	**Okura**	**1.27**	**326**	P	**Pn**	**01 31 10.4**	**-0.4**
JOU				S	**Sb**	**01 31 27.2**	**-0.2**
JFY	**Yanaizu**	**1.48**	**274**	P	**Pn**	**01 31 14.1**	**+0.4**
JFY				*e*S	**Sn**	**01 31 32.8**	**-0.3**
JYS	**Shirataka**	**1.50**	**308**	P	**Pn**	**01 31 13.8**	**0.0**
JYS				S	**Sn**	**01 31 33.6**	**+0.2**
MJAR	**Matsushiro Arr**	**2.79**	**255**	Pn	**Pn**	**01 31 32.3**	**+0.6**
	0.4nm,0.3s,baz=77,slow=16,SNR=4.4						
	6.9nm,0.4s						
SONM	**Songino Array**	**27.73**	**303**	P	**P**	**01 36 35.5**	**-0.1**
	0.6nm,0.8s,baz=92,slow=8.7,SNR=3.7						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**41.82**	**312**	P	**P**	**01 38 36.8**	**+0.2**
	1.0nm,0.7s,baz=110,slow=8.5,SNR=4.2						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**01 38 55.1**	**+0.1**
	0.4nm,0.6s,baz=91,slow=10,SNR=2.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**01 39 09.1**	**-0.6**
	0.9nm,0.5s,baz=81,slow=7.9,SNR=5.3						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**49.20**	**32**	P	**P**	**01 39 35.5**	**+0.6**
	0.5nm,0.7s,baz=269,slow=6.9,SNR=5.0						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**57.35**	**188**	P	**P**	**01 40 35.0**	**-0.3**
	0.3nm,0.6s,baz=4.1,slow=7.4,SNR=7.2						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**01 41 49.4**	**-0.4**
	2.8nm,0.9s,baz=45,slow=6.1,SNR=4.3						
	2.8nm,0.9s						
PDAR	**Pinedale Array**	**77.39**	**46**	P	**P**	**01 42 43.1**	**+0.8**
	0.4nm,0.7s,baz=267,slow=1.4,SNR=4.7						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**89.86**	**52**	P	**P**	**01 43 47.1**	**+0.8**
	0.3nm,0.6s,baz=302,slow=3.9,SNR=3.9						
	0.3nm,0.6s						

*BJI **22** 01:31:24.2±0.0, 36.°85N×141.°39E, h18km, mb4.6/32, mB5.3/4, Ms5.0/12, Ms7 4.9/11*
*IDC **22** 01:31:25.2±0.5, 37.°15N×141.°28E, h0km, mb4.7/31, mbtmp4.6/35, ML3.4/4, MS4.1/1, Error ellipse: s-maj=14.0km s-min=12.1km azr=109.0*
*MOS **22** 01:31:26.7±0.9, 37.°32N×141.°27E, h17km, mb5.0/47, Error ellipse: s-maj=8.0km s-min=4.7km az=108.0*
*NEIC **22** 01:31:27.4±1.7, 37.°21N±0.°03×141.°41E±0.°06, h10km±1km, mb4.8/155, Mwr4.7/13, Error ellipse: s-maj=7.6km s-min=5.6km az=94.0*
*NEIC **22** 01:31:27.4, 37.°21N×141.°43E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.37; $M_{\theta\theta}$0.56; $M_{\phi\phi}$0.81; $M_{r\theta}$-0.10; $M_{\theta\phi}$0.65; $M_{\phi r}$0.02; Fault plane solution: $M_0$1.36000×10^{16}

comp=E,33nm,3.2s,comp=E,19nm,3.7s
JUON Uonuma 1.85 272 A A 01 31 58.3
comp=E,14nm,2.9s,comp=E,34nm,4.4s
OFUJ Ofunato 1.91 7 A A 01 31 59.2
comp=E,23nm,3.9s,comp=E,17nm,2.5s
JYK Kaneyama 1.92 335 A A 01 31 59.3
comp=E,27nm,3.1s,comp=E,30nm,3.3s
JYA Atsumi 1.93 318 A A 01 31 59.6
comp=E,52nm,1.4s,comp=E,75nm,1.2s
TOK Tokyo 1.98 222 A A 01 31 59.8
comp=E,54nm,5.3s,comp=E,64nm,5.1s
JCN Nagara 2.00 209 A A 01 31 59.9
comp=E,93nm,4.5s,comp=E,101nm,5.5s
JAW Awa shima 2.12 308 A A 01 32 02.2
comp=E,42nm,4.9s,comp=E,18nm,4.9s
JIZZ Izumozaki 2.16 280 A A 01 32 02.7
comp=E,81nm,4.1s,comp=E,79nm,3.7s
JYYZ Yamagatayuza 2.16 329 A A 01 32 02.8
comp=E,103nm,6.2s,comp=E,170nm,6.6s
JKUC kamogawauchiur 2.23 206 A A 01 32 03.3
comp=E,20nm,7.2s,comp=E,18nm,3.4s
JGK Kuni 2.28 255 A A 01 32 04.3
comp=E,18nm,4.6s,comp=E,27nm,4.2s
JRG Rokugo 2.29 345 A A 01 32 04.7
comp=E,35nm,5.3s,comp=E,29nm,3.3s
JOM Onasama 2.29 350 A A 01 32 04.7
comp=E,23nm,4.0s,comp=E,19nm,4.3s
JRY Ryogami san 2.31 241 A A 01 32 04.6
comp=E,12nm,5.5s,comp=E,12nm,4.3s
JSGW Sagamiharawaka 2.35 229 A A 01 32 05.2
comp=E,12nm,4.8s,comp=E,9.0nm,8.6s
JYO Yokosk 2.39 216 A A 01 32 05.7
comp=E,37nm,6.5s,comp=E,28nm,5.6s
MIYJ Miyakonagasawa 2.42 8 A A 01 32 06.4
comp=E,19nm,4.9s,comp=E,12nm,4.5s
TATJ Tateyama 2 2.46 210 A A 01 32 06.6
comp=E,31nm,5.3s,comp=E,32nm,5.6s
JTB Tobi-shima 2.47 325 A A 01 32 07.4
comp=E,19nm,3.1s,comp=E,19nm,3.9s
JYW Yuwa 2.53 339 A A 01 32 08.2
comp=E,42nm,3.5s,comp=E,61nm,2.3s
JJN Nakama 2.57 269 A A 01 32 08.6
comp=E,23nm,1.6s,comp=E,35nm,7.3s
JSZI Iwateshizukuis 2.58 353 A A 01 32 08.8
comp=E,46nm,3.1s,comp=E,47nm,2.6s
MJAR Matsushiro Arr 2.62 257 Pn **Pn 01 32 09.4 +0.7**
2.3nm,0.3s,baz=81,slow=16,SNR=7.2
97nm,0.4s
JSD Sado 2.62 290 Pn **Pn 01 32 11.1 +2.4**
JSD Sado 2.62 290 A A 01 32 09.4
comp=E,7.0nm,5.0s,comp=E,7.0nm,6.7s
MAJO Matsushiro 2.62 257 Pn **Pn 01 32 10.0 +1.2**
MAJO Matsushiro 2.62 257 *i* P **Pn 01 32 09.6 +0.8**
MJB9 Matsu-Tunnel 2.62 257 Pn **Pn 01 32 10.9 +2.1**
JOD2 Odawara 2 2.66 225 A A 01 32 09.6
comp=E,13nm,1.7s,comp=E,12nm,4.3s
JNG Nsakai 2.74 255 A A 01 32 10.9
comp=E,6.0nm,2.8s,comp=E,17nm,2.4s
JTH Tanohata 2.78 8 A A 01 32 11.6
comp=E,17nm,3.4s,comp=E,16nm,7.4s
JKZ Kuzumaki 2.80 359 A A 01 32 12.0
comp=E,23nm,4.0s,comp=E,15nm,3.8s
JNT Takato 2.92 244 A A 01 32 13.4
comp=E,8.0nm,5.1s,comp=E,10.0nm,4.9s
JIM2 Oshima 3 2.92 213 A A 01 32 13.2
comp=E,18nm,6.5s,comp=E,13nm,4.6s
JHTM Izuhatsuma 2.93 222 A A 01 32 13.4
comp=E,18nm,8.1s,comp=E,16nm,3.8s
JFNN Fujinakano 2.94 229 A A 01 32 13.6
comp=E,14nm,4.9s,comp=E,12nm,4.9s
JKEN Kujiedanarisaw 3.03 5 A A 01 32 15.2
comp=E,21nm,2.5s,comp=E,22nm,0.8s
JAH Hinai 3.06 349 A A 01 32 15.7
comp=E,26nm,2.9s,comp=E,16nm,2.7s
JTHY Toshimahigashi 3.15 213 A A 01 32 16.4
comp=E,15nm,5.0s
JIZS Izushimoda 3.18 220 A A 01 32 17.0
comp=E,6.0nm,4.4s,comp=E,5.0nm,2.1s
JANG Nango 3.19 2 A A 01 32 17.5
comp=E,14nm,3.1s,comp=E,9.0nm,3.2s
JSZ Suzu 3.21 276 A A 01 32 17.8
comp=E,11nm,5.7s,comp=E,16nm,3.5s
JNTW Noshirotokiwa 3.23 343 A A 01 32 18.1
comp=E,89nm,4.8s,comp=E,60nm,2.7s
JOG3 Oga3 3.28 327 A A 01 32 14.8
comp=E,25nm,2.7s,comp=E,42nm,3.4s
JTT Ttatey 3.29 261 A A 01 32 18.8
comp=E,14nm,4.2s,comp=E,32nm,3.0s
SHZ3 Shizuoka 3 3.32 232 A A 01 32 19.0
comp=E,6.0nm,4.5s,comp=E,7.0nm,2.1s
JNY Yasuok 3.37 238 A A 01 32 19.8
comp=E,6.0nm,5.6s,comp=E,6.0nm,3.9s
JGN Niukaw 3.40 255 A A 01 32 20.3
comp=E,3.0nm,6.0s,comp=E,6.0nm,6.0s
JHHS Hirosakihyakuz 3.56 347 A A 01 32 22.7
comp=E,39nm,3.9s,comp=E,49nm,3.9s
JIW Iwasaki 3.57 343 A A 01 32 23.0
comp=E,16nm,3.8s,comp=E,13nm,4.1s
JSG Sagara 3.60 227 A A 01 32 22.9
comp=E,13nm,8.7s,comp=E,12nm,4.1s
JGF Kuroka 3.61 245 Pn **Pn 01 32 23.9 +1.6**
JGF Kuroka 3.61 245 A A 01 32 23.1
comp=E,5.0nm,5.8s,comp=E,7.0nm,5.1s
JHG Hegura jima 3.61 282 A A 01 32 23.4
comp=E,4.0nm,6.0s
JTM Tenmabayashi 3.61 356 Pn **Pn 01 32 23.7 +1.3**
JTM Tenmabayashi 3.61 356 A A 01 32 23.5
comp=E,16nm,3.9s,comp=E,10.0nm,6.8s
JKKS Kakegawashinom 3.67 230 A A 01 32 23.9
comp=E,13nm,5.7s,comp=E,12nm,6.2s
JJH Hakui 3.69 267 A A 01 32 24.4
comp=E,5.0nm,2.7s,comp=E,12nm,3.0s
HMMJ Hamamatsu 2 3.76 233 A A 01 32 25.3
comp=E,4.0nm,7.3s,comp=E,5.0nm,7.5s
JARK Aomorirokkasho 3.82 360 A A 01 32 26.4
comp=E,13nm,3.5s,comp=E,11nm,7.4s
JAO Obara 3.84 241 A A 01 32 26.4
comp=E,5.0nm,3.2s,comp=E,7.0nm,2.1s
JSI2 Shiura 2 3.95 349 A A 01 32 28.2
comp=E,13nm,4.6s,comp=E,13nm,6.0s
INU Inuyama 3.97 244 Pn **Pn 01 32 28.3 +1.0**
JYTA Yamagatataniai 4.07 249 A A 01 32 29.6
comp=N,5.0nm,3.6s
JAHD Aomorihigashid 4.08 360 A A 01 32 30.0
comp=E,18nm,3.4s,comp=E,18nm,4.3s
JICN Ichinomiyachia 4.12 244 A A 01 32 30.3
comp=E,8.0nm,2.3s,comp=E,10.0nm,3.0s
JOT Ohata 4.21 357 A A 01 32 31.8
comp=E,10.0nm,7.1s,comp=E,10.0nm,4.1s
JHJ Hachijo jima 2 4.22 198 Pn **Pn 01 32 31.9 +0.6**
51nm,0.3s,baz=115,slow=23,SNR=6.2
88nm,0.3s
JAA Atsumi 4.28 235 A A 01 32 32.5
comp=E,4.0nm,7.6s,comp=E,3.0nm,4.5s
JSR Shiriuchi 4.41 351 A A 01 32 34.7
comp=E,13nm,4.8s,comp=E,13nm,9.4s
JOMM Oshimamatsumae 4.47 347 A A 01 32 35.5
comp=E,6.0nm,4.9s,comp=E,9.0nm,4.0s
JFM Mihama 4.66 251 A A 01 32 38.0
comp=N,3.0nm,7.3s
JKB Kayabe 4.71 357 A A 01 32 38.9
comp=E,12nm,3.9s,comp=E,7.0nm,3.2s
JYM2 Yakumo 2 4.99 351 A A 01 32 42.9
comp=E,6.0nm,5.1s,comp=E,7.0nm,3.1s
ERM Erimo 5.02 15 *i* P **Pn 01 32 41.6 -0.1**
JNBK Urakawa-nobuka 5.21 11 A A 01 32 45.8
comp=E,5.0nm,4.8s,comp=E,6.0nm,5.9s
JNB Noboribetsu 5.29 357 A A 01 32 47.1
comp=N,4.0nm,5.2s
JSHD Hidakashinhida 5.29 9 A A 01 32 47.0
comp=E,11nm,3.2s,comp=E,10.0nm,4.6s
JHST Hiyamasetana 5.36 348 A A 01 32 48.1
comp=N,7.0nm,5.7s
JIAM Iburiatsuma 5.45 4 A A 01 32 49.3
comp=E,10.0nm,5.7s,comp=E,10.0nm,3.3s
JSH Shimam 5.55 350 A A 01 32 50.8
comp=E,5.0nm,4.1s,comp=E,6.0nm,5.7s
ASAJ Asahikawa 5.99 7 LR LR 01 36 02.8
comp=Z,1μm,19.6s,baz=228,slow=40
ASAJ Asahikawa 6.99 7 P **Pn 01 33 08.6 -0.2**
JKA Kamikawa-asahi 6.99 7 Pn **Pn 01 33 08.6 -0.2**
JHS Saijyo 7.03 254 Pn **Pn 01 33 11.3 +1.8**
TEY Ternei 8.64 337 *e*P **Pn 01 33 30.3 -1.0**
YSS Yuzh-Sakhalins 9.82 6 P **Pn 01 33 48.8 +1.2**
YSS Yuzh-Sakhalins 9.82 6‖ *e*P **Pn 01 33 46.2 -1.4**
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,2μm,15.0s
USA0B Ussuriysk Arra 10.00 317 Pn **Pn 01 33 51.9 +1.8**
USA0B Ussuriysk Arra 10.00 317 *i* P **Pn 01 33 51.2 +1.2**
USRK Ussuriysk Ar. 10.00 317 Pn Pn 01 33 55.5 +5.5
comp=Z,1.1nm,0.3s,baz=119,slow=12,SNR=15
USRK Ussuriysk Ar. 10.00 317 Pn **Pn 01 33 51.7 +1.7**
USRK Ussuriysk Ar. 10.00 317 P **Pn 01 33 51.7 +1.7**
JCJ Chichijima 10.08 176 Pn **Pn 01 33 48.0 -3.1**
comp=Z,11nm,0.3s,baz=280,slow=23,SNR=6.1
KSRS Korea Array 10.72 276 Pn **Pn 01 34 03.0 +3.0**
comp=E,0.5nm,0.3s,baz=85,slow=13,SNR=9.9
KSAR Wonju Array Be 10.75 275 P **Pn 01 34 01.7 +1.3**
KSAR Wonju Array Be 10.75 275 P **Pn 01 34 01.7 +1.3**
MDJ Mudanjiang 11.60 313 Pn **Pn 01 34 12.2 +0.3**
MDJ Mudanjiang 11.60 313 P Pn 01 34 17.8 +5.8
MDJ pmax pmax
comp=Z,23nm,1.4s
MDJ pmax pmax
comp=Z,1μm,11.7s
BNX BinXian 13.51 314 ⇑P **P 01 34 45.6 -1.8**
BNX pmax pmax
comp=Z,7.0nm,1.1s
BNX pmax pmax
comp=Z,870nm,8.4s
KLR Kul'dur 13.93 333 Pn **Pn 01 34 45.8 +2.1**
comp=Z,0.2nm,0.3s,baz=118,slow=20,SNR=2.6
comp=Z,2.1nm,0.7s
KLR Kul'dur 13.93 333 *e*P **Pn 01 34 44.7 +1.0**
GRNR Gornyy 14.04 347 ⇑*i*P **Pn 01 34 43.7 -1.6**
GRNR pmax pmax
comp=Z,3.0nm,0.7s
SNY Shenyang 14.50 294 ⇓P **P 01 35 00.4 +2.0**
SNY S S 01 38 03.5 +11
SNY pmax pmax
comp=Z,10.0nm,0.6s
SNY pmax pmax
comp=Z,1μm,12.9s
SNY LR LR
comp=N,2μm,10.8s
SNY LR LR
comp=E,3μm,12.4s
SNY LR LR
comp=Z,2μm,12.0s
OKH Okha 16.41 3*de*P Pn 01 35 06.5 -10
OKH MLR MLR
comp=Z,1μm,15.0s
OKH MLR MLR
comp=N,1μm,16.0s
OKH MLR MLR
comp=E,1μm,12.0s
HEH HeiHe 16.48 327 *e*P **P 01 35 19.6 -0.7**
HEH pmax pmax
comp=E,12nm,1.0s
ZEA Zeya 19.24 334 *e*P **Pn 01 35 51.6 0.0**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
TIA Tai'an 19.47 274 *e*P **P 01 35 51.3 -2.1**
TIA pmax pmax
comp=Z,6.0nm,0.5s
PETK Petropavlovsk- 19.58 30 P **Pn 01 35 55.9 +0.2**
comp=Z,0.3nm,0.3s,baz=213,slow=7.9,SNR=4.7
comp=Z,6.8nm,0.8s
XLT XiLinHaoTe 20.32 297 ⇑*i*P **P 01 36 00.8 -1.9**
XLT pmax pmax
comp=Z,24nm,1.4s
HNS HongShan 21.20 279 ⇑P **P 01 36 09.9 -2.3**
HNS pmax pmax
comp=Z,28nm,0.8s
HNS LR LR
comp=Z,3μm,14.7s
HNS LR LR
comp=Z,610nm,13.7s
HNS LR LR
comp=Z,1μm,16.0s
MA2 Magadan 23.22 12 P **P 01 36 34.0 +0.6**
comp=Z,28nm,0.7s,baz=195,slow=10,SNR=8.4
comp=Z,28nm,0.7s
YAK Yakutsk 25.92 347 P **P 01 36 58.7 +0.2**
comp=Z,24nm,0.6s,baz=354,slow=1.5,SNR=8.3
comp=Z,24nm,0.6s
YAK Yakutsk 25.92 347 *e*P **P 01 36 57.2 -1.4**
YAK *e* 01 37 41.6
YAK *e*S **S 01 41 22.7 -6.2**
YAK pmax pmax
comp=Z,49nm,1.0s
YAK pmax pmax
comp=N,17nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,120nm,2.3s
YAK pmax pmax
comp=N,139nm,2.5s
YAK pmax pmax
comp=E,89nm,2.0s
YAK smax smax
comp=N,290nm,3.5s
YAK smax smax
comp=E,345nm,3.5s
SEY Seymchan 26.66 11 P **P 01 37 06.5 +1.3**
comp=E,22nm,0.8s,baz=204,slow=7.3,SNR=15
comp=E,22nm,0.8s
ULN Ulaanbaatar 27.25 304 P **P 01 37 11.3 +0.3**
ULN Ulaanbaatar 27.25 304 P **P 01 37 10.3 -0.6**
comp=E,47nm,0.7s
ULN pP **pP 01 37 11.8 -0.7**
comp=E,47nm,0.7s
ULN Ulaanbaatar 27.25 304*ce*P **P 01 37 10.7 -0.2**
ULN pmax pmax
comp=Z,9.0nm,0.8s
ENH Enshi 27.32 265 P **P 01 37 12.4 +0.8**
ENH IAmb IAmb 01 37 46.7
comp=Z,22nm,0.9s
BOD Bodaibo 27.39 328 *e*P **P 01 37 11.4 -0.5**
BOD pmax pmax
comp=Z,16nm,1.9s
SONM Songino Array 27.68 304 P **P 01 37 14.0 -0.8**
comp=Z,10nm,0.7s,baz=107,slow=8.4,SNR=50
SONM PcP **PcP 01 40 32.0 +0.3**
comp=Z,0.6nm,0.5s,baz=102,slow=1.8,SNR=4.2
comp=Z,10nm,0.7s
SONM Songino Array 27.68 304 P **P 01 37 14.0 -0.8**
SONM 01 40 32.0
H11N2 WAKE ISLAND Hy 28.25 121 T T 02 06 46.0
baz=314,slow=75,SNR=668
H11N1 WAKE ISLAND Hy 28.25 121 T T 02 06 49.9
baz=314,slow=75,SNR=972
H11N3 WAKE ISLAND Hy 28.26 121 T T 02 06 52.9
baz=314,slow=75,SNR=688
H11S1 WAKE ISLAND Hy 28.96 123 T T 02 07 41.9
baz=316,slow=76,SNR=108
H11S3 WAKE ISLAND Hy 28.98 123 T T 02 07 42.0
baz=316,slow=76,SNR=123
H11S2 WAKE ISLAND Hy 28.98 123 T T 02 08 01.5
baz=316,slow=76,SNR=69
LZH Lanzhou 30.02 279 *e*P P 01 37 47.6 +12
LZH pmax pmax
comp=Z,14nm,1.5s
ZAK Zakamensk 30.16 308 *e*P **P 01 37 36.4 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
DAV Davao City (W) 33.24 210 P **P 01 38 04.1 +0.1**
comp=Z,294nm,0.4s
BILL Bilibino 33.90 16‖ *e*P **P 01 38 08.3 -0.9**
BILL pmax pmax
comp=Z,5.0nm,1.1s
PZH PanZhiHua 35.09 264 P **P 01 38 19.0 -1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
TIXI Tiksi 35.14 353 P **P 01 38 19.3 -0.6**
comp=Z,2.2nm,0.3s,baz=308,slow=0.6,SNR=8.1
comp=Z,2.2nm,0.3s
TIXI Tiksi 35.14 353 P **P 01 38 18.5 -1.4**
TIXI Tiksi 35.14 353 *i* P **P 01 38 18.4 -1.4**
TIXI pmax pmax
comp=Z,11nm,1.7s
SGSI Sangihe 36.37 207 P **P 01 38 31.1 +0.1**
comp=Z,5μmcomp=Z,63nm,0.5s
GOMU GeErMu 37.06 283 P P 01 38 48.8 +12
GOMU pmax pmax
comp=Z,5.0nm,1.0s
GAMI Galela, Maluku 37.33 203 P **P 01 38 39.2 0.0**
comp=Z,7μmcomp=Z,35nm,0.6s
MYLDM Lahad Datu 38.10 219 P **P 01 38 47.2 +1.5**
MYLDM Lahad Datu 38.10 219 P **P 01 38 46.0 +0.3**
comp=Z,49nm,1.0s
TNTI Ternate 38.47 203 P **P 01 38 49.1 +0.3**
comp=Z,32nm,1.0s
UBPT Khong Chiam 38.56 245 P **P 01 38 48.8 -0.8**
comp=Z,17nm,0.9s
SIJI Sorong 39.00 196 P **P 01 38 53.0 -0.2**
comp=Z,1μmcomp=Z,12nm,0.9s
LBMI Labuha 39.76 202 P **P 01 38 59.0 -0.6**
comp=Z,2μmcomp=Z,48nm,0.6s
GTOI Gorontalo 40.13 209 P **P 01 39 00.9 -1.7**
comp=Z,29nm,1.2s
DGZ Jazzator, Alta 40.28 306 *i* P **P 01 39 03.5 -0.4**
DGZ pmax pmax
comp=Z,22nm,0.8s
PHRA Phrae 40.49 254 P **P 01 39 06.0 +0.2**
TOLI2 Tolitoli 40.61 213 P **P 01 39 07.9 +1.2**
TOLI2 IAmb IAmb 01 39 11.5
comp=Z,19nm,1.0s
MRSI Marisa 40.70 211 P **P 01 39 07.6 +0.2**
comp=Z,1μmcomp=Z,73nm,1.2s
FAKI Fak Fak 40.79 194 P **P 01 39 08.2 +0.2**
FAKI Fak Fak 40.79 194 P **P 01 39 08.4 +0.3**
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 41.51 255 P **P 01 39 13.3 -0.8**
comp=Z,1.0nm,0.3s,baz=42,slow=8.3,SNR=1.8
comp=Z,1.0nm,0.3s
SANI Sanana 41.56 204 P **P 01 39 13.4 -1.1**
comp=Z,24nm,1.5s
MPSI Mapaga 41.69 213 P **P 01 39 15.2 -0.3**
comp=Z,11nm,1.4s
LUWI Luwuk 41.76 209 P **P 01 39 17.1 +1.0**
comp=Z,32nm,0.7s
ZAA0 Zalesovo Array 41.80 312 P **P 01 39 15.6 -0.5**
ZAA0 IAmb IAmb 01 39 43.7
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 41.80 312 P **P 01 39 15.3 -0.7**
comp=Z,14nm,0.8s,baz=97,slow=6.5,SNR=40
ZALV PcP **PcP 01 41 12.1 0.0**
comp=Z,2.6nm,0.6s,baz=79,slow=3.0,SNR=3.5
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 41.80 312 P **P 01 39 15.6 -0.5**
MSAI Masohi 41.95 199 P **P 01 39 18.8 +1.2**
comp=Z,4.0nm,0.5s
KRAI Karang Ratu 42.06 200 P **P 01 39 19.4 +0.8**
comp=Z,3μmcomp=Z,37nm,1.4s
APSI Ampana 42.08 210 P **P 01 39 18.8 +0.1**
comp=Z,100nm,1.3s
NLAI Namlea 42.35 201 P **P 01 39 21.6 +0.7**
comp=Z,7.8nm,0.5s
AAI Ambon 42.47 200 P **P 01 39 21.8 -0.1**
comp=Z,54nm,0.7s
NRIK Noril'sk 43.12 335 *i* P **P 01 39 27.4 +0.8**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
SBUM Sibu 43.75 225 P **P 01 39 32.0 -0.3**
SBUM Sibu 43.75 225 P **P 01 39 31.4 -0.9**
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 44.02 302 P **P 01 39 34.2 0.0**
MK31 IAmb IAmb 01 40 02.0
comp=Z,12nm,0.8s
MK31 Makanchi Array 44.02 302 *i* P **P 01 39 34.0 -0.2**
MKAR Makanchi Array 44.02 302 P **P 01 39 33.8 -0.4**
comp=Z,10nm,0.8s,baz=88,slow=9.5,SNR=37
comp=Z,10nm,0.8s
MKAR Makanchi Array 44.02 302 P **P 01 39 34.0 -0.2**
MKAR Makanchi Array 44.02 302 P **P 01 39 34.0 -0.2**
MAKZ Makanchi 44.23 302 P **P 01 39 35.3 -0.6**
MAKZ IAmb IAmb 01 40 03.4
comp=Z,13nm,0.9s
MAKZ Makanchi 44.23 302 P **P 01 39 35.3 -0.6**
MAKZ pmax pmax
comp=Z,13nm,0.9s
MMSI Mamuju 44.83 213 P **P 01 39 41.1 +0.2**
comp=Z,15nm,0.4s
KKSI Kolaka, Sulawe 45.06 208 P **P 01 39 42.9 +0.2**
MTKI Muara Teweh, K 45.17 219 P **P 01 39 42.6 -1.1**
SPSI Sidrap Palu 45.61 211 P **P 01 39 46.9 -0.2**
comp=Z,2μmcomp=Z,24nm,1.2s
KSM Kuching 45.63 226 P **P 01 39 48.7 +1.4**
KSM Kuching 45.63 226 P **P 01 39 45.8 -1.5**
comp=Z,24nm,1.1s
KURK Kurchatov 45.82 308 P **P 01 39 47.9 -0.5**
KURK Kurchatov 45.82 308*ce*P **P 01 39 48.5 +0.1**
KURK pmax pmax
comp=Z,32nm,0.8s
BNSI Bone 45.87 210 P **P 01 39 51.0 +1.8**
comp=Z,30nm,1.3s
KURBB Kurchatov Arra 45.89 308 P **P 01 39 48.4 -0.6**
comp=Z,22nm,0.8s,baz=84,slow=8.4,SNR=43
comp=Z,22nm,0.8s
K20K Telida 46.23 34 P **P 01 39 52.8 +1.2**
K20K IAmb IAmb 01 39 55.3
comp=Z,6.6nm,0.8s
J20K Nowinta River 46.24 33 P **P 01 39 52.6 +1.1**
J20K IAmb IAmb 01 40 26.4
comp=Z,14nm,1.1s
ODAN Odare 46.38 273 *e*P **P 01 39 53.1 -0.3**
KAPI Kappang 46.57 210 P **P 01 39 55.9 +1.2**
KAPI Kappang 46.57 210 P **P 01 39 55.9 +1.2**
comp=Z,53nm,1.5s
KAPI Kappang 46.57 210 P **P 01 39 55.9 +1.2**
KAPI pmax pmax
comp=Z,73nm,1.2s
PMG Port Moresby 46.65 172 P **P 01 39 56.0 +0.7**
comp=Z,14nm,0.5s
BKSI Bulukumba 46.70 210 P **P 01 39 55.9 +0.2**
comp=Z,11nm,1.1s
RAMN Ramite 46.97 274 *e*P **P 01 39 57.4 -0.7**
comp=Z,33nm,0.8s
JIRN Jiri 46.98 275 *e*P **P 01 39 58.7 +0.4**
comp=Z,50nm,1.1s
GUN Gumba 47.11 276 *e*P **P 01 39 59.8 +0.5**
comp=Z,14nm,0.5s
CAST Castle Rocks 47.12 34 P **P 01 39 59.5 +0.9**
CAST IAmb IAmb 01 40 24.6
comp=Z,9.8nm,1.1s
BSSI Bau Bau, Buton 47.31 209 P **P 01 39 59.8 -0.7**
comp=Z,3μmcomp=Z,19nm,1.2s
BBKI Banjar Baru 47.38 217 P **P 01 39 59.7 -1.3**
comp=Z,60nm,1.2s
SKLT Songkla 47.55 241 P **P 01 39 59.9 -2.5**
comp=Z,10.0nm,0.8s
MLY Manley 47.74 32 P **P 01 40 05.3 +2.0**
MLY IAmb IAmb 01 40 07.2
comp=Z,6.1nm,0.8s
GKN Gorkha 48.06 276 *e*P **P 01 40 06.8 +0.3**
H23K Yukon River 48.26 31 P **P 01 40 08.3 +0.9**
TARG Taragay, Kyrgy 48.31 296 P **P 01 40 08.9 +0.3**
TARG Taragay, Kyrgy 48.31 296 P **P 01 40 08.9 +0.3**
TARG pmax pmax
comp=Z,25nm,1.2s
TOLK Toolik Lake Re 48.35 27 P **P 01 40 09.4 +1.4**
TOLK IAmb IAmb 01 40 12.2
comp=Z,9.4nm,0.9s
NEA2 Nenana 48.45 33 P **P 01 40 09.1 +0.3**
NEA2 IAmb IAmb 01 40 15.6
comp=Z,15nm,1.2s
MCK McKinley 48.53 34 P **P 01 40 11.0 +1.6**
MCK IAmb IAmb 01 40 23.8
comp=Z,20nm,1.4s
MCK McKinley 48.53 34 P **P 01 40 11.0 +1.6**
MCK pmax pmax
comp=Z,20nm,1.4s
DANN Dangsing 48.60 277 *e*P **P 01 40 10.8 0.0**
comp=Z,67nm,0.7s
MDM Murphy Dome 48.81 32 P **P 01 40 12.6 +1.0**
MDM IAmb IAmb 01 40 14.8
comp=Z,12nm,0.7s
KULM Kulim 48.87 240 P **P 01 40 11.0 -1.6**
comp=Z,8.9nm,1.3s
H24K Noodor Dome 48.94 31 P **P 01 40 13.2 +0.6**
H24K IAmb IAmb 01 40 16.5
comp=Z,9.0nm,1.1s
COLA College 48.97 32 *i* P **P 01 40 10.6 -2.1**
COLA pmax pmax
comp=Z,7.0nm,0.8s
MMRI Maumere 48.98 205 P **P 01 40 12.7 -0.6**
POKR Poker Flat Res 49.14 32 P **P 01 40 15.8 +1.6**
IPM Ipoh 49.19 239 P **P 01 40 13.1 -2.0**
comp=Z,17nm,1.1s
SOEI Soe 49.37 202 P **P 01 40 15.4 -1.1**
comp=Z,32nm,0.9s
HDA Harding Lake 49.38 33 P **P 01 40 16.7 +0.8**
HDA IAmb IAmb 01 40 18.3
comp=Z,7.1nm,0.7s
IL31 49.39 32 P **P 01 40 16.5 +0.6**
IL31 IAmb IAmb 01 40 18.5
comp=Z,11nm,0.7s

ILAR **Eielson Array** 49.39 32 P P 01 40 16.3 +0.3
comp=Z,8.6nm,0.7s,baz=265,slow=5.7,SNR=68
comp=Z,8.6nm,0.7s
ILAR **Eielson Array** 49.39 32 P P 01 40 16.6 +0.7
ILAR **Eielson Array** 49.39 32 P P 01 40 16.7 +0.7
PRP **Porcupine Dome** 49.93 31 P P 01 40 21.6 +1.3
PRP IAmb IAmb 01 40 23.6
comp=Z,6.5nm,0.8s
BMAR **Burnt Mountain** 50.22 29 P P 01 40 24.2 +1.8
KSH **Kashi** 50.32 294 P P 01 40 28.0 +4.4
KSH pmax pmax
comp=Z,8.0nm,1.7s
KSH LR LR
comp=Z,760nm,15.7s
KSH LR LR
comp=Z,1μm,14.7s
KSH LR LR
comp=Z,1μm,17.0s
AAK **Ala-Archa** 50.40 298 *i* P P 01 40 22.2 -2.0
AAK pmax pmax
comp=Z,13nm,1.7s
BVAR **Borovoye Array** 50.45 312 P P 01 40 23.8 -0.5
comp=Z,3.0nm,0.6s,baz=73,slow=8.1,SNR=11
BVAR PcP PcP 01 41 41.6 -0.8
comp=Z,5.2nm,0.9s,baz=66,slow=3.5,SNR=3.8
comp=Z,3.0nm,0.6s
BRVK **Borovoye** 50.51 312 P P 01 40 24.0 -0.7
BRVK IAmb IAmb 01 40 52.4
comp=Z,7.1nm,0.7s
BRVK **Borovoye** 50.51 312 *i* P P 01 40 23.7 -1.0
BRVK pmax pmax
comp=Z,7.0nm,1.0s
MTN **Manton Dam** 50.68 193 P P 01 40 26.3 +0.1
SCRK **Sand Creek** 50.70 33 P P 01 40 27.0 +0.9
SCRK IAmb IAmb 01 40 28.5
comp=Z,9.5nm,0.7s
L26K **Log Cabin Wild** 51.09 35 P P 01 40 28.9 -0.1
L26K IAmb IAmb 01 40 32.5
comp=Z,11nm,0.8s
TWSI **Taliwang, Sumb** 51.12 212 P P 01 40 28.9 -0.7
comp=Z,27nm,1.1s
KLNI **Mataram** 51.17 213 P P 01 40 29.9 -0.1
comp=Z,97nm,1.2s
KLNI pP sP 01 40 33.1 +0.8
comp=Z,97nm,1.2s
L27K **Beaver Creek,** 51.77 34 P P 01 40 34.7 +0.7
L27K IAmb IAmb 01 41 02.7
comp=Z,9.4nm,1.0s
BCAR **Beaver Creek A** 51.79 34 P P 01 40 35.5 +1.3
PSI **Prapat** 51.84 239 P P 01 40 33.8 -1.5
comp=Z,5.5nm,1.1s,comp=Z,8.8nm,1.1s
PSI P pP 01 40 34.5 -2.4
comp=Z,5.5nm,1.1s,comp=Z,8.8nm,1.1s
SJI **Sawahan** 52.58 218 P P 01 40 41.5 +0.9
comp=Z,28nm,1.0s
DAWY **Dawson** 52.70 33 P P 01 40 42.4 +1.4
PWJI **Pagerwojo** 52.81 218 P P 01 40 40.5 -1.7
MNSI **Mandailing Nat** 52.87 237 P P 01 40 40.7 -2.0
I29M **Ogilvie Camp,** 52.94 31 P P 01 40 44.7 +2.0
I29M IAmb IAmb 01 40 46.0
comp=Z,16nm,0.7s
SDSI **Sungai Dareh** 52.95 234 P P 01 40 42.3 -1.0
comp=Z,16nm,0.9s
KK31 **Karatay Array** 53.03 300 P P 01 40 43.6 -0.1
KK31 IAmb IAmb 01 40 58.3
comp=Z,12nm,1.1s
KK31 **Karatay Array** 53.03 300 P P 01 40 43.6 -0.1
KK31 pmax pmax
comp=Z,12nm,1.1s
KKAR **Karatay Array** 53.03 300 P P 01 40 43.6 0.0
KKAR **Karatay Array** 53.03 300 P P 01 40 43.7 0.0
KKAR IAmb IAmb 01 40 58.3
comp=Z,12nm,1.1s
KKAR **Karatay Array** 53.03 300 P P 01 40 43.7 0.0
KKAR pmax pmax
comp=Z,12nm,1.1s
CTJI **Waduk Cacaban** 53.27 221 P P 01 40 46.8 +1.1
comp=Z,42nm,0.7s
EPYK **Eagle Plains** 53.41 30 P P 01 40 48.0 +1.8
GSI **Gunungsitoli** 53.85 239 P P 01 40 50.3 +0.4
GSI **Gunungsitoli** 53.85 239 P P 01 40 48.9 -1.1
comp=Z,6μmcomp=Z,59nm,0.7s
KNRA **Kununurra** 53.90 195 P P 01 40 50.5 +0.4
LEM **Lembang** 53.96 223 P P 01 40 50.9 0.0
comp=Z,47nm,1.1s
M30M **Minto, Yukon** 54.13 34 P P 01 40 53.2 +1.7
M30M IAmb IAmb 01 41 26.8
comp=Z,9.4nm,1.1s
MASI **Maura Aman, Be** 54.14 231 P P 01 40 51.3 -0.8
comp=Z,36nm,0.8s
INK **Inuvik** 54.27 27 P P 01 40 53.2 +0.9
comp=Z,7.2nm,0.8s,baz=305,slow=7.8,SNR=24
comp=Z,7.2nm,0.8s
INK **Inuvik** 54.27 27 P P 01 40 53.3 +1.0
INK IAmb IAmb 01 40 55.5
comp=Z,8.5nm,0.9s
INK **Inuvik** 54.27 27 P P 01 40 53.3 +1.0
INK pmax pmax
comp=Z,8.0nm,1.0s
NIL **Nilore** 54.54 288 P P 01 40 55.3 +0.4
NIL **Nilore** 54.54 288 P P 01 40 55.3 +0.4
NIL pmax pmax
comp=Z,14nm,0.8s
GAR **Garm** 54.61 295 P P 01 40 55.9 +0.5
SVE **Sverdlovsk** 55.02 319 *eP* P 01 40 58.6 +0.6
SVE pmax pmax
comp=Z,30nm,0.9s
CHGR **Chuyangaron** 55.58 295 P P 01 41 02.6 +0.2
CHGR **Chuyangaron** 55.58 295 P P 01 41 02.6 +0.2
CHGR pmax pmax
comp=Z,51nm,0.8s
A36M **Sachs Harbour** 56.14 22 P P 01 41 08.1 +2.4
ARU **Arti** 56.23 318 P P 01 41 06.5 -0.2
ARU **Arti** 56.23 318 *d* *i* P P 01 41 05.8 -0.9
ARU 01 42 02.6
ARU 01 43 09.2
ARU S S 01 48 58.0 +1.4
ARU SS SS 01 52 37.9 -4.7
ARU pmax pmax
comp=Z,26nm,0.9s
WB0 **Warramunga Arr** 57.02 188 P P 01 41 11.8 -0.8
WB0 IAmb IAmb 01 41 16.6
comp=Z,14nm,1.1s
WRAB **Tennant Creek** 57.19 188 P P 01 41 15.8 +2.0
WRAB IAmb IAmb 01 41 18.3
comp=Z,13nm,1.1s
WRAB **Tennant Creek** 57.19 188 P P 01 41 15.8 +2.0
WRAB pmax pmax
comp=Z,13nm,1.2s
WR0 **Warramunga Arr** 57.19 188 P P 01 41 13.1 -0.7
WR0 IAmb IAmb 01 41 18.3
comp=Z,14nm,1.1s
WB2 **Warramunga Arr** 57.20 188 P P 01 41 13.1 -0.8
WB2 IAmb IAmb 01 41 41.8
comp=Z,8.1nm,0.8s
WRA **Warramunga Arr** 57.20 188 P P 01 41 12.7 -1.2
comp=Z,8.7nm,1.0s,baz=5.6,slow=7.1,SNR=17
comp=Z,8.7nm,1.0s
WRA **Warramunga Arr** 57.20 188 P P 01 41 13.1 -0.8
C36M **Paulatuk** 57.31 25 P P 01 41 14.5 +0.4
C36M IAmb IAmb 01 41 16.9
comp=Z,8.1nm,0.8s
ABKAR **Akbulak array** 57.83 310 P P 01 41 17.8 -0.3
ABKAR **Akbulak array** 57.83 310 P P 01 41 17.8 -0.3
ABKAR IAmb IAmb 01 41 44.9
comp=Z,14nm,0.6s
EUNU **Eureka** 60.05 9 P P 01 41 33.6 +0.5
EUNU IAmb IAmb 01 41 35.3
comp=Z,7.7nm,0.8s
KIRV **Kirov** 60.12 323 *ceP* P 01 41 33.6 -0.2
PRGR **Permogore** 60.63 327 *eP* P 01 41 37.0 -0.2
PRGR pmax pmax
comp=Z,22nm,0.9s
ASAR **Alice Springs** 60.93 188 P P 01 41 39.1 -0.6
comp=Z,3.7nm,0.9s,baz=9.2,slow=7.5,SNR=12
comp=Z,3.7nm,0.9s
ASAR **Alice Springs** 60.93 188 P P 01 41 40.6 +0.9
ASAR **Alice Springs** 60.93 188 P P 01 41 40.6 +0.9
VADS **Vadso** 62.42 339 *eP* P 01 41 49.8 +0.6
VADS IAmb IAmb 01 41 50.6
comp=Z,22nm,0.6s
RES **Resolute Bay** 62.47 14 P P 01 41 49.3 -0.2
RES IAmb IAmb 01 42 03.5
comp=Z,9.8nm,1.2s
RES **Resolute Bay** 62.47 14 P P 01 41 49.3 -0.2
RES pmax pmax
comp=Z,10.0nm,1.3s
KLMR **Klimovskoe** 63.62 328 *eP* P 01 41 56.9 -0.4
KLMR AMP 01 41 58.4
comp=Z,25nm,0.7s
KLMR **Klimovskoe** 63.62 328 *eP* P 01 41 56.8 -0.5
KLMR pmax pmax
comp=Z,25nm,0.7s
BELG **Belogornoye** 63.68 317 *i* P P 01 41 55.2 -2.6
BELG pmax pmax
comp=Z,7.0nm,0.9s
YKA **Yellowknife Ar** 63.70 30 P P 01 41 58.3 +0.5
comp=Z,2.9nm,0.6s,baz=302,slow=7.1,SNR=6.0
comp=Z,2.9nm,0.6s
GEYT **Alibeck** 63.74 299 P P 01 41 58.4 -0.3
comp=Z,7.5nm,0.9s,baz=33,slow=3.5,SNR=12
comp=Z,7.5nm,0.9s
GEYT **Alibeck** 63.74 299 P P 01 41 58.1 -0.5
ARA0 **ARCESS Array S** 63.85 339 *eP* P 01 41 59.1 +0.3
ARCES **ARCESS Array B** 63.85 339 P P 01 41 59.1 +0.3
comp=Z,7.7nm,0.7s,baz=59,slow=6.2,SNR=27
comp=Z,7.7nm,0.7s
ARCES **ARCESS Array B** 63.85 339 P P 01 41 59.1 +0.3
ARCES **ARCESS Array B** 63.85 339 P P 01 41 59.1 +0.3
ARCES pmax pmax
comp=Z,37nm,1.5s
KTK1 **Kautokeino** 64.81 339 *eP* P 01 42 05.6 +0.6
KTK1 IAmb IAmb 01 42 07.2
comp=Z,18nm,0.8s
WAPA **Wapiti River** 65.27 39 P P 01 42 09.4 +1.1
TRO **Tromso** 65.57 341 *eP* P 01 42 10.6 +0.7
MOS **Moscow** 67.12 323 *eP* P 01 42 18.4 -1.7
MOS pmax pmax
comp=Z,27nm,1.0s
VRH **Novokhopyorsk** 67.45 318 *eP* P 01 42 21.2 -1.1
VRH pmax pmax
comp=Z,20nm,0.6s
STEI **Steigen** 67.72 341 *eP* P 01 42 24.4 +0.7
STEI IAmb IAmb 01 42 29.0
comp=Z,38nm,1.4s
OBN **Obninsk** 67.96 323⇑ *eP* P 01 42 25.3 -0.1
OBN *i* 01 42 30.1
OBN *i* 01 42 49.7
OBN *e* 01 44 54.4
OBN pmax pmax
comp=Z,16nm,0.6s
FAUS **Fauske** 68.11 340 *eP* P 01 42 26.8 +0.7
FAUS IAmb IAmb 01 42 31.7
comp=Z,22nm,1.0s
LPSR **Galich'ya Gora** 68.17 320 *eP* P 01 42 26.7 -0.1
LPSR pmax pmax
comp=Z,20nm,0.7s
VORR **Voronezh** 68.53 319 *eP* P 01 42 29.8 +0.7
VORR pmax pmax
comp=Z,40nm,0.4s
FIA1 **FINESS Array S** 68.67 332 P P 01 42 30.1 +0.4
FINES **FINESS Array B** 68.67 332 P P 01 42 29.8 0.0
comp=Z,20nm,0.8s,baz=57,slow=7.0,SNR=30
comp=Z,20nm,0.8s
FINES **FINESS Array B** 68.67 332 P P 01 42 30.0 +0.2
FINES **FINESS Array B** 68.67 332 P P 01 42 30.0 +0.2
STKA **Stephens Creek** 68.70 180 P P 01 42 30.9 +0.8
comp=Z,6.2nm,0.9s,baz=350,slow=9.0,SNR=6.5
comp=Z,6.2nm,0.9s
STKA **Stephens Creek** 68.70 180 P P 01 42 32.1 +1.9
VSR **Storozhevoye** 68.81 319 *eP* P 01 42 30.1 -0.7
VSR pmax pmax
comp=Z,20nm,0.6s
HOOD **Mount Hood Mea** 69.02 49 P P 01 42 33.6 +1.2
H04A **Detroit Lake** 69.03 49 P P 01 42 33.4 +1.0
H04A IAmb IAmb 01 42 39.1
comp=Z,9.4nm,0.9s
MOR8 **Moi Rana** 69.22 340 *eP* P 01 42 32.3 -0.9
MOR8 IAmb IAmb 01 42 33.7
comp=Z,21nm,0.8s
D08A **Wollman Farm,** 69.69 46 P P 01 42 36.5 +0.1
D08A IAmb IAmb 01 42 42.0
comp=Z,5.8nm,1.0s
PINE **Pine Mountain** 70.27 50 P P 01 42 40.7 +0.5
VSU **Vasula** 70.32 330 *eP* P 01 42 40.5 +0.6
E09A **Wood Farm, Sta** 70.44 46 P P 01 42 42.2 +1.3
E09A IAmb IAmb 01 42 46.7
comp=Z,7.1nm,1.0s
RAF **Rauma** 70.53 333 *eP* P 01 42 41.6 +0.4
ZEI **Tsey** 70.69 309 *eP* P 01 42 42.5 -0.3
ZEI pmax pmax
comp=Z,8.0nm,1.4s
KBZ **Khabaz** 70.79 311 P P 01 42 43.6 +0.5
comp=Z,9.7nm,0.8s,baz=44,slow=5.5,SNR=12
comp=Z,9.7nm,0.8s
KBZ **Khabaz** 70.79 311 *ceP* P 01 42 42.9 -0.2
KBZ pmax pmax
comp=Z,11nm,0.9s
KIV **Kislovodsk** 70.79 311 ⇑P P 01 42 43.6 +0.4
KIV **Kislovodsk** 70.79 311 P P 01 42 42.6 -0.7
KIV **Kislovodsk** 70.79 311 *eP* P 01 42 43.2 -0.1
KIV pmax pmax
comp=Z,25nm,1.1s
K05A **Summer Lake** 70.88 51 P P 01 42 44.4 +0.4
SHA1 **Shidzhatmaz** 70.93 311 *i* P P 01 42 45.0 +0.7
F10A **Beach Ranch, E** 71.27 46 P P 01 42 46.1 -0.1
BMO **Blue Mountains** 71.85 47 P P 01 42 50.2 +0.5
BMO **Blue Mountains** 71.85 47 P P 01 42 50.2 +0.5
BMO pmax pmax
comp=Z,3.0nm,0.8s
J08A **Circle Bar Ran** 72.00 49 P P 01 42 50.4 -0.2
J08A IAmb IAmb 01 43 18.1
comp=Z,5.8nm,1.0s
PLID **Pearl Lake** 72.48 46 P P 01 42 54.5 +0.8
IIGN **Ignalina** 72.54 327 *eP* P 01 42 54.2 +0.7
MSO **Missoula** 72.63 44 P P 01 42 54.7 +0.3
MSO IAmb IAmb 01 43 28.3
comp=Z,9.6nm,1.4s
BEKR **Beckworth** 72.79 53 P P 01 42 56.0 +0.5
PABE **Paberze** 73.40 328 P P 01 42 58.4 -0.2
PABE **Paberze** 73.40 328 *eP* P 01 42 59.3 +0.8
MFID **Camas Ranch** 73.55 48 P P 01 42 59.5 -0.4
FFC **Flin Flon** 73.60 33 P P 01 42 59.8 0.0
FFC IAmb IAmb 01 43 06.1
comp=Z,7.1nm,0.8s
FFC **Flin Flon** 73.60 33 P P 01 42 59.8 0.0
FFC pmax pmax
comp=Z,7.0nm,0.8s
NC405 **NORSAR Array S** 73.83 337 P P 01 43 00.9 -0.2
NC405 IAmb IAmb 01 43 03.5
comp=Z,20nm,1.1s
HRY **Holter Researc** 73.87 43 P P 01 43 02.6 +0.9
HFS **Hagfors** 73.94 336 P P 01 43 02.5 +0.8
comp=Z,13nm,1.1s,baz=39,slow=7.4,SNR=5.3
comp=Z,13nm,1.1s
NC204 **NORSAR Array S** 74.00 338 P P 01 43 02.2 +0.1
NC204 IAmb IAmb 01 43 04.5
comp=Z,18nm,1.0s
NC204 **NORSAR Array S** 74.00 338 *eP* P 01 43 02.5 +0.4
NB201 **NORSAR Array S** 74.01 337 P P 01 43 02.3 +0.2
NB201 IAmb IAmb 01 43 07.9
comp=Z,16nm,1.0s
NB2 **NORSAR Subarra** 74.04 337 P P 01 43 02.1 -0.2
baz=39,slow=6.2
NB2 **NORSAR Subarra** 74.04 337 P P 01 43 02.1 -0.2
comp=Z,42nm,1.7s,baz=39,slow=6.2
NOA **NORSAR Array B** 74.04 337 P P 01 43 02.2 -0.2
comp=Z,7.4nm,0.9s,baz=39,slow=5.9,SNR=19
comp=Z,7.4nm,0.9s
LRM **Limekiln Ridge** 74.06 44 P P 01 43 04.0 +1.1
AKASG **Malin Array Be** 74.17 322 P P 01 43 02.6 -0.5
comp=Z,9.4nm,0.6s,baz=46,slow=6.2,SNR=47
comp=Z,9.4nm,0.6s
AKASG **Malin Array Be** 74.17 322 P P 01 43 03.4 +0.3
AKASG IAmb IAmb 01 43 04.3
comp=Z,5.6nm,0.8s
AKASG **Malin Array Be** 74.17 322 P P 01 43 03.4 +0.3
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKBB **Malin Array Si** 74.17 322 P P 01 43 03.3 +0.2
AKBB **Malin Array Si** 74.17 322 *ceP* P 01 43 02.5 -0.6
AKBB pmax pmax
comp=Z,18nm,0.8s
NC602 **NORSAR Array S** 74.18 337 *eP* P 01 43 03.4 +0.4
EGMT **Eagleton** 74.18 41 P P 01 43 04.0 +0.6
EGMT IAmb IAmb 01 43 16.6
comp=Z,8.0nm,0.8s
HLID **Hailey** 74.29 47 P P 01 43 04.2 -0.1
BMN **Battle Mountai** 74.44 51 P P 01 43 04.8 -0.4
BMN **Battle Mountai** 74.44 51 P P 01 43 04.8 -0.4
BMN pmax pmax
comp=Z,6.0nm,1.1s
BOZ **Bozeman (W)** 74.66 44 P P 01 43 06.6 +0.3
BOZ IAmb IAmb 01 43 12.3
comp=Z,6.4nm,0.9s
BOZ **Bozeman (W)** 74.66 44 P P 01 43 06.6 +0.3
BOZ pmax pmax
comp=Z,6.0nm,0.9s
KVN **Kaiserville** 74.69 53 P P 01 43 07.2 +0.5
KVN **Kaiserville** 74.69 53 P P 01 43 07.2 +0.5
KVN pmax pmax
comp=Z,5.0nm,0.9s
LHV **Little Huntoon** 74.90 53 P P 01 43 06.6 -1.0
LHV IAmb IAmb 01 43 15.5
comp=Z,9.4nm,0.9s
NVAR **Mina Array Bea** 74.92 53 P P 01 43 09.0 +0.9
comp=Z,2.7nm,0.7s,baz=294,slow=5.8,SNR=17
comp=Z,2.7nm,0.7s
YHB **Horse Butte** 75.42 45 P P 01 43 11.0 +0.2
YHB IAmb IAmb 01 43 14.2
comp=Z,5.8nm,0.7s
ELK **Elko** 75.48 50 P P 01 43 12.6 +1.3
ELK **Elko** 75.48 50 P P 01 43 12.6 +1.3
ELK pmax pmax
comp=Z,2.0nm,0.9s
YMR **Madison River** 75.60 45 P P 01 43 12.0 +0.1
YMR IAmb IAmb 01 43 38.7
comp=Z,7.8nm,1.1s
TPH **Tonopah** 75.82 53 P P 01 43 14.1 +0.9
TPH **Tonopah** 75.82 53 P P 01 43 14.1 +0.9
TPH pmax pmax
comp=Z,38nm,1.2s
H17A **Grant Village** 75.99 45 P P 01 43 14.4 +0.2
H17A IAmb IAmb 01 43 22.9
comp=Z,8.2nm,0.8s
IMW **Indian Meadow** 76.09 45 P P 01 43 14.4 -0.3
FXWY **Fox Creek** 76.20 45 P P 01 43 15.2 -0.2
RLMT **Red Lodge** 76.26 43 P P 01 43 16.5 +0.9
SORM **Soroca** 76.26 321 ⇑P P 01 43 14.8 -0.4
MOOW **Moose Ponds** 76.29 45 P P 01 43 17.3 +1.5
TPAW **Teton Pass** 76.34 46 P P 01 43 16.8 +0.6
R11A **Troy Canyon, C** 76.69 52 P P 01 43 19.1 +0.9
MILM **Milestii Mici** 76.82 319 ⇑P P 01 43 18.6 +0.2
TPNV **Topopah Spring** 77.11 53 P P 01 43 21.1 +0.6
TPNV IAmb IAmb 01 43 29.9
comp=Z,7.5nm,1.1s
TPNV **Topopah Spring** 77.11 53 P P 01 43 21.1 +0.6
TPNV pmax pmax
comp=Z,8.0nm,1.1s
LVV **L'vov** 77.25 324 *eP* P 01 43 21.9 +1.1
DUG **Dugway, Tooele** 77.28 49 P P 01 43 21.8 +0.4
DUG **Dugway, Tooele** 77.28 49 P P 01 43 21.8 +0.4
DUG pmax pmax
comp=Z,4.0nm,0.7s
IAS **Iasi** 77.29 320 ⇓P P 01 43 21.1 +0.1
GWY **Greenwater Val** 77.30 54 P P 01 43 22.0 +0.4
GWY IAmb IAmb 01 43 58.6
comp=Z,7.0nm,1.2s
QSM **Queen of Sheba** 77.30 55 P P 01 43 22.1 +0.7
QSM IAmb IAmb 01 43 27.4
comp=Z,6.6nm,0.9s
TCUT **Toone Canyon** 77.55 48 P P 01 43 23.2 +0.2
TCUT IAmb IAmb 01 43 26.6
comp=Z,6.3nm,0.8s
BW06 **Boulder Array** 77.58 45 P P 01 43 22.1 -1.0
PD31 **Pinedale Array** 77.58 45 P P 01 43 22.0 -1.2
PDAR **Pinedale Array** 77.58 45 P P 01 43 23.5 +0.4
comp=Z,2.2nm,0.6s,baz=274,slow=2.1,SNR=31
comp=Z,2.2nm,0.6s
PDAR **Pinedale Array** 77.58 45 P P 01 43 22.5 -0.7
PRN **Pahroc Range** 77.60 52 P P 01 43 24.0 +0.8
PSUT **Pine Spring** 77.66 51 P P 01 43 22.1 -1.5
NLU **North Lily Min** 77.88 49 P P 01 43 25.6 +0.8
NLU IAmb IAmb 01 43 31.8
comp=Z,9.8nm,1.4s
VLDR **Vladesti** 77.91 319 ⇑P P 01 43 25.4 +0.8
VARL **Varlezi** 77.99 319 ⇑P P 01 43 25.7 +0.7
GHRR 78.12 319 ⇑P P 01 43 26.2 +0.5
BUR08 **Bucovina Ar. S** 78.17 322 P P 01 43 26.6 +0.4
BUR08 IAmb IAmb 01 43 43.7
comp=Z,8.5nm,1.1s
BURAR **Bucovina Array** 78.18 322 ⇓P P 01 43 26.6 +0.3
BURAR **Bucovina Array** 78.18 322 P P 01 43 26.2 0.0
BURAR IAmb IAmb 01 43 28.6
comp=Z,7.9nm,0.8s
TESR **Tescani** 78.21 320 ⇓P P 01 43 26.3 +0.1
CFR **Carcaliu** 78.32 318 ⇓P P 01 43 26.0 -0.9
TPGR **Topolog** 78.38 318 ⇑P P 01 43 26.9 -0.4
CCUT **Cedar City** 78.57 51 P P 01 43 28.4 -0.4
VRI **Vrincioaia** 78.60 320 ⇓P P 01 43 29.6 +1.1
PLOR **Plostina** 78.65 320 ⇑P P 01 43 29.3 +0.6
MVU **Marysvale** 78.69 50 P P 01 43 29.0 -0.4
MVU IAmb IAmb 01 43 41.4
comp=Z,8.4nm,0.8s
MSU **Marysvale** 78.71 50 P P 01 43 30.7 +1.2
MSU **Marysvale** 78.71 50 P P 01 43 30.7 +1.2
BR131 **Keskin Array S** 78.73 311 P P 01 43 29.1 -0.3
BR131 IAmb IAmb 01 43 31.7
comp=Z,5.3nm,0.8s
BR131 **Keskin Array S** 78.73 311 P P 01 43 29.1 -0.3
BR131 pmax pmax
comp=Z,5.0nm,0.8s
BRTR **Keskin Array B** 78.73 311 P P 01 43 29.6 +0.1
comp=Z,2.7nm,0.7s,baz=75,slow=4.0,SNR=13
comp=Z,2.7nm,0.7s
BRTR **Keskin Array B** 78.73 311 P P 01 43 29.1 -0.4
HARR **Harsova** 78.75 318 ⇓P P 01 43 29.9 +0.6
TLBR **Topalu** 78.79 318 ⇓P P 01 43 30.2 +0.8
STHS **Stebnicka Huta** 78.83 325 *e* P 01 43 34.1 +4.5
STHS **Stebnicka Huta** 78.83 325 *eP* P 01 43 34.1 +4.5
UZH **Uzhgorod** 78.89 324 *eP* P 01 43 22.3 -7.6
UZH *e* 01 43 29.5
UZH *i* 01 43 37.2
OJC **Ojcow** 78.90 326 *eP* P 01 43 27.6 -2.4
OZUR 78.93 320 ⇑P P 01 43 31.7 +1.4
ARCR **ARCALIA** 78.97 322 ⇑P P 01 43 31.9 +1.5
RDMU **Red Mountain** 78.98 47 P P 01 43 30.5 -0.4
RDMU IAmb IAmb 01 44 02.4
comp=Z,8.3nm,1.2s
LCMT **Little Creek M** 78.98 52 P P 01 43 31.2 +0.4
BMR **Baia Mare** 78.98 323 ⇓P P 01 43 31.4 +0.9
MTPU **Mount Pierson** 79.00 50 P P 01 43 30.7 -0.5
TRPA **Tarpa** 79.13 323 ⇓P P 01 43 32.0 +0.7
P18A **Preston Nutter** 79.18 48 P P 01 43 32.0 -0.1
P18A IAmb IAmb 01 44 04.5
comp=Z,9.3nm,1.4s
ISR **Istrita** 79.20 319 ⇓P P 01 43 32.8 +1.0
ICOR **Ion Corvin** 79.20 318 ⇑P P 01 43 32.7 +1.0
DOPR **Dopca** 79.22 320 ⇑P P 01 43 32.9 +1.1
MLR **Muntele Rosu** 79.26 320 ⇑P P 01 43 33.2 +1.0
MLR **Muntele Rosu** 79.26 320 P P 01 43 33.2 +1.0
comp=Z,1.7nm,0.6s,baz=342,slow=12,SNR=7.2
comp=Z,1.7nm,0.6s
SRU **San Rafael Swe** 79.34 49 P P 01 43 32.6 -0.2
SRU IAmb IAmb 01 43 35.1
comp=Z,5.1nm,0.6s
SRU **San Rafael Swe** 79.34 49 P P 01 43 32.6 -0.2
SRU pmax pmax
comp=Z,5.0nm,0.6s
CBBR **Cluj-Babes-Bol** 79.59 322 ⇓P P 01 43 34.6 +0.8
CJR **Cluj-Napoca** 79.60 322 ⇑P P 01 43 35.0 +1.1
RSSD **Black Hills** 79.74 42 P P 01 43 34.5 -0.5
RSSD **Black Hills** 79.74 42 P P 01 43 34.5 -0.5
RSSD pmax pmax
comp=Z,5.0nm,0.7s
VOIR 79.75 320 ⇓P P 01 43 36.2 +1.3
ARR **Arges** 80.02 320 ⇑P P 01 43 37.7 +1.5
OSTC **Ostas** 80.21 328 *eP* P 01 43 41.3 +4.1
MORC **Moravsky Berou** 80.22 327 P P 01 43 36.7 -0.6
MORC IAmb IAmb 01 43 48.9
comp=Z,12nm,1.2s
MORC **Moravsky Berou** 80.22 327 *eP* P 01 43 38.0 +0.7
MORC **Moravsky Berou** 80.22 327 P P 01 43 36.7 -0.6
MORC pmax pmax
comp=Z,12nm,1.2s
DPC **Dobruska-Polom** 80.32 328 *eP* P 01 43 38.4 +0.6
DPC *ex* x 01 43 48.5
DPC **Dobruska-Polom** 80.32 328 *eP* P 01 43 38.4 +0.6
DPC *e* 01 43 48.5
PSZ **Piszkesteto** 80.52 324 P P 01 43 38.5 -0.5
PSZ IAmb IAmb 01 43 54.5
comp=Z,15nm,1.0s
PSZ **Piszkesteto** 80.52 324 P P 01 43 38.5 -0.5

PSZ					pmax	pmax		
	comp=Z,15nm,1.0s							
VYHS	**Vyhne**	**80.59**	**325**	*eP*	**P**	**P**	**01 43 39.9**	**+0.7**
VYHS	**Vyhne**	**80.59**	**325**	*eP*	**P**	**P**	**01 43 39.9**	**+0.7**
PV23	**Carpenter Ridg**	**80.67**	**49**	P	**P**	**P**	**01 43 39.8**	**-0.4**
PV23					IAmb	IAmb	01 44 07.2	
	comp=Z,7.9nm,0.7s							
PV10	**Paradox Valley**	**80.70**	**49**	P	**P**	**P**	**01 43 40.6**	**+0.3**
PV11	**David Mesa, Pa**	**80.85**	**49**	P	**P**	**P**	**01 43 42.3**	**+1.3**
PV11					IAmb	IAmb	01 43 45.1	
	comp=Z,9.0nm,0.6s							
BRG	**Berggiesshubel**	**80.91**	**329**	*eP*	**P**	**P**	**01 43 42.2**	**+1.3**
BRG					Amp		01 43 44.1	
	comp=Z,3.4nm,0.8s							
BRG				*ex*		x	01 43 52.8	
BRG					Amp		01 43 54.2	
	comp=Z,5.3nm,0.8s							
BRG	**Berggiesshubel**	**80.91**	**329**	*eP*	**P**	**P**	**01 43 42.1**	**+1.3**
BRG				*e*			01 43 52.8	
BRG					pmax	pmax		
	comp=Z,3.0nm,0.8s							
BRG					pmax	pmax		
	comp=Z,5.0nm,0.8s							
GZR	**Gura Zlata**	**80.94**	**321**	⇓P	**P**	**P**	**01 43 41.3**	**+0.1**
CLL	**Collm**	**80.96**	**330**	P	**P**	**P**	**01 43 40.5**	**-0.6**
CLL					IAmb	IAmb	01 43 42.7	
	comp=Z,7.8nm,0.8s							
CLL	**Collm**	**80.96**	**330**	*i* P	**P**	**P**	**01 43 40.6**	**-0.5**
	comp=Z,10.0nm,0.9s							
CLL				*ex*		x	01 43 51.0	
CLL	**Collm**	**80.96**	**330**	*i* P	**P**	**P**	**01 43 40.6**	**-0.5**
CLL					pmax	pmax		
	comp=Z,10.0nm,0.9s							
PV13	**Radium Mtn., P**	**80.97**	**49**	P	**P**	**P**	**01 43 42.0**	**+0.2**
PV13					IAmb	IAmb	01 43 47.4	
	comp=Z,7.1nm,0.9s							
VRAC	**Vranov**	**80.98**	**327**	⇑P	**P**	**P**	**01 43 42.3**	**+0.9**
VRAC	**Vranov**	**80.98**	**327**	P	**P**	**P**	**01 43 41.6**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=66,slow=10,SNR=6.0							
	comp=Z,3.7nm,0.8s							
VRAC	**Vranov**	**80.98**	**327**	*eP*	**P**	**P**	**01 43 40.7**	**-0.6**
VLAD	**Vladila**	**81.08**	**319**	⇓P	**P**	**P**	**01 43 41.5**	**-0.4**
KRUC	**Moravsky**	**81.26**	**327**	*eP*	**P**	**P**	**01 43 43.3**	**+0.6**
GOPC	**GO Pecny, Ondr**	**81.30**	**328**	*eP*	**P**	**P**	**01 43 44.3**	**+1.3**
GOPC	**GO Pecny, Ondr**	**81.30**	**328**	*eP*	**P**	**P**	**01 43 44.3**	**+1.3**
PRU	**Pruhonice**	**81.34**	**328**	*eP*	**P**	**P**	**01 43 43.9**	**+0.7**
PRU				*ex*		x	01 43 54.3	
PRU	**Pruhonice**	**81.34**	**328**	*eP*	**P**	**P**	**01 43 43.9**	**+0.7**
PRU				*e*			01 43 54.3	
BZS	**Buzias**	**81.35**	**322**	⇓P	**P**	**P**	**01 43 43.3**	**0.0**
MODS	**Modra-Piesok**	**81.38**	**326**	*e*	P	P	01 43 55.2	+12
MODS	**Modra-Piesok**	**81.38**	**326**	*eP*	P	P	01 43 55.2	+12
MVCO	**Mesa Verde**	**81.78**	**49**	P	**P**	**P**	**01 43 46.1**	**+0.1**
MVCO					IAmb	IAmb	01 43 51.6	
	comp=Z,11nm,1.4s							
RONA	**Rosalia, Austr**	**82.32**	**326**	*eP*	**P**	**P**	**01 43 49.6**	**+1.2**
	comp=Z,8.0nm,0.7s							
CKRC	**Cesky Krumlov**	**82.34**	**328**	*eP*	**P**	**P**	**01 43 48.4**	**-0.1**
CKRC				*ex*		x	01 43 59.0	
CONA	**Conrad Observa**	**82.34**	**326**	*i* P	**P**	**P**	**01 43 49.3**	**+0.7**
	comp=Z,8.5nm,0.9s							
KHC	**Kasperske Hory**	**82.41**	**328**	P	**P**	**P**	**01 43 47.9**	**-1.0**
KHC					IAmb	IAmb	01 43 51.0	
	comp=Z,5.1nm,0.7s							
KHC	**Kasperske Hory**	**82.41**	**328**	*eP*	**P**	**P**	**01 43 49.0**	**+0.1**
KHC				*ex*		x	01 43 59.4	
KHC	**Kasperske Hory**	**82.41**	**328**	*eP*	**P**	**P**	**01 43 49.0**	**+0.1**
KHC				*e*			01 43 59.4	
S22A	**4UR Ranch, Cre**	**82.43**	**48**	P	**P**	**P**	**01 43 47.9**	**-1.6**
GEC2	**GERESS Array S**	**82.58**	**328**	P	**P**	**P**	**01 43 49.3**	**-0.5**
GEC2					IAmb	IAmb	01 44 25.5	
	comp=Z,9.1nm,1.4s							
GERES	**GERESS Array B**	**82.58**	**328**	P	**P**	**P**	**01 43 49.5**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=37,slow=5.3,SNR=20							
	comp=Z,2.5nm,0.6s							
Q24A	**Divide**	**82.60**	**46**	P	**P**	**P**	**01 43 50.3**	**-0.1**
VTS	**Vitosha**	**82.66**	**319**	⇓P	**P**	**P**	**01 43 51.2**	**+0.8**
VTS	**Vitosha**	**82.66**	**319**	P	**P**	**P**	**01 43 50.4**	**0.0**
VTS					IAmb	IAmb	01 43 53.1	
	comp=Z,6.4nm,0.9s							
VTS	**Vitosha**	**82.66**	**319**	P	**P**	**P**	**01 43 50.4**	**0.0**
VTS					pmax	pmax		
	comp=Z,6.0nm,0.9s							
SDCO	**Great Sand Dun**	**83.21**	**47**	P	**P**	**P**	**01 43 54.4**	**+0.8**
BIOA	**Bad Ischl, Aus**	**83.49**	**327**	*eP*	**P**	**P**	**01 43 55.1**	**+0.6**
	comp=Z,6.0nm,0.7s							
SOKA	**Soboth**	**83.66**	**326**	*eP*	**P**	**P**	**01 43 55.7**	**+0.3**
	comp=Z,10nm,1.0s,SNR=6.7							
E38A	**The Farm, Brul**	**84.03**	**34**	P	**P**	**P**	**01 43 57.8**	**+0.5**
KBA	**Koelnbreinsper**	**84.09**	**327**	*eP*	**P**	**P**	**01 43 58.3**	**+0.5**
	comp=Z,6.6nm,0.9s							
T25A	**Trinidad**	**84.26**	**47**	P	**P**	**P**	**01 43 59.0**	**+0.1**
T25A					IAmb	IAmb	01 44 01.9	
	comp=Z,5.5nm,0.7s							
MYKA	**Terra Mystica**	**84.31**	**327**	*i* P	**P**	**P**	**01 43 58.7**	**-0.1**
	comp=Z,4.5nm,0.8s							
CLUD	**Cludinico**	**84.78**	**327**	P	**P**	**P**	**01 44 00.1**	**-1.0**
CLUD					IAmb	IAmb	01 44 13.1	
	comp=Z,7.8nm,0.9s							
PDG	**Podgorica**	**84.83**	**321**	⇑P	**P**	**P**	**01 44 01.0**	**-0.4**
PDG	**Podgorica**	**84.83**	**321**	P	**P**	**P**	**01 44 01.1**	**-0.3**
RETA	**Reutte**	**84.86**	**329**	*eP*	**P**	**P**	**01 44 02.0**	**+0.5**
	comp=Z,7.5nm,0.8s							
SQTA	**Sankt Quirin**	**84.89**	**328**	*eP*	**P**	**P**	**01 44 01.9**	**+0.2**
	comp=Z,3.2nm,0.6s							
STAL	**STALIGIAL**	**85.00**	**327**	P	**P**	**P**	**01 44 00.8**	**-1.4**
STAL					IAmb	IAmb	01 44 02.4	
	comp=Z,6.4nm,0.7s							
BFO	**Black Forest**	**85.17**	**331**	P	**P**	**P**	**01 44 03.3**	**+0.3**
BFO	**Black Forest**	**85.17**	**331**	P	**P**	**P**	**01 44 03.3**	**+0.3**
BFO					pmax	pmax		
	comp=Z,21nm,1.3s							
FETA	**Feichten**	**85.25**	**329**	*eP*	**P**	**P**	**01 44 03.3**	**-0.3**
	comp=Z,3.6nm,0.7s,SNR=4.4							
121A	**Cookes Peak, D**	**85.29**	**52**	P	**P**	**P**	**01 44 03.7**	**-0.4**
121A					IAmb	IAmb	01 44 10.4	
	comp=Z,5.7nm,1.1s							
KBN	**Korca**	**85.36**	**319**	P	**P**	**P**	**01 44 03.4**	**-0.8**
KBN	**Korca**	**85.36**	**319**	P	**P**	**P**	**01 44 03.4**	**-0.8**
KBN					pmax	pmax		
	comp=Z,15nm,0.7s							
DAVA	**Damuels**	**85.39**	**329**	*i* P	**P**	**P**	**01 44 03.7**	**-0.6**
	comp=Z,6.6nm,0.8s							
FUORN	**Ofenpass-Fuorn**	**85.76**	**329**	P	**P**	**P**	**01 44 06.6**	**+0.3**
FUORN					IAmb	IAmb	01 44 08.9	
	comp=Z,5.9nm,0.8s							
DAVOX	**Davos/Dischmat**	**85.79**	**329**	P	**P**	**P**	**01 44 07.5**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=23,slow=9.1,SNR=5.3							
	comp=Z,2.5nm,0.6s							
FDMO	**Fiordimonte**	**87.35**	**325**	P	**P**	**P**	**01 44 14.0**	**+0.1**
AMTX	**Amarillo**	**87.42**	**47**	P	**P**	**P**	**01 44 15.5**	**+1.1**
AMTX					IAmb	IAmb	01 44 21.6	
	comp=Z,6.3nm,0.7s							
NRCA	**Norcia**	**87.49**	**325**	P	**P**	**P**	**01 44 13.9**	**-0.7**
TX31	**Lajitas Ar. Si**	**90.06**	**52**	P	**P**	**P**	**01 44 27.5**	**+0.5**
TX32	**Lajitas Array**	**90.06**	**52**	P	**P**	**P**	**01 44 27.5**	**+0.5**
TXAR	**Lajitas Array**	**90.06**	**52**	P	**P**	**P**	**01 44 27.7**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=306,slow=2.9,SNR=16							
	comp=Z,1.5nm,0.6s							
DBIC	**Dimbokro**	**126.17**	**317**	PKP		**PKPdf**	**01 50 30.0**	**+0.1**
	comp=Z,4.8nm,0.7s,baz=24,slow=3.5,SNR=4.7							
DBIC	**Dimbokro**	**126.17**	**317**	PKIKP		**PKPdf**	**01 50 30.0**	**+0.1**
LPAZ	**La Paz**	**146.64**	**59**	PKPbc		**PKPbc**	**01 51 09.8**	**+0.1**
	comp=Z,5.4nm,0.7s,baz=309,slow=2.5,SNR=15							
H03N2	**Juan Fernandez**	**147.07**	**96**	T		T	04 35 25.4	
	baz=291,slow=76,SNR=29							
H03N3	**Juan Fernandez**	**147.08**	**96**	T		T	04 35 25.6	
	baz=291,slow=76,SNR=24							
H03N1	**Juan Fernandez**	**147.08**	**96**	T		T	04 35 26.5	
	baz=291,slow=76,SNR=36							

IDC ***22*** *01:31:50.9±0.7,37.19N×141.52E,h0km,mb4.5/18, mbtmp4.5/19,ML4.7/1,MS4.2/1, Error ellipse: s-maj=18.7km s-min=17.5km az=79.0*

JMA ***22*** *01:31:53.7±0.3,37.2N±0.8×14.2E±, h24km±2km, MV4.7/26,E OFF FUKUSHIMA PREF*

ISC 22 01:31:52.6±0.6,37.22N±0.05×141.56E±0.06,h10km,n27, σ0^{s}76/30,mb4.6/18,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.57**	**286**	P		**Pg**	**01 32 04.2**	**+0.5**
JFK				S		**Sg**	**01 32 11.8**	**+0.6**
JMST	**Minamisoumatoc**	**0.74**	**314**	S		**Sg**	**01 32 16.8**	**+0.3**
JFFD	**Fukushimafurud**	**0.81**	**261**	*eP*		**Pb**	**01 32 09.2**	**+0.4**
JFFD				*eS*		**Sg**	**01 32 19.1**	**+0.4**
JMM	**Marumori**	**0.89**	**317**	*eS*		**Sg**	**01 32 20.9**	**-0.5**
JHO	**Hitachi**	**1.00**	**233**	*eS*		**Sg**	**01 32 22.7**	**-2.1**
JIO	**Ouri**	**1.25**	**352**	*eP*		**Pn**	**01 32 15.9**	**-0.2**
JIO				S		**Sb**	**01 32 31.4**	**-1.0**
JSB	**Shiboa**	**1.34**	**260**	*eS*		**Sb**	**01 32 34.4**	**-0.6**
JHJ	**Hachijo jima 2**	**4.34**	**200**	Pn		**Pn**	**01 32 59.4**	**+0.8**
	104nm,0.3s,baz=84,slow=21,SNR=6.6							
	219nm,0.3s							
SONM	**Songino Array**	**27.78**	**304**	P		**P**	**01 37 41.6**	**-0.1**
	8.6nm,0.8s,baz=116,slow=8.2,SNR=3.7							
	8.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**41.66**	**255**	P		**P**	**01 39 41.5**	**+0.2**
	2.0nm,0.5s,baz=45,slow=4.9,SNR=4.6							
CMAR					LR	LR	01 56 37.5	
	comp=Z,257nm,18.2s,baz=305,slow=36							
	2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**41.88**	**312**	P		**P**	**01 39 42.0**	**-0.7**
	14nm,0.8s,baz=87,slow=6.6,SNR=9.1							
	14nm,0.8s							
MKAR	**Makanchi Array**	**44.12**	**302**	P		**P**	**01 40 00.5**	**-0.5**
	11nm,0.8s,baz=89,slow=10,SNR=11							
	11nm,0.8s							
KURBB	**Kurchatov Arra**	**45.98**	**308**	P		**P**	**01 40 15.5**	**-0.2**
	9.4nm,0.6s,baz=81,slow=7.7,SNR=9.8							
	9.4nm,0.6s							
ILAR	**Eielson Array**	**49.28**	**32**	P		**P**	**01 40 40.3**	**-0.8**
	5.7nm,0.8s,baz=272,slow=6.8,SNR=6.6							
	5.7nm,0.8s							
BVAR	**Borovoye Array**	**50.54**	**312**	P		**P**	**01 40 50.7**	**-0.2**
	6.1nm,0.5s,baz=75,slow=8.5,SNR=8.9							
	6.1nm,0.5s							
WRA	**Warramunga Arr**	**57.26**	**188**	P		**P**	**01 41 39.5**	**-0.8**
	5.0nm,0.6s,baz=4.6,slow=7.2,SNR=9.5							
	5.0nm,0.6s							
ASAR	**Alice Springs**	**60.98**	**188**	P		**P**	**01 42 05.0**	**-1.1**
	1.6nm,0.6s,baz=10,slow=7.1,SNR=5.6							
	1.6nm,0.6s							
GEYT	**Alibeck**	**63.85**	**299**	P		**P**	**01 42 25.4**	**0.0**
	10nm,0.8s,baz=29,slow=3.4,SNR=7.7							
	10nm,0.8s							
ARCES	**ARCESS Array B**	**63.87**	**339**	P		**P**	**01 42 25.1**	**+0.3**
	2.6nm,0.7s,baz=52,slow=7.9,SNR=5.0							
	2.6nm,0.7s							
FINES	**FINESS Array B**	**68.71**	**332**	P		**P**	**01 42 56.2**	**+0.2**
	7.0nm,0.9s,baz=46,slow=9.3,SNR=3.9							
	7.0nm,0.9s							
AKASG	**Malin Array Be**	**74.23**	**322**	P		**P**	**01 43 28.7**	**-0.7**
	2.2nm,0.4s,baz=47,slow=6.2,SNR=2.3							
	2.2nm,0.4s							
NVAR	**Mina Array Bea**	**74.78**	**53**	P		**P**	**01 43 33.7**	**+0.5**
	2.2nm,0.8s,baz=297,slow=6.5,SNR=4.8							
	2.2nm,0.8s							
PDAR	**Pinedale Array**	**77.45**	**46**	P		**P**	**01 43 49.0**	**+0.5**
	1.0nm,0.6s,baz=272,slow=2.7,SNR=4.1							
	1.0nm,0.6s							
GERES	**GERESS Array B**	**82.62**	**328**	P		**P**	**01 44 15.8**	**-0.2**
	1.0nm,0.5s,baz=38,slow=5.0,SNR=4.2							
	1.0nm,0.5s							
SCHQ	**Schefferville**	**85.13**	**16**	P		**P**	**01 44 29.2**	**+0.6**
	2.7nm,0.7s,baz=346,slow=9.3,SNR=4.3							
	2.7nm,0.7s							
TXAR	**Lajitas Array**	**89.92**	**52**	P		**P**	**01 44 53.0**	**+0.7**
	0.9nm,0.5s,baz=294,slow=2.9,SNR=5.5							
	0.9nm,0.5s							
LPAZ	**La Paz**	**146.50**	**60**	PKPbc		**PKPdf**	**01 51 35.5**	**+1.6**
	3.1nm,0.5s,baz=330,slow=4.0,SNR=8.0							

IDC ***22*** *01:34:05.2±1.1,37.57N×141.43E,h0km,mb3.9/9, mbtmp3.9/9,Error ellipse: s-maj=34.0km s-min=24.2km az=85.0*

JMA ***22*** *01:34:05.8±0.2,37.3N±0.4×14.2E±, h26km±1km, MD4.4/37,MV4.0/37,E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 22 01:34:05.1±2.8,37.35N±0.05×141.54E±0.08,h10km±16km, n30,σ0^{s}76/26,mb3.9/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.53**	**272**	*i* P		**Pb**	**01 34 16.5**	**0.0**
JFK				S		**Sb**	**01 34 24.1**	**-0.2**
JFK	**Kawauchi**	**0.53**	**272**	A		A	01 34 16.5	
	comp=E,12nm,0.7s							
JMST	**Minamisoumatoc**	**0.64**	**306**	P		**Pb**	**01 34 18.4**	**0.0**
JMST				S		**Sg**	**01 34 27.5**	**+1.6**
JMST	**Minamisoumatoc**	**0.64**	**306**	A		A	01 34 18.4	
	comp=E,16nm,0.4s,comp=E,23nm,0.4s							
JMM	**Marumori**	**0.79**	**311**	P		**Pb**	**01 34 20.7**	**-0.2**
JMM				S		**Sb**	**01 34 31.2**	**-0.5**
JMM	**Marumori**	**0.79**	**311**	A		A	01 34 20.7	
	comp=E,20nm,1.4s,comp=E,16nm,0.5s							
JFFD	**Fukushimafurud**	**0.82**	**252**	P		**Pb**	**01 34 21.0**	**-0.5**
JFFD				S		**Sb**	**01 34 32.0**	**-0.7**
JHO	**Hitachi**	**1.07**	**227**	*eS*		**Sb**	**01 34 38.5**	**-1.3**
JIO	**Ouri**	**1.11**	**352**	P		**Pn**	**01 34 25.2**	**-1.6**
JIO				*eS*		**Sb**	**01 34 40.0**	**-1.1**
JOU	**Okura**	**1.23**	**326**	P		**Pn**	**01 34 28.2**	**-0.2**
JOU				S		**Sn**	**01 34 44.9**	**-0.2**
JOU	**Okura**	**1.23**	**326**	A		A	01 34 28.2	
	comp=E,17nm,1.2s,comp=E,16nm,0.5s							
JYAR	**Yonezawaarcadi**	**1.25**	**297**	A		A	01 34 28.0	
	comp=E,29nm,0.4s,comp=E,23nm,1.2s							
JYS	**Shirataka**	**1.46**	**307**	*eP*		**Pb**	**01 34 32.2**	**-0.1**
JYS				*eS*		**Sg**	**01 34 51.6**	**-0.4**
JFY	**Yanaizu**	**1.47**	**273**	*eP*		**Pb**	**01 34 32.2**	**-0.3**
JFY				*eS*		**Sb**	**01 34 51.4**	**+0.3**
MJAR	**Matsushiro Arr**	**2.79**	**254**	Pn		**Pn**	**01 34 54.3**	**-0.8**
	1.5nm,0.3s,baz=75,slow=14,SNR=1.2							
SONM	**Songino Array**	**27.70**	**303**	P		**P**	**01 39 53.7**	**+0.2**
	0.9nm,0.7s,baz=108,slow=8.2,SNR=2.5							
	0.9nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T		T	02 09 24.6	
	baz=320							
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	02 09 23.9	
	baz=320							
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	02 09 25.9	
	baz=320							
H11S1	**WAKE ISLAND Hy**	**28.95**	**124**	T		T	02 10 19.6	
	baz=312							
H11S3	**WAKE ISLAND Hy**	**28.95**	**124**	T		T	02 10 19.0	
	baz=312							
H11S2	**WAKE ISLAND Hy**	**28.96**	**124**	T		T	02 10 20.1	
	baz=312							
ZALV	**Zalesovo Beam**	**41.78**	**312**	P		**P**	**01 41 54.3**	**-0.1**
	1.5nm,0.8s,baz=77,slow=6.4,SNR=1.9							
	1.5nm,0.8s							
MKAR	**Makanchi Array**	**44.04**	**302**	P		**P**	**01 42 12.9**	**-0.1**
	2.1nm,0.8s,baz=87,slow=9.1,SNR=3.5							
	2.1nm,0.8s							
ILAR	**Eielson Array**	**49.17**	**33**	P		**P**	**01 42 53.1**	**+0.2**
	0.9nm,0.7s,baz=266,slow=6.6,SNR=3.1							
	0.9nm,0.7s							
INK	**Inuvik**	**54.06**	**27**	P		**P**	**01 43 30.4**	**+1.1**
	1.0nm,0.7s,baz=312,slow=6.6,SNR=1.4							
	1.0nm,0.7s							
WRA	**Warramunga Arr**	**57.38**	**188**	P		**P**	**01 43 55.0**	**+1.3**
	1.3nm,0.8s,baz=5.4,slow=7.5,SNR=2.8							
	1.3nm,0.8s							
ASAR	**Alice Springs**	**61.11**	**188**	P		P	01 44 24.3	+4.8
	0.6nm,0.7s,baz=13,slow=8.9,SNR=2.6							
	0.6nm,0.7s							
ARCES	**ARCESS Array B**	**63.74**	**339**	P		**P**	**01 44 36.5**	**0.0**
	0.7nm,0.5s,baz=54,slow=9.2,SNR=1.4							
	0.7nm,0.5s							
HFS	**Hagfors**	**73.84**	**336**	P		**P**	**01 45 39.6**	**-0.1**
	0.9nm,0.4s,baz=64,slow=6.8,SNR=4.3							
	0.9nm,0.4s							

BJI ***22*** *01:37:57.0±0.0,37.04N×141.58E,h19km,mb4.9/63, mB5.3/21,Ms4.8/19,Ms7 4.6/17*

MOS ***22*** *01:37:57.6±1.0,37.20N×141.52E,h16km,mb5.3/60, MS4.5/4,Error ellipse: s-maj=7.0km s-min=4.4km az=110.1*

NEIC ***22*** *01:37:58.9±1.8,37.17N±0.04×141.53E±0.07,h6km±3km, mb5.0/264,Mwr4.6/13,Error ellipse: s-maj=8.4km s-min=5.0km az=57.0*

NEIC ***22*** *01:37:59.9,37.18N×141.47E,h10km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; Mrr=1.07; Mθθ=0.49; Mϕϕ=0.58; Mrθ=0.03; Mrϕ=0.38; Mθϕ=-0.20; Fault plane solution: M0 1.02000×10^{16} NP1:ϕs=228.66000°, δ=41.70000°, λ=-79.05000°. NP2:ϕs=34.13000°, δ=49.23000°, λ=-99.60000°. Principal axes: T 0.9240, Plg4.0000°, Azm131.0000°; N 0.1762, Plg7.0000°, Azm40.0000°; P -1.1001, Plg82.0000°, Azm248.0000°;*

JMA ***22*** *01:38:00.7±0.2,37.2N±0.4×141.5E±1.0,h35km±1km, MD4.9/40,MV5.1/40,E OFF FUKUSHIMA PREF*

JMA Felt III J1 at E OFF FUKUSHIMA PREF .

NIED ***22*** *01:38:00.7,37.16N×141.47E,h35km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; Mrr=1.14; Mθθ=0.49; Mϕϕ=0.64; Mrθ=0.11; Mθϕ=0.63; Mrϕ=-0.03; Fault plane solution: M0 1.17000×10^{16} NP1:ϕs=36.00000°, δ=44.00000°, λ=-98.00000°. NP2:ϕs=227.00000°, δ=47.00000°, λ=-83.00000°.*

IDC ***22*** *01:38:01.6±0.4,37.15N×141.40E,h23km±1km,mb4.7/44, mbtmp4.8/49,ML3.8/4,MS4.1/1 Error ellipse: s-maj=10.8km s-min=8.6km az=92.0*

ISC 22 01:38:00.0±0.3,37.15N±0.03×141.54E±0.03,h16km±1km, h16km:pP-P,n834,σ1^{s}39/757,mb5.0/257,MS4.7/8, 49C-31D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.57**	**292**	⇓*i*P		**Pb**	**01 38 11.2**	**-0.4**
JFK				⇓S		**Sg**	**01 38 18.4**	**-0.6**
JFK	**Kawauchi**	**0.57**	**292**	A		A	01 38 11.2	
	comp=E,135nm,1.6s,comp=E,58nm,0.5s							
JMST	**Minamisoumatoc**	**0.77**	**318**	*i* P		**Pg**	**01 38 14.3**	**-0.8**
JMST				S		**Sg**	**01 38 23.9**	**-1.4**
JMST	**Minamisoumatoc**	**0.77**	**318**	A		A	01 38 14.3	
	comp=E,17nm,1.1s,comp=E,83nm,0.4s							
JFFD	**Fukushimafurud**	**0.78**	**266**	P		**Pg**	**01 38 14.5**	**-0.8**
JFFD	**Fukushimafurud**	**0.78**	**266**	A		A	01 38 14.5	
	comp=E,33nm,1.9s,comp=E,40nm,4.0s							
JMM	**Marumori**	**0.93**	**321**	Pg		**Pg**	**01 38 16.7**	**-1.3**
JMM				Sg		**Sg**	**01 38 28.1**	**-2.1**
JMM	**Marumori**	**0.93**	**321**	*i* P		**Pg**	**01 38 16.8**	**-1.3**
JMM				S		**Sg**	**01 38 28.1**	**-2.1**
JMM	**Marumori**	**0.93**	**321**	A		A	01 38 16.8	
	comp=E,44nm,2.8s,comp=E,43nm,3.6s							
JHO	**Hitachi**	**0.94**	**236**	P		**Pg**	**01 38 16.9**	**-1.4**
JHO				S		**Sg**	**01 38 29.0**	**-1.7**
JHO	**Hitachi**	**0.94**	**236**	A		A	01 38 16.9	
	comp=E,18nm,0.3s,comp=E,20nm,1.9s							
JHYU	**Hitachinakayam**	**1.11**	**224**	A		A	01 38 19.8	
	comp=E,25nm,1.0s,comp=E,27nm,1.0s							
JIKH	**Ishinomakikobu**	**1.16**	**357**	A		A	01 38 20.8	
	comp=E,57nm,0.7s,comp=E,19nm,1.3s							
JSB	**Shiboa**	**1.31**	**262**	P		**Pn**	**01 38 23.8**	**+0.2**
JSB				S		**Sb**	**01 38 40.2**	**-0.5**
JSB	**Shiboa**	**1.31**	**262**	A		A	01 38 23.8	
	comp=E,102nm,1.5s,comp=E,91nm,2.9s							
JIO	**Ouri**	**1.31**	**354**	P		**Pn**	**01 38 22.7**	**-0.9**
JIO				*i* S		**Sb**	**01 38 38.5**	**-2.2**
JIO	**Ouri**	**1.31**	**354**	A		A	01 38 22.7	
	comp=E,44nm,0.9s,comp=E,17nm,3.0s							
JYAR	**Yonezawaarcadi**	**1.34**	**305**	A		A	01 38 23.0	
	comp=E,172nm,0.9s,comp=E,215nm,0.9s							
JOU	**Okura**	**1.40**	**331**	P		**Pn**	**01 38 24.7**	**-0.2**
JOU				S		**Sb**	**01 38 42.3**	**-1.0**
JOU	**Okura**	**1.40**	**331**	A		A	01 38 24.7	
	comp=E,67nm,0.7s,comp=E,95nm,2.1s							
JYT	**Yasato**	**1.42**	**230**	A		A	01 38 24.3	
	comp=E,36nm,0.4s,comp=E,21nm,0.3s							
JIHU	**Itakohorinouch**	**1.44**	**215**	A		A	01 38 24.8	
	comp=E,99nm,2.5s,comp=E,118nm,1.9s							
JFY	**Yanaizu**	**1.48**	**280**	*i* P		**Pn**	**01 38 26.2**	**+0.1**
JFY				S		**Sn**	**01 38 44.8**	**-0.3**
JFY	**Yanaizu**	**1.48**	**280**	A		A	01 38 26.2	
	comp=E,32nm,2.1s,comp=E,27nm,0.9s							
JOFO	**Osakifurukawao**	**1.53**	**341**	A		A	01 38 26.1	
	comp=E,248nm,1.4s,comp=E,304nm,1.3s							
JYS	**Shirataka**	**1.58**	**313**	A		A	01 38 26.6	
	comp=E,73nm,1.2s,comp=

JAHD Aomorihigashid 4.11 358 A A 01 39 03.1
comp=E,22nm,1.4s,comp=E,28nm,4.1s
JHJ Hachijo jima 2 4.27 200 Pn **Pn** **01 39 05.1 +0.7**
66nm,0.3s,baz=334,slow=21,SNR=21
JHJ Sn **Sn** **01 39 52.6 -1.3**
122nm,0.3s,baz=242,slow=23,SNR=2.2
336nm,0.5s
JKB Kayabe 4.75 355 A A 01 39 12.0
comp=E,7.0nm,4.7s,comp=E,4.0nm,1.3s
ERM Erimo 5.02 14 Pn **Pn** **01 39 13.9 -0.6**
ERM Erimo 5.02 14 *i* P **Pn** **01 39 14.3 -0.2**
NMR Nemuro--Hokkai 6.99 26 ⇓*i*P **Pn** **01 39 39.5 -2.1**
NMR *e*S **Sn** **01 40 54.4 -6.3**
ASAJ Asahikawa 7.00 6 P **Pn** **01 39 40.8 -1.1**
JKA Kamikawa-asahi 7.00 6 Pn **Pn** **01 39 40.8 -1.0**
JMN Monobe 7.12 244 Pn **Pn** **01 39 42.5 -1.0**
JHS Saijyo 7.15 255 Pn **Pn** **01 39 45.9 +2.0**
RUSJ Misakicho 7.50 21 *e*P **Pn** **01 39 48.4 -0.2**
RUSJ *e*S **Sn** **01 41 11.2 -2.0**
YUK Yuzh-Kuril'sk 7.62 24 *e*P **Pn** **01 39 48.4 -1.9**
YUK *e*S **Sn** **01 41 10.4 -5.9**
YUK pmax pmax
comp=Z,196nm,0.3s
YUK pmax pmax
comp=N,39nm,0.2s
YUK pmax pmax
comp=E,76nm,0.3s
TEY Ternei 8.71 336 *e*P **Pn** **01 40 08.3 +3.1**
KUR Kuril'sk 9.38 29 P **Pn** **01 40 12.0 -2.3**
KUR *e*S **Sn** **01 41 52.3 -7.1**
KUR smax smax
comp=N,108nm,0.6s
KUR smax smax
comp=E,166nm,0.6s
JNU Nakatsue 9.61 248 **Pn** **01 40 18.0 +0.4**
YSS Yuzh-Sakhalins 9.84 5 Pn **Pn** **01 40 21.2 +0.6**
YSS Yuzh-Sakhalins 9.84 5 *e*P **Pn** **01 40 19.2 -1.5**
YSS pmax pmax
comp=Z,60nm,0.7s
JCJ Chichijima 10.04 177 Pn **Pn** **01 40 22.4 -1.2**
comp=Z,70nm,0.4s,baz=356,slow=20,SNR=7.2
USA0B Ussuriysk Arra 10.10 317 *i* P **Pn** **01 40 24.6 +0.3**
USRK Ussuriysk Ar. 10.10 317 Pn **Pn** **01 40 28.3 +3.9**
comp=Z,0.9nm,0.3s,baz=136,slow=13,SNR=16
USRK Ussuriysk Ar. 10.10 317 Pn **Pn** **01 40 28.1 +3.8**
KSRS Korea Array 10.85 276 Pn **Pn** **01 40 38.1 +3.5**
comp=Z,0.4nm,0.3s,baz=91,slow=15,SNR=7.3
MDJ Mudanjiang 11.71 313 Pn **Pn** **01 40 45.8 -0.6**
MDJ Mudanjiang 11.71 313 P **Pn** **01 40 50.8 +4.5**
MDJ pmax pmax
comp=Z,42nm,0.9s
MDJ pmax pmax
comp=Z,790nm,7.4s
BNX BinXian 13.62 313 ⇓P **P** **01 41 22.0 +0.7**
BNX pmax pmax
comp=Z,17nm,1.2s
BNX pmax pmax
comp=Z,1μm,7.6s
KLR Kul'dur 14.01 333 Pn **Pn** **01 41 19.0 +1.3**
comp=Z,0.3nm,0.3s,baz=135,slow=10,SNR=8.0
comp=Z,2.8nm,0.7s
KLR Kul'dur 14.01 333 *i* P **Pn** **01 41 19.5 +1.8**
SNY Shenyang 14.63 294 ⇓P **Pn** **01 41 28.8 +2.6**
SNY pmax pmax
comp=Z,17nm,1.2s
HEH HeiHe 16.57 327 *e*P **Pn** **01 41 51.0 -0.5**
HEH pmax pmax
comp=Z,16nm,1.1s
ZEA Zeya 19.32 334 *e*P **P** **01 42 22.6 -1.6**
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=E,600nm,11.0s
ZEA MLR MLR
comp=N,700nm,13.0s
ZEA MLR MLR
comp=Z,700nm,11.0s
NJ2 Nanjing 19.34 261 *e*P **P** **01 42 22.8 -1.8**
NJ2 pmax pmax
comp=Z,20nm,0.9s
PETK Petropavlovsk- 19.54 30 P **P** **01 42 26.6 0.0**
comp=Z,0.4nm,0.3s,baz=214,slow=10,SNR=5.0
PETK LR LR 01 50 13.2
comp=Z,460nm,18.1s,baz=259,slow=37
comp=Z,12nm,0.9s
TIA Tai'an 19.59 275 *e*P **P** **01 42 26.4 -1.0**
TIA pmax pmax
comp=Z,15nm,0.7s
HIA Hailar 19.89 314 *i* P **P** **01 42 28.5 -2.1**
BJI Beijing 20.01 286 P **P** **01 42 30.4 -1.5**
BJT Baijiatuau 20.02 286 P **P** **01 42 30.2 -1.8**
BJT Baijiatuau 20.02 286 P **P** **01 42 30.2 -1.8**
BJT pmax pmax
comp=Z,13nm,0.7s
XLT XiLinHaoTe 20.45 297 ⇑*i*P **P** **01 42 34.6 -2.1**
XLT pP pP 01 42 40.1 -1.2
XLT sP sP 01 42 43.4 0.0
XLT S S 01 46 11.3 -14
XLT pmax pmax
comp=Z,40nm,0.8s
XLT LR LR
comp=Z,110nm,13.7s
XLT LR LR
comp=Z,1μm,12.9s
XLT LR LR
comp=Z,1μm,13.2s
HNS HongShan 21.33 279 ⇑P **P** **01 42 43.3 -2.9**
HNS pmax pmax
comp=Z,72nm,0.9s
MA2 Magadan 23.22 12 P **P** **01 43 07.3 +1.3**
comp=Z,25nm,0.6s,baz=188,slow=8.4,SNR=9.4
comp=Z,25nm,0.6s
MA2 Magadan 23.22 12 P **P** **01 43 04.8 -1.3**
MA2 IAmb IAmb 01 43 15.7
comp=Z,36nm,0.8s
MA2 Magadan 23.22 12 *i* P **P** **01 43 05.4 -0.7**
MA2 pmax pmax
comp=Z,135nm,1.7s
HHC Hu-ho-hao-te 23.53 288 *e*P **P** **01 43 09.1 -0.4**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC LR LR
comp=Z,2μm,12.6s
HHC LR LR
comp=Z,2μm,12.7s
LYN LuoYang 23.67 272 *e*P **P** **01 43 09.6 -1.1**
LYN sP sP 01 43 17.3 -0.3
BTO Baotou 24.71 288 *e*P **P** **01 43 19.4 -1.1**
BTO S **S** **01 47 43.4 +1.7**
BTO LR LR
comp=Z,2μm,8.8s
BTO LR LR
comp=Z,3μm,12.2s
CNSH ChangSha 25.61 258 ⇑P **P** **01 43 28.1 -0.5**
CNSH pmax pmax
comp=Z,32nm,0.9s
YAK Yakutsk 25.98 347 P **P** **01 43 30.8 -0.7**
comp=Z,31nm,0.6s,baz=328,slow=1.4,SNR=18
comp=Z,31nm,0.6s
YAK Yakutsk 25.98 347 P **P** **01 43 30.0 -1.5**
YAK Yakutsk 25.98 347 *e*P **P** **01 43 31.1 -0.5**
YAK *e**PP **sP** **01 43 36.6 -1.9**
YAK *e* 01 44 09.2
YAK *e*S **S** **01 48 00.9 -0.3**
YAK *e**SS **sS** **01 48 12.2 +2.9**
YAK *e*SS **SnSn** **01 48 58.5 +0.1**
YAK *e*SSS SSS 01 49 15.2
YAK pmax pmax
comp=Z,98nm,1.0s
YAK pmax pmax
comp=N,32nm,1.0s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,311nm,3.0s
YAK pmax pmax
comp=N,239nm,3.0s
YAK pmax pmax
comp=E,239nm,3.6s
YAK smax smax
comp=N,154nm,2.2s
YAK smax smax
comp=E,251nm,3.1s
YAK MLR MLR
comp=Z,1μm,15.0s
YAK MLR MLR
comp=N,929nm,14.0s
XAN Xi'an 26.63 273 P **P** **01 43 37.3 -0.6**
XAN pP sP 01 43 46.1 +1.3
XAN pmax pmax
comp=N,10.0nm,0.6s
SEY Seymchan 26.66 11 P **P** **01 43 39.0 +1.3**
comp=N,15nm,0.9s,baz=198,slow=7.7,SNR=14
comp=N,15nm,0.9s
SEY Seymchan 26.66 11 *ce*P **P** **01 43 37.9 +0.2**
SEY pmax pmax
comp=Z,46nm,1.3s
ULN Ulaanbaatar 27.37 304 P **P** **01 43 43.7 -0.9**
ULN Ulaanbaatar 27.37 304 P **P** **01 43 43.7 -0.9**
comp=Z,69nm,0.9s
ULN Ulaanbaatar 27.37 304 *ce*P **P** **01 43 43.5 -1.0**
ULN pmax pmax
comp=Z,21nm,1.3s
ENH Enshi 27.44 265 P **P** **01 43 43.8 -1.4**
BOD Bodaibo 27.48 328 *e*P **P** **01 43 44.3 -0.9**
BOD pmax pmax
comp=Z,20nm,0.6s
SONM Songino Array 27.80 304 P **P** **01 43 47.2 -1.2**
comp=Z,21nm,0.8s,baz=104,slow=8.0,SNR=87
SONM PcP **PcP** **01 47 04.9 +0.6**
comp=Z,1.5nm,0.8s,baz=100,slow=1.6,SNR=4.1
SONM pPcP 01 47 12.2
comp=Z,1.7nm,0.7s,baz=151,slow=4.2,SNR=3.8
comp=Z,21nm,0.8s
SONM Songino Array 27.80 304 P **P** **01 43 47.5 -0.9**
SONM lAmb lAmb 01 43 49.9
comp=Z,24nm,0.9s
SONM Songino Array 27.80 304 P **P** **01 43 47.5 -0.9**
SONM pmax pmax
comp=Z,24nm,0.9s
H11N2 WAKE ISLAND Hy 28.12 121 T T 02 13 20.9
baz=314,slow=76,SNR=54
H11N1 WAKE ISLAND Hy 28.13 121 T T 02 13 19.9
baz=314,slow=76,SNR=49
H11N3 WAKE ISLAND Hy 28.14 121 T T 02 13 15.2
baz=314,slow=76,SNR=58
H11S1 WAKE ISLAND Hy 28.84 123 T T 02 14 10.2
baz=316,slow=76,SNR=25
H11S3 WAKE ISLAND Hy 28.86 123 T T 02 14 15.4
baz=316,slow=76,SNR=31
H11S2 WAKE ISLAND Hy 28.86 123 T T 02 14 11.3
baz=316,slow=76,SNR=22
LZH Lanzhou 30.14 280 ⇑P **P** **01 44 08.8 -0.5**
LZH sP sP 01 44 16.8 +0.5
LZH pmax pmax
comp=Z,14nm,1.5s
ZAK Zakamensk 30.27 308 *e*P **P** **01 44 09.3 -1.0**
ZAK pmax pmax
comp=Z,13nm,1.1s
GYA Guiyang 31.34 260 ⇑P **P** **01 44 18.8 -1.1**
GYA sP sP 01 44 26.8 0.0
GYA pmax pmax
comp=Z,18nm,1.2s
CD2 Chengdu 31.77 270 P **P** **01 44 22.5 -1.1**
CD2 pmax pmax
comp=Z,40nm,0.6s
GTA Gaotai 32.62 287 ⇑P **P** **01 44 30.6 -0.5**
GTA sP sP 01 44 38.0 0.0
GTA PcP **PcP** **01 47 18.4 +1.4**
GTA pmax pmax
comp=Z,16nm,0.6s
BILL Bilibino 33.89 16 P **P** **01 44 40.1 -1.5**
BILL lAmb lAmb 01 44 43.4
comp=Z,22nm,1.3s
BILL Bilibino 33.89 16 ⇑*i*P **P** **01 44 42.4 +0.8**
BILL *e* 01 45 53.8
BILL *i* 01 47 20.4
BILL *e*S **S** **01 50 12.9 +7.8**
BILL *e*SS **SnSn** **01 52 16.0 +5.3**
BILL pmax pmax
comp=Z,19nm,1.3s
BILL MLR MLR
comp=Z,512nm,18.0s
KNGR Kungurtug, Tuv 33.95 308 *i* P **P** **01 44 42.1 -0.4**
KNGR pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 35.08 261 ⇑P **P** **01 44 52.1 -0.5**
KMI pP pP 01 44 55.1 -2.5
KMI sP sP 01 44 59.8 +0.2
KMI pmax pmax
comp=Z,24nm,1.1s
TIXI Tiksi 35.19 353 P **P** **01 44 52.1 -0.7**
comp=Z,2.2nm,0.4s,baz=168,slow=0.2,SNR=8.9
comp=Z,2.2nm,0.4s
TIXI Tiksi 35.19 353 P **P** **01 44 51.8 -0.9**
TIXI Tiksi 35.19 353 *ce*P **P** **01 44 52.3 -0.5**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
PZH PanZhiHua 35.21 264 P **P** **01 44 52.9 -0.8**
PZH pmax pmax
comp=Z,40nm,0.7s
SGSI Sangihe 36.41 208 P **P** **01 45 03.9 +0.1**
comp=Z,6μmcomp=Z,98nm,0.6s
GOMU GeErMu 37.19 283 P **P** **01 45 10.4 -0.4**
GOMU pmax pmax
comp=Z,12nm,0.5s
MYLDM Lahad Datu 38.16 219 P **P** **01 45 17.8 -1.0**
MYLDM lAmb lAmb 01 45 29.1
comp=Z,52nm,1.0s
MYLDM Lahad Datu 38.16 219 P **P** **01 45 19.9 +1.2**
comp=Z,54nm,1.1s
TNCH TengChong 38.47 264 P **P** **01 45 21.8 +0.3**
TNCH sP sP 01 45 27.3 -1.2
TNCH pmax pmax
comp=Z,88nm,0.8s
TNTI Ternate 38.49 203 P **P** **01 45 21.6 +0.1**
UBPT Khong Chiam 38.67 245 P **P** **01 45 21.6 -1.3**
UBPT lAmb lAmb 01 45 24.5
comp=Z,48nm,1.0s
UBPT Khong Chiam 38.67 245 P **P** **01 45 23.5 +0.5**
comp=Z,46nm,1.2s
SIJI Sorong 39.01 196 P **P** **01 45 26.5 +0.7**
comp=Z,6.2nm,0.4s,baz=32,slow=13,SNR=4.9
comp=Z,6.2nm,0.4s
SIJI Sorong 39.01 196 P **P** **01 45 25.8 0.0**
comp=Z,22nm,0.8s
GENI Genyem 39.56 182 P **P** **01 45 30.2 -0.2**
comp=Z,10μmcomp=Z,72nm,0.4s
LBMI Labuha 39.79 202 P **P** **01 45 30.6 -1.7**
comp=Z,1μmcomp=Z,50nm,0.7s
GTOI Gorontalo 40.17 210 P **P** **01 45 34.3 -1.2**
comp=Z,210nmcomp=Z,22nm,0.8s
DGZ Jazzator, Alta 40.40 306 *d*P **P** **01 45 38.2 +0.9**
DGZ pmax pmax
comp=Z,68nm,0.9s
PHRA Phrae 40.61 254 P **P** **01 45 37.1 -2.1**
TOLI2 Tolitoli 40.66 213 P **P** **01 45 38.9 -0.7**
TNA Tin City 40.70 30 P **P** **01 45 41.4 +2.0**
baz=251
MRSI Marisa 40.74 211 P **P** **01 45 40.6 +0.4**
comp=Z,1μmcomp=Z,43nm,1.4s
FAKI Fak Fak 40.79 194 P **P** **01 45 39.1 -1.6**
FAKI lAmb lAmb 01 45 50.0
comp=Z,21nm,0.8s
FAKI Fak Fak 40.79 194 P **P** **01 45 38.9 -1.7**
comp=Z,30nm,0.8s
WMQ Urumqi 40.88 297 *e*P **P** **01 45 41.8 +0.6**
WMQ pP sP 01 45 47.4 -0.8
WMQ pmax pmax
comp=Z,48nm,0.9s
WMQ LR LR
comp=Z,910nm,18.9s
WMQ LR LR
comp=Z,700nm,17.3s
WMQ LR LR
comp=Z,320nm,21.3s
CHTO Chiang Mai 41.42 256 P **P** **01 45 44.3 -1.6**
CHTO Chiang Mai 41.42 256 P **P** **01 45 44.3 -1.6**
CHTO pmax pmax
comp=Z,11nm,1.0s
SANI Sanana 41.59 204 P **P** **01 45 45.8 -1.4**
comp=Z,47nm,0.6s
CMAR Chiang Mai Arr 41.62 255 P **P** **01 45 47.1 -0.4**
comp=Z,4.6nm,0.7s,baz=48,slow=5.3,SNR=17
comp=Z,4.6nm,0.7s
CMAR Chiang Mai Arr 41.62 255 P **P** **01 45 46.2 -1.3**
CMAR Chiang Mai Arr 41.62 255 *ce*P **P** **01 45 47.7 +0.2**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
MPSI Mapaga 41.74 214 P **P** **01 45 48.3 -0.1**
comp=Z,17nm,1.5s
ZAA0 Zalesovo Array 41.91 312 P **P** **01 45 49.1 -0.4**
ZAA0 lAmb lAmb 01 45 50.7
comp=Z,38nm,0.9s
ZALV Zalesovo Beam 41.91 312 P **P** **01 45 48.8 -0.6**
comp=Z,34nm,0.8s,baz=90,slow=7.4,SNR=85
ZALV pP **sP** **01 45 56.3 -0.1**
comp=Z,29nm,0.7s,baz=89,slow=6.8,SNR=21
ZALV PcP **PcP** **01 47 44.9 +0.1**
comp=Z,3.9nm,0.8s,baz=71,slow=6.2,SNR=2.9
ZALV pPcP 01 47 52.0
comp=Z,4.0nm,0.7s,baz=108,slow=3.3,SNR=3.8
comp=Z,34nm,0.8s
ZALV Zalesovo Beam 41.91 312 P **P** **01 45 49.0 -0.5**
ZALV Zalesovo Beam 41.91 312 *i* P **P** **01 45 49.4 0.0**
ZALV pmax pmax
comp=Z,34nm,0.9s
KRAI Karang Ratu 42.08 200 P **P** **01 45 52.0 +0.8**
comp=Z,46nm,0.7s
APSI Ampana 42.12 210 P **P** **01 45 49.5 -2.0**
comp=Z,90nm,1.1s
LSA Lhasa 42.30 275 P **P** **01 45 53.5 0.0**
LSA Lhasa 42.30 275 P **P** **01 45 53.5 0.0**
LSA pmax pmax
comp=Z,14nm,0.8s
ZSN Zaisan 42.30 303 *e*P **P** **01 45 51.0 -1.8**
baz=303
ZSN Zaisan 42.30 303 *e*P **P** **01 45 51.0 -1.8**
NLAI Namlea 42.37 202 P **P** **01 45 52.5 -1.1**
comp=Z,8μmcomp=Z,9.2nm,0.7s
AAI Ambon 42.49 200 P **P** **01 45 54.6 +0.1**
comp=Z,41nm,0.5s
BNDI Bandanaira 42.85 197 P **P** **01 45 57.8 +0.3**
comp=Z,16μmcomp=Z,141nm,1.0s
NRIK Noril'sk 43.20 335 P **P** **01 45 59.8 0.0**
comp=Z,2.7nm,0.4s,baz=106,slow=8.1,SNR=5.1
comp=Z,2.7nm,0.4s
NRIK Noril'sk 43.20 335 P **P** **01 46 00.1 +0.4**
NRIK Noril'sk 43.20 335 *ce*P **P** **01 45 59.1 -0.7**
NRIK pmax pmax
comp=Z,17nm,1.4s
N16K Nishlik Lake 43.77 38 P **P** **01 46 06.2 +1.7**
baz=266
SBUM Sibu 43.82 225 P **P** **01 46 06.1 +0.8**
SBUM Sibu 43.82 225 P **P** **01 46 05.6 +0.3**
comp=Z,14nm,1.1s
P16K Nushagak River 44.08 40 P **P** **01 46 08.0 +1.1**
baz=268
MK31 Makanchi Array 44.14 302 P **P** **01 46 07.9 +0.2**
MK31 lAmb lAmb 01 46 08.9
comp=Z,26nm,0.8s
MK31 Makanchi Array 44.14 302 *i* P **P** **01 46 07.4 -0.3**
MK31 pmax pmax
comp=Z,29nm,0.8s
MKAR Makanchi Array 44.14 302 P **P** **01 46 07.3 -0.4**
comp=Z,23nm,0.8s,baz=89,slow=9.6,SNR=92
MKAR pP **sP** **01 46 14.6 -0.2**
comp=Z,17nm,0.8s,baz=86,slow=9.8,SNR=16
comp=Z,23nm,0.8s
MKAR Makanchi Array 44.14 302 P **P** **01 46 07.8 +0.1**
MKAR Makanchi Array 44.14 302 P **P** **01 46 07.8 +0.1**
MAKZ Makanchi 44.35 302 P **P** **01 46 09.6 +0.2**
MAKZ lAmb lAmb 01 46 10.3
comp=Z,28nm,0.9s
MAKZ Makanchi 44.35 302 P **P** **01 46 09.6 +0.2**
MAKZ pmax pmax
comp=Z,28nm,0.9s
O17K Koliganek Bris 44.57 39 P **P** **01 46 12.4 +1.5**
baz=268
Q16K King Salmon 44.77 41 P **P** **01 46 14.0 +1.5**
baz=270
KKSI Kolaka, Sulawe 45.09 209 P **P** **01 46 15.7 +0.2**
KKSI pP **pP** **01 46 18.7 -1.9**
Q17K Contact Creek 45.17 41 P **P** **01 46 16.1 +0.3**
baz=270
N18K Kilae Creek 45.20 38 P **P** **01 46 16.7 +0.8**
baz=268
P18K Big Mountain, 45.51 40 P **P** **01 46 19.4 +1.0**
baz=270
O18K Koktuh Hills 45.52 39 P **P** **01 46 19.3 +0.8**
baz=270
Q18K Katmai Hardscr 45.63 41 P **P** **01 46 21.0 +1.6**
baz=271
KSM Kuching 45.70 226 P **P** **01 46 21.6 +1.2**
KSM Kuching 45.70 226 P **P** **01 46 22.5 +2.1**
comp=Z,57nm,1.0s
L19K White Mountain 45.76 36 P **P** **01 46 21.5 +1.2**
baz=268
KURK Kurchatov 45.94 308 P **P** **01 46 21.6 -0.3**
KURK Kurchatov 45.94 308 *i* P **P** **01 46 20.9 -0.9**
KURK pmax pmax
comp=Z,59nm,0.8s
KURBB Kurchatov Arra 46.01 308 P **P** **01 46 22.0 -0.4**
comp=Z,18nm,0.7s,baz=84,slow=8.1,SNR=52
KURBB pP **sP** **01 46 29.6 +0.1**
comp=Z,32nm,0.6s,baz=82,slow=7.7,SNR=20
comp=Z,18nm,0.7s
K20K Telida 46.18 34 P **P** **01 46 25.4 +1.8**
K20K lAmb lAmb 01 46 26.7
comp=Z,18nm,1.1s
K20K Telida 46.18 34 P **P** **01 46 25.0 +1.5**
baz=267
J20K Nowinta River 46.19 33 P **P** **01 46 25.4 +1.8**
J20K lAmb lAmb 01 46 26.8
comp=Z,17nm,1.1s
J20K Nowinta River 46.19 33 P **P** **01 46 25.5 +1.8**
baz=266,SNR=5.9
L20K Farewell, AK 46.23 36 P **P** **01 46 25.9 +1.9**
baz=268
A21K Barrow 46.31 23 P **P** **01 46 26.0 +1.6**
baz=257
IMAR Indian Mountai 46.50 31 P **P** **01 46 27.3 +1.2**
ODAN Odare 46.50 274 *e*P **P** **01 46 27.0 +0.1**
M20K Styx River 46.56 36 P **P** **01 46 28.2 +1.5**
baz=269
OHAK Old Harbor 46.60 43 P **P** **01 46 27.2 +0.3**
baz=274
KAPI Kappang 46.61 211 P **P** **01 46 29.1 +1.6**
comp=Z,38nm,1.1s
G21K Allakaket 46.65 30 P **P** **01 46 29.4 +2.2**
baz=255,SNR=8.0
F21K Alatna River 46.73 29 P **P** **01 46 29.3 +1.4**
baz=264
RSO Redoubt South 46.75 38 P **P** **01 46 28.7 +0.4**
PDGK Podgornoye 46.81 298 P **P** **01 46 28.3 -0.7**
H21K Melozitna Rive 46.86 31 P **P** **01 46 30.1 +1.1**
H21K lAmb lAmb 01 46 31.8
comp=Z,17nm,1.2s
H21K Melozitna Rive 46.86 31 P **P** **01 46 30.7 +1.8**
baz=266
SHLS Shalkode 46.87 298 *e*P **P** **01 46 25.2 -4.2**
baz=298
SHLS Shalkode 46.87 298 *e*P **P** **01 46 25.2 -4.2**
CHUM Lake Minchumin 46.98 34 P **P** **01 46 31.8 +2.0**
baz=268
N20K Mount Spurr 47.01 37 P **P** **01 46 32.3 +2.1**
baz=271,SNR=7.5
SPCR Spurr Chakacha 47.01 37 P **P** **01 46 32.3 +2.1**
baz=271,SNR=5.9
PPLA Purkeypile 47.02 35 P **P** **01 46 31.4 +1.0**
baz=269
CAST Castle Rocks 47.07 34 P **P** **01 46 32.0 +1.4**
CAST lAmb lAmb 01 46 33.8
comp=Z,9.7nm,1.0s
CAST Castle Rocks 47.07 34 P **P** **01 46 32.3 +1.7**
baz=269
SPU Mount Spurr 47.08 37 P **P** **01 46 31.7 +1.0**
RAMN Ramite 47.09 274 *e*P **P** **01 46 31.6 +0.1**
comp=Z,112nm,0.8s
JIRN Jiri 47.10 275 *e*P **P** **01 46 31.8 0.0**
comp=Z,96nm,1.1s
I21K Tanana 47.18 32 P **P** **01 46 33.3 +2.0**
baz=267
UZB Uzynbulak 47.18 298 *e*P **P** **01 46 28.0 -4.0**
baz=298
UZB Uzynbulak 47.18 298 *e*P **P** **01 46 27.9 -4.0**
GUN Gumba 47.24 276 *e*P **P** **01 46 32.9 +0.1**
F22K John River 47.26 29 P **P** **01 46 34.2 +2.2**
baz=265
SKT Skwentna 47.32 36 P **P** **01 46 34.2 +1.6**
baz=271
KPKS Kokpek 47.34 298 *e*P **P** **01 46 31.7 -1.5**
baz=298
KPKS Kokpek 47.34 298 *e*P **P** **01 46 31.6 -1.5**
SRIT Nakonsritamara 47.38 244 P **P** **01 46 34.2 +0.6**
E22K Anaktuvuk Pass 47.45 28 P **P** **01 46 35.4 +1.8**
baz=265
H22K Ishtalitna Cre 47.46 31 P **P** **01 46 35.5 +1.9**
baz=267,SNR=5.9

G22K	**Bettles**	47.47	29	P		P		01 46 35.6	+2.0
	baz=266								
KTH	**Kantishna Hill**	47.59	34	P		P		01 46 36.1	+1.3
SATY	**Saty**	47.64	298	*e*P		P		01 46 34.4	-1.1
	baz=298								
SATY	**Saty**	47.64	298	*e*P		P		01 46 34.4	-1.1
SKLT	**Songkhla**	47.65	242	P		P		01 46 36.7	+1.1
	comp=Z,18nm,0.8s								
MLY	**Manley**	47.70	32	P		P		01 46 37.2	+1.7
	baz=269,SNR=8.4								
PKI	**Pulchoki**	47.77	275	*e*P		P		01 46 36.3	-0.6
	comp=Z,21nm,0.8s								
KKN	**Kakani**	47.77	276	*e*P		P		01 46 36.4	-0.4
PKIN	**Phulchoki**	47.77	275	*e*P		P		01 46 36.4	-0.4
	comp=Z,17nm,0.6s								
TRF	**Thorofare Moun**	47.88	34	P		P		01 46 38.7	+1.7
	baz=270								
D23K	**Nanushuk River**	47.94	27	P		P		01 46 39.4	+2.1
	baz=265								
DMN	**Daman**	47.99	276	*e*P		P		01 46 38.2	-0.3
COLD	**Coldfoot**	48.00	29	P		P		01 46 39.9	+2.1
	baz=267								
G23K	**Bananza Creek**	48.05	30	P		P		01 46 39.9	+1.7
	baz=268,SNR=5.5								
C23K	**Itkillik River**	48.05	26	P		P		01 46 39.8	+1.7
	baz=264								
GKN	**Gorkha**	48.19	276	*e*P		P		01 46 39.8	-0.1
	comp=Z,89nm,0.8s								
H23K	**Yukon River**	48.22	31	P		P		01 46 40.3	+0.9
H23K				lAmb		lAmb		01 46 43.0	
	comp=Z,18nm,1.0s								
H23K	**Yukon River**	48.22	31	P		P		01 46 41.3	+1.8
	baz=269,SNR=9.7								
BWN	**Browne**	48.24	33	P		P		01 46 40.9	+1.2
E23K	**Chandalar**	48.27	28	P		P		01 46 41.7	+1.8
	baz=267								
I23K	**Minto, Yukon-K**	48.28	32	P		P		01 46 41.9	+1.9
I23K				lAmb		lAmb		01 46 49.2	
	comp=Z,23nm,1.4s								
I23K	**Minto, Yukon-K**	48.28	32	P		P		01 46 41.6	+1.7
	baz=270								
TOLK	**Toolik Lake Re**	48.32	27	P		P		01 46 41.4	+1.1
TOLK				lAmb		lAmb		01 46 43.2	
	comp=Z,21nm,1.1s								
TOLK	**Toolik Lake Re**	48.32	27	P		P		01 46 42.2	+1.9
	baz=266,SNR=9.2								
NEA2	**Nenana**	48.41	33	P		P		01 46 42.1	+1.2
	baz=270								
TARG	**Taragay, Kyrgy**	48.44	296	P		P		01 46 41.7	-0.3
TARG				lAmb		lAmb		01 46 58.2	
	comp=Z,18nm,0.8s								
TARG	**Taragay, Kyrgy**	48.44	296	P		P		01 46 41.7	-0.3
TARG				pmax		pmax			
	comp=Z,18nm,0.8s								
PMR	**Palmer**	48.47	37	P		P		01 46 42.8	+1.3
	baz=273								
MCK	**McKinley**	48.48	34	P		P		01 46 42.5	+1.0
MCK				lAmb		lAmb		01 46 43.2	
	comp=Z,14nm,1.0s								
MCK	**McKinley**	48.48	34	P		P		01 46 42.8	+1.3
	baz=271								
MCK	**McKinley**	48.48	34	P		P		01 46 42.5	+1.0
MCK				pmax		pmax			
	comp=Z,14nm,1.0s								
GHO	**Glory Hole Cre**	48.56	36	P		P		01 46 43.2	+0.9
MDOK	**Medeo**	48.57	298	*e*P		P		01 46 42.1	-0.7
	baz=298								
MDOK	**Medeo**	48.57	298	*e*P		P		01 46 42.0	-0.7
WAT1	**Susitna Watana**	48.68	35	P		P		01 46 44.0	+0.9
	baz=273								
E24K	**Your Creek**	48.70	28	P		P		01 46 44.8	+1.6
	baz=268								
C24K	**Franklin Bluff**	48.70	26	P		P		01 46 44.4	+1.3
	baz=266								
DANN	**Dangsing**	48.73	277	*e*P		P		01 46 44.4	+0.1
	comp=Z,112nm,0.8s								
MDM	**Murphy Dome**	48.76	32	P		P		01 46 44.5	+0.8
KNK	**Knik Glacier**	48.80	37	P		P		01 46 44.6	+0.6
	baz=274								
WRH	**Wood River Hil**	48.83	33	P		P		01 46 45.5	+1.3
SML	**Sawmill**	48.84	36	P		P		01 46 45.1	+0.8
	baz=274								
KUU	**Kurty**	48.87	299	*e*P		P		01 46 43.0	-1.9
	baz=299								
KUU	**Kurty**	48.87	299	*e*P		P		01 46 42.9	-1.9
H24K	**Noodor Dome**	48.90	31	P		P		01 46 46.3	+1.6
H24K				lAmb		lAmb		01 46 48.1	
	comp=Z,25nm,1.2s								
H24K	**Noodor Dome**	48.90	31	P		P		01 46 46.6	+1.8
	baz=270								
F24K	**Squaw Lake**	48.91	29	P		P		01 46 46.4	+1.6
	baz=269								
COLA	**College**	48.93	32	*i* P		P		01 46 45.7	+0.8
COLA				pmax		pmax			
	comp=Z,11nm,0.9s								
G24K	**Hadweenzic Riv**	49.06	30	P		P		01 46 47.6	+1.6
	baz=270								
WAT6	**Susitna Watana**	49.07	35	P		P		01 46 47.3	+1.1
	baz=274								
POKR	**Poker Plat Res**	49.10	32	P		P		01 46 47.2	+1.0
POKR	**Poker Plat Res**	49.10	32	P		P		01 46 47.9	+1.6
	baz=272,SNR=10								
DHY	**Denali Highway**	49.21	35	P		P		01 46 48.0	+0.7
	baz=273								
IPM	**Ipoh**	49.29	239	P		P		01 46 48.0	-0.2
IPM				lAmb		lAmb		01 46 49.0	
	comp=Z,16nm,0.8s								
IPM	**Ipoh**	49.29	239	P		P		01 46 48.3	0.0
	comp=Z,24nm,0.7s								
SCM	**Sheep Creek Mo**	49.31	36	P		P		01 46 49.2	+1.2
	baz=274								
HDA	**Harding Lake**	49.33	33	P		P		01 46 49.0	+1.0
HDA				lAmb		lAmb		01 46 49.8	
	comp=Z,26nm,1.0s								
HDA	**Harding Lake**	49.33	33	P		P		01 46 49.4	+1.4
	baz=273,SNR=6.4								
IL31		49.34	32	P		P		01 46 48.6	+0.6
IL31				lAmb		lAmb		01 46 49.9	
	comp=Z,15nm,0.8s								
ILAR	**Eielson Array**	49.34	32	P		P		01 46 48.8	+0.7
	comp=Z,111nm,0.8s,baz=269,slow=6.5,SNR=61								
	comp=Z,11nm,0.8s								
D25K	**Kavik River**	49.50	26	P		P		01 46 51.2	+1.9
	baz=269								
G25K	**Bearman Lake**	49.61	30	P		P		01 46 52.0	+2.0
	baz=271,SNR=5.0								
TKM2	**Tokmak 2**	49.66	298	*i* P		P		01 46 50.9	-0.2
TKM2				pmax		pmax			
	comp=Z,17nm,0.6s								
H25L	**Birch Creek**	49.73	30	P		P		01 46 53.4	+2.4
	baz=272								
F25K	**Christian Rive**	49.77	29	P		P		01 46 53.9	+2.5
	baz=271								
E25K	**Arctic Village**	49.79	28	P		P		01 46 54.0	+2.5
	baz=271,SNR=13								
BRZS	**Berezniki**	49.81	308	*e*P		P		01 46 50.7	-1.3
	comp=Z,4.8nm,0.5s,baz=308								
BRZS	**Berezniki**	49.81	308	*e*P		P		01 46 50.6	-1.3
BRZS				pmax		pmax			
	comp=Z,5.0nm,0.5s								
M24K	**Tolsona, Glenn**	49.83	36	P		P		01 46 53.5	+1.6
	baz=275								
K24K	**Donnelly Dome**	49.88	34	P		P		01 46 53.3	+1.1
	baz=274								
PRP	**Porcupine Dome**	49.88	31	P		P		01 46 52.4	0.0
PRP				lAmb		lAmb		01 46 55.1	
	comp=Z,12nm,0.8s								
PRP	**Porcupine Dome**	49.88	31	P		P		01 46 54.0	+1.6
	baz=273,SNR=8.4								
FYU	**Fort Yukon**	49.96	30	P		P		01 46 54.0	+1.3
KLU	**Klutina**	50.01	37	P		P		01 46 54.5	+1.2
	baz=276								
C26K	**Camden Bay**	50.02	26	P		P		01 46 55.5	+2.3
	baz=270								
BTLS	**Baital**	50.14	301	*e*P		P		01 46 53.0	-1.4
	comp=Z,6.1nm,0.8s,baz=301								
BTLS	**Baital**	50.14	301	*e*P		P		01 46 53.0	-1.4
BTLS				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BMAR	**Burnt Mountain**	50.18	29	P		P		01 46 55.9	+1.4
SGDS	**Sogindy**	50.18	299	*e*P		P		01 46 53.7	-1.2
	baz=299								
SGDS	**Sogindy**	50.18	299	*e*P		P		01 46 53.7	-1.2
EYAK	**Cordova Ski Ar**	50.20	38	P		P		01 46 55.6	+1.0
	baz=277								
RIDG	**Independent Ri**	50.30	34	P		P		01 46 57.2	+1.8
	baz=275								
F26K	**Sheenjek River**	50.34	29	P		P		01 46 58.0	+2.4
	baz=272								
OTUK	**Ortayu**	50.44	306	P		P		01 46 56.0	-0.7
C27K	**Jago River**	50.44	26	P		P		01 46 58.2	+1.8
	baz=271								
KSH	**Kashi**	50.45	294	P		P		01 47 00.6	+3.6
KSH				sP		sP		01 47 08.4	+4.3
G26K	**Porcupine Rive**	50.51	29	P		P		01 46 59.3	+2.4
	baz=273								
AAK	**Ala-Archa**	50.52	298	P		P		01 46 57.9	+0.3
	comp=Z,3.5nm,0.5s,baz=96,slow=6.2,SNR=9.2								
	comp=Z,3.5nm,0.5s								
AAK	**Ala-Archa**	50.52	298	*ce*P		P		01 46 57.1	-0.5
AAK				pmax		pmax			
	comp=Z,14nm,1.7s								
BVA0	**Borovoye Array**	50.57	312	P		P		01 46 56.5	-1.1
BRVK	**Borovoye**	50.62	312	P		P		01 46 57.3	-0.6
BRVK				lAmb		lAmb		01 46 58.9	
	comp=Z,25nm,1.0s								
BRVK	**Borovoye**	50.62	312	*i* P		P		01 46 57.0	-1.0
BRVK				pmax		pmax			
	comp=Z,21nm,0.9s								
N25K	**Chitina, Valde**	50.63	36	P		P		01 46 59.2	+1.1
	baz=277								
SCRK	**Sand Creek**	50.65	33	P		P		01 46 59.0	+0.8
SCRK				lAmb		lAmb		01 47 00.3	
	comp=Z,22nm,1.0s								
SCRK	**Sand Creek**	50.65	33	P		P		01 46 59.6	+1.4
	baz=276,SNR=12								
MTN	**Manton Dam**	50.68	193	P		P		01 46 58.8	+0.1
MTN				lAmb		lAmb		01 47 06.5	
	comp=Z,35nm,1.2s								
BMRM	**Bremner River**	50.71	37	P		P		01 47 00.1	+1.5
	baz=278								
J26L	**Joseph Creek**	50.79	33	P		P		01 46 59.4	+0.2
J26L	**Joseph Creek**	50.79	33	P		P		01 47 00.1	+0.9
	baz=276								
COEN	**Coen**	50.86	178	P		P		01 46 59.6	-0.4
COEN				lAmb		lAmb		01 47 14.0	
	comp=Z,20nm,1.1s								
MENT	**Mentasta**	50.88	35	P		P		01 47 01.1	+1.3
MENT				lAmb		lAmb		01 47 09.3	
	comp=Z,15nm,0.8s								
L26K	**Log Cabin Wild**	51.04	35	P		P		01 47 02.2	+1.2
L26K				lAmb		lAmb		01 47 04.2	
	comp=Z,24nm,1.0s								
L26K	**Log Cabin Wild**	51.04	35	P		P		01 47 03.1	+2.1
	baz=277								
E27K	**Coleen River**	51.27	28	P		P		01 47 05.1	+2.4
	baz=274,SNR=12								
M26K	**Nabesna, AK**	51.28	35	P		P		01 47 04.9	+2.1
	baz=278								
G27K	**Doyon Strip**	51.36	30	P		P		01 47 05.7	+2.3
	baz=275								
MCARA	**McCarthy VSAT**	51.41	37	P		P		01 47 05.8	+2.1
	baz=278								
H27K	**Steamboat Moun**	51.47	30	P		P		01 47 06.7	+2.5
	baz=276								
I27K	**Kandik River**	51.50	31	P		P		01 47 06.4	+2.0
	baz=276								
L27K	**Beaver Creek,**	51.72	34	P		P		01 47 07.8	+1.6
L27K				lAmb		lAmb		01 47 09.4	
	comp=Z,20nm,1.1s								
L27K	**Beaver Creek,**	51.72	34	P		P		01 47 08.0	+1.9
	baz=278								
BCAR	**Beaver Creek A**	51.74	34	P		P		01 47 07.1	+0.8
M27K	**Edge Creek, AK**	51.80	35	P		P		01 47 06.2	-0.6
M27K				lAmb		lAmb		01 47 10.0	
	comp=Z,34nm,1.2s								
M27K	**Edge Creek, AK**	51.80	35	P		P		01 47 09.2	+2.3
	baz=279,SNR=6.3								
PSI	**Prapat**	51.94	239	P		P		01 47 08.6	+0.2
	comp=Z,14nm,0.8s								
PSI	**Prapat**	51.94	239	P		P		01 47 08.4	0.0
PSI				pmax		pmax			
	comp=Z,13nm,0.9s								
RPSI	**Rantau Prapat**	52.02	239	P		P		01 47 08.4	-0.4
RPSI				lAmb		lAmb		01 47 09.2	
	comp=Z,13nm,0.9s								
MESA	**MESA**	52.12	38	P		P		01 47 11.4	+2.0
	baz=280								
YUK3	**Moose Creek**	52.56	36	P		P		01 47 14.1	+1.5
	baz=280								
DAWY	**Dawson**	52.65	33	P		P		01 47 15.3	+2.2
	baz=279								
I29M	**Ogilvie Camp,**	52.90	31	P		P		01 47 15.4	+0.5
I29M	**Ogilvie Camp,**	52.90	31	P		P		01 47 16.7	+1.9
	baz=279								
KK31	**Karatay Array**	53.15	300	P		P		01 47 16.8	-0.3
KK31				lAmb		lAmb		01 47 19.2	
	comp=Z,21nm,1.1s								
KK31	**Karatay Array**	53.15	300	*i* P		P		01 47 16.6	-0.4
KKAR	**Karatay Array**	53.15	300	P		P		01 47 16.9	-0.1
KKAR	**Karatay Array**	53.15	300	P		P		01 47 16.8	-0.1
KKAR				lAmb		lAmb		01 47 19.2	
	comp=Z,21nm,1.1s								
KKAR	**Karatay Array**	53.15	300	P		P		01 47 16.9	-0.1
M29M	**Somme Creek**	53.35	35	P		P		01 47 20.5	+2.1
	baz=281								
EPYK	**Eagle Plains**	53.38	30	P		P		01 47 18.9	+0.6
EPYK	**Eagle Plains**	53.38	30	P		P		01 47 20.5	+2.2
	baz=280,SNR=30								
L29M	**L29M**	53.38	34	P		P		01 47 20.8	+2.4
	baz=281								
G30M	**tAoh Zraii Nji**	53.47	29	P		P		01 47 20.7	+1.8
	baz=280								
DRK	**Karamyk**	53.49	295	P		P		01 47 18.8	-1.1
YUK4	**Talbot Arm**	53.49	36	P		P		01 47 21.7	+2.2
	baz=282								
K29M	**Barlow Dome**	53.50	33	P		P		01 47 21.3	+1.9
	baz=281								
YUK6	**Outost Mounta**	53.71	37	P		P		01 47 23.0	+1.9
	baz=282								
O29M	**Mount Kennedy**	53.75	37	P		P		01 47 23.5	+2.3
	baz=283								
KNRA	**Kununurra**	53.91	195	P		P		01 47 21.8	-0.9
GSI	**Gunungsitoli**	53.95	239	P		P		01 47 22.6	-0.5
BTK	**Batken**	53.99	296	P		P		01 47 23.3	0.0
BTK				lAmb		lAmb		01 47 27.8	
	comp=Z,8.0nm,0.8s								
BTK	**Batken**	53.99	296	P		P		01 47 23.3	0.0
BTK				pmax		pmax			
	comp=Z,8.0nm,0.8s								
M30M	**Minto, Yukon**	54.08	34	P		P		01 47 24.3	+0.7
M30M				lAmb		lAmb		01 47 27.1	
	comp=Z,12nm,0.9s								
M30M	**Minto, Yukon**	54.08	34	P		P		01 47 25.6	+2.0
	baz=283								
HYT	**Haines Junctio**	54.15	37	P		P		01 47 25.2	+1.1
HYT	**Haines Junctio**	54.15	37	P		P		01 47 26.2	+2.0
	baz=283,SNR=7.2								
INK	**Inuvik**	54.24	27	P		P		01 47 25.9	+1.4
	comp=Z,13nm,0.9s,baz=290,slow=6.7,SNR=33								
INK				pP		sP		01 47 33.2	+1.6
	comp=Z,14nm,0.9s,baz=274,slow=6.6,SNR=15								
	comp=Z,13nm,0.9s								
INK	**Inuvik**	54.24	27	P		P		01 47 24.9	+0.4
INK				lAmb		lAmb		01 47 33.9	
	comp=Z,17nm,0.9s								
INK	**Inuvik**	54.24	27	P		P		01 47 26.1	+1.6
	baz=281,SNR=9.9								
P29M	**Windy Craggy**	54.31	38	P		P		01 47 26.3	+1.0
	baz=284								
F31M	**Tsiigehtchic**	54.33	28	P		P		01 47 27.0	+1.8
	baz=282								
P30M	**Million Dollar**	54.57	37	P		P		01 47 28.9	+1.7
	baz=284								
NIL	**Nilore**	54.67	288	P		P		01 47 28.5	+0.2
NIL	**Nilore**	54.67	288	P		P		01 47 28.5	+0.2
NIL				pmax		pmax			
	comp=Z,27nm,0.8s								
GAR	**Garm**	54.74	295	P		P		01 47 28.9	+0.1
N31M	**Braeburn, Yuko**	54.80	36	P		P		01 47 30.8	+2.0
	baz=284								
O30N	**Mendenhall**	54.83	37	P		P		01 47 30.6	+1.6
	baz=284								
PLBC	**Pleasant Camp**	55.03	38	P		P		01 47 32.2	+1.8
	baz=285								
SVE	**Sverdlovsk**	55.12	319	*ce*P		P		01 47 31.6	+0.5
SVE				pmax		pmax			
	comp=Z,78nm,0.9s								
M31M	**Drury Creek, Y**	55.26	35	P		P		01 47 33.8	+1.7
	baz=285								
WHY	**Whitehorse**	55.44	36	lAmb		lAmb		01 47 36.8	
	comp=Z,25nm,1.2s								
WHY	**Whitehorse**	55.44	36	P		P		01 47 35.3	+1.8
	baz=286								
CHGR	**Chuyangaron**	55.70	295	P		P		01 47 35.5	-0.2
CHGR	**Chuyangaron**	55.70	295	P		P		01 47 35.5	-0.2
CHGR				pmax		pmax			
	comp=Z,93nm,0.8s								
FARO	**Faro, Yukon**	55.73	34	P		P		01 47 36.1	+0.6
FARO				lAmb		lAmb		01 47 38.6	
	comp=Z,18nm,1.2s								
FARO	**Faro, Yukon**	55.73	34	P		P		01 47 37.4	+2.0
	baz=286								
A36M	**Sachs Harbour**	56.11	22	P		P		01 47 38.8	+0.8
A36M	**Sachs Harbour**	56.11	22	P		P		01 47 39.7	+1.7
	baz=286,SNR=21								
N32M	**Quiet Lake**	56.15	36	P		P		01 47 40.0	+1.5
	baz=287								
R32K	**Eaglecrest**	56.28	39	P		P		01 47 41.2	+1.8
	baz=287								
ARU	**Arti**	56.34	319	P		P		01 47 39.8	-0.1
	comp=Z,49nm,0.7s,baz=82,slow=4.6,SNR=83								
ARU				pP		sP		01 47 46.9	0.0
	comp=Z,47nm,0.7s,baz=70,slow=7.0,SNR=17								
	comp=Z,49nm,0.7s								
ARU	**Arti**	56.34	319	P		P		01 47 39.9	+0.1
ARU	**Arti**	56.34	319	*c i* P		P		01 47 38.9	-1.0
ARU								01 48 32.5	
ARU								01 49 44.2	
ARU				S		S		01 55 30.9	+1.6
ARU				SS		SS		01 59 12.9	-2.7
ARU				pmax		pmax			
	comp=Z,95nm,1.1s								
P33M	**Teslin, Yukon**	56.54	37	P		P		01 47 41.7	+0.3
P33M				lAmb		lAmb		01 47 44.8	
	comp=Z,22nm,1.1s								
P33M	**Teslin, Yukon**	56.54	37	P		P		01 47 43.6	+2.2
	baz=287,SNR=7.0								
MMPY	**Sheldon Lake,**	56.55	34	P		P		01 47 43.3	+1.9
	baz=287								
WB0	**Warramunga Arr**	57.01	188	P		P		01 47 43.7	-1.3
WB0				lAmb		lAmb		01 47 45.6	
	comp=Z,22nm,1.1s								
WRAB	**Tennant Creek**	57.18	188	P		P		01 47 45.1	-1.1
WRAB				lAmb		lAmb		01 47 53.8	
	comp=Z,18nm,0.9s								
WRAB	**Tennant Creek**	57.18	188	*ce*P		P		01 47 44.9	-1.3
WRAB				pmax		pmax			
	comp=Z,20nm,1.3s								
WR0	**Warramunga Arr**	57.19	188	P		P		01 47 45.8	-0.4
WR0				lAmb		lAmb		01 47 47.0	
	comp=Z,23nm,1.1s								
WB2	**Warramunga Arr**	57.19	188	P		P		01 47 45.8	-0.5
WB2				lAmb		lAmb		01 47 53.8	
	comp=Z,14nm,0.8s								
WRA	**Warramunga Arr**	57.19	188	P		P		01 47 45.9	-0.3
	comp=Z,10nm,0.8s,baz=5.7,slow=7.2,SNR=66								
	comp=Z,10nm,0.8s								
WRA	**Warramunga Arr**	57.19	188	P		P		01 47 45.9	-0.3
WRA	**Warramunga Arr**	57.19	188	P		P		01 47 45.9	-0.3
WRA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
Q32M	**Nakina River**	57.19	38	P		P		01 47 48.1	+1.9
	baz=289								
C36M	**Paulatuk**	57.28	25	P		P		01 47 47.0	+0.7
C36M				lAmb		lAmb		01 47 48.0	
	comp=Z,16nm,0.7s								
C36M	**Paulatuk**	57.28	25	P		P		01 47 47.6	+1.3
	baz=289,SNR=10								
KBL	**Kabul**	57.47	291	P		P		01 47 47.7	-0.8
KBL				lAmb		lAmb		01 47 49.4	
	comp=Z,30nm,1.1s								
KBL	**Kabul**	57.47	291	P		P		01 47 47.7	-0.8
KBL				pmax		pmax			
	comp=Z,30nm,1.2s								
R33M	**Jennings River**	57.69	37	P		P		01 47 51.7	+2.1
	baz=289								
AB31	**Akbulak array**	57.94	310	*i* P		P		01 47 50.6	-0.7
ABKAR	**Akbulak array**	57.94	310	P		P		01 47 51.1	-0.2
S34M	**Telegraph Cree**	58.10	39	P		P		01 47 54.3	+2.0
	baz=290								
HYBB	**Hyderabad (bro**	58.30	268	*e*P		P		01 47 54.2	-0.1
HYBB				lVmB_BB				01 47 54.5	
	comp=Z,229nm,0.9s								
DLBC	**Dease Lake**	58.47	38	P		P		01 47 54.3	-0.7
DLBC				lAmb		lAmb		01 47 58.8	
	comp=Z,17nm,1.1s								
DLBC	**Dease Lake**	58.47	38	P		P		01 47 57.0	+2.1
	baz=291								
AKTO	**Aktyubinsk**	58.67	312	P		P		01 47 55.6	-0.8
T35M	**Bob Quinn**	58.88	40	P		P		01 47 59.7	+1.9
	baz=291								
LIRD	**Liard River Hi**	60.01	36	P		P		01 48 07.9	+2.4
	baz=293								
EUNU	**Eureka**	60.06	9	P		P		01 48 04.3	-1.4
EUNU				lAmb		lAmb		01 48 06.9	
	comp=Z,16nm,0.8s								
KIRV	**Kirov**	60.21	323	P		P		01 48 07.1	+0.2
	comp=Z,96nm,0.8s,baz=72,slow=2.9,SNR=39								
KIRV				pP		sP		01 48 14.4	+0.4
	comp=Z,111nm,0.7s,baz=78,slow=1.3,SNR=21								
	comp=Z,96nm,0.8s								
SPA0	**Spitsbergen Ar**	60.43	349	*e*P		P		01 48 08.7	+0.5
SPA0				lAmb		lAmb		01 48 15.6	
	comp=Z,192nm,2.1s								
SPITS	**Spitsbergen Ar**	60.43	349	P		P		01 48 08.3	+0.2
	comp=Z,3.1nm,0.5s,baz=76,slow=8.2,SNR=8.4								
	comp=Z,3.1nm,0.5s								
KOTAN	**Kotaneelee Air**	60.67	35	P		P		01 48 11.7	+1.7
	baz=294								
PRGR	**Permogore**	60.72	327	*e*P		P		01 48 09.5	-0.8
PRGR				pmax		pmax			
	comp=Z,38nm,0.9s								
AS31	**Alice Springs**	60.92	188	P		P		01 48 11.9	-0.2
ASAR	**Alice Springs**	60.92	188	P		P		01 48 12.1	0.0
	comp=Z,6.8nm,0.7s,baz=10,slow=6.4,SNR=50								
ASAR				pP		sP		01 48 19.1	0.0
	comp=Z,6.6nm,0.

KTK1 **Kautokeino** 64.88 339 *e*P P **01 48 38.5 +0.6**
JETT **Jettan, Norway** 65.30 341 *e*P P **01 48 41.2 +0.5**
NEEM **North Greenlan** 65.41 3 *i*P P **01 48 40.4 -1.2**
NEEM IAmb IAmb 01 48 44.3
comp=Z,14nm,0.8s
TRO **Tromso** 65.64 341 *e*P P **01 48 42.9 +0.2**
DAG **Danmarks Havn** 65.67 355 *i*P P **01 48 41.4 -1.5**
DAG IAmb IAmb 01 48 43.7
comp=Z,11nm,0.8s
MOS **Moscow** 67.21 323 *e*P P **01 48 51.1 -2.0**
MOS *e* 01 48 59.6
MOS *e*S S **01 57 44.7 -2.2**
MOS pmax pmax
comp=Z,53nm,1.2s
VRH **Novokhopyorsk** 67.56 318 *e*P P **01 48 54.3 -1.1**
VRH pmax pmax
comp=Z,20nm,0.8s
STEI **Steigen** 67.79 341 *e*P P **01 48 56.6 +0.1**
STEI IAmb IAmb 01 49 02.9
comp=Z,94nm,1.8s
OBN **Obninsk** 68.06 323 P P **01 48 58.4 0.0**
comp=Z,2.5nm,0.5s,baz=3.9,slow=5.3,SNR=7.7
comp=Z,2.5nm,0.5s
OBN **Obninsk** 68.06 323 ⇓*i*P P **01 48 58.3 -0.1**
OBN *i* 01 49 05.2
OBN *e* 01 49 24.0
OBN *e* 01 51 29.2
OBN pmax pmax
comp=Z,33nm,1.1s
DBG **Daneborg** 68.15 355 *i*P P **01 48 58.4 -0.4**
FAUS **Fauske** 68.17 340 *e*P P **01 48 59.4 +0.4**
FAUS IAmb IAmb 01 49 09.5
comp=Z,26nm,1.1s
LPSR **Galich'ya Gora** 68.28 320 *e*P P **01 48 59.0 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
VORR **Voronezh** 68.64 319 *e*P P **01 49 01.7 -0.4**
VORR pmax pmax
comp=Z,20nm,0.4s
STKA **Stephens Creek** 68.67 180 P P **01 49 03.4 +1.0**
comp=Z,11nm,0.8s,baz=340,slow=7.8,SNR=18
STKA pP **sP** **01 49 10.6 +1.0**
comp=Z,8.9nm,0.8s,baz=360,slow=9.3,SNR=7.0
comp=Z,11nm,0.8s
STKA **Stephens Creek** 68.67 180 *i*P P **01 49 02.7 +0.3**
B08A **Colville Reser** 68.69 45 P P **01 49 03.5 +0.9**
B08A IAmb IAmb 01 49 05.0
comp=Z,8.4nm,1.1s
FORT **Forrest** 68.75 192 P P **01 49 03.5 +0.6**
FIA1 **FINESS Array S** 68.75 332 P P **01 49 03.1 +0.4**
FINES **FINESS Array B** 68.76 332 P P **01 49 02.6 -0.1**
comp=Z,16nm,0.9s,baz=55,slow=7.2,SNR=23
FINES pP **sP** **01 49 10.0 +0.2**
comp=Z,21nm,0.7s,baz=46,slow=8.0,SNR=16
comp=Z,16nm,0.9s
VSR **Storozhevoye** 68.91 319 *e*P P **01 49 03.1 -0.7**
VSR pmax pmax
comp=Z,30nm,1.2s
H04A **Detroit Lake** 68.95 49 P P **01 49 04.8 +0.5**
MOR8 **Moi Rana** 69.29 340 *e*P P **01 49 04.5 -1.5**
MOR8 IAmb IAmb 01 49 12.4
comp=Z,36nm,1.2s
GROC **Groznyy** 69.41 309 *e*P P **01 49 06.5 -0.6**
GROC *e* 01 49 30.3
GROC pmax pmax
comp=Z,10.0nm,0.5s
C09A **Chrisman Ranch** 69.58 45 IAmb IAmb 01 49 10.5
comp=Z,18nm,1.4s
D08A **Wollman Farm,** 69.62 46 IAmb IAmb 01 49 10.7
comp=Z,12nm,1.2s
F07A **Phinny Hill Vi** 69.66 47 IAmb IAmb 01 49 11.5
comp=Z,10nm,0.8s
NEW **Newport** 69.98 44 P P **01 49 11.7 +1.1**
baz=304
MEF **Metsahovi** 70.18 332 *e*P P **01 49 12.4 +0.9**
E09A **Wood Farm, Sta** 70.36 46 IAmb IAmb 01 49 15.6
comp=Z,10nm,1.0s
VSU **Vasula** 70.40 330 *e*P P **01 49 13.2 +0.3**
SUMG **Summit** 70.57 360 *i*P P **01 49 14.3 +0.1**
SUMG IAmb IAmb 01 49 17.3
comp=Z,9.9nm,0.9s
NCK **Nalchik** 70.60 310 *i*P P **01 49 12.6 -1.9**
NCK pmax pmax
comp=Z,17nm,0.8s
RAF **Rauma** 70.61 333 *e*P P **01 49 15.1 +1.0**
ZEI **Tsey** 70.80 309 *e*P P **01 49 14.1 -1.8**
ZEI pmax pmax
comp=Z,15nm,0.9s
KBZ **Khabaz** 70.90 311 P P **01 49 16.8 +0.6**
comp=Z,18nm,0.8s,baz=57,slow=3.1,SNR=24
KBZ pP **sP** **01 49 24.1 +0.8**
comp=Z,33nm,0.8s,baz=82,slow=2.2,SNR=20
comp=Z,18nm,0.8s
KBZ **Khabaz** 70.90 311 *ce*P P **01 49 15.9 -0.3**
KBZ pmax pmax
comp=Z,26nm,0.9s
KIV **Kislovodsk** 70.90 311 P P **01 49 16.2 -0.2**
KIV **Kislovodsk** 70.90 311 *e*P P **01 49 16.4 0.0**
KIV pmax pmax
comp=Z,79nm,1.0s
SHA1 **Shidzhatmaz** 71.04 311 *i*P P **01 49 16.7 -0.7**
ONI **Oni** 71.19 309 IAmb IAmb 01 49 26.7
comp=Z,16nm,0.9s
NEY **Neytrino** 71.27 310 *i*P P **01 49 19.1 +0.4**
NEY pmax pmax
comp=Z,4.0nm,0.9s
WALA **Waterton Lakes** 71.28 42 IAmb IAmb 01 49 45.8
comp=Z,9.5nm,1.0s
MOD **Modoc Plateau** 71.61 51 IAmb IAmb 01 49 23.4
comp=Z,20nm,1.4s
GNI **Garni** 71.72 307 P P **01 49 22.4 +0.9**
comp=Z,7.1nm,0.8s,baz=348,slow=16,SNR=4.5
GNI pP **sP** **01 49 29.2 +0.5**
comp=Z,13nm,0.8s,baz=151,slow=17,SNR=6.3
comp=Z,7.1nm,0.8s
J08A **Circle Bar Ran** 71.92 49 IAmb IAmb 01 49 25.6
comp=Z,21nm,1.3s
ORV **Oroville** 72.15 54 IAmb IAmb 01 49 25.9
comp=Z,11nm,1.3s
WVOR **Wild Horse Val** 72.34 50 IAmb IAmb 01 49 27.4
comp=Z,11nm,1.2s
MNK **Minsk** 72.45 326 *i*P P **01 49 23.9 -1.4**
comp=E,2.0nm,0.8s
MNK *i*P P **01 49 23.9 -1.4**
comp=N,24nm,0.7s
MNK *i*P P **01 49 23.9 -1.4**
comp=Z,23nm,0.8s,baz=230
MNK *i*PcP **PcP** **01 49 41.5 -1.6**
MNK *i*PP **PP** **01 52 04.6 -1.3**
MNK *i*PPP PPP 01 53 48.7
MNK *i*S **S** **01 58 48.3 -0.1**
MNK *i*SS **SS** **02 03 27.6 +1.5**
MNK *i*SSS SSS 02 06 47.7
MNK *i*LR LR 02 21 48.4
MNK *i*LRM MLR 02 24 39.2
comp=E,124nm,17.9s
MNK *i*LRM MLR 02 24 44.4
comp=Z,788nm,17.9s
MNK *i*LRM MLR 02 24 57.1
comp=N,539nm,17.9s
MNK **Minsk** 72.45 326 *i*P P **01 49 23.9 -1.4**
MNK *i* 01 49 41.5
MNK *i* 01 52 04.6
MNK *i*PPP PPP 01 53 48.7
MNK *i*S **S** **01 58 48.3 -0.1**
MNK *i*SS **SS** **02 03 27.5 +1.5**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=N,24nm,0.6s
MNK MLR MLR
comp=E,124nm,18.0s
MNK MLR MLR
comp=Z,788nm,18.0s
MNK MLR MLR
comp=N,539nm,18.0s
MSO **Missoula** 72.56 44 P P **01 49 27.0 +0.7**
MSO IAmb IAmb 01 49 28.4
comp=Z,9.9nm,1.1s
MSO **Missoula** 72.56 44 P P **01 49 27.2 +0.8**
baz=306,SNR=5.9
IIGN **Ignalina** 72.63 327 *e*P P **01 49 26.6 +0.2**
BEKR **Beckworth** 72.71 53 IAmb IAmb 01 49 29.8
comp=Z,10nm,1.0s

SOC **Sochi** 72.89 312 *e*P P **01 49 27.4 -0.8**
SOC *e* 01 52 09.0
SOC *e*PPP PPP 01 53 51.4
SOC *e*S S **01 58 51.3 -2.5**
SOC *e*SS SS **02 03 41.5 +8.1**
SOC pmax pmax
comp=Z,54nm,0.8s
PABE **Paberze** 73.49 328 *e*P P **01 49 31.7 +0.2**
FFC **Flin Flon** 73.55 33 P P **01 49 32.8 +0.9**
FFC IAmb IAmb 01 49 33.8
comp=Z,19nm,0.9s
FFC **Flin Flon** 73.55 33 P P **01 49 32.8 +0.9**
FFC pmax pmax
comp=Z,19nm,0.9s
CMB **Columbia Colle** 73.72 55 IAmb IAmb 01 49 35.8
comp=Z,15nm,1.3s
FCC **Fort Churchill** 73.85 27 P P **01 49 33.8 +0.3**
FCC **Fort Churchill** 73.85 27 P P **01 49 33.8 +0.3**
FCC pmax pmax
comp=Z,35nm,1.0s
YERR **Yerington** 73.92 53 IAmb IAmb 01 49 37.4
comp=Z,15nm,1.2s
HFS **Hagfors** 74.02 336 P P **01 49 34.7 +0.2**
comp=Z,8.8nm,0.9s,baz=56,slow=5.6,SNR=17
HFS pP **sP** **01 49 42.2 +0.4**
comp=Z,5.2nm,0.5s,baz=36,slow=5.4,SNR=7.5
comp=Z,8.8nm,0.9s
ICESG **Greenland Ices** 74.07 0 *i*P P **01 49 34.2 -0.9**
ICESG IAmb IAmb 01 49 44.0
comp=Z,9.9nm,0.8s
NB2 **NORSAR Subarra** 74.12 337 P P **01 49 34.6 -0.5**
baz=40,slow=6.2
NB2 **NORSAR Subarra** 74.12 337 P P **01 49 34.6 -0.5**
comp=Z,12nm,0.8s,baz=40,slow=6.2
NOA **NORSAR Array B** 74.12 337 P P **01 49 35.1 0.0**
comp=Z,7.8nm,1.0s,baz=38,slow=5.9,SNR=16
NOA pP **sP** **01 49 42.5 +0.2**
comp=Z,12nm,1.0s,baz=39,slow=5.9,SNR=13
comp=Z,7.8nm,1.0s
EGMT **Eagleton** 74.12 41 IAmb IAmb 01 49 37.8
comp=Z,26nm,1.2s
EGMT **Eagleton** 74.12 41 P P **01 49 36.7 +1.3**
baz=308
HLID **Hailey** 74.22 47 P P **01 49 38.0 +1.7**
baz=306,SNR=10
NC602 **NORSAR Array S** 74.25 337 *e*P P **01 49 36.0 +0.1**
AKASG **Malin Array Be** 74.27 322 P P **01 49 35.8 -0.4**
comp=Z,11nm,0.6s,baz=46,slow=6.4,SNR=35
AKASG pP **sP** **01 49 43.0 -0.3**
comp=Z,11nm,0.6s,baz=46,slow=6.0,SNR=18
comp=Z,11nm,0.6s
AKASG **Malin Array Be** 74.27 322 *ce*P P **01 49 35.7 -0.4**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKBB **Malin Array Si** 74.27 322 *ce*P P **01 49 35.3 -0.8**
AKBB pmax pmax
comp=Z,24nm,0.9s
GURO **Guroymak-BITLI** 74.35 307 IAmb IAmb 01 49 45.7
comp=Z,15nm,0.7s
BOZ **Bozeman (W)** 74.59 44 IAmb IAmb 01 49 40.8
comp=Z,13nm,1.0s
BOZ **Bozeman (W)** 74.59 44 P P **01 49 39.9 +1.6**
baz=308,SNR=13
KVN **Kaiserville** 74.61 53 IAmb IAmb 01 49 41.4
comp=Z,14nm,1.1s
LHV **Little Huntoon** 74.81 53 IAmb IAmb 01 49 43.0
comp=Z,19nm,1.1s
NVAR **Mina Array Bea** 74.84 53 P P **01 49 41.6 +1.6**
comp=Z,5.6nm,0.8s,baz=286,slow=6.0,SNR=28
comp=Z,5.6nm,0.8s
SIM **Simferopol'** 75.31 316 *e*P P **01 49 42.0 -0.3**
SIM pmax pmax
comp=Z,45nm,0.9s
YHB **Horse Butte** 75.35 45 IAmb IAmb 01 49 45.1
comp=Z,8.9nm,0.7s
YNR **Norris Junctio** 75.66 44 IAmb IAmb 01 49 48.1
comp=Z,12nm,1.2s
KONO **Kongsberg** 75.71 337 *e*P P **01 49 45.0 +0.8**
VES **Vestal, Richgr** 75.83 56 P P **01 49 46.6 +1.1**
baz=306
LKWY **Lake** 75.91 44 IAmb IAmb 01 49 50.4
comp=Z,25nm,1.4s
H17A **Grant Village** 75.92 45 IAmb IAmb 01 49 50.5
comp=Z,21nm,1.1s
H17A **Grant Village** 75.92 45 P P **01 49 49.0 +2.9**
baz=308,SNR=14
YMP **Mirror Lake Pl** 75.94 44 IAmb IAmb 01 50 07.5
comp=Z,11nm,1.2s
IMW **Indian Meadow** 76.02 45 IAmb IAmb 01 49 50.1
comp=Z,12nm,1.1s
CWC **Cottonwood Cre** 76.14 55 P P **01 49 48.5 +1.1**
baz=306
RLMT **Red Lodge** 76.19 44 IAmb IAmb 01 49 50.5
comp=Z,17nm,1.5s
RLMT **Red Lodge** 76.19 44 P P **01 49 49.1 +1.5**
baz=309,SNR=5.3
GRAC **Grapevine Rang** 76.28 54 IAmb IAmb 01 49 50.9
comp=Z,15nm,1.1s
GRAC **Grapevine Rang** 76.28 54 P P **01 49 50.0 +2.0**
baz=306,SNR=7.4
ISA **Isabella, Lake** 76.34 56 P P **01 49 49.5 +1.0**
baz=306
SORM **Soroca** 76.36 321 ⇓P P **01 49 48.0 -0.2**
R11A **Troy Canyon, C** 76.61 52 IAmb IAmb 01 49 52.9
comp=Z,12nm,1.2s
R11A **Troy Canyon, C** 76.61 52 P P **01 49 51.1 +1.0**
baz=307,SNR=14
DGMT **Dagmar** 76.69 39 IAmb IAmb 01 49 59.2
comp=Z,20nm,1.0s
DGMT **Dagmar** 76.69 39 P P **01 49 51.4 +1.3**
baz=312
DGMT **Dagmar** 76.69 39 P P **01 49 51.4 +1.3**
baz=312
MPMC **Manual Prospec** 76.75 55 P P **01 49 52.3 +1.3**
baz=306
TOKA **Tokat** 76.77 311 IAmb IAmb 01 50 03.6
comp=Z,16nm,1.1s
LAO **LASA Array** 76.82 41 IAmb IAmb 01 49 53.7
comp=Z,18nm,1.0s
LAO **LASA Array** 76.82 41 P P **01 49 52.7 +1.7**
baz=311
LAO **LASA Array** 76.82 41 P P **01 49 52.1 +1.2**
baz=311
FURC **Furnace Creek,** 76.92 54 P P **01 49 53.7 +2.2**
baz=307
SPR3 **Spring Creek 3** 77.00 51 IAmb IAmb 01 49 56.8
comp=Z,4.5nm,1.0s
TPNV **Topopah Spring** 77.03 53 IAmb IAmb 01 49 55.0
comp=Z,13nm,1.2s
TPNV **Topopah Spring** 77.03 53 P P **01 49 53.9 +1.5**
baz=307,SNR=7.6
HWUT **Hardware Ranch** 77.08 47 IAmb IAmb 01 49 55.7
comp=Z,19nm,1.4s
EDW2 **Edwards Air Fo** 77.12 56 P P **01 49 54.1 +1.3**
baz=306
DUG **Dugway, Tooele** 77.20 49 P P **01 49 55.1 +1.7**
baz=308,SNR=8.0
QSM **Queen of Sheba** 77.21 55 IAmb IAmb 01 49 55.9
comp=Z,12nm,1.0s
LVV **L'vov** 77.34 324 *e*P P **01 49 52.9 -0.8**
BW06 **Boulder Array** 77.51 46 P P **01 49 55.9 +0.8**
baz=309,SNR=7.8
PDAR **Pinedale Array** 77.51 46 P P **01 49 56.1 +0.9**
comp=Z,2.7nm,0.6s,baz=275,slow=2.1,SNR=37
comp=Z,2.7nm,0.6s
PRN **Pahroc Range** 77.52 52 IAmb IAmb 01 49 58.1
comp=Z,9.0nm,1.0s
GSC **Goldstone, Bar** 77.65 55 P P **01 49 56.7 +0.9**
baz=307
CIS **Catalina Islan** 77.71 57 P P **01 49 56.5 +0.4**
baz=307
VLDR **Vladesti** 78.01 319 ⇓P P **01 49 58.1 +0.6**
VARL **Varlezi** 78.10 319 ⇑P P **01 49 57.8 -0.2**
TUQ **Turquoise Moun** 78.14 55 P P **01 50 00.3 +1.6**
baz=307
SCTR **Scanteiesti** 78.17 319 ⇑P P **01 49 59.3 +0.9**
BUR08 **Bucovina Ar. S** 78.27 322 IAmb IAmb 01 50 07.6
comp=Z,11nm,0.8s
BURAR **Bucovina Array** 78.28 322 ⇑P P **01 49 59.8 +0.7**
BURAR **Bucovina Array** 78.28 322 IAmb IAmb 01 50 08.0
comp=Z,15nm,0.8s
BURAR **Bucovina Array** 78.28 322 ⇑P P **01 49 59.8 +0.7**
TESR **Tescani** 78.31 320 ⇓P P **01 49 59.4 +0.2**
CFR **Carcaliu** 78.42 319 ⇑P P **01 49 58.9 -0.9**
CFR **Carcaliu** 78.42 319 ⇑P P **01 49 58.9 -0.9**
TPGR **Topolog** 78.49 318 ⇑P P **01 49 59.4 -0.9**
MVU **Marysvale** 78.61 50 IAmb IAmb 01 50 04.0

comp=Z,21nm,1.0s
VRI **Vrincioaia** 78.70 320 ⇑P P **01 50 02.3 +0.9**
VRI **Vrincioaia** 78.70 320 ⇑P P **01 50 02.3 +0.9**
GMRC **Granite Mounta** 78.71 55 P P **01 50 03.0 +1.2**
baz=308
PLOR **Plostina** 78.75 320 ⇑P P **01 50 03.4 +1.7**
PLOR **Plostina** 78.75 320 ⇑P P **01 50 03.4 +1.7**
BR131 **Keskin Array S** 78.85 312 IAmb IAmb 01 50 13.5
comp=Z,11nm,0.8s
BRTR **Keskin Array B** 78.85 312 P P **01 50 02.5 0.0**
comp=Z,4.1nm,0.8s,baz=89,slow=3.9,SNR=18
comp=Z,4.1nm,0.8s
HARR **Harsova** 78.86 318 ⇓P P **01 50 02.6 +0.4**
HARR **Harsova** 78.86 318 ⇓P P **01 50 02.6 +0.4**
TLBR **Topalu** 78.89 318 ⇑P P **01 50 02.4 0.0**
RDMU **Red Mountain** 78.90 47 IAmb IAmb 01 50 12.6
comp=Z,20nm,1.1s
P17A **Butcher Ranch,** 78.90 49 IAmb IAmb 01 50 05.1
comp=Z,8.2nm,0.7s
STHS **Stebnicka Huta** 78.92 325 *e*P P **01 50 02.7 +0.2**
STHS **Stebnicka Huta** 78.92 325 *e*P P **01 50 02.7 +0.2**
STHS pmax pmax
comp=Z,10.0nm,1.0s
BISRR **Bisoca** 78.92 319 ⇓P P **01 50 01.3 -1.4**
COVR **Voineasa-Covas** 78.98 320 ⇑P P **01 50 03.8 +0.8**
UZH **Uzhgorod** 78.99 324 *e*P P **01 50 02.5 -0.4**
UZH *i* 01 50 11.0
OJC **Ojcow** 79.00 326 *e*P P **01 50 00.7 -2.3**
OZUR 79.03 320 ⇓P P **01 50 04.4 +1.2**
ARCR **ARCALIA** 79.07 322 ⇑P P **01 50 04.3 +0.9**
KNB **Kanab** 79.16 52 IAmb IAmb 01 50 07.7
comp=Z,20nm,1.3s
CRVS **Cervenica-Dubn** 79.19 324 *e*P P **01 50 04.7 +0.7**
CRVS **Cervenica-Dubn** 79.19 324 *e*P P **01 50 04.7 +0.7**
CRVS pmax pmax
comp=Z,17nm,1.2s
TRPA **Tarpa** 79.22 323 ⇑P P **01 50 04.9 +0.7**
TRPA **Tarpa** 79.22 323 P P **01 50 04.6 +0.4**
SRU **San Rafael Swe** 79.26 49 IAmb IAmb 01 50 06.8
comp=Z,9.4nm,0.6s
K22A **Casper** 79.30 44 P P **01 50 05.9 +1.0**
baz=311
ICOR **Ion Corvin** 79.31 318 ⇑P P **01 50 05.7 +1.0**
DOPR **Dopca** 79.32 320 ⇑P P **01 50 06.2 +1.4**
ULM **Lac du Bonnet** 79.35 33 P P **01 50 05.1 +0.3**
comp=Z,6.9nm,0.8s,baz=4.6,slow=3.5,SNR=5.1
comp=Z,6.9nm,0.8s
MDND **Maddock** 79.36 37 P P **01 50 05.9 +1.0**
baz=315
MLR **Muntele Rosu** 79.36 320 ⇑P P **01 50 04.9 -0.3**
MLR **Muntele Rosu** 79.36 320 ⇑P P **01 50 04.9 -0.3**
IRM **Iron Mountain** 79.43 55 P P **01 50 06.4 +0.8**
baz=308
BC3 **Big Chuckawall** 79.53 56 P P **01 50 07.7 +1.4**
baz=308
RSSD **Black Hills** 79.67 42 P P **01 50 07.3 +0.3**
RSSD **Black Hills** 79.67 42 P P **01 50 07.8 +0.8**
baz=312
RSSD **Black Hills** 79.67 42 P P **01 50 07.6 +0.6**
baz=312
RSSD **Black Hills** 79.67 42 P P **01 50 07.3 +0.3**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
CJR **Cluj-Napoca** 79.70 322 ⇑P P **01 50 07.9 +1.0**
CJR **Cluj-Napoca** 79.70 322 ⇑P P **01 50 07.9 +1.0**
MESR **Meseseni** 79.72 322 ⇓P P **01 50 08.2 +1.3**
ABAH **Abaujker** 79.72 324 P P **01 50 07.5 +0.7**
VOIR 79.86 320 ⇑P P **01 50 08.3 +0.5**
VOIR 79.86 320 ⇑P P **01 50 08.3 +0.5**
O20A **White River Ci** 79.96 47 P P **01 50 09.3 +0.7**
baz=311
PDMCI **Parker Dam,Lak** 80.00 55 P P **01 50 10.1 +1.4**
baz=308
ARR **Arges** 80.12 320 ⇑P P **01 50 10.7 +1.5**
MORC **Moravsky Berou** 80.31 327 ⇑P P **01 50 11.0 +0.9**
MORC **Moravsky Berou** 80.31 327 IAmb IAmb 01 50 18.8
comp=Z,17nm,1.1s
MORC **Moravsky Berou** 80.31 327 *e*P P **01 50 10.8 +0.7**
MORC *e* 01 50 18.1
MORC **Moravsky Berou** 80.31 327 ⇑P P **01 50 11.0 +0.9**
GLA **Glamis** 80.32 56 P P **01 50 11.7 +1.3**
baz=308
DPC **Dobruska-Polom** 80.41 328 *e*P P **01 50 11.3 +0.7**
DPC *e*PCP **PcP** **01 50 18.1 +0.4**
DPC **Dobruska-Polom** 80.41 328 *e*P P **01 50 11.3 +0.7**
DPC *e* 01 50 18.1
KRLC **Kraliky** 80.42 328 *e*P P **01 50 11.3 +0.6**
KRLC *e*PCP **PcP** **01 50 18.4 +0.7**
KRLC **Kraliky** 80.42 328 *e*P P **01 50 11.3 +0.6**
KRLC *e* 01 50 18.4
UPC **Upice** 80.42 328 *e*P P **01 50 11.5 +0.8**
UPC **Upice** 80.42 328 *e*P P **01 50 11.5 +0.8**
LOT **Lotru** 80.50 321 ⇓P P **01 50 10.7 -0.6**
PV23 **Carpenter Ridg** 80.59 49 IAmb IAmb 01 50 15.0
comp=Z,43nm,1.5s
PSZ **Piszkesteto** 80.62 325 ⇓P P **01 50 12.7 +0.9**
PSZ **Piszkesteto** 80.62 325 IAmb IAmb 01 50 20.7
comp=Z,18nm,1.0s
PSZ **Piszkesteto** 80.62 325 P P **01 50 12.6 +0.7**
PSZ **Piszkesteto** 80.62 325 ⇓P P **01 50 12.7 +0.9**
PV10 **Paradox Valley** 80.62 49 IAmb IAmb 01 50 15.2
comp=Z,19nm,0.7s
VYHS **Vyhne** 80.69 325 *e*P P **01 50 13.0 +0.9**
VYHS **Vyhne** 80.69 325 *e*P P **01 50 13.0 +0.9**
VYHS pmax pmax
comp=Z,10.0nm,1.1s
PV11 **David Mesa, Pa** 80.77 49 IAmb IAmb 01 50 16.4
comp=Z,15nm,0.7s
N23A **Red Feather La** 80.78 45 IAmb IAmb 01 50 15.9
comp=Z,14nm,1.1s
N23A **Red Feather La** 80.78 45 P P **01 50 14.0 +0.9**
baz=312,SNR=6.0
AGMN **Agassiz Nation** 80.78 35 IAmb IAmb 01 50 13.6
comp=Z,18nm,1.1s
AGMN **Agassiz Nation** 80.78 35 P P **01 50 12.6 0.0**
baz=317
AGMN **Agassiz Nation** 80.78 35 P P **01 50 12.5 0.0**
baz=317
PV13 **Radium Mtn., P** 80.89 49 IAmb IAmb 01 50 16.4
comp=Z,34nm,1.4s
SIRR **Siria** 80.97 322 ⇓P P **01 50 14.3 +0.7**
BRG **Berggiesshubel** 81.00 329 *e*P P **01 50 14.3 +0.5**
BRG Amp 01 50 15.1
comp=Z,8.9nm,1.0s
BRG *ex* x 01 50 21.5
BRG Amp 01 50 22.2
comp=Z,11nm,1.0s
BRG Amp 01 56 51.0
comp=N,2.4nm,21.0s
BRG Amp 01 57 05.0
comp=Z,3.4nm,19.9s
BRG Amp 01 57 08.0
comp=E,1.3nm,19.7s
BRG **Berggiesshubel** 81.00 329 *e*P P **01 50 14.2 +0.5**
BRG *e* 01 50 21.5
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,11nm,1.0s
PVCC **Panska Ves** 81.01 329 *e*P P **01 50 14.7 +0.9**
PVCC *e*PCP **PcP** **01 50 21.7 +1.5**
PVCC **Panska Ves** 81.01 329 *e*P P **01 50 14.7 +0.9**
PVCC *e* 01 50 21.7
WUAZ **Wupatki** 81.01 52 P P **01 50 15.1 +0.8**
baz=310,SNR=5.0
GZR **Gura Zlata** 81.04 321 ⇓P P **01 50 14.1 0.0**
GZR **Gura Zlata** 81.04 321 ⇓P P **01 50 14.1 0.0**
CLL **Collm** 81.04 330 IAmb IAmb 01 50 22.1
comp=Z,19nm,0.9s
CLL **Collm** 81.04 330 ⇓*i*P P **01 50 14.0 +0.1**
comp=Z,18nm,1.0s
CLL *ex* x 01 50 18.0
CLL *i*PcP **PcP** **01 50 21.2 +0.9**
comp=Z,22nm,0.9s
CLL **Collm** 81.04 330 ⇓*i*P P **01 50 14.0 +0.1**
CLL *i* 01 50 21.2
CLL pmax pmax
comp=Z,18nm,1.0s
VRAC **Vranov** 81.08 327 ⇓P P **01 50 14.9 +0.7**
VRAC **Vranov** 81.08 327 P P **01 50 14.9 +0.7**
comp=Z,7.3nm,0.9s,baz=54,slow=4.1,SNR=7.7
comp=Z,7.3nm,0.9s
VRAC **Vranov** 81.08 327 *e*P P **01 50 14.8 +0.7**
VRAC *e* 01 50 22.2
SURR **Surduc** 81.10 322 ⇓P P **01 50 14.9 +0.6**

VLAD	Vladila	81.18	319	⇓P		P	01 50 14.9	+0.1
KRUC	Moravsky	81.35	327	*e*P		P	01 50 16.1	+0.5
KRUC				*e*			01 50 22.8	
GOPC	GO Pecny, Ondr	81.39	328	*e*P		P	01 50 16.4	+0.6
GOPC	GO Pecny, Ondr	81.39	328	*e*P		P	01 50 16.4	+0.6
SRO	Srobarova	81.42	325	*e*P		P	01 50 17.1	+1.1
SRO	Srobarova	81.42	325	*e*P		P	01 50 17.1	+1.1
PRU	Pruhonice	81.43	329	*e*P		P	01 50 16.7	+0.7
PRU				*e*PCP		PcP	01 50 23.7	+1.6
PRU	Pruhonice	81.43	329	*e*P		P	01 50 16.7	+0.7
PRU				*e*			01 50 23.7	
MODS	Modra-Piesok	81.47	326	*e*P		P	01 50 17.4	+1.1
MODS	Modra-Piesok	81.47	326	*e*P		P	01 50 17.4	+1.1
MODS				pmax		pmax		
	comp=Z,35nm,1.3s							
PLVB	Pleven	81.49	319	⇓P		P	01 50 16.6	+0.1
ASF	Jabal al Asfar	81.52	304	P		P	01 50 17.7	+0.7
	comp=Z,4.7nm,0.9s,baz=233,slow=4.8,SNR=3.2							
	comp=Z,4.7nm,0.9s							
HERR	Herculane	81.58	321	⇑P		P	01 50 17.1	+0.2
B35A	Bob, Littlefor	81.70	34	IAmb		IAmb	01 50 25.9	
	comp=Z,17nm,0.9s							
B35A	Bob, Littlefor	81.70	34	P		P	01 50 17.4	0.0
	baz=319							
MVCO	Mesa Verde	81.70	49	P		P	01 50 19.1	+1.1
	baz=311							
MMAI	Mount Meron Ar	81.98	305	P		P	01 50 19.8	+0.4
	comp=Z,7.2nm,0.8s,baz=61,slow=6.9,SNR=8.8							
MMAI				pP		PcP	01 50 27.1	+2.2
	comp=Z,18nm,1.0s,baz=57,slow=6.4,SNR=10							
	comp=Z,7.2nm,0.8s							
SUSD	Miller	82.08	39	P		P	01 50 20.4	+0.8
	baz=316							
MPLH	Magyarpolny	82.25	325	P		P	01 50 19.6	-0.8
S22A	4UR Ranch, Cre	82.35	48	P		P	01 50 23.1	+1.5
	baz=312							
F33A	5 Mile Ranch,	82.38	37	P		P	01 50 21.6	+0.5
	baz=317							
RONA	Rosalia, Austr	82.42	326	*e*P		P	01 50 22.4	+1.1
	comp=Z,7.6nm,0.8s							
CKRC	Cesky Krumlov	82.43	328	*e*P		P	01 50 21.2	-0.1
CKRC				*ex*		x	01 50 28.9	
CONA	Conrad Observa	82.44	327	*e*P		P	01 50 22.4	+0.9
	comp=Z,9.1nm,1.2s							
MORH	Mrgy, Hungar	82.45	324	⇑P		P	01 50 21.5	+0.1
MORH	Mrgy, Hungar	82.45	324	P		P	01 50 20.9	-0.5
KHC	Kasperske Hory	82.50	329	IAmb		IAmb	01 50 30.3	
	comp=Z,13nm,0.8s							
KHC	Kasperske Hory	82.50	329	*e*P		P	01 50 22.1	+0.4
KHC				*e*PCP		PcP	01 50 29.2	+2.4
KHC	Kasperske Hory	82.50	329	*e*P		P	01 50 22.1	+0.4
KHC				*e*			01 50 29.2	
Q24A	Divide	82.53	46	P		P	01 50 22.9	+0.5
	baz=312							
RDO	Rodhopi	82.55	317	IAmb		IAmb	01 50 32.3	
	comp=Z,8.1nm,0.8s							
GEC2	GERESS Array S	82.66	328	IAmb		IAmb	01 50 30.8	
	comp=Z,7.2nm,0.9s							
GERES	GERESS Array B	82.66	328	P		P	01 50 22.5	-0.1
	comp=Z,2.5nm,0.6s,baz=42,slow=5.3,SNR=19							
GERES				pP		PcP	01 50 30.0	+2.4
	comp=Z,4.3nm,0.7s,baz=39,slow=5.1,SNR=15							
	comp=Z,2.5nm,0.6s							
VTS	Vitosha	82.76	319	⇓P		P	01 50 23.8	+0.5
VTS	Vitosha	82.76	319	IAmb		IAmb	01 50 32.2	
	comp=Z,10.0nm,0.8s							
VTS	Vitosha	82.76	319	⇓P		P	01 50 23.8	+0.5
KOVH	Kovagotottos	82.80	324	P		P	01 50 22.6	-0.6
EYMN	Ely	82.99	33	IAmb		IAmb	01 50 25.6	
	comp=Z,17nm,1.0s							
EYMN	Ely	82.99	33	P		P	01 50 24.3	+0.1
	baz=320							
GRFO	Grafenberg	83.02	330	P		P	01 50 22.6	-1.8
GRFO	Grafenberg	83.02	330	P		P	01 50 22.6	-1.8
GRFO				pmax		pmax		
	comp=Z,26nm,1.0s							
EKA	Eskdalemuir Ar	83.05	341	P		P	01 50 25.4	+1.0
	comp=Z,4.2nm,0.8s,baz=42,slow=3.8,SNR=4.2							
	comp=Z,4.2nm,0.8s							
SDCO	Great Sand Dun	83.14	47	IAmb		IAmb	01 50 28.2	
	comp=Z,9.3nm,1.2s							
SDCO	Great Sand Dun	83.14	47	P		P	01 50 26.9	+1.3
	baz=312							
SDCO	Great Sand Dun	83.14	47	P		P	01 50 27.1	+1.5
	baz=312,SNR=6.9							
MOA	Molln	83.19	327	*e*P		P	01 50 25.6	+0.3
	comp=Z,8.2nm,1.2s							
DIVS	Divibare	83.35	322	IAmb		IAmb	01 50 34.5	
	comp=Z,17nm,1.3s							
TUC	Tucson	83.43	54	P		P	01 50 28.1	+1.2
	baz=310							
BIOA	Bad Ischl, Aus	83.58	328	*e*P		P	01 50 27.9	+0.5
	comp=Z,7.0nm,0.7s							
GROS	Grobnik	83.71	326	*e*P		P	01 50 28.3	+0.2
PERS	Pernice	83.75	326	*i* P		P	01 50 28.7	+0.5
SOKA	Soboth	83.75	326	*e*P		P	01 50 28.5	+0.2
	comp=Z,14nm,0.9s,SNR=11							
ECSD	EROS Data Cent	83.76	38	P		P	01 50 28.9	+0.6
	baz=317,SNR=5.9							
STIP	Stip	83.96	319	*i* P		P	01 50 28.9	-0.5
E38A	The Farm, Brul	83.99	34	P		P	01 50 29.1	-0.2
	baz=320							
GOLS	Golise	84.00	325	*i* P		P	01 50 29.6	+0.1
VAY	Valandovo	84.03	319	*i* P		P	01 50 30.3	+0.6
OBKA	Obir	84.10	326	*e*P		P	01 50 30.6	+0.5
	comp=Z,4.9nm,0.9s							
SKO	Skopje	84.15	320	*i* P		P	01 50 31.4	+1.0
T25A	Trinidad	84.19	47	IAmb		IAmb	01 50 33.3	
	comp=Z,12nm,0.9s							
T25A	Trinidad	84.19	47	P		P	01 50 31.9	+1.0
	baz=313,SNR=7.3							
EIL	Elat	84.40	303	P		P	01 50 31.9	+0.1
	comp=Z,11nm,0.7s,baz=342,slow=7.6,SNR=8.2							
	comp=Z,11nm,0.7s							
ANMO	Albuquerque	84.44	50	*ce*P		P	01 50 33.5	+1.3
ANMO				pmax		pmax		
	comp=Z,13nm,1.7s							
BGNE	Belgrade	84.67	41	P		P	01 50 33.3	+0.3
	baz=316							
Y22D	IRIS PASSCAL I	84.73	51	P		P	01 50 35.4	+1.8
	baz=312							
Y22F	Passcal Instru	84.73	51	P		P	01 50 34.9	+1.3
	baz=312							
WATA	Walderalm	84.73	328	*i* P		P	01 50 32.6	-0.8
	comp=Z,8.3nm,1.0s							
ABTA	Abfaltersbach	84.80	328	*i* P		P	01 50 33.4	-0.2
	comp=Z,9.0nm,1.3s							
MOTA	Moosalm	84.92	329	*e*P		P	01 50 34.6	+0.2
	comp=Z,7.4nm,1.0s							
PDG	Podgorica	84.93	321	⇓P		P	01 50 34.5	+0.2
RETA	Reutte	84.95	329	*i* P		P	01 50 34.6	+0.2
	comp=Z,8.5nm,0.8s,SNR=5.7							
STAL	STALIGIAL	85.09	327	IAmb		IAmb	01 50 34.6	
	comp=Z,16nm,1.2s							
OHR	Ohrid	85.11	319	*i* P		P	01 50 35.8	+0.6
I37B	Waseca	85.11	36	P		P	01 50 36.4	+1.3
	baz=319							
SCHQ	Schefferville	85.20	16	P		P	01 50 36.3	+0.9
	comp=Z,16nm,1.0s,baz=350,slow=6.3,SNR=8.1							
	comp=Z,16nm,1.0s							
121A	Cookes Peak, D	85.21	52	IAmb		IAmb	01 50 47.9	
	comp=Z,12nm,1.2s							
121A	Cookes Peak, D	85.21	52	P		P	01 50 37.2	+1.2
	baz=312							
121A	Cookes Peak, D	85.21	52	P		P	01 50 37.3	+1.2
	baz=312							
BFO	Black Forest	85.25	331	P		P	01 50 35.5	-0.3
BFO	Black Forest	85.25	331	P		P	01 50 35.5	-0.3
BFO				pmax		pmax		
	comp=Z,17nm,0.9s							
FETA	Feichten	85.34	329	*e*P		P	01 50 36.8	+0.3
	comp=Z,10nm,1.1s,SNR=5.8							
DAVA	Damuels	85.47	329	*i* P		P	01 50 37.1	0.0
	comp=Z,18nm,1.0s							
G40A	Rib Lake	85.62	34	IAmb		IAmb	01 50 39.2	
	comp=Z,14nm,0.9s							
CBKS	Cedar Bluff	85.68	43	P		P	01 50 38.4	+0.3
	baz=316							
ECH	Echery	85.80	331	IAmb		IAmb	01 50 46.0	
	comp=Z,15nm,1.1s							
FUORN	Ofenpass-Fuorn	85.85	329	IAmb		IAmb	01 50 47.4	
	comp=Z,14nm,1.0s							
DAVOX	Davos/Dischmat	85.88	329	P		P	01 50 39.6	+0.4
	comp=Z,3.4nm,0.9s,baz=129,slow=2.2,SNR=4.9							
	comp=Z,3.4nm,0.9s							
KSU1	Kansas State U	87.16	41	P		P	01 50 45.8	+0.4
	baz=317							
KSU1	Kansas State U	87.16	41	P		P	01 50 46.0	+0.7
	baz=317,SNR=5.2							
MSTX	Muleshoe	87.33	49	P		P	01 50 46.6	+0.2
	baz=314							
AMTX	Amarillo	87.34	47	IAmb		IAmb	01 50 48.8	
	comp=Z,14nm,1.0s							
AMTX	Amarillo	87.34	47	P		P	01 50 47.9	+1.5
	baz=315							
AMTX	Amarillo	87.34	47	P		P	01 50 47.5	+1.1
	baz=315							
JFWS	Jewell Farm	87.43	35	P		P	01 50 46.9	+0.3
	baz=321							
P40A	Paris	89.17	38	IAmb		IAmb	01 50 56.2	
	comp=Z,8.0nm,0.7s							
P40A	Paris	89.17	38	P		P	01 50 55.6	+0.7
	baz=320							
TUL1	Leonard	89.94	43	P		P	01 50 59.0	+0.4
	baz=318							
TX31	Lajitas Ar. Si	89.97	52	IAmb		IAmb	01 51 00.6	
	comp=Z,10nm,0.8s							
TX31	Lajitas Ar. Si	89.97	52	P		P	01 50 59.3	+0.4
	baz=314							
TXAR	Lajitas Array	89.97	52	P		P	01 51 00.0	+1.1
	comp=Z,3.1nm,0.7s,baz=296,slow=3.2,SNR=36							
	comp=Z,3.1nm,0.7s							
R40A	Maddies Statio	90.01	39	P		P	01 50 57.8	-1.0
	baz=320							
ABTX	Abilene, Hawle	90.14	48	P		P	01 51 00.5	+0.9
	baz=316							
U38A	Gravette	90.31	42	IAmb		IAmb	01 51 01.6	
	comp=Z,6.6nm,0.8s							
U38A	Gravette	90.31	42	P		P	01 51 00.8	+0.6
	baz=319							
HHAR	Hobbs	90.66	42	IAmb		IAmb	01 51 03.5	
	comp=Z,5.2nm,0.7s							
HHAR	Hobbs	90.66	42	P		P	01 51 02.2	+0.3
	baz=319							
CCM	Cathedral Cave	90.71	39	P		P	01 51 01.9	-0.2
	baz=321							
MGMO	Mountain Grove	90.88	40	IAmb		IAmb	01 51 04.5	
	comp=Z,5.0nm,0.8s							
Z35A	Perchaven, San	91.02	46	P		P	01 51 03.8	+0.2
	baz=317							
JCT	Junction City	91.57	49	IAmb		IAmb	01 51 08.5	
	comp=Z,5.4nm,0.8s							
JCT	Junction City	91.57	49	P		P	01 51 06.4	+0.1
	baz=316							
O48B	Farmland	91.85	34	P		P	01 51 07.4	0.0
	baz=325							
WHTX	Lake Whitney,	91.87	47	P		P	01 51 08.0	+0.4
	baz=317							
FCAR	Ozark Folk Cen	91.92	41	IAmb		IAmb	01 51 08.8	
	comp=Z,7.1nm,0.9s							
MIAR	Mount Ida	92.17	43	IAmb		IAmb	01 51 10.8	
	comp=Z,9.4nm,0.8s							
MIAR	Mount Ida	92.17	43	P		P	01 51 09.5	+0.6
	baz=319,SNR=7.2							
ACSO	Alum Creek Sta	92.82	33	P		P	01 51 11.8	0.0
	baz=326							
VNDA	Vanda	115.08	175	PKP		PKiKP	01 56 39.7	+0.7
	comp=Z,0.9nm,0.9s,baz=298,slow=3.2,SNR=6.3							
TORD	Torodi Ar. Bea	117.32	315	PKP		PKPdf	01 56 44.5	-0.7
	comp=Z,0.8nm,0.8s,baz=42,slow=1.1,SNR=5.7							
TORD				PP		PP	01 57 53.1	-2.2
	comp=Z,5.8nm,1.1s,baz=31,slow=7.0,SNR=10.0							
BOSA	Boshof	126.69	259	PKP		PKPdf	01 57 03.1	+0.2
	comp=Z,4.9nm,0.9s,baz=72,slow=2.3,SNR=8.1							
SNAA	Sanae	140.89	197	PKPdf		PKPdf	01 57 24.6	-3.5
VNA2	Neumayer--Watz	142.46	196	PKPdf		PKPdf	01 57 27.3	-3.6
	baz=109,slow=2.4							
VNA3	Neumayer Olymp	142.70	195	PKPdf		PKPdf	01 57 28.4	-2.9
VNA1	Neumayer--Stat	142.86	196	PKPdf		PKPdf	01 57 29.4	-2.1
LPAZ	La Paz	146.55	60	PKPbc		PKPbc	01 57 42.1	+0.3
	comp=Z,9.1nm,0.5s,baz=340,slow=2.0,SNR=51							
H03N2	Juan Fernandez	146.94	96	T		T	04 41 52.4	
	baz=291,slow=76,SNR=17							
H03N3	Juan Fernandez	146.95	96	T		T	04 41 53.4	
	baz=291,slow=76,SNR=21							
H03N1	Juan Fernandez	146.95	96	T		T	04 42 00.0	
	baz=291,slow=76,SNR=24							

JMA 22 01:41:35.0±0.1, 37°.3N±0°.5×141°.6E±0°.8, h35km±2km, MV2.7/11, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.55	277	P	Pn	01 41 46.0	-0.4
JFK				*e*S	Sn	01 41 53.9	-0.3
JMST	Minamisoumatoc	0.68	308	P	Pn	01 41 48.1	0.0
JMST				S	Sn	01 41 57.4	-0.1
JMM	Marumori	0.83	313	*e*P	Pn	01 41 50.0	-0.1
JMM				S	Sn	01 42 01.1	0.0
JIO	Ouri	1.16	352	*e*P	Pn	01 41 55.4	+0.7

IDC 22 01:41:46.7±1.6, 37°.30N×141°.62E, h0km, mb3.6/3, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=40.5km s-min=32.5km az=125.0

JMA 22 01:41:49.2±0.1, 37°.4N±0°.3×141°.5E±0°.6, h23km±1km, MV3.7/39, E OFF FUKUSHIMA PREF

ISC 22 01:41:47.9±2.2, 37°.36N±0°.05×141°.58E±0°.09, h9km±11km, n16, σ0°83/18, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.56	271	P	Pg	01 41 59.5	+0.7
JFK				S	Sg	01 42 06.7	+0.6
JMST	Minamisoumatoc	0.66	304	P	Pg	01 42 00.9	+0.3
JMST				S	Sg	01 42 09.3	0.0
JMM	Marumori	0.81	309	S	Sg	01 42 13.3	-0.5
JFFD	Fukushimafurud	0.86	252	P	Pg	01 42 04.2	-0.1
JFFD				S	Sg	01 42 15.0	-0.5
JHO	Hitachi	1.10	228	*e*S	Sg	01 42 21.5	-1.9
JOU	Okura	1.24	324	P	Pn	01 42 10.9	-0.5
JOU				S	Sg	01 42 26.6	-1.2
JYS	Shirataka	1.48	306	*e*P	Pn	01 42 15.1	+0.4
JYS				*e*S	Sn	01 42 33.5	-0.6
JFY	Yanaizu	1.50	272	P	Pn	01 42 15.4	+0.5
JFY				S	Sn	01 42 34.1	-0.4
MJAR	Matsushiro Arr	2.82	254	Pn	Pn	01 42 34.2	+1.1
	0.6nm,0.3s,baz=76,slow=18,SNR=1.4						
MJAR	Matsushiro Arr	2.82	254				
	3.1nm,0.4s						
MKAR	Makanchi Array	44.06	302	P	P	01 49 55.8	-0.3
	1.0nm,0.7s,baz=99,slow=4.7,SNR=2.7						
MKAR	Makanchi Array	44.06	302				
	1.0nm,0.7s						
ILAR	Eielson Array	49.15	33	P	P	01 50 36.4	+0.7
	0.5nm,0.8s,baz=269,slow=6.3,SNR=2.3						
ILAR	Eielson Array	49.15	33				
	0.5nm,0.8s						
WRA	Warramunga Arr	57.40	188	P	P	01 51 36.5	-0.3
	0.6nm,0.6s,baz=4.4,slow=7.2,SNR=2.7						
WRA	Warramunga Arr	57.40	188				
	0.6nm,0.6s						

LDG 22 01:42:04.3±0.0, 45°.65N×6°.35E, h2km, Md2.4/2, Ml2.5/30, Error ellipse: s-maj=0.9km s-min=0.8km az=71.0

STR 22 01:42:04.1±0.2, 46°N±2°.×±°, h12km±2km, MLv2.1/28, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8, preliminary

ZUR 22 01:42:04.1, 45°.65N×6°.35E, h10km±3km, MLh1.8/12, Error ellipse: s-maj=6.8km s-min=1.4km az=171.0

GEN 22 01:42:04.2, 45°.65N×6°.42E, h12km±1km, Ml1.5

ISC 22 01:42:04.3±0.8, 45°.65N±0°.01×6°.32E±0°.02, h12km±7km, n90, σ1°38/152, 5D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSL	Roselend	0.21	79	⇓Pg	Pg	01 42 08.5	-0.4
RSL				Sg	Sg	01 42 11.3	-0.9
RSL	Roselend	0.21	79	P	Pg	01 42 08.5	-0.4
RSL				S	Sg	01 42 11.3	-0.9
RSL	Roselend	0.21	79	Pg	Pg	01 42 08.5	-0.4
RSL				Sg	Sg	01 42 11.3	-0.9
LPL	La Plagne	0.32	115	*e*Pg	Pg	01 42 10.2	-0.6
LPL				*e*Sg	Sg	01 42 13.3	-1.8
	34nm,0.2s						
OGSM	Saint Maurice	0.44	265	Pg	Pg	01 42 13.0	0.0
OGSM				Sg	Sg	01 42 19.4	+0.5
GDM	Grand'Maison	0.47	198	Pg	Pg	01 42 13.0	-0.5
GDM				Sg	Sg	01 42 18.9	-0.9
OGMO	Fort Saint-Gob	0.51	150	P	Pg	01 42 14.3	+0.1
OGMO				S	Sg	01 42 20.5	-0.5
OGMO	Fort Saint-Gob	0.51	150	Pg	Pg	01 42 14.2	0.0
OGMO				Sg	Sg	01 42 20.5	-0.5
OG02	Monnetier-Morn	0.51	352	Pg	Pg	01 42 14.1	-0.2
OG02				Sg	Sg	01 42 21.2	0.0
OGSI	Sixt	0.52	36	Sg	Sg	01 42 20.4	-0.8
OGSI	Sixt	0.52	36	Pg	Sg	01 42 13.9	-0.5
OGSI				Sg	Sg	01 42 20.1	-1.1
MRGE	Morge	0.53	76	⇓Pg	Pg	01 42 14.3	-0.4
MRGE				Sg	Sg	01 42 21.1	-0.6
MRGE	Morge	0.53	76	P	Pg	01 42 14.3	-0.4
MRGE				S	Sg	01 42 21.1	-0.6
LSD	Lago del Serru	0.60	108	P	Pg	01 42 15.4	-0.6
LSD				S	Sg	01 42 22.4	-1.5
REMY	Saint-Rhmy-en	0.61	72	Pg	Pg	01 42 16.0	-0.3
REMY				Sg	Sg	01 42 23.9	-0.6
REMY	Saint-Rhmy-en	0.61	72	P	Pg	01 42 16.0	-0.3
REMY				S	Sg	01 42 24.0	-0.4
BNI	Bardonecchia	0.65	157	Sg	Sg	01 42 25.1	-0.3
BNI	Bardonecchia	0.65	157	P	Pg	01 42 16.6	-0.3
BNI				S	Sg	01 42 25.1	-0.3
OG35	Corcelles	0.66	307	⇓Pg	Pg	01 42 17.1	0.0
OG35	Corcelles	0.66	307	⇓Pg	Pg	01 42 17.1	0.0
OG35				Sg	Sg	01 42 26.0	+0.2
SALAN	Lac Salanfe	0.67	42	Pg	Pg	01 42 16.9	-0.5
SALAN	Lac Salanfe	0.67	42	P	Pg	01 42 16.9	-0.5
SALAN				S	Sg	01 42 24.9	-1.3
ORIF	Oris-en-Rattie	0.79	203	*e*Pg	Pg	01 42 19.1	-0.5
ORIF				*e*Sg	Sg	01 42 29.4	-0.6
	7.1nm,0.2s						
ORIF	Oris-en-Rattie	0.79	203	Pg	Pg	01 42 18.9	-0.7
RRL	Rocca Remolon	0.80	155	P	Pg	01 42 19.6	-0.1
RRL				S	Sg	01 42 30.0	-0.2
AIGLE	Aigle	0.82	32	Pg	Pg	01 42 19.9	-0.3
AIGLE	Aigle	0.82	32	Pn	Pn	01 42 22.4	+0.6
DIX	Grande Dixence	0.87	60	P	Pg	01 42 20.7	-0.5
DIX	Grande Dixence	0.87	60	Pg	Pg	01 42 20.6	-0.6
DIX	Grande Dixence	0.87	60	Sg	Sg	01 42 31.9	-0.7
CIRO	Champorcher	0.87	93	P	Pg	01 42 20.4	-0.8
GIMEL	St. Georges /	0.89	357	Pg	Pb	01 42 23.1	+1.3
MBDF	Montbardon	0.97	161	*e*Pg	Pg	01 42 22.8	-0.3
MBDF				*e*Sg	Sg	01 42 35.4	-0.4
	3.5nm,0.2s						
CABF	La Chapelle	0.98	350	*e*Pg	Pg	01 42 22.7	-0.4
CABF	La Chapelle	0.98	350	*e*Pn	Pb	01 42 24.2	+1.0
CABF				*e*Sg	Sg	01 42 35.6	-0.3
	11nm,0.3s						
CABF				*e*Sn	Sb	01 42 37.5	+1.3
SATI	Passo dei Sala	1.10	78	P	Pg	01 42 24.4	-1.2
SATI				S	Sg	01 42 38.2	-1.8
CREF	Crivoux	1.12	169	Pg	Pg	01 42 25.4	-0.4
RIVEL	MONT RIVEL	1.15	346	⇓Pg	Pb	01 42 27.1	+1.0
OGAG	Argentiere	1.20	173	Pg	Pg	01 42 20.7	-6.7
TORNY	Torny/Romont	1.21	21	Pg	Pn	01 42 28.3	+1.2
TORNY	Torny/Romont	1.21	21	Pn	Pg	01 42 27.0	-0.6
SURF	Saint Ours	1.22	163	Pg	Pb	01 42 27.9	+0.5
JAUF	Jausiers	1.26	166	Pg	Pg	01 42 28.1	-0.3
BRANT	Les Verrieres	1.29	5	Pn	Pg	01 42 28.3	-0.9
BRANT	Les Verrieres	1.29	5	Pg	Pn	01 42 29.6	+1.3
SSB	Saint Sauveur	1.31	254	Pn	Pn	01 42 28.0	-1.4
SSB				Pg	Pn	01 42 29.4	+1.0
SSB				Sn	Sg	01 42 44.9	-1.4
SSB				Sg	Sb	01 42 46.4	+0.8
VIVF	Saint-Julien-l	1.41	236	*e*Pn	Pn	01 42 29.6	-0.2
VIVF	Saint-Julien-l	1.41	236	*e*Pg	Pn	01 42 31.2	+1.4
VIVF				*e*Sn	Sg	01 42 47.6	-2.0
VIVF				*e*Sg	Sb	01 42 49.5	+1.0
	15nm,0.2s						
CHMF	Charmoille	1.62	8	Pn	Pn	01 42 32.3	-0.5
CHMF				Pg	Pg	01 42 35.2	-0.1
CHMF				Sn	Sg	01 42 56.3	0.0
PLYF	Puligny Montra	1.71	321	Pn	Pn	01 42 33.7	-0.2
PLYF				Pg	Pg	01 42 37.2	+0.2
PLYF				Sn	Sb	01 42 58.4	+1.3
BOURR	Bourrignon	1.85	19	Pn	Pn	01 42 35.3	-0.7
BOURR				Pg	Pg	01 42 39.7	-0.2
BOURR	Bourrignon	1.85	19	Sn	Sg	01 43 04.4	+0.5
BALST	Balsthal	1.94	29	Pg	Pg	01 42 41.5	+0.1
BALST	Balsthal	1.94	29	Sn	Sg	01 43 06.4	-0.1
SBF	Sospel	1.95	156	*e*Pg	Pb	01 42 40.9	+1.1
SBF				*e*Sg	Sg	01 43 06.4	-0.6
	7.0nm,0.3s						
SMF	Signal de Mont	1.99	301	*e*Pn	Pn	01 42 37.2	-0.7
SMF	Signal de Mont	1.99	301	*e*Pg	Pb	01 42 41.8	+1.3
SMF				*e*Sg	Sn	01 43 05.9	+3.1
	12nm,0.2s						
HINF	Hinteralfeld	2.20	9	*e*Pn	Pn	01 42 39.4	-1.3
HINF	Hinteralfeld	2.20	9	*e*Pg	Pb	01 42 45.5	+1.5
HINF				*e*Sn	Sn	01 43 05.7	-2.2
	4.2nm,0.2s						
HINF				*e*Sg	Sb	01 43 12.9	+1.6
	4.2nm,0.2s						
LMR	La Mourre	2.32	177	*e*Pn	Pn	01 42 41.4	-0.9
LMR	La Mourre	2.32	177	*e*Pg	Pb	01 42 47.4	+1.4
LMR				*e*Sg	Sg	01 43 17.5	-1.2
	1.2nm,0.2s						
LOR	Lormes	2.35	314	*e*Pn	Pn	01 42 42.6	-0.2
	baz=130

LFF	**La Frestale**	**4.00 262**	*e*Pn	**Pn**	**01 43 03.2**	**-2.2**
LFF			*e*Sn	**Sn**	**01 43 51.4**	**-0.9**
	1.7nm,0.3s						
LFF			*e*Sg	**Sg**	**01 44 11.0**	**-1.8**
	1.7nm,0.3s						
MFF	**Saint Martin d**	**4.60 284**	*e*Pn	**Pn**	**01 43 13.0**	**-0.6**
MFF			*e*Sg	**Sg**	**01 44 28.5**	**-3.4**
	1.4nm,0.4s						
LDF	**La Druitiere**	**5.29 306**	*e*Sg	**Sg**	**01 44 50.3**	**-3.9**
	1.1nm,0.3s						
GRR	**Gorron**	**5.62 302**	*e*Sg	**Sg**	**01 44 59.9**	**-4.8**
	2.3nm,0.3s						

IDC ***22*** *01:42:38.4±1.6,37.°13N×141.°51E,h0km,mb3.7/5, mbtmp3.7/5,MS4.2/1,Error ellipse: s-maj=42.4km s-min=33.6km az=66.0*
JMA ***22*** *01:42:40.2±0.2,37.°2N±0.°4×141.°6E±0.°8,h23km±1km, MV3.7/35,E OFF FUKUSHIMA PREF*
ISC 22 01:42:38.9±2.6,37.°20N±0.°05×141.°6E±0.°1,h6km±14km, n20,σ0°46/19,mb3.8/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.61**	**286**	P	**Pg**	**01 42 51.3**	**+0.5**
JFK				S	**Sg**	**01 42 59.0**	**+0.2**
JMST	**Minamisoumatoc**	**0.78**	**313**	P	**Pg**	**01 42 54.1**	**+0.1**
JMST				S	**Sg**	**01 43 04.7**	**+0.5**
JFFD	**Fukushimafurud**	**0.85**	**263**	P	**Pg**	**01 42 55.4**	**+0.1**
JFFD				S	**Sg**	**01 43 06.1**	**-0.2**
JMM	**Marumori**	**0.94**	**316**	*e*P	**Pg**	**01 42 56.5**	**-0.4**
JMM				S	**Sg**	**01 43 09.0**	**0.0**
JHO	**Hitachi**	**1.02**	**235**	*e*S	**Sg**	**01 43 11.2**	**-0.6**
JIO	**Ouri**	**1.27**	**351**	*e*P	**Pn**	**01 43 02.7**	**-0.6**
JIO				S	**Sb**	**01 43 19.2**	**-0.8**
JSB	**Shiboa**	**1.38**	**261**	S	**Sb**	**01 43 22.7**	**-0.2**
JOU	**Okura**	**1.39**	**327**	P	**Pn**	**01 43 04.8**	**-0.1**
JOU				S	**Sb**	**01 43 23.1**	**-0.2**
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**01 48 29.1**	**0.0**
	1.0nm,0.9s,baz=112,slow=9.8,SNR=3.2 1.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	02 17 58.4	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	02 17 57.1	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	02 17 59.8	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	02 18 49.9	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	02 18 50.8	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	02 18 51.6	
	baz=316						
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**01 50 30.3**	**+0.2**
	1.6nm,0.7s,baz=78,slow=8.2,SNR=3.6 1.6nm,0.7s						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**01 50 48.4**	**-0.1**
	1.2nm,0.8s,baz=90,slow=8.5,SNR=3.7 1.2nm,0.8s						
ILAR	**Eielson Array**	**49.27**	**32**	P	**P**	**01 51 29.1**	**+0.9**
	0.4nm,0.8s,baz=273,slow=6.8,SNR=2.0 0.4nm,0.8s						
BATI	**Baumata**	**50.07**	**203**	LR	LR	02 16 32.2	
	comp=Z,201nm,18.0s,baz=295,slow=41						
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**01 52 27.0**	**-0.2**
	1.3nm,1.1s,baz=3.9,slow=7.3,SNR=2.6 1.3nm,1.1s						

PRU ***22*** *01:45:42.4±0.0,51.°43N×16.°24E,h0km*
DNK ***22*** *01:45:42.7±2.1,51.°50N×16.°42E,h17km±78km,ML1.9*
VIE ***22*** *01:45:43.5±0.9,51.°33N×16.°33E,h0km,mb2.3/3,ml2.6/2, Error ellipse: s-maj=10.0km s-min=6.5km az=75.0 54 km WNW of Wroclaw Suspected Mining induced.*
ISC 22 01:45:40.6±0.8,51.°51N±0.°03×16.°33E±0.°03,h0km,n25, σ1°27/51,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**182**	*e*Pg	**Pg**	**01 45 53.7**	**+0.3**
KSP				*e*Sg	**Sg**	**01 46 01.4**	**-0.7**
OSTC	**Ostas**	**0.96**	**184**	*e*PG	**Pg**	**01 45 59.2**	**+0.3**
OSTC				*e*SG	**Sg**	**01 46 10.9**	**-0.5**
	comp=Z,17nm,0.3s						
UPC	**Upice**	**1.03**	**191**	*e*PG	**Pg**	**01 45 59.9**	**-0.3**
UPC				*e*SG	**Sg**	**01 46 12.1**	**-1.4**
	comp=Z,67nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**180**	*e*PG	**Pg**	**01 46 02.5**	**-0.3**
DPC				*e*SG	**Sg**	**01 46 16.8**	**-1.1**
	comp=Z,15nm,0.3s						
KRLC	**Kraliky**	**1.47**	**169**	*e*PG	**Pn**	**01 46 08.4**	**+0.1**
KRLC				*e*SG	**Sg**	**01 46 27.1**	**-0.6**
	comp=Z,13nm,0.3s						
PVCC	**Panska Ves**	**1.49**	**229**	*e*PG	**Pn**	**01 46 08.7**	**+0.2**
PVCC				*e*SG	**Sg**	**01 46 26.9**	**-1.4**
	comp=Z,94nm,0.3s						
BRG	**Berggiesshubel**	**1.63**	**248**	Pg	**Pn**	**01 46 11.5**	**+0.9**
BRG				Sg	**Sn**	**01 46 32.0**	**-0.2**
BRG				Amp		01 46 34.4	
	comp=Z,17nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.88**	**212**	*e*SG	**Sn**	**01 46 38.4**	**+0.1**
MORC	**Moravsky Berou**	**1.90**	**156**	*e*PN	**Pn**	**01 46 14.0**	**-0.3**
MORC				*e*SG	**Sb**	**01 46 40.7**	**+0.3**
PRU	**Pruhonice**	**1.90**	**217**	*e*PG	**Pn**	**01 46 15.3**	**+1.1**
PRU				*e*SG	**Sn**	**01 46 38.7**	**-0.2**
	comp=Z,14nm,0.3s						
CLL	**Collm**	**2.09**	**266**	*e*Pg	**Pb**	**01 46 20.0**	**+0.6**
CLL				*e*Sg	**Sb**	**01 46 47.0**	**+1.1**
	comp=Z,11nm,0.4s						
VRAC	**Vranov**	**2.21**	**176**	*e*PN	**Pn**	**01 46 18.8**	**+0.3**
VRAC				*e*SG	**Sb**	**01 46 49.1**	**-0.3**
TREC	**Trest**	**2.29**	**194**	*e*SG	**Sb**	**01 46 51.6**	**+0.2**
KRUC	**Moravsky**	**2.45**	**179**	*e*PN	**Pn**	**01 46 22.6**	**+0.8**
KRUC				*e*SG	**Sb**	**01 46 56.9**	**+0.6**
OJC	**Ojcow**	**2.55**	**119**	*e*Pg	**Pb**	**01 46 27.6**	**+0.5**
OJC				*e*Sg	**Sg**	**01 47 02.1**	**-0.4**
KHC	**Kasperske Hory**	**2.96**	**218**	*e*PN	**Pn**	**01 46 29.7**	**+0.8**
KHC				*e*PG	**Pb**	**01 46 34.9**	**+0.6**
KHC				*e*SN	**Sn**	**01 47 02.0**	**-3.2**
KHC				*e*SG	**Sb**	**01 47 12.3**	**+1.3**
	comp=Z,6.1nm,0.5s						
CKRC	**Cesky Krumlov**	**2.99**	**207**	*e*PN	**Pn**	**01 46 30.5**	**+1.2**
CKRC				*e*PG	**Pb**	**01 46 35.7**	**+1.0**
CKRC				*e*SG	**Sb**	**01 47 11.7**	**-0.1**
	comp=Z,6.9nm,0.5s						
MODS	**Modra-Piesok**	**3.20**	**169**	*e*PG	**Pg**	**01 46 42.3**	**+0.4**
MODS				*e*SG	**Sg**	**01 47 25.2**	**+1.8**
CONA	**Conrad Observa**	**3.60**	**185**	*i* Pn	**Pn**	**01 46 38.8**	**+1.2**
	comp=Z,0.2nm,0.1s						
CONA				*e*Sg	**Sg**	**01 47 35.5**	**-0.7**
	comp=Z,3.0nm,0.3s						
BSD	**Bornholm Skovb**	**3.71**	**347**	*i* P	**Pn**	**01 46 40.5**	**+1.5**
BSD				*i* S	**Sn**	**01 47 20.9**	**-2.5**
BSD				IAML		01 47 25.2	
	comp=Z,1.2nm,0.2s						
MOA	**Molln**	**3.90**	**201**	*i* Pn	**Pn**	**01 46 42.9**	**+1.1**
	comp=Z,0.2nm,0.1s						
MOA				*e*Sg	**Sg**	**01 47 42.8**	**-3.1**
	comp=Z,1.7nm,0.2s						
LUNU	**Lund**	**4.47**	**339**	*i* P	**Pn**	**01 46 49.6**	**+0.1**
LUNU				*i* S	**Sn**	**01 47 41.5**	**-0.7**
BLEU	**Blekinge**	**4.81**	**357**	*i* P	**Pn**	**01 46 57.0**	**+2.8**
BLEU				*i* S	**Sn**	**01 47 47.9**	**-2.7**
BJUU	**Bjuv**	**4.97**	**338**	*i* P	**Pn**	**01 46 57.2**	**+0.8**
BJUU				*i* S	**Sn**	**01 47 53.2**	**-1.4**
DEL	**Delary**	**5.17**	**345**	*i* P	**Pn**	**01 47 00.1**	**+0.9**
DEL				*e*S	**Sn**	**01 47 56.8**	**-2.8**

IDC ***22*** *02:10:52.4±2.5,37.°21N×141.°58E,h0km,mb3.8/3, mbtmp3.6/4,ML2.3/1,Error ellipse: s-maj=62.5km s-min=30.6km az=63.0*
JMA ***22*** *02:10:55.3±0.2,37.°3N±0.°3×141.°5E±0.°9,h31km±1km, MV3.7/38,E OFF FUKUSHIMA PREF*
ISC 22 02:10:53.6±2.7,37.°25N±0.°05×141.°53E±0.°09,h11km±15km, n18,σ0°60/20,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.54**	**283**	*i* P	**Pb**	**02 11 05.1**	**0.0**
JFK				S	**Sb**	**02 11 12.2**	**-0.7**
JMST	**Minamisoumatoc**	**0.70**	**313**	*i* P	**Pb**	**02 11 07.9**	**+0.1**
JMST				S	**Sg**	**02 11 16.9**	**+0.6**
JFFD	**Fukushimafurud**	**0.79**	**259**	*i* P	**Pb**	**02 11 09.3**	**-0.1**
JFFD				S	**Sg**	**02 11 19.3**	**+0.1**
JMM	**Marumori**	**0.85**	**317**	P	**Pb**	**02 11 10.3**	**-0.1**
JMM				S	**Sb**	**02 11 21.1**	**-0.8**
JHO	**Hitachi**	**1.00**	**231**	P	**Pb**	**02 11 12.4**	**-0.6**
JHO				*e*S	**Sb**	**02 11 25.4**	**-0.8**
JIO	**Ouri**	**1.21**	**353**	P	**Pn**	**02 11 16.0**	**-0.6**
JIO				*e*S	**Sb**	**02 11 31.2**	**-1.1**
JOU	**Okura**	**1.31**	**329**	P	**Pb**	**02 11 18.4**	**+0.1**
JOU				S	**Sn**	**02 11 35.2**	**-0.2**
JFY	**Yanaizu**	**1.47**	**277**	*e*P	**Pb**	**02 11 20.5**	**-0.4**
JFY				S	**Sb**	**02 11 39.1**	**-0.5**
MJAR	**Matsushiro Arr**	**2.76**	**256**	Pn	**Pn**	**02 11 38.1**	**+0.3**
	0.5nm,0.3s,baz=78,slow=17,SNR=7.3 3.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	02 46 17.9	
	baz=314,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	02 46 17.4	
	baz=314,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	02 46 18.5	
	baz=314,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	02 47 11.5	
	baz=316,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	02 47 09.1	
	baz=316,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	02 47 07.2	
	baz=316,slow=75,SNR=12						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**02 19 02.6**	**+0.9**
	0.5nm,0.8s,baz=70,slow=6.4,SNR=2.4 0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**02 19 16.9**	**+0.5**
	1.3nm,0.2s,baz=83,slow=8.4,SNR=4.2 1.3nm,0.2s						
WRA	**Warramunga Arr**	**57.29**	**188**	P	**P**	**02 20 41.7**	**+0.3**
	0.2nm,0.5s,baz=5.2,slow=7.2,SNR=8.9 0.2nm,0.5s						

IDC ***22*** *02:15:32.4±1.6,37.°18N×141.°55E,h0km,mb3.7/8, mbtmp3.7/9,ML2.6/1,Error ellipse: s-maj=47.9km s-min=22.5km az=70.0*
JMA ***22*** *02:15:35.6±0.1,37.°3N±0.°3×141.°5E±0.°8,h31km±1km, MV3.8/32,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 02:15:33.8±1.1,37.°24N±0.°05×141.°53E±0.°08,h10km,n23, σ0°69/19,mb3.7/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.54**	**284**	P	**Pg**	**02 15 45.2**	**+1.0**
JFK				*e*S	**Sb**	**02 15 52.0**	**-1.1**
JMST	**Minamisoumatoc**	**0.70**	**314**	P	**Pg**	**02 15 47.8**	**+0.4**
JMST				S	**Sg**	**02 15 56.6**	**-0.1**
JFFD	**Fukushimafurud**	**0.78**	**260**	P	**Pg**	**02 15 49.3**	**+0.3**
JFFD				*e*S	**Sg**	**02 15 59.5**	**+0.3**
JMM	**Marumori**	**0.86**	**317**	P	**Pg**	**02 15 50.2**	**-0.2**
JHO	**Hitachi**	**0.99**	**231**	P	**Pg**	**02 15 52.7**	**-0.2**
JHO				S	**Sg**	**02 16 05.1**	**-0.6**
JIO	**Ouri**	**1.23**	**353**	*e*S	**Sb**	**02 16 11.2**	**-1.8**
MJAR	**Matsushiro Arr**	**2.75**	**256**	Pn	**Pn**	**02 16 17.4**	**-0.6**
	1.0nm,0.3s,baz=77,slow=15,SNR=13 4.4nm,0.3s						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**02 21 23.1**	**+0.5**
	0.3nm,0.6s,baz=98,slow=7.4,SNR=2.4 0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	02 50 56.7	
	baz=314,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	02 51 04.0	
	baz=314,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	02 51 02.6	
	baz=314,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	02 51 51.0	
	baz=316,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	02 51 49.8	
	baz=316,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	02 51 48.6	
	baz=316,slow=75,SNR=19						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**02 23 23.8**	**+0.1**
	0.5nm,0.5s,baz=88,slow=13,SNR=2.1 0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**02 23 42.4**	**+0.3**
	0.8nm,0.6s,baz=82,slow=12,SNR=2.0 0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**02 23 57.2**	**+0.5**
	0.7nm,0.2s,baz=81,slow=8.4,SNR=5.1 0.7nm,0.2s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**02 25 21.1**	**-0.5**
	0.5nm,0.7s,baz=344,slow=8.0,SNR=8.5 0.5nm,0.7s						
ASAR	**Alice Springs**	**61.00**	**188**	P	**P**	**02 25 47.5**	**+0.1**
	0.2nm,0.6s,baz=16,slow=7.0,SNR=2.0 0.2nm,0.6s						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**02 26 37.6**	**+0.6**
	3.5nm,1.1s,baz=56,slow=10,SNR=2.2 3.5nm,1.1s						
AKASG	**Malin Array Be**	**74.19**	**322**	P	**P**	**02 27 11.0**	**+0.4**
	0.3nm,0.3s,baz=45,slow=6.8,SNR=2.2 0.3nm,0.3s						
H03N3	**Juan Fernandez**	**146.97**	**96**	T	T	05 19 28.6	
	baz=285,slow=74,SNR=4.0						
H03N1	**Juan Fernandez**	**146.97**	**96**	T	T	05 19 29.2	
	baz=104,slow=74,SNR=6.6						

IDC ***22*** *02:23:13.6±3.0,31.°78S×179.°57W,h0km,mb3.7/2, mbtmp4.0/3,ML4.3/1,Error ellipse: s-maj=76.3km s-min=48.9km az=134.0*
WEL ***22*** *02:23:38.3±0.6,33.°5S±6.°×17.°9W±1.°3,h33km,M4.8/17, mB5.4/11,ML4.9/17,MLv4.8/17,Mw(mB)4.9/11,Error ellipse: s-maj=0.0km s-min=0.0km az=110.6*
ISC 22 02:23:33.4±1.1,32.°70S±0.°07×179.°3W±0.°1,h200km,n74, σ2°76/77,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.62**	**19**	P	**Pn**	**02 24 31.8**	**+1.2**
GLKZ				S	**Sn**	**02 25 14.8**	**-0.5**
MXZ	**Matakaoa Point**	**5.24**	**202**	P	**Pn**	**02 24 52.9**	**+2.1**
MXZ				S	**Sn**	**02 25 51.3**	**-0.8**
WMGZ	**Waiomatatini S**	**5.45**	**200**	P	**Pn**	**02 24 56.0**	**+2.6**
WMGZ				S	**Sn**	**02 25 54.4**	**-2.4**
HAZ	**Te Kaha**	**5.59**	**205**	P	**Pn**	**02 24 60.0**	**+4.7**
HAZ				S	**Sn**	**02 25 59.0**	**-1.1**
PKGZ	**Pakihiroa**	**5.61**	**202**	P	**Pn**	**02 24 57.7**	**+2.0**
PUZ	**Puketiti**	**5.73**	**200**	P	**Pn**	**02 25 00.8**	**+3.7**
KUZ	**Kuaotunu**	**5.77**	**224**	P	**Pn**	**02 25 01.6**	**+3.9**
RUGZ	**Raukumara Rang**	**5.82**	**205**	P	**Pn**	**02 25 00.6**	**+2.2**
RUGZ				S	**Sn**	**02 26 01.3**	**-4.2**
TWGZ	**Tauwhareparae**	**5.91**	**202**	P	Pn	02 25 05.5	+6.0
WHRZ	**Whale Island**	**5.99**	**210**	P	Pn	02 25 05.7	+5.2
OPRZ	**Ohinepanea**	**6.17**	**213**	P	**Pn**	**02 25 07.1**	**+4.4**
TKGZ	**Te Karaka**	**6.19**	**202**	P	**Pn**	**02 25 05.4**	**+2.4**
MWZ	**Matawai**	**6.20**	**204**	P	**Pn**	**02 25 04.3**	**+1.1**
MWZ				S	**Sn**	**02 26 12.3**	**-2.0**
WCZ	**Waipu Caves**	**6.20**	**237**	P	**Pn**	**02 25 05.4**	**+2.2**
MARZ	**Manawahe**	**6.23**	**211**	P	**Pn**	**02 25 08.3**	**+4.7**
URZ	**Urewera**	**6.28**	**207**	P	**Pn**	**02 25 05.2**	**+0.9**
EDRZ	**Edgecumbe**	**6.30**	**210**	P	**Pn**	**02 25 08.1**	**+3.5**
RAGZ	**Rawiri**	**6.38**	**204**	P	**Pn**	**02 25 09.8**	**+4.1**
OUZ	**Omahuta**	**6.45**	**245**	P	**Pn**	**02 25 06.2**	**-0.2**
RIGZ	**Rimuhau**	**6.46**	**201**	P	**Pn**	**02 25 11.2**	**+4.6**
TARZ	**Mount Tarawera**	**6.51**	**211**	P	Pn	02 25 13.0	+5.7
TOZ	**Tahuroa Road**	**6.60**	**219**	P	**Pn**	**02 25 12.4**	**+4.1**
MUGZ	**Murupara**	**6.61**	**208**	P	**Pn**	**02 25 12.5**	**+4.0**
RTZ	**Ruatahuna**	**6.64**	**206**	P	**Pn**	**02 25 10.1**	**+1.1**
SNGZ	**Shannon Statio**	**6.67**	**204**	P	**Pn**	**02 25 11.5**	**+2.3**
HRRZ	**Handcock Road**	**6.74**	**211**	P	**Pn**	**02 25 15.0**	**+4.7**
KNZ	**Kokohu**	**6.78**	**201**	P	**Pn**	**02 25 14.3**	**+3.6**
MHGZ	**Mahia Peninsul**	**6.83**	**199**	P	**Pn**	**02 25 15.3**	**+3.9**
ALRZ	**Allen Road**	**6.85**	**210**	P	**Pn**	**02 25 15.2**	**+3.5**
RAHZ	**Arahi**	**6.87**	**205**	P	**Pn**	**02 25 15.1**	**+3.1**
MTHZ	**Maungataniwha**	**6.91**	**206**	P	**Pn**	**02 25 15.3**	**+2.9**
WHHZ	**Waihua**	**6.97**	**203**	P	**Pn**	**02 25 16.1**	**+3.0**
MRHZ	**Matea Rd**	**7.05**	**209**	P	**Pn**	**02 25 16.3**	**+2.0**
ARHZ	**Aropaoanui**	**7.21**	**204**	P	**Pn**	**02 25 16.9**	**+0.5**
BKZ	**Black Stump Fm**	**7.31**	**207**	P	**Pn**	**02 25 17.7**	**+0.1**
RITZ	**Rihia Road**	**7.41**	**211**	P	**Pn**	**02 25 22.2**	**+3.3**
KATZ	**Kakaramea**	**7.48**	**212**	P	**Pn**	**02 25 24.2**	**+4.2**
HIZ	**Hauiti**	**7.52**	**218**	P	**Pn**	**02 25 24.4**	**+4.0**
CKHZ	**Cape Kidnapper**	**7.54**	**202**	P	**Pn**	**02 25 23.4**	**+2.7**
KWHZ	**Kaweka Forest**	**7.56**	**206**	P	**Pn**	**02 25 22.3**	**+1.3**
NTVZ	**North Tongarir**	**7.59**	**211**	P	**Pn**	**02 25 24.3**	**+3.0**
KRVZ	**Karewarewa**	**7.60**	**212**	P	**Pn**	**02 25 24.8**	**+3.3**
NNVZ	**North Ngauruho**	**7.64**	**211**	P	**Pn**	**02 25 25.2**	**+3.1**
OTVZ	**Oturere**	**7.65**	**211**	P	**Pn**	**02 25 23.1**	**+0.9**
TWVZ	**Taurewa**	**7.67**	**213**	P	**Pn**	**02 25 25.1**	**+2.7**
SNVZ	**South Ngauruho**	**7.68**	**211**	P	**Pn**	**02 25 23.2**	**+0.6**
KAHZ	**Kahuranaki**	**7.73**	**203**	P	**Pn**	**02 25 25.4**	**+2.2**
BHHZ	**Black Hill Sta**	**7.76**	**208**	P	**Pn**	**02 25 24.8**	**+1.3**
FWVZ	**Far West T-bar**	**7.77**	**211**	P	**Pn**	**02 25 26.3**	**+2.5**
WHVZ	**Whangaehu Hut**	**7.78**	**211**	P	**Pn**	**02 25 26.5**	**+2.5**
TRVZ	**Turoa**	**7.81**	**211**	P	**Pn**	**02 25 26.6**	**+2.2**
MOVZ	**Moawhango**	**7.81**	**210**	P	**Pn**	**02 25 25.5**	**+1.2**
WNVZ	**Wahianoa**	**7.81**	**211**	P	**Pn**	**02 25 26.2**	**+1.9**
MTVZ	**Mangateitei**	**7.92**	**211**	P	**Pn**	**02 25 27.8**	**+2.2**
PXZ	**Pawanui**	**7.95**	**202**	P	**Pn**	**02 25 27.3**	**+1.3**
VRZ	**Vera Road**	**8.04**	**215**	P	**Pn**	**02 25 30.8**	**+3.8**
PNHZ	**Pukenui**	**8.07**	**206**	P	**Pn**	**02 25 27.5**	**-0.1**
WPHZ	**Waipukurau**	**8.12**	**204**	P	**Pn**	**02 25 30.1**	**+1.9**
PRHZ	**Porangahau**	**8.24**	**202**	P	**Pn**	**02 25 30.1**	**+0.4**
TSZ	**Takapari Road**	**8.29**	**206**	P	**Pn**	**02 25 31.3**	**+0.9**
DVHZ	**Dannevirke**	**8.43**	**205**	P	**Pn**	**02 25 33.0**	**+0.9**
ANWZ	**Angora Road**	**8.47**	**203**	P	**Pn**	**02 25 34.6**	**+1.9**
NEZ	**North Egmont**	**8.48**	**218**	P	**Pn**	**02 25 37.3**	**+4.3**
PKE	**Pukeiti**	**8.48**	**218**	P	**Pn**	**02 25 37.5**	**+4.7**
KHEZ	**Kahui Hut**	**8.54**	**218**	P	**Pn**	**02 25 38.1**	**+4.4**
POWZ	**Post Office Ro**	**8.65**	**206**	P	**Pn**	**02 25 35.8**	**+0.7**
PRWZ	**Pori Road**	**8.72**	**205**	P	**Pn**	**02 25 36.7**	**+0.7**
BFZ	**Birch Farm**	**8.74**	**203**	P	**Pn**	**02 25 37.5**	**+1.2**
TIWZ	**Tintock**	**8.95**	**204**	P	**Pn**	**02 25 39.6**	**+0.7**
CPWZ	**Castlepoint**	**8.96**	**203**	P	**Pn**	**02 25 41.4**	**+2.4**
RPZ	**Rata Peaks**	**13.36**	**212**	Pn	**Pn**	**02 26 33.3**	**-2.0**
	1.5nm,0.3s,baz=17,slow=14,SNR=7.1 3.8nm,0.3s						
ASAR	**Alice Springs**	**41.97**	**270**	P	**P**	**02 31 04.3**	**-0.8**
	0.3nm,0.3s,baz=105,slow=7.9,SNR=4.3 0.3nm,0.3s						
WRA	**Warramunga Arr**	**43.17**	**275**	P	**P**	**02 31 13.6**	**-1.1**
	0.5nm,0.3s,baz=115,slow=8.0,SNR=34 0.5nm,0.3s						
FINES	**FINESS Array B**	**146.90**	**338**	PKPbc	**PKPab**	**02 42 53.4**	**+0.2**
	2.2nm,0.9s,baz=24,slow=4.8,SNR=14						

IDC ***22*** *02:24:46.6±0.7,37.°18N×141.°37E,h0km,mb4.1/18, mbtmp4.1/19,ML2.6/1,Error ellipse: s-maj=18.0km s-min=17.3km az=179.0*
NIED ***22*** *02:24:48.7,37.°27N×141.°46E,h28km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.67; Mθθ=0.15; Mφφ=0.52; Mrθ=1.17; Mθφ=0.65; Mφr=1.28; Fault plane solution: M₀1.93000×10¹⁵ NP1:φs=26.00000°, δ13.00000°,λ=-106.00000°. NP2:φs=223.00000°, δ77.00000°,λ=-86.00000°.*
JMA ***22*** *02:24:48.7±0.2,37.°3N±0.°3×141.°5E±1.°0,h28km±1km, MD4.4/35,MV4.0/35,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NEIC ***22*** *02:24:52.8±1.0,37.°43N±0.°07×141.°29E±0.°10,h30km±7km, mb4.4/12,Error ellipse: s-maj=11.6km s-min=9.8km az=117.0*
ISC 22 02:24:48.6±2.0,37.°28N±0.°05×141.°46E±0.°08,h12km±11km, n79,σ0°90/54,mb4.2/25,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.47**	**281**	P	**Pg**	**02 24 58.2**	**+0.2**
JFK				S	**Sg**	**02 25 05.0**	**+0.8**
JFK	**Kawauchi**	**0.47**	**281**	A	A	02 24 58.2	
	comp=E,9.0nm,3.9s,comp=E,5.0nm,1.6s						
JMST	**Minamisoumatoc**	**0.64**	**315**	P	**Pg**	**02 25 01.2**	**+0.1**
JMST				S	**Sg**	**02 25 10.6**	**+1.1**
JMST	**Minamisoumatoc**	**0.64**	**315**	A	A	02 25 01.2	
	comp=E,12nm,0.9s,comp=E,15nm,0.4s						
JFFD	**Fukushimafurud**	**0.74**	**256**	P	**Pb**	**02 25 02.6**	**-0.8**
JFFD				S	**Sb**	**02 25 12.7**	**-0.8**
JFFD	**Fukushimafurud**	**0.74**	**256**	A	A	02 25 02.6	
	comp=E,7.0nm,0.8s,comp=E,10.0nm,1.5s						
JMM	**Marumori**	**0.79**	**318**		**Pb**	**02 25 03.3**	**-1.0**
JMM					**Sb**	**02 25 14.4**	**-0.6**
JMM	**Marumori**	**0.79**	**318**	P	**Pb**	**02 25 03.6**	**-0.7**
JMM	**Marumori**	**0.79**	**318**	A	A	02 25 03.6	
	comp=E,5.0nm,0.7s,comp=E,5.0nm,1.1s				

ILAR	**Eielson Array**	**49.27**	**32**	P		**P**	**02 33 37.4**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=273,slow=6.6,SNR=17							
	comp=Z,1.5nm,0.8s							
KSH	**Kashi**	**50.34**	**294**	P		P	02 33 50.5	+5.0
KSH				pmax		pmax		
	comp=Z,3.0nm,0.9s							
EPYK	**Eagle Plains**	**53.30**	**30**	P		**P**	**02 34 08.4**	**+1.3**
EPYK				IAmb		IAmb	02 34 14.7	
	comp=Z,9.1nm,0.9s							
INK	**Inuvik**	**54.16**	**27**	P		**P**	**02 34 14.4**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=268,slow=6.0,SNR=4.2							
	comp=Z,1.4nm,0.8s							
CHGR	**Chuyangaron**	**55.59**	**295**	P		**P**	**02 34 24.0**	**-0.2**
WRA	**Warramunga Arr**	**57.30**	**188**	P		**P**	**02 34 34.9**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=6.8,slow=7.3,SNR=14							
	comp=Z,1.5nm,0.7s							
ABKAR	**Akbulak array**	**57.81**	**310**	P		**P**	**02 34 38.3**	**-1.4**
ABKAR				IAmb		IAmb	02 34 43.9	
	comp=Z,2.3nm,0.8s							
ASAR	**Alice Springs**	**61.03**	**188**	P		**P**	**02 35 01.2**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=14,slow=7.2,SNR=11							
	comp=Z,1.2nm,0.8s							
GEYT	**Alibeck**	**63.75**	**299**	P		**P**	**02 35 20.3**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=64,slow=3.4,SNR=4.1							
	comp=Z,1.8nm,0.7s							
ARCES	**ARCESS Array B**	**63.78**	**339**	P		**P**	**02 35 20.6**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=48,slow=3.6,SNR=5.4							
	comp=Z,1.2nm,0.7s							
FINES	**FINESS Array B**	**68.62**	**332**	P		**P**	**02 35 51.0**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=72,slow=8.2,SNR=7.2							
	comp=Z,3.7nm,0.7s							
KBZ	**Khabaz**	**70.77**	**311**	P		**P**	**02 36 05.5**	**+0.8**
	comp=Z,4.5nm,0.9s,baz=58,slow=9.5,SNR=3.4							
	comp=Z,4.5nm,0.9s							
LRM	**Limekiln Ridge**	**73.95**	**44**	P		**P**	**02 36 24.3**	**+0.3**
NB2	**NORSAR Subarra**	**73.98**	**337**	P		**P**	**02 36 23.8**	**+0.2**
	comp=Z,7.6nm,1.4s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**73.98**	**337**	P		**P**	**02 36 23.9**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=38,slow=5.9,SNR=6.6							
	comp=Z,1.1nm,0.7s							
AKASG	**Malin Array Be**	**74.13**	**322**	P		**P**	**02 36 24.2**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=43,slow=6.0,SNR=9.2							
	comp=Z,1.8nm,0.5s							
BOZ	**Bozeman (W)**	**74.54**	**44**	P		**P**	**02 36 28.5**	**+1.1**
NVAR	**Mina Array Bea**	**74.82**	**53**	P		**P**	**02 36 30.5**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=284,slow=5.5,SNR=7.6							
	comp=Z,1.2nm,0.8s							
IMW	**Indian Meadow**	**75.98**	**45**	P		**P**	**02 36 37.0**	**+1.1**
IMW				IAmb		IAmb	02 36 43.2	
	comp=Z,2.9nm,0.8s							
PDAR	**Pinedale Array**	**77.47**	**46**	P		**P**	**02 36 44.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=277,slow=2.7,SNR=8.0							
	comp=Z,0.7nm,0.7s							
BRTR	**Keskin Array B**	**78.72**	**312**	P		**P**	**02 36 52.5**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=91,slow=5.7,SNR=4.6							
	comp=Z,0.7nm,0.7s							
KHC	**Kasperske Hory**	**82.36**	**328**	*e*P		**P**	**02 37 11.5**	**+1.2**
GERES	**GERESS Array B**	**82.53**	**328**	P		**P**	**02 37 11.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=40,slow=7.7,SNR=3.6							
	comp=Z,0.6nm,0.7s							
TXAR	**Lajitas Array**	**89.95**	**52**	P		**P**	**02 37 48.8**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=287,slow=2.8,SNR=8.1							
	comp=Z,0.6nm,0.7s							
LPAZ	**La Paz**	**146.54**	**59**	PKPbc		**PKPbc**	**02 44 31.3**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=296,slow=2.2,SNR=7.3							
H03N2	**Juan Fernandez**	**147.01**	**96**	T		T	05 28 46.9	
	baz=292,slow=76,SNR=11							
H03N3	**Juan Fernandez**	**147.03**	**96**	T		T	05 28 48.0	
	baz=292,slow=76,SNR=14							
H01N1	**Juan Fernandez**	**147.03**	**96**	T		T	05 28 44.4	
	baz=292,slow=76,SNR=12							

*IDC **22** 02:34:41.1±3.3, 35.6°S×68.4°W×141.7°E×0.0 km, h0 km, mb3.5/3, mbtmp3.5/4, ML2.6/1, Error ellipse: s-maj=101.5km s-min=29.7km az=58.0*

*JMA **22** 02:34:48.0±0.2, 35.7°N±0.5°×140.7°E±0.7, h43 km±1 km, MV2.8/32, NEAR CHOSHI CITY*

ISC 22 02:34:47.7±1.1, 35.7°N±0.06°×140.77°E±0.09, h44 km±8 km, n14, σ0 s49/14, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**92**	P	**Pn**	**02 34 54.9**	**+0.2**
CHOJ				S	**Sn**	**02 34 59.2**	**-0.4**
JSMT	**Sammumatsuo**	**0.27**	**257**	P	**Pn**	**02 34 56.2**	**+0.3**
JIHU	**Itakohorinouch**	**0.33**	**323**	P	**Pn**	**02 34 57.2**	**+0.7**
JCN	**Nagara**	**0.54**	**238**	P	**Pn**	**02 34 59.5**	**+0.4**
JCN				S	**Sn**	**02 35 06.8**	**-0.5**
JYT	**Yasato**	**0.70**	**318**	P	**Pn**	**02 35 01.1**	**-0.2**
JYT				*e*S	**Sn**	**02 35 10.2**	**-0.8**
BSO4	**Boso 4**	**0.80**	**206**	P	**Pn**	**02 35 02.5**	**+0.1**
BSO3	**Boso 3**	**0.93**	**193**	P	**Pn**	**02 35 04.4**	**+0.3**
MJAR	**Matsushiro Arr**	**2.23**	**293**	Pn	**Pn**	**02 35 22.6**	**+0.4**
	1.5nm,0.3s,baz=98,slow=14,SNR=24						
	6.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	03 09 57.0	
	baz=314,slow=75,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**27.96**	**118**	T	T	03 10 01.1	
	baz=314,slow=75,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**27.97**	**118**	T	T	03 09 59.5	
	baz=314,slow=75,SNR=4.1						
ZALV	**Zalesovo Beam**	**42.44**	**313**	P	**P**	**02 42 38.3**	**+0.3**
	1.4nm,0.9s,baz=79,slow=7.5,SNR=2.8						
	1.4nm,0.9s						
MKAR	**Makanchi Array**	**44.40**	**303**	P	**P**	**02 42 54.3**	**+0.4**
	0.4nm,0.5s,baz=90,slow=9.7,SNR=5.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**55.68**	**187**	P	**P**	**02 44 19.1**	**-0.4**
	0.3nm,0.9s,baz=1.9,slow=7.8,SNR=5.4						
	0.3nm,0.9s						

IDC 22 02:43:36.5±50.0, 24.52°S×178.58°W, h0 km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=909.2km s-min=165.7km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.70**	**249**	P	P	02 50 36.6	-0.2
	0.6nm,0.4s,baz=96,slow=11,SNR=3.8						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**43.21**	**261**	P	P	02 51 39.4	-0.3
	1.1nm,0.5s,baz=95,slow=8.6,SNR=15						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**43.66**	**266**	P	P	02 51 43.5	+0.2
	1.4nm,0.5s,baz=104,slow=7.9,SNR=23						
	1.4nm,0.5s						

*IDC **22** 02:44:33.7±1.4, 37.2°N×141.7°E×43 km, h0 km, mb3.9/8, mbtmp3.9/9, ML3.0/1, Error ellipse: s-maj=31.2km s-min=27.8km az=89.0*

*NEIC **22** 02:44:34.9±1.1, 37.35°N±0.07°×141.57°E±0.07, h10 km±2 km, mb4.0/3, Error ellipse: s-maj=12.5km s-min=7.4km az=34.0*

*JMA **22** 02:44:35.6±0.2, 37.3°N±0.3°×141.5°E±0.9, h27 km±1 km, MV3.9/38, E OFF FUKUSHIMA PREF*

ISC 22 02:44:33.8±1.8, 37.30°N±0.04°×141.56°E±0.06, h4 km±10 km, n37, σ0 s91/38, mb4.0/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**277**	*i* P	**Pb**	**02 44 45.5**	**-0.6**
JFK				S	**Sb**	**02 44 52.6**	**-1.7**
JMST	**Minamisoumatoc**	**0.68**	**309**	P	**Pb**	**02 44 48.0**	**-0.4**
JMST				*e*S	**Sb**	**02 44 57.1**	**-1.1**
JFFD	**Fukushimafurud**	**0.82**	**256**	*i* P	**Pg**	**02 44 50.2**	**+0.6**
JFFD				S	**Sg**	**02 45 00.6**	**+0.3**
JMM	**Marumori**	**0.83**	**313**		**Pg**	**02 44 50.4**	**+0.6**
JMM					**Sg**	**02 45 01.2**	**+0.6**
JMM	**Marumori**	**0.83**	**313**	*i* P	**Pg**	**02 44 50.5**	**+0.6**
JMM				S	**Sg**	**02 45 01.1**	**+0.4**
JHO	**Hitachi**	**1.05**	**229**	P	**Pg**	**02 44 53.3**	**-0.6**
JHO				*e*S	**Sg**	**02 45 06.5**	**-1.0**
JIO	**Ouri**	**1.17**	**352**	P	**Pb**	**02 44 56.1**	**-0.5**
JIO				*e*S	**Sb**	**02 45 10.2**	**-1.9**
JOU	**Okura**	**1.28**	**327**	*i* P	**Pn**	**02 44 58.5**	**-0.1**
JOU				S	**Sg**	**02 45 15.1**	**+0.1**
JSB	**Shiboa**	**1.35**	**256**	P	**Pn**	**02 44 59.4**	**-0.1**
JSB				S	**Sg**	**02 45 17.6**	**+0.3**
JSD	**Sado**	**2.72**	**287**	Pn	**Pn**	**02 45 18.2**	**-0.1**
MJAR	**Matsushiro Arr**	**2.79**	**255**	Pn	**Pn**	**02 45 19.2**	**-0.1**
	2.9nm,0.3s,baz=78,slow=16,SNR=37						
MJAR				Sn	**Sn**	**02 45 54.9**	**+1.5**
	2.8nm,0.3s,baz=75,slow=31,SNR=8.6						
	18nm,0.3s						
MAJO	**Matsushiro**	**2.79**	**255**	Pn	**Pn**	**02 45 19.4**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.79**	**255**	Pn	**Pn**	**02 45 20.7**	**+1.3**
JTM	**Tenmabayashi**	**3.51**	**354**	Pn	**Pn**	**02 45 28.9**	**-0.2**
JGF	**Kuroka**	**3.79**	**245**	Pn	**Pn**	**02 45 34.6**	**+1.5**
INU	**Inuyama**	**4.15**	**243**	Pn	**Pn**	**02 45 39.3**	**+1.3**
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**02 50 23.4**	**-0.1**
	1.1nm,0.7s,baz=107,slow=10.0,SNR=6.9						
	1.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	03 19 54.7	
	baz=314,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	03 19 57.8	
	baz=314,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	03 19 55.9	
	baz=314,slow=75,SNR=43						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	03 20 47.6	
	baz=316,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	03 20 47.6	
	baz=316,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	03 20 50.2	
	baz=316,slow=76,SNR=29						
AMKA	**Amchitka**	**30.07**	**50**	P	**P**	**02 50 44.5**	**+0.4**
ZALV	**Zalesovo Beam**	**41.82**	**312**	P	**P**	**02 52 24.3**	**-0.3**
	1.7nm,0.5s,baz=72,slow=9.5,SNR=7.6						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**02 52 42.9**	**-0.1**
	1.6nm,0.7s,baz=82,slow=11,SNR=10.0						
	1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**02 52 57.3**	**-0.3**
	1.9nm,0.4s,baz=85,slow=8.4,SNR=13						
	1.9nm,0.4s						
ILAR	**Eielson Array**	**49.21**	**32**	P	**P**	**02 53 25.0**	**+2.0**
	0.4nm,0.8s,baz=261,slow=5.4,SNR=2.5						
	0.4nm,0.8s						
WB2	**Warramunga Arr**	**57.34**	**188**	P	**P**	**02 54 22.7**	**-0.4**
WB2				IAmb	IAmb	02 54 37.7	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**57.34**	**188**	P	**P**	**02 54 22.9**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=4.7,slow=7.2,SNR=5.1						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.34**	**188**	P	**P**	**02 54 21.5**	**-1.6**
WRA				IAmb	IAmb	02 54 56.0	
	comp=Z,0.2nm,1.1s						
ABKAR	**Akbulak array**	**57.86**	**310**	P	**P**	**02 54 25.7**	**-0.8**
ABKAR				IAmb	IAmb	02 54 40.8	
	comp=Z,3.0nm,1.4s						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**02 55 38.1**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=29,slow=7.5,SNR=7.6						
	comp=Z,3.8nm,0.9s						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**02 56 11.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=45,slow=6.1,SNR=4.8						
	comp=Z,0.4nm,0.4s						
H03N2	**Juan Fernandez**	**146.93**	**96**	T	T	05 48 25.1	
	baz=291,slow=76,SNR=7.3						
H03N3	**Juan Fernandez**	**146.95**	**96**	T	T	05 48 29.6	
	baz=291,slow=76,SNR=5.4						
H03N1	**Juan Fernandez**	**146.95**	**96**	T	T	05 48 25.1	
	baz=291,slow=76,SNR=6.8						

*SNET **22** 02:45:39.8±0.4, 13.54°N×91.00°W, h4 km±12 km, ML2.6*
*GCG **22** 02:45:45.1±0.4, 14.58°N×91.12°W, h77 km±5 km, MD3.3*

ISC 22 02:45:37.1±3.1, 13.5°N±0.1°×91.3°W±0.1, h35 km, n8, σ1 s88/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.03**	**27**	*e*P	**Pn**	**02 45 56.1**	**+0.9**
FUG				*e*S	**Sn**	**02 46 10.5**	**+2.0**
PCG	**Pacaya**	**1.11**	**38**	*e*S	**Sn**	**02 46 11.3**	**+0.7**
STG3	**Santiaguito 3,**	**1.21**	**348**	*e*P	**Pn**	**02 45 58.8**	**+1.2**
STG3				*e*S	**Sn**	**02 46 09.9**	**-3.1**
NBG	**Las Nubes**	**1.42**	**42**	*e*P	Pn	02 46 02.3	+1.6
NBG				*e*S	**Sn**	**02 46 15.2**	**-3.0**
NUBE	**Las Nubes**	**1.54**	**76**	*e*P	**Pn**	**02 46 02.3**	**+0.1**
NUBE				*e*S	**Sn**	**02 46 19.7**	**-1.5**
NUBE				IAML		02 46 23.3	
	comp=Z,82nm,0.2s						
SLOZ	**Alcaldia de Sa**	**1.57**	**71**	*e*P	**Pn**	**02 46 03.2**	**+0.6**
SLOZ				*e*S	**Sn**	**02 46 21.5**	**-0.3**
JAYA	**Jayaque - finc**	**1.82**	**86**	*e*P	**Pn**	**02 46 06.9**	**+0.8**
JAYA				IAML		02 46 30.0	
	comp=Z,326nm,0.2s						
COEG	**Centro de Oper**	**2.37**	**87**	*e*P	Pn	02 46 15.1	+1.5

*IDC **22** 02:55:36.8±1.9, 43.26°N×88.33°E, h0 km, mb3.5/1, mbtmp3.6/4, ML3.1/3, Error ellipse: s-maj=74.7km s-min=19.3km az=49.0*

*NNC **22** 02:55:42.1±2.3, 43.53°N×87.73°E, h0 km, mb4.0, mpv3.5, Error ellipse: s-maj=16.1km s-min=11.5km az=117.0*

ISC 22 02:55:39.0±1.5, 43.38°N±0.09°×88.16°E±0.10, h10 km, n13, σ1 s77/19, 6C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.69**	**332**	Pg	**Pn**	**02 56 53.0**	**+3.2**
	3.0nm,0.3s						
ZSN				Lg	Lg	02 57 47.5	
	18nm,0.2s						
MK31	**Makanchi Array**	**5.38**	**311**	Pn	**Pn**	**02 56 59.5**	**+0.2**
	0.3nm,0.1s,baz=127,slow=14,SNR=158						
MK31				Sn	**Sn**	**02 57 58.7**	**-2.6**
	21nm,0.7s,baz=126,slow=26,SNR=7.1						
MK31				⇑Lg	Lg	02 58 23.2	
	15nm,0.5s						
MKAR	**Makanchi Array**	**5.38**	**311**	Pn	**Pn**	**02 57 01.1**	**+1.8**
	2.4nm,0.3s,baz=127,slow=14,SNR=88						
MKAR				Sn	**Sn**	**02 58 01.5**	**+0.1**
	4.2nm,0.3s,baz=126,slow=27,SNR=10						
	3.8nm,0.3s						
MAKZ	**Makanchi**	**5.56**	**310**	⇑Pn	**Pn**	**02 57 02.2**	**+0.4**
	8.3nm,0.9s						
MAKZ				⇓Sn	**Sn**	**02 58 04.2**	**-1.6**
	9.9nm,0.6s						
MAKZ				⇑Lg	Lg	02 58 28.9	
	21nm,0.9s						
DJR	**Jarkent**	**6.13**	**282**	Pg	**Pb**	**02 57 24.7**	**-1.1**
	2.1nm,0.4s						
DJR				Lg	Lg	02 58 42.6	
	11nm,1.0s						
PDGK	**Podgornoye**	**6.32**	**273**	Pg	**Pb**	**02 57 30.0**	**+0.8**
	1.1nm,0.2s						
PDGK				Lg	Lg	02 58 50.6	
	9.1nm,0.6s						
PDGK	**Podgornoye**	**6.32**	**273**	⇓Pn	**Pn**	**02 57 12.7**	**+0.3**
	6.4nm,0.7s						
PDGK				⇑Sn	**Sn**	**02 58 23.9**	**-0.8**
	14nm,0.9s						
PDGK				⇑Lg	Lg	02 58 52.3	
	16nm,0.5s						
SHLS	**Shalkode**	**6.35**	**271**	Pg	Pb	02 57 25.2	-4.5
	3.8nm,0.5s						
SHLS				Lg	Lg	02 58 43.2	
	24nm,0.7s						
KURBB	**Kurchatov Arra**	**9.78**	**321**	Pn	**Pn**	**02 58 00.9**	**+1.2**
	0.2nm,0.3s,baz=130,slow=13,SNR=10						
KURBB				Sn	**Sn**	**02 59 46.9**	**-2.6**
	0.2nm,0.3s,baz=139,slow=20,SNR=4.1						
KURBB				Lg	Lg	03 00 55.1	
	0.2nm,0.3s,baz=128,slow=30,SNR=4.2						
	1.1nm,0.5s						
KURK	**Kurchatov**	**9.81**	**322**	⇑Pn	**Pn**	**02 57 59.5**	**-0.5**
	3.4nm,0.8s						
KURK				⇓Sn	**Sn**	**02 59 48.0**	**-2.0**
	2.2nm,0.5s						
KURK				⇓Lg	Lg	03 00 43.4	
	10.0nm,0.9s						
ZALV	**Zalesovo Beam**	**10.81**	**349**	Pn	**Pn**	**02 58 14.8**	**+1.2**
	0.2nm,0.3s,baz=168,slow=15,SNR=2.9						
ZALV				Sn	**Sn**	**03 00 13.8**	**-0.8**
	0.5nm,0.3s,baz=168,slow=26,SNR=5.8						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**15.24**	**315**	Pn	**Pn**	**02 59 16.8**	**+2.6**
	0.1nm,0.3s,baz=118,slow=13,SNR=11						
WRA	**Warramunga Arr**	**75.94**	**136**	P	**P**	**03 07 24.1**	**-1.9**
	0.3nm,0.7s,baz=333,slow=5.3,SNR=2.6						
	0.3nm,0.7s						

*NIED **22** 03:05:52.9, 37.22°N×141.53°E, h35 km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15} Nm; M_{rr}=2.40; $M_{\theta\theta}$=1.57; $M_{\phi\phi}$=0.84; $M_{r\theta}$=0.18; $M_{\theta\phi}$=1.15; $M_{\phi r}$=0.13;*

Fault plane solution: M_o=2.41000×10^{15} NP1:φ_s=54.00000°, δ=42.00000°, λ=-90.00000°. NP2:φ_s=234.00000°, δ=48.00000°, λ=-90.00000°.

*NEIC **22** 03:05:52.5±1.8, 37.26°N±0.05°×141.52°E±0.07, h10 km±1 km, mb4.6/28 Error ellipse: s-maj=10.1km s-min=6.4km az=231.0*

*JMA **22** 03:05:52.9±0.2, 37.2°N±0.4°×141.5°E±1.0, h35 km±1 km, MD4.6/40, MV4.4/40, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

*IDC **22** 03:05:54.0±0.5, 37.22°N×141.45°E, h21 km±2 km, mb4.1/22, mbtmp4.3/24, ML3.4/2, MS3.7/2, Error ellipse: s-maj=13.4km s-min=12.0km az=99.0*

ISC 22 03:05:53.4±0.5, 37.24°N±0.03°×141.53°E±0.04, h19 km±1 km, h20 km:pP-P, n148, σ1 s94/132, mb4.5/37, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**284**	P	**Pg**	**03 06 03.9**	**-0.3**
JFK				S	**Sg**	**03 06 11.3**	**-0.2**
JFK	**Kawauchi**	**0.54**	**284**	A	A	03 06 03.9	
	comp=E,37nm,1.4s,comp=E,23nm,0.9s						
JMST	**Minamisoumatoc**	**0.70**	**314**	P	**Pb**	**03 06 06.3**	**-0.6**
JMST				S	**Sb**	**03 06 15.9**	**-0.2**
JMST	**Minamisoumatoc**	**0.70**	**314**	A	A	03 06 06.3	
	comp=E,20nm,1.1s,comp=E,33nm,0.3s						
JFFD	**Fukushimafurud**	**0.79**	**259**	⇓*i*P	**Pb**	**03 06 07.5**	**-0.9**
JFFD				⇓*e*S	**Sb**	**03 06 17.9**	**-0.8**
JFFD	**Fukushimafurud**	**0.79**	**259**	A	A	03 06 07.5	
	comp=E,8.0nm,1.8s,comp=E,10.0nm,1.6s						
JMM	**Marumori**	**0.85**	**317**	Pg	**Pb**	**03 06 08.8**	**-0.8**
JMM				Sg	**Sb**	**03 06 20.0**	**-0.6**
JMM	**Marumori**	**0.85**	**317**	*i* P	**Pb**	**03 06 08.8**	**-0.8**
JMM				S	**Sb**	**03 06 20.0**	**-0.6**
JMM	**Marumori**	**0.85**	**317**	A	A	03 06 08.8	
	comp=E,10.0nm,1.4s,comp=E,13nm,0.3s						
JHO	**Hitachi**	**0.99**	**231**	P	**Pb**	**03 06 10.2**	**-1.8**
JHO				*e*S	**Sb**	**03 06 22.7**	**-1.9**
JIO	**Ouri**	**1.22**	**353**	P	**Pn**	**03 06 14.0**	**-1.3**
JIO				*e*S	**Sb**	**03 06 28.9**	**-2.2**
JYAR	**Yonezawaarcadi**	**1.29**	**302**	A	A	03 06 15.3	
	comp=E,32nm,1.2s,comp=E,45nm,1.1s						
JOU	**Okura**	**1.31**	**329**	P	**Pn**	**03 06 16.5**	**-0.2**
JOU				S	**Sn**	**03 06 33.6**	**-0.1**
JOU	**Okura**	**1.31**	**329**	A	A	03 06 16.5	
	comp=E,20nm,0.5s,comp=E,30nm,0.8s						
JSB	**Shiboa**	**1.31**	**258**	P	**Pn**	**03 06 16.8**	**+0.1**
JSB				*e*S	**Sn**	**03 06 34.2**	**+0.5**
JSB	**Shiboa**	**1.31**	**258**	A	A	03 06 16.8	
	comp=E,21nm,1.0s,comp=E,19nm,2.8s						
JOFO	**Osakifurukawao**	**1.44**	**340**	A	A	03 06 17.7	
	comp=E,51nm,1.0s,comp=E,64nm,1.1s						
JFY	**Yanaizu**	**1.46**	**277**	P	**Pn**	**03 06 18.8**	**+0.1**
JFY				S	**Sn**	**03 06 37.7**	**+0.4**
JFY	**Yanaizu**	**1.46**	**277**	A	A	03 06 18.8	
	comp=E,7.0nm,1.7s,comp=E,8.0nm,2.9s						
JYT	**Yasato**	**1.47**	**227**	A	A	03 06 17.7	
	comp=E,7.0nm,0.7s,comp=E,8.0nm,1.3s						
JIHU	**Itakohorinouch**	**1.51**	**213**	A	A	03 06 18.1	
	comp=E,45nm,1.2s,comp=E,40nm,1.5s						
JYS	**Shirataka**	**1.52**	**311**	A	A	03 06 18.8	
	comp=E,21nm,1.2s,comp=E,26nm,1.9s						
CHOJ	**Chosi**	**1.63**	**200**	A	A	03 06 19.8	
	comp=E,8.0nm,2.8s,comp=E,8.0nm,1.8s						
JMK	**Ichinoseki**	**1.72**	**352**	A	A	03 06 21.9	
	comp=E,12nm,1.2s,comp=E,7.0nm,0.8s						
JSMT	**Sammumatsuo**	**1.82**	**209**	A	A	03 06 22.6	
	comp=E,20nm,4.5s,comp=E,20nm,1.4s						
JNS	**Sasagawa**	**1.85**	**289**	A	A	03 06 23.5	
	comp=E,3.0nm,1.8s,comp=E,3.0nm,2.4s						
JYK	**Kaneyama**	**1.91**	**332**	A	A	03 06 24.5	
	comp=E,6.0nm,1.6s,comp=E,8.0nm,0.9s						
JYA	**Atsumi**	**1.97**	**314**	A	A	03 06 25.3	
	comp=E,9.0nm,0.9s,comp=E,14nm,0.9s						
JCN	**Nagara**	**2.11**	**211**	A	A	03 06 26.8	
	comp=E,21nm,3.3s,comp=E,13nm,4.7s						
JYYZ	**Yamagatayuza**	**2.17**	**325**	A	A	03 06 28.3	
	comp=E,20nm,3.1s,comp=E,12nm,4.5s						
JOM	**Ohasama**	**2.23**	**355**	A	A	03 06 29.2	
	comp=E,6.0nm,0.7s,comp=E,4.0nm,1.2s						
JIZZ	**Izumozaki**	**2.26**	**278**	A	A	03 06 29.4	
	comp=E,13nm,2.1s,comp=E,14nm,2.0s						
JRG	**Rokugo**	**2.26**	**342**	A	A	03 06 29.6	
	comp=E,6.0nm,0.5s,comp=E,7.0nm,1.3s						
JGK	**Kuni**	**2.41**	**255**	A	A	03 06 31.4	
	comp=E,5.0nm,2.4s,comp=E,4.0nm,2.4s						
JYW	**Yuwa**	**2.52**	**336**	A	A	03 06 33.3	
	comp=E,11nm,1.1s,comp=E,15nm,1.7s						
TATJ	**Tateyama 2**	**2.57**	**211**	A	A	03 06 33.4	
	comp=E,7.0nm,2.3s						
JJN	**Nakama**	**2.69**	**268**	A	A	03 06 35.4	
	comp=E,5.0nm,2.1s						
JSD	**Sado**	**2

comp=Z,6.5nm,0.8s,baz=87,slow=6.9,SNR=8.3
comp=Z,7.1nm,0.8s
ZALV Zalesovo Beam 41.84 312 P **P** **03 13 41.2 -0.6**
MK31 Makanchi Array 44.09 302 P **P** **03 13 59.4 -0.7**
MKAR Makanchi Array 44.09 302 P **P** **03 14 00.4 +0.3**
comp=Z,4.4nm,0.8s,baz=88,slow=9.7,SNR=22
MKAR pP **pP** **03 14 06.9 +0.7**
comp=Z,2.6nm,0.8s,baz=88,slow=10,SNR=6.7
comp=Z,4.4nm,0.8s
MKAR Makanchi Array 44.09 302 P **P** **03 13 58.8 -1.4**
KURK Kurchatov 45.88 308 P **P** **03 14 13.4 -0.8**
KURK IAmb IAmb 03 14 21.9
comp=Z,10nm,0.8s
KURBB Kurchatov Arra 45.95 308 P **P** **03 14 14.4 -0.4**
comp=Z,3.1nm,0.4s,baz=84,slow=8.0,SNR=18
KURBB pP **pP** **03 14 21.3 +0.5**
comp=Z,5.6nm,0.6s,baz=83,slow=8.2,SNR=12
comp=Z,3.1nm,0.4s
SPU Mount Spurr 47.01 37 P **P** **03 14 21.3 -1.8**
H23K Yukon River 48.14 31 P **P** **03 14 31.9 +0.1**
H23K IAmb IAmb 03 14 41.3
comp=Z,3.2nm,0.8s
IL31 49.27 32 P **P** **03 14 40.4 +0.1**
IL31 IAmb IAmb 03 14 48.4
comp=Z,6.3nm,0.8s
ILAR Eielson Array 49.27 32 P **P** **03 14 41.1 +0.6**
comp=Z,2.0nm,0.8s,baz=262,slow=6.1,SNR=17
ILAR pP **sP** **03 14 47.5 -1.3**
comp=Z,4.1nm,0.7s,baz=266,slow=4.8,SNR=18
comp=Z,2.0nm,0.8s
BRVK Borovoye 50.55 312 P **P** **03 14 49.6 -0.8**
KK31 Karatay Array 53.10 300 P **P** **03 15 08.5 -1.1**
KK31 IAmb IAmb 03 15 11.3
comp=Z,8.2nm,1.2s
KKAR Karatay Array 53.10 300 P **P** **03 15 08.9 -0.7**
KKAR Karatay Array 53.10 300 P **P** **03 15 08.7 -0.8**
KKAR IAmb IAmb 03 15 11.3
comp=Z,8.2nm,1.2s
EPYK Eagle Plains 53.30 30 P **P** **03 15 10.8 +0.1**
INK Inuvik 54.16 27 P **P** **03 15 18.3 +1.5**
comp=Z,2.0nm,0.9s,baz=288,slow=6.3,SNR=7.4
INK pP **sP** **03 15 25.1 -0.2**
comp=Z,4.0nm,0.9s,baz=293,slow=5.9,SNR=6.6
comp=Z,2.0nm,0.9s
NIL Nilore 54.64 288 P **P** **03 15 19.9 -1.0**
NIL IAmb IAmb 03 15 29.6
comp=Z,7.4nm,0.8s
GAR Garm 54.69 295 P **P** **03 15 20.8 -0.5**
GAR IAmb IAmb 03 15 46.4
comp=Z,5.8nm,0.7s
CHGR Chuyangaron 55.66 295 P **P** **03 15 27.4 -0.9**
A36M Sachs Harbour 56.03 22 P **P** **03 15 30.5 +0.2**
A36M IAmb IAmb 03 15 39.8
comp=Z,8.1nm,0.8s
ARU Arti 56.26 318 P **P** **03 15 31.4 -0.8**
C36M Paulatuk 57.20 25 P **P** **03 15 39.4 +0.7**
C36M IAmb IAmb 03 15 47.6
comp=Z,9.1nm,1.1s
WRA Warramunga Arr 57.28 188 P **P** **03 15 39.0 -0.7**
comp=Z,2.6nm,0.7s,baz=5.9,slow=7.4,SNR=27
comp=Z,2.6nm,0.7s
WRA Warramunga Arr 57.28 188 P **P** **03 15 39.1 -0.7**
ABKAR Akbulak array 57.87 310 P **P** **03 15 43.7 0.0**
ABKAR Akbulak array 57.87 310 P **P** **03 15 43.9 +0.1**
ABKAR IAmb IAmb 03 15 44.3
comp=Z,8.2nm,0.7s
EUNU Eureka 59.97 9 P **P** **03 15 58.5 +0.6**
EUNU IAmb IAmb 03 16 05.6
comp=Z,6.3nm,0.7s
ASAR Alice Springs 61.01 188 P **P** **03 16 05.5 -0.1**
comp=Z,1.9nm,0.8s,baz=8.0,slow=6.0,SNR=16
comp=Z,1.9nm,0.8s
VADS Vadso 62.40 339 *eP* **P** **03 16 14.9 +0.5**
GEYT Alibeck 63.81 299 P **P** **03 16 24.9 +0.5**
comp=Z,4.7nm,0.7s,baz=29,slow=3.4,SNR=9.4
GEYT pP **pP** **03 16 31.4 +0.9**
comp=Z,4.6nm,0.6s,baz=28,slow=3.8,SNR=6.4
comp=Z,4.7nm,0.7s
ARA0 ARCESS Array S 63.83 339 *eP* **P** **03 16 24.5 +0.6**
ARCES ARCESS Array B 63.83 339 P **P** **03 16 24.3 +0.4**
comp=Z,3.5nm,0.8s,baz=51,slow=7.8,SNR=14
comp=Z,3.5nm,0.8s
KTK1 Kautokeino 64.79 339 *eP* **P** **03 16 30.8 +0.5**
TRO Tromso 65.55 341 *eP* **P** **03 16 35.2 +0.2**
DAG Danmarks Havn 65.57 355 *i P* **P** **03 16 35.0 -0.2**
FAUS Fauske 68.08 340 *eP* **P** **03 16 51.7 +0.4**
FINES FINESS Array B 68.67 332 P **P** **03 16 54.7 -0.3**
comp=Z,2.7nm,0.7s,baz=57,slow=7.0,SNR=9.5
comp=Z,2.7nm,0.7s
STKA Stephens Creek 68.76 180 P **P** **03 16 56.3 +0.4**
comp=Z,2.6nm,0.8s,baz=328,slow=6.0,SNR=4.8
STKA pP **sP** **03 17 03.0 -1.3**
comp=Z,2.1nm,0.7s,baz=334,slow=7.9,SNR=3.0
comp=Z,2.6nm,0.8s
MOR8 Moi Rana 69.20 340 *eP* **P** **03 16 57.4 -0.9**
MOR8 IAmb IAmb 03 16 57.6
comp=Z,14nm,1.1s
PINE Pine Mountain 70.14 50 P **P** **03 17 05.7 +1.0**
SUMG Summit 70.48 360 *i P* **P** 03 17 12.0 +5.5
KBZ Khabaz 70.83 311 P **P** **03 17 09.3 +0.6**
comp=Z,4.1nm,0.9s,baz=334,slow=1.5,SNR=5.5
KBZ pP **sP** **03 17 16.3 -1.0**
comp=Z,4.8nm,0.8s,baz=18,slow=3.1,SNR=6.2
comp=Z,4.1nm,0.9s
NSS Namsos 71.12 339 *eP* **P** **03 17 10.4 +0.4**
LRM Limekiln Ridge 73.93 44 P **P** **03 17 28.2 +0.7**
NB2 NORSAR Subarra 74.03 337 P **P** **03 17 27.4 -0.1**
baz=39,slow=6.2
NB2 NORSAR Subarra 74.03 337 P **P** **03 17 27.4 -0.1**
comp=Z,1.4nm,0.5s,baz=39,slow=6.2
NOA NORSAR Array B 74.03 337 P **P** **03 17 27.6 +0.1**
comp=Z,1.2nm,0.6s,baz=38,slow=5.9,SNR=12
NOA pP **pP** **03 17 33.8 +0.1**
comp=Z,1.0nm,0.4s,baz=39,slow=5.7,SNR=7.3
NOA LR LR 03 53 32.9
comp=Z,32nm,20.9s,baz=225,slow=39
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 74.19 322 P **P** **03 17 28.2 -0.3**
comp=Z,1.5nm,0.4s,baz=46,slow=5.8,SNR=17
AKASG pP **pP** **03 17 35.2 +0.4**
comp=Z,2.9nm,0.5s,baz=46,slow=6.2,SNR=6.9
comp=Z,1.5nm,0.4s
BOZ Bozeman (W) 74.53 44 P **P** **03 17 31.8 +1.0**
NVAR Mina Array Bea 74.79 53 P **P** **03 17 34.1 +1.6**
comp=Z,1.1nm,0.8s,baz=275,slow=5.9,SNR=8.8
comp=Z,1.1nm,0.8s
IMW Indian Meadow 75.96 45 P **P** **03 17 40.4 +1.1**
IMW IAmb IAmb 03 17 49.2
comp=Z,3.3nm,0.8s
PDAR Pinedale Array 77.46 46 P **P** **03 17 48.1 +0.4**
comp=Z,0.5nm,0.6s,baz=304,slow=1.4,SNR=5.8
comp=Z,0.5nm,0.6s
BUR08 Bucovina Ar. S 78.19 322 P **P** **03 17 52.3 +0.8**
BUR08 IAmb IAmb 03 18 11.0
comp=Z,4.9nm,1.1s
BRTR Keskin Array B 78.78 312 P **P** **03 17 55.2 +0.2**
comp=Z,0.8nm,0.6s,baz=58,slow=3.1,SNR=4.6
comp=Z,0.8nm,0.6s
W13A Hualapai Mount 79.62 54 P **P** **03 18 00.5 +0.8**
DPC Dobruska-Polom 80.33 328 *eP* **P** **03 18 05.7 +2.6**
DPC *e*PCP **sP** **03 18 12.5 +0.8**
KRLC Kraliky 80.34 328 *eP* **P** **03 18 06.8 +3.7**
VYHS Vyhne 80.61 325 *e* P 03 18 12.3 +7.8
CLL Collm 80.96 330 *i* (PcP) **PcP** **03 18 12.6 -0.2**
comp=Z,12nm,1.4s
KHC Kasperske Hory 82.41 328 *eP* **P** **03 18 14.5 +0.4**
KHC *e*PCP **sP** **03 18 21.6 -1.2**
GERES GERESS Array B 82.58 328 P **P** **03 18 15.2 +0.1**
comp=Z,0.7nm,0.5s,baz=45,slow=5.3,SNR=10
GERES pP **pP** **03 18 22.1 +0.6**
comp=Z,0.5nm,0.4s,baz=48,slow=6.7,SNR=5.1
comp=Z,0.7nm,0.5s
TXAR Lajitas Array 89.92 52 P **P** **03 18 52.5 +0.9**
comp=Z,0.6nm,0.6s,baz=294,slow=3.1,SNR=9.3
comp=Z,0.6nm,0.6s
TORD Torodi Ar. Bea 117.25 315 PKP **PKPdf** **03 24 37.2 -0.7**
comp=Z,0.1nm,0.5s,baz=30,slow=3.7,SNR=1.4
TROLL Troll, Antarti 139.46 198 PKPdf **PKiKP** **03 25 20.1 -0.6**
SNAA Sanae 140.97 197 PKPdf **PKPdf** **03 25 19.1 -2.0**
VNA2 Neumayer--Watz 142.54 196 PKPdf **PKPdf** **03 25 21.0 -2.8**
baz=157,slow=4.1
VNA3 Neumayer Olymp 142.79 195 PKPdf **PKPdf** **03 25 21.4 -2.9**
LPAZ La Paz 146.51 59 PKPbc **PKPbc** **03 25 35.0 +0.5**
comp=Z,1.4nm,0.6s,baz=295,slow=0.7,SNR=6.8
H03N2 Juan Fernandez 146.96 96 T T 06 09 47.0
baz=291,slow=76,SNR=15
H03N3 Juan Fernandez 146.97 96 T T 06 09 47.6
baz=291,slow=76,SNR=20
H03N1 Juan Fernandez 146.97 96 T T 06 09 48.2
baz=291,slow=76,SNR=20

JMA 22 03:30:33.3±0.3, 31.1N±0.5×12.9E±*, h14km±2km, MV2.0/16, SW OFF KYUSHU, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSJ	**Shimokoshiki**	**0.72**	**39**	*eP*	Pg	03 30 46.7	-0.7
JSJ				*eS*	Sg	03 30 56.7	-0.2
JSU	**Suzuyama**	**1.16**	**70**	*eP*	Pb	03 30 54.5	-0.6
JSU				*eS*	Sb	03 31 09.6	-0.4
JYAK	**Yakushimahirau**	**1.44**	**127**	*eP*	Pn	03 30 58.0	-1.0

*IDC **22** 03:32:09.3±0.6, 37.2N×141.4E, h0km, mb4.1/18, mbtmp4.1/20, ML3.6/2, MS2.8/1, Error ellipse: s-maj=17.3km s-min=16.5km az=115.0*
*NEIC **22** 03:32:10.6±0.9, 37.2N±0.0×141.5E±0.0, h10km±1km, mb4.5/12, Error ellipse: s-maj=12.7km s-min=2.9km az=46.0*
*NIED **22** 03:32:11.7, 37.2N×141.4E, h32km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=-8.88; $M_{\theta\theta}$=1.70; $M_{\phi\phi}$=7.19; $M_{r\theta}$=-2.95; $M_{\theta\phi}$=3.71; $M_{\phi r}$=-1.50; Fault plane solution: M_0=9.56000×10^{14} NP1: ϕ_s=195.00000°, δ=38.00000°, λ=-108.00000°. NP2: ϕ_s=38.00000°, δ=54.00000°, λ=-76.00000°.*
*JMA **22** 03:32:11.7±0.2, 37.2N±0.3×141.5E±0.9, h32km±1km, MD4.3/40, MV4.4/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .

ISC 22 03:32:12.3±0.6, 37.2S N±0.0×141.4E±0.0, h18km±3km, n89, σ0=95/71, mb4.2/24, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.50**	**284**	⇓*iP*	**Pg**	**03 32 21.7**	**-0.7**
JFK				⇓S	**Sg**	**03 32 28.6**	**-0.6**
JFK	**Kawauchi**	**0.50**	**284**	A	A	03 32 21.7	
	comp=E,43nm,0.5s,comp=E,20nm,0.5s						
JMST	**Minamisoumatoc**	**0.67**	**315**	⇓P	**Pb**	**03 32 24.4**	**-1.0**
JMST				⇓S	**Sb**	**03 32 33.6**	**-0.7**
JMST	**Minamisoumatoc**	**0.67**	**315**	A	A	03 32 24.4	
	comp=E,21nm,1.0s,comp=E,42nm,1.1s						
JFFD	**Fukushimafurud**	**0.75**	**258**	⇓*iP*	**Pb**	**03 32 25.5**	**-1.4**
JFFD				⇓S	**Sb**	**03 32 35.2**	**-1.6**
JFFD	**Fukushimafurud**	**0.75**	**258**	A	A	03 32 25.5	
	comp=E,11nm,1.2s,comp=E,14nm,0.3s						
JMM	**Marumori**	**0.82**	**318**		**Pb**	**03 32 26.9**	**-1.2**
JMM	**Marumori**	**0.82**	**318**	P	**Pb**	**03 32 27.0**	**-1.1**
JMM	**Marumori**	**0.82**	**318**	⇓*iP*	**Pb**	**03 32 26.9**	**-1.2**
JMM				⇓S	**Sb**	**03 32 37.9**	**-1.0**
JMM	**Marumori**	**0.82**	**318**	A	A	03 32 26.9	
	comp=E,9.0nm,3.3s,comp=E,8.0nm,0.6s						
JHO	**Hitachi**	**0.97**	**229**	P	**Pb**	**03 32 28.4**	**-2.1**
JHO	**Hitachi**	**0.97**	**229**	A	A	03 32 28.4	
	comp=E,4.0nm,0.6s,comp=E,5.0nm,0.2s						
JHYU	**Hitachinakayam**	**1.16**	**219**	A	A	03 32 31.7	
	comp=E,5.0nm,1.0s,comp=E,11nm,0.5s						
JIO	**Ouri**	**1.21**	**355**	*iP*	**Pn**	**03 32 32.7**	**-1.5**
JIO				*eS*	**Sb**	**03 32 47.7**	**-2.2**
JYAR	**Yonezawaarcadi**	**1.25**	**302**	A	A	03 32 33.4	
	comp=E,19nm,1.1s,comp=E,27nm,1.2s						
JSB	**Shiboa**	**1.28**	**258**	*iP*	**Pn**	**03 32 34.6**	**-0.7**
JSB				*eS*	**Sb**	**03 32 50.7**	**-1.3**
JSB	**Shiboa**	**1.28**	**258**	A	A	03 32 34.6	
	comp=E,14nm,1.9s,comp=E,11nm,1.0s						
JOU	**Okura**	**1.29**	**330**	⇓*eP*	**Pn**	**03 32 34.8**	**-0.7**
JOU				⇓*eS*	**Sn**	**03 32 51.6**	**-0.6**
JOU	**Okura**	**1.29**	**330**	A	A	03 32 34.8	
	comp=E,9.0nm,1.0s,comp=E,13nm,0.5s						
JOFO	**Osakifurukawao**	**1.43**	**342**	A	A	03 32 36.2	
	comp=E,22nm,0.8s,comp=E,24nm,2.4s						
JFY	**Yanaizu**	**1.43**	**277**	P	**Pn**	**03 32 36.7**	**-0.6**
JFY				*eS*	**Sn**	**03 32 55.0**	**-0.6**
JFY	**Yanaizu**	**1.43**	**277**	A	A	03 32 36.7	
	comp=E,6.0nm,0.6s,comp=E,4.0nm,0.4s						
JYT	**Yasato**	**1.45**	**226**	A	A	03 32 36.1	
	comp=E,10.0nm,0.5s,comp=E,7.0nm,0.3s						
JYS	**Shirataka**	**1.48**	**311**	A	A	03 32 37.0	
	comp=E,12nm,1.8s,comp=E,10.0nm,1.0s						
JYA	**Atsumi**	**1.94**	**314**	A	A	03 32 43.6	
	comp=E,7.0nm,0.6s,comp=E,6.0nm,1.0s						
JIZZ	**Izumozaki**	**2.23**	**278**	A	A	03 32 47.5	
	comp=E,15nm,1.4s,comp=E,11nm,1.8s						
JRG	**Rokugo**	**2.25**	**343**	A	A	03 32 48.2	
	comp=E,3.0nm,2.3s,comp=E,3.0nm,1.5s						
JGK	**Kuni**	**2.38**	**254**	A	A	03 32 49.6	
	comp=E,3.0nm,4.5s,comp=E,3.0nm,3.7s						
JYW	**Yuwa**	**2.50**	**337**	A	A	03 32 51.7	
	comp=E,6.0nm,1.2s,comp=E,8.0nm,1.3s						
JSD	**Sado**	**2.68**	**289**	Pn	**Pn**	**03 32 53.1**	**-1.4**
JSD	**Sado**	**2.68**	**288**	P	**Pn**	**03 32 55.0**	**+0.5**
MJAR	**Matsushiro Arr**	**2.72**	**256**	Pn	**Pn**	**03 32 55.0**	**-0.1**
	3.2nm,0.3s,baz=75,slow=16,SNR=60 14nm,0.3s						
MAJO	**Matsushiro**	**2.72**	**256**	Pn	**Pn**	**03 32 55.5**	**+0.4**
MAJO	**Matsushiro**	**2.72**	**256**	P	**Pn**	**03 32 55.7**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.72**	**256**		**Pn**	**03 32 56.4**	**+1.2**
JTM	**Tenmabayashi**	**3.55**	**355**	Pn	**Pn**	**03 33 06.5**	**+0.1**
JTM	**Tenmabayashi**	**3.55**	**355**	P	**Pn**	**03 33 06.8**	**+0.4**
JGF	**Kuroka**	**3.71**	**245**	Pn	**Pn**	**03 33 09.3**	**+0.6**
JGF	**Kuroka**	**3.71**	**245**	P	**Pn**	**03 33 09.5**	**+0.7**
INU	**Inuyama**	**4.08**	**244**		**Pn**	**03 33 14.5**	**+0.8**
INU	**Inuyama**	**4.08**	**244**	P	**Pn**	**03 33 14.8**	**+1.1**
JHJ2	**Mitsune**	**4.35**	**199**	P	**Pn**	**03 33 19.3**	**+1.8**
JHJ	**Hachijo jima 2**	**4.35**	**199**	Pn	**Pn**	**03 33 17.6**	**+0.2**
	40nm,0.3s,baz=166,slow=23,SNR=13						
JHJ				Sn	**Sn**	**03 34 05.3**	**-2.4**
	73nm,0.3s,baz=74,slow=23,SNR=7.6						
JHJ				LR	LR	03 35 04.9	
	comp=Z,125nm,19.5s,baz=132,slow=41 109nm,0.3s						
ERM	**Erimo**	**4.93**	**15**	P	**Pn**	**03 33 25.4**	**0.0**
JEM	**Erimo**	**4.93**	**15**	P	**Pn**	**03 33 25.4**	**-0.1**
JHS	**Saijyo**	**7.13**	**254**	Pn	**Pn**	**03 33 56.1**	**+0.3**
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**03 37 59.2**	**-0.3**
	3.3nm,0.8s,baz=101,slow=8.9,SNR=19 3.3nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	04 07 28.4	
	baz=314,slow=75,SNR=189						
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	04 07 32.3	
	baz=314,slow=75,SNR=229						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	04 07 33.1	
	baz=314,slow=75,SNR=147						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	04 08 23.1	
	baz=316,slow=76,SNR=142						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	04 08 25.6	
	baz=316,slow=76,SNR=106						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	04 08 26.7	
	baz=316,slow=76,SNR=58						
ZAA0	**Zalesovo Array**	**41.81**	**312**	P	**P**	**03 39 59.9**	**-0.8**
ZAA0				IAmb	IAmb	03 40 00.8	
	comp=Z,5.3nm,0.8s						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**03 40 00.1**	**-0.5**
	comp=Z,5.4nm,0.7s,baz=86,slow=6.6,SNR=20 comp=Z,5.4nm,0.7s						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**03 39 59.9**	**-0.7**
MK31	**Makanchi Array**	**44.05**	**302**	P	**P**	**03 40 18.4**	**-0.5**
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**03 40 18.5**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=88,slow=9.9,SNR=19 comp=Z,3.4nm,0.8s						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**03 40 18.2**	**-0.8**
KURK	**Kurchatov**	**45.84**	**308**	P	**P**	**03 40 32.1**	**-1.0**
KURK				IAmb	IAmb	03 40 33.3	
	comp=Z,8.9nm,0.9s						
ILAR	**Eielson Array**	**49.28**	**32**	P	**P**	**03 41 00.1**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=272,slow=6.8,SNR=17 comp=Z,1.6nm,0.7s						
INK	**Inuvik**	**54.17**	**27**	P	**P**	**03 41 37.0**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=285,slow=5.9,SNR=9.9 comp=Z,2.2nm,0.8s						
CHGR	**Chuyangaron**	**55.62**	**295**	P	**P**	**03 41 46.5**	**-0.6**
A36M	**Sachs Harbour**	**56.04**	**22**	P	**P**	**03 41 50.3**	**+0.9**
A36M				IAmb	IAmb	03 41 52.0	
	comp=Z,4.7nm,0.8s						
ARU	**Arti**	**56.24**	**318**	P	**P**	**03 41 50.4**	**-0.7**
WB0	**Warramunga Arr**	**57.10**	**188**	P	**P**	**03 41 56.5**	**-1.1**
WB0				IAmb	IAmb	03 42 03.3	
	comp=Z,2.6nm,0.7s						
WR0	**Warramunga Arr**	**57.28**	**188**	P	**P**	**03 41 57.8**	**-1.0**
WB2	**Warramunga Arr**	**57.28**	**188**	P	**P**	**03 41 57.8**	**-1.1**
WB2				IAmb	IAmb	03 42 27.8	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**03 41 57.8**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=5.9,slow=7.4,SNR=27 comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**03 41 57.6**	**-1.3**
ABKAR	**Akbulak array**	**57.84**	**310**	P	**P**	**03 42 01.6**	**-1.0**
ABKAR				IAmb	IAmb	03 42 02.5	
	comp=Z,4.8nm,0.7s						
ABKAR	**Akbulak array**	**57.84**	**310**	P	**P**	**03 42 01.7**	**-1.0**
ASAR	**Alice Springs**	**61.01**	**188**	P	**P**	**03 42 24.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=13,slow=6.7,SNR=5.3 comp=Z,0.2nm,0.4s						
GEYT	**Alibeck**	**63.78**	**299**	P	**P**	**03 42 42.9**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=36,slow=5.5,SNR=5.6 comp=Z,3.7nm,0.8s						
ARCES	**ARCESS Array B**	**63.81**	**339**	P	**P**	**03 42 42.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=63,slow=7.6,SNR=16 comp=Z,0.8nm,0.5s						
FINES	**FINESS Array B**	**68.65**	**332**	P	**P**	**03 43 13.6**	**-0.5**
	comp=Z,3.9nm,0.7s,baz=31,slow=8.2,SNR=13 comp=Z,3.9nm,0.7s						
KBZ	**Khabaz**	**70.81**	**311**	P	**P**	**03 43 27.6**	**0.0**
	comp=Z,4.2nm,0.9s,baz=313,slow=3.4,SNR=6.4 comp=Z,4.2nm,0.8s						
NB2	**NORSAR Subarra**	**74.01**	**337**	P	**P**	**03 43 46.2**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.01**	**337**	P	**P**	**03 43 46.3**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=37,slow=6.0,SNR=3.7 comp=Z,1.2nm,0.8s						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**03 43 46.7**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=48,slow=5.9,SNR=8.5 comp=Z,0.9nm,0.4s						
NVAR	**Mina Array Bea**	**74.81**	**53**	P	**P**	**03 43 52.4**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=312,slow=7.2,SNR=5.7 comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**77.47**	**46**	P	**P**	**03 44 07.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=276,slow=1.7,SNR=5.2 comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**78.75**	**312**	P	**P**	**03 44 13.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=44,slow=4.4,SNR=4.3 comp=Z,0.6nm,0.6s						
GERES	**GERESS Array B**	**82.56**	**328**	P	**P**	**03 44 33.7**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=43,slow=6.0,SNR=9.6 comp=Z,0.6nm,0.4s						
TXAR	**Lajitas Array**	**89.94**	**52**	P	**P**	**03 45 11.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=297,slow=3.0,SNR=8.6 comp=Z,0.5nm,0.6s						
LPAZ	**La Paz**	**146.53**	**59**	PKPbc	**PKPbc**	**03 51 53.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=354,slow=2.5,SNR=14						
H03N2	**Juan Fernandez**	**146.99**	**96**	T	T	06 36 10.9	
	baz=291,slow=76,SNR=12						
H03N3	**Juan Fernandez**	**147.00**	**96**	T	T	06 36 07.1	
	baz=291,slow=76,SNR=15						
H03N1	**Juan Fernandez**	**147.01**	**96**	T	T	06 36 13.1	
	baz=291,slow=76,SNR=14						

*IDC **22** 03:38:45.5±1.2, 37.1N×141.4E, h0km, mb3.8/7, mbtmp3.8/8, ML2.6/1, Error ellipse: s-maj=29.9km s-min=26.3km az=93.0*
*JMA **22** 03:38:47.5±0.2, 37.2N±0.3×141.5E±0.9, h28km±1km, MV3.8/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **22** 03:38:47.5, 37.2N×141.4E, h28km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.52; $M_{\theta\theta}$=2.67; $M_{\phi\phi}$=1.84; $M_{r\theta}$=4.83; $M_{\theta\phi}$=2.77; $M_{\phi r}$=5.02; Fault plane solution: M_0=8.46000×10^{14} NP1: ϕ_s=55.00000°, δ=17.00000°, λ=-80.00000°. NP2: ϕ_s=225.00000°, δ=73.00000°, λ=-93.00000°.*
*NEIC **22** 03:38:47.3±0.9, 37.2N±0.0×141.3E±0.0, h10km±1km, mb4.3/8 Error ellipse: s-maj=7.4km s-min=4.4km az=3.0*

ISC 22 03:38:47.0±0.8, 37.2N±0.0×141.4E±0.0, h10km, n36, σ0=64/33, mb3.9/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.47**	**289**	*iP*	**Pg**	**03 38 57.0**	**+0.8**
JFK				S	**Sb**	**03 39 04.0**	**-0.5**
JMST	**Minamisoumatoc**	**0.67**	**320**	*iP*	**Pg**	**03 39 00.2**	**+0.2**
JFFD	**Fukushimafurud**	**0.71**	**260**	*iP*	**Pg**	**03 39 01.1**	**+0.5**
JFFD				S	**Sb**	**03 39 11.0**	**-0.2**
JMM	**Marumori**	**0.83**	**322**	Pg	**Pg**	**03 39 02.6**	**-0.3**
JMM				Sg	**Sg**	**03 39 13.7**	**0.0**
JMM	**Marumori**	**0.83**	**322**	*iP*	**Pg**	**03 39 02.7**	**-0.3**
JHO	**Hitachi**	**0.92**	**229**	P	**Pg**	**03 39 04.3**	**-0.3**
JHO				S	**Sg**	**03 39 16.2**	**-0.3**
JIO	**Ouri**	**1.24**	**357**	*eP*	**Pb**	**03 39 08.9**	**-1.6**
JSD	**Sado**	**2.65**	**289**	Pn	**Pn**	**03 39 29.6**	**-0.2**
MJAR	**Matsushiro Arr**	**2.67**	**256**	Pn	**Pn**	**03 39 31.1**	**+1.1**
	1.0nm,0.3s,baz=78,slow=17,SNR=15 8.4nm,0.4s						
MAJO	**Matsushiro**	**2.67**	**257**	Pn	**Pn**	**03 39 30.4**	**+0.3**
MJB9	**Matsu-Tunnel**	**2.67**	**257**	Pn	**Pn**	**03 39 29.9**	**-0.2**
JTM	**Tenmabayashi**	**3.58**	**356**	Pn	**Pn**	**03 39 42.6**	**+0.1**
JGF	**Kuroka**	**3.66**	**245**	Pn	**Pn**	**03 39 43.7**	**0.0**
INU	**Inuyama**	**4.02**	**244**	Pn	**Pn**	**03 39 47.8**	**-0.8**
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**03 44 36.0**	**+0.6**
	0.9nm,0.8s,baz=109,slow=6.5,SNR=5.3 0.9nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	04 14 05.7	
	baz=314,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	04 14 10.6	
	baz=314,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	04 14 07.1	
	baz=314,slow=76,SNR=39						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	04 15 00.4	
	baz=316,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	04 15 00.5	
	baz=316,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	04 15 01.6	
	baz=316,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**41.

KNT	Kendrikon	0.24	32	P	Pg	03 47 36.8	+0.1	
KNT				S	Sg	03 47 39.5	-0.5	
	5μm,0.2s							
KNT	Kendrikon	0.24	32	*i* Pg	Pg	03 47 36.9	+0.1	
KNT				*i* Sg	Sg	03 47 40.1	+0.1	
KNT	Kendrikon	0.24	32	P	Pg	03 47 36.9	+0.1	
KNT				S	Sg	03 47 40.1	+0.1	
THE	Thessaloniki	0.37	151	P	Pb	03 47 40.2	-0.4	
THE				S	Sb	03 47 45.7	-0.9	
	2μm,0.1s							
THE	Thessaloniki	0.37	151	*i* Pg	Pb	03 47 40.3	-0.4	
THE				*i* Sg	Sb	03 47 45.5	-1.1	
THE	Thessaloniki	0.37	151	P	Pb	03 47 40.2	-0.4	
THE				S	Sb	03 47 45.4	-1.2	
THE				AML	AML	03 47 46.9		
	comp=E,3244μm,0.1s							
THE				AML	AML	03 47 47.2		
	comp=N,2831μm,0.1s							
VAY	Valandovo	0.38	342	*e*Pg	Pb	03 47 39.9	-1.1	
VAY				*e*Sg	Sg	03 47 45.1	+0.7	
VAY	Valandovo	0.38	342	*i* Pg	Pb	03 47 40.0	-0.9	
VAY				*i* Sg	Sg	03 47 45.2	+0.8	
VAY				*e*Lg	Lg	03 47 45.3		
	comp=E,5μm,0.2s							
VAY				*e*Lg	Lg	03 47 45.7		
	comp=N,2μm,0.2s							
HORT	Hortiatis	0.46	141	PG	Pb	03 47 42.0	-0.3	
HORT				SG	Sb	03 47 49.1	-0.1	
HORT	Hortiatis	0.46	141	P	Pb	03 47 41.9	-0.3	
HORT				S	Sb	03 47 48.5	-0.7	
	comp=N,892nm,0.2s							
HORT	Hortiatis	0.46	141	P	Pb	03 47 41.7	-0.5	
HORT				S	Sb	03 47 48.0	-1.2	
HORT				AML	AML	03 47 49.8		
	comp=N,1783μm,0.3s							
HORT				AML	AML	03 47 50.7		
	comp=E,1756μm,0.2s							
SOH	Sokhos	0.49	105	P	Pb	03 47 42.5	-0.3	
SOH				S	Sb	03 47 49.6	-0.7	
	comp=E,1μm,0.3s							
SOH	Sokhos	0.49	105	*i* Pg	Pb	03 47 42.5	-0.3	
SOH				*i* Sg	Sb	03 47 50.1	-0.2	
SOH	Sokhos	0.49	105	P	Pb	03 47 42.5	-0.3	
SOH				S	Sb	03 47 49.5	-0.8	
SOH				AML	AML	03 47 52.6		
	comp=E,3320μm,0.3s							
SOH				AML	AML	03 47 52.9		
	comp=N,2363μm,0.3s							
SRS	Serrai	0.68	76	P	Pb	03 47 45.3	-0.6	
SRS				S	Sb	03 47 54.6	-0.9	
	comp=N,408nm,0.2s							
SRS	Serrai	0.68	76	*e*Pg	Pb	03 47 45.2	-0.6	
SRS				*e*Sg	Sb	03 47 54.6	-0.9	
SRS	Serrai	0.68	76	*i* Pg	Pb	03 47 45.4	-0.6	
SRS				*i* Sg	Sb	03 47 54.9	-0.6	
SRS	Serrai	0.68	76	P	Pb	03 47 45.3	-0.6	
SRS				AML	AML	03 47 55.8		
	comp=E,925μm,0.1s							
SRS				AML	AML	03 48 00.3		
	comp=N,698μm,0.3s							
KTI	Kastanea	0.73	220	P	Pb	03 47 47.1	+0.2	
STIP	Stip	0.84	331	*i* Pg	Pg	03 47 47.5	-0.6	
STIP				*i* Sg	Sg	03 47 58.3	-0.8	
STIP				*e*Lg	Lg	03 47 58.4		
	comp=E,199nm,0.3s							
STIP				*e*Lg	Lg	03 48 00.1		
	comp=N,360nm,0.3s							
NVR	Nevrokopi	0.94	65	P	Pb	03 47 50.3	-0.2	
NVR				S	Sb	03 48 02.8	-0.4	
	comp=N,285nm,0.4s							
NVR	Nevrokopi	0.94	65	P	Pb	03 47 50.4	-0.2	
NVR				AML	AML	03 48 04.3		
	comp=E,559μm,0.3s							
NVR				AML	AML	03 48 05.9		
	comp=N,567μm,0.3s							
KKB	Krupnik	0.95	16	*i* P	Pg	03 47 49.7	-0.4	
KZN	Kozani	0.97	229	P	Pn	03 47 51.3	-0.6	
KZN	Kozani	0.97	229	P	Pn	03 47 51.3	-0.6	
KOKK	Kokkinochori,	0.97	98	P	Pb	03 47 51.1	+0.1	
KOKK				S	Sn	03 48 05.1	-0.8	
KOKK	Kokkinochori,	0.97	98	P	Pb	03 47 50.7	-0.3	
KOKK				AML	AML	03 48 06.5		
	comp=N,694μm,0.2s							
KOKK				AML	AML	03 48 10.5		
	comp=E,674μm,0.5s							
MMB	Musomiste	0.99	50	*i* P	Pg	03 47 50.6	-0.2	
FNA	Florina	1.04	261	PG	Pb	03 47 51.9	-0.2	
FNA				SG	Sn	03 48 06.5	-1.1	
FNA	Florina	1.04	261	P	Pb	03 47 51.8	-0.2	
FNA	Florina	1.04	261	*e*Pg	Pb	03 47 52.0	-0.2	
FNA				*e*Sg	Sn	03 48 07.0	-0.6	
FNA	Florina	1.04	261	*i* Pg	Pb	03 47 51.9	-0.2	
FNA				*i* Sg	Sn	03 48 08.1	+0.5	
FNA	Florina	1.04	261	P	Pb	03 47 51.8	-0.2	
FNA				AML	AML	03 48 11.2		
	comp=N,649μm,0.3s							
FNA				AML	AML	03 48 11.6		
	comp=E,509μm,0.3s							
OUR	Ouranopolis	1.14	123	PN	Pn	03 47 54.7	+0.6	
OUR				SN	Sn	03 48 11.5	+1.6	
OUR	Ouranopolis	1.14	123	P	Pn	03 47 54.6	+0.5	
OUR				S	Sn	03 48 10.8	+0.9	
OUR	Ouranopolis	1.14	123	P	Pn	03 47 54.4	+0.3	
PAIG	Paliouri	1.26	144	P	Pg	03 47 56.0	0.0	
PAIG	Paliouri	1.26	144	P	Pg	03 47 56.0	0.0	
NEST	Nestorio	1.39	248	P	Pg	03 47 58.5	+0.1	
SKO	Skopje	1.40	317	*e*Pg	Pg	03 47 58.1	-0.6	
SKO				*e*Sg	Sg	03 48 17.6	+0.7	
SKO	Skopje	1.40	317	*i* Pn	Pg	03 47 58.4	-0.3	
SKO				*i* Sn	Sg	03 48 17.7	+0.8	
SKO				*e*Lg	Lg	03 48 20.4		
	comp=N,5.8nm,0.3s							
SKO				*e*Lg	Lg	03 48 20.6		
	comp=E,5.5nm,0.3s							
OHR	Ohrid	1.47	277	*e*Pg	Pg	03 47 59.7	-0.3	
OHR				*e*Sg	Sg	03 48 19.9	+0.9	
OHR	Ohrid	1.47	277	*i* Pn	Pg	03 48 00.1	+0.1	
OHR				*i* Sn	Sg	03 48 20.9	+1.9	
OHR				*e*Lg	Lg	03 48 23.5		
	comp=N,36nm,0.6s							
OHR				*e*Lg	Lg	03 48 25.2		
	comp=E,43nm,0.5s							
THL	Klokotos Trika	1.49	202	P	Pb	03 47 59.4	-0.4	
BOSS	Bosilegrad	1.55	353	*e*Pg	Pb	03 48 00.6	-0.3	
BOSS				*e*Sg	Sb	03 48 20.5	-0.2	
XOR	Xorichti	1.63	167	P	Pb	03 48 01.4	-0.7	
RZN	Rozhen	1.67	63	*i* P	Pg	03 48 04.5	+0.7	
NEO	Neokhori	1.69	167	P	Pb	03 48 02.2	-1.0	
NEO				AML	AML	03 48 26.1		
	comp=E,435μm,0.4s							
NEO				AML	AML	03 48 27.3		
	comp=N,357μm,0.3s							
VTS	Vitosha	1.71	13	*e*Pg	Pn	03 48 02.2	+0.2	
VTS				*e*Sg	Sb	03 48 24.9	-0.3	
VTS	Vitosha	1.71	13	*i* Pn	Pb	03 48 03.3	-0.3	
VTS				*i* Pn	Pg	03 48 04.2	-0.4	
VTS				*i* Sn	Sg	03 48 26.0	-0.7	
VTS	Vitosha	1.71	13	*i* P	Pn	03 48 02.3	+0.2	
PLD	Plovdiv	1.88	52	PN	Pb	03 48 05.1	-1.3	
PLD	Plovdiv	1.88	52	*e*Pg	Pg	03 48 07.4	-0.4	
PLD				*e*Sg	Sg	03 48 32.6	+0.4	
PGB	Panagyurishte	1.92	34	*i* P	Pb	03 48 07.4	+0.2	
BARS	Barje	1.98	340	*e*Pg	Pb	03 48 07.7	-0.5	
RDO	Rodhopi	2.13	84	PN	Pb	03 48 09.1	-1.7	
KDZ	Kurdzhali	2.14	70	PN	Pn	03 48 08.2	+0.2	
KDZ	Kurdzhali	2.14	70	*i* P	Pb	03 48 10.1	-0.8	
ZAPS	Zavoj	2.32	358	*e*Pn	Pn	03 48 11.7	+1.3	
ZAPS				*e*Sn	Sn	03 48 38.9	-0.2	
SELS	Selova	2.56	333	*e*Pn	Pn	03 48 13.6	-0.1	
PLVB	Pleven	2.81	29	⇓P	Pg	03 48 24.1	-1.6	
ZAGS	Zajecar	2.88	353	*e*Pn	Pn	03 48 18.2	+0.1	
ZAGS				*e*Sn	Sn	03 48 53.6	+0.7	
PDG	Podgorica	2.99	301	⇓P	Pn	03 48 21.9	+2.3	
IVAS	Ivanjica	3.24	325	*e*Pn	Pn	03 48 22.9	-0.2	
GRUS	Gruza	3.29	334	*e*Pn	Pn	03 48 23.4	-0.3	
GRUS				*e*Sn	Sn	03 49 02.7	-0.3	
DIVS	Divibare	3.73	328	*e*Pn	Pn	03 48 29.9	0.0	
GZR	Gura Zlata	4.44	0	⇓P	Pn	03 48 40.0	+0.4	
BZS	Buzias	4.73	351	⇓P	Pn	03 48 43.2	-0.3	
MLR	Muntele Rosu	5.11	26	⇑P	Pn	03 48 53.4	+4.6	
DOPR	Dopca	5.37	20	⇑P	Pn	03 48 56.6	+4.3	
PLOR	Plostina	5.67	29	⇓P	Pn	03 49 01.3	+4.9	
VRI	Vrincioaia	5.71	29	⇓P	Pn	03 49 01.2	+4.3	

IDC 22 03:48:53.1±4.8, 46°.83N×152°.36E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=122.5km s-min=49.9km az=11.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H11S1	WAKE ISLAND Hy	30.61	153	T	T		04 28 16.6	
	baz=341,slow=76,SNR=6.7							
H11S3	WAKE ISLAND Hy	30.62	153	T	T		04 28 14.4	
	baz=341,slow=76,SNR=9.3							
H11S2	WAKE ISLAND Hy	30.63	153	T	T		04 28 15.8	
	baz=341,slow=76,SNR=9.7							
ILAR	Eielson Array	36.81	39	P	P		03 56 02.1	-0.1
	0.2nm,0.4s,baz=262,slow=6.4,SNR=5.8							
	0.2nm,0.4s							
FINES	FINESS Array B	63.75	334	P	P		03 59 26.1	0.0
	0.5nm,0.3s,baz=36,slow=7.1,SNR=5.3							
	0.5nm,0.3s							
TXAR	Lajitas Array	77.90	60	P	P		04 00 53.0	+0.1
	0.1nm,0.4s,baz=296,slow=4.5,SNR=5.1							
	0.1nm,0.4s							

NNC 22 03:50:54.3±7.6, 37°.47N×70°.83E, h0km, mb5.2, mpv4.9, Error ellipse: s-maj=87.7km s-min=29.9km az=151.0
IDC 22 03:50:55.3±0.8, 36°.86N×71°.62E, h115km±6km, mb3.8/15, mbtmp4.2/18, MS3.6/2, Error ellipse: s-maj=16.0km s-min=12.9km az=30.0
NEIC 22 03:50:55.4±1.0, 37°.01N±0°.04×71°.46E±0°.06, h107km±5km, mb4.5/7, Error ellipse: s-maj=7.2km s-min=4.1km az=58.0
ISC 22 03:50:53.7±0.4, 36°.87N±0°.04×71°.68E±0°.05, h106km, n85, σ2s30/100, mb4.2/18, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.39	334			Pn	03 51 30.7	-0.8
GAR					Sn	Sn	03 51 57.2	-3.4
DRK	Karamyk	2.61	2			Pn	03 51 34.5	-0.1
CHGR	Chuyangaron	2.68	313			Pn	03 51 33.4	-2.0
CEP	Cherat	3.04	176	P		Pn	03 51 44.8	+4.5
CEP				S		Sn	03 52 22.0	+5.8
KBL	Kabul	3.16	224	Pn		Pn	03 51 44.0	+2.1
BTK	Batken	3.26	348			Pn	03 51 43.8	+0.8
NIL	Nilore	3.46	158			Pn	03 51 50.1	+4.4
THW	Thamme Wali	4.06	179	P		Pn	03 51 56.6	+2.7
KSH	Kashi	4.29	51	Pn		Pn	03 51 53.8	-3.1
KSH				sP			03 52 18.6	
KSH				Sn		Sn	03 52 36.0	-10
KSH				pmax		pmax		
	comp=Z,140nm,0.5s							
KSH				smax		smax		
	comp=N,1μm,0.6s							
KSH				smax		smax		
	comp=E,1μm,0.7s							
TAS	Tashkent	4.82	338			Pn	03 52 03.3	-0.7
JMU	Jammu	4.92	146	*e*P		Pn	03 52 09.0	+3.7
JMU				*e*S		Sn	03 53 01.3	+0.3
SARP	Sargodha	5.00	170	P		Pn	03 52 08.5	+2.0
AML	Almayashu	5.48	16	P		Pn	03 52 14.2	+0.9
	SNR=116							
THN	Thein Dam	5.53	142	*e*P		Pn	03 52 16.8	+3.1
THN				*e*S		Sn	03 53 17.8	+1.8
NRN	Naryn	5.66	35			Pn	03 52 16.4	+0.7
UCH	Uchtor	5.78	21	P		Pn	03 52 18.6	+1.2
	SNR=17							
EKS2	Erkin-Say	6.01	15	P		Pn	03 52 21.3	+1.2
	SNR=66							
AAK	Ala-Archa	6.16	20	P		Pn	03 52 23.8	+1.6
	SNR=49							
AAK	Ala-Archa	6.16	20	P		Pn	03 52 23.7	+1.6
	comp=E,76nm,0.4s,baz=182,slow=6.4,SNR=193							
AAK				S		Sn	03 53 30.2	-1.0
	comp=E,37nm,0.4s,baz=132,slow=22,SNR=14							
AAK	Ala-Archa	6.16	20	Pn		Pn	03 52 23.1	+1.0
KK31	Karatay Array	6.29	352	Pn		Pn	03 52 23.5	-0.4
KK31	Karatay Array	6.29	352	P		Pn	03 52 23.4	-0.4
	comp=E,81nm,0.4s,baz=180,slow=13,SNR=948							
KK31				⇓S		Sn	03 53 29.1	-5.2
	comp=E,14nm,0.3s,baz=182,slow=23,SNR=6.0							
KKAR	Karatay Array	6.29	352	Pn		Pn	03 52 23.2	-0.7
KKAR	Karatay Array	6.29	352			Pn	03 52 23.4	-0.5
KBK	Karagaybulak	6.30	22	P		Pn	03 52 26.4	+2.2
	SNR=13							
ULHL	Ulahol	6.42	32	P		Pn	03 52 28.2	+2.4
	SNR=7.1							
CHMS	Chumysh	6.56	20	P		Pn	03 52 28.9	+1.3
	SNR=39							
CHMS	Chumysh	6.56	20	⇑P		Pn	03 52 28.4	+0.9
	comp=E,62nm,0.6s							
CHMS				⇓S		Sn	03 53 41.6	+0.7
	comp=E,131nm,0.7s							
BHK	Bhakra	6.71	143	*e*P		Pn	03 52 32.1	+2.5
BHK				*e*S		Sn	03 53 44.2	-0.3
USP	Ospenovka	6.75	18	P		Pn	03 52 30.5	+0.5
	SNR=41							
TKM2	Tokmak 2	6.75	25	P		Pn	03 52 31.9	+1.5
	SNR=24							
TKM2	Tokmak 2	6.75	25	⇑P		Pn	03 52 31.6	+1.3
	comp=E,23nm,0.5s							
TKM2				⇑S		Sn	03 53 45.1	-0.7
	comp=E,29nm,0.9s							
TARG	Taragay, Kyrgy	6.79	42			Pn	03 52 32.1	+1.1
SMLA	Simla	7.31	140	*e*P		Pn	03 52 39.7	+1.9
SMLA				*e*S		Sn	03 53 55.6	-3.6
HRA	Herat	8.07	255			Pn	03 52 48.0	-0.3
KHET	Khetri	9.43	157	*e*P		Pn	03 53 06.6	-0.1
KHET				*e*S		Sn	03 54 45.6	-5.2
KUDL	Kundal	9.60	154	*e*P		Pn	03 53 08.2	-0.7
KUDL				*e*S		Sn	03 54 50.0	-4.8
SONA	Sohna	9.72	151	*e*P		Pn	03 53 11.7	+1.2
SONA				*e*S		Sn	03 54 53.3	-4.5
LGTI	Lohaghat	10.30	133	*e*P		Pn	03 53 17.9	-0.4
LGTI				*e*S		Sn	03 55 04.7	-7.2
AJM	Ajmer	10.66	166	*e*P		Pn	03 53 24.3	+1.0
GEYT	Alibeck	10.85	280	P		Pn	03 53 21.1	-4.7
	comp=E,7.3nm,0.4s,baz=110,slow=10.0,SNR=19							
GEYT				S		Sn	03 55 13.9	-11
	comp=E,15nm,0.4s,baz=104,slow=18,SNR=15							
GYA0B	ALIBECK ARRAY	10.85	280	⇓P		Pn	03 53 20.8	-5.0
GYA0B				⇓S		Sn	03 55 12.4	-13
MKAR	Makanchi Array	12.67	35	P		Pn	03 53 50.5	+0.6
	comp=E,1.2nm,0.7s,baz=224,slow=14,SNR=7.0							
JHNI	Jhansi	12.79	151	*e*P		Pn	03 53 51.1	-0.4
JHNI				*e*S		Sn	03 56 04.6	-7.7
DANN	Dangsing	13.25	126	*e*P		Pn	03 53 56.5	-1.4
	comp=E,33nm,0.3s							
DANN				*e*S		Sn	03 56 14.2	-10
GKN	Gorkha	14.05	125	*e*P		Pn	03 54 06.0	-2.2
	comp=E,32nm,0.3s							
BHPL	Bhopal	14.46	158	*e*P		P	03 54 16.0	-1.0
BHPL					IAmb	IAmb	03 54 20.0	
	comp=Z,34nm,0.5s							
BHPL				*e*S		Sn	03 56 44.3	-8.4
KURBB	Kurchatov Arra	14.60	18	P		Pn	03 54 11.6	-3.3
	comp=Z,1.3nm,0.7s,baz=212,slow=12,SNR=12							
DMN	Daman	14.62	125	*e*P		Pn	03 54 13.8	-1.8
	comp=Z,25nm,0.4s							
DMN				*e*S		Sn	03 56 46.8	-10
KURK	Kurchatov	14.71	18	P		P	03 54 18.3	-1.2
PKIN	Phulchoki	14.84	125	*e*P		Pn	03 54 16.6	-1.7
	comp=Z,22nm,0.4s							
PKI	Pulchoki	14.85	125	*e*P		Pn	03 54 16.4	-2.1
	comp=Z,18nm,0.5s							
GUN	Gumba	14.94	123	*e*P		Pn	03 54 17.6	-2.1
	comp=Z,14nm,0.4s							
ABKAR	Akbulak array	15.04	329	Pn		Pn	03 54 16.1	-4.3
JIRN	Jiri	15.31	123	*e*P		Pn	03 54 22.6	-1.8
	comp=Z,39nm,0.4s							
BVAR	Borovoye Array	16.18	357	P		Pn	03 54 32.5	-2.2
	comp=Z,4.0nm,0.7s,baz=164,slow=12,SNR=14							
BRVK	Borovoye	16.22	357	P		Pn	03 54 34.4	-0.7
ZAA0	Zalesovo Array	19.36	24	P		P	03 55 10.6	0.0
ZAA0					IAmb	IAmb	03 55 11.7	
	comp=Z,5.8nm,0.5s							
ZALV	Zalesovo Beam	19.36	24	P		P	03 55 10.9	+0.3
	comp=Z,5.9nm,0.5s,baz=222,slow=10,SNR=20							
ZALV	Zalesovo Beam	19.36	24	P		P	03 55 10.7	+0.1
SHL	Shillong	20.58	117			P	03 55 26.4	+2.1
SHL					IAmb	IAmb	03 55 27.9	
	comp=Z,25nm,1.1s							
ARU	Arti	21.47	340	P		P	03 55 33.2	-0.1
	comp=Z,3.8nm,0.2s,baz=163,slow=11,SNR=1.2							
	comp=Z,3.8nm,0.2s							
BELG	Belogornoye	22.95	320	P		P	03 55 48.6	0.0
	comp=Z,6.9nm,0.6s,baz=131,slow=2.4,SNR=2.6							
	comp=Z,6.9nm,0.6s							
SONM	Songino Array	27.68	56	P		P	03 56 34.5	+2.8
	comp=Z,0.5nm,0.6s,baz=263,slow=9.1,SNR=4.8							
	comp=Z,0.5nm,0.6s							
BR131	Keskin Array S	29.85	287	P		P	03 56 50.0	-1.0
BR131					IAmb	IAmb	03 56 53.2	
	comp=Z,6.4nm,0.9s							
BRTR	Keskin Array B	29.85	287	P		P	03 56 52.6	+1.6
	comp=Z,2.3nm,0.7s,baz=107,slow=9.1,SNR=18							
	comp=Z,2.3nm,0.7s							
AKASG	Malin Array Be	33.15	308	P		P	03 57 20.0	+0.3
	comp=Z,0.1nm,0.2s,baz=84,slow=7.0,SNR=4.2							
AKASG				pP		pP	03 57 44.7	+0.5
	comp=Z,0.4nm,0.3s,baz=82,slow=6.7,SNR=3.6							
	comp=Z,0.1nm,0.2s							
ELL	Elmali	33.25	283	P		P	03 57 20.2	-0.7
ELL					IAmb	IAmb	03 57 23.1	
	comp=Z,34nm,0.6s							
FINES	FINESS Array B	37.49	326	P		P	03 57 57.3	+0.6
	comp=Z,2.9nm,0.7s,baz=116,slow=8.7,SNR=8.3							
FINES				pP		pP	03 58 24.1	+2.3
	comp=Z,2.3nm,0.8s,baz=101,slow=9.9,SNR=2.2							
	comp=Z,2.9nm,0.7s							
ARCES	ARCESS Array B	41.02	337	P		P	03 58 27.3	+1.3
	comp=Z,2.8nm,0.8s,baz=119,slow=1.5,SNR=13							
	comp=Z,2.8nm,0.8s							
HEH	HeiHe	41.59	53	*e*P		P	03 58 39.4	+8.6
HEH				pmax		pmax		
	comp=Z,5.0nm,1.6s							
HFS	Hagfors	43.12	322	P		P	03 58 43.6	+0.5
	comp=Z,4.5nm,0.7s,baz=98,slow=11,SNR=15							
HFS				pP		pP	03 59 09.7	+0.9
	comp=Z,2.8nm,0.5s,baz=113,slow=10,SNR=3.3							
	comp=Z,4.5nm,0.7s							
NB2	NORSAR Subarra	44.42	323	P		P	03 58 53.4	-0.1
	comp=Z,1.6nm,0.6s,baz=95,slow=7.9							
NOA	NORSAR Array B	44.42	323	P		P	03 58 53.7	+0.1
	comp=Z,2.9nm,0.7s,baz=95,slow=7.8,SNR=16							
NOA				pP		pP	03 59 19.9	+0.5
	comp=Z,0.6nm,0.5s,baz=95,slow=8.1,SNR=2.6							
	comp=Z,2.9nm,0.7s							
DAVOX	Davos/Dischmat	46.02	303	P		P	03 59 07.1	+0.5
	comp=Z,2.3nm,0.8s,baz=78,slow=9.8,SNR=4.5							
	comp=Z,2.3nm,0.8s							
KEST	Kesra	49.44	288	P		P	03 59 33.4	+0.4
KEST					IAmb	IAmb	03 59 41.0	
	comp=Z,7.1nm,1.2s							
JSD	Sado	51.81	67	P		P	03 59 52.6	+1.9
MBAR	Mbarara	53.17	235	P		P	04 00 02.2	+1.1
	comp=Z,3.3nm,0.2s,baz=21,slow=12,SNR=7.2							
	comp=Z,3.3nm,0.2s							
DAV	Davao City (W)	57.18	107	LR		LR	04 27 43.1	
	comp=Z,38nm,20.7s,baz=357,slow=39							
ESDC	Sonseca Array	57.77	298	P		P	04 00 34.2	+0.5
	comp=Z,1.7nm,0.6s,baz=55,slow=7.3,SNR=19							
	comp=Z,1.7nm,0.6s							
TORD	Torodi Ar. Bea	66.27	269	P		P	04 01 29.5	-1.3
	comp=Z,1.6nm,0.5s,baz=45,slow=5.7,SNR=20							
	comp=Z,1.6nm,0.5s							
NWAO	Narrogin (SRO)	81.42	143	LR		LR	04 38 52.1	
	comp=Z,39nm,20.1s,baz=347,slow=35							
WRA	Warramunga Arr	81.72	122	P		P	04 03 01.1	+0.5
	comp=Z,0.8nm,0.5s,baz=324,slow=4.8,SNR=31							
WRA				pP		pP	04 03 31.4	+2.2
	comp=Z,0.5nm,0.7s,baz=323,slow=4.9,SNR=2.8							
	comp=Z,0.8nm,0.5s							
ASAR	Alice Springs	84.02	125	P		P	04 03 12.8	+0.3
	comp=Z,1.1nm,0.6s,baz=314,slow=4.6,SNR=12							
	comp=Z,1.1nm,0.6s							
CFA	Coronel Fontan	146.63	267	PKPbc		PKPbc	04 10 23.5	+0.5
	comp=Z,0.5nm,0.4s,baz=0.0,slow=1.0,SNR=3.8							

IDC 22 03:55:41.0±0.8, 37°.17N×141°.42E, h0km, mb3.8/12, mbtmp3.8/14, ML3.2/2, Error ellipse: s-maj=21.4km s-min=18.7km az=120.0
JMA 22 03:55:42.9±0.2, 37°.2N±0°.4×141°.4E±1°.0, h28km±1km, MV3.9/35, E OFF FUKUSHIMA PREF
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED 22 03:55:42.9, 37°.23N×141°.44E, h28km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-3.23; Mθθ1.42; Mϕϕ1.81; Mrθ2.09; Mθϕ1.48; Mϕr1.96; Fault plane solution: Mo4.27000×10^14 NP1:ϕs38.00000°, δ24.00000°, λ-96.00000°. NP2:ϕs225.00000°, δ66.00000°, λ-87.00000°.
ISC 22 03:55:42.3±1.7, 37°.22N±0°.04×141°.42E±0°.07, h8km±10km, n32, σ0s73/30, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.46	289	*i* P		Pb	03 55 52.4	-0.3
JFK				S		Sb	03 55 59.1	-0.5
JMST	Minamisoumatoc	0.66	320	*i* P		Pg	03 55 55.6	+0.6
JFFD	Fukushimafurud	0.70	260	*i* P		Pb	03 55 56.5	-0.2
JFFD				S		Sb	03 56 06.1	-0.4
JMM	Marumori	0.82	323	*i* P		Pg	03 55 58.1	+0.2
JMM				S		Sg	03 56 09.3	+0.7
JHO

LPAZ	**La Paz**	**146.60**	**59**	PKPbc	**PKPdf**	**04 15 25.3**	**+1.2**		
	comp=Z,0.8nm,0.6s,baz=280,slow=6.1,SNR=2.3								
H03N2	**Juan Fernandez**	**147.04**	**96**	T	T	06 59 39.2			
	baz=291,slow=76,SNR=6.6								
H03N3	**Juan Fernandez**	**147.05**	**96**	T	T	06 59 42.4			
	baz=291,slow=76,SNR=6.4								
H03N1	**Juan Fernandez**	**147.06**	**96**	T	T	06 59 41.3			
	baz=291,slow=76,SNR=5.0								

*JMA **22** 03:59:01.7±0.2,37°.3N±0°.4×141°.6E±0°.9, h25km±1km, MV3.4/33, E OFF FUKUSHIMA PREF*
*IDC **22** 03:59:03.2±3.2, 36°.88N×141°.40E, h0km, mb3.3/2, mbtmp3.2/3, ML1.8/1, Error ellipse: s-maj=72.1km s-min=37.1km az=54.0*
ISC 22 03:59:00.4±2.6, 37°.35N±0°.06×141°.6E±0°.1, h10km±13km, n13, σ0°77/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JFK	**Kawauchi**	**0.59**	**271**	*e*P		**Pb**		**03 59 12.8**	**-0.1**
JFK				S		**Sg**		**03 59 20.4**	**+0.7**
JMST	**Minamisoumatoc**	**0.69**	**303**	P		**Pb**		**03 59 14.3**	**-0.2**
JMST				S		**Sb**		**03 59 23.5**	**-0.6**
JMM	**Marumori**	**0.83**	**308**	*e*P		**Pb**		**03 59 16.8**	**-0.1**
JMM				S		**Sb**		**03 59 27.4**	**-0.8**
JFFD	**Fukushimafurud**	**0.88**	**253**	P		**Pg**		**03 59 17.5**	**+0.1**
JHO	**Hitachi**	**1.12**	**229**	*e*P		**Pb**		**03 59 20.4**	**-1.5**
JOU	**Okura**	**1.26**	**324**	*e*P		**Pg**		**03 59 24.1**	**-0.5**
JOU				*e*S		**Sn**		**03 59 40.3**	**-0.9**
JYS	**Shirataka**	**1.50**	**306**	*e*P		**Pb**		**03 59 28.2**	**-0.2**
JYS				*e*S		**Sb**		**03 59 47.8**	**+0.3**
MJAR	**Matsushiro Arr**	**2.85**	**254**	Pn		**Pn**		**03 59 46.6**	**+0.6**
	0.2nm,0.3s,baz=85,slow=16,SNR=4.2								
	3.2nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.17**	**122**	T		T		04 34 24.5	
	baz=312								
H11N1	**WAKE ISLAND Hy**	**28.18**	**122**	T		T		04 34 30.4	
	baz=312								
H11N3	**WAKE ISLAND Hy**	**28.19**	**122**	T		T		04 34 31.6	
	baz=312								
MKAR	**Makanchi Array**	**44.09**	**302**	P		P		04 07 13.4	+4.7
	0.5nm,0.7s,baz=98,slow=10,SNR=3.1								
	0.5nm,0.7s								
WRA	**Warramunga Arr**	**57.40**	**188**	P		**P**		**04 08 50.0**	**+0.8**
	0.1nm,0.5s,baz=2.5,slow=7.3,SNR=4.5								
	0.1nm,0.5s								

*IDC **22** 04:01:20.9±1.4, 37°.45N×141°.33E, h0km, mb3.9/10, mbtmp3.9/11, ML2.7/1, MS2.7/3, Error ellipse: s-maj=46.1km s-min=20.2km az=178.0*
*NIED **22** 04:01:22.1, 37°.26N×141°.40E, h24km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.80; $M_{\theta\theta}$=0.15; $M_{\phi\phi}$=0.66; $M_{r\theta}$=0.21; $M_{\theta\phi}$=0.42; $M_{\phi r}$=0.59; Fault plane solution: $M_0$1.06000×10^{15} NP1:ϕ_s36.00000°, δ27.00000°, λ-78.00000°. NP2:ϕ_s203.00000°, δ63.00000°, λ-96.00000°.*
*JMA **22** 04:01:22.1±0.2, 37°.3N±0°.3×141°.4E±0°.9, h24km±1km, MD4.4/34, MV4.0/34, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 04:01:21.7±0.8, 37°.27N±0°.06×141°.41E±0°.06, h10km, n41, σ0°58/22, mb3.9/10, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JFK	**Kawauchi**	**0.44**	**283**	P		**Pg**		**04 01 30.7**	**+0.4**
JFK				S		**Sb**		**04 01 37.3**	**-0.9**
JFK	**Kawauchi**	**0.44**	**283**	A		A		04 01 30.7	
	comp=E,8.0nm,6.1s,comp=E,5.0nm,6.9s								
JMST	**Minamisoumatoc**	**0.62**	**318**	P		**Pg**		**04 01 33.6**	**-0.1**
JMST				S		**Sg**		**04 01 42.9**	**+1.1**
JMST	**Minamisoumatoc**	**0.62**	**318**	A		A		04 01 33.6	
	comp=E,11nm,1.1s,comp=E,12nm,0.6s								
JFFD	**Fukushimafurud**	**0.70**	**256**	⇓P		**Pg**		**04 01 35.2**	**0.0**
JFFD				⇓*e*S		**Sg**		**04 01 44.9**	**+0.5**
JFFD	**Fukushimafurud**	**0.70**	**256**	A		A		04 01 35.2	
	comp=E,5.0nm,1.1s,comp=E,7.0nm,1.9s								
JMM	**Marumori**	**0.77**	**321**	P		**Pg**		**04 01 36.5**	**-0.2**
JMM				S		**Sg**		**04 01 47.4**	**+0.7**
JMM	**Marumori**	**0.77**	**321**	A		A		04 01 36.5	
	comp=E,6.0nm,0.6s,comp=E,6.0nm,1.0s								
JYAR	**Yonezawaarcadi**	**1.20**	**303**	A		A		04 01 43.3	
	comp=E,26nm,1.1s,comp=E,15nm,1.1s								
JSB	**Shiboa**	**1.23**	**256**	A		A		04 01 43.7	
	comp=E,15nm,1.3s,comp=E,13nm,2.3s								
JOU	**Okura**	**1.25**	**332**	A		A		04 01 44.3	
	comp=E,14nm,1.1s,comp=E,29nm,0.6s								
JFY	**Yanaizu**	**1.37**	**276**	A		A		04 01 45.9	
	comp=E,6.0nm,0.8s,comp=E,4.0nm,0.8s								
JOFO	**Osakifurukawao**	**1.39**	**344**	A		A		04 01 46.5	
	comp=E,27nm,3.3s,comp=E,36nm,1.1s								
JYS	**Shirataka**	**1.43**	**312**	A		A		04 01 47.0	
	comp=E,16nm,0.8s,comp=E,19nm,1.3s								
JYA	**Atsumi**	**1.89**	**315**	A		A		04 01 53.7	
	comp=E,10.0nm,0.9s,comp=E,8.0nm,1.0s								
JIZZ	**Izumozaki**	**2.17**	**278**	A		A		04 01 57.7	
	comp=E,10.0nm,3.4s,comp=E,9.0nm,4.0s								
MJAR	**Matsushiro Arr**	**2.67**	**255**	Pn		**Pn**		**04 02 05.2**	**+0.5**
	1.3nm,0.3s,baz=79,slow=17,SNR=10								
MJAR				LR		LR		04 02 55.1	
	comp=Z,32nm,18.1s,baz=78,slow=35								
	7.4nm,0.3s								
USRK	**Ussuriysk Ar.**	**9.95**	**317**	LR		LR		04 06 28.6	
	comp=Z,72nm,18.7s,baz=90,slow=32								
KSRS	**Korea Array**	**10.74**	**275**	LR		LR		04 08 02.4	
	comp=Z,101nm,18.6s,baz=90,slow=38								
H11N2	**WAKE ISLAND Hy**	**28.27**	**121**	T		T		04 36 44.9	
	baz=314,slow=76,SNR=31								
H11N1	**WAKE ISLAND Hy**	**28.28**	**121**	T		T		04 36 45.5	
	baz=314,slow=76,SNR=38								
H11N3	**WAKE ISLAND Hy**	**28.29**	**121**	T		T		04 36 46.3	
	baz=314,slow=76,SNR=38								
H11S1	**WAKE ISLAND Hy**	**28.99**	**123**	T		T		04 37 41.2	
	baz=316,slow=76,SNR=23								
H11S3	**WAKE ISLAND Hy**	**28.99**	**123**	T		T		04 37 41.7	
	baz=316,slow=76,SNR=21								
H11S2	**WAKE ISLAND Hy**	**29.00**	**123**	T		T		04 37 38.8	
	baz=316,slow=76,SNR=20								
ZALV	**Zalesovo Beam**	**41.76**	**312**	P		**P**		**04 09 10.2**	**-0.6**
	2.1nm,0.8s,baz=68,slow=8.2,SNR=5.0								
	2.1nm,0.8s								
MKAR	**Makanchi Array**	**43.99**	**302**	P		**P**		**04 09 28.3**	**-0.8**
	1.0nm,0.8s,baz=86,slow=7.4,SNR=5.1								
	1.0nm,0.8s								
KURBB	**Kurchatov Arra**	**45.86**	**308**	P		**P**		**04 09 43.4**	**-0.4**
	2.5nm,1.0s,baz=84,slow=8.4,SNR=7.8								
	2.5nm,1.0s								
ILAR	**Eielson Array**	**49.30**	**32**	P		**P**		**04 10 10.4**	**0.0**
	1.1nm,0.8s,baz=262,slow=5.9,SNR=11								
	1.1nm,0.8s								
FINES	**FINESS Array B**	**68.61**	**332**	P		**P**		**04 12 24.3**	**-0.1**
	2.8nm,0.7s,baz=45,slow=9.4,SNR=5.0								
	2.8nm,0.7s								
NB2	**NORSAR Subarra**	**73.97**	**337**	P		**P**		**04 12 56.6**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**73.97**	**337**	P		**P**		**04 12 56.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=39,slow=5.8,SNR=4.0								
	comp=Z,1.1nm,0.8s								
AKASG	**Malin Array Be**	**74.11**	**322**	P		**P**		**04 12 57.3**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=46,slow=6.1,SNR=7.7								
	comp=Z,0.9nm,0.5s								
NVAR	**Mina Array Bea**	**74.85**	**53**	P		**P**		**04 13 04.0**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=292,slow=4.9,SNR=6.0								
	comp=Z,0.7nm,0.7s								
PDAR	**Pinedale Array**	**77.51**	**45**	P		**P**		**04 13 17.9**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=287,slow=3.1,SNR=4.3								
	comp=Z,0.4nm,0.6s								
TXAR	**Lajitas Array**	**89.98**	**52**	P		**P**		**04 14 21.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=300,slow=3.5,SNR=7.5								
	comp=Z,0.5nm,0.7s								
LPAZ	**La Paz**	**146.58**	**59**	PKPbc	**PKPbc**	**04 21 04.7**	**+0.1**		
	comp=Z,1.0nm,0.6s,baz=297,slow=3.2,SNR=7.2								
H03N2	**Juan Fernandez**	**147.05**	**96**	T		T		07 05 20.5	
	baz=291,slow=76,SNR=6.8								
H03N3	**Juan Fernandez**	**147.06**	**96**	T		T		07 05 21.9	
	baz=291,slow=76,SNR=8.5								
H03N1	**Juan Fernandez**	**147.07**	**96**	T		T		07 05 21.5	
	baz=291,slow=76,SNR=6.4								
SIV	**San Ignacio**	**150.94**	**49**	PKPbc	**PKPbc**	**04 21 15.1**	**-0.1**		
	comp=Z,1.1nm,0.8s,baz=124,slow=0.6,SNR=4.9								

*IDC **22** 04:04:01.9±1.0, 37°.16N×141°.55E, h0km, mb3.8/10, mbtmp3.8/11, ML2.6/1, Error ellipse: s-maj=26.7km s-min=21.8km az=77.0*
*JMA **22** 04:04:04.7±0.2, 37°.2N±0°.4×141°.5E±0°.7, h29km±1km, MD4.1/29, MV4.2/29, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **22** 04:04:04.7, 37°.23N×141°.52E, h29km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.14; $M_{\theta\theta}$=1.34; $M_{\phi\phi}$=1.80; $M_{r\theta}$=1.31; $M_{\theta\phi}$=2.69; $M_{\phi r}$=3.24; Fault plane solution: $M_0$5.14000×10^{14} NP1:ϕ_s64.00000°, δ27.00000°, λ-55.00000°. NP2:ϕ_s206.00000°, δ68.00000°, λ-106.00000°.*
ISC 22 04:04:03.4±0.9, 37°.23N±0°.05×141°.58E±0°.07, h10km, n28, σ0°82/20, mb3.8/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JFK	**Kawauchi**	**0.58**	**284**	P		**Pg**		**04 04 15.3**	**+0.7**
JFK				S		**Sg**		**04 04 22.9**	**+0.7**
JFK	**Kawauchi**	**0.58**	**284**	A		A		04 04 15.3	
	comp=E,10.0nm,0.3s,comp=E,7.0nm,0.5s								
JMST	**Minamisoumatoc**	**0.74**	**312**	P		**Pg**		**04 04 18.0**	**+0.3**
JMST				S		**Sg**		**04 04 27.5**	**+0.1**
JMST	**Minamisoumatoc**	**0.74**	**312**	A		A		04 04 18.0	
	comp=E,5.0nm,0.3s,comp=E,12nm,0.2s								
JMM	**Marumori**	**0.89**	**316**	P		**Pg**		**04 04 20.4**	**-0.2**
JMM				S		**Sg**		**04 04 31.6**	**-0.6**
JHO	**Hitachi**	**1.01**	**233**	S		**Sg**		**04 04 34.0**	**-2.1**
JIO	**Ouri**	**1.24**	**352**	P		**Pn**		**04 04 26.0**	**-0.7**
JIO				S		**Sb**		**04 04 41.4**	**-1.5**
JYAR	**Yonezawaarcadi**	**1.33**	**301**	A		A		04 04 27.2	
	comp=E,6.0nm,1.1s,comp=E,10.0nm,2.1s								
JOU	**Okura**	**1.35**	**328**	A		A		04 04 27.7	
	comp=E,5.0nm,0.6s,comp=E,6.0nm,0.7s								
JOFO	**Osakifurukawao**	**1.47**	**339**	A		A		04 04 29.6	
	comp=E,10.0nm,1.6s,comp=E,20nm,1.2s								
JYS	**Shirataka**	**1.56**	**310**	A		A		04 04 30.7	
	comp=E,6.0nm,2.5s,comp=E,4.0nm,1.3s								
MJAR	**Matsushiro Arr**	**2.79**	**257**	Pn		**Pn**		**04 04 48.4**	**+0.3**
	1.1nm,0.3s,baz=83,slow=15,SNR=7.7								
	8.5nm,0.3s								
SONM	**Songino Array**	**27.79**	**304**	P		**P**		**04 09 52.7**	**+0.2**
	0.7nm,0.8s,baz=100,slow=8.4,SNR=2.7								
	0.7nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.13**	**121**	T		T		04 39 14.1	
	baz=314,slow=75,SNR=15								
H11N1	**WAKE ISLAND Hy**	**28.14**	**121**	T		T		04 39 18.5	
	baz=314,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**28.15**	**121**	T		T		04 39 22.9	
	baz=314,slow=75,SNR=12								
H11S1	**WAKE ISLAND Hy**	**28.85**	**123**	T		T		04 40 13.6	
	baz=316,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**28.86**	**123**	T		T		04 40 16.5	
	baz=316,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy**	**28.87**	**123**	T		T		04 40 14.7	
	baz=316,slow=76,SNR=13								
ZALV	**Zalesovo Beam**	**41.88**	**312**	P		**P**		**04 11 53.7**	**+0.1**
	1.1nm,0.5s,baz=111,slow=6.5,SNR=4.5								
	1.1nm,0.5s								
MKAR	**Makanchi Array**	**44.13**	**302**	P		**P**		**04 12 12.1**	**+0.2**
	0.7nm,0.8s,baz=80,slow=11,SNR=3.4								
	0.7nm,0.8s								
KURBB	**Kurchatov Arra**	**45.99**	**308**	P		**P**		**04 12 26.2**	**-0.4**
	1.1nm,0.4s,baz=80,slow=7.8,SNR=7.4								
	1.1nm,0.4s								
ILAR	**Eielson Array**	**49.26**	**32**	P		**P**		**04 12 52.9**	**+1.0**
	0.6nm,0.8s,baz=267,slow=6.5,SNR=4.2								
	0.6nm,0.8s								
WRA	**Warramunga Arr**	**57.27**	**188**	P		**P**		**04 13 50.5**	**-0.7**
	0.4nm,0.5s,baz=7.8,slow=7.7,SNR=5.5								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**61.00**	**188**	P		**P**		**04 14 16.4**	**-0.5**
	0.3nm,0.4s,baz=17,slow=9.7,SNR=4.6								
	0.3nm,0.4s								
ARCES	**ARCESS Array B**	**63.86**	**339**	P		**P**		**04 14 35.7**	**+0.1**
	4.0nm,1.1s,baz=67,slow=7.1,SNR=2.2								
	4.0nm,1.1s								
FINES	**FINESS Array B**	**68.71**	**332**	P		**P**		**04 15 06.8**	**+0.1**
	1.8nm,1.0s,baz=57,slow=8.4,SNR=1.3								
	1.8nm,1.0s								
TXAR	**Lajitas Array**	**89.90**	**52**	P		**P**		**04 17 03.9**	**+0.8**
	0.3nm,0.8s,baz=300,slow=2.5,SNR=3.5								
	0.3nm,0.8s								

*LDG **22** 04:10:58.5±0.1, 43°.11N×1°.05W, h7km, Md2.3/2, Ml2.7/27, Error ellipse: s-maj=1.3km s-min=1.1km az=127.0*
*STR **22** 04:10:59.1±0.5, 43°.N±5°×±°, h2km, MLv2.3/8, Error ellipse: s-maj=0.0km s-min=0.0km az=23.8, preliminary*
*MDD **22** 04:11:01.5±0.2, 43°.11N×1°.05W, h11km, mb_Lg2.8/15, Error ellipse: s-maj=2.1km s-min=1.5km az=165.0*
ISC 22 04:10:58.2±0.8, 43°.20N±0°.02×1°.01W±0°.02, h14km±6km, n58, σ1°22/111, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SJPF	**Ste Jean**	**0.18**	**241**	*e*Pg		**Pg**		**04 11 01.6**	**-0.8**
SJPF				*e*Sg		**Sg**		**04 11 03.6**	**-1.6**
	790nm,0.2s								
OSSF	**Osses**	**0.19**	**288**	Pg		**Pg**		**04 11 03.2**	**+0.6**
OSSF				Sg		**Sg**		**04 11 06.3**	**+0.8**
ATE	**Arette**	**0.26**	**116**	Pg		**Pg**		**04 11 03.9**	**+0.3**
ATE				Sg		**Sg**		**04 11 07.9**	**+0.5**
EALK	**Alkurruntz**	**0.36**	**274**	Pg		**Pg**		**04 11 05.7**	**+0.2**
EALK				Sg		**Sg**		**04 11 10.5**	**0.0**
EALK				*i* Vmb_Lg				04 11 12.6	
EALK	**Alkurruntz**	**0.36**	**274**	Pg		**Pg**		**04 11 05.6**	**+0.1**
EORO	**Oroz-Betelu**	**0.38**	**215**	Pg		**Pg**		**04 11 04.8**	**-0.9**
EORO				Sg		**Sg**		**04 11 08.8**	**-2.1**
EORO				*i* Vmb_Lg				04 11 10.0	
ETSF	**Etsaut**	**0.45**	**132**	*e*Pg		**Pg**		**04 11 06.5**	**-0.6**
ETSF				*e*Sg		**Sg**		**04 11 11.9**	**-1.3**
	361nm,0.3s								
TERF	**Tercis-les-Bai**	**0.49**	**351**	Pg		**Pn**		**04 11 10.2**	**-0.5**
CANF	**Canfranc**	**0.57**	**140**	Pg		**Pg**		**04 11 08.7**	**-0.7**
EARA	**Aranguren**	**0.59**	**224**	Pg		**Pg**		**04 11 09.3**	**-0.6**
EARA				Sg		**Sg**		**04 11 15.8**	**-1.9**
EARA				*i* Vmb_Lg				04 11 20.2	
EARA	**Aranguren**	**0.59**	**224**	Pg		**Pg**		**04 11 09.2**	**-0.6**
EPF	**Esparros**	**1.01**	**99**	*e*Pn		**Pb**		**04 11 17.7**	**+0.3**
EPF	**Esparros**	**1.01**	**99**	*e*P		**Pg**		**04 11 19.4**	**+1.8**
EPF				*e*Sn		**Sg**		**04 11 31.7**	**+1.0**
	30nm,0.2s								
ECHI	**Chisagues Biel**	**1.04**	**121**	Pg		**Pb**		**04 11 17.5**	**-0.5**
ECHI				Sg		**Sb**		**04 11 31.0**	**-0.4**
ECHI				*i* Vmb_Lg				04 11 35.3	
ECHI	**Chisagues Biel**	**1.04**	**121**	Pg		**Pb**		**04 11 17.6**	**-0.4**
ESAC	**San Caprasio**	**1.53**	**165**	Pn		**Pb**		**04 11 26.4**	**+0.1**
ESAC				Sn		**Sb**		**04 11 46.5**	**+1.0**
ESAC				*i* Vmb_Lg				04 11 48.2	
MLS	**Moulis**	**1.56**	**98**	Pn		**Pn**		**04 11 25.3**	**-0.2**
SALF	**Salau**	**1.68**	**104**	Pn		**Pg**		**04 11 30.1**	**-0.3**
SALF				Pg		**Pb**		**04 11 32.1**	**+3.3**
ELAN	**Lanestosa**	**1.77**	**272**	Pn		**Pb**		**04 11 30.5**	**+0.1**
ELAN				Sn		**Sg**		**04 11 54.4**	**-0.7**
ELAN				*i* Vmb_Lg				04 11 57.7	
LRVF	**chteau la Riv**	**1.82**	**16**	Pn		**Pn**		**04 11 30.0**	**+1.0**
LRVF				Pg		**Pg**		**04 11 34.7**	**+1.6**
LRVF				Sn		**Sg**		**04 11 59.6**	**+2.9**
LFF	**La Frestale**	**2.15**	**35**	*e*Pn		**Pn**		**04 11 34.2**	**+0.6**
LFF	**La Frestale**	**2.15**	**35**	*e*Pg		**Pg**		**04 11 39.9**	**+0.5**
LFF				*e*Sn		**Sn**		**04 12 00.7**	**+0.7**
	3.8nm,0.2s								
LFF				*e*Sg		**Sg**		**04 12 09.0**	**+1.7**
	6.4nm,0.1s								
EMIR	**Miracle**	**2.27**	**124**	Pn		**Pg**		**04 11 40.9**	**-0.8**
EMIR				Sn		**Sb**		**04 12 06.4**	**-0.6**
MTLF	**Montolieu**	**2.37**	**85**	*e*Pn		**Pn**		**04 11 36.7**	**+0.2**
MTLF	**Montolieu**	**2.37**	**85**	*e*P		**Pb**		**04 11 39.3**	**-1.2**
MTLF	**Montolieu**	**2.37**	**85**	*e*Pg		**Pg**		**04 11 42.9**	**-0.6**
MTLF				*e*Sn		**Sn**		**04 12 05.0**	**-0.3**
	17nm,0.3s								
MTLF				*e*Sg		**Sg**		**04 12 14.5**	**+0.4**
	4.8nm,0.2s								
EPOB	**Poblet**	**2.41**	**139**	Pn		**Pn**		**04 11 37.9**	**+0.7**
EPOB				Sn		**Sn**		**04 12 06.9**	**+0.4**
EPOB				Sg		**Sb**		**04 12 13.7**	**+2.7**
EPOB				*i* Vmb_Lg				04 12 14.8	
ERTA	**Horta de San J**	**2.45**	**155**	Pn		**Pn**		**04 11 38.3**	**+0.6**
ERTA				Sn		**Sn**		**04 12 07.4**	**-0.2**
ERTA				*i* Vmb_Lg				04 12 18.3	
ETOR	**Torete**	**2.50**	**198**	Pn		**Pn**		**04 11 40.1**	**+1.7**
ETOR				Sn		**Sn**		**04 12 09.2**	**+0.4**
ETOR				*i* Vmb_Lg				04 13 15.4	

RJF	**Les Rejaudoux**	**2.78**	**40**	*e*Pn		**Pn**		**04 11 42.6**	**+0.3**
RJF	**Les Rejaudoux**	**2.78**	**40**	*e*Pg		**Pg**		**04 11 51.5**	**0.0**
RJF				*e*Sn		**Sn**		**04 12 15.5**	**-0.1**
	2.7nm,0.2s								
RJF				*e*Sg		**Sg**		**04 12 28.5**	**+1.0**
	7.4nm,0.1s								
CAF	**Calviac**	**2.81**	**51**	*e*Pn		**Pn**		**04 11 42.8**	**+0.1**
CAF				*e*Sn		**Sn**		**04 12 15.9**	**-0.5**
	3.6nm,0.1s								
CAF				*e*Sg		**Sg**		**04 12 29.0**	**+0.5**
	4.5nm,0.2s								
EMOS	**Mosqueruela**	**2.86**	**172**	Pn		**Pn**		**04 11 45.9**	**+2.4**
EMOS				Sn		**Sn**		**04 12 16.8**	**-1.0**
EMOS				*i* Vmb_Lg				04 12 32.1	
EARI	**Arriondas**	**3.07**	**273**	Pn		**Pn**		**04 11 48.3**	**+2.1**
EARI				Sn		**Sn**		**04 12 24.9**	**+2.1**
MFF	**Saint Martin d**	**3.46**	**10**	*e*Pn		**Pn**		**04 11 52.3**	**+0.8**
MFF	**Saint Martin d**	**3.46**	**10**	*e*Pg		**Pg**		**04 12 03.8**	**-0.6**
MFF				*e*Sn		**Sn**		**04 12 32.3**	**0.0**
	1.9nm,0.2s								
MFF				*e*Sg		**Sg**		**04 12 49.1**	**-0.1**
	1.9nm,0.2s								
GUD	**Guadarrama**	**3.46**	**224**	Pn		**Pn**		**04 11 53.0**	**+1.2**
GUD				Sn		**Sn**		**04 12 33.2**	**+0.6**
LASF	**Ste Croix**	**3.64**	**74**	*e*Pn		**Pn**		**04 11 54.6**	**+0.5**
LASF				*e*Sn		**Sn**		**04 12 35.4**	**-1.5**
	2.3nm,0.3s								
TCF	**Toulx Ste Croi**	**3.85**	**36**	*e*Pn		**Pn**		**04 11 57.5**	**+0.5**
TCF	**Toulx Ste Croi**	**3.85**	**36**	*e*Pg		**Pg**		**04 12 11.4**	**-0.5**
TCF				*e*Sn		**Sn**		**04 12 40.8**	**-1.2**
TCF				*e*Sg		**Sg**		**04 13 01.2**	**-0.5**
	4.1nm,0.3s								
BGF	**Bois d'Agland**	**4.34**	**38**	*e*Pn		**Pn**		**04 12 04.6**	**+1.0**
BGF	**Bois d'Agland**	**4.34**	**38**	*e*Pg		**Pg**		**04 12 19.7**	**-1.5**
BGF				*e*Sn		**Sn**		**04 12 53.9**	**-0.1**
BGF				*e*Sg		**Sg**		**04 13 16.9**	**-0.4**
	8.6nm,0.4s								
ECAL	**Calabor**	**4.41**	**255**	Pn		**Pn**		**04 12 05.7**	**+1.0**
ECAL				Sn		**Sn**		**04 12 56.0**	**+0.2**
PAB	**San Pablo**	**4.43**	**216**	Pn		**Pn**		**04 12 05.6**	**+0.7**
PAB				Sn		**Sn**		**04 12 53.5**	**-2.9**
ETOS	**Mallorca**	**4.47**	**139**	Pn		**Pn**		**04 12 06.1**	**+0.5**
ETOB	**Tobarra**	**4.57**	**185**	Pn		**Pn**		**04 12 08.3**	**+1.4**
ETOB				*i* Vmb_Lg				04 13 57.2	
AVF	**Avril sur Loir**	**4.74**	**39**	*e*Pn		**Pn**		**04 12 10.1**	**+0.9**
AVF	**Avril sur Loir**	**4.74**	**39**	*e*Pg		**Pg**		**04 12 26.9**	**-2.0**
AVF				*e*Sn		**Sn**		**04 13 02.8**	**-1.1**
AVF				*e*Sg		**Sg**		**04 13 29.0**	**-1.3**
	1.4nm,0.3s								
SMF	**Signal de Mont**	**4.87**	**43**	*e*Pn		**Pn**		**04 12 11.4**	**+0.4**
SMF				*e*Sn		**Sn**		**04 13 06.5**	**-0.7**
SMF				*e*Sg		**Sg**		**04 13 32.9**	**-1.7**
	0.7nm,0.2s								
EPLA	**Plasencia**	**4.92**	**232**	Pn		**Pn**		**04 12 12.8**	**+1.1**
EPLA				*i* Vmb_Lg				04 12 46.1	
EPLA				Sn		**Sn**		**04 13 05.8**	**-2.7**
QUIF	**Quistinic**	**4.95**	**343**	*e*Pn		**Pn**		**04 12 13.3**	**+1.2**
QUIF				*e*Sn		**Sn**		**04 13 07.9**	**-1.2**
	1.7nm,0.3s								
SSF	**Saint Saulge**

GDSD	**La Dsirade Is**	**3.74**	**339**	Pn		**Pn**	**04 13 20.0**	**-1.1**
H05N1	**Guadeloupe/Mar**	**3.74**	**339**	Pn		**Pn**	**04 13 20.2**	**-1.0**
H05N1				Sn		**Sn**	**04 14 00.9**	**-3.0**
CBE	**Ff, Capester**	**3.75**	**330**	Pn		**Pn**	**04 13 21.2**	**-0.1**
CBE	**Ff, Capester**	**3.75**	**330**	*eP*		**Pn**	**04 13 21.3**	**-0.1**
CBE				*eS*		**Sn**	**04 14 03.5**	**-0.7**
GDHS	**Morne Mazeau,**	**4.00**	**330**	Pn		**Pn**	**04 13 24.8**	**0.0**
ABD	**La Joyeuse, An**	**4.05**	**334**			**Pn**	**04 13 24.9**	**-0.5**
ABD	**La Joyeuse, An**	**4.05**	**334**	*eP*		**Pn**	**04 13 24.8**	**-0.6**
ABD	**La Joyeuse, An**	**4.05**	**334**	*eS*		**Sn**	**04 14 10.0**	**-1.5**
MBFL	**Flemmings, Mon**	**4.62**	**328**	*eP*		**Pn**	**04 13 33.9**	**+0.6**
MBFL	**Flemmings, Mon**	**4.62**	**328**	*eS*		**Sn**	**04 14 23.7**	**-2.0**
ANBD	**Bethesda, Anti**	**4.67**	**335**	*eP*		**Pn**	**04 13 33.3**	**-0.7**
ANBD	**Bethesda, Anti**	**4.67**	**335**	*eS*		**Sn**	**04 14 25.0**	**-2.0**
ANWB	**Willy Bob**	**5.25**	**337**	*eP*		**Pn**	**04 13 41.7**	**-0.1**
ANWB	**Willy Bob**	**5.25**	**337**	*eS*		**Sn**	**04 14 38.4**	**-2.6**
PCRV	**Puerto La Cruz**	**5.52**	**242**	Pn		**Pn**	**04 13 46.2**	**+0.5**
	5.6nm,0.3s,baz=68,slow=3.9,SNR=73							
PCRV				Sn		**Sn**	**04 14 46.0**	**-1.9**
	4.0nm,0.3s,baz=265,slow=19,SNR=8.1							
	24nm,0.5s							
SABA	**Saba**	**5.90**	**325**	*eP*		**Pn**	**04 13 51.7**	**+0.9**
SMRT	**St. Maarten**	**6.16**	**328**	*eS*		**Sn**	**04 14 59.5**	**-4.0**
STVI	**Saint Thomas**	**7.50**	**318**	Pn		**Pn**	**04 14 13.5**	**+0.8**
CUPR	**Culebra, Puert**	**7.69**	**316**	Pn		**Pn**	**04 14 16.8**	**+1.5**
MTP	**Monte Pirata**	**7.73**	**314**	Pn		**Pn**	**04 14 16.1**	**+0.1**
HUMP	**Col San Antoni**	**7.97**	**312**	Pn		**Pn**	**04 14 19.3**	**+0.1**
CBVP	**Canovanas**	**8.06**	**313**	Pn		**Pn**	**04 14 21.0**	**+0.4**
SJG	**San Juan**	**8.17**	**311**	Pn		**Pn**	**04 14 22.2**	**+0.2**
	11nm,0.3s,baz=144,slow=19,SNR=30							
	23nm,0.3s							
SJG	**San Juan**	**8.17**	**311**			**Pn**	**04 14 22.7**	**+0.7**
GCPR	**Guaynabo City**	**8.25**	**312**			**Pn**	**04 14 23.7**	**+0.7**
CELP	**Cerrillos**	**8.47**	**309**	Pn		**Pn**	**04 14 26.3**	**+0.3**
UUPR	**Utuado, UPR, P**	**8.68**	**309**	Pn		**Pn**	**04 14 30.1**	**+1.1**
AOPR	**Arecibo Observ**	**8.77**	**310**	Pn		**Pn**	**04 14 31.1**	**+1.0**
MLPR	**Magueyes Islan**	**8.77**	**307**	Pn		**Pn**	**04 14 30.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**8.84**	**307**	Pn		**Pn**	**04 14 31.6**	**+0.5**
PRSN	**Puerto Rico Se**	**8.99**	**308**	Pn		**Pn**	**04 14 34.0**	**+0.8**
BAUV	**El Baul**	**9.07**	**246**			**Pn**	**04 14 33.4**	**-0.9**
BAUV	**El Baul**	**9.07**	**246**	*eP*		**Pn**	**04 14 33.3**	**-1.1**
BAUV	**El Baul**	**9.07**	**246**	*eS*		Sn	04 16 09.4	-5.7
AGPR	**Aguadilla, PR**	**9.11**	**309**	Pn		**Pn**	**04 14 35.4**	**+0.6**
MDP	**Montagnes des**	**10.34**	**137**	Pn		Pn	04 14 43.3	-8.3
	1.4nm,0.3s,baz=330,slow=15,SNR=29							
BOAV	**Boa Vista**	**10.38**	**185**			**Pn**	**04 14 48.2**	**-4.0**
SDV	**Santo Domingo**	**11.45**	**251**	Pn		**Pn**	**04 15 08.2**	**+1.1**
SGCB	**SÉo Gabriel d**	**14.78**	**210**	*eP*		**Pn**	**04 15 48.8**	**-3.0**
MACA	**Manacapuru-AM**	**15.90**	**184**	Pn		**Pn**	**04 16 01.6**	**-4.7**
MACA				IAmb		IAmb	04 16 06.1	
	comp=Z,15nm,0.6s							
MACA	**Manacapuru-AM**	**15.90**	**184**	*eP*		**Pn**	**04 16 01.9**	**-4.4**
ITTB	**Itaituba**	**17.51**	**167**	*eP*		**Pn**	**04 16 19.8**	**-6.6**
TMAB	**Tom-Au,PA,Br**	**18.96**	**142**	*eP*		**P**	**04 16 41.7**	**-1.2**
TBTG	**Tabatinga, AM**	**19.71**	**212**	*eP*		**Pn**	**04 16 53.9**	**+0.9**
NPGB	**Novo Progresso**	**20.18**	**168**	*eP*		**P**	**04 16 55.1**	**-1.2**
PRPB	**Parauapebas**	**21.25**	**152**	*eP*		**P**	**04 17 07.4**	**-0.4**
BATAN	**Batan**	**23.39**	**266**	P		**P**	**04 17 31.4**	**+1.2**
ETMB	**Extrema**	**23.40**	**196**	*eP*		**P**	**04 17 31.1**	**+0.8**
CLDB	**Colider**	**23.84**	**171**	*eP*		**P**	**04 17 34.7**	**+0.3**
CZSB	**Cruzeiro do Su**	**24.17**	**213**	*eP*		**P**	**04 17 41.1**	**+3.8**
PDRB	**Porto dos Gac**	**24.44**	**173**	*eP*		**P**	**04 17 41.1**	**+1.3**
VILB	**Vilhena**	**25.60**	**181**	*eP*		**P**	**04 17 52.4**	**+2.0**
SNDB	**Serra Nova Dou**	**25.99**	**161**	*eP*		**P**	**04 17 54.7**	**+0.8**
MCRA	**Macar, Loja**	**26.41**	**231**	P		**P**	**04 18 00.1**	**+2.3**
SIV	**San Ignacio**	**28.65**	**183**	P		**P**	**04 18 19.1**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=312,slow=11,SNR=4.5							
	comp=Z,1.0nm,0.9s							
LPAZ	**La Paz**	**30.10**	**196**	P		**P**	**04 18 32.4**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=351,slow=8.3,SNR=6.5							
	comp=Z,1.1nm,0.7s							
LPAZ	**La Paz**	**30.10**	**196**	P		**P**	**04 18 31.9**	**+0.7**
LPAZ	**La Paz**	**30.10**	**196**	*eP*		**P**	**04 18 32.4**	**+1.2**
AQDB	**Aquidauana**	**33.31**	**173**	*eP*		**P**	**04 19 00.7**	**+2.0**
PB01	**IPOC Station P**	**35.00**	**196**	P		**P**	**04 19 11.9**	**-1.6**
PB01				IAmb		IAmb	04 19 14.4	
	comp=Z,3.5nm,0.8s							
CPUP	**Villa Florida**	**38.97**	**177**	P		**P**	**04 19 46.7**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=353,slow=8.4,SNR=6.2							
	comp=Z,1.4nm,0.5s							
TXAR	**Lajitas Array**	**43.94**	**299**	P		**P**	**04 20 28.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=114,slow=8.8,SNR=8.8							
	comp=Z,0.4nm,0.5s							
ULM	**Lac du Bonnet**	**47.61**	**329**	P		**P**	**04 20 57.3**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=155,slow=5.1,SNR=4.8							
	comp=Z,2.2nm,0.5s							
H10N3	**ASCENSION HYDR**	**49.35**	**112**	T		T	05 14 07.2	
	baz=295,slow=75,SNR=18							
H10N2	**ASCENSION HYDR**	**49.35**	**112**	T		T	05 14 11.5	
	baz=295,slow=75,SNR=20							
H10N1	**ASCENSION HYDR**	**49.37**	**112**	T		T	05 14 11.6	
	baz=295,slow=75,SNR=19							
H10S3	**ASCENSION HYDR**	**49.66**	**114**	T		T	05 14 32.9	
	baz=295,slow=74,SNR=20							
H10S2	**ASCENSION HYDR**	**49.68**	**114**	T		T	05 14 37.9	
	baz=285,slow=74,SNR=8.6							
BW06	**Boulder Array**	**52.28**	**315**	P		**P**	**04 21 33.2**	**+0.9**
BW06				IAmb		IAmb	04 21 33.5	
	comp=Z,2.2nm,0.7s							
PD31	**Pinedale Array**	**52.28**	**315**	P		**P**	**04 21 32.8**	**+0.5**
PD31				IAmb		IAmb	04 21 33.5	
	comp=Z,2.1nm,0.7s							
PDAR	**Pinedale Array**	**52.28**	**315**	P		**P**	**04 21 33.0**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=117,slow=9.6,SNR=25							
	comp=Z,2.7nm,0.7s							
TCUT	**Toone Canyon**	**53.08**	**312**	P		**P**	**04 21 37.1**	**-1.2**
PLCA	**Paso Flores**	**54.22**	**190**	P		**P**	**04 21 47.0**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=5.4,slow=9.8,SNR=5.2							
	comp=Z,1.4nm,0.9s							
NVAR	**Mina Array Bea**	**57.65**	**307**	P		**P**	**04 22 13.0**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=103,slow=5.4,SNR=4.9							
	comp=Z,0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**59.66**	**82**	P		**P**	**04 22 25.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=276,slow=5.0,SNR=2.6							
	comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**77.33**	**334**	P		**P**	**04 24 15.7**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=96,slow=7.1,SNR=4.7							
	comp=Z,0.2nm,0.7s							

*IDC **22** 04:21:47.5±0.8, 37.05N×141.31E, h0km, mb3.7/7, mbtmp3.6/8, ML2.3/1, Error ellipse: s-maj=24.8km s-min=22.7km az=115.0*
*JMA **22** 04:21:49.4±0.1, 37.1N±0.3×141.4E±0.7, h28km, MV3.7/36, E OFF FUKUSHIMA PREF*
ISC 22 04:21:48.3±1.9, 37.10N±0.05×141.43E±0.08, h9km±11km, n26, σ0984/24, mb3.7/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.52**	**301**	*eP*		**Pg**	**04 21 58.9**	**+0.4**
JFK				*eS*		**Sg**	**04 22 05.6**	**+0.3**
JFFD	**Fukushimafurud**	**0.70**	**269**	P		**Pg**	**04 22 01.9**	**0.0**
JFFD				*eS*		**Sg**	**04 22 10.5**	**-0.4**
JMST	**Minamisoumatoc**	**0.76**	**325**	*eP*		**Pg**	**04 22 03.2**	**+0.2**
JMST				S		**Sg**	**04 22 13.4**	**+0.5**
JHO	**Hitachi**	**0.85**	**235**	*eP*		**Pg**	**04 22 04.3**	**-0.4**
JHO				*eS*		**Sg**	**04 22 15.0**	**-0.8**
JMM	**Marumori**	**0.92**	**326**	*eP*		**Pg**	**04 22 05.9**	**0.0**
JMM				*eS*		**Sg**	**04 22 18.0**	**+0.1**
JIO	**Ouri**	**1.35**	**357**	*eP*		**Pn**	**04 22 11.9**	**-1.4**
JIO				*eS*		**Sn**	**04 22 29.0**	**-2.4**
JFY	**Yanaizu**	**1.41**	**283**	*eP*		**Pn**	**04 22 14.1**	**-0.2**
JFY				*eS*		**Sn**	**04 22 32.7**	**-0.3**
MJAR	**Matsushiro Arr**	**2.65**	**259**	Pn		**Pn**	**04 22 31.3**	**0.0**
	0.7nm,0.3s,baz=82,slow=16,SNR=9.4							
	4.5nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T		T	04 57 07.1	
	baz=314,slow=75,SNR=34							
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T		T	04 57 10.3	
	baz=314,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T		T	04 57 13.5	
	baz=314,slow=75,SNR=36							
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T		T	04 58 05.5	
	baz=315,slow=75,SNR=17							
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T		T	04 58 02.6	
	baz=315,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T		T	04 58 04.3	
	baz=315,slow=75,SNR=11							
ZALV	**Zalesovo Beam**	**41.88**	**312**	P		**P**	**04 29 38.6**	**-0.1**
	1.1nm,0.6s,baz=85,slow=6.4,SNR=6.1							
	1.1nm,0.6s							
MKAR	**Makanchi Array**	**44.10**	**302**	P		**P**	**04 29 56.5**	**-0.2**
	1.2nm,0.7s,baz=91,slow=9.1,SNR=9.3							
	1.2nm,0.7s							
ILAR	**Eielson Array**	**49.43**	**32**	P		**P**	**04 30 39.5**	**+1.2**
	0.9nm,0.7s,baz=267,slow=5.9,SNR=12							
	0.9nm,0.7s							
WRA	**Warramunga Arr**	**57.13**	**188**	P		**P**	**04 31 34.8**	**-0.5**
	0.5nm,0.7s,baz=6.1,slow=7.2,SNR=6.0							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**60.86**	**188**	P		**P**	**04 32 01.2**	**+0.1**
	0.4nm,0.8s,baz=10,slow=5.7,SNR=4.7							
	0.4nm,0.8s							
AKASG	**Malin Array Be**	**74.25**	**322**	P		**P**	**04 33 25.4**	**-0.2**
	0.3nm,0.4s,baz=46,slow=6.1,SNR=4.1							
	0.3nm,0.4s							
PDAR	**Pinedale Array**	**77.61**	**45**	P		**P**	**04 33 46.8**	**+1.6**
	0.3nm,0.7s,baz=341,slow=1.9,SNR=2.4							
	0.3nm,0.7s							
LPAZ	**La Paz**	**146.64**	**60**	PKPbc		**PKPab**	**04 41 32.5**	**-0.2**
	0.6nm,0.6s,baz=26,slow=5.4,SNR=3.7							
H03N2	**Juan Fernandez**	**147.01**	**96**	T		T	07 25 50.7	
	baz=291,slow=76,SNR=6.0							
H03N3	**Juan Fernandez**	**147.03**	**96**	T		T	07 25 49.2	
	baz=291,slow=76,SNR=5.4							
H03N1	**Juan Fernandez**	**147.03**	**96**	T		T	07 25 49.4	
	baz=291,slow=76,SNR=7.2							
SIV	**San Ignacio**	**151.03**	**49**	PKPbc		**PKiKP**	**04 41 42.8**	**+0.1**
	0.9nm,0.9s,baz=290,slow=2.2,SNR=7.0							

*GUC **22** 04:24:23.8±0.6, 18.45S×69.40W, h109km±2km, ML3.1*
*IDC **22** 04:24:35.5±5.0, 18.02S×68.33W, h92km±31km, mb3.0/1, mbtmp3.5/3, Error ellipse: s-maj=71.6km s-min=27.5km az=66.0*
ISC 22 04:24:22.7±1.3, 18.45S±0.04×69.40W±0.09, h117km±11km, n18, σ1973/30, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB16	**IPOC Station P**	**0.16**	**318**	*iP*		**Pn**	**04 24 40.0**	**+0.3**
PB16				*i* S		**Sn**	**04 24 52.2**	**-0.2**
PB16				IAML			04 24 54.5	
	comp=N,644nm,0.3s							
MNMC	**Minye Minye**	**0.70**	**195**	*iP*		**Pn**	**04 24 42.4**	**+0.3**
MNMC				*i* S		**Sn**	**04 24 56.9**	**+0.1**
MNMC				IAML			04 24 59.9	
	comp=E,2μm,0.2s							
PB18	**Visviri**	**0.86**	**355**	*eP*		**Pn**	**04 24 45.8**	**+2.0**
PB12	**IPOC Station P**	**0.90**	**260**	*iP*		**Pn**	**04 24 43.4**	**-0.3**
PB12				*i* S		**Sn**	**04 24 58.4**	**-1.0**
PB12				IAML			04 24 59.0	
	comp=N,971nm,0.2s							
AP01	**Chacalluta**	**0.90**	**275**	*iP*		**Pn**	**04 24 43.7**	**+0.2**
AP01				*i* S		**Sn**	**04 24 58.9**	**-0.4**
GO01	**Chusmiza**	**1.23**	**171**	*iP*		**Pn**	**04 24 48.2**	**+0.8**
GO01				*i* S		**Sn**	**04 25 07.0**	**+1.0**
PB11	**IPOC Station P**	**1.32**	**191**	*iP*		**Pn**	**04 24 48.2**	**0.0**
PB11				*i* S		**Sn**	**04 25 07.2**	**-0.3**
PB11				IAML			04 25 08.6	
	comp=E,493nm,0.6s							
PSGC	**Pisagua**	**1.33**	**211**	*iP*		**Pn**	**04 24 47.7**	**-0.5**
PSGC				*i* S		**Sn**	**04 25 06.0**	**-1.4**
PSGC				IAML			04 25 10.9	
	comp=N,245nm,0.2s							
PB08	**IPOC Station P**	**1.69**	**172**	*iP*		**Pn**	**04 24 53.5**	**+0.8**
PB08				*i* S		**Sn**	**04 25 16.3**	**+0.8**
PB08				IAML			04 25 17.9	
	comp=E,127nm,0.1s							
HMBC	**Humberstone**	**1.87**	**194**	*iP*		**Pn**	**04 24 54.6**	**0.0**
HMBC				*i* S		**Sn**	**04 25 17.5**	**-1.4**
HMBC				IAML			04 25 22.5	
	comp=N,142nm,0.3s							
TA01	**Diego Aracena**	**2.23**	**199**	*eP*		**Pn**	**04 24 58.7**	**-0.2**
TA01				*i* S		**Sn**	**04 25 24.3**	**-2.4**
TA01				IAML			04 25 34.4	
	comp=E,121nm,0.4s							
PATCX	**Punta Patache**	**2.46**	**197**	*eP*		**Pn**	**04 25 02.0**	**0.0**
PATCX				IAML			04 25 40.8	
	comp=E,85nm,0.3s							
LPAZ	**La Paz**	**2.47**	**30**	P		**Pn**	**04 25 05.2**	**+2.6**
	comp=E,3.4nm,0.3s,baz=191,slow=4.2,SNR=86							
LPAZ				S		**Sn**	**04 25 27.2**	**-5.9**
	comp=E,2.2nm,0.3s,baz=193,slow=14,SNR=4.5							
PB01	**IPOC Station P**	**2.58**	**182**	*eP*		**Pn**	**04 25 04.0**	**+0.5**
PB01				*i* S		**Sn**	**04 25 32.2**	**-2.7**
PB01				IAML			04 25 42.3	
	comp=N,71nm,0.3s							
PB02	**IPOC Station P**	**2.89**	**189**	*eP*		**Pn**	**04 25 05.6**	**-2.0**
PB02				*eS*		**Sn**	**04 25 42.2**	**0.0**
PB02				IAML			04 25 51.7	
	comp=N,97nm,0.5s							
SIV	**San Ignacio**	**8.32**	**74**	P		**Pn**	**04 26 18.7**	**-2.0**
	comp=N,1.1nm,0.3s,baz=266,slow=12,SNR=9.3							
CPUP	**Villa Florida**	**13.63**	**127**	P		**P**	**04 27 37.5**	**+1.4**
	comp=N,1.6nm,0.5s,baz=319,slow=20,SNR=3.5							
TORD	**Torodi Ar. Bea**	**76.79**	**71**	P		P	04 36 11.5	+9.5
	comp=N,0.1nm,0.4s,baz=252,slow=6.7,SNR=1.5							
	comp=N,0.1nm,0.4s							

*MOS **22** 04:26:08.4±1.1, 37.13N×141.40E, h12km, mb4.8/17, Error ellipse: s-maj=12.9km s-min=8.0km az=108.9*
*IDC **22** 04:26:08.5±0.6, 37.11N×141.34E, h0km, mb4.3/18, mbtmp4.3/19, ML3.1/1, MS3.6/15, Error ellipse: s-maj=18.5km s-min=16.9km az=37.0*
*NIED **22** 04:26:09.9, 37.16N×141.46E, h29km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.45; Mθθ0.64; Mφφ0.82; Mrθ0.18; Mθφ0.82; Mφr1.36; Fault plane solution: M0 2.03000×10^15 NP1:φs60.00000°, δ29.00000°, λ-54.00000°. NP2:φs201.00000°, δ67.00000°, λ-108.00000°.*
*JMA **22** 04:26:09.9±0.2, 37.2N±0.4×141.5E±0.9, h29km±1km, MD4.5/35, MV4.3/35, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **22** 04:26:11.2±1.6, 37.21N±0.05×141.36E±0.08, h10km±1km, mb4.7/15, Error ellipse: s-maj=11.4km s-min=6.6km az=240.0*
ISC 22 04:26:10.3±0.5, 37.14N±0.04×141.39E±0.05, h10km, n140, σ1930/109, mb4.6/41, MS3.7/12, 10C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.47**	**299**	P		**Pg**	**04 26 20.0**	**+0.5**
JFK				S		**Sb**	**04 26 27.2**	**-0.6**
JFK	**Kawauchi**	**0.47**	**299**	A		A	04 26 20.0	
	comp=E,13nm,3.0s,comp=E,15nm,3.9s							
JFFD	**Fukushimafurud**	**0.67**	**266**	P		**Pg**	**04 26 23.6**	**+0.4**
JFFD				S		**Sb**	**04 26 33.4**	**+0.1**
JFFD	**Fukushimafurud**	**0.67**	**266**	A		A	04 26 23.6	
	comp=E,18nm,0.4s,comp=E,31nm,1.5s							
JMST	**Minamisoumatoc**	**0.71**	**326**	P		**Pg**	**04 26 23.7**	**-0.3**
JMST	**Minamisoumatoc**	**0.71**	**326**	A		A	04 26 23.7	
	comp=E,15nm,1.1s,comp=E,21nm,1.4s							
JHO	**Hitachi**	**0.84**	**232**	P		**Pg**	**04 26 25.9**	**-0.7**
JHO	**Hitachi**	**0.84**	**232**	A		A	04 26 25.9	
	comp=E,7.0nm,0.7s,comp=E,11nm,0.9s							
JMM	**Marumori**	**0.87**	**327**			**Pg**	**04 26 26.4**	**-0.6**
JMM				Sg		**Sg**	**04 26 38.5**	**+0.2**
JMM	**Marumori**	**0.87**	**327**	P		**Pg**	**04 26 26.4**	**-0.6**
JMM				*eS*		**Sg**	**04 26 38.3**	**0.0**
JMM	**Marumori**	**0.87**	**327**	A		A	04 26 26.4	
	comp=E,14nm,0.5s,comp=E,20nm,0.4s							
JHYU	**Hitachinakayam**	**1.03**	**219**	A		A	04 26 29.2	
	comp=E,8.0nm,3.1s,comp=E,8.0nm,0.8s							
JSB	**Shiboa**	**1.19**	**262**	S		**Sn**	**04 26 49.5**	**+0.2**
JSB	**Shiboa**	**1.19**	**262**	A		A	04 26 49.5	
	comp=E,22nm,4.9s,comp=E,22nm,1.0s							
JYAR	**Yonezawaarcadi**	**1.26**	**308**	A		A	04 26 32.5	
	comp=E,69nm,1.0s,comp=E,57nm,0.7s							
JYT	**Yasato**	**1.33**	**227**	A		A	04 26 33.8	
	comp=E,8.0nm,0.4s,comp=E,7.0nm,1.2s							
JOU	**Okuru**	**1.35**	**335**	A		A	04 26 33.5	
	comp=E,13nm,0.9s,comp=E,27nm,1.1s							
JFY	**Yanaizu**	**1.37**	**282**	A		A	04 26 34.5	
	comp=E,11nm,1.1s,comp=E,11nm,0.7s							
JYS	**Shirataka**	**1.51**	**316**	A		A	04 26 36.1	
	comp=E,31nm,0.8s,comp=E,27nm,0.9s							
JOFO	**Osakifurukawao**	**1.51**	**346**	A		A	04 26 35.6	
	comp=E,35nm,2.8s,comp=E,44nm,1.9s							
JAG	**Ashikaga**	**1.71**	**246**	A		A	04 26 39.6	
	comp=E,3.0nm,1.5s,comp=E,4.0nm,1.9s							
JYK	**Kaneyama**	**1.95**	**336**	A		A	04 26 42.4	
	comp=E,4.0nm,2.4s,comp=E,5.0nm,1.6s							
JYA	**Atsumi**	**1.97**	**318**	A		A	04 26 42.9	
	comp=E,15nm,0.5s,comp=E,15nm,1.1s							
JCN	**Nagara**	**1.97**	**210**	A		A	04 26 43.0	
	comp=E,17nm,5.6s,comp=E,17nm,4.2s							
JIZZ	**Izumozaki**	**2.17**	**281**	A		A	04 26 46.1	
	comp=E,18nm,1.1s,comp=E,19nm,2.5s							
JYYZ	**Yamagatayuza**	**2.20**	**329**	A		A	04 26 45.9	
	comp=E,19nm,2.5s,comp=E,16nm,1.7s							
JGK	**Kuni**	**2.28**	**256**	A		A	04 26 47.9	
	comp=E,4.0nm,2.7s,comp=E,6.0nm,4.2s							
TATJ	**Tateyama 2**	**2.43**	**210**	A		A	04 26 49.7	
	comp=E,6.0nm,2.0s,comp=E,7.0nm,2.9s							
JYW	**Yuwa**	**2.57**	**339**	A		A	04 26 51.1	
	comp=E,8.0nm,2.8s,comp=E,13nm,1.3s							
JJN	**Nakama**	**2.58**	**270**	A		A	04 26 52.0	
	comp=E,6.0nm,1.7s,comp=E,6.0nm,3.8s							
JSZI	**Iwateshizukuis**	**2.62**	**353**	A		A	04 26 51.6	
	comp=E,11nm,3.0s,comp=E,9.0nm,3.6s							
MJAR	**Matsushiro Arr**	**2.62**	**258**	Pn		**Pn**	**04 26 53.3**	**+0.5**
	4.2nm,0.3s,baz=80,slow=15,SNR=50							
MJAR				LR		LR	04 28 10.6	
	comp=Z,308nm,19.8s,baz=79,slow=47							
	30nm,0.4s							
MAJO	**Matsushiro**	**2.62**	**258**	Pn		**Pn**	**04 26 53.3**	**+0.5**
MAJO	**Matsushiro**	**2.62**	**258**	P		**Pn**	**04 26 53.8**	**+1.1**
MAJO	**Matsushiro**	**2.62**	**258**	*iP*		**Pn**	**04 26 53.6**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.62**	**258**			**Pn**	**04 26 54.3**	**+1.5**
JOD2	**Odawara 2**	**2.64**	**226**	A		A	04 26 52.9	
	comp=E,3.0nm,1.4s,comp=E,3.0nm,2.3s							
JSD	**Sado**	**2.64**	**291**			**Pn**	**04 26 52.6**	**-0.4**
JTT	**Ttatey**	**3.30**	**262**	A		A	04 27 02.4	
	comp=E,6.0nm,4.8s,comp=E,5.0nm,3.3s							
JGF	**Kuroka**	**3.60**	**246**	Pn		**Pn**	**04 27 07.1**	**+0.9**
JTM	**Tenmabayashi**	**3.65**	**356**			**Pn**	**04 27 06.9**	**+0.1**
JTM	**Tenmabayashi**	**3.65**	**356**	P		**Pn**	**04 27 06.9**	**+0.1**
INU	**Inuyama**	**3.96**	**244**	Pn		**Pn**	**04 27 11.7**	**+0.6**
ERM	**Erimo**	**5.05**	**15**	P		**Pn**	**04 27 26.2**	**+0.1**
JKA	**Kamikawa-asahi**	**7.03**	**7**			**Pn**	**04 27 53.5**	**+0.3**
ASAJ	**Asahikawa**	**7.03**	**7**	P		**Pn**	**04 27 53.6**	**+0.4**
JHS	**Saijyo**	**7.03**	**255**	Pn		**Pn**	**04 27 55.4**	**+2.1**
JHS	**Saijyo**	**7.03**	**255**	P		**Pn**	**04 27 55.9**	**+2.5**
YSS	**Yuzh-Sakhalins**	**9.86**	**5**	*eP*		Pn	04 28 25.2	-6.8
YSS				MLR		MLR		
	comp=Z,500nm,16.0s							
USRK	**Ussuriysk Ar.**	**10.03**	**318**	Pn		**Pn**	**04 28 38.3**	**+3.9**
	baz=129,slow=14							
USRK				LR		LR	04 32 08.4	
	comp=Z,251nm,19.8s,baz=127,slow=36							
JCJ	**Chichijima**	**10.04**	**176**	LR		LR	04 32 55.1	
	comp=Z,136nm,18.8s,baz=206,slow=41							
KSRS	**Korea Array**	**10.74**	**276**	LR		LR	04 32 51.5	
	comp=Z,151nm,18.1s,baz=100,slow=38							
KLR	**Kul'dur**	**13.96**	**333**	LR		LR	04 34 42.4	
	comp=Z,195nm,18.6s,baz=122,slow=37							
ZEA	**Zeya**	**19.27**	**334**	*eP*		**Pn**	**04 30 36.5**	**+0.

comp=Z,1.1nm,0.8s,baz=8.8,slow=6.7,SNR=9.5
comp=Z,1.1nm,0.8s

KLMR	**Klimovskoe**	**63.66**	**328**	*eP*	**P**	**04 36 39.7**	**-1.6**
KLMR				AMP		04 36 41.6	
	comp=Z,18nm,1.6s						
KLMR	**Klimovskoe**	**63.66**	**328**	*eP*	**P**	**04 36 39.6**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,18nm,1.6s						
BELG	**Belogornoye**	**63.71**	**317**	P	**P**	**04 36 41.3**	**-0.5**
	comp=Z,11nm,0.8s,baz=311,slow=5.9,SNR=4.3						
	comp=Z,11nm,0.8s						
BELG	**Belogornoye**	**63.71**	**317**	*i* P	**P**	**04 36 41.2**	**-0.5**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**63.89**	**339**	P	**P**	**04 36 43.3**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=60,slow=7.2,SNR=5.5						
	comp=Z,3.2nm,0.8s						
OBN	**Obninsk**	**68.00**	**323**	*eP*	**P**	**04 37 12.6**	**+3.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VORR	**Voronezh**	**68.57**	**319**	*eP*	**P**	**04 37 12.5**	**-0.5**
VORR				pmax	pmax		
	comp=Z,60nm,0.4s						
FINES	**FINESS Array B**	**68.71**	**332**	P	**P**	**04 37 13.1**	**-0.6**
	comp=Z,5.3nm,0.8s,baz=35,slow=7.0,SNR=9.9						
	comp=Z,5.3nm,0.8s						
FINES	**FINESS Array B**	**68.71**	**332**	*ce*P	**P**	**04 37 15.8**	**+2.1**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PINE	**Pine Mountain**	**70.28**	**50**	P	**P**	**04 37 25.3**	**+1.3**
PINE				IAmb	IAmb	04 37 30.1	
	comp=Z,8.2nm,1.1s						
KBZ	**Khabaz**	**70.82**	**311**	P	**P**	**04 37 27.4**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=297,slow=2.9,SNR=4.9						
	comp=Z,4.1nm,0.8s						
KIV	**Kislovodsk**	**70.82**	**311**	*eP*	**P**	**04 37 27.6**	**+0.4**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,36nm,18.0s						
GNI	**Garni**	**71.63**	**307**	LR	LR	05 12 00.0	
	comp=Z,37nm,19.3s,baz=9.5,slow=38						
MNK	**Minsk**	**72.40**	**326**	*i* P	**P**	**04 37 33.9**	**-2.5**
	comp=E,2.0nm,0.9s						
MNK				*i* P	**P**	**04 37 33.9**	**-2.5**
	comp=N,23nm,0.9s						
MNK				*i* P	**P**	**04 37 33.9**	**-2.5**
	comp=Z,15nm,0.9s,baz=230						
MNK				*i* PcP	**PcP**	**04 37 51.4**	**-2.8**
MNK				*i* PP	**PP**	**04 40 14.6**	**-2.1**
MNK				*i* PPP	PPP	04 41 58.8	
MNK				*i* S	**S**	**04 46 58.4**	**-1.4**
MNK				*i* SS	**SS**	**04 51 37.8**	**+0.7**
MNK				*i* SSS	SSS	04 54 58.0	
MNK				*i* LR	LR	05 10 16.4	
MNK				*i* LRM	MLR	05 12 31.2	
	comp=Z,37nm,11.6s						
MNK				*i* LRM	MLR	05 12 41.4	
	comp=N,1μm,17.4s						
MNK				*i* LRM	MLR	05 12 45.9	
	comp=E,33nm,15.5s						
MNK	**Minsk**	**72.40**	**326**	*i* P	**P**	**04 37 33.8**	**-2.5**
MNK				*i*		04 37 51.4	
MNK				*i*		04 40 14.6	
MNK				*i* PPP	PPP	04 41 58.7	
MNK				*i* S	**S**	**04 46 58.4**	**-1.4**
MNK				*i*		04 47 40.5	
MNK				*i* SS	**SS**	**04 51 37.8**	**+0.7**
MNK				pmax	pmax		
	comp=N,23nm,0.9s						
MNK				pmax	pmax		
	comp=Z,15nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				MLR	MLR		
	comp=Z,37nm,12.0s						
MNK				MLR	MLR		
	comp=N,1μm,17.0s						
MNK				MLR	MLR		
	comp=E,33nm,15.0s						
HFS	**Hagfors**	**73.98**	**336**	LR	LR	05 12 06.8	
	comp=E,68nm,19.0s,baz=40,slow=37						
NB2	**NORSAR Subarra**	**74.08**	**337**	P	**P**	**04 37 49.5**	**+3.2**
	comp=Z,1.0nm,0.7s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.08**	**337**	P	**P**	**04 37 45.9**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=41,slow=5.8,SNR=5.9						
NOA				LR	LR	05 12 58.8	
	comp=Z,36nm,19.3s,baz=15,slow=38						
	comp=Z,2.7nm,0.9s						
LRM	**Limekiln Ridge**	**74.08**	**44**	P	**P**	**04 37 47.3**	**+0.4**
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**04 37 46.2**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=46,slow=6.0,SNR=13						
	comp=Z,1.8nm,0.5s						
AKBB	**Malin Array Si**	**74.20**	**322**	P	**P**	**04 37 46.7**	**-0.4**
AKBB				IAmb	IAmb	04 37 50.6	
	comp=Z,6.3nm,0.9s						
AKBB	**Malin Array Si**	**74.20**	**322**	*ce*P	**P**	**04 37 46.8**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BOZ	**Bozeman (W)**	**74.68**	**44**	P	**P**	**04 37 50.4**	**+0.2**
BOZ	**Bozeman (W)**	**74.68**	**44**	P	**P**	**04 37 50.4**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**74.94**	**53**	P	**P**	**04 37 52.7**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=288,slow=6.3,SNR=8.8						
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**77.60**	**45**	P	**P**	**04 38 06.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=282,slow=2.7,SNR=8.0						
	comp=Z,0.8nm,0.6s						
GAZ	**Gaziantep**	**78.15**	**308**	P	**P**	**04 38 09.1**	**-0.8**
BUR08	**Bucovina Ar. S**	**78.20**	**322**	P	**P**	**04 38 10.2**	**+0.1**
BUR08				IAmb	IAmb	04 38 17.8	
	comp=Z,3.9nm,1.1s						
BRTR	**Keskin Array B**	**78.77**	**312**	P	**P**	**04 38 13.4**	**0.0**
	comp=Z,1.1nm,0.8s,baz=26,slow=5.9,SNR=4.4						
	comp=Z,1.1nm,0.8s						
BRTR	**Keskin Array B**	**78.77**	**312**	*ce*P	**P**	**04 38 13.6**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MLR	**Muntele Rosu**	**79.29**	**320**	LR	LR	05 16 27.7	
	comp=Z,81nm,18.8s,baz=98,slow=38						
CLL	**Collm**	**81.00**	**330**	*eP*	**P**	**04 38 24.0**	**-1.0**
CLL	**Collm**	**81.00**	**330**	*eP*	**P**	**04 38 24.0**	**-1.0**
KHC	**Kasperske Hory**	**82.44**	**328**	*eP*	**P**	**04 38 32.8**	**0.0**
KHC	**Kasperske Hory**	**82.44**	**328**	*eP*	**P**	**04 38 32.8**	**0.0**
GERES	**GERESS Array B**	**82.61**	**328**	P	**P**	**04 38 33.2**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=45,slow=6.0,SNR=5.7						
	comp=Z,0.6nm,0.6s						
EKA	**Eskdalemuir Ar**	**83.03**	**340**	LR	LR	05 18 27.1	
	comp=Z,77nm,19.9s,baz=2.5,slow=38						
TXAR	**Lajitas Array**	**90.07**	**52**	P	**P**	**04 39 11.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=298,slow=3.4,SNR=8.8						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**117.24**	**315**	PKP	**PKPdf**	**04 44 55.2**	**-1.2**
	comp=Z,1.8nm,1.3s,baz=45,slow=1.0,SNR=2.3						
LPAZ	**La Paz**	**146.65**	**59**	PKPbc	**PKPbc**	**04 45 53.3**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=319,slow=3.6,SNR=11						
H03N2	**Juan Fernandez**	**147.05**	**96**	T	T	07 30 07.8	
	baz=291,slow=76,SNR=8.3						
H03N3	**Juan Fernandez**	**147.06**	**96**	T	T	07 30 08.5	
	baz=291,slow=76,SNR=9.0						
H03N1	**Juan Fernandez**	**147.07**	**96**	T	T	07 30 17.2	
	baz=291,slow=76,SNR=10						
SIV	**San Ignacio**	**151.03**	**49**	PKPbc	**PKPbc**	**04 46 04.1**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=318,slow=1.2,SNR=10						

MAN 22 04:28:18.4, 8.97N×125.70E, h9km, mb4.1, ML2.8, MS2.5, 4C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.08**	**273**	*e*P	Pg	04 28 22.2	+1.6
BUTP				*e*S	Sg	04 28 27.0	+4.8
SCPH	**Surigao**	**0.84**	**346**	*e*P	Pg	04 28 33.4	-1.1
GLSP	**General Luna,**	**0.92**	**27**	*e*P	Pg	04 28 36.2	+0.1
BIPH	**Bislig**	**1.01**	**140**	*i*P	Pg	04 28 35.2	-2.7
BIPH				*i* S	Sb	04 28 51.7	+0.1
CGP	**Cagayan de Oro**	**1.12**	**243**	*i*P	Pg	04 28 38.1	-1.8
CGP				*i* S	Sg	04 28 53.5	-0.9
BUKP	**Musuan**	**1.25**	**210**	*e*P	Pn	04 28 41.0	-1.1
BUKP				*e*S	Sn	04 29 00.6	+1.5
GHBP	**Garcia Hernand**	**1.51**	**296**	*e*P	Pn	04 28 45.9	+0.2
GHBP				*i* S	Sg	04 29 09.9	+2.8
TABP	**Talibon, Bohol**	**1.75**	**310**	*i*P	Pn	04 28 48.7	-0.2
TABP				*i* S	Sb	04 29 12.2	-0.7

IDC 22 04:31:58.0±3.8, 29.82S×177.67W, h60km±32km, mb3.8/3, mbtmp4.0/3, Error ellipse: s-maj=65.8km s-min=51.8km az=177.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.60**	**339**	P	Pn	04 32 11.9	+0.8
	493nm,0.2s,baz=353,slow=23,SNR=20						
RAO				S	Sn	04 32 22.5	+2.0
	2μm,0.2s,baz=18,slow=17,SNR=9.8						
STKA	**Stephens Creek**	**34.89**	**256**	P	P	04 38 44.2	+0.3
	1.2nm,0.4s,baz=122,slow=9.5,SNR=4.5						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**43.43**	**266**	P	P	04 39 54.8	-0.5
	0.6nm,0.4s,baz=101,slow=7.4,SNR=8.3						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**44.36**	**271**	P	P	04 40 02.6	-0.1
	1.2nm,0.3s,baz=110,slow=8.1,SNR=79						
	1.2nm,0.3s						
H03S2	**Juan Fernandez**	**80.55**	**123**	T	T	06 13 17.4	
	baz=238,slow=74,SNR=6.3						
H03S1	**Juan Fernandez**	**80.56**	**124**	T	T	06 13 18.7	
	baz=238,slow=74,SNR=4.8						
H03S3	**Juan Fernandez**	**80.57**	**123**	T	T	06 13 17.7	
	baz=238,slow=74,SNR=6.2						
H10N3	**ASCENSION HYDR**	**139.21**	**154**	T	T	07 27 06.5	
	baz=204,slow=75,SNR=2.2						
H10N1	**ASCENSION HYDR**	**139.22**	**154**	T	T	07 27 08.2	
	baz=204,slow=75,SNR=2.3						
H10N2	**ASCENSION HYDR**	**139.23**	**154**	T	T	07 27 06.3	
	baz=204,slow=75,SNR=3.7						
FINES	**FINESS Array B**	**144.69**	**340**	PKP	PKPdf	04 51 26.8	-0.4
	2.2nm,0.5s,baz=59,slow=2.9,SNR=17						

*IDC **22** 04:34:52.0±1.3, 37.02N×141.38E, h0km, mb3.6/5, mbtmp3.5/6, ML2.4/1, MS2.8/2, Error ellipse: s-maj=31.9km s-min=28.8km az=109.0*
*JMA **22** 04:34:54.1±0.2, 37.2N±0.3×141.3E±0.8, h22km±1km, MV3.5/38, E OFF FUKUSHIMA PREF*
ISC 22 04:34:52.3±2.6, 37.19N±0.06×141.4E±0.1, h2km±14km, n20, σ1s11/18, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.44**	**293**	P	**Pg**	**04 35 01.4**	**+0.6**
JMST	**Minamisoumatoc**	**0.66**	**324**	P	**Pg**	**04 35 05.4**	**+0.4**
JMST				*e*S	**Sg**	**04 35 14.1**	**+0.5**
JFD	**Fukushimafurud**	**0.66**	**261**	P	**Pg**	**04 35 05.4**	**+0.4**
JFFD				S	**Sg**	**04 35 13.6**	**0.0**
JMM	**Marumori**	**0.82**	**325**	P	**Pg**	**04 35 08.1**	**+0.1**
JMM				*e*S	**Sg**	**04 35 18.1**	**-0.5**
JHO	**Hitachi**	**0.87**	**228**	*e*S	**Sg**	**04 35 20.0**	**-0.4**
JSB	**Shiboa**	**1.19**	**260**	*e*P	**Pn**	**04 35 15.2**	**-0.8**
JSB				*e*S	**Sb**	**04 35 30.4**	**-1.1**
JIO	**Ouri**	**1.26**	**359**	P	**Pn**	**04 35 16.0**	**-0.9**
JIO				S	**Sb**	**04 35 31.8**	**-1.6**
MJAR	**Matsushiro Arr**	**2.62**	**257**	Pn	**Pn**	**04 35 35.8**	**+0.1**
	0.7nm,0.3s,baz=78,slow=16,SNR=15						
MJAR				LR	LR	04 36 51.5	
	comp=Z,98nm,19.1s,baz=72,slow=46						
	8.7nm,0.5s						
PETK	**Petropavlovsk-**	**19.56**	**30**	LR	LR	04 47 22.0	
	comp=Z,50nm,21.9s,baz=87,slow=38						
SONM	**Songino Array**	**27.67**	**304**	P	**P**	**04 40 41.1**	**-0.5**
	0.5nm,0.5s,baz=105,slow=11,SNR=2.1						
	0.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	05 10 21.7	
	baz=314,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	05 10 21.0	
	baz=314,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	05 10 24.1	
	baz=314,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	05 11 09.8	
	baz=315,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	05 11 13.7	
	baz=315,slow=76,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	05 11 13.7	
	baz=315,slow=76,SNR=7.6						
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**04 43 00.7**	**-0.4**
	0.6nm,0.7s,baz=82,slow=11,SNR=2.7						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**04 43 43.6**	**+0.8**
	0.5nm,0.8s,baz=279,slow=6.0,SNR=5.3						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**57.22**	**188**	P	**P**	**04 44 39.6**	**-1.4**
	0.4nm,0.6s,baz=4.8,slow=7.1,SNR=8.1						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**04 46 32.8**	**+2.8**
	0.4nm,0.5s,baz=46,slow=6.1,SNR=4.3						
	0.4nm,0.5s						

*IDC **22** 04:37:20.5±2.3, 41.73S×173.97E, h0km, mb3.6/2, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=45.5km s-min=37.8km az=105.0*
*WEL **22** 04:37:22.3±0.3, 42°S±2°×17°4E±°, h10km±2km, M4.0/78, ML4.1/24, MLv4.0/78, Error ellipse: s-maj=0.0km s-min=0.0km az=132.7*
*NOU **22** 04:37:22.2, 41.92S×174.42E, h14km, MLv4.3/14, Cook Strait, New Zealand*
ISC 22 04:37:20.6±1.2, 41.87S±0.03×174.33E±0.03, h12km±9km, n121, σ1s12/125, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**326**	P	**Pb**	**04 37 25.0**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.37**	**295**	P	**Pg**	**04 37 28.5**	**+0.4**
BSWZ				S	**Sg**	**04 37 33.2**	**+0.1**
TUWZ	**Tuamarina**	**0.53**	**327**	P	**Pg**	**04 37 30.9**	**-0.1**
TUWZ				S	**Sg**	**04 37 37.0**	**-1.0**
SNZO	**South Karori**	**0.63**	**27**	P	**Pb**	**04 37 34.5**	**+0.9**
TCW	**Tory Channel**	**0.66**	**357**	P	**Pg**	**04 37 33.4**	**-0.1**
TCW				S	**Sg**	**04 37 41.8**	**-0.4**
WEL	**Wellington**	**0.68**	**30**	P	**Pb**	**04 37 34.8**	**+0.4**
PLWZ	**Palliser**	**0.76**	**67**	P	**Pn**	**04 37 38.2**	**+1.0**
KHZ	**Kahutara**	**0.80**	**227**	P	**Pn**	**04 37 39.5**	**+1.8**
KHZ	**Kahutara**	**0.80**	**227**	P	**Pn**	**04 37 39.3**	**+1.6**
MSWZ	**Moikau Station**	**0.83**	**57**	P	**Pn**	**04 37 39.6**	**+1.4**
CAW	**Cannon Point**	**0.95**	**36**	P	**Pn**	**04 37 40.0**	**+0.2**
PAWZ	**Paruwai Farm**	**0.96**	**60**	P	**Pn**	**04 37 40.8**	**+0.8**
NNZ	**Nelson**	**0.97**	**12**	P	**Pb**	**04 37 38.6**	**-0.7**
THZ	**Tophouse**	**1.07**	**276**	P	**Pn**	**04 37 41.6**	**+0.1**
KIW	**Kapiti Island**	**1.10**	**24**	P	**Pg**	**04 37 42.1**	**+0.2**
DUWZ	**D'Urville Isla**	**1.11**	**344**	P	**Pb**	**04 37 41.1**	**-0.8**
TRWZ	**Traveller**	**1.13**	**65**	P	**Pg**	**04 37 42.9**	**+0.6**
MTW	**Mount Morrison**	**1.14**	**51**	P	**Pg**	**04 37 43.0**	**+0.5**
OGWZ	**Otaki Gorge**	**1.23**	**31**	P	**Pg**	**04 37 44.6**	**+0.3**
MRNZ	**Matariki Terra**	**1.27**	**291**	P	**Pg**	**04 37 44.9**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.32**	**43**	P	**Pb**	**04 37 45.6**	**+0.1**
TKNZ	**Takaka Hill**	**1.33**	**309**	P	**Pb**	**04 37 45.4**	**-0.1**
TMWZ	**Te Maipa**	**1.40**	**57**	P	**Pb**	**04 37 46.6**	**-0.2**
GVZ	**Greta Valley S**	**1.45**	**221**	P	**Pb**	**04 37 48.3**	**+0.6**
MRZ	**Mangatainoka R**	**1.54**	**38**	P	**Pb**	**04 37 48.5**	**-0.5**
TIWZ	**Tintock**	**1.61**	**47**	P	**Pn**	**04 37 49.5**	**+0.6**
QRZ	**Quartz Range**	**1.71**	**307**	P	**Pb**	**04 37 52.0**	**0.0**
QRZ	**Quartz Range**	**1.71**	**307**	P	**Pb**	**04 37 51.7**	**-0.3**
LTZ	**Lake Taylor**	**1.77**	**239**	P	**Pb**	**04 37 52.6**	**-0.5**
AMCZ	**Amberley**	**1.80**	**223**	P	**Pb**	**04 37 52.6**	**-0.9**
PRWZ	**Pori Road**	**1.81**	**44**	P	**Pn**	**04 37 52.0**	**+0.3**
POWZ	**Post Office Ro**	**1.84**	**37**	P	**Pn**	**04 37 52.6**	**+0.5**
BFZ	**Birch Farm**	**1.88**	**51**	P	**Pn**	**04 37 52.7**	**+0.1**
BFZ	**Birch Farm**	**1.88**	**51**	P	**Pn**	**04 37 52.4**	**-0.1**
DSZ	**Dennistion Nort**	**1.89**	**273**	P	**Pb**	**04 37 54.6**	**-0.5**
OKCZ	**Okains Bay**	**2.07**	**206**	P	**Pn**	**04 37 56.1**	**+0.9**
DVHZ	**Dannevirke**	**2.10**	**42**	P	**Pn**	**04 37 55.4**	**-0.3**
ANWZ	**Angora Road**	**2.15**	**50**	P	**Pn**	**04 37 56.1**	**-0.2**
WAZ	**Wanganui**	**2.18**	**14**	P	**Pb**	**04 37 59.2**	**-0.7**
TSZ	**Takapari Road**	**2.20**	**35**	P	**Pn**	**04 37 57.3**	**+0.3**
MQZ	**McQueen's Vall**	**2.21**	**213**	P	**Pn**	**04 37 57.2**	**+0.1**
OXZ	**Oxford**	**2.23**	**229**	P	**Pn**	**04 37 57.8**	**+0.4**
AKCZ	**Akaroa Harbour**	**2.25**	**207**	P	**Pn**	**04 37 58.6**	**+0.9**
INZ	**Inchbonnie**	**2.30**	**247**	P	**Pn**	**04 37 59.7**	**+1.3**
PRHZ	**Porangahau**	**2.37**	**48**	P	**Pn**	**04 37 58.9**	**-0.5**
LREZ	**Lake Rotokare**	**2.41**	**1**	P	**Pb**	**04 38 03.2**	**-0.8**
WPHZ	**Waipukurau**	**2.42**	**42**	P	**Pn**	**04 37 59.9**	**-0.1**
PNHZ	**Pukenui**	**2.42**	**37**	P	**Pn**	**04 38 00.1**	**0.0**
RACZ	**Raketa**	**2.45**	**220**	P	**Pn**	**04 38 00.7**	**+0.2**
NMEZ	**Namu Road**	**2.48**	**352**	P	**Pb**	**04 38 05.3**	**+0.1**
KHEZ	**Kahui Hut**	**2.59**	**355**	P	**Pb**	**04 38 06.1**	**-0.9**
KHEZ	**Kahui Hut**	**2.59**	**355**	P	**Pb**	**04 38 05.1**	**-1.9**

NEZ	**North Egmont**	**2.61**	**356**	P	**Pb**	**04 38 06.0**	**-1.4**
MHCZ	**Mount Hutt**	**2.62**	**230**	P	**Pn**	**04 38 03.0**	**+0.1**
NBEZ	**Newall Road No**	**2.63**	**352**	P	**Pb**	**04 38 08.5**	**+0.9**
MTVZ	**Mangateitei**	**2.63**	**20**	P	**Pb**	**04 38 05.7**	**-2.1**
PXZ	**Pawanui**	**2.66**	**47**	P	**Pn**	**04 38 02.4**	**-1.0**
DREZ	**Durham Road**	**2.68**	**358**	P	**Pb**	**04 38 07.2**	**-1.5**
PKE	**Pukeiti**	**2.69**	**354**	P	**Pn**	**04 38 06.4**	**-2.4**
MOVZ	**Moawhango**	**2.69**	**24**	P	**Pn**	**04 38 04.6**	**+0.7**
PKVZ	**Pokaka**	**2.70**	**17**	P	**Pn**	**04 38 06.2**	**+2.3**
WNVZ	**Wahianoa**	**2.72**	**21**	P	**Pn**	**04 38 05.8**	**+1.4**
BHHZ	**Black Hill Sta**	**2.72**	**30**	P	**Pn**	**04 38 05.2**	**+1.0**
TRVZ	**Turoa**	**2.74**	**20**	P	**Pn**	**04 38 06.2**	**+1.6**
WACZ	**Wakanui South**	**2.76**	**221**	P	**Pn**	**04 38 05.2**	**+0.5**
DRZ	**Dome Shelter**	**2.76**	**20**	P	**Pn**	**04 38 11.2**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.76**	**21**	P	**Pn**	**04 38 06.3**	**+1.3**
VRZ	**Vera Road**	**2.77**	**7**	P	**Pn**	**04 38 07.1**	**+2.3**
FWVZ	**Far West T-bar**	**2.78**	**20**	P	**Pn**	**04 38 06.9**	**+1.7**
TUVZ	**Tukino**	**2.79**	**22**	P	**Pn**	**04 38 06.7**	**+1.4**
MHEZ	**Mangahewa**	**2.79**	**360**	P	**Pb**	**04 38 10.2**	**-0.3**
KAHZ	**Kahuranaki**	**2.84**	**44**	P	**Pn**	**04 38 05.1**	**-0.8**
SNVZ	**South Ngauruho**	**2.87**	**21**	P	**Pn**	**04 38 07.8**	**+1.5**
OTVZ	**Oturere**	**2.89**	**21**	P	**Pn**	**04 38 08.2**	**+1.5**
NNVZ	**North Ngauruho**	**2.91**	**20**	P	**Pn**	**04 38 08.6**	**+1.7**
WVZ	**Waitaha Valley**	**2.91**	**244**	P	**Pn**	**04 38 08.0**	**+1.2**
KWHZ	**Kaweka Forest**	**2.92**	**34**	P	**Pn**	**04 38 07.1**	**+0.1**
TWVZ	**Taurewa**	**2.93**	**17**	P	**Pn**	**04 38 08.8**	**+1.7**
ETVZ	**East Tongariro**	**2.93**	**22**	P	**Pn**	**04 38 08.3**	**+1.1**
TMVZ	**Te Maari**	**2.95**	**21**	P	**Pn**	**04 38 08.6**	**+1.1**
KRVZ	**Karewarewa**	**2.95**	**20**	P	**Pn**	**04 38 09.1**	**+1.6**
NTVZ	**North Tongarir**	**2.96**	**21**	P	**Pn**	**04 38 08.9**	**+1.4**
MCHZ	**McNeill Hill**	**3.02**	**37**	P	**Pn**	**04 38 08.0**	**-0.4**
RPZ	**Rata Peaks**	**3.03**	**232**	Pn	**Pn**	**04 38 08.7**	**+0.3**
	20nm,0.3s,baz=100,slow=2.0,SNR=47						
RPZ				Sn	**Sn**	**04 38 44.0**	**-0.6**
	15nm,0.3s,baz=128,slow=23,SNR=14						
	34nm,0.3s						
RPZ	**Rata Peaks**	**3.03**	**232**	P	**Pn**	**04 38 09.2**	**+0.7**
RPZ	**Rata Peaks**	**3.03**	**232**	P	**Pn**	**04 38 09.0**	**+0.5**
KATZ	**Kakaramea**	**3.08**	**20**	P	**Pn**	**04 38 16.8**	**+1.3**
ARCZ	**Arundel**	**3.10**	**227**	P	**Pn**	**04 38 09.9**	**+0.4**
RITZ	**Rihia Road**	**3.12**	**23**	P	**Pb**	**04 38 15.8**	**-0.3**
BKZ	**Black Stump Fm**	**3.17**	**32**	P	**Pn**	**04 38 10.1**	**-0.4**
RATZ	**Rangitukua**	**3.20**	**21**	P	**Pb**	**04 38 18.3**	**+0.9**
HATZ	**Hinemaiaia**	**3.27**	**25**	P	**Pb**	**04 38 17.4**	**-1.3**
GCSZ	**Gaunt Creek Bo**	**3.29**	**243**	P	**Pn**	**04 38 13.6**	**+1.6**
NMHZ	**Naumai**	**3.36**	**35**	P	**Pn**	**04 38 13.0**	**0.0**
HIZ	**Hauiti**	**3.38**	**7**	P	**Pn**	**04 38 15.9**	**+2.6**
HIZ	**Hauiti**	**3.38**	**7**	P	**Pn**	**04 38 15.5**	**+2.2**
MRHZ	**Matea Rd**	**3.43**	**28**	P	**Pn**	**04 38 13.6**	**-0.4**
TMZ	**Timaru**	**3.49**	**223**	P	**Pn**	**04 38 15.5**	**+0.7**
TLZ	**Tolley Road**	**3.66**	**15**	P	**Pn**	**04 38 19.2**	**+2.1**
FOZ	**Fox Glacier**	**3.71**	**242**	P	**Pn**	**04 38 19.5**	**+1.7**
LBZ	**Lake Benmore**	**3.94**	**229**	P	**Pn**	**04 38 21.5**	**+0.6**
ODZ	**Otahua Downs**	**4.15**	**219**	P	**Pn**	**04 38 24.3**	**+0.5**
ODZ	**Otahua Downs**	**4.15**	**219**	P	**Pn**	**04 38 23.9**	**+0.1**
URZ	**Urewera**	**4.20**	**32**	P	**Pn**	**04 38 25.2**	**+0.8**
URZ	**Urewera**	**4.20**	**32**	P	**Pn**	**04 38 23.5**	**-0.9**
TOZ	**Tahuroa Road**	**4.24**	**13**	P	**Pn**	**04 38 28.9**	**+3.9**
JCZ	**Jackson Bay**	**4.62**	**240**	P	**Pn**	**04 38 32.0**	**+1.6**
JCZ	**Jackson Bay**	**4.62**	**240**	P	**Pn**	**04 38 31.3**	**+0.9**
MKAZ	**Moumakai**	**4.81**	**8**	P	**Pn**	**04 38 34.2**	**+1.3**
AWAZ	**Awhitu Peninsu**	**4.81**	**3**	P	**Pn**	**04 38 35.0**	**+2.1**
HHSZ	**Highcliff Hill**	**4.83**	**213**	P	**Pn**	**04 38 33.9**	**+0.7**
EAZ

	comp=Z,48nm,0.3s							
PTGC	**Puerto Gaitan,**	**4.39**	**88**	*e*P		Pn	04 42 38.9	-3.7
PAC1	**Pacto, Paraso**	**4.40**	**211**	*e*P		Pn	04 42 39.7	-3.2
PAC1				*e*S		Sn	04 43 27.2	-5.7
PAMC	**Pamplona, Colo**	**5.01**	**49**	*e*P		Pn	04 42 52.1	+0.6
PAMC				*e*S		Sn	04 43 47.6	-0.7
PAMC				IAML			04 43 56.2	
	comp=Z,8.3nm,0.5s							

WEL 22 04:43:31.8±0.3, 42°S±3°×17°4E±°, h12km, M3.0/32, ML3.2/16, MLv3.0/32, Error ellipse: s-maj=0.0km s-min=0.0km az=135.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.32**	**25**	P	Pb	04 43 39.1	-0.3
BSWZ				S	Sb	04 43 44.8	+0.1
KHZ	**Kahutara**	**0.42**	**195**	P	Pb	04 43 40.8	-0.4
KHZ				S	Sb	04 43 47.3	-0.3
CMWZ	**Cape Campbell**	**0.47**	**57**	P	Pb	04 43 42.3	+0.3
TUWZ	**Tuamarina**	**0.61**	**18**	P	Pb	04 43 44.3	0.0
THZ	**Tophouse**	**0.64**	**292**	P	Pb	04 43 44.8	0.0
NNZ	**Nelson**	**0.82**	**343**	P	Pb	04 43 47.9	-0.1
TCW	**Tory Channel**	**0.91**	**29**	P	Pg	04 43 49.2	-0.2
MRNZ	**Matariki Terra**	**0.93**	**311**	P	Pn	04 43 50.3	-0.3
GVZ	**Greta Valley S**	**1.07**	**207**	P	Pb	04 43 52.2	-0.1
WEL	**Wellington**	**1.08**	**49**	P	Pg	04 43 52.6	0.0
TKNZ	**Takaka Hill**	**1.12**	**330**	P	Pn	04 43 53.2	-0.1
DUWZ	**D'Urville Isla**	**1.22**	**8**	P	Pn	04 43 54.3	-0.3
PLWZ	**Palliser**	**1.25**	**70**	P	Pn	04 43 53.8	-1.3
LTZ	**Lake Taylor**	**1.30**	**233**	P	Pn	04 43 56.0	+0.1
CAW	**Cannon Point**	**1.37**	**49**	P	Pn	04 43 56.3	-0.5
AMCZ	**Amberley**	**1.40**	**213**	P	Pn	04 43 56.1	-0.9
DSZ	**Denniston Nort**	**1.43**	**280**	P	Pg	04 43 59.3	0.0
PAWZ	**Paruwai Farm**	**1.44**	**65**	P	Pn	04 44 56.5	-1.3
KIW	**Kapiti Island**	**1.47**	**39**	P	Pn	04 43 58.2	+0.2
QRZ	**Quartz Range**	**1.47**	**323**	P	Pb	04 43 59.2	+0.2
MTW	**Mount Morrison**	**1.60**	**59**	P	Pn	04 43 58.5	-1.4
OGWZ	**Otaki Gorge**	**1.63**	**44**	P	Pn	04 43 60.0	-0.3
HOWZ	**Holdsworth Sta**	**1.77**	**52**	P	Pn	04 44 01.0	-1.1
OKCZ	**Okains Bay**	**1.78**	**195**	P	Pn	04 44 00.8	-1.5
OXZ	**Oxford**	**1.79**	**222**	P	Pn	04 44 01.4	-1.2
INZ	**Inchbonnie**	**1.81**	**246**	P	Pn	04 44 03.3	+0.6
MQZ	**McQueen's Vall**	**1.86**	**204**	P	Pn	04 44 01.3	-2.1
TMWZ	**Te Maipa**	**1.88**	**62**	P	Pn	04 44 02.2	-1.5
AKCZ	**Akaroa Harbour**	**1.95**	**197**	P	Pn	04 44 03.2	-1.4
MRZ	**Mangatainoka R**	**1.96**	**47**	P	Pn	04 44 03.8	-1.0
RACZ	**Rakaia**	**2.06**	**213**	P	Pn	04 44 04.6	-1.6
MHCZ	**Mount Hutt**	**2.18**	**225**	P	Pn	04 44 06.7	-1.2
WACZ	**Wakanui South**	**2.36**	**214**	P	Pn	04 44 08.8	-1.5
WAZ	**Wanganui**	**2.46**	**24**	P	Pb	04 44 16.0	+0.1
RPZ	**Rata Peaks**	**2.58**	**228**	P	Pn	04 44 12.5	-0.9
TSZ	**Takapari Road**	**2.60**	**42**	P	Pb	04 44 19.2	+1.0
ANWZ	**Angora Road**	**2.61**	**55**	P	Pg	04 44 26.0	+4.2
ARCZ	**Arundel**	**2.67**	**223**	P	Pn	04 44 13.6	-1.0
KHEZ	**Kahui Hut**	**2.72**	**5**	P	Pb	04 44 19.0	-1.4
NEZ	**North Egmont**	**2.75**	**7**	P	Pn	04 44 19.7	-1.2
GCSZ	**Gaunt Creek Bo**	**2.80**	**241**	P	Pn	04 44 17.5	+1.1
PKE	**Pukeiti**	**2.82**	**5**	P	Pb	04 44 20.2	-1.8
PRHZ	**Porangahau**	**2.82**	**53**	P	Pg	04 44 25.3	-0.5
PNHZ	**Pukenui**	**2.83**	**43**	P	Pb	04 44 23.8	+1.6
WPHZ	**Waipukurau**	**2.85**	**48**	P	Pg	04 44 29.3	+3.0
MTVZ	**Mangateitei**	**2.95**	**28**	P	Pb	04 44 25.4	+1.1
PKVZ	**Pokaka**	**2.99**	**25**	P	Pb	04 44 24.0	-1.0
VRZ	**Vera Road**	**2.99**	**16**	P	Pb	04 44 22.9	-2.1
MOVZ	**Moawhango**	**3.04**	**32**	P	Pb	04 44 24.4	-1.3
WNVZ	**Wahianoa**	**3.05**	**29**	P	Pb	04 44 23.0	-3.0
TRVZ	**Turoa**	**3.05**	**28**	P	Pb	04 44 23.9	-2.3
TMZ	**Timaru**	**3.08**	**219**	P	Pn	04 44 19.2	-1.1
WHVZ	**Whangaehu Hut**	**3.08**	**29**	P	Pb	04 44 26.4	-0.3
FWVZ	**Far West T-bar**	**3.09**	**28**	P	Pb	04 44 24.5	-2.3
BHHZ	**Black Hill Sta**	**3.10**	**36**	P	Pb	04 44 27.2	+0.4
PXZ	**Pawanui**	**3.11**	**52**	P	Pb	04 44 26.5	-0.4
TUVZ	**Tukino**	**3.12**	**29**	P	Pn	04 44 19.0	-1.9
TUVZ				P	Pb	04 44 24.9	-2.3
SNVZ	**South Ngauruho**	**3.19**	**28**	P	Pb	04 44 25.9	-2.5
OTVZ	**Oturere**	**3.21**	**29**	P	Pb	04 44 27.2	-1.7
NNVZ	**North Ngauruho**	**3.23**	**28**	P	Pb	04 44 28.8	-0.3
ETVZ	**East Tongariro**	**3.26**	**29**	P	Pb	04 44 28.9	-0.6
KRVZ	**Karewarewa**	**3.27**	**28**	P	Pb	04 44 30.6	+0.8
TMVZ	**Te Maari**	**3.27**	**29**	P	Pn	04 44 26.4	+3.4
KAHZ	**Kahuranaki**	**3.27**	**49**	P	Pb	04 44 30.2	+0.4
NTVZ	**North Tongarir**	**3.28**	**28**	P	Pb	04 44 30.9	+1.0
MCHZ	**McNeill Hill**	**3.43**	**43**	P	Pg	04 44 35.5	-2.0
HIZ	**Hauiti**	**3.60**	**15**	P	Pb	04 44 32.4	-3.0
NMHZ	**Naumai**	**3.75**	**40**	P	Pn	04 44 29.9	+0.4
ODZ	**Otahua Downs**	**3.76**	**215**	P	Pn	04 44 27.7	-1.8
TKGZ	**Te Karaka**	**4.78**	**43**	P	Pn	04 44 44.6	+1.0
PKGZ	**Pakihiroa**	**5.32**	**41**	P	Pn	04 44 51.9	+0.9

IDC 22 04:48:51.3±5.1, 1°87N×91°25E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=180.6km s-min=42.2km az=65.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.50**	**119**	P	P	04 57 28.5	-0.1
	0.4nm,0.9s,baz=296,slow=8.5,SNR=2.6 0.4nm,0.9s						
SONM	**Songino Array**	**47.63**	**14**	P	P	04 57 29.3	0.0
	1.1nm,0.5s,baz=193,slow=8.5,SNR=7.5 1.1nm,0.5s						
TXAR	**Lajitas Array**	**145.85**	**24**	PKPbc	PKPdf	05 08 32.4	-0.5
	0.4nm,0.6s,baz=327,slow=1.5,SNR=6.2						

WEL 22 04:52:06.7±0.4, 42°S±3°×17°4E±°, h9km±2km, M3.2/36, ML3.6/15, MLv3.2/36, Error ellipse: s-maj=0.0km s-min=0.0km az=121.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.23**	**230**	P	Pg	04 52 12.0	+0.6
KHZ				S	Sg	04 52 16.0	+1.4
BSWZ	**Blackbirch Sta**	**0.56**	**8**	P	Pg	04 52 17.7	+0.2
BSWZ				S	Sb	04 52 26.1	-0.5
CMWZ	**Cape Campbell**	**0.61**	**32**	P	Pb	04 52 20.1	+0.6
THZ	**Tophouse**	**0.82**	**307**	P	Pb	04 52 22.7	+0.2
TUWZ	**Tuamarina**	**0.84**	**8**	P	Pb	04 52 23.3	-0.2
GVZ	**Greta Valley S**	**0.89**	**218**	P	Pb	04 52 24.5	+0.2
NNZ	**Nelson**	**1.09**	**344**	P	Pg	04 52 27.2	-0.4
TCW	**Tory Channel**	**1.12**	**20**	P	Pg	04 52 27.3	-0.9
MRNZ	**Matariki Terra**	**1.15**	**318**	P	Pn	04 52 29.2	+0.1
LTZ	**Lake Taylor**	**1.23**	**245**	P	Pn	04 52 29.6	-0.5
WEL	**Wellington**	**1.23**	**37**	P	Pn	04 52 29.0	-1.1
PLWZ	**Palliser**	**1.30**	**58**	P	Pn	04 52 29.0	-2.1
TKNZ	**Takaka Hill**	**1.38**	**333**	P	Pn	04 52 32.3	+0.2
DUWZ	**D'Urville Isla**	**1.47**	**4**	P	Pn	04 52 32.7	-0.7
CAW	**Cannon Point**	**1.51**	**40**	P	Pn	04 52 32.4	-1.5
PAWZ	**Paruwai Farm**	**1.52**	**55**	P	Pn	04 52 31.7	-2.4
OKCZ	**Okains Bay**	**1.55**	**200**	P	Pn	04 52 33.0	-1.5
DSZ	**Denniston Nort**	**1.56**	**289**	P	Pn	04 52 35.2	+0.5
KIW	**Kapiti Island**	**1.64**	**32**	P	Pn	04 52 34.7	-1.1
MQZ	**McQueen's Vall**	**1.66**	**209**	P	Pn	04 52 33.8	-2.2
OXZ	**Oxford**	**1.66**	**230**	P	Pn	04 52 34.3	-1.7
TRWZ	**Traveller**	**1.67**	**59**	P	Pn	04 52 33.8	-2.4
MTW	**Mount Morrison**	**1.70**	**50**	P	Pn	04 52 34.3	-2.3
QRZ	**Quartz Range**	**1.72**	**327**	P	Pb	04 52 37.6	-0.8
AKCZ	**Akaroa Harbour**	**1.73**	**201**	P	Pn	04 52 35.2	-1.7
INZ	**Inchbonnie**	**1.79**	**254**	P	Pn	04 52 37.2	-0.5
OGWZ	**Otaki Gorge**	**1.79**	**36**	P	Pn	04 52 36.2	-1.5
HOWZ	**Holdsworth Sta**	**1.89**	**44**	P	Pn	04 52 37.6	-1.6
RACZ	**Rakaia**	**1.89**	**219**	P	Pn	04 52 37.4	-1.7
MHCZ	**Mount Hutt**	**2.06**	**231**	P	Pn	04 52 39.7	-1.9
MRZ	**Mangatainoka R**	**2.10**	**41**	P	Pn	04 52 40.1	-1.9
WACZ	**Wakanui South**	**2.20**	**220**	P	Pn	04 52 41.6	-1.7
WVZ	**Waitaha Valley**	**2.38**	**249**	P	Pn	04 52 45.6	-0.4
RPZ	**Rata Peaks**	**2.47**	**233**	P	Pn	04 52 45.6	-1.5
ARCZ	**Arundel**	**2.54**	**228**	P	Pn	04 52 46.2	-2.0
WAZ	**Wanganui**	**2.67**	**20**	P	Pn	04 52 50.7	+0.8
GCSZ	**Gaunt Creek Bo**	**2.75**	**246**	P	Pn	04 52 51.0	+0.1
TMZ	**Timaru**	**2.93**	**223**	P	Pn	04 52 52.4	-1.0
KHEZ	**Kahui Hut**	**2.98**	**4**	P	Pn	04 52 56.5	+2.3
NEZ	**North Egmont**	**3.00**	**5**	P	Pn	04 52 57.4	+2.8
PKE	**Pukeiti**	**3.07**	**3**	P	Pn	04 52 57.3	+1.8
FOZ	**Fox Glacier**	**3.17**	**245**	P	Pn	04 52 56.5	-0.3
VRZ	**Vera Road**	**3.23**	**14**	P	Pn	04 52 58.3	+0.7
WNVZ	**Wahianoa**	**3.25**	**26**	P	Pn	04 52 58.7	+0.7
TRVZ	**Turoa**	**3.25**	**25**	P	Pn	04 52 59.1	+1.0
BHHZ	**Black Hill Sta**	**3.27**	**33**	P	Pn	04 52 57.5	-0.7
TUVZ	**Tukino**	**3.32**	**26**	P	Pn	04 52 58.8	-0.2
LBZ	**Lake Benmore**	**3.37**	**230**	P	Pn	04 52 58.1	-1.5
SNVZ	**South Ngauruho**	**3.39**	**25**	P	Pb	04 53 05.5	-1.6
OTVZ	**Oturere**	**3.42**	**25**	P	Pn	04 53 01.9	+1.6
NNVZ	**North Ngauruho**	**3.43**	**25**	P	Pn	04 53 01.5	+1.0
ETVZ	**East Tongariro**	**3.46**	**26**	P	Pn	04 53 01.8	+1.0
ODZ	**Otahua Downs**	**3.59**	**218**	P	Pn	04 53 00.6	-1.9
BKZ	**Black Stump Fm**	**3.72**	**35**	P	Pb	04 53 08.6	-4.1
HIZ	**Hauiti**	**3.84**	**13**	P	Pn	04 53 06.7	+0.8
JCZ	**Jackson Bay**	**4.07**	**242**	P	Pn	04 53 08.5	-0.8
MLZ	**Mavora Lakes**	**5.13**	**231**	P	Pn	04 53 21.8	-2.0
AWAZ	**Awhitu Peninsu**	**5.24**	**8**	P	Pn	04 53 25.8	+0.6
MKAZ	**Moumakai**	**5.26**	**12**	P	Pn	04 53 25.2	-0.3

IDC 22 04:53:55.1±0.7, 44°.19S×39°.21E, h0km, mb4.1/9, mbtmp4.2/11, ML3.5/2, MS4.0/17, Error ellipse: s-maj=25.7km s-min=19.1km az=42.0
NEIC 22 04:53:57.1±1.7, 44°.3S±0°.1×39°.3E±0°.2, h10km±1km, mb4.7/21, Error ellipse: s-maj=25.4km s-min=18.1km az=65.0
ISC 22 04:53:56.7±0.5, 44°23S±0°.09×39°3E±0°.1, h10km, n55, σ0s91/40, mb4.4/17, MS4.0/15, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**15.71**	**312**	Pn	**Pn**	**04 57 38.3**	**+0.2**
SOE				IAmb	IAmb	04 57 56.6	
	comp=Z,60nm,1.4s						
SUR	**Sutherland**	**18.66**	**303**	P	**Pn**	**04 58 15.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=2.6						
SUR				LR	LR	05 03 55.4	
	comp=Z,329nm,19.6s,baz=127,slow=32 comp=Z,16nm,1.1s						
BOSA	**Boshof**	**19.20**	**320**	P	**Pn**	**04 58 20.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=146,slow=13,SNR=3.3						
BOSA				LR	LR	05 04 18.6	
	comp=Z,571nm,20.0s,baz=162,slow=33 comp=Z,5.0nm,1.1s						
BOSA	**Boshof**	**19.20**	**320**		**Pn**	**04 58 23.8**	**+2.2**
LBTB	**Lobatse**	**22.17**	**325**	LR	LR	05 06 18.9	
	comp=Z,441nm,18.2s,baz=174,slow=34						
LBTB	**Lobatse**	**22.17**	**325**	P	**P**	**04 58 55.2**	**+2.3**
LBTB				IAmb	IAmb	04 59 05.8	
	comp=Z,29nm,1.2s						
OPO	**Ambohidratompo**	**26.44**	**17**	LR	LR	05 08 23.7	
	comp=Z,329nm,19.4s,baz=16,slow=33						
MAW	**Mawson**	**26.55**	**160**	LR	LR	05 07 25.3	
	comp=Z,336nm,21.9s,baz=329,slow=30						
LSZ	**Lusaka**	**30.36**	**338**	LR	LR	05 10 35.3	
	comp=Z,255nm,20.8s,baz=168,slow=33						
TSUM	**Tsumeb**	**30.85**	**317**	LR	LR	05 11 40.9	
	comp=Z,406nm,18.2s,baz=144,slow=35						
TROLL	**Troll, Antarti**	**32.88**	**200**	P	**P**	**05 00 30.9**	**+0.4**
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**05 00 41.5**	**+0.5**
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**05 00 41.5**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=65,slow=7.4,SNR=8.2						
SNAA				LR	LR	05 11 42.3	
	comp=Z,266nm,20.0s,baz=12,slow=31 comp=Z,3.0nm,0.9s						
SNAA	**Sanae**	**34.09**	**202**	P	**P**	**05 00 41.4**	**+0.5**
SNAA				IAmb	IAmb	05 00 47.3	
	comp=Z,8.5nm,1.0s						
VNA2	**Neumayer--Watz**	**35.04**	**205**	P	**P**	**05 00 50.9**	**+1.7**
	baz=49,slow=8.1						
VNA3	**Neumayer Olymp**	**35.85**	**205**	P	**P**	**05 00 57.1**	**+1.0**
BELA	**Belgrano 2**	**43.81**	**197**	P	**P**	**05 02 02.2**	**+0.1**
BELA				IAmb	IAmb	05 02 07.7	
	comp=Z,12nm,1.4s						
MBAR	**Mbarara**	**44.10**	**348**	LR	LR	05 19 38.0	
	comp=Z,345nm,18.7s,baz=142,slow=35						
QSPA	**South Pole Qui**	**45.98**	**180**	P	**P**	**05 02 20.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=281,slow=2.8,SNR=6.3 comp=Z,1.1nm,0.7s						
QSPA	**South Pole Qui**	**45.98**	**180**	P	**P**	**05 02 18.9**	**-0.9**
QSPA				IAmb	IAmb	05 02 39.5	
	comp=Z,12nm,1.4s						
LODK	**Lodwar**	**47.57**	**355**	P	**P**	**05 02 32.6**	**0.0**
VNDA	**Vanda**	**53.54**	**167**	P	**P**	**05 03 18.0**	**+1.1**
	comp=Z,1.0nm,1.1s,baz=224,slow=9.8,SNR=3.4 comp=Z,1.0nm,1.1s						
VNDA	**Vanda**	**53.54**	**167**	P	**P**	**05 03 16.9**	**0.0**
SBA	**Scott Base**	**54.07**	**168**	P	**P**	**05 03 21.4**	**+0.6**
SBA				IAmb	IAmb	05 03 37.0	
	comp=Z,18nm,1.4s						
ATD	**Arta Tunnel**	**55.59**	**4**	LR	LR	05 25 54.3	
	comp=Z,114nm,19.5s,baz=128,slow=35						
H10S2	**ASCENSION HYDR**	**58.27**	**290**	T	T	06 06 42.0	
	baz=134,slow=7.4,SNR=9.8						
H10S3	**ASCENSION HYDR**	**58.29**	**290**	T	T	06 06 43.0	
	baz=86,slow=74,SNR=19						
DBIC	**Dimbokro**	**64.38**	**310**	LR	LR	05 31 30.2	
	comp=Z,53nm,18.1s,baz=194,slow=35						
TORD	**Torodi Ar. Bea**	**66.56**	**320**	P	**P**	**05 04 46.7**	**-0.2**
	comp=Z,3.5nm,1.2s,baz=148,slow=6.6,SNR=7.0						
TORD				LR	LR	05 31 53.0	
	comp=Z,101nm,20.9s,baz=203,slow=34 comp=Z,3.5nm,1.2s						
WSAR	**Wadi Sarin**	**69.45**	**19**	LR	LR	05 30 13.4	
	comp=Z,164nm,20.2s,baz=264,slow=31						
TAM	**Tamanrasset**	**73.51**	**328**	P	**P**	**05 05 28.8**	**-0.9**
TAM				IAmb	IAmb	05 05 40.1	
	comp=Z,6.2nm,1.3s						
PLCA	**Paso Flores**	**74.53**	**228**	P	**P**	**05 05 34.9**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=76,slow=8.3,SNR=2.5 comp=Z,1.3nm,1.0s						
STKA	**Stephens Creek**	**76.42**	**121**	P	**P**	**05 05 47.2**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=243,slow=4.5,SNR=3.1 comp=Z,1.2nm,0.4s						
MMAI	**Mount Meron Ar**	**76.96**	**357**	LR	LR	05 40 34.5	
	comp=Z,66nm,18.5s,baz=50,slow=36						
ASAR	**Alice Springs**	**77.04**	**110**	P	**P**	**05 05 50.5**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=213,slow=5.8,SNR=15 comp=Z,3.3nm,1.0s						
ASAR	**Alice Springs**	**77.04**	**110**	P	**P**	**05 05 50.6**	**+0.5**
AS31	**Alice Springs**	**77.05**	**110**	P	**P**	**05 05 50.2**	**+0.1**
AQDB	**Aquidauana**	**79.43**	**252**	P	**P**	**05 06 03.6**	**+0.3**
SOEI	**Soe**	**79.70**	**94**	P	**P**	**05 06 04.7**	**-0.3**
WRA	**Warramunga Arr**	**79.87**	**108**	P	**P**	**05 06 06.1**	**+0.3**
	comp=Z,4.4nm,1.3s,baz=227,slow=5.2,SNR=12 comp=Z,4.4nm,1.3s						
WRA	**Warramunga Arr**	**79.87**	**108**	P	**P**	**05 06 05.2**	**-0.6**
WB2	**Warramunga Arr**	**79.88**	**108**	P	**P**	**05 06 05.7**	**0.0**
WB2				IAmb	IAmb	05 06 13.2	
	comp=Z,15nm,1.3s						
WRAB	**Tennant Creek**	**79.88**	**108**	P	**P**	**05 06 05.1**	**-0.7**
WRAB				IAmb	IAmb	05 06 13.2	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**80.02**	**108**	P	**P**	**05 06 06.8**	**+0.2**
WB0				IAmb	IAmb	05 06 13.9	
	comp=Z,8.5nm,1.2s						
IDI	**Anoyia**	**80.22**	**348**	LR	LR	05 41 48.4	
	comp=Z,76nm,21.4s,baz=197,slow=36						
CO01	**Juntas del Tor**	**82.02**	**236**	P	**P**	**05 06 16.6**	**-0.8**
CO01				IAmb	IAmb	05 06 24.0	
	comp=Z,12nm,1.2s						
CMAR	**Chiang Mai Arr**	**82.78**	**56**	P	**P**	**05 06 20.8**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=233,slow=5.5,SNR=1.4 comp=Z,0.9nm,0.3s						
AC02	**Maricunga**	**83.72**	**239**	P	**P**	**05 06 25.2**	**-1.4**
PTLB	**Pontes e Lacer**	**85.26**	**253**	P	**P**	**05 06 32.9**	**-0.9**
PTLB				IAmb	IAmb	05 06 44.6	
	comp=Z,12nm,1.4s						
MDT	**Midelt**	**86.48**	**324**	LR	LR	05 45 10.2	
	comp=Z,202nm,18.2s,baz=125,slow=36						
KSH	**Kashi**	**89.70**	**28**	P	**P**	**05 06 54.1**	**-0.6**
BELG	**Belogorsnoye**	**96.52**	**5**	LR	LR	05 51 02.1	
	comp=Z,116nm,21.6s,baz=96,slow=36						
TXAR	**Lajitas Array**	**147.11**	**256**	PKPbc	**PKPdf**	**05 13 38.7**	**+0.9**
	comp=Z,2.4nm,1.1s,baz=140,slow=4.4,SNR=6.8						
PDAR	**Pinedale Array**	**157.40**	**277**	PKPab	**PKPab**	**05 14 22.3**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=115,slow=6.1,SNR=4.0						
NVAR	**Mina Array Bea**	**162.21**	**259**	PKPab	**PKPab**	**05 14 45.2**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=85,slow=3.1,SNR=4.6						

MAN 22 04:54:07.0, 9°71N×126°21E, h30km, mb3.7, ML2.5, MS2.0, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.11**	**314**	*e*P	Pn	04 54 13.5	+0.7
GLSP				*e*S	Sb	04 54 18.7	+2.6
MSLP	**Maasin**	**1.39**	**288**	*e*P	Pb	04 54 32.1	-0.4
MSLP				*e*S	Sn	04 54 48.0	+0.1
TABP	**Talibon, Bohol**	**1.89**	**282**	*e*P	Pn	04 54 37.0	-0.2
TABP				*i* S	Sn	04 55 01.1	+1.0

IDC 22 05:04:29.7±1.6, 37°.09N×141°.55E, h0km, mb3.8/6, mbtmp3.7/7, ML2.7/1, Error ellipse: s-maj=36.0km s-min=28.5km az=76.0
JMA 22 05:04:31.7±0.2, 37°.2N±0°.4×141°1E±°, h30km±1km, MV3.6/37, E OFF FUKUSHIMA PREF
ISC 22 05:04:31.9±2.2, 37°14N±0°.05×141°42E±0°.09, h14km±10km, n25, σ0s94/21, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**298**	P	**Pg**	**05 04 41.9**	**+0.2**
JFFD	**Fukushimafurud**	**0.69**	**267**	*i* P	**Pg**	**05 04 45.5**	**+0.1**
JFFD				S	**Sg**	**05 04 55.0**	**+0.6**
JMST	**Minamisoumatoc**	**0.72**	**324**	P	**Pg**	**05 04 45.7**	**-0.4**
JMST				S	**Sg**	**05 04 55.9**	**+0.3**
JHO	**Hitachi**	**0.86**	**233**	*e*P	**Pb**	**05 04 47.8**	**-0.9**
JHO				S	**Sb**	**05 04 59.7**	**-0.4**
JMM	**Marumori**	**0.88**	**326**	P	**Pb**	**05 04 48.3**	**-0.8**
JMM				S	**Sb**	**05 05 00.1**	**-0.7**
JIO	**Ouri**	**1.32**	**358**	S	**Sn**	**05 05 12.0**	**-1.4**
JOU	**Okura**	**1.37**	**334**	*e*S	**Sn**	**05 05 14.3**	**-0.3**
JFY	**Yanaizu**	**1.40**	**282**	P	**Pb**	**05 04 57.4**	**-0.4**
JFY				*e*S	**Sb**	**05 05 16.2**	**+0.7**
MJAR	**Matsushiro Arr**	**2.64**	**258**	Pn	**Pn**	**05 05 14.5**	**+0.3**
	1.3nm,0.3s,baz=75,slow=10,SNR=24						
MJAR				Sn	**Sb**	**05 05 49.5**	**-2.0**
	1.3nm,0.3s,baz=174,slow=27,SNR=5.3 7.9nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.05**	**318**	Pn	Pn	05 07 01.9	+6.0
	0.9nm,0.3s,baz=153,slow=13,SNR=2.4						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**05 10 20.3**	**+0.2**
	0.6nm,0.6s,baz=110,slow=9.5,SNR=2.1 0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	05 39 53.1	
	baz=313,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	05 39 52.9	
	baz=313,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	05 39 54.6	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	05 40 47.2	
	baz=320						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	05 40 42.7	
	baz=320						
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	05 40 47.8	
	baz=320						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**05 12 23.5**	**+2.2**
	1.3nm,0.8s,baz=99,slow=7.7,SNR=3.8 1.3nm,0.8s						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**05 12 38.9**	**-0.6**
	0.4nm,0.7s,baz=81,slow=10,SNR=2.1 0.4nm,0.7s						
WRA	**Warramunga Arr**	**57.16**	**188**	P	**P**	**05 14 18.1**	**-0.3**
	0.9nm,1.2s,baz=3.5,slow=7.4,SNR=6.7 0.9nm,1.2s						
FINES	**FINESS Array B**	**68.73**	**332**	P	**P**	**05 15 35.0**	**+0.2**
	2.5nm,1.0s,baz=59,slow=5.4,SNR=1.6 2.5nm,1.0s						
AKASG	**Malin Array Be**	**74.22**	**322**	P	**P**	**05 16 08.9**	**+0.7**
	0.5nm,0.5s,baz=46,slow=6.2,SNR=5.6 0.5nm,0.5s						
H03N2	**Juan Fernandez**	**147.03**	**96**	T	T	08 08 32.3	
	baz=287						
H03N3	**Juan Fernandez**	**147.04**	**96**	T	T	08 08 33.3	
	baz=287						
H03N1	**Juan Fernandez**	**147.

az=104.0
JMA 22 05:06:20.4±0.1,37°.2N±0°.3×141°.4E±0°.8,h25km±1km, MV3.5/32,E OFF FUKUSHIMA PREF
ISC 22 05:06:19.4±0.9,37°.14N±0°.04×141°.46E±0°.07,h10km,n23, σ2ᵖ47/19,mb3.5/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**297**	P	**Pg**	**05 06 29.1**	**-0.4**
JFK				*eS*	**Sb**	**05 06 35.4**	**-2.7**
JFFD	**Fukushimafurud**	**0.72**	**267**	P	**Pg**	**05 06 32.6**	**-0.6**
JMST	**Minamisoumatoc**	**0.74**	**323**	P	**Pg**	**05 06 32.5**	**-1.2**
JMST				*eS*	**Sg**	**05 06 41.3**	**-2.1**
JHO	**Hitachi**	**0.88**	**234**	*eP*	**Pg**	**05 06 36.0**	**-0.4**
JHO				*eS*	**Sg**	**05 06 46.6**	**-1.3**
JMM	**Marumori**	**0.90**	**324**	P	**Pg**	**05 06 35.7**	**-1.0**
JIO	**Ouri**	**1.32**	**356**	P	**Pn**	**05 06 42.2**	**-1.6**
JIO				S	**Sb**	**05 06 58.2**	**-3.0**
MJAR	**Matsushiro Arr**	**2.67**	**258**	Pn	**Pn**	**05 07 04.8**	**+2.3**
	15nm,0.6s,baz=85,slow=25,SNR=1.0						
MJAR				Sn	**Sb**	**05 07 37.9**	**-2.2**
	0.3nm,0.3s,baz=98,slow=17,SNR=1.1						
JHJ	**Hachijo jima 2**	**4.24**	**199**	Pn	**Pn**	**05 07 22.0**	**-2.0**
	133nm,0.7s,baz=52,slow=14,SNR=1.7						
JHJ				Sn	**Sn**	**05 08 10.6**	**-2.9**
	7.8nm,0.3s,baz=90,slow=20,SNR=2.5						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**05 12 12.4**	**+4.1**
	0.3nm,0.4s,baz=69,slow=7.9,SNR=2.1						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	05 41 27.9	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	05 41 39.3	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	05 41 38.4	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	05 42 30.4	
	baz=315						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	05 42 32.2	
	baz=315						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	05 42 27.5	
	baz=315						
MKAR	**Makanchi Array**	**44.09**	**302**	P	P	05 14 33.2	+5.6
	0.3nm,0.7s,baz=81,slow=8.8,SNR=1.9						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**49.39**	**32**	P	**P**	**05 15 08.9**	**+0.1**
	0.6nm,1.0s,baz=268,slow=6.7,SNR=2.1						
	0.6nm,1.0s						
WRA	**Warrumunga Arr**	**57.17**	**188**	P	**P**	**05 16 04.1**	**-2.3**
	0.3nm,0.6s,baz=6.0,slow=7.5,SNR=2.3						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**68.74**	**332**	P	**P**	**05 17 25.7**	**+2.7**
	2.2nm,0.9s,baz=34,slow=15,SNR=2.2						
	2.2nm,0.9s						
AKASG	**Malin Array Be**	**74.24**	**322**	P	**P**	**05 18 00.5**	**+4.1**
	0.2nm,0.3s,baz=46,slow=5.8,SNR=1.3						
	0.2nm,0.3s						
H03N2	**Juan Fernandez**	**147.00**	**96**	T	T	08 10 18.1	
	baz=286						
H03N3	**Juan Fernandez**	**147.01**	**96**	T	T	08 10 18.2	
	baz=286						
H03N1	**Juan Fernandez**	**147.02**	**96**	T	T	08 10 16.8	
	baz=286						

IDC 22 05:08:15.9±1.3,37°.1N×141°.51E,h0km,mb3.7/9, mbtmp3.6/10,ML2.3/1,Error ellipse: s-maj=31.0km s-min=24.2km az=166.0
JMA 22 05:08:18.3±0.2,37°.1N±0°.4×141°.4E±1°.0,h27km±1km, MV3.3/37,E OFF FUKUSHIMA PREF
ISC 22 05:08:17.5±1.9,37°.13N±0°.05×141°.45E±0°.07,h10km±11km, n24,σ0ᵉ67/27,mb3.6/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**		P	**Pb**	**05 08 28.1**	**-0.6**
JFK				*eS*	**Sg**	**05 08 35.4**	**+0.9**
JFFD	**Fukushimafurud**	**0.71**	**267**	P	**Pb**	**05 08 31.7**	**-0.3**
JFFD				S	**Sb**	**05 08 41.4**	**-0.4**
JMST	**Minamisoumatoc**	**0.74**	**323**	P	**Pb**	**05 08 32.0**	**-0.5**
JMST				S	**Sb**	**05 08 42.4**	**-0.4**
JHO	**Hitachi**	**0.87**	**234**	*eP*	**Pg**	**05 08 34.2**	**-0.2**
JHO				*eS*	**Sb**	**05 08 46.1**	**-0.4**
JMM	**Marumori**	**0.90**	**325**	P	**Pb**	**05 08 34.7**	**-0.5**
JMM				S	**Sg**	**05 08 46.7**	**+0.1**
JIO	**Ouri**	**1.33**	**357**	*eP*	**Pb**	**05 08 41.9**	**-0.6**
JIO				*eS*	**Sn**	**05 08 59.0**	**-0.8**
JOU	**Okura**	**1.38**	**334**	*eP*	**Pb**	**05 08 43.3**	**-0.2**
JOU				*eS*	**Sb**	**05 09 01.1**	**-0.1**
JFY	**Yanaizu**	**1.42**	**282**	P	**Pb**	**05 08 44.1**	**0.0**
JFY				S	**Sb**	**05 09 02.5**	**+0.3**
MJAR	**Matsushiro Arr**	**2.66**	**258**	Pn	**Pn**	**05 09 00.9**	**+0.4**
	0.5nm,0.3s,baz=83,slow=13,SNR=2.1						
MJAR				Sn	**Sb**	**05 09 36.6**	**-1.5**
	0.5nm,0.3s,baz=78,slow=30,SNR=3.1						
	4.3nm,0.5s						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**05 14 05.9**	**-0.5**
	0.5nm,0.8s,baz=101,slow=7.8,SNR=2.1						
	0.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	05 43 38.2	
	baz=314,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	05 43 40.3	
	baz=314,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	05 43 35.6	
	baz=314,slow=76,SNR=38						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	05 44 32.0	
	baz=316,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	05 44 29.4	
	baz=316,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	05 44 32.9	
	baz=316,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**05 16 07.2**	**-0.4**
	0.6nm,0.3s,baz=97,slow=6.0,SNR=2.4						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**05 16 26.4**	**+0.7**
	0.7nm,0.8s,baz=94,slow=5.9,SNR=3.0						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**05 16 40.9**	**+0.4**
	1.0nm,0.7s,baz=83,slow=8.5,SNR=7.8						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**49.40**	**32**	P	**P**	**05 17 06.4**	**-0.6**
	0.5nm,0.7s,baz=267,slow=6.5,SNR=4.5						
	0.5nm,0.7s						
WRA	**Warrumunga Arr**	**57.16**	**188**	P	**P**	**05 18 03.7**	**-0.8**
	0.5nm,1.0s,baz=5.9,slow=7.3,SNR=2.7						
	0.5nm,1.0s						
FINES	**FINESS Array B**	**68.74**	**332**	P	**P**	**05 19 21.5**	**+0.4**
	2.5nm,0.8s,baz=83,slow=11,SNR=2.4						
	2.5nm,0.8s						
AKASG	**Malin Array Be**	**74.24**	**322**	P	**P**	**05 19 55.1**	**+0.6**
	0.7nm,0.6s,baz=49,slow=6.1,SNR=4.4						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**90.04**	**52**	P	**P**	**05 21 19.1**	**+1.3**
	0.1nm,0.6s,baz=317,slow=6.2,SNR=1.5						
	0.1nm,0.6s						

IDC 22 05:12:09.7±0.6,42°.90S×172°.92E,h0km,mb4.5/12, mbtmp4.5/12,Error ellipse: s-maj=16.8km s-min=12.5km az=139.0
NOU 22 05:12:10.5,43°.11S×173°.23E,h16km,MLv6.0/14,Off E. Coast of S. Island, N.Z.
NEIC 22 05:12:11.7±1.7,42°.94S±0°.05×172°.99E±0°.07,h9km±4km, mb4.6/10,ML4.8(WEL),Error ellipse: s-maj=8.9km s-min=5.6km az=131.0
WEL 22 05:12:11.4±0.3,43°.S±2°.×17°.3E±°,h8km±2km,M4.8/41, ML5.2/21,MLv4.8/41,Error ellipse: s-maj=0.0km s-min=0.0km az=126.4
ISC 22 05:12:11.5±0.8,42°.94S±0°.02×172°.98E±0°.03,h10km±5km, n217,σ1ᵖ29/218,mb4.5/16,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.05**	**130**	Pg	**Pg**	**05 12 13.3**	**-0.3**
GVZ	**Greta Valley S**	**0.05**	**130**	P	**Pg**	**05 12 13.5**	**-0.1**
GVZ				S	**Sg**	**05 12 15.4**	**+0.4**
AMCZ	**Amberley**	**0.34**	**225**		**Pb**	**05 12 19.2**	**-0.5**
AMCZ	**Amberley**	**0.34**	**225**	P	**Pb**	**05 12 19.3**	**-0.5**
AMCZ				S	**Sb**	**05 12 25.5**	**+0.2**
LTZ	**Lake Taylor**	**0.55**	**286**		**Pb**	**05 12 22.2**	**-1.0**
LTZ	**Lake Taylor**	**0.55**	**286**	P	**Pg**	**05 12 22.0**	**-0.1**
LTZ				S	**Sb**	**05 12 29.9**	**-1.2**
KHZ	**Kahutara**	**0.66**	**39**		**Pb**	**05 12 24.9**	**-0.2**
KHZ	**Kahutara**	**0.66**	**39**	P	**Pb**	**05 12 25.1**	**0.0**
KHZ	**Kahutara**	**0.66**	**39**	P	**Pb**	**05 12 24.9**	**-0.2**
OKCZ	**Okains Bay**	**0.79**	**176**	P	**Pb**	**05 12 27.4**	**0.0**
OXZ	**Oxford**	**0.79**	**240**		**Pb**	**05 12 27.5**	**+0.1**
OXZ	**Oxford**	**0.79**	**240**	P	**Pb**	**05 12 27.3**	**-0.2**
OXZ				S	**Sb**	**05 12 38.8**	**+0.5**
MQZ	**McQueen's Vall**	**0.81**	**197**		**Pg**	**05 12 27.0**	**-0.1**
MQZ	**McQueen's Vall**	**0.81**	**197**	P	**Pg**	**05 12 26.9**	**-0.1**
AKCZ	**Akaroa Harbour**	**0.94**	**183**	P	**Pg**	**05 12 29.2**	**-0.4**
RACZ	**Rakaia**	**1.00**	**218**	P	**Pg**	**05 12 30.0**	**-0.8**
INZ	**Inchbonnie**	**1.15**	**280**	Pn	**Pn**	**05 12 33.2**	**-0.5**
THZ	**Tophouse**	**1.17**	**357**	Pn	**Pn**	**05 12 33.7**	**-0.4**
THZ	**Tophouse**	**1.17**	**357**	P	**Pg**	**05 12 33.2**	**-0.8**
MHCZ	**Mount Hutt**	**1.19**	**240**	P	**Pg**	**05 12 32.8**	**-1.7**
BSWZ	**Blackbirch Sta**	**1.39**	**29**		**Pb**	**05 12 37.3**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.39**	**29**	P	**Pn**	**05 12 37.1**	**+0.1**
DSZ	**Denniston Nort**	**1.48**	**323**		**Pn**	**05 12 37.9**	**-0.3**
DSZ	**Denniston Nort**	**1.48**	**323**	P	**Pn**	**05 12 37.9**	**-0.3**
CMWZ	**Cape Campbell**	**1.50**	**38**		**Pb**	**05 12 39.0**	**-0.4**
CMWZ	**Cape Campbell**	**1.50**	**38**	P	**Pg**	**05 12 39.6**	**-0.6**
MRNZ	**Matariki Terra**	**1.54**	**354**		**Pb**	**05 12 39.5**	**-0.7**
MRNZ	**Matariki Terra**	**1.54**	**354**	P	**Pb**	**05 12 39.5**	**-0.7**
RPZ	**Rata Peaks**	**1.61**	**240**	Pg	**Pn**	**05 12 38.6**	**-1.4**
	99nm,0.3s,baz=87,slow=2.6,SNR=292						
RPZ				Lg	Lg	05 12 59.4	
	240nm,0.3s,baz=357,slow=11,SNR=29						
RPZ	**Rata Peaks**	**1.61**	**240**	Pn	**Pn**	**05 12 38.8**	**-1.2**
RPZ	**Rata Peaks**	**1.61**	**240**	P	**Pn**	**05 12 38.6**	**-1.4**
RPZ	**Rata Peaks**	**1.61**	**240**	P	**Pn**	**05 12 38.7**	**-1.4**
WVZ	**Waitaha Valley**	**1.65**	**264**	P	**Pn**	**05 12 39.9**	**-0.7**
ARCZ	**Arundel**	**1.66**	**232**	P	**Pn**	**05 12 39.3**	**-1.4**
TUWZ	**Tuamarina**	**1.67**	**26**		**Pn**	**05 12 40.7**	**-0.1**
TUWZ	**Tuamarina**	**1.67**	**26**	P	**Pn**	**05 12 40.7**	**-0.1**
NNZ	**Nelson**	**1.74**	**10**		**Pn**	**05 12 41.7**	**-0.1**
NNZ	**Nelson**	**1.74**	**10**	P	**Pn**	**05 12 42.1**	**+0.3**
TKNZ	**Takaka Hill**	**1.90**	**359**		**Pb**	**05 12 45.2**	**-1.1**
TKNZ	**Takaka Hill**	**1.90**	**359**	P	**Pn**	**05 12 44.8**	**+0.8**
TCW	**Tory Channel**	**1.97**	**30**		**Pn**	**05 12 44.5**	**-0.5**
TCW	**Tory Channel**	**1.97**	**30**	P	**Pn**	**05 12 44.5**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**1.98**	**258**	P	**Pn**	**05 12 44.7**	**-0.4**
TMZ	**Timaru**	**2.04**	**224**	P	**Pn**	**05 12 44.5**	**-1.4**
SNZO	**South Karori**	**2.07**	**39**		**Pn**	**05 12 45.6**	**-0.6**
SNZO	**South Karori**	**2.07**	**39**	P	**Pn**	**05 12 45.7**	**-0.6**
WEL	**Wellington**	**2.12**	**39**	P	**Pn**	**05 12 46.5**	**-0.5**
QRZ	**Quartz Range**	**2.13**	**351**		**Pn**	**05 12 47.6**	**+0.4**
QRZ	**Quartz Range**	**2.13**	**351**	P	**Pb**	**05 12 48.6**	**-1.7**
QRZ	**Quartz Range**	**2.13**	**351**	P	**Pn**	**05 12 47.3**	**0.0**
PLWZ	**Palliser**	**2.17**	**52**	Pn	**Pn**	**05 12 46.9**	**-0.8**
PLWZ	**Palliser**	**2.17**	**52**	P	**Pn**	**05 12 46.4**	**-1.3**
DUWZ	**D'Urville Isla**	**2.24**	**19**	P	**Pn**	**05 12 48.6**	**-0.1**
FOZ	**Fox Glacier**	**2.39**	**254**	Pn	**Pn**	**05 12 51.0**	**+0.3**
FOZ	**Fox Glacier**	**2.39**	**254**	P	**Pn**	**05 12 50.7**	**0.0**
PAWZ	**Paruwai Farm**	**2.39**	**50**	P	**Pn**	**05 12 49.2**	**-1.5**
CAW	**Cannon Point**	**2.40**	**41**	P	**Pn**	**05 12 49.6**	**-1.2**
LBZ	**Lake Benmore**	**2.50**	**234**	Pn	**Pn**	**05 12 51.7**	**-0.5**
LBZ	**Lake Benmore**	**2.50**	**234**	P	**Pn**	**05 12 51.2**	**-1.0**
KIW	**Kapiti Island**	**2.52**	**35**	P	**Pn**	**05 12 52.0**	**-0.5**
TRWZ	**Traveller**	**2.53**	**54**	P	**Pn**	**05 12 51.5**	**-1.2**
MTW	**Mount Morrison**	**2.58**	**47**	P	**Pn**	**05 12 52.0**	**-1.4**
OGWZ	**Otaki Gorge**	**2.67**	**38**	P	**Pn**	**05 12 53.5**	**-1.1**
ODZ	**Otahua Downs**	**2.70**	**218**	Pn	**Pn**	**05 12 54.3**	**-0.7**
ODZ	**Otahua Downs**	**2.70**	**218**	P	**Pn**	**05 12 52.9**	**-2.1**
ODZ	**Otahua Downs**	**2.70**	**218**	P	**Pn**	**05 12 53.6**	**-1.4**
HOWZ	**Holdsworth Sta**	**2.78**	**44**	P	**Pn**	**05 12 54.6**	**-1.5**
TMWZ	**Te Maipa**	**2.83**	**51**	P	**Pn**	**05 12 55.5**	**-1.4**
MRZ	**Mangatainoka R**	**2.99**	**41**	Pn	**Pn**	**05 12 57.6**	**-1.3**
MRZ	**Mangatainoka R**	**2.99**	**41**	P	**Pn**	**05 12 57.4**	**-1.6**
JCZ	**Jackson Bay**	**3.26**	**248**	P	**Pn**	**05 13 01.9**	**-0.9**
JCZ	**Jackson Bay**	**3.26**	**248**	P	**Pn**	**05 13 02.1**	**-0.7**
PRWZ	**Pori Road**	**3.26**	**44**	P	**Pn**	**05 13 01.6**	**-1.1**
POWZ	**Post Office Ro**	**3.29**	**40**	P	**Pn**	**05 13 01.7**	**-1.3**
BFZ	**Birch Farm**	**3.32**	**48**	Pn	**Pn**	**05 13 03.8**	**+0.3**
BFZ	**Birch Farm**	**3.32**	**48**	P	**Pn**	**05 13 01.9**	**-1.6**
BFZ	**Birch Farm**	**3.32**	**48**	P	**Pn**	**05 13 02.0**	**-1.6**
HHSZ	**Highcliff Hill**	**3.41**	**209**	P	**Pn**	**05 13 03.4**	**-1.4**
WKZ	**Wanaka**	**3.43**	**235**		**Pn**	**05 13 06.1**	**+1.0**
WKZ	**Wanaka**	**3.43**	**235**	P	**Pn**	**05 13 03.6**	**-1.5**
EAZ	**Earnscleugh**	**3.50**	**228**	P	**Pn**	**05 13 04.3**	**-1.7**
WAZ	**Wanganui**	**3.52**	**26**	P	**Pn**	**05 13 07.4**	**+1.1**
DVHZ	**Dannevirke**	**3.55**	**43**	P	**Pn**	**05 13 04.7**	**-2.1**
NMEZ	**Namu Road**	**3.58**	**11**	P	**Pn**	**05 13 09.1**	**+2.0**
ANWZ	**Angora Road**	**3.60**	**48**	P	**Pn**	**05 13 07.3**	**0.0**
LREZ	**Lake Rotokare**	**3.63**	**18**	P	**Pn**	**05 13 06.7**	**-3.1**
TSZ	**Tamahere Road**	**3.64**	**39**	P	**Pn**	**05 13 08.3**	**-1.7**
KHEZ	**Kahui Hut**	**3.72**	**12**	P	**Pn**	**05 13 09.7**	**+0.6**
KHEZ	**Kahui Hut**	**3.72**	**12**	P	**Pn**	**05 13 10.4**	**+1.3**
NBEZ	**Newall Road No**	**3.72**	**11**	P	**Pn**	**05 13 10.6**	**+1.6**
NEZ	**North Egmont**	**3.76**	**13**	P	**Pn**	**05 13 11.0**	**+1.4**
PKE	**Pukeiti**	**3.81**	**12**	P	**Pn**	**05 13 12.4**	**+2.0**
PRHZ	**Porangahau**	**3.82**	**47**	P	**Pn**	**05 13 09.7**	**-0.7**
DREZ	**Durham Road**	**3.85**	**14**	P	**Pn**	**05 13 12.5**	**+1.6**
TUZ	**Tuapeka**	**3.86**	**217**	P	**Pn**	**05 13 09.4**	**-1.4**
PNHZ	**Pukenui**	**3.87**	**40**	P	**Pn**	**05 13 09.2**	**-1.9**
WPHZ	**Waipukurau**	**3.87**	**43**	P	**Pn**	**05 13 11.8**	**+0.7**
MHEZ	**Mangahewa**	**3.99**	**15**	P	**Pn**	**05 13 15.0**	**+2.3**
MTVZ	**Mangateitei**	**4.01**	**29**	P	**Pn**	**05 13 14.0**	**+0.9**
VRZ	**Vera Road**	**4.04**	**20**	P	**Pn**	**05 13 14.5**	**+1.1**
MSZ	**Milford Sound**	**4.05**	**243**	P	**Pn**	**05 13 12.3**	**-1.2**
PKVZ	**Pokaka**	**4.06**	**27**	P	**Pn**	**05 13 13.8**	**+0.1**
MOVZ	**Moawhango**	**4.10**	**32**	P	**Pn**	**05 13 13.7**	**-0.6**
WNVZ	**Wahianoa**	**4.11**	**30**	P	**Pn**	**05 13 14.5**	**0.0**
TRVZ	**Turoa**	**4.12**	**29**	P	**Pn**	**05 13 14.6**	**-0.1**
DRZ	**Dome Shelter**	**4.14**	**29**	P	**Pn**	**05 13 15.7**	**+0.6**
WHVZ	**Whangaehu Hut**	**4.15**	**29**	P	**Pn**	**05 13 15.0**	**-0.1**
BHHZ	**Black Hill Sta**	**4.15**	**35**	P	**Pn**	**05 13 14.1**	**-0.9**
FWVZ	**Far West T-bar**	**4.16**	**29**	P	**Pn**	**05 13 15.1**	**-0.1**
TUVZ	**Tukino**	**4.18**	**30**	P	**Pn**	**05 13 15.5**	**0.0**
SNVZ	**South Ngauruho**	**4.25**	**29**	P	**Pn**	**05 13 16.7**	**+0.3**
MLZ	**Mavora Lakes**	**4.26**	**234**	P	**Pn**	**05 13 14.5**	**-2.0**
OTVZ	**Oturere**	**4.28**	**29**	P	**Pn**	**05 13 16.9**	**0.0**
TWVZ	**Taurewa**	**4.28**	**27**	P	**Pn**	**05 13 16.8**	**0.0**
NNVZ	**North Ngauruho**	**4.29**	**29**	P	**Pn**	**05 13 17.0**	**0.0**
KAHZ	**Kahuranaki**	**4.29**	**44**	P	**Pn**	**05 13 16.8**	**-0.1**
ETVZ	**East Tongariro**	**4.32**	**29**	P	**Pn**	**05 13 17.1**	**-0.3**
KRVZ	**Karewarewa**	**4.33**	**29**	P	**Pn**	**05 13 17.6**	**+0.1**
TMVZ	**Te Maari**	**4.33**	**29**	P	**Pn**	**05 13 17.3**	**-0.3**
NTVZ	**North Tongarir**	**4.34**	**29**	P	**Pn**	**05 13 18.2**	**+0.6**
KWTZ	**Kaweka Forest**	**4.36**	**38**	P	**Pn**	**05 13 19.0**	**+1.1**
KATZ	**Kakaramea**	**4.46**	**28**	P	**Pn**	**05 13 20.6**	**+1.3**
MCHZ	**McNeill Hill**	**4.47**	**40**	P	**Pn**	**05 13 19.2**	**-0.2**
RITZ	**Rihia Road**	**4.51**	**30**	P	**Pn**	**05 13 20.5**	**+0.5**
SYZ	**Scrubby Hill**	**4.52**	**216**	P	**Pn**	**05 13 19.2**	**-0.8**
SYZ	**Scrubby Hill**	**4.52**	**216**	P	**Pn**	**05 13 18.7**	**-1.3**
RATZ	**Rangitukua**	**4.58**	**28**	P	**Pn**	05 13 25.7	+4.8
BKZ	**Black Stump Fm**	**4.61**	**36**	Pn	**Pn**	**05 13 21.6**	**+0.4**
BKZ	**Black Stump Fm**	**4.61**	**36**	P	**Pn**	**05 13 20.4**	**-0.9**
BKZ	**Black Stump Fm**	**4.61**	**36**	P	**Pn**	**05 13 19.5**	**-1.8**
HIZ	**Hauiti**	**4.64**	**18**	Pn	**Pn**	**05 13 22.5**	**+0.8**
HIZ	**Hauiti**	**4.64**	**18**	P	**Pn**	**05 13 22.4**	**+0.8**
HIZ	**Hauiti**	**4.64**	**18**	P	**Pn**	**05 13 22.1**	**+0.4**
WHZ	**Wether Hill Ro**	**4.66**	**229**	P	**Pn**	**05 13 19.3**	**-2.7**
ARHZ	**Aropaoanui**	**4.76**	**41**	P	**Pn**	**05 13 23.2**	**-0.1**
NMHZ	**Naumai**	**4.80**	**38**	P	**Pn**	**05 13 21.1**	**-2.9**
MRHZ	**Matea Rd**	**4.85**	**34**	P	**Pn**	**05 13 22.3**	**-2.3**
DCZ	**Deep Cove**	**4.89**	**237**	P	**Pn**	**05 13 23.5**	**-1.7**
TLZ	**Tolley Road**	**4.99**	**24**	P	**Pn**	**05 13 23.6**	**0.0**
MTHZ	**Matangataniwha**	**5.02**	**37**	P	**Pn**	**05 13 25.6**	**-1.3**
RAHZ	**Arahi**	**5.08**	**39**	P	**Pn**	**05 13 26.8**	**-0.9**
APZ	**The Paps**	**5.27**	**221**	P	**Pn**	**05 13 28.4**	**-1.9**
SNGZ	**Shannon Statio**	**5.30**	**40**	P	**Pn**	**05 13 30.0**	**-0.8**
MHGZ	**Mahia Peninsul**	**5.30**	**46**	P	**Pn**	**05 13 30.0**	**-0.8**
TOZ	**Tahuroa Road**	**5.54**	**21**	P	**Pn**	**05 13 33.8**	**-0.2**
KMRZ	**Kaimai**	**5.56**	**25**	P	Pn	05 13 39.7	+5.3
RIGZ	**Rimuhau**	**5.57**	**42**	P	**Pn**	**05 13 31.5**	**-2.9**
URZ	**Urewera**	**5.63**	**35**	P	**Pn**	**05 13 33.1**	**-2.1**
MWZ	**Matawai**	**5.75**	**38**	P	**Pn**	**05 13 33.9**	**-3.1**
AWAZ	**Awhitu Peninsu**	**6.00**	**13**	P	**Pn**	**05 13 41.0**	**+0.7**
MKAZ	**Moumakai**	**6.06**	**17**	P	**Pn**	**05 13 40.8**	**-0.4**
TWGZ	**Tauwhareparae**	**6.09**	**40**	P	**Pn**	**05 13 39.7**	**-1.9**
WTAZ	**Waiatarua**	**6.12**	**12**	P	**Pn**	**05 13 43.2**	**+1.2**
RUGZ	**Raukumara Rep**	**6.12**	**37**	P	**Pn**	**05 13 40.3**	**-1.8**
ETAZ	**East Tamaki Re**	**6.16**	**15**	P	**Pn**	**05 13 43.2**	**+0.7**
MYRZ	**Mayor Island**	**6.17**	**25**	P	**Pn**	**05 13 42.4**	**-0.3**
RVAZ	**Riverhead Bore**	**6.28**	**12**	P	**Pn**	**05 13 44.7**	**+0.6**
PUZ	**Puketiti**	**6.30**	**41**	P	**Pn**	**05 13 43.1**	**-1.5**
MBAZ	**Motutapu North**	**6.33**	**14**	P	**Pn**	**05 13 45.5**	**+0.6**
HAZ	**Te Kaha**	**6.34**	**37**	P	**Pn**	**05 13 42.2**	**-2.8**
WIAZ	**Waiheke Island**	**6.35**	**16**	P	**Pn**	**05 13 45.7**	**+0.5**
PKGZ	**Pakihiroa**	**6.37**	**39**	P	**Pn**	**05 13 42.8**	**-2.6**
ABAZ	**Army Bay**	**6.49**	**13**	P	**Pn**	**05 13 47.6**	**+0.6**
KUZ	**Kuaotunu**	**6.53**	**20**	P	**Pn**	**05 13 46.4**	**-1.2**
KUZ	**Kuaotunu**	**6.53**	**20**	P	**Pn**	**05 13 46.9**	**-0.7**
WMGZ	**Waiomatatini S**	**6.58**	**41**	P	**Pn**	**05 13 46.0**	**-2.3**
MXZ	**Matakaoa Point**	**6.74**	**39**	Pn	**Pn**	**05 13 49.3**	**-1.1**
MXZ	**Matakaoa Point**	**6.74**	**39**	P	**Pn**	**05 13 47.4**	**-3.0**
MXZ	**Matakaoa Point**	**6.74**	**39**	P	**Pn**	**05 13 47.4**	**-3.0**
WCZ	**Waipu Caves**	**7.07**	**9**	P	**Pn**	**05 13 56.4**	**+1.4**
DZM	**Mont Dzumac**	**21.51**	**343**	P	**P**	**05 17 01.4**	**+0.7**
	36nm,1.0s,baz=164,slow=20,SNR=5.2						
	36nm,1.0s						
DZM	**Mont Dzumac**	**21.51**	**343**	P	**P**	**05 17 00.7**	**0.0**
STKA	**Stephens Creek**	**27.12**	**284**	P	**P**	**05 17 55.1**	**+0.5**
	1.1nm,0.5s,baz=127,slow=17,SNR=2.1						
	1.1nm,0.5s						
RAR	**Rarotonga**	**31.42**	**55**	P	**P**	**05 18 34.3**	**+1.4**
	13nm,0.9s,baz=204,slow=20,SNR=2.6						
	13nm,0.9s						
CTA	**Charters Tower**	**31.98**	**307**	P	**P**	**05 18 38.0**	**+0.1**
	5.7nm,0.9s,baz=124,slow=6.3,SNR=4.3						
	5.7nm,0.9s						
VNDA	**Vanda**	**34.99**	**184**	P	**P**	**05 19 04.5**	**+1.0**
	1.0nm,0.9s,baz=345,slow=9.4,SNR=3.5						
	1.0nm,0.9s						
AS31	**Alice Springs**	**37.47**	**288**	P	**P**	**05 19 25.8**	**+0.4**
ASAR	**Alice Springs**	**37.47**	**288**	P	**P**	**05 19 23.8**	**-1.6**
	3.9nm,0.8s,baz=133,slow=4.9,SNR=24						
	3.9nm,0.8s						
WB2	**Warramunga Arr**	**39.66**	**293**	P	**P**	**05 19 42.5**	**-1.2**
WB2				IAmb	IAmb	05 19 47.1	
	comp=Z,5.8nm,0.9s						
WRAB	**Tennant Creek**	**39.67**	**293**	P	**P**	**05 19 42.8**	**-1.0**
WRAB				IAmb	IAmb	05 19 47.1	
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**39.67**	**293**	P	**P**	**05 19 42.9**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=132,slow=8.1,SNR=24						
	comp=Z,2.4nm,0.7s						
**PM

Principal axes: T 1.6890, Plg22.0000°, Azm214.0000°; N 0.1550, Plg68.0000°, Azm32.0000°; P -1.8440, Plg1.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 22 05'13'34.6±0.5, 42°93S±0.02°-172°96E±0.03, h8km±2km, n518, σ1°77/425, mb5.3/89, MS5.4/141, 7C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.07**	**122**	Pg	**Pg**	**05 13 36.7**	**+0.1**
GVZ	**Greta Valley S**	**0.07**	**122**	P	**Pg**	**05 13 36.7**	**+0.1**
AMCZ	**Amberley**	**0.33**	**223**	Pg	**Pb**	**05 13 42.6**	**-0.3**
AMCZ				Sg	**Sb**	**05 13 48.5**	**+0.2**
AMCZ	**Amberley**	**0.33**	**223**	P	**Pb**	**05 13 42.5**	**-0.3**
AMCZ				S	**Sb**	**05 13 48.6**	**+0.3**
LTZ	**Lake Taylor**	**0.53**	**286**	Pg	**Pg**	**05 13 45.0**	**+0.2**
LTZ				Sg	**Sb**	**05 13 53.4**	**-0.6**
LTZ	**Lake Taylor**	**0.53**	**286**	P	**Pg**	**05 13 45.2**	**+0.3**
LTZ				S	**Sb**	**05 13 53.4**	**-0.6**
KHZ	**Kahutara**	**0.67**	**40**	Pg	**Pg**	**05 13 47.9**	**+0.4**
KHZ	**Kahutara**	**0.67**	**40**	P	**Pb**	**05 13 48.1**	**-0.4**
OXZ	**Oxford**	**0.78**	**240**	Pg	**Pb**	**05 13 50.5**	**+0.1**
OXZ				Sg	**Sb**	**05 14 01.9**	**+0.7**
OXZ	**Oxford**	**0.78**	**240**	P	**Pb**	**05 13 50.7**	**+0.2**
OKCZ	**Okains Bay**	**0.79**	**175**	P	**Pb**	**05 13 51.2**	**+0.5**
MQZ	**McQueen's Vall**	**0.80**	**196**	P	**Pb**	**05 13 50.7**	**-0.1**
AKCZ	**Akaroa Harbour**	**0.94**	**182**	P	**Pb**	**05 13 53.2**	**0.0**
RACZ	**Rakaia**	**0.99**	**217**	P	**Pg**	**05 13 53.6**	**-0.1**
INZ	**Inchbonnie**	**1.14**	**280**	P	**Pb**	**05 13 56.5**	**+0.1**
THZ	**Tophouse**	**1.17**	**358**		**Pg**	**05 13 56.8**	**-0.3**
THZ	**Tophouse**	**1.17**	**358**	P	**Pg**	**05 13 56.9**	**-0.3**
MHCZ	**Mount Hutt**	**1.18**	**239**	P	**Pb**	**05 13 56.6**	**-0.7**
WACZ	**Wakanui South**	**1.30**	**219**	P	**Pn**	**05 13 57.9**	**-1.2**
BSWZ	**Blackbirch Sta**	**1.39**	**29**	Pn	**Pn**	**05 14 00.4**	**0.0**
BSWZ	**Blackbirch Sta**	**1.39**	**29**	P	**Pn**	**05 14 00.4**	**0.0**
DSZ	**Dennistoun Nort**	**1.46**	**324**	P	**Pn**	**05 14 01.4**	**0.0**
CMWZ	**Cape Campbell**	**1.50**	**39**	P	**Pg**	**05 14 04.1**	**+0.6**
MRNZ	**Matariki Terra**	**1.54**	**354**	P	**Pn**	**05 14 02.8**	**+0.4**
RPZ	**Rata Peaks**	**1.59**	**240**	Pg	**Pn**	**05 14 02.1**	**-1.1**
	898nm,0.3s,baz=89,slow=1.9,SNR=15						
RPZ				Lg	Lg	05 14 22.1	
	2μm,0.3s,baz=350,slow=9.9,SNR=4.2						
RPZ	**Rata Peaks**	**1.59**	**240**	Pn	**Pn**	**05 14 02.0**	**-1.2**
RPZ	**Rata Peaks**	**1.59**	**240**	P	**Pn**	**05 14 02.4**	**-0.8**
WVZ	**Waitaha Valley**	**1.64**	**264**	P	**Pn**	**05 14 03.9**	**+0.2**
ARCZ	**Arundel**	**1.65**	**231**	P	**Pn**	**05 14 03.0**	**-0.9**
TUWZ	**Tuamarina**	**1.67**	**26**	P	**Pn**	**05 14 03.8**	**-0.4**
NNZ	**Nelson**	**1.74**	**10**	P	**Pn**	**05 14 05.5**	**+0.4**
TKNZ	**Takaka Hill**	**1.90**	**0**	P	**Pn**	**05 14 08.2**	**+0.8**
GCSZ	**Gaunt Creek Bo**	**1.97**	**258**	P	**Pn**	**05 14 08.8**	**+0.6**
TCW	**Tory Channel**	**1.98**	**30**	P	**Pn**	**05 14 08.0**	**-0.5**
TMZ	**Timaru**	**2.03**	**224**	P	**Pn**	**05 14 08.8**	**-0.3**
WEL	**Wellington**	**2.13**	**40**	P	**Pn**	**05 14 09.5**	**-0.9**
QRZ	**Quartz Range**	**2.13**	**351**	Pn	**Pn**	**05 14 11.7**	**+1.2**
QRZ	**Quartz Range**	**2.13**	**351**	P	**Pn**	**05 14 11.4**	**+0.9**
PLWZ	**Palliser**	**2.18**	**52**	P	**Pn**	**05 14 10.2**	**-1.1**
DUWZ	**D'Urville Isla**	**2.25**	**19**	P	**Pn**	**05 14 12.7**	**+0.5**
MSWZ	**Moikau Station**	**2.28**	**49**		**Pn**	**05 14 12.0**	**-0.6**
FOZ	**Fox Glacier**	**2.38**	**254**	P	**Pn**	**05 14 15.1**	**+1.2**
PAWZ	**Paruwai Farm**	**2.40**	**51**	P	**Pn**	**05 14 12.7**	**-1.5**
CAW	**Cannon Point**	**2.41**	**41**	P	**Pn**	**05 14 13.1**	**-1.2**
KIW	**Kapiti Island**	**2.53**	**36**	P	**Pn**	**05 14 15.1**	**-0.9**
TRWZ	**Traveller**	**2.54**	**54**	P	**Pn**	**05 14 14.7**	**-1.5**
MTW	**Mount Morrison**	**2.59**	**48**	P	**Pn**	**05 14 15.8**	**-1.1**
OGWZ	**Otaki Gorge**	**2.68**	**39**	P	**Pn**	**05 14 16.9**	**-1.2**
ODZ	**Otahua Downs**	**2.69**	**218**	P	**Pn**	**05 14 17.5**	**-0.7**
MRZ	**Mangatainoka R**	**3.00**	**42**	P	**Pn**	**05 14 21.5**	**-1.0**
JCZ	**Jackson Bay**	**3.24**	**248**	P	**Pn**	**05 14 25.7**	**-0.2**
BFZ	**Birch Farm**	**3.33**	**49**	P	**Pn**	**05 14 25.3**	**-1.7**
HHSZ	**Highcliff Hill**	**3.40**	**209**	P	**Pn**	**05 14 27.2**	**-0.8**
EAZ	**Earnscleugh**	**3.49**	**228**	P	**Pn**	**05 14 28.2**	**-1.0**
NMEZ	**Namu Road**	**3.58**	**11**	P	**Pn**	**05 14 32.3**	**+1.8**
TSZ	**Takapari Road**	**3.65**	**39**	P	**Pn**	**05 14 33.5**	**+2.1**
KHEZ	**Kahui Hut**	**3.72**	**13**	P	**Pn**	**05 14 36.2**	**+3.7**
NBEZ	**Newall Road No**	**3.73**	**11**	P	**Pn**	**05 14 33.7**	**+1.3**
NEZ	**North Egmont**	**3.76**	**14**	P	**Pb**	**05 14 38.4**	**-2.9**
PKE	**Pukeiti**	**3.82**	**13**	P	**Pn**	**05 14 36.5**	**+2.8**
DREZ	**Durham Road**	**3.86**	**14**	P	**Pn**	**05 14 36.6**	**+2.4**
MSZ	**Milford Sound**	**4.04**	**243**	P	**Pn**	**05 14 37.6**	**+0.9**
VRZ	**Vera Road**	**4.04**	**20**	P	**Pn**	**05 14 40.0**	**+3.2**
MOVZ	**Moawhango**	**4.11**	**32**	P	**Pn**	**05 14 39.1**	**+1.4**
WNVZ	**Wahianoa**	**4.12**	**30**	P	**Pn**	**05 14 39.9**	**+1.9**
TRVZ	**Turoa**	**4.12**	**29**	P	**Pn**	**05 14 40.0**	**+1.9**
WHVZ	**Whangaehu Hut**	**4.15**	**29**	P	**Pn**	**05 14 39.4**	**+0.9**
TUVZ	**Tukino**	**4.19**	**30**	P	**Pn**	**05 14 38.9**	**-0.1**
MLZ	**Mavora Lakes**	**4.25**	**233**	P	**Pn**	**05 14 38.3**	**-1.3**
SNVZ	**South Ngauruho**	**4.26**	**29**	P	**Pn**	**05 14 40.8**	**+0.9**
OTVZ	**Oturere**	**4.29**	**29**	P	**Pn**	**05 14 41.7**	**+1.4**
NNVZ	**North Ngauruho**	**4.30**	**29**	P	**Pn**	**05 14 41.8**	**+1.4**
ETVZ	**East Tongariro**	**4.33**	**30**	P	**Pn**	**05 14 41.4**	**+0.6**
TMVZ	**Te Maari**	**4.34**	**29**	P	**Pn**	**05 14 41.7**	**+0.6**
NTVZ	**North Tongariro**	**4.35**	**29**	P	**Pn**	**05 14 42.2**	**+1.1**
SYZ	**Scrubby Hill**	**4.52**	**216**	P	**Pn**	**05 14 42.2**	**-1.0**
HIZ	**Hauiti**	**4.64**	**19**	P	**Pn**	**05 14 48.4**	**+3.3**
WHZ	**Wether Hill Ro**	**4.65**	**229**	P	**Pn**	**05 14 43.1**	**-2.1**
WHTZ	**Whakaora**	**4.83**	**29**	P	Pb	05 14 54.4	-5.2
DCZ	**Deep Cove**	**4.88**	**237**	P	**Pn**	**05 14 47.6**	**-0.7**
TLZ	**Tolley Road**	**5.00**	**24**	P	**Pn**	**05 14 51.0**	**+1.0**
MTHZ	**Maungataniwha**	**5.03**	**37**	P	**Pn**	**05 14 49.8**	**-0.5**
ALRZ	**Allen Road**	**5.07**	**32**	P	**Pn**	**05 14 49.5**	**-1.3**
GRRZ	**Galatos Road**	**5.17**	**29**	P	**Pn**	**05 14 55.5**	**+3.2**
HRRZ	**Handcock Road**	**5.19**	**30**	P	**Pn**	**05 14 53.7**	**+1.1**
APZ	**The Paps**	**5.26**	**220**	P	**Pn**	**05 14 52.6**	**-0.9**
MUGZ	**Murupara**	**5.31**	**34**	P	**Pn**	**05 14 52.4**	**-1.8**
PYZ	**Puysegur Point**	**5.53**	**232**	P	**Pn**	**05 14 56.3**	**-0.9**
TOZ	**Tahuroa Road**	**5.55**	**21**	P	**Pn**	**05 14 57.0**	**-0.5**
KMRZ	**Kaimai**	**5.57**	**25**	P	**Pn**	**05 15 02.2**	**+4.4**
URZ	**Urewera**	**5.64**	**35**	P	**Pn**	**05 15 00.1**	**+1.4**
MWZ	**Matawai**	**5.76**	**39**	P	**Pn**	**05 14 59.1**	**-1.3**
OPRZ	**Ohinepanea**	**5.78**	**30**	P	**Pn**	**05 14 59.0**	**-1.6**
AWAZ	**Awhitu Peninsu**	**6.00**	**13**	P	**Pn**	**05 15 04.1**	**+0.4**
MKAZ	**Moumakai**	**6.06**	**17**	P	**Pn**	**05 15 04.3**	**-0.3**
TWAZ	**Tauwhareparae**	**6.10**	**40**	P	**Pn**	**05 15 04.2**	**-0.9**
WTAZ	**Waiatarua**	**6.12**	**12**	P	**Pn**	**05 15 06.3**	**+0.9**
RUGZ	**Raukumara Rang**	**6.13**	**38**	P	**Pn**	**05 15 04.4**	**-1.2**
ETAZ	**East Tamaki Re**	**6.16**	**15**	P	**Pn**	**05 15 06.0**	**+0.1**
MYRZ	**Mayor Island**	**6.18**	**25**	P	**Pn**	**05 15 06.5**	**+0.3**
EPAZ	**Eden Park BICE**	**6.20**	**13**	P	**Pn**	**05 15 06.8**	**+0.3**
RVAZ	**Riverhead Bore**	**6.28**	**12**	P	**Pn**	**05 15 07.9**	**+0.4**
MBAZ	**Motutapu North**	**6.33**	**14**	P	**Pn**	**05 15 08.6**	**+0.4**
HAZ	**Te Kaha**	**6.35**	**37**	P	**Pn**	**05 15 06.8**	**-1.6**
WIAZ	**Waiheke Island**	**6.36**	**16**	P	**Pn**	**05 15 08.6**	**0.0**
PKGZ	**Pakihiroa**	**6.37**	**39**	P	**Pn**	**05 15 07.0**	**-1.9**
ABAZ	**Army Bay**	**6.49**	**13**	P	**Pn**	**05 15 10.7**	**+0.3**
KUZ	**Kuaotunu**	**6.54**	**20**	P	**Pn**	**05 15 10.6**	**-0.4**
GRZ	**Great Barrier**	**6.95**	**17**	P	**Pn**	**05 15 16.0**	**-0.7**
WCZ	**Waipu Caves**	**7.07**	**9**	P	**Pn**	**05 15 19.2**	**+0.9**
OUZ	**Omahuta**	**7.72**	**4**	Pn	**Pn**	**05 15 28.6**	**+1.3**
RAO	**Raoul Island**	**15.50**	**31**	LR	LR	05 23 02.9	
	comp=Z,7μm,19.4s,baz=188,slow=37						
CAN	**Canberra**	**20.04**	**284**	P	Pn	05 18 09.7	-0.2
CAN	**Canberra**	**20.04**	**284**	P	Pn	05 18 09.7	-0.1
CAN				pmax	pmax		
	comp=Z,86nm,1.1s						
CAN				MLR	MLR		
	comp=Z,8μm,20.0s						
ARMA	**Armidale**	**21.11**	**299**	P	**P**	**05 18 22.4**	**+2.6**
DZM	**Mont Dzumac**	**21.50**	**343**	P	**P**	**05 18 24.0**	**0.0**
	comp=Z,58nm,0.9s,baz=142,slow=11,SNR=8.5						
DZM				S	**S**	**05 22 24.7**	**+2.1**
	comp=Z,8.1nm,0.9s,baz=116,slow=20,SNR=1.5						
DZM				LR	LR	05 26 08.8	
	comp=Z,9μm,18.4s,baz=176,slow=35						
	comp=Z,58nm,0.9s						
DZM	**Mont Dzumac**	**21.50**	**343**	*e*Pn	**P**	**05 18 23.9**	**0.0**
	comp=Z,259nm,1.2s						
DZM				*e*S	**S**	**05 22 21.6**	**-1.0**
	comp=Z,2μm,25.1s						
DZM				*e*LR	LR	05 23 32.5	
	comp=Z,7μm,21.8s						
DZM	**Mont Dzumac**	**21.50**	**343**	P	**P**	**05 18 24.0**	**0.0**
DZM				IAmb	IAmb	05 18 33.3	
	comp=Z,109nm,1.1s						
TOO	**Toolangi**	**21.59**	**275**	P	**P**	**05 18 26.8**	**+2.0**
TOO				IAmb	IAmb	05 18 38.1	
	comp=Z,194nm,1.6s						
TOO	**Toolangi**	**21.59**	**275**	P	**P**	**05 18 26.8**	**+2.0**
TOO				pmax	pmax		
	comp=Z,194nm,1.6s						
LIFNC	**LIFOU**	**22.61**	**346**	P	**P**	**05 18 32.3**	**-3.4**
KOUNC	**Koumac, New Ca**	**23.48**	**339**	P	**P**	**05 18 45.3**	**+0.6**
KOUNC				IAmb	IAmb	05 18 46.9	
	comp=Z,172nm,1.2s						
MSVF	**Nonsavu**	**25.49**	**11**	P	**P**	**05 19 04.6**	**+1.1**
	comp=Z,6.6nm,0.2s,baz=139,slow=12,SNR=2.9						
MSVF				S	**S**	**05 23 34.2**	**+3.2**
	comp=Z,6.5nm,0.9s,baz=151,slow=12,SNR=0.7						
MSVF				LR	LR	05 28 02.4	
	comp=Z,9μm,18.5s,baz=186,slow=34						
	comp=Z,6.6nm,0.2s						
MSVF	**Nonsavu**	**25.49**	**11**	IAMs_20	IAMs_20	05 28 01.1	
	comp=Z,10μm,18.0s						
MSVF	**Nonsavu**	**25.49**	**11**	*i* P	**P**	**05 19 04.1**	**+0.7**
MSVF				pmax	pmax		
	comp=Z,68nm,1.1s						
STKA	**Stephens Creek**	**27.10**	**284**	P	**P**	**05 19 17.9**	**+0.1**
	comp=Z,28nm,1.1s,baz=120,slow=10,SNR=19						
STKA				S	**S**	**05 23 53.1**	**-3.1**
	comp=Z,1.7nm,1.1s,baz=192,slow=23,SNR=0.9						
STKA				LR	LR	05 28 22.9	
	comp=Z,6μm,20.5s,baz=114,slow=33						
	comp=Z,28nm,1.1s						
STKA	**Stephens Creek**	**27.10**	**284**	P	**P**	**05 19 18.8**	**+0.9**
STKA	**Stephens Creek**	**27.10**	**284**	P	**P**	**05 19 18.0**	**+0.1**
BBOO	**Buckleboo**	**30.62**	**277**	P	**P**	**05 19 50.1**	**+0.9**
BBOO				IAmb	IAmb	05 19 57.2	
	comp=Z,65nm,1.4s						
RAR	**Rarotonga**	**31.43**	**55**	P	**P**	**05 19 59.0**	**+2.6**
	comp=Z,45nm,0.9s,baz=184,slow=9.5,SNR=5.1						
	comp=Z,45nm,0.9s						
RAR	**Rarotonga**	**31.43**	**55**	P	**P**	**05 19 59.0**	**+2.6**
CTA	**Charters Tower**	**31.96**	**307**	P	**P**	**05 20 00.3**	**-0.8**
	comp=Z,5.4nm,0.7s,baz=189,slow=8.0,SNR=3.7						
CTA				LR	LR	05 31 17.0	
	comp=Z,5μm,20.9s,baz=122,slow=34						
	comp=Z,5.4nm,0.7s						
VNDA	**Vanda**	**34.99**	**184**	P	**P**	**05 20 29.6**	**+2.7**
	comp=Z,4.1nm,1.1s,baz=12,slow=8.2,SNR=10.0						
VNDA				S	**S**	**05 26 00.1**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=25,slow=9.7,SNR=2.0						
VNDA				LR	LR	05 32 49.6	
	comp=Z,3μm,20.8s,baz=18,slow=33						
	comp=Z,4.1nm,1.1s						
VNDA	**Vanda**	**34.99**	**184**	P	**P**	**05 20 29.5**	**+2.6**
VNDA	**Vanda**	**34.99**	**184**	P	**P**	**05 20 29.5**	**+2.6**
VNDA				pmax	pmax		
	comp=Z,46nm,1.7s						
SBA	**Scott Base**	**35.12**	**182**	P	**P**	**05 20 31.1**	**+3.1**
SBA				IAmb	IAmb	05 20 36.1	
	comp=Z,76nm,1.4s						
SBA	**Scott Base**	**35.12**	**182**	P	**P**	**05 20 31.1**	**+3.1**
SBA				pmax	pmax		
	comp=Z,76nm,1.5s						
SBA				MLR	MLR		
	comp=Z,4μm,22.0s						
HNR	**Honiara**	**35.26**	**337**	LR	LR	05 33 51.8	
	comp=Z,53μm,18.6s,baz=164,slow=35						
TBI	**Tubuai**	**36.64**	**70**	*e*S	**S**	**05 26 28.2**	**+3.4**
	comp=Z,1μm,27.2s						
TBI				*e*LQ	LQ	05 29 01.1	
	comp=Z,6μm,22.5s						
TBI				*e*LR	LR	05 30 33.3	
	comp=Z,27μm,22.5s						
TBI				*e*LR	LR	05 30 34.6	
	comp=Z,6μm,23.5s						
TBI	**Tubuai**	**36.64**	**70**	*e*T	T	05 58 54.9	
	comp=Z,252nm,0.4s						
AS31	**Alice Springs**	**37.46**	**288**	P	**P**	**05 20 48.0**	**-0.6**
ASAR	**Alice Springs**	**37.46**	**288**	P	**P**	**05 20 47.8**	**-0.9**
	comp=Z,64nm,1.1s,baz=128,slow=7.2,SNR=29						
ASAR				PcP	**PcP**	**05 23 05.9**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=128,slow=4.3,SNR=1.2						
ASAR				S	**S**	**05 26 32.3**	**-5.1**
	comp=Z,0.3nm,0.4s,baz=127,slow=15,SNR=1.3						
	comp=Z,64nm,1.1s						
ASAR	**Alice Springs**	**37.46**	**288**	P	**P**	**05 20 48.0**	**-0.6**
FORT	**Forrest**	**37.50**	**274**	P	**P**	**05 20 49.0**	**+0.1**
FORT				IAmb	IAmb	05 20 52.1	
	comp=Z,129nm,1.4s						
WR0	**Warramunga Arr**	**39.51**	**293**	P	**P**	**05 21 05.5**	**-0.4**
WR0				IAmb	IAmb	05 21 08.9	
	comp=Z,261nm,2.0s						
WB2	**Warramunga Arr**	**39.64**	**293**	IAmb	IAmb	05 21 10.9	
	comp=Z,258nm,1.8s						
WRAB	**Tennant Creek**	**39.65**	**293**	P	**P**	**05 21 05.2**	**-1.8**
WRAB				IAmb	IAmb	05 21 10.9	
	comp=Z,265nm,1.8s						
WRAB	**Tennant Creek**	**39.65**	**293**	*i* P	**P**	**05 21 05.8**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,140nm,1.7s						
WRA	**Warramunga Arr**	**39.65**	**293**	P	**P**	**05 21 06.0**	**-1.1**
	comp=Z,8.4nm,0.7s,baz=133,slow=7.3,SNR=27						
WRA				PcP	**PcP**	**05 23 12.3**	**-1.7**
	comp=Z,2.9nm,1.1s,baz=146,slow=3.2,SNR=0.7						
WRA				ScP	**ScP**	**05 27 02.1**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=129,slow=5.1,SNR=2.9						
	comp=Z,8.4nm,0.7s						
WRA	**Warramunga Arr**	**39.65**	**293**	P	**P**	**05 21 06.1**	**-1.0**
WRA	**Warramunga Arr**	**39.65**	**293**	P	**P**	**05 21 06.1**	**-1.0**
WRA				pmax	pmax		
	comp=Z,10.0nm,1.8s						
WB0	**Warramunga Arr**	**39.74**	**293**	P	**P**	**05 21 06.7**	**-1.1**
WB0				IAmb	IAmb	05 21 11.8	
	comp=Z,185nm,1.7s						
PMG	**Port Moresby**	**40.30**	**318**	P	**P**	**05 21 11.8**	**-0.6**
	comp=Z,49nm,0.9s,baz=141,slow=3.7,SNR=8.5						
	comp=Z,49nm,0.9s						
PMG	**Port Moresby**	**40.30**	**318**	P	**P**	**05 21 12.8**	**+0.3**
PMG				IAmb	IAmb	05 21 19.2	
	comp=Z,53nm,0.9s						
PMG	**Port Moresby**	**40.30**	**318**	IAMs_20	IAMs_20	05 35 45.0	
	comp=Z,6μm,20.0s						
PMG	**Port Moresby**	**40.30**	**318**	P	**P**	**05 21 12.9**	**+0.5**
	comp=Z,65nm,0.9s						
PMG	**Port Moresby**	**40.30**	**318**	*ce*P	**P**	**05 21 13.1**	**+0.7**
PMG				pmax	pmax		
	comp=Z,153nm,2.5s						
PAE	**Paea**	**40.49**	**63**	*e*T	T	06 03 37.7	
	comp=Z,19nm,0.2s						
PPT2	**Papeete2**	**40.55**	**63**	*e*S	**S**	**05 27 27.3**	**+3.3**
	comp=Z,251nm,23.5s						
PPT2				*e*LQ	LQ	05 30 40.1	
	comp=Z,4μm,27.0s						
PPT2				*e*LR	LR	05 32 22.3	
	comp=Z,2μm,23.5s						
PPT2				*e*LR	LR	05 32 22.5	
	comp=Z,3μm,23.0s						
PPT2	**Papeete2**	**40.55**	**63**	*e*T	T	06 03 42.8	
	comp=Z,19nm,0.3s						
CASY	**Casey**	**40.69**	**213**	IAMs_20	IAMs_20	05 36 04.8	
	comp=Z,4μm,19.0s						
VAH	**Vaihoa**	**43.53**	**63**	*e*T	T	06 07 30.2	
	comp=Z,14nm,0.3s						
NWAO	**Narrogin (SRO)**	**44.36**	**264**	P	**P**	**05 21 46.1**	**+0.7**
	comp=Z,11nm,0.8s,baz=198,slow=4.1,SNR=4.5						
	comp=Z,11nm,0.8s						
NWAO	**Narrogin (SRO)**	**44.36**	**264**	P	**P**	**05 21 47.1**	**+1.8**
NWAO	**Narrogin (SRO)**	**44.36**	**264**	P	**P**	**05 21 46.6**	**+1.2**
NWAO				IAmb	IAmb	05 21 48.6	
	comp=Z,21nm,1.1s						
MTN	**Manton Dam**	**46.87**	**297**	P	**P**	**05 22 04.9**	**-0.5**
MTN				IAmb	IAmb	05 22 12.7	
	comp=Z,50nm,0.9s						
QSPA	**South Pole Qui**	**47.19**	**180**	P	**P**	**05 22 09.9**	**+2.4**
	comp=Z,16nm,1.0s,baz=14,slow=4.3,SNR=8.3						
	comp=Z,16nm,1.0s						
QSPA	**South Pole Qui**	**47.19**	**180**	P	**P**	**05 22 09.4**	**+1.9**
MORW	**Morawa**	**47.24**	**268**	P	**P**	**05 22 07.9**	**-0.3**
GENI	**Genyem**	**49.66**	**315**	P	**P**	**05 22 27.0**	**0.0**
	comp=Z,2μmcomp=Z,110nm,0.5s						
SAUI	**Saumlaki**	**50.43**	**301**	IAMs_20	IAMs_20	05 44 36.4	
	comp=Z,5μm,20.0s						
PATS	**Pohnpei**	**51.30**	**341**	IAMs_20	IAMs_20	05 45 53.3	
	comp=Z,3μm,19.0s						
	comp=Z,20nm,0.9s						
TAOE	**Nuku Hiva Isla**	**53.15**	**64**	*e*LR	LR	05 38 12.8	
	comp=Z,2μm,22.5s						
SOEI	**Soe**	**53.69**	**293**	P	**P**	**05 22 58.8**	**+1.5**
	comp=Z,1μmcomp=Z,95nm,1.4s						
BATI	**Baumata**	**53.78**	**292**	P	**P**	**05 22 58.8**	**+1.0**
	comp=Z,33nm,1.0s						
FAKI	**Fak Fak**	**53.82**	**306**	P	**P**	**05 22 57.3**	**-0.7**
FAKI				IAmb	IAmb	05 23 03.6	
	comp=Z,20nm,0.9s						
FAKI	**Fak Fak**	**53.82**	**306**	P	**P**	**05 22 57.2**	**-0.8**
	comp=Z,1μmcomp=Z,19nm,1.3s						
MSAI	**Masohi**	**55.49**	**303**	P	**P**	**05 23 11.2**	**+1.0**
	comp=Z,2μmcomp=Z,7.0nm,0.9s						
KRAI	**Karang Ratu**	**55.85**	**302**	P	**P**	**05 23 11.6**	**-1.1**
	comp=Z,6μmcomp=Z,12nm,0.6s						
MMRI	**Maumere**	**55.88**	**292**	IAMs_20	IAMs_20	05 49 34.9	
	comp=Z,3μm,18.0s						
MMRI	**Maumere**	**55.88**	**292**	P	**P**	**05 23 15.1**	**+2.2**
	comp=Z,60nm,0.7s						
SIJI	**Sorong**	**56.04**	**307**	P	**P**	**05 23 12.7**	**-1.4**
	comp=Z,684nmcomp=Z,28nm,1.7s						
SIJI				pP	**sP**	**05 23 19.7**	**+1.9**
	comp=Z,684nmcomp=Z,28nm,1.7s						
SWI	**Sorong**	**56.05**	**307**	P	**P**	**05 23 13.7**	**-0.5**
	comp=Z,61nm,0.8s						
NLAI	**Namlea**	**56.72**	**301**	P	**P**	**05 23 18.6**	**-0.3**
	comp=Z,45nm,1.2s						
BBSI	**Bau Bau**	**57.95**	**295**	P	**P**	**05 23 27.3**	**-0.4**
	comp=Z,802nmcomp=Z,27nm,0.7s						
MAW	**Mawson**	**57.98**	**205**	P	**P**	**05 23 29.4**	**+2.3**
	comp=Z,16nm,1.2s,baz=101,slow=16,SNR=2.5						
	comp=Z,16nm,1.2s						
BELA	**Belgrano 2**	**58.28**	**173**	P	**P**	**05 23 29.4**	**+0.2**
BELA				IAmb	IAmb	05 23 32.2	
	comp=Z,32nm,1.2s						
SANI	**Sanana**	**58.34**	**301**	P	**P**	**05 23 29.5**	**-0.8**
	comp=Z,1μmcomp=Z,49nm,1.9s						
LBMI	**Labuha**	**58.49**	**303**	P	**P**	**05 23 31.1**	**-0.3**
	comp=Z,3μmcomp=Z,133nm,1.9s						
DBNI	**Kabupaten Domp**	**58.67**	**289**	P	**P**	**05 23 32.0**	**-0.7**
	comp=Z,24nm,2.0s						
PLAI	**Plampang**	**58.81**	**288**	P	**P**	**05 23 34.2**	**+0.5**
	comp=Z,56nm,1.3s						
BSSI	**Bau Bau, Buton**	**58.87**	**293**	P	**P**	**05 23 32.7**	**-1.4**
	comp=Z,997nmcomp=Z,34nm,1.8s						
TWSI	**Taliwang, Sumb**	**59.50**	**288**	P	**P**	**05 23 39.2**	**+0.8**
	comp=Z,46nm,1.1s						
KKSI	**Kolaka, Sulawe**	**59.54**	**295**	P	**P**	**05 23 36.7**	**-2.0**
	comp=Z,29nm,1.4s						
TNTI	**Ternate**	**59.68**	**304**	P	**P**	**05 23 40.5**	**+0.8**
	comp=Z,3μmcomp=Z,43nm,0.7s						
BKSI	**Bulukumba**	**59.72**	**293**	P	**P**	**05 23 39.4**	**-0.5**
	comp=Z,475nmcomp=Z,20nm,0.9s						
KAPI	**Kappang**	**60.19**	**293**	IAMs_20	IAMs_20	05 52 33.2	
	comp=Z,2μm,18.0s						
BNSI	**Bone**	**60.40**	**294**	P	**P**	**05 23 45.3**	**+0.7**
	comp=Z,694nmcomp=Z,18nm,1.9s						
SMAI	**San Martin Ant**	**60.53**	**158**	IAmb	IAmb	05 23 49.2	
	comp=Z,51nm,1.3s						
SPSI	**Sidrap Palu**	**60.95**	**294**	P	**P**	**05 23 49.6**	**+1.2**
	comp=Z,5μmcomp=Z,24nm,1.2s						
RTBI	**Rangdo, Negare**	**61.05**	**286**	P	**P**	**05 23 47.3**	**-1.8**
	comp=Z,49nm,1.3s						
LUWI	**Luwuk**	**61.16**	**299**	P	**P**	**05 23 49.8**	**0.0**
LUWI	**Luwuk**	**61.16**	**299**	P	**P**	**05 23 49.4**	**-0.4**
	comp=Z,8μmcomp=Z,178nm,1.3s						
JAGI	**Jajag,

comp=Z,26nm,1.4s
UBPT Khong Chiam 84.63 296 P P 05 26 08.3 -0.5
MJAR Matsushiro Arr 85.20 333 P P 05 26 09.9 -1.3
comp=Z,2.9nm,0.7s,baz=161,slow=5.9,SNR=1.8
comp=Z,2.9nm,0.7s
TRQA Tornquist 85.20 140 P P 05 26 12.8 +1.2
TRQA IAmb IAmb 05 26 28.8
comp=Z,22nm,1.4s
TRQA IAMs_20 IAMs_20 05 57 31.9
comp=Z,2µm,20.0s
TRQA Tornquist 85.20 140 P P 05 26 12.8 +1.2
TRQA pmax pmax
comp=Z,22nm,1.4s
AC05 El Transito 87.97 128 IAmb IAmb 05 26 35.1
comp=Z,29nm,1.1s
GO03 Copiap 88.92 128 IAmb IAmb 05 26 34.7
comp=Z,20nm,1.1s
NJ2 Nanjing 89.59 317 *e*P **P 05 26 32.6 +0.1**
NJ2 pmax pmax
comp=Z,32nm,1.2s
NJ2 LR LR
comp=Z,1µm,15.5s
KSRS Korea Array 89.88 326 P P **05 26 33.1 -0.6**
comp=Z,7.0nm,0.8s,baz=151,slow=5.0,SNR=8.0
KSRS LR LR 06 04 04.1
comp=Z,423nm,20.7s,baz=150,slow=34
comp=Z,7.0nm,0.8s
KSAR Wonju Array Be 89.89 326 P P 05 26 33.6 -0.2
KSAR Wonju Array Be 89.89 326 P P 05 26 33.6 -0.2
PHRA Phrae 90.41 295 P P 05 26 36.1 -0.6
CMAR Chiang Mai Arr 91.24 294 P P 05 26 40.3 -0.3
comp=Z,1.6nm,0.4s,baz=152,slow=3.4,SNR=17
comp=Z,1.6nm,0.4s
CMAR Chiang Mai Arr 91.24 294 *c*e**P P 05 26 41.0 +0.4**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CHTO Chiang Mai 91.49 294 P P 05 26 41.1 -0.6
CHTO IAmb IAmb 05 26 45.7
comp=Z,18nm,1.4s
CHTO Chiang Mai 91.49 294 P P 05 26 41.1 -0.6
CHTO pmax pmax
comp=Z,19nm,1.4s
CHTO MLR MLR
comp=Z,600nm,20.0s
GYA Guiyang 92.07 305 ⇓ *i*P **P 05 26 46.3 +1.9**
GYA SKS **SKSac 05 37 19.8 +2.0**
GYA S **S 05 37 47.8 +0.9**
GYA SS **SS 05 43 59.9 +3.2**
GYA pmax pmax
comp=Z,180nm,3.7s
GYA LR LR
comp=Z,460nm,18.7s
GYA LR LR
comp=Z,630nm,25.3s
GYA LR LR
comp=Z,1µm,28.5s
YSS Yuzh-Sakhalins 93.42 340 IAMs_20 IAMs_20 06 05 02.7
comp=Z,1µm,20.0s
YSS Yuzh-Sakhalins 93.42 340 *i* P **P 05 26 51.1 +1.2**
YSS pmax pmax
comp=Z,10.0nm,1.1s
LVC Limon Verde 93.47 125 IAMs_20 IAMs_20 05 59 21.6
comp=Z,994nm,20.0s
KMI Kunming 93.51 301 ⇑P **P 05 26 54.8 +3.6**
KMI SKS **SKSac 05 37 26.8 +0.7**
KMI S **ScS 05 38 01.5 -0.1**
KMI SS **SS 05 44 21.0 +3.3**
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI LR LR
comp=Z,370nm,20.9s
KMI LR LR
comp=Z,340nm,19.2s
KMI LR LR
comp=Z,610nm,20.7s
TIA Tai'an 93.76 318 *e*P **P 05 26 51.6 -0.2**
TIA pmax pmax
comp=Z,19nm,1.1s
USRK Ussuriysk Ar. 94.17 332 P **P 05 26 54.0 +0.5**
comp=Z,1.6nm,0.3s,baz=132,slow=2.1,SNR=3.8
comp=Z,1.6nm,0.3s
USRK Ussuriysk Ar. 94.17 332 P **P 05 26 54.0 +0.5**
LYN LuoYang 94.85 314 *e*P **P 05 26 53.9 -2.9**
LYN LR LR
comp=Z,800nm,21.4s
LYN LR LR
comp=Z,840nm,23.0s
PZH PanZhiHua 95.13 302 P P 05 27 03.4 +4.9
PZH S **S 05 38 18.0 +4.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.7s
PZH LR LR
comp=Z,450nm,19.6s
PZH LR LR
comp=Z,380nm,19.6s
PZH LR LR
comp=Z,630nm,21.4s
SHEM Shemya Is, Ala 95.29 1 LR LR 06 04 29.4
comp=Z,1µm,21.7s,baz=135,slow=32
HNS HongShan 95.89 317 *e*P **P 05 27 06.1 +4.6**
HNS SKS **SKSac 05 37 42.5 +4.7**
HNS LR LR
comp=Z,550nm,16.7s
HNS LR LR
comp=Z,410nm,16.5s
HNS LR LR
comp=Z,750nm,22.9s
TNCH TengChong 96.13 298 ⇓P P 05 26 53.8 -9.4
CN2 Changchun 96.25 328 *e*P **P 05 27 05.3 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 97.05 306 P Pdif 05 27 10.0 +2.9
LPAZ La Paz 98.73 122 P Pdif 05 27 18.5 +2.7
comp=Z,0.9nm,0.7s,baz=190,slow=3.8,SNR=4.4
comp=Z,0.9nm,0.7s
MCCM Marconi Confer 99.50 46 IAMs_20 IAMs_20 06 08 46.9
comp=Z,1µm,19.0s
PFO Pinyon Flats O 99.80 53 IAMs_20 IAMs_20 06 06 49.2
comp=Z,1µm,20.0s
HHC Hu-ho-hao-te 100.11 317 *e*P **Pdif 05 27 22.8 +2.3**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,170nm,5.2s
HHC LR LR
comp=Z,730nm,22.7s
HHC LR LR
comp=Z,740nm,21.2s
HHC LR LR
comp=Z,2µm,19.5s
LZH Lanzhou 100.72 310 *e*P **Pdif 05 27 26.5 +3.0**
LZH PP **PP 05 31 32.9 +1.5**
LZH pmax pmax
comp=Z,15nm,1.4s
LZH LR LR
comp=Z,420nm,17.5s
LZH LR LR
comp=Z,400nm,15.5s
LZH LR LR
comp=Z,770nm,16.8s
CMB Columbia Colle 100.75 48 IAMs_20 IAMs_20 06 09 30.1
comp=Z,1µm,20.0s
ORV Oroville 101.27 46 IAMs_20 IAMs_20 06 10 11.6
comp=Z,852nm,20.0s
UNM Universidad Na 101.39 74 IAMs_20 IAMs_20 06 07 51.2
comp=Z,864nm,18.0s
PCHI Peechi 101.91 273 *e*P **Pdif 05 27 35.5 +6.4**
PCHI eS **Sdif 05 38 58.9 -13**
NVAR Mina Array Bea 102.18 48 P **Pdif 05 27 30.9 +1.0**
comp=Z,0.1nm,0.5s,baz=214,slow=7.7,SNR=1.6
NVAR PP **PP 05 31 43.4 +0.9**
comp=Z,0.1nm,0.3s,baz=185,slow=7.1,SNR=1.5
YBH Yreka Blue Hor 102.24 44 IAMs_20 IAMs_20 06 05 12.2
comp=Z,896nm,20.0s
TUC Tucson 102.31 57 IAMs_20 IAMs_20 06 07 36.1
comp=Z,914nm,19.0s
MOD Modoc Plateau 103.59 45 IAMs_20 IAMs_20 06 10 24.2
comp=Z,1µm,19.0s
WUAZ Wupatki 104.13 55 IAMs_20 IAMs_20 06 11 52.3
comp=Z,1µm,19.0s
EPT El Paso 104.64 60 IAMs_20 IAMs_20 06 09 06.7
comp=Z,840nm,20.0s
WVOR Wild Horse Val 104.84 45 IAMs_20 IAMs_20 06 12 20.2
comp=Z,1µm,20.0s
TXAR Lajitas Array 104.88 64 PKKPbc PKKPbc 05 43 24.2 +0.1
comp=Z,0.3nm,0.7s,baz=74,slow=4.8,SNR=5.8
JTS Las Juntas de 105.77 91 IAMs_20 IAMs_20 06 06 39.1
comp=Z,842nm,20.0s
Y22D IRIS PASSCAL I 105.89 58 IAMs_20 IAMs_20 06 10 02.0
comp=Z,1µm,19.0s
DUG Dugway, Tooele 106.46 50 IAMs_20 IAMs_20 06 15 58.3
comp=Z,929nm,18.0s
ANMO Albuquerque 106.75 58 IAMs_20 IAMs_20 06 10 21.7
comp=Z,1µm,20.0s
MVCO Mesa Verde 106.99 55 IAMs_20 IAMs_20 06 10 57.8
comp=Z,1µm,18.0s
GAMB Gambell 107.06 7 IAMs_20 IAMs_20 06 17 11.5
comp=Z,976nm,20.0s
HAWA Hanford 107.18 42 IAMs_20 IAMs_20 06 14 29.0
comp=Z,1µm,19.0s
BMO Blue Mountains 107.22 44 IAMs_20 IAMs_20 06 14 00.2
comp=Z,1µm,19.0s
HLID Hailey 107.86 47 IAMs_20 IAMs_20 06 13 55.1
comp=Z,786nm,19.0s
PLID Pearl Lake 108.06 45 IAMs_20 IAMs_20 06 13 07.3
comp=Z,1µm,20.0s
HWUT Hardware Ranch 108.11 50 IAMs_20 IAMs_20 06 12 19.9
comp=Z,934nm,20.0s
JCT Junction City 108.18 65 IAMs_20 IAMs_20 06 11 36.5
comp=Z,1µm,19.0s
ANM Home 108.50 10 IAMs_20 IAMs_20 06 12 28.8
comp=Z,1µm,21.0s
AHID Auburn Hatcher 109.13 49 IAMs_20 IAMs_20 06 14 41.9
comp=Z,1µm,19.0s
SDCO Great Sand Dun 109.15 56 P **PKiKP 05 32 09.7 +4.6**
baz=230
SMCO Snowmass 109.18 54 IAMs_20 IAMs_20 06 12 12.4
comp=Z,819nm,19.0s
PINM Pinnacle 109.59 23 P **PKiKP 05 32 07.3 +2.4**
baz=215
TPAW Teton Pass 109.69 49 IAMs_20 IAMs_20 06 15 18.6
comp=Z,1µm,19.0s
AMTX Amarillo 109.73 61 IAMs_20 IAMs_20 06 10 49.4
comp=Z,738nm,19.0s
FXWY Fox Creek 109.75 48 IAMs_20 IAMs_20 06 15 21.1
comp=Z,1µm,20.0s
J20K Nowinta River 109.88 15 IAMs_20 IAMs_20 06 12 25.2
comp=Z,888nm,21.0s
IMW Indian Meadow 109.96 48 IAMs_20 IAMs_20 06 15 16.7
comp=Z,909nm,20.0s
MOOW Moose Ponds 109.97 49 IAMs_20 IAMs_20 06 15 28.1
comp=Z,1µm,20.0s
BW06 Boulder Array 110.00 50 IAMs_20 IAMs_20 06 13 40.8
comp=Z,974nm,20.0s
PDAR Pinedale Array 110.00 50 PP **PP 05 32 39.8 -0.3**
comp=Z,0.2nm,0.5s,baz=199,slow=1.6,SNR=3.1
FLWY Flagg Ranch 110.22 48 IAMs_20 IAMs_20 06 15 46.5
comp=Z,927nm,20.0s
RND Reindeer 110.26 17 IAMs_20 IAMs_20 06 16 31.3
comp=Z,1µm,18.0s
MSO Missoula 110.29 44 IAMs_20 IAMs_20 06 09 38.4
comp=Z,1µm,22.0s
MCK McKinley 110.53 17 P **PKiKP 05 32 08.4 +1.9**
baz=209
RWWY Rawlins 110.64 52 IAMs_20 IAMs_20 06 12 12.1
comp=Z,750nm,20.0s
LKWY Lake 110.69 48 IAMs_20 IAMs_20 06 15 52.1
comp=Z,1µm,20.0s
BOZ Bozeman (W) 110.69 47 IAMs_20 IAMs_20 06 13 18.2
comp=Z,815nm,20.0s
NEA2 Nenana 111.25 17 IAMs_20 IAMs_20 06 13 58.7
comp=Z,1µm,21.0s
MLY Manley 111.30 16 IAMs_20 IAMs_20 06 20 02.0
comp=Z,703nm,18.0s
PHWY Pilot Hill 111.42 53 IAMs_20 IAMs_20 06 19 07.7
comp=Z,769nm,18.0s
H21K Melozitna Rive 111.47 15 IAMs_20 IAMs_20 06 20 15.2
comp=Z,1µm,19.0s
BRIGG Briggsdale 111.65 54 IAMs_20 IAMs_20 06 13 52.2
comp=Z,966nm,19.0s
RLMT Red Lodge 111.67 48 IAMs_20 IAMs_20 06 16 22.9
comp=Z,992nm,20.0s
I23K Minto, Yukon-K 111.68 16 IAMs_20 IAMs_20 06 14 25.0
comp=Z,1µm,21.0s
MDM Murphy Dome 111.75 17 IAMs_20 IAMs_20 06 13 51.8
comp=Z,985nm,20.0s
TCOL CIGO, UAF Yank 111.75 17 IAMs_20 IAMs_20 06 17 18.9
comp=Z,946nm,20.0s
COLA College 111.76 17 IAMs_20 IAMs_20 06 17 18.9
comp=Z,891nm,20.0s
ILAR Eielson Array 111.88 17 PKiKP **PKiKP 05 32 07.2 -1.8**
comp=Z,1.7nm,1.1s,baz=229,slow=5.3,SNR=6.3
ILAR PKKPbc **PKKPab 05 43 07.3 -0.2**
comp=Z,1.5nm,0.9s,baz=23,slow=3.3,SNR=11
POKR Poker Flat Res 112.06 17 IAMs_20 IAMs_20 06 19 33.9
comp=Z,1µm,19.0s
RDOG Red Dog Mine 112.15 10 IAMs_20 IAMs_20 06 26 57.0
comp=Z,1µm,19.0s
H23K Yukon River 112.24 16 IAMs_20 IAMs_20 06 15 05.7
comp=Z,1µm,22.0s
J26L Joseph Creek 112.40 19 IAMs_20 IAMs_20 06 14 57.1
comp=Z,1µm,21.0s
OK038 West end E0370 112.59 61 IAMs_20 IAMs_20 06 20 18.3
comp=Z,915nm,18.0s
OK035 E0210 Rd and N 112.75 61 IAMs_20 IAMs_20 06 19 51.5
comp=Z,808nm,18.0s
PRP Porcupine Dome 112.82 17 IAMs_20 IAMs_20 06 18 46.0
comp=Z,915nm,19.0s
M31M Drury Creek, Y 112.99 24 IAMs_20 IAMs_20 06 16 47.9
comp=Z,1µm,20.0s
OK029 Liberty Lake 113.01 62 IAMs_20 IAMs_20 06 12 18.4
comp=Z,1µm,20.0s
DAWY Dawson 113.08 21 P **PKiKP 05 32 12.4 +1.1**
baz=216
OK032 Salt Plains WL 113.13 61 IAMs_20 IAMs_20 06 20 48.5
comp=Z,936nm,18.0s
I26K Coal Creek Min 113.17 18 IAMs_20 IAMs_20 06 20 38.5
comp=Z,1µm,21.0s
EGMT Eagleton 113.24 45 IAMs_20 IAMs_20 06 15 50.3
comp=Z,936nm,20.0s
F22K John River 113.24 14 P **PKiKP 05 32 11.8 +0.2**
baz=207
FARO Faro, Yukon 113.33 24 P **PKiKP 05 32 14.1 +2.2**
baz=220
CBKS Cedar Bluff 113.37 58 IAMs_20 IAMs_20 06 14 24.8
comp=Z,1µm,19.0s
G24K Hadweenzic Riv 113.42 16 P **PKiKP 05 32 11.6 -0.3**
baz=211
RSSD Black Hills 113.98 51 IAMs_20 IAMs_20 06 14 30.3
comp=Z,1µm,20.0s
TUL1 Leonard 114.16 63 IAMs_20 IAMs_20 06 13 12.8
comp=Z,815nm,20.0s
LAO LASA Array 114.31 48 IAMs_20 IAMs_20 06 25 56.7
comp=Z,1µm,18.0s
I29M Ogilvie Camp, 114.40 20 IAMs_20 IAMs_20 06 17 10.0
comp=Z,791nm,21.0s
I29M Ogilvie Camp, 114.40 20 P **PKiKP 05 32 15.8 +2.0**
baz=217
E24K Your Creek 114.41 15 P **PKiKP 05 32 16.4 +2.6**
baz=210
F25K Christian Rive 114.56 16 P **PKiKP 05 32 15.3 +1.1**
baz=212
TOLK Toolik Lake Re 114.71 14 IAMs_20 IAMs_20 06 17 18.0
comp=Z,954nm,19.0s
TOLK Toolik Lake Re 114.71 14 P **PKiKP 05 32 17.5 +3.1**
baz=209
D23K Nanushuk River 114.80 14 P **PKiKP 05 32 18.9 +4.4**
baz=209
WMQ Urumqi 115.11 307 *e*PKP **PKiKP 05 32 18.6 +2.7**
WMQ LR LR
comp=Z,390nm,19.3s
WMQ LR LR
comp=Z,310nm,24.1s
WMQ LR LR
comp=Z,300nm,25.7s
SDV Santo Domingo 115.27 102 IAMs_20 IAMs_20 06 15 58.3
comp=Z,968nm,18.0s
KSU1 Kansas State U 115.51 60 IAMs_20 IAMs_20 06 15 33.4
comp=Z,786nm,19.0s
EPYK Eagle Plains 115.60 20 IAMs_20 IAMs_20 06 13 57.7
comp=Z,664nm,20.0s
G30M tAoh Zraii Nji 116.20 20 P **PKPdf 05 32 16.4 -0.9**
baz=219
HILA High Level 116.51 33 PKiKP 05 32 18.6 +0.5
C27K Jago River 116.66 16 P **PKPdf 05 32 16.8 -1.3**
baz=214
INK Inuvik 117.88 20 P **PKPdf 05 32 19.6 -0.8**
baz=222
ECSD EROS Data Cent 118.13 55 IAMs_20 IAMs_20 06 17 27.8
comp=Z,844nm,20.0s
ECSD EROS Data Cent 118.13 55 P **PKPdf 05 32 20.8 -0.8**
baz=236
CCM Cathedral Cave 118.37 63 IAMs_20 IAMs_20 06 16 21.3
comp=Z,1µm,20.0s
TIXI Tiksi 118.47 345 *i* PKiKP **PKPdf 05 32 18.6 -2.8**
DGZ Jazzator, Alta 118.62 312 *i* PKiKP **PKPdf 05 32 20.0 -2.6**
WVT Waverly 119.58 67 IAMs_20 IAMs_20 06 15 08.2
comp=Z,804nm,20.0s
WVT Waverly 119.58 67 P **PKPdf 05 32 23.4 -1.3**
baz=236
YKA Yellowknife Ar 119.88 31 PKP **PKPdf 05 32 23.1 -1.3**
comp=Z,6.7nm,0.9s,baz=241,slow=1.6,SNR=10.0
MKAR Makanchi Array 119.94 308 PKP **PKPdf 05 32 23.2 -1.9**
comp=Z,1.8nm,0.8s,baz=62,slow=2.0,SNR=7.3
KSH Kashi 119.95 298 PKP **PKiKP 05 32 26.6 +1.0**
KSH PP **PP 05 33 56.8 +6.5**
KSH SKS **SKSdf 05 39 37.1 -0.6**
KSH LR LR
comp=Z,330nm,19.7s
KSH LR LR
comp=Z,170nm,17.3s
KSH LR LR
comp=Z,600nm,24.7s
KMBO Kilima Mbogo 120.82 234 IAMs_20 IAMs_20 06 13 37.8
comp=Z,1µm,21.0s
AGMN Agassiz Nation 121.02 51 IAMs_20 IAMs_20 06 19 59.5
comp=Z,908nm,20.0s
C36M Paulatuk 121.07 22 P **PKPdf 05 32 24.9 -1.6**
baz=230
SDDR Presa de Saban 121.42 93 IAMs_20 IAMs_20 06 18 08.8
comp=Z,882nm,18.0s
WCI Wyandotte Cave 121.74 65 PKPdf **PKPdf 05 32 27.4 -1.4**
WCI Wyandotte Cave 121.74 65 P **PKPdf 05 32 28.5 -0.3**
baz=238
WCI Wyandotte Cave 121.74 65 PKIKP **PKPdf 05 32 27.4 -1.4**
ULM Lac du Bonnet 122.00 49 PKP **PKPdf 05 32 27.3 -1.6**
comp=Z,12nm,0.9s,baz=177,slow=1.5,SNR=6.5
ZALV Zalesovo Beam 122.23 316 PKP **PKPdf 05 32 27.1 -2.1**
comp=Z,1.1nm,0.7s,baz=90,slow=2.1,SNR=4.1
A36M Sachs Harbour 122.48 19 P **PKPdf 05 32 28.1 -1.1**
baz=230
AAK Ala-Archa 122.54 300 PKP **PKPdf 05 32 29.3 -1.1**
comp=Z,0.5nm,0.2s,baz=162,slow=6.4,SNR=1.9
EYMN Ely 123.38 53 IAMs_20 IAMs_20 06 19 30.0
comp=Z,810nm,20.0s
EYMN Ely 123.38 53 P **PKPdf 05 32 31.1 -0.5**
baz=241
O48B Farmland 123.55 64 P **PKPdf 05 32 32.1 -0.1**
baz=240
GRGR Grenville 123.89 106 IAMs_20 IAMs_20 06 19 13.6
comp=Z,916nm,20.0s
KURK Kurchatov 124.00 310 PKIKP **PKPdf 05 32 31.0 -1.7**
KURBB Kurchatov Arra 124.01 310 PKP **PKPdf 05 32 31.0 -1.7**
comp=Z,2.9nm,0.8s,baz=117,slow=1.8,SNR=12
D41A Chassel 124.70 55 PKPdf 05 32 32.6 -1.6
RCBR Riachuelo 124.85 144 IAMs_20 IAMs_20 06 21 58.8
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 124.97 65 IAMs_20 IAMs_20 06 25 43.1
comp=Z,723nm,19.0s
ACSO Alum Creek Sta 124.97 65 P **PKPdf 05 32 33.4 -1.6**
baz=240
BLA Blacksburg 125.20 69 P **PKPdf 05 32 35.0 -0.5**
baz=239
P52A Corning 125.25 66 IAMs_20 IAMs_20 06 26 10.3
comp=Z,830nm,20.0s
KKAR Karatay Array 125.31 299 PKPdf **PKPdf 05 32 33.9 -1.6**
KKAR Karatay Array 125.31 299 PKIKP **PKPdf 05 32 33.9 -1.6**
LODK Lodwar 125.56 236 IAMs_20 IAMs_20 06 17 32.7
comp=Z,848nm,20.0s
MPOM Morne Pois Mar 126.03 105 IAMs_20 IAMs_20 06 22 09.5
comp=Z,760nm,20.0s
O53A New Philadelph 126.16 66 P **PKPdf 05 32 36.9 -0.3**
baz=241
SEUS St. Eustatius 126.53 100 IAMs_20 IAMs_20 06 19 56.8
comp=Z,696nm,21.0s
E46A Sault Ste Mari 127.00 58 PKPdf 05 32 36.5 -2.1
FURI Furi 127.66 243 IAMs_20 IAMs_20 06 19 08.7
comp=Z,831nm,20.0s
CBN Corbin Frederi 127.79 70 IAMs_20 IAMs_20 06 23 26.6
comp=Z,744nm,20.0s
NRIK Noril'sk 127.85 333 PKP **PKPdf 05 32 38.1 -1.4**
comp=Z,2.0nm,0.4s,baz=132,slow=2.7,SNR=2.2
NRIK Noril'sk 127.85 333 *i* PKIKP **PKPdf 05 32 38.3 -1.2**
SSPA Standing Stone 128.58 67 IAMs_20 IAMs_20 06 23 56.7
comp=Z,748nm,18.0s
BVAR Borovoye Array 129.60 310 PKP **PKPdf 05 32 42.2 -1.1**
comp=Z,2.0nm,0.6s,baz=164,slow=2.6,SNR=9.4
BRVK Borovoye 129.67 310 PKPdf **PKPdf 05 32 42.8 -0.6**
BRVK Borovoye 129.67 310 *i* PKIKP **PKPdf 05 32 42.2 -1.3**
GEYT Alibeck 131.26 287 PKP **PKiKP 05 32 47.9 -0.1**
comp=Z,5.2nm,0.9s,baz=212,slow=5.1,SNR=6.0
GEYT SKPbc **SKPbc 05 36 10.2 -1.9**
comp=Z,3.1nm,0.8s,baz=116,slow=3.4,SNR=4.3
RES Resolute Bay 131.42 21 PKPdf **PKPdf 05 32 45.1 -1.0**
RES Resolute Bay 131.42 21 PKIKP **PKPdf 05 32 45.1 -1.0**
ABKAR Akbulak array 134.50 302 PKPdf **PKPdf 05 32 51.7 -1.0**
ARU Arti 137.13 312 *i* PKIKP **PKPdf 05 32 54.1 -3.3**
TULEG Thule 137.83 18 IAMs_20 IAMs_20 06 34 39.9
comp=Z,628nm,21.0s
BELG Belogornoye 142.81 304 *i* PKIKP **PKPdf 05 33 03.7 -4.1**
ZEI Tsey 143.13 288 *i* PKIKP **PKPdf 05 33 10.2 +1.2**
ZEI pmax pmax
comp=Z,5.0nm,1.1s
LIC Lamto 143.40 183 ⇓ *i*P **PKPdf 05 33 09.7 -0.4**
comp=Z,24nm,0.6s
SPITS Spitsbergen Ar 143.43 352 PKIKP PKPbc 05 33 06.0 +0.5
KIC Kosan Boka 143.52 184 ⇑ *i*P PKPbc 05 33 08.1 +0.6
comp=Z,6.2nm,0.4s
TIC Toumodi 143.81 183 ⇑ *e*P **PKPdf 05 33 10.8 -0.1**
comp=Z,4.5nm,0.2s
DBIC Dimbokro 143.83 184 PKP PKPbc 05 33 08.6 +0.2
comp=Z,20nm,1.2s,baz=170,slow=3.8,SNR=11
PRGR Permogore 144.00 320 *e*PKIKP PKPab 05 33 06.9 -0.1
PRGR pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 144.11 289 PKP PKPbc 05 33 08.4 0.0
comp=Z,5.9nm,0.8s,baz=138,slow=2.7,SNR=7.9
KIV Kislovodsk 144.32 289 *i* PKIKP **PKiKP 05 33 13.0 -1.5**
KIV pmax pmax
comp=Z,14nm,1.1s
DRLN Deer Lake 144.99 62 PKPdf **PKPdf 05 33 11.5 -0.2**
MMAI Mount Meron Ar 145.43 268 PKPbc **PKPbc 05 33 13.0 -0.1**
comp=Z,151nm,1.2s,baz=110,slow=4.5,SNR=21
DAG Danmarks Havn 145.70 5 *i* P **PKPdf 05 33 08.4 -3.8**
SOC Sochi 146.29 287 *e*PKIKP **PKPdf 05 33 12.3 -1.8**
SOC *i* 05 33 16.2
SOC *e*SS SS 05 55 37.4 +1.7
SOC *e*SSS SSS 06 01 08.1
VRH Novokhopyorsk 146.32 301 *e*PKP2 **PKPdf 05 33 13.8 -0.1**
VRH pmax pmax
comp=Z,70nm,1.1s
SFJD Kangerlussuaq 146.43 29 PKPdf 05 33 13.7 +0.1
SFJD Kangerlussuaq 146.43 29 PKP2 **PKPdf 05 33 13.7 +0.1**
LVZ Lovozero 146.69 333 PKPdf 05 33 14.0 -0.1
LVZ Lovozero 146.69 333 *i* PKIKP **PKPdf 05 33 12.4 -1.7**
SUMG Summit 146.72 17 *i* P **PKPbc 05 33 15.4 -0.9**
KLMR Klimovskoe 147.04 319 *e*PKPdf **PKPdf 05 33 14.3 -0.5**
KLMR AMP 05 33 22.3
comp=Z,119nm,1.1s
KLMR *e*PP **PP 05 36 44.3 +2.0**
KLMR Klimovskoe 147.04 319 *e*PKIKP **PKPdf 05 33 14.3 -0.5**
KLMR *e* 05 36 44.2
KLMR pmax pmax
comp=Z,119nm,1.1s
VADS Vadso 147.14 338 *e*P **PKPdf 05 33 15.6 +0.9**
VADS IAmb IAmb 05 33 20.3
comp=Z,20nm,0.6s
CSS Mathiatis 147.86 269 IAMs_20 IAMs_20 06 38 34.8
comp=Z,558nm,21.0s
VORR Voronezh 147.92 302 *e*PKP2 **PKPbc 05 33 19.1 -0.5**
VORR pmax pmax
comp=Z,63nm,0.4s
VSR Storozhevoye 147.92 301 *e*PKIKP **PKPdf 05 33 16.1 -0.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
DBG Daneborg 147.96 7 *i* P **PKPbc 05 33 18.4 -0.7**
KEV Kevo 148.00 338 PKPdf **PKPdf 05 33 17.2 +1.0**
KEV Kevo 148.00 338 PKIKP **PKPdf 05 33 17.2 +1.0**
LPSR Galich'ya Gora 148.12 304 *e*PKIKP **PKPdf 05 33 17.2 +0.3**
LPSR pmax pmax
comp=Z,80nm,1.7s
DY2G Dye2 148.21 29 *i* P **PKPdf 05 33 18.4 +1.4**
HAMF Hammerfest 148.25 341 *e*P **PKPbc 05 33 18.5 -1.4**
HAMF IAmb IAmb 05 33 21.2
comp=Z,16nm,0.9s
ARA0 ARCESS Array S 148.55 339 *e*P **PKPbc 05 33 19.6 -1.2**
ARA0 IAmb IAmb 05 33 21.6
comp=Z,12nm,0.5s
ARCES ARCESS Array B 148.55 339 PKPbc **PKPbc 05 33 19.4 -1.3**

comp=Z,11nm,0.5s,baz=63,slow=2.5,SNR=42
ARCES **ARCESS Array B 148.55 339** PKPdf **PKPdf 05 33 18.6 +1.5**
MOS **Moscow 148.78 310** *e*PKIKP **PKPdf 05 33 18.6 +0.8**
MOS pmax pmax
comp=Z,41nm,0.8s
ICESG **Greenland Ices 148.82 22** *i* P **PKPdf 05 33 16.4 -1.6**
TORD **Torodi Ar. Bea 149.38 197** PKP **PKPdf 05 33 19.8 -0.3**
comp=Z,26nm,1.1s,baz=126,slow=2.0,SNR=18
TORD PKPbc **sPKPdf 05 33 24.1 +0.2**
comp=Z,26nm,1.1s,baz=170,slow=2.0,SNR=14
OBN **Obninsk 149.43 309** PKPbc **05 33 22.3 -1.1**
OBN **Obninsk 149.43 309** *e*PKIKP **PKPdf 05 33 18.6 -0.3**
OBN *e*SS SS 05 56 06.6 -3.7
OBN pmax pmax
comp=Z,41nm,1.1s
BR131 **Keskin Array S 149.49 278** **PKPbc 05 33 22.9 -1.4**
BR131 **Keskin Array S 149.49 278** PKP2 **PKPbc 05 33 22.9 -1.4**
BRTR **Keskin Array B 149.49 278** *e*PKPbc **PKPbc 05 33 22.9 -1.4**
comp=Z,8.8nm,0.6s,baz=145,slow=3.0,SNR=20
BRTR **Keskin Array B 149.49 278***c* *i*PKP2 **PKPbc 05 33 23.2 -1.1**
BRTR pmax pmax
comp=Z,9.0nm,0.6s
KTK1 **Kautokeino 149.50 339** *e*P **PKPbc 05 33 21.0 -2.2**
KTK1 IAmb IAmb 05 33 23.6
comp=Z,10nm,0.7s
TRO **Tromso 150.10 342** *e*P **PKPbc 05 33 22.7 -1.9**
TRO IAmb IAmb 05 33 25.8
comp=Z,18nm,0.9s
ANTO **Ankara 150.16 278** **PKPbc 05 33 25.5 -0.3**
ANTO **Ankara 150.16 278** PKIKP **PKPbc 05 33 25.5 -0.3**
SIM **Simferopol' 150.52 288** *i* PKIKP **PKPdf 05 33 22.7 +1.7**
SIM pmax pmax
comp=Z,33nm,1.1s
NRS **Narsarsuaq 150.78 38** **PKPbc 05 33 25.0 -1.4**
NRS **Narsarsuaq 150.78 38** PKIKP **PKPbc 05 33 25.0 -1.4**
ISP **Isparta 151.10 273** IAMs_20 IAMs_20 06 40 51.1
comp=Z,492nm,20.0s
SCO **Scoresbysund 151.37 10** **PKPbc 05 33 26.2 -1.4**
SCO **Scoresbysund 151.37 10** PKIKP **PKPbc 05 33 26.2 -1.4**
STEI **Steigen 152.27 342** *e*P **PKPbc 05 33 27.9 -1.8**
STEI IAmb IAmb 05 33 31.1
comp=Z,22nm,0.7s
LOF **Lofoten 152.48 343** *e*P **PKPbc 05 33 27.8 -2.3**
LOF IAmb IAmb 05 33 32.2
comp=Z,52nm,1.3s
KARP **Karpathos 152.64 266** **PKPbc 05 33 29.4 -2.2**
FAUS **Fauske 152.70 341** *e*P **PKPbc 05 33 28.8 -1.9**
FAUS IAmb IAmb 05 33 31.1
comp=Z,37nm,1.4s
FINES **FINESS Array B 152.97 325** PKPbc **PKPbc 05 33 29.8 -1.6**
comp=Z,4.3nm,0.5s,baz=35,slow=4.3,SNR=12
MOR8 **Moi Rana 153.87 340** *e*P **PKPbc 05 33 31.1 -2.2**
IDI **Anoyia 154.19 264** PKPbc **PKPbc 05 33 34.8 -0.3**
comp=Z,9.2nm,0.5s,baz=127,slow=4.2,SNR=15
IDI **Anoyia 154.19 264** IAMs_20 IAMs_20 06 54 48.4
comp=Z,442nm,20.0s
AKASG **Malin Array Be 154.20 300** PKP **PKPdf 05 33 27.4 +1.2**
comp=Z,1.7nm,0.6s,baz=71,slow=3.1,SNR=3.8
AKASG PKPbc **PKPbc 05 33 33.1 -1.4**
comp=Z,5.8nm,0.9s,baz=73,slow=3.0,SNR=4.5
AKBB **Malin Array Si 154.20 300** **PKPbc 05 33 32.1 -2.3**
AKBB **Malin Array Si 154.20 300** PKIKP **PKPbc 05 33 32.1 -2.3**
MNK **Minsk 154.49 309** *i* PKP **PKPdf 05 33 24.5 -2.0**
comp=E,4.0nm,0.8s
MNK *i* PKP **PKPdf 05 33 24.5 -2.0**
comp=N,21nm,0.8s
MNK *i* PKP **PKPdf 05 33 24.5 -2.0**
comp=Z,10.0nm,0.7s,baz=257
MNK *i* PKiKP **PKPbc 05 33 33.6 -1.3**
MNK *i* PKiKP **PKPbc 05 33 33.6 -1.3**
MNK *i* PKiKP **PKPbc 05 33 33.6 -1.3**
MNK *i* PP **PP 05 37 23.0 -2.4**
MNK *i* SKS **SKSdf 05 40 31.4 -1.6**
MNK *i* PPP PPP 05 40 52.4
MNK *i* SKKS **SKKSdf 05 49 10.5 -1.9**
MNK *i* SS **SS 05 57 04.5 -1.6**
MNK *i* SSS SSS 06 02 57.2
MNK *i* LR LR 06 42 16.6
MNK *i* LRM MLR 06 45 48.7
comp=E,130nm,18.4s
MNK *i* LRM MLR 06 46 47.8
comp=N,979nm,21.6s
MNK *i* LRM MLR 06 46 52.3
comp=Z,805nm,21.6s
MNK Minsk 154.49 309 *i* PKIKP **PKPdf 05 33 24.5 -2.0**
MNK *i* 05 37 22.9
MNK *i* 05 40 31.4
MNK *i* PPP PPP 05 40 52.3
MNK *i* SS SS 05 57 04.5 -1.6
MNK *i* SSS SSS 06 02 57.1
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,21nm,0.8s
NACGM **Naroch 155.02 310** *e*PKP **PKPdf 05 33 25.7 -1.5**
comp=Z,17nm,0.8s,baz=75
MLR **Muntele Rosu 156.31 288** IAMs_20 IAMs_20 06 55 02.0
comp=Z,780nm,22.0s
TAM **Tamanrasset 157.36 211** PKPdf **PKPdf 05 33 31.6 0.0**
TAM IAMs_20 IAMs_20 06 41 29.2
comp=Z,667nm,20.0s
TAM **Tamanrasset 157.36 211** PKIKP **PKPdf 05 33 31.6 0.0**
NB2 **NORSAR Subarra158.80 335** PKPab **PKPab 05 34 05.5 -2.4**
baz=38,slow=5.1
NB2 **NORSAR Subarra158.80 335** PKP **PKPab 05 34 05.5 -2.4**
comp=Z,11nm,1.1s,baz=38,slow=5.1
NOA **NORSAR Array B158.80 335** PKPab **PKPab 05 34 05.5 -2.4**
comp=Z,1.9nm,0.6s,baz=40,slow=4.6,SNR=8.3
STHS **Stebnicka Huta 159.45 298** *e*PKP **PKPab 05 34 12.4 +1.3**
STHS **Stebnicka Huta 159.45 298** *e*PKP2 **PKPab 05 34 12.4 +1.3**
MODS **Modra-Piesok 162.19 296** *e*PKP **PKPdf 05 33 39.4 +3.3**
MODS **Modra-Piesok 162.19 296** *e*PKIKP **PKPdf 05 33 39.4 +3.3**
BRG **Berggiesshubel 163.65 306** *i* PKP2 **PKPab 05 34 29.4 0.0**
BRG pmax pmax
comp=Z,19nm,1.1s
CLL **Collm 164.03 309** *e*PKPdf **PKPdf 05 33 40.0 +2.3**
CLL *i* PKPab **PKPab 05 34 30.0 -1.0**
comp=Z,19nm,1.2s
CLL *i* pPKPab **pPKPab 05 34 33.8 0.0**
CLL *i* x x 05 35 10.5
CLL *e*x x 05 56 42.0
CLL *e*SS SS 05 59 00.0 +13
CLL *e*PSS PSS 05 59 54.0
CLL *e*SSS SSS 06 05 00.0
CLL *e*x x 06 10 12.0
CLL LmV 06 54 00.0
comp=N,400nm,20.5s
CLL LmV 06 54 00.0
comp=E,300nm,21.2s
CLL LmV 06 54 00.0
comp=Z,800nm,21.0s
CLL **Collm 164.03 309** PKP2 **PKPab 05 34 30.8 -0.2**
GERES **GERESS Array B 164.42 299** PKP **PKPdf 05 33 39.4 +1.1**
comp=Z,0.2nm,0.4s,baz=34,slow=2.5,SNR=2.0
GERES PKPab **PKPab 05 34 31.8 -1.2**
comp=Z,0.4nm,0.5s,baz=67,slow=4.5,SNR=6.5
KEST **Kesra 165.44 246** PKPab **PKPab 05 34 38.3 +0.5**
comp=Z,13nm,1.1s,baz=204,slow=3.1,SNR=4.9
KEST **Kesra 165.44 246** PKPab **PKPab 05 34 36.8 -1.0**
CIMO **Cimolais 165.72 290** **PKPab 05 34 38.1 -0.7**
ESDC **Sonseca Array 176.00 216** PKP **PKPdf 05 33 44.1 -1.0**
comp=Z,3.6nm,1.1s,baz=65,slow=1.7,SNR=8.0
ESDC PKPab **PKPab 05 35 24.6 +0.3**
comp=Z,1.7nm,1.1s,baz=146,slow=2.5,SNR=3.1

IDC ***22*** *05:17:35.0±0.7, 37.˚17N×141.˚40E, h0km, mb3.7/15, mbtmp3.8/18, ML3.0/3, MS3.7/2, Error ellipse: s-maj=18.3km s-min=16.8km az=103.0*
NIED ***22*** *05:17:37.6, 37.˚20N×141.˚33E, h22km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.35; $M_{\theta\theta}$2.11; $M_{\phi\phi}$2.24; $M_{r\theta}$0.65; $M_{\theta\phi}$2.67; $M_{r\phi}$0.90; Fault plane solution: $M_0$4.73000×10^{14} NP1:ϕ_s47.00000°, δ38.00000°, λ-86.00000°. NP2:ϕ_s222.00000°, δ52.00000°, λ-93.00000°.*
JMA ***22*** *05:17:37.6±0.1, 37.˚2N±0.˚3×141.˚3E±0.˚7, h22km±1km, MD4.2/40, MV4.0/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 22 05:17:37.1±1.8, 37.˚18N±0.˚05×141.˚33E±0.˚07, h13km±10km, n45, σ0.˚71/33, mb3.7/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.41**	**297**	*i* P	**Pb**	**05 17 45.6**	**-0.6**
JFK				S	**Sb**	**05 17 51.6**	**-0.9**
JFFD	**Fukushimafurud**	**0.62**	**262**	*i* P	**Pb**	**05 17 49.5**	**-0.3**
JFFD				S	**Sg**	**05 17 58.0**	**+0.4**
JFFD	**Fukushimafurud**	**0.62**	**262**	A	A	05 17 49.5	
	comp=E,5.0nm,1.6s,comp=E,5.0nm,2.2s						
JMST	**Minamisoumatoc**	**0.65**	**327**	*i* P	**Pb**	**05 17 49.7**	**-0.7**
JMST				S	**Sb**	**05 17 58.7**	**-0.6**
JMST	**Minamisoumatoc**	**0.65**	**327**	A	A	05 17 49.7	
	comp=E,4.0nm,1.3s,comp=E,8.0nm,0.3s						
JMM	**Marumori**	**0.81**	**328**	*i* P	**Pb**	**05 17 52.4**	**-0.6**
JMM				S	**Sb**	**05 18 03.4**	**-0.5**
JMM	**Marumori**	**0.81**	**328**	A	A	05 17 52.4	
	comp=E,6.0nm,1.4s,comp=E,5.0nm,0.3s						
JHO	**Hitachi**	**0.83**	**227**	*i* P	**Pg**	**05 17 52.8**	**-0.4**
JHO				*e*S	**Sg**	**05 18 04.1**	**-0.1**
JSB	**Shiboa**	**1.15**	**260**	P	**Pg**	**05 17 59.3**	**+0.1**
JSB				S	**Sn**	**05 18 14.9**	**+0.3**
JSB	**Shiboa**	**1.15**	**260**	A	A	05 17 59.3	
	comp=E,9.0nm,2.0s,comp=E,6.0nm,0.9s						
JYAR	**Yonezawaarcadi**	**1.20**	**308**	A	A	05 17 58.8	
	comp=E,31nm,0.8s,comp=E,25nm,0.8s						
JOU	**Okura**	**1.30**	**336**	A	A	05 18 00.4	
	comp=E,7.0nm,1.1s,comp=E,9.0nm,0.9s						
JFY	**Yanaizu**	**1.32**	**280**	A	A	05 18 00.8	
	comp=E,5.0nm,0.4s,comp=E,5.0nm,0.7s						
JYS	**Shirataka**	**1.45**	**316**	A	A	05 18 02.8	
	comp=E,16nm,0.8s,comp=E,16nm,0.7s						
JOFO	**Osakifurukawao**	**1.46**	**347**	A	A	05 18 02.9	
	comp=E,29nm,0.9s,comp=E,18nm,1.6s						
JYA	**Atsumi**	**1.91**	**318**	A	A	05 18 09.4	
	comp=E,11nm,0.9s,comp=E,10.0nm,1.0s						
MJAR	**Matsushiro Arr**	**2.59**	**257**	Pn	**Pn**	**05 18 19.2**	**+0.5**
	1.1nm,0.3s,baz=76,slow=15,SNR=4.6						
MJAR				Sn	**Sb**	**05 18 53.8**	**-1.2**
	1.5nm,0.3s,baz=32,slow=17,SNR=2.0						
	9.4nm,0.4s						
JHJ	**Hachijo jima 2**	**4.25**	**198**	Pn	**Pn**	**05 18 42.2**	**+0.7**
	7.7nm,0.3s,baz=61,slow=16,SNR=9.5						
JHJ				Sn	**Sn**	**05 19 31.5**	**+0.6**
	12nm,0.3s,baz=90,slow=20,SNR=1.4						
	216nm,0.9s						
USRK	**Ussuriysk Ar.**	**9.97**	**318**	Pn	**Pn**	**05 20 01.9**	**+1.9**
	0.1nm,0.3s,baz=214,slow=20,SNR=1.8						
USRK				LR	LR	05 23 33.5	
	comp=Z,95nm,20.5s,baz=331,slow=36						
	1.2nm,0.6s						
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**05 23 24.9**	**+0.3**
	0.8nm,7s,baz=124,slow=7.5,SNR=3.2						
	0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy 28.28**	**121**		T	T	05 53 01.5	
	baz=314,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy 28.29**	**121**		T	T	05 53 02.5	
	baz=314,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy 28.30**	**121**		T	T	05 53 03.2	
	baz=314,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy 28.99**	**123**		T	T	05 53 52.8	
	baz=315,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy 28.99**	**123**		T	T	05 53 54.8	
	baz=315,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy 29.01**	**123**		T	T	05 54 00.4	
	baz=315,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**41.77**	**312**	P	**P**	**05 25 26.0**	**+0.1**
	0.6nm,0.4s,baz=106,slow=11,SNR=1.9						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**05 25 44.1**	**+0.1**
	0.9nm,0.8s,baz=96,slow=7.6,SNR=4.7						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**45.86**	**308**	P	**P**	**05 25 58.6**	**-0.2**
	1.7nm,0.7s,baz=83,slow=8.0,SNR=8.1						
	1.7nm,0.7s						
ILAR	**Eielson Array**	**49.41**	**32**	P	**P**	**05 26 26.8**	**+0.6**
	0.7nm,0.7s,baz=265,slow=6.2,SNR=7.9						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**50.43**	**312**	P	**P**	**05 26 35.6**	**+1.5**
	0.4nm,0.5s,baz=95,slow=3.0,SNR=2.8						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**05 27 23.6**	**-0.4**
	0.7nm,0.6s,baz=4.3,slow=7.3,SNR=9.7						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**60.92**	**188**	P	**P**	**05 27 49.4**	**-0.4**
	0.4nm,0.6s,baz=12,slow=9.7,SNR=2.5						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**63.84**	**339**	P	**P**	**05 28 08.5**	**-0.3**
	1.2nm,0.8s,baz=58,slow=12,SNR=5.3						
	1.2nm,0.8s						
FINES	**FINESS Array B**	**68.66**	**332**	P	**P**	**05 28 39.4**	**-0.3**
	1.6nm,0.7s,baz=21,slow=6.3,SNR=1.7						
	1.6nm,0.7s						
AKASG	**Malin Array Be**	**74.14**	**322**	P	**P**	**05 29 12.3**	**-0.7**
	0.5nm,0.5s,baz=45,slow=6.7,SNR=4.4						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**74.95**	**53**	P	**P**	**05 29 17.6**	**-0.7**
	0.6nm,0.8s,baz=300,slow=3.8,SNR=3.9						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**77.61**	**45**	P	**P**	**05 29 33.6**	**+0.2**
	0.3nm,0.6s,baz=256,slow=5.0,SNR=3.5						
	0.3nm,0.6s						
GERES	**GERESS Array B**	**82.55**	**328**	P	**P**	**05 29 59.6**	**-0.2**
	0.3nm,0.4s,baz=22,slow=11,SNR=1.7						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**90.08**	**52**	P	**P**	**05 30 37.4**	**+0.3**
	0.2nm,0.6s,baz=289,slow=3.4,SNR=3.7						
	0.2nm,0.6s						
TKL	**Tuckaleechee C**	**96.31**	**35**	LR	LR	06 20 38.0	
	comp=Z,152nm,18.4s,baz=244,slow=39						
LPAZ	**La Paz**	**146.67**	**59**	PKPbc	**PKPab**	**05 37 20.0**	**-1.0**
	0.5nm,0.5s,baz=286,slow=0.9,SNR=6.0						
H03N2	**Juan Fernandez**	**147.10**	**96**	T	T	08 21 38.7	
	baz=291,slow=76,SNR=9.2						
H03N3	**Juan Fernandez**	**147.11**	**96**	T	T	08 21 45.2	
	baz=291,slow=76,SNR=10.0						
H03N1	**Juan Fernandez**	**147.12**	**96**	T	T	08 21 47.9	
	baz=291,slow=76,SNR=9.5						

WEL 22 05:21:07.2±0.3, 43.˚S±2.˚×17.˚3E±.˚, h5km±2km, M3.6/25, ML3.8/18, MLv3.6/25, Error ellipse: s-maj=0.0km s-min=0.0km az=120.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.08**	**115**	P	Pg	05 21 09.2	+0.2
AMCZ	**Amberley**	**0.32**	**220**	P	Pb	05 21 14.4	-1.0
AMCZ				S	Sb	05 21 20.1	-0.7
LTZ	**Lake Taylor**	**0.51**	**287**	P	Pg	05 21 17.2	+0.3
KHZ	**Kahutara**	**0.68**	**41**	P	Pg	05 21 20.7	+0.4
OXZ	**Oxford**	**0.76**	**239**	P	Pb	05 21 22.4	-0.5
OKCZ	**Okains Bay**	**0.80**	**173**	P	Pb	05 21 23.3	-0.2
MQZ	**McQueen's Vall**	**0.80**	**195**	P	Pg	05 21 22.5	0.0
AKCZ	**Akaroa Harbour**	**0.94**	**181**	P	Pg	05 21 25.0	-0.1
RACZ	**Rakaia**	**0.98**	**216**	P	Pg	05 21 25.8	-0.2
INZ	**Inchbonnie**	**1.11**	**280**	P	Pb	05 21 28.8	-0.1
MHCZ	**Mount Hutt**	**1.16**	**239**	P	Pg	05 21 28.5	-1.0
THZ	**Tophouse**	**1.17**	**359**	P	Pg	05 21 28.9	-0.6
WACZ	**Wakanui South**	**1.29**	**218**	P	Pn	05 21 29.6	-2.1
BSWZ	**Blackbirch Sta**	**1.40**	**30**	P	Pn	05 21 32.6	-0.7
DSZ	**Denniston Nort**	**1.45**	**324**	P	Pn	05 21 33.6	-0.4
CMWZ	**Cape Campbell**	**1.52**	**39**	P	Pg	05 21 36.7	+0.5
MRNZ	**Matariki Terra**	**1.54**	**355**	P	Pn	05 21 35.1	-0.1
WVZ	**Waitaha Valley**	**1.62**	**264**	P	Pn	05 21 35.9	-0.3
TUWZ	**Tuamarina**	**1.68**	**27**	P	Pn	05 21 36.1	-1.0
NNZ	**Nelson**	**1.75**	**11**	P	Pn	05 21 37.7	-0.3
TKNZ	**Takaka Hill**	**1.90**	**1**	P	Pn	05 21 40.1	0.0
GCSZ	**Gaunt Creek Bo**	**1.95**	**258**	P	Pn	05 21 40.9	+0.1
TCW	**Tory Channel**	**1.99**	**31**	P	Pn	05 21 42.3	+1.0
TMZ	**Timaru**	**2.01**	**223**	P	Pg	05 21 45.6	-0.2
DUWZ	**D'Urville Isla**	**2.25**	**19**	P	Pn	05 21 44.7	-0.4
FOZ	**Fox Glacier**	**2.36**	**254**	P	Pn	05 21 46.6	+0.2
KIW	**Kapiti Island**	**2.54**	**36**	P	Pn	05 21 47.4	-1.6
ODZ	**Otahua Downs**	**2.68**	**217**	P	Pg	05 21 57.6	-0.9
PKE	**Pukeiti**	**3.82**	**12**	P	Pn	05 22 07.8	+1.2
DREZ	**Durham Road**	**3.86**	**15**	P	Pb	05 22 11.5	-4.2
TUVZ	**Tukino**	**4.20**	**30**	P	Pn	05 22 12.5	+0.6
HIZ	**Hauiti**	**4.65**	**19**	P	Pn	05 22 17.6	-0.4
TLZ	**Tolley Road**	**5.01**	**24**	P	Pn	05 22 22.5	-0.4
HRRZ	**Handcock Road**	**5.20**	**30**	P	Pn	05 22 31.5	+5.9

IDC ***22*** *05:25:56.3±1.0, 37.˚49N×142.˚04E, h0km, mb3.6/10, mbtmp3.6/13, ML3.2/3, Error ellipse: s-maj=24.9km s-min=19.1km az=100.0*

NIED ***22*** *05:26:01.4, 37.˚40N×141.˚57E, h24km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.64; $M_{\theta\theta}$0.56; $M_{\phi\phi}$3.08; $M_{r\theta}$1.85; $M_{r\phi}$1.39; $M_{\theta\phi}$1.54; Fault plane solution: $M_0$4.39000×10^{14} NP1:ϕ_s11.00000°, δ31.00000°, λ-113.00000°. NP2:ϕ_s218.00000°, δ62.00000°, λ-77.00000°.*
JMA ***22*** *05:26:01.3±0.2, 37.˚4N±0.˚4×141.˚6E±1.˚0, h28km±2km, MV3.6/38, E OFF FUKUSHIMA PREF*
ISC 22 05:25:58.2±1.8, 37.˚40N±0.˚05×141.˚74E±0.˚06, h9km±10km, n32, σ1.˚39/32, mb3.6/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.69**	**268**	P	**Pg**	**05 26 12.2**	**+0.7**
JFK				S	**Sg**	**05 26 19.5**	**-1.0**
JMST	**Minamisoumatoc**	**0.75**	**296**	P	**Pg**	**05 26 13.4**	**+0.7**
JMST				S	**Sg**	**05 26 21.5**	**-1.0**
JMM	**Marumori**	**0.88**	**302**	P	**Pg**	**05 26 15.7**	**+0.5**
JMM				*e*S	**Sg**	**05 26 26.0**	**-0.8**
JMM	**Marumori**	**0.88**	**302**	P	**Pg**	**05 26 15.2**	**0.0**
JFFD	**Fukushimafurud**	**0.99**	**252**	*e*P	**Pb**	**05 26 17.0**	**-0.5**
JFFD				S	**Sb**	**05 26 28.5**	**-2.1**
JIO	**Ouri**	**1.10**	**344**	*e*P	**Pg**	**05 26 20.1**	**+0.7**
JHO	**Hitachi**	**1.22**	**230**	P	**Pn**	**05 26 20.8**	**-0.6**
JHO				*e*S	**Sb**	**05 26 35.4**	**-1.9**
JOU	**Okura**	**1.28**	**319**	*e*P	**Pb**	**05 26 23.3**	**+0.7**
JYS	**Shirataka**	**1.56**	**302**	P	**Pb**	**05 26 27.6**	**+0.4**
JYS				S	**Sb**	**05 26 47.5**	**+0.4**
JFY	**Yanaizu**	**1.62**	**271**	*e*P	**Pn**	**05 26 27.7**	**+0.7**
JFY				*e*S	**Sn**	**05 26 48.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.95**	**254**	Pn	**Pn**	**05 26 47.7**	**+2.4**
	0.8nm,0.3s,baz=84,slow=16,SNR=7.7						
MJAR				Sn	**Sb**	**05 27 26.3**	**-0.8**
	1.0nm,0.3s,baz=67,slow=16,SNR=2.3						
	1.8nm,0.3s						
JHJ	**Hachijo jima 2**	**4.56**	**201**	Pn	**Pn**	**05 27 08.9**	**+1.5**
	7.5nm,0.3s,baz=72,slow=20,SNR=1.2						
JHJ				Sn	**Sn**	**05 28 03.8**	**+3.4**
	21nm,0.3s,baz=71,slow=22,SNR=2.0						
	107nm,0.9s						
USRK	**Ussuriysk Ar.**	**10.03**	**316**	Pn	**Pn**	**05 28 22.5**	**0.0**
	0.3nm,0.3s,baz=134,slow=14,SNR=3.0						
	0.8nm,0.3s						
SONM	**Songino Array**	**27.80**	**303**	P	**P**	**05 31 48.3**	**+0.7**
	0.4nm,0.8s,baz=137,slow=1.8,SNR=2.5						
	0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy 28.12**	**122**		T	T	06 01 20.8	
	baz=314,slow=75,SNR=62						
H11N1	**WAKE ISLAND Hy 28.12**	**122**		T	T	06 01 25.1	
	baz=314,slow=75,SNR=61						
H11N3	**WAKE ISLAND Hy 28.14**	**122**		T	T	06 01 25.9	
	baz=314,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy 28.84**	**124**		T	T	06 02 17.9	
	baz=316,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy 28.85**	**124**		T	T	06 02 15.5	
	baz=316,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy 28.86**	**124**		T	T	06 02 19.0	
	baz=316,slow=76,SNR=29						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**05 33 49.7**	**+1.3**
	0.3nm,0.3s,baz=72,slow=4.7,SNR=1.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**44.14**	**302**	P	**P**	**05 34 07.3**	**+0.3**
	1.1nm,0.9s,baz=92,slow=4.8,SNR=2.9						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**49.05**	**33**	P	**P**	**05 34 43.1**	**-2.1**
	0.9nm,1.2s,baz=287,slow=6.4,SNR=1.9						
	0.9nm,1.2s						
WRA	**Warramunga Arr**	**57.46**	**188**	P	**P**	**05 35 48.4**	**+0.9**
	0.3nm,0.7s,baz=4.8,slow=7.0,SNR=2.3						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**61.18**	**188**	P	**P**	**05 36 13.5**	**+0.3**
	0.2nm,0.3s,baz=358,slow=5.8,SNR=1.8						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**05 36 59.1**	**-2.1**
	2.6nm,0.8s,baz=48,slow=11,SNR=1.8						
	2.6nm,0.8s						
NOA	**NORSAR Array B**	**73.95**	**337**	P	**P**	**05 37 34.7**	**+1.2**
	0.2nm,0.6s,baz=39,slow=5.8,SNR=2.3						
	0.2nm,0.6s						
AKASG	**Malin Array Be**	**74.17**	**322**	P	**P**	**05 37 35.5**	**+0.6**
	0.3nm,0.4s,baz=46,slow=5.5,SNR=1.2						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**89.69**	**53**	P	**P**	**05 38 54.6**	**-2.5**
	0.4nm,1.0s,baz=316,slow=2.5,SNR=2.0						
	0.4nm,1.0s						
H03N2	**Juan Fernandez**	**146.80**	**96**	T	T	08 29 57.6	
	baz=291,slow=76,SNR=7.2						
H03N3	**Juan Fernandez**	**146.82**	**96**	T	T	08 29 57.7	
	baz=291,slow=76,SNR=5.6						
H03N1	**Juan Fernandez**	**146.82**	**96**	T	T	08 29 58.9	
	baz=291,slow=76,SNR=8.3						

WEL 22 05:28:27.9±0.3, 43.˚S±2.˚×17.˚3E±.˚, h6km±2km, M3.6/9, ML3.7/17, MLv3.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=126.7, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.07**	**116**	P	Pg	05 28 29.7	+0.1
GVZ				S	Sg	05 28 31.6	+0.8
AMCZ	**Amberley**	**0.33**	**223**	P	Pb	05 28 35.6	-0.6
AMCZ				S	Sb	05 28 41.4	-0.2
LTZ	**Lake Taylor**	**0.53**	**287**	P	Pg	05 28 38.4	+0.3
LTZ				S	Sb	05 28 46.2	-1.2
KHZ	**Kahutara**	**0.68**	**40**	P	Pg	05 28 41.2	+0.3
OXZ	**Oxford**	**0.77**	**240**	P	Pb	05 28 43.6	-0.2
OKCZ	**Okains Bay**	**0.79**	**174**	P	Pb	05 28 44.3	+0.2
MQZ	**McQueen's Vall**	**0.80**	**196**	P	Pg	05 28 43.2	0.0
AKCZ	**Akaroa Harbour**	**0.93**	**182**	P	Pg	05 28 45.9	0.0
RACZ	**Rakaia**	**0.99**	**217**	P	Pg	05 28 46.4	-0.5
INZ	**Inchbonnie**	**1.13**	**280**	P	Pg	05 28 49.7	+0.1
MHCZ	**Mount Hutt**	**1.17**	**239**	P	Pg	05 28 49.3	-1.1
THZ	**Tophouse**	**1.18**	**358**	P	Pg	05 28 49.8	-0.7
WACZ	**Wakanui South**	**1.29**	**219**	P	Pn	05 28 50.7	-1.8

MRNZ	Matariki Terra	1.53	354	P		Pn	05 31 05.8	+0.3
RPZ	Rata Peaks	1.60	240	P		Pn	05 31 05.5	-1.0
WVZ	Waitaha Valley	1.63	264	P		Pn	05 31 06.8	-0.1
ARCZ	Arundel	1.65	231	P		Pn	05 31 05.5	-1.7
TUWZ	Tuamarina	1.66	27	P		Pn	05 31 06.9	-0.4
NNZ	Nelson	1.73	11	P		Pn	05 31 08.4	+0.1
TKNZ	Takaka Hill	1.89	0	P		Pn	05 31 11.0	+0.6
GCSZ	Gaunt Creek Bo	1.96	258	P		Pn	05 31 11.9	+0.4
TCW	Tory Channel	1.98	30	P		Pn	05 31 10.7	-0.9
TMZ	Timaru	2.03	223	P		Pn	05 31 12.6	+0.2
QRZ	Quartz Range	2.12	351	P		Pn	05 31 14.2	+0.6
PLWZ	Palliser	2.18	52	P		Pn	05 31 13.0	-1.4
DUWZ	D'Urville Isla	2.24	19	P		Pn	05 31 15.5	+0.2
FOZ	Fox Glacier	2.37	255	P		Pn	05 31 17.5	+0.4
LBZ	Lake Benmore	2.48	233	P		Pg	05 31 25.4	0.0
OGWZ	Otaki Gorge	2.68	39	P		Pn	05 31 19.6	-1.6
ODZ	Otahua Downs	2.70	217	P		Pn	05 31 20.0	-1.6
HOWZ	Holdsworth Sta	2.78	44	P		Pg	05 31 31.1	+0.1
PKE	Pukeiti	3.81	12	P		Pn	05 31 38.6	+1.7
TLZ	Tolley Road	4.99	24	P		Pn	05 31 54.3	+1.2
MKAZ	Moumakai	6.05	17	P		Pn	05 32 07.2	-0.5
WIAZ	Waiheke Island	6.35	16	P		Pn	05 32 15.4	+3.7

ROM 22 05:31:24.1±0.1, **43°.019N**±0°.004×**13°.072E**±0°.005, **h9km, ML1.5**/3, **3C-2D**, **Error ellipse: s-maj=0.4km s-min=0.3km az=15.0**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.02**	**33**	P		Pg 05 31 25.9	+0.1
FDMO				S		Sg 05 31 26.7	-0.3
FDMO				AML	AML		
	comp=E,342μm,0.2s						
FDMO				AML	AML		
	comp=N,464μm,0.4s						
T1219	**Muccia, Frazio**	**0.06**	**308**	P		Pg 05 31 26.5	+0.4
T1219				S		Sg 05 31 27.9	+0.3
T1219				AML	AML		
	comp=E,170μm,0.1s						
T1219				AML	AML		
	comp=N,276μm,0.2s						
T1256	**Bolognola (MC)**	**0.11**	**96**	↑P		Pg 05 31 27.3	+0.4
T1256				AML	AML		
	comp=N,585μm,1.6s						
T1256				AML	AML		
	comp=E,212μm,1.6s						
CSP1	**Cessapalombo**	**0.12**	**53**	↑P		Pg 05 31 27.5	+0.6
CSP1				S		Sg 05 31 30.0	+1.0
T1216	**Preci, Frazion**	**0.13**	**197**	P		Pg 05 31 27.9	+0.8
T1216				S		Sg 05 31 30.2	+1.0
T1245	**Castelsantange**	**0.18**	**152**	P		Pg 05 31 28.7	+0.7
T1245				S		Sg 05 31 32.1	+1.4
T1245				AML	AML		
	comp=N,170μm,0.4s						
T1245				AML	AML		
	comp=E,109μm,0.4s						
MMO1	**Montemonaco**	**0.22**	**123**	⇓P		Pg 05 31 29.2	+0.6
MMO1				S		Sg 05 31 32.9	+1.2
SNTG	**Esanatoglia**	**0.26**	**338**	P		Pb 05 31 30.5	-0.4
T1215	**Vallo di Nera,**	**0.26**	**215**	P		Pg 05 31 30.2	+0.8
T1215				S		Sb 05 31 34.4	-1.2
ASSB	**Assisi San Ben**	**0.30**	**275**	P		Pg 05 31 30.8	+0.7
ASSB				S		Sb 05 31 36.0	-0.8
T1241	**Roccafluvione,**	**0.31**	**122**	P		Pg 05 31 30.8	+0.6
T1241				S		Sb 05 31 36.0	-1.0
EL6	**Elcito**	**0.31**	**4**	S		Sb 05 31 37.0	-0.1
T1243	**Rocca Santa Ma**	**0.42**	**139**	P		Pg 05 31 32.6	+0.2
T1243				S		Sg 05 31 35.3	-2.7
TERO	**Teramo**	**0.56**	**135**	⇓P		Pg 05 31 34.6	-0.2
CAFR	**Castel Frentan**	**1.23**	**130**	↑P		Pg 05 31 48.5	+0.9
CAFR				AML	AML		
	comp=N,160μm,0.8s						
CAFR				AML	AML		
	comp=E,172μm,0.3s						

WEL ***22*** *05:31:00, 42°.93S×172°.96E, h11km, ML4.5, Mw4.3, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁵ Nm; Mrr=0.76; Mθθ=2.77; Mϕϕ=-2.00; Mrθ=0.56; Mθϕ=-2.41; Mϕr=0.42; Fault plane solution: M₀3.48000×10¹⁵ NP1: ϕs157.00000°, δ77.00000°, λ-7.00000°. NP2:ϕ=249.00000°, δ83.00000°, λ-167.00000°. Principal axes: T 380.3700, Plg4.0000°, Azm22.0000°; N -316.3900, Plg75.0000°, Azm276.0000°; P -63.9900, Plg14.0000°, Azm114.0000°;*

IDC ***22*** *05:31:54.8±1.9, 43°.005S×172°.99E, h0km, mb3.5/2, mbtmp3.5/2 Error ellipse: s-maj=62.4km s-min=15.7km az=147.0*

NOU ***22*** *05:31:55.3, 43°.145S×173°.22E, h0km, MLv4.7/8, Off E. Coast of S. Island, N.Z.*

NEIC ***22*** *05:31:57.3±1.4, 42°.97S±0°.03×172°.99E±0°.08, h11km±6km, mb4.1/5, ML4.5(WEL), Error ellipse: s-maj=9.2km s-min=3.6km az=113.0*

WEL ***22*** *05:31:57.6±0.3, 43°.S±2°×17°.3E±°, h6km±2km, M4.5/72, ML4.6/19, MLv4.5/72, Error ellipse: s-maj=0.6km s-min=0.0km az=123.9*

ISC 22 05:31:57.4±0.8, **42°.99S**±0°.03×**173°.01E**±0°.03, **h13**km±5km, **n151**, **σ1§0.00**/153, **mb4.1**/5, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.03**	**44**	Pg	**Pg**	**05 31 59.1**	**-0.7**
GVZ	**Greta Valley S**	**0.03**	**44**	P	**Pg**	**05 32 00.1**	**+0.3**
GVZ				S	**Sg**	**05 32 02.3**	**+0.8**
AMCZ	**Amberley**	**0.32**	**234**		**Pb**	**05 32 04.9**	**0.0**
AMCZ	**Amberley**	**0.32**	**234**	P	**Pb**	**05 32 05.2**	**+0.2**
LTZ	**Lake Taylor**	**0.58**	**291**	Pg	**Pg**	**05 32 08.0**	**-0.8**
LTZ	**Lake Taylor**	**0.58**	**291**	P	**Pg**	**05 32 08.0**	**-0.8**
LTZ				S	**Sg**	**05 32 15.7**	**-0.7**
KHZ	**Kahutara**	**0.69**	**35**		**Pb**	**05 32 11.4**	**+0.1**
KHZ	**Kahutara**	**0.69**	**35**	P	**Pb**	**05 32 11.5**	**+0.2**
OKCZ	**Okains Bay**	**0.73**	**177**	P	**Pn**	**05 32 13.7**	**+0.2**
MQZ	**McQueen's Vall**	**0.76**	**200**		**Pb**	**05 32 12.8**	**+0.3**
MQZ	**McQueen's Vall**	**0.76**	**200**	P	**Pn**	**05 32 12.9**	**-0.9**
OXZ	**Oxford**	**0.78**	**244**		**Pb**	**05 32 13.1**	**+0.2**
OXZ	**Oxford**	**0.78**	**244**	P	**Pn**	**05 32 13.3**	**-0.8**
AKCZ	**Akaroa Harbour**	**0.89**	**185**	P	**Pn**	**05 32 15.4**	**-0.1**
RACZ	**Rakaia**	**0.97**	**220**	P	**Pn**	**05 32 16.1**	**-0.5**
INZ	**Inchbonnie**	**1.18**	**282**		**Pb**	**05 32 18.9**	**-0.7**
INZ	**Inchbonnie**	**1.18**	**282**	P	**Pb**	**05 32 18.5**	**-0.7**
MHCZ	**Mount Hutt**	**1.18**	**242**	P	**Pb**	**05 32 18.7**	**-0.9**
THZ	**Tophouse**	**1.23**	**356**	Pn	**Pn**	**05 32 19.7**	**-0.6**
THZ	**Tophouse**	**1.23**	**356**	P	**Pn**	**05 32 19.6**	**-0.6**
WACZ	**Wakanui South**	**1.28**	**221**	P	**Pn**	**05 32 20.4**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.43**	**27**		**Pn**	**05 32 23.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.43**	**27**	P	**Pn**	**05 32 23.4**	**+0.4**
CMWZ	**Cape Campbell**	**1.53**	**36**		**Pn**	**05 32 24.7**	**+0.4**
CMWZ	**Cape Campbell**	**1.53**	**36**	P	**Pn**	**05 32 24.9**	**+0.6**
DSZ	**Denniston Nort**	**1.53**	**324**	Pn	**Pn**	**05 32 24.2**	**-0.2**
RPZ	**Rata Peaks**	**1.60**	**242**	Pg	**Pn**	**05 32 24.6**	**-0.7**
RPZ	101nm,0.3s,baz=55,slow=18,SNR=36			Lg	Lg	05 32 44.1	
	344nm,0.3s,baz=161,slow=21,SNR=29						
RPZ	**Rata Peaks**	**1.60**	**242**	P	**Pn**	**05 32 24.9**	**-0.4**
RPZ	**Rata Peaks**	**1.60**	**242**	P	**Pn**	**05 32 25.2**	**-0.1**
RPZ	**Rata Peaks**	**1.60**	**242**	P	**Pn**	**05 32 24.7**	**-0.7**
MRNZ	**Matariki Terra**	**1.60**	**353**		**Pn**	**05 32 25.6**	**+0.3**
MRNZ	**Matariki Terra**	**1.60**	**353**	P	**Pn**	**05 32 26.0**	**+0.6**
ARCZ	**Arundel**	**1.64**	**234**	P	**Pn**	**05 32 25.3**	**-0.7**
WVZ	**Waitaha Valley**	**1.67**	**266**	P	**Pn**	**05 32 26.0**	**-0.2**
TUWZ	**Tuamarina**	**1.71**	**24**		**Pn**	**05 32 26.6**	**-0.1**
TUWZ	**Tuamarina**	**1.71**	**24**	P	**Pn**	**05 32 27.0**	**+0.2**
NNZ	**Nelson**	**1.79**	**9**		**Pn**	**05 32 28.4**	**+0.4**
NNZ	**Nelson**	**1.79**	**9**	P	**Pn**	**05 32 28.3**	**+0.4**
TKNZ	**Takaka Hill**	**1.95**	**359**		**Pn**	**05 32 30.9**	**+0.7**
TKNZ	**Takaka Hill**	**1.95**	**359**	P	**Pn**	**05 32 31.2**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**1.99**	**260**	P	**Pn**	**05 32 30.8**	**+0.2**
TMZ	**Timaru**	**2.01**	**225**	P	**Pn**	**05 32 30.8**	**-0.3**
TCW	**Tory Channel**	**2.01**	**28**		**Pn**	**05 32 30.7**	**-0.3**
TCW	**Tory Channel**	**2.01**	**28**	P	**Pn**	**05 32 30.7**	**-0.3**
SNZO	**South Karori**	**2.10**	**38**		**Pn**	**05 32 31.9**	**-0.2**
WEL	**Wellington**	**2.15**	**38**	P	**Pn**	**05 32 32.6**	**-0.2**
PLWZ	**Palliser**	**2.19**	**50**	Pn	**Pn**	**05 32 32.7**	**-0.9**
PLWZ	**Palliser**	**2.19**	**50**	P	**Pn**	**05 32 32.6**	**-0.9**
QRZ	**Quartz Range**	**2.19**	**350**	Pn	**Pn**	**05 32 33.7**	**+0.3**
QRZ	**Quartz Range**	**2.19**	**350**	P	**Pn**	**05 32 33.9**	**+0.4**
DUWZ	**D'Urville Isla**	**2.29**	**18**	P	**Pn**	**05 32 35.1**	**+0.2**
FOZ	**Fox Glacier**	**2.39**	**256**		**Pn**	**05 32 36.6**	**+0.4**
FOZ	**Fox Glacier**	**2.39**	**256**	P	**Pn**	**05 32 36.8**	**+0.6**
PAWZ	**Paruwai Farm**	**2.41**	**49**	P	**Pn**	**05 32 35.5**	**-1.0**
CAW	**Cannon Point**	**2.43**	**40**	P	**Pn**	**05 32 36.2**	**-0.5**
LBZ	**Lake Benmore**	**2.48**	**235**		**Pn**	**05 32 37.6**	**+0.2**
LBZ	**Lake Benmore**	**2.48**	**235**	P	**Pn**	**05 32 37.3**	**-0.1**
TRWZ	**Traveller**	**2.55**	**52**	P	**Pn**	**05 32 37.7**	**-0.7**
KIW	**Kapiti Island**	**2.56**	**34**	P	**Pn**	**05 32 38.2**	**-0.3**
MTW	**Mount Morrison**	**2.61**	**46**	P	**Pn**	**05 32 38.1**	**-1.0**
ODZ	**Otahua Downs**	**2.67**	**219**		**Pn**	**05 32 39.6**	**-0.4**
ODZ	**Otahua Downs**	**2.67**	**219**	P	**Pn**	**05 32 39.6**	**-0.4**
OGWZ	**Otaki Gorge**	**2.71**	**37**	P	**Pn**	**05 32 39.9**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.81**	**43**	P	**Pn**	**05 32 40.9**	**-1.0**
MRZ	**Mangatainoka R**	**3.02**	**40**	Pn	**Pn**	**05 32 43.4**	**-1.4**
MRZ	**Mangatainoka R**	**3.02**	**40**	P	**Pn**	**05 32 43.8**	**-1.0**
JCZ	**Jackson Bay**	**3.25**	**249**	P	**Pn**	**05 32 48.0**	**-0.2**
JCZ	**Jackson Bay**	**3.25**	**249**	P	**Pn**	**05 32 48.1**	**0.0**
BFZ	**Birch Farm**	**3.34**	**47**	Pn	**Pn**	**05 32 48.9**	**-0.4**
BFZ	**Birch Farm**	**3.34**	**47**	P	**Pn**	**05 32 49.4**	**+0.1**
BFZ	**Birch Farm**	**3.34**	**47**	P	**Pn**	**05 32 48.7**	**-0.5**
HHSZ	**Highcliff Hill**	**3.37**	**210**	P	**Pn**	**05 32 49.4**	**-0.2**
WKZ	**Wanaka**	**3.42**	**236**	Pn	**Pn**	**05 32 49.3**	**-1.0**
WKZ	**Wanaka**	**3.42**	**236**	P	**Pn**	**05 32 49.8**	**-0.6**
EAZ	**Earnscleugh**	**3.48**	**229**	P	**Pn**	**05 32 50.4**	**-0.7**
WAZ	**Wanganui**	**3.56**	**25**	P	**Pn**	**05 32 53.7**	**+1.5**
NMEZ	**Namu Road**	**3.63**	**11**	P	**Pn**	**05 32 56.0**	**+2.7**
LREZ	**Lake Rotokare**	**3.68**	**17**	P	**Pb**	**05 32 58.9**	**-3.3**
KHEZ	**Kahui Hut**	**3.77**	**12**	P	**Pn**	**05 32 57.7**	**+2.5**
KHEZ	**Kahui Hut**	**3.77**	**12**	P	**Pn**	**05 32 57.3**	**+2.0**
NBEZ	**Newall Road No**	**3.77**	**10**	P	**Pn**	**05 32 56.6**	**+1.4**
NEZ	**North Egmont**	**3.81**	**13**	P	**Pn**	**05 32 57.4**	**+1.7**
TUZ	**Tuapeka**	**3.82**	**218**	P	**Pn**	**05 32 55.6**	**-0.3**
PKE	**Pukeiti**	**3.86**	**11**	P	**Pn**	**05 32 58.6**	**+2.1**
PNHZ	**Pukenui**	**3.90**	**31**	P	**Pn**	**05 32 55.3**	**-1.7**
DREZ	**Durham Road**	**3.90**	**14**	P	**Pn**	**05 32 58.7**	**+1.7**
MSZ	**Milford Sound**	**4.04**	**244**	P	**Pn**	**05 32 58.1**	**-0.8**
VRZ	**Vera Road**	**4.08**	**20**	P	**Pn**	**05 33 00.9**	**+1.5**
PKVZ	**Pokaka**	**4.10**	**26**	P	**Pn**	**05 33 00.4**	**+0.6**
MOVZ	**Moawhango**	**4.13**	**31**	P	**Pn**	**05 32 59.8**	**-0.4**
WNVZ	**Wahianoa**	**4.15**	**29**	P	**Pn**	**05 33 00.9**	**+0.4**
TRVZ	**Turoa**	**4.16**	**28**	P	**Pn**	**05 33 00.9**	**+0.2**
DRZ	**Dome Shelter**	**4.18**	**28**	P	**Pn**	**05 33 03.3**	**+2.2**
WHVZ	**Whangaehu Hut**	**4.18**	**29**	P	**Pn**	**05 33 01.2**	**+0.2**
BHHZ	**Black Hill Sta**	**4.19**	**34**	P	**Pn**	**05 33 00.6**	**-0.4**
FWVZ	**Far West T-bar**	**4.20**	**28**	P	**Pn**	**05 33 01.3**	**+0.1**
TUVZ	**Tukino**	**4.22**	**29**	P	**Pn**	**05 33 01.9**	**+0.4**
MLZ	**Mavora Lakes**	**4.24**	**234**		**Pn**	**05 33 00.8**	**-0.8**
MLZ	**Mavora Lakes**	**4.24**	**234**	P	**Pn**	**05 33 00.6**	**-1.1**
SNVZ	**South Ngauruho**	**4.29**	**29**	P	**Pn**	**05 33 02.7**	**+0.2**
OTVZ	**Oturere**	**4.32**	**29**	P	**Pn**	**05 33 03.6**	**+0.8**
KAHZ	**Kahuranaki**	**4.32**	**44**	P	**Pn**	**05 33 02.9**	**+0.1**
TWVZ	**Taurewa**	**4.33**	**26**	P	**Pn**	**05 33 04.0**	**+1.1**
NNVZ	**North Ngauruho**	**4.33**	**28**	P	**Pn**	**05 33 04.4**	**+1.4**
ETVZ	**East Tongariro**	**4.36**	**29**	P	**Pn**	**05 33 03.3**	**0.0**
KRVZ	**Karewarewa**	**4.37**	**28**	P	**Pn**	**05 33 05.4**	**+1.9**
TMVZ	**Te Maari**	**4.37**	**29**	P	**Pn**	**05 33 03.4**	**-0.1**
NTVZ	**North Tongarir**	**4.38**	**28**	P	**Pn**	**05 33 04.7**	**+1.1**
SYZ	**Scrubby Hill**	**4.49**	**216**	P	**Pn**	**05 33 05.0**	**0.0**
SYZ	**Scrubby Hill**	**4.49**	**216**	P	**Pn**	**05 33 05.1**	**0.0**
BKZ	**Black Stump Fm**	**4.64**	**36**	Pn	**Pn**	**05 33 06.4**	**-0.8**
BKZ	**Black Stump Fm**	**4.64**	**36**	P	**Pn**	**05 33 06.6**	**-0.6**
WHZ	**Wether Hill Ro**	**4.64**	**230**	Pn	**Pn**	**05 33 05.7**	**-1.4**
WHZ	**Wether Hill Ro**	**4.64**	**230**	P	**Pn**	**05 33 05.4**	**-1.7**
HIZ	**Hauiti**	**4.69**	**18**		**Pn**	**05 33 07.7**	**-0.1**
HIZ	**Hauiti**	**4.69**	**18**	P	**Pn**	**05 33 08.4**	**+0.7**
ARHZ	**Aropaoanui**	**4.79**	**40**	P	**Pn**	**05 33 08.6**	**-0.5**
DCZ	**Deep Cove**	**4.88**	**238**		**Pn**	**05 33 08.8**	**-1.5**
DCZ	**Deep Cove**	**4.88**	**238**	P	**Pn**	**05 33 09.4**	**-1.0**
MRHZ	**Matea Rd**	**4.89**	**33**	P	**Pn**	**05 33 08.4**	**-2.2**
TLZ	**Tolley Road**	**5.04**	**23**	P	**Pn**	**05 33 14.5**	**+1.8**
MTHZ	**Maungataniwha**	**5.05**	**36**	P	**Pn**	**05 33 13.8**	**+1.0**
APZ	**The Paps**	**5.24**	**221**	P	**Pn**	**05 33 14.5**	**-0.9**
TOZ	**Tahuroa Road**	**5.59**	**21**	P	**Pn**	**05 33 19.8**	**-0.3**
URZ	**Urewera**	**5.66**	**35**	P	**Pn**	**05 33 19.5**	**-1.6**
URZ	**Urewera**	**5.66**	**35**	P	**Pn**	**05 33 19.3**	**-1.9**
MWZ	**Matawai**	**5.78**	**38**	P	**Pn**	**05 33 21.5**	**-1.4**
AWAZ	**Awhitu Peninsu**	**6.05**	**13**	P	**Pn**	**05 33 27.3**	**+0.8**
MKAZ	**Moumakai**	**6.11**	**16**	P	**Pn**	**05 33 27.1**	**-0.1**
RUGZ	**Raukumara Rang**	**6.15**	**37**	P	**Pn**	**05 33 26.8**	**-1.2**
WTAZ	**Waiatarua**	**6.17**	**12**	P	**Pn**	**05 33 29.2**	**+1.1**
ETAZ	**East Tamaki Re**	**6.21**	**14**	P	**Pn**	**05 33 29.2**	**+0.6**
HAZ	**Te Kaha**	**6.37**	**36**	P	**Pn**	**05 33 29.1**	**-1.8**
MBAZ	**Motutapu North**	**6.38**	**14**	P	**Pn**	**05 33 31.9**	**+0.9**
WIAZ	**Waiheke Island**	**6.40**	**16**	P	**Pn**	**05 33 31.7**	**+0.4**
KUZ	**Kuaotunu**	**6.58**	**19**	P	**Pn**	**05 33 34.6**	**+0.9**
KUZ	**Kuaotunu**	**6.58**	**19**	P	**Pn**	**05 33 33.3**	**-0.4**
MXZ	**Matakaoa Point**	**6.77**	**39**	P	**Pn**	**05 33 35.2**	**-1.2**
MXZ	**Matakaoa Point**	**6.77**	**39**	P	**Pn**	**05 33 35.1**	**-1.6**
OUZ	**Omahuta**	**7.77**	**4**	Pn	**Pn**	**05 33 51.3**	**+1.2**
ASAR	**Alice Springs**	**37.51**	**288**	P	**P**	**05 39 10.2**	**-0.7**
	0.6nm,0.6s,baz=124,slow=7.4,SNR=4.1 0.6nm,0.6s						
WB2	**Warramunga Arr**	**39.70**	**293**	P	**P**	**05 39 29.3**	**-0.1**
WB2				IAmb	IAmb	05 40 04.0	
	comp=Z,6.3nm,1.2s						
WRA	**Warramunga Arr**	**39.71**	**293**	P	**P**	**05 39 29.0**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=135,slow=7.8,SNR=16 comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**39.71**	**293**	P	**P**	**05 39 31.2**	**+1.8**
WB0	**Warramunga Arr**	**39.79**	**293**	P	**P**	**05 39 29.5**	**-0.6**
WB0				IAmb	IAmb	05 40 10.7	
	comp=Z,5.6nm,1.3s						
BELA	**Belgrano 2**	**58.22**	**173**	P	**P**	**05 41 53.2**	**+2.6**
BELA				IAmb	IAmb	05 41 54.9	
	comp=Z,2.5nm,1.1s						
SNAA	**Sanae**	**65.61**	**181**	P	**P**	**05 42 41.4**	**+0.9**
ARCES	**ARCESS Array B**	**148.61**	**339**	PKPbc	**PKPbc**	**05 51 42.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=43,slow=2.3,SNR=9.9						
BRTR	**Keskin Array B**	**149.53**	**278**	PKPbc	**PKPbc**	**05 51 45.9**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=157,slow=4.6,SNR=4.8						
FINES	**FINESS Array B**	**153.04**	**325**	PKPbc	**PKPbc**	**05 51 50.9**	**-2.4**
	comp=Z,2.4nm,0.9s,baz=20,slow=4.9,SNR=1.9						
AKASG	**Malin Array Be**	**154.26**	**300**	PKPbc	**PKiKP**	**05 51 56.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=47,slow=1.6,SNR=2.0						

WEL ***22*** *05:44:00, 42°.95S×172°.96E, h4km, ML4.5, Mw4.4, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁵ Nm; Mrr=3.82; Mθθ=-0.02; Mϕϕ=-3.80; Mrθ=0.57; Mθϕ=-2.32; Mϕr=3.91; Fault plane solution: M₀5.95000×10¹⁵ NP1: ϕs230.00000°, δ31.00000°, λ132.00000°. NP2:ϕs3.00000°, δ67.00000°, λ68.00000°. Principal axes: T -607.0000, Plg61.0000°, Azm240.0000°; N 23.4300, Plg20.0000°, Azm12.0000°; P 583.5700, Plg19.0000°, Azm109.0000°;*

IDC ***22*** *05:44:07.5±0.9, 42°.89S×172°.88E, h0km, mb4.3/7, mbtmp4.3/7, MS4.0/6 Error ellipse: s-maj=27.2km s-min=14.1km az=138.0*

NOU ***22*** *05:44:08.8, 43°.10S×173°.23E, h20km, MLv4.8/16, Off E. Coast of S. Island, N.Z.*

WEL ***22*** *05:44:09.2±0.3, 43°.S±2°×17°.3E±°, h7km±2km, M4.6/55, ML4.7/18, MLv4.6/55, Error ellipse: s-maj=0.6km s-min=0.0km az=123.8*

NEIC ***22*** *05:44:09.3±1.9, 42°.95S±0°.04×172°.91E±0°.07, h14km±5km, mb4.4/4, ML4.5(WEL), Error ellipse: s-maj=7.2km s-min=5.3km az=99.0*

ISC 22 05:44:09.3±0.8, **42°.96S**±0°.03×**172°.98E**±0°.03, **h12**km±4km, **n133**, **σ1§0.04**/135, **mb4.3**/9, **MS3.9**/6, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.04**	**102**	Pg	**Pg**	**05 44 11.3**	**-0.3**
GVZ	**Greta Valley S**	**0.04**	**102**	P	**Pg**	**05 44 11.4**	**-0.2**
GVZ				S	**Sg**	**05 44 13.7**	**+0.5**
AMCZ	**Amberley**	**0.33**	**228**		**Pb**	**05 44 16.8**	**-0.3**
AMCZ	**Amberley**	**0.33**	**228**	P	**Pb**	**05 44 17.0**	**-0.1**
AMCZ				S	**Sb**	**05 44 23.4**	**+1.1**
LTZ	**Lake Taylor**	**0.55**	**288**		**Pg**	**05 44 19.5**	**-0.6**
LTZ	**Lake Taylor**	**0.55**	**288**	P	**Pg**	**05 44 19.5**	**-0.6**
LTZ				S	**Sg**	**05 44 27.5**	**+0.1**
KHZ	**Kahutara**	**0.68**	**37**		**Pg**	**05 44 22.6**	**+0.1**
KHZ	**Kahutara**	**0.68**	**37**	P	**Pb**	**05 44 23.3**	**+0.2**
KHZ	**Kahutara**	**0.68**	**37**	P	**Pg**	**05 44 22.7**	**+0.1**
OKCZ	**Okains Bay**	**0.77**	**176**	P	**Pn**	**05 44 25.4**	**-0.7**
OXZ	**Oxford**	**0.78**	**242**	P	**Pb**	**05 44 25.0**	**+0.2**
MQZ	**McQueen's Vall**	**0.78**	**198**		**Pg**	**05 44 24.6**	**+0.1**
MQZ	**McQueen's Vall**	**0.78**	**198**	P	**Pb**	**05 44 24.8**	**-0.1**
AKCZ	**Akaroa Harbour**	**0.91**	**183**	P	**Pb**	**05 44 27.2**	**0.0**
RACZ	**Rakaia**	**0.98**	**218**	P	**Pb**	**05 44 27.9**	**-0.4**
INZ	**Inchbonnie**	**1.15**	**281**	Pn	**Pb**	**05 44 30.4**	**-0.8**
INZ	**Inchbonnie**	**1.15**	**281**	P	**Pb**	**05 44 30.4**	**-0.8**
MHCZ	**Mount Hutt**	**1.18**	**241**	P	**Pn**	**05 44 30.6**	**-1.2**
THZ	**Tophouse**	**1.20**	**357**	Pn	**Pn**	**05 44 31.2**	**-0.8**
THZ	**Tophouse**	**1.20**	**357**	P	**Pn**	**05 44 31.0**	**-0.9**
WACZ	**Wakanui South**	**1.29**	**220**	P	**Pn**	**05 44 32.2**	**-0.9**
BSWZ	**Blackbirch Sta**	**1.41**	**28**		**Pn**	**05 44 34.9**	**0.0**
BSWZ	**Blackbirch Sta**	**1.41**	**28**	P	**Pn**	**05 44 34.9**	**0.0**
DSZ	**Denniston Nort**	**1.49**	**324**		**Pn**	**05 44 35.5**	**-0.5**
DSZ	**Denniston Nort**	**1.49**	**324**	P	**Pn**	**05 44 35.5**	**-0.5**
CMWZ	**Cape Campbell**	**1.52**	**37**		**Pb**	**05 44 36.9**	**-0.4**
CMWZ	**Cape Campbell**	**1.52**	**37**	P	**Pb**	**05 44 36.8**	**-0.6**
MRNZ	**Matariki Terra**	**1.57**	**354**		**Pn**	**05 44 36.8**	**-0.3**
MRNZ	**Matariki Terra**	**1.57**	**354**	P	**Pn**	**05 44 37.2**	**+0.2**
RPZ	**Rata Peaks**	**1.60**	**241**	Pg	**Pn**	**05 44 36.4**	**-1.0**
RPZ	102nm,0.3s,baz=11,slow=4.3,SNR=220			Lg	Lg	05 44 56.4	
	163nm,0.3s,baz=328,slow=23,SNR=19						
RPZ	**Rata Peaks**	**1.60**	**241**		**Pn**	**05 44 36.2**	**-1.3**
RPZ	**Rata Peaks**	**1.60**	**241**	P	**Pn**	**05 44 37.1**	**-0.3**
RPZ	**Rata Peaks**	**1.60**	**241**	P	**Pn**	**05 44 36.4**	**-1.0**
ARCZ	**Arundel**	**1.64**	**232**	P	**Pn**	**05 44 37.1**	**-1.0**
WVZ	**Waitaha Valley**	**1.65**	**265**	P	**Pn**	**05 44 37.6**	**-0.5**
TUWZ	**Tuamarina**	**1.69**	**25**		**Pn**	**05 44 38.3**	**-0.3**
TUWZ	**Tuamarina**	**1.69**	**25**	P	**Pn**	**05 44 38.4**	**-0.3**
NNZ	**Nelson**	**1.77**	**10**		**Pn**	**05 44 39.7**	**0.0**
NNZ	**Nelson**	**1.77**	**10**	P	**Pn**	**05 44 39.9**	**+0.2**
TKNZ	**Takaka Hill**	**1.92**	**360**		**Pn**	**05 44 42.3**	**+0.4**
TKNZ	**Takaka Hill**	**1.92**	**360**	P	**Pn**	**05 44 42.5**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**1.98**	**259**	P	**Pn**	**05 44 42.6**	**0.0**
TCW	**Tory Channel**	**2.00**	**29**		**Pn**	**05 44 42.1**	**-0.8**
TCW	**Tory Channel**	**2.00**	**29**	P	**Pn**	**05 44 42.1**	**-0.8**
TMZ	**Timaru**	**2.02**	**225**	P	**Pn**	**05 44 42.4**	**-0.9**
SNZO	**South Karori**	**2.09**	**38**		**Pn**	**05 44 43.3**	**-0.9**
SNZO	**South Karori**	**2.09**	**38**	P	**Pn**	**05 44 43.1**	**-1.0**
WEL	**Wellington**	**2.14**	**39**	P	**Pn**

NB2	**NORSAR Subarra1**	**58.83**	**335**	PKPab	**PKPab**	**06 04 41.4**	**-0.7**
	baz=39,slow=4.4						
NB2	**NORSAR Subarra2**	**58.83**	**335**	PKP	**PKPab**	**06 04 41.4**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=39,slow=4.4						
NOA	**NORSAR Array B**	**58.83**	**335**	PKPab	**PKPab**	**06 04 41.1**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=38,slow=4.6,SNR=4.1						

IDC ***22*** *05:45:49.8±2.2, 42.86S×172.89E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=68.2km s-min=16.7km az=140.0*

WEL ***22*** *05:45:52.2±0.3, 43.5S±2.7×17.3E±., h7km±2km, M3.9/28, ML4.0/17, MLv3.9/28, Error ellipse: s-maj=0.0km s-min=0.0km az=123.4*

ISC 22 05:45:51.4±1.0, 42.91S±0.03×172.87E±0.04, h10km±8km, n35, σ0.66/37, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.14**	**117**	P		**Pg**		**05 45 54.4**	**-0.1**
GVZ				S		**Sg**		**05 45 56.6**	**-0.1**
AMCZ	**Amberley**	**0.32**	**210**	P		**Pb**		**05 45 60.0**	**+0.9**
AMCZ				S		**Sb**		**05 46 06.0**	**+1.7**
LTZ	**Lake Taylor**	**0.46**	**285**	P		**Pb**		**05 46 02.4**	**+0.8**
KHZ	**Kahutara**	**0.69**	**46**	P		**Pb**		**05 46 06.0**	**+0.4**
OXZ	**Oxford**	**0.74**	**235**	P		**Pn**		**05 46 08.0**	**+0.1**
MQZ	**McQueen's Vall**	**0.82**	**191**	P		**Pb**		**05 46 07.9**	**+0.2**
OKCZ	**Okains Bay**	**0.83**	**170**	P		**Pb**		**05 46 08.3**	**+0.4**
AKCZ	**Akaroa Harbour**	**0.97**	**178**	P		**Pg**		**05 46 10.0**	**0.0**
RACZ	**Rakaia**	**0.98**	**213**	P		**Pn**		**05 46 10.9**	**-0.3**
INZ	**Inchbonnie**	**1.06**	**279**	P		**Pn**		**05 46 13.9**	**+1.5**
MHCZ	**Mount Hutt**	**1.14**	**236**	P		**Pn**		**05 46 13.5**	**+0.1**
THZ	**Tophouse**	**1.14**	**1**	P		**Pn**		**05 46 14.0**	**+0.5**
WACZ	**Wakanui South**	**1.28**	**216**	P		**Pn**		**05 46 15.2**	**-0.1**
DSZ	**Denniston Nort**	**1.40**	**325**	P		**Pg**		**05 46 18.4**	**+0.2**
BSWZ	**Blackbirch Sta**	**1.40**	**32**	P		**Pb**		**05 46 17.7**	**+0.1**
MRNZ	**Matariki Terra**	**1.51**	**357**	P		**Pg**		**05 46 20.1**	**-0.2**
RPZ	**Rata Peaks**	**1.55**	**238**	Pg		**Pn**		**05 46 19.2**	**+0.1**
	48nm,0.3s,baz=14,slow=19,SNR=0.8								
RPZ				Lg		Lg		05 46 39.9	
	78nm,0.3s,baz=328,slow=22,SNR=6.4								
RPZ	**Rata Peaks**	**1.55**	**238**	P		**Pn**		**05 46 19.4**	**+0.3**
WVZ	**Waitaha Valley**	**1.57**	**263**	P		**Pg**		**05 46 21.2**	**-0.3**
ARCZ	**Arundel**	**1.61**	**229**	P		**Pn**		**05 46 20.0**	**+0.1**
TUWZ	**Tuamarina**	**1.68**	**29**	P		**Pn**		**05 46 21.2**	**+0.4**
NNZ	**Nelson**	**1.73**	**13**	P		**Pb**		**05 46 22.9**	**-0.3**
TKNZ	**Takaka Hill**	**1.87**	**2**	P		**Pb**		**05 46 25.5**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**1.91**	**257**	P		**Pb**		**05 46 25.7**	**-0.6**
TMZ	**Timaru**	**2.00**	**222**	P		**Pb**		**05 46 27.2**	**-0.7**
QRZ	**Quartz Range**	**2.09**	**353**	P		**Pb**		**05 46 29.4**	**0.0**
DUWZ	**D'Urville Isla**	**2.24**	**21**	P		**Pn**		**05 46 29.6**	**+1.0**
FOZ	**Fox Glacier**	**2.32**	**253**	P		**Pb**		**05 46 31.6**	**-1.7**
LBZ	**Lake Benmore**	**2.45**	**232**	P		**Pb**		**05 46 35.9**	**+0.4**
OGWZ	**Otaki Gorge**	**2.70**	**40**	P		**Pn**		**05 46 34.1**	**-0.7**
ASAR	**Alice Springs**	**37.39**	**288**	P		**P**		**05 53 04.5**	**0.0**
	0.3nm,0.6s,baz=134,slow=7.9,SNR=1.7 0.3nm,0.6s								
WRA	**Warramunga Arr**	**39.58**	**293**	P		**P**		**05 53 22.3**	**-0.6**
	0.4nm,0.6s,baz=132,slow=7.9,SNR=1.6 0.4nm,0.6s								
ARCES	**ARCESS Array B**	**148.50**	**339**	PKPbc		**PKPbc**		**06 05 36.8**	**-0.3**
	0.7nm,0.4s,baz=37,slow=2.3,SNR=8.9								
BRTR	**Keskin Array B**	**149.43**	**278**	PKPbc		**PKPbc**		**06 05 40.2**	**-0.3**
	0.4nm,0.3s,baz=93,slow=2.9,SNR=2.4								
FINES	**FINESS Array B**	**152.91**	**325**	PKPbc		**PKPbc**		**06 05 47.0**	**-0.7**
	2.2nm,0.9s,baz=45,slow=4.1,SNR=3.5								

IDC ***22*** *05:46:16.8±1.8, 37.24N×141.53E, h0km, mb3.6/5, mbtmp3.6/7, ML3.1/2, Error ellipse: s-maj=37.1km s-min=23.3km az=86.0*

JMA ***22*** *05:46:19.9±0.2, 37.3N±0.3×141.5E±0.9, h25km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*

ISC 22 05:46:17.2±2.0, 37.24N±0.04×141.56E±0.07, h5km±12km, n21, σ0.76/24, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**283**	P			**Pb**	**05 46 29.4**	**-0.2**
JFK				S			**Sb**	**05 46 36.4**	**-1.5**
JMST	**Minamisoumatoc**	**0.72**	**312**	P			**Pb**	**05 46 32.2**	**0.0**
JMST				S			**Sb**	**05 46 41.3**	**-1.1**
JFFD	**Fukushimafurud**	**0.82**	**260**	*i* P			**Pb**	**05 46 34.1**	**+0.2**
JFFD				S			**Sb**	**05 46 44.0**	**-1.1**
JMM	**Marumori**	**0.87**	**316**	*i* P			**Pb**	**05 46 34.8**	**0.0**
JMM				S			**Sb**	**05 46 45.7**	**-1.1**
JHO	**Hitachi**	**1.02**	**232**	P			**Pb**	**05 46 37.1**	**-0.1**
JIO	**Ouri**	**1.22**	**352**	P			**Pn**	**05 46 40.6**	**-0.3**
JIO				S			**Sb**	**05 46 55.7**	**-1.1**
JOU	**Okura**	**1.33**	**328**	P			**Pg**	**05 46 42.8**	**+0.2**
JOU				S			**Sg**	**05 47 00.0**	**+0.1**
JSB	**Shiboa**	**1.34**	**259**	P			**Pg**	**05 46 43.2**	**+0.3**
JSB				S			**Sg**	**05 47 00.6**	**+0.2**
MJAR	**Matsushiro Arr**	**2.78**	**256**	Pn			**Pn**	**05 47 02.7**	**+0.4**
	1.0nm,0.3s,baz=79,slow=17,SNR=18								
MJAR				Sn			**Sn**	**05 47 37.3**	**+1.0**
	0.5nm,0.3s,baz=14,slow=33,SNR=7.6 4.3nm,0.3s								
JHJ	**Hachijo jima 2**	**4.37**	**200**	Pn			**Pn**	**05 47 23.1**	**-1.0**
	12nm,0.3s,baz=45,slow=16,SNR=2.0								
JHJ				Sn			**Sn**	**05 48 14.7**	**-0.7**
	5.9nm,0.3s,baz=90,slow=20,SNR=1.5 83nm,0.6s								
SONM	**Songino Array**	**27.77**	**304**	P			**P**	**05 52 06.3**	**-0.6**
	0.2nm,0.3s,baz=98,slow=8.4,SNR=2.5 0.2nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T			T	06 21 40.8	
	baz=314,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T			T	06 21 38.9	
	baz=314,slow=75,SNR=19								
H11N3	**WAKE ISLAND Hy**	**28.17**	**121**	T			T	06 21 39.8	
	baz=314,slow=75,SNR=19								
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T			T	06 22 33.0	
	baz=316,slow=75,SNR=27								
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T			T	06 22 37.7	
	baz=316,slow=75,SNR=33								
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T			T	06 22 33.9	
	baz=316,slow=75,SNR=26								
ZALV	**Zalesovo Beam**	**41.86**	**312**	P			**P**	**05 54 08.4**	**+0.4**
	0.5nm,0.5s,baz=64,slow=6.7,SNR=2.6 0.5nm,0.5s								
MKAR	**Makanchi Array**	**44.11**	**302**	P			**P**	**05 54 26.3**	**0.0**
	0.5nm,0.7s,baz=80,slow=9.8,SNR=2.8 0.5nm,0.7s								
WRA	**Warramunga Arr**	**57.28**	**188**	P			**P**	**05 56 06.7**	**+0.9**
	0.2nm,0.5s,baz=4.8,slow=7.4,SNR=4.6 0.2nm,0.5s								
FINES	**FINESS Array B**	**68.69**	**332**	P			**P**	**05 57 21.7**	**+0.5**
	1.8nm,0.9s,baz=330,slow=16,SNR=1.8 1.8nm,0.9s								

IDC ***22*** *05:48:08.7±0.7, 37.13N×141.29E, h0km, mb3.8/13, mbtmp3.8/17, ML3.5/4, Error ellipse: s-maj=18.8km s-min=16.7km az=105.0*

JMA ***22*** *05:48:11.3±0.2, 37.2N±0.3×141.4E±0.9, h26km±1km, MD4.0/39, MV4.1/39, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 22 05:48:10.7±1.9, 37.17N±0.04×141.33E±0.06, h12km±11km, n42, σ0.74/36, mb3.9/13, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.41**	**299**	*i* P			**Pb**	**05 48 20.0**	**+0.2**
JFK				S			**Sb**	**05 48 26.4**	**+0.3**
JFK	**Kawauchi**	**0.41**	**299**	A		A	A	05 48 20.0	
	comp=E,6.0nm,3.1s,comp=E,3.0nm,1.4s								
JFFD	**Fukushimafurud**	**0.62**	**263**	⇓P			**Pn**	**05 48 23.8**	**-1.4**
JFFD				⇓S			**Sb**	**05 48 32.7**	**+0.7**
JFFD	**Fukushimafurud**	**0.62**	**263**	A		A	A	05 48 23.8	
	comp=E,5.0nm,0.9s,comp=E,9.0nm,0.4s								
JMST	**Minamisoumatoc**	**0.65**	**328**	⇓*i* P			**Pb**	**05 48 24.0**	**0.0**
JMST				⇓S			**Sb**	**05 48 33.3**	**+0.3**
JMST	**Minamisoumatoc**	**0.65**	**328**	A		A	A	05 48 24.0	
	comp=E,6.0nm,1.4s,comp=E,7.0nm,0.5s								
JMM	**Marumori**	**0.81**	**329**	⇓*i* P			**Pb**	**05 48 26.7**	**-0.1**
JMM				⇓S			**Sb**	**05 48 37.8**	**+0.1**
JMM	**Marumori**	**0.81**	**329**	A		A	A	05 48 26.7	
	comp=E,6.0nm,0.8s,comp=E,10.0nm,0.5s								
JHO	**Hitachi**	**0.82**	**228**	P			**Pb**	**05 48 26.3**	**-0.6**
JHO					*eS*		**Sb**	**05 48 37.8**	**-0.2**
JSB	**Shiboa**	**1.14**	**260**	P			**Pg**	**05 48 33.1**	**+0.5**
JSB				S			**Sn**	**05 48 49.5**	**+1.4**
JSB	**Shiboa**	**1.14**	**260**	A		A	A	05 48 33.1	
	comp=E,9.0nm,0.9s,comp=E,7.0nm,0.5s								
JYAR	**Yonezawaarcadi**	**1.20**	**309**	A		A	A	05 48 32.9	
	comp=E,21nm,0.8s,comp=E,19nm,0.6s								
JIO	**Ouri**	**1.28**	**1**	*i* P			**Pn**	**05 48 33.6**	**-0.8**
JIO				S			**Sb**	**05 48 50.6**	**-0.5**
JOU	**Okura**	**1.30**	**336**	*i* P			**Pb**	**05 48 34.9**	**-0.2**
JOU				S			**Sg**	**05 48 52.4**	**-0.3**
JOU	**Okura**	**1.30**	**336**	A		A	A	05 48 34.9	
	comp=E,5.0nm,1.6s,comp=E,6.0nm,1.3s								
JFY	**Yanaizu**	**1.31**	**281**	A		A	A	05 48 34.9	
	comp=E,4.0nm,1.3s,comp=E,3.0nm,0.3s								
JYS	**Shirataka**	**1.45**	**317**	A		A	A	05 48 36.6	
	comp=E,15nm,0.9s,comp=E,10.0nm,0.7s								
JYA	**Atsumi**	**1.91**	**319**	A		A	A	05 48 43.4	
	comp=E,9.0nm,0.9s,comp=E,6.0nm,0.5s								
MJAR	**Matsushiro Arr**	**2.58**	**257**	Pn			**Pn**	**05 48 52.3**	**+0.1**
	2.4nm,0.3s,baz=70,slow=10,SNR=20								
MJAR				Sn			**Sb**	**05 49 27.3**	**-1.1**
	0.8nm,0.3s,baz=94,slow=17,SNR=1.7 20nm,0.4s								
JHJ	**Hachijo jima 2**	**4.23**	**198**	Pn			**Pn**	**05 49 15.8**	**+0.8**
	12nm,0.3s,baz=68,slow=19,SNR=1.7								
JHJ				Sn			**Sn**	**05 50 04.5**	**+0.2**
	11nm,0.3s,baz=74,slow=24,SNR=1.3 99nm,0.7s								
USRK	**Usurirysk Ar.**	**9.97**	**318**	Pn			**Pn**	**05 50 33.7**	**0.0**
	1.6nm,0.3s,baz=135,slow=14,SNR=2.3 1.9nm,0.3s								
KSRS	**Korea Array**	**10.68**	**276**	Pn			**Pn**	**05 50 43.3**	**-0.1**
	0.2nm,0.3s,baz=84,slow=15,SNR=2.4 1.2nm,0.7s								
SONM	**Songino Array**	**27.65**	**304**	P			**P**	**05 53 58.0**	**-0.3**
	1.6nm,0.6s,baz=106,slow=8.6,SNR=11 1.6nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.28**	**121**	T			T	06 23 34.2	
	baz=314,slow=75,SNR=38								
H11N1	**WAKE ISLAND Hy**	**28.29**	**121**	T			T	06 23 31.4	
	baz=314,slow=75,SNR=35								
H11N3	**WAKE ISLAND Hy**	**28.30**	**121**	T			T	06 23 31.9	
	baz=314,slow=75,SNR=37								
H11S1	**WAKE ISLAND Hy**	**28.99**	**123**	T			T	06 24 25.9	
	baz=316,slow=76,SNR=28								
H11S3	**WAKE ISLAND Hy**	**28.99**	**123**	T			T	06 24 27.4	
	baz=316,slow=76,SNR=18								
H11S2	**WAKE ISLAND Hy**	**29.01**	**123**	T			T	06 24 26.7	
	baz=316,slow=76,SNR=22								
ZALV	**Zalesovo Beam**	**41.77**	**312**	P			**P**	**05 56 00.2**	**+0.6**
	1.2nm,0.4s,baz=100,slow=7.7,SNR=3.5 1.2nm,0.4s								
MKAR	**Makanchi Array**	**43.99**	**302**	P			**P**	**05 56 18.0**	**+0.3**
	2.2nm,0.8s,baz=87,slow=9.1,SNR=11 2.2nm,0.8s								
ILAR	**Eielson Array**	**49.42**	**32**	P			**P**	**05 57 00.8**	**+0.8**
	0.6nm,0.8s,baz=263,slow=5.8,SNR=6.5 0.6nm,0.8s								
INK	**Inuvik**	**54.30**	**27**	P			**P**	**05 57 37.1**	**+0.9**
	0.9nm,0.9s,baz=226,slow=4.6,SNR=1.9 0.9nm,0.9s								
WRA	**Warramunga Arr**	**57.19**	**188**	P			**P**	**05 57 57.1**	**-0.4**
	0.6nm,0.5s,baz=4.5,slow=7.3,SNR=11 0.6nm,0.5s								
ASAR	**Alice Springs**	**60.91**	**188**	P			**P**	**05 58 21.3**	**-2.0**
	0.3nm,0.7s,baz=359,slow=7.4,SNR=1.5 0.3nm,0.7s								
ARCES	**ARCESS Array B**	**63.84**	**339**	P			**P**	**05 58 41.8**	**-0.6**
	0.7nm,0.5s,baz=59,slow=8.4,SNR=12 0.7nm,0.5s								
FINES	**FINESS Array B**	**68.66**	**332**	P			**P**	**05 59 13.0**	**-0.4**
	2.6nm,0.7s,baz=38,slow=9.6,SNR=6.3 2.6nm,0.7s								
AKASG	**Malin Array Be**	**74.15**	**322**	P			**P**	**05 59 46.4**	**-0.3**
	1.3nm,0.5s,baz=46,slow=6.3,SNR=11 1.3nm,0.5s								
NVAR	**Mina Array Bea**	**74.96**	**53**	P			**P**	**05 59 52.1**	**+0.1**
	0.1nm,0.3s,baz=269,slow=8.0,SNR=1.4 0.1nm,0.3s								
PDAR	**Pinedale Array**	**77.62**	**45**	P			**P**	**06 00 07.6**	**+0.6**
	0.2nm,0.5s,baz=186,slow=0.9,SNR=1.6 0.2nm,0.5s								
TXAR	**Lajitas Array**	**90.09**	**52**	P			**P**	**06 01 11.8**	**+1.0**
	0.1nm,0.4s,baz=306,slow=3.1,SNR=1.8 0.1nm,0.4s								
LPAZ	**La Paz**	**146.69**	**59**	PKPbc			**PKPab**	**06 07 53.7**	**-1.0**
	0.4nm,0.6s,baz=318,slow=4.8,SNR=2.0								

IDC ***22*** *05:49:53.5±1.4, 18.82N×146.33E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=60.1km s-min=21.9km az=80.0*

ISC 22 05:50:06.3±1.4, 18.7N±0.2×146.1E±0.4, h100km, n10, σ0.73/10, mb3.8/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.14**	**197**	P			**P**	**05 57 31.6**	**-1.0**
	0.3nm,0.3s,baz=21,slow=8.9,SNR=9.9 0.3nm,0.3s								
SONM	**Songino Array**	**43.36**	**321**	P			**P**	**05 57 58.6**	**-0.2**
	0.3nm,0.5s,baz=141,slow=9.6,SNR=2.8 0.3nm,0.5s								
ASAR	**Alice Springs**	**43.80**	**196**	P			**P**	**05 58 03.6**	**+1.2**
	0.2nm,0.5s,baz=6.1,slow=9.6,SNR=2.2 0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**58.23**	**322**	P			**P**	**05 59 50.0**	**0.0**
	0.3nm,0.3s,baz=98,slow=7.9,SNR=1.9 0.3nm,0.3s								
MKAR	**Makanchi Array**	**58.72**	**314**	P			**P**	**05 59 54.2**	**+0.6**
	0.3nm,0.5s,baz=98,slow=7.2,SNR=2.1 0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**61.56**	**318**	P			**P**	**06 00 12.5**	**-0.4**
	0.4nm,0.5s,baz=94,slow=7.9,SNR=2.3 0.4nm,0.5s								
BVAR	**Borovoye Array**	**66.70**	**320**	P			**P**	**06 00 46.4**	**-0.1**
	1.3nm,0.5s,baz=78,slow=8.4,SNR=5.1 1.3nm,0.5s								
ARCES	**ARCESS Array B**	**82.58**	**342**	P			**P**	**06 02 18.7**	**+0.7**
	1.2nm,0.9s,baz=95,slow=10.0,SNR=1.5 1.2nm,0.9s								
FINES	**FINESS Array B**	**87.02**	**335**	P			**P**	**06 02 39.9**	**-0.3**
	1.2nm,0.7s,baz=64,slow=6.3,SNR=4.5 1.2nm,0.7s								
LPAZ	**La Paz**	**147.28**	**91**	PKPbc			**PKPbc**	**06 09 39.4**	**-0.4**
	0.4nm,0.6s,baz=352,slow=7.1,SNR=1.8								

IDC ***22*** *05:53:19.1±2.3, 37.25N×141.69E, h0km, mb3.4/3, mbtmp3.5/5, ML2.7/2, Error ellipse: s-maj=41.3km s-min=26.8km az=76.0*

JMA ***22*** *05:53:23.9±0.2, 37.2N±0.4×141.5E±1.0, h25km±1km, MV3.6/31, E OFF FUKUSHIMA PREF*

ISC 22 05:53:22.6±1.4, 37.21N±0.04×141.46E±0.09, h19km±5km, n18, σ0.93/19, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**289**	*e*P			**Pn**	**05 53 33.9**	**-0.8**
JFK					*e*S		**Sn**	**05 53 41.6**	**-1.0**
JMST	**Minamisoumatoc**	**0.68**	**319**	P			**Pn**	**05 53 37.1**	**-0.1**
JMST				S			**Sn**	**05 53 47.2**	**-0.2**
JFFD	**Fukushimafurud**	**0.73**	**261**	P			**Pn**	**05 53 37.9**	**0.0**
JFFD				S			**Sn**	**05 53 47.8**	**-0.7**
JMM	**Marumori**	**0.84**	**321**	P			**Pn**	**05 53 39.6**	**+0.2**
JMM				S			**Sn**	**05 53 51.4**	**+0.2**
JHO	**Hitachi**	**0.93**	**230**	P			**Pn**	**05 53 40.3**	**-0.4**
JHO				S			**Sg**	**05 53 52.9**	**-0.1**
JIO	**Ouri**	**1.24**	**356**	*e*P			**Pg**	**05 53 46.2**	**-0.4**
JOU	**Okura**	**1.31**	**332**	S			**Sg**	**05 54 05.5**	**+0.4**
MJAR	**Matsushiro Arr**	**2.69**	**257**	Pn			**Pn**	**05 54 06.9**	**+2.0**
	0.4nm,0.3s,baz=70,slow=10,SNR=4.9								
MJAR				Sn			**Sb**	**05 54 42.2**	**-0.5**
	0.2nm,0.3s,baz=26,slow=33,SNR=1.2 2.7nm,0.3s								
JHJ	**Hachijo jima 2**	**4.31**	**199**	Pn			**Pn**	**05 54 25.8**	**-1.3**
	3.7nm,0.3s,baz=29,slow=14,SNR=1.6								
JHJ				Sn			**Sn**	**05 55 18.1**	**+1.4**
	5.0nm,0.3s,baz=73,slow=20,SNR=1.6 156nm,1.0s								
SONM	**Songino Array**	**27.71**	**304**	P			**P**	**05 59 11.1**	**+1.3**
	0.2nm,0.6s,baz=101,slow=7.5,SNR=1.9 0.2nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T			T	06 28 42.9	
	baz=314,slow=75,SNR=26								
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T			T	06 28 43.7	
	baz=314,slow=75,SNR=28								
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T			T	06 28 44.4	
	baz=314,slow=75,SNR=32								
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T			T	06 29 36.5	
	baz=316,slow=76,SNR=8.6								
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T			T	06 29 36.6	
	baz=316,slow=76,SNR=8.3								
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T			T	06 29 38.4	
	baz=316,slow=76,SNR=16								
KURBB	**Kurchatov Arra**	**45.92**	**308**	P			**P**	**06 01 43.1**	**-0.8**
	0.4nm,0.6s,baz=83,slow=8.2,SNR=2.4 0.4nm,0.6s								
WRA	**Warramunga Arr**	**57.24**	**188**	P			**P**	**06 03 09.2**	**+0.5**
	0.2nm,0.5s,baz=4.7,slow=7.0,SNR=4.8 0.2nm,0.5s								

IDC ***22*** *05:57:52.7±2.1, 37.44N×141.81E, h0km, mb3.7/3, mbtmp3.6/4, ML2.5/1, Error ellipse: s-maj=43.8km s-min=28.7km az=60.0*

JMA ***22*** *05:57:56.5±0.1, 37.4N±0.3×141.6E±0.8, h29km±1km, MV3.8/40, E OFF FUKUSHIMA PREF*

ISC 22 05:57:54.8±2.1, 37.37N±0.04×141.62E±0.09, h10km±10km, n22, σ0.68/22, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**270**	*i* P			**Pg**	**05 58 07.2**	**+0.9**
JFK				S			**Sg**	**05 58 14.6**	**+0.4**
JMST	**Minamisoumatoc**	**0.68**	**301**	*i* P			**Pg**	**05 58 08.4**	**+0.5**
JMST				S			**Sg**	**05 58 16.8**	**-0.1**
JMM	**Marumori**	**0.82**	**307**	*i* P			**Pg**	**05 58 10.7**	**+0.1**
JMM				S			**Sg**	**05 58 20.8**	**-0.6**
JFFD	**Fukushimafurud**	**0.89**	**252**	P			**Pg**	**05 58 12.0**	**0.0**
JFFD				*e*S			**Sg**	**05 58 23.1**	**-0.4**
JIO	**Ouri**	**1.10**	**349**	P			**Pb**	**05 58 15.5**	**-0.4**
JIO				S			**Sb**	**05 58 28.8**	**-1.5**
JHO	**Hitachi**	**1.14**	**228**	P			**Pb**	**05 58 15.5**	**-0.9**
JHO				*e*S			**Sb**	**05 58 30.4**	**-0.8**
JOU	**Okura**	**1.25**	**323**	*i* P			**Pn**	**05 58 18.4**	**+0.1**
JOU				S			**Sb**	**05 58 34.1**	**-0.4**
JYS	**Shirataka**	**1.50**	**305**	*i* P			**Pn**	**05 58 22.6**	**+0.9**
JYS				S			**Sn**	**05 58 41.3**	**+0.1**
JFY	**Yanaizu**	**1.53**	**272**	S			**Sn**	**05 58 42.1**	**+0.1**
MJAR	**Matsushiro Arr**	**2.86**	**254**	Pn			**Pn**	**05 58 41.1**	**+0.7**
	0.6nm,0.3s,baz=69,slow=14,SNR=9.5								
MJAR				Sn			**Sb**	**05 59 19.9**	**-0.9**
	1.1nm,0.3s,baz=66,slow=18,SNR=4.6 2.0nm,0.3s								
SONM	**Songino Array**	**27.74**	**303**	P			**P**	**06 03 44.0**	**+0.6**
	0.5nm,0.6s,baz=90,slow=7.2,SNR=3.0 0.5nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.18**	**122**	T			T	06 33 22.0	
	baz=320								
H11N1	**WAKE ISLAND Hy**	**28.19**	**122**	T			T	06 33 22.7	
	baz=320								
H11N3	**WAKE ISLAND Hy**	**28.20**	**122**	T			T	06 33 23.3	
	baz=320								
H11S1	**WAKE ISLAND Hy**	**28.91**	**124**	T			T	06 34 15.8	
	baz=318								
H11S3	**WAKE ISLAND Hy**	**28.91**	**124**	T			T	06 34 16.3	
	baz=318								
H11S2	**WAKE ISLAND Hy**	**28.92**	**124**	T			T	06 34 17.0	
	baz=318								
KURBB	**Kurchatov Arra**	**45.93**	**308**	P			**P**	**06 06 17.6**	**+0.2**
	0.5nm,0.4s,baz=83,slow=7.8,SNR=4.9 0.5nm,0.4s								
WRA	**Warramunga Arr**	**57.42**	**188**	P			**P**	**06 07 43.6**	**+0.1**
	0.6nm,0.6s,baz=5.3,slow=7.3,SNR=14 0.6nm,0.6s								
H03N2	**Juan Fernandez**	**146.89**	**96**	T			T	09 01 54.7	
	baz=291,slow=76								
H03N3	**Juan Fernandez**	**146.90**	**96**	T			T	09 01 55.8	
	baz=291,slow=76								
H03N1	**Juan Fernandez**	**146.91**	**96**	T			T	09 01 56.0	
	baz=291,slow=76								

JMA ***22*** *05:58:10.2±1.3, 47.1N±6.5×15.3E±., h30km, MV5.0/15, KURILE ISLANDS REGION*

MOS ***22*** *05:58:13.9±1.0, 46.86N×152.77E, h77km, mb4.8/25, Error ellipse: s-maj=7.4km s-min=5.7km az=87.5*

SKHL ***22*** *05:58:14.3±0.2, 46.70N×152.80E, h83km±5km, mb5.3/12, msh5.9/11*

IDC ***22*** *05:58:15.7±2.5, 46.91N×152.67E, h81km±21km, mb4.1/30, mbtmp4.4/36, MS4.4/3, Error ellipse: s-maj=13.7km s-min=10.0km az=151.0*

NEIC ***22*** *05:58:17.5±1.5, 47.09N±0.07×152.5E±0.1, h83km±6km, mb4.

JAK Akkeshi 6.85 240 *e*P **Pn** **05 59 50.0 -1.9**
JAK *e*S **Sn** **06 01 04.0 -4.3**
YSS Yuzh-Sakhalins 6.88 276 Pn **Pn** **05 59 53.1 +0.7**
YSS Yuzh-Sakhalins 6.88 276 *e*S **Sn** **06 01 07.5 -1.7**
YSS *e*P **Pn** **05 59 54.0 +1.6**
YSS AMB AMB 05 59 56.3
comp=E,150nm,0.3s
YSS A A 06 01 12.1
comp=E,50nm,0.4s
YSS A A 06 01 12.1
comp=E,70nm,0.4s
YSS Yuzh-Sakhalins 6.88 276⇑ *e*PN **Pn** **05 59 54.1 +1.6**
YSS *e*S **Sn** **06 01 09.8 +0.6**
YSS pmax pmax
comp=Z,90nm,1.2s
YSS smax smax
comp=E,70nm,0.4s
PEA0B Petropavlovsk- 7.14 25 Pn **Pn** **05 59 54.9 -0.9**
PEA0B Petropavlovsk- 7.14 25*ce*PN **Pn** **05 59 55.0 -0.9**
PETK Petropavlovsk- 7.14 25 P **Pn** **05 59 54.1 -1.7**
comp=E,7.6nm,0.9s,baz=195,slow=12,SNR=11
PETK S **Sn** **06 01 19.0 +3.6**
comp=E,4.0nm,0.6s,baz=150,slow=18,SNR=1.2
JAR Ashorobuto 7.25 245 *e*P **Pn** **05 59 57.6 +0.2**
PET Petropavlovsk 7.36 29 *e*P **Pn** **06 00 00.8 +1.9**
PET AMB AMB 06 00 04.8
comp=E,20nm,0.5s
PET *e*S **Sn** **06 01 18.9 -1.9**
PET A A 06 01 46.0
comp=E,190nm,0.7s
PET A A 06 01 46.0
comp=E,170nm,0.7s
PET Petropavlovsk 7.36 29 *i* PN **Pn** **06 00 01.4 +2.5**
JOB Onbets 7.42 242 *e*P **Pn** **05 59 58.9 -0.8**
JOB *e*S **Sn** **06 01 19.2 -3.2**
UGL Uglegorsk 7.58 292 *e*P **Pn** **06 00 03.8 +1.9**
UGL AMB AMB 06 00 05.5
comp=E,70nm,0.8s
UGL *e*S **Sn** **06 01 25.2 -1.0**
UGL A A 06 01 32.2
comp=E,90nm,0.4s
UGL A A 06 01 32.2
comp=E,80nm,0.4s
UGL Uglegorsk 7.58 292 *e*PN **Pn** **06 00 04.6 +2.7**
UGL pmax pmax
comp=Z,110nm,1.2s
JKA Kamikawa-asahi 7.62 254 Pn **Pn** **06 00 03.8 +1.3**
JKA Kamikawa-asahi 7.62 254 *e*P **Pn** **06 00 03.8 +1.3**
ASAJ Asahikawa 7.62 254 PN **Pn** **06 00 03.8 +1.2**
JKK2 Kamakawa 2 7.63 252 *e*P **Pn** **06 00 04.0 +1.4**
JWK2 Keihoku 7.71 263 *e*P **Pn** **06 00 08.0 +4.3**
TYV Tymovskoe 7.86 305 *e*P **Pn** **06 00 06.8 +1.0**
TYV AMB AMB 06 00 07.8
comp=Z,800nm,2.5s
TYV AMB AMB 06 00 10.1
comp=Z,20nm,0.5s
TYV *e*S **Sn** **06 01 31.3 -1.9**
TYV A A 06 01 36.3
comp=Z,500nm,4.6s
TYV A A 06 01 36.3
comp=Z,900nm,4.6s
TYV A A 06 01 40.4
comp=Z,10.0nm,0.5s
TYV A A 06 01 40.4
comp=Z,10.0nm,0.5s
TYV Tymovskoe 7.86 305 *e*PN **Pn** **06 00 07.3 +1.5**
TYV *e*S **Sn** **06 01 33.3 +0.1**
TYV pmax pmax
comp=Z,34nm,0.9s
TYV pmax pmax
comp=Z,800nm,2.5s
TYV smax smax
comp=N,14nm,1.1s
TYV smax smax
comp=E,5.0nm,1.1s
TYV smax smax
comp=E,900nm,4.6s
JCH Churui 7.87 242 *e*P **Pn** **06 00 04.4 -1.5**
JCH *e*S **Sn** **06 01 29.4 -4.0**
JRBN Rebuntou 8.25 265 *e*P **Pn** **06 00 13.8 +2.7**
ERM Erimo 8.34 239 Pn **Pn** **06 00 11.8 -0.6**
ERM Erimo 8.34 239 PN **Pn** **06 00 11.8 -0.6**
OKH Okha 9.30 321 *e*P **Pn** **06 00 25.4 0.0**
OKH AMB AMB 06 00 26.3
comp=E,120nm,0.6s
JANG Nango 10.35 236 *e*P Pn 06 00 35.2 -4.6
JANG *e*S Sn 06 02 23.2 -11
TEY Ternei 11.41 267 *e*P **Pn** **06 00 54.5 +0.4**
TEY AMB AMB 06 01 03.8
comp=E,10.0nm,0.6s
GRNR Gornyy 11.53 297 *e*P **Pn** **06 00 55.7 -0.2**
GRNR AMB AMB 06 00 57.5
comp=E,10.0nm,0.3s
KHBR Khabarovsk 12.10 285 *e*P **Pn** **06 01 01.4 -2.1**
KHBR AMB AMB 06 01 02.7
comp=E,50nm,0.3s
MA2 Magadan 12.93 355 P **Pn** **06 01 13.8 -1.1**
comp=E,26nm,0.5s,baz=169,slow=12,SNR=21
MA2 Magadan 12.93 355 *e*P **Pn** **06 01 13.4 -1.4**
MA2 Magadan 12.93 355*ce*PN **Pn** **06 01 13.4 -1.4**
MA2 pmax pmax
comp=Z,86nm,2.5s
KLR Kul'dur 14.30 288 P **Pn** **06 01 33.6 +0.6**
comp=Z,1.2nm,0.6s,baz=116,slow=16,SNR=2.8
KLR Kul'dur 14.30 288 *e*P **Pn** **06 01 31.9 -1.2**
KLR Kul'dur 14.30 288*ce*P **Pn** **06 01 34.9 +1.8**
KLR pmax pmax
comp=Z,16nm,1.3s
USA0B Ussuriysk Arra 14.80 268 Pn **Pn** **06 01 40.0 +0.4**
USA0B Ussuriysk Arra 14.80 268 P **Pn** **06 01 40.0 +0.4**
USRK Ussuriysk Ar. 14.80 268 P **Pn** **06 01 39.4 -0.2**
comp=Z,7.4nm,0.5s,baz=80,slow=13,SNR=9.4
GRTR Gornotajezhnoj 14.84 266 *e*P **Pn** **06 01 38.8 -1.3**
GRTR AMB AMB 06 01 45.0
comp=Z,10.0nm,0.5s
MJAR Matsushiro Arr 14.88 232 P **P** **06 01 44.1 -0.6**
comp=Z,5.6nm,0.5s,baz=43,slow=9.2,SNR=4.6
MJB9 Matsu-Tunnel 14.88 232 **P** **06 01 46.2 +1.4**
MAJO Matsushiro 14.88 232 Pn **P** **06 01 44.7 -0.1**
MAJO Matsushiro 14.88 232 P **P** **06 01 44.7 -0.1**
SEY Seymchan 16.25 359 P **Pn** **06 01 58.0 +0.2**
comp=Z,7.5nm,0.3s,baz=178,slow=13,SNR=22
SEY Seymchan 16.25 359 *e*P **Pn** **06 01 58.0 +0.2**
SEY Seymchan 16.25 359 P **Pn** **06 01 58.0 +0.2**
MDJ Mudanjiang 16.34 271 P **P** **06 02 00.7 -0.1**
HEH HeiHe 17.15 291 *e*P **P** **06 02 10.4 +0.6**
HEH pmax pmax
comp=Z,52nm,0.8s
HEH pmax pmax
comp=Z,310nm,5.7s
ZEA Zeya 17.71 303 *e*P **P** **06 02 13.4 -2.5**
ZEA AMB AMB 06 02 16.3
comp=Z,10.0nm,0.3s
ZEA Zeya 17.71 303 *e*P **P** **06 02 15.0 -0.9**
ZEA pmax pmax
comp=Z,10.0nm,0.4s
JHS Saijyo 18.87 239 P **Pn** **06 02 30.6 +0.5**
YAK Yakutsk 20.22 328 P **P** **06 02 43.2 0.0**
comp=Z,16nm,0.5s,baz=61,slow=1.2,SNR=2.6
YAK LR LR 06 11 34.7
comp=Z,360nm,21.9s,baz=92,slow=40
comp=Z,16nm,0.5s
YAK Yakutsk 20.22 328 *e*P **P** **06 02 42.6 -0.6**
YAK Yakutsk 20.22 328 *e*P **P** **06 02 42.6 -0.6**
YAK pmax pmax
comp=Z,17nm,0.8s
KSRS Korea Array 20.57 252 P **P** **06 02 48.4 +1.2**
comp=Z,7.1nm,0.6s,baz=59,slow=8.8,SNR=19
comp=Z,7.1nm,0.6s
KSAR Wonju Array Be 20.60 252 P Pn 06 02 51.0 +0.6
KSAR Wonju Array Be 20.60 252 P Pn 06 02 51.0 +0.6
BILL Bilibino 22.47 13 *e*P **P** **06 03 09.1 +1.8**
BILL Bilibino 22.47 13*ce*P **P** **06 03 09.1 +1.8**
BILL *e* 06 03 33.1
BILL *i* 06 03 49.9
BILL *e*S **S** **06 07 08.9 0.0**
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL MLR MLR
comp=Z,589nm,21.0s
TIXI Tiksi 27.43 344 P **P** **06 03 51.8 -1.1**
comp=Z,1.8nm,0.3s,baz=106,slow=0.1,SNR=3.0
comp=Z,1.8nm,0.3s
TIXI Tiksi 27.43 344 *i* P **P** **06 03 51.9 -1.1**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
H11N2 WAKE ISLAND Hy 29.30 152 T T 06 35 35.5
baz=340,slow=76,SNR=540
H11N1 WAKE ISLAND Hy 29.32 152 T T 06 35 31.7
baz=340,slow=76,SNR=327
H11N3 WAKE ISLAND Hy 29.32 152 T T 06 35 32.0
baz=340,slow=76,SNR=328
NJ2 Nanjing 29.77 253 *e*P **P** **06 04 15.5 +1.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.9s
H11S1 WAKE ISLAND Hy 30.39 153 T T 06 36 51.8
baz=340,slow=76,SNR=1714
H11S3 WAKE ISLAND Hy 30.39 153 T T 06 36 52.7
baz=340,slow=76,SNR=1622
H11S2 WAKE ISLAND Hy 30.40 153 T T 06 36 54.2
baz=340,slow=76,SNR=1722
ULN Ulaanbaatar 30.69 289*ce*P **P** **06 04 24.8 +2.5**
ULN pmax pmax
comp=Z,11nm,1.0s
SONM Songino Array 31.13 289 P **P** **06 04 24.9 -1.3**
comp=Z,1.7nm,0.9s,baz=74,slow=8.4,SNR=5.5
SONM PcP **PcP** **06 07 19.7 0.0**
comp=Z,0.2nm,0.4s,baz=94,slow=2.9,SNR=3.5
comp=Z,1.7nm,0.9s
SONM Songino Array 31.13 289 P **P** **06 04 26.3 +0.2**
SONM Songino Array 31.13 289 *e*P **P** **06 04 27.5 +1.4**
SONM pmax pmax
comp=Z,3.0nm,0.8s
N18K Kilae Creek 32.51 46 P **P** **06 04 38.4 +0.5**
N18K IAmb IAmb 06 05 06.5
comp=Z,29nm,1.4s
TTA Tatalina 32.59 41 P **P** **06 04 39.4 +0.6**
TTA Tatalina 32.59 41 P **P** **06 04 39.4 +0.6**
TTA pmax pmax
comp=Z,8.0nm,1.3s
K20K Telida 33.51 41 P **P** **06 04 47.5 +0.9**
K20K IAmb IAmb 06 04 48.1
comp=Z,8.8nm,1.2s
J20K Nowinta River 33.54 39 P **P** **06 04 47.1 +0.2**
J20K IAmb IAmb 06 05 02.4
comp=Z,15nm,1.3s
IMAR Indian Mountai 33.92 36 P **P** **06 04 50.4 +0.2**
A21K Barrow 34.13 26 P **P** **06 04 51.9 0.0**
H21K Melozitna Rive 34.27 37 P **P** **06 04 53.6 +0.4**
H21K IAmb IAmb 06 04 54.4
comp=Z,7.2nm,1.0s
CAST Castle Rocks 34.40 41 P **P** **06 04 55.4 +1.0**
CAST IAmb IAmb 06 04 57.7
comp=Z,9.9nm,1.4s
I21K Tanana 34.56 38 P **P** **06 04 56.1 +0.4**
I21K IAmb IAmb 06 04 57.2
comp=Z,8.6nm,1.1s
TPUB Ta-pu 34.82 239 P **P** **06 04 59.6 +1.2**
KTH Kantishna Hill 34.93 41 P **P** **06 04 59.2 +0.2**
KTH IAmb IAmb 06 05 08.6
comp=Z,12nm,1.2s
BRLK Bradley Lake 35.02 47 P **P** **06 04 59.4 -0.3**
MLY Manley 35.08 38 P **P** **06 05 00.8 +0.6**
TRF Thorofare Moun 35.21 41 P **P** **06 05 02.0 +0.4**
TRF IAmb IAmb 06 05 05.2
comp=Z,24nm,1.4s
XAN Xi'an 35.28 265⇑ P **P** **06 05 02.4 0.0**
XAN pP pP 06 05 16.9 -1.8
XAN pmax pmax
comp=Z,22nm,0.8s
H23K Yukon River 35.63 37 P **P** **06 05 05.8 +0.9**
H23K IAmb IAmb 06 05 06.6
comp=Z,5.8nm,0.8s
MCK McKinley 35.82 40 P **P** **06 05 07.0 +0.4**
MCK IAmb IAmb 06 05 27.3
comp=Z,11nm,1.4s
MCK McKinley 35.82 40 P **P** **06 05 07.0 +0.4**
MCK pmax pmax
comp=Z,11nm,1.4s
TOLK Toolik Lake Re 35.89 32 P **P** **06 05 07.4 +0.2**
TOLK IAmb IAmb 06 05 07.9
comp=Z,5.1nm,0.8s
MDM Murphy Dome 36.14 38 P **P** **06 05 08.5 -0.8**
MDM IAmb IAmb 06 05 11.0
comp=Z,7.5nm,0.8s
SML Sawmill 36.15 44 P **P** **06 05 09.7 +0.3**
SML IAmb IAmb 06 05 24.3
comp=Z,19nm,1.0s
HDA Harding Lake 36.69 39 P **P** **06 05 13.9 -0.1**
HDA IAmb IAmb 06 05 51.5
comp=Z,7.6nm,0.8s
IL31 36.71 39 P **P** **06 05 13.6 -0.5**
IL31 IAmb IAmb 06 05 16.7
comp=Z,9.2nm,1.4s
ILAR Eielson Array 36.71 39 P **P** **06 05 13.4 -0.7**
comp=Z,3.2nm,1.0s,baz=261,slow=7.0,SNR=26
comp=Z,3.2nm,1.0s
ILAR Eielson Array 36.71 39 P **P** **06 05 13.9 -0.2**
ILAR Eielson Array 36.71 39 P **P** **06 05 13.9 -0.2**
PRP Porcupine Dome 37.28 37 P **P** **06 05 19.8 +0.7**
PRP IAmb IAmb 06 06 02.5
comp=Z,11nm,1.4s
L27K Beaver Creek, 39.05 41 P **P** **06 05 34.9 +1.0**
L27K IAmb IAmb 06 05 35.9
comp=Z,8.4nm,0.9s
BCAR Beaver Creek A 39.07 41 P **P** **06 05 34.7 +0.6**
INK Inuvik 41.80 32 P **P** **06 05 56.4 0.0**
comp=Z,4.8nm,0.7s,baz=292,slow=6.7,SNR=28
comp=Z,4.8nm,0.7s
INK Inuvik 41.80 32 P **P** **06 05 56.8 +0.4**
INK Inuvik 41.80 32 P **P** **06 05 56.8 +0.4**
INK pmax pmax
comp=Z,5.0nm,0.9s
DGZ Jazzator, Alta 42.42 299 *i* P **P** **06 06 02.3 +0.4**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
ZALV Zalesovo Beam 42.44 306 P **P** **06 05 59.8 -2.0**
comp=Z,1.6nm,0.4s,baz=63,slow=7.3,SNR=4.9
ZALV PcP **PcP** **06 07 53.3 -0.2**
comp=Z,1.5nm,0.4s,baz=70,slow=3.4,SNR=8.0
comp=Z,1.6nm,0.4s
GOMU GeErMu 43.79 278 P **P** **06 06 13.3 -0.1**
GOMU pmax pmax
comp=Z,9.0nm,1.0s
GOMU pmax pmax
comp=Z,76nm,5.5s
GOMU LR LR
comp=N,240nm,16.7s
GOMU LR LR
comp=E,220nm,16.6s
GOMU LR LR
comp=Z,170nm,16.2s
A36M Sachs Harbour 43.98 26 P **P** **06 06 14.8 +0.9**
A36M IAmb IAmb 06 06 15.6
comp=Z,14nm,0.8s
PZH PanZhiHua 44.78 262 P **P** **06 06 21.8 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
C36M Paulatuk 44.96 30 P **P** **06 06 21.6 -0.2**
C36M IAmb IAmb 06 06 22.9
comp=Z,12nm,1.1s
MK31 Makanchi Array 46.75 297 P **P** **06 06 34.7 -1.6**
MK31 Makanchi Array 46.75 297 P **P** **06 06 34.7 -1.6**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 46.75 297 P **P** **06 06 34.5 -1.8**
comp=Z,3.7nm,0.7s,baz=68,slow=7.3,SNR=16
MKAR PcP **PcP** **06 08 08.6 +0.1**
comp=Z,1.9nm,0.6s,baz=60,slow=4.9,SNR=6.4
comp=Z,3.7nm,0.7s
KURK Kurchatov 47.19 304 P **P** **06 06 37.7 -1.9**
KURK Kurchatov 47.19 304 *e*P **P** **06 06 39.8 +0.2**
KURK Kurchatov 47.19 304*ce*P **P** **06 06 39.8 +0.2**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURBB Kurchatov Arra 47.28 303 P **P** **06 06 38.8 -1.5**
comp=Z,3.3nm,0.7s,baz=69,slow=8.6,SNR=14
KURBB PcP **PcP** **06 08 10.0 -0.2**
comp=Z,1.1nm,0.6s,baz=66,slow=3.3,SNR=4.3
comp=Z,3.3nm,0.7s
TNCH TengChong 47.94 263 P **P** **06 06 46.9 +0.9**
TNCH pP pP 06 07 02.1 -0.8
TNCH pmax pmax
comp=Z,15nm,0.6s
BVAR Borovoye Array 50.70 309 P **P** **06 07 05.1 -1.3**
comp=Z,1.8nm,0.4s,baz=50,slow=7.8,SNR=12
BVAR PcP **PcP** **06 08 22.2 -0.5**
comp=Z,2.9nm,0.5s,baz=66,slow=3.6,SNR=9.3
comp=Z,1.8nm,0.4s
BRVK Borovoye 50.74 309 P **P** **06 07 05.1 -1.6**
BRVK Borovoye 50.74 309 *e*P **P** **06 07 07.1 +0.4**
BRVK Borovoye 50.74 309*ce*P **P** **06 07 07.1 +0.4**
BRVK pmax pmax
comp=Z,1.0nm,0.5s
RES Resolute Bay 50.93 18 P **P** **06 07 07.1 -0.7**
comp=Z,1.1nm,0.4s,baz=358,slow=3.7,SNR=9.8
comp=Z,1.1nm,0.4s
YKA Yellowknife Ar 51.08 37 P **P** **06 07 08.9 -0.3**
comp=Z,0.7nm,0.6s,baz=216,slow=8.0,SNR=1.9
YKA PcP **PcP** **06 08 23.4 -0.5**
comp=Z,1.2nm,0.9s,baz=304,slow=4.1,SNR=5.0
comp=Z,0.7nm,0.6s
PHRA Phrae 51.26 255 P **P** **06 07 12.7 +1.7**
NOR Nord 51.80 358 *i* P **P** **06 07 12.6 -1.7**
NOR IAmb IAmb 06 07 15.0
comp=Z,0.7nm,0.7s
CHTO Chiang Mai 51.89 256 P **P** **06 07 16.4 +0.7**
CHTO IAmb IAmb 06 07 17.8
comp=Z,10nm,0.8s
CHTO Chiang Mai 51.89 256 P **P** **06 07 16.4 +0.7**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 52.14 256 P **P** **06 07 18.1 +0.5**
comp=Z,4.8nm,0.6s,baz=35,slow=7.5,SNR=21
comp=Z,4.8nm,0.6s
CMAR Chiang Mai Arr 52.14 256 *e*P **P** **06 07 19.1 +1.5**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
SHL Shillong 52.14 268 P **P** **06 07 18.1 +0.4**
SHL Shillong 52.14 268 P **P** **06 07 18.1 +0.4**
SHL pmax pmax
comp=Z,31nm,0.6s
AAK Ala-Archa 53.64 296 P **P** **06 07 27.1 -1.4**
comp=Z,3.3nm,0.9s,baz=94,slow=3.7,SNR=7.1
comp=Z,3.3nm,0.9s
AAK Ala-Archa 53.64 296 *e*P **P** **06 07 29.7 +1.1**
AAK Ala-Archa 53.64 296*ce*P **P** **06 07 29.7 +1.1**
AAK pmax pmax
comp=Z,4.0nm,1.3s
TAPN Taplejung 53.87 273 *e*P **P** **06 07 31.2 +0.6**
comp=Z,11nm,0.3s
TULEG Thule 54.20 11 *i* P **P** **06 07 30.1 -1.8**
TULEG IAmb IAmb 06 07 31.2
comp=Z,4.7nm,0.6s
KSH Kashi 54.45 292 P **P** **06 07 38.3 +3.8**
KSH PcP **PcP** **06 08 41.0 +3.8**
KSH pmax pmax
comp=Z,4.0nm,0.5s
JIRN Jiri 54.72 274 *e*P **P** **06 07 37.5 +0.7**
comp=Z,19nm,0.3s
GUN Gumba 54.77 275 *e*P **P** **06 07 37.7 +0.5**
comp=Z,9.5nm,0.3s
ARU Arti 54.88 317 *e*P **P** **06 07 37.6 +0.5**
ARU Arti 54.88 317*c i*P **P** **06 07 37.6 +0.5**
ARU 06 09 39.6
ARU S **S** **06 15 14.6 +1.7**
ARU SS **SS** **06 18 52.9 -3.4**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU MLR MLR
comp=Z,382nm,20.0s
RAMN Ramite 54.89 273 *e*P **P** **06 07 38.3 +0.4**
comp=Z,37nm,0.4s
NEEM North Greenlan 55.22 6 *i* P **P** **06 07 37.7 -1.9**
NEEM IAmb IAmb 06 07 38.6
comp=Z,20nm,0.8s
PKI Pulchoki 55.31 275 *e*P **P** **06 07 41.4 +0.3**
comp=Z,7.7nm,0.3s
PKIN Phulchoki 55.32 275 *e*P **P** **06 07 41.4 +0.4**
DMN Daman 55.49 275 *e*P **P** **06 07 43.0 +0.7**
comp=Z,9.9nm,0.3s
GKN Gorkha 55.57 276 *e*P **P** **06 07 43.1 +0.4**
comp=Z,14nm,0.4s
DANN Dangsing 55.95 277 *e*P **P** **06 07 46.2 +0.6**
comp=Z,20nm,0.4s
KOLN Koldanda 56.42 276 *e*P **P** **06 07 49.7 +0.8**
DAG Danmarks Havn 56.66 358 *i* P **P** **06 07 47.2 -2.4**
DAG IAmb IAmb 06 07 48.6
comp=Z,1.5nm,0.6s
ARA0 ARCESS Array S 57.80 341 *e*P **P** **06 07 56.9 -0.9**
ARCES ARCESS Array B 57.80 341 P **P** **06 07 56.1 -1.6**
comp=Z,0.7nm,0.5s,baz=40,slow=7.5,SNR=12
ARCES PcP **PcP** **06 08 49.0 -0.6**
comp=Z,2.0nm,0.7s,baz=19,slow=4.1,SNR=4.5
comp=Z,0.7nm,0.5s
ABKAR Akbulak array 58.27 310 IAmb IAmb 06 08 02.8
comp=Z,2.8nm,0.5s
KTK1 Kautokeino 58.72 341 *e*P **P** **06 08 03.9 -0.3**
TRO Tromso 59.14 343 *e*P **P** **06 08 06.7 -0.3**
NIL Nilore 59.70 288 P **P** **06 08 12.1 +0.6**
NIL Nilore 59.70 288 P **P** **06 08 12.1 +0.6**
NIL pmax pmax
comp=Z,15nm,1.0s
PLID Pearl Lake 59.88 55 P **P** **06 08 12.7 0.0**
PLID IAmb IAmb 06 08 14.7
comp=Z,5.4nm,0.8s
MSO Missoula 59.96 52 P **P** **06 08 13.4 +0.2**
MSO IAmb IAmb 06 08 14.8
comp=Z,6.7nm,1.0s
SUMG Summit 60.74 4 *i* P **P** **06 08 16.7 -1.7**
SUMG IAmb IAmb 06 08 18.7
comp=Z,13nm,0.8s
EGMT Eagleton 61.45 49 IAmb IAmb 06 08 24.8
comp=Z,7.2nm,0.8s
LOF Lofoten 61.47 344 *e*P **P** **06 08 22.0 -0.9**
FAUS Fauske 61.77 343 *e*P **P** **06 08 24.2 -0.7**
BOZ Bozeman (W) 61.98 52 IAmb IAmb 06 08 28.3
comp=Z,3.7nm,0.6s
NVAR Mina Array Bea 62.65 62 P **P** **06 08 31.7 +0.1**
comp=Z,1.3nm,0.7s,baz=295,slow=7.2,SNR=13
comp=Z,1.3nm,0.7s
KONS Konsvik 62.97 343 *e*P **P** **06 08 31.9 -0.9**
MOR8 Moi Rana 62.98 342 *e*P **P** **06 08 31.1 -2.0**
SCO Scoresbysund 63.05 358 *i* P **P** **06 08 32.6 -0.8**
SCO IAmb IAmb 06 08 33.9
comp=Z,3.3nm,0.7s
TPAW Teton Pass 63.70 54 P **P** **06 08 40.3 +1.8**
TPAW IAmb IAmb 06 08 41.1
comp=Z,5.1nm,0.8s
FIA1 FINESS Array S 63.97 335 P **P** **06 08 39.0 -0.6**
FINES FINESS Array B 63.97 335 P **P** **06 08 38.2 -1.4**
comp=Z,9.8nm,0.4s,baz=34,slow=7.4,SNR=116
comp=Z,9.8nm,0.4s
FINES FINESS Array B 63.97 335 *e*P **P** **06 08 38.5 -1.1**
FINES pmax pmax
comp=Z,10.0nm,0.4s
DGMT Dagmar 63.99 46 IAmb IAmb 06 08 41.3
comp=Z,12nm,0.7s
ICESG Greenland Ices 64.14 5 *i* P **P** **06 08 40.4 -0.7**
ICESG IAmb IAmb 06 08 43.1
comp=Z,4.6nm,0.7s
LAO LASA Array 64.15 49 IAmb IAmb 06 08 43.1
comp=Z,8.5nm,0.8s
NSS Namsos 64.92 342 *e*P **P** **06 08 45.0 -0.7**
PDAR Pinedale Array 64.95 54 P **P** **06 08 46.2 -0.4**
comp=Z,2.3nm,0.8s,baz=292,slow=2.0,SNR=21
comp=Z,2.3nm,0.8s
OBN Obninsk 65.20 325 *e*P **P** **06 08 48.7 +1.0**
OBN Obninsk 65.20 325 *e*P **P** **06 08 48.7 +1.0**
OBN pmax pmax
comp=Z,3.0nm,0.8s
RDMU Red Mountain 66.40 55 IAmb IAmb 06 08 57.8
comp=Z,8.9nm,0.8s
GEYT Alibeck 66.42 301 P **P** **06 08 56.1 +0.1**
comp=Z,4.0nm,0.5s,baz=54,slow=2.6,SNR=7.3
comp=Z,4.0nm,0.5s
RSSD Black Hills 67.02 50 P **P** **06 09 00.1 +0.2**
RSSD IAmb IAmb 06 09 00.9
comp=Z,6.9nm,0.7s
RSSD Black Hills 67.02 50 P **P** **06 09 00.1 +0.2**
RSSD pmax pmax
comp=Z,7.0nm,0.7s
DOMB Dombas 67.75 342 *e*P **P** **06 09 03.4 -0.5**
AKN Aaknes 68.04 343 *e*P **P** **06 09 05.5 -0.3**
NB2 NORSAR Subarra 68.18 341 P **P** **06 09 06.1 -0.6**
baz=28,slow=6.2
NB2 NORSAR Subarra 68.18 341 P **P** **06 09 06.1 -0.6**
comp=Z,5.3nm,0.6s,baz=28,slow=6.2
NOA NORSAR Array B 68.18 341 P **P** **06 09 05.2 -1.5**
comp=Z,8.4nm,0.7s,baz=28,slow=6.5,SNR=42
comp=Z,8.4nm,0.7s
NOA NORSAR Array B 68.18 341 *e*P **P** **06 09 06.0 -0.6**
NOA pmax pmax
comp=Z,9.0nm,0.7s
NC602 NORSAR Array S 68.38 341 *e*P **P** **06 09 06.8 -1.0**
WRA Warramunga Arr 68.41 199 P **P** **06 09 08.2 -0.3**
comp=Z,1.3nm,0.5s,baz=17,slow=6.8,SNR=13

comp=Z,1.3nm,0.5s
WRA Warramunga Arr 68.41 199 *e*P **P** **06 09 08.9 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ODD1 Odda 70.18 343 *e*P **P** **06 09 18.8 -0.2**
KBZ Khabaz 70.71 314 P **P** **06 09 22.4 -0.1**
comp=Z,2.3nm,0.6s,baz=36,slow=1.7,SNR=6.1
comp=Z,2.3nm,0.6s
KBZ Khabaz 70.71 314 *e*P **P** **06 09 23.3 +0.8**
KBZ Khabaz 70.71 314 *e*P **P** **06 09 23.3 +0.8**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 71.44 326 P **P** **06 09 25.6 -1.2**
comp=Z,7.5nm,0.3s,baz=34,slow=6.3,SNR=45
comp=Z,7.5nm,0.3s
AKASG Malin Array Be 71.44 326 IAmb IAmb 06 09 27.1
comp=Z,2.8nm,0.4s
AKASG Malin Array Be 71.44 326 *e*P **P** **06 09 25.8 -1.0**
AKASG pmax pmax
comp=Z,8.0nm,0.3s
AKBB Malin Array Si 71.44 326 P **P** **06 09 25.6 -1.2**
AKBB Malin Array Si 71.44 326 *ce*P **P** **06 09 26.0 -0.8**
AKBB pmax pmax
comp=Z,13nm,0.6s
ASAR Alice Springs 72.11 198 P **P** **06 09 32.3 +1.3**
comp=Z,2.9nm,0.5s,baz=13,slow=5.5,SNR=28
comp=Z,2.9nm,0.5s
SCHQ Scheffervill 73.42 23 P **P** **06 09 37.8 -0.7**
comp=Z,1.7nm,0.6s,baz=310,slow=15,SNR=1.9
comp=Z,1.7nm,0.6s
SORM Soroca 73.84 325 ⇓P **P** **06 09 39.8 -1.3**
SORM Soroca 73.84 325 ⇓P **P** **06 09 39.8 -1.3**
STHS Stebnicka Huta 75.42 330 *e*P **P** **06 09 49.9 -0.4**
STHS Stebnicka Huta 75.42 330 *e*P **P** **06 09 49.9 -0.4**
STHS pmax pmax
comp=Z,7.0nm,0.8s
BURAR Bucovina Array 75.48 326 ⇓P **P** **06 09 50.4 -0.3**
BURAR Bucovina Array 75.48 326 ⇓P **P** **06 09 50.4 -0.3**
BIZ Bicaz 75.70 325 ⇓P **P** **06 09 51.2 -0.7**
CRVS Cervenica-Dubn 75.78 329 *e*P **P** **06 09 52.4 +0.1**
CRVS Cervenica-Dubn 75.78 329 *e*P **P** **06 09 52.4 +0.1**
CRVS pmax pmax
comp=Z,9.0nm,0.8s
TESR Tescani 75.84 325 ⇓P **P** **06 09 52.2 -0.4**
TRPA Tarpa 76.05 328 ⇓P **P** **06 09 53.9 +0.1**
DPC Dobruska-Polom 76.24 333 *e*P **P** **06 09 55.0 +0.1**
DPC Dobruska-Polom 76.24 333 *e*P **P** **06 09 55.0 +0.1**
ARCR ARCALIA 76.25 327 ⇓P **P** **06 09 55.4 +0.4**
CFR Carcaliu 76.32 323 ⇑P **P** **06 09 54.8 -0.6**
CFR Carcaliu 76.32 323 ⇑P **P** **06 09 54.8 -0.6**
VRI Vrincioaia 76.33 324 ⇓P **P** **06 09 55.4 -0.1**
VRI Vrincioaia 76.33 324 ⇓P **P** **06 09 55.4 -0.1**
MORC Moravsky Berou 76.36 332 ⇓P **P** **06 09 54.5 -1.1**
MORC Moravsky Berou 76.36 332 IAmb IAmb 06 09 56.8
comp=Z,10nm,1.1s
MORC Moravsky Berou 76.36 332 ⇓P **P** **06 09 54.5 -1.1**
CLL Collm 76.39 335 / P **P** **06 09 54.8 -0.9**
comp=Z,13nm,0.9s
TPGR Topolog 76.47 323 ⇓P **P** **06 09 55.9 -0.4**
COVR Voineasa-Covas 76.56 325 ⇓P **P** **06 09 57.3 +0.5**
BISRR Bisoca 76.60 324 ⇑P **P** **06 09 57.2 +0.1**
HARR Harsova 76.81 323 ⇓P **P** **06 09 57.5 -0.6**
HARR Harsova 76.81 323 ⇓P **P** **06 09 57.5 -0.6**
MLR Muntele Rosu 76.95 325 ⇓P **P** **06 09 59.2 +0.1**
MLR Muntele Rosu 76.95 325 P **P** **06 09 58.6 -0.5**
MLR IAmb IAmb 06 10 00.6
comp=Z,8.6nm,0.7s
MLR Muntele Rosu 76.95 325 ⇓P **P** **06 09 59.2 +0.1**
ISR Istrita 77.02 324 ⇑P **P** **06 09 59.5 +0.1**
ISR Istrita 77.02 324 ⇑P **P** **06 09 59.6 +0.1**
VYHS Vyhne 77.04 331 *e*P **P** **06 09 59.6 +0.2**
VYHS Vyhne 77.04 331 *e*P **P** **06 09 59.6 +0.2**
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VRAC Vranov 77.07 332 ⇑P **P** **06 09 59.1 -0.5**
VRAC Vranov 77.07 332 LR LR 06 48 55.4
comp=Z,446nm,21.6s,baz=18,slow=40
VRAC Vranov 77.07 332 ⇑P **P** **06 09 59.1 -0.5**
PRU Pruhonice 77.11 334 *e*P **P** **06 10 00.0 +0.2**
PRU Pruhonice 77.11 334 *e*P **P** **06 10 00.0 +0.2**
VOIR 77.35 325 ⇓P **P** **06 10 01.9 +0.6**
VOIR 77.35 325 ⇓P **P** **06 10 01.9 +0.6**
TREC Trest 77.43 333 *e*P P 06 09 52.8 -8.8
ARR Arges 77.57 325 ⇑P **P** **06 10 01.8 -0.7**
MODS Modra-Piesok 77.66 331 *e*P **P** **06 10 03.8 +0.9**
MODS Modra-Piesok 77.66 331 *e*P **P** **06 10 03.8 +0.9**
MODS pmax pmax
comp=Z,15nm,0.9s
TX32 Lajitas Array 77.70 60 IAmb IAmb 06 10 19.8
comp=Z,4.5nm,0.6s
TXAR Lajitas Array 77.70 60 P **P** **06 10 03.6 +0.1**
comp=Z,0.8nm,0.4s,baz=299,slow=4.9,SNR=39
comp=Z,0.8nm,0.4s
SIRR Siria 77.94 328 ⇓P **P** **06 10 04.4 -0.1**
KHC Kasperske Hory 78.16 334 IAmb IAmb 06 10 06.6
comp=Z,6.2nm,0.9s
KHC Kasperske Hory 78.16 334 *e*P **P** **06 10 05.8 +0.1**
KHC Kasperske Hory 78.16 334 *e*P **P** **06 10 05.8 +0.1**
SURR Surduc 78.21 327 ⇓P **P** **06 10 05.7 -0.2**
CKRC Cesky Krumlov 78.22 333 *e*P **P** **06 10 05.8 -0.2**
BR131 Keskin Array S 78.25 317 IAmb IAmb 06 10 07.9
comp=Z,6.8nm,0.9s
BRTR Keskin Array B 78.25 317 P **P** **06 10 06.0 -0.5**
comp=Z,2.6nm,0.8s,baz=57,slow=3.9,SNR=10
comp=Z,2.6nm,0.8s
BRTR Keskin Array B 78.25 317 P **P** **06 10 05.8 -0.7**
BRTR Keskin Array B 78.25 317 *e*P **P** **06 10 06.6 +0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
GZR Gura Zlata 78.27 327 ⇓P **P** **06 10 05.7 -0.7**
GZR Gura Zlata 78.27 327 ⇓P **P** **06 10 05.7 -0.7**
GERES GERESS Array B 78.38 334 P **P** **06 10 04.7 -2.2**
comp=Z,1.4nm,0.7s,baz=39,slow=6.8,SNR=6.9
comp=Z,1.4nm,0.7s
GERES GERESS Array B 78.38 334 *e*P **P** **06 10 05.7 -1.3**
GERES pmax pmax
comp=Z,1.0nm,0.6s
CONA Conrad Observa 78.51 332 *e*P **P** **06 10 08.0 +0.2**
comp=Z,4.6nm,0.6s
RONA Rosalia, Austr 78.57 332 *i* P **P** **06 10 08.5 +0.6**
comp=Z,10nm,0.9s
MOA Molln 79.09 333 *e*P **P** **06 10 11.2 +0.4**
comp=Z,4.7nm,0.9s
FCAR Ozark Folk Cen 79.24 48 IAmb IAmb 06 10 11.4
comp=Z,4.0nm,0.6s
SOKA Soboth 79.88 332 *e*P **P** **06 10 14.9 -0.3**
comp=Z,9.9nm,1.1s
KBA Koelnbreinsper 80.06 333 *e*P **P** **06 10 16.2 -0.1**
comp=Z,10nm,0.8s
WATA Walderalm 80.37 334 *e*P **P** **06 10 17.8 -0.1**
comp=Z,6.2nm,0.7s
WTTA Wattenberg 80.42 334 *i* P **P** **06 10 18.4 +0.2**
comp=Z,9.6nm,0.7s
VTS Vitosha 80.43 325 P **P** **06 10 18.0 -0.3**
VTS IAmb IAmb 06 10 19.2
comp=Z,9.4nm,0.9s
VTS Vitosha 80.43 325 P **P** **06 10 18.0 -0.3**
VTS pmax pmax
comp=Z,9.0nm,0.9s
MOTA Moosalm 80.50 335 *i* P **P** **06 10 18.7 +0.1**
comp=Z,12nm,1.0s
SQTA Sankt Quirin 80.58 335 *i* P **P** **06 10 19.2 +0.2**
comp=Z,7.7nm,0.8s
WVT Waverly 81.22 46 P **P** **06 10 21.7 -0.7**
WVT Waverly 81.22 46 P **P** **06 10 21.7 -0.7**
WVT pmax pmax
comp=Z,4.0nm,0.8s
DAVOX Davos/Dischmat 81.37 335 LR LR 06 51 31.4
comp=Z,276nm,19.6s,baz=264,slow=39
CLTN Cedars of Leba 81.98 45 IAmb IAmb 06 10 27.2
comp=Z,5.6nm,0.9s
PDG Podgorica 82.12 327 ⇑P **P** **06 10 26.2 -0.8**
NRCA Norcia 83.92 331 IAmb IAmb 06 10 37.5
comp=Z,11nm,0.9s
RAYN Ar Rayn 84.23 298 P **P** **06 10 38.8 +0.5**
RAYN IAmb IAmb 06 10 39.6
comp=Z,5.9nm,0.8s
RAYN Ar Rayn 84.23 298 P **P** **06 10 38.8 +0.5**
RAYN pmax pmax
comp=Z,6.0nm,0.9s
NWAO Narrogin (SRO) 85.52 209 P **P** **06 10 45.2 +1.0**
comp=Z,5.5nm,0.7s,baz=41,slow=19,SNR=3.3
comp=Z,5.5nm,0.7s
ESDC Sonseca Array 91.51 342 P **P** **06 11 11.1 -1.9**
comp=Z,1.2nm,0.9s,baz=7.8,slow=3.3,SNR=5.3
comp=Z,1.2nm,0.9s
VNDA Vanda 124.10 178 PKP **PKiKP** **06 17 03.5 +0.2**
comp=Z,0.6nm,0.8s,baz=8.9,slow=3.7,SNR=5.0
H03N2 Juan Fernandez 138.98 90 T T 08 53 07.7
baz=308,slow=77,SNR=259
H03N1 Juan Fernandez 139.00 90 T T 08 53 06.4
baz=308,slow=77,SNR=281
H03N3 Juan Fernandez 139.00 90 T T 08 53 03.2
baz=308,slow=77,SNR=256
BDFB Brasilia 144.50 36 PKP **PKPab** **06 17 40.9 -0.4**
comp=Z,4.1nm,0.7s,baz=333,slow=2.7,SNR=9.8
PLCA Paso Flores 148.43 95 PKPbc **PKPbc** **06 17 52.4 0.0**
comp=Z,4.0nm,0.8s,baz=253,slow=2.6,SNR=14
CPUP Villa Florida 148.68 60 PKPbc **PKPbc** **06 17 53.1 -0.2**
comp=Z,1.7nm,0.8s,baz=324,slow=1.9,SNR=9.7
TROLL Troll, Antarti 151.09 199 PKPdf **PKiKP** **06 17 58.7 +0.1**
SNAA Sanae 152.46 196 PKPdf **PKPbc** **06 18 01.1 +0.1**
VNA2 Neumayer--Watz 153.92 195 PKPdf **PKiKP** **06 18 04.4 +0.2**
baz=92,slow=1.2
VNA3 Neumayer Olymp 154.02 193 PKPdf **PKPbc** **06 18 03.9 -0.5**

*WEL **22** 05:59:00.42°.89S×172°.95E, h6km, ML4.7, Mw4.4, Moment Tensor Solution. s10 Moment tensor: Scale 10^15Nm; Mrr4.06; Mθθ-0.52; Mϕϕ-3.54; Mrθ0.38; Mrϕ-1.44; Mθϕ1.23; Fault plane solution: M=4.28000×10^15 NP1: ϕs203.00000°, δ36.00000°, λ92.00000°. NP2:ϕs20.00000°, δ54.00000°, λ88.00000°. Principal axes: T -431.4000, Plg81.0000°, Azm283.0000°; N 5.8900, Plg1.0000°, Azm21.0000°; P 425.5100, Plg9.0000°, Azm111.0000°;*
*NOU **22** 05:59:53.9, 43°.05S×173°.09E, h0km, MLv4.7/14, Off E. Coast of S. Island, N.Z.*
*IDC **22** 05:59:54.4±1.1, 42°.79S×172°.74E, h0km, mb4.0/3, mbtmp4.0/3, MS3.9/5, Error ellipse: s-maj=30.9km s-min=15.4km az=135.0*
*NEIC **22** 05:59:55.1±1.4, 43°.05S±0°.04×173°.08E±0°.05, h14km±2km, mb4.2/7, ML4.7(WEL), Error ellipse: s-maj=6.2km s-min=4.8km az=134.0*
*WEL **22** 05:59:55.9±0.2, 43°.S±2°×17°.3E±°, h9km±2km, M4.7/75, ML4.7/24, MLv4.7/75, Error ellipse: s-maj=0.0km s-min=0.0km az=131.0*

ISC 22 05:59:56.1±0.8, 42°.97S±0°.03×172°.97E±0°.03, h14km±5km, n186, σ1s16/186, mb4.2/7, MS3.9/5, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.05**	**87**				**Pg**	**05 59 58.7**	**0.0**
GVZ	**Greta Valley S**	**0.05**	**87**	P			**Pg**	**05 59 58.7**	**0.0**
GVZ				S			**Sg**	**06 00 00.7**	**+0.2**
AMCZ	**Amberley**	**0.31**	**228**				**Pb**	**06 00 03.6**	**+0.1**
AMCZ	**Amberley**	**0.31**	**228**	P			**Pb**	**06 00 03.7**	**+0.3**
AMCZ				S			**Sb**	**06 00 09.2**	**+0.8**
LTZ	**Lake Taylor**	**0.54**	**290**				**Pg**	**06 00 06.3**	**-0.6**
LTZ	**Lake Taylor**	**0.54**	**290**	P			**Pg**	**06 00 06.3**	**-0.6**
LTZ				S			**Sg**	**06 00 13.5**	**-0.6**
KHZ	**Kahutara**	**0.70**	**38**				**Pb**	**06 00 10.1**	**+0.1**
KHZ	**Kahutara**	**0.70**	**38**	P			**Pb**	**06 00 10.0**	**-0.1**
OKCZ	**Okains Bay**	**0.76**	**175**	P			**Pn**	**06 00 12.4**	**-0.1**
OXZ	**Oxford**	**0.77**	**242**				**Pb**	**06 00 11.5**	**+0.3**
OXZ	**Oxford**	**0.77**	**242**	P			**Pb**	**06 00 11.6**	**+0.3**
MQZ	**McQueen's Vall**	**0.77**	**197**				**Pb**	**06 00 11.6**	**+0.2**
MQZ	**McQueen's Vall**	**0.77**	**197**	P			**Pb**	**06 00 11.5**	**+0.2**
AKCZ	**Akaroa Harbour**	**0.90**	**183**	P			**Pb**	**06 00 13.9**	**+0.3**
RACZ	**Rakaia**	**0.97**	**218**	P			**Pb**	**06 00 14.4**	**-0.2**
INZ	**Inchbonnie**	**1.15**	**282**				**Pb**	**06 00 17.0**	**-0.7**
INZ	**Inchbonnie**	**1.15**	**282**	P			**Pb**	**06 00 17.0**	**-0.7**
MHCZ	**Mount Hutt**	**1.17**	**241**	P			**Pb**	**06 00 17.1**	**-1.0**
THZ	**Tophouse**	**1.21**	**358**				**Pn**	**06 00 17.9**	**-0.8**
THZ	**Tophouse**	**1.21**	**358**	P			**Pn**	**06 00 18.0**	**-0.7**
WACZ	**Wakanui South**	**1.27**	**220**	P			**Pn**	**06 00 18.7**	**-0.8**
BSWZ	**Blackbirch Sta**	**1.42**	**29**				**Pn**	**06 00 21.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.42**	**29**	P			**Pn**	**06 00 21.7**	**+0.1**
DSZ	**Denniston Nort**	**1.50**	**325**	P			**Pn**	**06 00 22.2**	**-0.5**
CMWZ	**Cape Campbell**	**1.53**	**38**				**Pn**	**06 00 23.2**	**+0.2**
CMWZ	**Cape Campbell**	**1.53**	**38**	P			**Pn**	**06 00 23.3**	**+0.2**
MRNZ	**Matariki Terra**	**1.58**	**354**	Pn			**Pn**	**06 00 23.5**	**-0.2**
MRNZ	**Matariki Terra**	**1.58**	**354**	P			**Pn**	**06 00 24.0**	**+0.3**
RPZ	**Rata Peaks**	**1.58**	**241**	Pg			**Pn**	**06 00 22.9**	**-0.9**
	195nm,0.3s,baz=63,slow=6.8,SNR=161								
RPZ				Lg			Lg	06 00 42.2	
	394nm,0.3s,baz=339,slow=17,SNR=22								
RPZ	**Rata Peaks**	**1.58**	**241**	P			**Pn**	**06 00 23.2**	**-0.6**
RPZ	**Rata Peaks**	**1.58**	**241**	P			**Pn**	**06 00 23.1**	**-0.7**
ARCZ	**Arundel**	**1.63**	**233**	P			**Pn**	**06 00 23.6**	**-0.9**
WVZ	**Waitaha Valley**	**1.64**	**266**	P			**Pn**	**06 00 24.2**	**-0.3**
TUWZ	**Tuamarina**	**1.70**	**26**				**Pn**	**06 00 24.9**	**-0.5**
TUWZ	**Tuamarina**	**1.70**	**26**	P			**Pn**	**06 00 25.1**	**-0.3**
NNZ	**Nelson**	**1.78**	**10**				**Pn**	**06 00 26.6**	**+0.2**
NNZ	**Nelson**	**1.78**	**10**	P			**Pn**	**06 00 26.8**	**+0.3**
TKNZ	**Takaka Hill**	**1.94**	**360**				**Pn**	**06 00 29.0**	**+0.3**
TKNZ	**Takaka Hill**	**1.94**	**360**	P			**Pn**	**06 00 29.3**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**1.96**	**259**	P			**Pn**	**06 00 29.0**	**0.0**
TMZ	**Timaru**	**2.00**	**225**	P			**Pn**	**06 00 29.1**	**-0.6**
TCW	**Tory Channel**	**2.01**	**29**				**Pn**	**06 00 28.9**	**-0.7**
TCW	**Tory Channel**	**2.01**	**29**	P			**Pn**	**06 00 29.2**	**-0.4**
SNZO	**South Karori**	**2.10**	**39**				**Pn**	**06 00 30.2**	**-0.7**
SNZO	**South Karori**	**2.10**	**39**	P			**Pn**	**06 00 30.6**	**-0.3**
WEL	**Wellington**	**2.15**	**39**	P			**Pn**	**06 00 30.8**	**-0.8**
QRZ	**Quartz Range**	**2.17**	**351**				**Pn**	**06 00 31.7**	**-0.1**
QRZ	**Quartz Range**	**2.17**	**351**	P			**Pn**	**06 00 31.8**	**0.0**
QRZ	**Quartz Range**	**2.17**	**351**	P			**Pn**	**06 00 30.6**	**-1.2**
PLWZ	**Palliser**	**2.20**	**51**				**Pn**	**06 00 31.1**	**-1.2**
PLWZ	**Palliser**	**2.20**	**51**	P			**Pn**	**06 00 31.1**	**-1.2**
DUWZ	**D'Urville Isla**	**2.28**	**19**	P			**Pn**	**06 00 33.5**	**+0.1**
FOZ	**Fox Glacier**	**2.37**	**255**				**Pn**	**06 00 34.6**	**+0.1**
FOZ	**Fox Glacier**	**2.37**	**255**	P			**Pn**	**06 00 34.9**	**+0.4**
PAWZ	**Paruwai Farm**	**2.42**	**50**	P			**Pn**	**06 00 33.9**	**-1.4**
CAW	**Cannon Point**	**2.43**	**41**	P			**Pn**	**06 00 34.3**	**-1.2**
LBZ	**Lake Benmore**	**2.46**	**234**				**Pn**	**06 00 35.3**	**-0.7**
LBZ	**Lake Benmore**	**2.46**	**234**	P			**Pn**	**06 00 35.5**	**-0.5**
KIW	**Kapiti Island**	**2.56**	**35**	P			**Pn**	**06 00 36.6**	**-0.7**
TRWZ	**Traveller**	**2.56**	**53**	P			**Pn**	**06 00 36.0**	**-1.2**
MTW	**Mount Morrison**	**2.62**	**47**	P			**Pn**	**06 00 36.4**	**-1.6**
ODZ	**Otahua Downs**	**2.67**	**218**	Pn			**Pn**	**06 00 37.7**	**-0.9**
ODZ	**Otahua Downs**	**2.67**	**218**	P			**Pn**	**06 00 38.2**	**-0.5**
ODZ	**Otahua Downs**	**2.67**	**218**	P			**Pn**	**06 00 38.0**	**-0.7**
OGWZ	**Otaki Gorge**	**2.71**	**38**	P			**Pn**	**06 00 38.1**	**-1.2**
HOWZ	**Holdsworth Sta**	**2.81**	**43**	P			**Pn**	**06 00 39.3**	**-1.4**
TMWZ	**Te Maipa**	**2.87**	**50**	P			**Pn**	**06 00 39.9**	**-1.6**
MRZ	**Mangatainoka R**	**3.02**	**41**				**Pn**	**06 00 42.0**	**-1.6**
MRZ	**Mangatainoka R**	**3.02**	**41**	P			**Pn**	**06 00 42.0**	**-1.6**
JCZ	**Jackson Bay**	**3.23**	**249**	P			**Pn**	**06 00 46.3**	**-0.3**
JCZ	**Jackson Bay**	**3.23**	**249**	P			**Pn**	**06 00 45.9**	**-0.6**
PRWZ	**Pori Road**	**3.30**	**44**	P			**Pn**	**06 00 45.9**	**-1.5**
BFZ	**Birch Farm**	**3.35**	**48**				**Pn**	**06 00 46.3**	**-1.8**
BFZ	**Birch Farm**	**3.35**	**48**	P			**Pn**	**06 00 47.3**	**-0.8**
BFZ	**Birch Farm**	**3.35**	**48**	P			**Pn**	**06 00 46.2**	**-1.9**
HHSZ	**Highcliff Hill**	**3.37**	**209**	P			**Pn**	**06 00 47.7**	**-0.7**
WKZ	**Wanaka**	**3.40**	**236**	Pn			**Pn**	**06 00 47.9**	**-1.0**
WKZ	**Wanaka**	**3.40**	**236**	P			**Pn**	**06 00 47.8**	**-1.0**
EAZ	**Earnscleugh**	**3.47**	**228**	P			**Pn**	**06 00 48.5**	**-1.2**
WAZ	**Wanganui**	**3.55**	**26**	P			**Pn**	**06 00 52.0**	**+1.1**
DVHZ	**Dannevirke**	**3.59**	**43**	P			**Pn**	**06 00 50.3**	**-1.1**
NMEZ	**Namu Road**	**3.62**	**11**	P			**Pn**	**06 00 53.9**	**+2.1**
ANWZ	**Angora Road**	**3.63**	**48**	P			**Pn**	**06 00 51.3**	**-0.6**
TSZ	**Takapari Road**	**3.68**	**39**	P			**Pn**	**06 00 52.9**	**+0.3**
KHEZ	**Kahui Hut**	**3.76**	**13**	P			**Pn**	**06 00 54.8**	**+1.0**
KHEZ	**Kahui Hut**	**3.76**	**13**	P			**Pn**	**06 00 55.0**	**+1.3**
NBEZ	**Newall Road No**	**3.76**	**11**	P			**Pn**	**06 00 55.1**	**+1.3**
NEZ	**North Egmont**	**3.79**	**13**	P			**Pn**	**06 00 55.6**	**+1.4**
TUZ	**Tuapeka**	**3.82**	**218**	P			**Pn**	**06 00 53.9**	**-0.7**
PKE	**Pukeiti**	**3.85**	**12**	P			**Pn**	**06 00 57.0**	**+2.0**
PRHZ	**Porangahau**	**3.85**	**47**	P			**Pn**	**06 00 53.8**	**-1.3**
DREZ	**Durham Road**	**3.89**	**14**	P			**Pn**	**06 00 56.9**	**+1.3**
PNHZ	**Pukenui**	**3.90**	**40**	P			**Pn**	**06 00 53.6**	**-2.1**
WPHZ	**Waipukurau**	**3.90**	**43**	P			**Pn**	**06 00 55.9**	**+0.2**
MHEZ	**Mangahewa**	**4.02**	**15**	P			**Pn**	**06 01 00.3**	**+3.0**
MSZ	**Milford Sound**	**4.02**	**243**	P			**Pn**	**06 00 55.8**	**-1.5**
MTVZ	**Mangateitei**	**4.05**	**29**	P			**Pn**	**06 00 59.5**	**+1.7**
VRZ	**Vera Road**	**4.07**	**20**	P			**Pn**	**06 00 59.0**	**+1.0**
PKVZ	**Pokaka**	**4.09**	**27**	P			**Pn**	**06 00 58.5**	**+0.1**
MOVZ	**Moawhango**	**4.13**	**32**	P			**Pn**	**06 00 58.3**	**-0.6**
PXZ	**Pawanui**	**4.15**	**46**	P			**Pn**	**06 00 58.3**	**-0.7**
WNVZ	**Wahianoa**	**4.15**	**30**	P			**Pn**	**06 00 59.4**	**+0.2**
TRVZ	**Turoa**	**4.15**	**29**	P			**Pn**	**06 00 59.0**	**-0.3**
DRZ	**Dome Shelter**	**4.18**	**29**	P			**Pn**	**06 01 02.0**	**+2.2**
WHVZ	**Whangaehu Hut**	**4.18**	**29**	P			**Pn**	**06 01 00.2**	**+0.4**
BHHZ	**Black Hill Sta**	**4.19**	**35**	P			**Pn**	**06 00 58.6**	**-1.1**
FWVZ	**Far West T-bar**	**4.20**	**29**	P			**Pn**	**06 00 59.7**	**-0.2**
TUVZ	**Tukino**	**4.22**	**30**	P			**Pn**	**06 01 00.2**	**0.0**
MLZ	**Mavora Lakes**	**4.23**	**234**	P			**Pn**	**06 00 58.8**	**-1.4**
SNVZ	**South Ngauruho**	**4.29**	**29**	P			**Pn**	**06 01 01.3**	**+0.2**
OTVZ	**Oturere**	**4.32**	**29**	P			**Pn**	**06 01 01.7**	**+0.2**
TWVZ	**Taurewa**	**4.32**	**26**	P			**Pn**	**06 01 02.5**	**+1.0**
NNVZ	**North Ngauruho**	**4.33**	**28**	P			**Pn**	**06 01 02.9**	**+1.3**
KAHZ	**Kahuranaki**	**4.33**	**44**	P			**Pn**	**06 01 00.3**	**-1.2**
ETVZ	**East Tongariro**	**4.36**	**29**	P			**Pn**	**06 01 01.9**	**-0.1**
KRVZ	**Karewarewa**	**4.37**	**28**	P			**Pn**	**06 01 03.0**	**+0.8**
TMVZ	**Te Maari**	**4.37**	**29**	P			**Pn**	**06 01 02.1**	**-0.2**
NTVZ	**North Tongarir**	**4.38**	**29**	P			**Pn**	**06 01 02.7**	**+0.4**
KWHZ	**Kaweka Forest**	**4.40**	**38**	P			**Pn**	**06 01 00.8**	**-1.8**
SYZ	**Scrubby Hill**	**4.49**	**216**	P			**Pn**	**06 01 02.9**	**-0.8**
SYZ	**Scrubby Hill**	**4.49**	**216**	P			**Pn**	**06 01 03.0**	**-0.6**
MCHZ	**McNeill Hill**	**4.51**	**40**	P			**Pn**	**06 01 03.9**	**-0.1**
WHZ	**Wether Hill Ro**	**4.63**	**229**	Pn			**Pn**	**06 01 03.6**	**-2.1**
WHZ	**Wether Hill Ro**	**4.63**	**229**	P			**Pn**	**06 01 03.6**	**-2.1**
BKZ	**Black Stump Fm**	**4.64**	**36**				**Pn**	**06 01 05.9**	**0.0**
BKZ	**Black Stump Fm**	**4.64**	**36**	P			**Pn**	**06 01 05.8**	**-0.1**
BKZ	**Black Stump Fm**	**4.64**	**36**	P			**Pn**	**06 01 03.4**	**-2.5**
HIZ	**Hauiti**	**4.68**	**18**				**Pn**	**06 01 06.5**	**+0.2**
HIZ	**Hauiti**	**4.68**	**18**	P			**Pn**	**06 01 06.2**	**-0.1**
HIZ	**Hauiti**	**4.68**	**18**	P			**Pn**	**06 01 06.4**	**+0.1**
ARHZ	**Aropaoanui**	**4.79**	**41**	P			**Pn**	**06 01 07.4**	**-0.5**
NMHZ	**Naumai**	**4.84**	**38**	P			**Pn**	**06 01 08.0**	**-0.6**
DCZ	**Deep Cove**	**4.87**	**237**	P			**Pn**	**06 01 07.3**	**-1.6**
MRHZ	**Matea Rd**	**4.89**	**33**	P			**Pn**	**06 01 06.8**	**-2.5**
TLZ	**Tolley Road**	**5.03**	**24**	P			**Pn**	**06 01 12.3**	**+1.1**
MTHZ	**Maungataniwha**	**5.05**	**37**	P			**Pn**	**06 01 12.3**	**+0.8**
APZ	**The Paps**	**5.23**	**221**	P			**Pn**	**06 01 12.3**	**-1.7**
RTZ	**Ruatahuna**	**5.31**	**36**	P			**Pn**	**06 01 16.7**	**+1.6**
SNGZ	**Shannon Statio**	**5.34**	**40**	P			**Pn**	**06 01 14.7**	**-0.8**
PYZ	**Puysegur Point**	**5.51**	**232**	Pn			**Pn**	**06 01 15.7**	**-2.0**
TOZ	**Tahuroa Road**	**5.58**	**21**	P			**Pn**	**06 01 18.7**	**0.0**
RIGZ	**Rimuhau**	**5.60**	**42**	P			**Pn**	**06 01 16.7**	**-2.3**
URZ	**Urewera**	**5.66**	**35**	P			**Pn**	**06 01 17.8**	**-2.1**
URZ	**Urewera**	**5.66**	**35**	P			**Pn**	**06 01 17.6**	**-2.2**
TGRZ	**Tauranga**	**5.81**	**27**	P			**Pn**	**06 01 24.2**	**+2.3**
AWAZ	**Awhitu Peninsu**	**6.04**	**13**	P			**Pn**	**06 01 25.4**	**+0.3**
MKAZ	**Moumakai**	**6.10**	**17**	P			**Pn**	**06 01 25.5**	**-0.3**
TWGZ	**Tauwhareparae**	**6.12**	**40**	P			**Pn**	**06 01 26.5**	**+0.2**
RUGZ	**Raukumara Rang**	**6.16**	**37**	P			**Pn**	**06 01 24.3**	**-2.4**
WTAZ	**Waiatarua**	**6.16**	**12**	P			**Pn**	**06 01 28.5**	**+1.8**
ETAZ	**East Tamaki Re**	**6.20**	**15**	P			**Pn**	**06 01 27.3**	**+0.1**
MYRZ	**Mayor Island**	**6.21**	**25**	P			**Pn**	**06 01 28.8**	**+1.3**
MBAZ	**Motutapu North**	**6.37**	**14**	P			**Pn**	**06 01 30.6**	**+1.0**
HAZ	**Te Kaha**	**6.38**	**37**	P			**Pn**	**06 01 27.6**	**-2.1**
WIAZ	**Waiheke Island**	**6.39**	**16**	P			**Pn**	**06 01 29.9**	**0.0**
PKGZ	**Pakihiroa**	**6.40**	**39**	P			**Pn**	**06 01 28.6**	**-1.4**
ABAZ	**Army Bay**	**6.52**	**13**	P			**Pn**	**06 01 31.9**	**+0.3**
KUZ	**Kuaotunu**	**6.57**	**20**	P			**Pn**	**06 01 31.7**	**-0.6**
KUZ	**Kuaotunu**	**6.57**	**20**	P			**Pn**	**06 01 31.4**	**-0.9**
WMGZ	**Waiomatatini S**	**6.62**	**41**	P			**Pn**	**06 01 30.3**	**-2.7**
MXZ	**Matakaoa Point**	**6.77**	**39**	P			**Pn**	**06 01 34.8**	**-0.3**
MXZ	**Matakaoa Point**	**6.77**	**39**	P			**Pn**	**06 01 32.9**	**-2.1**
OUZ	**Omahuta**	**7.75**	**4**	P			**Pn**	**06 01 49.7**	**+1.1**
ASAR	**Alice Springs**	**37.47**	**288**	P			**P**	**06 07 08.5**	**-0.9**
	1.5nm,0.6s,baz=132,slow=8.6,SNR=15								
ASAR				LR			LR	06 22 03.4	
	comp=Z,147nm,18.5s,baz=184,slow=36								
	1.5nm,0.6s								
ASAR	**Alice Springs**	**37.47**

JCZ	Jackson Bay	3.21	248	P		Pn	06 05 12.6	+0.7
HHSZ	Highcliff Hill	3.38	209	P		Pn	06 05 13.4	-0.8
EAZ	Earnscleugh	3.46	227	P		Pn	06 05 14.8	-0.6
WAZ	Wanganui	3.54	27	P		Pn	06 05 20.1	+3.7
KHEZ	Kahui Hut	3.74	13	P		Pn	06 05 21.9	+2.8
NBEZ	Newall Road No	3.74	11	P		Pn	06 05 21.2	+2.1
NEZ	North Egmont	3.77	14	P		Pn	06 05 22.9	+3.3
TUZ	Tuapeka	3.82	217	P		Pn	06 05 20.3	+0.1
PKE	Pukeiti	3.83	13	P		Pn	06 05 23.2	+2.8
DREZ	Durham Road	3.87	15	P		Pn	06 05 24.6	+3.7
VRZ	Vera Road	4.06	21	P		Pn	06 05 23.2	-0.3
PKVZ	Pokaka	4.08	28	P		Pn	06 05 26.2	+2.3
WNVZ	Wahianoa	4.14	30	P		Pn	06 05 26.2	+1.4
TRVZ	Turoa	4.14	30	P		Pn	06 05 27.3	+2.4
WHVZ	Whangaehu Hut	4.17	30	P		Pn	06 05 27.2	+1.9
FWVZ	Far West T-bar	4.18	29	P		Pb	06 05 32.1	-3.2
MLZ	Mavora Lakes	4.22	233	P		Pn	06 05 25.1	-0.7
OTVZ	Oturere	4.31	30	P		Pn	06 05 29.6	+2.6
NNVZ	North Ngauruho	4.32	29	P		Pn	06 05 31.0	+3.8
ETVZ	East Tongariro	4.35	30	P		Pn	06 05 28.8	+1.2
TMVZ	Te Maari	4.36	30	P		Pn	06 05 29.8	+2.0
HIZ	Hauiti	4.66	19	P		Pn	06 05 33.2	+1.4
TLZ	Tolley Road	5.02	24	P		Pn	06 05 40.5	+3.7
APZ	The Paps	5.23	220	P		Pn	06 05 38.9	-0.8
TOZ	Tahuroa Road	5.56	22	P		Pn	06 05 44.9	+0.7
AWAZ	Awhitu Peninsu	6.02	13	P		Pn	06 05 51.5	+1.1
MKAZ	Moumakai	6.08	17	P		Pn	06 05 51.6	+0.4
WIAZ	Waiheke Island	6.37	16	P		Pn	06 05 56.1	+0.9
ASAR	Alice Springs	37.43	288	P		P	06 11 34.8	+0.1
	0.3nm,0.4s,baz=127,slow=7.1,SNR=3.1 0.3nm,0.4s							
WRA	Warramunga Arr	39.63	293	P		P	06 11 52.9	-0.3
	0.1nm,0.5s,baz=134,slow=8.0,SNR=4.6 0.1nm,0.5s							
ARCES	ARCESS Array B	148.54	339	PKPbc		PKPbc	06 24 06.6	-0.5
	3.1nm,1.2s,baz=46,slow=2.6,SNR=5.7							

WEL 22 06:05:38.1±0.4,**43°S**±2°×**17°3E**±°,**h5**km,**M3.3/11**,**ML3.6/8**,**MLv3.3/11**,**Error ellipse: s-maj=0.0km s-min=0.0km az=119.6**,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.09	123	P	Pg	06 05 40.4	+0.3
GVZ				S	Sg	06 05 42.6	+1.1
AMCZ	Amberley	0.33	218	P	Pg	06 05 45.4	+0.9
AMCZ				S	Sb	06 05 51.1	-1.0
LTZ	Lake Taylor	0.50	285	P	Pg	06 05 48.0	+0.2
LTZ				S	Sg	06 05 55.2	+1.0
KHZ	Kahutara	0.67	42	P	Pg	06 05 51.6	+0.6
OXZ	Oxford	0.77	237	P	Pg	06 05 53.3	+0.5
MQZ	McQueen's Vall	0.81	194	P	Pg	06 05 53.3	-0.4
INZ	Inchbonnie	1.11	279	P	Pg	06 05 59.5	+0.2
THZ	Tophouse	1.15	359	P	Pg	06 05 59.8	-0.4
MHCZ	Mount Hutt	1.17	238	P	Pg	06 05 59.7	-0.8
DSZ	Denniston Nort	1.44	324	P	Pn	06 06 04.0	-0.8
TKNZ	Takaka Hill	1.88	1	P	Pn	06 06 11.2	+0.3

IDC ***22*** *06:14:40.1±1.2,37°.27N×141°.45E,h0km,mb3.5/6, mbtmp3.5/8,ML2.8/2,Error ellipse: s-maj=27.3km s-min=22.2km az=121.0*
JMA ***22*** *06:14:43.1±0.2,37°.3N±0°.4×14°.2E±°, h33km±1km, MV3.6/35,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 06:14:42.4±1.8,**37°31N**±0°.04×**141°39E**±0°.07,**h16**km±11km, **n21**,**σ0°74**/**21**,**mb3.4**/6,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.41	278	P	Pn	06 14 53.4	-0.3
JFK				eS	Sn	06 15 00.9	-0.3
JMST	Minamisoumatoc	0.58	316	P	Pn	06 14 55.5	-0.4
JMST				S	Sn	06 15 04.9	-0.2
JFFD	Fukushimafurud	0.70	252	P	Pn	06 14 57.7	+0.1
JMM	Marumori	0.73	320	P	Pn	06 14 57.8	-0.3
JMM				S	Sn	06 15 08.7	-0.2
JHO	Hitachi	0.96	224	P	Pg	06 15 01.3	+0.4
JHO				S	Sn	06 15 14.4	-0.1
JIO	Ouri	1.14	358	P	Pn	06 15 02.8	-1.0
JOU	Okura	1.20	332	P	Pg	06 15 05.6	0.0
MJAR	Matsushiro Arr	2.66	254	Pn	Pn	06 15 25.0	+0.3
	0.4nm,0.3s,baz=79,slow=18,SNR=2.5						
MJAR				Sn	Sb	06 16 00.5	-1.6
	0.4nm,0.3s,baz=108,slow=14,SNR=2.4 5.6nm,0.4s						
JHJ	Hachijo jima 2	4.38	198	Pn	Pn	06 15 47.4	-0.9
	6.0nm,0.3s,baz=45,slow=14,SNR=1.3						
JHJ				Sn	Sn	06 16 38.0	-1.0
	13nm,0.3s,baz=250,slow=15,SNR=1.4 80nm,0.7s						
SONM	Songino Array	27.62	304	P	P	06 20 28.4	-0.8
	0.4nm,0.6s,baz=116,slow=9.8,SNR=2.5 0.4nm,0.6s						
H11N2	WAKE ISLAND Hy	28.31	121	T	T	06 49 59.9	
	baz=314,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	28.31	121	T	T	06 50 01.3	
	baz=314,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	28.32	121	T	T	06 50 00.4	
	baz=314,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy	29.02	123	T	T	06 50 54.5	
	baz=316,slow=76,SNR=31						
H11S3	WAKE ISLAND Hy	29.03	123	T	T	06 50 54.7	
	baz=316,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	29.04	123	T	T	06 50 55.8	
	baz=316,slow=76,SNR=25						
ZALV	Zalesovo Beam	41.72	312	P	P	06 22 30.9	+0.6
	0.7nm,0.6s,baz=87,slow=6.1,SNR=3.8 0.7nm,0.6s						
MKAR	Makanchi Array	43.96	302	P	P	06 22 50.0	+1.3
	0.4nm,0.7s,baz=80,slow=10,SNR=2.4 0.4nm,0.7s						
ILAR	Eielson Array	49.27	32	P	P	06 23 30.4	+0.4
	0.3nm,0.6s,baz=262,slow=6.3,SNR=2.1 0.3nm,0.6s						
WRA	Warramunga Arr	57.33	188	P	P	06 24 29.7	0.0
	0.2nm,0.6s,baz=3.0,slow=7.1,SNR=1.9 0.2nm,0.6s						
TXAR	Lajitas Array	89.97	52	P	P	06 27 41.9	+0.5
	0.1nm,0.6s,baz=305,slow=3.2,SNR=2.8 0.1nm,0.6s						

IDC ***22*** *06:26:22.8±2.9,36°.32N×70°.98E,h132km±26km,mb3.6/11, mbtmp4.0/16,MS4.6/1,Error ellipse: s-maj=21.4km s-min=13.8km az=21.0*
NEIC ***22*** *06:26:25.8±1.0,36°.51N±0°.07×70°.91E±0°.04,h166km±8km, mb4.1/7,Error ellipse: s-maj=11.2km s-min=3.7km az=162.0*
NNC ***22*** *06:26:29.1±3.6,37°.05N×71°.18E,h0km,mb4.9,mpv4.5, Error ellipse: s-maj=34.0km s-min=24.6km az=139.0*
ISC 22 06:26:25.5±0.5,**36°42N**±0°.05×**71°02E**±0°.05,**h188**km,**n74**, **σ2°55**/**86**,**mb3.7**/10,**3C-4D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.48	221	Pn	Pn	06 27 07.8	-0.9
GAR	Garm	2.63	348		Pn	06 27 08.2	-2.1
CHGR	Chuyangaron	2.68	327		Pn	06 27 08.6	-2.2
CEP	Cherat	2.69	164	P	Pn	06 27 11.7	+0.6
CEP				S	Sn	06 27 46.0	-0.6
DRK	Karamyk	3.11	11		Pn	06 27 14.1	-2.1
CHCP	Chirah Chowk	3.31	146	P	Pn	06 27 18.6	+0.2
NIL	Nilore	3.32	146	Pn	Pn	06 27 18.9	+0.4
BTK	Batken	3.63	358	Pn	Pn	06 27 22.0	-0.3
THW	Thamme Wali	3.67	170	P	Pn	06 27 22.7	-0.1
SARP	Sargodha	4.69	163	P	Pn	06 27 35.3	-0.4
JMU	Jammu	4.89	138	eP	Pn	06 27 37.7	-0.5
JMU				eS	Sn	06 28 32.1	-3.2
THN	Thein Dam	5.56	134	eP	Pn	06 27 46.9	0.0
THN				eS	Sn	06 28 47.8	-3.1
AML	Almayashu SNR=130	6.07	19	P	Pn	06 27 52.3	-1.4
NRN	Naryn	6.33	36	Pn	Pn	06 27 55.4	-1.8
UCH	Uchtor SNR=40	6.40	24	P	Pn	06 27 57.0	-1.1
EKS2	Erkin-Say SNR=65	6.58	18	P	Pn	06 27 59.4	-0.9
KK31	Karatay Array	6.68	357	Pn	Pn	06 28 00.6	-0.9
KK31	Karatay Array 43nm,0.2s,baz=178,slow=13,SNR=904	6.68	357	P	Pn	06 28 00.5	-0.9
KK31				⇓S	Sn	06 29 11.7	-5.7
	24nm,0.4s,baz=186,slow=24,SNR=7.8						
KKAR	Karatay Array	6.68	357		Pn	06 28 00.6	-0.9
KKAR	Karatay Array	6.68	357	Pn	Pn	06 28 00.6	-0.9
BHK	Bhakra	6.71	137	eS	Sn	06 29 15.1	-3.1
AAK	Ala-Archa SNR=16	6.76	22	P	Pn	06 28 02.0	-0.6
AAK	Ala-Archa 15nm,0.4s,baz=198,slow=8.1,SNR=35	6.76	22	P	Pn	06 28 02.0	-0.6
AAK				S	Sn	06 29 16.8	-2.6
	7.2nm,0.3s,baz=148,slow=22,SNR=13						
AAK	Ala-Archa	6.76	22	Pn	Pn	06 28 02.0	-0.6
KBK	Karagaybulak SNR=8.8	6.92	25	P	Pn	06 28 04.6	-0.2
ULHL	Ulahol SNR=9.4	7.08	33	P	Pn	06 28 06.8	-0.1
BOOM	Boomskoye usch	7.15	31	Pn	Pn	06 28 07.7	0.0
CHMS	Chumysh SNR=10	7.17	22	P	Pn	06 28 07.0	-0.8
CHMS	Chumysh 12nm,0.6s	7.17	22	⇑P	Pn	06 28 06.1	-1.7
CHMS				⇓S	Sn	06 29 23.1	-5.7
	13nm,0.8s						
USP	Ospenovka SNR=9.3	7.34	20	P	Pn	06 28 09.5	-0.6
SMLA	Simla	7.35	134	eP	Pn	06 28 09.3	-1.0
SMLA				eS	Sn	06 29 28.7	-4.5
SMLA	comp=E,140nm,0.2s			IAML		06 29 32.8	
SMLA	comp=N,135nm,0.4s			IAML		06 29 33.9	
TKM2	Tokmak 2 SNR=20	7.38	27	P	Pn	06 28 11.5	+0.7
TKM2	Tokmak 2 comp=N,15nm,0.6s	7.38	27	⇑P	Pn	06 28 10.0	-0.8
TKM2				⇓S	Sn	06 29 28.6	-5.6
	comp=N,8.1nm,0.9s						
TARG	Taragay, Kyrgy	7.47	43	Pn	Pn	06 28 12.1	-0.1
KHET	Khetri	9.26	153	eP	Pn	06 28 33.8	-1.5
KHET				eS	Sn	06 30 10.8	-8.0
KUDL	Kundal	9.46	149	eP	Pn	06 28 36.9	-1.1
LGTI	Lohaghat	10.41	129	eP	Pn	06 28 48.3	-2.0
GEYT	Alibeck comp=N,2.4nm,0.5s,baz=97,slow=12,SNR=3.9	10.41	282	P	Pn	06 28 48.0	-2.2
GEYT				S	Sn	06 30 41.2	-4.9
	comp=N,5.3nm,0.5s,baz=100,slow=17,SNR=6.3						
GYA0B	ALIBECK ARRAY	10.41	282	Pn	Pn	06 28 48.8	-1.4
GYA0B					Sn	06 30 41.8	-4.3
JHNI	Jhansi	12.68	147	eP	Pn	06 29 18.8	-0.6
JHNI				eS	Sn	06 31 30.8	-10
MK31	Makanchi Array	13.34	36	Pn	Pn	06 29 27.6	0.0
MKAR	Makanchi Array comp=N,0.4nm,0.3s,baz=215,slow=18,SNR=2.6	13.34	36	P	P	06 29 29.2	-1.5
DANN	Dangsing comp=N,12nm,0.3s	13.43	123	eP	Pn	06 29 29.5	+0.4
DANN				eS	Sn	06 31 48.3	-11
KOLN	Koldanda	13.70	125	eP	Pn	06 29 33.9	+1.4
GKN	Gorkha comp=N,10nm,0.3s	14.25	122	eP	P	06 29 41.0	0.0
PKIN	Phulchoki	15.04	122	eP	P	06 29 51.3	+1.4
PKI	Pulchoki comp=N,9.5nm,0.3s	15.05	122	eP	P	06 29 51.2	+1.1
ABKAR	Akbulak array	15.16	331		Pn	06 29 49.6	-0.4
ABKAR	Akbulak array	15.16	331	P	Pn	06 29 49.9	-0.1
ABKAR				IAmb	IAmb	06 29 51.7	
	comp=Z,5.9nm,0.7s						
GUN	Gumba comp=Z,11nm,0.4s	15.16	120	eP	P	06 29 52.4	+1.0
KURBB	Kurchatov Arra	15.19	19	P	P	06 29 52.6	+1.6
	comp=Z,1.6nm,0.6s,baz=211,slow=10,SNR=11						
JIRN	Jiri comp=Z,21nm,0.4s	15.53	120	eP	P	06 29 57.4	+1.9
JIRN				eS	S	06 32 39.7	-8.7
RAMN	Ramite	16.26	121	eP	Pn	06 30 04.5	+0.7
BVAR	Borovoye Array comp=Z,2.3nm,0.6s,baz=158,slow=12,SNR=8.8	16.61	359	P	Pn	06 30 08.5	+1.0
BRVK	Borovoye	16.64	358		Pn	06 30 07.7	-0.2
AKTO	Aktyubinsk comp=Z,6.3nm,0.7s	16.86	330	⇓P	Pn	06 30 11.2	+0.7
AKTO				⇑S	S	06 33 11.3	-4.1
	comp=Z,1.9nm,0.8s						
ZAA0	Zalesovo Array	19.98	24	P	P	06 30 43.8	+0.6
ZAA0				IAmb	IAmb	06 30 46.2	
	comp=Z,3.2nm,0.5s						
ZALV	Zalesovo Beam comp=Z,3.9nm,0.4s,baz=220,slow=11,SNR=18 comp=Z,3.9nm,0.4s	19.98	24	P	Pn	06 30 45.8	-1.5
ZALV	Zalesovo Beam	19.98	24	P	P	06 30 44.4	+1.2
ARU	Arti comp=Z,2.8nm,0.3s,baz=164,slow=2.8,SNR=3.7 comp=Z,2.8nm,0.3s	21.71	341	P	P	06 31 04.3	+2.8
KVAR	Kirovsdok Arr comp=Z,1μm,21.7s,slow=41	22.83	298	LR	LR	06 42 06.3	
SONM	Songino Array comp=Z,0.5nm,0.9s,baz=269,slow=12,SNR=1.8 comp=Z,0.5nm,0.9s	28.36	55	P	P	06 32 04.1	+2.0
CMAR	Chiang Mai Arr comp=Z,2.0nm,0.3s,baz=285,slow=6.3,SNR=4.4 comp=Z,2.0nm,0.3s	30.40	119	P	P	06 32 23.9	+3.7
AKASG	Malin Array Be comp=Z,0.4nm,0.5s,baz=82,slow=7.0,SNR=4.7 comp=Z,0.4nm,0.5s	33.01	309	P	P	06 32 45.8	+3.2
FINES	FINESS Array B comp=Z,2.5nm,1.0s,baz=129,slow=7.9,SNR=6.7 comp=Z,2.5nm,1.0s	37.56	326	P	P	06 33 24.4	+3.1
ARCES	ARCESS Array B comp=Z,1.9nm,0.9s,baz=116,slow=11,SNR=5.0 comp=Z,1.9nm,0.9s	41.22	338	P	P	06 33 55.3	+3.9
HFS	Hagfors comp=Z,1.6nm,0.6s,baz=87,slow=12,SNR=5.4 comp=Z,1.6nm,0.6s	43.14	322	P	P	06 34 10.5	+3.4
NOA	NORSAR Array B comp=Z,0.3nm,0.4s,baz=101,slow=7.3,SNR=3.8 comp=Z,0.3nm,0.4s	44.45	323	P	P	06 34 19.9	+2.4
GRA1	Grafenberg Arr	44.52	307	P	P	06 34 15.9	-2.3
MJB9	Matsu-Tunnel	52.96	68	P	P	06 35 25.2	+2.6
MAJO	Matsushiro	52.96	68	P	P	06 35 24.6	+2.0
JTM	Tenmabayashi	53.58	62	P	P	06 35 29.8	+2.7
WRA	Warramunga Arr comp=Z,0.8nm,0.5s,baz=325,slow=4.9,SNR=34 comp=Z,0.8nm,0.5s	81.93	122	P	P	06 38 27.2	+2.9
ASAR	Alice Springs comp=Z,1.0nm,0.5s,baz=311,slow=5.0,SNR=13 comp=Z,1.0nm,0.5s	84.19	125	P	P	06 38 39.0	+3.1

IDC ***22*** *06:30:29.3±1.0,37°.01N×141°.83E,h0km,mb3.5/7, mbtmp3.4/8,ML2.7/1,Error ellipse: s-maj=33.4km s-min=23.6km az=161.0*
JMA ***22*** *06:30:31.7±0.2,37°.2N±0°.3×141°.4E±0°.9,h28km±1km, MV3.7/37,E OFF FUKUSHIMA PREF*
ISC 22 06:30:30.7±0.8,**37°16N**±0°.04×**141°51E**±0°.05,**h10**km,**n23**, **σ1°08**/**25**,**mb3.4**/7,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.55	292	P	Pg	06 30 41.4	0.0
JFK				S	Sg	06 30 48.3	-0.3
JMST	Minamisoumatoc	0.75	319	P	Pg	06 30 44.8	-0.3
JMST				S	Sg	06 30 54.5	-0.5
JFFD	Fukushimafurud	0.76	265	P	Pg	06 30 45.2	-0.2
JFFD				S	Sg	06 30 54.6	-0.7
JMM	Marumori	0.91	321	P	Pg	06 30 47.5	-0.7
JMM				S	Sg	06 30 58.8	-1.2
JHO	Hitachi	0.93	234	eP	Pg	06 30 47.6	-1.0
JHO				S	Sg	06 30 59.4	-1.4
JSB	Shiboa	1.29	262	S	Sb	06 31 11.1	-0.5
JIO	Ouri	1.30	354	P	Pn	06 30 54.1	-0.7
JIO				S	Sb	06 31 10.2	-1.7
JOU	Okura	1.38	331	P	Pn	06 30 56.1	+0.1
JOU				S	Sb	06 31 13.1	-1.1
MJAR	Matsushiro Arr 1.0nm,0.3s,baz=98,slow=15,SNR=8.0	2.72	258	Pn	Pb	06 31 18.5	-0.9
MJAR				Sn	Sn	06 31 49.3	+1.9
	0.8nm,0.3s,baz=77,slow=17,SNR=5.0 14nm,0.5s						
SONM	Songino Array 0.4nm,0.7s,baz=116,slow=9.6,SNR=1.9 0.4nm,0.7s	27.78	304	P	P	06 36 21.8	+2.0
H11N2	WAKE ISLAND Hy	28.15	121	T	T	07 04 44.3	
	baz=314,slow=75,SNR=32						
H11N1	WAKE ISLAND Hy	28.15	121	T	T	07 04 41.6	
	baz=314,slow=75,SNR=38						
H11N3	WAKE ISLAND Hy	28.16	121	T	T	07 04 45.7	
	baz=314,slow=75,SNR=38						
H11S1	WAKE ISLAND Hy	28.86	123	T	T	07 06 44.9	
	baz=316,slow=75,SNR=15						
H11S3	WAKE ISLAND Hy	28.86	123	T	T	07 06 44.3	
	baz=316,slow=75,SNR=14						
H11S2	WAKE ISLAND Hy	28.88	123	T	T	07 06 46.4	
	baz=316,slow=75,SNR=10						
MKAR	Makanchi Array 0.5nm,0.8s,baz=77,slow=7.3,SNR=2.7 0.5nm,0.8s	44.12	302	P	P	06 38 41.4	+2.2
ILAR	Eielson Array 0.6nm,0.8s,baz=261,slow=6.9,SNR=5.5 0.6nm,0.8s	49.34	32	P	P	06 39 20.3	+0.5
WRA	Warramunga Arr 0.5nm,0.8s,baz=5.2,slow=7.4,SNR=4.5 0.5nm,0.8s	57.20	188	P	P	06 40 17.2	-0.7
NVAR	Mina Array Bea 0.3nm,0.6s,baz=270,slow=3.6,SNR=2.0 0.3nm,0.6s	74.85	53	P	P	06 42 11.3	-0.5
PDAR	Pinedale Array 0.2nm,0.6s,baz=306,slow=3.1,SNR=1.8 0.2nm,0.6s	77.52	46	P	P	06 42 27.0	+0.1
TXAR	Lajitas Array 0.1nm,0.7s,baz=343,slow=5.8,SNR=1.7 0.1nm,0.7s	89.98	52	P	P	06 43 31.2	+0.5
LPAZ	La Paz 0.7nm,0.6s,baz=318,slow=0.9,SNR=2.8	146.56	60	PKPbc	PKPdf	06 50 11.3	-0.8

NOU ***22*** *06:35:24.2,40°.47S×175°.55E,h279km,MLv3.6/5,North Island, New Zealand*
IDC ***22*** *06:35:41.4±3.3,40°.38S×177°.04E,h0km,mb3.3/2, mbtmp3.4/3,Error ellipse: s-maj=81.3km s-min=38.0km az=136.0*
WEL ***22*** *06:35:43.2±0.5,40°S±4°×17°7E±°,h33km,M3.6/79, ML3.8/43,MLv3.6/79,Error ellipse: s-maj=0.0km s-min=0.0km az=124.2*
ISC 22 06:35:40.7±1.6,**40°34S**±0°.04×**177°58E**±0°.05,**h24**km±13km, **n100**,**σ0°93**/**105**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	Pawanui	0.63	299	P	Pb	06 35 53.0	-0.1
PXZ				S	Sb	06 36 01.4	-0.1
PRHZ	Porangahau	0.72	275	P	Pn	06 35 55.6	+0.1
KAHZ	Kahuranaki	0.77	315	P	Pb	06 35 55.1	-0.3
CKHZ	Cape Kidnapper	0.78	330	P	Pb	06 35 55.4	-0.2
CKHZ				S	Sb	06 36 05.2	-0.6
ANWZ	Angora Road	0.85	261	P	Pn	06 35 58.1	+0.9
WPHZ	Waipukurau	0.91	287	P	Pb	06 35 57.8	0.0
WPHZ				S	Sb	06 36 09.0	-0.6
BFZ	Birch Farm	1.07	251	P	Pb	06 36 01.2	+0.6
BFZ	Birch Farm	1.07	251	P	Pb	06 36 01.2	+0.6
DVHZ	Dannevirke	1.08	272	P	Pn	06 36 00.5	+0.1
MCHZ	McNeill Hill	1.12	323	P	Pn	06 36 00.6	-0.3
PNHZ	Pukenui	1.14	291	P	Pn	06 36 00.8	-0.4
ARHZ	Aropaoanui	1.16	337	P	Pn	06 36 01.5	0.0
MHGZ	Mahia Peninsul	1.21	12	P	Pb	06 36 03.1	+0.1
PRWZ	Pori Road	1.25	260	P	Pb	06 36 03.6	0.0
TSZ	Takapari Road	1.27	282	P	Pn	06 36 02.8	-0.3
TSZ				S	Sn	06 36 17.1	-2.2
KWHZ	Kaweka Forest	1.27	315	P	Pn	06 36 02.5	-0.6
WHHZ	Waihua	1.29	348	P	Pn	06 36 03.6	+0.4
KNZ	Kokohu	1.32	3	P	Pn	06 36 04.1	+0.5
KNZ				S	Sn	06 36 19.0	-1.4
NMHZ	Naumai	1.38	334	P	Pn	06 36 04.6	+0.1
POWZ	Post Office Ro	1.38	267	P	Pn	06 36 05.1	+0.5
BKZ	Black Stump Fm	1.44	324	P	Pn	06 36 04.9	-0.4
BKZ	Black Stump Fm	1.44	324	P	Pn	06 36 05.0	-0.4
BHHZ	Black Hill Sta	1.44	306	P	Pn	06 36 04.9	-0.6
RAHZ	Arahi	1.47	345	P	Pn	06 36 06.1	+0.3
TMWZ	Te Maipa	1.50	239	P	Pn	06 36 07.1	+1.0
MRZ	Mangatainoka R	1.56	257	P	Pn	06 36 07.5	+0.5
SNGZ	Shannon Statio	1.57	353	P	Pn	06 36 07.6	+0.5
MTHZ	Maungataniwha	1.59	339	P	Pn	06 36 07.4	-0.1
RIGZ	Rimuhau	1.64	5	P	Pn	06 36 08.6	+0.5
HOWZ	Holdsworth Sta	1.67	250	P	Pn	06 36 09.0	+0.5
MOVZ	Moawhango	1.69	303	P	Pn	06 36 08.8	+0.1
MRHZ	Matea Rd	1.75	329	P	Pn	06 36 09.8	+0.1
MTW	Mount Morrison	1.78	242	P	Pn	06 36 10.5	+0.5
RTZ	Ruatahuna	1.78	345	P	Pn	06 36 10.2	+0.1
TRWZ	Traveller	1.78	233	P	Pn	06 36 10.5	+0.5
TUVZ	Tukino	1.83	305	P	Pn	06 36 11.7	+0.9
WNVZ	Wahianoa	1.83	303	P	Pn	06 36 11.6	+0.7
RAGZ	Rawiri	1.84	356	P	Pn	06 36 11.2	+0.3
WHVZ	Whangaehu Hut	1.86	304	P	Pn	06 36 12.2	+0.9
ETVZ	East Tongariro	1.88	309	P	Pn	06 36 12.1	+0.7
TRVZ	Turoa	1.88	303	P	Pn	06 36 12.6	+1.1
DRZ	Dome Shelter	1.88	304	P	Pn	06 36 13.0	+1.3
MTVZ	Mangateitei	1.88	300	P	Pn	06 36 12.3	+0.9
OTVZ	Oturere	1.89	308	P	Pn	06 36 12.5	+0.9
SNVZ	South Ngauruho	1.89	307	P	Pn	06 36 11.9	+0.3
TMVZ	Te Maari	1.89	310	P	Pn	06 36 12.4	+0.8
OQWZ	Otaki Gorge	1.90	255	P	Pn	06 36 12.1	+0.5
FWVZ	Far West T-bar	1.90	304	P	Pn	06 36 12.9	+1.1
RITZ	Rihia Road	1.90	315	P	Pn	06 36 12.6	+0.9
TKGZ	Te Karaka	1.91	6	P	Pn	06 36 12.2	+0.5
CNGZ	Carnagh Statio	1.92	15	P	Pn	06 36 12.9	+1.0
NTVZ	North Tongarir	1.92	310	P	Pn	06 36 12.7	+0.7
NNVZ	North Ngauruho	1.94	308	P	Pn	06 36 13.1	+0.8
PAWZ	Paruwai Farm	1.94	237	P	Pn	06 36 12.7	+0.5
KRVZ	Karewarewa	1.94	309	P	Pn	06 36 13.7	+1.4
MUGZ	Murupara	1.96	341	P	Pn	06 36 12.7	+0.1
MWZ	Matawai	2.00	359	P	Pn	06 36 13.0	-0.1
PKVZ	Pokaka	2.01	301	P	Pn	06 36 14.7	+1.4
ALRZ	Allen Road	2.02	331	P	Pn	06 36 13.4	+0.2
CAW	Cannon Point

Island, New Zealand
ISC 22 06:38:59.6±0.9, 43.00S±0.04×172.99E±0.03, h12km±6km, n94, σ1§09/98, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVZ	Greta Valley S	0.05	47	P		Pg	06 39 01.8	-0.1
GVZ				S		Sg	06 39 03.9	+0.3
AMCZ	Amberley	0.30	234	P		Pb	06 39 07.2	+0.2
AMCZ				S		Sb	06 39 12.9	+1.0
LTZ	Lake Taylor	0.57	292	P		Pg	06 39 09.9	-0.8
LTZ				S		Sg	06 39 17.4	-0.8
KHZ	Kahutara	0.71	35	P		Pg	06 39 13.4	0.0
KHZ				S		Sg	06 39 23.2	+0.5
OKCZ	Okains Bay	0.72	176	P		Pb	06 39 15.5	+1.3
MQZ	McQueen's Vall	0.75	199	P		Pb	06 39 14.9	+0.4
OXZ	Oxford	0.77	245	P		Pb	06 39 15.2	+0.3
AKCZ	Akaroa Harbour	0.87	184	P		Pb	06 39 17.6	+0.9
RACZ	Rakaia	0.95	220	P		Pb	06 39 18.3	+0.2
MHCZ	Mount Hutt	1.17	242	P		Pb	06 39 21.0	-0.7
INZ	Inchbonnie	1.17	283	P		Pn	06 39 20.7	-0.9
THZ	Tophouse	1.24	357	P		Pn	06 39 21.6	-1.1
WACZ	Wakanui South	1.26	221	P		Pn	06 39 22.4	-0.6
BSWZ	Blackbirch Sta	1.44	27	P		Pn	06 39 25.2	-0.3
DSZ	Denniston Nort	1.53	325	P		Pn	06 39 26.0	-0.8
CMWZ	Cape Campbell	1.55	36	P		Pg	06 39 29.4	+0.1
RPZ	Rata Peaks	1.58	242	P		Pn	06 39 27.0	-0.5
RPZ	Rata Peaks	1.58	242	P		Pn	06 39 26.7	-0.8
MRNZ	Matariki Terra	1.61	354	P		Pn	06 39 27.7	-0.2
ARCZ	Arundel	1.62	234	P		Pn	06 39 27.3	-0.7
WVZ	Waitaha Valley	1.65	267	P		Pn	06 39 28.2	-0.2
TUWZ	Tuamarina	1.72	25	P		Pn	06 39 28.9	-0.4
NNZ	Nelson	1.81	9	P		Pn	06 39 30.3	-0.2
TKNZ	Takaka Hill	1.96	359	P		Pn	06 39 33.1	+0.3
GCSZ	Gaunt Creek Bo	1.97	260	P		Pn	06 39 32.7	-0.1
TMZ	Timaru	1.99	225	P		Pn	06 39 32.6	-0.5
TCW	Tory Channel	2.03	29	P		Pn	06 39 32.6	-1.0
WEL	Wellington	2.17	38	P		Pn	06 39 34.4	-1.1
QRZ	Quartz Range	2.20	351	P		Pn	06 39 36.3	+0.4
QRZ	Quartz Range	2.20	351	P		Pn	06 39 35.6	-0.3
PLWZ	Palliser	2.21	50	P		Pn	06 39 34.8	-1.3
DUWZ	D'Urville Isla	2.31	18	P		Pn	06 39 37.0	-0.4
FOZ	Fox Glacier	2.38	256	P		Pn	06 39 39.0	+0.6
PAWZ	Paruwai Farm	2.43	49	P		Pn	06 39 37.4	-1.7
CAW	Cannon Point	2.44	40	P		Pn	06 39 37.9	-1.4
LBZ	Lake Benmore	2.46	235	P		Pn	06 39 39.1	-0.4
TRWZ	Traveller	2.57	52	P		Pn	06 39 39.8	-1.2
KIW	Kapiti Island	2.57	35	P		Pn	06 39 40.2	-0.9
MTW	Mount Morrison	2.62	46	P		Pn	06 39 40.0	-1.8
ODZ	Otahua Downs	2.65	219	P		Pn	06 39 41.9	-0.3
ODZ	Otahua Downs	2.65	219	P		Pn	06 39 41.6	-0.6
OGWZ	Otaki Gorge	2.72	37	P		Pn	06 39 41.6	-1.5
HOWZ	Holdsworth Sta	2.82	43	P		Pn	06 39 42.8	-1.7
MRZ	Mangatainoka R	3.04	41	P		Pn	06 39 45.5	-1.9
JCZ	Jackson Bay	3.24	249	P		Pn	06 39 50.2	-0.1
JCZ	Jackson Bay	3.24	249	P		Pn	06 39 50.1	-0.2
PRWZ	Pori Road	3.31	43	P		Pn	06 39 50.6	-0.6
HHSZ	Highcliff Hill	3.35	210	P		Pn	06 39 51.5	-0.3
BFZ	Birch Farm	3.36	48	P		Pn	06 39 50.5	-1.4
WKZ	Wanaka	3.40	236	P		Pn	06 39 51.9	-0.6
EAZ	Earnscleugh	3.46	229	P		Pn	06 39 52.5	-0.8
WAZ	Wanganui	3.57	26	P		Pn	06 39 55.8	+0.9
ANWZ	Angora Road	3.64	47	P		Pn	06 39 54.6	-1.1
NMEZ	Namu Road	3.65	11	P		Pn	06 39 57.9	+2.1
KHEZ	Kahui Hut	3.78	12	P		Pn	06 39 59.4	+1.6
KHEZ	Kahui Hut	3.78	12	P		Pn	06 39 59.2	+1.4
TUZ	Tuapeka	3.81	218	P		Pn	06 39 57.6	-0.4
NEZ	North Egmont	3.82	13	P		Pn	06 40 00.3	+2.0
PKE	Pukeiti	3.88	12	P		Pn	06 40 00.6	+1.6
DREZ	Durham Road	3.92	14	P		Pn	06 40 00.6	+1.0
PNHZ	Pukenui	3.92	39	P		Pn	06 39 57.2	-2.4
VRZ	Vera Road	4.10	20	P		Pn	06 40 02.8	+0.8
PKVZ	Pokaka	4.11	26	P		Pn	06 40 02.2	-0.1
MOWZ	Moawhango	4.17	31	P		Pn	06 40 01.9	-1.0
WNVZ	Wahianoa	4.17	29	P		Pn	06 40 02.8	-0.3
TRVZ	Turoa	4.17	28	P		Pn	06 40 02.8	-0.5
WHVZ	Whangaehu Hut	4.20	29	P		Pn	06 40 03.8	+0.2
BHHZ	Black Hill Sta	4.21	35	P		Pn	06 40 02.2	-1.3
FWVZ	Far West T-bar	4.21	28	P		Pn	06 40 03.4	-0.4
MLZ	Mavora Lakes	4.23	234	P		Pn	06 40 02.9	-1.0
TUVZ	Tukino	4.24	29	P		Pn	06 40 03.9	-0.3
SNVZ	South Ngauruho	4.30	29	P		Pn	06 40 06.1	+1.1
OTVZ	Oturere	4.33	29	P		Pn	06 40 05.3	-0.1
NNVZ	North Ngauruho	4.34	28	P		Pn	06 40 05.3	-0.3
ETVZ	East Tongariro	4.38	29	P		Pn	06 40 05.5	-0.5
KRVZ	Karewarewa	4.39	28	P		Pn	06 40 07.5	+1.3
TMVZ	Te Maari	4.39	29	P		Pn	06 40 05.5	-0.6
NTVZ	North Tongarir	4.40	28	P		Pn	06 40 05.7	-0.6
SYZ	Scrubby Hill	4.47	216	P		Pn	06 40 06.5	-0.7
SYZ	Scrubby Hill	4.47	216	P		Pn	06 40 07.2	0.0
WHZ	Wether Hill Ro	4.62	230	P		Pn	06 40 07.7	-1.6
BKZ	Black Stump Fm	4.66	36	P		Pn	06 40 08.4	-1.4
HIZ	Hauiti	4.70	18	P		Pn	06 40 10.4	+0.1
HIZ	Hauiti	4.70	18	P		Pn	06 40 10.6	+0.3
MRHZ	Matea Rd	4.91	33	P		Pn	06 40 11.9	-1.3
TLZ	Tolley Road	5.05	23	P		Pn	06 40 14.9	-0.3
APZ	The Paps	5.22	221	P		Pn	06 40 16.6	-0.9
PYZ	Puysegur Point	5.50	233	P		Pn	06 40 25.3	+3.9
URZ	Urewera	5.68	35	P		Pn	06 40 21.2	-2.6
AWAZ	Awhitu Peninsu	6.06	13	P		Pn	06 40 29.1	0.0
MKAZ	Moumakai	6.12	17	P		Pn	06 40 29.2	-0.6
RUGZ	Raukumara Rang	6.17	37	P		Pn	06 40 28.8	-1.8
HAZ	Te Kaha	6.39	37	P		Pn	06 40 31.6	-1.9
WIAZ	Waiheke Island	6.42	16	P		Pn	06 40 33.8	-0.1

*IDC **22** 06:51:08.9±0.8, 3.41N×129.42E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=46.0km s-min=17.8km az=71.0*
ISC 22 06:51:14.0±0.9, 3.4N±0.2×129.4E±0.3, h35km, n10, σ1§31/12, mb4.3/9, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	23.66	168	P		P	06 56 23.8	+1.3
	1.2nm,0.6s,baz=343,slow=10.0,SNR=22 1.2nm,0.6s							
ASAR	Alice Springs	27.22	171	P		P	06 56 56.0	+1.2
	0.6nm,0.6s,baz=352,slow=7.4,SNR=8.6							
ASAR				PcP		PcP	07 00 12.3	-2.3
	0.4nm,0.5s,baz=349,slow=2.2,SNR=7.3 0.6nm,0.6s							
CMAR	Chiang Mai Arr	33.36	299	P		P	06 57 49.5	+0.3
	2.2nm,0.3s,baz=112,slow=7.1,SNR=5.3 2.2nm,0.3s							
SONM	Songino Array	48.53	339	P		P	06 59 54.5	+0.7
	0.8nm,0.8s,baz=142,slow=7.4,SNR=4.5							
SONM				PcP		PcP	07 01 18.4	-0.9
	0.3nm,0.7s,baz=132,slow=4.3,SNR=1.9 0.8nm,0.8s							
MKAR	Makanchi Array	59.39	324	P		P	07 01 13.2	+0.2
	1.3nm,0.5s,baz=117,slow=8.6,SNR=14 1.3nm,0.5s							
KURBB	Kurchatov Arra	63.49	326	P		P	07 01 40.5	-0.1
	2.6nm,0.6s,baz=126,slow=5.9,SNR=6.2 2.6nm,0.6s							
TIXI	Tiksi	68.20	360	P		P	07 02 12.0	+1.5
	1.9nm,0.4s,baz=147,slow=0.4,SNR=7.9 1.9nm,0.4s							
ILAR	Eielson Array	84.30	25	P		P	07 03 42.4	+0.3
	0.2nm,0.6s,baz=279,slow=4.2,SNR=1.3 0.2nm,0.6s							
ARCES	ARCESS Array B	91.70	340	P		P	07 04 16.1	-1.5
	1.5nm,0.8s,baz=92,slow=7.3,SNR=6.1 1.5nm,0.8s							
TXAR	Lajitas Array	119.71	53	PKP		PKPdf	07 10 00.2	-1.0
	0.3nm,0.9s,baz=259,slow=1.8,SNR=2.3							

*IDC **22** 06:54:24.5±1.1, 37.39N×141.61E, h0km, mb3.4/7, mbtmp3.5/9, ML2.9/2, Error ellipse: s-maj=25.7km s-min=22.8km az=117.0*
*JMA **22** 06:54:26.3±0.2, 37.3N±0.4×141.6E±0.9, h29km±1km, MV3.5/38, E OFF FUKUSHIMA PREF*
ISC 22 06:54:24.8±1.9, 37.32N±0.04×141.68E±0.07, h6km±11km, n24, σ0§95/29, mb3.4/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	Kawauchi	0.64	274	*i* P		Pg	06 54 38.0	+0.9
JFK				S		Sg	06 54 46.4	+0.9
JMST	Minamisoumatoc	0.74	303	P		Pg	06 54 39.6	+0.5
JMST				S		Sg	06 54 49.0	+0.1
JMM	Marumori	0.89	308	P		Pg	06 54 41.9	0.0
JMM				S		Sg	06 54 53.1	-0.2
JFFD	Fukushimafurud	0.92	256	P		Pg	06 54 42.4	-0.1
JFFD				S		Sg	06 54 54.5	+0.1
JHO	Hitachi	1.14	232	P		Pb	06 54 45.6	-1.2
JHO				S		Sb	06 55 00.5	-1.4
JIO	Ouri	1.16	347	P		Pb	06 54 46.5	-0.7
JIO				*e*S		Sb	06 55 01.3	-1.2
JOU	Okura	1.31	323	P		Pn	06 54 49.3	-0.4
JOU				S		Sb	06 55 06.0	-1.1
JYS	Shirataka	1.56	306	P		Pb	06 54 53.6	-0.5
JYS				S		Sb	06 55 13.2	-0.9
JFY	Yanaizu	1.57	274	P		Pn	06 54 53.4	+0.1
JFY				S		Sb	06 55 14.2	-0.3
MJAR	Matsushiro Arr	2.88	255	Pn		Pn	06 55 11.8	+0.5
	0.7nm,0.3s,baz=77,slow=18,SNR=15							
MJAR				Sn		Sn	06 55 47.9	+1.5
	0.5nm,0.3s,baz=97,slow=17,SNR=5.1 2.2nm,0.3s							
JHJ	Hachijo jima 2	4.47	201	Pn		Pn	06 55 33.2	+0.2
	5.5nm,0.3s,baz=90,slow=18,SNR=1.1							
JHJ				Sn		Sn	06 56 23.6	-1.8
	9.4nm,0.3s,baz=57,slow=20,SNR=1.7 85nm,0.8s							
SONM	Songino Array	27.80	303	P		P	07 00 13.7	-1.0
	0.3nm,0.5s,baz=99,slow=8.3,SNR=2.3 0.3nm,0.5s							
H11N2	WAKE ISLAND Hy	28.12	122	T		T	07 29 45.1	
	baz=314,slow=75,SNR=19							
H11N1	WAKE ISLAND Hy	28.12	122	T		T	07 29 45.8	
	baz=314,slow=75,SNR=1.7							
H11N3	WAKE ISLAND Hy	28.14	122	T		T	07 29 48.0	
	baz=314,slow=75,SNR=18							
H11S1	WAKE ISLAND Hy	28.84	124	T		T	07 30 40.4	
	baz=316,slow=76,SNR=24							
H11S3	WAKE ISLAND Hy	28.84	124	T		T	07 30 40.4	
	baz=316,slow=76,SNR=22							
H11S2	WAKE ISLAND Hy	28.86	124	T		T	07 30 43.6	
	baz=316,slow=76,SNR=22							
MKAR	Makanchi Array	44.14	302	P		P	07 02 33.8	-0.3
	0.5nm,0.7s,baz=97,slow=9.6,SNR=2.9 0.5nm,0.7s							
KURBB	Kurchatov Arra	45.99	308	P		P	07 02 48.6	0.0
	0.5nm,0.4s,baz=82,slow=8.2,SNR=4.2 0.5nm,0.4s							
ILAR	Eielson Array	49.14	32	P		P	07 03 13.6	+0.7
	0.2nm,0.6s,baz=256,slow=6.6,SNR=3.1 0.2nm,0.6s							
WRA	Warramunga Arr	57.37	188	P		P	07 04 13.8	-0.2
	0.2nm,0.8s,baz=5.4,slow=7.5,SNR=2.0 0.2nm,0.8s							
ASAR	Alice Springs	61.10	188	P		P	07 04 41.9	+2.2
	0.2nm,0.3s,baz=6.3,slow=9.3,SNR=1.3 0.2nm,0.3s							
TXAR	Lajitas Array	89.78	53	P		P	07 07 25.2	+0.6
	0.1nm,0.6s,baz=297,slow=2.6,SNR=1.6 0.1nm,0.6s							

IDC 22 06:55:33.1±5.3, 64.68S×171.65W, h0km, mb3.6/3, mbtmp3.6/4, ML3.5/1, MS3.6/2, Error ellipse: s-maj=153.9km s-min=30.8km az=66.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	Vanda	15.22	202	Pn		Pn	06 59 07.9	-1.0
	0.2nm,0.3s,baz=61,slow=16,SNR=12 0.8nm,0.5s							
QSPA	South Pole Qui	25.41	180	P		P	07 01 02.3	+0.3
	1.1nm,0.6s,baz=216,slow=2.7,SNR=3.7							
QSPA				LR		LR	07 10 41.3	
	comp=Z,95nm,18.0s,baz=34,slow=36 1.1nm,0.6s							
H01W1	Cape Leeuwin H	52.38	267	T		T	08 02 08.1	
	baz=147,slow=76,SNR=19							
H01W2	Cape Leeuwin H	52.38	267	T		T	08 02 08.4	
	baz=147,slow=76,SNR=15							
H01W3	Cape Leeuwin H	52.40	267	T		T	08 02 09.3	
	baz=147,slow=76,SNR=13							
ASAR	Alice Springs	53.87	293	P		P	07 04 58.2	+0.5
	0.7nm,0.6s,baz=153,slow=7.4,SNR=13 0.6s							
WRA	Warramunga Arr	57.05	295	P		P	07 05 20.0	-0.7
	0.3nm,0.7s,baz=155,slow=6.1,SNR=7.3 0.3nm,0.7s							
H03S2	Juan Fernandez	61.09	108	T		T	08 12 00.8	
	baz=208,slow=74,SNR=24							
H03S1	Juan Fernandez	61.10	108	T		T	08 12 01.1	
	baz=208,slow=74,SNR=28							
H03S3	Juan Fernandez	61.11	108	T		T	08 12 00.5	
	baz=208,slow=74,SNR=34							
H03N3	Juan Fernandez	61.43	108	T		T	08 12 24.0	
	baz=206,slow=72,SNR=17							
H03N2	Juan Fernandez	61.44	108	T		T	08 12 29.3	
	baz=206,slow=72,SNR=14							
H03N1	Juan Fernandez	61.45	108	T		T	08 12 17.5	
	baz=206,slow=72,SNR=11							
LVC	Limon Verde	75.08	111	LR		LR	07 34 03.1	
	comp=Z,49nm,20.4s,baz=8.5,slow=31							

*IDC **22** 06:56:04.3±1.8, 37.08N×141.73E, h0km, mb3.3/2, mbtmp3.2/3, Error ellipse: s-maj=46.0km s-min=29.0km az=147.0*
*JMA **22** 06:56:07.9±0.2, 37.2N±0.3×141.4E±0.8, h26km±1km, MV3.5/34, E OFF FUKUSHIMA PREF*
ISC 22 06:56:06.3±2.1, 37.17N±0.05×141.51E±0.09, h14km±11km, n10, σ0§47/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	Kawauchi	0.54	291	*i* P		Pg	06 56 17.4	+0.3
JFK				S		Sg	06 56 24.3	0.0
JMST	Minamisoumatoc	0.74	318	P		Pg	06 56 20.8	0.0
JMST				S		Sg	06 56 30.4	-0.2
JFFD	Fukushimafurud	0.76	264	*i* P		Pg	06 56 21.2	+0.1
JFFD				S		Sg	06 56 31.0	-0.3
JMM	Marumori	0.90	321	P		Pb	06 56 23.4	-0.2
JMM				S		Sb	06 56 34.6	-0.8
JHO	Hitachi	0.94	234	P		Pb	06 56 23.9	-0.5
JHO				S		Sb	06 56 36.1	-0.6
JIO	Ouri	1.29	354	P		Pb	06 56 30.1	-0.2
JIO				S		Sb	06 56 46.1	-0.6
JOU	Okura	1.37	331	P		Pb	06 56 31.6	0.0
JOU				S		Sn	06 56 49.0	+0.1
MJAR	Matsushiro Arr	2.72	258	Pn		Pn	06 56 50.7	+1.1
	3.3nm,0.6s,baz=75,slow=17,SNR=1.3							
MJAR				Sn		Sb	06 57 27.8	-0.2
	0.3nm,0.3s,baz=199,slow=15,SNR=2.3							
ILAR	Eielson Array	49.34	32	P		P	07 04 54.8	+0.1
	0.3nm,0.6s,baz=266,slow=7.0,SNR=2.0 0.3nm,0.6s							
WRA	Warramunga Arr	57.21	188	P		P	07 05 52.7	-0.3
	0.3nm,0.9s,baz=8.8,slow=7.5,SNR=2.0 0.3nm,0.9s							

*IDC **22** 06:58:52.0±2.4, 37.45N×141.77E, h0km, mb3.4/3, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=45.4km s-min=36.4km az=63.0*
*JMA **22** 06:58:55.8±0.2, 37.3N±0.4×141.6E±0.9, h30km±1km, MV3.1/38, E OFF FUKUSHIMA PREF*
ISC 22 06:58:54.1±2.1, 37.35N±0.06×141.65E±0.08, h12km±11km, n19, σ0§52/22, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	Kawauchi	0.61	271	P		Pb	06 59 07.5	+0.8
JFK				S		Sb	06 59 15.7	+0.4
JMST	Minamisoumatoc	0.71	302	*i* P		Pn	06 59 09.1	-0.8
JMST				S		Sb	06 59 18.3	+0.3
JMM	Marumori	0.85	307	*i* P		Pn	06 59 11.4	-0.4
JMM				S		Sb	06 59 22.2	+0.2
JFFD	Fukushimafurud	0.90	253	P		Pb	06 59 11.8	+0.1
JFFD				S		Sb	06 59 24.2	+0.6
JIO	Ouri	1.12	348	P		Pg	06 59 15.8	+0.1
JIO				S		Sn	06 59 30.4	-0.5
JHO	Hitachi	1.14	230	P		Pb	06 59 15.2	-0.5
JOU	Okura	1.27	323	P		Pg	06 59 18.7	+0.1
JOU				S		Sg	06 59 35.4	+0.3
JYS	Shirataka	1.52	305	P		Pg	06 59 23.0	-0.3
JYS				S		Sg	06 59 42.6	-0.4
JFY	Yanaizu	1.55	273	P		Pb	06 59 22.6	-0.1
JFY				S		Sb	06 59 43.0	+0.8
MJAR	Matsushiro Arr	2.87	255	Pn		Pn	06 59 39.7	+0.1
	0.2nm,0.3s,baz=71,slow=12,SNR=3.0							
MJAR				Sn		Sb	07 00 19.4	-0.9
	0.2nm,0.3s,baz=60,slow=14,SNR=4.1 1.7nm,0.4s							
H11N2	WAKE ISLAND Hy	28.16	122	T		T	07 34 10.9	
	baz=314,slow=75,SNR=14							
H11N1	WAKE ISLAND Hy	28.16	122	T		T	07 34 13.0	
	baz=314,slow=75,SNR=22							
H11N3	WAKE ISLAND Hy	28.17	122	T		T	07 34 11.5	
	baz=314,slow=75,SNR=17							
H11S1	WAKE ISLAND Hy	28.88	124	T		T	07 35 08.2	
	baz=316,slow=76,SNR=15							
H11S3	WAKE ISLAND Hy	28.88	124	T		T	07 35 09.4	
	baz=316,slow=76,SNR=14							
H11S2	WAKE ISLAND Hy	28.90	124	T		T	07 35 07.7	
	baz=316,slow=76,SNR=14							
MKAR	Makanchi Array	44.11	302	P		P	07 07 01.6	-0.4
	0.4nm,0.6s,baz=87,slow=5.9,SNR=2.2 0.4nm,0.6s							
KURBB	Kurchatov Arra	45.95	308	P		P	07 07 16.9	+0.2
	0.4nm,0.3s,baz=84,slow=8.5,SNR=1.9 0.4nm,0.3s							
WRA	Warramunga Arr	57.40	188	P		P	07 08 43.0	+0.6
	0.3nm,0.9s,baz=359,slow=7.5,SNR=1.8 0.3nm,0.9s							

*IDC **22** 07:02:15.7±1.6, 36.61N×141.60E, h0km, mb3.5/4, mbtmp3.4/5, ML2.3/1, Error ellipse: s-maj=32.4km s-min=27.7km az=167.0*
*NIED **22** 07:02:15.3, 37.21N×141.55E, h28km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.34; $M_{\theta\theta}$=0.40; $M_{\phi\phi}$=0.94; $M_{r\theta}$=0.89; $M_{\theta\phi}$=1.49; $M_{\phi r}$=0.28; Fault plane solution: M_0=2.06000×10^{14} NP1:ϕ_S=11.00000°, δ=40.00000°, λ=-134.00000°. NP2:ϕ_S=243.00000°, δ=62.00000°, λ=-59.00000°.*
*JMA **22** 07:02:15.6±0.2, 37.2N±0.4×141.5E±0.9, h33km±1km, MV3.5/32, E OFF FUKUSHIMA PREF*
ISC 22 07:02:13.2±2.2, 37.21N±0.05×141.65E±0.08, h12km±13km, n18, σ1§24/16, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	Kawauchi	0.64	285	P		Pb	07 02 26.5	+0.3
JFK				S		Sg	07 02 33.8	-0.2
JMST	Minamisoumatoc	0.80	311	P		Pb	07 02 28.8	-0.1
JMST				S		Sb	07 02 38.2	-1.5
JFFD	Fukushimafurud	0.88	263	P		Pg	07 02 30.3	+0.2
JFFD				*e*S		Sb	07 02 40.1	-1.8
JMM	Marumori	0.95	314	P		Pb	07 02 31.3	-0.2
JHO	Hitachi	1.05	236	*i* P		Pb	07 02 32.8	-0.5
JHO				*e*S		Sb	07 02 45.2	-1.7
JIO	Ouri	1.27	349	*i* P		Pn	07 02 37.0	+0.3
JIO				S		Sb	07 02 52.2	-1.0
MJAR	Matsushiro Arr	2.84	258	Pn		Pn	07 02 59.6	+1.4
	0.6nm,0.3s,baz=78,slow=17,SNR=10							
MJAR				Sn		Sn	07 03 34.2	+1.8
	0.8nm,0.3s,baz=83,slow=20,SNR=6.4 2.7nm,0.3s							
JHJ	Hachijo jima 2	4.35	201	Pn		Pn	07 03 20.3	+1.1
	11nm,0.3s,baz=65,slow=15,SNR=1.8							
JHJ				Sn		Sn	07 04 08.4	-1.4
	5.2nm,0.3s,baz=73,slow=22,SNR=1.9							
SONM	Songino Array	27.84	304	P		P	07 08 10.2	+7.7
	0.3nm,0.6s,baz=97,slow=9.6,SNR=1.8 0.3nm,0.6s							
H11N2	WAKE ISLAND Hy	28.08	121	T		T	07 37 27.9	
	baz=314,slow=75,SNR=17							
H11N1	WAKE ISLAND Hy	28.08	121	T		T	07 37 34.7	
	baz=314,slow=75,SNR=24							
H11N3	WAKE ISLAND Hy	28.09	121	T		T	07 37 34.5	
	baz=314,slow=75,SNR=17							
H11S1	WAKE ISLAND Hy	28.80	123	T		T	07 38 25.7	
	baz=316,slow=76,SNR=17							
H11S3	WAKE ISLAND Hy	28.80	124	T		T	07 38 25.2	
	baz=316,slow=76,SNR=18							
H11S2	WAKE ISLAND Hy	28.81	123	T		T	07 38 27.0	
	baz=316,slow=76,SNR=12							
KURBB	Kurchatov Arra	46.04	308	P		P	07 10 43.7	+7.2
	0.7nm,0.5s,baz=81,slow=7.8,SNR=4.2 0.7nm,0.5s							
ILAR	Eielson Array	49.25	32	P		P	07 11 09.3	+8.1
	0.4nm,0.7s,baz=264,slow=7.6,SNR=4.4 0.4nm,0.7s							
ASAR	Alice Springs	60.98	188	P		P	07 12 26.5	+0.2
	0.3nm,0.8s,baz=3.4,slow=4.6,SNR=2.8 0.3nm,0.8s							

*NOU **22** 07:08:32.5, 41.80S×174.56E, h166km, MLv4.2/11, Cook Strait, New Zealand*
*NEIC **22** 07:08:44.3±1.5, 42.24S±0.03×173.6E±0.1, h11km±5km, mb4.4/8, Error ellipse: s-maj=11.9km s-min=2.0km az=107.0*
*WEL **22** 07:08:46.1±0.3, 41°S±3°×17°5E±°, h27km±3km, M3.8/75, ML4.1/34, MLv3.8/75, Error ellipse: s-maj=0.0km s-min=0.0km az=162.9*
ISC 22 07:08:44.9±0.9, 40.94S±0.04×174.69E±0.03, h57km±6km, n122, σ1§53/118, mb4.5/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KIW	Kapiti Island	0.19	64	P		Pn	07 08 53.9	-0.1
KIW				S		Sn	07 08 59.2	-1.5
CAW	Cannon Point	0.33	120	P		Pn	07 08 56.1	+1.1
CAW				S		Sn	07 09 03.5	+1.1
WEL	Wellington	0.35	170	P		Pn	07 08 56.3	+

MOVZ	Moawhango	1.74	28	P		Pn	07 09 13.9	+1.1	
WNVZ	Wahianoa	1.76	24	P		Pn	07 09 14.9	+1.7	
TRVZ	Turoa	1.77	22	P		Pn	07 09 15.3	+1.8	
NBEZ	Newall Road No	1.79	339	P		Pn	07 09 15.0	+1.6	
DREZ	Durham Road	1.79	348	P		Pn	07 09 15.5	+2.0	
BHHZ	Black Hill Sta	1.79	36	P		Pn	07 09 15.0	+1.4	
DRZ	Dome Shelter	1.80	22	P		Pn	07 09 16.0	+2.1	
WHVZ	Whangaehu Hut	1.80	23	P		Pn	07 09 15.6	+1.8	
FWVZ	Far West T-bar	1.81	22	P		Pn	07 09 15.7	+1.7	
VRZ	Vera Road	1.82	2	P		Pn	07 09 15.6	+1.8	
PKE	Pukeiti	1.83	343	P		Pn	07 09 15.5	+1.4	
TUVZ	Tukino	1.83	24	P		Pn	07 09 16.1	+1.9	
MHEZ	Mangahewa	1.89	351	P		Pn	07 09 17.0	+2.2	
PXZ	Pawanui	1.89	62	P		Pn	07 09 15.5	+0.6	
SNVZ	South Ngauruho	1.90	23	P		Pn	07 09 17.0	+1.9	
OTVZ	Oturere	1.93	23	P		Pn	07 09 17.3	+1.8	
NNVZ	North Ngauruho	1.94	22	P		Pn	07 09 17.6	+1.8	
TWVZ	Taurewa	1.96	17	P		Pn	07 09 17.3	+1.4	
ETVZ	East Tongariro	1.97	24	P		Pn	07 09 17.8	+1.8	
TMVZ	Te Maari	1.98	23	P		Pn	07 09 18.0	+1.7	
KRVZ	Karewarewa	1.99	22	P		Pn	07 09 18.0	+1.7	
NTVZ	North Tongariro	1.99	23	P		Pn	07 09 18.2	+1.8	
KWHZ	Kaweka Forest	2.02	42	P		Pn	07 09 17.7	+1.1	
KAHZ	Kahuranaki	2.03	56	P		Pn	07 09 17.3	+0.5	
KATZ	Kakaramea	2.11	22	P		Pn	07 09 20.1	+2.1	
MCHZ	McNeill Hill	2.15	46	P		Pn	07 09 19.3	+1.0	
RITZ	Rihia Road	2.16	25	P		Pn	07 09 21.7	+3.2	
CKHZ	Cape Kidnapper	2.23	56	P		Pn	07 09 19.7	+0.2	
RATZ	Rangitukua	2.24	22	P		Pn	07 09 22.0	+2.3	
BKZ	Black Stump Fm	2.25	39	P		Pn	07 09 20.6	+0.8	
BKZ	Black Stump Fm	2.25	39	P		Pn	07 09 20.3	+0.4	
DSZ	Denniston Nort	2.31	249	P		Pn	07 09 14.0	-6.7	
GVZ	Greta Valley S	2.37	211			Pn	07 09 14.7	-6.7	
HIZ	Hauiti	2.43	3	P		Pn	07 09 24.3	+2.1	
HIZ	Hauiti	2.43	3	P		Pn	07 09 24.1	+1.9	
ARHZ	Aropaoanui	2.44	47	P		Pn	07 09 22.5	+0.2	
NMHZ	Naumai	2.46	42	P		Pn	07 09 23.4	+0.7	
MRHZ	Matea Rd	2.49	33	P		Pn	07 09 23.2	+0.1	
MTHZ	Maungataniwha	2.67	39	P		Pn	07 09 26.0	+0.5	
TLZ	Tolley Road	2.69	14	P		Pn	07 09 27.2	+1.4	
RAHZ	Arahi	2.74	43	P		Pn	07 09 33.7	+7.3	
RTZ	Ruatahuna	2.92	38	P		Pn	07 09 35.1	+6.1	
MUGZ	Murupara	2.94	34	P		Pn	07 09 34.9	+5.7	
MHGZ	Mahia Peninsul	3.05	55	P		Pn	07 09 29.9	-0.8	
TOZ	Tahuroa Road	3.27	11	P		Pn	07 09 35.1	+1.4	
URZ	Urewera	3.27	36	P		Pn	07 09 32.7	-1.0	
URZ	Urewera	3.27	36	P		Pn	07 09 32.7	-1.0	
TGRZ	Tauranga	3.43	21	P		Pn	07 09 40.3	+4.4	
WHRZ	Whale Island	3.56	31	P		Pn	07 09 45.6	+7.9	
TWGZ	Tauwhareparae	3.76	44	P		Pn	07 09 47.1	+6.7	
RUGZ	Raukumara Rang	3.77	39	P		Pn	07 09 39.5	-1.2	
MKAZ	Moumakai	3.85	6	P		Pn	07 09 43.0	+1.3	
AWAZ	Awhitu Peninsu	3.87	359	P		Pn	07 09 43.4	+1.5	
ETAZ	East Tamaki Re	3.99	3	P		Pn	07 09 45.3	+1.7	
WTAZ	Waiatarua	4.01	359	P		Pn	07 09 45.6	+1.8	
WIAZ	Waiheke Island	4.16	5	P		Pn	07 09 47.4	+1.5	
RVAZ	Riverhead Bore	4.17	359	P		Pn	07 09 47.7	+1.7	
MBAZ	Motutapu North	4.17	2	P		Pn	07 09 47.8	+1.8	
WMGZ	Waiomatatini S	4.25	44	P		Pn	07 09 46.0	-1.1	
KUZ	Kuaotunu	4.27	11	P		Pn	07 09 46.8	-0.6	
KUZ	Kuaotunu	4.27	11	P		Pn	07 09 48.2	+0.9	
MXZ	Matakaoa Point	4.39	41	P		Pn	07 09 47.9	-1.2	
MXZ	Matakaoa Point	4.39	41	P		Pn	07 09 54.7	+5.6	
OUZ	Omahuta	5.78	351	P		Pn	07 10 09.3	+1.2	
OUZ	Omahuta	5.78	351	P		Pn	07 10 09.3	+1.2	
CTZ	Chatham Island	7.02	116	P		Pn	07 10 25.6	+0.6	
BBOO	Buckleboo	31.74	272	P		P	07 15 02.4	-1.1	
VNDA	Vanda	37.08	185	P		P	07 15 43.9	-5.1	
WR0	Warramunga Arr	39.98	289	P		P	07 16 15.4	+1.3	
WR0	comp=Z,4.2nm,0.5s			IAmb		IAmb	07 16 48.6		
WB2	Warramunga Arr	40.13	289	P		P	07 16 16.3	+1.1	
WB2	comp=Z,9.5nm,1.4s			IAmb		IAmb	07 16 55.3		
WRA	Warramunga Arr	40.14	289	P		P	07 16 16.2	+0.8	
WB0	Warramunga Arr	40.21	289	P		P	07 16 16.9	+0.9	
WB0	comp=Z,4.1nm,0.5s			IAmb		IAmb	07 16 45.7		
QSPA	South Pole Qui	49.18	180	P		P	07 17 21.6	-5.3	
SNAA	Sanae	67.68	181	P		P	07 19 33.2	-2.3	
SNAA	comp=Z,3.9nm,1.4s			IAmb		IAmb	07 20 06.5		

WEL ***22*** *07:08:53.6, 43°S±14″×17°3E±″, h14km±10km, M2.7/8, ML2.9/12, MLv2.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=13.7*

ISC 22 07:08:54.6±1.4, 42°90S±0°05×172°83E±0°04, h6km±16km, n28, σ1§04/28, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.17	114	P	Pg	07 08 57.1	-0.9
GVZ	Greta Valley S	0.17	114		Pg	07 08 59.2	+1.2
AMCZ	Amberley	0.31	205		Pn	07 09 07.5	+1.9
AMCZ	Amberley	0.31	205	P	Pb	07 09 02.5	0.0
LTZ	Lake Taylor	0.43	286	Pn	Pn	07 09 07.4	0.0
LTZ	Lake Taylor	0.43	286	P	Pb	07 09 05.5	+0.9
OXZ	Oxford	0.72	233	P	Pg	07 09 07.8	-0.7
MQZ	McQueen's Vall	0.82	189		Pb	07 09 11.1	-0.1
MQZ	McQueen's Vall	0.82	189	P	Pb	07 09 11.2	-0.1
OKCZ	Okains Bay	0.84	169	P	Pg	07 09 10.3	-0.5
RACZ	Rakaia	0.97	211	P	Pn	07 09 14.9	+0.2
AKCZ	Akaroa Harbour	0.97	177	P	Pg	07 09 12.7	-0.7
INZ	Inchbonnie	1.03	279	Pn	Pg	07 09 14.5	+0.1
INZ	Inchbonnie	1.03	279	P	Pn	07 09 15.5	-0.2
WACZ	Wakanui South	1.27	214	P	Pg	07 09 19.2	+0.3
RPZ	Rata Peaks	1.53	237	Pn	Pn	07 09 22.5	0.0
RPZ	Rata Peaks	1.53	237	P	Pb	07 09 23.2	-0.2
RPZ	Rata Peaks	1.53	237	P	Pb	07 09 23.1	-0.2
WVZ	Waitaha Valley	1.55	263	P	Pb	07 09 23.6	0.0
ARCZ	Arundel	1.60	228	P	Pb	07 09 23.8	-0.7
TMZ	Timaru	1.99	221	P	Pn	07 09 29.3	+0.6
ODZ	Otahua Downs	2.66	216	P	Pn	07 09 37.0	-1.0
ODZ	Otahua Downs	2.66	216	P	Pn	07 09 38.1	0.0
EAZ	Earnscleugh	3.45	226	P	Pn	07 09 48.8	0.0
DCZ	Deep Cove	4.82	236	Pn	Pn	07 10 08.1	+0.4
HLRZ	Highlands Stat	5.36	31	P	Pn	07 10 12.1	-3.1
TWGZ	Tauwhareparae	6.13	41	P	Pn	07 10 24.9	-0.9
WMGZ	Waiomatatini S	6.63	42	P	Pn	07 10 34.8	+2.3

WEL 22 07:15:13.8±0.3, 43°S±2″×17°3E±″, h5km±2km, M3.1/24, ML3.5/22, MLv3.1/24, Error ellipse: s-maj=0.0km s-min=0.0km az=135.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.07	95	P	Pg	07 15 15.5	+0.1
GVZ				S	Sg	07 15 17.3	+0.7
AMCZ	Amberley	0.30	224	P	Pb	07 15 21.3	-0.4
LTZ	Lake Taylor	0.52	290	P	Pg	07 15 24.1	+0.3
LTZ				S	Sb	07 15 32.0	-1.3
KHZ	Kahutara	0.70	39	P	Pg	07 15 27.2	-0.1
OXZ	Oxford	0.75	241	P	Pb	07 15 29.4	+0.1
OKCZ	Okains Bay	0.77	173	P	Pb	07 15 29.7	+0.1
MQZ	McQueen's Vall	0.77	196	P	Pg	07 15 29.1	+0.5
AKCZ	Akaroa Harbour	0.91	181	P	Pg	07 15 31.7	+0.4
RACZ	Rakaia	0.96	217	P	Pg	07 15 32.3	+0.1
INZ	Inchbonnie	1.12	282	P	Pb	07 15 35.5	-0.1
THZ	Tophouse	1.20	359	P	Pg	07 15 36.1	-0.7
WACZ	Wakanui South	1.27	219	P	Pg	07 15 36.6	-1.4
BSWZ	Blackbirch Sta	1.43	29	P	Pn	07 15 39.5	-0.8
DSZ	Denniston Nort	1.48	325	P	Pn	07 15 40.4	-0.7
MRNZ	Matariki Terra	1.57	355	P	Pn	07 15 42.2	0.0
RPZ	Rata Peaks	1.57	241	P	Pn	07 15 40.9	-1.4
ARCZ	Arundel	1.62	232	P	Pn	07 15 41.5	-1.5
WVZ	Waitaha Valley	1.62	265	P	Pn	07 15 42.7	-0.2
TUWZ	Tuamarina	1.70	26	P	Pn	07 15 44.0	-0.1
NNZ	Nelson	1.77	11	P	Pn	07 15 44.8	-0.3
TKNZ	Takaka Hill	1.93	0	P	Pn	07 15 46.9	-0.3
GCSZ	Gaunt Creek Bo	1.94	259	P	Pn	07 15 47.5	0.0
TMZ	Timaru	2.00	224	P	Pn	07 15 47.2	-0.9
QRZ	Quartz Range	2.16	352	P	Pn	07 15 51.7	+1.4
DUWZ	D'Urville Isla	2.28	19	P	Pn	07 15 53.7	+1.6
FOZ	Fox Glacier	2.35	255	P	Pn	07 15 53.4	+0.3
LBZ	Lake Benmore	2.45	234	P	Pn	07 15 53.4	-1.0
ODZ	Otahua Downs	2.66	218	P	Pn	07 15 55.8	-1.4
JCZ	Jackson Bay	3.22	248	P	Pn	07 16 04.4	-0.7
HHSZ	Highcliff Hill	3.37	209	P	Pn	07 16 05.7	-1.3
EAZ	Earnscleugh	3.46	228	P	Pn	07 16 06.7	-1.6
NGRZ	Ngongotaha	5.45	28	P	Pn	07 16 40.2	+4.6
PYZ	Puysegur Point	5.50	232	P	Pn	07 16 33.3	-3.0

NOU ***22*** *07:16:28.1, 42°84S×173°92E, h57km, MLv4.4/8, South Island, New Zealand*
WEL ***22*** *07:16:33.6±0.3, 42°S±3°×17°4E±°, h12km, M3.7/39, ML4.0/17, MLv3.7/39, Error ellipse: s-maj=0.0km s-min=0.0km az=127.2*

ISC 22 07:16:33.3±0.9, 42°15S±0°03×173°86E±0°04, h17km, n103, σ1§32/104, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.36	222	P	Pg	07 16 41.7	+0.9
KHZ	Kahutara	0.36	222	P	Pg	07 16 41.7	+0.9
KHZ				S	Sg	07 16 46.9	+1.0
BSWZ	Blackbirch Sta	0.43	1	P	Pg	07 16 41.8	-0.2
CMWZ	Cape Campbell	0.47	34	P	Pb	07 16 44.3	+1.2
TUWZ	Tuamarina	0.72	5	P	Pg	07 16 47.1	-0.2
THZ	Tophouse	0.81	298	P	Pg	07 16 47.9	-1.2
TCW	Tory Channel	0.98	18	P	Pb	07 16 51.8	-0.1
NNZ	Nelson	1.00	338	P	Pb	07 16 50.9	-1.1
GVZ	Greta Valley S	1.02	216	P	Pb	07 16 53.3	+0.7
SNZO	South Karori	1.04	37	P	Pb	07 16 53.6	+0.7
WEL	Wellington	1.09	38	P	Pb	07 16 54.3	+0.6
MRNZ	Matariki Terra	1.11	312	P	Pn	07 16 53.5	-0.5
PLWZ	Palliser	1.19	61	P	Pn	07 16 55.2	+0.1
TKNZ	Takaka Hill	1.30	328	P	Pb	07 16 56.7	-0.6
LTZ	Lake Taylor	1.34	241	P	Pn	07 16 57.5	+0.3
DUWZ	D'Urville Isla	1.34	2	P	Pn	07 16 57.4	+0.1
AMCZ	Amberley	1.36	221	P	Pn	07 16 57.5	0.0
CAW	Cannon Point	1.37	41	P	Pn	07 16 57.9	+0.3
PAWZ	Paruwai Farm	1.40	57	P	Pn	07 16 57.8	-0.2
KIW	Kapiti Island	1.50	32	P	Pn	07 17 00.0	+0.6
TRWZ	Traveller	1.56	62	P	Pn	07 16 59.8	-0.3
MTW	Mount Morrison	1.57	52	P	Pn	07 17 00.1	-0.3
DSZ	Denniston Nort	1.59	284	P	Pb	07 17 01.6	-0.5
OGWZ	Otaki Gorge	1.65	37	P	Pn	07 17 01.7	+0.2
QRZ	Quartz Range	1.66	322	P	Pb	07 17 02.6	-0.7
QRZ	Quartz Range	1.66	322	P	Pb	07 17 02.5	-0.8
OKCZ	Okains Bay	1.68	200	P	Pn	07 17 01.7	-0.2
HOWZ	Holdsworth Sta	1.76	45	P	Pn	07 17 02.7	-0.3
OXZ	Oxford	1.79	228	P	Pn	07 17 02.7	-0.7
MQZ	McQueen's Vall	1.80	209	P	Pn	07 17 02.4	-1.1
TMWZ	Te Maipa	1.84	56	P	Pn	07 17 03.6	-0.5
AKCZ	Akaroa Harbour	1.86	202	P	Pn	07 17 03.9	-0.4
INZ	Inchbonnie	1.88	251	P	Pn	07 17 05.3	+0.6
MRZ	Mangatainoka R	1.90	42	P	Pn	07 17 05.6	-0.2
RACZ	Rakaia	2.03	218	P	Pn	07 17 05.7	-0.9
PRWZ	Pori Road	2.25	46	P	Pn	07 17 09.1	-0.6
POWZ	Post Office Ro	2.26	40	P	Pn	07 17 09.2	-0.7
BFZ	Birch Farm	2.31	52	P	Pn	07 17 09.8	-0.7
WACZ	Wakanui South	2.33	219	P	Pn	07 17 09.8	-0.9
WVZ	Waitaha Valley	2.49	247	P	Pn	07 17 10.6	-2.3
DVHZ	Dannevirke	2.53	44	P	Pn	07 17 12.5	-1.1
WAZ	Wanganui	2.54	20	P	Pn	07 17 16.0	+2.4
RPZ	Rata Peaks	2.59	232	P	Pn	07 17 13.7	-0.7
TSZ	Takapari Road	2.62	38	P	Pn	07 17 14.3	-0.5
ARCZ	Arundel	2.67	227	P	Pn	07 17 14.7	-0.7
LREZ	Lake Rotokare	2.71	9	P	Pb	07 17 20.9	-0.5
NMEZ	Namu Road	2.73	0	P	Pb	07 17 20.8	-0.8
PRHZ	Porangahau	2.81	49	P	Pn	07 17 16.4	-1.0
PNHZ	Pukenui	2.84	39	P	Pn	07 17 17.0	-0.9
KHEZ	Kahui Hut	2.85	2	P	Pb	07 17 21.9	-1.8
KHEZ	Kahui Hut	2.85	2	P	Pb	07 17 21.4	-2.3
GCSZ	Gaunt Creek Bo	2.86	245	P	Pn	07 17 18.4	+0.4
NBEZ	Newall Road No	2.87	0	P	Pb	07 17 21.6	-2.5
NEZ	North Egmont	2.88	4	P	Pb	07 17 21.7	-2.5
PKE	Pukeiti	2.95	2	P	Pn	07 17 21.9	+2.5
DREZ	Durham Road	2.96	5	P	Pn	07 17 22.4	+2.8
MTVZ	Mangateitei	3.02	24	P	Pn	07 17 22.1	+1.8
TMZ	Timaru	3.06	222	P	Pn	07 17 20.1	-0.8
PKVZ	Pokaka	3.07	22	P	Pn	07 17 22.4	+1.4
MHEZ	Mangahewa	3.09	7	P	Pb	07 17 25.2	-2.4
MOVZ	Moawhango	3.09	28	P	Pn	07 17 21.4	+0.1
VRZ	Vera Road	3.09	13	P	Pn	07 17 23.5	+2.3
WNVZ	Wahianoa	3.11	26	P	Pn	07 17 23.2	+1.5
TRVZ	Turoa	3.12	25	P	Pn	07 17 23.5	+1.6
BHHZ	Black Hill Sta	3.13	33	P	Pn	07 17 21.8	-0.1
WHVZ	Whangaehu Hut	3.15	25	P	Pn	07 17 23.7	+1.5
FWVZ	Far West T-bar	3.16	25	P	Pn	07 17 23.6	+1.2
TUVZ	Tukino	3.18	26	P	Pn	07 17 20.8	-1.9
NGZ	Ngauruhoe	3.25	25	P	Pn	07 17 24.9	+1.3
SNVZ	South Ngauruho	3.25	25	P	Pn	07 17 24.8	+1.2
KAHZ	Kahuranaki	3.27	45	P	Pn	07 17 22.0	-1.8
OTVZ	Oturere	3.28	25	P	Pn	07 17 24.9	+1.0
FOZ	Fox Glacier	3.28	244	P	Pn	07 17 24.6	+0.7
NNVZ	North Ngauruho	3.29	24	P	Pn	07 17 25.4	+1.2
TWVZ	Taurewa	3.30	22	P	Pn	07 17 25.1	+0.9
ETVZ	East Tongariro	3.32	26	P	Pn	07 17 25.6	+1.1
KRVZ	Karewarewa	3.33	25	P	Pn	07 17 26.0	+1.3
TMVZ	Te Maari	3.33	25	P	Pn	07 17 25.7	+1.0
NTVZ	North Tongariro	3.34	25	P	Pn	07 17 25.8	+1.0
LBZ	Lake Benmore	3.50	229	P	Pn	07 17 26.6	-0.3
BKZ	Black Stump Fm	3.58	35	P	Pn	07 17 29.4	+1.3
BKZ	Black Stump Fm	3.58	35	P	Pn	07 17 26.8	-1.3
HIZ	Hauiti	3.71	12	P	Pn	07 17 32.2	+2.5
HIZ	Hauiti	3.71	12	P	Pn	07 17 31.7	+2.0
ODZ	Otahua Downs	3.72	218	P	Pn	07 17 28.8	-1.1
MRHZ	Matea Rd	3.84	31	P	Pn	07 17 30.4	-1.2
MTHZ	Maungataniwha	4.00	36	P	Pn	07 17 37.1	+3.4
TLZ	Tolley Road	4.02	19	P	Pn	07 17 35.9	+1.8
JCZ	Jackson Bay	4.19	241	P	Pn	07 17 37.0	+0.6
EAZ	Earnscleugh	4.52	225	P	Pn	07 17 39.9	-1.0
TOZ	Tahuroa Road	4.58	16	P	Pn	07 17 42.7	+0.9
TUZ	Tuapeka	4.88	217	P	Pn	07 17 45.2	-0.6
AWAZ	Awhitu Peninsu	5.11	7	P	Pn	07 17 50.7	+1.7
MKAZ	Moumakai	5.13	12	P	Pn	07 17 50.3	+0.9
ETAZ	East Tamaki Re	5.25	9	P	Pn	07 17 52.7	+1.8
MLZ	Mavora Lakes	5.26	230	P	Pn	07 17 50.0	-1.1
HAZ	Te Kaha	5.32	36	P	Pn	07 17 49.8	-2.0
WIAZ	Waiheke Island	5.43	11	P	Pn	07 17 55.1	+1.7
SYZ	Scrubby Hill	5.54	216	P	Pn	07 17 54.7	-0.3
KUZ	Kuaotunu	5.58	16	P	Pn	07 17 57.5	+2.0
APZ	The Paps	6.29	220	P	Pn	07 18 04.0	-1.3
OUZ	Omahuta	6.92	358	P	Pn	07 18 16.0	+2.2
OUZ	Omahuta	6.92	358	P	Pn	07 18 16.0	+2.2

WEL 22 07:18:14.1±0.5, 43°S±3°×17°3E±°, h6km±3km, M2.9/13, ML3.6/11, MLv2.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=120.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.08	124	P	Pg	07 18 16.1	+0.1
GVZ				S	Sg	07 18 18.1	+0.8
AMCZ	Amberley	0.33	221	P	Pb	07 18 21.6	-0.8
AMCZ				S	Sb	07 18 27.4	-0.5
LTZ	Lake Taylor	0.52	286	P	Pg	07 18 24.4	+0.3
KHZ	Kahutara	0.67	41	P	Pb	07 18 27.6	-0.5
OXZ	Oxford	0.78	239	P	Pb	07 18 29.7	-0.3
OKCZ	Okains Bay	0.80	174	P	Pb	07 18 30.5	0.0
MQZ	McQueen's Vall	0.81	195	P	Pg	07 18 29.2	-0.4
AKCZ	Akaroa Harbour	0.95	182	P	Pg	07 18 32.1	-0.2
RACZ	Rakaia	1.00	216	P	Pg	07 18 32.5	-0.7
INZ	Inchbonnie	1.12	280	P	Pg	07 18 35.4	-0.2
THZ	Tophouse	1.16	358	P	Pg	07 18 36.0	-0.3
WACZ	Wakanui South	1.30	218	P	Pn	07 18 36.9	-1.8
DSZ	Denniston Nort	1.45	324	P	Pn	07 18 40.4	-0.5

WEL 22 07:18:58.7±0.3, 43°S±2°×17°3E±°, h6km±2km, M3.5/28, ML3.6/18, MLv3.5/28, Error ellipse: s-maj=0.0km s-min=0.0km az=116.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.08	119	P	Pg	07 19 00.6	0.0
GVZ				S	Sg	07 19 02.7	+0.8
AMCZ	Amberley	0.33	220	P	Pb	07 19 06.2	-0.7
AMCZ				S	Sb	07 19 12.3	-0.1
LTZ	Lake Taylor	0.51	286	P	Pg	07 19 09.2	+0.6
LTZ				S	Sb	07 19 17.0	-0.8
KHZ	Kahutara	0.68	41	P	Pg	07 19 11.9	+0.2
OXZ	Oxford	0.77	239	P	Pb	07 19 14.4	-0.1
OKCZ	Okains Bay	0.80	174	P	Pb	07 19 15.3	+0.3
MQZ	McQueen's Vall	0.80	195	P	Pg	07 19 14.2	0.0
AKCZ	Akaroa Harbour	0.94	181	P	Pg	07 19 17.0	+0.2
RACZ	Rakaia	0.99	216	P	Pg	07 19 17.3	-0.4
INZ	Inchbonnie	1.12	280	P	Pb	07 19 20.4	-0.1
THZ	Tophouse	1.17	359	P	Pg	07 19 21.0	-0.1
MHCZ	Mount Hutt	1.17	239	P	Pg	07 19 20.0	-1.1
WACZ	Wakanui South	1.29	218	P	Pn	07 19 21.6	-1.6
BSWZ	Blackbirch Sta	1.40	30	P	Pn	07 19 24.4	-0.3
DSZ	Denniston Nort	1.45	324	P	Pn	07 19 25.3	-0.2
CMWZ	Cape Campbell	1.51	39	P	Pn	07 19 25.2	-1.1
MRNZ	Matariki Terra	1.54	355	P	Pn	07 19 26.9	+0.3
RPZ	Rata Peaks	1.58	240	P	Pn	07 19 26.0	-1.4
WVZ	Waitaha Valley	1.62	264	P	Pn	07 19 27.7	-0.1
ARCZ	Arundel	1.64	231	P	Pn	07 19 26.6	-1.5
TUWZ	Tuamarina	1.67	27	P	Pn	07 19 28.2	-0.4
NNZ	Nelson	1.74	11	P	Pn	07 19 29.5	0.0
GCSZ	Gaunt Creek Bo	1.95	258	P	Pn	07 19 32.4	+0.1
TMZ	Timaru	2.02	223	P	Pn	07 19 32.1	-1.3
DUWZ	D'Urville Isla	2.25	19	P	Pb	07 19 39.2	-0.5
FOZ	Fox Glacier	2.36	254	P	Pn	07 19 38.3	+0.4
LBZ	Lake Benmore	2.47	233	P	Pn	07 19 38.4	-1.2
ODZ	Otahua Downs	2.69	217	P	Pn	07 19 40.9	-1.6
JCZ	Jackson Bay	3.23	248	P	Pn	07 19 49.3	-0.7
HHSZ	Highcliff Hill	3.40	209	P	Pn	07 19 50.4	-1.8
WKZ	Wanaka	3.41	235	P	Pn	07 19 50.9	-1.6
TUZ	Tuapeka	3.84	217	P	Pn	07 19 56.6	-1.7
MLZ	Mavora Lakes	4.24	233	P	Pn	07 20 01.9	-1.9
SYZ	Scrubby Hill	4.51	216	P	Pn	07 20 06.2	-1.3
WHZ	Wether Hill Ro	4.64	229	P	Pn	07 20 06.4	-2.9
APZ	The Paps	5.25	220	P	Pn	07 20 15.5	-2.2
TWGZ	Tauwhareparae	6.10	41	P	Pn	07 20 35.4	+5.9

IDC ***22*** *07:23:07.8±1.4, 28°84N×142°46E, h0km, mb3.8/5, mbtmp3.8/6, ML3.0/1, Error ellipse: s-maj=51.3km s-min=18.6km az=81.0*
NEIC ***22*** *07:23:11.8±0.7, 28°80N±0°09×142°66E±0°09, h26km±6km, mb4.3/10, Error ellipse: s-maj=14.9km s-min=9.0km az=216.0*

ISC 22 07:23:11.6±0.7, 28°84N±0°07×142°6E±0°2, h27km, n22, σ0§46/24, mb4.3/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.77	191	Pn	Pn	07 23 40.9	+0.4
JCJ	2.7nm,0.3s,baz=309,slow=15,SNR=1.2			Sn	Sn	07 24 01.9	-0.2
JCJ	34nm,0.3s,baz=18,slow=20,SNR=11			Pn	Pn	07 23 39.7	-0.7
MJAR	Chichijima	1.77	191	Pn	Pn	07 25 12.4	-0.7
KS19	0.2nm,0.3s,baz=158,slow=11,SNR=8.7 1.5nm,0.4s Wonju Array Si	15.03	309	Pn	Pn	07 26 43.0	+0.9
SONM	Songino Array	33.72	314	P	P	07 29 50.2	-0.5
WB0	0.6nm,0.8s,baz=115,slow=9.7,SNR=3.8 0.6nm,0.8s Warramunga Arr	48.97	190	P	P	07 31 55.6	-0.2
WB0	comp=Z,3.1nm,0.9s			IAmb	IAmb	07 31 56.9	
WR0	Warramunga Arr	49.13	190	P	P	07 31 57.3	+0.2
WR0	comp=Z,7.6nm,1.4s		

NEZ	North Egmont	3.79	13	P		Pn	07 25 07.2	+2.3
PKE	Pukeiti	3.84	11	P		Pn	07 25 07.5	+1.9
TUZ	Tuapeka	3.85	218	P		Pn	07 25 06.3	+0.7
DREZ	Durham Road	3.88	14	P		Pn	07 25 09.7	+3.6
MHEZ	Mangahewa	4.01	14	P		Pb	07 25 13.6	-3.7
VRZ	Vera Road	4.06	19	P		Pn	07 25 10.0	+1.4
MOVZ	Moawhango	4.11	31	P		Pn	07 25 10.1	+0.8
WNVZ	Wahianoa	4.13	29	P		Pn	07 25 09.7	+0.1
TRVZ	Turoa	4.13	28	P		Pn	07 25 11.6	+1.8
WHVZ	Whangaehu Hut	4.16	28	P		Pn	07 25 12.1	+2.0
BHHZ	Black Hill Sta	4.16	34	P		Pn	07 25 11.6	+1.6
FWVZ	Far West T-bar	4.17	28	P		Pn	07 25 14.3	+3.9
SNVZ	South Ngauruho	4.27	28	P		Pn	07 25 11.8	+0.2
MLZ	Mavora Lakes	4.27	234	P		Pn	07 25 11.3	-0.1
OTVZ	Oturere	4.30	28	P		Pn	07 25 13.2	+1.3
TWVZ	Taurewa	4.30	26	P		Pn	07 25 13.9	+1.9
NNVZ	North Ngauruho	4.31	28	P		Pn	07 25 13.3	+1.2
ETVZ	East Tongariro	4.34	29	P		Pn	07 25 12.4	-0.1
KRVZ	Karewarewa	4.35	28	P		Pn	07 25 16.5	+3.9
KRVZ				P		Pn	07 25 16.8	+4.2
TMVZ	Te Maari	4.35	29	P		Pn	07 25 13.0	+0.3
NTVZ	North Tongarir	4.36	28	P		Pn	07 25 14.2	+1.5
SYZ	Scrubby Hill	4.51	217	P		Pn	07 25 14.8	+0.1
SYZ	Scrubby Hill	4.51	217	P		Pn	07 25 15.8	+1.1
BKZ	Black Stump Fm	4.62	36	P		Pn	07 25 17.0	+0.8
BKZ	Black Stump Fm	4.62	36	P		Pn	07 25 16.3	+0.1
HIZ	Hauiti	4.67	18	P		Pn	07 25 17.4	+0.5
HIZ	Hauiti	4.67	18	P		Pn	07 25 18.1	+1.2
TLZ	Tolley Road	5.02	23	P		Pn	07 25 25.2	+3.5
MTHZ	Maungataniwha	5.03	36	P		Pn	07 25 27.9	+6.0
APZ	The Paps	5.26	221	P		Pn	07 25 25.5	+0.4
TOZ	Tahuroa Road	5.57	21	P		Pn	07 25 29.9	+0.7
URZ	Urewera	5.64	35	P		Pn	07 25 30.9	+0.7
AWAZ	Awhitu Peninsu	6.03	12	P		Pn	07 25 36.4	+0.8
MKAZ	Moumakai	6.09	16	P		Pn	07 25 36.4	0.0
RUGZ	Raukumara Rang	6.13	37	P		Pn	07 25 36.5	-0.6
HAZ	Te Kaha	6.35	36	P		Pn	07 25 39.2	-0.8
MBAZ	Motutapu North	6.36	14	P		Pn	07 25 42.6	+2.4
WIAZ	Waiheke Island	6.38	15	P		Pn	07 25 41.0	+0.6
KUZ	Kuaotunu	6.56	19	P		Pn	07 25 45.1	+2.3
OUZ	Omahuta	7.76	3	P		Pn	07 26 01.0	+1.7

IDC ***22*** *07:24:56.8±1.3, 42.°48S×173.°35E, h0km, mb3.8/3, mbtmp3.8/3, MS3.7/10, Error ellipse: s-maj=60.5km s-min=31.7km az=49.0*

NEIC ***22*** *07:25:00.4±1.6, 42.°96S±0.°03×172.°99E±0.°03, h10km±5km, mb4.7/5, Error ellipse: s-maj=4.7km s-min=2.5km az=143.0*

WEL ***22*** *07:25:00, 42.°94S×172.°97E, h4km, ML4.3, Mw4.3, Moment Tensor Solution. s8 Moment tensor: Scale 10^{15} Nm; M_r=2.81; $M_{\theta\theta}$=0.56; $M_{\phi\phi}$=-3.37; $M_{r\theta}$=-0.74; $M_{r\phi}$=0.39; $M_{\theta\phi}$=0.63; Fault plane solution: M_o3.29000×10^{15} NP1: ϕ_s=203.00000°, δ43.00000°, λ116.00000°. NP2: ϕ_s=349.00000°, δ53.00000°, λ68.00000°. Principal axes: T 311.2700, Plg71.0000°, Azm201.0000°; N 34.8800, Plg18.0000°, Azm2.0000°; P -346.1500, Plg5.0000°, Azm95.0000°;*

WEL ***22*** *07:25:00.1±0.3, 43.°S±2.°×17.°3E±.°, h5km±2km, M4.3/25, ML4.5/19, MLv4.3/25 Error ellipse: s-maj=0.0km s-min=0.0km az=117.3*

ISC 22 07:25:00.2±0.8, 42.°94S±0.°03×172.°98E±0.°03, h9km±5km, n81, σ1°01/78, mb4.0/4, MS3.6/9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.04	122	Pg	Pg	07 25 02.1	0.0
GVZ	Greta Valley S	0.04	122	P	Pg	07 25 01.8	-0.3
GVZ				S	Sg	07 25 03.8	+0.4
AMCZ	Amberley	0.34	226	Pg	Pg	07 25 07.7	+0.8
AMCZ	Amberley	0.34	226	P	Pg	07 25 07.6	+0.7
AMCZ				S	Sb	07 25 13.5	-0.4
LTZ	Lake Taylor	0.55	287	Pg	Pg	07 25 09.8	-1.1
LTZ	Lake Taylor	0.55	287	P	Pg	07 25 10.4	-0.4
LTZ				S	Sg	07 25 18.4	+0.3
KHZ	Kahutara	0.67	38	Pg	Pg	07 25 13.3	+0.2
KHZ	Kahutara	0.67	38	P	Pg	07 25 13.3	+0.2
OKCZ	Okains Bay	0.78	176	P	Pg	07 25 15.3	0.0
OXZ	Oxford	0.79	241	Pg	Pg	07 25 15.3	-0.2
OXZ	Oxford	0.79	241	P	Pg	07 25 14.6	-0.8
MQZ	McQueen's Vall	0.80	197	Pg	Pg	07 25 15.9	+0.3
MQZ	McQueen's Vall	0.80	197	P	Pg	07 25 15.5	-0.1
AKCZ	Akaroa Harbour	0.93	183	P	Pg	07 25 18.1	0.0
RACZ	Rakaia	1.00	218	P	Pg	07 25 19.0	-0.4
INZ	Inchbonnie	1.15	280	Pn	Pn	07 25 23.2	+0.6
INZ	Inchbonnie	1.15	280	P	Pb	07 25 22.0	-0.3
THZ	Tophouse	1.18	357		Pb	07 25 22.1	-0.7
THZ	Tophouse	1.18	357	P	Pb	07 25 22.1	-0.7
MHCZ	Mount Hutt	1.19	240	P	Pb	07 25 22.1	-0.9
WACZ	Wakanui South	1.30	219	P	Pn	07 25 23.0	-1.5
BSWZ	Blackbirch Sta	1.40	29	Pn	Pn	07 25 25.2	-0.7
BSWZ	Blackbirch Sta	1.40	29	P	Pn	07 25 25.7	-0.2
DSZ	Denniston Nort	1.48	324	Pn	Pn	07 25 26.8	-0.3
DSZ	Denniston Nort	1.48	324	P	Pn	07 25 27.1	0.0
CMWZ	Cape Campbell	1.50	38		Pg	07 25 28.9	-0.2
MRNZ	Matariki Terra	1.55	354	Pn	Pn	07 25 27.9	-0.1
MRNZ	Matariki Terra	1.55	354	P	Pn	07 25 28.1	0.0
RPZ	Rata Peaks comp=Z,981nm,20.9s,baz=80,slow=41	1.60	241	LR	LR	07 26 22.2	
RPZ	Rata Peaks	1.60	241	Pn	Pn	07 25 28.1	-0.6
RPZ	Rata Peaks	1.60	241	P	Pn	07 25 27.8	-1.0
WVZ	Waitaha Valley	1.65	265	P	Pn	07 25 29.3	-0.1
ARCZ	Arundel	1.65	232	P	Pn	07 25 28.2	-1.3
TUWZ	Tuamarina	1.67	26	Pn	Pn	07 25 30.1	+0.4
TUWZ	Tuamarina	1.67	26	P	Pn	07 25 29.3	-0.4
NNZ	Nelson	1.75	10	Pn	Pn	07 25 30.4	-0.4
NNZ	Nelson	1.75	10	P	Pn	07 25 30.3	+0.1
TKNZ	Takaka Hill	1.91	359	Pn	Pn	07 25 33.6	+0.6
TKNZ	Takaka Hill	1.91	359	P	Pn	07 25 33.6	+0.6
GCSZ	Gaunt Creek Bo	1.98	258	P	Pn	07 25 34.8	+0.9
TCW	Tory Channel	1.98	29	Pn	Pg	07 25 37.5	-0.7
QRZ	Quartz Range	2.14	351	Pn	Pn	07 25 37.3	+1.2
PLWZ	Palliser	2.17	52	Pn	Pn	07 25 36.7	0.0
FOZ	Fox Glacier	2.39	255	Pn	Pg	07 25 46.1	+0.1
FOZ	Fox Glacier	2.39	255	P	Pn	07 25 40.3	+0.8
LBZ	Lake Benmore	2.49	234	Pn	Pb	07 25 45.1	0.0
KIW	Kapiti Island	2.53	35	P	Pn	07 25 42.2	+0.7
BFZ	Birch Farm	3.33	48	Pn	Pn	07 25 52.6	+0.2
HHSZ	Highcliff Hill	3.40	209	P	Pn	07 25 52.0	-1.5
HIZ	Hauiti	4.65	18	Pn	Pn	07 26 10.7	+0.1
WHZ	Wether Hill Ro	4.66	229		Pn	07 26 10.6	-0.2
HAZ	Te Kaha	6.35	37	P	Pn	07 26 32.2	-1.6
WIAZ	Waiheke Island	6.36	16	P	Pn	07 26 33.8	-0.3
ABAZ	Army Bay	6.49	13	P	Pn	07 26 35.9	-0.1
MXZ	Matakaoa Point	6.74	35	Pn	Pn	07 26 37.3	-2.1
OUZ	Omahuta	7.73	4	Pn	Pn	07 26 53.4	+0.6
OUZ	Omahuta	7.73	4	P	Pn	07 26 54.3	+1.4
RAR	Rarotonga comp=Z,104nm,20.0s,baz=276,slow=32	31.43	55	LR	LR	07 41 25.4	
CTA	Charters Tower comp=Z,94nm,19.1s,baz=79,slow=33	31.98	307	LR	LR	07 42 40.6	
ASAR	Alice Springs 1.0nm,0.8s,baz=120,slow=7.0,SNR=9.6	37.48	288	P	P	07 32 13.3	-0.9
ASAR				PcP	PcP	07 34 31.2	-1.4
ASAR	0.1nm,0.5s,baz=134,slow=4.0,SNR=2.7 comp=Z,115nm,18.3s,baz=116,slow=36 1.0nm,0.8s			LR	LR	07 47 17.9	
ASAR	Alice Springs	37.48	288	P	P	07 32 13.5	-0.8
WRA	Warramunga Arr 0.6nm,0.7s,baz=134,slow=7.8,SNR=5.2	39.67	293	P	P	07 32 31.3	-1.4
WRA				PcP	PcP	07 34 37.2	-2.3
WRA	0.4nm,0.8s,baz=141,slow=2.9,SNR=2.6 comp=Z,118nm,19.3s,baz=112,slow=35 0.6nm,0.7s			LR	LR	07 48 25.4	
PMG	Port Moresby comp=Z,77nm,18.0s,baz=78,slow=37	40.32	318	LR	LR	07 49 26.0	
PPT	Papeete comp=Z,105nm,21.1s,baz=317,slow=30	40.55	63	LR	LR	07 45 05.8	
QSPA	South Pole Qui 2.5nm,1.0s,baz=152,slow=1.6,SNR=3.6 2.5nm,1.0s	47.18	180	P	P	07 33 36.1	+3.2
QSPA	South Pole Qui	47.18	180	P	P	07 33 35.1	+2.2
QSPA				IAmb	IAmb	07 33 42.2	
GIRL	Giralia comp=Z,7.7nm,1.3s	52.28	273	P	P	07 34 12.6	+0.5
SIJI	Sorong comp=Z,55nm,21.5s,baz=83,slow=36	56.06	307	LR	LR	07 58 47.5	
BELA	Belgrano 2	58.27	173	P	P	07 34 55.2	+0.7
TROLL	Troll, Antarti	65.15	183	P	P	07 35 42.1	+1.0
SNAA	Sanae	65.65	181	P	P	07 35 44.9	+0.6
SNAA	Sanae	65.65	181	P	P	07 35 44.7	+0.4
SNAA				IAmb	IAmb	07 35 47.5	
VNA3	comp=Z,7.6nm,1.3s Neumayer Olymp	66.11	179	P	P	07 35 48.1	+0.9
VNA2	Neumayer--Watz baz=315,slow=42	66.44	180	P	P	07 35 50.3	+1.1
HOPE	Hope Point	79.92	163	P	P	07 37 06.3	-2.8
LVC	Limon Verde comp=Z,18nm,18.0s,baz=284,slow=31	93.45	125	LR	LR	08 12 48.4	
BRDH	Bariadhala comp=Z,79nm,18.0s,baz=268,slow=38	99.10	292	LR	LR	08 28 10.3	
ARCES	ARCESS Array B	148.56	339	PKPbc	PKPdf	07 44 43.8	+1.2
TORD	comp=Z,1.0nm,0.4s,baz=38,slow=2.3,SNR=20 Torodi Ar. Bea	149.37	197	PKPbc	PKPdf	07 44 46.8	+1.3
BRTR	comp=Z,1.5nm,1.0s,baz=177,slow=2.6,SNR=7.2 Keskin Array B	149.51	278	PKPbc	PKPdf	07 44 46.9	+1.6
FINES	comp=Z,3.5nm,1.1s,baz=186,slow=1.2,SNR=5.1 FINESS Array B	152.99	325	PKPbc	PKPbc	07 44 55.0	-1.8
	comp=Z,4.3nm,1.0s,baz=64,slow=4.4,SNR=4.1						

IDC ***22*** *07:25:11.2±2.8, 37.°41N×141.°87E, h0km, mb3.3/2, mbtmp3.5/4, ML2.6/2, Error ellipse: s-maj=46.1km s-min=35.2km az=59.0*

JMA ***22*** *07:25:16.8±0.2, 37.°3N±0.°3×141.°4E±0.°8, h28km±1km, MV3.2/38, E OFF FUKUSHIMA PREF*

ISC 22 07:25:14.5±1.8, 37.°23N±0.°04×141.°56E±0.°07, h11km±10km, n18, σ0°99/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.56	284	*i* P	Pg	07 25 26.2	+0.7
JFK				S	Sg	07 25 32.8	-0.1
JMST	Minamisoumatoc	0.73	313	*i* P	Pg	07 25 29.2	0.0
JMST				S	Sg	07 25 38.4	+0.3
JFFD	Fukushimafurud	0.81	261	*i* P	Pg	07 25 30.1	0.0
JFFD				*eS*	Sg	07 25 39.9	-0.8
JMM	Marumori	0.88	316	*i* P	Pg	07 25 31.7	+0.2
JMM				S	Sg	07 25 42.3	-0.7
JHO	Hitachi	1.00	232	*eP*	Pg	07 25 33.3	-0.5
JHO				*eS*	Sg	07 25 45.7	-1.2
JIO	Ouri	1.23	352	P	Pg	07 25 37.8	-0.5
JSB	Shiboa	1.34	259	P	Pn	07 25 39.6	+0.4
JSB				S	Sn	07 25 56.3	-0.7
JOU	Okura	1.34	328	P	Pg	07 25 39.9	-0.3
JOU				S	Sn	07 25 57.1	+0.1
MJAR	Matsushiro Arr 0.3nm,0.3s,baz=77,slow=16,SNR=5.7	2.77	257	Pn	Pn	07 25 59.4	+0.5
MJAR				Sn	Sb	07 26 39.5	+1.4
JHJ	0.3nm,0.3s,baz=80,slow=31,SNR=2.6 1.5nm,0.4s Hachijo jima 2	4.35	200	Pn	Pn	07 26 23.3	+2.7
JHJ	2.4nm,0.3s,baz=22,slow=14,SNR=3.1			Sn	Sn	07 27 09.9	-1.4
H11N2	8.6nm,0.3s,baz=264,slow=23,SNR=1.7 192nm,0.9s WAKE ISLAND Hy	28.15	121	T	T	08 00 42.4	
H11N1	baz=314,slow=75,SNR=7.3 WAKE ISLAND Hy	28.16	121	T	T	08 00 39.8	
H11N3	baz=314,slow=75,SNR=8.4 WAKE ISLAND Hy	28.17	121	T	T	08 00 40.3	
H11S1	baz=314,slow=75,SNR=7.1 WAKE ISLAND Hy	28.87	123	T	T	08 01 30.8	
H11S3	baz=316,slow=75,SNR=12 WAKE ISLAND Hy	28.87	123	T	T	08 01 34.7	
H11S2	baz=316,slow=75,SNR=12 WAKE ISLAND Hy	28.88	123	T	T	08 01 35.4	
MKAR	baz=316,slow=75,SNR=7.5 Makanchi Array	44.12	302	P	P	07 33 22.1	-0.8
WRA	0.1nm,0.3s,baz=64,slow=8.1,SNR=1.3 0.1nm,0.3s Warramunga Arr	57.27	188	P	P	07 35 01.7	-0.4
	0.3nm,0.8s,baz=4.6,slow=7.3,SNR=2.1 0.3nm,0.8s						

IDC ***22*** *07:28:36.2±2.2, 37.°36N×141.°84E, h0km, mb3.4/3, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=41.4km s-min=26.8km az=78.0*

JMA ***22*** *07:28:40.3±0.2, 37.°4N±0.°3×141.°6E±0.°8, h25km±1km, MV3.4/36, E OFF FUKUSHIMA PREF*

ISC 22 07:28:37.4±1.9, 37.°36N±0.°04×141.°70E±0.°08, h7km±11km, n21, σ0°70/24, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.66	271	P	Pb	07 28 51.4	+0.1
JFK				*eS*	Sg	07 28 58.9	+0.1
JMST	Minamisoumatoc	0.74	300	P	Pg	07 28 52.5	+0.7
JMST				S	Sg	07 29 01.0	-0.4
JMM	Marumori	0.88	305	P	Pg	07 28 54.8	+0.4
JMM				S	Sg	07 29 05.1	-0.7
JFFD	Fukushimafurud	0.95	254	P	Pg	07 28 56.1	+0.4
JFFD				S	Sg	07 29 07.2	-0.7
JIO	Ouri	1.13	346	S	Sg	07 29 12.7	-1.1
JHO	Hitachi	1.18	231	*eP*	Pb	07 28 59.8	-0.2
JHO				S	Sb	07 29 14.2	-1.2
JOU	Okura	1.30	321	P	Pn	07 29 02.2	+0.2
JOU				S	Sb	07 29 18.1	-1.0
JYS	Shirataka	1.56	304	P	Pb	07 29 06.6	+0.1
JYS				S	Sn	07 29 25.8	-0.2
JFY	Yanaizu	1.59	272	P	Pn	07 29 07.0	+0.9
JFY				S	Sn	07 29 26.6	-0.3
MJAR	Matsushiro Arr 0.4nm,0.3s,baz=82,slow=16,SNR=6.0	2.92	255	Pn	Pn	07 29 25.1	+0.9
MJAR				Sn	Sb	07 30 04.6	-1.0
JHJ	0.4nm,0.3s,baz=75,slow=19,SNR=1.8 1.1nm,0.3s Hachijo jima 2	4.51	201	Pn	Pn	07 29 45.6	-0.5
JHJ	5.6nm,0.3s,baz=19,slow=16,SNR=1.8			Sn	Sn	07 30 39.1	+0.2
H11N2	3.7nm,0.3s,baz=60,slow=18,SNR=1.1 156nm,0.9s WAKE ISLAND Hy	28.12	122	T	T	08 03 58.4	
H11N1	baz=314,slow=75,SNR=14 WAKE ISLAND Hy	28.12	122	T	T	08 04 02.2	
H11N3	baz=314,slow=75,SNR=13 WAKE ISLAND Hy	28.14	122	T	T	08 04 03.7	
H11S1	baz=314,slow=75,SNR=13 WAKE ISLAND Hy	28.84	124	T	T	08 04 56.9	
H11S3	baz=316,slow=76,SNR=7.4 WAKE ISLAND Hy	28.84	124	T	T	08 04 55.5	
H11S2	baz=316,slow=76,SNR=7.5 WAKE ISLAND Hy	28.86	124	T	T	08 04 56.8	
MKAR	baz=316,slow=76,SNR=6.7 Makanchi Array	44.14	302	P	P	07 36 46.4	-0.1
KURBB	0.4nm,0.6s,baz=91,slow=7.7,SNR=2.7 0.4nm,0.6s Kurchatov Arra	45.99	308	P	P	07 37 01.6	+0.5
WRA	0.4nm,0.6s,baz=83,slow=8.0,SNR=2.4 0.4nm,0.6s Warramunga Arr	57.41	188	P	P	07 38 27.1	+0.4
TBI	0.3nm,0.5s,baz=5.3,slow=7.2,SNR=5.3 0.3nm,0.5s Tubuai comp=Z,419nm,29.0s	88.49	121	*e*LR	LR	07 41 42.4	

IDC ***22*** *07:32:23.7±0.5, 37.°22N×141.°49E, h0km, mb4.0/18, mbtmp4.1/23, ML3.8/4, MS3.4/5, Error ellipse: s-maj=16.8km s-min=13.0km az=95.0*

NEIC ***22*** *07:32:25.8±2.0, 37.°24N±0.°04×141.°45E±0.°05, h10km±1km, mb4.5/27, Error ellipse: s-maj=7.1km s-min=6.3km az=67.0*

JMA ***22*** *07:32:25.8±0.2, 37.°2N±0.°4×141.°5E±1.°0, h29km±1km, MD4.4/40, MV4.5/40, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

NIED ***22*** *07:32:25.8, 37.°22N×141.°48E, h29km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-6.98; $M_{\theta\theta}$0.05; $M_{\phi\phi}$6.93; $M_{r\theta}$2.70; $M_{\theta\phi}$3.37; $M_{r\phi}$5.13; Fault plane solution: M_o9.60000×10^{14} NP1: ϕ_s17.00000°, δ27.00000°, λ-98.00000°. NP2: ϕ_s206.00000°, δ64.00000°, λ-86.00000°.*

ISC 22 07:32:24.7±1.6, 37.°19N±0.°03×141.°53E±0.°05, h9km±9km, n119, σ1°38/107, mb4.4/33, MS3.9/3, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.55	289	*i* P	Pg	07 32 35.7	+0.3
JFK				S	Sg	07 32 42.5	-0.1
JFK	Kawauchi comp=E,9.0nm,0.4s,comp=E,7.0nm,0.2s	0.55	289	A	A	07 32 35.7	
JMST	Minamisoumatoc	0.74	317	*i* P	Pg	07 32 38.9	-0.1
JMST				S	Sg	07 32 48.4	-0.2
JMST	Minamisoumatoc comp=E,19nm,0.5s,comp=E,22nm,0.6s	0.74	317	A	A	07 32 38.9	
JFFD	Fukushimafurud	0.78	263	*i* P	Pg	07 32 39.9	+0.2
JFFD				S	Sg	07 32 49.6	-0.3
JFFD	Fukushimafurud comp=E,14nm,0.7s,comp=E,15nm,1.6s	0.78	263	A	A	07 32 39.9	
JMM	Marumori	0.89	319		Pb	07 32 41.4	-0.9
JMM					Sb	07 32 52.4	-2.0
JMM	Marumori	0.89	319	P	Pb	07 32 41.5	-0.9
JMM	Marumori	0.89	319	*i* P	Pb	07 32 41.5	-0.9
JMM				S	Sb	07 32 52.6	-1.8
JMM	Marumori comp=E,5.0nm,0.5s,comp=E,6.0nm,0.8s	0.89	319	A	A	07 32 41.5	
JHO	Hitachi	0.96	233	⇓*i* P	Pb	07 32 42.1	-1.4
JHO				⇓S	Sb	07 32 54.7	-1.7
JHYU	Hitachinakayam comp=E,8.0nm,0.7s,comp=E,7.0nm,0.3s	1.14	222	A	A	07 32 45.9	
JIO	Ouri	1.27	354	P	Pn	07 32 47.4	-1.3
JIO				*e*S	Sb	07 33 03.1	-2.2
JSB	Shiboa	1.30	261	P	Pn	07 32 49.2	0.0
JSB				S	Sb	07 33 05.8	-0.5
JSB	Shiboa comp=E,15nm,1.3s,comp=E,11nm,1.3s	1.30	261	A	A	07 32 49.2	
JYAR	Yonezawaarcadi comp=E,27nm,1.3s,comp=E,30nm,1.1s	1.32	304	A	A	07 32 48.0	
JOU	Okura	1.36	330	*i* P	Pn	07 32 49.5	-0.4
JOU				S	Sn	07 33 07.4	-0.7
JOU	Okura comp=E,10.0nm,0.6s,comp=E,22nm,0.9s	1.36	330	A	A	07 32 49.5	
JIHU	Itakohorinouch comp=E,17nm,2.6s,comp=E,21nm,2.2s	1.46	214	A	A	07 32 51.0	
JFY	Yanaizu comp=E,7.0nm,4.4s,comp=E,5.0nm,3.0s	1.47	279	A	A	07 32 50.4	
JOFO	Osakifurukawao comp=E,31nm,4.4s,comp=E,33nm,1.6s	1.49	341	A	A	07 32 50.8	
JYS	Shirataka comp=E,16nm,0.8s,comp=E,17nm,1.3s	1.55	312	A	A	07 32 51.5	
JYK	Kaneyama comp=E,4.0nm,1.1s,comp=E,3.0nm,1.6s	1.96	332	A	A	07 32 57.5	
JYA	Atsumi comp=E,10.0nm,0.7s,comp=E,10.0nm,0.7s	2.01	315	A	A	07 32 58.2	
JIZZ	Izumozaki comp=E,13nm,5.5s,comp=E,8.0nm,3.3s	2.27	280	A	A	07 33 02.0	
JSD	Sado	2.73	289		Pn	07 33 09.8	+1.1
JSD	Sado	2.73	289	P	Pn	07 33 10.9	+2.2
MJAR	Matsushiro Arr 3.1nm,0.3s,baz=95,slow=15,SNR=31	2.74	257	Pn	Pn	07 33 09.8	+1.0
MJAR				Sn	Sn	07 33 41.4	-0.8
MJAR	2.9nm,0.3s,baz=75,slow=19,SNR=6.7 comp=Z,233nm,18.6s,baz=54,slow=49 12nm,0.3s			LR	LR	07 34 37.8	
MAJO	Matsushiro	2.74	257		Pn	07 33 10.1	+1.2
MAJO	Matsushiro	2.74	257	P	Pn	07 33 10.3	+1.4
MJB9	Matsu-Tunnel	2.74	257		Pn	07 33 10.8	+1.9
JTM	Tenmabayashi	3.61	354		Pn	07 33 22.6	+1.8
JTM	Tenmabayashi	3.61	354	P	Pn	07 33 22.2	+1.4
JGF	Kuroka	3.72	246		Pn	07 33 24.0	+1.7
JGF	Kuroka	3.72	246	P	Pn	07 33 23.9	+1.5
INU	Inuyama	4.08	245		Pn	07 33 29.2	+1.9
INU	Inuyama	4.08	245	P	Pn	07 33 30.1	+2.8
JHJ2	Mitsune	4.30	200	Pn	Pn	07 33 31.5	+1.2
JHJ2	Mitsune	4.30	200	P	Pn	07 33 32.7	+2.4
JHJ	Hachijo jima 2 28nm,0.3s,baz=346,slow=23,SNR=17	4.30	200	Pn	Pn	07 33 31.5	+1.2
JHJ	17nm,0.3s,baz=343,slow=19,SNR=1.4 59nm,0.3s			Sn	Sn	07 34 19.6	-1.1
ERM	Erimo	4.98	14	Pn	Pn	07 33 40.3	+0.6
ERM	Erimo	4.98	14	P	Pn	07 33 40.2	+0.6
JEM	Erimo	4.98	14	P	Pn	07 33 39.8	+0.2
JKA	Kamikawa-asahi	6.97	6	Pn	Pn	07 34 08.0	+1.1
JHS	Saijyo	7.15	255	P	Pn	07 34 12.5	+3.0
USRK	Usuriysk Ar. 4.0nm,0.8s,baz=129,slow=14,SNR=1.4	10.07	317	Pn	Pn	07 34 50.2	+0.8
JCJ	Chichijima 7.4nm,0.3s,baz=298,slow=18,SNR=1.8	10.08	177	Pn	Pn	07 34 48.4	-1.3
JCJ	4.0nm,0.3s,baz=286,slow=20,SNR=2.2 72nm,0.8s			Sn	Sn	07 36 36.6	-6.3
KSRS	Korea Array 0.1nm,0.3s,baz=83,slow=14,SNR=2.1	10.84	276	Pn	Pn	07 35 04.1	+4.0
KSRS				LR	LR	07 38 58.7	
KLR	comp=Z,82nm,19.1s,baz=325,slow=36 Kul'dur 0.1nm,0.3s,baz=135,slow=19,SNR=1.7 0.4nm,0.2s	13.97	333	Pn	Pn	07 35 43.9	+1.1
SEY	Seymchan 1.9nm,0.3s,baz=190,slow=12,SNR=5.2 1.9nm,0.3s	26.62	11	P	P	07 38 02.3	-0.9
SHEM	Shemya Is, Ala 49nm,0.4s,baz=273,slow=12,SNR=2.3	27.49	45	P	P	07 38 11.0	-0.2
SONM	Songino Array 1.1nm,0.7s,baz=104,slow=8.3,SNR=8.0 1.1nm,0.7s	27.78	304	P	P	07 38 13.5	-0.4
SONM	Songino Array	27.78	304	P	P	07 38 12.6	-1.3
H11N2	WAKE ISLAND Hy baz=314,slow=75,SNR=224	28.15	121	T	T	08 07 47.7	
H11N1	WAKE ISLAND Hy baz=314,slow=75

comp=Z,95nm,19.4s,baz=1.5,slow=37
INK Inuvik 54.21 27 P **P** **07 41 50.6 +0.5**
comp=Z,1.3nm,0.6s,baz=291,slow=8.6,SNR=8.6
comp=Z,1.3nm,0.6s
INK Inuvik 54.21 27 P **P** **07 41 51.6 +1.5**
INK IAmb IAmb 07 42 29.6
comp=Z,8.3nm,1.5s
CHGR Chuyangaron 55.68 295 P **P** **07 42 00.1 -1.4**
CHGR IAmb IAmb 07 42 07.1
comp=Z,6.6nm,0.8s
A36M Sachs Harbour 56.08 22 P **P** **07 42 05.3 +1.7**
A36M IAmb IAmb 07 42 10.9
comp=Z,5.0nm,0.9s
WB0 Warramunga Arr 57.05 188 P **P** **07 42 10.8 -0.3**
WB0 IAmb IAmb 07 42 20.5
comp=Z,4.2nm,1.0s
WRAB Tennant Creek 57.22 188 P **P** **07 42 11.8 -0.5**
WRAB IAmb IAmb 07 42 31.8
comp=Z,8.4nm,1.5s
WR0 Warramunga Arr 57.22 188 P **P** **07 42 11.8 -0.5**
WR0 IAmb IAmb 07 42 32.6
comp=Z,4.8nm,1.1s
WB2 Warramunga Arr 57.23 188 P **P** **07 42 12.3 -0.1**
WRA Warramunga Arr 57.23 188 P **P** **07 42 12.2 -0.2**
comp=Z,1.2nm,0.5s,baz=4.2,slow=7.0,SNR=36
WRA PcP **PcP** **07 43 08.0 +1.2**
comp=Z,0.5nm,0.6s,baz=1.6,slow=4.5,SNR=1.9
comp=Z,1.2nm,0.5s
WRA Warramunga Arr 57.23 188 P **P** **07 42 12.7 +0.4**
ABKAR Akbulak array 57.91 310 P **P** **07 42 16.7 -0.2**
ABKAR Akbulak array 57.91 310 P **P** **07 42 16.9 0.0**
ABKAR IAmb IAmb 07 42 21.7
comp=Z,2.0nm,0.7s
DLBC Dease Lake 58.45 38 P **P** **07 42 21.1 +0.4**
EUNU Eureka 60.02 9 P **P** **07 42 31.9 +0.7**
EUNU IAmb IAmb 07 42 44.7
comp=Z,4.9nm,1.3s
ASAR Alice Springs 60.95 188 P **P** **07 42 38.6 +0.4**
comp=Z,0.9nm,0.7s,baz=7.9,slow=5.7,SNR=11
comp=Z,0.9nm,0.7s
ASAR Alice Springs 60.95 188 P **P** **07 42 39.2 +1.0**
ARCES ARCESS Array B 63.88 339 P **P** **07 42 57.5 +0.2**
comp=Z,1.5nm,0.7s,baz=54,slow=9.1,SNR=9.0
comp=Z,1.5nm,0.7s
LTY Liberty 68.48 47 P **P** **07 43 26.6 -0.7**
STKA Stephens Creek 68.71 180 P **P** **07 43 29.6 +1.0**
comp=Z,1.0nm,0.5s,baz=0.3,slow=5.4,SNR=3.4
comp=Z,1.0nm,0.5s
STKA Stephens Creek 68.71 180 P **P** **07 43 29.4 +0.9**
FINES FINESS Array B 68.72 332 P **P** **07 43 28.7 +0.3**
comp=Z,4.2nm,0.7s,baz=43,slow=10,SNR=6.1
comp=Z,4.2nm,0.7s
FINES FINESS Array B 68.72 332 P **P** **07 43 28.5 +0.2**
FORT Forrest 68.78 192 P **P** **07 43 30.2 +1.3**
NB2 NORSAR Subarra 74.08 337 P **P** **07 44 01.3 +0.5**
comp=Z,1.1nm,0.6s,baz=40,slow=5.9
NOA NORSAR Array B 74.08 337 P **P** **07 43 59.5 -1.4**
comp=Z,0.9nm,0.7s,baz=39,slow=5.8,SNR=4.1
comp=Z,0.9nm,0.7s
AKASG Malin Array Be 74.23 322 P **P** **07 44 01.1 -0.7**
comp=Z,1.9nm,0.5s,baz=46,slow=6.2,SNR=8.9
comp=Z,1.9nm,0.5s
NVAR Mina Array Bea 74.82 53 P **P** **07 44 07.2 +1.4**
comp=Z,0.5nm,0.7s,baz=284,slow=5.9,SNR=5.1
comp=Z,0.5nm,0.7s
PDAR Pinedale Array 77.49 46 P **P** **07 44 21.5 +0.6**
comp=Z,0.4nm,0.7s,baz=329,slow=1.7,SNR=4.6
comp=Z,0.4nm,0.7s
BRTR Keskin Array B 78.82 312 P **P** **07 44 29.2 +0.9**
comp=Z,0.5nm,0.5s,baz=42,slow=4.5,SNR=2.0
comp=Z,0.5nm,0.5s
MMAI Mount Meron Ar 81.95 305 LR LR 08 24 12.3
comp=Z,85nm,18.6s,baz=82,slow=38
TXAR Lajitas Array 89.95 52 P **P** **07 45 26.0 +1.2**
comp=Z,0.4nm,0.6s,baz=292,slow=3.0,SNR=7.0
comp=Z,0.4nm,0.6s
LPAZ La Paz 146.53 60 PKPbc **PKPbc** **07 52 07.7 0.0**
comp=Z,1.2nm,0.5s,baz=20,slow=2.8,SNR=10
H03N2 Juan Fernandez 146.95 96 T T 10 36 22.2
baz=291,slow=76,SNR=42
H03N3 Juan Fernandez 146.96 96 T T 10 36 23.1
baz=291,slow=76,SNR=49
H03N1 Juan Fernandez 146.96 96 T T 10 36 23.2
baz=291,slow=76,SNR=49
SIV San Ignacio 150.91 49 PKPbc **PKPbc** **07 52 18.1 -0.2**
comp=Z,0.8nm,0.6s,baz=291,slow=5.7,SNR=3.7

---

*JMA **22** 07:38:43.3±0.2,24°N±1°×122.0°E±0.7,h34km±3km, MV3.1/12,TAIWAN REGION*
*TAP **22** 07:38:43.7,23.88N×122.03E,h36km,ML3.5,C*
ISC 22 07:38:42.9±1.0,**23.84N**±0.02×**122.03E**±0.02,**h26**km±11km, **n115,**σ0.73/175,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.42**	**290**	*e*P	**Pn**	**07 38 53.0**	**-0.2**
HWA	baz=278			*e*S	**Sn**	**07 39 00.2**	**+0.1**
TWD	**Chiawan**	**0.47**	**301**	P	**Pn**	**07 38 53.2**	**-0.8**
TWD	baz=297			S	**Sb**	**07 38 60.0**	**+0.7**
ETL	**Fush Village**	**0.49**	**310**	P	**Pn**	**07 38 53.6**	**-0.7**
ETL	baz=306			*e*S	**Sb**	**07 39 00.7**	**+0.7**
NACB	**Ninganchiao**	**0.52**	**310**	P	**Pb**	**07 38 53.8**	**+0.2**
NACB	**Ninganchiao**	**0.52**	**310**	P	**Pb**	**07 38 53.8**	**+0.2**
NACB	baz=306			S	**Sb**	**07 39 01.1**	**+0.3**
ESL	**Shilin**	**0.55**	**268**	P	**Pb**	**07 38 54.4**	**+0.4**
ESL	baz=255			*e*S	**Sb**	**07 39 02.2**	**+0.6**
EGFH	**Guangfu**	**0.58**	**253**	*e*P	**Pn**	**07 38 55.2**	**-0.3**
EGFH	baz=242			*e*S	**Sn**	**07 39 04.1**	**-0.1**
ETLH	**Xiulin Townshi**	**0.62**	**306**	*e*P	**Pb**	**07 38 55.6**	**+0.2**
ETLH	baz=303			*e*S	**Sb**	**07 39 03.9**	**+0.1**
ENA	**Nanau**	**0.65**	**336**	*e*P	**Pn**	**07 38 55.9**	**-0.5**
ENA	baz=324			*e*S	**Sn**	**07 39 04.9**	**-0.9**
HGSD	**Ruisui**	**0.66**	**239**	P	**Pb**	**07 38 56.1**	**+0.3**
EHY	**Hungye**	**0.73**	**243**	P	**Pb**	**07 38 57.4**	**+0.3**
EHY	baz=253			*e*S	**Sb**	**07 39 06.4**	**-0.3**
WHF	**Hehuan Shan**	**0.77**	**294**	P	**Pb**	**07 38 57.7**	**-0.2**
WHF	baz=283			*e*S	**Sb**	**07 39 08.5**	**+0.3**
TWC	**Suao**	**0.79**	**348**	P	**Pn**	**07 38 58.3**	**-0.1**
TWC	baz=348			*e*S	**Sb**	**07 39 08.2**	**-0.1**
YULB	**Yu-li**	**0.81**	**237**	P	**Pn**	**07 38 58.7**	**0.0**
YULB	**Yu-li**	**0.81**	**237**	P	**Pn**	**07 38 58.7**	**0.0**
YULB	baz=247			S	**Sb**	**07 39 09.4**	**+0.5**
CHGB	**Renai**	**0.82**	**286**	P	**Pn**	**07 38 58.8**	**-0.2**
CHGB	baz=283			*e*S	**Sb**	**07 39 10.0**	**+0.6**
EYUL	**Yuli**	**0.82**	**233**	*e*P	**Pn**	**07 38 59.1**	**+0.3**
EYUL	baz=222			*e*S	**Sn**	**07 39 10.6**	**+0.6**
VWDT	**VWDT**	**0.82**	**264**	*e*P	**Pn**	**07 38 59.1**	**+0.3**
VWDT	baz=261			*e*S	**Sn**	**07 39 10.6**	**+0.5**
FUSS	**Fushou**	**0.83**	**300**	P	**Pn**	**07 38 59.0**	**-0.1**
FUSS	baz=297			*e*S	**Sn**	**07 39 10.6**	**0.0**
LATG	**Datong**	**0.83**	**326**	P	**Pn**	**07 38 58.9**	**-0.2**
LATG	baz=325			*e*S	**Sb**	**07 39 08.9**	**-0.9**
NNSB	**Datong**	**0.84**	**315**	P	**Pn**	**07 38 58.9**	**-0.3**
NNSB	baz=312			S	**Sb**	**07 39 09.9**	**0.0**
NDS	**Dongshan**	**0.84**	**340**	P	**Pb**	**07 38 58.4**	**-0.6**
NNS	**Nan Shan**	**0.85**	**315**	*e*P	**Pb**	**07 38 58.3**	**-0.9**
NNS	baz=313			*e*S	**Sb**	**07 39 09.2**	**-1.0**
WUSB	**Renai**	**0.85**	**281**	P	**Pn**	**07 38 59.4**	**0.0**
WUSB	baz=277			*e*S	**Sb**	**07 39 10.2**	**-0.2**
TWT	**Tachien**	**0.89**	**298**	P	**Pn**	**07 39 00.2**	**+0.3**
TWT	baz=295			*e*S	**Sb**	**07 39 10.7**	**-0.7**
TDCB	**Techi**	**0.90**	**298**	P	**Pn**	**07 39 00.0**	**0.0**
TDCB	baz=295			*e*S	**Sb**	**07 39 10.7**	**-1.0**
ENTT	**Nioudou**	**0.91**	**332**	*e*P	**Pb**	**07 38 59.0**	**-1.0**
ENTT	baz=331			*e*S	**Sb**	**07 39 09.7**	**-2.0**
FULB	**Fuli**	**0.93**	**227**	*e*P	**Pb**	**07 39 00.1**	**-0.4**
FULB	baz=215			*e*S	**Sb**	**07 39 12.4**	**0.0**
TWE	**Neicheng**	**0.94**	**339**	P	**Pb**	**07 39 00.1**	**-0.5**
TWE	baz=339			*e*S	**Sb**	**07 39 12.6**	**-0.1**
CHKT	**Chengkung**	**0.96**	**220**	P	**Pb**	**07 39 00.1**	**-0.8**
CHKT	baz=209			*e*S	**Sb**	**07 39 11.5**	**-1.6**
SSLB	**Suanglung**	**0.99**	**267**	P	**Pn**	**07 39 01.4**	**+0.2**
SSLB	**Suanglung**	**0.99**	**267**	P	**Pb**	**07 39 01.1**	**-0.3**
SSLB	baz=264			*e*S	**Sb**	**07 39 13.9**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.00**	**336**	P	**Pn**	**07 39 01.6**	**+0.2**
FUSB	baz=335			*e*S	**Sb**	**07 39 14.2**	**-0.4**
YHNB	**Yeheng**	**1.02**	**324**	P	**Pn**	**07 39 02.2**	**+0.5**
YHNB	**Yeheng**	**1.02**	**324**	*e*P	**Pn**	**07 39 01.7**	**0.0**
JYNG	**Yonagunijimaku**	**1.03**	**54**	P	**Pn**	**07 39 02.3**	**+0.5**
JYNG				S	**Sn**	**07 39 15.9**	**+0.6**
NSK	**Sanguang**	**1.04**	**324**	P	**Pb**	**07 39 01.2**	**-1.1**
NSK	baz=311			*e*S	**Sb**	**07 39 13.9**	**-1.7**
SMLT	**Sun Moon Lake**	**1.04**	**273**	P	**Pn**	**07 39 02.4**	**+0.5**
WCS	**Beigang Elemen**	**1.05**	**282**	*e*P	**Pb**	**07 39 01.4**	**-1.0**
YUS	**Yu-Shan**	**1.05**	**251**	*e*P	**Pn**	**07 39 02.9**	**+0.5**
YUS	baz=248			*e*S	**Sb**	**07 39 15.4**	**-0.9**
NWLT	**Wulai**	**1.05**	**333**	*e*P	**Pb**	**07 39 01.4**	**-1.1**
TYC	**Yuchr**	**1.08**	**274**	*e*P	**Pn**	**07 39 02.6**	**+0.3**
WHP	**Taichung City**	**1.09**	**294**	*e*P	**Pb**	**07 39 03.5**	**+0.4**
YOJ	**Yonaguni jima**	**1.09**	**55**	P	**Pn**	**07 39 02.7**	**+0.2**
YOJ	baz=57			S	**Sn**	**07 39 16.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.09**	**55**	P	**Pn**	**07 39 03.0**	**+0.6**
YOJ				S	**Sn**	**07 39 17.2**	**+0.5**
EDH	**Donghe**	**1.09**	**218**	P	**Pn**	**07 39 02.1**	**-0.5**
EDH	baz=208			*e*S	**Sb**	**07 39 15.3**	**-1.7**
WHYT	**Xinyi Township**	**1.09**	**263**	*e*P	**Pb**	**07 39 03.5**	**+0.3**
ELDTW	**Lidau**	**1.14**	**236**	*e*P	**Pn**	**07 39 02.6**	**-0.6**
TIPB	**Shuangxi**	**1.15**	**350**	*e*P	**Pb**	**07 39 04.0**	**-0.1**
TIPB	baz=3.0			*e*S	**Sn**	**07 39 18.1**	**0.0**
NFF	**Wufeng Townshi**	**1.15**	**314**	*e*P	**Pn**	**07 39 03.5**	**+0.1**
NFF	baz=312			*e*S	**Sb**	**07 39 16.9**	**-1.9**
TWB1	**Santiao Chiao**	**1.17**	**358**	*e*P	**Pn**	**07 39 03.3**	**-0.2**
TWB1	baz=358			*e*S	**Sb**	**07 39 17.6**	**-1.6**
ALS	**Alishan**	**1.17**	**254**	*e*P	**Pb**	**07 39 05.1**	**+0.4**
ALS	baz=251			*e*S	**Sn**	**07 39 19.9**	**+0.6**
WJS	**Zhushan**	**1.20**	**270**	*e*P	**Pb**	**07 39 05.2**	**+0.2**
TWA	**Mucha**	**1.21**	**340**	*e*P	**Pb**	**07 39 05.0**	**-0.2**
TWA	baz=340			*e*S	**Sb**	**07 39 19.8**	**-0.6**
NHDH	**Xindian Distri**	**1.21**	**338**	*e*P	**Pb**	**07 39 04.9**	**-0.4**
NHDH	baz=325			*e*S	**Sn**	**07 39 20.1**	**+0.3**
LIOB	**Emei**	**1.23**	**311**	*e*P	**Pb**	**07 39 05.9**	**+0.3**
LIOB	baz=309			*e*S	**Sn**	**07 39 20.8**	**+0.6**
NSTT	**Nanjuang**	**1.23**	**310**	*e*P	**Pb**	**07 39 05.9**	**-0.4**
TATO	**Taipei**	**1.24**	**336**	P	**Pb**	**07 39 05.8**	**+0.1**
WNT	**Mingjian**	**1.24**	**272**	*e*P	**Pb**	**07 39 06.4**	**+0.8**
LONT	**Longtian**	**1.25**	**222**	*e*P	**Pn**	**07 39 04.7**	**+0.1**
LONT	baz=230			*e*S	**Sn**	**07 39 20.2**	**-0.3**
NWF	**Wu-fen Shan**	**1.25**	**349**	*e*P	**Pb**	**07 39 06.2**	**+0.3**
SXI1	**Grass Mountain**	**1.26**	**353**	P	**Pb**	**07 39 05.7**	**-0.3**
TWQ1	**Liyutan**	**1.26**	**294**	*e*P	**Pb**	**07 39 06.4**	**+0.4**
CHN5	**Tsauling**	**1.27**	**259**	*e*P	**Pn**	**07 39 05.4**	**+0.4**
LDUT	**Ludao**	**1.27**	**204**	*e*P	**Pn**	**07 39 04.5**	**-0.5**
LDUT	baz=203			*e*S	**Sn**	**07 39 19.6**	**-1.6**
TCU	**Taichung**	**1.28**	**284**	*e*P	**Pb**	**07 39 07.2**	**+0.9**
TCU	baz=282			*e*S	**Sb**	**07 39 24.4**	**+2.0**
NSY	**Sanyi**	**1.30**	**297**	*e*P	**Pb**	**07 39 06.7**	**0.0**
NSY	baz=294			*e*S	**Sb**	**07 39 24.1**	**+1.2**
NMLH	**Miaoli**	**1.33**	**302**	*e*P	**Pb**	**07 39 06.5**	**-0.7**
TWGBT	**Beinan**	**1.34**	**221**	P	**Pn**	**07 39 05.8**	**-0.2**
TWGBT	**Beinan**	**1.34**	**221**	*e*P	**Pn**	**07 39 05.3**	**-0.6**
TWGBT	baz=229			*e*S	**Sn**	**07 39 21.1**	**-1.9**
TWG	**Pinlang**	**1.34**	**221**	*e*P	**Pn**	**07 39 05.3**	**-0.7**
TWG	baz=229			*e*S	**Sn**	**07 39 22.3**	**-0.7**
SBCB	**Hsinchu**	**1.35**	**315**	*e*P	**Pb**	**07 39 07.9**	**+0.4**
WCKO	**Fanlu**	**1.37**	**253**	*e*P	**Pn**	**07 39 07.0**	**+0.6**
YM01	**YM01**	**1.37**	**342**	*e*P	**Pb**	**07 39 08.2**	**+0.2**
WCHH	**Zhanghua**	**1.37**	**280**	*e*P	**Pb**	**07 39 08.0**	**+0.1**
WDJ	**Dajia District**	**1.37**	**292**	*e*P	**Pb**	**07 39 07.6**	**-0.3**
WDLH	**Douliu**	**1.38**	**264**	*e*P	**Pb**	**07 39 08.2**	**+0.2**
TPUB	**Ta-pu**	**1.40**	**248**	P	**Pb**	**07 39 08.6**	**+0.2**
TPUB	**Ta-pu**	**1.40**	**248**	*e*P	**Pb**	**07 39 08.3**	**0.0**
	baz=246						
CHN4	**Tsaushan**	**1.41**	**250**	*e*P	**Pn**	**07 39 07.2**	**+0.3**
CHN4	baz=248			*e*S	**Sb**	**07 39 27.4**	**+1.2**
WTP	**Ta-pu**	**1.43**	**246**	P	**Pb**	**07 39 08.8**	**-0.2**
WTP	baz=243			*e*S	**Sb**	**07 39 29.0**	**+2.2**
CHY	**Chiayi**	**1.51**	**257**	*e*P	**Pb**	**07 39 10.0**	**-0.3**
WRL	**Guolierlin Hig**	**1.52**	**273**	*e*P	**Pn**	**07 39 09.1**	**+0.7**
CHN1	**Nanshi**	**1.53**	**245**	P	**Pb**	**07 39 10.8**	**+0.2**
CHN1	baz=243			*e*S	**Sb**	**07 39 30.5**	**+0.9**
TWK	**Hsinying**	**1.53**	**248**	*e*P	**Pb**	**07 39 10.7**	**0.0**
TWK	baz=246			*e*S	**Sb**	**07 39 30.6**	**+1.0**
SGST	**Jiashian**	**1.53**	**241**	P	**Pb**	**07 39 10.2**	**-0.5**
SGST	baz=228			*e*S	**Sb**	**07 39 29.3**	**-0.3**
IRIF	**Iriomote-Funau**	**1.63**	**72**	P	**Pn**	**07 39 10.7**	**+0.9**
IRIF				S	**Sn**	**07 39 29.8**	**-0.2**
HATJ	**Hateruma jima**	**1.64**	**82**	P	**Pn**	**07 39 10.8**	**+0.8**
HATJ				*e*S	**Sn**	**07 39 30.1**	**0.0**
WSL	**Shuilin Townsh**	**1.69**	**260**	*e*P	**Pn**	**07 39 11.0**	**+0.3**
SSD	**Sandimen**	**1.69**	**230**	*e*P	**Pb**	**07 39 12.8**	**-0.5**
TSMG	**Majia**	**1.70**	**229**	*e*P	**Pb**	**07 39 13.1**	**-0.5**
MASBT	**Mashibuluo**	**1.77**	**227**	*e*P	**Pn**	**07 39 12.9**	**+1.0**
MASBT	baz=222			*e*S	**Sn**	**07 39 33.8**	**+0.1**
TAWH	**Dawu Township**	**1.83**	**216**	*e*P	**Pn**	**07 39 14.2**	**+1.5**
LAY	**Lan-yu**	**1.84**	**194**	*e*P	**Pn**	**07 39 13.3**	**+0.4**
JKRS	**Kuro-shima**	**1.85**	**77**	P	**Pn**	**07 39 14.1**	**+1.2**
JKRS				*e*S	**Sn**	**07 39 36.6**	**+1.1**
LYUB	**Lan-yu**	**1.87**	**193**	*e*P	**Pn**	**07 39 12.0**	**-1.3**
TSCK	**Chigu Township**	**1.92**	**249**	*e*P	**Pn**	**07 39 14.7**	**+0.8**
SCZT	**Fangliau**	**1.96**	**222**	*e*P	**Pb**	**07 39 17.1**	**-0.7**
SLIU	**Shizi**	**1.97**	**215**	*e*P	**Pb**	**07 39 17.2**	**-1.0**
JIJ	**Ishigaki jima**	**2.00**	**74**	*i* P	**Pn**	**07 39 15.5**	**+0.5**
JIJ				S	**Sn**	**07 39 38.9**	**-0.3**
SMST	**Manzhou Townsh**	**2.12**	**212**	*e*P	**Pn**	**07 39 16.9**	**+0.2**
JISG	**Ishigakijimahi**	**2.21**	**70**	P	**Pn**	**07 39 18.3**	**+0.4**
JISG				S	**Sn**	**07 39 44.0**	**-0.3**
WDGT	**Dungji**	**2.25**	**256**	*e*P	**Pn**	**07 39 19.6**	**+1.0**
PHUB	**P'eng-hu**	**2.28**	**262**	*e*P	**Pn**	**07 39 19.8**	**+0.9**
PNG	**Penghu**	**2.29**	**264**	*e*P	**Pn**	**07 39 19.9**	**+1.0**
VCHM	**Qimei**	**2.47**	**256**	*e*P	**Pn**	**07 39 22.1**	**+0.6**
JTJ	**Tarama**	**2.56**	**71**	P	**Pn**	**07 39 23.4**	**+0.6**
JTJ				*e*S	**Sn**	**07 39 52.7**	**-0.4**
VWUC	**VWUC**	**2.62**	**297**	*e*P	**Pn**	**07 39 23.3**	**-0.3**
PTMZ	**Houxiangcun**	**2.91**	**295**	*e*P	**Pn**	**07 39 27.4**	**-0.1**
JIKM	**Ikemajima**	**3.12**	**69**	*e*P	**Pn**	**07 39 32.1**	**+1.7**
JIKM				*e*S	**Sn**	**07 40 07.8**	**+0.9**
KNM	**Kinmen**	**3.34**	**281**	*e*P	**Pn**	**07 39 35.1**	**+1.6**
KNMB	**Chin-men Tao**	**3.39**	**281**	*e*P	**Pn**	**07 39 34.1**	**-0.1**
AXDP	**Jialang**	**3.85**	**287**	*e*P	**Pn**	**07 39 40.1**	**-0.5**
ZPLA	**Ao Xicun**	**3.92**	**272**	*e*P	**Pn**	**07 39 41.8**	**+0.3**
DSXP	**Dongshan**	**4.22**	**269**	*e*P	**Pn**	**07 39 45.5**	**-0.1**

---

*JMA **22** 07:44:31.4±0.2,37.2°N±0.4×141.5°E±0.9,h28km±1km, MV3.9/35,E OFF FUKUSHIMA PREF*
*NIED **22** 07:44:31.4,37.17N×141.48E,h28km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.83; $M_{\theta\theta}$0.86; $M_{\phi\phi}$4.97; $M_{r\theta}$0.27; $M_{\theta\phi}$2.18; $M_{r\phi}$3.54; Fault plane solution: $M_0$6.86000×10^{14} NP1:ϕ_s33.00000°, δ31.00000°,λ-74.00000°. NP2:ϕ_s194.00000°,δ61.00000°, λ-100.00000°.*
*IDC **22** 07:44:35.9±3.1,37.10N×141.30E,h47km±30km,mb3.6/12, mbtmp3.9/14,ML2.7/2,MS2.9/2 Error ellipse: s-maj=28.0km s-min=19.0km az=73.0*
*NEIC **22** 07:44:38.8±1.9,37.47N±0.06×140.92E±0.06,h31km±5km, mb4.6/11,Error ellipse: s-maj=9.0km s-min=7.1km az=177.0*
ISC 22 07:44:35.5±1.5,**37.27N**±0.04×**141.23E**±0.07,**h23**km±10km, **n58,**σ1.99/55,**mb4.1**/18,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.29**	**288**	*i* P	**Pb**	**07 44 41.5**	**-0.9**
JFK				S	**Sb**	**07 44 48.8**	**+1.8**
JMST	**Minamisoumatoc**	**0.52**	**329**	P	**Pb**	**07 44 45.0**	**-1.0**
JMST				S	**Sb**	**07 44 55.0**	**+1.7**
JFFD	**Fukushimafurud**	**0.56**	**251**	*i* P	**Pn**	**07 44 45.3**	**-2.8**
JFFD				S	**Sb**	**07 44 55.2**	**+0.9**
JMM	**Marumori**	**0.68**	**330**		**Pn**	**07 44 47.8**	**-2.1**
JMM	**Marumori**	**0.68**	**330**	P	**Pn**	**07 44 47.6**	**-2.1**
JMM				S	**Sn**	**07 44 59.5**	**-0.2**
JHO	**Hitachi**	**0.84**	**219**	P	Pn	07 44 47.9	-4.1
JHO				S	**Sn**	**07 45 00.2**	**-3.4**
JSB	**Shiboa**	**1.09**	**254**	P	**Pn**	**07 44 54.7**	**-0.7**
JSB				S	**Sn**	**07 45 11.8**	**+2.1**
JIO	**Ouri**	**1.18**	**5**	P	**Pn**	**07 44 53.9**	**-2.7**
JIO				S	**Sn**	**07 45 11.0**	**-1.0**
JSD	**Sado**	**2.47**	**289**	Pn	**Pn**	**07 45 14.3**	**-0.1**
MJAR	**Matsushiro Arr**	**2.52**	**254**	P	**Pn**	**07 45 14.5**	**-0.6**
	0.6nm,0.3s,baz=82,slow=16,SNR=16						
MJAR				S	**Sb**	**07 45 51.1**	**+0.4**
	21nm,0.5s,baz=22,slow=29,SNR=2.1						
	5.6nm,0.4s						
MAJO	**Matsushiro**	**2.53**	**254**		**Pn**	**07 45 15.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.53**	**254**	Pn	**Pn**	**07 45 15.7**	**+0.5**
JTM	**Tenmabayashi**	**3.51**	**358**		**Pn**	**07 45 28.1**	**-0.6**
JGF	**Kuroka**	**3.54**	**243**	Pn	**Pn**	**07 45 29.9**	**+0.8**
INU	**Inuyama**	**3.90**	**242**		**Pn**	**07 45 36.0**	**+1.9**
JHJ	**Hachijo jima 2**	**4.31**	**196**	P	**Pn**	**07 45 36.8**	**-2.8**
	2.9nm,0.3s,baz=338,slow=21,SNR=2.2						
JHJ				S	**Sn**	**07 46 25.6**	**-3.6**
	199nm,0.9s,baz=73,slow=19,SNR=2.1						
JHJ				LR	LR	07 46 53.0	
	comp=Z,148nm,21.6s,baz=96,slow=33						
	109nm,0.8s						
ERM	**Erimo**	**4.96**	**17**	Pn	**Pn**	**07 45 50.0**	**+1.4**
KSRS	**Korea Array**	**10.59**	**275**	LR	LR	07 50 42.1	
	comp=Z,61nm,21.9s,baz=80,slow=34						
SONM	**Songino Array**	**27.53**	**304**	P	**P**	**07 50 19.3**	**-1.1**
	0.3nm,0.3s,baz=95,slow=6.1,SNR=2.0						
	0.3nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.40**	**121**	T	T	08 19 47.7	
	baz=314,slow=75,SNR=61						
H11N1	**WAKE ISLAND Hy**	**28.41**	**121**	T	T	08 19 50.4	
	baz=314,slow=75,SNR=75						
H11N3	**WAKE ISLAND Hy**	**28.42**	**121**	T	T	08 19 51.4	
	baz=314,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**29.12**	**123**	T	T	08 20 40.8	
	baz=316,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**29.12**	**123**	T	T	08 20 44.3	
	baz=316,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**29.13**	**123**	T	T	08 20 45.3	
	baz=316,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**41.64**	**312**	P	**P**	**07 52 20.6**	**-1.1**
	1.0nm,0.7s,baz=96,slow=8.8,SNR=3.6						
	1.0nm,0.7s						
MK31	**Makanchi Array**	**43.86**	**302**	P	**P**	**07 52 39.3**	**-0.7**
MKAR	**Makanchi Array**	**43.86**	**302**	P	**P**	**07 52 38.8**	**-1.1**
	0.7nm,0.6s,baz=86,slow=5.9,SNR=3.2						

0.7nm,0.6s
MKAR Makanchi Array 43.86 302 P P 07 52 38.6 -1.3
KURBB Kurchatov Arra 45.74 308 P P 07 52 53.5 -1.2
1.0nm,0.5s,baz=83,slow=7.9,SNR=4.3
1.0nm,0.5s
IMAR Indian Mountai 46.52 31 P P 07 53 02.5 +1.8
ILAR Eielson Array 49.37 32 P P 07 53 21.1 -1.8
0.9nm,0.9s,baz=279,slow=6.9,SNR=7.1
0.9nm,0.9s
ILAR Eielson Array 49.37 32 P P 07 53 25.6 +2.7
BMAR Burnt Mountain 50.20 29 P P 07 53 29.3 +0.2
INK Inuvik 54.24 27 P P 07 53 56.8 -2.3
1.4nm,0.9s,baz=294,slow=5.3,SNR=3.3
1.4nm,0.9s
ARU Arti 56.08 318 P P 07 54 10.7 -1.8
2.1nm,0.3s,baz=342,slow=5.2,SNR=3.2
2.1nm,0.3s
A36M Sachs Harbour 56.09 22 P P 07 54 12.9 +0.6
WB0 Warramunga Arr 57.10 188 P P 07 54 18.2 -1.9
WB0 IAmb IAmb 07 54 30.5
comp=Z,2.9nm,0.9s
WB2 Warramunga Arr 57.28 188 P P 07 54 24.6 +3.3
WB2 IAmb IAmb 07 54 44.9
comp=Z,9.5nm,1.4s
WRA Warramunga Arr 57.28 188 P P 07 54 17.5 -3.8
comp=Z,0.5nm,0.8s,baz=7.0,slow=7.5,SNR=6.0
comp=Z,0.5nm,0.8s
ABKAR Akbulak array 57.67 310 P P 07 54 23.3 -0.6
ABKAR Akbulak array 57.67 310 P P 07 54 22.9 -1.0
ABKAR IAmb IAmb 07 54 26.7
comp=Z,3.9nm,1.3s
EUNU Eureka 59.97 9 P P 07 54 41.3 +1.8
EUNU IAmb IAmb 07 54 44.8
comp=Z,3.1nm,1.1s
ASAR Alice Springs 61.01 188 P P 07 54 42.7 -4.5
comp=Z,0.3nm,0.8s,baz=15,slow=7.3,SNR=2.3
comp=Z,0.3nm,0.8s
KOUNC Koumac, New Ca 61.49 155 P P 07 54 53.1 +2.7
ARCES ARCESS Array B 63.72 339 P P 07 55 03.4 -1.4
comp=Z,2.0nm,0.8s,baz=68,slow=10,SNR=2.0
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 63.72 339 P P 07 55 04.8 0.0
ARCES IAmb IAmb 07 55 28.6
comp=Z,7.4nm,1.3s
FINES FINESS Array B 68.53 332 P P 07 55 34.8 -1.0
comp=Z,2.4nm,0.7s,baz=26,slow=4.9,SNR=3.8
comp=Z,2.4nm,0.7s
FINES FINESS Array B 68.53 332 P P 07 55 35.3 -0.5
NWAO Narrogin (SRO) 73.34 201 P P 07 56 07.8 +2.6
NWAO IAmb IAmb 07 56 18.9
comp=Z,15nm,1.2s
NOA NORSAR Array B 73.91 337 P P 07 56 05.9 -2.4
comp=Z,0.7nm,0.7s,baz=36,slow=7.7,SNR=2.4
comp=Z,0.7nm,0.7s
BW06 Boulder Array 77.61 45 P P 07 56 33.5 +3.4
PD31 Pinedale Array 77.61 45 P P 07 56 34.4 +4.2
PD31 IAmb IAmb 07 56 47.6
comp=Z,30nm,1.4s
PDAR Pinedale Array 77.61 45 P P 07 56 32.9 +2.7
LPAZ La Paz 146.70 59 PKPbc PKPdf 08 04 14.6 -0.4
comp=Z,0.7nm,0.5s,baz=308,slow=1.7,SNR=4.7
H03N2 Juan Fernandez 147.20 96 T T 10 48 27.6
baz=291,slow=76,SNR=13
H03N3 Juan Fernandez 147.21 96 T T 10 48 28.7
baz=291,slow=76,SNR=14
H03N1 Juan Fernandez 147.21 96 T T 10 48 28.7
baz=291,slow=76,SNR=11

*NEIC **22** 07:46:38.5±1.6, 42°.91S±0°.02×172°.96E±0°.03, h7km±7km, mb4.6/7, Error ellipse: s-maj=4.1km s-min=2.5km az=126.0*
*WEL **22** 07:46:43.0±0.4, 43°S±3°×17°3E±°, h5km, M2.9/12, ML3.1/7, MLv2.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=99.3*
ISC 22 07:46:39.4±0.9, 42°.96S±0°.03×173°.01E±0°.04, h20km±4km, n52, σ1s52/56, mb4.6/5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.02**	**112**	Pg	**Pg**	**07 46 39.9**	**-2.9**
GVZ	**Greta Valley S**	**0.02**	**112**	P	**Pg**	**07 46 45.0**	**+2.2**
GVZ				S	**Sg**	**07 46 46.7**	**+1.5**
AMCZ	**Amberley**	**0.34**	**230**	Pg	**Pg**	**07 46 45.9**	**-0.9**
AMCZ	**Amberley**	**0.34**	**230**	P	**Pn**	**07 46 50.6**	**+1.4**
AMCZ				S	**Sn**	**07 46 56.5**	**+1.0**
LTZ	**Lake Taylor**	**0.57**	**288**		**Pb**	**07 46 48.6**	**-2.0**
LTZ	**Lake Taylor**	**0.57**	**288**	P	**Pn**	**07 46 53.8**	**+1.3**
LTZ				S	**Sn**	**07 47 01.0**	**-0.4**
KHZ	**Kahutara**	**0.67**	**36**		**Pb**	**07 46 51.5**	**-0.8**
KHZ	**Kahutara**	**0.67**	**36**	P	**Pn**	**07 46 56.1**	**+2.4**
OKCZ	**Okains Bay**	**0.76**	**177**	P	**Pb**	**07 46 53.7**	**-0.3**
MQZ	**McQueen's Vall**	**0.79**	**199**		**Pb**	**07 46 53.9**	**-0.6**
OXZ	**Oxford**	**0.80**	**242**		**Pb**	**07 46 54.0**	**-0.6**
OXZ	**Oxford**	**0.80**	**242**	P	**Pn**	**07 46 59.4**	**+3.9**
AKCZ	**Akaroa Harbour**	**0.92**	**185**	P	**Pb**	**07 46 55.9**	**-0.7**
RACZ	**Rakaia**	**1.00**	**219**	P	**Pg**	**07 47 03.4**	**+4.6**
INZ	**Inchbonnie**	**1.18**	**281**		**Pb**	**07 46 59.9**	**-0.8**
INZ	**Inchbonnie**	**1.18**	**281**	P	**Pn**	**07 46 59.4**	**-1.3**
MHCZ	**Mount Hutt**	**1.20**	**241**	P	**Pn**	**07 47 00.3**	**-0.8**
THZ	**Tophouse**	**1.20**	**356**		**Pb**	**07 47 00.3**	**-0.8**
THZ	**Tophouse**	**1.20**	**356**	P	**Pg**	**07 47 05.4**	**+2.8**
WACZ	**Wakanui South**	**1.30**	**221**	P	**Pn**	**07 47 00.7**	**-1.7**
BSWZ	**Blackbirch Sta**	**1.40**	**28**		**Pn**	**07 47 03.3**	**-0.5**
DSZ	**Denniston Nort**	**1.51**	**323**	Pn	**Pn**	**07 47 04.4**	**-0.9**
DSZ	**Denniston Nort**	**1.51**	**323**	P	**Pn**	**07 47 04.7**	**-0.6**
MRNZ	**Matariki Terra**	**1.57**	**353**		**Pn**	**07 47 06.7**	**+0.5**
MRNZ	**Matariki Terra**	**1.57**	**353**	P	**Pn**	**07 47 06.1**	**-0.1**
RPZ	**Rata Peaks**	**1.61**	**241**		**Pn**	**07 47 07.6**	**+0.8**
RPZ	**Rata Peaks**	**1.61**	**241**	P	**Pn**	**07 47 05.4**	**-1.4**
ARCZ	**Arundel**	**1.66**	**233**	P	**Pn**	**07 47 05.8**	**-1.6**
WVZ	**Waitaha Valley**	**1.67**	**265**	P	**Pn**	**07 47 07.5**	**0.0**
TUWZ	**Tuamarina**	**1.68**	**25**	Pn	**Pn**	**07 47 08.4**	**+0.8**
TUWZ	**Tuamarina**	**1.68**	**25**	P	**Pn**	**07 47 07.0**	**-0.6**
NNZ	**Nelson**	**1.76**	**9**		**Pn**	**07 47 08.3**	**-0.4**
NNZ	**Nelson**	**1.76**	**9**	P	**Pn**	**07 47 08.5**	**-0.2**
TKNZ	**Takaka Hill**	**1.93**	**359**		**Pn**	**07 47 10.9**	**-0.1**
TKNZ	**Takaka Hill**	**1.93**	**359**	P	**Pn**	**07 47 11.5**	**+0.5**
TCW	**Tory Channel**	**1.99**	**29**	P	**Pn**	**07 47 10.9**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.00**	**259**	P	**Pb**	**07 47 14.9**	**-0.1**
TMZ	**Timaru**	**2.03**	**225**	P	**Pn**	**07 47 11.5**	**-1.0**
TMZ				P	**Pg**	**07 47 17.2**	**-1.2**
QRZ	**Quartz Range**	**2.16**	**350**	Pn	**Pn**	**07 47 14.6**	**+0.3**
QRZ	**Quartz Range**	**2.16**	**350**	P	**Pn**	**07 47 15.6**	**+1.3**
DUWZ	**D'Urville Isla**	**2.26**	**18**	P	**Pn**	**07 47 15.6**	**-0.1**
FOZ	**Fox Glacier**	**2.40**	**255**	Pn	**Pn**	**07 47 18.5**	**+0.9**
FOZ	**Fox Glacier**	**2.40**	**255**	P	**Pn**	**07 47 19.4**	**+1.9**
LBZ	**Lake Benmore**	**2.50**	**234**	P	**Pb**	**07 47 25.2**	**+1.7**
ODZ	**Otahua Downs**	**2.69**	**219**	P	**Pn**	**07 47 19.9**	**-1.6**
ARMA	**Armidale**	**21.16**	**299**	P	**P**	**07 51 21.2**	**-2.2**
ARMA				IAmb	IAmb	07 51 58.0	
comp=Z,16nm,1.4s							
NIUE	**Niue**	**27.83**	**36**	P	**P**	**07 52 28.1**	**+0.6**
CTAO	**Charters Tower**	**32.01**	**307**	P	**P**	**07 53 04.2**	**-0.2**
CTAO				IAmb	IAmb	07 53 36.0	
comp=Z,26nm,1.5s							
COEN	**Coen**	**38.65**	**309**	P	**P**	**07 53 59.9**	**-1.7**
COEN				IAmb	IAmb	07 54 00.9	
comp=Z,16nm,1.2s							
WRAB	**Tennant Creek**	**39.70**	**293**	P	**P**	**07 54 11.7**	**+1.3**
WRAB				IAmb	IAmb	07 54 55.6	
comp=Z,8.9nm,1.4s							
WB0	**Warramunga Arr**	**39.78**	**293**	P	**P**	**07 54 09.4**	**-1.6**
WB0				IAmb	IAmb	07 54 11.5	
comp=Z,6.1nm,1.4s							
PSA00	**Pilbara Seismi**	**48.86**	**278**	P	**P**	**07 55 24.4**	**+0.7**
PSA00				IAmb	IAmb	07 55 27.9	
comp=Z,40nm,1.4s							

*ECX **22** 07:48:30.4±0.5, 27°.59N×111°.42W, h20km±15km, MD4.1, ML4.3*
*IDC **22** 07:48:30.4±0.7, 27°.59N×111°.22W, h0km, mb4.2/9, mbtmp4.0/15, ML3.6/6, MS3.8/34, Error ellipse: s-maj=15.7km s-min=10.1km az=62.0*
*MEX **22** 07:48:31.4±0.4, 27°.62N×111°.42W, h24km±13km, MD4.5*
*NEIC **22** 07:48:31.0±2.3, 27°.65N±0°.06×111°.47W±0°.08, h10km±1km, mb4.4/48, Md4.5/20(MEX), Error ellipse: s-maj=13.1km s-min=8.8km az=233.0*
ISC 22 07:48:29.8±1.2, 27°.61N±0°.03×111°.43W±0°.03, h4km±8km, n220, σ1s93/204, mb4.4/24, MS3.9/31, 6C-3D, Gulf of

California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.57**	**59**	*e*P	**Pg**	**07 48 41.0**	**+0.1**
GUYB				*e*S	**Sg**	**07 48 49.2**	**+0.8**
GUYB				IAML		07 48 50.2	
comp=E,31μm,0.3s							
GUYB				IAML		07 48 50.4	
comp=N,21μm,0.2s							
GUYB	**Guaymas**	**0.57**	**59**	*e*P	**Pg**	**07 48 41.0**	**+0.1**
GUYB				*e*S	**Sg**	**07 48 47.8**	**-0.6**
SRIG	**Santa Rosalia**	**0.77**	**249**		**Pg**	**07 48 44.2**	**-0.5**
SRIG	**Santa Rosalia**	**0.77**	**249**	*i*P	**Pg**	**07 48 44.2**	**-0.5**
SRIG				*e*S	**Sg**	**07 48 54.9**	**+0.2**
SRIG				IAML		07 48 56.3	
comp=N,22μm,0.5s							
SRIG				IAML		07 49 03.3	
comp=E,22μm,0.8s							
SRIG	**Santa Rosalia**	**0.77**	**249**	*e*P	**Pg**	**07 48 44.1**	**-0.6**
SRIG				*e*S	**Sg**	**07 48 53.7**	**-1.0**
HSIG		**1.47**	**17**	Pn	**Pn**	**07 48 55.5**	**-1.6**
HSIG		**1.47**	**17**	*e*P	**Pn**	**07 48 55.2**	**-1.9**
HSIG		**1.47**	**17**	*e*P	**Pn**	**07 48 55.9**	**-1.3**
HSIG				*e*S	**Sn**	**07 49 12.9**	**-3.9**
SFQB	**San Francisqui**	**1.49**	**303**	*i*P	**Pn**	**07 48 54.7**	**-2.7**
SFQB				*e*S	**Sn**	**07 49 15.5**	**-1.7**
SFQB				IAML		07 49 19.3	
comp=E,2μm,0.9s							
SFQB				IAML		07 49 20.1	
comp=N,2μm,1.2s							
NE77	**Loreto B.C.S**	**1.59**	**178**	*e*P	**Pn**	**07 48 55.9**	**-2.7**
NE77				IAML		07 49 49.8	
comp=N,1μm,0.9s							
NOVRB	**El Novillo Son**	**2.06**	**49**	*e*P	**Pn**	**07 49 04.1**	**-1.1**
NE80	**Navojoa**	**2.08**	**109**		Pg	07 49 17.6	+7.9
NE80	**Navojoa**	**2.08**	**109**	*e*P	**Pn**	**07 49 02.2**	**-3.3**
BAHB	**Baha de los**	**2.30**	**306**	*e*P	**Pn**	**07 49 05.5**	**-3.0**
BAHB				*e*S	**Sn**	**07 49 29.8**	**-7.5**
NE74	**Guerrero Negro**	**2.32**	**281**	*i*P	**Pn**	**07 49 08.1**	**-0.7**
PLIB	**Puerto Liberta**	**2.55**	**335**	*e*P	**Pn**	**07 49 11.0**	**-1.0**
CSIG	**Choix**	**2.83**	**105**		**Pn**	**07 49 12.8**	**-3.0**
CSIG					**Sn**	**07 49 45.2**	**-5.2**
CSIG	**Choix**	**2.83**	**105**	*e*P	**Pn**	**07 49 12.8**	**-3.0**
CSIG				*e*S	**Sn**	**07 49 45.2**	**-5.2**
TSIG	**Topolobambo**	**2.93**	**132**	*e*P	**Pn**	**07 49 15.4**	**-1.7**
LAPR	**La Primavera**	**2.99**	**345**	*e*P	**Pn**	**07 49 17.5**	**-0.4**
LAPR	**La Primavera**	**2.99**	**345**	*e*P	**Pn**	**07 49 17.6**	**-0.4**
LAPR				*e*S	**Sn**	**07 49 51.7**	**-2.5**
NZIG	**Nacozari, Sono**	**3.21**	**30**		**Pb**	**07 49 26.6**	**-0.9**
NZIG					**Sb**	**07 50 05.3**	**-1.7**
NZIG	**Nacozari, Sono**	**3.21**	**30**	*e*P	**Pb**	**07 49 26.6**	**-0.9**
NZIG				*e*S	**Sb**	**07 50 05.3**	**-1.7**
LPIG	**La Paz**	**3.63**	**164**	Pn	**Pn**	**07 49 28.7**	**+1.9**
comp=N,3.9nm,0.3s,baz=343,slow=14,SNR=6.0							
LPIG				LR	LR	07 50 14.2	
comp=N,123nm,21.9s,baz=278,slow=29							
LPIG				Lg	Lg	07 50 22.2	
comp=N,4.5nm,0.3s,baz=199,slow=23,SNR=3.9							
comp=N,7.9nm,0.3s							
LPIG	**La Paz**	**3.63**	**164**	*e*P	**Pn**	**07 49 29.6**	**+2.7**
SLBS	**Sierra La Lagu**	**4.13**	**161**		**Pn**	**07 49 35.3**	**+1.6**
SLBS	**Sierra La Lagu**	**4.13**	**161**	*e*P	**Pn**	**07 49 35.4**	**+1.7**
319A	**Douglas**	**4.20**	**26**	Pn	**Pn**	**07 49 34.7**	**0.0**
PIX	**Pinacate**	**4.32**	**336**		**Pn**	**07 49 36.4**	**+0.2**
214A	**Organ Pipe Nat**	**4.50**	**345**		**Pn**	**07 49 38.5**	**-0.3**
214A	**Organ Pipe Nat**	**4.50**	**345**	P	**Pn**	**07 49 38.6**	**-0.1**
214A	baz=165,SNR=52			Sg	**Sg**	**07 50 52.6**	**-1.7**
baz=165							
214A	**Organ Pipe Nat**	**4.50**	**345**	*e*P	**Pn**	**07 49 38.5**	**-0.3**
214A				*e*S	**Sn**	**07 50 29.4**	**-2.1**
SFX	**San Felipe**	**4.54**	**320**		**Pn**	**07 49 37.9**	**-1.4**
TUC	**Tucson**	**4.72**	**7**		**Pn**	**07 49 42.0**	**+0.2**
TUC	**Tucson**	**4.72**	**7**	P	**Pn**	**07 49 42.1**	**+0.2**
baz=188							
TUC				Sg	**Sg**	**07 51 00.1**	**-1.4**
baz=188							
TUC	**Tucson**	**4.72**	**7**	*e*	**Sb**	**07 50 50.5**	**0.0**
SSIG	**Sanalona**	**4.75**	**125**	*e*	Pn	07 49 47.6	+5.4
HPIG		**5.18**	**96**		**Pn**	**07 49 49.1**	**+0.9**
113A	**Mohawk Valley,**	**5.53**	**339**		**Pn**	**07 49 53.6**	**+0.8**
121A	**Cookes Peak, D**	**5.84**	**32**		**Pn**	**07 49 57.0**	**-0.3**
121A	**Cookes Peak, D**	**5.84**	**32**	P	**Pn**	**07 49 58.1**	**+0.8**
baz=214,SNR=7.6							
121A	**Cookes Peak, D**	**5.84**	**32**	*e*P	**Pn**	**07 49 57.4**	**+0.1**
121A				*e*S	**Sn**	**07 51 03.2**	**-1.5**
ESJX	**Sierra Juarez**	**5.88**	**319**		**Pn**	**07 49 58.0**	**0.0**
GLA	**Glamis**	**6.17**	**332**		**Pn**	**07 50 02.4**	**+0.6**
GLA	**Glamis**	**6.17**	**332**	P	**Pn**	**07 50 02.7**	**+1.0**
baz=151							
GLA				S	**Sn**	**07 51 11.7**	**-1.0**
baz=151							
YUH	**Yuha Desert**	**6.35**	**323**		**Pn**	**07 50 05.0**	**+0.8**
IKP	**In-Ko-Pah, Jac**	**6.46**	**322**	P	**Pn**	**07 50 07.5**	**+1.8**
baz=140							
Y14A	**Wickenburg**	**6.46**	**348**	Pn	**Pn**	**07 50 06.9**	**+1.2**
BLYC	**Blythe**	**6.68**	**337**		**Pn**	**07 50 09.5**	**+0.8**
MONP2	**Monument Peak**	**6.81**	**322**	P	**Pn**	**07 50 12.3**	**+1.7**
baz=140							
BC3	**Big Chuckawall**	**6.95**	**331**	P	**Pn**	**07 50 12.8**	**+0.3**
baz=149,SNR=9.7							
X18A	**Snowflake**	**7.02**	**10**		**Pn**	**07 50 14.7**	**+1.2**
TX31	**Lajitas Ar. Si**	**7.05**	**74**		**Pn**	**07 50 13.9**	**0.0**
TX32	**Lajitas Array**	**7.05**	**74**		**Pn**	**07 50 13.3**	**-0.6**
TXAR	**Lajitas Array**	**7.05**	**74**	Pn	**Pn**	**07 50 13.3**	**-0.5**
comp=N,0.5nm,0.3s,baz=242,slow=13,SNR=40							
TXAR				Sn	**Sn**	**07 51 31.6**	**-2.9**
comp=N,1.2nm,0.3s,baz=203,slow=31,SNR=4.2							
TXAR				Lg	Lg	07 52 05.5	
comp=N,2.2nm,0.3s,baz=259,slow=32,SNR=3.7							
comp=N,1.2nm,0.3s							
TXAR	**Lajitas Array**	**7.05**	**74**	Pn	**Pn**	**07 50 15.2**	**+1.3**
PDMCI	**Parker Dam,Lak**	**7.07**	**341**	P	**Pn**	**07 50 15.4**	**+1.3**
baz=160,SNR=21							
IRM	**Iron Mountain**	**7.27**	**335**	P	**Pn**	**07 50 17.9**	**+1.1**
baz=153,SNR=18							
SBM	**South Baldy**	**7.33**	**29**		**Pn**	**07 50 17.5**	**-0.4**
TPFO	**Pinon Flats**	**7.38**	**325**	P	**Pn**	**07 50 19.5**	**+1.0**
baz=143							
BELC	**Belle Mtn. Jos**	**7.49**	**329**	P	**Pn**	**07 50 21.7**	**+1.8**
baz=147							
CRNM	**Carthage**	**7.51**	**31**		**Pn**	**07 50 22.0**	**+1.8**
Y22D	**IRIS PASSCAL I**	**7.52**	**30**		**Pn**	**07 50 20.3**	**-0.1**
BMNM	**Bear Mountains**	**7.55**	**27**		**Pn**	**07 50 23.6**	**+2.7**
LENM	**Lemitar**	**7.58**	**29**		**Pn**	**07 50 22.5**	**+1.3**
W18A	**Petrified Fore**	**7.63**	**11**		**Pn**	**07 50 21.6**	**-0.3**
NEE2	**Needles Airpor**	**7.64**	**340**	P	**Pn**	**07 50 24.0**	**+2.1**
baz=159,SNR=12							
NEE2				S	**Sn**	**07 51 49.6**	**+0.6**
baz=159							
GDL2	**Guadalupe Moun**	**7.65**	**52**		**Pn**	**07 50 23.7**	**+1.5**
W13A	**Hualapai Mount**	**7.76**	**345**		**Pn**	**07 50 24.3**	**+0.6**
WUAZ	**Wupatki**	**7.89**	**0**		**Pn**	**07 50 25.8**	**+0.3**
GMRC	**Granite Mounta**	**8.02**	**334**	P	**Pn**	**07 50 28.1**	**+0.9**
baz=152,SNR=11							
CLNB	**Carlsbad**	**8.03**	**53**		**Pn**	**07 50 29.5**	**+2.1**
CLN7	**Carlsbad 7**	**8.16**	**52**		**Pn**	**07 50 30.6**	**+1.5**
HTMS	**Hat Mesa**	**8.32**	**52**		**Pn**	**07 50 32.4**	**+1.1**
V12A	**Nelson**	**8.60**	**341**		**Pn**	**07 50 35.4**	**+0.2**
TUQ	**Turquoise Moun**	**8.69**	**335**	P	**Pn**	**07 50 37.4**	**+0.9**
baz=153,SNR=5.6							
U15A	**North Rim**	**8.83**	**355**		**Pn**	**07 50 40.7**	**+2.3**
KNB	**Kanab**	**9.46**	**353**	Pn	**Pn**	**07 50 47.5**	**+0.6**
MSTX	**Muleshoe**	**9.78**	**47**	Pn	**Pn**	**07 50 53.0**	**+1.7**
MSTX	**Muleshoe**	**9.78**	**47**	P	**Pn**	**07 50 53.6**	**+2.2**
baz=232,SNR=5.5							
ARVC	**Arvin**	**9.80**	**322**	P	**Pn**	**07 50 54.0**	**+2.4**
baz=138							
MPMC	**Manual Prospec**	**9.87**	**330**	P	**Pn**	**07 50 53.7**	**+1.0**
baz=147							
MVCO	**Mesa Verde**	**9.89**	**14**		**Pn**	**07 50 52.5**	**-0.4**
MVCO	**Mesa Verde**	**9.89**	**14**	P	**Pn**	**07 50 56.1**	**+3.2**
baz=196,SNR=12							
ISA	**Isabella, Lake**	**10.02**	**325**	P	**Pn**	**07 50 56.8**	**+2.1**
baz=142							
TPNV	**Topopah Spring**	**10.17**	**338**	P	**Pn**	**07 50 59.0**	**+2.3**
baz=155,SNR=7.2							
PKM	**Mcpherson Peak**	**10.20**	**317**	P	**Pn**	**07 51 01.6**	**+4.4**
baz=133							
PRN	**Pahroc Range**	**10.24**	**344**		**Pn**	**07 50 57.6**	**-0.1**
CWC	**Cottonwood Cre**	**10.46**	**329**	P	**Pn**	**07 51 03.9**	**+3.3**
baz=146							
VES	**Vestal, Richgr**	**10.48**	**323**	P	**Pn**	**07 51 05.3**	**+4.5**
baz=140							
JCT	**Junction City**	**10.57**	**72**	P	**Pn**	**07 51 05.2**	**+3.1**
baz=258							
SMMC	**Simmler**	**10.60**	**319**	P	**Pn**	**07 51 05.1**	**+2.5**
baz=134							
GRAC	**Grapevine Rang**	**10.62**	**333**	P	**Pn**	**07 51 06.7**	**+4.0**
baz=150							
833A	**Chaparral WMA,**	**10.67**	**83**	P	**Pn**	**07 51 06.6**	**+3.2**
baz=269							
S22A	**4UR Ranch, Cre**	**10.83**	**20**	P	**Pn**	**07 51 09.9**	**+4.1**
baz=203							
AMTX	**Amarillo**	**11.05**	**47**	P	**Pn**	**07 51 12.6**	**+3.8**
baz=232							
T25A	**Trinidad**	**11.20**	**30**	P	**Pn**	**07 51 15.6**	**+4.7**
baz=214							
R11A	**Troy Canyon, C**	**11.26**	**343**	P	**Pn**	**07 51 12.9**	**+1.2**
baz=161,SNR=12							
SDCO	**Great Sand Dun**	**11.27**	**25**	P	**Pn**	**07 51 16.2**	**+4.2**
baz=208							
MLAC	**Mammoth, Mammo**	**11.78**	**330**	P	**Pn**	**07 51 20.4**	**+1.6**
baz=146,SNR=7.2							
NVAR	**Mina Array Bea**	**12.23**	**334**	Pn	Pn	07 51 30.0	+5.0
comp=N,0.2nm,0.3s,baz=157,slow=14,SNR=16							
NVAR				Lg	Lg	07 55 00.9	
baz=219,slow=23,SNR=1.6							
comp=N,1.8nm,0.7s							
DUG	**Dugway, Tooele**	**12.61**	**355**	P	**Pn**	**07 51 32.5**	**+2.4**
baz=175,SNR=5.2							
O20A	**White River Ci**	**12.77**	**11**	P	**Pn**	**07 51 34.6**	**+2.2**
baz=193,SNR=7.3							
WMOK	**Wichita Mounta**	**12.95**	**54**	P	**Pn**	**07 51 36.4**	**+1.7**
baz=240							
ELK	**Elko**	**13.48**	**348**	Pn	**Pn**	**07 51 46.4**	**+4.3**
comp=N,0.1nm,0.3s,baz=182,slow=10,SNR=7.2							
ELK				Lg	Lg	07 55 34.8	
baz=180,slow=20,SNR=2.3							
ELK				LR	LR	07 56 57.5	
comp=N,450nm,19.7s,baz=169,slow=38							
comp=N,3.5nm,1.0s							
KSCO	**Kaye Shedlock'**	**13.54**	**31**	P	**Pn**	**07 51 45.2**	**+2.4**
baz=216							
PD31	**Pinedale Array**	**15.20**	**5**		**Pn**	**07 52 05.4**	**-0.1**
PDAR	**Pinedale Array**	**15.20**	**5**	Pn	**P**	**07 52 11.0**	**+0.3**
comp=N,0.1nm,0.3s,baz=187,slow=10,SNR=9.7							
PDAR				Lg	Lg	07 56 29.2	
comp=N,0.1nm,0.3s,baz=183,slow=24,SNR=1.8							
PDAR				LR	LR	07 58 09.8	
comp=N,509nm,18.9s,baz=189,slow=38							
comp=N,1.5nm,0.8s							
PDAR	**Pinedale Array**	**15.20**	**5**	Pn	**Pn**	**07 52 05.3**	**-0.1**
OGNE	**Ogallala**	**15.39**	**28**	P	**P**	**07 52 11.7**	**-0.9**
baz=213							
K22A	**Casper**	**15.53**	**14**	P	**P**	**07 52 13.7**	**-0.5**
baz=197,SNR=9.7							
HLID	**Hailey**	**16.10**	**352**	P	**P**	**07 52 21.2**	**+0.7**
baz=171,SNR=5.9							
IMW	**Indian Meadow**	**16.26**	**1**		**Pn**	**07 52 20.1**	**+0.8**
FLWY	**Flagg Ranch**	**16.45**	**2**		**Pn**	**07 52 20.2**	**-1.4**
KMPM	**Mount Pierce**	**16.53**	**324**		**Pn**	**07 52 22.1**	**-0.4**
YPP	**Pitchstone Pla**	**16.64**	**2**	P	**P**	**07 52 25.7**	**-1.0**
J08A	**Circle Bar Ran**	**16.72**	**342**		**Pn**	**07 52 24.1**	**-0.9**
J08A				IAmb	IAmb	07 52 43.0	
comp=Z,22nm,1.3s							
MIAR	**Mount Ida**	**16.78**	**61**	P	**P**	**07 52 30.4**	**+2.4**
baz=251							
YBH	**Yreka Blue Hor**	**16.85**	**330**	LR	LR	07 58 46.6	
comp=Z,200nm,20.6s,baz=182,slow=36							
KSU1	**Kansas State U**	**16.85**	**43**	P	**P**	**07 52 29.1**	**+0.4**
baz=232							
HHAR	**Hobbs**	**17.16**	**55**	P	**P**	**07 52 32.1**	**-0.1**
YHL	**Hebgen Lake**	**17.21**	**1**	P	**Pn**	**07 52 28.1**	**-3.3**
MCMT	**McKenzie Canyo**	**17.22**	**357**	P	**Pn**	**07 52 30.2**	**-1.3**
RSSD	**Black Hills**	**17.52**	**18**		**Pn**	**07 52 33.4**	**-1.7**
RSSD	**Black Hills**	**17.52**	**18**	P	**P**	**07 52 37.6**	**+1.3**
baz=202							
BGNE	**Belgrade**	**17.56**	**35**	P	**Pn**	**07 52 34.4**	**-1.0**
BGNE				IAmb	IAmb	07 52 47.6	
comp=Z,43nm,0.9s							
BGNE	**Belgrade**	**17.56**	**35**	P	**P**	**07 52 38.8**	**+2.2**
baz=223							
RLMT	**Red Lodge**	**17.57**	**5**	P	**P**	**07 52 38.5**	**+1.6**
baz=187							
BOZ	**Bozeman (W)**	**17.96**	**360**	P	**P**	**07 52 43.7**	**+2.7**
baz=180							
WHAR	**Wooly Hollow**	**18.02**	**60**	P	**Pn**	**07 52 40.7**	**-0.5**
WHAR				IAmb	IAmb	07 52 46.0	
comp=Z,61nm,1.5s							
S39A	**Bolivar**	**18.24**	**52**	P	**P**	**07 52 43.9**	**-0.2**
FCAR	**Ozark Folk Cen**	**18.36**	**58**	P	**P**	**07 52 45.7**	**+0.3**
344A	**Westbrook Farm**	**18.41**	**73**	P	**Pn**	**07 52 45.5**	**-0

U49A					IAmb	IAmb	07 53 55.3	
	comp=Z,9.2nm,1.1s							
X51A	**Calhoun**	**23.75**	**66**	P	**P**	**P**	**07 53 42.4**	**-0.9**
AGMN	**Agassiz Nation**	**23.94**	**26**	P	**P**	**P**	**07 53 44.2**	**-0.7**
AGMN					IAmb	IAmb	07 54 10.0	
	comp=Z,13nm,1.1s							
AGMN	**Agassiz Nation**	**23.94**	**26**	P	**P**	**P**	**07 53 47.2**	**+2.3**
	baz=216							
TKL	**Tuckaleechee C**	**24.82**	**64**	P	**P**	**P**	**07 53 53.1**	**0.0**
	comp=Z,2.7nm,0.7s,baz=251,slow=8.6,SNR=3.1							
TKL					LR	LR	08 03 57.1	
	comp=Z,239nm,19.9s,baz=254,slow=38							
	comp=Z,2.7nm,0.7s							
TKL	**Tuckaleechee C**	**24.82**	**64**	P	**P**	**P**	**07 53 53.7**	**+0.5**
TKL					IAmb	IAmb	07 53 59.1	
	comp=Z,11nm,0.9s							
V52A	**Sevierville**	**25.00**	**64**	P	**P**	**P**	**07 53 54.2**	**-0.5**
V52A					IAmb	IAmb	07 54 06.9	
	comp=Z,13nm,1.1s							
V53A	**Saluda**	**25.59**	**65**	P	**P**	**P**	**07 53 59.5**	**-0.6**
V53A					IAmb	IAmb	07 54 17.7	
	comp=Z,11nm,0.9s							
EDM	**Edmonton**	**25.63**	**357**	P	**P**	**P**	**07 53 58.1**	**-2.1**
BRLDA	**Berland Lookou**	**26.82**	**352**	P	**P**	**P**	**07 54 09.9**	**-1.2**
BRLDA					IAmb	IAmb	07 54 19.2	
	comp=Z,13nm,1.0s							
JTS	**Las Juntas de**	**30.29**	**120**	LR	LR	LR	08 06 38.8	
	comp=Z,170nm,18.5s,baz=171,slow=36							
SADO	**Sadowa**	**30.92**	**48**	LR	LR	LR	08 07 38.3	
	comp=Z,218nm,18.8s,baz=244,slow=37							
DLBC	**Dease Lake**	**33.44**	**342**	LR	LR	LR	08 08 38.5	
	comp=Z,328nm,20.2s,baz=154,slow=36							
ROSC	**El Rosal**	**41.94**	**116**	LR	LR	LR	08 16 08.3	
	comp=Z,54nm,20.9s,baz=258,slow=40							
SCHQ	**Schefferville**	**42.14**	**37**	LR	LR	LR	08 14 06.0	
	comp=Z,131nm,19.4s,baz=347,slow=36							
SJG	**San Juan**	**42.59**	**93**	LR	LR	LR	08 16 42.7	
	comp=Z,53nm,20.0s,baz=278,slow=40							
SDV	**Santo Domingo**	**42.73**	**108**	P		**P**	**07 56 28.7**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=0.0,slow=4.0,SNR=2.3							
SDV					LR	LR	08 16 55.7	
	comp=Z,77nm,18.1s,baz=268,slow=40							
	comp=Z,1.6nm,0.3s							
INK	**Inuvik**	**42.81**	**348**	LR	LR	LR	08 15 50.1	
	comp=Z,162nm,18.9s,baz=336,slow=38							
ILAR	**Eielson Array**	**43.42**	**339**	P		**P**	**07 56 35.4**	**+2.0**
	comp=Z,1.9nm,0.9s,baz=142,slow=6.9,SNR=11							
ILAR					LR	LR	08 17 06.8	
	comp=Z,139nm,18.1s,baz=88,slow=39							
	comp=Z,1.9nm,0.9s							
BOSC	**San Juan Bosco**	**44.07**	**129**	P		**P**	**07 56 40.4**	**+1.1**
BAUV	**El Baul**	**44.90**	**106**	P		**P**	**07 56 45.2**	**-0.6**
A36M	**Sachs Harbour**	**45.08**	**354**	P		**P**	**07 56 45.5**	**-0.9**
A36M					IAmb	IAmb	07 57 01.4	
	comp=Z,5.0nm,0.9s							
FRB	**Frobisher Bay**	**45.41**	**25**	LR	LR	LR	08 16 55.1	
	comp=Z,63nm,18.2s,baz=252,slow=38							
RES	**Resolute Bay**	**47.90**	**6**	LR	LR	LR	08 16 22.5	
	comp=Z,78nm,20.1s,baz=352,slow=35							
CZSB	**Cruzeiro do Su**	**51.35**	**127**	P		**P**	**07 57 34.2**	**-1.5**
CZSB					IAmb	IAmb	07 57 42.2	
	comp=Z,14nm,0.8s							
SFJD	**Kangerlussuaq**	**53.56**	**25**	LR	LR	LR	08 21 07.0	
	comp=Z,142nm,18.2s,baz=252,slow=37							
RPN	**Rapa Nui**	**54.46**	**178**	LR	LR	LR	08 15 40.7	
	comp=Z,87nm,19.0s,baz=356,slow=30							
ETMB	**Extrema**	**57.45**	**124**	P		**P**	**07 58 20.3**	**+0.2**
ETMB					IAmb	IAmb	07 58 25.2	
	comp=Z,7.7nm,1.2s							
PPT	**Papeete**	**58.16**	**224**	LR	LR	LR	08 18 31.8	
	comp=Z,62nm,19.6s,baz=40,slow=31							
SIV	**San Ignacio**	**65.27**	**125**	P		**P**	**07 59 12.5**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=322,slow=4.7,SNR=7.2							
	comp=Z,2.5nm,1.0s							
H03N2	**Juan Fernandez**	**68.10**	**151**	T	T		09 13 38.3	
	baz=331,slow=77,SNR=7.0							
H03N1	**Juan Fernandez**	**68.11**	**151**	T	T		09 13 41.4	
	baz=331,slow=77,SNR=8.7							
H03N3	**Juan Fernandez**	**68.12**	**151**	T	T		09 13 37.3	
	baz=331,slow=77,SNR=9.0							
AFI	**Afiamalu**	**71.56**	**243**	LR	LR	LR	08 24 45.9	
	comp=Z,127nm,20.7s,baz=137,slow=30							
CFA	**Coronel Fontan**	**71.84**	**142**	P		**P**	**07 59 54.7**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=315,slow=10,SNR=4.0							
	comp=Z,1.8nm,0.9s							
CPUP	**Villa Florida**	**74.72**	**131**	P		**P**	**08 00 12.2**	**+1.3**
	comp=Z,2.1nm,1.0s,baz=304,slow=7.3,SNR=2.0							
	comp=Z,2.1nm,1.0s							
PLCA	**Paso Flores**	**77.86**	**149**	P		**P**	**08 00 30.5**	**+1.9**
	comp=Z,2.3nm,1.0s,baz=39,slow=6.5,SNR=3.5							
	comp=Z,2.3nm,1.0s							
ARCES	**ARCESS Array B**	**78.26**	**14**	LR	LR	LR	08 36 18.8	
	comp=Z,53nm,20.2s,baz=24,slow=37							
NOA	**NORSAR Array B**	**80.23**	**25**	LR	LR	LR	08 37 23.5	
	comp=Z,37nm,18.3s,baz=305,slow=37							
MSVF	**Nonsavu**	**81.81**	**245**	LR	LR	LR	08 31 21.7	
	comp=Z,104nm,18.4s,baz=167,slow=31							
FINES	**FINESS Array B**	**84.85**	**19**	P		**P**	**08 01 06.1**	**+0.7**
	comp=Z,2.7nm,1.0s,baz=288,slow=1.8,SNR=1.5							
FINES					LR	LR	08 38 04.4	
	comp=Z,70nm,18.7s,baz=326,slow=35							
	comp=Z,2.7nm,1.0s							
ESDC	**Sonseca Array**	**84.98**	**48**	LR	LR	LR	08 36 47.9	
	comp=Z,25nm,21.4s,baz=268,slow=34							
BBTS	**Babate**	**87.56**	**75**	LR	LR	LR	08 37 23.4	
	comp=Z,35nm,21.9s,baz=320,slow=34							
MDT	**Midelt**	**88.15**	**54**	LR	LR	LR	08 38 26.0	
	comp=Z,42nm,20.2s,baz=320,slow=34							
GERES	**GERESS Array B**	**89.50**	**33**	LR	LR	LR	08 41 34.4	
	comp=Z,95nm,19.0s,baz=277,slow=36							
VRAC	**Vranov**	**90.53**	**31**	LR	LR	LR	08 43 30.5	
	comp=Z,60nm,19.8s,baz=306,slow=36							
HNR	**Honiara**	**93.09**	**261**	LR	LR	LR	08 33 53.6	
	comp=Z,808nm,21.6s,baz=70,slow=29							
ARU	**Arti**	**95.87**	**6**	LR	LR	LR	08 48 51.4	
	comp=Z,64nm,19.1s,baz=183,slow=38							
KRVT	**Keravat (AS076**	**97.77**	**269**	LR	LR	LR	08 39 17.9	
	comp=Z,111nm,19.9s,baz=226,slow=31							
BELG	**Belogornoye**	**98.26**	**13**	LR	LR	LR	08 47 22.8	
	comp=Z,65nm,20.6s,baz=136,slow=36							
BVAR	**Borovoye Array**	**99.70**	**359**	LR	LR	LR	08 50 04.7	
	comp=Z,47nm,21.4s,baz=22,slow=37							
HHC	**Hu-ho-hao-te**	**101.07**	**328**	*e*P		**Pdif**	**08 02 18.9**	**-2.4**
HHC					pmax	pmax		
	comp=Z,29nm,0.8s							
HHC					pmax	pmax		
	comp=Z,280nm,5.2s							
WRA	**Warramunga Arr**	**119.93**	**262**	PKP		**PKiKP**	**08 07 22.3**	**0.0**
	comp=Z,0.8nm,0.8s,baz=61,slow=2.0,SNR=6.2							
ASAR	**Alice Springs**	**121.57**	**258**	PKP		**PKiKP**	**08 07 26.2**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=129,slow=1.3,SNR=2.8							

*NNC **22** 07:49:11.7±2.8, 50.74°N×74.02°E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=31.3km s-min=20.6km az=29.0, Suspected Mining explosion.*
*IDC **22** 07:49:15.0±1.6, 50.98°N×73.85°E, h0km, mbtmp2.8/4, ML2.1/4, Error ellipse: s-maj=39.0km s-min=11.0km az=27.0*

ISC 22 07:49:11.5±1.2, **50.73N**±0.07°×**73.5E**±0.1, **h0**km, **n10,** σ1=**41**/11, **6C-4D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.60**	**197**	⇓Pg	**Pb**	**07 49 58.5**	**-0.5**
OTUK	2.1nm,0.5s			⇓Lg	Lg	07 50 36.7	
	22nm,1.4s						
BVA0	**Borovoye Array**	**2.98**	**322**	⇓Pn	**Pb**	**07 50 04.2**	**-1.3**
	2.6nm,0.5s,baz=125,slow=27						
BVA0				⇑Sn	**Sb**	**07 50 42.9**	**+0.4**
	17nm,0.5s,baz=125,slow=27						
BVAR	**Borovoye Array**	**2.98**	**322**	Pn	**Pn**	**07 50 03.0**	**+2.9**
	0.3nm,0.3s,baz=124,slow=15,SNR=19						
	3.9nm,0.4s						
BRVK	**Borovoye**	**3.05**	**321**	⇑Pn	**Pb**	**07 50 05.5**	**-1.1**
	1.7nm,0.5s						
BRVK				⇑Sn	**Sb**	**07 50 45.3**	**+0.9**
	13nm,0.5s						
KURBB	**Kurchatov Arra**	**3.23**	**90**	Pn	**Pn**	**07 50 03.5**	**+0.1**
	0.2nm,0.3s,baz=278,slow=12,SNR=12						
KURBB				Lg	Lg	07 50 48.7	
	0.4nm,0.3s,baz=280,slow=31,SNR=6.4						
	1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**3.23**	**90**	⇑Pg	**Pn**	**07 50 03.2**	**-0.2**
	8.1nm,0.7s						
KURBB				⇑Lg	Lg	07 50 51.1	
	41nm,0.5s						
KURK	**Kurchatov**	**3.28**	**88**	⇓Pg	**Pn**	**07 50 03.6**	**-0.5**
	2.7nm,0.7s						
KURK				⇑Lg	Lg	07 50 50.3	
	52nm,1.4s						
MKAR	**Makanchi Array**	**7.04**	**121**	Pn	**Pn**	**07 50 57.5**	**+1.6**
	0.1nm,0.3s,baz=312,slow=15,SNR=1.6						
MKAR				Lg	Lg	07 52 51.0	
	0.6nm,0.3s,baz=312,slow=25,SNR=4.6						
	0.9nm,1.0s						
I46RU	**ZALESOVO INFRA**	**7.67**	**61**	I		08 34 40.0	
	baz=247,slow=312,SNR=1.1						
ZALV	**Zalesovo Beam**	**7.67**	**61**	Pn	**Pn**	**07 51 03.8**	**-0.6**
	0.1nm,0.3s,baz=245,slow=13,SNR=2.0						
	0.6nm,0.5s						

*WEL **22** 07:53:23.6±0.3, 43.3°S±2.2°×17.3°E±0.7°, h8km±2km, M2.8/16, ML2.9/15, MLv2.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=135.2*
*NEIC **22** 07:53:24.6±1.4, 43.02°S±0.06°×172.88°E±0.09°, h17km±5km, mb4.2/6, Error ellipse: s-maj=11.8km s-min=5.7km az=126.0*

ISC 22 07:53:22.8±0.8, **42.95S**±0.03°×**173.05E**±0.04°, **h15**km±5km, **n49,** σ0=**52**/52, **mb4.2**/4, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.02**	**208**	Pg	**Pg**	**07 53 25.4**	**0.0**
GVZ	**Greta Valley S**	**0.02**	**208**	P	**Pg**	**07 53 25.5**	**+0.1**
GVZ				S	**Sg**	**07 53 27.5**	**+0.3**
AMCZ	**Amberley**	**0.37**	**232**		**Pg**	**07 53 30.4**	**+0.2**
AMCZ	**Amberley**	**0.37**	**232**	P	**Pb**	**07 53 31.2**	**+0.2**
AMCZ				S	**Sb**	**07 53 36.8**	**+0.2**
LTZ	**Lake Taylor**	**0.60**	**286**	Pg	**Pg**	**07 53 34.1**	**-0.4**
LTZ	**Lake Taylor**	**0.60**	**286**	P	**Pg**	**07 53 34.0**	**-0.4**
LTZ				S	**Sg**	**07 53 41.5**	**-0.9**
KHZ	**Kahutara**	**0.64**	**34**	P	**Pn**	**07 53 37.0**	**-0.3**
OKCZ	**Okains Bay**	**0.78**	**179**	P	**Pn**	**07 53 39.4**	**+0.1**
MQZ	**McQueen's Vall**	**0.81**	**201**	Pg	**Pn**	**07 53 38.9**	**-0.8**
MQZ	**McQueen's Vall**	**0.81**	**201**	P	**Pn**	**07 53 38.9**	**-0.8**
OXZ	**Oxford**	**0.83**	**243**		**Pb**	**07 53 38.6**	**-0.3**
OXZ	**Oxford**	**0.83**	**243**	P	**Pg**	**07 53 39.3**	**+0.4**
AKCZ	**Akaroa Harbour**	**0.93**	**186**	P	**Pn**	**07 53 41.3**	**-0.1**
RACZ	**Rakaia**	**1.02**	**220**	P	**Pn**	**07 53 42.5**	**-0.1**
THZ	**Tophouse**	**1.19**	**355**	P	**Pn**	**07 53 45.1**	**+0.2**
INZ	**Inchbonnie**	**1.20**	**280**		**Pn**	**07 53 44.5**	**-0.6**
INZ	**Inchbonnie**	**1.20**	**280**	P	**Pn**	**07 53 44.9**	**-0.1**
MHCZ	**Mount Hutt**	**1.23**	**241**	P	**Pn**	**07 53 45.4**	**-0.1**
WACZ	**Wakanui South**	**1.33**	**221**	P	**Pn**	**07 53 46.4**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.38**	**27**	P	**Pg**	**07 53 49.1**	**-0.1**
DSZ	**Dennistoun Nort**	**1.52**	**322**		**Pn**	**07 53 49.6**	**+0.2**
DSZ	**Dennistoun Nort**	**1.52**	**322**	P	**Pn**	**07 53 49.5**	**+0.1**
MRNZ	**Matariki Terra**	**1.56**	**352**		**Pg**	**07 53 52.9**	**+0.1**
MRNZ	**Matariki Terra**	**1.56**	**352**	P	**Pn**	**07 53 50.7**	**+0.7**
RPZ	**Rata Peaks**	**1.65**	**242**	Pn	**Pn**	**07 53 51.2**	**0.0**
RPZ	**Rata Peaks**	**1.65**	**242**	P	**Pn**	**07 53 50.8**	**-0.4**
ARCZ	**Arundel**	**1.69**	**233**	P	**Pn**	**07 53 51.3**	**-0.5**
WVZ	**Waitaha Valley**	**1.70**	**265**	P	**Pn**	**07 53 52.2**	**+0.3**
TKNZ	**Takaka Hill**	**1.91**	**358**		**Pb**	**07 53 57.4**	**0.0**
GCSZ	**Gaunt Creek Bo**	**2.03**	**259**	P	**Pn**	**07 53 57.2**	**+0.8**
TMZ	**Timaru**	**2.06**	**225**	P	**Pn**	**07 53 57.0**	**+0.1**
QRZ	**Quartz Range**	**2.16**	**349**	Pn	**Pb**	**07 54 00.8**	**-0.7**
FOZ	**Fox Glacier**	**2.43**	**255**	Pn	**Pn**	**07 54 02.3**	**+0.3**
FOZ	**Fox Glacier**	**2.43**	**255**	P	**Pn**	**07 54 02.9**	**+0.9**
LBZ	**Lake Benmore**	**2.53**	**234**	Pn	**Pn**	**07 54 03.2**	**-0.1**
ODZ	**Otahua Downs**	**2.72**	**219**	Pn	**Pn**	**07 54 05.4**	**-0.5**
ODZ	**Otahua Downs**	**2.72**	**219**	P	**Pn**	**07 54 05.6**	**-0.3**
JCZ	**Jackson Bay**	**3.30**	**249**	P	**Pn**	**07 54 14.1**	**+0.1**
HHSZ	**Highcliff Hill**	**3.42**	**210**	P	**Pn**	**07 54 14.3**	**-1.3**
EAZ	**Earnscleugh**	**3.53**	**228**	P	**Pn**	**07 54 16.4**	**-0.7**
TUVZ	**Tukino**	**4.17**	**29**	P	**Pn**	**07 54 25.4**	**-0.6**
MLZ	**Mavora Lakes**	**4.29**	**234**	P	**Pn**	**07 54 26.8**	**-0.8**
VNDA	**Vanda**	**34.98**	**184**	P	**P**	**08 00 14.7**	**+0.8**
ASAR	**Alice Springs**	**37.52**	**288**	P	**P**	**08 00 36.5**	**+0.2**
COEN	**Coen**	**38.66**	**309**	P	**P**	**08 00 45.4**	**-0.5**
WR0	**Warramunga Arr**	**39.57**	**293**	P	**P**	**08 00 54.2**	**+0.7**
WR0				IAmb	IAmb	08 00 57.7	
	comp=Z,7.9nm,1.4s						
WB0	**Warramunga Arr**	**39.80**	**293**	P	**P**	**08 00 54.7**	**-0.8**
WB0				IAmb	IAmb	08 01 33.9	
	comp=Z,9.1nm,1.5s						
QSPA	**South Pole Qui**	**47.18**	**180**	P	**P**	**08 01 54.2**	**-0.3**
QSPA				IAmb	IAmb	08 02 19.4	
	comp=Z,3.7nm,1.4s						
SNAA	**Sanae**	**65.65**	**181**	P	**P**	**08 04 06.8**	**+0.9**
SNAA				IAmb	IAmb	08 04 20.5	
	comp=Z,2.8nm,1.3s						

WEL 22 07:55:08.2, 43°S±7°×17°3E±1°3, h19km±17km, M2.9/13, mB5.2/1, ML3.0/19, MLv2.9/13, Mw(mB)4.6/1, Error ellipse: s-maj=0.0km s-min=0.0km az=89.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.22**	**236**	P	Pg	07 55 14.4	+0.9
AMCZ	**Amberley**	**0.57**	**234**	P	Pg	07 55 19.7	+0.1
LTZ	**Lake Taylor**	**0.75**	**275**	P	Pb	07 55 22.4	-0.2
OKCZ	**Okains Bay**	**0.89**	**190**	P	Pn	07 55 28.4	+2.7
MQZ	**McQueen's Vall**	**0.97**	**208**	P	Pg	07 55 27.6	+0.4
OXZ	**Oxford**	**1.03**	**242**	P	Pn	07 55 27.7	+0.1
OXZ				P	Pg	07 55 27.8	-0.4
THZ	**Tophouse**	**1.12**	**345**	P	Pg	07 55 34.2	+4.3
BSWZ	**Blackbirch Sta**	**1.21**	**21**	P	Pg	07 55 31.3	-0.4
CMWZ	**Cape Campbell**	**1.29**	**33**	P	Pn	07 55 30.5	-0.7
INZ	**Inchbonnie**	**1.36**	**274**	P	Pb	07 55 33.5	+0.5
MRNZ	**Matariki Terra**	**1.50**	**345**	P	Pg	07 55 40.2	+3.2
TUWZ	**Tuamarina**	**1.50**	**19**	P	Pn	07 55 34.0	0.0
WACZ	**Wakanui South**	**1.52**	**223**	P	Pn	07 55 34.8	+0.5
DSZ	**Dennistoun Nort**	**1.55**	**315**	P	Pg	07 55 38.5	+0.4
NNZ	**Nelson**	**1.63**	**3**	P	Pg	07 55 42.5	+2.9
TCW	**Tory Channel**	**1.79**	**25**	P	Pn	07 55 37.6	-0.5
WVZ	**Waitaha Valley**	**1.88**	**262**	P	Pb	07 55 41.0	-0.9
PLWZ	**Palliser**	**1.94**	**50**	P	Pg	07 55 44.9	-0.6
DUWZ	**D'Urville Isla**	**2.10**	**13**	P	Pb	07 55 44.9	-0.7
CAW	**Cannon Point**	**2.19**	**38**	P	Pb	07 55 45.8	-1.3
TMZ	**Timaru**	**2.26**	**226**	P	Pg	07 55 51.3	-0.2
MTW	**Mount Morrison**	**2.36**	**45**	P	Pb	07 55 49.0	-1.1
OGWZ	**Otaki Gorge**	**2.47**	**35**	P	Pb	07 55 49.9	-2.1
MRZ	**Mangatainoka R**	**2.78**	**39**	P	Pn	07 55 54.1	+2.5
TUVZ	**Tukino**	**4.00**	**27**	P	Pb	07 56 13.8	-4.3
MUGZ	**Murupara**	**5.11**	**32**	P	Pn	07 56 23.7	0.0

*NIED **22** 08:03:21.8, 37.28N×141.55E, h36km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.55; Mθθ 0.70; Mφφ 0.85; Mrθ 0.89; Mφθ 0.94; Mφr-0.52; Fault plane solution: M0 1.91000×10¹⁴ NP1: φs 19.00000°, δ47.00000°, λ-129.00000°. NP2: φs 248.00000°, δ55.00000°, λ-56.00000°.*
*JMA **22** 08:03:21.8±0.2, 37.3N±0.4×14.2E±, h36km±1km, MV3.7/34, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **22** 08:03:26.0±5.8, 37.06N×141.60E, h61km±46km, mb3.3/3, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=46.3km s-min=16.0km az=61.0*

ISC 22 08:03:22.9±1.3, **37.29N**±0.05°×**141.57E**±0.09, **h35**km, **n21,** σ1=**55**/17, **mb3.4**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.56**	**278**	P	**Pn**	**08 03 32.8**	**-1.6**
JFK				S	**Sn**	**08 03 40.5**	**-1.9**
JMST	**Minamisumatoc**	**0.69**	**309**	P	**Pn**	**08 03 34.9**	**-1.4**
JFFD	**Fukushimafurud**	**0.83**	**256**	P	**Pn**	**08 03 36.8**	**-1.3**
JMM	**Marumori**	**0.84**	**313**	*e*P	**Pn**	**08 03 37.2**	**-1.1**
JMM				S	**Sn**	**08 03 48.2**	**-1.2**
JHO	**Hitachi**	**1.05**	**230**	*e*P	**Pn**	**08 03 39.5**	**-1.6**
JHO				S	**Sn**	**08 03 52.9**	**-1.6**
JIO	**Ouri**	**1.18**	**352**	*e*P	**Pn**	**08 03 42.0**	**-0.8**
JOU	**Okura**	**1.29**	**327**	*e*P	**Pn**	**08 03 44.8**	**+0.4**
MJAR	**Matsushiro Arr**	**2.79**	**256**	P	**Pn**	**08 04 06.9**	**+1.8**
	0.9nm,0.3s,baz=86,slow=15,SNR=6.1						
MJAR				S	**Sn**	**08 04 40.5**	**+2.9**
	4.4nm,0.4s,baz=92,slow=28,SNR=4.2						
	4.5nm,0.3s						
JHJ	**Hachijo jima 2**	**4.41**	**200**	P	**Pn**	**08 04 27.4**	**+0.1**
	6.0nm,0.3s,baz=30,slow=20,SNR=7.8						
JHJ				S	**Sn**	**08 05 16.4**	**-1.0**
	58nm,0.3s,baz=52,slow=19,SNR=5.6						
	120nm,0.8s						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**08 09 09.7**	**+1.5**
	0.5nm,0.7s,baz=101,slow=7.5,SNR=2.8						
	0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	08 38 32.0	
	baz=314,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	08 38 36.7	
	baz=314,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	08 38 37.6	
	baz=314,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	08 39 31.2	
	baz=316,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	08 39 29.6	
	baz=316,slow=75,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	08 39 28.6	
	baz=316,slow=75,SNR=20						
KURBB	**Kurchatov Arra**	**45.94**	**308**	P	**P**	**08 11 43.0**	**+0.9**
	0.7nm,0.6s,baz=84,slow=8.2,SNR=5.0						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**57.33**	**188**	P	**P**	**08 13 06.9**	**-0.5**
	0.2nm,0.5s,baz=7.1,slow=7.5,SNR=6.8						
	0.2nm,0.5s						
H03N2	**Juan Fernandez**	**146.93**	**96**	T	T	11 07 08.3	
	baz=291,slow=76,SNR=5.9						
H03N3	**Juan Fernandez**	**146.94**	**96**	T	T	11 07 10.1	
	baz=291,slow=76,SNR=6.4						
H03N1	**Juan Fernandez**	**146.94**	**96**	T	T	11 07 10.0	
	baz=291,slow=76,SNR=7.0						

*IDC **22** 08:14:29.4±0.8, 37.11N×141.45E, h0km, mb3.7/10, mbtmp3.7/12, ML3.1/2, MS3.7/2, Error ellipse: s-maj=21.8km s-min=17.2km az=141.0*
*JMA **22** 08:14:32.2±0.2, 37.2N±0.4×14.1E±, h36km±1km, MV3.9/35, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **22** 08:14:32.2, 37.15N×141.42E, h36km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-4.47; Mθθ 3.93; Mφφ 0.55; Mrθ 0.46; Mφθ 2.08; Mφr-0.40; Fault plane solution: M0 4.74000×10¹⁴ NP1: φs 57.00000°, δ44.00000°, λ-101.00000°. NP2: φs 252.00000°, δ47.00000°, λ-79.00000°.*

ISC 22 08:14:33.9±0.7, **37.16N**±0.05°×**141.30E**±0.07, **h33**km, **n30,** σ1=**02**/25, **mb3.7**/11, **2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.40**	**302**	⇓P	**Pb**	**08 14 42.2**	**-0.7**
JFK				⇓S	**Sb**	**08 14 49.6**	**+0.5**
JFFD	**Fukushimafurud**	**0.59**	**264**	P	**Pn**	**08 14 45.4**	**-0.5**
JMST	**Minamisumatoc**	**0.65**	**330**	P	**Pn**	**08 14 45.7**	**-1.0**
JMST				S	**Sn**	**08 14 55.3**	**-0.6**
JHO	**Hitachi**	**0.80**	**227**	P	**Pn**	**08 14 47.9**	**-1.0**
JMM	**Marumori**	**0.81**	**331**	*e*P	**Pn**	**08 14 48.3**	**-0.7**
JMM				S	**Sn**	**08 14 59.4**	**-0.4**
JSB	**Shiboa**	**1.12**	**261**	P	**Pb**	**08 14 54.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.55**	**257**	Pn	**Pn**	**08 15 14.3**	**+1.4**
	0.7nm,0.3s,baz=83,slow=25,SNR=8.8						
MJAR				Sn	**Sb**	**08 15 48.9**	**-1.1**
	0.9nm,0.3s,baz=340,slow=4.0,SNR=5.3						
	5.8nm,0.5s						
JHJ	**Hachijo jima 2**	**4.22**	**198**	Pn	**Pn**	**08 15 36.0**	**+0.1**
	14nm,0.3s,baz=88,slow=22,SNR=8.2						
JHJ				Sn	**Sn**	**08 16 23.8**	**-0.2**
	6.7nm,0.3s,baz=24,slow=6.9,SNR=1.8						
	67nm,0.7s						
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**08 20 19.3**	**+0.8**
	1.6nm,0.9s,baz=108,slow=8.7,SNR=6.4						
	6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	08 49 51.2	
	baz=314,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	08 49 51.9	
	baz=314,slow=75,SNR=21						
H11N3

JHJ	**Hachijo jima 2**	**4.37**	**199**	Pn		**Pn**	**08 19 55.1**	**+1.4**
	3.8nm,0.3s,baz=53,slow=17,SNR=1.6							
JHJ				Sn		**Sn**	**08 20 40.9**	**-3.8**
	6.7nm,0.3s,baz=263,slow=24,SNR=2.0							
	83nm,0.8s							
SONM	**Songino Array**	**27.70**	**304**	P		**P**	**08 24 35.6**	**0.0**
	0.4nm,0.5s,baz=94,slow=8.7,SNR=2.1							
SONM				LR		LR	08 36 15.3	
	comp=Z,87nm,18.2s,baz=194,slow=38							
	0.4nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T		T	08 54 10.6	
	baz=314,slow=76,SNR=18							
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	08 54 10.4	
	baz=314,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	08 54 12.1	
	baz=314,slow=76,SNR=24							
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T		T	08 55 07.6	
	baz=316,slow=76,SNR=24							
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T		T	08 55 06.4	
	baz=316,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T		T	08 55 07.9	
	baz=316,slow=76,SNR=15							
MKAR	**Makanchi Array**	**44.04**	**302**	P		**P**	**08 26 54.4**	**-0.7**
	0.6nm,0.7s,baz=77,slow=9.2,SNR=3.3							
	0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**45.90**	**308**	P		**P**	**08 27 08.4**	**-1.3**
	0.8nm,0.4s,baz=82,slow=8.3,SNR=8.4							
	0.8nm,0.4s							
ILAR	**Eielson Array**	**49.26**	**32**	P		**P**	**08 27 34.8**	**-0.8**
	0.3nm,0.8s,baz=274,slow=6.7,SNR=1.3							
	0.3nm,0.8s							
BVAR	**Borovoye Array**	**50.45**	**312**	P		**P**	**08 27 45.6**	**+0.7**
	0.5nm,0.4s,baz=74,slow=6.4,SNR=2.0							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**57.31**	**188**	P		**P**	**08 28 34.9**	**-0.4**
	0.4nm,0.6s,baz=6.7,slow=7.4,SNR=8.5							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**61.03**	**188**	P		**P**	**08 29 02.6**	**+1.6**
	0.3nm,0.8s,baz=14,slow=8.7,SNR=2.2							
	0.3nm,0.8s							
ARCES	**ARCESS Array B**	**63.79**	**339**	P		**P**	**08 29 19.1**	**+0.1**
	0.5nm,0.6s,baz=67,slow=6.9,SNR=4.6							
	0.5nm,0.6s							
FINES	**FINESS Array B**	**68.63**	**332**	P		**P**	**08 29 49.9**	**-0.2**
	2.4nm,0.8s,baz=27,slow=6.5,SNR=3.5							
	2.4nm,0.8s							
NWAO	**Narrogin (SRO)**	**73.42**	**201**	LR		LR	09 00 56.5	
	comp=Z,42nm,21.7s,baz=96,slow=34							
NVAR	**Mina Array Bea**	**74.80**	**53**	P		**P**	**08 30 29.0**	**+1.0**
	0.3nm,0.7s,baz=317,slow=6.5,SNR=2.3							
	0.3nm,0.7s							
TXAR	**Lajitas Array**	**89.93**	**52**	P		**P**	**08 31 48.7**	**+1.7**
	0.7nm,1.1s,baz=325,slow=2.7,SNR=2.9							
	0.7nm,1.1s							
LPAZ	**La Paz**	**146.52**	**59**	PKPbc		**PKPbc**	**08 38 30.2**	**+0.3**
	0.8nm,0.8s,baz=298,slow=2.4,SNR=2.6							
H03N2	**Juan Fernandez**	**146.99**	**96**	T		T	11 22 48.7	
	baz=291							
H03N3	**Juan Fernandez**	**147.00**	**96**	T		T	11 22 48.1	
	baz=291,slow=74							
H03N1	**Juan Fernandez**	**147.01**	**96**	T		T	11 22 48.5	
	baz=291,slow=74							

*IDC **22** 08:21:26.0±2.3, 37.°04N×141.°78E, h0km, mb3.5/3, mbtmp3.6/5, ML2.8/2, Error ellipse: s-maj=41.9km s-min=27.4km az=78.0*
*JMA **22** 08:21:30.4±0.2, 37.°2N±0.°4×141.°1E±.°, h27km±1km, MV3.3/38, E OFF FUKUSHIMA PREF*
ISC 22 08:21:27.4±2.2, 37.°13N±0.°04×141.°64E±0.°08, h11km±12km, n22, σ1°15/22, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.66**	**291**	P	**Pg**	**08 21 40.2**	**+0.1**
JMST	**Minamisoumatoc**	**0.84**	**315**	P	**Pb**	**08 21 43.7**	**-0.3**
JMST				*e*S	**Sb**	**08 21 53.5**	**-1.9**
JFFD	**Fukushimafurud**	**0.87**	**268**	*i* P	**Pb**	**08 21 44.1**	**-0.3**
JFFD				S	**Sb**	**08 21 54.1**	**-2.0**
JMM	**Marumori**	**1.00**	**318**	P	**Pb**	**08 21 46.4**	**-0.3**
JMM				S	**Sb**	**08 21 58.4**	**-1.5**
JHO	**Hitachi**	**1.01**	**239**	P	**Pb**	**08 21 46.8**	**-0.1**
JHO				*e*S	**Sb**	**08 21 59.2**	**-0.9**
JIO	**Ouri**	**1.34**	**350**	*e*P	**Pn**	**08 21 52.8**	**+0.8**
JIO				S	**Sn**	**08 22 09.9**	**0.0**
JSB	**Shiboa**	**1.39**	**264**	P	**Pn**	**08 21 53.8**	**+1.0**
JSB				*e*S	**Sn**	**08 22 10.2**	**-0.9**
JOU	**Okura**	**1.46**	**328**	*e*P	**Pn**	**08 21 54.3**	**+0.6**
JOU				*e*S	**Sn**	**08 22 12.6**	**-0.2**
MJAR	**Matsushiro Arr**	**2.82**	**259**	Pn	**Pn**	**08 22 14.7**	**+2.3**
	0.7nm,0.3s,baz=83,slow=15,SNR=5.6						
MJAR				Sn	**Sn**	**08 22 47.7**	**+1.2**
	0.5nm,0.3s,baz=215,slow=20,SNR=1.6						
	4.1nm,0.4s						
JHJ	**Hachijo jima 2**	**4.29**	**201**	Pn	**Pn**	**08 22 32.6**	**0.0**
	2.6nm,0.3s,baz=33,slow=17,SNR=1.9						
JHJ				Sn	**Sn**	**08 23 21.4**	**-1.2**
	3.4nm,0.3s,baz=66,slow=19,SNR=1.1						
	99nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.04**	**121**	T	T	08 56 49.4	
	baz=314,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.05**	**121**	T	T	08 56 53.0	
	baz=314,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.06**	**121**	T	T	08 56 53.6	
	baz=314,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.76**	**123**	T	T	08 57 44.0	
	baz=316,slow=75,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**28.76**	**123**	T	T	08 57 41.5	
	baz=316,slow=75,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**28.78**	**123**	T	T	08 57 41.1	
	baz=316,slow=75,SNR=12						
MKAR	**Makanchi Array**	**44.22**	**302**	P	**P**	**08 29 37.5**	**+0.9**
	0.3nm,0.6s,baz=72,slow=7.0,SNR=1.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.09**	**308**	P	**P**	**08 29 52.2**	**+0.9**
	1.0nm,0.6s,baz=81,slow=7.7,SNR=1.9						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**57.18**	**188**	P	**P**	**08 31 14.1**	**-0.4**
	0.4nm,0.9s,baz=4.7,slow=7.4,SNR=2.1						
	0.4nm,0.9s						
H03N2	**Juan Fernandez**	**146.85**	**96**	T	T	11 25 29.8	
	baz=291						
H03N3	**Juan Fernandez**	**146.86**	**96**	T	T	11 25 33.0	
	baz=291						
H03N1	**Juan Fernandez**	**146.87**	**96**	T	T	11 25 30.9	
	baz=291						

*IDC **22** 08:25:47.8±0.9, 37.°05N×141.°28E, h0km, mb3.6/10, mbtmp3.6/12, ML2.9/2, MS3.2/1, Error ellipse: s-maj=24.7km s-min=19.3km az=80.0*
*JMA **22** 08:25:49.4±0.2, 37.°2N±0.°3×141.°3E±0.°8, h23km±1km, MV3.9/32, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 08:25:49.8±0.8, 37.°16N±0.°04×141.°22E±0.°07, h10km, n30, σ1°36/24, mb3.6/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.34**	**306**	P	**Pg**	**08 25 57.4**	**+0.7**
JFK				*e*S	**Sb**	**08 26 03.6**	**0.0**
JFFD	**Fukushimafurud**	**0.53**	**263**	P	**Pg**	**08 26 01.4**	**+1.2**
JMST	**Minamisoumatoc**	**0.62**	**335**	P	**Pg**	**08 26 01.3**	**-0.6**
JMST				S	**Sg**	**08 26 10.3**	**+0.3**
JHO	**Hitachi**	**0.76**	**224**	*e*P	**Pg**	**08 26 04.5**	**+0.1**
JMM	**Marumori**	**0.78**	**334**	P	**Pg**	**08 26 04.0**	**-0.9**
JMM				*e*S	**Sg**	**08 26 14.7**	**-0.4**
JSB	**Shiboa**	**1.06**	**260**	P	**Pb**	**08 26 11.1**	**+0.8**
MJAR	**Matsushiro Arr**	**2.50**	**257**	Pn	**Pn**	**08 26 29.8**	**-0.6**
	0.7nm,0.3s,baz=348,slow=13,SNR=9.5						
MJAR				Sn	**Sn**	**08 26 57.8**	**-3.2**
	2.7nm,0.3s,baz=166,slow=28,SNR=5.5						
	3.6nm,0.5s						
JHJ	**Hachijo jima 2**	**4.20**	**197**	Pn	**Pn**	**08 26 53.6**	**-0.4**
	8.2nm,0.3s,baz=120,slow=22,SNR=6.6						
JHJ				Sn	Sn	08 27 35.3	-7.8
	9.7nm,0.3s,baz=244,slow=22,SNR=1.2						
	68nm,0.7s						
SONM	**Songino Array**	**27.59**	**304**	P	**P**	**08 31 38.3**	**+1.1**
	0.5nm,0.6s,baz=90,slow=9.5,SNR=1.8						
	0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	09 01 23.3	
	baz=314,slow=75,SNR=71						
H11N1	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	09 01 16.6	
	baz=314,slow=75,SNR=77						
H11N3	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	09 01 17.4	
	baz=314,slow=75,SNR=74						
H11S1	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	09 02 13.6	
	baz=316,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	09 02 11.0	
	baz=316,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**29.07**	**123**	T	T	09 02 19.1	
	baz=316,slow=76,SNR=47						
TIXI	**Tiksi**	**35.14**	**353**	LR	LR	08 50 39.0	
	comp=Z,33nm,19.7s,baz=46,slow=42						
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**08 33 38.8**	**+0.2**
	0.4nm,0.3s,baz=106,slow=9.1,SNR=1.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**08 33 57.0**	**+0.3**
	0.9nm,0.9s,baz=92,slow=11,SNR=3.5						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**45.80**	**308**	P	**P**	**08 34 11.1**	**-0.4**
	0.9nm,0.5s,baz=81,slow=8.0,SNR=5.3						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**08 34 39.7**	**-0.2**
	0.4nm,0.8s,baz=278,slow=5.5,SNR=4.8						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**50.37**	**312**	P	**P**	**08 34 46.3**	**-0.6**
	0.3nm,0.3s,baz=52,slow=8.1,SNR=1.9						
	0.3nm,0.3s						
INK	**Inuvik**	**54.34**	**27**	P	**P**	**08 35 19.7**	**+3.7**
	0.3nm,0.4s,baz=282,slow=5.7,SNR=0.9						
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**08 35 35.3**	**-1.5**
	0.3nm,0.5s,baz=4.9,slow=7.1,SNR=11						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**60.89**	**188**	P	**P**	**08 36 01.1**	**-1.6**
	0.2nm,0.7s,baz=13,slow=6.8,SNR=4.1						
	0.2nm,0.7s						
NOA	**NORSAR Array B**	**74.01**	**337**	P	**P**	**08 37 26.7**	**+1.3**
	0.9nm,0.7s,baz=42,slow=5.8,SNR=2.9						
	0.9nm,0.7s						
TXAR	**Lajitas Array**	**90.16**	**52**	P	**P**	**08 38 50.9**	**+0.2**
	0.2nm,0.9s,baz=317,slow=3.7,SNR=1.5						
	0.2nm,0.9s						
LPAZ	**La Paz**	**146.76**	**59**	PKPbc	**PKPbc**	**08 45 31.9**	**-1.4**
	0.7nm,0.5s,baz=304,slow=3.6,SNR=2.9						
H03N2	**Juan Fernandez**	**147.19**	**96**	T	T	11 29 51.6	
	baz=291,slow=76,SNR=14						
H03N3	**Juan Fernandez**	**147.20**	**96**	T	T	11 29 52.4	
	baz=291,slow=76,SNR=14						
H03N1	**Juan Fernandez**	**147.21**	**96**	T	T	11 29 52.8	
	baz=291,slow=76,SNR=12						

*NIED **22** 08:26:03.9, 37.°18N×141.°35E, h41km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.77; $M_{\theta\theta}$0.64; $M_{\phi\phi}$3.13; $M_{r\theta}$1.03; $M_{\theta\phi}$1.76; $M_{\phi r}$-0.31; Fault plane solution: $M_0$4.05000×10^{14} NP1:ϕ_s12.00000°, δ46.00000°, λ-112.00000°. NP2:ϕ_s222.00000°, δ49.00000°, λ-69.00000°.*
JMA 22 08:26:03.0±0.2, 37.°2N±0.°6×14.°1E±.°, h33km±2km, MD3.7/25, MV4.0/25, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.51**	**294**	*e*P	Pb	08 26 13.4	-0.3
JFK				*e*S	Sb	08 26 20.4	-0.6
JFK	**Kawauchi**	**0.51**	**294**	A	A	08 26 13.4	
	comp=E,6.0nm,0.7s,comp=E,4.0nm,0.9s						
JMST	**Minamisoumatoc**	**0.72**	**321**	*e*P	Pn	08 26 16.5	-0.3
JMST				S	Sn	08 26 26.1	-0.6
JMST	**Minamisoumatoc**	**0.72**	**321**	A	A	08 26 16.5	
	comp=E,7.0nm,0.2s,comp=E,6.0nm,0.6s						
JOU	**Okura**	**1.36**	**333**	S	Sb	08 26 44.4	-0.5
JOU	**Okura**	**1.36**	**333**	A	A	08 26 44.4	
	comp=E,4.0nm,1.9s,comp=E,6.0nm,2.5s						
JFY	**Yanaizu**	**1.42**	**280**	*e*S	Sb	08 26 46.7	+0.1

IDC 22 08:26:03.2±59.0, 21.°93S×177.°68W, h0km, mb3.5/3, mbtmp3.5/3, MS3.6/1, Error ellipse: s-maj=1077.0km s-min=163.8km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.73**	**266**	LR	LR	08 33 16.9	
	comp=Z,194nm,18.4s,baz=326,slow=29						
STKA	**Stephens Creek**	**37.46**	**246**	P	P	08 33 16.9	-1.7
	0.5nm,0.4s,baz=80,slow=11,SNR=3.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.50**	**258**	P	P	08 34 16.7	-0.1
	0.4nm,0.8s,baz=82,slow=8.6,SNR=4.8						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**44.72**	**263**	P	P	08 34 19.5	+1.0
	0.2nm,0.3s,baz=98,slow=8.1,SNR=15						
	0.2nm,0.3s						

IDC 22 08:26:15.1±2.1, 54.°48N×83.°59E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=18.1km s-min=9.8km az=163.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**126**	I		08 31 30.0	
	0.3nm,1.0s,baz=307,slow=342,SNR=5.5						
ZALV	**Zalesovo Beam**	**0.90**	**126**	Pg	Pg	08 26 31.5	-0.8
	3.8nm,0.3s,baz=305,slow=15,SNR=18						
ZALV				Lg	Lg	08 26 45.6	
	2.6nm,0.3s,baz=306,slow=29,SNR=7.5						
KURBB	**Kurchatov Arra**	**4.95**	**221**	Pn	Pn	08 27 30.5	-0.1
	0.1nm,0.3s,baz=41,slow=14,SNR=1.6						
KURBB				Sn	Sn	08 28 28.4	-0.1
	baz=360,slow=24,SNR=1.2						
KURBB				Lg	Lg	08 28 50.7	
	0.1nm,0.3s,baz=40,slow=30,SNR=2.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.74**	**187**	Pn	Pn	08 28 09.5	+0.5
	0.2nm,0.3s,baz=13,slow=13,SNR=6.0						
	0.3nm,0.4s						

*IDC **22** 08:32:11.1±1.2, 37.°33N×141.°67E, h0km, mb3.5/6, mbtmp3.5/8, ML3.2/2, MS2.4/1, Error ellipse: s-maj=28.1km s-min=20.9km az=92.0*
*JMA **22** 08:32:13.7±0.1, 37.°3N±0.°3×141.°6E±0.°8, h31km±1km, MV3.4/33, E OFF FUKUSHIMA PREF*
ISC 22 08:32:15.3±1.7, 37.°35N±0.°04×141.°48E±0.°09, h28km±11km, n25, σ0°92/24, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.48**	**272**	*e*P	**Pb**	**08 32 25.0**	**-0.5**
JFK				S	**Sb**	**08 32 33.4**	**+1.1**
JMST	**Minamisoumatoc**	**0.60**	**309**	P	**Pb**	**08 32 27.0**	**-0.4**
JMST				S	**Sb**	**08 32 36.3**	**+0.8**
JMM	**Marumori**	**0.75**	**314**	P	**Pn**	**08 32 29.0**	**-1.0**
JMM				*e*S	**Sn**	**08 32 40.2**	**-0.2**
JFFD	**Fukushimafurud**	**0.78**	**251**	P	**Pn**	**08 32 29.5**	**-0.9**
JFFD				S	**Sn**	**08 32 40.5**	**-0.7**
JHO	**Hitachi**	**1.04**	**225**	P	**Pn**	**08 32 32.7**	**-1.2**
JHO				S	**Sn**	**08 32 46.7**	**-0.8**
JIO	**Ouri**	**1.11**	**355**	P	**Pn**	**08 32 34.1**	**-0.8**
JIO				*e*S	**Sn**	**08 32 48.8**	**-0.4**
JOU	**Okura**	**1.20**	**328**	P	**Pb**	**08 32 36.6**	**-0.9**
JOU				S	**Sb**	**08 32 53.5**	**+0.9**
MJAR	**Matsushiro Arr**	**2.74**	**254**	Pn	**Pn**	**08 32 59.3**	**+1.9**
	1.5nm,0.3s,baz=78,slow=17,SNR=43						
MJAR				Sn	**Sb**	**08 33 35.4**	**-1.4**
	0.7nm,0.3s,baz=79,slow=12,SNR=2.9						
	4.0nm,0.3s						
JHJ	**Hachijo jima 2**	**4.45**	**199**	Pn	**Pn**	**08 33 20.7**	**-0.1**
	6.5nm,0.3s,baz=36,slow=19,SNR=1.1						
JHJ				Sn	**Sn**	**08 34 12.2**	**+0.7**
	8.4nm,0.3s,baz=90,slow=20,SNR=2.3						
	28nm,0.4s						
GUMO	**Guam**	**23.86**	**172**	LR	LR	08 46 43.1	
	comp=Z,9.6nm,20.7s,baz=125,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	09 07 28.6	
	baz=314,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	09 07 33.6	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	09 07 31.1	
	baz=314,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	09 08 23.6	
	baz=316,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	09 08 24.3	
	baz=316,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	09 08 25.6	
	baz=316,slow=75,SNR=11						
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**08 40 01.7**	**+0.1**
	0.4nm,0.3s,baz=89,slow=7.4,SNR=1.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**08 40 21.3**	**+1.2**
	0.9nm,0.8s,baz=87,slow=9.8,SNR=3.6						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**45.85**	**308**	P	**P**	**08 40 35.1**	**+0.4**
	0.5nm,0.6s,baz=86,slow=8.3,SNR=4.1						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**49.20**	**33**	P	**P**	**08 41 01.1**	**+0.6**
	0.3nm,0.7s,baz=275,slow=13,SNR=2.6						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**57.38**	**188**	P	**P**	**08 42 01.0**	**-0.1**
	0.5nm,0.8s,baz=5.6,slow=7.3,SNR=5.8						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**61.11**	**188**	P	**P**	**08 42 26.8**	**-0.1**
	0.4nm,1.0s,baz=8.6,slow=6.8,SNR=4.3						
	0.4nm,1.0s						
H03N2	**Juan Fernandez**	**147.00**	**96**	T	T	11 36 01.2	
	baz=291						
H03N3	**Juan Fernandez**	**147.01**	**96**	T	T	11 36 02.3	
	baz=291						
H03N1	**Juan Fernandez**	**147.02**	**96**	T	T	11 36 02.5	
	baz=291						

WEL 22 08:32:55.4±0.3, 42.°8S±2.°×17.°3E±.°, h5km, M2.5/13, ML3.3/12, MLv2.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=120.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.28**	**83**	P	Pg	08 33 01.1	+0.3
KHZ				S	Sg	08 33 05.3	+0.9
GVZ	**Greta Valley S**	**0.53**	**191**	P	Pg	08 33 06.1	+0.5
GVZ				S	Sb	08 33 14.4	-0.7
THZ	**Tophouse**	**0.71**	**344**	P	Pg	08 33 09.6	+0.5
THZ				S	Sg	08 33 18.5	+0.1
LTZ	**Lake Taylor**	**0.74**	**243**	P	Pg	08 33 09.3	-0.3
AMCZ	**Amberley**	**0.82**	**207**	P	Pg	08 33 11.6	+0.5
BSWZ	**Blackbirch Sta**	**0.90**	**36**	P	Pg	08 33 12.7	0.0
MRNZ	**Matariki Terra**	**1.09**	**344**	P	Pg	08 33 16.2	-0.1
TUWZ	**Tuamarina**	**1.17**	**30**	P	Pg	08 33 17.2	-0.6
OXZ	**Oxford**	**1.21**	**223**	P	Pg	08 33 16.4	-2.1
DSZ	**Denniston Nort**	**1.23**	**304**	P	Pg	08 33 18.6	-0.5
NNZ	**Nelson**	**1.24**	**7**	P	Pg	08 33 18.9	-0.3
OKCZ	**Okains Bay**	**1.28**	**183**	P	Pg	08 33 17.2	-2.7
INZ	**Inchbonnie**	**1.30**	**257**	P	Pn	08 33 19.2	-1.1
MQZ	**McQueen's Vall**	**1.31**	**196**	P	Pn	08 33 17.0	-3.3
TKNZ	**Takaka Hill**	**1.42**	**354**	P	Pn	08 33 22.0	0.0
AKCZ	**Akaroa Harbour**	**1.43**	**187**	P	Pn	08 33 19.1	-3.0
TCW	**Tory Channel**	**1.49**	**34**	P	Pn	08 33 21.7	-1.1
QRZ	**Quartz Range**	**1.69**	**343**	P	Pn	08 33 25.4	-0.2
DUWZ	**D'Urville Isla**	**1.74**	**19**	P	Pn	08 33 26.9	+0.5
WACZ	**Wakanui South**	**1.78**	**213**	P	Pn	08 33 24.0	-2.8
PLWZ	**Palliser**	**1.79**	**61**	P	Pn	08 33 24.3	-2.7
WVZ	**Waitaha Valley**	**1.90**	**250**	P	Pn	08 33 27.5	-0.8
CAW	**Cannon Point**	**1.95**	**47**	P	Pn	08 33 27.1	-2.1
RPZ	**Rata Peaks**	**2.00**	**230**	P	Pn	08 33 27.6	-2.2
OGWZ	**Otaki Gorge**	**2.22**	**43**	P	Pn	08 33 30.9	-1.9
GCSZ	**Gaunt Creek Bo**	**2.26**	**247**	P	Pn	08 33 32.6	-0.8
TUVZ	**Tukino**	**3.70**	**32**	P	Pn	08 33 50.9	-2.4

*IDC **22** 08:40:09.9±2.1, 37.°37N×141.°56E, h0km, mb3.7/6, mbtmp3.7/8, ML3.0/2, Error ellipse: s-maj=54.5km s-min=21.7km az=70.0*
*NIED **22** 08:40:12.4, 37.°34N×141.°55E, h29km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.36; $M_{\theta\theta}$0.83; $M_{\phi\phi}$0.53; $M_{r\theta}$-0.31; $M_{\theta\phi}$0.99; $M_{\phi r}$-0.67; Fault plane solution: $M_0$1.70000×10^{14} NP1: ϕ_s244.00000°, δ35.00000°, λ-67.00000°. NP2:ϕ_s37.00000°, δ58.00000°, λ-105.00000°.*
*JMA **22** 08:40:12.0±0.1, 37.°3N±0.°3×141.°6E±0.°7, h28km±1km, MV3.6/34, E OFF FUKUSHIMA PREF*
ISC 22 08:40:10.7±2.2, 37.°31N±0.°05×141.°56E±0.°08, h9km±14km, n24, σ1°00/22, mb3.7/6, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.55**	**276**	P	**Pb**	**08 40 23.0**	**+0.4**
JFK				S	**Sb**	**08 40 30.4**	**-0.3**
JMST	**Minamisoumatoc**	**0.68**	**308**	⇓P	**Pb**	**08 40 24.8**	**+0.1**
JMST				⇓S	**Sb**	**08 40 34.0**	**-0.2**
JMM	**Marumori**	**0.82**	**312**	⇓*i*P	**Pb**	**08 40 27.1**	**-0.1**
JMM				⇓S	**Sb**	**08 40 38.0**	**-0.5**
JFFD	**Fukushimafurud**	**0.83**	**255**	P	**Pb**	**08 40 27.4**	**+0.1**
JHO	**Hitachi**	**1.06**	**229**	P	**Pb**	**08 40 30.9**	**-0.3**
JHO				S	**Sb**	**08 40 44.6**	**-0.7**
JIO	**Ouri**	**1.15**	**352**	P	**Pb**	**08 40 32.0**	**-0.8**
JOU	**Okura**	**1.27**	**326**	⇓*i*P	**Pg**	**08 40 34.8**	**-0.2**
JOU				⇓S	**Sg**	**08 40 51.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.80**

MQZ	McQueen's Vall	0.75	196	P		Pb	08 43 13.3	+0.2
INZ	Inchbonnie	1.13	283			Pg	08 43 19.4	-0.2
THZ	Tophouse	1.23	359	Pn		Pb	08 43 20.6	-0.7
BSWZ	Blackbirch Sta	1.45	29			Pn	08 43 24.3	0.0
DSZ	Denniston Nort	1.50	326	Pn		Pn	08 43 24.6	-0.5
RPZ	Rata Peaks	1.55	241	Pn		Pn	08 43 25.0	-0.8
	26nm,0.3s,baz=186,slow=1.5,SNR=72							
RPZ				Sn		Sn	08 43 44.8	-1.2
	18nm,0.3s,baz=340,slow=4.7,SNR=6.2							
RPZ	Rata Peaks	1.55	241			Pn	08 43 25.1	-0.7
RPZ	Rata Peaks	1.55	241	P		Pn	08 43 25.1	-0.7
CMWZ	Cape Campbell	1.56	38	Pn		Pg	08 43 28.0	+0.2
MRNZ	Matariki Terra	1.59	355			Pn	08 43 26.3	+0.1
TUWZ	Tuamarina	1.73	26			Pn	08 43 28.6	+0.5
NNZ	Nelson	1.80	11			Pn	08 43 28.9	-0.2
TKNZ	Takaka Hill	1.95	1			Pn	08 43 31.9	+0.7
TCW	Tory Channel	2.04	30			Pb	08 43 34.3	-0.8
QRZ	Quartz Range	2.18	352	Pn		Pn	08 43 35.1	+0.7
QRZ	Quartz Range	2.18	352	P		Pn	08 43 34.7	+0.3
PLWZ	Palliser	2.23	51	Pn		Pn	08 43 35.7	+0.6
FOZ	Fox Glacier	2.34	256	Pn		Pn	08 43 37.5	+0.9
LBZ	Lake Benmore	2.44	234			Pn	08 43 37.7	-0.2
ODZ	Otahua Downs	2.64	218			Pn	08 43 40.2	-0.4
ODZ	Otahua Downs	2.64	218	P		Pn	08 43 39.7	-0.9
HOWZ	Holdsworth Sta	2.84	44	P		Pg	08 43 52.9	+0.5
MRZ	Mangatainoka R	3.05	41			Pn	08 43 44.5	-1.8
JCZ	Jackson Bay	3.21	249	P		Pn	08 43 48.4	-0.2
WKZ	Wanaka	3.38	236	Pn		Pn	08 43 50.1	-0.7
NMEZ	Namu Road	3.64	12	P		Pn	08 43 56.6	+2.1
LREZ	Lake Rotokare	3.69	18	P		Pb	08 44 00.5	-2.8
KHEZ	Kahui Hut	3.78	13	P		Pn	08 43 57.7	+1.3
KHEZ	Kahui Hut	3.78	13	P		Pn	08 43 58.1	+1.7
NBEZ	Newall Road No	3.78	11	P		Pn	08 43 58.1	+1.8
NEZ	North Egmont	3.82	14	P		Pn	08 43 58.0	+1.1
PKE	Pukeiti	3.87	12	P		Pn	08 43 59.8	+2.1
DREZ	Durham Road	3.91	15	P		Pn	08 43 59.3	+1.2
VRZ	Vera Road	4.10	20	P		Pn	08 44 01.6	+0.9
PKVZ	Pokaka	4.12	27	P		Pb	08 44 08.4	-2.2
WNVZ	Wahianoa	4.17	30	P		Pn	08 44 01.9	0.0
TRVZ	Turoa	4.18	29	P		Pn	08 44 03.7	+1.7
MLZ	Mavora Lakes	4.20	234	Pn		Pn	08 44 01.1	-1.0
TUVZ	Tukino	4.25	30	P		Pn	08 44 06.1	+3.2
NGZ	Ngauruhoe	4.31	29	P		Pn	08 44 03.2	-0.6
NNVZ	North Ngauruho	4.35	29	P		Pn	08 44 06.2	+1.8
TMVZ	Te Maari	4.40	29	P		Pn	08 44 05.6	+0.6
SYZ	Scrubby Hill	4.46	216	P		Pn	08 44 08.2	-0.5
WHZ	Wether Hill Ro	4.60	229	Pn		Pn	08 44 05.8	-1.8
BKZ	Black Stump Fm	4.67	36			Pn	08 44 10.3	+1.7
BKZ	Black Stump Fm	4.67	36	P		Pn	08 44 10.0	+1.4
HIZ	Hauiti	4.70	19	Pn		Pn	08 44 08.3	-0.8
HIZ	Hauiti	4.70	19	P		Pn	08 44 08.9	-0.1
HIZ	Hauiti	4.70	19	P		Pn	08 44 09.0	0.0
DCZ	Deep Cove	4.84	237	Pn		Pn	08 44 11.1	+0.3
TLZ	Tolley Road	5.06	24	P		Pn	08 44 14.8	+0.9
RTZ	Ruatahuna	5.34	36	Pn		Pn	08 44 17.6	-0.2
TOZ	Tahuroa Road	5.61	21	P		Pn	08 44 21.1	-0.3
URZ	Urewera	5.69	35	P		Pn	08 44 21.6	-1.0
AWAZ	Awhitu Peninsu	6.06	13	P		Pn	08 44 27.8	+0.1
MKAZ	Moumakai	6.12	17	P		Pn	08 44 28.0	-0.4
MBAZ	Motutapu North	6.39	14	P		Pn	08 44 32.6	+0.4
HAZ	Te Kaha	6.40	37	P		Pn	08 44 30.6	-1.7
OUZ	Omahuta	7.77	4	Pn		Pn	08 44 52.3	+1.1
OUZ	Omahuta	7.77	4	P		Pn	08 44 52.4	+1.2
NIUE	Niue	27.89	37	P		P	08 48 51.1	+3.1
AS31	Alice Springs	37.46	288	P		P	08 50 11.9	+0.2
ASAR	Alice Springs	37.46	288	P		P	08 50 10.8	-0.9
	0.1nm,0.4s,baz=125,slow=7.1,SNR=7.0							
	0.1nm,0.4s							
FORT	Forrest	37.49	274	P		P	08 50 13.2	+1.4
FORT				IAmb		IAmb	08 50 51.2	
	comp=Z,11nm,0.9s							
WRAB	Tennant Creek	39.66	293	P		P	08 50 29.2	-1.0
WRA	Warramunga Arr	39.66	293	P		P	08 50 28.8	-1.4
	comp=Z,0.2nm,0.5s,baz=138,slow=7.5,SNR=5.5							
	comp=Z,0.2nm,0.5s							
WB0	Warramunga Arr	39.74	293	P		P	08 50 30.4	-0.5
WB0				IAmb		IAmb	08 50 33.6	
	comp=Z,7.0nm,1.5s							
KNRA	Kununurra	46.42	292	P		P	08 51 25.5	+0.6
KNRA				IAmb		IAmb	08 51 37.2	
	comp=Z,11nm,1.2s							
MTN	Manton Dam	46.88	297	P		P	08 51 28.3	-0.3
MTN				IAmb		IAmb	08 51 59.1	
	comp=Z,8.5nm,1.3s							
QSPA	South Pole Qui	47.14	180	P		P	08 51 29.9	-0.3
QSPA				IAmb		IAmb	08 51 44.4	
	comp=Z,2.6nm,1.3s							
PSA00	Pilbara Seismi	48.81	279	P		P	08 51 43.3	-0.2
PSA00				IAmb		IAmb	08 51 57.0	
	comp=Z,31nm,1.4s							
GIRL	Giralia	52.25	273	P		P	08 52 09.1	-0.4
SNAA	Sanae	65.61	181	P		P	08 53 42.0	+0.3
SNAA				IAmb		IAmb	08 53 46.5	
	comp=Z,5.0nm,1.5s							
ARCES	ARCESS Array B	148.59	339	PKPbc		PKPbc	09 02 42.4	-1.6
	comp=Z,1.8nm,1.0s,baz=45,slow=2.7,SNR=5.2							

MAN ***22*** *08:44:18.8, 16.°70N×120.°11E, h10km, mb4.1, ML2.9, MS2.6*

ISC 22 08:44:10.4±2.1, 16.°73N±0.°04×119.°73E±0.°08, h3km±14km, n12, σ1§42/20, 7C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.97	170⇑	eP	Pn	08 44 34.7	+3.8
SMPP	San Manuel, Pa	1.08	122⇑	eP	Pn	08 44 34.0	+1.5
SMPP				eS	Sb	08 44 46.1	-0.3
SAMP	Sagada Mountai	1.18	73⇓	eP	Pn	08 44 35.5	+1.7
SAMP				eS	Sb	08 44 48.5	-0.5
PCPH	Palayan	1.76	131⇑	eP	Pg	08 44 44.8	+0.7
PCPH				eS	Sb	08 45 04.8	-0.9
APYP	Conner	1.83	52⇑	eP	Pg	08 44 46.4	+0.8
APYP				eS	Sb	08 45 07.6	-0.3
BALP	Baler	2.03	119⇑	eP	Pg	08 44 49.7	+0.3
BALP				eS	Sg	08 45 14.8	-1.0
PACPP	Pamplona Cagay	2.31	42⇑	i P	Pg	08 44 54.2	-0.6
PACPP				i S	Sb	08 45 20.5	-1.2
MACP	Maragondon, Ca	2.64	159⇓	eP	Pg	08 44 59.8	-1.2
MACP				eS	Sb	08 45 31.2	+0.1
LUBP	Lubang	3.02	170⇑	eP	Pg	08 45 07.4	-1.0
LUBP				eS	Sb	08 45 41.7	-0.6
LQP	Lukban	3.14	146⇓	eP	Pb	08 45 07.2	+0.3
WRA	Warramunga Arr	39.17	158	P	P	08 51 38.2	-1.5
	0.3nm,0.7s,baz=332,slow=10.0,SNR=6.1						
	0.3nm,0.7s						
ASAR	Alice Springs	42.48	161	P	P	08 52 05.5	-1.5
	0.4nm,0.8s,baz=340,slow=7.1,SNR=2.9						
	0.4nm,0.8s						

IDC ***22*** *08:46:48.8±2.6, 37.°22N×141.°80E, h0km, mb3.4/2, mbtmp3.5/4, ML2.9/2, Error ellipse: s-maj=42.6km s-min=30.9km az=72.0*

JMA ***22*** *08:46:53.2±0.1, 37.°3N±0.°3×141.°6E±0.°6, h29km±1km, MV3.4/32, E OFF FUKUSHIMA PREF*

ISC 22 08:46:49.9±2.1, 37.°28N±0.°04×141.°76E±0.°08, h9km±11km, n20, σ1§06/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.71	277	P	Pb	08 47 04.7	+0.2
JFK				S	Sg	08 47 12.8	-0.1
JMST	Minamisoumatoc	0.82	303	P	Pg	08 47 06.5	+0.8
JMST				eS	Sg	08 47 15.9	-0.6
JMM	Marumori	0.96	308	P	Pb	08 47 08.8	0.0
JMM				S	Sb	08 47 20.0	-1.7
JFFD	Fukushimafurud	0.97	259	P	Pg	08 47 09.2	+0.5
JFFD				S	Sb	08 47 20.5	-1.5
JHO	Hitachi	1.17	235	P	Pg	08 47 12.4	+0.2
JHO				S	Sb	08 47 26.2	-1.2
JIO	Ouri	1.21	345	S	Sb	08 47 28.2	-0.6
JOU	Okura	1.39	322	P	Pb	08 47 16.4	+0.4
JOU				S	Sn	08 47 33.3	-0.7
MJAR	Matsushiro Arr	2.94	257	Pn	Pn	08 47 37.0	+0.2
	0.4nm,0.3s,baz=79,slow=14,SNR=10						
MJAR				Sn	Sn	08 48 14.3	+2.1
	0.7nm,0.3s,baz=72,slow=16,SNR=3.4						
	1.7nm,0.4s						
JHJ	Hachijo jima 2	4.46	202	Pn	Pn	08 47 56.3	-1.4
	6.8nm,0.3s,baz=24,slow=16,SNR=1.8						
JHJ				Sn	Sn	08 48 50.9	+1.2
	9.0nm,0.3s,baz=4.7,slow=17,SNR=1.1						
	104nm,0.8s						
H11N2	WAKE ISLAND Hy	28.04	122	T	T	09 22 11.0	
	baz=314,slow=75						
H11N1	WAKE ISLAND Hy	28.05	122	T	T	09 22 10.5	
	baz=314						
H11N3	WAKE ISLAND Hy	28.06	122	T	T	09 22 12.4	
	baz=314,slow=75						
H11S1	WAKE ISLAND Hy	28.77	124	T	T	09 23 03.9	
	baz=316						
H11S3	WAKE ISLAND Hy	28.77	124	T	T	09 23 04.0	
	baz=316,slow=74						
H11S2	WAKE ISLAND Hy	28.78	124	T	T	09 23 03.4	
	baz=316,slow=74						
MKAR	Makanchi Array	44.22	302	P	P	08 54 60.0	+0.6
	0.5nm,0.8s,baz=89,slow=7.3,SNR=3.6						
	0.5nm,0.8s						
WRA	Warramunga Arr	57.34	188	P	P	08 56 38.4	0.0
	0.3nm,0.8s,baz=0.3,slow=7.2,SNR=2.0						
	0.3nm,0.8s						
H03N2	Juan Fernandez	146.77	96	T	T	11 50 41.5	
	baz=291						
H03N3	Juan Fernandez	146.79	96	T	T	11 50 41.9	
	baz=291						
H01N1	Juan Fernandez	146.79	96	T	T	11 50 43.2	
	baz=291						

JMA ***22*** *08:48:22.3±0.1, 37.°2N±0.°2×141.°4E±0.°5, h16km±1km, MV3.1/33, E OFF FUKUSHIMA PREF*

IDC ***22*** *08:48:29.4±4.5, 35.°97N×140.°63E, h0km, mb3.4/2, mbtmp3.3/3, MS3.2/2, Error ellipse: s-maj=126.2km s-min=34.7km az=52.0*

ISC 22 08:48:22.2±2.2, 37.°19N±0.°06×141.°35E±0.°10, h13km±11km, n17, σ0§51/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.42	294	P	Pg	08 48 30.6	0.0
JFK				S	Sg	08 48 36.5	+0.3
JFFD	Fukushimafurud	0.64	261	P	Pg	08 48 34.6	-0.1
JFFD				S	Sg	08 48 43.4	+0.2
JMST	Minamisoumatoc	0.65	325	P	Pg	08 48 34.5	-0.3
JMST				eS	Sg	08 48 43.3	0.0
JMM	Marumori	0.81	327	P	Pg	08 48 37.5	-0.3
JHO	Hitachi	0.86	227	P	Pg	08 48 38.4	-0.4
JSB	Shiboa	1.17	259	P	Pg	08 48 44.6	-0.1
JSB				eS	Sn	08 49 00.2	+0.1
MJAR	Matsushiro Arr	2.60	256	Pn	Pn	08 49 04.6	+0.6
	4.6nm,0.7s,baz=200,slow=18,SNR=1.2						
MJAR				Sn	Sb	08 49 39.5	-1.2
	0.4nm,0.3s,baz=95,slow=15,SNR=1.5						
SONM	Songino Array	27.66	304	P	P	08 54 21.0	+11
	0.4nm,0.7s,baz=100,slow=7.9,SNR=2.2						
	0.4nm,0.7s						
H11N2	WAKE ISLAND Hy	28.27	121	T	T	09 23 43.2	
	baz=314						
H11N1	WAKE ISLAND Hy	28.28	121	T	T	09 23 48.8	
	baz=314						
H11N3	WAKE ISLAND Hy	28.29	121	T	T	09 23 50.8	
	baz=314						
H11S1	WAKE ISLAND Hy	28.99	123	T	T	09 24 37.6	
	baz=316						
H11S3	WAKE ISLAND Hy	28.99	123	T	T	09 24 39.8	
	baz=316						
H11S2	WAKE ISLAND Hy	29.00	123	T	T	09 24 40.8	
	baz=316						
SIJI	Sorong	39.01	196	LR	LR	09 09 47.1	
	comp=Z,24nm,19.7s,baz=26,slow=34						
INK	Inuvik	54.27	27	LR	LR	09 23 46.2	
	comp=Z,33nm,19.6s,baz=269,slow=38						
WRA	Warramunga Arr	57.21	188	P	P	08 58 09.1	0.0
	0.3nm,0.7s,baz=4.3,slow=7.0,SNR=1.4						
	0.3nm,0.7s						

IDC ***22*** *08:49:38.9±0.6, 37.°10N×141.°45E, h0km, mb4.1/17, mbtmp4.1/19, ML3.3/2, MS3.4/6, Error ellipse: s-maj=17.9km s-min=13.7km az=99.0*

MOS ***22*** *08:49:38.9±1.6, 37.°08N×141.°49E, h10km, mb4.7/15, Error ellipse: s-maj=11.8km s-min=7.1km az=108.0*

NIED ***22*** *08:49:40.8, 37.°25N×141.°42E, h30km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.51; Mθθ=0.59; Mφφ=0.92; Mrθ=0.73; Mθφ=0.91; Mφr=0.61; Fault plane solution: M₀1.86000×10¹⁵ NP1:φs33.00000°, δ30.00000°, λ,-101.00000°. NP2:φs226.00000°, δ60.00000°, λ,-84.00000°.*

JMA ***22*** *08:49:40.8±0.2, 37.°3N±0.°4×14.°1E±.°, h30km±1km, MD4.4/35, MV4.3/35, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

NEIC ***22*** *08:49:41.1±1.7, 37.°31N±0.°05×141.°45E±0.°07, h9km±4km, mb4.6/32, Error ellipse: s-maj=9.0km s-min=6.6km az=58.0*

ISC 22 08:49:41.2±0.4, 37.°17N±0.°04×141.°51E±0.°05, h10km, n156, σ1§80/140, mb4.5/47, MS3.6/5, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.54	291	P	Pg	08 49 50.1	-1.7
JFK				S	Sg	08 49 56.9	-2.0
JFK	Kawauchi	0.54	291	A	A	08 49 50.1	
	comp=E,9.0nm,1.2s,comp=E,17nm,2.3s						
JMST	Minamisoumatoc	0.74	318	P	Pg	08 49 53.1	-2.4
JMST	Minamisoumatoc	0.74	318	A	A	08 49 53.1	
	comp=E,20nm,0.6s,comp=E,36nm,0.4s						
JFFD	Fukushimafurud	0.76	264	P	Pg	08 49 54.3	-1.7
JFFD				S	Sg	08 50 03.8	-2.1
JFFD	Fukushimafurud	0.76	264	A	A	08 49 54.3	
	comp=E,13nm,0.7s,comp=E,21nm,1.7s						
JMM	Marumori	0.90	321		Pg	08 49 55.5	-3.0
JMM	Marumori	0.90	321	P	Pg	08 49 55.5	-3.0
JMM				S	Sg	08 50 06.8	-3.4
JMM	Marumori	0.90	321	A	A	08 49 55.5	
	comp=E,7.0nm,0.5s,comp=E,8.0nm,0.5s						
JHO	Hitachi	0.94	234	eP	Pg	08 49 57.2	-2.1
JHO				eS	Sg	08 50 09.7	-1.9
JIO	Ouri	1.28	354	P	Pn	08 50 01.7	-3.5
JSB	Shiboa	1.29	261	A	A	08 50 02.5	
	comp=E,18nm,1.8s,comp=E,22nm,2.0s						
JYAR	Yonezawaarcadi	1.31	305	A	A	08 50 02.1	
	comp=E,32nm,1.3s,comp=E,26nm,1.0s						
JOU	Okura	1.37	331	A	A	08 50 02.9	
	comp=E,15nm,1.7s,comp=E,24nm,0.9s						
JFY	Yanaizu	1.46	280	A	A	08 50 04.6	
	comp=E,6.0nm,0.6s,comp=E,5.0nm,0.9s						
JOFO	Osakifurukawao	1.50	342	A	A	08 50 05.0	
	comp=E,58nm,1.0s,comp=E,51nm,1.1s						
JYS	Shirataka	1.55	313	A	A	08 50 05.7	
	comp=E,16nm,1.1s,comp=E,16nm,1.3s						
JNS	Sasagawa	1.86	291	A	A	08 50 10.4	
	comp=E,4.0nm,1.5s,comp=E,3.0nm,1.3s						
OFUJ	Ofunato	1.91	4	A	A	08 50 11.3	
	comp=E,4.0nm,1.4s,comp=E,2.0nm,4.1s						
JYK	Kaneyama	1.96	333	A	A	08 50 11.8	
	comp=E,4.0nm,3.2s,comp=E,5.0nm,2.7s						
JYA	Atsumi	2.01	315	A	A	08 50 12.3	
	comp=E,9.0nm,1.2s,comp=E,14nm,1.0s						
JIZZ	Izumozaki	2.26	280	A	A	08 50 16.3	
	comp=E,15nm,4.0s,comp=E,11nm,1.4s						
JRG	Rokugo	2.32	343	A	A	08 50 17.0	
	comp=E,4.0nm,3.0s,comp=E,6.0nm,2.2s						
JYW	Yuwa	2.58	337	A	A	08 50 20.6	
	comp=E,9.0nm,1.1s,comp=E,10.0nm,2.3s						
JJN	Nakama	2.68	269	A	A	08 50 22.4	
	comp=E,5.0nm,2.4s,comp=E,4.0nm,4.0s						
JSD	Sado	2.72	289	Pn	Pn	08 50 24.2	-0.8
MJAR	Matsushiro Arr	2.72	258	Pn	Pn	08 50 24.1	-1.0
	2.1nm,0.3s,baz=91,slow=15,SNR=5.0						
MJAR				Sn	Sn	08 50 57.0	-1.0
	2.7nm,0.3s,baz=184,slow=22,SNR=7.6						
	13nm,0.3s						
MAJO	Matsushiro	2.72	258		Pn	08 50 25.2	+0.2
MAJO	Matsushiro	2.72	258	i P	Pn	08 50 24.5	-0.5
MJB9	Matsu-Tunnel	2.73	258		Pn	08 50 26.2	+1.1
JTM	Tenmabayashi	3.62	355		Pn	08 50 35.7	-1.7
JGF	Kuroka	3.70	246	Pn	Pn	08 50 38.8	+0.3
INU	Inuyama	4.06	245	Pn	Pn	08 50 43.6	+0.2
JAHD	Aomorihigashid	4.09	358	A	A	08 50 42.3	
	comp=E,6.0nm,1.6s,comp=E,5.0nm,1.4s						
JHJ2	Mitsune	4.28	199	Pn	Pn	08 50 46.6	+0.2
JHJ	Hachijo jima 2	4.29	200	Pn	Pn	08 50 45.7	-0.8
	14nm,0.3s,baz=322,slow=22,SNR=18						
JHJ				Sn	Sn	08 51 33.9	-2.7
	11nm,0.3s,baz=73,slow=19,SNR=1.9						
	40nm,0.3s						
ERM	Erimo	5.00	14	Pn	Pn	08 50 54.4	-1.9
ERM	Erimo	5.00	14	i P	Pn	08 50 55.8	-0.5
ASAJ	Asahikawa	6.98	6	P	Pn	08 51 21.3	-2.2
JKA	Kamikawa-asahi	6.98	6	Pn	Pn	08 51 21.3	-2.3
JHS	Saijyo	7.13	255	Pn	Pn	08 51 26.6	+0.9
YSS	Yuzh-Sakhalins	9.82	5	eP	Pn	08 51 57.6	-4.8
JCJ	Chichijima	10.06	177	LR	LR	08 56 37.4	
	comp=Z,135nm,18.6s,baz=298,slow=42						
USA0B	Ussuriysk Arra	10.07	317	i P	Pn	08 52 08.7	+2.8
USRK	Ussuriysk Ar.	10.07	317	Pn	Pn	08 52 08.4	+2.5
	0.3nm,0.3s,baz=125,slow=13,SNR=4.8						
USRK				LR	LR	08 55 57.3	
	comp=Z,179nm,18.2s,baz=126,slow=38						
KSRS	Korea Array	10.83	276	Pn	Pn	08 52 18.0	+1.7
	0.2nm,0.3s,baz=84,slow=14,SNR=2.6						
KSRS				LR	LR	08 55 27.0	
	comp=Z,61nm,20.3s,baz=75,slow=32						
KLR	Kul'dur	13.98	333	Pn	Pn	08 53 02.8	+3.5
	0.2nm,0.3s,baz=144,slow=16,SNR=2.2						
HEH	HeiHe	16.54	327	eP	P	08 53 38.4	+2.7
HEH				pmax	pmax		
	comp=Z,8.0nm,1.8s						
ZEA	Zeya	19.29	334	eP	Pn	08 54 09.3	+2.3
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	Magadan	23.20	12	P	P	08 54 50.6	+2.6
	comp=Z,9.1nm,0.7s,baz=108,slow=17,SNR=2.6						
MA2	Magadan	23.20	12	P	P	08 54 50.5	+2.6
MA2	Magadan	23.20	12	P	P	08 54 50.6	+2.6
MA2				pmax	pmax		
	comp=Z,73nm,1.4s						
YAK	Yakutsk	25.95	347	P	P	08 55 14.7	+1.2
	comp=Z,4.9nm,0.3s,baz=169,slow=1.0,SNR=1.5						
	comp=Z,4.9nm,0.3s						
YAK	Yakutsk	25.95	347	P	P	08 55 15.4	+1.9
YAK	Yakutsk	25.95	347	i P	P	08 55 15.3	+1.8
YAK				pmax	pmax		
	comp=Z,19nm,0.7s						
SEY	Seymchan	26.64	11	P	P	08 55 21.3	+1.6
	comp=Z,4.6nm,0.8s,baz=195,slow=12,SNR=2.3						
	comp=Z,4.6nm,0.8s						
SONM	Songino Array	27.77	304	P	P	08 55 28.7	-1.6
	comp=Z,1.5nm,0.7s,baz=103,slow=8.4,SNR=4.9						
SONM				PcP	PcP	08 58 48.2	+1.7
	comp=Z,0.5nm,0.7s,baz=99,slow=7.6,SNR=2.9						
	comp=Z,1.5nm,0.7s						
SONM	Songino Array	27.77	304	P	P	08 55 29.8	-0.4
SONM	Songino Array	27.77	304	P	P	08 55 29.8	-0.4
SONM				pmax	pmax		
	comp=Z,4.0nm,1.2s						
H11N2	WAKE ISLAND Hy	28.15	121	T	T	09 25 03.7	
	baz=314,slow=75,SNR=51						
H11N1	WAKE ISLAND Hy	28.16	121	T	T	09 25 03.9	
	baz=314,slow=75,SNR=50						
H11N3	WAKE ISLAND Hy	28.17	121	T	T	09 25 05.9	
	baz=314,slow=75,SNR=43						
H11S1	WAKE ISLAND Hy	28.87	123	T	T	09 25 54.9	
	baz=316,slow=76,SNR=40						
H11S3	WAKE ISLAND Hy	28.87	123	T	T	09 25 54.7	
	baz=316,slow=76,SNR=33						
H11S2	WAKE ISLAND Hy	28.89	123	T	T	09 25 60.0	
	baz=316,slow=76,SNR=37						
TIXI	Tiksi	35.16	353	P	P	08 56 35.5	+0.8
	comp=Z,1.8nm,0.3s,baz=257,slow=0.0,SNR=2.9						
	comp=Z,1.8nm,0.3s						
TIXI	Tiksi	35.16	353	P	P	08 56 34.2	-0.5
TIXI				IAmb	IAmb	08 56 38.5	
	comp=Z,8.8nm,1.4s						
TIXI	Tiksi	35.16	353	i P	P	08 56 36.5	+1.8
TIXI				pmax	pmax		
	comp=Z,13nm,2.7s						
DGZ	Jazzator, Alta	40.37	306	i P	P	08 57 19.3	0.0
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZAA0	Zalesovo Array	41.88	312	P	P	08 57 29.3	-2.0
ZALV	Zalesovo Beam	41.88	312	P	P	08 57 29.4	-1.9
	comp=Z,3.0nm,0.8s,baz=101,slow=7.5,SNR=8.9						
	comp=Z,3.0nm,0.8s						
ZALV	Zalesovo Beam	41.88	312	P	P	08 57 29.6	-1.8
ZALV	Zalesovo Beam	41.88	312	P	P	08 57 29.6	-1.8
NRIK	Noril'sk	43.17	335	LR	LR	09 15 53.1	
	comp=Z,73nm,20.1s,baz=87,slow=36						
MK31	Makanchi Array	44.11	302	P	P	08 57 48.0	-1.6
MK31	Makanchi Array	44.11	302	P	P	08 57 48.0	-1.6
MK31				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MKAR	Makanchi Array	44.11	302	P	P	08 57 47.6	-2.0
	comp=Z,1.7nm,0.7s,baz=85,slow=9.8,SNR=9.3						
	comp=Z,1.7nm,0.7s						
MKAR	Makanchi Array	44.11	302	P	P	08 57 48.2	-1.4
MKAR	Makanchi Array	44.11	302	P	P	08 57 48.2	-1.4
MAKZ	Makanchi	44.32	302	P	P	08 57 49.9	-1.4
MAKZ	Makanchi	44.32	302	P	P	08 57 49.9	-1.4
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
N18K	Kilae Creek	45.20	38	P	P	08

comp=Z,14nm,1.2s
CTAO Charters Tower 57.13 175 P P 08 59 28.4 +0.4
CTAO pmax pmax
comp=Z,14nm,1.3s
WRAB Tennant Creek 57.20 188 P P 08 59 26.9 -1.6
WRAB Tennant Creek 57.20 188 P P 08 59 26.9 -1.6
WRAB pmax pmax
comp=Z,3.0nm,1.1s
WR0 Warramunga Arr 57.20 188 P P 08 59 26.7 -1.8
WR0 IAmb IAmb 08 59 28.6
comp=Z,6.6nm,1.4s
WB2 Warramunga Arr 57.21 188 P P 08 59 27.4 -1.2
WB2 IAmb IAmb 08 59 31.1
comp=Z,6.8nm,1.2s
WRA Warramunga Arr 57.21 188 P P 08 59 26.8 -1.8
comp=Z,1.7nm,0.7s,baz=6.4,slow=7.3,SNR=16
WRA LR LR 09 23 46.8
comp=Z,37nm,18.4s,baz=320,slow=36
comp=Z,1.7nm,0.7s
WRA Warramunga Arr 57.21 188 P P 08 59 26.9 -1.7
WRA Warramunga Arr 57.21 188 *e*P P 08 59 27.1 -1.5
WRA pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 57.91 310 P P 08 59 30.9 -2.4
EUNU Eureka 60.04 9 P P 08 59 46.6 -1.1
EUNU IAmb IAmb 08 59 53.9
comp=Z,5.2nm,1.1s
ASAR Alice Springs 60.94 188 P P 08 59 52.8 -1.6
comp=Z,0.8nm,0.7s,baz=12,slow=6.5,SNR=12
comp=Z,0.8nm,0.7s
ASAR Alice Springs 60.94 188 P P 08 59 54.5 +0.1
ASAR Alice Springs 60.94 188 P P 08 59 54.5 +0.1
RES Resolute Bay 62.45 14 P P 09 00 02.8 -1.2
RES IAmb IAmb 09 00 25.3
comp=Z,3.3nm,0.9s
RES Resolute Bay 62.45 14 P P 09 00 02.8 -1.2
RES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 63.89 339 P P 09 00 12.2 -1.5
comp=Z,3.0nm,0.9s,baz=54,slow=9.1,SNR=6.8
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 63.89 339 P P 09 00 12.0 -1.7
OBN Obninsk 68.03 323 *e*P P 09 00 40.5 0.0
OBN pmax pmax
comp=Z,4.0nm,0.6s
VORR Voronezh 68.61 319 *e*P P 09 00 48.4 +4.2
VORR pmax pmax
comp=Z,80nm,0.4s
STKA Stephens Creek 68.69 180 P P 09 00 43.6 -1.1
comp=Z,1.5nm,0.7s,baz=0.0,slow=5.1,SNR=3.9
comp=Z,1.5nm,0.7s
FINES FINESS Array B 68.73 332 P P 09 00 43.5 -1.2
comp=Z,4.4nm,0.7s,baz=50,slow=9.2,SNR=5.3
comp=Z,4.4nm,0.7s
FINES FINESS Array B 68.73 332 P P 09 00 43.2 -1.5
FINES FINESS Array B 68.73 332 *e*P P 09 00 45.0 +0.3
FINES pmax pmax
comp=Z,4.0nm,0.7s
FORT Forrest 68.76 192 P P 09 00 45.1 -0.1
K05A Summer Lake 70.80 51 P P 09 00 58.4 +0.3
KBZ Khabaz 70.87 311 *i* P P 09 01 00.9 +2.7
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 70.87 311 *e*P P 09 00 59.1 +0.7
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,31nm,17.0s
SHA1 Shidzhatmaz 71.01 311 *i* P P 09 00 58.0 -1.4
MNK Minsk 72.42 326 *i* P P 09 01 06.7 -0.7
comp=E,4.0nm,0.8s
MNK *i* P P 09 01 06.7 -0.7
comp=N,21nm,0.8s
MNK *i* P P 09 01 06.7 -0.7
comp=Z,19nm,0.9s,baz=230
MNK *i* PP PP 09 03 47.9 0.0
MNK *i* PPP PPP 09 05 32.1
MNK *i* S S 09 10 32.1 +1.1
MNK *i* SS SS 09 15 12.1 +3.7
MNK *i* SSS SSS 09 18 32.4
MNK *i* LR LR 09 32 42.1
MNK *i* LRM MLR 09 34 39.6
comp=Z,104nm,21.7s
MNK *i* LRM MLR 09 34 46.0
comp=E,311nm,24.3s
MNK *i* LRM MLR 09 35 29.1
comp=N,2μm,21.7s
MNK Minsk 72.42 326 *i* P P 09 01 06.6 -0.7
MNK *i* 09 01 24.0
MNK *i* 09 03 47.8
MNK *i* PPP PPP 09 05 32.1
MNK *i* S S 09 10 32.1 +1.1
MNK *i* 09 11 13.7
MNK *i* SS SS 09 15 12.1 +3.7
MNK pmax pmax
comp=Z,19nm,0.9s
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=Z,104nm,22.0s
MNK MLR MLR
comp=E,311nm,24.0s
MNK MLR MLR
comp=N,2μm,22.0s
LRM Limekiln Ridge 73.99 44 P P 09 01 16.6 -0.6
NB2 NORSAR Subarra 74.09 337 P P 09 01 15.0 -2.2
comp=Z,4.4nm,0.9s,baz=41,slow=6.2
NOA NORSAR Array B 74.09 337 P P 09 01 17.7 +0.5
comp=Z,1.8nm,0.8s,baz=39,slow=5.9,SNR=6.7
comp=Z,1.8nm,0.8s
NOA NORSAR Array B 74.09 337 *e*P P 09 01 20.8 +3.6
NOA pmax pmax
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 74.84 53 P P 09 01 22.4 +0.1
comp=Z,0.9nm,0.7s,baz=288,slow=6.8,SNR=8.8
comp=Z,0.9nm,0.7s
PDAR Pinedale Array 77.51 46 P P 09 01 36.8 -0.6
comp=Z,0.5nm,0.6s,baz=299,slow=3.5,SNR=7.2
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 77.51 46 P P 09 01 37.0 -0.4
BRTR Keskin Array B 78.82 312 P P 09 01 45.3 +0.7
comp=Z,0.5nm,0.4s,baz=36,slow=3.7,SNR=2.4
comp=Z,0.5nm,0.4s
MLR Muntele Rosu 79.33 320 LR LR 09 39 29.1
comp=Z,54nm,18.9s,baz=92,slow=38
CLL Collm 81.01 330 *e*P P 09 01 56.0 0.0
CLL *ex* x 09 01 59.0
comp=Z,9.0nm,1.3s
TXAR Lajitas Array 89.97 52 P P 09 02 40.5 -0.7
comp=Z,0.9nm,0.8s,baz=303,slow=3.1,SNR=10
comp=Z,0.9nm,0.8s
KMBO Kilima Mbogo 102.03 278 *i* P Pdif 09 03 33.7 -2.7
KMBO pmax pmax
comp=Z,3.0nm,0.3s
LPAZ La Paz 146.56 60 PKPbc PKPdf 09 09 22.3 -0.3
comp=Z,1.9nm,0.7s,baz=328,slow=3.8,SNR=14
H03N2 Juan Fernandez 146.96 96 T T 11 53 38.5
baz=291,slow=76,SNR=15
H03N3 Juan Fernandez 146.97 96 T T 11 53 39.4
baz=291,slow=76,SNR=16
H03N1 Juan Fernandez 146.98 96 T T 11 53 41.6
baz=291,slow=76,SNR=18

*IDC **22** 08:52:58.2±2.0,37°.25N×141°.56E,h0km,mb3.6/4, mbtmp3.5/5,ML2.3/1,Error ellipse: s-maj=44.9km s-min=28.7km az=53.0*
*JMA **22** 08:53:01.6±0.2,37°.2N±0°.3×141°.3E±0°.9,h22km±1km, MV3.4/38,E OFF FUKUSHIMA PREF*
ISC 22 08:52:59.7±2.1,37°.17N±0°.05×141°.43E±0°.09,h7km±12km**, n21,σ0°.47/20,mb3.6/4,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.48**	**294**	P	**Pg**	**08 53 09.3**	**+0.3**
JFK				S	**Sg**	**08 53 14.8**	**-0.5**
JFFD	**Fukushimafurud**	**0.70**	**263**	P	**Pg**	**08 53 13.2**	**+0.2**
JFFD				S	**Sg**	**08 53 21.8**	**-0.3**
JMST	**Minamisoumatoc**	**0.70**	**322**	P	**Pg**	**08 53 13.6**	**+0.5**
JMST				S	**Sg**	**08 53 22.5**	**+0.3**
JMM	**Marumori**	**0.85**	**324**	P	**Pg**	**08 53 16.3**	**+0.2**
JMM				*e*S	**Sg**	**08 53 27.1**	**-0.1**
JHO	**Hitachi**	**0.89**	**231**	P	**Pg**	**08 53 16.6**	**-0.1**
JHO				S	**Sg**	**08 53 27.9**	**-0.4**
JSB	**Shiboa**	**1.22**	**261**	P	**Pn**	**08 53 23.1**	**0.0**
JSB				S	**Sb**	**08 53 39.0**	**0.0**
JIO	**Ouri**	**1.28**	**357**	P	**Pn**	**08 53 23.6**	**-0.3**
JIO				S	**Sb**	**08 53 40.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.66**	**257**	Pn	**Pn**	**08 53 43.5**	**+0.6**
MJAR	0.5nm,0.3s,baz=90,slow=30,SNR=3.4			Sn	**Sb**	**08 54 19.6**	**-0.7**
	0.9nm,0.3s,baz=100,slow=34,SNR=2.6 3.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	09 28 47.4	
	baz=314,slow=75,SNR=75						
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	09 28 48.9	
	baz=314,slow=75,SNR=69						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	09 28 49.7	
	baz=314,slow=75,SNR=51						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	09 29 41.1	
	baz=316,SNR=27						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	09 29 41.9	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	09 29 41.9	
	baz=316						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**09 01 07.7**	**-0.3**
	0.5nm,0.7s,baz=90,slow=7.2,SNR=3.5 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**09 01 22.7**	**0.0**
	0.9nm,0.6s,baz=82,slow=7.8,SNR=3.1 0.9nm,0.6s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**09 02 47.1**	**-0.3**
	0.6nm,0.8s,baz=4.6,slow=7.3,SNR=5.2 0.6nm,0.8s						
ASAR	**Alice Springs**	**60.93**	**188**	P	**P**	**09 03 14.2**	**+1.0**
	0.2nm,0.5s,baz=7.7,slow=7.6,SNR=2.3 0.2nm,0.5s						
H03N2	**Juan Fernandez**	**147.03**	**96**	T	T	11 57 27.9	
	baz=291						
H03N3	**Juan Fernandez**	**147.04**	**96**	T	T	11 57 27.9	
	baz=291						
H03N1	**Juan Fernandez**	**147.04**	**96**	T	T	11 57 29.3	
	baz=291						

*IDC **22** 08:57:35.9±2.2,37°.29N×141°.71E,h0km,mb3.6/4, mbtmp3.6/6,ML2.8/2,MS3.6/3,Error ellipse: s-maj=43.5km s-min=26.3km az=75.0*
*JMA **22** 08:57:36.9±0.2,37°.4N±0°.4×141°.6E±0°.9,h30km±1km, MV3.2/37,E OFF FUKUSHIMA PREF*
ISC 22 08:57:38.5±2.2,37°.39N±0°.05×141°.52E±0°.10,h23km±14km**, n24,σ1°.947/23,mb3.5/4,MS3.5/3,2D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.51**	**268**	⇓P	**Pb**	**08 57 48.6**	**-0.2**
JFK				⇓*e*S	**Sb**	**08 57 56.9**	**+1.0**
JMST	**Minamisoumatoc**	**0.60**	**304**	P	**Pb**	**08 57 50.1**	**-0.3**
JMST				S	**Sb**	**08 57 59.4**	**+0.9**
JMM	**Marumori**	**0.75**	**310**	P	**Pn**	**08 57 52.2**	**-1.4**
JMM				S	**Sb**	**08 58 03.3**	**+0.7**
JFFD	**Fukushimafurud**	**0.82**	**249**	P	**Pn**	**08 57 53.0**	**-1.6**
JFFD				*e*S	**Sn**	**08 58 04.5**	**-1.5**
JIO	**Ouri**	**1.07**	**353**	P	**Pn**	**08 57 56.3**	**-1.9**
JIO				S	**Sn**	**08 58 10.6**	**-1.8**
JHO	**Hitachi**	**1.08**	**225**	*e*P	**Pn**	**08 57 56.4**	**-1.9**
JHO				*e*S	**Sn**	**08 58 10.8**	**-1.8**
JOU	**Okura**	**1.19**	**326**	P	**Pb**	**08 57 59.7**	**-0.7**
JOU				*e*S	**Sb**	**08 58 16.5**	**+1.2**
JYS	**Shirataka**	**1.42**	**306**	*e*P	**Pb**	**08 58 04.1**	**-0.2**
JYS				S	**Sb**	**08 58 23.6**	**+1.6**
JFY	**Yanaizu**	**1.44**	**271**	*e*P	**Pb**	**08 58 04.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.78**	**253**	Pn	**Pn**	**08 58 22.5**	**+0.9**
MJAR	0.2nm,0.3s,baz=85,slow=26,SNR=4.1			Sn	**Sb**	**08 58 59.6**	**-1.5**
	0.4nm,0.3s,baz=72,slow=27,SNR=5.7 2.4nm,0.4s						
JHJ	**Hachijo jima 2**	**4.49**	**199**	Pn	**Pn**	**08 58 45.7**	**+0.6**
	8.1nm,0.3s,baz=234,slow=24,SNR=2.7 57nm,0.6s						
SONM	**Songino Array**	**27.66**	**303**	P	**P**	**09 03 27.6**	**+2.9**
	0.4nm,0.5s,baz=103,slow=8.4,SNR=4.2 0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	09 33 20.7	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.27**	**122**	T	T	09 33 20.7	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	09 33 20.7	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	09 34 12.2	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	09 34 12.2	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**29.00**	**124**	T	T	09 34 12.2	
	baz=316						
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**09 05 45.1**	**+1.0**
	0.7nm,0.6s,baz=87,slow=8.8,SNR=5.0 0.7nm,0.6s						
BRDH	**Bariadhala**	**45.10**	**266**	LR	LR	09 28 05.5	
	comp=Z,125nm,18.6s,baz=87,slow=40						
KURBB	**Kurchatov Arra**	**45.85**	**308**	P	P	09 06 01.8	**+3.2**
	0.6nm,0.3s,baz=83,slow=8.0,SNR=5.3 0.6nm,0.3s						
WRA	**Warramunga Arr**	**57.42**	**188**	P	**P**	**09 07 25.2**	**-0.2**
	0.2nm,0.5s,baz=4.2,slow=7.5,SNR=2.0 0.2nm,0.5s						
AFI	**Afiamalu**	**67.30**	**130**	LR	LR	09 36 55.4	
	comp=Z,27nm,18.4s,baz=190,slow=35						
VRAC	**Vranov**	**80.87**	**327**	LR	LR	09 47 39.1	
	comp=Z,22nm,18.1s,baz=54,slow=37						

*IDC **22** 08:58:32.2±0.7,37°.21N×141°.36E,h0km,mb4.1/16, mbtmp4.0/20,ML3.4/4,MS3.2/2,Error ellipse: s-maj=16.7km s-min=15.6km az=143.0*
*MOS **22** 08:58:32.6±0.9,37°.27N×141°.39E,h11km,mb4.7/6,Error ellipse: s-maj=11.7km s-min=8.2km az=107.5*
*NIED **22** 08:58:34.0,37°.21N×141°.50E,h30km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-1.20; Mθθ0.64; Mφφ0.56; Mrθ0.73; Mrφ0.70; Mθφ0.11; Fault plane solution: M0 1.46000×10^15^ NP1:φs30.00000°, δ34.00000°,λ-118.00000°. NP2:φs243.00000°, δ60.00000°,λ-72.00000°.*
*NEIC **22** 08:58:33.8±3.0,37°.26N±0°.04×141°.56E±0°.07,h10km±1km, mb4.4/13 Error ellipse: s-maj=11.1km s-min=3.1km az=51.0*
*JMA **22** 08:58:34.4±0.2,37°.2N±0°.4×14°1E±°,h28km±1km, MV3.9/36,E OFF FUKUSHIMA PREF*
ISC 22 08:58:33.5±1.3,37°.19N±0°.03×141°.46E±0°.05,h9km±7km**, n94,σ1°.913/105,mb4.3/30,5C,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.50**	**291**	P	**Pb**	**08 58 44.0**	**-0.5**
JFK				S	**Sb**	**08 58 51.3**	**-0.6**
JMST	**Minamisoumatoc**	**0.70**	**320**	P	**Pb**	**08 58 47.4**	**-0.5**
JMST				S	**Sb**	**08 58 57.2**	**-0.5**
JFFD	**Fukushimafurud**	**0.73**	**262**	P	**Pg**	**08 58 47.9**	**+0.4**
JFFD				S	**Sb**	**08 58 58.5**	**+0.1**
JMM	**Marumori**	**0.86**	**322**		**Pg**	**08 58 49.5**	**-0.6**
JMM					**Sg**	**08 59 01.3**	**+0.1**
JMM	**Marumori**	**0.86**	**322**	P	**Pg**	**08 58 49.8**	**-0.3**
JMM				S	**Sb**	**08 59 01.6**	**-0.6**
JHO	**Hitachi**	**0.92**	**231**	P	**Pg**	**08 58 50.8**	**-0.5**
JHO				*e*S	**Sg**	**08 59 03.5**	**+0.3**
JSB	**Shiboa**	**1.25**	**260**	P	**Pg**	**08 58 57.6**	**+0.1**
JSB				S	**Sn**	**08 59 14.7**	**+0.5**
JIO	**Ouri**	**1.26**	**356**	*e*P	**Pn**	**08 58 56.5**	**-0.9**
JIO				*e*S	**Sb**	**08 59 13.6**	**-0.3**
JOU	**Okura**	**1.33**	**332**	P	**Pb**	**08 58 58.4**	**-0.3**
JOU				S	**Sn**	**08 59 16.0**	**-0.1**
JSD	**Sado**	**2.68**	**289**		**Pn**	**08 59 17.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.69**	**257**	Pn	**Pn**	**08 59 16.8**	**-0.1**
MJAR	1.5nm,0.3s,baz=74,slow=16,SNR=7.5			Sn	**Sn**	**08 59 48.0**	**-1.6**
	1.1nm,0.3s,baz=78,slow=32,SNR=6.9 9.0nm,0.3s						
MAJO	**Matsushiro**	**2.69**	**257**	Pn	**Pb**	**08 59 21.5**	**-0.3**
MAJO	**Matsushiro**	**2.69**	**257**	*i* P	**Pb**	**08 59 20.9**	**-0.9**
MJB9	**Matsu-Tunnel**	**2.69**	**257**	Pn	**Pb**	**08 59 22.0**	**+0.1**
JTM	**Tenmabayashi**	**3.60**	**355**	Pn	**Pn**	**08 59 30.4**	**+1.0**
JGF	**Kuroka**	**3.67**	**246**	Pn	**Pn**	**08 59 32.8**	**+2.3**
INU	**Inuyama**	**4.03**	**244**	Pn	**Pn**	**08 59 38.1**	**+2.7**

JHJ2 Mitsune 4.29 199 Pn Pn 08 59 40.3 +1.4
JHJ Hachijo jima 2 4.29 199 Pn Pn 08 59 39.8 +0.8
13nm,0.3s,baz=53,slow=20,SNR=5.8
JHJ Sn Sn 09 00 29.1 +0.1
24nm,0.3s,baz=54,slow=19,SNR=2.3
34nm,0.3s
ERM Erimo 4.99 15 Pn Pn 08 59 49.5 +0.9
ERM Erimo 4.99 15 P Pn 08 59 49.5 +0.9
ASAJ Asahikawa 6.97 7 P Pn 09 00 15.9 +0.1
JKA Kamikawa-asahi 6.97 7 Pn Pn 09 00 15.8 +0.1
JHS Saijyo 7.10 255 Pn Pn 09 00 20.5 +2.9
USRK Ussuriysk Ar. 10.03 317 Pn Pn 09 00 57.2 -0.5
0.7nm,0.3s,baz=68,slow=42,SNR=2.1
USRK LR LR 09 04 31.6
comp=Z,208nm,20.8s,baz=152,slow=36
0.8nm,0.3s
USRK Ussuriysk Ar. 10.03 317 Pn Pn 09 01 01.9 +4.1
JCJ Chichijima 10.09 176 LR LR 09 05 29.4
comp=Z,110nm,19.5s,baz=318,slow=41
KSRS Korea Array 10.79 275 Pn Pn 09 01 08.4 +0.4
0.2nm,0.3s,baz=86,slow=13,SNR=1.7
2.9nm,1.1s
KLR Kul'dur 13.95 333*ce*P P 09 02 00.4 +1.0
KLR pmax pmax
comp=Z,19nm,2.5s
HEH HeiHe 16.50 327 *e*P Pn 09 02 25.3 +0.3
HEH pmax pmax
comp=Z,4.0nm,1.0s
ZEA Zeya 19.25 334 *e*P Pn 09 02 59.1 +0.1
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=N,200nm,13.0s
ZEA MLR MLR
comp=Z,200nm,12.0s
PET Petropavlovsk 19.86 32*ce*P Pn 09 03 07.8 +1.6
PET pmax pmax
comp=Z,134nm,1.3s
YAK Yakutsk 25.92 347 P P 09 04 04.5 -1.1
YAK Yakutsk 25.92 347*ce*P P 09 04 06.4 +0.7
YAK pmax pmax
comp=Z,16nm,0.8s
SONM Songino Array 27.73 304 P P 09 04 22.2 -0.1
comp=Z,2.1nm,0.8s,baz=103,slow=8.4,SNR=11
comp=Z,2.1nm,0.8s
SONM Songino Array 27.73 304 P P 09 04 22.5 +0.2
SONM Songino Array 27.73 304 P P 09 04 22.5 +0.2
SONM pmax pmax
comp=Z,3.0nm,1.0s
H11N2 WAKE ISLAND Hy 28.20 121 T T 09 33 50.0
baz=314,slow=75
H11N1 WAKE ISLAND Hy 28.20 121 T T 09 33 51.2
baz=314,slow=75
H11N3 WAKE ISLAND Hy 28.21 121 T T 09 33 55.4
baz=314,slow=75
H11S1 WAKE ISLAND Hy 28.91 123 T T 09 34 42.0
baz=316,slow=76,SNR=43
H11S3 WAKE ISLAND Hy 28.91 123 T T 09 34 47.9
baz=316,slow=76,SNR=51
H11S2 WAKE ISLAND Hy 28.93 123 T T 09 34 48.0
baz=316,slow=76,SNR=157
ZAA0 Zalesovo Array 41.84 312 P P 09 06 22.7 -0.7
ZAA0 IAmb IAmb 09 06 23.9
comp=Z,5.4nm,1.1s
ZALV Zalesovo Beam 41.84 312 P P 09 06 23.1 -0.3
comp=Z,3.3nm,0.8s,baz=85,slow=6.1,SNR=12
ZALV PcP **PcP 09 08 19.3 0.0**
comp=Z,0.8nm,0.6s,baz=85,slow=3.5,SNR=2.7
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 41.84 312 P P 09 06 23.5 +0.1
MK31 Makanchi Array 44.07 302 P P 09 06 40.8 -0.9
MK31 Makanchi Array 44.07 302 P P 09 06 40.8 -0.9
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 44.07 302 P P 09 06 41.6 -0.1
comp=Z,1.9nm,0.8s,baz=98,slow=9.3,SNR=10
comp=Z,1.9nm,0.8s
KURK Kurchatov 45.87 308 P P 09 06 53.8 -2.0
KURK Kurchatov 45.87 308 P P 09 06 56.0 +0.1
KURBB Kurchatov Arra 45.93 308 P P 09 06 56.0 -0.4
comp=Z,3.3nm,0.6s,baz=85,slow=8.3,SNR=14
comp=Z,3.3nm,0.6s
IMAR Indian Mountai 46.50 31 P P 09 06 56.6 -4.0
ILAR Eielson Array 49.34 32 P P 09 07 23.3 +0.6
comp=Z,1.3nm,0.8s,baz=270,slow=6.4,SNR=6.8
KSH Kashi 50.38 294 P P 09 07 32.8 +1.7
KKAR Karatay Array 53.08 300 P P 09 07 52.0 +0.9
KKAR Karatay Array 53.08 300 P P 09 07 52.0 +0.9
INK Inuvik 54.23 27 P P 09 07 59.7 +0.7
comp=Z,2.3nm,0.9s,baz=268,slow=2.4,SNR=11
comp=Z,2.3nm,0.9s
INK Inuvik 54.23 27 P P 09 07 59.4 +0.4
INK IAmb IAmb 09 08 01.2
comp=Z,4.3nm,1.1s
A36M Sachs Harbour 56.10 22 P P 09 08 13.1 +0.5
A36M IAmb IAmb 09 08 14.8
comp=Z,4.7nm,0.9s
ARU Arti 56.27 318*c* *i*P P 09 08 13.9 -0.1
ARU 09 09 13.2
ARU 09 10 19.4
ARU S S 09 16 03.8 +0.1
ARU SS SS 09 19 52.1 +2.3
ARU pmax pmax
comp=Z,12nm,1.1s
WB0 Warramunga Arr 57.04 188 P P 09 08 16.8 -3.0
WB0 IAmb IAmb 09 08 22.7
comp=Z,5.8nm,1.2s
WR0 Warramunga Arr 57.22 188 P P 09 08 18.9 -2.1
WR0 IAmb IAmb 09 08 37.1
comp=Z,6.1nm,1.4s
WB2 Warramunga Arr 57.22 188 P P 09 08 19.6 -1.5
WB2 IAmb IAmb 09 08 21.3
comp=Z,8.1nm,1.4s
WRA Warramunga Arr 57.22 188 P P 09 08 20.8 -0.3
comp=Z,1.4nm,0.9s,baz=8.4,slow=7.5,SNR=7.0
comp=Z,1.4nm,0.9s
WRA Warramunga Arr 57.22 188 P P 09 08 20.5 -0.6
WRA Warramunga Arr 57.22 188 *e*P P 09 08 23.0 +1.9
WRA pmax pmax
comp=Z,1.0nm,0.9s
ABKAR Akbulak array 57.87 310 P P 09 08 24.6 -0.9
EUNU Eureka 60.02 9 P P 09 08 39.6 -0.4
EUNU IAmb IAmb 09 09 09.0
comp=Z,5.7nm,1.4s
KIRV Kirov 60.15 323*ce*P P 09 08 41.7 +0.7
ASAR Alice Springs 60.95 188 P P 09 08 47.0 +0.1
comp=Z,0.7nm,0.8s,baz=20,slow=6.1,SNR=5.5
comp=Z,0.7nm,0.8s
GEYT Alibeck 63.79 299 P P 09 09 04.5 -1.5
comp=Z,1.3nm,0.4s,baz=75,slow=14,SNR=2.2
comp=Z,1.3nm,0.4s
OBN Obninsk 67.99 323 *e*P P 09 09 32.5 -0.1
OBN pmax pmax
comp=Z,6.0nm,1.0s
VORR Voronezh 68.57 319 *e*P P 09 09 36.3 0.0
VORR pmax pmax
comp=Z,90nm,0.4s
FINES FINESS Array B 68.69 332 P P 09 09 36.5 -0.4
comp=Z,3.8nm,0.8s,baz=48,slow=8.3,SNR=8.6
comp=Z,3.8nm,0.8s
FINES FINESS Array B 68.69 332 *e*P P 09 09 37.3 +0.4
FINES pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 70.83 311 P P 09 09 50.5 +0.1
comp=Z,2.0nm,0.8s,baz=37,slow=5.1,SNR=2.3
comp=Z,2.0nm,0.8s
KIV Kislovodsk 70.83 311 *e*P P 09 09 50.4 -0.2
KIV pmax pmax
comp=Z,11nm,1.1s
MNK Minsk 72.39 326 *i* P P 09 09 58.8 -0.8
comp=E,5.0nm,0.5s
MNK *i* P P 09 09 58.8 -0.8
comp=N,19nm,0.6s
MNK *i* P P 09 09 58.8 -0.8
comp=Z,24nm,0.6s,baz=230
MNK *i* PP PP 09 12 39.1 -0.8
MNK *i* PPP PPP 09 14 23.1
MNK *i* S S 09 19 22.4 -0.7
MNK *i* SS SS 09 24 01.0 +0.6
MNK *i* SSS SSS 09 27 17.7
MNK *i* LR LR 09 42 53.5
MNK *i* LRM MLR 09 44 27.6
comp=N,1μm,21.2s
MNK *i* LRM MLR 09 44 32.1
comp=E,267nm,20.0s
MNK *i* LRM MLR 09 44 34.7

comp=Z,142nm,19.3s
MNK Minsk 72.39 326 *i* P **P 09 09 58.8 -0.8**
MNK *i* 09 10 16.7
MNK *i* 09 12 39.1
MNK *i* PPP PPP 09 14 23.0
MNK *i* S **S 09 19 22.3 -0.7**
MNK *i* 09 20 05.1
MNK *i* SS **SS 09 24 00.9 +0.6**
MNK *i* SSS SSS 09 27 17.6
MNK pmax pmax
comp=Z,24nm,0.6s
MNK pmax pmax
comp=N,19nm,0.6s
MNK pmax pmax
comp=E,5.0nm,0.5s
MNK MLR MLR
comp=N,1μm,21.0s
MNK MLR MLR
comp=E,267nm,20.0s
MNK MLR MLR
comp=Z,142nm,19.0s
NB2 NORSAR Subarra 74.06 337 P **P 09 10 10.1 +0.7**
comp=Z,1.0nm,0.9s,baz=37,slow=6.2
NOA NORSAR Array B 74.06 337 P **P 09 10 09.3 -0.2**
comp=Z,2.1nm,1.0s,baz=39,slow=5.9,SNR=3.8
comp=Z,2.1nm,1.0s
NOA NORSAR Array B 74.06 337 *e*P **P 09 10 11.0 +1.6**
NOA pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 74.19 322 P **P 09 10 09.7 -0.7**
comp=Z,2.9nm,0.8s,baz=50,slow=5.8,SNR=8.1
comp=Z,2.9nm,0.8s
AKASG Malin Array Be 74.19 322 *e*P **P 09 10 09.9 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
NVAR Mina Array Bea 74.86 53 P **P 09 10 15.6 +0.8**
comp=Z,0.9nm,0.8s,baz=282,slow=4.2,SNR=4.6
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 77.53 45 P **P 09 10 30.5 +0.6**
comp=Z,0.3nm,0.7s,baz=294,slow=4.5,SNR=3.0
comp=Z,0.3nm,0.7s
BRTR Keskin Array B 78.78 312 P **P 09 10 35.0 -1.8**
comp=Z,0.4nm,0.3s,baz=61,slow=7.1,SNR=2.5
comp=Z,0.4nm,0.3s
BRTR Keskin Array B 78.78 312 P **P 09 10 35.0 -1.8**
TXAR Lajitas Array 90.00 52 P **P 09 11 34.4 +0.6**
comp=Z,0.4nm,0.8s,baz=308,slow=3.1,SNR=5.0
comp=Z,0.4nm,0.8s
LPAZ La Paz 146.58 59 PKPbc **PKPbc 09 18 16.6 +0.1**
comp=Z,0.9nm,0.5s,baz=298,slow=6.5,SNR=5.4
H03N2 Juan Fernandez 147.00 96 T T 12 02 31.0
baz=291,slow=76,SNR=39
H03N3 Juan Fernandez 147.01 96 T T 12 02 32.1
baz=291,slow=76,SNR=40
H03N1 Juan Fernandez 147.02 96 T T 12 02 32.1
baz=291,slow=76,SNR=59

DJA ***22*** *09:00:43.9±0.7, 8°S±5°×11°9E±°, h13km±6km, M4.0/9, MLv4.0/9*
IDC ***22*** *09:00:47.5±2.1, 7°.64S×119°.70E, h0km, mb3.5/2, mbtmp3.5/4, ML3.7/2, MS2.2/1, Error ellipse: s-maj=75.5km s-min=21.4km az=67.0*
ISC 22 09:00:46.2±1.1**, 7°.82S**±0°.06×**118°.75E**±0°.06**, h35**km**, n16, σ0s.91**/18**, Flores Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
DBNI Kabupaten Domp 0.81 213 P **Pn 09 01 00.1 -1.0**
DBNI S **Sn 09 01 11.4 -0.5**
PLAI Plampang 1.39 224 P **Pn 09 01 08.7 -0.5**
PLAI S **Sn 09 01 27.7 +1.4**
TWSI Taliwang, Sumb 2.06 244 P **Pn 09 01 17.9 -0.5**
TWSI S **Sn 09 01 45.0 +2.1**
BSSI Bau Bau, Buton 2.40 46 P **Pn 09 01 22.4 -0.6**
KLNI Mataram 2.70 257 P **Pn 09 01 26.2 -0.9**
BKSI Bulukumba 2.83 29 P **Pn 09 01 28.8 -0.2**
KAPI Kappang 2.96 20 Pn **Pn 09 01 30.8 0.0**
8.2nm,0.3s,baz=223,slow=2.3,SNR=18
KAPI Sn **Sn 09 02 04.0 -1.1**
16nm,0.3s,baz=202,slow=16,SNR=5.7
KAPI LR LR 09 02 12.0
comp=Z,45nm,18.4s,baz=221,slow=32
22nm,0.2s
SRBI Singaraja 3.52 265 P **Pn 09 01 37.6 -0.8**
MMRI Maumere 3.54 103 P **Pn 09 01 38.8 0.0**
BNSI Bone 3.65 22 P **Pn 09 01 41.0 +0.7**
SPSI Sidrap Palu 3.96 15 P **Pn 09 01 44.3 -0.2**
JAGI Jajag, Banyuwa 4.60 262 P **Pn 09 01 53.0 -0.3**
WRA Warramunga Arr 19.32 130 P **P 09 05 08.1 -0.5**
0.3nm,0.3s,baz=302,slow=13,SNR=22
0.3nm,0.3s
ASAR Alice Springs 21.44 139 P **P 09 05 32.3 +0.8**
1.1nm,0.5s,baz=315,slow=9.5,SNR=19
1.1nm,0.5s
RAO Raoul Island 62.98 119 LR LR 09 38 18.8
comp=Z,242nm,18.2s,baz=131,slow=36
MKAR Makanchi Array 63.30 333 P P 09 11 20.2 +8.6
0.5nm,0.7s,baz=145,slow=5.3,SNR=2.5
0.5nm,0.7s

JMA ***22*** *09:23:01.5±0.2, 37°.4N±0°.3×141°.6E±0°.9, h25km±1km, MV3.2/33, E OFF FUKUSHIMA PREF*
IDC ***22*** *09:23:14.6±1.9, 36°.65N×140°.76E, h0km, mb3.2/3, mbtmp3.1/4, ML1.6/1, Error ellipse: s-maj=28.8km s-min=19.5km az=25.0*
ISC 22 09:22:58.3±2.8**, 37°.33N**±0°.06×**141°.7E**±0°.1**, h16**km±12km**, n17, σ0s.54**/14**, mb3.1**/3**, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JFK Kawauchi 0.65 273 P **Pn 09 23 12.3 -0.7**
JFK S **Sg 09 23 19.9 +0.2**
JMST Minamisoumatoc 0.75 302 P **Pn 09 23 13.8 -0.5**
JMST S **Sg 09 23 22.8 0.0**
JMM Marumori 0.89 307 P **Pn 09 23 16.1 -0.1**
JMM S **Sg 09 23 26.9 -0.4**
JFFD Fukushimafurud 0.93 256 P **Pn 09 23 17.1 +0.3**
JFFD S **Sg 09 23 28.1 -0.5**
JHO Hitachi 1.15 232 P **Pg 09 23 20.9 +0.5**
JHO *e*S **Sn 09 23 35.1 -0.1**
JIO Ouri 1.16 347 P **Pg 09 23 20.7 +0.1**
JOU Okura 1.31 322 P **Pg 09 23 23.8 +0.1**
JOU S **Sb 09 23 40.4 +1.1**
MJAR Matsushiro Arr 2.90 255 Pn **Pb 09 23 49.2 -0.4**
0.2nm,0.3s,baz=85,slow=16,SNR=5.3
MJAR Lg Lg 09 24 18.8
0.2nm,0.3s,baz=82,slow=35,SNR=5.0
1.8nm,0.4s
SONM Songino Array 27.80 303 P P 09 29 05.1 +18
0.2nm,0.5s,baz=115,slow=9.7,SNR=1.4
0.2nm,0.5s
H11N2 WAKE ISLAND Hy 28.11 122 T T 09 58 23.6
baz=314,slow=75,SNR=9.4
H11N1 WAKE ISLAND Hy 28.12 122 T T 09 58 23.6
baz=314,slow=75,SNR=7.6
H11N3 WAKE ISLAND Hy 28.13 122 T T 09 58 26.5
baz=314,slow=75,SNR=7.4
H11S1 WAKE ISLAND Hy 28.84 124 T T 09 59 16.2
baz=316,slow=75,SNR=7.1
H11S3 WAKE ISLAND Hy 28.84 124 T T 09 59 16.3
baz=316,slow=75,SNR=7.3
H11S2 WAKE ISLAND Hy 28.85 124 T T 09 59 17.4
baz=316,slow=75,SNR=8.4
WRA Warramunga Arr 57.38 188 P P 09 32 58.6 +13
0.4nm,1.0s,baz=360,slow=7.7,SNR=2.0
0.4nm,1.0s
ASAR Alice Springs 61.11 188 P P 09 33 25.1 +13
0.1nm,0.9s,baz=20,slow=4.9,SNR=1.5
0.1nm,0.9s

IDC ***22*** *09:29:14.8±3.0, 37°.59N×141°.91E, h0km, mb3.3/3, mbtmp3.2/4, ML2.1/1, Error ellipse: s-maj=66.2km s-min=35.5km az=64.0*
JMA ***22*** *09:29:21.3±0.2, 37°.2N±0°.4×141°.6E±0°.9, h31km±1km, MV3.2/34, E OFF FUKUSHIMA PREF*
ISC 22 09:29:20.5±2.0**, 37°.30N**±0°.06×**141°.6E**±0°.1**, h25**km±15km**, n16, σ1s.33**/15**, mb3.3**/3**, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JFK Kawauchi 0.54 278 P **Pn 09 29 32.5 -0.2**
JFK *e*S **Sn 09 29 40.3 -0.7**
JMST Minamisoumatoc 0.68 309 P **Pn 09 29 34.9 +0.4**
JMST S **Sn 09 29 44.5 +0.2**
JFFD Fukushimafurud 0.81 256 P **Pn 09 29 36.3 -0.1**
JMM Marumori 0.83 314 P **Pn 09 29 37.3 +0.7**
JMM S **Sn 09 29 48.4 +0.4**
JHO Hitachi 1.04 229 P **Pb 09 29 39.1 -0.7**
JIO Ouri 1.17 352 P **Pb 09 29 42.4 +0.4**
JIO *e*S **Sn 09 29 57.0 +0.6**
MJAR Matsushiro Arr 2.78 255 Pn **Pn 09 30 05.5 +2.0**
0.2nm,0.3s,baz=74,slow=14,SNR=12
MJAR Sn **Sn 09 30 39.0 +2.8**
0.3nm,0.3s,baz=74,slow=15,SNR=4.7
2.5nm,0.5s
SONM Songino Array 27.73 304 P **P 09 35 05.0 -2.0**
0.2nm,0.4s,baz=107,slow=8.6,SNR=1.8
0.2nm,0.4s
H11N2 WAKE ISLAND Hy 28.19 121 T T 10 04 36.1
baz=314,slow=75,SNR=15
H11N1 WAKE ISLAND Hy 28.20 121 T T 10 04 37.1
baz=314,slow=75,SNR=10
H11N3 WAKE ISLAND Hy 28.21 121 T T 10 04 37.9
baz=314,slow=75,SNR=19
H11S1 WAKE ISLAND Hy 28.91 123 T T 10 05 30.6
baz=316,slow=76,SNR=11
H11S3 WAKE ISLAND Hy 28.91 124 T T 10 05 29.0
baz=316,slow=76,SNR=13
H11S2 WAKE ISLAND Hy 28.93 123 T T 10 05 32.0
baz=316,slow=76,SNR=11
MKAR Makanchi Array 44.07 302 P **P 09 37 25.5 -0.8**
0.3nm,0.5s,baz=84,slow=7.9,SNR=2.9
0.3nm,0.5s
WRA Warramunga Arr 57.34 188 P **P 09 39 07.1 +0.6**
0.3nm,1.0s,baz=5.8,slow=7.4,SNR=1.7
0.3nm,1.0s

IDC ***22*** *09:34:47.6±5.8, 36°.92N×141°.63E, h0km, mb3.3/2, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=117.5km s-min=35.1km az=18.0*
JMA ***22*** *09:34:47.3±0.1, 37°.4N±0°.3×141°.6E±0°.5, h25km±1km, MV3.6/28, E OFF FUKUSHIMA PREF*
ISC 22 09:34:46.0±1.8**, 37°.39N**±0°.06×**141°.65E**±0°.09**, h10**km**, n17, σ1s.03**/15**, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JFK Kawauchi 0.61 268 P **Pg 09 34 58.3 +0.3**
JFK S **Sg 09 35 05.9 -0.1**
JMST Minamisoumatoc 0.69 300 P **Pg 09 34 59.6 +0.2**
JMST S **Sg 09 35 08.2 -0.2**
JMM Marumori 0.83 306 S **Sg 09 35 12.2 -0.7**
JFFD Fukushimafurud 0.91 252 *e*P **Pg 09 35 02.9 -0.7**
JFFD S **Sg 09 35 14.6 -1.0**
JHO Hitachi 1.16 228 *e*S **Sg 09 35 21.9 -1.4**
JOU Okura 1.25 322 *e*S **Sb 09 35 25.1 -0.8**
JYS Shirataka 1.50 304 *e*S **Sn 09 35 32.2 -0.5**
JFY Yanaizu 1.55 271 *e*S **Sn 09 35 33.8 0.0**
MJAR Matsushiro Arr 2.88 254 Pn **Pn 09 35 32.7 +0.7**
0.6nm,0.3s,baz=81,slow=15,SNR=4.4
MJAR Sn **Sn 09 36 09.4 +2.7**
0.2nm,0.3s,baz=102,slow=17,SNR=2.3
3.5nm,0.3s
H11N2 WAKE ISLAND Hy 28.17 122 T T 10 10 05.9
baz=314,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 28.18 122 T T 10 10 07.0
baz=314,slow=75,SNR=22
H11N3 WAKE ISLAND Hy 28.19 122 T T 10 10 06.5
baz=314,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 28.90 124 T T 10 11 01.0
baz=316
H11S3 WAKE ISLAND Hy 28.90 124 T T 10 11 00.3
baz=316
H11S2 WAKE ISLAND Hy 28.91 124 T T 10 11 00.4
baz=316
WRA Warramunga Arr 57.43 188 P **P 09 44 34.7 -0.3**
0.2nm,0.5s,baz=1.6,slow=7.4,SNR=5.2
0.2nm,0.5s
ASAR Alice Springs 61.16 188 P **P 09 45 00.8 +0.1**
0.3nm,0.8s,baz=11,slow=10,SNR=2.2
0.3nm,0.8s

ANF ***22*** *09:37:43.8±0.3, 58°.30N×137°.89W, h0km, ML3.5/25, Error ellipse: s-maj=2.8km s-min=1.9km az=50.0*
NEIC ***22*** *09:37:45.0±2.3, 58°.27N±0°.03×137°.84W±0°.09, h9km±7km, ML3.4/70, ML3.1(AEIC), ML3.2(OTT), Error ellipse: s-maj=7.8km s-min=2.4km az=64.0*
PGC ***22*** *09:37:45.0±0.4, 58°.29N×137°.91W, h1km, ML3.2, ML3.2/12, 144km Ese of Yakutat, Ak Southeastern Alaska*
AEIC ***22*** *09:37:46.7±2.3, 58°.19N±0°.06×137°.93W±0°.09, h25km±8km, Error ellipse: s-maj=9.3km s-min=5.6km az=215.0*
ISC 22 09:37:45.9±3.0**, 58°.24N**±0°.04×**137°.97W**±0°.03**, h12**km±23km**, n155, σ1s.66**/205**, Southeastern Alaska**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
S31K Pelican 0.97 106 P **Pb 09 38 01.8 -2.8**
baz=285,SNR=437
S31K S **Sb 09 38 14.4 -2.9**
baz=285
R31K City Hall, Gus 1.19 81 P **Pn 09 38 06.1 -2.2**
baz=260,SNR=92
R31K S **Sb 09 38 21.7 -1.9**
baz=260
P29M Windy Craggy 1.40 5 **Pn 09 38 09.4 -1.8**
P29M Sn **Sn 09 38 27.2 -2.4**
P29M IAML 09 38 28.2
comp=N,553nm,0.3s
P29M Windy Craggy 1.40 5 P **Pn 09 38 09.1 -2.2**
P29M S **Sn 09 38 27.4 -2.2**
P29M Windy Craggy 1.40 5 P **Pn 09 38 09.1 -2.2**
baz=184,SNR=775
P29M S **Sn 09 38 27.2 -2.4**
baz=184
PLBC Pleasant Camp 1.48 34 Pn **Pn 09 38 10.4 -1.8**
PLBC Sg **Sn 09 38 29.5 -2.0**
PLBC Pleasant Camp 1.48 34 P **Pn 09 38 10.4 -1.8**
baz=213,SNR=853
PLBC S **Sn 09 38 29.5 -2.0**
baz=213
YKU2 Yakutat 1.55 326 Pn **Pn 09 38 12.5 -0.7**
PNL Peninsula 1.61 333 **Pn 09 38 12.0 -2.2**
PNL Peninsula 1.61 333 Pn **Pn 09 38 12.4 -1.7**
PNL Peninsula 1.61 333 P **Pn 09 38 12.0 -2.2**
baz=152,SNR=170
PNL S **Sn 09 38 34.4 -0.5**
baz=152
BESE Bessie Mountai 1.67 77 **Pn 09 38 13.3 -1.7**
BESE Bessie Mountai 1.67 77 Pn **Pn 09 38 13.4 -1.7**
BESE Sg **Sn 09 38 36.0 -0.5**
R32K Eaglecrest 1.82 88 P **Pn 09 38 15.7 -1.4**
baz=269,SNR=25
R32K S **Sn 09 38 40.3 +0.2**
baz=269
SKAG Skagway 1.84 47 **Pn 09 38 14.7 -2.5**
SKAG Sn **Sn 09 38 38.1 -2.3**
SIT Sitka 1.85 129 **Pn 09 38 15.0 -2.5**
SIT Sitka 1.85 129 P **Pn 09 38 14.9 -2.5**
baz=310,SNR=117
JIS Juneau Island 1.90 88 **Pn 09 38 16.3 -1.8**
JIS IAML 09 38 44.4
comp=N,346nm,0.4s
JIS IAML 09 38 47.9
comp=E,266nm,0.5s
BCPM Bancas Point 1.92 334 **Pn 09 38 16.4 -2.0**
BCPM IAML 09 38 50.1
comp=E,281nm,0.2s
BCPM IAML 09 38 55.7
comp=N,298nm,0.4s
P30M Million Dollar 1.95 15 Pn **Pn 09 38 18.2 -0.7**
P30M Sg **Sn 09 38 43.9 +0.5**
P30M Million Dollar 1.95 15 Pb **Pn 09 38 18.9 -0.1**
baz=195
P30M S **Sn 09 38 43.7 +0.3**
baz=195
S32K Killisnoo 1.97 112 P **Pn 09 38 16.9 -2.1**
baz=293,SNR=255
S32K S **Sn 09 38 44.5 +0.8**
baz=293
O29M Mount Kennedy 2.09 352 Pn **Pn 09 38 19.7 -1.1**
O29M Sn **Sn 09 38 45.7 -1.1**
O29M Sg **Sb 09 38 48.7 -1.0**
O29M Mount Kennedy 2.09 352 P **Pn 09 38 19.4 -1.4**
baz=171
O29M S **Sn 09 38 48.1 +1.3**
baz=171
PINM Pinnacle 2.20 329 P **Pn 09 38 20.4 -1.9**
baz=147,SNR=149
PINM Sb **Sb 09 38 52.6 -0.2**
baz=147
PCA Pinnacle 2.20 329 **Pn 09 38 20.5 -1.9**
PCA Pinnacle 2.20 329 Pn **Pn 09 38 22.2 -0.1**
YUK7 Dusty Glacier 2.29 358 Pn **Pn 09 38 23.3 -0.4**
YUK7 Sg **Sb 09 38 55.2 -0.5**
SAMH Samovar Hills 2.38 324 **Pn 09 38 24.8 0.0**
SAMH Samovar Hills 2.38 324 Pn **Pn 09 38 25.3 +0.5**
SAMH Sg **Sb 09 38 57.8 -0.3**
P32M Atlin 2.59 57 Pn **Pn 09 38 26.2 -1.5**
P32M Sg **Sb 09 39 04.7 +0.8**
P32M Atlin 2.59 57 P **Pn 09 38 26.0 -1.6**
baz=239,SNR=21
P32M Sb **Sb 09 39 03.3 -0.7**
baz=239
HYT Haines Junctio 2.60 5 **Pn 09 38 27.1 -0.7**
HYT IAML 09 39 06.3
comp=N,130nm,0.8s
HYT IAML 09 39 10.9
comp=E,165nm,1.1s
HYT Haines Junctio 2.60 5 Pn **Pn 09 38 27.3 -0.6**
HYT Sg **Sb 09 39 03.3 -1.1**
HYT Haines Junctio 2.60 5 P **Pn 09 38 26.9 -1.0**
baz=185,SNR=39
HYT Sb **Sb 09 39 03.0 -1.4**
baz=185
O30N Mendenhall 2.71 20 P **Pn 09 38 28.6 -0.7**
baz=201,SNR=146
O30N Sb **Sb 09 39 06.7 -0.7**
baz=201
YUK6 Outpost Mounta 2.71 356 Pn **Pn 09 38 28.9 -0.7**
YUK6 Sg **Sb 09 39 08.3 +0.5**
YUK6 Outpost Mounta 2.71 356 P **Pn 09 38 28.8 -0.7**
baz=175,SNR=87
YUK6 Sb **Sb 09 39 07.4 -0.4**
baz=175
TABL Table Mountain 2.74 325 **Pn 09 38 30.8 +1.0**
TABL IAML 09 39 26.9
comp=N,152nm,0.7s
TABL IAML 09 39 27.0
comp=E,135nm,0.7s
TABL Table Mountain 2.74 325 Pn **Pn 09 38 30.1 +0.2**
O28M Mount Upton 2.78 337 Pn **Pn 09 38 29.6 -0.9**
O28M Mount Upton 2.78 337 P **Pn 09 38 29.5 -0.9**
baz=155
MESA MESA 2.82 315 Pn **Pn 09 38 29.4 -1.6**
MESA IAML 09 39 17.6
comp=E,201nm,0.5s
MESA IAML 09 39 27.9
comp=N,186nm,1.0s
MESA MESA 2.82 315 Pn **Pn 09 38 29.3 -1.6**
YAH Yahtse 2.88 319 **Pn 09 38 30.8 -0.9**
WHY Whitehorse 2.89 32 Pn **Pn 09 38 29.1 -2.7**
WHY IAML 09 39 15.2
comp=E,105nm,0.7s
WHY Whitehorse 2.89 32 Pn **Pn 09 38 31.1 -0.8**
WHY Sg **Sb 09 39 12.6 -0.2**
WHY Whitehorse 2.89 32 P **Pn 09 38 31.0 -0.8**
baz=213,SNR=125
WHY Sb **Sb 09 39 12.7 -0.1**
baz=213
YUK5 Granite Creek 2.90 1 Pn **Pn 09 38 31.8 -0.1**
YUK5 Sg **Sb 09 39 13.5 +0.5**
BAGL Bagley Icefiel 3.08 319 **Pn 09 38 33.2 -1.1**
YUK4 Talbot Arm 3.13 354 Pn **Pn 09 38 36.4 +1.2**
YUK4 Talbot Arm 3.13 354 P **Pn 09 38 36.1 +0.9**
baz=174,SNR=104
SNH Sunshine Point 3.17 310 Pn **Pn 09 38 35.3 -0.3**
SNH IAML 09 39 32.0
comp=N,143nm,1.8s
SNH IAML 09 39 50.4
comp=E,149nm,3.7s
BARK Barkley Ridge 3.17 315 **Pn 09 38 34.0 -1.7**
YUK8 Steele Glacier 3.18 344 Pn **Pn 09 38 35.9 0.0**
YUK8 Steele Glacier 3.18 344 Pb **Pb 09 38 40.2 -2.3**
baz=163,SNR=9.2
ISLE Juniper Island 3.25 319 **Pn 09 38 35.7 -1.2**
ISLE IAML 09 39 40.7
comp=N,89nm,1.1s
N30M Aishikik Lake 3.26 7 Pn **Pn 09 38 36.4 -0.4**
N30M Sg **Sb 09 39 24.2 +0.9**
N30M Aishikik Lake 3.26 7 P **Pn 09 38 36.3 -0.6**
baz=188
N30M Sb **Sb 09 39 23.9 +0.7**
baz=188
P33M Teslin, Yukon 3.30 51 Pn **Pn 09 38 36.2 -1.2**
P33M Teslin, Yukon 3.30 51 Pn **Pn 09 38 36.2 -1.2**
P33M Pg **Pb 09 38 43.5 -0.9**
P33M Sg **Sb 09 39 26.4 +1.8**
P33M Teslin, Yukon 3.30 51 P **Pn 09 38 36.4 -1.1**
baz=234,SNR=10
WAX Waxell Ridge 3.34 314 **Pn 09 38 36.4 -1.6**
WAX IAML 09 39 30.6
comp=E,111nm,1.4s
BARN Barnard Glacie 3.39 328 **Pn 09 38 37.6 -1.1**
U33K Whale Pass 3.40 127 P **Pn 09 38 37.1 -1.5**
baz=310,SNR=18
N31M Braeburn, Yuko 3.44 18 Pn **Pn 09 38 39.1 -0.1**
N31M IAML 09 39 38.3
comp=N,82nm,1.1s
N31M IAML 09 39 48.9
comp=E,108nm,0.9s
N31M Braeburn, Yuko 3.44 18 Pn **Pn 09 38 38.9 -0.3**
N31M Pg **Pb 09 38 45.9 -0.7**
N31M Sg **Sb 09 39 29.8 +1.4**
N31M Braeburn, Yuko 3.44 18 P **Pn 09 38 38.7 -0.5**
baz=199,SNR=22
N31M Sb **Sb 09 39 29.4 +1.1**
baz=199
KHIT Khitrov Hills 3.49 311 **Pn 09 38 38.2 -1.8**
KIAG Kiagna River 3.49 322 Pn **Pn 09 38 39.0 -1.1**
SUCK Suckling Hills 3.51 304 Pn **Pn 09 38 42.8 +2.6**
WRAK Wrangell Islan 3.56 119 Pn **Pn 09 38 39.3 -1.5**
WRAK IAML 09 39 42.9
comp=E,65nm,2.2s
WRAK IAML 09 39 56.7
comp=E,87nm,3.8s
WRAK Wrangell Islan 3.56 119 Pg **Pb 09 38 51.0 +2.3**
baz=303
BALM Baldy 3.57 323 **Pn 09 38 40.2 -1.0**
BALM Baldy 3.57 323 Pn **Pn 09 38 40.7 -0.5**
BERG Berg Lake 3.64 309 Pn **Pn 09 38 42.0 0.0**
S34M Telegraph Cree 3.65 92 Pn **Pn 09 38 40.8 -1.3**
S34M Sg **Sb 09 39 36.5 +2.1**
S34M Telegraph Cree 3.65 92 P **Pn 09 38 41.0 -1.1**
baz=277,SNR=16
KAIM Kayak Island 3.73 300 Pn **Pn 09 38 41.5 -1.7**
YUK3 Moose Creek 3.76 342 Pn **Pn 09 38 43.9 +0.1**
YUK3 Moose Creek 3.76 342 P **Pn 09 38 43.7 -0.1**
baz=160,SNR=10
R33M Jennings River 3.82 69 Pn **Pn 09 38 43.9 -0.7**
R33M Sn **Sn 09 39 28.3 -1.2**
N32M Quiet Lake 3.83 38 Pn **Pn 09 38 43.9 -0.7**
N32M Pg **Pb 09 38 53.4 +0.1**
N32M Sg **Sb 09 39 41.7 +2.1**
N32M Quiet Lake 3.83 38 P **Pn 09 38 43.7 -1.0**
baz=222
YUK2 White River 3.83 339 Pn **Pn 09 38 44.7 -0.1**
HMT Hamilton 3.85 306 Pn **Pn 09 38 43.4 -1.5**
CRAG Craig 3.85 134 Pn **Pn 09 38 43.8 -1.0**
CRAG IAML 09 39 32.2
comp=E,68nm,4.5s
CRAG IAML 09 39 36.5
comp=N,68nm,4.1s
MCARA McCarthy VSAT 4.05 323 **Pn 09 38 46.8 -0.9**
MCARA IAML 09 40 23.8
comp=N,52nm,1.0s
MCARA IAML 09 40 53.6
comp=E,48nm,4.8s
MCARA McCarthy VSAT 4.05 323 P **Pn 09 38 47.6 -0.1**
baz=139,SNR=22
RAGM Ragged Mountai 4.05 305 Pn **Pn 09 38 49.5 +1.8**
VRDI Verde Repeater 4.08 319 Pn **Pn 09 38 45.2 -3.1**
DLBC Dease Lake 4.19 84 Pn **Pn 09 38 47.9 -1.8**
DLBC IAML 09 39 56.4
comp=N,46nm,1.4s
DLBC IAML 09 39 57.7
comp=E,41nm,0.7s
DLBC Dease Lake 4.19 84 Pn **Pn 09 38 49.1 -0.5**

DLBC				Sg	**Sb**	09 39 53.9	**+3.8**
DLBC	**Dease Lake**	**4.19**	**84**	P	**Pn**	09 38 49.0	**-0.7**
	baz=270,SNR=21						
M29M	**Somme Creek**	**4.22**	**357**	Pn	**Pn**	09 38 49.8	**-0.3**
M29M				Sg	**Sb**	09 39 54.1	**+3.2**
M29M	**Somme Creek**	**4.22**	**357**	P	**Pn**	09 38 49.9	**-0.2**
	baz=176						
T35M	**Bob Quinn**	**4.34**	**104**	Pn	**Pn**	09 38 50.8	**-0.8**
T35M				Sg	**Sb**	09 39 58.9	**+4.5**
M31M	**Drury Creek, Y**	**4.35**	**23**		**Pn**	09 38 52.3	**+0.4**
M31M	**Drury Creek, Y**	**4.35**	**23**	Pn	**Pn**	09 38 52.0	**+0.2**
GLB	**Gilahina Butte**	**4.35**	**320**	Pn	**Pn**	09 38 51.7	**-0.1**
GLB				IAML		09 40 20.8	
	comp=E,34nm,4.8s						
GLB				IAML		09 40 21.9	
	comp=N,50nm,4.3s						
M30M	**Minto, Yukon**	**4.39**	**7**	Pn	**Pn**	09 38 51.6	**-0.7**
M30M				IAML		09 40 04.9	
	comp=N,32nm,0.9s						
M30M				IAML		09 40 07.8	
	comp=E,35nm,1.9s						
M30M	**Minto, Yukon**	**4.39**	**7**	Pn	**Pn**	09 38 52.0	**-0.3**
M30M				Sg	**Sb**	09 39 59.4	**+3.7**
M30M	**Minto, Yukon**	**4.39**	**7**	P	**Pn**	09 38 51.7	**-0.6**
	baz=188						
BVCY	**Beaver Creek**	**4.42**	**342**	Pn	**Pn**	09 38 52.7	**-0.1**
M27K	**Edge Creek, AK**	**4.56**	**336**	Pn	**Pn**	09 38 55.2	**+0.4**
M27K				IAML		09 40 15.3	
	comp=E,32nm,3.7s						
M27K				IAML		09 40 25.0	
	comp=N,35nm,3.9s						
FARO	**Faro, Yukon**	**4.61**	**28**	Pn	**Pn**	09 38 55.4	**0.0**
FARO	**Faro, Yukon**	**4.61**	**28**	Pn	**Pn**	09 38 55.1	**-0.4**
FARO				Sg	**Sb**	09 40 06.2	**+4.0**
N25K	**Chitina, Valde**	**4.74**	**318**	Pn	**Pn**	09 38 57.5	**+0.3**
N25K				IAML		09 40 03.6	
	comp=E,37nm,4.7s						
N25K				IAML		09 40 41.8	
	comp=N,29nm,4.3s						
N25K	**Chitina, Valde**	**4.74**	**318**	P	**Pn**	09 38 57.3	**+0.1**
	baz=133,SNR=10						
M26K	**Nabesna, AK**	**4.86**	**331**	Pn	**Pn**	09 38 59.0	**+0.1**
M26K				IAML		09 41 35.4	
	comp=N,22nm,4.6s						
HIN	**Hinchinbrook I**	**4.87**	**300**	Pn	**Pn**	09 39 01.1	**+2.1**
L29M	**L29M**	**4.88**	**359**	Pn	**Pn**	09 38 58.9	**-0.2**
L29M				Sg	**Sb**	09 40 14.2	**+4.2**
L29M	**L29M**	**4.88**	**359**	P	**Pn**	09 38 58.4	**-0.7**
	baz=179						
KLU	**Klutina**	**5.16**	**312**	Pn	**Pn**	09 39 02.4	**-0.6**
KLU				IAML		09 40 10.7	
	comp=E,24nm,2.2s						
KLU	**Klutina**	**5.16**	**312**	P	**Pn**	09 39 02.8	**-0.2**
	baz=126						
MAYO	**Mayo, Yukon**	**5.46**	**10**	Pn	**Pn**	09 39 04.5	**-2.6**
MMPY	**Sheldon Lake,**	**5.50**	**34**	Pn	**Pn**	09 39 07.1	**-0.5**
MMPY				Sg	**Sb**	09 40 34.8	**+7.0**
MMPY	**Sheldon Lake,**	**5.50**	**34**	P	**Pn**	09 39 07.4	**-0.3**
	baz=220,SNR=18						
K29M	**Barlow Dome**	**5.62**	**2**	Pn	**Pn**	09 39 09.2	**-0.2**
K29M				Sg	**Sb**	09 40 37.7	**+6.4**
K29M	**Barlow Dome**	**5.62**	**2**	P	**Pn**	09 39 09.3	**-0.1**
	baz=182						
M24K	**Tolsona, Glenn**	**5.63**	**317**	Pn	**Pn**	09 39 10.9	**+1.5**
DAWY	**Dawson**	**5.88**	**354**		**Pn**	09 39 12.9	**+0.1**
DAWY	**Dawson**	**5.88**	**354**	Pn	**Pn**	09 39 12.5	**-0.4**
DAWY				Sg	**Sb**	09 40 47.0	**+8.4**
DAWY	**Dawson**	**5.88**	**354**	P	**Pn**	09 39 12.9	**+0.1**
	baz=172,SNR=23						
PWL	**Port Wells**	**5.89**	**301**	Pn	**Pn**	09 39 11.9	**-0.9**
TGTN	**Hyland Airport**	**5.89**	**52**	Pn	**Pn**	09 39 12.3	**-0.6**
TGTN	**Hyland Airport**	**5.89**	**52**	P	**Pn**	09 39 12.6	**-0.3**
	baz=240						
SCM	**Sheep Creek Mo**	**5.91**	**311**	Pn	**Pn**	09 39 11.4	**-1.9**
DIB	**Dawson Inlet,**	**5.93**	**146**	Pn	**Pn**	09 39 12.6	**-0.8**
KNK	**Knik Glacier**	**6.17**	**305**	Pn	**Pn**	09 39 16.0	**-0.7**
SML	**Sawmill**	**6.30**	**309**	Pn	**Pn**	09 39 18.2	**-0.4**
SCRK	**Sand Creek**	**6.45**	**336**	Pn	**Pn**	09 39 19.4	**-1.2**
PMR	**Palmer**	**6.54**	**306**	Pn	**Pn**	09 39 23.1	**+1.4**
RC01	**Rabbit Creek A**	**6.61**	**301**	Pn	**Pn**	09 39 23.8	**+1.0**
DHY	**Denali Highway**	**6.69**	**320**	Pn	**Pn**	09 39 24.1	**+0.1**
J26L	**Joseph Creek**	**6.83**	**339**	Pn	**Pn**	09 39 26.0	**+0.1**
CNPM	**China Poot**	**7.00**	**286**	Pn	**Pn**	09 39 27.9	**-0.1**
SUA	**Susitna One**	**7.20**	**302**	Pn	**Pn**	09 39 31.2	**+0.2**
J25K	**Salcha River,**	**7.30**	**334**	Pn	**Pn**	09 39 32.0	**-0.4**
I26K	**Coal Creek Min**	**7.50**	**343**	Pn	**Pn**	09 39 36.0	**+1.1**
MCK	**McKinley**	**7.66**	**321**	Pn	**Pn**	09 39 36.8	**-0.3**
SPU	**Mount Spurr**	**7.70**	**298**	Pn	**Pn**	09 39 38.2	**+0.4**
SKT	**Skwentna**	**7.74**	**305**	Pn	**Pn**	09 39 37.8	**-0.4**
ILAR	**Eielson Array**	**7.81**	**331**	Pn	**Pn**	09 39 38.7	**-0.5**
RSO	**Redoubt South**	**7.87**	**293**	Pn	**Pn**	09 39 41.7	**+1.4**
TRF	**Thorofare Moun**	**7.96**	**316**	Pn	**Pn**	09 39 42.0	**+0.6**
CCB	**Clear Creek Bu**	**7.96**	**328**	Pn	**Pn**	09 39 40.6	**-0.6**
KTH	**Kantishna Hill**	**8.25**	**316**	Pn	**Pn**	09 39 46.4	**+1.1**
N19K	**Bonanza Creek**	**8.77**	**294**	Pn	**Pn**	09 39 54.3	**+1.7**
M19K	**Big River Lodg**	**8.98**	**301**	Pn	**Pn**	09 39 55.3	**0.0**
L19K	**White Mountain**	**9.27**	**302**	Pn	**Pn**	09 39 58.5	**-0.8**
K20K	**Telida**	**9.38**	**310**	Pn	**Pn**	09 40 01.5	**+0.8**
J20K	**Nowinta River**	**9.79**	**314**	Pn	**Pn**	09 40 06.3	**0.0**
TTA	**Tatalina**	**10.02**	**306**	Pn	**Pn**	09 40 08.9	**-0.7**
H21K	**Melozitna Rive**	**10.18**	**323**	Pn	**Pn**	09 40 11.9	**+0.3**

*IDC **22** 09:41:15.1±2.3,5°.03×102°.75E, h0km, mb3.9/8, mbtmp3.9/8, MS3.1/3, Error ellipse: s-maj=93.5km s-min=18.6km az=56.0*
*DJA **22** 09:41:18.8±0.4,5°.5±4°×10°.3E±°, h20km±6km, M4.1/7, MLv4.1/7*
*NEIC **22** 09:41:18.5±1.1,5°.43S±0°.07×102°.67E±0°.03, h35km±2km, mb4.2/12, Error ellipse: s-maj=12.3km s-min=4.9km az=178.0*

ISC 22 09:41:15.5±1.3, 5°.31S±0°.05×102°.65E±0°.04, h13km±9km, n41, σ1°65/37, mb4.1/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**0.38**	**263**	P	**Pb**	**09 41 25.8**	**+1.8**
EGSI				S	**Sb**	**09 41 31.5**	**+1.7**
MNAI	**Manna**	**0.98**	**18**		**Pn**	**09 41 37.9**	**+2.9**
MNAI				Sn	**Sn**	**09 41 51.0**	**+2.2**
MNAI	**Manna**	**0.98**	**18**	P	**Pn**	**09 41 37.5**	**+2.5**
MNAI				S	**Sn**	**09 41 50.4**	**+1.6**
LWLI	**Liwa**	**1.43**	**79**	P	**Pg**	**09 41 45.8**	**+2.8**
UBSI	**University, Be**	**1.58**	**346**	P	**Pg**	**09 41 44.9**	**-1.0**
UBSI				S	**Sg**	**09 42 05.2**	**-1.2**
KASI	**Kota Agung**	**1.85**	**97**	P	**Pg**	**09 41 51.1**	**+0.1**
KASI				S	**Sg**	**09 42 14.5**	**-0.5**
MASI	**Maura Aman, Be**	**2.19**	**349**	P	**Pb**	**09 41 53.5**	**-1.5**
PPSI	**Pulau Pagai**	**3.65**	**314**	P	**Pn**	**09 42 12.1**	**+0.4**
LEM	**Lembang**	**5.16**	**107**	LR	LR	09 44 31.5	
	comp=Z,116nm,20.3s,baz=236,slow=38						
UGM	**Wanagama**	**8.24**	**109**	Pn	**Pn**	**09 43 14.3**	**-0.5**
TOLI2	**Tolitoli**	**19.20**	**71**	P	**P**	**09 45 38.0**	**-1.2**
LUWI	**Luwuk**	**20.52**	**79**	P	**P**	**09 45 51.5**	**-2.3**
CMAR	**Chiang Mai Arr**	**23.89**	**351**	LR	LR	09 57 49.3	
	comp=Z,34nm,18.4s,baz=210,slow=42						
KNRA	**Kununurra**	**27.63**	**114**	P	**P**	**09 47 01.9**	**-1.2**
KNRA				IAmb	IAmb	09 47 11.0	
	comp=Z,10nm,1.2s						
MTN	**Manton Dam**	**29.08**	**107**	P	**P**	**09 47 15.5**	**-0.5**
H08S2	**Diego Garcia H**	**30.05**	**264**	T	T	10 18 21.9	
	baz=87,slow=76,SNR=43						
H08S3	**Diego Garcia H**	**30.06**	**264**	T	T	10 18 22.6	
	baz=87,slow=76,SNR=48						
H08S1	**Diego Carcia H**	**30.07**	**264**	T	T	10 18 23.3	
	baz=87,slow=76,SNR=35						
H01W3	**Cape Leeuwin H**	**31.29**	**162**	T	T	10 20 19.5	
	baz=338,slow=76,SNR=4.6						
H01W2	**Cape Leeuwin H**	**31.30**	**162**	T	T	10 20 21.7	
	baz=338,slow=76,SNR=6.8						
H01W1	**Cape Leeuwin H**	**31.31**	**162**	T	T	10 20 22.8	
	baz=338,slow=76,SNR=4.1						
WB0	**Warramunga Arr**	**34.06**	**118**	P	**P**	**09 47 58.3**	**-1.6**
WB0				IAmb	IAmb	09 48 16.9	
	comp=Z,4.9nm,1.3s						
WRA	**Warramunga Arr**	**34.08**	**118**	P	**P**	**09 48 01.7**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=300,slow=9.2,SNR=7.8						
	comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**34.08**	**118**	P	**P**	**09 47 59.4**	**-0.6**
WRAB	**Tennant Creek**	**34.08**	**118**	P	**P**	**09 47 58.4**	**-1.6**
WRAB				IAmb	IAmb	09 48 15.2	
	comp=Z,2.7nm,0.8s						
WB2	**Warramunga Arr**	**34.09**	**118**	P	**P**	**09 47 58.5**	**-1.5**
WB2				IAmb	IAmb	09 48 19.1	
	comp=Z,2.6nm,0.9s						
WR0	**Warramunga Arr**	**34.26**	**118**	P	**P**	**09 47 59.9**	**-1.7**
WR0				IAmb	IAmb	09 48 12.7	
	comp=Z,3.3nm,1.1s						
ASAR	**Alice Springs**	**35.20**	**124**	P	**P**	**09 48 12.2**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=298,slow=8.0,SNR=7.4						
	comp=Z,0.3nm,0.5s						
STKA	**Stephens Creek**	**44.99**	**131**	P	**P**	**09 49 33.3**	**+2.5**
	comp=Z,1.8nm,0.7s,baz=308,slow=5.3,SNR=3.9						
	comp=Z,1.8nm,0.7s						
STKA	**Stephens Creek**	**44.99**	**131**	P	**P**	**09 49 27.8**	**-3.0**
TARG	**Taragay, Kyrgy**	**52.02**	**336**	P	**P**	**09 50 23.5**	**-1.7**
SONM	**Songino Array**	**53.02**	**3**	P	**P**	**09 50 32.2**	**0.0**
	comp=Z,1.2nm,0.7s,baz=183,slow=11,SNR=7.0						
	comp=Z,1.2nm,0.7s						
MK31	**Makanchi Array**	**54.92**	**343**	P	**P**	**09 50 46.5**	**+0.5**
MK31				IAmb	IAmb	09 51 15.8	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**54.92**	**343**	P	**P**	**09 50 46.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=152,slow=8.7,SNR=7.6						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**54.92**	**343**	P	**P**	**09 50 45.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**55.91**	**25**	P	**P**	**09 50 52.7**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=206,slow=4.4,SNR=2.8						
	comp=Z,1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**59.46**	**342**	P	**P**	**09 51 18.6**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=164,slow=7.4,SNR=2.5						
	comp=Z,0.3nm,0.2s						
ZALV	**Zalesovo Beam**	**60.91**	**348**	P	**P**	**09 51 27.2**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=164,slow=6.2,SNR=6.0						
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**60.91**	**348**	P	**P**	**09 51 27.7**	**-0.1**
ABKAR	**Akbulak array**	**65.79**	**331**	P	**P**	**09 52 01.4**	**+1.1**
VAE	**Valguarnera**	**91.80**	**307**	LR	LR	10 38 21.0	
	comp=Z,24nm,18.1s,baz=332,slow=37						

WEL 22 09:43:03.0±0.3, 42°.S±2°.×17°.4E±°, h5km, M3.3/38, ML3.6/17, MLv3.3/38, Error ellipse: s-maj=0.0km s-min=0.0km az=123.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**197**	P	**Pg**	09 43 09.1	+0.4
KHZ				S	**Sg**	09 43 13.5	+0.9
BSWZ	**Blackbirch Sta**	**0.45**	**22**	P	**Pg**	09 43 12.2	+0.5
BSWZ				S	**Sb**	09 43 19.3	-1.1
CMWZ	**Cape Campbell**	**0.57**	**48**	P	**Pb**	09 43 14.9	-0.5
THZ	**Tophouse**	**0.67**	**303**	P	**Pg**	09 43 16.2	+0.3
TUWZ	**Tuamarina**	**0.74**	**17**	P	**Pg**	09 43 17.5	+0.4
NNZ	**Nelson**	**0.94**	**347**	P	**Pg**	09 43 20.8	-0.1
GVZ	**Greta Valley S**	**0.95**	**209**	P	**Pb**	09 43 21.8	-0.2
MRNZ	**Matariki Terra**	**0.99**	**317**	P	**Pg**	09 43 22.2	+0.1
TCW	**Tory Channel**	**1.03**	**27**	P	**Pg**	09 43 22.4	-0.4
WEL	**Wellington**	**1.19**	**45**	P	**Pg**	09 43 25.2	-0.5
LTZ	**Lake Taylor**	**1.21**	**237**	P	**Pg**	09 43 25.4	-0.8
TKNZ	**Takaka Hill**	**1.22**	**334**	P	**Pg**	09 43 25.9	-0.4
AMCZ	**Amberley**	**1.28**	**215**	P	**Pg**	09 43 26.1	-1.3
PLWZ	**Palliser**	**1.32**	**65**	P	**Pn**	09 43 26.3	-1.8
DUWZ	**Dunedin Isla**	**1.35**	**9**	P	**Pg**	09 43 28.1	-0.4
DSZ	**Denniston Nort**	**1.43**	**285**	P	**Pg**	09 43 30.4	0.0
CAW	**Cannon Point**	**1.48**	**46**	P	**Pn**	09 43 28.9	-1.3
PAWZ	**Paruwai Farm**	**1.52**	**61**	P	**Pn**	09 43 28.9	-2.0
QRZ	**Quartz Range**	**1.56**	**327**	P	**Pn**	09 43 31.6	+0.3
KIW	**Kapiti Island**	**1.58**	**37**	P	**Pn**	09 43 31.0	-0.7
OKCZ	**Okains Bay**	**1.65**	**195**	P	**Pn**	09 43 30.5	-2.1
OXZ	**Oxford**	**1.68**	**224**	P	**Pn**	09 43 31.1	-2.0
TRWZ	**Traveller**	**1.69**	**65**	P	**Pn**	09 43 31.0	-2.1
MTW	**Mount Morrison**	**1.69**	**55**	P	**Pn**	09 43 31.1	-2.1
MQZ	**McQueen's Vall**	**1.73**	**205**	P	**Pn**	09 43 31.0	-2.7
INZ	**Inchbonnie**	**1.74**	**249**	P	**Pn**	09 43 33.4	-0.5
OGWZ	**Otaki Gorge**	**1.74**	**41**	P	**Pn**	09 43 32.7	-1.1
AKCZ	**Akaroa Harbour**	**1.82**	**197**	P	**Pn**	09 43 32.9	-2.1
HOWZ	**Holdsworth Sta**	**1.87**	**49**	P	**Pn**	09 43 33.6	-2.0
RACZ	**Rakaia**	**1.94**	**214**	P	**Pn**	09 43 34.3	-2.3
TMWZ	**Te Maipa**	**1.97**	**59**	P	**Pn**	09 43 34.4	-2.6
MRZ	**Mangatainoka R**	**2.06**	**45**	P	**Pn**	09 43 36.5	-1.8
MHCZ	**Mount Hutt**	**2.08**	**227**	P	**Pn**	09 43 36.3	-2.2
WACZ	**Wakanui South**	**2.24**	**216**	P	**Pn**	09 43 38.5	-2.2
WVZ	**Waitaha Valley**	**2.35**	**245**	P	**Pn**	09 43 41.6	-0.6
PRWZ	**Pori Road**	**2.35**	**49**	P	**Pn**	09 43 39.9	-2.3
RPZ	**Rata Peaks**	**2.48**	**230**	P	**Pn**	09 43 42.2	-1.8
ARCZ	**Arundel**	**2.56**	**224**	P	**Pn**	09 43 43.4	-1.9
WAZ	**Wanganui**	**2.58**	**23**	P	**Pn**	09 43 46.9	+1.4
DVHZ	**Dannevirke**	**2.64**	**47**	P	**Pn**	09 43 43.4	-2.8
TSZ	**Takapari Road**	**2.71**	**41**	P	**Pn**	09 43 45.2	-2.0
GCSZ	**Gaunt Creek Bo**	**2.72**	**243**	P	**Pn**	09 43 47.2	-0.1
LREZ	**Lake Rotokare**	**2.73**	**12**	P	**Pb**	09 43 50.9	-1.3
KHEZ	**Kahui Hut**	**2.85**	**6**	P	**Pn**	09 43 51.3	+2.2
NBEZ	**Newall Road No**	**2.87**	**3**	P	**Pb**	09 43 52.2	-2.4
NEZ	**North Egmont**	**2.88**	**7**	P	**Pb**	09 43 53.5	-1.4
PNHZ	**Pukenui**	**2.94**	**42**	P	**Pn**	09 43 48.1	-2.3
PKE	**Pukeiti**	**2.95**	**5**	P	**Pb**	09 43 53.5	-2.5
TMZ	**Timaru**	**2.96**	**220**	P	**Pn**	09 43 48.9	-1.8
DREZ	**Durham Road**	**2.97**	**2**	P	**Pb**	09 43 53.7	-2.6
MTVZ	**Mangateitei**	**3.07**	**27**	P	**Pn**	09 43 52.7	+0.5
PKVZ	**Pokaka**	**3.12**	**25**	P	**Pn**	09 43 53.3	+0.5
VRZ	**Vera Road**	**3.12**	**16**	P	**Pn**	09 43 54.6	+1.8
FOZ	**Fox Glacier**	**3.15**	**242**	P	**Pn**	09 43 52.6	-0.6
MOVZ	**Moawhango**	**3.16**	**31**	P	**Pn**	09 43 52.4	-1.0
WNVZ	**Wahianoa**	**3.17**	**28**	P	**Pn**	09 43 54.3	+0.7
TRVZ	**Turoa**	**3.18**	**28**	P	**Pn**	09 43 54.5	+0.7
WHVZ	**Whangaehu Hut**	**3.21**	**28**	P	**Pn**	09 43 54.5	+0.3
BHHZ	**Black Hill Sta**	**3.21**	**35**	P	**Pn**	09 43 52.7	-1.4
FWVZ	**Far West T-bar**	**3.22**	**27**	P	**Pb**	09 43 59.0	-1.7
NGZ	**Ngauruhoe**	**3.31**	**27**	P	**Pn**	09 43 55.9	+0.4
SNVZ	**South Ngauruho**	**3.31**	**28**	P	**Pn**	09 43 56.0	+0.4
TWVZ	**Taurewa**	**3.35**	**25**	P	**Pn**	09 43 56.0	-0.1
NNVZ	**North Ngauruho**	**3.35**	**27**	P	**Pn**	09 43 56.1	0.0
ETVZ	**East Tongariro**	**3.38**	**28**	P	**Pn**	09 43 56.5	0.0
LBZ	**Lake Benmore**	**3.39**	**227**	P	**Pn**	09 43 54.9	-1.6
TMVZ	**Te Maari**	**3.40**	**28**	P	**Pn**	09 43 56.7	0.0
NTVZ	**North Tongarir**	**3.40**	**28**	P	**Pn**	09 43 57.1	+0.3
ODZ	**Otahua Downs**	**3.64**	**216**	P	**Pn**	09 43 57.2	-2.7
BKZ	**Black Stump Fm**	**3.67**	**37**	P	**Pn**	09 43 57.8	-2.6
HIZ	**Hauiti**	**3.73**	**15**	P	**Pn**	09 44 03.2	+2.0
MRHZ	**Matea Rd**	**3.91**	**34**	P	**Pn**	09 44 01.2	-2.5
JCZ	**Jackson Bay**	**4.06**	**240**	P	**Pn**	09 44 05.0	-0.8
TLZ	**Tolley Road**	**4.06**	**21**	P	**Pn**	09 44 08.2	+2.4
EAZ	**Earnscleugh**	**4.42**	**224**	P	**Pn**	09 44 08.7	-2.0
HAZ	**Te Kaha**	**5.40**	**37**	P	**Pn**	09 44 21.3	-2.8
PKGZ	**Pakihiroa**	**5.43**	**40**	P	**Pn**	09 44 26.4	+1.8

*IDC **22** 09:44:46.6±1.9, 37°.30N×141°.73E, h0km, mb3.7/4, mbtmp3.7/6, MLb3.0/2, MS2.4/1, Error ellipse: s-maj=39.1km s-min=24.7km az=82.0*
*JMA **22** 09:44:50.6±0.2, 37°.3N±0°.3×141°.5E±0°.9, h26km±1km, MV3.5/38, E OFF FUKUSHIMA PREF*

ISC 22 09:44:48.3±1.8, 37°.29N±0°.04×141°.60E±0°.08, h10km±10km, n21, σ0°64/25, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.58**	**278**	P	**Pg**	**09 45 00.2**	**+0.5**
JFK				S	**Sg**	**09 45 07.1**	**-0.2**
JMST	**Minamisoumatoc**	**0.71**	**308**	P	**Pb**	**09 45 02.6**	**-0.2**
JMST				S	**Sg**	**09 45 11.7**	**+0.2**
JFFD	**Fukushimafurud**	**0.85**	**257**	P	**Pg**	**09 45 05.0**	**+0.2**
JFFD				S	**Sg**	**09 45 15.2**	**-0.7**
JMM	**Marumori**	**0.86**	**312**	*i* P	**Pg**	**09 45 05.2**	**+0.2**
JMM				S	**Sg**	**09 45 15.8**	**-0.3**
JHO	**Hitachi**	**1.07**	**231**	P	**Pb**	**09 45 08.4**	**-0.6**
JHO				S	**Sb**	**09 45 21.5**	**-1.5**
JIO	**Ouri**	**1.18**	**350**	P	**Pg**	**09 45 10.9**	**-0.1**
JIO				*eS*	**Sb**	**09 45 25.8**	**-0.4**
JOU	**Okura**	**1.30**	**326**	*i* P	**Pg**	**09 45 13.3**	**-0.1**
JOU				S	**Sn**	**09 45 30.0**	**-0.2**
JSB	**Shiboa**	**1.38**	**257**	P	**Pb**	**09 45 14.2**	**0.0**
JSB				S	**Sn**	**09 45 31.5**	**-0.6**
MJAR	**Matsushiro Arr**	**2.82**	**256**	Pn	**Pn**	**09 45 34.5**	**+1.0**
	1.0nm,0.3s,baz=78,slow=16,SNR=20						
MJAR				Sn	**Sn**	**09 46 08.6**	**+1.1**
	0.8nm,0.3s,baz=78,slow=24,SNR=5.5						
MJAR				LR	LR	09 46 55.6	
	comp=Z,62nm,18.6s,baz=46,slow=44						
	6.3nm,0.4s						
JHJ	**Hachijo jima 2**	**4.42**	**200**	Pn	**Pn**	**09 45 56.5**	**+1.0**
	5.5nm,0.3s,baz=14,slow=22,SNR=2.0						
JHJ				Sn	**Sn**	**09 46 46.9**	**-0.1**
	7.5nm,0.3s,baz=336,slow=2.1,SNR=2.3						
	72nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	10 20 14.2	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	10 20 13.0	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	10 20 15.3	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	10 21 08.1	
	baz=316,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	10 21 08.2	
	baz=316,slow=75,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	10 21 09.1	
	baz=316,slow=75,SNR=8.5						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**09 52 38.2**	**-0.1**
	0.6nm,0.4s,baz=89,slow=6.5,SNR=2.5						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**09 52 57.6**	**+0.8**
	0.6nm,0.7s,baz=83,slow=9.7,SNR=3.6						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**09 53 11.8**	**+0.4**
	1.2nm,0.3s,baz=84,slow=8.2,SNR=5.6						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**57.34**	**188**	P	**P**	**09 54 36.6**	**-0.1**
	0.3nm,1.1s,baz=5.2,slow=7.2,SNR=1.9						
	0.3nm,1.1s						
AKASG	**Malin Array Be**	**74.19**	**322**	P	**P**	**09 56 24.4**	**-0.7**
	0.7nm,0.5s,baz=46,slow=6.6,SNR=2.5						

*IDC **22** 09:46:00.7±2.4, 43°.06S×173°.04E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=66.3km s-min=28.4km az=148.0*
*WEL **22** 09:46:00, 42°.94S×172°.92E, h5km, ML4.0, Mw3.8, Moment Tensor Solution. s4 Moment tensor: Scale 10^14 Nm; Mrr6.46; Mθθ-4.73; Mφφ-1.73; Mrθ-1.61; Mθφ-2.94; Mφr-0.56; Fault plane solution: M06.71000×10^14 NP1: φs55.00000°, δ38.00000°, λ85.00000°. NP2:φs242.00000°, δ52.00000°, λ94.00000°. Principal axes: T -67.3900, Plg82.0000°, Azm175.0000°; N 0.5400, Plg3.0000°, Azm59.0000°; P 66.8500, Plg7.0000°, Azm329.0000°;*
*WEL **22** 09:46:04.3±0.3, 43°S±2°×17°.3E±°, h6km±2km, M4.2/57, ML4.3/19, MLv4.2/57 Error ellipse: s-maj=0.0km s-min=0.0km az=127.1*

ISC 22 09:46:03.6±0.9, 43°.00S±0°.03×172°.99E±0°.04, h17km±5km, n92, σ1°42/94, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.05**	**47**	P	**Pg**	**09 46 06.7**	**0.0**
GVZ				S	**Sg**	**09 46 08.8**	**-0.1**
AMCZ	**Amberley**	**0.30**	**234**	P	**Pb**	**09 46 11.5**	**+0.9**
LTZ	**Lake Taylor**	**0.57**	**292**	P	**Pb**	**09 46 14.3**	**-0.8**
LTZ				S	**Sb**	**09 46 21.8**	**-1.2**
KHZ	**Kahutara**	**0.71**	**35**	P	**Pn**	**09 46 18.6**	**-0.2**
OKCZ	**Okains Bay**	**0.72**	**176**	P	**Pn**	**09 46 20.5**	**+1.5**
MQZ	**McQueen's Vall**	**0.74**	**199**	P	**Pn**	**09 46 19.6**	**+0.4**

ISC 22 09:46:51.0±0.9, 37.18N±0.04×141.40E±0.07, h10km, n22, σ0§72/19, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**295**	S	**Sg**	**09 47 06.0**	**-0.1**
JFFD	**Fukushimafurud**	**0.67**	**263**	P	**Pg**	**09 47 04.0**	**-0.1**
JFFD				S	**Sg**	**09 47 12.7**	**-0.2**
JMST	**Minamisoumatoc**	**0.68**	**324**	S	**Sg**	**09 47 13.3**	**+0.1**
JMM	**Marumori**	**0.84**	**325**	*e*P	**Pg**	**09 47 07.4**	**+0.2**
JMM				S	**Sg**	**09 47 18.2**	**0.0**
JHO	**Hitachi**	**0.87**	**230**	*e*S	**Sg**	**09 47 18.6**	**-0.6**
JIO	**Ouri**	**1.28**	**358**	*e*S	**Sb**	**09 47 30.8**	**-0.9**
JOU	**Okura**	**1.32**	**334**	S	**Sb**	**09 47 33.0**	**0.0**
JFY	**Yanaizu**	**1.37**	**280**	S	**Sb**	**09 47 33.8**	**-0.5**
MJAR	**Matsushiro Arr**	**2.63**	**257**	Pn	**Pn**	**09 47 35.2**	**+1.5**
	0.3nm,0.3s,baz=68,slow=16,SNR=1.8 9.3nm,0.6s						
JHJ	**Hachijo jima 2**	**4.26**	**199**	Pn	**Pn**	**09 47 56.6**	**+0.7**
	3.7nm,0.3s,baz=248,slow=21,SNR=1.4						
JHJ				Sn	**Sn**	**09 48 45.9**	**+0.2**
	8.8nm,0.3s,baz=71,slow=19,SNR=1.8 38nm,0.4s						
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**09 52 39.1**	**-0.3**
	0.5nm,0.6s,baz=95,slow=9.1,SNR=2.9 0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	10 22 18.9	
	baz=314,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	10 22 19.5	
	baz=314,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	10 22 20.2	
	baz=314,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	10 23 12.1	
	baz=315,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	10 23 10.7	
	baz=315,slow=76,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	10 23 12.4	
	baz=315,slow=76,SNR=6.6						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**09 54 40.8**	**+0.2**
	0.5nm,0.3s,baz=108,slow=7.9,SNR=2.5 0.5nm,0.3s						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**09 54 56.9**	**-1.9**
	0.8nm,0.8s,baz=75,slow=11,SNR=2.8 0.8nm,0.8s						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**09 55 40.6**	**+0.2**
	0.6nm,1.0s,baz=266,slow=7.4,SNR=4.2 0.6nm,1.0s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**09 56 38.5**	**+0.2**
	0.4nm,0.8s,baz=4.5,slow=7.3,SNR=4.7 0.4nm,0.8s						
ARCES	**ARCESS Array B**	**63.86**	**339**	P	**P**	**09 57 23.3**	**0.0**
	1.7nm,0.9s,baz=61,slow=5.7,SNR=3.9 1.7nm,0.9s						

*IDC **22** 09:49:15.3±0.8, 37.24N×141.53E, h0km, mb3.7/10, mbtmp3.7/13, ML3.5/3, MS3.0/3, Error ellipse: s-maj=21.5km s-min=17.8km az=109.0*

*JMA **22** 09:49:17.8±0.2, 37.3N±0.4×141.5E±1.0, h29km±1km, MD4.2/40, MV4.4/40, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

*NIED **22** 09:49:17.8, 37.26N×141.51E, h29km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.67; $M_{\theta\theta}$-2.32; $M_{\phi\phi}$2.99; $M_{r\theta}$3.93; $M_{\theta\phi}$5.04; $M_{\phi r}$0.89; Fault plane solution: $M_0$7.00000×10^{14} NP1: ϕ_s347.00000°, δ54.00000°, λ-175.00000°. NP2: ϕ_s254.00000°, δ86.00000°, λ-36.00000°.*

*NEIC **22** 09:49:21.3±1.9, 37.35N±0.06×141.39E±0.02, h35km±8km, mb4.4/16 Error ellipse: s-maj=8.8km s-min=2.8km az=180.0*

ISC 22 09:49:16.5±1.6, 37.24N±0.04×141.55E±0.06, h9km±9km, n94, σ1§10/74, mb4.0/18, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**284**	*i*P	**Pg**	**09 49 28.0**	**+0.8**
JFK				S	**Sb**	**09 49 35.1**	**-1.3**
JFK	**Kawauchi**	**0.55**	**284**	A	A	09 49 28.0	
	comp=E,8.0nm,1.0s,comp=E,13nm,1.1s						
JMST	**Minamisoumatoc**	**0.71**	**313**	*i*P	**Pg**	**09 49 30.6**	**+0.3**
JMST				S	**Sb**	**09 49 40.0**	**-1.1**
JMST	**Minamisoumatoc**	**0.71**	**313**	A	A	09 49 30.6	
	comp=E,13nm,0.4s,comp=E,23nm,0.6s						
JFFD	**Fukushimafurud**	**0.80**	**260**	⇓*i*P	**Pg**	**09 49 32.2**	**+0.3**
JFFD				⇓S	**Sg**	**09 49 42.5**	**+0.2**
JFFD	**Fukushimafurud**	**0.80**	**260**	A	A	09 49 32.2	
	comp=E,10.0nm,0.8s,comp=E,15nm,1.6s						
JMM	**Marumori**	**0.87**	**317**	Pn	**Pg**	**09 49 33.1**	**-0.1**
JMM	**Marumori**	**0.87**	**317**	P	**Pg**	**09 49 33.2**	**0.0**
JMM	**Marumori**	**0.87**	**317**	*i*P	**Pg**	**09 49 33.0**	**-0.1**
JMM				S	**Sg**	**09 49 44.2**	**-0.3**
JMM	**Marumori**	**0.87**	**317**	A	A	09 49 33.0	
	comp=E,6.0nm,0.6s,comp=E,9.0nm,0.4s						
JHO	**Hitachi**	**1.00**	**232**	⇓P	**Pg**	**09 49 34.6**	**-1.1**
JIO	**Ouri**	**1.23**	**353**	⇓P	**Pb**	**09 49 38.7**	**-1.2**
JIO				⇓eS	**Sb**	**09 49 54.0**	**-1.8**
JYAR	**Yonezawaarcadi**	**1.30**	**302**	A	A	09 49 39.9	
	comp=E,19nm,0.8s,comp=E,17nm,1.2s						
JOU	**Okura**	**1.33**	**328**	*i*P	**Pn**	**09 49 41.0**	**-0.3**
JOU				S	**Sb**	**09 49 58.4**	**-0.4**
JOU	**Okura**	**1.33**	**328**	A	A	09 49 41.0	
	comp=E,16nm,0.7s,comp=E,14nm,0.6s						
JSB	**Shiboa**	**1.33**	**259**	⇓*i*P	**Pn**	**09 49 41.4**	**+0.1**
JSB				⇓S	**Sn**	**09 49 58.9**	**-0.3**
JSB	**Shiboa**	**1.33**	**259**	A	A	09 49 41.4	
	comp=E,17nm,0.9s,comp=E,21nm,0.9s						
JOFO	**Osakifurukawao**	**1.45**	**340**	A	A	09 49 42.1	
	comp=E,43nm,1.9s,comp=E,27nm,1.0s						
JFY	**Yanaizu**	**1.48**	**277**	A	A	09 49 42.5	
	comp=E,4.0nm,2.6s,comp=E,6.0nm,0.8s						
JYT	**Yasato**	**1.48**	**228**	A	A	09 49 43.0	
	comp=E,8.0nm,0.4s,comp=E,4.0nm,0.3s						
JYS	**Shirataka**	**1.53**	**310**	A	A	09 49 43.4	
	comp=E,11nm,1.0s,comp=E,11nm,0.6s						
OFUJ	**Ofunato**	**1.84**	**3**	A	A	09 49 48.1	
	comp=E,3.0nm,5.4s,comp=E,3.0nm,3.6s						
JYA	**Atsumi**	**1.98**	**314**	A	A	09 49 50.0	
	comp=E,8.0nm,0.7s,comp=E,6.0nm,2.1s						
JRG	**Rokugo**	**2.27**	**342**	A	A	09 49 54.1	
	comp=E,3.0nm,3.4s,comp=E,4.0nm,4.6s						
JIZZ	**Izumozaki**	**2.28**	**278**	A	A	09 49 54.2	
	comp=E,8.0nm,2.4s,comp=E,7.0nm,0.9s						
JYW	**Yuwa**	**2.53**	**336**	A	A	09 49 57.8	
	comp=E,5.0nm,2.2s,comp=E,7.0nm,2.3s						
JJN	**Nakama**	**2.71**	**268**	A	A	09 50 00.3	
	comp=E,3.0nm,3.8s,comp=E,3.0nm,3.8s						
JSD	**Sado**	**2.73**	**288**	Pn	**Pn**	**09 50 00.8**	**+0.3**
MJAR	**Matsushiro Arr**	**2.76**	**256**	Pn	**Pn**	**09 50 01.8**	**+0.7**
	5.0nm,0.3s,baz=77,slow=16,SNR=45						
MJAR				Sn	**Sn**	**09 50 34.6**	**+0.1**
	2.4nm,0.3s,baz=80,slow=31,SNR=5.2 23nm,0.3s						
MAJO	**Matsushiro**	**2.77**	**256**	Pn	**Pn**	**09 50 01.9**	**+0.9**
MAJO	**Matsushiro**	**2.77**	**256**	P	**Pn**	**09 50 02.5**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.77**	**257**		**Pn**	**09 50 02.2**	**+1.1**
JTM	**Tenmabayashi**	**3.56**	**354**	Pn	**Pn**	**09 50 12.5**	**+0.5**
JTM	**Tenmabayashi**	**3.56**	**354**	P	**Pn**	**09 50 13.7**	**+1.7**
JGF	**Kuroka**	**3.75**	**245**	Pn	**Pn**	**09 50 16.0**	**+1.4**
JGF	**Kuroka**	**3.75**	**245**	P	**Pn**	**09 50 16.4**	**+1.8**
INU	**Inuyama**	**4.12**	**244**	Pn	**Pn**	**09 50 20.1**	**+0.5**
INU	**Inuyama**	**4.12**	**244**	P	**Pn**	**09 50 21.6**	**+2.0**
JHJ2	**Mitsune**	**4.35**	**199**	Pn	**Pn**	**09 50 24.8**	**+2.0**
JHJ2	**Mitsune**	**4.35**	**199**	P	**Pn**	**09 50 24.5**	**+1.6**
JHJ	**Hachijo jima 2**	**4.35**	**200**	Pn	**Pn**	**09 50 23.8**	**+0.9**
	31nm,0.3s,baz=328,slow=20,SNR=13						
JHJ				Sn	**Sn**	**09 51 12.5**	**-1.3**
	19nm,0.3s,baz=88,slow=24,SNR=1.9 62nm,0.3s						
ERM	**Erimo**	**4.93**	**14**	Pn	**Pn**	**09 50 32.4**	**+1.6**
ERM	**Erimo**	**4.93**	**14**	P	**Pn**	**09 50 32.9**	**+2.1**
JEM	**Erimo**	**4.93**	**14**	P	**Pn**	**09 50 32.9**	**+2.1**
JKA	**Kamikawa-asahi**	**6.92**	**6**	Pn	**Pn**	**09 50 58.4**	**+0.3**
ASAJ	**Asahikawa**	**6.92**	**6**	LR	LR	09 54 06.2	
	comp=Z,75nm,18.0s,baz=174,slow=42						
JHS	**Saijyo**	**7.18**	**254**	Pn	**Pn**	**09 51 03.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**10.04**	**317**	Pn	**Pn**	**09 51 42.1**	**+1.1**
	0.2nm,0.3s,baz=121,slow=13,SNR=1.8 1.3nm,0.6s						
JCJ	**Chichijima**	**10.13**	**177**	Sn	Sn	09 53 25.7	-10
	3.2nm,0.3s,baz=282,slow=18,SNR=1.3						
KSRS	**Korea Array**	**10.85**	**275**	Pn	**Pn**	**09 51 55.6**	**+3.6**
	0.2nm,0.3s,baz=81,slow=14,SNR=1.2						
KSRS				LR	LR	09 55 38.7	
	comp=Z,86nm,18.4s,baz=70,slow=35						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**09 55 05.6**	**-0.1**
	0.6nm,0.6s,baz=91,slow=8.6,SNR=3.2 0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	10 24 31.6	
	baz=314,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	10 24 32.2	
	baz=314,slow=75,SNR=87						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	10 24 33.0	
	baz=314,slow=75,SNR=83						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	10 25 28.9	
	baz=316,slow=76,SNR=109						
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	10 25 28.7	
	baz=316,slow=76,SNR=65						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	10 25 26.7	
	baz=316,slow=76,SNR=42						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**09 57 06.5**	**-0.2**
	1.0nm,0.6s,baz=99,slow=6.5,SNR=3.5 1.0nm,0.6s						
MK31	**Makanchi Array**	**44.10**	**302**	P	**P**	**09 57 25.4**	**+0.3**
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**09 57 24.8**	**-0.3**
	0.7nm,0.6s,baz=89,slow=9.8,SNR=5.9 0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**09 57 24.7**	**-0.4**
KURK	**Kurchatov**	**45.89**	**308**	P	**P**	**09 57 37.7**	**-1.4**
KURK				IAmb	IAmb	09 57 44.5	
	comp=Z,5.0nm,0.8s						
IMAR	**Indian Mountai**	**46.42**	**31**	P	**P**	**09 57 44.8**	**+1.6**
TOLK	**Toolik Lake Re**	**48.24**	**27**	P	**P**	**09 57 57.2**	**-0.2**
TOLK				IAmb	IAmb	09 58 04.9	
	comp=Z,6.4nm,1.3s						
IL31		**49.27**	**32**	P	**P**	**09 58 04.8**	**-0.3**
ILAR	**Eielson Array**	**49.27**	**32**	P	**P**	**09 58 05.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=271,slow=5.8,SNR=5.6 comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**49.27**	**32**	P	**P**	**09 58 05.1**	**-0.1**
BMAR	**Burnt Mountain**	**50.10**	**29**	P	**P**	**09 58 11.2**	**-0.4**
SCRK	**Sand Creek**	**50.58**	**33**	P	**P**	**09 58 16.5**	**+1.2**
L27K	**Beaver Creek,**	**51.65**	**34**	P	**P**	**09 58 25.1**	**+1.8**
L27K				IAmb	IAmb	09 58 26.1	
	comp=Z,7.0nm,1.4s						
BCAR	**Beaver Creek A**	**51.67**	**34**	P	**P**	**09 58 23.5**	**0.0**
M27K	**Edge Creek, AK**	**51.73**	**35**	P	**P**	**09 58 24.5**	**+0.5**
GSI	**Gunungsitoli**	**53.99**	**239**	P	**P**	**09 58 41.5**	**+0.3**
INK	**Inuvik**	**54.16**	**27**	P	**P**	**09 58 42.6**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=322,slow=1.4,SNR=4.4 comp=Z,0.5nm,0.5s						
INK	**Inuvik**	**54.16**	**27**	P	**P**	**09 58 42.9**	**+1.3**
INK				IAmb	IAmb	09 58 48.8	
	comp=Z,4.0nm,1.2s						
CHGR	**Chuyangaron**	**55.67**	**295**	P	**P**	**09 58 53.6**	**+0.4**
A36M	**Sachs Harbour**	**56.03**	**22**	P	**P**	**09 58 56.0**	**+0.8**
A36M				IAmb	IAmb	09 59 09.7	
	comp=Z,3.7nm,1.1s						
WB0	**Warramunga Arr**	**57.10**	**188**	P	**P**	**09 59 03.6**	**+0.3**
WRAB	**Tennant Creek**	**57.27**	**188**	P	**P**	**09 59 03.8**	**-0.7**
WRAB				IAmb	IAmb	09 59 06.6	
	comp=Z,6.8nm,1.3s						
WR0	**Warramunga Arr**	**57.27**	**188**	P	**P**	**09 59 04.8**	**+0.3**
WR0				IAmb	IAmb	09 59 19.1	
	comp=Z,5.9nm,1.3s						
WB2	**Warramunga Arr**	**57.27**	**188**	P	**P**	**09 59 04.0**	**-0.5**
WB2				IAmb	IAmb	09 59 20.0	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**09 59 04.3**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=4.9,slow=7.3,SNR=6.7 comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**09 59 04.6**	**+0.1**
ABKAR	**Akbulak array**	**57.89**	**310**	P	**P**	**09 59 08.5**	**-0.1**
ASAR	**Alice Springs**	**61.00**	**188**	P	**P**	**09 59 30.1**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=11,slow=6.4,SNR=4.5 comp=Z,0.4nm,0.8s						
ARCES	**ARCESS Array B**	**63.84**	**339**	P	**P**	**09 59 47.6**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=41,slow=8.4,SNR=1.2 comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**10 00 20.9**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=61,slow=9.8,SNR=1.3 comp=Z,0.9nm,0.6s						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**10 00 19.1**	**-0.9**
NOA	**NORSAR Array B**	**74.04**	**337**	LR	LR	10 36 04.9	
	comp=Z,13nm,19.8s,baz=295,slow=38						
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**10 00 52.9**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=46,slow=5.9,SNR=2.3						
NVAR	**Mina Array Bea**	**74.78**	**53**	P	**P**	**10 00 58.2**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=319,slow=2.5,SNR=2.4 comp=Z,0.2nm,0.6s						
H03N2	**Juan Fernandez**	**146.94**	**96**	T	T	12 53 09.5	
	baz=291,slow=76,SNR=20						
H03N3	**Juan Fernandez**	**146.95**	**96**	T	T	12 53 10.6	
	baz=291,slow=76,SNR=22						
H03N1	**Juan Fernandez**	**146.96**	**96**	T	T	12 53 10.8	
	baz=291,slow=76,SNR=26						

*WEL **22** 09:49:00, 42.95S×173.01E, h4km, ML4.6, Mw4.6, Moment Tensor Solution. s12 Moment tensor: Scale 10^{15}Nm; M_{rr}6.11; $M_{\theta\theta}$ 1.72; $M_{\phi\phi}$-7.83; $M_{r\theta}$-1.37; $M_{\theta\phi}$-2.62; $M_{\phi r}$4.85; Fault plane solution: $M_0$9.02000×10^{15} NP1: ϕ_s218.00000°, δ34.00000°, λ129.00000°. NP2: ϕ_s354.00000°, δ64.00000°, λ67.00000°. Principal axes: T -973.4800, Plg64.0000°, Azm226.0000°; N 142.1300, Plg20.0000°, Azm4.0000°; P 831.3500, Plg16.0000°, Azm101.0000°;*

*NOU **22** 09:49:37.5, 43.06S×173.10E, h1km, MLv5.0/13, Off E. Coast of S. Island, N.Z.*

*IDC **22** 09:49:37.4±0.9, 42.75S×172.70E, h0km, mb4.2/8, mbtmp4.2/8, MS3.9/20, Error ellipse: s-maj=25.8km s-min=19.3km az=99.0*

*WEL **22** 09:49:38.6±0.3, 43S±2°×17°3E±°, h8km±2km, M5.0/77, ML4.9/20, MLv5.0/77, Error ellipse: s-maj=0.0km s-min=0.0km az=129.1*

*NEIC **22** 09:49:38.4, 42.98S×173.02E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}6.99; $M_{\theta\theta}$1.52; $M_{\phi\phi}$-8.51; $M_{r\theta}$-1.03; $M_{\theta\phi}$-2.37; $M_{\phi r}$3.35; Fault plane solution: $M_0$8.93000×10^{15} NP1:ϕ_s357.94000°, δ57.33000°, λ71.61000°. NP2:ϕ_s209.57000°, δ36.98000°, λ116.19000°. Principal axes: T 8.0432, Plg71.0000°, Azm224.0000°; N 1.5668, Plg15.0000°, Azm8.0000°; P -9.6100, Plg11.0000°, Azm101.0000°;*

*NEIC **22** 09:49:38.1±1.7, 43.00S±0.04×173.00E±0.06, h13km±3km, mb4.7/23, Mwr4.6/28 Error ellipse: s-maj=7.9km s-min=3.2km az=133.0*

ISC 22 09:49:38.1±0.7, 42.94S±0.02×172.99E±0.03, h13km±4km, n230, σ1§23/215, mb4.6/21, MS3.9/23, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.04**	**128**	Pg	**Pg**	**09 49 40.6**	**+0.1**
GVZ				Sg	**Sg**	**09 49 42.6**	**+0.3**
GVZ	**Greta Valley S**	**0.04**	**128**	P	**Pg**	**09 49 40.7**	**+0.1**
GVZ				S	**Sg**	**09 49 42.4**	**+0.1**
AMCZ	**Amberley**	**0.34**	**227**	Pg	**Pb**	**09 49 45.9**	**-0.1**
AMCZ				Sg	**Sb**	**09 49 52.6**	**+1.2**
AMCZ	**Amberley**	**0.34**	**227**	P	**Pb**	**09 49 46.1**	**+0.1**
AMCZ				S	**Sb**	**09 49 52.5**	**+1.1**
LTZ	**Lake Taylor**	**0.55**	**287**	Pg	**Pb**	**09 49 49.3**	**-0.4**
LTZ				Sg	**Sb**	**09 49 57.0**	**-0.5**
LTZ	**Lake Taylor**	**0.55**	**287**	P	**Pb**	**09 49 49.3**	**-0.4**
KHZ	**Kahutara**	**0.66**	**38**		**Pb**	**09 49 51.7**	**+0.2**
KHZ				Sg	**Sb**	**09 50 01.8**	**+1.2**
KHZ	**Kahutara**	**0.66**	**38**	P	**Pb**	**09 49 51.4**	**-0.1**
KHZ	**Kahutara**	**0.66**	**38**	P	**Pb**	**09 49 52.1**	**+0.6**
OKCZ	**Okains Bay**	**0.78**	**176**	P	**Pn**	**09 49 54.4**	**-0.4**
OXZ	**Oxford**	**0.80**	**241**		**Pb**	**09 49 54.3**	**+0.5**
OXZ					**Sn**	**09 50 06.2**	**-0.6**
OXZ	**Oxford**	**0.80**	**241**	P	**Pn**	**09 49 54.5**	**-0.5**
MQZ	**McQueen's Vall**	**0.80**	**198**	Pg	**Pb**	**09 49 53.9**	**0.0**
MQZ					**Sn**	**09 50 06.7**	**-0.2**
MQZ	**McQueen's Vall**	**0.80**	**198**	P	**Pb**	**09 49 53.9**	**0.0**
AKCZ	**Akaroa Harbour**	**0.93**	**184**	P	**Pb**	**09 49 56.3**	**+0.2**
RACZ	**Rakaia**	**1.00**	**218**	P	**Pn**	**09 49 57.7**	**-0.1**
INZ	**Inchbonnie**	**1.16**	**280**		**Pb**	**09 49 59.9**	**0.0**
INZ	**Inchbonnie**	**1.16**	**280**	P	**Pg**	**09 50 00.2**	**-0.2**
THZ	**Tophouse**	**1.18**	**357**	Pn	**Pb**	**09 50 00.5**	**+0.1**
THZ	**Tophouse**	**1.18**	**357**	P	**Pg**	**09 50 00.8**	**-0.1**
MHCZ	**Mount Hutt**	**1.20**	**240**	P	**Pn**	**09 49 59.9**	**-0.6**
WACZ	**Wakanui South**	**1.30**	**220**	P	**Pn**	**09 50 01.5**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.39**	**28**	Pn	**Pn**	**09 50 03.2**	**0.0**
BSWZ	**Blackbirch Sta**	**1.39**	**28**	P	**Pn**	**09 50 04.1**	**+0.2**
DSZ	**Dennisten Nort**	**1.49**	**323**	Pn	**Pn**	**09 50 05.0**	**+0.5**
DSZ	**Dennisten Nort**	**1.49**	**323**	P	**Pb**	**09 50 05.2**	**-0.4**
CMWZ	**Cape Campbell**	**1.50**	**38**	Pn	**Pg**	**09 50 06.8**	**-0.1**
MRNZ	**Matariki Terra**	**1.55**	**353**		**Pb**	**09 50 06.6**	**-0.1**
MRNZ	**Matariki Terra**	**1.55**	**353**	P	**Pn**	**09 50 05.6**	**+0.2**
RPZ	**Rata Peaks**	**1.61**	**241**	Pn	**Pn**	**09 50 05.7**	**-0.5**
	143nm,0.3s,baz=321,slow=0.8,SNR=95						
RPZ				Sn	**Sn**	**09 50 25.9**	**-0.9**
	288nm,0.3s,baz=318,slow=23,SNR=36						
RPZ				LR	LR	09 50 33.6	
	comp=Z,1µm,18.8s,baz=130,slow=36						
RPZ	**Rata Peaks**	**1.61**	**241**	Pn	**Pn**	**09 50 05.9**	**-0.4**
RPZ	**Rata Peaks**	**1.61**	**241**	P	**Pn**	**09 50 06.3**	**+0.1**
RPZ	**Rata Peaks**	**1.61**	**241**	P	**Pn**	**09 50 05.9**	**-0.4**
WVZ	**Waitaha Valley**	**1.66**	**265**	P	**Pn**	**09 50 07.5**	**+0.7**
ARCZ	**Arundel**	**1.66**	**232**	P	**Pn**	**09 50 06.4**	**-0.5**
TUWZ	**Tuamarina**	**1.67**	**25**	Pn	**Pn**	**09 50 07.7**	**+0.7**
TUWZ	**Tuamarina**	**1.67**	**25**	P	**Pn**	**09 50 07.6**	**+0.7**
NNZ	**Nelson**	**1.75**	**10**		**Pb**	**09 50 09.4**	**-0.6**
NNZ	**Nelson**	**1.75**	**10**	P	**Pb**	**09 50 09.6**	**-0.4**
TKNZ	**Takaka Hill**	**1.91**	**359**		**Pb**	**09 50 11.7**	**-1.1**
TKNZ	**Takaka Hill**	**1.91**	**359**	P	**Pb**	**09 50 12.0**	**-0.7**
TCW	**Tory Channel**	**1.98**	**29**	Pn	**Pn**	**09 50 11.4**	**+0.2**
TCW	**Tory Channel**	**1.98**	**29**	P	**Pb**	**09 50 13.6**	**-0.4**
SNZO	**South Karori**	**2.07**	**39**		**Pn**	**09 50 12.6**	**+0.1**
QRZ	**Quartz Range**	**2.14**	**351**		**Pb**	**09 50 15.5**	**-1.3**
QRZ	**Quartz Range**	**2.14**	**351**	P	**Pb**	**09 50 15.8**	**-1.0**
QRZ	**Quartz Range**	**2.14**	**351**	P	**Pn**	**09 50 14.8**	**+1.3**
PLWZ	**Palliser**	**2.17**	**52**		**Pn**	**09 50 13.6**	**-0.4**
PLWZ	**Palliser**	**2.17**	**52**	P	**Pn**	**09 50 13.8**	**-0.2**
DUWZ	**D'Urville Isla**	**2.25**	**18**	P	**Pn**	**09 50 15.7**	**+0.7**
MSWZ	**Moikau Station**	**2.27**	**48**	Pn	**Pn**	**09 50 16.9**	**+1.7**
PAWZ	**Paruwai Farm**	**2.39**	**50**	P	**Pn**	**09 50 16.7**	**-0.3**
FOZ	**Fox Glacier**	**2.39**	**255**	Pn	**Pn**	**09 50 18.3**	**+1.4**
LBZ	**Lake Benmore**	**2.50**	**234**	Pn	**Pn**	**09 50 18.3**	**-0.1**
TRWZ	**Traveller**	**2.53**	**53**	P	**Pn**	**09 50 18.4**	**-0.5**
MTW	**Mount Morrison**	**2.58**	**47**	P	**Pn**	**09 50 19.0**	**-0.6**
ODZ	**Otahua Downs**	**2.70**	**218**	Pn	**Pn**	**09 50 20.7**	**-0.5**
ODZ	**Otahua Downs**	**2.70**	**218**	P	**Pn**	**09 50 21.5**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.78**	**44**	P	**Pn**	**09 50 23.8**	**+1.5**
MRZ	**Mangatainoka R**	**2.99**	**41**	Pn	**Pn**	**09 50 24.7**	**-0.5**
OHWZ	**Ohakea**	**3.24**	**33**	P	**Pn**	**09 50 30.1**	**+1.5**
JCZ	**Jackson Bay**	**3.26**	**248**	P	**Pn**	**09 50 29.9**	**+0.9**
PRWZ	**Pori Road**	**3.27**	**44**	P	**Pn**	**09 50 29.5**	**+0.5**
POWZ	**Post Office Ro**	**3.29**	**40**	P	**Pn**	**09 50 29.4**	**+0.1**
BFZ	**Birch Farm**	**3.32**	**48**	Pn	**Pn**	**09 50 30.9**	**+1.2**
BFZ	**Birch Farm**	**3.32**	**48**	P	**Pn**	**09 50 30.6**	**+0.9**
BFZ	**Birch Farm**	**3.32**	**48**	P	**Pn**	**09 50 29.9**	**+0.1**
WKZ	**Wanaka**	**3.44**	**235**		**Pn**	**09 50 31.1**	**-0.2**
WAZ	**Wanganui**	**3.52**	**26**	P	**Pn**	**09 50 34.4**	**+1.9**
DVHZ	**Dannevirke**	**3.56**	**43**	P	**Pn**	**09 50 32.7**	**-0.2**
NMEZ	**Namu Road**	**3.59**	**11**	P	**Pn**	**09 50 36.9**	**+3.5**
ANWZ	**Angora Road**	**3.60**	**48**	P	**Pn**	**09 50 33.2**	**-0.3**
LREZ	**Lake Rotokare**	**3.64**	**17**	P	**Pb**	**09 50 38.5**	**-3.8**
TSZ	**Takapari Road**	**3.64**	**39**	P	**Pn**	**09 50 33.3**	**-0.9**
KHEZ	**Kahui Hut**	**3.73**	**12**	P	**Pn**	**09 50 37.9**	**+2.5**
KHEZ	**Kahui Hut**	**3.73**	**12**	P	**Pn**	**09 50 37.5**	**+2.2**
NBEZ	**Newall Road No**	**3.73**	**11**	P

CTAO Charters Tower 31.99 307 P **P** 09 56 02.5 -1.6
CTAO IAmb IAmb 09 56 18.7
comp=Z,20nm,1.3s
VNDA Vanda 34.99 184 P **P** 09 56 32.8 +3.3
comp=Z,0.4nm,0.9s,baz=0.0,slow=12,SNR=3.3
comp=Z,0.4nm,0.9s
VNDA Vanda 34.99 184 P **P** 09 56 28.5 -1.0
HNR Honiara 35.28 337 LR LR 10 10 03.6
comp=Z,1μm,18.6s,baz=158,slow=35
TBI Tubuai 36.62 70 *e*LR LR 10 06 35.7
comp=Z,674nm,28.5s
TBI *e*LR LR 10 06 36.0
comp=Z,1μm,28.5s
TBI Tubuai 36.62 70 *e*T T 10 34 51.9
comp=Z,22nm,0.4s
AS31 Alice Springs 37.48 288 P **P** 09 56 50.6 -0.9
ASAR Alice Springs 37.48 288 P **P** 09 56 51.3 -0.2
comp=Z,4.8nm,0.9s,baz=130,slow=8.1,SNR=28
ASAR LR LR 10 11 45.0
comp=Z,199nm,19.1s,baz=154,slow=36
comp=Z,4.8nm,0.9s
ASAR Alice Springs 37.48 288 P **P** 09 56 51.4 -0.1
WR0 Warramunga Arr 39.53 293 P **P** 09 57 08.4 -0.3
WR0 IAmb IAmb 09 57 09.1
comp=Z,10nm,1.4s
WB2 Warramunga Arr 39.67 293 P **P** 09 57 09.8 -0.1
WB2 IAmb IAmb 09 57 16.0
comp=Z,5.5nm,0.8s
WRAB Tennant Creek 39.68 293 P **P** 09 57 09.0 -1.0
WRAB IAmb IAmb 09 57 13.3
comp=Z,5.2nm,0.8s
WRA Warramunga Arr 39.68 293 P **P** 09 57 09.8 -0.1
comp=Z,3.0nm,0.8s,baz=131,slow=7.7,SNR=21
WRA LR LR 10 12 44.0
comp=Z,207nm,20.3s,baz=120,slow=35
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 39.68 293 P **P** 09 57 08.4 -1.5
WB0 Warramunga Arr 39.76 293 P **P** 09 57 10.8 +0.2
PMG Port Moresby 40.33 318 LR LR 10 12 00.0
comp=Z,230nm,20.5s,baz=154,slow=34
PMG Port Moresby 40.33 318 P **P** 09 57 15.5 +0.2
PMG IAmb IAmb 09 57 20.6
comp=Z,19nm,0.8s
PAE Paea 40.48 63 *e*T T 10 39 41.6
comp=Z,3.3nm,0.3s
PPT2 Papeete2 40.53 63 *e*LR LR 10 08 24.7
comp=Z,162nm,28.2s
PPT2 *e*LR LR 10 08 24.9
comp=Z,214nm,26.0s
PPT2 Papeete2 40.53 63 *e*T T 10 39 52.6
comp=Z,3.7nm,0.2s
PPT Papeete 40.55 63 LR LR 10 09 13.1
comp=Z,146nm,21.3s,baz=276,slow=29
VAH Vaihoa 43.52 63 *e*T T 10 43 33.7
comp=Z,3.4nm,0.2s
TARA Tarawa 44.10 360 P **P** 09 57 46.2 +0.2
NWAO Narrogin (SRO) 44.38 264 LR LR 10 13 07.9
comp=Z,116nm,20.5s,baz=63,slow=32
KNRA Kununurra 46.44 292 P **P** 09 58 04.6 0.0
KNRA IAmb IAmb 09 58 06.2
comp=Z,18nm,1.2s
MTN Manton Dam 46.90 297 P **P** 09 58 07.0 -1.2
MTN IAmb IAmb 09 58 09.1
comp=Z,8.8nm,0.9s
QSPA South Pole Qui 47.19 180 P **P** 09 58 12.8 +2.7
comp=Z,5.5nm,1.2s,baz=58,slow=4.1,SNR=7.3
comp=Z,5.5nm,1.2s
QSPA South Pole Qui 47.19 180 P **P** 09 58 10.1 -0.1
QSPA IAmb IAmb 09 58 28.2
comp=Z,9.5nm,1.1s
PSA00 Pilbara Seismi 48.85 278 P **P** 09 58 22.5 -0.8
PSA00 IAmb IAmb 09 58 25.8
comp=Z,9.2nm,0.9s
TAOE Nuku Hiva Isla 53.13 64 *e*LR LR 10 14 15.2
comp=Z,142nm,26.8s
SOEI Soe 53.72 293 P **P** 09 58 58.6 -1.5
BATI Baumata 53.80 292 LR LR 10 21 34.6
comp=Z,191nm,18.1s,baz=152,slow=36
SIJI Sorong 56.07 307 LR LR 10 21 35.4
comp=Z,66nm,21.9s,baz=188,slow=34
MAW Mawson 57.98 205 LR LR 10 23 32.3
comp=Z,86nm,18.1s,baz=97,slow=35
BELA Belgrano 2 58.27 173 P **P** 09 59 31.4 -0.4
BELA IAmb IAmb 09 59 35.6
comp=Z,6.3nm,1.1s
KAPI Kappang 60.22 293 LR LR 10 26 01.3
comp=Z,102nm,19.3s,baz=183,slow=36
SMAI San Martin Ant 60.51 158 P **P** 09 59 46.7 -0.6
GUMO Guam 61.88 329 LR LR 10 26 57.3
comp=Z,20nm,18.1s,baz=119,slow=36
RPN Rapa Nui 63.41 103 LR LR 10 20 55.2
comp=Z,52nm,20.9s,baz=234,slow=30
TROLL Troll, Antarti 65.16 183 P **P** 10 00 20.2 +1.8
SNAA Sanae 65.66 181 P **P** 10 00 22.7 +1.2
SNAA Sanae 65.66 181 P **P** 10 00 23.2 +1.7
SNAA IAmb IAmb 10 00 24.6
comp=Z,14nm,1.3s
VNA3 Neumayer Olymp 66.11 179 P **P** 10 00 26.6 +2.3
VNA2 Neumayer--Watz 66.44 180 P **P** 10 00 28.3 +1.8
baz=172,slow=6.7
VNA1 Neumayer--Stat 66.72 180 P **P** 10 00 30.3 +2.1
LEM Lembang 67.42 282 LR LR 10 28 32.0
comp=Z,151nm,21.8s,baz=95,slow=35
PLCA Paso Flores 78.89 136 LR LR 10 30 51.5
comp=Z,52nm,19.7s,baz=200,slow=31
KSRS Korea Array 89.91 326 P **P** 10 02 37.0 +0.5
comp=Z,3.1nm,0.7s,baz=150,slow=5.1,SNR=5.2
comp=Z,3.1nm,0.7s
CMAR Chiang Mai Arr 91.26 294 P **P** 10 02 44.2 +0.9
comp=Z,1.0nm,0.3s,baz=165,slow=3.8,SNR=9.5
CMAR LR LR 10 48 15.9
comp=Z,28nm,18.2s,baz=255,slow=39
comp=Z,1.0nm,0.3s
PZH PanZhiHua 95.15 302 P **P** 10 03 03.1 +1.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,7.3s
PALK Pallekele 96.57 274 LR LR 10 45 44.5
comp=Z,58nm,18.4s,baz=231,slow=35
LPIG La Paz 96.97 64 LR LR 10 37 43.7
comp=Z,47nm,20.8s,baz=229,slow=30
HHC Hu-ho-hao-te 100.13 317 *e*P **Pdif** 10 03 26.0 +2.8
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,160nm,4.8s
MKAR Makanchi Array 119.96 308 PKP **PKPdf** 10 08 27.7 0.0
comp=Z,1.6nm,1.0s,baz=129,slow=4.6,SNR=4.8
ZALV Zalesovo Beam 122.25 316 PKP **PKiKP** 10 08 32.1 +0.1
comp=Z,0.5nm,0.3s,baz=141,slow=5.2,SNR=2.1
MMAI Mount Meron Ar 145.45 268 PKPbc **PKPab** 10 09 17.3 +1.3
comp=Z,9.9nm,0.8s,baz=72,slow=3.6,SNR=7.4
ARCES ARCESS Array B 148.56 339 PKPbc **PKPbc** 10 09 23.4 0.0
comp=Z,4.3nm,0.6s,baz=49,slow=2.3,SNR=28
OBN Obninsk 149.46 309 PKPbc **PKiKP** 10 09 28.1 +1.0
comp=Z,4.6nm,0.3s,baz=185,slow=2.1,SNR=3.4
BRTR Keskin Array B 149.52 278 PKPbc **PKPbc** 10 09 26.7 -0.2
comp=Z,4.4nm,0.8s,baz=139,slow=5.7,SNR=16
FINES FINESS Array B 152.99 325 PKPbc **PKiKP** 10 09 34.4 +0.2
comp=Z,2.6nm,0.6s,baz=21,slow=6.3,SNR=8.2
NOA NORSAR Array B 158.82 335 PKPab **PKPab** 10 10 08.8 -1.8
comp=Z,1.0nm,0.7s,baz=38,slow=4.6,SNR=3.6
CLL Collm 164.06 309 *e*PKPab **PKPab** 10 10 35.0 +1.3
comp=Z,6.0nm,1.1s

---

*GUC **22** 09:54:25.7±0.7, 15°.57S×70°.49W, h180km±37km, ML3.7*
*IDC **22** 09:54:30.3±2.5, 16°.03S×69°.95W, h236km±15km, mb3.2/1, mbtmp4.0/3, Error ellipse: s-maj=42.1km s-min=19.4km az=115.0*
ISC 22 09:54:25.4±1.9,**15°.8S**±0°.1×**70°.5W**±0°.2,**h214**km±12km,**n18,**
σ1**935/29,6C-1D,Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**		**2.29 103**	P		**Pn**	**09 55 09.3**	**+0.7**
	23nm,0.3s,baz=294,slow=9.7,SNR=729							
LPAZ				S		**S**	**09 55 41.9**	**0.0**
	23nm,0.4s,baz=4.8,slow=12,SNR=16							
LPAZ	**La Paz**		**2.29 103**	↓*i*P		**Pn**	**09 55 09.3**	**+0.7**
LPAZ				*e*S		**S**	**09 55 41.4**	**-0.4**
AP01	**Chacalluta**		**2.56 178**	*i* P		**Pn**	**09 55 10.9**	**+0.2**
AP01				*e*S		**S**	**09 55 45.9**	**-0.2**
AP01				IAML			09 55 47.2	
	comp=E,283nm,0.4s							
PB16	**IPOC Station P**		**2.68 160**	↑*i*P		**Pn**	**09 55 14.5**	**+1.8**
PB16				*e*S		**S**	**09 55 51.1**	**+1.7**
PB16				IAML			09 55 54.2	
	comp=N,50nm,0.3s							
PB12	**IPOC Station P**		**2.80 178**	↑*i*P		**Pn**	**09 55 13.5**	**-0.1**
PB12				*e*S		**S**	**09 55 49.7**	**-1.4**
PB12				IAML			09 55 51.8	
	comp=E,140nm,0.3s							
MNMC	**Minye Minye**		**3.41 166**	↑*i*P		**Pn**	**09 55 22.1**	**+1.2**
MNMC				*e*S		**S**	**09 56 04.0**	**-0.1**
PSGC	**Pisagua**		**3.79 175**	↑*i*P		**Pn**	**09 55 25.0**	**-0.2**
PSGC				*e*S		**S**	**09 56 09.5**	**-2.5**
PB11	**IPOC Station P**		**4.01 169**	↑*i*P		**Pn**	**09 55 28.3**	**+0.3**
PB11				*e*S		**S**	**09 56 15.5**	**-1.5**
GO01	**Chusmiza**		**4.03 163**	*e*P		**Pn**	**09 55 30.2**	**+1.6**
GO01				*e*S		**S**	**09 56 19.8**	**+1.9**
HMBC	**Humberstone**		**4.49 173**	*e*P		**Pn**	**09 55 33.5**	**-0.4**
PB08	**IPOC Station P**		**4.49 164**	↑*i*P		**Pn**	**09 55 35.6**	**+1.4**
PB08				*e*S		**S**	**09 56 28.0**	**-0.1**
TA01	**Diego Aracena**		**4.75 177**	*e*P		**Pn**	**09 55 36.7**	**-0.3**
PATCX	**Punta Patache**		**5.00 177**	*e*P		**Pn**	**09 55 39.8**	**-0.4**
LVC	**Limon Verde**		**6.93 168**	P		**Pn**	**09 56 07.1**	**+1.9**
	comp=E,17nm,0.3s,baz=353,slow=9.1,SNR=63							
LVC				S		**S**	**09 57 22.5**	**-1.9**
	comp=E,36nm,0.5s,baz=72,slow=20,SNR=19							
SIV	**San Ignacio**		**9.03 92**	P		**Pn**	**09 56 29.3**	**-2.8**
	comp=E,2.7nm,0.6s,baz=275,slow=11,SNR=12							
BDFB	**Brasilia**		**21.60 93**	P		**P**	**09 58 57.6**	**-1.3**
	comp=E,1.4nm,0.4s,baz=238,slow=4.8,SNR=3.3							
	comp=E,1.4nm,0.4s							
WRA	**Warramunga Arr**		**136.92 215**	PKP		**PKiKP**	**10 13 26.0**	**+0.6**
	comp=E,0.5nm,1.0s,baz=146,slow=3.0,SNR=2.2							
SONM	**Songino Array**		**147.95 4**	PKPbc		**PKiKP**	**10 13 47.9**	**+0.6**
	comp=E,0.5nm,0.5s,baz=334,slow=2.0,SNR=4.4							

---

*TUL **22** 09:54:47.1±0.7,36°.008N±0°.006×96°.77W±0°.01, h3km±2km, ML2.6,mb_Lg3.0/25(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=86.0*
NEIC 22 09:54:47.0±0.6,**36°.006N**±0°.007×**96°.77W**±0°.01,**h5**km±1km,
Error ellipse: s-maj=1.6km s-min=1.0km az=78.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK053	**SW of W Deep R**		**0.02 294**			Pg	09 54 48.1	+0.2
OK053				Sg		Sg	09 54 48.7	+0.1
OK052	**Battle Ridge R**		**0.03 246**	Pg		Pg	09 54 48.2	+0.2
OK052				Sg		Sg	09 54 48.9	+0.2
OK034	**N. Norfolk Rd.**		**0.04 85**	Pg		Pg	09 54 48.7	+0.5
OK034				Sg		Sg	09 54 49.4	+0.7
OK031	**S. Brethren Rd**		**0.08 228**	Pg		Pg	09 54 49.1	+0.4
OK031				Sg		Sg	09 54 50.3	+0.4
OK030	**Cody Creek RV**		**0.08 190**	Pg		Pg	09 54 49.1	+0.5
OK030				Sg		Sg	09 54 50.4	+0.5
OK033	**Mehan**		**0.14 285**	Pg		Pg	09 54 50.4	+0.5
OK033				Sg		Sg	09 54 52.7	+0.9
QUOK	**Quay**		**0.17 16**	Pg		Pg	09 54 51.1	+0.7
OK044	**Pawnee Station**		**0.37 356**	Pg		Pg	09 54 54.6	+0.6
OK046	**Pawnee Station**		**0.41 344**			Pg	09 54 55.4	+0.5
OK046				Sg		Sg	09 55 00.9	+0.8
OK050	**Pawnee Station**		**0.42 336**			Pg	09 54 55.7	+0.6
OK050				Sg		Sg	09 55 01.5	+0.8
OK048	**Pawnee Station**		**0.43 341**	Pg		Pg	09 54 55.9	+0.6
OK048				Sg		Sg	09 55 01.8	+0.8
OK045	**Pawnee Station**		**0.46 344**	Pg		Pg	09 54 56.4	+0.5
OK045				Sg		Sg	09 55 02.7	+0.9
OK005	**Luther M Schoo**		**0.49 225**	Pg		Pg	09 54 56.9	+0.5
OK005				Sg		Sg	09 55 03.8	+1.0
OK051	**E0350 and S346**		**0.50 354**	Pg		Pg	09 54 57.1	+0.5
OK011	**Prague**		**0.52 173**	Pg		Pg	09 54 57.6	+0.6
OK011				Sg		Sg	09 55 05.1	+1.3
OK029	**Liberty Lake**		**0.60 250**	Pg		Pg	09 54 58.8	+0.4
OK029				Sg		Sg	09 55 07.1	+0.9
OK025	**Westminster Rd**		**0.63 228**	Pg		Pg	09 54 59.3	+0.3
OK025				Sg		Sg	09 55 08.1	+0.9
BCOK	**Bluff Creek, N**		**0.77 243**	Pg		Pg	09 55 01.8	+0.1
BCOK				Sg		Sg	09 55 12.3	+0.6
TUL1	**Leonard**		**0.80 97**	Pg		Pg	09 55 02.4	+0.1
TUL1				Sg		Sg	09 55 12.7	+0.1
OKCSW	**OKLAHOMA CITY**		**0.81 223**	Sg		Sg	09 55 12.7	-0.4
BLOK	**Blackwell**		**0.83 334**			Pg	09 55 03.2	+0.2
BLOK				Sg		Sg	09 55 14.4	+0.6
FNO	**Franklin**		**0.91 215**			Pg	09 55 04.3	0.0
FNO				Sg		Sg	09 55 16.8	+0.6
T35A	**Sooner Cattle**		**0.93 13**	Pg		Pg	09 55 05.0	+0.2
T35A				Sg		Sg	09 55 16.9	0.0
CROK	**Carrier**		**1.10 297**	Pg		Pg	09 55 08.0	-0.1
CROK				Sg		Sg	09 55 22.8	+0.4
KAN13	**South Haven SW**		**1.16 331**			Pg	09 55 08.8	-0.3
KAN13				Sg		Sg	09 55 24.2	0.0
GC02	**Grant County #**		**1.22 314**			Pg	09 55 10.1	-0.2
GC02				Sg		Sg	09 55 26.2	0.0
KAN17	**Caldwell West**		**1.31 322**	Pg		Pn	09 55 11.2	-0.8
KAN14	**Manchester OK**		**1.35 315**			Pn	09 55 12.6	0.0
KS20	**Mayfield South**		**1.38 333**			Pb	09 55 13.1	-0.2
KAN01	**Argonia South**		**1.40 325**			Pn	09 55 13.3	+0.2
OK032	**Salt Plains WL**		**1.41 305**			Pn	09 55 13.3	-0.1
RLO	**Rose Lookout**		**1.42 83**			Pn	09 55 13.0	-0.5
KS21	**Milan North St**		**1.47 331**			Pb	09 55 14.8	+0.1
KAN10	**Anthony SW Sta**		**1.54 317**			Pn	09 55 15.6	+0.3
CSTR	**Hydro, Custer**		**1.60 258**			Pn	09 55 16.2	+0.1
X34A	**Smith Ranch, M**		**1.65 212**			Pb	09 55 17.5	-0.4
OK038	**West end E0370**		**1.67 287**			Pn	09 55 17.2	+0.3
OK035	**E0210 Rd and N**		**1.72 295**			Pn	09 55 17.4	-0.2
X37A	**Clayton**		**1.82 141**	Pn		Pn	09 55 19.1	+0.1
X37A				IAmb_Lg			09 55 48.3	
	comp=Z,34nm,0.7s							
U32A	**Winter Ranch,**		**1.85 282**	Pn		Pn	09 55 18.9	-0.5
U38A	**Gravette**		**1.97 77**	Pn		Pb	09 55 22.4	-1.0
LOOK	**Love County**		**2.04 190**	Pn		Pn	09 55 22.6	+0.7
WMOK	**Wichita Mounta**		**2.08 233**	Pn		Pn	09 55 23.2	+0.7
ELIS	**Ellis County**		**2.15 272**	Pn		Pn	09 55 23.1	-0.5
Z35A	**Perchaven, San**		**2.70 189**	Pn		Pn	09 55 30.6	-0.4
R32A	**Long Quarter,**		**2.87 328**	Pn		Pn	09 55 33.5	0.0
MIAR	**Mount Ida**		**2.99 118**	Pn		Pn	09 55 35.2	+0.2
MIAR				IAmb_Lg			09 56 28.7	
	comp=Z,31nm,1.0s							
KSU1	**Kansas State U**		**3.09 2**	Pn		Pn	09 55 36.8	+0.3
WHAR	**Wooly Hollow**		**3.72 100**	Pn		Pn	09 55 45.6	+0.6
FCAR	**Ozark Folk Cen**		**3.77 90**	Pn		Pn	09 55 45.6	-0.2
FCAR				IAmb_Lg			09 56 48.7	
	comp=Z,57nm,0.8s							
MGMO	**Mountain Grove**		**3.80 71**	IAmb_Lg			09 56 46.8	
	comp=Z,32nm,0.9s							
WHTX	**Lake Whitney,**		**4.05 188**	IAmb_Lg			09 56 56.4	
	comp=Z,46nm,0.8s							
237A	**Washetta, Mont**		**4.07 168**	IAmb_Lg			09 56 56.9	
	comp=Z,78nm,1.0s							
ABTX	**Abilene, Hawle**		**4.13 216**	IAmb_Lg			09 56 59.0	
	comp=Z,38nm,0.7s							
AMTX	**Amarillo**		**4.17 256**	IAmb_Lg			09 57 02.3	
	comp=Z,57nm,1.1s							
R40A	**Maddies Statio**		**4.26 56**	IAmb_Lg			09 57 02.6	
	comp=Z,16nm,0.7s							
P38A	**Dawn**		**4.43 34**	IAmb_Lg			09 57 04.1	
	comp=Z,52nm,0.8s							
NATX	**Nacogdoches**		**4.58 157**	IAmb_Lg			09 57 10.4	
	comp=Z,55nm,1.1s							
CCAR	**Cane Creek**		**4.60 115**	IAmb_Lg			09 57 11.3	
	comp=Z,50nm,0.8s							

---

*IDC **22** 09:55:32.4±0.9,36°.13N×96°.76W, h0km, mb3.3/2, mbtmp3.5/8, ML3.5/6, MS3.0/5, Error ellipse: s-maj=13.2km s-min=11.3km az=129.0*
*NEIC **22** 09:55:33.1.2,36°.012N±0°.009×96°.77W±0°.02, h3km±1km, Error ellipse: s-maj=1.8km s-min=1.3km az=88.0*
*TUL **22** 09:55:33.3±0.9,36°.01N±0°.01×96°.77W±0°.02, h4km±2km, ML4.0, mb_Lg4.0/127(NEIC), Mwr3.5/21(SLM), Error ellipse: s-maj=1.9km s-min=1.5km az=114.0*
*NEIC **22** 09:55:33.6,36°.00N×96°.76W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$2.53; $M_{\phi\phi}$-2.53; $M_{r\theta}$0.00; $M_{\theta\phi}$-0.45; $M_{r\phi}$0.00; Fault plane solution: $M_0$2.57000×10^{14} NP1:ϕ_s320.00000°, δ90.00000°, λ0.00000°. NP2:ϕ_s230.00000°, δ90.00000°, λ180.00000°. Principal axes: T 2.5690, Plg0.0000°, Azm5.0000°; N 0.0000, Plg90.0000°, Azm0.0000°; P -2.5690, Plg0.0000°, Azm95.0000°;*
*ANF **22** 09:55:34.0±0.2, 36°.03N×96°.76W, h5km, ML4.5/13 Error ellipse: s-maj=2.6km s-min=2.4km az=102.0*
ISC 22 09:55:32.7±0.7,**36°.01N**±0°.01×**96°.76W**±0°.02,**h7**km±4km,
n248,σ1**918/272,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK053	**SW of W Deep R**		**0.03 291**	Pg		**Pg**	**09 55 34.3**	**+0.2**
OK053				Sg		**Sg**	**09 55 34.9**	**-0.2**
OK034	**N. Norfolk Rd.**		**0.04 81**	Pg		**Pg**	**09 55 34.9**	**+0.7**
OK034				Sg		**Sg**	**09 55 36.0**	**+0.8**
OK052	**Battle Ridge R**		**0.04 253**	Pg		**Pg**	**09 55 34.4**	**+0.3**
OK052				Sg		**Sg**	**09 55 35.0**	**-0.2**
OK030	**Cody Creek RV**		**0.08 195**	Pg		**Pg**	**09 55 35.4**	**+0.7**
OK030				Sg		**Sg**	**09 55 36.8**	**+0.7**
OK031	**S. Brethren Rd**		**0.08 232**	Pg		**Pg**	**09 55 35.4**	**+0.6**
OK031				Sg		**Sg**	**09 55 36.6**	**+0.4**
OK033	**Mehan**		**0.15 285**	Pg		**Pg**	**09 55 36.6**	**+0.7**
OK033				Sg		**Sg**	**09 55 39.0**	**+0.9**
QUOK	**Quay**		**0.17 14**	Pg		**Pg**	**09 55 37.4**	**+1.2**
QUOK				Sg		**Sg**	**09 55 39.9**	**+1.3**
OK044	**Pawnee Station**		**0.37 355**	Pg		**Pg**	**09 55 40.8**	**+0.9**
OK044				Sg		**Sg**	**09 55 46.0**	**+1.2**
OK046	**Pawnee Station**		**0.41 343**	Pg		**Pb**	**09 55 41.6**	**-0.7**
OK046				Sg		**Sg**	**09 55 47.2**	**+1.1**
OK050	**Pawnee Station**		**0.43 335**	Pg		**Pb**	**09 55 42.0**	**-0.6**
OK050				Sg		**Sg**	**09 55 47.7**	**+1.0**
OK048	**Pawnee Station**		**0.44 340**	Pg		**Pb**	**09 55 42.1**	**-0.7**
OK048				Sg		**Sg**	**09 55 48.0**	**+1.1**
OK045	**Pawnee Station**		**0.46 343**	Pg		**Pb**	**09 55 42.6**	**-0.6**
OK045				Sg		**Sg**	**09 55 48.8**	**+1.0**
OK005	**Luther M Schoo**		**0.50 225**	Pg		**Pg**	**09 55 43.2**	**+0.9**
OK005				Sg		**Sg**	**09 55 50.0**	**+1.2**
OK051	**E0350 and S346**		**0.50 353**	Pg		**Pb**	**09 55 43.4**	**-0.5**
OK051				Sg		**Sg**	**09 55 50.1**	**+1.1**
OK011	**Prague**		**0.52 174**			**Pg**	**09 55 43.7**	**+0.9**
OK011				Sg		**Sg**	**09 55 51.0**	**+1.5**
OK029	**Liberty Lake**		**0.60 250**	Pg		**Pg**	**09 55 45.1**	**+0.7**
OK029				Sg		**Sg**	**09 55 53.1**	**+0.9**
ADOK	**Arcadia Dam**		**0.61 235**	Pg		**Pg**	**09 55 45.5**	**+0.7**
ADOK				Sg		**Sg**	**09 55 53.5**	**+1.1**
OK025	**Westminster Rd**		**0.63 228**	Pg		**Pg**	**09 55 45.5**	**+0.6**
OK025				IAmb_Lg			09 55 53.4	
	comp=Z,1μm,0.8s							
OK025				Sg		**Sg**	**09 55 54.3**	**+1.1**
OK009	**Oakdale Elemen**		**0.69 232**	Pg		**Pg**	**09 55 46.6**	**+0.7**
OK009				Sg		**Sb**	**09 55 56.1**	**-0.6**
BCOK	**Bluff Creek, N**		**0.77 244**	Pg		**Pg**	**09 55 48.1**	**+0.5**
BCOK				Sg		**Sg**	**09 55 58.6**	**+0.9**
TUL1	**Leonard**		**0.79 97**	Pg		**Pg**	**09 55 48.5**	**+0.6**
TUL1				Sg		**Sg**	**09 55 59.1**	**+0.9**
TUL1	**Leonard**		**0.79 97**	P		**Pb**	**09 55 48.7**	**-0.1**
	baz=277							
TUL1				S		**Sg**	**09 55 59.0**	**+0.9**
	baz=277							
TUL1	**Leonard**		**0.79 97**	P		**Pb**	**09 55 48.6**	**-0.1**
	baz=277,SNR=179							
TUL1				S		**Sb**	**09 55 59.3**	**-0.3**
	baz=277							
OKCSW	**OKLAHOMA CITY**		**0.81 223**	Sg		**Sg**	**09 55 60.0**	**+1.0**
BLOK	**Blackwell**		**0.84 334**			**Pg**	**09 55 49.3**	**+0.4**
BLOK				Sg		**Sb**	**09 56 00.5**	**-0.6**
FNO	**Franklin**		**0.91 215**	Pg		**Pg**	**09 55 50.3**	**+0.1**
FNO				IAmb_Lg			09 56 02.6	
	comp=Z,681nm,0.8s							
FNO				Sg		**Sb**	**09 56 03.0**	**-0.2**
T35A	**Sooner Cattle**		**0.93 12**	Pg		**Pb**	**09 55 51.1**	**-0.1**
T35A				Sg		**Sb**	**09 56 03.7**	**-0.1**
T35B	**Sooner Cattle**		**0.93 12**	P		**Pb**	**09 55 51.3**	**0.0**
	baz=193							
T35B				S		**Sb**	**09 56 04.2**	**+0.4**
	baz=193							
CROK	**Carrier**		**1.11 297**			**Pg**	**09 55 54.2**	**+0.2**
KAN13	**South Haven SW**		**1.16 330**	Pg		**Pb**	**09 55 55.3**	**+0.2**
GC02	**Grant County #**		**1.23 314**			**Pb**	**09 55 56.4**	**+0.2**
KAN17	**Caldwell West**		**1.32 322**			**Pb**	**09 55 58.0**	**+0.2**
KAN14	**Manchester OK**		**1.36 315**			**Pn**	**09 55 58.5**	**+0.4**
KS20	**Mayfield South**		**1.38 333**			**Pb**	**09 55 59.0**	**+0.2**
KAN01	**Argonia South**		**1.40 325**			**Pb**	**09 55 59.4**	**+0.2**
KAN01				IAmb_Lg			09 56 19.5	
	comp=Z,691nm,1.0s							
RLO	**Rose Lookout**		**1.41 83**			**Pb**	**09 55 59.7**	**+0.3**
OK032	**Salt Plains WL**		**1.42 305**			**Pn**	**09 55 59.4**	**+0.5**
OK032				Pn		**Pb**	**09 55 59.6**	**+0.1**
KAN05	**Bluff City Nor**		**1.42 321**			**Pb**	**09 55 59.6**	**+0.1**
KS21	**Milan North St**		**1.47 331**			**Pb**	**09 56 00.4**	**0.0**
KAN06	**Argonia West S**		**1.52 325**			**Pb**	**09 56 01.1**	**-0.3**
KAN06				IAmb_Lg			09 56 25.3	
	comp=Z,572nm,0.8s							
KAN10	**Anthony SW Sta**		**1.55 316**			**Pb**	**09 56 01.9**	**+0.1**
KAN08	**Anthony NE Sta**		**1.56 322**			**Pb**	**09 56 01.9**	**-0.1**
KAN16	**Harper SW Stat**		**1.61 320**			**Pg**	**09 56 03.3**	**0.0**
CSTR	**Hydro, Custer**		**1.61 258**			**Pb**	**09 56 02.7**	**-0.1**
CSTR				Pn		**Pg**	**09 56 02.8**	**-0.8**
CSTR				IAmb_Lg			09 56 23.4	
	comp=Z,14nm,0.8s							
KAN12	**Harper NE Stat**		**1.63 323**			**Pb**	**09 56 03.2**	**+0.1**
X34A	**Smith Ranch, M**		**1.65 212**			**Pb**	**09 56 03.6**	**+0.1**
OK038	**West end E0370**		**1.67 287**			**Pb**	**09 56 03.4**	**-0.4**
OK035	**E0210 Rd and N**		**1.73 295**			**Pn**	**09 56 03.6**	**+0.4**
X37A	**Clayton**		**1.81 141**	Pn		**Pn**	**09 56 05.4**	**+1.1**
X37A	**Clayton**		**1.81 141**	P		**Pb**	**09 56 06.3**	**+0.1**
	baz=322							
X37A				S		**Sg**	**09 56 31.9**	**+1.0**
	baz=322							
U32A	**Winter Ranch,**		**1.85 282**	Pn		**Pn**	**09 56 06.1**	**+1.2**
U32A	**Winter Ranch,**		**1.85 282**	P		**Pb**	**09 56 06.2**	**-0.7**
	baz=101							
U32A				S		**Sg**	**09 56 32.1**	**-0.2**
	baz=101					

CBKS	**Cedar Bluff**	**3.67**	**321**	Pn	**Pn**	**09 56 31.2**	**+1.2**
CBKS				IAmb_Lg		09 57 33.3	
	comp=Z,371nm,0.8s						
CBKS	**Cedar Bluff**	**3.67**	**321**	P	**Pn**	**09 56 31.2**	**+1.2**
	baz=139						
CBKS				Sb	**Sb**	**09 57 26.6**	**+3.9**
	baz=139						
WHAR	**Wooly Hollow**	**3.71**	**100**		**Pn**	**09 56 32.1**	**+1.7**
WHAR				IAmb_Lg		09 57 34.4	
	comp=Z,456nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.76**	**90**	Pn	**Pn**	**09 56 33.1**	**+2.0**
FCAR				IAmb_Lg		09 57 35.5	
	comp=Z,568nm,0.8s						
WLAR	**White Oak Lake**	**3.79**	**127**	Pn	**Pn**	**09 56 33.1**	**+1.6**
WLAR				IAmb_Lg		09 57 37.5	
	comp=Z,245nm,0.8s						
MGMO	**Mountain Grove**	**3.79**	**71**	Pn	**Pn**	**09 56 33.0**	**+1.4**
UALR	**University of**	**3.81**	**108**	Pn	**Pn**	**09 56 33.0**	**+1.2**
UALR				IAmb_Lg		09 57 37.9	
	comp=Z,254nm,0.9s						
WHTX	**Lake Whitney,**	**4.04**	**188**	Pn	**Pn**	**09 56 36.2**	**+1.1**
WHTX	**Lake Whitney,**	**4.04**	**188**	P	**Pn**	**09 56 36.0**	**+1.0**
	baz=8.0,SNR=9.5						
WHTX				S	**Sn**	**09 57 23.7**	**+1.0**
	baz=8.0						
237A	**Washetta, Mont**	**4.07**	**169**	Pn	**Pn**	**09 56 36.1**	**+0.7**
237A				IAmb_Lg		09 57 46.4	
	comp=Z,163nm,1.1s						
237A	**Washetta, Mont**	**4.07**	**169**	P	**Pn**	**09 56 36.3**	**+1.0**
	baz=349						
ABTX	**Abilene, Hawle**	**4.13**	**216**	Pn	**Pn**	**09 56 36.9**	**+0.7**
ABTX				IAmb_Lg		09 57 51.6	
	comp=Z,171nm,0.9s						
ABTX	**Abilene, Hawle**	**4.13**	**216**	P	**Pn**	**09 56 36.8**	**+0.5**
	baz=34,SNR=17						
ABTX				S	**Sn**	**09 57 26.9**	**+2.0**
	baz=34						
AMTX	**Amarillo**	**4.17**	**256**	Pn	**Pn**	**09 56 37.5**	**+0.7**
AMTX				IAmb_Lg		09 57 50.0	
	comp=Z,222nm,0.7s						
AMTX	**Amarillo**	**4.17**	**256**	P	**Pn**	**09 56 38.5**	**+1.6**
	baz=73						
AMTX				Sb	**Sb**	**09 57 41.5**	**+4.3**
	baz=73						
R40A	**Maddies Statio**	**4.25**	**56**	Pn	**Pn**	**09 56 39.7**	**+1.8**
R40A				IAmb_Lg		09 57 51.7	
	comp=Z,610nm,0.9s						
P38A	**Dawn**	**4.42**	**34**	Pn	**Pn**	**09 56 42.0**	**+1.7**
P38A				IAmb_Lg		09 57 55.4	
	comp=Z,540nm,0.7s						
LCAR	**Lake Charles**	**4.54**	**88**		**Pn**	**09 56 42.8**	**+0.9**
LCAR				IAmb_Lg		09 57 60.0	
	comp=Z,277nm,0.8s						
NATX	**Nacogdoches**	**4.58**	**157**	Pn	**Pn**	**09 56 43.0**	**+0.6**
NATX				IAmb_Lg		09 58 05.5	
	comp=Z,125nm,0.8s						
NATX	**Nacogdoches**	**4.58**	**157**	S	**Sn**	**09 57 34.7**	**-1.1**
	baz=338						
CCAR	**Cane Creek**	**4.59**	**116**		**Pn**	**09 56 43.8**	**+1.3**
CCAR				IAmb_Lg		09 58 12.5	
	comp=Z,192nm,1.1s						
N33A	**J Bar K, Exete**	**4.76**	**354**		**Pn**	**09 56 45.5**	**+0.6**
N33A				IAmb_Lg		09 58 12.4	
	comp=Z,450nm,0.7s						
CCM	**Cathedral Cave**	**4.86**	**63**	Pn	**Pn**	**09 56 48.2**	**+1.9**
CCM				IAmb_Lg		09 58 14.0	
	comp=Z,425nm,0.8s						
CCM	**Cathedral Cave**	**4.86**	**63**	P	**Pn**	**09 56 47.7**	**+1.4**
	baz=247						
CCM				S	**Sn**	**09 57 45.0**	**+2.2**
	baz=247						
N35A	**Tabor**	**4.93**	**10**	Pn	**Pn**	**09 56 48.4**	**+1.3**
N35A				IAmb_Lg		09 58 18.7	
	comp=Z,450nm,0.9s						
N35A	**Tabor**	**4.93**	**10**	P	**Pn**	**09 56 48.3**	**+1.1**
	baz=191						
HBAR	**Harrisburg**	**4.98**	**93**	Pn	**Pn**	**09 56 48.6**	**+0.7**
P40A	**Paris**	**5.13**	**45**	Pn	**Pn**	**09 56 51.9**	**+2.0**
PBMO	**Poplar Bluff**	**5.16**	**80**	IAmb_Lg		09 58 24.2	
	comp=Z,309nm,0.7s						
435B	**Jarrell**	**5.25**	**188**	Pn	**Pn**	**09 56 52.2**	**+0.5**
435B				IAmb_Lg		09 58 34.2	
	comp=Z,210nm,1.1s						
435B	**Jarrell**	**5.25**	**188**	P	**Pn**	**09 56 52.5**	**+0.8**
	baz=7.3						
435B	**Jarrell**	**5.25**	**188**	P	**Pn**	**09 56 52.4**	**+0.7**
	baz=7.3						
MSTX	**Muleshoe**	**5.34**	**249**	Pn	**Pn**	**09 56 53.6**	**+0.7**
MSTX	**Muleshoe**	**5.34**	**249**	P	**Pn**	**09 56 53.8**	**+0.8**
	baz=66						
FVM	**French Village**	**5.44**	**67**	Pn	**Pn**	**09 56 55.4**	**+1.1**
GNAR	**Gosnell**	**5.47**	**88**	IAmb_Lg		09 58 40.9	
	comp=Z,473nm,1.0s						
BGNE	**Belgrade**	**5.50**	**349**	Pn	**Pn**	**09 56 55.8**	**+0.7**
BGNE				IAmb_Lg		09 58 40.6	
	comp=Z,382nm,0.8s						
BGNE	**Belgrade**	**5.50**	**349**	P	**Pn**	**09 56 55.7**	**+0.6**
	baz=168,SNR=7.7						
BGNE				S	**Sn**	**09 57 59.5**	**+0.8**
	baz=168						
143A	**Socs Landing,**	**5.52**	**125**	Pn	**Pn**	**09 56 56.8**	**+1.6**
143A				IAmb_Lg		09 58 42.1	
	comp=Z,142nm,0.8s						
N38A	**Joes South For**	**5.52**	**29**	Pn	**Pn**	**09 56 56.4**	**+1.1**
KSCO	**Kaye Shedlock'**	**5.55**	**304**	Pn	**Pn**	**09 56 57.0**	**+1.2**
KSCO				IAmb_Lg		09 58 33.9	
	comp=Z,231nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.55**	**304**	P	**Pn**	**09 56 57.1**	**+1.2**
	baz=121						
PEBM	**Pemiscott Bayo**	**5.59**	**87**	IAmb_Lg		09 58 40.5	
	comp=Z,368nm,0.8s						
MET	**Memphis--Engin**	**5.63**	**97**	IAmb_Lg		09 58 38.8	
	comp=Z,304nm,0.8s						
PARMO	**Parma**	**5.69**	**81**	Pn	**Pn**	**09 56 59.4**	**+1.7**
PVMO	**Portageville**	**5.72**	**84**	IAmb_Lg		09 58 50.0	
	comp=Z,345nm,0.7s						
CGM3	**Cape Girardeau**	**5.85**	**75**	IAmb_Lg		09 58 41.6	
	comp=Z,335nm,0.8s						
L34A	**Svendsen Farm,**	**5.96**	**3**	IAmb_Lg		09 58 52.5	
	comp=Z,435nm,0.8s						
441A	**DeRidder**	**6.03**	**149**	IAmb_Lg		09 58 42.9	
	comp=Z,101nm,1.1s						
GLAT	**Glass**	**6.05**	**85**	Pn	**Pn**	**09 57 03.5**	**+0.9**
JCT	**Junction City**	**6.07**	**206**	IAmb_Lg		09 58 47.6	
	comp=Z,162nm,1.0s						
HICK	**Hickman**	**6.11**	**83**	Pn	**Pn**	**09 57 03.4**	**+0.1**
HICK				IAmb_Lg		09 58 53.1	
	comp=Z,418nm,0.9s						
OXF	**Oxford**	**6.19**	**102**		**Pn**	**09 57 04.8**	**+0.2**
OXF				IAmb_Lg		09 59 05.1	
	comp=Z,129nm,0.8s						
OXF	**Oxford**	**6.19**	**102**	P	**Pn**	**09 57 04.7**	**+0.2**
	baz=286						
OXF				S	**Sn**	**09 58 16.9**	**+1.3**
	baz=286						
W45A	**Hickory Valley**	**6.23**	**96**	Pn	**Pn**	**09 57 04.7**	**-0.3**
W45A				IAmb_Lg		09 58 57.9	
	comp=Z,320nm,0.8s						
S44A	**Carbondale**	**6.25**	**72**	Pn	**Pn**	**09 57 06.8**	**+1.6**
T25A	**Trinidad**	**6.26**	**283**	Pn	**Pn**	**09 57 06.3**	**+0.6**
T25A				IAmb_Lg		09 58 56.4	
	comp=Z,136nm,0.8s						
T25A	**Trinidad**	**6.26**	**283**	P	**Pn**	**09 57 06.2**	**+0.5**
	baz=98						
Y45A	**Yeager Farm, C**	**6.30**	**108**	Pn	**Pn**	**09 57 07.0**	**+1.0**
Y45A				IAmb_Lg		09 59 07.4	
	comp=Z,125nm,0.9s						
OGNE	**Ogallala**	**6.44**	**322**	Pn	**Pn**	**09 57 09.4**	**+1.4**
OGNE				IAmb_Lg		09 59 00.5	
	comp=Z,366nm,0.8s						
OGNE	**Ogallala**	**6.44**	**322**	P	**Pn**	**09 57 10.1**	**+2.1**
	baz=138						
SCIA	**State Center**	**6.51**	**24**	Pn	**Pn**	**09 57 09.6**	**+0.8**
SCIA				IAmb_Lg		09 59 14.2	
	comp=Z,234nm,0.8s						
SCIA	**State Center**	**6.51**	**24**	P	**Pn**	**09 57 09.8**	**+0.9**
	baz=206,SNR=5.8						
CPRX	**Cap Rock**	**6.58**	**245**	Pn	**Pn**	**09 57 11.1**	**+1.1**
N41A	**Harden Midland**	**6.60**	**43**	Pn	**Pn**	**09 57 11.5**	**+1.4**
T45A	**Paducah**	**6.61**	**79**	Pn	**Pn**	**09 57 11.0**	**+0.7**
HTMS	**Hat Mesa**	**6.70**	**240**	Pn	**Pn**	**09 57 12.5**	**+0.9**
P43A	**Skaggs, Pawnee**	**6.78**	**55**		**Pn**	**09 57 13.9**	**+1.3**
K31A	**O'Neill**	**6.79**	**347**	Pn	**Pn**	**09 57 13.4**	**+0.7**
K31A				IAmb_Lg		09 59 14.1	
	comp=Z,347nm,0.9s						
CLN7	**Carlsbad 7**	**6.85**	**240**	Pn	**Pn**	**09 57 14.8**	**+1.1**

PLAL	**Pickwick Lake**	**7.16**	**96**	Pn	**Pn**	**09 57 18.1**	**+0.4**
735A	**Kenedy**	**7.18**	**187**		**Pn**	**09 57 18.9**	**+0.7**
146A	**Union**	**7.20**	**116**	Pn	**Pn**	**09 57 18.8**	**+0.4**
SDCO	**Great Sand Dun**	**7.22**	**287**	Pn	**Pn**	**09 57 20.1**	**+1.2**
SDCO	**Great Sand Dun**	**7.22**	**287**	P	**Pn**	**09 57 20.6**	**+1.6**
	baz=101,SNR=13						
WVT	**Waverly**	**7.23**	**86**	Pn	**Pn**	**09 57 20.9**	**+2.1**
WVT				IAmb_Lg		09 59 35.5	
	comp=Z,80nm,0.8s						
WVT	**Waverly**	**7.23**	**86**	P	**Pn**	**09 57 19.4**	**+0.6**
	baz=272						
Q24A	**Divide**	**7.30**	**296**		**Pn**	**09 57 20.6**	**+0.6**
Q24A				IAmb_Lg		09 59 29.5	
	comp=Z,82nm,0.8s						
Q24A	**Divide**	**7.30**	**296**	P	**Pn**	**09 57 20.6**	**+0.6**
	baz=111,SNR=8.3						
K38A	**Parkersburg**	**7.32**	**24**		**Pn**	**09 57 20.7**	**+0.8**
K38A				IAmb_Lg		09 59 39.8	
	comp=Z,297nm,1.1s						
GDL2	**Guadalupe Moun**	**7.36**	**241**	Pn	**Pn**	**09 57 21.6**	**+0.9**
OLIL	**Olney**	**7.41**	**66**	Pn	**Pn**	**09 57 21.1**	**-0.2**
HDIL	**Hopedale**	**7.42**	**50**		**Pn**	**09 57 21.9**	**+0.5**
HDIL	**Hopedale**	**7.42**	**50**	P	**Pn**	**09 57 22.2**	**+0.8**
	baz=234,SNR=7.5						
L40A	**Anamosa**	**7.42**	**34**	Pn	**Pn**	**09 57 21.7**	**+0.2**
BRIGG	**Briggsdale**	**7.50**	**310**	Pn	**Pn**	**09 57 22.9**	**+0.3**
BRIGG				IAmb_Lg		09 59 40.5	
	comp=Z,195nm,0.8s						
346A	**Big Creek Wild**	**7.62**	**125**	Pn	**Pn**	**09 57 24.7**	**+0.5**
Z47A	**Carrollton**	**7.69**	**109**	Pn	**Pn**	**09 57 24.9**	**-0.2**
ECSD	**EROS Data Cent**	**7.72**	**1**	Pn	**Pn**	**09 57 25.8**	**+0.3**
ECSD	**EROS Data Cent**	**7.72**	**1**	P	**Pn**	**09 57 26.0**	**+0.5**
	baz=181						
O44A	**Mansfield**	**7.74**	**55**	Pn	**Pn**	**09 57 26.6**	**+0.9**
T47A	**Sharon Grove**	**7.84**	**80**		**Pn**	**09 57 28.1**	**+1.0**
ISCO	**Idaho Springs**	**7.96**	**301**	P	**Pn**	**09 57 29.9**	**+0.8**
	baz=116						
833A	**Chaparral WMA,**	**7.98**	**197**	Pn	**Pn**	**09 57 30.1**	**+1.1**
833A	**Chaparral WMA,**	**7.98**	**197**	P	**Pn**	**09 57 30.2**	**+1.2**
	baz=16						
V48A	**Smith Brothers**	**8.07**	**89**	IAmb_Lg		09 59 57.5	
	comp=Z,102nm,1.0s						
X48A	**Hartselle**	**8.10**	**98**	IAmb_Lg		09 59 48.1	
	comp=Z,98nm,1.1s						
L42A	**Oliver, Polo**	**8.14**	**41**	Pn	**Pn**	**09 57 30.5**	**-0.8**
L42A				IAmb_Lg		09 59 54.9	
	comp=Z,274nm,0.8s						
S22A	**4UR Ranch, Cre**	**8.26**	**285**	P	**Pn**	**09 57 35.6**	**+2.4**
	baz=99						
BNM	**Barren Site**	**8.30**	**260**	Pn	**Pn**	**09 57 32.9**	**-0.8**
I37A	**Lemond, Waseca**	**8.40**	**17**	Pn	**Pn**	**09 57 34.0**	**-0.8**
I37A				IAmb_Lg		10 00 13.7	
	comp=Z,85nm,0.8s						
JFWS	**Jewell Farm**	**8.54**	**34**		**Pn**	**09 57 36.9**	**+0.2**
JFWS				IAmb_Lg		10 00 13.6	
	comp=Z,209nm,0.9s						
JFWS	**Jewell Farm**	**8.54**	**34**	P	**Pn**	**09 57 37.1**	**+0.3**
	baz=218,SNR=9.0						
LRAL	**Lakeview Retre**	**8.58**	**107**		**Pn**	**09 57 37.5**	**+0.2**
LRAL	**Lakeview Retre**	**8.58**	**107**	P	**Pn**	**09 57 37.7**	**+0.4**
	baz=293						
SUSD	**Miller**	**8.59**	**349**	IAmb_Lg		10 00 19.5	
	comp=Z,156nm,0.9s						
PHWY	**Pilot Hill**	**8.62**	**310**	IAmb_Lg		10 00 12.8	
	comp=Z,146nm,1.0s						
N23A	**Red Feather La**	**8.70**	**307**	Pn	**Pn**	**09 57 38.8**	**-0.4**
N23A				IAmb_Lg		10 00 34.2	
	comp=Z,123nm,0.8s						
N23A	**Red Feather La**	**8.70**	**307**	P	**Pn**	**09 57 40.3**	**+1.0**
	baz=121						
BLO	**Bloomington**	**8.72**	**66**	Pn	**Pn**	**09 57 39.3**	**+0.1**
Y49A	**Blount Mountai**	**8.76**	**101**	Pn	**Pn**	**09 57 40.7**	**+0.9**
SFIN	**Lafayette**	**8.77**	**57**	IAmb_Lg		10 00 10.3	
	comp=Z,272nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.84**	**223**	Pn	**Pn**	**09 57 39.4**	**-1.6**
TX32	**Lajitas Array**	**8.84**	**223**	Pn	**Pn**	**09 57 41.6**	**+0.6**
TXAR	**Lajitas Array**	**8.84**	**223**	Pn	**Pn**	**09 57 41.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=42,slow=12,SNR=15						
TXAR				Lg	Lg	10 00 09.3	
	comp=Z,3.8nm,0.3s,baz=44,slow=25,SNR=10						
TXAR				LR	LR	10 01 18.5	
	comp=Z,61nm,20.5s,baz=24,slow=39						
	comp=Z,0.5nm,0.4s						
HQIL	**Hanson Quary C**	**9.03**	**47**	IAmb_Lg		10 00 17.0	
	comp=Z,509nm,1.2s						
I40A	**Norwalk**	**9.18**	**29**	Pn	**Pn**	**09 57 45.6**	**+0.1**
I40A				IAmb_Lg		10 00 36.6	
	comp=Z,102nm,0.7s						
W50A	**Signal Mountai**	**9.36**	**92**	Pn	**Pn**	**09 57 46.7**	**-1.3**
BRAL	**Brewton**	**9.42**	**118**	Pn	**Pn**	**09 57 49.6**	**+0.7**
BRAL	**Brewton**	**9.42**	**118**	P	**Pn**	**09 57 49.6**	**+0.7**
	baz=304						
250A	**Grady**	**9.59**	**112**	Pn	**Pn**	**09 57 51.8**	**+0.6**
P48A	**Milroy**	**9.62**	**66**	Pn	**Pn**	**09 57 52.1**	**+0.6**
PV15	**Paradox Valley**	**9.64**	**287**	Pn	**Pn**	**09 57 51.4**	**-0.7**
T50A	**Nancy**	**9.65**	**80**	Pn	**Pn**	**09 57 53.3**	**+1.3**
SPMN	**Marine on St.**	**9.69**	**17**	Pn	**Pn**	**09 57 52.0**	**-0.4**
SPMN	**Marine on St.**	**9.69**	**17**	P	**Pn**	**09 57 51.9**	**-0.6**
	baz=199,SNR=6.9						
121A	**Cookes Peak, D**	**9.76**	**252**	Pn	**Pn**	**09 57 53.9**	**+0.3**
F33A	**5 Mile Ranch,**	**9.83**	**2**	Pn	**Pn**	**09 57 53.7**	**-0.7**
F33A				IAmb_Lg		10 00 49.5	
	comp=Z,73nm,0.9s						
RSSD	**Black Hills**	**9.84**	**328**	Pn	**Pn**	**09 57 55.7**	**+1.0**
RSSD				IAmb_Lg		10 00 52.8	
	comp=Z,83nm,0.8s						
I42A	**Draeger Farm,**	**9.91**	**35**	Pn	**Pn**	**09 57 55.8**	**+0.2**
I42A				IAmb_Lg		10 00 51.7	
	comp=Z,134nm,1.0s						
Z51A	**Franklin**	**9.91**	**102**	Pn	**Pn**	**09 57 56.3**	**+0.7**
CPCT	**Cooper Cave**	**9.96**	**90**	Pn	**Pn**	**09 57 58.2**	**+1.9**
V51A	**Loudon**	**10.07**	**88**	Pn	**Pn**	**09 57 58.4**	**+0.7**
F36A	**Milaca**	**10.14**	**13**	Pn	**Pn**	**09 57 57.2**	**-1.5**
G40A	**Rib Lake**	**10.51**	**26**	Pn	**Pn**	**09 58 03.9**	**+0.2**
TKL	**Tuckaleechee C**	**10.55**	**88**	Pn	**Pn**	**09 58 05.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=270,slow=16,SNR=4.0						
TKL				Lg	Lg	10 00 58.4	
	comp=Z,4.1nm,0.3s,baz=357,slow=23,SNR=4.9						
	comp=Z,2.2nm,0.7s						
S51A	**Beattyville**	**10.68**	**77**	Pn	**Pn**	**09 58 07.2**	**+1.1**
H43A	**Windswept, Lux**	**10.89**	**36**	Pn	**Pn**	**09 58 08.9**	**0.0**
GOGA	**Godfrey**	**11.24**	**99**	Pn	**Pn**	**09 58 12.2**	**-1.6**
P18A	**Preston Nutter**	**11.26**	**293**	Pn	**Pn**	**09 58 13.2**	**-1.1**
E38A	**The Farm, Brul**	**11.29**	**19**	Pn	**Pn**	**09 58 13.0**	**-1.4**
P51A	**Williamsport**	**11.39**	**68**	Pn	**Pn**	**09 58 14.8**	**-0.9**
P17A	**Butcher Ranch,**	**11.60**	**292**	Pn	**Pn**	**09 58 17.9**	**-0.9**
COWI	**Conover**	**11.60**	**27**	Pn	**Pn**	**09 58 17.1**	**-1.6**
ACSO	**Alum Creek Sta**	**11.64**	**65**	Pn	**Pn**	**09 58 17.6**	**-1.6**
F42A	**Maple Grove Fa**	**11.72**	**31**	Pn	**Pn**	**09 58 18.9**	**-1.4**
HPIG		**11.81**	**222**	Pn	**Pn**	**09 58 21.8**	**0.0**
Q52A	**Bidwell**	**11.88**	**71**	Pn	**Pn**	**09 58 24.8**	**+2.2**
AAM	**Ann Arbor**	**11.95**	**54**	Pn	**Pn**	**09 58 22.8**	**-0.6**
BW06	**Boulder Array**	**11.98**	**308**	Pn	**Pn**	**09 58 21.9**	**-2.2**
PD31	**Pinedale Array**	**11.98**	**308**	Pn	**Pn**	**09 58 21.7**	**-2.4**
PDAR	**Pinedale Array**	**11.98**	**308**	Pn	**Pn**	**09 58 24.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=116,slow=14,SNR=3.1						
PDAR				Lg	Lg	10 01 44.1	
	comp=Z,0.7nm,0.3s,baz=115,slow=32,SNR=2.9						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**11.98**	**308**	Pn	**Pn**	**09 58 22.6**	**-1.5**
AGMN	**Agassiz Nation**	**12.30**	**3**	Pn	**Pn**	**09 58 25.7**	**-2.5**
AGMN	**Agassiz Nation**	**12.30**	**3**	P	**Pn**	**09 58 25.5**	**-2.7**
	baz=183						
S54A	**Dingess, Beckl**	**12.50**	**77**	Pn	**Pn**	**09 58 31.1**	**+0.1**
B35A	**Bob, Littlefor**	**12.55**	**9**	Pn	**Pn**	**09 58 29.7**	**-1.9**
D41A	**Chassel**	**12.63**	**26**	Pn	**Pn**	**09 58 30.3**	**-2.4**
HWUT	**Hardware Ranch**	**12.83**	**300**	Pn	**Pn**	**09 58 34.6**	**-1.0**
R55A	**Marlinton**	**13.47**	**75**	Pn	**Pn**	**09 58 42.2**	**-2.1**
DGMT	**Dagmar**	**13.61**	**339**	Pn	**Pn**	**09 58 44.3**	**-1.8**
W57A	**Gilead**	**13.68**	**89**	Pn	**Pn**	**09 58 45.2**	**-1.8**
656A	**Willston**	**13.68**	**115**	Pn	**Pn**	**09 58 45.2**	**-1.9**
HSIG		**13.85**	**244**	Pn	**Pn**	**09 58 47.9**	**-1.5**
E46A	**Sault Ste Mari**	**13.95**	**38**	Pn	**Pn**	**09 58 48.2**	**-2.5**
ULM	**Lac du Bonnet**	**14.25**	**2**	Pn	**Pn**	**09 58 48.8**	**-6.1**
	comp=Z,1.1nm,0.3s,baz=184,slow=11,SNR=6.9						
ULM				Sn	Sn	10 01 19.0	-14
	comp=Z,0.3nm,0.3s,baz=248,slow=19,SNR=2.1						
ULM				Lg	Lg	10 02 50.0	
	comp=Z,0.3nm,0.3s,baz=258,slow=20,SNR=1.3						
	comp=Z,2.9nm,0.4s						
ULM	**Lac du Bonnet**	**14.25**	**2**	Pn	**Pn**	**09 58 50.6**	**-4.3**
ELK	**Elko**	**15.24**	**294**	LR	LR	10 05 28.8	
	comp=Z,62nm,18.1s,baz=48,slow=39						
SADO	**Sadowa**	**16.00**	**51**	Sn	Sn	10 02 00.6	-15
	comp=Z,0.1nm,0.3s,baz=272,slow=6.8,SNR=1.7						
SADO				Lg	Lg	10 03 46.9	
	comp=Z,0.7nm,0.3s,baz=273,slow=18,SNR=1.8						
NVAR	**Mina Array Bea**	**17.33**	**284**	P	**Pn**	**09 59 35.8**	**+0.5**
	baz=94,slow=13,SNR=3.5						
	comp=Z,0.9nm,1.0s						
CMIG	**Matias Romero**	**18.91**	**174**	P	**P**	**09 59 54.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=22,slow=14,SNR=5.2						
CMIG				LR	LR	10 10 26.0	
	comp=Z,18nm,18.1s,baz=352,slow=47						
	comp=Z,1.0nm,0.4s						
YBH	**Yreka Blue Hor**	**20.96**	**294**	P	**P**	**10 00 16.4**	**+0.1**
	comp=Z,2.1nm,1.1s,baz=246,slow=2.4,SNR=1.9						
	comp=Z,2.1nm,1.1s						
FRB	**Frobisher Bay**	**32.65**	**23**	LR	LR	10 13 53.5	
	comp=Z,43nm,18.5s,baz=359,slow=34						
INK	**Inuvik**	**38.30**	**339**	LR	LR	10 19 08.2	
	comp=Z,53nm,18.8s,baz=266,slow=37						
ILAR	**Eielson Array**	**41.27**	**330**	P	**P**	**10 03 18.0**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=114,slow=7.9,SNR=2.7						
	comp=Z,0.2nm,0.6s						

*IDC **22** 10:07:37.9±1.2,5.°19N×61.°33E,h0km,mb4.0/8, mbtmp4.0/8,MS3.7/32,Error ellipse: s-maj=44.3km s-min=21.9km az=39.0*

*NEIC **22** 10:07:40.0±2.1,5.°4N±0.°1×61.°3E±0.°1,h10km±1km, mb4.5/7,Error ellipse: s-maj=26.4km s-min=18.9km az=311.0*

ISC 22 10:07:40.2±0.6,5.°3N±0.°1×61.°3E±0.°1,h14km,n49, σ1§02/21,mb4.2/13,MS3.7/30,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**11.50**	**211**	Pn	**Pn**	**Pn**	**10 10 24.2**	**+0.1**
HMDM	**Hanimaadhoo**	**11.88**	**82**	Pn	**Pn**	**Pn**	**10 10 29.0**	**-0.4**
WSAR	**Wadi Sarin**	**18.02**	**352**	LR	LR	LR	10 17 25.0	
	comp=Z,60nm,20.2s,baz=196,slow=32							
PALK	**Pallekele**	**19.36**	**83**	LR	LR	LR	10 17 49.7	
	comp=Z,401nm,19.6s,baz=18,slow=32							
VOI	**Vohitsoka**	**30.56**	**207**	P		**P**	**10 13 53.8**	**0.0**
VOI				IAmb	IAmb	IAmb	10 14 14.2	
	comp=Z,18nm,1.3s							
MBAR	**Mbarara**	**31.10**	**260**	LR	LR	LR	10 27 04.0	
	comp=Z,110nm,18.1s,baz=76,slow=38							
BRDH	**Bariadhala**	**33.99**	**57**	LR	LR	LR	10 27 49.9	
	comp=Z,426nm,19.3s,baz=263,slow=36							
EIL	**Elat**	**34.75**	**317**	LR	LR	LR	10 28 09.0	
	comp=Z,182nm,18.6s,baz=63,slow=35							
MMAI	**Mount Meron Ar**	**36.66**	**322**	LR	LR	LR	10 29 37.1	
	comp=Z,112nm,18.8s,baz=82,slow=36							
GNI	**Garni**	**37.77**	**339**	LR	LR	LR	10 29 41.1	
	comp=Z,37nm,19.5s,baz=134,slow=35							
LSZ	**Lusaka**	**38.67**	**238**	LR	LR	LR	10 29 30.6	
	comp=Z,212nm,18.6s,baz=28,slow=34							
CMAR	**Chiang Mai Arr**	**38.97**	**67**	P		**P**	**10 15 08.2**	**+1.9**
	comp=Z,1.0nm,0.4s,baz=221,slow=6.8,SNR=1.5							
CMAR				LR	LR	LR	10 29 46.4	
	comp=Z,58nm,21.6s,baz=255,slow=34							
	comp=Z,1.0nm,0.4s							
AAK	**Ala-Archa**	**38.98**	**16**	LR	LR	LR	10 31 38.6	
	comp=Z,88nm,19.6s,baz=204,slow=37							
BRTR	**Keskin Array B**	**42.40**	**328**	P		**P**	**10 15 36.0**	**+1.4**
	comp=Z,2.0nm,1.0s,baz=140,slow=9.7,SNR=4.9							
	comp=Z,2.0nm,1.0s							
IDI	**Anoyia**	**44.91**	**317**	LR	LR	LR	10 35 23.1	
	comp=Z,22nm,19.7s,baz=117,slow=37							
MKAR	**Makanchi Array**	**45.13**	**20**	LR	LR	LR	10 35 28.1	
	comp=Z,28nm,21.5s,baz=226,slow=37							
LBTB	**Lobatse**	**45.98**	**227**	LR	LR	LR	10 34 01.7	
	comp=Z,44nm

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**285**	P	**Pb**	**10 10 47.1**	**+0.3**
JFK				S	**Sb**	**10 10 54.6**	**+0.5**
JFK	**Kawauchi**	**0.54**	**285**	A	A	10 10 47.1	
	comp=E,6.0nm,0.5s,comp=E,6.0nm,0.3s						
JMST	**Minamisoumatoc**	**0.71**	**314**	P	**Pn**	**10 10 49.6**	**-1.0**
JMST				S	**Sb**	**10 10 59.1**	**+0.1**
JMST	**Minamisoumatoc**	**0.71**	**314**	A	A	10 10 49.6	
	comp=E,5.0nm,0.2s,comp=E,9.0nm,0.3s						
JFFD	**Fukushimafurud**	**0.78**	**260**	P	**Pn**	**10 10 51.1**	**-0.6**
JFFD				S	**Sn**	**10 11 01.1**	**-1.7**
JMM	**Marumori**	**0.86**	**318**	P	**Pn**	**10 10 52.0**	**-0.7**
JMM				S	**Sn**	**10 11 03.2**	**-1.4**
JHO	**Hitachi**	**0.99**	**231**	P	**Pn**	**10 10 53.8**	**-0.7**
JHO				S	**Sn**	**10 11 06.6**	**-1.1**
JIO	**Ouri**	**1.23**	**353**	S	**Sn**	**10 11 12.8**	**-0.9**
MJAR	**Matsushiro Arr**	**2.75**	**256**	Pn	**Pn**	**10 11 16.1**	**-2.6**
	0.1nm,0.3s,baz=159,slow=26,SNR=2.7						
MJAR				Sn	**Sn**	**10 11 54.4**	**+3.2**
	1.1nm,0.3s,baz=192,slow=24,SNR=7.5 2.3nm,0.3s						
JHJ	**Hachijo jima 2**	**4.34**	**200**	Pn	**Pn**	**10 11 40.3**	**-0.4**
	36nm,0.3s,baz=82,slow=22,SNR=8.6						
JHJ				Sn	**Sn**	**10 12 29.2**	**-1.3**
	4.6nm,0.3s,baz=45,slow=23,SNR=1.7						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**10 16 24.0**	**+1.0**
	0.2nm,0.5s,baz=93,slow=8.9,SNR=2.0						
SONM				LR	LR	10 28 02.6	
	comp=Z,45nm,18.0s,baz=302,slow=38 0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	10 45 54.1	
	baz=314,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	10 45 53.0	
	baz=314,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	10 45 52.5	
	baz=314,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	10 46 47.3	
	baz=316,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	10 46 47.3	
	baz=316,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	10 46 49.8	
	baz=316,slow=76,SNR=19						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**10 18 24.6**	**+0.6**
	0.7nm,0.5s,baz=95,slow=7.8,SNR=2.6 0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**10 18 42.7**	**+0.4**
	0.6nm,0.7s,baz=91,slow=9.7,SNR=4.2 0.6nm,0.7s						
ILAR	**Eielson Array**	**49.28**	**32**	P	**P**	**10 19 21.3**	**-1.3**
	0.4nm,0.8s,baz=285,slow=7.2,SNR=2.9 0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**10 20 21.6**	**-0.2**
	0.4nm,0.5s,baz=7.8,slow=7.7,SNR=4.8 0.4nm,0.5s						
ASAR	**Alice Springs**	**61.00**	**188**	P	**P**	**10 20 47.0**	**-0.6**
	0.4nm,0.7s,baz=0.2,slow=6.0,SNR=4.5 0.4nm,0.7s						
ARCES	**ARCESS Array B**	**63.84**	**339**	P	**P**	**10 21 05.9**	**-0.2**
	1.2nm,0.8s,baz=50,slow=8.4,SNR=1.8						
ARCES				LR	LR	10 54 27.1	
	comp=Z,37nm,18.7s,baz=76,slow=41 1.2nm,0.8s						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**10 21 38.1**	**+0.8**
	0.4nm,0.4s,baz=60,slow=8.2,SNR=0.9 0.4nm,0.4s						
TXAR	**Lajitas Array**	**89.93**	**52**	P	**P**	**10 23 35.7**	**+2.0**
	0.1nm,0.4s,baz=305,slow=3.2,SNR=2.3 0.1nm,0.4s						
LPAZ	**La Paz**	**146.51**	**59**	PKPbc	**PKPdf**	**10 30 15.1**	**-0.2**
	0.4nm,0.5s,baz=317,slow=11,SNR=1.4						

*IDC **22** 10:15:19.0±1.2, 37.28N×141.53E, h0km, mb3.5/6, mbtmp3.5/8, ML2.8/2, Error ellipse: s-maj=27.7km s-min=22.4km az=84.0*
*JMA **22** 10:15:23.1±0.1, 37.2N±0.3×141.5E±0.7, h29km±1km, MV3.7/32, E OFF FUKUSHIMA PREF*
ISC 22 10:15:20.5±2.1, 37.25N±0.05×141.57E±0.07, h13km±13km, n20, σ1°09/21, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**283**	P	**Pn**	**10 15 33.6**	**-0.7**
JFK				S	**Sb**	**10 15 41.0**	**+0.6**
JMST	**Minamisoumatoc**	**0.72**	**312**	P	**Pn**	**10 15 36.2**	**-0.2**
JMST				S	**Sn**	**10 15 45.6**	**-1.8**
JFFD	**Fukushimafurud**	**0.82**	**260**	P	**Pn**	**10 15 37.6**	**-0.2**
JFFD				S	**Sb**	**10 15 47.5**	**-0.2**
JMM	**Marumori**	**0.88**	**315**	S	**Sn**	**10 15 49.6**	**-1.6**
JHO	**Hitachi**	**1.02**	**232**	P	**Pn**	**10 15 40.4**	**-0.1**
JHO				S	**Sb**	**10 15 52.7**	**-0.7**
JIO	**Ouri**	**1.22**	**352**	P	**Pg**	**10 15 44.0**	**+0.1**
JIO				S	**Sb**	**10 15 59.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.79**	**256**	Pn	**Pn**	**10 16 05.2**	**+0.4**
	0.5nm,0.3s,baz=71,slow=10.0,SNR=11						
MJAR				Sn	**Sn**	**10 16 39.8**	**+1.5**
	0.7nm,0.3s,baz=241,slow=24,SNR=7.4 2.0nm,0.3s						
JHJ	**Hachijo jima 2**	**4.37**	**200**	Pn	**Pn**	**10 16 25.1**	**-1.4**
	4.2nm,0.3s,baz=14,slow=19,SNR=0.8						
JHJ				Sn	**Sn**	**10 17 16.2**	**-1.1**
	8.2nm,0.3s,baz=252,slow=24,SNR=1.5 48nm,0.7s						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**10 21 09.9**	**+0.8**
	0.4nm,0.6s,baz=96,slow=10,SNR=2.6 0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	10 50 39.5	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	10 50 41.6	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	10 50 45.8	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	10 51 31.3	
	baz=316,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	10 51 31.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	10 51 40.9	
	baz=316,slow=74						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**10 23 10.6**	**+0.5**
	0.6nm,0.5s,baz=97,slow=7.6,SNR=4.1 0.6nm,0.5s						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**10 23 26.6**	**-1.8**
	0.7nm,0.7s,baz=82,slow=8.7,SNR=4.6 0.7nm,0.7s						
ILAR	**Eielson Array**	**49.25**	**32**	P	**P**	**10 24 09.0**	**+0.6**
	0.3nm,0.6s,baz=320,slow=33,SNR=2.2 0.3nm,0.6s						
WRA	**Warramunga Arr**	**57.29**	**188**	P	**P**	**10 25 08.5**	**+0.5**
	0.2nm,0.5s,baz=4.9,slow=6.9,SNR=7.4 0.2nm,0.5s						
ASAR	**Alice Springs**	**61.01**	**188**	P	**P**	**10 25 35.2**	**+1.5**
	0.3nm,0.8s,baz=7.5,slow=9.9,SNR=2.6 0.3nm,0.8s						

WEL 22 10:28:30.6±0.3, 42°S±2°×17°4E±°, h5km, M3.0/34, ML3.3/14, MLv3.0/34, Error ellipse: s-maj=0.0km s-min=0.0km az=115.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**182**	P	Pg	10 28 35.0	+0.6
KHZ				S	Sg	10 28 38.2	+1.2
BSWZ	**Blackbirch Sta**	**0.56**	**26**	P	Pg	10 28 41.7	+0.4
BSWZ				S	Sg	10 28 49.9	+1.2
THZ	**Tophouse**	**0.66**	**314**	P	Pg	10 28 43.8	+0.5
CMWZ	**Cape Campbell**	**0.69**	**47**	P	Pb	10 28 44.8	-0.2
GVZ	**Greta Valley S**	**0.83**	**207**	P	Pb	10 28 47.4	-0.2
TUWZ	**Tuamarina**	**0.85**	**21**	P	Pg	10 28 47.0	+0.2
MRNZ	**Matariki Terra**	**1.01**	**324**	P	Pg	10 28 50.2	+0.2
NNZ	**Nelson**	**1.01**	**353**	P	Pg	10 28 50.0	0.0
LTZ	**Lake Taylor**	**1.10**	**239**	P	Pg	10 28 50.9	-0.8
TCW	**Tory Channel**	**1.15**	**29**	P	Pg	10 28 51.8	-0.8
AMCZ	**Amberley**	**1.16**	**214**	P	Pg	10 28 51.6	-1.2
TKNZ	**Takaka Hill**	**1.27**	**339**	P	Pg	10 28 54.4	-0.4
WEL	**Wellington**	**1.31**	**45**	P	Pn	10 28 54.0	-1.5
DSZ	**Denniston Nort**	**1.38**	**290**	P	Pb	10 28 56.9	-0.1
PLWZ	**Palliser**	**1.43**	**63**	P	Pn	10 28 54.9	-2.4
DUWZ	**D'Urville Isla**	**1.45**	**11**	P	Pn	10 28 56.7	-0.7
OKCZ	**Okains Bay**	**1.54**	**193**	P	Pn	10 28 56.4	-2.3
OXZ	**Oxford**	**1.56**	**225**	P	Pn	10 28 56.7	-2.4
QRZ	**Quartz Range**	**1.59**	**331**	P	Pn	10 28 59.8	+0.4
CAW	**Cannon Point**	**1.59**	**46**	P	Pn	10 28 57.5	-1.9
MQZ	**McQueen's Vall**	**1.62**	**204**	P	Pn	10 28 56.7	-3.1
INZ	**Inchbonnie**	**1.64**	**251**	P	Pn	10 28 58.4	-1.6
PAWZ	**Paruwai Farm**	**1.64**	**60**	P	Pn	10 28 57.4	-2.6
KIW	**Kapiti Island**	**1.70**	**37**	P	Pn	10 28 59.7	-1.2
AKCZ	**Akaroa Harbour**	**1.71**	**196**	P	Pn	10 28 58.5	-2.6
MTW	**Mount Morrison**	**1.81**	**55**	P	Pn	10 28 59.7	-2.7
RACZ	**Rakaia**	**1.82**	**214**	P	Pn	10 28 60.0	-2.6
OGWZ	**Otaki Gorge**	**1.86**	**42**	P	Pn	10 29 01.3	-1.8
MHCZ	**Mount Hutt**	**1.96**	**227**	P	Pn	10 29 02.2	-2.2
HOWZ	**Holdsworth Sta**	**1.98**	**49**	P	Pn	10 29 02.4	-2.5
TMWZ	**Te Maipa**	**2.08**	**58**	P	Pn	10 29 03.1	-3.0
WACZ	**Wakanui South**	**2.13**	**215**	P	Pn	10 29 04.2	-2.6
MRZ	**Mangatainoka R**	**2.18**	**45**	P	Pn	10 29 05.2	-2.4
WVZ	**Waitaha Valley**	**2.24**	**247**	P	Pn	10 29 07.3	-1.0
RPZ	**Rata Peaks**	**2.36**	**230**	P	Pn	10 29 08.1	-1.9
ARCZ	**Arundel**	**2.45**	**224**	P	Pn	10 29 08.7	-2.5
BFZ	**Birch Farm**	**2.55**	**54**	P	Pg	10 29 20.8	+1.4
GCSZ	**Gaunt Creek Bo**	**2.61**	**244**	P	Pn	10 29 12.8	-0.6
WAZ	**Wanganui**	**2.69**	**24**	P	Pb	10 29 19.2	-0.1
DVHZ	**Dannevirke**	**2.75**	**47**	P	Pb	10 29 21.6	+1.3
TMZ	**Timaru**	**2.85**	**220**	P	Pn	10 29 14.3	-2.4
KHEZ	**Kahui Hut**	**2.95**	**7**	P	Pb	10 29 22.4	-1.2
FOZ	**Fox Glacier**	**3.04**	**243**	P	Pn	10 29 18.5	-0.8
PNHZ	**Pukenui**	**3.06**	**42**	P	Pb	10 29 27.0	+1.5
VRZ	**Vera Road**	**3.23**	**17**	P	Pn	10 29 23.8	+1.9
PKVZ	**Pokaka**	**3.23**	**26**	P	Pb	10 29 27.6	-0.9
PKVZ	**Pokaka**	**3.23**	**26**	P	Pb	10 29 27.6	-0.9
MOVZ	**Moawhango**	**3.27**	**31**	P	Pb	10 29 27.1	-2.1
WNVZ	**Wahianoa**	**3.29**	**29**	P	Pn	10 29 25.7	+2.9
TRVZ	**Turoa**	**3.29**	**28**	P	Pb	10 29 29.0	-0.6
WHVZ	**Whangaehu Hut**	**3.32**	**29**	P	Pb	10 29 31.2	+1.1
BHHZ	**Black Hill Sta**	**3.33**	**36**	P	Pb	10 29 29.1	-1.1
TUWZ	**Tukino**	**3.36**	**29**	P	Pn	10 29 26.5	+2.7
SNVZ	**South Ngauruho**	**3.42**	**28**	P	Pn	10 29 24.7	0.0
OTVZ	**Oturere**	**3.45**	**28**	P	Pb	10 29 32.7	+0.4
NNVZ	**North Ngauruho**	**3.46**	**28**	P	Pb	10 29 31.8	-0.7
ETVZ	**East Tongariro**	**3.50**	**29**	P	Pb	10 29 32.2	-0.8
TMVZ	**Te Maari**	**3.51**	**29**	P	Pb	10 29 33.0	-0.3
ODZ	**Otahua Downs**	**3.52**	**216**	P	Pn	10 29 23.2	-2.8
HIZ	**Hauiti**	**3.84**	**16**	P	Pn	10 29 31.6	+1.3
JCZ	**Jackson Bay**	**3.94**	**240**	P	Pn	10 29 31.6	-0.2

*IDC **22** 10:28:49.9±2.7, 37.48N×141.81E, h0km, mb3.3/2, mbtmp3.4/4, ML2.6/2, MS3.1/1, Error ellipse: s-maj=46.3km s-min=36.0km az=61.0*
*JMA **22** 10:28:53.8±0.1, 37.4N±0.3×141.6E±0.7, h27km±1km, MV3.3/34, E OFF FUKUSHIMA PREF*
ISC 22 10:28:52.5±2.2, 37.36N±0.05×141.63E±0.10, h14km±11km, n18, σ1°01/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**271**	P	**Pg**	**10 29 04.7**	**+0.3**
JFK				S	**Sg**	**10 29 12.3**	**-0.1**
JMST	**Minamisoumatoc**	**0.70**	**302**	P	**Pg**	**10 29 06.4**	**+0.3**
JMST				*e*S	**Sg**	**10 29 15.4**	**0.0**
JMM	**Marumori**	**0.84**	**308**	P	**Pb**	**10 29 08.7**	**-0.2**
JMM				S	**Sb**	**10 29 19.4**	**-0.6**
JFFD	**Fukushimafurud**	**0.90**	**253**	P	**Pb**	**10 29 09.2**	**-0.6**
JIO	**Ouri**	**1.12**	**348**	P	**Pn**	**10 29 13.2**	**-0.5**
JHO	**Hitachi**	**1.13**	**229**	P	**Pb**	**10 29 13.0**	**-0.8**
JHO				*e*S	**Sb**	**10 29 26.6**	**-1.7**
JOU	**Okura**	**1.27**	**323**	*i* P	**Pn**	**10 29 16.2**	**+0.5**
JOU				S	**Sn**	**10 29 32.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.86**	**255**	Pn	**Pn**	**10 29 39.8**	**+2.1**
	0.1nm,0.3s,baz=74,slow=14,SNR=2.6						
MJAR				Sn	**Sb**	**10 30 16.6**	**-1.6**
	0.2nm,0.3s,baz=48,slow=30,SNR=4.3 1.3nm,0.5s						
JHJ	**Hachijo jima 2**	**4.49**	**200**	Pn	**Pn**	**10 30 00.4**	**+0.3**
	5.2nm,0.3s,baz=222,slow=21,SNR=2.4 131nm,0.8s						
MA2	**Magadan**	**23.00**	**12**	LR	LR	10 43 27.2	
	comp=Z,42nm,19.5s,baz=124,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	11 04 11.2	
	baz=314,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.17**	**122**	T	T	11 04 10.9	
	baz=314,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.18**	**122**	T	T	11 04 12.8	
	baz=314,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	11 05 09.3	
	baz=316,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	11 05 07.2	
	baz=316,slow=76,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	11 05 07.0	
	baz=316,slow=76,SNR=7.1						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**10 36 59.7**	**-0.4**
	0.3nm,0.8s,baz=91,slow=8.9,SNR=2.0 0.3nm,0.8s						
WRA	**Warramunga Arr**	**57.40**	**188**	P	**P**	**10 38 41.5**	**+1.0**
	0.4nm,0.9s,baz=360,slow=7.0,SNR=1.7 0.4nm,0.9s						

*IDC **22** 10:30:47.2±1.7, 37.14N×141.67E, h0km, mb3.2/2, mbtmp3.4/4, ML2.9/2, MS3.2/1, Error ellipse: s-maj=40.2km s-min=25.0km az=132.0*
*JMA **22** 10:30:50.6±0.1, 37.2N±0.3×141.5E±0.7, h30km±1km, MV3.1/33, E OFF FUKUSHIMA PREF*
ISC 22 10:30:50.5±2.5, 37.20N±0.05×141.5E±0.1, h24km±19km, n17, σ0°84/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**289**	P	**Pb**	**10 31 01.3**	**+0.3**
JFK				S	**Sb**	**10 31 08.7**	**+0.6**
JMST	**Minamisoumatoc**	**0.71**	**318**	P	**Pb**	**10 31 04.2**	**0.0**
JMST				S	**Sb**	**10 31 14.0**	**+0.5**
JFFD	**Fukushimafurud**	**0.75**	**262**	P	**Pb**	**10 31 04.9**	**+0.1**
JMM	**Marumori**	**0.87**	**321**	P	**Pb**	**10 31 06.7**	**-0.2**
JHO	**Hitachi**	**0.94**	**232**	P	**Pb**	**10 31 07.5**	**-0.7**
JHO				S	**Sb**	**10 31 19.1**	**-1.0**
JIO	**Ouri**	**1.26**	**355**	P	**Pn**	**10 31 12.4**	**-0.2**
JIO				S	**Sn**	**10 31 28.2**	**-0.6**
MJAR	**Matsushiro Arr**	**2.71**	**257**	Pn	**Pn**	**10 31 33.5**	**+0.9**
	0.4nm,0.3s,baz=84,slow=24,SNR=7.0						
MJAR				Sn	**Sb**	**10 32 09.3**	**-1.8**
	0.5nm,0.3s,baz=308,slow=44,SNR=2.9 1.9nm,0.3s						
JHJ	**Hachijo jima 2**	**4.30**	**199**	Pn	**Pn**	**10 31 55.8**	**+1.3**
	7.2nm,0.3s,baz=51,slow=14,SNR=1.5						
JHJ				Sn	**Sn**	**10 32 43.9**	**0.0**
	4.2nm,0.3s,baz=49,slow=22,SNR=1.6 82nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	11 06 10.2	
	baz=314,slow=75,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	11 06 10.8	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	11 06 11.6	
	baz=314,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	11 07 00.7	
	baz=316,slow=75,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	11 06 57.4	
	baz=316,slow=75,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	11 07 04.9	
	baz=316,slow=75,SNR=6.6						
MKAR	**Makanchi Array**	**44.08**	**302**	LR	LR	10 59 18.3	
	comp=Z,30nm,18.9s,baz=206,slow=39						
ILAR	**Eielson Array**	**49.33**	**32**	P	**P**	**10 39 37.5**	**+0.2**
	0.3nm,1.0s,baz=269,slow=7.1,SNR=1.9 0.3nm,1.0s						
WRA	**Warramunga Arr**	**57.23**	**188**	P	**P**	**10 40 35.7**	**-0.2**
	0.2nm,0.5s,baz=5.3,slow=7.1,SNR=6.7 0.2nm,0.5s						

ISC 22 10:45:49.0±1.1, 49.78N±0.07×17.77E±0.07, h16km±10km, n7, σ1°04/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.14**	**270**	*e*PG	**Pg**	**10 45 52.9**	**-0.1**
MORC				*e*SG	**Sg**	**10 45 55.5**	**-0.1**
VRAC	**Vranov**	**0.90**	**239**	*e*PG	**Pb**	**10 46 07.4**	**+1.2**
KRUC	**Moravsky**	**1.15**	**232**	*e*PG	**Pb**	**10 46 10.8**	**+0.4**
OJC	**Ojcow**	**1.39**	**71**	*e*Pg	**Pn**	**10 46 12.7**	**-1.0**
OJC				*e*Sg	**Sn**	**10 46 30.9**	**-0.8**
MODS	**Modra-Piesok**	**1.44**	**193**	*e*PG	**Pb**	**10 46 15.8**	**+0.3**
MODS				*e*SG	**Sg**	**10 46 34.0**	**-1.5**
VYHS	**Vyhne**	**1.47**	**151**	*e*PG	**Pn**	**10 46 15.3**	**+0.5**
VYHS				*e*SG	**Sn**	**10 46 33.7**	**0.0**
STHS	**Stebnicka Huta**	**2.29**	**98**	*e*PN	**Pb**	**10 46 31.4**	**+1.4**

*NNC **22** 10:52:53.2±3.8, 52.14N×75.83E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=48.8km s-min=20.6km az=21.0, Suspected Mining explosion.*
*IDC **22** 10:52:53.9±0.8, 51.62N×75.41E, h0km, mbtmp2.7/4, ML2.2/4, Error ellipse: s-maj=22.7km s-min=6.7km az=28.0*
ISC 22 10:52:52.9±0.9, 51.71N±0.06×75.45E±0.04, h0km, n11, σ1°21/18, 6C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.23**	**118**	Pn	**Pn**	**10 53 32.0**	**+0.9**
	0.6nm,0.3s,baz=303,slow=19,SNR=30						
KURBB				Lg	Lg	10 54 02.8	
	0.7nm,0.3s,baz=297,slow=32,SNR=5.9 1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**2.23**	**118**	⇓P	**Pg**	**10 53 36.3**	**+0.8**
	4.1nm,0.2s,baz=110,slow=28						
KURBB				⇓S	**Sb**	**10 54 01.6**	**-0.5**
	40nm,0.8s,baz=110,slow=28						
KURK	**Kurchatov**	**2.23**	**115**	⇓P	**Pn**	**10 53 31.6**	**+0.5**
	3.5nm,0.6s,baz=110,slow=28						
KURK				⇑S	**Sn**	**10 53 59.8**	**+0.4**
	13nm,0.5s,baz=110,slow=28						
BVA0	**Borovoye Array**	**3.37**	**295**	⇑Pg	**Pb**	**10 53 52.6**	**-0.8**
	2.6nm,0.7s,baz=115,slow=17						
BVA0				⇓Lg	Lg	10 54 40.0	
	13nm,0.8s,baz=110,slow=28						
BVAR	**Borovoye Array**	**3.37**	**295**	Pn	**Pn**	**10 53 48.1**	**+1.4**
	0.1nm,0.3s,baz=109,slow=13,SNR=8.3						
BVAR				Pg	**Pb**	**10 53 53.5**	**0.0**
	0.1nm,0.3s,baz=114,slow=17,SNR=17						
BVAR				Sn	**Sn**	**10 54 28.4**	**+1.0**
	0.1nm,0.3s,baz=108,slow=23,SNR=2.3						
BVAR				Lg	Lg	10 54 38.6	
	0.4nm,0.3s,baz=115,slow=28,SNR=9.8 1.0nm,0.4s						
BRVK	**Borovoye**	**3.44**	**295**	⇓Pg	**Pb**	**10 53 54.2**	**-0.4**
	3.4nm,0.7s,baz=110,slow=28						
BRVK				⇓Lg	Lg	10 54 40.8	
	6.7nm,0.6s,baz=110,slow=28						
OTUK	**Ortayu**	**4.01**	**211**	⇑Pn	**Pb**	**10 54 05.6**	**+1.2**
	1.8nm,0.9s,baz=110,slow=28						
OTUK				⇑Sn	**Sg**	**10 54 59.9**	**-1.8**
	1.7nm,0.4s,baz=110,slow=28						
I46RU	**ZALESOVO INFRA**	**6.11**	**65**	I	I	11 30 30.0	
	baz=249,slow=303,SNR=2.0						
ZALV	**Zalesovo Beam**	**6.11**	**65**	Pn	**Pn**	**10 54 25.9**	**+1.6**
	0.5nm,0.3s,baz=255,slow=14,SNR=7.1						
ZALV				Sn	**Sn**	**10 55 32.4**	**-2.4**
	0.2nm,0.3s,baz=254,slow=24,SNR=1.4						
ZALV				Lg	Lg	10 56 09.2	
	0.1nm,0.3s,baz=252,slow=27,SNR=1.9 1.3nm,0.4s						
MK31	**Makanchi Array**	**6.66**	**135**	⇑Pn	**Sn**	**10 55 48.5**	**+0.1**
	2.8nm,1.0s,baz=110,slow=28,SNR=6.6						
MK31				⇑Sn	**Sg**	**10 56 25.7**	**-0.8**
	3.7nm,0.8s,baz=110,slow=28						
MKAR	**Makanchi Array**	**6.66**	**135**	Pn	**Pn**	**10 54 31.0**	**-0.9**
	0.1nm,0.3s,baz=316,slow=12,SNR=2.5						
MKAR				Sn	**Sn**	**10 55 47.2**	**-1.3**
	0.1nm,0.3s,baz=319,slow=21,SNR=2.8						
MKAR				Lg	Lg	10 56 20.8	
	0.4nm,0.3s,baz=324,slow=27,SNR=9.2 0.4nm,0.6s						

*IDC **22** 10:58:30.5±1.3, 37.28N×141.51E, h0km, mb3.6/7, mbtmp3.6/11, ML3.0/4, MS3.6/18, Error ellipse: s-maj=26.0km s-min=21.2km az=77.0*
*NIED **22** 10:58:33.9, 37.24N×141.21E, h18km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.54; $M_{\theta\theta}$=0.96; $M_{\phi\phi}$=1.58; $M_{r\theta}$=-0.05; $M_{\theta\phi}$=1.06; $M_{\phi r}$=1.51; Fault plane solution: $M_0$2.86000×10^{15} NP1:ϕ_s50.00000°, δ34.00000°, λ-64.00000°. NP2:ϕ_s200.00000°, δ60.00000°, λ-107.00000°.*
*JMA **22** 10:58:33.9±0.1, 37.2N±0.2×141.2E±0.7, h18km±1km, MD4.5/37, MW4.2/37, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF.
ISC 22 10:58:32.4±1.0, 37.20N±0.04×141.32E±0.07, h10km, n86, σ1°85/27, mb3.7/7, MS3.6/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.39**	**295**	P	**Pg**	**10 58 40.0**	**-0.1**
JFK				S	**Sb**	**10 58 45.1**	**-2.4**
JFK	**Kawauchi**	**0.39**	**295**	A	A	10 58 40.0	
	comp=E,64nm,4.1s,comp=E,50nm,4.4s						
JFFD	**Fukushimafurud**	**0.62**	**260**	P	**Pg**	**10 58 44.2**	**-0.1**
JFFD	**Fukushimafurud**	**0.62**	**260**	A	A	10 58 44.2	
	comp=E,55nm,5.3s,comp=E,53nm,2.4s						
JMST	**Minamisoumatoc**	**0.62**	**327**	P	**Pg**	**10 58 44.3**	**-0.2**
JMST				*e*S	**

comp=E,14nm,6.5s,comp=E,11nm,3.5s
JSZI Iwateshizukuis 2.55 354 A A 10 59 14.9
comp=E,10.0nm,7.9s,comp=E,16nm,5.1s
JSD Sado 2.57 290 P **Pb** **10 59 18.3 -0.2**
MJAR Matsushiro Arr 2.58 256 Pn **Pn** **10 59 15.8 +1.6**
1.2nm,0.3s,baz=83,slow=16,SNR=21
MJAR Sn **Sb** **10 59 49.5 -1.1**
1.4nm,0.3s,baz=241,slow=26,SNR=6.8
MJAR LR LR 11 00 21.7
comp=Z,432nm,19.7s,baz=80,slow=40
16nm,0.7s
MAJO Matsushiro 2.58 256 P **Pb** **10 59 17.5 -1.3**
JOD2 Odawara 2 2.65 224 A A 10 59 16.5
comp=E,5.0nm,3.8s,comp=E,8.0nm,2.7s
JNG Nsakai 2.71 254 A A 10 59 16.8
comp=E,5.0nm,4.5s,comp=E,4.0nm,5.6s
JNT Takato 2.89 244 A A 10 59 19.6
comp=E,3.0nm,4.9s,comp=E,3.0nm,5.1s
JTT Ttatey 3.25 261 A A 10 59 24.5
comp=E,10.0nm,2.5s,comp=E,6.0nm,3.4s
JNY Yasuok 3.35 238 A A 10 59 26.2
comp=E,4.0nm,5.6s,comp=E,4.0nm,1.6s
JHHS Hirosakihyakuz 3.52 348 A A 10 59 28.7
comp=E,10.0nm,4.5s,comp=E,9.0nm,5.0s
JGF Kuroka 3.58 245 P **Pn** **10 59 31.0 +3.1**
JTM Tenmabayashi 3.58 357 P **Pn** **10 59 30.9 +2.9**
INU Inuyama 3.94 243 P **Pn** **10 59 37.2 +4.3**
JHJ Hachijo jima 2 4.26 198 Pn **Pn** **10 59 37.1 -0.2**
5.3nm,0.3s,baz=52,slow=19,SNR=1.9
JHJ Sn **Sn** **11 00 26.9 -0.4**
3.8nm,0.3s,baz=96,slow=19,SNR=1.5
126nm,0.9s
ASAJ Asahikawa 6.97 8 LR LR 11 03 06.9
comp=Z,147nm,20.3s,baz=342,slow=40
JHS Saijyo 7.00 254 P **Pn** **11 00 19.4 +4.5**
USRK Ussuriysk Ar. 9.95 318 Pn **Pn** **11 00 56.1 +0.8**
0.1nm,0.3s,baz=121,slow=14,SNR=1.9
USRK LR LR 11 04 27.0
comp=Z,453nm,19.1s,baz=143,slow=36
2.4nm,0.8s
KSRS Korea Array 10.68 275 Pn **Pn** **11 01 08.0 +2.7**
0.1nm,0.3s,baz=82,slow=13,SNR=2.4
KSRS LR LR 11 04 49.8
comp=Z,300nm,19.8s,baz=80,slow=35
1.4nm,0.9s
KLR Kul'dur 13.88 333 LR LR 11 07 02.3
comp=Z,320nm,18.3s,baz=141,slow=37
MA2 Magadan 23.20 12 LR LR 11 14 18.7
comp=Z,68nm,19.9s,baz=284,slow=41
GUMO Guam 23.73 171 LR LR 11 12 47.5
comp=Z,29nm,21.7s,baz=43,slow=36
YAK Yakutsk 25.89 347 LR LR 11 13 29.6
comp=Z,47nm,21.3s,baz=88,slow=35
SONM Songino Array 27.63 304 P **P** **11 04 20.0 -0.2**
0.5nm,0.6s,baz=100,slow=7.5,SNR=2.5
SONM LR LR 11 15 24.9
comp=Z,85nm,18.4s,baz=144,slow=37
0.5nm,0.6s
H11N2 WAKE ISLAND Hy 28.30 121 T T 11 34 07.0
baz=314,slow=75,SNR=381
H11N1 WAKE ISLAND Hy 28.30 121 T T 11 34 07.6
baz=314,slow=75,SNR=288
H11N3 WAKE ISLAND Hy 28.30 121 T T 11 34 08.3
baz=314,slow=75,SNR=312
H11S1 WAKE ISLAND Hy 29.01 123 T T 11 35 00.3
baz=316,slow=76,SNR=102
H11S3 WAKE ISLAND Hy 29.01 123 T T 11 35 00.3
baz=316,slow=76,SNR=80
H11S2 WAKE ISLAND Hy 29.03 123 T T 11 35 00.9
baz=316,slow=76,SNR=96
CMAR Chiang Mai Arr 41.47 255 LR LR 11 24 22.8
comp=Z,26nm,18.8s,baz=85,slow=37
ZALV Zalesovo Beam 41.75 312 P **P** **11 06 22.0 +0.6**
1.1nm,0.7s,baz=101,slow=7.5,SNR=3.1
ZALV LR LR 11 24 17.0
comp=Z,107nm,18.4s,baz=80,slow=37
1.1nm,0.7s
MKAR Makanchi Array 43.97 302 P **P** **11 06 39.2 -0.4**
0.7nm,0.8s,baz=93,slow=6.4,SNR=5.1
MKAR LR LR 11 25 14.1
comp=Z,60nm,19.4s,baz=104,slow=36
0.7nm,0.8s
BRDH Bariadhala 44.93 266 LR LR 11 26 06.7
comp=Z,72nm,19.5s,baz=108,slow=37
KURBB Kurchatov Arra 45.84 308 P **P** **11 06 54.4 0.0**
1.2nm,0.5s,baz=84,slow=8.4,SNR=6.4
1.2nm,0.5s
ILAR Eielson Array 49.39 32 P **P** **11 07 20.2 -1.6**
0.2nm,0.7s,baz=276,slow=7.1,SNR=1.5
0.2nm,0.7s
HNR Honiara 49.57 156 LR LR 11 26 10.2
comp=Z,549nm,20.8s,baz=14,slow=34
AAK Ala-Archa 50.34 298 LR LR 11 29 56.2
comp=Z,198nm,18.8s,baz=64,slow=37
BVAR Borovoye Array 50.40 312 LR LR 11 29 46.0
comp=Z,92nm,19.0s,baz=63,slow=37
WRA Warramunga Arr 57.22 188 P **P** **11 08 20.1 +0.3**
0.4nm,0.5s,baz=4.6,slow=7.4,SNR=2.3
0.4nm,0.5s
ASAR Alice Springs 60.95 188 P **P** **11 08 46.5 +0.9**
0.5nm,0.8s,baz=10,slow=5.8,SNR=3.1
0.5nm,0.8s
RAR Rarotonga 80.32 126 LR LR 11 38 22.0
comp=Z,60nm,20.1s,baz=292,slow=30
PPT Papeete 84.78 117 LR LR 11 41 47.8
comp=Z,36nm,22.0s,baz=318,slow=31
H03N2 Juan Fernandez 147.11 96 T T 14 02 42.3
baz=291,slow=76,SNR=15
H03N3 Juan Fernandez 147.12 96 T T 14 02 44.7
baz=291,slow=76,SNR=14
H03N1 Juan Fernandez 147.13 96 T T 14 02 44.8
baz=291,slow=76,SNR=17

*IDC **22** 10:58:34.4±1.3, 11.56N×125.45E, h0km, mb3.8/7, mbtmp3.8/7, MS2.8/4, Error ellipse: s-maj=75.6km s-min=18.2km az=63.0*
*MAN **22** 10:58:36.5, 12.01N×125.75E, h52km, mb4.7, ML3.6, MS3.6*
ISC 22 10:58:34.5±2.6, 11.94N±0.04×125.75E±0.06, h5km±16km, n32, σ2s07/38, mb3.8/7, 10C-8D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.21**	**298**	**↓eP**	**Pn**	**10 58 56.9**	**-1.1**
CNP				*eS*	**Sb**	**10 59 12.8**	**-1.1**
OCLP	**Ormoc**	**1.43**	**232**	**↓eP**	**Pb**	**10 59 01.8**	**+0.3**
OCLP				*eS*	**Sb**	**10 59 18.5**	**-1.6**
MSLP	**Maasin**	**1.99**	**206**	**↓eP**	**Pb**	**10 59 11.1**	**-0.2**
MSLP				*eS*	**Sg**	**10 59 37.0**	**-1.6**
SCPH	**Surigao**	**2.16**	**187**	**↑eP**	**Pn**	**10 59 12.1**	**+1.0**
SCPH				*eS*	**Sn**	**10 59 37.9**	**-0.4**
GLSP	**General Luna,**	**2.17**	**170**	**↓eP**	**Pn**	**10 59 11.9**	**+0.6**
GLSP				*eS*	**Sn**	**10 59 36.6**	**-2.0**
PVCP	**Virac**	**2.27**	**317**	**↓eP**	**Pn**	**10 59 11.7**	**-1.0**
PVCP				*eS*	**Sn**	**10 59 39.0**	**-2.1**
TABP	**Talibon, Bohol**	**2.30**	**217**	**↑iP**	**Pn**	**10 59 14.1**	**+1.0**
TABP				*eS*	**Sn**	**10 59 41.0**	**-0.9**
LLP	**Lapu-Lapu**	**2.38**	**228**	**↓eP**	**Pn**	**10 59 15.0**	**+0.8**
LLP				*eS*	**Sn**	**10 59 42.4**	**-1.4**
GHBP	**Garcia Hernand**	**2.69**	**212**	**↑eP**	**Pn**	**10 59 19.2**	**+0.7**
GHBP				*i* S	**Sb**	**10 59 56.4**	**0.0**
TBP	**Tagbilaran**	**2.90**	**220**	**↑eP**	**Pn**	**10 59 22.6**	**+1.2**
TBP				*i* S	**Sn**	**10 59 56.4**	**-0.3**
RCP	**Roxas**	**2.97**	**263**	**↑eP**	**Pn**	**10 59 22.9**	**+0.6**
RCP				*eS*	**Sn**	**10 59 57.3**	**-1.1**
BIPH	**Bislig**	**3.78**	**171**	**↓eP**	**Pn**	**10 59 33.5**	**+0.1**
BIPH				*i* S	**Sn**	**11 00 14.2**	**-4.1**
JCNP	**Jose Panganiba**	**3.79**	**308**	**↑eP**	**Pn**	**10 59 32.9**	**-0.6**
JCNP				*eS*	**Sn**	**11 00 14.0**	**-4.6**
DCPH	**Dipolog City**	**4.08**	**216**	**↑eP**	**Pn**	**10 59 38.4**	**+0.8**
LQP	**Lukban**	**4.64**	**296**	**↑eP**	Pn	10 59 36.5	-9.0
PAGZ	**Pagadian**	**4.69**	**210**	**↓eP**	**Pn**	**10 59 47.9**	**+1.9**
PAGZ				*eS*	**Sn**	**11 00 43.5**	**+2.8**
DAV	**Davao City (W)**	**4.84**	**182**	LR	LR	11 01 02.8	
	comp=Z,50nm,20.6s,baz=316,slow=33						
PCPH	**Palayan**	**5.79**	**309**	**↑eP**	**Pn**	**11 00 00.8**	**-0.2**
PACPP	**Pamplona Cagay**	**7.75**	**327**	**↑iP**	Pn	11 00 15.5	-13
PACPP				*eS*	**Sb**	**11 02 28.9**	**+6.8**
SIJI	**Sorong**	**13.85**	**156**	LR	LR	11 08 33.3	
	comp=Z,21nm,18.6s,baz=163,slow=44						
JHJ	**Hachijo jima 2**	**24.70**	**29**	LR	LR	11 15 32.8	
	comp=Z,18nm,18.1s,baz=59,slow=40						
CMAR	**Chiang Mai Arr**	**26.65**	**287**	P	**P**	**11 04 14.1**	**-0.5**
	0.6nm,0.3s,baz=97,slow=7.4,SNR=1.2 0.6nm,0.3s						

WRA Warramunga Arr 32.79 165 P **P** **11 05 06.8 -2.1**
0.5nm,0.6s,baz=342,slow=9.0,SNR=9.5
0.5nm,0.6s
ASAR Alice Springs 36.27 167 P **P** **11 05 36.8 -2.2**
2.1nm,0.6s,baz=345,slow=7.5,SNR=42
2.1nm,0.6s
SONM Songino Array 39.29 339 P **P** **11 06 07.9 +3.4**
0.4nm,0.5s,baz=148,slow=11,SNR=1.9
0.4nm,0.5s
H11N1 WAKE ISLAND Hy 40.24 74 T T 11 50 06.0
baz=270
H11N2 WAKE ISLAND Hy 40.25 74 T T 11 50 03.2
baz=270
H11N3 WAKE ISLAND Hy 40.26 74 T T 11 50 04.5
baz=270
STKA Stephens Creek 46.13 161 P **P** **11 06 59.1 -0.9**
1.5nm,0.5s,baz=346,slow=12,SNR=2.0
1.5nm,0.5s
MKAR Makanchi Array 50.41 322 P **P** **11 07 34.3 +1.3**
0.2nm,0.5s,baz=112,slow=7.9,SNR=1.2
0.2nm,0.5s
KURBB Kurchatov Arra 54.42 325 P **P** **11 08 03.1 +0.4**
0.6nm,0.5s,baz=127,slow=7.0,SNR=1.7
0.6nm,0.5s
AFI Afiamalu 67.03 111 LR LR 11 35 48.0
comp=Z,39nm,19.6s,baz=219,slow=33

*NEIC **22** 10:59:14.3±1.1, 18.4S±0.1×178.0W±0.1, h558km±11km, mb4.4/28, Error ellipse: s-maj=20.8km s-min=17.3km az=186.0*
*IDC **22** 10:59:15.3±1.3, 18.48S×178.07W, h571km±15km, mb3.5/15, mbtmp4.4/17, Error ellipse: s-maj=20.2km s-min=11.0km az=155.0*
ISC 22 10:59:13.8±0.5, 18.41S±0.10×178.00W±0.07, h557km, n59, σ0s93/61, mb4.4/29, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.81**	**280**	P	**P**	**11 00 37.0**	**+2.1**
	48nm,0.5s,baz=186,slow=23,SNR=54						
MSVF	**Nonsavu**	**3.81**	**280**	P	**P**	**11 00 37.2**	**+2.2**
AFI	**Afiamalu**	**7.47**	**54**	P	**P**	**11 01 04.4**	**-2.4**
	14nm,0.3s,baz=188,slow=4.4,SNR=11						
AFI	**Afiamalu**	**7.47**	**54**	P	**P**	**11 01 04.7**	**-2.2**
NIUE	**Niue**	**7.68**	**96**	P	**P**	**11 01 08.0**	**-0.7**
DZM	**Mont Dzumac**	**15.04**	**253**	P	**P**	**11 02 23.8**	**+0.1**
	8.2nm,1.0s,baz=90,slow=23,SNR=1.2						
RPZ	**Rata Peaks**	**26.86**	**198**	P	**P**	**11 04 09.3**	**-1.1**
	6.4nm,0.5s,baz=278,slow=19,SNR=1.6 6.4nm,0.5s						
PPT	**Papeete**	**27.04**	**93**	P	**P**	**11 04 12.2**	**-0.1**
	12nm,0.5s,baz=235,slow=23,SNR=4.2 12nm,0.5s						
PPTF	**Pamatai, Papee**	**27.05**	**93**	P	**P**	**11 04 12.5**	**0.0**
EIDS	**Eidsvold**	**29.46**	**251**	P	**P**	**11 04 32.8**	**-0.6**
EIDS				IAmb	IAmb	11 05 10.4	
	comp=Z,18nm,1.2s						
ARMA	**Armidale**	**30.03**	**241**	P	**P**	**11 04 39.2**	**+0.9**
ARMA				IAmb	IAmb	11 05 02.5	
	comp=Z,17nm,1.4s						
CAN	**Canberra**	**33.71**	**233**	P	**P**	**11 05 10.1**	**+0.6**
CTAO	**Charters Tower**	**33.75**	**261**	P	**P**	**11 05 10.4**	**+0.4**
CTAO				IAmb	IAmb	11 05 10.7	
	comp=Z,5.5nm,0.7s						
PATS	**Pohnpei**	**34.29**	**315**	P	**P**	**11 05 13.7**	**-0.8**
PMG	**Port Moresby**	**34.92**	**280**	P	**P**	**11 05 19.3**	**-0.5**
TOO	**Toolangi**	**37.15**	**232**	P	**P**	**11 05 39.0**	**+1.0**
TOO				IAmb	IAmb	11 05 40.2	
	comp=Z,8.3nm,0.9s						
COEN	**Coen**	**37.50**	**271**	P	**P**	**11 05 41.9**	**+0.9**
COEN				IAmb	IAmb	11 05 42.6	
	comp=Z,7.0nm,0.7s						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**11 05 51.5**	**+0.7**
	comp=Z,8.9nm,0.7s,baz=93,slow=9.0,SNR=16 comp=Z,8.9nm,0.7s						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**11 05 51.7**	**+0.8**
BBOO	**Buckleboo**	**43.50**	**242**	P	**P**	**11 06 28.8**	**+0.2**
BBOO				IAmb	IAmb	11 06 59.8	
	comp=Z,30nm,1.4s						
WR0	**Warramunga Arr**	**44.73**	**260**	P	**P**	**11 06 38.0**	**-0.4**
WB0	**Warramunga Arr**	**44.89**	**260**	P	**P**	**11 06 39.1**	**-0.4**
WB0				IAmb	IAmb	11 06 39.8	
	comp=Z,7.2nm,0.5s						
WB2	**Warramunga Arr**	**44.91**	**260**	P	**P**	**11 06 39.1**	**-0.5**
WB2				IAmb	IAmb	11 06 40.0	
	comp=Z,7.4nm,0.5s						
WRAB	**Tennant Creek**	**44.91**	**260**	P	**P**	**11 06 39.3**	**-0.4**
WRAB				IAmb	IAmb	11 06 39.9	
	comp=Z,5.5nm,0.6s						
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**11 06 39.3**	**-0.5**
	comp=Z,4.0nm,0.4s,baz=98,slow=6.7,SNR=123						
WRA				PcP	**PcP**	**11 08 09.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=94,slow=3.5,SNR=4.8 comp=Z,4.0nm,0.4s						
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**11 06 39.4**	**-0.4**
AS31	**Alice Springs**	**45.03**	**255**	P	**P**	**11 06 40.7**	**+0.1**
AS31				IAmb	IAmb	11 06 41.6	
	comp=Z,6.5nm,0.5s						
ASAR	**Alice Springs**	**45.03**	**255**	P	**P**	**11 06 40.6**	**0.0**
	comp=Z,16nm,0.6s,baz=89,slow=8.8,SNR=182						
ASAR				PcP	**PcP**	**11 08 09.4**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=103,slow=8.8,SNR=6.4						
ASAR				S	**S**	**11 12 36.5**	**-2.8**
	comp=Z,0.7nm,0.7s,baz=92,slow=15,SNR=6.7 comp=Z,16nm,0.6s						
ASAR	**Alice Springs**	**45.03**	**255**	P	**P**	**11 06 40.8**	**+0.2**
KNRA	**Kununurra**	**50.82**	**265**	P	**P**	**11 07 23.9**	**+0.1**
KNRA				IAmb	IAmb	11 08 02.2	
	comp=Z,23nm,1.4s						
SIJI	**Sorong**	**52.73**	**283**	P	**P**	**11 07 37.1**	**-0.5**
	comp=Z,9.6nm,0.5s,baz=65,slow=9.0,SNR=5.2 comp=Z,9.6nm,0.5s						
PSA00	**Pilbara Seismi**	**58.16**	**256**	P	**P**	**11 08 15.0**	**-0.2**
PSA00				IAmb	IAmb	11 08 54.8	
	comp=Z,27nm,1.4s						
MBWA	**Marble Bar**	**58.33**	**256**	P	**P**	**11 08 15.9**	**-0.4**
VNDA	**Vanda**	**59.98**	**185**	P	**P**	**11 08 26.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=355,slow=9.1,SNR=2.8 comp=Z,0.4nm,0.7s						
VNDA	**Vanda**	**59.98**	**185**	P	**P**	**11 08 27.3**	**+0.9**
MORW	**Morawa**	**60.63**	**247**	P	**P**	**11 08 31.4**	**-0.2**
MORW				IAmb	IAmb	11 09 07.3	
	comp=Z,26nm,1.5s						
TOLI2	**Tolitoli**	**63.19**	**281**	P	**P**	**11 08 48.5**	**+0.1**
UGM	**Wanagama**	**70.02**	**268**	P	**P**	**11 09 30.7**	**+0.1**
QSPA	**South Pole Qui**	**71.64**	**180**	P	**P**	**11 09 39.5**	**+0.2**
SSLB	**Suanglung**	**72.83**	**303**	P	**P**	**11 09 46.7**	**-0.1**
SSLB				IAmb	IAmb	11 09 50.3	
	comp=Z,25nm,1.3s						
TPUB	**Ta-pu**	**72.86**	**302**	P	**P**	**11 09 46.7**	**-0.2**
LEM	**Lembang**	**73.09**	**268**	P	**P**	**11 09 48.6**	**0.0**
	comp=Z,15nm,0.6s,baz=110,slow=23,SNR=2.4 comp=Z,15nm,0.6s						
PEA0B	**Petropavlovsk-**	**74.27**	**345**	P	**P**	**11 09 55.6**	**+1.4**
PETK	**Petropavlovsk-**	**74.27**	**345**	P	**P**	**11 09 54.8**	**+0.6**
	comp=Z,4.9nm,0.9s,baz=108,slow=5.0,SNR=6.4 comp=Z,4.9nm,0.9s						
PETK	**Petropavlovsk-**	**74.27**	**345**	P	**P**	**11 09 55.7**	**+1.5**
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**11 10 24.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=226,slow=8.3,SNR=7.4 comp=Z,0.7nm,0.7s						
SEY	**Seymchan**	**84.35**	**347**	P	**P**	**11 10 47.4**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=24,slow=23,SNR=2.3 comp=Z,1.7nm,0.5s						
TXAR	**Lajitas Array**	**85.94**	**57**	P	**P**	**11 10 57.7**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=218,slow=6.4,SNR=13 comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**86.29**	**13**	P	**P**	**11 10 56.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=216,slow=5.0,SNR=13 comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**87.45**	**43**	P	**P**	**11 11 02.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=241,slow=1.9,SNR=2.2 comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**11 11 12.5**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=100,slow=2.8,SNR=7.2 comp=Z,0.7nm,0.3s						
TROLL	**Troll, Antarti**	**89.81**	**180**	P	**P**	**11 11 12.5**	**-0.7**
SNAA	**Sanae**	**90.08**	**178**	P	**P**	**11 11 13.4**	**-1.0**
MKAR	**Makanchi Array**	**109.76**	**314**	PKiKP	**PKiKP**	**11 16 40.8**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=117,slow=1.0,SNR=5.0						
ARCES	**ARCESS Array B**	**126.88**	**350**	PKP	**PKPdf**	**11 17 13.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=357,slow=1.8,SNR=13						
AKASG	**Malin Array Be**	**141.19**	**332**	PKhKP	PKPpre	11 17 34.6	
	comp=Z,0.4nm,0.3s,baz=50,slow=3.8,SNR=4.8						
BRTR	**Keskin Array B**	**145.41**	**315**	PKPbc	**PKPbc**	**11 17 50.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=242,slow=25,SNR=5.6						

CLL Collm 146.04 348 *i* PKPbc **PKPbc** **11 17 52.0 +0.4**
comp=Z,5.0nm,0.9s
GERES GERESS Array B 148.20 345 PKPbc **PKPbc** **11 17 57.9 +0.4**
comp=Z,1.0nm,0.7s,baz=36,slow=5.0,SNR=5.1

*WEL **22** 10:59:57.7±0.3, 40.7S±2.2×17.6E±1, h12km±4km, M3.6/100, ML4.1/33, MLv3.6/100, Error ellipse: s-maj=0.0km s-min=0.0km az=77.2*
*NOU **22** 10:59:58.6, 39.87S×175.65E, h13km, MLv3.6/8, North Island, New Zealand*
ISC 22 10:59:57.7±1.2, 39.87S±0.02×175.56E±0.02, h11km±12km, n131, σ0s90/138, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**0.36**	**122**	P	**Pb**	**11 00 05.9**	**-0.2**
TSZ				S	**Sb**	**11 00 11.3**	**-0.5**
OHWZ	**Ohakea**	**0.39**	**209**	P	**Pb**	**11 00 06.5**	**-0.1**
WAZ	**Wanganui**	**0.46**	**284**	P	**Pb**	**11 00 08.3**	**+0.5**
MOVZ	**Moawhango**	**0.48**	**18**	P	**Pb**	**11 00 07.7**	**-0.5**
MOVZ				S	**Sb**	**11 00 14.5**	**-0.8**
MTVZ	**Mangateitei**	**0.49**	**352**	P	**Pb**	**11 00 08.4**	**+0.1**
MTVZ				S	**Sb**	**11 00 15.9**	**+0.5**
PNHZ	**Pukenui**	**0.49**	**96**	P	**Pb**	**11 00 07.9**	**-0.5**
BHHZ	**Black Hill Sta**	**0.54**	**46**	P	**Pg**	**11 00 08.6**	**+0.4**
BHHZ				S	**Sg**	**11 00 15.6**	**+0.2**
WNVZ	**Wahianoa**	**0.54**	**3**	P	**Pb**	**11 00 09.0**	**-0.3**
WNVZ				S	**Sb**	**11 00 16.6**	**-0.5**
POWZ	**Post Office Ro**	**0.55**	**163**	P	**Pb**	**11 00 08.9**	**-0.4**
TRVZ	**Turoa**	**0.57**	**359**	P	**Pb**	**11 00 09.6**	**-0.1**
TRVZ				S	**Sb**	**11 00 17.6**	**-0.3**
WHVZ	**Whangaehu Hut**	**0.58**	**2**	P	**Pb**	**11 00 09.8**	**-0.2**
WHVZ				S	**Sb**	**11 00 17.7**	**-0.7**
DRZ	**Dome Shelter**	**0.59**	**0**	P	**Pb**	**11 00 10.0**	**-0.2**
PKVZ	**Pokaka**	**0.60**	**344**	P	**Pb**	**11 00 10.2**	**-0.1**
TUVZ	**Tukino**	**0.60**	**7**	P	**Pb**	**11 00 10.1**	**-0.2**
FWVZ	**Far West T-bar**	**0.61**	**359**	P	**Pb**	**11 00 10.2**	**-0.3**
DVHZ	**Dannevirke**	**0.63**	**133**	P	**Pb**	**11 00 10.5**	**-0.3**
SNVZ	**South Ngauruho**	**0.68**	**5**	P	**Pb**	**11 00 11.4**	**-0.3**
NGZ	**Ngauruhoe**	**0.69**	**2**	P	**Pb**	**11 00 11.5**	**-0.3**
WPHZ	**Waipukurau**	**0.70**	**107**	P	**Pb**	**11 00 12.2**	**+0.2**
OTVZ	**Oturere**	**0.71**	**6**	P	**Pb**	**11 00 11.7**	**-0.4**
NNVZ	**North Ngauruho**	**0.73**	**3**	P	**Pb**	**11 00 12.4**	**-0.2**
ETVZ	**East Tongariro**	**0.74**	**9**	P	**Pg**	**11 00 12.1**	**+0.2**
PRWZ	**Pori Road**	**0.76**	**156**	P	**Pb**	**11 00 12.5**	**-0.2**
TMVZ	**Te Maari**	**0.76**	**8**	P	**Pg**	**11 00 12.4**	**+0.1**
NTVZ	**North Tongarir**	**0.77**	**7**	P	**Pg**	**11 00 12.7**	**+0.1**
KRVZ	**Karewarewa**	**0.77**	**5**	P	**Pg**	**11 00 12.8**	**+0.2**
MRZ	**Mangatainoka R**	**0.79**	**179**	P	**Pg**	**11 00 13.0**	**-0.1**
KWHZ	**Kaweka Forest**	**0.80**	**57**	P	**Pb**	**11 00 13.4**	**-0.2**
TWVZ	**Taurewa**	**0.80**	**353**	P	**Pg**	**11 00 13.2**	**0.0**
KATZ	**Kakaramea**	**0.90**	**7**	P	**Pg**	**11 00 15.0**	**0.0**
PRHZ	**Porangahau**	**0.92**	**116**	P	**Pn**	**11 00 16.2**	**-0.3**
ANWZ	**Angora Road**	**0.92**	**131**	P	**Pn**	**11 00 16.1**	**-0.3**
TIWZ	**Tintock**	**0.94**	**165**	P	**Pg**	**11 00 15.8**	**0.0**
BFZ	**Birch Farm**	**0.97**	**148**	P	**Pb**	**11 00 16.6**	**+0.1**
BFZ	**Birch Farm**	**0.97**	**148**	P	**Pg**	**11 00 16.2**	**-0.1**
VRZ	**Vera Road**	**0.97**	**320**	P	**Pg**	**11 00 16.0**	**-0.3**
MCHZ	**McNeill Hill**	**0.97**	**65**	P	**Pn**	**11 00 17.7**	**+0.5**
LREZ	**Lake Rotokare**	**0.98**	**294**	P	**Pb**	**11 00 17.0**	**+0.3**
OGWZ	**Otaki Gorge**	**0.99**	**197**	P	**Pg**	**11 00 16.1**	**-0.8**
BKZ	**Black Stump Fm**	**1.00**	**46**	P	**Pg**	**11 00 16.8**	**-0.2**
BKZ	**Black Stump Fm**	**1.00**	**46**	P	**Pg**	**11 00 16.8**	**-0.2**
PXZ	**Pawanui**	**1.01**	**100**	P	**Pn**	**11 00 18.1**	**+0.3**
RATZ	**Rangitukua**	**1.01**	**9**	P	**Pb**	**11 00 17.2**	**-0.1**
KAHZ	**Kahuranaki**	**1.01**	**86**	P	**Pn**	**11 00 18.4**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.03**	**182**	P	**Pb**	**11 00 17.0**	**-0.6**
HATZ	**Hinemaiaia**	**1.06**	**23**	P	**Pb**	**11 00 17.2**	**-0.8**
KIW	**Kapiti Island**	**1.11**	**206**	P	**Pb**	**11 00 17.6**	**-1.4**
CPWZ	**Castlepoint**	**1.15**	**155**	P	**Pg**	**11 00 20.9**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.19**	**80**	P	**Pg**	**11 00 21.7**	**+1.2**
MRHZ	**Matea Rd**	**1.23**	**33**	P	**Pn**	**11 00 19.9**	**-0.9**
NMHZ	**Naumai**	**1.23**	**52**	P	**Pg**	**11 00 22.0**	**+0.6**
WHTZ	**Whakaora**	**1.24**	**14**	P	**Pg**	**11 00 22.3**	**+0.8**
MHEZ	**Mangahewa**	**1.24**	**309**	P	**Pg**	**11 00 21.9**	**+0.4**
DREZ	**Durham Road**	**1.25**	**302**	P	**Pb**	**11 00 21.3**	**0.0**
ARHZ	**Aropaoanui**	**1.26**	**62**	P	**Pg**	**11 00 22.6**	**+0.7**
TMWZ	**Te Maipa**	**1.26**	**169**	P	**Pn**	**11 00 20.6**	**-0.7**
NEZ	**North Egmont**	**1.28**	**297**	P	**Pb**	**11 00 22.0**	**+0.1**
MTW	**Mount Morrison**	**1.29**	**182**	P	**Pn**	**11 00 20.8**	**-0.9**
CAW	**Cannon Point**	**1.30**	**197**	P	**Pn**	**11 00 21.1**	**-0.6**
KHEZ	**Kahui Hut**	**1.33**	**295**	P	**Pg**	**11 00 23.5**	**+0.3**
KHEZ	**Kahui Hut**	**1.33**	**295**	P	**Pg**	**11 00 23.0**	**-0.1**
NMEZ	**Namu Road**	**1.38**	**289**	P	**Pn**	**11 00 23.0**	**+0.2**
PKE	**Pukeiti**	**1.39**	**298**	P	**Pg**	**11 00 24.1**	**-0.3**
MTHZ	**Maungataniwha**	**1.42**	**45**	P	**Pg**	**11 00 24.4**	**-0.4**
ALRZ	**Allen Road**	**1.44**	**25**	P	**Pn**	**11 00 23.7**	**+0.1**
NBEZ	**Newall Road No**	**1.44**	**294**	P	**Pb**	**11 00 24.5**	**0.0**
HIZ	**Hauiti**	**1.46**	**338**	P	**Pb**	**11 00 24.7**	**-0.1**
HIZ	**Hauiti**	**1.46**	**338**	P	**Pn**	**11 00 23.1**	**-0.8**
RAHZ	**Arahi**	**1.52**	**52**	P	**Pg**	**11 00 27.0**	**+0.3**
WHHZ	**Waihua**	**1.52**	**59**	P	**Pg**	**11 00 27.9**	**+1.2**
PAWZ	**Paruwai Farm**	**1.52**	**184**	P	**Pb**	**11 00 25.8**	**-0.1**
TRWZ	**Traveller**	**1.53**	**176**	P	**Pn**	**11 00 24.3**	**-0.7**
TLZ	**Tolley Road**	**1.54**	**359**	P	**Pn**	**11 00 23.8**	**-1.2**
WEL	**

NEIC ***22*** *11:01:33.0±1.6, 37.˚30N±0.˚03×141.˚44E±0.˚10, h21km±7km, mb4.5/6, Error ellipse: s-maj=11.9km s-min=2.7km az=107.0*
JMA ***22*** *11:01:33.5±0.2, 37.˚3N±0.˚4×141.˚1E±˚, h24km±1km, MV3.7/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 22 11:01:32.6±1.1, 37.˚26N±0.˚04×141.˚53E±0.˚05, h19km±3km, n52, σ0°97/53, mb3.9/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**282**	P		**Pg**		**11 01 43.3**	**-0.1**
JFK				S		**Sg**		**11 01 50.4**	**-0.2**
JMST	**Minamisoumatoc**	**0.69**	**312**	P		**Pb**		**11 01 45.9**	**-0.1**
JMST				S		**Sb**		**11 01 55.1**	**0.0**
JFFD	**Fukushimafurud**	**0.79**	**258**	P		**Pb**		**11 01 47.9**	**+0.1**
JFFD				S		**Sb**		**11 01 57.9**	**-0.2**
JMM	**Marumori**	**0.84**	**316**			**Pb**		**11 01 48.4**	**-0.3**
JMM				Sn		**Sb**		**11 01 58.9**	**-0.7**
JMM	**Marumori**	**0.84**	**316**	*i* P		**Pb**		**11 01 48.4**	**-0.3**
JMM				S		**Sb**		**11 01 59.4**	**-0.2**
JHO	**Hitachi**	**1.01**	**230**	P		**Pb**		**11 01 51.4**	**-0.1**
JHO				S		**Sb**		**11 02 04.4**	**+0.1**
JIO	**Ouri**	**1.20**	**353**	P		**Pn**		**11 01 54.1**	**-0.3**
JIO				S		**Sb**		**11 02 09.1**	**-0.8**
JOU	**Okura**	**1.30**	**328**	P		**Pb**		**11 01 56.4**	**-0.1**
JOU				S		**Sb**		**11 02 13.6**	**+0.8**
JSB	**Shiboa**	**1.32**	**258**	P		**Pb**		**11 01 57.2**	**+0.4**
JSD	**Sado**	**2.71**	**288**	Pn		**Pn**		**11 02 14.3**	**-0.8**
MJAR	**Matsushiro Arr**	**2.76**	**256**	Pn		**Pn**		**11 02 16.5**	**+0.7**
	0.8nm,0.3s,baz=70,slow=17,SNR=2.1								
MJAR				Sn		**Sb**		**11 02 53.8**	**-0.9**
	0.6nm,0.3s,baz=77,slow=22,SNR=2.5 6.9nm,0.5s								
MAJO	**Matsushiro**	**2.76**	**256**	Pn		**Pn**		**11 02 14.8**	**-1.0**
MJB9	**Matsu-Tunnel**	**2.76**	**256**	Pn		**Pn**		**11 02 15.9**	**0.0**
JTM	**Tenmabayashi**	**3.54**	**354**	Pn		**Pn**		**11 02 26.5**	**-0.1**
JGF	**Kuroka**	**3.75**	**245**	Pn		**Pn**		**11 02 28.9**	**-0.6**
INU	**Inuyama**	**4.11**	**244**	Pn		**Pn**		**11 02 32.8**	**-1.6**
JHJ2	**Mitsune**	**4.37**	**199**	Pn		**Pn**		**11 02 38.0**	**+0.1**
JHJ	**Hachijo jima 2**	**4.37**	**200**	Pn		**Pn**		**11 02 38.0**	**0.0**
	6.0nm,0.3s,baz=49,slow=21,SNR=2.0								
JHJ				Sn		**Sn**		**11 03 27.2**	**-1.2**
	9.1nm,0.3s,baz=282,slow=21,SNR=1.6 171nm,1.0s								
ERM	**Erimo**	**4.91**	**14**	Pn		**Pn**		**11 02 43.6**	**-1.8**
JKA	**Kamikawa-asahi**	**6.90**	**6**	Pn		**Pn**		**11 03 13.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**10.02**	**317**	Pn		**Pn**		**11 03 58.8**	**+3.3**
	0.1nm,0.3s,baz=156,slow=12,SNR=2.4 3.1nm,0.9s								
MDJ	**Mudanjiang**	**11.63**	**313**	Pn		**Pn**		**11 04 16.3**	**-1.2**
MA2	**Magadan**	**23.11**	**12**	P		**P**		**11 06 35.8**	**-1.4**
SONM	**Songino Array**	**27.74**	**304**	P		**P**		**11 07 19.7**	**-0.2**
	1.1nm,0.8s,baz=105,slow=9.5,SNR=4.1 1.1nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T		T		11 36 53.7	
	baz=314								
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T		T		11 36 54.4	
	baz=314								
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T		T		11 36 55.1	
	baz=314								
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T		T		11 37 47.1	
	baz=316,slow=75,SNR=32								
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T		T		11 37 44.2	
	baz=316,slow=75,SNR=24								
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T		T		11 37 45.5	
	baz=316,slow=75,SNR=28								
ZAA0	**Zalesovo Array**	**41.83**	**312**	P		**P**		**11 09 20.8**	**-0.2**
ZALV	**Zalesovo Beam**	**41.83**	**312**	P		**P**		**11 09 22.5**	**+1.5**
	2.4nm,0.7s,baz=96,slow=6.6,SNR=8.2 2.4nm,0.7s								
ZALV	**Zalesovo Beam**	**41.83**	**312**	P		**P**		**11 09 19.2**	**-1.8**
RDOG	**Red Dog Mine**	**43.26**	**27**	P		**P**		**11 09 32.0**	**-0.4**
RDOG				IAmb		IAmb		11 09 34.2	
	comp=Z,19nm,1.5s								
MK31	**Makanchi Array**	**44.08**	**302**	P		**P**		**11 09 38.6**	**-0.8**
MK31				IAmb		IAmb		11 09 60.0	
	comp=Z,6.3nm,1.5s								
MKAR	**Makanchi Array**	**44.08**	**302**	P		**P**		**11 09 40.7**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=90,slow=9.8,SNR=7.9 comp=Z,1.5nm,0.7s								
MKAR	**Makanchi Array**	**44.08**	**302**	P		**P**		**11 09 38.3**	**-1.1**
KURK	**Kurchatov**	**45.87**	**308**	P		**P**		**11 09 53.0**	**-0.4**
KURK				IAmb		IAmb		11 09 55.5	
	comp=Z,6.3nm,0.9s								
KURBB	**Kurchatov Arra**	**45.94**	**308**	P		**P**		**11 09 55.5**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=84,slow=8.5,SNR=7.0 comp=Z,2.7nm,0.8s								
M20K	**Styx River**	**46.48**	**36**	P		**P**		**11 09 57.7**	**-0.6**
M20K				IAmb		IAmb		11 10 23.7	
	comp=Z,6.2nm,1.2s								
ILAR	**Eielson Array**	**49.25**	**32**	P		**P**		**11 10 20.2**	**+0.6**
	comp=Z,0.6nm,1.1s,baz=276,slow=8.1,SNR=2.3 comp=Z,0.6nm,1.1s								
BVAR	**Borovoye Array**	**50.49**	**312**	P		**P**		**11 10 30.3**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=104,slow=6.1,SNR=1.7 comp=Z,0.4nm,0.3s								
WRA	**Warramunga Arr**	**57.30**	**188**	P		**P**		**11 11 18.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=11,slow=7.5,SNR=1.9 comp=Z,0.3nm,0.6s								
ABKAR	**Akbulak array**	**57.87**	**310**	P		**P**		**11 11 23.6**	**+0.6**
FINES	**FINESS Array B**	**68.66**	**332**	P		**P**		**11 12 35.7**	**+1.5**
	comp=Z,2.7nm,1.0s,baz=75,slow=7.4,SNR=1.9 comp=Z,2.7nm,1.0s								
FINES	**FINESS Array B**	**68.66**	**332**	P		**P**		**11 12 34.7**	**+0.5**
NOA	**NORSAR Array B**	**74.01**	**337**	P		**P**		**11 13 07.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=16,slow=5.1,SNR=1.4 comp=Z,0.5nm,0.8s								
AKASG	**Malin Array Be**	**74.18**	**322**	P		**P**		**11 13 08.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=45,slow=5.3,SNR=4.9 comp=Z,0.2nm,0.3s								
TXAR	**Lajitas Array**	**89.91**	**52**	P		**P**		**11 14 30.2**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=289,slow=5.6,SNR=1.5 comp=Z,0.3nm,0.9s								
H03N2	**Juan Fernandez**	**146.95**	**96**	T		T		14 05 26.0	
	baz=291,slow=76,SNR=8.6								
H03N3	**Juan Fernandez**	**146.97**	**96**	T		T		14 05 26.4	
	baz=291,slow=76,SNR=11								
H03N1	**Juan Fernandez**	**146.97**	**96**	T		T		14 05 27.4	
	baz=291,slow=76,SNR=7.1								

MAN 22 11:05:45.6, 10.˚33N×125.˚20E, h3km, mb4.7, ML3.6, MS3.5, 6C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.39**	**240**	↑*e*P			Pb	11 05 54.3	-0.9
MSLP				*e*S			Sb	11 06 02.2	+0.6
SCPH	**Surigao**	**0.62**	**153**	↓*e*P			Pb	11 05 58.3	-0.7
TABP	**Talibon, Bohol**	**0.89**	**254**	↓*i*P			Pg	11 06 02.2	-0.5
TABP				*e*S			Sb	11 06 15.2	-0.7
OCLP	**Ormoc**	**0.92**	**321**	↑*e*P			Pg	11 06 03.6	+0.4
OCLP				*e*S			Sb	11 06 16.7	-0.2
GLSP	**General Luna,**	**1.06**	**121**	↑*e*P			Pg	11 06 05.3	-0.7
GLSP				*e*S			Sb	11 06 20.3	-0.6
GHBP	**Garcia Hernand**	**1.11**	**231**	↑*e*P			Pg	11 06 07.2	+0.2
GHBP				*i* S			Sn	11 06 23.4	-0.6
LLP	**Lapu-Lapu**	**1.22**	**269**	*e*P			Pg	11 06 07.6	-1.3
LLP				*i* S			Sn	11 06 25.9	-0.6
LSIP	**Lazi, Siquijor**	**1.96**	**232**	↑*e*P			Pn	11 06 20.6	+1.0
LSIP				*i* S			Sb	11 06 47.5	+0.8
CNP	**Catarman**	**2.23**	**346**	↑*e*P			Pn	11 06 23.5	+0.1
CNP				*e*S			Sb	11 06 53.7	-0.8
BIPH	**Bislig**	**2.42**	**152**	↓*i*P			Pb	11 06 29.8	0.0
BIPH				*i* S			Sn	11 06 54.5	-1.8
RCP	**Roxas**	**2.70**	**297**	↓*e*P			Pn	11 06 30.8	+0.8
RCP				*e*S			Sn	11 07 04.0	+0.8

IDC ***22*** *11:09:49.7±2.3, 37.˚49N×141.˚64E, h0km, mb3.5/3, mbtmp3.4/4, ML2.4/1, MS4.0/1, Error ellipse: s-maj=42.8km s-min=35.1km az=72.0*
JMA ***22*** *11:09:52.9±0.2, 37.˚3N±0.˚3×141.˚5E±0.˚9, h27km±1km, MV3.2/37, E OFF FUKUSHIMA PREF*

ISC 22 11:09:51.8±2.1, 37.˚31N±0.˚05×141.˚55E±0.˚09, h13km±12km, n19, σ0°86/20, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**277**	P			**Pg**	**11 10 02.9**	**+0.5**
JFK				*e*S			**Sg**	**11 10 10.1**	**+0.5**
JMST	**Minamisoumatoc**	**0.67**	**309**	P			**Pb**	**11 10 05.3**	**0.0**
JMST				S			**Sb**	**11 10 14.5**	**0.0**
JFFD	**Fukushimafurud**	**0.81**	**255**	*i* P			**Pb**	**11 10 07.6**	**-0.2**
JFFD				S			**Sb**	**11 10 18.2**	**-0.5**
JMM	**Marumori**	**0.82**	**313**	*i* P			**Pg**	**11 10 07.8**	**+0.2**
JMM				S			**Sg**	**11 10 18.7**	**+0.3**
JHO	**Hitachi**	**1.04**	**229**	P			**Pb**	**11 10 10.8**	**-0.9**
JHO				*e*S			**Sb**	**11 10 23.9**	**-1.4**
JIO	**Ouri**	**1.16**	**352**	*e*P			**Pb**	**11 10 13.3**	**-0.3**
JIO				*e*S			**Sg**	**11 10 28.8**	**-0.4**
JOU	**Okura**	**1.27**	**327**	*i* P			**Pg**	**11 10 15.6**	**-0.5**
JOU				*e*S			**Sg**	**11 10 32.2**	**-0.4**
MJAR	**Matsushiro Arr**	**2.78**	**255**	Pn			**Pn**	**11 10 36.8**	**+0.8**
	0.6nm,0.3s,baz=78,slow=16,SNR=21								
MJAR				Sn			**Sb**	**11 11 14.2**	**-1.1**
	0.6nm,0.3s,baz=73,slow=15,SNR=7.4 2.8nm,0.3s								
JHJ	**Hachijo jima 2**	**4.42**	**200**	Sn			**Sn**	**11 11 49.7**	**0.0**
	7.7nm,0.3s,baz=263,slow=20,SNR=1.5								
SHEM	**Shemya Is, Ala**	**27.40**	**45**	LR			LR	11 29 13.8	
	comp=Z,292nm,18.1s,baz=252,slow=43								
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T			T	11 45 12.6	
	baz=314,slow=75,SNR=14								
H11N1	**WAKE ISLAND Hy**	**28.21**	**121**	T			T	11 45 13.5	
	baz=314,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hy**	**28.22**	**121**	T			T	11 45 18.6	
	baz=314,slow=75,SNR=17								
H11S1	**WAKE ISLAND Hy**	**28.92**	**123**	T			T	11 46 05.9	
	baz=316,slow=75,SNR=18								
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T			T	11 46 07.4	
	baz=316,slow=75,SNR=15								
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T			T	11 46 07.3	
	baz=316,slow=75,SNR=16								
ZALV	**Zalesovo Beam**	**41.81**	**312**	P			**P**	**11 17 41.2**	**+0.4**
	0.5nm,0.5s,baz=93,slow=6.2,SNR=2.2 0.5nm,0.5s								
MKAR	**Makanchi Array**	**44.06**	**302**	P			**P**	**11 17 57.5**	**-1.8**
	0.4nm,0.7s,baz=72,slow=9.4,SNR=1.7 0.4nm,0.7s								
WRA	**Warramunga Arr**	**57.34**	**188**	P			**P**	**11 19 41.1**	**+1.5**
	0.7nm,1.2s,baz=5.5,slow=7.5,SNR=1.8 0.7nm,1.2s								

NOU ***22*** *11:15:32.6, 42.˚59S×173.˚52E, h27km, MLv4.2/6, South Island, New Zealand*
WEL ***22*** *11:15:39.0±0.3, 43.˚5S±2.˚×17.˚3E±˚, h6km±2km, M3.6/43, ML3.8/20, MLv3.6/43, Error ellipse: s-maj=0.0km s-min=0.0km az=127.2*

ISC 22 11:15:38.7±0.9, 42.˚96S±0.˚03×172.˚97E±0.˚03, h12km±7km, n78, σ1°38/79, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.05**	**102**	P			**Pg**	**11 15 41.0**	**-0.1**
GVZ				S			**Sg**	**11 15 43.0**	**+0.3**
AMCZ	**Amberley**	**0.32**	**226**	P			**Pg**	**11 15 46.7**	**+0.4**
LTZ	**Lake Taylor**	**0.54**	**289**	P			**Pg**	**11 15 49.6**	**+0.3**
LTZ				S			**Sb**	**11 15 57.5**	**-0.4**
KHZ	**Kahutara**	**0.69**	**38**	P			**Pg**	**11 15 52.4**	**+0.4**
OKCZ	**Okains Bay**	**0.77**	**175**	P			**Pb**	**11 15 55.0**	**+0.9**
OXZ	**Oxford**	**0.77**	**241**	P			**Pb**	**11 15 54.8**	**+0.7**
MQZ	**McQueen's Vall**	**0.78**	**197**	P			**Pg**	**11 15 54.5**	**+0.6**
AKCZ	**Akaroa Harbour**	**0.92**	**183**	P			**Pg**	**11 15 56.9**	**+0.5**
RACZ	**Rakaia**	**0.98**	**218**	P			**Pg**	**11 15 57.6**	**+0.1**
INZ	**Inchbonnie**	**1.14**	**281**	P			**Pg**	**11 16 00.6**	**0.0**
INZ				P			**Pg**	**11 16 00.6**	**0.0**
MHCZ	**Mount Hutt**	**1.17**	**240**	P			**Pg**	**11 16 00.5**	**-0.7**
THZ	**Tophouse**	**1.19**	**358**	P			**Pg**	**11 16 01.1**	**-0.6**
WACZ	**Wakanui South**	**1.28**	**219**	P			**Pn**	**11 16 01.9**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.41**	**29**	P			**Pn**	**11 16 04.6**	**+0.4**
DSZ	**Dennison Sort**	**1.48**	**324**	P			**Pn**	**11 16 05.5**	**+0.2**
CMWZ	**Cape Campbell**	**1.52**	**38**	P			**Pn**	**11 16 06.8**	**+1.1**
MRNZ	**Matariki Terra**	**1.56**	**354**	P			**Pn**	**11 16 07.2**	**+0.9**
RPZ	**Rata Peaks**	**1.59**	**241**	P			**Pn**	**11 16 06.4**	**-0.3**
RPZ	**Rata Peaks**	**1.59**	**241**	P			**Pn**	**11 16 06.4**	**-0.3**
ARCZ	**Arundel**	**1.64**	**232**	P			**Pn**	**11 16 06.8**	**-0.5**
WVZ	**Waitaha Valley**	**1.64**	**265**	P			**Pn**	**11 16 07.9**	**+0.5**
TUWZ	**Tuamarina**	**1.69**	**26**	P			**Pn**	**11 16 08.3**	**+0.3**
NNZ	**Nelson**	**1.77**	**10**	P			**Pn**	**11 16 09.8**	**+0.7**
TKNZ	**Takaka Hill**	**1.92**	**360**	P			**Pn**	**11 16 12.7**	**+1.5**
GCSZ	**Gaunt Creek Bo**	**1.96**	**259**	P			**Pn**	**11 16 12.5**	**+0.7**
TCW	**Tory Channel**	**2.00**	**30**	P			**Pn**	**11 16 12.0**	**-0.3**
TMZ	**Timaru**	**2.01**	**224**	P			**Pn**	**11 16 12.1**	**-0.5**
QRZ	**Quartz Range**	**2.15**	**351**	P			**Pn**	**11 16 14.9**	**+0.5**
PLWZ	**Palliser**	**2.19**	**52**	P			**Pn**	**11 16 14.4**	**-0.7**
DUWZ	**D'Urville Isla**	**2.27**	**19**	P			**Pn**	**11 16 16.2**	**+0.2**
FOZ	**Fox Glacier**	**2.37**	**255**	P			**Pn**	**11 16 18.3**	**+0.9**
PAWZ	**Paruwai Farm**	**2.41**	**50**	P			**Pn**	**11 16 18.2**	**+0.1**
CAW	**Cannon Point**	**2.42**	**41**	P			**Pn**	**11 16 17.2**	**+0.9**
LBZ	**Lake Benmore**	**2.47**	**234**	P			**Pn**	**11 16 18.6**	**-0.2**
KIW	**Kapiti Island**	**2.55**	**35**	P			**Pn**	**11 16 21.4**	**+1.5**
TRWZ	**Traveller**	**2.55**	**53**	P			**Pn**	**11 16 19.2**	**-0.8**
MTW	**Mount Morrison**	**2.61**	**47**	P			**Pn**	**11 16 20.4**	**-0.3**
ODZ	**Otahua Downs**	**2.67**	**218**	P			**Pn**	**11 16 21.0**	**-0.6**
ODZ	**Otahua Downs**	**2.67**	**218**	P			**Pn**	**11 16 21.0**	**-0.6**
OGWZ	**Otaki Gorge**	**2.70**	**38**	P			**Pn**	**11 16 21.2**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.80**	**44**	P			**Pn**	**11 16 24.9**	**+1.5**
MRZ	**Mangatainoka R**	**3.01**	**41**	P			**Pn**	**11 16 24.8**	**-1.4**
JCZ	**Jackson Bay**	**3.24**	**248**	P			**Pn**	**11 16 28.5**	**-1.0**
JCZ	**Jackson Bay**	**3.24**	**248**	P			**Pn**	**11 16 29.8**	**+0.3**
HHSZ	**Highcliff Hill**	**3.38**	**209**	P			**Pn**	**11 16 30.8**	**-0.5**
WKZ	**Wanaka**	**3.41**	**235**	P			**Pn**	**11 16 31.2**	**-0.6**
EAZ	**Earnscleugh**	**3.48**	**228**	P			**Pn**	**11 16 32.0**	**-0.7**
WAZ	**Wanganui**	**3.54**	**26**	P			**Pn**	**11 16 36.0**	**+2.4**
NMEZ	**Namu Road**	**3.61**	**11**	P			**Pn**	**11 16 39.3**	**-3.1**
LREZ	**Lake Rotokare**	**3.66**	**18**	P			**Pn**	**11 16 41.6**	**-1.6**
KHEZ	**Kahui Hut**	**3.74**	**13**	P			**Pn**	**11 16 39.9**	**+3.5**
NBEZ	**Newall Road No**	**3.75**	**11**	P			**Pn**	**11 16 39.4**	**+3.0**
NEZ	**North Egmont**	**3.78**	**13**	P			**Pn**	**11 16 40.5**	**+3.6**
TUZ	**Tuapeka**	**3.83**	**217**	P			**Pn**	**11 16 37.5**	**+0.1**
PKE	**Pukeiti**	**3.84**	**12**	P			**Pn**	**11 16 41.2**	**+3.6**
DREZ	**Durham Road**	**3.88**	**14**	P			**Pn**	**11 16 40.9**	**+2.7**
MSZ	**Milford Sound**	**4.03**	**243**	P			**Pn**	**11 16 39.4**	**-0.8**
VRZ	**Vera Road**	**4.06**	**20**	P			**Pn**	**11 16 42.1**	**+1.5**
PKVZ	**Pokaka**	**4.08**	**27**	P			**Pn**	**11 16 42.6**	**+1.5**
WNVZ	**Wahianoa**	**4.13**	**30**	P			**Pn**	**11 16 43.1**	**+1.3**
MLZ	**Mavora Lakes**	**4.24**	**234**	P			**Pn**	**11 16 42.5**	**-0.7**
NGZ	**Ngauruhoe**	**4.27**	**29**	P			**Pn**	**11 16 45.0**	**+1.3**
SNVZ	**South Ngauruho**	**4.28**	**29**	P			**Pn**	**11 16 47.8**	**+4.0**
NNVZ	**North Ngauruho**	**4.32**	**29**	P			**Pn**	**11 16 45.4**	**+1.1**
ETVZ	**East Tongariro**	**4.34**	**29**	P			**Pn**	**11 16 45.7**	**+1.0**
TMVZ	**Te Maari**	**4.36**	**29**	P			**Pn**	**11 16 46.6**	**+1.6**
SYZ	**Scrubby Hill**	**4.50**	**216**	P			**Pn**	**11 16 46.5**	**-0.2**
SYZ	**Scrubby Hill**	**4.50**	**216**	P			**Pn**	**11 16 46.3**	**-0.3**
WHZ	**Wether Hill Ro**	**4.64**	**229**	P			**Pn**	**11 16 46.8**	**-1.8**
HIZ	**Hauiti**	**4.67**	**19**	P			**Pn**	**11 16 51.6**	**+2.6**
TLZ	**Tolley Road**	**5.02**	**24**	P			**Pn**	**11 16 55.8**	**+1.9**
APZ	**The Paps**	**5.24**	**221**	P			**Pn**	**11 16 56.5**	**-0.4**
TOZ	**Tahuroa Road**	**5.57**	**21**	P			**Pn**	**11 17 01.8**	**+0.4**
URZ	**Urewera**	**5.65**	**35**	P			Pn	11 16 48.4	-14
AWAZ	**Awhitu Peninsu**	**6.03**	**13**	P			**Pn**	**11 17 08.5**	**+0.9**
MKAZ	**Moumakai**	**6.08**	**17**	P			**Pn**	**11 17 08.7**	**+0.3**
WIAZ	**Waiheke Island**	**6.38**	**16**	P			**Pn**	**11 17 13.2**	**+0.7**
MXZ	**Matakaoa Point**	**6.76**	**39**	P			Pn	11 17 01.7	-16

VIE 22 11:16:18.4±0.8, 46.˚41N×13.˚01E, h10km±15km, ml0.8/2, 2C-2D, Error ellipse: s-maj=3.6km s-min=1.4km az=34.0
1 km NNW of Tolmezzo, Austria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FUSE	**Fusea**	**0.01**	**277**	↑*e*P		g	Pg	11 16 20.8	+0.6
FUSE				*e*S		g	Sg	11 16 22.4	+0.9
CLUD	**Cludinico**	**0.10**	**296**	*e*P		g	Pg	11 16 21.7	+0.6
CLUD				*e*S		g	Sg	11 16 23.9	+0.9
BOO	**Bordano**	**0.11**	**147**	↑*e*P		g	Pg	11 16 21.7	+0.5
BOO				*e*S		g	Sg	11 16 24.0	+0.8
ZOU	**Zoufplan**	**0.15**	**349**	↓*e*P		g	Pg	11 16 22.4	+0.6
PLRO	**Paularo**	**0.17**	**34**	↓*e*P		g	Pg	11 16 22.7	+0.6
PLRO				*e*S		g	Sg	11 16 25.6	+0.8
MPRI	**Monte Prat**	**0.17**	**186**	*e*P		g	Pg	11 16 22.6	+0.5
MPRI				*e*S		g	Sg	11 16 25.8	+1.1
BUA	**Buia**	**0.21**	**159**	*e*P		g	Pg	11 16 22.8	+0.1
BAD	**Bernadia**	**0.24**	**138**	*e*P		g	Pg	11 16 23.5	+0.3
BAD				*e*S		g	Sg	11 16 27.6	+1.0
VINO	**Villanova**	**0.24**	**130**	*e*P		g	Pg	11 16 23.6	+0.2
CSMI	**Casera Mimoias**	**0.27**	**292**	*e*P		g	Pg	11 16 24.6	+0.6
LSR	**Lussari**	**0.36**	**80**	*e*P		g	Pg	11 16 25.6	0.0
ACOM	**Acomizza, Ital**	**0.37**	**68**	*e*P		g	Pg	11 16 26.1	+0.3

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABTA	**Abfaltersbach**	**0.48**	**314**	*i* Pg			Pg	11 16 28.1	+0.3
	0.2nm,0.1s								
ABTA				*i* Sg			Sg	11 16 34.7	+0.5
	0.6nm,0.1s								
KBA	**Koelnbreinsper**	**0.70**	**19**	*e*Pg			Pg	11 16 32.3	+0.3
	0.1nm,0.1s								
KBA				*e*Sg			Sg	11 16 41.5	+0.2
	0.3nm,0.1s								

IDC ***22*** *11:21:32.8±0.7, 37.˚10N×141.˚50E, h0km, mb3.7/15, mbtmp3.7/17, ML3.2/2, MS4.4/2, Error ellipse: s-maj=18.7km s-min=15.3km az=107.0*
NEIC ***22*** *11:21:33.9±1.9, 37.˚04N±0.˚05×141.˚3E±0.˚1, h10km±1km, mb4.3/6, Error ellipse: s-maj=13.9km s-min=8.8km az=99.0*
JMA ***22*** *11:21:36.3±0.2, 37.˚1N±0.˚3×141.˚5E±0.˚9, h36km±1km, MD4.0/40, MV4.0/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED ***22*** *11:21:36.3, 37.˚14N×141.˚45E, h36km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.10; $M_{\theta\theta}$2.02; $M_{\phi\phi}$3.08; $M_{r\theta}$1.35; $M_{\theta\phi}$2.96; $M_{\phi r}$1.52; Fault plane solution: $M_0$5.70000×10^{14} NP1:ϕ_s39.00000°, δ35.00000°, λ-91.00000°. NP2:ϕ_s221.00000°, δ55.00000°, λ-89.00000°.*

ISC 22 11:21:34.4±2.3, 37.˚11N±0.˚04×141.˚48E±0.˚06, h13km±13km, n66, σ1°25/53, mb3.9/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**298**	P			**Pb**	**11 21 46.6**	**+0.7**
JFK				S			**Sb**	**11 21 54.0**	**+0.3**
JFK	**Kawauchi**	**0.54**	**298**	A			A	11 21 46.6	
	comp=E,6.0nm,1.3s,comp=E,2.0nm,0.6s								
JFFD	**Fukushimafurud**	**0.73**	**269**	*i* P			**Pb**	**11 21 49.8**	**+0.7**
JFFD				*e*S			**Sb**	**11 21 59.3**	**+0.3**
JMST	**Minamisoumatoc**	**0.77**	**323**	P			**Pb**	**11 21 50.1**	**+0.3**
JMST				S			**Sg**	**11 21 59.9**	**+0.3**
JMST	**Minamisoumatoc**	**0.77**	**323**	A			A	11 21 50.1	
	comp=E,6.0nm,1.5s,comp=E,7.0nm,0.6s								
JHO	**Hitachi**	**0.88**	**236**	P			**Pn**	**11 21 52.4**	**-0.2**
JHO				S			**Sb**	**11 22 04.0**	**+0.7**
JHO	**Hitachi**	**0.88**	**236**	A			A	11 21 52.4	
	comp=E,2.0nm,0.8s,comp=E,2.0nm,1.4s								
JMM	**Marumori**	**0.93**	**324**	Pg			**Pb**	**11 21 52.5**	**+0.1**
JMM	**Marumori**	**0.93**	**324**	*i* P			**Pb**	**11 21 52.5**	**+0.1**
JMM				S			**Sg**	**11 22 04.6**	**+0.1**
JMM	**

VAE	**Valguarnera**	**91.11**	**321**	LR	LR	12 19 32.3
	comp=Z,104nm,18.9s,baz=95,slow=38					
ESDC	**Sonseca Array**	**97.24**	**334**	P	**P**	**11 35 07.4 +0.3**
	comp=Z,0.2nm,0.4s,baz=36,slow=1.3,SNR=1.4					
	comp=Z,0.2nm,0.4s					
LPAZ	**La Paz**	**146.61**	**60**	PKPbc	**PKPbc**	**11 41 17.6 +0.6**
	comp=Z,1.0nm,0.5s,baz=236,slow=3.5,SNR=5.3					
H03N2	**Juan Fernandez**	**146.98**	**96**	T	T	14 25 37.5
	baz=291,slow=76,SNR=4.9					
H03N3	**Juan Fernandez**	**146.99**	**96**	T	T	14 25 35.4
	baz=291,slow=76,SNR=6.0					
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	14 25 34.9
	baz=291,slow=76,SNR=4.9					

BJI ***22*** *11:37:09.8±0.0,55°.93N×114°.28E,h10km,mb4.6/54, mB4.9/36,Ms5.3/57,Ms7 4.9/54*

MOS ***22*** *11:37:10.6±0.9,55°.77N×114°.10E,h9km,mb5.1/56, MS4.7/28,Error ellipse: s-maj=5.5km s-min=4.4km az=84.6*

MOS Felt (IV-V) at Severomuysk, (IV) at Chita, Mamakan, Shilka, (III-IV) at Bodaybo, Novoorlovsk, Mirsanovo, Novyy Uoyan, Uakit.

IDC ***22*** *11:37:11.0±0.4,55°.78N×113°.97E,h0km,mb4.4/29, mbtmp4.5/35,ML5.0/4,MS4.4/60,Error ellipse: s-maj=11.3km s-min=8.4km az=162.0*

GCMT ***22*** *11:37:12.6±0.2,55°.90N±0°.01×114°.10E±0°.02,h27km, MW5.0/110,Moment Tensor Solution. s57,c80; s110,c185; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.50±.16; Mθθ2.77±.12; Mφφ-0.26±.12; Mrθ-1.27±.20; Mθφ3.77±.08; Mφr0.40±.21; Best double couple: Mo4.57500×10¹⁶ NP1:φs92.00000°,δ67.00000°, λ-36.00000°. NP2:φs198.00000°,δ57.00000°, λ-152.00000°. Principal axes: T 5.4040, Plg6.0000°, Azm147.0000°; N -1.6560, Plg48.0000°, Azm243.0000°; P -3.7460, Plg42.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *11:37:12.6±2.0,55°.83N±0°.06×114°.2E±0°.1,h10km±1km, mb5.0/262 Error ellipse: s-maj=12.0km s-min=10.8km az=114.0*

BYKL ***22*** *11:37:13.6±0.1,55°.82N×114°.05E,h22km±2km, Mw5.0/17(IEC),#STATIONS COLA MA2 PET MAJO TATO KAPI NH CHTO PALK NIL AAK KURK LVZ KEV KBS NOR SFJD FELT I=IV-V MSK at severomui;IV at Chita,Mamakan,Shilka,III-IV at Bodaybo, Novoorlovsk, Mirsanovo, Novyy Uoyan, Uakit*

ISC 22 11:37:12.9±0.4,55°.88N±0°.02×114°.08E±0°.02,h12km±2km, h12km;pP-P,n874,σ1s79/903,mb5.0/216,MS4.5/90, 49C-22D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.38**	**310**	⇑*i*Pg		**Pb**	**11 37 22.4**	**+0.8**
SVKR				Pmax			11 37 23.2	
	18μm,0.3s							
SVKR				*e*Sg		**Sb**	**11 37 28.9**	**+1.4**
SVKR				Smax			11 37 30.7	
	331μm,0.6s							
SVKR	**Severomuysk**	**0.38**	**310**	⇑*i*PG		**Pb**	**11 37 22.4**	**+0.8**
SVKR				*e*			11 37 27.8	
SVKR				pmax	pmax			
	comp=Z,78μm,0.9s							
SVKR				smax	smax			
	comp=N,329μm,0.6s							
UKT	**Uakit**	**0.46**	**214**	⇓*i*Pg		**Pg**	**11 37 21.3**	**-0.7**
UKT				Pmax			11 37 22.4	
	comp=N,36μm,0.2s							
UKT				*e*Sg		**Sg**	**11 37 27.0**	**-1.2**
UKT				Smax			11 37 29.0	
	comp=N,306μm,1.0s							
UKT	**Uakit**	**0.46**	**214**	⇓*i*PG		**Pg**	**11 37 21.4**	**-0.6**
UKT				*e*			11 37 27.8	
UKT				pmax	pmax			
	comp=Z,37μm,0.3s							
UKT				smax	smax			
	comp=N,258μm,0.4s							
NLYR	**Nelyaty**	**1.10**	**55**	⇓*i*Pg		**Pn**	**11 37 34.4**	**+0.2**
NLYR				⇑*i*			11 37 34.9	
NLYR				Pmax			11 37 35.7	
	comp=N,24μm,0.6s							
NLYR				*e*			11 37 40.8	
NLYR				*e*Sg		**Sn**	**11 37 50.7**	**+1.4**
NLYR				Smax			11 37 53.8	
	comp=N,139μm,1.0s							
NLYR	**Nelyaty**	**1.10**	**55**	⇓*i*PG		**Pn**	**11 37 34.4**	**+0.2**
NLYR				*e*			11 37 51.0	
NLYR				pmax	pmax			
	comp=Z,24μm,0.7s							
NLYR				smax	smax			
	comp=N,137μm,1.1s							
YOA	**Uoyan**	**1.35**	**282**	*e*Pg		**Pb**	**11 37 38.2**	**+0.1**
YOA				*e*Sg		**Sg**	**11 37 57.1**	**+0.9**
YOA	**Uoyan**	**1.35**	**282**	*e*PG		**Pb**	**11 37 38.2**	**+0.1**
YOA				*e*			11 37 57.2	
YOA				pmax	pmax			
	comp=Z,20μm,0.2s							
YOA				smax	smax			
	comp=N,496μm,0.8s							
KMO	**Kumora**	**1.62**	**272**	⇓*i*Pn		**Pn**	**11 37 41.8**	**+0.5**
KMO				⇑*i*Pg		**Pb**	**11 37 42.6**	**-0.2**
KMO				Pmax			11 37 43.2	
	comp=N,14μm,0.7s							
KMO				*e*			11 37 46.7	
KMO				*e*Sg		**Sb**	**11 38 03.5**	**+0.4**
KMO				Smax			11 38 06.2	
	comp=N,180μm,0.9s							
KMO	**Kumora**	**1.62**	**272**	⇑*i*PN		**Pb**	**11 37 42.5**	**-0.2**
KMO				*e*			11 38 04.6	
KMO				pmax	pmax			
	comp=Z,14μm,0.6s							
KMO				smax	smax			
	comp=N,179μm,1.1s							
BOD	**Bodaibo**	**1.95**	**359**	⇑*i*Pn		**Pn**	**11 37 46.9**	**+1.1**
BOD				*e*Pg		**Pb**	**11 37 49.3**	**+1.0**
BOD				*e*			11 37 55.9	
BOD				max			11 37 58.5	
	comp=N,18μm,1.5s							
BOD				*e*Sg		**Sg**	**11 38 15.9**	**+0.4**
BOD				Smax			11 38 16.7	
	comp=N,37μm,0.5s							
BOD				*e*			11 38 18.1	
BOD	**Bodaibo**	**1.95**	**359**	*e*PN		**Pn**	**11 37 46.8**	**+1.0**
BOD				*e*			11 37 49.0	
BOD				*e*S		**Sb**	**11 38 13.2**	**+0.6**
BOD				*e*			11 38 15.9	
BOD				pmax	pmax			
	comp=Z,4μm,0.3s							
CRS	**Chara**	**2.55**	**64**	*e*Pn		**Pn**	**11 37 55.2**	**+1.1**
CRS				*e*Pg		**Pg**	**11 38 00.3**	**-1.4**
CRS				*e*			11 38 04.8	
CRS				max			11 38 22.2	
	comp=Z,12μm,1.1s							
CRS				*e*Sg		**Sg**	**11 38 34.1**	**-0.6**
CRS				Smax			11 38 43.7	
	comp=Z,29μm,1.6s							
CRS	**Chara**	**2.55**	**64**	*e*PN		**Pn**	**11 37 55.6**	**+1.5**
CRS				*e*			11 38 00.3	
CRS				*e*			11 38 33.1	
CRS				pmax	pmax			
	comp=Z,12μm,1.0s							
CRS				smax	smax			
	comp=N,25μm,1.1s							
NIZ	**Nizh Angarsk**	**2.56**	**270**	*e*Pn		**Pn**	**11 37 54.9**	**+0.7**
NIZ				*e*Pg		**Pb**	**11 37 59.8**	**+1.0**
NIZ				*e*			11 38 05.0	
NIZ				max			11 38 05.8	
	comp=N,3μm,0.7s							
NIZ				*e*Sn		**Sn**	**11 38 24.5**	**-0.8**
NIZ				*e*Sg		**Sg**	**11 38 33.2**	**-1.9**
NIZ				Smax			11 38 36.5	
	comp=N,28μm,0.5s							
NIZ	**Nizh Angarsk**	**2.56**	**270**	⇓*i*PN		**Pn**	**11 37 54.8**	**+0.6**
NIZ				*e*			11 37 59.8	
NIZ				*e*			11 38 33.3	
NIZ				pmax	pmax			
	comp=Z,4μm,1.2s							
NIZ				smax	smax			
	comp=N,30μm,1.3s							
SYVR	**Suvo**	**3.24**	**228**	*e*Pn		**Pn**	**11 38 03.4**	**-0.2**
SYVR				*e*Pg		**Pb**	**11 38 10.0**	**-0.4**
SYVR				*e*PgPg		**PbPb**	**11 38 12.1**	**-1.4**
SYVR				max			11 38 12.8	
	comp=N,4μm,0.9s							
SYVR				*e*Sn		**Sn**	**11 38 40.3**	**-1.8**
SYVR				*e*Sg		**Sb**	**11 38 52.3**	**+2.5**
SYVR				Smax			11 39 03.9	
	comp=N,26μm,1.0s							
SYVR	**Suvo**	**3.24**	**228**	⇓*i*PN		**Pn**	**11 38 03.4**	**-0.2**
SYVR				*e*			11 38 10.2	
SYVR				*e*			11 38 52.2	
SYVR				pmax	pmax			
	comp=Z,4μm,0.8s							
SYVR				smax	smax			
	comp=N,27μm,1.0s							
KHNR	**Khani**	**3.44**	**70**	*e*Pn		**Pn**	**11 38 07.5**	**+1.1**
KHNR				*e*Pg		**Pb**	**11 38 15.5**	**+1.7**
KHNR				*e*Sg		**Sg**	**11 39 01.1**	**-2.3**
VTMR	**Vitim**	**3.67**	**348**	*e*Pn		**Pn**	**11 38 09.9**	**+0.5**
VTMR				*e*Pg		**Pb**	**11 38 19.5**	**+1.9**
VTMR				*e*Sn		**Sn**	**11 38 52.8**	**+0.3**
VTMR				*e*Sg		**Sg**	**11 39 08.3**	**-2.3**
TUP	**Tupik**	**3.67**	**111**	*e*Pn		**Pn**	**11 38 09.7**	**+0.2**
TUP				*e*Pg		**Pg**	**11 38 20.4**	**-2.8**
TUP				Pmax			11 38 21.4	
	comp=N,3μm,0.5s							
TUP				*e*Sn		**Sn**	**11 38 51.4**	**-1.3**
TUP				*e*Sg		**Sg**	**11 39 08.2**	**-2.5**
TUP				Smax			11 39 16.3	
	comp=N,63μm,1.7s							
TUP	**Tupik**	**3.67**	**111**	⇑*i*PN		**Pn**	**11 38 09.7**	**+0.2**
TUP				*e*			11 38 18.6	
TUP				*e*S		**Sn**	**11 38 50.2**	**-2.5**
TUP				*e*			11 39 08.2	
TUP				pmax	pmax			
	comp=Z,3μm,0.4s							
TUP				smax	smax			
	comp=N,39μm,0.8s							
CIT	**Chita**	**3.87**	**185**	*e*Pn		**Pn**	**11 38 12.2**	**-0.1**
CIT				*e*Pg		**Pb**	**11 38 21.5**	**+0.3**
CIT				*e*PgPg		**PbPb**	**11 38 23.4**	**-0.9**
CIT				max			11 38 24.3	
	comp=N,5μm,1.4s							
CIT				*e*			11 38 28.2	
CIT				*e*Sn		**Sn**	**11 38 54.5**	**-3.2**
CIT				*e*Sg		**Sb**	**11 39 12.0**	**+4.0**
CIT				Smax			11 39 17.6	
	comp=N,52μm,0.6s							
CIT	**Chita**	**3.87**	**185**	*e*PN		**Pn**	**11 38 10.9**	**-1.4**
CIT				*e*			11 38 22.8	
CIT				*e*S		**Sn**	**11 38 58.0**	**+0.3**
CIT				*e*			11 39 11.4	
CIT				pmax	pmax			
	comp=Z,4μm,1.3s							
CIT				smax	smax			
	comp=N,50μm,1.4s							
MXMB	**Maximikha**	**4.06**	**232**	*e*Pn		**Pn**	**11 38 14.9**	**+0.1**
MXMB				*e*			11 38 18.4	
MXMB				*e*Pg		**Pb**	**11 38 26.1**	**+1.8**
MXMB				*e*Sn		**Sn**	**11 38 58.5**	**-3.7**
MXMB				*e*Sg		**Sg**	**11 39 18.6**	**-4.5**
YKLR	**Yuktali**	**4.29**	**77**	*e*Pn		**Pn**	**11 38 19.4**	**+1.4**
YKLR				*e*Pg		**Pb**	**11 38 31.0**	**+2.8**
YKLR				*e*			11 39 08.4	
YKLR				*e*Sg		**Sg**	**11 39 26.8**	**-3.7**
OGRR	**Ongureny**	**4.37**	**242**	*e*		**Pn**	**11 38 20.9**	**+1.8**
OGRR				*e*Pg		**Pb**	**11 38 31.8**	**+2.2**
OGRR				Pmax			11 38 38.3	
	comp=N,3μm,1.4s							
OGRR				*e*Sn		**Sn**	**11 39 08.3**	**-1.6**
OGRR				*e*Sg		**Sg**	**11 39 28.5**	**-4.6**
OGRR				Smax			11 39 37.3	
	comp=N,9μm,0.9s							
OGRR	**Ongureny**	**4.37**	**242**	⇑*i*PN		**Pn**	**11 38 21.1**	**+2.0**
OGRR				*e*			11 39 30.4	
OGRR				pmax	pmax			
	comp=Z,3μm,0.8s							
OGRR				smax	smax			
	comp=N,9μm,1.0s							
ZRHB	**Zarechye**	**5.25**	**234**	*e*Pn		**Pn**	**11 38 29.7**	**-1.5**
ZRHB				*e*Pg		**Pb**	**11 38 46.7**	**+2.1**
ZRHB				Pmax			11 38 55.5	
	comp=N,3μm,1.1s							
ZRHB				*e*Sg		**Sg**	**11 39 55.6**	**-5.7**
ZRHB				Smax			11 40 14.2	
	comp=N,39μm,1.1s							
TRG	**Tyrgan**	**5.50**	**239**	*e*Pn		**Pn**	**11 38 34.6**	**0.0**
TRG				*e*			11 38 45.1	
TRG				*e*Pg		**Pb**	**11 38 51.2**	**+2.4**
TRG				Pmax			11 38 56.5	
	comp=N,951nm,1.0s							
TRG				*e*Sn		**Sn**	**11 39 35.6**	**-2.0**
TRG				*e*Sg		**Sg**	**11 40 02.1**	**-7.1**
TRG				Smax			11 40 10.7	
	comp=N,6μm,1.0s							
TRG	**Tyrgan**	**5.50**	**239**	*e*PN		**Pn**	**11 38 34.5**	**0.0**
TRG				*e*			11 38 51.8	
TRG				*e*			11 40 06.4	
TRG				pmax	pmax			
	comp=Z,910nm,0.6s							
TRG				smax	smax			
	comp=N,6μm,0.8s							
FFNB	**Fofonovo**	**5.77**	**231**	*e*Pn		**Pn**	**11 38 38.3**	**0.0**
FFNB				*e*			11 38 48.4	
FFNB				*e*Pg		**Pb**	**11 38 55.8**	**+2.3**
FFNB				*e*Sg		**Sg**	**11 40 11.0**	**-7.1**
KAB	**Kabansk**	**5.82**	**232**	*e*Pg		**Pb**	**11 38 56.5**	**+2.2**
KAB				Pmax			11 39 01.1	
	comp=N,4μm,0.8s							
KAB				*e*			11 39 55.4	
KAB				*e*Sg		**Sg**	**11 40 13.1**	**-6.5**
KAB				Smax			11 40 42.9	
	comp=N,37μm,1.1s							
IENR	**Iengra**	**6.05**	**82**	*e*Pn		**Pn**	**11 38 42.9**	**+0.7**
IENR				*e*Sg		**Sg**	**11 40 22.1**	**-4.9**
CLNS	**Chul'man**	**6.09**	**76**	*e*Pn		**Pn**	**11 38 44.2**	**+1.5**
CLNS				*e*Pg		Pb	11 39 03.9	+5.0
CLNS				*e*Sn		**Sn**	**11 39 51.2**	**-1.1**
CLNS				*e*Sg		**Sg**	**11 40 24.2**	**-4.0**
KPC	**Khapcheranga**	**6.27**	**190**	*e*Pn		**Pn**	**11 38 43.7**	**-1.5**
KPC				*e*Pg		**Pb**	**11 39 05.1**	**+3.2**
KPC				Pmax			11 39 15.3	
	comp=N,399nm,0.9s							
KPC				*e*Sg		**Sg**	**11 40 25.1**	**-8.8**
KPC				*e*			11 40 38.9	
KPC				max			11 40 42.2	
	comp=N,20μm,1.2s							
KPC	**Khapcheranga**	**6.27**	**190**	⇑*i*PN		**Pn**	**11 38 43.7**	**-1.5**
KPC				*e*			11 39 03.3	
KPC				*e*			11 40 25.1	
KPC				pmax	pmax			
	comp=Z,399nm,0.9s							
KPC				smax	smax			
	comp=N,20μm,1.1s							
BGT	**Bolshoye Golou**	**6.39**	**237**	*e*Pn		**Pn**	**11 38 46.5**	**-0.4**
BGT				*e*			11 38 54.8	
BGT				*e*Pg		**Pb**	**11 39 07.5**	**+3.5**
BGT				Pmax			11 39 13.5	
	comp=N,642nm,1.2s							
BGT				*e*Sg		**Sg**	**11 40 30.1**	**-7.8**
BGT				Smax			11 40 41.2	
	comp=N,5μm,0.8s							
LSTR	**Listvyanka**	**6.78**	**238**	*e*Pn		**Pn**	**11 38 52.0**	**-0.2**
LSTR				*e*			11 39 05.3	
LSTR				*e*Pg		**Pb**	**11 39 14.4**	**+3.8**
LSTR				Pmax			11 39 17.7	
	comp=N,427nm,1.2s							
LSTR				*e*Sn		**Sn**	**11 40 05.6**	**-3.6**
LSTR				*e*Sg		**Sg**	**11 40 41.7**	**-8.6**
LSTR				Smax			11 41 02.2	
	comp=N,4μm,1.4s							
IRK	**Irkutsk**	**6.82**	**242**	*e*Pn		**Pn**	**11 38 53.1**	**+0.3**
IRK				*e*Pg		Pb	11 39 16.3	+5.0
IRK				Pmax			11 39 26.2	
	comp=N,680nm,0.8s							
IRK				*e*Sg		**Sg**	**11 40 44.4**	**-7.3**
IRK				Smax			11 40 50.1	
	comp=N,12μm,1.0s							
IRK	**Irkutsk**	**6.82**	**242**	*e*PN		**Pn**	**11 38 53.0**	**+0.3**
IRK				*e*			11 39 16.4	
IRK				*e*			11 40 44.7	
IRK				pmax	pmax			
	comp=Z,771nm,0.8s							
IRK				smax	smax			
	comp=N,12μm,1.0s							
IVK	**Ivanovka**	**7.02**	**238**	*e*Pn		**Pn**	**11 38 55.0**	**-0.5**
IVK				*e*Pg		**Pb**	**11 39 18.7**	**+4.0**
IVK				Pmax			11 39 27.1	
	comp=N,301nm,1.1s							
IVK				*e*Sg		**Sg**	**11 40 49.6**	**-8.5**
IVK				Smax			11 41 09.9	
	comp=N,4μm,1.3s							
HIA	**Hailar**	**7.46**	**150**	Pn		**Pn**	**11 38 58.6**	**-3.0**
HIA	**Hailar**	**7.46**	**150**	PN		**Pn**	**11 38 58.6**	**-3.0**
TLY	**Talaya**	**7.47**	**240**	*e*Pn		**Pn**	**11 39 01.4**	**-0.3**
TLY				*e*			11 39 10.7	
TLY				*e*Pg		**Pb**	**11 39 27.1**	**+4.7**
TLY				Pmax			11 39 33.4	
	comp=N,242nm,0.7s							
TLY				*e*Sn		**Sn**	**11 40 22.7**	**-3.6**
TLY				*e*Sg		Sg	11 41 03.0	-9.5
TLY				*e*			11 41 05.9	
TLY				max			11 41 07.5	
	comp=N,3μm,1.0s							
TLY	**Talaya**	**7.47**	**240**	*e*PN		**Pn**	**11 39 01.2**	**-0.5**
TLY				*e*			11 41 06.3	
TLY				smax	smax			
	comp=E,3μm,0.9s							
ZEA	**Zeya**	**7.91**	**100**	*e*PN		**Pn**	**11 39 08.1**	**+0.5**
ZEA				*e*S		**Sn**	**11 40 37.3**	**+0.4**
ZEA				pmax	pmax			
	comp=E,20nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,30nm,0.9s							
ZEA				smax	smax			
	comp=E,340nm,0.9s							
ZEA				smax	smax			
	comp=N,500nm,1.9s							
ZEA				MLR	MLR			
	comp=Z,7μm,3.0s							
ARS	**Arshan**	**7.94**	**245**	*e*Pn		**Pn**	**11 39 07.4**	**-0.7**
ARS				*e*			11 39 19.2	
ARS				*e*Pg		Pb	11 39 35.8	+5.4
ARS				Pmax			11 39 40.3	
	comp=Z,1μm,0.6s							
ARS				*e*Sg		Sg	11 41 17.9	-10
ARS				Smax			11 41 55.6	
	comp=Z,14μm,1.0s							
ZAK	**Zakamensk**	**8.50**	**234**	*e*Pn		**Pn**	**11 39 16.5**	**+0.6**
ZAK				*e*			11 39 24.0	
ZAK				*e*Pg		Pg	11 39 45.9	-10
ZAK				Pmax			11 40 02.5	
	comp=Z,250nm,1.0s							
ZAK				*e*Sg		Sg	11 41 36.4	-9.2
ZAK				Smax			11 41 55.6	
	comp=Z,3μm,1.6s							
ZAK	**Zakamensk**	**8.50**	**234**	*e*PN		**Pn**	**11 39 16.5**	**+0.6**
ZAK				*e*			11 39 45.1	
ZAK				pmax	pmax			
	comp=Z,251nm,1.0s							
MOY	**Mondy**	**8.82**	**247**	*e*Pn		**Pn**	**11 39 20.6**	**+0.4**
MOY				*e*			11 39 27.6	
MOY				*e*Pg		Pg	11 39 51.5	-10
MOY				Pmax			11 40 59.4	
	comp=Z,547nm,1.0s							
MOY				*e*Sg		Sg	11 41 45.1	-11
MOY				Smax			11 42 04.1	
	comp=Z,9μm,2.2s							
MOY	**Mondy**	**8.82**	**247**	*e*PN		**Pn**	**11 39 20.3**	**+0.1**
MOY				*e*			11 39 50.5	
MOY				*e*S		**Sn**	**11 40 58.9**	**-0.6**
MOY				*e*			11 41 45.9	
ORL	**Orlik**	**9.00**	**254**	⇑*i*Pn		**Pn**	**11 39 22.4**	**-0.3**
ORL				*e*			11 39 30.9	
ORL				max			11 39 43.9	
	comp=Z,754nm,1.3s							
ORL				*e*Sg		Sn	11 41 51.3	+47
ORL				Smax			11 42 02.4	
	comp=Z,7μm,1.6s							
ULN	**Ulaanbaatar**	**9.12**	**211**	Pn		**Pn**	**11 39 24.4**	**+0.1**
ULN	**Ulaanbaatar**	**9.12**	**211**	P		**Pn**	**11 39 24.2**	**-0.1**
	comp=Z,5μmcomp=Z,186nm,1.2s							
ULN	**Ulaanbaatar**	**9.12**	**211**	*ce*P		**Pn**	**11 39 24.3**	**-0.1**
ULN				pmax	pmax			
	comp=Z,27nm,1.0s							
ULN				MLR	MLR			
	comp=Z,2μm,13.0s							
SONM	**Songino Array**	**9.34**	**214**	Pn		**Pn**	**11 39 27.3**	**-0.2**
	comp=Z,11nm,0.3s,baz=26,slow=13,SNR=176							
SONM				Pg			11 40 02.2	
	comp=Z,18nm,0.3s,baz=13,slow=16,SNR=11							
SONM				Sn		**Sn**	**11 41 08.8**	**-3.6**
	comp=Z,25nm,0.3s,baz=29,slow=15,SNR=3.6							
SONM				Lg		Lg	11 42 03.4	
	comp=Z,149nm,0.3s,baz=22,slow=36,SNR=14							
SONM				LR		LR	11 43 05.1	
	comp=Z,2μm,18.3s,baz=26,slow=38							
	comp=Z,16nm,0.3s							
I34MN	**SONGINO INFRAS**	**9.37**	**214**	Lg		Lg	11 42 07.9	
	baz=30,slow=35							
HEH	**HeiHe**	**9.80**	**120**	*e*P		**Pn**	**11 39 32.0**	**-1.5**
HEH				S		**Sn**	**11 41 25.6**	**+2.3**
HEH				smax	smax			
	comp=Z,6μm,0.8s							
HEH				smax	smax			
	comp=Z,7μm,0.9s							
YAK	**Yakutsk**	**10.13**	**46**	Pn		**Pn**	**11 39 35.9**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=257,slow=0.6,SNR=12							
YAK				Pg			11 40 17.0	
	comp=Z,0.5nm,0.3s,baz=60,slow=5.1,SNR=4.9							
YAK				Sn		**Sn**	**11 41 27.4**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=15,slow=16,SNR=1.2							
YAK				Lg		Lg	11 42 24.5	
	comp=Z,1.0nm,0.3s,baz=304,slow=23,SNR=8.4							
YAK				LR		LR	11 43 38.1	
	comp=Z,2μm,19.4s,baz=260,slow=38							
	comp=Z,16nm,0.5s							
YAK	**Yakutsk**	**10.13**	**46**	*e*P		**Pn**	**11 39 35.5**	**-2.5**
YAK				*e*S		**Sn**	**11 41 29.8**	**-1.6**
YAK				pmax	pmax			
	comp=Z,44nm,0.9s							
YAK				pmax	pmax			
	comp=N,16nm,1.1s							
YAK				pmax	pmax			
	comp=E,19nm,1.1s							
YAK				smax	smax			
	comp=N,94nm,0.8s							
YAK				smax	smax			
	comp=E,119nm,0.9s							
YAK				MLR	MLR			
	comp=Z,1μm,16.0s							
KNGR	**Kungurtug, Tuv**	**11.23**	**249**	*e*Pn		**Pn**	**11 39 55.0**	**+1.8**
KNGR				*e*Sg			11 42 59.3	
XLT	**XiLinHaoTe**	**12.06**	**173**	⇓*i*P		**Pn**	**11 40 03.1**	**-1.4**
XLT				pP		P	11 40 07.9	-10
XLT				sP			11 40 11.0	
XLT				sS		Sn	11 42 27.3	+8.4
XLT				SS		**SnSn**	**11 42 33.1**	**+2.6**
XLT				pmax	pmax			
	comp=Z,55nm,0.7s							
XLT				pmax	pmax			
	comp=Z,190nm,4.1s							
XLT				LR	LR			
	comp=Z,11μm,4.9s							
XLT				LR	LR			
	comp=Z,6μm,10.5s							
KZLR	**Kyzyl**	**12.32**	**258**	*e*Sg			11 43 32.7	
KLR	**Kul'dur**	**12.62**	**114**	Pn		**Pn**	**11 40 12.9**	**+0.8**
	comp=Z,5.1nm,0.3s,baz=310,slow=14,SNR=87							
KLR				Sn		Sn	11 42 22.3	-10
	comp=Z,3.6nm,0.3s,baz=31,slow=23,SNR=2.7							
KLR				Lg		Lg	11 43 45.5	
	comp=Z,14nm,0.3s,baz=239,slow=22,SNR=15							
KLR				LR		LR	11 45 26.2	
	comp=Z,3μm,18.8s,baz=306,slow=39							
	comp=Z,21nm,0.5s							
KLR	**Kul'dur**	**12.62**	**114**	*de*P		**Pn**	**11 40 12.8**	**+0.6**
KLR				pmax	pmax			
	comp=Z,62nm,2.5s							
KLR				MLR	MLR			
	comp=Z,3μm,11.0s							
BNX	**BinXian**	**13.16**	**135**	⇑P		**Pn**	**11 40 17.6**	**-1.9**
GRNR	**Gornyy**	**14.27**	**102**	⇑*i*P		**Pn**

GRNR pmax pmax
comp=Z,2.0nm,0.5s
GRNR smax smax
comp=N,7.0nm,0.5s
GRNR MLR MLR
comp=E,1μm,19.0s
GRNR MLR MLR
comp=N,1μm,18.0s
GRNR MLR MLR
comp=Z,2μm,16.0s
MDJ Mudanjiang 14.97 132 Pn **Pn 11 40 42.4 -1.8**
MDJ Mudanjiang 14.97 132 P **Pn 11 40 44.5 +0.3**
MDJ pmax pmax
comp=Z,24nm,1.4s
MDJ pmax pmax
comp=Z,270nm,6.9s
MDJ LR LR
comp=Z,9μm,10.1s
MDJ LR LR
comp=Z,10μm,11.9s
MDJ LR LR
comp=Z,5μm,17.8s
HHC Hu-ho-hao-te 15.13 187 *e*P **Pn 11 40 47.5 +1.1**
HHC PP **sP 11 41 01.6 +4.4**
HHC S **Sn 11 43 39.4 +5.6**
HHC SS **S 11 43 52.9 +1.9**
HHC pmax pmax
comp=Z,33nm,0.9s
HHC pmax pmax
comp=Z,360nm,5.2s
HHC LR LR
comp=Z,6μm,10.2s
HHC LR LR
comp=Z,8μm,8.4s
HHC LR LR
comp=Z,8μm,12.4s
SNY Shenyang 15.36 152 ⇓P **P 11 40 55.1 +1.1**
SNY S **S 11 43 49.8 -5.8**
SNY pmax pmax
comp=Z,110nm,1.1s
SNY pmax pmax
comp=Z,510nm,5.0s
SNY LR LR
comp=N,6μm,13.1s
SNY LR LR
comp=E,5μm,2.8s
SNY LR LR
comp=Z,7μm,12.6s
BTO Baotou 15.51 192 *e*P **Pn 11 40 44.6 -6.8**
BTO S Sn 11 43 30.4 -13
BTO LR LR
comp=N,23μm,5.5s
BTO LR LR
comp=E,29μm,5.7s
BTO Baotou 15.51 192 *e*P **Pn 11 40 51.1 -0.3**
BTO S **Sn 11 43 34.1 -9.0**
BTO LR LR
comp=N,14μm,4.6s
BTO LR LR
comp=E,55μm,8.0s
BJI Beijing 15.91 174 P **Pn 11 40 55.8 -0.6**
BJI S **Sn 11 43 54.3 +1.8**
BJI pmax pmax
comp=E,16nm,1.0s
BJI LR LR
comp=E,3μm,5.3s
BJI LR LR
comp=E,10μm,9.1s
BJI LR LR
comp=E,6μm,12.8s
BJT Baijiatuau 15.93 174 Pn **Pn 11 40 55.9 -0.8**
BJT Baijiatuau 15.93 174 P **Pn 11 40 55.9 -0.8**
BJT pmax pmax
comp=Z,59nm,1.0s
USA0B Ussuriysk Arra 16.34 128 Pn **Pn 11 40 59.2 -2.7**
USA0B Ussuriysk Arra 16.34 128 P **Pn 11 40 59.2 -2.7**
USA0B pmax pmax
comp=Z,39nm,1.1s
USRK Ussuriysk Ar. 16.34 128 Pn **Pn 11 41 00.2 -1.7**
comp=Z,5.8nm,0.9s,baz=137,slow=46,SNR=6.2
USRK Lg Lg 11 45 42.6
comp=Z,1.1nm,0.3s,baz=325,slow=23,SNR=8.5
USRK LR LR 11 47 42.0
comp=Z,2μm,18.5s,baz=316,slow=39
OKH Okha 16.78 86*de*P Pn 11 40 53.7 -14
OKH MLR MLR
comp=E,2μm,8.0s
OKH MLR MLR
comp=N,2μm,9.0s
OKH MLR MLR
comp=Z,900nm,8.0s
ZAA0 Zalesovo Array 16.88 276 Pn 11 41 08.2 -0.5
ZALV Zalesovo Beam 16.88 276 Pn **Pn 11 41 08.1 -0.6**
comp=Z,10nm,0.7s,baz=77,slow=12,SNR=14
ZALV Zalesovo Beam 16.88 276 Pn **Pn 11 41 08.5 -0.2**
ZALV Zalesovo Beam 16.88 276 P **Pn 11 41 08.5 -0.2**
TIXI Tiksi 17.04 16 Pn **Pn 11 41 06.0 -4.6**
comp=Z,193nm,0.3s,baz=198,slow=0.0,SNR=93
TIXI Sn Sn 11 44 06.4 -13
comp=Z,265nm,0.3s,baz=312,slow=0.0,SNR=4.0
TIXI Lg Lg 11 46 07.1
comp=Z,178nm,0.3s,baz=346,slow=0.0,SNR=3.7
TIXI LR LR 11 48 06.9
comp=Z,2μm,18.5s,baz=40,slow=38
TIXI Tiksi 17.04 16 Pn **Pn 11 41 06.3 -4.3**
TIXI Tiksi 17.04 16 P **Pn 11 41 06.3 -4.3**
TIXI pmax pmax
comp=Z,46nm,0.7s
DGZ Jazzator, Alta 17.19 260 *e*P **Pn 11 41 12.8 -0.1**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
DGZ MLR MLR
comp=Z,729nm,11.0s
DL2 Dalian 17.71 160 P **P 11 41 20.6 +0.6**
DL2 pmax pmax
comp=Z,83nm,1.6s
DL2 pmax pmax
comp=Z,310nm,4.5s
DL2 LR LR
comp=Z,4μm,12.4s
DL2 LR LR
comp=Z,2μm,14.7s
DL2 LR LR
comp=Z,5μm,12.5s
TEY Ternei 17.89 118 *e*P **P 11 41 26.3 +4.3**
NRIK Noril'sk 17.96 329 LR LR 11 48 58.0
comp=Z,2μm,20.5s,baz=133,slow=39
NRIK Noril'sk 17.96 329 Pn **Pn 11 41 16.1 -6.0**
NRIK IAmb IAmb 11 41 27.5
comp=Z,166nm,1.6s
NRIK Noril'sk 17.96 329 *i* P **Pn 11 41 17.0 -5.1**
NRIK pmax pmax
comp=Z,121nm,1.5s
NRIK MLR MLR
comp=Z,6μm,12.0s
TIY Taiyuan 18.20 184 ⇑P **P 11 41 29.5 +3.9**
TIY PP **PnPn 11 41 36.5 0.0**
TIY S **S 11 44 55.9 +2.2**
TIY SS **SnSn 11 45 12.0 +10**
TIY LR LR
comp=Z,2μm,7.5s
TIY LR LR
comp=Z,2μm,7.7s
TIY LR LR
comp=Z,2μm,8.9s
UGL Uglegorsk 18.27 100 *e*P Pn 11 41 15.0 -11
HNS HongShan 18.49 178 ⇓P **Pn 11 41 30.1 +1.4**
HNS PP **PnPn 11 41 38.5 -1.8**
HNS S **S 11 45 01.3 +2.0**
HNS pmax pmax
comp=Z,37nm,1.2s
HNS LR LR
comp=Z,3μm,12.2s
HNS LR LR
comp=Z,2μm,12.2s
HNS LR LR
comp=Z,4μm,13.3s
GTA Gaotai 19.00 216 ⇓P **P 11 41 34.3 -0.1**
GTA pP sP 11 41 40.8 +0.7
GTA sP pP 11 41 45.0 +6.7
GTA S **Sn 11 45 07.8 0.0**
GTA pmax pmax
comp=Z,16nm,0.7s
GTA pmax pmax
comp=Z,150nm,8.0s
GTA LR LR
comp=Z,3μm,11.3s
GTA LR LR
comp=Z,6μm,12.4s
GTA LR LR
comp=Z,2μm,16.7s
MA2 Magadan 19.77 64 P **Pn 11 41 43.6 -0.4**
comp=Z,0.8nm,0.3s,baz=275,slow=5.2,SNR=6.6
MA2 Lg Lg 11 47 32.3
comp=Z,0.2nm,0.3s,baz=326,slow=13,SNR=3.7
MA2 LR LR 11 49 43.8
comp=Z,401nm,21.5s,baz=271,slow=38
comp=Z,18nm,0.8s
MA2 Magadan 19.77 64 P **P 11 41 42.4 -0.1**
TIA Tai'an 19.78 173 ⇓P **Pn 11 41 44.0 -0.3**
TIA S **S 11 45 21.6 -3.7**
TIA pmax pmax
comp=Z,31nm,0.9s
TIA LR LR
comp=Z,4μm,12.1s
TIA LR LR
comp=Z,1μm,12.7s
TIA LR LR
comp=Z,5μm,12.8s
ZSN Zaisan 19.86 257 *e*P **P 11 41 43.7 0.0**
baz=257
ZSN Zaisan 19.86 257 *e*P **P 11 41 43.6 0.0**
YSS Yuzh-Sakhalins 19.86 105 P **P 11 41 42.5 -1.1**
YSS Yuzh-Sakhalins 19.86 105 *e*P P 11 41 34.7 -8.9
YSS *e*SS **S 11 45 25.4 -1.4**
YSS MLR MLR
comp=Z,3μm,15.0s
YSS MLR MLR
comp=E,2μm,16.0s
SEY Seymchan 20.47 54 P Pn 11 41 52.5 +0.3
comp=E,50nm,1.1s,baz=263,slow=9.2,SNR=24
comp=E,50nm,1.1s
SEY Seymchan 20.47 54*ce*P **P 11 41 48.4 -1.7**
SEY pmax pmax
comp=Z,122nm,1.7s
SEY MLR MLR
comp=Z,634nm,10.0s
KSAR Wonju Array Be 20.66 147 P **P 11 41 50.3 -2.0**
KSAR Wonju Array Be 20.66 147 P **P 11 41 50.3 -2.0**
KSRS Korea Array 20.66 147 P Pn 11 41 53.5 -1.2
comp=Z,9.0nm,0.9s,baz=342,slow=9.4,SNR=13
KSRS LR LR 11 50 39.2
comp=Z,3μm,18.1s,baz=330,slow=39
comp=Z,9.0nm,0.9s
WMQ Urumqi 20.70 245 ⇑P Pn 11 41 54.5 -0.7
WMQ pP sP 11 42 00.1 +1.6
WMQ pmax pmax
comp=Z,52nm,1.3s
WMQ pmax pmax
comp=Z,320nm,3.7s
WMQ LR LR
comp=Z,2μm,15.3s
WMQ LR LR
comp=Z,2μm,14.1s
LZH Lanzhou 20.99 204 ⇑P **P 11 41 56.9 +0.8**
LZH pP sP 11 42 00.9 -0.8
LZH sP pP 11 42 03.8 +3.8
LZH PP **PnPn 11 42 20.0 +5.3**
LZH S **S 11 45 43.9 -5.7**
LZH sS Sn 11 45 54.4 -1.2
LZH pmax pmax
comp=Z,18nm,1.4s
LZH LR LR
comp=Z,4μm,6.2s
LZH LR LR
comp=Z,6μm,6.9s
LZH LR LR
comp=Z,5μm,7.6s
LYN LuoYang 21.35 184 *e*P **P 11 42 01.1 +1.3**
LYN pP sP 11 42 05.3 -0.2
LYN sP pP 11 42 08.3 +4.5
LYN S **S 11 45 58.6 +2.0**
LYN sS pS 11 46 06.9 +1.1
LYN SS **SnSn 11 46 23.8 +4.7**
LYN pmax pmax
comp=Z,10.0nm,0.1s
LYN pmax pmax
comp=Z,160nm,4.6s
LYN LR LR
comp=Z,8μm,15.9s
LYN LR LR
comp=Z,2μm,19.0s
ASAJ Asahikawa 21.61 111 LR LR 11 50 27.5
comp=Z,668nm,20.8s,baz=312,slow=37
ASAJ Asahikawa 21.61 111 P **P 11 42 01.7 -0.8**
ASAJ pmax pmax
comp=Z,29nm,1.1s
JKA Kamikawa-asahi 21.61 111 P **P 11 42 01.7 -0.9**
KURK Kurchatov 21.64 271 P **P 11 42 02.7 -0.1**
KURK IAmb IAmb 11 42 17.9
comp=Z,54nm,0.8s
KURK Kurchatov 21.64 271*ce*P **P 11 42 03.2 +0.4**
KURK pmax pmax
comp=Z,90nm,2.5s
KURK MLR MLR
comp=Z,985nm,8.0s
MK31 Makanchi Array 21.67 259 P **P 11 42 03.6 +0.5**
MK31 Makanchi Array 21.67 259*d* P **P 11 42 02.6 -0.6**
MKAR Makanchi Array 21.67 259 P **P 11 42 03.5 +0.4**
comp=Z,27nm,0.7s,baz=55,slow=9.6,SNR=170
MKAR LR LR 11 49 30.0
comp=Z,431nm,20.3s,baz=48,slow=34
comp=Z,27nm,0.7s
MKAR Makanchi Array 21.67 259 P **P 11 42 03.1 -0.1**
KURBB Kurchatov Arra 21.74 271 P **P 11 42 03.5 -0.3**
comp=Z,28nm,0.8s,baz=65,slow=12,SNR=41
KURBB LR LR 11 50 38.8
comp=Z,614nm,20.4s,baz=37,slow=37
comp=Z,28nm,0.8s
KURBB Kurchatov Arra 21.74 271 P **P 11 42 03.3 -0.5**
MAKZ Makanchi 21.83 259 P **P 11 42 04.9 0.0**
MAKZ IAmb IAmb 11 42 06.1
comp=Z,50nm,0.8s
MAKZ Makanchi 21.83 259 P **P 11 42 04.9 0.0**
MAKZ pmax pmax
comp=Z,50nm,0.8s
XAN Xi'an 22.12 191 ⇓P **P 11 42 08.4 +0.2**
XAN pP sP 11 42 18.3 +4.5
XAN S **S 11 46 08.4 -3.3**
XAN pmax pmax
comp=Z,8.0nm,1.2s
XAN LR LR
comp=Z,3μm,10.5s
XAN LR LR
comp=Z,7μm,13.3s
XAN LR LR
comp=Z,4μm,12.1s
ERM Erimo 23.38 114 P **P 11 42 20.8 -0.4**
ERM Erimo 23.38 114 P **P 11 42 20.8 -0.4**
ERM pmax pmax
comp=Z,310nm,1.8s
GOMU GeErMu 23.64 222 P **P 11 42 24.3 0.0**
GOMU pP pP 11 42 28.8 +0.4
GOMU sP sP 11 42 31.0 +0.9
GOMU S **S 11 46 38.3 -0.5**
GOMU sS sS 11 46 48.8 +3.1
GOMU pmax pmax
comp=Z,11nm,0.8s
GOMU LR LR
comp=Z,600nm,7.5s
GOMU LR LR
comp=Z,630nm,10.0s
GOMU LR LR
comp=Z,1μm,9.0s
KUR Kuril'sk 23.73 102 P **P 11 42 23.4 -1.1**
KUR *e* 11 42 51.0
KUR S **S 11 46 40.5 +1.3**
KUR SS **SnSn 11 47 18.5 +1.6**
KUR MLR MLR
comp=Z,1μm,16.0s
KUR MLR MLR
comp=N,2μm,13.0s
NJ2 Nanjing 24.05 170 *e*P **P 11 42 28.3 +0.6**
NJ2 pP **sP 11 42 34.8 +1.3**
NJ2 sP **pP 11 42 37.8 +5.8**
NJ2 S **S 11 46 50.9 +6.3**
NJ2 pmax pmax
comp=N,22nm,0.9s
NJ2 LR LR
comp=N,3μm,10.4s
NJ2 LR LR
comp=N,1μm,11.4s
NJ2 LR LR
comp=N,3μm,14.7s
JHS Saijyo 24.63 140 P **P 11 42 32.9 -0.2**
JHS IAmb IAmb 11 42 35.2
comp=Z,58nm,1.0s
TDK Taldyqorghan 24.91 259 *e*P **P 11 42 36.2 +0.7**
baz=259
TDK Taldyqorghan 24.91 259 *e*P **P 11 42 36.2 +0.7**
PEA0B Petropavlovsk- 25.17 78 P **P 11 42 38.8 +1.0**
PEA0B Petropavlovsk- 25.17 78 P **P 11 42 38.8 +1.0**
PEA0B pmax pmax
comp=Z,134nm,1.4s
PETK Petropavlovsk- 25.17 78 P **P 11 42 37.5 -0.4**
comp=Z,16nm,1.1s,baz=332,slow=8.4,SNR=6.4
PETK LR LR 11 53 24.4
comp=Z,469nm,19.5s,baz=291,slow=38
comp=Z,16nm,1.1s
PETK Petropavlovsk- 25.17 78 P **P 11 42 38.6 +0.8**
PETK Petropavlovsk- 25.17 78 P **P 11 42 38.7 +0.8**
BVA0 Borovoye Array 25.24 282 P **P 11 42 40.5 +2.0**
BVAR Borovoye Array 25.24 282 P **P 11 42 38.2 -0.2**
comp=Z,4.6nm,0.5s,baz=61,slow=10,SNR=16
BVAR S **S 11 47 04.0 +0.4**
comp=Z,4.4nm,0.7s,baz=47,slow=12,SNR=1.5
BVAR LR LR 11 52 52.7
comp=Z,579nm,21.8s,baz=61,slow=37
comp=Z,4.6nm,0.5s
BRVK Borovoye 25.29 282 P **P 11 42 39.9 +1.0**
BRVK IAmb IAmb 11 42 50.9
comp=Z,44nm,0.8s
BRVK Borovoye 25.29 282*ce*P **P 11 42 39.8 +1.0**
BRVK pmax pmax
comp=Z,23nm,1.3s
BRVK MLR MLR
comp=Z,991nm,13.0s
WHN Wuhan 25.32 179 ⇑P **P 11 42 40.3 +1.0**
WHN LR LR
comp=Z,3μm,11.2s
WHN LR LR
comp=Z,2μm,12.5s
WHN LR LR
comp=Z,5μm,10.9s
MJAR Matsushiro Arr 25.32 130 P **P 11 42 38.2 -1.1**
comp=Z,2.6nm,0.9s,baz=335,slow=8.4,SNR=3.2
MJAR LR LR 11 52 52.9
comp=Z,1μm,18.1s,baz=329,slow=37
comp=Z,2.6nm,0.9s
BRZS Berezniki 25.34 274 *e*P **P 11 42 38.2 -1.2**
baz=274
BRZS *e*S **S 11 47 11.6 +6.4**
baz=274
BRZS Berezniki 25.34 274 *e*P **P 11 42 38.2 -1.2**
BRZS *e*S **S 11 47 11.6 +6.4**
PDGK Podgornoye 25.39 255 P **P 11 42 37.6 -2.4**
JMM Marumori 25.40 124 P **P 11 42 39.7 -0.3**
JMM IAmb IAmb 11 43 08.6
comp=Z,32nm,1.1s
SHLS Shalkode 25.52 255 *e*P **P 11 42 37.9 -3.4**
baz=254
SHLS Shalkode 25.52 255 *e*P **P 11 42 37.8 -3.4**
JNU Nakatsue 25.58 146 P **P 11 42 40.7 -1.0**
JNU IAmb IAmb 11 42 54.2
comp=Z,76nm,1.4s
ARXS Arharly 25.73 258 *e*P **P 11 42 43.9 +0.9**
KPKS Kokpek 25.74 256 *e*P **P 11 42 42.2 -1.0**
baz=256
KPKS Kokpek 25.74 256 *e*P **P 11 42 42.2 -1.0**
JGF Kuroka 25.76 132 P **P 11 42 40.5 -2.8**
UZB Uzynbulak 25.77 255 *e*P **P 11 42 42.5 -1.0**
baz=255
UZB Uzynbulak 25.77 255 *e*P **P 11 42 42.5 -1.0**
INU Inuyama 25.83 133 P **P 11 42 41.6 -2.3**
JMN Monobe 26.04 140 P **P 11 42 44.2 -1.7**
SATY Saty 26.16 256 *e*P **P 11 42 45.5 -1.6**
baz=256
SATY Saty 26.16 256 *e*P **P 11 42 45.4 -1.6**
CHKK Chushkaly 26.42 259 *e*P **P 11 42 47.8 -1.5**
baz=259
CHKK Chushkaly 26.42 259 *e*P **P 11 42 47.7 -1.5**
BILL Bilibino 26.45 42 P **P 11 42 49.1 -0.1**
BILL Bilibino 26.45 42⇓*e*P **P 11 42 50.8 +1.6**
BILL *e* 11 46 17.0
BILL *e*S **S 11 47 22.7 +0.4**
BILL pmax pmax
comp=Z,42nm,2.5s
BILL MLR MLR
comp=Z,542nm,7.0s
KUU Kurty 26.75 259 *e*P **P 11 42 50.8 -1.5**
baz=259
KUU *e*S S 11 47 39.7 +12
baz=259
KUU Kurty 26.75 259 *e*P **P 11 42 50.7 -1.5**
MDOK Medeo 26.84 257 *e*P **P 11 42 53.0 -0.2**
baz=257
MDOK *e*S **S 11 47 31.4 +2.1**
baz=257
MDOK Medeo 26.84 257 *e*P **P 11 42 53.0 -0.2**
MDOK *e*S **S 11 47 31.3 +2.1**
JSU Suzuyama 26.95 148 P **P 11 42 53.3 -0.7**
JSU IAmb IAmb 11 43 08.8
comp=Z,64nm,1.2s
BTLS Baital 27.31 264 *e*P **P 11 42 57.5 +0.3**
baz=264
BTLS Baital 27.31 264 *e*P **P 11 42 57.5 +0.3**
TKM2 Tokmak 2 27.80 259 P **P 11 43 01.3 -0.6**
SGDS Sogindy 27.99 260 *e*P **P 11 43 02.4 -1.0**
baz=260
SGDS Sogindy 27.99 260 *e*P **P 11 43 02.4 -1.0**
AAK Ala-Archa 28.59 259 P **P 11 43 09.0 +0.1**
comp=Z,2.7nm,0.7s,baz=51,slow=20,SNR=2.6
AAK LR LR 11 53 38.3
comp=Z,554nm,18.3s,baz=37,slow=35
comp=Z,2.7nm,0.7s
AAK Ala-Archa 28.59 259 P **P 11 43 08.6 -0.3**
AAK Ala-Archa 28.59 259*ce*P **P 11 43 09.6 +0.7**
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK MLR MLR
comp=Z,374nm,8.0s
JHJ Hachijo jima 2 28.91 131 LR LR 11 55 25.6
comp=Z,638nm,18.2s,baz=58,slow=38
GYA Guiyang 29.88 193 P **P 11 43 21.6 +1.3**
GYA S **S 11 48 16.8 -0.4**
GYA pmax pmax
comp=Z,13nm,0.7s
GYA pmax pmax
comp=Z,140nm,3.5s
GYA LR LR
comp=Z,1μm,8.2s
GYA LR LR
comp=Z,940nm,8.6s
GYA LR LR
comp=Z,1μm,10.8s
ARU Arti 30.22 295 P **P 11 43 22.3 -0.6**
comp=Z,1.6nm,0.3s,baz=114,slow=7.6,SNR=3.9
comp=Z,1.6nm,0.3s
ARU Arti 30.22 295 P **P 11 43 22.3 -0.6**
ARU IAmb IAmb 11 44 23.4
comp=Z,22nm,1.0s
ARU Arti 30.22 295 P **P 11 43 22.8 -0.1**
ARU 11 44 19.8
ARU PPP PPP 11 44 31.1
ARU 11 46 20.4
ARU S **S 11 48 23.3 +1.5**
ARU SS **SnSn 11 49 55.8 +0.7**
ARU MLR MLR
comp=Z,2μm,15.0s
KK31 Karatay Array 30.51 264 *i* P P 11 43 34.3 +8.6
KKAR Karatay Array 30.51 264 P **P 11 43 25.6 -0.1**
KKAR Karatay Array 30.51 264 P **P 11 43 25.6 -0.1**
PZH PanZhiHua 30.68 202 P **P 11 43 27.8 +0.4**
PZH pP **pP 11 43 30.9 -0.8**
PZH sP **sP 11 43 33.3 0.0**
PZH S **S 11 48 32.0 +2.3**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,100nm,3.7s
PZH LR LR
comp=Z,1μm,13.1s
PZH LR LR
comp=Z,3μm,14.1s
PZH LR LR
comp=Z,1μm,14.9s
JOW Kunigami 30.79 155 LR LR 11 57 07.0
comp=Z,911nm,18.4s,baz=282,slow=39

KMI Kunming 31.82 200 ⇑P **P** **11 43 40.6 +3.0**
KMI pP sP 11 43 42.9 -0.6
KMI pmax pmax
comp=Z,12nm,0.8s
KMI LR LR
comp=Z,1μm,10.4s
KMI LR LR
comp=Z,2μm,11.6s
KMI LR LR
comp=Z,2μm,11.7s
DRK Karamyk 32.24 257 P **P** **11 43 42.3 +1.0**
DRK IAmb IAmb 11 43 51.7
comp=Z,27nm,1.0s
BTK Batken 32.38 259 P **P** **11 43 43.0 +0.8**
BTK IAmb IAmb 11 43 54.1
comp=Z,37nm,1.1s
BTK Batken 32.38 259 P **P** **11 43 43.0 +0.8**
BTK pmax pmax
comp=Z,37nm,1.1s
AB31 Akbulak array 32.82 282 *i* P **P** **11 43 46.0 +0.1**
ABKAR Akbulak array 32.82 282 P **P** **11 43 45.5 -0.4**
TNCH TengChong 32.85 207 *e*P **P** **11 43 48.3 +1.7**
TNCH S **S** **11 49 02.6 -1.1**
TNCH pmax pmax
comp=Z,21nm,1.1s
TNCH pmax pmax
comp=Z,120nm,4.2s
TNCH LR LR
comp=Z,2μm,12.7s
TNCH LR LR
comp=Z,2μm,13.8s
TNCH LR LR
comp=Z,1μm,9.9s
AKTO Aktyubinsk 33.25 285 P P 11 43 55.8 +6.2
GAR Garm 33.39 258 P **P** **11 43 51.0 -0.1**
KIRV Kirov 33.90 302 *ce*P **P** **11 43 56.0 +0.9**
CHGR Chuyangaron 34.27 259 P **P** **11 43 57.6 -1.2**
CHGR Chuyangaron 34.27 259 P **P** **11 43 57.6 -1.2**
CHGR pmax pmax
comp=Z,65nm,1.4s
SHL Shillong 34.32 217 P **P** **11 43 59.2 -0.1**
SHL IAmb IAmb 11 43 59.9
comp=Z,9.5nm,0.6s
SHL Shillong 34.32 217 P **P** **11 43 59.3 -0.1**
SHL pmax pmax
comp=Z,10.0nm,0.6s
PRGR Permogore 34.45 308 *e*P **P** **11 43 59.2 -0.7**
PRGR pmax pmax
comp=Z,7.0nm,0.7s
GUN Gumba 34.49 228 *e*P **P** **11 44 01.4 +0.4**
JIRN Jiri 34.58 227 *e*P **P** **11 44 02.1 +0.3**
comp=Z,10nm,0.6s
ODAN Odare 34.81 225 *e*P **P** **11 44 04.4 +0.8**
comp=Z,11nm,0.8s
KKN Kakani 34.85 228 *e*P **P** **11 44 04.4 +0.4**
GKN Gorkha 34.94 229 *e*P **P** **11 44 04.8 +0.2**
PKI Pulchoki 34.99 228 *e*P **P** **11 44 05.7 +0.4**
PKIN Phulchoki 34.99 228 *e*P **P** **11 44 05.8 +0.6**
DANN Dangsing 35.01 231 *e*P **P** **11 44 05.4 -0.1**
RAMN Ramite 35.04 226 *e*P **P** **11 44 05.5 -0.2**
DMN Daman 35.08 228 *e*P **P** **11 44 06.5 +0.5**
LVZ Lovozero 36.51 321 P **P** **11 44 17.5 -0.1**
LVZ Lovozero 36.51 321 P **P** **11 44 17.5 -0.1**
LVZ pmax pmax
comp=Z,73nm,1.5s
TNA Tin City 36.88 43 P **P** **11 44 22.4 +1.8**
baz=293
QIZ Qiongzhong 36.92 187 P **P** **11 44 21.7 +0.1**
QIZ IAmb IAmb 11 44 23.9
comp=Z,59nm,1.5s
QIZ Qiongzhong 36.92 187 P **P** **11 44 21.6 +0.1**
QIZ S **S** **11 50 08.4 +2.2**
QIZ pmax pmax
comp=Z,25nm,1.8s
QIZ LR LR
comp=Z,1μm,12.0s
QIZ LR LR
comp=Z,3μm,15.5s
QIZ LR LR
comp=Z,1μm,15.8s
BRDH Bariadhala 37.08 216 LR LR 11 59 38.3
comp=Z,875nm,18.9s,baz=33,slow=36
KBL Kabul 37.34 254 P **P** **11 44 24.1 -1.2**
KBL Kabul 37.34 254 P **P** **11 44 24.1 -1.2**
KBL pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 37.46 309 *e*P **P** **11 44 24.8 -0.9**
KLMR AMP 11 44 36.7
comp=Z,54nm,2.2s
KLMR *e*PP **PP** **11 45 44.2 -6.7**
KLMR LR LR 11 58 15.6
KLMR AMP 12 01 30.1
comp=Z,1μm,14.9s
KLMR LRM MLR 12 01 40.8
KLMR Klimovskoe 37.46 309 *e*P **P** **11 44 24.8 -0.9**
KLMR pmax pmax
comp=Z,54nm,2.2s
KLMR MLR MLR
comp=Z,1μm,15.0s
SPB2 Spitsbergen Ar 37.56 340 P **P** **11 44 27.3 +1.0**
SPA0 Spitsbergen Ar 37.56 340 *e*P **P** **11 44 27.2 +0.8**
SPITS Spitsbergen Ar 37.56 340 P **P** **11 44 26.9 +0.5**
comp=Z,19nm,0.8s,baz=97,slow=12,SNR=8.4
comp=Z,19nm,0.8s
SPITS Spitsbergen Ar 37.56 340 P **P** **11 44 27.2 +0.8**
SPITS pmax pmax
comp=Z,107nm,1.7s
BELG Belogornoye 37.74 293 P **P** **11 44 28.4 +0.2**
comp=Z,11nm,0.7s,baz=20,slow=5.3,SNR=3.5
BELG LR LR 12 01 56.8
comp=Z,1μm,19.6s,baz=28,slow=39
comp=Z,11nm,0.7s
BELG Belogornoye 37.74 293 *i* P **P** **11 44 28.6 +0.4**
BELG pmax pmax
comp=Z,10.0nm,1.1s
BELG MLR MLR
comp=Z,202nm,11.0s
HSPB Hornsund (broa 38.22 339 *e*P **P** **11 44 33.0 +1.1**
ANM Nome 38.28 43 P **P** **11 44 34.9 +2.4**
baz=296
KEV Kevo 38.33 326 P **P** **11 44 33.1 +0.2**
KEV IAmb IAmb 11 44 41.2
comp=Z,60nm,1.5s
KEV Kevo 38.33 326 P **P** **11 44 33.1 +0.2**
KEV pmax pmax
comp=Z,60nm,1.5s
CHTO Chiang Mai 38.73 203 P **P** **11 44 36.6 -0.2**
CHTO Chiang Mai 38.73 203 P **P** **11 44 36.6 -0.2**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
PHRA Phrae 38.76 201 P **P** **11 44 36.9 -0.2**
ARA0 ARCESS Array S 38.90 326 *e*P **P** **11 44 38.1 +0.4**
ARA0 IAmb IAmb 11 44 52.6
comp=Z,174nm,2.4s
ARCES ARCESS Array B 38.90 326 P **P** **11 44 37.6 -0.1**
comp=Z,2.4nm,0.5s,baz=68,slow=7.9,SNR=3.7
ARCES LR LR 12 02 57.9
comp=Z,547nm,21.2s,baz=88,slow=40
comp=Z,2.4nm,0.5s
ARCES ARCESS Array B 38.90 326 P **P** **11 44 37.5 -0.3**
CMAR Chiang Mai Arr 39.07 203 P **P** **11 44 39.4 -0.3**
comp=Z,0.4nm,0.3s,baz=16,slow=6.8,SNR=1.9
CMAR LR LR 12 02 29.8
comp=Z,627nm,19.1s,baz=10.0,slow=39
comp=Z,0.4nm,0.3s
CMAR Chiang Mai Arr 39.07 203 P **P** **11 44 38.4 -1.3**
KTK1 Kautokeino 39.86 326 *e*P **P** **11 44 46.2 +0.5**
KTK1 IAmb IAmb 11 44 54.3
comp=Z,24nm,1.0s
NOR Nord 40.27 350 *i* P **P** **11 44 48.9 -0.2**
NOR IAmb IAmb 11 45 02.8
comp=Z,7.5nm,0.8s
JETT Jettan, Norway 40.47 327 *e*P **P** **11 44 52.2 +1.3**
C23K Itkillik River 40.82 32 P **P** **11 44 55.8 +2.1**
baz=301
TRO Tromso 40.88 328 *e*P **P** **11 44 54.8 +0.7**
MOS Moscow 40.89 303 *e*P P 11 44 59.4 +5.0
MOS *e* 11 46 38.5
MOS pmax pmax
comp=Z,47nm,0.8s
MOS MLR MLR
comp=Z,1μm,14.0s
GEYT Alibeck 40.96 268 P **P** **11 44 56.0 +0.7**
comp=Z,1.9nm,0.7s,baz=58,slow=11,SNR=3.6
comp=Z,1.9nm,0.7s

GEYT Alibeck 40.96 268 P **P** **11 44 54.2 -1.1**
GYA0 ALIBECK ARRAY 40.96 268 P **P** **11 44 54.8 -0.5**
GYA0B ALIBECK ARRAY 40.96 268 P **P** **11 44 54.8 -0.5**
HRA Herat 41.20 261 P **P** **11 44 56.9 -0.5**
D23K Nanushuk River 41.26 33 P **P** **11 44 59.5 +2.2**
baz=302
F21K Alatna River 41.28 36 P **P** **11 44 59.3 +1.8**
baz=301
E22K Anaktuvuk Pass 41.34 34 P **P** **11 44 59.8 +1.8**
baz=302
GCSA Galena City Sc 41.39 40 P **P** **11 45 00.3 +1.9**
baz=302,SNR=11
VRH Novokhopyorsk 41.45 295 *e*P **P** **11 44 58.5 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.3s
VRH MLR MLR
comp=Z,1μm,13.0s
C24K Franklin Bluff 41.45 32 P **P** **11 45 00.9 +2.0**
baz=302
F22K John River 41.56 35 P **P** **11 45 02.2 +2.4**
baz=302,SNR=21
G21K Allakaket 41.64 37 P **P** **11 45 02.3 +1.8**
baz=302,SNR=7.4
OBN Obninsk 41.74 303 *e*P **P** **11 45 01.8 +0.4**
OBN *e* 11 46 42.7
OBN *e* 11 46 58.2
OBN *e*S **S** **11 51 21.4 +3.5**
OBN *e*SS **SS** **11 54 23.7 +0.6**
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,1μm,13.0s
TOLK Toolik Lake Re 41.77 33 P **P** **11 45 02.9 +1.3**
TOLK IAmb IAmb 11 45 14.0
comp=Z,24nm,0.8s
TOLK Toolik Lake Re 41.77 33 P **P** **11 45 03.1 +1.6**
baz=303,SNR=15
IMAR Indian Mountai 41.84 38 P **P** **11 45 03.5 +1.3**
LPSR Galich'ya Gora 42.04 298 *e*P P 11 45 09.8 +6.0
LPSR pmax pmax
comp=Z,20nm,1.5s
LPSR MLR MLR
comp=Z,910nm,16.0s
E23K Chandalar 42.08 34 P **P** **11 45 06.0 +1.8**
baz=303
G22K Bettles 42.09 36 P **P** **11 45 05.6 +1.5**
baz=303
H21K Melozitna Rive 42.35 38 P **P** **11 45 07.5 +1.2**
H21K Melozitna Rive 42.35 38 P **P** **11 45 08.2 +1.9**
baz=303
COLD Coldfoot 42.35 35 P **P** **11 45 07.8 +1.6**
baz=304,SNR=7.3
D25K Kavik River 42.35 31 P **P** **11 45 07.6 +1.3**
baz=304
E24K Your Creek 42.42 34 P **P** **11 45 08.9 +2.0**
baz=304
C26K Camden Bay 42.44 30 P **P** **11 45 09.3 +2.4**
baz=305
VORR Voronezh 42.44 297 *e*P **P** **11 45 07.6 +0.4**
J20K Nowinta River 42.70 40 P **P** **11 45 10.9 +1.8**
J20K IAmb IAmb 11 45 12.6
comp=Z,45nm,1.5s
J20K Nowinta River 42.70 40 P **P** **11 45 10.8 +1.7**
baz=304
TTA Tatalina 42.70 42 P **P** **11 45 10.9 +1.7**
baz=304
G23K Bananza Creek 42.70 36 P **P** **11 45 10.8 +1.6**
baz=304
H22K Ishtalitna Cre 42.71 37 P **P** **11 45 10.9 +1.7**
baz=304
VSR Storozhevoye 42.73 297 *e*P **P** **11 45 09.3 -0.2**
VSR pmax pmax
comp=Z,20nm,1.1s
VSR MLR MLR
comp=Z,1μm,14.0s
NIKH Nikolski High 42.77 60 P **P** **11 45 11.3 +1.6**
baz=306
FIA1 FINESS Array S 42.78 315 P **P** **11 45 10.1 +0.3**
FIA1 IAmb IAmb 11 45 11.5
comp=Z,49nm,1.2s
FINES FINESS Array B 42.78 315 P **P** **11 45 10.3 +0.5**
comp=Z,18nm,0.6s,baz=60,slow=8.7,SNR=88
FINES LR LR 12 04 23.9
comp=Z,700nm,20.5s,baz=62,slow=38
comp=Z,18nm,0.6s
FINES FINESS Array B 42.78 315 P **P** **11 45 10.2 +0.4**
I21K Tanana 42.90 38 P **P** **11 45 10.4 -0.3**
I21K IAmb IAmb 11 45 14.0
comp=Z,35nm,1.4s
I21K Tanana 42.90 38 P **P** **11 45 12.5 +1.8**
baz=304
F24K Squaw Lake 42.93 34 P **P** **11 45 13.0 +2.0**
baz=305
STEI Steigen 42.94 327 *e*P **P** **11 45 11.9 +0.9**
C27K Jago River 42.95 30 P **P** **11 45 12.9 +1.8**
baz=306
N16K Nishlik Lake 42.99 47 P **P** **11 45 13.6 +2.1**
baz=304
K20K Telida 43.19 41 P **P** **11 45 14.0 +0.9**
K20K IAmb IAmb 11 45 16.5
comp=Z,32nm,1.4s
K20K Telida 43.19 41 P **P** **11 45 15.2 +2.1**
baz=305
FAUS Fauske 43.24 326 *e*P **P** **11 45 13.8 +0.3**
FAUS IAmb IAmb 11 45 24.7
comp=Z,24nm,1.3s
E25K Arctic Village 43.29 33 P **P** **11 45 15.9 +2.0**
baz=306,SNR=15
H23K Yukon River 43.37 37 P **P** **11 45 14.7 +0.1**
H23K IAmb IAmb 11 45 18.8
comp=Z,47nm,1.4s
H23K Yukon River 43.37 37 P **P** **11 45 16.7 +2.2**
baz=305
MLY Manley 43.42 38 P **P** **11 45 16.1 +1.1**
MLY Manley 43.42 38 P **P** **11 45 17.4 +2.4**
baz=305,SNR=7.3
CHUM Lake Minchumin 43.53 40 P **P** **11 45 18.4 +2.6**
baz=305
G24K Hadweenzic Riv 43.53 35 P **P** **11 45 18.0 +2.1**
baz=306,SNR=10.0
L19K White Mountain 43.57 43 P **P** **11 45 17.2 +1.1**
L19K IAmb IAmb 11 45 51.9
comp=Z,40nm,1.6s
L19K White Mountain 43.57 43 P **P** **11 45 18.1 +1.9**
baz=305
F25K Christian Rive 43.58 33 P **P** **11 45 18.4 +2.2**
baz=306,SNR=13
L20K Farewell, AK 43.76 42 P **P** **11 45 19.8 +2.1**
baz=306
O16K Kokwok River B 43.77 47 P **P** **11 45 20.9 +3.0**
baz=306
EUNU Eureka 43.80 5 P **P** **11 45 18.9 +1.0**
EUNU IAmb IAmb 11 45 31.1
comp=Z,40nm,1.9s
I23K Minto, Yukon-K 43.83 37 P **P** **11 45 19.4 +1.2**
I23K IAmb IAmb 11 45 21.7
comp=Z,27nm,1.1s
I23K Minto, Yukon-K 43.83 37 P **P** **11 45 20.8 +2.6**
baz=306,SNR=9.6
BPAW Bear Paw Mtn. 43.88 39 P **P** **11 45 18.1 -0.5**
BPAW IAmb IAmb 11 45 22.1
comp=Z,29nm,1.4s
BPAW Bear Paw Mtn. 43.88 39 P **P** **11 45 20.6 +2.0**
baz=306
CAST Castle Rocks 43.88 40 P **P** **11 45 20.5 +1.8**
CAST Castle Rocks 43.88 40 P **P** **11 45 20.7 +1.9**
baz=306,SNR=5.3
M19K Big River Lodg 43.91 43 P **P** **11 45 20.7 +1.8**
baz=306
H24K Noodor Dome 43.91 36 P **P** **11 45 20.5 +1.5**
H24K IAmb IAmb 11 45 32.1
comp=Z,20nm,0.9s
H24K Noodor Dome 43.91 36 P **P** **11 45 20.9 +1.9**
baz=306,SNR=8.6
G25K Bearman Lake 43.94 34 P **P** **11 45 21.1 +2.0**
baz=307
F26K Sheenjek River 43.98 33 P **P** **11 45 21.1 +1.6**
baz=307
BMAR Burnt Mountain 44.01 33 P **P** **11 45 19.3 -0.4**
N18K Kilae Creek 44.03 45 P **P** **11 45 18.7 -1.3**
P16K Nushagak River 44.15 48 P **P** **11 45 22.8 +2.0**
baz=306
PPLA Purkeypile 44.15 41 P **P** **11 45 22.5 +1.5**
baz=306
KTH Kantishna Hill 44.22 40 P **P** **11 45 22.0 +0.5**
KTH IAmb IAmb 11 45 34.5
comp=Z,22nm,1.0s

NEA2 Nenana 44.26 38 P **P** **11 45 22.6 +0.9**
NEA2 IAmb IAmb 11 45 24.5
comp=Z,22nm,1.2s
NEA2 Nenana 44.26 38 P **P** **11 45 23.3 +1.6**
baz=307
DAG Danmarks Havn 44.29 346 *i* P **P** **11 45 21.0 -0.8**
DAG *i* P **P** **11 45 21.0 -0.8**
DAG IAmb IAmb 11 45 23.5
comp=Z,3.2nm,0.8s
MDM Murphy Dome 44.32 37 P **P** **11 45 23.7 +1.4**
MDM IAmb IAmb 11 45 26.0
comp=Z,27nm,1.2s
H25L Birch Creek 44.33 35 P **P** **11 45 24.4 +2.3**
baz=307
FYU Fort Yukon 44.33 34 P **P** **11 45 23.8 +1.6**
BWN Browne 44.37 38 P **P** **11 45 24.9 +2.3**
BWN IAmb IAmb 11 45 38.0
comp=Z,29nm,1.0s
M20K Styx River 44.40 43 P **P** **11 45 24.8 +1.8**
M20K IAmb IAmb 11 45 26.0
comp=Z,32nm,1.4s
M20K Styx River 44.40 43 P **P** **11 45 25.2 +2.2**
baz=306
E27K Coleen River 44.43 31 P **P** **11 45 24.6 +1.5**
baz=309
POKR Poker Plat Res 44.50 37 P **P** **11 45 24.9 +1.3**
POKR IAmb IAmb 11 45 27.0
comp=Z,27nm,1.2s
POKR Poker Plat Res 44.50 37 P **P** **11 45 25.6 +2.0**
baz=307
TCOL CIGO, UAF Yank 44.50 37 P **P** **11 45 25.5 +1.9**
TCOL IAmb IAmb 11 45 37.2
comp=Z,23nm,0.9s
TCOL CIGO, UAF Yank 44.50 37 P **P** **11 45 24.8 +1.2**
baz=307
COLA College 44.51 37 P **P** **11 45 25.5 +1.9**
COLA IAmb IAmb 11 45 37.2
comp=Z,24nm,1.0s
COLA College 44.51 37 P **P** **11 45 25.6 +2.0**
baz=307
COLA College 44.51 37 ⇑P **P** **11 45 25.8 +2.2**
TRF Thorofare Moun 44.51 40 P **P** **11 45 26.0 +2.1**
TRF IAmb IAmb 11 45 27.1
comp=Z,38nm,1.2s
TRF Thorofare Moun 44.51 40 P **P** **11 45 25.6 +1.7**
baz=307,SNR=6.3
N19K Bonanza Creek 44.51 44 P **P** **11 45 23.9 0.0**
N19K Bonanza Creek 44.51 44 P **P** **11 45 26.6 +2.8**
baz=306
G26K Porcupine Rive 44.55 33 P **P** **11 45 26.4 +2.5**
baz=308
CCB Clear Creek Bu 44.66 37 P **P** **11 45 26.5 +1.7**
CCB IAmb IAmb 11 45 37.6
comp=Z,36nm,1.4s
WRH Wood River Hil 44.67 38 P **P** **11 45 26.7 +1.8**
WRH IAmb IAmb 11 45 27.9
comp=Z,30nm,1.1s
O18K Koktuh Hills 44.80 46 P **P** **11 45 28.4 +2.3**
baz=307
MCK McKinley 44.83 39 P **P** **11 45 24.8 -1.4**
MCK IAmb IAmb 11 45 30.0
comp=Z,39nm,1.3s
MCK McKinley 44.83 39 P **P** **11 45 29.3 +3.1**
baz=308,SNR=5.4
MCK McKinley 44.83 39 P **P** **11 45 24.8 -1.4**
MCK pmax pmax
comp=Z,39nm,1.3s
PRP Porcupine Dome 44.88 36 P **P** **11 45 26.1 -0.7**
PRP IAmb IAmb 11 45 30.2
comp=Z,24nm,1.1s
PRP Porcupine Dome 44.88 36 P **P** **11 45 28.4 +1.6**
baz=308,SNR=12
IL31 44.89 37 P **P** **11 45 25.4 -1.3**
ILAR Eielson Array 44.89 37 P **P** **11 45 28.2 +1.5**
comp=Z,19nm,1.1s,baz=299,slow=7.1,SNR=86
ILAR LR LR 12 06 32.6
comp=Z,686nm,19.7s,baz=308,slow=39
comp=Z,19nm,1.1s
ILAR Eielson Array 44.89 37 P **P** **11 45 27.1 +0.4**
SKT Skwentna 44.95 42 P **P** **11 45 29.3 +2.0**
baz=307
O19K Port Alsworth 44.95 45 P **P** **11 45 29.0 +1.8**
baz=307
HDA Harding Lake 45.10 37 P **P** **11 45 29.8 +1.4**
HDA IAmb IAmb 11 45 40.4
comp=Z,24nm,0.8s
HDA Harding Lake 45.10 37 P **P** **11 45 29.4 +1.0**
baz=308,SNR=5.2
N20K Mount Spurr 45.16 43 P **P** **11 45 31.0 +2.0**
baz=308
SPCR Spurr Chakacha 45.16 43 P **P** **11 45 30.7 +1.6**
baz=308
SDPT Sand Point 45.28 53 P **P** **11 45 32.9 +3.0**
baz=308
G27K Doyon Strip 45.29 33 P **P** **11 45 32.2 +2.3**
baz=310,SNR=20
KIV Kislovodsk 45.47 286 ⇑P P 11 45 38.6 +6.9
KIV Kislovodsk 45.47 286 ⇑P P 11 45 38.6 +6.9
Q17K Contact Creek 45.49 48 P **P** **11 45 34.0 +2.3**
baz=308
J25K Salcha River, 45.50 36 P **P** **11 45 30.4 -1.2**
KBZ Khabaz 45.51 286 *i* P **P** **11 45 32.1 +0.3**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KBZ MLR MLR
comp=Z,544nm,14.0s
WAT1 Susitna Watana 45.52 40 P **P** **11 45 32.9 +1.1**
baz=308
SUA Susitna One 45.56 42 P **P** **11 45 33.7 +1.5**
baz=308
ZEI Tsey 45.59 284 *e*P **P** **11 45 32.1 -0.7**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
M22K Willow 45.62 41 P **P** **11 45 33.0 +0.5**
baz=308
Q18K Katmai Hardscr 45.62 47 P **P** **11 45 33.9 +1.2**
baz=308
SHA1 Shidzhatmaz 45.63 286 *i* P **P** **11 45 33.0 -0.2**
H27K Steamboat Moun 45.70 33 P **P** **11 45 34.9 +1.7**
baz=310
P19K Oil Pt 45.72 45 P **P** **11 45 35.4 +2.0**
baz=308
DHY Denali Highway 45.78 39 P **P** **11 45 35.0 +0.9**
DHY Denali Highway 45.78 39 P **P** **11 45 35.1 +1.1**
baz=309,SNR=6.2
I26K Coal Creek Min 45.79 35 P **P** **11 45 35.8 +1.9**
I26K IAmb IAmb 11 45 37.2
comp=Z,32nm,1.1s
I26K Coal Creek Min 45.79 35 P **P** **11 45 35.3 +1.5**
baz=310
A36M Sachs Harbour 45.92 22 P **P** **11 45 35.9 +1.1**
A36M IAmb IAmb 11 45 48.4
comp=Z,12nm,0.8s
A36M Sachs Harbour 45.92 22 P **P** **11 45 35.7 +0.9**
baz=318,SNR=7.6
WAT6 Susitna Watana 45.97 40 P **P** **11 45 36.2 +0.7**
baz=309,SNR=8.1
PMR Palmer 46.08 41 P **P** **11 45 36.5 +0.3**
PMR IAmb IAmb 11 45 48.1
comp=Z,21nm,1.1s
PMR Palmer 46.08 41 P **P** **11 45 37.0 +0.8**
baz=309
PMR Palmer 46.08 41 P **P** **11 45 36.5 +0.3**
PMR pmax pmax
comp=Z,21nm,1.1s
I27K Kandik River 46.09 34 P **P** **11 45 38.2 +2.0**
baz=311,SNR=14
MNK Minsk 46.15 306 *i* P **P** **11 45 36.1 -0.7**
comp=E,2.0nm,0.7s
MNK *i* P **P** **11 45 36.1 -0.7**
comp=N,26nm,0.9s
MNK *i* P **P** **11 45 36.1 -0.7**
comp=Z,9.0nm,0.6s,baz=231
MNK *i* PP **PP** **11 47 24.4 -0.3**
MNK *i* PPP PPP 11 48 05.3
MNK *i* S **S** **11 52 22.7 +0.6**
MNK *i* SS **SS** **11 55 49.5 +2.8**
MNK *i* SSS SSS 11 56 41.2
MNK *i* LQ LQ 12 01 37.3
MNK *i* LR LR 12 05 08.0
MNK *i* LRM MLR 12 07 01.6
comp=Z,1μm,15.5s
MNK *i* LRM MLR 12 07 04.8
comp=E,128nm,15.5s
MNK *i* LRM MLR 12 07 04.8
comp=N,686nm,17.4s

MNK Minsk 46.15 306 *i* P **P** **11 45 36.0 -0.7**
MNK *i* 11 47 24.3
MNK *i* PPP PPP 11 48 05.2
MNK *i* S **S** **11 52 22.7 +0.6**
MNK *i* 11 55 31.7
MNK *i* SSS SSS 11 56 41.1
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK pmax pmax
comp=N,26nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=Z,1µm,15.0s
MNK MLR MLR
comp=N,686nm,17.0s
MNK MLR MLR
comp=E,128nm,15.0s
RC01 Rabbit Creek A 46.17 42 P **P** **11 45 38.5 +1.6**
baz=309
J26L Joseph Creek 46.18 36 P **P** **11 45 37.6 +0.6**
J26L Joseph Creek 46.18 36 P **P** **11 45 37.6 +0.6**
baz=310
SML Sawmill 46.24 41 P **P** **11 45 36.2 -1.3**
SML IAmb IAmb 11 45 51.7
comp=Z,22nm,0.8s
SML Sawmill 46.24 41 P **P** **11 45 38.8 +1.3**
baz=309
SCRK Sand Creek 46.38 37 P **P** **11 45 38.5 -0.1**
NACGM Naroch 46.39 307 *e*P P 11 45 46.6 +8.0
comp=Z,30nm,0.8s,baz=51
M23K Glacier View 46.47 40 P **P** **11 45 40.7 +1.4**
baz=310
PAX Paxson 46.52 38 P **P** **11 45 41.3 +1.6**
baz=310
DBG Daneborg 46.55 344 *i* P **P** **11 45 38.6 -1.0**
DBG IAmb IAmb 11 45 39.9
comp=Z,3.2nm,0.8s
SCM Sheep Creek Mo 46.59 40 P **P** **11 45 41.8 +1.5**
baz=310
INK Inuvik 46.61 28 P **P** **11 45 41.4 +1.2**
comp=Z,15nm,1.1s,baz=322,slow=9.1,SNR=25
INK LR LR 12 10 59.1
comp=Z,242nm,18.1s,baz=304,slow=43
comp=Z,15nm,1.1s
INK Inuvik 46.61 28 P **P** **11 45 41.1 +0.9**
INK IAmb IAmb 11 45 42.8
comp=Z,22nm,1.1s
INK Inuvik 46.61 28 P **P** **11 45 42.0 +1.9**
baz=314,SNR=14
NEEM North Greenlan 46.62 356 *i* P **P** **11 45 42.0 +1.4**
NEEM IAmb IAmb 11 45 45.3
comp=Z,6.5nm,0.7s
EGAK Eagle 46.78 35 P **P** **11 45 42.4 +0.8**
EGAK IAmb IAmb 11 45 44.4
comp=Z,27nm,1.1s
EGAK Eagle 46.78 35 P **P** **11 45 43.4 +1.8**
baz=312,SNR=12
G30M tAoh Zraii Nji 46.78 31 P **P** **11 45 43.2 +1.6**
baz=313
M24K Tolsona, Glenn 46.83 39 P **P** **11 45 41.1 -1.0**
M24K Tolsona, Glenn 46.83 39 P **P** **11 45 43.8 +1.6**
baz=310
PWL Port Wells 46.85 42 P **P** **11 45 42.8 +0.5**
PWL Port Wells 46.85 42 P **P** **11 45 43.0 +0.8**
baz=310
SEW Seward 46.91 43 P **P** **11 45 43.6 +0.9**
baz=310
HARP HAARP 47.00 39 P **P** **11 45 44.8 +1.3**
baz=311
EPYK Eagle Plains 47.06 31 P **P** **11 45 45.1 +1.3**
EPYK Eagle Plains 47.06 31 P **P** **11 45 44.7 +0.9**
baz=313
JMIC Jan Mayen 47.08 338 LR LR 12 06 33.3
comp=Z,328nm,18.3s,baz=70,slow=37
F31M Tsiigehtchic 47.16 29 P **P** **11 45 45.7 +1.2**
baz=315,SNR=7.6
L26K Log Cabin Wild 47.22 37 P **P** **11 45 45.5 +0.4**
I29M Ogilvie Camp, 47.28 33 P **P** **11 45 46.0 +0.5**
I29M IAmb IAmb 11 45 57.1
comp=Z,12nm,0.8s
I29M Ogilvie Camp, 47.28 33 P **P** **11 45 47.0 +1.4**
baz=313,SNR=9.0
SOC Sochi 47.32 288 *e*P **P** **11 45 45.8 -0.3**
SOC *e* 11 47 34.0
SOC *e*PPP PPP 11 48 20.1
SOC *e*S **S** **11 52 40.9 +1.7**
SOC *e*SSS SSS 11 57 07.8
SOC MLR MLR
comp=Z,521nm,17.0s
KLU Klutina 47.33 40 P **P** **11 45 47.5 +1.5**
baz=311,SNR=5.5
L27K Beaver Creek, 47.71 37 P **P** **11 45 49.4 +0.4**
L27K IAmb IAmb 11 46 01.6
comp=Z,21nm,0.9s
L27K Beaver Creek, 47.71 37 P **P** **11 45 50.8 +1.9**
baz=312
ANN Anapa 47.72 291 *e*P **P** **11 45 44.7 -4.4**
ANN *e*PPP PPP 11 48 25.0
ANN *e*S **S** **11 52 40.8 -4.0**
ANN pmax pmax
comp=Z,50nm,1.2s
ANN MLR MLR
comp=Z,674nm,14.0s
BCAR Beaver Creek A 47.72 37 P **P** **11 45 50.8 +1.8**
N25K Chitina, Valde 47.73 39 P **P** **11 45 51.1 +1.9**
N25K Chitina, Valde 47.73 39 P **P** **11 45 51.1 +1.9**
baz=312
M26K Nabesna, AK 47.76 38 P **P** **11 45 50.5 +1.1**
M26K IAmb IAmb 11 46 09.4
comp=Z,15nm,1.2s
M26K Nabesna, AK 47.76 38 P **P** **11 45 51.3 +1.9**
baz=312
DAWY Dawson 47.83 35 P **P** **11 45 51.1 +1.3**
DAWY IAmb IAmb 11 46 01.9
comp=Z,11nm,1.1s
DAWY Dawson 47.83 35 P **P** **11 45 51.4 +1.5**
baz=313
TULEG Thule 47.84 1 P **P** **11 45 50.5 +0.8**
TULEG IAmb IAmb 11 46 02.9
comp=Z,21nm,0.9s
TULEG Thule 47.84 1 *i* P **P** **11 45 49.9 +0.2**
TULEG IAmb IAmb 11 45 51.0
comp=Z,11nm,0.7s
J29M Klondike Camp 47.93 34 P **P** **11 45 52.5 +1.8**
J29M Klondike Camp 47.93 34 P **P** **11 45 52.2 +1.5**
baz=314,SNR=5.6
AKASG Malin Array Be 47.96 301 P **P** **11 45 50.9 -0.1**
comp=Z,2.3nm,0.6s,baz=43,slow=8.7,SNR=13
comp=Z,2.3nm,0.6s
AKASG Malin Array Be 47.96 301 P **P** **11 45 50.5 -0.4**
AKBB Malin Array Si 47.96 301 P **P** **11 45 51.4 +0.4**
AKBB IAmb IAmb 11 45 58.6
comp=Z,20nm,1.1s
AKBB Malin Array Si 47.96 301 P **P** **11 45 51.4 +0.4**
AKBB pmax pmax
comp=Z,20nm,1.1s
BMRM Bremner River 48.15 40 P **P** **11 45 53.9 +1.5**
baz=312
M27K Edge Creek, AK 48.17 37 P **P** **11 45 53.2 +0.6**
M27K Edge Creek, AK 48.17 37 P **P** **11 45 54.8 +2.2**
baz=313
C36M Paulatuk 48.18 24 P **P** **11 45 52.1 -0.3**
C36M Paulatuk 48.18 24 P **P** **11 45 52.3 0.0**
baz=320,SNR=12
RES Resolute Bay 48.29 10 LR LR 12 07 51.2
comp=Z,454nm,18.0s,baz=344,slow=38
RES Resolute Bay 48.29 10 P **P** **11 45 52.3 -0.9**
RES IAmb IAmb 11 46 06.0
comp=Z,21nm,1.1s
RES Resolute Bay 48.29 10 P **P** **11 45 52.3 -0.9**
RES pmax pmax
comp=Z,21nm,1.2s
VRDI Verde Repeater 48.39 39 P **P** **11 45 55.4 +1.0**
VRDI IAmb IAmb 11 47 19.2
comp=Z,32nm,1.4s
GUMO Guam 48.42 138 LR LR 12 04 55.6
comp=Z,300nm,20.8s,baz=20,slow=34
NC405 NORSAR Array S 48.43 321 P **P** **11 45 55.1 +0.6**
MCARA McCarthy VSAT 48.44 39 P **P** **11 45 55.1 +0.6**
MCARA McCarthy VSAT 48.44 39 P **P** **11 45 56.1 +1.6**
baz=313
NC303 NORSAR Array S 48.48 321 P **P** **11 45 55.6 +0.7**
NC303 IAmb IAmb 11 46 04.2
comp=Z,25nm,1.1s
BVCY Beaver Creek 48.48 37 P **P** **11 45 57.0 +2.1**
baz=313
Q23K Middleton Isla 48.54 42 P **P** **11 45 57.5 +2.2**
baz=312
K29M Barlow Dome 48.58 34 P **P** **11 45 57.5 +1.8**
baz=314
NB201 NORSAR Array S 48.62 321 P **P** **11 45 56.7 +0.7**
NC204 NORSAR Array S 48.66 321 P **P** **11 45 56.7 +0.4**
NB2 NORSAR Subarra 48.66 321 P **P** **11 45 56.4 +0.1**
baz=42,slow=6.9
NB2 NORSAR Subarra 48.66 321 P **P** **11 45 56.4 +0.1**
comp=Z,22nm,1.0s,baz=42,slow=6.9
NOA NORSAR Array B 48.66 321 P **P** **11 45 56.8 +0.5**
comp=Z,6.1nm,0.6s,baz=50,slow=7.7,SNR=55
comp=Z,6.1nm,0.6s
DOMB Dombas 48.72 323 *e*P **P** **11 45 57.2 +0.4**
NC602 NORSAR Array S 48.75 320 P **P** **11 45 57.1 +0.2**
NC602 NORSAR Array S 48.75 320 *e*P **P** **11 45 57.5 +0.6**
NBO00 NORSAR Array S 48.82 321 P **P** **11 45 58.1 +0.6**
BERG Berg Lake 48.87 40 P **P** **11 45 59.4 +1.5**
L29M L29M 48.90 35 P **P** **11 46 00.2 +2.1**
baz=315
NAO01 NORSAR Array S 48.91 321 P **P** **11 45 58.3 +0.1**
YUK3 Moose Creek 49.06 37 P **P** **11 46 01.3 +1.7**
baz=314,SNR=5.7
BARN Barnard Glacie 49.14 39 P **P** **11 46 00.9 +0.7**
BARN IAmb IAmb 11 46 03.5
comp=Z,29nm,1.0s
M29M Somme Creek 49.26 36 P **P** **11 46 03.1 +2.1**
baz=315
AKN Aaknes 49.32 324 *e*P **P** **11 46 02.0 +0.7**
AKN IAmb IAmb 11 46 13.2
comp=Z,59nm,1.4s
DAV Davao City (W) 49.52 165 LR LR 12 09 51.4
comp=Z,455nm,18.8s,baz=338,slow=40
YUK8 Steele Glacier 49.64 38 P **P** **11 46 06.1 +2.0**
baz=315
M30M Minto, Yukon 49.71 35 P **P** **11 46 06.5 +2.2**
baz=316
SKAR Skarsla 49.93 322 *e*P **P** **11 46 06.7 +0.7**
YUK4 Talbot Arm 49.98 37 P **P** **11 46 08.7 +2.1**
baz=315
N30M Aishikik Lake 50.42 36 P **P** **11 46 11.3 +1.6**
baz=316
SUMG Summit 50.43 350 *i* P **P** **11 46 10.5 +0.5**
SUMG IAmb IAmb 11 46 11.6
comp=Z,6.9nm,0.7s
MYLDM Lahad Datu 50.67 174 P **P** **11 46 11.8 -0.2**
comp=Z,21nm,1.4s
MILM Milestii Mici 50.70 298 *e*P P 11 46 07.0 -5.0
MILM Milestii Mici 50.70 298 *e*PcP PcP 11 47 17.0 -12
MILM Milestii Mici 50.70 298 *e*PP PP 11 48 04.0 -3.6
MILM *e*ScS ScS 11 55 58.0 -4.2
MILM *e*L L 12 03 09.0
MILM LRM MLR 12 09 20.0
comp=Z,600nm,18.0s
MILM Milestii Mici 50.70 298 *e*P P 11 46 07.0 -5.0
MILM *e* 11 48 04.0
MILM *e* 11 55 58.0
MILM MLR MLR
comp=Z,600nm,18.0s
MILM MLR MLR
comp=E,600nm,17.0s
HYT Haines Junctio 50.74 37 P **P** **11 46 14.1 +1.8**
baz=316
M31M Drury Creek, Y 50.75 34 P **P** **11 46 14.0 +1.8**
baz=317
O29M Mount Kennedy 50.75 38 P **P** **11 46 13.9 +1.6**
baz=316
N31M Braeburn, Yuko 50.83 36 P **P** **11 46 13.9 +1.1**
N31M Braeburn, Yuko 50.83 36 P **P** **11 46 15.2 +2.4**
baz=317,SNR=10
FARO Faro, Yukon 51.06 34 P **P** **11 46 16.3 +1.8**
FARO IAmb IAmb 11 46 27.1
comp=Z,24nm,1.3s
FARO Faro, Yukon 51.06 34 P **P** **11 46 16.0 +1.5**
baz=318
ODD1 Odda 51.07 322 *e*P **P** **11 46 15.4 +0.8**
ODD1 IAmb IAmb 11 46 21.6
comp=Z,625nm,2.7s
O30N Mendenhall 51.25 36 P **P** **11 46 17.9 +1.9**
baz=317
MMPY Sheldon Lake, 51.41 33 P **P** **11 46 18.8 +1.7**
baz=319,SNR=6.9
P30M Million Dollar 51.44 37 P **P** **11 46 18.1 +0.7**
baz=317
P29M Windy Craggy 51.53 38 P **P** **11 46 18.9 +0.8**
baz=317
HOMB Homborsund 51.59 319 *e*P **P** **11 46 19.2 +0.8**
WHY Whitehorse 51.74 36 P **P** **11 46 20.7 +1.0**
baz=318
WSAR Wadi Sarin 51.82 255 LR LR 12 08 45.1
comp=Z,311nm,19.4s,baz=68,slow=37
N32M Quiet Lake 51.95 35 P **P** **11 46 22.3 +1.1**
baz=319
BUR08 Bucovina Ar. S 51.97 301 P **P** **11 46 21.6 0.0**
BURAR Bucovina Array 51.98 301 ⇑P P 11 46 29.6 +7.9
BURAR Bucovina Array 51.98 301 P **P** **11 46 21.8 +0.1**
BURAR Bucovina Array 51.98 301 ⇑P P 11 46 29.6 +7.9
TESR Tescani 52.06 299 ⇑P P 11 46 30.1 +7.9
PLBC Pleasant Camp 52.13 38 P **P** **11 46 23.8 +1.3**
baz=318
CFR Carcaliu 52.25 297 ⇑P P 11 46 31.3 +7.8
CFR Carcaliu 52.25 297 ⇑P P 11 46 31.3 +7.7
VRI Vrincioaia 52.47 298 ⇑P P 11 46 32.3 +7.1
VRI Vrincioaia 52.47 298 ⇑P P 11 46 32.3 +7.0
PLOR Plostina 52.52 298 ⇑P P 11 46 32.4 +6.8
PLOR Plostina 52.52 298 ⇑P P 11 46 32.4 +6.8
STHS Stebnicka Huta 52.60 305 *e*P **P** **11 46 29.2 +3.0**
STHS Stebnicka Huta 52.60 305 *e*P **P** **11 46 29.2 +3.0**
STHS pmax pmax
comp=Z,5.0nm,0.9s
P33M Teslin, Yukon 52.75 35 P **P** **11 46 26.2 -1.0**
P33M IAmb IAmb 11 46 29.8
comp=Z,31nm,1.1s
P33M Teslin, Yukon 52.75 35 P **P** **11 46 28.5 +1.3**
baz=319,SNR=8.9
CRVS Cervenica-Dubn 52.86 304 *e* P 11 46 35.3 +7.2
CRVS Cervenica-Dubn 52.86 304 *e*P P 11 46 35.3 +7.2
TRPA Tarpa 52.90 303 P P 11 46 36.2 +7.8
P32M Atlin 52.93 36 P **P** **11 46 29.6 +1.1**
baz=319
ISR Istrita 53.09 298 ⇑P P 11 46 36.8 +6.9
ISR Istrita 53.09 298 ⇑P P 11 46 36.8 +6.9
MLR Muntele Rosu 53.12 298 ⇑P P 11 46 37.6 +7.4
MLR Muntele Rosu 53.12 298 LR LR 12 10 25.5
comp=Z,891nm,18.6s,baz=46,slow=38
MLR Muntele Rosu 53.12 298 ⇑P P 11 46 37.6 +7.4
TGTN Hyland Airport 53.15 32 P **P** **11 46 31.1 +1.0**
baz=321
BR131 Keskin Array S 53.27 288 P **P** **11 46 32.1 +0.7**
BR131 IAmb IAmb 11 46 44.5
comp=Z,18nm,1.1s
BR131 Keskin Array S 53.27 288 P **P** **11 46 32.1 +0.7**
BR131 pmax pmax
comp=Z,17nm,1.1s
BRTR Keskin Array B 53.27 288 P **P** **11 46 31.3 -0.1**
comp=Z,4.9nm,1.1s,baz=70,slow=6.3,SNR=9.4
comp=Z,4.9nm,1.1s
BRTR Keskin Array B 53.27 288 P **P** **11 46 31.4 +0.1**
BRTR Keskin Array B 53.27 288 *i* P **P** **11 46 32.5 +1.1**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
ABAH Abaujker 53.40 304 P P 11 46 40.0 +8.0
VOIR 53.61 299 ⇑P P 11 46 40.7 +7.0
VOIR 53.61 299 ⇑P P 11 46 40.7 +7.0
OKC Ostrava-Krasne 53.71 307 AMS AMS 12 11 20.0
comp=Z,1µm,17.5s
ARR Arges 53.86 299 ⇑P P 11 46 42.1 +6.6
ICESG Greenland Ices 53.87 349 *i* P **P** **11 46 36.9 +1.3**
ICESG IAmb IAmb 11 46 38.6
comp=Z,6.8nm,0.5s
R33M Jennings River 53.98 35 P **P** **11 46 37.7 +1.4**
baz=321
MORC Moravsky Berou 54.03 307 ⇑P P 11 46 45.1 +8.4
MORC Moravsky Berou 54.03 307 *e*P P 11 46 43.4 +6.7
MORC Moravsky Berou 54.03 307 ⇑P P 11 46 45.1 +8.4
OSTC Ostas 54.05 309 AMS AMS 12 11 20.0
comp=Z,1µm,15.1s
WTLY Watson Lake, Y 54.10 33 P **P** **11 46 38.0 +0.9**
baz=322
KRLC Kraliky 54.15 308 *e*P **P** **11 46 39.0 +1.4**
KRLC *ex* x 11 46 45.5
KRLC AMS AMS 12 11 30.0
comp=Z,1µm,15.5s
KRLC Kraliky 54.15 308 *e*P **P** **11 46 39.0 +1.4**
KRLC *e* 11 46 45.5
KRLC MLR MLR
comp=Z,1µm,15.5s
DPC Dobruska-Polom 54.16 308 *e*P **P** **11 46 38.9 +1.3**
DPC *ex* x 11 46 45.5
DPC AMS AMS 12 11 20.0
comp=Z,900nm,17.5s
DPC Dobruska-Polom 54.16 308 *e*P **P** **11 46 38.9 +1.3**
DPC *e* 11 46 45.5
DPC MLR MLR
comp=Z,900nm,17.5s
UPC Upice 54.18 309 AMS AMS 12 11 30.0
comp=Z,1µm,13.3s
PSZ Piszkesteto 54.30 304 P **P** **11 46 39.2 +0.6**
PSZ IAmb IAmb 11 46 52.1
comp=Z,25nm,1.4s
PSZ Piszkesteto 54.30 304 P P 11 46 46.1 +7.4
PSZ Piszkesteto 54.30 304 P **P** **11 46 39.3 +0.6**
PSZ pmax pmax
comp=Z,25nm,1.4s
SIT Sitka 54.30 39 P **P** **11 46 37.4 -1.0**
SIT Sitka 54.30 39 P **P** **11 46 39.4 +1.0**
baz=320
SIT Sitka 54.30 39 P **P** **11 46 37.4 -1.0**
SIT pmax pmax
comp=Z,162nm,1.5s
PSI Prapat 54.31 199 P **P** **11 46 39.9 +0.8**
comp=Z,18nm,0.9s
PSI Prapat 54.31 199 P **P** **11 46 38.2 -0.9**
PSI pmax pmax
comp=Z,13nm,0.9s
KSM Kuching 54.32 185 P **P** **11 46 40.2 +1.2**
comp=Z,13nm,1.0s
VYHS Vyhne 54.37 305 *e*P **P** **11 46 40.6 +1.4**
VYHS *e* 11 46 46.9
VYHS Vyhne 54.37 305 *e*P **P** **11 46 40.6 +1.4**
VYHS *e* 11 46 46.9
VYHS pmax pmax
comp=Z,29nm,1.5s
RPSI Rantau Prapat 54.41 199 P **P** **11 46 38.2 -1.5**
RPSI IAmb IAmb 11 46 52.5
comp=Z,13nm,0.9s
MYKOM Kota Tinggi 54.55 193 P **P** **11 46 39.8 -1.0**
MYKOM IAmb IAmb 11 46 49.5
comp=Z,23nm,1.2s
MYKOM Kota Tinggi 54.55 193 P **P** **11 46 40.8 +0.1**
comp=Z,17nm,1.4s
GZR Gura Zlata 54.75 300 ⇑P P 11 46 48.8 +6.8
GZR Gura Zlata 54.75 300 ⇑P P 11 46 48.8 +6.8
VRAC Vranov 54.79 307 LR LR 12 11 55.1
comp=Z,590nm,20.7s,baz=52,slow=38
VRAC Vranov 54.79 307 *e*P **P** **11 46 43.5 +1.3**
BRG Berggiesshubel 54.81 310 *e*P P 11 46 49.7 +7.4
BRG Amp 11 46 51.0
comp=Z,16nm,1.0s
BRG Berggiesshubel 54.81 310 *e*P P 11 46 49.7 +7.4
BRG pmax pmax
comp=Z,16nm,1.0s
BRG MLR MLR
comp=E,776nm,13.9s
BRG MLR MLR
comp=Z,2µm,17.2s
BRG MLR MLR
comp=N,1µm,17.4s
TOLI2 Tolitoli 54.86 172 P **P** **11 46 41.3 -1.7**
CLL Collm 54.89 311 *e*P **P** **11 46 43.0 +0.1**
CLL *i* sP **sP** **11 46 49.5 +0.6**
comp=Z,16nm,1.1s
CLL *e*PP PP 11 48 36.0 -9.3
CLL *e*S S 11 54 36.0 +12
CLL *e*SS **SS** **11 58 12.0 +5.7**
BORG Borgarnes 54.97 338 LR LR 12 10 35.3
comp=Z,230nm,18.6s,baz=52,slow=36
SMOL Smolenice 55.00 306 *e*P P 11 46 55.3 +12
DLBC Dease Lake 55.03 35 LR LR 12 12 57.0
comp=Z,298nm,18.7s,baz=310,slow=39
DLBC Dease Lake 55.03 35 P **P** **11 46 43.9 0.0**
baz=322
KRUC Moravsky 55.06 307 *e*P **P** **11 46 44.8 +0.7**
BZS Buzias 55.15 301 ⇑P P 11 46 51.3 +6.5
BZS Buzias 55.15 301 ⇑P P 11 46 51.3 +6.5
GOPC GO Pecny, Ondr 55.15 309 AMS AMS 12 12 10.0
comp=Z,1µm,13.6s
MODS Modra-Piesok 55.17 306 *e*P **P** **11 46 46.3 +1.3**
MODS Modra-Piesok 55.17 306 *e*P **P** **11 46 46.3 +1.3**
MODS pmax pmax
comp=Z,46nm,1.5s
PALK Pallekele 55.19 222 LR LR 12 12 01.1
comp=Z,228nm,19.8s,baz=146,slow=38
PRU Pruhonice 55.20 309 AMS AMS 12 12 10.0
comp=Z,1µm,14.4s
LIRD Liard River Hi 55.49 33 P **P** **11 46 48.2 +1.1**
baz=324,SNR=12
NKC Novy Kostel 55.93 311 AMS AMS 12 12 50.0
comp=Z,2µm,14.2s
MPLH Magyarpolny 55.93 305 P P 11 46 58.5 +8.1
YKA Yellowknife Ar 56.02 25 P **P** **11 46 50.2 -0.6**
comp=Z,2.8nm,0.9s,baz=331,slow=6.9,SNR=4.1
YKA LR LR 12 14 35.1
comp=Z,280nm,18.9s,baz=310,slow=40
comp=Z,2.8nm,0.9s
MORH Mrgy, Hungar 56.12 304 P P 11 46 59.1 +7.4
CONA Conrad Observa 56.14 307 *e*P **P** **11 46 54.0 +2.0**
comp=Z,4.1nm,0.9s
CKRC Cesky Krumlov 56.17 308 *e*P **P** **11 46 53.4 +1.3**
CKRC AMS AMS 12 12 30.0
comp=Z,800nm,16.7s
KHC Kasperske Hory 56.26 309 P **P** **11 46 53.6 +0.8**
KHC IAmb IAmb 11 47 01.9
comp=Z,31nm,1.5s
KHC Kasperske Hory 56.26 309 *e*P **P** **11 46 53.3 +0.5**
KHC *ex* x 11 47 00.2
KHC AMS AMS 12 12 40.0
comp=Z,1µm,15.1s
KHC Kasperske Hory 56.26 309 *e*P **P** **11 46 53.3 +0.5**
KHC *e* 11 47 00.2
KHC MLR MLR
comp=Z,1µm,15.1s
GEC2 GERESS Array S 56.42 309 P **P** **11 46 53.5 -0.5**
GERES GERESS Array B 56.42 309 P **P** **11 46 54.3 +0.3**
comp=Z,1.1nm,0.6s,baz=56,slow=8.2,SNR=10
GERES LR LR 12 13 06.2
comp=Z,675nm,20.2s,baz=50,slow=38
comp=Z,1.1nm,0.6s
GERES GERESS Array B 56.42 309 P **P** **11 46 54.2 +0.2**
VTS Vitosha 56.55 298 P **P** **11 46 54.8 -0.3**
VTS Vitosha 56.55 298 P **P** **11 46 54.8 -0.3**
VTS pmax pmax
comp=Z,10.0nm,1.1s
ARSA Arzberg 56.80 306 *i* P **P** **11 46 58.4 +1.8**
comp=Z,10nm,1.5s
SFJD Kangerlussuaq 56.91 353 LR LR 12 11 22.0
comp=Z,281nm,18.1s,baz=9.0,slow=36
DIVS Divibare 57.05 301 P **P** **11 46 57.9 -0.6**
DIVS IAmb IAmb 11 47 06.8
comp=Z,13nm,1.2s
DY2G Dye2 57.08 351 *i* P **P** **11 46 59.3 +0.7**
DY2G IAmb IAmb 11 47 07.3
comp=Z,15nm,0.9s
MMAI Mount Meron Ar 57.25 282 LR LR 12 14 10.7
comp=Z,246nm,18.4s,baz=282,slow=39
SOKA Soboth 57.45 306 *e*P **P** **11 47 02.6 +1.2**
comp=Z,14nm,1.6s
OBKA Obir 57.80 306 *e*P **P** **11 47 05.2 +1.5**
comp=Z,26nm,1.3s
KBA Koelnbreinsper 57.91 308 *e*P **P** **11 47 06.4 +1.7**
comp=Z,27nm,1.1s
MYKA Terra Mystica 58.11 307 *e*P **P** **11 47 07.3 +1.3**
comp=Z,22nm,1.4s
SIJI Sorong 58.27 160 LR LR 12 12 05.3
comp=Z,367nm,20.0s,baz=15,slow=36
BTNL Ternell 58.28 315 *dx* P 11 47 14.6 +7.6
MEM Membach 58.31 315 *dx* P 11 47 14.9 +7.7
WATA Walderalm 58.49 309 *e*P **P** **11 47 10.0 +1.3**
comp=Z,14nm,1.1s
BSTI Sart Tilman 58.51 315 *dx* P 11 47 16.5 +7.9
WTTA Wattenberg 58.52 309 *e*P **P** **11 47 10.3 +1.4**
MOTA Moosalm 58.69 309 *e*P **P** **11 47 11.4 +1.3**
comp=Z,7.7nm,1.0s
SQTA Sankt Quirin 58.74 309 *e*P **P** **11 47 11.8 +1.4**
comp=Z,16nm,1.0s
STAL STALIGIAL 58.81 307 P **P** **11 47 09.5 -1.3**
STAL IAmb IAmb 11 47 24.6
comp=Z,15nm,1.0s
RAYN Ar Rayn 58.88 266 P **P** **11 47 11.1 -0.5**

RAYN IAmb IAmb 11 47 19.5
comp=Z,10nm,0.9s
RAYN Ar Rayn 58.88 266 ⇑P P 11 47 11.9 +0.3
RCHB Rochefort 58.98 315 *dx* P 11 47 18.2 +6.3
BMRD Maredsous 59.05 315 *dx* P 11 47 19.3 +7.0
FUORN Ofenpass-Fuorn 59.62 309 P **P 11 47 16.0 -0.6**
FUORN IAmb IAmb 11 47 26.0
comp=Z,20nm,1.4s
ECH Echery 59.71 312 P **P 11 47 16.5 -0.4**
ECH IAmb IAmb 11 47 25.6
comp=Z,31nm,1.5s
ECH Echery 59.71 312 P **P 11 47 16.5 -0.4**
ECH pmax pmax
comp=Z,31nm,1.5s
FRB Frobisher Bay 60.69 1 LR LR 12 14 59.4
comp=Z,219nm,18.7s,baz=7.0,slow=37
BBB Bella Bella 60.72 39 LR LR 12 14 15.8
comp=Z,202nm,18.3s,baz=332,slow=37
KAPI Kappang 60.86 174 LR LR 12 15 46.1
comp=Z,131nm,19.4s,baz=355,slow=38
ITM Ithomi 61.30 295 P **P 11 47 27.2 -0.8**
TIP Timpagrande 62.36 300 P **P 11 47 36.0 +0.9**
BNI Bardonecchia 62.40 310 P **P 11 47 36.3 +0.9**
BNI Bardonecchia 62.40 310 P **P 11 47 36.3 +0.9**
BNI pmax pmax
comp=Z,29nm,1.4s
EDM Edmonton 64.48 29 P **P 11 47 50.2 +1.3**
EDM IAmb IAmb 11 48 00.4
comp=Z,11nm,0.9s
EDM Edmonton 64.48 29 P **P 11 47 50.2 +1.3**
C03A Quillayute Air 65.52 39 P **P 11 47 55.6 0.0**
B08A Colville Reser 66.96 36 P **P 11 48 05.5 +0.5**
B08A IAmb IAmb 11 48 06.9
comp=Z,9.3nm,1.1s
KRVT Keravat (AS076 67.57 138 LR LR 12 15 47.3
comp=Z,86nm,19.7s,baz=117,slow=34
NEW Newport 67.75 34 LR LR 12 20 32.7
comp=Z,184nm,19.7s,baz=340,slow=38
NEW Newport 67.75 34 P **P 11 48 10.5 +0.4**
baz=332
KEST Kesra 68.67 302 LR LR 12 22 00.7
comp=Z,556nm,18.5s,baz=330,slow=39
KEST Kesra 68.67 302 P **P 11 48 16.2 +0.2**
KEST IAmb IAmb 11 48 24.8
comp=Z,15nm,1.1s
SCHQ Schefferville 69.65 1 P **P 11 48 21.1 -0.6**
comp=Z,9.5nm,1.1s,baz=31,slow=7.9,SNR=3.0
comp=Z,9.5nm,1.1s
F10A Beach Ranch, E 69.74 35 P **P 11 48 24.1 +1.5**
F10A IAmb IAmb 11 48 25.1
comp=Z,12nm,1.1s
MTN Manton Dam 69.94 162 P **P 11 48 23.9 +0.1**
MSO Missoula 70.02 33 P **P 11 48 25.2 +1.0**
MSO IAmb IAmb 11 48 26.6
comp=Z,13nm,1.2s
MSO Missoula 70.02 33 P **P 11 48 25.2 +1.0**
baz=334
EGMT Eagleton 70.16 30 P **P 11 48 24.2 -0.9**
EGMT Eagleton 70.16 30 P **P 11 48 25.9 +0.9**
baz=336
PINE Pine Mountain 70.39 39 P **P 11 48 27.5 +0.9**
PINE IAmb IAmb 11 48 46.2
comp=Z,19nm,1.4s
PMG Port Moresby 70.62 145 LR LR 12 19 02.4
comp=Z,139nm,19.1s,baz=311,slow=36
BMO Blue Mountains 70.70 36 P **P 11 48 29.2 +0.8**
BMO IAmb IAmb 11 48 30.9
comp=Z,11nm,1.2s
BMO Blue Mountains 70.70 36 P **P 11 48 29.3 +0.8**
BMO pmax pmax
comp=Z,11nm,1.2s
HRY Holter Researc 70.76 32 P **P 11 48 28.0 -0.8**
PLID Pearl Lake 70.92 35 P **P 11 48 31.1 +1.2**
PLID IAmb IAmb 11 48 32.3
comp=Z,23nm,1.4s
DGMT Dagmar 71.21 26 P **P 11 48 30.9 -0.5**
DGMT IAmb IAmb 11 48 32.9
comp=Z,24nm,1.1s
DGMT Dagmar 71.21 26 P **P 11 48 32.3 +0.9**
baz=338
ESBB Sonseca Array 71.29 314 P **P 11 48 32.0 0.0**
ESDC Sonseca Array 71.29 314 P **P 11 48 31.2 -0.8**
comp=Z,4.8nm,0.9s,baz=25,slow=6.6,SNR=22
comp=Z,4.8nm,0.9s
ESDC Sonseca Array 71.29 314 P **P 11 48 32.9 +0.9**
ESDC IAmb IAmb 11 48 41.0
comp=Z,11nm,1.1s
ULM Lac du Bonnet 71.34 20 LR LR 12 22 07.9
comp=Z,318nm,18.6s,baz=335,slow=38
LRM Limekiln Ridge 71.38 32 P **P 11 48 32.4 -0.3**
BOZ Bozeman (W) 71.83 32 P **P 11 48 35.8 +0.6**
baz=335
MFID Camas Ranch 72.47 36 P **P 11 48 40.2 +1.0**
QLMT Earthquake Lak 72.58 32 P **P 11 48 41.5 +1.6**
HLID Hailey 72.80 35 P **P 11 48 42.2 +1.1**
HLID Hailey 72.80 35 P **P 11 48 42.2 +1.1**
baz=334
MDND Maddock 72.86 23 P **P 11 48 40.4 -0.9**
MDND Maddock 72.86 23 P **P 11 48 42.4 +1.2**
baz=341
RLMT Red Lodge 72.95 31 P **P 11 48 43.3 +1.2**
RLMT IAmb IAmb 11 48 44.1
comp=Z,22nm,1.3s
RLMT Red Lodge 72.95 31 P **P 11 48 42.3 +0.3**
baz=336
AGMN Agassiz Nation 73.21 20 P **P 11 48 42.9 -0.4**
AGMN IAmb IAmb 11 48 43.6
comp=Z,13nm,0.9s
AGMN Agassiz Nation 73.21 20 P **P 11 48 43.1 -0.2**
baz=343
B35A Bob, Littlefor 73.56 19 P **P 11 48 45.3 0.0**
B35A IAmb IAmb 11 48 45.9
comp=Z,9.5nm,0.8s
MOOW Moose Ponds 73.77 32 P **P 11 48 47.2 +0.2**
FXWY Fox Creek 73.78 32 P **P 11 48 47.0 -0.1**
ORV Oroville 73.88 42 P **P 11 48 47.4 0.0**
ORV Oroville 73.88 42 P **P 11 48 47.4 0.0**
ORV pmax pmax
comp=Z,7.0nm,1.4s
LOHW Long Hollow 73.94 32 P **P 11 48 49.0 +1.1**
LOHW IAmb IAmb 11 49 06.6
comp=Z,23nm,1.9s
TPAW Teton Pass 73.94 32 P **P 11 48 49.0 +1.0**
TPAW IAmb IAmb 11 48 50.8
comp=Z,16nm,1.2s
BEKR Beckworth 74.03 41 P **P 11 48 48.4 -0.1**
REDW Red Top Meadow 74.09 32 P **P 11 48 48.0 -0.9**
AFDM Forest Hills D 74.61 42 P **P 11 48 50.0 -1.7**
BMN Battle Mountai 74.65 38 P **P 11 48 50.7 -1.4**
BMN Battle Mountai 74.65 38 P **P 11 48 50.7 -1.4**
BMN pmax pmax
comp=Z,8.0nm,1.2s
PNTR Pine Nut 74.99 40 P **P 11 48 54.0 -0.1**
PNTR IAmb IAmb 11 49 17.8
comp=Z,42nm,2.0s
BW06 Boulder Array 75.02 32 P **P 11 48 53.8 -0.5**
BW06 Boulder Array 75.02 32 P **P 11 48 54.2 -0.1**
baz=336
PD31 Pinedale Array 75.02 32 P **P 11 48 53.5 -0.7**
PDAR Pinedale Array 75.02 32 P **P 11 48 54.5 +0.2**
comp=Z,0.7nm,0.8s,baz=29,slow=3.4,SNR=6.1
PDAR LR LR 12 24 29.8
comp=Z,80nm,18.4s,baz=348,slow=38
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 75.02 32 P **P 11 48 53.4 -0.9**
ELK Elko 75.05 37 LR LR 12 25 10.7
comp=Z,170nm,18.6s,baz=345,slow=38
ELK Elko 75.05 37 P **P 11 48 53.8 -0.7**
ELK Elko 75.05 37 P **P 11 48 53.8 -0.7**
ELK pmax pmax
comp=Z,9.0nm,1.4s
YERR Yerington 75.22 40 P **P 11 48 54.0 -1.3**
RSSD Black Hills 75.30 27 P **P 11 48 55.3 -0.5**
RSSD Black Hills 75.30 27 P **P 11 48 56.3 +0.5**
baz=339
RSSD Black Hills 75.30 27 P **P 11 48 55.3 -0.5**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
HNR Honiara 75.36 133 LR LR 12 20 58.0
comp=Z,1μm,20.3s,baz=326,slow=35
HWUT Hardware Ranch 75.47 34 P **P 11 48 55.6 -1.1**
HWUT IAmb IAmb 11 48 59.2
comp=Z,15nm,1.2s
KVN Kaiserville 75.57 39 P **P 11 48 57.5 +0.1**
KVN Kaiserville 75.57 39 P **P 11 48 57.5 +0.1**
KVN pmax pmax
comp=Z,9.0nm,1.1s
E38A The Farm, Brul 75.64 18 P **P 11 48 57.1 -0.3**
E38A IAmb IAmb 11 48 58.1
comp=Z,20nm,1.1s
F36A Milaca 76.00 19 P **P 11 48 59.6 +0.1**
F36A IAmb IAmb 11 49 00.2
comp=Z,16nm,0.9s
NVAR Mina Array Bea 76.05 40 P **P 11 48 59.4 -0.8**
comp=Z,2.3nm,0.9s,baz=318,slow=3.9,SNR=12
comp=Z,2.3nm,0.9s
NVAR Mina Array Bea 76.05 40 P **P 11 49 00.3 +0.1**
LHV Little Huntoon 76.13 40 P **P 11 49 00.5 +0.2**
LHV IAmb IAmb 11 51 02.1
comp=Z,28nm,1.9s
SUSD Miller 76.23 24 P **P 11 49 01.5 +0.6**
SUSD Miller 76.23 24 P **P 11 49 00.5 -0.4**
baz=342
DUG Dugway, Tooele 76.35 35 P **P 11 49 02.8 +1.0**
baz=335
OMMB Old Mammoth Mi 76.52 41 P **P 11 49 01.3 -1.7**
OMMB IAmb IAmb 11 49 46.8
comp=Z,18nm,1.8s
TPH Tonopah 76.75 39 P **P 11 49 02.9 -1.2**
TPH Tonopah 76.75 39 P **P 11 49 02.9 -1.2**
TPH pmax pmax
comp=Z,37nm,1.3s
SPMN Marine on St. 76.75 19 P **P 11 49 03.1 -0.6**
SPMN IAmb IAmb 11 49 04.7
comp=Z,13nm,0.8s
SPMN Marine on St. 76.75 19 P **P 11 49 04.2 +0.4**
baz=345
NLU North Lily Min 76.80 35 P **P 11 49 05.8 +1.4**
SPR3 Spring Creek 3 76.93 37 P **P 11 49 05.2 -0.1**
SPR3 IAmb IAmb 11 49 18.3
comp=Z,13nm,1.4s
MZP Montezuma Peak 77.03 40 P **P 11 49 05.7 -0.1**
RDMU Red Mountain 77.03 33 P **P 11 49 06.4 +0.7**
RDMU IAmb IAmb 11 49 07.9
comp=Z,11nm,1.1s
R11A Troy Canyon, C 77.08 38 P **P 11 49 04.8 -1.2**
R11A IAmb IAmb 11 49 08.2
comp=Z,15nm,1.6s
R11A Troy Canyon, C 77.08 38 P **P 11 49 06.5 +0.5**
baz=334
G40A Rib Lake 77.17 17 P **P 11 49 06.2 +0.1**
G40A IAmb IAmb 11 50 18.0
comp=Z,12nm,1.2s
WB0 Warramunga Arr 77.29 160 P **P 11 49 05.8 -1.2**
WB0 IAmb IAmb 11 49 14.3
comp=Z,9.5nm,0.9s
LCH Last Change Ra 77.35 40 P **P 11 49 05.6 -1.8**
ECSD EROS Data Cent 77.42 22 P **P 11 49 07.5 -0.1**
ECSD IAmb IAmb 11 49 08.8
comp=Z,24nm,1.2s
ECSD EROS Data Cent 77.42 22 P **P 11 49 07.5 -0.1**
baz=343
GMN Gold Mountain 77.43 40 P **P 11 49 07.5 -0.5**
WRAB Tennant Creek 77.44 160 P **P 11 49 07.1 -0.7**
WRAB IAmb IAmb 11 49 15.3
comp=Z,13nm,0.9s
WRAB Tennant Creek 77.44 160 P **P 11 49 07.1 -0.7**
WRAB pmax pmax
comp=Z,13nm,0.9s
WRA Warramunga Arr 77.45 161 P **P 11 49 07.0 -0.8**
comp=Z,6.4nm,1.0s,baz=349,slow=6.4,SNR=38
WRA LR LR 12 23 29.1
comp=Z,91nm,21.1s,baz=324,slow=36
comp=Z,6.4nm,1.0s
WRA Warramunga Arr 77.45 161 P **P 11 49 06.4 -1.4**
WRA Warramunga Arr 77.45 161 P **P 11 49 07.0 -0.8**
WB2 Warramunga Arr 77.45 160 P **P 11 49 06.5 -1.3**
WB2 IAmb IAmb 11 49 15.3
comp=Z,13nm,0.8s
WR0 Warramunga Arr 77.50 160 P **P 11 49 06.7 -1.4**
WR0 IAmb IAmb 11 49 16.1
comp=Z,15nm,0.9s
PSUT Pine Spring 77.50 37 P **P 11 49 07.5 -0.9**
PHWY Pilot Hill 77.55 29 P **P 11 49 08.8 +0.1**
PHWY IAmb IAmb 11 49 11.4
comp=Z,32nm,1.8s
N23A Red Feather La 77.79 30 P **P 11 49 09.2 -0.8**
N23A IAmb IAmb 11 49 12.2
comp=Z,42nm,1.8s
N23A Red Feather La 77.79 30 P **P 11 49 10.6 +0.6**
baz=338
O20A White River Ci 77.83 32 P **P 11 49 08.7 -1.4**
O20A IAmb IAmb 11 49 33.1
comp=Z,18nm,1.3s
O20A White River Ci 77.83 32 P **P 11 49 11.2 +1.0**
baz=337
CWC Cottonwood Cre 77.89 41 P **P 11 49 11.6 +1.0**
baz=333
MSU Marysvale 78.08 35 P **P 11 49 11.1 -0.5**
MSU Marysvale 78.08 35 P **P 11 49 11.1 -0.5**
WCT Wildcat Mounta 78.11 39 P **P 11 49 10.7 -1.0**
WCT IAmb IAmb 11 49 14.1
comp=Z,14nm,1.3s
PRN Pahroc Range 78.11 38 P **P 11 49 10.4 -1.3**
I40A Norwalk 78.43 18 P **P 11 49 13.6 +0.4**
I40A IAmb IAmb 11 49 14.3
comp=Z,13nm,0.9s
MPMC Manual Prospec 78.45 40 P **P 11 49 14.8 +1.1**
baz=333
MTPU Mount Pierson 78.51 36 P **P 11 49 13.8 -0.3**
MTPU IAmb IAmb 11 49 17.7
comp=Z,18nm,1.7s
SZCU Shurtz Canyon 78.61 36 P **P 11 49 14.0 -0.6**
OGNE Ogallala 78.79 27 P **P 11 49 15.5 +0.1**
OGNE IAmb IAmb 11 49 16.7
comp=Z,19nm,1.1s
OGNE Ogallala 78.79 27 P **P 11 49 15.7 +0.4**
baz=340
LRMC Laurel Mtn Rad 78.89 41 P **P 11 49 16.8 +0.8**
baz=333
SMCO Snowmass 79.08 31 P **P 11 49 16.6 -0.7**
LCMT Little Creek M 79.09 37 P **P 11 49 17.4 +0.3**
SADO Sadowa 79.11 10 LR LR 12 26 13.1
comp=Z,212nm,18.2s,baz=346,slow=37
PV23 Carpenter Ridg 79.14 33 P **P 11 49 16.9 -0.6**
L34A Svendsen Farm, 79.16 23 P **P 11 49 17.1 -0.2**
L34A IAmb IAmb 11 49 45.9
comp=Z,14nm,0.6s
KNB Kanab 79.22 37 P **P 11 49 19.2 +1.3**
KNB IAmb IAmb 11 49 20.5
comp=Z,21nm,1.2s
KNB Kanab 79.22 37 P **P 11 49 19.2 +1.3**
KNB pmax pmax
comp=Z,21nm,1.2s
BGNE Belgrade 79.30 24 P **P 11 49 18.6 +0.5**
baz=342
EDW2 Edwards Air Fo 79.31 41 P **P 11 49 19.0 +0.7**
baz=333
GSC Goldstone, Bar 79.37 40 P **P 11 49 19.4 +0.8**
baz=334
PV15 Paradox Valley 79.40 33 P **P 11 49 18.9 0.0**
JFWS Jewell Farm 79.45 18 P **P 11 49 18.5 -0.3**
JFWS IAmb IAmb 11 49 19.4
comp=Z,13nm,0.9s
JFWS Jewell Farm 79.45 18 P **P 11 49 19.2 +0.4**
baz=346
JFWS Jewell Farm 79.45 18 P **P 11 49 18.5 -0.3**
JFWS pmax pmax
comp=Z,13nm,0.9s
TUQ Turquoise Moun 79.57 39 P **P 11 49 21.3 +1.5**
baz=334
Q24A Divide 79.81 30 P **P 11 49 22.2 +1.0**
baz=339
SCIA State Center 79.87 20 P **P 11 49 21.9 +0.8**
baz=345
HEC Hector,Ludlow 79.97 40 P **P 11 49 22.6 +0.7**
baz=334
L40A Anamosa 80.10 19 P **P 11 49 21.8 -0.5**
L40A IAmb IAmb 11 49 22.9
comp=Z,16nm,0.9s
N35A Tabor 80.38 22 P **P 11 49 24.6 +0.7**
CTA Charters Tower 80.43 149 LR LR 12 24 58.3
comp=Z,104nm,19.9s,baz=316,slow=36
L42A Oliver, Polo 80.43 18 P **P 11 49 23.3 -0.8**
L42A IAmb IAmb 11 49 24.6
comp=Z,24nm,1.1s
MVCO Mesa Verde 80.44 33 P **P 11 49 23.6 -0.9**
MVCO Mesa Verde 80.44 33 P **P 11 49 25.4 +0.9**
baz=337
S22A 4UR Ranch, Cre 80.45 32 P **P 11 49 24.2 -0.5**
S22A 4UR Ranch, Cre 80.45 32 P **P 11 49 24.9 +0.3**
baz=338
SDCO Great Sand Dun 80.84 31 P **P 11 49 26.2 -0.5**
SDCO Great Sand Dun 80.84 31 P **P 11 49 27.5 +0.7**
baz=339
IRM Iron Mountain 81.00 39 P **P 11 49 28.6 +1.2**
baz=334
AS31 Alice Springs 81.00 162 P **P 11 49 26.4 -0.8**
ASAR Alice Springs 81.00 162 P **P 11 49 26.6 -0.6**
comp=Z,2.2nm,0.8s,baz=355,slow=5.5,SNR=16
comp=Z,2.2nm,0.8s
ASAR Alice Springs 81.00 162 P **P 11 49 26.8 -0.4**
ASAR Alice Springs 81.00 162 P **P 11 49 26.8 -0.4**
WUAZ Wupatki 81.07 36 P **P 11 49 28.8 +0.9**
baz=336
PDMCI Parker Dam,Lak 81.22 39 P **P 11 49 29.1 +0.6**
baz=335
BC3 Big Chuckawall 81.34 40 P **P 11 49 29.4 +0.1**
baz=334
CBKS Cedar Bluff 81.38 26 P **P 11 49 29.5 +0.2**
CBKS IAmb IAmb 11 49 30.2
comp=Z,18nm,1.1s
CBKS Cedar Bluff 81.38 26 P **P 11 49 28.9 -0.4**
baz=342
CBKS Cedar Bluff 81.38 26 P **P 11 49 29.5 +0.2**
CBKS pmax pmax
comp=Z,18nm,1.1s
KSU1 Kansas State U 81.85 24 P **P 11 49 31.3 -0.4**
baz=343
R32A Long Quarter, 82.00 25 P **P 11 49 32.3 -0.3**
R32A IAmb IAmb 11 49 33.5
comp=Z,18nm,1.1s
SFIN Lafayette 82.44 16 P **P 11 49 34.7 -0.1**
baz=348
O48B Farmland 82.85 15 P **P 11 49 36.2 -0.7**
baz=349
ACSO Alum Creek Sta 83.17 13 P **P 11 49 38.6 0.0**
baz=350
SSPA Standing Stone 83.32 9 P **P 11 49 39.8 +0.5**
SSPA Standing Stone 83.32 9 P **P 11 49 39.2 -0.1**
baz=353
Q44A Meyer Farm, Va 83.56 18 P **P 11 49 40.8 +0.2**
OK032 Salt Plains WL 83.67 26 **P 11 49 42.2 +1.0**
BNM Barren Site 83.84 33 P **P 11 49 42.1 -0.4**
U32A Winter Ranch, 83.87 26 P **P 11 49 41.6 -0.7**
T35A Sooner Cattle 83.96 24 P **P 11 49 42.3 -0.4**
T35A IAmb IAmb 11 49 44.8
comp=Z,21nm,1.3s
CCM Cathedral Cave 83.98 20 P **P 11 49 42.3 -0.4**
CCM IAmb IAmb 11 49 43.5
comp=Z,9.6nm,1.0s
CCM Cathedral Cave 83.98 20 P **P 11 49 42.7 -0.1**
baz=346
CCM Cathedral Cave 83.98 20 P **P 11 49 42.3 -0.4**
CCM pmax pmax
comp=Z,10.0nm,1.0s
CROK Carrier 84.00 25 P **P 11 49 41.8 -1.1**
CROK IAmb IAmb 11 49 44.6
comp=Z,48nm,1.3s
ELIS Ellis County 84.07 27 P **P 11 49 43.4 +0.1**
ELIS IAmb IAmb 11 49 45.3
comp=Z,39nm,1.2s
P53A Whipple 84.10 12 P **P 11 49 42.8 -0.5**
P53A IAmb IAmb 11 49 54.5
comp=Z,18nm,1.0s
Q51A Peebles 84.31 14 P **P 11 49 43.8 -0.6**
Q51A IAmb IAmb 11 49 45.3
comp=Z,23nm,1.3s
OK048 Pawnee Station 84.34 25 P **P 11 49 43.4 -1.2**
OK048 IAmb IAmb 11 49 46.9
comp=Z,12nm,1.0s
OK044 Pawnee Station 84.41 25 P **P 11 49 44.6 -0.4**
MGMO Mountain Grove 84.65 21 P **P 11 49 45.7 -0.5**
MGMO IAmb IAmb 11 49 46.7
comp=Z,9.0nm,1.1s
Q54A Coxs Mills 84.66 12 P **P 11 49 46.0 -0.2**
WCI Wyandotte Cave 84.67 16 P **P 11 49 46.6 +0.4**
WCI Wyandotte Cave 84.67 16 P **P 11 49 46.2 -0.1**
baz=349
WCI Wyandotte Cave 84.67 16 P **P 11 49 46.6 +0.4**
WCI pmax pmax
comp=Z,17nm,0.9s
R49A Shelbyville 84.77 15 P **P 11 49 46.9 +0.1**
U38A Gravette 84.89 23 P **P 11 49 47.3 -0.1**
U38A IAmb IAmb 11 49 48.1
comp=Z,12nm,1.2s
121A Cookes Peak, D 84.98 34 P **P 11 49 48.6 +0.5**
baz=338
RLO Rose Lookout 85.02 23 P **P 11 49 47.1 -0.9**
RLO IAmb IAmb 11 49 47.6
comp=Z,12nm,0.5s
TUL1 Leonard 85.09 24 P **P 11 49 48.7 +0.3**
TUL1 Leonard 85.09 24 P **P 11 49 49.3 +0.9**
baz=344
HHAR Hobbs 85.14 22 P **P 11 49 48.7 0.0**
HHAR IAmb IAmb 11 49 49.4
comp=Z,13nm,1.2s
WMOK Wichita Mounta 85.49 27 P **P 11 49 50.8 +0.4**
WMOK IAmb IAmb 11 49 52.4
comp=Z,17nm,1.1s
WMOK Wichita Mounta 85.49 27 P **P 11 49 50.9 +0.4**
baz=342
WMOK Wichita Mounta 85.49 27 P **P 11 49 50.8 +0.4**
WMOK pmax pmax
comp=Z,17nm,1.2s
FCAR Ozark Folk Cen 85.90 21 P **P 11 49 51.9 -0.5**
FCAR IAmb IAmb 11 49 53.1
comp=Z,10nm,1.3s
LCAR Lake Charles 85.92 20 P **P 11 49 52.8 +0.3**
LCAR IAmb IAmb 11 49 52.9
comp=Z,8.9nm,1.0s
U49A Red Boiling Sp 86.43 16 P **P 11 49 53.7 -1.3**
WHAR Wooly Hollow 86.44 21 P **P 11 49 54.5 -0.7**
WHAR IAmb IAmb 11 49 57.0
comp=Z,24nm,1.4s
X37A Clayton 86.45 24 P **P 11 49 53.9 -1.2**
WVT Waverly 86.47 18 P **P 11 49 54.9 -0.4**
WVT IAmb IAmb 11 49 56.6
comp=Z,14nm,1.2s
WVT Waverly 86.47 18 P **P 11 49 55.4 +0.2**
baz=348
WVT Waverly 86.47 18 P **P 11 49 54.9 -0.4**
WVT pmax pmax
comp=Z,14nm,1.2s
TZTN Tazewell 86.72 14 P **P 11 49 56.9 +0.4**
baz=350
MBAR Mbarara 86.75 264 LR LR 12 30 10.6
comp=Z,90nm,18.5s,baz=34,slow=37
CLTN Cedars of Leba 86.75 16 P **P 11 49 57.1 +0.4**
CLTN IAmb IAmb 11 49 58.2
comp=Z,21nm,1.4s
V48A Smith Brothers 87.02 17 P **P 11 49 58.3 +0.4**
V48A IAmb IAmb 11 49 59.1
comp=Z,21nm,1.4s
Z35A Perchaven, San 87.21 26 P **P 11 49 57.6 -1.3**
ABTX Abilene, Hawle 87.27 28 P **P 11 50 00.1 +0.9**
ABTX IAmb IAmb 11 50 00.8
comp=Z,8.7nm,1.0s
ABTX Abilene, Hawle 87.27 28 P **P 11 49 59.8 +0.5**
baz=342
TKL Tuckaleechee C 87.56 14 LR LR 12 31 48.6
comp=Z,154nm,18.1s,baz=356,slow=37
OXF Oxford 87.76 19 P **P 11 50 01.5 0.0**
baz=347
X48A Hartselle 88.24 17 P **P 11 50 03.9 +0.1**
X48A IAmb IAmb 11 50 04.6
comp=Z,15nm,1.2s
KMSC Kings Mountain 88.39 13 P **P 11 50 04.9 +0.4**
baz=351
NWAO Narrogin (SRO) 88.49 177 LR LR 12 32 05.3
comp=Z,99nm,19.4s,baz=334,slow=37
TX32 Lajitas Array 89.23 32 P **P 11 50 09.9 +1.2**
TX32 IAmb IAmb 11 51 49.4
comp=Z,16nm,1.8s
TXAR Lajitas Array 89.23 32 P **P 11 50 08.9 +0.3**
comp=Z,0.8nm,0.9s,baz=288,slow=0.9,SNR=8.5
TXAR LR LR 12 34 08.6
comp=Z,133nm,19.5s,baz=344,slow=38
comp=Z,0.8nm,0.9s
TXAR Lajitas Array 89.23 32 P **P 11 50 09.2 +0.5**
TXAR Lajitas Array 89.23 32 P **P 11 50 09.2 +0.5**
Y52A Lilburn 89.28 15 P **P 11 50 09.7 +0.9**
DZM Mont Dzumac 89.39 133 LR LR 12 28 32.7
comp=Z,137nm,19.9s,baz=358,slow=34
LRAL Lakeview Retre 89.63 18 P **P 11 50 10.3 0.0**
baz=348
GOGA Godfrey 89.81 15 P **P 11 50 11.3 +0.1**

baz=350
LPIG La Paz 91.87 40 LR LR 12 35 00.2
comp=Z,82nm,19.5s,baz=338,slow=38
BBTS Babate 98.47 312 LR LR 12 41 42.3
comp=Z,215nm,20.0s,baz=38,slow=39
VNDA Vanda 136.38 166 PKP PKPdf 11 56 33.0 +0.5
comp=Z,0.4nm,0.6s,baz=131,slow=1.4,SNR=2.4
LPAZ La Paz 140.45 3 PKP PKPdf 11 56 42.2 -0.4
comp=Z,0.8nm,0.6s,baz=355,slow=7.4,SNR=2.2
NVL N'lazarevskaya 144.98 214 ePKIKP PKPbc 11 56 44.5 -3.1
NVL pmax pmax
comp=Z,19nm,1.1s
PB01 IPOC Station P 145.12 6 PKPab 11 56 49.8 +0.2
QSPA South Pole Qui 145.63 180 PKPbc PKPdf 11 56 48.9 -0.6
comp=Z,12nm,0.9s,baz=312,slow=1.7,SNR=22
PB07 IPOC Station P 145.77 7 PKPdf 11 56 51.1 -0.2
LVC Limon Verde 146.70 5 PKPbc PKPbc 11 56 55.0 +0.2
comp=Z,1.5nm,0.3s,baz=340,slow=3.4,SNR=4.6
TROLL Troll, Antarti 148.16 213 P PKPab 11 57 05.2 +5.1
SNAA Sanae 149.81 214 P PKPab 11 57 08.6 +1.9
SNAA Sanae 149.81 214 PKPbc PKPbc 11 57 00.1 -1.1
comp=Z,4.5nm,1.0s,baz=47,slow=1.0,SNR=7.5
SNAA Sanae 149.81 214 PKPab PKPab 11 57 08.3 +1.6
CPUP Villa Florida 149.83 345 PKPbc PKPbc 11 57 01.7 -0.8
comp=Z,6.2nm,1.0s,baz=23,slow=2.8,SNR=8.9
CPUP PKPab sPKPbc 11 57 08.6 -0.2
comp=Z,4.0nm,0.7s,baz=323,slow=2.8,SNR=6.1
CPUP Villa Florida 149.83 345 PKPdf PKPdf 11 56 57.0 -0.7
CPUP PKPbc PKPbc 11 57 02.0 -0.4
CPUP PKPab sPKPbc 11 57 08.8 +0.1
CPUP Villa Florida 149.83 345 PKHKP PKPdf 11 56 57.0 -0.7
VNA2 Neumayer--Watz 151.27 216 P PKPab 11 57 11.9 -0.8
baz=41,slow=14
VNA1 Neumayer--Stat 151.56 216 P PKPab 11 57 13.2 -0.7
VNA3 Neumayer Olymp 152.00 215 P PKPab 11 57 13.7 -2.1
AC04 Llanos de Chal 152.10 10 PKPdf PKPdf 11 56 59.7 -1.5
AC04 PKPbc PKiKP 11 57 08.3 +0.3
AC04 PKPab PKPab 11 57 17.4 +0.2

JMA 22 11:43:06.3±0.5, 37°N±2°×14°1E±1°, h58km, MV1.6/14, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.36**	**283**	*e*P		Pn	11 43 16.5	-0.2
JFK				*e*S		Sn	11 43 23.3	-1.0
JMM	**Marumori**	**0.71**	**325**	*e*P		Pn	11 43 21.4	+0.9

IDC 22 11:45:48.9±1.8, 17°.44S×178°.60W, h647km±17km, mb3.0/6, mbtmp3.9/7, Error ellipse: s-maj=82.0km s-min=14.1km az=156.0
NEIC 22 11:45:49.1±0.6, 18°.2S±0°.1×178°.4W±0°.1, h639km±14km, mb4.3/18, Error ellipse: s-maj=24.4km s-min=12.6km az=137.0

ISC 22 11:45:48.4±0.6, 18°0S±0°.1×178°36W±0°.10, h650km, n32, σ0s71/36, mb4.1/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.43**	**274**	P		**P**	**11 47 13.0**	**-1.2**
	5.6nm,0.6s,baz=218,slow=23,SNR=5.2							
MSVF	**Nonsavu**	**3.43**	**274**	P		**P**	**11 47 13.3**	**-0.8**
AFI	**Afiamalu**	**7.52**	**58**	P		**P**	**11 47 46.4**	**+1.0**
NIUE	**Niue**	**8.07**	**99**	P		**P**	**11 47 50.8**	**+0.7**
TARA	**Tarawa**	**21.07**	**335**	P		**P**	**11 49 51.8**	**+2.2**
CTA	**Charters Tower**	**33.48**	**261**	P		**P**	**11 51 36.8**	**-0.3**
	3.2nm,0.7s,baz=90,slow=9.5,SNR=5.1							
	3.2nm,0.7s							
CTAO	**Charters Tower**	**33.48**	**261**	P		**P**	**11 51 37.4**	**+0.3**
CTAO				IAmb		IAmb	11 52 15.5	
	comp=Z,14nm,1.3s							
TOO	**Toolangi**	**37.15**	**231**	P		**P**	**11 52 07.2**	**+0.2**
TOO				IAmb		IAmb	11 52 38.0	
	comp=Z,9.3nm,1.2s							
COEN	**Coen**	**37.16**	**271**	P		**P**	**11 52 08.1**	**+0.7**
STKA	**Stephens Creek**	**38.63**	**241**	P		**P**	**11 52 18.4**	**-0.6**
BBOO	**Buckleboo**	**43.40**	**241**	P		**P**	**11 52 57.0**	**+0.6**
WR0	**Warramunga Arr**	**44.47**	**260**	P		**P**	**11 53 04.9**	**+0.1**
WB0	**Warramunga Arr**	**44.63**	**260**	P		**P**	**11 53 06.3**	**+0.3**
WB0				IAmb		IAmb	11 53 13.3	
	comp=Z,8.0nm,1.4s							
WB2	**Warramunga Arr**	**44.65**	**260**	P		**P**	**11 53 06.3**	**+0.2**
WB2				IAmb		IAmb	11 53 16.9	
	comp=Z,12nm,1.4s							
WRAB	**Tennant Creek**	**44.65**	**260**	P		**P**	**11 53 06.1**	**-0.1**
WRAB				IAmb		IAmb	11 53 06.6	
	comp=Z,8.2nm,1.1s							
WRA	**Warramunga Arr**	**44.66**	**260**	P		**P**	**11 53 06.2**	**0.0**
	comp=Z,2.4nm,0.6s,baz=96,slow=7.0,SNR=36							
WRA				PcP		**PcP**	**11 54 34.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=93,slow=3.6,SNR=4.7							
WRA				S		**S**	**11 58 57.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=76,slow=10,SNR=11							
	comp=Z,2.4nm,0.6s							
WRA	**Warramunga Arr**	**44.66**	**260**	P		**P**	**11 53 06.2**	**0.0**
AS31	**Alice Springs**	**44.81**	**254**	P		**P**	**11 53 07.8**	**+0.4**
ASAR	**Alice Springs**	**44.81**	**254**	P		**P**	**11 53 07.7**	**+0.3**
	comp=Z,3.6nm,0.4s,baz=90,slow=8.2,SNR=64							
ASAR				PcP		**PcP**	**11 54 35.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=104,slow=3.6,SNR=8.0							
ASAR				S		**S**	**11 58 59.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=86,slow=15,SNR=1.6							
	comp=Z,3.6nm,0.4s							
ASAR	**Alice Springs**	**44.81**	**254**	P		**P**	**11 53 07.4**	**0.0**
MTN	**Manton Dam**	**48.84**	**269**	P		**P**	**11 53 37.6**	**+0.1**
MTN				IAmb		IAmb	11 53 54.2	
	comp=Z,24nm,1.2s							
FORT	**Forrest**	**50.01**	**245**	P		**P**	**11 53 45.8**	**0.0**
FORT				IAmb		IAmb	11 53 46.3	
	comp=Z,20nm,1.1s							
KNRA	**Kununurra**	**50.53**	**264**	P		**P**	**11 53 49.9**	**+0.2**
KNRA				IAmb		IAmb	11 53 51.8	
	comp=Z,22nm,1.3s							
PSA00	**Pilbara Seismi**	**57.93**	**255**	P		**P**	**11 54 41.6**	**+0.3**
PSA00				IAmb		IAmb	11 55 10.9	
	comp=Z,25nm,1.3s							
MBWA	**Marble Bar**	**58.10**	**256**	P		**P**	**11 54 42.5**	**+0.1**
MBWA				IAmb		IAmb	11 55 14.4	
	comp=Z,22nm,1.4s							
QSPA	**South Pole Qui**	**72.05**	**180**	P		**P**	**11 56 09.2**	**+0.6**
ILAR	**Eielson Array**	**85.97**	**13**	P		**P**	**11 57 19.6**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=220,slow=4.6,SNR=6.7							
	comp=Z,0.3nm,0.4s							
TXAR	**Lajitas Array**	**86.00**	**58**	P		**P**	**11 57 22.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=215,slow=6.1,SNR=2.3							
	comp=Z,0.3nm,0.7s							
PDAR	**Pinedale Array**	**87.39**	**43**	P		**P**	**11 57 27.8**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=245,slow=1.7,SNR=2.2							
	comp=Z,0.1nm,0.4s							
BVAR	**Borovoye Array**	**116.95**	**321**	PKP		**PKPdf**	**12 03 19.7**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=95,slow=6.4,SNR=2.2							
BRTR	**Keskin Array B**	**144.88**	**315**	PKP		**PKPdf**	**12 04 13.8**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=8.5,slow=2.9,SNR=3.2							
GERES	**GERESS Array B**	**147.72**	**345**	PKPbc		**PKPbc**	**12 04 21.2**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=347,slow=1.3,SNR=5.3							

NEIC 22 11:49:46.3±1.4, 44°.02S±0°.04×41°.9E±0°.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=18.4km s-min=4.3km az=285.0
IDC 22 11:49:55.9±0.9, 44°.10S×39°.28E, h0km, mb4.1/6, mbtmp4.1/7, ML3.5/1, MS3.5/9, Error ellipse: s-maj=33.3km s-min=24.5km az=34.0

ISC 22 11:49:46.2±0.7, 43°9S±0°.1×42°1E±0°.1, h10km, n38, σ1s50/24, mb4.4/12, MS3.4/9, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**7.38**	**114**	Pn		**Pn**	**11 51 34.7**	**+0.7**
POGA	**Pongola**	**18.49**	**330**	P		**P**	**11 54 01.3**	**-1.1**
POGA				IAmb		IAmb	11 54 23.2	
	comp=Z,23nm,1.3s							
SUR	**Sutherland**	**20.21**	**297**	P		P	11 54 14.6	-6.8
	comp=Z,0.2nm,0.3s,baz=135,slow=10.0,SNR=3.0							
SUR				LR		LR	12 00 04.1	
	comp=Z,81nm,21.2s,baz=136,slow=33							
	comp=Z,7.8nm,1.0s							
BOSA	**Boshof**	**20.32**	**313**	LR		LR	12 00 08.9	
	comp=Z,129nm,20.9s,baz=172,slow=32							
LBTB	**Lobatse**	**23.12**	**319**	P		**P**	**11 54 51.9**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=162,slow=6.4,SNR=4.1							
LBTB				LR		LR	12 02 10.2	
	comp=Z,120nm,18.8s,baz=180,slow=33							
	comp=Z,1.4nm,0.4s							
LBTB	**Lobatse**	**23.12**	**319**	P		**P**	**11 54 52.7**	**+0.2**
LBTB				IAmb		IAmb	11 55 07.5	
	comp=Z,15nm,1.4s							
MAW	**Mawson**	**26.24**	**162**	LR		LR	12 03 25.9	
	comp=Z,65nm,20.3s,baz=342,slow=30							
LSZ	**Lusaka**	**30.86**	**333**	LR		LR	12 08 05.6	
	comp=Z,85nm,18.1s,baz=172,slow=36							
TSUM	**Tsumeb**	**32.02**	**312**	LR		LR	12 07 31.5	
	comp=Z,104nm,19.1s,baz=150,slow=34							
TROLL	**Troll, Antarti**	**33.93**	**201**	P		**P**	**11 56 32.2**	**+3.0**
SNAA	**Sanae**	**35.20**	**203**	P		**P**	**11 56 42.4**	**+2.3**
SNAA	**Sanae**	**35.20**	**203**	P		**P**	**11 56 42.7**	**+2.6**
	comp=Z,2.4nm,0.9s,baz=65,slow=7.7,SNR=8.3							
SNAA				LR		LR	12 08 59.8	
	comp=Z,65nm,18.0s,baz=11,slow=33							
	comp=Z,2.4nm,0.9s							
SNAA	**Sanae**	**35.20**	**203**	P		**P**	**11 56 38.6**	**-1.4**
SNAA				IAmb		IAmb	11 57 01.9	
	comp=Z,10.0nm,1.2s							
VNA2	**Neumayer--Watz**	**36.22**	**205**	P		**P**	**11 56 50.8**	**+2.0**
	baz=66,slow=3.1							
VNA1	**Neumayer--Stat**	**36.39**	**206**	P		P	11 56 55.9	+5.7
QSPA	**South Pole Qui**	**46.34**	**180**	LR		LR	12 15 31.6	
	comp=Z,93nm,21.4s,baz=256,slow=33							
HOPE	**Hope Point**	**49.94**	**229**	P		**P**	**11 58 39.1**	**-0.7**
VNDA	**Vanda**	**53.42**	**166**	LR		LR	12 20 32.7	
	comp=Z,47nm,19.1s,baz=230,slow=34							
VNDA	**Vanda**	**53.42**	**166**	P		**P**	**11 59 03.1**	**-2.5**
H10S2	**ASCENSION HYDR**	**60.06**	**288**	T		T	13 02 51.8	
	baz=135,slow=74,SNR=6.9							
H10S3	**ASCENSION HYDR**	**60.08**	**288**	T		T	13 02 52.9	
	baz=85,slow=74,SNR=12							
DBIC	**Dimbokro**	**65.73**	**307**	P		**P**	**12 00 30.4**	**-0.8**
DBIC				IAmb		IAmb	12 00 51.1	
	comp=Z,16nm,1.4s							
PSA00	**Pilbara Seismi**	**66.74**	**98**	P		**P**	**12 00 37.6**	**-0.1**
PSA00				IAmb		IAmb	12 00 39.1	
	comp=Z,9.0nm,0.8s							
MG02	**Cerro Sombrero**	**67.11**	**218**	P		**P**	**12 00 38.7**	**-0.8**
STKA	**Stephens Creek**	**74.87**	**120**	P		P	12 01 48.0	+21
	comp=Z,2.7nm,0.9s,baz=180,slow=6.1,SNR=3.7							
	comp=Z,2.7nm,0.9s							
STKA	**Stephens Creek**	**74.87**	**120**	P		**P**	**12 01 26.4**	**-0.6**
ASAR	**Alice Springs**	**75.26**	**109**	P		P	12 01 51.7	+22
	comp=Z,2.0nm,0.9s,baz=215,slow=5.5,SNR=14							
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**75.26**	**109**	P		**P**	**12 01 29.5**	**0.0**
WRA	**Warramunga Arr**	**78.04**	**106**	P		P	12 02 05.4	+20
	comp=Z,1.0nm,0.8s,baz=219,slow=4.3,SNR=6.2							
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**78.04**	**106**	P		**P**	**12 01 46.1**	**+0.8**
WB2	**Warramunga Arr**	**78.05**	**106**	P		**P**	**12 01 44.4**	**-0.9**
WB2				IAmb		IAmb	12 02 08.1	
	comp=Z,9.9nm,1.2s							
WRAB	**Tennant Creek**	**78.06**	**106**	P		**P**	**12 01 44.7**	**-0.6**
WRAB				IAmb		IAmb	12 01 53.8	
	comp=Z,5.3nm,1.3s							
WR0	**Warramunga Arr**	**78.17**	**106**	P		**P**	**12 01 45.9**	**-0.1**
WR0				IAmb		IAmb	12 02 13.9	
	comp=Z,6.5nm,1.1s							
WB0	**Warramunga Arr**	**78.20**	**106**	P		**P**	**12 01 45.6**	**-0.5**
WB0				IAmb		IAmb	12 01 48.6	
	comp=Z,3.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**80.92**	**54**	P		P	12 02 22.1	+21
	comp=Z,0.6nm,0.3s,baz=234,slow=5.5,SNR=1.2							
	comp=Z,0.6nm,0.3s							
BR131	**Keskin Array S**	**83.56**	**353**	P		**P**	**12 02 15.9**	**+1.6**
BRTR	**Keskin Array B**	**83.56**	**353**	P		**P**	**12 02 15.8**	**+1.6**
TXAR	**Lajitas Array**	**149.15**	**253**	PKPbc		**PKPab**	**12 09 40.8**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=140,slow=5.8,SNR=7.6							

IDC 22 11:52:37.9±1.0, 37°.25N×141°.56E, h0km, mb3.7/11, mbtmp3.8/13, ML3.1/2, Error ellipse: s-maj=26.1km s-min=18.9km az=88.0
JMA 22 11:52:40.5±0.1, 37°.2N±0°.3×141°.6E±0°.7, h29km±1km, MD3.9/39, MV4.0/39, E OFF FUKUSHIMA PREF
JMA Felt I J1 at E OFF FUKUSHIMA PREF

ISC 22 11:52:41.9±2.0, 37°28N±0°.04×141°46E±0°.09, h26km±13km, n36, σ0s86/33, mb3.7/11, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**281**	*i*P		**Pb**	**11 52 51.6**	**-0.1**
JFK				⇓S		**Sb**	**11 52 59.0**	**+0.6**
JFK	**Kawauchi**	**0.47**	**281**	A		A	11 52 51.6	
	comp=E,6.0nm,1.6s,comp=E,6.0nm,1.0s							
JMST	**Minamisoumatoc**	**0.64**	**315**	*i*P		**Pb**	**11 52 54.1**	**-0.3**
JMST				S		**Sb**	**11 53 03.6**	**+0.7**
JMST	**Minamisoumatoc**	**0.64**	**315**	A		A	11 52 54.1	
	comp=E,7.0nm,0.3s,comp=E,10.0nm,0.3s							
JFFD	**Fukushimafurud**	**0.74**	**256**	P		**Pn**	**11 52 55.4**	**-1.3**
JFFD				S		**Sb**	**11 53 05.9**	**0.0**
JMM	**Marumori**	**0.79**	**318**	*i*P		**Pn**	**11 52 56.4**	**-0.9**
JMM				S		**Sb**	**11 53 07.5**	**+0.2**
JMM	**Marumori**	**0.79**	**318**	A		A	11 52 56.4	
	comp=E,5.0nm,1.0s,comp=E,5.0nm,0.3s							
JHO	**Hitachi**	**0.97**	**227**	P		**Pn**	**11 52 58.1**	**-1.8**
JHO				S		**Sn**	**11 53 11.3**	**-1.6**
JIO	**Ouri**	**1.18**	**356**	*i*P		**Pn**	**11 53 01.6**	**-1.0**
JIO				S		**Sn**	**11 53 16.8**	**-1.1**
JYAR	**Yonezawaarcadi**	**1.22**	**302**	A		A	11 53 03.4	
	comp=E,8.0nm,1.3s,comp=E,8.0nm,1.3s							
JOU	**Okura**	**1.25**	**330**	P		**Pb**	**11 53 04.4**	**-0.5**
JOU				S		**Sb**	**11 53 21.4**	**+0.7**
JOU	**Okura**	**1.25**	**330**	A		A	11 53 04.4	
	comp=E,4.0nm,0.9s,comp=E,5.0nm,1.0s							
JSB	**Shiboa**	**1.27**	**256**	P		**Pb**	**11 53 04.6**	**-0.5**
JSB				S		**Sb**	**11 53 22.5**	**+1.5**
JFY	**Yanaizu**	**1.40**	**276**	P		**Pb**	**11 53 06.8**	**-0.6**
JFY				S		**Sb**	**11 53 25.7**	**+0.8**
MJAR	**Matsushiro Arr**	**2.70**	**255**	Pn		**Pn**	**11 53 25.1**	**+1.4**
	0.8nm,0.3s,baz=78,slow=16,SNR=23							
MJAR				Sn		**Sb**	**11 54 01.8**	**-0.6**
	1.2nm,0.3s,baz=55,slow=12,SNR=5.3							
	10nm,0.6s							
JHJ	**Hachijo jima 2**	**4.37**	**199**	Pn		**Pn**	**11 53 46.7**	**+0.1**
	12nm,0.3s,baz=328,slow=23,SNR=8.6							
JHJ				Sn		**Sn**	**11 54 36.7**	**+0.1**
	13nm,0.3s,baz=231,slow=23,SNR=8.0							
	154nm,0.9s							
SONM	**Songino Array**	**27.68**	**304**	P		**P**	**11 58 28.0**	**+0.2**
	0.9nm,0.6s,baz=98,slow=9.3,SNR=3.5							
	0.9nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	12 27 55.4	
	baz=314,slow=75,SNR=67							
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	12 27 55.2	
	baz=314,slow=75,SNR=34							
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T		T	12 27 57.7	
	baz=314,slow=75,SNR=81							
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T		T	12 28 51.0	
	baz=316,slow=76,SNR=37							
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T		T	12 28 49.0	
	baz=316,slow=76,SNR=41							
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	12 28 52.2	
	baz=316,slow=76,SNR=40							
ZALV	**Zalesovo Beam**	**41.78**	**312**	P		**P**	**12 00 29.6**	**+0.7**
	1.3nm,0.8s,baz=92,slow=4.5,SNR=3.7							
	1.3nm,0.8s							
MKAR	**Makanchi Array**	**44.02**	**302**	P		**P**	**12 00 48.1**	**+0.9**
	1.7nm,0.8s,baz=86,slow=9.4,SNR=7.4							
	1.7nm,0.8s							
KURBB	**Kurchatov Arra**	**45.88**	**308**	P		**P**	**12 01 02.5**	**+0.6**
	1.2nm,0.4s,baz=82,slow=7.8,SNR=8.3							
	1.2nm,0.4s							
ILAR	**Eielson Array**	**49.27**	**32**	P		**P**	**12 01 28.6**	**+0.6**
	0.5nm,0.9s,baz=261,slow=5.4,SNR=3.3							
	0.5nm,0.9s							
BVAR	**Borovoye Array**	**50.43**	**312**	P		**P**	**12 01 36.7**	**-0.3**
	0.7nm,0.5s,baz=85,slow=6.7,SNR=4.8							
	0.7nm,0.5s							
WRA	**Warramunga Arr**	**57.31**	**188**	P		**P**	**12 02 26.8**	**-0.7**
	0.4nm,0.4s,baz=9.9,slow=5.1,SNR=2.5							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**61.03**	**188**	P		**P**	**12 02 53.0**	**-0.3**
	0.5nm,0.8s,baz=1.4,slow=5.0,SNR=3.4							
	0.5nm,0.8s							
NOA	**NORSAR Array B**	**73.97**	**337**	P		**P**	**12 04 14.6**	**-0.1**
	0.3nm,0.5s,baz=38,slow=6.3,SNR=1.7							
	0.3nm,0.5s							
AKASG	**Malin Array Be**	**74.12**	**322**	P		**P**	**12 04 15.9**	**+0.2**
	0.7nm,0.4s,baz=46,slow=5.8,SNR=6.3							
	0.7nm,0.4s							
TXAR	**Lajitas Array**	**89.95**	**52**	P		**P**	**12 05 39.9**	**+0.7**
	0.1nm,0.7s,baz=294,slow=4.4,SNR=1.5							
	0.1nm,0.7s							
H03N2	**Juan Fernandez**	**147.01**	**96**	T		T	14 56 29.6	
	baz=291,slow=76,SNR=14							
H03N3	**Juan Fernandez**	**147.03**	**96**	T		T	14 56 29.1	
	baz=291,slow=76,SNR=14							
H03N1	**Juan Fernandez**	**147.03**	**96**	T		T	14 56 29.8	
	baz=291,slow=76,SNR=11							

BER 22 12:00:42.6±0.9, 67°.47N×31°.82E, h0km, ML1.5, Suspected explosion

HEL 22 12:00:17.3±0.4, 66°21N×35°10E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**1.70**	**354**	*e*P		Pn	12 00 47.0	-1.3
LVZ				*e*S		Sn	12 01 10.1	-0.7
KU6	**Riekki**	**2.13**	**267**	*e*P		Pn	12 00 53.5	-0.5
KU6				*e*S		Sn	12 01 20.4	-0.8
OLKF	**Oulanka, Finla**	**2.31**	**275**	*e*P		Pn	12 00 55.9	-0.6
OLKF				*e*S		Sn	12 01 24.3	-1.3
OLKF				MSG			12 01 28.1	
	comp=Z,2.0nm,0.1s							
MSF	**Maaselka**	**2.49**	**266**	*e*P		Pn	12 00 59.3	+0.2
MSF				*e*S		Sn	12 01 30.1	0.0
MSF				MSG			12 01 37.3	
	comp=Z,2.0nm,0.1s							
VRF	**Varrio**	**2.65**	**308**	*e*P		Pn	12 01 01.9	+0.7
RMF	**Romuvaara**	**2.96**	**230**	*e*P		Pn	12 01 06.1	+0.7
RMF				*e*S		Sn	12 01 41.6	0.0
JOF	**Joensuu**	**3.69**	**208**	*e*P		Pn	12 01 15.2	-0.3
OUL	**Oulu**	**3.98**	**258**	*e*P		Pn	12 01 20.1	+0.8
NIF	**Nilsia**	**4.21**	**231**	*e*P		Pn	12 01 22.4	-0.2
VADS	**Vadso**	**4.47**	**334**	*e*P		Pn	12 01 26.6	+0.5
VADS				IAML			12 01 51.9	
	comp=Z,4.2nm,0.7s							
KEV	**Kevo**	**4.68**	**323**	*e*P		Pn	12 01 28.4	-0.7
ARA0	**ARCESS Array S**	**4.92**	**317**	*e*		Pn	12 01 31.7	-0.7
HEF	**Hetta**	**4.95**	**302**	*e*P		Pn	12 01 32.9	+0.1
KTK1	**Kautokeino**	**5.33**	**307**	*e*P		Pn	12 01 36.4	-1.7
KTK1				IAML			12 02 39.5	
	comp=Z,3.1nm,0.6s							
KIF	**Kilpisjarvi**	**6.13**	**304**	*e*		Pn	12 01 46.0	-3.0

BER 22 12:02:22.4±1.4, 70°38N×28°60E, h0km, ML0.9, Suspected explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VADS	**Vadso**	**0.37**	**135**	*e*P		Pg	12 02 28.3	-1.1
VADS				*e*S		Sg	12 02 34.6	+0.4
VADS				IAML			12 02 42.7	
	comp=Z,6.7nm,0.3s							
VADS	**Vadso**	**0.37**	**135**	*e*		Pg	12 02 28.4	-1.0
KEV	**Kevo**	**0.83**	**222**	*e*P		Pg	12 02 36.2	-2.1
KEV				*e*S		Sg	12 02 47.9	-1.2
KEV	**Kevo**	**0.83**	**222**	*e*		Pg	12 02 36.4	-2.0
ARA0	**ARCESS Array S**	**1.36**	**233**	*e*P		Pg	12 02 46.5	-2.0
ARA0				*e*S		Sg	12 03 05.6	-0.5
ARA0				IAML			12 03 07.0	
	comp=Z,3.4nm,0.4s							
ARA0	**ARCESS Array S**	**1.36**	**233**	*e*		Pg	12 02 46.4	-2.1
HAMF	**Hammerfest**	**1.67**	**281**	*e*P		Pn	12 02 50.6	-2.2
HAMF				*e*S		Sn	12 03 12.2	-2.7
HAMF				IAML			12 03 14.2	
	comp=Z,3.9nm,0.6s							
KTK1	**Kautokeino**	**2.32**	**236**	*e*P		Pn	12 03 00.6	-1.3
HEF	**Hetta**	**2.64**	**224**	*e*P		Pn	12 03 04.7	-1.6

JMA 22 12:26:31.1±0.2, 37°.2N±0°.4×141°.5E±1°.0, h30km±1km, MV3.5/38, E OFF FUKUSHIMA PREF
IDC 22 12:26:37.3±3.9, 37°.02N×141°.06E, h49km±36km, mb3.3/6, mbtmp3.5/8, ML2.7/2, Error ellipse: s-maj=37.5km s-min=23.7km az=82.0

ISC 22 12:26:32.3±1.9, 37°17N±0°.04×141°42E±0°.08, h18km±8km, n25, σ1s04/24, mb3.4/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**295**	P		**Pg**	**12 26 41.9**	**-0.1**
JFK				S		**Sb**	**12 26 49.6**	**+0.6**
JFFD	**Fukushimafurud**	**0.69**	**264**	*i*P		**Pb**	**12 26 45.5**	**-0.3**
JFFD				S		**Sg**	**12 26 56.0**	**+1.0**
JMST	**Minamisoumatoc**	**0.70**	**323**	P		**Pb**	**12 26 45.2**	**-0.7**
JMST				S		**Sg**	**12 26 55.7**	**+0.4**
JMM	**Marumori**	**0.86**	**325**	P		**Pb**	**12 26 47.8**	**-0.9**
JMM				S		**Sb**	**12 26 59.8**	**0.0**
JHO	**Hitachi**	**0.88**	**231**	P		**Pb**	**12 26 47.7**	**-1.3**
JHO				*e*S		**Sb**	**12 27 00.1**	**-0.3**
JIO	**Ouri**	**1.29**	**357**	P		**Pn**	**12 26 53.8**	**-1.5**
JIO				*e*S		**Sn**	**12 27 10.6**	**-1.6**
JOU	**Okura**	**1.34**	**334**	P		**Pn**	**12 26 55.9**	**-0.2**
JOU				S		**Sb**	**12 27 14.5**	**+0.8**
JFY	**Yanaizu**	**1.39**	**280**	P		**Pb**	**12 26 57.4**	**-0.3**
JFY				S		**Sg**	**12 27 16.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.65**	**257**	P		**Pn**	**12 27 13.9**	**-0.3**
	0.6nm,0.3s,baz=83,sl

0.5nm,1.0s,baz=352,slow=5.5,SNR=4.0

WEL 22 12:29:30.8±0.5, 42°S±3°×17°4E±°, h5km, M1.9/4, ML2.3/4, MLv1.9/4, Error ellipse: s-maj=0.0km s-min=0.0km az=82.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**178**	P	Pg	12 29 36.5	+0.7
KHZ				S	Sg	12 29 40.3	+1.2
BSWZ	**Blackbirch Sta**	**0.52**	**30**	P	Pg	12 29 38.6	-2.2
THZ	**Tophouse**	**0.61**	**311**	P	Pg	12 29 43.1	+0.4
THZ				S	Sg	12 29 51.5	+0.9
TUWZ	**Tuamarina**	**0.80**	**23**	S	Sb	12 29 57.5	-0.7
GVZ	**Greta Valley S**	**0.88**	**204**	P	Pb	12 29 48.2	-0.4
MRNZ	**Matariki Terra**	**0.96**	**323**	P	Pg	12 29 49.4	+0.2

WEL 22 12:29:48.7±0.5, 41°S±3°×17°5E±°, h13km±3km, M2.2/17, ML2.5/14, MLv2.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=102.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTW	**Mount Morrison**	**0.10**	**22**	P	Pb	12 29 52.6	-0.1
MTW				S	Sb	12 29 55.4	+0.1
PAWZ	**Paruwai Farm**	**0.13**	**187**	P	Pb	12 29 53.1	-0.1
PAWZ				S	Sb	12 29 56.3	+0.3
TRWZ	**Traveller**	**0.23**	**129**	P	Pb	12 29 54.6	-0.2
TRWZ				S	Sb	12 29 59.3	+0.4
CAW	**Cannon Point**	**0.32**	**297**	P	Pb	12 29 56.4	0.0
CAW				S	Sb	12 30 01.8	+0.2
PLWZ	**Palliser**	**0.35**	**205**	P	Pb	12 29 56.5	-0.4
HOWZ	**Holdsworth Sta**	**0.36**	**8**	P	Pb	12 29 56.8	-0.3
TMWZ	**Te Maipa**	**0.36**	**66**	P	Pb	12 29 56.9	-0.2
OGWZ	**Otaki Gorge**	**0.48**	**334**	P	Pb	12 29 59.2	+0.1
WEL	**Wellington**	**0.51**	**266**	P	Pb	12 29 60.0	+0.3
KIW	**Kapiti Island**	**0.57**	**314**	P	Pb	12 30 00.9	+0.4
TIWZ	**Tintock**	**0.58**	**35**	P	Pb	12 30 01.4	+0.6
MRZ	**Mangatainoka R**	**0.60**	**9**	P	Pb	12 30 01.1	-0.1
PRWZ	**Pori Road**	**0.80**	**30**	P	Pb	12 30 05.1	+0.5
BFZ	**Birch Farm**	**0.83**	**47**	P	Pg	12 30 04.8	-0.1
TCW	**Tory Channel**	**0.89**	**272**	P	Pb	12 30 06.2	+0.2
POWZ	**Post Office Ro**	**0.90**	**16**	P	Pg	12 30 03.7	-2.3
DVHZ	**Dannevirke**	**1.10**	**30**	P	Pb	12 30 08.6	-1.1
TUWZ	**Tuamarina**	**1.15**	**261**	P	Pg	12 30 10.8	-0.1
TSZ	**Takapari Road**	**1.26**	**18**	P	Pn	12 30 11.1	-0.9
RTZ	**Ruatahuna**	**2.89**	**25**	P	Pn	12 30 36.2	+1.7
MUGZ	**Murupara**	**2.95**	**21**	P	Pn	12 30 34.1	-1.3

DJA 22 12:30:04.5±0.6, 2°S±3°×10°1E±°, h12km±6km, M3.6/6, MLv3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.12**	**353**	P	Pn	12 30 26.0	0.0
PDSI				S	Sb	12 30 39.4	-1.0
SDSI	**Sungai Dareh**	**1.37**	**37**	P	Pn	12 30 29.3	-0.1
SDSI				S	Sb	12 30 47.8	+0.3
PPI	**Padang Panjang**	**1.58**	**353**	P	Pn	12 30 31.4	-0.9
SISI	**Saibi**	**1.66**	**295**	P	Pn	12 30 34.1	+0.6
MNSI	**Mandailing Nat**	**2.99**	**340**	P	Pn	12 30 52.4	+0.7
MNAI	**Manna**	**3.30**	**135**	P	Pn	12 30 56.4	+0.4
TPRI	**Tanjung Pinang**	**4.90**	**53**	P	Pn	12 31 08.8	-9.2
TNG	**Tangerang**	**7.30**	**124**	P	Pn	12 31 40.8	-10

*AEIC **22** 12:30:12.1±2.1, 51°4N±0°1×178°24W±0°.06, h48km±6km, ML3.7, mb3.8/26(NEIC), Error ellipse: s-maj=15.2km s-min=5.5km az=175.0*

NEIC 22 12:30:12.3±1.6, 51°4N±0°2×178°4W±0°.1, h53km±12km, Error ellipse: s-maj=30.3km s-min=6.5km az=163.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.86**	**60**		Pn	12 30 27.9	-0.3
ADK	**Adak**	**1.13**	**65**		Pn	12 30 31.5	-0.3
ADK				Sn	Sn	12 30 46.4	+0.1
AMKA	**Amchitka**	**1.47**	**269**		Pn	12 30 36.2	-0.2
GSTR	**Great Sitkin T**	**1.57**	**64**		Pn	12 30 38.4	+0.6
SDPT	**Sand Point**	**11.37**	**63**	Pn	Pn	12 32 52.0	+0.3
CNBA	**Chernabura Isl**	**11.77**	**66**	Pn	Pn	12 32 57.2	+0.1
CHGN	**Chignik**	**12.72**	**60**	Pn	Pn	12 33 11.1	+1.0
OHAK	**Old Harbor**	**15.68**	**58**	Pn	Pn	12 33 48.3	-1.1
TTA	**Tatalina**	**16.60**	**37**	Pn	Pn	12 34 01.4	+0.1
M19K	**Big River Lodg**	**16.73**	**42**		P	12 34 03.7	-0.5
M19K				IAmb	IAmb	12 34 17.3	
	comp=Z,14nm,1.4s						
M20K	**Styx River**	**17.25**	**43**	Pn	Pn	12 34 08.7	-0.5
M20K				IAmb	IAmb	12 34 14.2	
	comp=Z,9.7nm,1.4s						
CNPM	**China Poot**	**17.27**	**51**		P	12 34 10.6	+0.2
BRLK	**Bradley Lake**	**17.51**	**51**		P	12 34 13.7	+0.8
K20K	**Telida**	**17.58**	**38**	Pn	Pn	12 34 12.0	-1.2
K20K				IAmb	IAmb	12 34 52.3	
	comp=Z,8.9nm,1.4s						
SKT	**Skwentna**	**17.98**	**44**		P	12 34 17.1	-0.9
SKT				IAmb	IAmb	12 34 30.7	
	comp=Z,22nm,1.4s						
J20K	**Nowinta River**	**17.99**	**36**	P	Pn	12 34 18.5	+0.2
CAST	**Castle Rocks**	**18.38**	**39**	P	Pn	12 34 24.6	+1.6
CAST				IAmb	IAmb	12 34 55.4	
	comp=Z,11nm,1.5s						
KTH	**Kantishna Hill**	**18.91**	**40**	P	Pn	12 34 29.5	+0.1
KTH				IAmb	IAmb	12 34 45.9	
	comp=Z,6.6nm,1.1s						
TRF	**Thorofare Moun**	**19.11**	**40**	P	P	12 34 30.0	-0.7
TRF				IAmb	IAmb	12 34 52.3	
	comp=Z,8.7nm,1.3s						
DHY	**Denali Highway**	**20.18**	**43**	P	P	12 34 43.1	+0.9
DHY				IAmb	IAmb	12 35 08.2	
	comp=Z,4.6nm,0.9s						
M24K	**Tolsona, Glenn**	**20.39**	**46**	P	P	12 34 40.8	-3.6
MDM	**Murphy Dome**	**20.59**	**37**	P	P	12 34 47.4	+0.8
MDM				IAmb	IAmb	12 34 57.2	
	comp=Z,8.2nm,1.4s						
CCB	**Clear Creek Bu**	**20.62**	**38**	P	P	12 34 46.3	-0.5
N25K	**Chitina, Valde**	**20.98**	**48**	P	P	12 34 47.6	-3.2
N25K				IAmb	IAmb	12 35 17.8	
	comp=Z,16nm,1.4s						
IL31		**21.03**	**39**	P	P	12 34 52.0	+0.8
IL31				IAmb	IAmb	12 35 29.4	
	comp=Z,5.4nm,1.3s						
H24K	**Noodor Dome**	**21.13**	**35**	P	P	12 34 52.8	+0.4
GLB	**Gilahina Butte**	**21.31**	**49**	P	P	12 34 53.2	-1.1
J25K	**Salcha River,**	**21.57**	**40**	P	P	12 34 56.8	-0.2
SCRK	**Sand Creek**	**21.91**	**42**	P	P	12 35 00.6	-0.2
SCRK				IAmb	IAmb	12 35 32.7	
	comp=Z,5.7nm,1.3s						
TOLK	**Toolik Lake Re**	**22.09**	**28**	P	P	12 35 01.7	-1.0
J26L	**Joseph Creek**	**22.26**	**41**	P	P	12 35 04.5	0.0
J26L				IAmb	IAmb	12 35 17.8	
	comp=Z,4.7nm,1.4s						
M27K	**Edge Creek, AK**	**22.40**	**47**	P	P	12 35 05.4	-0.6
BCAR	**Beaver Creek A**	**22.60**	**45**	P	P	12 35 07.4	-0.8
BMAR	**Burnt Mountain**	**23.04**	**33**	P	P	12 35 12.5	-0.2
DAWY	**Dawson**	**23.88**	**43**	P	P	12 35 19.1	-1.5
DAWY				IAmb	IAmb	12 35 52.4	
	comp=Z,4.4nm,1.3s						
TXAR	**Lajitas Array**	**58.37**	**82**	P	P	12 40 02.1	-0.1
MKAR	**Makanchi Array**	**60.23**	**309**	P	P	12 40 15.6	+0.9
ABKAR	**Akbulak array**	**68.07**	**323**	P	P	12 41 07.1	+1.1

MAN 22 12:33:04.0, 16°37N×120°68E, h7km, mb3.6, ML2.3, MS1.7, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**0.22**	**179**	*eP*	Pg	12 33 08.0	-0.4
SMPP				*eS*	Sg	12 33 12.6	+1.2
SAMP	**Sagada Mountai**	**0.73**	**17**	*eP*	Pg	12 33 18.1	0.0
SAMP				*eS*	Sb	12 33 30.3	+0.9
BALP	**Baler**	**1.07**	**126**	*eP*	Pg	12 33 24.1	-0.4
BALP				*eS*	Sn	12 33 40.4	0.0

MAN 22 12:33:05.2, 9°7N×126°12E, h27km, mb4.1, ML2.9, MS2.6, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.02**	**32**	*eP*	Pb	12 33 10.0	+0.2
GLSP				*eS*	Sb	12 33 15.0	+2.1
MSLP	**Maasin**	**1.29**	**287**	*eP*	Pn	12 33 27.0	-0.5
MSLP				*eS*	Sb	12 33 44.9	-0.2
BIPH	**Bislig**	**1.59**	**171**	*iP*	Pn	12 33 31.0	-0.7
BIPH				*iS*	Sb	12 33 56.9	+3.1
TABP	**Talibon, Bohol**	**1.79**	**281**	*eP*	Pn	12 33 34.9	+0.5
TABP				*eS*	Sn	12 33 56.4	+0.2

WEL 22 12:38:18.5±0.3, 43°S±2°×17°3E±°, h5km, M3.0/20, ML3.2/18, MLv3.0/20, Error ellipse: s-maj=0.0km s-min=0.0km az=102.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.09**	**118**	P	Pg	12 38 20.6	+0.2
GVZ				S	Sg	12 38 22.6	+0.8
AMCZ	**Amberley**	**0.32**	**219**	P	Pb	12 38 25.8	-0.9
LTZ	**Lake Taylor**	**0.50**	**286**	P	Pg	12 38 28.7	+0.5
LTZ				S	Sb	12 38 36.2	-1.3
KHZ	**Kahutara**	**0.68**	**42**	P	Pg	12 38 32.1	+0.5
OXZ	**Oxford**	**0.76**	**238**	P	Pb	12 38 33.8	-0.4
OXZ				S	Sb	12 38 44.8	-0.2
OKCZ	**Okains Bay**	**0.80**	**173**	P	Pg	12 38 34.2	+0.3
OKCZ				S	Sb	12 38 46.3	+0.1
MQZ	**McQueen's Vall**	**0.81**	**194**	P	Pg	12 38 33.5	-0.4
MQZ				S	Sb	12 38 45.5	-0.6
AKCZ	**Akaroa Harbour**	**0.95**	**181**	P	Pg	12 38 36.3	-0.3
RACZ	**Rakaia**	**0.99**	**215**	P	Pg	12 38 37.5	+0.1
RACZ				S	Sb	12 38 51.7	+0.4
INZ	**Inchbonnie**	**1.11**	**280**	P	Pg	12 38 39.6	-0.1
THZ	**Tophouse**	**1.16**	**359**	P	Pg	12 38 40.1	-0.6
MHCZ	**Mount Hutt**	**1.16**	**238**	P	Pg	12 38 40.2	-0.5
WACZ	**Wakanui South**	**1.29**	**218**	P	Pn	12 38 41.3	-1.8
DSZ	**Denniston Nort**	**1.44**	**324**	P	Pn	12 38 44.5	-0.8
MRNZ	**Matariki Terra**	**1.53**	**355**	P	Pn	12 38 46.2	-0.2
RPZ	**Rata Peaks**	**1.58**	**239**	P	Pn	12 38 45.5	-1.7
WVZ	**Waitaha Valley**	**1.61**	**264**	P	Pn	12 38 47.1	-0.4
ARCZ	**Arundel**	**1.63**	**231**	P	Pn	12 38 46.0	-1.9
NNZ	**Nelson**	**1.74**	**11**	P	Pn	12 38 49.2	-0.9
GCSZ	**Gaunt Creek Bo**	**1.94**	**258**	P	Pn	12 38 52.3	+0.2
TMZ	**Timaru**	**2.02**	**223**	P	Pb	12 38 55.5	-0.1
FOZ	**Fox Glacier**	**2.35**	**254**	P	Pn	12 38 58.0	+0.2
LBZ	**Lake Benmore**	**2.47**	**233**	P	Pn	12 38 59.6	+0.2
ODZ	**Otahua Downs**	**2.68**	**217**	P	Pn	12 39 00.2	-2.1
JCZ	**Jackson Bay**	**3.22**	**248**	P	Pn	12 39 09.3	-0.6

IDC 22 12:39:55.8±1.0, 5°31S×150°96E, h206km±14km, mb3.1/3, mbtmp3.7/4, Error ellipse: s-maj=80.0km s-min=17.5km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.45**	**47**	P	Pn	12 40 30.3	+0.6
	46nm,0.3s,baz=249,slow=0.5,SNR=45						
KRVT				S	S	12 40 56.0	+0.3
	22nm,0.5s,baz=279,slow=23,SNR=6.8						
PMG	**Port Moresby**	**5.55**	**223**	P	Pn	12 41 15.6	-1.8
	4.7nm,0.4s,baz=33,slow=10,SNR=2.3						
PMG				S	S	12 42 23.7	+2.0
	7.7nm,0.5s,baz=140,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	**21.75**	**227**	P	P	12 44 30.9	-0.4
	0.8nm,0.4s,baz=53,slow=9.7,SNR=32						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**24.56**	**220**	P	P	12 44 57.1	+0.1
	0.6nm,0.9s,baz=56,slow=9.4,SNR=4.9						
	0.6nm,0.9s						
STKA	**Stephens Creek**	**27.85**	**197**	P	P	12 45 26.9	+0.6
	2.0nm,0.9s,baz=31,slow=12,SNR=3.6						
	2.0nm,0.9s						

HEL 22 12:46:06.7±0.2, 61°49N×22°64E, h0km, ML0.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.63**	**223**	PG	Pg	12 46 18.4	-0.4
RAF				SG	Sg	12 46 26.5	-0.4
KEF	**Keuruu**	**1.26**	**56**	PN	Pn	12 46 31.8	+0.3
KEF				MSG		12 46 44.8	
	comp=Z,0.5nm,0.2s						
KEF				SN	Sn	12 46 48.8	-0.3
NUR	**Nurmijrvi**	**1.39**	**134**	SG	Sg	12 46 50.1	-1.1
VAF	**Ylistaro**	**1.56**	**0**	PG	Pn	12 46 35.4	-0.2
	baz=179						
VAF				MSG		12 46 53.6	
	comp=Z,0.5nm,0.2s						
VAF				SN	Sn	12 46 55.5	-1.0
HEMU	**Hemsoen**	**2.47**	**301**	PN	Pn	12 46 48.7	+0.5
HEMU				SB	Sn	12 47 20.2	+1.2
UMAU	**Umeaa**	**2.57**	**340**	SB	Sb	12 47 24.0	-1.6
MTSE	**Matsula**	**2.85**	**168**	SB	Sb	12 47 31.7	-1.9

*NOU **22** 12:47:03.1, 37°46S×179°42E, h7km, MLv3.5/6, Off E. Coast of N. Island, N.Z.*

*WEL **22** 12:47:09.6±1.2, 38°S±5°×17°9E±°, h25km±5km, M3.1/43, ML3.3/39, MLv3.1/43, Error ellipse: s-maj=0.0km s-min=0.0km az=82.4*

ISC 22 12:47:07.2±2.7, 37°55S±0°07×179°2E±0°.1, h24km±15km, n74, σ0°88/81, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.65**	**245**	P	**Pn**	**12 47 21.3**	**+0.5**
WMGZ				S	**Sn**	**12 47 29.8**	**-0.4**
MXZ	**Matakaoa Point**	**0.67**	**268**	P	**Pb**	**12 47 20.3**	**+0.1**
MXZ	**Matakaoa Point**	**0.67**	**268**	P	**Pb**	**12 47 20.3**	**+0.1**
MXZ				S	**Sb**	**12 47 27.8**	**-1.4**
PUZ	**Puketiti**	**0.88**	**233**	P	**Pn**	**12 47 25.0**	**+0.9**
PUZ				S	**Sn**	**12 47 36.6**	**+0.4**
PKGZ	**Pakihiroa**	**0.92**	**248**	P	**Pb**	**12 47 24.9**	**+0.4**
PKGZ				S	**Sn**	**12 47 35.7**	**-1.3**
HAZ	**Te Kaha**	**1.11**	**259**	P	**Pb**	**12 47 27.8**	**+0.2**
HAZ				S	**Sn**	**12 47 40.5**	**-1.1**
CNGZ	**Carnagh Statio**	**1.20**	**218**	P	**Pb**	**12 47 30.6**	**+1.4**
RUGZ	**Raukumara Rang**	**1.24**	**250**	P	**Pn**	**12 47 29.5**	**+0.5**
TKGZ	**Te Karaka**	**1.36**	**229**	P	**Pn**	**12 47 31.8**	**+1.2**
TKGZ				S	**Sb**	**12 47 48.6**	**-0.4**
MWZ	**Matawai**	**1.51**	**238**	P	**Pn**	**12 47 33.2**	**+0.5**
RIGZ	**Rimuhau**	**1.59**	**223**	P	**Pn**	**12 47 35.1**	**+1.2**
RAGZ	**Rawiri**	**1.67**	**235**	P	**Pn**	**12 47 35.8**	**+0.9**
WHRZ	**Whale Island**	**1.75**	**259**	P	**Pn**	**12 47 37.3**	**+1.2**
URZ	**Urewera**	**1.76**	**246**	P	**Pn**	**12 47 37.3**	**+1.1**
URZ	**Urewera**	**1.76**	**246**	P	**Pn**	**12 47 37.1**	**+1.0**
URZ				S	**Sn**	**12 47 57.3**	**-0.5**
KNZ	**Kokohu**	**1.88**	**218**	P	**Pn**	**12 47 38.3**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.88**	**211**	P	**Pn**	**12 47 39.3**	**+1.6**
SNGZ	**Shannon Statio**	**1.89**	**229**	P	**Pn**	**12 47 38.7**	**+0.8**
RTZ	**Ruatahuna**	**2.02**	**237**	P	**Pn**	**12 47 40.8**	**+1.1**
OPRZ	**Ohinepanea**	**2.08**	**261**	P	**Pn**	**12 47 40.6**	**+0.1**
MUGZ	**Murupara**	**2.10**	**243**	P	**Pn**	**12 47 41.3**	**+0.6**
RAHZ	**Arahi**	**2.13**	**229**	P	**Pn**	**12 47 42.0**	**+0.9**
TARZ	**Mount Tarawera**	**2.20**	**251**	P	**Pn**	**12 47 43.5**	**+1.2**
RRRZ	**Republican Roa**	**2.23**	**248**	P	**Pn**	**12 47 43.5**	**+0.9**
MTHZ	**Maungataniwha**	**2.24**	**234**	P	**Pn**	**12 47 44.1**	**+1.3**
TGRZ	**Tauranga**	**2.30**	**265**	P	**Pn**	**12 47 43.7**	**+0.2**
NMHZ	**Naumai**	**2.41**	**229**	P	**Pn**	**12 47 46.2**	**+1.1**
ARHZ	**Aropaoanui**	**2.41**	**224**	P	**Pn**	**12 47 45.8**	**+0.8**
MRHZ	**Matea Rd**	**2.51**	**238**	P	**Pn**	**12 47 47.1**	**+0.7**
BKZ	**Black Stump Fm**	**2.64**	**231**	P	**Pn**	**12 47 49.0**	**+0.7**
BKZ	**Black Stump Fm**	**2.64**	**231**	P	**Pn**	**12 47 49.0**	**+0.7**
MCHZ	**McNeill Hill**	**2.70**	**225**	P	**Pn**	**12 47 49.7**	**+0.7**
KUZ	**Kuaotunu**	**2.85**	**285**	P	**Pn**	**12 47 51.1**	**-0.1**
KUZ	**Kuaotunu**	**2.85**	**285**	P	**Pn**	**12 47 50.6**	**-0.6**
KAHZ	**Kahuranaki**	**2.87**	**218**	P	**Pn**	**12 47 51.3**	**0.0**
TOZ	**Tahuroa Road**	**2.90**	**265**	P	**Pn**	**12 47 51.8**	**0.0**
PXZ	**Pawanui**	**3.06**	**215**	P	**Pn**	**12 47 53.4**	**-0.6**
BHHZ	**Black Hill Sta**	**3.10**	**230**	P	**Pn**	**12 47 55.0**	**+0.4**
TMVZ	**Te Maari**	**3.13**	**239**	P	**Pn**	**12 47 55.5**	**+0.4**
ETVZ	**East Tongariro**	**3.14**	**239**	P	**Pn**	**12 47 55.5**	**+0.4**
NNVZ	**North Ngauruho**	**3.20**	**239**	P	**Pn**	**12 47 56.8**	**+0.7**
SNVZ	**South Ngauruho**	**3.21**	**238**	P	**Pn**	**12 47 56.8**	**+0.5**
MKAZ	**Moumakai**	**3.21**	**277**	P	**Pn**	**12 47 56.4**	**+0.3**
GRZ	**Great Barrier**	**3.23**	**292**	P	**Pn**	**12 47 56.9**	**+0.6**
NGZ	**Ngauruhoe**	**3.23**	**239**	P	**Pn**	**12 47 56.9**	**+0.5**
TUVZ	**Tukino**	**3.24**	**237**	P	**Pn**	**12 47 57.1**	**+0.5**
MOVZ	**Moawhango**	**3.25**	**234**	P	**Pn**	**12 47 56.8**	**+0.1**
WPHZ	**Waipukurau**	**3.29**	**219**	P	**Pn**	**12 47 56.7**	**-0.4**
WHVZ	**Whangaehu Hut**	**3.29**	**237**	P	**Pn**	**12 47 57.7**	**+0.3**
WIAZ	**Waiheke Island**	**3.29**	**282**	P	**Pn**	**12 47 57.7**	**+0.4**
FWVZ	**Far West T-bar**	**3.30**	**238**	P	**Pn**	**12 47 57.4**	**-0.2**
PNHZ	**Pukenui**	**3.30**	**223**	P	**Pn**	**12 47 56.7**	**-0.6**
WNVZ	**Wahianoa**	**3.31**	**236**	P	**Pn**	**12 47 57.7**	**+0.2**
PRHZ	**Porangahau**	**3.35**	**215**	P	**Pn**	**12 47 57.1**	**-0.9**
ETAZ	**East Tamaki Re**	**3.42**	**279**	P	**Pn**	**12 47 59.8**	**+0.8**
MTVZ	**Mangateitei**	**3.42**	**236**	P	**Pn**	**12 47 59.4**	**+0.4**
PKVZ	**Pokaka**	**3.46**	**239**	P	**Pn**	**12 48 00.3**	**+0.8**
MBAZ	**Motutapu North**	**3.48**	**282**	P	**Pn**	**12 48 00.6**	**+0.8**
HIZ	**Hauiti**	**3.53**	**253**	P	**Pn**	**12 48 01.7**	**+1.3**
HIZ	**Hauiti**	**3.53**	**253**	P	**Pn**	**12 48 01.9**	**+1.5**
TSZ	**Takapari Road**	**3.54**	**224**	P	**Pn**	**12 47 59.7**	**-0.8**
DVHZ	**Dannevirke**	**3.60**	**219**	P	**Pn**	**12 48 00.4**	**-1.1**
AWAZ	**Awhitu Peninsu**	**3.63**	**276**	P	**Pn**	**12 48 01.9**	**+0.2**
RVAZ	**Riverhead Bore**	**3.73**	**281**	P	**Pn**	**12 48 04.4**	**+1.1**
VRZ	**Vera Road**	**3.80**	**244**	P	**Pn**	**12 48 05.3**	**+1.2**
BFZ	**Birch Farm**	**3.86**	**215**	P	**Pn**	**12 48 03.7**	**-1.3**
PRWZ	**Pori Road**	**3.89**	**218**	P	**Pn**	**12 48 04.8**	**-0.6**
WAZ	**Wanganui**	**3.94**	**235**	P	**Pn**	**12 48 07.2**	**+1.2**
MRZ	**Mangatainoka R**	**4.17**	**221**	P	**Pn**	**12 48 07.7**	**-1.5**
LREZ	**Lake Rotokare**	**4.19**	**241**	P	**Pn**	**12 48 10.6**	**+1.1**
NEZ	**North Egmont**	**4.33**	**245**	P	**Pn**	**12 48 13.4**	**+1.9**
OGWZ	**Otaki Gorge**	**4.50**	**222**	P	**Pn**	**12 48 12.1**	**-1.6**
OUZ	**Omahuta**	**5.05**	**296**	P	**Pn**	**12 48 21.8**	**+0.5**
OUZ	**Omahuta**	**5.05**	**296**	P	**Pn**	**12 48 22.4**	**+1.1**

*IDC **22** 12:52:00.5±1.8, 37°62N×141°74E, h0km, mb3.2/2, mbtmp3.1/3, ML1.8/1, Error ellipse: s-maj=58.8km s-min=28.3km az=141.0*

*JMA **22** 12:52:07.5±0.2, 37°2N±0°3×141°4E±0°.9, h29km±1km, MV3.2/37, E OFF FUKUSHIMA PREF*

ISC 22 12:52:06.9±1.9, 37°21N±0°05×141°45E±0°09, h25km±13km, n16, σ0°66/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**289**	*iP*	**Pb**	**12 52 16.8**	**-0.1**
JFK				*eS*	**Sb**	**12 52 23.7**	**+0.1**
JMST	**Minamisoumatoc**	**0.68**	**319**	P	**Pn**	**12 52 20.3**	**-0.6**
JMST				S	**Sn**	**12 52 29.8**	**-0.9**
JFFD	**Fukushimafurud**	**0.72**	**261**	*iP*	**Pn**	**12 52 20.8**	**-0.6**
JFFD				S	**Sb**	**12 52 30.1**	**-0.1**
JMM	**Marumori**	**0.84**	**322**	*iP*	**Pb**	**12 52 22.9**	**+0.1**
JMM				S	**Sn**	**12 52 34.0**	**-0.5**
JHO	**Hitachi**	**0.92**	**230**	P	**Pn**	**12 52 23.7**	**-0.5**
JHO				*eS*	**Sb**	**12 52 35.5**	**-0.5**
JIO	**Ouri**	**1.25**	**357**	*eP*	**Pb**	**12 52 29.4**	**-0.3**
JIO				*eS*	**Sb**	**12 52 45.2**	**-0.2**
JOU	**Okura**	**1.31**	**332**	P	**Pb**	**12 52 31.2**	**+0.4**
JOU				*eS*	**Sb**	**12 52 48.5**	**+1.2**
MJAR	**Matsushiro Arr**	**2.68**	**257**	Pn	**Pn**	**12 52 49.5**	**+1.1**
	0.1nm,0.3s,baz=38,slow=36,SNR=1.8						
MJAR				Sn	**Sb**	**12 53 26.6**	**+0.1**
	0.4nm,0.3s,baz=73,slow=13,SNR=2.3						
	1.7nm,0.4s						
H11N2	**WAKE ISLAND Hy 28.21**	**121**		T	T	13 27 24.5	
	baz=314,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy 28.22**	**121**		T	T	13 27 32.4	
	baz=314,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy 28.23**	**121**		T	T	13 27 33.1	
	baz=314,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy 28.93**	**123**		T	T	13 28 24.8	
	baz=316,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy 28.93**	**123**		T	T	13 28 24.8	
	baz=316,slow=76,SNR=7.6						
H11S2	**WAKE ISLAND Hy 28.95**	**123**		T	T	13 28 26.0	
	baz=316,slow=76,SNR=7.2						
ILAR	**Eielson Array**	**49.33**	**32**	P	P	13 00 47.4	-6.2
	0.4nm,0.8s,baz=276,slow=7.0,SNR=2.2						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**13 01 52.7**	**+0.6**
	0.3nm,0.9s,baz=7.2,slow=6.8,SNR=1.5						
	0.3nm,0.9s						

*IDC **22** 12:57:02.8±0.9, 24°19S×67°01W, h161km±8km, mb3.8/9, mbtmp4.4/16, Error ellipse: s-maj=13.1km s-min=10.3km az=64.0*

*NEIC **22** 12:57:03.1±2.2, 24°21S±0°05×67°10W±0°05, h161km±5km, mb4.6/71, Md4.7(SJA), Error ellipse: s-maj=8.6km s-min=6.1km az=142.0*

*GUC **22** 12:57:04.6±0.8, 24°14S×67°51W, h214km±6km, ML4.9*

*VAO **22** 12:57:04.2±0

PB02 eS Sn 12 58 44.7 -2.8
AC06 Mina Casimiro 4.29 222 Pn Pn 12 58 06.5 -1.3
PATCX Punta Patache 4.35 320 Pn 12 58 07.8 -0.8
GO03 Copiap 4.40 219 Pn 12 58 07.9 -1.3
PB08 IPOC Station P 4.43 335 Pn 12 58 10.5 +0.5
TA01 Diego Aracena 4.57 321 Pn Pn 12 58 10.6 -0.7
TA02 Huaiquique 4.78 324 Pn 12 58 14.1 0.0
GO01 Chusmiza 4.88 337 Pn 12 58 16.0 +0.1
PB11 IPOC Station P 4.98 332 Pn Pn 12 58 15.8 -1.0
PSGCX Pisagua 5.34 328 Pn Pn 12 58 19.2 -2.3
AC04 Llanos de Chal 5.35 221 Pn Pn 12 58 19.0 -2.4
AC05 El Transito 5.42 211 Pn Pn 12 58 21.4 -1.2
MNMC Minye Minye 5.52 335 Pn 12 58 22.4 -1.7
LC0 Las Campanas 5.78 213 Pn 12 58 25.4 -1.9
PB16 IPOC Station P 6.22 339 Pn 12 58 33.2 -0.4
PB12 IPOC Station P 6.28 331 Pn 12 58 31.9 -2.1
CO01 Juntas del Tor 6.35 204 Pn 12 58 34.3 -0.6
AP01 Chacalluta 6.51 332 Pn Pn 12 58 36.5 -0.3
CO05 La Serena 6.79 212 Pn Pn 12 58 38.5 -1.9
GO04 Tololo Observa 6.80 208 Pn 12 58 38.2 -2.6
PB18 Visviri 6.91 341 Pn Pn 12 58 40.5 -2.2
CO03 El Pedregal 7.35 205 Pn Pn 12 58 45.9 -2.0
CFA Coronel Fontan 7.46 187 P Pn 12 58 48.5 -0.9
comp=N,8.7nm,0.3s,baz=12,slow=12,SNR=45
CFA S Sn 13 00 08.2 -5.0
comp=N,21nm,0.2s,baz=291,slow=21,SNR=7.2
ZON Zonda 7.47 190 Pn Pn 12 58 49.0 -0.4
CO06 Fray Jorge 7.61 211 Pn 12 58 50.6 -0.8
CO02 Combarbal 7.79 205 Pn 12 58 51.1 -2.8
LPAZ La Paz 7.91 353 P Pn 12 58 56.1 +0.2
comp=N,35nm,0.4s,baz=146,slow=5.6,SNR=158
LPAZ S Sn 13 00 21.2 -3.6
comp=N,9.6nm,0.7s,baz=209,slow=16,SNR=1.5
LPAZ La Paz 7.91 353 Pn Pn 12 58 55.9 0.0
LPAZ La Paz 7.91 353 eP Pn 12 58 56.8 +0.8
VA03 San Esteban 9.06 199 Pn 12 59 10.9 +0.3
VA06 Catapilco 9.12 203 Pn Pn 12 59 09.2 -2.0
CPUP Villa Florida 9.13 106 P Pn 12 59 10.1 -1.4
comp=N,7.2nm,0.6s,baz=283,slow=11,SNR=17
CPUP Villa Florida 9.13 106 Pn Pn 12 59 10.8 -0.7
BBSD Sierra de San D 9.26 42 eP Pn 12 59 12.8 -0.4
ROC1 El Roble 9.40 200 Pn 12 59 15.3 +0.1
VA01 Torpederas 9.66 203 Pn Pn 12 59 15.1 -3.2
MT02 Curacav 9.70 200 Pn Pn 12 59 16.0 -3.0
MT03 Universidad Ad 9.74 197 Pn Pn 12 59 16.3 -3.2
SIV San Ignacio 9.94 36 P Pn 12 59 20.2 -1.9
comp=N,12nm,0.4s,baz=212,slow=12,SNR=64
LMEL Las Melosas 10.00 195 Pn 12 59 20.0 -3.0
MT09 Talagante 10.14 199 Pn 12 59 22.9 -1.9
VA05 Santo Domingo 10.22 202 Pn Pn 12 59 26.5 +0.8
BO04 La Punta 10.24 196 Pn 12 59 24.0 -2.0
MT01 Popeta 10.30 200 Pn 12 59 24.1 -2.6
BO01 Tunca 10.74 198 Pn 12 59 30.9 -1.6
AZCA Azaras, Argent 10.75 114 eP Pn 12 59 33.8 +1.1
ITQB Itaqui 10.86 123 Pn Pn 12 59 32.9 -1.1
ITQB Itaqui 10.86 123 eP Pn 12 59 35.0 +1.0
BO02 Sierra Bellavi 11.04 196 Pn 12 59 35.8 -0.7
PANT Pantanal (Braz 11.06 64 eP Pn 12 59 37.3 +0.5
AQDB Aquidauana 11.21 73 Pn Pn 12 59 38.7 0.0
AQDB Aquidauana 11.21 73 eP Pn 12 59 39.4 +0.8
PTLB Pontes e Lacer 11.49 42 Pn Pn 12 59 41.7 -0.6
PTLB Pontes e Lacer 11.49 42 eP Pn 12 59 41.5 -0.8
UNIS Unistalda (Bra 11.84 117 eP Pn 12 59 47.2 +0.4
ML02 Panimavida 12.12 197 Pn Pn 12 59 48.0 -2.4
CRSM Crissiumal (Br 12.24 108 eP P 12 59 54.5 -3.0
VILB Vilhena 12.95 32 Pn Pn 13 00 01.5 +0.2
VILB Vilhena 12.95 32 eP Pn 13 00 00.6 -0.6
TRCB Terra Rica 13.38 87 Pn 13 00 07.2 +0.7
TRCB Terra Rica 13.38 87 eP Pn 13 00 07.2 +0.7
SALV Santo Antonio 13.54 55 eP Pn 13 00 07.5 -1.0
BI05 Punta Hualpn 13.57 201 Pn Pn 13 00 07.1 -1.7
PTGB Pitanga 13.74 95 eP Pn 13 00 11.8 +0.7
ITAB Concordia 13.87 106 eP P 13 00 13.3 -2.1
PLTB Pedras Altas 14.14 125 Pn Pn 13 00 14.4 -2.6
PLTB Pedras Altas 14.14 125 eP Pn 13 00 15.0 -1.0
ETMB Extrema 14.31 4 Pn Pn 13 00 16.7 -1.6
ETMB Extrema 14.31 4 eP Pn 13 00 16.7 -1.6
C2SB Chapadao do Su 14.35 71 eP P 13 00 19.9 -1.0
TRQA Tornquist 14.52 164 Pn Pn 13 00 17.6 -3.1
PCMB Pacaembu 14.85 83 eP P 13 00 25.1 -1.4
NNA Nana 15.23 321 P 13 00 30.1 -0.6
NNA IAmb IAmb 13 00 32.7
comp=Z,22nm,1.1s
SAML Samuel 15.61 15 Pn Pn 13 00 32.8 -1.4
SAML IAmb IAmb 13 00 34.1
comp=Z,22nm,1.4s
GO06 Curarrehue 15.79 192 P P 13 00 37.3 +0.5
GO06 IAmb IAmb 13 00 39.4
comp=Z,39nm,0.7s
PDRB Porto dos Gac 15.93 40 eP P 13 00 37.8 -0.7
FRTB Fartura 16.11 91 eP P 13 00 40.4 0.0
ITRB Iturama 16.19 77 eP P 13 00 42.7 +1.4
TIJ01 Guaruva-PR 16.51 98 eP Pn 13 00 45.9 +0.6
LR04 Corral 16.53 197 P Pn 13 00 45.2 0.0
ARAG Araguaiana, MT 16.68 62 eP Pn 13 00 47.4 +0.1
TER01 Tubaro-SC 16.71 109 eP P 13 00 46.5 -0.4
PLCA Paso Flores 16.75 189 P P 13 00 47.3 -0.1
comp=Z,11nm,0.8s,baz=17,slow=12,SNR=43
PLCA Paso Flores 16.75 189 Pn 13 00 47.9 -0.2
PLCA IAmb IAmb 13 00 56.8
comp=Z,28nm,0.7s
PLCA Paso Flores 16.75 189 eP Pn 13 00 48.1 +0.1
CLDB Colider 17.07 41 eP P 13 00 50.4 -0.6
LL04 Puerto Octay 17.26 194 P P 13 00 53.0 +0.2
LL04 IAmb IAmb 13 00 54.1
comp=Z,36nm,0.8s
BB19B Bebedouro 17.46 83 eP Pn 13 00 56.0 -0.6
LL03 Petrohue 17.48 193 P P 13 00 55.9 +0.7
RCLB Rio Claro- Sao 18.09 88 eP P 13 01 02.1 -0.1
PET01 Itanhaem-SP 18.12 94 eP P 13 01 02.4 0.0
VAO Valinhos 18.53 90 eP P 13 01 06.7 -0.3
IPMB Ipameri, GO 18.70 74 eP P 13 01 08.7 -0.1
LL06 Loncomilla 18.78 195 P P 13 01 09.4 0.0
LL06 IAmb IAmb 13 01 11.9
comp=Z,106nm,0.7s
SNDB Serra Nova Dou 19.32 54 eP P 13 01 14.8 -0.7
LL07 Hotel Espejo d 19.33 194 P P 13 01 15.8 +0.4
LL02 Futaleuf 19.36 190 P P 13 01 15.2 -0.4
GO07 Milladeo Hill, 19.64 194 P P 13 01 20.0 +1.4
PARB Paraibuna 19.71 92 eP P 13 01 18.6 -1.1
BDFB Brasilia 19.87 68 P P 13 01 21.0 -0.5
comp=Z,90nm,0.6s,baz=239,slow=12,SNR=117
BDFB Brasilia 19.87 68 P P 13 01 21.5 0.0
BDFB Brasilia 19.87 68 eP P 13 01 21.6 0.0
TBTG Tabatinga, AM 20.05 352 P P 13 01 23.8 +0.4
TBTG IAmb IAmb 13 01 27.4
comp=Z,44nm,0.5s
NPGB Novo Progresso 20.44 35 eP P 13 01 25.1 -2.5
AY01 Puyuhuapi 20.69 191 P P 13 01 29.5 -0.4
AY01 IAmb IAmb 13 01 33.6
comp=Z,19nm,0.6s
MAN01 Angra dos Reis 21.29 91 eP P 13 01 36.1 -0.4
COYC Coyhaique 21.72 189 P P 13 01 41.0 +0.2
COYC IAmb IAmb 13 01 42.3
comp=Z,38nm,0.8s
MACA Manacapuru-AM 21.80 18 P P 13 01 40.9 -1.0
MACA IAmb IAmb 13 01 41.5
comp=Z,20nm,0.7s
MACA Manacapuru-AM 21.80 18 eP P 13 01 40.5 -1.4
VAS01 Vassouras-RJ 21.85 90 eP P 13 01 42.4 -0.1
ITTB Itaituba 22.55 31 eP P 13 01 47.5 -1.8
DIAM Diamantina, MG 22.62 80 eP P 13 01 49.4 -0.6
DUB01 Friburgo-RJ 22.86 90 eP P 13 01 51.9 -0.2
MC01 Montes Claros 22.95 75 eP P 13 01 51.3 -1.6
MCRA Macar, Loja 23.25 326 P P 13 01 57.1 +1.5
JANB Januaria 23.31 71 eP P 13 01 55.4 -0.7
CAM01 Campos-RJ 23.56 89 eP P 13 01 57.9 -0.5
BOSC San Juan Bosco 23.61 331 P P 13 02 00.2 +1.2
BOSC IAmb IAmb 13 02 12.4
comp=Z,10.0nm,0.5s
SDBA SAO DESIDERIO 24.10 65 eP P 13 02 02.2 -1.2
SMTB Santa Maria do 24.10 54 eP P 13 02 03.4 +0.1
PRPB Parauapebas 24.44 46 eP P 13 02 04.2 -2.2
COHC Cochancay 24.56 330 P P 13 02 08.6 +1.2
ALF01 Guarapari-ES 24.66 87 eP P 13 02 07.8 -0.5
SJMB Sao Joao De Ma 24.74 82 eP P 13 02 08.6 -0.5
RIB01 Linhares ES 25.29 84 eP P 13 02 12.9 -1.2
MALB Monte Alegre 25.45 31 eP P 13 02 13.7 -1.9
NAN01 Guarapari, ES 25.96 81 eP P 13 02 19.2 -1.0
GUA01 Guaratinga, BA 26.68 79 eP P 13 02 25.8 -0.8
BOAV Boa Vista 27.19 15 P P 13 02 31.0 -0.1
BOAV IAmb IAmb 13 02 45.2
comp=Z,5.9nm,1.1s
BOAV Boa Vista 27.19 15 eP P 13 02 30.1 -1.0
CMC01 Camacan, BA 27.39 76 eP P 13 02 31.7 -1.2
MG05 Puerto Natales 27.77 187 P P 13 02 37.0 +1.2
MG05 IAmb IAmb 13 02 37.6
comp=Z,18nm,0.6s
GDU01 Guandu, BA 28.01 73 eP P 13 02 37.1 -1.4
EFI East Falkland 28.32 168 P P 13 02 40.4 -0.5
MG02 Cerro Sombrero 28.61 183 P P 13 02 44.7 +1.4
GO10 Punta Arenas 29.09 185 P P 13 02 47.6 0.0
ROSB Rosrio 30.68 50 eP P 13 03 02.0 -0.1
RCBR Riachuelo 35.11 64 P P 13 03 40.4 -0.2
comp=Z,13nm,0.7s,baz=248,slow=11,SNR=7.3
comp=Z,13nm,0.7s
RCBR Riachuelo 35.11 64 eP P 13 03 40.1 -0.5
HOPE Hope Point 37.76 151 P P 13 04 03.3 +0.9
MLPR Magueyes Islan 41.89 0 P P 13 04 37.7 +0.8
MLPR IAmb IAmb 13 05 09.2
comp=Z,48nm,1.4s
ANWB Willy Bob 41.92 8 P P 13 04 36.8 -0.3
CELP Cerrillos 42.00 1 P P 13 04 37.4 -0.4
CELP IAmb IAmb 13 04 44.7
comp=Z,44nm,1.4s
SMAI San Martin Ant 43.96 180 P P 13 04 53.8 +0.8
SMAI IAmb IAmb 13 04 55.5
comp=Z,6.6nm,0.8s
BELA Belgrano 2 55.88 172 P P 13 06 23.5 +0.8
BELA IAmb IAmb 13 06 31.5
comp=Z,15nm,1.5s
VNA3 Neumayer Olymp 57.02 161 P P 13 06 31.4 +0.5
VNA2 Neumayer--Watz 57.59 160 P P 13 06 35.4 +0.6
baz=280,slow=6.9
SNAA Sanae 59.22 161 P P 13 06 46.7 +0.5
SNAA Sanae 59.22 161 P P 13 06 46.8 +0.7
SNAA IAmb IAmb 13 06 47.5
comp=Z,3.4nm,0.8s
833A Chaparral WMA, 60.75 327 P P 13 06 57.9 +0.9
833A IAmb IAmb 13 06 59.0
comp=Z,7.3nm,0.6s
TROLL Troll, Antarti 60.94 161 P P 13 06 58.0 0.0
TXAR Lajitas Array 63.75 325 P P 13 07 17.8 +0.7
comp=Z,0.4nm,0.5s,baz=153,slow=6.8,SNR=8.6
comp=Z,0.4nm,0.5s
TXAR Lajitas Array 63.75 325 P P 13 07 18.4 +1.3
TX31 Lajitas Ar. Si 63.75 325 P P 13 07 18.0 +0.9
TX31 IAmb IAmb 13 07 41.2
comp=Z,10nm,1.4s
TX32 Lajitas Array 63.75 325 P P 13 07 18.5 +1.4
FCAR Ozark Folk Cen 64.25 338 P P 13 07 20.0 0.0
FCAR IAmb IAmb 13 07 51.8
comp=Z,7.2nm,1.4s
X37A Clayton 64.30 334 P P 13 07 22.0 +1.6
X37A IAmb IAmb 13 07 23.0
comp=Z,7.2nm,1.0s
LOOK Love County 64.52 333 P P 13 07 23.4 +1.6
LOOK IAmb IAmb 13 07 57.9
comp=Z,21nm,1.4s
QSPA South Pole Qui 66.03 180 P P 13 07 32.4 +1.0
QSPA IAmb IAmb 13 07 33.5
comp=Z,9.8nm,0.6s
OK030 Cody Creek RV 66.03 334 P P 13 07 31.6 0.0
OK034 N. Norfolk Rd. 66.07 334 P P 13 07 31.8 0.0
OK034 IAmb IAmb 13 07 33.4
comp=Z,9.2nm,0.8s
OK031 S. Brethren Rd 66.07 334 P P 13 07 31.9 0.0
OK053 SW of W Deep R 66.11 334 P P 13 07 32.1 0.0
LIC Lamto 67.61 72⇑*iP* P 13 07 40.4 -1.6
comp=Z,5.5nm,0.3s
TIC Toumodi 67.82 71 *eP* P 13 07 39.1 -4.3
comp=Z,3.8nm,0.3s
KIC Kosan Boka 67.93 72⇑*iP* P 13 07 42.2 -1.8
comp=Z,4.3nm,0.4s
DBIC Dimbokro 67.98 72 P P 13 07 43.5 -0.8
comp=Z,1.1nm,0.3s,baz=257,slow=7.3,SNR=5.4
comp=Z,1.1nm,0.3s
MVCO Mesa Verde 72.42 326 P P 13 08 13.0 +1.8
SMCO Snowmass 73.21 329 P P 13 08 17.8 +1.9
SMCO IAmb IAmb 13 08 19.0
comp=Z,2.8nm,0.6s
SBA Scott Base 73.50 190 P P 13 08 18.8 +2.1
VNDA Vanda 74.50 190 P P 13 08 24.9 +2.4
comp=Z,2.6nm,0.8s,baz=110,slow=6.9,SNR=12
comp=Z,2.6nm,0.8s
VNDA Vanda 74.50 190 P P 13 08 24.9 +2.4
KNB Kanab 74.54 324 P P 13 08 25.4 +1.9
KNB IAmb IAmb 13 08 28.0
comp=Z,7.3nm,1.0s
SRU San Rafael Swe 74.90 326 P P 13 08 26.5 +1.0
SRU IAmb IAmb 13 08 28.4
comp=Z,5.3nm,0.6s
MTPU Mount Pierson 74.96 325 P P 13 08 26.7 +0.6
P18A Preston Nutter 75.16 327 P P 13 08 28.7 +1.6
P18A IAmb IAmb 13 08 30.3
comp=Z,3.2nm,0.6s
CCUT Cedar City 75.23 324 P P 13 08 28.9 +1.5
CCUT IAmb IAmb 13 08 31.9
comp=Z,4.5nm,0.9s
MSU Marysvale 75.30 325 P P 13 08 28.7 +0.8
MVU Marysvale 75.31 325 P P 13 08 29.7 +1.8
MVU IAmb IAmb 13 08 31.6
comp=Z,12nm,0.7s
RDMU Red Mountain 75.55 328 P P 13 08 30.8 +1.6
B35A Bob, Littlefor 76.04 342 P P 13 08 32.5 +1.0
B35A IAmb IAmb 13 09 09.0
comp=Z,14nm,1.4s
PSUT Pine Spring 76.21 324 P P 13 08 35.2 +2.2
E28A Huff 76.69 337 P P 13 08 36.0 +0.8
E28A IAmb IAmb 13 08 37.5
comp=Z,7.3nm,0.9s
SPR3 Spring Creek 3 76.80 324 P P 13 08 38.1 +1.7
SPR3 IAmb IAmb 13 08 39.5
comp=Z,3.1nm,0.8s
R11A Troy Canyon, C 77.02 323 P P 13 08 39.5 +2.0
PD31 Pinedale Array 77.24 329 P P 13 08 37.7 -1.0
PDAR Pinedale Array 77.24 329 P P 13 08 39.4 +0.7
comp=Z,0.6nm,0.5s,baz=130,slow=8.1,SNR=13
comp=Z,0.6nm,0.5s
PDAR Pinedale Array 77.24 329 P P 13 08 39.6 +0.9
HWUT Hardware Ranch 77.31 327 P P 13 08 37.3 -1.8
HWUT IAmb IAmb 13 08 43.1
comp=Z,3.2nm,0.6s
TSUM Tsumeb 77.73 106 P P 13 08 42.4 +0.5
TSUM IAmb IAmb 13 08 43.2
comp=Z,4.9nm,0.7s
OMMB Old Mammoth Mi 78.44 320 P P 13 08 46.8 +1.2
NVAR Mina Array Bea 78.60 321 P P 13 08 47.9 +1.6
comp=Z,0.9nm,0.7s,baz=140,slow=5.4,SNR=8.5
comp=Z,0.9nm,0.7s
NVAR Mina Array Bea 78.60 321 P P 13 08 46.7 +0.4
IMW Indian Meadow 78.75 329 P P 13 08 46.6 -0.5
KVN Kaiserville 78.91 322 P P 13 08 48.1 +0.2
BOSA Boshof 80.76 117 P P 13 08 58.8 +0.6
comp=Z,5.0nm,0.4s,baz=262,slow=3.2,SNR=24
comp=Z,5.0nm,0.4s
LBTB Lobatse 82.43 114 P P 13 09 07.5 +0.6
LBTB IAmb IAmb 13 09 08.9
comp=Z,7.4nm,0.5s
FCC Fort Churchill 85.60 346 P P 13 09 22.8 +0.9
FCC IAmb IAmb 13 09 30.5
comp=Z,27nm,1.1s
LTY Liberty 85.90 327 P P 13 09 24.2 +0.4
LTY IAmb IAmb 13 09 28.4
comp=Z,6.8nm,1.3s
ESDC Sonseca Array 86.61 44 P P 13 09 28.2 +0.8
comp=Z,1.0nm,0.9s,baz=269,slow=7.3,SNR=1.9
comp=Z,1.0nm,0.9s
EDM Edmonton 86.87 334 P P 13 09 28.9 +0.5
EDM IAmb IAmb 13 09 29.5
comp=Z,4.3nm,0.5s
YKA Yellowknife Ar 94.25 340 P P 13 10 02.4 0.0
comp=Z,0.5nm,0.4s,baz=140,slow=4.6,SNR=5.6
comp=Z,0.5nm,0.4s
ASAR Alice Springs 128.24 205 PKP PKPdf 13 15 50.0 -0.1
comp=Z,3.0nm,0.7s,baz=135,slow=1.8,SNR=35
WRA Warramunga Arr 131.41 207 PKP PKPdf 13 15 56.5 +0.4
comp=Z,1.9nm,0.4s,baz=160,slow=1.7,SNR=34
WRA Warramunga Arr 131.41 207 PKPdf PKPdf 13 15 56.7 +0.6
WB0 Warramunga Arr 131.54 208 PKPdf PKPdf 13 15 56.9 +0.6
ABKAR Akbulak array 131.95 45 PKPdf PKiKP 13 15 57.0 -0.2
PETK Petropavlovsk- 135.68 323 PKP PKiKP 13 16 04.5 -0.2
comp=Z,10.0nm,1.1s,baz=5.7,slow=5.8,SNR=2.6
BVAR Borovoye Array 137.01 37 PKP PKPdf 13 16 06.1 +0.6
comp=Z,0.3nm,0.5s,baz=290,slow=5.5,SNR=2.2
ZALV Zalesovo Beam 143.61 28 PKP PKPbc 13 16 16.1 +0.8
comp=Z,1.9nm,0.5s,baz=298,slow=4.8,SNR=11
ZALV Zalesovo Beam 143.61 28 PKPdf PKPbc 13 16 16.4 +1.1
SOEI Soe 144.48 200 PKPdf PKPbc 13 16 20.0 +0.7
KSH Kashi 145.40 55 PKPbc **PKPdf 13 16 19.8 -1.3**
MKAR Makanchi Array 146.74 40 PKPbc **PKPbc 13 16 24.7 -0.4**
comp=Z,2.2nm,0.5s,baz=353,slow=2.2,SNR=10.0
SIJI Sorong 149.36 218 PKPbc **PKPbc 13 16 31.1 -1.7**
comp=Z,14nm,0.7s,baz=126,slow=11,SNR=5.0
WMQ Urumqi 151.56 40 eP **PKPdf 13 16 31.1 +0.2**
HEH HeiHe 151.62 340 eP **PKPbc 13 16 37.3 +0.3**
HHC Hu-ho-hao-te 163.34 3 eP **PKPdf 13 16 45.3 -0.4**
PZH PanZhiHua 169.68 75 PKP **PKPdf 13 16 50.5 -0.5**

KRSC 22 12:57:25.8±1.0, **56.02N**×**164.38E, h12**km±17km, **ML3.6, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.89**	**283**	*eP*		P	Pg	12 57 42.5	-0.5
KBG	**Krutoberegovo**	**0.97**	**285**	*eP*		P	Pg	12 57 43.3	-1.0
KBG				*eS*		S	Sg	12 57 56.7	-0.2
BKI	**Bering**	**1.22**	**132**	*eP*		P	Pb	12 57 48.9	+0.1
BKI				*eS*		S	Sn	12 58 05.2	+0.1
SMKR	**Semkarok**	**1.72**	**290**	*eP*		P	Pn	12 57 55.4	-0.2
BDR	**Baidarnaya**	**1.85**	**289**	*eP*		P	Pn	12 57 58.2	+0.8
BDR				*eS*		S	Sb	12 58 21.9	-0.8
SRKR	**Sorokina**	**1.90**	**291**	*eP*		P	Pn	12 57 58.4	+0.4
BZGR	**Bezymyannyi-Gr**	**2.07**	**269**	*eP*		P	Pb	12 58 02.1	-1.3
KLY	**Klyuchi**	**2.10**	**279**	*eP*		P	Pn	12 58 00.4	-0.4
MKZ	**Mys Kozlova**	**2.11**	**227**	*eP*		P	Pb	12 58 02.5	-1.4
MKZ				*eS*		S	Sb	12 58 28.6	-1.5
KRSR	**Krestovskiy**	**2.15**	**277**	*eP*		P	Pn	12 58 02.3	+0.8
BZWR	**Bezymyannyi-We**	**2.18**	**270**	*eP*		P	Pb	12 58 03.8	-1.5
BZMR	**Bezymyannaya**	**2.19**	**269**	*eP*		P	Pb	12 58 03.1	+1.0
KIRR	**Kirishev**	**2.27**	**270**	*eP*		P	Pb	12 58 05.8	-1.0
KPT	**Kopyto**	**2.34**	**270**	*eP*		P	Pn	12 58 05.5	+1.4
KMNR	**Kamenistaya**	**2.35**	**265**	*eP*		P	Pb	12 58 07.3	-0.8
TUMD	**Tumrok D**	**2.40**	**252**	*eP*		P	Pb	12 58 07.1	-1.8
TUMR	**Tumrok**	**2.51**	**255**	*eP*		P	Pb	12 58 09.3	-1.5
KOZ	**Kozyrevsk**	**2.53**	**273**	*eP*		P	Pb	12 58 09.7	-1.4
SRDR	**Sredinnyy**	**2.62**	**278**	*eP*		P	Pn	12 58 10.0	+2.0
SDLR	**Sedlovina**	**4.21**	**232**	*eP*		P	Pn	12 58 32.9	+3.0
SMAR	**Somma**	**4.26**	**232**	*eP*		P	Pn	12 58 33.6	+3.0
AVH	**Avacha**	**4.29**	**232**	*eP*		P	Pn	12 58 35.0	+4.1
RUS	**Russkaya**	**4.98**	**226**	*eP*		P	Pn	12 58 43.1	+2.8
MTVR	**Mutnovka**	**5.08**	**228**	*eP*		P	Pn	12 58 45.7	+3.9

*IDC **22** 13:02:18.8±2.3, 36.31N×141.79E, h0km, mb3.3/3, mbtmp3.2/4, ML2.1/1, Error ellipse: s-maj=50.2km s-min=26.0km az=50.0*
*JMA **22** 13:02:23.0±0.2, 37.1N±0.3×141.4E±0.8, h26km±1km, MV3.2/38, E OFF FUKUSHIMA PREF*
ISC 22 13:02:21.1±2.6, **37.05N**±0.06×**141.5E**±0.1, **h24**km±19km, **n18,** σ1**93**/18, **mb3.4**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**303**	P		P	**Pb**	**13 02 32.6**	**-0.4**
JFK				S		S	**Sb**	**13 02 39.6**	**-1.3**
JFFD	**Fukushimafurud**	**0.76**	**274**	P		P	**Pb**	**13 02 35.6**	**0.0**
JFFD				S		S	**Sb**	**13 02 44.6**	**-0.9**
JMST	**Minamisoumatoc**	**0.84**	**324**	P		P	**Pb**	**13 02 37.1**	**+0.1**
JMST				S		S	**Sb**	**13 02 47.3**	**-0.5**
JHO	**Hitachi**	**0.86**	**240**	P		P	**Pb**	**13 02 38.0**	**+0.6**
JHO				S		S	**Sb**	**13 02 48.6**	**0.0**
JMM	**Marumori**	**0.99**	**326**	*eP*		P	**Pn**	**13 02 39.7**	**+0.2**
JMM				S		S	**Sb**	**13 02 51.8**	**-0.6**
JIO	**Ouri**	**1.41**	**355**	P		P	**Pn**	**13 02 46.7**	**+1.4**
JIO				*eS*		S	**Sn**	**13 03 02.9**	**+0.8**
JOU	**Okura**	**1.48**	**333**	S		S	**Sb**	**13 03 06.7**	**+0.5**
JFY	**Yanaizu**	**1.48**	**285**	P		P	**Pb**	**13 02 48.4**	**+0.4**
JFY				S		S	**Sb**	**13 03 06.2**	**-0.1**
MJAR	**Matsushiro Arr**	**2.69**	**260**	Pn		Pn	**Pn**	**13 03 04.9**	**+2.0**
	0.3nm,0.3s,baz=88,slow=15,SNR=9.6								
MJAR				Sn		Sn	**Sb**	**13 03 40.3**	**-0.9**
	0.6nm,0.3s,baz=94,slow=29,SNR=6.9								
	2.2nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**28.09**	**121**	T		T		13 37 45.1	
	baz=314,slow=75,SNR=21								
H11N1	**WAKE ISLAND Hy**	**28.10**	**121**	T		T		13 37 45.7	
	baz=314,slow=75,SNR=25								
H11N3	**WAKE ISLAND Hy**	**28.11**	**121**	T		T		13 37 46.4	
	baz=314,slow=75,SNR=22								
H11S1	**WAKE ISLAND Hy**	**28.80**	**123**	T		T		13 38 36.4	
	baz=315,slow=76,SNR=7.7								
H11S3	**WAKE ISLAND Hy**	**28.81**	**123**	T		T		13 38 37.6	
	baz=315,slow=76,SNR=6.2								
H11S2	**WAKE ISLAND Hy**	**28.82**	**123**	T		T		13 38 39.5	
	baz=315,slow=76,SNR=7.4								
MKAR	**Makanchi Array**	**44.17**	**302**	P		P		13 10 34.3	+6.4
	0.3nm,0.6s,baz=86,slow=12,SNR=2.0								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**57.08**	**188**	P		P		13 12 01.2	-4.2
	0.2nm,0.4s,baz=18,slow=8.9,SNR=23								
	0.2nm,0.4s								
ASAR	**Alice Springs**	**60.81**	**188**	P		P	**P**	**13 12 29.3**	**-1.9**
	0.2nm,0.8s,baz=16,slow=6.7,SNR=1.6								
	0.2nm,0.8s								

*IDC **22** 13:12:42.1±6.7, 36.14N×70.32E, h161km±56km, mb3.5/8, mbtmp4.0/12, MS3.5/1, Error ellipse: s-maj=50.1km s-min=18.5km az=38.0*
*NEIC **22** 13:12:47.1±1.4, 36.49N±0.07×70.29E±0.08, h211km±6km, mb4.2/12, Error ellipse: s-maj=9.7km s-min=8.8km az=175.0*
*NNC **22** 13:12:50.6±7.2, 37.10N×70.32E, h0km, mb4.9, mpv4.5, Error ellipse: s-maj=55.6km s-min=48.8km az=175.0*
*SOME **22** 13:12:52.9, 38.28N×71.87E, h10km*
ISC 22 13:12:46.9±0.5, **36.54N**±0.05×**70.33E**±0.06, **h200**km, **n82,** σ1**74/90, mb4.1**/12, **3C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.25**	**208**	Pn		Pn	**Pn**	**13 13 29.0**	**+0.7**
CHGR	**Chuyangaron**	**2.31**	**337**				**Pn**	**13 13 30.0**	**+1.2**
GAR	**Garm**	**2.46**	**360**				**Pn**	**13 13 31.8**	**+1.4**
CEP	**Cherat**	**3.00**	**154**	P		P	**Pn**	**13 13 38.6**	**+1.9**
CEP				S		S	**Sn**	**13 14 16.0**	**+0.4**
DRK	**Karamyk**	**3.16**	**21**	Pn		Pn	**Pn**	**13 13 39.2**	**+0.6**
BTK	**Batken**	**3.54**	**6**	Pn		Pn	**Pn**	**13 13 45.3**	**+2.3**
CHCP	**Chirah Chowk**	**3.75**	**139**	P		P	**Pn**	**13 13 46.8**	**+1.2**
NIL	**Nilore**	**3.75**	**139**	Pn		Pn	**Pn**	**13 13 46.9**	**+1.3**
THW	**Thamme Wali**	**3.91**	**162**	P		P	**Pn**	**13 13 48.0**	**+0.4**
TAS	**Tashkent**	**4.85**	**351**	Pn		Pn	**Pn**	**13 14 00.8**	**+1.5**
KSH	**Kashi**	**5.36**	**55**	P		P	**Pn**	**13 14 01.8**	**-4.1**
KSH				S		Sn		13 14 55.3	-13
KSH				pmax		pmax			
	comp=Z,31nm,0.3s								
KSH				smax		smax			
	comp=N,110nm,0.5s								
KSH				smax		smax			
	comp=E,54nm,0.4s								
AML	**Almayashu**	**6.16**	**24**	P		Pn	**Pn**	**13 14 17.4**	**+0.8**
	SNR=492								
DZA	**Taraz**	**6.39**	**7**	*eP*		Pn	**Pn**	**13 14 20.3**	**+1.1**
	comp=E,180nm,0.1s								
DZA				*eS*		S	**Sn**	**13 15 30.6**	**-1.8**
	comp=E,383nm,0.5s								
UCH	**Uchtor**	**6.54**	**28**	P		P	**Pn**	**13 14 22.4**	**+0.9**
	SNR=120								
KK31	**Karatay Array**	**6.56**	**1**	Pn		Pn	**Pn**	**13 14 22.1**	**+0.8**
KK31	**Karatay Array**	**6.56**	**1**	⇑Pn		Pn	**Pn**	**13 14 21.9**	**+0.6**
	comp=E,5.5nm,0.3s,baz=176,slow=12,SNR=214								
KK31				⇑Sn		Sn	**Sn**	**13 15 31.3**	**-4.9**
	comp=E,8.1nm,0.4s,baz=186,slow=22,SNR=9.0								
KKAR	**Kar

CHMS	**Chumysh**	**7.29**	**26**	P		**Pn**	**13 14 32.0**	**+1.2**
	SNR=11							
CHMS	**Chumysh**	**7.29**	**26**	⇓Pn		**Pn**	**13 14 31.0**	**+0.2**
	comp=E,18nm,0.5s							
CHMS				⇓Sn		**Sn**	**13 15 51.3**	**-2.2**
	comp=E,48nm,0.9s							
ULHL	**Ulahol**	**7.31**	**37**	P		**Pn**	**13 14 31.6**	**+0.3**
	SNR=20							
BOOM	**Boomskoye usch**	**7.36**	**34**			**Pn**	**13 14 32.2**	**+0.4**
TKM2	**Tokmak 2**	**7.56**	**31**	P		**Pn**	**13 14 35.7**	**+1.3**
	SNR=25							
TKM2	**Tokmak 2**	**7.56**	**31**	⇓P		**Pn**	**13 14 35.3**	**+0.9**
	comp=E,55nm,0.5s							
TKM2				⇑S		**Sn**	**13 15 57.4**	**-2.5**
	comp=E,16nm,0.8s							
SGDS	**Sogindy**	**7.65**	**24**	*eP*		**Pn**	**13 14 35.4**	**-0.1**
	comp=E,10nm,0.2s							
SGDS				*eS*		**Sn**	**13 15 58.0**	**-4.1**
	comp=E,18nm,0.3s							
KST	**Kastek**	**7.81**	**32**	*eP*		**Pn**	**13 14 38.3**	**+0.7**
	comp=E,34nm,0.4s							
KST				*eS*		**Sn**	**13 16 03.0**	**-2.8**
	comp=E,32nm,0.5s							
SMLA	**Simla**	**7.84**	**132**	*eS*		**Sn**	**13 16 03.3**	**-3.1**
SMLA				IAML			13 16 04.4	
	comp=N,63nm,0.3s							
DGS	**Degeres**	**7.89**	**30**	*eP*		**Pn**	**13 14 39.3**	**+0.5**
	comp=N,13nm,0.6s							
DGS				*eS*		**Sn**	**13 16 04.6**	**-3.2**
	comp=N,6.7nm,0.8s							
TNSS	**Tian-Shan**	**8.25**	**36**	*eP*		**Pn**	**13 14 44.2**	**+0.6**
	comp=N,33nm,0.1s							
TNSS				*eS*		**Sn**	**13 16 13.4**	**-3.2**
	comp=N,3.8nm,0.8s							
KHET	**Khetri**	**9.62**	**150**	*eP*		**Pn**	**13 14 59.9**	**-1.4**
KHET				*eS*		Sn	13 16 40.2	-8.7
GEYT	**Alibeck**	**9.84**	**282**	S		**Sn**	**13 16 51.2**	**-2.8**
	comp=N,1.8nm,0.5s,baz=110,slow=19,SNR=2.0							
GEYT	**Alibeck**	**9.84**	**282**	Pn		**Pn**	**13 15 03.4**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**9.84**	**282**	Pn		**Pn**	**13 15 03.4**	**-0.6**
KUDL	**Kundal**	**9.85**	**146**	*eP*		**Pn**	**13 15 02.0**	**-2.2**
KUDL				*eS*		Sn	13 16 42.6	-12
PTH	**Pithoragarh**	**10.83**	**127**	*eP*		**Pn**	**13 15 17.5**	**+0.5**
JHNI	**Jhansi**	**13.08**	**145**	*eP*		**P**	**13 15 50.2**	**+1.7**
JHNI				*eS*		S	13 17 57.1	-14
MAKZ	**Makanchi**	**13.44**	**37**	Pn		**Pn**	**13 15 49.9**	**+0.2**
MK31	**Makanchi Array**	**13.58**	**37**	Pn		**Pn**	**13 15 50.8**	**-0.7**
MKAR	**Makanchi Array**	**13.58**	**37**	P		**Pn**	**13 15 51.6**	**+0.1**
	comp=N,5.3nm,0.8s,baz=224,slow=8.5,SNR=15							
MKAR	**Makanchi Array**	**13.58**	**37**			**Pn**	**13 15 51.0**	**-0.4**
DANN	**Dangsing**	**13.96**	**122**	*eP*		**P**	**13 16 00.8**	**+2.2**
	comp=N,3.0nm,0.2s							
GKN	**Gorkha**	**14.78**	**121**	*eP*		**P**	**13 16 10.0**	**+2.5**
	comp=N,13nm,0.3s							
ABKAR	**Akbulak array**	**14.80**	**332**	Pn		Pn	13 15 58.0	-8.4
WMQ	**Urumqi**	**15.12**	**56**	*eP*		**P**	**13 16 12.3**	**+1.3**
KURBB	**Kurchatov Arra**	**15.27**	**20**	P		**Pn**	**13 16 11.8**	**-0.3**
	comp=N,1.2nm,0.3s,baz=210,slow=10,SNR=6.5							
KURK	**Kurchatov**	**15.38**	**20**			**Pn**	**13 16 13.2**	**-0.2**
PKIN	**Phulchoki**	**15.57**	**121**	*eP*		**P**	**13 16 18.9**	**+2.5**
	comp=N,5.3nm,0.2s							
PKI	**Pulchoki**	**15.58**	**121**	*eP*		**P**	**13 16 18.9**	**+2.3**
	comp=N,3.5nm,0.2s							
GUN	**Gumba**	**15.70**	**119**	*eP*		**Pn**	**13 16 20.6**	**+2.6**
	comp=N,7.4nm,0.3s							
JIRN	**Jiri**	**16.07**	**119**	*eP*		**Pn**	**13 16 24.7**	**+2.2**
	comp=N,34nm,0.5s							
BVAR	**Borovoye Array**	**16.49**	**0**	P		**Pn**	**13 16 27.2**	**+0.5**
	comp=N,1.6nm,0.3s,baz=156,slow=9.9,SNR=16							
BRVK	**Borovoye**	**16.52**	**360**			**P**	**13 16 26.1**	**-0.2**
BRVK				IAmb		IAmb	13 16 30.9	
	comp=Z,6.4nm,0.7s							
RAMN	**Ramite**	**16.80**	**120**	*eP*		**Pn**	**13 16 30.9**	**-0.1**
	comp=Z,11nm,0.5s							
TAPN	**Taplejung**	**17.34**	**117**	*eP*		**Pn**	**13 16 37.9**	**+0.4**
ZAA0	**Zalesovo Array**	**20.11**	**25**	P		**P**	**13 17 05.9**	**+0.7**
ZAA0				IAmb		IAmb	13 17 13.8	
	comp=Z,4.4nm,0.8s							
ZALV	**Zalesovo Beam**	**20.11**	**25**	P		**P**	**13 17 06.5**	**+1.4**
	comp=Z,3.7nm,0.3s,baz=217,slow=11,SNR=19							
	comp=Z,3.7nm,0.3s							
ZALV	**Zalesovo Beam**	**20.11**	**25**	P		**P**	**13 17 06.0**	**+0.8**
ARU	**Arti**	**21.43**	**342**	P		**P**	**13 17 22.1**	**+3.1**
	comp=Z,1.6nm,0.3s,baz=152,slow=9.5,SNR=3.5							
	comp=Z,1.6nm,0.3s							
SONM	**Songino Array**	**28.76**	**56**	P		**P**	**13 18 27.5**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=219,slow=11,SNR=2.9							
	comp=Z,0.4nm,0.5s							
HHC	**Hu-ho-hao-te**	**32.26**	**70**	*eP*		**P**	**13 18 56.6**	**0.0**
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,210nm,4.5s							
XLT	**XiLinHaoTe**	**35.33**	**64**	*eP*		**P**	**13 19 26.3**	**+3.3**
XLT				sP		sP	13 20 31.0	+1.9
XLT				pmax		pmax		
	comp=Z,10.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,130nm,5.2s							
FINES	**FINESS Array B**	**37.15**	**326**	P		**P**	**13 19 39.8**	**+1.7**
	comp=Z,5.2nm,1.0s,baz=194,slow=3.9,SNR=3.4							
	comp=Z,5.2nm,1.0s							
ARCES	**ARCESS Array B**	**40.91**	**338**	P		**P**	**13 20 11.4**	**+2.3**
	comp=Z,0.5nm,0.4s,baz=108,slow=7.8,SNR=8.7							
	comp=Z,0.5nm,0.4s							
ARCES	**ARCESS Array B**	**40.91**	**338**	P		**P**	**13 20 10.2**	**+1.2**
ARCES				IAmb		IAmb	13 20 41.0	
	comp=Z,10nm,1.5s							
NOA	**NORSAR Array B**	**44.03**	**323**	P		**P**	**13 20 34.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=97,slow=7.7,SNR=2.8							
	comp=Z,0.5nm,0.6s							
USRK	**Ussuriysk Ar.**	**46.62**	**61**	LR		LR	13 40 31.9	
	comp=Z,58nm,20.6s,baz=147,slow=36							
LBTB	**Lobatse**	**74.35**	**222**	P		**P**	**13 24 01.1**	**-1.5**
LBTB				IAmb		IAmb	13 24 40.4	
	comp=Z,14nm,1.5s							
KNRA	**Kununurra**	**75.70**	**122**	P		**P**	**13 24 09.4**	**-1.0**
WRA	**Warramunga Arr**	**82.47**	**121**	P		**P**	**13 24 45.6**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=325,slow=4.8,SNR=16							
	comp=Z,0.8nm,0.7s							
WRA	**Warramunga Arr**	**82.47**	**121**	P		**P**	**13 24 45.7**	**-1.4**
WRAB	**Tennant Creek**	**82.47**	**121**	P		**P**	**13 24 45.9**	**-1.2**
WRAB				IAmb		IAmb	13 25 06.1	
	comp=Z,4.6nm,1.1s							
WB2	**Warramunga Arr**	**82.48**	**121**	P		**P**	**13 24 45.9**	**-1.2**
WB2				IAmb		IAmb	13 25 15.1	
	comp=Z,9.0nm,1.5s							
AS31	**Alice Springs**	**84.72**	**124**	P		**P**	**13 24 57.7**	**-0.8**
ASAR	**Alice Springs**	**84.72**	**124**	P		**P**	**13 24 57.1**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=312,slow=4.8,SNR=17							
	comp=Z,0.9nm,0.7s							
ASAR	**Alice Springs**	**84.72**	**124**	P		**P**	**13 24 57.5**	**-0.9**
COEN	**Coen**	**84.92**	**111**	P		**P**	**13 24 57.1**	**-2.5**

WEL 22 13:14:48.9±0.3,42.2°S±3.1°×17.4°E±1.0°, h12km±2km, M3.1/35, ML3.3/22, MLv3.1/35, Error ellipse: s-maj=0.0km s-min=0.0km az=140.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.31**	**7**	P	Pg	13 14 55.7	+0.5
BSWZ				S	Sb	13 15 00.8	-0.5
CMWZ	**Cape Campbell**	**0.40**	**47**	P	Pb	13 14 58.3	+0.5
CMWZ				S	Sb	13 15 05.2	+1.4
KHZ	**Kahutara**	**0.45**	**208**	P	Pb	13 14 58.7	-0.1
TUWZ	**Tuamarina**	**0.60**	**8**	P	Pb	13 15 01.0	-0.2
THZ	**Tophouse**	**0.74**	**290**	P	Pg	13 15 03.2	+0.1
NNZ	**Nelson**	**0.87**	**337**	P	Pg	13 15 05.4	-0.3
TCW	**Tory Channel**	**0.88**	**23**	P	Pg	13 15 05.7	-0.1
MRNZ	**Matariki Terra**	**1.01**	**307**	P	Pb	13 15 08.4	0.0
WEL	**Wellington**	**1.02**	**44**	P	Pn	13 15 09.0	+0.1
GVZ	**Greta Valley S**	**1.11**	**212**	P	Pb	13 15 10.1	0.0
PLWZ	**Palliser**	**1.16**	**68**	P	Pb	13 15 10.2	-0.6
TKNZ	**Takaka Hill**	**1.18**	**326**	P	Pn	13 15 11.1	-0.1
DUWZ	**D'Urville Isla**	**1.22**	**3**	P	Pn	13 15 11.5	-0.2
CAW	**Cannon Point**	**1.30**	**46**	P	Pn	13 15 12.6	-0.2
PAWZ	**Paruwai Farm**	**1.36**	**62**	P	Pn	13 15 12.9	-0.8
LTZ	**Lake Taylor**	**1.38**	**236**	P	Pn	13 15 14.2	+0.2
KIW	**Kapiti Island**	**1.41**	**35**	P	Pb	13 15 14.8	-0.4
AMCZ	**Amberley**	**1.45**	**217**	P	Pn	13 15 14.3	-0.5
MTW	**Mount Morrison**	**1.52**	**56**	P	Pn	13 15 15.0	-0.9
TRWZ	**Traveller**	**1.52**	**67**	P	Pn	13 15 14.2	-1.7
DSZ	**Denniston Nort**	**1.54**	**280**	P	Pb	13 15 17.6	+0.3
QRZ	**Quartz Range**	**1.54**	**320**	P	Pb	13 15 17.2	-0.2
OGWZ	**Otaki Gorge**	**1.57**	**40**	P	Pn	13 15 16.3	-0.2
HOWZ	**Holdsworth Sta**	**1.69**	**49**	P	Pn	13 15 17.6	-0.6
OKCZ	**Okains Bay**	**1.79**	**198**	P	Pn	13 15 18.6	-1.1
TMWZ	**Te Maipa**	**1.80**	**60**	P	Pn	13 15 18.5	-1.2
OXZ	**Oxford**	**1.86**	**225**	P	Pn	13 15 19.4	-1.1
MRZ	**Mangatainoka R**	**1.89**	**45**	P	Pn	13 15 20.3	-0.7
MQZ	**McQueen's Vall**	**1.89**	**207**	P	Pn	13 15 19.2	-1.8
INZ	**Inchbonnie**	**1.90**	**247**	P	Pn	13 15 21.6	+0.5
AKCZ	**Akaroa Harbour**	**1.97**	**200**	P	Pn	13 15 20.8	-1.2
RACZ	**Rakaia**	**2.11**	**215**	P	Pn	13 15 22.5	-1.5
PRWZ	**Pori Road**	**2.18**	**49**	P	Pb	13 15 27.9	-0.4
MHCZ	**Mount Hutt**	**2.25**	**227**	P	Pn	13 15 24.8	-1.1
BFZ	**Birch Farm**	**2.26**	**55**	P	Pn	13 15 25.4	-0.6
WACZ	**Wakanui South**	**2.41**	**217**	P	Pn	13 15 26.5	-1.6
WAZ	**Wanganui**	**2.43**	**22**	P	Pb	13 15 32.1	-0.4
DVHZ	**Dannevirke**	**2.46**	**47**	P	Pb	13 15 32.2	-0.9
WVZ	**Waitaha Valley**	**2.52**	**244**	P	Pn	13 15 29.7	+0.2
TSZ	**Takapari Road**	**2.54**	**40**	P	Pb	13 15 35.7	+1.3
LREZ	**Lake Rotokare**	**2.59**	**10**	P	Pg	13 15 37.0	-1.6
RPZ	**Rata Peaks**	**2.65**	**229**	P	Pn	13 15 30.7	-0.7
KHEZ	**Kahui Hut**	**2.73**	**3**	P	Pb	13 15 36.2	-1.4
ARCZ	**Arundel**	**2.74**	**224**	P	Pn	13 15 31.4	-1.2
NBEZ	**Newall Road No**	**2.75**	**1**	P	Pb	13 15 39.0	+1.0
NEZ	**North Egmont**	**2.75**	**4**	P	Pb	13 15 37.6	-0.5
PKE	**Pukeiti**	**2.83**	**2**	P	Pb	13 15 40.7	+1.4
GCSZ	**Gaunt Creek Bo**	**2.89**	**242**	P	Pn	13 15 34.8	+0.2
MTVZ	**Mangateitei**	**2.91**	**26**	P	Pb	13 15 41.9	+1.1
PKVZ	**Pokaka**	**2.96**	**23**	P	Pb	13 15 40.6	-1.0
VRZ	**Vera Road**	**2.98**	**14**	P	Pb	13 15 39.2	-2.6
MOVZ	**Moawhango**	**2.99**	**30**	P	Pb	13 15 41.3	-0.9
WNVZ	**Wahianoa**	**3.01**	**27**	P	Pb	13 15 39.9	-2.6
TRVZ	**Turoa**	**3.02**	**26**	P	Pb	13 15 40.6	-2.1
PXZ	**Pawanui**	**3.04**	**50**	P	Pg	13 15 48.4	+1.3
BHHZ	**Black Hill Sta**	**3.04**	**35**	P	Pb	13 15 43.1	+0.1
WHVZ	**Whangaehu Hut**	**3.04**	**27**	P	Pb	13 15 41.9	-1.2
FWVZ	**Far West T-bar**	**3.06**	**26**	P	Pb	13 15 43.9	+0.5
TUVZ	**Tukino**	**3.08**	**27**	P	Pb	13 15 43.1	-0.6
TMZ	**Timaru**	**3.14**	**220**	P	Pn	13 15 36.9	-1.2
SNVZ	**South Ngauruho**	**3.15**	**27**	P	Pb	13 15 46.1	+1.2
NNVZ	**North Ngauruho**	**3.19**	**26**	P	Pb	13 15 44.0	-1.6
TWVZ	**Taurewa**	**3.19**	**23**	P	Pb	13 15 46.3	+0.8
KAHZ	**Kahuranaki**	**3.21**	**47**	P	Pg	13 15 51.2	+0.9
TMVZ	**Te Maari**	**3.23**	**27**	P	Pb	13 15 45.1	-1.2
RATZ	**Rangitukua**	**3.48**	**26**	P	Pb	13 15 52.2	+1.8
BKZ	**Black Stump Fm**	**3.50**	**36**	P	Pb	13 15 51.5	+0.7
LBZ	**Lake Benmore**	**3.56**	**227**	P	Pn	13 15 43.3	-0.6
HIZ	**Hauiti**	**3.59**	**13**	P	Pb	13 15 48.6	-3.7
MRHZ	**Matea Rd**	**3.75**	**33**	P	Pn	13 15 45.3	-1.2
ODZ	**Otahua Downs**	**3.81**	**216**	P	Pn	13 15 45.5	-1.8
MTHZ	**Maungataniwha**	**3.91**	**37**	P	Pb	13 15 56.3	-1.5
TLZ	**Tolley Road**	**3.91**	**20**	P	Pb	13 15 57.2	-0.6
RTZ	**Ruatahuna**	**4.17**	**36**	P	Pb	13 16 03.1	+0.9
KARZ	**Kaharoa**	**4.40**	**26**	P	Pn	13 15 53.7	-1.9
TOZ	**Tahuroa Road**	**4.47**	**17**	P	Pn	13 16 01.0	+4.6

*IDC **22** 13:20:41.6±1.8, 36.8°N×141.6°E, h0km, mb3.4/2, mbtmp3.3/3, ML2.3/3/1, Error ellipse: s-maj=35.1km s-min=27.8km az=138.0*
*JMA **22** 13:20:43.3±0.2, 37.1°N±0.4°×141.4°E±0.9, h31km±1km, MV3.2/37, E OFF FUKUSHIMA PREF*

ISC 22 13:20:42.5±1.7, 37.17°N±0.04°×141.41°E±0.07, h11km±10km, n17, σ0.94 s/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**295**	*i* P	**Pb**	**13 20 53.4**	**+0.6**
JFK				S	**Sb**	**13 21 00.6**	**+0.8**
JFFD	**Fukushimafurud**	**0.68**	**264**	*i* P	**Pb**	**13 20 56.8**	**+0.4**
JFFD				S	**Sb**	**13 21 06.1**	**+0.3**
JMST	**Minamisoumatoc**	**0.69**	**323**	*i* P	**Pn**	**13 20 57.3**	**-0.9**
JMST				S	**Sn**	**13 21 07.3**	**-1.6**
JMM	**Marumori**	**0.85**	**325**	*i* P	**Pn**	**13 20 59.9**	**-0.5**
JMM				S	**Sn**	**13 21 11.8**	**-1.0**
JHO	**Hitachi**	**0.87**	**231**	P	**Pg**	**13 20 59.0**	**-0.4**
JHO				*eS*	**Sg**	**13 21 10.2**	**-0.6**
JIO	**Ouri**	**1.28**	**358**	*eP*	**Pb**	**13 21 06.2**	**-0.4**
JIO				*eS*	**Sn**	**13 21 23.4**	**-0.1**
JOU	**Okura**	**1.33**	**334**	*eP*	**Pg**	**13 21 08.1**	**0.0**
JOU				S	**Sg**	**13 21 26.0**	**+0.6**
JFY	**Yanaizu**	**1.38**	**280**	*eP*	**Pg**	**13 21 08.7**	**-0.3**
JFY				*eS*	**Sg**	**13 21 27.3**	**+0.4**
MJAR	**Matsushiro Arr**	**2.64**	**257**	Pn	**Pn**	**13 21 26.2**	**+1.2**
MJAR	0.5nm,0.3s,baz=84,slow=15,SNR=9.8			Sn	**Sb**	**13 22 00.8**	**-1.5**
	0.4nm,0.3s,baz=85,slow=39,SNR=4.9 3.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	13 56 04.7	
	baz=314,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	13 56 04.9	
	baz=314,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	13 56 05.6	
	baz=314,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	13 56 56.2	
	baz=315,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	13 56 55.6	
	baz=315,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	13 56 54.0	
	baz=315,slow=76,SNR=15						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**13 29 33.4**	**+1.7**
	0.5nm,1.0s,baz=271,slow=6.1,SNR=2.1 0.5nm,1.0s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**13 30 28.8**	**-0.8**
	0.5nm,1.0s,baz=6.4,slow=7.3,SNR=2.5 0.5nm,1.0s						

*IDC **22** 13:23:10.3±1.2, 37.2°N×141.7°E, h0km, mb3.6/6, mbtmp3.6/7, ML2.6/1, Error ellipse: s-maj=31.0km s-min=27.0km az=146.0*
*JMA **22** 13:23:12.4±0.2, 37.3°N±0.3°×141.5°E±0.9, h27km±1km, MV3.7/38, E OFF FUKUSHIMA PREF*

ISC 22 13:23:11.5±2.0, 37.28°N±0.05°×141.51°E±0.08, h10km±11km, n21, σ0.80 s/23, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**280**	*i* P	**Pg**	**13 23 22.1**	**+0.6**
JFK				S	**Sg**	**13 23 28.9**	**+0.6**
JMST	**Minamisoumatoc**	**0.67**	**312**	*i* P	**Pg**	**13 23 24.8**	**+0.4**
JMST				S	**Sb**	**13 23 33.9**	**-0.6**
JFFD	**Fukushimafurud**	**0.78**	**256**	*i* P	**Pg**	**13 23 26.7**	**+0.1**
JFFD				S	**Sg**	**13 23 36.7**	**-0.1**
JMM	**Marumori**	**0.82**	**316**	*i* P	**Pg**	**13 23 27.2**	**0.0**
JMM				S	**Sg**	**13 23 38.2**	**+0.2**
JHO	**Hitachi**	**1.01**	**229**	P	**Pb**	**13 23 29.8**	**-1.3**
JHO				*eS*	**Sb**	**13 23 42.7**	**-1.6**
JIO	**Ouri**	**1.18**	**354**	*i* P	**Pn**	**13 23 32.9**	**-1.1**
JIO				S	**Sb**	**13 23 48.0**	**-1.2**
JOU	**Okura**	**1.27**	**328**	*i* P	**Pn**	**13 23 35.3**	**0.0**
JOU				S	**Sg**	**13 23 52.4**	**-0.1**
JSB	**Shiboa**	**1.31**	**257**	P	**Pb**	**13 23 36.1**	**0.0**
JSB				S	**Sn**	**13 23 53.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.75**	**255**	Pn	**Pn**	**13 23 56.4**	**+0.8**
	1.0nm,0.3s,baz=79,slow=17,SNR=19 3.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	13 58 30.7	
	baz=314,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	13 58 37.1	
	baz=314,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	13 58 32.2	
	baz=314,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	13 59 25.2	
	baz=316,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	13 59 23.8	
	baz=316,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	13 59 23.4	
	baz=316,slow=76,SNR=18						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**13 31 00.9**	**-0.1**
	0.9nm,0.5s,baz=90,slow=7.4,SNR=5.1 0.9nm,0.5s						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**13 31 19.1**	**-0.3**
	0.7nm,0.6s,baz=71,slow=9.5,SNR=5.2 0.7nm,0.6s						
WRA	**Warramunga Arr**	**57.31**	**188**	P	**P**	**13 32 59.5**	**-0.1**
	0.3nm,0.6s,baz=4.1,slow=7.3,SNR=5.6 0.3nm,0.6s						
YKA	**Yellowknife Ar**	**63.56**	**30**	P	**P**	**13 33 41.8**	**+0.1**
	0.9nm,0.7s,baz=302,slow=12,SNR=2.1 0.9nm,0.7s						
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**13 34 48.1**	**+0.2**
	0.4nm,0.4s,baz=52,slow=1.5,SNR=1.4 0.4nm,0.4s						
PDAR	**Pinedale Array**	**77.44**	**46**	P	**P**	**13 35 08.9**	**+1.8**
	0.1nm,0.4s,baz=26,slow=2.3,SNR=4.2 0.1nm,0.4s						

WEL 22 13:25:09.7, 43.3°S±8.5°×17.3°E±1.5°, h5km±13km, M2.7/13, mB4.6/1, ML2.8/18, MLv2.7/13, Mw(mB)3.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=52.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.05**	**82**	P	Pg	13 25 11.6	+0.4
AMCZ	**Amberley**	**0.30**	**229**	P	Pb	13 25 17.6	-0.1
OKCZ	**Okains Bay**	**0.75**	**175**	P	Pn	13 25 27.9	+0.9
OXZ	**Oxford**	**0.76**	**242**	P	Pg	13 25 24.8	+0.5
MQZ	**McQueen's Vall**	**0.77**	**197**	P	Pg	13 25 24.8	+0.4
AKCZ	**Akaroa Harbour**	**0.90**	**183**	P	Pn	13 25 29.9	+0.9
RACZ	**Rakaia**	**0.96**	**218**	P	Pn	13 25 30.7	+0.8
INZ	**Inchbonnie**	**1.15**	**282**	P	Pn	13 25 33.4	+1.1
MHCZ	**Mount Hutt**	**1.16**	**241**	P	Pg	13 25 25.4	-6.6
THZ	**Tophouse**	**1.21**	**358**	P	Pn	13 25 33.7	+0.3
WACZ	**Wakanui South**	**1.27**	**220**	P	Pb	13 25 34.9	+0.9
DSZ	**Denniston Nort**	**1.50**	**325**	P	Pb	13 25 38.2	+0.2
RPZ	**Rata Peaks**	**1.58**	**241**	P	Pb	13 25 39.3	-0.1
MRNZ	**Matariki Terra**	**1.58**	**354**	P	Pg	13 25 40.0	0.0
ARCZ	**Arundel**	**1.62**	**233**	P	Pb	13 25 39.9	-0.3
WVZ	**Waitaha Valley**	**1.64**	**266**	P	Pg	13 25 40.9	-0.2
NNZ	**Nelson**	**1.78**	**10**	P	Pg	13 25 43.8	-0.1
TKNZ	**Takaka Hill**	**1.94**	**360**	P	Pb	13 25 45.4	-0.1
GCSZ	**Gaunt Creek Bo**	**1.96**	**259**	P	Pb	13 25 45.6	-0.2
TMZ	**Timaru**	**2.00**	**225**	P	Pb	13 25 45.9	-0.7
FOZ	**Fox Glacier**	**2.37**	**255**	P	Pb	13 25 51.1	-1.6
LBZ	**Lake Benmore**	**2.46**	**234**	P	Pn	13 25 51.8	+1.3
ODZ	**Otahua Downs**	**2.66**	**218**	P	Pn	13 25 53.8	+0.6
PYZ	**Puysegur Point**	**5.51**	**232**	P	Pn	13 26 33.0	+0.7
MARZ	**Manawahe**	**5.73**	**31**	P	Pn	13 26 37.9	+2.5

IDC 22 13:28:34.5±2.6, 7.82S×128.87E, h75km±36km, mb3.0/1, mbtmp3.3/5, ML2.9/4, Error ellipse: s-maj=21.9km s-min=21.5km az=144.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.66**	**245**	P	Pn	13 29 58.0	+1.8
	1.4nm,0.3s,baz=90,slow=20,SNR=1.5						
BATI				S	Sn	13 30 59.6	-0.2
	14nm,0.3s,baz=99,slow=23,SNR=9.0 7.1nm,0.6s						
SIJI	**Sorong**	**7.30**	**19**	P	Pn	13 30 17.7	-0.9
	0.7nm,0.3s,baz=218,slow=19,SNR=1.4 2.3nm,0.4s						
WRA	**Warramunga Arr**	**13.17**	**157**	P	Pn	13 31 39.6	+1.1
	baz=341,slow=13,SNR=7.3						
WRA				S	Sn	13 34 01.5	-1.8
	0.5nm,0.6s,baz=331,slow=23,SNR=1.5 0.3nm,0.9s						
ASAR	**Alice Springs**	**16.48**	**164**	P	P	13 32 22.2	-0.4
	baz=340,slow=11,SNR=1.7						
ASAR				S	Sn	13 35 22.7	-0.9
	0.3nm,1.0s,baz=344,slow=25,SNR=1.5 0.1nm,0.3s						
SONM	**Songino Array**	**58.87**	**342**	P	P	13 38 25.6	0.0
	0.2nm,0.4s,baz=148,slow=6.9,SNR=2.0 0.2nm,0.4s						

*IDC **22** 13:34:37.8±0.6, 37.2°N×141.3°E, h0km, mb4.2/21, mbtmp4.1/

XLT	**XiLinHaoTe**	**20.23**	**297**	⇓*i*P		**P**	**13 39 13.1**	**-2.0**
XLT				pP		Pn	13 39 16.3	-0.8
XLT				sP		pP	13 39 20.9	-1.6
XLT				PP		**PnPn**	**13 39 31.6**	**-0.3**
XLT				pmax	pmax			
	comp=Z,13nm,0.7s							
XLT				pmax	pmax			
	comp=Z,130nm,5.5s							
TWG	**Pinlang**	**22.61**	**236**	P		**P**	**13 39 42.3**	**+1.4**
MA2	**Magadan**	**23.13**	**12**	P		**P**	**13 39 44.8**	**-1.1**
	comp=Z,111nm,0.9s,baz=134,slow=5.2,SNR=4.1							
	comp=Z,111nm,0.9s							
MA2	**Magadan**	**23.13**	**12**	P		**P**	**13 39 45.8**	**-0.1**
MA2				IAmb	IAmb		13 40 26.9	
	comp=Z,45nm,1.4s							
HHC	**Hu-ho-hao-te**	**23.32**	**288**	*e*P		**P**	**13 39 52.4**	**+4.4**
HHC				pmax	pmax			
	comp=Z,42nm,0.9s							
HHC				pmax	pmax			
	comp=Z,170nm,6.4s							
YAK	**Yakutsk**	**25.81**	**347**	P		**P**	**13 40 09.4**	**-1.3**
	comp=Z,3.3nm,0.4s,baz=180,slow=1.9,SNR=5.6							
	comp=Z,3.3nm,0.4s							
YAK	**Yakutsk**	**25.81**	**347**	P		**P**	**13 40 09.9**	**-0.8**
YAK				IAmb	IAmb		13 40 13.1	
	comp=Z,14nm,0.9s							
YAK	**Yakutsk**	**25.81**	**347**	*e*P		**P**	**13 40 10.4**	**-0.3**
YAK				pmax	pmax			
	comp=Z,15nm,0.9s							
SEY	**Seymchan**	**26.57**	**11**	P		**P**	**13 40 17.1**	**-0.5**
	comp=Z,8.6nm,1.0s,baz=202,slow=9.3,SNR=6.8							
	comp=Z,8.6nm,1.0s							
SEY	**Seymchan**	**26.57**	**11**	*ce*P		**P**	**13 40 18.2**	**+0.7**
SEY				pmax	pmax			
	comp=Z,28nm,2.5s							
ULN	**Ulaanbaatar**	**27.15**	**304**	*i* P		**P**	**13 40 20.6**	**-2.5**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ENH	**Enshi**	**27.27**	**265**	P		**P**	**13 40 22.2**	**-2.0**
ENH				IAmb	IAmb		13 40 42.5	
	comp=Z,9.7nm,1.2s							
SONM	**Songino Array**	**27.58**	**304**	P		**P**	**13 40 25.5**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=100,slow=9.1,SNR=14							
	comp=Z,2.6nm,0.8s							
SONM	**Songino Array**	**27.58**	**304**	P		**P**	**13 40 26.8**	**-0.2**
SONM	**Songino Array**	**27.58**	**304**	P		**P**	**13 40 26.8**	**-0.2**
SONM				pmax	pmax			
	comp=Z,3.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**28.34**	**121**	T		T	14 10 01.4	
	baz=318							
H11N1	**WAKE ISLAND Hy**	**28.35**	**121**	T		T	14 10 02.5	
	baz=318							
H11N3	**WAKE ISLAND Hy**	**28.36**	**121**	T		T	14 10 07.5	
	baz=318							
H11S1	**WAKE ISLAND Hy**	**29.06**	**123**	T		T	14 10 56.9	
	baz=316,slow=76,SNR=5.8							
H11S3	**WAKE ISLAND Hy**	**29.06**	**123**	T		T	14 10 48.5	
	baz=316,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**29.08**	**123**	T		T	14 10 57.0	
	baz=316,slow=76,SNR=103							
GTA	**Gaotai**	**32.41**	**287**	*e*P		**P**	**13 41 10.4**	**+0.6**
GTA				pP		pP	13 41 16.0	-1.9
GTA				sP		sP	13 41 19.0	-2.2
GTA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BILL	**Bilibino**	**33.82**	**17**	*e*P		**P**	**13 41 20.2**	**-1.4**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.2s							
TIXI	**Tiksi**	**35.04**	**353**	P		**P**	**13 41 31.9**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=149,slow=0.2,SNR=3.7							
	comp=Z,1.5nm,0.3s							
PZH	**PanZhiHua**	**35.05**	**264**	P		**P**	**13 41 35.4**	**+2.6**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,5.5s							
TNCH	**TengChong**	**38.30**	**264**	*e*P		**P**	**13 42 02.3**	**+1.7**
DGZ	**Jazzator, Alta**	**40.18**	**306**	*i* P		**P**	**13 42 15.0**	**-1.1**
DGZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
WMQ	**Urumqi**	**40.66**	**297**	*e*P		**P**	**13 42 22.4**	**+2.4**
ZAA0	**Zalesovo Array**	**41.69**	**312**	P		**P**	**13 42 27.6**	**-0.6**
ZALV	**Zalesovo Beam**	**41.69**	**312**	P		**P**	**13 42 28.8**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=89,slow=6.5,SNR=22							
	comp=Z,3.6nm,0.6s							
ZALV	**Zalesovo Beam**	**41.69**	**312**	P		**P**	**13 42 27.7**	**-0.5**
MK31	**Makanchi Array**	**43.92**	**302**	P		**P**	**13 42 46.6**	**+0.2**
MK31				IAmb	IAmb		13 43 06.2	
	comp=Z,11nm,1.5s							
MK31	**Makanchi Array**	**43.92**	**302**	P		**P**	**13 42 46.7**	**+0.2**
MK31				pmax	pmax			
	comp=Z,11nm,1.5s							
MKAR	**Makanchi Array**	**43.92**	**302**	P		**P**	**13 42 45.3**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=83,slow=9.4,SNR=16							
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**43.92**	**302**	P		**P**	**13 42 46.9**	**+0.5**
MKAR	**Makanchi Array**	**43.92**	**302**	*ce*P		**P**	**13 42 47.0**	**+0.5**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MAKZ	**Makanchi**	**44.13**	**302**	P		**P**	**13 42 48.4**	**+0.3**
MAKZ				IAmb	IAmb		13 43 32.0	
	comp=Z,20nm,1.4s							
MAKZ	**Makanchi**	**44.13**	**302**	P		**P**	**13 42 48.4**	**+0.3**
MAKZ				pmax	pmax			
	comp=Z,20nm,1.5s							
KURK	**Kurchatov**	**45.72**	**308**	P		**P**	**13 43 00.6**	**-0.1**
KURK				IAmb	IAmb		13 43 02.4	
	comp=Z,9.9nm,0.9s							
KURK	**Kurchatov**	**45.72**	**308**	*ce*P		**P**	**13 43 00.7**	**+0.1**
KURK				pmax	pmax			
	comp=Z,11nm,1.0s							
K20K	**Telida**	**46.17**	**34**	P		**P**	**13 43 05.5**	**+1.4**
IMAR	**Indian Mountai**	**46.48**	**31**	P		**P**	**13 43 07.9**	**+1.4**
CAST	**Castle Rocks**	**47.07**	**34**	P		**P**	**13 43 11.9**	**+0.7**
CAST				IAmb	IAmb		13 43 13.5	
	comp=Z,6.0nm,1.1s							
KTH	**Kantishna Hill**	**47.59**	**34**	P		**P**	**13 43 15.3**	**0.0**
SUA	**Susitna One**	**47.71**	**37**	P		**P**	**13 43 17.0**	**+0.7**
TRF	**Thorofare Moun**	**47.88**	**34**	P		**P**	**13 43 18.2**	**+0.6**
H23K	**Yukon River**	**48.20**	**31**	P		**P**	**13 43 21.4**	**+1.5**
H23K				IAmb	IAmb		13 43 22.8	
	comp=Z,10nm,1.2s							
PMR	**Palmer**	**48.48**	**37**	P		**P**	**13 43 23.2**	**+1.3**
PMR	**Palmer**	**48.48**	**37**	P		**P**	**13 43 23.3**	**+1.3**
PMR				pmax	pmax			
	comp=Z,17nm,1.4s							
MDM	**Murphy Dome**	**48.75**	**32**	P		**P**	**13 43 25.6**	**+1.5**
MDM				IAmb	IAmb		13 43 26.6	
	comp=Z,6.0nm,1.0s							
KNK	**Knik Glacier**	**48.81**	**37**	P		**P**	**13 43 25.8**	**+1.2**
H24K	**Noodor Dome**	**48.89**	**31**	P		**P**	**13 43 25.6**	**+0.4**
H24K				IAmb	IAmb		13 44 06.4	
	comp=Z,8.7nm,1.4s							
CCB	**Clear Creek Bu**	**48.94**	**33**	P		**P**	**13 43 26.4**	**+0.9**
DHY	**Denali Highway**	**49.21**	**35**	P		**P**	**13 43 29.1**	**+1.3**
DHY				IAmb	IAmb		13 43 36.1	
	comp=Z,7.8nm,1.4s							
SCM	**Sheep Creek Mo**	**49.32**	**36**	P		**P**	**13 43 29.4**	**+0.8**
SCM	**Sheep Creek Mo**	**49.32**	**36**	P		**P**	**13 43 29.4**	**+0.8**
SCM				pmax	pmax			
	comp=Z,17nm,1.3s							
BOOM	**Boomskoye usch**	**49.33**	**298**	P		**P**	**13 43 29.1**	**+0.1**
BOOM	**Boomskoye usch**	**49.33**	**298**	P		**P**	**13 43 29.1**	**+0.1**
BOOM				pmax	pmax			
	comp=Z,25nm,1.5s							
IL31		**49.33**	**32**	P		**P**	**13 43 29.4**	**+0.9**
IL31				IAmb	IAmb		13 43 30.1	
	comp=Z,3.1nm,0.7s							
ILAR	**Eielson Array**	**49.33**	**32**	P		**P**	**13 43 28.4**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=262,slow=5.6,SNR=24							
	comp=Z,2.4nm,0.7s							
ILAR	**Eielson Array**	**49.33**	**32**	P		**P**	**13 43 29.0**	**+0.5**
KLU	**Klutina**	**50.02**	**37**	P		**P**	**13 43 34.0**	**0.0**
BMAR	**Burnt Mountain**	**50.16**	**29**	P		**P**	**13 43 36.1**	**+1.3**
KSH	**Kashi**	**50.23**	**294**	P		**P**	**13 43 40.6**	**+4.7**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.8s							
SCRK	**Sand Creek**	**50.65**	**33**	P		**P**	**13 43 39.8**	**+1.1**
SCRK				IAmb	IAmb		13 43 41.4	
	comp=Z,7.3nm,1.4s							
J26L	**Joseph Creek**	**50.78**	**33**	P		**P**	**13 43 40.1**	**+0.5**
L27K	**Beaver Creek,**	**51.72**	**34**	P		**P**	**13 43 48.2**	**+1.5**
BCAR	**Beaver Creek A**	**51.74**	**34**	P		**P**	**13 43 48.1**	**+1.3**
M27K	**Edge Creek, AK**	**51.80**	**35**	P		**P**	**13 43 48.8**	**+1.4**
M27K				IAmb	IAmb		13 44 20.2	
	comp=Z,6.8nm,1.2s							
DAWY	**Dawson**	**52.64**	**33**	P		**P**	**13 43 54.7**	**+1.2**
EPYK	**Eagle Plains**	**53.35**	**30**	P		**P**	**13 44 00.6**	**+1.9**
KNRA	**Kununurra**	**53.98**	**195**	P		**P**	**13 44 03.5**	**-0.2**
INK	**Inuvik**	**54.21**	**27**	P		**P**	**13 44 04.0**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=304,slow=6.6,SNR=8.3							
	comp=Z,1.7nm,0.8s							
INK	**Inuvik**	**54.21**	**27**	P		**P**	**13 44 05.7**	**+0.9**
INK	**Inuvik**	**54.21**	**27**	P		**P**	**13 44 05.7**	**+0.9**
INK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GAR	**Garm**	**54.52**	**295**	P		**P**	**13 44 07.8**	**+0.1**
GAR				IAmb	IAmb		13 44 41.0	
	comp=Z,7.8nm,1.2s							
CHGR	**Chuyangaron**	**55.49**	**295**	P		**P**	**13 44 14.8**	**+0.1**
CHGR				IAmb	IAmb		13 44 26.1	
	comp=Z,6.0nm,0.6s							
CHGR	**Chuyangaron**	**55.49**	**295**	P		**P**	**13 44 14.8**	**+0.1**
CHGR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
A36M	**Sachs Harbour**	**56.06**	**22**	P		**P**	**13 44 19.7**	**+1.6**
A36M				IAmb	IAmb		13 44 21.1	
	comp=Z,4.7nm,0.8s							
ARU	**Arti**	**56.12**	**318**	P		**P**	**13 44 19.1**	**+0.3**
ARU				IAmb	IAmb		13 44 20.1	
	comp=Z,11nm,1.0s							
ARU	**Arti**	**56.12**	**318**	*d i*P		**P**	**13 44 19.3**	**+0.5**
ARU							13 45 13.9	
ARU				S		**S**	**13 52 07.2**	**+1.3**
ARU				SS		**SS**	**13 55 50.5**	**-1.3**
ARU				pmax	pmax			
	comp=Z,13nm,1.0s							
WB0	**Warramunga Arr**	**57.11**	**188**	P		**P**	**13 44 25.3**	**-0.9**
WB0				IAmb	IAmb		13 44 42.4	
	comp=Z,4.8nm,1.1s							
C36M	**Paulatuk**	**57.24**	**25**	P		**P**	**13 44 26.9**	**+0.4**
C36M				IAmb	IAmb		13 44 51.8	
	comp=Z,6.7nm,1.4s							
WRAB	**Tennant Creek**	**57.28**	**188**	P		**P**	**13 44 25.0**	**-2.4**
WRAB				IAmb	IAmb		13 44 51.7	
	comp=Z,5.3nm,1.3s							
WRAB	**Tennant Creek**	**57.28**	**188**	P		**P**	**13 44 25.0**	**-2.4**
WRAB				pmax	pmax			
	comp=Z,5.0nm,1.3s							
WR0	**Warramunga Arr**	**57.29**	**188**	P		**P**	**13 44 24.8**	**-2.6**
WR0				IAmb	IAmb		13 44 59.0	
	comp=Z,6.7nm,1.4s							
WB2	**Warramunga Arr**	**57.29**	**188**	P		**P**	**13 44 24.6**	**-2.8**
WB2				IAmb	IAmb		13 44 48.8	
	comp=Z,6.1nm,1.4s							
WRA	**Warramunga Arr**	**57.29**	**188**	P		**P**	**13 44 25.5**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=3.9,slow=7.0,SNR=17							
	comp=Z,0.6nm,0.5s							
ABKAR	**Akbulak array**	**57.72**	**310**	P		**P**	**13 44 30.0**	**-0.3**
EUNU	**Eureka**	**59.96**	**9**	P		**P**	**13 44 45.7**	**+0.2**
EUNU				IAmb	IAmb		13 45 05.8	
	comp=Z,5.2nm,1.4s							
KIRV	**Kirov**	**60.00**	**323**	*ce*P		**P**	**13 44 46.8**	**+0.9**
ASAR	**Alice Springs**	**61.02**	**188**	P		**P**	**13 44 53.0**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=10.0,slow=10,SNR=7.2							
	comp=Z,0.6nm,1.0s							
ASAR	**Alice Springs**	**61.02**	**188**	P		**P**	**13 44 53.0**	**-0.3**
RES	**Resolute Bay**	**62.38**	**14**	P		**P**	**13 45 00.9**	**-0.9**
RES				IAmb	IAmb		13 45 19.6	
	comp=Z,6.3nm,1.3s							
RES	**Resolute Bay**	**62.38**	**14**	P		**P**	**13 45 01.0**	**-0.9**
RES				pmax	pmax			
	comp=Z,6.0nm,1.3s							
KEV	**Kevo**	**63.18**	**339**	P		**P**	**13 45 07.9**	**+0.7**
KEV	**Kevo**	**63.18**	**339**	P		**P**	**13 45 07.9**	**+0.7**
KEV				pmax	pmax			
	comp=Z,21nm,1.4s							
GEYT	**Alibeck**	**63.64**	**299**	P		**P**	**13 45 11.3**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=0.0,slow=1.5,SNR=5.3							
	comp=Z,1.1nm,0.4s							
ARCES	**ARCESS Array B**	**63.74**	**339**	P		**P**	**13 45 11.2**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=66,slow=6.0,SNR=6.5							
	comp=Z,2.2nm,0.7s							
ARCES	**ARCESS Array B**	**63.74**	**339**	P		**P**	**13 45 11.4**	**+0.5**
ARCES				IAmb	IAmb		13 45 49.5	
	comp=Z,8.4nm,1.3s							
OBN	**Obninsk**	**67.85**	**323**	*e*P		**P**	**13 45 37.3**	**-0.3**
OBN				*e*			13 46 03.5	
OBN				*e*			13 48 04.6	
OBN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
FIA1	**FINESS Array S**	**68.56**	**332**	P		**P**	**13 45 42.5**	**+0.6**
FINES	**FINESS Array B**	**68.56**	**332**	P		**P**	**13 45 42.3**	**+0.4**
	comp=Z,6.0nm,0.8s,baz=64,slow=8.7,SNR=9.4							
	comp=Z,6.0nm,0.8s							
FINES	**FINESS Array B**	**68.56**	**332**	*ce*P		**P**	**13 45 42.7**	**+0.8**
FINES				pmax	pmax			
	comp=Z,6.0nm,0.8s							
FORT	**Forrest**	**68.83**	**192**	P		**P**	**13 45 44.3**	**+0.4**
KBZ	**Khabaz**	**70.68**	**311**	P		**P**	**13 45 55.7**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=5.1,slow=5.8,SNR=6.7							
	comp=Z,3.3nm,0.8s							
KBZ	**Khabaz**	**70.68**	**311**	*ce*P		**P**	**13 45 56.5**	**+1.2**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KIV	**Kislovodsk**	**70.68**	**311**	*e*P		**P**	**13 45 56.8**	**+1.3**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
MNK	**Minsk**	**72.25**	**326**	*i* P		**P**	**13 46 01.7**	**-2.9**
	comp=E,1.0nm,0.6s							
MNK				*i* P		**P**	**13 46 01.7**	**-2.9**
	comp=N,23nm,0.7s							
MNK				*i* P		**P**	**13 46 01.7**	**-2.9**
	comp=Z,14nm,0.6s,baz=230							
MNK				*i* PcP		**PcP**	**13 46 19.9**	**-2.7**
MNK				*i* PP		**PP**	**13 48 41.4**	**-3.3**
MNK				*i* PPP		PPP	13 50 25.2	
MNK				*i* S		**S**	**13 55 24.1**	**-1.4**
MNK				*i* SS		**SS**	**14 00 01.9**	**-0.6**
MNK				*i* SSS		SSS	14 03 21.7	
MNK				*i* LQ		LQ	14 12 39.6	
MNK				*i* LR		LR	14 18 15.1	
MNK				*i* LRM		MLR	14 19 45.6	
	comp=E,48nm,19.4s							
MNK				*i* LRM		MLR	14 20 33.3	
	comp=N,370nm,20.6s							
MNK				*i* LRM		MLR	14 20 44.9	
	comp=Z,56nm,19.3s							
MNK	**Minsk**	**72.25**	**326**	*i* P		**P**	**13 46 01.6**	**-2.9**
MNK				*i*			13 46 19.9	
MNK				*i*			13 48 41.3	
MNK				*i* PPP		PPP	13 50 25.2	
MNK				*i* S		**S**	**13 55 24.0**	**-1.4**
MNK				*i*			13 56 07.5	
MNK				*i* SS		**SS**	**14 00 01.9**	**-0.6**
MNK				*i* SSS		SSS	14 03 21.7	
MNK				pmax	pmax			
	comp=E,1.0nm,0.6s							
MNK				pmax	pmax			
	comp=N,23nm,0.6s							
MNK				pmax	pmax			
	comp=Z,14nm,0.6s							
MNK				MLR	MLR			
	comp=E,48nm,19.0s							
MNK				MLR	MLR			
	comp=N,370nm,21.0s							
MNK				MLR	MLR			
	comp=Z,56nm,19.0s							
NB2	**NORSAR Subarra**	**73.93**	**337**	P		**P**	**13 46 15.3**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=38,slow=5.9							
NOA	**NORSAR Array B**	**73.93**	**337**	P		**P**	**13 46 14.8**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=38,slow=5.8,SNR=4.4							
	comp=Z,1.4nm,0.8s							
LRM	**Limekiln Ridge**	**74.03**	**44**	P		**P**	**13 46 16.3**	**+0.6**
AKASG	**Malin Array Be**	**74.05**	**322**	P		**P**	**13 46 15.2**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=46,slow=6.3,SNR=18							
	comp=Z,1.9nm,0.4s							
AKASG	**Malin Array Be**	**74.05**	**322**	*ce*P		**P**	**13 46 15.5**	**+0.2**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AKBB	**Malin Array Si**	**74.05**	**322**	*ce*P		**P**	**13 46 15.7**	**+0.4**
AKBB				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BOZ	**Bozeman (W)**	**74.62**	**44**	P		**P**	**13 46 20.3**	**+1.3**
BOZ	**Bozeman (W)**	**74.62**	**44**	P		**P**	**13 46 20.3**	**+1.3**
BOZ				pmax	pmax			
	comp=Z,4.0nm,1.3s							
NVAR	**Mina Array Bea**	**74.91**	**53**	P		**P**	**13 46 21.9**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=280,slow=6.1,SNR=6.3							
	comp=Z,0.8nm,0.8s							
IMW	**Indian Meadow**	**76.06**	**45**	P		**P**	**13 46 29.3**	**+1.8**
RLMT	**Red Lodge**	**76.22**	**43**	P		**P**	**13 46 29.5**	**+1.3**
BW06	**Boulder Array**	**77.55**	**45**	P		**P**	**13 46 36.1**	**+0.3**
PD31	**Pinedale Array**	**77.55**	**45**	P		**P**	**13 46 36.7**	**+0.9**
PDAR	**Pinedale Array**	**77.55**	**45**	P		**P**	**13 46 36.6**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=275,slow=1.4,SNR=9.8							
	comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**77.55**	**45**	P		**P**	**13 46 36.3**	**+0.5**
SRU	**San Rafael Swe**	**79.31**	**49**	P		**P**	**13 46 46.4**	**+0.9**
SRU	**San Rafael Swe**	**79.31**	**49**	P		**P**	**13 46 46.4**	**+0.9**
SRU				pmax	pmax			
	comp=Z,2.0nm,0.6s							
PV23	**Carpenter Ridg**	**80.64**	**49**	P		**P**	**13 46 53.9**	**+1.0**
PV23				IAmb	IAmb		13 46 59.6	
	comp=Z,3.1nm,0.8s							
CLL	**Collm**	**80.84**	**330**	*e*P		**P**	**13 46 54.0**	**+0.7**
GERES	**GERESS Array B**	**82.46**	**328**	P		**P**	**13 47 02.4**	**+0.3**
	comp=Z,0.5nm,0.2s,baz=46,slow=7.7,SNR=4.6							
	comp=Z,0.5nm,0.2s							
TXAR	**Lajitas Array**	**90.04**	**52**	P		**P**	**13 47 40.3**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=290,slow=3.5,SNR=9.9							
	comp=Z,0.7nm,0.7s							
LPAZ	**La Paz**	**146.64**	**59**	PKPbc		**PKPbc**	**13 54 22.6**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=351,slow=3.4,SNR=6.2							
H03N2	**Juan Fernandez**	**147.13**	**96**	T		T	16 38 38.2	
	baz=291,slow=76,SNR=5.6							
H03N3	**Juan Fernandez**	**147.14**	**96**	T		T	16 38 37.4	
	baz=291,slow=76,SNR=5.7							
H03N1	**Juan Fernandez**	**147.15**	**96**	T		T	16 38 39.1	
	baz=291,slow=76,SNR=6.7							

NEIC ***22*** *13:36:07.8±1.1, 37.°12N±0.°07×141.°2E±0.°2, h10km±1km, mb4.3/9, Error ellipse: s-maj=26.6km s-min=5.4km az=246.0*

JMA ***22*** *13:36:09.5±0.2, 37.°3N±0.°4×14 7°E±°, h23km±1km, MV3.9/27, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

NIED ***22*** *13:36:09.2, 37.°25N×141.°42E, h22km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.58; Mθθ1.43; Mϕϕ2.15; Mrθ1.62; Mθϕ2.05; Mϕr2.54; Fault plane solution: M₀4.79000×10¹⁴ NP1:ϕs46.00000°, δ26.00000°, λ-80.00000°. NP2:ϕs215.00000°, δ65.00000°, λ-95.00000°.*

IDC ***22*** *13:36:14.4±3.6, 37.°10N×141.°28E, h64km±32km, mb3.5/12, mbtmp3.8/14, ML3.1/1 Error ellipse: s-maj=26.2km s-min=21.1km az=90.0*

ISC 22 13:36:07.9±2.1, 37.°18N±0.°05×141.°48E±0.°08, h12km±12km, n38, σ1ᵖ40/38, mb3.9/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.52**	**292**	P	**Pg**	**13 36 18.1**	**+0.1**
JFK				S	**Sg**	**13 36 24.8**	**0.0**
JMST	**Minamisoumatoc**	**0.72**	**320**	P	**Pg**	**13 36 21.3**	**-0.5**
JMST				S	**Sg**	**13 36 30.9**	**-0.3**
JFFD	**Fukushimafurud**	**0.74**	**264**	P	**Pg**	**13 36 22.3**	**+0.2**
JFFD				S	**Sg**	**13 36 32.0**	**+0.2**
JMM	**Marumori**	**0.88**	**322**		**Pb**	**13 36 23.7**	**-1.3**
JMM					**Sb**	**13 36 34.2**	**-2.5**
JMM	**Marumori**	**0.88**	**322**	P	**Pb**	**13 36 24.1**	**-0.9**
JMM				*e*S	**Sb**	**13 36 35.2**	**-1.5**
JIO	**Ouri**	**1.28**	**356**	P	**Pn**	**13 36 31.3**	**-0.2**
MJAR	**Matsushiro Arr**	**2.69**	**257**	P	**Pn**	**13 36 52.1**	**+1.1**
	20nm,0.7s,baz=121,slow=31,SNR=1.2						
MJAR				S	**Sb**	**13 37 28.8**	**-0.2**
	16nm,0.5s,baz=20,slow=32,SNR=1.7						
USRK	**Ussuriysk Ar.**	**10.05**	**317**	P	**Pn**	**13 38 36.6**	**+4.6**
	0.2nm,0.3s,baz=219,slow=26,SNR=2.1						
	2.2nm,0.7s						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**13 41 56.6**	**+0.2**
	1.0nm,0.8s,baz=105,slow=11,SNR=2.1						
	1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	14 11 27.3	
	baz=314,slow=75,SNR=276						
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	14 11 28.4	
	baz=314,slow=75,SNR=188						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	14 11 28.9	
	baz=314,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	14 12 20.1	
	baz=316,slow=76,SNR=116						
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	14 12 22.0	
	baz=316,slow=76,SNR=126						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	14 12 21.5	
	baz=316,slow=76,SNR=7.0						
KKM	**Kota Kinabalu**	**38.62**	**223**	P	**P**	**13 43 28.6**	**-2.6**
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**13 43 57.3**	**-0.2**
	2.1nm,0.8s,baz=114,slow=3.9,SNR=3.3						
	2.1nm,0.8s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**13 44 16.3**	**+0.5**
	1.2nm,1.0s,baz=90,slow=8.5,SNR=2.0						
	1.2nm,1.0s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**13 44 57.5**	**+0.8**
	1.0nm,0.8s,baz=267,slow=6.8,SNR=4.9						
	1.0nm,0.8s						
ILAR

DALK	**Dalny**	**2.65**	**21**	P	Pn	13 38 59.2	+2.8
DALK				S	Sn	13 39 30.1	+2.8
AVH	**Avacha**	**2.86**	**19**	P	Pn	13 39 03.1	+3.6
SDLR	**Sedlovina**	**2.91**	**20**	P	Pn	13 39 02.6	+2.5

JMA ***22*** *13:39:55.9±0.1, 37.2N±0.3×141.4E±0.7, h22km±1km, MV3.3/38, E OFF FUKUSHIMA PREF*
IDC ***22*** *13:39:55.8±1.5, 37.35N×141.36E, h0km, mb3.4/3, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=35.8km s-min=27.3km azr=142.0*
ISC 22 13:39:56.2±1.1, 37.26N±0.04×141.33E±0.07, h10km, n18, σ0.93/21, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.38**	**286**	P	**Pb**	**13 40 04.2**	**-0.8**
JFK				S	**Sb**	**13 40 10.5**	**-0.5**
JMST	**Minamisoumatoc**	**0.58**	**323**	*i* P	**Pb**	**13 40 07.9**	**-0.7**
JMST				S	**Sb**	**13 40 16.9**	**+0.1**
JFFD	**Fukushimafurud**	**0.64**	**255**	*i* P	**Pg**	**13 40 08.4**	**-0.2**
JFFD				S	**Sg**	**13 40 17.6**	**+0.6**
JMM	**Marumori**	**0.74**	**325**	*i* P	**Pb**	**13 40 10.6**	**-0.6**
JMM				S	**Sb**	**13 40 21.5**	**+0.1**
JHO	**Hitachi**	**0.89**	**223**	*eP*	**Pg**	**13 40 11.7**	**-1.7**
JHO				*eS*	**Sg**	**13 40 23.8**	**-1.3**
JSB	**Shiboa**	**1.17**	**256**	P	**Pg**	**13 40 18.3**	**-0.3**
JSB				*eS*	**Sn**	**13 40 34.5**	**-0.2**
JIO	**Ouri**	**1.19**	**1**	P	**Pb**	**13 40 17.3**	**-1.5**
JIO				*eS*	**Sg**	**13 40 33.7**	**-0.8**
JOU	**Okura**	**1.22**	**335**	*i* P	**Pg**	**13 40 19.0**	**-0.7**
JOU				S	**Sn**	**13 40 36.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.60**	**255**	Pn	**Pn**	**13 40 38.3**	**-0.2**
	0.8nm,0.3s,baz=74,slow=17,SNR=9.4						
MJAR				Sn	**Sb**	**13 41 15.1**	**0.0**
	1.0nm,0.3s,baz=96,slow=29,SNR=2.5 3.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	14 15 19.2	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	14 15 20.4	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	14 15 21.2	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	14 16 18.2	
	baz=316,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	14 16 14.6	
	baz=316,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.05**	**123**	T	T	14 16 15.2	
	baz=316,slow=76,SNR=13						
MKAR	**Makanchi Array**	**43.94**	**302**	P	**P**	**13 48 04.3**	**+1.1**
	0.4nm,0.7s,baz=99,slow=8.9,SNR=2.2 0.4nm,0.7s						
ILAR	**Eielson Array**	**49.34**	**32**	P	**P**	**13 48 45.5**	**+0.3**
	0.6nm,1.0s,baz=275,slow=8.1,SNR=2.6 0.6nm,1.0s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**13 49 46.0**	**+1.9**
	0.3nm,0.6s,baz=5.2,slow=7.2,SNR=6.9 0.3nm,0.6s						

WEL 22 13:39:56.6±0.4, 42.5S±2.2×17.4E±., h10km±3km, M2.4/16, ML2.8/16, MLv2.4/16, Error ellipse: s-maj=0.0km s-min=0.0km az=137.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**135**	P	Pg	13 40 00.4	+1.2
CMWZ				S	Sg	13 40 03.5	+2.3
BSWZ	**Blackbirch Sta**	**0.18**	**257**	P	Pg	13 40 01.4	+0.9
BSWZ				S	Sg	13 40 04.6	+1.4
TUWZ	**Tuamarina**	**0.28**	**332**	P	Pb	13 40 03.5	-0.3
TUWZ				S	Sb	13 40 08.2	-0.3
TCW	**Tory Channel**	**0.48**	**15**	P	Pg	13 40 06.6	+0.6
TCW				S	Sb	13 40 13.8	-0.5
WEL	**Wellington**	**0.63**	**52**	P	Pb	13 40 09.9	+0.1
WEL	**Wellington**	**0.63**	**52**	P	Pg	13 40 07.5	-1.3
NNZ	**Nelson**	**0.72**	**309**	P	Pb	13 40 10.9	-0.3
NNZ				S	Sb	13 40 20.8	-0.3
KHZ	**Kahutara**	**0.85**	**210**	P	Pg	13 40 12.9	-0.2
PLWZ	**Palliser**	**0.86**	**83**	P	Pg	13 40 12.7	-0.6
DUWZ	**D'Urville Isla**	**0.88**	**351**	P	Pg	13 40 13.8	+0.1
THZ	**Tophouse**	**0.91**	**264**	P	Pg	13 40 13.8	-0.4
CAW	**Cannon Point**	**0.91**	**52**	P	Pg	13 40 14.3	+0.1
KIW	**Kapiti Island**	**1.01**	**37**	P	Pg	13 40 15.7	-0.4
MRNZ	**Matariki Terra**	**1.05**	**285**	P	Pg	13 40 16.7	-0.2
TKNZ	**Takaka Hill**	**1.08**	**306**	P	Pg	13 40 17.0	-0.4
MTW	**Mount Morrison**	**1.17**	**64**	P	Pb	13 40 17.4	-1.5
OGWZ	**Otaki Gorge**	**1.17**	**43**	P	Pb	13 40 18.2	-0.8
HOWZ	**Holdsworth Sta**	**1.31**	**54**	P	Pn	13 40 20.2	-0.9
QRZ	**Quartz Range**	**1.47**	**305**	P	Pb	13 40 23.9	-0.1
DSZ	**Denniston Nort**	**1.73**	**267**	P	Pn	13 40 27.0	+0.2
LTZ	**Lake Taylor**	**1.76**	**230**	P	Pb	13 40 29.5	+0.4
AMCZ	**Amberley**	**1.85**	**215**	P	Pn	13 40 29.0	+0.5
WAZ	**Wanganui**	**2.03**	**19**	P	Pb	13 40 33.6	-0.1
KHEZ	**Kahui Hut**	**2.38**	**358**	P	Pb	13 40 39.1	-0.6
NBEZ	**Newall Road No**	**2.41**	**355**	P	Pg	13 40 42.6	-0.2
VRZ	**Vera Road**	**2.59**	**11**	P	Pn	13 40 39.9	+1.2
WNVZ	**Wahianoa**	**2.60**	**26**	P	Pb	13 40 43.6	0.0
BHHZ	**Black Hill Sta**	**2.64**	**35**	P	Pb	13 40 44.0	-0.1
NGZ	**Ngauruhoe**	**2.74**	**25**	P	Pb	13 40 45.4	-0.5
NNVZ	**North Ngauruho**	**2.79**	**25**	P	Pb	13 40 46.4	-0.2
ETVZ	**East Tongariro**	**2.81**	**26**	P	Pb	13 40 45.9	-1.2
TMWZ	**Te Maari**	**2.83**	**26**	P	Pb	13 40 46.4	-1.0
BKZ	**Black Stump Fm**	**3.10**	**37**	P	Pb	13 40 51.5	-0.4
HHSZ	**Highcliff Hill**	**4.92**	**210**	P	Pn	13 41 10.9	+0.2

WEL 22 13:40:21.8±0.4, 43.3S±2.2×17.3E±., h6km±2km, M2.9/18, ML3.0/14, MLv2.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=124.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.10**	**105**	P	Pg	13 40 24.2	+0.3
GVZ				S	Sg	13 40 26.3	+0.8
LTZ	**Lake Taylor**	**0.49**	**289**	P	Pg	13 40 31.9	+0.5
LTZ				S	Sb	13 40 39.2	-1.2
KHZ	**Kahutara**	**0.70**	**42**	P	Pb	13 40 36.1	-0.4
OXZ	**Oxford**	**0.74**	**239**	P	Pb	13 40 37.0	-0.1
OXZ				S	Sb	13 40 47.6	0.0
MQZ	**McQueen's Vall**	**0.79**	**193**	P	Pg	13 40 36.9	+0.1
OKCZ	**Okains Bay**	**0.79**	**172**	P	Pb	13 40 38.0	+0.1
AKCZ	**Akaroa Harbour**	**0.93**	**180**	P	Pg	13 40 39.6	-0.1
RACZ	**Rakaia**	**0.96**	**215**	P	Pg	13 40 40.0	-0.3
INZ	**Inchbonnie**	**1.10**	**281**	P	Pg	13 40 42.9	0.0
MHCZ	**Mount Hutt**	**1.14**	**238**	P	Pg	13 40 43.4	-0.3
WACZ	**Wakanui South**	**1.27**	**217**	P	Pn	13 40 44.2	-1.8
BSWZ	**Blackbirch Sta**	**1.42**	**31**	P	Pn	13 40 47.7	-0.4
DSZ	**Denniston Nort**	**1.45**	**325**	P	Pn	13 40 48.0	-0.5
MRNZ	**Matariki Terra**	**1.55**	**356**	P	Pn	13 40 49.9	0.0
RPZ	**Rata Peaks**	**1.56**	**240**	P	Pn	13 40 48.5	-1.5
WVZ	**Waitaha Valley**	**1.60**	**285**	P	Pn	13 40 50.3	-0.3
ARCZ	**Arundel**	**1.61**	**231**	P	Pn	13 40 49.2	-1.6
GCSZ	**Gaunt Creek Bo**	**1.93**	**258**	P	Pn	13 40 54.7	-0.4
TMZ	**Timaru**	**1.99**	**223**	P	Pn	13 40 54.5	-1.6
FOZ	**Fox Glacier**	**2.33**	**254**	P	Pn	13 41 00.6	-0.1
LBZ	**Lake Benmore**	**2.45**	**233**	P	Pn	13 41 01.2	-1.1
ODZ	**Otahua Downs**	**2.66**	**217**	P	Pn	13 41 03.4	-1.8
JCZ	**Jackson Bay**	**3.20**	**248**	P	Pn	13 41 11.9	-0.8
MLZ	**Mavora Lakes**	**4.21**	**233**	P	Pn	13 41 24.6	-1.9

WEL 22 13:50:49.9±0.4, 42.3S±3.1×17.4E±., h5km±3km, M3.0/25, ML3.2/13, MLv3.0/25, Error ellipse: s-maj=0.0km s-min=0.0km az=121.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.10**	**261**	P	Pg	13 50 52.3	+0.2
KHZ				S	Sg	13 50 54.7	+1.1
BSWZ	**Blackbirch Sta**	**0.70**	**12**	P	Pg	13 51 03.1	-0.3
GVZ	**Greta Valley S**	**0.74**	**220**	P	Pb	13 51 05.0	-0.3
CMWZ	**Cape Campbell**	**0.76**	**32**	P	Pb	13 51 05.6	-0.1
THZ	**Tophouse**	**0.86**	**318**	P	Pg	13 51 06.3	-0.1
TUWZ	**Tuamarina**	**0.99**	**12**	P	Pg	13 51 08.4	-0.5
AMCZ	**Amberley**	**1.08**	**224**	P	Pg	13 51 09.9	-0.8
LTZ	**Lake Taylor**	**1.10**	**249**	P	Pg	13 51 10.6	-0.5
NNZ	**Nelson**	**1.20**	**349**	P	Pg	13 51 12.0	-1.0
MRNZ	**Matariki Terra**	**1.21**	**325**	P	Pg	13 51 12.8	-0.4
TCW	**Tory Channel**	**1.27**	**21**	P	Pg	13 51 12.1	-2.2
WEL	**Wellington**	**1.38**	**37**	P	Pn	13 51 13.3	-2.5
OKCZ	**Okains Bay**	**1.40**	**199**	P	Pn	13 51 13.5	-2.6
PLWZ	**Palliser**	**1.44**	**55**	P	Pn	13 51 13.3	-3.4
TKNZ	**Takaka Hill**	**1.47**	**338**	P	Pn	13 51 16.6	-0.4
MQZ	**McQueen's Vall**	**1.50**	**209**	P	Pn	13 51 14.4	-3.1
OXZ	**Oxford**	**1.52**	**232**	P	Pn	13 51 15.1	-2.6
DSZ	**Denniston Nort**	**1.54**	**295**	P	Pn	13 51 17.9	-0.1
AKCZ	**Akaroa Harbour**	**1.57**	**201**	P	Pn	13 51 15.7	-2.8
DUWZ	**D'Urville Isla**	**1.61**	**7**	P	Pn	13 51 18.2	-0.8
PAWZ	**Paruwai Farm**	**1.66**	**53**	P	Pn	13 51 16.2	-3.5
CAW	**Cannon Point**	**1.66**	**39**	P	Pn	13 51 16.9	-2.7
INZ	**Inchbonnie**	**1.68**	**258**	P	Pn	13 51 18.9	-1.0
RACZ	**Rakaia**	**1.74**	**220**	P	Pn	13 51 18.2	-2.5
QRZ	**Quartz Range**	**1.79**	**331**	P	Pn	13 51 21.7	+0.3
KIW	**Kapiti Island**	**1.79**	**31**	P	Pn	13 51 18.7	-2.8
MTW	**Mount Morrison**	**1.85**	**48**	P	Pn	13 51 18.8	-3.5
MHCZ	**Mount Hutt**	**1.92**	**233**	P	Pn	13 51 20.8	-2.5
OGWZ	**Otaki Gorge**	**1.94**	**36**	P	Pn	13 51 20.8	-2.7
HOWZ	**Holdsworth Sta**	**2.04**	**43**	P	Pn	13 51 21.7	-3.2
WACZ	**Wakanui South**	**2.04**	**220**	P	Pn	13 51 22.4	-2.5
MRZ	**Mangatainoka R**	**2.25**	**40**	P	Pn	13 51 24.9	-2.9
WVZ	**Waitaha Valley**	**2.27**	**252**	P	Pn	13 51 26.8	-1.1
RPZ	**Rata Peaks**	**2.33**	**235**	P	Pn	13 51 26.7	-2.1
ARCZ	**Arundel**	**2.39**	**229**	P	Pn	13 51 27.3	-2.4
GCSZ	**Gaunt Creek Bo**	**2.63**	**248**	P	Pn	13 51 32.1	-0.8
TMZ	**Timaru**	**2.78**	**224**	P	Pn	13 51 32.8	-2.3
WAZ	**Wanganui**	**2.82**	**21**	P	Pn	13 51 37.1	+1.5
FOZ	**Fox Glacier**	**3.05**	**247**	P	Pn	13 51 38.1	-0.7
KHEZ	**Kahui Hut**	**3.11**	**5**	P	Pb	13 51 43.1	-2.7
VRZ	**Vera Road**	**3.37**	**14**	P	Pn	13 51 43.2	0.0
ODZ	**Otahua Downs**	**3.44**	**219**	P	Pn	13 51 41.2	-2.9

IDC ***22*** *13:51:42.5±1.0, 37.10N×141.42E, h0km, mb3.5/7, mbtmp3.6/10, ML3.2/3, Error ellipse: s-maj=23.0km s-min=18.7km az=94.0*
NIED ***22*** *13:51:44.3, 37.22N×141.30E, h25km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.03; Mθθ2.18; Mφφ0.85; Mrθ1.44; Mφθ-1.23; Mφr0.82; Fault plane solution: M₀3.40000×10¹⁴ NP1:φ₀59.00000°, δ30.00000°, λ-91.00000°. NP2:φ₀240.00000°, δ60.00000°, λ-89.00000°.*
JMA ***22*** *13:51:44.3±0.2, 37.2N±0.3×141.3E±0.9, h25km±1km, MV3.8/32, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 13:51:43.3±2.1, 37.15N±0.04×141.36E±0.09, h5km±12km, n21, σ1.903/22, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.44**	**299**	*i* P	**Pg**	**13 51 52.0**	**+0.2**
JFK				S	**Sg**	**13 51 57.6**	**+0.1**
JFFD	**Fukushimafurud**	**0.64**	**265**	*i* P	**Pg**	**13 51 56.2**	**+0.6**
JFFD				S	**Sg**	**13 52 03.9**	**+0.1**
JMST	**Minamisoumatoc**	**0.68**	**327**	P	**Pg**	**13 51 55.9**	**-0.4**
JMST				S	**Sg**	**13 52 04.6**	**-0.6**
JHO	**Hitachi**	**0.83**	**230**	P	**Pg**	**13 51 59.2**	**0.0**
JHO				*eS*	**Sg**	**13 52 10.1**	**0.0**
JMM	**Marumori**	**0.84**	**328**	*i* P	**Pg**	**13 51 58.5**	**-0.9**
JMM				S	**Sg**	**13 52 09.8**	**-0.5**
MJAR	**Matsushiro Arr**	**2.60**	**257**	Pn	**Pn**	**13 52 26.4**	**+0.4**
	1.3nm,0.3s,baz=84,slow=15,SNR=56						
MJAR				Sn	**Sb**	**13 52 59.8**	**-2.7**
	1.5nm,0.3s,baz=85,slow=17,SNR=6.8 6.0nm,0.4s						
JHJ	**Hachijo jima 2**	**4.23**	**198**	Pn	**Pn**	**13 52 48.0**	**-0.3**
	18nm,0.3s,baz=50,slow=21,SNR=6.0						
JHJ				Sn	**Sn**	**13 53 37.5**	**-0.6**
	12nm,0.3s,baz=90,slow=15,SNR=2.2 42nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.00**	**318**	Pn	**Pn**	**13 54 09.9**	**+2.3**
	0.1nm,0.3s,baz=126,slow=16,SNR=3.1 1.5nm,0.7s						
SONM	**Songino Array**	**27.68**	**304**	P	**P**	**13 57 31.0**	**-1.3**
	0.5nm,0.7s,baz=78,slow=14,SNR=2.2 0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	14 27 15.5	
	baz=314,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	14 27 16.1	
	baz=314,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	14 27 16.9	
	baz=314,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	14 28 06.4	
	baz=315,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	14 28 07.6	
	baz=315,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	14 28 08.2	
	baz=315,slow=76,SNR=18						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**13 59 33.9**	**+0.3**
	0.4nm,0.4s,baz=67,slow=13,SNR=2.0 0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**13 59 52.9**	**+1.1**
	0.3nm,0.5s,baz=74,slow=11,SNR=2.2 0.3nm,0.5s						
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**14 00 33.8**	**+0.1**
	0.4nm,0.8s,baz=280,slow=7.0,SNR=4.1 0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**14 01 30.5**	**-0.7**
	0.7nm,0.6s,baz=4.6,slow=6.7,SNR=24 0.7nm,0.6s						
ASAR	**Alice Springs**	**60.90**	**188**	P	**P**	**14 01 56.8**	**-0.3**
	0.3nm,0.7s,baz=7.6,slow=7.2,SNR=5.7 0.3nm,0.7s						
PDAR	**Pinedale Array**	**77.61**	**45**	P	**P**	**14 03 41.2**	**+0.3**
	0.1nm,0.4s,baz=269,slow=4.1,SNR=2.2 0.1nm,0.4s						

IDC ***22*** *13:58:50.8±2.7, 37.94N×141.86E, h0km, mb3.3/2, mbtmp3.2/3, ML2.3/1, Error ellipse: s-maj=47.2km s-min=43.8km az=47.0*
JMA ***22*** *13:58:58.9±0.2, 37.3N±0.3×141.5E±0.9, h29km±1km, MV3.1/38, E OFF FUKUSHIMA PREF*
ISC 22 13:58:57.0±2.5, 37.30N±0.05×141.6E±0.1, h12km±14km, n16, σ0.81/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.60**	**277**	P	**Pg**	**13 59 09.4**	**+0.7**
JFK				S	**Sg**	**13 59 16.9**	**+0.3**
JMST	**Minamisoumatoc**	**0.72**	**306**	P	**Pg**	**13 59 11.4**	**+0.4**
JMST				S	**Sg**	**13 59 20.5**	**+0.1**
JMM	**Marumori**	**0.87**	**311**	P	**Pg**	**13 59 13.7**	**0.0**
JMM				S	**Sg**	**13 59 24.7**	**-0.4**
JFFD	**Fukushimafurud**	**0.87**	**257**	P	**Pg**	**13 59 13.8**	**-0.1**
JFFD				S	**Sg**	**13 59 24.7**	**-0.5**
JHO	**Hitachi**	**1.09**	**231**	*eS*	**Sg**	**13 59 31.0**	**-1.1**
JIO	**Ouri**	**1.17**	**350**	*eP*	**Pb**	**13 59 19.1**	**-0.2**
JIO				*eS*	**Sb**	**13 59 33.1**	**-1.3**
JOU	**Okura**	**1.31**	**325**	P	**Pn**	**13 59 21.4**	**+0.3**
JOU				S	**Sb**	**13 59 38.3**	**-0.1**
MJAR	**Matsushiro Arr**	**2.84**	**256**	Pn	**Pn**	**13 59 43.5**	**+1.3**
	0.4nm,0.3s,baz=78,slow=15,SNR=8.1						
MJAR				Sn	**Sb**	**14 00 21.0**	**-1.4**
	0.3nm,0.3s,baz=334,slow=30,SNR=1.6 0.8nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	14 34 14.9	
	baz=314,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	14 34 13.4	
	baz=314,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	14 34 16.2	
	baz=314,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	14 35 11.3	
	baz=316,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	14 35 10.4	
	baz=316,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	14 35 10.6	
	baz=316,slow=76,SNR=7.9						
MKAR	**Makanchi Array**	**44.12**	**302**	P	P	14 06 59.2	-6.1
	0.8nm,0.9s,baz=84,slow=9.1,SNR=2.1 0.8nm,0.9s						
WRA	**Warramunga Arr**	**57.35**	**188**	P	**P**	**14 08 45.2**	**+0.1**
	0.2nm,0.9s,baz=5.9,slow=7.5,SNR=1.1 0.2nm,0.9s						

WEL 22 14:03:52.6±1.0, 42.5S±6.7×17.4E±., h5km±6km, M2.7/3, ML3.3/3, MLv2.7/3, Error ellipse: s-maj=0.0km s-min=0.0km az=157.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.04**	**159**	P	Pg	14 03 53.8	+0.2
KHZ				S	Sg	14 03 54.8	+0.4
GVZ	**Greta Valley S**	**0.69**	**211**	P	Pg	14 04 06.2	+0.4
LTZ	**Lake Taylor**	**1.01**	**246**	P	Pg	14 04 11.8	-0.1

BJI ***22*** *14:03:55.4±0.0, 37.17N×141.47E, h15km, mb5.0/67, mB5.1/54, Ms5.5/86, Ms7 5.3/79*
IDC ***22*** *14:03:56.9±0.4, 37.20N×141.24E, h0km, mb4.9/31, mbtmp4.9/35, ML3.8/4, MS4.8/77, Error ellipse: s-maj=12.7km s-min=10.6km az=113.0*
JMA ***22*** *14:03:57.8±0.2, 37.2N±0.4×141.4E±0.9, h28km±1km, MD5.7/41, MW5.3/41, E OFF FUKUSHIMA PREF*
JMA Felt IV J1 at E OFF FUKUSHIMA PREF .
MOS ***22*** *14:03:57.7±1.1, 37.24N×141.30E, h17km, mb5.4/74, MS5.3/26, Error ellipse: s-maj=6.1km s-min=3.7km az=115.8*
NIED ***22*** *14:03:57.8, 37.18N×141.45E, h28km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-2.43; Mθθ0.54; Mφφ1.89; Mrθ2.58; Mφθ7.76; Mφr-0.53; Fault plane solution: M₀8.38000×10¹⁶ NP1: φ₀359.00000°, δ68.00000°, λ-167.00000°. NP2: φ₀265.00000°, δ78.00000°, λ-22.00000°.*
NEIC ***22*** *14:03:59.0±1.1, 37.23N±0.04×141.37E±0.06, h16km±3km, mb5.2/198 Error ellipse: s-maj=7.0km s-min=5.7km az=79.0*
GCMT ***22*** *14:04:01.0±0.1, 37.19N±0.01×141.41E±0.01, h12km, MW5.3/153, Moment Tensor Solution. s90, c150; s153, c283; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.42±.01; Mθθ0.02±.01; Mφφ0.40±.01; Mrθ0.26±.04; Mφθ0.99±.01; Mφr0.07±.03; Best double couple: M₀1.05800×10¹⁷ NP1:φ₀262.00000°, δ81.00000°, λ-20.00000°. NP2:φ₀355.00000°, δ70.00000°, λ-171.00000°. Principal axes: T 1.2550, Plg8.0000°, Azm310.00000°; N -0.3940, Plg68.0000°, Azm59.0000°; P -0.8610, Plg21.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KEA ***22*** *14:04:01.8, 37.31N×141.64E, h28km, MS4.8/4*
ISC 22 14:03:59.3±0.5, 37.20N±0.02×141.41E±0.03, h20km±2km, h20km:pP-P, n1068, σ1.968/982, mb5.2/250, MS5.1/118, 87C-31D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.46**	**292**	*i* P	**Pg**	**14 04 07.5**	**-1.4**
JFK				S	**Sg**	**14 04 14.4**	**-0.9**
JFK	**Kawauchi**	**0.46**	**292**	A	A	14 04 07.5	
	comp=E,482nm,2.5s,comp=E,481nm,2.9s						
JMST	**Minamisoumatoc**	**0.67**	**322**	*i* P	**Pb**	**14 04 11.0**	**-1.4**
JMST				S	**Sb**	**14 04 20.9**	**-0.4**
JMST	**Minamisoumatoc**	**0.67**	**322**	A	A	14 04 11.0	
	comp=E,211nm,1.7s,comp=E,298nm,1.1s						
JFFD	**Fukushimafurud**	**0.69**	**262**	⇓*i* P	**Pb**	**14 04 11.2**	**-1.4**
JFFD				⇓S	**Sb**	**14 04 20.9**	**-0.9**
JFFD	**Fukushimafurud**	**0.69**	**262**	A	A	14 04 11.2	
	comp=E,638nm,0.8s,comp=E,2μm,0.7s						
JMM	**Marumori**	**0.83**	**324**		**Pb**	**14 04 13.6**	**-1.5**
JMM				Sg	**Sb**	**14 04 24.6**	**-1.3**
JMM	**Marumori**	**0.83**	**324**	P	**Pb**	**14 04 14.4**	**-0.7**
JMM	**Marumori**	**0.83**	**324**	*i* P	**Pb**	**14 04 13.7**	**-1.5**
JMM				S	**Sb**	**14 04 25.4**	**-0.5**
JMM	**Marumori**	**0.83**	**324**	A	A	14 04 13.7	
	comp=E,155nm,1.4s,comp=E,185nm,0.5s						
JHO	**Hitachi**	**0.89**	**229**	⇓*i* P	**Pb**	**14 04 13.4**	**-2.7**
JHO				⇓*eS*	**Sb**	**14 04 25.8**	**-1.9**
JHO	**Hitachi**	**0.89**	**229**	A	A	14 04 13.4	
	comp=E,287nm,2.6s,comp=E,302nm,3.5s						
JHYU	**Hitachinakayam**	**1.08**	**218**	A	A	14 04 17.2	
	comp=E,147nm,3.0s,comp=E,116nm,4.1s						
JIKH	**Ishinomakikobu**	**1.11**	**2**	P	**Pn**	**14 04 17.4**	**-2.4**
JIKH	**Ishinomakikobu**	**1.11**	**2**	A	A	14 04 17.4	
	comp=E,192nm,3.9s,comp=E,44nm,6.2s						
JSB	**Shiboa**	**1.22**	**260**	⇓P	**Pn**	**14 04 20.6**	**-0.7**
JSB				⇓S	**Sn**	**14 04 37.7**	**+0.5**
JSB	**Shiboa**	**1.22**	**260**	A	A	14 04 20.6	
	comp=E,841nm,1.6s,comp=E,1μm,1.9s						
JYAR	**Yonezawaarcadi**	**1.24**	**306**	A	A	14 04 20.0	
	comp=E,887nm,1.2s,comp=E,428nm,1.2s						
JIO	**Ouri**	**1.26**	**358**	*i* P	**Pn**	**14 04 20.0**	**-1.8**
JIO				*eS*	**Sb**	**14 04 37.4**	**-0.8**
JIO	**Ouri**	**1.26**	**358**	A	A	14 04 20.0	
	comp=E,145nm,5.7s,comp=E,64nm,5.0s						
JOU	**Okura**	**1.31**	**333**	*i* P	**Pn**	**14 04 22.1**	**-0.5**
JOU				S	**Sb**	**14 04 40.1**	**+0.4**
JOU	**Okura**	**1.31**	**333**	A	A	14 04 22.1	
	comp=E,214nm,6.0s,comp=E,229nm,1.6s						
JYT	**Yasato**	**1.38**	**226**	A	A	14 04 21.7	
	comp=E,203nm,2.3s,com

MJAR LR LR 14 05 45.4
comp=Z,8µm,20.7s,baz=75,slow=43
246nm,0.6s
MAJO Matsushiro 2.65 257 Pn Pn 14 04 40.8 -0.3
MAJO Matsushiro 2.65 257 P Pn 14 04 42.3 +1.3
MAJO Matsushiro 2.65 257 *d* iP **Pn 14 04 41.0 0.0**
MJB9 Matsu-Tunnel 2.65 257 Pn 14 04 41.3 +0.3
JOD2 Odawara 2 2.69 225 A A 14 04 40.8
comp=E,94nm,2.0s,comp=E,99nm,1.9s
JTH Tanohata 2.76 7 A A 14 04 41.9
comp=E,71nm,3.9s,comp=E,32nm,4.2s
JNG Nsakai 2.77 255 A A 14 04 42.2
comp=E,66nm,4.3s,comp=E,138nm,6.5s
JKZ Kuzumaki 2.79 359 A A 14 04 42.3
comp=E,82nm,4.0s,comp=E,32nm,3.8s
JNT Takato 2.95 244 A A 14 04 44.6
comp=E,64nm,4.6s,comp=E,94nm,4.6s
JIM2 Oshima 3 2.95 214 A A 14 04 44.4
comp=E,85nm,2.2s,comp=E,66nm,6.5s
JHTM Izuhatsuma 2.96 222 A A 14 04 44.6
comp=E,101nm,1.7s,comp=E,126nm,1.7s
JFNN Fujinakano 2.98 229 A A 14 04 44.9
comp=E,108nm,3.3s,comp=E,106nm,2.1s
JKEN Kujiedanarisaw 3.02 4 A A 14 04 45.5
comp=E,87nm,3.9s,comp=E,72nm,0.8s
JAH Hinai 3.05 349 A A 14 04 46.1
comp=E,104nm,3.3s,comp=E,48nm,4.2s
JANG Nango 3.17 1 A A 14 04 47.8
comp=E,79nm,3.7s,comp=E,26nm,3.5s
JTHY Toshimahigashi 3.17 214 A A 14 04 47.6
comp=E,62nm,3.4s,comp=E,54nm,5.0s
JIZS Izushimoda 3.21 221 A A 14 04 48.2
comp=E,37nm,2.4s,comp=E,29nm,2.5s
JNTW Noshirotokiwa 3.22 343 A A 14 04 48.6
comp=E,494nm,5.3s,comp=E,298nm,3.9s
JSZ Suzu 3.24 276 A A 14 04 48.9
comp=E,74nm,2.3s,comp=E,189nm,2.5s
JOG3 Oga3 3.28 327 A A 14 04 45.4
comp=E,164nm,3.1s,comp=E,152nm,2.8s
JTT Ttatey 3.32 261 A A 14 04 50.0
comp=E,118nm,1.7s,comp=E,240nm,6.5s
JNIO Niijimaoohara 3.32 212 A A 14 04 49.7
comp=E,74nm,2.3s,comp=E,51nm,2.3s
SHZ3 Shizuoka 3 3.35 232 A A 14 04 50.2
comp=E,51nm,1.6s,comp=E,53nm,3.8s
JSKK Shikinejimakit 3.37 213 A A 14 04 50.3
comp=E,59nm,2.3s,comp=E,39nm,6.5s
JNY Yasuok 3.41 238 A A 14 04 51.0
comp=E,50nm,3.6s,comp=E,48nm,2.8s
JGN Niukaw 3.43 255 A A 14 04 51.5
comp=E,24nm,5.6s,comp=E,55nm,6.0s
JMYK Miyake Tsubota 3.48 206 A A 14 04 51.8
comp=E,50nm,8.9s,comp=E,43nm,3.8s
JKO Kozu shima 3.53 212 A A 14 04 52.5
comp=E,100nm,3.4s,comp=E,67nm,3.2s
JHHS Hirosakimyakuz 3.55 347 A A 14 04 53.2
comp=E,280nm,4.6s,comp=E,220nm,4.2s
JIW Iwasaki 3.57 343 A A 14 04 53.5
comp=E,86nm,5.5s,comp=E,38nm,3.8s
JTM Tenmabayashi 3.60 356 Pn 14 04 53.7 -0.2
JTM Tenmabayashi 3.60 356 P Pn 14 04 55.1 +1.1
JTM Tenmabayashi 3.60 356 A A 14 04 53.8
comp=E,73nm,3.6s,comp=E,40nm,2.3s
JMKN Mikurajimanish 3.62 205 A A 14 04 53.7
comp=E,43nm,9.8s,comp=E,25nm,4.1s
JHG Hegura jima 3.62 282 A A 14 04 54.5
comp=E,43nm,2.5s,comp=E,64nm,3.9s
JSG Sagara 3.63 227 A A 14 04 54.1
comp=E,93nm,2.9s,comp=E,69nm,3.4s
JGF Kuroka 3.64 245 Pn 14 04 55.0 +0.4
JGF Kuroka 3.64 245 P Pn 14 04 56.1 +1.5
JGF Kuroka 3.64 245 A A 14 04 54.4
comp=E,33nm,3.8s,comp=E,42nm,5.2s
JKKS Kakegawashinom 3.70 230 A A 14 04 55.1
comp=E,95nm,2.5s,comp=E,61nm,7.4s
JJH Hakui 3.71 267 A A 14 04 55.6
comp=E,36nm,2.7s,comp=E,51nm,3.9s
HMMJ Hamamatsu 2 3.79 233 A A 14 04 56.5
comp=E,28nm,3.1s,comp=E,29nm,3.5s
JARK Aomorirokkasho 3.81 359 A A 14 04 56.7
comp=E,62nm,3.4s,comp=E,39nm,5.1s
JAO Obara 3.87 241 A A 14 04 57.7
comp=E,45nm,4.9s,comp=E,73nm,5.7s
JSSY Shinshiroyabe 3.90 235 A A 14 04 58.0
comp=E,37nm,7.8s,comp=E,29nm,3.1s
JSI2 Shiura 2 3.94 349 A A 14 04 58.7
comp=E,63nm,3.7s,comp=E,34nm,6.2s
INU Inuyama 4.00 244 Pn 14 04 59.9 +0.3
INU Inuyama 4.00 244 P Pn 14 05 01.5 +2.0
JAHD Aomorihigashid 4.07 359 A A 14 05 00.4
comp=E,87nm,5.6s,comp=E,58nm,1.4s
JYTA Yamagatataniai 4.10 248 A A 14 05 00.9
comp=E,27nm,4.0s,comp=E,59nm,3.8s
JICN Ichinomiyachia 4.15 244 A A 14 05 01.6
comp=E,74nm,3.0s,comp=E,124nm,2.4s
JKG Kaga 4.18 259 A A 14 05 02.1
comp=E,23nm,10.0s,comp=E,65nm,4.5s
JOT Ohata 4.19 356 A A 14 05 02.2
comp=E,71nm,4.6s,comp=E,23nm,5.9s
JHJ2 Mitsune 4.28 198 Pn Pn 14 05 03.5 +0.2
JHJ2 Mitsune 4.28 198 P Pn 14 05 03.8 +0.4
JHJ Hachijo jima 2 4.28 199 Pn Pn 14 05 03.1 -0.3
129nm,0.3s,baz=332,slow=23,SNR=42
JHJ Sn **Sn 14 05 52.7 0.0**
264nm,0.3s,baz=48,slow=24,SNR=8.4
JHJ LR LR 14 06 57.1
comp=Z,14µm,20.3s,baz=40,slow=42
241nm,0.3s
JAA Atsumi 4.31 235 A A 14 05 03.7
comp=E,24nm,5.7s,comp=E,24nm,7.7s
JSR Shiriuchi 4.40 350 A A 14 05 05.1
comp=E,42nm,6.6s,comp=E,38nm,8.5s
JOMM Oshimamatsumae 4.46 346 A A 14 05 06.0
comp=E,29nm,5.7s,comp=E,29nm,3.9s
JEG Eigenji 4.55 245 A A 14 05 07.3
comp=E,20nm,6.8s,comp=E,30nm,3.3s
JFM Mihama 4.69 251 A A 14 05 09.2
comp=E,11nm,4.6s,comp=E,37nm,5.5s
JKB Kayabe 4.70 357 A A 14 05 09.3
comp=E,64nm,4.4s,comp=E,34nm,2.9s
JIE Ise 4.74 235 A A 14 05 09.8
comp=E,21nm,3.3s,comp=E,30nm,3.9s
TSUJ Tsu 2 4.75 240 A A 14 05 10.0
comp=E,29nm,2.7s,comp=E,34nm,3.7s
JYM2 Yakumo 2 4.98 351 A A 14 05 13.3
comp=E,31nm,9.0s,comp=E,24nm,4.2s
ERM Erimo 5.00 15 Pn Pn 14 05 12.7 -0.5
ERM Erimo 5.00 15 P Pn 14 05 12.8 -0.4
ERM Erimo 5.00 15 P Pn 14 05 12.7 -0.5
JEM Erimo 5.00 15 P Pn 14 05 13.1 -0.1
JOSM Okushiri--Mats 5.11 344 A A 14 05 15.1
comp=E,25nm,4.0s,comp=E,14nm,8.6s
JKN2 Miekihoku 5.12 236 A A 14 05 15.1
comp=E,17nm,8.4s,comp=E,17nm,3.1s
JNBK Urakawa-nobuka 5.18 11 A A 14 05 16.0
comp=E,17nm,3.7s,comp=E,21nm,5.8s
JWT Wachi 5.22 250 A A 14 05 16.6
comp=E,16nm,3.2s,comp=E,27nm,4.7s
JSHD Hidakashinhida 5.27 9 A A 14 05 17.3
comp=E,35nm,6.4s,comp=E,38nm,5.4s
JHE Heguri 5.29 243 A A 14 05 17.6
comp=E,19nm,4.3s,comp=E,31nm,5.7s
JKY Yasaka 5.32 255 A A 14 05 18.1
comp=E,12nm,3.0s,comp=E,42nm,4.9s
JHST Hiyamasetana 5.35 348 A A 14 05 18.5
comp=E,34nm,7.0s,comp=E,18nm,5.7s
JNTK Naratenkawa 5.36 239 A A 14 05 18.5
comp=E,16nm,6.1s,comp=E,19nm,4.1s
JIAM Iburiatsuma 5.43 4 A A 14 05 19.6
comp=E,34nm,4.1s,comp=E,31nm,3.7s
JMMH Miemihama 5.54 234 A A 14 05 21.0
comp=E,14nm,6.5s,comp=E,11nm,2.5s
JSH Shinam 5.54 349 A A 14 05 21.2
comp=E,30nm,6.1s,comp=E,15nm,3.8s
JWY Kouya 5.59 240 A A 14 05 21.7
comp=E,18nm,4.0s,comp=E,22nm,3.4s
JBT2 Biratori 2 5.62 7 A A 14 05 22.2
comp=E,10.0nm,4.7s,comp=E,9.0nm,5.1s
JEW Eniwo 5.64 0 A A 14 05 22.5
comp=E,17nm,4.2s,comp=E,21nm,6.4s
JKSM Kasumi 5.68 256 A A 14 05 23.1
comp=E,9.0nm,4.1s,comp=E,22nm,3.6s
JMIK Miki 5.68 247 A A 14 05 23.0
comp=E,23nm,1.4s,comp=E,33nm,3.5s
JTNC Tanabenakahech 5.81 236 A A 14 05 24.8
comp=E,17nm,3.6s,comp=E,18nm,5.3s
JWKM Wakayamakushim 5.94 233 A A 14 05 26.6
comp=E,21nm,6.4s,comp=E,18nm,3.6s

JWM Minabe 5.96 238 A A 14 05 26.9
comp=E,14nm,3.1s,comp=E,20nm,3.3s
JOB Onbets 6.00 17 A A 14 05 27.4
comp=E,12nm,8.3s,comp=E,8.0nm,3.7s
JFR Furan 6.03 8 A A 14 05 27.9
comp=E,7.0nm,4.6s,comp=E,5.0nm,5.2s
JISS Ishikarishitsu 6.07 0 A A 14 05 28.5
comp=E,27nm,3.7s,comp=E,27nm,3.2s
JSK Shakotan 6.19 354 A A 14 05 30.3
comp=E,16nm,7.5s,comp=E,9.0nm,5.2s
JAK Akkeshi 6.32 22 A A 14 05 31.8
comp=E,8.0nm,6.9s,comp=E,8.0nm,8.9s
JAB Ashibetsu 6.33 5 A A 14 05 32.2
comp=E,10.0nm,3.9s,comp=E,12nm,4.7s
JAR Ashorobuto 6.36 16 A A 14 05 32.4
comp=E,7.0nm,5.4s,comp=E,6.0nm,4.2s
JKR Kurayoshi 6.39 256 A A 14 05 33.1
comp=E,11nm,3.9s,comp=E,26nm,5.3s
JKHN Kushirohamanak 6.54 25 A A 14 05 34.9
comp=E,9.0nm,4.6s,comp=E,8.0nm,6.8s
JHR Hokuryu 6.54 2 A A 14 05 35.1
comp=E,11nm,3.4s,comp=E,12nm,4.1s
JAI Aioi 6.62 241 A A 14 05 36.1
comp=E,10.0nm,3.8s,comp=E,12nm,2.8s
JMAF Mimaanabuki 6.70 244 A A 14 05 37.3
comp=E,6.0nm,6.6s,comp=E,13nm,4.3s
JJS Sakaide 6.70 247 A A 14 05 37.3
comp=E,7.0nm,8.1s,comp=E,14nm,3.4s
ASAJ Asahikawa 6.97 7 LR LR 14 08 15.9
comp=Z,5µm,18.1s,baz=198,slow=37
ASAJ Asahikawa 6.97 7 P **Pn 14 05 39.5 -0.8**
JKA Kamikawa-asahi 6.97 7 Pn 14 05 39.5 -0.8
NMR Nemuro--Hokkai 6.99 27 *e*P **Pn 14 05 38.3 -2.3**
NMR *e*S **Sn 14 06 53.0 -6.5**
JMN Monobe 7.05 243 Pn **Pn 14 05 41.7 +0.2**
JMN Monobe 7.05 243 P **Pn 14 05 42.3 +0.8**
JMN Monobe 7.05 243 A A 14 05 42.2
comp=E,15nm,2.6s,comp=E,19nm,2.8s
MRT2 Munimisaki 2 7.05 240 A A 14 05 42.2
comp=E,14nm,4.0s,comp=E,10.0nm,9.2s
JHS Saijyo 7.07 254 Pn 14 05 43.2 +1.6
JHS Saijyo 7.07 254 P **Pn 14 05 43.8 +2.1**
JHS Saijyo 7.07 254 A A 14 05 42.5
comp=E,7.0nm,9.0s,comp=E,16nm,6.0s
JJG Jouge 7.17 252 A A 14 05 43.9
comp=E,6.0nm,6.6s,comp=E,17nm,3.6s
JSS Shosan 7.21 3 A A 14 05 44.4
comp=E,15nm,4.5s,comp=E,10.0nm,5.1s
RUSJ Misakicho 7.49 22 *e*P Pn 14 05 42.6 -4.8
JGT2 ShimaneMisato 7.51 256 A A 14 05 48.7
comp=E,4.0nm,3.5s,comp=E,12nm,4.0s
YUK Yuzh-Kuril'sk 7.62 25 *e*P **Pn 14 05 45.6 -3.6**
YUK pmax pmax
comp=Z,373nm,0.5s
YUK pmax pmax
comp=N,145nm,0.2s
YUK pmax pmax
comp=E,70nm,0.2s
YUK MLR MLR
comp=Z,1µm,12.0s
JHT Toyohira 7.72 254 A A 14 05 51.5
comp=Z,4.0nm,6.6s,comp=Z,20nm,3.5s
JHM Kurahashi 7.85 250 A A 14 05 53.3
comp=Z,8.0nm,8.0s,comp=Z,10.0nm,6.1s
JHIK Hikimi 8.14 254 A A 14 05 57.4
comp=Z,5.0nm,7.8s,comp=Z,14nm,3.2s
UWA2 Uwa jima 2 8.21 244 A A 14 05 58.4
comp=Z,6.0nm,4.7s,comp=Z,10.0nm,9.3s
JTO Tosashimizu 8.28 241 A A 14 05 59.2
comp=Z,6.0nm,4.8s,comp=Z,7.0nm,3.7s
JKD Kudamatsu 8.38 251 A A 14 06 00.6
comp=Z,6.0nm,6.2s,comp=Z,13nm,6.7s
TEY Ternei 8.63 337⇑ *e*P Pn 14 06 08.3 +5.2
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=Z,40nm,0.8s
TEY MLR MLR
comp=E,400nm,12.0s
TEY MLR MLR
comp=N,200nm,11.0s
TEY MLR MLR
comp=Z,300nm,13.0s
JHGM Hagimishima 8.67 257 A A 14 06 04.7
comp=Z,6.0nm,3.7s,comp=Z,13nm,5.2s
JKI Kunimi 8.79 249 A A 14 06 06.3
comp=Z,9.0nm,2.6s,comp=Z,9.0nm,5.8s
JTY Toyota 8.91 254 A A 14 06 08.0
comp=Z,8.0nm,4.8s,comp=Z,14nm,4.9s
JUS Usuki 8.92 245 A A 14 06 08.1
comp=Z,5.0nm,9.8s,comp=Z,8.0nm,2.8s
JBEP Beppuamama 9.04 248 A A 14 06 09.8
comp=Z,12nm,4.9s,comp=Z,14nm,4.8s
KUR Kuril'sk 9.38 29 *e*P **Pn 14 06 14.9 +1.5**
KUR *e*S **Sn 14 07 55.4 -2.9**
KUR pmax pmax
comp=Z,121nm,0.6s
KUR smax smax
comp=E,313nm,0.5s
KUR smax smax
comp=N,183nm,0.6s
KUR MLR MLR
comp=Z,8µm,12.0s
JNU Nakatsue 9.53 248 Pn **Pn 14 06 15.0 -0.5**
JNU Nakatsue 9.53 248 P **Pn 14 06 15.1 -0.5**
JNU Nakatsue 9.53 248 A A 14 06 16.5
comp=Z,7.0nm,5.2s,comp=Z,7.0nm,6.0s
MSHR Mys Shultsa 9.54 307 *i* P **Pn 14 06 15.1 -0.4**
YSS Yuzh-Sakhalins 9.80 5 Pn **Pn 14 06 17.9 -1.2**
YSS Yuzh-Sakhalins 9.80 5 P **Pn 14 06 20.5 +1.4**
YSS Yuzh-Sakhalins 9.80 5*ce*P **Pn 14 06 18.2 -0.9**
YSS *e*S **Sn 14 08 03.5 -5.0**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS pmax pmax
comp=N,60nm,1.1s
YSS pmax pmax
comp=Z,200nm,6.2s
YSS smax smax
comp=E,2µm,5.3s
YSS MLR MLR
comp=N,9µm,17.0s
YSS MLR MLR
comp=Z,9µm,17.0s
JTA Tamana 9.86 248 A A 14 06 21.1
comp=Z,4.0nm,3.0s,comp=Z,6.0nm,3.7s
USA0B Ussuriysk Arra 10.00 317 *i* P **Pn 14 06 21.3 -0.6**
USRK Ussuriysk Ar. 10.00 317 Pn **Pn 14 06 24.9 +3.0**
comp=Z,1.5nm,0.3s,baz=133,slow=11,SNR=40
USRK LR LR 14 09 56.7
comp=Z,12µm,19.5s,baz=125,slow=36
USRK Ussuriysk Ar. 10.00 317 Pn **Pn 14 06 22.4 +0.5**
USRK Ussuriysk Ar. 10.00 317 P **Pn 14 06 22.4 +0.5**
JCJ Chichijima 10.09 176 Pn **Pn 14 06 20.5 -2.6**
comp=Z,22nm,0.3s,baz=292,slow=23,SNR=12
JCJ Sn Sn 14 08 06.1 -10
comp=Z,16nm,0.3s,baz=279,slow=22,SNR=2.6
JCJ LR LR 14 10 44.5
comp=Z,9µm,18.3s,baz=358,slow=40
JCJ Chichijima 10.09 176 Pn **Pn 14 06 20.0 -3.2**
JCJ Chichijima 10.09 176 P **Pn 14 06 21.1 -2.1**
JII Iki 10.11 254 A A 14 06 24.5
comp=Z,8.0nm,6.8s,comp=Z,12nm,7.4s
KSRS Korea Array 10.75 275 Pn **Pn 14 06 35.6 +3.5**
comp=Z,0.9nm,0.3s,baz=91,slow=14,SNR=38
KSRS LR LR 14 10 08.6
comp=Z,7µm,21.4s,baz=90,slow=35
KSAR Wonju Array Be 10.78 275 Pn 14 06 31.6 -0.9
KSAR Wonju Array Be 10.78 275 P **Pn 14 06 31.6 -0.9**
KS19 Wonju Array Si 10.79 276 Pn **Pn 14 06 31.9 -0.8**
HHU Hamhung 11.21 288 P **Pn 14 06 41.4 +3.1**
HHU pP 14 06 47.0
HHU S **Sn 14 08 46.9 +3.9**
HHU AMS AMS
comp=N,5µm,11.0s
HHU AMS AMS
comp=E,1µm,2.6s
HHU AMS AMS
comp=Z,6µm,11.3s
MDJ Mudanjiang 11.61 313 P **Pn 14 06 42.4 -1.5**
MDJ S **Sn 14 08 53.6 +0.8**
MDJ LR LR
comp=Z,6µm,16.8s
MDJ LR LR
comp=Z,6µm,20.1s
MDJ LR LR
comp=Z,11µm,18.4s
PYAG Pyongyang 12.47 283 P **Pn 14 06 59.5 +3.9**
PYAG sP **P 14 07 09.4 +2.0**
PYAG S **Sn 14 09 21.6 +7.6**
PYAG AMS AMS
comp=N,6µm,17.0s
PYAG AMS AMS
comp=E,2µm,5.5s
PYAG AMS AMS
comp=Z,2µm,4.7s
HJU Haeju 12.47 279 P **Pn 14 06 59.1 +3.4**
HJU pP **P 14 07 06.1 -1.2**
HJU S **Sn 14 09 20.5 +6.5**
HJU AMS AMS
comp=N,7µm,10.3s
HJU AMS AMS
comp=E,3µm,4.2s
HJU AMS AMS
comp=Z,3µm,4.3s
BNX BinXian 13.52 314 ⇑P **Pn 14 07 11.0 +1.1**
BNX pP **P 14 07 14.4 -4.6**
BNX sP 14 07 16.3
BNX PP **PnPn 14 07 19.6 +1.8**
BNX S **Sn 14 09 43.9 +4.4**
BNX sS **SnSn 14 09 51.8 0.0**
BNX pmax pmax
comp=Z,13nm,1.5s
BNX pmax pmax
comp=Z,790nm,4.7s
BNX LR LR
comp=Z,7µm,14.2s
BNX LR LR
comp=Z,6µm,14.3s
BNX LR LR
comp=Z,6µm,16.3s
SUJ Sinuiju 13.54 288 P **Pn 14 07 13.5 +3.3**
SUJ pP **P 14 07 19.7 +0.5**
SUJ S **Sn 14 09 43.5 +3.4**
SUJ AMS AMS
comp=N,2µm,14.4s
SUJ AMS AMS
comp=E,966nm,6.5s
SUJ AMS AMS
comp=Z,526nm,3.5s
CN2 Changchun 13.81 303 *e*P **Pn 14 07 14.9 +0.9**
CN2 pP P 14 07 17.9 -4.4
CN2 S **Sn 14 09 49.1 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,800nm,4.0s
CN2 LR LR
comp=Z,8µm,12.0s
CN2 LR LR
comp=Z,7µm,12.0s
CN2 LR LR
comp=Z,7µm,14.0s
KLR Kul'dur 13.93 333 Pn **Pn 14 07 16.4 +0.9**
comp=Z,0.4nm,0.3s,baz=157,slow=15,SNR=5.7
KLR LR LR 14 12 30.9
comp=Z,8µm,18.4s,baz=146,slow=37
comp=Z,2.0nm,0.4s
KLR Kul'dur 13.93 333 *i* P **Pn 14 07 16.2 +0.7**
KLR pmax pmax
comp=Z,99nm,1.7s
GRNR Gornyy 14.03 347⇓ *i* P **Pn 14 07 17.1 +0.2**
GRNR *e*S **Sn 14 09 56.0 +4.0**
GRNR pmax pmax
comp=N,2.0nm,0.7s
GRNR pmax pmax
comp=Z,3.0nm,0.5s
GRNR smax smax
comp=N,5.0nm,0.6s
GRNR MLR MLR
comp=N,3µm,15.0s
GRNR MLR MLR
comp=E,2µm,15.0s
GRNR MLR MLR
comp=Z,5µm,15.0s
JOW Kunigami 15.18 231 LR LR 14 13 41.8
comp=Z,3µm,18.1s,baz=88,slow=39
JOW Kunigami 15.18 231 Pn **Pn 14 07 32.3 -0.4**
JOW Kunigami 15.18 231 P **Pn 14 07 32.1 -0.5**
DL2 Dalian 15.68 282 P **Pn 14 07 40.8 +1.7**
DL2 S **Sn 14 10 36.1 +3.8**
DL2 pmax pmax
comp=Z,75nm,1.9s
DL2 pmax pmax
comp=Z,1µm,10.8s
DL2 LR LR
comp=Z,11µm,13.2s
DL2 LR LR
comp=Z,5µm,15.6s
DL2 LR LR
comp=Z,6µm,19.6s
HEH HeiHe 16.48 327 *e*P **Pn 14 07 47.1 -2.1**
HEH pP **P 14 07 50.0 -1.8**
HEH S **Sn 14 10 47.1 -4.4**
HEH sS **S 14 10 59.0 -4.2**
HEH LR LR
comp=Z,8µm,16.7s
HEH LR LR
comp=Z,7µm,16.7s
HEH LR LR
comp=Z,8µm,17.9s
SSE Sheshan 17.80 256 P **Pn 14 08 04.3 -1.6**
SSE S **Sn 14 11 24.8 +1.0**
SSE pmax pmax
comp=Z,18nm,0.7s
SSE pmax pmax
comp=Z,440nm,9.2s
SSE LR LR
comp=Z,2µm,16.8s
SSE LR LR
comp=Z,4µm,16.2s
ZEA Zeya 19.23 334 *e*P **Pn 14 08 23.3 +0.1**
ZEA *e* 14 11 52.3
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=N,40nm,0.7s
ZEA pmax pmax
comp=Z,50nm,1.1s
ZEA MLR MLR
comp=E,2µm,10.0s
ZEA MLR MLR
comp=N,4µm,14.0s
ZEA MLR MLR
comp=Z,3µm,17.0s
NJ2 Nanjing 19.25 261 ⇑P **P 14 08 21.3 -1.2**
NJ2 pP **pP 14 08 26.8 -1.2**
NJ2 sP **sP 14 08 33.3 +2.8**
NJ2 S Sn 14 11 44.8 -14
NJ2 pmax pmax
comp=Z,32nm,1.0s
NJ2 pmax pmax
comp=Z,630nm,5.7s
NJ2 LR LR
comp=Z,8µm,17.1s
NJ2 LR LR
comp=Z,7µm,17.0s
NJ2 LR LR
comp=Z,7µm,11.4s
TIA Tai'an 19.49 274 P **P 14 08 24.0 -1.1**
TIA S **S 14 12 02.8 -1.7**
TIA pmax pmax
comp=Z,27nm,1.0s
TIA LR LR
comp=Z,5µm,13.5s
TIA LR LR
comp=Z,5µm,15.0s
TIA LR LR
comp=Z,8µm,13.5s
PEA0B Petropavlovsk- 19.55 30 Pn **Pn 14 08 26.8 -0.2**
PEA0B Petropavlovsk- 19.55 30 P **Pn 14 08 26.8 -0.2**
PEA0B pmax pmax
comp=Z,40nm,1.2s
PETK Petropavlovsk- 19.55 30 P **Pn 14 08 26.6 -0.4**
comp=Z,0.3nm,0.3s,baz=219,slow=12,SNR=6.7
PETK LR LR 14 15 39.0
comp=Z,2µm,21.6s,baz=219,slow=36
comp=Z,14nm,0.9s
HIA Hailar 19.79 314 P **P 14 08 24.5 -3.8**
HIA Hailar 19.79 314 P **P 14 08 24.5 -3.8**
HIA pmax pmax

comp=Z,10.0nm,0.9s
PET Petropavlovsk 19.88 32 *e*P **Pn** **14 08 31.5 +0.6**
PET *e*S **S** **14 12 08.3 -3.7**
PET pmax pmax
comp=Z,144nm,1.2s
PET MLR MLR
comp=Z,4µm,20.0s
PET MLR MLR
comp=Z,5µm,18.0s
BJI Beijing 19.91 286 P **P** **14 08 28.0 -1.6**
BJI S **S** **14 12 10.8 -1.9**
BJI pmax pmax
comp=Z,21nm,1.4s
BJI pmax pmax
comp=Z,240nm,4.0s
BJI LR LR
comp=Z,4µm,15.2s
BJI LR LR
comp=Z,1µm,12.7s
BJI LR LR
comp=Z,4µm,14.2s
BJT Baijiatuau 19.91 286 P **P** **14 08 28.2 -1.5**
BJT Baijiatuau 19.91 286 P **P** **14 08 28.2 -1.5**
BJT pmax pmax
comp=Z,47nm,1.3s
XLT XiLinHaoTe 20.34 297⇓ *i*P **P** **14 08 32.3 -2.1**
XLT PP **PnPn** **14 08 50.8 -0.6**
XLT S **S** **14 12 13.3 -8.2**
XLT pmax pmax
comp=Z,110nm,1.3s
XLT LR LR
comp=Z,810nm,13.0s
XLT LR LR
comp=Z,6µm,15.0s
XLT LR LR
comp=Z,7µm,14.1s
YHNB Yeheng 21.19 240 P **P** **14 08 40.3 -3.4**
HNS HongShan 21.23 279⇓ P **P** **14 08 40.8 -3.1**
HNS PP **PnPn** **14 09 03.8 +0.3**
HNS S **S** **14 12 30.5 -8.5**
HNS pmax pmax
comp=Z,84nm,1.1s
HNS LR LR
comp=Z,9µm,12.2s
HNS LR LR
comp=Z,5µm,15.5s
HNS LR LR
comp=Z,6µm,13.8s
NACB Ninganchiao 21.37 238 P **P** **14 08 42.1 -3.5**
YULB Yu-li 22.10 237 P **P** **14 08 48.8 -4.6**
TPUB Ta-pu 22.61 238 P **P** **14 08 55.1 -3.8**
TPUB IAmb IAmb 14 09 02.1
comp=Z,68nm,1.1s
TWG Pinlang 22.64 236 P **P** **14 08 54.0 -5.1**
TIY Taiyuan 22.98 280 *e*P **P** **14 09 00.3 -2.4**
TIY S **S** **14 13 09.8 -2.3**
TIY LR LR
comp=Z,2µm,12.4s
TIY LR LR
comp=Z,7µm,14.1s
TIY LR LR
comp=Z,7µm,13.7s
MA2 Magadan 23.20 12 P **P** **14 09 06.1 +1.4**
comp=Z,37nm,0.8s,baz=191,slow=8.8,SNR=12
MA2 LR LR 14 19 11.7
comp=Z,3µm,18.7s,baz=200,slow=39
comp=Z,37nm,0.8s
MA2 Magadan 23.20 12 P **P** **14 09 04.0 -0.6**
MA2 IAmb IAmb 14 09 20.1
comp=Z,67nm,0.9s
MA2 Magadan 23.20 12*ce*P **P** **14 09 05.5 +0.8**
MA2 pmax pmax
comp=Z,55nm,0.8s
WHN Wuhan 23.38 261⇑ P **P** **14 09 05.8 -1.0**
WHN S **S** **14 13 14.3 -4.5**
WHN pmax pmax
comp=Z,56nm,1.1s
WHN LR LR
comp=Z,20µm,16.1s
WHN LR LR
comp=Z,16µm,13.8s
WHN LR LR
comp=Z,15µm,16.7s
HHC Hu-ho-hao-te 23.42 288 *e*P **P** **14 09 06.8 -0.4**
HHC S **S** **14 13 16.3 -3.2**
HHC sS pS 14 13 25.5 -0.3
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,720nm,4.1s
HHC LR LR
comp=Z,6µm,12.8s
HHC LR LR
comp=Z,7µm,12.4s
LYN LuoYang 23.57 272⇑ P **P** **14 09 07.8 -0.8**
LYN pP pP 14 09 11.3 -3.0
LYN S **S** **14 13 14.6 -7.1**
LYN pmax pmax
comp=Z,10.0nm,0.7s
LYN pmax pmax
comp=Z,240nm,7.3s
LYN LR LR
comp=Z,9µm,14.1s
LYN LR LR
comp=Z,9µm,15.3s
LYN LR LR
comp=Z,7µm,15.7s
CIT Chita 24.56 316 *e*P **P** **14 09 17.1 -0.7**
CIT *e* 14 09 24.2
CIT *e* 14 09 49.7
CIT *e* 14 09 57.0
CIT pmax pmax
comp=Z,144nm,2.5s
BTO Baotou 24.60 288 *e*P **P** **14 09 17.3 -1.0**
BTO S **S** **14 13 37.0 -1.4**
BTO LR LR
comp=Z,21µm,14.6s
BTO LR LR
comp=Z,5µm,12.7s
PACPP Pamplona Cagay 25.66 229⇑ *e*P **P** **14 09 25.3 -2.5**
YAK Yakutsk 25.91 347 P **P** **14 09 28.9 -0.9**
comp=Z,40nm,0.7s,baz=314,slow=1.9,SNR=27
YAK LR LR 14 19 45.2
comp=Z,3µm,20.4s,baz=169,slow=37
comp=Z,40nm,0.7s
YAK Yakutsk 25.91 347 P **P** **14 09 26.6 -3.2**
YAK IAmb IAmb 14 09 32.8
comp=Z,82nm,0.8s
YAK Yakutsk 25.91 347 *e*P **P** **14 09 29.4 -0.4**
YAK *e* 14 10 05.4
YAK *e* 14 13 00.8
YAK *e*S **S** **14 13 57.4 -1.2**
YAK *e*SS **SnSn** **14 15 02.0 +6.5**
YAK pmax pmax
comp=Z,106nm,0.9s
YAK pmax pmax
comp=N,31nm,1.0s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,128nm,1.7s
YAK pmax pmax
comp=N,137nm,1.9s
YAK pmax pmax
comp=E,85nm,1.6s
YAK smax smax
comp=N,1µm,3.4s
YAK smax smax
comp=E,876nm,3.7s
YAK MLR MLR
comp=Z,3µm,20.0s
YAK MLR MLR
comp=N,2µm,20.0s
YAK MLR MLR
comp=E,4µm,19.0s
XAN Xi'an 26.53 273⇑ P **P** **14 09 35.4 -0.4**
XAN S **S** **14 14 06.9 -2.2**
XAN pmax pmax
comp=E,10.0nm,1.1s
XAN pmax pmax
comp=E,400nm,7.3s
XAN LR LR
comp=E,12µm,16.2s
XAN LR LR
comp=E,6µm,16.2s
XAN LR LR
comp=E,5µm,15.9s
SEY Seymchan 26.63 11 P **P** **14 09 38.0 +1.7**
comp=E,47nm,0.9s,baz=188,slow=7.6,SNR=29
comp=E,47nm,0.9s
ULN Ulaanbaatar 27.26 304 P **P** **14 09 39.4 -3.0**
ULN Ulaanbaatar 27.26 304*ce*P **P** **14 09 42.9 +0.5**
ULN pmax pmax
comp=Z,38nm,1.3s
ENH Enshi 27.35 265 P **P** **14 09 41.4 -1.7**
ENH IAmb IAmb 14 10 02.1
comp=Z,40nm,0.7s
BOD Bodaibo 27.39 328 *e*P **P** **14 09 43.0 -0.2**
BOD pmax pmax
comp=Z,43nm,1.6s
SHEM Shemya Is, Ala 27.55 45 LR LR 14 18 45.1
comp=Z,1µm,20.1s,baz=288,slow=32
SONM Songino Array 27.70 304 P **P** **14 09 45.2 -1.0**
comp=Z,27nm,0.8s,baz=106,slow=7.5,SNR=87
SONM PcP **PcP** **14 13 04.1 +1.3**
comp=Z,2.1nm,0.6s,baz=134,slow=2.7,SNR=3.9
SONM LR LR 14 21 14.7
comp=Z,2µm,19.1s,baz=87,slow=38
comp=Z,27nm,0.8s
SONM Songino Array 27.70 304 P **P** **14 09 45.4 -0.8**
SONM IAmb IAmb 14 09 48.6
comp=Z,29nm,0.8s
SONM Songino Array 27.70 304 P **P** **14 09 45.4 -0.8**
SONM pmax pmax
comp=Z,29nm,0.8s
H11N2 WAKE ISLAND Hy 28.23 121 T T 14 39 18.0
baz=314,slow=76,SNR=3964
H11N1 WAKE ISLAND Hy 28.24 121 T T 14 39 18.2
baz=314,slow=76,SNR=5419
H11N3 WAKE ISLAND Hy 28.25 121 T T 14 39 15.9
baz=314,slow=76,SNR=4233
H11S1 WAKE ISLAND Hy 28.95 123 T T 14 40 13.0
baz=316,slow=76,SNR=3130
H11S3 WAKE ISLAND Hy 28.95 123 T T 14 40 13.2
baz=316,slow=76,SNR=2933
H11S2 WAKE ISLAND Hy 28.96 123 T T 14 40 14.4
baz=316,slow=76,SNR=2698
LZH Lanzhou 30.04 279⇓ P **P** **14 10 06.8 -0.4**
LZH sP sP 14 10 15.8 +0.2
LZH SS **SnSn** **14 16 43.1 +6.1**
LZH pmax pmax
comp=Z,31nm,1.4s
LZH LR LR
comp=Z,7µm,14.4s
LZH LR LR
comp=Z,7µm,14.4s
LZH LR LR
comp=Z,8µm,14.8s
ZAK Zakamensk 30.17 308 *e*P **P** **14 10 06.3 -1.8**
ZAK pmax pmax
comp=Z,18nm,1.1s
GYA Guiyang 31.25 260⇑ *i*P **P** **14 10 17.3 -0.6**
GYA pP pP 14 10 24.4 +0.5
GYA S **S** **14 15 28.0 +4.5**
GYA SS **SnSn** **14 17 07.3 +0.8**
GYA pmax pmax
comp=Z,32nm,0.9s
GYA LR LR
comp=Z,3µm,12.1s
GYA LR LR
comp=Z,4µm,15.4s
GYA LR LR
comp=Z,5µm,15.6s
CD2 Chengdu 31.67 270 P **P** **14 10 20.3 -1.2**
CD2 S **S** **14 15 31.4 +1.4**
CD2 LR LR
comp=Z,4µm,13.0s
CD2 LR LR
comp=Z,3µm,13.8s
CD2 LR LR
comp=Z,4µm,13.3s
MOY Mondy 31.83 310 *e*P **P** **14 10 23.4 +0.6**
GTA Gaotai 32.52 287 *e*P **P** **14 10 28.9 0.0**
GTA pP pP 14 10 37.8 +2.9
GTA sP sP 14 10 42.0 +4.6
GTA PcP **PcP** **14 15 16.9 +1.5**
GTA S **S** **14 15 47.1 +4.0**
GTA sS sS 14 15 58.8 +5.8
GTA SS **SnSn** **14 17 38.0 +1.0**
GTA pmax pmax
comp=Z,10.0nm,0.8s
GTA pmax pmax
comp=Z,140nm,8.0s
GTA LR LR
comp=Z,4µm,15.6s
GTA LR LR
comp=Z,3µm,14.9s
GTA LR LR
comp=Z,2µm,17.1s
QIZ Qiongzhong 32.99 245 P **P** **14 10 32.0 -1.1**
QIZ IAmb IAmb 14 10 56.2
comp=Z,37nm,1.4s
QIZ Qiongzhong 32.99 245 P **P** **14 10 33.3 +0.2**
QIZ S **S** **14 15 51.1 +0.5**
QIZ pmax pmax
comp=Z,320nm,3.5s
QIZ LR LR
comp=Z,4µm,16.9s
QIZ LR LR
comp=Z,4µm,17.8s
QIZ LR LR
comp=Z,2µm,16.4s
DAV Davao City (W) 33.27 210 LR LR 14 24 09.8
comp=Z,2µm,20.2s,baz=34,slow=36
BILL Bilibino 33.87 16 P **P** **14 10 39.1 -1.2**
BILL IAmb IAmb 14 10 42.9
comp=Z,33nm,1.5s
BILL Bilibino 33.87 16⇑ *i*P **P** **14 10 40.4 +0.1**
BILL *e* 14 11 53.5
BILL *e*S **S** **14 16 00.9 -2.4**
BILL pmax pmax
comp=Z,28nm,1.7s
BILL MLR MLR
comp=Z,2µm,15.0s
KMI Kunming 34.98 261⇑ P **P** **14 10 50.3 -0.4**
KMI sP pP 14 10 57.4 +0.7
KMI PP **PP** **14 12 10.5 +0.4**
KMI S **S** **14 16 21.4 -0.4**
KMI pmax pmax
comp=Z,34nm,1.0s
KMI LR LR
comp=Z,2µm,14.2s
KMI LR LR
comp=Z,4µm,14.9s
KMI LR LR
comp=Z,4µm,15.6s
PZH PanZhiHua 35.12 264⇑ P **P** **14 10 51.3 -0.4**
PZH sP **pP** **14 10 58.5 +0.8**
PZH PP **PP** **14 12 12.0 +0.6**
PZH S **S** **14 16 24.1 +0.5**
PZH ScP **ScP** **14 17 05.0 -2.5**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,130nm,6.1s
PZH LR LR
comp=Z,7µm,16.2s
PZH LR LR
comp=Z,4µm,16.2s
PZH LR LR
comp=Z,4µm,15.1s
TIXI Tiksi 35.13 353 P **P** **14 10 50.6 -0.4**
comp=Z,2.9nm,0.4s,baz=127,slow=0.1,SNR=17
comp=Z,2.9nm,0.4s
TIXI Tiksi 35.13 353 P **P** **14 10 50.5 -0.6**
TIXI Tiksi 35.13 353*ce*P **P** **14 10 50.8 -0.3**
TIXI pmax pmax
comp=Z,18nm,1.7s
GOMU GeErMu 37.08 283 P **P** **14 11 09.0 +0.3**
GOMU PcP **PcP** **14 13 30.9 +1.8**
GOMU S **S** **14 16 48.3 -5.7**
GOMU pmax pmax
comp=Z,18nm,0.9s
GOMU LR LR
comp=Z,630nm,12.2s
GOMU LR LR
comp=Z,590nm,12.0s
GOMU LR LR
comp=Z,780nm,13.5s
MYLDM Lahad Datu 38.14 219 P **P** **14 11 16.3 -1.0**
TNCH TengChong 38.37 264 *e*P **P** **14 11 20.1 +0.6**
TNCH S **S** **14 17 12.8 -0.6**
TNCH sS ScP 14 17 19.3 -0.4
TNCH pmax pmax
comp=Z,57nm,1.2s
TNCH pmax pmax
comp=Z,250nm,5.5s
TNCH LR LR
comp=Z,3µm,14.9s
TNCH LR LR
comp=Z,2µm,13.9s
TNCH LR LR
comp=Z,2µm,14.8s
TNTI Ternate 38.50 203 P **P** **14 11 18.9 -1.4**
TNTI Ternate 38.50 203 P **P** **14 11 21.3 +1.0**
comp=Z,1µmcomp=Z,56nm,1.9s
SIJI Sorong 39.02 196 LR LR 14 25 59.0
comp=Z,2µm,18.2s,baz=17,slow=34
RKPI Ransiki, Papua 39.09 192 P **P** **14 11 27.1 +1.8**
comp=Z,3µmcomp=Z,47nm,0.9s
GENI Genyem 39.60 182 P **P** **14 11 29.6 +0.1**
comp=Z,1µmcomp=Z,71nm,1.0s
LBMI Labuha 39.79 202 P **P** **14 11 31.2 +0.1**
comp=Z,2µmcomp=Z,90nm,2.5s
GTOI Gorontalo 40.16 209 P **P** **14 11 33.2 -1.0**
comp=Z,898nmcomp=Z,70nm,1.5s
DGZ Jazzator, Alta 40.30 306*d* *i*P **P** **14 11 35.8 +0.5**
DGZ pmax pmax
comp=Z,86nm,0.9s
PHRA Phrae 40.52 254 P **P** **14 11 36.5 -0.8**
TOLI2 Tolitoli 40.64 213 P **P** **14 11 37.9 -0.3**
TOLI2 IAmb IAmb 14 11 40.3
comp=Z,32nm,0.9s
MRSI Marisa 40.73 211 P **P** **14 11 38.1 -0.8**
comp=Z,2µmcomp=Z,144nm,1.3s
WMQ Urumqi 40.77 297⇓ P **P** **14 11 40.1 +1.0**
WMQ sP sP 14 11 47.5 -0.1
WMQ PP **PnPn** **14 13 20.1 +2.9**
WMQ PcP **PcP** **14 13 43.3 +3.2**
WMQ S **S** **14 17 45.1 -3.7**
WMQ sS sS 14 18 01.9 +3.2
WMQ ScS **ScS** **14 21 41.9 -1.4**
WMQ pmax pmax
comp=Z,51nm,1.3s
WMQ pmax pmax
comp=Z,300nm,5.3s
WMQ LR LR
comp=Z,7µm,17.1s
WMQ LR LR
comp=Z,2µm,17.1s
WMQ LR LR
comp=Z,2µm,19.5s
FAKI Fak Fak 40.81 194 P **P** **14 11 39.3 -0.3**
FAKI IAmb IAmb 14 11 46.3
comp=Z,175nm,1.8s
CHTO Chiang Mai 41.33 256 P **P** **14 11 43.1 -0.8**
CHTO Chiang Mai 41.33 256 P **P** **14 11 43.1 -0.8**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 41.54 255 P **P** **14 11 45.4 -0.2**
comp=Z,2.9nm,0.6s,baz=46,slow=7.5,SNR=23
CMAR PcP **PcP** **14 13 44.4 +1.5**
comp=Z,1.9nm,0.6s,baz=15,slow=2.3,SNR=5.5
CMAR LR LR 14 30 25.2
comp=Z,2µm,19.5s,baz=70,slow=38
comp=Z,2.9nm,0.6s
CMAR Chiang Mai Arr 41.54 255*ce*P **P** **14 11 46.0 +0.4**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
SANI Sanana 41.59 204 P **P** **14 11 45.3 -0.7**
comp=Z,1µmcomp=Z,1µmcomp=Z,59nm,0.6s
MPSI Mapaga 41.72 213 P **P** **14 11 45.9 -1.2**
comp=Z,922nmcomp=Z,48nm,1.4s
LUWI Luwuk 41.79 209 P **P** **14 11 46.8 -0.8**
comp=Z,7µmcomp=Z,44nm,0.7s
ZAA0 Zalesovo Array 41.81 312 P **P** **14 11 45.8 -1.6**
ZAA0 IAmb IAmb 14 11 48.9
comp=Z,61nm,1.1s
ZALV Zalesovo Beam 41.81 312 P **P** **14 11 46.5 -0.9**
comp=Z,38nm,0.8s,baz=93,slow=7.1,SNR=128
ZALV PcP **PcP** **14 13 42.9 -0.3**
comp=Z,8.8nm,0.8s,baz=88,slow=3.6,SNR=4.0
ZALV LR LR 14 29 46.6
comp=Z,3µm,18.4s,baz=82,slow=37
comp=Z,38nm,0.8s
ZALV Zalesovo Beam 41.81 312 P **P** **14 11 46.2 -1.2**
ZALV Zalesovo Beam 41.81 312 *i*P **P** **14 11 47.2 -0.2**
ZALV pmax pmax
comp=Z,38nm,0.8s
MSAI Masohi 41.98 199 P **P** **14 11 51.3 +2.2**
comp=Z,169nmcomp=Z,14nm,1.3s
APSI Ampana 42.11 210 P **P** **14 11 49.1 -1.1**
comp=Z,2µmcomp=Z,155nm,1.0s
LSA Lhasa 42.19 275 P **P** **14 11 50.4 -1.0**
LSA Lhasa 42.19 275 P **P** **14 11 50.4 -1.0**
LSA pmax pmax
comp=Z,25nm,0.9s
ZSN Zaisan 42.20 303 *e*P **P** **14 11 49.4 -1.3**
comp=Z,26nm,1.0s,baz=302
ZSN *e*S **S** **14 18 09.3 -0.5**
baz=302
ZSN Zaisan 42.20 303 *e*P **P** **14 11 49.4 -1.3**
ZSN *e*S **S** **14 18 09.2 -0.5**
ZSN pmax pmax
comp=Z,26nm,1.0s
NLAI Namlea 42.38 201 P **P** **14 11 54.0 +1.6**
comp=Z,4µmcomp=Z,20nm,1.1s
AAI Ambon 42.49 200 P **P** **14 11 54.4 +1.0**
comp=Z,1µmcomp=Z,60nm,0.5s
NRIK Noril'sk 43.12 335 P **P** **14 11 58.0 +0.1**
comp=Z,4.8nm,0.7s,baz=129,slow=4.6,SNR=5.6
NRIK LR LR 14 31 14.6
comp=Z,4µm,18.4s,baz=106,slow=38
comp=Z,4.8nm,0.7s
NRIK Noril'sk 43.12 335 P **P** **14 11 56.6 -1.3**
NRIK Noril'sk 43.12 335*ce*P **P** **14 11 58.9 +1.0**
NRIK pmax pmax
comp=Z,27nm,1.5s
SBUM Sibu 43.78 225 P **P** **14 12 03.1 -0.7**
MK31 Makanchi Array 44.03 302 P **P** **14 12 04.9 -0.7**
MK31 IAmb IAmb 14 12 07.2
comp=Z,36nm,0.9s
MK31 Makanchi Array 44.03 302*d* *i*P **P** **14 12 05.8 +0.2**
MKAR Makanchi Array 44.03 302 P **P** **14 12 05.0 -0.6**
comp=Z,28nm,0.8s,baz=87,slow=8.8,SNR=112
MKAR PcP **PcP** **14 13 51.6 +0.7**
comp=Z,8.8nm,1.1s,baz=69,slow=8.2,SNR=1.4
MKAR LR LR 14 30 43.9
comp=Z,1µm,20.5s,baz=100,slow=37
comp=Z,28nm,0.8s
MKAR Makanchi Array 44.03 302 P **P** **14 12 04.7 -0.9**
MKAR Makanchi Array 44.03 302*ce*P **P** **14 12 05.5 -0.1**
MKAR pmax pmax
comp=Z,29nm,0.8s
MAKZ Makanchi 44.24 302 P **P** **14 12 05.9 -1.4**
MAKZ IAmb IAmb 14 12 08.9
comp=Z,43nm,0.9s
MAKZ Makanchi 44.24 302 P **P** **14 12 05.9 -1.4**
MAKZ pmax pmax
comp=Z,43nm,1.0s
BKB Balikpapan 44.50 216 P **P** **14 12 08.3 -1.3**
comp=Z,3µmcomp=Z,221nm,1.3s
BRDH Bariadhala 45.00 266 LR LR 14 31 36.3
comp=Z,2µm,18.4s,baz=74,slow=37
MTKI Muara Teweh, K 45.20 219 P **P** **14 12 16.6 +1.4**
comp=Z,147nm,1.5s
KSM Kuching 45.66 226 P **P** **14 12 19.4 +0.5**
KURK Kurchatov 45.83 308 P **P** **14 12 19.1 -0.7**
KURK Kurchatov 45.83 308*ce*P **P** **14 12 19.7 -0.1**
KURK pmax pmax
comp=Z,117nm,1.0s
BNSI Bone 45.90 210 P **P** **14 12 19.9 -0.8**
comp=Z,769nmcomp=Z,45nm,1.6s
KURBB Kurchatov Arra 45.90 308 LR LR 14 32 25.7
comp=Z,2µm,18.5s,baz=61,slow=37
KURBB Kurchatov Arra 45.90 308 P **P** **14 12 19.2 -1.1**
TAPN Taplejung 45.93 274 *e*P **P** **14 12 21.9 +0.7**
K20K Telida 46.20 34 P **P** **14 12 23.1 +0.5**
J20K Nowinta River 46.21 33 P **P** **14 12 23.2 +0.7**
J20K IAmb IAmb 14 12 49.3
comp=Z,18nm,1.0s
ODAN Odare 46.40 273 *e*P **P** **14 12 25.4 +0.5**
KAPI Kappang 46.60 210 LR LR 14 32 37.0
comp=Z,625nm,18.9s,baz=30,slow=37
PDGK Podgornoye 46.70 298 P **P** **14 12 25.8 -1.1**
BKSI Bulukumba 46.73 210 P **P** **14 12 27.1 -0.1**
comp=Z,680nmcomp=Z,44nm,0.9s
SHLS Shalkode 46.76 298 *e*P **P** **14 12 24.0 -3.4**

comp=Z,14nm,1.0s,baz=297
SHLS eS **S** **14 19 11.2 -5.2**
baz=297
SHLS Shalkode 46.76 298 *e*P **P** **14 12 24.0 -3.4**
SHLS eS **S** **14 19 11.1 -5.3**
SHLS pmax pmax
comp=Z,14nm,1.0s
H21K Melozitna Rive 46.88 31 P **P** **14 12 27.7 -0.1**
RAMN Ramite 46.99 274 *e*P **P** **14 12 29.8 +0.3**
comp=Z,224nm,1.1s
JIRN Jiri 47.00 275 *e*P **P** **14 12 30.4 +0.6**
comp=Z,162nm,1.2s
N20K Mount Spurr 47.03 37 P **P** **14 12 29.9 +0.8**
baz=271
SPCR Spurr Chakacha 47.03 37 P **P** **14 12 30.0 +0.9**
baz=271
TDK Taldyqorghan 47.05 300 *e*P **P** **14 12 29.4 -0.2**
baz=300
TDK eS **S** **14 19 19.0 -1.3**
baz=300
TDK Taldyqorghan 47.05 300 *e*P **P** **14 12 29.3 -0.2**
TDK eS **S** **14 19 19.0 -1.3**
UZB Uzynbulak 47.08 298 *e*P **P** **14 12 28.8 -1.2**
comp=Z,11nm,1.4s,baz=298
UZB eS **S** **14 19 19.5 -1.5**
baz=298
UZB Uzynbulak 47.08 298 *e*P **P** **14 12 28.7 -1.2**
UZB eS **S** **14 19 19.5 -1.5**
UZB pmax pmax
comp=Z,11nm,1.4s
CAST Castle Rocks 47.09 34 P **P** **14 12 31.5 +2.0**
baz=269,SNR=7.4
GUN Gumba 47.14 276 *e*P **P** **14 12 31.4 +0.6**
comp=Z,98nm,1.0s
KPKS Kokpek 47.23 298 *e*P **P** **14 12 29.8 -1.3**
comp=Z,15nm,1.1s,baz=298
KPKS eS **S** **14 19 22.1 -1.0**
baz=298
KPKS Kokpek 47.23 298 *e*P **P** **14 12 29.7 -1.3**
KPKS eS **S** **14 19 22.0 -1.0**
KPKS pmax pmax
comp=Z,15nm,1.1s
SRIT Nakonsritamara 47.31 244 P **P** **14 12 32.1 +0.2**
SKT Skwentna 47.34 36 P **P** **14 12 33.1 +1.6**
baz=271
BBKI Banjar Baru 47.41 217 P **P** **14 12 32.9 +0.4**
comp=Z,4µmcomp=Z,76nm,1.2s
E22K Anaktuvuk Pass 47.46 28 P **P** **14 12 34.3 +1.9**
baz=265,SNR=20
H22K Ishtalitna Cre 47.48 31 P **P** **14 12 34.7 +2.2**
baz=267,SNR=9.6
SATY Saty 47.53 298 *e*P **P** **14 12 31.2 -2.2**
baz=298
SATY eS **S** **14 19 25.9 -1.6**
baz=298
SATY Saty 47.53 298 *e*P **P** **14 12 31.2 -2.2**
SATY eS **S** **14 19 25.9 -1.6**
PKI Pulchoki 47.66 275 *e*P **P** **14 12 35.1 +0.2**
comp=Z,82nm,1.2s
KKN Kakani 47.67 276 *e*P **P** **14 12 34.7 -0.1**
KKN Kakani 47.67 276 *e*P **P** **14 12 35.9 +1.1**
PKIN Phulchoki 47.67 275 *e*P **P** **14 12 34.8 0.0**
MLY Manley 47.71 32 P **P** **14 12 36.4 +2.0**
baz=269,SNR=8.8
SUA Susitna One 47.73 37 P **P** **14 12 36.8 +2.2**
baz=272
DMN Daman 47.89 276 *e*P **P** **14 12 36.7 +0.2**
TRF Thorofare Moun 47.90 34 P **P** **14 12 37.6 +1.6**
baz=271
GKN Gorkha 48.09 276 *e*P **P** **14 12 38.2 +0.3**
comp=Z,294nm,1.2s
H23K Yukon River 48.23 31 P **P** **14 12 38.2 -0.1**
H23K lAmb lAmb 14 12 54.4
comp=Z,16nm,0.8s
RC01 Rabbit Creek A 48.23 37 P **P** **14 12 40.3 +1.9**
baz=273
I23K Minto, Yukon-K 48.30 32 P **P** **14 12 39.4 +0.6**
I23K Minto, Yukon-K 48.30 32 P **P** **14 12 40.7 +1.9**
baz=270
CHKK Chushkaly 48.32 299 *e*P **P** **14 12 38.2 -1.1**
baz=299
CHKK Chushkaly 48.32 299 *e*P **P** **14 12 38.2 -1.1**
TOLK Toolik Lake Re 48.33 27 P **P** **14 12 40.9 +1.8**
baz=267,SNR=11
MDOK Medeo 48.46 298 *e*P **P** **14 12 40.1 -0.6**
baz=298
MDOK eS **S** **14 19 44.4 +3.7**
baz=298
MDOK Medeo 48.46 298 *e*P **P** **14 12 40.0 -0.6**
MDOK eS **S** **14 19 44.3 +3.7**
PMR Palmer 48.50 37 P **P** **14 12 40.8 +0.4**
PMR lAmb lAmb 14 13 07.8
comp=Z,47nm,1.4s
PMR Palmer 48.50 37 P **P** **14 12 41.2 +0.8**
baz=273
PMR Palmer 48.50 37 P **P** **14 12 40.8 +0.4**
PMR pmax pmax
comp=Z,47nm,1.4s
MCK McKinley 48.50 34 P **P** **14 12 40.8 +0.3**
MCK lAmb lAmb 14 13 49.5
comp=Z,16nm,0.9s
MCK McKinley 48.50 34 P **P** **14 12 41.1 +0.7**
baz=272
MCK McKinley 48.50 34 P **P** **14 12 40.8 +0.3**
MCK pmax pmax
comp=Z,16nm,0.9s
AAA Alma-Ata 48.55 298 *e*P **P** **14 12 39.4 -1.8**
baz=298
AAA eS **S** **14 19 44.3 +2.6**
baz=298
AAA Alma-Ata 48.55 298 *e*P **P** **14 12 39.3 -1.8**
AAA eS **S** **14 19 44.2 +2.6**
TNSS Tian-Shan 48.57 298 *e*P **P** **14 12 40.7 -1.1**
baz=298
TNSS Tian-Shan 48.57 298 *e*P **P** **14 12 40.6 -1.1**
DANN Dangsing 48.63 277 *e*P **P** **14 12 42.8 +0.5**
comp=Z,195nm,0.8s
WAT1 Susitna Watana 48.70 35 P **P** **14 12 43.0 +0.9**
baz=273
C24K Franklin Bluff 48.71 26 P **P** **14 12 43.6 +1.7**
baz=266,SNR=17
KUU Kurty 48.76 299 *e*P **P** **14 12 41.1 -1.7**
baz=299
KUU eS **S** **14 19 43.7 -0.9**
baz=299
KUU Kurty 48.76 299 *e*P **P** **14 12 41.0 -1.7**
KUU eS **S** **14 19 43.7 -0.9**
MDM Murphy Dome 48.78 32 P **P** **14 12 42.8 +0.2**
MDM lAmb lAmb 14 12 47.1
comp=Z,32nm,1.1s
KNK Knik Glacier 48.83 37 P **P** **14 12 43.9 +0.9**
baz=274
SML Sawmill 48.86 36 P **P** **14 12 44.1 +0.8**
SML Sawmill 48.86 36 P **P** **14 12 44.4 +1.1**
baz=274
KULM Kulim 48.90 240 P **P** **14 12 44.6 +0.6**
KULM lAmb lAmb 14 13 07.8
comp=Z,26nm,1.1s
H24K Noodor Dome 48.91 31 P **P** **14 12 43.8 +0.1**
H24K lAmb lAmb 14 12 48.0
comp=Z,17nm,1.1s
CCB Clear Creek Bu 48.97 33 P **P** **14 12 44.5 +0.5**
CCB lAmb lAmb 14 13 52.8
comp=Z,47nm,2.0s
MMRI Maumere 49.01 205 P **P** **14 12 45.2 +0.4**
comp=Z,2µmcomp=Z,65nm,1.1s
WAT6 Susitna Watana 49.09 35 P **P** **14 12 45.7 +0.5**
baz=274
POKR Poker Plat Res 49.11 32 P **P** **14 12 43.9 -1.2**
POKR lAmb lAmb 14 12 49.2
comp=Z,42nm,1.0s
POKR Poker Plat Res 49.11 32 P **P** **14 12 46.9 +1.7**
baz=272,SNR=8.9
M23K Glacier View 49.15 36 P **P** **14 12 45.9 +0.5**
baz=274
IPM Ipoh 49.23 239 P **P** **14 12 45.4 -1.2**
IPM lAmb lAmb 14 12 48.0
comp=Z,26nm,0.9s
DHY Denali Highway 49.23 35 P **P** **14 12 46.5 +0.3**
baz=274
SCM Sheep Creek Mo 49.34 36 P **P** **14 12 47.9 +0.9**
baz=275
HDA Harding Lake 49.35 33 P **P** **14 12 47.3 +0.4**
HDA lAmb lAmb 14 12 49.7
comp=Z,20nm,1.0s
HDA Harding Lake 49.35 33 P **P** **14 12 47.7 +0.8**
baz=273,SNR=8.0
IL31 49.36 32 P **P** **14 12 47.2 +0.2**
IL31 lAmb lAmb 14 12 49.9
comp=Z,24nm,0.9s
ILAR Eielson Array 49.36 32 P **P** **14 12 47.0 0.0**
comp=Z,13nm,0.8s,baz=269,slow=6.3,SNR=68
ILAR LR LR 14 35 48.2
comp=Z,1µm,18.6s,baz=283,slow=39
comp=Z,13nm,0.8s
ILAR Eielson Array 49.36 32 P **P** **14 12 47.2 +0.2**
ILAR Eielson Array 49.36 32 P **P** **14 12 47.2 +0.2**
SOEI Soe 49.40 203 P **P** **14 12 47.8 -0.1**
SOEI Soe 49.40 203 P **P** **14 12 47.3 -0.6**
comp=Z,1µmcomp=Z,152nm,1.0s
BOOM Boomskoye usch 49.44 298 P **P** **14 12 47.6 -0.5**
BOOM Boomskoye usch 49.44 298 P **P** **14 12 47.6 -0.5**
BOOM pmax pmax
comp=Z,74nm,1.4s
HNR Honiara 49.53 156 LR LR 14 32 03.5
comp=Z,18µm,21.4s,baz=330,slow=34
TKM2 Tokmak 2 49.55 298 P **P** **14 12 50.2 +1.1**
BRZS Berezniki 49.71 308 *e*P **P** **14 12 48.7 -1.3**
comp=Z,6.0nm,0.7s,baz=308
BRZS eS **S** **14 19 56.6 -1.1**
baz=308
BRZS Berezniki 49.71 308 *e*P **P** **14 12 48.6 -1.3**
BRZS eS **S** **14 19 56.5 -1.1**
BRZS pmax pmax
comp=Z,6.0nm,0.7s
E25K Arctic Village 49.80 28 P **P** **14 12 51.5 +1.1**
baz=271,SNR=14
K24K Donnelly Dome 49.90 34 P **P** **14 12 52.5 +1.3**
baz=274
PRP Porcupine Dome 49.90 31 P **P** **14 12 51.2 0.0**
PRP Porcupine Dome 49.90 31 P **P** **14 12 52.5 +1.2**
baz=273,SNR=9.9
BATI Baumata 50.01 203 LR LR 14 32 48.1
comp=Z,806nm,20.9s,baz=16,slow=35
BATI Baumata 50.01 203 P **P** **14 12 52.6 +0.1**
comp=Z,89nm,0.7s
BTLS Baital 50.03 301 *e*P **P** **14 12 51.1 -1.4**
comp=Z,9.3nm,0.9s,baz=301
BTLS Baital 50.03 301 *e*P **P** **14 12 51.0 -1.4**
BTLS pmax pmax
comp=Z,9.0nm,0.9s
KLU Klutina 50.04 37 P **P** **14 12 53.3 +1.0**
baz=276
MID Middleton Isla 50.07 39 P **P** **14 12 52.5 +0.1**
MID Middleton Isla 50.07 39 P **P** **14 12 52.5 +0.1**
MID pmax pmax
comp=Z,254nm,0.6s
SGDS Sogindy 50.08 299 *e*P **P** **14 12 51.4 -1.5**
baz=299
SGDS eS **S** **14 20 02.9 -0.3**
baz=299
SGDS Sogindy 50.08 299 *e*P **P** **14 12 51.4 -1.5**
SGDS eS **S** **14 20 02.8 -0.3**
PAX Paxson 50.10 35 P **P** **14 12 54.4 +1.6**
baz=275
EYAK Cordova Ski Ar 50.23 38 P **P** **14 12 54.9 +1.3**
baz=277
HARP HAARP 50.30 35 P **P** **14 12 55.8 +1.6**
baz=276
KSH Kashi 50.34 294 P **P** **14 12 58.9 +3.9**
KSH sP sP 14 13 04.8 +1.2
KSH S **S** **14 20 13.6 +6.6**
KSH sS sS 14 20 22.4 +5.2
KSH pmax pmax
comp=Z,18nm,1.6s
KSH pmax pmax
comp=Z,270nm,6.0s
KSH LR LR
comp=Z,3µm,15.9s
KSH LR LR
comp=Z,2µm,14.9s
KSH LR LR
comp=Z,4µm,16.5s
AAK Ala-Archa 50.41 298 LR LR 14 35 26.1
comp=Z,4µm,18.9s,baz=77,slow=38
AAK Ala-Archa 50.41 298 P **P** **14 12 55.0 -0.5**
AAK lAmb lAmb 14 13 31.2
comp=Z,20nm,1.1s
AAK Ala-Archa 50.41 298*ce*P **P** **14 12 55.2 -0.3**
AAK pmax pmax
comp=Z,25nm,1.7s
BVAR Borovoye Array 50.46 312 LR LR 14 35 24.4
comp=Z,3µm,18.1s,baz=83,slow=38
BRVK Borovoye 50.52 312 P **P** **14 12 55.0 -1.0**
BRVK lAmb lAmb 14 13 06.6
comp=Z,26nm,1.0s
BRVK Borovoye 50.52 312*ce*P **P** **14 12 56.4 +0.4**
BRVK pmax pmax
comp=Z,26nm,1.3s
N25K Chitina, Valde 50.65 36 P **P** **14 12 58.6 +1.6**
baz=277
SCRK Sand Creek 50.67 33 P **P** **14 12 57.3 +0.2**
SCRK lAmb lAmb 14 13 00.1
comp=Z,20nm,1.0s
SCRK Sand Creek 50.67 33 P **P** **14 12 58.1 +1.0**
baz=276,SNR=12
MTN Manton Dam 50.70 193 P **P** **14 12 57.3 -0.4**
MTN lAmb lAmb 14 13 15.7
comp=Z,54nm,1.2s
BMRM Bremner River 50.73 37 P **P** **14 12 58.9 +1.4**
baz=278
J26L Joseph Creek 50.80 33 P **P** **14 12 58.7 +0.6**
J26L lAmb lAmb 14 14 01.6
comp=Z,13nm,0.5s
J26L Joseph Creek 50.80 33 P **P** **14 12 59.7 +1.6**
baz=276
PLAI Plampang 50.86 211 P **P** **14 12 57.8 -1.1**
comp=Z,40nm,0.7s
I26K Coal Creek Min 50.90 32 P **P** **14 13 00.3 +1.6**
baz=275
COEN Coen 50.91 178 P **P** **14 12 59.5 +0.3**
PPBI Pangkal Pinang 51.03 228 P **P** **14 13 00.9 +0.7**
comp=Z,4µmcomp=Z,25nm,1.1s
TWSI Taliwang, Sumb 51.15 212 P **P** **14 13 00.5 -0.6**
comp=Z,54nm,1.0s
SRBI Singaraja 51.29 214 P **P** **14 13 02.5 +0.4**
comp=Z,75nm,0.9s
M26K Nabesna, AK 51.30 35 P **P** **14 13 03.6 +1.8**
baz=278
MCARA McCarthy VSAT 51.43 37 P **P** **14 13 04.6 +1.9**
baz=279
ABJI Asem Bagus 51.48 215 P **P** **14 13 03.6 0.0**
comp=Z,87nm,1.3s
H27K Steamboat Moun 51.48 30 P **P** **14 13 05.0 +1.9**
baz=276,SNR=9.8
I27K Kandik River 51.51 31 P **P** **14 13 05.0 +1.6**
baz=276
GRJI Gresik 51.55 218 P **P** **14 13 04.7 +0.6**
comp=Z,1µmcomp=Z,135nm,1.1s
L27K Beaver Creek, 51.74 34 P **P** **14 13 06.7 +1.6**
baz=278
BCAR Beaver Creek A 51.76 34 P **P** **14 13 05.9 +0.7**
EGAK Eagle 51.80 32 P **P** **14 13 06.1 +0.7**
EGAK lAmb lAmb 14 14 15.6
comp=Z,56nm,1.6s
M27K Edge Creek, AK 51.82 35 P **P** **14 13 07.5 +1.7**
baz=279
PSI Prapat 51.88 239 LR LR 14 35 51.5
comp=Z,870nm,18.5s,baz=28,slow=37
PSI Prapat 51.88 239 P **P** **14 13 07.0 +0.3**
PSI pmax pmax
comp=Z,13nm,0.7s
RPSI Rantau Prapat 51.95 239 P **P** **14 13 07.0 -0.2**
DZA Taraz 52.54 299 *e*P **P** **14 13 09.9 -1.5**
baz=300
DZA eS **S** **14 20 36.9 -0.2**
baz=300
DZA Taraz 52.54 299 *e*P **P** **14 13 09.8 -1.5**
DZA eS **S** **14 20 36.9 -0.2**
YUK3 Moose Creek 52.58 36 P **P** **14 13 12.9 +1.4**
baz=280
DAWY Dawson 52.67 33 P **P** **14 13 13.4 +1.5**
baz=280
PWJI Pagerwojo 52.84 218 P **P** **14 13 13.9 +0.3**
comp=Z,29µmcomp=Z,141nm,0.8s
O28M Mount Upton 52.89 37 P **P** **14 13 15.4 +1.4**
baz=281
I29M Ogilvie Camp, 52.91 31 P **P** **14 13 15.8 +2.0**
baz=279,SNR=11
SDSI Sungai Dareh 52.98 234 P **P** **14 13 14.3 -0.5**
comp=Z,773nmcomp=Z,45nm,1.4s
KK31 Karatay Array 53.04 300 P **P** **14 13 14.8 -0.2**
KK31 lAmb lAmb 14 13 33.3
comp=Z,25nm,1.0s
KK31 Karatay Array 53.04 300 *i* P **P** **14 13 14.6 -0.4**
KKAR Karatay Array 53.04 300 P **P** **14 13 14.5 -0.5**
KKAR Karatay Array 53.04 300 P **P** **14 13 14.9 -0.1**
KKAR lAmb lAmb 14 13 33.3
comp=Z,25nm,1.0s
KKAR Karatay Array 53.04 300 P **P** **14 13 14.9 -0.1**
KKAR pmax pmax
comp=Z,25nm,1.0s
M29M Sonme Creek 53.37 35 P **P** **14 13 18.5 +1.3**
baz=282
UGM Wanagama 53.38 219 P **P** **14 13 16.7 -1.0**
EPYK Eagle Plains 53.39 30 P **P** **14 13 18.2 +1.0**
EPYK Eagle Plains 53.39 30 P **P** **14 13 18.9 +1.8**
baz=280,SNR=25
L29M L29M 53.39 34 P **P** **14 13 19.0 +1.7**
baz=281
G30M tAoh Zraii Nji 53.48 29 P **P** **14 13 19.3 +1.5**
baz=280
YUK4 Talbot Arm 53.51 36 P **P** **14 13 20.6 +2.2**
baz=282
O29M Mount Kennedy 53.77 37 P **P** **14 13 21.5 +1.3**
baz=283
GSI Gunungsitoli 53.88 239 P **P** **14 13 21.3 -0.1**
GSI Gunungsitoli 53.88 239 P **P** 14 13 05.0 -16
KNRA Kununurra 53.92 195 P **P** **14 13 21.4 -0.2**
CHM Chimkent 53.94 299 *e*P **P** **14 13 20.0 -1.6**
baz=299
CHM eS **S** **14 20 55.7 -0.4**
baz=299
CHM Chimkent 53.94 299 *e*P **P** **14 13 20.0 -1.6**
CHM eS **S** **14 20 55.7 -0.4**
LEM Lembang 53.99 223 LR LR 14 37 33.3
comp=Z,262nm,18.8s,baz=3.0,slow=37
M30M Minto, Yukon 54.10 34 P **P** **14 13 24.1 +1.6**
baz=283
HYT Haines Junctio 54.17 37 P **P** **14 13 25.6 +2.5**
baz=283,SNR=5.6
N30M Aishikik Lake 54.22 36 P **P** **14 13 25.6 +2.2**
baz=283
INK Inuvik 54.24 27 P **P** **14 13 24.1 +0.8**
comp=Z,11nm,0.8s,baz=287,slow=6.0,SNR=32
INK LR LR 14 39 41.8
comp=Z,1µm,18.6s,baz=266,slow=40
comp=Z,11nm,0.8s
INK Inuvik 54.24 27 P **P** **14 13 23.7 +0.4**
INK lAmb lAmb 14 13 26.8
comp=Z,16nm,0.9s
INK Inuvik 54.24 27 P **P** **14 13 24.8 +1.5**
baz=281,SNR=11
F31M Tsiigehtchic 54.34 28 P **P** **14 13 25.1 +1.1**
baz=282,SNR=11
P29M Windy Craggy 54.34 38 P **P** **14 13 26.2 +1.9**
baz=284
NIL Nilore 54.56 288 P **P** **14 13 26.4 +0.1**
NIL Nilore 54.56 288 P **P** **14 13 26.4 +0.1**
NIL pmax pmax
comp=Z,40nm,0.8s
P30M Million Dollar 54.60 37 P **P** **14 13 28.2 +2.0**
baz=284
GAR Garm 54.63 295 P **P** **14 13 26.7 -0.1**
N31M Braeburn, Yuko 54.82 36 P **P** **14 13 28.3 +0.6**
N31M lAmb lAmb 14 14 20.1
comp=Z,30nm,1.0s
O30N Mendenhall 54.85 37 P **P** **14 13 30.0 +2.0**
baz=285
SVE Sverdlovsk 55.03 319 *e*P **P** **14 13 30.2 +1.0**
SVE eS **S** **14 21 10.5 +0.3**
SVE pmax pmax
comp=Z,85nm,1.2s
SVE MLR MLR
comp=Z,3µm,17.0s
PLBC Pleasant Camp 55.06 38 P **P** **14 13 31.3 +1.9**
baz=285
M31M Drury Creek, Y 55.28 35 P **P** **14 13 31.4 +0.4**
WHY Whitehorse 55.46 36 P **P** **14 13 34.6 +2.2**
baz=286
CHGR Chuyangaron 55.60 295 P **P** **14 13 33.4 -0.3**
CHGR Chuyangaron 55.60 295 P **P** **14 13 33.4 -0.3**
CHGR pmax pmax
comp=Z,245nm,1.3s
FARO Faro, Yukon 55.74 34 P **P** **14 13 34.2 -0.2**
A36M Sachs Harbour 56.11 22 P **P** **14 13 38.5 +1.7**
baz=286,SNR=26
ARU Arti 56.24 318 LR LR 14 39 55.0
comp=Z,3µm,18.2s,baz=66,slow=38
ARU Arti 56.24 318 P **P** **14 13 37.2 -0.8**
ARU Arti 56.24 318*c i* P **P** **14 13 37.8 -0.1**
ARU 14 14 35.2
ARU PPP PPP 14 16 54.6
ARU S **S** **14 21 28.7 +2.3**
ARU 14 23 22.6
ARU SS **SS** **14 25 16.5 +4.0**
ARU pmax pmax
comp=Z,94nm,1.0s
ARU MLR MLR
comp=Z,2µm,17.0s
P32M Atlin 56.32 38 P **P** **14 13 40.2 +1.7**
baz=287
MMPY Sheldon Lake, 56.56 34 P **P** **14 13 42.4 +2.1**
baz=287
P33M Teslin, Yukon 56.57 37 P **P** **14 13 40.4 +0.1**
WB0 Warramunga Arr 57.04 188 P **P** **14 13 42.9 -1.1**
WB0 lAmb lAmb 14 14 17.4
comp=Z,28nm,1.0s
CTA Charters Tower 57.16 175 LR LR 14 37 23.1
comp=Z,452nm,20.6s,baz=344,slow=35
MLOA Mauna Loa Obse 57.19 89 P **P** **14 13 45.0 -0.7**
WRAB Tennant Creek 57.21 188 P **P** **14 13 43.5 -1.6**
WRAB lAmb lAmb 14 14 42.6
comp=Z,23nm,1.0s
WRAB Tennant Creek 57.21 188*ce*P **P** **14 13 45.7 +0.5**
WRAB pmax pmax
comp=Z,25nm,1.3s
WR0 Warramunga Arr 57.22 188 P **P** **14 13 43.9 -1.3**
WR0 lAmb lAmb 14 14 12.7
comp=Z,20nm,0.7s
WB2 Warramunga Arr 57.22 188 P **P** **14 13 43.9 -1.4**
WB2 lAmb lAmb 14 14 06.7
comp=Z,19nm,0.8s
WRA Warramunga Arr 57.22 188 P **P** **14 13 44.3 -0.9**
comp=Z,10.0nm,0.6s,baz=4.9,slow=7.4,SNR=112
WRA LR LR 14 38 50.4
comp=Z,339nm,18.1s,baz=354,slow=37
comp=Z,10.0nm,0.6s
WRA Warramunga Arr 57.22 188 P **P** **14 13 43.9 -1.3**
HMH Humu'ula Sheep 57.23 89 P **P** **14 13 45.1 -0.7**
C36M Paulatuk 57.28 25 P **P** **14 13 45.2 +0.1**
C36M Paulatuk 57.28 25 P **P** **14 13 46.4 +1.2**
baz=289,SNR=9.4
KBL Kabul 57.36 291 P **P** **14 13 46.0 -0.5**
KBL lAmb lAmb 14 13 56.4
comp=Z,54nm,1.4s
KBL Kabul 57.36 291 P **P** **14 13 46.0 -0.5**
KBL pmax pmax
comp=Z,54nm,1.4s
R33M Jennings River 57.71 37 P **P** **14 13 50.5 +2.0**
baz=289
AB31 Akbulak array 57.84 310 *i* P **P** **14 13 49.0 -0.3**
ABKAR Akbulak array 57.84 310 P **P** **14 13 48.5 -0.9**
ABKAR lAmb lAmb 14 13 50.8
comp=Z,23nm,0.9s
HYBB Hyderabad (bro 58.21 268 *e*P **P** **14 13 52.8 +0.4**
HYBB IVmB_BB 14 14 03.1
comp=Z,213nm,1.6s
DLBC Dease Lake 58.50 38 P **P** **14 13 57.4 +3.4**
comp=Z,11nm,1.0s,baz=319,slow=7.7,SNR=7.8
DLBC LR LR 14 43 05.9
comp=Z,277nm,18.8s,baz=320,slow=40
DLBC Dease Lake 58.50 38 P **P** **14 13 56.0 +2.1**
baz=291
AKTO Aktyubinsk 58.57 312 P **P** **14 13 53.5 -1.0**
EUNU Eureka 60.03 9 P **P** **14 14 04.4 +0.2**
EUNU lAmb lAmb 14 14 30.1
comp=Z,11nm,0.8s
LIRD Liard River Hi 60.03 36 P **P** **14 14 06.0 +1.6**
baz=293,SNR=11
KIRV Kirov 60.12 323 LR LR 14 42 58.3
comp=Z,2µm,19.1s,baz=65,slow=39
KIRV Kirov 60.12 323*ce*P **P** **14 14 05.5 +0.5**
SPITS Spitsbergen Ar 60.37 349 P **P** **14 14 07.6 +1.1**
SPITS pmax pmax
comp=Z,88nm,1.6s
PRGR Permogore 60.63 327 *e*P **P** **14 14 06.5 -1.9**
PRGR pmax pmax
comp=Z,94nm,1.3s

NOR Nord 60.89 356 *i* P **P** **14 14 07.9 -2.1**
NOR IAmb IAmb 14 14 11.4
comp=Z,3.3nm,0.6s
AS31 Alice Springs 60.95 188 P **P** **14 14 10.3 -0.8**
ASAR Alice Springs 60.95 188 P **P** **14 14 10.5 -0.5**
comp=Z,5.8nm,0.7s,baz=18,slow=6.3,SNR=68
ASAR LR LR 14 39 22.1
comp=Z,571nm,21.7s,baz=3.5,slow=35
comp=Z,5.8nm,0.7s
ASAR Alice Springs 60.95 188 P **P** **14 14 10.3 -0.7**
MBWA Marble Bar 61.54 203 P **P** **14 14 14.7 -0.4**
MBWA IAmb IAmb 14 14 53.3
comp=Z,26nm,0.9s
PSA00 Pilbara Seismi 61.89 203 P **P** **14 14 16.1 -1.3**
PSA00 IAmb IAmb 14 15 01.0
comp=Z,38nm,1.1s
BBB Bella Bella 61.95 44 LR LR 14 38 34.9
comp=Z,254nm,21.5s,baz=306,slow=34
BBB Bella Bella 61.95 44 P **P** **14 14 16.6 -0.9**
LVZ Lovozero 61.96 336 P **P** **14 14 17.1 -0.3**
LVZ Lovozero 61.96 336*ce*P **P** **14 14 17.2 -0.3**
LVZ pmax pmax
comp=Z,31nm,1.1s
PALK Pallekele 62.40 258 LR LR 14 42 43.1
comp=Z,938nm,20.3s,baz=155,slow=37
PALK Pallekele 62.40 258 P **P** **14 14 20.5 -0.7**
PALK IAmb IAmb 14 14 23.1
comp=Z,37nm,1.1s
PALK Pallekele 62.40 258 ⇑P **P** **14 14 22.6 +1.4**
VADS Vadso 62.41 339 *eP* **P** **14 14 21.3 +0.9**
VADS IAmb IAmb 14 14 22.2
comp=Z,47nm,0.9s
RES Resolute Bay 62.45 14 P **P** **14 14 20.7 +0.2**
comp=Z,6.3nm,0.7s,baz=281,slow=8.3,SNR=10
RES LR LR 14 44 16.2
comp=Z,475nm,19.0s,baz=334,slow=39
comp=Z,6.3nm,0.7s
RES Resolute Bay 62.45 14 P **P** **14 14 20.4 -0.1**
RES IAmb IAmb 14 14 48.3
comp=Z,16nm,1.1s
HRA Herat 62.45 294 P **P** **14 14 20.4 -1.1**
HRA IAmb IAmb 14 14 23.1
comp=Z,11nm,0.7s
APA Apatity 62.54 336 ⇓ *i*P **P** **14 14 17.1 -4.2**
APA pmax pmax
comp=Z,28nm,0.9s
APA MLR MLR
comp=Z,2μm,20.0s
KEV Kevo 63.29 339 P **P** **14 14 26.7 +0.5**
KEV Kevo 63.29 339 P **P** **14 14 26.7 +0.5**
KEV pmax pmax
comp=Z,31nm,0.8s
DZM Mont Dzumac 63.50 154 LR LR 14 39 36.8
comp=Z,883nm,21.4s,baz=331,slow=34
DZM Mont Dzumac 63.50 154 *eS* **S** **14 23 02.1 +1.5**
comp=Z,436nm,25.1s
DZM Mont Dzumac 63.50 154 *e*LR LR 14 33 24.1
comp=Z,2μm,22.0s
KLMR Klimovskoe 63.62 328 *eP* **P** **14 14 26.8 -1.7**
KLMR AMP 14 14 30.3
comp=Z,70nm,0.9s
KLMR LQ LQ 14 36 21.2
KLMR LQ LQ 14 36 21.2
KLMR LR LR 14 38 21.0
KLMR LRM MLR 14 44 27.8
KLMR AMP 14 44 57.9
comp=Z,1μm,14.7s
KLMR Klimovskoe 63.62 328 *eP* **P** **14 14 26.8 -1.7**
KLMR pmax pmax
comp=Z,70nm,0.9s
KLMR MLR MLR
comp=Z,1μm,15.0s
HAMF Hammerfest 63.66 341 *eP* **P** **14 14 29.5 +0.9**
YKA Yellowknife Ar 63.67 30 P **P** **14 14 29.1 +0.3**
comp=Z,5.1nm,0.8s,baz=295,slow=6.4,SNR=7.4
YKA LR LR 14 45 41.5
comp=Z,332nm,18.1s,baz=292,slow=39
comp=Z,5.1nm,0.8s
YKA Yellowknife Ar 63.67 30*ce*P **P** **14 14 31.5 +2.7**
YKA pmax pmax
comp=Z,4.0nm,0.7s
BELG Belogornoye 63.68 317 LR LR 14 43 19.0
comp=Z,846nm,20.1s,baz=69,slow=37
BELG Belogornoye 63.68 317*d iP* **P** **14 14 29.3 +0.2**
BELG pmax pmax
comp=Z,17nm,1.0s
GEYT Alibeck 63.76 299 P **P** **14 14 29.3 -0.6**
comp=Z,29nm,0.9s,baz=41,slow=2.7,SNR=44
GEYT LR LR 14 44 08.0
comp=Z,859nm,18.2s,baz=76,slow=38
comp=Z,29nm,0.9s
GEYT Alibeck 63.76 299 P **P** **14 14 30.7 +0.8**
GYA0B ALIBECK ARRAY 63.76 299 P **P** **14 14 30.7 +0.8**
GYA0B IAmb IAmb 14 14 31.9
comp=Z,37nm,1.1s
ARA0 ARCESS Array S 63.85 339 *eP* **P** **14 14 30.8 +0.9**
ARA0 IAmb IAmb 14 14 32.0
comp=Z,27nm,0.9s
ARCES ARCESS Array B 63.85 339 P **P** **14 14 30.8 +0.9**
comp=Z,19nm,0.8s,baz=56,slow=9.0,SNR=36
comp=Z,19nm,0.8s
ARCES ARCESS Array B 63.85 339 P **P** **14 14 30.2 +0.2**
ARCES IAmb IAmb 14 14 32.2
comp=Z,23nm,0.9s
MSVF Nonsavu 64.63 141 LR LR 14 38 54.2
comp=Z,715nm,18.9s,baz=344,slow=32
KTK1 Kautokeino 64.81 339 *eP* **P** **14 14 36.9 +0.7**
KTK1 IAmb IAmb 14 14 38.2
comp=Z,41nm,0.9s
TULEG Thule 64.94 7 P **P** **14 14 36.8 -0.2**
TULEG IAmb IAmb 14 15 03.1
comp=Z,16nm,1.0s
NEEM North Greenlan 65.37 3 *i* P **P** **14 14 41.4 +1.2**
NEEM IAmb IAmb 14 14 44.0
comp=Z,7.7nm,0.8s
TRO Tromso 65.56 341 *eP* **P** **14 14 42.5 +1.5**
DAG Danmarks Havn 65.61 355 *i* P **P** **14 14 42.0 +0.7**
DAG IAmb IAmb 14 14 42.5
comp=Z,7.1nm,0.6s
AFI Afiamalu 67.24 130 LR LR 14 39 16.8
comp=Z,558nm,19.5s,baz=310,slow=32
VRH Novokhopyorsk 67.46 318 *eP* **P** **14 14 53.1 -0.4**
VRH pmax pmax
comp=Z,60nm,0.7s
VRH MLR MLR
comp=Z,2μm,17.0s
STEI Steigen 67.72 341 *eP* **P** **14 14 55.6 +0.8**
STEI IAmb IAmb 14 14 56.5
comp=Z,34nm,0.9s
OBN Obninsk 67.97 323 LR LR 14 45 19.5
comp=Z,254nm,19.9s,baz=52,slow=37
OBN Obninsk 67.97 323 ⇓ *eP* **P** **14 14 56.8 +0.2**
OBN *e* 14 17 26.9
OBN *eS* **S** **14 23 53.5 -0.8**
OBN *e*SS **SS** **14 28 18.5 +2.9**
OBN pmax pmax
comp=Z,64nm,1.0s
OBN MLR MLR
comp=Z,2μm,15.0s
PUL Pulkovo 68.05 329*ce*P **P** **14 14 58.4 +1.4**
PUL pmax pmax
comp=Z,110nm,1.1s
FAUS Fauske 68.10 340 *eP* **P** **14 14 58.5 +1.3**
FAUS IAmb IAmb 14 14 59.2
comp=Z,38nm,0.8s
LPSR Galich'ya Gora 68.18 320 *eP* **P** **14 14 57.6 -0.4**
LPSR pmax pmax
comp=Z,70nm,0.8s
LPSR MLR MLR
comp=Z,3μm,16.0s
MAK Makhachkala 68.36 308 *eP* **P** **14 14 54.7 -4.6**
MAK *eS* **S** **14 23 53.8 -5.6**
MAK pmax pmax
comp=Z,228nm,1.1s
MAK MLR MLR
comp=Z,1μm,14.0s
VORR Voronezh 68.54 319 *eP* **P** **14 15 01.0 +0.7**
VORR pmax pmax
comp=Z,50nm,0.4s
FIA1 FINESS Array S 68.67 332 P **P** **14 15 00.8 -0.2**
FINES FINESS Array B 68.67 332 P **P** **14 15 01.2 +0.2**
comp=Z,45nm,0.8s,baz=58,slow=5.4,SNR=68
FINES LR LR 14 45 52.7
comp=Z,1μm,21.0s,baz=26,slow=37
comp=Z,45nm,0.8s
FINES FINESS Array B 68.67 332 P **P** **14 15 00.9 -0.1**

STKA Stephens Creek 68.72 180 P **P** **14 15 02.1 +0.6**
comp=Z,11nm,0.8s,baz=355,slow=7.1,SNR=17
STKA LR LR 14 44 24.7
comp=Z,748nm,20.5s,baz=352,slow=35
comp=Z,11nm,0.8s
STKA Stephens Creek 68.72 180 P **P** **14 15 01.3 -0.2**
FORT Forrest 68.77 192 P **P** **14 15 01.6 -0.2**
VSR Storozhevoye 68.81 319 *eP* **P** **14 15 01.6 -0.4**
VSR pmax pmax
comp=Z,60nm,0.8s
VSR MLR MLR
comp=Z,3μm,17.0s
H04A Detroit Lake 69.00 49 P **P** **14 15 03.7 +0.3**
H04A IAmb IAmb 14 15 12.4
comp=Z,22nm,1.1s
GROC Groznyy 69.30 309 *eP* **P** **14 15 05.0 -0.2**
GROC *e* 14 15 28.8
GROC *eS* **S** **14 24 10.3 -0.3**
GROC pmax pmax
comp=Z,39nm,0.4s
G06A Carlson Farm, 69.64 48 P **P** **14 15 07.4 0.0**
G06A IAmb IAmb 14 15 15.9
comp=Z,21nm,1.1s
BBOO Buckleboo 69.82 185 P **P** **14 15 08.4 +0.1**
BBOO IAmb IAmb 14 15 30.7
comp=Z,22nm,0.9s
JMIC Jan Mayen 69.99 350 LR LR 14 49 09.6
comp=Z,268nm,18.2s,baz=54,slow=39
NEW Newport 70.01 44 P **P** **14 15 11.4 +1.8**
comp=Z,4.3nm,0.7s,baz=303,slow=4.4,SNR=7.3
NEW LR LR 14 50 04.7
comp=Z,149nm,18.4s,baz=328,slow=40
comp=Z,4.3nm,0.7s
NEW Newport 70.01 44 P **P** **14 15 11.2 +1.6**
MORW Morawa 70.08 204 P **P** **14 15 10.5 +0.5**
MORW IAmb IAmb 14 15 16.8
comp=Z,56nm,1.6s
MEF Metsahovi 70.09 332 *eP* **P** **14 15 11.3 +1.6**
YBH Yreka Blue Hor 70.25 52 P **P** **14 15 13.0 +1.8**
comp=Z,4.3nm,1.0s,baz=270,slow=3.5,SNR=5.0
YBH LR LR 14 40 54.8
comp=Z,210nm,21.0s,baz=302,slow=32
comp=Z,4.3nm,1.0s
YBH Yreka Blue Hor 70.25 52 P **P** **14 15 13.0 +1.8**
VSU Vasula 70.31 330 *eP* **P** **14 15 12.1 +1.0**
VSU Vasula 70.31 330 *i* P **P** **14 15 11.5 +0.4**
VSU pmax pmax
comp=Z,173nm,1.0s
RAF Rauma 70.52 333 *eP* **P** **14 15 13.9 +1.5**
SUMG Summit 70.52 360 *i* P **P** **14 15 16.4 +3.7**
SUMG IAmb IAmb 14 15 24.3
comp=Z,5.9nm,0.8s
ZEI Tsey 70.70 309 *eP* **P** **14 15 10.6 -3.4**
ZEI pmax pmax
comp=Z,27nm,1.4s
KBZ Khabaz 70.80 311 P **P** **14 15 14.7 +0.4**
comp=Z,36nm,1.0s,baz=40,slow=2.6,SNR=44
KBZ LR LR 14 50 50.7
comp=Z,1μm,19.1s,baz=39,slow=40
comp=Z,36nm,1.0s
KBZ Khabaz 70.80 311*ce*P **P** **14 15 15.3 +1.0**
KBZ pmax pmax
comp=Z,44nm,1.0s
KIV Kislovodsk 70.80 311 ⇑P **P** **14 15 15.9 +1.3**
KIV Kislovodsk 70.80 311 P **P** **14 15 14.1 -0.4**
KIV Kislovodsk 70.80 311 *eP* **P** **14 15 15.5 +1.0**
KIV pmax pmax
comp=Z,111nm,1.1s
WSAR Wadi Sarin 70.83 285 LR LR 14 50 54.6
comp=Z,770nm,19.2s,baz=94,slow=40
SHA1 Shidzhatmaz 70.94 311*d iP* **P** **14 15 16.3 +0.8**
ONI Oni 71.08 309 P **P** **14 15 15.8 -0.4**
ONI IAmb IAmb 14 15 18.8
comp=Z,28nm,1.0s
ONI Oni 71.08 309 P **P** **14 15 15.8 -0.4**
ONI pmax pmax
comp=Z,28nm,1.0s
NSS Namsos 71.13 339 *eP* **P** **14 15 16.9 +0.9**
NEY Neytrino 71.17 310 *i* P **P** **14 15 17.4 +0.5**
NEY pmax pmax
comp=Z,4.0nm,0.9s
MTSE Matsula 71.31 331 *eP* **P** **14 15 18.9 +1.8**
GNI Garni 71.61 307 LR LR 14 49 58.8
comp=Z,958nm,18.3s,baz=56,slow=39
GNI Garni 71.61 307 P **P** **14 15 19.4 -0.2**
GNI IAmb IAmb 14 15 42.8
comp=Z,25nm,0.9s
GNI Garni 71.61 307*ce*P **P** **14 15 20.9 +1.3**
GNI pmax pmax
comp=Z,50nm,1.7s
UOSS Minazif 71.76 288 P **P** **14 15 20.7 +0.2**
UOSS IAmb IAmb 14 15 22.1
comp=Z,33nm,0.9s
BMO Blue Mountains 71.82 47 P **P** **14 15 21.3 +0.6**
BMO Blue Mountains 71.82 47 P **P** **14 15 21.3 +0.6**
SCO Scoresbysund 71.95 354 P **P** **14 15 21.7 +0.8**
SCO IAmb IAmb 14 15 25.4
comp=Z,70nm,1.8s
SCO Scoresbysund 71.95 354 P **P** **14 15 21.7 +0.8**
SCO pmax pmax
comp=Z,70nm,1.8s
J08A Circle Bar Ran 71.97 49 P **P** **14 15 22.2 +0.6**
J08A IAmb IAmb 14 15 31.0
comp=Z,22nm,1.3s
MNK Minsk 72.36 326 *i* P **P** **14 15 25.4 +1.8**
comp=E,10.0nm,1.1s
MNK *i* P **P** **14 15 25.4 +1.8**
comp=N,48nm,0.8s
MNK *i* P **P** **14 15 25.4 +1.8**
comp=Z,95nm,1.0s,baz=230
MNK *i* PcP **PcP** **14 15 43.1 +1.7**
MNK *i* PP **PP** **14 18 05.8 +1.9**
MNK *i* PPP PPP 14 19 49.9
MNK *i* S **S** **14 24 49.3 +3.5**
MNK *i* ScS **ScS** **14 25 31.9 +2.9**
MNK *i* SS **SS** **14 29 28.3 +5.1**
MNK *i* SSS SSS 14 32 48.3
MNK *i* LR LR 14 45 27.7
MNK *i* LRM MLR 14 49 37.2
comp=N,968nm,14.2s
MNK *i* LRM MLR 14 49 52.6
comp=E,323nm,14.8s
MNK *i* LRM MLR 14 49 55.9
comp=Z,1μm,13.5s
MNK Minsk 72.36 326 *i* P **P** **14 15 25.3 +1.8**
MNK *i* 14 15 43.1
MNK *i* 14 18 05.8
MNK *i* PPP PPP 14 19 49.8
MNK *i* S **S** **14 24 49.3 +3.5**
MNK *i* 14 25 31.8
MNK *i* SS **SS** **14 29 28.2 +5.1**
MNK pmax pmax
comp=Z,95nm,1.0s
MNK pmax pmax
comp=E,10.0nm,1.1s
MNK pmax pmax
comp=N,48nm,0.9s
MNK MLR MLR
comp=N,968nm,14.0s
MNK MLR MLR
comp=E,323nm,15.0s
MNK MLR MLR
comp=Z,1μm,14.0s
ISAL Salakas 72.44 327 *eP* **P** **14 15 26.5 +2.5**
PLID Pearl Lake 72.45 46 P **P** **14 15 24.4 -0.2**
IIGN Ignalina 72.54 327 *eP* **P** **14 15 26.8 +2.2**
NACGM Naroch 72.59 327 ⇓ *i*P **P** **14 15 26.2 +1.3**
comp=Z,115nm,1.1s,baz=50
TBLU Trondheim 72.60 339 *eP* **P** **14 15 24.8 -0.1**
SOC Sochi 72.79 312 *eP* **P** **14 15 24.8 -1.5**
SOC *e* 14 18 07.8
SOC *e*PPP PPP 14 19 50.9
SOC *eS* **S** **14 24 50.7 -0.4**
SOC *e*SS **SS** **14 29 33.5 +3.3**
SOC pmax pmax
comp=Z,26nm,0.8s
SOC MLR MLR
comp=Z,1μm,19.0s
NWAO Narrogin (SRO) 73.32 201 LR LR 14 48 23.3
comp=Z,273nm,19.5s,baz=228,slow=36
NWAO Narrogin (SRO) 73.32 201 P **P** **14 15 29.6 +0.2**
NWAO IAmb IAmb 14 15 53.9
comp=Z,29nm,1.1s
NWAO Narrogin (SRO) 73.32 201 P **P** **14 15 29.6 +0.2**
NWAO IAmb IAmb 14 15 54.0
comp=Z,23nm,1.1s
NWAO Narrogin (SRO) 73.32 201 P **P** **14 15 29.6 +0.2**
NWAO pmax pmax
comp=Z,23nm,1.1s
PABE Paberze 73.40 328 *eP* **P** **14 15 30.6 +0.9**
ANN Anapa 73.42 314 *eP* **P** **14 15 30.5 +0.5**
ANN *eS* **SKiKP** **14 25 00.7 +1.0**
ANN *e*SS **SS** **14 29 40.2 +0.5**
ANN *e*SSS SSS 14 32 55.4
ANN pmax pmax
comp=Z,126nm,1.4s
ANN MLR MLR
comp=Z,939nm,16.0s
PAHR Pah Rah Range 73.47 53 P **P** **14 15 29.9 -0.8**
FFC Flin Flon 73.57 33 P **P** **14 15 30.1 -0.7**
FFC Flin Flon 73.57 33 P **P** **14 15 30.1 -0.7**
FFC pmax pmax
comp=Z,14nm,1.0s
CMB Columbia Colle 73.78 54 P **P** **14 15 31.9 -0.5**
CMB Columbia Colle 73.78 54 P **P** **14 15 31.9 -0.5**
CMB pmax pmax
comp=Z,12nm,1.2s
NC405 NORSAR Array S 73.83 337 P **P** **14 15 32.0 -0.2**
HRY Holter Researc 73.84 43 P **P** **14 15 32.8 +0.2**
NC303 NORSAR Array S 73.85 337 P **P** **14 15 32.5 +0.3**
NC303 IAmb IAmb 14 15 34.6
comp=Z,32nm,1.1s
DOMB Dombas 73.89 339 *eP* **P** **14 15 33.1 +0.5**
DOMB IAmb IAmb 14 15 34.5
comp=Z,28nm,0.9s
MOL Molde 73.90 340 *eP* **P** **14 15 33.7 +1.2**
NC204 NORSAR Array S 73.99 338 P **P** **14 15 33.5 +0.3**
NB201 NORSAR Array S 74.01 337 P **P** **14 15 33.3 0.0**
ICESG Greenland Ices 74.03 0 *i* P **P** **14 15 37.6 +4.0**
LRM Limekiln Ridge 74.03 44 P **P** **14 15 34.5 +0.5**
NB2 NORSAR Subarra 74.04 337 P **P** **14 15 33.7 +0.2**
baz=39,slow=6.2
NB2 NORSAR Subarra 74.04 337 P **P** **14 15 33.7 +0.2**
comp=Z,48nm,1.1s,baz=39,slow=6.2
NOA NORSAR Array B 74.04 337 P **P** **14 15 33.6 +0.2**
comp=Z,23nm,0.9s,baz=39,slow=5.8,SNR=44
NOA LR LR 14 50 36.7
comp=Z,2μm,21.1s,baz=30,slow=38
comp=Z,23nm,0.9s
EGMT Eagleton 74.15 41 P **P** **14 15 34.2 -0.2**
EGMT IAmb IAmb 14 15 42.5
comp=Z,23nm,0.9s
EGMT Eagleton 74.15 41 P **P** **14 15 36.0 +1.6**
baz=308,SNR=9.2
AKASG Malin Array Be 74.17 322 P **P** **14 15 33.8 -0.5**
comp=Z,25nm,0.6s,baz=46,slow=6.3,SNR=111
AKASG LR LR 14 50 04.8
comp=Z,1μm,21.2s,baz=48,slow=37
comp=Z,25nm,0.6s
AKASG Malin Array Be 74.17 322 P **P** **14 15 34.2 -0.1**
AKASG IAmb IAmb 14 15 36.2
comp=Z,25nm,1.1s
AKASG Malin Array Be 74.17 322 P **P** **14 15 34.2 -0.1**
AKASG pmax pmax
comp=Z,25nm,1.1s
AKBB Malin Array Si 74.17 322 P **P** **14 15 34.0 -0.3**
AKBB Malin Array Si 74.17 322*ce*P **P** **14 15 34.5 +0.2**
AKBB pmax pmax
comp=Z,48nm,0.9s
NC602 NORSAR Array S 74.17 337 P **P** **14 15 33.8 -0.4**
NC602 NORSAR Array S 74.17 337 *eP* **P** **14 15 35.1 +0.9**
NBO00 NORSAR Array S 74.18 337 P **P** **14 15 34.0 -0.3**
HLID Hailey 74.26 47 P **P** **14 15 35.6 +0.3**
HLID Hailey 74.26 47 P **P** **14 15 37.3 +2.0**
baz=307,SNR=8.8
NAO01 NORSAR Array S 74.29 337 P **P** **14 15 35.3 +0.5**
AKN Aaknes 74.37 340 *eP* **P** **14 15 37.3 +1.9**
MCMT McKenzie Canyo 74.41 45 P **P** **14 15 35.2 -0.9**
BMN Battle Mountai 74.41 51 P **P** **14 15 35.0 -1.2**
BMN Battle Mountai 74.41 51 P **P** **14 15 35.0 -1.2**
BMN pmax pmax
comp=Z,15nm,1.1s
BOZ Bozeman (W) 74.63 44 P **P** **14 15 38.7 +1.4**
baz=308,SNR=20
KVN Kaiserville 74.66 53 P **P** **14 15 37.9 +0.2**
KVN Kaiserville 74.66 53 P **P** **14 15 37.9 +0.2**
KVN pmax pmax
comp=Z,12nm,0.9s
LHV Little Huntoon 74.87 53 P **P** **14 15 39.4 +0.8**
LHV IAmb IAmb 14 15 48.4
comp=Z,28nm,1.0s
NVAR Mina Array Bea 74.89 53 P **P** **14 15 40.1 +1.0**
comp=Z,5.6nm,0.8s,baz=285,slow=5.2,SNR=29
comp=Z,5.6nm,0.8s
NVAR Mina Array Bea 74.89 53 P **P** **14 15 39.1 0.0**
NV11 Mina Array Sit 74.98 53 P **P** **14 15 38.8 -0.7**
SKAR Skarslia 75.20 338 *eP* **P** **14 15 42.1 +1.9**
SIM Simferopol' 75.21 315 *eP* **P** **14 15 39.9 -0.6**
SIM *e* 14 15 54.0
SIM *eS* **S** **14 25 14.0 -4.3**
SIM pmax pmax
comp=Z,88nm,1.1s
SIM MLR MLR
comp=Z,1μm,22.6s
HYA Hoyanger 75.42 339 *eP* **P** **14 15 42.3 +1.0**
ELK Elko 75.44 50 LR LR 14 43 00.9
comp=Z,192nm,20.1s,baz=344,slow=31
SFJD Kangerlussuaq 75.72 5 LR LR 14 53 04.2
comp=Z,412nm,18.4s,baz=352,slow=39
SUE Sulen 75.91 340 *eP* **P** **14 14 44.9 +0.8**
H17A Grant Village 75.95 45 P **P** **14 15 47.1 +2.0**
baz=309,SNR=14
FLWY Flagg Ranch 76.08 45 P **P** **14 15 45.4 -0.4**
FLWY IAmb IAmb 14 16 05.8
comp=Z,24nm,1.2s
RLMT Red Lodge 76.23 43 P **P** **14 15 48.6 +2.0**
baz=309,SNR=8.5
MOOW Moose Ponds 76.26 45 P **P** **14 15 46.0 -0.9**
MOOW IAmb IAmb 14 16 06.5
comp=Z,22nm,1.4s
SORM Soroca 76.27 321 ⇑P **P** **14 15 46.9 +0.5**
SORM Soroca 76.27 321 ⇑P **P** **14 15 46.9 +0.5**
HVU Hansel Valley 76.30 48 P **P** **14 15 46.8 -0.2**
HVU Hansel Valley 76.30 48 P **P** **14 15 46.8 -0.2**
HVU pmax pmax
comp=Z,13nm,1.2s
RAO Raoul Island 76.31 144 LR LR 14 44 43.4
comp=Z,320nm,19.4s,baz=131,slow=32
DIKM Dikmen 76.58 312 ⇓P **P** **14 15 50.5 +2.1**
FRB Frobisher Bay 76.62 13 LR LR 14 55 02.6
comp=Z,522nm,18.4s,baz=341,slow=40
R11A Troy Canyon, C 76.66 52 P **P** **14 15 50.7 +1.6**
baz=307,SNR=14
DGMT Dagmar 76.71 39 P **P** **14 15 49.0 -0.1**
DGMT IAmb IAmb 14 15 56.8
comp=Z,19nm,0.8s
MPMC Manual Prospec 76.81 55 P **P** **14 15 52.1 +2.1**
baz=307,SNR=7.2
MILM Milestii Mici 76.83 319 *eP* **P** **14 15 45.5 -4.1**
MILM *eS* **S** **14 25 32.0 -4.0**
MILM *e*L L 14 42 11.0
MILM LRM MLR 14 52 16.0
comp=Z,1μm,15.1s
MILM Milestii Mici 76.83 319 *eP* **P** **14 15 45.5 -4.1**
MILM *eS* **S** **14 25 32.0 -4.0**
MILM MLR MLR
comp=N,2μm,16.5s
MILM MLR MLR
comp=Z,3μm,16.5s
MILM MLR MLR
comp=E,1μm,15.0s
LAO LASA Array 76.85 41 P **P** **14 15 51.0 +1.1**
baz=311
LVV L'vov 77.25 324 *eP* **P** **14 15 53.0 +1.0**
LVV *e*PPP PPP 14 20 38.7
LVV *eS* **S** **14 25 41.2 +0.7**
LVV *e*PS **PnS** **14 26 22.0 +1.6**
LVV MLR MLR
comp=E,900nm,17.0s
LVV MLR MLR
comp=N,2μm,18.0s
LVV MLR MLR
comp=Z,2μm,17.0s
DUG Dugway, Tooele 77.25 49 P **P** **14 15 52.2 -0.2**
DUG Dugway, Tooele 77.25 49 P **P** **14 15 54.2 +1.9**
baz=308,SNR=11
DUG Dugway, Tooele 77.25 49 P **P** **14 15 52.2 -0.2**
DUG pmax pmax
comp=Z,9.0nm,0.8s
GWY Greenwater Val 77.27 54 P **P** **14 15 52.0 -0.5**

BSD Bornholm Skovb 77.30 332 *e*P **P** **14 15 53.7 +1.6**
BSD Bornholm Skovb 77.30 332 *i* P **P** **14 15 51.1 -1.0**
BSD IAmb IAmb 14 15 53.5
comp=Z,22nm,0.8s
BORG Borgarnes 77.49 353 LR LR 14 52 47.7
comp=Z,307nm,18.2s,baz=16,slow=38
BW06 Boulder Array 77.55 45 P **P** **14 15 55.5 +1.3**
baz=310,SNR=6.6
PDAR Pinedale Array 77.55 45 P **P** **14 15 55.0 +0.8**
comp=Z,24nm,0.6s,baz=269,slow=1.3,SNR=26
comp=Z,2.4nm,0.6s
ILGA Ilgaz 77.86 313 P **P** **14 15 55.8 -0.1**
VLDR Vladesti 77.91 319 ⇑P **P** **14 15 56.5 +0.8**
BNN Bunyan 77.95 310 P **P** **14 15 54.8 -1.5**
VARL Varlezi 78.00 319 ⇑P **P** **14 15 57.6 +1.4**
SHPR Sheep Range 78.04 53 P **P** **14 15 56.2 -0.7**
MPU Maple Canyon 78.07 49 P **P** **14 15 56.7 -0.3**
SCTR Scanteiesti 78.07 319 ⇑P **P** **14 15 58.7 +2.1**
BURAR Bucovina Array 78.19 322 ⇑P **P** **14 15 58.6 +1.2**
BURAR Bucovina Array 78.19 322 P **P** **14 15 57.0 -0.4**
BURAR IAmb IAmb 14 16 00.1
comp=Z,28nm,0.8s
BURAR Bucovina Array 78.19 322 ⇑P **P** **14 15 58.6 +1.2**
JURR Jurilovca 78.20 318 ⇑P **P** **14 15 58.5 +1.1**
TESR Tescani 78.21 320 ⇑P **P** **14 15 57.9 +0.5**
CFR Carcaliu 78.33 318 ⇑P **P** **14 15 59.1 +1.1**
CFR Carcaliu 78.33 318 ⇑P **P** **14 15 59.1 +1.1**
TPGR Topolog 78.39 318 ⇑P **P** **14 15 59.6 +1.1**
TCRU Three Creeks R 78.45 50 P **P** **14 15 58.3 -1.0**
VRI Vrincioaia 78.60 320 ⇑P **P** **14 16 01.1 +1.5**
VRI Vrincioaia 78.60 320 ⇑P **P** **14 16 01.1 +1.5**
PLOR Plostina 78.65 320 ⇑P **P** **14 16 00.2 +0.3**
PLOR Plostina 78.65 320 ⇑P **P** **14 16 00.2 +0.3**
TIRR Tirgusor 78.66 318 ⇓P **P** **14 16 00.9 +1.0**
TIRR Tirgusor 78.66 318 ⇓P **P** **14 16 00.9 +1.0**
MSU Marysvale 78.68 50 P **P** **14 15 59.8 -0.7**
MSU Marysvale 78.68 50 P **P** **14 15 59.8 -0.7**
BR131 Keskin Array S 78.74 312 P **P** **14 16 00.2 -0.5**
BR131 IAmb IAmb 14 16 02.9
comp=Z,27nm,1.1s
BR131 Keskin Array S 78.74 312 P **P** **14 16 00.2 -0.5**
BR131 pmax pmax
comp=Z,27nm,1.2s
BRTR Keskin Array B 78.74 312 P **P** **14 16 01.1 +0.5**
comp=Z,8.4nm,0.9s,baz=104,slow=4.2,SNR=31
BRTR LR LR 14 56 43.1
comp=Z,610nm,18.1s,baz=64,slow=40
comp=Z,8.4nm,0.9s
BRTR Keskin Array B 78.74 312 P **P** **14 16 00.3 -0.3**
BRTR Keskin Array B 78.74 312*ce*P **P** **14 16 01.9 +1.2**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BISRR Bisoca 78.83 319 ⇑P **P** **14 16 02.7 +1.8**
STHS Stebnicka Huta 78.83 325 *e*P **P** **14 16 01.5 +0.7**
STHS Stebnicka Huta 78.83 325 *e*P **P** **14 16 01.5 +0.7**
STHS pmax pmax
comp=Z,20nm,1.1s
COVR Voineasa-Covas 78.89 320 ⇑P **P** **14 16 03.2 +2.0**
UZH Uzhgorod 78.89 324 *e*P P 14 15 56.3 -4.8
UZH *e* 14 15 59.3
UZH *i* 14 16 02.5
UZH *i* 14 16 06.3
OJC Ojcow 78.91 326 *e*P **P** **14 15 59.6 -1.6**
OJC Ojcow 78.91 326 P **P** **14 15 59.4 -1.8**
OJC Ojcow 78.91 326 P **P** **14 15 59.4 -1.8**
OJC pmax pmax
comp=Z,61nm,1.0s
OZUR 78.93 320 ⇑P **P** **14 16 03.5 +2.0**
ARCR ARCALIA 78.97 322 ⇑P **P** **14 16 04.4 +2.8**
CRVS Cervenica-Dubn 79.09 324 *e*P **P** **14 16 03.9 +1.7**
CRVS Cervenica-Dubn 79.09 324 *e*P **P** **14 16 03.9 +1.7**
CRVS pmax pmax
comp=Z,35nm,1.2s
AMRR Amara 79.13 318 ⇑P **P** **14 16 03.4 +1.0**
AMRR Amara 79.13 318 ⇑P **P** **14 16 03.4 +1.0**
TRPA Tarpa 79.13 323 ⇑P **P** **14 16 04.2 +1.8**
TRPA Tarpa 79.13 323 P **P** **14 16 03.5 +1.1**
ANTO Ankara 79.16 312 ⇑P **P** **14 16 04.9 +2.1**
ANTO Ankara 79.16 312 ⇑P **P** **14 16 04.9 +2.1**
ISR Istrita 79.20 319 ⇑P **P** **14 16 04.7 +1.8**
ISR Istrita 79.20 319 ⇑P **P** **14 16 04.7 +1.8**
ICOR Ion Corvin 79.21 318 ⇑P **P** **14 16 05.2 +2.2**
DOPR Dopca 79.22 320 ⇑P **P** **14 16 05.1 +2.1**
NIE Niedzica 79.26 325 *e*P **P** **14 16 04.7 +1.6**
MLR Muntele Rosu 79.26 320 ⇑P **P** **14 16 04.4 +1.0**
MLR Muntele Rosu 79.26 320 LR LR 14 54 15.6
comp=Z,2µm,18.1s,baz=36,slow=38
MLR Muntele Rosu 79.26 320 P **P** **14 16 02.7 -0.7**
MLR IAmb IAmb 14 16 35.7
comp=Z,35nm,1.5s
MLR Muntele Rosu 79.26 320 ⇑P **P** **14 16 04.4 +1.0**
SRU San Rafael Swe 79.31 49 P **P** **14 16 03.9 +0.1**
SRU IAmb IAmb 14 16 12.1
comp=Z,15nm,0.7s
SRU San Rafael Swe 79.31 49 P **P** **14 16 03.9 +0.1**
SRU pmax pmax
comp=Z,15nm,0.7s
ULM Lac du Bonnet 79.37 33 P **P** **14 16 03.7 0.0**
comp=Z,7.0nm,0.8s,baz=317,slow=6.0,SNR=5.6
ULM LR LR 14 54 13.4
comp=Z,277nm,18.0s,baz=320,slow=38
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 79.37 33 P **P** **14 16 03.7 0.0**
ULM Lac du Bonnet 79.37 33 P **P** **14 16 03.7 0.0**
ULM pmax pmax
comp=Z,17nm,1.1s
RWWY Rawlins 79.58 45 P **P** **14 16 05.2 -0.2**
CJR Cluj-Napoca 79.61 322 ⇑P **P** **14 16 07.1 +2.0**
CJR Cluj-Napoca 79.61 322 ⇑P **P** **14 16 07.1 +2.0**
ABAH Abaujker 79.63 324 P **P** **14 16 06.7 +1.6**
MDUB Mudurnu 79.71 313 P **P** **14 16 05.0 -0.8**
RSSD Black Hills 79.71 42 P **P** **14 16 05.8 -0.2**
RSSD Black Hills 79.71 42 P **P** **14 16 06.7 +0.7**
baz=313
RSSD Black Hills 79.71 42 P **P** **14 16 05.8 -0.2**
RSSD pmax pmax
comp=Z,17nm,1.3s
VOIR 79.76 320 ⇑P **P** **14 16 06.0 0.0**
VOIR 79.76 320 ⇑P **P** **14 16 06.0 0.0**
OKC Ostrava-Krasne 79.91 327 *e*P **P** **14 16 08.1 +1.4**
OKC AMS AMS 14 54 20.0
comp=Z,2µm,17.4s
OKC Ostrava-Krasne 79.91 327 *e*P **P** **14 16 08.1 +1.4**
OKC MLR MLR
comp=Z,2µm,17.4s
KSP Ksiaz 79.96 328 *e*P **P** **14 16 08.6 +1.6**
ARR Arges 80.02 320 ⇑P **P** **14 16 09.6 +2.2**
OSTC Ostas 80.21 328 *e*P **P** **14 16 10.1 +1.8**
OSTC AMS AMS 14 55 10.0
comp=Z,1µm,15.8s
MORC Moravsky Berou 80.22 327 ⇑P **P** **14 16 10.0 +1.6**
MORC Moravsky Berou 80.22 327 P **P** **14 16 08.8 +0.4**
MORC IAmb IAmb 14 16 11.1
comp=Z,29nm,1.0s
MORC Moravsky Berou 80.22 327 *e*P **P** **14 16 09.1 +0.7**
MORC Moravsky Berou 80.22 327 ⇑P **P** **14 16 10.0 +1.6**
RAR Rarotonga 80.25 126 LR LR 14 47 02.4
comp=Z,612nm,18.9s,baz=291,slow=32
DPC Dobruska-Polom 80.32 328 *e*P **P** **14 16 10.2 +1.3**
DPC AMS AMS 14 56 00.0
comp=Z,1µm,16.4s
DPC Dobruska-Polom 80.32 328 *e*P **P** **14 16 10.2 +1.3**
DPC MLR MLR
comp=Z,1µm,16.4s
KRLC Kraliky 80.33 327 *e*P **P** **14 16 10.2 +1.2**
KRLC AMS AMS 14 57 30.0
comp=Z,1µm,16.3s
KRLC Kraliky 80.33 327 *e*P **P** **14 16 10.2 +1.2**
KRLC MLR MLR
comp=Z,1µm,16.3s
UPC Upice 80.33 328 *e*P **P** **14 16 10.8 +1.9**
UPC AMS AMS 14 55 20.0
comp=Z,2µm,16.5s
UPC Upice 80.33 328 *e*P **P** **14 16 10.8 +1.9**
UPC MLR MLR
comp=Z,2µm,16.5s
HUMR Humele 80.42 319 ⇑P **P** **14 16 09.7 +0.2**
PSZ Piszkesteto 80.53 324 ⇑P **P** **14 16 11.2 +1.1**
PSZ Piszkesteto 80.53 324 P **P** **14 16 10.1 -0.1**
PSZ IAmb IAmb 14 16 12.9
comp=Z,42nm,1.0s
PSZ Piszkesteto 80.53 324 P **P** **14 16 11.4 +1.3**
PSZ Piszkesteto 80.53 324 ⇑P **P** **14 16 11.2 +1.1**

VYHS Vyhne 80.59 325 *e*P **P** **14 16 11.8 +1.4**
VYHS Vyhne 80.59 325 *e*P **P** **14 16 11.8 +1.4**
VYHS pmax pmax
comp=Z,23nm,1.1s
RAYN Ar Rayn 80.59 292 P **P** **14 16 10.1 -0.8**
RAYN IAmb IAmb 14 16 12.7
comp=Z,20nm,1.0s
RAYN Ar Rayn 80.59 292 ⇑P **P** **14 16 11.5 +0.6**
PV23 Carpenter Ridg 80.64 49 P **P** **14 16 10.9 -0.3**
PV23 IAmb IAmb 14 16 42.0
comp=Z,20nm,0.9s
PV10 Paradox Valley 80.67 49 P **P** **14 16 11.1 -0.1**
PV11 David Mesa, Pa 80.82 49 P **P** **14 16 11.6 -0.4**
PV11 IAmb IAmb 14 16 37.2
comp=Z,17nm,0.7s
N23A Red Feather La 80.82 45 P **P** **14 16 13.0 +0.9**
baz=312,SNR=7.7
PHWY Pilot Hill 80.82 45 P **P** **14 16 09.4 -2.7**
BRG Berggiesshubel 80.91 329 *e*P **P** **14 16 13.0 +1.0**
BRG Amp 14 16 14.5
comp=Z,18nm,1.0s
BRG *ex* x 14 16 26.8
BRG Amp 14 16 28.5
comp=Z,6.3nm,0.8s
BRG Amp 14 55 05.0
comp=Z,2.1nm,16.3s
BRG Amp 14 55 09.0
comp=N,1.5nm,14.8s
BRG Amp 14 55 13.0
comp=E,1.6nm,16.0s
BRG Berggiesshubel 80.91 329 *e*P **P** **14 16 13.0 +1.0**
BRG pmax pmax
comp=Z,18nm,1.0s
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG MLR MLR
comp=Z,2µm,16.3s
BRG MLR MLR
comp=N,2µm,14.8s
BRG MLR MLR
comp=E,2µm,16.0s
PVCC Panska Ves 80.92 329 AMS AMS 14 55 30.0
comp=E,2µm,14.7s
GZR Gura Zlata 80.94 321 ⇑P **P** **14 16 13.5 +1.1**
GZR Gura Zlata 80.94 321 ⇑P **P** **14 16 13.5 +1.1**
CLL Collm 80.96 330 P **P** **14 16 11.5 -0.7**
CLL IAmb IAmb 14 16 14.3
comp=Z,32nm,0.9s
CLL Collm 80.96 330 *i* P **P** **14 16 12.8 +0.6**
comp=Z,41nm,1.0s
CLL *i* pP **pP** **14 16 16.2 -2.5**
CLL *e*S **S** **14 26 15.0 -4.9**
CLL *e*PS **PnS** **14 27 06.0 -0.9**
CLL *e*PPS PPS 14 27 24.0
CLL *e*SS **SS** **14 31 30.0 -2.9**
CLL *e*SSS SSS 14 34 48.0
CLL *e*SSSS 14 37 36.0
CLL LmH 14 55 00.0
comp=Z,2µm,18.3s
CLL Collm 80.96 330 P **P** **14 16 11.5 -0.7**
CLL pmax pmax
comp=Z,33nm,0.9s
VRAC Vranov 80.98 327 ⇑P **P** **14 16 13.1 +0.7**
VRAC Vranov 80.98 327 LR LR 14 54 17.3
comp=Z,997nm,20.7s,baz=28,slow=37
VRAC Vranov 80.98 327 *e*P **P** **14 16 13.4 +0.9**
VRAC Vranov 80.98 327 ⇑P **P** **14 16 13.1 +0.7**
SURR Surduc 81.01 322 ⇑P **P** **14 16 13.9 +1.3**
WUAZ Wupatki 81.06 52 P **P** **14 16 12.5 -0.9**
SMOL Smolenice 81.21 326 *e*P **P** **14 16 16.0 +2.3**
SMOL pmax pmax
comp=Z,14nm,0.9s
KRUC Moravsky 81.26 327 *e*P **P** **14 16 14.4 +0.5**
GOPC GO Pecny, Ondr 81.30 328 *e*P **P** **14 16 15.6 +1.5**
GOPC AMS AMS 14 55 50.0
comp=Z,1µm,16.4s
GOPC GO Pecny, Ondr 81.30 328 *e*P **P** **14 16 15.6 +1.5**
GOPC MLR MLR
comp=Z,1µm,16.4s
SRO Srobarova 81.33 325 *e*P **P** **14 16 16.0 +1.7**
SRO Srobarova 81.33 325 *e*P **P** **14 16 16.0 +1.7**
SRO pmax pmax
comp=Z,40nm,1.1s
PRU Pruhonice 81.34 329 *e*P **P** **14 16 15.4 +1.1**
PRU AMS AMS 14 53 20.0
comp=Z,1µm,17.4s
PRU Pruhonice 81.34 329 *e*P **P** **14 16 15.4 +1.1**
PRU MLR MLR
comp=Z,1µm,17.4s
BZS Buzias 81.36 322 ⇑P **P** **14 16 15.5 +1.0**
BZS Buzias 81.36 322 ⇑P **P** **14 16 15.5 +1.0**
MODS Modra-Piesok 81.38 326 *e*P **P** **14 16 16.8 +2.2**
MODS Modra-Piesok 81.38 326 *e*P **P** **14 16 16.8 +2.2**
MODS pmax pmax
comp=Z,53nm,1.1s
PLVB Pleven 81.39 319 ⇑P **P** **14 16 16.5 +1.8**
ASF Jabal al Asfar 81.42 304 LR LR 14 55 28.7
comp=Z,578nm,20.0s,baz=84,slow=38
TREC Trest 81.47 328 *e*P **P** **14 16 16.8 +1.7**
TREC AMS AMS 14 53 20.0
comp=Z,1µm,16.7s
TREC Trest 81.47 328 *e*P **P** **14 16 16.8 +1.7**
TREC MLR MLR
comp=Z,1µm,16.7s
B35A Bob, Littlefor 81.71 34 P **P** **14 16 16.5 +0.2**
baz=319
MMAI Mount Meron Ar 81.87 305 LR LR 14 55 43.7
comp=Z,793nm,21.1s,baz=281,slow=38
NKC Novy Kostel 82.01 330 AMS AMS 14 56 20.0
comp=Z,2µm,15.8s
MPLH Magyarpolny 82.16 325 P **P** **14 16 19.6 +0.9**
SOP Sopron 82.22 326 P **P** **14 16 20.7 +1.8**
RONA Rosalia, Austr 82.32 326 *i* P **P** **14 16 20.7 +1.1**
comp=Z,26nm,0.9s,SNR=8.6
CKRC Cesky Krumlov 82.34 328 *e*P **P** **14 16 20.0 +0.4**
CKRC AMS AMS 14 57 20.0
comp=Z,1µm,16.7s
CONA Conrad Observa 82.34 326 *i* P **P** **14 16 20.3 +0.6**
comp=Z,23nm,1.0s,SNR=12
MORH Mrgy, Hungar 82.35 324 ⇑P **P** **14 16 20.0 +0.3**
MORH Mrgy, Hungar 82.35 324 P **P** **14 16 20.0 +0.3**
S22A 4UR Ranch, Cre 82.40 48 P **P** **14 16 21.9 +1.4**
baz=312,SNR=13
KHC Kasperske Hory 82.41 328 P **P** **14 16 19.6 -0.4**
KHC IAmb IAmb 14 16 22.5
comp=Z,23nm,0.9s
KHC Kasperske Hory 82.41 328 *e*P **P** **14 16 20.8 +0.8**
KHC *ex* x 14 16 30.5
KHC AMS AMS 14 54 40.0
comp=Z,2µm,20.0s
KHC Kasperske Hory 82.41 328 *e*P **P** **14 16 20.8 +0.8**
KHC *e* 14 16 30.5
KHC MLR MLR
comp=Z,2µm,20.0s
GEC2 GERESS Array S 82.57 328 P **P** **14 16 20.3 -0.7**
GEC2 IAmb IAmb 14 16 22.9
comp=Z,27nm,1.3s
GERES GERESS Array B 82.57 328 P **P** **14 16 21.3 +0.3**
comp=Z,6.3nm,0.7s,baz=39,slow=6.3,SNR=19
comp=Z,6.3nm,0.7s
GERES GERESS Array B 82.57 328 P **P** **14 16 20.2 -0.7**
VTS Vitosha 82.66 319 P **P** **14 16 21.3 -0.3**
VTS IAmb IAmb 14 16 24.3
comp=Z,21nm,0.9s
VTS Vitosha 82.66 319 P **P** **14 16 21.3 -0.3**
VTS pmax pmax
comp=Z,21nm,0.9s
KOVH Kovagotottos 82.70 324 P **P** **14 16 21.7 +0.2**
ELL Elmali 82.91 311 P **P** **14 16 23.2 +0.3**
ELL Elmali 82.91 311 P **P** **14 16 23.3 +0.3**
ELL pmax pmax
comp=Z,83nm,0.9s
EYMN Ely 83.00 33 P **P** **14 16 23.0 -0.1**
EYMN IAmb IAmb 14 16 30.3
comp=Z,17nm,0.9s
EYMN Ely 83.00 33 P **P** **14 16 23.3 +0.2**
baz=320
ARSA Arzberg 83.01 326 *i* P **P** **14 16 24.1 +0.9**
comp=Z,13nm,1.2s
MOA Molln 83.10 327 *i* P **P** **14 16 25.3 +1.7**
comp=Z,18nm,1.1s
SDCO Great Sand Dun 83.18 47 P **P** **14 16 24.0 -0.6**
SDCO Great Sand Dun 83.18 47 P **P** **14 16 25.7 +1.2**
baz=312,SNR=9.8
DIVS Divibare 83.25 322 P **P** **14 16 24.2 -0.3**

DIVS IAmb IAmb 14 16 26.8
comp=Z,32nm,1.3s
BIOA Bad Ischl, Aus 83.49 327 *e*P **P** **14 16 27.5 +1.8**
comp=Z,17nm,0.7s,SNR=8.4
SOKA Soboth 83.66 326 *e*P **P** **14 16 26.9 +0.4**
comp=Z,42nm,1.1s,SNR=20
ECSD EROS Data Cent 83.79 38 P **P** **14 16 27.2 -0.1**
ECSD IAmb IAmb 14 16 34.6
comp=Z,11nm,0.9s
ECSD EROS Data Cent 83.79 38 P **P** **14 16 27.6 +0.3**
baz=317
STIP Stip 83.86 319 *i* P **P** **14 16 28.2 +0.6**
GOLS Golise 83.90 325 *i* P **P** **14 16 28.8 +1.0**
VAY Valandovo 83.93 318 *i* P **P** **14 16 29.5 +1.6**
E38A The Farm, Brul 84.00 34 P **P** **14 16 27.9 -0.4**
E38A IAmb IAmb 14 16 30.9
comp=Z,29nm,1.1s
E38A The Farm, Brul 84.00 34 P **P** **14 16 27.3 -0.9**
baz=320
OBKA Obir 84.00 326 *i* P **P** **14 16 29.0 +0.7**
comp=Z,8.1nm,0.9s
KBA Koelnbreinsper 84.09 327 *e*P **P** **14 16 30.2 +1.3**
comp=Z,14nm,0.8s,SNR=5.4
BTNL Ternell 84.14 333 *dx* **P** **14 16 30.4 +1.5**
MEM Membach 84.17 333 *dP* **P** **14 16 26.2 -2.7**
T25A Trinidad 84.23 47 P **P** **14 16 30.3 +0.4**
T25A IAmb IAmb 14 16 38.2
comp=Z,14nm,0.8s
T25A Trinidad 84.23 47 P **P** **14 16 31.3 +1.5**
baz=313,SNR=13
EIL Elat 84.29 303 LR LR 14 59 37.7
comp=Z,547nm,18.4s,baz=70,slow=40
MYKA Terra Mystica 84.31 327 *i* P **P** **14 16 30.7 +0.8**
comp=Z,11nm,1.0s
VISS Visnje 84.42 326 *i* P **P** **14 16 31.0 +0.6**
ANMO Albuquerque 84.48 50*ce*P **P** **14 16 31.4 +0.2**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
BCLA Clavier 84.58 334 *d*PcP **PcP** **14 16 33.1 -1.5**
WATA Walderalm 84.64 328 *e*P **P** **14 16 32.4 +0.8**
comp=Z,4.5nm,0.6s
WTTA Wattenberg 84.68 328 *i* P **P** **14 16 32.8 +0.9**
comp=Z,6.9nm,0.7s
BGES Gesves 84.68 334 *dx* **P** **14 16 32.6 +1.0**
JAVS Javornik 84.69 326 *i* P **P** **14 16 32.0 +0.1**
ABTA Abfaltersbach 84.71 327 *i* P **P** **14 16 32.3 +0.3**
comp=Z,7.3nm,0.9s
PPT2 Papeete2 84.72 117 *e*S **S** **14 26 59.5 +0.3**
comp=Z,188nm,25.8s
PPT2 Papeete2 84.72 117 *e*LR LR 14 43 14.0
comp=Z,2µm,28.8s
PPT2 *e*LR LR 14 43 14.7
comp=Z,972nm,27.5s
CLUD Cludinico 84.78 327 P **P** **14 16 30.9 -1.3**
CLUD IAmb IAmb 14 16 33.4
comp=Z,18nm,0.8s
RCHB Rochefort 84.82 333 *dx* **P** **14 16 33.0 +0.8**
MOTA Moosalm 84.83 329 *i* P **P** **14 16 33.7 +1.1**
comp=Z,19nm,1.1s,SNR=5.5
PDG Podgorica 84.84 321 ⇑P **P** **14 16 32.9 +0.4**
PDG Podgorica 84.84 321 P **P** **14 16 32.3 -0.2**
Y22A Socorro 84.84 51 P **P** **14 16 34.0 +1.0**
baz=312
SNF Seneffe 84.86 334 *dx* **P** **14 16 32.6 +0.1**
BMRD Maredsous 84.86 334 *dx* **P** **14 16 33.7 +1.2**
RETA Reutte 84.86 329 *e*P **P** **14 16 34.0 +1.3**
comp=Z,30nm,1.0s,SNR=6.2
SQTA Sankt Quirin 84.89 328 *i* P **P** **14 16 33.3 +0.4**
comp=Z,2.5nm,0.4s
WLF Walferdange 84.89 333 *d*PcP **PcP** **14 16 34.9 -1.1**
RPZ Rata Peaks 84.91 159 LR LR 14 49 09.2
comp=Z,461nm,21.2s,baz=313,slow=32
FNA Florina 84.94 319 P **P** **14 16 33.4 +0.2**
FNA Florina 84.94 319 P **P** **14 16 33.4 +0.2**
OHR Ohrid 85.01 319 *i* P **P** **14 16 35.1 +1.6**
I37B Waseca 85.13 36 P **P** **14 16 35.0 +0.9**
baz=319
BFO Black Forest 85.16 331 P **P** **14 16 33.8 -0.3**
BFO Black Forest 85.16 331 P **P** **14 16 33.8 -0.3**
BFO pmax pmax
comp=Z,39nm,1.0s
SCHQ Schefferville 85.18 16 LR LR 14 57 21.2
comp=Z,532nm,19.0s,baz=315,slow=38
L34A Svendsen Farm, 85.20 39 P **P** **14 16 34.4 0.0**
L34A Svendsen Farm, 85.20 39 P **P** **14 16 35.1 +0.7**
baz=318
FETA Feichten 85.25 329 *i* P **P** **14 16 35.3 +0.6**
comp=Z,9.5nm,0.9s
DAVA Damuels 85.39 329 *e*P **P** **14 16 36.5 +1.1**
comp=Z,32nm,0.9s,SNR=5.2
CTI Castel Tesino 85.63 328 P **P** **14 16 35.9 -0.7**
CTI IAmb IAmb 14 16 37.4
comp=Z,9.8nm,0.9s
CTI Castel Tesino 85.63 328 P **P** **14 16 35.9 -0.7**
CTI pmax pmax
comp=Z,10.0nm,0.9s
G40A Rib Lake 85.64 34 P **P** **14 16 37.4 +0.8**
baz=321
ECH Echery 85.71 331 P **P** **14 16 36.4 -0.4**
ECH IAmb IAmb 14 16 38.8
comp=Z,18nm,0.9s
ECH Echery 85.71 331 P **P** **14 16 36.4 -0.4**
ECH pmax pmax
comp=Z,18nm,0.9s
FUORN Ofenpass-Fuorn 85.76 329 P **P** **14 16 37.1 -0.3**
FUORN IAmb IAmb 14 16 39.7
comp=Z,27nm,1.0s
E43A Lone Tree Farm 86.14 31 P **P** **14 16 39.2 +0.3**
E43A IAmb IAmb 14 17 15.5
comp=Z,16nm,0.9s
TAOE Nuku Hiva Isla 86.21 104 *e*LR LR 14 43 55.2
comp=Z,1µm,22.2s
IDI Anoyia 86.88 313 ⇓P **P** **14 16 42.9 +0.1**
IDI Anoyia 86.88 313 LR LR 15 00 35.2
comp=Z,342nm,18.1s,baz=23,slow=39
ITM Ithomi 87.23 316 P **P** **14 16 44.3 -0.2**
H43A Windswept, Lux 87.33 33 P **P** **14 16 45.0 +0.2**
H43A IAmb IAmb 14 16 52.5
comp=Z,18nm,0.8s
INTR Introdacqua 87.76 324 P **P** **14 16 46.6 -0.4**
INTR IAmb IAmb 14 16 49.0
comp=Z,12nm,0.9s
TIP Timpagrande 88.52 320 ⇑P **P** **14 16 47.7 -3.0**
TBI Tubuai 88.61 121 *e*S **S** **14 27 36.4 -0.1**
comp=Z,764nm,26.0s
TBI Tubuai 88.61 121 *e*LR LR 14 45 01.9
comp=Z,18µm,26.8s
TBI *e*LR LR 14 45 02.5
comp=Z,5µm,27.0s
LPIG La Paz 89.11 60 LR LR 14 55 24.8
comp=Z,207nm,18.1s,baz=276,slow=35
ATD Arta Tunnel 89.83 284 LR LR 15 02 34.8
comp=Z,245nm,18.9s,baz=31,slow=39
TX31 Lajitas Ar. Si 90.02 52 P **P** **14 16 58.2 +0.2**
TX31 IAmb IAmb 14 17 05.9
comp=Z,16nm,0.7s
TX32 Lajitas Array 90.02 52 P **P** **14 16 58.3 +0.3**
TXAR Lajitas Array 90.02 52 P **P** **14 16 58.8 +0.9**
comp=Z,2.7nm,0.7s,baz=297,slow=3.1,SNR=33
TXAR LR LR 14 51 23.3
comp=Z,229nm,21.7s,baz=331,slow=32
comp=Z,2.7nm,0.7s
TXAR Lajitas Array 90.02 52 P **P** **14 16 58.0 +0.1**
SADO Sadowa 90.55 28 LR LR 14 59 49.2
comp=Z,587nm,20.7s,baz=350,slow=37
CCM Cathedral Cave 90.74 39 P **P** **14 17 00.3 -0.7**
CCM IAmb IAmb 14 17 07.8
comp=Z,36nm,1.9s
CCM Cathedral Cave 90.74 39 P **P** **14 17 00.3 -0.7**
CCM pmax pmax
comp=Z,36nm,1.9s
H06E1 SOCORRO T-PHAS 92.11 65 T T 15 59 34.6
SNR=4.3
MIAR Mount Ida 92.20 43 P **P** **14 17 07.8 0.0**
MIAR IAmb IAmb 14 17 15.6
comp=Z,11nm,0.9s
MIAR Mount Ida 92.20 43 P **P** **14 17 07.8 0.0**
MIAR pmax pmax
comp=Z,11nm,0.9s
WHAR Wooly Hollow 92.32 41 P **P** **14 17 08.3 -0.1**
WHAR IAmb IAmb 14 17 16.0
comp=Z,11nm,0.8s
TKL Tuckaleechee C 96.26 36 LR LR 15 03 12.2
comp=Z,254nm,21.5s,baz=343,slow=37
ESDC Sonseca Array 97.14 334 P Pdif 14 17 31.2 +0.6
comp=Z,1.8nm,0.9s,baz=16,slow=3.4,SNR=5.8

comp=Z,1.8nm,0.9s
SDV Santo Domingo 125.20 40 PKP PKiKP 14 23 01.5 +1.8
comp=Z,9.0nm,0.9s,baz=191,slow=0.8,SNR=6.1
SDV Santo Domingo 125.20 40 eP PKiKP 14 23 01.3 +1.6
DBIC Dimbokro 126.17 317 PKP PKPdf 14 23 01.2 +0.3
comp=Z,3.8nm,0.7s,baz=31,slow=2.1,SNR=6.6
DBIC PP **PP 14 24 51.7 -2.6**
comp=Z,7.4nm,1.1s,baz=348,slow=4.5,SNR=3.1
BOSA Boshof 126.60 259 PKP PKiKP 14 23 02.7 +0.8
comp=Z,3.8nm,0.7s,baz=100,slow=4.3,SNR=6.6
QSPA South Pole Qui 126.94 180 PKPdf 14 23 00.8 0.0
SGCB SEo Gabriel d 134.70 42 eP PKiKP 14 23 19.3 +0.8
BOAV Boa Vista 135.65 32 eP PKiKP 14 23 21.3 +0.8
CZSB Cruzeiro do Su 137.36 55 eP PKiKP 14 23 23.7 -0.2
TROLL Troll, Antarti 139.38 198 PKPdf PKiKP 14 23 26.2 -0.3
MACA Manacapuru-AM 140.51 36 eP PKiKP 14 23 29.9 -0.5
MCPB Macapa, AP 141.29 22 eP PKiKP 14 23 31.2 -0.8
MALB Monte Alegre 141.98 26 eP PKPdf 14 23 31.9 +1.4
VNA2 Neumayer--Watz 142.47 196 PKPdf PKPdf 14 23 25.6 -4.0
baz=119,slow=2.9
VNA3 Neumayer Olymp 142.72 195 PKPdf PKPdf 14 23 26.5 -3.5
VNA1 Neumayer--Stat 142.87 196 PKPdf PKPdf 14 23 28.4 -1.9
ETMB Extrema 143.06 49 PKPdf PKPdf 14 23 31.5 -0.9
ETMB Extrema 143.06 49 eP PKiKP 14 23 34.2 -1.4
ITTB Itaituba 143.74 30 eP PKPbc 14 23 32.4 +1.3
ITTB Itaituba 143.74 30 eP PKPdf 14 23 32.6 -1.0
SAML Samuel 144.13 45 PKPbc 14 23 32.6 +0.4
SAML Samuel 144.13 45 PKIKP PKPbc 14 23 32.6 +0.3
TMAB Tom-Au,PA,Br 144.25 16 eP PKPdf 14 23 35.7 +1.2
ROSB Rosrio 145.49 10 eP PKPab 14 23 38.4 +1.6
NPGB Novo Progresso 146.33 31 eP PKPab 14 23 40.6 +0.6
NPGB Novo Progresso 146.33 31 eP PKPbc 14 23 39.5 +0.3
LPAZ La Paz 146.61 59 PKPbc PKPab 14 23 41.4 -0.4
comp=Z,12nm,0.8s,baz=355,slow=7.1,SNR=21
LPAZ La Paz 146.61 59 eP PKPbc 14 23 40.5 -0.2
PB12 IPOC Station P 146.62 65 PKPbc 14 23 39.5 -0.6
H03N2 Juan Fernandez 147.02 96 T T 17 07 54.8
baz=291,slow=76,SNR=194
H03N3 Juan Fernandez 147.05 96 T T 17 08 05.5
baz=291,slow=76,SNR=203
H03N1 Juan Fernandez 147.06 96 T T 17 07 56.0
baz=291,slow=76,SNR=222
PRPB Parauapebas 147.47 21 eP PKPbc 14 23 42.5 0.0
PB11 IPOC Station P 147.83 66 PKPbc 14 23 42.4 -1.1
PATCX Punta Patache 148.12 68 PKPbc PKPbc 14 23 43.8 -0.4
PB08 IPOC Station P 148.44 66 PKPbc PKPbc 14 23 44.1 -1.3
PMSA Palmer Station 148.52 159 eP PKPdf 14 23 41.8 +1.7
PB02 IPOC Station P 148.62 68 PKiKP 14 23 47.9 +1.0
PB01 IPOC Station P 148.75 68 PKiKP 14 23 48.0 +0.8
VILB Vilhena 149.07 44 eP PKPdf 14 23 44.5 +1.9
CLDB Colider 149.55 35 eP PKPdf 14 23 45.2 +1.8
PDRB Porto dos Gac 149.76 37 eP PKPbc 14 23 46.6 -1.8
PDRB Porto dos Gac 149.76 37 eP PKPdf 14 23 45.6 +1.9
LVC Limon Verde 150.12 69 PKPbc PKiKP 14 23 51.4 +1.1
comp=Z,18nm,0.9s,baz=303,slow=1.3,SNR=16
LVC Limon Verde 150.12 69 PKiKP 14 23 52.1 +1.8
LVC Limon Verde 150.12 69 eP PKiKP 14 23 50.3 0.0
LVC Limon Verde 150.12 69 eP PKPdf 14 23 46.0 +1.6
SMTB Santa Maria do 150.64 18 eP PKPdf 14 23 47.1 +2.1
SIV San Ignacio 150.98 49 PKP PKPdf 14 23 46.7 +1.1
comp=Z,3.3nm,0.9s,baz=280,slow=0.3,SNR=9.9
SIV PKPbc **sPKPdf 14 23 53.5 -1.0**
comp=Z,18nm,1.0s,baz=296,slow=2.4,SNR=22
PTLB Pontes e Lacer 151.69 46 eP PKPdf 14 23 49.0 +2.4
PTLB Pontes e Lacer 151.69 46 eP PKPdf 14 23 48.4 +1.9
BBSD Serra de San D 152.18 50 eP PKPdf 14 23 49.3 +2.0
GO04 Tololo Observa 152.39 85 PKPbc PKPbc 14 23 54.0 -0.4
SNDB Serra Nova Dou 152.42 28 eP PKPdf 14 23 49.5 +1.8
CO02 Combarbal 152.62 87 PKPbc 14 23 54.5 -0.2
SALV Santo Antonio 153.93 40 eP PKPab 14 24 13.2 +2.2
SDBA SAO DESIDERIO 154.68 15 eP PKPdf 14 23 52.6 +1.6
CFA Coronel Fontan 154.97 86 PKPbc PKPbc 14 23 59.4 -0.2
comp=Z,6.2nm,1.1s,baz=256,slow=2.0,SNR=4.7
CFA PKPab **PKPab 14 24 18.1 +2.9**
comp=Z,5.7nm,0.8s,baz=322,slow=1.7,SNR=7.7
PLCA Paso Flores 154.97 108 eP PKPdf 14 23 52.5 +1.8
ARAG Araguaiana, MT 155.59 32 eP PKPdf 14 23 54.2 +2.1
GDU01 Guandu, BA 156.60 2 eP PKPdf 14 23 55.9 +2.4
BDFB Brasilia 156.96 24 eP PKPdf 14 23 55.6 +1.5
JANB Januaria 157.37 15 eP PKPdf 14 23 56.5 +1.9
AQDB Aquidauana 157.65 47 eP PKPdf 14 23 57.2 +2.5
CMC01 Camacan, BA 158.24 2 eP PKPdf 14 23 58.1 +2.6
IPMB Ipameri, GO 159.07 26 eP PKPdf 14 23 58.4 +1.9
GUA01 Guaratinga, BA 159.44 3 eP PKPdf 14 23 59.8 +2.9
NAN01 Guarapari, ES 160.68 4 eP PKPdf 14 24 00.0 +1.7
CPUP Villa Florida 160.77 61 eP PKPdf 14 23 59.8 +1.7
PCMB Pacaembu 160.97 39 eP PKPdf 14 24 01.0 +2.4
SJMB Sao Joao De Ma 161.44 8 eP PKPdf 14 24 00.6 +1.5
ITQB Itaqui 163.19 69 eP PKPdf 14 24 02.2 +1.7
ALF01 Guarapari-ES 163.38 7 eP PKPdf 14 24 03.0 +2.0
MAN01 Angra dos Reis 164.98 19 eP PKPdf 14 24 03.9 +1.4
PET01 Itanhaem-SP 165.14 33 eP PKPdf 14 24 06.2 +3.8

*WEL **22** 14:04:07.3±0.4, 42°S±3°×17°4E±°, h8km±3km, M3.8/34, ML4.1/17, MLv3.8/34, Error ellipse: s-maj=0.0km s-min=0.0km az=131.3*
*NEIC **22** 14:04:07.6±1.5, 41°.78S±0°.02×174°.16E±0°.03, h13km±2km, mb4.5/9, Error ellipse: s-maj=2.9km s-min=2.4km az=91.0*
ISC 22 14:04:07.0±0.8, 41°.81S±0°.03×174°.20E±0°.02, h13km±5km, n61, σ0°78/67, mb4.5/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**11**		**Pg**	**14 04 09.4**	**0.0**
CMWZ				Sg	**Sg**	14 04 11.2	0.0
CMWZ	**Cape Campbell**	**0.06**	**11**	P	**Pg**	**14 04 09.5**	**0.0**
CMWZ				S	**Sg**	**14 04 11.9**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.26**	**290**	Pg	**Pg**	**14 04 12.7**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.26**	**290**	P	**Pg**	**14 04 12.8**	**+0.5**
BSWZ				S	**Sg**	**14 04 17.2**	**+1.2**
TUWZ	**Tuamarina**	**0.42**	**333**	Pg	**Pg**	**14 04 16.0**	**+0.7**
TUWZ	**Tuamarina**	**0.42**	**333**	P	**Pg**	**14 04 16.1**	**+0.7**
TUWZ				S	**Sb**	**14 04 22.9**	**+0.3**
TCW	**Tory Channel**	**0.60**	**6**		**Pg**	**14 04 18.9**	**+0.3**
TCW	**Tory Channel**	**0.60**	**6**	P	**Pg**	**14 04 19.0**	**+0.4**
TCW				S	**Sb**	**14 04 28.4**	**+0.7**
SNZO	**South Karori**	**0.62**	**38**		**Pg**	**14 04 20.0**	**+0.9**
WEL	**Wellington**	**0.67**	**40**	P	**Pg**	**14 04 20.8**	**+0.8**
KHZ	**Kahutara**	**0.78**	**219**	Pg	**Pg**	**14 04 23.1**	**+0.9**
KHZ	**Kahutara**	**0.78**	**219**	P	**Pg**	**14 04 23.4**	**+1.2**
PLWZ	**Palliser**	**0.82**	**74**		**Pg**	**14 04 23.9**	**+0.9**
PLWZ	**Palliser**	**0.82**	**74**	P	**Pg**	**14 04 24.1**	**+1.2**
NNZ	**Nelson**	**0.85**	**313**		**Pb**	**14 04 23.4**	**-0.2**
NNZ				Sg	**Sb**	**14 04 33.3**	**-1.6**
NNZ	**Nelson**	**0.85**	**313**	P	**Pb**	**14 04 23.6**	**0.0**
MSWZ	**Moikau Station**	**0.88**	**64**	P	**Pg**	**14 04 24.9**	**+1.0**
THZ	**Tophouse**	**0.97**	**272**	Pg	**Pb**	**14 04 25.7**	**+0.1**
THZ	**Tophouse**	**0.97**	**272**	P	**Pb**	**14 04 26.1**	**+0.4**
PAWZ	**Paruwai Farm**	**1.01**	**66**	P	**Pb**	**14 04 26.4**	**0.0**
DUWZ	**D'Urville Isla**	**1.02**	**348**	P	**Pb**	**14 04 26.6**	**0.0**
MRNZ	**Matariki Terra**	**1.16**	**290**	P	**Pg**	**14 04 29.7**	**+0.5**
TRWZ	**Traveller**	**1.19**	**70**	P	**Pn**	**14 04 28.8**	**-0.5**
TKNZ	**Takaka Hill**	**1.21**	**309**	P	**Pb**	**14 04 29.9**	**+0.2**
OGWZ	**Otaki Gorge**	**1.23**	**37**	P	**Pb**	**14 04 30.4**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.34**	**48**	P	**Pn**	**14 04 31.3**	**-0.1**
GVZ	**Greta Valley S**	**1.45**	**216**	P	**Pn**	**14 04 32.6**	**-0.3**
TMWZ	**Te Maipa**	**1.45**	**62**	P	**Pn**	**14 04 32.1**	**-0.8**
MRZ	**Mangatainoka R**	**1.55**	**43**	P	**Pn**	**14 04 34.2**	**0.0**
QRZ	**Quartz Range**	**1.59**	**307**		**Pb**	**14 04 36.5**	**+0.3**
QRZ	**Quartz Range**	**1.59**	**307**	P	**Pb**	**14 04 36.7**	**+0.4**
LTZ	**Lake Taylor**	**1.73**	**235**	P	**Pn**	**14 04 37.0**	**+0.1**
AMCZ	**Amberley**	**1.79**	**219**	Pn	**Pb**	**14 04 39.0**	**-0.6**
AMCZ	**Amberley**	**1.79**	**219**	P	**Pb**	**14 04 39.5**	**0.0**
DSZ	**Denniston Nort**	**1.79**	**271**		**Pb**	**14 04 39.2**	**-0.4**
DSZ	**Denniston Nort**	**1.79**	**271**	P	**Pb**	**14 04 39.3**	**-0.4**
OHWZ	**Ohakea**	**1.81**	**28**	P	**Pb**	**14 04 39.7**	**-0.2**
PRWZ	**Pori Road**	**1.83**	**48**	P	**Pn**	**14 04 38.0**	**-0.1**
POWZ	**Post Office Ro**	**1.84**	**41**	P	**Pn**	**14 04 39.1**	**+0.8**
BFZ	**Birch Farm**	**1.91**	**55**	P	**Pn**	**14 04 38.0**	**-1.2**
DVHZ	**Dannevirke**	**2.12**	**45**	P	**Pn**	**14 04 40.9**	**-1.2**
WAZ	**Wanganui**	**2.13**	**17**	P	**Pb**	**14 04 44.8**	**-0.7**
ANWZ	**Angora Road**	**2.18**	**53**	P	**Pn**	**14 04 43.4**	**+0.4**
TSZ	**Takapari Road**	**2.20**	**38**	P	**Pn**	**14 04 43.0**	**-0.2**
OXZ	**Oxford**	**2.20**	**226**	P	**Pb**	**14 04 45.3**	**-1.4**
INZ	**Inchbonnie**	**2.24**	**245**	Pn	**Pn**	**14 04 44.3**	**+0.5**
INZ	**Inchbonnie**	**2.24**	**245**	P	**Pn**	**14 04 44.4**	**+0.5**
RPZ	**Rata Peaks**	**3.00**	**229**	Pn	**Pn**	**14 04 54.1**	**-0.1**
FOZ	**Fox Glacier**	**3.66**	**240**	Pn	**Pn**	**14 05 04.1**	**+0.7**
LBZ	**Lake Benmore**	**3.91**	**227**	Pn	**Pn**	**14 05 06.9**	**+0.1**
MLZ	**Mavora Lakes**	**5.67**	**229**	Pn	**Pn**	**14 05 30.6**	**-0.4**

MCQ	**Macquarie Isla**	**16.22**	**213**	Pn	**Pn**	**14 07 54.5**	**+0.1**
AS31	**Alice Springs**	**38.01**	**286**	P	**P**	**14 11 23.1**	**-1.8**
ASAR	**Alice Springs**	**38.01**	**286**	P	**P**	**14 11 23.4**	**-1.5**
WB2	**Warramunga Arr**	**40.08**	**291**	P	**P**	**14 11 40.1**	**-2.1**
WB2				IAmb	IAmb	14 12 11.3	
comp=Z,7.3nm,1.3s							
WRAB	**Tennant Creek**	**40.09**	**291**	P	**P**	**14 11 40.7**	**-1.6**
PMG	**Port Moresby**	**40.10**	**316**	P	**P**	**14 11 42.6**	**+0.2**
PMG				IAmb	IAmb	14 12 17.1	
comp=Z,12nm,1.1s							
WB0	**Warramunga Arr**	**40.17**	**291**	P	**P**	**14 11 42.0**	**-0.9**
WB0				IAmb	IAmb	14 12 09.1	
comp=Z,9.0nm,1.4s							
KNRA	**Kununurra**	**46.87**	**290**	P	**P**	**14 12 37.1**	**+0.1**
KNRA				IAmb	IAmb	14 13 11.9	
comp=Z,30nm,1.4s							
MTN	**Manton Dam**	**47.20**	**295**	P	**P**	**14 12 39.1**	**-0.5**
SNAA	**Sanae**	**66.81**	**181**	P	**P**	**14 14 58.7**	**+0.8**
SNAA				IAmb	IAmb	14 15 38.1	
comp=Z,4.4nm,1.4s							

TAP 22 14:07:32.8, 23°.97N×121°.01E, h17km±1km, ML1.1, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPL	**Puli Township**	**0.07**	**313**	P	Pg	14 07 36.5	+0.4
WPL	baz=310			S	Sg	14 07 39.2	+1.0
WUSB	**Renai**	**0.10**	**75**	P	Pg	14 07 37.0	+0.5
WUSB	baz=74			S	Sg	14 07 39.5	+0.6
DPDB	**Guoxing**	**0.10**	**311**	P	Pb	14 07 36.9	+0.5
DPDB	baz=311			S	Sb	14 07 40.1	+1.3
WCS	**Beigang Elemen**	**0.13**	**315**	P	Pg	14 07 36.1	-0.5
WCS	baz=314		*i*	S	Sg	14 07 39.1	-0.1
SMLT	**Sun Moon Lake**	**0.13**	**231**	*i* P	Pb	14 07 37.3	+0.4
SMLT	baz=228			S	Sb	14 07 40.4	+0.7
CHGB	**Renai**	**0.18**	**58**	P	Pb	14 07 38.1	+0.3
CHGB	baz=57			S	Sb	14 07 41.4	+0.3
SSLB	**Suanglung**	**0.18**	**196**	P	Pg	14 07 37.4	0.0
SSLB	baz=196			S	Sg	14 07 40.3	-0.2
VWDT	**VWDT**	**0.24**	**151**	P	Pb	14 07 39.1	+0.4
VWDT	baz=150			S	Sb	14 07 42.8	+0.1
WHF	**Hehuan Shan**	**0.29**	**52**	P	Pb	14 07 40.5	+0.6
WHF	baz=53		*i*	S	Sb	14 07 45.0	+0.3
WWF	**Wufeng**	**0.30**	**285**	*e*P	Pb	14 07 39.5	-0.2
WWF	baz=285			*e*S	Sb	14 07 45.0	+0.6
WHYT	**Xinyi Township**	**0.30**	**208**	*e*P	Pb	14 07 41.0	+1.1
WHYT	baz=208			*e*S	Sb	14 07 45.5	+0.9
FUSS	**Fushou**	**0.35**	**37**	*e*P	Pb	14 07 40.8	0.0
FUSS	baz=37			*e*S	Sg	14 07 45.6	+0.2

*IDC **22** 14:10:38.6±1.1, 54°.13N×160°.29W, h0km, mb4.3/21, mbtmp4.3/24, ML4.6/3, Error ellipse: s-maj=27.0km s-min=13.8km az=168.0*
*NEIC **22** 14:10:40.4±1.5, 54°.10N±0°.04×160°.04W±0°.10, h15km±4km, mb4.9/51, ML4.0/14, ML4.0(AEIC), Error ellipse: s-maj=9.0km s-min=5.1km az=119.0*
*AEIC **22** 14:10:42.3±1.6, 54°.07N±0°.06×160°.03W±0°.10, h20km±4km, Error ellipse: s-maj=10.6km s-min=6.9km az=142.0*
*ANF **22** 14:10:43.4±0.5, 54°.12N×160°.03W, h42km±15km, ML4.3/16, Error ellipse: s-maj=6.5km s-min=3.1km az=165.0*
ISC 22 14:10:41.0±0.8, 54°.10N±0°.05×160°.09W±0°.04, h19km±3km, n296, σ1s03/301, mb4.7/50, 1C-2D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.78**	**22**	Pg	**Pg**	**14 10 56.1**	**-0.1**
CNBA				Sg	**Sb**	**14 11 05.9**	**0.0**
CHNA	**Chernabura Isl**	**0.79**	**22**	P	**Pg**	**14 10 56.2**	**-0.3**
CHNA	baz=198,SNR=104			S	**Sg**	**14 11 06.6**	**-0.3**
SDPT	**Sand Point**	**1.27**	**350**		**Pn**	**14 11 03.4**	**-0.3**
SDPT	comp=N,2μm,0.9s			IAML		14 11 32.1	
SDPT	**Sand Point**	**1.27**	**350**	P	**Pn**	**14 11 03.6**	**0.0**
SDPT	baz=168,SNR=26			S	**Sb**	**14 11 19.9**	**-0.2**
S12K	**Black Hills**	**1.96**	**325**	P	**Pn**	**14 11 14.2**	**+0.9**
S12K	baz=144,SNR=31			S	**Sb**	**14 11 39.3**	**-0.9**
FALS	**False Pass**	**2.08**	**293**		**Pn**	**14 11 15.6**	**+0.7**
FALS	**False Pass**	**2.08**	**293**	P	**Pn**	**14 11 15.4**	**+0.6**
CHGN	**Chignik**	**2.40**	**23**		**Pn**	**14 11 19.1**	**-0.1**
CHGN	comp=N,1μm,0.3s			IAML		14 11 49.1	
CHGN	**Chignik**	**2.40**	**23**	P	**Pn**	**14 11 19.2**	**-0.1**
CHGN	baz=203,SNR=23			S	**Sn**	**14 11 48.3**	**+0.2**
CHIR	**Chirikof Islan**	**3.10**	**54**		**Pn**	**14 11 27.8**	**-0.9**
CHIR	comp=N,444nm,2.3s			IAML		14 12 09.9	
CHIR	comp=E,399nm,1.3s			IAML		14 12 37.5	
CHIR	**Chirikof Islan**	**3.10**	**54**		**Sn**	**14 12 03.7**	**-1.5**
CHIR	**Chirikof Islan**	**3.10**	**54**	P	**Pn**	**14 11 27.9**	**-0.8**
CHIR	baz=237,SNR=5.2			S	**Sn**	**14 12 01.4**	**-3.8**
AKUT	**Akutan**	**3.34**	**273**		**Pn**	**14 11 32.5**	**+0.3**
AKUT	comp=E,434nm,0.5s			IAML		14 12 11.6	
AKUT	comp=N,309nm,0.6s			IAML		14 12 11.9	
R16K	**Pilot Point**	**3.75**	**21**	P	**Pn**	**14 11 38.1**	**+0.4**
R16K	baz=202			S	**Sn**	**14 12 20.9**	**-0.3**
UNV	**Unalaska Valle**	**3.80**	**269**		**Pn**	**14 11 38.4**	**0.0**
UNV					**Sn**	**14 12 20.7**	**-1.7**
UNV	**Unalaska Valle**	**3.80**	**269**	P	**Pn**	**14 11 38.5**	**+0.2**
UNV	baz=84,SNR=6.4			S	**Sn**	**14 12 20.6**	**-1.7**
R17K	**Ugashik Creek**	**4.11**	**29**	P	**Pn**	**14 11 43.6**	**+0.9**
SII	**Sitkinak Islan**	**4.17**	**52**		**Pn**	**14 11 42.7**	**-0.9**
SII	**Sitkinak Islan**	**4.17**	**52**	P	**Pn**	**14 11 42.9**	**-0.7**
SII	baz=236,SNR=12			S	**Sn**	**14 12 29.6**	**-2.2**
Q17K	**Contact Creek**	**4.79**	**28**	P	**Pn**	**14 11 52.2**	**+0.1**
OHAK	**Old Harbor**	**4.96**	**48**		**Pn**	**14 11 53.3**	**-1.0**
OHAK	comp=N,126nm,3.7s			IAML		14 13 29.7	
OHAK	comp=E,126nm,3.7s			IAML		14 13 59.4	
OHAK	**Old Harbor**	**4.96**	**48**	P	**Pn**	**14 11 53.5**	**-0.8**
Q16K	**King Salmon**	**4.96**	**21**	P	**Pn**	**14 11 54.7**	**+0.3**
Q16K	baz=203			S	**Sn**	**14 12 49.7**	**-1.4**
P16K	**Nushagak River**	**5.07**	**12**	P	**Pn**	**14 11 56.4**	**+0.5**

NIKH	**Nikolski High**	**5.35**	**261**		**Pn**	**14 11 59.6**	**-0.1**
NIKH	**Nikolski High**	**5.35**	**261**	P	**Pn**	**14 11 59.8**	**+0.1**
NIKH	baz=75			S	**Sn**	**14 12 57.5**	**-3.2**
Q18K	**Katmai Hardscr**	**5.36**	**30**	P	**Pn**	**14 12 00.1**	**+0.2**
P17K	**Kvichak River**	**5.49**	**20**	P	**Pn**	**14 12 01.4**	**-0.1**
O16K	**Kokwok River B**	**5.61**	**10**	P	**Pn**	**14 12 03.0**	**-0.3**
O17K	**Koliganek Bris**	**5.92**	**15**	P	**Pn**	**14 12 07.5**	**0.0**
P18K	**Big Mountain,**	**5.94**	**25**	Pn	**Pn**	**14 12 08.0**	**+0.2**
P18K	**Big Mountain,**	**5.94**	**25**	P	**Pn**	**14 12 08.2**	**+0.4**
CLES	**Cleveland East**	**6.00**	**262**	Pn	**Pn**	**14 12 09.7**	**+1.2**
Q20K	**Shuyak Island**	**6.22**	**40**	P	**Pn**	**14 12 10.8**	**-0.8**
O18K	**Koktuh Hills**	**6.35**	**23**	Pn	**Pn**	**14 12 13.6**	**+0.2**
O18K	**Koktuh Hills**	**6.35**	**23**	P	**Pn**	**14 12 13.7**	**+0.2**
N16K	**Nishlik Lake**	**6.43**	**6**	P	**Pn**	**14 12 15.0**	**+0.5**
P19K	**Oil Pt**	**6.71**	**31**	Pn	**Pn**	**14 12 18.8**	**+0.4**
P19K	**Oil Pt**	**6.71**	**31**	P	**Pn**	**14 12 18.4**	**0.0**
O19K	**Port Alsworth**	**6.86**	**25**	Pn	**Pn**	**14 12 20.6**	**+0.1**
O19K	**Port Alsworth**	**6.86**	**25**	P	**Pn**	**14 12 20.8**	**+0.3**
ILSW	**Iliamna Southw**	**7.00**	**30**			**14 12 22.4**	**-0.1**
HOM	**Homer**	**7.24**	**36**	Pn	**Pn**	**14 12 25.4**	**-0.2**
HOM	**Homer**	**7.24**	**36**	P	**Pn**	**14 12 25.1**	**-0.4**
O20K	**Slope Mountain**	**7.24**	**31**	P	**Pn**	**14 12 25.5**	**-0.2**
CNPM	**China Poot**	**7.29**	**38**		**Pn**	**14 12 25.4**	**-0.9**
N19K	**Bonanza Creek**	**7.37**	**22**		**Pn**	**14 12 27.9**	**+0.3**
N19K	**Bonanza Creek**	**7.37**	**22**	P	**Pn**	**14 12 27.5**	**0.0**
BRLK	**Bradley Lake**	**7.58**	**38**	Pn	**Pn**	**14 12 28.7**	**-1.6**
BRSE	**Bradley Lake S**	**7.62**	**38**		**Pn**	**14 12 29.5**	**-1.3**
BRSE	**Bradley Lake S**	**7.62**	**38**	P	**Pn**	**14 12 29.4**	**-1.4**
N20K	**Mount Spurr**	**8.27**	**28**	P	**Pn**	**14 12 39.8**	**0.0**
SPCR	**Spurr Chakacha**	**8.27**	**27**	P	**Pn**	**14 12 39.6**	**-0.2**
SPU	**Mount Spurr**	**8.30**	**28**	Pn	**Pn**	**14 12 40.3**	**+0.1**
SEW	**Seward**	**8.34**	**40**		**Pn**	**14 12 38.7**	**-2.0**
SEW	**Seward**	**8.34**	**40**	P	**Pn**	**14 12 39.2**	**-1.5**
SLKM	**Skilak Lake**	**8.35**	**36**			**14 12 39.4**	**-1.4**
M19K	**Big River Lodg**	**8.38**	**19**		**Pn**	**14 12 41.5**	**+0.1**
M19K	**Big River Lodg**	**8.38**	**19**	P	**Pn**	**14 12 41.6**	**+0.3**
O22K	**Cooper Landing**	**8.50**	**37**	Pn	**Pn**	**14 12 42.4**	**-0.5**
O22K	**Cooper Landing**	**8.50**	**37**	P	**Pn**	**14 12 43.0**	**+0.2**
L19K	**White Mountain**	**8.56**	**17**	Pn	**Pn**	**14 12 44.0**	**+0.2**
L19K	**White Mountain**	**8.56**	**17**	P	**Pn**	**14 12 43.9**	**+0.2**
M20K	**Styx River**	**8.62**	**23**	P	**Pn**	**14 12 44.7**	**0.0**
SUA	**Susitna One**	**8.90**	**30**			**14 12 48.1**	**-0.4**
SUA	**Susitna One**	**8.90**	**30**	P	**Pn**	**14 12 48.0**	**-0.4**
RC01	**Rabbit Creek A**	**8.93**	**34**	Pn	**Pn**	**14 12 47.8**	**-1.0**
RC01	**Rabbit Creek A**	**8.93**	**34**	P	**Pn**	**14 12 48.0**	**-0.9**
SKT	**Skwentna**	**9.10**	**26**	P	**Pn**	**14 12 50.8**	**-0.3**
TTA	**Tatalina**	**9.10**	**12**	Pn	**Pn**	**14 12 50.5**	**-0.7**
TTA	**Tatalina**	**9.10**	**12**	P	**Pn**	**14 12 50.6**	**-0.6**
Q23K	**Middleton Isla**	**9.23**	**49**	P	**Pn**	**14 12 52.1**	**-0.8**
Q23K	**Middleton Isla**	**9.23**	**49**	P	**Pn**	**14 12 52.4**	**-0.5**
PWL	**Port Wells**	**9.26**	**38**	P	**Pn**	**14 12 52.3**	**-1.0**
M22K	**Willow**	**9.31**	**31**	P	**Pn**	**14 12 53.6**	**-0.4**
PMR	**Palmer**	**9.50**	**33**		**Pn**	**14 12 56.1**	**-0.5**
PMR	**Palmer**	**9.50**	**33**	P	**Pn**	**14 12 55.9**	**-0.7**
KNK	**Knik Glacier**	**9.60**	**36**		**Pn**	**14 12 56.9**	**-1.0**
KNK	**Knik Glacier**	**9.60**	**36**	P	**Pn**	**14 12 57.4**	**-0.5**
HIN	**Hinchinbrook I**	**9.68**	**44**		**Pn**	**14 12 58.1**	**-1.0**
GHO	**Glory Hole Cre**	**9.70**	**33**	Pn	**Pn**	**14 12 59.1**	**-0.3**
CUT	**Chulitna**	**9.79**	**28**	Pn	**Pn**	**14 12 59.9**	**-0.6**
SML	**Sawmill**	**9.92**	**34**	Pn	**Pn**	**14 13 02.0**	**-0.3**
SML	**Sawmill**	**9.92**	**34**	P	**Pn**	**14 13 02.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**10.08**	**44**			**14 13 02.5**	**-1.9**
EYAK	**Cordova Ski Ar**	**10.08**	**44**	P	**Pn**	**14 13 03.9**	**-0.6**
M23K	**Glacier View**	**10.11**	**35**	P	**Pn**	**14 13 04.6**	**-0.4**
CAST	**Castle Rocks**	**10.21**	**21**	Pn	**Pn**	**14 13 07.0**	**+0.6**
ADK	**Adak**	**10.25**	**264**	Pn	**Pn**	**14 13 07.0**	**+0.2**
SCM	**Sheep Creek Mo**	**10.28**	**36**			**14 13 06.1**	**-1.2**
SCM	**Sheep Creek Mo**	**10.28**	**36**	P	**Pn**	**14 13 07.1**	**-0.2**
KAIM	**Kayak Island**	**10.33**	**49**			**14 13 07.8**	**-0.2**
KAIM	**Kayak Island**	**10.33**	**49**	P	**Pn**	**14 13 07.9**	**-0.1**
RAGM	**Ragged Mountai**	**10.44**	**47**		**Pn**	**14 13 09.5**	**0.0**
KIWB	**Kanaga Island**	**10.53**	**265**	Pn	**Pn**	**14 13 10.8**	**0.0**
KLU	**Klutina**	**10.56**	**40**		**Pn**	**14 13 10.0**	**-1.2**
KLU	**Klutina**	**10.56**	**40**	P	**Pn**	**14 13 10.6**	**-0.7**
KTH	**Kantishna Hill**	**10.59**	**23**	Pn	**Pn**	**14 13 11.4**	**-0.1**
HMT	**Hamilton**	**10.60**	**48**		**Pn**	**14 13 11.2**	**-0.4**
WAT1	**Susitna Watana**	**10.61**	**30**	P	**Pn**	**14 13 10.0**	**-1.8**
TRF	**Thorofare Moun**	**10.65**	**24**	Pn	**Pn**	**14 13 11.7**	**-0.8**
TRF	**Thorofare Moun**	**10.65**	**24**	P	**Pn**	**14 13 11.4**	**-1.0**
WAT6	**Susitna Watana**	**10.67**	**32**	P	**Pn**	**14 13 10.8**	**-2.0**
SUCK	**Suckling Hills**	**10.69**	**49**	Pn	**Pn**	**14 13 12.9**	**+0.1**
BMRM	**Bremner River**	**10.78**	**44**	P	**Pn**	**14 13 12.7**	**-1.5**
GCSA	**Galena City Sc**	**10.80**	**7**	P	**Pn**	**14 13 14.4**	**+0.1**
M24K	**Tolsona, Glenn**	**10.86**	**37**		**Pn**	**14 13 15.1**	**-0.2**
M24K	**Tolsona, Glenn**	**10.86**	**37**	P	**Pn**	**14 13 15.0**	**-0.3**
BERG	**Berg Lake**	**10.87**	**48**	Pn	**Pn**	**14 13 15.1**	**-0.2**
N25K	**Chitina, Valde**	**11.14**	**41**		**Pn**	**14 13 18.1**	**-1.0**
N25K	**

baz=211
PINM Pinnacle 12.31 53 P Pn 14 13 35.6 +0.4
baz=249,SNR=25
MDM Murphy Dome 12.41 24 Pn Pn 14 13 33.7 -2.6
RIDG Independent Ri 12.42 33 Pn Pn 14 13 34.0 -2.6
L26K Log Cabin Wild 12.46 38 Pn Pn 14 13 36.7 -0.4
PNL Peninsula 12.58 55 P Pn 14 13 38.6 -0.2
baz=252,SNR=13
O28M Mount Upton 12.59 50 P Pn 14 13 38.7 -0.4
baz=247
IL31 12.60 27 Pn Pn 14 13 35.6 -3.3
ILAR Eielson Array 12.60 27 Pn Pn 14 13 34.8 -4.1
comp=E,1.0nm,0.3s,baz=217,slow=14,SNR=14
comp=E,2.1nm,0.3s
M27K Edge Creek, AK 12.62 42 P Pn 14 13 39.5 0.0
baz=237
SCRK Sand Creek 12.86 33 Pn Pn 14 13 41.1 -1.6
SCRK Sand Creek 12.86 33 P Pn 14 13 41.1 -1.6
baz=227
YUK3 Moose Creek 12.91 46 P Pn 14 13 43.4 0.0
baz=242,SNR=10
YUK8 Steele Glacier 12.99 48 P Pn 14 13 44.8 +0.2
baz=245,SNR=20
L27K Beaver Creek, 13.04 39 Pn Pn 14 13 43.9 -1.1
L27K Beaver Creek, 13.04 39 P Pn 14 13 44.5 -0.5
baz=235
BCAR Beaver Creek A 13.06 39 Pn Pn 14 13 44.4 -0.8
O29M Mount Kennedy 13.17 53 P Pn 14 13 46.9 0.0
baz=251
J26L Joseph Creek 13.36 32 Pn Pn 14 13 47.9 -1.5
J26L Joseph Creek 13.36 32 P Pn 14 13 47.3 -2.1
baz=226
P29M Windy Craggy 13.38 57 Pn 14 13 49.1 -0.6
P29M Windy Craggy 13.38 57 P Pn 14 13 49.5 -0.2
baz=255
YUK6 Outpost Mounta 13.49 51 P Pn 14 13 51.7 +0.4
baz=249
YUK4 Talbot Arm 13.51 49 P Pn 14 13 52.6 +1.1
baz=247
HYT Haines Junctio 13.84 52 Pn Pn 14 13 56.7 +0.7
S31K Pelican 13.86 64 P Pn 14 13 55.2 -0.9
baz=264,SNR=12
P30M Million Dollar 13.89 55 P Pn 14 13 57.7 +1.0
baz=254
PLBC Pleasant Camp 14.02 58 P Pn 14 13 59.1 +0.7
baz=258,SNR=5.5
I26K Coal Creek Min 14.05 30 P Pn 14 13 56.4 -2.3
baz=225
M29M Somme Creek 14.05 45 P Pn 14 13 58.5 -0.3
baz=243
R31K City Hall, Gus 14.17 62 P Pn 14 14 00.5 +0.2
baz=263
N30M Aishikik Lake 14.25 50 P Pn 14 14 01.3 -0.2
baz=249
SIT Sitka 14.29 68 Pn Pn 14 13 59.7 -2.3
O30N Mendenhall 14.48 53 P Pn 14 14 04.5 -0.3
baz=253
L29M L29M 14.49 43 P Pn 14 14 04.5 -0.4
baz=241
DAWY Dawson 14.51 38 Pn Pn 14 14 03.9 -1.1
DAWY Dawson 14.51 38 P Pn 14 14 04.0 -1.1
baz=236
S32K Killisnoo 14.71 66 P Pn 14 14 07.1 -0.6
baz=267
I27K Kandik River 14.72 31 P Pn 14 14 06.3 -1.6
baz=227
R32K Eaglecrest 14.79 63 P Pn 14 14 08.3 -0.6
baz=264
M30M Minto, Yukon 14.81 46 P Pn 14 14 08.2 -0.9
baz=245
N31M Braeburn, Yuko 14.85 50 Pn Pn 14 14 09.2 -0.5
JIS Juneau Island 14.86 63 Pn 14 14 09.2 -0.6
WHY Whitehorse 15.03 54 Pn 14 14 11.4 -0.7
WHY IAmb IAmb 14 14 14.4
comp=Z,44nm,0.5s
WHY Whitehorse 15.03 54 P Pn 14 14 12.9 +0.7
baz=255,SNR=14
J29M Klondike Camp 15.15 38 Pn 14 14 13.6 -0.1
J29M IAmb IAmb 14 14 16.1
comp=Z,21nm,0.5s
P32M Atlin 15.38 58 P Pn 14 14 17.5 +0.8
baz=260
TOLK Toolik Lake Re 15.39 15 P P 14 14 21.9 +0.5
TOLK IAmb IAmb 14 14 23.0
comp=Z,55nm,1.6s
CRAG Craig 15.58 74 Pn Pn 14 14 18.5 -0.8
CRAG IAmb IAmb 14 14 23.0
comp=Z,99nm,1.6s
M31M Drury Creek, Y 15.71 49 Pn Pn 14 14 21.8 +0.8
P33M Teslin, Yukon 15.93 56 Pn Pn 14 14 23.5 -0.3
P33M IAmb IAmb 14 14 31.2
comp=Z,62nm,0.8s
Q32M Nakina River 16.03 61 P Pn 14 14 25.8 +0.5
baz=264
FARO Faro, Yukon 16.18 49 Pn Pn 14 14 27.1 +0.1
C23K Itkillik River 16.37 12 P Pn 14 14 29.5 +0.3
baz=200
R33M Jennings River 16.74 60 P P 14 14 36.1 -0.4
baz=264
EPYK Eagle Plains 16.76 34 P P 14 14 37.6 +1.2
baz=234
DLBC Dease Lake 17.17 63 P P 14 14 42.2 +1.1
comp=Z,1.4nm,0.3s,baz=265,slow=9.2,SNR=30
comp=Z,7.5nm,0.5s
DLBC Dease Lake 17.17 63 P Pn 14 14 39.9 +0.4
baz=268
MMPY Sheldon Lake, 17.22 49 P Pn 14 14 40.3 +0.1
baz=253
C27K Jago River 17.27 19 P Pn 14 14 39.3 -1.5
baz=214
G30M tAoh Zraii Nji 17.28 32 P P 14 14 43.4 +1.1
baz=233
C26K Camden Bay 17.30 18 P Pn 14 14 39.5 -1.5
baz=211
F31M Tsiigehtchic 18.33 33 P Pn 14 14 52.4 -1.3
baz=236
INK Inuvik 18.90 31 P P 14 14 59.4 -0.6
comp=Z,1.9nm,0.3s,baz=220,slow=8.6,SNR=27
comp=Z,8.0nm,0.4s
INK Inuvik 18.90 31 P P 14 14 59.3 -0.6
INK Inuvik 18.90 31 P P 14 14 58.9 -1.0
baz=234
KOTAN Kotaneelee Air 20.28 58 P P 14 15 15.6 +0.5
baz=269
BILL Bilibino 21.05 325 P P 14 15 22.9 -0.5
C36M Paulatuk 22.39 33 P P 14 15 37.3 -0.4
C36M Paulatuk 22.39 33 P P 14 15 37.2 -0.6
baz=245,SNR=7.9
A36M Sachs Harbour 23.30 27 P P 14 15 46.3 -0.8
A36M IAmb IAmb 14 15 50.2
comp=Z,26nm,0.8s
A36M Sachs Harbour 23.30 27 P P 14 15 47.1 -0.1
baz=238
PET Petropavlovsk 24.28 284 P P 14 15 56.6 -0.1
PET IAmb IAmb 14 16 24.9
comp=Z,98nm,1.4s
PEA0B Petropavlovsk- 24.80 285 P P 14 16 01.9 +0.5
PEA0B IAmb IAmb 14 16 32.7
comp=Z,58nm,1.2s
PETK Petropavlovsk- 24.80 285 P P 14 16 01.2 -0.2
comp=Z,12nm,0.6s,baz=87,slow=13,SNR=54
comp=Z,12nm,0.6s
YKA Yellowknife Ar 24.84 52 P P 14 16 03.1 +1.4
comp=Z,1.6nm,0.6s,baz=266,slow=9.0,SNR=6.2
comp=Z,1.6nm,0.6s
YKA Yellowknife Ar 24.84 52 P P 14 16 01.5 -0.1
SEY Seymchan 25.76 309 P P 14 16 09.3 -0.7
comp=Z,6.4nm,0.6s,baz=95,slow=10,SNR=24
comp=Z,6.4nm,0.6s
KBO Bosley Butte 26.42 102 P P 14 16 14.4 -1.9
RES Resolute Bay 32.35 27 P P 14 17 09.8 +1.4
comp=Z,2.3nm,0.4s,baz=247,slow=8.1,SNR=5.8
comp=Z,2.3nm,0.4s
RES Resolute Bay 32.35 27 P P 14 17 09.3 +0.8
TIXI Tiksi 34.19 328 P P 14 17 23.9 -0.6
comp=Z,1.6nm,0.3s,baz=25,slow=0.7,SNR=6.1
comp=Z,1.6nm,0.3s
TIXI Tiksi 34.19 328 P P 14 17 24.0 -0.6
EUNU Eureka 34.44 17 P P 14 17 27.6 +0.8
EUNU IAmb IAmb 14 17 50.6
comp=Z,26nm,1.9s
YAK Yakutsk 36.23 311 P P 14 17 41.3 -0.9
comp=Z,17nm,0.6s,baz=77,slow=0.8,SNR=15
comp=Z,17nm,0.6s
YAK Yakutsk 36.23 311 P P 14 17 40.3 -1.8
ULM Lac du Bonnet 38.36 69 P P 14 18 01.5 +1.1
comp=Z,3.9nm,0.5s,baz=304,slow=10,SNR=4.4
comp=Z,3.9nm,0.5s
ULM Lac du Bonnet 38.36 69 P P 14 18 01.1 +0.7
ULM IAmb IAmb 14 18 08.4
comp=Z,25nm,1.6s
AGMN Agassiz Nation 39.41 71 P P 14 18 10.1 +0.8
KLR Kul'dur 41.07 292 P P 14 18 22.7 -0.2
comp=Z,2.1nm,0.6s,baz=51,slow=6.9,SNR=7.1
comp=Z,2.1nm,0.6s
ECSD EROS Data Cent 41.64 77 P P 14 18 27.6 -0.1
EYMN Ely 42.03 69 P P 14 18 31.7 +0.9
EYMN IAmb IAmb 14 18 46.7
comp=Z,16nm,1.1s
H11N2 WAKE ISLAND Hy 42.57 229 T T 15 04 27.1
baz=28,slow=76,SNR=28
H11N3 WAKE ISLAND Hy 42.58 229 T T 15 04 27.3
baz=28,slow=76,SNR=31
H11N1 WAKE ISLAND Hy 42.59 229 T T 15 04 35.1
baz=28,slow=76,SNR=22
HEH HeiHe 42.83 296 eP P 14 18 35.9 -1.4
H11S1 WAKE ISLAND Hy 43.73 229 T T 15 06 02.0
baz=28,slow=76,SNR=17
H11S2 WAKE ISLAND Hy 43.75 229 T T 15 06 00.5
baz=28,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 43.75 229 T T 15 06 12.5
baz=28,slow=76,SNR=14
E43A Lone Tree Farm 45.43 68 P P 14 18 59.2 +0.9
E43A IAmb IAmb 14 20 03.5
comp=Z,18nm,1.1s
WMOK Wichita Mounta 46.27 89 P P 14 19 05.4 +0.4
WMOK IAmb IAmb 14 19 06.5
comp=Z,4.9nm,0.7s
WMOK Wichita Mounta 46.27 89 P P 14 19 05.2 +0.2
baz=314,SNR=5.0
TXAR Lajitas Array 47.29 98 P P 14 19 14.5 +1.4
comp=Z,0.7nm,0.7s,baz=307,slow=6.6,SNR=2.4
comp=Z,0.7nm,0.7s
NRIK Noril'sk 47.46 334 P P 14 19 13.2 -0.6
comp=Z,5.7nm,0.6s,baz=62,slow=9.4,SNR=8.1
comp=Z,5.7nm,0.6s
NRIK Noril'sk 47.46 334 P P 14 19 13.7 -0.1
NRIK IAmb IAmb 14 19 14.8
comp=Z,6.3nm,0.7s
JCT Junction City 48.71 94 P P 14 19 24.3 +0.3
JCT IAmb IAmb 14 19 25.3
comp=Z,7.9nm,0.7s
KSRS Korea Array 50.63 282 P P 14 19 39.5 +1.0
comp=Z,4.4nm,0.8s,baz=50,slow=6.9,SNR=7.9
comp=Z,4.4nm,0.8s
U49A Red Boiling Sp 52.62 77 P P 14 19 53.3 -0.1
U49A IAmb IAmb 14 21 07.8
comp=Z,21nm,1.8s
NCB Newcomb 53.86 63 P P 14 20 02.1 -0.4
J59A Piesco 54.06 64 P P 14 20 04.0 +0.1
FPAL Fort Paine 54.11 79 P P 14 20 03.2 -1.2
FPAL IAmb IAmb 14 20 37.2
comp=Z,18nm,1.4s
ULN Ulaanbaatar 54.71 305 P P 14 20 08.8 0.0
G62A West of Eustis 54.90 60 P P 14 20 09.6 -0.4
SONM Songino Array 55.05 305 P P 14 20 11.6 +0.4
comp=Z,5.4nm,0.7s,baz=48,slow=6.6,SNR=23
comp=Z,5.4nm,0.7s
SONM Songino Array 55.05 305 P P 14 20 11.5 +0.4
BJI Beijing 55.44 292 P P 14 20 13.3 -0.6
BJI pmax pmax
comp=Z,6.0nm,1.7s
F64A Sherman 55.55 58 P P 14 20 13.9 -0.8
BATG Bathurst New B 55.69 55 P P 14 20 15.2 -0.4
BATG IAmb IAmb 14 20 37.8
comp=Z,38nm,1.5s
K62A Royalston 55.81 63 P P 14 20 16.8 +0.3
KEV Kevo 56.34 357 P P 14 20 20.0 +0.1
ARCES ARCESS Array B 56.60 358 P P 14 20 21.4 -0.4
comp=Z,1.1nm,0.7s,baz=31,slow=7.2,SNR=4.5
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 56.60 358 P P 14 20 20.7 -1.2
HHC Hu-ho-hao-te 57.35 296 eP P 14 20 27.3 -0.4
HHC pmax pmax
comp=Z,22nm,0.8s
HNS HongShan 58.13 291 ⇓P P 14 20 34.3 +1.3
HNS pmax pmax
comp=Z,15nm,0.8s
NJ2 Nanjing 59.70 284 eP P 14 20 47.3 +3.3
NJ2 pmax pmax
comp=Z,9.0nm,0.9s
ZALV Zalesovo Beam 59.72 322 P P 14 20 43.8 +0.1
comp=Z,0.9nm,0.4s,baz=32,slow=7.5,SNR=4.5
comp=Z,0.9nm,0.4s
XAN Xi'an 63.77 292 P P 14 21 11.8 +0.3
XAN pP pP 14 21 16.6 -0.6
XAN pmax pmax
comp=Z,6.0nm,1.2s
GTA Gaotai 64.46 302 eP P 14 21 16.3 +0.2
GTA sP pwP 14 21 27.0 +2.7
GTA pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 64.57 323 P P 14 21 16.8 +0.4
KURK IAmb IAmb 14 21 17.7
comp=Z,4.7nm,0.7s
FINES FINESS Array B 64.69 357 P P 14 21 17.0 0.0
comp=Z,4.8nm,1.0s,baz=32,slow=7.5,SNR=5.4
comp=Z,4.8nm,1.0s
FINES FINESS Array B 64.69 357 P P 14 21 16.9 -0.1
LZH Lanzhou 64.94 297 ⇓P P 14 21 21.4 +2.1
LZH pP sP 14 21 26.5 +0.1
LZH pmax pmax
comp=Z,24nm,1.5s
NB2 NORSAR Subarra 64.99 5 P P 14 21 29.0 +10
comp=Z,7.3nm,1.2s,baz=356,slow=6.5
BRVK Borovoye 65.31 329 P P 14 21 21.9 +0.7
BRVK IAmb IAmb 14 21 22.7
comp=Z,6.9nm,0.7s
MK31 Makanchi Array 66.44 318 P P 14 21 28.2 -0.4
MKAR Makanchi Array 66.44 318 P P 14 21 28.4 -0.2
comp=Z,1.7nm,0.4s,baz=45,slow=6.1,SNR=32
comp=Z,1.7nm,0.4s
MKAR Makanchi Array 66.44 318 P P 14 21 28.3 -0.4
MAKZ Makanchi 66.55 319 P P 14 21 29.1 -0.3
MAKZ IAmb IAmb 14 22 50.9
comp=Z,35nm,1.6s
WMQ Urumqi 66.64 313 eP P 14 21 31.0 +1.0
WMQ sP pwP 14 21 40.4 +2.1
WMQ pmax pmax
comp=Z,11nm,0.9s
CD2 Chengdu 68.97 294 P P 14 21 43.0 -1.8
ABKAR Akbulak array 71.63 334 P P 14 22 01.3 +0.6
BOOM Boomskoye usch 72.51 320 P P 14 22 07.0 +0.7
PZH PanZhiHua 73.52 292 P P 14 22 12.8 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
KK31 Karatay Array 73.95 324 P P 14 22 15.2 +0.6
KKAR Karatay Array 73.95 324 P P 14 22 15.3 +0.7
KKAR Karatay Array 73.95 324 P P 14 22 14.9 +0.3
KMI Kunming 74.06 291 ⇑P P 14 22 16.5 +0.7
KMI sP pwP 14 22 23.6 -0.4
KMI pmax pmax
comp=Z,16nm,0.5s
CLL Collm 74.80 4 eP P 14 22 20.0 +0.6
CLL epP sP 14 22 26.0 -0.7
KSH Kashi 75.05 318 P P 14 22 24.8 +3.5
KSH PcP PcP 14 22 35.9 +1.0
KSH Kashi 75.05 318 ScS ScS 14 32 30.8 -1.8
KSH pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 75.27 354 P P 14 22 22.0 -0.2
comp=Z,1.3nm,0.5s,baz=7.6,slow=5.8,SNR=7.0
comp=Z,1.3nm,0.5s
GRA1 Grafenberg Arr 76.32 6 P P 14 22 28.9 +0.8
GRA1 IAmb IAmb 14 23 02.1
comp=Z,14nm,0.6s
GRFO Grafenberg 76.32 6 P P 14 22 29.0 +0.8
GRFO IAmb IAmb 14 23 02.1
comp=Z,13nm,0.6s
GAR Garm 77.64 322 P P 14 22 36.0 +0.1
GAR IAmb IAmb 14 22 37.2
comp=Z,6.0nm,0.9s
CHGR Chuyangaron 78.36 323 P P 14 22 40.0 +0.1
CMAR Chiang Mai Arr 81.49 290 P P 14 22 57.0 0.0
comp=Z,1.7nm,0.9s,baz=18,slow=5.6,SNR=7.8
comp=Z,1.7nm,0.9s
CMAR Chiang Mai Arr 81.49 290 P P 14 22 56.8 -0.2
GEYT Alibeck 82.60 330 P P 14 23 03.9 +1.3
comp=Z,1.9nm,0.6s,baz=340,slow=8.2,SNR=4.4
comp=Z,1.9nm,0.6s
BRTR Keskin Array B 85.80 349 P P 14 23 19.9 +0.9
comp=Z,1.2nm,0.8s,baz=18,slow=5.1,SNR=4.6
comp=Z,1.2nm,0.8s
BRTR Keskin Array B 85.80 349 P P 14 23 19.6 +0.6
WRA Warramunga Arr 92.57 239 P P 14 23 50.1 -0.9
comp=Z,0.7nm,0.9s,baz=29,slow=5.7,SNR=3.7
comp=Z,0.7nm,0.9s
H03N1 Juan Fernandez 111.58 117 T T 16 30 20.9
baz=63,slow=74,SNR=6.6
H03N3 Juan Fernandez 111.58 117 T T 16 30 20.5
baz=326,slow=74,SNR=3.7

*JMA **22** 14:10:54.0±0.3,23°N±1°×123°E±0°.9, h46km±2km, MV3.1/14, NEAR ISHIGAKIJIMA ISLAND*
ISC 22 14:10:53.0±1.9, 23°42'N±0°.09×123°67'E±0°.05, h28km±13km, n20, σ0956/30, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
HATJ	**Hateruma jima**	**0.65**	**11**	P	**Pb**	**14 11 06.2**	**+0.3**
HATJ				S	**Sb**	**14 11 14.6**	**+0.1**
JKRS	**Kuro-shima**	**0.87**	**21**	P	**Pb**	**14 11 09.9**	**+0.3**
JKRS				S	**Sb**	**14 11 21.2**	**+0.3**
IRIF	**Iriomote-Funau**	**0.91**	**3**	*i* P	**Pb**	**14 11 10.1**	**-0.2**
IRIF				*e*S	**Sb**	**14 11 21.6**	**-0.5**
JIJ	**Ishigaki jima**	**1.03**	**25**	*i* P	**Pn**	**14 11 11.5**	**-0.2**
JIJ				S	**Sb**	**14 11 24.4**	**-1.2**
YOJ	**Yonaguni jima**	**1.20**	**330**	P	**Pn**	**14 11 14.4**	**+0.4**
YOJ	**Yonaguni jima**	**1.20**	**330**	P	**Pn**	**14 11 14.2**	**+0.2**
YOJ				*e*S	**Sn**	**14 11 28.9**	**-0.4**
JYNG	**Yonagunijimaku**	**1.22**	**327**	P	**Pn**	**14 11 14.4**	**+0.2**
JYNG				*e*S	**Sn**	**14 11 29.5**	**-0.4**
JISG	**Ishigakijimahi**	**1.30**	**27**	P	**Pn**	**14 11 15.2**	**-0.1**
JISG				S	**Sn**	**14 11 31.2**	**-0.7**
JTJ	**Tarama**	**1.54**	**38**	P	**Pn**	**14 11 19.1**	**+0.5**
JTJ				S	**Sn**	**14 11 38.1**	**+0.4**
JIRB	**Irabujima**	**1.96**	**44**	P	**Pn**	**14 11 24.7**	**+0.3**
JIRB				S	**Sn**	**14 11 48.0**	**-0.1**
JMJ2	**Miyako jima3**	**2.01**	**49**	P	**Pn**	**14 11 25.4**	**+0.4**
JMJ2				S	**Sn**	**14 11 48.9**	**-0.3**
JMJ	**Miyako jima 2**	**2.03**	**47**	P	**Pn**	**14 11 25.5**	**+0.1**
NACB	**Ninganchiao**	**2.04**	**292**	P	**Pn**	**14 11 26.4**	**+0.8**
JOGS	**Gusukube**	**2.07**	**50**	P	**Pn**	**14 11 26.5**	**+0.5**
JIKM	**Ikemajima**	**2.08**	**44**	S	**Sn**	**14 11 51.0**	**0.0**
YULB	**Yu-li**	**2.18**	**270**	P	**Pn**	**14 11 27.0**	**-0.5**
YHNB	**Yeheng**	**2.44**	**301**	P	**Pn**	**14 11 32.2**	**+1.1**
TWGBT	**Beinan**	**2.46**	**256**	P	**Pn**	**14 11 30.7**	**-0.6**
SSLB	**Suanglung**	**2.52**	**279**	P	**Pn**	**14 11 31.9**	**-0.2**
TPUB	**Ta-pu**	**2.80**	**268**	P	**Pn**	**14 11 37.2**	**+1.2**

THE 22 14:13:38.5, 38°71N×20°61E, h7km, ML1.9/7, Error ellipse: s-maj=0.9km s-min=0.3km az=85.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
DRAG	**Dragano-Lefkad**	**0.04**	**219**	P	Pg	14 13 40.1	+0.1
DRAG				S	Sg	14 13 41.0	-0.1
NYDR	**Nydri-Lefkada**	**0.07**	**90**	P	Pg	14 13 40.3	-0.1
NYDR				S	Sg	14 13 41.8	+0.1
	830nm,0.2s						
LKD2	**Lefkada island**	**0.09**	**29**	P	Pg	14 13 40.5	-0.1
LKD2				S	Sg	14 13 42.4	+0.3
	1μm,0.2s						
EVGI	**Lefkada island**	**0.10**	**157**	P	Pg	14 13 41.0	+0.2
EVGI				S	Sg	14 13 42.8	+0.4
	2μm,0.1s						
TSLK	**Tsoukalades, L**	**0.12**	**19**	P	Pg	14 13 41.2	+0.1
TSLK				S	Sg	14 13 43.3	+0.4
	1μm,0.3s						
KEF4	**Livadi, Kephal**	**0.48**	**197**	P	Pg	14 13 47.6	-0.1
KEF4				S	Sg	14 13 54.8	+0.8
	520nm,0.2s						
DMLN	**Damoulianata-K**	**0.51**	**201**	P	Pg	14 13 48.0	-0.3
DMLN				S	Sg	14 13 55.9	+0.9
	60nm,0.3s						
VLS	**Valsamata**	**0.54**	**181**	P	Pg	14 13 48.4	-0.5
VLS				S	Sg	14 13 56.7	+0.8
	80nm,0.1s						

*IDC **22** 14:14:25.7±1.0, 37°.26N×141°.84E, h0km, mb3.8/9, mbtmp3.8/11, ML3.4/2, Error ellipse: s-maj=29.6km s-min=19.4km az=87.0*
*NEIC **22** 14:14:29.2±1.1, 37°.31N±0°.05×141°.54E±0°.06, h10km±1km, mb4.7/9, Error ellipse: s-maj=11.0km s-min=3.9km az=226.0*
*JMA **22** 14:14:29.4±0.2, 37°.2N±0°.4×141°.5E±0°.9, h33km±1km, MD4.2/40, MV4.0/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF
ISC 22 14:14:27.9±1.7, 37°24'N±0°.04×141°62'E±0°.06, h13km±9km, n61, σ1903/53, mb3.9/12, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
JFK	**Kawauchi**	**0.61**	**282**	*i* P	**Pg**	**14 14 40.2**	**+0.4**
JFK				S	**Sg**	**14 14 48.0**	**+0.2**
JFK	**Kawauchi**	**0.61**	**282**	A	A	14 14 40.2	
	comp=E,11nm,0.4s,comp=E,7.0nm,6.6s						
JMST	**Minamisoumatoc**	**0.76**	**310**	*i* P	**Pg**	**14 14 42.7**	**+0.1**
JMST				S	**Sg**	**14 14 52.2**	**-0.4**
JMST	**Minamisoumatoc**	**0.76**	**310**	A	A	14 14 42.7	
	comp=E,8.0nm,0.3s,comp=E,9.0nm,0.3s						
JFFD	**Fukushimafurud**	**0.86**	**260**	⇓*i* P	**Pb**	**14 14 44.0**	**-0.7**
JFFD				⇓S	**Sb**	**14 14 54.5**	**-1.7**
JMM	**Marumori**	**0.91**	**314**		**Pb**	**14 14 44.9**	**-0.6**
JMM					**Sb**	**14 14 55.4**	**-2.2**
JMM	**Marumori**	**0.91**	**314**	*i* P	**Pb**	**14 14 45.0**	**-0.5**
JMM				S	**Sb**	**14 14 56.2**	**-1.3**
JMM	**Marumori**	**0.91**	**314**	A	A	14 14 45.0	
	comp=E,5.0nm,1.0s,comp=E,6.0nm,7.3s						
JHO	**Hitachi**	**1.05**	**234**	P	**Pb**	**14 14 46.8**	**-1.1**
JHO				S	**Sb**	**14 14 59.9**	**-1.7**
JIO	**Ouri**	**1.23**	**350**	P	**Pn**	**14 14 50.5**	**-0.4**
JIO				S	**Sb**	**14 15 05.1**	**-1.8**
JYAR	**Yonezawaarcadi**	**1.35**	**300**	A	A	14 14 51.9	
	comp=E,11nm,1.3s,comp=E,10.0nm,1.4s						
JOU	**Okura**	**1.36**	**326**	P	**Pn**	**14 14 53.0**	**+0.4**
JOU				S	**Sn**	**14 15 09.9**	**-0.7**
JSB	**Shiboa**	**1.39**	**259**	P	**Pn**	**14 14 53.3**	**+0.3**
JSB				S	**Sn**	**14 15 11.3**	**+0.1**
JOFO	**Osakifurukawao**	**1.47**	**338**	A	A	14 14 54.1	
	comp=E,18nm,3.3s,comp=E,24nm,4.0s						
JYT	**Yasato**	**1.53**	**229**	A	A	14 14 54.5	
	comp=E,4.0nm,7.3s,comp=E,5.0nm,6.0s						
JFY	**Yanaizu**	**1.54**	**277**	P	**Pn**	**14 14 55.4**	**+0.3**
JFY				S	**Sn**	**14 15 14.3**	**-0.7**
JFY	**Yanaizu**	**1.54**	**277**	A	A	14 14 55.4	
	comp=E,4.0nm,7.4s,comp=E,4.0nm,5.3s						
JYS	**Shirataka**	**1.57**	**309**	A	A	14 14 55.3	
	comp=E,7.0nm,3.6s,comp=E,5.0nm,4.3s						
JYK	**Kaneyama**	**1.95**	**330**	A	A	14 15 01.0	
	comp=E,3.0nm,7.3s,comp=E,3.0nm,5.3s						
JYA	**Atsumi**	**2.02**	**312**	A	A	14 15 01.9	
	comp=E,4.0nm,3.8s,comp=E,4.0nm,4.2s						
JSD	**Sado**	**2.78**	**288**	Pn	**Pn**	**14 15 12.3**	**+0.1**
MJAR	**Matsushiro Arr**	**2.82**	**257**	Pn	**Pn**	**14 15 13.5**	**+0.8**
	1.4nm,0.3s,baz=106,slow=6.1,SNR=12						
	13nm,0.5s						
MAJO	**Matsushiro**	**2.82**	**257**		**Pn**	**14 15 13.8**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.82**	**257**		**Pn**	**14 15 14.9**	**+2.1**
JTM	**Tenmabayashi**	**3.57**	**353**	Pn	**Pn**	**14 15 24.2**	**+1.2**
JGF	**Kuroka**	**3.81**	**246**		**Pn**	**14 15 27.9**	**+1.6**
INU	**Inuyama**	**4.17**	**244**	Pn	**Pn**	**14 15 32.4**	**+1.2**
JHJ	**Hachijo jima 2**	**4.38**	**201**	Pn	**Pn**	**14 15 34.7**	**+0.6**
	17nm,0.3s,baz=98,slow=22,SNR=8.0						
JHJ				Sn	**Sn**	**14 16 23.2**	**-1.8**
	23nm,0.3s,baz=242,slow=24,SNR=7.5						
	107nm,0.5s						
ERM	**Erimo**	**4.92**	**13**	Pn	**Pn**	**14 15 42.8**	**+1.3**
JKA	**Kamikawa-asahi**	**6.91**	**6**	Pn	**Pn**	**14 16 09.4**	**+0.5**
JHS	**Saijyo**	**7.24**	**255**	Pn	**Pn**	**14 16 15.9**	**+2.5**
PEA0B	**Petropavlovsk-**	**19.43**	**30**	Pn	**Pn**	**14 18 56.0**	**+0.9**
PETK	**Petropavlovsk-**	**19.43**	**30**		**Pn**	**14 18 55.8**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	14 49 45.7	
	baz=314,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	14 49 47.1	
	baz=314,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	14 49 47.1	
	baz=314,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	14 50 38.1	
	baz=316,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.83**	**124**	T	T	14 50 40.2	
	baz=316,slow=76,SNR=23						

H11S2	**WAKE ISLAND Hy**	**28.85**	**124**	T	T	14 50 39.5		
	baz=316,slow=76,SNR=21							
CMAR	**Chiang Mai Arr**	**41.71**	**255**	P	**P**	**14 22 17.6**	**+1.0**	
	0.5nm,0.3s,baz=46,slow=6.2,SNR=4.2							
	0.5nm,0.3s							
ZALV	**Zalesovo Beam**	**41.90**	**312**	P	**P**	**14 22 18.3**	**+0.4**	
	0.5nm,0.3s,baz=91,slow=6.1,SNR=4.1							
	0.5nm,0.3s							
MK31	**Makanchi Array**	**44.15**	**302**	P	**P**	**14 22 37.0**	**+0.8**	
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**14 22 36.7**	**+0.5**	
	1.5nm,0.7s,baz=84,slow=11,SNR=5.7							
	1.5nm,0.7s							
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**14 22 36.9**	**+0.7**	
MAKZ	**Makanchi**	**44.36**	**302**	P	**P**	**14 22 38.4**	**+0.5**	
KURK	**Kurchatov**	**45.94**	**308**	P	**P**	**14 22 50.3**	**0.0**	
KKAR	**Karatay Array**	**53.16**	**300**	P	**P**	**14 23 46.0**	**+0.4**	
GAR	**Garm**	**54.76**	**295**	P	**P**	**14 23 57.5**	**+0.1**	
GAR				IAmb	IAmb	14 24 04.4		
	comp=Z,1.1nm,1.4s							
CHGR	**Chuyangaron**	**55.73**	**295**	P	**P**	**14 24 04.7**	**+0.3**	
CHGR				IAmb	IAmb	14 24 05.4		
	comp=Z,8.1nm,0.7s							
ARU	**Arti**	**56.32**	**318**	P	**P**	**14 24 08.2**	**0.0**	
ARU				IAmb	IAmb	14 24 09.2		
	comp=Z,5.2nm,1.1s							
WRA	**Warramunga Arr**	**57.29**	**188**	P	**P**	**14 24 15.6**	**+0.2**	
	comp=Z,0.8nm,0.6s,baz=5.4,slow=6.9,SNR=13							
	comp=Z,0.8nm,0.6s							
ABKAR	**Akbulak array**	**57.93**	**310**	P	**P**	**14 24 19.6**	**-0.1**	
ASAR	**Alice Springs**	**61.01**	**188**	P	**P**	**14 24 41.5**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=11,slow=5.0,SNR=6.4							
	comp=Z,0.4nm,0.7s							
FINES	**FINESS Array B**	**68.71**	**332**	P	**P**	**14 25 31.9**	**+1.0**	
	comp=Z,1.2nm,0.8s,baz=96,slow=14,SNR=3.9							
	comp=Z,1.2nm,0.8s							
FINES	**FINESS Array B**	**68.71**	**332**	P	**P**	**14 25 30.6**	**-0.2**	
NOA	**NORSAR Array B**	**74.06**	**337**	P	**P**	**14 26 04.0**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=41,slow=5.9,SNR=1.7							
	comp=Z,0.3nm,0.5s							
AKASG	**Malin Array Be**	**74.24**	**322**	P	**P**	**14 26 04.7**	**+0.2**	
	comp=Z,0.6nm,0.4s,baz=46,slow=6.1,SNR=7.1							
	comp=Z,0.6nm,0.4s							
PDAR	**Pinedale Array**	**77.41**	**46**	P	**P**	**14 26 21.3**	**-1.7**	
	comp=Z,0.2nm,0.7s,baz=273,slow=5.9,SNR=2.3							
	comp=Z,0.2nm,0.7s							
H03N2	**Juan Fernandez**	**146.88**	**96**	T	T	17 18 23.2		
	baz=291,slow=76,SNR=5.8							
H03N3	**Juan Fernandez**	**146.89**	**96**	T	T	17 18 18.1		
	baz=291,slow=76,SNR=5.7							
H03N1	**Juan Fernandez**	**146.90**	**96**	T	T	17 18 20.4		
	baz=291,slow=76,SNR=5.1							

*DNK **22** 14:14:36.7±2.1,56.36N×6.44E, h0km, ML2.1, ML1.5(BER), Explosion*

BER 22 14:14:38.4±1.3, 58.37N×6.48E, h0km, ML1.5, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNART	**Snartemo**	**0.39**	**94**	*i* P	Pg	14 14 44.6	-1.2
SNART	**Snartemo**	**0.39**	**94**	*e*P	Pg	14 14 45.2	-0.6
SNART				*e*S	Sg	14 14 50.9	+0.1
SNART				IAML		14 14 54.4	
	comp=Z,110nm,0.7s						
SNART	**Snartemo**	**0.39**	**94**	*e*P	Pg	14 14 45.2	-0.6
SNART				*e*S	Sg	14 14 50.9	+0.1
SNART				IAML		14 14 54.4	
	comp=Z,110nm,0.7s						
BLS5	**Blasjo**	**1.06**	**359**	*e*P	Pg	14 14 57.3	-1.3
BLS5				*e*S	Sg	14 15 12.3	0.0
BLS5				IAML		14 15 15.7	
	comp=Z,9.4nm,0.2s						
BLS5	**Blasjo**	**1.06**	**359**	*e*P	Pg	14 14 57.3	-1.3
BLS5				*e*S	Sg	14 15 12.3	0.0
BLS5				IAML		14 15 15.7	
	comp=Z,9.4nm,0.2s						
KMY	**Karmoy**	**1.06**	**323**	*e*P	Pg	14 14 56.5	-2.3
KMY				*e*S	Sg	14 15 11.3	-1.2
KMY				IAML		14 15 14.3	
	comp=Z,18nm,0.2s						
KMY	**Karmoy**	**1.06**	**323**	*e*P	Pg	14 14 56.5	-2.3
KMY				*e*S	Sg	14 15 11.3	-1.2
KMY				IAML		14 15 14.3	
	comp=Z,18nm,0.2s						
HOMB	**Homborsund**	**1.07**	**94**	*i* P	Pg	14 14 57.2	-1.8
HOMB	**Homborsund**	**1.07**	**94**	*e*P	Pg	14 14 57.5	-1.4
HOMB				*e*S	Sg	14 15 12.1	-0.7
HOMB				IAML		14 15 16.7	
	comp=Z,13nm,0.4s						
HOMB	**Homborsund**	**1.07**	**94**	*e*P	Pg	14 14 57.5	-1.4
HOMB				*e*S	Sg	14 15 12.1	-0.7
HOMB				IAML		14 15 16.7	
	comp=Z,13nm,0.4s						
ODD1	**Odda**	**1.55**	**3**	*e*P	Pn	14 15 05.8	-1.5
ODD1				*e*S	Sn	14 15 26.4	-1.7
ODD1				IAML		14 15 29.3	
	comp=Z,5.7nm,0.2s						
ODD1	**Odda**	**1.55**	**3**	*e*P	Pn	14 15 05.8	-1.5
ODD1				*e*S	Sn	14 15 26.4	-1.7
ODD1				IAML		14 15 29.3	
	comp=Z,5.7nm,0.2s						
KONO	**Kongsberg**	**2.06**	**50**	*e*P	Pn	14 15 12.6	-1.7
KONO				*e*Sg	Sb	14 15 42.3	-0.5
KONO				IAML		14 15 45.0	
	comp=Z,5.9nm,0.5s						
KONO	**Kongsberg**	**2.06**	**50**	*e*P	Sb	14 15 42.1	-0.7
KONO	**Kongsberg**	**2.06**	**50**	*e*P	Pn	14 15 12.6	-1.7
KONO				*e*Sg	Sb	14 15 42.3	-0.5
KONO				IAML		14 15 45.0	
	comp=Z,5.9nm,0.5s						
ASK	**Askoy**	**2.22**	**343**	*e*P	Pn	14 15 14.7	-1.7
ASK				*e*Sg	Sb	14 15 46.3	-1.1
ASK	**Askoy**	**2.22**	**343**	*e*P	Pn	14 15 14.7	-1.7
ASK				*e*Sg	Sb	14 15 46.3	-1.1
SKAR	**Skarslia**	**2.50**	**21**	*e*P	Pn	14 15 20.0	-0.4
SKAR				*e*S	Sn	14 15 52.0	+0.5
SKAR				IAML		14 15 57.8	
	comp=Z,3.4nm,0.1s						
STRU	**Stroemstad**	**2.54**	**73**	*e*P	Pn	14 15 18.7	-2.2
STRU				*e*Sg	Sb	14 15 56.6	-0.1
STRU	**Stroemstad**	**2.54**	**73**	*e*P	Pn	14 15 18.7	-2.2
STRU				*e*Sg	Sb	14 15 56.6	-0.1
HYA	**Hoyanger**	**2.81**	**357**	*e*P	Pn	14 15 23.0	-1.5
HYA				*e*Sg	Sb	14 16 05.9	+1.6
HYA	**Hoyanger**	**2.81**	**357**	*e*P	Pn	14 15 23.0	-1.5
HYA				*e*Sg	Sb	14 16 05.9	+1.6
SUE	**Sulen**	**2.83**	**343**	*e*	Pn	14 15 22.9	-1.9
SUE				*e*S	Sn	14 15 55.9	-3.7
SUE	**Sulen**	**2.83**	**343**	*e*	Pn	14 15 22.9	-1.9
SUE				*e*S	Sn	14 15 55.9	-3.7
NAO01	**NORSAR Array S**	**3.34**	**40**	*e*P	Pn	14 15 30.0	-1.9
NAO01				IAML		14 16 25.2	
	comp=Z,2.5nm,0.6s						
NAO01	**NORSAR Array S**	**3.34**	**40**	*e*P	Pn	14 15 30.0	-1.9
NAO01				IAML		14 16 25.2	
	comp=Z,2.5nm,0.6s						
NBO00	**NORSAR Array S**	**3.44**	**37**	*e*P	Pn	14 15 31.9	-1.4
NBO00	**NORSAR Array S**	**3.44**	**37**	*e*P	Pn	14 15 31.9	-1.4
NC602	**NORSAR Array S**	**3.50**	**45**	*e*P	Pn	14 15 32.0	-2.1
NC602	**NORSAR Array S**	**3.50**	**45**	*e*P	Pn	14 15 32.0	-2.1
NB201	**NORSAR Array S**	**3.63**	**40**	*e*P	Pn	14 15 33.8	-2.0
NB201	**NORSAR Array S**	**3.63**	**40**	*e*P	Pn	14 15 33.8	-2.0
NC204	**NORSAR Array S**	**3.63**	**35**	*e*P	Pn	14 15 34.1	-1.8
NC204	**NORSAR Array S**	**3.63**	**35**	*e*P	Pn	14 15 34.1	-1.8
AKN	**Aaknes**	**3.83**	**4**	*e*P	Pn	14 15 36.8	-1.8
AKN	**Aaknes**	**3.83**	**4**	*e*P	Pn	14 15 36.8	-1.8

RSNC 22 14:18:10.6±0.3, 5.28N×73.74W, h146km±3km, ML1.3, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIC	**Chingaza**	**0.65**	**180**	*e*S	Sn	14 18 49.4	-0.3
CHIC				IAML		14 18 51.3	
	comp=Z,2.6nm,0.3s						
NORC	**Norcasia**	**1.16**	**284**	*e*P	Pn	14 18 36.1	-0.4
NORC				*e*S	Sn	14 18 55.9	-0.4
NORC				IAML		14 18 57.9	
	comp=Z,3.1nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.44**	**330**	*e*P	Pn	14 18 38.7	-0.5
PTBC				*e*S	Sn	14 19 00.6	-0.7
PTBC				IAML		14 19 02.0	
	comp=Z,1.3nm,0.2s						
PRAC	**Prado**	**1.93**	**216**	*e*P	Pn	14 18 44.1	-0.6
PRAC				*e*S	Sn	14 19 10.4	-0.6
PRAC				IAML		14 19 13.3	
	comp=Z,4.6nm,0.4s						

GUC 22 14:18:43.5±0.8, 25.87S×71.61W, h35km, ML2.6, 1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.95**	**107**	*e*P	Pn	14 19 01.5	+1.1
AC01				*e*S	Sn	14 19 14.3	+1.5
AC01				IAML		14 19 17.2	
	comp=E,149nm,0.1s						
AC01	**Pan de Azucar**	**0.95**	**107**	*i*P	Pn	14 19 01.6	+1.2
AC01				*e*S	Sn	14 19 15.6	+2.8
AC01				IAML		14 19 17.1	
	comp=E,158nm,0.1s						
AC06	**Mina Casimiro**	**1.86**	**143**	*e*P	Pn	14 19 14.3	+1.4
AC06				*e*S	Sn	14 19 37.7	+2.5
AC06				IAML		14 19 38.9	
	comp=E,87nm,0.2s						
AC06	**Mina Casimiro**	**1.86**	**143**	*e*P	Pn	14 19 14.3	+1.4
AC06				*e*S	Sn	14 19 37.4	+2.2
AC06				IAML		14 19 38.9	
	comp=E,84nm,0.2s						
GO02	**Mina Guanaco**	**1.96**	**69**	*e*P	Pn	14 19 16.3	+1.8
GO02				*e*S	Sn	14 19 41.3	+3.3
GO02	**Mina Guanaco**	**1.96**	**69**	*e*P	Pn	14 19 16.2	+1.7
GO02				*e*S	Sn	14 19 41.2	+3.2
GO03	**Copiap**	**2.11**	**145**	*e*P	Pn	14 19 18.0	+1.6
GO03				*e*S	Sn	14 19 44.5	+3.0
GO03				IAML		14 19 46.2	
	comp=N,60nm,0.1s						
GO03	**Copiap**	**2.11**	**145**	*e*P	Pn	14 19 18.2	+1.8
GO03				*e*S	Sn	14 19 45.0	+3.5
GO03				IAML		14 19 46.2	
	comp=N,60nm,0.1s						
AC04	**Llanos de Chal**	**2.37**	**168**	*e*P	Pn	14 19 19.8	-0.2
AC04				IAML		14 19 49.2	
	comp=E,42nm,0.1s						
AC02	**Maricunga**	**2.42**	**114**	*e*P	Pn	14 19 25.1	+4.0
AC02				*e*S	Sn	14 19 55.8	+6.0
AC02	**Maricunga**	**2.42**	**114**	*e*P	Pn	14 19 25.2	+4.1
AC02				*e*S	Sn	14 19 55.9	+6.1
AC02				IAML		14 19 57.6	
	comp=N,85nm,0.4s						
AC05	**El Transito**	**3.18**	**158**	*e*S	Sn	14 20 10.4	+2.3
AC05				IAML		14 20 15.9	
	comp=E,16nm,0.2s						
PB15	**IPOC Station P**	**3.29**	**37**	*e*P	Pn	14 19 33.0	+0.3
PB06	**IPOC Station P**	**3.66**	**31**	*e*P	Pn	14 19 37.4	-0.4
PB06				*e*S	Sn	14 20 17.9	-1.9
PB07	**IPOC Station P**	**4.42**	**21**	*e*P	Pn	14 19 45.8	-2.4
PB07				*e*S	Sn	14 20 34.5	-4.1
PB09	**IPOC Station P**	**4.60**	**29**	*e*P	Pn	14 19 50.5	-0.2
PB09				*e*S	Sn	14 20 36.2	-6.9

*IDC **22** 14:19:51.7±2.2,37.13N×141.58E, h0km, mb3.6/5, mbtmp3.6/6, ML2.5/1, Error ellipse: s-maj=61.9km s-min=25.0km az=62.0*
*JMA **22** 14:19:53.5±0.2,37.2N±0.4×141.5E±1.0, h28km±1km, MD4.2/38, MV4.1/38, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 22 14:19:52.6±2.4, 37.15N±0.05×141.54E±0.10, h9km±13km, n40, σ0°91/20, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.57**	**292**	*i* P	**Pg**	**14 20 04.0**	**+0.3**
JFK				S	**Sg**	**14 20 12.1**	**+0.8**
JFK	**Kawauchi**	**0.57**	**292**	A	A	14 20 04.0	
	comp=E,8.0nm,3.6s,comp=E,8.0nm,3.6s						
JMST	**Minamisoumatoc**	**0.77**	**318**	*i* P	**Pg**	**14 20 07.5**	**0.0**
JMST				S	**Sg**	**14 20 18.0**	**+0.4**
JMST	**Minamisoumatoc**	**0.77**	**318**	A	A	14 20 07.5	
	comp=E,8.0nm,5.6s,comp=E,8.0nm,1.2s						
JFFD	**Fukushimafurud**	**0.79**	**266**	*i* P	**Pg**	**14 20 07.9**	**+0.2**
JFFD				S	**Sg**	**14 20 18.2**	**+0.2**
JFFD	**Fukushimafurud**	**0.79**	**266**	A	A	14 20 07.9	
	comp=E,9.0nm,1.0s,comp=E,21nm,0.5s						
JMM	**Marumori**	**0.93**	**320**	*i* P	**Pb**	**14 20 10.1**	**-0.8**
JMM				S	**Sb**	**14 20 22.0**	**-1.4**
JHO	**Hitachi**	**0.95**	**236**	*i* P	**Pb**	**14 20 10.2**	**-1.0**
JHO				S	**Sb**	**14 20 21.9**	**-2.0**
JHO	**Hitachi**	**0.95**	**236**	A	A	14 20 10.2	
	comp=E,13nm,0.9s,comp=E,15nm,0.8s						
JHYU	**Hitachinakayam**	**1.12**	**224**	A	A	14 20 13.2	
	comp=E,11nm,1.0s,comp=E,7.0nm,0.8s						
JIO	**Ouri**	**1.31**	**353**	*e*P	**Pn**	**14 20 16.1**	**-1.0**
JSB	**Shiboa**	**1.31**	**262**	A	A	14 20 16.0	
	comp=E,19nm,1.5s,comp=E,17nm,1.3s						
JYAR	**Yonezawaarcadi**	**1.35**	**305**	A	A	14 20 16.5	
	comp=E,27nm,1.1s,comp=E,22nm,1.1s						
JOU	**Okura**	**1.40**	**330**	P	**Pn**	**14 20 18.1**	**-0.2**
JOU	**Okura**	**1.40**	**330**	A	A	14 20 18.1	
	comp=E,6.0nm,3.2s,comp=E,10.0nm,0.8s						
JYT	**Yasato**	**1.42**	**230**	A	A	14 20 17.8	
	comp=E,6.0nm,0.4s,comp=E,6.0nm,1.5s						
JIHU	**Itakohorinouch**	**1.44**	**215**	A	A	14 20 18.2	
	comp=E,28nm,2.0s,comp=E,28nm,2.3s						
JFY	**Yanaizu**	**1.49**	**280**	P	**Pb**	**14 20 19.9**	**-0.5**
JFY				*e*S	**Sb**	**14 20 38.9**	**-0.5**
JFY	**Yanaizu**	**1.49**	**280**	A	A	14 20 19.9	
	comp=E,6.0nm,2.0s,comp=E,5.0nm,4.7s						
CHOJ	**Chosi**	**1.55**	**201**	A	A	14 20 19.9	
	comp=E,5.0nm,2.2s,comp=E,5.0nm,1.8s						
JYS	**Shirataka**	**1.59**	**313**	A	A	14 20 20.1	
	comp=E,12nm,1.4s,comp=E,11nm,2.5s						
JAG	**Ashikaga**	**1.83**	**247**	A	A	14 20 23.7	
	comp=E,2.0nm,2.6s,comp=E,5.0nm,5.3s						
JYA	**Atsumi**	**2.04**	**315**	A	A	14 20 26.8	
	comp=E,5.0nm,5.1s,comp=E,6.0nm,1.3s						
JHU	**Hanno**	**2.24**	**235**	A	A	14 20 29.6	
	comp=E,4.0nm,1.3s,comp=E,4.0nm,3.4s						
JGK	**Kuni**	**2.40**	**257**	A	A	14 20 31.9	
	comp=E,4.0nm,1.5s,comp=E,5.0nm,3.5s						
MJAR	**Matsushiro Arr**	**2.74**	**258**	Pn	**Pn**	**14 20 37.2**	**+0.4**
	0.7nm,0.3s,baz=81,slow=16,SNR=7.9						
	7.5nm,0.5s						
SONM	**Songino Array**	**27.81**	**304**	P	**P**	**14 25 43.0**	**+0.9**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=2.3						
	0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	14 55 09.4	
	baz=314,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	14 55 11.4	
	baz=314,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	14 55 12.1	
	baz=314,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**28.84**	**123**	T	T	14 56 04.4	
	baz=316,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**28.84**	**123**	T	T	14 56 05.1	
	baz=316,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	14 56 05.2	
	baz=316,slow=76,SNR=20						
ZALV	**Zalesovo Beam**	**41.91**	**312**	P	**P**	**14 27 44.4**	**+1.2**
	1.1nm,0.6s,baz=75,slow=11,SNR=5.0						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**44.14**	**302**	P	**P**	**14 28 01.5**	**+0.1**
	0.5nm,0.7s,baz=97,slow=8.0,SNR=2.2						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**14 29 40.0**	**0.0**
	1.7nm,1.2s,baz=5.9,slow=7.4,SNR=6.0						
	1.7nm,1.2s						
ASAR	**Alice Springs**	**60.92**	**188**	P	**P**	**14 30 06.7**	**+0.9**
	0.2nm,0.8s,baz=9.0,slow=14,SNR=4.2						
	0.2nm,0.8s						
H03N2	**Juan Fernandez**	**146.93**	**96**	T	T	17 23 48.7	
	baz=291,slow=76,SNR=7.5						
H03N3	**Juan Fernandez**	**146.94**	**96**	T	T	17 23 48.4	
	baz=291,slow=76,SNR=7.3						
H03N1	**Juan Fernandez**	**146.95**	**96**	T	T	17 23 48.8	
	baz=291,slow=76,SNR=5.9						

*UCR **22** 14:22:23.5±1.4, 10.30N×86.37W, h18km±5km, MW4.3*
*IDC **22** 14:22:24.4±2.0, 11.41N×85.26W, h0km, mb3.6/2, mbtmp3.6/2, MS3.2/1, Error ellipse: s-maj=126.4km s-min=17.2km az=67.0*
*INET **22** 14:22:28.3±1.1, 10.60N×86.22W, h15km±17km, ML3.9*

ISC 22 14:22:24.7±1.4, 10.35N±0.06×86.30W±0.06, h18km±5km, n39, σ19°03/46, 12C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.65**	**116**	*e*P	**Pg**	**14 22 37.0**	**-0.5**
SAJU				*e*S	**Sg**	**14 22 46.8**	**+0.6**
HZTE	**Horizontes, Gu**	**0.78**	**63**	*e*P	**Pb**	**14 22 40.0**	**+0.2**
HZTE				*e*S	**Sn**	**14 22 53.6**	**+1.5**
ORTG	**Ortega, Santa**	**0.83**	**89**	*e*P	**Pb**	**14 22 40.0**	**-0.6**
ORTG				*e*S	**Sn**	**14 22 54.3**	**+0.9**
INDI	**Punta indio, G**	**0.93**	**122**	*e*P	**Pb**	**14 22 41.2**	**-0.9**
INDI				*e*S	**Sb**	**14 22 53.3**	**-0.9**
GBS3	**Finca Las Img**	**0.94**	**63**	*i*P	**Pb**	**14 22 41.8**	**-0.6**
LAPC	**Finca la Perla**	**0.95**	**64**	*i*P	**Pb**	**14 22 41.9**	**-0.7**
LAPC				*e*S	**Sb**	**14 22 56.0**	**+1.2**
GBS2	**Las Lilas**	**0.96**	**60**	*i*P	**Pb**	**14 22 42.2**	**-0.6**
BUEV	**Buena Vista**	**0.98**	**63**	*i*P	**Pb**	**14 22 42.7**	**-0.6**
GPS3	**Bodega del ICE**	**1.00**	**67**	*e*P	**Pb**	**14 22 41.6**	**-1.9**
GPS1	**Guardaparques**	**1.03**	**66**	*i*P	**Pn**	**14 22 43.4**	**-0.9**
BUAI	**Buenos Aires**	**1.09**	**61**	*i*P	**Pn**	**14 22 44.5**	**-0.5**
LIM1	**Limonal**	**1.09**	**72**	*e*P	**Pn**	**14 22 44.5**	**-0.6**
GUAB	**Guayabo de Bag**	**1.11**	**72**	*i*P	**Pn**	**14 22 44.7**	**-0.7**
COLC	**Colonia**	**1.12**	**74**	*e*P	**Pn**	**14 22 44.7**	**-0.8**
COLC				*e*S	**Sn**	**14 23 01.8**	**+1.2**
MESS	**Mesas**	**1.16**	**71**	*i*P	**Pn**	**14 22 45.3**	**-0.7**
CUI	**Cuipilapa**	**1.16**	**75**	*i*P	**Pn**	**14 22 45.5**	**-0.6**
HORNC	**Hornillas**	**1.16**	**72**	*i*P	**Pn**	**14 22 45.4**	**-0.7**
VMAR	**Armenia, Volca**	**1.25**	**69**	*e*P	**Pn**	**14 22 47.1**	**-0.1**
ACAL	**Aguas Claras**	**1.28**	**77**	*e*P	**Pn**	**14 22 47.5**	**-0.2**
JTS	**Las Juntas de**	**1.33**	**93**	Pn	**Pn**	**14 22 47.7**	**-0.7**
	23nm,0.3s,baz=3.6,slow=16,SNR=60						
JTS				Sn	**Sn**	**14 23 05.4**	**-0.2**
	36nm,0.3s,baz=30,slow=15,SNR=8.1						
JTS	**Las Juntas de**	**1.33**	**93**	*e*P	**Pn**	**14 22 47.5**	**-0.8**
PTEN	**Parque Tenorio**	**1.34**	**74**	*i*P	**Pn**	**14 22 48.4**	**-0.2**
CONN	**Concepcion**	**1.37**	**29**	*e*P	**Pn**	**14 22 48.0**	**-1.0**
LAFE	**Finca La Fe, P**	**1.48**	**112**	*e*P	**Pn**	**14 22 48.7**	**-1.6**
VERA	**Finca Concepci**	**1.50**	**70**	*e*P	**Pn**	**14 22 50.8**	**+0.2**
CEDE	**Laguna Cedeo**	**1.58**	**85**	*i*P	**Pn**	**14 22 52.4**	**+0.6**
MASN	**Masaya**	**1.63**	**5**	*e*P	**Pb**	**14 22 53.3**	**-1.0**
MGAN	**Managua**	**1.78**	**2**	*e*P	**Pn**	**14 22 53.9**	**-0.6**
WILN	**Americas 2**	**1.80**	**4**	*e*P	**Pn**	**14 22 53.8**	**-0.9**
ACON	**Acoyapa**	**1.95**	**35**	*e*P	**Pn**	**14 22 56.0**	**-0.8**
ACON				*e*S	**Sn**	**14 23 17.6**	**-3.2**
MOMN	**Momotombo**	**2.05**	**354**	*e*P	**Pn**	**14 22 57.2**	**-1.2**
CNGN	**Cerro Negro**	**2.17**	**350**	*e*P	**Pn**	**14 23 00.3**	**+0.4**
CRIN	**San Cristobal**	**2.44**	**343**	*e*P	**Pn**	**14 23 03.5**	**-0.3**
CRIN				IAML		14 23 44.5	
	comp=N,753nm,0.4s						
MATN	**Matagalpa**	**2.59**	**8**	*e*P	**Pn**	**14 23 04.3**	**-1.4**
ESPN	**Las Esperanzas**	**2.68**	**47**	*e*P	**Pn**	**14 23 06.7**	**-0.3**
ATAH	**Atahualpa**	**19.08**	**155**	LR	LR	14 33 20.9	
	comp=N,67nm,18.3s,baz=337,slow=33						
TXAR	**Lajitas Array**	**24.90**	**322**	P	**P**	**14 27 47.5**	**+0.7**
	comp=N,1.3nm,0.8s,baz=142,slow=10,SNR=9.8						
	comp=N,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**40.01**	**320**	P	**P**	**14 30 00.8**	**+2.0**
	comp=N,0.5nm,0.7s,baz=132,slow=7.9,SNR=4.5						
	comp=N,0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**150.91**	**350**	PKPbc	**PKiKP**	**14 42 17.6**	**-0.2**
	comp=N,0.2nm,0.3s,baz=333,slow=4.3,SNR=4.1						

*IDC **22** 14:23:13.8±2.4, 37.35N×141.73E, h0km, mb3.6/5, mbtmp3.6/6, ML2.4/1, Error ellipse: s-maj=63.9km s-min=26.6km az=63.0*
*JMA **22** 14:23:16.8±0.1, 37.3N±0.3×141.5E±0.7, h27km±1km, MV3.7/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 22 14:23:15.0±2.1, 37.32N±0.04×141.62E±0.09, h9km±11km, n18, σ0°79/23, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.60**	**275**	P	**Pg**	**14 23 27.2**	**+0.7**
JFK				S	**Sg**	**14 23 34.7**	**+0.3**
JMST	**Minamisoumatoc**	**0.71**	**305**	P	**Pb**	**14 23 29.3**	**-0.4**
JMST				S	**Sg**	**14 23 38.3**	**+0.3**
JMM	**Marumori**	**0.86**	**310**	P	**Pg**	**14 23 31.6**	**+0.1**
JMM				S	**Sg**	**14 23 42.4**	**-0.3**
JFFD	**Fukushimafurud**	**0.88**	**255**	P	**Pg**	**14 23 31.7**	**-0.1**
JFFD				S	**Sg**	**14 23 43.0**	**-0.3**
JHO	**Hitachi**	**1.10**	**230**	P	**Pb**	**14 23 35.3**	**-0.9**
JHO				S	**Sb**	**14 23 48.8**	**-1.9**
JIO	**Ouri**	**1.16**	**349**	P	**Pb**	**14 23 36.4**	**-0.9**
JIO				S

VNDA					IAmb	IAmb	14 38 22.2	
	comp=Z,3.8nm,1.2s							
WRA	**Warramunga Arr**	**36.23**	**48**	P	**P**		**14 38 26.8**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=210,slow=8.2,SNR=19							
WRA				PcP	**PcP**		**14 40 51.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=223,slow=2.5,SNR=2.0							
	comp=Z,1.6nm,0.7s							
WRA	**Warramunga Arr**	**36.23**	**48**	P	**P**		**14 38 26.5**	**+0.1**
WB2	**Warramunga Arr**	**36.24**	**48**	P	**P**		**14 38 26.6**	**+0.3**
WB2					IAmb	IAmb	14 38 36.9	
	comp=Z,3.8nm,0.9s							
WRAB	**Tennant Creek**	**36.25**	**48**	P	**P**		**14 38 26.8**	**+0.4**
WRAB					IAmb	IAmb	14 38 33.2	
	comp=Z,3.2nm,0.8s							
SNAA	**Sanae**	**50.24**	**203**	P	**P**		**14 40 19.5**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=124,slow=10,SNR=5.0							
	comp=Z,1.2nm,0.8s							
SNAA	**Sanae**	**50.24**	**203**	P	**P**		**14 40 18.9**	**0.0**
SNAA					IAmb	IAmb	14 40 32.0	
	comp=Z,4.6nm,1.3s							
BELA	**Belgrano 2**	**51.56**	**190**	P	**P**		**14 40 28.2**	**-0.5**
NVAR	**Mina Array Bea**	**146.26**	**90**	PKPbc	**PKiKP**		**14 51 06.1**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=267,slow=5.2,SNR=3.2							
TXAR	**Lajitas Array**	**149.83**	**119**	PKPbc	**PKiKP**		**14 51 14.3**	**0.0**
	comp=Z,0.2nm,0.6s,baz=224,slow=2.5,SNR=2.9							

NOU ***22*** *14:33:49.4, 42˚.48S × 173˚.76E, h5km, MLv3.7/8, South Island, New Zealand*
WEL ***22*** *14:33:51.0±0.4, 42˚S±3˚ × 17˚.4E±˚, h5km, M2.9/27, ML3.2/13, MLv2.9/27, Error ellipse: s-maj=0.0km s-min=0.0km az=124.5*

ISC 22 14:33:49.2±1.0, 42˚.42S±0˚.03 × 173˚.83E±0˚.04, h10km ± 6km, n53, σ0§95/56, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KHZ	**Kahutara**	**0.22**	**270**	P	**Pg**		**14 33 53.8**	**+0.1**
KHZ	**Kahutara**	**0.22**	**270**	P	**Pg**		**14 33 53.9**	**+0.3**
KHZ				S	**Sg**		**14 33 56.8**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.70**	**3**	P	**Pg**		**14 34 02.7**	**0.0**
BSWZ				S	**Sg**		**14 34 11.6**	**-0.3**
CMWZ	**Cape Campbell**	**0.72**	**23**	P	**Pn**		**14 34 06.2**	**+0.8**
GVZ	**Greta Valley S**	**0.81**	**227**	P	**Pn**		**14 34 07.2**	**+0.5**
GVZ				S	**Sn**		**14 34 19.9**	**+1.2**
THZ	**Tophouse**	**0.95**	**313**	P	**Pg**		**14 34 06.6**	**-0.8**
TWZ	**Tuamarina**	**0.99**	**5**	P	**Pg**		**14 34 08.1**	**-0.1**
AMCZ	**Amberley**	**1.16**	**228**	P	**Pg**		**14 34 11.9**	**+0.6**
LTZ	**Lake Taylor**	**1.21**	**252**	P	**Pg**		**14 34 12.6**	**+0.2**
NNZ	**Nelson**	**1.25**	**344**	P	**Pn**		**14 34 12.3**	**-0.3**
TCW	**Tory Channel**	**1.25**	**16**	P	**Pn**		**14 34 12.4**	**-0.3**
SNZO	**South Karori**	**1.28**	**31**	P	**Pb**		**14 34 13.1**	**-0.2**
MRNZ	**Matariki Terra**	**1.29**	**321**	P	**Pn**		**14 34 13.5**	**+0.2**
WEL	**Wellington**	**1.33**	**32**	P	**Pb**		**14 34 13.8**	**-0.4**
PLWZ	**Palliser**	**1.36**	**52**	P	**Pn**		**14 34 13.8**	**-0.4**
OKCZ	**Okains Bay**	**1.43**	**203**	P	**Pb**		**14 34 15.5**	**-0.3**
TKNZ	**Takaka Hill**	**1.53**	**334**	P	**Pn**		**14 34 17.0**	**+0.5**
MQZ	**McQueen's Vall**	**1.55**	**213**	P	**Pn**		**14 34 16.3**	**-0.5**
PAWZ	**Paruwai Farm**	**1.58**	**50**	P	**Pn**		**14 34 16.2**	**-1.0**
CAW	**Cannon Point**	**1.60**	**36**	P	**Pn**		**14 34 17.3**	**-0.2**
OXZ	**Oxford**	**1.60**	**235**	P	**Pn**		**14 34 17.2**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.60**	**205**	P	**Pn**		**14 34 17.8**	**+0.2**
DUWZ	**D'Urville Isla**	**1.61**	**2**	P	**Pn**		**14 34 17.7**	**0.0**
DSZ	**Denniston Nort**	**1.65**	**293**	P	**Pn**		**14 34 18.7**	**+0.4**
KIW	**Kapiti Island**	**1.75**	**28**	P	**Pn**		**14 34 19.7**	**+0.1**
MTW	**Mount Morrison**	**1.77**	**45**	P	**Pn**		**14 34 19.3**	**-0.5**
INZ	**Inchbonnie**	**1.79**	**259**	P	**Pn**		**14 34 20.6**	**+0.5**
RACZ	**Rakaia**	**1.81**	**223**	P	**Pn**		**14 34 20.1**	**-0.2**
QRZ	**Quartz Range**	**1.86**	**328**	P	**Pb**		**14 34 22.4**	**-0.9**
QRZ	**Quartz Range**	**1.86**	**328**	P	**Pn**		**14 34 22.2**	**+1.1**
OGWZ	**Otaki Gorge**	**1.89**	**33**	P	**Pn**		**14 34 21.1**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.97**	**40**	P	**Pn**		**14 34 22.5**	**-0.1**
WACZ	**Wakanui South**	**2.11**	**223**	P	**Pn**		**14 34 24.4**	**-0.2**
MRZ	**Mangatainoka R**	**2.19**	**37**	P	**Pn**		**14 34 25.0**	**-0.6**
WVZ	**Waitaha Valley**	**2.37**	**253**	P	**Pn**		**14 34 28.8**	**+0.7**
RPZ	**Rata Peaks**	**2.42**	**237**	P	**Pn**		**14 34 28.6**	**-0.1**
ARCZ	**Arundel**	**2.47**	**231**	P	**Pn**		**14 34 29.3**	**-0.3**
WAZ	**Wanganui**	**2.80**	**19**	P	**Pn**		**14 34 35.5**	**+1.5**
TMZ	**Timaru**	**2.85**	**225**	P	**Pn**		**14 34 34.6**	**-0.1**
KHEZ	**Kahui Hut**	**3.12**	**3**	P	**Pn**		**14 34 39.3**	**+0.8**
KHEZ	**Kahui Hut**	**3.12**	**3**	P	**Pb**		**14 34 42.1**	**-2.7**
NEZ	**North Egmont**	**3.13**	**4**	P	**Pn**		**14 34 44.6**	**-0.6**
VRZ	**Vera Road**	**3.36**	**12**	P	**Pn**		**14 34 43.3**	**+1.6**
WNVZ	**Wahianoa**	**3.36**	**24**	P	**Pn**		**14 34 42.9**	**+1.0**
ODZ	**Otahua Downs**	**3.50**	**220**	P	**Pn**		**14 34 43.6**	**0.0**
ODZ	**Otahua Downs**	**3.50**	**220**	P	**Pn**		**14 34 43.4**	**-0.2**
ETVZ	**East Tongariro**	**3.57**	**24**	P	**Pn**		**14 34 46.4**	**+1.7**
BKZ	**Black Stump Fm**	**3.82**	**33**	P	**Pn**		**14 34 51.3**	**+3.2**
HIZ	**Hauiti**	**3.98**	**12**	P	**Pn**		**14 34 52.4**	**+2.2**
HIZ	**Hauiti**	**3.98**	**12**	P	**Pn**		**14 34 51.7**	**+1.6**
JCZ	**Jackson Bay**	**4.04**	**244**	P	**Pn**		**14 34 50.0**	**-1.2**
AWAZ	**Awhitu Peninsu**	**5.38**	**7**	P	**Pn**		**14 35 10.7**	**+1.2**
MKAZ	**Moumakai**	**5.40**	**11**	P	**Pn**		**14 35 10.0**	**+0.3**

IDC 22 14:34:36.7±3.0, 0˚.31N × 28˚.76W, h0km, mb4.0/2, mbtmp4.0/2, MS3.9/10, Error ellipse: s-maj=275.5km s-min=32.9km az=160.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RCBR	**Riachuelo**	**9.38**	**229**	LR	LR		14 39 52.2	
	comp=Z,588nm,18.5s,baz=211,slow=34							
H10N3	**ASCENSION HYDR**	**16.36**	**120**	T	T		14 55 44.6	
	baz=300,slow=74,SNR=165							
H10N2	**ASCENSION HYDR**	**16.36**	**120**	T	T		14 55 50.3	
	baz=300,slow=74,SNR=168							
H10N1	**ASCENSION HYDR**	**16.38**	**120**	T	T		14 55 51.4	
	baz=300,slow=74,SNR=224							
H10S3	**ASCENSION HYDR**	**16.79**	**124**	T	T		14 56 24.8	
	baz=302,slow=74,SNR=119							
H10S2	**ASCENSION HYDR**	**16.80**	**124**	T	T		14 56 25.3	
	baz=278,slow=74,SNR=38							
BBTS	**Babate**	**18.70**	**40**	LR	LR		14 44 03.0	
	comp=Z,357nm,21.9s,baz=218,slow=30							
DBIC	**Dimbokro**	**24.67**	**75**	P	P		14 39 59.6	0.0
	7.3nm,1.0s,baz=257,slow=8.6,SNR=4.8							
	7.3nm,1.0s							
BDFB	**Brasilia**	**24.75**	**229**	LR	LR		14 48 54.1	
	comp=Z,259nm,21.7s,baz=44,slow=35							
SIV	**San Ignacio**	**35.77**	**242**	LR	LR		14 55 36.1	
	comp=Z,231nm,19.1s,baz=109,slow=35							
CPUP	**Villa Florida**	**38.20**	**224**	LR	LR		14 57 33.5	
	comp=Z,348nm,19.0s,baz=65,slow=36							
LPAZ	**La Paz**	**42.19**	**245**	P	P		14 42 32.3	-0.1
	0.4nm,0.3s,baz=68,slow=7.2,SNR=2.3							
LPAZ				LR	LR		14 59 32.2	
	comp=Z,84nm,18.9s,baz=16,slow=35							
	0.4nm,0.3s							
NOA	**NORSAR Array B**	**67.81**	**20**	LR	LR		15 11 02.2	
	comp=Z,61nm,20.0s,baz=100,slow=32							
ELK	**Elko**	**87.13**	**311**	LR	LR		15 23 22.2	
	comp=Z,80nm,18.7s,baz=7.0,slow=34							
NVAR	**Mina Array Bea**	**89.45**	**308**	LR	LR		15 24 44.2	
	comp=Z,67nm,19.4s,baz=14,slow=34							
YBH	**Yreka Blue Hor**	**92.75**	**312**	LR	LR		15 25 03.7	
	comp=Z,61nm,20.7s,baz=356,slow=33							
ASAR	**Alice Springs**	**151.32**	**145**	PKPbc	PKPbc		14 54 33.1	-0.3
	0.4nm,0.8s,baz=199,slow=2.3,SNR=4.0							

IDC ***22*** *14:39:59.0±13.0, 39˚.56S × 176˚.50E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=609.6km s-min=63.8km az=172.0*
WEL ***22*** *14:40:00.2±0.6, 40˚S±3˚ × 17˚.7E±˚, h14km±3km, M3.5/64, ML4.0/18, MLv3.5/64, Error ellipse: s-maj=0.0km s-min=0.0km az=119.9*

ISC 22 14:39:58.9±1.1, 40˚.34S±0˚.03 × 176˚.81E±0˚.04, h17km ± 6km, n101, σ1§08/110, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PRHZ	**Porangahau**	**0.16**	**298**	P	**Pg**		**14 40 03.3**	**+0.2**
PRHZ				S	**Sg**		**14 40 05.9**	**0.0**
ANWZ	**Angora Road**	**0.28**	**245**	P	**Pb**		**14 40 06.7**	**+1.2**
ANWZ				S	**Sb**		**14 40 12.1**	**+2.1**
PXZ	**Pawanui**	**0.31**	**7**	P	**Pb**		**14 40 06.8**	**+0.8**
PXZ				S	**Sb**		**14 40 12.3**	**+1.6**
WPHZ	**Waipukurau**	**0.40**	**314**	P	**Pb**		**14 40 07.3**	**-0.2**
WPHZ				S	**Sb**		**14 40 13.3**	**0.0**
DVHZ	**Dannevirke**	**0.50**	**275**	P	**Pb**		**14 40 09.3**	**+0.2**
DVHZ				S	**Sb**		**14 40 16.6**	**+0.5**
KAHZ	**Kahuranaki**	**0.55**	**5**	P	**Pb**		**14 40 11.4**	**+1.3**
KAHZ				S	**Sn**		**14 40 21.0**	**+0.3**
BFZ	**Birch Farm**	**0.55**	**232**	P	**Pb**		**14 40 11.6**	**+1.5**
BFZ				S	**Sb**		**14 40 20.3**	**+2.6**
PNHZ	**Pukenui**	**0.64**	**312**	P	**Pb**		**14 40 11.5**	**-0.1**
PNHZ				S	**Sb**		**14 40 20.3**	**+0.2**
PRWZ	**Pori Road**	**0.68**	**251**	P	**Pb**		**14 40 13.5**	**+1.2**
PRWZ				S	**Sn**		**14 40 24.4**	**+0.6**
CKHZ	**Cape Kidnapper**	**0.71**	**17**	P	**Pb**		**14 40 13.9**	**+1.2**
TSZ	**Takapari Road**	**0.71**	**293**	P	**Pb**		**14 40 12.7**	**-0.1**
CPWZ	**Castlepoint**	**0.73**	**219**	P	**Pb**		**14 40 15.6**	**+2.4**
POWZ	**Post Office Ro**	**0.80**	**266**	P	**Pb**		**14 40 15.0**	**+0.7**
TIWZ	**Tintock**	**0.83**	**238**	P	**Pg**		**14 40 15.6**	**+0.5**
MCHZ	**McNeill Hill**	**0.90**	**354**	P	**Pb**		**14 40 16.8**	**+0.8**
KWHZ	**Kaweka Forest**	**0.96**	**342**	P	**Pb**		**14 40 17.5**	**+0.4**
MRZ	**Mangatainoka R**	**0.99**	**251**	P	**Pb**		**14 40 17.4**	**-0.2**
BHHZ	**Black Hill Sta**	**1.03**	**326**	P	**Pb**		**14 40 17.8**	**-0.4**
TMWZ	**Te Maipa**	**1.04**	**222**	P	**Pb**		**14 40 18.5**	**+0.1**
ARHZ	**Aropaoanui**	**1.08**	**7**	P	**Pb**		**14 40 19.1**	**0.0**
HOWZ	**Holdsworth Sta**	**1.14**	**240**	P	**Pb**		**14 40 19.3**	**-0.8**
OHWZ	**Ohakea**	**1.16**	**276**	P	**Pg**		**14 40 21.0**	**-0.2**
BKZ	**Black Stump Fm**	**1.20**	**348**	P	**Pb**		**14 40 20.5**	**-0.7**
MOVZ	**Moawhango**	**1.24**	**318**	P	**Pb**		**14 40 21.4**	**-0.4**
NMHZ	**Naumai**	**1.24**	**360**	P	**Pn**		**14 40 21.7**	**+0.2**
MTW	**Mount Morrison**	**1.29**	**230**	P	**Pn**		**14 40 21.0**	**-1.1**
WHHZ	**Waihua**	**1.30**	**15**	P	**Pn**		**14 40 23.6**	**+1.3**
OGWZ	**Otaki Gorge**	**1.34**	**249**	P	**Pn**		**14 40 22.1**	**-0.6**
WNVZ	**Wahianoa**	**1.38**	**317**	P	**Pn**		**14 40 23.9**	**+0.5**
TUVZ	**Tukino**	**1.40**	**320**	P	**Pb**		**14 40 24.5**	**0.0**
MTVZ	**Mangateitei**	**1.41**	**312**	P	**Pb**		**14 40 24.5**	**-0.2**
WHVZ	**Whangaehu Hut**	**1.42**	**318**	P	**Pb**		**14 40 24.8**	**-0.2**
TRVZ	**Turoa**	**1.43**	**316**	P	**Pb**		**14 40 25.3**	**+0.1**
DRZ	**Dome Shelter**	**1.44**	**317**	P	**Pb**		**14 40 25.3**	**+0.3**
RAHZ	**Arahi**	**1.44**	**8**	P	**Pn**		**14 40 23.9**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.46**	**36**	P	**Pn**		**14 40 23.9**	**-0.5**
FWVZ	**Far West T-bar**	**1.46**	**318**	P	**Pb**		**14 40 25.6**	**0.0**
SNVZ	**South Ngauruho**	**1.47**	**321**	P	**Pb**		**14 40 25.8**	**+0.1**
OTVZ	**Oturere**	**1.47**	**323**	P	**Pb**		**14 40 26.1**	**+0.2**
ETVZ	**East Tongariro**	**1.47**	**324**	P	**Pn**		**14 40 25.3**	**+0.6**
PAWZ	**Paruwai Farm**	**1.48**	**225**	P	**Pn**		**14 40 24.0**	**-0.7**
MTHZ	**Maungataniwha**	**1.49**	**1**	P	**Pn**		**14 40 24.7**	**-0.1**
NGZ	**Ngauruhoe**	**1.49**	**321**	P	**Pn**		**14 40 25.7**	**+0.7**
TMVZ	**Te Maari**	**1.49**	**325**	P	**Pn**		**14 40 25.5**	**+0.6**
NTVZ	**North Tongarir**	**1.52**	**324**	P	**Pb**		**14 40 26.6**	**-0.1**
NNVZ	**North Ngauruho**	**1.52**	**322**	P	**Pb**		**14 40 26.6**	**-0.1**
WAZ	**Wanganui**	**1.52**	**292**	P	**Pn**		**14 40 26.2**	**+0.9**
CAW	**Cannon Point**	**1.53**	**239**	P	**Pn**		**14 40 24.5**	**-1.0**
MRHZ	**Matea Rd**	**1.54**	**348**	P	**Pn**		**14 40 25.7**	**+0.2**
KRVZ	**Karewarewa**	**1.54**	**324**	P	**Pb**		**14 40 27.3**	**+0.4**
KIW	**Kapiti Island**	**1.54**	**250**	P	**Pn**		**14 40 24.9**	**-0.6**
PKVZ	**Pokaka**	**1.54**	**312**	P	**Pb**		**14 40 26.8**	**-0.2**
SNGZ	**Shannon Statio**	**1.61**	**15**	P	**Pn**		**14 40 26.2**	**-0.3**
KATZ	**Kakaramea**	**1.61**	**327**	P	**Pg**		**14 40 30.5**	**+0.5**
TWVZ	**Taurewa**	**1.65**	**320**	P	**Pb**		**14 40 28.5**	**-0.4**
RATZ	**Rangitukua**	**1.68**	**331**	P	**Pg**		**14 40 30.2**	**-1.0**
PLWZ	**Palliser**	**1.70**	**223**	P	**Pn**		**14 40 26.7**	**-1.1**
RTZ	**Ruatahuna**	**1.73**	**4**	P	**Pn**		**14 40 27.8**	**-0.4**
RIGZ	**Rimuhau**	**1.79**	**24**	P	**Pn**		**14 40 28.1**	**-0.9**
WHTZ	**Whakaora**	**1.80**	**338**	P	**Pg**		**14 40 32.7**	**-0.8**
ALRZ	**Allen Road**	**1.81**	**348**	P	**Pb**		**14 40 32.0**	**+0.4**
WEL	**Wellington**	**1.82**	**238**	P	**Pn**		**14 40 28.1**	**-1.2**
MUGZ	**Murupara**	**1.86**	**359**	P	**Pn**		**14 40 30.1**	**+0.2**
HRRZ	**Handcock Road**	**1.99**	**348**	P	**Pg**		**14 40 36.0**	**-1.1**
VRZ	**Vera Road**	**2.00**	**307**	P	**Pn**		**14 40 33.3**	**+1.6**
LREZ	**Lake Rotokare**	**2.05**	**295**	P	**Pb**		**14 40 36.6**	**+0.9**
TKGZ	**Te Karaka**	**2.06**	**23**	P	**Pn**		**14 40 31.6**	**-1.1**
MWZ	**Matawai**	**2.08**	**16**	P	**Pn**		**14 40 31.9**	**-1.1**
URZ	**Urewera**	**2.09**	**6**	P	**Pn**		**14 40 32.2**	**-0.9**
TCW	**Tory Channel**	**2.11**	**245**	P	**Pn**		**14 40 32.0**	**-1.4**
TARZ	**Mount Tarawera**	**2.12**	**353**	P	**Pn**		**14 40 33.5**	**0.0**
TLZ	**Tolley Road**	**2.24**	**333**	P	**Pn**		**14 40 38.5**	**-0.4**
DUWZ	**D'Urville Isla**	**2.25**	**257**	P	**Pn**		**14 40 35.0**	**-0.4**
MHEZ	**Mangahewa**	**2.30**	**303**	P	**Pb**		**14 40 40.9**	**+1.1**
DREZ	**Durham Road**	**2.32**	**299**	P	**Pb**		**14 40 40.2**	**-0.1**
NEZ	**North Egmont**	**2.35**	**296**	P	**Pb**		**14 40 39.6**	**-1.2**
HIZ	**Hauiti**	**2.37**	**320**	P	**Pb**		**14 40 39.7**	**-1.4**
KHEZ	**Kahui Hut**	**2.40**	**295**	P	**Pb**		**14 40 40.2**	**-1.4**
TUWZ	**Tuamarina**	**2.43**	**243**	P	**Pn**		**14 40 36.0**	**-1.8**
NMEZ	**Namu Road**	**2.44**	**291**	P	**Pb**		**14 40 42.5**	**+0.2**
PKE	**Pukeiti**	**2.46**	**297**	P	**Pg**		**14 40 45.0**	**-1.1**
RUGZ	**Raukumara Rang**	**2.46**	**16**	P	**Pn**		**14 40 37.3**	**-1.1**
NBEZ	**Newall Road No**	**2.51**	**294**	P	**Pb**		**14 40 43.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**2.61**	**237**	P	**Pn**		**14 40 38.5**	**-1.8**
HAZ	**Te Kaha**	**2.69**	**17**	P	**Pn**		**14 40 40.2**	**-1.1**
TOZ	**Tahuroa Road**	**2.80**	**338**	P	**Pb**		**14 40 47.2**	**-1.2**
WMGZ	**Waiomatatini S**	**2.81**	**27**	P	**Pn**		**14 40 41.3**	**-1.7**
TKNZ	**Takaka Hill**	**3.01**	**255**	P	**Pn**		**14 40 45.3**	**-0.5**
MRNZ	**Matariki Terra**	**3.25**	**250**	P	**Pn**		**14 40 48.5**	**-0.5**
THZ	**Tophouse**	**3.28**	**243**	P	**Pn**		**14 40 47.4**	**-2.1**
QRZ	**Quartz Range**	**3.30**	**260**	P	**Pn**		**14 40 48.4**	**-1.3**
MKAZ	**Moumakai**	**3.48**	**338**	P	**Pn**		**14 40 54.2**	**+2.0**
MBAZ	**Motutapu North**	**3.87**	**337**	P	**Pn**		**14 40 59.9**	**+2.3**
DSZ	**Denniston Nort**	**4.04**	**248**	P	**Pn**		**14 40 58.0**	**-1.9**
MQZ	**McQueen's Vall**	**4.57**	**221**	P	**Pn**		**14 41 04.9**	**-2.3**
INZ	**Inchbonnie**	**4.68**	**238**	P	**Pn**		**14 41 05.9**	**-2.8**
TMZ	**Timaru**	**5.90**	**225**	P	**Pn**		**14 41 22.8**	**-2.6**
CTZ	**Chatham Island**	**5.95**	**127**	P	**Pn**		**14 41 27.2**	**+1.1**
ASAR	**Alice Springs**	**39.59**	**282**	P	**P**		**14 47 28.7**	**-0.7**
	0.4nm,0.7s,baz=129,slow=9.7,SNR=12							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**41.50**	**287**	P	**P**		**14 47 44.3**	**-0.9**
	0.3nm,0.3s,baz=125,slow=8.2,SNR=23							
	0.3nm,0.3s							
ARCES	**ARCESS Array B**	**147.08**	**342**	PKPbc	**PKPdf**		**14 59 39.5**	**+2.0**
	3.8nm,1.0s,baz=15,slow=4.7,SNR=3.5							

KRNET ***22*** *14:41:36.8±0.1, 42˚.30N × 70˚.25E, mb2.6*
SOME ***22*** *14:41:36.8, 44˚.03N × 70˚.82E, h15km*

ISC 22 14:41:38.0±1.6, 42˚.34N±0˚.06 × 70˚.41E±0˚.09, h10km, n6, σ1§96/11, 6C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KK31	**Karatay Array**	**0.77**	**6**	⇓P	**Pn**		**14 41 53.9**	**-1.0**
	0.2nm,0.2s,baz=193,slow=18,SNR=31							
KK31				⇓S	**Sb**		**14 42 04.6**	**+0.6**
	1.2nm,0.3s,baz=194,slow=28							
KKAR	**Karatay Array**	**0.77**	**6**	⇑*i*P	**Pg**		**14 41 53.0**	**+0.2**
	baz=14							
KKAR				⇑*i*S	**Sb**		**14 42 04.6**	**+0.6**
	baz=14							
TRKS	**Terek-Say**	**0.97**	**146**	⇑*i*P	**Pn**		**14 41 57.6**	**-0.3**
	baz=40							
TRKS				⇑*i*S	**Sn**		**14 42 13.0**	**+1.2**
	baz=40							
MRKS	**Merke**	**2.12**	**78**	*e*P	**Pb**		**14 42 18.1**	**+1.5**
	1.8nm,0.3s							
MRKS				*e*S	**Sg**		**14 42 48.9**	**+2.8**
	8.6nm,0.2s							
ARLS	**Aral**	**2.95**	**98**	⇑*i*P	**Pb**		**14 42 28.9**	**-1.8**
	baz=97							
ARLS				⇑*i*S	**Sb**		**14 43 06.8**	**-0.1**
	baz=97							
SGDS	**Sogindy**	**3.29**	**69**	*e*P	**Pn**		**14 42 25.9**	**-3.7**
	0.8nm,0.2s							
SGDS				*e*S	Sn		14 43 01.9	-7.1
	3.2nm,1.0s							

IDC ***22*** *15:04:50.1±0.9, 37˚.23N × 141˚.43E, h0km, mb3.9/11, mbtmp3.9/13, ML3.5/2, Error ellipse: s-maj=24.9km s-min=18.2km az=83.0*
NEIC ***22*** *15:04:51.5±1.4, 37˚.27N±0˚.04 × 141˚.53E±0˚.07, h10km±1km, mb4.8/15, Error ellipse: s-maj=10.5km s-min=4.0km az=61.0*
NIED ***22*** *15:04:53.1, 37˚.23N × 141˚.38E, h33km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=4.40; Mθθ=2.98; Mφφ 1.42; Mrθ -1.12; Mθφ=2.67; Mφr=2.00; Fault plane solution: M₀5.23000×10¹⁴ NP1: φs=245.00000°, δ34.00000°, λ-70.00000°. NP2:φs=42.00000°, δ58.00000°, λ-103.00000°.*
JMA ***22*** *15:04:53.1±0.2, 37˚.2N±0˚.3 × 141˚.4E±0˚.9, h33km±1km, MV3.8/36, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 22 15:04:53.1±1.7, 37˚.23N±0˚.04 × 141˚.39E±0˚.08, h22km±11km, n65, σ1§18/65, mb4.4/20, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC

JFK	**Kawauchi**	**0.43**	**289**	P		**Pb**	**15 05 02.2**	**0.0**
JFK				*e*S		**Sb**	**15 05 08.6**	**+0.3**
JMST	**Minamisoumatoc**	**0.64**	**321**	P		**Pn**	**15 05 05.2**	**-1.6**
JMST				S		**Sb**	**15 05 14.0**	**-0.1**
JFFD	**Fukushimafurud**	**0.68**	**259**	⇓P		**Pn**	**15 05 06.0**	**-1.4**
JFFD				⇓S		**Sb**	**15 05 15.0**	**-0.2**
JMM	**Marumori**	**0.79**	**324**			**Pn**	**15 05 07.5**	**-1.5**
JMM						**Sn**	**15 05 17.1**	**-3.0**
JMM	**Marumori**	**0.79**	**324**	P		**Pn**	**15 05 07.6**	**-1.3**
JHO	**Hitachi**	**0.90**	**227**	P		**Pn**	**15 05 09.1**	**-1.3**
JHO				S		**Sn**	**15 05 20.2**	**-2.5**
JSB	**Shiboa**	**1.20**	**258**	P		**Pb**	**15 05 15.2**	**-0.1**
JSB				S		**Sb**	**15 05 31.6**	**+1.2**
JIO	**Ouri**	**1.23**	**359**	P		**Pn**	**15 05 14.5**	**-0.4**
JIO				S		**Sn**	**15 05 29.9**	**-0.9**
JSD	**Sado**	**2.61**	**289**			**Pn**	**15 05 35.1**	**+1.2**
JSD	**Sado**	**2.61**	**289**	P		**Pn**	**15 05 35.7**	**+1.7**
MJAR	**Matsushiro Arr**	**2.64**	**256**	Pn		**Pn**	**15 05 35.5**	**+1.1**
	2.9nm,0.3s,baz=77,slow=16,SNR=71							
	11nm,0.3s							
MAJO	**Matsushiro**	**2.64**	**256**			**Pn**	**15 05 35.6**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.64**	**256**			**Pn**	**15 05 36.5**	**+2.1**
JTM	**Tenmabayashi**	**3.56**	**356**	Pn		**Pn**	**15 05 48.0**	**+0.9**
JGF	**Kuroka**	**3.63**	**245**			**Pn**	**15 05 50.0**	**+1.9**
JGF	**Kuroka**	**3.63**	**245**	P		**Pn**	**15 05 50.2**	**+2.1**
INU	**Inuyama**	**4.00**	**243**			**Pn**	**15 05 55.0**	**+1.9**
INU	**Inuyama**	**4.00**	**243**	P		**Pn**	**15 05 55.3**	**+2.3**
JHJ2	**Mitsune**	**4.30**	**198**	Pn		**Pn**	**15 05 57.4**	**+0.2**
JHJ2	**Mitsune**	**4.30**	**198**	P		**Pn**	**15 05 58.7**	**+1.5**
JHJ	**Hachijo jima 2**	**4.30**	**198**	Pn		**Pn**	**15 05 57.7**	**+0.5**
	22nm,0.3s,baz=335,slow=19,SNR=13							
JHJ						Sn	**Sn**	**15 06 45.4**	**-1.4**
	45nm,0.3s,baz=85,slow=23,SNR=7.4							
	94nm,0.5s							
ERM	**Erimo**	**4.97**	**15**	Pn		**Pn**	**15 06 06.7**	**+0.3**
ERM	**Erimo**	**4.97**	**15**	P		Pb	15 06 14.2	-5.2

HOWZ	Holdsworth Sta	1.13	238	P		Pb	15 11 16.9	-1.4
BKZ	Black Stump Fm	1.17	349	P		Pb	15 11 18.2	-0.7
BKZ	Black Stump Fm	1.17	349	P		Pb	15 11 18.1	-0.8
MOVZ	Moawhango	1.20	318	P		Pb	15 11 19.1	-0.4
NMHZ	Naumai	1.21	1	P		Pb	15 11 19.2	-0.5
MTW	Mount Morrison	1.29	229	P		Pn	15 11 18.9	-1.9
OGWZ	Otaki Gorge	1.33	247	P		Pn	15 11 19.8	-1.5
WNVZ	Wahianoa	1.34	317	P		Pg	15 11 22.1	-0.3
TUVZ	Tukino	1.36	320	P		Pb	15 11 22.2	0.0
MTVZ	Mangateitei	1.37	312	P		Pb	15 11 22.5	+0.1
WHVZ	Whangaehu Hut	1.38	318	P		Pb	15 11 22.7	+0.1
TRVZ	Turoa	1.39	316	P		Pb	15 11 22.9	+0.1
DRZ	Dome Shelter	1.40	317	P		Pg	15 11 24.1	+0.6
RAHZ	Arahi	1.41	10	P		Pn	15 11 21.4	-1.1
FWVZ	Far West T-bar	1.42	318	P		Pb	15 11 23.2	-0.1
SNVZ	South Ngauruho	1.43	322	P		Pg	15 11 23.8	-0.3
OTVZ	Oturere	1.43	323	P		Pg	15 11 23.8	-0.4
ETVZ	East Tongariro	1.43	325	P		Pb	15 11 23.5	-0.1
MHGZ	Mahia Peninsul	1.45	37	P		Pn	15 11 21.7	-1.2
NGZ	Ngauruhoe	1.45	321	P		Pb	15 11 23.9	0.0
TMVZ	Te Maari	1.45	325	P		Pb	15 11 23.7	-0.2
MTHZ	Maungataniwha	1.46	2	P		Pn	15 11 22.2	-0.9
NTVZ	North Tongarir	1.48	324	P		Pb	15 11 24.5	+0.1
NNVZ	North Ngauruho	1.48	322	P		Pb	15 11 24.5	+0.1
WAZ	Wanganui	1.49	291	P		Pb	15 11 24.4	+0.1
KRVZ	Karewarewa	1.50	324	P		Pg	15 11 25.5	0.0
MRHZ	Matea Rd	1.50	349	P		Pn	15 11 23.5	-0.2
PKVZ	Pokaka	1.50	312	P		Pb	15 11 24.7	0.0
CAW	Cannon Point	1.53	238	P		Pn	15 11 22.2	-1.8
KIW	Kapiti Island	1.53	248	P		Pn	15 11 23.0	-1.1
SNGZ	Shannon Statio	1.59	16	P		Pn	15 11 23.9	-0.9
TWVZ	Taurewa	1.61	320	P		Pb	15 11 26.4	-0.2
RATZ	Rangitukua	1.64	331	P		Pg	15 11 28.1	0.0
RTZ	Ruatahuna	1.70	5	P		Pn	15 11 25.3	-1.2
MUGZ	Murupara	1.83	360	P		Pn	15 11 27.6	-0.7
VRZ	Vera Road	1.96	307	P		Pb	15 11 32.3	-0.1
LREZ	Lake Rotokare	2.02	294	P		Pg	15 11 34.4	-0.9
MWZ	Matawai	2.06	17	P		Pn	15 11 29.6	-1.7
URZ	Urewera	2.06	7	P		Pn	15 11 30.4	-1.0
URZ	Urewera	2.06	7	P		Pn	15 11 29.9	-1.5
TCW	Tory Channel	2.10	244	P		Pn	15 11 30.0	-1.9
TLZ	Tolley Road	2.20	334	P		Pb	15 11 36.0	-0.6
DUWZ	D'Urville Isla	2.23	256	P		Pb	15 11 37.1	-0.1
NEZ	North Egmont	2.31	296	P		Pg	15 11 39.6	-1.4
HIZ	Hauiti	2.33	320	P		Pb	15 11 39.6	+0.7
TUWZ	Tuamarina	2.42	242	P		Pn	15 11 34.7	-1.7
RUGZ	Raukumara Rang	2.44	17	P		Pn	15 11 35.1	-1.6
HAZ	Te Kaha	2.67	17	P		Pn	15 11 38.4	-1.2
WMGZ	Waiomatatini S	2.79	28	P		Pn	15 11 38.0	-3.4
TKNZ	Takaka Hill	2.99	255	P		Pn	15 11 42.4	-1.8
KHZ	Kahutara	3.22	228	P		Pn	15 11 49.0	+1.7

WEL 22 15:11:08.7±0.4, 43°S±3°×17°3E±°, h6km±2km, M2.6/16, ML2.8/13, MLv2.6/16, Error ellipse: s-maj=0.0km s-min=0.0km az=138.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.07**	**113**	P	Pg	15 11 10.4	0.0
GVZ				S	Sg	15 11 12.3	+0.6
AMCZ	**Amberley**	**0.32**	**222**	P	Pb	15 11 16.0	-0.8
AMCZ				S	Sb	15 11 22.1	-0.2
LTZ	**Lake Taylor**	**0.52**	**287**	P	Pg	15 11 19.0	+0.3
LTZ				S	Sb	15 11 26.7	-1.3
KHZ	**Kahutara**	**0.68**	**40**	P	Pb	15 11 22.6	-0.4
OXZ	**Oxford**	**0.77**	**239**	P	Pb	15 11 24.3	-0.1
OKCZ	**Okains Bay**	**0.79**	**174**	P	Pb	15 11 24.5	-0.4
MQZ	**McQueen's Vall**	**0.80**	**195**	P	Pg	15 11 23.9	0.0
AKCZ	**Akaroa Harbour**	**0.93**	**181**	P	Pg	15 11 26.4	-0.2
RACZ	**Rakaia**	**0.98**	**216**	P	Pg	15 11 27.6	+0.1
INZ	**Inchbonnie**	**1.12**	**280**	P	Pb	15 11 30.5	0.0
THZ	**Tophouse**	**1.18**	**359**	P	Pg	15 11 30.9	-0.3
WACZ	**Wakanui South**	**1.28**	**218**	P	Pn	15 11 31.4	-1.8
BSWZ	**Blackbirch Sta**	**1.41**	**30**	P	Pn	15 11 34.4	-0.5
DSZ	**Denniston Nort**	**1.46**	**324**	P	Pn	15 11 35.3	-0.3
RPZ	**Rata Peaks**	**1.58**	**240**	P	Pn	15 11 36.0	-1.3
RPZ	**Rata Peaks**	**1.58**	**240**	P	Pn	15 11 36.2	-1.0
WVZ	**Waitaha Valley**	**1.62**	**264**	P	Pn	15 11 37.5	-0.3
ARCZ	**Arundel**	**1.63**	**231**	P	Pn	15 11 36.4	-1.6
TMZ	**Timaru**	**2.01**	**224**	P	Pn	15 11 42.0	-1.3
FOZ	**Fox Glacier**	**2.36**	**254**	P	Pn	15 11 48.4	+0.5
ODZ	**Otahua Downs**	**2.68**	**217**	P	Pn	15 11 50.4	-2.0
ODZ	**Otahua Downs**	**2.68**	**217**	P	Pn	15 11 50.6	-1.7
DVHZ	**Dannevirke**	**3.58**	**44**	P	Pb	15 12 10.0	-2.4
ANWZ	**Angora Road**	**3.62**	**48**	P	Pn	15 12 07.2	+1.9
TSZ	**Takapari Road**	**3.66**	**39**	P	Pb	15 12 13.3	-0.6
PNHZ	**Pukenui**	**3.89**	**40**	P	Pn	15 12 11.9	+2.9
WPHZ	**Waipukurau**	**3.89**	**44**	P	Pn	15 12 07.8	-1.3
BHHZ	**Black Hill Sta**	**4.17**	**35**	P	Pb	15 12 18.4	-4.2

*IDC **22** 15:15:18.1±0.6, 44°11S×38°47E, h0km, mb4.4/13, mbtmp4.5/15, ML4.4/2, MS4.2/37, Error ellipse: s-maj=22.0km s-min=14.8km az=52.0*

*NEIC **22** 15:15:19.6±1.6, 44°15S±0°07×38°3E±0°2, h10km±1km, mb4.7/24, Error ellipse: s-maj=23.8km s-min=11.9km az=82.0*

*GCMT **22** 15:15:22.6±0.3, 44°16S±0°02×38°35E±0°03, h13km±1km, MW5.0/92, Moment Tensor Solution. s16,c21; s92,c119; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.73±.22; Mθθ=2.34±.16; Mϕϕ=-0.60±.14; Mrθ=1.01±.34; Mrϕ=2.52±.12; Mθϕ=-1.86±.50; Best double couple: M=3.89 ×10^16 NP1: ϕs=24.0000°, δ=62.0000°, λ=-146.0000°. NP2: ϕs=276.0000°, δ=61.0000°, λ=-33.0000°. Principal axes: T 3.7870, Plg1.0000°, Azm150.0000°; N 0.2320, Plg47.0000°, Azm59.0000°; P -4.0120, Plg43.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 15:15:19.5±0.5, 44°08S±0°09×38°4E±0°1, h10km, n85, σ0°87/52, mb4.7/19, MS4.3/40, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**17.54**	**340**	Pn	**Pn**	**15 19 23.5**	**-0.7**
POGA				IAmb	IAmb	15 20 05.7	
	comp=Z,59nm,1.4s						
SUR	**Sutherland**	**18.05**	**304**	P	**Pn**	**15 19 29.2**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=133,slow=16,SNR=12						
SUR				LR	LR	15 25 17.3	
	comp=Z,839nm,18.1s,baz=116,slow=33						
	comp=Z,8.4nm,0.7s						
SUR	**Sutherland**	**18.05**	**304**		**Pn**	**15 19 29.1**	**-1.4**
BOSA	**Boshof**	**18.67**	**321**	P	**P**	**15 19 38.0**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=155,slow=12,SNR=21						
BOSA				LR	LR	15 25 23.1	
	comp=Z,1μm,21.0s,baz=141,slow=32						
	comp=Z,24nm,0.9s						
BOSA	**Boshof**	**18.67**	**321**		**P**	**15 19 36.6**	**-1.2**
BOSA				IAmb	IAmb	15 19 41.2	
	comp=Z,50nm,1.1s						
LBTB	**Lobatse**	**21.69**	**327**	P	**P**	**15 20 10.8**	**+0.1**
	comp=Z,34nm,0.6s,baz=154,slow=10,SNR=45						
LBTB				LR	LR	15 27 15.9	
	comp=Z,889nm,20.9s,baz=136,slow=33						
	comp=Z,34nm,0.6s						
LBTB	**Lobatse**	**21.69**	**327**	P	**P**	**15 20 10.5**	**-0.2**
OPO	**Ambohidratompo**	**26.48**	**19**	LR	LR	15 29 50.6	
	comp=Z,308nm,18.6s,baz=344,slow=33						
MAW	**Mawson**	**26.92**	**159**	LR	LR	15 28 53.7	
	comp=Z,678nm,21.6s,baz=330,slow=30						
LSZ	**Lusaka**	**29.99**	**340**	LR	LR	15 31 55.2	
	comp=Z,638nm,21.6s,baz=160,slow=33						
LSZ	**Lusaka**	**29.99**	**340**	P	**P**	**15 21 28.1**	**-0.3**
LSZ				IAmb	IAmb	15 21 33.0	
	comp=Z,12nm,0.9s						
TSUM	**Tsumeb**	**30.31**	**318**	P	**P**	**15 21 31.2**	**0.0**
	comp=Z,20nm,1.1s,baz=146,slow=7.9,SNR=11						
TSUM				LR	LR	15 32 45.9	
	comp=Z,944nm,19.6s,baz=152,slow=34						
	comp=Z,20nm,1.1s						
TSUM	**Tsumeb**	**30.31**	**318**	P	**P**	**15 21 30.9**	**-0.3**
TROLL	**Troll, Antarti**	**32.82**	**200**	P	**P**	**15 21 52.8**	**0.0**
TROLL	**Troll, Antarti**	**32.82**	**200**	PcP	**PcP**	**15 24 39.7**	**+2.2**
SNAA	**Sanae**	**34.00**	**202**	P	**P**	**15 22 03.1**	**+0.1**
SNAA	**Sanae**	**34.00**	**202**	P	**P**	**15 22 02.6**	**-0.4**
	comp=Z,5.1nm,1.1s,baz=61,slow=8.7,SNR=7.1						
	comp=Z,5.1nm,1.1s						
SNAA	**Sanae**	**34.00**	**202**	P	**P**	**15 22 01.9**	**-1.2**
SNAA				IAmb	IAmb	15 22 09.7	
	comp=Z,8.2nm,1.0s						
VNA2	**Neumayer--Watz**	**34.93**	**204**	P	**P**	**15 22 11.1**	**+0.1**
	baz=50,slow=8.7						
VNA2	**Neumayer--Watz**	**34.93**	**204**	PcP	**PcP**	**15 24 45.1**	**+1.8**
	baz=20,slow=4.0						
VNA1	**Neumayer--Stat**	**35.07**	**205**	P	**P**	**15 22 12.4**	**+0.2**
VNA1	**Neumayer--Stat**	**35.07**	**205**	PcP	**PcP**	**15 24 42.2**	**-1.4**
VNA3	**Neumayer Olymp**	**35.73**	**204**	P	**P**	**15 22 17.6**	**-0.3**
VNA3	**Neumayer Olymp**	**35.73**	**204**	PcP	**PcP**	**15 24 46.4**	**+0.8**
KMBO	**Kilima Mbogo**	**42.78**	**358**	LR	LR	15 39 02.0	
	comp=Z,525nm,20.0s,baz=100,slow=33						
MBAR	**Mbarara**	**43.82**	**349**	LR	LR	15 41 18.6	
	comp=Z,811nm,18.3s,baz=154,slow=36						
QSPA	**South Pole Qui**	**46.14**	**180**	P	**P**	**15 23 42.4**	**-1.4**
	comp=Z,7.2nm,0.9s,baz=246,slow=2.5,SNR=22						
QSPA				LR	LR	15 41 04.7	
	comp=Z,254nm,21.4s,baz=252,slow=34						
	comp=Z,7.2nm,0.9s						
QSPA	**South Pole Qui**	**46.14**	**180**	P	**P**	**15 23 41.8**	**-2.0**
QSPA				IAmb	IAmb	15 23 45.1	
	comp=Z,7.9nm,0.9s						
VNDA	**Vanda**	**53.83**	**167**	P	**P**	**15 24 41.5**	**-0.4**
	comp=Z,3.3nm,1.0s,baz=240,slow=9.9,SNR=14						
VNDA				LR	LR	15 46 16.4	
	comp=Z,360nm,18.7s,baz=222,slow=35						
	comp=Z,3.3nm,1.0s						
VNDA	**Vanda**	**53.83**	**167**	P	**P**	**15 24 41.6**	**-0.3**
SBA	**Scott Base**	**54.36**	**168**	P	**P**	**15 24 45.4**	**-0.3**
ATD	**Arta Tunnel**	**55.49**	**5**	LR	LR	15 45 13.3	
	comp=Z,82nm,21.3s,baz=208,slow=32						
H10S2	**ASCENSION HYDR**	**57.63**	**291**	T	T	16 27 06.2	
	baz=135,slow=74,SNR=45						
H10S3	**ASCENSION HYDR**	**57.65**	**291**	T	T	16 27 07.4	
	baz=85,slow=74,SNR=134						
PALK	**Pallekele**	**63.79**	**48**	LR	LR	15 48 13.0	
	comp=Z,76nm,18.4s,baz=321,slow=31						
DBIC	**Dimbokro**	**63.80**	**311**	P	**P**	**15 25 52.3**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=170,slow=6.2,SNR=4.4						
DBIC				LR	LR	15 49 51.6	
	comp=Z,206nm,21.3s,baz=178,slow=32						
	comp=Z,5.1nm,0.9s						
DBIC	**Dimbokro**	**63.80**	**311**	P	**P**	**15 25 52.1**	**+0.2**
DBIC				IAmb	IAmb	15 25 59.3	
	comp=Z,7.6nm,0.9s						
LEM	**Lembang**	**70.38**	**80**	LR	LR	15 50 35.0	
	comp=Z,84nm,21.6s,baz=250,slow=30						
TRQA	**Tornquist**	**71.15**	**235**	P	**P**	**15 26 38.0**	**-0.3**
TRQA				IAmb	IAmb	15 26 40.5	
	comp=Z,11nm,1.1s						
ITQB	**Itaqui**	**73.35**	**245**	P	**P**	**15 26 51.8**	**+0.3**
PLCA	**Paso Flores**	**74.17**	**228**	P	**P**	**15 26 57.0**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=142,slow=5.9,SNR=5.7						
	comp=Z,3.6nm,1.0s						
RCBR	**Riachuelo**	**74.69**	**277**	LR	LR	15 53 20.8	
	comp=Z,184nm,19.2s,baz=304,slow=30						
CPUP	**Villa Florida**	**76.04**	**247**	P	**P**	**15 27 08.3**	**+1.1**
	comp=Z,4.9nm,0.8s,baz=125,slow=6.7,SNR=11						
CPUP				LR	LR	15 55 17.4	
	comp=Z,194nm,19.8s,baz=71,slow=32						
	comp=Z,4.9nm,0.8s						
CPUP	**Villa Florida**	**76.04**	**247**	P	**P**	**15 27 07.8**	**+0.7**
CPUP				IAmb	IAmb	15 27 09.8	
	comp=Z,7.4nm,1.0s						
MMAI	**Mount Meron Ar**	**76.77**	**357**	LR	LR	15 58 32.5	
	comp=Z,115nm,21.4s,baz=53,slow=34						
BBTS	**Babate**	**76.91**	**306**	LR	LR	15 58 02.8	
	comp=Z,131nm,20.3s,baz=164,slow=33						
STKA	**Stephens Creek**	**77.04**	**122**	P	**P**	**15 27 12.4**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=263,slow=5.9,SNR=7.4						
	comp=Z,3.7nm,0.8s						
STKA	**Stephens Creek**	**77.04**	**122**	P	**P**	**15 27 12.0**	**-0.8**
ASAR	**Alice Springs**	**77.69**	**111**	P	**P**	**15 27 16.4**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=222,slow=3.9,SNR=22						
ASAR				LR	LR	15 55 42.7	
	comp=Z,189nm,19.9s,baz=232,slow=31						
	comp=Z,2.9nm,0.8s						
ASAR	**Alice Springs**	**77.69**	**111**	P	**P**	**15 27 15.4**	**-1.2**
AS31	**Alice Springs**	**77.69**	**111**	P	**P**	**15 27 16.1**	**-0.5**
CAN	**Canberra**	**78.95**	**129**	P	**P**	**15 27 24.9**	**+1.4**
IDI	**Anoyia**	**79.94**	**349**	LR	LR	16 06 18.1	
	comp=Z,124nm,18.3s,baz=170,slow=38						
WRA	**Warramunga Arr**	**80.51**	**108**	P	**P**	**15 27 31.9**	**-0.2**
	comp=Z,3.3nm,1.1s,baz=213,slow=4.1,SNR=9.8						
WRA				LR	LR	15 57 54.5	
	comp=Z,257nm,19.0s,baz=215,slow=32						
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**80.51**	**108**	P	**P**	**15 27 31.8**	**-0.2**
WB2	**Warramunga Arr**	**80.52**	**108**	P	**P**	**15 27 31.7**	**-0.4**
WB2				IAmb	IAmb	15 27 39.4	
	comp=Z,7.7nm,1.1s						
WR0	**Warramunga Arr**	**80.64**	**109**	P	**P**	**15 27 31.9**	**-0.8**
CO03	**El Pedregal**	**81.32**	**235**	P	**P**	**15 27 36.7**	**+0.3**
CO03				IAmb	IAmb	15 27 38.4	
	comp=Z,8.4nm,0.9s						
RPZ	**Rata Peaks**	**82.92**	**147**	LR	LR	15 59 56.9	
	comp=Z,167nm,18.9s,baz=271,slow=32						
CMAR	**Chiang Mai Arr**	**83.21**	**56**	P	**P**	**15 27 46.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=231,slow=6.4,SNR=5.1						
CMAR				LR	LR	16 00 13.0	
	comp=Z,46nm,18.0s,baz=190,slow=32						
	comp=Z,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**83.21**	**56**	P	**P**	**15 27 45.8**	**-0.3**
BRTR	**Keskin Array B**	**83.53**	**356**	P	**P**	**15 27 48.4**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=184,slow=5.8,SNR=1.9						
	comp=Z,0.3nm,0.3s						
VAE	**Valguarnera**	**84.04**	**341**	LR	LR	16 05 49.9	
	comp=Z,171nm,19.4s,baz=154,slow=36						
GNI	**Garni**	**84.04**	**5**	LR	LR	16 06 58.2	
	comp=Z,50nm,18.2s,baz=204,slow=37						
PTLB	**Pontes e Lacer**	**84.70**	**254**	P	**P**	**15 27 54.9**	**+1.0**
PTLB				IAmb	IAmb	15 27 57.0	
	comp=Z,5.9nm,0.9s						
MDT	**Midelt**	**85.99**	**325**	LR	LR	16 06 45.7	
	comp=Z,285nm,18.6s,baz=156,slow=36						
KBZ	**Khabaz**	**87.51**	**3**	LR	LR	16 07 10.7	
	comp=Z,87nm,19.2s,baz=186,slow=36						
MLR	**Muntele Rosu**	**89.86**	**351**	LR	LR	16 10 05.8	
	comp=Z,97nm,20.7s,baz=196,slow=37						
ESDC	**Sonseca Array**	**91.70**	**329**	LR	LR	16 10 57.9	
	comp=Z,429nm,18.0s,baz=140,slow=36						
SAML	**Samuel**	**92.05**	**256**	P	**P**	**15 28 29.0**	**-0.1**
SAML				IAmb	IAmb	15 28 30.5	
	comp=Z,4.1nm,1.1s						
AAK	**Ala-Archa**	**92.18**	**26**	LR	LR	16 06 21.6	
	comp=Z,49nm,20.2s,baz=235,slow=33						
DAVOX	**Davos/Dischmat**	**93.92**	**341**	LR	LR	16 12 50.8	
	comp=Z,188nm,20.7s,baz=262,slow=37						
VRAC	**Vranov**	**94.94**	**346**	LR	LR	16 17 48.0	
	comp=Z,74nm,18.1s,baz=181,slow=40						
GERES	**GERESS Array B**	**95.04**	**344**	LR	LR	16 17 17.1	
	comp=Z,101nm,18.3s,baz=175,slow=39						
BELG	**Belogornoye**	**96.42**	**6**	LR	LR	16 15 30.3	
	comp=Z,63nm,18.0s,baz=181,slow=38						
PMG	**Port Moresby**	**96.67**	**110**	LR	LR	16 07 41.3	
	comp=Z,113nm,19.3s,baz=230,slow=32						
CLL	**Collm**	**97.52**	**344**	*e*P	Pdif	15 28 54.0	+0.9
CLL				*e*PS	**PS**	**15 41 42.0**	**+0.5**
CLL				*e*SS	SS	15 47 12.0	+14
CLL				*e*SSSS		15 54 06.0	
CLL				Lm	MLR	16 15 00.0	
	comp=Z,100nm,21.3s						
WMQ	**Urumqi**	**97.94**	**34**	*e*P	Pdif	15 28 57.8	+2.5
MKAR	**Makanchi Array**	**98.44**	**29**	LR	LR	16 11 16.8	
	comp=Z,50nm,18.1s,baz=360,slow=34						
DZM	**Mont Dzumac**	**98.81**	**132**	*e*LR	LR	16 01 05.9	
	comp=Z,372nm,29.2s						
TBI	**Tubuai**	**112.52**	**172**	*e*LR	LR	16 07 25.5	
	comp=Z,666nm,29.8s						
PPT2	**Papeete2**	**118.20**	**171**	*e*LR	LR	16 10 04.0	
	comp=Z,420nm,25.0s						
TAOE	**Nuku Hiva Isla**	**127.30**	**182**	*e*LR	LR	16 14 17.4	
	comp=Z,189nm,25.4s						
TXAR	**Lajitas Array**	**146.54**	**257**	PKPbc	**PKPbc**	**15 35 01.5**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=143,slow=4.6,SNR=29						
NVAR	**Mina Array Bea**	**161.62**	**260**	PKPab	**PKPab**	**15 36 06.9**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=107,slow=5.0,SNR=4.1						

IDC 22 15:24:48.4±987.0, 53°28N×5°26E, h0, Error ellipse: s-maj=424.4km s-min=153.0km az=116.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.93**	**126**	I		16 03 39.2	
	comp=Z,8.2nm,1.3s						
I43RU	**DUBNA INFRASON**	**18.56**	**66**	I		17 18 00.0	
	baz=275,slow=294,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**32.12**	**73**	I		18 45 50.0	
	baz=298,slow=313,SNR=0.8						

*IDC **22** 15:27:16.6±1.8, 37°30N×141°75E, h0km, mb3.6/5, mbtmp3.6/6, ML2.3/1, Error ellipse: s-maj=52.9km s-min=24.6km az=69.0*

*NIED **22** 15:27:20.8±0.2, 37°27N×141°45E, h34km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=1.23; Mθθ=0.03; Mϕϕ=1.26; Mrθ=1.31; Mrϕ=0.62; Mθϕ=0.96; Fault plane solution: Mo2.14000×10^14 NP1: ϕs=179.00000°, δ=26.00000°, λ=134.00000°. NP2: ϕs=46.00000°, δ=71.00000°, λ=-71.00000°.*

*JMA **22** 15:27:20.8±0.2, 37°3N±0°3×141°5E±0°9, h34km±1km, MV3.7/33, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF

ISC 22 15:27:19.1±2.1, 37°25N±0°05×141°54E±0°08, h13km±11km, n28, σ1°21/26, mb3.8/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**282**	*i*P	**Pb**	**15 27 30.6**	**+0.1**
JFK				S	**Sg**	**15 27 37.6**	**+0.6**
JMST	**Minamisoumatoc**	**0.70**	**312**	*i*P	**Pb**	**15 27 33.1**	**-0.1**
JMST				S	**Sg**	**15 27 42.1**	**+0.1**
JFFD	**Fukushimafurud**	**0.80**	**259**	P	**Pb**	**15 27 34.5**	**-0.3**
JFFD				S	**Sb**	**15 27 44.5**	**-1.0**
JMM	**Marumori**	**0.85**	**316**	P	**Pg**	**15 27 35.4**	**-0.2**
JMM	**Marumori**	**0.85**	**316**	*i* P	**Pg**	**15 27 35.4**	**-0.2**
JMM				S	**Sb**	**15 27 46.3**	**-0.8**
JHO	**Hitachi**	**1.01**	**231**	P	**Pb**	**15 27 37.6**	**-0.8**
JHO				S	**Sb**	**15 27 49.6**	**-1.8**
JIO	**Ouri**	**1.21**	**353**	P	**Pb**	**15 27 40.9**	**-0.9**
JIO				S	**Sn**	**15 27 56.4**	**-1.5**
JOU	**Okura**	**1.31**	**328**	P	**Pb**	**15 27 43.2**	**-0.3**
JSD	**Sado**	**2.72**	**288**	P	**Pn**	**15 28 03.5**	**+1.1**
MJAR	**Matsushiro Arr**	**2.76**	**256**	Pn	**Pn**	**15 28 04.1**	**+1.0**
	0.5nm,0.3s,baz=96,slow=1.7,SNR=20						
	2.9nm,0.3s						
MAJO	**Matsushiro**	**2.76**	**256**	P	**Pb**	**15 28 06.1**	**-2.2**
JTM	**Tenmabayashi**	**3.55**	**354**	P	**Pn**	**15 28 15.7**	**+1.9**
INU	**Inuyama**	**4.12**	**244**	P	**Pn**	**15 28 24.8**	**+3.2**
ERM	**Erimo**	**4.92**	**14**	P	**Pn**	**15 28 33.5**	**+0.9**
JEM	**Erimo**	**4.92**	**14**	P	**Pn**	**15 28 33.3**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	16 02 39.2	
	baz=200,slow=74,SNR=71						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	16 02 35.1	
	baz=313,slow=74,SNR=74						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	16 03 29.2	
	baz=316,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	16 03 33.2	
	baz=316,slow=76,SNR=68						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	16 03 30.5	
	baz=316,slow=76,SNR=53						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**15 35 08.9**	**+0.5**
	1.4nm,0.6s,baz=90,slow=7.4,SNR=7.9						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**15 35 27.0**	**+0.2**
	1.1nm,0.7s,baz=83,slow=9.9,SNR=6.9						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**57.29**	**188**	P	**P**	**15 37 06.2**	**-0.3**
	0.3nm,0.6s,baz=6.1,slow=7.0,SNR=7.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**61.02**	**188**	P	**P**	**15 37 32.9**	**+0.6**
	0.2nm,0.8s,baz=21,slow=8.9,SNR=1.5						
	0.2nm,0.8s						
AKASG	**Malin Array Be**	**74.19**	**322**	P	**P**	**15 38 55.1**	**-0.1**
	0.5nm,0.4s,baz=47,slow=5.9,SNR=5.5						
	0.5nm,0.4s						
H03N2	**Juan Fernandez**	**146.94**	**96**	T	T	18 31 17.5	
	baz=291,slow=76,SNR=8.4						
H03N3	**Juan Fernandez**	**146.96**	**96**	T	T	18 31 16.5	
	baz=291,slow=76,SNR=5.7						
H03N1	**Juan Fernandez**	**146.96**	**96**	T	T	18 31 14.5	
	baz=291,slow=76,SNR=4.7						

MAN 22 15:28:40.7, 6°31N×126°53E, h40km, mb4.0, ML2.8, MS2.4, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.69**	**337**	*e*P	Pn	15 28 54.9	+0.9
DDMP	**Don Marcelino,**	**0.84**	**256**	*e*P	Pn	15 28 56.4	+0.4
DDMP				*e*S	Sn	15

MKAR	Makanchi Array	44.14	302	P	P	15 38 01.1 +0.2
	comp=Z,0.8nm,0.7s,baz=82,slow=9.9,SNR=4.1					
	comp=Z,0.8nm,0.7s					
MKAR	Makanchi Array	44.14	302	P	P	15 38 01.3 +0.4
KURK	Kurchatov	45.93	308	P	P	15 38 14.0 -1.1
KURK				IAmb	IAmb	15 38 16.1
	comp=Z,3.3nm,0.8s					
WRA	Warramunga Arr	57.21	188	P	P	15 39 39.9 +0.3
	comp=Z,0.2nm,0.5s,baz=5.6,slow=7.5,SNR=1.9					
	comp=Z,0.2nm,0.5s					
ABKAR	Akbulak array	57.93	310	P	P	15 39 43.6 -0.9
FINES	FINESS Array B	68.74	332	P	P	15 40 56.9 +1.0
	comp=Z,1.3nm,0.7s,baz=65,slow=6.6,SNR=1.8					
	comp=Z,1.3nm,0.7s					
FINES	FINESS Array B	68.74	332	P	P	15 40 57.0 +1.1
AKASG	Malin Array Be	74.25	322	P	P	15 41 29.5 +0.1
	comp=Z,0.8nm,0.5s,baz=47,slow=5.6,SNR=5.9					
	comp=Z,0.8nm,0.5s					

WEL 22 15:35:26.2±0.5, 40.˚S±3.˚×17.˚7E±.˚, h15km±3km, M3.5/74, ML4.0/18, MLv3.5/74, Error ellipse: s-maj=0.0km s-min=0.0km az=120.2, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRHZ	Porangahau	0.06	280	P	Pg	15 35 29.6	+0.4
PRHZ				S	Sg	15 35 32.3	+1.2
ANWZ	Angora Road	0.26	225	P	Pb	15 35 33.0	+0.4
ANWZ				S	Sn	15 35 39.0	-2.1
PXZ	Pawanui	0.27	25	P	Pb	15 35 33.0	+0.2
PXZ				S	Sb	15 35 38.5	+1.4
WPHZ	Waipukurau	0.30	315	P	Pb	15 35 33.6	+0.3
WPHZ				S	Sb	15 35 39.5	+1.6
DVHZ	Dannevirke	0.42	267	P	Pb	15 35 35.6	+0.3
DVHZ				S	Sb	15 35 42.9	+1.4
KAHZ	Kahuranaki	0.50	15	P	Pb	15 35 37.6	+1.0
PNHZ	Pukenui	0.54	312	P	Pb	15 35 37.7	+0.4
BFZ	Birch Farm	0.54	221	P	Pb	15 35 37.8	+0.5
TSZ	Takapari Road	0.62	290	P	Pb	15 35 39.0	+0.3
PRWZ	Pori Road	0.63	244	P	Pb	15 35 39.7	+0.8
CKHZ	Cape Kidnapper	0.68	24	P	Pb	15 35 39.9	+0.2
POWZ	Post Office Ro	0.73	261	P	Pb	15 35 41.3	+0.6
CPWZ	Castlepoint	0.74	212	P	Pn	15 35 42.2	+0.1
TIWZ	Tintock	0.81	231	P	Pb	15 35 42.0	+0.1
MCHZ	McNeill Hill	0.83	359	P	Pb	15 35 40.6	-1.7
KWHZ	Kaweka Forest	0.88	345	P	Pg	15 35 43.6	+0.3
BHHZ	Black Hill Sta	0.93	327	P	Pb	15 35 44.0	0.0
MRZ	Mangatainoka R	0.95	246	P	Pb	15 35 43.7	-0.6
ARHZ	Aropaoanui	1.03	12	P	Pb	15 35 45.4	-0.4
TMWZ	Te Maipa	1.04	217	P	Pb	15 35 44.9	-0.9
OHWZ	Ohakea	1.07	273	P	Pg	15 35 47.4	+0.5
HOWZ	Holdsworth Sta	1.10	235	P	Pb	15 35 45.5	-1.5
BKZ	Black Stump Fm	1.12	351	P	Pb	15 35 46.7	-0.6
MOVZ	Moawhango	1.14	319	P	Pn	15 35 47.7	0.0
NMHZ	Naumai	1.18	3	P	Pn	15 35 47.9	-0.3
WHHZ	Waihua	1.26	19	P	Pn	15 35 48.6	-0.6
MTW	Mount Morrison	1.27	226	P	Pn	15 35 47.3	-2.1
WNVZ	Wahianoa	1.28	317	P	Pb	15 35 50.2	+0.1
OGWZ	Otaki Gorge	1.29	245	P	Pn	15 35 48.4	-1.3
TUKZ	Tukino	1.30	216	P	Pb	15 35 50.6	+0.2
MTVZ	Mangateitei	1.31	313	P	Pg	15 35 51.2	-0.2
WHVZ	Whangaehu Hut	1.32	318	P	Pb	15 35 51.1	+0.3
TRVZ	Turoa	1.33	317	P	Pb	15 35 50.8	-0.1
DRZ	Dome Shelter	1.34	318	P	Pg	15 35 51.8	-0.1
FWVZ	Far West T-bar	1.36	318	P	Pg	15 35 51.9	-0.4
SNVZ	South Ngauruho	1.37	322	P	Pg	15 35 52.1	-0.4
OTVZ	Oturere	1.38	324	P	Pg	15 35 52.4	-0.3
ETVZ	East Tongariro	1.38	325	P	Pb	15 35 51.6	-0.1
RAHZ	Arahi	1.39	12	P	Pn	15 35 50.1	-0.9
NGZ	Ngauruhoe	1.40	322	P	Pb	15 35 52.0	-0.1
TMVZ	Te Maari	1.40	326	P	Pb	15 35 51.9	-0.1
NNVZ	North Ngauruho	1.42	323	P	Pb	15 35 53.0	+0.5
NTVZ	North Tongarir	1.42	325	P	Pb	15 35 52.9	+0.5
MTHZ	Maungataniwha	1.43	4	P	Pn	15 35 50.8	-0.7
WAZ	Wanganui	1.43	291	P	Pb	15 35 52.6	+0.1
KRVZ	Karewarewa	1.44	325	P	Pg	15 35 53.7	-0.3
PKVZ	Pokaka	1.44	313	P	Pb	15 35 52.9	+0.2
MHGZ	Mahia Peninsul	1.45	49	P	Pn	15 35 49.9	-1.9
MRHZ	Matea Rd	1.46	351	P	Pn	15 35 52.0	0.0
KIW	Kapiti Island	1.49	246	P	Pn	15 35 51.3	-1.2
CAW	Cannon Point	1.50	236	P	Pn	15 35 50.7	-1.8
KATZ	Kakaramea	1.52	328	P	Pg	15 35 55.6	+0.2
TWVZ	Taurewa	1.56	320	P	Pb	15 35 54.8	+0.1
SNGZ	Shannon Statio	1.57	18	P	Pn	15 35 52.3	-1.2
RATZ	Rangitukua	1.58	332	P	Pg	15 35 56.4	-0.2
RTZ	Ruatahuna	1.67	7	P	Pn	15 35 54.0	-1.0
PLWZ	Palliser	1.70	220	P	Pn	15 35 53.3	-2.1
WHTZ	Whakaora	1.71	340	P	Pg	15 35 59.0	0.0
RIGZ	Rimuhau	1.77	28	P	Pn	15 35 54.2	-2.0
MUGZ	Murupara	1.80	1	P	Pn	15 35 56.2	-0.4
RAGZ	Rawiri	1.86	17	P	Pn	15 35 56.2	-1.3
VRZ	Vera Road	1.90	307	P	Pb	15 36 00.2	-0.3
HRRZ	Handcock Road	1.91	350	P	Pb	15 36 00.7	0.0
RRRZ	Republican Roa	1.94	355	P	Pg	15 36 05.0	+1.6
LREZ	Lake Rotokare	1.96	294	P	Pb	15 36 01.3	-0.2
GRRZ	Gorge Road	1.98	346	P	Pb	15 36 02.8	+0.9
HSRZ	Hossack Road	2.00	349	P	Pb	15 36 02.2	+0.1
TKGZ	Te Karaka	2.04	26	P	Pn	15 35 57.8	-2.1
URZ	Urewera	2.04	9	P	Pn	15 35 58.5	-1.4
MWZ	Matawai	2.04	18	P	Pn	15 35 58.1	-1.9
TARZ	Mount Tarawera	2.04	355	P	Pn	15 35 57.6	-2.5
TCW	Tory Channel	2.07	242	P	Pn	15 35 58.4	-2.0
CNGZ	Carnagh Statio	2.13	33	P	Pn	15 35 59.1	-2.1
TLZ	Tolley Road	2.15	334	P	Pb	15 36 04.6	-0.2
OMRZ	Omania	2.18	353	P	Pb	15 36 06.2	+0.8
DUWZ	D'Urville Isla	2.19	255	P	Pn	15 36 01.4	-0.6
MHEZ	Mangahewa	2.20	302	P	Pg	15 36 08.0	-0.3
DREZ	Durham Road	2.22	298	P	Pg	15 36 07.7	-1.1
NEZ	North Egmont	2.25	296	P	Pb	15 36 05.9	-0.7
HIZ	Hauiti	2.27	320	P	Pb	15 36 05.8	-1.1
KHEZ	Kahui Hut	2.30	294	P	Pb	15 36 08.8	+1.4
NMEZ	Namu Road	2.35	291	P	Pb	15 36 08.6	+0.5
PKEZ	Pukeiti	2.37	296	P	Pg	15 36 11.3	-0.2
CMWZ	Cape Campbell	2.40	231	P	Pn	15 36 09.6	+0.7
TUWZ	Tuamarina	2.40	240	P	Pn	15 36 02.3	-2.6
NBEZ	Newall Road No	2.41	294	P	Pb	15 36 10.0	+0.7
RUGZ	Raukumara Rang	2.43	18	P	Pn	15 36 03.5	-1.8
BSWZ	Blackbirch Sta	2.58	235	P	Pn	15 36 04.7	-2.7
PKGZ	Pakihiroa	2.61	24	P	Pn	15 36 06.2	-1.7
HAZ	Te Kaha	2.65	19	P	Pn	15 36 06.4	-1.9
WMGZ	Waiomatatini S	2.79	29	P	Pn	15 36 07.5	-2.8
TKNZ	Takaka Hill	2.95	254	P	Pn	15 36 11.7	-0.8
MXZ	Matakaoa Point	2.98	25	P	Pn	15 36 10.6	-2.3
MRNZ	Matariki Terra	3.20	248	P	Pn	15 36 14.7	-1.2
QRZ	Quartz Range	3.23	259	P	Pn	15 36 15.2	-1.2
THZ	Tophouse	3.24	242	P	Pn	15 36 13.6	-2.9
MKAZ	Moumakai	3.39	339	P	Pn	15 36 20.7	+2.1
INZ	Inchbonnie	4.65	237	P	Pn	15 36 32.3	-3.6
CTZ	Chatham Island	6.05	127	P	Pn	15 36 53.5	-1.5

IDC 22 15:36:06.2±2.1, 37.˚002N×141.˚56E, h0km, mb3.5/6, mbtmp3.4/7, ML2.2/1, Error ellipse: s-maj=60.2km s-min=23.0km az=63.0
JMA 22 15:36:08.0±0.2, 37.˚0N±0.˚4×141.˚5E±0.˚9, h31km±1km, MV3.4/36, E OFF FUKUSHIMA PREF
ISC 22 15:36:07.4±2.5, 37.00N±0.˚05×141.˚48E±0.˚10, h9km±13km, n24, σ0°76/20, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.60	307	eP	Pb	15 36 19.8	-0.4
JFK				S	Sg	15 36 27.9	+0.8
JFFD	Fukushimafurud	0.74	277	P	Pg	15 36 21.8	+0.1
JFFD				S	Sg	15 36 31.4	0.0
JHO	Hitachi	0.83	242	P	Pb	15 36 23.0	-1.0
JHO				S	Sb	15 36 34.0	-1.2
JMST	Minamisoumatoc	0.86	327	P	Pb	15 36 23.8	-0.7
JMST				S	Sg	15 36 35.5	+0.3
JMM	Marumori	1.02	328	S	Sg	15 36 40.3	0.0
JIO	Ouri	1.45	356	P	Pb	15 36 33.4	-1.2
JIO				eS	Sn	15 36 51.6	-1.3
JFY	Yanaizu	1.47	286	S	Sb	15 36 53.4	-0.4
JOU	Okura	1.51	335	eS	Sb	15 36 54.6	-0.1
MJAR	Matsushiro Arr	2.67	261	Pn	Pn	15 36 50.9	+0.4
	0.4nm,0.3s,baz=90,slow=15,SNR=15						
	1.6nm,0.3s						
SONM	Songino Array	27.85	304	P	P	15 41 58.2	+1.0
	0.4nm,0.7s,baz=113,slow=9.1,SNR=2.0						
	0.4nm,0.7s						
H11N2	WAKE ISLAND Hy	28.09	121	T	T	16 11 21.6	
	baz=313,slow=75,SNR=79						
H11N1	WAKE ISLAND Hy	28.09	121	T	T	16 11 23.4	
	baz=313,slow=75,SNR=73						
H11N3	WAKE ISLAND Hy	28.10	121	T	T	16 11 25.0	
	baz=313,slow=75,SNR=102						
H11S1	WAKE ISLAND Hy	28.80	123	T	T	16 12 15.4	
	baz=315,slow=76,SNR=40						
H11S3	WAKE ISLAND Hy	28.80	123	T	T	16 12 13.4	
	baz=315,slow=76,SNR=26						
H11S2	WAKE ISLAND Hy	28.81	123	T	T	16 12 17.4	
	baz=315,slow=76,SNR=26						
ZALV	Zalesovo Beam	41.97	312	P	P	15 43 59.1	+0.7
	0.4nm,0.4s,baz=131,slow=6.5,SNR=2.6						
	0.4nm,0.4s						
MKAR	Makanchi Array	44.18	302	P	P	15 44 16.6	+0.2
	0.6nm,0.7s,baz=79,slow=9.5,SNR=4.4						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	46.06	308	P	P	15 44 31.3	0.0
	0.4nm,0.5s,baz=81,slow=8.8,SNR=5.5						
	0.4nm,0.5s						
WRA	Warramunga Arr	57.04	188	P	P	15 45 53.8	+0.1
	0.6nm,1.0s,baz=2.9,slow=7.4,SNR=7.0						
	0.6nm,1.0s						
ASAR	Alice Springs	60.77	188	P	P	15 46 20.2	+0.7
	0.1nm,0.5s,baz=358,slow=4.6,SNR=5.0						
	0.1nm,0.5s						
H03N2	Juan Fernandez	146.97	96	T	T	18 40 03.6	
	baz=291,slow=74,SNR=7.9						
H03N3	Juan Fernandez	146.98	96	T	T	18 40 06.3	
	baz=291,slow=74,SNR=9.8						
H03N1	Juan Fernandez	146.98	96	T	T	18 40 04.3	
	baz=291						

IDC 22 15:40:47.5±735.0, 29.˚55N×105.˚23E, h0km, Error ellipse: s-maj=337.5km s-min=207.0km az=67.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	SONGINO INFRAS	18.25	3	I		17 31 40.0	
	baz=182,slow=344,SNR=2.0						
I45RU	USSURIYSK INFR	25.77	48	I		18 18 40.0	
	baz=243,slow=317,SNR=0.9						
I39PW	PALAU INFRASON	35.20	123	I		19 16 50.0	
	baz=309,slow=315,SNR=2.7						

UCR 22 15:41:24.4±1.2, 9.˚37N×84.˚61W, h5km, MW3.8
INET 22 15:41:25.0±1.8, 9.˚39N×84.˚55W, h7km±10km, ML3.4
ISC 22 15:41:24.9±1.3, 9.˚38N±0.˚05×84.˚61W±0.˚03, h14km±8km, n58, σ0°92/74, 3C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACO	JACO, Garabito	0.28	351	eP	Pg	15 41 31.1	+0.2
JACO				eS	Sb	15 41 36.0	-0.6
JACO	JACO, Garabito	0.28	351	eP	Pg	15 41 31.1	+0.2
JACO				eS	Sg	15 41 35.8	+0.8
LAFE	Finca La Fe, P	0.52	326	eP	Pg	15 41 35.4	+0.2
LAFE				eS	Sb	15 41 43.7	+0.5
LAFE	Finca La Fe, P	0.52	326	eP	Pg	15 41 35.5	+0.4
LAFE				eS	Sb	15 41 44.7	+1.5
LCR2	La Lucha 2	0.70	59	eP	Pg	15 41 37.9	-0.8
EDDO	Dominical	0.75	100	eP	Pg	15 41 39.0	-0.5
SJS	Escuela Geolog	0.78	45	eP	Pg	15 41 39.5	-0.7
HDC	Heredia	0.79	39	eP	Pg	15 41 39.4	-0.9
HDC3	Heredia 3	0.79	39	eP	Pg	15 41 39.6	-0.8
HDC3	Heredia 3	0.79	39	eP	Pg	15 41 39.6	-0.8
OCM	Ochomogo	0.82	51	eP	Pg	15 41 39.9	-1.1
CDM	Cerro de Muert	0.86	78	eP	Pg	15 41 40.9	-0.8
CDM	Cerro de Muert	0.86	78	eP	Pg	15 41 40.9	-0.8
CDM				eS	Sb	15 41 54.3	+0.9
CRPO	Crater poas	0.90	25	eP	Pg	15 41 41.4	-1.0
PEZE	Perez Zeledon,	0.92	90	eP	Pg	15 41 42.2	-0.6
PEZE	Perez Zeledon,	0.92	90	eP	Pg	15 41 42.2	-0.6
POPE	POPE, Guanacas	0.93	317	eP	Pg	15 41 42.0	-1.0
JTS	Las Juntas de	0.97	340	eP	Pg	15 41 42.1	-1.5
JTS	Las Juntas de	0.97	340	eP	Pg	15 41 42.1	-1.5
HAVA	Volcan Irazu	0.97	52	eP	Pb	15 41 43.6	-0.1
FORC	Fortuna	1.08	357	eP	Pg	15 41 44.9	-1.0
FORC				eS	Sb	15 42 00.5	+1.0
VACR	Volcan Arenal	1.09	357	eP	Pg	15 41 45.0	-1.0
CEDE	Laguna Cedeo	1.10	355	eP	Pg	15 41 45.2	-1.0
DUNO	Dulce Nombre,	1.11	309	eP	Pg	15 41 44.6	-1.8
DUNO	Dulce Nombre,	1.11	309	eP	Pg	15 41 45.5	-0.9
RIFO	Rio Frio, Sara	1.16	36	eP	Pg	15 41 45.9	-1.4
SRBA	San Rafael, Bu	1.25	97	eP	Pg	15 41 47.6	-1.4
ORTG	Ortega, Santa	1.28	320	eP	Pn	15 41 48.2	-0.4
ACAL	Aguas Claras	1.31	342	eP	Pn	15 41 48.5	-0.5
ACAL				eS	Sb	15 42 06.5	+0.3
COVE	Coope Vega, Sa	1.35	9	eP	Pn	15 41 48.5	-0.8
PTEN	Parque Tenorio	1.38	345	eP	Pn	15 41 49.6	-0.3
CUI	Cuipilapa	1.38	337	eP	Pn	15 41 49.3	-0.6
CUI				eS	Sb	15 42 08.4	+0.2
BATAN	Batan	1.41	60	eP	Pn	15 41 50.5	+0.2
HORNC	Hornillas	1.44	337	eP	Pn	15 41 50.2	-0.5
GUAB	Guayabo de Bag	1.45	335	iP	Pn	15 41 51.1	+0.2
GUAB				eS	Sn	15 42 10.1	+0.3
MESS	Mesas	1.47	337	iP	Pn	15 41 50.8	-0.4
MESS				eS	Sn	15 42 10.6	+0.4
VERA	Finca Concepci	1.49	350	eP	Pn	15 41 51.1	-0.2
VMAR	Armenia, Volca	1.51	341	eP	Pn	15 41 51.6	-0.1
POTG	Potrero Grande	1.51	102	eP	Pn	15 41 51.2	-0.5
GPS3	Bodega del ICE	1.55	332	eP	Pn	15 41 53.2	+0.9
GPS1	Guardaparques	1.56	332	eP	Pn	15 41 52.5	+0.1
VRLE	La Escondida,	1.58	332	eP	Pn	15 41 53.0	+0.2
LAPC	Finca la Perla	1.60	330	eP	Pn	15 41 52.2	-0.7
LAPC				eS	Sn	15 42 14.6	+1.3
BUEV	Buena Vista	1.61	331	eP	Pn	15 41 53.4	+0.3
BUEV				eS	Sb	15 42 16.1	+1.2
GBS3	Finca Las Img	1.62	329	eP	Pn	15 41 52.9	-0.3
GBS3				eS	Sg	15 42 17.1	-0.2
HZTE	Horizontes, Gu	1.64	324	eP	Pn	15 41 53.8	+0.4
HZTE	Horizontes, Gu	1.64	324	eP	Pn	15 41 54.1	+0.6
HZTE				IAML		15 42 25.5	
	comp=E,450nm,1.0s						
BUAI	Buenos Aires	1.65	335	eP	Pn	15 41 53.5	-0.1
BUAI				eS	Sn	15 42 16.3	+1.7
GBS2	Las Lilas	1.67	330	eP	Pn	15 41 54.3	+0.5
BRU2	Volcan	1.99	107	eP	Pn	15 41 59.2	+0.9
ACON	Acoyapa	2.63	348	iP	Pn	15 42 04.8	-2.2
ACON				eP	Pn	15 42 04.8	-2.2
ESPN	Las Esperanzas	2.82	6	eP	Pn	15 42 10.2	+0.6
ESPN	Las Esperanzas	2.82	6	eP	Pn	15 42 10.0	+0.4

NEIC 22 15:52:15.7±1.6, 5.˚4S±0.˚1×147.˚2E±0.˚1, h151km±5km, mb4.6/24, Error ellipse: s-maj=17.8km s-min=14.2km az=74.0
IDC 22 15:52:20.2±1.7, 5.˚49S×147.˚08E, h196km±17km, mb3.6/7, mbtmp4.3/11, Error ellipse: s-maj=23.7km s-min=10.5km az=112.0
ISC 22 15:52:20.0±0.5, 5.˚53S±0.˚06×147.˚11E±0.˚07, h195km, n62, σ1°13/65, mb4.5/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.85	179	P	Pn	15 53 19.5	-0.3
	112nm,0.5s,baz=26,slow=4.9,SNR=113						
PMG				S	Sn	15 54 04.0	-2.8
	153nm,0.6s,baz=98,slow=20,SNR=16						
PMG	Port Moresby	3.85	179		Pn	15 53 19.2	-0.6
PMG	Port Moresby	3.85	179	P	Pn	15 53 19.8	0.0
KRVT	Keravat (AS076	5.05	76	P	Pn	15 53 34.7	-0.2
	22nm,0.6s,baz=217,slow=16,SNR=8.4						
RABL	Rabaul	5.21	75	Pn	Pn	15 53 37.7	+0.6
COEN	Coen	9.23	205	Pn	Pn	15 54 27.6	-1.8
MTSU	Mount Surprise	12.82	192	P	Pn	15 55 17.9	+2.4
HNR	Honiara	13.31	108	P	P	15 55 26.0	+1.4
	435nm,0.4s,baz=238,slow=4.2,SNR=6.8						
HNR	Honiara	13.31	108	Pn	Pn	15 55 18.8	-2.8
TV1H	Townsville Har	13.65	181	P	P	15 55 29.0	+0.7
CTA	Charters Tower	14.50	183	P	P	15 55 38.2	+0.5
	5.7nm,0.6s,baz=8.0,slow=12,SNR=4.4						
CTA	Charters Tower	14.50	183	P	P	15 55 38.7	+1.0
CTAO	Charters Tower	14.50	183	P	Pn	15 55 37.6	+1.2
CTAO	Charters Tower	14.50	183	P	P	15 55 38.4	+0.7
KDU	Kakadu	16.10	243	P	P	15 55 55.4	-0.1
QIS	Mount Isa	16.62	205	P	Pn	15 56 03.2	+1.0
MTN	Manton Dam	17.36	244	P	P	15 56 09.7	+0.4
MTN				IAmb	IAmb	15 56 11.0	
	comp=Z,18nm,0.8s						
MTN	Manton Dam	17.36	244	P	P	15 56 09.7	+0.4
WB0	Warramunga Arr	18.80	220		P	15 56 25.8	+0.8
WB0				IAmb	IAmb	15 56 30.7	
	comp=Z,16nm,0.6s						
WR0	Warramunga Arr	18.85	219	P	P	15 56 26.0	+0.6
WR0				IAmb	IAmb	15 56 27.3	
	comp=Z,51nm,1.1s						
WRAB	Tennant Creek	18.95	220	P	P	15 56 27.4	+0.8
WRAB				IAmb	IAmb	15 56 30.9	
	comp=Z,33nm,1.0s						
WRAB	Tennant Creek	18.95	220	P	P	15 56 28.2	+1.6
WB2	Warramunga Arr	18.95	220		P	15 56 27.6	+0.9
WRA	Warramunga Arr	18.96	220	P	P	15 56 27.8	+1.1
	comp=Z,12nm,0.4s,baz=47,slow=11,SNR=406						
WRA				S	S	15 59 50.7	-1.1
	comp=Z,11nm,1.0s,baz=40,slow=21,SNR=12						
WRA	Warramunga Arr	18.96	220		P	15 56 26.0	-0.7
WB1	Warramunga Ar.	18.97	220	P	P	15 56 27.8	+1.0
KNRA	Kununurra	20.64	239	P	P	15 56 44.0	-0.8
KNRA				IAmb	IAmb	15 56 47.0	
	comp=Z,18nm,0.6s						
KNRA	Kununurra	20.64	239	P	P	15 56 43.9	-0.8
AS01	Alice Springs	22.04	214	P	P	15 57 00.5	+1.3
AS31	Alice Springs	22.07	214		P	15 57 00.4	+1.0
AS31				IAmb	IAmb	15 57 05.5	
	comp=Z,9.8nm,0.8s						
ASAR	Alice Springs	22.07	214	P	P	15 57 00.7	+1.2
	comp=Z,16nm,0.6s,baz=48,slow=8.3,SNR=359						
ASAR				S	S	16 00 50.2	+1.6
	comp=Z,3.5nm,0.9s,baz=49,slow=17,SNR=2.6						
	comp=Z,16nm,0.6s						
INKA	Innaminka	22.91	195	P	P	15 57 09.3	+2.3
OOD	Oodnadatta	24.66	205	P	P	15 57 25.8	+2.9
DZM	Mont Dzumac	24.91	133	P	P	15 57 24.6	-0.7
DZM				IAmb	IAmb	15 58 08.4	
	comp=Z,34nm,1.3s						
ARMA	Armidale	25.12	171	P	P	15 57 27.5	+0.3
ARMA				IAmb	IAmb	15 57 30.8	
	comp=Z,20nm,1.5s						
WRKA	Warakurna	26.49	221	P	P	15 57 40.4	+0.9
BBOO	Buckleboo	29.04	199	P	P	15 58 01.5	-0.5
BBOO				IAmb	IAmb	15 58 13.5	
	comp=Z,26nm,1.4s						
MBWA	Marble Bar	30.75	237	P	P	15 58 17.2	0.0
PSA00	Pilbara Seismi	30.84	236	P	P	15 58 18.3	+0.3
PSA00				IAmb	IAmb	15 58 46.0	
	comp=Z,26nm,1.4s						
FORT	Forrest	30.85	213	P	P	15 58 18.5	+0.5
FORT				IAmb	IAmb	15 58 27.8	
	comp=Z,16nm,0.8s						
FORT	Forrest	30.85	213	P	P	15 58 18.5	+0.5
	comp=Z,22nm,0.8s						
MEEK	Meekatharra	34.34	229	P	P	15 58 48.3	-0.1
YULB	Yu-li	38.23	320	P	P	15 59 20.9	-0.4
NWAO	Narrogin (SRO)	38.95	222	P	P	15 59 27.6	+0.3
NWAO				IAmb	IAmb	15 59 46.7	
	comp=Z,29nm,1.5s						
TATO	Taipei	39.25	322	P	P	15 59 27.3	-2.5
RTZ	Ruatahuna	42.64	145	P	P	15 59 57.0	-0.4
TUWZ	Tuamarina	43.03	150	P	P	16 00 01.3	+0.9
TCW	Tory Channel	43.03	150	P	P	16 00 00.6	+0.1
LBZ	Lake Benmore	43.67	156	P	P	16 00 06.4	+0.9
SONM	Songino Array	64.05	331	P	P	16 02 33.6	+0.5
	comp=Z,0.9nm,0.7s,baz=157,slow=6.4,SNR=8.0						
	comp=Z,0.9nm,0.7s						
SONM	Songino Array	64.05	331	P	P	16 02 33.5	+0.4
VNDA	Vanda	72.38	177	P	P	16 03 25.2	+1.0
	comp=Z,1.3nm,0.6s,baz=339,slow=6.3,SNR=20						
	comp=Z,1.3nm,0.6s						
VNDA	Vanda	72.38	177	P	P	16 03 25.0	+0.8
MKAR	Makanchi Array	77.20	320	P	P	16 03 52.9	+0.4
	comp=Z,1.2nm,1.1s,baz=104,slow=7.3,SNR=4.2						
	comp=Z,1.2nm,1.1s						
MKAR	Makanchi Array	77.20	320	P	P	16 03 52.3	-0.2
MAKZ	Makanchi	77.41	320	P	P	16 03 53.3	-0.3
ZALV	Zalesovo Beam	78.67	328	P	P	16 03 59.6	-0.7
	comp=Z,0.8nm,0.5s,baz=96,slow=6.6,SNR=5.3						
	comp=Z,0.8nm,0.5s						
QSPA	South Pole Qui	84.44	180	P	P	16 04 30

24nm,0.3s,baz=97,slow=8.0,SNR=61
BORG Sn **Sb** **15 54 04.9 -1.6**
18nm,0.3s,baz=38,slow=21,SNR=11
SCO Scoresbysund 6.14 346 *i* P **Pn** **15 54 45.0 -0.4**
EKA Eskdalemuir Ar 11.71 136 Pn **Pn** **15 56 00.6 -1.2**
baz=323,slow=13
EKA LR LR 15 59 57.5
comp=Z,74nm,18.1s,baz=200,slow=34
2.1nm,0.5s
NOA NORSAR Array B 13.52 92 LR LR 16 01 50.0
comp=Z,37nm,18.2s,baz=290,slow=38
HFS Hagfors 15.03 93 Pn **P** **15 56 50.1 -2.2**
0.1nm,0.3s,baz=322,slow=4.2,SNR=2.4
4.4nm,1.1s
FINES FINESS Array B 19.70 79 P **Pn** **15 57 47.9 +2.6**
0.1nm,0.3s,baz=274,slow=8.2,SNR=2.0
3.9nm,1.0s
BRG Berggiesshubel 21.38 115 *e*P **P** **15 58 05.1 +3.0**
BRG Amp 15 58 07.3
comp=Z,6.0nm,0.8s
BRG *ex* x 15 58 12.2
BRG Amp 15 58 14.6
comp=Z,11nm,1.3s
GERES GERESS Array B 22.92 119 P **P** **15 58 20.6 +1.9**
comp=Z,1.8nm,1.1s,baz=315,slow=11,SNR=8.5
comp=Z,1.8nm,1.1s
ESDC Sonseca Array 26.20 156 P **P** **15 58 49.4 0.0**
comp=Z,0.7nm,0.9s,baz=348,slow=12,SNR=2.2
comp=Z,0.7nm,0.9s
BRTR Keskin Array B 38.45 105 P **P** **16 00 39.3 +2.7**
comp=Z,1.0nm,0.7s,baz=317,slow=7.1,SNR=4.8
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 43.21 62 P **P** **16 01 17.2 +1.7**
comp=Z,1.0nm,0.8s,baz=324,slow=7.1,SNR=3.0
comp=Z,1.0nm,0.8s
ILAR Eielson Array 45.74 332 P **P** **16 01 36.6 +1.1**
comp=Z,0.5nm,0.9s,baz=21,slow=7.9,SNR=4.1
comp=Z,0.5nm,0.9s
ZALV Zalesovo Beam 47.65 51 P P 16 01 54.8 +4.2
comp=Z,0.3nm,0.4s,baz=316,slow=8.0,SNR=2.0
comp=Z,0.3nm,0.4s
KURBB Kurchatov Arra 48.17 58 P **P** **16 01 57.1 +2.4**
comp=Z,1.4nm,1.0s,baz=326,slow=7.1,SNR=6.6
comp=Z,1.4nm,1.0s
PDAR Pinedale Array 53.21 293 P **P** **16 02 33.7 +0.6**
comp=Z,1.4nm,0.9s,baz=60,slow=8.8,SNR=6.7
comp=Z,1.4nm,0.9s
CMAR Chiang Mai Arr 84.15 59 P **P** **16 05 48.8 +2.9**
comp=Z,0.3nm,0.4s,baz=322,slow=5.7,SNR=2.3
comp=Z,0.3nm,0.4s

*NOU **22** 15:54:10.9,41.˚75S×174.˚64E,h8km,MLv4.5/15,Cook Strait, New Zealand*
*WEL **22** 15:54:12.1±0.3,42˚S±3˚×17˚4E±˚,h12km,M4.4/68, ML4.6/20,MLv4.4/68,Error ellipse: s-maj=0.0km s-min=0.0km az=150.6*
*NEIC **22** 15:54:12.2±1.5,41.˚63S±0.˚04×174.˚48E±0.˚04,h22km±7km, mb4.4/7,Error ellipse: s-maj=6.0km s-min=4.0km az=154.0*
*IDC **22** 15:54:13.2±3.4,41.˚48S×173.˚69E,h0km,mb4.0/2, mbtmp3.9/3,ML3.1/1,MS3.6/2,Error ellipse: s-maj=69.5km s-min=34.1km az=113.0*
ISC 22 15:54:11.1±0.7,41.˚67S±0.˚03×174.˚51E±0.˚02,h10km,n162, σ1§41/163,mb4.3/7,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.23**	**251**		**Pg**		**Pg**	**15 54 18.3**	**+2.4**
CMWZ					Sg		**Sg**	15 54 23.2	+4.1
CMWZ	**Cape Campbell**	**0.23**	**251**	P	**Pg**		**Pg**	**15 54 18.6**	**+2.7**
SNZO	**South Karori**	**0.39**	**22**		**Pg**		**Pg**	**15 54 19.9**	**+1.1**
SNZO	**South Karori**	**0.39**	**22**	P	**Pg**		**Pg**	**15 54 19.9**	**+1.1**
WEL	**Wellington**	**0.44**	**27**	P	**Pg**		**Pg**	**15 54 20.9**	**+1.3**
WEL				S	**Sg**		**Sg**	**15 54 27.0**	**+1.6**
BSWZ	**Blackbirch Sta**	**0.47**	**265**		**Pg**		**Pg**	**15 54 21.4**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.47**	**265**	P	**Pg**		**Pg**	**15 54 21.7**	**+1.4**
BSWZ				S	**Sb**		**Sb**	**15 54 28.8**	**+0.2**
TUWZ	**Tuamarina**	**0.49**	**300**		**Pg**		**Pg**	**15 54 20.8**	**+0.2**
TUWZ	**Tuamarina**	**0.49**	**300**	P	**Pg**		**Pg**	**15 54 21.0**	**+0.4**
TUWZ				S	**Sg**		**Sg**	**15 54 27.1**	**0.0**
TCW	**Tory Channel**	**0.49**	**339**		**Pg**		**Pg**	**15 54 20.7**	**0.0**
TCW	**Tory Channel**	**0.49**	**339**	P	**Pg**		**Pg**	**15 54 20.8**	**+0.1**
PLWZ	**Palliser**	**0.57**	**80**		**Pb**		**Pb**	**15 54 24.6**	**+1.4**
PLWZ	**Palliser**	**0.57**	**80**	P	**Pb**		**Pb**	**15 54 24.9**	**+1.7**
MSWZ	**Moikau Station**	**0.61**	**65**		**Pg**		**Pg**	**15 54 24.9**	**+1.9**
MSWZ	**Moikau Station**	**0.61**	**65**	P	**Pb**		**Pb**	**15 54 25.2**	**+1.3**
CAW	**Cannon Point**	**0.70**	**37**	P	**Pg**		**Pg**	**15 54 25.6**	**+0.9**
PAWZ	**Paruwai Farm**	**0.75**	**67**	P	**Pb**		**Pb**	**15 54 27.6**	**+1.3**
KIW	**Kapiti Island**	**0.87**	**21**	P	**Pg**		**Pg**	**15 54 28.0**	**+0.2**
MTW	**Mount Morrison**	**0.91**	**56**	P	**Pg**		**Pg**	**15 54 29.9**	**+1.3**
TRWZ	**Traveller**	**0.93**	**73**	P	**Pg**		**Pg**	**15 54 30.2**	**+1.3**
NNZ	**Nelson**	**0.96**	**298**		**Pg**		**Pg**	**15 54 29.2**	**-0.4**
NNZ	**Nelson**	**0.96**	**298**	P	**Pg**		**Pg**	**15 54 29.3**	**-0.3**
DUWZ	**D'Urville Isla**	**0.98**	**333**	P	**Pg**		**Pg**	**15 54 29.3**	**-0.6**
OGWZ	**Otaki Gorge**	**0.99**	**30**	P	**Pg**		**Pg**	**15 54 30.3**	**+0.1**
KHZ	**Kahutara**	**1.03**	**224**		**Pg**		**Pg**	**15 54 31.8**	**+0.8**
KHZ	**Kahutara**	**1.03**	**224**	P	**Pg**		**Pg**	**15 54 31.6**	**+0.6**
KHZ	**Kahutara**	**1.03**	**224**	P	**Pg**		**Pg**	**15 54 31.6**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.09**	**45**	P	**Pg**		**Pg**	**15 54 32.3**	**+0.3**
TMWZ	**Te Maipa**	**1.19**	**62**	P	**Pb**		**Pb**	**15 54 33.6**	**-0.1**
THZ	**Tophouse**	**1.20**	**265**		**Pb**		**Pb**	**15 54 33.7**	**-0.3**
THZ	**Tophouse**	**1.20**	**265**	P	**Pb**		**Pb**	**15 54 33.9**	**-0.1**
MRZ	**Mangatainoka R**	**1.30**	**39**	P	**Pn**		**Pn**	**15 54 35.3**	**0.0**
TKNZ	**Takaka Hill**	**1.33**	**298**	P	**Pn**		**Pn**	**15 54 35.4**	**-0.3**
MRNZ	**Matariki Terra**	**1.34**	**281**		**Pn**		**Pn**	**15 54 35.6**	**-0.3**
MRNZ	**Matariki Terra**	**1.34**	**281**	P	**Pn**		**Pn**	**15 54 35.9**	**0.0**
TIWZ	**Tintock**	**1.37**	**50**	P	**Pn**		**Pn**	**15 54 36.3**	**0.0**
PRWZ	**Pori Road**	**1.57**	**45**	P	**Pn**		**Pn**	**15 54 38.9**	**-0.2**
OHWZ	**Ohakea**	**1.59**	**23**	P	**Pb**		**Pb**	**15 54 40.9**	**+0.4**
POWZ	**Post Office Ro**	**1.60**	**37**	P	**Pn**		**Pn**	**15 54 39.5**	**+0.1**
GVZ	**Greta Valley S**	**1.69**	**220**	Pn	**Pn**		**Pn**	**15 54 40.5**	**-0.2**
GVZ	**Greta Valley S**	**1.69**	**220**	P	**Pn**		**Pn**	**15 54 40.7**	**-0.1**
QRZ	**Quartz Range**	**1.72**	**299**		**Pn**		**Pn**	**15 54 41.4**	**+0.4**
QRZ	**Quartz Range**	**1.72**	**299**	P	**Pn**		**Pn**	**15 54 42.0**	**+1.0**
QRZ	**Quartz Range**	**1.72**	**299**	P	**Pn**		**Pn**	**15 54 41.7**	**+0.6**
DVHZ	**Dannevirke**	**1.86**	**43**	P	**Pn**		**Pn**	**15 54 42.2**	**-0.8**
WAZ	**Wanganui**	**1.95**	**11**	P	**Pn**		**Pn**	**15 54 46.2**	**+1.9**
TSZ	**Takapari Road**	**1.95**	**35**	P	**Pn**		**Pn**	**15 54 44.0**	**-0.3**
LTZ	**Lake Taylor**	**2.00**	**236**	Pn	**Pn**		**Pn**	**15 54 44.6**	**-0.3**
LTZ	**Lake Taylor**	**2.00**	**236**	P	**Pn**		**Pn**	**15 54 44.8**	**-0.1**
DSZ	**Denniston Nort**	**2.02**	**267**	Pn	**Pn**		**Pn**	**15 54 45.6**	**+0.3**
DSZ	**Denniston Nort**	**2.02**	**267**	P	**Pn**		**Pn**	**15 54 45.7**	**+0.4**
AMCZ	**Amberley**	**2.04**	**222**	P	**Pn**		**Pn**	**15 54 44.9**	**-0.5**
PRHZ	**Porangahau**	**2.14**	**50**	P	**Pn**		**Pn**	**15 54 46.2**	**-0.7**
WPHZ	**Waipukurau**	**2.18**	**43**	P	**Pn**		**Pn**	**15 54 46.7**	**-0.7**
PNHZ	**Pukenui**	**2.18**	**37**	P	**Pn**		**Pn**	**15 54 46.9**	**-0.6**
LREZ	**Lake Rotokare**	**2.21**	**358**	P	**Pn**		**Pn**	**15 54 50.1**	**+2.3**
NMEZ	**Namu Road**	**2.31**	**348**	P	**Pn**		**Pn**	**15 54 51.8**	**-1.0**
OKCZ	**Okains Bay**	**2.31**	**207**	P	**Pn**		**Pn**	**15 54 48.4**	**-0.8**
MTVZ	**Mangateitei**	**2.40**	**18**	P	**Pn**		**Pn**	**15 54 51.7**	**+1.2**
KHEZ	**Kahui Hut**	**2.41**	**351**	P	**Pn**		**Pn**	**15 54 52.6**	**+2.0**
KHEZ	**Kahui Hut**	**2.41**	**351**	P	**Pn**		**Pn**	**15 54 52.8**	**+2.2**
NEZ	**North Egmont**	**2.42**	**352**	P	**Pn**		**Pn**	**15 54 53.4**	**+2.5**
PXZ	**Pawanui**	**2.43**	**48**	P	**Pn**		**Pn**	**15 54 49.3**	**-1.5**
MQZ	**McQueen's Vall**	**2.45**	**213**	P	**Pn**		**Pn**	**15 54 49.6**	**-1.5**
NBEZ	**Newall Road No**	**2.45**	**348**	P	**Pn**		**Pn**	**15 54 53.3**	**+2.2**
MOVZ	**Moawhango**	**2.46**	**23**	P	**Pn**		**Pn**	**15 54 51.7**	**+0.4**
OXZ	**Oxford**	**2.46**	**227**	P	**Pb**		**Pb**	**15 54 57.4**	**+1.9**
PKVZ	**Pokaka**	**2.47**	**15**	P	**Pn**		**Pn**	**15 54 53.0**	**+1.6**
BHHZ	**Black Hill Sta**	**2.48**	**29**	P	**Pn**		**Pn**	**15 54 51.7**	**+0.1**
WNVZ	**Wahianoa**	**2.49**	**20**	P	**Pn**		**Pn**	**15 54 52.6**	**+0.8**
AKCZ	**Akaroa Harbour**	**2.49**	**208**	P	**Pn**		**Pn**	**15 54 50.8**	**-0.9**
DREZ	**Durham Road**	**2.49**	**355**	P	**Pn**		**Pn**	**15 54 54.6**	**+2.8**
TRVZ	**Turoa**	**2.50**	**19**	P	**Pn**		**Pn**	**15 54 53.3**	**+1.3**
INZ	**Inchbonnie**	**2.51**	**244**	Pn	**Pn**		**Pn**	**15 54 51.6**	**-0.2**
INZ	**Inchbonnie**	**2.51**	**244**	P	**Pn**		**Pn**	**15 54 51.9**	**0.0**
PKE	**Pukeiti**	**2.51**	**351**	P	**Pn**		**Pn**	**15 54 54.7**	**+2.7**
WHVZ	**Whangaehu Hut**	**2.53**	**19**	P	**Pn**		**Pn**	**15 54 53.5**	**+1.1**
DRZ	**Dome Shelter**	**2.53**	**19**	P	**Pn**		**Pn**	**15 54 55.1**	**+2.6**
FWVZ	**Far West T-bar**	**2.54**	**19**	P	**Pn**		**Pn**	**15 54 53.9**	**+1.3**
VRZ	**Vera Road**	**2.55**	**4**	P	**Pn**		**Pn**	**15 54 54.3**	**+1.7**
TUVZ	**Tukino**	**2.56**	**20**	P	**Pn**		**Pn**	**15 54 53.6**	**+0.8**
MHEZ	**Mangahewa**	**2.60**	**357**	P	**Pn**		**Pn**	**15 54 56.1**	**+3.0**
KAHZ	**Kahuranaki**	**2.60**	**45**	P	**Pn**		**Pn**	**15 54 51.9**	**-1.3**
SNVZ	**South Ngauruho**	**2.63**	**20**	P	**Pn**		**Pn**	**15 54 54.8**	**+1.1**
NGZ	**Ngauruhoe**	**2.63**	**19**	P	**Pn**		**Pn**	**15 54 54.8**	**+1.0**
OTVZ	**Oturere**	**2.66**	**20**	P	**Pn**		**Pn**	**15 54 55.2**	**+1.1**
NNVZ	**North Ngauruho**	**2.68**	**19**	P	**Pn**		**Pn**	**15 54 55.6**	**+1.2**
KWHZ	**Kaweka Forest**	**2.68**	**34**	P	**Pb**		**Pb**	**15 55 00.2**	**+1.0**
RACZ	**Rakaia**	**2.69**	**220**	P	**Pn**		**Pn**	**15 54 53.3**	**-1.1**
TWVZ	**Taurewa**	**2.70**	**16**	P	**Pn**		**Pn**	**15 54 55.9**	**+1.3**
ETVZ	**East Tongariro**	**2.70**	**20**	P	**Pn**		**Pn**	**15 54 55.2**	**+0.6**
TMVZ	**Te Maari**	**2.71**	**20**	P	**Pn**		**Pn**	**15 54 55.5**	**+0.6**
KRVZ	**Karewarewa**	**2.72**	**19**	P	**Pn**		**Pn**	**15 54 56.4**	**+1.5**
NTVZ	**North Tongarir**	**2.72**	**20**	P	**Pn**		**Pn**	**15 54 56.3**	**+1.3**
KATZ	**Kakaramea**	**2.84**	**19**	P	**Pb**		**Pb**	**15 55 01.7**	**-0.4**
BKZ	**Black Stump Fm**	**2.93**	**32**	P	**Pn**		**Pn**	**15 54 58.0**	**+0.2**
BKZ	**Black Stump Fm**	**2.93**	**32**	P	**Pn**		**Pn**	**15 54 56.6**	**-1.2**
RATZ	**Rangitukua**	**2.97**	**19**	P	**Pb**		**Pb**	**15 55 02.2**	**-1.8**
WACZ	**Wakanui South**	**3.00**	**220**	P	**Pn**		**Pn**	**15 54 57.7**	**-0.9**
HATZ	**Hinemaiaia**	**3.03**	**24**	P	**Pb**		**Pb**	**15 55 04.7**	**-0.5**
ARHZ	**Aropaoanui**	**3.07**	**39**	P	**Pn**		**Pn**	**15 54 58.4**	**-1.2**
NMHZ	**Naumai**	**3.12**	**35**	P	**Pn**		**Pn**	**15 54 59.4**	**-1.0**
WVZ	**Waitaha Valley**	**3.12**	**242**	P	**Pn**		**Pn**	**15 55 02.4**	**+2.0**
HIZ	**Hauiti**	**3.17**	**5**		**Pn**		**Pn**	**15 55 02.4**	**+1.4**
HIZ	**Hauiti**	**3.17**	**5**	P	**Pn**		**Pn**	**15 55 02.0**	**+1.0**
HIZ	**Hauiti**	**3.17**	**5**	P	**Pn**		**Pn**	**15 55 02.6**	**+1.6**
MRHZ	**Matea Rd**	**3.19**	**28**	P	**Pn**		**Pn**	**15 55 00.4**	**-1.0**
RPZ	**Rata Peaks**	**3.26**	**230**	Pn	**Pn**		**Pn**	**15 55 01.7**	**-0.6**
	2.4nm,0.3s,baz=65,slow=1.8,SNR=12								
RPZ					Sn		**Sn**	**15 55 37.6**	**-3.6**
	7.5nm,0.3s,baz=223,slow=14,SNR=1.4								
	12nm,0.6s								
RPZ	**Rata Peaks**	**3.26**	**230**	P	**Pn**		**Pn**	**15 55 02.2**	**-0.1**
RPZ	**Rata Peaks**	**3.26**	**230**	P	**Pn**		**Pn**	**15 55 01.7**	**-0.6**
ARCZ	**Arundel**	**3.34**	**226**	P	**Pn**		**Pn**	**15 55 02.7**	**-0.7**
RAHZ	**Arahi**	**3.39**	**36**	P	**Pn**		**Pn**	**15 55 02.4**	**-1.7**
ALRZ	**Allen Road**	**3.41**	**25**	P	**Pn**		**Pn**	**15 55 10.4**	**-1.2**
TLZ	**Tolley Road**	**3.43**	**14**	P	**Pn**		**Pn**	**15 55 05.7**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**3.50**	**241**	P	Pn		**Pn**	15 55 10.6	+5.0
RTZ	**Ruatahuna**	**3.59**	**33**	P	**Pn**		**Pn**	**15 55 05.6**	**-1.3**
SNGZ	**Shannon Statio**	**3.61**	**38**	P	**Pn**		**Pn**	**15 55 05.0**	**-2.2**
MUGZ	**Murupara**	**3.63**	**29**	P	**Pn**		**Pn**	**15 55 07.4**	**0.0**
TMZ	**Timaru**	**3.73**	**222**	P	**Pn**		**Pn**	**15 55 08.1**	**-0.7**
RIGZ	**Rimuhau**	**3.87**	**41**	P	**Pn**		**Pn**	**15 55 08.5**	**-2.2**
FOZ	**Fox Glacier**	**3.93**	**240**	Pn	**Pn**		**Pn**	**15 55 12.9**	**+1.4**
URZ	**Urewera**	**3.95**	**31**	P	**Pn**		**Pn**	**15 55 11.3**	**-0.5**
URZ	**Urewera**	**3.95**	**31**	P	**Pn**		**Pn**	**15 55 10.0**	**-1.8**
TOZ	**Tahuroa Road**	**4.01**	**11**	P	**Pn**		**Pn**	**15 55 13.2**	**+0.7**
TGRZ	**Tauranga**	**4.17**	**20**	P	Pn		**Pn**	15 55 20.5	+5.8
LBZ	**Lake Benmore**	**4.17**	**228**	P	**Pn**		**Pn**	**15 55 14.7**	**-0.1**
ODZ	**Otahua Downs**	**4.39**	**219**	Pn	**Pn**		**Pn**	**15 55 16.5**	**-1.3**
ODZ	**Otahua Downs**	**4.39**	**219**	P	**Pn**		**Pn**	**15 55 16.4**	**-1.3**
ODZ	**Otahua Downs**	**4.39**	**219**	P	**Pn**		**Pn**	**15 55 16.4**	**-1.4**
MKAZ	**Moumakai**	**4.59**	**7**	P	**Pn**		**Pn**	**15 55 21.4**	**+0.8**
AWAZ	**Awhitu Peninsu**	**4.61**	**1**	P	**Pn**		**Pn**	**15 55 22.4**	**+1.7**
ETAZ	**East Tamaki Re**	**4.72**	**4**	P	**Pn**		**Pn**	**15 55 24.6**	**+2.2**
WTAZ	**Waiatarua**	**4.74**	**1**	P	**Pn**		**Pn**	**15 55 25.3**	**+2.7**
JCZ	**Jackson Bay**	**4.84**	**238**	P	**Pn**		**Pn**	**15 55 26.1**	**+2.0**
JCZ	**Jackson Bay**	**4.84**	**238**	P	**Pn**		**Pn**	**15 55 26.2**	**+2.2**
RVAZ	**Riverhead Bore**	**4.90**	**1**	P	**Pn**		**Pn**	**15 55 26.9**	**+2.1**
WIAZ	**Waiheke Island**	**4.90**	**6**	P	**Pn**		**Pn**	**15 55 26.8**	**+2.0**
MBAZ	**Motutapu North**	**4.91**	**4**	P	**Pn**		**Pn**	**15 55 26.6**	**+1.7**
KUZ	**Kuaotunu**	**5.01**	**11**	P	**Pn**		**Pn**	**15 55 27.6**	**+1.3**
KUZ	**Kuaotunu**	**5.01**	**11**	P	**Pn**		**Pn**	**15 55 27.1**	**+0.8**
MXZ	**Matakaoa Point**	**5.05**	**37**	P	**Pn**		**Pn**	**15 55 27.1**	**+0.3**
HHSZ	**Highcliff Hill**	**5.07**	**213**	P	**Pn**		**Pn**	**15 55 25.6**	**-1.5**
ABAZ	**Army Bay**	**5.07**	**3**	P	**Pn**		**Pn**	**15 55 29.6**	**+2.4**
EAZ	**Earnscleugh**	**5.19**	**225**	P	**Pn**		**Pn**	**15 55 28.2**	**-0.7**
WCZ	**Waipu Caves**	**5.73**	**359**	P	**Pn**		**Pn**	**15 55 38.7**	**+2.6**
SYZ	**Scrubby Hill**	**6.21**	**217**	P	**Pn**		**Pn**	**15 55 42.8**	**+0.1**
OUZ	**Omahuta**	**6.48**	**353**	P	**Pn**		**Pn**	**15 55 47.6**	**+1.1**
OUZ	**Omahuta**	**6.48**	**353**	P	**Pn**		**Pn**	**15 55 49.2**	**+2.7**
CTZ	**Chatham Island**	**6.86**	**110**	P	**Pn**		**Pn**	**15 55 50.1**	**-1.5**
CTZ	**Chatham Island**	**6.86**	**110**	P	**Pn**		**Pn**	**15 55 51.7**	**+0.1**
MSVF	**Nonsavu**	**24.05**	**8**	LR	LR			16 07 09.0	
	comp=Z,475nm,19.7s,baz=8.9,slow=32								
ASAR	**Alice Springs**	**38.20**	**285**	P	**P**			**16 01 29.0**	**-2.0**
	0.7nm,0.4s,baz=124,slow=6.7,SNR=7.1								
	0.7nm,0.4s								
WR0	**Warramunga Arr**	**40.10**	**290**	P	**P**			**16 01 44.9**	**-2.1**
WR0					IAmb		IAmb	16 01 48.5	
	comp=Z,11nm,1.4s								
WB2	**Warramunga Arr**	**40.25**	**290**	P	**P**			**16 01 46.1**	**-2.1**
WB2					IAmb		IAmb	16 01 48.8	
	comp=Z,9.1nm,1.3s								
WRAB	**Tennant Creek**	**40.26**	**290**	P	**P**			**16 01 46.0**	**-2.2**
WRAB					IAmb		IAmb	16 01 47.5	
	comp=Z,4.2nm,0.8s								
WRA	**Warramunga Arr**	**40.26**	**290**	P	**P**			**16 01 46.4**	**-1.9**
	comp=Z,2.2nm,0.6s,baz=127,slow=8.5,SNR=14								
	comp=Z,2.2nm,0.6s								
WRA	**Warramunga Arr**	**40.26**	**290**	P	**P**			**16 01 46.4**	**-1.9**
MTN	**Manton Dam**	**47.36**	**294**	P	**P**			**16 02 43.9**	**-1.5**
QSPA	**South Pole Qui**	**48.45**	**180**	P	**P**			**16 02 53.0**	**-0.5**
QSPA					IAmb		IAmb	16 03 36.7	
	comp=Z,8.4nm,1.4s								
GUMO	**Guam**	**61.41**	**327**	LR	LR			16 26 51.9	
	comp=Z,14nm,19.9s,baz=84,slow=32								
SNAA	**Sanae**	**66.95**	**181**	P	**P**			**16 05 03.8**	**+0.5**
SNAA					IAmb		IAmb	16 05 16.5	
	comp=Z,4.8nm,1.3s								
ARCES	**ARCESS Array B**	**147.77**	**340**	PKPbc	**PKPbc**			**16 13 56.9**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=32,slow=2.4,SNR=1.0								

*IDC **22** 16:01:02.2±0.9,3˚.22N×146˚.91E,h0km,mb4.0/9, mbtmp4.1/10,ML3.8/1,MS3.6/7,Error ellipse: s-maj=31.5km s-min=18.2km az=97.0*
*NEIC **22** 16:01:05.3±1.2,3˚.2N±0˚.1×146˚.76E±0˚.09,h15km±5km, mb4.7/21,Error ellipse: s-maj=19.7km s-min=11.8km az=160.0*
ISC 22 16:01:03.9±0.6,3˚.2N±0˚.1×146˚.77E±0˚.10,h10km,n38, σ0§83/36,mb4.6/19,MS3.4/6,Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**12.06**	**72**		Pn		**Pn**	**16 03 55.7**	**-0.3**
SIJI	**Sorong**	**16.01**	**256**		Pn		**Pn**	**16 04 50.5**	**+1.1**
	0.4nm,0.3s,baz=79,slow=12,SNR=3.9								
SIJI					LR		LR	16 09 22.2	
	comp=Z,172nm,20.8s,baz=60,slow=31								
	4.1nm,0.6s								
DAV	**Davao City (W)**	**21.45**	**281**		LR		LR	16 13 44.6	
	comp=Z,73nm,18.6s,baz=94,slow=35								
MTN	**Manton Dam**	**22.24**	**224**	P	**P**			**16 06 00.5**	**-0.5**
MTN					IAmb		IAmb	16 06 02.8	
	comp=Z,14nm,0.6s								
SOEI	**Soe**	**25.84**	**240**	P	**P**			**16 06 36.1**	**+0.2**
SOEI					IAmb		IAmb	16 06 38.6	
	comp=Z,26nm,1.2s								
WB0	**Warramunga Arr**	**25.84**	**208**	P	**P**			**16 06 35.6**	**-0.2**
WB0					IAmb		IAmb	16 06 38.0	
	comp=Z,14nm,1.1s								
KNRA	**Kununurra**	**25.85**	**223**	P	**P**			**16 06 35.3**	**-0.6**
WR0	**Warramunga Arr**	**25.94**	**207**	P	**P**			**16 06 36.3**	**-0.4**
WRAB	**Tennant Creek**	**26.00**	**207**	P	**P**			**16 06 36.9**	**-0.3**
WRAB					IAmb		IAmb	16 06 40.2	
	comp=Z,9.8nm,0.8s								
WRA	**Warramunga Arr**	**26.02**	**207**	P	**P**			**16 06 37.3**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=32,slow=11,SNR=45								
WRA					PcP		**PcP**	**16 10 06.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=19,slow=3.0,SNR=5.8								
WRA					LR		LR	16 16 56.8	
	comp=Z,88nm,18.8s,baz=11,slow=37								
	comp=Z,4.4nm,0.6s								
WRA	**Warramunga Arr**	**26.02**	**207**	P	**P**			**16 06 37.2**	**-0.1**
TOLI2	**Tolitoli**	**26.05**	**266**	P	**P**			**16 06 35.8**	**-2.0**
AS31	**Alice Springs**	**29.48**	**205**	P	**P**			**16 07 08.7**	**+0.4**
ASAR	**Alice Springs**	**29.48**	**205**	P	**P**			**16 07 08.7**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=31,slow=7.0,SNR=37								
ASAR					PcP		**PcP**	**16 10 14.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=46,slow=1.9,SNR=7.9								
ASAR					LR		LR	16 18 27.6	
	comp=Z,104nm,21.4s,baz=20,slow=35								
	comp=Z,2.3nm,0.8s								
STKA	**Stephens Creek**	**35.21**	**188**	P	**P**			**16 07 59.0**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=4.5,slow=12,SNR=3.7								
	comp=Z,1.6nm,0.7s								
STKA	**Stephens Creek**	**35.21**	**188**	P	**P**			**16 07 59.0**	**+0.6**
MBWA	**Marble Bar**	**35.87**	**226**	P	**P**			**16 08 03.4**	**-0.9**
MSVF	**Nonsavu**	**37.20**	**125**	P	**P**			**16 08 15.6**	**-0.2**
BBOO	**Buckleboo**	**37.20**	**195**	P	**P**			**16 08 15.3**	**-0.2**
BBOO					IAmb		IAmb	16 08 50.0	
	comp=Z,22nm,1.4s								
FORT	**Forrest**	**38.20**	**207**	P	**P**			**16 08 24.3**	**+0.4**
FORT					IAmb		IAmb	16 08 55.4	
	comp=Z,16nm,0.9s								
PSI	**Prapat**	**47.77**	**271**	LR	LR			16 30 17.3	
	comp=Z,41nm,19.0s,baz=40,slow=37								
CMAR	**Chiang Mai Arr**	**49.18**	**292**	P	**P**			**16 09 54.0**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=105,slow=5.9,SNR=11								
	comp=Z,0.5nm,0.4s								
SONM	**Songino Array**	**56.41**	**328**	P	**P**			**16 10 46.3**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=148,slow=9.8,SNR=9.2								
	comp=Z,1.6nm,0.8s								
SONM	**Songino Array**	**56.41**	**328**	P	**P**			**16 10 45.8**	**0.0**
SONM					IAmb		IAmb	16 10 47.5	
	comp=Z,6.9nm,1.4s								
MK31	**Makanchi Array**	**70.39**	**319**	P	**P**			**16 12 18.5**	**+0.2**
MK31					IAmb		IAmb	16 12 21.2	
	comp=Z,13nm,1.4s								
MKAR	**Makanchi Array**	**70.39**	**319**	P	**P**			**16 12 18.9**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=108,slow=7.7,SNR=6.0								
	comp=Z,1.8nm,1.0s								
MKAR	**Makanchi Array**	**70.39**	**319**	P	**P**			**16 12 18.5**	**+0.2**
MAKZ	**Makanchi**	**70.60**	**319**	P	**P**			**16 12 19.5**	**-0.1**
TTA	**Tatalina**	**72.77**	**24**	P	**P**			**16 12 32.4**	**0.0**
TTA					IAmb		IAmb	16 12 39.7	
	comp=Z,6.9nm,1.3s								
L19K	**White Mountain**	**72.89**	**25**	P	**P**			**16 12 34.1**	**+1.1**
L19K					IAmb		IAmb	16 12 37.3	
	comp=Z,9.0nm

NEZ North Egmont 15.10 197 P P 16 06 43.9 +3.5
LREZ Lake Rotokare 15.20 196 P P 16 06 43.0 +1.7
LREZ Lake Rotokare 15.20 196 P P 16 06 43.0 +1.7
PXZ Pawanui 15.26 189 P S 16 09 17.3 -3.5
WAZ Wanganui 15.34 194 P S 16 09 25.3 +3.1
PRHZ Porangahau 15.53 189 P S 16 09 27.5 +1.7
MRZ Mangatainoka R 16.09 192 P P 16 06 48.7 -1.8
MRZ Mangatainoka R 16.09 192 P P 16 06 49.0 -1.5
OGWZ Otaki Gorge 16.32 193 P P 16 06 49.0 -3.9
HOWZ Holdsworth Sta 16.33 192 P P 16 06 50.7 -2.4
MTW Mount Morrison 16.58 192 P P 16 06 54.7 -0.9
DUWZ D'Urville Isla 16.58 196 P P 16 06 54.0 -1.7
CAW Cannon Point 16.62 193 P P 16 06 54.2 -1.7
TRWZ Traveller 16.78 191 P P 16 06 55.6 -2.1
TCW Tory Channel 16.89 195 P P 16 06 57.4 -1.2
SNZO South Karori 16.89 193 P P 16 06 55.8 -2.8
QRZ Quartz Range 16.99 199 P 16 06 57.9 -1.8
QRZ Quartz Range 16.99 199 P P 16 06 59.5 -0.1
QRZ Quartz Range 16.99 199 P P 16 06 58.7 -0.9
PLWZ Palliser 17.03 192 P P 16 06 57.7 -2.4
PLWZ Palliser 17.03 192 P P 16 06 57.8 -2.3
TKNZ Takaka Hill 17.06 198 P P 16 06 58.8 -1.5
NNZ Nelson 17.11 197 P P 16 06 50.5 -10
TUWZ Tuamarina 17.17 195 P P 16 06 59.0 -2.4
MRNZ Matariki Terra 17.45 198 P P 16 07 03.0 -1.0
MRNZ Matariki Terra 17.45 198 P P 16 07 03.1 -1.0
BSWZ Blackbirch Sta 17.46 195 P P 16 06 60.0 -4.1
THZ Tophouse 17.75 197 P 16 07 05.3 -1.5
THZ Tophouse 17.75 197 P P 16 07 05.4 -1.4
DSZ Denniston Nort 18.05 200 P 16 07 08.4 -1.1
DSZ Denniston Nort 18.05 200 P P 16 07 08.8 -0.7
LTZ Lake Taylor 18.87 197 P P 16 07 15.1 -1.9
LHI Lord Howe Isla 19.45 246 P P 16 07 22.1 -0.3
baz=19,SNR=5.1
LHI Lord Howe Isla 19.45 246 P P 16 07 23.1 +0.7
LHI Lord Howe Isla 19.45 246 P P 16 07 23.6 +1.2
RPZ Rata Peaks 20.07 199 P P 16 07 26.9 -1.0
23nm,0.5s,baz=325,slow=1.2,SNR=18
23nm,0.5s
RPZ Rata Peaks 20.07 199 P P 16 07 26.3 -1.6
AUWSH Wavell State H 24.18 258 P P 16 08 06.8 +1.8
76nm,1.2s
AUBSH Beerwah State 24.27 260 P P 16 08 08.0 +2.2
76nm,1.4s
HNR Honiara 24.43 306 P P 16 08 06.5 -0.9
3µm,0.7s,baz=153,slow=2.9,SNR=20
HNR Honiara 24.43 306 P P 16 08 05.9 -1.5
HNR Honiara 24.43 306 P P 16 08 06.7 -0.7
HNR Honiara 24.43 306 P P 16 08 05.9 -1.5
ARMA Armidale 25.55 251 P P 16 08 18.4 +1.2
baz=26,SNR=12
ARMA Armidale 25.55 251 P P 16 08 18.0 +0.7
ARMA Armidale 25.55 251 P P 16 08 18.6 +1.3
EIDS Eidsvold 26.03 263 P P 16 08 21.9 +0.4
baz=26,SNR=11
EIDS Eidsvold 26.03 263 P P 16 08 21.7 +0.2
EIDS Eidsvold 26.03 263 P P 16 08 22.1 +0.6
110nm,1.1s
AUPHS Peel High Scho 26.25 250 P P 16 08 24.1 +0.7
RMQ Roma 28.03 260 P P 16 08 40.6 +1.5
baz=28,SNR=52
RMQ Roma 28.03 260 P P 16 08 40.5 +1.5
CNB Canberra Magne 28.23 241 P P 16 08 41.9 +1.1
baz=28,SNR=15
CNB Canberra Magne 28.23 241 P P 16 08 41.8 +1.1
CAN Canberra 28.52 241 P P 16 08 43.8 +0.5
CAN Canberra 28.52 241 P P 16 08 43.8 +0.5
AULRC Lightning Ridg 28.66 254 P P 16 08 45.4 +1.0
MILA Mila 28.83 238 P P 16 08 46.9 +0.9
baz=29,SNR=4.9
PPT Papeete 29.37 82 P P 16 08 51.8 +0.9
38nm,0.9s,baz=262,slow=7.6,SNR=3.6
38nm,0.9s
CMSA Cobar Meteorol 30.72 250 P P 16 09 02.5 +0.2
baz=31,SNR=50
CMSA Cobar Meteorol 30.72 250 P P 16 09 02.6 +0.2
TV1H Townsville Har 31.10 274 P P 16 09 05.8 +0.1
CTA Charters Tower 31.36 272 P P 16 09 08.4 +0.4
95nm,0.6s,baz=97,slow=10,SNR=218
CTA ScP ScP 16 14 44.0 +3.1
14nm,1.0s,baz=72,slow=3.9,SNR=5.4
95nm,0.6s
CTAO Charters Tower 31.36 272 P P 16 09 08.4 +0.4
CTAO Charters Tower 31.36 272 P P 16 09 08.6 +0.6
CTAO Charters Tower 31.36 272 P P 16 09 08.4 +0.4
CTAO pmax pmax
comp=Z,102nm,0.8s
CTAO Charters Tower 31.36 272 P P 16 09 08.3 +0.3
CTAO ScP ScP 16 14 44.0 +3.1
CORO Coronation Par 31.71 231 P P 16 09 12.3 +1.7
comp=Z,56nm,0.8s
TOO Toolangi 31.79 238 P P 16 09 11.9 +0.5
baz=32,SNR=18
TOO Toolangi 31.79 238 P P 16 09 11.6 +0.2
TOO Toolangi 31.79 238 P P 16 09 12.0 +0.6
comp=Z,43nm,0.7s
TOO Toolangi 31.79 238 P P 16 09 11.6 +0.2
TOO pmax pmax
comp=Z,18nm,0.7s
MOO Moorlands 32.05 229 P P 16 09 13.4 -0.1
baz=32,SNR=4.8
QLP Quilpie 32.06 259 P P 16 09 11.9 -2.0
baz=32,SNR=8.3
QLP Quilpie 32.06 259 P P 16 09 11.9 -2.0
comp=Z,107nm,1.3s
TAU Tasmania Unive 32.14 228 P P 16 09 14.3 0.0
TAU IAmb IAmb 16 09 48.2
comp=Z,129nm,1.9s
TAU Tasmania Unive 32.14 228 P P 16 09 14.3 0.0
TAU pmax pmax
comp=Z,129nm,1.9s
GEXS Deakin Univers 32.86 238 P P 16 09 21.6 +1.2
BRAT Ballarat 32.99 239 P P 16 09 23.0 +1.4
MTSU Mount Surprise 33.67 275 P P 16 09 28.2 +0.5
baz=34,SNR=149
MTSU Mount Surprise 33.67 275 P P 16 09 28.3 +0.6
RABL Rabaul 33.67 303 P P 16 09 26.8 -0.9
RABL Rabaul 33.67 303 P P 16 09 28.0 +0.3
KRVT Keravat (AS076 33.70 303 P P 16 09 26.9 -1.0
comp=Z,120nm,0.6s,baz=222,slow=0.7,SNR=47
comp=Z,120nm,0.6s
STKA Stephens Creek 34.23 249 P P 16 09 32.3 +0.1
comp=Z,12nm,0.5s,baz=97,slow=11,SNR=44
STKA ScP ScP 16 14 53.1 +2.3
comp=Z,8.3nm,0.9s,baz=103,slow=3.1,SNR=5.8
comp=Z,12nm,0.5s
STKA Stephens Creek 34.23 249 P P 16 09 32.3 +0.1
baz=34,SNR=33
STKA Stephens Creek 34.23 249 P P 16 09 31.6 -0.6
STKA Stephens Creek 34.23 249 P P 16 09 32.5 +0.3
STKA Stephens Creek 34.23 249 *i* P P 16 09 31.9 -0.3
ARPS Mount Arapiles 34.49 241 P P 16 09 34.5 +0.2
baz=34,SNR=12
ARPS Mount Arapiles 34.49 241 P P 16 09 34.3 0.0
XMAS Kiritimati 34.70 43 P P 16 09 37.2 +1.0
PMG Port Moresby 34.72 291 P P 16 09 36.3 -0.2
comp=Z,40nm,0.7s,baz=109,slow=4.5,SNR=13
PMG ScP ScP 16 14 56.1 +3.3
comp=Z,24nm,1.0s,baz=47,slow=3.3,SNR=5.0
comp=Z,40nm,0.7s
PMG Port Moresby 34.72 291 P P 16 09 35.9 -0.5
PMG IAmb IAmb 16 09 37.4
comp=Z,60nm,0.9s
PMG Port Moresby 34.72 291 P P 16 09 36.9 +0.4
PMG Port Moresby 34.72 291 P P 16 09 36.8 +0.3
PMG Port Moresby 34.72 291 P P 16 09 35.9 -0.5
PMG pmax pmax
comp=Z,60nm,0.9s
PMG Port Moresby 34.72 291 P P 16 09 36.2 -0.2
PMG ScP ScP 16 14 54.8 +2.1
INKA Innaminka 35.06 257 P P 16 09 40.0 +0.8
COEN Coen 36.16 281 P P 16 09 49.0 +0.6
baz=36,SNR=20
COEN Coen 36.16 281 P P 16 09 48.7 +0.2
COEN IAmb IAmb 16 09 50.0
comp=Z,58nm,0.9s
COEN Coen 36.16 281 P P 16 09 49.3 +0.8
HTT Hallett 36.54 247 P P 16 09 51.2 -0.3
baz=36,SNR=28
HTT Hallett 36.54 247 P P 16 09 51.2 -0.3
LCRK Leigh Creek 37.12 252 P P 16 09 56.2 0.0
QIS Mount Isa 37.28 268 P P 16 09 57.6 -0.1
baz=37,SNR=11
QIS Mount Isa 37.28 268 P P 16 09 57.4 -0.3

WHYH Whyalla 37.66 248 P P 16 10 00.3 -0.2
BBOO Buckleboo 38.93 248 P P 16 10 10.1 -0.8
baz=39,SNR=18
BBOO Buckleboo 38.93 248 P P 16 10 09.6 -1.3
BBOO IAmb IAmb 16 10 11.0
comp=Z,37nm,0.8s
BBOO Buckleboo 38.93 248 P P 16 10 10.3 -0.6
OOD Oodnadatta 39.52 256 P P 16 10 16.4 +0.6
MULG Mulgathing 40.72 252 P P 16 10 24.8 -0.6
AS01 Alice Springs 41.70 262 P P 16 10 33.0 -0.4
AS31 Alice Springs 41.74 262 P P 16 10 32.7 -1.0
ASAR Alice Springs 41.75 262 P P 16 10 33.2 -0.5
comp=Z,57nm,1.0s,baz=89,slow=7.2,SNR=264
ASAR ScP ScP 16 15 21.8 +2.1
comp=Z,5.5nm,0.8s,baz=104,slow=4.1,SNR=10.0
ASAR S S 16 16 11.4 -2.4
comp=Z,4.5nm,0.8s,baz=98,slow=16,SNR=14
ASAR P3KPbc 16 39 50.9
comp=Z,0.3nm,0.7s,baz=297,slow=4.2,SNR=7.4
comp=Z,57nm,1.0s
ASAR Alice Springs 41.75 262 P P 16 10 33.0 -0.7
ASAR Alice Springs 41.75 262 P P 16 10 33.0 -0.7
WR0 Warramunga Arr 42.03 267 P P 16 10 34.5 -1.4
WR0 IAmb IAmb 16 10 35.6
comp=Z,37nm,0.7s
WB1 Warramunga Ar. 42.20 267 P P 16 10 36.8 -0.5
WB2 Warramunga Arr 42.20 267 P P 16 10 36.2 -1.1
WRAB Tennant Creek 42.21 267 P P 16 10 36.7 -0.6
WRAB Tennant Creek 42.21 267 *d* P P 16 10 36.3 -1.0
WRAB pmax pmax
comp=Z,54nm,0.7s
WRAB Tennant Creek 42.21 267 P P 16 10 36.3 -1.0
WRAB ScP ScP 16 15 24.0 +2.4
WB0 Warramunga Arr 42.21 268 P P 16 10 36.1 -1.2
WRA Warramunga Arr 42.22 267 P P 16 10 36.4 -1.0
comp=Z,63nm,0.7s,baz=100,slow=7.3,SNR=293
WRA ScP ScP 16 15 23.4 +1.7
comp=Z,16nm,0.8s,baz=101,slow=4.1,SNR=23
WRA S S 16 16 17.1 -3.5
comp=Z,14nm,1.0s,baz=101,slow=15,SNR=13
comp=Z,63nm,0.7s
GENI Genyem 44.21 294 P P 16 10 52.9 -0.1
comp=Z,112nm,0.8s
GENI Genyem 44.21 294 P P 16 10 53.0 -0.1
comp=Z,115nm,0.8s
FORT Forrest 45.84 251 P P 16 11 03.9 -1.3
FORT Forrest 45.84 251 P P 16 11 04.0 -1.3
KDU Kakadu 46.26 276 P P 16 11 07.7 -0.9
baz=46,SNR=13
KDU Kakadu 46.26 276 P P 16 11 07.8 -0.9
WRKA Warakurna 46.49 258 P P 16 11 09.7 -0.8
baz=46,SNR=80
WRKA Warakurna 46.49 258 P P 16 11 09.7 -0.8
MTN Manton Dam 47.41 275 P P 16 11 16.2 -1.2
baz=47,SNR=10.0
MTN Manton Dam 47.41 275 P P 16 11 15.9 -1.5
DRV Dumont d'Urvil 48.53 200 P P 16 11 24.7 -0.3
DRV ScP ScP 16 15 47.6 +0.6
KNRA Kununurra 48.56 271 P P 16 11 25.8 -0.3
baz=48,SNR=111
KNRA Kununurra 48.56 271 P P 16 11 25.7 -0.3
KNRA Kununurra 48.56 271 P P 16 11 25.9 -0.1
HUH Hualalai 50.26 30 P P 16 11 39.7 +0.9
PUH Pauahi 50.28 31 P P 16 11 39.6 +0.8
MLH Mauna Loa 50.31 31 P P 16 11 38.3 -0.7
HMH Humu'ula Sheep 50.36 31 P P 16 11 40.2 +0.8
HPAH Hawaii Prepara 50.63 30 P P 16 11 41.5 +0.3
MHA Mahukona 50.67 30 P P 16 11 42.5 +1.1
MHA Mahukona 50.67 30 P P 16 11 42.5 +1.1
FAKI Fak Fak 50.76 288 P P 16 11 41.4 -0.9
FAKI IAmb IAmb 16 13 05.1
comp=Z,48nm,1.1s
HLK Haleakala 51.02 29 P P 16 11 44.8 +0.6
SIJI Sorong 52.64 289 P P 16 11 55.6 -0.3
comp=Z,124nm,0.8s,baz=80,slow=7.1,SNR=42
comp=Z,124nm,0.8s
SBA Scott Base 53.34 183 P P 16 12 01.7 +1.8
SBA Scott Base 53.34 183 P P 16 12 01.7 +1.8
SBA pmax pmax
comp=Z,18nm,0.9s
SBA Scott Base 53.34 183 P P 16 12 02.0 +2.1
VNDA Vanda 53.34 185 P P 16 12 01.1 +1.2
comp=Z,3.6nm,0.5s,baz=4.7,slow=8.0,SNR=49
VNDA PcP PcP 16 12 59.8 +0.7
comp=Z,4.3nm,0.8s,baz=6.8,slow=2.9,SNR=6.7
VNDA ScP ScP 16 16 08.9 +1.3
comp=Z,2.1nm,0.8s,baz=350,slow=8.6,SNR=6.6
comp=Z,3.6nm,0.5s
VNDA Vanda 53.34 185 P P 16 12 00.9 +1.0
VNDA Vanda 53.34 185 P P 16 12 00.9 +1.0
VNDA pmax pmax
comp=Z,5.0nm,0.7s
VNDA Vanda 53.34 185 P P 16 12 00.9 +1.0
VNDA PcP PcP 16 12 59.5 +0.4
VNDA pP pP 16 13 39.1 +1.1
VNDA ScP ScP 16 16 08.9 +1.3
MSAI Masohi 53.44 285 P P 16 12 01.3 -0.3
comp=Z,831nmcomp=Z,8.5nm,0.7s
AAI Ambon 53.93 284 P P 16 12 04.7 -0.3
comp=Z,747nmcomp=Z,81nm,1.1s
KLBR Kellerberrin 54.47 248 P P 16 12 07.9 -0.8
NWAO Narrogin (SRO) 54.69 246 P P 16 12 09.5 -0.7
NWAO Narrogin (SRO) 54.69 246 P P 16 12 09.5 -0.7
NWAO pmax pmax
comp=Z,42nm,1.4s
NWAO Narrogin (SRO) 54.69 246 P P 16 12 09.1 -1.1
MEEK Meekatharra 54.70 254 P P 16 12 09.2 -1.2
SOEI Soe 54.81 276 P P 16 12 12.0 +0.6
SOEI IAmb IAmb 16 12 22.5
comp=Z,92nm,0.9s
SOEI Soe 54.81 276 P P 16 12 12.3 +0.9
comp=Z,1µmcomp=Z,112nm,1.1s
SOEI Soe 54.81 276 P P 16 12 12.5 +1.1
PSA00 Pilbara Seismi 54.85 260 P P 16 12 10.3 -1.2
MBWA Marble Bar 55.07 261 P P 16 12 11.9 -1.1
MBWA Marble Bar 55.07 261 P P 16 12 12.2 -0.8
MBWA Marble Bar 55.07 261 P P 16 12 11.9 -1.1
MBWA pP pP 16 13 51.8 +0.2
MBWA ScP ScP 16 16 14.6 -1.7
NLAI Namlea 55.10 284 P P 16 12 13.1 -0.2
comp=Z,7µmcomp=Z,45nm,1.0s
BATI Baumata 55.17 275 P P 16 12 14.9 +1.1
comp=Z,49nm,0.6s,baz=209,slow=2.5,SNR=19
comp=Z,49nm,0.6s
BATI Baumata 55.17 275 P P 16 12 14.9 +1.1
comp=Z,75nm,0.8s
BLDU Ballidu 55.53 249 P P 16 12 15.4 -0.7
LBMI Labuha 56.01 287 P P 16 12 19.9 +0.3
comp=Z,89nm,1.0s
MORW Morawa 56.40 251 P P 16 12 21.1 -1.1
MORW Morawa 56.40 251 P P 16 12 21.5 -0.7
SANI Sanana 56.64 285 P P 16 12 23.0 -1.0
comp=Z,647nmcomp=Z,65nm,0.8s
SANI Sanana 56.64 285 P P 16 12 23.3 -0.7
TNTI Ternate 56.83 289 P P 16 12 23.8 -1.4
TNTI IAmb IAmb 16 12 25.7
comp=Z,52nm,1.0s
TNTI Ternate 56.83 289 P P 16 12 24.8 -0.5
comp=Z,547nmcomp=Z,58nm,1.0s
TNTI Ternate 56.83 289 P P 16 12 25.0 -0.2
comp=Z,57nm,1.0s
MMRI Maumere 57.09 276 P P 16 12 26.0 -1.1
MMRI IAmb IAmb 16 12 27.4
comp=Z,53nm,0.7s
CCD Concordia, Ant 57.70 195 P P 16 12 30.5 -0.2
CCD pP pwP 16 14 15.3 -0.3
CCD ScP ScP 16 16 27.2 -0.2
GIRL Giralia 59.56 257 P P 16 12 44.3 +0.6
LUWI Luwuk 59.94 284 P P 16 12 45.7 -0.6
LUWI IAmb IAmb 16 12 47.2
comp=Z,86nm,1.0s
LUWI Luwuk 59.94 284 P P 16 12 46.3 0.0
comp=Z,1µmcomp=Z,101nm,1.1s
LUWI Luwuk 59.94 284 P P 16 12 46.3 0.0
BKSI Bulukumba 60.38 278 P P 16 12 48.3 -0.9
comp=Z,640nmcomp=Z,85nm,0.9s
BNSI Bone 60.79 279 P P 16 12 51.9 -0.1
comp=Z,423nmcomp=Z,34nm,1.3s
APSI Ampana 60.99 284 P P 16 12 53.2 -0.1
comp=Z,787nmcomp=Z,83nm,0.9s
PLAI Plampang 61.05 274 P P 16 12 53.0 -0.7
comp=Z,176nm,1.1s
PLAI Plampang 61.05 274 P P 16 12 53.2 -0.5
MRSI Marisa 61.39 285 P P 16 12 55.4 -0.5
comp=Z,29nm,0.7s

TWSI Taliwang, Sumb 61.89 273 P P 16 12 58.9 -0.3
comp=Z,79nm,1.2s
TOLI2 Tolitoli 62.71 285 P P 16 13 03.4 -1.2
TOLI2 IAmb IAmb 16 13 05.9
comp=Z,39nm,0.8s
TOLI2 Tolitoli 62.71 285 P P 16 13 03.6 -0.9
MPSI Mapaga 63.12 284 P P 16 13 06.3 -0.9
comp=Z,391nmcomp=Z,37nm,0.8s
SRBI Singaraja 63.67 273 P P 16 13 10.6 -0.1
comp=Z,60nm,0.9s
JAGI Jajag, Banyuwa 64.48 272 P P 16 13 14.2 -1.6
JAGI Jajag, Banyuwa 64.48 272 P P 16 13 14.5 -1.3
QSPA South Pole Qui 65.16 180 P P 16 13 20.3 +0.9
comp=Z,36nm,0.7s,baz=23,slow=1.1,SNR=247
comp=Z,36nm,0.7s
QSPA South Pole Qui 65.16 180 P P 16 13 20.3 +0.9
QSPA IAmb IAmb 16 13 21.4
comp=Z,45nm,0.8s
QSPA South Pole Qui 65.16 180 P P 16 13 20.0 +0.6
BBKI Banjar Baru 65.92 278 P P 16 13 24.9 0.0
GRJI Gresik 66.62 273 P P 16 13 29.6 +0.4
comp=Z,153nm,0.9s
PWJI Pagerwojo 66.78 272 P P 16 13 30.3 0.0
comp=Z,60nm,0.9s
MTKI Muara Teweh, K 66.98 280 P P 16 13 31.9 +0.4
PCJI Pacitan 67.28 271 P P 16 13 34.0 +0.6
comp=Z,128nm,1.0s
UGM Wanagama 67.99 271 P P 16 13 37.3 -0.4
KKM Kota Kinabalu 69.08 287 P P 16 13 44.1 -0.3
KKM IAmb IAmb 16 13 45.3
comp=Z,50nm,1.3s
BBJI Bungbulang 70.78 271 P P 16 13 53.8 -0.7
comp=Z,61nm,0.8s
SBUM Sibu 70.89 282 P P 16 13 54.6 -0.5
KSM Kuching 72.16 280 P P 16 14 02.1 -0.4
KSM IAmb IAmb 16 14 03.3
comp=Z,28nm,0.8s
KSM Kuching 72.16 280 P P 16 14 02.6 +0.1
comp=Z,40nm,0.9s
INU Inuyama 72.38 324 P P 16 14 03.0 -0.3
INU IAmb IAmb 16 16 50.9
comp=Z,61nm,1.0s
MJAR Matsushiro Arr 72.67 326 P P 16 14 05.0 0.0
comp=Z,7.7nm,0.8s,baz=160,slow=5.9,SNR=11
comp=Z,7.7nm,0.8s
MAJO Matsushiro 72.67 326 *i* P P 16 14 05.1 +0.1
MAJO pmax pmax
comp=Z,10.0nm,0.9s
JSU Suzuyama 73.34 317 P P 16 14 09.3 +0.4
JSU IAmb IAmb 16 14 24.9
comp=Z,62nm,1.4s
TWG Pinlang 74.19 305 P P 16 14 12.6 -1.3
TWG IAmb IAmb 16 14 17.4
comp=Z,60nm,1.4s
JNU Nakatsue 74.21 319 P P 16 14 12.9 -1.0
JNU IAmb IAmb 16 15 54.9
comp=Z,138nm,1.9s
TPUB Ta-pu 74.80 305 P P 16 14 16.2 -1.1
SSLB Suanglung 74.84 306 P P 16 14 16.2 -1.4
LWLI Liwa 75.03 271 P P 16 14 19.5 +0.5
comp=Z,89nm,0.7s
SMAI San Martin Ant 75.19 159 P P 16 14 19.7 +1.0
BELA Belgrano 2 75.43 173 P P 16 14 19.8 -0.2
BELA IAmb IAmb 16 14 20.9
comp=Z,36nm,0.8s
ADK Adak 76.54 2 P P 16 14 26.3 0.0
ADK Adak 76.54 2 P P 16 14 26.3 0.0
ADK pmax pmax
comp=Z,98nm,1.1s
MAW Mawson 76.74 201 P P 16 14 28.5 +1.2
comp=Z,15nm,0.7s,baz=133,slow=8.9,SNR=18
comp=Z,15nm,0.7s
MAW Mawson 76.74 201 P P 16 14 28.3 +1.0
MAW Mawson 76.74 201 P P 16 14 28.3 +1.0
MAW pmax pmax
comp=Z,12nm,1.6s
PMSA Palmer Station 78.02 157 P P 16 14 35.4 +1.1
comp=Z,25nm,0.8s,baz=237,slow=3.3,SNR=10
comp=Z,25nm,0.8s
PMSA Palmer Station 78.02 157 P P 16 14 35.2 +0.8
MYKOM Kota Tinggi 78.08 278 P P 16 14 35.0 -0.6
NIKH Nikolski Hap 78.19 7 P P 16 14 36.2 +0.9
baz=190
DLV T Lat 78.60 289 P P 16 14 39.8 +1.2
comp=Z,28nm,1.1s
KSRS Korea Array 78.95 320 P P 16 14 40.9 +1.2
comp=Z,4.5nm,0.7s,baz=130,slow=5.9,SNR=12
comp=Z,4.5nm,0.7s
YSS Yuzh-Sakhalins 79.01 335 *e* P P 16 14 40.3 +0.5
YSS pmax pmax
comp=Z,20nm,0.7s
SDSI Sungai Dareh 79.11 274 P P 16 14 40.1 -1.1
comp=Z,11nm,1.0s
UNV Unalaska Valle 79.33 8 P P 16 14 42.1 +0.8
baz=193
AKUT Akutan 79.71 9 P P 16 14 43.3 0.0
PET Petropavlovsk 79.79 347 P P 16 14 43.8 +0.1
PET IAmb IAmb 16 15 09.9
comp=Z,114nm,1.3s
PET Petropavlovsk 79.79 347 *i* P P 16 14 43.9 +0.1
PET pmax pmax
comp=Z,41nm,1.3s
PEA0B Petropavlovsk- 80.07 347 P P 16 14 46.0 +0.7
PEA0B Petropavlovsk- 80.07 347 P P 16 14 46.0 +0.7
PEA0B pmax pmax
comp=Z,204nm,1.7s
PETK Petropavlovsk- 80.07 347 P P 16 14 46.0 +0.7
comp=Z,13nm,0.6s,baz=127,slow=6.6,SNR=33
comp=Z,13nm,0.6s
PETK Petropavlovsk- 80.07 347 P P 16 14 45.6 +0.4
PETK Petropavlovsk- 80.07 347 P P 16 14 45.7 +0.4
MG05 Puerto Natales 80.98 143 P P 16 14 51.4 +1.1
MG05 IAmb IAmb 16 14 51.8
comp=Z,34nm,0.8s
GO10 Punta Arenas 81.04 145 P P 16 14 52.4 +1.8
GO10 IAmb IAmb 16 14 53.6
comp=Z,82nm,1.1s
NJ2 Nanjing 81.24 311 *e* P P 16 14 54.0 +2.2
NJ2 pmax pmax
comp=Z,16nm,1.3s
GO09 Cerro Castillo 81.27 143 P P 16 14 52.9 +1.1
GO09 IAmb IAmb 16 14 54.0
comp=Z,61nm,1.6s
USRK Ussuriysk Ar. 81.56 327 P P 16 14 54.3 +1.1
comp=Z,3.7nm,0.6s,baz=131,slow=3.6,SNR=11
comp=Z,3.7nm,0.6s
USRK Ussuriysk Ar. 81.56 327 P P 16 14 54.0 +0.8
USRK Ussuriysk Ar. 81.56 327 P P 16 14 54.0 +0.8
USA0B Ussuriysk Arra 81.56 327 P P 16 14 54.2 +1.0
USA0B Ussuriysk Arra 81.56 327 P P 16 14 54.2 +1.0
USA0B pmax pmax
comp=Z,53nm,1.9s
SDPT Sand Point 81.71 11 P P 16 14 53.7 +0.1
IPM Ipoh 81.79 279 P P 16 14 54.5 -0.7
MG01 Puerto William 81.85 147 P P 16 14 55.5 +0.9
MG01 IAmb IAmb 16 14 57.1
comp=Z,34nm,0.9s
SCZ2 Santa Cruz Isl 82.07 47 P P 16 14 56.5 +0.5
baz=233
MG02 Cerro Sombrero 82.18 145 P P 16 14 57.5 +1.2
SCI2 San Clemente I 82.19 48 P P 16 14 57.2 +0.4
baz=234
SBC Santa Barbara 82.28 47 P P 16 14 58.0 +0.9
baz=233
PKM Mcpherson Peak 82.49 46 P P 16 14 59.3 +0.8
baz=233
CIS Catalina Islan 82.53 48 P P 16 14 59.4 +1.0
baz=234
SAO San Andreas Ge 82.59 44 P P 16 14 60.0 +1.3
SAO San Andreas Ge 82.59 44 P P 16 15 00.0 +1.3
SAO pmax pmax
comp=Z,22nm,1.0s
PMPB Monarch Peak 82.66 45 P P 16 15 00.1 +1.0
PMPB IAmb IAmb 16 15 02.1
comp=Z,34nm,1.0s
BCW Bitter Crk WRg 82.78 46 P P 16 14 59.9 +0.1
BCW IAmb IAmb 16 15 02.8
comp=Z,32nm,0.8s
FMP Fort Macarthur 82.80 48 P P 16 15 00.6 +0.9
baz=234
RPSI Rantau Prapat 82.91 276 P P 16 14 59.4 -1.4
PSI Prapat 82.96 276 P P 16 15 00.0 -1.2
comp=Z,5.6nm,0.6s,baz=168,slow=5.1,SNR=6.1
comp=Z,5.6nm,0.6s
PSI Prapat 82.96 276 P P 16 15 00.7 -0.5
comp=Z,13nm,1.0s

PSI **Prapat** 82.96 276 P **P** 16 14 59.4 -1.8
PSI pmax pmax
comp=Z,9.0nm,0.9s
CHGN **Chignik** 82.99 12 P **P** 16 15 00.6 +0.5
CHGN IAmb IAmb 16 15 04.5
comp=Z,35nm,0.8s
CHGN **Chignik** 82.99 12 P **P** 16 15 01.4 +1.2
baz=200
OSI **Oslo Audit: C** 83.04 47 P **P** 16 15 02.1 +1.1
baz=233
CBX **Cerro Bola** 83.09 50 P **P** 16 15 02.7 +1.3
CHIR **Chirikof Islan** 83.10 14 P **P** 16 15 01.5 +0.8
CHIR **Chirikof Islan** 83.10 14 P **P** 16 15 02.7 +2.0
baz=202
ARVC **Arvin** 83.28 46 P **P** 16 15 03.0 +0.8
baz=233
BAR **Barrett** 83.30 49 P **P** 16 15 04.0 +1.7
BAR IAmb IAmb 16 15 05.3
comp=Z,72nm,1.7s
TROLL **Troll, Antarti** 83.30 181 P **P** 16 15 01.7 -0.2
TROLL **Troll, Antarti** 83.30 181 pP pP 16 16 56.9 +4.6
KMPM **Mount Pierce** 83.30 40 P **P** 16 15 04.2 +1.9
KMRM **Mail Ridge** 83.42 40 P **P** 16 15 04.7 +1.9
KMRM IAmb IAmb 16 15 06.1
comp=Z,39nm,0.9s
MURC **Murrieta** 83.47 48 P **P** 16 15 04.1 +0.9
baz=234,SNR=5.5
BFSC **Mount Baldy Ra** 83.53 48 P **P** 16 15 04.3 +0.7
baz=234,SNR=5.5
VES **Vestal, Richgr** 83.54 46 P **P** 16 15 04.6 +1.2
baz=233
GSI **Gunungsitoli** 83.54 274 P **P** 16 15 04.0 0.0
GSI IAmb IAmb 16 16 56.8
comp=Z,92nm,1.7s
MONP2 **Monument Peak** 83.59 49 P **P** 16 15 05.6 +1.6
baz=235,SNR=14
SNAA **Sanae** 83.64 179 P **P** 16 15 02.9 -0.6
SNAA **Sanae** 83.64 179 pP pP 16 16 57.4 +3.4
SNAA **Sanae** 83.64 179 P **P** 16 15 03.0 -0.4
SNAA **Sanae** 83.64 179 *i* P **P** 16 15 03.1 -0.4
SNAA pmax pmax
comp=Z,13nm,1.1s
IKP **In-Ko-Pah, Jac** 83.67 50 P **P** 16 15 06.4 +2.1
baz=235,SNR=9.1
EDW2 **Edwards Air Fo** 83.68 47 P **P** 16 15 05.8 +1.5
baz=234
YUH **Yuha Desert** 83.80 50 P **P** 16 15 06.1 +1.3
YUH IAmb IAmb 16 15 07.7
comp=Z,31nm,1.0s
KHMM **Horse Mountain** 83.83 39 P **P** 16 15 06.6 +1.7
KHMM IAmb IAmb 16 15 08.2
comp=Z,70nm,1.4s
ISA **Isabella, Lake** 83.83 46 P **P** 16 15 06.7 +1.7
ISA IAmb IAmb 16 15 07.7
comp=Z,41nm,0.9s
ISA **Isabella, Lake** 83.83 46 P **P** 16 15 06.5 +1.5
baz=233
ISA **Isabella, Lake** 83.83 46 P **P** 16 15 06.7 +1.7
ISA pmax pmax
comp=Z,41nm,1.0s
VNA3 **Neumayer Olymp** 83.86 177 P **P** 16 15 03.9 -0.6
VNA3 **Neumayer Olymp** 83.86 177 pP pP 16 16 59.3 +4.2
PFO **Pinyon Flats O** 83.98 49 P **P** 16 15 06.9 +1.1
PFO **Pinyon Flats O** 83.98 49 P **P** 16 15 07.1 +1.3
baz=235,SNR=5.9
PFO **Pinyon Flats O** 83.98 49 P **P** 16 15 06.9 +1.1
PFO pmax pmax
comp=Z,23nm,1.1s
TPFO **Pinon Flats** 83.98 49 P **P** 16 15 07.1 +1.2
baz=235,SNR=6.4
CMB **Columbia Colle** 84.04 43 P **P** 16 15 07.5 +1.6
CMB IAmb IAmb 16 15 08.3
comp=Z,24nm,0.9s
CMB **Columbia Colle** 84.04 43 P **P** 16 15 07.5 +1.6
CMB pmax pmax
comp=Z,24nm,1.0s
SWSC **Sam W. Stewart** 84.05 50 P **P** 16 15 07.5 +1.5
baz=235,SNR=8.1
SII **Sitkinak Islan** 84.10 14 P **P** 16 15 06.8 +1.1
NVL **N'lazarevskaya** 84.19 184 *eP* **P** 16 15 04.0 -2.1
NVL pmax pmax
comp=Z,16nm,0.9s
COYC **Coyhaique** 84.22 138 P **P** 16 15 07.4 +0.7
AFDM **Forest Hills D** 84.24 42 P **P** 16 15 07.3 +0.5
AFDM IAmb IAmb 16 15 09.3
comp=Z,27nm,1.0s
LRMC **Laurel Mtn Rad** 84.24 47 P **P** 16 15 08.4 +1.3
baz=234
VNA2 **Neumayer--Watz** 84.27 178 P **P** 16 15 06.0 -0.5
baz=175,slow=5.0
VNA2 **Neumayer--Watz** 84.27 178 pP pP 16 17 02.2 +4.9
baz=168,slow=4.1
R16K **Pilot Point** 84.34 12 P **P** 16 15 10.2 +3.4
baz=200
AY01 **Puyuhuapi** 84.44 137 P **P** 16 15 08.7 +0.8
VNA1 **Neumayer--Stat** 84.51 177 P **P** 16 15 06.8 -0.9
VNA1 **Neumayer--Stat** 84.51 177 pP pP 16 17 03.4 +4.8
BELC **Belle Mtn. Jos** 84.52 49 P **P** 16 15 10.2 +1.7
baz=235,SNR=19
CWC **Cottonwood Cre** 84.55 46 P **P** 16 15 09.8 +1.2
baz=234
MDPB **Devils Postpil** 84.62 44 P **P** 16 15 09.5 +0.4
CN2 **Changchun** 84.64 324 *eP* **P** 16 15 10.9 +2.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
R17K **Ugashik Creek** 84.64 13 P **P** 16 15 10.0 +1.7
baz=202
BC3 **Big Chuckawall** 84.69 49 P **P** 16 15 11.3 +1.9
baz=235,SNR=12
MPMC **Manual Prospec** 84.71 46 P **P** 16 15 10.8 +1.4
baz=234
GSC **Goldstone, Bar** 84.72 47 P **P** 16 15 10.2 +0.8
GSC IAmb IAmb 16 15 12.0
comp=Z,29nm,1.0s
GSC **Goldstone, Bar** 84.72 47 P **P** 16 15 11.0 +1.6
baz=234,SNR=16
GSC **Goldstone, Bar** 84.72 47 P **P** 16 15 10.2 +0.8
GSC pmax pmax
comp=Z,29nm,1.0s
HEC **Hector,Ludlow** 84.76 48 P **P** 16 15 10.7 +1.1
baz=235,SNR=22
MLAC **Mammoth, Mammo** 84.77 44 P **P** 16 15 11.5 +1.7
baz=233
GLA **Glamis** 84.79 50 P **P** 16 15 11.5 +1.8
GLA IAmb IAmb 16 15 13.1
comp=Z,52nm,0.9s
GLA **Glamis** 84.79 50 P **P** 16 15 11.7 +2.0
baz=236,SNR=17
GLA **Glamis** 84.79 50 P **P** 16 15 11.5 +1.8
GLA pmax pmax
comp=Z,52nm,1.0s
EMB **Emerald Bay** 84.79 43 P **P** 16 15 10.7 +0.9
TIA **Tai'an** 84.85 314 *eP* **P** 16 15 11.0 +1.1
TIA pmax pmax
comp=Z,17nm,0.7s
LL06 **Loncomilla** 84.90 134 P **P** 16 15 11.8 +1.6
LL06 IAmb IAmb 16 15 12.9
comp=Z,60nm,0.9s
OHAK **Old Harbor** 84.91 14 P **P** 16 15 10.4 +0.8
WAKR **Walker** 84.92 43 P **P** 16 15 11.5 +1.1
YBH **Yreka Blue Hor** 84.97 39 P **P** 16 15 11.9 +1.5
YBH **Yreka Blue Hor** 84.97 39 P **P** 16 15 11.9 +1.5
YBH pmax pmax
comp=Z,20nm,1.2s
MPK **Martis Peak** 85.03 42 P **P** 16 15 11.8 +0.8
MPK IAmb IAmb 16 15 13.7
comp=Z,63nm,1.4s
QSM **Queen of Sheba** 85.06 47 P **P** 16 15 11.8 +0.8
QSM IAmb IAmb 16 15 13.5
comp=Z,65nm,1.9s
DSP **Deep Springs** 85.17 45 P **P** 16 15 12.6 +1.3
DSP IAmb IAmb 16 15 14.1
comp=Z,42nm,1.7s
PNTR **Pine Nut** 85.17 43 P **P** 16 15 12.8 +1.1
PNTR IAmb IAmb 16 15 14.2
comp=Z,23nm,0.8s
BEKR **Beckworth** 85.18 42 P **P** 16 15 12.4 +0.8
IRM **Iron Mountain** 85.19 49 P **P** 16 15 13.5 +1.9
baz=236,SNR=26
GMRC **Granite Mounta** 85.19 48 P **P** 16 15 13.1 +1.4
baz=235,SNR=11
VCNR **Virginia City** 85.27 43 P **P** 16 15 13.0 +0.9
VCNR IAmb IAmb 16 15 14.6
comp=Z,44nm,1.7s
LCH **Last Change Ra** 85.30 45 P **P** 16 15 12.9 +0.7

Q17K **Contact Creek** 85.32 13 P **P** 16 15 12.8 +1.1
baz=202
GWY **Greenwater Val** 85.32 47 P **P** 16 15 13.1 +0.7
YERR **Yerington** 85.33 43 P **P** 16 15 13.3 +0.9
YERR IAmb IAmb 16 15 14.8
comp=Z,40nm,1.5s
GRAC **Grapevine Rang** 85.34 46 P **P** 16 15 13.9 +1.6
baz=234
LHV **Little Huntoon** 85.35 44 P **P** 16 15 13.4 +1.2
FURC **Furnace Creek,** 85.36 46 P **P** 16 15 13.7 +1.4
baz=234
KLR **Kul'dur** 85.36 331 P **P** 16 15 14.0 +2.0
comp=Z,2.5nm,0.6s,baz=6.1,slow=0.8,SNR=9.1
comp=Z,2.5nm,0.6s
KLR **Kul'dur** 85.36 331 *i* P **P** 16 15 13.3 +1.3
KLR pmax pmax
comp=Z,9.0nm,1.8s
113A **Mohawk Valley,** 85.37 51 P **P** 16 15 13.8 +1.3
113A IAmb IAmb 16 15 15.6
comp=Z,27nm,1.1s
TUQ **Turquoise Moun** 85.39 48 P **P** 16 15 13.7 +1.0
baz=235,SNR=15
HUMO **Hull Mountain** 85.39 38 P **P** 16 15 13.7 +1.3
HUMO IAmb IAmb 16 15 15.7
comp=Z,47nm,1.4s
HSIG 85.41 55 P **P** 16 15 13.0 +0.3
HSIG IAmb IAmb 16 15 15.5
comp=Z,34nm,0.8s
SHOC **Shoshone, Teco** 85.42 47 P **P** 16 15 13.5 +0.9
baz=235
Q16K **King Salmon** 85.56 12 P **P** 16 15 13.4 +0.8
baz=201,SNR=5.8
LL02 **Futaleuf** 85.56 136 P **P** 16 15 14.4 +1.1
LL02 IAmb IAmb 16 15 15.8
comp=Z,47nm,0.8s
GMN **Gold Mountain** 85.58 45 P **P** 16 15 14.5 +0.7
NVAR **Mina Array Bea** 85.58 44 P **P** 16 15 14.7 +1.0
comp=Z,11nm,0.8s,baz=222,slow=8.8,SNR=71
NVAR pP **pP** 16 17 05.8 +0.3
comp=Z,0.1nm,0.4s,baz=96,slow=37,SNR=1.4
comp=Z,11nm,0.8s
NVAR **Mina Array Bea** 85.58 44 P **P** 16 15 14.3 +0.6
214A **Organ Pipe Nat** 85.61 52 P **P** 16 15 15.3 +1.6
214A IAmb IAmb 16 15 16.5
comp=Z,20nm,0.8s
214A **Organ Pipe Nat** 85.61 52 P **P** 16 15 13.0 -0.7
baz=237
P16K **Nushagak River** 85.64 11 P **P** 16 15 13.4 +0.3
baz=200
NV11 **Mina Array Sit** 85.68 44 P **P** 16 15 14.5 +0.4
PAHR **Pah Rah Range** 85.68 42 P **P** 16 15 14.6 +0.6
MZP **Montezuma Peak** 85.74 45 P **P** 16 15 14.8 +0.3
Q18K **Katmai Hardscr** 85.85 13 P **P** 16 15 15.4 +1.1
baz=203,SNR=8.3
NEE2 **Needles Airpor** 85.89 49 P **P** 16 15 15.6 +0.7
baz=236
PDMCI **Parker Dam,Lak** 85.96 49 P **P** 16 15 16.1 +0.8
baz=236,SNR=7.1
NONG **Nongkai** 86.02 292 P **P** 16 15 16.4 +0.5
TPNV **Topopah Spring** 86.04 46 P **P** 16 15 15.9 +0.1
TPNV IAmb IAmb 16 15 18.3
comp=Z,24nm,0.9s
TPNV **Topopah Spring** 86.04 46 P **P** 16 15 15.9 +0.1
baz=235
TPNV **Topopah Spring** 86.04 46 P **P** 16 15 16.0 +0.1
TPNV pmax pmax
comp=Z,24nm,0.9s
TPH **Tonopah** 86.06 45 P **P** 16 15 16.2 +0.2
TPH **Tonopah** 86.06 45 P **P** 16 15 16.2 +0.2
TPH pmax pmax
comp=Z,108nm,0.9s
P17K **Kvichak River** 86.08 12 P **P** 16 15 15.2 0.0
baz=202
KVN **Kaiserville** 86.08 44 P **P** 16 15 16.7 +0.7
KVN **Kaiserville** 86.08 44 P **P** 16 15 16.7 +0.7
KVN pmax pmax
comp=Z,14nm,0.7s
O16K **Kokwok River B** 86.15 11 P **P** 16 15 16.0 +0.5
baz=200
V12A **Nelson** 86.27 48 P **P** 16 15 16.9 0.0
V12A IAmb IAmb 16 15 19.6
comp=Z,36nm,1.6s
LL04 **Puerto Octay** 86.34 134 P **P** 16 15 17.7 +0.6
LL04 IAmb IAmb 16 15 19.3
comp=Z,38nm,0.9s
Q19K **Cape Douglas,** 86.39 13 P **P** 16 15 17.3 +0.6
baz=204
MOD **Modoc Plateau** 86.47 40 P **P** 16 15 18.7 +1.0
MOD IAmb IAmb 16 15 20.3
comp=Z,18nm,0.8s
P18K **Big Mountain,** 86.50 12 P **P** 16 15 16.9 -0.3
P18K IAmb IAmb 16 15 17.7
comp=Z,18nm,0.8s
P18K **Big Mountain,** 86.50 12 P **P** 16 15 17.5 +0.2
baz=203
O17K **Koliganek Bris** 86.50 11 P **P** 16 15 18.5 +1.4
baz=201
W13A **Hualapai Mount** 86.58 49 P **P** 16 15 19.6 +1.1
W13A IAmb IAmb 16 15 21.6
comp=Z,58nm,1.9s
K05A **Summer Lake** 86.64 39 P **P** 16 15 19.8 +1.3
N16K **Nishlik Lake** 86.87 10 P **P** 16 15 20.3 +1.3
baz=199
ENH **Enshi** 86.93 305 P **P** 16 15 20.5 +0.5
ENH **Enshi** 86.93 305 P **P** 16 15 21.2 +1.2
comp=Z,19nm,1.0s
O18K **Koktuh Hills** 86.93 12 P **P** 16 15 19.4 +0.1
O18K **Koktuh Hills** 86.93 12 P **P** 16 15 19.9 +0.6
baz=203,SNR=7.1
LYN **LuoYang** 87.05 310 ⇓P **P** 16 15 22.0 +1.6
LYN S **S** 16 25 18.3 +1.8
LYN pmax pmax
comp=Z,10.0nm,0.1s
PRN **Pahroc Range** 87.08 46 P **P** 16 15 21.7 +1.0
PRN IAmb IAmb 16 15 23.8
comp=Z,24nm,0.9s
P19K **Oil Pt** 87.14 13 P **P** 16 15 20.8 +0.6
baz=204
H04A **Detroit Lake** 87.15 37 P **P** 16 15 21.3 +0.6
H04A IAmb IAmb 16 15 23.0
comp=Z,66nm,1.5s
TUC **Tucson** 87.25 52 P **P** 16 15 23.2 +1.7
baz=238
R11A **Troy Canyon, C** 87.27 45 P **P** 16 15 22.3 +0.7
R11A **Troy Canyon, C** 87.27 45 P **P** 16 15 22.3 +0.7
baz=235
PINE **Pine Mountain** 87.28 39 P **P** 16 15 22.9 +1.3
O19K **Port Alsworth** 87.42 13 P **P** 16 15 21.4 -0.1
O19K **Port Alsworth** 87.42 13 P **P** 16 15 22.4 +0.9
baz=203,SNR=9.1
BMN **Battle Mountai** 87.44 43 P **P** 16 15 22.9 +0.5
BMN IAmb IAmb 16 15 24.8
comp=Z,66nm,1.8s
BMN **Battle Mountai** 87.44 43 P **P** 16 15 22.9 +0.5
BMN pmax pmax
comp=Z,66nm,1.8s
CNPM **China Poot** 87.46 14 P **P** 16 15 22.3 +0.5
ILSW **Iliamna Southw** 87.46 13 P **P** 16 15 21.5 -0.4
ILSW IAmb IAmb 16 15 22.8
comp=Z,49nm,0.9s
HOM **Homer** 87.48 14 P **P** 16 15 22.1 +0.3
baz=206
MA2 **Magadan** 87.54 346 P **P** 16 15 22.5 +0.4
comp=Z,15nm,0.8s,baz=151,slow=7.6,SNR=4.6
comp=Z,15nm,0.8s
N18K **Kilae Creek** 87.57 12 P **P** 16 15 22.5 +0.3
baz=202
GO06 **Curarrehue** 87.62 133 P **P** 16 15 23.6 +0.3
GO06 IAmb IAmb 16 15 25.9
comp=Z,48nm,1.8s
PLCA **Paso Flores** 87.64 134 P **P** 16 15 24.9 +1.5
comp=Z,8.3nm,0.8s,baz=231,slow=6.0,SNR=22
comp=Z,8.3nm,0.8s
PLCA **Paso Flores** 87.64 134 P **P** 16 15 23.4 0.0
PLCA IAmb IAmb 16 15 26.0
comp=Z,59nm,1.8s
PLCA **Paso Flores** 87.64 134 P **P** 16 15 23.4 0.0
PLCA pmax pmax
comp=Z,59nm,1.8s
O20K **Slope Mountain** 87.66 13 P **P** 16 15 23.6 +0.9
baz=205
BRLK **Bradley Lake** 87.75 14 P **P** 16 15 23.4 +0.3
BRSE **Bradley Lake S** 87.76 14 P **P** 16 15 23.7 +0.6
baz=206
WVOR **Wild Horse Val** 87.78 41 P **P** 16 15 25.1 +1.3
WVOR IAmb IAmb 16 15 26.5
comp=Z,35nm,1.1s
WVOR **Wild Horse Val** 87.78 41 P **P** 16 15 25.1 +1.3
WVOR pmax pmax
comp=Z,35nm,1.1s
N19K **Bonanza Creek** 87.95 12 P **P** 16 15 23.6 -0.5
N19K **Bonanza Creek** 87.95 12 P **P** 16 15 24.0 -0.2
baz=203
RSO **Redoubt South** 87.98 13 P **P** 16 15 24.8 +0.4
LCMT **Little Creek M** 88.06 47 P **P** 16 15 25.4 +0.1
LCMT IAmb IAmb 16 15 28.1
comp=Z,23nm,1.2s
HEH **HeiHe** 88.06 329 *eP* **P** 16 15 25.5 +0.7
I07A **Izee** 88.27 39 P **P** 16 15 27.3 +1.2
CCUT **Cedar City** 88.28 47 P **P** 16 15 27.5 +1.1
G06A **Carlson Farm,** 88.35 38 P **P** 16 15 27.5 +1.2
G06A IAmb IAmb 16 15 28.8
comp=Z,36nm,1.1s
HPIG 88.40 59 P **P** 16 15 27.4 +0.2
HPIG IAmb IAmb 16 15 29.6
comp=Z,21nm,0.8s
EFI **East Falkland** 88.41 148 P **P** 16 15 27.2 +0.6
EFI **East Falkland** 88.41 148 P **P** 16 15 27.2 +0.6
EFI pmax pmax
comp=Z,52nm,0.8s
J08A **Circle Bar Ran** 88.43 40 P **P** 16 15 27.5 +0.7
PSUT **Pine Spring** 88.50 46 P **P** 16 15 28.4 +1.0
WUAZ **Wupatki** 88.53 50 P **P** 16 15 28.0 +0.4
baz=238
LON **Longmire** 88.66 36 P **P** 16 15 28.5 +0.7
LON IAmb IAmb 16 15 29.8
comp=Z,12nm,0.8s
LON **Longmire** 88.66 36 P **P** 16 15 28.5 +0.7
LON pmax pmax
comp=Z,13nm,0.8s
N20K **Mount Spurr** 88.76 13 P **P** 16 15 28.0 +0.2
baz=205,SNR=5.6
SPCR **Spurr Chakacha** 88.76 13 P **P** 16 15 28.4 +0.5
baz=205
ELK **Elko** 88.86 43 P **P** 16 15 29.9 +0.9
ELK IAmb IAmb 16 15 31.4
comp=Z,24nm,1.3s
ELK **Elko** 88.86 43 P **P** 16 15 29.9 +0.9
ELK pmax pmax
comp=Z,24nm,1.3s
M19K **Big River Lodg** 88.98 12 P **P** 16 15 29.4 +0.6
baz=203
X18A **Snowflake** 89.00 51 P **P** 16 15 31.4 +1.6
X18A IAmb IAmb 16 15 32.7
comp=Z,17nm,0.9s
PGC **Sidney** 89.04 34 P **P** 16 15 30.2 +0.9
L19K **White Mountain** 89.15 12 P **P** 16 15 30.5 +0.9
L19K IAmb IAmb 16 15 31.4
comp=Z,26nm,0.8s
L19K **White Mountain** 89.15 12 P **P** 16 15 30.2 +0.6
baz=203
RC01 **Rabbit Creek A** 89.19 14 P **P** 16 15 30.3 +0.5
RC01 IAmb IAmb 16 15 31.2
comp=Z,26nm,0.9s
RC01 **Rabbit Creek A** 89.19 14 P **P** 16 15 30.6 +0.8
baz=207,SNR=5.6
M20K **Styx River** 89.20 12 P **P** 16 15 29.7 -0.2
baz=204
BBB **Bella Bella** 89.22 29 P **P** 16 15 31.6 +1.5
XAN **Xi'an** 89.27 308 ⇑P **P** 16 15 32.6 +1.7
XAN pmax pmax
comp=Z,15nm,1.0s
SUA **Susitna One** 89.31 14 P **P** 16 15 30.6 +0.2
SUA **Susitna One** 89.31 14 P **P** 16 15 31.0 +0.5
baz=206,SNR=8.6
PWL **Port Wells** 89.31 15 P **P** 16 15 30.6 +0.3
PWL IAmb IAmb 16 15 31.7
comp=Z,29nm,1.0s
PWL **Port Wells** 89.31 15 P **P** 16 15 30.8 +0.4
baz=209
G08A **Pilot Rock** 89.32 38 P **P** 16 15 32.3 +1.4
G08A IAmb IAmb 16 15 33.5
comp=Z,50nm,1.4s
MTPU **Mount Pierson** 89.33 47 P **P** 16 15 33.5 +2.0
MTPU IAmb IAmb 16 15 34.9
comp=Z,29nm,0.9s
W18A **Petrified Fore** 89.46 51 P **P** 16 15 32.2 +0.2
baz=239
121A **Cookes Peak, D** 89.54 54 P **P** 16 15 33.5 +1.1
121A IAmb IAmb 16 15 35.1
comp=Z,10nm,0.8s
121A **Cookes Peak, D** 89.54 54 P **P** 16 15 33.6 +1.2
baz=240
121A **Cookes Peak, D** 89.54 54 P **P** 16 15 32.2 -0.2
baz=240
MVU **Marysvale** 89.56 47 P **P** 16 15 34.2 +1.8
MSU **Marysvale** 89.59 47 P **P** 16 15 34.2 +1.7
MSU **Marysvale** 89.59 47 P **P** 16 15 34.2 +1.7
LTY **Liberty** 89.59 36 P **P** 16 15 33.1 +1.0
LTY IAmb IAmb 16 15 34.2
comp=Z,25nm,1.3s
L20K **Farewell, AK** 89.60 12 P **P** 16 15 32.3 +0.6
baz=204
SKT **Skwentna** 89.61 13 P **P** 16 15 31.4 -0.3
SKT **Skwentna** 89.61 13 P **P** 16 15 31.7 0.0
baz=206
KMI **Kunming** 89.63 298 ⇑P **P** 16 15 34.3 +1.3
KMI pmax pmax
comp=Z,13nm,0.8s
GO05 **Huala** 89.63 129 P **P** 16 15 33.1 +0.4
GO05 IAmb IAmb 16 15 34.4
comp=Z,20nm,0.9s
TTA **Tatalina** 89.64 11 P **P** 16 15 32.2 +0.3
TTA **Tatalina** 89.64 11 P **P** 16 15 32.6 +0.6
baz=202
TTA **Tatalina** 89.64 11 P **P** 16 15 32.2 +0.3
TTA pmax pmax
comp=Z,12nm,1.1s
HAWA **Hanford** 89.67 37 P **P** 16 15 33.7 +1.3
HAWA IAmb IAmb 16 15 35.0
comp=Z,36nm,1.4s
EYAK **Cordova Ski Ar** 89.67 16 P **P** 16 15 32.7 +0.7
baz=211
M22K **Willow** 89.70 14 P **P** 16 15 32.4 +0.3
baz=207
CMAR **Chiang Mai Arr** 89.76 290 P **P** 16 15 35.5 +2.0
comp=Z,4.3nm,0.9s,baz=136,slow=3.3,SNR=32
CMAR pP **pP** 16 17 26.6 +1.1
comp=Z,0.4nm,0.3s,baz=134,slow=3.9,SNR=1.9
CMAR PKKPbc **PKKPbc** 16 33 03.9 +1.0
comp=Z,1.3nm,0.7s,baz=293,slow=4.3,SNR=7.1
CMAR SKKPbc SKKPbc 16 35 53.5 0.0
comp=Z,0.2nm,0.3s,baz=308,slow=4.8,SNR=4.2
CMAR PKPPKP **P'P'df** 16 41 12.2 -0.3
comp=Z,0.3nm,0.4s,baz=342,slow=2.0,SNR=4.0
comp=Z,4.3nm,0.9s
CMAR **Chiang Mai Arr** 89.76 290 *i* P **P** 16 15 35.5 +2.0
CMAR pmax pmax
comp=Z,5.0nm,0.9s
KNK **Knik Glacier** 89.77 15 P **P** 16 15 32.5 0.0
KNK **Knik Glacier** 89.77 15 P **P** 16 15 32.9 +0.4
baz=208
PMR **Palmer** 89.78 14 P **P** 16 15 32.9 +0.5
baz=208
BMO **Blue Mountains** 89.99 39 P **P** 16 15 34.2 +0.2
BMO IAmb IAmb 16 15 36.4
comp=Z,34nm,1.9s
BMO **Blue Mountains** 89.99 39 P **P** 16 15 34.2 +0.2
BMO pmax pmax
comp=Z,34nm,2.0s
MFID **Camas Ranch** 90.02 41 P **P** 16 15 34.7 +0.4
MFID IAmb IAmb 16 15 36.7
comp=Z,25nm,1.0s
DUG **Dugway, Tooele** 90.09 45 P **P** 16 15 35.1 +0.5
baz=237,SNR=5.5
SEY **Seymchan** 90.25 348 P **P** 16 15 35.5 +0.9
comp=Z,11nm,0.7s,baz=155,slow=5.3,SNR=28
comp=Z,11nm,0.7s
SEY **Seymchan** 90.25 348 *ceP* **P** 16 15 34.4 -0.2
SEY pmax pmax
comp=Z,9.0nm,0.9s
CUT **Chulitna** 90.25 13 P **P** 16 15 34.5 -0.1
CUT **Chulitna** 90.25 13 P **P** 16 15 35.5 +0.8
baz=207
M23K **Glacier View** 90.27 15 P **P** 16 15 35.4 +0.6
baz=209
BMRM **Bremner River** 90.32 16 P **P** 16 15 35.4 +0.3
baz=212
BGU **Big Grassy Mou** 90.35 44 P **P** 16 15 36.0 +0.1
S31K **Pelican** 90.35 22 P **P** 16 15 36.3 +1.2
baz=219
MESA **MESA** 90.37 18 P **P** 16 15 36.3 +0.8

	baz=214								
K20K	Telida	90.38	11	P		P		16 15 35.8	+0.6
	baz=204								
SCM	Sheep Creek Mo	90.40	15	P		P		16 15 35.9	+0.4
SCM	Sheep Creek Mo	90.40	15	P		P		16 15 35.7	+0.2
	baz=210								
SCM	Sheep Creek Mo	90.40	15	P		P		16 15 35.9	+0.4
KLU	Klutina	90.44	16	P		P		16 15 36.2	+0.5
	baz=211								
BO01	Tunca	90.54	129	P		P		16 15 37.0	+0.1
F10A	Beach Ranch, E	90.70	38	P		P		16 15 37.4	+0.1
F10A				IAmb		IAmb		16 15 38.9	
	comp=Z,13nm,0.8s								
CAST	Castle Rocks	90.80	12	P		P		16 15 36.2	-1.0
CAST				IAmb		IAmb		16 15 37.3	
	comp=Z,15nm,1.1s								
CAST	Castle Rocks	90.80	12	P		P		16 15 36.3	-0.9
	baz=205								
Y22A	Socorro	90.83	53	P		P		16 15 40.1	+1.8
	baz=240								
N25K	Chitina, Valde	90.87	16	P		P		16 15 37.7	+0.1
	baz=212								
PLID	Pearl Lake	90.88	40	P		P		16 15 37.4	-0.9
LENM	Lemitar	90.94	53	P		P		16 15 39.9	+1.1
HLID	Hailey	90.95	42	P		P		16 15 39.5	+0.9
HLID	Hailey	90.95	42	P		P		16 15 38.6	0.0
	baz=236								
WAT6	Susitna Watana	90.96	14	P		P		16 15 38.7	+0.6
	baz=209								
HVU	Hansel Valley	90.97	44	P		P		16 15 40.0	+1.2
HVU				IAmb		IAmb		16 15 41.1	
	comp=Z,19nm,0.9s								
HVU	Hansel Valley	90.97	44	P		P		16 15 40.0	+1.2
HVU				pmax		pmax			
	comp=Z,19nm,0.9s								
SRU	San Rafael Swe	91.00	47	P		P		16 15 39.7	+0.8
SRU				IAmb		IAmb		16 15 41.3	
	comp=Z,26nm,0.9s								
SRU	San Rafael Swe	91.00	47	P		P		16 15 39.7	+0.8
SRU				pmax		pmax			
	comp=Z,26nm,0.9s								
WAT1	Susitna Watana	91.00	14	P		P		16 15 38.2	0.0
	baz=208								
P17A	Butcher Ranch,	91.05	46	P		P		16 15 40.1	+1.0
P17A				IAmb		IAmb		16 15 41.8	
	comp=Z,23nm,1.1s								
HHC	Hu-ho-hao-te	91.05	315	*e*P		P		16 15 39.9	+0.8
HHC				pmax		pmax			
	comp=Z,24nm,0.9s								
HHC				pmax		pmax			
	comp=Z,260nm,5.2s								
PZH	PanZhiHua	91.06	299	P		P		16 15 40.4	+1.0
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,110nm,7.0s								
LLLB	Lillooet	91.08	33	P		P		16 15 39.5	+0.7
LLLB				IAmb		IAmb		16 15 41.4	
	comp=Z,15nm,1.2s								
MCARA	McCarthy VSAT	91.08	17	P		P		16 15 39.4	+0.8
	baz=213								
TX31	Lajitas Ar. Si	91.09	58	P		P		16 15 40.5	+1.0
TX31	Lajitas Ar. Si	91.09	58	P		P		16 15 41.2	+1.7
	baz=242								
TX32	Lajitas Array	91.09	58	P		P		16 15 40.8	+1.4
TX32				IAmb		IAmb		16 15 42.3	
	comp=Z,20nm,0.9s								
TXAR	Lajitas Array	91.09	58	P		P		16 15 41.2	+1.7
	comp=Z,13nm,0.8s,baz=214,slow=6.5,SNR=118								
TXAR				pP		pP		16 17 33.1	+0.6
	comp=Z,1.9nm,1.1s,baz=203,slow=5.4,SNR=3.9								
	comp=Z,13nm,0.8s								
TXAR	Lajitas Array	91.09	58	P		P		16 15 40.7	+1.2
TXAR	Lajitas Array	91.09	58	P		P		16 15 40.7	+1.2
J20K	Nowinta River	91.12	11	P		P		16 15 39.2	+0.6
	baz=204								
JLU	Jordanelle	91.18	45	P		P		16 15 40.4	+0.6
JLU				IAmb		IAmb		16 15 42.2	
	comp=Z,52nm,1.8s								
TRF	Thorofare Moun	91.18	13	P		P		16 15 38.4	-0.7
TRF				IAmb		IAmb		16 15 40.1	
	comp=Z,14nm,0.7s								
TRF	Thorofare Moun	91.18	13	P		P		16 15 39.5	+0.4
	baz=207,SNR=6.0								
GCSA	Galena City Sc	91.20	10	P		P		16 15 39.5	+0.5
	baz=201								
O28M	Mount Upton	91.36	18	P		P		16 15 40.4	+0.2
	baz=216								
RND	Reindeer	91.44	14	P		P		16 15 39.9	-0.4
RND				IAmb		IAmb		16 15 41.2	
	comp=Z,12nm,0.8s								
RND	Reindeer	91.44	14	P		P		16 15 39.9	-0.4
RND				pmax		pmax			
	comp=Z,12nm,0.8s								
O29M	Mount Kennedy	91.45	19	P		P		16 15 41.5	+1.1
	baz=217								
DHY	Denali Highway	91.47	14	P		P		16 15 41.6	+1.1
	baz=210								
TCUT	Toone Canyon	91.48	45	P		P		16 15 41.7	+0.5
CD2	Chengdu	91.53	303	P		P		16 15 41.8	+0.4
PV13	Radium Mtn., P	91.65	48	P		P		16 15 42.6	+0.5
PV23	Carpenter Ridg	91.67	48	P		P		16 15 42.3	+0.1
PV23				IAmb		IAmb		16 15 44.3	
	comp=Z,12nm,0.9s								
MCK	McKinley	91.72	13	P		P		16 15 41.2	-0.2
MCK				IAmb		IAmb		16 19 08.1	
	comp=Z,34nm,1.7s								
MCK	McKinley	91.72	13	P		P		16 15 42.0	+0.6
	baz=208								
MCK	McKinley	91.72	13	P		P		16 15 41.2	-0.2
MCK				pmax		pmax			
	comp=Z,34nm,1.7s								
T35M	Bob Quinn	91.75	25	P		P		16 15 43.2	+1.4
	baz=224								
P30M	Million Dollar	91.80	20	P		P		16 15 43.2	+1.3
	baz=218								
YUK8	Steele Glacier	91.90	18	P		P		16 15 43.5	+0.9
	baz=216								
M26K	Nabesna, AK	91.95	16	P		P		16 15 43.7	+1.1
	baz=213								
S34M	Telegraph Cree	92.10	24	P		P		16 15 44.6	+1.3
	baz=229								
YUK3	Moose Creek	92.10	18	P		P		16 15 44.2	+0.7
	baz=216,SNR=9.3								
NEW	Newport	92.10	37	P		P		16 15 44.4	+0.7
	baz=234								
M27K	Edge Creek, AK	92.20	17	P		P		16 15 44.5	+0.6
M27K				IAmb		IAmb		16 15 45.8	
	comp=Z,12nm,0.7s								
M27K	Edge Creek, AK	92.20	17	P		P		16 15 44.6	+0.7
	baz=214								
MENT	Mentasta	92.22	16	P		P		16 15 44.0	+0.2
CO02	Combarbal	92.24	126	P		P		16 15 45.0	+0.1
L26K	Log Cabin Wild	92.38	16	P		P		16 15 44.5	0.0
	baz=213								
RDMU	Red Mountain	92.39	46	P		P		16 15 45.6	+0.3
RDMU				IAmb		IAmb		16 15 47.2	
	comp=Z,10nm,1.0s								
I21K	Tanana	92.42	12	P		P		16 15 44.5	-0.1
	baz=205								
K24K	Donnelly Dome	92.47	15	P		P		16 15 45.8	+0.9
	baz=211,SNR=5.2								
MLY	Manley	92.51	12	P		P		16 15 45.8	+0.7
	baz=206								
BVCY	Beaver Creek	92.52	17	P		P		16 15 46.5	+1.3
	baz=215,SNR=5.8								
MCMT	McKenzie Canyo	92.59	41	P		P		16 15 46.4	+0.2
CO03	El Pedregal	92.65	126	P		P		16 15 46.4	-0.4
CO03				IAmb		IAmb		16 15 47.9	
	comp=Z,10nm,0.8s								
H21K	Melozitna Rive	92.71	11	P		P		16 15 46.7	+0.7
	baz=205								
HDA	Harding Lake	92.73	14	P		P		16 15 45.7	-0.4
HDA				IAmb		IAmb		16 15 46.7	
	comp=Z,7.3nm,0.6s								
HDA	Harding Lake	92.73	14	P		P		16 15 46.0	-0.1
	baz=210								
CCB	Clear Creek Bu	92.76	13	P		P		16 15 45.4	-0.8
CCB				IAmb		IAmb		16 15 46.5	
	comp=Z,15nm,1.2s								
L27K	Beaver Creek,	92.80	16	P		P		16 15 47.1	+0.6
	baz=214								
S22A	4UR Ranch, Cre	92.81	49	P		P		16 15 48.1	+0.7
	baz=240								
N30M	Aishikik Lake	92.82	19	P		P		16 15 46.7	+0.1
	baz=218								
WHY	Whitehorse	92.88	21	P		P		16 15 46.6	-0.3
	baz=220								
I23K	Minto, Yukon-K	92.89	13	P		P		16 15 46.9	+0.2
	baz=208								
MDM	Murphy Dome	92.94	13	P		P		16 15 46.4	-0.7
TCOL	CIGO, UAF Yank	92.94	13	P		P		16 15 47.2	+0.2
	baz=209								
COLA	College	92.95	13	P		P		16 15 46.8	-0.2
	baz=209								
COLA	College	92.95	13	P		P		16 15 46.8	-0.2
TNCH	TengChong	93.00	296	*e*P		P		16 15 49.3	+0.8
REDW	Red Top Meadow	93.02	43	P		P		16 15 48.8	+0.6
REDW				IAmb		IAmb		16 15 50.6	
	comp=Z,40nm,1.9s								
TPAW	Teton Pass	93.03	43	P		P		16 15 48.7	+0.4
TPAW				IAmb		IAmb		16 15 51.0	
	comp=Z,26nm,2.0s								
SCRK	Sand Creek	93.03	15	P		P		16 15 47.8	+0.1
SCRK				IAmb		IAmb		16 18 18.5	
	comp=Z,34nm,1.9s								
SCRK	Sand Creek	93.03	15	P		P		16 15 47.9	+0.3
	baz=212								
O20A	White River Ci	93.04	47	P		P		16 15 48.5	+0.1
O20A				IAmb		IAmb		16 15 50.2	
	comp=Z,9.3nm,0.9s								
O20A	White River Ci	93.04	47	P		P		16 15 48.7	+0.4
	baz=240								
MSO	Missoula	93.05	39	P		P		16 15 48.5	+0.4
	baz=236								
IL31		93.06	14	P		P		16 15 47.0	-0.5
ILAR	Eielson Array	93.06	14	P		P		16 15 47.1	-0.5
	comp=Z,2.5nm,0.7s,baz=224,slow=5.2,SNR=35								
ILAR				PP		PP		16 19 34.7	-5.1
	comp=Z,1.0nm,1.1s,baz=195,slow=6.5,SNR=2.8								
	comp=Z,2.5nm,0.7s								
H22K	Ishtalitna Cre	93.17	11	P		P		16 15 48.1	0.0
	baz=206								
M29M	Somme Creek	93.20	18	P		P		16 15 48.9	+0.5
	baz=217								
P33M	Teslin, Yukon	93.21	22	P		P		16 15 48.9	+0.5
	baz=222								
N31M	Braeburn, Yuko	93.23	20	P		P		16 15 49.9	+1.5
	baz=220								
BILL	Bilibino	93.24	355	P		P		16 15 48.8	+0.5
BILL				IAmb		IAmb		16 15 50.0	
	comp=Z,12nm,1.0s								
BILL	Bilibino	93.24	355⇑	*e*P		P		16 15 48.2	-0.1
BILL				*e*				16 19 39.2	
BILL				pmax		pmax			
	comp=Z,7.0nm,1.0s								
POKR	Poker Plat Res	93.25	13	P		P		16 15 48.0	-0.4
	baz=210								
J25K	Salcha River,	93.26	14	P		P		16 15 48.0	-0.5
	baz=211								
G21K	Allakaket	93.38	10	P		P		16 15 49.5	+0.5
	baz=204								
FLWY	Flagg Ranch	93.49	43	P		P		16 15 50.3	0.0
FLWY				IAmb		IAmb		16 15 54.0	
	comp=Z,9.2nm,0.8s								
BW06	Boulder Array	93.52	44	P		P		16 15 50.5	0.0
BW06	Boulder Array	93.52	44	P		P		16 15 50.5	0.0
	baz=239,SNR=5.0								
PD31	Pinedale Array	93.52	44	P		P		16 15 50.3	-0.2
PDAR	Pinedale Array	93.52	44	P		P		16 15 50.6	+0.1
	comp=Z,3.5nm,1.0s,baz=219,slow=3.2,SNR=14								
PDAR				PP		PP		16 19 41.8	-2.4
	comp=Z,0.9nm,0.9s,baz=243,slow=6.5,SNR=4.8								
	comp=Z,3.5nm,1.0s								
PDAR	Pinedale Array	93.52	44	P		P		16 15 50.3	-0.2
J26L	Joseph Creek	93.58	15	P		P		16 15 50.5	+0.4
J26L				IAmb		IAmb		16 15 51.8	
	comp=Z,12nm,0.8s								
J26L	Joseph Creek	93.58	15	P		P		16 15 51.3	+1.2
	baz=213								
RDOG	Red Dog Mine	93.58	6	P		P		16 15 50.5	+0.6
	baz=196								
SDCO	Great Sand Dun	93.72	50	P		P		16 15 52.7	+1.0
	baz=241								
SDCO	Great Sand Dun	93.72	50	P		P		16 15 52.3	+0.6
	baz=241								
BOZ	Bozeman (W)	93.73	41	P		P		16 15 51.4	+0.1
BOZ	Bozeman (W)	93.73	41	P		P		16 15 52.3	+1.0
	baz=238,SNR=6.1								
BOZ	Bozeman (W)	93.73	41	P		P		16 15 51.4	+0.1
BOZ				pmax		pmax			
	comp=Z,5.0nm,0.9s								
H17A	Grant Village	93.73	42	P		P		16 15 53.7	+2.3
	baz=238								
M30M	Minto, Yukon	93.78	19	P		P		16 15 51.3	+0.4
M30M				IAmb		IAmb		16 15 52.8	
	comp=Z,6.7nm,0.6s								
M30M	Minto, Yukon	93.78	19	P		P		16 15 51.9	+0.9
	baz=219,SNR=6.1								
L29M	L29M	93.82	18	P		P		16 15 52.7	+1.6
	baz=218								
LZH	Lanzhou	93.90	308	⇑P		P		16 15 54.1	+1.8
LZH				pP		pP		16 17 45.3	+0.5
LZH				pmax		pmax			
	comp=Z,18nm,1.4s								
MSTX	Muleshoe	93.91	54	P		P		16 15 54.2	+1.8
	baz=243								
833A	Chaparral WMA,	93.97	61	P		P		16 15 53.1	+0.5
	baz=244								
AC05	El Transito	93.99	124	P		P		16 15 52.8	-0.2
AC05				IAmb		IAmb		16 15 54.8	
	comp=Z,14nm,1.0s								
PRP	Porcupine Dome	94.00	14	P		P		16 15 52.5	+0.5
	baz=211								
G22K	Bettles	94.08	11	P		P		16 15 52.8	+0.6
	baz=206								
G23K	Bananza Creek	94.15	12	P		P		16 15 53.1	+0.5
	baz=207								
T25A	Trinidad	94.20	51	P		P		16 15 54.4	+0.7
	baz=242								
M31M	Drury Creek, Y	94.20	20	P		P		16 15 53.1	+0.2
	baz=221								
DAWY	Dawson	94.25	17	P		P		16 15 53.5	+0.4
DAWY				IAmb		IAmb		16 15 54.6	
	comp=Z,8.1nm,0.8s								
DAWY	Dawson	94.25	17	P		P		16 15 53.7	+0.7
	baz=216,SNR=6.5								
I26K	Coal Creek Min	94.35	15	P		P		16 15 53.7	+0.3
	baz=213								
EGAK	Eagle	94.38	16	P		P		16 15 53.7	+0.1
EGAK				IAmb		IAmb		16 15 54.9	
	comp=Z,12nm,0.8s								
EGAK	Eagle	94.38	16	P		P		16 15 54.2	+0.7
	baz=215,SNR=7.1								
WTLY	Watson Lake, Y	94.53	23	P		P		16 15 55.6	+1.2
	baz=225								
Q24A	Divide	94.55	49	P		P		16 15 56.4	+1.0
	baz=242								
K29M	Barlow Dome	94.57	18	P		P		16 15 55.6	+1.0
	baz=218								
COLD	Coldfoot	94.58	11	P		P		16 15 54.7	+0.2
	baz=207								
JCT	Junction City	94.59	59	P		P		16 15 56.2	+0.7
	baz=244								
RLMT	Red Lodge	94.91	42	P		P		16 15 58.3	+1.6
	baz=239								
N23A	Red Feather La	94.94	47	P		P		16 15 57.3	+0.2
	baz=241								
I27K	Kandik River	94.95	15	P		P		16 15 57.5	+1.2
	baz=215								
E22K	Anaktuvuk Pass	95.13	10	P		P		16 15 57.0	0.0
	baz=206								
F24K	Squaw Lake	95.26	12	P		P		16 15 57.9	+0.4
	baz=209								
E23K	Chandalar	95.43	11	P		P		16 15 58.8	+0.4
	baz=208								
YAK	Yakutsk	95.48	339	*i* P		P		16 15 58.8	+0.2
YAK				pmax		pmax			
	comp=Z,4.0nm,1.0s								
MMPY	Sheldon Lake,	95.49	20	P		P		16 15 59.6	+0.9
	baz=223								
H27K	Steamboat Moun	95.49	15	P		P		16 15 59.2	+0.5
	baz=215								
I29M	Ogilvie Camp,	95.57	16	P		P		16 15 59.2	+0.2
	baz=218								
G26K	Porcupine Rive	95.59	14	P		P		16 15 59.5	+0.5
	baz=213								
E24K	Your Creek	95.64	11	P		P		16 16 00.1	+0.8
	baz=209								
F25K	Christian Rive	95.76	13	P		P		16 16 00.3	+0.4
	baz=211								
G27K	Doyon Strip	95.94	14	P		P		16 16 01.0	+0.3
	baz=215								
TOLK	Toolik Lake Re	95.95	11	P		P		16 16 01.7	+1.0
	baz=208								
D23K	Nanushuk River	96.06	10	P		P		16 16 02.1	+1.0
	baz=207								
EGMT	Eagleton	96.09	39	P		P		16 16 01.7	-0.1
	baz=239								
E25K	Arctic Village	96.23	12	P		P		16 16 03.4	+1.4
	baz=211								
NNA	Nana	96.77	106	*i* P		P		16 16 02.8	-2.9
NNA				pmax		pmax			
	comp=Z,30nm,0.9s								
C23K	Itkillik River	96.85	10	P		P		16 16 05.4	+0.8
	baz=207								
C24K	Franklin Bluff	97.06	11	P		Pdif		16 16 06.1	+0.6
	baz=208								
E27K	Coleen River	97.09	14	P		Pdif		16 16 06.2	+0.4
	baz=215								
D25K	Kavik River	97.11	11	P		Pdif		16 16 06.1	+0.3
	baz=211								
G30M	tAoh Zraii Nji	97.37	16	P		P		16 16 07.5	+0.4
	baz=219								
SONM	Songino Array	97.80	319	P		P		16 16 10.8	+1.2
	comp=Z,0.2nm,0.5s,baz=266,slow=13,SNR=2.0								
SONM				pP		pP		16 18 01.4	-1.1
	comp=Z,0.7nm,0.9s,baz=130,slow=6.4,SNR=3.4								
SONM				PKKPbc		PKKPbc		16 32 42.8	-0.5
	comp=Z,1.0nm,0.8s,baz=287,slow=3.5,SNR=5.7								
	comp=Z,0.2nm,0.5s								
C27K	Jago River	97.87	12	P		P		16 16 09.3	+0.2
	baz=213								
C26K	Camden Bay	97.89	12	P		P		16 16 10.5	+1.2
	baz=212								
F31M	Tsiigehtchic	98.35	16	P		P		16 16 12.0	+0.7
	baz=222								
INK	Inuvik	99.05	16	P		Pdif		16 16 14.8	+0.3
	comp=Z,2.1nm,0.7s,baz=268,slow=2.8,SNR=9.0								
	comp=Z,2.1nm,0.7s								
INK	Inuvik	99.05	16	P		Pdif		16 16 14.7	+0.3
	baz=222								
LPAZ	La Paz	102.12	114	P		Pdif		16 16 33.0	+2.9
	comp=Z,1.0nm,0.8s,baz=225,slow=7.1,SNR=4.2								
C36M	Paulatuk	102.25	18	P		Pdif		16 16 31.3	+2.7
	baz=230								
TIXI	Tiksi	102.51	345	PKiKP		PKiKP		16 20 46.4	-1.2
	comp=Z,0.7nm,0.5s,baz=270,slow=23,SNR=6.1								
TIXI	Tiksi	102.51	345	*i* P		Pdif		16 16 29.9	+0.2
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.2s								
A36M	Sachs Harbour	103.65	15	P		Pdif		16 16 36.6	+1.8
	baz=230								
TZTN	Tazewell	109.42	58	P		PKiKP		16 21 02.2	+0.6
	baz=253								
RES	Resolute Bay	112.59	17	PKiKP		PKiKP		16 21 05.7	-0.7
	comp=Z,2.0nm,0.7s,baz=211,slow=4.0,SNR=5.7								
ZALV	Zalesovo Beam	112.66	320	PKiKP		PKiKP		16 21 06.2	-0.9
	comp=Z,1.4nm,0.5s,baz=132,slow=2.6,SNR=7.1								
ZALV				SKP		SKPdf		16 23 55.0	+1.1
	comp=Z,1.0nm,0.6s,baz=101,slow=1.5,SNR=4.0								
MKAR	Makanchi Array	112.75	312	PKiKP		PKiKP		16 21 06.9	-0.7
	comp=Z,1.4nm,0.6s,baz=222,slow=1.3,SNR=14								
MKAR				SKP		SKPdf		16 23 55.5	+1.1
	comp=Z,1.7nm,0.7s,baz=181,slow=2.1,SNR=5.7								
MKAR				PKKPbc		PKKPbc		16 31 57.8	-0.1
	comp=Z,2.6nm,0.7s,baz=271,slow=2.5,SNR=11								
NRIK	Noril'sk	113.88	337	PKiKP		PKiKP		16 21 08.9	-0.1
	comp=Z,0.8nm,0.5s,baz=96,slow=4.7,SNR=3.9								
SSPA	Standing Stone	114.75	55	P		PKPdf		16 21 11.3	-0.3
	baz=258								
KSH	Kashi	115.73	304	PKP		PKiKP		16 21 14.0	+0.3
KSH				SS		SS		16 37 49.5	+1.3
KURK	Kurchatov	115.85	316	PKPdf		PKPdf		16 21 12.4	-1.0
KURK	Kurchatov	115.85	316*c*	*i* PKIKP		PKPdf		16 21 13.2	-0.2
KURK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
AAK	Ala-Archa	117.41	307*c*	*i* PKIKP		PKiKP		16 21 17.2	+0.3
AAK				pmax		pmax			
	comp=Z,7.0nm,1.7s								
BDFB	Brasilia	118.32	126	PKP		PKPdf		16 21 18.9	-0.5
	comp=Z,3.8nm,0.8s,baz=330,slow=2.1,SNR=5.0								
L61B	Northampton	118.92	54	P		PKPdf		16 21 19.0	-0.5
	baz=262								
TULEG	Thule	119.01	14	*i* P		PKPdf		16 21 17.9	-0.8
LBNH	Lisbon	119.70	52	P		PKPdf		16 21 20.6	-0.4
	baz=263								
HRV	Adam Dziewonsk	119.75	54	P		PKPdf		16 21 21.1	-0.1
	baz=262								
GAR	Garm	119.96	302			PKPdf		16 21 21.3	-0.5
KBL	Kabul	120.19	297	PKPdf		PKPdf		16 21 22.3	-0.2
KBL	Kabul	120.19	297	PKIKP		PKPdf		16 21 22.3	-0.2
KK31	Karatay Array	120.38	307	PKPdf		PKPdf		16 21 21.4	-1.0
KK31	Karatay Array	120.38	307	PKIKP		PKPdf		16 21 21.4	-1.0
KKAR	Karatay Array	120.38	307	PKPdf		PKPdf		16 21 21.5	-0.9
KKAR	Karatay Array	120.38	307			PKPdf		16 21 21.4	-1.0
KKAR	Karatay Array	120.38	307	PKIKP		PKPdf		16 21 21.5	-0.9
CHGR	Chuyangaron	120.80	301			PKPdf		16 21 22.7	-0.7
CHGR	Chuyangaron	120.80	301	PKIKP		PKPdf		16 21 22.7	-0.7
BRVK	Borovoye	121.19	318	PKPdf		PKPdf		16 21 22.9	-0.7
BRVK	Borovoye	121.19	318*c*	*i* PKIKP		PKPdf		16 21 22.8	-0.7
BRVK				pmax		pmax			
	comp=Z,8.0nm,1.3s								
BOSA	Boshof	121.42	206	PKP		PKPdf		16 21 25.1	0.0
	comp=Z,4.2nm,0.9s,baz=124,slow=2.2,SNR=7.3								
BOSA				PKKPbc		PKKPbc		16 31 27.6	-0.6
	comp=Z,2.8nm,0.8s,baz=252,slow=5.2,SNR=4.3								
PKME	Peaks-Kenny Pk	121.67	51	P		PKPdf		16 21 24.4	-0.4
	baz=266								
NEEM	North Greenlan	122.30	12	*i* P		PKPdf		16 21 23.5	-2.0
NOR	Nord	122.86	3	*i* P		PKPdf		16 21 24.3	-1.8
SPA0	Spitsbergen Ar	126.14	356	*e*P		PKiKP		16 21 33.1	+0.1
SPA0				IAmb		IAmb		16 21 35.4	
	comp=Z,33nm,1.2s								
DAG	Danmarks Havn	127.32	5	*i* P		PKPdf		16 21 31.4	-3.2
ARU	Arti	127.63	323	PKPdf		PKPdf		16 21 35.8	0.0
ARU	Arti	127.63	323	*i* PKIKP		PKPdf		16 21 35.8	0.0
ARU								16 23 42.9	
ARU								16 27 56

NB2				SKPa	**SKPbc**	**16 22 55.8**	**+1.6**
	comp=Z,1.5nm,0.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**143.07**	**351**	PKhKP	PKPpre	16 22 01.7		
	comp=Z,22nm,0.9s,baz=15,slow=4.9,SNR=57							
NOA				SKPbc	**SKPbc**	**16 24 55.6**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=15,slow=4.2,SNR=7.0							
MARD	**Mardin**	**143.13**	**299**		PKPbc	16 22 03.2	-0.2	
FOO	**Floro**	**143.18**	**356**	*eP*	PKPab	16 22 02.2	+0.2	
NAO01	**NORSAR Array S**	**143.31**	**351**		PKPpre	16 22 02.2		
NC602	**NORSAR Array S**	**143.32**	**350**		PKPpre	16 22 02.0		
NC602	**NORSAR Array S**	**143.32**	**350**	*eP*	PKPab	16 22 02.7	0.0	
NC602				IAmb	IAmb	16 22 03.4		
	comp=Z,20nm,0.7s							
H10S3	**ASCENSION HYDR**	**143.47**	**155**	PKP	**PKPdf**	**16 22 05.7**	**-0.4**	
	baz=200,slow=74,SNR=4.8							
H10S2	**ASCENSION HYDR**	**143.47**	**155**	PKP	**PKPdf**	**16 22 05.6**	**-0.5**	
	baz=20,slow=74,SNR=5.0							
SLIT	**Slitere, Latvi**	**143.59**	**340**	*eP*	PKPab	16 22 03.2	-0.5	
SUE	**Sulen**	**143.74**	**356**	*eP*	PKPbc	16 22 04.3	+0.1	
SUE				IAmb	IAmb	16 22 04.9		
	comp=Z,71nm,0.8s							
SKAR	**Skarslia**	**143.80**	**353**	*eP*	PKPab	16 22 04.9	+0.3	
SKAR				IAmb	IAmb	16 22 05.6		
	comp=Z,33nm,0.9s							
ISAL	**Salakas**	**143.85**	**335**	*eP*	**PKPdf**	**16 22 06.5**	**+0.7**	
MNK	**Minsk**	**143.90**	**332**	*i* PKiKP	**PKPdf**	**16 22 06.0**	**+0.2**	
	comp=E,2.0nm,0.8s							
MNK				*i* PKiKP	**PKPdf**	**16 22 06.0**	**+0.2**	
	comp=N,23nm,0.8s							
MNK				*i* PKiKP	**PKPdf**	**16 22 06.0**	**+0.2**	
	comp=Z,88nm,0.8s,baz=226							
MNK				*i* pPKiKP	**pPKiKP**	**16 24 08.2**	**-1.2**	
MNK				*i* PP	**PP**	**16 25 22.4**	**-3.3**	
MNK				*i* SKS	**SKSdf**	**16 28 21.5**	**-5.0**	
MNK				*i* PPP	PPP	16 28 39.2		
MNK				*i* SKKS	**SKKSdf**	**16 37 34.8**	**-7.1**	
MNK				*i* SS	**SS**	**16 43 25.5**	**-2.3**	
MNK				*i* SSS	SSS	16 48 55.9		
MNK				*i* LRM	MLR	17 27 03.0		
	comp=N,418nm,13.5s							
MNK				*i* LRM	MLR	17 27 07.5		
	comp=Z,67nm,12.2s							
MNK				*i* LRM	MLR	17 27 12.0		
	comp=E,137nm,16.1s							
MNK	**Minsk**	**143.90**	**332**	*i* PKiKP	**PKPdf**	**16 22 06.0**	**+0.2**	
MNK				*i*		16 25 22.4		
MNK				*i*		16 28 21.5		
MNK				*i* SS	SS	16 43 25.5	-2.4	
MNK				*i* SSS	SSS	16 48 55.9		
MNK				pmax	pmax			
	comp=E,2.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,88nm,0.8s							
MNK				pmax	pmax			
	comp=N,23nm,0.9s							
MNK				MLR	MLR			
	comp=N,418nm,14.0s							
MNK				MLR	MLR			
	comp=Z,67nm,12.0s							
MNK				MLR	MLR			
	comp=E,137nm,16.0s							
IIGN	**Ignalina**	**143.97**	**334**	*eP*	**PKPdf**	**16 22 06.2**	**+0.2**	
NACGM	**Naroch**	**144.07**	**334**	⇑*i* PKP	PKPbc	16 22 05.2	-0.3	
	comp=Z,174nm,0.9s,baz=44							
ASK	**Askoy**	**144.28**	**355**	*eP*	**PKPab**	**16 22 06.2**	**-0.1**	
VSVD	**Vaisvydziai**	**144.35**	**337**	*eP*	**PKPab**	**16 22 06.9**	**+0.2**	
KONO	**Kongsberg**	**144.64**	**351**	PKPdf	**PKPdf**	**16 22 06.9**	**-0.1**	
KONO	**Kongsberg**	**144.64**	**351**	*c i*PKiKP	PKPbc	16 22 07.3	+0.1	
KONO				pmax	pmax			
	comp=Z,52nm,1.3s							
KONO	**Kongsberg**	**144.64**	**351**	*eP*	PKPbc	16 22 07.2	+0.1	
KONO				IAmb	IAmb	16 22 08.1		
	comp=Z,41nm,0.8s							
PABE	**Paberze**	**144.71**	**336**	PKPdf	PKPbc	16 22 07.4	-0.1	
PABE	**Paberze**	**144.71**	**336**	*eP*	**PKPab**	**16 22 07.9**	**-0.1**	
ODD1	**Odda**	**144.72**	**354**	*eP*	**PKPab**	**16 22 07.8**	**-0.3**	
ODD1				IAmb	IAmb	16 22 08.7		
	comp=Z,50nm,1.0s							
STRU	**Stroemstad**	**145.00**	**350**	*i* P	**PKPdf**	**16 22 07.3**	**-0.3**	
PBUR	**Paburge**	**145.01**	**338**	*eP*	**PKPab**	**16 22 09.0**	**-0.3**	
BLS5	**Blasjo**	**145.22**	**354**	*eP*	**PKPbc**	**16 22 09.3**	**+0.3**	
KMY	**Karmoy**	**145.53**	**355**	*eP*	**PKPbc**	**16 22 09.6**	**-0.2**	
AKASG	**Malin Array Be**	**145.76**	**326**	PKPbc	**PKPbc**	**16 22 10.2**	**-0.5**	
	comp=Z,13nm,0.6s,baz=44,slow=4.3,SNR=66							
AKASG				pPKPbc	pPKPab	16 24 07.5	-0.1	
	comp=Z,3.5nm,0.8s,baz=43,slow=4.5,SNR=2.3							
AKASG				SKPbc	**SKiKP**	**16 25 02.2**	**+1.2**	
	comp=Z,3.2nm,0.7s,baz=40,slow=2.7,SNR=4.7							
AKBB	**Malin Array Si**	**145.76**	**326**	*i* PKiKP	**PKPdf**	**16 22 09.4**	**+0.2**	
BORU	**Boraas**	**146.04**	**348**	*i* P	**PKPdf**	**16 22 09.6**	**+0.2**	
HOMB	**Homborsund**	**146.12**	**352**	*i* P	**PKPbc**	**16 22 11.1**	**-0.4**	
HOMB	**Homborsund**	**146.12**	**352**	*eP*	**PKPbc**	**16 22 11.9**	**+0.3**	
SNART	**Snartemo**	**146.21**	**353**	*i* P	**PKPbc**	**16 22 11.1**	**-0.7**	
SNART	**Snartemo**	**146.21**	**353**	*eP*	**PKPbc**	**16 22 12.4**	**+0.6**	
ONAU	**Onsala**	**146.42**	**348**	*i* P	**PKPbc**	**16 22 11.3**	**-1.1**	
BLEU	**Blekinge**	**146.57**	**344**	*i* P	**PKPdf**	**16 22 11.1**	**+0.8**	
FABU	**Falkenberg**	**146.64**	**347**	*i* P	**PKPbc**	**16 22 12.0**	**-1.0**	
BNN	**Bunyan**	**146.67**	**303**		**PKPbc**	**16 22 13.2**	**-0.7**	
DEL	**Delary**	**146.88**	**346**	*i* P	**PKPbc**	**16 22 12.4**	**-1.2**	
KAC	**Achnashellach**	**147.25**	**5**	*eP*	**PKPbc**	**16 22 14.3**	**-0.3**	
MCD	**Coleburn Disti**	**147.30**	**3**	*eP*	**PKPbc**	**16 22 14.4**	**-0.3**	
KPL	**Plockton**	**147.38**	**6**	*eP*	**PKPbc**	**16 22 14.4**	**-0.5**	
BJUU	**Bjuv**	**147.44**	**346**	*i* P	**PKPbc**	**16 22 14.3**	**-0.8**	
LUNU	**Lund**	**147.75**	**346**	*i* P	**PKPbc**	**16 22 14.8**	**-1.2**	
SORM	**Soroca**	**147.75**	**323**	⇑P	**PKPbc**	**16 22 16.3**	**+0.1**	
SORM	**Soroca**	**147.75**	**323**	⇑PKP2	**PKPbc**	**16 22 16.3**	**+0.1**	
BSD	**Bornholm Skovb**	**147.87**	**344**	*eP*	**PKPbc**	**16 22 15.8**	**-0.5**	
BSD	**Bornholm Skovb**	**147.87**	**344**	*i* P	**PKPbc**	**16 22 15.1**	**-1.2**	
BR131	**Keskin Array S**	**148.08**	**306**		**PKPbc**	**16 22 17.0**	**-0.6**	
BR131	**Keskin Array S**	**148.08**	**306**	PKP2	**PKPbc**	**16 22 17.0**	**-0.6**	
BRTR	**Keskin Array B**	**148.08**	**306**	PKP	**PKPdf**	**16 22 12.4**	**-1.3**	
	comp=Z,4.3nm,0.8s,baz=298,slow=2.7,SNR=5.3							
BRTR				PKPbc	**PKPbc**	**16 22 17.3**	**-0.3**	
	comp=Z,5.9nm,0.8s,baz=141,slow=3.8,SNR=20							
BRTR				pPKPbc	**pPKPdf**	**16 24 14.4**	**+0.7**	
	comp=Z,2.0nm,0.8s,baz=118,slow=5.1,SNR=4.9							
MILM	**Milestii Mici**	**148.19**	**321**	⇑P	**PKPbc**	**16 22 17.1**	**-0.3**	
MILM	**Milestii Mici**	**148.19**	**321**	⇑*i* PKP	**PKPbc**	**16 22 17.0**	**-0.3**	
	comp=Z,45nm,0.7s							
MILM	**Milestii Mici**	**148.19**	**321**	*c i*PKHKP	**PKPbc**	**16 22 17.0**	**-0.3**	
MILM				pmax	pmax			
	comp=Z,45nm,0.7s							
INVG	**Invergeldie, C**	**148.41**	**4**	*eP*	**PKPbc**	**16 22 17.1**	**-0.5**	
LAWE	**Loch Awe, Argy**	**148.47**	**6**	*eP*	**PKPbc**	**16 22 16.5**	**-1.3**	
EAB	**Aberfoyle**	**148.63**	**5**	*eP*	**PKPbc**	**16 22 18.2**	**+0.1**	
ANTO	**Ankara**	**148.66**	**306**	⇑P	**PKPbc**	**16 22 19.4**	**+0.5**	
ANTO	**Ankara**	**148.66**	**306**		**PKPbc**	**16 22 18.9**	**0.0**	
ANTO	**Ankara**	**148.66**	**306**	PKP2	**PKPbc**	**16 22 18.9**	**0.0**	
GKP	**Gorka Klasztor**	**148.82**	**340**	*eP*	**PKPbc**	**16 22 19.1**	**+0.4**	
LVV	**L'vov**	**148.86**	**329**	*e*PKHKP	**PKPbc**	**16 22 19.2**	**+0.2**	
EBL	**Broad Law**	**149.12**	**3**	*eP*	**PKPbc**	**16 22 19.2**	**-0.2**	
SCTR	**Scanteiesti**	**149.34**	**320**	⇑P	**PKiKP**	**16 22 21.2**	**+0.1**	
GHRR		**149.47**	**321**	⇑P	**PKiKP**	**16 22 20.3**	**-0.2**	
TPGR	**Topolog**	**149.52**	**318**	⇑P	**PKiKP**	**16 22 21.4**	**-0.1**	
CFR	**Carcaliu**	**149.52**	**319**	⇑P	**PKiKP**	**16 22 21.2**	**-0.2**	
CFR	**Carcaliu**	**149.52**	**319**	⇑PKHKP	**PKiKP**	**16 22 21.2**	**-0.2**	
IZVR	**Izvoarele**	**149.55**	**320**	P	**PKiKP**	**16 22 21.6**	**+0.2**	
MDUB	**Mudurnu**	**149.61**	**308**		**PKPbc**	**16 22 20.1**	**-1.1**	
TESR	**Tescani**	**149.64**	**322**	⇑P	**PKPbc**	**16 22 21.3**	**+0.3**	
BIZ	**Bicaz**	**149.69**	**323**	⇑P	PKPab	16 22 43.8	+15	
NEWG	**New Galloway**	**149.70**	**5**	*eP*	**PKPbc**	**16 22 20.3**	**-0.5**	
TIRR	**Tirgusor**	**149.73**	**317**	⇑P	**PKiKP**	**16 22 21.7**	**-0.2**	
TIRR	**Tirgusor**	**149.73**	**317**	⇑PKHKP	**PKiKP**	**16 22 21.7**	**-0.2**	
BUR08	**Bucovina Ar. S**	**149.73**	**325**		**PKiKP**	**16 22 21.8**	**-0.2**	
BURAR	**Bucovina Array**	**149.74**	**325**	⇑P	**PKiKP**	**16 22 22.7**	**+0.7**	
BURAR	**Bucovina Array**	**149.74**	**325**		**PKPbc**	**16 22 21.5**	**+0.2**	
BURAR	**Bucovina Array**	**149.74**	**325**	⇑PKP2	**PKiKP**	**16 22 22.7**	**+0.7**	
MFTR	**Murfatlar**	**149.87**	**317**	⇑P	**PKiKP**	**16 22 22.4**	**+0.2**	
HARR	**Harsova**	**149.91**	**318**	⇑P	**PKiKP**	**16 22 22.2**	**0.0**	
HARR	**Harsova**	**149.91**	**318**	⇑PKHKP	**PKiKP**	**16 22 22.2**	**0.0**	
TLBR	**Topalu**	**149.91**	**318**	⇑P	**PKiKP**	**16 22 22.5**	**+0.3**	
MANR	**Mangalia**	**149.94**	**316**	⇑P	**PKiKP**	**16 22 22.6**	**+0.2**	
VRI	**Vrincioaia**	**149.97**	**321**	⇑P	**PKPbc**	**16 22 21.6**	**-0.2**	
VRI	**Vrincioaia**	**149.97**	**321**	⇑PKHKP	**PKPbc**	**16 22 21.6**	**-0.2**	
PLOR	**Plostina**	**150.02**	**321**	⇑P	**PKPbc**	**16 22 21.9**	**-0.1**	
PLOR	**Plostina**	**150.02**	**321**	⇑PKHKP	**PKPbc**	**16 22 21.9**	**-0.1**	
EDMD	**Edmundbyers**	**150.10**	**2**	*eP*	**PKPbc**	**16 22 21.4**	**-0.3**	
BISRR	**Bisoca**	**150.16**	**320**	⇑P	**PKiKP**	**16 22 23.4**	**+0.5**	
H07S1	**FLORES T-PHASE**	**150.19**	**54**	PKPbc	**PKiKP**	**16 22 23.0**	**-0.1**	
COVR	**Voineasa-Covas**	**150.28**	**321**	⇑P	**PKPbc**	**16 22 22.5**	**0.0**	
BORA	**Eskisehir**	**150.35**	**308**		**PKPbc**	**16 22 22.7**	**-0.3**	
OZUR		**150.37**	**322**	⇑P	**PKiKP**	**16 22 23.4**	**+0.2**	
STHS	**Stebnicka Huta**	**150.41**	**331**	*e*PKP	**PKPbc**	**16 22 22.5**	**-0.2**	
STHS	**Stebnicka Huta**	**150.41**	**331**	*e*PKiKP	**PKPbc**	**16 22 22.5**	**-0.2**	
NEHR	**Nehoiu**	**150.47**	**320**	⇑P	**PKiKP**	**16 22 23.8**	**+0.3**	
ISR	**Istrita**	**150.50**	**320**	⇑P	**PKiKP**	**16 22 23.6**	**0.0**	
ISR	**Istrita**	**150.50**	**320**	⇑PKiKP	**PKiKP**	**16 22 23.6**	**0.0**	
UZH	**Uzhgorod**	**150.50**	**329**	⇑*i* PKiKP	**PKiKP**	**16 22 23.4**	**0.0**	
UZH				*i*		16 22 31.3		
ARCR	**ARCALIA**	**150.53**	**325**	⇑P	**PKiKP**	**16 22 23.9**	**+0.4**	
RUE	**Ruedersdorf**	**150.53**	**343**	*eP*	**PKiKP**	**16 22 23.7**	**+0.5**	
MLR	**Muntele Rosu**	**150.64**	**321**	⇑P	**PKiKP**	**16 22 23.7**	**+0.2**	
MLR	**Muntele Rosu**	**150.64**	**321**		**PKPbc**	**16 22 23.2**	**-0.3**	
MLR	**Muntele Rosu**	**150.64**	**321**	PKiKP	**PKPbc**	**16 22 23.2**	**-0.3**	
DOPR	**Dopca**	**150.67**	**322**	⇑P	**PKiKP**	**16 22 24.3**	**+0.4**	
CRVS	**Cervenica-Dubn**	**150.69**	**330**	*e*PKP	**PKiKP**	**16 22 23.7**	**-0.1**	
CRVS	**Cervenica-Dubn**	**150.69**	**330**	*e*PKiKP	**PKiKP**	**16 22 23.7**	**-0.1**	
TRPA	**Tarpa**	**150.74**	**328**	⇑P	**PKiKP**	**16 22 23.9**	**0.0**	
TRPA	**Tarpa**	**150.74**	**328**	PKP	**PKPbc**	**16 22 23.5**	**+0.1**	
SECR		**150.83**	**320**	⇑P	**PKiKP**	**16 22 24.2**	**0.0**	
CJR	**Cluj-Napoca**	**151.17**	**325**	⇑P	**PKiKP**	**16 22 25.2**	**+0.3**	
CJR	**Cluj-Napoca**	**151.17**	**325**	⇑PKiKP	**PKiKP**	**16 22 25.2**	**+0.3**	
VOIR		**151.18**	**322**	⇑P	**PKiKP**	**16 22 25.2**	**+0.2**	
VOIR		**151.18**	**322**	⇑PKiKP	**PKiKP**	**16 22 25.2**	**+0.2**	
MESR	**Meseseni**	**151.21**	**326**	⇑P	**PKPbc**	**16 22 24.7**	**+0.1**	
ABAH	**Abaujker**	**151.23**	**330**	PKP	**PKiKP**	**16 22 25.3**	**+0.4**	
ARR	**Arges**	**151.45**	**322**	⇑P	**PKiKP**	**16 22 26.8**	**+1.2**	
OSTC	**Ostas**	**151.46**	**338**	⇓*e*PKP	**PKiKP**	**16 22 25.9**	**+0.5**	
UPC	**Upice**	**151.57**	**338**	⇓*e*PKP	**PKiKP**	**16 22 25.8**	**+0.2**	
UPC	**Upice**	**151.57**	**338**	*e*PKiKP	**PKiKP**	**16 22 25.8**	**+0.2**	
DPC	**Dobruska-Polom**	**151.60**	**338**	⇓*e*PKP	**PKiKP**	**16 22 26.1**	**+0.4**	
DPC				*e*pPKP	**pPKPab**	**16 24 28.9**	**-1.8**	
DPC	**Dobruska-Polom**	**151.60**	**338**	*e*PKiKP	**PKiKP**	**16 22 26.1**	**+0.4**	
DPC				*e*		16 24 28.9		
MORC	**Moravsky Berou**	**151.63**	**336**	⇑P	**PKiKP**	**16 22 25.6**	**+0.4**	
MORC	**Moravsky Berou**	**151.63**	**336**		**PKPbc**	**16 22 25.6**	**+0.1**	
MORC	**Moravsky Berou**	**151.63**	**336**	*e*PKP	**PKiKP**	**16 22 25.7**	**-0.1**	
MORC	**Moravsky Berou**	**151.63**	**336**	PKiKP	**PKPbc**	**16 22 25.6**	**+0.1**	
KRLC	**Kraliky**	**151.67**	**337**	⇑*e*PKP	**PKiKP**	**16 22 25.8**	**0.0**	
KRLC				*e*pPKP	**pPKPab**	**16 24 29.6**	**-1.4**	
KRLC	**Kraliky**	**151.67**	**337**	*e*PKiKP	**PKiKP**	**16 22 25.8**	**0.0**	
CLL	**Collm**	**151.80**	**342**		**PKPbc**	**16 22 25.8**	**+0.1**	
CLL	**Collm**	**151.80**	**342**	*e*PKPdf	**PKPdf**	**16 22 18.0**	**-0.8**	
	comp=Z,27nm,1.8s							
CLL				⇑*i*PKPbc	**PKiKP**	**16 22 26.0**	**0.0**	
	comp=Z,43nm,0.8s							
CLL				⇓*i*PKPab	**PKPab**	**16 22 37.6**	**+0.5**	
	comp=Z,12nm,0.8s							
CLL				*ex*	x	16 23 00.0		
CLL				*e*pPKPbc	**pPKPbc**	**16 24 25.0**	**0.0**	
CLL				*ex*	x	16 24 37.0		
CLL	**Collm**	**151.80**	**342**	PKiKP	**PKPbc**	**16 22 25.8**	**+0.1**	
MAUC	**Maruska**	**151.86**	**335**	⇑*e*PKP	**PKiKP**	**16 22 27.0**	**+0.8**	
MAUC				*e*pPKP	**pPKPab**	**16 24 32.0**	**+0.3**	
LOT	**Lotru**	**151.88**	**323**	⇑P	**PKPbc**	**16 22 26.0**	**-0.3**	
BRG	**Berggiesshubel**	**151.92**	**341**	*i* PKP	**PKiKP**	**16 22 26.5**	**+0.3**	
BRG				Amp		16 22 27.1		
	comp=Z,21nm,0.7s							
BRG				*i* x	x	16 22 38.4		
BRG				Amp		16 22 39.0		
	comp=Z,13nm,0.8s							
BRG				pPKP	**pPKPbc**	**16 24 25.8**	**+0.5**	
BRG				Amp		16 24 31.2		
	comp=Z,4.5nm,0.8s							
BRG	**Berggiesshubel**	**151.92**	**341**	*i* PKiKP	**PKiKP**	**16 22 26.5**	**+0.3**	
BRG				*i*		16 22 38.4		
BRG						16 24 25.7		
BRG				pmax	pmax			
	comp=Z,21nm,0.7s							
BRG				pmax	pmax			
	comp=Z,13nm,0.8s							
BRG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
FOEL	**Foel Wylfa**	**151.99**	**4**	*eP*	**PKPdf**	**16 22 22.3**	**+3.2**	
PSZ	**Piszkesteto**	**152.12**	**330**	⇑P	**PKiKP**	**16 22 27.1**	**+0.2**	
PSZ	**Piszkesteto**	**152.12**	**330**	PKP	**PKiKP**	**16 22 28.3**	**+1.4**	
PSZ	**Piszkesteto**	**152.12**	**330**	⇑PKiKP	**PKiKP**	**16 22 27.1**	**+0.2**	
VYHS	**Vyhne**	**152.14**	**332**	*e*PKP	**PKiKP**	**16 22 26.9**	**+0.1**	
VYHS	**Vyhne**	**152.14**	**332**	*e*PKiKP	**PKiKP**	**16 22 26.9**	**+0.1**	
VRAC	**Vranov**	**152.37**	**336**	*e*PKP	**PKiKP**	**16 22 27.4**	**+0.1**	
GZR	**Gura Zlata**	**152.46**	**324**	⇑P	**PKPbc**	**16 22 27.5**	**0.0**	
GZR	**Gura Zlata**	**152.46**	**324**	⇑PKiKP	**PKPbc**	**16 22 27.5**	**0.0**	
SIRR	**Siria**	**152.46**	**326**	⇑P	**PKiKP**	**16 22 27.8**	**+0.2**	
GOPC	**GO Pecny, Ondr**	**152.49**	**339**	⇑*e*PKP	**PKiKP**	**16 22 27.5**	**0.0**	
GOPC	**GO Pecny, Ondr**	**152.49**	**339**	*e*PKiKP	**PKiKP**	**16 22 27.5**	**0.0**	
PRU	**Pruhonice**	**152.51**	**339**	⇑*e*PKP	**PKiKP**	**16 22 27.9**	**+0.4**	
PRU	**Pruhonice**	**152.51**	**339**	*e*PKiKP	**PKiKP**	**16 22 27.9**	**+0.4**	
SURR	**Surduc**	**152.57**	**325**	⇑P	**PKiKP**	**16 22 27.8**	**0.0**	
PLVE	**Pleven**	**152.62**	**318**	⇑P	**PKiKP**	**16 22 28.5**	**+0.6**	
KRUC	**Moravsky**	**152.65**	**336**	*e*PKP	**PKPbc**	**16 22 27.7**	**0.0**	
MODS	**Modra-Piesok**	**152.87**	**334**	*e*PKP	**PKPdf**	**16 22 20.8**	**+0.3**	
MODS				*e*		16 22 28.9		
MODS	**Modra-Piesok**	**152.87**	**334**	*e*PKiKP	**PKPdf**	**16 22 20.8**	**+0.3**	
MCH1	**Michaelchurch**	**152.89**	**4**	*eP*	**PKPbc**	**16 22 26.4**	**-1.7**	
NKC	**Novy Kostel**	**152.92**	**342**	⇑*e*PKP	**PKiKP**	**16 22 28.9**	**+0.5**	
NKC				*e*PKPAB	**PKPab**	**16 22 42.8**	**+0.8**	
NKC	**Novy Kostel**	**152.92**	**342**	*e*PKiKP	**PKiKP**	**16 22 28.9**	**+0.5**	
NKC				*e*		16 22 42.8		
BZS	**Buzias**	**152.93**	**325**	⇑P	**PKiKP**	**16 22 28.7**	**+0.2**	
BZS	**Buzias**	**152.93**	**325**	⇑PKiKP	**PKiKP**	**16 22 28.7**	**+0.2**	
HERR	**Herculane**	**152.98**	**323**	⇑P	**PKiKP**	**16 22 29.0**	**+0.4**	
MONM	**Monmouth**	**153.06**	**4**	*eP*	**PKPbc**	**16 22 27.9**	**-0.6**	
KHC	**Kasperske Hory**	**153.56**	**340**		**PKPdf**	**16 22 21.1**	**-0.5**	
KHC				PKPbc	**PKPbc**	**16 22 29.6**	**-0.1**	
KHC				PKPab	**PKPab**	**16 22 45.2**	**+0.5**	
KHC	**Kasperske Hory**	**153.56**	**340**	*e*PKPDF	**PKPdf**	**16 22 21.0**	**-0.5**	
KHC				⇑*e*PKP	**PKiKP**	**16 22 30.0**	**+0.2**	
KHC				*e*PKPAB	**PKPab**	**16 22 45.5**	**+0.7**	
KHC				*e*pPKP	**pPKPbc**	**16 24 33.5**	**+4.2**	
KHC	**Kasperske Hory**	**153.56**	**340**	PKiKP	**PKPdf**	**16 22 21.1**	**-0.5**	
KHC						16 22 45.2		
GERES	**GERESS Array B**	**153.77**	**339**	PKP	**PKPdf**	**16 22 21.4**	**-0.4**	
	comp=Z,0.7nm,0.7s,baz=50,slow=2.1,SNR=6.6							
GERES				PKPbc	**PKiKP**	**16 22 30.5**	**+0.2**	
	comp=Z,2.1nm,0.7s,baz=90,slow=2.7,SNR=13							
GERES				PKPab	**PKPab**	**16 22 46.0**	**+0.2**	
	comp=Z,1.7nm,0.7s,baz=29,slow=3.0,SNR=7.6							
CONA	**Conrad Observa**	**153.79**	**335**	*eP*	**PKiKP**	**16 22 30.3**	**0.0**	
	comp=Z,7.3nm,1.1s							
RONA	**Rosalia, Austr**	**153.81**	**334**	*eP*	**PKiKP**	**16 22 30.8**	**+0.5**	
	comp=Z,4.5nm,0.6s							
MEM	**Membach**	**153.93**	**351**	*d*PKiKP	**PKiKP**	**16 22 30.6**	**+0.2**	
MEM				*d*PKPab	**PKPab**	**16 22 47.0**	**+0.8**	
BTNL	**Ternell**	**153.93**	**351**	*d*PKiKP	**PKiKP**	**16 22 30.8**	**+0.4**	
MORH	**Mrgy, Hungar**	**153.96**	**329**	⇑P	**PKiKP**	**16 22 30.8**	**+0.2**	
BCLA	**Clavier**	**154.21**	**352**	*d*PKPab	**PKPab**	**16 22 47.3**	**-0.1**	
SNF	**Seneffe**	**154.24**	**353**	*d*PKPab	**PKPab**	**16 22 48.1**	**+0.6**	
BGES	**Gesves**	**154.27**	**352**	*d*PKPab	**PKPab**	**16 22 47.7**	**0.0**	
BMRD	**Maredsous**	**154.39**	**353**	*d*PKiKP	**PKPbc**	**16 22 31.7**	**+0.4**	
BMRD				*d*PKPab	**PKPab**	**16 22 48.0**	**-0.2**	
BIOA	**Bad Ischl, Aus**	**154.79**	**338**	*eP*	**PKPab**	**16 22 50.1**	**+0.1**	
	comp=Z,4.1nm,0.6s							
WLF	**Walferdange**	**154.83**	**350**	*d*PKiKP	**PKPbc**	**16 22 33.4**	**+1.1**	
KBA	**Koelnbreinsper**	**155.42**	**337**	*eP*	**PKPab**	**16 22 52.9**	**-0.1**	
	comp=Z,2.8nm,0.8s							
MYKA	**Terra Mystica**	**155.70**	**336**	*eP*	**PKPab**	**16 22 54.0**	**-0.1**	
	comp=Z,3.6nm,0.6s							
WATA	**Walderalm**	**155.78**	**340**	*eP*	**PKPab**	**16 22 55.3**	**+0.8**	
	comp=Z,4.4nm,0.4s							
WTTA	**Wattenberg**	**155.82**	**340**	*eP*	**PKPab**	**16 22 55.6**	**+0.9**	
	comp=Z,8.1nm,0.6s							
RETA	**Reutte**	**155.88**	**342**	*eP*	**PKPab**	**16 22 55.6**	**+0.8**	
	comp=Z,9.5nm,0.7s							
MOTA	**Moosalm**	**155.91**	**341**	*eP*	**PKPab**	**16 22 55.5**	**+0.5**	
	comp=Z,9.6nm,0.9s							
SQTA	**Sankt Quirin**	**155.99**	**341**	*eP*	**PKPab**	**16 22 56.1**	**+0.7**	
	comp=Z,4.0nm,0.6s							
ABTA	**Abfaltersbach**	**156.00**	**338**	*eP*	**PKPab**	**16 22 55.5**	**+0.1**	
	comp=Z,4.7nm,0.7s							
DAVA	**Damuels**	**156.31**	**343**	*eP*	**PKPab**	**16 22 57.5**	**+0.8**	
	comp=Z,7.8nm,0.7s							
FETA	**Feichten**	**156.31**	**341**	*eP*	**PKPab**	**16 22 57.7**	**+0.9**	
	comp=Z,6.7nm,1.2s							
FUORN	**Ofenpass-Fuorn**	**156.81**	**342**		**PKPab**	**16 22 59.5**	**+0.4**	
LIC	**Lamto**	**160.82**	**165**	⇓*i* P	**PKPab**	**16 23 17.5**	**+0.6**	
	comp=Z,65nm,0.8s							
KIC	**Kosan Boka**	**161.01**	**166**	⇓*i* P	**PKPab**	**16 23 18.3**	**+0.5**	
	comp=Z,10nm,0.5s							
TIC	**Toumodi**	**161.22**	**165**	⇑*eP*	**PKPab**	**16 23 15.4**	**-3.4**	
	comp=Z,14nm,0.3s							
DBIC	**Dimbokro**	**161.29**	**165**	PKP	**PKPdf**	**16 22 32.0**	**0.0**	
	comp=Z,5.8nm,0.9s,baz=128,slow=3.2,SNR=6.2							
DBIC				PKPab	**PKPab**	**16 23 19.3**	**+0.3**	
	comp=Z,7.3nm,0.7s,baz=202,slow=6.3,SNR=8.0							
DBIC	**Dimbokro**	**161.29**	**165**	PKPdf	**PKPdf**	**16 22 31.2**	**-0.8**	
DBIC					**PKPab**	**16 23 18.9**	**-0.1**	
DBIC	**Dimbokro**	**161.29**	**165**	PKIKP	**PKPdf**	**16 22 31.2**	**-0.8**	
DBIC						16 23 18.9		
ESDC	**Sonseca Array**	**164.95**	**11**	PKPab	**PKPab**	**16 23 35.1**	**+0.4**	
	comp=Z,5.3nm,0.9s,baz=338,slow=4.1,SNR=21							
ESDC	**Sonseca Array**	**164.95**	**11**		**PKPab**

PBSI	**Pulau Batu**	**4.91**	**309**	P	**Pn**	16 45 55.3	**+1.4**
GSI	**Gunungsitoli**	**6.33**	**315**	P	**Pn**	**16 46 13.2**	**-0.2**
	0.4nm4µm55nm,0.9s						
SNSI	**Sinabang, Aceh**	**7.99**	**314**	P	**Pn**	**16 46 36.5**	**+0.6**
	39nm,0.6s						
MLSI	**Meulaboh, Aceh**	**9.32**	**323**	P	**Pn**	**16 46 53.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**21.73**	**352**	P	**P**	**16 49 26.3**	**+0.6**
	0.3nm,0.7s,baz=181,slow=7.7,SNR=4.3						
CMAR				pP	**pP**	**16 49 47.8**	**+2.6**
	0.5nm,0.7s,baz=181,slow=9.4,SNR=4.0						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**35.61**	**120**	P	**P**	**16 51 29.6**	**-1.2**
	0.2nm,0.3s,baz=315,slow=9.4,SNR=16						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**36.88**	**126**	P	**P**	**16 51 40.9**	**-0.8**
	0.5nm,0.7s,baz=299,slow=7.6,SNR=15						
	0.5nm,0.7s						
SONM	**Songino Array**	**50.95**	**4**	P	**P**	**16 53 34.3**	**+0.4**
	0.4nm,0.5s,baz=187,slow=11,SNR=5.0						
SONM				PcP	**PcP**	**16 54 48.0**	**-0.7**
	0.6nm,0.4s,baz=188,slow=4.3,SNR=9.7						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**52.74**	**343**	P	**P**	**16 53 46.5**	**-0.5**
	0.5nm,0.4s,baz=155,slow=9.1,SNR=17						
	0.5nm,0.4s						
USRK	**Ussuriysk Ar.**	**54.26**	**26**	P	**P**	**16 53 58.1**	**0.0**
	2.4nm,0.7s,baz=206,slow=4.0,SNR=5.5						
	2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**58.73**	**348**	P	**P**	**16 54 28.3**	**-1.3**
	0.7nm,0.4s,baz=164,slow=4.8,SNR=5.5						
	0.7nm,0.4s						
BRTR	**Keskin Array B**	**75.65**	**312**	P	**P**	**16 56 16.2**	**-0.9**
	0.6nm,0.6s,baz=142,slow=6.2,SNR=3.6						
	0.6nm,0.6s						
AKASG	**Malin Array Be**	**81.68**	**322**	P	**P**	**16 56 49.1**	**-0.7**
	0.2nm,0.4s,baz=86,slow=5.1,SNR=4.2						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**88.29**	**340**	P	**P**	**16 57 21.9**	**-0.4**
	0.4nm,0.4s,baz=102,slow=5.5,SNR=8.0						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**144.31**	**41**	PKP	**PKPab**	**17 04 06.0**	**+0.1**
	0.9nm,0.5s,baz=261,slow=1.1,SNR=15						
CPUP	**Villa Florida**	**144.53**	**213**	PKP	PKPbc	17 04 07.9	+1.1
	3.2nm,0.8s,baz=180,slow=2.0,SNR=5.6						

*WEL **22** 16:47:17.5±0.3,43°S±2°×17°2E±°, h5km,M3.4/37, ML3.5/19,MLv3.4/37,Error ellipse: s-maj=0.0km s-min=0.0km az=143.4*
*NOU **22** 16:47:20.0,42°.80S×171°.85E,h24km,MLv4.0/8,South Island, New Zealand*
ISC 22 16:47:18.1±1.0,**42°.70S**±0°.03×**171°.71E**±0°.03,**h10**km±10km, **n56**,σ1§**02**/59,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.20**	**263**	P	**Pg**	**16 47 22.4**	**+0.1**
INZ				S	**Sg**	**16 47 25.1**	**-0.1**
LTZ	**Lake Taylor**	**0.42**	**101**	P	**Pg**	**16 47 26.3**	**-0.1**
LTZ				S	**Sg**	**16 47 31.7**	**-0.2**
CSHS	**Castle Hill**	**0.53**	**179**	P	**Pg**	**16 47 28.8**	**+0.4**
OXZ	**Oxford**	**0.67**	**159**	P	**Pg**	**16 47 31.6**	**+0.5**
OXZ				S	**Sg**	**16 47 40.6**	**+0.7**
WVZ	**Waitaha Valley**	**0.81**	**242**	P	**Pg**	**16 47 33.2**	**-0.6**
AMCZ	**Amberley**	**0.84**	**125**	P	**Pb**	**16 47 35.1**	**+0.4**
MHCZ	**Mount Hutt**	**0.84**	**187**	P	**Pb**	**16 47 34.8**	**0.0**
DSZ	**Denniston Nort**	**0.96**	**4**	P	**Pb**	**16 47 35.9**	**-0.9**
GVZ	**Greta Valley S**	**1.01**	**106**	P	**Pb**	**16 47 38.3**	**+0.7**
RACZ	**Rakaia**	**1.07**	**163**	P	**Pb**	**16 47 39.1**	**+0.4**
RPZ	**Rata Peaks**	**1.12**	**205**	P	**Pg**	**16 47 39.6**	**-0.1**
RPZ	**Rata Peaks**	**1.12**	**205**	P	**Pg**	**16 47 39.6**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**1.19**	**238**	P	**Pg**	**16 47 39.9**	**-1.0**
MQZ	**McQueen's Vall**	**1.22**	**146**	P	**Pb**	**16 47 40.4**	**-1.1**
WACZ	**Wakanui South**	**1.25**	**176**	P	**Pb**	**16 47 40.9**	**-0.6**
THZ	**Tophouse**	**1.29**	**44**	P	**Pg**	**16 47 40.8**	**-2.1**
ARCZ	**Arundel**	**1.31**	**197**	P	**Pn**	**16 47 41.7**	**-0.7**
KHZ	**Kahutara**	**1.38**	**79**	P	**Pn**	**16 47 43.6**	**+0.2**
OKCZ	**Okains Bay**	**1.42**	**137**	P	**Pn**	**16 47 43.8**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.46**	**144**	P	**Pn**	**16 47 44.4**	**-0.2**
MRNZ	**Matariki Terra**	**1.52**	**31**	P	**Pb**	**16 47 45.8**	**-0.4**
FOZ	**Fox Glacier**	**1.62**	**238**	P	**Pn**	**16 47 46.8**	**+0.1**
TMZ	**Timaru**	**1.76**	**197**	P	**Pn**	**16 47 48.0**	**-0.6**
BSWZ	**Blackbirch Sta**	**1.89**	**59**	P	**Pb**	**16 47 51.8**	**-0.8**
TKNZ	**Takaka Hill**	**1.91**	**30**	P	**Pn**	**16 47 51.1**	**+0.4**
NNZ	**Nelson**	**1.93**	**41**	P	**Pn**	**16 47 51.6**	**+0.6**
QRZ	**Quartz Range**	**1.97**	**18**	P	**Pn**	**16 47 52.2**	**+0.7**
QRZ	**Quartz Range**	**1.97**	**18**	P	**Pn**	**16 47 52.0**	**+0.5**
LBZ	**Lake Benmore**	**2.02**	**213**	P	**Pn**	**16 47 52.2**	**0.0**
TUWZ	**Tuamarina**	**2.09**	**53**	P	**Pn**	**16 47 54.3**	**+1.2**
TCW	**Tory Channel**	**2.42**	**53**	P	**Pn**	**16 47 58.4**	**+0.7**
ODZ	**Otahua Downs**	**2.47**	**198**	P	**Pn**	**16 47 57.6**	**-0.7**
ODZ	**Otahua Downs**	**2.47**	**198**	P	**Pn**	**16 47 57.7**	**-0.6**
DUWZ	**D'Urville Isla**	**2.52**	**42**	P	**Pn**	**16 48 00.2**	**+1.2**
JCZ	**Jackson Bay**	**2.54**	**236**	P	**Pn**	**16 48 00.4**	**+1.0**
JCZ	**Jackson Bay**	**2.54**	**236**	P	**Pn**	**16 47 59.7**	**+0.3**
WKZ	**Wanaka**	**2.89**	**222**	P	**Pn**	**16 48 03.5**	**-0.6**
CAW	**Cannon Point**	**2.97**	**59**	P	**Pn**	**16 48 04.8**	**-0.4**
KIW	**Kapiti Island**	**3.02**	**54**	P	**Pn**	**16 48 06.2**	**+0.3**
EAZ	**Earnscleugh**	**3.07**	**214**	P	**Pn**	**16 48 06.5**	**-0.1**
OGWZ	**Otaki Gorge**	**3.20**	**55**	P	**Pn**	**16 48 08.1**	**-0.2**
HOWZ	**Holdsworth Sta**	**3.37**	**59**	P	**Pn**	**16 48 09.7**	**-1.0**
NBEZ	**Newall Road No**	**3.80**	**26**	P	**Pn**	**16 48 18.4**	**+1.8**
KHEZ	**Kahui Hut**	**3.82**	**28**	P	**Pn**	**16 48 18.6**	**+1.6**
KHEZ	**Kahui Hut**	**3.82**	**28**	P	**Pn**	**16 48 18.7**	**+1.7**
WAZ	**Wanganui**	**3.84**	**41**	P	**Pn**	**16 48 20.6**	**+3.4**
NEZ	**North Egmont**	**3.87**	**29**	P	**Pn**	**16 48 19.7**	**+2.0**
PKE	**Pukeiti**	**3.90**	**27**	P	**Pn**	**16 48 20.1**	**+2.0**
SYZ	**Scrubby Hill**	**4.25**	**205**	P	**Pn**	**16 48 22.7**	**-0.2**
SYZ	**Scrubby Hill**	**4.25**	**205**	P	**Pn**	**16 48 22.6**	**-0.2**
VRZ	**Vera Road**	**4.25**	**34**	P	**Pn**	**16 48 25.2**	**+2.3**
HIZ	**Hauiti**	**4.82**	**31**	P	**Pn**	**16 48 31.5**	**+0.8**
HIZ	**Hauiti**	**4.82**	**31**	P	**Pn**	**16 48 31.5**	**+0.8**
TOZ	**Tahuroa Road**	**5.75**	**32**	P	**Pn**	**16 48 44.0**	**+0.6**
WIAZ	**Waiheke Island**	**6.46**	**25**	P	**Pn**	**16 48 53.9**	**+0.7**
OUZ	**Omahuta**	**7.61**	**12**	P	**Pn**	**16 49 10.3**	**+1.3**

OMAN 22 16:47:23.1±0.6,**23°.03N**×**63°.43E**,**h37**km±83km,**mb5.0**/5, **ml3.6**/4,**Error ellipse: s-maj=12.2km s-min=8.2km az=292.0,Off coast of Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**3.12**	**318**	P	Pn	16 48 06.6	-3.2
	SNR=12						
NGCH				S	Sn	16 48 43.0	-2.9
WBK	**Wadi Bani Khal**	**4.14**	**265**	P	Pn	16 48 23.8	0.0
	SNR=43						
WBK				S	Sn	16 49 11.6	+0.6
BIDO	**Bidbid**	**4.90**	**277**	P	Pn	16 48 33.6	-0.7
	SNR=18						
BIDO				S	Sn	16 49 29.4	-0.4
SMDO	**Samad**	**4.96**	**271**	P	Pn	16 48 34.6	-0.6
	SNR=8.9						
SMDO				S	Sn	16 49 31.9	+0.6
JMDO	**Jabal Madar**	**4.97**	**263**	P	Pn	16 48 35.2	+0.1
	SNR=6.3						
MHTO	**MHTO**	**5.46**	**249**	P	Pn	16 48 41.6	-0.4
	SNR=16						
MHTO				S	Sn	16 49 44.0	+0.4
HOQ	**Hoqain**	**5.66**	**277**	P	Pn	16 48 44.3	-0.4
BSY	**Bisya**	**5.76**	**268**	P	Pn	16 48 46.3	+0.3
	SNR=15						
BSY				S	Sn	16 49 51.7	+0.8
JASK	**Jask - Hormozg**	**5.80**	**300**	P	Pn	16 48 45.0	-1.7
	SNR=25						
JASK				S	Sn	16 49 48.9	-3.1
DQM	**DQM**	**6.30**	**242**	P	Pn	16 48 53.0	-0.4
	SNR=26						
DQM				S	Sn	16 50 03.5	-0.6
ARQ	**Araqi**	**6.37**	**274**	P	Pn	16 48 55.7	+1.2
	SNR=11						
ARQ				S	Sn	16 50 10.0	+4.1
MDH	**Madha**	**6.89**	**291**	P	Pn	16 49 01.6	0.0
MDH				S	Sn	16 50 13.3	-5.6
HATD	**Hatta, Dubai**	**6.92**	**286**	P	Pn	16 49 02.7	+0.7
ASHO	**Ashiyiah**	**6.95**	**285**	P	Pn	16 49 02.5	+0.1
	SNR=8.6						
MASF	**Masafi**	**7.04**	**291**	P	Pn	16 49 03.7	0.0
BANOM	**Banah**	**7.11**	**295**	P	Pn	16 49 01.8	-2.8
	SNR=14						
SHME	**Shamm**	**7.29**	**296**	P	Pn	16 49 07.0	-0.1
ASUD	**Al Ashush, Dub**	**7.59**	**284**	P	Pn	16 49 12.2	+1.0
DMTO	**DMTO**	**9.55**	**238**	P	Pn	16 49 37.3	-0.8
DOK	**Doka**	**9.75**	**245**	P	Pn	16 49 41.0	+0.2
	SNR=7.7						
ABTO	**Aybut**	**11.07**	**241**	P	Pn	16 49 57.9	-1.1

*IDC **22** 16:52:31.9±1.0,55°.73S×26°.81W,h0km,mb4.1/5, mbtmp4.0/6,ML3.6/1,MS3.0/3,Error ellipse: s-maj=51.8km s-min=19.8km az=64.0*
*NEIC **22** 16:52:32.9±1.1,55°.8S±0°.1×26°.7W±0°.3,h10km±2km, mb4.4/21,Error ellipse: s-maj=28.1km s-min=14.1km az=60.0*
ISC 22 16:52:33.1±0.9,**55°.7S**±0°.1×**26°.9W**±0°.2,**h10**km,**n41**, σ0§**76**/33,**mb4.4**/14,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.71**	**281**	Pn	**Pn**	**16 53 57.7**	**-0.2**
VNA3	**Neumayer Olymp**	**17.25**	**161**	P	**P**	**16 56 37.8**	**+2.5**
SNAA	**Sanae**	**18.98**	**157**	P	**Pn**	**16 56 55.4**	**+0.3**
SNAA	**Sanae**	**18.98**	**157**	P	**Pn**	**16 56 55.0**	**-0.1**
	0.2nm,0.3s,baz=297,slow=11,SNR=9.8						
SNAA				LR	LR	17 03 27.2	
	comp=Z,38nm,20.1s,baz=22,slow=35						
	1.0nm,0.5s						
PMSA	**Palmer Station**	**20.26**	**228**	LR	LR	17 04 32.6	
	comp=Z,78nm,18.3s,baz=222,slow=36						
TROLL	**Troll, Antarti**	**20.47**	**154**	P	Pn	16 57 11.4	-1.4
SMAI	**San Martin Ant**	**22.14**	**220**	P	**P**	**16 57 29.0**	**+0.6**
SMAI				IAmb	IAmb	16 57 39.6	
	comp=Z,16nm,1.2s						
BELA	**Belgrano 2**	**22.43**	**184**	P	**P**	**16 57 30.3**	**-1.3**
TRQA	**Tornquist**	**29.36**	**292**	P	**P**	**16 58 35.9**	**-0.1**
TRQA				IAmb	IAmb	16 59 20.0	
	comp=Z,8.7nm,1.5s						
GO06	**Curarrehue**	**33.42**	**280**	P	**P**	**16 59 12.0**	**+0.1**
GO06				IAmb	IAmb	16 59 25.4	
	comp=Z,5.8nm,1.1s						
QSPA	**South Pole Qui**	**34.54**	**180**	P	**P**	**16 59 21.6**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=64,slow=0.2,SNR=20						
	comp=Z,1.2nm,0.4s						
QSPA	**South Pole Qui**	**34.54**	**180**	P	**P**	**16 59 20.0**	**-1.4**
CPUP	**Villa Florida**	**36.72**	**310**	P	**P**	**16 59 41.2**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=157,slow=11,SNR=5.1						
	comp=Z,2.0nm,0.7s						
CPUP	**Villa Florida**	**36.72**	**310**	P	**P**	**16 59 40.3**	**+0.1**
AC05	**El Transito**	**40.85**	**293**	P	**P**	**17 00 15.1**	**0.0**
AC05				IAmb	IAmb	17 00 16.9	
	comp=Z,4.9nm,0.8s						
GO02	**Mina Guanaco**	**43.49**	**297**	P	**P**	**17 00 37.1**	**+0.3**
LVC	**Limon Verde**	**45.28**	**299**	LR	LR	17 18 37.8	
	comp=Z,15nm,21.1s,baz=288,slow=34						
LVC	**Limon Verde**	**45.28**	**299**	P	**P**	**17 00 52.2**	**+0.9**
LVC				IAmb	IAmb	17 00 54.9	
	comp=Z,4.2nm,0.9s						
PB03	**IPOC Station P**	**46.17**	**299**	P	**P**	**17 00 58.8**	**+0.8**
PB03				IAmb	IAmb	17 00 59.1	
	comp=Z,5.1nm,0.9s						
PB07	**IPOC Station P**	**46.51**	**299**	P	**P**	**17 01 01.1**	**+0.4**
PB07				IAmb	IAmb	17 01 02.0	
	comp=Z,5.7nm,0.8s						
PB01	**IPOC Station P**	**46.89**	**300**	P	**P**	**17 01 04.2**	**+0.6**
VNDA	**Vanda**	**46.92**	**183**	P	**P**	**17 01 03.2**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=186,slow=7.0,SNR=16						
	comp=Z,0.9nm,0.6s						
VNDA	**Vanda**	**46.92**	**183**	P	**P**	**17 01 02.5**	**-0.6**
PTLB	**Pontes e Lacer**	**47.17**	**315**	P	**P**	**17 01 05.8**	**+0.1**
PTLB				IAmb	IAmb	17 01 07.4	
	comp=Z,5.2nm,0.9s						
H10S2	**ASCENSION HYDR**	**47.62**	**16**	T	T	17 52 43.6	
	baz=31,slow=74,SNR=7.9						
H10S3	**ASCENSION HYDR**	**47.63**	**16**	T	T	17 52 35.8	
	baz=189,slow=74,SNR=16						
GO01	**Chusmiza**	**47.92**	**301**	P	**P**	**17 01 12.5**	**+0.4**
PSGCX	**Pisagua**	**48.43**	**300**	P	**P**	**17 01 16.2**	**+0.6**
H10N1	**ASCENSION HYDR**	**48.74**	**16**	T	T	17 53 55.9	
	baz=188,slow=75,SNR=9.4						
H10N3	**ASCENSION HYDR**	**48.74**	**16**	T	T	17 54 01.8	
	baz=188,slow=75,SNR=28						
H10N2	**ASCENSION HYDR**	**48.76**	**16**	T	T	17 54 03.6	
	baz=188,slow=75,SNR=22						
LPAZ	**La Paz**	**50.33**	**305**	P	**P**	**17 01 31.6**	**+0.9**
	comp=Z,2.7nm,0.5s,baz=134,slow=4.6,SNR=13						
	comp=Z,2.7nm,0.5s						
LPAZ	**La Paz**	**50.33**	**305**	P	**P**	**17 01 31.3**	**+0.6**
LPAZ				IAmb	IAmb	17 01 32.0	
	comp=Z,3.3nm,0.6s						
SAML	**Samuel**	**54.69**	**314**	P	**P**	**17 02 01.9**	**-0.4**
ETMB	**Extrema**	**55.18**	**310**	P	**P**	**17 02 05.6**	**-0.2**
ETMB				IAmb	IAmb	17 02 06.5	
	comp=Z,2.5nm,0.9s						
BOAV	**Boa Vista**	**64.12**	**322**	P	**P**	**17 03 07.2**	**-0.2**
BOAV				IAmb	IAmb	17 03 30.9	
	comp=Z,3.1nm,1.1s						
MCRA	**Macar, Loja**	**66.33**	**299**	P	**P**	**17 03 21.7**	**-0.2**
ASAR	**Alice Springs**	**99.26**	**162**	P	**Pdif**	**17 06 14.1**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=178,slow=4.0,SNR=4.0						
	comp=Z,0.3nm,0.8s						
ARCES	**ARCES Array B**	**130.56**	**22**	PKP	**PKiKP**	**17 11 42.8**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=232,slow=3.0,SNR=3.9						
ILAR	**Eielson Array**	**150.02**	**312**	PKPbc	**PKPbc**	**17 12 21.8**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=121,slow=1.4,SNR=10						
SONM	**Songino Array**	**150.53**	**86**	PKPbc	**PKiKP**	**17 12 24.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=228,slow=3.0,SNR=7.9						

*ISN **22** 16:55:31.6±1.0,32°.52N×48°.71E,h9km±27km,ML3.4*
*IDC **22** 16:55:33.1±2.1,32°.51N×48°.90E,h0km,mb3.9/7, mbtmp3.9/9,ML3.5/2,MS2.8/2,Error ellipse: s-maj=44.0km s-min=22.9km az=27.0*
*NEIC **22** 16:55:34.5±3.6,32°.66N±0°.09×48°.8E±0°.1,h10km±2km, Error ellipse: s-maj=22.1km s-min=13.5km az=64.0*
*TEH **22** 16:55:34.2,32°.61N×48°.67E,h9km,ML3.8*
ISC 22 16:55:34.0±0.5,**32°.59N**±0°.03×**48°.68E**±0°.03,**h10**km,**n88**, σ1§**82**/91,**mb3.9**/8,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**0.96**	**345**	*e*Pg	**Pg**	**16 55 51.2**	**-1.3**
AMIS	**Naft Sefid**	**1.05**	**151**	*e*Pg	**Pn**	**16 55 55.1**	**+0.2**
AMIS				*e*		16 56 29.7	
	comp=Z,18µm,0.8s						
IKFM	**Kafar-mosalman**	**1.17**	**323**	*e*Pg	**Pb**	**16 55 56.0**	**-0.3**
IKFM				*e*		16 56 20.5	
	comp=Z,14µm,0.4s						
DHL1	**Dehloran**	**1.18**	**275**	*e*Pg	**Pb**	**16 55 56.4**	**-0.2**
DHL1				*e*Sg	**Sn**	**16 56 14.2**	**+1.4**
AHWZ	**Ahwaz**	**1.26**	**181**	*e*Pg	**Pg**	**16 55 59.4**	**+1.3**
AHWZ				*e*		16 56 23.9	
	comp=Z,26µm,0.8s						
IDOB	**Doab**	**1.27**	**341**	*e*Pg	**Pn**	**16 55 57.9**	**-0.1**
KHMZ	**Khomeyn**	**1.57**	**43**	*e*Pg	**Pg**	**16 56 04.1**	**-0.1**
HSAM	**Samen**	**1.62**	**358**	*e*Pn	**Pb**	**16 56 03.9**	**-0.3**
IKOM	**Komasi**	**1.86**	**329**	*e*		16 56 49.3	
	comp=Z,6µm,0.6s						
IKOM				*e*Pn	**Pb**	**16 56 07.6**	**-0.6**
IPIR	**Pirpir**	**1.87**	**86**	*e*		16 56 44.7	
	comp=Z,14µm,0.5s						
IPIR				*e*Pn	**Pb**	**16 56 09.1**	**+0.7**
SHK1	**Shahrekord**	**1.88**	**97**	*e*		16 56 47.5	
	comp=Z,15µm,0.9s						
SHK1				*e*Pn	**Pb**	**16 56 09.1**	**+0.5**
IBZA	**Bozab**	**2.00**	**340**	*e*Pn	**Pb**	**16 56 10.1**	**-0.5**
KER	**Kermanshah**	**2.21**	**325**	*e*Pn	**Pb**	**16 56 12.9**	**-1.3**
ASAO	**Ashtian**	**2.25**	**30**	*e*Pn	**Pb**	**16 56 14.1**	**-0.9**
HAGD	**Aghdareh**	**2.26**	**10**	*e*Pn	**Pb**	**16 56 13.6**	**-1.5**
HAGD				*e*		16 56 53.9	
	comp=Z,4µm,0.9s						
IBRJ	**Brojen**	**2.29**	**107**	*e*Pn	**Pb**	**16 56 14.4**	**-1.2**
IBRJ				*e*		16 56 54.5	
	comp=Z,7µm,0.7s						
ILBA	**Ilam Banvizeh**	**2.32**	**297**	*e*Pn	**Pn**	**16 56 12.4**	**+0.1**
RAFI	**Al-Rafai**	**2.34**	**249**	*e*Pn	**Pn**	**16 56 14.0**	**+1.4**
RAFI				*e*Sn	**Sb**	**16 56 44.0**	**-1.3**
RAFI				AML	AML	16 56 56.5	
	comp=E,179nm,0.8s						
RAFI				AML	AML	16 57 06.0	
	comp=N,253nm,0.9s						
IBDR	**Badra**	**2.37**	**283**	*e*Pn	**Pn**	**16 56 14.0**	**+1.0**
IBDR				*e*Sn	**Sb**	**16 56 45.0**	**-1.2**
ABEH	**Behbahan**	**2.40**	**145**	*e*Pn	**Pb**	**16 56 15.8**	**-1.4**
IKLH	**Kolahrood**	**2.54**	**73**	*e*Pn	**Pb**	**16 56 18.9**	**-1.0**
IKLH				*e*		16 57 08.8	
	comp=Z,4µm,0.5s						
QAMS	**Qamsar**	**2.55**	**63**	*e*Pn	**Pb**	**16 56 18.1**	**-1.9**
QAMS				*e*		16 56 59.7	
	comp=Z,6µm,0.5s						
SNGE	**Sanandaj**	**2.73**	**336**	*e*Pn	**Pn**	**16 56 20.0**	**+1.8**
IGAR	**Gharneh**	**2.85**	**93**	*e*Pn	**Pn**	**16 56 22.1**	**+2.3**
IGAR				*e*		16 57 16.0	
	comp=Z,4µm,0.7s						
KLNJ	**Kolanjah**	**2.94**	**122**	*e*Pn	**Pn**	**16 56 22.9**	**+1.8**
KLNJ				*e*		16 57 24.6	
	comp=Z,4µm,0.6s						
IRAZ	**Razeghan**	**2.99**	**20**	*e*Pn	**Pn**	**16 56 24.3**	**+2.5**
IRAZ				*e*		16 57 21.0	
	comp=Z,3µm,1.0s						
IQOM	**Qom**	**3.00**	**41**	*e*Pn	**Pn**	**16 56 24.6**	**+2.7**
IQOM				*e*		16 57 22.0	
	comp=Z,2µm,0.7s						
IZEF	**Zefreh**	**3.09**	**83**	*e*Pn	**Pn**	**16 56 26.2**	**+3.1**
IZEF				*e*		16 57 21.5	
	comp=Z,3µm,0.9s						
KRSH	**Karshahi**	**3.21**	**64**	*e*Pn	**Pn**	**16 56 27.4**	**+2.8**
KRSH				*e*		16 57 28.0	
	comp=Z,3µm,0.6s						
IRAM	**Ramesheh**	**3.23**	**103**	*e*Pn	**Pn**	**16 56 26.9**	**+1.8**
IRAM				*e*		16 57 38.0	
	comp=Z,4µm,1.0s						
ISFB	**Sefidab**	**3.46**	**58**	*e*Pn	**Pn**	**16 56 30.1**	**+2.1**
ISFB				*e*		16 57 30.5	
	comp=Z,860nm,0.6s						
NASN	**Na'in**	**3.49**	**85**	*e*Pn	**Pn**	**16 56 31.2**	**+2.6**
IVRN	**Varamin**	**3.49**	**46**	*e*Pn	**Pn**	**16 56 31.4**	**+2.9**
IVRN				*e*		16 57 40.2	
	comp=Z,1µm,0.6s						
IHSB	**Hasanabad**	**3.57**	**36**	*e*Pn	**Pn**	**16 56 31.6**	**+2.1**
BHD	**Baghdad**	**3.68**	**282**	*e*Pn	**Pn**	**16 56 32.0**	**+1.0**
BHD				*e*Sn	**Sn**	**16 57 17.0**	**+2.6**
BHD				AML	AML	16 57 18.9	
	comp=E,186nm,0.5s						
CHTH	**Charan**	**3.88**	**31**	*e*Pn	**Pn**	**16 56 36.2**	**+2.2**
ZNJK	**Zanjan**	**4.07**	**0**	*e*Pn	**Pn**	**16 56 38.5**	**+1.9**
IDMV	**Damavand**	**4.08**	**42**	*e*Pn	**Pn**	**16 56 39.6**	**+2.9**
DAMV	**Damavand**	**4.08**	**41**	*e*Pn	**Pn**	**16 56 39.0**	**+2.3**
ANAR	**Anarak**	**4.29**	**81**	*e*Pn	**Pn**	**16 56 41.7**	**+2.2**
ISAD	**Sadrabad**	**4.29**	**98**	*e*Pn	**Pn**	**16 56 42.4**	**+2.7**
ISAD				*e*		16 58 13.1	
	comp=Z,1µm,1.0s						
AHBU	**AHRAM**	**4.34**	**148**	*e*Pn	**Pn**	**16 56 42.1**	**+2.0**
KLST	**Kelardasht - M**	**4.38**	**26**	*e*Pn	**Pn**	**16 56 44.3**	**+3.4**
GIDE	**GILAN DEYLAMAN**	**4.44**	**13**	*e*Pn	**Pn**	**16 56 44.1**	**+2.5**
ILAS	**Lasjerd**	**4.52**	**51**	*e*Pn	**Pn**	**16 56 45.0**	**+2.3**
MZPU	**Pul - Mazandar**	**4.52**	**31**	*e*Pn	**Pn**	**16 56 45.3**	**+2.5**
IFIR	**Firoozkooh**	**4.55**	**47**	*e*Pn	**Pn**	**16 56 46.0**	**+2.8**
IKRK	**Kirkuk**	**4.57**	**309**	*e*Pn	**Pn**	**16 56 45.0**	**+1.8**
IKRK				*e*Sn	**Sn**	**16 57 39.0**	**+2.7**
YZKH	**Yazd**	**5.00**	**91**	*e*Pn	**Pn**	**16 56 51.7**	**+2.5**
IANJ	**Anjilo**	**5.21**	**55**	*e*Pn	**Pn**	**16 56 53.9**	**+1.7**
ISRB	**Sarab**	**5.29**	**351**	*e*Pn	**Pn**	**16 56 55.2**	**+1.9**
IBAF	**Bafgh**	**5.93**	**98**	*e*Pn	**Pn**	**16 57 04.0**	**+1.9**
TPRV	**Parvadeh(Tabas**	**6.75**	**84**	*e*Pn	**Pn**	**16 57 15.6**	**+2.3**
SHRO	**Shahrood**	**6.95**	**59**	*e*Pn	**Pn**	**16 57 18.7**	**+2.7**
TKDS	**Koohdasht(Taba**	**7.16**	**80**	*e*Pn	**Pn**	**16 57 20.8**	**+1.9**
TABS	**Tabas**	**7.16**	**79**	*e*Pn	**Pn**	**16 57 21.4**	**+2.5**
GEVA	**Gevas**	**7.32**	**323**	Pn	**Pn**	**16 57 20.5**	**-0.7**
AFRZ	**Afriz**	**8.72**	**82**	*e*Pn	**Pn**	**16 57 42.5**	**+2.1**
ISFR	**Sfrayin**	**8.86**	**57**	*e*Pn	**Pn**	**16 57 45.7**	**+3.3**
**GE

TKNZ	Takaka Hill	1.93	29	P	Pn	16 57 51.0	+0.6
NNZ	Nelson	1.95	40	P	Pn	16 57 51.4	+0.7
QRZ	Quartz Range	1.99	18	P	Pn	16 57 51.9	+0.6
QRZ	Quartz Range	1.99	18	P	Pn	16 57 51.9	+0.6
LBZ	Lake Benmore	2.00	213	P	Pn	16 57 52.1	+0.6
CMWZ	Cape Campbell	2.09	63	P	Pb	16 57 55.2	-0.6
TUWZ	Tuamarina	2.10	53	P	Pn	16 57 54.0	+1.2
TCW	Tory Channel	2.43	53	P	Pn	16 57 58.3	+0.9
ODZ	Otahua Downs	2.45	198	P	Pn	16 57 57.7	0.0
ODZ	Otahua Downs	2.45	198	P	Pn	16 57 57.6	0.0
JCZ	Jackson Bay	2.53	237	P	Pn	16 57 59.5	+0.7
JCZ	Jackson Bay	2.53	237	P	Pn	16 57 59.4	+0.7
DUWZ	D'Urville Isla	2.53	41	P	Pn	16 57 59.9	+1.2
WKZ	Wanaka	2.87	222	P	Pn	16 58 03.4	0.0
CAW	Cannon Point	2.98	58	P	Pn	16 58 04.7	-0.2
KIW	Kapiti Island	3.03	53	P	Pn	16 58 06.1	+0.5
EAZ	Earnscleugh	3.05	214	P	Pn	16 58 05.5	-0.4
OGWZ	Otaki Gorge	3.21	55	P	Pn	16 58 08.1	0.0
MTW	Mount Morrison	3.23	62	P	Pn	16 58 07.3	-1.1
HOWZ	Holdsworth Sta	3.37	59	P	Pn	16 58 09.7	-0.7
MRZ	Mangatainoka R	3.55	56	P	Pn	16 58 12.1	-0.7
MLZ	Mavora Lakes	3.70	223	P	Pn	16 58 14.7	-0.2
MLZ				P	Pn	16 58 15.3	+0.3
NBEZ	Newall Road No	3.81	26	P	Pn	16 58 18.5	+2.1
LREZ	Lake Rotokare	3.84	33	P	Pn	16 58 20.3	+3.6
KHEZ	Kahui Hut	3.84	28	P	Pn	16 58 18.7	+1.9
KHEZ	Kahui Hut	3.84	28	P	Pn	16 58 18.7	+1.9
NEZ	North Egmont	3.89	28	P	Pn	16 58 19.7	+2.2
PKE	Pukeiti	3.92	27	P	Pn	16 58 20.1	+2.2
DVHZ	Dannevirke	4.13	56	P	Pb	16 58 28.0	-2.5
SYZ	Scrubby Hill	4.24	205	P	Pn	16 58 22.3	+0.2
SYZ	Scrubby Hill	4.24	205	P	Pn	16 58 22.4	+0.2
VRZ	Vera Road	4.27	34	P	Pn	16 58 24.5	+1.8
PKVZ	Pokaka	4.39	40	P	Pn	16 58 26.3	+1.9
WNVZ	Wahianoa	4.49	42	P	Pn	16 58 27.0	+1.2
MOVZ	Moawhango	4.50	44	P	Pn	16 58 26.1	+0.1
TUVZ	Tukino	4.56	42	P	Pn	16 58 27.9	+1.1
NGZ	Ngauruhoe	4.60	41	P	Pb	16 58 33.4	-5.3
BHHZ	Black Hill Sta	4.61	47	P	Pn	16 58 27.0	-0.4
NNVZ	North Ngauruho	4.64	41	P	Pn	16 58 30.8	+2.8
ETVZ	East Tongariro	4.69	42	P	Pn	16 58 29.4	+0.8
TMVZ	Te Maari	4.70	41	P	Pn	16 58 29.7	+1.0
PXZ	Pawanui	4.71	57	P	Pn	16 58 33.1	+4.3
HIZ	Hauiti	4.83	31	P	Pn	16 58 31.4	+1.0
HIZ	Hauiti	4.83	31	P	Pn	16 58 31.4	+1.0
KAHZ	Kahuranaki	4.87	55	P	Pb	16 58 37.8	-5.3
TOZ	Tahuroa Road	5.76	31	P	Pn	16 58 44.4	+1.2
AWAZ	Awhitu Peninsu	6.08	23	P	Pn	16 58 49.3	+1.8
TKGZ	Te Karaka	6.33	50	P	Pn	16 58 58.1	+7.2
WIAZ	Waiheke Island	6.48	25	P	Pn	16 58 53.8	+0.8
OUZ	Omahuta	7.63	12	P	Pn	16 59 10.9	+2.1

PRE 22 17:04:42.0±1.1, **26°42S×27°51E, h2km, ML1.6, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.52**	**195**	*eP*	Pg	17 04 52.0	-0.1
PRYS				*eS*	Sg	17 05 00.0	+1.2
PRYS				IAML		17 05 03.0	
	comp=Z,13nm,1.5s						
HRAO	**HartRAO**	**0.55**	**17**	*eP*	Pg	17 04 52.6	+0.1
HRAO				*eS*	Sg	17 05 00.2	+0.5
HRAO				IAML		17 05 04.8	
	comp=Z,15nm,0.2s						
LBTB	**Lobatse**	**2.22**	**309**	*eP*	Pb	17 05 21.4	-1.5
LBTB				*eS*	Sn	17 05 48.8	+0.8
LBTB				IAML		17 05 57.0	
	comp=Z,8.2nm,2.4s						
BOSA	**Boshof**	**2.96**	**222**	*eP*	Pn	17 05 30.0	-0.2
BOSA				*eS*	Sn	17 06 06.3	0.0

*IDC **22** 17:06:03.1±7.6, 36°39N×70°63E, h197km±63km, mb3.1/4, mbtmp3.6/8, Error ellipse: s-maj=67.8km s-min=26.8km az=51.0*
*SOME **22** 17:06:08.8, 38°22N×71°93E, h10km*
ISC 22 17:06:03.9±1.4, **36°6N±0°1×70°5E±0°1, h200km, n23, σ1s55/32, mb3.1/3, 2C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.07**	**23**	P	**Pn**	**17 07 33.4**	**+1.2**
	SNR=244						
DZA	**Taraz**	**6.34**	**5**	*eP*	**Pn**	**17 07 37.0**	**+1.6**
	86nm,0.1s						
DZA				*eS*	**Sn**	**17 08 47.8**	**-0.3**
	107nm,0.4s						
UCH	**Uchtor**	**6.43**	**27**	P	**Pn**	**17 07 38.5**	**+1.4**
	SNR=64						
MRKS	**Merke**	**6.50**	**18**	*eP*	**Pn**	**17 07 38.8**	**+1.2**
	12nm,0.4s						
MRKS				*eS*	**Sn**	**17 08 50.8**	**-1.2**
	29nm,0.3s						
KK31	**Karatay Array**	**6.52**	**360**	P	**Pn**	**17 07 38.1**	**+0.4**
	1.6nm,0.2s,baz=177,slow=12,SNR=151						
KK31				⇑S	**Sn**	**17 08 48.8**	**-3.4**
	1.8nm,0.3s,baz=188,slow=25,SNR=4.5						
EKS2	**Erkin-Say**	**6.57**	**21**	P	**Pn**	**17 07 40.1**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**6.78**	**26**	P	**Pn**	**17 07 42.9**	**+1.5**
	SNR=7.6						
AAK	**Ala-Archa**	**6.78**	**26**	P	**Pn**	**17 07 42.8**	**+1.5**
	6.2nm,0.3s,baz=179,slow=6.8,SNR=35						
AAK				S	**Sn**	**17 08 59.7**	**+1.0**
	13nm,0.7s,baz=330,slow=18,SNR=8.0						
KBK	**Karagaybulak**	**6.96**	**28**	P	**Pn**	**17 07 45.5**	**+1.8**
	SNR=6.0						
CHMS	**Chumysh**	**7.19**	**26**	P	**Pn**	**17 07 47.9**	**+1.4**
	SNR=7.9						
CHMS	**Chumysh**	**7.19**	**26**	⇑P	**Pn**	**17 07 47.3**	**+0.7**
	6.3nm,0.5s						
CHMS				⇓S	**Sn**	**17 09 06.8**	**-1.3**
	6.4nm,0.6s						
TKM2	**Tokmak 2**	**7.44**	**30**	P	**Pn**	**17 07 51.6**	**+1.6**
	SNR=25						
SGDS	**Sogindy**	**7.55**	**23**	*eP*	**Pn**	**17 07 51.5**	**+0.2**
	3.3nm,0.2s						
SGDS				*eS*	**Sn**	**17 09 13.8**	**-3.0**
	4.7nm,0.3s						
KST	**Kastek**	**7.69**	**31**	*eP*	**Pn**	**17 07 54.9**	**+1.7**
	13nm,0.5s						
KST				*eS*	**Sn**	**17 09 19.9**	**-0.2**
	8.0nm,0.5s						
DGS	**Degeres**	**7.78**	**30**	*eP*	**Pn**	**17 07 54.8**	**+0.5**
	4.8nm,0.5s						
DGS				*eS*	**Sn**	**17 09 19.8**	**-2.4**
	1.9nm,0.5s						
MTBS	**Maitube**	**7.96**	**33**	*eP*	**Pn**	**17 07 58.1**	**+1.5**
	12nm,0.2s						
MTBS				*eS*	**Sn**	**17 09 25.9**	**-0.5**
	3.4nm,0.3s						
MKAR	**Makanchi Array**	**13.46**	**37**	P	**P**	**17 09 08.9**	**-0.6**
	0.9nm,0.7s,baz=214,slow=7.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**15.18**	**20**	P	**Pn**	**17 09 28.2**	**+0.2**
	0.3nm,0.5s,baz=211,slow=10,SNR=6.3						
BVAR	**Borovoye Array**	**16.45**	**360**	P	**P**	**17 09 44.0**	**+1.5**
	0.6nm,0.4s,baz=165,slow=12,SNR=5.3						
ZALV	**Zalesovo Beam**	**20.01**	**25**	P	**P**	**17 10 22.7**	**+1.7**
	1.1nm,0.3s,baz=220,slow=11,SNR=8.6						
	1.1nm,0.3s						
ARCES	**ARCESS Array B**	**40.93**	**338**	P	**P**	**17 13 27.3**	**+1.0**
	1.8nm,0.9s,baz=99,slow=7.5,SNR=5.0						
	1.8nm,0.9s						
WRA	**Warramunga Arr**	**82.36**	**122**	P	**P**	**17 18 02.1**	**-1.5**
	0.2nm,0.5s,baz=329,slow=4.3,SNR=6.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**84.61**	**125**	P	**P**	**17 18 13.6**	**-1.4**
	0.3nm,0.7s,baz=310,slow=4.5,SNR=9.0						
	0.3nm,0.7s						

*TUL **22** 17:07:30.8±0.8, 36°844N×0°008×97°83W±0°01, h5km±2km, ML3.0, mb_Lg2.8/34(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=93.0*
NEIC 22 17:07:30.7±0.7, **36°846N±0°008×97°84W±0°01, h4km±2km, Error ellipse: s-maj=1.3km s-min=0.9km az=48.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.02**	**289**		Pg	17 07 31.9	+0.3
GC02				Sg	Sg	17 07 32.9	+0.7
KAN14	**Manchester OK**	**0.15**	**318**		Pg	17 07 34.5	+0.8
KAN14				Sg	Sg	17 07 36.9	+1.3
KAN17	**Caldwell West**	**0.21**	**17**	Pg	Pg	17 07 35.5	+0.7
KAN17				Sg	Sg	17 07 38.7	+1.2
KAN05	**Bluff City Nor**	**0.26**	**354**		Pg	17 07 36.6	+0.8
KAN05				Sg	Sg	17 07 40.6	+1.2
OK032	**Salt Plains WL**	**0.30**	**262**		Pg	17 07 37.0	+0.5
OK032				Sg	Sg	17 07 41.4	+0.9
KAN01	**Argonia South**	**0.31**	**12**	Pg	Pg	17 07 37.5	+0.7
KAN01				Sg	Sg	17 07 42.0	+1.0
KAN13	**South Haven SW**	**0.33**	**60**	Pg	Pg	17 07 37.8	+0.6
KAN13				Sg	Sg	17 07 41.7	+0.1
KAN10	**Anthony SW Sta**	**0.34**	**324**	Pg	Pg	17 07 38.1	+0.7
CROK	**Carrier**	**0.36**	**199**		Pg	17 07 38.1	+0.5
CROK				Sg	Sg	17 07 43.4	+1.0
KAN08	**Anthony NE Sta**	**0.40**	**345**	Pg	Pg	17 07 39.1	+0.8
KAN08				Sg	Sg	17 07 44.9	+1.4
KAN06	**Argonia West S**	**0.40**	**358**	Pg	Pg	17 07 39.2	+0.7
KAN06				Sg	Sg	17 07 45.0	+1.2
KAN16	**Harper SW Stat**	**0.42**	**335**	Pg	Pg	17 07 39.5	+0.7
KS20	**Mayfield South**	**0.45**	**31**	Pg	Pg	17 07 38.6	-0.7
KS20				Sg	Sg	17 07 46.2	+1.1
KS21	**Milan North St**	**0.46**	**18**		Pg	17 07 40.2	+0.5
KS21				Sg	Sg	17 07 46.4	+0.8
KAN12	**Harper NE Stat**	**0.47**	**344**		Pg	17 07 40.3	+0.6
BLOK	**Blackwell**	**0.51**	**99**	Pg	Pg	17 07 40.8	+0.3
BLOK				Sg	Sg	17 07 47.0	0.0
OK035	**E0210 Rd and N**	**0.71**	**259**	Pg	Pg	17 07 44.4	+0.1
OK035				Sg	Sg	17 07 54.5	+0.8
OK038	**West end E0370**	**0.81**	**243**	Pg	Pg	17 07 46.3	0.0
OK038				Sg	Sb	17 07 57.8	-0.9
OK050	**Pawnee Station**	**0.82**	**123**	Pg	Pg	17 07 46.2	-0.3
OK050				Sg	Sg	17 07 57.2	0.0
OK045	**Pawnee Station**	**0.84**	**118**	Pg	Pg	17 07 46.7	0.0
OK045				Sg	Sg	17 07 57.0	-0.6
OK048	**Pawnee Station**	**0.84**	**120**		Pg	17 07 46.8	0.0
OK048				Sg	Sg	17 07 57.8	+0.1
OK046	**Pawnee Station**	**0.87**	**121**		Pg	17 07 47.4	-0.1
OK046				Sg	Sg	17 07 58.7	0.0
OK051	**E0350 and S346**	**0.88**	**113**	Pg	Pg	17 07 47.5	0.0
OK051				Sg	Sg	17 07 57.4	-1.5
OK044	**Pawnee Station**	**0.96**	**119**	Pg	Pg	17 07 49.0	-0.2
OK044				Sg	Sg	17 08 01.7	+0.1
U32A	**Winter Ranch,**	**1.04**	**244**		Pg	17 07 50.3	-0.4
U32A				Sg	Sb	17 08 05.2	-0.2
T35A	**Sooner Cattle**	**1.07**	**86**	Pg	Pg	17 07 50.9	-0.2
T35A				Sg	Sg	17 08 04.8	-0.2
OK033	**Mehan**	**1.08**	**137**		Pg	17 07 50.8	-0.6
OK033				Sg	Sg	17 08 05.5	0.0
OK029	**Liberty Lake**	**1.09**	**163**		Pg	17 07 51.2	-0.5
OK029				Sg	Sg	17 08 06.0	+0.2
QUOK	**Quay**	**1.13**	**126**		Pg	17 07 52.1	-0.3
QUOK				Sg	Sg	17 08 06.9	-0.2
OK053	**SW of W Deep R**	**1.19**	**134**		Pg	17 07 53.0	-0.4
OK053				Sg	Sg	17 08 08.6	-0.2
OK052	**Battle Ridge R**	**1.19**	**135**	Pg	Pg	17 07 53.0	-0.5
OK052				Sg	Sg	17 08 08.8	-0.2
BCOK	**Bluff Creek, N**	**1.20**	**171**		Pg	17 07 53.2	-0.5
BCOK				Sg	Sg	17 08 09.3	+0.1
OK031	**S. Brethren Rd**	**1.20**	**138**		Pg	17 07 53.2	-0.5
OK031				Sg	Sg	17 08 09.3	-0.1
OK034	**N. Norfolk Rd.**	**1.23**	**132**	Pg	Pg	17 07 53.6	-0.7
OK034				Sg	Sg	17 08 10.0	-0.4
ADOK	**Arcadia Dam**	**1.25**	**162**		Pg	17 07 54.2	-0.4
ADOK					Sn	17 08 12.0	-0.2
OK030	**Cody Creek RV**	**1.25**	**137**		Pg	17 07 54.1	-0.6
OK030					Sg	17 08 10.7	-0.2
OK025	**Westminster Rd**	**1.33**	**162**		Pn	17 07 55.5	-0.5
OK025					Sb	17 08 13.8	+0.3
CSTR	**Hydro, Custer**	**1.38**	**210**		Pn	17 07 56.4	-0.4
CSTR					Sn	17 08 15.5	0.0
OKCSW	**OKLAHOMA CITY**	**1.47**	**167**		Pn	17 07 57.7	-0.3
OKCSW					Sg	17 08 18.4	+0.4
ELIS	**Ellis County**	**1.49**	**239**		Pn	17 07 58.4	+0.1
FNO	**Franklin**	**1.62**	**167**	Pg	Pn	17 07 59.9	-0.2
R32A	**Long Quarter,**	**1.72**	**337**		Pn	17 08 02.1	+0.6
TUL1	**Leonard**	**1.90**	**119**	Pn	Pn	17 08 04.4	+0.6
WMOK	**Wichita Mounta**	**2.24**	**200**		Pn	17 08 09.0	+0.4
X34A	**Smith Ranch, M**	**2.24**	**180**		Pn	17 08 08.9	+0.4
X34A				IAmb_Lg		17 08 46.7	
	comp=Z,30nm,0.7s						
RLO	**Rose Lookout**	**2.37**	**106**		Pn	17 08 09.9	-0.5
KSU1	**Kansas State U**	**2.45**	**23**		Pb	17 08 13.5	-1.9
CBKS	**Cedar Bluff**	**2.47**	**323**		Pn	17 08 11.0	-0.8
U38A	**Gravette**	**2.81**	**97**		Pn	17 08 15.4	-1.0
LOOK	**Love County**	**2.90**	**169**	Pn	Pn	17 08 15.8	-1.8
X37A	**Clayton**	**3.02**	**138**		Pn	17 08 17.2	-2.0
X37A				IAmb_Lg		17 09 09.5	
	comp=Z,24nm,0.7s						
HHAR	**Hobbs**	**3.19**	**99**		Pn	17 09 19.8	-1.9
Z35A	**Perchaven, San**	**3.54**	**172**	Pn	Pn	17 08 26.1	-0.3
AMTX	**Amarillo**	**3.68**	**239**		Pn	17 08 26.4	-2.1
AMTX				IAmb_Lg		17 09 28.2	
	comp=Z,21nm,0.8s						
S39A	**Bolivar**	**3.70**	**75**		Pn	17 08 27.9	-0.7
N33A	**J Bar K, Exete**	**3.90**	**4**	Pn	Pn	17 08 30.7	-0.7
MIAR	**Mount Ida**	**4.16**	**122**	Pn	Pn	17 08 34.8	-0.2
N35A	**Tabor**	**4.36**	**22**	Pn	Pn	17 08 35.1	-2.6
P38A	**Dawn**	**4.38**	**49**	Pn	Pn	17 08 34.8	-3.1
ABTX	**Abilene, Hawle**	**4.47**	**200**	Pn	Pn	17 08 37.7	-1.5
MGMO	**Mountain Grove**	**4.47**	**84**		Pn	17 08 39.6	+0.3
BGNE	**Belgrade**	**4.56**	**357**	Pn	Pn	17 08 40.8	+0.3
BGNE				IAmb_Lg		17 10 03.7	
	comp=Z,21nm,0.7s						
R40A	**Maddies Statio**	**4.66**	**70**		Pn	17 08 42.6	+0.8
FCAR	**Ozark Folk Cen**	**4.71**	**100**	Pn	Pn	17 08 39.7	-2.8
FCAR				IAmb_Lg		17 10 03.9	
	comp=Z,17nm,0.7s						
WHAR	**Wooly Hollow**	**4.76**	**107**	Pn	Pn	17 08 40.3	-2.8
WHAR				IAmb_Lg		17 10 03.4	
	comp=Z,15nm,0.8s						
WHTX	**Lake Whitney,**	**4.85**	**176**	Pn	Pn	17 08 44.5	0.0
UALR	**University of**	**4.92**	**113**	Pn	Pn	17 08 44.4	-1.1
UALR				IAmb_Lg		17 10 13.7	
	comp=Z,18nm,0.9s						
MSTX	**Muleshoe**	**4.95**	**236**		Pn	17 08 45.0	-0.8
WLAR	**White Oak Lake**	**4.99**	**128**	Pn	Pn	17 08 45.7	-0.6
L34A	**Svendsen Farm,**	**5.24**	**12**		Pn	17 08 48.0	-1.8
OGNE	**Ogallala**	**5.24**	**323**	Pn	Pn	17 08 49.9	0.0
T25A	**Trinidad**	**5.27**	**275**	Pn	Pn	17 08 50.9	+0.5
T25A				IAmb_Lg		17 10 18.4	
	comp=Z,17nm,0.8s						
P40A	**Paris**	**5.29**	**58**		Pn	17 08 50.3	-0.2
P40A				IAmb_Lg		17 10 26.1	
	comp=Z,14nm,0.8s						
N38A	**Joes South For**	**5.33**	**41**	Pn	Pn	17 08 48.4	-2.7
CCM	**Cathedral Cave**	**5.38**	**75**		Pn	17 08 49.0	-2.8
CCM				IAmb_Lg		17 10 21.4	
	comp=Z,11nm,1.0s						
LCAR	**Lake Charles**	**5.44**	**96**	Pn	Pn	17 08 50.5	-2.1
FVM	**French Village**	**6.01**	**77**	Pn	Pn	17 08 57.2	-3.2
Q24A	**Divide**	**6.16**	**292**	Pn	Pn	17 08 59.5	-3.2
Q24A				IAmb_Lg		17 11 01.1	
	comp=Z,10nm,0.9s						
SDCO	**Great Sand Dun**	**6.17**	**281**	Pn	Pn	17 09 01.6	-1.3
CGM3	**Cape Girardeau**	**6.56**	**84**	Pn	Pn	17 09 05.6	-2.3
CGM3				IAmb_Lg		17 11 06.9	
	comp=Z,8.7nm,0.8s						
JCT	**Junction City**	**6.56**	**195**	Pn	Pn	17 09 05.2	-2.8
JCT				IAmb_Lg		17 11 07.1	
	comp=Z,9.8nm,0.7s						
CLN7	**Carlsbad 7**	**6.61**	**230**	Pn	Pn	17 09 07.1	-1.7
ISCO	**Idaho Springs**	**6.79**	**298**	IAmb_Lg		17 11 13.6	
	comp=Z,11nm,1.0s						
ECSD	**EROS Data Cent**	**6.94**	**7**	Pn	Pn	17 09 11.1	-2.1
441A	**DeRidder**	**7.21**	**146**	Pn	Pn	17 09 15.1	-1.7
L40A	**Anamosa**	**7.30**	**42**	IAmb_Lg		17 11 22.0	
	comp=Z,14nm,0.9s						
Y45A	**Yeager Farm, C**	**7.40**	**111**	IAmb_Lg		17 11 44.7	
	comp=Z,14nm,0.8s						
PHWY	**Pilot Hill**	**7.41**	**309**	Pn	Pn	17 09 20.7	+0.8
N23A	**Red Feather La**	**7.50**	**305**	Pn	Pn	17 09 21.1	0.0
N23A				IAmb_Lg		17 11 43.1	
	comp=Z,12nm,0.7s						
K22A	**Casper**	**8.85**	**314**	IAmb_Lg		17 12 31.1	
	comp=Z,8.8nm,0.9s						

*JMA **22** 17:21:57.2±0.1, 38°3N±0°2×141°6E±0°4, h55km, MV3.6/38, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .

*IDC **22** 17:22:03.0±8.7, 38°22N×141°24E, h102km±55km, mb3.2/2, mbtmp3.5/4, Error ellipse: s-maj=121.3km s-min=27.6km az=72.0*
ISC 22 17:21:57.6±1.2, **38°31N±0°05×141°63E±0°07, h48km±7km, n28, σ1s35/36, 24D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.13**	**271**	⇓P	**Pn**	**17 22 05.7**	**+0.5**
JIKH				⇓S	**Sn**	**17 22 11.6**	**+1.0**
JIO	**Ouri**	**0.26**	**304**	⇓P	**Pn**	**17 22 06.5**	**+0.4**
JIO				⇓S	**Sn**	**17 22 12.8**	**+0.6**
JKMT	**Kesennumamotoy**	**0.52**	**347**	⇓P	**Pn**	**17 22 08.8**	**-0.1**
JKMT				⇓S	**Sn**	**17 22 16.8**	**-0.1**
JOFO	**Osakifurukawao**	**0.63**	**298**	⇓P	**Pn**	**17 22 10.3**	**0.0**
JOFO				⇓S	**Sn**	**17 22 20.3**	**+0.7**
JMK	**Ichinoseki**	**0.72**	**334**	⇓P	**Pn**	**17 22 11.4**	**0.0**
JMK				⇓S	**Sn**	**17 22 21.3**	**-0.1**
JOU	**Okura**	**0.76**	**275**	⇓P	**Pn**	**17 22 11.9**	**-0.1**
JOU				⇓S	**Sn**	**17 22 22.6**	**+0.1**
OFUJ	**Ofunato**	**0.77**	**2**	⇓P	**Pn**	**17 22 11.8**	**-0.4**
OFUJ				⇓S	**Sn**	**17 22 22.0**	**-0.7**
JMM	**Marumori**	**0.79**	**236**	P	**Pn**	**17 22 12.1**	**-0.4**
JMM	**Marumori**	**0.79**	**236**	⇓P	**Pn**	**17 22 12.0**	**-0.4**
JMM				⇓S	**Sn**	**17 22 22.7**	**-0.6**
JFK	**Kawauchi**	**1.11**	**213**	⇓P	**Pn**	**17 22 16.5**	**-0.3**
JYK	**Kaneyama**	**1.17**	**302**	⇓P	**Pn**	**17 22 17.3**	**-0.2**
JYK				⇓S	**Sn**	**17 22 32.3**	**+0.1**
JOM	**Ohasama**	**1.19**	**347**	⇓P	**Pn**	**17 22 17.5**	**-0.4**
JYS	**Shirataka**	**1.23**	**266**	⇓P	**Pn**	**17 22 18.4**	**0.0**
JYS				⇓S	**Sn**	**17 22 34.3**	**+0.4**
JRG	**Rokugo**	**1.33**	**325**	⇓P	**Pn**	**17 22 19.9**	**+0.1**
JRG				⇓S	**Sn**	**17 22 37.0**	**+0.6**
JTM	**Tenmabayashi**	**2.51**	**350**	P	**Pn**	**17 22 36.4**	**+0.5**
JSD	**Sado**	**2.67**	**265**	P	**Pn**	**17 22 39.4**	**+1.4**
MJAR	**Matsushiro Arr**	**3.24**	**238**	P	**Pn**	**17 22 48.2**	**+2.3**
	3.3nm,0.4s,baz=35,slow=13,SNR=16						
MAJO	**Matsushiro**	**3.24**	**238**	P	**Pn**	**17 22 48.9**	**+2.9**
ERM	**Erimo**	**3.88**	**17**	P	**Pn**	**17 22 57.0**	**+2.3**
JEM	**Erimo**	**3.88**	**17**	P	**Pn**	**17 22 57.6**	**+2.9**
JGF	**Kuroka**	**4.36**	**233**	P	**Pn**	**17 23 04.2**	**+2.9**
INU	**Inuyama**	**4.73**	**233**	P	**Pn**	**17 23 09.2**	**+2.8**
USRK	**Ussuriysk Ar.**	**9.34**	**312**	P	**Pn**	**17 24 11.4**	**+1.9**
	1.2nm,0.5s,baz=122,slow=14,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**29.43**	**125**	T	T	17 58 58.2	
	baz=320,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.43**	**125**	T	T	17 58 59.8	
	baz=320,slow=76,SNR=87						
H11S2	**WAKE ISLAND Hy**	**29.45**	**125**	T	T	17 59 01.3	
	baz=320,slow=76,SNR=82						
MKAR	**Makanchi Array**	**43.60**	**301**	P	**P**	**17 29 56.0**	**-0.9**
	1.0nm,0.9s,baz=86,slow=9.6,SNR=4.1						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**58.34**	**188**	P	**P**	**17 31 46.0**	**-1.9**
	0.7nm,1.1s,baz=1.8,slow=7.1,SNR=6.8						
	0.7nm,1.1s						

*IDC **22** 17:22:25.7±1.4, 37°08N×141°59E, h0km, mb3.5/3, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=35.2km s-min=26.3km az=111.0*
*JMA **22** 17:22:29.0±0.2, 37°1N±0°4×141°4E±0°9, h34km±1km, MV3.7/32, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **22** 17:22:29.0, 37°14N×141°42E, h34km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.06; $M_{\theta\theta}$1.81; $M_{\phi\phi}$1.25; $M_{r\theta}$1.88; $M_{\theta\phi}$1.81; $M_{\phi r}$1.61; Fault plane solution: $M_0$4.06000×10^{14} NP1:ϕ_s49.00000°, δ26.00000°, λ-90.00000°. NP2:ϕ_s229.00000°, δ64.00000°, λ-90.00000°.*
ISC 22 17:22:29.8±1.1, **37°14N±0°04×141°40E±0°08, h33km, n15, σ1s31/17, mb3.5/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**298**	P	**Pb**	**17 22 39.1**	**-0.8**
JFK				S	**Sb**	**17 22 46.3**	**-0.6**
JFFD	**Fukushimafurud**	**0.67**	**266**	P	**Pn**	**17 22 42.5**	**-0.4**
JFFD				S	**Sn**	**17 22 52.0**	**-0.3**
JMST	**Minamisoumatoc**	**0.71

KST	**Kastek**	**0.63**	**261**	*e*P		**Pb**	**17 41 12.0**	**-0.2**
	3.0nm,0.1s								
KST				*e*S		**Sb**	**17 41 21.1**	**0.0**
	17nm,0.3s								
KST	**Kastek**	**0.63**	**261**	P		**Pb**	**17 41 12.0**	**-0.2**
	3.0nm,0.1s								
KST				S		**Sb**	**17 41 21.1**	**0.0**
	17nm,0.3s								
CHKK	**Chushkaly**	**0.72**	**10**	*e*P		**Pg**	**17 41 12.6**	**-0.2**
	14nm,0.1s								
CHKK				*e*S		**Sg**	**17 41 22.2**	**0.0**
	108nm,0.2s								
CHKK	**Chushkaly**	**0.72**	**10**	P		**Pg**	**17 41 12.6**	**-0.2**
	14nm,0.1s								
CHKK				S		**Sg**	**17 41 22.2**	**0.0**
	108nm,0.2s								
ANVS	**Anan'yevo**	**0.73**	**120**	⇑*i*P		**Pg**	**17 41 12.2**	**-0.9**
	baz=21								
ANVS				⇑*i*S		**Sg**	**17 41 21.6**	**-1.0**
	baz=21								
DGS	**Degeres**	**0.77**	**277**	*e*P		**Pb**	**17 41 14.4**	**-0.1**
	15nm,0.2s								
DGS				*e*S		**Sb**	**17 41 25.1**	**0.0**
	12nm,0.2s								
DGS	**Degeres**	**0.77**	**277**	P		**Pb**	**17 41 14.4**	**-0.1**
	15nm,0.2s								
DGS				S		**Sb**	**17 41 25.1**	**0.0**
	12nm,0.2s								
KUU	**Kurty**	**0.82**	**335**	*e*P		**Pg**	**17 41 14.6**	**-0.2**
	2.3nm,0.3s								
KUU				*e*S		**Sg**	**17 41 25.4**	**-0.1**
	9.7nm,0.5s								
KUU	**Kurty**	**0.82**	**335**	P		**Pg**	**17 41 14.6**	**-0.2**
	2.3nm,0.3s								
KUU				S		**Sg**	**17 41 25.4**	**-0.1**
	9.7nm,0.5s								
TKM2	**Tokmak 2**	**0.92**	**256**	⇑*i*P		**Pb**	**17 41 17.1**	**-0.1**
	baz=58								
TKM2				⇑*i*S		**Sb**	**17 41 30.1**	**+0.6**
	baz=58								
KRBS	**Karabastau**	**0.99**	**304**	*e*P		**Pb**	**17 41 18.1**	**-0.2**
	15nm,0.2s								
KRBS				*e*S		**Sb**	**17 41 31.7**	**+0.2**
	9.9nm,0.2s								
KRBS	**Karabastau**	**0.99**	**304**	P		**Pb**	**17 41 18.1**	**-0.2**
	15nm,0.2s								
KRBS				S		**Sb**	**17 41 31.7**	**+0.2**
	9.9nm,0.2s								
ULHL	**Ulahol**	**0.99**	**205**	⇑*i*P		**Pg**	**17 41 17.9**	**-0.3**
	baz=8.0								
ULHL				⇑*i*S		**Sb**	**17 41 31.4**	**-0.3**
	baz=8.0								
KURS	**Kuram**	**1.05**	**71**	*e*P		**Pg**	**17 41 19.0**	**-0.2**
	1.0nm,0.2s								
KURS				*e*S		**Sb**	**17 41 33.0**	**-0.1**
	5.7nm,0.3s								
KURS	**Kuram**	**1.05**	**71**	P		**Pg**	**17 41 19.0**	**-0.2**
	1.0nm,0.2s								
KURS				S		**Sb**	**17 41 33.0**	**-0.1**
	5.7nm,0.3s								
SATY	**Saty**	**1.17**	**94**	*e*P		**Pb**	**17 41 20.1**	**-1.3**
	3.5nm,0.1s								
SATY				*e*S		**Sb**	**17 41 35.0**	**-1.8**
	29nm,0.1s								
SATY	**Saty**	**1.17**	**94**	P		**Pb**	**17 41 20.1**	**-1.3**
	3.5nm,0.1s								
SATY				S		**Sb**	**17 41 35.0**	**-1.8**
	29nm,0.1s								
ZHN	**Zhinishke**	**1.19**	**89**	*e*P		**Pb**	**17 41 20.3**	**-1.4**
	5.1nm,0.2s								
ZHN				*e*S		**Sb**	**17 41 35.5**	**-1.8**
	22nm,0.2s								
ZHN	**Zhinishke**	**1.19**	**89**	P		**Pb**	**17 41 20.3**	**-1.4**
	5.1nm,0.2s								
ZHN				S		**Sb**	**17 41 35.5**	**-1.8**
	22nm,0.2s								
ARXS	**Arharly**	**1.29**	**34**	*e*P		**Pn**	**17 41 22.8**	**-0.5**
	4.0nm,0.3s								
ARXS				*e*S		**Sb**	**17 41 39.2**	**-1.0**
	8.3nm,0.3s								
ARXS	**Arharly**	**1.29**	**34**	P		**Pn**	**17 41 23.1**	**-0.2**
	4.0nm,0.3s								
ARXS				S		**Sb**	**17 41 39.2**	**-1.0**
	8.3nm,0.3s								
KPKS	**Kokpek**	**1.40**	**76**	*e*P		**Pn**	**17 41 24.4**	**-0.4**
	3.9nm,0.1s								
KPKS				*e*S		**Sb**	**17 41 42.1**	**-1.3**
	29nm,0.3s								
KPKS	**Kokpek**	**1.40**	**76**	P		**Pn**	**17 41 24.3**	**-0.4**
	3.9nm,0.1s								
KPKS				S		**Sb**	**17 41 42.1**	**-1.3**
	29nm,0.3s								
KBK	**Karagaybulak**	**1.46**	**251**	⇑*i*P		**Pb**	**17 41 25.9**	**-0.4**
	baz=52								
KBK				⇑*i*S		**Sg**	**17 41 45.5**	**-0.3**
	baz=52								
CHMS	**Chumysh**	**1.52**	**265**	⇑*i*P		**Pb**	**17 41 27.0**	**-0.3**
	baz=66								
CHMS				⇑*i*S		**Sg**	**17 41 47.3**	**-0.5**
	baz=66								
UZB	**Uzynbulak**	**1.62**	**89**	*e*P		**Pn**	**17 41 28.1**	**+0.3**
	1.5nm,0.2s								
UZB				*e*S		**Sn**	**17 41 48.5**	**-0.2**
	9.5nm,0.1s								
UZB	**Uzynbulak**	**1.62**	**89**	P		**Pn**	**17 41 28.1**	**+0.3**
	1.5nm,0.2s								
UZB				S		**Sn**	**17 41 48.5**	**-0.2**
	9.5nm,0.1s								
SGDS	**Sogindy**	**1.62**	**282**	*e*P		**Pg**	**17 41 29.6**	**-0.5**
	2.9nm,0.2s								
SGDS				*e*S		**Sg**	**17 41 51.1**	**0.0**
	6.3nm,0.1s								
SHLS	**Shalkode**	**1.94**	**89**	*e*P		**Pg**	**17 41 40.1**	**+3.9**
	2.1nm,0.3s								
SHLS				*e*S		**Sg**	**17 42 09.1**	**+7.8**
	4.1nm,0.5s								
SHLS	**Shalkode**	**1.94**	**89**	Pg		**Pg**	**17 41 40.1**	**+3.9**
	2.1nm,0.3s								
SHLS				Lg		Lg	17 42 09.1		
	4.1nm,0.5s								
PDGK	**Podgornoye**	**1.97**	**84**	P		**Pb**	**17 41 33.8**	**-1.2**
	0.6nm,0.3s								
PDGK				S		**Sb**	**17 41 58.4**	**-1.2**
	2.7nm,0.4s								
TDK	**Taldyqorghan**	**2.18**	**31**	*e*P		**Pb**	**17 41 38.3**	**-0.3**
	19nm,0.5s								
TDK				*e*S		**Sb**	**17 42 06.0**	**+0.3**
	21nm,0.6s								
TDK	**Taldyqorghan**	**2.18**	**31**	Pg		**Pb**	**17 41 38.3**	**-0.3**
	19nm,0.5s								
TDK				Lg		Lg	17 42 06.0		
	21nm,0.6s								
ARLS	**Aral**	**2.25**	**236**	⇑*i*P		**Pn**	**17 41 37.0**	**+0.6**
	baz=37								
ARLS				⇑*i*S		**Sn**	**17 42 04.6**	**+0.4**
	baz=37								
DJR	**Jarkent**	**2.46**	**60**	*e*P		**Pb**	**17 41 42.9**	**-0.5**
	1.1nm,0.3s								
DJR				*e*S		**Sb**	**17 42 13.9**	**+0.1**
	6.0nm,0.5s								
DJR	**Jarkent**	**2.46**	**60**	Pg		**Pb**	**17 41 42.9**	**-0.5**
	1.1nm,0.3s								
DJR				Lg		Lg	17 42 13.9		
	6.0nm,0.5s								

*IDC **22** 17:41:11.9±0.8,37˚12N×141˚48E,h0km,mb3.8/13, mbtmp3.9/17,ML4.0/4,MS3.2/7, Error ellipse: s-maj=21.3km s-min=15.4km az=94.0*
*JMA **22** 17:41:14.1±0.2,37˚2N±0˚3×141˚4E±0˚9,h28km±1km, MD4.5/35,MV4.4/35,E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **22** 17:41:14.1,37˚18N×141˚37E,h28km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.33; Mθθ 0.43; Mϕϕ-0.10; Mrθ 0.70; Mϕ 1.52; Mϕr-0.14; Fault plane solution: M0 1.71000×10¹⁵ NP1:ϕs 273.00000°, δ64.00000°,λ-171.00000°. NP2:ϕs 273.00000°, δ82.00000°,λ-26.00000°.*
*NEIC **22** 17:41:16.8±2.1,37˚27N±0˚05×141˚34E±0˚05,h32km±5km, mb5.1/39 Error ellipse: s-maj=7.7km s-min=4.9km az=138.0*
ISC 22 17:41:13.2±1.5,37˚19N±0˚03×141˚42E±0˚06,h10km±9km, n138,σ1s30/116,mb4.8/30,4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**293**	*i* P		**Pg**	**17 41 22.9**	**+0.6**
JFK					S	**Sg**	**17 41 29.2**	**+0.7**
JFK	**Kawauchi**	**0.47**	**293**	A		A	17 41 22.9	
	comp=E,15nm,1.5s,comp=E,20nm,1.4s							
JMST	**Minamisoumatoc**	**0.68**	**322**	*i* P		**Pg**	**17 41 26.7**	**+0.4**
JMST					S	**Sb**	**17 41 36.1**	**-0.6**
JMST	**Minamisoumatoc**	**0.68**	**322**	A		A	17 41 26.7	
	comp=E,17nm,0.4s,comp=E,18nm,0.5s							
JFFD	**Fukushimafurud**	**0.69**	**262**	⇓*i*P		**Pg**	**17 41 26.8**	**+0.3**
JFFD				⇓S		**Sg**	**17 41 35.5**	**+0.1**
JFFD	**Fukushimafurud**	**0.69**	**262**	A		A	17 41 26.8	
	comp=E,22nm,0.6s,comp=E,70nm,0.5s							
JMM	**Marumori**	**0.84**	**324**			**Pg**	**17 41 29.3**	**-0.1**
JMM						**Sg**	**17 41 40.5**	**+0.2**
JMM	**Marumori**	**0.84**	**324**	*i* P		**Pg**	**17 41 29.4**	**0.0**
JMM				S		**Sb**	**17 41 40.8**	**-0.5**
JMM	**Marumori**	**0.84**	**324**	A		A	17 41 29.4	
	comp=E,19nm,0.4s,comp=E,22nm,0.5s							
JHO	**Hitachi**	**0.89**	**230**	⇓P		**Pg**	**17 41 29.2**	**-1.1**
JHO				⇓S		**Sg**	**17 41 41.0**	**-0.9**
JHO	**Hitachi**	**0.89**	**230**	A		A	17 41 29.2	
	comp=E,6.0nm,1.5s,comp=E,6.0nm,1.2s							
JHYU	**Hitachinakayam**	**1.07**	**219**	A		A	17 41 33.0	
	comp=E,11nm,0.6s,comp=E,9.0nm,1.4s							
JSB	**Shiboa**	**1.22**	**260**	A		A	17 41 35.0	
	comp=E,20nm,1.9s,comp=E,29nm,1.7s							
JYAR	**Yonezawaarcadi**	**1.25**	**306**	A		A	17 41 35.5	
	comp=E,66nm,0.9s,comp=E,44nm,0.7s							
JIO	**Ouri**	**1.27**	**358**	P		**Pn**	**17 41 35.8**	**-1.1**
JIO				S		**Sb**	**17 41 52.5**	**-1.0**
JOU	**Okura**	**1.32**	**333**	*i* P		**Pn**	**17 41 37.6**	**-0.1**
JOU				S		**Sn**	**17 41 55.1**	**-0.4**
JOU	**Okura**	**1.32**	**333**	A		A	17 41 37.6	
	comp=E,14nm,0.5s,comp=E,18nm,0.8s							
JYT	**Yasato**	**1.37**	**226**	A		A	17 41 37.5	
	comp=E,18nm,0.4s,comp=E,14nm,0.3s							
JFY	**Yanaizu**	**1.38**	**280**	A		A	17 41 37.6	
	comp=E,8.0nm,1.9s,comp=E,16nm,0.7s							
JIHU	**Itakohorinouch**	**1.41**	**211**	A		A	17 41 38.2	
	comp=E,44nm,1.1s,comp=E,42nm,0.8s							
JOFO	**Osakifurukawao**	**1.47**	**344**	A		A	17 41 39.2	
	comp=E,76nm,1.6s,comp=E,60nm,1.4s							
JYS	**Shirataka**	**1.49**	**314**	A		A	17 41 39.3	
	comp=E,32nm,0.7s,comp=E,25nm,0.6s							
CHOJ	**Chosi**	**1.55**	**197**	A		A	17 41 40.3	
	comp=E,8.0nm,1.4s,comp=E,9.0nm,2.1s							
JSMT	**Sammumatsuo**	**1.73**	**207**	A		A	17 41 42.9	
	comp=E,29nm,2.9s,comp=E,33nm,3.1s							
JNS	**Sasagawa**	**1.78**	**291**	A		A	17 41 43.6	
	comp=E,4.0nm,2.1s,comp=E,8.0nm,1.6s							
JYK	**Kaneyama**	**1.92**	**335**	A		A	17 41 45.8	
	comp=E,6.0nm,2.6s,comp=E,5.0nm,2.3s							
JYA	**Atsumi**	**1.95**	**317**	A		A	17 41 46.1	
	comp=E,19nm,0.8s,comp=E,21nm,0.8s							
JSD	**Sado**	**2.65**	**290**			**Pn**	**17 41 55.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.65**	**257**	Pn		**Pn**	**17 41 56.5**	**+0.5**
	5.7nm,0.3s,baz=90,slow=15,SNR=164							
MJAR				LR		LR	17 42 35.5	
	comp=Z,84nm,19.4s,baz=77,slow=31 44nm,0.4s							
MAJO	**Matsushiro**	**2.65**	**257**	Pn		**Pn**	**17 41 56.7**	**+0.7**
MAJO	**Matsushiro**	**2.65**	**257**	P		**Pn**	**17 41 57.9**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.65**	**257**			**Pn**	**17 41 57.8**	**+1.7**
JTM	**Tenmabayashi**	**3.61**	**356**	Pn		**Pn**	**17 42 10.1**	**+1.0**
JTM	**Tenmabayashi**	**3.61**	**356**	P		**Pn**	**17 42 10.5**	**+1.4**
JGF	**Kuroka**	**3.64**	**245**			**Pn**	**17 42 10.9**	**+1.4**
JGF	**Kuroka**	**3.64**	**245**	P		**Pn**	**17 42 11.4**	**+1.8**
INU	**Inuyama**	**4.00**	**244**			**Pn**	**17 42 15.7**	**+1.1**
INU	**Inuyama**	**4.00**	**244**	P		**Pn**	**17 42 16.0**	**+1.5**
JHJ2	**Mitsune**	**4.27**	**198**	Pn		**Pn**	**17 42 19.3**	**+1.0**
JHJ	**Hachijo jima 2**	**4.27**	**199**	Pn		**Pn**	**17 42 19.3**	**+1.0**
	53nm,0.3s,baz=90,slow=22,SNR=12							
JHJ				Sn		**Sn**	**17 43 08.2**	**0.0**
	43nm,0.3s,baz=47,slow=22,SNR=5.8							
JHJ				LR		LR	17 44 12.3	
	comp=Z,268nm,19.3s,baz=84,slow=43 97nm,0.3s							
ERM	**Erimo**	**5.01**	**15**	Pn		**Pn**	**17 42 28.3**	**0.0**
ASAJ	**Asahikawa**	**6.98**	**7**	LR		LR	17 46 14.9	
	comp=Z,150nm,18.8s,baz=178,slow=43							
JKA	**Kamikawa-asahi**	**6.98**	**7**	Pn		**Pn**	**17 42 55.0**	**-0.5**
JMN	**Monobe**	**7.05**	**243**	Pn		**Pn**	**17 42 57.1**	**+0.6**
JHS	**Saijyo**	**7.06**	**254**			**Pn**	**17 42 58.2**	**+1.5**
JHS	**Saijyo**	**7.06**	**254**	P		**Pn**	**17 42 59.0**	**+2.3**
USA0B	**Ussuriysk Arra**	**10.01**	**317**	Pn		**Pn**	**17 43 35.2**	**-1.8**
USRK	**Ussuriysk Ar.**	**10.01**	**317**	Pn		**Pn**	**17 43 41.5**	**+4.5**
	0.3nm,0.3s,baz=138,slow=14,SNR=6.4							
USRK				LR		LR	17 47 12.6	
	comp=Z,169nm,20.8s,baz=122,slow=36							
USRK	**Ussuriysk Ar.**	**10.01**	**317**	Pn		**Pn**	**17 43 35.5**	**-1.5**
JCJ	**Chichijima**	**10.08**	**176**	Pn		**Pn**	**17 43 35.9**	**-2.2**
	11nm,0.3s,baz=278,slow=23,SNR=5.6							
JCJ				LR		LR	17 47 50.1	
	comp=Z,176nm,20.7s,baz=186,slow=40 31nm,0.4s							
JCJ	**Chichijima**	**10.08**	**176**	Pn		**Pn**	**17 43 38.9**	**+0.8**
JTU	**Tsushima**	**10.11**	**258**	Pn		**Pn**	**17 43 37.5**	**-0.9**
KSRS	**Korea Array**	**10.75**	**276**	Pn		**Pn**	**17 43 50.5**	**+3.3**
	0.2nm,0.3s,baz=88,slow=14,SNR=2.4 1.2nm,0.5s							
TJN	**Taejon**	**11.30**	**270**	Pn		**Pn**	**17 43 52.6**	**-2.1**
KLR	**Kul'dur**	**13.93**	**333**	LR		LR	17 49 46.3	
	comp=Z,151nm,18.5s,baz=133,slow=37							
PETK	**Petropavlovsk-**	**19.56**	**30**	P		**P**	**17 45 38.9**	**-2.0**
TPUB	**Ta-pu**	**22.60**	**238**	P		**P**	**17 46 09.7**	**-4.4**
TPUB					IAmb	IAmb	17 46 18.4	
	comp=Z,151nm,1.6s							
TWG	**Pinlang**	**22.63**	**236**	P		**P**	**17 46 13.9**	**-0.4**
TWG					IAmb	IAmb	17 46 29.3	
	comp=Z,147nm,2.0s							
MA2	**Magadan**	**23.20**	**12**	P		**P**	**17 46 20.2**	**+0.2**
MA2					IAmb	IAmb	17 46 39.1	
	comp=Z,70nm,1.6s							
YAK	**Yakutsk**	**25.92**	**347**	LR		LR	17 58 43.3	
	comp=Z,80nm,20.5s,baz=253,slow=40							
SONM	**Songino Array**	**27.70**	**304**	P		**P**	**17 47 03.9**	**+2.3**
	comp=Z,1.3nm,0.6s,baz=98,slow=8.5,SNR=6.6 comp=Z,1.3nm,0.6s							
SONM	**Songino Array**	**27.70**	**304**	P		**P**	**17 47 00.8**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T		T	18 16 37.9	
	baz=314,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	18 16 38.2	
	baz=314,slow=75,SNR=487							
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	18 16 38.8	
	baz=314,slow=75,SNR=469							
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T		T	18 17 30.5	
	baz=316,slow=76,SNR=461							
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T		T	18 17 30.5	
	baz=316,slow=76,SNR=479							
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T		T	18 17 26.9	
	baz=316,slow=76,SNR=323							
CD2	**Chengdu**	**31.68**	**270**	P		**P**	**17 47 36.1**	**-0.8**
PATS	**Pohnpei**	**33.91**	**149**	P		**P**	**17 47 58.9**	**+2.5**
TIXI	**Tiksi**	**35.14**	**353**	P		**P**	**17 48 07.1**	**+0.6**
MYLDM	**Lahad Datu**	**38.13**	**219**	P		**P**	**17 48 32.9**	**+0.3**
MYLDM					IAmb	IAmb	17 48 35.8	
	comp=Z,24nm,1.3s							
CMAR	**Chiang Mai Arr**	**41.54**	**255**	P		**P**	**17 49 01.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=44,slow=8.2,SNR=5.3 comp=Z,0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**41.54**	**255**	P		**P**	**17 48 59.0**	**-2.0**
ZAA0	**Zalesovo Array**	**41.81**	**312**	P		**P**	**17 49 00.8**	**-2.1**
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**	**17 49 03.0**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=95,slow=8.2,SNR=5.5 comp=Z,0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**	**17 49 02.2**	**-0.7**
SBUM	**Sibu**	**43.77**	**225**	P		**P**	**17 49 19.0**	**-0.2**
CHGN	**Chignik**	**43.86**	**44**	P		**P**	**17 49 19.7**	**+0.3**
MKAR	**Makanchi Array**	**44.04**	**302**	P		**P**	**17 49 21.3**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=105,slow=6.1,SNR=4.8 comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**44.04**	**302**	P		**P**	**17 49 20.2**	**-0.9**
KSM	**Kuching**	**45.66**	**226**	P		**P**	**17 49 35.0**	**+0.8**
KURK	**Kurchatov**	**45.84**	**308**	P		**P**	**17 49 34.2**	**-1.0**
KURK	**Kurchatov**	**45.84**	**308**	P		**P**	**17 49 35.0**	**-0.2**
SII	**Sitkinak Islan**	**46.19**	**44**	P		**P**	**17 49 38.1**	**+0.1**
IMAR	**Indian Mountai**	**46.52**	**31**	P		**P**	**17 49 40.5**	**+0.1**
P19K	**Oil Pt**	**46.56**	**39**	P		**P**	**17 49 41.2**	**+0.3**
KAPI	**Kappang**	**46.59**	**210**	P		**P**	**17 49 42.5**	**+1.0**
RAMN	**Ramite**	**46.99**	**274**	*e*P		**P**	**17 49 44.4**	**-0.6**
JIRN	**Jiri**	**47.01**	**275**	*e*P		**P**	**17 49 44.9**	**-0.3**
	comp=Z,6.1nm,0.7s							
SUA	**Susitna One**	**47.73**	**37**	P		**P**	**17 49 51.2**	**+1.1**
GKN	**Gorkha**	**48.09**	**276**	*e*P		**P**	**17 49 52.9**	**-0.5**
	comp=Z,7.3nm,0.6s							
H23K	**Yukon River**	**48.24**	**31**	P		**P**	**17 49 54.6**	**+0.8**
H23K					IAmb	IAmb	17 51 19.4	
	comp=Z,33nm,2.0s							
DANN	**Dangsing**	**48.63**	**277**	*e*P		**P**	**17 49 57.5**	**-0.2**
ILAR	**Eielson Array**	**49.37**	**32**	P		**P**	**17 50 03.5**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=267,slow=6.1,SNR=6.7 comp=Z,1.1nm,0.9s							
BMAR	**Burnt Mountain**	**50.20**	**29**	P		**P**	**17 50 10.7**	**+1.8**
N25K	**Chitina, Valde**	**50.66**	**36**	P		**P**	**17 50 14.2**	**+1.7**
N25K					IAmb	IAmb	17 50 48.3	
	comp=Z,59nm,1.9s							
L27K	**Beaver Creek,**	**51.75**	**34**	P		**P**	**17 50 20.5**	**0.0**
L27K					IAmb	IAmb	17 51 24.2	
	comp=Z,23nm,1.8s							
BCAR	**Beaver Creek A**	**51.77**	**34**	P		**P**	**17 50 21.6**	**+0.9**
BARN	**Barnard Glacie**	**52.14**	**37**	P		**P**	**17 50 24.2**	**+0.5**
BARN					IAmb	IAmb	17 50 29.2	
	comp=Z,55nm,1.8s							
GSI	**Gunungsitoli**	**53.88**	**239**	P		**P**	**17 50 37.0**	**+0.1**
GSI					IAmb	IAmb	17 51 55.0	
	comp=Z,33nm,1.3s							
KNRA	**Kununurra**	**53.91**	**195**	P		**P**	**17 50 37.5**	**+0.6**
M30M	**Minto, Yukon**	**54.11**	**34**	P		**P**	**17 50 39.1**	**+1.1**
M30M					IAmb	IAmb	17 51 42.9	
	comp=Z,16nm,1.6s							
INK	**Inuvik**	**54.25**	**27**	P		**P**	**17 50 38.7**	**-0.1**
INK					IAmb	IAmb	17 51 56.1	
	comp=Z,16nm,1.7s							
SIMJ	**Simiganj**	**55.71**	**295**	P		**P**	**17 50 53.5**	**+3.5**
MWH	**Moku'aweowe**	**57.20**	**90**	P		**P**	**17 51 01.8**	**+0.4**
WRAB	**Tennant Creek**	**57.20**	**188**	P		**P**	**17 51 01.9**	**+1.3**
WRAB					IAmb	IAmb	17 52 36.5	
	comp=Z,26nm,2.0s							
WRA	**Warramunga Arr**	**57.21**	**188**	P		**P**	**17 51 00.0**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=5.2,slow=7.5,SNR=8.7 comp=Z,1.6nm,0.9s							
WRA	**Warramunga Arr**	**57.21**	**188**	P		**P**	**17 51 00.5**	**-0.1**
ABKAR	**Akbulak array**	**57.84**	**310**	P		**P**	**17 51 03.4**	**-1.5**
ABKAR	**Akbulak array**	**57.84**	**310**	P		**P**	**17 51 03.8**	**-1.0**
EUNU	**Eureka**	**60.04**	**9**	P		**P**	**17 51 18.1**	**-1.6**
EUNU					IAmb	IAmb	17 51 41.3	
	comp=Z,15nm,1.9s							
ASAR	**Alice Springs**	**60.94**	**188**	P		**P**	**17 51 26.1**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=21,slow=7.5,SNR=6.5 comp=Z,0.6nm,0.8s							
ASAR	**Alice Springs**	**60.94**	**188**	P		**P**	**17 51 26.3**	**-0.1**
MBWA	**Marble Bar**	**61.53**	**203**	P		**P**	**17 51 30.4**	**0.0**
MBWA					IAmb	IAmb	17 52 36.6	
	comp=Z,30nm,1.4s							
YKA	**Yellowknife Ar**	**63.68**	**30**	P		**P**	**17 51 44.8**	**+0.4**
ONTNC	**Ouen Toro**	**63.71**	**154**	P		**P**	**17 51 45.5**	**+0.5**
ARCES	**ARCESS Array B**	**63.86**	**339**	P		**P**	**17 51 46.0**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=59,slow=12,SNR=9.3 comp=Z,1.6nm,0.8s							
ARCES	**ARCESS Array B**	**63.86**	**339**	P		**P**	**17 51 44.1**	**-1.4**
ARCES					IAmb	IAmb	17 51 47.6	
	comp=Z,50nm,1.9s							
FIA1	**FINESS Array S**	**68.68**	**332**	P		**P**	**17 52 15.9**	**-0.5**
FIA1					IAmb	IAmb	17 54 00.3	
	comp=Z,34nm,1.4s							
FINES	**FINESS Array B**	**68.68**	**332**	P		**P**	**17 52 16.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=38,slow=9.6,SNR=4.1 comp=Z,1.9nm,0.7s							
FINES	**FINESS Array B**	**68.68**	**332**	P		**P**	**17 52 14.0**	**-2.4**
FORT	**Forrest**	**68.76**	**192**	P		**P**	**17 52 17.4**	**+0.2**
FORT					IAmb	IAmb	17 52 23.8	
	comp=Z,19nm,0.9s							
KBO	**Bosley Butte**	**69.04**	**52**	P		**P**	**17 52 17.2**	**-1.9**
KIV	**Kislovodsk**	**70.81**	**311**	P		**P**	**17 52 28.2**	**-1.8**
NWAO	**Narrogin (SRO)**	**73.31**	**201**	P		**P**	**17 52 45.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**73.31**	**201**	P		**P**	**17 52 44.4**	**-0.4**
NWAO					IAmb	IAmb	17 52 48.0	
	comp=Z,54nm,1.8s							
NC405	**NORSAR Array S**	**73.84**	**337**	P		**P**	**17 52 46.6**	**-1.1**
NC204	**NORSAR Array S**	**74.00**	**338**	P		**P**	**17 52 46.9**	**-1.9**
NB2	**NORSAR Subarra**	**74.05**	**337**	P		**P**	**17 52 49.3**	**+0.3**
	comp=Z,7.0nm,1.4s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**74.05**	**337**	P		**P**	**17 52 49.3**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=39,slow=5.9,SNR=2.6 comp=Z,0.6nm,0.7s							
**A

JISG Ishigakijimahi 1.08 229 A A 17 53 21.8
comp=E,36nm,0.6s,comp=E,85nm,0.7s
JIJ Ishigaki jima 1.34 226 *i* P Pn 17 53 24.7 -0.8
JIJ S Sn 17 53 41.5 -1.7
JIJ Ishigaki jima 1.34 226 A A 17 53 24.7
comp=E,14nm,0.5s,comp=E,19nm,0.8s
JKRS Kuro-shima 1.52 226 P Pn 17 53 27.3 -0.5
JKRS S Sn 17 53 46.5 -0.6
JKRS Kuro-shima 1.52 226 A A 17 53 27.3
comp=E,38nm,2.1s,comp=E,43nm,1.1s
IRIF Iriomote-Funau 1.65 235 *i* P Pn 17 53 29.1 -0.4
IRIF S Sn 17 53 49.3 -1.0
IRIF Iriomote-Funau 1.65 235 A A 17 53 29.1
comp=E,24nm,1.6s,comp=E,50nm,0.7s
JKE Kume jima 2 1.75 54 *i* P Pn 17 53 30.1 -0.7
JKE S Sn 17 53 52.0 -0.6
JKE Kume jima 2 1.75 54 A A 17 53 30.1
comp=E,7.0nm,1.2s,comp=E,5.0nm,2.8s
HATJ Hateruma jima 1.78 226 P Pn 17 53 30.8 -0.3
HATJ S Sn 17 53 52.7 -0.5
HATJ Hateruma jima 1.78 226 A A 17 53 30.8
comp=E,20nm,2.4s,comp=E,26nm,3.1s
YOJ Yonaguni jima 2.16 248 Pn 17 53 36.1 -0.1
YOJ Sn 17 53 59.8 -2.5
YOJ Yonaguni jima 2.16 248 P Pn 17 53 36.6 +0.4
YOJ Yonaguni jima 2.16 248 P Pn 17 53 36.4 +0.2
YOJ *e*S Sn 17 54 01.6 -0.7
YOJ Yonaguni jima 2.16 248 A A 17 53 36.4
comp=E,6.0nm,2.2s,comp=E,8.0nm,3.5s
YOJ Yonaguni jima 2.16 248 P Pn 17 53 36.1 -0.1
YOJ 17 53 59.8
JYNG Yonagunijimaku 2.22 248 P Pn 17 53 37.3 +0.4
JYNG *e*S Sn 17 54 03.2 -0.5
JYNG Yonagunijimaku 2.22 248 A A 17 53 37.3
comp=E,9.0nm,3.5s,comp=E,11nm,3.9s
JAGN Aguni-jima 2.24 55 A A 17 53 37.4
comp=E,5.0nm,2.5s,comp=E,5.0nm,2.5s
JJT3 Tamagusuku3 2.47 70 A A 17 53 40.9
comp=E,18nm,2.6s,comp=E,15nm,2.1s
JIH Iheya 3.02 55 A A 17 53 48.4
comp=E,3.0nm,3.3s,comp=E,3.0nm,7.3s
JOW Kunigami 3.15 60 P Pn 17 53 48.4 -1.1
114nm,0.6s,baz=187,slow=12,SNR=40
JOW Kunigami 3.15 60 Pn Pn 17 53 48.3 -1.3
JOW Sn Sn 17 54 23.3 -2.9
JOW Kunigami 3.15 60 P Pn 17 53 48.6 -0.9
JOW Kunigami 3.15 60 A A 17 53 50.3
comp=E,2.0nm,3.0s,comp=E,4.0nm,1.6s
TATO Taipei 3.39 265 Pn 17 53 53.4 +0.7
TATO Sn Sn 17 54 30.1 -1.7
TATO Taipei 3.39 265 P Pn 17 53 54.8 +2.1
NACB Ninganchiao 3.47 252 Pn 17 53 53.3 -0.5
NACB Sn Sn 17 54 29.9 -4.0
NACB Ninganchiao 3.47 252 P Pn 17 53 53.4 -0.4
YHNB Yeheng 3.53 261 Pn Pn 17 53 54.5 -0.2
YHNB Sn Sn 17 54 34.4 -1.2
YHNB Yeheng 3.53 261 P Pn 17 53 57.0 +2.3
YULB Yu-li 4.04 243 Pn 17 53 59.6 -1.9
YULB Sn Sn 17 54 43.1 -4.6
YULB Yu-li 4.04 243 P Pn 17 53 59.7 -1.9
SSLB Suanglung 4.16 250 Pn Pn 17 54 02.4 -0.8
SSLB Sn Sn 17 54 46.8 -3.8
SSLB Suanglung 4.16 250 P Pn 17 54 02.7 -0.5
TWGBT Beinan 4.51 238 P Pn 17 54 05.8 -2.2
TWG Pinlang 4.51 238 Pn 17 54 05.4 -2.6
TWG Sn Sn 17 54 54.9 -4.4
TPUB Ta-pu 4.63 245 Pn Pn 17 54 09.7 +0.1
TPUB Sn Sn 17 54 59.5 -2.6
TPUB Ta-pu 4.63 245 P Pn 17 54 10.2 +0.6
QZH Quanzhou 6.01 268 P Pn 17 54 29.5 +1.2
QZH S Sn 17 55 35.4 -0.3
KNMB Chin-men Tao 6.25 264 Pn 17 54 30.8 -0.9
CICP Calayan Island 6.92 211⇑ *e*P Pn 17 54 38.0 -2.9
PACPP Pamplona Cagay 7.69 208⇑ *i*P Pn 17 54 48.9 -2.4
JSU Suzuyama 7.72 36 Pn Pn 17 54 48.6 -3.1
NJ2 Nanjing 8.74 322 *e*P Pn 17 55 07.1 +1.5
NJ2 S Sn 17 56 45.3 +2.9
NJ2 pmax pmax
comp=Z,40nm,0.9s
NJ2 smax smax
comp=N,100nm,1.0s
NJ2 smax smax
comp=E,74nm,1.4s
NJ2 LR LR
comp=N,900nm,4.7s
NJ2 LR LR
comp=E,720nm,4.5s
NJ2 LR LR
comp=Z,680nm,3.8s
JNU Nakatsue 9.23 31 Pn Pn 17 55 11.4 -1.0
WHN Wuhan 10.93 301 ⇑P Pn 17 55 37.0 +1.6
WHN S Sn 17 57 43.1 +7.3
WHN LR LR
comp=N,2μm,4.0s
WHN LR LR
comp=E,1μm,4.1s
TJN Taejon 11.20 9 P Pn 17 55 43.3 +4.2
288nm,1.3s
JMN Monobe 11.29 40 Pn Pn 17 55 34.2 -6.2
KSAR Wonju Array Be 12.32 10 Pn Pn 17 55 53.1 -1.1
KSAR Wonju Array Be 12.32 10 P Pn 17 55 53.1 -1.1
KSRS Korea Array 12.34 10 P Pn 17 55 56.2 +1.7
20nm,1.0s,baz=193,slow=12,SNR=22
KSRS LR LR 18 00 46.5
comp=Z,176nm,21.1s,baz=195,slow=38
KSRS Korea Array 12.34 10 *e*P Pn 17 55 56.6 +2.1
KSRS pmax pmax
comp=Z,20nm,1.0s
KS19 Wonju Array Si 12.38 10 Pn Pn 17 55 53.0 -2.0
TIA Tai'an 12.90 329 *e*P Pn 17 56 03.3 +1.2
TIA S Sn 17 58 21.8 -2.0
TIA pmax pmax
comp=Z,4.0nm,0.9s
TIA pmax pmax
comp=Z,130nm,4.8s
TIA LR LR
comp=Z,520nm,5.9s
INU Inuyama 14.28 43 Pn Pn 17 56 20.0 -0.2
LYN LuoYang 14.38 313 ⇓P P 17 56 25.5 -0.4
LYN pmax pmax
comp=Z,90nm,1.4s
LYN pmax pmax
comp=Z,220nm,3.7s
LYN LR LR
comp=Z,450nm,7.5s
LYN LR LR
comp=Z,350nm,15.8s
JGF Kuroka 14.66 43 P P 17 56 28.8 -0.4
ENH Enshi 14.77 293 Pn Pn 17 56 26.5 0.0
HNS HongShan 15.02 326 ⇓P P 17 56 31.6 -1.4
HNS pmax pmax
comp=Z,47nm,1.1s
JCJ Chichijima 15.35 80 LR LR 18 01 51.9
comp=Z,53nm,20.1s,baz=310,slow=34
QIZ Qiongzhong 15.53 249 P Pn 17 56 37.1 +0.8
MAJO Matsushiro 15.79 42 Pn Pn 17 56 39.6 +0.1
MAJO Matsushiro 15.79 42 *i* P Pn 17 56 40.5 +1.0
MJAR Matsushiro Arr 15.79 42 P P 17 56 41.0 -0.7
comp=Z,8.1nm,0.7s,baz=232,slow=9.4,SNR=16
MJAR LR LR 18 03 13.6
comp=Z,85nm,18.1s,baz=226,slow=39
MJB9 Matsu-Tunnel 15.79 42 Pn Pn 17 56 39.4 -0.1
MJA0 Matsu Arr-Jizo 15.82 42 *e*P P 17 56 42.5 +0.5
MJA0 pmax pmax
comp=Z,10.0nm,0.7s
TIY Taiyuan 16.46 322 P P 17 56 51.8 +2.6
TIY pmax pmax
comp=Z,28nm,0.7s
BJT Baijiatuau 16.52 335 P P 17 56 49.6 0.0
BJT Baijiatuau 16.52 335 P P 17 56 51.3 +1.7
BJT Baijiatuau 16.52 335 P P 17 56 49.7 0.0
BJI Beijing 16.53 335 P Pn 17 56 48.4 -0.2
BJI pmax pmax
comp=Z,16nm,1.0s
XAN Xi'an 16.60 305 ⇑P P 17 56 52.3 +1.6
GYA Guiyang 16.73 278 P P 17 56 53.9 +1.6
GYA sP pwP 17 57 13.3 +2.5
GYA pmax pmax
comp=Z,41nm,1.1s
DAV Davao City (W) 18.13 179 LR LR 18 03 47.2
comp=Z,98nm,21.8s,baz=342,slow=36
HHC Hu-ho-hao-te 19.23 327 *e*P Pn 17 57 21.0 -0.4
HHC pmax pmax
comp=Z,60nm,1.1s
HHC pmax pmax
comp=Z,490nm,5.2s
MDJ Mudanjiang 19.60 9 P Pn 17 57 27.3 +1.8
MDJ pmax pmax
comp=Z,12nm,1.3s
MDJ pmax pmax
comp=Z,160nm,4.9s
USA0B Ussuriysk Arra 19.65 15 P P 17 57 22.9 -1.0
USA0B Ussuriysk Arra 19.65 15 P P 17 57 22.9 -1.0
USRK Ussuriysk Ar. 19.65 15 P P 17 57 23.9 -0.1
comp=Z,3.4nm,0.5s,baz=180,slow=8.1,SNR=15
USRK LR LR 18 04 35.1
comp=Z,111nm,20.9s,baz=193,slow=35
USRK Ussuriysk Ar. 19.65 15 P P 17 57 24.2 +0.2
USRK Ussuriysk Ar. 19.65 15 P P 17 57 24.2 +0.2
CD2 Chengdu 19.72 291 P P 17 57 25.9 +1.0
CD2 pmax pmax
comp=Z,70nm,0.5s
XLT XiLinHaoTe 20.00 340 *e*P P 17 57 25.8 -2.0
XLT sP sP 17 57 50.1 -4.4
XLT pmax pmax
comp=Z,61nm,1.1s
XLT pmax pmax
comp=Z,280nm,3.5s
JTM Tenmabayashi 20.33 37 P P 17 57 29.5 -1.8
KMI Kunming 20.33 274 ⇓P Pn 17 57 34.6 +0.1
KMI pmax pmax
comp=Z,45nm,0.7s
BNX BinXian 20.47 4 ⇓P P 17 57 33.1 +0.2
BNX pmax pmax
comp=Z,10.0nm,0.7s
BNX pmax pmax
comp=Z,190nm,4.7s
KKM Kota Kinabalu 20.99 206 P P 17 57 39.6 +0.7
KKM Kota Kinabalu 20.99 206 P P 17 57 40.2 +1.4
UBPT Khong Chiam 21.00 245 P P 17 57 43.0 +4.2
MYLDM Lahad Datu 21.01 199 P 17 57 39.7 +0.7
PZH PanZhiHua 21.14 278 P P 17 57 40.9 +0.5
PZH pP pwP 17 58 00.6 +1.2
PZH S S 18 01 25.4 -5.6
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
LZH Lanzhou 21.24 305 ⇑P P 17 57 41.9 +0.5
LZH pP pP 17 57 57.0 -1.0
LZH sP sP 17 58 05.1 -3.4
LZH PP PnPn 17 58 10.8 +5.8
LZH pmax pmax
comp=Z,13nm,1.4s
LZH LR LR
comp=Z,400nm,6.2s
LZH LR LR
comp=Z,260nm,6.9s
LZH LR LR
comp=Z,290nm,8.2s
NONG Nongkai 21.71 255 P P 17 57 49.0 +2.6
GUMO Guam 21.86 119 LR LR 18 05 01.6
comp=Z,69nm,20.1s,baz=98,slow=33
ERM Erimo 22.31 37 P P 17 57 50.8 -1.8
ERM Erimo 22.31 37 *i* P P 17 57 52.3 -0.3
ERM pmax pmax
comp=Z,15nm,0.6s
ASAJ Asahikawa 23.51 33 LR LR 18 06 41.5
comp=Z,95nm,20.6s,baz=164,slow=35
ASAJ Asahikawa 23.51 33 P P 17 58 01.9 -2.5
ASAJ pmax pmax
comp=Z,110nm,1.8s
JKA Kamikawa-asahi 23.51 33 P P 17 58 01.9 -2.6
JKA IAmb IAmb 17 58 19.4
comp=Z,110nm,1.8s
PHRA Phrae 24.12 259 P P 17 58 10.5 +0.4
PHRA IAmb IAmb 17 58 15.3
comp=Z,112nm,1.0s
TNCH TengChong 24.14 275 ⇓P P 17 58 11.3 +0.8
TNCH pP pP 17 58 27.4 -1.4
TNCH pmax pmax
comp=Z,11nm,1.8s
TNCH pmax pmax
comp=Z,77nm,5.2s
HIA Hailar 24.30 351 P P 17 58 09.6 -1.9
HIA Hailar 24.30 351 *i* P P 17 58 11.0 -0.5
HIA pmax pmax
comp=Z,31nm,1.2s
TOLI2 Tolitoli 24.42 191 P P 17 58 13.0 +0.1
TOLI2 IAmb IAmb 17 58 15.3
comp=Z,62nm,1.4s
TOLI2 Tolitoli 24.42 191 P P 17 58 13.4 +0.5
KLR Kul'dur 24.43 10 LR LR 18 08 23.4
comp=Z,79nm,18.7s,baz=187,slow=38
TNTI Ternate 24.47 175 P P 17 58 13.1 -0.2
TNTI Ternate 24.47 175 P P 17 58 13.3 0.0
comp=Z,693nmcomp=Z,41nm,0.9s
TNTI Ternate 24.47 175 P P 17 58 14.0 +0.7
GTOI Gorontalo 24.61 185 P P 17 58 13.6 -1.0
comp=Z,258nmcomp=Z,25nm,1.0s
MRSI Marisa 24.88 188 P P 17 58 18.7 +1.7
comp=Z,717nmcomp=Z,74nm,1.4s
HEH HeiHe 24.97 3 *e*P P 17 58 16.3 -1.3
CHTO Chiang Mai 25.16 260 P P 17 58 19.2 -0.4
CHTO Chiang Mai 25.16 260 P P 17 58 19.2 -0.4
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CM31 Chiang Mai Arr 25.28 260 P P 17 58 19.8 -0.9
CMAR Chiang Mai Arr 25.28 260 P P 17 58 21.4 +0.7
comp=Z,3.1nm,0.8s,baz=60,slow=8.4,SNR=26
CMAR ScP ScP 18 05 25.5 +1.8
comp=Z,1.8nm,1.0s,baz=69,slow=0.6,SNR=12
CMAR LR LR 18 07 48.5
comp=Z,73nm,20.8s,baz=70,slow=35
comp=Z,3.1nm,0.8s
CMAR Chiang Mai Arr 25.28 260 P P 17 58 20.8 +0.1
CMAR Chiang Mai Arr 25.28 260 *e*P P 17 58 22.8 +2.1
CMAR pmax pmax
comp=Z,3.0nm,0.8s
MPSI Mapaga 25.34 192 P P 17 58 21.9 +0.7
comp=Z,25nm,1.0s
GTA Gaotai 25.55 310 ⇓P P 17 58 22.4 -0.7
GTA pP pP 17 58 34.8 -6.8
GTA sP pwP 17 58 43.8 -0.5
GTA pmax pmax
comp=Z,24nm,1.0s
GTA pmax pmax
comp=Z,120nm,7.0s
GTA LR LR
comp=Z,230nm,15.3s
GTA LR LR
comp=Z,230nm,14.9s
GTA LR LR
comp=Z,190nm,17.1s
YSS Yuzh-Sakhalins 25.73 28 P P 17 58 24.7 +0.2
LBMI Labuha 25.88 175 P P 17 58 33.2 +7.1
SBUM Sibu 25.93 211 P P 17 58 26.3 -0.3
SBUM IAmb IAmb 17 58 29.9
comp=Z,37nm,0.9s
APSI Ampana 26.28 188 P P 17 58 31.2 +1.5
comp=Z,588nmcomp=Z,42nm,1.0s
SIJI Sorong 26.67 166 LR LR 18 06 54.2
comp=Z,86nm,21.2s,baz=232,slow=31
ULN Ulaanbaatar 26.70 332 P P 17 58 31.4 -2.0
ULN Ulaanbaatar 26.70 332 *i* P P 17 58 33.2 -0.2
ULN pmax pmax
comp=Z,26nm,1.1s
MND Mandalay 26.82 269 P P 17 58 35.8 +1.2
SONM Songino Array 26.96 331 P P 17 58 35.2 -0.5
comp=Z,3.5nm,0.5s,baz=144,slow=9.1,SNR=19
SONM ScP ScP 18 05 28.3 0.0
comp=Z,1.2nm,1.1s,baz=166,slow=1.2,SNR=4.2
SONM LR LR 18 10 47.0
comp=Z,210nm,19.1s,baz=156,slow=40
comp=Z,3.5nm,0.5s
SONM Songino Array 26.96 331 P P 17 58 32.9 -2.8
SANI Sanana 27.20 178 P P 17 58 37.0 -0.9
comp=Z,723nmcomp=Z,72nm,1.0s
SANI Sanana 27.20 178 P P 17 58 36.8 -1.1
KSM Kuching 27.71 214 P P 17 58 41.8 -0.7
KSM IAmb IAmb 17 58 46.1
comp=Z,28nm,0.9s
KSM Kuching 27.71 214 P P 17 58 43.5 +1.0
MTKI Muara Teweh, K 27.93 202 P P 17 58 45.6 +1.1
comp=Z,2μmcomp=Z,31nm,0.8s
GOMU GeErMu 28.18 300 P P 17 58 47.3 +0.2
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU pmax pmax
comp=Z,45nm,6.4s
ZEA Zeya 28.45 3 *e*P P 17 58 50.1 +1.4
ZEA pmax pmax
comp=Z,10.0nm,0.7s
FAKI Fak Fak 28.87 165 P P 17 58 52.4 -0.4
FAKI IAmb IAmb 17 58 53.9
comp=Z,44nm,0.9s
AAI Ambon 28.96 174 P P 17 58 54.4 +0.8
comp=Z,48nm,1.0s
SHL Shillong 30.05 278 P P 17 59 02.3 -1.2
SHL Shillong 30.05 278 P P 17 59 02.3 -1.2
SHL pmax pmax
comp=Z,15nm,1.1s
BBKI Banjar Baru 30.31 201 P P 17 59 06.6 +1.0
comp=Z,80nm,1.0s
LSA Lhasa 30.46 286 P P 17 59 06.7 -0.7
LSA Lhasa 30.46 286 P P 17 59 06.7 -0.7
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 30.46 286 P P 17 59 08.3 +0.9
KAPI Kappang 30.59 191 LR LR 18 11 56.7
comp=Z,37nm,19.4s,baz=10.0,slow=37
BRDH Bariadhala 30.73 272 LR LR 18 14 18.7
comp=Z,58nm,21.2s,baz=84,slow=42
KULM Kulim 30.82 234 P P 17 59 09.6 -0.5
IPM Ipoh 31.10 232 P P 17 59 12.0 -0.7
IPM Ipoh 31.10 232 P P 17 59 12.9 +0.2
MOY Mondy 32.15 331 *e*P P 17 59 21.0 -0.6
MOY pmax pmax
comp=Z,42nm,2.2s
PSI Prapat 33.77 233 P P 17 59 36.4 +0.3
comp=Z,4.0nm,0.4s,baz=0.7,slow=1.5,SNR=4.5
comp=Z,4.0nm,0.4s
PSI Prapat 33.77 233 P P 17 59 38.5 +2.4
comp=Z,10.0nm,1.1s
RAMN Ramite 34.61 281 *e*P P 17 59 44.0 +0.5
comp=Z,28nm,0.9s
SOEI Soe 34.85 182 P P 17 59 42.5 -2.9
SOEI IAmb IAmb 17 59 54.8
comp=Z,17nm,0.8s
SOEI Soe 34.85 182 P P 17 59 46.2 +0.8
JIRN Jiri 34.91 283 *e*P P 17 59 46.7 +0.5
comp=Z,26nm,0.8s
GUN Gumba 35.16 283 *e*P P 17 59 49.0 +0.7
comp=Z,25nm,0.6s
PKI Pulchoki 35.61 283 *e*P P 17 59 52.3 +0.2
comp=Z,26nm,0.8s
WMQ Urumqi 35.61 311 *e*P P 17 59 51.9 +0.2
WMQ pP pwP 18 00 13.5 0.0
WMQ pmax pmax
comp=Z,22nm,0.9s
PKIN Phulchoki 35.62 283 *e*P P 17 59 52.3 +0.2
comp=Z,19nm,0.5s
GSI Gunungsitoli 35.77 232 P P 17 59 51.7 -1.5
GSI IAmb IAmb 17 59 53.1
comp=Z,46nm,1.6s
DMN Daman 35.87 283 *e*P P 17 59 54.6 +0.3
comp=Z,66nm,1.2s
UGM Wanagama 35.97 205 P P 17 59 54.1 -0.9
GKN Gorkha 36.25 283 *e*P P 17 59 57.6 +0.2
comp=Z,29nm,0.6s
YAK Yakutsk 36.85 4 LR LR 18 17 55.8
comp=Z,42nm,19.7s,baz=269,slow=41
YAK Yakutsk 36.85 4 *i* P P 17 59 59.2 -2.6
YAK pmax pmax
comp=Z,4.0nm,0.7s
PEA0B Petropavlovsk- 36.93 33 P P 18 00 01.6 -1.1
PEA0B Petropavlovsk- 36.93 33 P P 18 00 01.6 -1.1
PEA0B pmax pmax
comp=Z,174nm,1.8s
PETK Petropavlovsk- 36.93 33 P P 18 00 01.8 -0.8
comp=Z,3.0nm,0.6s,baz=236,slow=1.6,SNR=12
comp=Z,3.0nm,0.6s
DANN Dangsing 36.98 284 *e*P P 18 00 04.6 +0.8
comp=Z,46nm,0.4s
PET Petropavlovsk 37.35 33 P P 18 00 05.5 -0.7
PET Petropavlovsk 37.35 33 *e*P P 18 00 05.3 -0.9
PET pmax pmax
comp=Z,71nm,0.9s
DGZ Jazzator, Alta 38.02 320 *i* P P 18 00 11.5 -0.6
DGZ pmax pmax
comp=Z,3.0nm,0.6s
MTN Manton Dam 38.35 171 P P 18 00 13.6 -1.3
MTN Manton Dam 38.35 171 P P 18 00 14.2 -0.7
KDU Kakadu 38.41 169 P P 18 00 14.8 -0.7
MA2 Magadan 38.61 21 LR LR 18 15 46.6
comp=Z,70nm,21.2s,baz=206,slow=35
KRVT Keravat (AS076 39.30 135 LR LR 18 16 20.2
comp=Z,32nm,19.7s,baz=118,slow=36
RABL Rabaul 39.30 134 P P 18 00 23.6 +0.6
RABL Rabaul 39.30 134 P P 18 00 24.6 +1.6
MK31 Makanchi Array 40.16 313 P P 18 00 29.2 -0.7
MK31 IAmb IAmb 18 00 30.3
comp=Z,20nm,1.2s
MK31 Makanchi Array 40.16 313 P P 18 00 29.2 -0.7
MK31 pmax pmax
comp=Z,20nm,1.3s
MKAR Makanchi Array 40.16 313 P P 18 00 29.1 -0.8
comp=Z,11nm,0.5s,baz=100,slow=10,SNR=263
MKAR pP pwP 18 00 51.0 -0.9
comp=Z,7.4nm,1.0s,baz=106,slow=12,SNR=2.9
MKAR PcP PcP 18 02 33.2 +0.6
comp=Z,2.3nm,0.6s,baz=90,slow=2.9,SNR=5.3
MKAR LR LR 18 18 41.3
comp=Z,83nm,18.2s,baz=136,slow=38
comp=Z,11nm,0.5s
MKAR Makanchi Array 40.16 313 *e*P P 18 00 29.5 -0.3
MKAR pmax pmax
comp=Z,11nm,0.5s
MAKZ Makanchi 40.37 313 P P 18 00 31.1 -0.5
MAKZ IAmb IAmb 18 00 33.4
comp=Z,15nm,0.6s
MAKZ Makanchi 40.37 313 P P 18 00 31.1 -0.5
MAKZ pmax pmax
comp=Z,15nm,0.6s
MAKZ Makanchi 40.37 313 P P 18 00 31.1 -0.5
MAKZ pP pP 18 00 51.8 +0.9
MAKZ sP sP 18 01 00.2 -0.1
PMG Port Moresby 40.59 145 LR LR 18 16 55.4
comp=Z,38nm,20.2s,baz=320,slow=35
PMG Port Moresby 40.59 145 P P 18 00 32.4 -1.2
PMG IAmb IAmb 18 00 35.1
comp=Z,41nm,1.5s
PMG Port Moresby 40.59 145 P P 18 00 32.4 -1.2
PMG pmax pmax
comp=Z,41nm,1.5s
KNRA Kununurra 40.88 175 P P 18 00 35.5 -0.4
KNRA IAmb IAmb 18 00 36.8
comp=Z,46nm,0.8s
KNRA Kununurra 40.88 175 P P 18 00 35.9 0.0
SHLS Shalkode 41.24 307 *e*P P 18 00 35.1 -3.8
comp=Z,6.1nm,0.8s,baz=308
SHLS Shalkode 41.24 307 *e*P P 18 00 35.1 -3.8
SHLS pmax pmax
comp=Z,6.0nm,0.8s
ZAA0 Zalesovo Array 41.38 325 P P 18 00 38.0 -1.8
ZAA0 IAmb IAmb 18 00 39.4
comp=Z,24nm,1.2s
ZALV Zalesovo Beam 41.38 325 P P 18 00 38.1 -1.6
comp=Z,9.4nm,0.5s,baz=115,slow=8.6,SNR=61
ZALV pP pwP 18 01 01.0 -0.9
comp=Z,4.8nm,0.8s,baz=106,slow=8.4,SNR=3.5
ZALV ScP ScP 18 06 19.1 +0.3
comp=Z,1.5nm,0.7s,baz=123,slow=5.3,SNR=3.6
ZALV LR LR 18 19 26.5
comp=Z,57nm,18.4s,baz=98,slow=38
comp=Z,9.4nm,0.5s
ZALV Zalesovo Beam 41.38 325 P P 18 00 37.9 -1.8
UZB Uzynbulak 41.56 307 *e*P P 18 00 41.0 -0.5
baz=307
UZB Uzynbulak 41.56 307 *e*P P 18 00 41.0 -0.5
KPKS Kokpek 41.86 308 *e*P P 18 00 42.9 -1.1
comp=Z,4.8nm,0.5s,baz=308
KPKS Kokpek 41.86 308 *e*P P 18 00 42.8 -1.1
KPKS pmax pmax
comp=Z,5.0nm,0.5s
SATY Saty 41.99 307 *e*P P 18 00 44.4 -0.7
comp=Z,7.4nm,0.9s,baz=307
SATY Saty 41.99 307 *e*P P 18 00 44.3 -0.7
SATY pmax pmax
comp=Z,7.0nm,0.9s
TARG Taragay, Kyrgy 42.23 305 P P 18 00 47.6 +0.2
TARG IAmb IAmb 18 00 50.0
comp=Z,48nm,1.6s
TARG Taragay, Kyrgy 42.23 305 P P 18 00 47.6 +0.2
TARG pmax pmax

TDK Taldyqorghan 42.34 310 *e*P P 18 00 46.6 -1.1
baz=310
TDK Taldyqorghan 42.34 310 *e*P P 18 00 46.6 -1.1
ARXS Arharly 42.60 309 *e*P P 18 00 49.9 0.0
COEN Coen 42.77 154 P P 18 00 51.8 +0.4
COEN IAmb IAmb 18 00 53.1
comp=Z,33nm,0.9s
COEN Coen 42.77 154 P P 18 00 52.3 +0.9
MDOK Medeo 42.99 307 *e*P P 18 00 52.9 -0.3
baz=307
MDOK Medeo 42.99 307 *e*P P 18 00 52.8 -0.3
CHKK Chushkaly 43.14 308 *e*P P 18 00 53.4 -0.8
baz=308
CHKK Chushkaly 43.14 308 *e*P P 18 00 53.4 -0.8
KSH Kashi 43.40 302 P P 18 00 59.3 +2.8
KSH sP pwP 18 01 21.4 +2.6
KSH pmax pmax
comp=Z,12nm,1.2s
ULHL Ulahol 43.45 305 P P 18 00 57.8 +0.8
SNR=12
NRN Naryn 43.54 304 P P 18 00 58.0 +0.1
NRN IAmb IAmb 18 01 00.1
comp=Z,15nm,0.8s
NRN Naryn 43.54 304 P P 18 00 58.0 +0.1
NRN pmax pmax
comp=Z,15nm,0.8s
KUU Kurty 43.61 308 *e*P P 18 00 57.2 -0.7
baz=308
KUU Kurty 43.61 308 *e*P P 18 00 57.2 -0.7
KURK Kurchatov 43.65 318 P P 18 00 56.9 -1.3
KURK Kurchatov 43.65 318 *i*P P 18 00 57.4 -0.8
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 43.65 318 P P 18 00 57.2 -1.0
KURK pP pP 18 01 17.9 +0.1
KURBB Kurchatov Arra 43.68 318 P P 18 00 57.2 -1.2
comp=Z,3.7nm,0.5s,baz=109,slow=9.1,SNR=70
KURBB pP pP 18 01 18.9 +0.9
comp=Z,5.4nm,0.9s,baz=108,slow=8.0,SNR=6.2
KURBB PcP PcP 18 02 44.4 +0.3
comp=Z,0.8nm,0.7s,baz=114,slow=3.1,SNR=4.1
KURBB LR LR 18 21 02.3
comp=Z,67nm,18.9s,baz=171,slow=38
comp=Z,3.7nm,0.5s
BOOM Boomskoye usch 43.70 306 P P 18 00 59.2 +0.3
BOOM Boomskoye usch 43.70 306 P P 18 00 59.3 +0.3
TKM2 Tokmak 2 44.01 306 P P 18 01 01.8 +0.3
SNR=34
KBK Karagaybulak 44.45 306 P P 18 01 05.8 +0.8
SNR=5.4
CHMS Chumysh 44.63 306 P P 18 01 06.5 +0.3
SNR=15
UCH Uchtor 44.73 305 P P 18 01 08.5 +1.0
SNR=25
SGDS Sogindy 44.77 307 *e*P P 18 01 05.5 -1.9
baz=307
SGDS Sogindy 44.77 307 *e*P P 18 01 05.4 -1.9
AAK Ala-Archa 44.78 306 P P 18 01 07.9 +0.4
SNR=5.2
AAK Ala-Archa 44.78 306 P P 18 01 08.1 +0.6
comp=Z,3.9nm,0.6s,baz=118,slow=4.9,SNR=17
AAK LR LR 18 22 06.9
comp=Z,89nm,18.8s,baz=62,slow=39
comp=Z,3.9nm,0.6s
AAK Ala-Archa 44.78 306 P P 18 01 07.7 +0.1
AAK Ala-Archa 44.78 306 *i*P P 18 01 07.2 -0.4
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 44.78 306 P P 18 01 07.7 +0.1
AAK pP pwP 18 01 28.9 -1.1
AAK sP sP 18 01 37.6 +1.1
EKS2 Erkin-Say 45.31 306 P P 18 01 12.3 +0.6
SNR=5.8
AML Almayashu 45.33 305 P P 18 01 13.2 +1.0
SNR=7.3
BTLS Baital 45.40 309 *e*P P 18 01 10.4 -1.8
comp=Z,4.8nm,0.9s,baz=309
BTLS Baital 45.40 309 *e*P P 18 01 10.4 -1.8
BTLS pmax pmax
comp=Z,5.0nm,0.9s
NIL Nilore 45.59 293 P P 18 01 14.0 0.0
NIL IAmb IAmb 18 01 15.8
comp=Z,23nm,0.8s
NIL Nilore 45.59 293 P P 18 01 14.0 0.0
NIL pmax pmax
comp=Z,23nm,0.8s
NIL Nilore 45.59 293 P P 18 01 14.3 +0.4
NIL pP pwP 18 01 35.6 -0.9
NIL sP sP 18 01 45.6 +2.6
WB0 Warramunga Arr 45.68 168 P P 18 01 14.7 +0.1
WB0 IAmb IAmb 18 01 15.7
comp=Z,30nm,0.9s
WRAB Tennant Creek 45.83 168 P P 18 01 16.0 +0.2
WRAB IAmb IAmb 18 01 17.0
comp=Z,33nm,0.8s
WRAB Tennant Creek 45.83 168 P P 18 01 15.8 0.0
WRAB Tennant Creek 45.83 168 P P 18 01 16.0 +0.2
WRAB pmax pmax
comp=Z,33nm,0.8s
WRAB Tennant Creek 45.83 168 P P 18 01 15.8 0.0
WRA Warramunga Arr 45.84 168 P P 18 01 15.9 +0.1
comp=Z,26nm,0.8s,baz=350,slow=8.6,SNR=193
WRA LR LR 18 22 15.3
comp=Z,14nm,18.3s,baz=340,slow=38
comp=Z,26nm,0.8s
WRA Warramunga Arr 45.84 168 P P 18 01 15.1 -0.8
WB2 Warramunga Arr 45.84 168 P P 18 01 15.8 -0.1
WB1 Warramunga Ar. 45.86 168 P P 18 01 16.1 +0.1
WR0 Warramunga Arr 45.89 168 P P 18 01 16.2 -0.1
WR0 IAmb IAmb 18 01 17.4
comp=Z,31nm,0.8s
TIXI Tiksi 46.43 2 LR LR 18 22 38.4
comp=Z,80nm,18.7s,baz=180,slow=38
TIXI Tiksi 46.43 2 P P 18 01 18.0 -1.8
TIXI Tiksi 46.43 2 *i*P P 18 01 20.2 +0.3
TIXI pmax pmax
comp=Z,2.0nm,1.0s
MBWA Marble Bar 46.48 187 P P 18 01 20.2 -0.6
MBWA IAmb IAmb 18 01 21.3
comp=Z,23nm,0.8s
MBWA PcP PcP 18 02 53.9 -0.3
MBWA Marble Bar 46.48 187 P P 18 01 20.3 -0.6
PSA00 Pilbara Seismi 46.88 187 P P 18 01 23.4 -0.6
PSA00 IAmb IAmb 18 01 24.6
comp=Z,37nm,0.9s
PSA00 PcP PcP 18 02 56.0 +0.5
PSA00 Pilbara Seismi 46.88 187 P P 18 01 24.1 +0.1
MTSU Mount Surprise 47.01 155 P P 18 01 26.2 +1.1
BRZS Berezniki 47.15 316 *e*P P 18 01 23.7 -2.2
baz=316
BRZS Berezniki 47.15 316 *e*P P 18 01 23.6 -2.2
BTK Batken 47.39 302 P P 18 01 27.6 -0.4
BTK Batken 47.39 302 P P 18 01 27.6 -0.4
BTK pmax pmax
comp=Z,14nm,1.4s
QIS Mount Isa 47.68 162 P P 18 01 30.5 +0.3
KK31 Karatay Array 47.74 306 P P 18 01 30.3 -0.2
KK31 PcP PcP 18 02 58.2 -0.3
KKAR Karatay Array 47.74 306 P P 18 01 30.4 -0.1
KKAR PcP PcP 18 02 58.7 +0.2
KKAR Karatay Array 47.74 306 P P 18 01 30.8 +0.3
KKAR IAmb IAmb 18 01 31.9
comp=Z,5.4nm,0.7s
KKAR Karatay Array 47.74 306 P P 18 01 30.8 +0.3
KKAR pmax pmax
comp=Z,5.0nm,0.7s
GAR Garm 47.77 301 P P 18 01 31.3 +0.3
HNR Honiara 48.34 131 LR LR 18 19 10.5
comp=Z,645nm,20.2s,baz=317,slow=32
CHGR Chuyangaron 48.69 300 P P 18 01 37.9 -0.1
CHGR IAmb IAmb 18 01 39.0
comp=Z,68nm,1.6s
CHGR PcP PcP 18 03 02.5 +0.4
KBL Kabul 49.01 295 P P 18 01 40.8 +0.1
KBL Kabul 49.01 295 P P 18 01 40.8 +0.1
KBL pmax pmax
comp=Z,95nm,1.6s
BRVK Borovoye 49.24 319 P P 18 01 41.3 -0.6
BRVK IAmb IAmb 18 02 05.1
comp=Z,18nm,1.3s
BRVK PcP PcP 18 03 03.5 -0.2
BRVK Borovoye 49.24 319 *i*P P 18 01 42.0 +0.1
BRVK pmax pmax
comp=Z,4.0nm,1.0s

NRIK Noril'sk 49.33 343 P P 18 01 41.4 -0.9
comp=Z,4.1nm,0.7s,baz=133,slow=9.5,SNR=7.1
NRIK PcP PcP 18 03 04.2 +0.5
comp=Z,5.9nm,0.6s,baz=81,slow=2.7,SNR=6.2
NRIK LR LR 18 25 19.8
comp=Z,103nm,18.0s,baz=114,slow=39
comp=Z,4.1nm,0.7s
NRIK Noril'sk 49.33 343 P P 18 01 41.4 -0.9
NRIK IAmb IAmb 18 02 05.9
comp=Z,16nm,1.1s
NRIK PcP PcP 18 03 04.1 +0.4
AS31 Alice Springs 49.40 169 P P 18 01 43.8 +0.4
AS31 PcP PcP 18 03 04.8 +0.2
ASAR Alice Springs 49.40 169 P P 18 01 43.8 +0.4
comp=Z,11nm,0.6s,baz=356,slow=13,SNR=208
ASAR PcP PcP 18 03 04.9 +0.2
comp=Z,4.4nm,0.8s,baz=349,slow=3.8,SNR=6.9
ASAR LR LR 18 23 42.0
comp=Z,30nm,18.6s,baz=5.0,slow=37
comp=Z,11nm,0.6s
ASAR Alice Springs 49.40 169 P P 18 01 43.8 +0.4
ASAR PcP PcP 18 03 05.2 +0.5
AS01 Alice Springs 49.41 169 P P 18 01 44.0 +0.6
BILL Bilibino 49.42 19 *e*P P 18 01 42.4 -0.6
BILL pmax pmax
comp=Z,4.0nm,1.1s
CTA Charters Tower 49.54 154 LR LR 18 22 20.0
comp=Z,42nm,20.3s,baz=333,slow=36
CTAO Charters Tower 49.54 154 P P 18 01 44.4 -0.1
CTAO IAmb IAmb 18 01 45.9
comp=Z,14nm,1.1s
CTAO Charters Tower 49.54 154 P P 18 01 44.4 -0.1
CTAO pmax pmax
comp=Z,14nm,1.1s
CTAO Charters Tower 49.54 154 P P 18 01 44.4 -0.1
CTAO pP pP 18 02 07.4 +2.3
WRKA Warakurna 50.13 176 P P 18 01 49.5 +0.6
OOD Oodnadatta 53.74 168 P P 18 02 16.1 +0.5
QLP Quilpie 54.75 159 P P 18 02 22.7 -0.3
MORW Morawa 54.77 190 P P 18 02 23.4 +0.3
MORW IAmb IAmb 18 02 36.9
comp=Z,19nm,1.1s
MORW PcP PcP 18 03 22.9 -1.7
INKA Innaminka 54.82 163 P P 18 02 24.1 +0.7
ABKAR Akbulak array 55.30 314 P P 18 02 26.2 -0.6
ABKAR PcP PcP 18 03 27.1 +0.5
ABKAR Akbulak array 55.30 314 P P 18 02 26.1 -0.7
ABKAR IAmb IAmb 18 02 28.3
comp=Z,33nm,1.6s
SVE Sverdlovsk 55.34 323 *e*P P 18 02 26.8 -0.1
SVE pmax pmax
comp=Z,26nm,0.8s
GAMB Gambell 55.75 29 P P 18 02 29.3 -0.4
baz=258
FORT Forrest 55.83 177 P P 18 02 30.5 -0.2
FORT PcP PcP 18 03 29.3 +0.6
FORT Forrest 55.83 177 P P 18 02 31.4 +0.8
MULG Mulgathing 55.91 171 P P 18 02 32.0 +0.7
KMBL Kambalda 56.44 183 P P 18 02 35.1 +0.1
ARU Arti 56.45 322 LR LR 18 28 42.1
comp=Z,108nm,20.7s,baz=102,slow=38
ARU Arti 56.45 322 P P 18 02 33.6 -1.3
ARU IAmb IAmb 18 02 34.8
comp=Z,20nm,0.6s
ARU Arti 56.45 322 *d i*P P 18 02 33.8 -1.1
ARU *PP pP 18 02 54.5 -0.8
ARU 18 03 30.8
ARU 18 04 36.9
ARU S S 18 10 19.4 +0.1
ARU SS SS 18 14 02.8 -4.4
ARU pmax pmax
comp=Z,22nm,0.7s
ARU Arti 56.45 322 P P 18 02 33.8 -1.1
LCRK Leigh Creek 56.81 167 P P 18 02 38.6 +0.9
KLBR Kellerberrin 57.02 188 P P 18 02 39.8 +0.7
GEYT Alibeck 57.40 300 P P 18 02 42.8 +0.8
comp=Z,22nm,0.8s,baz=62,slow=3.5,SNR=38
GEYT LR LR 18 30 17.7
comp=Z,84nm,20.4s,baz=107,slow=39
comp=Z,22nm,0.8s
GEYT Alibeck 57.40 300 P P 18 02 41.8 -0.2
GYA0B ALIBECK ARRAY 57.40 300 P P 18 02 42.5 +0.6
GYA0B IAmb IAmb 18 02 44.9
comp=Z,24nm,0.9s
NWAO Narrogin (SRO) 58.40 188 P P 18 02 49.4 +0.6
NWAO IAmb IAmb 18 02 50.4
comp=Z,26nm,1.1s
NWAO Narrogin (SRO) 58.40 188 P P 18 02 49.2 +0.4
NWAO IAmb IAmb 18 02 50.4
comp=Z,31nm,1.1s
NWAO Narrogin (SRO) 58.40 188 P P 18 02 49.4 +0.6
NWAO pmax pmax
comp=Z,26nm,1.1s
NWAO Narrogin (SRO) 58.40 188 P P 18 02 48.4 -0.3
NWAO pP pP 18 03 09.9 +0.1
NWAO sP sP 18 03 19.6 +0.4
ANM Nome 58.62 28 P P 18 02 51.2 +1.2
ANM Nome 58.62 28 P P 18 02 51.1 +1.2
baz=263
ANM Nome 58.62 28 P P 18 02 51.2 +1.2
ANM pmax pmax
comp=Z,28nm,0.8s
AULRC Lightning Ridg 58.65 157 P P 18 02 51.5 +1.0
BBOO Buckleboo 58.70 169 P P 18 02 51.1 +0.2
BBOO IAmb IAmb 18 02 52.5
comp=Z,33nm,1.4s
STKA Stephens Creek 58.97 164 P P 18 02 53.0 +0.2
comp=Z,12nm,0.8s,baz=343,slow=8.3,SNR=15
STKA LR LR 18 30 06.3
comp=Z,27nm,19.0s,baz=20,slow=38
comp=Z,12nm,0.8s
STKA Stephens Creek 58.97 164 P P 18 02 52.3 -0.4
STKA Stephens Creek 58.97 164 P P 18 02 52.9 +0.2
STKA Stephens Creek 58.97 164 *e*P P 18 02 52.7 -0.1
STKA pmax pmax
comp=Z,12nm,0.9s
KOUNC Koumac, New Ca 59.32 137 P P 18 02 56.7 +1.3
CMSA Cobar Meteorol 59.81 160 P P 18 02 59.8 +1.2
HTT Hallett 59.84 167 P P 18 02 59.6 +0.8
ARMA Armidale 60.91 154 P P 18 03 07.7 +1.4
ARMA IAmb IAmb 18 03 08.3
comp=Z,18nm,1.1s
KIRV Kirov 61.42 325 LR LR 18 32 31.1
comp=Z,103nm,18.2s,baz=104,slow=39
KIRV Kirov 61.42 325 *i*P P 18 03 09.1 -0.1
N16K Nishlik Lake 61.48 33 P P 18 03 10.4 +0.8
baz=271
UOSS Minazif 61.79 286 P P 18 03 12.8 +0.5
DZM Mont Dzumac 61.79 136 LR LR 18 28 03.1
comp=Z,38nm,19.0s,baz=324,slow=34
DZM Mont Dzumac 61.79 136 P P 18 03 12.7 +0.3
CHGN Chignik 61.86 38 P P 18 03 11.1 -1.0
R16K Pilot Point 62.23 36 P P 18 03 16.5 +1.9
baz=274
GCSA Galena City Sc 62.28 28 P P 18 03 15.9 +1.0
baz=271
O17K Koliganek Bris 62.34 34 P P 18 03 16.5 +1.1
baz=273
A21K Barrow 62.48 21 P P 18 03 15.7 -0.4
Q16K King Salmon 62.64 35 P P 18 03 18.8 +1.4
baz=274
TTA Tatalina 62.71 30 P P 18 03 18.7 +0.8
TTA Tatalina 62.71 30 P P 18 03 19.0 +1.1
baz=272
TTA Tatalina 62.71 30 P P 18 03 18.7 +0.8
TTA pmax pmax
comp=Z,5.0nm,0.8s
N18K Kilae Creek 62.89 33 P P 18 03 20.0 +0.9
N18K IAmb IAmb 18 03 27.6
comp=Z,63nm,1.8s
PRGR Permogore 63.15 328 *e*P P 18 03 18.4 -2.3
PRGR pmax pmax
comp=Z,21nm,0.7s
L19K White Mountain 63.29 31 P P 18 03 22.5 +0.8
L19K IAmb IAmb 18 03 24.0
comp=Z,13nm,1.0s
L19K White Mountain 63.29 31 P P 18 03 23.1 +1.5
baz=274
O18K Koktuh Hills 63.29 34 P P 18 03 23.2 +1.6
O18K Koktuh Hills 63.29 34 P P 18 03 23.3 +1.6
baz=275
J20K Nowinta River 63.48 29 P P 18 03 23.6 +0.8
J20K Nowinta River 63.48 29 P P 18 03 24.4 +1.5
baz=274
M19K Big River Lodg 63.52 31 P P 18 03 24.4 +1.2

M19K IAmb IAmb 18 03 32.1
comp=Z,66nm,1.9s
M19K Big River Lodg 63.52 31 P P 18 03 24.7 +1.5
baz=274
IMAR Indian Mountai 63.55 27 P P 18 03 23.6 +0.3
IMAR PcP PcP 18 03 57.9 -1.2
K20K Telida 63.57 30 P P 18 03 24.7 +1.2
K20K IAmb IAmb 18 03 27.1
comp=Z,14nm,0.8s
K20K Telida 63.57 30 P P 18 03 25.1 +1.6
baz=274
N19K Bonanza Creek 63.57 33 P P 18 03 24.5 +0.9
N19K IAmb IAmb 18 05 20.2
comp=Z,36nm,1.5s
F21K Alatna River 63.59 25 P P 18 03 24.8 +1.2
baz=273
G21K Allakaket 63.62 26 P P 18 03 25.4 +1.7
baz=273
O19K Port Alsworth 63.70 33 P P 18 03 25.7 +1.3
baz=275
L20K Farewell, AK 63.72 31 P P 18 03 26.2 +1.7
baz=275
H21K Melozitna Rive 63.96 27 P P 18 03 26.1 +0.1
H21K IAmb IAmb 18 03 28.6
comp=Z,25nm,0.9s
H21K Melozitna Rive 63.96 27 P P 18 03 27.5 +1.5
baz=274
F22K John River 64.08 25 P P 18 03 29.0 +2.2
baz=274
M20K Styx River 64.12 31 P P 18 03 28.5 +1.2
M20K IAmb IAmb 18 03 32.4
comp=Z,44nm,1.8s
M20K Styx River 64.12 31 P P 18 03 29.8 +2.5
baz=276
E22K Anaktuvuk Pass 64.18 24 P P 18 03 28.1 +0.6
baz=274,SNR=22
P19K Oil Pt 64.31 34 P P 18 03 28.3 -0.1
CHUM Lake Minchumin 64.31 29 P P 18 03 29.5 +1.2
baz=275,SNR=5.3
ILSW Iliamna Southw 64.31 34 P P 18 03 28.4 -0.1
ILSW IAmb IAmb 18 03 34.9
comp=Z,68nm,1.6s
I21K Tanana 64.34 28 P P 18 03 29.0 +0.6
I21K IAmb IAmb 18 03 31.4
comp=Z,34nm,1.3s
I21K Tanana 64.34 28 P P 18 03 30.1 +1.7
baz=275,SNR=7.0
G22K Bettles 64.39 26 P P 18 03 30.0 +1.2
baz=274
RSO Redoubt South 64.45 33 P P 18 03 30.2 +0.6
CAST Castle Rocks 64.45 30 P P 18 03 29.9 +0.6
CAST Castle Rocks 64.45 30 P P 18 03 30.8 +1.5
baz=276
PPLA Purkeypile 64.46 30 P P 18 03 30.8 +1.3
baz=276
C23K Itkillik River 64.50 22 P P 18 03 31.1 +1.6
baz=274
H22K Ishtalitna Cre 64.53 27 P P 18 03 31.3 +1.6
baz=275,SNR=20
D23K Nanushuk River 64.54 23 P P 18 03 31.9 +2.1
baz=274
OHAK Old Harbor 64.57 37 P P 18 03 29.8 -0.3
OHAK Old Harbor 64.57 37 P P 18 03 31.8 +1.7
baz=278
N20K Mount Spurr 64.63 32 P P 18 03 31.6 +1.0
baz=277
SPCR Spurr Chakacha 64.63 32 P P 18 03 31.5 +0.9
baz=277
SKT Skwentna 64.86 31 P P 18 03 32.5 +0.5
SKT IAmb IAmb 18 05 21.5
comp=Z,33nm,1.8s
SKT Skwentna 64.86 31 P P 18 03 32.4 +0.5
baz=277
BPAW Bear Paw Mtn. 64.87 29 P P 18 03 32.4 +0.4
BPAW IAmb IAmb 18 04 15.6
comp=Z,29nm,0.9s
COLD Coldfoot 64.87 25 P P 18 03 33.3 +1.4
baz=276,SNR=7.5
MLY Manley 64.87 28 P P 18 03 32.9 +0.8
MLY IAmb IAmb 18 03 34.6
comp=Z,52nm,1.8s
MLY Manley 64.87 28 P P 18 03 33.4 +1.3
baz=276,SNR=6.6
KTH Kantishna Hill 64.96 29 P P 18 03 32.2 -0.4
KTH IAmb IAmb 18 05 48.3
comp=Z,80nm,2.0s
TOLK Toolik Lake Re 64.97 24 P P 18 03 33.4 +0.8
TOLK IAmb IAmb 18 03 34.9
comp=Z,20nm,0.9s
TOLK Toolik Lake Re 64.97 24 P P 18 03 34.4 +1.8
baz=276,SNR=12
G23K Bananza Creek 64.99 26 P P 18 03 34.2 +1.5
baz=276
E23K Chandalar 65.01 24 P P 18 03 34.3 +1.3
baz=276,SNR=22
HOM Homer 65.11 34 P P 18 03 34.3 +0.8
baz=278
C24K Franklin Bluff 65.18 23 P P 18 03 35.4 +1.6
baz=276
TRF Thorofare Moun 65.25 30 P P 18 03 35.6 +0.9
TRF IAmb IAmb 18 04 01.1
comp=Z,56nm,1.8s
TRF Thorofare Moun 65.25 30 P P 18 03 35.6 +0.9
baz=277
H23K Yukon River 65.28 27 P P 18 03 36.0 +1.4
H23K IAmb IAmb 18 03 37.6
comp=Z,32nm,1.1s
H23K Yukon River 65.28 27 P P 18 03 36.7 +2.1
baz=277
SUA Susitna One 65.30 32 P P 18 03 35.6 +0.7
SUA IAmb IAmb 18 03 38.7
comp=Z,19nm,0.7s
SUA Susitna One 65.30 32 P P 18 03 35.9 +1.0
baz=278
TOO Toolangi 65.38 162 P P 18 03 35.3 -0.2
TOO Toolangi 65.38 162 P P 18 03 35.3 -0.2
TOO pmax pmax
comp=Z,9.0nm,0.9s
CUT Chulitna 65.40 31 P P 18 03 36.0 +0.6
CUT Chulitna 65.40 31 P P 18 03 36.5 +1.1
baz=278
E24K Your Creek 65.43 24 P P 18 03 37.9 +2.3
baz=277
I23K Minto, Yukon-K 65.44 28 P P 18 03 36.1 +0.5
I23K IAmb IAmb 18 04 16.1
comp=Z,26nm,1.6s
I23K Minto, Yukon-K 65.44 28 P P 18 03 37.0 +1.4
baz=277,SNR=5.1
BRLK Bradley Lake 65.47 34 P P 18 03 37.6 +1.6
BWN Browne 65.52 29 P P 18 03 37.8 +1.6
BRSE Bradley Lake S 65.55 34 P P 18 03 37.7 +1.3
baz=279
NEA2 Nenana 65.64 28 P P 18 03 38.8 +1.8
baz=278
F24K Squaw Lake 65.73 25 P P 18 03 39.5 +2.0
baz=278
MCK McKinley 65.81 29 P P 18 03 38.5 +0.4
MCK IAmb IAmb 18 03 41.2
comp=Z,9.8nm,0.6s
MCK McKinley 65.81 29 P P 18 03 39.1 +1.0
baz=278
MCK McKinley 65.81 29 P P 18 03 38.5 +0.4
MCK pmax pmax
comp=Z,10.0nm,0.6s
RC01 Rabbit Creek A 65.84 32 P P 18 03 38.5 +0.2
RND Reindeer 65.90 29 P P 18 03 38.5 -0.2
RND IAmb IAmb 18 03 41.3
comp=Z,17nm,0.7s
RND Reindeer 65.90 29 P P 18 03 38.5 -0.2
RND pmax pmax
comp=Z,17nm,0.7s
O22K Cooper Landing 65.94 33 P P 18 03 39.4 +0.5
MDM Murphy Dome 65.94 28 P P 18 03 39.8 +0.9
MDM IAmb IAmb 18 03 42.0
comp=Z,35nm,1.2s
H24K Noodor Dome 65.96 27 P P 18 03 39.4 +0.4
H24K IAmb IAmb 18 03 41.8
comp=Z,27nm,1.4s
H24K Noodor Dome 65.96 27 P P 18 03 40.8 +1.7
baz=278,SNR=8.0
G24K Hadweenzic Riv 66.00 26 P P 18 03 40.5 +1.3
baz=278,SNR=13
D25K Kavik River 66.04 23 P P 18 03 40.9 +1.5
baz=278
WRH Wood River Hil 66.07 28 P P 18 03 40.9 +1.2
WRH IAmb IAmb 18 03 42.7

comp=Z,42nm,1.7s
WAT1 Susitna Watana 66.12 30 P **P 18 03 41.9 +1.8**
baz=279
CCB Clear Creek Bu 66.17 28 P **P 18 03 40.8 +0.5**
CCB IAmb IAmb 18 03 43.1
comp=Z,21nm,1.5s
KLMR Klimovskoe 66.18 328 *e*P **P 18 03 37.0 -3.5**
KLMR AMP 18 03 41.4
comp=Z,12nm,1.0s
KLMR *e*pP **pP 18 03 58.8 -2.6**
KLMR Klimovskoe 66.18 328 *e*P **P 18 03 36.9 -3.5**
KLMR *e**PP **pP 18 03 58.7 -2.6**
KLMR pmax pmax
comp=Z,12nm,1.0s
POKR Poker Plat Res 66.25 28 P **P 18 03 40.9 +0.1**
POKR IAmb IAmb 18 03 44.1
comp=Z,27nm,1.3s
POKR Poker Plat Res 66.25 28 P **P 18 03 42.0 +1.1**
baz=279,SNR=5.3
SML Sawmill 66.39 31 P **P 18 03 42.2 +0.3**
SML IAmb IAmb 18 05 43.2
comp=Z,35nm,1.3s
KNK Knik Glacier 66.39 32 P **P 18 03 42.3 +0.5**
KNK Knik Glacier 66.39 32 P **P 18 03 42.5 +0.6**
baz=280
C26K Camden Bay 66.45 22 P **P 18 03 44.0 +1.9**
baz=279
E25K Arctic Village 66.51 24 P **P 18 03 44.1 +1.6**
baz=279,SNR=10.0
WAT6 Susitna Watana 66.53 30 P **P 18 03 43.5 +0.6**
baz=280
66.54 28 P **P 18 03 43.1 +0.5**
IL31 IAmb IAmb 18 04 48.9
comp=Z,27nm,1.9s
ILAR Eielson Array 66.54 28 P **P 18 03 42.3 -0.4**
comp=Z,1.6nm,0.5s,baz=255,slow=5.8,SNR=32
ILAR LR LR 18 34 50.1
comp=Z,55nm,18.3s,baz=254,slow=38
comp=Z,1.6nm,0.5s
ILAR Eielson Array 66.54 28 P **P 18 03 42.0 -0.6**
PWL Port Wells 66.55 32 P **P 18 03 42.5 -0.3**
PWL Port Wells 66.55 32 P **P 18 03 43.2 +0.4**
baz=280
F25K Christian Rive 66.57 25 P **P 18 03 44.9 +2.0**
baz=280
HDA Harding Lake 66.57 28 P **P 18 03 44.0 +1.1**
baz=280
DHY Denali Highway 66.61 30 P **P 18 03 43.5 +0.1**
DHY IAmb IAmb 18 04 36.3
comp=Z,30nm,1.7s
DHY Denali Highway 66.61 30 P **P 18 03 44.4 +1.1**
baz=280
SCM Sheep Creek Mo 66.85 31 P **P 18 03 45.4 +0.6**
SCM Sheep Creek Mo 66.85 31 P **P 18 03 45.5 +0.7**
baz=280
SCM Sheep Creek Mo 66.85 31 P **P 18 03 45.4 +0.6**
SCM pmax pmax
comp=Z,123nm,1.8s
C27K Jago River 66.92 22 P **P 18 03 46.6 +1.6**
baz=280
PRP Porcupine Dome 66.97 27 P **P 18 03 45.6 0.0**
PRP Porcupine Dome 66.97 27 P **P 18 03 46.4 +0.7**
baz=280
BMAR Burnt Mountain 67.00 25 P **P 18 03 46.3 +0.6**
F26K Sheenjek River 67.11 24 P **P 18 03 48.5 +2.1**
baz=281,SNR=17
ZEI Tsey 67.15 308 *e*P **P 18 03 46.3 -0.9**
ZEI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 67.18 305 LR LR 18 35 17.5
comp=Z,48nm,19.2s,baz=102,slow=38
K24K Donnelly Dome 67.19 29 P **P 18 03 47.7 +0.9**
baz=281,SNR=6.0
J25K Salcha River, 67.21 28 P **P 18 03 46.3 -0.7**
J25K Salcha River, 67.21 28 P **P 18 03 47.4 +0.4**
baz=281
M24K Tolsona, Glenn 67.34 31 P **P 18 03 47.8 0.0**
M24K Tolsona, Glenn 67.34 31 P **P 18 03 49.4 +1.5**
baz=281
G26K Porcupine Rive 67.39 25 P **P 18 03 49.9 +1.9**
baz=281
PAX Paxson 67.48 30 P **P 18 03 49.8 +1.0**
baz=282
ONI Oni 67.52 308 P **P 18 03 49.3 0.0**
ONI IAmb IAmb 18 03 53.2
comp=Z,26nm,1.4s
ONI Oni 67.52 308 P **P 18 03 49.3 0.0**
KLU Klutina 67.58 31 P **P 18 03 50.0 +0.5**
KLU IAmb IAmb 18 05 37.7
comp=Z,72nm,1.8s
KLU Klutina 67.58 31 P **P 18 03 50.6 +1.2**
baz=282
KBZ Khabaz 67.63 309 P **P 18 03 50.5 +0.6**
comp=Z,12nm,1.1s,baz=136,slow=7.8,SNR=10.0
KBZ LR LR 18 36 19.7
comp=Z,50nm,18.8s,baz=53,slow=38
comp=Z,12nm,1.1s
KBZ Khabaz 67.63 309 *e*P **P 18 03 50.4 +0.5**
KBZ pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 67.72 309 ⇑P **P 18 03 51.9 +1.2**
KIV Kislovodsk 67.72 309 P **P 18 03 50.0 -0.6**
KIV IAmb IAmb 18 03 53.7
comp=Z,59nm,1.5s
KIV Kislovodsk 67.72 309 *e*P **P 18 03 50.7 0.0**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,31nm,17.0s
HARP HAARP 67.74 30 P **P 18 03 51.6 +1.2**
baz=282
SCRK Sand Creek 67.93 28 P **P 18 03 51.8 +0.1**
SCRK Sand Creek 67.93 28 P **P 18 03 52.8 +1.2**
baz=282
E27K Coleen River 67.96 24 P **P 18 03 53.0 +1.3**
baz=283
I26K Coal Creek Min 67.99 27 P **P 18 03 51.2 -0.6**
I26K IAmb IAmb 18 04 34.2
comp=Z,24nm,1.6s
I26K Coal Creek Min 67.99 27 P **P 18 03 52.1 +0.2**
baz=283
J26L Joseph Creek 67.99 28 P **P 18 03 51.8 -0.2**
J26L Joseph Creek 67.99 28 P **P 18 03 52.6 +0.6**
baz=283
VORR Voronezh 68.17 318 *e*P **P 18 03 54.3 +1.1**
VORR pmax pmax
comp=Z,50nm,0.5s
N25K Chitina, Valde 68.17 31 P **P 18 03 54.5 +1.4**
N25K IAmb IAmb 18 06 12.1
comp=Z,56nm,1.9s
N25K Chitina, Valde 68.17 31 P **P 18 03 54.7 +1.6**
baz=283
G27K Doyon Strip 68.25 25 P **P 18 03 55.0 +1.6**
baz=283
RAGM Ragged Mountai 68.41 32 P **P 18 03 56.5 +1.9**
L26K Log Cabin Wild 68.42 29 P **P 18 03 56.0 +1.4**
baz=283
H27K Steamboat Moun 68.43 26 P **P 18 03 56.4 +1.8**
baz=284
I27K Kandik River 68.55 26 P **P 18 03 57.0 +1.6**
baz=284,SNR=16
GLB Gilahina Butte 68.58 31 P **P 18 03 56.2 +0.6**
GLB IAmb IAmb 18 05 14.0
comp=Z,29nm,1.6s
M26K Nabesna, AK 68.72 30 P **P 18 03 56.5 0.0**
M26K IAmb IAmb 18 04 00.4
comp=Z,12nm,0.7s
M26K Nabesna, AK 68.72 30 P **P 18 03 57.7 +1.1**
baz=284
VRDI Verde Repeater 68.80 31 P **P 18 03 56.1 -1.1**
VRDI IAmb IAmb 18 06 19.1
comp=Z,71nm,1.8s
BERG Berg Lake 68.88 32 P **P 18 03 57.6 +0.2**
OBN Obninsk 68.89 322 *e*P **P 18 03 57.9 +0.3**
OBN *e* 18 04 21.6
OBN *e* 18 06 29.2
OBN pmax pmax
comp=Z,10.0nm,1.5s
OBN MLR MLR
comp=Z,59nm,18.0s
GEVA Gevas 68.92 303 P **P 18 03 57.4 -1.0**
GEVA IAmb IAmb 18 04 01.3
comp=Z,11nm,0.8s
SUCK Suckling Hills 68.92 32 P **P 18 03 57.9 +0.1**
EGAK Eagle 68.94 27 P **P 18 03 58.2 +0.5**
EGAK Eagle 68.94 27 P **P 18 03 59.3 +1.6**
baz=285,SNR=5.3
MCARA McCarthy VSAT 68.96 31 P **P 18 03 57.2 -0.8**
MCARA IAmb IAmb 18 04 02.5
comp=Z,60nm,1.6s
MCARA McCarthy VSAT 68.96 31 P **P 18 03 59.4 +1.4**
baz=284
L27K Beaver Creek, 69.08 29 P **P 18 03 59.7 +1.0**
L27K IAmb IAmb 18 04 08.4
comp=Z,27nm,1.9s
L27K Beaver Creek, 69.08 29 P **P 18 03 59.9 +1.2**
baz=285
BCAR Beaver Creek A 69.10 29 P **P 18 04 00.2 +1.3**
SPB2 Spitsbergen Ar 69.17 348 P **P 18 03 57.1 -1.9**
SPITS Spitsbergen Ar 69.17 348 P **P 18 03 58.5 -0.6**
comp=Z,2.8nm,0.5s,baz=49,slow=6.5,SNR=8.1
comp=Z,2.8nm,0.5s
M27K Edge Creek, AK 69.24 30 P **P 18 03 60.0 +0.1**
M27K IAmb IAmb 18 04 15.0
comp=Z,35nm,1.6s
M27K Edge Creek, AK 69.24 30 P **P 18 04 00.6 +0.8**
baz=285
WAX Waxell Ridge 69.27 32 P **P 18 04 00.7 +0.7**
GURO Guroymak-BITLI 69.63 304 P **P 18 04 02.0 -0.7**
BARN Barnard Glacie 69.68 31 P **P 18 04 04.3 +1.7**
BARN IAmb IAmb 18 05 11.5
comp=Z,32nm,1.4s
DAWY Dawson 69.86 28 P **P 18 04 04.2 +0.6**
DAWY Dawson 69.86 28 P **P 18 04 04.9 +1.4**
baz=286,SNR=5.8
ARCES ARCESS Array B 69.87 338 P **P 18 04 03.9 +0.5**
comp=Z,0.6nm,0.4s,baz=68,slow=7.1,SNR=12
ARCES pP **PcP 18 04 25.1 -0.3**
comp=Z,4.5nm,0.7s,baz=94,slow=5.1,SNR=6.6
ARCES LR LR 18 39 21.5
comp=Z,38nm,18.2s,baz=82,slow=40
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 69.87 338 P **P 18 04 02.6 -0.8**
ARCES IAmb IAmb 18 06 19.1
comp=Z,57nm,1.8s
ARCES ARCESS Array B 69.87 338 *e*P **P 18 04 03.0 -0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
I29M Ogilvie Camp, 69.94 26 P **P 18 04 04.7 +0.8**
I29M IAmb IAmb 18 06 27.3
comp=Z,9.5nm,0.5s
I29M Ogilvie Camp, 69.94 26 P **P 18 04 05.6 +1.6**
baz=287,SNR=7.5
J29M Klondike Camp 70.25 27 P **P 18 04 07.4 +1.5**
J29M Klondike Camp 70.25 27 P **P 18 04 07.6 +1.7**
baz=287,SNR=13
EPYK Eagle Plains 70.26 25 P **P 18 04 06.2 +0.3**
EPYK IAmb IAmb 18 04 08.2
comp=Z,21nm,0.8s
EPYK Eagle Plains 70.26 25 P **P 18 04 06.7 +0.7**
baz=288,SNR=15
G30M tAoh Zraii Nji 70.26 24 P **P 18 04 07.2 +1.3**
baz=288
KOPT Kop Dagi 70.35 306 P **P 18 04 05.8 -1.4**
O28M Mount Upton 70.45 31 P **P 18 04 09.2 +1.7**
baz=287
YUK8 Steele Glacier 70.50 31 P **P 18 04 11.0 +3.2**
baz=287
L29M L29M 70.69 29 P **P 18 04 10.9 +2.4**
baz=288
K29M Barlow Dome 70.72 28 P **P 18 04 10.2 +1.4**
baz=288
M29M Somme Creek 70.74 29 P **P 18 04 10.3 +1.3**
baz=288
INK Inuvik 70.81 23 P **P 18 04 09.7 +0.6**
comp=Z,12nm,0.8s,baz=289,slow=6.5,SNR=38
INK LR LR 18 40 12.5
comp=Z,27nm,19.1s,baz=264,slow=40
comp=Z,12nm,0.8s
INK Inuvik 70.81 23 P **P 18 04 08.3 -0.8**
INK IAmb IAmb 18 04 10.8
comp=Z,14nm,0.8s
INK Inuvik 70.81 23 P **P 18 04 09.8 +0.7**
baz=290,SNR=14
MARD Mardin 70.94 303 P **P 18 04 10.5 -0.2**
MARD IAmb IAmb 18 04 13.4
comp=Z,24nm,0.6s
YUK4 Talbot Arm 71.00 30 P **P 18 04 11.8 +1.1**
baz=288
F31M Tsiigehtchic 71.03 24 P **P 18 04 10.8 +0.4**
baz=290,SNR=8.7
YUK6 Outpost Mounta 71.25 31 P **P 18 04 13.2 +1.0**
baz=288
M30M Minto, Yukon 71.44 29 P **P 18 04 13.2 +0.1**
M30M IAmb IAmb 18 04 17.2
comp=Z,36nm,1.8s
M30M Minto, Yukon 71.44 29 P **P 18 04 14.6 +1.5**
baz=289
MAYO Mayo, Yukon 71.49 28 P **P 18 04 14.9 +1.5**
baz=290
RAYN Ar Rayn 71.51 288 P **P 18 04 13.6 -0.7**
RAYN Ar Rayn 71.51 288 ⇑P **P 18 04 14.3 0.0**
RAYN Ar Rayn 71.51 288 P **P 18 04 14.5 +0.2**
N30M Aishikik Lake 71.67 30 P **P 18 04 16.2 +1.6**
baz=289
HYT Haines Junctio 71.69 31 P **P 18 04 16.2 +1.4**
HYT IAmb IAmb 18 06 36.0
comp=Z,60nm,1.9s
HYT Haines Junctio 71.69 31 P **P 18 04 16.2 +1.4**
baz=289
A36M Sachs Harbour 71.96 18 P **P 18 04 16.5 +0.5**
A36M IAmb IAmb 18 04 17.3
comp=Z,15nm,0.8s
A36M Sachs Harbour 71.96 18 P **P 18 04 15.9 -0.1**
baz=296,SNR=15
P29M Windy Craggy 71.97 32 P **P 18 04 17.0 +0.7**
P29M IAmb IAmb 18 04 21.0
comp=Z,61nm,1.7s
P29M Windy Craggy 71.97 32 P **P 18 04 17.6 +1.2**
baz=289
N31M Braeburn, Yuko 72.25 30 P **P 18 04 16.6 -1.4**
N31M IAmb IAmb 18 04 42.0
comp=Z,78nm,1.9s
N31M Braeburn, Yuko 72.25 30 P **P 18 04 19.1 +1.1**
baz=290
FIA1 FINESS Array S 72.32 330 P **P 18 04 17.7 -0.6**
FIA1 IAmb IAmb 18 05 13.8
comp=Z,70nm,1.8s
FINES FINESS Array B 72.32 330 P **P 18 04 17.9 -0.4**
comp=Z,3.8nm,0.5s,baz=64,slow=6.2,SNR=33
FINES LR LR 18 37 11.0
comp=Z,46nm,19.9s,baz=84,slow=37
comp=Z,3.8nm,0.5s
FINES FINESS Array B 72.32 330 P **P 18 04 17.5 -0.8**
FINES FINESS Array B 72.32 330 *e*P **P 18 04 18.2 -0.1**
FINES pmax pmax
comp=Z,4.0nm,0.5s
M31M Drury Creek, Y 72.62 29 P **P 18 04 21.4 +1.2**
M31M Drury Creek, Y 72.62 29 P **P 18 04 21.3 +1.2**
baz=291,SNR=5.8
PLBC Pleasant Camp 72.69 32 P **P 18 04 21.2 +0.7**
baz=290
WHY Whitehorse 72.95 30 P **P 18 04 23.7 +1.4**
WHY Whitehorse 72.95 30 P **P 18 04 23.5 +1.2**
baz=291
FARO Faro, Yukon 73.06 29 P **P 18 04 23.4 +0.6**
FARO Faro, Yukon 73.06 29 P **P 18 04 23.7 +0.9**
baz=292,SNR=7.6
EUNU Eureka 73.47 5 P **P 18 04 24.2 -0.7**
C36M Paulatuk 73.52 20 P **P 18 04 25.2 0.0**
C36M IAmb IAmb 18 04 26.3
comp=Z,22nm,0.7s
C36M Paulatuk 73.52 20 P **P 18 04 25.3 0.0**
baz=298,SNR=14
N32M Quiet Lake 73.59 30 P **P 18 04 27.2 +1.3**
baz=293
MMPY Sheldon Lake, 73.80 28 P **P 18 04 28.5 +1.3**
baz=294
MNK Minsk 73.86 323 *i* P **P 18 04 29.4 +1.8**
comp=E,2.0nm,0.7s
MNK *i* P **P 18 04 29.4 +1.8**
comp=N,22nm,0.9s
MNK *i* P **P 18 04 29.4 +1.8**
comp=Z,23nm,0.8s,baz=69
MNK *i* pP **pwP 18 04 50.4 -1.2**
MNK *i* PP **PP 18 07 14.6 +1.6**
MNK *i* PPP PPP 18 08 59.8
MNK *i* S **S 18 13 54.7 +2.2**
MNK *i* sS **ScS 18 14 31.1 +1.3**
MNK *i* SS **SS 18 18 40.7 +3.4**
MNK *i* SSS SSS 18 22 02.4
MNK *i* LQ LQ 18 32 53.6
MNK *i* LR LR 18 36 25.7
MNK *i* LRM MLR 18 39 47.6
comp=N,818nm,18.5s
MNK *i* LRM MLR 18 39 48.2
comp=E,59nm,20.4s
MNK *i* LRM MLR 18 40 09.3
comp=Z,51nm,16.0s
MNK Minsk 73.86 323 *i* P **P 18 04 29.3 +1.8**
MNK *i* *PP **pwP 18 04 50.4 -1.2**
MNK *i* PP PP 18 07 14.5
MNK *i* PPP PPP 18 08 59.7
MNK *i* S **S 18 13 54.6 +2.2**
MNK *i* *SS **ScS 18 14 31.1 +1.3**
MNK *i* SS **SS 18 18 40.7 +3.4**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=N,22nm,0.9s
MNK MLR MLR
comp=N,818nm,19.0s
MNK MLR MLR
comp=E,59nm,20.0s
MNK MLR MLR
comp=Z,51nm,16.0s
P33M Teslin, Yukon 74.07 31 P **P 18 04 29.9 +1.1**
P33M Teslin, Yukon 74.07 31 P **P 18 04 30.3 +1.5**
baz=293
BZK Bozkurt 74.40 309 P **P 18 04 29.5 -1.4**
AKASG Malin Array Be 74.45 319 P **P 18 04 30.6 -0.4**
comp=Z,3.9nm,0.5s,baz=59,slow=6.9,SNR=22
AKASG LR LR 18 40 27.2
comp=Z,39nm,19.3s,baz=68,slow=38
comp=Z,3.9nm,0.5s
AKASG Malin Array Be 74.45 319 P **P 18 04 30.1 -0.9**
AKBB Malin Array Si 74.45 319 P **P 18 04 30.0 -1.1**
AKBB IAmb IAmb 18 04 32.0
comp=Z,9.8nm,0.7s
AKBB Malin Array Si 74.45 319 P **P 18 04 30.0 -1.1**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
R33M Jennings River 75.26 31 P **P 18 04 36.9 +1.2**
baz=295
BR131 Keskin Array S 75.44 307 P **P 18 04 36.4 -0.8**
BR131 Keskin Array S 75.44 307 P **P 18 04 36.4 -0.8**
BR131 pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 75.44 307 P **P 18 04 37.6 +0.4**
comp=Z,3.2nm,0.7s,baz=98,slow=4.9,SNR=15
BRTR pP **pP 18 04 59.2 +0.7**
comp=Z,4.3nm,1.0s,baz=84,slow=3.8,SNR=4.9
BRTR LR LR 18 40 50.8
comp=Z,36nm,21.1s,baz=53,slow=38
comp=Z,3.2nm,0.7s
BRTR Keskin Array B 75.44 307 P **P 18 04 36.6 -0.5**
PABE Paberze 75.57 325 P **P 18 04 37.9 +0.5**
PABE IAmb IAmb 18 04 39.2
comp=Z,18nm,0.7s
OUZ Omahuta 75.63 141 P **P 18 04 38.5 +0.6**
OUZ IAmb IAmb 18 04 48.7
comp=Z,50nm,1.7s
DAG Danmarks Havn 75.81 352 *i* P P 18 04 33.5 -4.8
DAG IAmb IAmb 18 04 39.5
comp=Z,2.2nm,0.7s
SORM Soroca 75.93 317 ⇑P **P 18 04 38.6 -1.0**
SORM Soroca 75.93 317 ⇑P **P 18 04 38.6 -1.0**
DLBC Dease Lake 76.11 32 P **P 18 04 41.5 +1.0**
comp=Z,5.7nm,1.0s,baz=330,slow=8.0,SNR=4.5
comp=Z,5.7nm,1.0s
DLBC Dease Lake 76.11 32 P **P 18 04 40.6 0.0**
DLBC IAmb IAmb 18 05 50.8
comp=Z,33nm,1.6s
RES Resolute Bay 76.95 10 P **P 18 04 44.7 -0.2**
RES Resolute Bay 76.95 10 P **P 18 04 44.7 -0.2**
RES pmax pmax
comp=Z,7.0nm,0.9s
TPGR Topolog 77.14 314 ⇑P **P 18 04 45.6 -0.9**
CSS Mathiatis 77.40 303 P **P 18 04 47.6 -0.6**
CSS IAmb IAmb 18 05 04.5
comp=Z,38nm,1.2s
NEEM North Greenlan 77.46 359 *i* P **P 18 04 47.7 -0.4**
NEEM IAmb IAmb 18 04 49.6
comp=Z,9.7nm,0.6s
HARR Harsova 77.52 314 ⇑P **P 18 04 48.3 -0.3**
HARR Harsova 77.52 314 ⇑P **P 18 04 48.3 -0.3**
TESR Tescani 77.62 316 ⇑P **P 18 04 49.3 +0.1**
BORA Eskisehir 77.66 308 P **P 18 04 48.2 -1.4**
VRI Vrincioaia 77.83 315 ⇑P **P 18 04 51.3 +0.9**
VRI Vrincioaia 77.83 315 ⇑P **P 18 04 51.3 +0.9**
PLOR Plostina 77.89 315 ⇑P **P 18 04 50.8 +0.1**
PLOR Plostina 77.89 315 ⇑P **P 18 04 50.8 +0.1**
BUR08 Bucovina Ar. S 78.07 317 P **P 18 04 51.2 -0.6**
BURAR Bucovina Array 78.07 317 ⇑P **P 18 04 52.5 +0.7**
BURAR Bucovina Array 78.07 317 P **P 18 04 50.8 -1.0**
BURAR Bucovina Array 78.07 317 ⇑P **P 18 04 52.5 +0.7**
DBG Daneborg 78.11 351 *i* P **P 18 04 49.4 -1.9**
DBG IAmb IAmb 18 04 51.6
comp=Z,3.0nm,0.8s
COVR Voineasa-Covas 78.18 315 ⇑P P 18 05 03.5 +11
OZUR 78.34 315 ⇑P **P 18 04 53.9 +0.6**
HFS Hagfors 78.36 332 LR LR 18 41 35.8
comp=Z,50nm,18.3s,baz=41,slow=37
MLR Muntele Rosu 78.49 315 ⇑P **P 18 04 50.3 -3.8**
MLR Muntele Rosu 78.49 315 P **P 18 04 54.0 -0.2**
MLR IAmb IAmb 18 05 00.1
comp=Z,40nm,2.0s
MLR Muntele Rosu 78.49 315 ⇑P **P 18 04 50.3 -3.8**
SULR 78.62 314 ⇑P **P 18 04 50.3 -4.4**
DOPR Dopca 78.64 315 ⇑P **P 18 04 55.4 +0.5**
NC405 NORSAR Array S 78.68 333 P **P 18 04 54.5 -0.3**
NB201 NORSAR Array S 78.89 333 P **P 18 04 55.4 -0.5**
NB2 NORSAR Subarra 78.92 333 P **P 18 04 55.3 -0.8**
comp=Z,1.4nm,0.6s,baz=53,slow=6.2
NOA NORSAR Array B 78.92 333 P **P 18 04 55.4 -0.7**
comp=Z,0.8nm,0.5s,baz=54,slow=5.9,SNR=6.6
NOA LR LR 18 43 40.9
comp=Z,59nm,19.2s,baz=65,slow=38
comp=Z,0.8nm,0.5s
NC602 NORSAR Array S 78.95 333 P **P 18 04 55.8 -0.4**
NC204 NORSAR Array S 78.98 333 P **P 18 04 56.0 -0.5**
VOIR 79.08 315 ⇑P **P 18 04 55.9 -1.4**
VOIR 79.08 315 ⇑P **P 18 04 55.9 -1.4**
QRZ Quartz Range 79.11 145 P **P 18 04 57.7 +0.4**
ELL Elmali 79.28 306 P **P 18 04 57.9 -0.8**
ELL Elmali 79.28 306 P **P 18 04 57.9 -0.8**
ELL pmax pmax
comp=Z,47nm,0.7s
TRPA Tarpa 79.48 318 ⇑P **P 18 04 59.7 +0.3**
HUMR Humele 79.51 314 ⇑P **P 18 04 58.3 -1.2**
STHS Stebnicka Huta 79.68 320 *e*P **P 18 05 03.0 +2.6**
STHS Stebnicka Huta 79.68 320 *e*P **P 18 05 03.0 +2.6**
STHS pmax pmax
comp=Z,4.0nm,0.7s
CRVS Cervenica-Dubn 79.78 319 *e*P **P 18 05 01.8 +0.8**
CRVS Cervenica-Dubn 79.78 319 *e*P **P 18 05 01.9 +0.9**
CRVS pmax pmax
comp=Z,6.0nm,0.8s
LOT Lotru 79.89 316 ⇑P **P 18 05 02.6 +0.9**
OJC Ojcow 80.14 321 P **P 18 05 00.6 -2.3**
OJC IAmb IAmb 18 05 02.4
comp=Z,14nm,0.8s
OJC Ojcow 80.14 321 P **P 18 05 00.6 -2.3**
OJC pmax pmax
comp=Z,14nm,0.8s
PLVB Pleven 80.23 313 ⇑P **P 18 05 01.2 -2.3**
YKA Yellowknife Ar 80.50 24 P **P 18 05 04.9 +0.3**
comp=Z,6.2nm,0.7s,baz=300,slow=5.9,SNR=18
YKA LR LR 18 44 26.8
comp=Z,71nm,18.8s,baz=306,slow=38
comp=Z,6.2nm,0.7s
YKA Yellowknife Ar 80.50 24 P **P 18 05 05.0 +0.5**
RPZ Rata Peaks 80.53 148 LR LR 18 39 13.1
comp=Z,36nm,20.8s,baz=325,slow=34
RPZ Rata Peaks 80.53 148 P **P 18 05 05.1 +0.2**
GZR Gura Zlata 80.55 316 ⇑P **P 18 05 06.0 +0.8**
GZR Gura Zlata 80.55 316 ⇑P **P 18 05 06.0 +0.8**
RDO Rodhopi 80.58 311 P **P 18 05 05.3 0.0**
RDO IAmb IAmb 18 07 09.7
comp=Z,24nm,1.6s
LBZ Lake Benmore 80.63 149 P **P 18 05 06.4 +1.0**
SURR Surduc 80.79 316 ⇑P **P 18 05 06.7 +0.2**
SIRR Siria 80.85 317 ⇑P **P 18 05 07.7 +0.9**

HERR	**Herculane**	**81.00**	**315**	⇑P		**P**	**18 05 08.3**	**+0.7**
VTS	**Vitosha**	**81.48**	**313**	P		**P**	**18 05 10.6**	**+0.2**
VTS	**Vitosha**	**81.48**	**313**	P		**P**	**18 05 10.6**	**+0.2**
VTS					pmax	pmax		
	comp=Z,7.0nm,0.9s							
VYHS	**Vyhne**	**81.51**	**320**	*e*P		**P**	**18 05 10.6**	**+0.4**
VYHS	**Vyhne**	**81.51**	**320**	*e*P		**P**	**18 05 10.6**	**+0.4**
VYHS					pmax	pmax		
	comp=Z,7.0nm,0.7s							
MORC	**Moravsky Berou**	**81.63**	**321**	*e*P		**P**	**18 05 11.9**	**+1.0**
SUMG	**Summit**	**81.75**	**355**	*i* P		**P**	**18 05 11.2**	**-0.3**
SUMG					IAmb	IAmb	18 05 12.3	
	comp=Z,7.0nm,0.6s							
DPC	**Dobruska-Polom**	**82.03**	**322**	*e*P		**P**	**18 05 14.0**	**+1.0**
DPC	**Dobruska-Polom**	**82.03**	**322**	*e*P		**P**	**18 05 14.0**	**+1.0**
VRAC	**Vranov**	**82.40**	**321**	⇑P		**P**	**18 05 16.3**	**+1.4**
VRAC	**Vranov**	**82.40**	**321**	LR		LR	18 45 07.5	
	comp=Z,51nm,20.5s,baz=60,slow=38							
VRAC	**Vranov**	**82.40**	**321**	*e*P		**P**	**18 05 16.0**	**+1.1**
VRAC	**Vranov**	**82.40**	**321**	⇑P		**P**	**18 05 16.3**	**+1.4**
KRUC	**Moravsky**	**82.64**	**321**	*e*P		**P**	**18 05 17.1**	**+1.0**
MORH	**Mrgy, Hungar**	**82.72**	**318**	⇑P		**P**	**18 05 15.0**	**-1.6**
BRG	**Berggiesshubel**	**83.06**	**324**	*e*P		**P**	**18 05 19.9**	**+1.7**
BRG					Amp		18 05 22.2	
	comp=Z,5.4nm,0.8s							
BRG	**Berggiesshubel**	**83.06**	**324**	*e*P		**P**	**18 05 19.9**	**+1.7**
BRG					pmax	pmax		
	comp=Z,5.0nm,0.8s							
CLL	**Collm**	**83.33**	**324**	P		**P**	**18 05 19.9**	**+0.3**
CLL	**Collm**	**83.33**	**324**	*i* P		**P**	**18 05 20.0**	**+0.4**
	comp=Z,8.0nm,0.7s							
CLL				*e*pP		**pP**	**18 05 41.0**	**-0.4**
CLL				LmV			18 47 00.0	
	comp=Z,100nm,19.9s							
CLL	**Collm**	**83.33**	**324**	P		**P**	**18 05 19.9**	**+0.3**
CLL					pmax	pmax		
	comp=Z,8.0nm,0.7s							
CONA	**Conrad Observa**	**83.52**	**320**	*e*P		**P**	**18 05 20.9**	**+0.1**
	comp=Z,14nm,1.2s							
FNA	**Florina**	**83.56**	**312**	P		**P**	**18 05 20.4**	**-0.7**
FNA	**Florina**	**83.56**	**312**	P		**P**	**18 05 20.4**	**-0.7**
FNA					pmax	pmax		
	comp=Z,10.0nm,1.8s							
IDI	**Anoyia**	**83.58**	**306**	P		**P**	**18 05 20.6**	**-0.7**
CKRC	**Cesky Krumlov**	**83.94**	**322**	*e*P		**P**	**18 05 23.8**	**+1.0**
PDG	**Podgorica**	**84.17**	**314**	⇑P		**P**	**18 05 24.9**	**+0.8**
KHC	**Kasperske Hory**	**84.19**	**322**	*e*P		**P**	**18 05 24.6**	**+0.5**
KHC	**Kasperske Hory**	**84.19**	**322**	*e*P		**P**	**18 05 24.6**	**+0.5**
GERES	**GERESS Array B**	**84.27**	**322**	P		**P**	**18 05 25.2**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=55,slow=5.1,SNR=18							
GERES					LR	LR	18 45 26.4	
	comp=Z,45nm,19.6s,baz=74,slow=37							
	comp=Z,1.9nm,0.7s							
GERES	**GERESS Array B**	**84.27**	**322**	P		**P**	**18 05 24.8**	**+0.2**
GERES	**GERESS Array B**	**84.27**	**322**	*e*P		**P**	**18 05 25.6**	**+1.0**
GERES					pmax	pmax		
	comp=Z,2.0nm,0.6s							
SOKA	**Soboth**	**84.65**	**320**	*e*P		**P**	**18 05 26.6**	**+0.1**
	comp=Z,4.6nm,0.6s							
ITM	**Ithomi**	**84.86**	**309**	P		**P**	**18 05 26.7**	**-1.0**
ITM					IAmb	IAmb	18 05 29.0	
	comp=Z,19nm,0.7s							
BIOA	**Bad Ischl, Aus**	**84.92**	**321**	*e*P		**P**	**18 05 27.2**	**-0.6**
	comp=Z,2.7nm,0.4s							
OBKA	**Obir**	**85.02**	**320**	*e*P		**P**	**18 05 28.9**	**+0.5**
	comp=Z,2.9nm,0.8s							
ICESG	**Greenland Ices**	**85.24**	**355**	*i* P		**P**	**18 05 28.9**	**-0.5**
ICESG					IAmb	IAmb	18 05 31.4	
	comp=Z,5.7nm,0.5s							
KBA	**Koelnbreinsper**	**85.42**	**320**	*e*P		**P**	**18 05 31.5**	**+0.9**
	comp=Z,1.6nm,0.6s							
MYKA	**Terra Mystica**	**85.49**	**320**	*e*P		**P**	**18 05 31.5**	**+0.7**
	comp=Z,5.4nm,0.9s							
CLUD	**Cludinico**	**86.02**	**320**	P		**P**	**18 05 33.4**	**+0.1**
CLUD					IAmb	IAmb	18 05 34.7	
	comp=Z,8.6nm,0.7s							
ABTA	**Abfaltersbach**	**86.08**	**321**	*e*P		**P**	**18 05 33.8**	**+0.1**
	comp=Z,6.3nm,1.2s							
WATA	**Walderalm**	**86.29**	**321**	*e*P		**P**	**18 05 35.5**	**+0.7**
	comp=Z,5.5nm,0.6s							
WTTA	**Wattenberg**	**86.29**	**321**	*e*P		**P**	**18 05 35.7**	**+0.8**
	comp=Z,6.5nm,0.7s							
MOTA	**Moosalm**	**86.55**	**322**	*e*P		**P**	**18 05 36.5**	**+0.4**
	comp=Z,9.4nm,1.1s							
SQTA	**Sankt Quirin**	**86.56**	**321**	*e*P		**P**	**18 05 36.4**	**+0.4**
	comp=Z,14nm,1.3s							
BORG	**Borgarnes**	**86.56**	**346**	LR		LR	18 48 07.6	
	comp=Z,25nm,19.6s,baz=22,slow=38							
FETA	**Feichten**	**86.94**	**321**	*e*P		**P**	**18 05 38.4**	**+0.4**
	comp=Z,11nm,1.1s							
DAVA	**Damuels**	**87.27**	**322**	*e*P		**P**	**18 05 40.2**	**+0.7**
	comp=Z,5.0nm,0.6s							
TEOL	**Teolo**	**87.33**	**320**	P		**P**	**18 05 39.0**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**87.43**	**321**	P		**P**	**18 05 40.0**	**-0.5**
FUORN					IAmb	IAmb	18 05 42.1	
	comp=Z,8.7nm,0.8s							
DY2G	**Dye2**	**88.29**	**357**	*i* P		**P**	**18 05 42.8**	**-1.3**
DY2G					IAmb	IAmb	18 05 47.3	
	comp=Z,6.7nm,0.6s							
FRB	**Frobisher Bay**	**90.59**	**6**	LR		LR	18 50 05.1	
	comp=Z,68nm,18.4s,baz=334,slow=38							
FFC	**Flin Flon**	**90.61**	**25**	P		**P**	**18 05 55.4**	**+0.5**
FFC	**Flin Flon**	**90.61**	**25**	P		**P**	**18 05 55.4**	**+0.5**
FFC					pmax	pmax		
	comp=Z,69nm,2.0s							
NVAR	**Mina Array Bea**	**93.10**	**45**	P		**P**	**18 06 07.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=268,slow=4.2,SNR=2.0							
	comp=Z,0.5nm,0.6s							
PPT	**Papeete**	**93.18**	**108**	LR		LR	18 38 26.8	
	comp=Z,32nm,20.1s,baz=118,slow=29							
SCHQ	**Schefferville**	**99.53**	**7**	LR		LR	18 55 54.1	
	comp=Z,48nm,19.0s,baz=98,slow=38							
ESDC	**Sonseca Array**	**99.85**	**323**	LR		LR	18 55 51.0	
	comp=Z,33nm,19.3s,baz=54,slow=38							

RSNC 22 17:53:18.1±1.0, 6.84N×73.15W, h156km±5km, ML3.2, Mw3.6, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**188**	*e*P		Pn	17 53 39.0	-0.6
BRRC	**Barranca, Sant**	**0.62**	**295**	*e*P		Pn	17 53 40.7	-0.1
BRRC				*e*S		Sn	17 53 58.0	-0.1
BRRC				IAML			17 54 02.0	
	comp=Z,197nm,0.2s							
PAMC	**Pamplona, Colo**	**0.66**	**42**	⇑*e*P		Pn	17 53 41.8	+0.1
PAMC				*e*S		Sn	17 53 59.2	-0.4
PAMC				IAML			17 54 01.2	
	comp=Z,400nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.33**	**257**	*e*P		Pn	17 53 45.5	-1.0
PTBC				*e*S		Sn	17 54 06.7	-1.5
PTBC				IAML			17 54 12.3	
	comp=Z,118nm,0.2s							
TAMC	**Tame, Arauca**	**1.41**	**107**	⇑*e*P		Pn	17 53 47.4	+0.1
TAMC				*e*S		Sn	17 54 09.0	-0.6
TAMC				IAML			17 54 10.5	
	comp=Z,51nm,0.5s							
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	*e*P		Pn	17 53 51.5	-0.1
ZARC				*e*S		Sn	17 54 17.0	-0.2
ZARC				IAML			17 54 22.7	
	comp=Z,121nm,0.3s							
NORC	**Norcasia**	**2.13**	**233**	*e*P		Pn	17 53 54.8	-0.4
NORC				*e*S		Sn	17 54 23.5	-0.3
NORC				IAML			17 54 28.6	
	comp=Z,106nm,0.2s							
CHIC	**Chingaza**	**2.27**	**195**	*e*P		Pn	17 53 56.9	-0.4
CHIC				*e*S		Sn	17 54 26.4	-1.0
CHIC				IAML			17 54 32.1	
	comp=Z,67nm,0.3s							
ROSC	**El Rosal**	**2.31**	**210**	*e*P		Pn	17 53 58.7	+1.1
ROSC				*e*S		Sn	17 54 27.6	-0.5
ROSC				IAML			17 54 37.2	
	comp=Z,109nm,0.5s							
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P		Pn	17 53 58.7	-1.2
UREC				*e*S		Sn	17 54 30.3	-1.9
UREC				IAML			17 54 40.9	
	comp=Z,83nm,0.2s							
PTGC	**Puerto Gaitan,**	**2.81**	**159**	*e*P		Pn	17 54 02.2	-1.3
PTGC				*e*S		Sn	17 54 35.3	-3.2
PTGC				IAML			17 54 40.4	
	comp=Z,104nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.01**	**251**	*e*P		Pn	17 54 06.7	+0.7
CBOC				*e*S		Sn	17 54 43.1	+0.1
DBBC	**Dabeiba**	**3.04**	**273**	*e*P		Pn	17 54 06.5	+0.1
DBBC				*e*S		Sn	17 54 42.1	-1.6
ANIL	**Santa Ana**	**3.24**	**224**	*e*P		Pn	17 54 10.2	+1.1
ANIL				*e*S		Sn	17 54 50.2	+1.6
ANIL				IAML			17 54 53.4	
	comp=Z,162nm,0.4s							
PRAC	**Prado**	**3.56**	**209**	*e*P		Pn	17 54 12.2	-0.7
PRAC				*e*S		Sn	17 54 54.6	-0.9
PRAC				IAML			17 55 01.2	
	comp=Z,74nm,0.5s							
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P		Pn	17 54 13.3	0.0
ORTC				*e*S		Sn	17 54 56.8	+0.7
ORTC				IAML			17 55 02.8	
	comp=Z,52nm,0.4s							
SJCC	**San Jacinto, C**	**3.64**	**327**	*e*P		Pn	17 54 13.2	-0.8
SJCC				*e*S		Sn	17 54 54.2	-3.2
PLMC	**San Jos del P**	**3.66**	**238**	*e*P		Pn	17 54 14.8	+0.5
CRJC	**Cerrejon, Guaj**	**4.16**	**4**	*e*P		Pn	17 54 18.7	-2.0
CRJC				*e*S		Sn	17 55 06.8	-2.7
CRJC				IAML			17 55 10.3	
	comp=Z,27nm,0.2s							
YOTC	**Yotoco, Valle**	**4.27**	**228**	*e*P		Pn	17 54 22.1	0.0
YOTC				IAML			17 55 23.6	
	comp=Z,18nm,0.9s							
URIC	**Uribia, Colomb**	**4.96**	**13**	*e*P		Pn	17 54 29.7	-1.4
URIC				IAML			17 55 32.0	

*VAO **22** 17:53:39.8±0.5, 22.05S×68.96W, h107km, mb4.2*
*NEIC **22** 17:53:41.4±2.7, 22.23S±0.04×68.79W±0.05, h118km±6km, mb4.1/9, ML4.0(GUC), Error ellipse: s-maj=7.5km s-min=6.0km az=70.0*
*IDC **22** 17:53:41.7±0.8, 22.29S×68.52W, h99km±7km, mb3.3/3, mbtmp3.9/6, MS2.6/2, Error ellipse: s-maj=27.1km s-min=20.5km az=124.0*
*GUC **22** 17:53:43.2±0.7, 22.19S×68.73W, h102km±4km, ML4.0*

ISC 22 17:53:41.2±0.6, 22.23S±0.04×68.77W±0.04, h116km±5km, n119, σ1§52/146, mb3.8/4, 10C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**0.40**	**199**	P		**Pn**	**17 53 59.1**	**+0.5**
	2µm,0.4s,baz=36,slow=5.9,SNR=2598							
LVC				S		**Sn**	**17 54 11.2**	**-0.4**
	5µm,0.3s,baz=200,slow=18,SNR=52							
LVC	**Limon Verde**	**0.40**	**199**			**Pn**	**17 53 58.9**	**+0.3**
LVC						**Sn**	**17 54 11.0**	**-0.7**
LVC	**Limon Verde**	**0.40**	**199**	*e*P		**Pn**	**17 53 58.9**	**+0.3**
LVC				*e*S		**Sn**	**17 54 11.3**	**-0.4**
LVC	**Limon Verde**	**0.40**	**199**	*e*P		**Pn**	**17 53 58.7**	**+0.1**
PB09	**IPOC Station P**	**0.61**	**315**			**Pn**	**17 54 00.2**	**+0.5**
PB09						**Sn**	**17 54 13.2**	**-0.4**
PB09	**IPOC Station P**	**0.61**	**315**	⇑*i*P		**Pn**	**17 54 00.3**	**+0.5**
PB09				*e*S		**Sn**	**17 54 13.7**	**0.0**
PB09				IAML			17 54 14.7	
	comp=N,5µm,0.4s							
PB06	**IPOC Station P**	**0.88**	**237**			**Pn**	**17 54 02.9**	**+1.0**
PB06						**Sn**	**17 54 18.6**	**+1.1**
PB06	**IPOC Station P**	**0.88**	**237**	⇑*i*P		**Pn**	**17 54 03.0**	**+1.1**
PB06				*e*S		**Sn**	**17 54 18.6**	**+1.1**
PB06				IAML			17 54 19.8	
	comp=E,11µm,0.1s							
AF01	**San Pedro de A**	**0.90**	**143**			**Pn**	**17 54 03.5**	**+1.2**
AF01						**Sn**	**17 54 19.7**	**+1.5**
AF01	**San Pedro de A**	**0.90**	**143**	⇓*i*P		**Pn**	**17 54 03.7**	**+1.3**
AF01				*e*S		**Sn**	**17 54 19.8**	**+1.5**
PB03	**IPOC Station P**	**0.93**	**281**	Pn		**Pn**	**17 54 02.9**	**+0.5**
PB03				Sn		**Sn**	**17 54 18.0**	**-0.4**
PB03	**IPOC Station P**	**0.93**	**281**	⇑*i*P		**Pn**	**17 54 03.0**	**+0.6**
PB03				*e*S		**Sn**	**17 54 18.7**	**+0.3**
PB03				IAML			17 54 20.3	
	comp=E,7µm,0.3s							
PB07	**IPOC Station P**	**1.15**	**296**			**Pn**	**17 54 04.8**	**+0.1**
PB07				Sn		**Sn**	**17 54 22.0**	**-0.4**
PB07	**IPOC Station P**	**1.15**	**296**	⇑*i*P		**Pn**	**17 54 05.3**	**+0.7**
PB07				*i* S		**Sn**	**17 54 22.4**	**0.0**
PB07				IAML			17 54 23.0	
	comp=N,6µm,0.4s							
PB15	**IPOC Station P**	**1.17**	**213**			**Pn**	**17 54 06.2**	**+1.3**
PB15				Sn		**Sn**	**17 54 24.7**	**+2.0**
PB15	**IPOC Station P**	**1.17**	**213**	⇑*e*P		**Pn**	**17 54 06.4**	**+1.5**
PB15				*e*S		**Sn**	**17 54 24.8**	**+2.0**
PB04	**IPOC Station P**	**1.28**	**265**	Pn		**Pn**	**17 54 06.8**	**+0.8**
PB04				Sn		**Sn**	**17 54 25.7**	**+0.8**
PB04	**IPOC Station P**	**1.28**	**265**	⇑*i*P		**Pn**	**17 54 06.9**	**+0.9**
PB04				*e*S		**Sn**	**17 54 25.5**	**+0.7**
PB04				IAML			17 54 28.1	
	comp=E,3µm,0.4s							
PB01	**IPOC Station P**	**1.36**	**331**			**Pn**	**17 54 06.9**	**+0.1**
PB01				Sn		**Sn**	**17 54 24.8**	**-1.5**
PB01	**IPOC Station P**	**1.36**	**331**	⇑*i*P		**Pn**	**17 54 07.0**	**+0.1**
PB01				*e*S		**Sn**	**17 54 25.8**	**-0.5**
PB01				IAML			17 54 26.6	
	comp=E,2µm,0.3s							
PB02	**IPOC Station P**	**1.38**	**311**			**Pn**	**17 54 07.1**	**-0.1**
PB02				Sn		**Sn**	**17 54 26.0**	**-0.9**
PB02	**IPOC Station P**	**1.38**	**311**	⇑*i*P		**Pn**	**17 54 07.7**	**+0.5**
PB02				*e*S		**Sn**	**17 54 26.4**	**-0.4**
PB02				IAML			17 54 27.4	
	comp=N,4µm,0.3s							
PATCX	**Punta Patache**	**1.90**	**317**			**Pn**	**17 54 13.4**	**0.0**
PATCX				Sn		**Sn**	**17 54 36.0**	**-1.9**
PATCX	**Punta Patache**	**1.90**	**317**	⇑*e*P		**Pn**	**17 54 13.7**	**+0.2**
PATCX				*e*S		**Sn**	**17 54 38.0**	**0.0**
PB10	**IPOC Station P**	**2.08**	**232**	Pn		**Pn**	**17 54 15.9**	**+0.4**
PB10				Sn		**Sn**	**17 54 39.8**	**-1.9**
PB10	**IPOC Station P**	**2.08**	**232**	*e*P		**Pn**	**17 54 16.2**	**+0.7**
PB10				IAML			17 54 50.9	
	comp=N,822nm,0.5s							
PB08	**IPOC Station P**	**2.11**	**350**			**Pn**	**17 54 16.9**	**+0.6**
PB08				Sn		**Sn**	**17 54 43.4**	**+0.4**
PB08	**IPOC Station P**	**2.11**	**350**	⇓*i*P		**Pn**	**17 54 17.2**	**+0.9**
PB08				*e*S		**Sn**	**17 54 43.9**	**+0.8**
TA01	**Diego Aracena**	**2.12**	**321**	Pn		**Pn**	**17 54 15.6**	**-0.4**
TA01				Sn		**Sn**	**17 54 40.4**	**-2.2**
TA01	**Diego Aracena**	**2.12**	**321**	*e*P		**Pn**	**17 54 16.2**	**+0.3**
HMBC	**Humberstone**	**2.21**	**332**	*e*P		**Pn**	**17 54 16.7**	**-0.6**
HMBC				IAML			17 54 45.4	
	comp=E,742nm,0.4s							
TA02	**Huaiquique**	**2.33**	**327**			**Pn**	**17 54 18.7**	**0.0**
TA02				Sn		**Sn**	**17 54 42.8**	**-4.6**
GO01	**Chusmiza**	**2.58**	**351**			**Pn**	**17 54 22.8**	**+0.3**
GO01				Sn		**Sn**	**17 54 51.8**	**-2.2**
GO01	**Chusmiza**	**2.58**	**351**	*e*P		**Pn**	**17 54 23.0**	**+0.6**
GO01				*e*S		**Sn**	**17 54 53.9**	**-0.1**
GO01				IAML			17 54 55.9	
	comp=N,646nm,0.5s							
PB11	**IPOC Station P**	**2.59**	**341**	Pn		**Pn**	**17 54 21.7**	**-0.6**
PB11				Sn		**Sn**	**17 54 51.3**	**-2.4**
PB11	**IPOC Station P**	**2.59**	**341**	*e*P		**Pn**	**17 54 21.8**	**-0.5**
PB11				IAML			17 54 54.7	
	comp=E,640nm,0.3s							
PB14	**IPOC Station P**	**2.81**	**212**			**Pn**	**17 54 27.6**	**+2.4**
PB14				Sn		**Sn**	**17 54 53.8**	**-5.4**
PSGC	**Pisagua**	**2.91**	**334**	⇓*e*P		**Pn**	**17 54 24.9**	**-1.4**
PSGCX	**Pisagua**	**2.91**	**334**	Pn		**Pn**	**17 54 24.8**	**-1.6**
GO02	**Mina Guanaco**	**3.01**	**194**	Pn		**Pn**	**17 54 28.5**	**+0.7**
GO02	**Mina Guanaco**	**3.01**	**194**	⇑*e*P		**Pn**	**17 54 29.0**	**+1.2**
MNMC	**Minye Minye**	**3.18**	**346**			**Pn**	**17 54 29.5**	**-0.6**
PB12	**IPOC Station P**	**3.88**	**338**			**Pn**	**17 54 37.6**	**-1.7**
PB12	**IPOC Station P**	**3.88**	**338**	*e*P		**Pn**	**17 54 37.4**	**-1.9**
PB16	**IPOC Station P**	**3.94**	**350**			**Pn**	**17 54 40.4**	**0.0**
PB16	**IPOC Station P**	**3.94**	**350**	*e*P		**Pn**	**17 54 41.0**	**+0.6**
AP01	**Chacalluta**	**4.11**	**339**	Pn		**Pn**	**17 54 41.6**	**-0.6**
AC01	**Pan de Azucar**	**4.24**	**203**			**Pn**	**17 54 43.1**	**-0.9**
AC02	**Maricunga**	**4.59**	**184**	Pn		**Pn**	**17 54 50.0**	**+0.8**
AC02	**Maricunga**	**4.59**	**184**	*e*P		**Pn**	**17 54 50.5**	**+1.4**
PB18	**Visviri**	**4.67**	**352**			**Pn**	**17 54 49.2**	**-1.0**
PB18	**Visviri**	**4.67**	**352**	*e*P		Pn	17 54 56.4	+6.2
AC06	**Mina Casimiro**	**5.30**	**195**	Pn		**Pn**	**17 54 56.7**	**-1.5**
GO03	**Copiap**	**5.50**	**194**			**Pn**	**17 54 59.5**	**-1.5**
LPAZ	**La Paz**	**5.94**	**6**	P		**Pn**	**17 55 09.3**	**+1.8**
	comp=E,3.1nm,0.3s,baz=320,slow=0.9,SNR=20							
LPAZ	**La Paz**	**5.94**	**6**	Pn		**Pn**	**17 55 08.8**	**+1.3**
AC04	**Llanos de Chal**	**6.30**	**199**	Pn		**Pn**	**17 55 08.4**	**-3.3**
AC05	**El Transito**	**6.71**	**191**	Pn		**Pn**	**17 55 15.6**	**-1.8**
LCO	**Las Campanas**	**6.97**	**194**	Pn		**Pn**	**17 55 18.5**	**-2.5**
CO01	**Juntas del Tor**	**7.80**	**188**			**Pn**	**17 55 30.1**	**-2.2**
CO05	**La Serena**	**7.97**	**196**	Pn		**Pn**	**17 55 33.4**	**-0.8**
GO04	**Tololo Observa**	**8.12**	**193**	Pn		**Pn**	**17 55 34.4**	**-2.0**
CO03	**El Pedregal**	**8.74**	**191**	Pn		**Pn**	**17 55 41.6**	**-3.2**
CO06	**Fray Jorge**	**8.79**	**196**	Pn		Pn	17 55 40.6	-4.7
CO02	**Combarbal**	**9.15**	**192**	Pn		**Pn**	**17 55 46.7**	**-3.7**
ZON	**Zonda**	**9.28**	**180**	Pn		**Pn**	**17 55 51.2**	**-0.8**
CFA	**Coronel Fontan**	**9.35**	**177**	P		**Pn**	**17 55 51.1**	**-1.8**
	comp=E,2.9nm,0.3s,baz=0.5,slow=11,SNR=7.7							
CFA					S	**Sn**	**17 57 29.9**	**-6.4**
	comp=E,2.7nm,0.3s,baz=224,slow=22,SNR=1.5							
CFA					LR	LR	17 59 56.1	
	comp=E,31nm,21.9s,baz=299,slow=40							
SIV	**San Ignacio**	**9.56**	**51**	P		**Pn**	**17 55 52.9**	**-3.1**
	comp=E,9.9nm,0.5s,baz=234,slow=11,SNR=49							
ROC1	**El Roble**	**10.88**	**190**	Pn		**Pn**	**17 56 13.5**	**-0.4**
MT02	**Curacav**	**11.18**	**190**	Pn		**Pn**	**17 56 17.6**	**0.0**
CPUP	**Villa Florida**	**11.21**	**114**	LR		LR	18 01 24.7	
	comp=E,48nm,19.0s,baz=7.5,slow=42							
PTLB	**Pontes e Lacer**	**11.34**	**55**	Pn		**Pn**	**17 56 17.8**	**-2.1**
PTLB	**Pontes e Lacer**	**11.34**	**55**	*e*P		**Pn**	**17 56 18.4**	**-1.5**
MT01	**Popeta**	**11.79**	**190**	Pn		**Pn**	**17 56 23.3**	**-2.5**
BO04	**La Punta**	**11.82**	**187**	Pn		**Pn**	**17 56 26.2**	**0.0**
BO01	**Tunca**	**12.28**	**189**	Pn		**Pn**	**17 56 31.7**	**-0.5**
AQDB	**Aquidauana**	**12.31**	**84**	Pn		**Pn**	**17 56 31.2**	**-1.4**
AQDB	**Aquidauana**	**12.31**	**84**	*e*P		**Pn**	**17 56 33.2**	**+0.6**
VILB	**Vilhena**	**12.32**	**43**	Pn		**Pn**	**17 56 30.5**	**-2.4**
VILB	**Vilhena**	**12.32**	**43**	*e*P		**Pn**	**17 56 31.6**	**-1.3**
ETMB	**Extrema**	**12.59**	**12**	Pn		**Pn**	**17 56 33.4**	**-2.9**
SALV	**Santo Antonio**	**13.87**	**65**	*e*P		**Pn**	**17 56 53.2**	**+0.3**
H03N1	**Juan Fernandez**	**14.31**	**217**	T		T	18 10 03.3	
	baz=43,slow=74,SNR=6.6							
H03N2	**Juan Fernandez**	**14.32**	**217**	T		T	18 09 43.1	
	baz=43,slow=74,SNR=6.0							
H03N3	**Juan Fernandez**	**14.33**	**217**	T		T	18 09 28.7	
	baz=43,SNR=8.0							
PTGB	**Pitanga**	**15.53**	**102**	*e*P		**P**	**17 57 16.4**	**+0.6**
ITAB	**Concordia**	**15.91**	**112**			**P**	**17 57 19.2**	**-0.8**
ITAB	**Concordia**	**15.91**	**112**	*e*P		**P**	**17 57 21.1**	**+1.2**
CLDB	**Colider**	**16.79**	**50**	*e*P		**P**	**17 57 29.3**	**-0.4**
TRQA	**Tornquist**	**16.82**	**161**			**P**	**17 57 30.7**	**+0.8**
ARAG	**Araguaiana, MT**	**17.30**	**71**	*e*P		**Pn**	**17 57 36.6**	**+1.0**
GO06	**Curarrehue**	**17.45**	**187**	P		**P**	**17 57 36.9**	**-0.1**
GO06				IAmb		IAmb	17 58 16.8	
	comp=Z,9.4nm,1.0s							
PLCA	**Paso Flores**	**18.51**	**184**	P		**P**	**17 57 49.4**	**+0.9**
BB19B	**Bebedouro**	**18.86**	**90**	*e*P		**Pn**	**17 57 53.3**	**-1.0**
SNDB	**Serra Nova Dou**	**19.55**	**61**	*e*P		**P**	**17 57 59.1**	**-0.9**
IPMB	**Ipameri, GO**	**19.76**	**81**	*e*P		**P**	**17 58 02.0**	**-0.3**
PET01	**Itanhaem-SP**	**19.86**	**100**	*e*P		**Pn**	**17 58 04.1**	**-1.8**
NPGB	**Novo Progresso**	**19.88**	**43**	*e*P		**P**	**17 58 02.6**	**-1.0**
VAO	**Valinhos**	**20.15**	**96**	*e*P		**P**	**17 58 06.8**	**+0.4**
MACA	**Manacapuru-AM**	**20.52**	**24**	P		**P**	**17 58 08.9**	**-1.5**
MACA				IAmb		IAmb	17 58 13.2	
	comp=Z,35nm,0.7s							
MACA	**Manacapuru-AM**	**20.52**	**24**	*e*P		**P**	**17 58 09.1**	**-1.3**
BDFB	**Brasilia**	**20.69**	**75**	P		**P**	**17 58 11.6**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=252,slow=9.6,SNR=4.6							
	comp=Z,2.6nm,0.5s							
BDFB	**Brasilia**	**20.69**	**75**	P		**P**	**17 58 11.7**	**-0.7**
BDFB				IAmb		IAmb	17 58 14.5	
	comp=Z,11nm,1.2s			

WR0				IAmb	IAmb	18 10 49.6	
	comp=Z,5.4nm,1.1s						
BBOO	**Buckleboo**	**71.84**	**124**	P	**P**	**18 10 36.3**	**-0.8**
TXAR	**Lajitas Array**	**150.24**	**344**	PKPbc	**PKiKP**	**18 19 07.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=70,slow=1.5,SNR=6.5						

IDC 22 18:05:24.7±36.0, 0.48S×67.95E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=1077.0km s-min=49.7km az=75.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**58.56**	**29**	P	P	18 15 23.3	0.0
	0.4nm,0.7s,baz=216,slow=9.0,SNR=2.7 0.4nm,0.7s						
WRA	**Warramunga Arr**	**67.69**	**111**	P	P	18 16 24.7	+0.3
	0.5nm,0.9s,baz=292,slow=5.4,SNR=5.0 0.5nm,0.9s						
ASAR	**Alice Springs**	**67.86**	**115**	P	P	18 16 25.1	-0.3
	0.2nm,0.7s,baz=284,slow=5.4,SNR=5.2 0.2nm,0.7s						

*HEL **22** 18:09:40.4±0.4, 66.83N×20.68E, h0km, ML2.7, Explosion*
*UPP **22** 18:09:44.9±0.1, 67.05N×20.99E, h0km, ML3.0, Explosion*
*DNK **22** 18:09:45.3±0.5, 67.06N×20.97E, h0km, ML3.0(UPP), Explosion*
*IDC **22** 18:09:45.5±0.9, 67.05N×21.19E, h0km, mbtmp3.1/4, ML2.1/4, Error ellipse: s-maj=12.0km s-min=4.6km az=149.0*
*BER **22** 18:09:45.6±1.1, 67.08N×20.97E, h0km, ML2.1, ML3.0(UPP), Suspected explosion*
*KOLA **22** 18:09:49.2, 67.17N×20.58E, h0km, ML2.5*
ISC 22 18:09:44.8±0.7, 67.05N±0.02×20.96E±0.02, h0km, n50, σ1§39/74, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.17**	**294**	P	**Pg**	**18 09 48.5**	**+0.5**
DUNU				S	**Sg**	**18 09 51.1**	**+1.0**
DUNU	**Dundret**	**0.17**	**294**	P	**Pg**	**18 09 48.5**	**+0.5**
DUNU				S	**Sg**	**18 09 51.1**	**+1.0**
DUNU	**Dundret**	**0.17**	**294**	P	**Pg**	**18 09 48.5**	**+0.5**
DUNU				S	**Sg**	**18 09 51.1**	**+1.0**
PAJU	**Pajala**	**0.85**	**91**	P	**Pg**	**18 10 00.6**	**-0.4**
PAJU				S	**Sg**	**18 10 12.3**	**+0.3**
PAJU	**Pajala**	**0.85**	**91**	P	**Pg**	**18 10 00.6**	**-0.4**
PAJU				S	**Sg**	**18 10 12.3**	**+0.3**
PAJU	**Pajala**	**0.85**	**91**	P	**Pg**	**18 10 00.6**	**-0.4**
PAJU				S	**Sg**	**18 10 12.3**	**+0.3**
HARU	**Harads**	**0.89**	**179**	P	**Pg**	**18 10 01.5**	**-0.4**
HARU	**Harads**	**0.89**	**179**	P	**Pg**	**18 10 01.5**	**-0.4**
HARU	**Harads**	**0.89**	**179**	P	**Pg**	**18 10 01.5**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**326**	P	**Pg**	**18 10 02.4**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**326**	P	**Pg**	**18 10 02.4**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**326**	P	**Pg**	**18 10 02.4**	**-0.4**
SALU	**Saltoluokta**	**1.01**	**290**	P	**Pg**	**18 10 03.9**	**-0.2**
SALU	**Saltoluokta**	**1.01**	**290**	P	**Pg**	**18 10 03.9**	**-0.2**
SALU	**Saltoluokta**	**1.01**	**290**	P	**Pg**	**18 10 03.9**	**-0.2**
LANU	**Lannavaara**	**1.08**	**21**	P	**Pg**	**18 10 04.7**	**-0.7**
LANU	**Lannavaara**	**1.08**	**21**	P	**Pg**	**18 10 04.7**	**-0.7**
NIKU	**Nikkaluokta**	**1.10**	**319**	P	**Pg**	**18 10 05.5**	**-0.5**
NIKU	**Nikkaluokta**	**1.10**	**319**	P	**Pg**	**18 10 05.5**	**-0.5**
KLF	**Kolari**	**1.19**	**80**	PN	**Pg**	**18 10 06.8**	**-0.8**
	baz=252						
KLF				SN	**Sn**	**18 10 26.1**	**+0.6**
KOVU	**Salmi**	**1.21**	**346**	P	**Pg**	**18 10 07.4**	**-0.6**
KOVU	**Salmi**	**1.21**	**346**	P	**Pg**	**18 10 07.4**	**-0.6**
SJUU	**Sjulsmark**	**1.57**	**170**	P	**Pn**	**18 10 13.7**	**-0.3**
SJUU	**Sjulsmark**	**1.57**	**170**	P	**Pn**	**18 10 13.7**	**-0.3**
SJUU	**Sjulsmark**	**1.57**	**170**	P	**Pn**	**18 10 13.7**	**-0.3**
HEF	**Hetta**	**1.71**	**36**	PG	**Pn**	**18 10 15.6**	**-0.2**
	baz=220						
HEF				MSG		18 10 38.5	
	comp=Z,24nm,0.2s						
HEF				SG	**Sg**	**18 10 40.5**	**+0.9**
KIF	**Kilpisjarvi**	**1.96**	**358**	PG	**Pb**	**18 10 20.8**	**-0.6**
KIF				SN	**Sn**	**18 10 43.4**	**-1.1**
KIF				MSG		18 10 46.2	
	comp=Z,92nm,0.2s						
KTK1	**Kautokeino**	**2.15**	**23**	PG	**Pb**	**18 10 23.4**	**-1.1**
KTK1				SG	**Sg**	**18 10 53.6**	**0.0**
KTK1	**Kautokeino**	**2.15**	**23**	*e*Pg	**Pb**	**18 10 23.4**	**-1.1**
KTK1				*e*Sg	**Sb**	**18 10 51.9**	**+0.2**
KTK1				IAML		18 11 01.2	
	comp=Z,12nm,0.2s						
SGF	**Sodankyl**	**2.20**	**77**	PG	**Pn**	**18 10 23.5**	**+1.0**
	baz=261						
SGF				SG	**Sg**	**18 10 54.8**	**-0.7**
I37NO	**I37NO**	**2.21**	**338**	I		18 25 18.3	
	baz=153,slow=310,SNR=1.3						
FAUS	**Fauske**	**2.23**	**281**	*e*Pg	**Pb**	**18 10 24.7**	**-1.2**
FAUS				*e*Sg	**Sg**	**18 10 55.8**	**-0.6**
FAUS				IAML		18 10 59.9	
	comp=Z,43nm,0.2s						
STEI	**Steigen**	**2.37**	**294**	*e*Pg	**Pb**	**18 10 27.3**	**-1.0**
TRO	**Tromso**	**2.70**	**345**	PG	**Pb**	**18 10 32.0**	**-1.9**
TRO				SB	**Sb**	**18 11 06.0**	**-1.4**
ARA0	**ARCESS Array S**	**3.01**	**32**	PN	**Pn**	**18 10 34.1**	**+0.4**
ARA0				SN	**Sn**	**18 11 08.3**	**-2.2**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 10 34.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=211,slow=14,SNR=80						
ARCES				Sn	**Sn**	**18 11 09.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=210,slow=18,SNR=1.7 comp=Z,2nm,0.2s						
ARCES	**ARCESS Array B**	**3.01**	**32**	P	**Pb**	**18 10 36.6**	**-2.6**
ARCES				S	**Sn**	**18 11 13.5**	**+3.0**
VRF	**Varrio**	**3.41**	**74**	PB	**Pn**	**18 10 40.1**	**+0.8**
VRF				SG	**Sb**	**18 11 29.3**	**+1.2**
MSF	**Maaselka**	**3.44**	**106**	PB	**Pn**	**18 10 40.5**	**+0.9**
MSF				SG	**Sb**	**18 11 26.2**	**-2.6**
OLKF	**Oulanka, Finla**	**3.44**	**98**	PB	**Pn**	**18 10 41.5**	**+2.0**
OLKF				SB	**Sn**	**18 11 22.6**	**+1.6**
KEV	**Kevo**	**3.52**	**37**	PB	**Pn**	**18 10 42.4**	**+1.8**
KEV				SB	**Sb**	**18 11 29.6**	**-1.4**
KU6	**Riekki**	**3.72**	**102**	PB	**Pn**	**18 10 44.0**	**+0.5**
KU6				SB	**Sn**	**18 11 31.0**	**+3.1**
VAF	**Ylistaro**	**4.09**	**169**	PG	**Pn**	**18 10 50.1**	**+1.5**
	baz=353						
RMF	**Romuvaara**	**4.68**	**123**	PB	**Pn**	**18 10 58.3**	**+1.7**
APA0	**Apatity Array**	**4.69**	**78**	P	Pb	18 11 03.0	-4.8
APA0				S	**Sn**	**18 11 55.6**	**+3.8**
PRVG	**Vayda Guba**	**4.95**	**52**	P	**Pn**	**18 11 04.8**	**+4.5**
PRVG				S	**Sn**	**18 12 00.7**	**+2.6**
TERR	**Teriberka**	**5.71**	**61**	P	**Pn**	**18 11 13.2**	**+2.5**
TERR				S	**Sn**	**18 12 18.8**	**+2.0**
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**18 11 16.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=350,slow=12,SNR=31						
FINES				Sn	**Sn**	**18 12 24.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=341,slow=28,SNR=2.1 comp=Z,0.5nm,0.2s						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 11 33.5**	**-0.3**
	baz=38,slow=18,SNR=1.5 comp=Z,0.4nm,0.8s						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 11 36.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=15 comp=Z,3.7nm,1.1s						

IDC 22 18:11:20.6±35.0, 0.52S×67.52E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=1036.0km s-min=47.8km az=75.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**58.81**	**30**	P	P	18 21 21.0	-0.1
	0.6nm,0.9s,baz=210,slow=8.3,SNR=3.8 0.6nm,0.9s						
WRA	**Warramunga Arr**	**68.08**	**111**	P	P	18 22 23.0	+0.2
	0.5nm,0.8s,baz=288,slow=5.4,SNR=6.3 0.5nm,0.8s						
ASAR	**Alice Springs**	**68.23**	**115**	P	P	18 22 23.5	-0.2
	0.2nm,0.6s,baz=291,slow=5.9,SNR=5.2 0.2nm,0.6s						

TAP 22 18:11:41.8, 24.12N×121.67E, h12km, ML1.7, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.06**	**312**	P	Pg	18 11 44.9	+0.7
	baz=311						
ETL				S	Sg	18 11 46.6	+0.7
	baz=311						
TWD	**Chiawan**	**0.08**	**243**	*i* P	Pg	18 11 45.0	+0.6
	baz=240						
TWD				*i* S	Sg	18 11 46.8	+0.6
	baz=240						
NACB	**Ninganchiao**	**0.09**	**308**	⇓P	Pg	18 11 45.1	+0.6
	baz=307						
NACB				S	Sg	18 11 47.2	+0.7
	baz=307						
HWA	**Hwalien**	**0.15**	**204**	P	Pb	18 11 46.2	-0.4
	baz=201						
HWA				*e*S	Sg	18 11 49.0	+1.2
	baz=201						
ETLH	**Xiulin Townshi**	**0.20**	**297**	P	Pb	18 11 47.0	-0.5
	baz=296						
ETLH				S	Sg	18 11 50.6	+1.5
	baz=296						
ETM	**Tongmen**	**0.22**	**228**	P	Pg	18 11 47.1	+0.6
	baz=227						
ETM				S	Sg	18 11 50.8	+1.0
	baz=227						
TEYL	**Yanliau Villag**	**0.26**	**196**	*e*P	Pg	18 11 47.4	+0.3
	baz=197						
TEYL				*e*S	Sg	18 11 51.4	+0.7
	baz=197						
ENA	**Nanau**	**0.32**	**11**	*i* P	Pb	18 11 49.0	-0.5
	baz=12						
ENA				*e*S	Sb	18 11 54.4	-0.2
	baz=12						
ESL	**Shilin**	**0.37**	**216**	*i* P	Pg	18 11 49.6	+0.4
	baz=215						
ESL				*e*S	Sb	18 11 55.9	-0.3
	baz=215						
WHF	**Hehuan Shan**	**0.38**	**274**	*i* P	Pb	18 11 50.1	-0.6
	baz=274						
NNSB	**Datong**	**0.41**	**319**	P	Pb	18 11 50.9	-0.2
	baz=319						
NNSH	**Datong**	**0.41**	**319**	*e*P	Pg	18 11 50.1	+0.2
	baz=319						
NNSH				S	Sg	18 11 56.2	+0.8
	baz=319						
FUSS	**Fushou**	**0.41**	**288**	*e*P	Pb	18 11 51.2	0.0
	baz=288						
NNS	**Nan Shan**	**0.42**	**320**	*i* P	Pg	18 11 50.3	+0.1
	baz=320						
NNS				S	Sb	18 11 57.4	-0.4
	baz=320						
LATG	**Datong**	**0.44**	**342**	P	Pb	18 11 51.4	-0.2
	baz=342						
CHGB	**Renai**	**0.46**	**263**	P	Pb	18 11 52.0	-0.1
	baz=262						
TWT	**Tachien**	**0.47**	**287**	*e*P	Pb	18 11 52.6	+0.4
	baz=285						
TWT				S	Sb	18 12 00.4	+1.1
	baz=285						
EGFH	**Guangfu**	**0.50**	**207**	*e*P	Pb	18 11 52.2	-0.4
	baz=206						
EGFH				*e*S	Sb	18 12 00.2	+0.3
	baz=206						
NDT	**Datong Townshi**	**0.51**	**343**	*e*P	Pg	18 11 51.4	-0.3
	baz=343						
TWC	**Suao**	**0.52**	**18**	P	Pb	18 11 52.8	-0.1
	baz=19						
TWC				*e*S	Sb	18 12 00.8	+0.5
	baz=19						
NDS	**Dongshan**	**0.52**	**4**	P	Pg	18 11 51.8	-0.2
	baz=4.0						
NDS				S	Sb	18 12 00.2	-0.2
	baz=4.0						
WUSB	**Renai**	**0.52**	**256**	P	Pb	18 11 53.4	+0.3
	baz=256						
WUSB				S	Sb	18 12 01.0	+0.3
	baz=256						
ENTT	**Nioudou**	**0.53**	**349**	P	Pb	18 11 52.9	-0.3
	baz=349						
TWE	**Neicheng**	**0.60**	**359**	P	Pb	18 11 54.6	+0.3
TWE				S	Sb	18 12 03.5	+0.7
YHNB	**Yeheng**	**0.61**	**334**	P	Pb	18 11 54.6	+0.1
	baz=333						
YHNB				S	Sb	18 12 03.9	+0.6
	baz=333						
NSK	**Sanguang**	**0.63**	**333**	P	Pg	18 11 54.1	+0.1
	baz=333						
NSK				S	Sb	18 12 04.0	+0.4
	baz=333						
FUSB	**Fushanzhiwuyua**	**0.65**	**353**	P	Pb	18 11 55.0	-0.1
	baz=352						
FUSB				S	Sb	18 12 05.3	+1.2
	baz=352						
HGSD	**Ruisui**	**0.66**	**200**	*e*P	Pb	18 11 55.1	-0.2
	baz=200						
HGSD				*e*S	Sb	18 12 05.2	+0.6
	baz=200						
NWLT	**Wulai**	**0.68**	**347**	*e*P	Pg	18 11 53.8	-1.1
	baz=346						
EHY	**Hungye**	**0.69**	**208**	*e*P	Pb	18 11 56.4	+0.6
	baz=207						
EHY				*e*S	Sb	18 12 06.7	+1.4
	baz=207						
SSLB	**Suanglung**	**0.74**	**244**	P	Pb	18 11 56.8	+0.1
	baz=243						
SSLB				*e*S	Sb	18 12 07.1	+0.4
	baz=243						
LIOB	**Emei**	**0.80**	**311**	*e*P	Pn	18 11 58.5	-0.5
	baz=311						
LIOB				*e*S	Sb	18 12 09.2	+0.7
	baz=311						
NSTT	**Nanjuang**	**0.80**	**310**	P	Pb	18 11 57.7	0.0
	baz=310						
NSTT				*e*S	Sb	18 12 09.0	+0.5
	baz=310						
YULB	**Yu-li**	**0.80**	**206**	*e*P	Pb	18 11 58.2	+0.5
	baz=205						
YULB				*e*S	Sb	18 12 09.2	+0.7
	baz=205						
TWQ1	**Liyutan**	**0.85**	**286**	*e*S	Sb	18 12 11.0	+0.9
	baz=285						

*IDC **22** 18:12:50.4±1.8, 37.18N×141.65E, h0km, mb3.6/5, mbtmp3.7/7, ML3.1/2, MS3.1/4, Error ellipse: s-maj=37.4km s-min=22.9km az=82.0*
*JMA **22** 18:12:53.1±0.2, 37.2N±0.4×141.4E±1.0, h28km±1km, MD4.1/35, MV4.1/35, E OFF FUKUSHIMA PREF .*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **22** 18:12:53.1, 37.18N×141.42E, h28km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}=0.90; $M_{\theta\theta}$0.52; $M_{\phi\phi}$0.38; $M_{r\theta}$1.46; $M_{\theta\phi}$5.39; $M_{\phi r}$1.06; Fault plane solution: $M_0$5.62000×10¹⁴ NP1: ϕ_s359.00000°, δ77.00000°, λ173.00000°. NP2: ϕ_s91.00000°, δ83.00000°, λ13.00000°.*
ISC 22 18:12:52.8±2.2, 37.16N±0.05×141.42E±0.09, h10km±12km, n39, σ1§01/24, mb3.5/5, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**295**	P	**Pg**	**18 13 02.5**	**+0.3**
JFK				S	**Sg**	**18 13 09.2**	**+0.6**
JFK	**Kawauchi**	**0.48**	**295**	A	A	18 13 02.5	
	comp=E,6.0nm,1.1s,comp=E,7.0nm,1.4s						
JFFD	**Fukushimafurud**	**0.69**	**264**	⇓P	**Pg**	**18 13 06.2**	**+0.1**
JFFD				⇓*e*S	**Sg**	**18 13 15.6**	**+0.3**
JFFD	**Fukushimafurud**	**0.69**	**264**	A	A	18 13 06.2	
	comp=E,10.0nm,0.5s,comp=E,34nm,0.5s						
JMST	**Minamisoumatoc**	**0.70**	**323**	P	**Pg**	**18 13 06.1**	**-0.2**
JMST				*e*S	**Sg**	**18 13 15.8**	**+0.2**
JMST	**Minamisoumatoc**	**0.70**	**323**	A	A	18 13 06.1	
	comp=E,5.0nm,1.0s,comp=E,7.0nm,0.4s						
JMM	**Marumori**	**0.86**	**325**	P	**Pb**	**18 13 08.8**	**-1.1**
JMM	**Marumori**	**0.86**	**325**	P	**Pb**	**18 13 08.8**	**-1.1**
JMM				S	**Sg**	**18 13 20.1**	**-0.5**
JMM	**Marumori**	**0.86**	**325**	A	A	18 13 08.8	
	comp=E,5.0nm,0.4s,comp=E,6.0nm,0.4s						
JHO	**Hitachi**	**0.88**	**231**	P	**Pb**	**18 13 08.6**	**-1.5**
JSB	**Shiboa**	**1.22**	**261**	P	**Pn**	**18 13 15.6**	**-0.3**
JSB	**Shiboa**	**1.22**	**261**	A	A	18 13 15.6	
	comp=E,10.0nm,1.4s,comp=E,13nm,1.3s						
JYAR	**Yonezawaarcadi**	**1.26**	**307**	A	A	18 13 15.0	
	comp=E,21nm,1.4s,comp=E,16nm,0.8s						
JOU	**Okura**	**1.34**	**334**	A	A	18 13 16.2	
	comp=E,5.0nm,1.6s,comp=E,6.0nm,0.7s						
JFY	**Yanaizu**	**1.39**	**281**	A	A	18 13 17.1	
	comp=E,5.0nm,0.6s,comp=E,4.0nm,3.1s						
JOFO	**Osakifurukawao**	**1.49**	**344**	A	A	18 13 18.4	
	comp=E,25nm,1.4s,comp=E,16nm,1.7s						
JYS	**Shirataka**	**1.51**	**315**	A	A	18 13 18.7	
	comp=E,8.0nm,0.5s,comp=E,8.0nm,0.3s						
JYA	**Atsumi**	**1.97**	**317**	A	A	18 13 25.4	
	comp=E,5.0nm,4.1s,comp=E,7.0nm,0.9s						
MJAR	**Matsushiro Arr**	**2.65**	**257**	Pn	**Pn**	**18 13 36.0**	**+0.4**
	1.2nm,0.3s,baz=79,slow=16,SNR=29						
MJAR				Sn	**Sb**	**18 14 13.1**	**+0.1**
	2.0nm,0.3s,baz=66,slow=9.7,SNR=7.0						
MJAR				LR	LR	18 15 01.6	
	comp=Z,206nm,18.4s,baz=73,slow=46 12nm,0.4s						
MAJO	**Matsushiro**	**2.65**	**257**	P	**Pn**	**18 13 36.9**	**+1.3**
JTM	**Tenmabayashi**	**3.63**	**356**	P	**Pn**	**18 13 50.6**	**+1.6**
JGF	**Kuroka**	**3.63**	**246**	P	**Pn**	**18 13 50.6**	**+1.5**
INU	**Inuyama**	**4.00**	**244**	P	**Pn**	**18 13 56.6**	**+2.5**
JHJ	**Hachijo jima 2**	**4.25**	**199**	Pn	**Pn**	**18 13 58.7**	**+1.1**
	8.8nm,0.3s,baz=228,slow=23,SNR=1.6						
JHJ				Sn	**Sn**	**18 14 47.3**	**0.0**
	20nm,0.3s,baz=78,slow=22,SNR=8.2 101nm,0.6s						
ERM	**Erimo**	**5.03**	**15**	P	Pn	18 14 13.1	+4.9
JEM	**Erimo**	**5.03**	**15**	P	Pn	18 14 13.2	+5.0
KLR	**Kul'dur**	**13.96**	**333**	LR	LR	18 21 16.2	
	comp=Z,65nm,19.0s,baz=86,slow=36						
PETK	**Petropavlovsk-**	**19.57**	**30**	LR	LR	18 23 44.2	
	comp=Z,85nm,21.8s,baz=117,slow=34						
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**18 18 41.7**	**+0.3**
	0.5nm,0.7s,baz=104,slow=7.6,SNR=4.7 0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	18 48 15.2	
	baz=314,slow=75,SNR=114						
H11N1	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	18 48 17.4	
	baz=314,slow=75,SNR=104						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	18 48 18.1	
	baz=314,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	18 49 06.0	
	baz=316,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	18 49 09.0	
	baz=316,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	18 49 10.2	
	baz=316,slow=76,SNR=44						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**18 20 42.4**	**-0.2**
	0.7nm,0.6s,baz=95,slow=6.3,SNR=4.8						
ZALV				LR	LR	18 37 48.1	
	comp=Z,32nm,19.8s,baz=139,slow=36 0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**18 21 01.4**	**+0.6**
	0.6nm,0.8s,baz=86,slow=8.8,SNR=3.6 0.6nm,0.8s						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**18 22 39.4**	**-0.6**
	0.3nm,0.6s,baz=5.4,slow=7.3,SNR=6.6 0.3nm,0.6s						
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**18 24 29.2**	**-0.3**
	0.5nm,0.5s,baz=46,slow=6.2,SNR=2.7 0.5nm,0.5s						

*IDC **22** 18:14:23.6±1.8, 0.68S×67.14E, h0km, mb3.7/6, mbtmp3.7/6, MS3.5/10, Error ellipse: s-maj=47.7km s-min=30.6km az=47.0*
ISC 22 18:14:25.1±1.8, 0.07S±0.3×67.1E±0.3, h10km, n15, σ0§77/7, mb3.8/6, MS3.5/9, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.68**	**59**	LR	LR	18 22 44.2	
	comp=Z,137nm,19.5s,baz=4.2,slow=32						
WSAR	**Wadi Sarin**	**25.18**	**341**	LR	LR	18 28 03.9	
	comp=Z,62nm,19.5s,baz=107,slow=33						
PSI	**Prapat**	**31.97**	**84**	LR	LR	18 32 41.1	
	comp=Z,97nm,19.6s,baz=234,slow=34						
CMAR	**Chiang Mai Arr**	**36.60**	**57**	P	**P**	**18 21 31.9**	**+0.2**
	0.6nm,0.3s,baz=245,slow=9.9,SNR=7.7						
CMAR				LR	LR	18 35 26.4	
	comp=Z,51nm,18.6s,baz=240,slow=34 0.6nm,0.3s						
LSZ	**Lusaka**	**41.09**	**247**	LR	LR	18 37 27.1	
	comp=Z,96nm,20.6s,baz=113,slow=34						
LBTB	**Lobatse**	**46.84**	**236**	LR	LR	18 40 01.7	
	comp=Z,44nm,18.6s,baz=5.5,slow=33						
BOSA	**Boshof**	**48.68**	**231**	LR	LR	18 40 59.9	
	comp=Z,77nm,18.2s,baz=20,slow=33						
MKAR	**Makanchi Array**	**49.12**	**14**	P	**P**	**18 23 13.3**	**+0.4**
	0.3nm,0.8s,baz=179,slow=8.5,SNR=1.4						
MKAR				LR	LR	18 44 46.9	
	comp=Z,49nm,18.2s,baz=34,slow=37 0.3nm,0.8s						
BRTR	**Keskin Array B**	**50.54**	**327**	P	**P**	**18 23 24.4**	**+0.4**
	1.1nm,1.0s,baz=224,slow=3.4,SNR=4.3 1.1nm,1.0s						
TSUM	**Tsumeb**	**51.90**	**246**	LR	LR	18 43 28.8	
	comp=Z,62nm,18.8s,baz=148,slow=34						
ZALV	**Zalesovo Beam**	**56.39**	**12**	P	**P**	**18 24 05.1**	**-1.4**
	0.6nm,0.6s,baz=224,slow=6.0,SNR=3.6 0.6nm,0.6s						
SONM	**Songino Array**	**59.15**	**30**	P	**P**	**18 24 26.4**	**+0.2**
	1.9nm,1.0s,baz=226,slow=7.8,SNR=9.5 1.9nm,1.0s						
VAE	**Valgurnera**	**61.66**	**314**	LR	LR	18 49 36.7	
	comp=Z,30nm,18.4s,baz=52,slow=34						
ASAR	**Alice Springs**	**68.51**	**115**	P	**P**	**18 25 28.4**	**0.0**
	0.9nm,0.9s,baz=286,slow=6.2,SNR=8.7 0.9nm,0.9s						
TXAR	**Lajitas Array**	**150.19**	**344**	PKPbc	**PKPbc**	**18 34 17.0**	**-0.2**
	0.8nm,0.9s,baz=122,slow=1.6,SNR=4.8						

*NEIC **22** 18:18:29.9±2.3, 37.23N±0.06×141.70E±0.04, h10km±1km, mb4.4/13, Error ellipse: s-maj=9.8km s-min=4.2km az=15.0*
*IDC **22** 18:18:31.0±1.8, 37.42N×141.28E, h0km, mb3.9/9, mbtmp3.9/11, ML3.2/2, MS3.5/1, Error ellipse: s-maj=39.1km s-min=26.6km az=136.0*
*JMA **22** 18:18:31.8±0.2, 37.3N±0.3×141.5E±0.9, h28km±1km, MV3.8/35, E OFF FUKUSHIMA PREF .*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 22 18:18:30.2±0.7, 37.25N±0.04×141.56E±0.06, h10km, n53, σ1§08/49, mb4.2/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**282**	P	**Pg**	**18 18 41.5**	**+0.4**
JMST	**Minamisoumatoc**	**0.72**	**312**	P	**Pg**	**18 18 44.2**	**+0.1**
JMST				S	**Sg**	**18 18 53.3**	**-0.1**
JFFD	**Fukushimafurud**	**0.81**	**259**	P	**Pg**	**18 18 46.0**	**+0.1**
JFFD				S	**Sg**	**18 18 55.8**	**-0.7**
JMM	**Marumori**	**0.87**	**316**		**Pg**	**18 18 46.7**	**-0.2**
JMM				Pn	**Sg**	**18 18 57.6**	**-0.6**
JMM	**Marumori**	**0.87**	**316**	P	**Pg**	**18 18 46.8**	**-0.2**
JMM				*e*S	**Sg**	**18 18 57.7**	**-0.6**
JHO	**Hitachi**	**1.02**	**232**	*e*P	**Pg**	**18 18 48.9**	**-0.9**

H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	18 53 52.8		
	baz=314,slow=75,SNR=59							
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	18 54 45.0		
	baz=316,slow=76,SNR=46							
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	18 54 43.8		
	baz=316,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	18 54 44.9		
	baz=316,slow=76,SNR=38							
ZAA0	**Zalesovo Array**	**41.86**	**312**	P	**P**	**18 26 18.8**	**-1.4**	
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**18 26 20.6**	**+0.4**	
	comp=Z,2.8nm,0.7s,baz=79,slow=7.7,SNR=12							
	comp=Z,2.8nm,0.7s							
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**18 26 19.2**	**-1.0**	
SBUM	**Sibu**	**43.90**	**225**	P	**P**	**18 26 35.2**	**-1.9**	
MK31	**Makanchi Array**	**44.10**	**302**	P	**P**	**18 26 39.2**	**+0.7**	
MK31				IAmb	IAmb	18 26 39.7		
	comp=Z,3.6nm,1.0s							
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**18 26 38.6**	**0.0**	
	comp=Z,1.5nm,0.7s,baz=88,slow=9.7,SNR=12							
	comp=Z,1.5nm,0.7s							
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**18 26 38.7**	**+0.1**	
KURK	**Kurchatov**	**45.89**	**308**	P	**P**	**18 26 51.4**	**-1.3**	
KURK				IAmb	IAmb	18 26 54.3		
	comp=Z,6.3nm,0.8s							
ILAR	**Eielson Array**	**49.25**	**32**	P	**P**	**18 27 21.6**	**+3.0**	
	comp=Z,0.6nm,0.8s,baz=240,slow=7.2,SNR=4.8							
	comp=Z,0.6nm,0.8s							
BVAR	**Borovoye Array**	**50.52**	**312**	P	**P**	**18 27 28.2**	**-0.2**	
	comp=Z,0.6nm,0.5s,baz=81,slow=9.2,SNR=3.8							
	comp=Z,0.6nm,0.5s							
CHGR	**Chuyangaron**	**55.68**	**295**	P	**P**	**18 28 06.7**	**0.0**	
CHGR				IAmb	IAmb	18 28 10.0		
	comp=Z,4.7nm,0.7s							
ARU	**Arti**	**56.28**	**318**	P	**P**	**18 28 09.8**	**-0.9**	
ARU				IAmb	IAmb	18 28 11.8		
	comp=Z,2.7nm,0.8s							
ABKAR	**Akbulak array**	**57.89**	**310**	P	**P**	**18 28 21.8**	**-0.3**	
ABKAR	**Akbulak array**	**57.89**	**310**	P	**P**	**18 28 21.7**	**-0.5**	
EUNU	**Eureka**	**59.96**	**9**	P	**P**	**18 28 37.0**	**+0.8**	
EUNU				IAmb	IAmb	18 29 18.2		
	comp=Z,2.6nm,1.2s							
GEYT	**Alibeck**	**63.83**	**299**	P	**P**	**18 29 03.6**	**+0.8**	
	comp=Z,1.5nm,0.7s,baz=90,slow=4.4,SNR=4.0							
	comp=Z,1.5nm,0.7s							
FIA1	**FINESS Array S**	**68.68**	**332**	P	**P**	**18 29 33.4**	**-0.1**	
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**18 29 34.0**	**+0.5**	
	comp=Z,1.8nm,0.7s,baz=29,slow=5.5,SNR=4.5							
	comp=Z,1.8nm,0.7s							
FORT	**Forrest**	**68.84**	**192**	P	**P**	**18 29 34.1**	**-0.6**	
NOA	**NORSAR Array B**	**74.03**	**337**	P	**P**	**18 30 06.5**	**+0.6**	
	comp=Z,0.6nm,0.8s,baz=37,slow=4.1,SNR=3.4							
	comp=Z,0.6nm,0.8s							
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**18 30 07.5**	**+0.6**	
	comp=Z,1.3nm,0.7s,baz=47,slow=5.7,SNR=5.5							
	comp=Z,1.3nm,0.7s							
H03N2	**Juan Fernandez**	**146.93**	**96**	T	T	21 22 26.6		
	baz=294							
H03N3	**Juan Fernandez**	**146.94**	**96**	T	T	21 22 24.9		
	baz=294							
H03N1	**Juan Fernandez**	**146.94**	**96**	T	T	21 22 29.4		
	baz=294							

*DJA **22** 18:21:15.2±1.0,8°S±4″×12°1E±°, h12km±10km, M4.2/12, mb4.3/4, MLv4.2/12, MwMwp4.8/1, Mwp5.2/1*
*NEIC **22** 18:21:15.8±2.6, 8°.29S±0°.07×121°.35E±0°.06, h20km±5km, mb4.4/20, Error ellipse: s-maj=11.0km s-min=6.8km az=213.0*
*IDC **22** 18:21:20.0±2.9, 8°.23S×121°.38E, h59km±28km, mb3.8/6, mbtmp4.1/9, ML4.0/3, MS3.1/5, Error ellipse: s-maj=67.5km s-min=14.2km az=65.0*

ISC 22 18:21:13.8±0.5, 8°.30S±0°.06×121°.35E±0°.05, h10km, n70, σ1s71/73, mb4.3/13, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.94**	**111**		**Pg**	**18 21 33.0**	**+1.0**
MMRI				Sn	**Sg**	**18 21 45.7**	**+1.6**
MMRI	**Maumere**	**0.94**	**111**	P	**Pg**	**18 21 32.9**	**+1.0**
MMRI				S	**Sg**	**18 21 45.0**	**+0.8**
MMRI	**Maumere**	**0.94**	**111**	P	**Pg**	**18 21 33.5**	**+1.6**
BSSI	**Bau Bau, Buton**	**2.31**	**338**	P	**Pn**	**18 21 53.0**	**+1.1**
BATI	**Baumata**	**2.97**	**130**	P	**Pn**	**18 22 05.8**	**+4.7**
	33nm,0.3s,baz=301,slow=1.7,SNR=74						
BATI				S	**Sb**	**18 22 45.2**	**+2.0**
	80nm,0.3s,baz=100,slow=22,SNR=6.7						
BATI				LR	LR	18 23 28.6	
	comp=Z,207nm,21.0s,baz=51,slow=43						
	163nm,0.5s						
BKSI	**Bulukumba**	**3.20**	**337**	P	**Pn**	**18 22 05.1**	**+0.9**
SOEI	**Soe**	**3.22**	**117**		**Pn**	**18 22 07.8**	**+3.2**
SOEI	**Soe**	**3.22**	**117**	P	**Pb**	**18 22 10.2**	**-1.1**
PLAI	**Plampang**	**3.58**	**261**	P	**Pn**	**18 22 11.8**	**+2.4**
PLAI	**Plampang**	**3.58**	**261**	P	**Pn**	**18 22 11.9**	**+2.5**
KAPI	**Kappang**	**3.63**	**334**	P	**Pn**	**18 22 12.8**	**+2.7**
	5.0nm,0.3s,baz=171,slow=11,SNR=12						
KAPI				LR	LR	18 24 01.1	
	comp=Z,199nm,18.2s,baz=195,slow=45						
	20nm,0.4s						
BNSI	**Bone**	**4.06**	**342**	P	**Pn**	**18 22 18.9**	**+2.8**
TWSI	**Taliwang, Sumb**	**4.44**	**264**	P	**Pn**	**18 22 22.8**	**+1.5**
JAGI	**Jajag, Banyuwa**	**7.13**	**268**	Pn	**Pn**	**18 22 58.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**7.13**	**268**	P	**Pn**	**18 23 00.0**	**+1.8**
	0.2nm4µm24nm,1.0s						
JAGI	**Jajag, Banyuwa**	**7.13**	**268**	P	**Pn**	**18 23 02.1**	**+3.9**
	22nm,1.2s						
APSI	**Ampana**	**7.34**	**2**	P	**Pn**	**18 23 02.5**	**+1.3**
LUWI	**Luwuk**	**7.34**	**11**	Pn	**Pn**	**18 23 01.0**	**-0.2**
SAUI	**Saumlaki**	**9.85**	**89**	Pn	**Pn**	**18 23 35.8**	**+0.1**
KNRA	**Kununurra**	**10.31**	**136**		**Pn**	**18 23 41.2**	**-0.7**
KNRA					**Sn**	**18 25 33.3**	**-4.3**
KNRA	**Kununurra**	**10.31**	**136**	P	**Pn**	**18 23 41.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**10.60**	**157**	Pn	**Pn**	**18 23 47.6**	**+1.7**
MTN	**Manton Dam**	**10.62**	**116**		**Pn**	**18 23 46.8**	**+0.6**
MTN	**Manton Dam**	**10.62**	**116**	P	**Pn**	**18 23 47.3**	**+1.1**
KDU	**Kakadu**	**11.77**	**113**	P	**Pn**	**18 24 01.1**	**-0.9**
MBWA	**Marble Bar**	**12.88**	**187**	Pn	**Pn**	**18 24 16.8**	**-0.4**
PSA00	**Pilbara Seismi**	**13.28**	**186**	Pn	**Pn**	**18 24 21.7**	**-0.8**
GIRL	**Giralia**	**15.82**	**205**	Pn	**Pn**	**18 24 56.4**	**-0.4**
WB0	**Warramunga Arr**	**17.02**	**133**		**Pn**	**18 25 10.0**	**-2.1**
WRA	**Warramunga Arr**	**17.09**	**134**	P	**Pn**	**18 25 09.8**	**-3.3**
	0.8nm,0.3s,baz=304,slow=14,SNR=34						
WRA				S	Sn	18 28 12.0	-11
	4.5nm,0.9s,baz=308,slow=24,SNR=8.5						
WRA				LR	LR	18 33 19.6	
	comp=Z,56nm,18.6s,baz=280,slow=42						
WRAB	**Tennant Creek**	**17.09**	**134**	P	**Pn**	**18 25 10.4**	**-2.7**
WB2	**Warramunga Arr**	**17.10**	**134**		**Pn**	**18 25 10.4**	**-2.8**
WR0	**Warramunga Arr**	**17.25**	**134**		**Pn**	**18 25 12.3**	**-2.7**
WR0				IAmb	IAmb	18 25 34.3	
	comp=Z,15nm,0.5s						
WRKA	**Warakurna**	**17.92**	**159**	P	**Pn**	**18 25 25.0**	**+1.7**
MEEK	**Meekatharra**	**18.43**	**188**	P	**Pn**	**18 25 31.4**	**+1.9**
AS31	**Alice Springs**	**19.45**	**143**	P	**Pn**	**18 25 40.8**	**+0.1**
ASAR	**Alice Springs**	**19.45**	**143**	P	**Pn**	**18 25 41.4**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=328,slow=12,SNR=41						
ASAR				S	Sn	18 29 11.4	-8.9
	comp=Z,1.7nm,0.7s,baz=311,slow=21,SNR=7.7						
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**19.45**	**143**	P	**P**	**18 25 41.6**	**+0.8**
AS01	**Alice Springs**	**19.47**	**143**	P	**P**	**18 25 42.1**	**+1.0**
MORW	**Morawa**	**21.26**	**193**	P	**P**	**18 25 60.0**	**-0.4**
MORW				IAmb	IAmb	18 26 04.9	
	comp=Z,21nm,1.3s						
MORW	**Morawa**	**21.26**	**193**	P	**P**	**18 26 01.9**	**+1.6**
QIS	**Mount Isa**	**21.44**	**127**	P	**P**	**18 26 02.9**	**+0.5**
COEN	**Coen**	**22.13**	**107**	P	**P**	**18 26 07.2**	**-2.6**
COEN				IAmb	IAmb	18 26 23.9	
	comp=Z,25nm,1.4s						
COEN	**Coen**	**22.13**	**107**	P	**P**	**18 26 09.6**	**-0.3**
FORT	**Forrest**	**23.23**	**165**	P	**P**	**18 26 19.7**	**-1.6**
FORT				IAmb	IAmb	18 26 22.5	
	comp=Z,15nm,0.8s						
FORT	**Forrest**	**23.23**	**165**	P	**P**	**18 26 20.4**	**-0.9**
OOD	**Oodnadatta**	**23.66**	**147**	P	**P**	**18 26 25.8**	**+0.2**
KULM	**Kulim**	**24.67**	**302**	P	**P**	**18 26 35.7**	**+0.6**
KULM				IAmb	IAmb	18 26 45.6	
	comp=Z,9.1nm,1.3s						
NWAO	**Narrogin (SRO)**	**24.80**	**188**	P	**P**	**18 26 36.5**	**+0.3**
NWAO				IAmb	IAmb	18 27 09.8	
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.80**	**188**	P	**P**	**18 26 36.6**	**+0.4**
NWAO				IAmb	IAmb	18 27 09.8	
	comp=Z,16nm,1.1s						

MULG	**Mulgathing**	**24.90**	**153**	P	**P**	**18 26 37.1**	**0.0**	
BBOO	**Buckleboo**	**27.94**	**153**	P	**P**	**18 27 02.6**	**-1.9**	
BBOO				IAmb	IAmb	18 27 19.2		
	comp=Z,13nm,1.2s							
HTT	**Hallett**	**29.82**	**149**	P	**P**	**18 27 21.7**	**+0.4**	
STKA	**Stephens Creek**	**30.08**	**144**	P	**P**	**18 27 23.6**	**0.0**	
	comp=Z,3.1nm,0.4s,baz=3.0,slow=22,SNR=7.8							
STKA				LR	LR	18 41 31.7		
	comp=Z,67nm,19.7s,baz=24,slow=40							
	comp=Z,3.1nm,0.4s							
STKA	**Stephens Creek**	**30.08**	**144**	P	**P**	**18 27 23.4**	**-0.2**	
CMSA	**Cobar Meteorol**	**32.38**	**139**	P	**P**	**18 27 44.8**	**+1.0**	
CMAR	**Chiang Mai Arr**	**34.58**	**320**	P	**P**	**18 28 05.6**	**+2.5**	
	comp=Z,0.4nm,0.8s,baz=128,slow=7.6,SNR=4.6							
TOO	**Toolangi**	**36.42**	**147**	P	**P**	**18 28 18.9**	**+0.1**	
MJAR	**Matsushiro Arr**	**47.33**	**19**	LR	LR	18 49 09.0		
	comp=Z,37nm,21.6s,baz=178,slow=35							
SONM	**Songino Array**	**57.44**	**348**	P	**P**	**18 31 03.4**	**+0.6**	
	comp=Z,1.6nm,0.5s,baz=163,slow=9.3,SNR=16							
	comp=Z,1.6nm,0.5s							
SONM	**Songino Array**	**57.44**	**348**	P	**P**	**18 31 03.5**	**+0.6**	
SONM				IAmb	IAmb	18 31 04.1		
	comp=Z,1.9nm,0.8s							
BKZ	**Black Stump Fm**	**58.00**	**131**	P	**P**	**18 31 07.0**	**0.0**	
RTZ	**Ruatahuna**	**58.21**	**130**	P	**P**	**18 31 08.6**	**+0.1**	
MKAR	**Makanchi Array**	**64.92**	**331**	P	**P**	**18 31 52.8**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=145,slow=6.8,SNR=13							
	comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**64.92**	**331**	P	**P**	**18 31 51.8**	**-1.9**	
ZALV	**Zalesovo Beam**	**69.24**	**338**	P	**P**	**18 32 18.4**	**-2.4**	
	comp=Z,0.5nm,0.4s,baz=140,slow=7.0,SNR=2.3							
	comp=Z,0.5nm,0.4s							
VNDA	**Vanda**	**72.32**	**171**	P	**P**	**18 32 39.6**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=318,slow=8.5,SNR=11							
	comp=Z,0.5nm,0.5s							
VNDA	**Vanda**	**72.32**	**171**	P	**P**	**18 32 38.6**	**-0.7**	
VNDA				IAmb	IAmb	18 33 20.3		
	comp=Z,4.2nm,1.5s							
QSPA	**South Pole Qui**	**81.69**	**180**	P	**P**	**18 33 32.8**	**+0.4**	
	comp=Z,1.6nm,0.6s,baz=304,slow=1.1,SNR=17							
	comp=Z,1.6nm,0.6s							
QSPA	**South Pole Qui**	**81.69**	**180**	P	**P**	**18 33 32.5**	**+0.1**	

*IDC **22** 18:25:34.1±29.0, 19°.93S×173°.75W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=533.8km s-min=154.2km az=76.0*
*NEIC **22** 18:27:23.6±1.7, 22°.5S±0°.3×179°.1E±0°.1, h607km±28km, mb4.2/9, Error ellipse: s-maj=44.8km s-min=18.0km az=189.0*

ISC 22 18:27:23.9±4.6, 22°.5S±0°.5×179°.0E±0°.4, h612km, n17, σ1s11/16, mb4.1/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**10.22**	**274**	IAmb	IAmb	18 29 52.0	
	comp=Z,1.9nm,1.1s						
MARNC	**Mare, Loyalty**	**10.22**	**274**	P	**P**	**18 29 44.7**	**-0.4**
MARNC	**Mare, Loyalty**	**10.22**	**274**	P	**P**	**18 29 44.7**	**-0.4**
FOZ	**Fox Glacier**	**22.29**	**198**	P	**P**	**18 31 36.6**	**-0.7**
CTA	**Charters Tower**	**30.56**	**268**	P	**P**	**18 32 50.6**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=104,slow=9.5,SNR=1.8						
	comp=Z,1.8nm,0.5s						
CTAO	**Charters Tower**	**30.56**	**268**	P	**P**	**18 32 50.3**	**+0.3**
TOO	**Toolangi**	**32.45**	**235**	P	**P**	**18 33 07.0**	**+1.2**
TOO				IAmb	IAmb	18 33 42.1	
	comp=Z,12nm,1.5s						
STKA	**Stephens Creek**	**34.40**	**246**	P	**P**	**18 33 23.9**	**+1.7**
	comp=Z,2.6nm,0.4s,baz=80,slow=9.5,SNR=8.1						
	comp=Z,2.6nm,0.4s						
STKA	**Stephens Creek**	**34.40**	**246**	P	**P**	**18 33 19.2**	**-2.9**
BBOO	**Buckleboo**	**39.15**	**245**	P	**P**	**18 34 01.5**	**+0.6**
BBOO				IAmb	IAmb	18 34 14.3	
	comp=Z,22nm,1.3s						
ASAR	**Alice Springs**	**41.36**	**259**	P	**P**	**18 34 19.1**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=95,slow=8.2,SNR=26						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**41.36**	**259**	P	**P**	**18 34 18.7**	**+0.1**
WB0	**Warramunga Arr**	**41.57**	**265**	P	**P**	**18 34 20.1**	**-0.2**
WB0				IAmb	IAmb	18 34 22.2	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**41.59**	**265**	P	**P**	**18 34 20.1**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=95,slow=8.2,SNR=10						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**41.59**	**265**	P	**P**	**18 34 19.9**	**-0.5**
FORT	**Forrest**	**45.94**	**248**	P	**P**	**18 34 52.9**	**-0.8**
FORT				IAmb	IAmb	18 34 54.2	
	comp=Z,15nm,0.8s						
QSPA	**South Pole Qui**	**67.55**	**180**	P	**P**	**18 37 20.7**	**+0.1**
QSPA				IAmb	IAmb	18 37 49.6	
	comp=Z,3.1nm,1.4s						

IDC 22 18:31:40.1±8.2, 5°.94S×146°.31E, h107km±54km, mb3.4/2, mbtmp3.7/4, Error ellipse: s-maj=90.1km s-min=55.3km az=53.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.54**	**166**	P	Pn	18 32 33.5	+0.2
	26nm,0.4s,baz=21,slow=5.4,SNR=27						
PMG				S	Sn	18 33 14.9	+0.5
	35nm,0.6s,baz=114,slow=22,SNR=14						
CTA	**Charters Tower**	**14.06**	**180**	P	P	18 34 59.9	+0.9
	5.8nm,0.5s,baz=358,slow=13,SNR=14						
WRA	**Warramunga Arr**	**18.14**	**219**	P	P	18 35 43.3	-0.9
	0.5nm,0.6s,baz=38,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**21.29**	**213**	P	P	18 36 18.1	-0.2
	1.2nm,0.6s,baz=53,slow=8.7,SNR=28						
	1.2nm,0.6s						
STKA	**Stephens Creek**	**26.18**	**189**	P	P	18 37 05.1	+0.5
	2.3nm,0.8s,baz=359,slow=12,SNR=3.8						
	2.3nm,0.8s						

*IDC **22** 18:36:47.0±1.0, 37°.43N×141°.73E, h0km, mb3.8/10, mbtmp3.8/12, ML3.0/2, MS2.8/1, Error ellipse: s-maj=27.9km s-min=18.4km az=88.0*
*NEIC **22** 18:36:48.7±1.7, 37°.41N±0°.05×141°.64E±0°.06, h10km±1km, mb4.4/17, Error ellipse: s-maj=10.4km s-min=6.4km az=39.0*
*JMA **22** 18:36:49.6±0.2, 37°.4N±0°.4×141°.6E±0°.8, h27km±1km, MV3.8/38, E OFF FUKUSHIMA PREF*
*NIED **22** 18:36:49.4, 37°.39N×141°.64E, h28km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.20; $M_{\theta\theta}$=0.12; $M_{\phi\phi}$=5.08; $M_{r\theta}$=0.98; $M_{\theta\phi}$=2.51; $M_{\phi r}$=0.62; Fault plane solution: M_0=5.82000×10^{14} NP1: ϕ_s=216.00000°, δ=46.00000°, λ=-70.00000°. NP2:ϕ_s=9.00000°, δ=48.00000°, λ=-109.00000°.*

ISC 22 18:36:47.7±1.7, 37°.36N±0°.04×141°.68E±0°.06, h9km±10km, n61, σ1s16/65, mb4.1/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase		ID	Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.64**	**271**	P		**Pg**	**18 37 01.0**	**+0.9**
JFK				S		**Sb**	**18 37 09.4**	**-0.8**
JMST	**Minamisoumatoc**	**0.73**	**300**	P		**Pb**	**18 37 02.5**	**0.0**
JMST				S		**Sb**	**18 37 11.4**	**-1.2**
JMM	**Marumori**	**0.87**	**306**			**Pg**	**18 37 04.4**	**0.0**
JMM						**Sg**	**18 37 14.8**	**-0.9**
JMM	**Marumori**	**0.87**	**306**	P		**Pg**	**18 37 04.6**	**+0.2**
JMM				S		**Sg**	**18 37 15.3**	**-0.3**
JFFD	**Fukushimafurud**	**0.94**	**253**	P		**Pg**	**18 37 05.7**	**0.0**
JFFD				S		**Sg**	**18 37 17.2**	**-0.6**
JIO	**Ouri**	**1.12**	**347**	P		**Pg**	**18 37 08.7**	**-0.5**
JIO				S		**Sg**	**18 37 23.1**	**-0.7**
JHO	**Hitachi**	**1.17**	**230**	*i* P		**Pb**	**18 37 09.5**	**-0.4**
JHO				S		**Sb**	**18 37 23.5**	**-1.6**
JOU	**Okura**	**1.28**	**321**	*i* P		**Pb**	**18 37 12.1**	**+0.1**
JOU				S		**Sg**	**18 37 28.2**	**-0.8**
JYS	**Shirataka**	**1.54**	**304**	P		**Pb**	**18 37 16.6**	**+0.2**
JYS				S		**Sb**	**18 37 35.9**	**-0.1**
JFY	**Yanaizu**	**1.57**	**272**	P		**Pn**	**18 37 16.6**	**+0.8**
JFY				S		**Sg**	**18 37 38.0**	**-0.4**
JMK	**Ichinoseki**	**1.63**	**347**	P		**Pn**	**18 37 17.0**	**+0.5**
JMK				S		**Sn**	**18 37 36.8**	**-0.8**
JSD	**Sado**	**2.80**	**285**			**Pn**	**18 37 33.3**	**+0.8**
MJAR	**Matsushiro Arr**	**2.90**	**255**	Pn		**Pn**	**18 37 35.1**	**+1.1**
	0.3nm,0.3s,baz=80,slow=16,SNR=13							
	2.3nm,0.4s							
MAJO	**Matsushiro**	**2.90**	**255**			**Pn**	**18 37 35.5**	**+1.5**
MJB9	**Matsu-Tunnel**	**2.90**	**255**			**Pn**	**18 37 37.0**	**+2.9**

JTM	**Tenmabayashi**	**3.45**	**352**			**Pn**	**18 37 43.2**	**+1.6**
JGF	**Kuroka**	**3.90**	**245**			**Pn**	**18 37 49.8**	**+2.0**
INU	**Inuyama**	**4.27**	**243**	Pn		**Pn**	**18 37 54.8**	**+2.0**
JHJ2	**Mitsune**	**4.51**	**200**	Pn		**Pn**	**18 37 56.7**	**+0.6**
JHJ	**Hachijo jima 2**	**4.51**	**201**	Pn		**Pn**	**18 37 59.0**	**+2.9**
	10nm,0.3s,baz=257,slow=21,SNR=1.0							
	123nm,0.8s							
ERM	**Erimo**	**4.78**	**13**	Pn		**Pn**	**18 38 01.2**	**+1.3**
JKA	**Kamikawa-asahi**	**6.78**	**6**	Pn		**Pn**	**18 38 27.5**	**+0.2**
USA0B	**Ussuriysk Arra**	**10.03**	**316**	Pn		**Pn**	**18 39 14.8**	**+2.9**
USRK	**Ussuriysk Ar.**	**10.03**	**316**	Pn		**Pn**	**18 39 13.5**	**+1.7**
KSRS	**Korea Array**	**10.95**	**275**	LR		LR	18 43 03.3	
	comp=Z,50nm,20.1s,baz=235,slow=34							
YAK	**Yakutsk**	**25.80**	**347**	P		**P**	**18 42 18.6**	**-0.1**
YAK				IAmb		IAmb	18 42 20.1	
	comp=Z,9.0nm,1.0s							
SONM	**Songino Array**	**27.78**	**303**	P		**P**	**18 42 37.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=107,slow=9.0,SNR=7.4							
	comp=Z,1.1nm,0.8s							
SONM	**Songino Array**	**27.78**	**303**	P		**P**	**18 42 35.1**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**28.14**	**122**	T		T	19 12 16.9	
	baz=314,slow=75,SNR=65							
H11N1	**WAKE ISLAND Hy**	**28.14**	**122**	T		T	19 12 07.6	
	baz=314,slow=75,SNR=80							
H11N3	**WAKE ISLAND Hy**	**28.15**	**122**	T		T	19 12 18.4	
	baz=314,slow=75,SNR=60							
H11S1	**WAKE ISLAND Hy**	**28.86**	**124**	T		T	19 13 01.3	
	baz=316,slow=76,SNR=62							
H11S3	**WAKE ISLAND Hy**	**28.86**	**124**	T		T	19 13 07.4	
	baz=316,slow=76,SNR=59							
H11S2	**WAKE ISLAND Hy**	**28.88**	**124**	T		T	19 13 09.4	
	baz=316,slow=76,SNR=58							
TOLI2	**Tolitoli**	**40.90**	**213**	P		**P**	**18 44 27.2**	**-3.1**
TOLI2				IAmb		IAmb	18 44 46.0	
	comp=Z,4.6nm,1.0s							
CMAR	**Chiang Mai Arr**	**41.79**	**255**	P		**P**	**18 44 39.5**	**+1.8**
	comp=Z,0.3nm,0.2s,baz=64,slow=4.1,SNR=3.4							
	comp=Z,0.3nm,0.2s							
ZALV	**Zalesovo Beam**	**41.85**	**312**	P		**P**	**18 44 38.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=90,slow=7.7,SNR=6.7							
	comp=Z,1.1nm,0.6s							
MK31	**Makanchi Array**	**44.13**	**302**	P		**P**	**18 44 56.7**	**+0.4**
MKAR	**Makanchi Array**	**44.13**	**302**	P		**P**	**18 44 57.1**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=86,slow=10,SNR=13							
	comp=Z,1.7nm,0.6s							
MKAR	**Makanchi Array**	**44.13**	**302**	P		**P**	**18 44 56.8**	**+0.4**
MAKZ	**Makanchi**	**44.34**	**302**	P		**P**	**18 44 58.1**	**+0.1**
MAKZ				IAmb		IAmb	18 45 13.3	
	comp=Z,9.6nm,1.4s							
KURK	**Kurchatov**	**45.90**	**308**	P		**P**	**18 45 09.7**	**-0.6**
ILAR	**Eielson Array**	**49.10**	**33**	P		**P**	**18 45 35.7**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=268,slow=6.5,SNR=5.3							
	comp=Z,0.5nm,0.7s							
KKAR	**Karatay Array**	**53.15**	**300**	P		**P**	**18 46 05.7**	**-0.1**
P29M	**Windy Craggy**	**54.08**	**38**	P		**P**	**18 46 10.8**	**-1.5**
KNRA	**Kununurra**	**54.14**	**195**	P		**P**	**18 46 13.8**	**+0.7**
GAR	**Garm**	**54.75**	**295**	P		**P**	**18 46 17.1**	**-0.6**
GAR				IAmb		IAmb	18 46 18.8	
	comp=Z,2.4nm,0.8s							
CHGR	**Chuyangaron**	**55.72**	**295**	P		**P**	**18 46 23.9**	**-0.8**
WB0	**Warramunga Arr**	**57.24**	**188**	P		**P**	**18 46 36.2**	**+0.8**
WB0				IAmb		IAmb	18 46 54.9	
	comp=Z,5.7nm,1.3s							
WB2	**Warramunga Arr**	**57.41**	**188**	P		**P**	**18 46 37.2**	**+0.5**
WB2				IAmb		IAmb	18 46 48.2	
	comp=Z,6.8nm,1.3s							
WRA	**Warramunga Arr**	**57.42**	**188**	P		**P**	**18 46 37.4**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=7.4,slow=7.4,SNR=15		

ZAA0					IAmb	IAmb	18 49 16.0		
	comp=Z,2.4nm,1.1s								
ZALV	**Zalesovo Beam**	**56.19**	**12**	P	**P**		**18 49 04.0**	**-0.6**	
	comp=Z,1.8nm,0.8s,baz=218,slow=5.0,SNR=8.4								
	comp=Z,1.8nm,0.8s								
ZALV	**Zalesovo Beam**	**56.19**	**12**	P	**P**		**18 49 03.6**	**-0.9**	
TIRR	**Tirgusor**	**56.72**	**327**	P	**P**		**18 49 08.5**	**-0.1**	
SONM	**Songino Array**	**58.85**	**30**	P	**P**		**18 49 24.2**	**+0.6**	
	comp=Z,1.7nm,0.8s,baz=218,slow=6.2,SNR=16								
SONM				LR	LR		19 15 02.1		
	comp=Z,280nm,18.5s,baz=190,slow=36								
	comp=Z,1.7nm,0.8s								
AKASG	**Malin Array Be**	**60.57**	**333**	P	**P**		**18 49 34.2**	**-1.0**	
	comp=Z,0.1nm,0.3s,baz=131,slow=5.3,SNR=2.3								
	comp=Z,0.1nm,0.3s								
KSRS	**Korea Array**	**67.22**	**49**	LR	LR		19 21 57.5		
	comp=Z,49nm,18.2s,baz=250,slow=38								
WRA	**Warramunga Arr**	**68.05**	**111**	P	**P**		**18 50 26.2**	**+1.2**	
	comp=Z,1.6nm,0.8s,baz=289,slow=5.7,SNR=15								
	comp=Z,1.6nm,0.8s								
ASAR	**Alice Springs**	**68.20**	**115**	P	**P**		**18 50 26.8**	**+0.9**	
	comp=Z,0.9nm,0.7s,baz=283,slow=5.8,SNR=11								
	comp=Z,0.9nm,0.7s								
ASAR	**Alice Springs**	**68.20**	**115**	P	**P**		**18 50 26.5**	**+0.6**	
WR0	**Warramunga Arr**	**68.24**	**111**	P	**P**		**18 50 27.3**	**+1.2**	
NRIK	**Noril'sk**	**71.08**	**7**	LR	LR		19 23 25.8		
	comp=Z,65nm,19.7s,baz=206,slow=37								
KLR	**Kul'dur**	**73.88**	**38**	LR	LR		19 26 04.6		
	comp=Z,59nm,18.3s,baz=145,slow=38								
MJAR	**Matsushiro Arr**	**74.89**	**52**	LR	LR		19 24 34.6		
	comp=Z,31nm,20.8s,baz=199,slow=36								
STKA	**Stephens Creek**	**76.19**	**123**	P	**P**		**18 51 14.1**	**+0.7**	
YAK	**Yakutsk**	**77.79**	**25**	LR	LR		19 27 59.9		
	comp=Z,66nm,18.3s,baz=268,slow=38								
BBTS	**Babate**	**84.40**	**285**	LR	LR		19 27 48.5		
	comp=Z,55nm,20.7s,baz=250,slow=34								
MA2	**Magadan**	**87.05**	**30**	LR	LR		19 30 40.5		
	comp=Z,94nm,18.2s,baz=152,slow=35								
QSPA	**South Pole Qui**	**89.42**	**180**	LR	LR		19 30 13.6		
	comp=Z,60nm,19.0s,baz=313,slow=34								
TXAR	**Lajitas Array**	**150.19**	**344**	PKPbc	**PKPbc**		**18 59 18.0**	**+1.4**	
	comp=Z,1.0nm,0.9s,baz=90,slow=2.5,SNR=3.5								

IDC ***22*** *18:44:15.3±1.3, 37.00N×141.42E, h0km, mb3.5/6, mbtmp3.4/7, ML2.5/1, MS4.2/1, Error ellipse: s-maj=31.5km s-min=27.9km az=94.0*

JMA ***22*** *18:44:18.1±0.1, 37.1N±0.3×141.3E±0.7, h34km, MV3.5/30, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 22 18:44:17.0±1.1, 37.08N±0.05×141.40E±0.08, h10km, n17, σ0.9s50/16, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**304**	P		**Pb**		**18 44 27.9**	**-0.2**
JFK				S		**Sb**		**18 44 35.1**	**-0.5**
JFFD	**Fukushimafurud**	**0.67**	**271**	P		**Pg**		**18 44 30.3**	**+0.3**
JFFD				*e*S		**Sg**		**18 44 39.0**	**+0.1**
JMST	**Minamisoumatoc**	**0.77**	**328**	P		**Pg**		**18 44 31.8**	**0.0**
JMST				S		**Sg**		**18 44 42.1**	**+0.4**
JHO	**Hitachi**	**0.82**	**235**	P		**Pg**		**18 44 32.6**	**-0.1**
JMM	**Marumori**	**0.92**	**328**	P		**Pg**		**18 44 34.4**	**-0.4**
JSB	**Shiboa**	**1.19**	**265**	P		**Pb**		**18 44 39.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.62**	**259**	Pn		**Pn**		**18 44 59.9**	**+0.5**
	0.8nm,0.3s,baz=90,slow=16,SNR=20								
	3.9nm,0.3s								
ZALV	**Zalesovo Beam**	**41.88**	**312**	P		**P**		**18 52 06.6**	**-0.5**
	0.5nm,0.5s,baz=87,slow=9.2,SNR=2.1								
	0.5nm,0.5s								
MKAR	**Makanchi Array**	**44.09**	**302**	P		**P**		**18 52 25.7**	**+0.5**
	0.9nm,1.0s,baz=83,slow=11,SNR=2.8								
	0.9nm,1.0s								
KURBB	**Kurchatov Arra**	**45.97**	**308**	P		**P**		**18 52 40.2**	**+0.1**
	0.3nm,0.5s,baz=78,slow=8.2,SNR=2.9								
	0.3nm,0.5s								
ILAR	**Eielson Array**	**49.46**	**32**	P		**P**		**18 53 07.9**	**+0.9**
	0.4nm,0.6s,baz=275,slow=6.9,SNR=5.3								
	0.4nm,0.6s								
PSI	**Prapat**	**51.81**	**239**	LR	LR		19 16 25.7		
	comp=Z,231nm,18.2s,baz=137,slow=37								
WRA	**Warramunga Arr**	**57.10**	**188**	P		**P**		**18 54 02.7**	**-0.9**
	0.4nm,0.8s,baz=4.6,slow=7.5,SNR=9.0								
	0.4nm,0.8s								
AKASG	**Malin Array Be**	**74.26**	**322**	P		**P**		**18 55 54.0**	**-0.1**
	0.1nm,0.3s,baz=46,slow=6.1,SNR=1.3								
	0.1nm,0.3s								
H03N2	**Juan Fernandez**	**147.04**	**96**	T		T		21 48 20.6	
	baz=291,slow=76,SNR=8.8								
H03N3	**Juan Fernandez**	**147.05**	**96**	T		T		21 48 22.6	
	baz=291,slow=76,SNR=7.5								
H03N1	**Juan Fernandez**	**147.05**	**96**	T		T		21 48 25.1	
	baz=291,slow=76,SNR=7.2								

BJI ***22*** *18:45:13.2±0.0, 34.42N×140.45E, h104km, mb5.0/63, mB4.8/27*

MOS ***22*** *18:45:17.0±0.9, 34.43N×139.94E, h101km, mb4.8/57, Error ellipse: s-maj=7.6km s-min=4.3km az=123.0*

JMA ***22*** *18:45:19.7±0.2, 34.5N±0.5×140.1E±0.8, h101km±1km, MD4.5/37, MW4.6/37, FAR S OFF BOSO PENINSULA*

JMA Felt II J1 at FAR S OFF BOSO PENINSULA.

NIED ***22*** *18:45:19.7, 34.54N×140.07E, h101km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.03; Mθθ=0.47; Mφφ=0.50; Mrθ=1.98; Mθφ=1.32; Mφr=7.16; Fault plane solution: M0=7.56000×10^15 NP1:φs=77.00000°, δ=11.00000°, λ=2.00000°. NP2:φs=345.00000°, δ=90.00000°, λ=101.00000°.*

IDC ***22*** *18:45:20.4±0.5, 34.50N×139.93E, h111km±4km, mb4.5/29, mbtmp4.8/30, MS3.3/8 Error ellipse: s-maj=12.1km s-min=6.4km az=88.0*

NEIC ***22*** *18:45:20.4±1.9, 34.54N±0.05×140.05E±0.08, h113km±6km, mb4.9/185, Error ellipse: s-maj=9.5km s-min=6.7km az=92.0*

ISC 22 18:45:19.6±0.4, 34.48N±0.03×140.05E±0.04, h111km±2km, h111km:pP-P, n799, σ1.944/819, mb4.8/183, 31C-17D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.49**	**50**	*i* P		**Pn**		**18 45 35.6**	**-0.6**
BSO4	**Boso 4**	**0.56**	**25**	*i* P		**Pn**		**18 45 36.2**	**-0.6**
BSO4				S		**Sn**		**18 45 48.4**	**-1.4**
JIM2	**Oshima 3**	**0.56**	**295**	⇓*i* P		**Pn**		**18 45 36.0**	**-1.0**
JIM2				⇓S		**Sn**		**18 45 48.2**	**-1.9**
JIM2	**Oshima 3**	**0.56**	**295**	A		A		18 45 36.0	
	comp=E,203nm,0.4s,comp=E,278nm,0.4s								
TATJ	**Tateyama 2**	**0.56**	**346**	*i* P		**Pn**		**18 45 36.7**	**-0.3**
TATJ				*e*S		**Sn**		**18 45 48.8**	**-1.3**
TATJ	**Tateyama 2**	**0.56**	**346**	A		A		18 45 36.7	
	comp=E,227nm,1.4s,comp=E,165nm,0.4s								
JMYK	**Miyake Tsubota**	**0.59**	**225**	P		**Pn**		**18 45 37.1**	**-0.1**
JMYK				S		**Sn**		**18 45 50.2**	**-0.2**
JMYK	**Miyake Tsubota**	**0.59**	**225**	A		A		18 45 37.1	
	comp=E,65nm,0.5s,comp=E,77nm,0.5s								
JTHY	**Toshimahigashi**	**0.63**	**274**	A		A		18 45 36.9	
	comp=E,31nm,2.3s,comp=E,48nm,2.3s								
JNIO	**Niijimaoohara**	**0.66**	**259**	A		A		18 45 37.2	
	comp=E,58nm,1.5s,comp=E,44nm,1.5s								
JKUC	**kamogawauchiur**	**0.69**	**10**	A		A		18 45 36.7	
	comp=E,102nm,0.8s,comp=E,66nm,0.8s								
JMKN	**Mikurajimanish**	**0.70**	**213**	⇓P		**Pn**		**18 45 38.2**	**+0.1**
JMKN				⇓S		**Sn**		**18 45 52.0**	**0.0**
JMKN	**Mikurajimanish**	**0.70**	**213**	A		A		18 45 38.2	
	comp=E,81nm,0.4s,comp=E,57nm,0.9s								
JSKK	**Shikinejimakit**	**0.71**	**258**	A		A		18 45 37.7	
	comp=E,37nm,0.4s,comp=E,32nm,0.4s								
BSO1	**Boso 1**	**0.78**	**77**	*i* P		**Pn**		**18 45 37.7**	**-0.4**
JYO	**Yokosk**	**0.80**	**337**	A		A		18 45 37.9	
	comp=E,160nm,1.1s,comp=E,80nm,1.3s								
JKO	**Kozu shima**	**0.81**	**249**	A		A		18 45 38.8	
	comp=E,42nm,2.5s,comp=E,32nm,0.4s								
JCN	**Nagara**	**0.94**	**7**	A		A		18 45 39.1	
	comp=E,35nm,0.8s,comp=E,27nm,2.3s								
JHTM	**Izuhatsuma**	**0.98**	**299**	A		A		18 45 40.0	
	comp=E,92nm,0.4s,comp=E,88nm,0.3s								
JIZS	**Izushimoda**	**1.00**	**284**	⇓*i* P		**Pn**		**18 45 40.4**	**-0.4**
JIZS				⇓*e*S		**Sn**		**18 45 56.0**	**-0.9**
JIZS	**Izushimoda**	**1.00**	**284**	A		A		18 45 40.4	
	comp=E,10.0nm,2.5s,comp=E,9.0nm,1.8s								
JOD2	**Odawara 2**	**1.11**	**315**	⇓*i* P		**Pn**		**18 45 41.0**	**-1.1**
JOD2				⇓S		**Sn**		**18 45 57.0**	**-2.0**
JOD2	**Odawara 2**	**1.11**	**315**	A		A		18 45 41.0	
	comp=E,22nm,0.4s,comp=E,34nm,2.2s								
JSMT	**Sammumatsuo**	**1.20**	**16**	A		A		18 45 42.0	
	comp=E,28nm,0.9s,comp=E,18nm,0.5s								
TOK	**Tokyo**	**1.23**	**349**	A		A		18 45 42.3	
	comp=E,81nm,0.4s,comp=E,62nm,0.4s								
JSGW	**Sagamiharawaka**	**1.31**	**328**	A		A		18 45 43.5	
	comp=E,9.0nm,0.6s,comp=E,14nm,2.2s								
JFNN	**Fujinakano**	**1.33**	**303**	⇓*i* P		**Pn**		**18 45 44.3**	**-0.2**
JFNN				⇓S		**Sn**		**18 46 02.7**	**-0.6**
JFNN	**Fujinakano**	**1.33**	**303**	A		A		18 45 44.3	
	comp=E,22nm,2.4s,comp=E,13nm,0.5s								
JHJ	**Hachijo jima 2**	**1.38**	**189**	P		**Pn**		**18 45 45.7**	**+0.6**
	3μm,0.3s,baz=322,slow=16,SNR=256								
JHJ				S		**Sn**		**18 46 05.3**	**+0.9**
	7μm,0.3s,baz=94,slow=22,SNR=20								
JHJ2	**Mitsune**	**1.38**	**188**			**Pn**		**18 45 45.5**	**+0.4**
JHJ2					Sn	**Sn**		**18 46 04.5**	**+0.1**
JHJ2	**Mitsune**	**1.38**	**188**		P	**Pn**		**18 45 45.7**	**+0.6**
JHJ2	**Mitsune**	**1.38**	**188**	⇓P		**Pn**		**18 45 45.7**	**+0.6**
JHJ2				⇓S		**Sn**		**18 46 04.2**	**-0.2**
JHJ2	**Mitsune**	**1.38**	**188**	A		A		18 45 45.7	
	comp=E,25nm,0.5s,comp=E,29nm,0.4s								
CHOJ	**Chosi**	**1.39**	**28**	A		A		18 45 44.2	
	comp=E,8.0nm,1.1s,comp=E,8.0nm,2.0s								
JHU	**Hanno**	**1.50**	**335**	A		A		18 45 45.8	
	comp=E,7.0nm,1.5s,comp=E,11nm,1.9s								
JSG	**Sagara**	**1.55**	**278**	A		A		18 45 47.1	
	comp=E,28nm,2.5s,comp=E,11nm,1.1s								
SHZ3	**Shizuoka 3**	**1.62**	**291**	*i* P		**Pn**		**18 45 48.5**	**+0.5**
SHZ3				*e*S		**Sn**		**18 46 10.0**	**+0.4**
SHZ3	**Shizuoka 3**	**1.62**	**291**	A		A		18 45 48.5	
	comp=E,12nm,1.3s,comp=E,7.0nm,1.8s								
JKKS	**Kakegawashinom**	**1.73**	**279**	A		A		18 45 49.2	
	comp=E,13nm,3.8s,comp=E,8.0nm,1.0s								
JYT	**Yasato**	**1.74**	**4**	A		A		18 45 48.7	
	comp=E,11nm,0.4s,comp=E,7.0nm,0.4s								
JRY	**Ryogami san**	**1.80**	**329**	P		**Pn**		**18 45 49.7**	**-0.4**
JRY				S		**Sn**		**18 46 11.8**	**-1.5**
JRY	**Ryogami san**	**1.80**	**329**	A		A		18 45 49.7	
	comp=E,13nm,0.6s,comp=E,5.0nm,1.6s								
TK04	**Tokai 4**	**1.80**	**267**	⇓*i* P		**Pn**		**18 45 51.4**	**+1.4**
TK02	**Tokai 2**	**1.98**	**255**	⇓P		**Pn**		**18 45 53.6**	**+1.5**
JAG	**Ashikaga**	**2.00**	**346**	A		A		18 45 52.1	
	comp=E,3.0nm,2.2s,comp=E,3.0nm,0.6s								
JNY	**Yasuok**	**2.00**	**296**	A		A		18 45 52.6	
	comp=E,26nm,1.4s,comp=E,15nm,1.3s								
JNT	**Takato**	**2.09**	**312**	A		A		18 45 53.7	
	comp=E,6.0nm,0.8s,comp=E,5.0nm,7.8s								
JGK	**Kuni**	**2.37**	**331**	A		A		18 45 57.2	
	comp=E,7.0nm,0.9s,comp=E,5.0nm,3.0s								
JGF	**Kuroka**	**2.48**	**298**			**Pn**		**18 45 56.8**	**-2.0**
JGF						**Sn**		**18 46 27.3**	**-1.5**
JGF	**Kuroka**	**2.48**	**298**	P		**Pn**		**18 45 58.6**	**-0.2**
JGF	**Kuroka**	**2.48**	**298**	A		A		18 45 58.9	
	comp=E,6.0nm,2.1s,comp=E,4.0nm,2.5s								
MJA0	**Matsu Arr-Jizo**	**2.53**	**325**	*e*P		**Pn**		**18 45 59.1**	**-0.4**
MJA0					pmax	pmax			
	comp=Z,366nm,0.6s								
MJAR	**Matsushiro Arr**	**2.54**	**324**	P		**Pn**		**18 45 59.1**	**-0.5**
	comp=Z,189nm,0.5s,baz=152,slow=11,SNR=77								
MAJO	**Matsushiro**	**2.55**	**324**	Pn		**Pn**		**18 45 58.9**	**-0.7**
MAJO				Sn		**Sn**		**18 46 29.8**	**+0.3**
MJB9	**Matsu-Tunnel**	**2.55**	**324**	Pn		**Pn**		**18 46 00.0**	**+0.3**
INU	**Inuyama**	**2.64**	**290**	Pn		**Pn**		**18 46 01.4**	**+0.5**
INU				Sn		**Sn**		**18 46 30.7**	**-1.9**
INU	**Inuyama**	**2.64**	**290**	P		**Pn**		**18 46 01.9**	**+1.1**
JMM	**Marumori**	**3.43**	**10**	Pn		**Pn**		**18 46 09.7**	**-1.6**
JMM				Sn		**Sn**		**18 46 46.9**	**-4.4**
JSD	**Sado**	**3.83**	**338**	Pn		**Pn**		**18 46 14.8**	**-1.8**
JSD	**Sado**	**3.83**	**338**	P		**Pn**		**18 46 16.8**	**+0.2**
JMN	**Monobe**	**5.18**	**263**	Pn		**Pn**		**18 46 34.6**	**-0.2**
JMN	**Monobe**	**5.18**	**263**	P		**Pn**		**18 46 36.4**	**+1.6**
JHS	**Saijyo**	**5.73**	**277**	Pn		**Pn**		**18 46 43.5**	**+1.1**
JHS	**Saijyo**	**5.73**	**277**	P		**Pn**		**18 46 44.7**	**+2.3**
JTM	**Tenmabayashi**	**6.34**	**7**	Pn		**Pn**		**18 46 48.1**	**-2.4**
JTM	**Tenmabayashi**	**6.34**	**7**	P		**Pn**		**18 46 50.6**	**+0.1**
JCJ	**Chichijima**	**7.59**	**165**	P		**Pn**		**18 47 04.5**	**-3.1**
	comp=Z,71nm,0.3s,baz=17,slow=20,SNR=11								
JCJ				S		Sn		18 48 22.4	-10
	comp=Z,197nm,0.3s,baz=73,slow=23,SNR=7.6								
JCJ				LR		LR		18 49 33.5	
	comp=Z,59nm,22.0s,baz=63,slow=33								
JCJ	**Chichijima**	**7.59**	**165**	P		**Pn**		**18 47 05.1**	**-2.4**
JNU	**Nakatsue**	**7.76**	**262**	Pn		**Pn**		**18 47 10.9**	**+1.1**
JNU	**Nakatsue**	**7.76**	**262**	P		**Pn**		**18 47 11.3**	**+1.5**
ERM	**Erimo**	**7.91**	**17**	Pn		**Pn**		**18 47 08.6**	**-3.1**
ERM	**Erimo**	**7.91**	**17**	P		**Pn**		**18 47 09.6**	**-2.1**
ERM	**Erimo**	**7.91**	**17**	*i* P		**Pn**		**18 47 09.0**	**-2.7**
JEM	**Erimo**	**7.91**	**17**	P		**Pn**		**18 47 09.5**	**-2.2**
JSU	**Suzuyama**	**8.59**	**252**	Pn		**Pn**		**18 47 23.9**	**+2.8**
JTU	**Tsushima**	**8.79**	**273**	Pn		**Pn**		**18 47 22.1**	**-1.7**
JTU	**Tsushima**	**8.79**	**273**	P		**Pn**		**18 47 25.4**	**+1.6**
ASAJ	**Asahikawa**	**9.82**	**11**	P		**Pn**		**18 47 34.0**	**-3.6**
JKA	**Kamikawa-asahi**	**9.82**	**11**	Pn		**Pn**		**18 47 34.0**	**-3.6**
NMR	**Nemuro--Hokkai**	**9.91**	**25**	*e*P		Pn		18 47 33.8	-5.0
KSRS	**Korea Array**	**10.27**	**290**	P		**Pn**		**18 47 45.9**	**+2.1**
	comp=Z,12nm,0.6s,baz=104,slow=14,SNR=27								
KSRS				LR		LR		18 51 36.0	
	comp=Z,94nm,18.1s,baz=105,slow=37								
KSAR	**Wonju Array Be**	**10.29**	**290**	Pn		**Pn**		**18 47 43.4**	**-0.7**
KSAR	**Wonju Array Be**	**10.29**	**290**	P		**Pn**		**18 47 43.4**	**-0.7**
KS19	**Wonju Array Si**	**10.32**	**290**	Pn		**Pn**		**18 47 43.8**	**-0.7**
RUSJ	**Misakicho**	**10.41**	**21**	*e*P		**Pn**		**18 47 41.7**	**-4.0**
YUK	**Yuzh-Kuril'sk**	**10.54**	**24**	*e*P		Pn		18 47 40.9	-6.5
YUK					pmax	pmax			
	comp=Z,116nm,0.5s								
YUK					pmax	pmax			
	comp=E,47nm,0.3s								
INCN	**Inchon**	**11.28**	**289**	Pn		**Pn**		**18 47 53.6**	**-3.8**
INCN	**Inchon**	**11.28**	**289**	P		**Pn**		**18 47 53.6**	**-3.8**
JMZ	**Minamidaito 2**	**11.53**	**224**	Pn		**Pn**		**18 47 59.2**	**-1.5**
USA0B	**Ussuriysk Arra**	**11.53**	**330**	Pn		**Pn**		**18 47 57.6**	**-3.1**
USA0B	**Ussuriysk Arra**	**11.53**	**330**	P		**Pn**		**18 47 57.6**	**-3.1**
USRK	**Ussuriysk Ar.**	**11.53**	**330**	P		**Pn**		**18 47 57.7**	**-2.9**
	comp=E,4.4nm,0.6s,baz=134,slow=11,SNR=11								
USRK	**Ussuriysk Ar.**	**11.53**	**330**	Pn		**Pn**		**18 47 57.9**	**-2.8**
USRK	**Ussuriysk Ar.**	**11.53**	**330**	P		**Pn**		**18 47 57.9**	**-2.8**
KUR	**Kuril'sk**	**12.29**	**27**	*e*P		Pn		18 48 05.6	-5.1
KUR					pmax	pmax			
	comp=Z,77nm,1.1s								
YSS	**Yuzh-Sakhalins**	**12.62**	**8**	Pn		**Pn**		**18 48 11.3**	**-3.8**
YSS	**Yuzh-Sakhalins**	**12.62**	**8**	P		**Pn**		**18 48 11.1**	**-3.9**
YSS	**Yuzh-Sakhalins**	**12.62**	**8**	*e*P		**Pn**		**18 48 11.3**	**-3.8**
YSS					pmax	pmax			
	comp=Z,40nm,0.7s								
JOW	**Kunigami**	**12.68**	**236**	Pn		**P**		**18 48 21.3**	**-1.5**
MDJ	**Mudanjiang**	**12.93**	**325**	Pn		**Pn**		**18 48 18.9**	**-0.2**
MDJ	**Mudanjiang**	**12.93**	**325**	P		**Pn**		**18 48 18.6**	**-0.5**
MDJ					pmax	pmax			
	comp=Z,26nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,160nm,5.2s								
MDJ	**Mudanjiang**	**12.93**	**325**	P		**Pn**		**18 48 18.9**	**-0.2**
BNX	**BinXian**	**14.81**	**323**	⇓P		**Pn**		**18 48 41.9**	**-1.4**
BNX					pmax	pmax			
	comp=Z,15nm,0.9s								
BNX					pmax	pmax			
	comp=Z,250nm,4.5s								
KLR	**Kul'dur**	**15.96**	**340**	P		**Pn**		**18 48 54.7**	**-3.0**
	comp=Z,19nm,0.5s,baz=145,slow=10,SNR=49								
KLR	**Kul'dur**	**15.96**	**340**	*i* P		**Pn**		**18 48 55.4**	**-2.3**
KLR					pmax	pmax			
	comp=Z,12nm,0.6s								
GRNR	**Gornyy**	**16.49**	**352**	⇑*i* P		**P**		**18 49 04.8**	**-0.1**
GRNR					pmax	pmax			
	comp=N,7.0nm,0.5s								
GRNR					pmax	pmax			
	comp=Z,10.0nm,0.7s								
GRNR					MLR	MLR			
	comp=E,150nm,19.0s								
GRNR					MLR	MLR			
	comp=N,100nm,16.0s								
GRNR					MLR	MLR			
	comp=Z,150nm,16.0s								
NJ2	**Nanjing**	**17.89**	**268**	*e*P		**P**		**18 49 20.5**	**+0.1**
NJ2					pmax	pmax			
	comp=Z,14nm,1.4s								
HEH	**HeiHe**	**18.28**	**333**	*e*P		**P**		**18 49 21.4**	**-3.1**
HEH					pmax	pmax			
	comp=Z,43nm,0.8s								
TIA	**Tai'an**	**18.78**	**282**	*e*P		**Pn**		**18 49 31.6**	**-0.3**
TIA					pmax	pmax			
	comp=Z,8.0nm,0.8s								
YHNB	**Yeheng**	**18.93**	**244**	P		**P**		**18 49 29.6**	**-2.4**
YHNB	**Yeheng**	**18.93**	**244**	P		**P**		**18 49 32.5**	**+0.5**
NACB	**Ninganchiao**	**19.06**	**242**	P		**P**		**18 49 30.2**	**-3.0**
NACB	**Ninganchiao**	**19.06**	**242**	P		**P**		**18 49 30.5**	**-2.8**
	comp=Z,39nm,1.9s								
YULB	**Yu-li**	**19.75**	**241**	P		**P**		**18 49 37.7**	**-3.1**
YULB	**Yu-li**	**19.75**	**241**	P		**P**		**18 49 39.2**	**-1.6**
SSLB	**Suanglung**	**19.76**	**242**	P		**P**		**18 49 39.3**	**-1.6**
SSLB	**Suanglung**	**19.76**	**242**	P		**P**		**18 49 39.3**	**-1.6**
BJI	**Beijing**	**19.77**	**293**	P		**P**		**18 49 39.1**	**-1.7**
BJT	**Baijiatuau**	**19.77**	**293**	P		**P**		**18 49 39.1**	**-1.8**
BJT	**Baijiatuau**	**19.77**	**293**	P		**P**		**18 49 39.1**	**-1.8**
TPUB	**Ta-pu**	**20.29**	**242**	P		**P**		**18 49 44.7**	**-2.0**
TPUB	**Ta-pu**	**20.29**	**242**	P		**P**		**18 49 45.7**	**-0.9**
XLT	**XiLinHaoTe**	**20.76**	**304**	⇓*i* P		Pn		18 49 54.3	-0.7
XLT					pmax	pmax			
	comp=Z,65nm,0.8s								
XLT					pmax	pmax			
	comp=Z,190nm,4.8s								
HIA	**Hailar**	**21.04**	**321**	P		**P**		**18 49 52.5**	**-2.0**
HIA	**Hailar**	**21.04**	**321**	P		**P**		**18 49 52.5**	**-2.0**
ZEA	**Zeya**	**21.27**	**339**	*e*P		**P**		**18 49 55.7**	**-1.1**
ZEA					pmax	pmax			
	comp=E,20nm,1.3s								
ZEA					pmax	pmax			
	comp=N,30nm,0.7s								
ZEA					pmax	pmax			
	comp=Z,80nm,0.6s								
WHN	**Wuhan**	**22.01**	**267**	⇑P		**P**		**18 50 05.1**	**+0.3**
WHN					pmax	pmax			
	comp=Z,50nm,0.6s								
PETK	**Petropavlovsk-**	**22.45**	**29**	P		**P**		**18 50 09.7**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=221,slow=9.5,SNR=8.6								
HHC	**Hu-ho-hao-te**	**23.37**	**294**	*e*P		**P**		**18 50 17.6**	**-0.7**
HHC					pmax	pmax			
	comp=Z,42nm,0.8s								
HHC					pmax	pmax			
	comp=Z,260nm,5.5s								
XAN	**Xi'an**	**25.68**	**278**	⇑P		**P**		**18 50 37.8**	**-1.5**
XAN					pP	pP		18 51 00.4	-3.0
XAN					pmax	pmax			
	comp=Z,42nm,0.7s								
MA2	**Magadan**	**26.08**	**12**	P		**P**		**18 50 43.5**	**+1.0**
	comp=Z,16nm,0.7s,baz=206,slow=9.6,SNR=8.3								
MA2				LR		LR		19 01 59.6	
	comp=Z,83nm,21.5s,baz=68,slow=38								
	comp=Z,16nm,0.7s								
MA2	**Magadan**	**26.08**	**12**	P		**P**		**18 50 42.1**	**-0.4**
ENH	**Enshi**	**26.10**	**269**	P		**P**		**18 50 41.6**	**-1.5**
ENH					IAmb	IAmb		18 50 43.1	
	comp=Z,19nm,0.6s								
ENH	**Enshi**	**26.10**	**269**	P		**P**		**18 50 41.1**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**27.94**	**115**	T		T		19 21 22.8	
	baz=308,slow=75,SNR=697								
H11N1	**WAKE ISLAND Hy**	**27.95**	**115**	T		T		19 21 03.2	
	baz=308,slow=75,SNR=332								
H11N3	**WAKE ISLAND Hy**	**27

CM31 Chiang Mai Arr 39.81 257 P **P** **18 52 40.3 -1.8**
CM31 IAmb IAmb 18 52 43.5
comp=Z,9,9nm,0.6s
CMAR Chiang Mai Arr 39.81 257 P **P** **18 52 41.5 -0.6**
comp=Z,7,3nm,0.7s,baz=47,slow=7.5,SNR=75
CMAR ScP **ScP** **18 58 26.8 +2.0**
comp=Z,0.8nm,0.8s,baz=26,slow=2.6,SNR=4.9
CMAR LR LR 19 09 08.2
comp=Z,32nm,20.0s,baz=245,slow=36
comp=Z,7,3nm,0.7s
CMAR Chiang Mai Arr 39.81 257 P **P** **18 52 41.2 -0.9**
CMAR PcP **PcP** **18 54 47.2 +1.1**
NIKH Nikolski High 40.31 47 P **P** **18 52 43.7 -2.0**
NIKH Nikolski High 40.31 47 P **P** **18 52 46.2 +0.5**
baz=264
DGZ Jazzator, Alta 41.04 308*c* *i*P **P** **18 52 53.4 +1.4**
DGZ pmax pmax
comp=Z,51nm,0.7s
WMQ Urumqi 41.06 299 *e*P **P** **18 52 53.3 +1.1**
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,110nm,6.3s
WMQ LR LR
comp=Z,130nm,20.9s
SBUM Sibu 41.08 225 P **P** **18 52 51.3 -1.3**
LSA Lhasa 41.39 277 P **P** **18 52 54.1 -1.4**
LSA IAmb IAmb 18 52 56.4
comp=Z,9.0nm,0.8s
LSA Lhasa 41.39 277 P **P** **18 52 56.7 +1.2**
LSA Lhasa 41.39 277 P **P** **18 52 54.1 -1.4**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 41.39 277 P **P** **18 52 55.3 -0.2**
LSA pP **pP** **18 53 22.6 +1.8**
SHL Shillong 42.31 271 P **P** **18 53 00.7 -2.0**
SHL Shillong 42.31 271 P **P** **18 53 00.7 -2.0**
SHL pmax pmax
comp=Z,22nm,0.4s
ZSN Zaisan 42.78 305 *e*P **P** **18 53 05.8 -0.2**
comp=Z,13nm,0.7s,baz=305
ZSN Zaisan 42.78 305 *e*P **P** **18 53 05.8 -0.2**
ZSN pmax pmax
comp=Z,13nm,0.7s
ZAA0 Zalesovo Array 42.86 314 P **P** **18 53 06.2 -0.3**
ZAA0 IAmb IAmb 18 53 09.5
comp=Z,20nm,0.8s
ZAA0 PcP **PcP** **18 54 56.0 +0.5**
ZALV Zalesovo Beam 42.86 314 P **P** **18 53 06.5 +0.1**
comp=Z,19nm,0.5s,baz=93,slow=6.4,SNR=53
ZALV PcP **PcP** **18 54 55.6 +0.1**
comp=Z,3.5nm,0.4s,baz=107,slow=3.4,SNR=7.2
ZALV ScP **ScP** **18 58 36.5 +0.3**
comp=Z,1.0nm,0.7s,baz=113,slow=3.3,SNR=3.2
comp=Z,19nm,0.5s
ZALV Zalesovo Beam 42.86 314 P **P** **18 53 06.6 +0.1**
ZALV PcP **PcP** **18 54 54.9 -0.6**
ZALV Zalesovo Beam 42.86 314 P **P** **18 53 06.6 +0.1**
ZALV 18 54 54.9
KSM Kuching 43.00 227 P **P** **18 53 06.7 -1.4**
KSM IAmb IAmb 18 53 09.2
comp=Z,13nm,0.6s
MK31 Makanchi Array 44.58 304 P **P** **18 53 20.7 +0.2**
MK31 IAmb IAmb 18 53 22.0
comp=Z,26nm,0.8s
MK31 Makanchi Array 44.58 304 *i* P **P** **18 53 20.8 +0.3**
MK31 pmax pmax
comp=Z,19nm,0.4s
MKAR Makanchi Array 44.58 304 P **P** **18 53 21.1 +0.5**
comp=Z,18nm,0.5s,baz=84,slow=9.6,SNR=254
MKAR ScP **ScP** **18 58 44.0 +0.5**
comp=Z,1.0nm,0.8s,baz=69,slow=6.4,SNR=5.3
comp=Z,18nm,0.5s
MKAR Makanchi Array 44.58 304 P **P** **18 53 20.5 0.0**
MKAR Makanchi Array 44.58 304 *e*P **P** **18 53 21.0 +0.5**
MKAR pmax pmax
comp=Z,19nm,0.5s
MAKZ Makanchi 44.79 304 P **P** **18 53 22.5 +0.3**
MAKZ IAmb IAmb 18 53 23.8
comp=Z,40nm,1.1s
MAKZ Makanchi 44.79 304 P **P** **18 53 22.5 +0.3**
MAKZ pmax pmax
comp=Z,40nm,1.1s
MAKZ Makanchi 44.79 304 P **P** **18 53 22.9 +0.7**
TAPN Taplejung 45.05 276 *e*P **P** **18 53 24.0 -0.8**
comp=Z,37nm,0.3s
NRIK Noril'sk 45.14 337 P **P** **18 53 25.0 +0.4**
comp=Z,4.8nm,0.5s,baz=111,slow=11,SNR=12
comp=Z,4.8nm,0.5s
NRIK Noril'sk 45.14 337 P **P** **18 53 24.6 +0.1**
SRIT Nakonsritamara 45.14 245 P **P** **18 53 24.5 -0.8**
SRIT IAmb IAmb 18 53 25.8
comp=Z,16nm,0.9s
ODAN Odare 45.51 275 *e*P **P** **18 53 27.6 -0.7**
CHNA Chernabura Isl 45.89 44 P **P** **18 53 31.0 +0.4**
baz=270
RAMN Ramite 46.12 276 *e*P **P** **18 53 32.3 -0.8**
comp=Z,54nm,0.4s
JIRN Jiri 46.18 277 *e*P **P** **18 53 33.5 -0.3**
comp=Z,172nm,0.4s
GUN Gumba 46.34 277 *e*P **P** **18 53 34.7 -0.3**
comp=Z,66nm,0.5s
SOEI Soe 46.47 202 P **P** **18 53 34.5 -1.2**
N16K Nishlik Lake 46.62 37 P **P** **18 53 37.2 +0.9**
baz=265
KURK Kurchatov 46.67 310 P **P** **18 53 36.5 -0.4**
KURK Kurchatov 46.67 310 P **P** **18 53 37.2 +0.4**
KURK Kurchatov 46.67 310*c* *i*P **P** **18 53 36.9 +0.1**
KURK pmax pmax
comp=Z,27nm,0.8s
KURK Kurchatov 46.67 310 P **P** **18 53 37.0 +0.2**
KURBB Kurchatov Arra 46.74 310 P **P** **18 53 37.4 +0.1**
comp=Z,15nm,0.5s,baz=90,slow=7.4,SNR=12
comp=Z,15nm,0.5s
KURBB Kurchatov Arra 46.74 310 P **P** **18 53 37.0 -0.3**
PKI Pulchoki 46.86 277 *e*P **P** **18 53 38.1 -0.9**
comp=Z,27nm,0.4s
PKIN Phulchoki 46.87 277 *e*P **P** **18 53 38.0 -1.0**
comp=Z,34nm,0.4s
KKN Kakani 46.88 277 *e*P **P** **18 53 38.4 -0.6**
IPM Ipoh 46.88 239 P **P** **18 53 37.1 -1.8**
IPM IAmb IAmb 18 53 38.2
comp=Z,16nm,0.7s
IPM Ipoh 46.88 239 P **P** **18 53 36.9 -2.0**
O16K Kokwok River B 46.89 38 P **P** **18 53 39.5 +1.2**
baz=266
P16K Nushagak River 46.91 39 P **P** **18 53 39.7 +1.2**
baz=267
PDGK Podgornoye 47.03 300 P **P** **18 53 39.8 -0.1**
SHLS Shalkode 47.08 299 *e*P **P** **18 53 37.0 -3.4**
comp=Z,12nm,1.3s,baz=299
SHLS Shalkode 47.08 299 *e*P **P** **18 53 36.9 -3.4**
SHLS pmax pmax
comp=Z,12nm,1.3s
BATI Baumata 47.09 202 P **P** **18 53 40.4 0.0**
comp=Z,19nm,0.5s,baz=49,slow=3.5,SNR=11
comp=Z,19nm,0.5s
DMN Daman 47.09 277 *e*P **P** **18 53 40.0 -0.7**
comp=Z,24nm,0.3s
GKN Gorkha 47.33 278 *e*P **P** **18 53 41.9 -0.5**
comp=Z,51nm,0.3s
UZB Uzynbulak 47.40 300 *e*P **P** **18 53 42.0 -0.8**
baz=300
UZB Uzynbulak 47.40 300 *e*P **P** **18 53 42.0 -0.8**
O17K Koliganek Bris 47.40 38 P **P** **18 53 43.7 +1.3**
baz=267
KDU Kakadu 47.46 190 P **P** **18 53 43.2 0.0**
KPKS Kokpek 47.58 300 *e*P **P** **18 53 43.6 -0.5**
comp=Z,7,4nm,0.8s,baz=300
KPKS Kokpek 47.58 300 *e*P **P** **18 53 43.6 -0.5**
KPKS pmax pmax
comp=Z,7.0nm,0.8s
Q16K King Salmon 47.58 39 P **P** **18 53 44.9 +1.2**
baz=268
P17K Kvichak River 47.71 39 P **P** **18 53 46.6 +1.9**
baz=268
MTN Manton Dam 47.82 192 P **P** **18 53 45.0 -1.1**
MTN Manton Dam 47.82 192 P **P** **18 53 45.5 -0.5**
SATY Saty 47.86 300 *e*P **P** **18 53 45.9 -0.5**
comp=Z,13nm,1.7s,baz=300
SATY Saty 47.86 300 *e*P **P** **18 53 45.8 -0.5**
SATY pmax pmax
comp=Z,13nm,1.7s
DANN Dangsing 47.91 279 *e*P **P** **18 53 47.0 -0.1**
comp=Z,144nm,0.6s
GCSA Galena City Sc 47.97 31 P **P** **18 53 48.3 +1.7**
baz=263
PLAI Plampang 47.97 210 P **P** **18 53 45.7 -1.5**
comp=Z,14nm,0.7s
Q17K Contact Creek 47.98 40 P **P** **18 53 47.5 +0.6**
baz=269
ARXS Arharly 48.05 301 *e*P **P** **18 53 48.4 +0.7**
N18K Kilae Creek 48.05 37 P **P** **18 53 48.8 +1.3**
baz=267
TTA Tatalina 48.15 33 P **P** **18 53 49.5 +1.3**
baz=265
COEN Coen 48.26 176 P **P** **18 53 51.9 +2.5**
P18K Big Mountain, 48.34 38 P **P** **18 53 50.0 +0.4**
baz=269
TARG Taragay, Kyrgy 48.58 298 P **P** **18 53 52.6 +0.4**
TARG IAmb IAmb 18 53 54.9
comp=Z,29nm,0.9s
TARG Taragay, Kyrgy 48.58 298 P **P** **18 53 52.6 +0.4**
TARG pmax pmax
comp=Z,29nm,0.9s
L19K White Mountain 48.63 35 P **P** **18 53 53.0 +1.2**
baz=267
N19K Bonanza Creek 48.75 36 P **P** **18 53 54.1 +1.2**
baz=268
MDOK Medeo 48.81 300 *e*P **P** **18 53 53.4 -0.3**
baz=300
MDOK Medeo 48.81 300 *e*P **P** **18 53 53.3 -0.3**
O19K Port Alsworth 48.81 37 P **P** **18 53 54.4 +1.2**
baz=269
M19K Big River Lodg 48.83 35 P **P** **18 53 55.1 +1.7**
baz=267
K20K Telida 49.06 33 P **P** **18 53 57.0 +1.9**
K20K IAmb IAmb 18 53 58.3
comp=Z,17nm,0.8s
K20K PcP **PcP** **18 55 17.0 -0.1**
K20K Telida 49.06 33 P **P** **18 53 57.1 +2.0**
baz=266
J20K Nowinta River 49.08 32 P **P** **18 53 56.5 +1.2**
J20K IAmb IAmb 18 53 58.4
comp=Z,13nm,0.8s
J20K Nowinta River 49.08 32 P **P** **18 53 57.2 +2.0**
baz=266
L20K Farewell, AK 49.10 34 P **P** **18 53 57.5 +2.1**
baz=267
KUU Kurty 49.17 301 *e*P **P** **18 53 55.0 -1.2**
baz=301
KUU Kurty 49.17 301 *e*P **P** **18 53 55.0 -1.2**
M20K Styx River 49.43 35 P **P** **18 54 00.4 +2.4**
baz=269
PSI Prapat 49.55 240 P **P** **18 53 57.6 -1.9**
PSI pmax pmax
comp=Z,13nm,0.9s
G21K Allakaket 49.56 29 P **P** **18 54 00.8 +1.9**
baz=264
RSO Redoubt South 49.59 37 P **P** **18 53 58.4 -1.0**
RPSI Rantau Prapat 49.62 240 P **P** **18 53 57.6 -2.3**
RPSI IAmb IAmb 18 54 00.5
comp=Z,13nm,0.9s
F21K Alatna River 49.64 28 P **P** **18 54 01.4 +1.9**
baz=264
H21K Melozitna Rive 49.77 30 P **P** **18 54 02.0 +1.6**
H21K IAmb IAmb 18 54 03.4
comp=Z,9.8nm,0.8s
H21K Melozitna Rive 49.77 30 P **P** **18 54 02.8 +2.4**
baz=266
Q20K Shuyak Island 49.81 39 P **P** **18 54 02.7 +1.9**
baz=272
N20K Mount Spurr 49.86 36 P **P** **18 54 03.1 +1.8**
baz=270,SNR=7.5
SPCR Spurr Chakacha 49.86 36 P **P** **18 54 02.9 +1.6**
baz=270,SNR=6.3
CHUM Lake Minchumin 49.87 32 P **P** **18 54 03.5 +2.3**
baz=268,SNR=5.3
PPLA Purkeypile 49.89 34 P **P** **18 54 03.8 +2.2**
baz=268
TKM2 Tokmak 2 49.90 300 P **P** **18 54 03.4 +1.3**
SNR=21
TKM2 Tokmak 2 49.90 300 *i* P **P** **18 54 02.1 +0.1**
TKM2 pmax pmax
comp=Z,43nm,1.2s
CAST Castle Rocks 49.96 33 P **P** **18 54 03.8 +1.9**
CAST Castle Rocks 49.96 33 P **P** **18 54 04.2 +2.4**
baz=268
NRN Naryn 49.96 298 P **P** **18 54 03.0 +0.4**
NRN IAmb IAmb 18 54 04.3
comp=Z,10nm,0.8s
NRN Naryn 49.96 298 P **P** **18 54 03.0 +0.4**
NRN pmax pmax
comp=Z,10.0nm,0.8s
I21K Tanana 50.08 31 P **P** **18 54 04.6 +1.9**
I21K IAmb IAmb 18 54 08.1
comp=Z,14nm,1.0s
I21K Tanana 50.08 31 P **P** **18 54 05.2 +2.4**
baz=267
F22K John River 50.17 28 P **P** **18 54 06.5 +3.1**
baz=265
SKT Skwentna 50.19 35 P **P** **18 54 05.0 +1.3**
SKT IAmb IAmb 18 54 06.0
comp=Z,7.2nm,0.8s
SKT Skwentna 50.19 35 P **P** **18 54 05.4 +1.8**
baz=270
H22K Ishtalitna Cre 50.37 30 P **P** **18 54 07.5 +2.6**
baz=267,SNR=11
E22K Anaktuvuk Pass 50.37 27 P **P** **18 54 07.0 +2.0**
baz=264
G22K Bettles 50.39 28 P **P** **18 54 07.0 +2.0**
baz=266
KBK Karagaybulak 50.43 300 P **P** **18 54 07.1 +1.2**
SNR=20
KSH Kashi 50.47 296 P **P** **18 54 10.3 +4.1**
KSH pP pP 18 54 31.9 -0.5
KSH PP **PP** **18 56 09.3 +6.5**
KSH pmax pmax
comp=Z,29nm,0.8s
SGDS Sogindy 50.47 301 *e*P **P** **18 54 06.0 -0.1**
comp=Z,12nm,1.7s,baz=301
SGDS Sogindy 50.47 301 *e*P **P** **18 54 06.0 -0.1**
SGDS pmax pmax
comp=Z,12nm,1.7s
KTH Kantishna Hill 50.48 33 P **P** **18 54 07.4 +1.5**
KTH IAmb IAmb 18 54 09.3
comp=Z,30nm,1.2s
CHMS Chumysh 50.49 300 P **P** **18 54 07.0 +0.8**
SNR=6.3
BTLS Baital 50.53 303 *e*P **P** **18 54 06.0 -0.5**
comp=Z,13nm,0.8s,baz=303
BTLS Baital 50.53 303 *e*P **P** **18 54 06.0 -0.5**
BTLS pmax pmax
comp=Z,13nm,0.8s
BRZS Berezniki 50.54 309 *e*P **P** **18 54 06.2 -0.2**
comp=Z,3.1nm,0.3s,baz=309
BRZS Berezniki 50.54 309 *e*P **P** **18 54 06.2 -0.2**
BRZS pmax pmax
comp=Z,3.0nm,0.3s
SUA Susitna One 50.56 36 P **P** **18 54 07.8 +1.2**
baz=271
MLY Manley 50.60 31 P **P** **18 54 08.0 +1.3**
MLY IAmb IAmb 18 54 09.8
comp=Z,18nm,1.0s
MLY Manley 50.60 31 P **P** **18 54 09.0 +2.3**
baz=268,SNR=9.2
BRSE Bradley Lake S 50.62 38 P **P** **18 54 08.9 +2.0**
baz=272
AAK Ala-Archa 50.76 300 P **P** **18 54 09.2 +0.8**
SNR=8.9
AAK Ala-Archa 50.76 300 P **P** **18 54 08.8 +0.4**
comp=Z,5.3nm,0.5s,baz=155,slow=6.9,SNR=20
comp=Z,5.3nm,0.5s
AAK Ala-Archa 50.76 300 P **P** **18 54 08.8 +0.4**
AAK IAmb IAmb 18 54 11.3
comp=Z,7.1nm,0.6s
AAK PcP **PcP** **18 55 24.1 +0.2**
AAK Ala-Archa 50.76 300 P **P** **18 54 08.0 -0.4**
AAK Ala-Archa 50.76 300 P **P** **18 54 08.7 +0.2**
AAK Ala-Archa 50.76 300 P **P** **18 54 09.0 +0.6**
TRF Thorofare Moun 50.77 33 P **P** **18 54 08.8 +0.7**
baz=270
CUT Chulitna 50.78 34 P **P** **18 54 09.1 +1.1**
baz=271
UCH Uchtor 50.84 299 P **P** **18 54 10.8 +1.3**
SNR=11
M22K Willow 50.86 35 P **P** **18 54 08.8 +0.2**
M22K Willow 50.86 35 P **P** **18 54 10.0 +1.4**
baz=271
D23K Nanushuk River 50.87 26 P **P** **18 54 10.8 +2.2**
baz=265
COLD Coldfoot 50.92 28 P **P** **18 54 10.6 +1.6**
baz=267
G23K Bananza Creek 50.96 29 P **P** **18 54 10.8 +1.4**
baz=267
C23K Itkillik River 50.97 25 P **P** **18 54 11.4 +2.0**
baz=264,SNR=6.6
KNRA Kununurra 51.02 194 P **P** **18 54 10.0 -0.3**
KNRA IAmb IAmb 18 55 05.3
comp=Z,22nm,1.1s
KNRA Kununurra 51.02 194 P **P** **18 54 09.9 -0.4**
RC01 Rabbit Creek A 51.06 36 P **P** **18 54 11.8 +1.6**
baz=272
O22K Cooper Landing 51.09 37 P **P** **18 54 12.0 +1.6**
baz=273
H23K Yukon River 51.12 30 P **P** **18 54 12.7 +2.1**
H23K IAmb IAmb 18 54 14.1
comp=Z,20nm,0.9s
H23K PcP **PcP** **18 55 26.6 +2.0**
H23K Yukon River 51.12 30 P **P** **18 54 13.1 +2.5**
baz=268
BWN Browne 51.13 32 P **P** **18 54 12.5 +1.8**
BWN PcP **PcP** **18 55 23.6 -1.1**
I23K Minto, Yukon-K 51.19 31 P **P** **18 54 13.0 +2.0**
baz=269
E23K Chandalar 51.19 27 P **P** **18 54 13.4 +2.2**
baz=267,SNR=13
TOLK Toolik Lake Re 51.24 26 P **P** **18 54 12.4 +0.9**
TOLK IAmb IAmb 18 54 14.8
comp=Z,10.0nm,1.0s
TOLK Toolik Lake Re 51.24 26 P **P** **18 54 13.5 +2.0**
baz=266,SNR=7.6
LEM Lembang 51.26 223 P **P** **18 54 11.8 -0.6**
comp=Z,15nm,0.5s,baz=16,slow=15
comp=Z,15nm,0.5s
NEA2 Nenana 51.30 31 P **P** **18 54 13.0 +1.0**
NEA2 Nenana 51.30 31 P **P** **18 54 14.3 +2.3**
baz=270,SNR=6.7
PMR Palmer 51.34 35 P **P** **18 54 13.3 +1.1**
baz=272
MCK McKinley 51.37 33 P **P** **18 54 12.6 +0.1**
MCK IAmb IAmb 18 54 16.6
comp=Z,16nm,1.0s
MCK McKinley 51.37 33 P **P** **18 54 13.7 +1.2**
baz=271
MCK McKinley 51.37 33 P **P** **18 54 12.6 +0.1**
MCK pmax pmax
comp=Z,16nm,1.0s
RND Reindeer 51.41 33 P **P** **18 54 12.7 -0.2**
RND IAmb IAmb 18 54 14.8
comp=Z,13nm,1.0s
RND Reindeer 51.41 33 P **P** **18 54 12.7 -0.2**
RND pmax pmax
comp=Z,13nm,1.0s
GHO Glory Hole Cre 51.43 35 P **P** **18 54 13.1 +0.1**
AML Almayashu 51.46 299 P **P** **18 54 15.3 +1.4**
SNR=31
GSI Gunungsitoli 51.55 240 P **P** **18 54 12.6 -1.9**
GSI Gunungsitoli 51.55 240 P **P** **18 54 13.4 -1.0**
BRVK Borovoye 51.55 314 P **P** **18 54 13.7 -0.3**
BRVK IAmb IAmb 18 54 16.1
comp=Z,18nm,1.0s
BRVK Borovoye 51.55 314 P **P** **18 54 13.8 -0.2**
BRVK Borovoye 51.55 314 *i* P **P** **18 54 14.4 +0.4**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 51.55 314 P **P** **18 54 14.4 +0.4**
WAT1 Susitna Watana 51.56 34 P **P** **18 54 14.7 +0.7**
baz=272
E24K Your Creek 51.61 27 P **P** **18 54 16.7 +2.4**
baz=268
C24K Franklin Bluff 51.62 25 P **P** **18 54 16.2 +1.9**
baz=266,SNR=8.4
MDM Murphy Dome 51.66 31 P **P** **18 54 15.5 +0.9**
KNK Knik Glacier 51.67 36 P **P** **18 54 15.5 +0.7**
KNK Knik Glacier 51.67 36 P **P** **18 54 15.8 +1.1**
baz=273
SML Sawmill 51.71 35 P **P** **18 54 14.9 -0.1**
SML Sawmill 51.71 35 P **P** **18 54 16.7 +1.7**
baz=273,SNR=7.1
WRH Wood River Hil 51.73 32 P **P** **18 54 15.9 +0.8**
WRH IAmb IAmb 18 54 18.7
comp=Z,9.4nm,0.7s
PWL Port Wells 51.76 36 P **P** **18 54 16.9 +1.5**
baz=274
H24K Noodor Dome 51.81 30 P **P** **18 54 16.2 +0.5**
H24K IAmb IAmb 18 54 19.2
comp=Z,19nm,1.2s
H24K Noodor Dome 51.81 30 P **P** **18 54 17.7 +2.0**
baz=270
TCOL CIGO, UAF Yank 51.82 31 P **P** **18 54 17.4 +1.6**
TCOL IAmb IAmb 18 54 19.0
comp=Z,13nm,0.8s
TCOL CIGO, UAF Yank 51.82 31 P **P** **18 54 17.4 +1.6**
baz=271
F24K Squaw Lake 51.82 28 P **P** **18 54 17.6 +1.8**
baz=269
COLA College 51.83 31 P **P** **18 54 17.6 +1.8**
baz=271
CCB Clear Creek Bu 51.85 31 P **P** **18 54 17.4 +1.4**
WAT6 Susitna Watana 51.95 34 P **P** **18 54 18.5 +1.6**
baz=273
G24K Hadweenzic Riv 51.97 29 P **P** **18 54 19.3 +2.4**
baz=270
M23K Glacier View 51.99 35 P **P** **18 54 18.8 +1.6**
baz=273
POKR Poker Plat Res 52.00 31 P **P** **18 54 18.6 +1.5**
POKR IAmb IAmb 18 54 20.2
comp=Z,23nm,0.8s
POKR Poker Plat Res 52.00 31 P **P** **18 54 19.8 +2.6**
baz=271,SNR=9.4
MNAI Manna 52.09 230 P **P** **18 54 19.3 +0.9**
DHY Denali Highway 52.09 33 P **P** **18 54 19.7 +1.7**
baz=273
SCM Sheep Creek Mo 52.18 35 P **P** **18 54 20.0 +1.4**
SCM Sheep Creek Mo 52.18 35 P **P** **18 54 20.2 +1.6**
baz=274
SCM Sheep Creek Mo 52.18 35 P **P** **18 54 20.0 +1.4**
SCM pmax pmax
comp=Z,29nm,0.9s
HDA Harding Lake 52.23 32 P **P** **18 54 19.0 +0.2**
HDA IAmb IAmb 18 54 20.4
comp=Z,17nm,0.9s
HDA Harding Lake 52.23 32 P **P** **18 54 20.0 +1.2**
baz=272,SNR=7.5
IL31 52.24 31 P **P** **18 54 19.1 +0.3**
IL31 IAmb IAmb 18 54 20.6
comp=Z,9.5nm,0.8s
ILAR Eielson Array 52.24 31 P **P** **18 54 19.6 +0.7**
comp=Z,9.0nm,0.8s,baz=271,slow=6.1,SNR=57
comp=Z,9.0nm,0.8s
ILAR Eielson Array 52.24 31 P **P** **18 54 18.5 -0.4**
G25K Bearman Lake 52.52 29 P **P** **18 54 23.1 +2.2**
baz=271
F25K Christian Rive 52.69 28 P **P** **18 54 24.5 +2.3**
baz=271
M24K Tolsona, Glenn 52.70 35 P **P** **18 54 24.4 +1.9**
baz=274
E25K Arctic Village 52.71 27 P **P** **18 54 25.0 +2.7**
baz=270,SNR=6.5
K24K Donnelly Dome 52.77 32 P **P** **18 54 24.1 +1.3**
baz=274
PRP Porcupine Dome 52.79 30 P **P** **18 54 23.9 +0.7**
PRP IAmb IAmb 18 54 25.6
comp=Z,5.6nm,0.7s
PRP Porcupine Dome 52.79 30 P **P** **18 54 24.9 +1.8**
baz=272
KLU Klutina 52.88 35 P **P** **18 54 25.0 +1.3**
baz=275
J25K Salcha River, 52.90 31 P **P** **18 54 24.5 +0.7**
baz=273
C26K Camden Bay 52.95 25 P **P** **18 54 26.5 +2.5**
baz=270
DZA Taraz 52.95 301 *e*P **P** **18 54 24.1 -0.4**
baz=301
DZA Taraz 52.95 301 *e*P **P** **18 54 24.1 -0.4**
PAX Paxson 52.96 33 P **P** **18 54 25.1 +0.7**
PAX IAmb IAmb 18 54 26.8
comp=Z,15nm,1.1s
PAX Paxson 52.96 33 P **P** **18 54 26.0 +1.6**
baz=274
PAX Paxson 52.96 33 P **P** **18 54 25.1 +0.7**
PAX pmax pmax
comp=Z,15nm,1.1s
DIV Divide 52.98 36 P **P** **18 54 25.3 +0.8**
DIV IAmb IAmb 18 54 27.4
comp=Z,29nm,1.3s
EYAK Cordova Ski Ar 53.05 37 P **P** **18 54 26.6 +1.7**
baz=276

BMAR **Burnt Mountain** 53.10 28 P P 18 54 25.6 +0.4
HARP **HAARP** 53.16 34 P P 18 54 27.5 +1.8
baz=275
F26K **Sheenjek River** 53.26 28 P P 18 54 28.8 +2.4
baz=272
C27K **Jago River** 53.37 25 P P 18 54 29.4 +2.2
baz=271
G26K **Porcupine Rive** 53.43 28 P P 18 54 30.4 +2.8
baz=273
KK31 **Karatay Array** 53.47 301 P P 18 54 28.7 +0.4
KK31 IAmb IAmb 18 54 30.0
comp=Z,30nm,1.2s
KK31 PcP PcP 18 55 33.3 -0.6
KK31 **Karatay Array** 53.47 301 *eP* P 18 54 28.4 +0.1
KKAR **Karatay Array** 53.47 301 P P 18 54 28.3 0.0
KKAR PcP PcP 18 55 33.5 -0.4
KKAR **Karatay Array** 53.47 301 P P 18 54 28.6 +0.2
KKAR IAmb IAmb 18 54 30.0
comp=Z,30nm,1.2s
KKAR **Karatay Array** 53.47 301 P P 18 54 28.3 0.0
KKAR pmax pmax
comp=Z,30nm,1.3s
N25K **Chitina, Valde** 53.49 35 P P 18 54 29.9 +1.6
baz=276
DOT **Dot Lake** 53.54 33 P P 18 54 28.4 -0.1
DOT IAmb IAmb 18 54 30.4
comp=Z,14nm,0.8s
SCRK **Sand Creek** 53.55 32 P P 18 54 29.2 +0.5
SCRK IAmb IAmb 18 54 30.7
comp=Z,14nm,0.7s
SCRK **Sand Creek** 53.55 32 P P 18 54 30.5 +1.8
baz=275,SNR=12
BMRM **Bremner River** 53.56 36 P P 18 54 30.2 +1.4
BMRM IAmb IAmb 18 54 34.5
comp=Z,20nm,0.9s
BMRM **Bremner River** 53.56 36 P P 18 54 30.9 +2.1
baz=277
DRK **Karamyk** 53.57 297 P P 18 54 28.7 -0.8
J26L **Joseph Creek** 53.69 31 P P 18 54 30.6 +0.9
J26L IAmb IAmb 18 54 31.3
comp=Z,5.8nm,0.7s
J26L **Joseph Creek** 53.69 31 P P 18 54 30.7 +1.1
baz=275
MENT **Mentasta** 53.76 33 P P 18 54 31.7 +1.6
MENT IAmb IAmb 18 54 33.1
comp=Z,16nm,0.7s
I26K **Coal Creek Min** 53.79 30 P P 18 54 31.2 +1.0
baz=275
L26K **Log Cabin Wild** 53.92 33 P P 18 54 32.6 +1.3
L26K **Log Cabin Wild** 53.92 33 P P 18 54 33.6 +2.3
baz=276,SNR=10
BTK **Batken** 54.12 298 P P 18 54 33.0 -0.2
BTK IAmb IAmb 18 54 35.4
comp=Z,9.6nm,0.8s
BTK **Batken** 54.12 298 P P 18 54 33.0 -0.2
BTK pmax pmax
comp=Z,10.0nm,0.8s
M26K **Nabesna, AK** 54.16 34 P P 18 54 34.6 +1.6
baz=277
E27K **Coleen River** 54.19 27 P P 18 54 35.6 +2.4
baz=274
WB0 **Warramunga Arr** 54.22 187 P P 18 54 33.7 -0.2
MCARA **McCarthy VSAT** 54.27 35 P P 18 54 35.8 +2.0
baz=278
G27K **Doyon Strip** 54.28 29 P P 18 54 36.3 +2.5
baz=275
CHM **Chimkent** 54.33 301 *eP* P 18 54 34.5 -0.2
baz=301
CHM **Chimkent** 54.33 301 *eP* P 18 54 34.4 -0.2
H27K **Steamboat Moun** 54.38 29 P P 18 54 36.9 +2.3
baz=275
WRAB **Tennant Creek** 54.39 187 P P 18 54 35.0 0.0
WRAB **Tennant Creek** 54.39 187 P P 18 54 35.3 +0.2
WRAB **Tennant Creek** 54.39 187 P P 18 54 35.0 0.0
WRAB pmax pmax
comp=Z,30nm,0.7s
WRAB **Tennant Creek** 54.39 187 P P 18 54 35.0 0.0
NIL **Nilore** 54.39 289 P P 18 54 34.9 -0.2
NIL **Nilore** 54.39 289 P P 18 54 35.0 -0.2
NIL **Nilore** 54.39 289 P P 18 54 34.9 -0.2
NIL pmax pmax
comp=Z,31nm,0.9s
NIL **Nilore** 54.39 289 P P 18 54 35.8 +0.6
WR0 **Warramunga Arr** 54.39 186 P P 18 54 35.2 +0.1
WB2 **Warramunga Arr** 54.40 187 P P 18 54 35.2 +0.1
WB2 PcP PcP 18 55 36.5 -1.0
WRA **Warramunga Arr** 54.40 187 P P 18 54 35.4 +0.3
comp=Z,21nm,0.5s,baz=23,slow=7.2,SNR=211
comp=Z,21nm,0.5s
WRA **Warramunga Arr** 54.40 187 P P 18 54 34.3 -0.9
I27K **Kandik River** 54.41 30 P P 18 54 36.9 +2.1
baz=276
L27K **Beaver Creek,** 54.61 33 P P 18 54 36.9 +0.6
L27K IAmb IAmb 18 54 39.3
comp=Z,19nm,1.2s
L27K PcP PcP 18 55 40.2 +2.3
L27K **Beaver Creek,** 54.61 33 P P 18 54 38.5 +2.3
baz=277
BCAR **Beaver Creek A** 54.63 33 P P 18 54 37.7 +1.3
BCAR PcP PcP 18 55 40.4 +2.4
M27K **Edge Creek, AK** 54.68 34 P P 18 54 38.6 +1.7
M27K IAmb IAmb 18 54 39.8
comp=Z,14nm,0.8s
M27K **Edge Creek, AK** 54.68 34 P P 18 54 38.9 +2.0
baz=278
EGAK **Eagle** 54.69 31 P P 18 54 37.5 +0.7
EGAK IAmb IAmb 18 54 38.5
comp=Z,8.1nm,0.7s
EGAK **Eagle** 54.69 31 P P 18 54 37.9 +1.1
baz=277,SNR=6.0
QIS **Mount Isa** 54.74 181 P P 18 54 37.8 +0.2
GAR **Garm** 54.82 297 P P 18 54 38.1 -0.2
BVCY **Beaver Creek** 55.14 34 P P 18 54 41.9 +1.8
baz=279
YUK3 **Moose Creek** 55.43 35 P P 18 54 44.4 +2.0
baz=280,SNR=5.7
DAWY **Dawson** 55.55 32 P P 18 54 42.8 -0.2
DAWY **Dawson** 55.55 32 P P 18 54 44.9 +1.9
baz=279
CHGR **Chuyangaron** 55.78 297 P P 18 54 44.9 -0.3
CHGR **Chuyangaron** 55.78 297 P P 18 54 44.9 -0.3
CHGR pmax pmax
comp=Z,125nm,0.7s
I29M **Ogilvie Camp,** 55.80 30 P P 18 54 45.0 +0.2
I29M IAmb IAmb 18 54 47.6
comp=Z,14nm,0.8s
I29M **Ogilvie Camp,** 55.80 30 P P 18 54 46.8 +1.9
baz=279,SNR=7.0
SIMJ **Simiganj** 55.90 297 P P 18 54 46.1 +0.1
SIMJ pP pP 18 55 15.1 +2.6
M29M **Somme Creek** 56.23 34 P P 18 54 50.8 +2.8
baz=281
L29M **L29M** 56.26 33 P P 18 54 51.0 +2.9
baz=280
EPYK **Eagle Plains** 56.29 29 P P 18 54 49.0 +0.8
EPYK **Eagle Plains** 56.29 29 P P 18 54 50.4 +2.2
baz=280,SNR=20
PNL **Peninsula** 56.33 37 P P 18 54 50.2 +1.6
YUK4 **Talbot Arm** 56.36 35 P P 18 54 51.5 +2.5
baz=281,SNR=5.3
G30M **tAoh Zraii Nji** 56.38 28 P P 18 54 50.8 +1.9
baz=280
K29M **Barlow Dome** 56.40 32 P P 18 54 51.4 +2.2
baz=281
YUK6 **Outpost Mounta** 56.57 35 P P 18 54 53.5 +3.0
baz=282,SNR=5.0
O29M **Mount Kennedy** 56.60 36 P P 18 54 53.1 +2.5
baz=282
M30M **Minto, Yukon** 56.97 33 P P 18 54 54.4 +1.2
M30M IAmb IAmb 18 54 56.5
comp=Z,13nm,0.8s
M30M **Minto, Yukon** 56.97 33 P P 18 54 55.7 +2.6
baz=282
HYT **Haines Junctio** 57.01 35 P P 18 54 54.5 +1.0
HYT IAmb IAmb 18 54 58.0
comp=Z,13nm,0.7s
HYT **Haines Junctio** 57.01 35 P P 18 54 56.3 +2.8
baz=282,SNR=7.1
INK **Inuvik** 57.16 26 P P 18 54 55.6 +1.4
comp=Z,7.2nm,0.7s,baz=284,slow=6.6,SNR=26
comp=Z,7.2nm,0.7s
INK **Inuvik** 57.16 26 P P 18 54 55.0 +0.8
INK IAmb IAmb 18 54 56.4
comp=Z,7.0nm,0.8s
INK **Inuvik** 57.16 26 P P 18 54 55.7 +1.5
baz=281,SNR=6.8

P29M **Windy Craggy** 57.16 37 P P 18 54 57.1 +2.6
baz=283,SNR=5.2
F31M **Tsiigehtchic** 57.25 27 P P 18 54 56.1 +1.2
baz=282
KBL **Kabul** 57.32 292 P P 18 54 55.6 -0.7
KBL IAmb IAmb 18 54 57.1
comp=Z,16nm,0.9s
KBL **Kabul** 57.32 292 P P 18 54 55.1 -1.1
KBL **Kabul** 57.32 292 P P 18 54 55.6 -0.7
KBL pmax pmax
comp=Z,16nm,1.0s
P30M **Million Dollar** 57.43 36 P P 18 54 59.1 +2.6
baz=283
ARU **Arti** 57.55 319 P P 18 54 56.8 -0.4
ARU IAmb IAmb 18 54 58.5
comp=Z,14nm,0.6s
ARU **Arti** 57.55 319 *c iP* P 18 54 57.5 +0.3
ARU *PP pP 18 55 24.1 +0.3
ARU S S 19 02 47.8 +1.6
ARU SS SS 19 06 35.8 -1.4
ARU pmax pmax
comp=Z,14nm,0.7s
ARU **Arti** 57.55 319 P P 18 54 57.5 +0.3
ARU pP pP 18 55 24.4 +0.6
N31M **Braeburn, Yuko** 57.67 34 P P 18 54 59.4 +1.3
N31M **Braeburn, Yuko** 57.67 34 P P 18 55 00.5 +2.4
baz=284,SNR=5.2
O30N **Mendenhall** 57.70 35 P P 18 55 00.5 +2.2
baz=284
PLBC **Pleasant Camp** 57.88 37 P P 18 55 02.3 +2.8
baz=284,SNR=7.3
AS01 **Alice Springs** 58.12 187 P P 18 55 02.3 +0.8
AS31 **Alice Springs** 58.12 187 P P 18 55 01.6 0.0
AS31 IAmb IAmb 18 55 05.0
comp=Z,3.6nm,0.5s
ASAR **Alice Springs** 58.12 187 P P 18 55 01.9 +0.3
comp=Z,3.5nm,0.5s,baz=21,slow=12,SNR=51
ASAR PcP PcP 18 55 50.6 -1.4
comp=Z,2.6nm,0.7s,baz=5.6,slow=6.1,SNR=5.1
ASAR ScP ScP 18 59 42.5 +0.7
comp=Z,0.7nm,0.7s,baz=17,slow=3.9,SNR=4.4
comp=Z,3.5nm,0.5s
ASAR **Alice Springs** 58.12 187 P P 18 55 01.2 -0.4
M31M **Drury Creek, Y** 58.14 33 P P 18 55 02.2 +0.9
M31M IAmb IAmb 18 55 04.3
comp=Z,16nm,0.8s
M31M **Drury Creek, Y** 58.14 33 P P 18 55 03.6 +2.3
baz=284,SNR=11
WHY **Whitehorse** 58.30 35 P P 18 55 02.8 +0.2
WHY **Whitehorse** 58.30 35 P P 18 55 05.1 +2.5
baz=285,SNR=9.8
SKAG **Skagway** 58.39 37 P P 18 55 05.2 +2.2
baz=285
FARO **Faro, Yukon** 58.61 33 P P 18 55 04.1 -0.5
FARO **Faro, Yukon** 58.61 33 P P 18 55 06.7 +2.1
baz=285,SNR=12
MBWA **Marble Bar** 58.61 202 P P 18 55 05.0 0.0
MBWA **Marble Bar** 58.61 202 P P 18 55 04.9 -0.1
AB31 **Akbulak array** 58.75 311 *i* P P 18 55 05.7 0.0
ABKAR **Akbulak array** 58.75 311 P P 18 55 05.3 -0.4
ABKAR **Akbulak array** 58.75 311 P P 18 55 05.5 -0.2
ABKAR IAmb IAmb 18 55 07.0
comp=Z,19nm,1.1s
PSA00 **Pilbara Seismi** 58.97 202 P P 18 55 06.8 -0.6
N32M **Quiet Lake** 59.02 34 P P 18 55 09.6 +2.2
baz=286
A36M **Sachs Harbour** 59.03 21 P P 18 55 08.0 +0.7
A36M IAmb IAmb 18 55 10.4
comp=Z,16nm,0.8s
A36M **Sachs Harbour** 59.03 21 P P 18 55 09.4 +2.1
baz=286,SNR=6.1
R32K **Eaglecrest** 59.12 38 P P 18 55 10.4 +2.2
baz=286
P32M **Atlin** 59.15 36 P P 18 55 10.4 +2.1
baz=286
P33M **Teslin, Yukon** 59.41 35 P P 18 55 12.1 +1.9
P33M **Teslin, Yukon** 59.41 35 P P 18 55 12.8 +2.6
baz=287,SNR=7.4
MMPY **Sheldon Lake,** 59.44 32 P P 18 55 12.7 +2.4
baz=286,SNR=5.9
AKTO **Aktyubinsk** 59.57 313 P P 18 55 11.1 -0.3
Q32M **Nakina River** 60.04 37 P P 18 55 17.0 +2.3
baz=288
C36M **Paulatuk** 60.20 24 P P 18 55 16.2 +0.8
C36M **Paulatuk** 60.20 24 P P 18 55 16.8 +1.4
baz=289,SNR=9.6
WRKA **Warakurna** 60.24 192 P P 18 55 16.9 +0.8
PALK **Pallekele** 60.75 258 P P 18 55 19.9 0.0
S34M **Telegraph Cree** 60.94 38 P P 18 55 22.6 +2.0
baz=289
TGTN **Hyland Airport** 61.11 33 P P 18 55 24.6 +2.8
baz=290,SNR=7.8
DLBC **Dease Lake** 61.32 37 P P 18 55 25.6 +2.4
baz=290
V35K **Ketchikan** 61.56 41 P P 18 55 26.9 +2.2
baz=290
KIRV **Kirov** 61.62 323 *i* P P 18 55 25.8 +0.7
T35M **Bob Quinn** 61.71 38 P P 18 55 28.1 +2.3
baz=290
INKA **Innaminka** 61.89 179 P P 18 55 28.5 +1.3
OOD **Oodnadatta** 62.08 184 P P 18 55 29.6 +1.2
PRGR **Pormogore** 62.31 327 *eP* P 18 55 29.2 -0.4
PRGR pmax pmax
comp=Z,11nm,0.9s
HRA **Herat** 62.54 294 P P 18 55 32.0 +0.1
HRA IAmb IAmb 18 55 34.4
comp=Z,11nm,0.7s
LIRD **Liard River Hi** 62.88 35 P P 18 55 35.6 +2.1
baz=292
KOTAN **Kotaneelee Air** 63.55 34 P P 18 55 39.6 +1.7
baz=293
MEEK **Meekatharra** 64.09 201 P P 18 55 42.2 +0.3
GEYT **Alibeck** 64.11 300 P P 18 55 42.6 +0.6
comp=Z,11nm,0.8s,baz=35,slow=3.6,SNR=22
comp=Z,11nm,0.8s
GEYT **Alibeck** 64.11 300 P P 18 55 42.5 +0.4
GEYT IAmb IAmb 18 55 43.6
comp=Z,10nm,0.8s
GYA0B **ALIBECK ARRAY** 64.11 300 P P 18 55 41.0 -1.1
GYA0B IAmb IAmb 18 55 47.6
comp=Z,11nm,0.8s
MULG **Mulgathing** 64.67 186 P P 18 55 44.4 -1.1
BELG **Belogornoye** 64.92 317 *c iP* P 18 55 46.8 -0.1
BELG pmax pmax
comp=Z,4.0nm,1.0s
KLMR **Klimovskoe** 65.32 328 *eP* P 18 55 48.5 -1.0
KLMR AMP 18 55 50.5
comp=Z,19nm,1.1s
KLMR **Klimovskoe** 65.32 328 *eP* P 18 55 48.4 -1.0
KLMR pmax pmax
comp=Z,19nm,1.1s
RES **Resolute Bay** 65.34 14 P P 18 55 49.4 +0.1
RES IAmb IAmb 18 55 51.1
comp=Z,6.7nm,0.8s
RES **Resolute Bay** 65.34 14 P P 18 55 49.4 +0.1
RES pmax pmax
comp=Z,7.0nm,0.9s
FORT **Forrest** 65.89 191 P P 18 55 54.0 +0.6
FORT **Forrest** 65.89 191 P P 18 55 54.2 +0.9
ARCES **ARCESS Array B** 65.99 339 P P 18 55 54.4 +0.8
comp=Z,0.8nm,0.3s,baz=61,slow=7.2,SNR=14
comp=Z,0.8nm,0.3s
STKA **Stephens Creek** 66.02 179 P P 18 55 55.4 +1.2
comp=Z,3.4nm,0.6s,baz=355,slow=7.5,SNR=12
comp=Z,3.4nm,0.6s
STKA **Stephens Creek** 66.02 179 P P 18 55 56.8 +2.6
STKA **Stephens Creek** 66.02 179 *eP* P 18 55 55.9 +1.7
STKA pmax pmax
comp=Z,3.0nm,0.6s
YKA **Yellowknife Ar** 66.57 29 P P 18 55 58.0 +0.7
comp=Z,2.8nm,0.8s,baz=302,slow=6.7,SNR=7.7
comp=Z,2.8nm,0.8s
YKA **Yellowknife Ar** 66.57 29 *eP* P 18 55 57.6 +0.2
YKA pmax pmax
comp=Z,2.0nm,0.5s
BBOO **Buckleboo** 67.04 184 P P 18 55 59.7 -1.0
MORW **Morawa** 67.16 203 P P 18 56 01.0 -0.4
MORW IAmb IAmb 18 56 03.4
comp=Z,18nm,0.7s
MORW **Morawa** 67.16 203 P P 18 56 01.9 +0.4
WAPA **Wapiti River** 68.05 37 P P 18 56 06.5 -0.5
BLDU **Ballidu** 68.39 202 P P 18 56 09.4 +0.2
KLBR **Kellerberrin** 69.00 200 P P 18 56 13.1 +0.2
OBN **Obninsk** 69.47 323 *eP* P 18 56 16.0 +0.4
OBN pmax pmax
comp=Z,7.0nm,0.8s

MUN **Mundaring** 69.81 201 P P 18 56 18.7 +0.8
VORR **Voronezh** 69.87 319 *eP* P 18 56 21.1 +3.0
VORR pmax pmax
comp=Z,50nm,0.4s
NWAO **Narrogin (SRO)** 70.40 200 P P 18 56 21.6 +0.1
NWAO **Narrogin (SRO)** 70.40 200 P P 18 56 21.9 +0.5
NWAO **Narrogin (SRO)** 70.40 200 P P 18 56 22.0 +0.5
NWAO **Narrogin (SRO)** 70.40 200 P P 18 56 21.6 +0.1
NWAO pmax pmax
comp=Z,28nm,0.8s
NWAO **Narrogin (SRO)** 70.40 200 P P 18 56 21.8 +0.3
WSAR **Wadi Sarin** 70.46 285 P P 18 56 22.9 +0.6
comp=Z,11nm,0.7s,baz=118,slow=4.2,SNR=9.2
comp=Z,11nm,0.7s
WBK **Wadi Bani Khal** 70.50 284 P P 18 56 20.7 -1.9
FINES **FINESS Array B** 70.55 332 P P 18 56 22.6 +0.4
comp=Z,4.5nm,0.5s,baz=72,slow=5.7,SNR=35
comp=Z,4.5nm,0.5s
BIDO **Bidbid** 70.72 286 P P 18 56 23.6 -0.2
BANOM **Banah** 70.97 289 P P 18 56 24.7 -0.7
BANOM **Banah** 70.97 289 P P 18 56 25.7 +0.3
SHME **Shamm** 71.03 289 P P 18 56 26.3 +0.6
SHME **Shamm** 71.03 289 P P 18 56 26.3 +0.6
JMDO **Jabal Madar** 71.31 285 P P 18 56 28.0 +0.5
HOQ **Hoqain** 71.34 286 P P 18 56 25.7 -1.9
MASF **Masafi** 71.36 288 P P 18 56 28.6 +0.9
MSFE **Esma-Masafi** 71.36 288 P P 18 56 29.3 +1.5
UOSS **Minazif** 71.53 288 P P 18 56 27.9 -0.8
UOSS **Minazif** 71.53 288 P P 18 56 28.0 -0.8
ZEI **Tsey** 71.56 310 *eP* P 18 56 28.2 -0.7
ZEI pmax pmax
comp=Z,7.0nm,0.8s
HATD **Hatta, Dubai** 71.65 288 P P 18 56 30.1 +0.6
HATD **Hatta, Dubai** 71.65 288 P P 18 56 30.3 +0.8
KBZ **Khabaz** 71.72 311 P P 18 56 30.3 +0.8
comp=Z,21nm,0.8s,baz=68,slow=4.3,SNR=41
comp=Z,21nm,0.8s
KBZ **Khabaz** 71.72 311 *eP* P 18 56 30.8 +1.3
KBZ pmax pmax
comp=Z,22nm,0.9s
KIV **Kislovodsk** 71.74 311 ⇑P P 18 56 31.4 +1.7
KIV **Kislovodsk** 71.74 311 P P 18 56 30.2 +0.4
KIV IAmb IAmb 18 56 32.5
comp=Z,24nm,0.8s
KIV **Kislovodsk** 71.74 311 P P 18 56 30.5 +0.8
KIV **Kislovodsk** 71.74 311 *eP* P 18 56 30.2 +0.4
KIV pmax pmax
comp=Z,33nm,1.1s
KIV **Kislovodsk** 71.74 311 P P 18 56 30.8 +1.0
ASHO **Ashiyiah** 71.78 288 P P 18 56 30.7 +0.5
ASHO **Ashiyiah** 71.78 288 P P 18 56 30.6 +0.3
BSY **Bisya** 71.85 285 P P 18 56 31.4 +0.7
SHA1 **Shidzhatmaz** 71.87 311 *i* P P 18 56 31.3 +0.6
ONI **Oni** 71.95 310 P P 18 56 31.2 +0.2
ONI **Oni** 71.95 310 P P 18 56 31.2 +0.2
ONI pmax pmax
comp=Z,7.0nm,0.9s
VSU **Vasula** 72.09 330 *eP* P 18 56 32.5 +1.1
ARQ **Araqi** 72.09 286 P P 18 56 31.8 -0.3
SNR=5.9
MHTO **MHTO** 72.12 283 P P 18 56 32.5 +0.2
ALNE **Al Ain** 72.34 287 P P 18 56 34.7 +1.1
GNI **Garni** 72.34 307 P P 18 56 33.7 +0.1
GNI **Garni** 72.34 307 *i* P P 18 56 35.0 +1.5
GNI pmax pmax
comp=Z,8.0nm,0.9s
ASUD **Al Ashush, Dub** 72.38 288 P P 18 56 34.3 +0.5
ASUD **Al Ashush, Dub** 72.38 288 P P 18 56 34.5 +0.7
RAF **Rauma** 72.44 333 *eP* P 18 56 33.6 +0.1
NEW **Newport** 72.74 43 P P 18 56 35.0 -0.6
NEW **Newport** 72.74 43 P P 18 56 36.8 +1.2
baz=303
NEW **Newport** 72.74 43 P P 18 56 35.0 -0.6
NEW pmax pmax
comp=Z,7.0nm,0.9s
PINE **Pine Mountain** 72.84 48 P P 18 56 37.0 +0.5
PINE IAmb IAmb 18 56 40.0
comp=Z,15nm,0.9s
E09A **Wood Farm, Sta** 73.09 45 P P 18 56 37.7 +0.1
E09A IAmb IAmb 18 56 40.5
comp=Z,29nm,1.7s
UMZA **Um Al Zommool** 73.48 286 P P 18 56 40.4 +0.1
MNK **Minsk** 73.98 326 *i* P P 18 56 44.0 +1.3
comp=E,2.0nm,0.8s
MNK *i* P P 18 56 44.0 +1.3
comp=N,33nm,0.9s
MNK *i* P P 18 56 44.0 +1.3
comp=Z,18nm,0.7s,baz=233
MNK *i* PcP PcP 18 56 58.6 +1.1
MNK *i* pP pP 18 57 11.7 +1.0
MNK *i* PP PP 18 59 30.0 +1.4
MNK *i* PPP PPP 19 01 15.4
MNK *i* S S 19 06 07.5 +1.7
MNK *i* sS sS 19 06 55.8 +1.7
MNK *i* SS SS 19 10 54.8 +3.3
MNK *i* SSS SSS 19 14 16.7
MNK *i* LRM MLR 19 31 25.4
comp=E,332nm,20.0s
MNK *i* LRM MLR 19 31 25.4
comp=N,2μm,20.6s
MNK *i* LRM MLR 19 31 30.6
comp=Z,155nm,16.8s
MNK **Minsk** 73.98 326 *i* P P 18 56 43.9 +1.3
MNK *i* 18 56 58.5
MNK *i* *PP pP 18 57 11.7 +1.0
MNK *i* 18 59 29.9
MNK *i* PPP PPP 19 01 15.3
MNK *i* S S 19 06 07.4 +1.7
MNK *i* 19 06 43.4
MNK *i* *SS sS 19 06 55.7 +1.7
MNK *i* SS SS 19 10 54.7 +3.3
MNK pmax pmax
comp=Z,18nm,0.7s
MNK pmax pmax
comp=N,33nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,2μm,21.0s
MNK MLR MLR
comp=E,332nm,20.0s
MNK MLR MLR
comp=Z,155nm,17.0s
ISAL **Salakas** 74.12 327 *eP* P 18 56 44.4 +0.9
IIGN **Ignalina** 74.22 327 *eP* P 18 56 45.0 +0.9
NACGM **Naroch** 74.24 327 *eP* P 18 56 35.6 -8.5
comp=Z,15nm,0.9s,baz=52
BMO **Blue Mountains** 74.48 46 P P 18 56 46.0 +0.1
BMO **Blue Mountains** 74.48 46 P P 18 56 46.0 +0.1
BMO pmax pmax
comp=Z,7.0nm,1.1s
J08A **Circle Bar Ran** 74.59 48 P P 18 56 46.6 0.0
MZR **Muzera** 74.66 287 P P 18 56 47.1 -0.1
MZR **Muzera** 74.66 287 P P 18 56 46.9 -0.3
ORV **Oroville** 74.71 52 P P 18 56 47.8 +0.6
ORV **Oroville** 74.71 52 P P 18 56 47.8 +0.6
ORV pmax pmax
comp=Z,7.0nm,0.9s
GURO **Guroymak-BITLI** 74.96 306 P P 18 56 48.5 -0.3
WVOR **Wild Horse Val** 74.99 49 P P 18 56 48.9 0.0
WVOR **Wild Horse Val** 74.99 49 P P 18 56 48.9 0.0
WVOR pmax pmax
comp=Z,14nm,1.5s
PABE **Paberze** 75.12 328 P P 18 56 48.9 -0.3
PABE IAmb IAmb 18 56 50.8
comp=Z,25nm,0.7s
PABE **Paberze** 75.12 328 *eP* P 18 56 49.3 +0.1
PLID **Pearl Lake** 75.12 45 P P 18 56 49.8 0.0
BEKR **Beckworth** 75.29 52 P P 18 56 50.8 0.0
BEKR IAmb IAmb 18 56 53.4
comp=Z,15nm,1.0s
MSO **Missoula** 75.33 43 P P 18 56 52.0 +1.2
baz=305
AFDM **Forest Hills D** 75.38 53 P P 18 56 51.3 +0.2
AKASG **Malin Array Be** 75.63 322 P P 18 56 52.4 +0.2
comp=Z,8.9nm,0.4s,baz=49,slow=6.0,SNR=125
AKASG pP pP 18 57 20.5 +0.6
comp=Z,1.1nm,0.3s,baz=50,slow=5.9,SNR=1.8
comp=Z,8.9nm,0.4s
AKASG **Malin Array Be** 75.63 322 P P 18 56 51.9 -0.4
AKBB **Malin Array Si** 75.63 322 P P 18 56 51.5 -0.7
AKBB IAmb IAmb 18 56 53.1
comp=Z,23nm,0.6s
AKBB **Malin Array Si** 75.63 322 *i* P P 18 56 51.1 -1.1

AKBB					pmax	pmax				
	comp=Z,8.0nm,0.9s									
MPK	**Martis Peak**	**75.81**	**52**	P	**P**		**18 56 52.7**	**-1.2**		
MPK				IAmb	IAmb		18 56 57.0			
	comp=Z,17nm,1.1s									
NC405	**NORSAR Array S**	**75.89**	**337**	P	**P**		**18 56 52.5**	**-1.1**		
EMB	**Emerald Bay**	**75.94**	**52**	P	**P**		**18 56 53.5**	**-1.0**		
EMB				IAmb	IAmb		18 56 57.4			
	comp=Z,11nm,0.9s									
PAHR	**Pah Rah Range**	**76.01**	**51**	P	**P**		**18 56 54.9**	**0.0**		
NB2	**NORSAR Subarra**	**76.10**	**337**	P	**P**		**18 56 55.4**	**+0.6**		
	comp=Z,3.1nm,0.8s,baz=42,slow=5.9									
NOA	**NORSAR Array B**	**76.10**	**337**	P	**P**		**18 56 55.1**	**+0.3**		
	comp=Z,3.6nm,0.7s,baz=42,slow=5.9,SNR=17									
	comp=Z,3.6nm,0.7s									
NOA	**NORSAR Array B**	**76.10**	**337**	*eP*	**P**		**18 56 55.1**	**+0.3**		
NOA				pmax	pmax					
	comp=Z,3.0nm,0.7s									
MFID	**Camas Ranch**	**76.17**	**47**	P	**P**		**18 56 56.0**	**+0.4**		
MFID				IAmb	IAmb		18 56 58.5			
	comp=Z,10nm,1.0s									
DMTO	**DMTO**	**76.25**	**282**	P	**P**		**18 56 56.3**	**-0.1**		
CMB	**Columbia Colle**	**76.26**	**53**	P	**P**		**18 56 56.5**	**+0.3**		
CMB	**Columbia Colle**	**76.26**	**53**	P	**P**		**18 56 56.5**	**+0.3**		
CMB				pmax	pmax					
	comp=Z,10.0nm,1.0s									
DOK	**Doka**	**76.44**	**283**	P	**P**		**18 56 57.2**	**-0.1**		
	SNR=18									
MARD	**Mardin**	**76.46**	**306**	P	**P**		**18 56 56.6**	**-0.8**		
MARD				IAmb	IAmb		18 56 59.4			
	comp=Z,15nm,0.6s									
YERR	**Yerington**	**76.50**	**52**	P	**P**		**18 56 57.8**	**+0.1**		
YERR				IAmb	IAmb		18 57 00.6			
	comp=Z,9.2nm,0.8s									
HRY	**Holter Researc**	**76.57**	**42**	P	**P**		**18 56 57.3**	**-0.5**		
WAKR	**Walker**	**76.63**	**52**	P	**P**		**18 56 59.5**	**+1.0**		
LRM	**Limekiln Ridge**	**76.75**	**43**	P	**P**		**18 56 59.7**	**+0.7**		
MOO	**Moorlands**	**76.83**	**175**	P	**P**		**18 56 59.6**	**+0.7**		
	comp=Z,54nm,2.3s									
HLID	**Hailey**	**76.93**	**46**	P	**P**		**18 57 01.6**	**+1.6**		
	baz=305									
RBK	**Rabkut**	**76.97**	**282**	P	**P**		**18 57 00.2**	**-0.2**		
BMN	**Battle Mountai**	**76.99**	**50**	P	**P**		**18 57 01.3**	**+1.0**		
BMN	**Battle Mountai**	**76.99**	**50**	P	**P**		**18 57 01.3**	**+1.0**		
BMN				pmax	pmax					
	comp=Z,7.0nm,0.9s									
RYN	**Ryan**	**77.16**	**52**	P	**P**		**18 57 02.0**	**+0.6**		
KVN	**Kaiserville**	**77.20**	**51**	P	**P**		**18 57 02.3**	**+0.7**		
KVN				IAmb	IAmb		18 57 04.5			
	comp=Z,21nm,1.4s									
KVN	**Kaiserville**	**77.20**	**51**	P	**P**		**18 57 02.3**	**+0.7**		
KVN				pmax	pmax					
	comp=Z,21nm,1.4s									
LHV	**Little Huntoon**	**77.38**	**52**	P	**P**		**18 57 03.7**	**+1.3**		
LHV				IAmb	IAmb		18 57 06.6			
	comp=Z,30nm,1.5s									
NVAR	**Mina Array Bea**	**77.41**	**52**	P	**P**		**18 57 04.8**	**+2.0**		
	comp=Z,3.3nm,0.8s,baz=283,slow=5.3,SNR=21									
	comp=Z,3.3nm,0.8s									
NVAR	**Mina Array Bea**	**77.41**	**52**	P	**P**		**18 57 02.5**	**-0.3**		
SORM	**Soroca**	**77.65**	**320**	⇑P	**P**		**18 57 03.9**	**+0.2**		
ABTO	**Aybut**	**77.78**	**283**	P	**P**		**18 57 05.0**	**0.0**		
	SNR=12									
ELK	**Elko**	**78.05**	**49**	P	**P**		**18 57 06.3**	**-0.1**		
ELK	**Elko**	**78.05**	**49**	P	**P**		**18 57 06.3**	**-0.1**		
ELK				pmax	pmax					
	comp=Z,5.0nm,0.9s									
TPH	**Tonopah**	**78.32**	**52**	P	**P**		**18 57 07.5**	**-0.2**		
TPH				IAmb	IAmb		18 57 10.7			
	comp=Z,36nm,1.0s									
TPH	**Tonopah**	**78.32**	**52**	P	**P**		**18 57 07.6**	**-0.2**		
TPH				pmax	pmax					
	comp=Z,36nm,1.0s									
VES	**Vestal, Richgr**	**78.34**	**55**	P	**P**		**18 57 09.6**	**+1.9**		
	baz=304									
CWC	**Cottonwood Cre**	**78.68**	**54**	P	**P**		**18 57 11.6**	**+1.8**		
	baz=305									
GMN	**Gold Mountain**	**78.73**	**52**	P	**P**		**18 57 10.9**	**+0.7**		
GRAC	**Grapevine Rang**	**78.84**	**53**	P	**P**		**18 57 12.7**	**+2.2**		
	baz=305									
BSD	**Bornholm Skovb**	**79.16**	**331**	*e*P	**P**		**18 57 12.1**	**+0.4**		
R11A	**Troy Canyon, C**	**79.22**	**51**	P	**P**		**18 57 13.5**	**+0.8**		
R11A	**Troy Canyon, C**	**79.22**	**51**	P	**P**		**18 57 14.6**	**+1.9**		
	baz=306									
VLDR	**Vladesti**	**79.22**	**319**	⇑P	**P**		**18 57 13.5**	**+1.1**		
MPMC	**Manual Prospec**	**79.29**	**54**	P	**P**		**18 57 14.6**	**+1.4**		
	baz=305									
BGU	**Big Grassy Mou**	**79.30**	**48**	P	**P**		**18 57 13.3**	**+0.2**		
TESR	**Tescani**	**79.57**	**320**	⇑P	**P**		**18 57 14.7**	**+0.4**		
TPNV	**Topopah Spring**	**79.59**	**52**	P	**P**		**18 57 14.9**	**+0.1**		
TPNV	**Topopah Spring**	**79.59**	**52**	P	**P**		**18 57 16.4**	**+1.6**		
	baz=306									
TPNV	**Topopah Spring**	**79.59**	**52**	P	**P**		**18 57 14.9**	**+0.1**		
TPNV				pmax	pmax					
	comp=Z,8.0nm,1.1s									
BUR08	**Bucovina Ar. S**	**79.61**	**321**	P	**P**		**18 57 14.4**	**-0.1**		
CFR	**Carcaliu**	**79.61**	**318**	⇑P	**P**		**18 57 15.1**	**+0.7**		
BURAR	**Bucovina Array**	**79.61**	**321**	⇑P	**P**		**18 57 15.7**	**+1.1**		
BURAR	**Bucovina Array**	**79.61**	**321**	P	**P**		**18 57 15.2**	**+0.6**		
EDW2	**Edwards Air Fo**	**79.62**	**55**	P	**P**		**18 57 16.5**	**+1.6**		
	baz=305									
SPR3	**Spring Creek 3**	**79.63**	**50**	P	**P**		**18 57 16.3**	**+1.1**		
SPR3				IAmb	IAmb		18 57 18.4			
	comp=Z,6.8nm,1.4s									
TPGR	**Topolog**	**79.66**	**318**	⇑P	**P**		**18 57 15.8**	**+1.1**		
BR131	**Keskin Array S**	**79.70**	**311**	P	**P**		**18 57 15.3**	**0.0**		
BR131				IAmb	IAmb		18 57 17.0			
	comp=Z,10nm,0.8s									
BR131	**Keskin Array S**	**79.70**	**311**	P	**P**		**18 57 15.3**	**0.0**		
BR131				pmax	pmax					
	comp=Z,10.0nm,0.9s									
BRTR	**Keskin Array B**	**79.70**	**311**	P	**P**		**18 57 15.9**	**+0.6**		
	comp=Z,5.2nm,0.7s,baz=110,slow=4.0,SNR=26									
BRTR				pP	**pP**		**18 57 43.8**	**+0.9**		
	comp=Z,1.9nm,0.7s,baz=112,slow=4.0,SNR=3.4									
	comp=Z,5.2nm,0.7s									
BRTR	**Keskin Array B**	**79.70**	**311**	P	**P**		**18 57 15.1**	**-0.2**		
BRTR	**Keskin Array B**	**79.70**	**311**	*eP*	**P**		**18 57 16.2**	**+0.9**		
BRTR				pmax	pmax					
	comp=Z,6.0nm,0.7s									
QSM	**Queen of Sheba**	**79.75**	**53**	P	**P**		**18 57 16.7**	**+1.2**		
QSM				IAmb	IAmb		18 57 18.3			
	comp=Z,23nm,1.6s									
GWY	**Greenwater Val**	**79.76**	**53**	P	**P**		**18 57 15.8**	**+0.1**		
GWY				IAmb	IAmb		18 57 18.9			
	comp=Z,16nm,1.5s									
DUG	**Dugway, Tooele**	**79.87**	**48**	P	**P**		**18 57 16.7**	**+0.5**		
DUG				IAmb	IAmb		18 57 19.2			
	comp=Z,10nm,0.9s									
DUG	**Dugway, Tooele**	**79.87**	**48**	P	**P**		**18 57 18.4**	**+2.2**		
	baz=307									
DUG	**Dugway, Tooele**	**79.87**	**48**	P	**P**		**18 57 16.7**	**+0.5**		
DUG				pmax	pmax					
	comp=Z,10.0nm,0.9s									
VRI	**Vrincioaia**	**79.94**	**319**	P	**P**		**18 57 16.8**	**+0.5**		
PLOR	**Plostina**	**79.99**	**319**	⇑P	**P**		**18 57 18.3**	**+1.7**		
HARR	**Harsova**	**80.03**	**318**	⇑P	**P**		**18 57 17.6**	**+0.9**		
PRN	**Pahroc Range**	**80.11**	**51**	P	**P**		**18 57 18.0**	**+0.5**		
BISRR	**Bisoca**	**80.16**	**319**	P	**P**		**18 57 17.8**	**+0.3**		
GSC	**Goldstone, Bar**	**80.18**	**54**	P	**P**		**18 57 19.2**	**+1.4**		
	baz=305									
PSUT	**Pine Spring**	**80.21**	**50**	P	**P**		**18 57 18.1**	**-0.1**		
STHS	**Stebnicka Huta**	**80.40**	**325**	*e*P	**P**		**18 57 21.8**	**+3.1**		
STHS	**Stebnicka Huta**	**80.40**	**325**	*e*P	**P**		**18 57 21.8**	**+3.1**		
STHS				pmax	pmax					
	comp=Z,4.0nm,0.8s									
ICOR	**Ion Corvin**	**80.46**	**317**	⇑P	**P**		**18 57 20.7**	**+1.6**		
RAYN	**Ar Rayn**	**80.59**	**292**	P	**P**		**18 57 20.7**	**+0.5**		
DOPR	**Dopca**	**80.59**	**320**	⇑P	**P**		**18 57 21.2**	**+1.4**		
MLR	**Muntele Rosu**	**80.60**	**319**	⇑P	**P**		**18 57 20.6**	**+0.6**		
TRPA	**Tarpa**	**80.63**	**323**	⇑P	**P**		**18 57 21.3**	**+1.5**		
CRVS	**Cervenica-Dubn**	**80.64**	**324**	*e*P	**P**		**18 57 22.0**	**+2.0**		
CRVS	**Cervenica-Dubn**	**80.64**	**324**	*e*P	**P**		**18 57 22.0**	**+2.0**		
CRVS				pmax	pmax					
	comp=Z,8.0nm,0.9s									
TUQ	**Turquoise Moun**	**80.69**	**53**	P	**P**		**18 57 21.7**	**+1.1**		
	baz=306									
HEC	**Hector,Ludlow**	**80.77**	**54**	P	**P**		**18 57 22.0**	**+1.0**		
	baz=306									
CCUT	**Cedar City**	**81.11**	**50**	P	**P**		**18 57 23.8**	**+0.8**		
VOIR		**81.12**	**320**	⇑P	**P**		**18 57 24.2**	**+1.6**		
GMRC	**Granite Mounta**	**81.24**	**54**	P	**P**		**18 57 24.8**	**+1.2**		
	baz=306									
MVU	**Marysvale**	**81.26**	**49**	P	**P**		**18 57 23.8**	**0.0**		
MARR	**Marisel-Cluj**	**81.31**	**322**	P	**P**		**18 57 24.1**	**+0.4**		
PFO	**Pinyon Flats O**	**81.39**	**55**	P	**P**		**18 57 25.0**	**+0.6**		
	baz=306									
TPFO	**Pinon Flats**	**81.40**	**55**	P	**P**		**18 57 25.3**	**+0.9**		
	baz=306									
BELC	**Belle Mtn. Jos**	**81.47**	**55**	P	**P**		**18 57 25.2**	**+0.4**		
	baz=306									
LCMT	**Little Creek M**	**81.50**	**51**	P	**P**		**18 57 24.9**	**0.0**		
MTPU	**Mount Pierson**	**81.56**	**49**	P	**P**		**18 57 25.2**	**-0.3**		
MTPU				IAmb	IAmb		19 00 03.5			
	comp=Z,39nm,2.0s									
KNB	**Kanab**	**81.77**	**51**	P	**P**		**18 57 26.4**	**0.0**		
KNB	**Kanab**	**81.77**	**51**	P	**P**		**18 57 26.4**	**0.0**		
KNB				pmax	pmax					
	comp=Z,7.0nm,0.8s									
MONP2	**Monument Peak**	**81.83**	**56**	P	**P**		**18 57 28.1**	**+1.2**		
	baz=306									
MORC	**Moravsky Berou**	**81.88**	**326**	⇑P	**P**		**18 57 27.5**	**+1.0**		
OSTC	**Ostas**	**81.92**	**328**	*e*P	P		18 57 34.9	+8.2		
IRM	**Iron Mountain**	**81.95**	**54**	P	**P**		**18 57 28.5**	**+1.3**		
	baz=306									
KRLC	**Kraliky**	**82.01**	**327**	*e*P	**P**		**18 57 28.1**	**+0.9**		
KRLC	**Kraliky**	**82.01**	**327**	*e*P	**P**		**18 57 28.1**	**+0.9**		
DPC	**Dobruska-Polom**	**82.02**	**327**	*e*P	**P**		**18 57 28.5**	**+1.3**		
DPC	**Dobruska-Polom**	**82.02**	**327**	*e*P	**P**		**18 57 28.5**	**+1.3**		
BC3	**Big Chuckawall**	**82.04**	**55**	P	**P**		**18 57 29.2**	**+1.5**		
	baz=306									
PSZ	**Piszkesteto**	**82.08**	**324**	⇑P	**P**		**18 57 28.0**	**+0.4**		
PSZ	**Piszkesteto**	**82.08**	**324**	P	**P**		**18 57 26.6**	**-1.0**		
PSZ	**Piszkesteto**	**82.08**	**324**	P	**P**		**18 57 26.6**	**-1.0**		
PSZ				pmax	pmax					
	comp=Z,7.0nm,0.8s									
VYHS	**Vyhne**	**82.18**	**325**	*e*P	**P**		**18 57 29.4**	**+1.3**		
VYHS	**Vyhne**	**82.18**	**325**	*e*P	**P**		**18 57 29.4**	**+1.3**		
VYHS				pmax	pmax					
	comp=Z,5.0nm,0.8s									
SIRR	**Siria**	**82.33**	**322**	⇑P	**P**		**18 57 29.9**	**+1.0**		
GZR	**Gura Zlata**	**82.35**	**321**	⇑P	**P**		**18 57 29.4**	**+0.3**		
VLAD	**Vladila**	**82.41**	**319**	P	**P**		**18 57 30.1**	**+0.8**		
SURR	**Surduc**	**82.44**	**321**	⇑P	**P**		**18 57 31.0**	**+1.5**		
U15A	**North Rim**	**82.47**	**51**	P	**P**		**18 57 30.2**	**+0.1**		
U15A				IAmb	IAmb		19 00 25.4			
	comp=Z,22nm,1.8s									
O20A	**White River Ci**	**82.67**	**46**	P	**P**		**18 57 31.7**	**+0.7**		
	baz=309									
CLL	**Collm**	**82.74**	**330**	*e*P	**P**		**18 57 31.0**	**+0.1**		
	comp=Z,6.0nm,1.0s									
CLL				*ex*	x		18 57 39.0			
CLL				*ep*P	**pP**		**18 57 59.0**	**-0.1**		
BZS	**Buzias**	**82.80**	**322**	⇑P	**P**		**18 57 32.0**	**+0.7**		
GLA	**Glamis**	**82.82**	**55**	P	**P**		**18 57 32.9**	**+1.1**		
	baz=307									
MODS	**Modra-Piesok**	**83.00**	**326**	*e*P	**P**		**18 57 33.8**	**+1.4**		
MODS	**Modra-Piesok**	**83.00**	**326**	*e*P	**P**		**18 57 33.8**	**+1.4**		
PV10	**Paradox Valley**	**83.30**	**48**	P	**P**		**18 57 34.8**	**+0.4**		
PV13	**Radium Mtn., P**	**83.57**	**48**	IAmb	IAmb		18 57 38.3			
	comp=Z,18nm,1.0s									
WUAZ	**Wupatki**	**83.61**	**51**	P	**P**		**18 57 37.5**	**+1.6**		
	baz=308									
ELL	**Elmali**	**83.84**	**311**	P	**P**		**18 57 36.0**	**-1.0**		
ELL	**Elmali**	**83.84**	**311**	P	**P**		**18 57 36.0**	**-1.0**		
ELL				pmax	pmax					
	comp=Z,54nm,1.2s									
MORH	**Mrgy, Hungar**	**83.88**	**323**	⇑P	**P**		**18 57 38.0**	**+1.1**		
RONA	**Rosalia, Austr**	**83.94**	**326**	*e*P	**P**		**18 57 38.8**	**+1.5**		
	comp=Z,7.1nm,0.7s									
VTS	**Vitosha**	**83.97**	**319**	P	**P**		**18 57 37.2**	**-0.4**		
VTS				IAmb	IAmb		18 57 39.8			
	comp=Z,11nm,0.7s									
VTS	**Vitosha**	**83.97**	**319**	P	**P**		**18 57 37.2**	**-0.4**		
VTS				pmax	pmax					
	comp=Z,11nm,0.7s									
CONA	**Conrad Observa**	**83.98**	**326**	*e*P	**P**		**18 57 38.8**	**+1.3**		
	comp=Z,6.0nm,0.7s									
CKRC	**Cesky Krumlov**	**84.03**	**327**	*e*P	**P**		**18 57 38.3**	**+0.7**		
KHC	**Kasperske Hory**	**84.12**	**328**	P	**P**		**18 57 38.0**	**-0.1**		
KHC	**Kasperske Hory**	**84.12**	**328**	*e*P	**P**		**18 57 38.8**	**+0.7**		
KHC				*ep*P	**pP**		**18 58 06.4**	**0.0**		
KHC	**Kasperske Hory**	**84.12**	**328**	*e*P	**P**		**18 57 38.8**	**+0.7**		
KHC				*e*			18 58 06.4			
GERES	**GERESS Array B**	**84.28**	**328**	P	**P**		**18 57 39.2**	**+0.2**		
	comp=Z,2.3nm,0.6s,baz=38,slow=5.0,SNR=19									
GERES				pP	**pP**		**18 58 07.7**	**+0.4**		
	comp=Z,1.2nm,0.7s,baz=67,slow=3.5,SNR=3.4									
GERES				LR	LR		19 36 54.0			
	comp=Z,29nm,18.9s,baz=30,slow=37									
	comp=Z,2.3nm,0.6s									
GERES	**GERESS Array B**	**84.28**	**328**	P	**P**		**18 57 38.9**	**-0.1**		
214A	**Organ Pipe Nat**	**84.84**	**55**	P	**P**		**18 57 43.5**	**+1.4**		
	baz=308									
S22A	**4UR Ranch, Cre**	**85.04**	**47**	P	**P**		**18 57 44.2**	**+0.9**		
	baz=310									
BIOA	**Bad Ischl, Aus**	**85.17**	**327**	*e*P	**P**		**18 57 44.3**	**+0.9**		
	comp=Z,5.1nm,0.7s									
Q24A	**Divide**	**85.25**	**45**	P	**P**		**18 57 42.4**	**-2.0**		
Q24A				IAmb	IAmb		18 57 56.5			
	comp=Z,12nm,0.7s									
SOKA	**Soboth**	**85.28**	**326**	*e*P	**P**		**18 57 44.8**	**+0.8**		
	comp=Z,6.9nm,0.6s									
OBKA	**Obir**	**85.63**	**326**	*e*P	**P**		**18 57 46.2**	**+0.5**		
	comp=Z,4.0nm,0.8s									
KBA	**Koelnbreinsper**	**85.76**	**327**	*e*P	**P**		**18 57 47.5**	**+1.0**		
	comp=Z,4.1nm,0.8s									
SDCO	**Great Sand Dun**	**85.84**	**46**	P	**P**		**18 57 48.5**	**+1.2**		
	baz=311									
MYKA	**Terra Mystica**	**85.96**	**326**	*e*P	**P**		**18 57 46.8**	**-0.6**		
	comp=Z,3.0nm,0.6s									
TUC	**Tucson**	**85.98**	**53**	P	**P**		**18 57 49.1**	**+1.3**		
	baz=309									
PDG	**Podgorica**	**86.23**	**320**	⇑P	**P**		**18 57 48.7**	**+0.1**		
ABTA	**Abfaltersbach**	**86.38**	**327**	*e*P	**P**		**18 57 49.6**	**+0.1**		
	comp=Z,5.0nm,1.3s									
CLUD	**Cludinico**	**86.44**	**326**	P	**P**		**18 57 48.6**	**-1.1**		
CLUD				IAmb	IAmb		18 58 18.7			
	comp=Z,11nm,0.9s									
FETA	**Feichten**	**86.97**	**328**	*e*P	**P**		**18 57 53.1**	**+0.7**		
	comp=Z,3.3nm,1.2s									
DAVA	**Damuels**	**87.13**	**329**	*e*P	**P**		**18 57 49.7**	**-3.5**		
	comp=Z,10nm,1.5s									
SCHQ	**Schefferville**	**88.08**	**15**	pP	pP		18 58 28.9	+3.5		
	comp=Z,5.8nm,0.7s,baz=344,slow=7.4,SNR=2.9									
TX31	**Lajitas Ar. Si**	**92.56**	**52**	P	**P**		**18 58 18.7**	**-0.2**		
TX32	**Lajitas Array**	**92.56**	**52**	P	**P**		**18 58 17.7**	**-1.1**		
TX32				IAmb	IAmb		18 58 21.7			
	comp=Z,8.0nm,1.2s									
TXAR	**Lajitas Array**	**92.56**	**52**	P	**P**		**18 58 20.2**	**+1.4**		
	comp=Z,1.8nm,0.5s,baz=294,slow=2.9,SNR=24									
	comp=Z,1.8nm,0.5s									
TXAR	**Lajitas Array**	**92.56**	**52**	P	**P**		**18 58 18.0**	**-0.9**		
MIAR	**Mount Ida**	**94.95**	**42**	P	**P**		**18 58 29.7**	**+0.2**		
	baz=318									
LONY	**Lake Ozonia**	**95.21**	**24**	P	**P**		**18 58 30.0**	**-0.6**		
	baz=332									
S51A	**Beattyville**	**97.57**	**34**	P	**P**		**18 58 37.5**	**-4.0**		
TKL	**Tuckaleechee C**	**99.11**	**35**	LR	LR		19 49 01.6			
	comp=Z,21nm,18.8s,baz=340,slow=38									
LPAZ	**La Paz**	**148.91**	**61**	PKPbc	**PKiKP**		**19 04 56.9**	**0.0**		
	comp=Z,3.2nm,0.7s,baz=332,slow=2.3,SNR=10									

VAO ***22*** *18:50:55.9±0.4, 15°.30S×75°.51W, h37km, mb4.3*
IDC ***22*** *18:50:56.2±3.9, 15°.41S×75°.67W, h36km±32km, mb3.6/4, mbtmp4.0/7, ML4.3/4, MS3.5/17, Error ellipse: s-maj=40.7km s-min=20.2km az=62.0*
NEIC ***22*** *18:50:56.6±1.7, 15°.25S±0°.08×75°.3W±0°.1, h41km±13km, mb4.3/13, Error ellipse: s-maj=16.5km s-min=9.8km az=63.0*
ISC 22 18:50:54.0±0.6, 15°.39S±0°.06×75°.55W±0°.08, h26km, n132, σ1§54/111, mb4.2/7, MS3.6/12, 2C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.61**	**339**	Pn		**Pn**	**18 51 48.4**	**+0.1**	
	19nm,0.3s,baz=128,slow=11,SNR=12								
NNA				LR		LR	18 52 38.3		
	comp=Z,89nm,19.8s,baz=106,slow=28								
	15nm,0.3s								
NNA	**Nana**	**3.61**	**339**	Pn		**Pn**	**18 51 47.2**	**-1.1**	
AP01	**Chacalluta**	**5.80**	**121**			**Pn**	**18 52 18.9**	**+0.6**	
PB12	**IPOC Station P**	**5.93**	**123**			**Pn**	**18 52 20.0**	**-0.2**	
PB12	**IPOC Station P**	**5.93**	**123**	*e*P		**Pn**	**18 52 20.6**	**+0.3**	
PB18	**Visviri**	**6.22**	**111**			**Pn**	**18 52 28.1**	**+3.6**	
PB18	**Visviri**	**6.22**	**111**	*e*P		**Pn**	**18 52 28.1**	**+3.6**	
PB18				*e*S		**Sn**	**18 53 39.3**	**+4.2**	
PB16	**IPOC Station P**	**6.48**	**118**	Pn		**Pn**	**18 52 29.6**	**+1.4**	
PB16	**IPOC Station P**	**6.48**	**118**	*e*P		**Pn**	**18 52 30.3**	**+2.0**	
PB16				*i*S		**Sn**	**18 53 45.0**	**+3.4**	
PSGC	**Pisagua**	**6.65**	**130**	*e*P		**Pn**	**18 52 30.2**	**+0.1**	
PSGCX	**Pisagua**	**6.65**	**130**			**Pn**	**18 52 29.7**	**-0.4**	
MNMC	**Minye Minye**	**6.79**	**124**			**Pn**	**18 52 32.5**	**+0.2**	
TA02	**Huaiquique**	**7.08**	**134**			**Pn**	**18 52 35.8**	**-0.2**	
PB11	**IPOC Station P**	**7.10**	**129**			**Pn**	**18 52 36.4**	**0.0**	
PB11	**IPOC Station P**	**7.10**	**129**	*e*P		**Pn**	**18 52 36.9**	**+0.5**	
LPAZ	**La Paz**	**7.19**	**98**	Pn		Pn	18 52 43.1	+5.0	
	15nm,0.3s,baz=282,slow=10,SNR=191								
LPAZ				LR		LR	18 55 36.7		
	comp=Z,330nm,20.9s,baz=283,slow=38								
LPAZ	**La Paz**	**7.19**	**98**	Pn		Pn	18 52 42.6	+4.6	
TA01	**Diego Aracena**	**7.25**	**136**			**Pn**	**18 52 37.3**	**-0.9**	
TA01	**Diego Aracena**	**7.25**	**136**	*e*P		**Pn**	**18 52 37.8**	**-0.4**	
GO01	**Chusmiza**	**7.40**	**126**			**Pn**	**18 52 41.4**	**+0.6**	
GO01	**Chusmiza**	**7.40**	**126**	‖ *i*P		**Pn**	**18 52 42.6**	**+1.8**	
PATCX	**Punta Patache**	**7.45**	**137**			**Pn**	**18 52 40.5**	**-0.6**	
PATCX	**Punta Patache**	**7.45**	**137**	*e*P		**Pn**	**18 52 40.8**	**-0.2**	
PB08	**IPOC Station P**	**7.71**	**129**			**Pn**	**18 52 45.4**	**+0.5**	
PB08	**IPOC Station P**	**7.71**	**129**	*e*P		**Pn**	**18 52 45.8**	**+0.9**	
PB02	**IPOC Station P**	**7.97**	**139**			**Pn**	**18 52 47.0**	**-1.3**	
PB01	**IPOC Station P**	**8.04**	**135**			**Pn**	**18 52 48.5**	**-0.7**	
PB01	**IPOC Station P**	**8.04**	**135**	*e*P		**Pn**	**18 52 49.2**	**-0.1**	
CZSB	**Cruzeiro do Su**	**8.11**	**20**			**Pn**	**18 52 49.2**	**-0.9**	
CZSB	**Cruzeiro do Su**	**8.11**	**20**	*e*P		**Pn**	**18 52 51.4**	**+1.2**	
PB07	**IPOC Station P**	**8.28**	**140**			**Pn**	**18 52 51.5**	**-1.0**	
PB04	**IPOC Station P**	**8.59**	**144**			**Pn**	**18 52 54.5**	**-2.3**	
PB03	**IPOC Station P**	**8.60**	**141**			**Pn**	**18 52 55.7**	**-1.2**	
PB03	**IPOC Station P**	**8.60**	**141**	*e*P		**Pn**	**18 52 56.6**	**-0.4**	
ATAH	**Atahualpa**	**8.67**	**341**	LR		LR	18 56 45.6		
	comp=Z,136nm,21.9s,baz=191,slow=40								
PB09	**IPOC Station P**	**8.73**	**138**			**Pn**	**18 52 58.7**	**-0.1**	
PB09	**IPOC Station P**	**8.73**	**138**	*e*P		**Pn**	**18 53 00.2**	**+1.4**	
PB09				*e*S		**Sn**	**18 54 36.7**	**+0.2**	
PB06	**IPOC Station P**	**9.21**	**143**			**Pn**	**18 53 03.3**	**-2.0**	
LVC	**Limon Verde**	**9.53**	**140**	Pn		**Pn**	**18 53 11.2**	**+1.2**	
	5.1nm,0.3s,baz=308,slow=10,SNR=40								
LVC				Sn		**Sn**	**18 54 52.5**	**-4.0**	
	2.9nm,0.3s,baz=93,slow=16,SNR=3.1								
LVC				Lg		Lg	18 55 57.7		
	1.8nm,0.3s,baz=172,slow=16,SNR=5.2								

comp=Z,0.2nm,0.6s,baz=156,slow=9.6,SNR=1.5
comp=Z,0.2nm,0.6s
DBIC Dimbokro 73.36 78 P **P** **19 02 24.4 +0.3**
comp=Z,2.2nm,0.8s,baz=238,slow=8.2,SNR=2.5
DBIC LR LR 19 33 04.8
comp=Z,93nm,19.2s,baz=218,slow=34
comp=Z,2.2nm,0.8s
SFJD Kangerlussuaq 84.19 10 LR LR 19 40 07.4
comp=Z,320nm,21.6s,baz=145,slow=35
ESDC Sonseca Array 86.13 47 LR LR 19 41 07.1
comp=Z,44nm,18.5s,baz=256,slow=35
H11N3 WAKE ISLAND Hy 20.58 284 T T 21 21 46.4
baz=97,slow=74,SNR=13
H11N2 WAKE ISLAND Hy 20.59 284 T T 21 21 48.1
baz=97,slow=74,SNR=14
H11N1 WAKE ISLAND Hy 20.59 284 T T 21 21 44.3
baz=97,slow=74,SNR=9.8
H11S2 WAKE ISLAND Hy 20.62 283 T T 21 21 48.9
baz=97,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 20.63 283 T T 21 21 48.8
baz=97,slow=75,SNR=14
H11S3 WAKE ISLAND Hy 20.64 283 T T 21 21 49.4
baz=97,slow=75,SNR=14
WRA Warramunga Arr 134.21 221 PKP **PKPdf** **19 10 10.7 +0.4**
comp=Z,0.8nm,0.7s,baz=134,slow=1.8,SNR=8.0
ZALV Zalesovo Beam 138.57 17 PKP **PKPdf** **19 10 18.5 +1.2**
comp=Z,0.3nm,0.4s,baz=270,slow=2.2,SNR=3.7
KSH Kashi 145.39 40 PKPbc **PKPdf** **19 10 31.3 +1.2**
SONM Songino Array 147.61 358 PKPbc **PKPbc** **19 10 36.7 +0.5**
comp=Z,1.3nm,0.7s,baz=336,slow=1.4,SNR=9.0

*IDC **22** 18:56:13.2±1.1, 10.°51S×123.°33E, h0km, mb4.1/9, mbtmp4.1/9, MS3.4/7, Error ellipse: s-maj=25.3km s-min=14.1km az=157.0*
*DJA **22** 18:56:16.2±0.6, 11.°S±4.°×12.°3E±.°, h13km±4km, M4.4/13, mb4.6/8, MLv4.3/13*
*NEIC **22** 18:56:17.7±1.9, 10.°65S±0.°05×123.°37E±0.°05, h38km±9km, mb4.4/21, Error ellipse: s-maj=8.7km s-min=5.7km az=129.0*
ISC 22 18:56:16.2±0.5, 10.°70S±0.°05×123.°39E±0.°07, h29km, n61, σ1§58/55, mb4.4/15, MS3.4/4, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.56**	**29**	Pn	**Pb**	**18 56 26.9**	**-0.7**
	298nm,0.3s,baz=219,slow=2.5,SNR=316						
BATI				Sn	**Sn**	**18 56 36.9**	**+0.3**
	650nm,0.3s,baz=21,slow=21,SNR=16						
BATI				LR	LR	18 56 37.3	
	comp=Z,231nm,18.9s,baz=96,slow=54						
BATI	**Baumata**	**0.56**	**29**	P	**Pb**	**18 56 26.6**	**-1.0**
BATI				S	**Sn**	**18 56 36.5**	**-0.1**
SOEI	**Soe**	**1.28**	**43**		**Pb**	**18 56 39.6**	**-0.1**
SOEI	**Soe**	**1.28**	**43**	P	**Pb**	**18 56 40.0**	**+0.3**
MMRI	**Maumere**	**2.35**	**331**		**Pn**	**18 56 54.6**	**+1.8**
MMRI	**Maumere**	**2.35**	**331**	P	**Pn**	**18 56 55.0**	**+2.2**
PLAI	**Plampang**	**5.84**	**288**	P	**Pn**	**18 57 43.1**	**+2.3**
	0.4nm108nm,0.6s						
BKSI	**Bulukumba**	**6.25**	**329**	P	**Pn**	**18 57 49.1**	**+2.6**
	0.1nm21nm,0.8s						
KAPI	**Kappang**	**6.70**	**327**	LR	LR	19 00 56.4	
	comp=Z,135nm,19.5s,baz=169,slow=44						
KAPI	**Kappang**	**6.70**	**327**	Pn	**Pn**	**18 57 51.6**	**-1.1**
TWSI	**Taliwang, Sumb**	**6.70**	**286**	P	**Pn**	**18 57 55.0**	**+2.2**
	0.2nm38nm,0.6s						
BNSI	**Bone**	**7.05**	**332**	P	**Pn**	**18 58 00.2**	**+2.6**
	0.0nm12nm,0.7s						
KNRA	**Kununurra**	**7.20**	**134**		**Pn**	**18 58 00.3**	**+0.7**
MTN	**Manton Dam**	**7.88**	**106**		**Pn**	**18 58 09.1**	**+0.3**
JAGI	**Jajag, Banyuwa**	**9.38**	**283**	Pn	**Pn**	**18 58 28.6**	**-0.8**
MBWA	**Marble Bar**	**10.98**	**198**	Pn	**Pn**	**18 58 52.7**	**+1.4**
PSA00	**Pilbara Seismi**	**11.33**	**197**	Pn	**Pn**	**18 58 54.2**	**-2.1**
WRA	**Warramunga Arr**	**13.99**	**132**	Pn	**Pn**	**18 59 29.9**	**-2.8**
	0.9nm,0.3s,baz=303,slow=15,SNR=23						
WRA				Sn	Sn	19 01 55.8	-11
	1.4nm,0.3s,baz=326,slow=24,SNR=9.4						
WRA				LR	LR	19 05 37.6	
	comp=Z,149nm,20.9s,baz=306,slow=40						
WRA	**Warramunga Arr**	**13.99**	**132**	Pn	Pn	18 59 27.1	-5.5
WRAB	**Tennant Creek**	**13.99**	**132**		**Pn**	**18 59 28.7**	**-3.9**
WB2	**Warramunga Arr**	**14.00**	**132**	Pn	Pn	18 59 28.0	-4.7
WR0	**Warramunga Arr**	**14.15**	**132**		**Pn**	**18 59 31.5**	**-3.3**
SGSI	**Sangihe**	**14.45**	**9**	P	P	18 59 53.1	+7.8
AS31	**Alice Springs**	**16.33**	**143**	P	**Pn**	**19 00 02.6**	**-1.0**
ASAR	**Alice Springs**	**16.33**	**143**	Pn	**Pn**	**19 00 03.0**	**-0.6**
	1.5nm,0.3s,baz=318,slow=12,SNR=90						
ASAR				Sn	Sn	19 02 52.0	-12
	0.1nm,0.3s,baz=312,slow=21,SNR=2.6						
ASAR				LR	LR	19 06 41.2	
	comp=Z,165nm,18.2s,baz=324,slow=38						
ASAR	**Alice Springs**	**16.33**	**143**	P	**Pn**	**19 00 02.2**	**-1.4**
KKM	**Kota Kinabalu**	**18.10**	**336**	P	**Pn**	**19 00 24.0**	**-1.7**
MORW	**Morawa**	**19.52**	**200**	P	**Pn**	**19 00 44.2**	**+1.5**
MORW				IAmb	IAmb	19 01 14.5	
	comp=Z,29nm,1.4s						
COEN	**Coen**	**19.60**	**102**	P	**Pn**	**19 00 45.5**	**+1.7**
COEN				IAmb	IAmb	19 01 11.6	
	comp=Z,29nm,1.5s						
FORT	**Forrest**	**20.45**	**168**	P	**P**	**19 00 51.9**	**+0.5**
FORT				IAmb	IAmb	19 00 58.8	
	comp=Z,32nm,1.1s						
MNAI	**Manna**	**21.20**	**286**	P	**P**	**19 00 59.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**22.84**	**193**	P	**P**	**19 01 17.2**	**+0.2**
NWAO				IAmb	IAmb	19 01 41.9	
	comp=Z,37nm,1.4s						
NWAO	**Narrogin (SRO)**	**22.84**	**193**	P	**P**	**19 01 17.7**	**+0.7**
NWAO				IAmb	IAmb	19 01 41.9	
	comp=Z,30nm,1.4s						
PMG	**Port Moresby**	**23.44**	**89**	LR	LR	19 12 31.7	
	comp=Z,145nm,21.0s,baz=275,slow=42						
CTA	**Charters Tower**	**23.91**	**116**	LR	LR	19 11 29.6	
	comp=Z,68nm,18.3s,baz=292,slow=38						
BBOO	**Buckleboo**	**24.91**	**154**	P	**P**	**19 01 38.9**	**+2.2**
BBOO				IAmb	IAmb	19 01 51.0	
	comp=Z,21nm,1.2s						
IPM	**Ipoh**	**26.89**	**303**	P	P	19 01 44.8	-10
IPM				IAmb	IAmb	19 01 50.3	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**26.97**	**144**	P	**P**	**19 01 58.6**	**+3.2**
	comp=Z,1.6nm,0.5s,baz=312,slow=9.6,SNR=5.7						
STKA				LR	LR	19 14 20.5	
	comp=Z,89nm,18.8s,baz=11,slow=40						
	comp=Z,1.6nm,0.5s						
STKA	**Stephens Creek**	**26.97**	**144**	P	**P**	**19 01 58.6**	**+3.2**
GSI	**Gunungsitoli**	**28.31**	**293**	P	**P**	**19 02 06.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**37.70**	**320**	P	**P**	**19 03 29.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=149,slow=6.8,SNR=2.2						
	comp=Z,0.3nm,0.3s						
BFZ	**Birch Farm**	**55.17**	**132**	P	**P**	**19 05 45.7**	**-0.6**
USA0B	**Ussuriysk Arra**	**55.20**	**8**	P	**P**	**19 05 45.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**55.20**	**8**	P	**P**	**19 05 46.2**	**0.0**
	comp=Z,2.3nm,0.6s,baz=188,slow=7.4,SNR=8.2						
	comp=Z,2.3nm,0.6s						
SONM	**Songino Array**	**60.20**	**347**	P	**P**	**19 06 21.7**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=159,slow=8.1,SNR=7.9						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**60.20**	**347**	P	**P**	**19 06 21.4**	**-0.1**
SONM				IAmb	IAmb	19 06 22.7	
	comp=Z,3.8nm,1.5s						
TARG	**Taragay, Kyrgy**	**66.89**	**324**	P	**P**	**19 07 05.5**	**-0.7**
MK31	**Makanchi Array**	**67.99**	**331**	P	**P**	**19 07 10.6**	**-2.0**
MK31				IAmb	IAmb	19 07 15.1	
	comp=Z,4.1nm,1.1s						
MKAR	**Makanchi Array**	**67.99**	**331**	P	**P**	**19 07 13.2**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=153,slow=5.2,SNR=21						
	comp=Z,2.7nm,0.7s						
MKAR	**Makanchi Array**	**67.99**	**331**	P	**P**	**19 07 12.8**	**+0.2**
MAKZ	**Makanchi**	**68.15**	**331**	P	**P**	**19 07 11.1**	**-2.5**
AAK	**Ala-Archa**	**69.37**	**324**	P	**P**	**19 07 22.6**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=162,slow=6.7,SNR=4.1						
	comp=Z,1.7nm,0.6s						
VNDA	**Vanda**	**69.67**	**172**	LR	LR	19 36 35.3	
	comp=Z,27nm,19.7s,baz=326,slow=35						
PETK	**Petropavlovsk-**	**69.99**	**21**	P	**P**	**19 07 24.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=224,slow=4.1,SNR=5.1						
	comp=Z,1.0nm,0.5s						
ZAA0	**Zalesovo Array**	**72.22**	**337**	P	**P**	**19 07 38.2**	**-0.2**
ZAA0				IAmb	IAmb	19 07 39.5	
	comp=Z,6.3nm,1.1s						
ZALV	**Zalesovo Beam**	**72.22**	**337**	P	**P**	**19 07 38.1**	**-0.3**
	comp=Z,3.7nm,0.4s,baz=141,slow=5.6,SNR=21						
	comp=Z,3.7nm,0.4s						
ZALV	**Zalesovo Beam**	**72.22**	**337**	P	**P**	**19 07 37.8**	**-0.5**
KURBB	**Kurchatov Arra**	**72.45**	**332**	P	**P**	**19 07 40.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=149,slow=5.3,SNR=6.3						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**72.47**	**332**	P	**P**	**19 07 40.0**	**+0.1**
KURK				IAmb	IAmb	19 07 41.2	
	comp=Z,4.0nm,1.1s						
ABKAR	**Akbulak array**	**81.46**	**324**	P	**P**	**19 08 29.4**	**-1.2**
ABKAR	**Akbulak array**	**81.46**	**324**	P	**P**	**19 08 30.2**	**-0.4**
ABKAR				IAmb	IAmb	19 08 46.5	
	comp=Z,2.8nm,1.5s						

*BEO **22** 19:03:35.8±0.5, 43.°29N×17.°41E, h0km, ML2.6/10*
*PDG **22** 19:03:36.1±0.1, 43.°32N×17.°56E, h2km, ML2.8/13, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*RHSSO **22** 19:03:37.1±0.2, 43.°31N×17.°59E, h2km±1km, ML2.7/12*
ISC 22 19:03:36.4±1.0, 43.°31N±0.°02×17.°59E±0.°02, h4km±9km, n75, σ1§38/133, 10C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RICI	**Ricice**	**0.38**	**299**	*e*Pg	**Pg**	**19 03 43.6**	**0.0**
RICI				Sg	**Sg**	**19 03 49.1**	**+0.5**
MAKA	**Makarska**	**0.41**	**267**	*i* Pg	**Pg**	**19 03 44.3**	**0.0**
MAKA				Sg	**Sg**	**19 03 50.3**	**+0.6**
STON	**Ston**	**0.45**	**169**	⇓*i*Pg	**Pg**	**19 03 44.2**	**-0.9**
STON				*e*Sg	**Sg**	**19 03 51.5**	**+0.7**
STON	**Ston**	**0.45**	**169**	*e*Pg	**Pg**	**19 03 44.1**	**-0.9**
STON				Sg	**Sg**	**19 03 51.0**	**+0.1**
STON	**Ston**	**0.45**	**169**	*e*Pg	**Pg**	**19 03 44.2**	**-0.9**
STON				*e*Sg	**Sg**	**19 03 51.6**	**+0.7**
LSTV	**Lastovo**	**0.75**	**223**	*e*Pg	**Pg**	**19 03 50.0**	**-0.7**
LSTV				Sg	**Sb**	**19 04 01.3**	**-1.1**
DBRK	**Dubrovnik**	**0.77**	**147**	*e*Pg	**Pg**	**19 03 50.2**	**-0.9**
DBRK				Sg	**Sg**	**19 04 01.7**	**+0.7**
BRY	**Bratogost**	**0.81**	**120**	⇑*i*Pg	**Pg**	**19 03 51.4**	**-0.5**
BRY				*e*Sg	**Sb**	**19 04 03.8**	**-0.6**
BRY	**Bratogost**	**0.81**	**120**	⇑*i*Pg	**Pg**	**19 03 51.4**	**-0.5**
BRY				*i* Sg	**Sb**	**19 04 04.4**	**0.0**
SRKY	**Kupres RS**	**0.81**	**338**	⇑*i*Pg	**Pg**	**19 03 51.0**	**-1.0**
SRKY				*e*Sg	**Sb**	**19 04 03.8**	**-0.7**
TREB	**Trebinje**	**0.82**	**137**	*e*Pg	**Pg**	**19 03 51.6**	**-0.5**
TREB				*e*Sg	**Sb**	**19 04 04.6**	**+0.1**
HVAR	**Hvar**	**0.84**	**261**	*e*Pg	**Pg**	**19 03 52.0**	**-0.5**
HVAR				Sg	**Sb**	**19 04 04.6**	**-0.6**
UPM	**Unac-Piva**	**0.97**	**96**	*e*Pg	**Pg**	**19 03 54.5**	**-0.6**
UPM				*e*Sg	**Sb**	**19 04 08.4**	**-0.7**
UPM	**Unac-Piva**	**0.97**	**96**	⇑*i*Pg	**Pg**	**19 03 54.4**	**-0.6**
UPM				*i* Sg	**Sn**	**19 04 09.9**	**-1.3**
HCY	**Herceg Novi**	**1.09**	**142**	*e*Pg	**Pb**	**19 03 56.5**	**-1.3**
HCY				*e*Sg	**Sn**	**19 04 12.4**	**-1.6**
HCY	**Herceg Novi**	**1.09**	**142**	⇑*i*Pg	**Pb**	**19 03 56.5**	**-1.3**
HCY				*i* Sg	**Sn**	**19 04 13.9**	**-0.1**
KIJV	**Kijevo**	**1.10**	**309**	Sg	**Sn**	**19 04 13.9**	**-0.3**
NKME	**Niksic**	**1.14**	**118**	⇓*i*Pg	**Pb**	**19 03 57.5**	**-1.2**
NKME				*i* Sg	**Sn**	**19 04 15.7**	**+0.5**
MGRS	**Mrkonjic Grad**	**1.16**	**342**	⇑*i*Pg	**Pb**	**19 03 57.8**	**-1.2**
MGRS				*e*Sg	**Sn**	**19 04 14.3**	**-1.4**
CEME	**Cevo**	**1.24**	**128**	⇑*i*Pg	**Pn**	**19 03 59.3**	**-1.2**
CEME				*i* Sg	**Sn**	**19 04 19.1**	**+1.4**
PLE	**Pljevlja**	**1.32**	**89**	⇓*i*Pg	**Pn**	**19 04 00.8**	**-0.8**
PLE				*i* Sg	**Sg**	**19 04 21.7**	**+3.0**
RUDO	**Rudo**	**1.33**	**76**	⇓*i*Pg	**Pn**	**19 04 00.3**	**-1.5**
RUDO				*e*Sg	**Sg**	**19 04 19.8**	**+0.5**
RUDO	**Rudo**	**1.33**	**76**	*e*Pg	**Pn**	**19 04 00.5**	**-1.3**
RUDO				*e*Sg	**Sg**	**19 04 20.2**	**+0.9**
A050A	**Klekovaca**	**1.39**	**327**	*e*Pg	**Pb**	**19 04 02.3**	**-0.7**
A050A				*e*Sg	**Sg**	**19 04 22.1**	**+0.9**
BUM	**Brajici-Budva**	**1.40**	**136**	*e*Pg	**Pn**	**19 04 02.2**	**-0.5**
BUM				*i* Sg	**Sg**	**19 04 24.4**	**+3.1**
BBLS	**Lazići**	**1.43**	**67**	⇓*i*Pg	**Pn**	**19 04 02.7**	**-0.5**
BBLS				*e*Sg	**Sg**	**19 04 22.2**	**-0.2**
BBLS	**Lazići**	**1.43**	**67**	*e*Pg	**Pb**	**19 04 03.2**	**-0.5**
BBLS				*e*Sg	**Sg**	**19 04 25.8**	**+3.4**
BLY	**Banja Luka**	**1.46**	**349**	*e*Pg	**Pb**	**19 04 03.4**	**-0.7**
BLY				*e*Sg	**Sg**	**19 04 23.7**	**+0.3**
BLY	**Banja Luka**	**1.46**	**349**	*e*Pg	**Pn**	**19 04 03.2**	**-0.3**
BLY				*e*Sg	**Sg**	**19 04 23.6**	**+0.2**
DOB	**Doboj**	**1.47**	**14**	*e*Pg	**Pb**	**19 04 03.8**	**-0.4**
DOB				*e*Sg	**Sg**	**19 04 23.2**	**-0.3**
MORI	**Morici**	**1.47**	**293**	*e*Pn	**Pn**	**19 04 03.0**	**-0.6**
MORI				Sn	**Sg**	**19 04 25.6**	**+1.9**
KOME	**Kolasin**	**1.49**	**107**	*e*Pg	**Pb**	**19 04 03.9**	**-0.7**
KOME				*i* Sg	**Sg**	**19 04 27.6**	**+3.4**
TTG	**Podgorica**	**1.51**	**125**	*e*Pg	**Pb**	**19 04 04.3**	**-0.7**
TTG				*i* Sg	**Sg**	**19 04 28.1**	**+3.1**
DRME	**Dracevica, Mon**	**1.63**	**133**	*e*Pn	**Pg**	**19 04 07.2**	**-0.4**
DRME				*e*Sn	**Sg**	**19 04 28.7**	**0.0**
DRME	**Dracevica, Mon**	**1.63**	**133**	⇑*i*Pn	**Pb**	**19 04 06.5**	**-0.5**
DRME				*i* Sn	**Sg**	**19 04 31.6**	**+2.9**
SJES	**Sjenica**	**1.74**	**91**	*e*Pn	**Pb**	**19 04 08.3**	**-0.7**
SJES				*e*Sn	**Sb**	**19 04 30.6**	**-0.7**
SJES	**Sjenica**	**1.74**	**91**	*e*Pn	**Pb**	**19 04 08.6**	**-0.4**
SJES				*e*Sn	**Sg**	**19 04 34.4**	**+2.0**
IVA	**Berane**	**1.75**	**104**	⇓*i*Pn	**Pb**	**19 04 08.7**	**-0.3**
IVA				*i* Sn	**Sg**	**19 04 34.5**	**+2.0**
A051A	**Mrakovica**	**1.77**	**344**	*e*Pn	**Pb**	**19 04 08.4**	**-1.0**
A051A				*e*Sn	**Sg**	**19 04 32.8**	**-0.4**
UDBI	**Udbina**	**1.79**	**313**	*e*Pn	**Pg**	**19 04 10.8**	**+0.1**
UDBI				Sn	**Sg**	**19 04 35.0**	**+1.1**
ULC	**Ulcinj**	**1.82**	**137**	⇑*i*Pn	**Pb**	**19 04 09.7**	**-0.6**
ULC				*i* Sn	**Sg**	**19 04 36.3**	**+1.4**
TEKS	**Tekeris**	**1.87**	**48**	*e*Pn	**Pb**	**19 04 10.0**	**-1.1**
TEKS				*e*Sn	**Sb**	**19 04 34.6**	**-0.2**
TEKS	**Tekeris**	**1.87**	**48**	*e*Pg	**Pg**	**19 04 12.0**	**-0.2**
TEKS				*e*Sg	**Sg**	**19 04 39.5**	**+3.1**
PVY	**Plav**	**1.89**	**112**	⇑*i*Pn	**Pb**	**19 04 10.6**	**-0.8**
PVY				*i* Sn	**Sg**	**19 04 37.9**	**+1.0**
IVAS	**Ivanjica**	**1.89**	**81**	*e*Pn	**Pb**	**19 04 11.0**	**-0.4**
IVAS				*e*Sn	**Sg**	**19 04 37.4**	**+0.4**
DIVS	**Divibare**	**1.91**	**65**	⇓*i*Pn	**Pn**	**19 04 09.8**	**0.0**
DIVS				*e*Sn	**Sb**	**19 04 34.7**	**-1.4**
DIVS	**Divibare**	**1.91**	**65**	*e*Pn	**Pb**	**19 04 10.4**	**-1.5**
DIVS				*e*Sn	**Sg**	**19 04 37.9**	**+0.1**
DUGI	**Dugi Otok**	**1.96**	**291**	Sg	**Sg**	**19 04 39.0**	**-0.3**
VIRC	**Vir**	**2.08**	**299**	*e*Pn	**Pb**	**19 04 14.9**	**+0.3**
VIRC				Sn	**Sg**	**19 04 41.5**	**-1.6**
TRUS	**Trudelj**	**2.24**	**65**	*e*Pn	**Pn**	**19 04 15.2**	**+1.0**
TRUS				*e*Sn	**Sg**	**19 04 46.7**	**-1.5**
GRUS	**Gruza**	**2.34**	**75**	*e*Pn	**Pb**	**19 04 18.1**	**-1.1**
GRUS				*e*Sn	**Sb**	**19 04 49.0**	**+0.6**
FRGS	**Fruska Gora**	**2.44**	**40**	*e*Pn	**Pb**	**19 04 18.7**	**-2.1**
FRGS				*e*Sn	**Sn**	**19 04 48.2**	**+1.0**
FRGS	**Fruska Gora**	**2.44**	**40**	*e*Pn	**Pb**	**19 04 18.4**	**-2.4**
FRGS				*e*Sn	**Sb**	**19 04 50.2**	**-1.0**
SELS	**Selova**	**2.58**	**91**	*e*Pn	**Pn**	**19 04 19.7**	**+0.8**
BOJS	**Bojanci**	**2.75**	**323**	*e*Pn	**Pn**	**19 04 22.9**	**+1.6**
BOJS				*e*Sn	**Sn**	**19 04 56.4**	**+1.4**
BOJS	**Bojanci**	**2.75**	**323**	*i* Pn	**Pb**	**19 04 23.2**	**-3.0**
CRES	**Cresnjev**	**2.94**	**330**	*e*Pn	**Pn**	**19 04 25.3**	**+1.5**
CRES				*e*Sn	**Sn**	**19 05 00.2**	**+0.7**
MORH	**Mrgy, Hungar**	**3.00**	**14**	*e*Pn	**Pn**	**19 04 25.3**	**+0.7**
MORH				*e*Sn	**Sn**	**19 05 02.2**	**+1.3**
CEY	**Cerknica**	**3.31**	**318**	*e*Pn	**Pn**	**19 04 30.1**	**+1.1**
CEY				*e*Sn	**Sn**	**19 05 09.0**	**+0.2**
PERS	**Pernice**	**3.75**	**333**	*i* Pn	**Pn**	**19 04 36.9**	**+1.8**
PERS				*i* Sn	**Sn**	**19 05 19.5**	**-0.2**
VOJS	**Vojsko**	**3.79**	**317**	*i* Pn	**Pn**	**19 04 37.2**	**+1.6**
SOKA	**Soboth**	**3.82**	**333**	*e*Pn	**Pn**	**19 04 37.6**	**+1.6**
	3.6nm,0.3s						
OBKA	**Obir**	**3.85**	**327**	*e*Pn	**Pn**	**19 04 36.6**	**+0.1**
OBKA				*e*Sn	**Sn**	**19 05 22.1**	**-0.1**
OBKA	**Obir**	**3.85**	**327**	*e*Pn	**Pn**	**19 04 39.9**	**+3.4**
	0.7nm,0.2s						
ARSA	**Arzberg**	**4.20**	**340**	*e*Pn	**Pn**	**19 04 41.6**	**+0.5**
ARSA				*e*Sn	**Sn**	**19 05 29.6**	**-1.0**
CONA	**Conrad Observa**	**4.77**	**346**	*e*Pn	**Pn**	**19 04 50.6**	**+1.5**
	0.9nm,0.4s						
KBA	**Koelnbreinsper**	**4.81**	**323**	*e*Pn	**Pn**	**19 04 51.9**	**+2.2**
	0.6nm,0.3s						
ABTA	**Abfaltersbach**	**4.97**	**315**	*e*Pn	**Pn**	**19 04 55.3**	**+3.5**
	0.3nm,0.2s						
BIOA	**Bad Ischl, Aus**	**5.18**	**329**	*e*Pn	**Pn**	**19 04 57.9**	**+3.3**
	2.1nm,0.3s						
WTTA	**Wattenberg**	**5.76**	**315**	*e*Pn	**Pn**	**19 05 04.6**	**+1.9**
	1.1nm,0.3s						
WATA	**Walderalm**	**5.84**	**316**	*e*Pn	**Pn**	**19 05 04.4**	**+0.6**
	1.3nm,0.3s						
SQTA	**Sankt Quirin**	**5.96**	**313**	*e*Pn	**Pn**	**19 05 07.5**	**+2.1**
	1.9nm,0.5s						
MOTA	**Moosalm**	**6.09**	**314**	*e*Pn	**Pn**	**19 05 08.5**	**+1.3**
	0.8nm,0.4s						
FETA	**Feichten**	**6.10**	**310**	*e*Pn	**Pn**	**19 05 09.4**	**+2.0**
	0.4nm,0.4s						
DAVA	**Damuels**	**6.73**	**309**	*e*Pn	**Pn**	**19 05 19.0**	**+3.0**
	1.0nm,0.6s						

IDC 22 19:18:30.3±37.0, 0.°25S×68.°81E, h0km, mb3.6/3, mbtmp3.6/3, MS3.1/1, Error ellipse: s-maj=1095.0km s-min=47.5km az=74.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**34.96**	**56**	LR	LR	19 38 23.8	
	comp=Z,30nm,18.2s,baz=150,slow=34						
SONM	**Songino Array**	**57.95**	**29**	P	P	19 28 24.6	-0.1
	1.0nm,1.1s,baz=224,slow=8.1,SNR=4.1						
	1.0nm,1.1s						
WRA	**Warramunga Arr**	**66.98**	**112**	P	P	19 29 25.8	+0.3
	1.0nm,1.0s,baz=288,slow=5.9,SNR=6.0						
	1.0nm,1.0s						
ASAR	**Alice Springs**	**67.18**	**116**	P	P	19 29 26.5	-0.3
	0.3nm,0.8s,baz=282,slow=6.3,SNR=2.5						
	0.3nm,0.8s						

*IDC **22** 19:22:04.3±1.3, 37.°36N×141.°47E, h0km, mb3.7/7, mbtmp3.7/8, ML2.5/1, Error ellipse: s-maj=31.5km s-min=27.0km az=97.0*
*NIED **22** 19:22:06.1, 37.°42N×141.°62E, h19km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.81; $M_{\theta\theta}$0.15; $M_{\phi\phi}$1.66; $M_{r\theta}$-0.76; $M_{\theta\phi}$1.17; $M_{r\phi}$0.84; Fault plane solution: $M_0$2.38000×10^{14} NP1:ϕ_s54.00000°, δ46.00000°, λ-49.00000°. NP2:ϕ_s183.00000°, δ57.00000°, λ-125.00000°.*
*JMA **22** 19:22:06.1±0.1, 37.°4N±0.°2×141.°6E±0.°3, h19km±1km, MV3.8/27, E OFF FUKUSHIMA PREF*
ISC 22 19:22:05.3±1.0, 37.°43N±0.°06×141.°63E±0.°07, h10km, n20, σ0§91/17, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.61**	**264**	P	**Pg**	**19 22 17.7**	**+0.6**
JFK				*e*S	**Sg**	**19 22 25.5**	**+0.4**
JMST	**Minamisoumatoc**	**0.66**	**297**	*e*S	**Sg**	**19 22 27.6**	**+0.8**
JMM	**Marumori**	**0.80**	**303**	S	**Sg**	**19 22 31.4**	**+0.3**
JIKH	**Ishinomakikobu**	**0.89**	**351**	P	**Pg**	**19 22 22.6**	**+0.1**
JIO	**Ouri**	**1.05**	**348**	P	**Pg**	**19 22 25.1**	**-0.4**
JIO				S	**Sg**	**19 22 38.5**	**-0.7**
JOU	**Okura**	**1.21**	**321**	P	**Pb**	**19 22 28.4**	**0.0**
JOU				*e*S	**Sb**	**19 22 44.5**	**+0.4**
MJAR	**Matsushiro Arr**	**2.88**	**253**	Pn	**Pn**	**19 22 48.6**	**-2.8**
	0.7nm,0.3s,baz=85,slow=16,SNR=13						
	2.2nm,0.3s						
SONM	**Songino Array**	**27.71**	**303**	P	**P**	**19 27 53.6**	**-0.3**
	0.6nm,0.6s,baz=90,slow=9.8,SNR=4.9						
	0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	19 57 25.4	
	baz=314,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**28.21**	**122**	T	T	19 57 24.6	
	baz=314,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**28.22**	**122**	T	T	19 57 26.8	
	baz=314,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	19 58 20.8	
	baz=316,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**28.93**	**124**	T	T

Island, New Zealand
ISC 22 19:24:07.2±0.9, **42°13S**±0°03×**173°79E**±0°03, **h10**km, **n120**, σ1§**69**/124, **South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.34**	**213**	P	**Pb**	**19 24 16.9**	**+1.4**
KHZ	**Kahutara**	**0.34**	**213**	P	**Pb**	**19 24 16.9**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.42**	**9**	P	**Pg**	**19 24 15.5**	**+0.1**
BSWZ				S	**Sg**	**19 24 21.0**	**+0.1**
CMWZ	**Cape Campbell**	**0.49**	**40**	P	**Pg**	**19 24 18.7**	**+1.9**
TUWZ	**Tuamarina**	**0.71**	**9**	P	**Pg**	**19 24 20.6**	**-0.2**
TUWZ				S	**Sg**	**19 24 29.8**	**-0.3**
THZ	**Tophouse**	**0.76**	**299**	P	**Pg**	**19 24 21.1**	**-0.7**
THZ				S	**Sg**	**19 24 30.1**	**-1.6**
NNZ	**Nelson**	**0.96**	**341**	P	**Pg**	**19 24 24.3**	**-1.4**
TCW	**Tory Channel**	**0.98**	**22**	P	**Pg**	**19 24 25.5**	**-0.7**
GVZ	**Greta Valley S**	**1.01**	**213**	P	**Pb**	**19 24 28.3**	**+1.5**
MRNZ	**Matariki Terra**	**1.06**	**313**	P	**Pg**	**19 24 26.6**	**-1.1**
MRNZ				S	**Sg**	**19 24 40.1**	**-1.3**
SNZO	**South Karori**	**1.06**	**40**	P	**Pg**	**19 24 28.2**	**+0.5**
WEL	**Wellington**	**1.11**	**41**	P	**Pb**	**19 24 28.9**	**+0.3**
PLWZ	**Palliser**	**1.23**	**63**	P	**Pn**	**19 24 30.0**	**-0.5**
TKNZ	**Takaka Hill**	**1.26**	**330**	P	**Pn**	**19 24 29.5**	**-1.4**
MSWZ	**Moikau Station**	**1.30**	**57**	P	**Pn**	**19 24 31.0**	**-0.5**
LTZ	**Lake Taylor**	**1.30**	**239**	P	**Pn**	**19 24 32.0**	**+0.5**
DUWZ	**D'Urville Isla**	**1.33**	**4**	P	**Pn**	**19 24 30.6**	**-1.3**
AMCZ	**Amberley**	**1.34**	**218**	P	**Pn**	**19 24 32.5**	**+0.4**
CAW	**Cannon Point**	**1.40**	**44**	P	**Pn**	**19 24 32.5**	**-0.3**
PAWZ	**Paruwai Farm**	**1.43**	**59**	P	**Pn**	**19 24 32.6**	**-0.7**
KIW	**Kapiti Island**	**1.52**	**34**	P	**Pn**	**19 24 34.4**	**0.0**
DSZ	**Denniston Nort**	**1.53**	**284**	P	**Pn**	**19 24 35.2**	**+0.5**
TRWZ	**Traveller**	**1.59**	**63**	P	**Pn**	**19 24 34.5**	**-1.0**
MTW	**Mount Morrison**	**1.60**	**53**	P	**Pn**	**19 24 34.7**	**-0.9**
QRZ	**Quartz Range**	**1.61**	**323**	P	**Pn**	**19 24 35.5**	**-0.2**
QRZ	**Quartz Range**	**1.61**	**323**	P	**Pn**	**19 24 35.3**	**-0.4**
OGWZ	**Otaki Gorge**	**1.67**	**39**	P	**Pn**	**19 24 36.1**	**-0.4**
OKCZ	**Okains Bay**	**1.68**	**198**	P	**Pn**	**19 24 37.0**	**+0.2**
OXZ	**Oxford**	**1.76**	**227**	P	**Pn**	**19 24 37.5**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.78**	**47**	P	**Pn**	**19 24 37.2**	**-0.9**
MQZ	**McQueen's Vall**	**1.79**	**208**	P	**Pn**	**19 24 37.5**	**-0.7**
INZ	**Inchbonnie**	**1.84**	**250**	P	**Pn**	**19 24 39.5**	**+0.7**
AKCZ	**Akaroa Harbour**	**1.86**	**200**	P	**Pn**	**19 24 39.0**	**-0.1**
TMWZ	**Te Maipa**	**1.87**	**58**	P	**Pn**	**19 24 38.2**	**-1.2**
MRZ	**Mangatainoka R**	**1.99**	**43**	P	**Pn**	**19 24 40.0**	**-0.9**
RACZ	**Rakaia**	**2.01**	**217**	P	**Pn**	**19 24 40.7**	**-0.5**
MHCZ	**Mount Hutt**	**2.16**	**229**	P	**Pn**	**19 24 42.9**	**-0.4**
POWZ	**Post Office Ro**	**2.29**	**41**	P	**Pn**	**19 24 44.0**	**-1.0**
WACZ	**Wakanui South**	**2.31**	**218**	P	**Pn**	**19 24 44.9**	**-0.5**
WVZ	**Waitaha Valley**	**2.45**	**246**	P	**Pn**	**19 24 47.9**	**+0.7**
WAZ	**Wanganui**	**2.54**	**21**	P	**Pn**	**19 24 50.5**	**+2.0**
DVHZ	**Dannevirke**	**2.56**	**45**	P	**Pn**	**19 24 46.8**	**-1.9**
RPZ	**Rata Peaks**	**2.56**	**231**	P	**Pn**	**19 24 48.7**	**-0.1**
RPZ	**Rata Peaks**	**2.56**	**231**	P	**Pn**	**19 24 48.4**	**-0.5**
ANWZ	**Angora Road**	**2.62**	**51**	P	**Pn**	**19 24 52.9**	**+3.3**
TSZ	**Takapari Road**	**2.64**	**39**	P	**Pn**	**19 24 48.4**	**-1.4**
ARCZ	**Arundel**	**2.64**	**226**	P	**Pn**	**19 24 49.4**	**-0.5**
LREZ	**Lake Rotokare**	**2.70**	**10**	P	**Pn**	**19 24 53.5**	**+2.8**
NMEZ	**Namu Road**	**2.71**	**1**	P	**Pn**	**19 24 53.2**	**+2.4**
GCSZ	**Gaunt Creek Bo**	**2.82**	**244**	P	**Pn**	**19 24 53.4**	**+1.1**
KHEZ	**Kahui Hut**	**2.83**	**3**	P	**Pn**	**19 24 55.3**	**+2.7**
KHEZ	**Kahui Hut**	**2.83**	**3**	P	**Pn**	**19 24 54.4**	**+1.8**
NBEZ	**Newall Road No**	**2.86**	**1**	P	**Pn**	**19 24 54.7**	**+1.9**
NEZ	**North Egmont**	**2.86**	**5**	P	**Pn**	**19 24 55.1**	**+2.1**
PNHZ	**Pukenui**	**2.86**	**40**	P	**Pn**	**19 24 51.6**	**-1.4**
PKE	**Pukeiti**	**2.93**	**3**	P	**Pn**	**19 24 56.0**	**+2.0**
DREZ	**Durham Road**	**2.95**	**6**	P	**Pn**	**19 24 56.6**	**+2.4**
MTVZ	**Mangateitei**	**3.02**	**25**	P	**Pn**	**19 24 59.2**	**+4.0**
TMZ	**Timaru**	**3.04**	**221**	P	**Pn**	**19 24 55.1**	**-0.3**
PKVZ	**Pokaka**	**3.07**	**23**	P	**Pn**	**19 24 58.4**	**+2.5**
MHEZ	**Mangahewa**	**3.07**	**8**	P	**Pn**	**19 24 59.3**	**+3.4**
VRZ	**Vera Road**	**3.09**	**14**	P	**Pn**	**19 24 58.6**	**+2.6**
MOVZ	**Moawhango**	**3.10**	**29**	P	**Pn**	**19 24 59.0**	**+2.8**
WNVZ	**Wahianoa**	**3.12**	**27**	P	**Pn**	**19 24 58.7**	**+0.9**
TRVZ	**Turoa**	**3.12**	**26**	P	**Pn**	**19 24 59.3**	**+2.6**
BHHZ	**Black Hill Sta**	**3.15**	**34**	P	**Pn**	**19 24 56.5**	**-0.4**
DRZ	**Dome Shelter**	**3.15**	**26**	P	**Pn**	**19 25 01.1**	**+3.9**
WHVZ	**Whangaehu Hut**	**3.15**	**26**	P	**Pn**	**19 24 59.4**	**+2.3**
FWVZ	**Far West T-bar**	**3.17**	**26**	P	**Pn**	**19 24 59.9**	**+2.6**
TUVZ	**Tukino**	**3.19**	**27**	P	**Pn**	**19 24 58.8**	**+1.3**
FOZ	**Fox Glacier**	**3.25**	**243**	P	**Pn**	**19 24 58.6**	**+0.5**
NGZ	**Ngauruhoe**	**3.25**	**26**	P	**Pn**	**19 25 00.6**	**+2.2**
SNVZ	**South Ngauruho**	**3.26**	**26**	P	**Pn**	**19 25 00.5**	**+2.0**
OTVZ	**Oturere**	**3.29**	**26**	P	**Pn**	**19 25 01.8**	**+2.9**
NNVZ	**North Ngauruho**	**3.30**	**25**	P	**Pn**	**19 25 01.0**	**+1.9**
KAHZ	**Kahuranaki**	**3.30**	**46**	P	**Pn**	**19 24 57.0**	**-1.9**
TWVZ	**Taurewa**	**3.30**	**23**	P	**Pn**	**19 25 02.2**	**+3.2**
ETVZ	**East Tongariro**	**3.33**	**27**	P	**Pn**	**19 25 01.0**	**+1.5**
KRVZ	**Karewarewa**	**3.34**	**26**	P	**Pb**	**19 25 07.0**	**+0.3**
TMVZ	**Te Maari**	**3.34**	**26**	P	**Pn**	**19 25 02.0**	**+2.4**
NTVZ	**North Tongarir**	**3.35**	**26**	P	**Pn**	**19 25 03.7**	**+4.0**
KATZ	**Kakaramea**	**3.47**	**25**	P	**Pn**	**19 25 07.6**	**-1.2**
LBZ	**Lake Benmore**	**3.47**	**228**	P	**Pn**	**19 25 01.1**	**-0.2**
RITZ	**Rihia Road**	**3.52**	**27**	P	**Pn**	**19 25 08.0**	**-1.6**
RATZ	**Rangitikuka**	**3.59**	**26**	P	**Pb**	**19 25 10.2**	**-0.6**
BKZ	**Black Stump Fm**	**3.60**	**36**	P	**Pn**	**19 25 01.8**	**-1.4**
HIZ	**Hauiti**	**3.70**	**13**	P	**Pn**	**19 25 07.0**	**+2.5**
HIZ	**Hauiti**	**3.70**	**13**	P	**Pn**	**19 25 06.7**	**+2.2**
ODZ	**Otahua Downs**	**3.71**	**217**	P	**Pn**	**19 25 03.9**	**-0.6**
ODZ	**Otahua Downs**	**3.71**	**217**	P	**Pn**	**19 25 03.6**	**-0.9**
NMHZ	**Naumai**	**3.80**	**38**	P	**Pn**	**19 25 09.5**	**+3.7**
MRHZ	**Matea Rd**	**3.85**	**32**	P	**Pn**	**19 25 04.7**	**-1.9**
MTHZ	**Maungataniwha**	**4.01**	**36**	P	**Pn**	**19 25 10.6**	**+1.8**
TLZ	**Tolley Road**	**4.02**	**20**	P	**Pn**	**19 25 11.6**	**+2.7**
JCZ	**Jackson Bay**	**4.15**	**240**	P	**Pn**	**19 25 11.2**	**+0.5**
JCZ	**Jackson Bay**	**4.15**	**240**	P	**Pn**	**19 25 11.3**	**+0.6**
HHSZ	**Highcliff Hill**	**4.41**	**210**	P	**Pn**	**19 25 13.6**	**-0.6**
EAZ	**Earnscleugh**	**4.50**	**225**	P	**Pn**	**19 25 14.8**	**-0.6**
TCZ	**Tahuroa Road**	**4.58**	**17**	P	**Pn**	**19 25 19.0**	**+2.5**
URZ	**Urewera**	**4.62**	**34**	P	**Pn**	**19 25 17.0**	**-0.1**
URZ	**Urewera**	**4.62**	**34**	P	**Pn**	**19 25 16.7**	**-0.4**
TUZ	**Tuapeka**	**4.86**	**217**	P	**Pn**	**19 25 20.2**	**-0.2**
AWAZ	**Awhitu Peninsu**	**5.10**	**8**	P	**Pn**	**19 25 25.0**	**+1.3**
RUGZ	**Raukumara Rang**	**5.11**	**37**	P	**Pn**	**19 25 22.8**	**-1.2**
MKAZ	**Moumakai**	**5.13**	**12**	P	**Pn**	**19 25 25.3**	**+1.2**
WTAZ	**Waiatarua**	**5.22**	**7**	P	**Pn**	**19 25 27.8**	**+2.4**
MLZ	**Mavora Lakes**	**5.23**	**230**	P	**Pn**	**19 25 24.6**	**-0.9**
ETAZ	**East Tamaki Re**	**5.24**	**10**	P	**Pn**	**19 25 27.2**	**+1.5**
RVAZ	**Riverhead Bore**	**5.38**	**7**	P	**Pn**	**19 25 30.9**	**+3.3**
MBAZ	**Motutapu North**	**5.42**	**9**	P	**Pn**	**19 25 29.8**	**+1.7**
WIAZ	**Waiheke Island**	**5.43**	**11**	P	**Pn**	**19 25 30.2**	**+2.1**
SYZ	**Scrubby Hill**	**5.53**	**216**	P	**Pn**	**19 25 29.6**	**+0.1**
SYZ	**Scrubby Hill**	**5.53**	**216**	P	**Pn**	**19 25 29.5**	**-0.1**
KUZ	**Kuaotunu**	**5.58**	**16**	P	**Pn**	**19 25 32.6**	**+2.4**
KUZ	**Kuaotunu**	**5.58**	**16**	P	**Pn**	**19 25 32.0**	**+1.7**
WCZ	**Waipu Caves**	**6.19**	**4**	P	**Pn**	**19 25 40.1**	**+1.4**
OUZ	**Omahuta**	**6.90**	**359**	P	**Pn**	**19 25 49.9**	**+1.5**
OUZ	**Omahuta**	**6.90**	**359**	P	**Pn**	**19 25 49.8**	**+1.4**
CTZ	**Chatham Island**	**7.22**	**106**	P	**Pn**	**19 25 51.1**	**-1.7**
CTZ	**Chatham Island**	**7.22**	**106**	P	**Pn**	**19 25 51.5**	**-1.3**

*WEL **22** 19:38:00, 37°02S×177°05E, h208km, ML4.9, Mw5.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16} Nm; M_{rr}1.23; $M_{\theta\theta}$2.50; $M_{\phi\phi}$-3.73; $M_{r\theta}$-0.94; $M_{\theta\phi}$-2.14; $M_{r\phi}$1.96; Fault plane solution: M_o4.44000×10^{16} NP1: ϕ_s240.00000°, δ57.00000°, λ168.00000°. NP2: ϕ_s337.00000°, δ80.00000°, λ34.00000°. Principal axes: T -4836.5200, Plg31.0000°, Azm204.0000°; N 4035.3700, Plg55.0000°, Azm351.0000°; P 801.1600, Plg15.0000°, Azm104.0000°;*
*NEIC **22** 19:38:17.8±1.9, 37°07S±0°09×177°02E±0°09, h204km±5km, mb5.0/54, Mww5.1 Error ellipse: s-maj=12.9km s-min=10.8km az=171.0*
*WEL **22** 19:38:18.5±0.9, 37°S±7'×17°7E±', h191km±6km, M4.9/74, ML5.0/42, MLv4.9/74, Error ellipse: s-maj=0.0km s-min=0.0km az=36.2*
*GCMT **22** 19:38:18.8±0.3, 37°05S±0°02×177°11E±0°03, h202km±3km, MW5.0/79, Moment Tensor Solution. s36,c42; s79,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.44±.14; $M_{\theta\theta}$2.54±.18; $M_{\phi\phi}$-3.98±.16; $M_{r\theta}$-0.99±.13; $M_{\theta\phi}$-1.12±.15; $M_{r\phi}$2.44±.13; Best double couple: M_o4.40000×10^{16} NP1:ϕ_s333.00000°, δ79.00000°, λ43.00000°. NP2: ϕ_s232.00000°, δ48.00000°, λ165.00000°. Principal axes: T 3.8180, Plg38.0000°, Azm202.0000°; N 1.1640, Plg46.0000°, Azm344.0000°; P -4.9820, Plg20.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*MOS **22** 19:38:20.3±1.2, 37°00S×176°89E, h235km, mb5.0/13 Error ellipse: s-maj=13.7km s-min=11.3km az=39.8*
*NEIC **22** 19:38:21, 37°20S×176°93E, h210km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.02; $M_{\theta\theta}$2.40; $M_{\phi\phi}$-3.42; $M_{r\theta}$-0.07; $M_{\theta\phi}$-2.91; $M_{r\phi}$3.30; Fault plane solution: M_o5.35000×10^{16} NP1: ϕ_s249.00000°, δ51.00000°, λ176.00000°. NP2: ϕ_s342.00000°, δ87.00000°, λ39.00000°. Principal axes: T 4.3583, Plg29.0000°, Azm213.0000°; N 1.6081, Plg51.0000°, Azm346.0000°; P -5.9664, Plg24.0000°, Azm109.0000°;*
*IDC **22** 19:38:21.6±1.3, 36°90S×177°19E, h242km±11km, mb4.6/11, mbtmp5.1/13 Error ellipse: s-maj=12.8km s-min=10.1km az=55.0*
ISC 22 19:38:18.3±0.3, **37°18S**±0°04×**176°95E**±0°04, **h211**km±2km, **n527**, σ1§**57**/542, **mb5.0**/74, **34C-8D, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSRZ	**White Island S**	**0.39**	**151**	P	**Pn**	**19 38 46.3**	**0.0**
WSRZ				S	**S**	**19 39 07.5**	**-0.9**
WIZ	**White Island**	**0.40**	**151**	P	**Pn**	**19 38 45.5**	**-0.8**
MYRZ	**Mayor Island**	**0.57**	**260**	P	**Pn**	**19 38 45.9**	**-1.1**
WHRZ	**Whale Island**	**0.67**	**178**	P	**Pn**	**19 38 46.7**	**-0.7**
WHRZ				S	**S**	**19 39 09.6**	**-0.7**
OPRZ	**Ohinepanea**	**0.73**	**205**	P	**Pn**	**19 38 46.5**	**-1.1**
OPRZ				S	**S**	**19 39 10.2**	**-0.4**
MARZ	**Manawahe**	**0.83**	**195**	P	**Pn**	**19 38 47.4**	**-0.8**
HAZ	**Te Kaha**	**0.88**	**131**	P	**Pn**	**19 38 47.1**	**-1.3**
HAZ				S	**S**	**19 39 08.7**	**-3.2**
LIRZ	**Lichensteins R**	**0.93**	**208**	P	**Pn**	**19 38 48.5**	**-0.2**
EDRZ	**Edgecumbe**	**0.94**	**190**	P	**Pn**	**19 38 48.9**	**+0.1**
RUGZ	**Raukumara Rang**	**0.98**	**144**	P	**Pn**	**19 38 47.6**	**-1.6**
RUGZ				S	**S**	**19 39 09.8**	**-3.4**
KARZ	**Kaharoa**	**1.01**	**213**	P	**Pn**	**19 38 48.9**	**-0.4**
MKRZ	**Makatiti**	**1.03**	**201**	P	**Pn**	**19 38 50.0**	**+0.6**
OMRZ	**Omania**	**1.03**	**206**	P	**Pn**	**19 38 49.2**	**-0.2**
KMRZ	**Kaimai**	**1.04**	**230**	P	**Pn**	**19 38 49.2**	**-0.2**
KUZ	**Kuaotunu**	**1.07**	**294**	P	**Pn**	**19 38 47.7**	**-1.9**
KUZ				S	**S**	**19 39 11.5**	**-2.4**
URZ	**Urewera**	**1.08**	**173**	P	**Pn**	**19 38 48.8**	**-0.9**
NGRZ	**Ngongotaha**	**1.10**	**213**	P	**Pn**	**19 38 49.9**	**0.0**
TARZ	**Mount Tarawera**	**1.11**	**198**	P	**Pn**	**19 38 50.2**	**+0.2**
PKGZ	**Pakihiroa**	**1.14**	**128**	P	**Pn**	**19 38 49.6**	**-0.6**
MXZ	**Matakaoa Point**	**1.15**	**110**	Pn	**Pn**	**19 38 48.8**	**-1.4**
MXZ				Sn	**S**	**19 39 12.3**	**-2.6**
MXZ	**Matakaoa Point**	**1.15**	**110**	P	**Pn**	**19 38 48.9**	**-1.3**
UTU	**Utuhina**	**1.16**	**211**	P	**Pn**	**19 38 50.6**	**+0.4**
HLRZ	**Highlands Stat**	**1.17**	**204**	P	**Pn**	**19 38 50.6**	**+0.3**
RRRZ	**Republican Roa**	**1.21**	**196**	P	**Pn**	**19 38 50.8**	**+0.2**
MWZ	**Matawai**	**1.24**	**158**	P	**Pn**	**19 38 50.0**	**-0.9**
HSRZ	**Hossack Road**	**1.26**	**206**	P	**Pn**	**19 38 52.1**	**+1.1**
TOZ	**Tahuroa Road**	**1.27**	**244**	P	**Pn**	**19 38 50.8**	**-0.3**
MUGZ	**Murupara**	**1.30**	**186**	P	**Pn**	**19 38 50.8**	**-0.5**
HRRZ	**Handcock Road**	**1.32**	**203**	P	**Pn**	**19 38 51.8**	**+0.3**
WMGZ	**Waiomatatini S**	**1.33**	**119**	P	**Pn**	**19 38 50.8**	**-0.7**
GRRZ	**Galatos Road**	**1.34**	**209**	P	**Pn**	**19 38 52.0**	**+0.3**
RAGZ	**Rawiri**	**1.36**	**164**	P	**Pn**	**19 38 51.7**	**-0.2**
PUZ	**Puketiti**	**1.37**	**131**	P	**Pn**	**19 38 51.3**	**-0.6**
MKAZ	**Moumakai**	**1.43**	**273**	P	**Pn**	**19 38 51.5**	**-0.8**
RTZ	**Ruatahuna**	**1.43**	**179**	Pn	**Pn**	**19 38 51.7**	**-0.8**
RTZ	**Ruatahuna**	**1.43**	**179**	P	**Pn**	**19 38 51.7**	**-0.8**
TKGZ	**Te Karaka**	**1.45**	**151**	P	**Pn**	**19 38 52.4**	**0.0**
ALRZ	**Allen Road**	**1.46**	**199**	P	**Pn**	**19 38 52.9**	**+0.3**
WIAZ	**Waiheke Island**	**1.50**	**284**	P	**Pn**	**19 38 51.8**	**-1.1**
GRZ	**Great Barrier**	**1.51**	**307**	P	**Pn**	**19 38 51.1**	**-2.0**
TLZ	**Tolley Road**	**1.60**	**224**	P	**Pn**	**19 38 54.2**	**+0.4**
ETAZ	**East Tamaki Re**	**1.63**	**277**	P	**Pn**	**19 38 53.6**	**-0.4**
SNGZ	**Shannon Statio**	**1.63**	**169**	P	**Pn**	**19 38 54.1**	**0.0**
CNGZ	**Carnagh Statio**	**1.64**	**143**	P	**Pn**	**19 38 54.4**	**+0.3**
RIGZ	**Rimuhau**	**1.65**	**157**	P	**Pn**	**19 38 54.4**	**+0.1**
MTHZ	**Maungataniwha**	**1.67**	**183**	P	**Pn**	**19 38 54.0**	**-0.5**
WHTZ	**Whakaora**	**1.68**	**207**	P	**Pn**	**19 38 56.0**	**+1.4**
MBAZ	**Motutapu North**	**1.69**	**283**	P	**Pn**	**19 38 53.7**	**-0.9**
MRHZ	**Matea Rd**	**1.70**	**194**	P	**Pn**	**19 38 54.4**	**-0.3**
RAHZ	**Arahi**	**1.74**	**176**	P	**Pn**	**19 38 55.2**	**+0.1**
EPAZ	**Eden Park BICE**	**1.79**	**279**	P	**Pn**	**19 38 55.0**	**-0.6**
ABAZ	**Army Bay**	**1.79**	**288**	P	**Pn**	**19 38 54.7**	**-0.9**
HBAZ	**Herne Bay Bore**	**1.80**	**280**	P	**Pn**	**19 38 55.0**	**-0.6**
HATZ	**Hinemaiaia**	**1.84**	**201**	P	**Pn**	**19 38 56.1**	**+0.1**
AWAZ	**Awhitu Peninsu**	**1.84**	**273**	P	**Pn**	**19 38 55.4**	**-0.7**
WHHZ	**Waihua**	**1.91**	**173**	P	**Pn**	**19 38 54.9**	**+0.3**
WTAZ	**Waiatarua**	**1.91**	**277**	P	**Pn**	**19 38 56.2**	**+0.5**
NMHZ	**Naumai**	**1.92**	**183**	P	**Pn**	**19 38 57.4**	**+0.6**
RATZ	**Rangitukua**	**1.92**	**208**	P	**Pn**	**19 38 57.4**	**+0.5**
KNZ	**Kokohu**	**1.93**	**163**	P	**Pn**	**19 38 56.7**	**-0.1**
RVAZ	**Riverhead Bore**	**1.94**	**281**	P	**Pn**	**19 38 56.1**	**-0.8**
RITZ	**Rihia Road**	**1.99**	**205**	P	**Pn**	**19 38 58.0**	**+0.5**
BKZ	**Black Stump Fm**	**2.01**	**190**	Pn	**Pn**	**19 38 56.8**	**-1.0**
BKZ				Sn	**S**	**19 39 25.0**	**-3.4**
BKZ	**Black Stump Fm**	**2.01**	**190**	P	**Pn**	**19 38 57.0**	**-0.7**
KATZ	**Kakaramea**	**2.04**	**208**	P	**Pn**	**19 38 58.6**	**+0.4**
ARHZ	**Aropaoanui**	**2.08**	**179**	P	**Pn**	**19 38 58.5**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.11**	**159**	P	**Pn**	**19 38 58.8**	**+0.1**
HIZ	**Hauiti**	**2.12**	**231**	Pn	**Pn**	**19 38 59.4**	**+0.6**
HIZ				Sn	**S**	**19 39 32.0**	**+1.9**
HIZ	**Hauiti**	**2.12**	**231**	P	**Pn**	**19 38 59.6**	**+0.8**
NTVZ	**North Tongarir**	**2.16**	**207**	P	**Pn**	**19 38 59.9**	**+0.5**
TMVZ	**Te Maari**	**2.17**	**206**	P	**Pn**	**19 38 59.6**	**+0.2**
KRVZ	**Karewarewa**	**2.17**	**208**	P	**Pn**	**19 38 59.2**	**+0.8**
ETVZ	**East Tongariro**	**2.18**	**206**	P	**Pn**	**19 38 59.6**	**+0.1**
NNVZ	**North Ngauruho**	**2.21**	**208**	P	**Pn**	**19 39 00.3**	**+0.4**
OTVZ	**Oturere**	**2.22**	**207**	P	**Pn**	**19 39 00.3**	**+0.3**
TWVZ	**Taurewa**	**2.23**	**212**	P	**Pn**	**19 39 00.5**	**+0.5**
SNVZ	**South Ngauruho**	**2.25**	**207**	P	**Pn**	**19 39 00.6**	**+0.3**
NGZ	**Ngauruhoe**	**2.26**	**208**	P	**Pn**	**19 39 00.9**	**+0.5**
MCHZ	**McNeill Hill**	**2.27**	**185**	P	**Pn**	**19 39 00.5**	**+0.1**
KWHZ	**Kaweka Forest**	**2.28**	**190**	P	**Pn**	**19 39 00.5**	**0.0**
TUVZ	**Tukino**	**2.32**	**206**	P	**Pn**	**19 39 01.0**	**0.0**
FWVZ	**Far West T-bar**	**2.34**	**207**	P	**Pn**	**19 39 01.7**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.35**	**207**	P	**Pn**	**19 39 01.5**	**0.0**
DRZ	**Dome Shelter**	**2.36**	**207**	P	**Pn**	**19 39 02.0**	**+0.4**
TRVZ	**Turoa**	**2.38**	**207**	P	**Pn**	**19 39 01.9**	**+0.1**
WNVZ	**Wahianoa**	**2.39**	**206**	P	**Pn**	**19 39 01.7**	**-0.1**
BHHZ	**Black Hill Sta**	**2.41**	**196**	P	**Pn**	**19 39 01.1**	**-0.7**
MOVZ	**Moawhango**	**2.41**	**203**	P	**Pn**	**19 39 01.3**	**-0.7**
WCZ	**Waipu Caves**	**2.43**	**309**	P	**Pn**	**19 39 00.6**	**-1.6**
PKVZ	**Pokaka**	**2.45**	**210**	P	**Pn**	**19 39 02.5**	**+0.2**
CKHZ	**Cape Kidnapper**	**2.48**	**178**	P	**Pn**	**19 39 02.4**	**-0.1**
MTVZ	**Mangateitei**	**2.49**	**207**	P	**Pn**	**19 39 02.9**	**+0.2**
VRZ	**Vera Road**	**2.60**	**221**	P	**Pn**	**19 39 05.0**	**+1.2**
KAHZ	**Kahuranaki**	**2.61**	**181**	P	**Pn**	**19 39 03.9**	**-0.2**
PNHZ	**Pukenui**	**2.79**	**192**	P	**Pn**	**19 39 05.1**	**-0.9**
MHEZ	**Mangahewa**	**2.80**	**227**	P	**Pn**	**19 39 08.7**	**+2.5**
PXZ	**Pawanui**	**2.85**	**181**	P	**Pn**	**19 39 05.9**	**-0.7**
WPHZ	**Waipukurau**	**2.91**	**188**	P	**Pn**	**19 39 06.7**	**-0.6**
DREZ	**Durham Road**	**2.95**	**226**	P	**Pn**	**19 39 10.1**	**+2.2**
TSZ	**Takapari Road**	**2.98**	**195**	P	**Pn**	**19 39 07.3**	**-0.9**
WAZ	**Wanganui**	**3.00**	**210**	P	**Pn**	**19 39 08.5**	**+0.1**
LREZ	**Lake Rotokare**	**3.03**	**221**	P	**Pn**	**19 39 10.1**	**+1.4**
NEZ	**North Egmont**	**3.06**	**226**	P	**Pn**	**19 39 11.1**	**+1.9**
PKE	**Pukeiti**	**3.08**	**228**	P	**Pn**	**19 39 11.2**	**+1.8**
PRHZ	**Porangahau**	**3.09**	**184**	P	**Pn**	**19 39 08.8**	**-0.7**
KHEZ	**Kahui Hut**	**3.13**	**227**	P	**Pn**	**19 39 11.7**	**+1.7**
DVHZ	**Dannevirke**	**3.17**	**193**	P	**Pn**	**19 39 09.4**	**-1.1**
NBEZ	**Newall Road No**	**3.20**	**228**	P	**Pn**	**19 39 12.7**	**+2.0**
OHWZ	**Ohakea**	**3.28**	**202**	P	**Pn**	**19 39 11.5**	**-0.1**
NMEZ	**Namu Road**	**3.29**	**226**	P	**Pn**	**19 39 13.1**	**+1.4**
ANWZ	**Angora Road**	**3.29**	**186**	P	**Pn**	**19 39 11.3**	**-0.6**
POWZ	**Post Office Ro**	**3.34**	**196**	P	**Pn**	**19 39 11.4**	**-1.0**
OUZ	**Omahuta**	**3.34**	**305**	P	**Pn**	**19 39 10.9**	**-1.6**
PRWZ	**Pori Road**	**3.45**	**192**	P	**Pn**	**19 39 13.0**	**-0.7**
BFZ	**Birch Farm**	**3.54**	**189**			**19 39 13.1**	**-1.7**
BFZ	**Birch Farm**	**3.54**	**189**	P	**Pn**	**19 39 13.7**	**-1.0**
MRZ	**Mangatainoka R**	**3.63**	**197**	Pn	**Pn**	**19 39 14.2**	**-1.8**
MRZ	**Mangatainoka R**	**3.63**	**197**	P	**Pn**	**19 39 14.3**	**-1.6**
TIWZ	**Tintock**	**3.68**	**193**	P	**Pn**	**19 39 15.5**	**-1.1**
CPWZ	**Castlepoint**	**3.77**	**189**	P	**Pn**	**19 39 17.0**	**-0.5**
HOWZ	**Holdsworth Sta**	**3.88**	**196**	P	**Pn**	**19 39 17.0**	**-1.8**
OGWZ	**Otaki Gorge**	**3.88**	**200**	P	**Pn**	**19 39 17.4**	**-1.6**
KIW	**Kapiti Island**	**4.00**	**203**	P	**Pn**	**19 39 18.7**	**-1.7**
TMWZ	**Te Maipa**	**4.00**	**191**	P	**Pn**	**19 39 18.7**	**-1.7**
MTW	**Mount Morrison**	**4.13**	**195**	P	**Pn**	**19 39 19.8**	**-2.2**
CAW	**Cannon Point**	**4.18**	**200**	P	**Pn**	**19 39 20.7**	**-1.9**
DUWZ	**D'Urville Isla**	**4.32**	**212**	P	**Pn**	**19 39 22.4**	**-1.9**
TRWZ	**Traveller**	**4.32**	**193**	P	**Pn**	**19 39 22.3**	**-2.0**
PAWZ	**Paruwai Farm**	**4.36**	**195**	P	**Pn**	**19 39 22.5**	**-2.3**
MSWZ	**Moikau Station**	**4.43**	**197**		**Pn**	**19 39 23.2**	**-2.5**
MSWZ	**Moikau Station**	**4.43**	**197**	P	**Pn**	**19 39 23.3**	**-2.5**
WEL	**Wellington**	**4.43**	**202**	P	**Pn**	**19 39 23.7**	**-2.0**
SNZO	**South Karori**	**4.48**	**202**		**Pn**	**19 39 23.7**	**-2.5**
TCW	**Tory Channel**	**4.53**	**206**		**Pn**	**19 39 24.4**	**-2.4**
TCW	**Tory Channel**	**4.53**	**206**	P	**Pn**	**19 39 24.7**	**-2.2**
PLWZ	**Palliser**	**4

comp=Z,30nm,0.8s
PMG Port Moresby 38.59 308 P **P** **19 45 22.0 +1.0**
AS31 Alice Springs 39.16 278 P **P** **19 45 26.2 +0.5**
ASAR Alice Springs 39.16 278 P **P** **19 45 26.4 +0.7**
comp=Z,23nm,0.6s,baz=122,slow=8.2,SNR=607
ASAR ScP **ScP** **19 50 54.7 -4.1**
comp=Z,1.1nm,0.6s,baz=116,slow=4.1,SNR=4.7
ASAR S **S** **19 51 12.2 +2.4**
comp=Z,2.0nm,0.7s,baz=126,slow=14,SNR=11
comp=Z,23nm,0.6s
ASAR Alice Springs 39.16 278 P **P** **19 45 26.2 +0.5**
RABL Rabaul 39.92 319 P **P** **19 45 32.2 +0.2**
WR0 Warramunga Arr 40.63 283 P **P** **19 45 37.4 -0.4**
FORT Forrest 40.68 264 P **P** **19 45 38.9 +0.9**
baz=40,SNR=264
FORT Forrest 40.68 264 P **P** **19 45 38.9 +0.9**
FORT PcP **PcP** **19 47 34.9 -0.5**
WB2 Warramunga Arr 40.78 283 P **P** **19 45 39.3 +0.2**
WB2 IAmb IAmb 19 45 40.0
comp=Z,20nm,0.5s
WRAB Tennant Creek 40.79 283 P **P** **19 45 39.2 +0.1**
WRAB IAmb IAmb 19 45 39.9
comp=Z,17nm,0.6s
WRAB Tennant Creek 40.79 283*ce*P **P** **19 45 39.4 +0.3**
WRAB pmax pmax
comp=Z,11nm,0.6s
WRAB Tennant Creek 40.79 283 P **P** **19 45 39.3 +0.1**
WRAB ScP **ScP** **19 51 03.4 -1.8**
WRA Warramunga Arr 40.79 283 P **P** **19 45 39.5 +0.3**
comp=Z,11nm,0.3s,baz=124,slow=7.2,SNR=411
WRA ScP **ScP** **19 51 01.4 -3.9**
comp=Z,3.6nm,0.8s,baz=120,slow=3.6,SNR=11
WRA S **S** **19 51 36.0 +2.0**
comp=Z,4.4nm,1.2s,baz=125,slow=14,SNR=7.5
comp=Z,11nm,0.3s
WRA Warramunga Arr 40.79 283 P **P** **19 45 38.9 -0.3**
WB0 Warramunga Arr 40.85 283 P **P** **19 45 39.8 +0.2**
WB0 IAmb IAmb 19 45 40.4
comp=Z,23nm,0.5s
WB0 PcP **PcP** **19 47 35.3 -0.8**
VNDA Vanda 40.97 185 P **P** **19 45 43.8 +4.0**
comp=Z,15nm,0.9s,baz=360,slow=8.8,SNR=20
VNDA ScP **ScP** **19 51 04.2 -0.7**
comp=Z,2.0nm,0.9s,baz=329,slow=5.0,SNR=3.6
comp=Z,15nm,0.9s
VNDA Vanda 40.97 185 P **P** **19 45 43.4 +3.5**
VNDA PcP **PcP** **19 47 36.1 +0.6**
VNDA Vanda 40.97 185 P **P** **19 45 43.6 +3.8**
VNDA pP **pP** **19 46 26.3 +1.7**
VNDA ScP **ScP** **19 51 04.7 -0.2**
SBA Scott Base 41.01 183 P P 19 45 45.3 +5.2
SBA IAmb IAmb 19 45 47.1
comp=Z,30nm,0.8s
SBA PcP **PcP** **19 47 36.9 +1.3**
SBA Scott Base 41.01 183 P P 19 45 45.3 +5.2
SBA 19 47 36.9
comp=Z,30nm,0.8s
SBA pmax pmax
SBA Scott Base 41.01 183 P P 19 45 45.1 +5.0
WRKA Warakurna 42.95 272 P **P** **19 45 56.2 -0.4**
baz=43,SNR=55
CCD Concordia, Ant 45.27 197 P **P** **19 46 16.5 +1.7**
KMBL Kambalda 45.34 260 P **P** **19 46 16.0 +0.6**
baz=45,SNR=17
KDU Kakadu 46.57 290 P **P** **19 46 25.0 -0.1**
baz=46,SNR=9.4
MTN Manton Dam 47.48 288 P **P** **19 46 32.4 +0.2**
baz=47,SNR=13
MTN Manton Dam 47.48 288 P **P** **19 46 32.0 -0.1**
MTN IAmb IAmb 19 46 33.6
comp=Z,22nm,0.5s
KNRA Kununurra 47.58 283 P **P** **19 46 33.5 +0.6**
baz=47,SNR=39
KNRA Kununurra 47.58 283 P **P** **19 46 32.5 -0.4**
RKGY Rocky Gully 47.94 254 P **P** **19 46 36.6 +1.1**
baz=48,SNR=5.6
NWAO Narrogin (SRO) 48.37 256 P **P** **19 46 39.4 +0.5**
baz=48,SNR=22
NWAO P **P** **19 46 39.4 +0.5**
baz=48,SNR=22
NWAO Narrogin (SRO) 48.37 256 P **P** **19 46 39.2 +0.4**
NWAO IAmb IAmb 19 46 40.0
comp=Z,26nm,0.6s
NWAO PcP **PcP** **19 48 01.4 -0.6**
NWAO Narrogin (SRO) 48.37 256 P **P** **19 46 39.2 +0.4**
NWAO IAmb IAmb 19 46 39.9
comp=Z,20nm,0.6s
NWAO PcP **PcP** **19 47 57.6 -4.3**
NWAO Narrogin (SRO) 48.37 256 P **P** **19 46 39.2 +0.4**
NWAO 19 47 57.6
NWAO pmax pmax
comp=Z,20nm,0.6s
NWAO Narrogin (SRO) 48.37 256 P **P** **19 46 38.9 +0.1**
KLBR Kellerberrin 48.49 258 P **P** **19 46 40.6 +0.8**
baz=48,SNR=65
MUN Mundaring 49.54 257 P **P** **19 46 48.7 +1.0**
baz=49,SNR=18
BLDU Ballidu 49.70 259 P **P** **19 46 49.5 +0.5**
baz=49,SNR=42
MEEK Meekatharra 49.94 264 P **P** **19 46 51.0 +0.2**
baz=50,SNR=49
MORW Morawa 50.89 260 P **P** **19 46 58.5 +0.6**
baz=51,SNR=19
MORW Morawa 50.89 260 P **P** **19 46 58.4 +0.6**
MORW IAmb IAmb 19 46 59.3
comp=Z,53nm,0.8s
MORW PcP **sP** **19 48 08.6 +0.8**
PSA00 Pilbara Seismi 51.41 271 P **P** **19 47 01.4 -0.4**
PSA00 IAmb IAmb 19 47 02.5
comp=Z,34nm,0.7s
PSA00 PcP **sP** **19 48 11.6 -0.1**
MBWA Marble Bar 51.71 271 P **P** **19 47 03.6 -0.4**
MBWA Marble Bar 51.71 271 P **P** **19 47 03.6 -0.4**
QSPA South Pole Qui 52.94 180 P **P** **19 47 16.4 +3.9**
comp=Z,108nm,0.6s,baz=304,slow=0.2,SNR=312
comp=Z,108nm,0.6s
QSPA South Pole Qui 52.94 180 P **P** **19 47 16.5 +3.9**
QSPA **PcP** **19 48 18.6 +0.2**
QSPA South Pole Qui 52.94 180 P **P** **19 47 16.2 +3.6**
QSPA sP **PcP** **19 48 19.8 +1.3**
SOEI Soe 54.65 286 P **P** **19 47 26.1 +0.4**
SOEI IAmb IAmb 19 47 38.5
comp=Z,53nm,1.0s
BATI Baumata 54.83 285 P **P** **19 47 28.7 +1.9**
comp=Z,33nm,0.7s,baz=177,slow=1.5,SNR=11
comp=Z,33nm,0.7s
GIRL Giralia 55.34 266 P **P** **19 47 32.8 +2.4**
baz=55,SNR=5.5
NLAI Namlea 56.77 294 P **P** **19 47 41.6 +1.1**
comp=Z,20nm,1.2s
MMRI Maumere 56.90 286 P **P** **19 47 42.6 +1.0**
MMRI Maumere 56.90 286 P **P** **19 47 42.5 +1.0**
comp=Z,2µmcomp=Z,180nm,1.2s
SANI Sanana 58.39 294 P **P** **19 47 51.9 +0.1**
comp=Z,43nm,1.0s
PLAI Plampang 60.24 282 P **P** **19 48 05.5 +1.0**
comp=Z,43nm,0.8s
BKSI Bulukumba 60.62 287 P **P** **19 48 07.1 +0.1**
comp=Z,33nm,1.6s
TWSI Taliwang, Sumb 61.00 282 P **P** **19 48 10.6 +1.0**
comp=Z,68nm,1.2s
KAPI Kappang 61.10 287 P **P** **19 48 10.7 +0.4**
KAPI IAmb IAmb 19 48 13.5
comp=Z,58nm,1.4s
KAPI Kappang 61.10 287 P **P** **19 48 10.7 +0.4**
KAPI pmax pmax
comp=Z,58nm,1.5s
BNSI Bone 61.22 288 P **P** **19 48 12.1 +1.0**
comp=Z,24nm,1.4s
SPSI Sidrap Palu 61.76 288 P **P** **19 48 15.6 +0.9**
comp=Z,55nm,0.9s
APSI Ampana 62.34 292 P **P** **19 48 19.6 +1.0**
comp=Z,773nmcomp=Z,71nm,1.2s
SRBI Singaraja 62.70 281 P **P** **19 48 21.9 +0.9**
comp=Z,73nm,0.9s
JAGI Jajag, Banyuwa 63.30 280 P **P** **19 48 24.7 -0.2**
GMJI Gumukmas 63.98 280 P **P** **19 48 30.3 +1.0**
comp=Z,87nm,1.2s
TOLI2 Tolitoli 64.34 293 P **P** **19 48 31.4 -0.2**
TOLI2 IAmb IAmb 19 48 33.9
comp=Z,24nm,1.2s
MAW Mawson 64.47 203 P **P** **19 48 33.3 +1.6**
comp=Z,8.5nm,0.7s,baz=126,slow=6.7,SNR=9.1
comp=Z,8.5nm,0.7s
MAW Mawson 64.47 203 P **P** **19 48 33.4 +1.7**
baz=64,SNR=8.1
MAW Mawson 64.47 203 P **P** **19 48 32.8 +1.1**
MPSI Mapaga 64.47 292 P **P** **19 48 33.5 +1.0**
comp=Z,628nmcomp=Z,26nm,1.2s
SMAI San Martin Ant 64.72 158 P **P** **19 48 35.2 +1.9**
SMAI IAmb IAmb 19 48 40.1
comp=Z,24nm,0.7s
PWJI Pagerwojo 65.42 279 P **P** **19 48 39.6 +0.9**
comp=Z,88nm,0.9s
PCJI Pacitan 65.81 278 P **P** **19 48 42.1 +0.9**
comp=Z,182nm,1.0s
BBKI Banjar Baru 65.85 285 P **P** **19 48 42.4 +1.0**
comp=Z,2µmcomp=Z,240nm,0.9s
NGJI Ngawi 66.09 279 P **P** **19 48 43.8 +0.9**
comp=Z,101nm,1.0s
SMRI Semarang 67.08 279 P **P** **19 48 47.9 -1.4**
SMRI Semarang 67.08 279 P **P** **19 48 50.1 +0.9**
comp=Z,115nm,0.8s
MTKI Muara Teweh, K 67.41 287 P **P** **19 48 52.2 +0.9**
comp=Z,96nm,0.8s
MYLDM Lahad Datu 68.76 294 P **P** **19 48 59.6 0.0**
PBKI Pangkalan Bun 68.78 283 P **P** **19 49 00.7 +0.9**
KKM Kota Kinabalu 71.01 293 P **P** **19 49 13.3 -0.1**
KKM IAmb IAmb 19 49 14.9
comp=Z,36nm,0.7s
TROLL Troll, Antarti 71.04 182 P **P** **19 49 14.4 +1.5**
SNAA Sanae 71.45 180 P **P** **19 49 16.1 +1.0**
SNAA Sanae 71.45 180 P **P** **19 49 16.4 +1.2**
SNAA Sanae 71.45 180 P **P** **19 49 16.4 +1.2**
SNAA pmax pmax
comp=Z,82nm,1.0s
SBUM Sibu 71.63 288 P **P** **19 49 16.9 -0.1**
VNA3 Neumayer Olymp 71.78 178 P **P** **19 49 18.6 +1.5**
VNA3 S **S** **19 58 22.1 +2.7**
NVL N'lazarevskaya 71.82 185⇓*iP* **P** **19 49 17.5 +0.2**
NVL pmax pmax
comp=Z,80nm,0.7s
VNA2 Neumayer--Watz 72.15 179 P **P** **19 49 21.0 +1.7**
baz=172,slow=5.7
VNA2 S **S** **19 58 27.2 +3.5**
VNA1 Neumayer--Stat 72.41 178 P **P** **19 49 22.6 +1.9**
KSM Kuching 72.47 286 P **P** **19 49 21.9 -0.2**
LWLI Liwa 73.36 276 P **P** **19 49 27.9 +0.5**
comp=Z,118nm,0.8s
PPBI Pangkal Pinang 73.45 280 P **P** **19 49 28.5 +0.7**
comp=Z,763nmcomp=Z,64nm,1.1s
MASI Maura Aman, Be 75.93 277 P **P** **19 49 42.4 +0.3**
comp=Z,103nm,0.8s
MYKOM Kota Tinggi 77.67 282 P **P** **19 49 51.9 +0.1**
MYKOM IAmb IAmb 19 49 53.2
comp=Z,24nm,0.9s
SDSI Sungai Dareh 77.91 278 P **P** **19 49 51.6 -1.5**
LL02 Futaleuf 78.52 136 P **P** **19 49 59.0 +2.9**
LL02 IAmb IAmb 19 50 02.2
comp=Z,19nm,0.6s
PDSI Padang 78.69 278 P **P** **19 49 56.7 -0.7**
SSLB Suanglung 80.34 310 P **P** **19 50 05.2 -0.8**
SSLB IAmb IAmb 19 50 07.1
comp=Z,30nm,0.8s
MNSI Mandailing Nat 80.42 278 P **P** **19 50 05.5 -1.2**
PLCA Paso Flores 80.86 135 P **P** **19 50 12.1 +3.4**
comp=Z,6.4nm,0.6s,baz=246,slow=5.1,SNR=36
IPM Ipoh 81.55 282 P **P** **19 50 12.0 -0.6**
IPM IAmb IAmb 19 50 13.2
comp=Z,23nm,0.7s
RPSI Rantau Prapat 82.10 279 P **P** **19 50 14.3 -1.2**
RPSI IAmb IAmb 19 50 15.6
comp=Z,22nm,0.8s
PSI Prapat 82.16 280 P **P** **19 50 14.3 -1.7**
PSI pmax pmax
comp=Z,22nm,0.8s
GSI Gunungsitoli 82.32 277 P **P** **19 50 17.0 +0.4**
GSI Gunungsitoli 82.32 277 P **P** **19 50 17.6 +1.0**
comp=Z,158nm,0.8s
KULM Kulim 82.34 283 P **P** **19 50 16.7 0.0**
KULM IAmb IAmb 19 50 17.5
comp=Z,25nm,1.1s
HOPE Hope Point 84.45 161 P **P** **19 50 27.4 +0.7**
HOPE Hope Point 84.45 161 P **P** **19 50 27.5 +0.7**
HOPE pmax pmax
comp=Z,49nm,0.8s
BO02 Sierra Bellavi 84.68 130 P **P** **19 50 29.4 +0.9**
MT01 Popeta 85.01 129 P **P** **19 50 30.8 +0.7**
MT01 IAmb IAmb 19 50 34.7
comp=Z,26nm,1.2s
KSRS Korea Array 87.00 323 P **P** **19 50 40.0 +0.7**
comp=Z,5.2nm,0.6s,baz=138,slow=5.5,SNR=20
comp=Z,5.2nm,0.6s
CO03 El Pedregal 87.39 127 P **P** **19 50 43.1 +1.3**
CO03 IAmb IAmb 19 50 46.6
comp=Z,17nm,1.1s
TRQA Tornquist 87.48 137 P **P** **19 50 44.5 +2.5**
TRQA Tornquist 87.48 137 P **P** **19 50 44.6 +2.5**
TRQA pmax pmax
comp=Z,5.0nm,0.6s
NJ2 Nanjing 87.67 314 *eP* **P** **19 50 46.9 +4.2**
NJ2 pmax pmax
comp=Z,14nm,1.0s
GO04 Tololo Observa 87.77 127 P **P** **19 50 44.5 +0.7**
GO04 IAmb IAmb 19 50 47.6
comp=Z,19nm,1.2s
YSS Yuzh-Sakhalins 89.19 337 *eP* **P** **19 50 46.1 -3.3**
YSS pmax pmax
comp=Z,20nm,1.4s
PHRA Phrae 90.89 293 P **P** **19 50 59.0 +0.8**
GYA Guiyang 91.44 302 P **P** **19 51 01.4 +0.8**
GYA pmax pmax
comp=Z,14nm,0.8s
PETK Petropavlovsk- 91.46 349 P **P** **19 51 00.3 +0.4**
comp=Z,3.8nm,0.8s,baz=116,slow=5.6,SNR=6.9
comp=Z,3.8nm,0.8s
CM31 Chiang Mai Arr 91.82 292 P **P** **19 51 02.8 +0.4**
CM31 IAmb IAmb 19 51 04.4
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 91.82 292 P **P** **19 51 03.2 +0.8**
comp=Z,15nm,0.7s,baz=148,slow=3.4,SNR=150
comp=Z,15nm,0.7s
CMAR Chiang Mai Arr 91.82 292 P **P** **19 51 02.9 +0.5**
CMAR Chiang Mai Arr 91.82 292*ce*P **P** **19 51 03.5 +1.1**
CMAR pmax pmax
comp=Z,16nm,0.7s
CHTO Chiang Mai 92.04 292 P **P** **19 51 03.4 0.0**
CHTO IAmb IAmb 19 51 05.2
comp=Z,14nm,0.8s
CHTO Chiang Mai 92.04 292 P **P** **19 51 03.4 0.0**
CHTO pmax pmax
comp=Z,14nm,0.9s
CN2 Changchun 93.15 325 *eP* **P** **19 51 11.6 +3.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
KMI Kunming 93.27 299⇓P **P** **19 51 10.8 +1.6**
KMI pmax pmax
comp=Z,10.0nm,0.8s
PZH PanZhiHua 94.84 300 P **P** **19 51 17.4 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,140nm,5.9s
KLR Kul'dur 94.90 332 *i* P **P** **19 51 17.3 +1.5**
KLR pmax pmax
comp=Z,2.0nm,1.3s
TNCH TengChong 96.19 297 *eP* **P** **19 51 24.8 +2.3**
CD2 Chengdu 96.26 304 P **P** **19 51 22.8 +0.3**
HHC Hu-ho-hao-te 98.03 316 *eP* **P** **19 51 30.0 -0.3**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.5s
SONM Songino Array 105.40 319 PKKPbc PKKPbc 20 07 43.2 +1.4
comp=Z,1.5nm,0.7s,baz=268,slow=2.4,SNR=8.8
ILAR Eielson Array 105.51 15 PKIKP **PKiKP** **19 56 14.2 -0.8**
comp=Z,0.4nm,0.6s,baz=274,slow=1.7,SNR=5.9
INK Inuvik 111.46 18 PKiKP **PKiKP** **19 56 25.6 -0.4**
comp=Z,1.3nm,0.8s,baz=211,slow=6.3,SNR=3.9
TIXI Tiksi 113.69 345*c i*PKIKP **PKiKP** **19 56 28.3 -1.9**
TIXI pmax pmax
comp=Z,15nm,2.5s
WMQ Urumqi 114.06 308 *eP* **PKiKP** **19 56 32.8 +0.9**
MKAR Makanchi Array 118.80 309 PKP **PKPdf** **19 56 38.6 -2.3**
comp=Z,1.7nm,0.6s,baz=161,slow=1.2,SNR=21
MKAR PKKPbc **PKKPab** **20 06 59.1 +1.4**
comp=Z,1.2nm,0.4s,baz=326,slow=2.9,SNR=18
KSH Kashi 119.93 299 PKP **PKPdf** **19 56 42.8 -0.6**
ZAA0 Zalesovo Array 120.19 317 **PKPdf** **19 56 40.3 -2.9**
ZALV Zalesovo Beam 120.19 317 PKP **PKPdf** **19 56 41.1 -2.2**
comp=Z,1.3nm,0.5s,baz=143,slow=2.5,SNR=9.6
ZALV PKKPbc **PKKPbc** **20 06 53.9 +1.8**
comp=Z,0.7nm,0.4s,baz=340,slow=0.3,SNR=4.9
ZALV Zalesovo Beam 120.19 317 **PKPdf** **19 56 40.3 -2.9**
AAK Ala-Archa 122.22 302*c i*PKIKP **PKPdf** **19 56 47.4 -0.4**
AAK pmax pmax
comp=Z,6.0nm,1.7s
KURK Kurchatov 122.55 312 **PKPdf** **19 56 45.7 -2.1**
KURK Kurchatov 122.55 312 PKIKP **PKPdf** **19 56 45.7 -2.1**
KURBB Kurchatov Arra 122.57 312 PKKPbc PKKPbc 20 06 45.7 +2.7
comp=Z,1.3nm,0.2s,baz=295,slow=4.2,SNR=8.2
KBL Kabul 122.84 291 **PKPdf** **19 56 47.9 -1.4**
KBL Kabul 122.84 291 PKIKP **PKPdf** **19 56 47.9 -1.4**
GAR Garm 123.73 296 **PKPdf** **19 56 49.5 -1.3**
BTK Batken 123.78 297 PKPdf **PKPdf** **19 56 49.2 -1.5**
BTK Batken 123.78 297 PKIKP **PKPdf** **19 56 49.2 -1.5**
SADO Sadowa 124.00 57 PKP **PKPdf** **19 56 49.6 -1.2**
comp=Z,5.8nm,0.6s,baz=291,slow=3.9,SNR=4.9
NRIK Noril'sk 124.03 335 **PKPdf** **19 56 49.2 -1.0**
comp=Z,6.8nm,0.7s,baz=96,slow=3.2,SNR=9.2
NRIK Noril'sk 124.03 335 **PKPdf** **19 56 48.9 -1.3**
CHGR Chuyangaron 124.43 295 PKPdf **PKPdf** **19 56 51.5 -0.5**
CHGR Chuyangaron 124.43 295 PKIKP **PKPdf** **19 56 51.5 -0.5**
RES Resolute Bay 124.98 19 PKP **PKPdf** **19 56 50.7 -1.1**
comp=Z,2.0nm,0.7s,baz=264,slow=4.8,SNR=4.6
KK31 Karatay Array 125.11 301 PKPdf **PKPdf** **19 56 51.7 -1.4**
KK31 Karatay Array 125.11 301 PKIKP **PKPdf** **19 56 51.7 -1.4**
KKAR Karatay Array 125.11 301 **PKPdf** **19 56 51.6 -1.5**
KKAR Karatay Array 125.11 301 PKPdf **PKPdf** **19 56 51.2 -1.9**
KKAR Karatay Array 125.11 301 PKIKP **PKPdf** **19 56 51.2 -1.9**
KIBK Kibwezi 125.24 234 **PKPdf** **19 56 53.2 -1.2**
KMBO Kilima Mbogo 126.67 234 PKP **PKPdf** **19 56 57.2 -0.1**
comp=Z,2.9nm,0.8s,baz=137,slow=1.0,SNR=12
KMBO Kilima Mbogo 126.67 234 **PKPdf** **19 56 56.2 -1.1**
BRVK Borovoye 128.17 313 **PKPdf** **19 56 57.6 -1.0**
BRVK Borovoye 128.17 313*c i*PKIKP **PKPdf** **19 56 58.1 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
GEYT Alibeck 132.29 291 PKP **PKPdf** **19 57 07.2 +0.3**
comp=Z,2.5nm,0.8s,baz=232,slow=1.7,SNR=4.5
GEYT SKPbc **SKPbc** **20 00 10.9 -2.6**
comp=Z,6.6nm,0.7s,baz=177,slow=2.5,SNR=12
ABKAR Akbulak array 133.80 306 PKPpre 19 56 52.3
ABKAR **PKPdf** **19 57 07.6 -1.8**
ARU Arti 135.34 316 PKPpre 19 56 56.3
ARU PKPdf **PKPdf** **19 57 11.5 -0.4**
ARU Arti 135.34 316 *i* PKIKP **PKPdf** **19 57 12.5 +0.5**
ARU 19 59 50.2
ARU SS SS 20 17 24.7 -5.2
PRGR Permogore 141.31 325 *e*PKIKP **PKPdf** **19 57 20.0 -2.7**
PRGR pmax pmax
comp=Z,7.0nm,1.2s
BELG Belogornoye 141.78 310 *i* PKIKP **PKPdf** **19 57 24.6 +0.7**
BELG pmax pmax
comp=Z,3.0nm,0.9s
VADS Vadso 142.76 342 *e* **PKPdf** **19 57 20.1 -5.0**
HAMF Hammerfest 143.62 345 *e*PKPdf PKPab 19 57 23.4 -0.4
ZEI Tsey 143.96 294 *i* PKIKP PKPab 19 57 25.1 -1.2
ZEI pmax pmax
comp=Z,15nm,0.7s
ARA0 ARCESS Array S 144.10 343 *e*PKPbc **PKPab** **19 57 25.6 -0.1**
ARCES ARCESS Array B 144.10 343 PKP **PKPab** **19 57 25.3 -0.4**
comp=Z,23nm,0.7s,baz=41,slow=3.8,SNR=122
ARCES ARCESS Array B 144.10 343 **PKPab** **19 57 25.2 -0.6**
ONI Oni 144.26 293 PKPdf **PKPab** **19 57 27.1 -0.2**
ONI Oni 144.26 293 PKIKP **PKPab** **19 57 27.1 -0.2**
NRS Narsarsuaq 144.33 34 **PKPab** **19 57 24.9 -1.9**
NRS Narsarsuaq 144.33 34 PKIKP **PKPab** **19 57 24.9 -1.9**
KLMR Klimovskoe 144.35 325 *e*PKPdf **PKPab** **19 57 25.4 -1.5**
KLMR AMP 19 57 26.4
comp=Z,53nm,0.8s
KLMR Klimovskoe 144.35 325 *e*PKIKP **PKPab** **19 57 25.4 -1.5**
KLMR pmax pmax
comp=Z,53nm,0.8s
KBZ Khabaz 144.79 295 PKP PKPbc 19 57 28.1 -0.9
comp=Z,22nm,0.9s,baz=128,slow=1.5,SNR=32
KBZ Khabaz 144.79 295 *i* PKIKP PKPbc 19 57 28.3 -0.7
KBZ pmax pmax
comp=Z,27nm,0.9s
NEY Neytrino 144.87 294 *i* PKIKP PKPbc 19 57 28.4 -1.2
KIV Kislovodsk 144.96 296⇑P **PKPab** **19 57 31.3 +1.4**
KIV Kislovodsk 144.96 296 PKPbc 19 57 28.6 -1.1
KIV Kislovodsk 144.96 296 *e*PKIKP PKPbc 19 57 28.6 -1.1
KIV pmax pmax
comp=Z,13nm,0.9s
SHA1 Shidzhatmaz 144.97 295 *i* PKIKP PKPbc 19 57 28.6 -1.3
KTK1 Kautokeino 145.02 344 *e*PKPbc **PKPbc** **19 57 27.8 -1.2**
JETT Jettan, Norway 145.16 346 *e*PKPbc **PKPdf** **19 57 28.6 -0.8**
MARD Mardin 145.34 284 **PKPdf** **19 57 30.3 -0.5**
TRO Tromso 145.38 347 *e*PKPdf **PKPdf** **19 57 28.8 -0.9**
VRH Novokhopyorsk 145.53 308 *e*PKIKP **PKPdf** **19 57 29.5 -1.0**
VRH pmax pmax
comp=Z,90nm,0.7s
JMIC Jan Mayen 146.01 3 *e* **PKiKP** **19 57 36.3 +1.3**
MOS Moscow 147.02 317 *e*PKIKP **PKPdf** **19 57 33.0 +0.2**
MOS pmax pmax
comp=Z,37nm,0.8s
VORR Voronezh 147.03 310 *e*PKP2 **PKPbc** **19 57 34.8 -0.6**
VORR pmax pmax
comp=Z,70nm,0.6s
LPSR Galich'ya Gora 147.03 311 *e*PKIKP **PKPdf** **19 57 33.7 +0.7**
LPSR pmax pmax
comp=Z,40nm,0.9s
SOC Sochi 147.08 295 *e*PKIKP **PKPdf** **19 57 33.7 +0.3**
SOC *e* 20 01 07.7
SOC *e*PPP PPP 20 04 17.8
SOC *e*SSS SSS 20 25 20.3
VSR Storozhevoye 147.12 309 *e*PKIKP **PKPdf** **19 57 34.0 +0.8**
VSR pmax pmax
comp=Z,30nm,0.6s
STEI Steigen 147.53 347 *e*PKPdf **PKPbc** **19 57 35.1 -1.2**
LOF Lofoten 147.64 348 *e*PKPdf **PKPbc** **19 57 35.6 -0.9**
OBN Obninsk 147.78 317⇓*i*PKIKP **PKPdf** **19 57 35.1 +1.0**
OBN pmax pmax
comp=Z,65nm,1.7s
FAUS Fauske 148.01 347 *e*PKPdf **PKPbc** **19 57 36.1 -1.5**
PUL Pulkovo 148.93 327*c i*PKHKP **PKPbc** **19 57 38.1 -2.0**
PUL pmax pmax
comp=Z,102nm,0.4s
LIC Lamto 149.13 176⇓*i*PKP2 **PKPbc** **19 57 42.2 +0.1**
comp=Z,170nm,0.6s
KONS Konsvik 149.19 347 *e*PKPbc **PKPbc** **19 57 40.0 -0.5**
KIC Kosan Boka 149.28 177⇓*i*PKP2 **PKPbc** **19 57 42.5 +0.1**
comp=Z,14nm,0.2s
TIC Toumodi 149.55 176⇑*i*PKP2 **PKiKP** **19 57 43.7 -0.4**
comp=Z,32nm,0.4s
DBIC Dimbokro 149.59 176 PKPbc **PKPbc** **19 57 42.9 -0.2**
comp=Z,18nm,0.8s,baz=195,slow=2.0,SNR=16
DBIC PKPab **PKPab** **19 57 49.3 +0.5**
comp=Z,56nm,0.8s,baz=177,slow=5.2,SNR=25
FIA1 FINESS Array S 149.65 332 **PKPbc** **19 57 40.2 -1.6**
FINES FINESS Array B 149.65 332 PKPbc **PKPbc** **19 57 40.6 -1.2**
comp=Z,22nm,0.8s,baz=41,slow=4.7,SNR=49
FINES FINESS Array B 149.65 332 **PKPbc** **19 57 40.3 -1.6**
CSS Mathiatis 150.62 277 **PKPbc** **19 57 43.9 -1.2**
MEF Metsahovi 151.07 332 *eP* **PKPbc** **19 57 43.9 -1.4**
SIM Simferopol' 151.12 297 *i* PKIKP **PKPbc** **19 57 45.5 -0.4**
SIM *e* 19 57 53.0
SIM pmax pmax
comp=Z,44nm,1.1s
NSS Namsos 151.18 347 *e*PKPbc **PKPbc** **19 57 43.9 -1.5**
VSU Vasula 151.19 327 *eP* **PKPbc** **19 57 44.7 -0.8**
BRTR Keskin Array B 151.28 286 PKPbc **PKPbc** **19 57 45.2 -1.4**
comp=Z,6.3nm,0.6s,baz=155,slow=3.4,SNR=36
BRTR PKPab **PKPab** **19 57 54.8 -0.7**
comp=Z,4.8nm,0.8s,baz=138,slow=5.8,SNR=7.5
BRTR Keskin Array B 151.28 286 **PKPbc** **19 57 44.9 -1.7**
BRTR Keskin Array B 151.28 286 PKIKP **PKPbc** **19 57 44.9 -1.7**
BR131 Keskin Array S 151.28 286 **PKPbc** **19 57 44.7 -1.9**
BR131 Keskin Array S 151.28 286 PKIKP **PKPbc** **19 57 44.7 -1.9**
ILGA Ilgaz 151.35 289 **PKPbc** **19 57 46.0 -0.9**
RAF Rauma 151.47 335 *eP* **PKPbc** **19 57 44.3 -1.8**
MNK Minsk 152.67 319 *i* PKIKP **PKPbc** **19 57 48.6 -0.4**
comp=E,2.0nm,1.0s
MNK *i* PKiKP **PKPbc** **19 57 48.6 -0.4**
comp=N,36nm,1.0s
MNK *i* PKiKP **PKPbc** **19 57 48.6 -0.4**
comp=Z,13nm,0.8s,baz=243
MNK *i* pPKiKP **pPKPbc** **19 58 40.3 -2.6**
MNK *i* PP **PP** **20 01 33.6 -1.1**
MNK *i* SKS **SKSdf** **20 04 28.5 +0.1**
MNK *i* PPP PPP 20 05 01.6
MNK *i* SKKS **SKKSdf** **20 13 12.9 -1.0**
MNK *i* SS **SS** **20 20 49.1 +1.3**

MNK			*i* SSS	SSS	20 26 39.7		
MNK	**Minsk**	**152.67 319**	*i* PKIKP	**PKPbc**	**19 57 48.6**	**-0.4**	
MNK			*i*		20 01 33.6		
MNK			*i*		20 04 28.4		
MNK			*i* PPP	PPP	20 05 01.5		
MNK			*i* SS	SS	20 20 49.0	+1.2	
MNK			*i* SSS	SSS	20 26 39.6		
MNK				pmax pmax			
	comp=Z,13nm,0.8s						
MNK				pmax pmax			
	comp=E,2.0nm,1.0s						
MNK				pmax pmax			
	comp=N,36nm,1.0s						
NACGM	**Naroch**	**153.05 321**	*e*PKP	**PKPdf**	**19 57 40.8**	**-1.6**	
	comp=Z,21nm,0.8s,baz=62						
AKASG	**Malin Array Be**	**153.36 311**	PKPbc	**PKPbc**	**19 57 49.0**	**-1.6**	
	comp=Z,2.6nm,0.5s,baz=60,slow=2.8,SNR=18						
AKASG			PKPab	**PKPab**	**19 58 03.0**	**-0.6**	
	comp=Z,5.0nm,0.6s,baz=60,slow=4.2,SNR=11						
AKASG	**Malin Array Be**	**153.36 311**		**PKPbc**	**19 57 48.7**	**-1.9**	
AKASG	**Malin Array Be**	**153.36 311**	PKIKP	**PKPbc**	**19 57 48.7**	**-1.9**	
PURM	**Purcari**	**153.92 301**	⇑P	**PKPab**	**19 58 05.9**	**-0.3**	
NC303	**NORSAR Array S**	**154.28 344**	PKPdf	**PKPdf**	**19 57 43.9**	**0.0**	
NC303					**PKPbc**	**19 57 50.8**	**-1.5**
NB2	**NORSAR Subarra**	**154.47 344**	PKPdf	**PKPbc**	**19 57 51.4**	**-1.4**	
	comp=Z,2.1nm,0.7s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**154.47 344**	PKPdf	**PKPbc**	**19 57 51.4**	**-1.4**	
	comp=Z,2.1nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**154.47 344**	PKPbc	**PKPbc**	**19 57 51.2**	**-1.6**	
	comp=Z,3.0nm,0.8s,baz=31,slow=2.0,SNR=14						
NOA			PKPab	**PKPab**	**19 58 07.0**	**-1.1**	
	comp=Z,2.1nm,0.8s,baz=26,slow=3.4,SNR=5.5						
SORM	**Soroca**	**154.61 305**	⇑P	**PKPab**	**19 58 08.1**	**-1.0**	
CFR	**Carcaliu**	**155.32 299**	⇑P	**PKPab**	**19 58 12.4**	**+0.2**	
CFR	**Carcaliu**	**155.32 299**	⇑PKP2	**PKPab**	**19 58 12.4**	**+0.2**	
SCTR	**Scanteiesti**	**155.34 300**	⇑P	**PKPab**	**19 58 12.2**	**-0.1**	
TESR	**Tescani**	**156.11 302**	⇑P	**PKPab**	**19 58 15.2**	**-0.4**	
VRI	**Vrincioaia**	**156.18 301**	⇑P	**PKPab**	**19 58 16.7**	**+0.7**	
VRI	**Vrincioaia**	**156.18 301**	⇑PKP2	**PKPab**	**19 58 16.7**	**+0.7**	
PLOR	**Plostina**	**156.24 301**	⇑P	**PKPab**	**19 58 16.6**	**+0.3**	
PLOR	**Plostina**	**156.24 301**	⇑PKP2	**PKPab**	**19 58 16.6**	**+0.3**	
NEHR	**Nehoiu**	**156.56 300**	⇑P	**PKPab**	**19 58 18.0**	**+0.3**	
BURAR	**Bucovina Array**	**156.78 306**	⇑P	**PKPab**	**19 58 19.1**	**+0.5**	
BURAR	**Bucovina Array**	**156.78 306**	⇑PKP2	**PKPab**	**19 58 19.1**	**+0.5**	
LVV	**L'vov**	**156.79 312**	*e*PKP2	**PKPab**	**19 58 20.6**	**+2.2**	
MLR	**Muntele Rosu**	**156.79 300**	⇑P	**PKPab**	**19 58 19.1**	**+0.3**	
MLR	**Muntele Rosu**	**156.79 300**		**PKPab**	**19 58 18.8**	**0.0**	
MLR	**Muntele Rosu**	**156.79 300**	⇑PKP2	**PKPab**	**19 58 19.1**	**+0.3**	
PLVB	**Pleven**	**158.05 295**	⇑P	**PKPab**	**19 58 23.9**	**-0.2**	
UZH	**Uzhgorod**	**158.30 310**	⇓PKP2	**PKPab**	**19 58 26.0**	**+1.0**	
LOT	**Lotru**	**158.30 301**	⇓P	**PKPab**	**19 58 25.4**	**+0.1**	
TRPA	**Tarpa**	**158.33 308**	⇑P	**PKPab**	**19 58 25.6**	**+0.4**	
STHS	**Stebnicka Huta**	**158.61 313**	*e*PKP2	**PKPab**	**19 58 27.3**	**+0.9**	
CRVS	**Cervenica-Dubn**	**158.69 311**	*e*PKP	**PKPab**	**19 58 27.9**	**+1.1**	
CRVS	**Cervenica-Dubn**	**158.69 311**	*e*PKP2	**PKPab**	**19 58 27.9**	**+1.1**	
GZR	**Gura Zlata**	**158.99 301**	⇑P	**PKPab**	**19 58 28.7**	**+0.4**	
GZR	**Gura Zlata**	**158.99 301**	⇑PKP2	**PKPab**	**19 58 28.7**	**+0.4**	
VTS	**Vitosha**	**159.15 293**	⇑P	**PKPab**	**19 58 28.4**	**-0.8**	
VTS	**Vitosha**	**159.15 293**	⇑PKP2	**PKPab**	**19 58 28.4**	**-0.8**	
SIRR	**Siria**	**159.51 304**	⇓P	**PKPab**	**19 58 30.4**	**0.0**	
BZS	**Buzias**	**159.72 302**	⇑P	**PKPab**	**19 58 30.5**	**-0.9**	
BZS	**Buzias**	**159.72 302**	⇑PKP2	**PKPab**	**19 58 30.5**	**-0.9**	
VYHS	**Vyhne**	**160.44 312**	*e*PKP	**PKPab**	**19 58 35.2**	**+0.8**	
VYHS	**Vyhne**	**160.44 312**	*e*PKP2	**PKPab**	**19 58 35.2**	**+0.8**	
MORC	**Moravsky Berou**	**160.54 317**	⇑P	**PKPab**	**19 58 35.0**	**+0.2**	
MORC	**Moravsky Berou**	**160.54 317**	⇑PKP2	**PKPab**	**19 58 35.0**	**+0.2**	
BRG	**Berggiesshubel**	**161.71 324**	Amp		19 58 41.0		
	comp=Z,6.3nm,1.0s						
BRG	**Berggiesshubel**	**161.71 324**	*e*PKP2	**PKPab**	**19 58 39.9**	**+0.1**	
BRG				pmax pmax			
	comp=Z,6.0nm,1.0s						
BRG	**Berggiesshubel**	**161.71 324**	*e*PKP	**PKPab**	**19 58 40.0**	**+0.1**	
CLL	**Collm**	**161.84 326**	*i* PKPab	**PKPab**	**19 58 39.8**	**-0.5**	
	comp=Z,14nm,1.5s						
PDG	**Podgorica**	**162.09 294**	⇑P	**PKPab**	**19 58 40.5**	**-1.3**	
PDG	**Podgorica**	**162.09 294**		**PKPab**	**19 58 40.1**	**-1.7**	
GERES	**GERESS Array B**	**163.13 319**	PKPab	**PKPab**	**19 58 46.1**	**-0.2**	
	comp=Z,1.1nm,0.8s,baz=46,slow=5.8,SNR=5.6						

MAN 22 19:50:18.6, 6.33N×123.97E, h2km, mb4.0, ML2.7, MS2.3, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.60**	**71**	⇓*e*P	Pg	19 50 30.5	+0.3
SKMP				*e*S	Sb	19 50 39.9	-1.0
CTBH	**Cotabato--PC H**	**0.93**	**17**	⇑*i*P	Pg	19 50 36.9	+0.5
CTBH				*i* S	Sn	19 50 52.6	0.0
GSPH	**General Santos**	**1.00**	**104**	⇑*e*P	Pn	19 50 41.2	+1.3
GSPH				*i* S	Sn	19 50 59.0	+4.4
PAGZ	**Pagadian**	**1.62**	**339**	⇓*e*P	Pn	19 50 47.8	-0.4
DDMP	**Don Marcelino,**	**1.75**	**97**	⇓*e*P	Pn	19 50 49.8	-0.2
DDMP				*e*S	Sg	19 51 15.1	+0.3

*IDC **22** 19:51:29.0±1.0, 10.50S×123.33E, h0km, mb4.1/7, mbtmp4.1/7, MS3.5/12, Error ellipse: s-maj=23.7km s-min=14.1km az=152.0*
*NEIC **22** 19:51:30.4±2.6, 10.84S±0.04×123.39E±0.06, h38km±10km, mb4.5/18, Error ellipse: s-maj=9.4km s-min=5.2km az=104.0*
*DJA **22** 19:51:31.8±0.6, 11.3°S×12.3°E±, h18km±5km, M4.4/9, mb4.6/9, mB6.4/2, MLv4.3/9, Mw(mB)6.1/2, MwMwp8.5/1, Mwp7.9/1*

ISC 22 19:51:30.4±0.5, 10.88S±0.05×123.45E±0.06, h35km, n64, σ1.85/57, mb4.4/14, MS3.6/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.70**	**17**	Pn	**Pn**	**19 51 42.3**	**-1.6**
	140nm,0.3s,baz=279,slow=2.9,SNR=157						
BATI				Sn	**Sn**	**19 51 53.1**	**-0.5**
	396nm,0.3s,baz=216,slow=23,SNR=12						
BATI	**Baumata**	**0.70**	**17**	P	**Pn**	**19 51 42.5**	**-1.4**
BATI				S	**Sn**	**19 51 52.9**	**-0.7**
SOEI	**Soe**	**1.38**	**36**		**Pn**	**19 51 55.3**	**+2.0**
SOEI	**Soe**	**1.38**	**36**	P	**Pn**	**19 51 55.8**	**+2.5**
MMRI	**Maumere**	**2.53**	**332**		**Pn**	**19 52 09.8**	**+0.7**
MMRI	**Maumere**	**2.53**	**332**	P	**Pn**	**19 52 07.9**	**-1.2**
PLAI	**Plampang**	**5.95**	**290**	P	**Pn**	**19 52 58.0**	**+1.9**
	0.4nm1μm125nm,0.6s						
BKSI	**Bulukumba**	**6.43**	**329**	P	**Pn**	**19 53 01.7**	**-1.0**
	0.1nm22nm,1.1s						
TWSI	**Taliwang, Sumb**	**6.81**	**288**	P	**Pn**	**19 53 10.6**	**+2.6**
	0.3nm36nm,0.5s						
KAPI	**Kappang**	**6.88**	**328**	Pn	**Pn**	**19 53 05.9**	**-3.0**
KNRA	**Kunumurra**	**7.03**	**133**		**Pn**	**19 53 12.1**	**+1.2**
MTN	**Manton Dam**	**7.77**	**105**		**Pn**	**19 53 21.3**	**+0.2**
JAGI	**Jajag, Banyuwa**	**9.47**	**284**	Pn	**Pn**	**19 53 43.3**	**-1.2**
MBWA	**Marble Bar**	**10.82**	**199**	Pn	**Pn**	**19 54 02.8**	**-0.1**
PSA00	**Pilbara Seismi**	**11.18**	**198**	Pn	**Pn**	**19 54 07.3**	**-0.5**
TOLI2	**Tolitoli**	**12.21**	**347**	Pn	Pn	19 54 15.4	-6.5
WB0	**Warramunga Arr**	**13.76**	**131**		**Pn**	**19 54 40.8**	**-2.3**
WRA	**Warramunga Arr**	**13.83**	**132**	Pn	**Pn**	**19 54 45.2**	**+1.2**
	0.4nm,0.3s,baz=300,slow=14,SNR=27						
WRA				Sn	**Sn**	**19 57 16.6**	**+0.2**
	0.8nm,0.3s,baz=304,slow=24,SNR=8.1						
WRA				LR	LR	20 00 54.1	
	comp=Z,261nm,20.4s,baz=310,slow=40						
WRA	**Warramunga Arr**	**13.83**	**132**		**Pn**	**19 54 44.6**	**+0.6**
WRAB	**Tennant Creek**	**13.83**	**132**		**Pn**	**19 54 42.3**	**-1.7**
WB2	**Warramunga Arr**	**13.84**	**132**		**Pn**	**19 54 44.7**	**+0.5**
WR0	**Warramunga Arr**	**13.98**	**132**		**Pn**	**19 54 46.4**	**+0.2**
PBKI	**Pangkalan Bun**	**14.23**	**304**	P	**Pn**	**19 54 50.2**	**+0.6**
	370μm2μm,1.0s						
GIRL	**Giralia**	**14.64**	**216**		**P**	**19 54 59.4**	**-1.6**
AS31	**Alice Springs**	**16.15**	**143**	P	**P**	**19 55 17.0**	**-0.8**
ASAR	**Alice Springs**	**16.15**	**143**	Pn	**P**	**19 55 18.4**	**+0.6**
	0.7nm,0.3s,baz=316,slow=12,SNR=45						
ASAR				Sn	**Sn**	**19 58 11.8**	**-1.2**
	0.2nm,0.3s,baz=322,slow=24,SNR=13						
ASAR				LR	LR	20 01 56.4	
	comp=Z,276nm,20.9s,baz=344,slow=38						
ASAR	**Alice Springs**	**16.15**	**143**		**P**	**19 55 17.0**	**-0.8**
SBJI	**Serang**	**17.77**	**284**	P	Pn	19 55 21.8	-13
DAV	**Davao City (W)**	**17.96**	**7**	LR	LR	20 03 51.8	
	comp=Z,48nm,18.1s,baz=168,slow=42						
COEN	**Coen**	**19.50**	**101**	P	**P**	**19 55 51.9**	**-2.9**
FORT	**Forrest**	**20.26**	**168**	P	**P**	**19 56 01.7**	**-1.1**
FORT				IAmb	IAmb	19 56 18.0	
	comp=Z,23nm,0.9s						

MNAI	**Manna**	**21.31 286**		P	**P**	**19 56 12.0**	**-2.4**
NWAO	**Narrogin (SRO)**	**22.67 194**		P	**P**	**19 56 28.2**	**-0.7**
NWAO				IAmb	IAmb	19 56 58.1	
	comp=Z,28nm,1.4s						
NWAO	**Narrogin (SRO)**	**22.67 194**		P	**P**	**19 56 27.7**	**-1.1**
NWAO				IAmb	IAmb	19 56 58.1	
	comp=Z,25nm,1.4s						
PMG	**Port Moresby**	**23.38 89**		LR	LR	20 07 47.3	
	comp=Z,180nm,18.7s,baz=298,slow=42						
CTA	**Charters Tower**	**23.78 115**		LR	LR	20 08 13.1	
	comp=Z,161nm,18.9s,baz=288,slow=42						
BBOO	**Buckleboo**	**24.72 154**		P	**P**	**19 56 46.4**	**-2.1**
BBOO				IAmb	IAmb	19 57 23.1	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**26.79 144**		P	**P**	**19 57 13.7**	**+6.5**
	comp=Z,1.4nm,0.6s,baz=315,slow=12,SNR=3.8						
STKA				LR	LR	20 07 44.0	
	comp=Z,160nm,20.3s,baz=357,slow=36						
	comp=Z,1.4nm,0.6s						
STKA	**Stephens Creek**	**26.79 144**		P	**P**	**19 57 06.7**	**-0.5**
GSI	**Gunungsitoli**	**28.44 294**		P	**P**	**19 57 18.4**	**-3.8**
CMAR	**Chiang Mai Arr**	**37.88 320**		P	**P**	**19 58 45.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=149,slow=6.8,SNR=4.3						
CMAR				PcP	**PcP**	**20 01 05.7**	**+5.4**
	comp=Z,0.5nm,0.7s,baz=154,slow=2.4,SNR=4.7						
CMAR				LR	LR	20 14 54.9	
	comp=Z,31nm,21.5s,baz=135,slow=38						
	comp=Z,0.4nm,0.5s						
GTA	**Gaotai**	**54.65 338**	*e*P		**P**	**20 00 57.6**	**+1.6**
GTA				pP	pP	20 01 06.0	-0.2
GTA				sP	sP	20 01 09.8	-0.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**55.37 7**	P		**P**	**20 01 02.6**	**+1.7**
	comp=Z,2.2nm,0.6s,baz=188,slow=7.8,SNR=6.8						
	comp=Z,2.2nm,0.6s						
SONM	**Songino Array**	**60.39 347**	P		**P**	**20 01 37.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=164,slow=7.4,SNR=6.6						
	comp=Z,1.5nm,0.8s						
KSH	**Kashi**	**66.75 322**		P	**P**	**20 02 19.9**	**+1.4**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**68.17 331**		P	**P**	**20 02 27.0**	**-0.1**
MK31				IAmb	IAmb	20 02 30.0	
	comp=Z,5.2nm,1.1s						
MKAR	**Makanchi Array**	**68.17 331**		P	**P**	**20 02 28.5**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=144,slow=6.0,SNR=19						
	comp=Z,3.6nm,0.8s						
MKAR	**Makanchi Array**	**68.17 331**		P	**P**	**20 02 27.9**	**+0.7**
MAKZ	**Makanchi**	**68.33 331**		P	**P**	**20 02 29.2**	**+1.1**
KBL	**Kabul**	**68.53 314**		P	**P**	**20 02 29.8**	**0.0**
KBL				IAmb	IAmb	20 02 32.8	
	comp=Z,2.5nm,0.8s						
DRK	**Karamyk**	**69.34 320**		P	**P**	**20 02 35.1**	**+0.2**
VNDA	**Vanda**	**69.48 172**		LR	LR	20 31 01.9	
	comp=Z,47nm,21.9s,baz=324,slow=34						
CHGR	**Chuyangaron**	**70.60 318**		P	**P**	**20 02 43.0**	**+0.5**
WSAR	**Wadi Sarin**	**71.89 299**		LR	LR	20 36 28.4	
	comp=Z,21nm,18.2s,baz=125,slow=38						
ZAA0	**Zalesovo Array**	**72.41 337**		P	**P**	**20 02 52.5**	**-0.4**
ZAA0				IAmb	IAmb	20 02 54.4	
	comp=Z,4.9nm,0.9s						
ZALV	**Zalesovo Beam**	**72.41 337**		P	**P**	**20 02 53.8**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=142,slow=5.3,SNR=18						
	comp=Z,2.7nm,0.4s						
ZALV	**Zalesovo Beam**	**72.41 337**		P	**P**	**20 02 52.8**	**0.0**
KURBB	**Kurchatov Arra**	**72.64 332**		P	**P**	**20 02 55.7**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=146,slow=5.2,SNR=1.6						
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**79.12 180**		LR	LR	20 37 37.8	
	comp=Z,57nm,19.7s,baz=333,slow=35						
ABKAR	**Akbulak array**	**81.64 324**		P	P	20 03 39.2	-5.7
ABKAR	**Akbulak array**	**81.64 324**		P	P	20 03 38.7	-6.2
ABKAR				IAmb	IAmb	20 03 49.4	
	comp=Z,1.4nm,0.9s						
NRIK	**Noril'sk**	**83.86 348**		LR	LR	20 43 36.2	
	comp=Z,39nm,19.8s,baz=130,slow=38						
BRTR	**Keskin Array B**	**96.71 309**		LR	LR	20 56 55.4	
	comp=Z,11nm,18.5s,baz=74,slow=41						
LPAZ	**La Paz**	**150.67 157**		PKPbc	**PKPab**	**20 11 25.7**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=330,slow=4.0,SNR=4.0						

*IDC **22** 19:53:47.8±2.5, 37.25N×141.70E, h0km, mb3.8/4, mbtmp3.7/5, ML2.4/1, Error ellipse: s-maj=60.4km s-min=32.0km az=71.0*
*JMA **22** 19:53:50.7±0.2, 37.3N±0.3×141.5E±0.8, h28km±1km, MV3.5/38, E OFF FUKUSHIMA PREF*
*NEIC **22** 19:53:54.9±1.9, 37.54N±0.06×141.2E±0.1, h30km±7km, mb4.4/7, Error ellipse: s-maj=15.7km s-min=8.6km az=100.0*

ISC 22 19:53:50.7±2.0, 37.32N±0.04×141.49E±0.08, h10km±11km, n35, σ1.30/36, mb4.3/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**275**	*i* P	**Pg**	**19 54 00.6**	**+0.3**
JFK				S	**Sg**	**19 54 07.7**	**+1.0**
JMST	**Minamisoumatoc**	**0.62**	**310**	*i* P	**Pg**	**19 54 03.1**	**+0.4**
JMST				S	**Sg**	**19 54 12.5**	**+1.6**
JMM	**Marumori**	**0.77**	**315**		**Pb**	**19 54 05.3**	**-0.9**
JMM	**Marumori**	**0.77**	**315**	*i* P	**Pb**	**19 54 05.6**	**-0.6**
JMM				*e*S	**Sb**	**19 54 17.0**	**+0.3**
JFFD	**Fukushimafurud**	**0.77**	**253**	*i* P	**Pb**	**19 54 05.1**	**-1.2**
JFFD				S	**Sg**	**19 54 15.2**	**-0.5**
JHO	**Hitachi**	**1.02**	**226**	P	**Pb**	**19 54 08.4**	**-2.1**
JHO				*e*S	**Sb**	**19 54 21.5**	**-2.4**
JIO	**Ouri**	**1.13**	**355**	P	**Pn**	**19 54 11.3**	**-1.3**
JIO				*e*S	**Sb**	**19 54 25.9**	**-1.2**
JOU	**Okura**	**1.23**	**328**	P	**Pn**	**19 54 13.6**	**-0.2**
JOU				S	**Sn**	**19 54 30.9**	**+0.4**
JSB	**Shiboa**	**1.30**	**255**	P	**Pn**	**19 54 14.5**	**-0.4**
JSB				S	**Sn**	**19 54 31.8**	**-0.5**
JSD	**Sado**	**2.66**	**287**	Pn	**Pn**	**19 54 32.0**	**-1.5**
MJAR	**Matsushiro Arr**	**2.74**	**254**	Pn	**Pn**	**19 54 34.7**	**0.0**
	0.5nm,0.3s,baz=76,slow=16,SNR=21						
	6.3nm,0.5s						
MAJO	**Matsushiro**	**2.74**	**254**		**Pn**	**19 54 34.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.74**	**255**		**Pn**	**19 54 35.8**	**+1.0**
JTM	**Tenmabayashi**	**3.47**	**355**	Pn	**Pn**	**19 54 43.0**	**-1.7**
JGF	**Kuroka**	**3.75**	**244**		**Pn**	**19 54 49.3**	**+0.7**
INU	**Inuyama**	**4.11**	**243**	Pn	**Pn**	**19 54 53.1**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	20 29 22.9	
	baz=314,slow=75,SNR=78						
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	20 29 28.2	
	baz=314,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	20 29 27.8	
	baz=314,slow=75,SNR=74						
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	20 30 21.0	
	baz=316,slow=75,SNR=34						
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	20 30 20.3	
	baz=316,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	20 30 05.5	
	baz=316,slow=75,SNR=17						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**20 01 39.6**	**-0.3**
	1.3nm,0.8s,baz=99,slow=4.5,SNR=5.1						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**20 01 58.3**	**+0.1**
	0.8nm,0.8s,baz=96,slow=7.6,SNR=3.9						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**20 01 57.1**	**-1.1**
MAKZ	**Makanchi**	**44.22**	**302**	P	**P**	**20 01 59.8**	**-0.1**
KURK	**Kurchatov**	**45.80**	**308**	P	**P**	**20 02 12.4**	**0.0**
KURK				IAmb	IAmb	20 02 13.1	
	comp=Z,3.6nm,1.0s						
KURBB	**Kurchatov Arra**	**45.87**	**308**	P	**P**	**20 02 12.9**	**0.0**
	comp=Z,1.1nm,0.2s,baz=84,slow=8.4,SNR=5.5						
	comp=Z,1.1nm,0.2s						
KNRA	**Kununurra**	**54.06**	**195**	P	P	20 03 21.6	+6.2
WR0	**Warramunga Arr**	**57.35**	**188**	P	**P**	**20 03 39.9**	**+0.9**
WR0				IAmb	IAmb	20 03 56.4	
	comp=Z,8.8nm,1.5s						
WB2	**Warramunga Arr**	**57.35**	**188**	P	**P**	**20 03 41.2**	**+2.2**
WB2				IAmb	IAmb	20 03 58.9	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**20 03 37.5**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=6.9,slow=7.6,SNR=2.2						
	comp=Z,0.4nm,0.9s						
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**20 03 42.0**	**+3.0**
ARMA	**Armidale**	**68.06**	**171**	P	**P**	**20 04 53.0**	**+2.6**
FINES	**FINESS Array B**	**68.58**	**332**	P	**P**	**20 04 52.1**	**-1.1**

ROM 22 19:56:06.9±0.1, 43.011N±0.003×13.130E±0.004, h8km, ML1.6/10, 2C-3D, Error ellipse: s-maj=0.3km s-min=0.2km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.04**	**309**	P	Pg	19 56 08.5	-0.1
FDMO				S	Sg	19 56 09.6	-0.3
FDMO				AML	AML		
	comp=E,1027μm,0.5s						
FDMO				AML	AML		
	comp=E,1028μm,0.5s						
FDMO				AML	AML		
	comp=N,1047μm,0.4s						
CSP1	**Cessapalombo**	**0.10**	**34**	⇑P	Pg	19 56 09.7	+0.3
CSP1				S	Sg	19 56 11.5	+0.3
T1219	**Muccia, Frazio**	**0.10**	**296**	⇓P	Pg	19 56 09.9	+0.4
T1219				S	Sg	19 56 11.9	+0.7
T1219				AML	AML		
	comp=E,474μm,1.0s						
T1219				AML	AML		
	comp=N,982μm,0.2s						
T1219				AML	AML		
	comp=E,512μm,1.0s						
T1219				AML	AML		
	comp=N,955μm,0.2s						
T1216	**Preci, Frazion**	**0.14**	**214**	P	Pg	19 56 10.7	+0.6
T1216				S	Sg	19 56 13.6	+1.3
GUMA	**Gualdo di Mace**	**0.16**	**71**	P	Pg	19 56 11.2	+0.9
GUMA				S	Sg	19 56 14.4	+1.7
GUMA				AML	AML		
	comp=N,805μm,0.5s						
GUMA				AML	AML		
	comp=E,526μm,0.6s						
T1245	**Castelsantange**	**0.16**	**165**	⇑P	Pg	19 56 11.0	+0.6
T1245				S	Sg	19 56 14.1	+1.2
T1245				AML	AML		
	comp=E,500μm,1.0s						
T1245				AML	AML		
	comp=N,662μm,0.1s						
T1245				AML	AML		
	comp=N,717μm,0.6s						
T1245				AML	AML		
	comp=E,434μm,0.7s						
T1245				AML	AML		
	comp=E,500μm,1.0s						
CESI	**CESI - Serrava**	**0.17**	**268**	P	Pg	19 56 11.2	+0.8
CESI				S	Sg	19 56 14.4	+1.5
CESI				AML	AML		
	comp=E,254μm,0.5s						
CESI				AML	AML		
	comp=E,253μm,0.5s						
CESI				AML	AML		
	comp=N,428μm,0.1s						
NRCA	**Norcia**	**0.18**	**184**	P	Pg	19 56 11.1	+0.4
NRCA				AML	AML		
	comp=E,516μm,0.1s						
NRCA				AML	AML		
	comp=N,790μm,0.2s						
MMO1	**Montemonaco**	**0.18**	**128**	⇓P	Pg	19 56 11.3	+0.5
MMO1				S	Sg	19 56 14.5	+1.1
T1241	**Roccafluvione,**	**0.27**	**125**	P	Pg	19 56 12.9	+0.6
T1241				S	Sb	19 56 17.7	-1.0
T1241				AML	AML		
	comp=E,73μm,0.7s						
T1241				AML	AML		
	comp=N,70μm,0.6s						
T1241				AML	AML		
	comp=E,89μm,1.3s						
T1241				AML	AML		
	comp=N,70μm,0.6s						
SNTG	**Esanatoglia**	**0.28**	**330**	P	Pg	19 56 13.3	+0.7
SNTG				S	Sb	19 56 18.1	-1.0
SNTG				AML	AML		
	comp=E,45μm,0.6s						
SNTG				AML	AML		
	comp=N,57μm,0.2s						
SNTG				AML	AML		
	comp=N,57μm,0.2s						
T1215	**Vallo di Nera,**	**0.28**	**223**	P	Pg	19 56 13.4	+0.8
T1215				S	Sb	19 56 18.2	-1.0
EL6	**Elcito**	**0.32**	**356**	P	Pg	19 56 13.8	+0.5
EL6				S	Sb	19 56 19.2	-1.1
ASSB	**Assisi San Ben**	**0.35**	**275**	⇓P	Pg	19 56 14.4	+0.6
ASSB				S	Sb	19 56 20.1	-0.9
ASSB				AML	AML		
	comp=E,168μm,0.9s						
ASSB				AML	AML		
	comp=N,110μm,0.4s						
CING	**Cingoli**	**0.37**	**7**	P	Pg	19 56 14.7

CPWZ	Castlepoint	0.73	227	P	Pn	20 03 15.1 +1.1
CKHZ	Cape Kidnapper	0.76	10	P	Pn	20 03 14.4 +0.1
TSZ	Takapari Road	0.80	295	P	Pb	20 03 13.8 0.0
TSZ				S	Sb	20 03 24.1 -0.4
TIWZ	Tintock	0.86	244	P	Pn	20 03 16.4 +0.7
POWZ	Post Office Ro	0.87	271	P	Pn	20 03 15.7 -0.1
MCHZ	McNeill Hill	0.97	350	P	Pn	20 03 17.7 +0.4
TMWZ	Te Maipa	1.04	227	P	Pb	20 03 18.3 +0.5
MRZ	Mangatainoka R	1.04	256	P	Pb	20 03 17.9 +0.1
KWHZ	Kaweka Forest	1.05	339	P	Pn	20 03 18.4 +0.1
BHHZ	Black Hill Sta	1.12	325	P	Pb	20 03 18.7 -0.6
ARHZ	Aropaoanui	1.15	4	P	Pb	20 03 19.9 +0.3
HOWZ	Holdsworth Sta	1.17	245	P	Pn	20 03 19.7 -0.2
OHWZ	Ohakea	1.23	279	P	Pg	20 03 22.1 +0.1
BKZ	Black Stump Fm	1.28	345	P	Pn	20 03 21.5 0.0
BKZ	Black Stump Fm	1.28	345	P	Pn	20 03 21.3 -0.2
MTW	Mount Morrison	1.30	234	P	Pn	20 03 21.4 -0.4
NMHZ	Naumai	1.31	357	P	Pb	20 03 22.4 -0.1
MOVZ	Moawhango	1.34	318	P	Pn	20 03 22.2 -0.1
TRWZ	Traveller	1.35	223	P	Pn	20 03 22.2 -0.3
OGWZ	Otaki Gorge	1.38	252	P	Pn	20 03 22.6 -0.2
MHGZ	Mahia Peninsul	1.47	32	P	Pn	20 03 24.7 +0.6
WNVZ	Wahianoa	1.48	317	P	Pb	20 03 25.1 -0.2
PAWZ	Paruwai Farm	1.48	229	P	Pn	20 03 24.0 -0.3
TUVZ	Tukino	1.49	319	P	Pb	20 03 25.7 0.0
RAHZ	Arahi	1.50	5	P	Pn	20 03 24.7 +0.2
MTVZ	Mangateitei	1.50	312	P	Pb	20 03 25.4 -0.4
KNZ	Kokohu	1.51	23	P	Pn	20 03 24.5 0.0
WHVZ	Whangaehu Hut	1.51	318	P	Pb	20 03 25.6 -0.4
TRVZ	Turoa	1.52	316	P	Pb	20 03 25.8 -0.4
DRZ	Dome Shelter	1.53	317	P	Pb	20 03 26.5 +0.1
FWRZ	Far West T-bar	1.55	317	P	Pb	20 03 26.3 -0.3
MTHZ	Maungataniwha	1.55	358	P	Pn	20 03 25.4 +0.1
SNVZ	South Ngauruho	1.56	321	P	Pb	20 03 26.7 -0.2
CAW	Cannon Point	1.56	243	P	Pn	20 03 24.9 -0.5
OTVZ	Oturere	1.57	322	P	Pb	20 03 27.1 +0.1
ETVZ	East Tongariro	1.57	324	P	Pb	20 03 26.3 -0.7
KIW	Kapiti Island	1.58	253	P	Pn	20 03 25.5 -0.2
TMVZ	Te Maari	1.59	324	P	Pn	20 03 26.6 +0.7
NGZ	Ngauruhoe	1.59	320	P	Pb	20 03 26.6 -0.7
MSWZ	Moikau Station	1.61	231	P	Pn	20 03 25.3 -0.7
WAZ	Wanganui	1.61	293	P	Pb	20 03 27.3 -0.3
NTVZ	North Tongarir	1.61	324	P	Pb	20 03 27.6 -0.1
MRHZ	Matea Rd	1.62	346	P	Pn	20 03 26.5 +0.4
NNVZ	North Ngauruho	1.62	322	P	Pn	20 03 27.0 +0.8
KRVZ	Karewarewa	1.63	323	P	Pb	20 03 28.1 +0.1
PKVZ	Pokaka	1.64	312	P	Pb	20 03 27.9 -0.2
HATZ	Hinemaiaia	1.64	337	P	Pb	20 03 28.0 -0.1
RITZ	Rihia Road	1.64	330	P	Pb	20 03 27.7 -0.4
SNGZ	Shannon Statio	1.66	12	P	Pn	20 03 27.6 +0.3
PLWZ	Palliser	1.71	227	P	Pn	20 03 26.7 -0.6
KATZ	Kakaramea	1.71	326	P	Pb	20 03 30.2 +0.8
TWVZ	Taurewa	1.75	319	P	Pb	20 03 29.5 -0.5
RATZ	Rangitukua	1.77	330	P	Pb	20 03 30.8 +0.5
RTZ	Ruatahuna	1.79	2	P	Pn	20 03 28.6 0.0
RIGZ	Rimuhau	1.82	22	P	Pn	20 03 28.5 -0.5
WEL	Wellington	1.84	241	P	Pn	20 03 28.7 -0.5
ALRZ	Allen Road	1.89	347	P	Pn	20 03 30.7 +0.8
MUGZ	Murupara	1.93	357	P	Pn	20 03 30.5 +0.1
RAGZ	Rawiri	1.95	12	P	Pn	20 03 30.6 -0.2
HRRZ	Handcock Road	2.07	346	P	Pn	20 03 33.1 +0.7
RRRZ	Republican Roa	2.09	352	P	Pg	20 03 39.6 +1.3
VRZ	Vera Road	2.09	307	P	Pb	20 03 34.6 -1.1
MWZ	Matawai	2.13	13	P	Pn	20 03 32.4 -0.7
LREZ	Lake Rotokare	2.14	295	P	Pb	20 03 36.7 0.0
GRRZ	Galatos Road	2.15	343	P	Pg	20 03 38.6 -0.8
TCW	Tory Channel	2.15	247	P	Pn	20 03 32.7 -0.8
URZ	Urewera	2.15	4	P	Pn	20 03 33.2 -0.2
URZ	Urewera	2.15	4	P	Pn	20 03 33.1 -0.4
HSRZ	Hossack Road	2.15	346	P	Pg	20 03 38.7 -0.8
CNGZ	Carnagh Statio	2.17	28	P	Pn	20 03 33.5 -0.2
TARZ	Mount Tarawera	2.19	352	P	Pn	20 03 34.3 +0.2
DUWZ	D'Urville Isla	2.31	259	P	Pn	20 03 35.8 +0.2
TLZ	Tolley Road	2.33	333	P	Pb	20 03 41.2 +1.4
MHEZ	Mangahewa	2.39	303	P	Pb	20 03 40.0 -1.0
DREZ	Durham Road	2.41	299	P	Pb	20 03 40.4 -0.8
NEZ	North Egmont	2.44	297	P	Pn	20 03 39.5 +2.0
TUWZ	Tuamarina	2.47	245	P	Pn	20 03 36.6 -1.1
HIZ	Hauiti	2.47	319	P	Pn	20 03 40.0 +2.2
HIZ	Hauiti	2.47	319	P	Pn	20 03 38.7 +0.9
KHEZ	Kahui Hut	2.49	296	P	Pb	20 03 40.5 -2.1
KHEZ	Kahui Hut	2.49	296	P	Pn	20 03 40.4 +2.2
RUGZ	Raukumara Rang	2.51	14	P	Pn	20 03 37.9 -0.6
NMEZ	Namu Road	2.53	292	P	Pn	20 03 40.5 +1.8
WHRZ	Whale Island	2.53	7	P	Pb	20 03 38.6 -0.2
PKE	Pukeiti	2.55	297	P	Pb	20 03 42.8 -0.8
NBEZ	Newall Road No	2.60	295	P	Pb	20 03 44.8 +0.4
BSWZ	Blackbirch Sta	2.64	239	P	Pn	20 03 38.9 -1.2
PKGZ	Pakihiroa	2.68	20	P	Pn	20 03 40.2 -0.5
HAZ	Te Kaha	2.73	15	P	Pn	20 03 41.0 -0.4
NNZ	Nelson	2.79	252	P	Pn	20 03 41.8 -0.5
WMGZ	Waiomatatini S	2.84	25	P	Pn	20 03 42.5 -0.4
TOZ	Tahuroa Road	2.89	337	P	Pn	20 03 44.2 +0.7
MXZ	Matakaoa Point	3.04	21	P	Pn	20 03 45.5 -0.2
MXZ	Matakaoa Point	3.04	21	P	Pn	20 03 45.3 -0.4
TKNZ	Takaka Hill	3.06	257	P	Pn	20 03 46.1 +0.1
MRNZ	Matariki Terra	3.30	251	P	Pn	20 03 48.8 -0.4
MKAZ	Moumakai	3.57	337	P	Pn	20 03 53.5 +0.5
GVZ	Greta Valley S	3.87	227	P	Pn	20 04 01.1 +4.1
WIAZ	Waiheke Island	3.87	338	P	Pn	20 03 57.8 +0.8
MBAZ	Motutapu North	3.96	336	P	Pn	20 03 59.7 +1.4
LTZ	Lake Taylor	4.21	234	P	Pn	20 04 00.9 -0.9
OKCZ	Okains Bay	4.31	220	P	Pn	20 04 01.0 -0.8
AKCZ	Akaroa Harbour	4.56	219	P	Pn	20 04 06.1 -0.5
MQZ	McQueen's Vall	4.57	222	P	Pn	20 04 06.0 -0.6
WACZ	Wakanui South	5.16	225	P	Pn	20 04 17.0 +2.2
ARCZ	Arundel	5.53	228	P	Pn	20 04 18.6 -1.3
ARCZ				P	Pn	20 04 19.3 -0.6
CTZ	Chatham Island	5.86	127	P	Pn	20 04 27.4 +3.1
TMZ	Timaru	5.90	226	P	Pn	20 04 24.0 -1.0
ODZ	Otahua Downs	6.54	223	P	Pn	20 04 33.4 -0.3

*IDC **22** 20:09:48.1±0.9, 37°.26N×141°.63E, h0km, mb4.0/14, mbtmp4.1/16, ML3.4/2, Error ellipse: s-maj=27.0km s-min=16.3km az=86.0*

*MOS **22** 20:09:49.4±1.1, 37°.35N×141°.43E, h16km, mb4.5/12, Error ellipse: s-maj=12.3km s-min=8.0km az=118.1*

*JMA **22** 20:09:51.2±0.2, 37°.3N±0°.4×141°.5E±0°.9, h34km±1km, MD4.1/35, MV4.2/35, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

*NIED **22** 20:09:51.2, 37°.25N×141°.50E, h34km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.44; $M_{\theta\theta}$3.80; $M_{\phi\phi}$0.64; $M_{r\theta}$0.06; $M_{\theta\phi}$2.99; $M_{\phi r}$-2.27; Fault plane solution: $M_0$5.59000×10^{14} NP1: ϕ_s262.00000°, δ44.00000°, λ-54.00000°. NP2:ϕ_s36.00000°, δ56.00000°, λ-120.00000°.*

*NEIC **22** 20:09:52.5±1.4, 37°.31N±0°.05×141°.52E±0°.08, h28km±2km, mb4.5/24 Error ellipse: s-maj=9.9km s-min=6.5km az=75.0*

ISC 22 20:09:50.2±1.5, 37°.24N±0°.04×141°.54E±0°.05, h14km±8km, n119, σ1$20/115, mb4.4/34, 6C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.55	284	⇓P		Pg	20 10 01.7	+0.8
JFK				⇓S		Sb	20 10 08.9	-0.5
JFK	Kawauchi	0.55	284	A		A	20 10 01.7	
	comp=E,8.0nm,0.7s,comp=E,6.0nm,0.4s							
JMST	Minamisoumatoc	0.71	313	P		Pb	20 10 04.2	-0.2
JMST				S		Sb	20 10 13.4	-0.7
JMST	Minamisoumatoc	0.71	313	A		A	20 10 04.2	
	comp=E,17nm,0.3s,comp=E,13nm,0.4s							
JFFD	Fukushimafurud	0.80	260	⇓P		Pb	20 10 05.6	-0.3
JFFD				⇓S		Sb	20 10 15.7	-0.9
JMM	Marumori	0.86	317			Pb	20 10 06.5	-0.5
JMM				Sn		Sg	20 10 17.4	-0.9
JMM	Marumori	0.86	317	P		Pb	20 10 06.5	-0.5
JMM	Marumori	0.86	317	P		Pb	20 10 06.5	-0.5
JMM				S		Sg	20 10 17.4	-0.9
JMM	Marumori	0.86	317	A		A	20 10 06.5	
	comp=E,8.0nm,0.4s,comp=E,7.0nm,0.3s							
JHO	Hitachi	1.00	231	P		Pb	20 10 08.3	-1.0
JHO				eS		Sb	20 10 20.9	-1.5
JIO	Ouri	1.22	353	P		Pn	20 10 11.7	-1.2
JIO				S		Sb	20 10 27.1	-1.7
JYAR	Yonezawaarcadi	1.30	302	A		A	20 10 13.2	
	comp=E,17nm,1.2s,comp=E,10.0nm,1.2s							
JOU	Okura	1.32	329	A		A	20 10 13.7	
	comp=E,7.0nm,0.6s,comp=E,8.0nm,0.7s							
JYT	Yasato	1.48	227	A		A	20 10 16.0	
	comp=E,10.0nm,0.3s,comp=E,7.0nm,0.4s							
JYS	Shirataka	1.53	310	A		A	20 10 16.6	
	comp=E,7.0nm,3.0s,comp=E,8.0nm,1.2s							
JYA	Atsumi	1.98	314	A		A	20 10 23.2	
	comp=E,3.0nm,1.0s,comp=E,3.0nm,1.0s							
JSD	Sado	2.72	288			Pn	20 10 33.4	-0.2
JSD	Sado	2.72	288	P		Pn	20 10 34.4	+0.8
MJAR	Matsushiro Arr	2.76	256	Pn		Pn	20 10 34.6	+0.5
	1.8nm,0.3s,baz=116,slow=7.9,SNR=60 7.8nm,0.3s							
MAJO	Matsushiro	2.76	256			Pn	20 10 34.8	+0.7
MAJO	Matsushiro	2.76	256	P		Pn	20 10 36.8	+2.7
MAJO	Matsushiro	2.76	256	*i* P		Pn	20 10 34.9	+0.7
MJB9	Matsu-Tunnel	2.76	257			Pn	20 10 35.5	+1.4
JTM	Tenmabayashi	3.56	354			Pn	20 10 46.0	+0.9
JTM	Tenmabayashi	3.56	354	P		Pn	20 10 46.5	+1.4
JGF	Kuroka	3.75	245			Pn	20 10 48.0	+0.3
JGF	Kuroka	3.75	245	P		Pn	20 10 49.8	+2.1
INU	Inuyama	4.11	244			Pn	20 10 54.1	+1.4
INU	Inuyama	4.11	244	P		Pn	20 10 55.7	+3.0
JHJ2	Mitsune	4.35	199	Pn		Pn	20 10 57.4	+1.4
JHJ2	Mitsune	4.35	199	P		Pn	20 10 57.5	+1.5
JHJ	Hachijo jima 2	4.36	200	Pn		Pn	20 10 57.4	+1.4
	17nm,0.3s,baz=326,slow=20,SNR=12							
JHJ				Sn		Sn	20 11 45.4	-1.2
	36nm,0.3s,baz=42,slow=20,SNR=6.5 154nm,0.6s							
ERM	Erimo	4.93	14	Pn		Pn	20 11 03.5	-0.4
ERM	Erimo	4.93	14	P		Pn	20 11 03.9	0.0
ERM	Erimo	4.93	14	P		Pn	20 11 03.5	-0.4
JEM	Erimo	4.93	14	P		Pn	20 11 04.0	+0.1
ASAJ	Asahikawa	6.92	6	P		Pn	20 11 31.1	-0.1
JKA	Kamikawa-asahi	6.92	6	Pn		Pn	20 11 31.1	-0.1
JHS	Saijyo	7.18	254	Pn		Pn	20 11 35.2	+0.4
JHS	Saijyo	7.18	254	P		Pn	20 11 38.5	+3.7
MSHR	Mys Shultsa	9.59	307	*ce*P		Pn	20 12 05.3	-2.6
MSHR					pmax	pmax		
	comp=E,62nm,2.5s							
USRK	Ussuriysk Ar.	10.04	317	Pn		Pn	20 12 12.4	-1.6
USRK	Ussuriysk Ar.	10.04	317	P		Pn	20 12 12.4	-1.6
JCJ	Chichijima	10.13	177	Pn		Pn	20 12 14.7	-0.6
ZEA	Zeya	19.24	334	*eP*		Pn	20 14 20.1	+5.2
YAK	Yakutsk	25.89	347	P		P	20 15 21.7	+0.3
	comp=E,5.4nm,0.4s,baz=49,slow=0.7,SNR=6.8 comp=E,5.4nm,0.4s							
ULN	Ulaanbaatar	27.32	304	P		P	20 15 33.7	-1.0
ULN	Ulaanbaatar	27.32	304	P		P	20 15 33.7	-1.0
ULN					pmax	pmax		
	comp=E,4.0nm,1.3s							
ENH	Enshi	27.45	265	P		P	20 15 35.1	-0.8
ENH					lAmb	lAmb	20 16 07.5	
	comp=E,8.5nm,1.3s							
SONM	Songino Array	27.76	304	P		P	20 15 39.0	+0.4
	comp=E,2.3nm,0.8s,baz=103,slow=8.3,SNR=15 comp=E,2.3nm,0.8s							
SONM	Songino Array	27.76	304	P		P	20 15 38.2	-0.4
H11N2	WAKE ISLAND Hy	28.16	121	T		T	20 45 10.0	
	baz=312							
H11N1	WAKE ISLAND Hy	28.17	121	T		T	20 45 04.2	
	baz=312							
H11N3	WAKE ISLAND Hy	28.18	121	T		T	20 45 06.8	
	baz=312							
H11S1	WAKE ISLAND Hy	28.89	123	T		T	20 46 01.2	
	baz=316							
H11S3	WAKE ISLAND Hy	28.89	123	T		T	20 46 01.4	
	baz=316							
H11S2	WAKE ISLAND Hy	28.90	123	T		T	20 46 01.1	
	baz=316							
BILL	Bilibino	33.80	16	*eP*		P	20 16 33.7	+2.2
BILL					pmax	pmax		
	comp=E,2.0nm,1.1s							
DGZ	Jazzator, Alta	40.35	306	*i* P		P	20 17 27.5	-0.1
DGZ					pmax	pmax		
	comp=E,6.0nm,1.0s							
CMAR	Chiang Mai Arr	41.65	255	P		P	20 17 39.2	+0.8
	comp=E,2.0nm,0.8s,baz=49,slow=7.1,SNR=7.6 comp=E,2.0nm,0.8s							
CMAR	Chiang Mai Arr	41.65	255	*ce*P		P	20 17 39.7	+1.4
CMAR					pmax	pmax		
	comp=E,1.0nm,0.6s							
ZAA0	Zalesovo Array	41.85	312	P		P	20 17 38.8	-0.8
ZALV	Zalesovo Beam	41.85	312	P		P	20 17 39.7	+0.1
	comp=E,2.3nm,0.6s,baz=81,slow=6.8,SNR=14 comp=E,2.3nm,0.6s							
ZALV	Zalesovo Beam	41.85	312	P		P	20 17 38.9	-0.7
ZALV	Zalesovo Beam	41.85	312	P		P	20 17 38.9	-0.7
CHGN	Chignik	43.75	44	P		P	20 17 54.0	-0.9
MK31	Makanchi Array	44.10	302	P		P	20 17 58.2	+0.3
MK31					lAmb	lAmb	20 18 13.9	
	comp=E,3.5nm,0.9s							
MK31	Makanchi Array	44.10	302	*i* P		P	20 17 57.3	-0.6
MKAR	Makanchi Array	44.10	302	P		P	20 17 58.2	+0.3
	comp=E,2.3nm,0.7s,baz=91,slow=10.0,SNR=16 comp=E,2.3nm,0.7s							
MKAR	Makanchi Array	44.10	302	P		P	20 17 57.8	-0.2
MAKZ	Makanchi	44.31	302	P		P	20 17 59.3	-0.3
MAKZ					lAmb	lAmb	20 18 00.6	
	comp=E,5.7nm,1.1s							
MAKZ	Makanchi	44.31	302	P		P	20 17 59.3	-0.3
MAKZ					pmax	pmax		
	comp=E,6.0nm,1.1s							
KURK	Kurchatov	45.89	308			P	20 18 11.8	-0.2
KURK					lAmb	lAmb	20 18 33.0	
	comp=E,6.5nm,0.9s							
KURK	Kurchatov	45.89	308	*ce*P		P	20 18 12.4	+0.3
KURK					pmax	pmax		
	comp=E,3.0nm,1.0s							
TAPN	Taplejung	46.03	274	*eP*		P	20 18 14.1	+0.2
	comp=E,3.3nm,0.4s							
RAMN	Ramite	47.09	274	*eP*		P	20 18 22.4	+0.3
JIRN	Jiri	47.10	275	*eP*		P	20 18 23.0	+0.6
	comp=E,1.7nm,0.3s							
GUN	Gumba	47.24	276	*eP*		P	20 18 23.3	-0.1
PKI	Pulchoki	47.76	275	*eP*		P	20 18 27.2	-0.2
PKIN	Phulchowki	47.77	275	*eP*		P	20 18 27.5	+0.1
	comp=E,1.7nm,0.4s							
GKN	Gorkha	48.18	276	*eP*		P	20 18 30.4	-0.1
DANN	Dangsing	48.73	277	*eP*		P	20 18 35.0	+0.1
	comp=E,18nm,0.8s							
BRVK	Borovoye	50.57	312	*ce*P		P	20 18 48.7	+0.5
BRVK					pmax	pmax		
	comp=E,2.0nm,0.9s							
KNRA	Kununurra	53.99	195	P		P	20 19 14.2	+0.3
GSI	Gunungsitoli	53.99	239	P		P	20 19 14.3	+0.2
NIL	Nilore	54.65	288	P		P	20 19 18.9	+0.2
NIL					lAmb	lAmb	20 19 21.4	
	comp=E,4.6nm,0.6s							
NIL	Nilore	54.65	288	P		P	20 19 18.9	+0.2
NIL					pmax	pmax		
	comp=E,5.0nm,0.6s							
GAR	Garm	54.70	295	P		P	20 19 19.4	+0.2
GAR					lAmb	lAmb	20 19 24.3	
	comp=E,8.4nm,1.4s							
CHGR	Chuyangaron	55.67	295	P		P	20 19 26.1	0.0
CHGR	Chuyangaron	55.67	295	P		P	20 19 26.1	0.0
CHGR					pmax	pmax		
	comp=E,13nm,0.7s							
ARU	Arti	56.27	318	P		P	20 19 30.0	0.0
ARU					lAmb	lAmb	20 19 31.3	
	comp=E,4.3nm,0.8s							
ARU	Arti	56.27	318	*d* iP		P	20 19 30.0	0.0
ARU							20 21 35.3	
ARU				S		S	20 27 22.2	+2.8
ARU				SS		SS	20 31 00.7	-4.8
ARU					pmax	pmax		
	comp=E,8.0nm,1.3s							
FITZ	Fitzroy Crossi	57.05	198	P		P	20 19 34.5	-1.3
WB0	Warramunga Arr	57.10	188	P		P	20 19 34.4	-1.8
WB0					lAmb	lAmb	20 19 43.5	
	comp=E,4.7nm,1.1s							
WB2	Warramunga Arr	57.28	188	P		P	20 19 36.9	-0.6
WB2					lAmb	lAmb	20 20 08.0	
	comp=E,7.5nm,1.4s							
WRA	Warramunga Arr	57.28	188	P		P	20 19 37.1	-0.3
	comp=E,2.0nm,0.5s,baz=5.8,slow=7.3,SNR=15 comp=E,2.0nm,0.5s							
WRA	Warramunga Arr	57.28	188	P		P	20 19 36.6	-0.9
WRA				PcP		PcP	20 20 31.4	-0.3
WRA	Warramunga Arr	57.28	188	*ce*P		P	20 19 37.5	0.0
WRA					pmax	pmax		
	comp=E,1.0nm,0.5s							
ABKAR	Akbulak array	57.89	310	P		P	20 19 40.9	-0.7
ABKAR	Akbulak array	57.89	310	P		P	20 19 41.1	-0.4
ABKAR					lAmb	lAmb	20 19 42.0	
	comp=Z,3.6nm,0.7s							
EUNU	Eureka	59.97	9	P		P	20 19 55.9	+0.3
EUNU					lAmb	lAmb	20 20 03.6	
	comp=Z,5.6nm,1.4s							
KIRV	Kirov	60.15	323	*ce*P		P	20 19 57.1	+0.1
ASAR	Alice Springs	61.01	188	P		P	20 20 03.3	0.0
	comp=Z,0.4nm,0.7s,baz=11,slow=5.0,SNR=6.8 comp=Z,1.6nm,0.8s							
GEYT	Alibeck	63.83	299	P		P	20 20 22.5	+0.3
	comp=Z,2.9nm,0.7s,baz=42,slow=2.4,SNR=6.4 comp=Z,2.9nm,0.7s							
GEYT	Alibeck	63.83	299	P		P	20 20 22.7	+0.5
ARCES	ARCESS Array B	63.84	339	P		P	20 20 22.0	+0.2
	comp=Z,1.6nm,0.8s,baz=60,slow=7.2,SNR=8.1 comp=Z,1.6nm,0.8s							
ARCES	ARCESS Array B	63.84	339	P		P	20 20 21.5	-0.2
ARCES					lAmb	lAmb	20 20 30.2	
	comp=Z,18nm,1.5s							
ARCES	ARCESS Array B	63.84	339	P		P	20 20 21.5	-0.2
ARCES					pmax	pmax		
	comp=Z,18nm,1.5s							
OBN	Obninsk	67.99	323	*eP*		P	20 20 47.3	-1.3
OBN				*e*			20 23 19.7	
OBN					pmax	pmax		
	comp=Z,6.0nm,1.0s							
FINES	FINESS Array B	68.68	332	P		P	20 20 53.0	+0.2
	comp=Z,4.0nm,1.0s,baz=73,slow=6.4,SNR=7.5 comp=Z,4.0nm,1.0s							
KIV	Kislovodsk	70.85	311	*eP*		P	20 21 06.9	+0.2
KIV					pmax	pmax		
	comp=Z,8.0nm,1.0s							
ANN	Anapa	73.46	314	*eP*		P	20 21 28.5	+6.4
ANN					pmax	pmax		
	comp=Z,84nm,1.1s							
NC405	NORSAR Array S	73.83	337	P		P	20 21 23.7	-0.3
NC204	NORSAR Array S	73.99	338	P		P	20 21 25.3	+0.2
NC204					lAmb	lAmb	20 21 59.1	
	comp=Z,10nm,1.2s							
NB2	NORSAR Subarra	74.04	337	P		P	20 21 25.4	+0.1
	comp=Z,0.4nm,0.4s,baz=38,slow=6.2							
NOA	NORSAR Array B	74.04	337	P		P	20 21 25.4	+0.1
	comp=Z,0.5nm,0.5s,baz=37,slow=6.0,SNR=2.4 comp=Z,0.5nm,0.5s							
AKASG	Malin Array Be	74.20	322	P		P	20 21 26.2	-0.1
	comp=Z,1.4nm,0.5s,baz=46,slow=6.2,SNR=14 comp=Z,1.4nm,0.5s							
GERES	GERESS Array B	82.59	328	P		P	20 22 13.1	+0.1
	comp=Z,0.4nm,0.4s,baz=46,slow=7.7,SNR=6.1 comp=Z,0.4nm,0.4s							
TXAR	Lajitas Array	89.92	52	P		P	20 22 50.1	+0.8
	comp=Z,0.3nm,0.6s,baz=308,slow=6.2,SNR=3.5 comp=Z,0.3nm,0.6s							

*INET **22** 20:10:39.5±0.7, 12°.28N×87°.73W, h16km±9km, MW3.7*

*SNET **22** 20:10:42.8±1.1, 12°.45N×87°.89W, h27km±15km, ML3.3*

ISC 22 20:10:36.9±1.6, 12°.35N±0°.07×87°.78W±0°.05, h9km±12km, n17, σ0$91/24, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.79	64	*eP*		Pn	20 10 55.2	+0.8
CRIN				*eS*		Sn	20 11 06.5	+0.1
LCND	La Caada	0.96	354	*eP*		Pn	20 10 58.1	+1.5
LCND				*eS*		Sn	20 11 11.0	+0.6
LCND				IAML			20 11 13.8	
	comp=Z,3μm,0.2s							
TELN	Telica	0.96	75	*eP*		Pb	20 10 56.5	+0.7
CNGN	Cerro Negro	1.07	82	*eP*		Pb	20 10 57.9	+0.3
MOMN	Momotombo	1.21	87	*eP*		Pn	20 10 59.7	-0.4
PACA	Pacayal	1.23	335	*eP*		Pg	20 11 02.1	+1.4
PQSS	Presa 15 de Se	1.48	329	*eP*		Pg	20 11 05.6	+0.3
PQSS				*eS*		Sg	20 11 23.6	-0.9
PQSS				IAML			20 11 27.4	
	comp=Z,229nm,0.1s							
HUEN		1.57	90	*eP*		Pn	20 11 04.8	-0.2
HUEN				*eS*		Sn	20 11 23.4	-2.1
SCLA	Alcaldia de Sa	1.63	326	*eP*		Pg	20 11 08.0	-0.4
SCLA				*eS*		Sg	20 11 28.4	-1.1
SCLA				IAML			20 11 29.6	
	comp=Z,151nm,0.2s							
COEG	Centro de Oper	1.66	320	*eP*		Pg	20 11 08.8	0.0
COEG				IAML			20 11 34.0	
	comp=Z,501nm,0.3s							
SJTE	Alcalda de S	1.74	317

YAK	Yakutsk	25.88	347	P	P	20 17 37.9	-0.3	
	comp=Z,6.3nm,0.5s,baz=352,slow=2.3,SNR=7.0							
	comp=Z,6.3nm,0.5s							
YAK	Yakutsk	25.88	347		P	20 17 36.5	-1.7	
YAK				IAmb	IAmb	20 17 39.0		
	comp=Z,15nm,0.7s							
ULN	Ulaanbaatar	27.35	304	P	P	20 17 50.4	-1.4	
SONM	Songino Array	27.78	304	P	P	20 17 55.7	0.0	
	comp=Z,1.3nm,0.8s,baz=95,slow=7.9,SNR=7.2							
	comp=Z,1.3nm,0.8s							
SONM	Songino Array	27.78	304	P	P	20 17 54.2	-1.5	
H11N2	WAKE ISLAND Hy	28.14	121	T	T	20 47 22.2		
	baz=314,slow=75,SNR=7.8							
H11N1	WAKE ISLAND Hy	28.15	121	T	T	20 47 24.4		
	baz=314,slow=75,SNR=459							
H11N3	WAKE ISLAND Hy	28.16	121	T	T	20 47 25.1		
	baz=314,slow=75,SNR=399							
H11S1	WAKE ISLAND Hy	28.86	123	T	T	20 48 17.7		
	baz=316,slow=76,SNR=309							
H11S3	WAKE ISLAND Hy	28.86	124	T	T	20 48 18.6		
	baz=316,slow=76,SNR=11							
H11S2	WAKE ISLAND Hy	28.88	123	T	T	20 48 19.7		
	baz=316,slow=76,SNR=13							
ZAA0	Zalesovo Array	41.87	312	P	P	20 19 55.8	-0.9	
ZALV	Zalesovo Beam	41.87	312	P	P	20 19 56.8	+0.1	
	comp=Z,3.3nm,0.8s,baz=79,slow=7.7,SNR=12							
	comp=Z,3.3nm,0.8s							
ZALV	Zalesovo Beam	41.87	312	P	P	20 19 56.4	-0.3	
MK31	Makanchi Array	44.12	302	P	P	20 20 14.9	-0.2	
MKAR	Makanchi Array	44.12	302	P	P	20 20 14.7	-0.4	
	comp=Z,1.9nm,0.8s,baz=84,slow=11,SNR=7.9							
	comp=Z,1.9nm,0.8s							
MKAR	Makanchi Array	44.12	302	P	P	20 20 14.4	-0.6	
KURK	Kurchatov	45.91	308	P	P	20 20 29.3	+0.2	
KURK				IAmb	IAmb	20 20 44.3		
	comp=Z,7.8nm,1.3s							
SOEI	Soe	49.51	203	P	P	20 21 01.5	+3.9	
N25K	Chitina, Valde	50.52	36	P	P	20 21 03.5	-1.2	
KNRA	Kununurra	54.02	195	P	P	20 21 31.4	+0.4	
GSI	Gunungsitoli	54.04	239	P	P	20 21 29.1	-2.3	
GAR	Garm	54.73	295	P	P	20 21 36.1	-0.2	
GAR				IAmb	IAmb	20 21 36.9		
	comp=Z,6.4nm,1.3s							
CHGR	Chuyangaron	55.70	295		P	20 21 42.1	-1.2	
CHGR				IAmb	IAmb	20 21 44.4		
	comp=Z,10.0nm,1.0s							
ARU	Arti	56.29	318	P	P	20 21 46.3	-0.8	
ARU				IAmb	IAmb	20 21 47.9		
	comp=Z,9.6nm,1.2s							
WB0	Warramunga Arr	57.12	188	P	P	20 21 51.4	-1.9	
WB0				IAmb	IAmb	20 22 03.2		
	comp=Z,7.0nm,1.4s							
WR0	Warramunga Arr	57.30	188	P	P	20 21 53.2	-1.3	
WR0				IAmb	IAmb	20 22 12.3		
	comp=Z,6.6nm,1.4s							
WB2	Warramunga Arr	57.30	188	P	P	20 21 52.2	-2.4	
WB2				IAmb	IAmb	20 22 14.1		
	comp=Z,3.3nm,1.0s							
WRA	Warramunga Arr	57.30	188	P	P	20 21 54.5	-0.1	
	comp=Z,0.4nm,0.5s,baz=6.6,slow=7.1,SNR=4.9							
	comp=Z,0.4nm,0.5s							
WRA	Warramunga Arr	57.30	188	P	P	20 21 52.1	-2.5	
ABKAR	Akbulak array	57.90	310	P	P	20 21 58.0	-0.6	
ABKAR				IAmb	IAmb	20 21 59.0		
	comp=Z,2.3nm,0.7s							
ABKAR	Akbulak array	57.90	310	P	P	20 21 57.8	-0.9	
EUNU	Eureka	59.94	9	P	P	20 22 13.0	+0.6	
EUNU				IAmb	IAmb	20 22 21.5		
	comp=Z,1.8nm,0.9s							
AS31	Alice Springs	61.03	188	P	P	20 22 20.6	+0.1	
ASAR	Alice Springs	61.03	188	P	P	20 22 22.6	+2.2	
	comp=Z,0.9nm,0.7s,baz=8.9,slow=6.7,SNR=9.1							
	comp=Z,0.9nm,0.7s							
ASAR	Alice Springs	61.03	188	P	P	20 22 21.2	+0.8	
ARCES	ARCESS Array B	63.84	339	P	P	20 22 39.2	+0.5	
	comp=Z,1.7nm,0.7s,baz=66,slow=3.1,SNR=11							
	comp=Z,1.7nm,0.7s							
ARCES	ARCESS Array B	63.84	339	P	P	20 22 38.5	-0.2	
GEYT	Alibeck	63.85	299	P	P	20 22 39.9	+0.5	
	comp=Z,1.5nm,0.6s,baz=29,slow=3.3,SNR=4.3							
	comp=Z,1.5nm,0.6s							
FINES	FINESS Array B	68.68	332	P	P	20 23 09.1	-0.7	
FORT	Forrest	68.86	192	P	P	20 23 12.0	+0.9	
KBZ	Khabaz	70.86	311	P	P	20 23 24.4	+0.8	
	comp=Z,3.3nm,1.1s,baz=320,slow=3.4,SNR=3.5							
	comp=Z,3.3nm,1.1s							
NOA	NORSAR Array B	74.03	337	P	P	20 23 42.5	+0.2	
	comp=Z,0.8nm,0.8s,baz=40,slow=5.6,SNR=3.6							
	comp=Z,0.8nm,0.8s							
AKASG	Malin Array Be	74.21	322	P	P	20 23 43.2	-0.2	
	comp=Z,0.5nm,0.3s,baz=46,slow=6.2,SNR=4.8							
	comp=Z,0.5nm,0.3s							
NVAR	Mina Array Bea	74.74	53	P	P	20 23 49.3	+2.3	
	comp=Z,0.6nm,0.7s,baz=290,slow=5.6,SNR=4.0							
	comp=Z,0.6nm,0.7s							

WEL 22 20:12:45.4±0.4,43°S±3°×17°2E±°, h5km, M2.2/7, ML2.4/9, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=159.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	Inchbonnie	0.21	254	P	Pg	20 12 50.2	+0.7
INZ				S	Sg	20 12 53.0	+0.7
LTZ	Lake Taylor	0.42	106	P	Pg	20 12 53.6	0.0
LTZ				S	Sg	20 12 59.1	-0.1
OXZ	Oxford	0.70	160	P	Pg	20 12 59.1	+0.2
WVZ	Waitaha Valley	0.83	240	P	Pb	20 13 02.5	+0.3
DSZ	Denniston Nort	0.93	4	P	Pg	20 13 03.3	+0.2
DSZ				S	Sg	20 13 15.7	+0.6
RPZ	Rata Peaks	1.15	205	P	Pg	20 13 07.3	-0.2
GCSZ	Gaunt Creek Bo	1.21	237	P	Pb	20 13 08.7	-0.1
MQZ	McQueen's Vall	1.24	147	P	Pg	20 13 08.0	-1.3
WACZ	Wakanui South	1.28	176	P	Pg	20 13 09.9	0.0
ARCZ	Arundel	1.34	197	P	Pb	20 13 11.0	0.0
MRNZ	Matariki Terra	1.49	32	P	Pb	20 13 13.5	0.0
TMZ	Timaru	1.79	197	P	Pb	20 13 19.2	+0.5

WEL 22 20:13:13.4±0.5,42°S±3°×17°4E±°, h7km±3km, M2.8/14, ML3.0/13, MLv2.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=125.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11	41	P	Pg	20 13 16.4	+0.5
CMWZ				S	Sg	20 13 19.5	+2.0
BSWZ	Blackbirch Sta	0.21	303	P	Pg	20 13 18.1	+0.4
BSWZ	Blackbirch Sta	0.21	303	P	Pg	20 13 18.1	+0.4
BSWZ				S	Sg	20 13 21.9	+1.3
TUWZ	Tuamarina	0.42	342	P	Pg	20 13 22.1	+0.4
TUWZ	Tuamarina	0.42	342	P	Pg	20 13 22.0	+0.4
TCW	Tory Channel	0.63	11	P	Pg	20 13 25.4	-0.2
TCW	Tory Channel	0.63	11	P	Pg	20 13 25.4	-0.2
TCW				S	Sg	20 13 34.6	+0.8
KHZ	Kahutara	0.72	216	P	Pg	20 13 27.9	+0.5
WEL	Wellington	0.73	42	P	Pb	20 13 28.1	-0.5
WEL	Wellington	0.73	42	P	Pb	20 13 28.2	-0.4
NNZ	Nelson	0.83	318	P	Pg	20 13 29.3	-0.1
PLWZ	Palliser	0.89	73	P	Pg	20 13 30.2	-0.4
PLWZ	Palliser	0.89	73	P	Pg	20 13 30.2	-0.4
THZ	Tophouse	0.91	274	P	Pg	20 13 31.1	+0.2
MSWZ	Moikau Station	0.94	64	P	Pg	20 13 31.2	-0.4
CAW	Cannon Point	1.02	45	P	Pg	20 13 32.7	-0.2
DUWZ	D'Urville Isla	1.04	352	P	Pg	20 13 32.7	-0.7
DUWZ	D'Urville Isla	1.04	352	P	Pg	20 13 32.7	-0.7
MRNZ	Matariki Terra	1.11	293	P	Pb	20 13 35.0	+0.1
KIW	Kapiti Island	1.14	32	P	Pg	20 13 34.7	-0.6
TKNZ	Takaka Hill	1.18	312	P	Pg	20 13 35.9	-0.2
MTW	Mount Morrison	1.24	58	P	Pb	20 13 35.0	-2.2
TRWZ	Traveller	1.25	70	P	Pn	20 13 34.9	-2.6
OGWZ	Otaki Gorge	1.29	38	P	Pn	20 13 36.6	-1.3
HOWZ	Holdsworth Sta	1.41	49	P	Pn	20 13 37.5	-2.1
TMWZ	Te Maipa	1.52	62	P	Pn	20 13 38.5	-2.6
QRZ	Quartz Range	1.56	310	P	Pb	20 13 42.4	-0.3
MRZ	Mangatainoka R	1.61	44	P	Pn	20 13 40.4	-1.9
LTZ	Lake Taylor	1.67	235	P	Pn	20 13 41.8	-1.3
DSZ	Denniston Nort	1.73	272	P	Pn	20 13 44.1	0.0
OKCZ	Okains Bay	2.04	202	P	Pn	20 13 45.3	-3.0
INZ	Inchbonnie	2.17	245	P	Pn	20 13 50.1	0.0
LREZ	Lake Rotokare	2.38	5	P	Pb	20 13 56.4	-0.2
PKVZ	Pokaka	2.71	21	P	Pb	20 14 02.4	+0.2
WNVZ	Wahianoa	2.75	25	P	Pb	20 14 01.5	-1.4
VRZ	Vera Road	2.75	10	P	Pn	20 13 59.1	+1.1
TRVZ	Turoa	2.76	24	P	Pn	20 14 00.0	+1.7
BHHZ	Black Hill Sta	2.77	33	P	Pb	20 14 02.3	-1.0
WHVZ	Whangaehu Hut	2.78	24	P	Pb	20 14 02.2	-1.4
TUVZ	Tukino	2.82	25	P	Pb	20 14 02.2	-2.0
NGZ	Ngauruhoe	2.88	24	P	Pb	20 14 03.1	-2.2
OTVZ	Oturere	2.92	24	P	Pb	20 14 07.4	+1.6
NNVZ	North Ngauruho	2.93	23	P	Pb	20 14 04.9	-1.2
RPZ	Rata Peaks	2.94	229	P	Pn	20 13 58.7	-1.9
ETVZ	East Tongariro	2.96	25	P	Pb	20 14 05.8	-0.7
MCHZ	McNeill Hill	3.09	40	P	Pn	20 14 05.0	+2.3
BKZ	Black Stump Fm	3.22	35	P	Pb	20 14 10.5	-0.5
MHGZ	Mahia Peninsul	3.94	48	P	Pn	20 14 11.7	-2.7
EAZ	Earnscleugh	4.87	224	P	Pn	20 14 28.8	+1.6

SKHL 22 20:14:45.1±1.3, 43.27N×136.07E, h351km±5km, mb4.5/3, msha4.6/2
IDC 22 20:14:45.4±1.6, 43.21N×135.86E, h353km±17km, mb3.1/8, mbtmp3.8/12, Error ellipse: s-maj=24.3km s-min=12.4km az=109.0
ISC 22 20:14:44.4±0.6, 43.2N±0.1×136.22E±0.0, h350km, n17, σ1.9/61/21, mb3.4/8, 1C-1D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	Ternei	1.90	8	*i* P	Pn	20 15 35.8	+1.0
GRTR	Gornotajezhnoj	3.01	282	*e* P	Pn	20 15 43.5	-0.2
USRK	Ussuriysk Ar.	3.24	290	P	Pn	20 15 45.0	-0.8
	11nm,0.4s,baz=92,slow=9.8,SNR=46						
AKK	Akkeshi	6.32	86	⇓ *i* P	Pn	20 16 19.3	+0.5
AKK				AMB	AMB	20 16 19.5	
	24nm,0.2s						
AKK				*e* S	S	20 17 31.9	-3.5
KLR	Kul'dur	6.82	335	P	Pn	20 16 23.6	-0.8
	0.7nm,0.3s,baz=148,slow=18,SNR=2.1						
NMR	Nemuro--Hokkai	6.95	85	*e* P	Pn	20 16 27.9	+1.9
NMR				AMB	AMB	20 16 28.2	
	18nm,0.3s						
NMR				*e* S	S	20 17 45.1	-3.6
NMR				A	A	20 17 45.9	
	45nm,0.7s						
NMR				A	A	20 17 45.9	
	45nm,0.7s						
KSRS	Korea Array	8.52	231	P	Pn	20 16 44.6	0.0
	1.0nm,0.7s,baz=40,slow=12,SNR=1.8						
MA2	Magadan	18.71	23	P	P	20 18 39.0	+0.5
	8.3nm,0.6s,baz=234,slow=6.3,SNR=5.7						
TIXI	Tiksi	28.80	355	P	P	20 20 09.9	-0.8
	1.4nm,0.3s,baz=90,slow=23,SNR=5.9						
	1.4nm,0.3s						
ZALV	Zalesovo Beam	34.95	306	PcP	PcP	20 23 28.2	+0.7
	0.5nm,0.6s,baz=0.0,slow=5.8,SNR=2.0						
ZALV				ScP	ScP	20 26 38.9	-0.1
	0.5nm,0.5s,baz=79,slow=3.2,SNR=3.9						
MKAR	Makanchi Array	37.70	295	P	P	20 21 26.0	-1.3
	0.4nm,0.7s,baz=88,slow=11,SNR=1.4						
	0.4nm,0.7s						
CMAR	Chiang Mai Arr	39.90	244	P	P	20 21 43.9	-1.7
	0.3nm,0.5s,baz=31,slow=7.4,SNR=3.8						
	0.3nm,0.5s						
ILAR	Eielson Array	46.62	35	P	P	20 22 40.0	+1.8
	1.2nm,0.5s,baz=285,slow=8.6,SNR=18						
	1.2nm,0.5s						
FINES	FINESS Array B	61.53	329	P	P	20 24 24.9	+0.1
	4.1nm,1.1s,baz=44,slow=7.0,SNR=1.8						
	4.1nm,1.1s						
WRA	Warramunga Arr	62.81	182	P	P	20 24 34.2	+0.5
	0.3nm,0.3s,baz=359,slow=6.8,SNR=12						
WRA				PcP	PcP	20 25 09.5	+1.0
	0.2nm,0.6s,baz=354,slow=4.6,SNR=2.1						
	0.3nm,0.3s						
ASAR	Alice Springs	66.52	182	P	P	20 24 58.6	+1.2
	0.8nm,0.6s,baz=352,slow=6.1,SNR=9.7						
	0.8nm,0.6s						
PDAR	Pinedale Array	76.12	44	P	P	20 25 56.5	+1.9
	0.2nm,0.6s,baz=210,slow=17,SNR=2.1						
	0.2nm,0.6s						

NEIC 22 20:20:30.4±2.0, 17.14S±0.06×69.89W±0.09, h184km±7km, mb4.1/6, Error ellipse: s-maj=14.9km s-min=2.1km az=123.0
VAO 22 20:20:31.4±0.8, 17.34S×69.70W, h132km, mb4.2
IDC 22 20:20:35.5±1.5, 17.29S×69.47W, h157km±10km, mb3.7/6, mbtmp4.2/7, MS3.1/1, Error ellipse: s-maj=25.6km s-min=16.1km az=107.0
GUC 22 20:20:35.9±0.6, 17.40S×69.67W, h154km±4km, ML4.0
ISC 22 20:20:33.4±0.7, 17.35S±0.05×69.64W±0.07, h158km±6km, n88, σ1.9/69/99, mb4.0/8, 2C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	0.29	147		Pn	20 20 56.7	+1.1
PB18				Sn	Sn	20 21 13.2	+0.7
PB16	IPOC Station P	0.99	173		Pn	20 21 01.1	+1.6
PB16				Sn	Sn	20 21 20.7	+1.1
PB16	IPOC Station P	0.99	173	*i* P	Pn	20 21 01.2	+1.6
PB16				*i* S	Sn	20 21 20.8	+1.1
AP01	Chacalluta	1.22	213		Pn	20 21 01.5	+0.6
AP01				Sn	Sn	20 21 21.7	-0.3
AP01	Chacalluta	1.22	213	*e* P	Pn	20 21 01.5	+0.6
AP01				*i* S	Sn	20 21 22.0	0.0
AP01				IAML		20 21 22.7	
	comp=E,3μm,0.3s						
PB12	IPOC Station P	1.42	207		Pn	20 21 03.2	+0.4
PB12				Sn	Sn	20 21 24.8	-0.8
PB12	IPOC Station P	1.42	207	⇑ *i* P	Pn	20 21 03.4	+0.4
PB12				*i* S	Sn	20 21 25.0	-0.7
PB12				IAML		20 21 25.9	
	comp=E,1μm,0.2s						
MNMC	Minye Minye	1.77	179		Pn	20 21 08.1	+1.2
MNMC	Minye Minye	1.77	179	*e* P	Pn	20 21 08.2	+1.2
MNMC				*i* S	Sn	20 21 33.1	+0.4
MNMC				IAML		20 21 40.1	
	comp=N,1μm,0.1s						
LPAZ	La Paz	1.79	54	P	Pn	20 21 08.3	+0.9
	comp=N,316nm,0.3s,baz=280,slow=3.8,SNR=844						
LPAZ				S	Sn	20 21 32.2	-1.2
	comp=N,166nm,0.7s,baz=61,slow=12,SNR=21						
LPAZ				LR	LR	20 21 50.5	
	comp=N,49nm,21.1s,baz=135,slow=46						
PSGC	Pisagua	2.28	191	*e* P	Pn	20 21 12.9	+0.4
PSGC				*i* S	Sn	20 21 40.9	-1.8
PSGC				IAML		20 21 43.1	
	comp=N,567nm,0.2s						
PSGCX	Pisagua	2.28	191		Pn	20 21 12.6	+0.1
PSGCX				Sn	Sn	20 21 40.7	-2.0
GO01	Chusmiza	2.35	170		Pn	20 21 15.1	+1.5
GO01	Chusmiza	2.35	170	⇓ *i* P	Pn	20 21 15.3	+1.7
GO01				*i* S	Sn	20 21 45.0	+0.3
GO01				IAML		20 21 53.1	
	comp=N,825nm,0.1s						
PB11	IPOC Station P	2.40	180		Pn	20 21 14.5	+0.6
PB11	IPOC Station P	2.40	180	*e* P	Pn	20 21 14.8	+0.9
PB11				*i* S	Sn	20 21 44.6	-0.7
PB11				IAML		20 21 48.0	
	comp=N,936nm,0.1s						
PB08	IPOC Station P	2.82	171		Pn	20 21 20.5	+1.2
PB08	IPOC Station P	2.82	171	*e* P	Pn	20 21 20.7	+1.5
PB08				*i* S	Sn	20 21 54.8	+0.1
PB08				IAML		20 21 56.7	
	comp=E,394nm,0.4s						
TA02	Huaiquique	2.94	189		Pn	20 21 20.2	-0.3
TA01	Diego Aracena	3.24	189		Pn	20 21 23.5	-0.7
PATCX	Punta Patache	3.49	188		Pn	20 21 27.4	-0.1
PATCX	Punta Patache	3.49	188	*e* P	Pn	20 21 27.8	+0.3
PB01	IPOC Station P	3.68	178		Pn	20 21 30.1	+0.2
PB02	IPOC Station P	3.96	183		Pn	20 21 33.5	0.0
PB07	IPOC Station P	4.36	183		Pn	20 21 38.9	+0.1
PB09	IPOC Station P	4.44	175		Pn	20 21 40.6	+0.8
PB09	IPOC Station P	4.44	175	*e* P	Pn	20 21 40.9	+1.0
PB09				*i* S	Sn	20 22 29.0	-2.6
PB03	IPOC Station P	4.68	181		Pn	20 21 43.0	+0.1
PB04	IPOC Station P	4.98	185		Pn	20 21 47.0	0.0
LVC	Limon Verde	5.28	173	P	Pn	20 21 52.3	+1.3
	comp=E,21nm,0.3s,baz=36,slow=11,SNR=72						
LVC				S	Sn	20 22 48.7	-3.0
	comp=E,28nm,0.5s,baz=35,slow=8.7,SNR=3.6						
LVC	Limon Verde	5.28	173	Pn	Pn	20 21 51.6	+0.5
PB06	IPOC Station P	5.33	179		Pn	20 21 51.5	-0.1
AF01	San Pedro de A	5.74	166		Pn	20 21 57.7	+0.6
PB15	IPOC Station P	5.83	178		Pn	20 21 58.1	-0.1
PB10	IPOC Station P	6.19	188	Pn	Pn	20 22 02.1	-0.7
PB14	IPOC Station P	7.28	185	Pn	Pn	20 22 16.5	-1.0
ETMB	Extrema	8.19	24		Pn	20 22 26.4	-3.0
ETMB	Extrema	8.19	24	*e* P	Pn	20 22 28.4	-1.0
SIV	San Ignacio	8.32	82	P	Pn	20 22 28.4	-2.8
	comp=E,27nm,0.4s,baz=270,slow=11,SNR=87						
BBSD	Serra de San D	8.63	90	*e* P	Pn	20 22 33.0	-2.3
AC01	Pan de Azucar	8.80	186	Pn	Pn	20 22 36.1	-1.4
BBRB	Robore, Bolivi	9.41	97	*e* P	Pn	20 22 43.4	-2.2
AC02	Maricunga	9.46	177	Pn	Pn	20 22 45.1	-1.5
AC06	Mina Casimiro	9.98	184	Pn	Pn	20 22 49.3	-3.5
CZSB	Cruzeiro do Su	10.02	342	Pn	Pn	20 22 41.9	-12
VILB	Vilhena	10.11	66	Pn	Pn	20 22 50.2	-4.6
VILB	Vilhena	10.11	66	*e* P	Pn	20 22 53.3	-1.6
GO03	Copiap	10.21	183	Pn	Pn	20 22 53.1	-3.1
PTLB	Pontes e Lacer	10.26	81	Pn	Pn	20 22 54.2	-2.6
SAML	Samuel	10.45	38	Pn	Pn	20 22 54.8	-4.6
AC05	El Transito	11.45	183	Pn	Pn	20 23 10.4	-2.0
LCO	Las Campanas	11.65	185	Pn	Pn	20 23 12.3	-2.9
GO04	Tololo Observa	12.81	185	Pn	Pn	20 23 26.6	-3.6
PDRB	Porto dos Gac	13.74	67	*e* P	Pn	20 23 41.3	-0.6
CO02	Combarbal	13.85	185	Pn	Pn	20 23 40.1	-3.2
CFA	Coronel Fontan	14.25	175	P	Pn	20 23 48.5	+0.2
	comp=E,5.9nm,0.8s,baz=0.3,slow=12,SNR=4.7						
CLDB	Colider	14.88	66	*e* P	P	20 23 57.2	-0.8
NPGB	Novo Progresso	17.30	55	*e* P	Pn	20 24 25.9	+0.3
CRSM	Crissiumal (Br	17.59	128	*e* P	P	20 24 28.4	+0.7
PTGB	Pitanga	17.96	117	*e* P	Pn	20 24 33.4	0.0
SNDB	Serra Nova Dou	18.53	76	*e* P	Pn	20 24 38.6	-1.6
ITTB	Itaituba	18.77	48	*e* P	P	20 24 40.2	-0.4
ITAB	Concordia	18.94	124	*e* P	P	20 24 43.6	+1.3
BB19B	Bebedouro	20.28	104	*e* P	P	20 24 57.9	+1.0
IPMB	Ipameri, GO	20.43	95	*e* P	P	20 24 58.8	+0.2
BDFB	Brasilia	20.81	88	P	P	20 25 03.0	+0.2
	comp=E,6.0nm,0.5s,baz=262,slow=8.9,SNR=12						
	comp=E,6.0nm,0.5s						
BDFB	Brasilia	20.81	88	P	P	20 25 01.6	-1.1
BDFB				IAmb	IAmb	20 25 05.8	
	comp=Z,5.3nm,0.5s						
BDFB	Brasilia	20.81	88	*e* P	P	20 25 02.9	+0.2
PRAC	Prado	21.56	346		pP	20 25 45.0	+5.3
BOAV	Boa Vista	21.58	25	P	P	20 25 06.1	-4.8
BOAV				IAmb	IAmb	20 25 13.8	
	comp=Z,4.5nm,1.0s						
TRQA	Tornquist	21.70	163	P	P	20 25 13.5	+1.6
TRQA				IAmb	IAmb	20 25 30.0	
	comp=Z,12nm,1.4s						
GO06	Curarrehue	22.21	184	P	P	20 25 19.7	+2.5
GO06				IAmb	IAmb	20 25 21.3	
	comp=Z,4.2nm,0.8s						
SMTB	Santa Maria do	23.05	71	*e* P	P	20 25 25.7	+0.5
PLCA	Paso Flores	23.32	182	P	P	20 25 30.8	+3.4
	comp=Z,3.4nm,0.8s,baz=2.7,slow=12,SNR=9.4						
	comp=Z,3.4nm,0.8s						
MCPB	Macapa, AP	24.18	48	*e* P	P	20 25 36.0	+0.6
SDBA	SAO DESIDERIO	24.40	82	*e* P	P	20 25 38.8	+1.4
JANB	Januaria	24.43	88	*e* P	P	20 25 37.9	+0.2
DIAM	Diamantina, MG	24.74	96	*e* P	P	20 25 42.0	+1.4
PCRV	Puerto La Cruz	27.79	11	LR	LR	20 39 11.8	
	comp=Z,36nm,18.8s,slow=40						
RIB01	Linhares ES	27.82	99	*e* P	P	20 26 08.5	+0.4
CMC01	Camacan, BA	28.96	90	*e* P	P	20 26 19.4	+1.2
R49A	Shelbyville	57.23	345	P	P	20 29 57.5	-6.7
KAN16	Harper SW Stat	60.53	334	P	P	20 30 16.9	-10
KAN16				IAmb	IAmb	20 30 53.3	
	comp=Z,2.7nm,0.8s						
DBIC	Dimbokro	68.29	75	P	P	20 31 18.6	+0.7
	comp=Z,8.7nm,0.6s,baz=258,slow=6.0,SNR=19						
	comp=Z,8.7nm,0.6s						
PDAR	Pinedale Array	70.19	330	P	P	20 31 30.9	+1.6
	comp=Z,0.2nm,0.5s,baz=111,slow=6.8,SNR=2.4						
	comp=Z,0.2nm,0.5s						
ULM	Lac du Bonnet	71.17	343	P	P	20 31 36.2	+1.5
	comp=Z,2.8nm,0.4s,baz=153,slow=6.9,SNR=4.2						
	comp=Z,2.8nm,0.4s						
ESDC	Sonseca Array	83.39	45	P	P	20 32 45.1	+2.0
	comp=Z,0.5nm,0.6s,baz=254,slow=4.8,SNR=5.6						
	comp=Z,0.5nm,0.6s						
SONM	Songino Array	149.42	5	PKPbc	PKPab	20 40 07.0	-2.1
	comp=Z,0.4nm,0.5s,baz=307,slow=1.6,SNR=5.7						

IDC 22 20:21:48.6±1.5, 37.13N×141.54E, h0km, mb3.4/3, mbtmp3.3/4, ML2.1/1, MS2.6/1, Error ellipse: s-maj=37.1km s-min=29.9km az=131.0
*NIED 22 20:21:51.0, 37.19N×141.46E, h30km, MW3.5, Moment

LTZ	Lake Taylor	1.27	235	P	Pg	20 24 55.7	-0.2
PLWZ	Palliser	1.27	68	P	Pg	20 24 54.3	-1.6
MSWZ	Moikau Station	1.34	62	P	Pn	20 24 55.2	-1.7
CAW	Cannon Point	1.41	48	P	Pn	20 24 56.7	-1.1
DSZ	Denniston Nort	1.44	282	P	Pn	20 24 56.6	-1.7
PAWZ	Paruwai Farm	1.47	63	P	Pn	20 24 50.7	-8.0
QRZ	Quartz Range	1.51	324	P	Pn	20 24 59.2	0.0
KIW	Kapiti Island	1.51	38	P	Pn	20 24 59.0	-0.3
MTW	Mount Morrison	1.63	57	P	Pb	20 25 02.1	0.0
TRWZ	Traveller	1.64	67	P	Pn	20 24 58.8	-2.2
OGWZ	Otaki Gorge	1.67	42	P	Pn	20 25 00.4	-1.0
OKCZ	Okains Bay	1.72	195	P	Pn	20 24 54.6	-7.6
OXZ	Oxford	1.75	223	P	Pn	20 25 01.0	-1.6
INZ	Inchbonnie	1.79	247	P	Pn	20 25 03.4	+0.4
HOWZ	Holdsworth Sta	1.80	50	P	Pb	20 25 05.2	+0.2
MQZ	McQueen's Vall	1.81	204	P	Pn	20 24 54.8	-8.5
AKCZ	Akaroa Harbour	1.90	197	P	Pn	20 24 56.7	-7.9
TMWZ	Te Maipa	1.91	61	P	Pn	20 25 02.5	-2.3
MRZ	Mangatainoka R	2.00	46	P	Pn	20 25 04.3	-1.6
WACZ	Wakanui South	2.32	215	P	Pn	20 25 02.0	-8.3
RPZ	Rata Peaks	2.54	229	P	Pn	20 25 05.8	-7.7
RPZ				P	Pb	20 25 05.9	-12
ARCZ	Arundel	2.63	223	P	Pn	20 25 13.3	-1.4
KHEZ	Kahui Hut	2.77	5	P	Pb	20 25 22.4	+0.8
PNHZ	Pukenui	2.87	42	P	Pb	20 25 24.0	+0.8
PKVZ	Pokaka	3.04	25	P	Pb	20 25 26.2	0.0
VRZ	Vera Road	3.04	16	P	Pb	20 25 26.7	+0.5
MOVZ	Moawhango	3.08	31	P	Pb	20 25 26.6	-0.3
WNVZ	Wahianoa	3.09	29	P	Pb	20 25 26.8	-0.3
BHHZ	Black Hill Sta	3.14	36	P	Pb	20 25 27.3	-0.5
TUVZ	Tukino	3.17	29	P	Pb	20 25 27.6	-0.8
ETVZ	East Tongariro	3.30	28	P	Pb	20 25 29.6	-1.1
KAHZ	Kahuranaki	3.31	48	P	Pg	20 25 37.5	+2.5
TMVZ	Te Maari	3.32	28	P	Pb	20 25 30.3	-0.7
BKZ	Black Stump Fm	3.60	37	P	Pb	20 25 35.2	-0.4
HIZ	Hauiti	3.66	15	P	Pb	20 25 34.0	-2.6
MTHZ	Maungataniwha	4.01	38	P	Pb	20 25 45.1	+2.5

WEL 22 20:25:24.7±1.2, 39°S±5′×17°5E±1′0, h5km, M1.2/7, ML1.6/6, MLv1.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=105.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTVZ	Mangateitei	0.07	163	P	Pg	20 25 26.0	-0.4
WHVZ	Whangaehu Hut	0.12	71	P	Pg	20 25 27.7	+0.4
NGZ	Ngauruhoe	0.19	40	P	Pg	20 25 29.2	+0.7
NNVZ	North Ngauruho	0.23	35	P	Pg	20 25 30.6	+1.3
NNVZ				S	Sg	20 25 31.3	-1.0
OTVZ	Oturere	0.23	47	P	Pg	20 25 30.6	+1.3
OTVZ				S	Sg	20 25 34.0	+1.6
TWVZ	Taurewa	0.25	359	P	Pg	20 25 30.0	+0.4
RATZ	Rangitukua	0.52	29	P	Pb	20 25 35.7	-0.7

*DJA **22** 20:38:44.2±0.8, 2°N±6°×12°8E±°, h172km±5km, M3.9/6, mb4.3/1, MLv3.7/6*
*NEIC **22** 20:38:47.8±2.0, 1°.34N±0°.09×128°.04E±0°.07, h161km±5km, mb4.4/44, Error ellipse: s-maj=13.0km s-min=9.7km az=201.0*
*IDC **22** 20:38:48.5±2.4, 1°.42N×128°.17E, h172km±25km, mb3.7/12, mbtmp4.2/14, Error ellipse: s-maj=23.0km s-min=12.5km az=74.0*
ISC 22 20:38:46.4±0.5, 1°.43N±0°.06×128°.08E±0°.07, h150km, n82, σ0§97/84, mb4.4/31, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.96	227	Pn	Pn	20 39 12.4	+1.4
TNTI				Sn	Sn	20 39 31.3	+1.7
TNTI	Ternate	0.96	227	P	Pn	20 39 12.3	+1.4
TNTI				S	Sn	20 39 31.3	+1.7
LBMI	Labuha	2.13	196	P	Pn	20 39 24.7	+1.5
SIJI	Sorong	3.92	126	P	Pn	20 39 47.1	+1.4
	22nm,0.4s,baz=331,slow=17,SNR=26						
SANI	Sanana	4.04	211	P	Pn	20 39 46.6	-0.6
NLAI	Namlea	4.74	192	P	Pn	20 39 56.7	+0.2
LUWI	Luwuk	5.84	245	Pn	Pn	20 40 11.9	+0.8
LUWI					Sn	20 41 16.0	-1.4
FAKI	Fak Fak	6.00	136		Pn	20 40 14.2	+0.9
MRSI	Marisa	6.21	261	P	Pn	20 40 11.3	-4.7
TOLI2	Tolitoli	7.30	268	Pn	Pn	20 40 30.2	-0.3
MYLDM	Lahad Datu	10.26	292		Pn	20 41 08.4	-1.5
KAPI	Kappang	10.49	232	Pn	Pn	20 41 13.8	+0.7
BATI	Baumata	12.37	201	P	Pn	20 41 38.8	+1.2
	20nm,0.5s,baz=196,slow=1.4,SNR=8.0						
MTN	Manton Dam	14.50	168		Pn	20 42 05.4	+0.7
SBUM	Sibu	15.88	274		P	20 42 23.8	+1.3
KNRA	Kununurra	17.01	178	P	P	20 42 34.9	-0.1
KNRA				IAmb	IAmb	20 42 54.0	
	comp=Z,35nm,1.4s						
KSM	Kuching	17.76	270	Pn	P	20 42 44.6	+1.3
WB0	Warramunga Arr	21.96	164	P	P	20 43 27.3	-1.0
WB0				IAmb	IAmb	20 43 35.4	
	comp=Z,8.8nm,0.8s						
WRAB	Tennant Creek	22.10	164	P	P	20 43 29.4	-0.4
WRAB				IAmb	IAmb	20 43 37.6	
	comp=Z,15nm,0.8s						
WRA	Warramunga Arr	22.11	164	P	P	20 43 29.4	-0.6
	comp=Z,9.5nm,0.7s,baz=343,slow=10,SNR=108						
	comp=Z,9.5nm,0.7s						
WRA	Warramunga Arr	22.11	164	P	P	20 43 27.9	-2.0
WB2	Warramunga Arr	22.11	164	P	P	20 43 29.4	-0.5
WB2				IAmb	IAmb	20 43 37.7	
	comp=Z,18nm,0.8s						
WR0	Warramunga Arr	22.18	164	P	P	20 43 29.9	-0.7
WR0				IAmb	IAmb	20 43 31.5	
	comp=Z,8.5nm,0.7s						
TPUB	Ta-pu	22.91	342	P	P	20 43 37.5	0.0
SSLB	Suanglung	23.27	343	P	P	20 43 40.5	-0.4
NACB	Ninganchiao	23.46	345	P	P	20 43 44.0	+1.5
YHNB	Yeheng	24.00	345	P	P	20 43 48.5	+1.0
PSA00	Pilbara Seismi	24.24	199	P	P	20 43 49.0	-0.6
PSA00				IAmb	IAmb	20 44 22.7	
	comp=Z,20nm,1.2s						
JOW	Kunigami	25.26	0	P	P	20 44 00.9	+2.1
AS31	Alice Springs	25.58	168	P	P	20 44 01.7	-0.1
ASAR	Alice Springs	25.58	168	P	P	20 44 01.7	-0.1
	comp=Z,1.7nm,0.4s,baz=350,slow=7.4,SNR=31						
	comp=Z,1.7nm,0.4s						
ASAR	Alice Springs	25.58	168	P	P	20 44 01.5	-0.3
RPSI	Rantau Prapat	29.16	273	P	P	20 44 35.0	+1.1
PSI	Prapat	29.16	273	P	P	20 44 35.0	+0.9
	comp=Z,5.9nm,0.7s,baz=90,slow=7.0,SNR=5.8						
	comp=Z,5.9nm,0.7s						
GSI	Gunungsitoli	30.49	270	P	P	20 44 44.5	-1.1
CMAR	Chiang Mai Arr	33.21	302	P	P	20 45 10.5	+1.1
	comp=Z,0.7nm,0.9s,baz=117,slow=7.0,SNR=8.3						
	comp=Z,0.7nm,0.9s						
INU	Inuyama	34.76	13	P	P	20 45 23.4	+0.9
BBOO	Buckleboo	34.88	168	P	P	20 45 23.4	-0.1
BBOO				IAmb	IAmb	20 45 35.8	
	comp=Z,15nm,1.2s						
STKA	Stephens Creek	35.52	160	P	P	20 45 29.5	+0.4
	comp=Z,1.8nm,0.4s,baz=345,slow=8.9,SNR=9.0						
	comp=Z,1.8nm,0.4s						
STKA	Stephens Creek	35.52	160	P	P	20 45 28.7	-0.3
KSRS	Korea Array	35.85	360	P	P	20 45 32.2	+0.5
	comp=Z,1.4nm,0.5s,baz=177,slow=9.8,SNR=5.8						
	comp=Z,1.4nm,0.5s						
XAN	Xi'an	37.06	333	⇑P	P	20 45 42.4	+0.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARMA	Armidale	38.82	147	P	P	20 45 53.6	-3.4
ARMA				IAmb	IAmb	20 46 20.1	
	comp=Z,13nm,1.4s						
TOO	Toolangi	42.02	159	P	P	20 46 23.0	-0.2
TOO				IAmb	IAmb	20 46 28.0	
	comp=Z,19nm,1.4s						
SHL	Shillong	42.33	308	P	P	20 46 26.5	+0.5
SHL				IAmb	IAmb	20 46 27.4	
	comp=Z,9.2nm,0.8s						
USRK	Ussuriysk Ar.	42.73	4	P	P	20 46 29.1	+0.4
	comp=Z,1.3nm,0.6s,baz=187,slow=9.1,SNR=2.6						
	comp=Z,1.3nm,0.6s						
LSA	Lhasa	44.97	312	P	P	20 46 47.7	+0.3
LSA				IAmb	IAmb	20 46 50.1	
	comp=Z,5.9nm,0.9s						
RAMN	Ramite	47.18	306	eP	P	20 47 05.6	+1.1
JIRN	Jiri	47.81	307	eP	P	20 47 10.3	+0.8
GUN	Gumba	48.17	307	eP	P	20 47 13.0	+0.8
PKI	Pulchoki	48.40	306	eP	P	20 47 14.1	+0.1
PKIN	Phulchoki	48.41	306	eP	P	20 47 14.1	+0.1
DMN	Daman	48.66	306	eP	P	20 47 16.5	+0.6
GKN	Gorkha	49.20	307	eP	P	20 47 20.0	+0.1
SONM	Songino Array	49.90	341	P	P	20 47 25.0	+0.2
	comp=Z,0.8nm,0.6s,baz=154,slow=8.0,SNR=7.3						
	comp=Z,0.8nm,0.6s						
SONM	Songino Array	49.90	341	P	P	20 47 24.9	+0.2
DANN	Dangsing	50.05	307	eP	P	20 47 27.0	+0.5
MK31	Makanchi Array	60.20	325	P	P	20 48 38.7	+0.1
MK31				IAmb	IAmb	20 48 39.4	
	comp=Z,2.2nm,0.7s						
MKAR	Makanchi Array	60.20	325	P	P	20 48 38.7	+0.1
	comp=Z,5.2nm,0.7s,baz=115,slow=8.2,SNR=66						
	comp=Z,5.2nm,0.7s						
MKAR	Makanchi Array	60.20	325	P	P	20 48 38.4	-0.2
MAKZ	Makanchi	60.39	325	P	P	20 48 39.9	0.0
MAKZ				IAmb	IAmb	20 49 14.2	
	comp=Z,6.1nm,1.2s						
KSH	Kashi	60.61	316	P	P	20 48 42.8	+1.1
KSH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	Zalesovo Beam	63.23	333	P	P	20 48 57.6	-1.1
	comp=Z,0.5nm,0.4s,baz=141,slow=9.6,SNR=4.3						
	comp=Z,0.5nm,0.4s						
ZALV	Zalesovo Beam	63.23	333	P	P	20 48 57.2	-1.6
DRK	Karamyk	63.56	314	P	P	20 49 00.6	-1.0
KURK	Kurchatov	64.39	328	P	P	20 49 06.1	-0.3
GAR	Garm	64.46	313	P	P	20 49 06.9	-0.4
GAR				IAmb	IAmb	20 49 07.4	
	comp=Z,3.5nm,0.5s						
KK31	Karatay Array	65.82	317	P	P	20 49 15.7	-0.1
KKAR	Karatay Array	65.82	317	P	P	20 49 15.8	-0.1
KKAR	Karatay Array	65.82	317	P	P	20 49 15.6	-0.2
TIXI	Tiksi	70.12	0	P	P	20 49 41.3	-0.7
	comp=Z,1.1nm,0.4s,baz=271,slow=23,SNR=10						
	comp=Z,1.1nm,0.4s						
TIXI	Tiksi	70.12	0	P	P	20 49 41.6	-0.4
TIXI				IAmb	IAmb	20 50 20.0	
	comp=Z,5.3nm,1.5s						
PAF	Port-aux-Franc	70.79	216	P	P	20 49 45.2	-1.3
ABKAR	Akbulak array	74.77	321	P	P	20 50 09.6	-0.5
ABKAR	Akbulak array	74.77	321	P	P	20 50 09.2	-0.8
VNDA	Vanda	80.99	73	P	P	20 50 42.8	-1.1
M19K	Big River Lodg	82.88	28	P	P	20 50 54.3	+0.3
M19K				IAmb	IAmb	20 51 34.7	
	comp=Z,11nm,1.4s						
M20K	Styx River	83.46	28	P	P	20 50 58.1	+0.9
M20K				IAmb	IAmb	20 51 04.4	
	comp=Z,17nm,1.4s						
PPLA	Purkeypile	84.05	27	P	P	20 51 00.3	+0.1
PPLA				IAmb	IAmb	20 51 37.4	
	comp=Z,18nm,1.5s						
CAST	Castle Rocks	84.18	26	P	P	20 51 01.7	+1.1
CAST				IAmb	IAmb	20 51 43.5	
	comp=Z,7.8nm,1.5s						
SUA	Susitna One	84.53	28	P	P	20 51 02.3	-0.3
ARCES	ARCESS Array B	93.06	340	P	P	20 51 41.3	-1.4
	comp=Z,2.5nm,1.0s,baz=93,slow=7.2,SNR=4.4						
	comp=Z,2.5nm,1.0s						

*NEIC **22** 21:05:52.5±1.8, 37°.21N±0°.04×141°.42E±0°.07, h10km±1km, mb4.5/20, Error ellipse: s-maj=10.5km s-min=4.0km az=56.0*
*JMA **22** 21:05:53.3±0.2, 37°.2N±0°.3×141°.4E±0°.9, h28km±1km, MD4.4/32, MV4.4/32, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **22** 21:05:53.3, 37°.19N×141°.37E, h28km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.76; Mθθ=0.43; Mφφ=0.32; Mrθ=0.34; Mrφ=0.82; Mθφ=0.10; Fault plane solution: Mo 1.06000×10¹⁵ NP1:φs=26.00000°, δ=40.00000°, λ=-122.00000°. NP2:φs=245.00000°, δ=57.00000°, λ=-66.00000°.*
*IDC **22** 21:05:56.9±1.9, 37°.15N×141°.26E, h45km±18km, mb3.6/20, mbtmp3.9/25, ML3.2/5, MS3.2/14 Error ellipse: s-maj=17.7km s-min=10.9km az=84.0*
ISC 22 21:05:54.0±1.9, 37°.18N±0°.05×141°.34E±0°.08, h23km±12km, n102, σ1§06/83, mb4.2/31, MS3.4/10, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.42	297	*i* P	Pb	21 06 02.1	-0.6
JFK				S	Sb	21 06 08.4	-0.3
JFK	Kawauchi	0.42	297	A	A	21 06 02.1	
	comp=E,11nm,1.1s,comp=E,15nm,1.3s						
JFFD	Fukushimafurud	0.63	262	⇓*i* P	Pb	21 06 05.9	-0.5
JFFD				⇓S	Sb	21 06 14.7	-0.1
JFFD	Fukushimafurud	0.63	262	A	A	21 06 05.9	
	comp=E,20nm,0.6s,comp=E,48nm,0.4s						
JMST	Minamisoumatoc	0.65	326	P	Pb	21 06 06.0	-0.8
JMST				S	Sb	21 06 15.3	-0.1
JMST	Minamisoumatoc	0.65	326	A	A	21 06 06.0	
	comp=E,13nm,0.4s,comp=E,18nm,0.3s						
JMM	Marumori	0.81	328		Pb	21 06 08.5	-0.9
JMM					Sb	21 06 19.3	-0.7
JMM	Marumori	0.81	328	*i* P	Pb	21 06 08.6	-0.9
JMM				S	Sb	21 06 19.8	-0.1
JMM	Marumori	0.81	328	A	A	21 06 08.6	
	comp=E,14nm,0.4s,comp=E,15nm,0.4s						
JHO	Hitachi	0.84	228	⇓*i* P	Pn	21 06 08.4	-2.1
JSB	Shiboa	1.16	260	P	Pb	21 06 15.2	-0.1
JSB				*e*S	Sb	21 06 31.4	+1.4
JSB	Shiboa	1.16	260	A	A	21 06 15.2	
	comp=E,13nm,3.6s,comp=E,19nm,2.6s						
JYAR	Yonezawaarcadi	1.20	308	A	A	21 06 14.7	
	comp=E,51nm,0.8s,comp=E,40nm,0.6s						
JOU	Okura	1.30	336	A	A	21 06 16.1	
	comp=E,10.0nm,0.6s,comp=E,11nm,1.1s						
JFY	Yanaizu	1.32	280	A	A	21 06 16.7	
	comp=E,6.0nm,1.2s,comp=E,8.0nm,0.6s						
JYT	Yasato	1.32	224	A	A	21 06 16.7	
	comp=E,8.0nm,0.3s,comp=E,4.0nm,2.2s						
JYS	Shirataka	1.45	316	A	A	21 06 18.5	
	comp=E,26nm,0.6s,comp=E,18nm,0.5s						
JOFO	Osakifurukawao	1.46	347	A	A	21 06 18.4	
	comp=E,48nm,1.7s,comp=E,45nm,1.3s						
JYA	Atsumi	1.91	318	A	A	21 06 25.2	
	comp=E,15nm,0.7s,comp=E,21nm,1.4s						
JSD	Sado	2.59	290		Pn	21 06 34.5	0.0
MJAR	Matsushiro Arr	2.59	257	P	Pn	21 06 35.5	+0.9
	3.5nm,0.3s,baz=305,slow=25,SNR=144						
MJAR				S	Sb	21 07 09.5	-1.7
	50nm,0.3s,baz=192,slow=16,SNR=3.4						
	46nm,0.5s						
MAJO	Matsushiro	2.59	257		Pn	21 06 36.1	+1.6
MAJO	Matsushiro	2.59	257	P	Pn	21 06 36.2	+1.6
MJB9	Matsu-Tunnel	2.59	257		Pn	21 06 36.6	+2.0
JGF	Kuroka	3.58	245		Pn	21 06 50.1	+1.9
JGF	Kuroka	3.58	245	P	Pn	21 06 50.2	+2.0
JTM	Tenmabayashi	3.61	357		Pn	21 06 48.7	+0.2
INU	Inuyama	3.94	244		Pn	21 06 54.8	+1.7
INU	Inuyama	3.94	244	P	Pn	21 06 54.8	+1.7
JHJ2	Mitsune	4.25	198	Pn	Pn	21 06 58.0	+0.7
JHJ	Hachijo jima 2	4.25	198	P	Pn	21 06 58.0	+0.6
	22nm,0.3s,baz=337,slow=22,SNR=8.1						
JHJ				S	Sn	21 07 45.8	-0.4
	72nm,0.4s,baz=138,slow=23,SNR=1.5						
	50nm,0.3s						
ERM	Erimo	5.03	16	Pn	Pn	21 07 07.1	-0.9
JHS	Saijyo	7.01	254		Pn	21 07 36.8	+1.6
USRK	Ussuriysk Ar.	9.97	318	P	Pn	21 08 16.8	+0.9
	0.1nm,0.3s,baz=122,slow=14,SNR=1.3						
USRK				LR	LR	21 11 51.0	
	comp=Z,92nm,20.0s,baz=108,slow=36						
	2.2nm,0.6s						
USRK	Ussuriysk Ar.	9.97	318	Pn	Pn	21 08 16.5	+0.7
JCJ	Chichijima	10.08	176	LR	LR	21 12 29.2	
	comp=Z,100nm,20.0s,baz=24,slow=39						
KSRS	Korea Array	10.69	276	P	Pn	21 08 28.5	+2.8
	0.1nm,0.3s,baz=85,slow=15,SNR=4.4						
KSRS				LR	LR	21 11 50.5	
	comp=Z,49nm,21.5s,baz=65,slow=33						
	4.2nm,0.9s						
KLR	Kul'dur	13.91	333	P	Pn	21 09 11.8	+2.2
	0.1nm,0.3s,baz=357,slow=22,SNR=1.8						
KLR				LR	LR	21 14 26.2	
	comp=Z,59nm,18.3s,baz=119,slow=37						
	0.4nm,0.4s						
TPUB	Ta-pu	22.55	238	P	P	21 10 49.9	-2.7
TPUB				IAmb	IAmb	21 11 00.6	
	comp=Z,61nm,1.2s						
SEY	Seymchan	26.66	11	P	P	21 11 31.2	+0.5
	comp=Z,2.2nm,0.8s,baz=180,slow=17,SNR=2.0						
	comp=Z,2.2nm,0.8s						
SHEM	Shemya Is, Ala	27.61	45	P	P	21 11 41.0	+1.6
	comp=Z,68nm,0.6s,baz=66,slow=22,SNR=2.1						
SMY	Shemya	27.61	45	P	P	21 11 40.2	+0.8
SONM	Songino Array	27.66	304	P	P	21 11 39.5	-0.6
	comp=Z,1.6nm,0.7s,baz=106,slow=8.8,SNR=13						
SONM				LR	LR	21 22 07.4	
	comp=Z,26nm,21.6s,baz=30,slow=35						
	comp=Z,1.6nm,0.7s						
SONM	Songino Array	27.66	304	P	P	21 11 39.8	-0.3
H11N2	WAKE ISLAND Hy	28.27	121	T	T	21 41 17.7	
	baz=314,slow=76,SNR=164						
H11N1	WAKE ISLAND Hy	28.28	121	T	T	21 41 18.5	
	baz=314,slow=76,SNR=220						
H11N3	WAKE ISLAND Hy	28.29	121	T	T	21 41 19.3	
	baz=314,slow=76,SNR=192						
H11S1	WAKE ISLAND Hy	28.99	123	T	T	21 42 12.9	
	baz=315,slow=75,SNR=102						
H11S3	WAKE ISLAND Hy	28.99	123	T	T	21 42 12.4	
	baz=315,slow=75,SNR=82						
H11S2	WAKE ISLAND Hy	29.00	123	T	T	21 42 12.9	
	baz=315,slow=75,SNR=56						
TIXI	Tiksi	35.14	353	P	P	21 12 45.8	+0.4
	comp=Z,0.2nm,0.4s,baz=270,slow=23,SNR=1.4						
	comp=Z,0.2nm,0.4s						
UBPT	Khong Chiam	38.54	245	P	P	21 13 15.2	+0.2
UBPT				IAmb	IAmb	21 13 16.5	
	comp=Z,3.8nm,0.8s						
CMAR	Chiang Mai Arr	41.48	255	P	P	21 13 39.1	-0.2
	comp=Z,0.4nm,0.5s,baz=42,slow=7.7,SNR=6.7						
CMAR				LR	LR	21 31 03.8	
	comp=Z,29nm,18.8s,baz=65,slow=36						
	comp=Z,0.4nm,0.5s						
ZAA0	Zalesovo Array	41.77	312	P	P	21 13 40.2	-1.1
ZALV	Zalesovo Beam	41.77	312	P	P	21 13 41.7	+0.3
	comp=Z,1.5nm,0.7s,baz=94,slow=5.9,SNR=7.8						
	comp=Z,1.5nm,0.7s						
ZALV	Zalesovo Beam	41.77	312	P	P	21 13 40.9	-0.4
MK31	Makanchi Array	43.99	302	P	P	21 13 59.2	-0.3
MKAR	Makanchi Array	43.99	302	P	P	21 13 59.6	+0.1
	comp=Z,1.5nm,0.8s,baz=87,slow=11,SNR=11						
	comp=Z,1.5nm,0.8s						
MKAR	Makanchi Array	43.99	302	P	P	21 13 59.0	-0.5
KURK	Kurchatov	45.80	308	P	P	21 14 13.1	-0.7
KURK				IAmb	IAmb	21 14 21.0	
	comp=Z,5.1nm,0.8s						
ILAR	Eielson Array	49.40	32	P	P	21 14 42.3	+0.8
	comp=Z,0.7nm,0.7s,baz=276,slow=7.0,SNR=7.3						
	comp=Z,0.7nm,0.7s						
BMAR	Burnt Mountain	50.23	29	P	P	21 14 49.0	+1.1
AAK	Ala-Archa	50.37	298	LR	LR	21 35 44.7	
	comp=Z,36nm,19.0s,baz=40,slow=36						
BVAR	Borovoye Array	50.43	312	LR	LR	21 38 14.8	
	comp=Z,41nm,18.0s,baz=32,slow=38						
MTN	Manton Dam	50.68	193	P	P	21 14 50.4	-1.3
MTN				IAmb	IAmb	21 14 59.4	
	comp=Z,16nm,1.1s						
SCRK	Sand Creek	50.72	33	P	P	21 14 53.5	+1.8
SCRK				IAmb	IAmb	21 15 20.7	
	comp=Z,7.6nm,1.3s						
BCAR	Beaver Creek A	51.80	34	P	P	21 15 00.8	+1.1
KKAR	Karatay Array	53.00	300	P	P	21 15 09.7	+0.8
GSI	Gunungsitoli	53.83	239	P	P	21 15 15.1	-0.2
KNRA	Kununurra	53.89	195	P	P	21 15 16.2	+0.7
GAR	Garm	54.58	295	P	P	21 15 19.1	-1.6
GAR				IAmb	IAmb	21 15 33.1	
	comp=Z,3.3nm,0.7s						
CHGR	Chuyangaron	55.55	295	P	P	21 15 27.9	+0.2
CHGR				IAmb	IAmb	21 15 40.8	
	comp=Z,4.4nm,0.7s						
WB0	Warramunga Arr	57.02	188	P	P	21 15 37.6	-0.5
WB0				IAmb	IAmb	21 15 57.9	
	comp=Z,5.5nm,1.1s						
WRA	Warramunga Arr	57.20	188	P	P	21 15 39.0	-0.3
	comp=Z,1.5nm,0.6s,baz=5.4,slow=7.4,SNR=29						
	comp=Z,1.5nm,0.6s						
WRA	Warramunga Arr	57.20	188	P	P	21 15 38.9	-0.4
ABKAR	Akbulak array	57.80	310	P	P	21 15 43.0	-0.3
ABKAR	Akbulak array	57.80	310	P	P	21 15 43.2	-0.1
ABKAR				IAmb	IAmb	21 16 09.8	
	comp=Z,2.8nm,1.4s						
SPITS	Spitsbergen Ar	60.37	349	LR	LR	21 42 21.5	
	comp=Z,24nm,21.7s,baz=117,slow=36						
ASAR	Alice Springs	60.93	188	P	P	21 16 05.3	+0.1
	comp=Z,0.9nm,0.8s,baz=12,slow=6.1,SNR=9.2						
	comp=Z,0.9nm,0.8s						
DZM	Mont Dzumac	63.51	154	LR	LR	21 43 50.1	
	comp=Z,38nm,18.3s,baz=37,slow=36						
YKA	Yellowknife Ar	63.71	30	P	P	21 16 23.0	-0.3
	comp=Z,0.4nm,0.6s,baz=301,slow=6.2,SNR=1.9						
	comp=Z,0.4nm,0.6s						
GEYT	Alibeck	63.71	299	P	P	21 16 23.5	-0.4
	comp=Z,1.0nm,0.6s,baz=286,slow=10,SNR=2.3						
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	63.84	339	P	P	21 16 23.8	-0.3
	comp=Z,2.3nm,0.9s,baz=59,slow=8.7,SNR=1.5						

DSZ	Denniston Nort	1.18	323	P	Pb	21 07 54.9	+0.1
AKCZ	Akaroa Harbour	1.19	175	P	Pg	21 07 53.4	-1.4
MHCZ	Mount Hutt	1.21	226	P	Pg	21 07 54.5	-0.7
MRNZ	Matariki Terra	1.29	0	P	Pn	21 07 56.4	-0.2
QRZ	Quartz Range	1.87	355	P	Pb	21 08 05.9	-0.6
GCSZ	Gaunt Creek Bo	1.89	250	P	Pb	21 08 06.8	-0.1
ODZ	Otahua Downs	2.81	212	P	Pn	21 08 15.5	-2.0
TMWZ	Te Maipa	2.82	57	P	Pn	21 08 19.2	+1.4
BFZ	Birch Farm	3.29	54	P	Pn	21 08 22.9	-1.3
WAZ	Wanganui	3.38	31	P	Pn	21 08 27.2	+1.8

*IDC **22** 21:08:31.4±2.0, 42°.56S×172°.25E, h0km, mb3.3/1, mbtmp3.3/1, MS3.2/1, Error ellipse: s-maj=65.5km s-min=24.7km az=117.0*
*NOU **22** 21:08:31.2, 43°.14S×173°.24E, h12km, MLv4.3/13, Off E. Coast of S. Island, N.Z.*
*WEL **22** 21:08:32.5±0.3, 43°.5S±2°×17°.3E±°, h5km, M3.8/35, ML4.2/16, MLv3.8/35, Error ellipse: s-maj=0.0km s-min=0.0km az=125.8*

ISC 22 21:08:31.3±1.0, 43°.02S±0°.04×173°.05E±0°.04, h19km±3km, n100, σ1s51/103, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.05	350	P	Pg	21 08 34.7	0.0
GVZ				S	Sg	21 08 37.0	-0.1
AMCZ	Amberley	0.33	241	P	Pb	21 08 39.7	+1.0
LTZ	Lake Taylor	0.61	292	P	Pb	21 08 42.5	-0.9
LTZ				S	Sb	21 08 49.9	-1.7
KHZ	Kahutara	0.70	31	P	Pn	21 08 46.3	+0.2
KHZ	Kahutara	0.70	31	P	Pn	21 08 46.2	0.0
OKCZ	Okains Bay	0.71	179	P	Pn	21 08 48.3	+2.0
MQZ	McQueen's Vall	0.75	202	P	Pn	21 08 47.6	+0.8
OXZ	Oxford	0.80	247	P	Pn	21 08 47.7	+0.2
MHCZ	Mount Hutt	1.20	244	P	Pn	21 08 53.3	+0.2
INZ	Inchbonnie	1.21	283	P	Pn	21 08 53.8	+0.2
THZ	Tophouse	1.26	355	P	Pn	21 08 54.3	+0.5
THZ				S	Sb	21 09 09.5	-0.7
WACZ	Wakanui South	1.28	223	P	Pb	21 08 54.9	+0.2
BSWZ	Blackbirch Sta	1.44	26	P	Pn	21 08 58.2	+0.7
CMWZ	Cape Campbell	1.53	35	P	Pg	21 09 01.1	+0.3
DSZ	Denniston Nort	1.57	324	P	Pn	21 08 58.6	+0.5
RPZ	Rata Peaks	1.61	244	Pn	Pn	21 08 59.2	+0.4
	28nm,0.3s,baz=78,slow=2.9,SNR=58						
RPZ				Sn	Sn	21 09 18.6	-0.4
	29nm,0.3s,baz=335,slow=23,SNR=12						
RPZ	Rata Peaks	1.61	244	P	Pb	21 08 59.9	-0.5
MRNZ	Matariki Terra	1.63	352	P	Pb	21 09 00.5	-0.2
TUWZ	Tuamarina	1.72	23	P	Pn	21 09 01.6	+1.5
NNZ	Nelson	1.81	8	P	Pn	21 09 03.2	-0.7
TKNZ	Takaka Hill	1.98	358	P	Pb	21 09 05.1	-1.0
TCW	Tory Channel	2.02	27	P	Pn	21 09 05.4	+1.1
SNZO	South Karori	2.10	36	P	Pn	21 09 06.5	+1.1
PLWZ	Palliser	2.19	49	P	Pn	21 09 07.4	+0.8
QRZ	Quartz Range	2.22	350	P	Pn	21 09 08.8	+1.7
MSWZ	Moikau Station	2.29	46	P	Pn	21 09 08.7	+0.7
DUWZ	D'Urville Isla	2.31	17	P	Pn	21 09 09.6	+1.3
PAWZ	Paruwai Farm	2.41	48	P	Pn	21 09 10.2	+0.5
FOZ	Fox Glacier	2.42	257	P	Pn	21 09 11.2	+1.5
CAW	Cannon Point	2.43	39	P	Pn	21 09 10.8	+0.9
LBZ	Lake Benmore	2.49	236	P	Pn	21 09 11.7	+0.9
TRWZ	Traveller	2.54	51	P	Pn	21 09 12.3	+0.7
KIW	Kapiti Island	2.56	33	P	Pn	21 09 12.9	+1.1
MTW	Mount Morrison	2.60	45	P	Pn	21 09 12.6	+0.2
ODZ	Otahua Downs	2.67	220	P	Pn	21 09 14.2	+1.0
ODZ	Otahua Downs	2.67	220	P	Pn	21 09 14.2	+1.0
OGWZ	Otaki Gorge	2.71	37	P	Pn	21 09 14.5	+0.7
HOWZ	Holdsworth Sta	2.81	42	P	Pn	21 09 15.6	+0.4
TMWZ	Te Maipa	2.85	49	P	Pn	21 09 16.2	+0.4
MRZ	Mangatainoka R	3.02	40	P	Pn	21 09 18.4	+0.3
JCZ	Jackson Bay	3.27	250	P	Pn	21 09 22.7	+1.0
JCZ	Jackson Bay	3.27	250	P	Pn	21 09 22.6	+1.0
HHSZ	Highcliff Hill	3.36	211	P	Pn	21 09 24.0	+1.3
WKZ	Wanaka	3.43	237	P	Pn	21 09 24.7	+1.0
EAZ	Earnscleugh	3.48	229	P	Pn	21 09 25.0	+0.5
DVHZ	Dannevirke	3.58	42	P	Pn	21 09 25.5	-0.3
NMEZ	Namu Road	3.65	10	P	Pn	21 09 30.6	+3.8
KHEZ	Kahui Hut	3.79	11	P	Pn	21 09 31.6	+2.9
KHEZ	Kahui Hut	3.79	11	P	Pn	21 09 31.8	+3.0
NBEZ	Newall Road No	3.79	10	P	Pn	21 09 31.2	+2.5
NEZ	North Egmont	3.82	12	P	Pn	21 09 32.0	+2.8
PKE	Pukeiti	3.88	11	P	Pn	21 09 33.3	+3.4
PNHZ	Pukenui	3.90	38	P	Pn	21 09 30.0	-0.2
DREZ	Durham Road	3.92	13	P	Pn	21 09 33.0	+2.5
VRZ	Vera Road	4.10	19	P	Pn	21 09 35.3	+2.4
PKVZ	Pokaka	4.11	29	P	Pn	21 09 34.9	+1.8
MOVZ	Moawhango	4.14	30	P	Pn	21 09 34.6	+1.0
WNVZ	Wahianoa	4.16	28	P	Pn	21 09 35.5	+1.7
TRVZ	Turoa	4.17	28	P	Pn	21 09 35.4	+1.4
BHHZ	Black Hill Sta	4.19	34	P	Pn	21 09 34.8	+0.6
WHVZ	Whangaehu Hut	4.19	28	P	Pn	21 09 35.9	+1.4
FWVZ	Far West T-bar	4.21	28	P	Pn	21 09 37.9	+3.3
TUVZ	Tukino	4.23	29	P	Pn	21 09 37.3	+2.5
MLZ	Mavora Lakes	4.25	235	P	Pn	21 09 35.4	+0.4
NGZ	Ngauruhoe	4.29	28	P	Pn	21 09 37.2	+1.5
SNVZ	South Ngauruho	4.30	28	P	Pn	21 09 37.4	+1.6
OTVZ	Oturere	4.33	28	P	Pn	21 09 39.8	+3.6
TWVZ	Taurewa	4.34	25	P	Pn	21 09 38.6	+2.3
NNVZ	North Ngauruho	4.34	27	P	Pn	21 09 37.9	+1.5
ETVZ	East Tongariro	4.37	28	P	Pn	21 09 38.0	+1.3
TMVZ	Te Maari	4.38	28	P	Pn	21 09 38.2	+1.3
SYZ	Scrubby Hill	4.49	217	P	Pn	21 09 39.5	+1.3
SYZ	Scrubby Hill	4.49	217	P	Pn	21 09 39.5	+1.3
BKZ	Black Stump Fm	4.64	35	P	Pn	21 09 41.8	+1.3
WHZ	Wether Hill Ro	4.65	230	P	Pn	21 09 39.8	-0.6
HIZ	Hauiti	4.70	18	P	Pn	21 09 43.1	+1.9
HIZ	Hauiti	4.70	18	P	Pn	21 09 42.9	+1.7
MRHZ	Matea Rd	4.90	33	P	Pn	21 09 43.1	-0.8
TLZ	Tolley Road	5.05	23	P	Pn	21 09 47.7	+1.7
MTHZ	Maungataniwha	5.05	36	P	Pn	21 09 46.4	+0.3
APZ	The Paps	5.24	222	P	Pn	21 09 49.6	+1.0
RTZ	Ruatahuna	5.31	35	P	Pn	21 09 49.6	0.0
URZ	Urewera	5.67	34	P	Pn	21 09 54.2	-0.2
URZ	Urewera	5.67	34	P	Pn	21 09 54.0	-0.4
AWAZ	Awhitu Peninsu	6.07	12	P	Pn	21 10 01.8	+1.9
MKAZ	Moumakai	6.12	16	P	Pn	21 10 01.8	+1.1
RUGZ	Raukumara Rang	6.16	37	P	Pn	21 10 01.3	+0.1
WIAZ	Waiheke Island	6.42	15	P	Pn	21 10 06.3	+1.5
ABAZ	Army Bay	6.55	13	P	Pn	21 10 08.5	+1.9
KUZ	Kuaotunu	6.59	19	P	Pn	21 10 09.2	+2.1
KUZ	Kuaotunu	6.59	19	P	Pn	21 10 07.7	+0.6
WMGZ	Waiomatatini S	6.61	40	P	Pn	21 10 06.4	-1.0
MXZ	Matakaoa Point	6.77	38	P	Pn	21 10 10.2	+0.6
OUZ	Omahuta	7.80	3	P	Pn	21 10 26.4	+2.8
OUZ	Omahuta	7.80	3	P	Pn	21 10 26.5	+2.8
DZM	Mont Dzumac	21.60	343	LR	LR	21 20 16.1	
	comp=Z,57nm,19.3s,baz=192,slow=34						
ASAR	Alice Springs	37.54	288	P	P	21 15 41.3	-3.0
	0.2nm,0.5s,baz=126,slow=7.1,SNR=5.4 0.2nm,0.5s						
ARCES	ARCESS Array B	148.65	339	PKPbc	PKPbc	21 28 16.8	+1.0
	2.1nm,0.9s,baz=48,slow=2.7,SNR=12						
BRTR	Keskin Array B	149.57	278	PKPbc	PKiKP	21 28 20.9	+0.6
	0.4nm,0.6s,baz=139,slow=3.9,SNR=2.5						
FINES	FINESS Array B	153.07	325	PKPbc	PKiKP	21 28 27.6	+1.0
	1.4nm,0.8s,baz=57,slow=5.1,SNR=1.4						

*IDC **22** 21:33:40.3±1.7, 36°.97N×141°.53E, h0km, mb3.2/2, mbtmp3.3/4, ML2.7/2, Error ellipse: s-maj=37.0km s-min=24.8km az=130.0*
*JMA **22** 21:33:42.7±0.2, 37°.1N±0°.3×141°.4E±0°.8, h28km±1km, MV3.3/37, E OFF FUKUSHIMA PREF*

ISC 22 21:33:42.0±2.0, 37°.10N±0°.05×141°.30E±0°.07, h17km±12km, n18, σ0s96/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.43	309	*i* P	Pb	21 33 51.7	+0.5
JFK				S	Sb	21 33 58.4	+0.9
JFFD	Fukushimafurud	0.59	270	*i* P	Pn	21 33 54.7	-0.9
JFFD				S	Sb	21 34 03.4	+1.5
JMST	Minamisoumatoc	0.71	333	*i* P	Pb	21 33 55.9	0.0
JMST				S	Sb	21 34 05.7	+0.4
JHO	Hitachi	0.76	231	*i* P	Pn	21 33 57.5	-0.5
JHO				S	Sn	21 34 08.5	-0.5
JMM	Marumori	0.87	333	*i* P	Pb	21 33 58.5	-0.1
JMM				S	Sg	21 34 10.1	-0.2
JFY	Yanaizu	1.31	284	*i* P	Pg	21 34 07.3	0.0
JFY				S	Sg	21 34 25.3	+1.0
JIO	Ouri	1.36	2	P	Pb	21 34 05.7	-1.3
JIO				S	Sn	21 34 22.2	-1.6
JOU	Okura	1.36	339	P	Pb	21 34 06.8	-0.3
JOU				S	Sb	21 34 24.9	+0.7
MJAR	Matsushiro Arr	2.54	258	Pn	Pb	21 34 24.9	-2.2
	0.3nm,0.3s,baz=84,slow=16,SNR=10						
MJAR				Sn	Sb	21 34 57.7	-0.4
	0.3nm,0.3s,baz=81,slow=9.1,SNR=5.2 1.4nm,0.3s						
JHJ	Hachijo jima 2	4.16	198	Pn	Pn	21 34 45.2	+0.5
	6.3nm,0.3s,baz=68,slow=16,SNR=1.5						
JHJ				Sn	Sn	21 35 33.5	+0.6
	4.8nm,0.3s,baz=256,slow=18,SNR=1.6 104nm,0.9s						
H11N2	WAKE ISLAND Hy	28.26	121	T	T	22 09 04.8	
	baz=314,slow=76,SNR=23						
H11N1	WAKE ISLAND Hy	28.27	121	T	T	22 09 05.4	
	baz=314,slow=76,SNR=26						
H11N3	WAKE ISLAND Hy	28.28	121	T	T	22 09 06.1	
	baz=314,slow=76,SNR=27						
H11S1	WAKE ISLAND Hy	28.97	123	T	T	22 10 01.2	
	baz=316,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy	28.97	123	T	T	22 09 58.0	
	baz=316,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	28.99	123	T	T	22 09 59.0	
	baz=316,slow=76,SNR=8.4						
ILAR	Eielson Array	49.49	32	P	P	21 42 31.8	+0.7
	0.3nm,0.7s,baz=275,slow=5.8,SNR=2.1 0.3nm,0.7s						
WRA	Warramunga Arr	57.11	188	P	P	21 43 27.8	+0.2
	0.2nm,0.7s,baz=6.5,slow=7.7,SNR=1.4 0.2nm,0.7s						

*IDC **22** 21:45:11.7±2.2, 37°.09N×141°.65E, h0km, mb3.3/3, mbtmp3.2/4, ML2.1/1, MS3.3/1, Error ellipse: s-maj=44.5km s-min=32.4km az=55.0*
*JMA **22** 21:45:16.3±0.2, 37°.2N±0°.3×141°.3E±0°.9, h22km±1km, MV2.8/35, E OFF FUKUSHIMA PREF*

ISC 22 21:45:14.0±2.6, 37°.15N±0°.06×141°.4E±0°.1, h9km±14km, n15, σ0s58/15, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.48	297	P	Pg	21 45 23.7	+0.2
JFK				S	Sg	21 45 29.2	-0.6
JFFD	Fukushimafurud	0.69	265	*i* P	Pg	21 45 27.5	+0.2
JFFD				S	Sg	21 45 35.8	-0.5
JMST	Minamisoumatoc	0.71	324	P	Pg	21 45 28.0	+0.2
JMST				S	Sg	21 45 37.0	0.0
JHO	Hitachi	0.87	232	*eP*	Pb	21 45 31.1	-0.1
JHO				*eS*	Sg	21 45 42.2	+0.2
JMM	Marumori	0.87	325	P	Pg	21 45 30.8	0.0
JMM				S	Sg	21 45 41.7	-0.4
MJAR	Matsushiro Arr	2.64	258	Pn	Pn	21 45 57.7	+0.9
	0.3nm,0.3s,baz=78,slow=16,SNR=8.8						
MJAR				Sn	Sb	21 46 33.5	-0.6
	0.3nm,0.3s,baz=112,slow=9.2,SNR=4.7 1.6nm,0.5s						
H11N2	WAKE ISLAND Hy	28.21	121	T	T	22 20 43.0	
	baz=316,slow=74						
H11N1	WAKE ISLAND Hy	28.21	121	T	T	22 20 44.8	
	baz=316,slow=74						
H11N3	WAKE ISLAND Hy	28.23	121	T	T	22 20 45.6	
	baz=316,slow=76						
H11S1	WAKE ISLAND Hy	28.92	123	T	T	22 21 37.3	
	baz=316						
H11S3	WAKE ISLAND Hy	28.92	123	T	T	22 21 37.2	
	baz=316,slow=74						
H11S2	WAKE ISLAND Hy	28.94	123	T	T	22 21 38.6	
	baz=316,slow=74						
MKAR	Makanchi Array	44.06	302	P	P	21 53 22.6	+0.5
	0.3nm,0.8s,baz=63,slow=8.5,SNR=1.5 0.3nm,0.8s						
KURBB	Kurchatov Arra	45.93	308	P	P	21 53 37.4	+0.5
	0.5nm,0.7s,baz=84,slow=8.0,SNR=4.2 0.5nm,0.7s						
WRA	Warramunga Arr	57.18	188	P	P	21 55 00.2	-1.1
	0.2nm,0.7s,baz=5.3,slow=7.5,SNR=4.8						
WRA				LR	LR	22 19 12.1	
	comp=Z,24nm,18.6s,baz=116,slow=36 0.2nm,0.7s						

*IDC **22** 21:46:10.2±2.3, 36°.96N×141°.45E, h0km, mb3.2/3, mbtmp3.1/4, ML1.8/1, Error ellipse: s-maj=43.3km s-min=29.0km az=67.0*
*JMA **22** 21:46:12.5±0.1, 37°.0N±0°.2×141°.5E±0°.6, h30km, MV2.9/35, E OFF FUKUSHIMA PREF*

ISC 22 21:46:11.5±2.9, 37°.00N±0°.05×141°.46E±0°.09, h12km±16km, n17, σ0s51/19, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.59	308	P	Pb	21 46 23.8	-0.1
JFK				S	Sb	21 46 32.0	-0.4
JFFD	Fukushimafurud	0.73	277	P	Pb	21 46 25.9	-0.3
JFFD				S	Sb	21 46 35.5	-0.6
JHO	Hitachi	0.81	242	P	Pb	21 46 27.3	-0.3
JHO				S	Sb	21 46 38.2	-0.4
JMST	Minamisoumatoc	0.86	328	P	Pb	21 46 28.1	-0.3
JMST				S	Sg	21 46 39.6	+0.4
JMM	Marumori	1.01	329	P	Pb	21 46 30.9	-0.1
JMM				S	Sb	21 46 44.4	0.0
JIO	Ouri	1.46	357	P	Pn	21 46 37.5	-0.1
JIO				S	Sn	21 46 55.5	-1.1
JOU	Okura	1.50	335	P	Pb	21 46 39.2	-0.2
JOU				S	Sb	21 46 58.6	+0.2
MJAR	Matsushiro Arr	2.65	261	Pn	Pn	21 46 53.8	-0.4
	0.2nm,0.3s,baz=84,slow=15,SNR=5.4						
MJAR				Sn	Sn	21 47 27.0	+0.7
	baz=79,slow=34 4.4nm,0.7s						
H11N2	WAKE ISLAND Hy	28.10	121	T	T	22 21 27.6	
	baz=313,slow=76						
H11N1	WAKE ISLAND Hy	28.11	121	T	T	22 21 28.5	
	baz=313						
H11N3	WAKE ISLAND Hy	28.11	121	T	T	22 21 29.8	
	baz=313						
H11S1	WAKE ISLAND Hy	28.81	123	T	T	22 22 19.3	
	baz=315						
H11S3	WAKE ISLAND Hy	28.81	123	T	T	22 22 20.2	
	baz=315						
H11S2	WAKE ISLAND Hy	28.82	123	T	T	22 22 19.9	
	baz=315						
MKAR	Makanchi Array	44.17	302	P	P	21 54 21.0	+0.9
	0.4nm,0.7s,baz=78,slow=9.0,SNR=2.2 0.4nm,0.7s						
KURBB	Kurchatov Arra	46.05	308	P	P	21 54 35.1	+0.2
	0.2nm,0.5s,baz=81,slow=8.6,SNR=1.5 0.2nm,0.5s						
WRA	Warramunga Arr	57.03	188	P	P	21 55 57.5	+0.1
	0.3nm,0.9s,baz=4.3,slow=7.3,SNR=1.3 0.3nm,0.9s						

IDC 22 21:49:29.2±6.5, 30°.47S×176°.99W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=265.8km s-min=58.3km az=155.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.98	267	P	P	21 57 38.8	+0.3
	0.2nm,0.4s,baz=104,slow=8.4,SNR=1.7 0.2nm,0.4s						
WRA	Warramunga Arr	44.98	272	P	P	21 57 45.7	-0.8
	0.3nm,0.4s,baz=113,slow=6.4,SNR=12 0.3nm,0.4s						
FINES	FINESS Array B	145.51	341	PKPbc	PKPdf	22 09 08.2	-0.4
	0.8nm,0.4s,baz=50,slow=4.3,SNR=6.3						

*IDC **22** 21:58:50.0±0.7, 37°.19N×141°.32E, h0km, mb3.8/16, mbtmp3.8/19, ML3.3/3, MS3.1/4, Error ellipse: s-maj=19.3km s-min=17.0km az=82.0*
*JMA **22** 21:58:53.1±0.1, 37°.1N±0°.3×141°.4E±0°.8, h34km±1km, MD4.1/34, MV4.1/34, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **22** 21:58:53.1, 37°.12N×141°.36E, h34km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.82; Mθθ1.13; Mφφ2.70; Mrθ0.00; Mθφ2.86; Mφr0.13;*
Fault plane solution: M0 4.35000×10¹⁴ NP1:φ=39.00000°, δ44.00000°, λ-88.00000°. NP2:φ=216.00000°, δ46.00000°, λ-92.00000°.
*NEIC **22** 21:58:54.0±1.4, 37°.15N±0°.07×141°.4E±0°.1, h26km±7km, mb4.1/7 Error ellipse: s-maj=13.5km s-min=9.1km az=115.0*

ISC 22 21:58:53.3±1.7, 37°.14N±0°.04×141°.34E±0°.06, h24km±11km, n71, σ1s30/64, mb3.9/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.43	302	P	Pb	21 59 02.6	+0.2
JFK				*eS*	Sb	21 59 09.4	+0.8
JFK	Kawauchi	0.43	302	A	A	21 59 02.6	
	comp=E,19nm,0.5s,comp=E,5.0nm,0.7s						
JFFD	Fukushimafurud	0.62	266	P	Pn	21 59 05.3	-1.4
JFFD				*eS*	Sn	21 59 14.4	-1.6
JMST	Minamisoumatoc	0.69	328	*i* P	Pn	21 59 06.5	-1.0
JMST				S	Sn	21 59 15.9	-1.5
JMST	Minamisoumatoc	0.69	328	A	A	21 59 06.5	
	comp=E,7.0nm,0.3s,comp=E,10.0nm,0.4s						
JHO	Hitachi	0.81	230	P	Pn	21 59 07.5	-1.8
JMM	Marumori	0.84	329		Pn	21 59 08.9	-0.9
JMM	Marumori	0.84	329	*eP*	Pn	21 59 09.1	-0.6
JYAR	Yonezawaarcadi	1.22	309	A	A	21 59 14.8	
	comp=E,11nm,0.8s,comp=E,17nm,1.3s						
JIO	Ouri	1.31	0	P	Pn	21 59 15.8	-0.3
JIO				S	Sn	21 59 31.8	-1.2
JYS	Shirataka	1.48	317	A	A	21 59 18.6	
	comp=E,6.0nm,1.4s,comp=E,8.0nm,0.6s						
JYA	Atsumi	1.94	319	A	A	21 59 25.3	
	comp=E,5.0nm,0.9s,comp=E,4.0nm,1.0s						
MJAR	Matsushiro Arr	2.58	258	Pn	Pn	21 59 34.8	+1.1
	2.5nm,0.3s,baz=83,slow=24,SNR=72						
MJAR				Sn	Sb	22 00 10.8	+0.6
	2.7nm,0.3s,baz=106,slow=17,SNR=5.9						
MJAR				LR	LR	22 00 52.4	
	comp=Z,105nm,18.2s,baz=94,slow=47 14nm,0.4s						
MAJO	Matsushiro	2.58	258		Pn	21 59 35.0	+1.3
MAJO	Matsushiro	2.58	258	P	Pn	21 59 35.6	+1.9
MJB9	Matsu-Tunnel	2.58	258		Pb	21 59 36.1	-2.9
JSD	Sado	2.60	291		Pn	21 59 33.9	0.0
JSD	Sado	2.60	291	P	Pn	21 59 34.7	+0.8
JGF	Kuroka	3.56	246		Pn	21 59 48.9	+1.7
JGF	Kuroka	3.56	246	P	Pn	21 59 49.3	+2.2
JTM	Tenmabayashi	3.65	357	Pn	Pn	21 59 49.3	+1.0
JTM	Tenmabayashi	3.65	357	P	Pn	21 59 49.8	+1.5
INU	Inuyama	3.92	244		Pn	21 59 53.8	+1.8
INU	Inuyama	3.92	244	P	Pn	21 59 54.9	+2.8
JHJ2	Mitsune	4.21	198	Pn	Pn	21 59 54.8	-1.2
JHJ2	Mitsune	4.21	198	P	Pn	21 59 58.8	+2.8
JHJ	Hachijo jima 2	4.21	198	Pn	Pn	21 59 56.4	+0.4
	18nm,0.3s,baz=68,slow=22,SNR=16						
JHJ				Sn	Sn	22 00 44.6	+0.2
	38nm,0.3s,baz=81,slow=24,SNR=4.9 161nm,0.7s						
ERM	Erimo	5.07	16	Pn	Pn	22 00 07.5	-0.2
ERM	Erimo	5.07	16	P	Pn	22 00 08.0	+0.2
JEM	Erimo	5.07	16	P	Pn	22 00 08.1	+0.3
JHS	Saijyo	6.99	255	Pn	Pn	22 00 37.4	+3.1
JKA	Kamikawa-asahi	7.04	7	Pn	Pn	22 00 34.5	-0.3
USRK	Ussuriysk Ar.	10.00	318	Pn	Pn	22 01 13.0	-2.5
	0.2nm,0.3s,baz=121,slow=17,SNR=2.2 1.3nm,0.6s						
KLR	Kul'dur	13.95	333	LR	LR	22 07 02.1	
	comp=Z,37nm,18.3s,baz=38,slow=35						
SONM	Songino Array	27.68	304	P	P	22 04 39.5	0.0
	0.8nm,0.7s,baz=97,slow=8.6,SNR=6.9 0.8nm,0.7s						
SONM	Songino Array	27.68	304	P	P	22 04 39.4	0.0
SONM				IAmb	IAmb	22 04 52.0	
	comp=Z,1.4nm,1.1s						
H11N2	WAKE ISLAND Hy	28.25	121	T	T	22 34 14.1	
	baz=314,slow=76,SNR=252						
H11N1	WAKE ISLAND Hy	28.26	121	T	T	22 34 19.3	
	baz=314,slow=76,SNR=216						
H11N3	WAKE ISLAND Hy	28.27	121	T	T	22 34 20.9	
	baz=314,slow=76,SNR=272						
H11S1	WAKE ISLAND Hy	28.97	123	T	T	22 35 01.3	
	baz=316,slow=76,SNR=148						
H11S3	WAKE ISLAND Hy	28.97	123	T	T	22 35 13.9	
	baz=316,slow=76,SNR=99						
H11S2	WAKE ISLAND Hy	28.98	123	T	T	22 35 09.1	
	baz=316,slow=76,SNR=71						
ZALV	Zalesovo Beam	41.80	312	P	P	22 06 41.2	+0.4
	comp=Z,0.8nm,0.6s,baz=99,slow=9.2,SNR=5.6 comp=Z,0.8nm,0.6s						
MK31	Makanchi Array	44.01	302	P	P	22 06 59.5	+0.6
MK31				IAmb	IAmb	22 07 00.2	
	comp=Z,2.7nm,0.9s						
MKAR	Makanchi Array	44.01	302	P	P	22 06 59.1	+0.3
	comp=Z,1.0nm,0.7s,baz=89,slow=10.0,SNR=8.2 comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	44.01	302	P	P	22 06 59.4	+0.6
KURK	Kurchatov	45.82	308	P	P	22 07 12.9	-0.2
KURK				IAmb	IAmb	22 07 15.0	
	comp=Z,2.3nm,0.8s						
KURBB	Kurchatov Arra	45.89	308	P	P	22 07 13.8	+0.1
	comp=Z,0.9nm,0.5s,baz=84,slow=8.4,SNR=12 comp=Z,0.9nm,0.5s						
IMAR	Indian Mountai	46.59	31	P	P	22 07 20.9	+2.0
ILAR	Eielson Array	49.44	32	P	P	22 07 42.0	+1.0
	comp=Z,1.1nm,0.6s,baz=269,slow=6.3,SNR=11 comp=Z,1.1nm,0.6s						
BMAR	Burnt Mountain	50.27	29	P	P	22 07 48.8	+1.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.67**	**325**	Pn	**Pn**	**22 02 33.2**	**+0.1**
	8.6nm,0.3s,baz=291,slow=1.9,SNR=2.3						
KRVT				Sn	**Sn**	**22 03 03.8**	**-0.6**
	12nm,0.3s,baz=256,slow=20,SNR=6.7 34nm,0.5s						
PMG	**Port Moresby**	**6.95**	**245**	Pn	**Pn**	**22 03 31.4**	**-0.6**
	2.7nm,0.3s,baz=79,slow=16,SNR=2.1 5.3nm,0.3s						
GUMO	**Guam**	**21.76**	**337**	P	**P**	**22 06 41.6**	**+0.3**
	30nm,0.2s,baz=179,slow=18,SNR=1.7						
WRA	**Warramunga Arr**	**22.93**	**233**	P	**P**	**22 06 54.6**	**+0.7**
	1.5nm,1.0s,baz=62,slow=10,SNR=7.1 1.5nm,1.0s						
ASAR	**Alice Springs**	**25.44**	**226**	P	**P**	**22 07 17.9**	**+0.6**
	1.4nm,0.8s,baz=60,slow=9.2,SNR=16						
ASAR				LR	LR	22 17 56.3	
	comp=Z,46nm,18.0s,baz=148,slow=38 1.4nm,0.8s						
STKA	**Stephens Creek**	**27.59**	**202**	LR	LR	22 18 03.1	
	comp=Z,33nm,18.1s,baz=22,slow=35						
MKAR	**Makanchi Array**	**82.10**	**319**	P	**P**	**22 14 10.5**	**+0.8**
	0.3nm,0.7s,baz=107,slow=5.0,SNR=2.3 0.3nm,0.7s						
ILAR	**Eielson Array**	**83.46**	**22**	P	**P**	**22 14 15.3**	**-1.0**
	0.4nm,0.7s,baz=238,slow=5.1,SNR=3.0 0.4nm,0.7s						

NEIC ***22*** *22:06:44.0± 1.3, 60.05N± 0.03 × 151.02W± 0.06, h69km± 7km, Error ellipse: s-maj=5.3km s-min=4.1km az=139.0*

AEIC ***22*** *22:06:44.7± 1.1, 60.06N± 0.03 × 151.08W± 0.06, h60km± 5km, ML3.5,ML3.7/155(NEIC), Error ellipse: s-maj=5.7km s-min=1.4km az=136.0*

IDC ***22*** *22:06:49.6± 5.0, 60.40N × 150.49W, h114km± 42km, mb3.3/5, mbtmp3.7/9, Error ellipse: s-maj=45.5km s-min=28.5km az=51.0*

ISC 22 22:06:43.3±0.7, **60.02N**±0.04 × **151.01W**±0.04, **h72**km±6km, **n234**, σ=**0.76**/242, **mb3.7**/5, **Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**0.26**	**166**		**Pn**	**22 06 54.6**	**+0.1**
BRLK					**Sn**	**22 07 02.5**	**-0.3**
BRLK				IAML		22 07 02.9	
	comp=N,5μm,0.3s						
BRLK				IAML		22 07 03.0	
	comp=E,3μm,0.2s						
BRSE	**Bradley Lake S**	**0.31**	**154**		**Pn**	**22 06 55.0**	**+0.2**
BRSE					**Sn**	**22 07 02.8**	**-0.4**
BRSE	**Bradley Lake S**	**0.31**	**154**	P	**Pn**	**22 06 55.0**	**+0.2**
	baz=332						
BRSE				S	**Sn**	**22 07 02.8**	**-0.4**
	baz=332						
HOM	**Homer**	**0.48**	**222**		**Pn**	**22 06 56.5**	**+0.3**
HOM	**Homer**	**0.48**	**222**		**Sn**	**22 07 05.9**	**+0.4**
HOM	**Homer**	**0.48**	**222**	P	**Pn**	**22 06 56.8**	**+0.6**
	baz=35						
HOM				S	**Sn**	**22 07 05.9**	**+0.4**
	baz=35						
CNPM	**China Poot**	**0.51**	**193**		**Pn**	**22 06 56.9**	**+0.4**
CNPM					**Sn**	**22 07 06.2**	**+0.2**
CNPM	**China Poot**	**0.51**	**193**	IAML		22 07 06.5	
	comp=E,5μm,0.5s						
CNPM				IAML		22 07 06.8	
	comp=N,6μm,0.4s						
SLKM	**Skilak Lake**	**0.63**	**38**		**Pn**	**22 06 57.5**	**-0.2**
SLKM					**Sn**	**22 07 07.2**	**-1.1**
CAPN	**Captain Cook N**	**0.76**	**355**		**Pn**	**22 07 00.1**	**+1.1**
CAPN	**Captain Cook N**	**0.76**	**355**	P	**Pn**	**22 07 00.1**	**+1.1**
	baz=177						
SEW	**Seward**	**0.79**	**83**		**Pn**	**22 06 59.2**	**-0.1**
SEW	**Seward**	**0.79**	**83**		**Sn**	**22 07 10.8**	**-0.4**
SEW	**Seward**	**0.79**	**83**	P	**Pn**	**22 06 59.2**	**-0.1**
	baz=268						
SEW				S	**Sn**	**22 07 10.8**	**-0.4**
	baz=268						
O22K	**Cooper Landing**	**0.79**	**54**		**Pn**	**22 06 59.6**	**+0.2**
O22K	**Cooper Landing**	**0.79**	**54**	P	**Pn**	**22 06 59.6**	**+0.2**
	baz=239						
O20K	**Slope Mountain**	**0.81**	**275**	P	**Pn**	**22 06 59.7**	**0.0**
	baz=91						
RSO	**Redoubt South**	**0.98**	**298**		**Pn**	**22 07 01.1**	**-0.7**
RDJH	**Redoubt Jeurge**	**1.06**	**304**		**Pn**	**22 07 02.1**	**-0.7**
ILSW	**Iliamna Southw**	**1.07**	**269**		**Pn**	**22 07 02.4**	**-0.6**
ILSW				IAML		22 07 17.0	
	comp=N,2μm,0.3s						
ILSW				IAML		22 07 17.3	
	comp=E,2μm,0.3s						
OPT	**Oil Point**	**1.18**	**253**	P	**Pn**	**22 07 04.4**	**+0.2**
	baz=68						
P19K	**Oil Pt**	**1.18**	**253**		**Pn**	**22 07 04.3**	**+0.1**
P19K	**Oil Pt**	**1.18**	**253**	P	**Pn**	**22 07 04.3**	**+0.1**
	baz=68						
P19K				S	**Sn**	**22 07 18.8**	**-1.0**
	baz=68						
FIS	**Fire Island**	**1.20**	**19**		**Pn**	**22 07 05.2**	**+0.8**
FIS				IAML		22 07 23.2	
	comp=E,2μm,0.7s						
FIS				IAML		22 07 23.2	
	comp=N,2μm,0.6s						
RC01	**Rabbit Creek A**	**1.25**	**30**		**Pn**	**22 07 05.2**	**+0.1**
RC01				IAML		22 07 21.8	
	comp=E,2μm,0.5s						
RC01				IAML		22 07 22.5	
	comp=N,1μm,0.4s						
RC01	**Rabbit Creek A**	**1.25**	**30**	P	**Pn**	**22 07 05.1**	**+0.1**
	baz=213						
SPU	**Mount Spurr**	**1.28**	**337**		**Pn**	**22 07 05.2**	**-0.3**
N20K	**Mount Spurr**	**1.32**	**334**	P	**Pn**	**22 07 05.8**	**-0.3**
	baz=154						
SPCR	**Spurr Chakacha**	**1.32**	**334**	P	**Pn**	**22 07 05.9**	**-0.2**
	baz=154						
SUA	**Susitna One**	**1.46**	**5**		**Pn**	**22 07 07.8**	**0.0**
SUA				IAML		22 07 27.1	
	comp=N,736nm,0.4s						
SUA	**Susitna One**	**1.46**	**5**	P	**Pn**	**22 07 07.8**	**0.0**
	baz=187						
PWL	**Port Wells**	**1.57**	**56**		**Pn**	**22 07 09.6**	**+0.2**
PWL				IAML		22 07 29.1	
	comp=E,1μm,0.4s						
PWL	**Port Wells**	**1.57**	**56**	P	**Pn**	**22 07 09.5**	**+0.2**
	baz=241						
Q20K	**Shuyak Island**	**1.58**	**207**	P	**Pn**	**22 07 10.5**	**+1.1**
	baz=24						
O19K	**Port Alsworth**	**1.67**	**278**	Pn	**Pn**	**22 07 10.0**	**-0.5**
O19K				IAML		22 07 32.8	
	comp=E,2μm,0.4s						
O19K				IAML		22 07 33.4	
	comp=N,1μm,0.5s						
O19K	**Port Alsworth**	**1.67**	**278**	P	**Pn**	**22 07 10.0**	**-0.5**
	baz=93						
Q19K	**Cape Douglas,**	**1.73**	**232**		**Pn**	**22 07 12.4**	**+0.9**
Q19K				IAML		22 07 36.4	
	comp=N,1μm,0.6s						
Q19K	**Cape Douglas,**	**1.73**	**232**	P	**Pn**	**22 07 12.4**	**+0.9**
	baz=48						
M22K	**Willow**	**1.79**	**14**		**Pn**	**22 07 12.6**	**+0.3**
M22K	**Willow**	**1.79**	**14**	P	**Pn**	**22 07 12.5**	**+0.3**
	baz=196						
P23K	**Montague Islan**	**1.81**	**89**	P	**Pn**	**22 07 12.6**	**+0.1**
	baz=274						
PMR	**Palmer**	**1.83**	**29**		**Pn**	**22 07 12.8**	**+0.1**
PMR				IAML		22 07 35.0	
	comp=N,472nm,0.4s						
PMR	**Palmer**	**1.83**	**29**	P	**Pn**	**22 07 12.8**	**+0.1**
	baz=213						
KNK	**Knik Glacier**	**1.88**	**41**		**Pn**	**22 07 13.8**	**+0.3**
KNK				IAML		22 07 36.8	
	comp=N,1μm,0.5s						
KNK	**Knik Glacier**	**1.88**	**41**	P	**Pn**	**22 07 13.7**	**+0.3**
	baz=225						
N19K	**Bonanza Creek**	**1.90**	**296**		**Pn**	**22 07 13.2**	**-0.5**
N19K	**Bonanza Creek**	**1.90**	**296**	P	**Pn**	**22 07 13.1**	**-0.6**
	baz=113						
SKT	**Skwentna**	**1.98**	**353**		**Pn**	**22 07 15.2**	**+0.4**
SKT				IAML		22 07 40.7	
	comp=N,625nm,0.3s						
SKT				IAML		22 07 40.8	
	comp=E,1μm,0.7s						
SKT	**Skwentna**	**1.98**	**353**	P	**Pn**	**22 07 15.2**	**+0.4**
	baz=173						
GHO	**Glory Hole Cre**	**2.04**	**29**		**Pn**	**22 07 15.8**	**+0.2**
GHO				IAML		22 07 41.0	
	comp=N,619nm,0.4s						
GHO				IAML		22 07 45.3	
	comp=E,521nm,0.4s						
O18K	**Koktuh Hills**	**2.12**	**267**	Pn	**Pn**	**22 07 16.2**	**-0.4**
O18K				IAML		22 07 42.0	
	comp=E,446nm,0.6s						
O18K				IAML		22 07 47.9	
	comp=N,337nm,0.8s						
O18K	**Koktuh Hills**	**2.12**	**267**	P	**Pn**	**22 07 16.2**	**-0.4**
M20K	**Styx River**	**2.14**	**332**		**Pn**	**22 07 17.3**	**+0.4**
M20K				IAML		22 07 48.9	
	comp=E,343nm,0.7s						
M20K	**Styx River**	**2.14**	**332**	P	**Pn**	**22 07 17.3**	**+0.4**
	baz=150						
SML	**Sawmill**	**2.22**	**35**	Pn	**Pn**	**22 07 18.4**	**+0.3**
SML				IAML		22 07 46.5	
	comp=N,310nm,0.5s						
SML				IAML		22 08 01.7	
	comp=E,384nm,0.5s						
SML	**Sawmill**	**2.22**	**35**	P	**Pn**	**22 07 18.3**	**+0.3**
	baz=219						
P18K	**Big Mountain,**	**2.23**	**255**		**Pn**	**22 07 17.8**	**-0.3**
P18K	**Big Mountain,**	**2.23**	**255**	P	**Pn**	**22 07 17.7**	**-0.3**
	baz=70						
HIN	**Hinchinbrook I**	**2.28**	**78**		**Pn**	**22 07 18.5**	**-0.3**
HIN				IAML		22 07 47.8	
	comp=E,838nm,0.5s						
M23K	**Glacier View**	**2.40**	**41**	P	**Pn**	**22 07 20.8**	**+0.4**
	baz=225						
CUT	**Chulitna**	**2.42**	**8**		**Pn**	**22 07 21.1**	**+0.5**
CUT				IAML		22 08 09.6	
	comp=N,348nm,0.7s						
Q23K	**Middleton Isla**	**2.44**	**102**	Pn	**Pn**	**22 07 22.4**	**+1.6**
Q23K				IAML		22 08 00.3	
	comp=N,379nm,1.7s						
Q23K				IAML		22 08 56.4	
	comp=E,479nm,2.3s						
Q23K	**Middleton Isla**	**2.44**	**102**	P	**Pn**	**22 07 22.4**	**+1.6**
	baz=287						
MID	**Middleton Isla**	**2.44**	**102**	Pn	**Pn**	**22 07 22.4**	**+1.5**
MID				IAML		22 07 52.7	
	comp=E,478nm,2.3s						
MID				IAML		22 08 00.3	
	comp=N,348nm,1.7s						
M19K	**Big River Lodg**	**2.51**	**320**		**Pn**	**22 07 21.9**	**0.0**
M19K				IAML		22 07 51.1	
	comp=E,238nm,0.5s						
M19K	**Big River Lodg**	**2.51**	**320**	P	**Pn**	**22 07 21.8**	**0.0**
	baz=138						
N18K	**Kilae Creek**	**2.51**	**287**		**Pn**	**22 07 21.1**	**-0.8**
N18K	**Kilae Creek**	**2.51**	**287**	P	**Pn**	**22 07 21.2**	**-0.8**
	baz=102						
SCM	**Sheep Creek Mo**	**2.56**	**43**		**Pn**	**22 07 23.2**	**+0.6**
SCM				IAML		22 07 55.5	
	comp=N,546nm,0.6s						
SCM	**Sheep Creek Mo**	**2.56**	**43**	P	**Pn**	**22 07 23.0**	**+0.4**
	baz=228						
EYAK	**Cordova Ski Ar**	**2.67**	**76**		**Pn**	**22 07 23.3**	**-0.7**
EYAK	**Cordova Ski Ar**	**2.67**	**76**	P	**Pn**	**22 07 23.3**	**-0.7**
	baz=262						
L20K	**Farewell, AK**	**2.83**	**332**	P	**Pn**	**22 07 26.3**	**0.0**
	baz=150						
L19K	**White Mountain**	**2.86**	**321**	Pn	**Pn**	**22 07 26.6**	**0.0**
L19K	**White Mountain**	**2.86**	**321**	P	**Pn**	**22 07 26.8**	**+0.1**
	baz=138						
P17K	**Kvichak River**	**2.88**	**256**	P	**Pn**	**22 07 27.2**	**+0.4**
	baz=70						
KLU	**Klutina**	**2.90**	**57**		**Pn**	**22 07 27.7**	**+0.4**
KLU	**Klutina**	**2.90**	**57**	P	**Pn**	**22 07 27.6**	**+0.4**
	baz=243						
PPLA	**Purkeypile**	**2.94**	**349**		**Pn**	**22 07 28.5**	**+0.7**
WAT6	**Susitna Watana**	**3.02**	**30**	P	**Pn**	**22 07 29.6**	**+0.7**
	baz=214						
OHAK	**Old Harbor**	**3.05**	**204**	Pn	**Pn**	**22 07 28.8**	**-0.3**
OHAK				IAML		22 08 03.0	
	comp=N,136nm,0.6s						
OHAK	**Old Harbor**	**3.05**	**204**	P	**Pn**	**22 07 28.9**	**-0.3**
	baz=21						
WAT1	**Susitna Watana**	**3.06**	**22**	P	**Pn**	**22 07 30.5**	**+1.2**
	baz=205						
Q17K	**Contact Creek**	**3.07**	**237**	P	**Pn**	**22 07 30.3**	**+0.8**
	baz=52						
O17K	**Koliganek Bris**	**3.07**	**268**	P	**Pn**	**22 07 29.2**	**-0.2**
	baz=82						
M24K	**Tolsona, Glenn**	**3.15**	**46**	Pn	**Pn**	**22 07 31.6**	**+1.0**
M24K				IAML		22 08 17.7	
	comp=N,375nm,1.0s						
M24K	**Tolsona, Glenn**	**3.15**	**46**	P	**Pn**	**22 07 31.6**	**+1.0**
	baz=231						
GOAT	**Goat Mountain**	**3.18**	**77**		**Pn**	**22 07 30.5**	**-0.5**
RAGM	**Ragged Mountai**	**3.19**	**81**		**Pn**	**22 07 32.1**	**+1.1**
BMRM	**Bremner River**	**3.31**	**71**		**Pn**	**22 07 32.2**	**-0.6**
KAIM	**Kayak Island**	**3.32**	**89**		**Pn**	**22 07 32.7**	**-0.1**
KAIM				IAML		22 08 56.9	
	comp=E,269nm,3.3s						
KAIM	**Kayak Island**	**3.32**	**89**	P	**Pn**	**22 07 32.7**	**-0.1**
	baz=275						
CAST	**Castle Rocks**	**3.45**	**352**		**Pn**	**22 07 36.5**	**+1.9**
TRF	**Thorofare Moun**	**3.46**	**5**		**Pn**	**22 07 35.6**	**+0.6**
TRF				IAML		22 08 26.6	
	comp=E,117nm,0.6s						
TRF				IAML		22 08 32.0	
	comp=N,117nm,0.8s						
TRF	**Thorofare Moun**	**3.46**	**5**	P	**Pn**	**22 07 35.7**	**+0.8**
	baz=187						
N25K	**Chitina, Valde**	**3.52**	**60**		**Pn**	**22 07 36.0**	**+0.3**
N25K				IAML		22 08 18.7	
	comp=N,147nm,0.4s						
N25K				IAML		22 08 19.1	
	comp=E,156nm,0.5s						
N25K	**Chitina, Valde**	**3.52**	**60**	P	**Pn**	**22 07 35.9**	**+0.2**
	baz=247						
DHY	**Denali Highway**	**3.53**	**28**		**Pn**	**22 07 36.8**	**+1.0**
DHY	**Denali Highway**	**3.53**	**28**	P	**Pn**	**22 07 36.8**	**+1.0**
	baz=212						
KTH	**Kantishna Hill**	**3.55**	**1**		**Pn**	**22 07 36.6**	**+0.6**
KTH				IAML		22 08 23.7	
	comp=E,110nm,0.7s						
KTH				IAML		22 08 43.5	
	comp=N,120nm,1.1s						
RND	**Reindeer**	**3.55**	**16**		**Pn**	**22 07 37.4**	**+1.3**
O16K	**Kokwok River B**	**3.60**	**266**	P	**Pn**	**22 07 36.6**	**-0.1**
	baz=79						
K20K	**Telida**	**3.65**	**338**		**Pn**	**22 07 37.6**	**+0.2**
BERG	**Berg Lake**	**3.67**	**81**	Pn	**Pn**	**22 07 37.1**	**-0.5**
R17K	**Ugashik Creek**	**3.67**	**232**	P	**Pn**	**22 07 38.7**	**+1.0**
	baz=46						
P16K	**Nushagak River**	**3.69**	**257**	P	**Pn**	**22 07 38.6**	**+0.8**
	baz=71						
HARP	**HAARP**	**3.71**	**47**	P	**Pn**	**22 07 39.2**	**+1.1**
	baz=233						
TTA	**Tatalina**	**3.78**	**323**	Pn	**Pn**	**22 07 38.9**	**-0.2**
TTA	**Tatalina**	**3.78**	**323**	P	**Pn**	**22 07 39.0**	**-0.2**
	baz=138						
GLB	**Gilahina Butte**	**3.81**	**65**		**Pn**	**22 07 39.4**	**-0.2**
GLB				IAML		22 08 23.6	
	comp=E,87nm,0.7s						
GLB				IAML		22 08 23.8	
	comp=N,146nm,0.6s						
SII	**Sitkinak Islan**	**3.85**	**207**		**Pn**	**22 07 39.6**	**-0.5**
SII	**Sitkinak Islan**	**3.85**	**207**	P	**Pn**	**22 07 39.8**	**-0.3**
	baz=24						
MCK	**McKinley**	**3.86**	**14**	Pn	**Pn**	**22 07 41.5**	**+1.4**
MCK	**McKinley**	**3.86**	**14**	P	**Pn**	**22 07 41.5**	**+1.4**
	baz=196						
N16K	**Nishlik Lake**	**3.89**	**280**	P	**Pn**	**22 07 40.4**	**-0.3**
	baz=93						
KHIT	**Khitrov Hills**	**3.90**	**80**		**Pn**	**22 07 39.9**	**-0.9**
VRDI	**Verde Repeater**	**3.92**	**69**		**Pn**	**22 07 40.7**	**-0.5**
VRDI				IAML		22 08 27.6	
	comp=N,87nm,0.6s						
PAX	**Paxson**	**3.98**	**40**		**Pn**	**22 07 42.7**	**+0.8**
PAX	**Paxson**	**3.98**	**40**	P	**Pn**	**22 07 42.8**	**+0.8**
	baz=225						
WAX	**Waxell Ridge**	**4.09**	**80**		**Pn**	**22 07 42.4**	**-1.1**
BPAW	**Bear Paw Mtn.**	**4.10**	**0**		**Pn**	**22 07 44.2**	**+0.7**
BPAW	**Bear Paw Mtn.**	**4.10**	**0**	P	**Pn**	**22 07 44.5**	**+1.1**
	baz=181						
MCARA	**McCarthy VSAT**	**4.16**	**67**		**Pn**	**22 07 44.3**	**0.0**
MCARA				IAML		22 08 39.4	
	comp=N,147nm,0.5s						
MCARA				IAML		22 08 44.1	
	comp=E,129nm,0.4s						
BWN	**Browne**	**4.23**	**9**	Pn	**Pn**	**22 07 46.5**	**+1.3**
BWN				IAML		22 08 20.0	
	comp=E,93nm,3.6s						
BWN				IAML		22 09 10.5	
	comp=N,111nm,0.7s						
ISLE	**Juniper Island**	**4.35**	**79**		**Pn**	**22 07 46.1**	**-0.9**
ISLE				IAML		22 08 36.4	
	comp=E,76nm,0.4s						
ISLE				IAML		22 08 37.5	
	comp=N,109nm,1.6s						
KIAG	**Kiagna River**	**4.38**	**74**		**Pn**	**22 07 47.0**	**-0.4**
BALM	**Baldy**	**4.40**	**73**		**Pn**	**22 07 46.9**	**-0.8**
J20K	**Nowinta River**	**4.43**	**342**		**Pn**	**22 07 48.4**	**+0.5**
J20K	**Nowinta River**	**4.43**	**342**	P	**Pn**	**22 07 48.2**	**+0.3**
	baz=159						
BAGL	**Bagley Icefiel**	**4.47**	**80**		**Pn**	**22 07 49.3**	**+0.8**
K24K	**Donnelly Dome**	**4.53**	**31**	P	**Pn**	**22 07 51.7**	**+2.3**
	baz=216						
MESA	**MESA**	**4.54**	**84**		**Pn**	**22 07 49.4**	**-0.3**
MESA				IAML		22 08 45.2	
	comp=N,112nm,0.4s						
MESA				IAML		22 09 04.1	
	comp=E,102nm,0.8s						
MESA	**MESA**	**4.54**	**84**	P	**Pn**	**22 07 49.3**	**-0.3**
	baz=272						
M26K	**Nabesna, AK**	**4.55**	**55**		**Pn**	**22 07 50.4**	**+0.7**
M26K				IAML		22 08 42.1	
	comp=N,83nm,0.7s						
M26K				IAML		22 08 42.4	
	comp=E,51nm,0.6s						
M26K	**Nabesna, AK**	**4.55**	**55**	P	**Pn**	**22 07 50.4**	**+0.7**
	baz=243						
MENT	**Mentasta**	**4.56**	**47**		**Pn**	**22 07 50.3**	**+0.5**
MENT				IAML		22 08 58.2	
	comp=N,121nm,0.6s						
MENT				IAML		22 09 04.3	
	comp=E,88nm,0.8s						
YAH	**Yahtse**	**4.64**	**82**		**Pn**	**22 07 51.0**	**0.0**
YAH				IAML		22 08 46.5	
	comp=N,85nm,1.0s						
YAH				IAML		22 08 50.0	
	comp=E,59nm,1.3s						
WRH	**Wood River Hil**	**4.67**	**16**		**Pn**	**22 07 52.0**	**+0.7**
WRH				IAML		22 09 28.7	
	comp=N,43nm,4.5s						
NEA2	**Nenana**	**4.68**	**10**		**Pn**	**22 07 51.6**	**+0.2**
NEA2	**Nenana**	**4.68**	**10**	P	**Pn**	**22 07 51.7**	**+0.4**
	baz=193						
BARN	**Barnard Glacie**	**4.74**	**73**		**Pn**	**22 07 52.5**	**+0.2**
BARN				IAML		22 08 45.3	
	comp=N,47nm,0.6s						
BARN				IAML		22 08 46.8	
	comp=E,50nm,0.7s						
RIDG	**Independent Ri**	**4.74**	**35**		**Pn**	**22 07 53.4**	**+1.1**
RIDG				IAML		22 08 47.1	
	comp=N,76nm,0.9s						
RIDG	**Independent Ri**	**4.74**	**35**	P	**Pn**	**22 07 53.6**	**+1.4**
	baz=221						
L26K	**Log Cabin Wild**	**4.75**	**47**		**Pn**	**22 07 53.5**	**+1.1**
L26K				IAML		22 08 53.4	
	comp=N,53nm,0.5s						
L26K				IAML		22 09 05.4	
	comp=E,63nm,0.5s						
HDA	**Harding Lake**	**4.80**	**22**		**Pn**	**22 07 53.9**	**+0.9**
HDA				IAML		22 08 50.9	
	comp=E,96nm,0.5s						
HDA	**Harding Lake**	**4.80**	**22**	P	**Pn**	**22 07 54.1**	**+1.1**
	baz=206						
CHIR	**Chirikof Islan**	**4.87**	**212**		**Pn**	**22 07 53.3**	**-0.7**
CHIR	**Chirikof Islan**	**4.87**	**212**	P	**Pn**	**22 07 53.3**	**-0.7**
	baz=28						
CCB	**Clear Creek Bu**	**4.88**	**16**		**Pn**	**22 07 54.4**	**+0.3**
CCB				IAML		22 08 48.9	
	comp=N,42nm,0.4s						
CCB				IAML		22 08 49.2	
	comp=E,48nm,0.4s						
DOT	**Dot Lake**	**4.91**	**39**		**Pn**	**22 07 55.3**	**+0.8**
TABL	**Table Mountain**	**4.94**	**81**		**Pn**	**22 07 54.8**	**-0.4**
TABL				IAML		22 08 50.4	
	comp=E,80nm,1.1s						
TABL				IAML		22 08 51.6	
	comp=N,70nm,0.5s						
M27K	**Edge Creek, AK**	**5.00**	**58**		**Pn**	**22 07 56.7**	**+0.8**
M27K	**Edge Creek, AK**	**5.00**	**58**	P	**Pn**	**22 07 56.6**	**+0.6**
	baz=247						
MLY	**Manley**	**5.03**	**1**		**Pn**	**22 07 57.0**	**+0.7**
MLY	**Manley**	**5.03**	**1**	P	**Pn**	**22 07 57.1**	**+0.9**
	baz=182						
TCOL	**CIGO, UAF Yank**	**5.09**	**15**		**Pn**	**22 07 57.6**	**+0.7**
TCOL	**CIGO, UAF Yank**	**5.09**	**15**	P	**Pn**	**22 07 57.6**	**+0.7**
	baz=199						
COLA	**College**	**5.09**	**15**		**Pn**	**22 07 57.6**	**+0.7**
SAMH	**Samovar Hills**	**5.13**	**84**		**Pn**	**22 07 58.1**	**+0.6**
IL31		**5.14**	**20**	Pn	**Pn**	**22 07 58.4**	**+0.8**
ILAR	**Eielson Array**	**5.14**	**20**	P	**Pn**	**22 07 58.2**	**+0.6**
	comp=N,23nm,0.5s,baz=203,slow=14,SNR=160						
ILAR				S	**Sn**	**22 08 52.1**	**-3.5**
	comp=N,9.1nm,0.5s,baz=200,slow=16,SNR=5.0						
SCRK	**Sand Creek**	**5.17**	**37**	Pn	**Pn**	**22 07 58.3**	**+0.1**
SCRK				IAML		22 09 30.2	
	comp=N,35nm,3.8s						
SCRK	**Sand Creek**	**5.17**	**37**	P	**Pn**	**22 07 58.2**	**+0.1**
	baz=224						
I21K	**Tanana**	**5.20**	**355**		**Pn**	**22 07 59.6**	**+1.2**
I21K				IAML		22 09 12.6	
	comp=E,38nm,3.6s						
I21K				IAML		22 09 23.9	
	comp=N,35nm,3.5s						
I23K	**Minto, Yukon-K**	**5.21**	**8**		**Pn**	**22 07 59.2**	**+0.7**
I23K				IAML		22 09 19.6	
	comp=N,36nm,4.5s						
I23K				IAML		22 09 37.1	
	comp=E,31nm,4.0s						
I23K	**Minto, Yukon-K**	**5.21**	**8**	P	**Pn**	**22 07 59.0**	**+0.5**
	baz=190						
J25K	**Salcha River,**	**5.31**	**27**		**Pn**	**22 08 00.7**	**+0.7**
J25K				IAML		22 09 01.3	
	comp=N,63nm,0.7s						
J25K	**Salcha River,**	**5.31**	**27**	P	**Pn**	**22 08 00.5**	**+0.5**
	baz=213						
L27K	**Beaver Creek,**	**5.35**	**51**		**Pn**	**22 08 01.0**	**+0.5**
L27K	**Beaver Creek,**	**5.35**	**51**	P	**Pn**	**22 08 00.9**	**+0.4**
	baz=240						
BCAR	**Beaver Creek A**	**5.37**	**51**	Pn	**Pn**	**22 08 01.2**	**+0.4**
POKR	**Poker Plat Res**	**5.38**	**16**		**Pn**	**22 08 01.4**	**+0.5**
POKR				IAML		22 09 01.9	
	comp=E,64nm,1.0s						
POKR				IAML		22 09 02.3	
	comp=N,33nm,0.5s						
POKR	**Poker Plat Res**	**5.38**	**16**	P	**Pn**	**22 08 01.8**	**+0.9**
	baz=200						
PCA	**Pinnacle**	**5.39**	**85**		**Pn**	**22 08 01.8**	**+0.6**
PINM	**Pinnacle**	**5.39**	**85**	P	**Pn**	**22 08 01.2**	**0.0**
	baz=274						
CHGN	**Chignik**	**5.41**	**230**	Pn	**Pn**	**22 08 02.6**	**+1.3**
**BVC

P29M	**Windy Craggy**	**6.71**	**88**		**Pn**	**22 08 19.5**	**+0.4**
P29M	**Windy Craggy** baz=279	**6.71**	**88**	P	**Pn**	**22 08 19.0**	**-0.1**
G23K	**Bananza Creek** baz=185	**6.73**	**3**	P	**Pn**	**22 08 19.8**	**+0.4**
HYT	**Haines Junctio**	**6.74**	**77**	Pn	**Pn**	**22 08 20.5**	**+0.9**
DAWY	**Dawson**	**6.80**	**48**	Pn	**Pn**	**22 08 21.0**	**+0.6**
DAWY	**Dawson** baz=239	**6.80**	**48**	P	**Pn**	**22 08 21.0**	**+0.6**
L29M	**L29M** baz=250	**6.89**	**58**	P	**Pn**	**22 08 22.3**	**+0.8**
G24K	**Hadweenzic Riv** baz=195	**6.89**	**12**	P	**Pn**	**22 08 21.6**	**+0.1**
SDPT	**Sand Point**	**6.90**	**231**	Pn	**Pn**	**22 08 22.5**	**+0.8**
N30M	**Aishikik Lake** baz=265	**6.98**	**72**	P	**Pn**	**22 08 22.3**	**-0.5**
P30M	**Million Dollar** baz=276	**7.04**	**83**	P	**Pn**	**22 08 24.8**	**+1.2**
I27K	**Kandik River** baz=222	**7.06**	**33**	P	**Pn**	**22 08 24.1**	**+0.2**
FYU	**Fort Yukon**	**7.07**	**19**		**Pn**	**22 08 24.8**	**+0.9**
COLD	**Coldfoot**	**7.25**	**3**	Pn	**Pn**	**22 08 27.0**	**+0.6**
COLD	**Coldfoot** baz=184	**7.25**	**3**	P	**Pn**	**22 08 27.0**	**+0.6**
O30N	**Mendenhall** baz=271	**7.43**	**78**	P	**Pn**	**22 08 29.8**	**+0.9**
H27K	**Steamboat Moun** baz=219	**7.56**	**30**	P	**Pn**	**22 08 30.7**	**0.0**
G26K	**Porcupine Rive** baz=209	**7.67**	**22**	P	**Pn**	**22 08 31.9**	**-0.2**
S31K	**Pelican** baz=292	**7.91**	**99**	P	**Pn**	**22 08 35.2**	**-0.2**
BMAR	**Burnt Mountain**	**7.96**	**18**	Pn	**Pn**	**22 08 36.2**	**0.0**
WHY	**Whitehorse**	**8.03**	**78**	Pn	**Pn**	**22 08 38.2**	**+1.1**
TOLK	**Toolik Lake Re**	**8.68**	**3**		**Pn**	**22 08 47.1**	**+1.1**
SIT	**Sitka**	**8.72**	**103**	Pn	**Pn**	**22 08 46.1**	**-0.4**
P33M	**Teslin, Yukon**	**9.09**	**81**	Pn	**Pn**	**22 08 51.8**	**+0.2**
TNA	**Tin City**	**9.51**	**313**	Pn	**Pn**	**22 08 57.8**	**+0.5**
UNV	**Unalaska Valle**	**10.47**	**241**	Pn	**Pn**	**22 09 10.3**	**0.0**
WRAK	**Wrangell Islan**	**10.47**	**102**	Pn	**Pn**	**22 09 11.2**	**+0.8**
DLBC	**Dease Lake** comp=N,3.0nm,0.3s,baz=279,slow=8.1,SNR=14	**10.86**	**89**	P	**Pn**	**22 09 17.9**	**+2.2**
INK	**Inuvik** comp=N,1.8nm,0.8s,baz=241,slow=17,SNR=5.1	**11.23**	**35**	P	**Pn**	**22 09 19.6**	**-1.1**
MOBC	**Moresby Island**	**12.52**	**115**	Pn	**Pn**	**22 09 38.9**	**+0.5**
YKA	**Yellowknife Ar** comp=N,1.1nm,0.7s,baz=278,slow=13,SNR=4.0	**17.53**	**66**	P	**P**	**22 10 42.7**	**0.0**
ARCES	**ARCESS Array B** comp=N,2.8nm,1.1s,baz=358,slow=8.4,SNR=1.4 comp=N,2.8nm,1.1s	**50.72**	**2**	P	**P**	**22 15 33.6**	**-1.4**
SONM	**Songino Array** comp=N,0.6nm,0.7s,baz=42,slow=6.6,SNR=3.9 comp=N,0.6nm,0.7s	**55.58**	**307**	P	**P**	**22 16 12.4**	**+1.3**
ZALV	**Zalesovo Beam** comp=N,0.4nm,0.5s,baz=25,slow=4.8,SNR=2.0 comp=N,0.4nm,0.5s	**57.94**	**325**	P	**P**	**22 16 29.9**	**+2.3**
KURBB	**Kurchatov Arra** comp=N,0.2nm,0.5s,baz=30,slow=6.5,SNR=2.1 comp=N,0.2nm,0.5s	**62.68**	**327**	P	**P**	**22 16 59.5**	**-0.4**
AKASG	**Malin Array Be** comp=N,0.2nm,0.3s,baz=0.7,slow=7.3,SNR=1.3 comp=N,0.2nm,0.3s	**69.64**	**360**	P	**P**	**22 17 43.4**	**-1.0**

*IDC **22** 22:06:48.2±1.9, 43.97°N×105.69°W, h0km, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=75.6km s-min=9.2km az=147.0*
*NEIC **22** 22:06:49.4±2.3, 43.72°N±0.02°×105.32°W±0.05, h0km±2km, ML3.2/50, Error ellipse: s-maj=7.0km s-min=3.1km az=59.0*

ISC 22 22:06:48.3±1.0, **43.74°N**±0.06°×**105.37°W**±0.06°, **h0km**, **n42**, **σ1s49/41**, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**68**	Pg	**Pg**	**22 07 06.5**	**-1.7**
K22A	**Casper**	**1.38**	**218**	Pn	**Pg**	**22 07 12.8**	**-1.9**
K22A	comp=E,304nm,0.3s			IAML		22 07 41.4	
K22A	comp=N,448nm,0.3s			IAML		22 07 43.3	
PHWY	**Pilot Hill**	**2.44**	**182**	Pn	**Pn**	**22 07 30.2**	**+0.5**
RWWY	**Rawlins**	**2.46**	**214**	Pn	**Pn**	**22 07 29.7**	**-0.2**
RWWY	comp=N,154nm,0.8s			IAML		22 08 07.5	
RWWY	comp=N,153nm,1.2s			IAML		22 08 09.1	
N23A	**Red Feather La**	**2.87**	**189**	Pn	**Pn**	**22 07 36.1**	**+0.5**
N23A	comp=N,78nm,0.4s			IAML		22 08 27.2	
N23A	comp=E,59nm,0.9s			IAML		22 08 34.5	
RLMT	**Red Lodge**	**3.12**	**298**	Pn	**Pn**	**22 07 38.8**	**-0.2**
RLMT	comp=E,44nm,1.1s			IAML		22 08 36.6	
BW06	**Boulder Array**	**3.21**	**254**	Pn	**Pn**	**22 07 42.3**	**+2.0**
PD31	**Pinedale Array**	**3.21**	**254**	Pn	**Pn**	**22 07 40.7**	**+0.4**
PDAR	**Pinedale Array** comp=E,3.8nm,0.3s,baz=72,slow=15,SNR=33	**3.21**	**254**	Pn	**Pn**	**22 07 40.6**	**+0.4**
PDAR	baz=79,slow=34 comp=E,3.0nm,0.4s			Lg	Lg	22 08 23.6	
PDAR	**Pinedale Array**	**3.21**	**254**	Pn	**Pn**	**22 07 40.4**	**+0.2**
YMP	**Mirror Lake Pl**	**3.58**	**288**	Pn	**Pn**	**22 07 47.1**	**+1.7**
GCMT	**Greycliff**	**3.69**	**305**	Pn	**Pn**	**22 07 47.0**	**+0.3**
LOHW	**Long Hollow**	**3.80**	**270**		**Pn**	**22 07 50.0**	**+1.6**
H17A	**Grant Village**	**3.81**	**282**	Pn	**Pn**	**22 07 51.2**	**+2.7**
H17A	comp=N,25nm,1.1s			IAML		22 08 54.1	
FLWY	**Flagg Ranch**	**3.87**	**277**		**Pn**	**22 07 50.0**	**+0.8**
FLWY	comp=N,26nm,1.1s			IAML		22 09 18.3	
MOOW	**Moose Ponds**	**3.90**	**272**	Pn	**Pn**	**22 07 51.0**	**+1.3**
SNOW	**Snow King Moun**	**3.92**	**268**	Pn	**Pn**	**22 07 51.6**	**+1.6**
SNOW	comp=N,35nm,0.9s			IAML		22 08 59.7	
SNOW	comp=N,32nm,1.1s			IAML		22 09 22.1	
TPAW	**Teton Pass**	**4.06**	**268**		**Pn**	**22 07 53.4**	**+1.4**
TPAW	comp=N,31nm,1.0s			IAML		22 09 15.8	
TPAW	comp=N,20nm,0.9s			IAML		22 09 16.7	
O20A	**White River Ci**	**4.19**	**212**		**Pn**	**22 07 56.2**	**+2.5**
O20A	comp=N,31nm,2.9s			IAML		22 09 47.2	
AHID	**Auburn Hatcher**	**4.30**	**259**		**Pn**	**22 07 55.9**	**+0.7**
AHID	comp=N,27nm,1.1s			IAML		22 09 10.9	
AHID	comp=N,26nm,0.7s			IAML		22 09 14.2	
E28A	**Huff**	**4.36**	**48**	Pn	**Pn**	**22 07 57.7**	**+2.0**
RDMU	**Red Mountain**	**4.45**	**226**		**Pn**	**22 07 58.6**	**+1.4**
RDMU	comp=E,30nm,1.0s			IAML		22 09 16.3	
RDMU	comp=N,19nm,0.7s			IAML		22 09 16.9	
Q24A	**Divide**	**4.77**	**178**	Pn	**Pn**	**22 08 03.6**	**+1.8**
DGMT	**Dagmar**	**4.80**	**9**		**Pn**	**22 08 03.7**	**+1.8**
BOZ	**Bozeman (W)**	**4.84**	**295**	Pn	**Pn**	**22 08 02.8**	**+0.3**
BOZ	comp=N,12nm,1.2s			IAML		22 09 24.4	
BOZ	comp=N,17nm,1.4s			IAML		22 09 26.0	
HWUT	**Hardware Ranch**	**5.04**	**247**		**Pn**	**22 08 06.5**	**+1.1**
TCUT	**Toone Canyon**	**5.18**	**242**	Pn	**Pn**	**22 08 08.4**	**+1.1**
EGMT	**Eagleton**	**5.27**	**326**		**Pn**	**22 08 09.2**	**+0.9**
LRM	**Limekiln Ridge**	**5.46**	**295**	Pn	**Pn**	**22 08 13.8**	**+2.7**
P18A	**Preston Nutter**	**5.50**	**223**	Pn	**Pn**	**22 08 12.0**	**+0.3**
MDND	**Maddock**	**5.75**	**42**	Pn	**Pn**	**22 08 16.0**	**+1.0**
HVU	**Hansel Valley**	**5.79**	**253**	Pn	**Pn**	**22 08 17.8**	**+2.1**
PV11	**David Mesa, Pa**	**6.05**	**207**	Pn	**Pn**	**22 08 21.3**	**+2.1**
ECSD	**EROS Data Cent**	**6.34**	**87**		**Pn**	**22 08 23.9**	**+0.9**
T25A	**Trinidad**	**6.63**	**173**	Pn	**Pn**	**22 08 27.8**	**+0.6**
F33A	**5 Mile Ranch,**	**6.79**	**69**	Pn	**Pn**	**22 08 30.6**	**+1.4**
MSU	**Marysvale**	**7.33**	**227**	Pn	**Pn**	**22 08 36.9**	**+0.2**
ELK	**Elko** comp=N,0.1nm,0.3s,baz=78,slow=6.8,SNR=1.3 comp=N,0.4nm,0.3s	**7.91**	**251**	Pn	**Pn**	**22 08 46.2**	**+1.4**
AGMN	**Agassiz Nation**	**8.03**	**52**	Pn	**Pn**	**22 08 46.8**	**+0.6**
I10CA	**LAC DU BONNET** baz=222,slow=307,SNR=5.6	**9.08**	**41**	I		22 59 50.0	
ULM	**Lac du Bonnet** comp=N,1.4nm,0.3s,baz=230,slow=13,SNR=8.4	**9.19**	**42**	Pn	**Pn**	**22 08 59.7**	**-2.3**
ULM				Lg	Lg	22 11 29.7	
	comp=N,0.3nm,0.3s,baz=308,slow=21,SNR=1.7 comp=N,3.2nm,0.4s						
NVAR	**Mina Array Bea** comp=N,0.1nm,0.3s,baz=58,slow=13,SNR=3.5 comp=N,0.5nm,0.6s	**11.11**	**246**	Pn	**Pn**	**22 09 30.1**	**+1.5**

*IDC **22** 22:10:14.3±2.4, 37.03°N×141.73°E, h0km, mb3.2/3, mbtmp3.3/5, ML2.6/2, MS2.1/1, Error ellipse: s-maj=41.4km s-min=26.2km az=77.0*
*JMA **22** 22:10:18.8±0.2, 37.1°N±0.3°×141.4°E±0.8, h27km±1km, MV3.4/38, E OFF FUKUSHIMA PREF*

ISC 22 22:10:16.7±1.8, **37.11°N**±0.04°×**141.50°E**±0.07°, **h11km**±10km, **n20**, **σ0s89/25**, **mb3.2/3**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**298**	P	**Pg**	**22 10 28.1**	**+0.4**
JFK				S	**Sg**	**22 10 34.9**	**-0.3**
JFFD	**Fukushimafurud**	**0.75**	**269**	*i* P	**Pg**	**22 10 31.5**	**+0.3**
JFFD				S	**Sg**	**22 10 40.4**	**-0.6**
JMST	**Minamisoumatoc**	**0.79**	**322**	P	**Pg**	**22 10 32.1**	**+0.2**
JMST				S	**Sg**	**22 10 42.2**	**0.0**
JHO	**Hitachi**	**0.90**	**237**	P	**Pb**	**22 10 33.9**	**-0.3**
JHO				S	**Sg**	**22 10 45.0**	**-0.6**
JMM	**Marumori**	**0.94**	**324**	P	**Pb**	**22 10 35.0**	**-0.1**
JMM				S	**Sb**	**22 10 46.8**	**-0.8**
JSB	**Shiboa**	**1.27**	**264**	*e* P	**Pn**	**22 10 40.5**	**+0.2**
JSB				S	**Sb**	**22 10 57.0**	**0.0**
JIO	**Ouri**	**1.35**	**355**	P	**Pn**	**22 10 41.8**	**+0.3**
JIO				*e* S	**Sn**	**22 10 57.7**	**-1.7**
JOU	**Okura**	**1.42**	**332**	P	**Pb**	**22 10 43.4**	**+0.2**
JOU				S	**Sn**	**22 11 01.9**	**+0.7**
JFY	**Yanaizu**	**1.46**	**282**	P	**Pb**	**22 10 44.0**	**+0.1**
JFY				*i* S	**Sn**	**22 11 02.1**	**-0.1**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=82,slow=15,SNR=14	**2.70**	**259**	Pn	**Pn**	**22 11 00.7**	**+0.7**
MJAR	0.4nm,0.3s,baz=75,slow=17,SNR=5.1			Sn	**Sb**	**22 11 36.4**	**-1.7**
MJAR	comp=Z,29nm,19.4s,baz=56,slow=40 2.1nm,0.4s			LR	LR	22 12 08.3	
JHJ	**Hachijo jima 2** 2.7nm,0.3s,baz=75,slow=20,SNR=2.5	**4.22**	**200**	Pn	**Pn**	**22 11 20.9**	**0.0**
JHJ	7.3nm,0.3s,baz=66,slow=20,SNR=1.2 116nm,0.8s			Sn	**Sn**	**22 12 11.5**	**+1.4**
SONM	**Songino Array** 0.2nm,0.4s,baz=104,slow=6.1,SNR=1.4 0.2nm,0.4s	**27.80**	**304**	P	**P**	**22 16 07.7**	**+1.9**
H11N2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=32	**28.12**	**121**	T	T	22 45 43.1	
H11N1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=25	**28.13**	**121**	T	T	22 45 43.5	
H11N3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=21	**28.14**	**121**	T	T	22 45 44.5	
H11S1	**WAKE ISLAND Hy** baz=315,slow=76,SNR=13	**28.84**	**123**	T	T	22 46 38.5	
H11S3	**WAKE ISLAND Hy** baz=315,slow=76,SNR=7.1	**28.84**	**123**	T	T	22 46 38.5	
H11S2	**WAKE ISLAND Hy** baz=315,slow=76,SNR=7.6	**28.86**	**123**	T	T	22 46 39.4	
KURBB	**Kurchatov Arra** 0.1nm,0.4s,baz=80,slow=7.7,SNR=2.0 0.1nm,0.4s	**46.01**	**308**	P	**P**	**22 18 40.3**	**+0.4**
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=4.0,slow=7.2,SNR=2.6 0.2nm,0.7s	**57.14**	**188**	P	**P**	**22 20 01.9**	**-1.4**

*IDC **22** 22:13:47.8±2.3, 37.40°N×141.78°E, h0km, mb3.3/3, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=42.1km s-min=26.7km az=83.0*
*JMA **22** 22:13:51.9±0.2, 37.4°N±0.3°×141.5°E±0.9, h24km±1km, MV3.5/38, E OFF FUKUSHIMA PREF*

ISC 22 22:13:50.2±2.3, **37.35°N**±0.04°×**141.56E**±0.10°, **h10km**±13km, **n18**, **σ0s68/20**, **mb3.3/3**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**272**	*i* P	**Pg**	**22 14 01.4**	**+0.6**
JFK				S	**Sg**	**22 14 08.3**	**+0.1**
JMST	**Minamisoumatoc**	**0.65**	**305**	P	**Pg**	**22 14 03.4**	**+0.6**
JMST				S	**Sg**	**22 14 11.8**	**+0.3**
JMM	**Marumori**	**0.80**	**310**	P	**Pg**	**22 14 05.8**	**+0.2**
JMM				S	**Sg**	**22 14 15.5**	**-0.5**
JFFD	**Fukushimafurud**	**0.84**	**252**	P	**Pg**	**22 14 06.6**	**+0.2**
JFFD				S	**Sg**	**22 14 16.9**	**-0.4**
JHO	**Hitachi**	**1.09**	**227**	P	**Pb**	**22 14 09.9**	**-1.2**
JIO	**Ouri**	**1.11**	**351**	P	**Pb**	**22 14 11.3**	**-0.3**
JIO				*e* S	**Sb**	**22 14 25.2**	**-1.0**
JOU	**Okura**	**1.24**	**325**	P	**Pn**	**22 14 13.9**	**+0.3**
JOU				S	**Sb**	**22 14 29.9**	**+0.2**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=75,slow=17,SNR=7.7	**2.81**	**254**	Pn	**Pn**	**22 14 36.0**	**+0.8**
MJAR	0.5nm,0.3s,baz=56,slow=20,SNR=5.1 1.0nm,0.3s			Sn	**Sb**	**22 15 14.4**	**-0.5**
JHJ	**Hachijo jima 2** 6.8nm,0.3s,baz=70,slow=17,SNR=1.3	**4.47**	**200**	Pn	**Pn**	**22 14 58.4**	**+0.3**
JHJ	7.9nm,0.3s,baz=72,slow=20,SNR=1.2 109nm,0.7s			Sn	**Sn**	**22 15 51.5**	**+1.4**
H11N2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=50	**28.21**	**121**	T	T	22 49 15.9	
H11N1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=38	**28.22**	**122**	T	T	22 49 16.6	
H11N3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=34	**28.23**	**121**	T	T	22 49 17.4	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=28	**28.93**	**124**	T	T	22 50 34.6	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=22	**28.93**	**124**	T	T	22 50 34.7	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=29	**28.95**	**124**	T	T	22 50 10.3	
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=101,slow=7.5,SNR=2.2 0.5nm,0.5s	**41.79**	**312**	P	**P**	**22 21 39.8**	**+0.1**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=90,slow=10,SNR=2.0 0.4nm,0.8s	**44.05**	**302**	P	**P**	**22 21 57.3**	**-0.9**
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=9.4,slow=7.0,SNR=1.3 0.2nm,0.7s	**57.39**	**188**	P	**P**	**22 23 38.9**	**0.0**

*ISK **22** 22:40:05.9, 34.59°N×33.56E, h18km, ML3.1/19*
*DDA **22** 22:40:06.4±0.0, 34.81°N×33.47E, h10km±1km, ML2.6*
*NIC **22** 22:40:07.4±0.0, 34.72°N×33.58E, h22km, Ml2.9/8*
*GII **22** 22:40:09.4±0.3, 34.73°N×33.69E, h60km, Mm2.7/5*

ISC 22 22:40:07.7±0.9, **34.72N**±0.02°×**33.55E**±0.02°, **h28km**±7km, **n67**, **σ1s62/104**, **3C-1D**, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.26**	**286**	*i* P	**Pb**	**22 40 13.8**	**-0.6**
ASGA				S	**Sb**	**22 40 18.9**	**-0.2**
ASGA	5.3nm,0.3s			AML	AML	22 40 20.1	
ASGA	5.3nm,0.3s			AML	AML	22 40 20.1	
ASGA	4.5nm,0.5s			AML	AML	22 40 20.7	
ASGA	4.5nm,0.5s			AML	AML	22 40 20.7	
MVOU	**Mavrovouni**	**0.31**	**12**	*i* P	**Pb**	**22 40 14.7**	**-0.4**
MVOU				S	**Sb**	**22 40 19.9**	**-0.2**
MVOU	3.5nm,0.3s			AML	AML	22 40 22.5	
MVOU	3.5nm,0.3s			AML	AML	22 40 22.5	
MVOU	3.3nm,0.2s			AML	AML	22 40 22.6	
MVOU	3.3nm,0.2s			AML	AML	22 40 22.6	
CSS	**Mathiatis**	**0.31**	**323**	PG	**Pb**	**22 40 14.4**	**-0.8**
CSS	**Mathiatis**	**0.31**	**323**	*i* P	**Pb**	**22 40 14.3**	**-0.8**
CSS				S	**Sb**	**22 40 20.1**	**-0.1**
ATHAL	**Athalassa**	**0.44**	**343**	P	**Pb**	**22 40 17.1**	**-0.1**
ATHAL				S	**Sb**	**22 40 23.9**	**+0.3**
ATHAL	7.0nm,0.5s			AML	AML	22 40 31.6	
ATHAL	4.3nm,0.4s			AML	AML	22 40 32.5	
ATHAL	4.3nm,0.4s			AML	AML	22 40 32.5	
SZAC	**Souni**	**0.56**	**274**	*i* P	**Pb**	**22 40 19.1**	**+0.1**
SZAC				S	**Sn**	**22 40 28.0**	**-0.2**
SZAC	5.3nm,0.3s			AML	AML	22 40 29.1	
SZAC	5.3nm,0.3s			AML	AML	22 40 29.1	
SZAC	2.6nm,0.1s			AML	AML	22 40 29.4	
SZAC	2.6nm,0.1s			AML	AML	22 40 29.4	
LFK	**Lefkose**	**0.56**	**358**	PG	**Pn**	**22 40 20.0**	**0.0**
LFK				SG	**Sn**	**22 40 30.1**	**+1.6**
TROD	**Troodos**	**0.61**	**292**	P	**Pb**	**22 40 20.0**	**0.0**
TROD				S	**Sn**	**22 40 30.1**	**+0.3**
TROD	1.9nm,0.3s			AML	AML	22 40 33.8	
TROD	1.9nm,0.3s			AML	AML	22 40 33.8	
TROD	2.3nm,0.5s			AML	AML	22 40 34.5	
TROD	2.3nm,0.5s			AML	AML	22 40 34.5	
LEF	**Lefka**	**0.68**	**307**	PG	**Pn**	**22 40 21.6**	**+0.1**
AKDN	**Akdeniz- Kıbrı**	**0.76**	**321**	PG	**Pn**	**22 40 23.3**	**+0.7**
AKDN				SG	**Sn**	**22 40 35.5**	**+2.4**
NATA	**Nata**	**0.81**	**275**	P	**Pn**	**22 40 23.8**	**+0.4**
NATA				S	**Sn**	**22 40 36.3**	**+1.8**
NATA	3.9nm,0.7s			AML	AML	22 40 40.7	
NATA	3.9nm,0.7s			AML	AML	22 40 40.7	
NATA	1.9nm,0.5s			AML	AML	22 40 44.7	
NATA	1.9nm,0.5s			AML	AML	22 40 44.7	
ALFC	**Alefka**	**0.90**	**300**	P	**Pb**	**22 40 24.8**	**0.0**
ALFC				S	**Sn**	**22 40 38.1**	**+1.4**
ALFC	1.9nm,0.5s			AML	AML	22 40 40.9	
ALFC	1.9nm,0.5s			AML	AML	22 40 40.9	
ALFC	1.9nm,0.7s			AML	AML	22 40 44.5	
ALFC	1.9nm,0.7s			AML	AML	22 40 44.5	
EREN	**Erenkoy**	**0.96**	**32**	PG	**Pn**	**22 40 26.5**	**+1.2**
AKMS	**Akamas**	**1.05**	**287**	P	**Pb**	**22 40 27.6**	**+0.3**
AKMS				S	**Sn**	**22 40 42.0**	**+1.7**
AKMS	1.0nm,0.4s			AML	AML	22 40 46.4	
AKMS	1.0nm,0.4s			AML	AML	22 40 46.4	
AKMS	1.1nm,0.3s			AML	AML	22 40 47.7	
AKMS	1.1nm,0.3s			AML	AML	22 40 47.7	
AKKU	**Akkuyu-Mersin**	**1.44**	**360**	PN	**Pb**	**22 40 32.9**	**-1.0**
TISA	**Tisan-Mersin**	**1.45**	**4**	PN	**Pb**	**22 40 33.7**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.47**	**360**	P	**Pn**	**22 40 32.5**	**+0.2**
GULN				S	**Sb**	**22 40 52.1**	**-0.4**
TEKE	**Tekeli-Mersin**	**1.47**	**346**	PN	**Pb**	**22 40 33.5**	**-0.9**
KARG	**Kargicak-Mersi**	**1.49**	**5**	PN	**Pb**	**22 40 34.2**	**-0.6**
IKL	**Isikli**	**1.52**	**4**	PN	**Pb**	**22 40 34.8**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.72**	**357**	PN	**Pb**	**22 40 37.7**	**-1.0**
KEBE	**Keben-Mersin**	**1.73**	**4**	PN	**Pb**	**22 40 37.8**	**-1.1**
GAZI	**Gazipasa**	**1.82**	**327**	PN	**Pn**	**22 40 38.9**	**+1.6**
GAZI	**Gazipasa**	**1.82**	**327**	P	**Pn**	**22 40 38.4**	**+1.1**
GAZI				S	**Sn**	**22 41 00.4**	**+1.0**
GAZI	comp=N,110nm,0.4s			*i* AML	AML	22 41 03.0	
KIZK	**Mersin**	**1.83**	**15**	PN	**Pb**	**22 40 39.2**	**-1.3**
KIZK	**Mersin**	**1.83**	**15**	P	**Pn**	**22 40 38.3**	**+1.0**
KIZK				S	**Sn**	**22 41 00.5**	**+1.0**
ERMK	**Ermenek**	**1.99**	**345**	P	**Pn**	**22 40 41.5**	**+1.8**
ERMK				S	**Sb**	**22 41 09.0**	**+1.1**
ERMK	comp=E,56nm,0.5s			*i* AML	AML	22 41 12.0	
ERMK	comp=N,51nm,0.6s			*i* AML	AML	22 41 19.0	
HNTI	**Hanita**	**2.11**	**140**	Pn	**Pn**	**22 40 41.5**	**+0.2**
HNTI				Sn	**Sn**	**22 41 06.1**	**-0.5**
OSC1	**CSNet OBS 1**	**2.25**	**238**	P	**Pn**	**22 40 43.3**	**+0.3**
OSC1				S	**Sn**	**22 41 11.7**	**+1.9**
MMC7	**Mount Meron ar**	**2.28**	**137**	Pn	**Pn**	**22 40 43.6**	**0.0**
MERS	**Mersin**	**2.29**	**20**	PN	**Pn**	**22 40 45.5**	**+1.8**
MMA0B	**Mount Meron ar**	**2.29**	**137**	Pn	**Pn**	**22 40 43.3**	**-0.4**
MMA0B				Sn	**Sn**	**22 41 11.3**	**+0.2**
GEM	**Giv'at Ha'Em**	**2.31**	**130**	Pn	**Pn**	**22 40 44.4**	**+0.5**
GEM				Sn	**Sn**	**22 41 10.3**	**-1.1**
NATI	**Neve Ativ**	**2.32**	**128**	Pn	**Pn**	**22 40 44.6**	**+0.5**
NATI				Sn	**Sn**	**22 41 10.1**	**-1.6**
OFRI	**`Ofer**	**2.41**	**150**	Pn	**Pn**	**22 40 45.1**	**-0.2**
HDMB	**Hadim**	**2.41**	**339**	PN	**Pn**	**22 40 47.4**	**+1.9**
DED	**Mersin**	**2.46**	**24**	P	**Pn**	**22 40 46.9**	**+0.9**
DED				S	**Sn**	**22 41 14.6**	**-0.5**
KRMN	**Karaman**	**2.46**	**355**	PN	**Pn**	**22 40 48.2**	**+2.0**
KKBE	**Karaman, Kazim**	**2.55**	**349**	P	**Pn**	**22 40 49.7**	**+2.3**
KKBE				S	**Sb**	**22 41 21.5**	**-2.3**
KEPZ	**Antalya-Kepez**	**2.70**	**325**	P	**Pn**	**22 40 51.2**	**+1.9**
KEPZ				S	**Sn**	**22 41 24.8**	**+3.7**
TAHT	**Tahtakopru-Hat**	**2.71**	**52**	PN	**Pn**	**22 40 51.8**	**+2.3**
KERG	**Konya-Eregli**	**2.73**	**10**	P	**Pn**	**22 40 52.7**	**+2.8**
KERG				S	**Sb**	**22 41 25.7**	**-3.4**
GULE	**Gulek**	**2.75**	**21**	P	**Pn**	**22 40 53.0**	**+2.8**
GULE	comp=E,27nm,0.7s			*i* AML	AML	22 41 39.0	
MMLI	**Mount Malkishu**	**2.75**	**145**	Pn	**Pn**	**22 40 50.9**	**+0.8**
MMLI				Sn	**Sn**	**22 41 23.1**	**+0.6**
SLTI	**Sal'it**	**2.76**	**153**	Pn	**Pn**	**22 40 51.3**	**+1.1**
SLTI				Sn	**Sn**	**22 41 23.9**	**+1.3**
KARA	**Karaisali**	**2.82**	**25**	PN	**Pn**	**22 40 52.9**	**+2.0**
HMDT	**Nahal Hemdat**	**2.96**	**146**	Pn	**Pn**	**22 40 53.6**	**+0.7**
HMDT				Sn	**Sn**	**22 41 28.4**	**+1.0**
SEYD	**Seydisehir-KON**	**3.02**	**333**	PN	**Pn**	**22 40 56.1**	**+2.2**
YESY	**Yesilyurt**	**3.06**	**3**	PN	**Pn**	**22 40 57.4**	**+2.9**
SEDI	**Konya, Seydise**	**3.10**	**332**	P	**Pb**	**22 40 58.8**	**-3.4**
SEDI				S	**Sb**	**22 41 36.8**	**-2.8**
CMRD	**Camardi-Nigde**	**3.16**	**21**	PN	**Pn**	**22 40 58.0**	**+2.2**
KOZT	**Kozan**	**3.32**	**33**	PN	**Pn**	**22 41 00.1**	**+2.3**
AMAZ	**Amatzia**	**3.37**	**160**	Pn	**Pn**	**22 40 59.7**	**+1.1**
AMAZ				Sn	**Sn**	**22 41 38.9**	**+1.2**
NIDE	**Nigde/Merkez-G**	**3.42**	**16**	P	**Pn**	**22 41 02.0**	**+2.6**
KORT	**Korkueli**	**3.46**	**312**	PN	**Pn**	**22 41 02.2**	**+2.3**
DSI	**Dead Sea**	**3.49**	**153**	Pn	**Pn**	**22 41 01.7**	**+1.5**
DSI				Sn	**Sn**	**22 41 41.1**	**+0.5**
KZIT	**Kziot**	**3.86**	**169**	Pn	**Pn**	**22 41 07.8**	**+2.5**
KZIT			

SRBI	**Singaraja**	**0.55**	**288**	P	Pn	22 51 29.0	-0.8
SRBI				S	Sb	22 51 36.8	+1.2
DNP	**Denpasar**	**0.67**	**232**	P	Pb	22 51 30.6	+0.5
IGBI	**Denpasar**	**0.81**	**227**	P	Pb	22 51 32.9	+0.4
TWSI	**Taliwang, Sumb**	**1.23**	**113**	P	Pn	22 51 39.2	+0.1
TWSI				S	Sb	22 51 54.4	-0.6
ABJI	**Asem Bagus**	**1.56**	**287**	P	Pn	22 51 44.0	+0.3
JAGI	**Jajag, Banyuwa**	**1.58**	**262**	P	Pn	22 51 43.8	-0.3
PLAI	**Plampang**	**2.09**	**106**	P	Pn	22 51 51.2	+0.2
GMJI	**Gumukmas**	**2.27**	**270**	P	Pn	22 51 53.7	+0.2
WBSI	**Waikabubak, Su**	**3.86**	**111**	P	Pn	22 52 02.2	-13

*IDC **22** 23:03:44.3±2.8, 37°.31N×141°.80E, h0km, mb3.2/2, mbtmp3.1/3, ML2.0/1, Error ellipse: s-maj=50.3km s-min=36.7km az=45.0*

*JMA **22** 23:03:49.8±0.2, 37°.2N±0°.3×141°.5E±0°.8, h32km±1km, MV3.4/38, E OFF FUKUSHIMA PREF*

ISC 22 23:03:47.2±1.9, 37°.19N±0°.04×141°.57E±0°.08, h11km±10km, n21, σ0°90/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.58**	**288**	*i* P	**Pb**	**23 03 59.7**	**+0.4**
JFK				S	**Sb**	**23 04 06.7**	**-0.9**
JMST	**Minamisoumatoc**	**0.76**	**315**	*i* P	**Pg**	**23 04 02.6**	**+0.7**
JMST				S	**Sg**	**23 04 11.7**	**-0.1**
JFFD	**Fukushimafurud**	**0.81**	**263**	*i* P	**Pg**	**23 04 03.3**	**+0.5**
JFFD				S	**Sg**	**23 04 13.0**	**-0.4**
JMM	**Marumori**	**0.91**	**318**	P	**Pg**	**23 04 05.1**	**+0.3**
JMM				S	**Sg**	**23 04 15.7**	**-0.9**
JHO	**Hitachi**	**0.99**	**234**	P	**Pg**	**23 04 06.1**	**-0.1**
JHO				S	**Sg**	**23 04 17.5**	**-1.5**
JIO	**Ouri**	**1.27**	**352**	P	**Pn**	**23 04 11.0**	**+0.1**
JIO				S	**Sb**	**23 04 26.4**	**-1.1**
JSB	**Shiboa**	**1.33**	**261**	*e*P	**Pn**	**23 04 12.9**	**+1.1**
JSB				*e*S	**Sb**	**23 04 28.9**	**-0.4**
JOU	**Okura**	**1.37**	**329**	P	**Pn**	**23 04 13.2**	**+0.9**
JOU				S	**Sb**	**23 04 29.9**	**-0.6**
JFY	**Yanaizu**	**1.50**	**279**	P	**Pn**	**23 04 14.9**	**+0.9**
JFY				S	**Sn**	**23 04 33.2**	**-0.3**
MJAR	**Matsushiro Arr**	**2.77**	**257**	Pn	**Pn**	**23 04 33.0**	**+1.5**
	0.2nm,0.3s,baz=78,slow=14,SNR=1.6						
MJAR				Sn	**Sb**	**23 05 09.3**	**-1.3**
	0.5nm,0.3s,baz=74,slow=14,SNR=4.6						
	1.3nm,0.2s						
SONM	**Songino Array**	**27.80**	**304**	P	**P**	**23 09 35.6**	**-0.7**
	0.2nm,0.5s,baz=89,slow=7.4,SNR=1.5						
	0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	23 39 03.8	
	baz=314,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	23 39 08.4	
	baz=314,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	23 39 09.2	
	baz=314,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.84**	**123**	T	T	23 40 03.5	
	baz=316,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.84**	**123**	T	T	23 40 02.7	
	baz=316,slow=76,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	23 40 03.8	
	baz=316,slow=76,SNR=8.9						
WRA	**Warramunga Arr**	**57.23**	**188**	P	**P**	**23 13 34.6**	**+0.1**
	0.2nm,0.7s,baz=7.0,slow=7.6,SNR=1.4						
	0.2nm,0.7s						
H03N2	**Juan Fernandez**	**146.92**	**96**	T	T	02 07 44.0	
	baz=286						
H03N3	**Juan Fernandez**	**146.93**	**96**	T	T	02 07 44.7	
	baz=286						
H03N1	**Juan Fernandez**	**146.94**	**96**	T	T	02 07 45.4	
	baz=286						

*IDC **22** 23:22:32.9±0.6, 37°.02N×141°.33E, h0km, mb4.1/17, mbtmp4.0/21, ML3.4/4, MS3.4/14, Error ellipse: s-maj=17.6km s-min=14.6km az=89.0*

*NIED **22** 23:22:34.4, 37°.05N×141°.37E, h25km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=1.18; Mθθ=0.57; Mθφ=0.60; Mrθ=0.36; Mθφ=0.62; Mφr=0.42; Fault plane solution: Mo=1.32000×10^15 NP1:φs=46.00000°, δ=33.00000°, λ=-87.00000°. NP2:φs=223.00000°, δ=57.00000°, λ=-92.00000°.*

*NEIC **22** 23:22:34.8±2.1, 37°.08N±0°.05×141°.33E±0°.09, h10km±1km, mb4.4/15, Mwr3.9/15 Error ellipse: s-maj=11.6km s-min=7.7km az=86.0*

*JMA **22** 23:22:34.4±0.1, 37°.1N±0°.3×141°.4E±0°.7, h25km, MD4.3/40, MV4.3/40, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

*NEIC **22** 23:22:34.8, 37°.07N×141.32E, h3km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=7.02; Mθθ=2.96; Mφφ=4.06; Mrθ=0.69; Mθφ=4.11; Mφr=2.08; Fault plane solution: Mo=7.68000×10^14 NP1:φs=228.50000°, δ=37.76000°, λ=-78.65000°. NP2:φs=34.25000°, δ=53.10000°, λ=-98.67000°. Principal axes: T 7.9273, Plg8.0000°, Azm130.0000°; N -0.5269, Plg7.0000°, Azm39.0000°; P -7.4003, Plg80.0000°, Azm268.0000°;*

ISC 22 23:22:34.8±1.5, 37°.06N±0°.03×141°.33E±0°.05, h12km±8km, n100, σ1°00/84, mb4.2/26, MS3.5/9, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.47**	**310**	*i* P	**Pg**	**23 22 44.4**	**+0.3**
JFK				S	**Sb**	**23 22 51.5**	**-0.5**
JFK	**Kawauchi**	**0.47**	**310**	A	A	23 22 44.4	
	comp=E,9.0nm,5.7s,comp=E,8.0nm,3.1s						
JFFD	**Fukushimafurud**	**0.62**	**273**	*i* P	**Pg**	**23 22 46.8**	**0.0**
JFFD				S	**Sb**	**23 22 55.5**	**-0.7**
JFFD	**Fukushimafurud**	**0.62**	**273**	A	A	23 22 46.8	
	comp=E,9.0nm,0.5s,comp=E,15nm,0.3s						
JMST	**Minamisoumatoc**	**0.75**	**332**	*i* P	**Pg**	**23 22 49.0**	**-0.3**
JMST				S	**Sg**	**23 22 59.5**	**+0.4**
JMST	**Minamisoumatoc**	**0.75**	**332**	A	A	23 22 49.0	
	comp=E,16nm,0.5s,comp=E,44nm,0.5s						
JHO	**Hitachi**	**0.76**	**234**	⇓*i* P	**Pg**	**23 22 48.8**	**-0.6**
JHO				⇓S	**Sb**	**23 22 59.5**	**-0.7**
JMM	**Marumori**	**0.91**	**332**	Pg	**Pg**	**23 22 51.4**	**-0.9**
JMM	**Marumori**	**0.91**	**332**	P	**Pg**	**23 22 51.7**	**-0.6**
JMM	**Marumori**	**0.91**	**332**	P	**Pg**	**23 22 51.5**	**-0.8**
JMM				S	**Sg**	**23 23 04.1**	**0.0**
JMM	**Marumori**	**0.91**	**332**	A	A	23 22 51.5	
	comp=E,15nm,0.6s,comp=E,26nm,0.5s						
JSB	**Shiboa**	**1.13**	**266**	P	**Pn**	**23 22 56.4**	**-0.1**
JSB				S	**Sn**	**23 23 11.9**	**-0.1**
JYAR	**Yonezawaarcadi**	**1.27**	**312**	A	A	23 22 57.3	
	comp=E,44nm,0.8s,comp=E,54nm,0.6s						
JFY	**Yanaizu**	**1.34**	**285**	P	**Pb**	**23 22 59.5**	**-0.3**
JFY				S	**Sn**	**23 23 17.4**	**+0.2**
JFY	**Yanaizu**	**1.34**	**285**	A	A	23 22 59.5	
	comp=E,6.0nm,4.0s,comp=E,6.0nm,1.1s						
JIO	**Ouri**	**1.39**	**1**	P	**Pn**	**23 22 58.8**	**-1.1**
JIO				S	**Sn**	**23 23 16.4**	**-1.9**
JOU	**Okura**	**1.40**	**338**	*i* P	**Pn**	**23 23 00.0**	**-0.2**
JOU				S	**Sn**	**23 23 18.7**	**0.0**
JOU	**Okura**	**1.40**	**338**	A	A	23 23 00.0	
	comp=E,13nm,1.6s,comp=E,21nm,0.8s						
JYS	**Shirataka**	**1.53**	**319**	A	A	23 23 01.3	
	comp=E,12nm,1.3s,comp=E,12nm,1.3s						
JOFO	**Osakifurukawao**	**1.57**	**348**	A	A	23 23 01.6	
	comp=E,60nm,1.4s,comp=E,34nm,1.9s						
JNS	**Sasagawa**	**1.77**	**296**	A	A	23 23 04.9	
	comp=E,7.0nm,1.6s,comp=E,9.0nm,1.2s						
JYA	**Atsumi**	**1.99**	**321**	A	A	23 23 08.0	
	comp=E,11nm,1.0s,comp=E,13nm,0.9s						
JYK	**Kaneyama**	**2.00**	**338**	A	A	23 23 08.1	
	comp=E,4.0nm,4.0s,comp=E,4.0nm,2.2s						
MJAR	**Matsushiro Arr**	**2.56**	**259**	Pn	**Pn**	**23 23 16.2**	**+0.1**
	1.5nm,0.3s,baz=79,slow=17,SNR=34						
MJAR				Sn	**Sb**	**23 23 51.0**	**-1.0**
	2.8nm,0.3s,baz=76,slow=18,SNR=3.1						
MJAR				LR	LR	23 24 32.4	
	comp=Z,223nm,21.3s,baz=75,slow=47						
	9.3nm,0.3s						
MAJO	**Matsushiro**	**2.56**	**259**	Pn	**Pn**	**23 23 16.9**	**+0.8**
MAJO	**Matsushiro**	**2.56**	**259**	P	**Pn**	**23 23 17.1**	**+1.0**
MJB9	**Matsu-Tunnel**	**2.56**	**259**	Pn	**Pn**	**23 23 17.6**	**+1.4**
JSD	**Sado**	**2.63**	**293**	Pn	**Pn**	**23 23 18.3**	**+1.3**
JSD	**Sado**	**2.63**	**293**	P	**Pn**	**23 23 18.6**	**+1.6**
JGF	**Kuroka**	**3.52**	**247**	Pn	**Pn**	**23 23 30.2**	**+0.8**
JGF	**Kuroka**	**3.52**	**247**	P	**Pn**	**23 23 30.8**	**+1.4**
JTM	**Tenmabayashi**	**3.72**	**357**	Pn	**Pn**	**23 23 32.8**	**+0.7**
JTM	**Tenmabayashi**	**3.72**	**357**	P	**Pn**	**23 23 33.9**	**+1.8**
INU	**Inuyama**	**3.88**	**245**	Pn	**Pn**	**23 23 35.5**	**+1.2**
INU	**Inuyama**	**3.88**	**245**	P	**Pn**	**23 23 35.8**	**+1.5**
JHJ2	**Mitsune**	**4.13**	**198**	Pn	**Pn**	**23 23 38.9**	**+1.2**
JHJ2	**Mitsune**	**4.13**	**198**	P	**Pn**	**23 23 39.4**	**+1.7**
JHJ	**Hachijo jima 2**	**4.13**	**198**	Pn	**Pn**	**23 23 38.0**	**+0.3**
	17nm,0.3s,baz=81,slow=22,SNR=5.3						
JHJ				Sn	**Sn**	**23 24 25.0**	**-1.0**
	15nm,0.3s,baz=66,slow=16,SNR=1.5						
	128nm,0.8s						
ERM	**Erimo**	**5.14**	**15**	Pn	**Pn**	**23 23 52.3**	**+0.8**
ERM	**Erimo**	**5.14**	**15**	P	**Pn**	**23 23 53.7**	**+2.1**
JEM	**Erimo**	**5.14**	**15**	P	**Pn**	**23 23 53.7**	**+2.1**
JHS	**Saijyo**	**6.97**	**255**	Pn	**Pn**	**23 24 18.9**	**+2.3**
JHS	**Saijyo**	**6.97**	**255**	P	**Pn**	**23 24 19.0**	**+2.3**
JCJ	**Chichijima**	**9.96**	**176**	LR	LR	23 29 18.7	
	comp=Z,107nm,19.3s,baz=286,slow=41						
USRK	**Ussuriysk Ar.**	**10.05**	**318**	Pn	**Pn**	**23 24 59.0**	**+0.1**
	0.7nm,0.3s,baz=128,slow=13,SNR=2.1						
USRK				LR	LR	23 28 33.2	
	comp=Z,188nm,20.1s,baz=105,slow=36						
	1.0nm,0.3s						
KSRS	**Korea Array**	**10.70**	**276**	Pn	**Pn**	**23 25 08.3**	**+0.6**
	0.3nm,0.3s,baz=87,slow=14,SNR=2.0						
KSRS				LR	LR	23 28 43.1	
	comp=Z,111nm,21.9s,baz=85,slow=34						
	0.8nm,0.5s						
KLR	**Kul'dur**	**14.01**	**333**	LR	LR	23 31 07.8	
	comp=Z,144nm,18.2s,baz=124,slow=37						
YAK	**Yakutsk**	**26.03**	**347**	LR	LR	23 38 41.1	
	comp=Z,81nm,20.8s,baz=-90,slow=37						
SEY	**Seymchan**	**26.77**	**11**	P	**P**	**23 28 15.1**	**+0.9**
	1.9nm,0.2s,baz=358,slow=23,SNR=1.2						
	1.9nm,0.2s						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**23 28 23.4**	**+0.4**
	1.0nm,0.8s,baz=100,slow=7.5,SNR=5.8						
SONM				LR	LR	23 39 01.6	
	comp=Z,45nm,18.8s,baz=297,slow=36						
	1.0nm,0.8s						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**23 28 21.7**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	23 57 53.6	
	baz=314,slow=75,SNR=304						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	23 57 54.2	
	baz=314,slow=75,SNR=239						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	23 57 55.0	
	baz=314,slow=75,SNR=264						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	23 58 48.2	
	baz=316,slow=75,SNR=104						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	23 58 47.6	
	baz=316,slow=75,SNR=87						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	23 58 47.6	
	baz=316,slow=75,SNR=62						
CMAR	**Chiang Mai Arr**	**41.44**	**255**	LR	LR	23 48 57.6	
	comp=Z,24nm,18.3s,baz=15,slow=38						
ZAA0	**Zalesovo Array**	**41.84**	**312**	P	**P**	**23 30 23.0**	**-1.3**
ZAA0				IAmb	IAmb	23 30 29.0	
	comp=Z,3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**23 30 24.4**	**0.0**
	comp=Z,3.3nm,0.8s,baz=95,slow=6.6,SNR=8.8						
ZALV				PcP	**PcP**	**23 32 20.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=95,slow=4.8,SNR=1.9						
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**23 30 23.3**	**-1.1**
MK31	**Makanchi Array**	**44.05**	**302**	P	**P**	**23 30 41.9**	**-0.4**
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**23 30 42.4**	**0.0**
	comp=Z,2.7nm,0.9s,baz=78,slow=11,SNR=9.9						
MKAR				LR	LR	23 48 16.1	
	comp=Z,44nm,19.8s,baz=113,slow=35						
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**23 30 41.8**	**-0.6**
MAKZ	**Makanchi**	**44.26**	**302**	P	**P**	**23 30 42.0**	**-2.1**
MAKZ				IAmb	IAmb	23 31 16.3	
	comp=Z,3.9nm,1.1s						
BRDH	**Bariadhala**	**44.93**	**266**	LR	LR	23 51 45.9	
	comp=Z,105nm,18.9s,baz=100,slow=39						
KURK	**Kurchatov**	**45.86**	**308**	P	**P**	**23 30 56.3**	**-0.4**
KURK				IAmb	IAmb	23 31 07.3	
	comp=Z,7.3nm,0.9s						
CAST	**Castle Rocks**	**47.24**	**34**	P	**P**	**23 31 08.7**	**+1.3**
CAST				IAmb	IAmb	23 31 30.0	
	comp=Z,6.4nm,1.4s						
SCM	**Sheep Creek Mo**	**49.48**	**36**	P	**P**	**23 31 24.8**	**0.0**
IL31		**49.51**	**32**	P	**P**	**23 31 24.8**	**0.0**
IL31				IAmb	IAmb	23 31 35.2	
	comp=Z,7.2nm,1.3s						
ILAR	**Eielson Array**	**49.51**	**32**	P	**P**	**23 31 25.0**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=264,slow=5.8,SNR=17						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**49.51**	**32**	P	**P**	**23 31 25.4**	**+0.7**
AAK	**Ala-Archa**	**50.42**	**298**	LR	LR	23 54 12.3	
	comp=Z,61nm,18.9s,baz=76,slow=38						
BVAR	**Borovoye Array**	**50.50**	**312**	LR	LR	23 53 52.2	
	comp=Z,58nm,18.7s,baz=84,slow=37						
SCRK	**Sand Creek**	**50.82**	**33**	P	**P**	**23 31 34.9**	**0.0**
SCRK				IAmb	IAmb	23 31 56.2	
	comp=Z,6.2nm,1.4s						
BCAR	**Beaver Creek A**	**51.91**	**34**	P	**P**	**23 31 44.4**	**+1.4**
WB0	**Warramunga Arr**	**56.90**	**188**	P	**P**	**23 32 19.0**	**-0.6**
WB0				IAmb	IAmb	23 32 19.8	
	comp=Z,4.3nm,0.8s						
WR0	**Warramunga Arr**	**57.08**	**188**	P	**P**	**23 32 20.1**	**-0.8**
WR0				IAmb	IAmb	23 32 20.8	
	comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**57.08**	**188**	P	**P**	**23 32 20.1**	**-0.8**
WB2				IAmb	IAmb	23 32 44.0	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**57.08**	**188**	P	**P**	**23 32 20.1**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=5.2,slow=7.4,SNR=39						
WRA				PcP	**PcP**	**23 33 16.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=359,slow=4.4,SNR=5.5						
	comp=Z,2.4nm,0.7s						
WRA	**Warramunga Arr**	**57.08**	**188**	P	**P**	**23 32 19.2**	**-1.7**
ABKAR	**Akbulak array**	**57.87**	**310**	P	**P**	**23 32 25.6**	**-0.7**
KIRV	**Kirov**	**60.18**	**323**	P	**P**	**23 32 42.7**	**+0.6**
	comp=Z,7.5nm,0.8s,baz=205,slow=19						
	comp=Z,7.5nm,0.8s						
ASAR	**Alice Springs**	**60.81**	**188**	P	**P**	**23 32 46.2**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=9.8,slow=5.5,SNR=15						
	comp=Z,1.4nm,0.8s						
GEYT	**Alibeck**	**63.76**	**299**	P	**P**	**23 33 06.5**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=63,slow=10,SNR=3.0						
	comp=Z,1.5nm,0.8s						
ARCES	**ARCESS Array B**	**63.95**	**339**	P	**P**	**23 33 07.6**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=44,slow=7.8,SNR=4.5						
	comp=Z,2.6nm,0.9s						
ARCES	**ARCESS Array B**	**63.95**	**339**	P	**P**	**23 33 08.7**	**+1.4**
FORT	**Forrest**	**68.62**	**192**	P	**P**	**23 33 37.5**	**-0.1**
FINES	**FINESS Array B**	**68.76**	**332**	P	**P**	**23 33 38.7**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=31,slow=5.7,SNR=5.0						
	comp=Z,3.5nm,0.9s						
KBZ	**Khabaz**	**70.83**	**311**	P	**P**	**23 33 51.6**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=40,slow=5.2,SNR=3.7						
	comp=Z,1.8nm,0.8s						
HFS	**Hagfors**	**74.03**	**336**	LR	LR	00 09 31.7	
	comp=Z,40nm,18.2s,baz=20,slow=38						
NOA	**NORSAR Array B**	**74.13**	**337**	P	**P**	**23 34 10.7**	**0.0**
	comp=Z,1.0nm,0.8s,baz=40,slow=5.7,SNR=3.1						
NOA				LR	LR	00 10 08.8	
	comp=Z,23nm,18.3s,baz=25,slow=38						
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**23 34 10.7**	**-0.7**
	comp=Z,0.4nm,0.2s,baz=43,slow=6.9,SNR=6.1						
	comp=Z,0.4nm,0.2s						
NVAR	**Mina Array Bea**	**75.02**	**53**	P	**P**	**23 34 16.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=280,slow=5.4,SNR=2.2						
	comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**77.69**	**45**	P	**P**	**23 34 31.7**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=336,slow=3.3,SNR=3.8						
	comp=Z,0.6nm,0.9s						
TXAR	**Lajitas Array**	**90.16**	**52**	P	**P**	**23 35 36.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=290,slow=2.8,SNR=5.6						
	comp=Z,0.4nm,0.6s						
LPAZ	**La Paz**	**146.74**	**59**	PKPbc	**PKPbc**	**23 42 17.0**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=259,slow=3.0,SNR=6.2						
H03N2	**Juan Fernandez**	**147.09**	**96**	T	T	02 26 40.6	
	baz=291,slow=76,SNR=19						
H03N3	**Juan Fernandez**	**147.10**	**96**	T	T	02 26 37.5	
	baz=291,slow=76,SNR=20						
H03N1	**Juan Fernandez**	**147.11**	**96**	T	T	02 26 41.3	
	baz=291,slow=76,SNR=27						

*IDC **22** 23:23:39.3±1.2, 34°.24S×71°.75W, h0km, mb3.9/4, mbtmp3.9/8, ML3.8/4, MS2.8/6, Error ellipse: s-maj=35.4km s-min=26.0km az=140.0*

*NEIC **22** 23:23:46.2±1.6, 33°.97S±0°.02×71°.71W±0°.05, h37km±6km, Error ellipse: s-maj=6.8km s-min=2.0km az=103.0*

*NEIC **22** 23:23:46, 33°.98S×71°.68W, h47km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=6.59; Mθθ=1.12; Mφφ=7.71; Mrθ=3.19; Mθφ=0.16; Mφr=0.97; Fault plane solution: Mo=7.95000×10^14 NP1:φs=156.30000°, δ=53.99000°, λ=59.57000°. NP2:φs=21.28000°, δ=45.77000°, λ=124.88000°. Principal axes: T 8.0993, Plg65.0000°, Azm7.0000°; N -0.3028, Plg24.0000°, Azm175.0000°; P -7.7964, Plg4.0000°, Azm267.0000°;*

*GUC **22** 23:23:46.0±0.8, 33°.98S×71°.68W, h41km±3km, ML3.9*

ISC 22 23:23:45.9±0.7, 33°.97S±0°.03×71°.79W±0°.03, h37km±1km, n88, σ1°28/112, mb4.1/9, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA05	**Santo Domingo**	**0.35**	**25**		**Pn**	**23 23 54.4**	**+0.2**
VA05					**Sn**	**23 24 00.1**	**-1.0**
VA05	**Santo Domingo**	**0.35**	**25**	⇑*i* P	**Pn**	**23 23 54.5**	**+0.2**
VA05				*i* S	**Sn**	**23 24 00.4**	**-0.7**
VA05				IAML		23 24 01.1	
	comp=N,16μm,0.4s						
MT01	**Popeta**	**0.46**	**76**		**Pn**	**23 23 55.2**	**-0.6**
MT01					**Sn**	**23 24 01.2**	**-1.8**
MT01	**Popeta**	**0.46**	**76**	*e*P	**Pn**	**23 23 55.2**	**-0.6**
MT01				*i* S	**Sn**	**23 24 01.5**	**-1.5**
MT01				IAML		23 24 02.4	
	comp=E,23μm,0.2s						
BO03	**Pichilemu**	**0.54**	**195**	⇑*i* P	**Pn**	**23 23 57.2**	**0.0**
BO03				*i* S	**Sn**	**23 24 05.4**	**+0.5**
BO03				IAML		23 24 07.4	
	comp=N,10μm,0.3s						
MT09	**Talagante**	**0.70**	**74**		**Pn**	**23 23 58.3**	**-1.0**
MT09					**Sn**	**23 24 07.5**	**-1.4**
MT09	**Talagante**	**0.70**	**74**	⇓*i* P	**Pn**	**23 23 58.4**	**-1.0**
MT09				*i* S	**Sn**	**23 24 07.8**	**-1.2**
MT09				IAML		23 24 11.5	
	comp=N,8μm,0.2s						
BO01	**Tunca**	**0.72**	**126**		**Pn**	**23 23 58.5**	**-1.0**
BO01					**Sn**	**23 24 07.6**	**-1.7**
BO01	**Tunca**	**0.72**	**126**	⇑*i* P	**Pn**	**23 23 58.6**	**-1.0**
BO01				*i* S	**Sn**	**23 24 07.8**	**-1.5**
BO01				IAML		23 24 09.8	
	comp=N,7μm,0.2s						
MT02	**Curacav**	**0.90**	**38**		**Pn**	**23 24 01.4**	**-0.5**
MT02	**Curacav**	**0.90**	**38**	⇑*e*P	**Pn**	**23 24 01.5**	**-0.5**
MT02				*i* S	**Sn**	**23 24 12.7**	**-1.0**
VA01	**Torpederas**	**0.96**	**7**	Pn	**Pn**	**23 24 03.0**	**+0.2**
VA01	**Torpederas**	**0.96**	**7**	*e*P	**Pn**	**23 24 03.3**	**+0.6**
VA01				*i* S	**Sn**	**23 24 16.6**	**+1.6**
BO04	**La Punta**	**0.98**	**91**	Pn	**Pn**	**23 24 02.6**	**-0.5**
BO04	**La Punta**	**0.98**	**91**	⇓*i* P	**Pn**	**23 24 02.7**	**-0.5**
BO04				*i* S	**Sn**	**23 24 14.7**	**-1.2**
BO04				IAML		23 24 17.0	
	comp=E,7μm,0.2s						
GO05	**Huala**	**1.04**	**186**	Pn	**Pn**	**23 24 04.3**	**+0.4**
GO05	**Huala**	**1.04**	**186**	⇑*i* P	**Pn**	**23 24 04.1**	**+0.1**
GO05				*i* S	**Sn**	**23 24 18.1**	**+0.9**
GO05				IAML		23 24 19.7	
	comp=N,4μm,0.4s						
MT05	**Renca**	**1.05**	**57**	Pn	**Pn**	**23 24 04.0**	**-0.1**
MT05	**Renca**	**1.05**	**57**	⇓*i* P	**Pn**	**23 24 04.0**	**-0.1**
MT05				*i* S	**Sn**	**23 24 16.7**	**-0.8**
MT05				IAML		23 24 23.2	
	comp=E,7μm,0.3s						
BO02	**Sierra Bellavi**	**1.17**	**135**	Pn	**Pn**	**23 24 05.9**	**+0.1**
BO02	**Sierra Bellavi**	**1.17**	**135**	*e*P	**Pn**	**23 24 05.8**	**+0.1**
BO02				*i* S	**Sn**	**23 24 20.9**	**+0.5**
MT03	**Universidad Ad**	**1.17**	**66**	Pn	**Pn**	**23 24 05.4**	**-0.3**
MT03	**Universidad Ad**	**1.17**	**66**	⇓*i* P	**Pn**	**23 24 05.5**	**-0.3**
MT03				*i* S	**Sn**	**23 24 19.9**	**-0.6**
MT03				IAML		23 24 24.4	
	comp=E,5μm,0.4s						
ROC1	**El Roble**	**1.19**	**33**	Pn	**Pn**	**23 24 06.0**	**-0.2**
ROCH	**El Roble**	**1.19**	**33**	*e*P	**Pn**	**23 24 06.2**	**0.0**
ROCH				*e*P	**Pn**	**23 24 06.1**	**-0.1**
ROCH				*i* S	**Sn**	**23 24 22.1**	**+0.9**
ROCH				*i* S	**Sn**	**23 24 22.4**	**+1.2**
ROCH				IAML		23 24 24.6	
	comp=N,4μm,0.3s						
ROCH				IAML		23 24 27.9	
	comp=E,4μm,

comp=N,0.3nm,0.3s,baz=236,slow=11,SNR=1.7
LVC LR LR 23 31 05.5
comp=N,50nm,19.7s,baz=216,slow=38
comp=N,0.9nm,0.4s
CPUP Villa Florida 14.64 62 Pn **Pn 23 27 09.7 -0.6**
comp=N,0.1nm,0.3s,baz=227,slow=7.0,SNR=1.7
CPUP LR LR 23 33 08.9
comp=N,40nm,20.1s,baz=216,slow=39
comp=N,0.5nm,0.3s
MNMC Minye Minye 14.91 8 Pn **Pn 23 27 13.9 -0.4**
PB16 IPOC Station P 15.71 8 P **P 23 27 30.8 +2.2**
LPAZ La Paz 17.92 11 P **P 23 27 53.3 +0.2**
comp=N,0.1nm,0.3s,baz=157,slow=5.8,SNR=7.4
comp=N,2.1nm,0.7s
LPAZ La Paz 17.92 11 P **P 23 27 55.0 +1.9**
SIV San Ignacio 20.34 31 P **P 23 28 18.0 -1.1**
comp=N,1.9nm,0.6s,baz=196,slow=7.9,SNR=14
comp=N,1.9nm,0.6s
NNA Nana 22.37 347 LR LR 23 34 34.6
comp=N,13nm,19.4s,baz=206,slow=29
ETMB Extrema 24.58 13 P **P 23 29 02.8 +0.3**
ETMB IAmb IAmb 23 29 04.9
comp=Z,11nm,0.8s
ATAH Atahualpa 27.40 346 P **P 23 29 29.3 +1.0**
comp=Z,1.2nm,0.5s,baz=114,slow=10.0,SNR=1.3
comp=Z,1.2nm,0.5s
BDFB Brasilia 28.15 55 P **P 23 29 34.8 0.0**
comp=Z,0.8nm,0.4s,baz=225,slow=5.7,SNR=1.4
comp=Z,0.8nm,0.4s
MDP Montagnes des 42.88 29 LR LR 23 49 18.8
comp=Z,46nm,18.3s,baz=88,slow=36
BELA Belgrano 2 46.87 170 P **P 23 32 11.4 -0.5**
BELA IAmb IAmb 23 32 41.6
comp=Z,7.9nm,1.3s
SNAA Sanae 51.53 158 P **P 23 32 47.4 -0.2**
SNAA IAmb IAmb 23 32 55.6
comp=Z,3.5nm,1.3s
TXAR Lajitas Array 69.81 331 P **P 23 34 53.6 +1.1**
comp=Z,0.5nm,0.6s,baz=157,slow=7.6,SNR=10
comp=Z,0.5nm,0.6s
TX31 Lajitas Ar. Si 69.81 331 P **P 23 34 53.2 +0.6**
TX31 IAmb IAmb 23 35 15.0
comp=Z,2.6nm,1.2s
TX32 Lajitas Array 69.81 331 P **P 23 34 52.9 +0.3**
TX32 IAmb IAmb 23 35 13.0
comp=Z,2.7nm,1.4s
W50A Signal Mountai 69.97 348 P **P 23 34 53.0 -0.3**
CPCT Cooper Cave 70.08 349 P **P 23 34 54.1 +0.1**
CPCT IAmb IAmb 23 34 54.2
comp=Z,3.1nm,1.0s
WVT Waverly 71.33 346 P **P 23 35 01.3 -0.3**
WRA Warramunga Arr 120.88 209 PKP **PKPdf 23 42 33.8 -0.9**
comp=Z,0.2nm,0.5s,baz=162,slow=1.8,SNR=1.5
BVAR Borovoye Array 147.12 43 PKPbc **PKPbc 23 43 24.1 -0.2**
comp=Z,1.1nm,0.4s,baz=308,slow=1.2,SNR=8.3
KURBB Kurchatov Arra 152.71 43 PKPbc **PKPbc 23 43 38.0 -0.2**
comp=Z,0.7nm,0.5s,baz=302,slow=3.1,SNR=7.6
ZALV Zalesovo Beam 154.09 32 PKPbc **PKPbc 23 43 40.3 -0.8**
comp=Z,1.0nm,0.5s,baz=342,slow=3.5,SNR=6.1
ZALV PKPab **PKPab 23 43 54.3 -0.4**
comp=Z,0.9nm,0.5s,baz=300,slow=5.5,SNR=2.8
MKAR Makanchi Array 156.59 49 PKPab **PKPab 23 44 03.7 -2.1**
comp=Z,0.4nm,0.7s,baz=270,slow=5.8,SNR=3.1

---

*IDC **22** 23:52:33.6±0.9, 37°.03N×141°.35E, h0km, mb3.6/8, mbtmp3.6/10, ML2.9/2, MS4.0/2, Error ellipse: s-maj=23.0km s-min=18.4km az=99.0*
*NIED **22** 23:52:35.2, 37°.06N×141°.37E, h26km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.60; Mθθ1.00; Mφφ0.59; Mrθ0.26; Mθφ 1.01; Mφr0.29; Fault plane solution: M₀1.75000×10¹⁴ NP1:φs53.00000°, δ39.00000°, λ-86.00000°. NP2:φs228.00000°, δ51.00000°, λ-93.00000°.*
*JMA **22** 23:52:35.2±0.1, 37°.1N±0°.3×141°.4E±0°.7, h26km, MV3.6/39, E OFF FUKUSHIMA PREF*
ISC 22 23:52:35.0±1.7, 37°.07N±0°.04×141°.33E±0°.06, h11km±10km, n31, σ0s79/32, mb3.5/8, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**310**	P		**Pb**	**23 52 44.9**	**-0.4**
JFK				S		**Sb**	**23 52 52.1**	**-0.2**
JFFD	**Fukushimafurud**	**0.61**	**272**	⇓P		**Pb**	**23 52 47.6**	**-0.2**
JFFD				⇓S		**Sb**	**23 52 56.1**	**-0.3**
JMST	**Minamisoumatoc**	**0.74**	**332**	*i* P		**Pg**	**23 52 49.5**	**+0.1**
JMST				S		**Sb**	**23 53 00.0**	**-0.1**
JHO	**Hitachi**	**0.76**	**233**	*i* P		**Pb**	**23 52 49.5**	**-0.8**
JHO				S		**Sb**	**23 53 00.1**	**-0.6**
JMM	**Marumori**	**0.90**	**332**	P		**Pg**	**23 52 52.2**	**-0.3**
JMM				S		**Sg**	**23 53 04.7**	**+0.4**
JSB	**Shiboa**	**1.13**	**265**	P		**Pg**	**23 52 57.0**	**+0.2**
JSB				S		**Sn**	**23 53 12.3**	**-0.1**
JFY	**Yanaizu**	**1.34**	**285**	P		**Pb**	**23 53 00.1**	**0.0**
JFY				S		**Sg**	**23 53 18.3**	**+0.2**
JIO	**Ouri**	**1.39**	**1**	P		**Pn**	**23 52 59.7**	**-0.6**
JIO				S		**Sn**	**23 53 17.2**	**-1.3**
JOU	**Okura**	**1.40**	**338**	P		**Pb**	**23 53 01.0**	**-0.1**
JOU				S		**Sb**	**23 53 19.3**	**+0.2**
MJAR	**Matsushiro Arr**	**2.56**	**259**	Pn		**Pn**	**23 53 17.3**	**+0.8**
	0.6nm,0.3s,baz=89,slow=15,SNR=13							
MJAR				Sn		**Sb**	**23 53 49.9**	**-2.5**
	1.0nm,0.3s,baz=81,slow=17,SNR=2.4							
MJAR				LR		LR	23 54 32.5	
	comp=Z,53nm,18.0s,baz=36,slow=46							
	5.4nm,0.5s							
JHJ	**Hachijo jima 2**	**4.14**	**198**	Pn		**Pn**	**23 53 37.9**	**-0.3**
	7.6nm,0.3s,baz=24,slow=10.0,SNR=1.6							
JHJ				Sn		**Sn**	**23 54 27.5**	**+1.0**
	4.6nm,0.3s,baz=264,slow=19,SNR=1.2							
	67nm,0.5s							
SONM	**Songino Array**	**27.71**	**304**	P		**P**	**23 58 23.7**	**+0.3**
	0.3nm,0.8s,baz=105,slow=8.1,SNR=2.5							
	0.3nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T		T	00 27 56.6	
	baz=314,slow=75,SNR=32							
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	00 27 59.5	
	baz=314,slow=75,SNR=25							
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	00 27 58.0	
	baz=314,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T		T	00 28 59.1	
	baz=315,slow=75,SNR=12							
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T		T	00 28 45.9	
	baz=315,slow=75,SNR=11							
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	00 28 47.1	
	baz=315,slow=75,SNR=11							
ZALV	**Zalesovo Beam**	**41.84**	**312**	P		**P**	**00 00 23.9**	**-0.8**
	1.1nm,0.8s,baz=79,slow=7.5,SNR=1.9							
	1.1nm,0.8s							
MKAR	**Makanchi Array**	**44.04**	**302**	P		**P**	**00 00 42.7**	**0.0**
	0.5nm,0.7s,baz=90,slow=8.6,SNR=4.2							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**49.50**	**32**	P		**P**	**00 01 25.8**	**+0.6**
	0.3nm,0.7s,baz=271,slow=6.1,SNR=1.4							
	0.3nm,0.7s							
INK	**Inuvik**	**54.39**	**27**	P		**P**	**00 02 02.3**	**+0.9**
	0.3nm,0.4s,baz=281,slow=16,SNR=1.4							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**57.09**	**188**	P		**P**	**00 02 20.8**	**-0.5**
	0.6nm,0.6s,baz=5.0,slow=7.4,SNR=13							
WRA				PcP		**PcP**	**00 03 16.7**	**+0.6**
	0.3nm,0.6s,baz=357,slow=3.9,SNR=2.0							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**60.81**	**188**	P		**P**	**00 02 47.1**	**-0.1**
	0.1nm,0.3s,baz=9.2,slow=7.5,SNR=1.9							
	0.1nm,0.3s							
BELG	**Belogornoye**	**63.73**	**317**	P		**P**	**00 03 07.7**	**+1.3**
	4.6nm,0.8s,baz=344,slow=7.1,SNR=2.0							
	4.6nm,0.8s							
BRTR	**Keskin Array B**	**78.78**	**311**	LR		LR	00 42 22.0	
	comp=Z,129nm,20.0s,baz=120,slow=38							
IDI	**Anoyia**	**86.92**	**313**	LR		LR	00 50 12.0	
	comp=Z,56nm,18.6s,baz=108,slow=40							
LPAZ	**La Paz**	**146.73**	**59**	PKPbc		**PKPab**	**00 12 18.1**	**-1.2**
	0.3nm,0.3s,baz=224,slow=14,SNR=1.3							
H03N2	**Juan Fernandez**	**147.09**	**96**	T		T	02 56 39.0	
	baz=290							
H03N3	**Juan Fernandez**	**147.10**	**96**	T		T	02 56 38.4	
	baz=290							
H03N1	**Juan Fernandez**	**147.11**	**96**	T		T	02 56 39.4	
	baz=290							

---

*MOS **23** 00:01:28.3±1.2, 35°.43N×26°.41E, h45km, mb4.3/9, Error ellipse: s-maj=8.5km s-min=5.1km az=66.4*
*IDC **23** 00:01:29.2±3.3, 35°.60N×26°.43E, h31km±30km, mb3.9/11, mbtmp4.0/19, ML3.9/8, MS2.7/3, Error ellipse: s-maj=20.2km s-min=12.2km az=177.0*
*ISK **23** 00:01:29.8, 35°.62N×26°.45E, h28km, ML3.8/17*
*NEIC **23** 00:01:30.2±1.6, 35°.42N±0°.08×26°.45E±0°.06, h42km±10km, mb4.2/13, ML3.9(ATH), ML3.8(THE), Error ellipse: s-maj=12.2km s-min=6.4km az=177.0*
*NIC **23** 00:01:31.0±0.0, 35°.29N×26°.71E, h52km±3km, Ml4.5/9*
*THE **23** 00:01:31.4, 35°.62N×26°.46E, h33km±10km, ML3.8/24, Error ellipse: s-maj=10.7km s-min=0.6km az=152.0*
*ATH **23** 00:01:31.1, 35°.62N×26°.45E, h41km±7km, ML3.9/17, Error ellipse: s-maj=7.8km s-min=0.8km az=148.0*
*HLW **23** 00:01:33.0, 35°.17N×26°.87E, h10km±25km, Md4.3*
*DDA **23** 00:01:34.0±0.0, 35°.84N×26°.41E, h36km, MW3.9*
*GII **23** 00:01:34.7±0.2, 35°.30N×26°.97E, h40km, mb4.1/3, MD3.9/4, Mm4.0/4*
ISC 23 00:01:28.8±1.0, 35°.55N±0°.03×26°.56E±0°.02, h29km±8km, n302, σ1s87/382, mb4.2/26, MS4.6/3, 29C-7D, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.49**	**90**	PG		**Pn**	**00 01 42.6**	**+2.7**
KARP	**Karpathos**	**0.49**	**90**			**Pn**	**00 01 42.4**	**+2.5**
KARP	**Karpathos**	**0.49**	**90**	P		**Pn**	**00 01 42.5**	**+2.7**
KARP				S		**Sn**	**00 01 50.6**	**+3.1**
	10μm,0.5s							
KARP	**Karpathos**	**0.49**	**90**	⇑P		**Pn**	**00 01 42.6**	**+2.7**
KARP				S		**Sn**	**00 01 50.6**	**+3.1**
KARP				AML	AML		00 01 50.6	
	23nm,0.7s							
KARP				AML	AML		00 01 50.6	
	23nm,0.7s							
KARP				AML	AML		00 01 54.3	
	24nm,0.5s							
KARP				AML	AML		00 01 54.3	
	24nm,0.5s							
KARP	**Karpathos**	**0.49**	**90**	P		**Pn**	**00 01 42.5**	**+2.7**
KARP				S		**Sn**	**00 01 50.6**	**+3.1**
KARP				AML	AML		00 01 51.7	
	comp=N,20192μm,0.3s							
KARP				AML	AML		00 01 54.9	
	comp=E,24056μm,0.4s							
STIA	**Sitia Lasithi**	**0.52**	**228**	P		**Pn**	**00 01 41.6**	**+1.4**
STIA				S		**Sn**	**00 01 48.9**	**+0.9**
STIA	**Sitia Lasithi**	**0.52**	**228**	P		**Pn**	**00 01 41.6**	**+1.4**
STIA				S		**Sn**	**00 01 49.2**	**+1.2**
STIA				AML	AML		00 01 56.9	
	comp=E,28734μm,0.5s							
STIA				AML	AML		00 01 58.2	
	comp=N,22848μm,0.7s							
ZKR	**Zakros**	**0.52**	**213**	PG		**Pn**	**00 01 42.2**	**+2.0**
ZKR				SG		**Sn**	**00 01 50.4**	**+2.3**
ZKR	**Zakros**	**0.52**	**213**	P		**Pn**	**00 01 42.1**	**+1.9**
ZKR				S		**Sn**	**00 01 50.3**	**+2.3**
	comp=N,19μm,0.4s							
ZKR	**Zakros**	**0.52**	**213**	P		**Pn**	**00 01 41.3**	**+1.1**
ZKR				AML	AML		00 01 49.5	
	comp=N,20nm,0.8s							
ZKR				AML	AML		00 01 49.5	
	comp=N,47nm,0.4s							
ZKR				AML	AML		00 01 49.5	
	comp=N,20nm,0.8s							
ZKR				AML	AML		00 01 49.5	
	comp=N,47nm,0.4s							
ZKR				S		**Sn**	**00 01 50.1**	**+2.1**
ZKR	**Zakros**	**0.52**	**213**	P		**Pn**	**00 01 42.2**	**+2.0**
ZKR				S		**Sn**	**00 01 50.3**	**+2.3**
ZKR				AML	AML		00 01 50.8	
	comp=E,54692μm,0.4s							
ZKR				AML	AML		00 01 51.3	
	comp=N,22239μm,0.5s							
FRMA	**Ierapetra Chan**	**0.86**	**232**	P		**Pb**	**00 01 45.4**	**+0.2**
FRMA				S		**Sn**	**00 01 56.6**	**+0.1**
	comp=N,3μm,0.4s							
FRMA	**Ierapetra Chan**	**0.86**	**232**	P		**Pb**	**00 01 45.5**	**+0.3**
FRMA				S		**Sb**	**00 01 55.8**	**-0.5**
FRMA				AML	AML		00 01 56.7	
	comp=E,19137μm,0.3s							
FRMA				AML	AML		00 02 02.9	
	comp=N,12530μm,0.4s							
NISR	**Nisiros**	**1.15**	**23**	P		**Pb**	**00 01 50.2**	**+0.1**
NISR				S		**Sn**	**00 02 04.2**	**+0.5**
	comp=N,5μm,0.4s							
NISR	**Nisiros**	**1.15**	**23**	P		**Pb**	**00 01 50.2**	**+0.1**
NISR				S		**Sn**	**00 02 04.0**	**+0.3**
NISR				AML	AML		00 02 05.6	
	comp=E,9935μm,0.2s							
NISR				AML	AML		00 02 08.3	
	comp=N,8416μm,0.4s							
NIS1	**Nisyros Isl.**	**1.16**	**25**	PN		**Pb**	**00 01 50.6**	**+0.4**
NIS1	**Nisyros Isl.**	**1.16**	**25**	P		**Pb**	**00 01 50.6**	**+0.4**
NIS1				S		**Sb**	**00 02 04.7**	**-0.2**
	comp=N,4μm,0.3s							
NIS1	**Nisyros Isl.**	**1.16**	**25**	P		**Pb**	**00 01 50.6**	**+0.4**
NIS1				S		**Sb**	**00 02 04.7**	**-0.2**
NIS1				AML	AML		00 02 11.1	
	comp=E,8565μm,0.3s							
NIS1				AML	AML		00 02 15.2	
	comp=N,8263μm,0.4s							
SANT	**Santorini**	**1.21**	**313**	⇑P		**Pn**	**00 01 49.5**	**-0.2**
SANT				⇑S		**Sn**	**00 02 02.3**	**-3.0**
SANT	**Santorini**	**1.21**	**313**	PN		**Pn**	**00 01 49.8**	**0.0**
SANT				SN		**Sn**	**00 02 04.0**	**-1.2**
SANT	**Santorini**	**1.21**	**313**	Pn		**Pn**	**00 01 49.8**	**0.0**
SANT	**Santorini**	**1.21**	**313**	P		**Pn**	**00 01 50.1**	**+0.3**
SANT				S		**Sn**	**00 02 03.6**	**-1.6**
	comp=N,3μm,0.3s							
SANT	**Santorini**	**1.21**	**313**	P		**Pn**	**00 01 50.0**	**+0.3**
SANT				S		**Sn**	**00 02 03.2**	**-2.0**
SANT				AML	AML		00 02 07.8	
	comp=E,10814μm,0.4s							
SANT				AML	AML		00 02 09.7	
	comp=N,2874μm,0.3s							
HRKL	**Herakleio**	**1.21**	**259**	PN		**Pb**	**00 01 50.3**	**-0.8**
HRKL	**Herakleio**	**1.21**	**259**	P		**Pn**	**00 01 50.1**	**+0.4**
HRKL				S		**Sn**	**00 02 04.2**	**-1.0**
	comp=N,9μm,0.4s							
HRKL	**Herakleio**	**1.21**	**259**	P		**Pn**	**00 01 50.2**	**+0.4**
HRKL				S		**Sn**	**00 02 04.1**	**-1.0**
HRKL				AML	AML		00 02 04.8	
	comp=E,53025μm,0.5s							
HRKL				AML	AML		00 02 09.4	
	comp=N,52933μm,0.4s							
THR8	**Santorini-Mono**	**1.22**	**315**	P		**Pn**	**00 01 50.0**	**+0.1**
THR6	**Thira Island,**	**1.24**	**311**	P		**Pn**	**00 01 50.3**	**+0.2**
IACM	**Heraklion**	**1.24**	**259**	P		**Pn**	**00 01 50.5**	**+0.4**
IACM				S		**Sn**	**00 02 04.5**	**-1.3**
IACM	**Heraklion**	**1.24**	**259**	P		**Pn**	**00 01 50.5**	**+0.4**
IACM				S		**Sn**	**00 02 04.6**	**-1.3**
KOSK	**Kos Island**	**1.25**	**16**	PN		**Pb**	**00 01 51.3**	**-0.3**
KOSK				SN		**Sn**	**00 02 06.6**	**+0.6**
KOSK	**Kos Island**	**1.25**	**16**	P		**Pb**	**00 01 51.3**	**-0.3**
KOSK				S		**Sn**	**00 02 06.0**	**0.0**
	comp=N,2μm,0.5s							
KOSK	**Kos Island**	**1.25**	**16**	P		**Pb**	**00 01 51.3**	**-0.3**
KOSK				S		**Sn**	**00 02 05.9**	**-0.1**
KOSK				AML	AML		00 02 09.5	
	comp=N,15493μm,0.5s							
KOSK				AML	AML		00 02 11.2	
	comp=E,13354μm,0.4s							
SFIR	**Foira Santorin**	**1.26**	**314**	P		**Pn**	**00 01 50.9**	**+0.4**
THR9	**Santorini-Faro**	**1.27**	**310**	P		**Pn**	**00 01 50.7**	**+0.3**
THR3	**Thira Island,**	**1.27**	**313**	P		**Pn**	**00 01 50.7**	**+0.2**
THT2	**Imerovigli**	**1.28**	**314**	PN		**Pn**	**00 01 51.2**	**+0.6**
THT2	**Imerovigli**	**1.28**	**314**	P		**Pn**	**00 01 51.1**	**+0.5**
THR5	**Thira Island,**	**1.31**	**312**	P		**Pn**	**00 01 51.3**	**+0.2**
CMBO	**Columbo, Santo**	**1.31**	**315**	P		**Pn**	**00 01 51.4**	**+0.4**
CMBO				S		**Sn**	**00 02 06.2**	**-1.4**
	comp=E,7μm,0.4s							
CMBO	**Columbo, Santo**	**1.31**	**315**	P		**Pn**	**00 01 51.5**	**+0.4**
CMBO				AML	AML		00 02 10.0	
	comp=N,18558μm,0.3s							
CMBO				AML	AML		00 02 10.8	
	comp=E,18821μm,0.5s							
SAP3	**Santorini-Thir**	**1.32**	**312**	P		**Pn**	**00 01 51.6**	**+0.3**
SAP3				S		**Sn**	**00 02 07.5**	**-0.4**
	comp=E,8μm,0.4s							
SAP3	**Santorini-Thir**	**1.32**	**312**	P		**Pn**	**00 01 51.4**	**+0.1**
IDI	**Anoyia**	**1.39**	**260**	⇑P		**Pn**	**00 01 52.4**	**+0.1**
IDI				⇑S		**Sn**	**00 02 08.3**	**-1.3**
IDI	**Anoyia**	**1.39**	**260**	Pn		**Pn**	**00 01 52.3**	**+0.1**
	comp=E,152nm,0.3s,baz=72,slow=7.8,SNR=1597							
IDI				Sn		**Sn**	**00 02 07.2**	**-2.5**
	comp=E,395nm,0.3s,baz=168,slow=18,SNR=18							
IDI	**Anoyia**	**1.39**	**260**	PN		**Pn**	**00 01 52.4**	**+0.1**
IDI	**Anoyia**	**1.39**	**260**	Pn		**Pn**	**00 01 51.7**	**-0.6**
IDI	**Anoyia**	**1.39**	**260**	P		**Pn**	**00 01 52.2**	**0.0**
IDI				S		**Sn**	**00 02 08.6**	**-1.0**
	comp=E,4μm,0.4s							
IDI	**Anoyia**	**1.39**	**260**	P		**Pn**	**00 01 52.3**	**+0.1**
IDI				AML	AML		00 02 12.1	
	comp=N,6890μm,0.5s							
IDI				AML	AML		00 02 12.8	
	comp=E,9022μm,0.5s							
ARG	**Arkhangelos**	**1.44**	**62**	PN		**Pb**	**00 01 54.9**	**+0.1**
ARG	**Arkhangelos**	**1.44**	**62**	Pn		**Pb**	**00 01 55.5**	**+0.6**
ARG	**Arkhangelos**	**1.44**	**62**	P		**Pb**	**00 01 55.5**	**+0.6**
ARG				S		**Sb**	**00 02 12.2**	**-0.5**
	comp=E,2μm,0.3s							
ARG	**Arkhangelos**	**1.44**	**62**	⇑P		**Pb**	**00 01 55.5**	**+0.6**
ARG				S		**Sb**	**00 02 13.9**	**+1.2**
ARG	**Arkhangelos**	**1.44**	**62**	P		**Pb**	**00 01 55.5**	**+0.6**
ARG				AML	AML		00 02 14.8	
	comp=N,3051μm,0.3s							
ARG				AML	AML		00 02 15.4	
	comp=E,3481μm,0.3s							
ARG	**Arkhangelos**	**1.44**	**62**	P		**Pb**	**00 01 55.5**	**+0.6**
DAT	**Datca**	**1.44**	**35**	PN		**Pb**	**00 01 54.5**	**-0.4**
DAT				SN		**Sn**	**00 02 11.9**	**+1.0**
DAT	**Datca**	**1.44**	**35**	P		**Pb**	**00 01 54.3**	**-0.6**
DAT				S		**Sn**	**00 02 11.1**	**+0.2**
SIVA	**Sivas**	**1.53**	**250**	P		**Pb**	**00 01 55.9**	**-0.5**
SIVA				S		**Sn**	**00 02 13.8**	**+0.9**
	comp=E,4μm,0.4s							
SIVA	**Sivas**	**1.53**	**250**	P		**Pb**	**00 01 55.8**	**-0.5**
SIVA				AML	AML		00 02 15.6	
	comp=N,7344μm,0.2s							
SIVA				AML	AML		00 02 21.6	
	comp=E,8068μm,0.6s							
TMBK	**Timbaki Herakl**	**1.54**	**252**	P		**Pb**	**00 01 55.8**	**-0.9**
TMBK				S		**Sb**	**00 02 14.6**	**-1.2**
	comp=E,2μm,0.4s							
BODT	**Bodrum**	**1.62**	**22**	PN		**Pn**	**00 01 55.8**	**+0.4**
BODT	**Bodrum**	**1.62**	**22**	P		**Pn**	**00 01 55.4**	**0.0**
BODT				S		**Sn**	**00 02 15.0**	**-0.4**
BDRM	**Kayabasi**	**1.67**	**25**	P		**Pn**	**00 01 57.4**	**+1.3**
BDRM				S		**Sn**	**00 02 14.6**	**-2.0**
PRNS	**Prines Rethymn**	**1.69**	**264**	P		**Pn**	**00 01 56.7**	**+0.4**
PRNS				S		**Sn**	**00 02 16.6**	**-0.4**
	comp=E,848nm,0.4s							
APE	**Apeiranthos**	**1.73**	**332**	⇓P		**Pn**	**00 01 57.2**	**+0.3**
APE				⇓S		**Sn**	**00 02 16.6**	**-1.4**
APE	**Apeiranthos**	**1.73**	**332**	PN		**Pn**	**00 01 57.3**	**+0.3**
APE	**Apeiranthos**	**1.73**	**332**	P		**Pn**	**00 01 57.2**	**+0.3**
APE				S		**Sn**	**00 02 16.2**	**-1.8**
	comp=E,1μm,0.3s							
APE	**Apeiranthos**	**1.73**	**332**	P		**Pn**	**00 01 57.2**	**+0.3**
APE				AML	AML		00 02 17.9	
	comp=E,3056μm,0.3s							
APE				AML	AML		00 02 18.0	
	comp=N,2932μm,0.2s							
APE	**Apeiranthos**	**1.73**	**332**	*d* iP		**Pn**	**00 01 57.1**	**+0.2**
TURN	**Turunc**	**1.83**	**48**	PN		**Pb**	**00 02 00.3**	**-1.2**
TURN				SN		**Sb**	**00 02 22.9**	**-1.1**
TURN	**Turunc**	**1.83**	**48**	P		**Pb**	**00 02 00.3**	**-1.2**
TURN				S		**Sn**	**00 02 21.8**	**+1.4**
DDIM	**Aydin, Didim**	**1.98**	**16**	P		**Pn**	**00 02 01.5**	**+1.2**
DDIM				S		**Sn**	**00 02 21.4**	**-2.7**
MLSB	**Milas**	**2.00**	**29**	PN		**Pb**	**00 02 02.6**	**-1.8**
CHAN	**Chania**	**2.05**	**270**	P		**Pn**	**00 02 01.1**	**-0.1**
MHLO	**Agia Marina, M**	**2.08**	**304**	P		**Pn**	**00 02 02.7**	**+0.9**
MHLO	**Agia Marina, M**	**2.08**	**304**	P		**Pn**	**00 02 02.6**	**+0.9**
YER	**Yerkesik**	**2.10**	**41**	PN		**Pb**	**00 02 04.7**	**-1.5**
YER	**Yerkesik**	**2.10**	**41**	P		**Pb**	**00 02 04.8**	**-1.5**
IMMV	**Iera Moni Meta**	**2.11**	**268**	P		**Pn**	**00 02 02.0**	**0.0**
IMMV				S		**Sn**	**00 02 24.8**	**-2.4**
	comp=N,2μm,0.3s							
DALY	**Dalyan (Mula)**	**2.11**	**53**	PN		**Pb**	**00 02 04.8**	**-1.6**
SMG	**Samos**	**2.16**	**6**	P		**Pn**	**00 02 03.6**	**+0.7**
SMG				S		**Sn**	**00 02 28.1**	**-0.6**
	comp=N,820nm,0.4s							
SMG	**Samos**	**2.16**	**6**	P		**Pn**	**00 02 03.6**	**+0.7**
SMG				AML	AML		00 02 34.1	
	comp=N,1635μm,0.4s							
SMG				AML	AML		00 02 34.2	
	comp=E,1630μm,0.4s							
GCAM	**G?zelcaml?**	**2.21**	**14**	PN		**Pn**	**00 02 05.2**	**+1.7**
GCAM	**G?zelcaml?**	**2.21**	**14**	P		**Pn**	**00 02 04.9**	**+1.4**
GCAM				S		**Sn**	**00 02 29.2**	**-0.6**
MULA	**Mugla, Merkez-**	**2.22**	**39**	P		**Pb**	**00 02 06.1**	**-2.1**
MULA				S		**Sn**	**00 02 30.0**	**-0.1**
FETY	**Fethiye**	**2.31**	**61**	PN		**Pn**	**00 02 07.2**	**+2.3**
AYDN	**Tasoluk**	**2.36**	**26**	P		**Pn**	**00 02 07.7**	**+2.1**
DGB	**zmir**	**2.51**	**6**	P		**Pn**	**00 02 08.4**	**+0.9**
DGB				S		**Sn**	**00 02 35.6**	**-1.6**
KSL	**Kastellorizon**	**2.53**	**75**	P		**Pb**	**00 02 11.5**	**-1.9**
KSL	**Kastellorizon**	**2.53**	**75**	⇓P		**Pb**	**00 02 11.3**	**-2.1**
KSL				S		**Sn**	**00 02 39.9**	**+2.3**
KSL				AML	AML		00 02 42.5	
	comp=E,0.8nm,0.5s							
KSL				AML	AML		00 02 42.5	
	comp=E,0.8nm,0.5s							
KSL				AML	AML		00 02 44.6	
	comp=E,0.6nm,1.1s							
KSL				AML	AML		00 02 44.6	
	comp=E,0.6nm,1.1s							
AKAS	**Kas**	**2.56**	**74**	PN		**Pn**	**00 02 10.6**	**+2.1**
AKAS	**Kas**	**2.56**	**74**	Pn		**Pn**	**00 02 10.6**	**+2.1**
AKAS	**Kas**	**2.56**	**74**	P		**Pn**	**00 02 10.9**	**

USAK	Uak-Merkez	3.72	31	P		Pn	00 02 27.2	+3.0
AYVA	Ayvalik	3.75	2	P		Pn	00 02 25.5	+0.9
AYVA				S		Sn	00 03 04.5	-3.3
DEMI	Demirci	3.89	26	P		Pn	00 02 29.6	+3.0
ISP	Isparta	3.91	53	Pn		Pn	00 02 29.4	+2.5
ISP	Isparta	3.91	53	Pn		Pn	00 02 29.8	+2.9
ISP	Isparta	3.91	53	*i* P		Pn	00 02 29.6	+2.7
STEP	BALIKESIR_Sava	3.93	13	P		Pn	00 02 27.7	+0.6
KOCA	Canakkale, Ayv	3.96	355	P		Pn	00 02 28.5	+1.0
KOCA				S		Sn	00 03 10.8	-2.2
BUHA	Balikesir, Bur	3.96	6	P		Pn	00 02 29.2	+1.6
BUHA				S		Sn	00 03 11.3	-1.8
ITM	Ithomi	4.08	295	Pn		Pn	00 02 31.6	+2.5
BAGO	Egridir - ISPA	4.18	53	P		Pn	00 02 33.2	+2.6
BAYC	CANAKKALE_Bayr	4.18	360	P		Pn	00 02 31.3	+0.7
BAYC				S		Sn	00 03 16.9	-1.6
SLUM	Salum	4.20	196	P		Pn	00 02 32.7	+1.8
	baz=202							
GDZ	Gediz	4.23	33	P		Pn	00 02 33.2	+1.9
BALY	Balya	4.26	11	P		Pn	00 02 31.7	0.0
DURS	Dursunbey	4.32	20	P		Pn	00 02 34.1	+1.6
AFYO	Afyonkarahisar	4.40	42	P		Pn	00 02 37.5	+3.9
OSC1	CSNet OBS 1	4.40	116	P		Pn	00 02 33.9	+0.3
OSC1				S		Sn	00 03 21.3	-2.5
AKMS	Akamas	4.75	95	P		Pn	00 02 40.1	+1.6
AKMS				AML	AML		00 03 33.4	
	comp=E,2.5nm,0.3s							
AKMS				AML	AML		00 03 34.8	
	comp=E,1.0nm,0.4s							
ALFC	Alefka	4.95	93	P		Pn	00 02 41.8	+0.6
ALFC				AML	AML		00 03 38.0	
	comp=E,1.1nm,0.3s							
ALFC				AML	AML		00 03 41.9	
	comp=E,1.0nm,0.3s							
NATA	Nata	4.98	97	P		Pn	00 02 42.5	+0.8
NATA				S		Sn	00 03 38.0	-0.3
NATA				AML	AML		00 03 41.6	
	comp=E,2.3nm,0.5s							
NATA				AML	AML		00 03 41.6	
	comp=E,2.3nm,0.5s							
NATA				AML	AML		00 03 45.6	
	comp=E,1.8nm,1.0s							
NATA				AML	AML		00 03 45.6	
	comp=E,1.8nm,1.0s							
TROD	Troodos	5.20	95	P		Pn	00 02 45.6	+0.9
TROD				AML	AML		00 03 50.2	
	comp=E,0.4nm,0.5s							
TROD				AML	AML		00 03 53.1	
	comp=E,0.5nm,0.5s							
SZAC	Souni	5.24	97	P		Pn	00 02 45.1	-0.1
SZAC				AML	AML		00 03 47.5	
	comp=E,1.2nm,0.4s							
SZAC				AML	AML		00 03 51.8	
	comp=E,1.0nm,0.5s							
BORA	Eskisehir	5.31	34	Pn		Pn	00 02 49.5	+3.4
ASGA	Asgata	5.53	96	P		Pn	00 02 50.4	+1.2
ASGA				AML	AML		00 03 56.7	
	comp=E,0.8nm,0.4s							
ASGA				AML	AML		00 03 57.5	
	comp=E,1.1nm,0.3s							
CSS	Mathiatis	5.57	94	Pn		Pn	00 02 51.2	+1.5
CSS	Mathiatis	5.57	94	P		Pn	00 02 51.1	+1.5
CSS	Mathiatis	5.57	94	Pn		Pn	00 02 51.7	+2.0
CSS				Sn		Sn	00 03 50.5	-2.3
ATHAL	Athalassa	5.60	92	S		Sn	00 03 53.5	0.0
RDO	Rodhopi	5.64	352	Pn		Pn	00 02 51.7	+1.1
MVOU	Mavrovouni	5.81	93	P		Pn	00 02 53.8	+0.9
MDUB	Mudurnu	6.12	35	Pn		Pn	00 03 00.2	+2.9
KDZ	Kurdzhali	6.16	352	P		Pn	00 02 58.7	+1.0
RZN	Rozhen	6.29	347	P		Pn	00 03 01.2	+1.4
SWA2		6.36	189	P		Pn	00 03 02.2	+1.7
	baz=192							
BR231	Keskin MP Arra	6.53	47	Pn		Pn	00 03 06.4	+3.5
ANTO	Ankara	6.56	47	⇑P		Pn	00 03 07.2	+4.0
ANTO	Ankara	6.56	47	Pn		Pn	00 03 06.7	+3.5
ANTO	Ankara	6.56	47	P		Pn	00 03 06.7	+3.5
FNA	Florina	6.63	324	Pn		Pn	00 03 06.4	+2.2
FNA	Florina	6.63	324	P		Pn	00 03 06.4	+2.2
KEK	Kerkira	6.78	310	Pn		Pn	00 03 06.2	-0.1
KBN	Korca	6.81	320	Pn		Pn	00 03 09.2	+2.5
KBN	Korca	6.81	320	P		Pn	00 03 09.2	+2.5
BR131	Keskin Array S	6.99	51	Pn		Pn	00 03 12.3	+3.0
BR131	Keskin Array S	6.99	51	P		Pn	00 03 12.3	+3.0
BRTR	Keskin Array B	6.99	51	Pn		Pn	00 03 12.2	+2.9
	comp=E,2.0nm,0.3s,baz=217,slow=14,SNR=85							
BRTR				LR		LR	00 06 32.7	
	comp=E,16nm,18.5s,baz=31,slow=43							
	comp=E,8.7nm,0.6s							
BRTR	Keskin Array B	6.99	51	Pn		Pn	00 03 11.5	+2.2
BRTR	Keskin Array B	6.99	51	*i* P		Pn	00 03 12.1	+2.8
BRTR				pmax		pmax		
	comp=Z,8.0nm,0.5s							
GLL	Jalalah	7.37	142	P		Pn	00 03 14.8	+0.3
	baz=142							
VTS	Vitosha	7.51	341	⇓P		Pn	00 03 17.8	+1.3
VTS	Vitosha	7.51	341			Pn	00 03 18.8	+2.3
VTS	Vitosha	7.51	341	P		Pn	00 03 18.7	+2.3
VTS	Vitosha	7.51	341	P		Pn	00 03 18.8	+2.3
HNTI	Hanita	7.54	107	Sn		Sn	00 04 37.7	-3.5
OFRI	`Ofer	7.58	110	Pn		Pn	00 03 17.1	-0.1
OFRI				Sn		Sn	00 04 38.3	-3.9
MMA0B	Mount Meron ar	7.74	107	Pn		Pn	00 03 20.1	+0.5
MMA0B				Sn		Sn	00 04 42.9	-3.4
MMAI	Mount Meron Ar	7.74	107	Pn		Pn	00 03 20.1	+0.5
	comp=Z,2.6nm,0.3s,baz=298,slow=12,SNR=16							
MMAI				Sn		Sn	00 04 42.8	-3.5
	comp=Z,12nm,0.3s,baz=286,slow=22,SNR=12							
	comp=Z,1.4nm,0.3s							
SLTI	Sal'it	7.79	113	Pn		Pn	00 03 20.6	+0.5
SLTI				Sn		Sn	00 04 43.3	-4.0
ILGA	Ilgaz	7.86	44	Pn		Pn	00 03 24.2	+2.9
GEM	Giv'at Ha'Em	7.88	105	Pn		Pn	00 03 21.8	+0.4
NATI	Neve Ativ	7.92	104	Pn		Pn	00 03 23.5	+1.6
PLVB	Pleven	7.97	350	⇑P		Pn	00 03 24.3	+1.8
PLVB				⇑S		Sn	00 04 52.9	+1.3
SALP	Salfit	7.98	113	Pn		Pn	00 03 23.5	+0.7
SALP				Sn		Sn	00 04 48.7	-3.4
MMLI	Mount Malkishu	7.99	110	Pn		Pn	00 03 23.8	+0.9
RAZG	Razgrad	8.00	360	⇑P		Pn	00 03 25.3	+2.2
KZIT	Kziot	8.03	123	Pn		Pn	00 03 23.9	+0.4
KZIT				Sn		Sn	00 04 48.5	-4.9
ZAF	Zafarana	8.04	139	P		Pn	00 03 23.8	+0.2
	baz=139							
AMAZ	Amatzia	8.04	118	Pn		Pn	00 03 24.2	+0.5
BNN	Bunyan	8.11	63	Pn		Pn	00 03 26.9	+2.3
HMDT	Nahal Hemdat	8.15	111	Pn		Pn	00 03 25.5	+0.5
UJAP	Al Uja	8.24	113	Pn		Pn	00 03 25.5	-0.7
YTIR	Yattir	8.28	118	Pn		Pn	00 03 27.3	+0.4
YTIR				Sn		Sn	00 04 55.4	-4.1
DSI	Dead Sea	8.36	116	Pn		Pn	00 03 27.9	-0.1
DSI				Sn		Sn	00 04 57.5	-4.0
MDBI	Mazsada	8.48	117	Pn		Pn	00 03 30.5	+0.9
MDBI				Sn		Sn	00 04 59.5	-4.8
HFRF	Wahat Farafira	8.51	169	P		Pn	00 03 31.0	+1.0
	baz=170							
TIP	Timpagrande	8.60	298	⇓P		Pn	00 03 30.3	-1.1
TIP	Timpagrande	8.60	298	Pn		Pn	00 03 30.2	-1.1
ICOR	Ion Corvin	8.61	6	⇑P		Pn	00 03 33.9	+2.6
GHAJ	Ghor Haditha	8.64	117	Pn		Pn	00 03 33.3	+1.6
KRMI	Paran Flat	8.75	126	Pn		Pn	00 03 33.7	+0.4
PRNI	Paran	8.79	124	Pn		Pn	00 03 33.4	-0.5
PRNI				Sn		Sn	00 05 06.8	-5.1
PDG	Podgorica	8.91	323	⇑P		Pn	00 03 35.1	-0.4
GRB	Gharib	8.98	142	P		Pn	00 03 36.9	+0.4
	baz=142							
HRFI	Mount Harif	9.01	125	Pn		Pn	00 03 37.2	+0.3
HRFI				Sn		Sn	00 05 12.6	-4.7
TIRR	Tirgusor	9.01	9	Pn		Pn	00 03 39.2	+2.4
TIRR	Tirgusor	9.01	9	P		Pn	00 03 39.2	+2.4
MBRI	Mt Berech	9.08	127	Pn		Pn	00 03 38.9	+0.9
MBRI				Sn		Sn	00 05 14.6	-4.7
EIL	Elat	9.19	127	Pn		Pn	00 03 39.4	0.0
	comp=Z,1.0nm,0.3s,baz=281,slow=3.5,SNR=30							
EIL				Sn		Sn	00 05 15.5	-6.3
	comp=Z,7.9nm,0.3s,baz=35,slow=18,SNR=15							
	comp=Z,4.2nm,0.5s							
EIL	Elat	9.19	127	Pn		Pn	00 03 38.9	-0.4
ASF	Jabal al Asfar	9.23	108	Pn		Pn	00 03 40.9	+0.8
	comp=Z,0.7nm,0.3s,baz=333,slow=3.0,SNR=9.2							
	comp=Z,1.8nm,0.4s							
MATE	Matera	9.28	306	⇓P		Pn	00 03 38.9	-1.6
HBST	Basata	9.36	130	P		Pn	00 03 43.2	+1.5
	baz=129							
TR2	Tor 2	9.38	138	P		Pn	00 03 42.4	+0.4
	baz=137							
HKAT	Jabal Katrina	9.43	136	P		Pn	00 03 43.0	+0.2
	baz=135							
NUB	Nuweibaa	9.44	131	P		Pn	00 03 44.1	+1.3
	baz=131							
TREB	Trebinje	9.58	321	*e*Pn		Pn	00 03 43.1	-1.6
DIVS	Divibare	9.91	331	Pn		Pn	00 03 52.1	+2.8
DIVS	Divibare	9.91	331	*e*Pn		Pn	00 03 51.9	+2.6
MLR	Muntele Rosu	9.94	357	⇑P		Pn	00 03 51.6	+1.9
MLR	Muntele Rosu	9.94	357	Pn		Pn	00 03 49.9	+0.2
	comp=Z,0.2nm,0.3s,baz=40,slow=3.4,SNR=6.7							
	comp=Z,2.6nm,0.7s							
MLR	Muntele Rosu	9.94	357	Pn		Pn	00 03 51.7	+1.9
MLR	Muntele Rosu	9.94	357	P		Pn	00 03 51.7	+2.0
VAE	Valguarnera	9.97	285	Sn		Sn	00 05 31.1	-10
	comp=Z,1.0nm,0.3s,baz=293,slow=22,SNR=2.1							
GZR	Gura Zlata	10.24	345	⇑P		Pn	00 03 55.0	+1.3
COVR	Voineasa-Covas	10.29	359	⇑P		Pn	00 03 56.0	+1.7
PLOR	Plostina	10.29	0	⇑P		Pn	00 03 56.7	+2.3
VRI	Vrincioaia	10.30	1	⇑P		Pn	00 03 56.2	+1.6
BZS	Buzias	10.73	341	⇑P		Pn	00 04 01.0	+0.7
SIM	Simferopol'	11.01	29	*e*P		Pn	00 04 07.7	+3.4
SIM				*e*S		Sn	00 06 13.0	+6.6
SIM				pmax		pmax		
	comp=Z,16nm,1.0s							
SIM				smax		smax		
	comp=E,37nm,1.6s							
BURAR	Bucovina Array	12.10	356	Pn		Pn	00 04 21.4	+2.2
BUR08	Bucovina Ar. S	12.12	356	Pn		Pn	00 04 22.3	+2.8
SOC	Sochi	12.93	48	*e*P		Pn	00 04 35.6	+5.2
SOC				*e*			00 07 04.8	
SOC				MLR		MLR		
	comp=Z,16nm,10.0s							
KEST	Kesra	14.00	276	Pn		Pn	00 04 41.6	-3.6
	comp=Z,0.2nm,0.3s,baz=55,slow=1.8,SNR=5.3							
	comp=Z,4.1nm,0.8s							
SHA1	Shidzhatmaz	14.84	52	*i* P		Pn	00 04 59.4	+2.7
KIV	Kislovodsk	14.96	51	*e*P		P	00 05 01.1	-2.3
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s							
KBZ	Khabaz	14.99	52	Pn		P	00 05 03.8	+0.2
	comp=Z,0.2nm,0.3s,baz=235,slow=8.1,SNR=16							
	comp=Z,6.7nm,0.8s							
KBZ	Khabaz	14.99	52	*ce*P		P	00 05 03.5	-0.1
GNI	Garni	15.07	67	LR		LR	00 11 49.0	
	comp=Z,27nm,20.6s,baz=100,slow=41							
ZEI	Tsey	15.25	57	*e*P		P	00 05 08.1	+1.3
ZEI				pmax		pmax		
	comp=Z,4.0nm,0.9s							
AKASG	Malin Array Be	15.27	6	Pn		Pn	00 05 02.5	+0.5
	comp=Z,1.7nm,0.3s,baz=188,slow=10,SNR=8.9							
	comp=Z,0.6nm,0.4s							
AKASG	Malin Array Be	15.27	6	*ce*P		P	00 05 06.4	-0.3
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKBB	Malin Array Si	15.27	6	*ce*P		P	00 05 05.5	-1.2
AKBB				pmax		pmax		
	comp=Z,3.0nm,0.9s							
GERES	GERESS Array B	16.32	328	P		P	00 05 18.0	-0.4
GERES	GERESS Array B	16.32	328	P		P	00 05 18.0	-0.4
GERES	GERESS Array B	16.32	328	Sn		Pn	00 05 18.3	+2.5
	comp=Z,4.2nm,0.3s,baz=177,slow=25,SNR=15							
NACGM	Naroch	19.35	0	*e*P		Pn	00 05 54.7	+1.7
	comp=Z,23nm,1.0s,baz=180							
OBN	Obninsk	20.75	16	⇑*e*P		Pn	00 06 08.9	-0.5
OBN				*e**SP		sP	00 06 22.2	+4.3
OBN				*e*			00 06 28.9	
OBN				*e*S		Sn	00 10 00.5	-2.1
OBN							00 10 14.0	
OBN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BELG	Belogornoye	22.52	35	P		P	00 06 26.5	+0.5
	comp=Z,5.4nm,0.7s,baz=312,slow=23,SNR=15							
	comp=Z,5.4nm,0.7s							
ESDC	Sonseca Array	24.46	289	P		P	00 06 44.5	-0.7
	comp=Z,0.5nm,0.7s,baz=87,slow=10.0,SNR=5.5							
	comp=Z,0.5nm,0.7s							
GEYT	Alibeck	25.34	75	P		P	00 06 54.9	+1.8
	comp=Z,3.3nm,0.5s,baz=265,slow=10.0,SNR=13							
	comp=Z,3.3nm,0.5s							
GEYT	Alibeck	25.34	75	P		P	00 06 53.6	+0.5
GEYT				IAmb		IAmb	00 06 56.7	
	comp=Z,3.6nm,0.6s							
GYA0B	ALIBECK ARRAY	25.34	75	P		P	00 06 53.4	+0.2
GYA0B				IAmb		IAmb	00 06 56.7	
	comp=Z,4.0nm,0.6s							
FINES	FINESS Array B	25.91	359	P		P	00 06 57.8	-0.3
	comp=Z,6.9nm,1.1s,baz=171,slow=13,SNR=4.0							
	comp=Z,6.9nm,1.1s							
HFS	Hagfors	25.97	345	P		P	00 06 56.9	-1.7
	comp=Z,1.5nm,0.7s,baz=164,slow=12,SNR=1.6							
	comp=Z,1.5nm,0.7s							
NOA	NORSAR Array B	27.33	344	P		P	00 07 09.0	-1.9
	comp=Z,0.4nm,0.7s,baz=192,slow=10.0,SNR=1.4							
	comp=Z,0.4nm,0.7s							
NOA	NORSAR Array B	27.33	344	P		P	00 07 09.0	-1.9
ABKAR	Akbulak array	27.94	50	P		P	00 07 16.7	+0.3
EKA	Eskdalemuir Ar	28.39	323	P		P	00 07 19.6	-0.8
	comp=Z,0.9nm,0.5s,baz=127,slow=8.8,SNR=3.7							
	comp=Z,0.9nm,0.5s							
ARU	Arti	30.06	36	P		P	00 07 34.0	-1.2
ARU				IAmb		IAmb	00 07 58.4	
	comp=Z,5.3nm,1.3s							
CHGR	Chuyangaron	33.90	72	P		P	00 08 10.8	+1.7
CHGR	Chuyangaron	33.90	72	P		P	00 08 10.8	+1.7
CHGR				pmax		pmax		
	comp=Z,9.0nm,0.8s							
ARCES	ARCESS Array B	34.04	359	P		P	00 08 08.8	-1.1
	comp=Z,2.3nm,1.0s,baz=167,slow=8.3,SNR=1.4							
	comp=Z,2.3nm,1.0s							
KK31	Karatay Array	34.51	64	P		P	00 08 15.8	+1.5
KK31	Karatay Array	34.51	64	P		P	00 08 15.8	+1.5
KK31				pmax		pmax		
	comp=Z,1.0nm,0.9s							
KKAR	Karatay Array	34.51	64	P		P	00 08 15.1	+0.8
KKAR	Karatay Array	34.51	64	P		P	00 08 15.1	+0.8
GAR	Garm	34.74	71	P		P	00 08 18.3	+1.8
BRVK	Borovoye	35.19	46	*ce*P		P	00 08 19.9	-0.2
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.3s							
AAK	Ala-Archa	37.46	64	P		P	00 08 40.7	+0.9
AAK				IAmb		IAmb	00 08 46.4	
	comp=Z,3.2nm,0.8s							
AAK	Ala-Archa	37.46	64	*ce*P		P	00 08 42.2	+2.5
AAK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
NRN	Naryn	38.71	66	P		P	00 08 50.9	+0.4
NRN				IAmb		IAmb	00 08 53.6	
	comp=Z,3.1nm,0.9s							
NRN	Naryn	38.71	66	P		P	00 08 50.9	+0.4
NRN				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KSH	Kashi	38.99	69	P		P	00 08 52.0	-0.7
KURK	Kurchatov	40.05	51	P		P	00 09 00.9	-0.2
KURK				IAmb		IAmb	00 09 01.9	
	comp=Z,2.8nm,0.7s							
KURK	Kurchatov	40.05	51	*ce*P		P	00 09 01.6	+0.5
KURK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
DBIC	Dimbokro	40.71	233	P		P	00 09 05.4	-1.5
DBIC	Dimbokro	40.71	233	P		P	00 09 05.4	-1.5
MAKZ	Makanchi	42.39	57	P		P	00 09 21.7	+1.3
MAKZ	Makanchi	42.39	57	P		P	00 09 21.7	+1.3
MAKZ				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MK31	Makanchi Array	42.60	57	P		P	00 09 22.5	+0.3
MK31				IAmb		IAmb	00 09 23.7	
	comp=Z,3.2nm,0.6s							
MK31	Makanchi Array	42.60	57	*c* *i* P		P	00 09 23.0	+0.8
MKAR	Makanchi Array	42.60	57	P		P	00 09 23.1	+0.9
	comp=Z,3.5nm,0.5s,baz=269,slow=8.4,SNR=77							
	comp=Z,3.5nm,0.5s							
MKAR	Makanchi Array	42.60	57	P		P	00 09 22.8	+0.6
MKAR	Makanchi Array	42.60	57	P		P	00 09 22.8	+0.6
ZAA0	Zalesovo Array	43.91	46	P		P	00 09 32.0	-0.5
ZALV	Zalesovo Beam	43.91	46	P		P	00 09 32.4	-0.2
	comp=Z,3.3nm,0.4s,baz=269,slow=9.3,SNR=18							
	comp=Z,3.3nm,0.4s							
ZALV	Zalesovo Beam	43.91	46	P		P	00 09 31.9	-0.7
DGZ	Jazzator, Alta	45.74	52	*i* P		P	00 09 48.1	+0.7
DGZ				pmax		pmax		
	comp=Z,2.0nm,0.4s							
WMQ	Urumqi	46.82	60	*e*P		P	00 10 00.3	+4.4
SONM	Songino Array	58.35	51	P		P	00 11 22.0	+0.7
	comp=Z,0.7nm,0.5s,baz=289,slow=8.1,SNR=8.5							
	comp=Z,0.7nm,0.5s							
SONM	Songino Array	58.35	51	P		P	00 11 21.8	+0.5
PZH	PanZhiHua	63.65	75	P		P	00 12 01.0	+3.4
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							
HHC	Hu-ho-hao-te	64.47	57	*e*P		P	00 12 04.3	+1.6
HHC				pmax		pmax		
	comp=Z,12nm,0.9s							
HHC				pmax		pmax		
	comp=Z,190nm,4.7s							
HHC				LR		LR		
	comp=N,530nm,15.2s							
HHC				LR		LR		
	comp=E,480nm,15.2s							
HHC				LR		LR		
	comp=Z,510nm,14.6s							
KMI	Kunming	65.10	76	⇑P		P	00 12 08.4	+1.2
KMI				pmax		pmax		
	comp=Z,8.0nm,1.4s							
KMI				LR		LR		
	comp=N,260nm,9.3s							
KMI				LR		LR		
	comp=E,220nm,13.2s							
KMI				LR		LR		
	comp=Z,310nm,16.9s							
BILL	Bilibino	72.40	15	⇓*e*P		P	00 12 53.6	+1.9
BILL				*SP		PcP	00 13 07.0	-2.5
BILL							00 13 16.0	
BILL				pmax		pmax		
	comp=Z,2.0nm,1.1s							
BILL				MLR		MLR		
	comp=Z,46nm,8.0s							
IMAR	Indian Mountai	78.79	0	P		P	00 13 27.8	-0.5
JCJ	Chichijima	92.99	54	LR		LR	01 01 39.4	
	comp=Z,17nm,18.9s,baz=305,slow=39							
WRAB	Tennant Creek	115.50	97	*c* *i* PKIKP		PKPdf	00 20 07.1	-1.2
WRAB				pmax		pmax		
	comp=Z,4.0nm,1.3s							

ROM ***23*** *00:02:43.0±0.0, 42°.831N×0°.001×13°.117E±0°.003, h10km, ML3.6/104, Error ellipse: s-maj=0.2km s-min=0.1km az=248.0*

BGR ***23*** *00:02:42.8±0.6, 42°.55N×13°.38E, h10km, ML3.8/5, Error ellipse: s-maj=8.9km s-min=7.8km az=151.0*

PDG ***23*** *00:02:43.6±0.6, 42°.84N×13°.12E, h13km, ML3.6/12, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

PRU ***23*** *00:02:44.2±0.0, 42°.81N×13°.34E, h10km*

LDG ***23*** *00:02:44.9±0.1, 42°.71N×13°.25E, h9km, Ml3.2/24, Error ellipse: s-maj=5.2km s-min=3.1km az=42.0*

IDC ***23*** *00:02:46.0±2.2, 43°.14N×13°.53E, h0km, mb3.6/2, mbtmp3.7/7, ML3.6/5, MS2.7/1, Error ellipse: s-maj=32.0km s-min=20.0km az=74.0*

ISC 23 00:02:43.6±0.7, 42°.84N±0°.01×13°.12E±0°.01, h9km±4km, n303, σ1s36/403, 38C-8D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	Norcia	0.00	224	⇓P	Pg	00 02 45.1	-0.3
NRCA				S	Sg	00 02 46.1	-0.4
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1245	Castelsantange	0.06	68	⇓P	Pg	00 02 45.5	-0.2
T1245				S	Sg	00 02 47.0	-0.3
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1245				AML	AML		
T1216	Preci, Frazion	0.09	308	⇑P	Pg	00 02 46.0	0.0
T1216				S	Sg	00 02 47.8	0.0
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1212	Cascia, Frazio	0.10	212	⇑P	Pg	00 02 46.2	+0.1
T1212				S	Sg	00 02 48.2	+0.3
T1213	Norcia, Frazio	0.11	176	⇑P	Pg	00 02 46.3	-0.1
T1213				S	Sg	00 02 48.2	0.0
FEMA	Monte Fema	0.14	339	⇓P	Pg	00 02 46.8	0.0
FEMA				S	Sg	00 02 49.1	+0.1
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
T1202	Accumoli, Fraz	0.15	149	P	Pg	00 02 47.0	0.0
T1202				S	Sg	00 02 49.8	+0.4
T1244	Arquata del Tr	0.15	120	P	Pg	00 02 47.1	+0.1
T1244				S	Sg	00 02 50.0	+0.6
T1218	Civita (PG)	0.17	180	⇑P	Pg	00 02 47.2	0.0
T1218				S	Sg	00 02 50.1	+0.4
T1218				AML	AML		
	comp=E,43000μm,0.8s						
T1218				AML	AML		
	comp=N,50700μm,0.2s						
T1218				AML	AML		
	comp=E,42950μm,0.8s						
T1218				AML	AML		
	comp=N,50500μm,0.2s						
T1218				AML	AML		
	comp=E,41850μm,0.8s						
T1218				AML	AML		
	comp=N,50500μm,0.2s						
T1218				AML	AML		
	comp=N,50700μm,0.2s						
T1218				AML	AML		
	comp=E,41900μm,0.8s						
T1217	Poggiodom

T1219 AML AML
comp=E,36250µm,0.4s
T1219 AML AML
comp=N,52500µm,0.4s
T1219 AML AML
comp=E,37500µm,0.9s
T1219 AML AML
comp=N,48500µm,0.4s
T1219 AML AML
comp=N,52500µm,0.5s
T1219 AML AML
comp=E,37550µm,0.9s
T1219 AML AML
comp=E,36300µm,0.4s
T1219 AML AML
comp=E,37500µm,0.9s
T1219 AML AML
comp=N,48450µm,0.5s
LNSS Leonessa 0.24 194 ⇑P Pg 00 02 48.5 0.0
LNSS S **Sg 00 02 52.6 +0.8**
LNSS AML AML
comp=E,12150µm,0.2s
LNSS AML AML
comp=N,42800µm,0.5s
LNSS AML AML
comp=E,12200µm,0.2s
SMA1 SAN MARTINO 0.26 142 P **Pg 00 02 48.7 -0.2**
SMA1 S **Sg 00 02 53.1 +0.7**
SMA1 AML AML
comp=E,25000µm,1.5s
SMA1 AML AML
comp=N,19500µm,0.9s
CSP1 Cessapalombo 0.27 14 ⇑P **Pg 00 02 48.9 -0.2**
CSP1 S **Sg 00 02 53.2 +0.6**
CSP1 AML AML
comp=E,75250µm,0.6s
CSP1 AML AML
comp=N,89400µm,0.4s
CSP1 AML AML
comp=E,75300µm,0.6s
GUMA Gualdo di Mace 0.28 35 ⇑P **Pg 00 02 49.4 +0.2**
GUMA S **Sg 00 02 54.1 +1.1**
GUMA AML AML
comp=E,93950µm,1.0s
GUMA AML AML
comp=E,93900µm,1.0s
GUMA AML AML
GUMA AML AML
GUMA AML AML
T1243 Rocca Santa Ma 0.28 119 ⇑P **Pg 00 02 49.0 -0.3**
T1243 S **Sg 00 02 53.5 +0.4**
RM33 Pellescritta (0.33 167 ⇑P **Pg 00 02 50.0 -0.3**
RM33 S **Sg 00 02 55.5 +0.8**
RM33 AML AML
comp=N,8415µm,1.0s
RM33 AML AML
comp=E,8070µm,0.6s
RM33 AML AML
comp=N,8135µm,1.0s
RM33 AML AML
comp=N,8415µm,1.0s
RM33 AML AML
comp=E,8075µm,0.6s
RM33 AML AML
comp=N,8130µm,1.0s
RM33 AML AML
comp=E,8170µm,0.6s
SEF1 Sefro 0.34 338 P **Pg 00 02 50.1 -0.2**
SEF1 S **Sg 00 02 55.4 +0.6**
SEF1 AML AML
comp=E,26000µm,1.6s
SEF1 AML AML
comp=N,24850µm,1.0s
SEF1 AML AML
comp=N,24850µm,1.0s
SEF1 AML AML
comp=E,26000µm,1.6s
PIO1 Pioraco 0.36 344 P **Pg 00 02 50.5 -0.2**
PIO1 S **Sg 00 02 56.4 +1.0**
MDAR Monte D'Aria 0.36 3 P **Pg 00 02 50.5 -0.3**
MDAR S **Sg 00 02 56.2 +0.7**
MDAR AML AML
comp=E,33900µm,0.3s
MDAR AML AML
comp=N,40900µm,0.3s
MDAR AML AML
comp=N,40850µm,0.3s
T1211 Morro Reatino 0.36 213 ⇑P **Pg 00 02 50.5 -0.2**
T1211 S **Sg 00 02 56.3 +0.9**
T1211 AML AML
comp=N,12800µm,0.4s
T1211 AML AML
comp=E,7695µm,0.8s
T1211 AML AML
comp=E,7665µm,0.8s
T1211 AML AML
comp=N,13050µm,0.4s
ARRO Arrone 0.36 225 ⇑P **Pg 00 02 50.7 -0.1**
CAMP Campotosto 0.37 144 P **Pg 00 02 50.5 -0.4**
CAMP S **Sg 00 02 56.0 +0.2**
CAMP AML AML
comp=N,4995µm,0.5s
CAMP AML AML
comp=E,4460µm,0.4s
T1246 Crognaleto (TE 0.38 132 ⇑P **Pg 00 02 50.6 -0.4**
T1246 S **Sg 00 02 56.4 +0.4**
FIU1 Fiuminata 0.38 339 P **Pg 00 02 50.9 -0.2**
ASSB Assisi San Ben 0.40 302 AML AML
comp=N,14350µm,0.3s
ASSB AML AML
comp=E,15500µm,0.2s
SSM1 San Severino M 0.40 6 P **Pg 00 02 51.3 -0.1**
SSM1 S **Sg 00 02 57.6 +0.9**
MNTP Montappone 0.40 40 P **Pg 00 02 51.8 +0.4**
MNTP S **Sb 00 02 59.0 -0.1**
MNTP AML AML
comp=E,43450µm,0.3s
MNTP AML AML
comp=N,42450µm,0.3s
MNTP AML AML
comp=E,43500µm,0.3s
GAG1 Gagliole 0.40 355 P **Pg 00 02 51.4 -0.2**
GAG1 S **Sg 00 02 57.8 +0.9**
T1247 Pizzolo (AQ) 0.42 161 P **Pg 00 02 51.5 -0.3**
T1247 S **Sg 00 02 58.6 +1.4**
T1247 AML AML
comp=E,10615µm,0.7s
T1247 AML AML
comp=N,9130µm,0.4s
T1247 AML AML
comp=E,10620µm,0.7s
TERO Teramo 0.42 120 ⇑P **Pg 00 02 51.3 -0.5**
TERO S **Sg 00 02 57.5 +0.2**
TERO AML AML
comp=E,8885µm,0.4s
TERO AML AML
comp=N,13500µm,0.5s
TERO AML AML
comp=E,9625µm,0.8s
TERO AML AML
comp=N,14250µm,0.5s
TERO AML AML
comp=N,13550µm,0.5s
OFFI Offida 0.43 76 ⇑P **Pg 00 02 52.5 +0.5**
OFFI AML AML
comp=N,20700µm,0.6s
OFFI AML AML
comp=E,22750µm,0.5s
SNTG Esanatoglia 0.44 343 P **Pg 00 02 51.9 -0.3**
SNTG S **Sg 00 02 58.8 +0.8**
SNTG AML AML
comp=E,6365µm,0.7s
SNTG AML AML
comp=N,6320µm,1.5s
SNTG AML AML
comp=N,5855µm,1.5s
SNTG AML AML
comp=E,6530µm,0.6s
SNTG AML AML
comp=E,6360µm,0.7s
CESX Cesi 0.46 241 ⇑P **Pg 00 02 52.1 -0.4**
CESX AML AML
comp=E,7600µm,0.7s
CESX AML AML
comp=N,5890µm,0.4s
ATCC AVT- Casa Cast 0.49 315 ⇑P **Pg 00 02 53.0 -0.2**
ATCC S **Sg 00 03 00.6 +0.8**
ATCC AML AML
comp=E,11600µm,1.1s
ATCC AML AML
comp=N,11050µm,0.5s
EL6 Elcito 0.49 359 ⇑P **Pg 00 02 52.9 -0.4**
EL6 S **Sb 00 03 00.7 -1.2**
EL6 AML AML
comp=E,21600µm,0.2s
EL6 AML AML
comp=N,30700µm,0.2s
GIGS Gran Sasso 0.51 139 P **Pg 00 02 52.7 -0.8**
GIGS S **Sg 00 03 00.2 0.0**
GIGS AML AML
comp=N,1295µm,0.5s
GIGS AML AML
comp=E,1725µm,0.4s
AQU L'Aquila 0.53 156 AML AML
comp=E,4090µm,0.9s
AQU AML AML
comp=N,4610µm,1.1s
AQU AML AML
comp=E,3785µm,0.9s
AQU AML AML
comp=N,4405µm,0.7s
AQU AML AML
comp=N,4615µm,1.1s
FOSV Fossato di Vic 0.53 331 ⇑P **Pg 00 02 53.5 -0.4**
FOSV S **Sb 00 03 01.8 -1.1**
FOSV AML AML
comp=N,7285µm,1.2s
FOSV AML AML
comp=E,4715µm,1.5s
CING Cingoli 0.54 6 P **Pg 00 02 53.7 -0.5**
CING S **Sb 00 03 02.4 -0.9**
CING AML AML
comp=E,10145µm,0.3s
CING AML AML
comp=N,8750µm,0.9s
FIAM Fiamignano 0.57 180 ⇑P **Pg 00 02 53.9 -0.7**
FIAM S **Sg 00 03 02.3 +0.2**
FIAM AML AML
comp=E,3435µm,0.8s
FIAM AML AML
comp=N,3030µm,1.0s
TRTR Tortoreto Alta 0.59 92 ⇑P **Pb 00 02 55.7 -0.4**
TRTR AML AML
comp=N,19900µm,0.3s
TRTR AML AML
comp=E,16250µm,1.2s
CADA Capodarco di F 0.59 53 P **Pb 00 02 56.1 -0.1**
MURB Monte Urbino 0.61 315 P **Pg 00 02 55.1 -0.4**
MURB S **Sb 00 03 04.7 -0.5**
MURB AML AML
comp=E,14800µm,0.4s
MURB AML AML
comp=E,15300µm,0.4s
MURB AML AML
comp=E,14800µm,0.4s
MURB AML AML
comp=N,15800µm,1.6s
MURB AML AML
comp=N,15700µm,1.5s
MMUR Monte Murano 0.61 352 P **Pg 00 02 55.2 -0.3**
MMUR S **Sb 00 03 04.8 -0.5**
MMUR AML AML
comp=N,9910µm,0.9s
MMUR AML AML
comp=N,9890µm,0.9s
MMUR AML AML
comp=E,17950µm,0.5s
CIMA Civitanova Mar 0.62 41 P **Pb 00 02 56.1 -0.5**
CIMA AML AML
comp=N,15000µm,0.6s
CIMA AML AML
comp=E,12600µm,0.3s
SSFR Montelago di S 0.65 338 P **Pg 00 02 55.8 -0.4**
SSFR S **Sb 00 03 06.1 -0.2**
SSFR AML AML
comp=N,11050µm,0.3s
SSFR AML AML
comp=N,9020µm,0.3s
SSFR AML AML
comp=E,9370µm,0.3s
SSFR AML AML
comp=E,10215µm,0.3s
PP3 Marolino 0.65 33 ⇑P **Pb 00 02 56.6 -0.6**
PP3 AML AML
comp=E,19400µm,0.2s
PP3 AML AML
comp=N,19850µm,1.3s
PP3 AML AML
comp=E,20250µm,0.2s
PP3 AML AML
comp=N,20400µm,1.3s
PP3 AML AML
comp=E,19400µm,0.2s
PP3 AML AML
comp=N,19800µm,1.3s
ATFO Monte Foce - G 0.66 323 P **Pg 00 02 55.8 -0.7**
ATFO S **Sb 00 03 06.2 -0.6**
ATFO AML AML
comp=N,3825µm,0.9s
ATFO AML AML
comp=E,4085µm,0.5s
FAGN Fagnano 0.67 149 P **Pg 00 02 55.4 -1.0**
FAGN AML AML
comp=N,7330µm,1.5s
FAGN AML AML
comp=E,6245µm,0.4s
ATSC Scheggia e Pas 0.67 332 P **Pg 00 02 55.9 -0.7**
ARVD Arcevia 0.68 349 P **Pg 00 02 56.0 -0.6**
ARVD S **Sb 00 03 06.7 -0.4**
ARVD AML AML
comp=E,4405µm,0.3s
ARVD AML AML
comp=N,2850µm,1.2s
VCEL Villa Celiera 0.69 129 AML AML
comp=E,6255µm,0.8s
VCEL AML AML
comp=N,5195µm,0.3s
ATLO AVT- Montelove 0.71 313 ⇑P **Pg 00 02 56.6 -0.7**
TB01 Gubbio 0.74 318 P **Pg 00 02 57.3 -0.6**
TB01 S **Sb 00 03 08.3 -0.6**
FRON Frontone 0.74 337 P **Pg 00 02 56.9 -1.0**
FRON AML AML
comp=N,4095µm,0.4s
FRON AML AML
comp=E,3565µm,0.4s
MGAB Montegabbione 0.74 276 P **Pg 00 02 57.1 -0.8**
MGAB AML AML
comp=N,8625µm,0.5s
MGAB AML AML
comp=N,8340µm,0.5s
MGAB AML AML
comp=N,8630µm,0.5s
MGAB AML AML
comp=E,6900µm,1.3s
MGAB AML AML
comp=E,7280µm,1.3s
TB02 Pietralunga 0.74 316 P **Pg 00 02 57.3 -0.7**
SRES S.Oreste - Sor 0.75 217 ⇑P **Pg 00 02 57.0 -1.0**
SRES AML AML
comp=E,3200µm,0.8s
SRES AML AML
comp=N,2580µm,0.7s
ATVA AVT- Monte Val 0.75 306 P **Pg 00 02 57.3 -0.8**
ATVO AVT- Monte Val 0.75 317 P **Pg 00 02 57.2 -1.0**
ATVO AML AML
comp=N,3200µm,0.6s
ATVO AML AML
comp=E,3875µm,1.0s
ATBU Serra di Buran 0.76 327 P **Pg 00 02 57.9 -0.4**
TB03 Pietralunga 0.77 318 P **Pg 00 02 57.8 -0.6**
T0110 Collepietro 0.78 141 P **Pg 00 02 57.5 -1.1**
T0110 AML AML
comp=E,4900µm,0.5s
T0110 AML AML
comp=N,4400µm,0.4s
ATMI Monte Miggiano 0.80 309 P **Pg 00 02 58.8 -0.2**
ATMI AML AML
comp=N,10550µm,0.8s
ATMI AML AML
comp=E,10840µm,0.7s
AOI Ancona 0.80 26 P **Pg 00 02 58.4 -0.6**
AOI AML AML
comp=E,6860µm,1.0s
AOI AML AML
comp=N,6605µm,1.0s
COR1 Corinaldo 0.80 354 P **Pg 00 02 58.7 -0.3**
COR1 AML AML
comp=E,4640µm,0.6s
COR1 AML AML
comp=N,9095µm,0.5s
COR1 AML AML
comp=N,9140µm,0.5s
COR1 AML AML
comp=E,4635µm,0.6s
ATPC Poggio Castell 0.81 323 P **Pg 00 02 58.5 -0.7**
ATPI Pietralunga - 0.81 320 P **Pg 00 02 58.4 -0.8**
ATPI AML AML
comp=E,3440µm,0.6s
ATPI AML AML
comp=N,2760µm,1.6s
PIEI Pieia 0.82 329 P **Pg 00 02 58.7 -0.8**
PIEI AML AML
comp=N,1770µm,0.4s
PIEI AML AML
comp=E,2340µm,0.3s
PCRO Pietralacroce 0.83 21 P **Pb 00 02 59.9 -0.3**
MPAG Monte Paganucc 0.84 342 P **Pg 00 02 58.7 -1.0**
MPAG AML AML
comp=E,3520µm,0.5s
MPAG AML AML
comp=N,2620µm,0.4s
MPAG AML AML
comp=E,3525µm,0.5s
PTQR Pietraquaria 0.84 165 P **Pg 00 02 58.5 -1.3**
MTCE Montecelio 0.86 199 P **Pg 00 02 58.5 -1.6**
MTCE AML AML
comp=E,2035µm,0.6s
MTCE AML AML
comp=N,1865µm,0.7s
NARO Abbazia di Nar 0.87 333 P **Pg 00 02 59.4 -0.9**
NARO AML AML
comp=N,1570µm,0.3s
NARO AML AML
comp=E,1900µm,1.2s
SACS San Casciano d 0.89 271 P **Pg 00 02 59.6 -1.1**
SACS AML AML
comp=N,4215µm,0.8s
SACS AML AML
comp=N,4275µm,0.8s
SACS AML AML
comp=E,3045µm,1.5s
SACS AML AML
comp=E,3115µm,1.5s
CERT Cerreto 0.89 186 P **Pg 00 02 59.5 -1.3**
CERT AML AML
comp=E,3370µm,0.9s
CERT AML AML
comp=N,1850µm,0.5s
FSSB Fossombrone 0.89 344 P **Pg 00 03 00.0 -0.8**
FSSB AML AML
comp=E,10650µm,0.4s
FSSB AML AML
comp=N,10220µm,1.5s
ATMC Monte Cedrone 0.91 312 P **Pg 00 03 00.7 -0.5**
BADI Badiali 0.93 317 AML AML
comp=E,162µm,0.6s
BADI AML AML
comp=N,1775µm,1.3s
PE3 Peglio 0.97 332 P **Pg 00 03 01.7 -0.7**
PE3 AML AML
comp=E,24µm,0.9s
PE3 AML AML
comp=N,33µm,0.1s
PE3 AML AML
comp=E,24µm,0.9s
CAFI Castiglion Fio 0.98 301 P **Pg 00 03 01.3 -1.1**
CAFI AML AML
comp=E,3285µm,0.5s
CAFI AML AML
comp=N,2940µm,0.7s
CAFI AML AML
comp=E,3320µm,0.5s
CAFI AML AML
comp=N,3080µm,0.7s
LATE Laterza 0.99 258 P **Pg 00 03 01.7 -1.0**
RCAV Rocca di Cave 0.99 187 P **Pg 00 03 01.7 -1.1**
RCAV AML AML
comp=E,2650µm,1.6s
RCAV AML AML
comp=N,3240µm,1.1s
INTR Introdacqua 1.01 144 P **Pg 00 03 01.1 -1.9**
INTR AML AML
comp=E,2µm,0.9s
INTR AML AML
comp=N,3µm,1.6s
INTR AML AML
comp=E,2165µm,0.9s
INTR AML AML
comp=N,3755µm,1.6s
SSP9 Sansepolcro 1.03 316 P **Pg 00 03 03.4 0.0**
SSP9 AML AML
comp=E,1694µm,1.5s
SSP9 AML AML
comp=N,1660µm,0.8s
VVLD Villa Vallelon 1.03 159 P **Pg 00 03 02.2 -1.3**
GUAR Guarcino 1.05 172 P **Pg 00 03 03.8 0.0**
SF03 Valle Cupa 1.05 269 P **Pg 00 03 03.3 -0.5**
SF11 Podere del Sol 1.06 272 P **Pg 00 03 03.0 -0.9**
MCIV Monte Civitell 1.06 267 P **Pg 00 03 03.2 -0.8**
MCIV AML AML
comp=N,1455µm,0.8s
MCIV AML AML
comp=E,1094µm,0.4s
SF04 Casetta 1.07 271 P **Pg 00 03 03.6 -0.6**
CAFR Castel Frentan 1.09 123 AML AML
comp=E,1465µm,0.6s
CAFR AML AML
comp=N,1700µm,0.8s
SF13 Bagnolo 1.10 270 P **Pg 00 03 03.8 -1.0**
SF14 Selvena 1.11 266 P **Pb 00 03 04.5 -0.5**
RDP Rocca di Papa 1.12 196 AML AML
comp=N,4335µm,0.6s
RDP AML AML
comp=E,4395µm,0.5s
SAMA S.Maria delle 1.12 200 P **Pb 00 03 03.8 -1.4**
PESA Pesaro 1.12 350 P **Pb 00 03 04.8 -0.4**
PESA AML AML
comp=E,4945µm,0.5s
PESA AML AML
comp=N,5145µm,0.4s
CPGN Carpegna, Ital 1.13 329 P **Pg 00 03 04.7 -0.6**
CPGN AML AML
comp=E,2495µm,1.3s
CPGN AML AML
comp=N,2710µm,1.1s
CPGN AML AML
comp=N,2390µm,1.0s
CPGN AML AML
comp=E,2990µm,0.9s
TOLF Tolfa 1.13 227 P **Pb 00 03 03.9 -1.4**
TOLF AML AML
comp=N,1230µm,0.5s
TOLF AML AML
comp=E,1450µm,0.7s
SF01 Poggio Pratacc 1.14 269 P **Pb 00 03 04.9 -0.7**
SF01 AML AML
comp=N,1847µm,1.0s
SF01 AML AML
comp=E,1591µm,0.5s
CRE Caprese Michel 1.16 313 P **Pb 00 03 05.0 -0.8**
CRE AML AML
comp=E,1195µm,1.5s
CRE AML AML
comp=N,1155µm,0.3s
LAV9 Lanuvio 1.20 195 P **Pb 00 03 05.9 -0.5**
POFI Posta Fibreno 1.20 158 P **Pb 00 03 06.1 -0.5**
POFI AML AML
comp=E,783µm,1.5s
POFI AML AML
comp=N,924µm,0.6s
POFI AML AML
comp=N,942µm,0.6s
POFI AML AML
comp=E,728µm,1.5s
LRP Arpino 1.24 163 P **Pg 00 03 07.4 0.0**
GIUL Giuliano Di Ro 1.28 175 P **Pn 00 03 07.1 -0.6**
GIUL AML AML
comp=E,764µm,0.6s

GIUL AML AML
comp=N,1023µm,0.7s
LATB Latina 1.34 185 P **Pn** **00 03 07.6 -0.9**
ASQU Asqua 1.36 315 P **Pn** **00 03 08.0 -0.9**
ASQU AML AML
comp=E,1145µm,0.7s
ASQU AML AML
comp=N,1045µm,1.6s
RNI2 Rionero Sannit 1.37 145 P **Pg** **00 03 10.3 +0.4**
BLLA Bellaria 1.39 340 P **Pn** **00 03 08.0 -1.2**
CERA Filignano 1.41 151 P **Pn** **00 03 09.3 -0.2**
SFI Santa Sofia 1.41 320 P **Pn** **00 03 09.3 -0.2**
FRES Fresagrandinar 1.44 126 P **Pn** **00 03 09.9 0.0**
FRES AML AML
comp=N,582µm,0.6s
FRES AML AML
comp=E,982µm,1.0s
MIDA Miranda 1.46 144 P **Pn** **00 03 09.2 -1.0**
MIDA AML AML
comp=E,906µm,0.9s
MIDA AML AML
comp=N,742µm,1.6s
MIDA AML AML
comp=N,807µm,1.6s
MIDA AML AML
comp=E,816µm,1.4s
CSNT Castellina Chi 1.48 296 P **Pn** **00 03 09.8 -0.7**
CSNT AML AML
comp=N,418µm,0.7s
CSNT AML AML
comp=E,446µm,0.7s
TRIV Trivento 1.51 135 AML AML
comp=E,1048µm,1.2s
TRIV AML AML
comp=N,988µm,1.0s
OSSC Osservatorio P 1.53 297 P **Pn** **00 03 10.8 -0.3**
OSSC AML AML
comp=N,536µm,0.8s
OSSC AML AML
comp=E,430µm,0.6s
RUFI Rufina 1.54 311 P **Pn** **00 03 10.6 -0.7**
LMD Lutirano 1.61 321 P **Pb** **00 03 12.9 -0.7**
VAGA Valle Agricola 1.64 149 P **Pb** **00 03 13.8 -0.3**
CASP Castiglione de 1.66 269 P **Pn** **00 03 12.0 -0.9**
CASP AML AML
comp=N,194µm,1.4s
CASP AML AML
comp=E,216µm,0.9s
BSSO Busso 1.69 139 P **Pb** **00 03 14.9 -0.1**
BRIS BRISIGHELLA 1.76 319 P **Pb** **00 03 15.3 -0.7**
CIGN Sant'Elia a Pi 1.78 131 P **Pb** **00 03 15.7 -0.7**
CIGN AML AML
comp=N,345µm,0.7s
CIGN AML AML
comp=E,448µm,1.2s
MODR Mondragone 1.78 161 P **Pn** **00 03 14.9 +0.4**
CRMI Carmignano 1.83 302 P **Pn** **00 03 15.1 -0.3**
CRMI AML AML
comp=E,238µm,1.2s
CRMI AML AML
comp=N,248µm,1.2s
MELA Melanico ??? S 1.87 126 P **Pn** **00 03 16.3 +0.5**
MELA AML AML
comp=N,1500µm,0.6s
MELA AML AML
comp=E,1112µm,0.6s
MELA AML AML
comp=E,1398µm,0.6s
MELA AML AML
comp=N,1430µm,1.0s
VITU Vitulano (BN) 2.00 145 P **Pn** **00 03 18.8 +1.1**
BRJN Brijuni 2.12 12 P **Pn** **00 03 18.7 -0.5**
MRB1 Monte Rocchett 2.20 140 P **Pb** **00 03 22.0 -1.5**
SGRT San Giovanni R 2.23 118 P **Pn** **00 03 21.4 +0.6**
SGRT AML AML
comp=N,528µm,0.5s
SGRT AML AML
comp=E,662µm,0.5s
MSAG Monte S. Angel 2.36 117 P **Pn** **00 03 23.4 +0.8**
MSAG AML AML
comp=N,1305µm,0.6s
MSAG AML AML
comp=E,884µm,0.6s
MSAG AML AML
comp=E,825µm,0.5s
MSAG AML AML
comp=N,1305µm,0.6s
SARO Sassorosso 2.39 305 AML AML
comp=N,468µm,0.5s
SARO AML AML
comp=E,380µm,0.5s
CAPA Cerignola FG 2.62 129 P **Pn** **00 03 27.0 +1.0**
CAPA AML AML
comp=E,678µm,1.1s
CAPA AML AML
comp=N,578µm,1.2s
SKDS Skadanscina 2.79 13 *i* Pn **Pn** **00 03 27.8 -0.6**
SKDS *e*Sn **Sn** **00 04 01.9 -0.3**
SKDS IAML 00 04 03.0
comp=Z,73nm,0.3s
MRVN Minervino Murg 2.90 127 P **Pn** **00 03 30.9 +0.8**
A050A Klekovaca 2.98 55 *e*Pn **Pn** **00 03 32.1 +1.0**
PGF Pioggiola 3.05 266 *e*Pn **Pn** **00 03 32.4 +0.3**
PGF Pioggiola 3.05 266 *e*P **Pb** **00 03 35.7 -2.4**
PGF *e*Sn **Sn** **00 04 08.8 +0.1**
comp=Z,7.2nm,0.3s
CEY Cerknica 3.05 18 *e*Pn **Pn** **00 03 31.6 -0.5**
BOJS Bojanci 3.08 29 *e*Pn **Pn** **00 03 31.3 -1.1**
BOJS Bojanci 3.08 29 AML AML
comp=N,506µm,0.8s
BOJS AML AML
comp=E,684µm,1.5s
SABO M.te Sabotino 3.16 6 P **Pn** **00 03 33.3 -0.3**
SABO AML AML
comp=E,1750µm,0.5s
SABO AML AML
comp=E,454µm,1.5s
SABO AML AML
comp=N,2115µm,0.5s
SABO AML AML
comp=N,536µm,0.5s
CGRP Cima Grappa 3.19 343 P **Pn** **00 03 34.1 0.0**
CGRP AML AML
comp=E,518µm,0.5s
CGRP AML AML
comp=N,380µm,0.5s
CGRP AML AML
comp=N,416µm,0.5s
CGRP AML AML
comp=E,485µm,0.5s
SRKY Kupres RS 3.19 66 *e*Pn **Pn** **00 03 35.4 +1.3**
AMUR Altamura 3.24 125 P **Pn** **00 03 35.5 +0.8**
AMUR AML AML
comp=E,166µm,0.6s
AMUR AML AML
comp=N,226µm,0.9s
MGRS Mrkonjic Grad 3.29 60 *e*Pn **Pn** **00 03 36.4 +1.1**
DOSS Dosso del Somm 3.34 336 P **Pn** **00 03 37.0 +0.8**
SALO Salr 3.35 327 P **Pn** **00 03 37.3 +1.2**
PRIJ Prijedor 3.37 49 *e*Pn **Pn** **00 03 38.1 +1.7**
STON Ston 3.37 88 *e*Pn **Pn** **00 03 35.3 -1.1**
STON Ston 3.37 88 AML AML
comp=E,69µm,1.5s
STON AML AML
comp=N,95µm,1.2s
CTI Castel Tesino 3.38 342 P **Pn** **00 03 37.3 +0.7**
CTI AML AML
comp=N,263µm,0.7s
CTI AML AML
comp=E,250µm,0.5s
MPRI Monte Prat 3.41 359 P **Pn** **00 03 37.3 +0.3**
MPRI AML AML
comp=N,424µm,0.7s
MPRI AML AML
comp=E,367µm,0.6s
MPRI AML AML
comp=N,546µm,0.7s
MPRI AML AML
comp=E,282µm,0.6s
CRES Cresnjev 3.43 29 *e*Pn **Pn** **00 03 36.8 -0.4**
STAL STALIGIAL 3.44 355 P **Pn** **00 03 37.3 -0.1**
STAL AML AML
comp=E,368µm,0.7s
STAL AML AML
comp=N,342µm,0.9s
STAL AML AML
comp=N,310µm,0.3s
STAL AML AML
comp=E,362µm,0.7s
LUSI Trento, Gardas 3.49 334 P **Pn** **00 03 38.7 +0.6**
LUSI AML AML
comp=N,251µm,0.3s
LUSI AML AML
comp=E,178µm,1.1s
A051A Mrakovica 3.50 50 *e*Pn **Pn** **00 03 38.4 +0.2**
CIMO Cimolais 3.51 352 P **Pn** **00 03 38.3 0.0**
CIMO AML AML
comp=N,64µm,0.4s
CIMO AML AML
comp=E,60µm,0.9s
CIMO AML AML
comp=E,68µm,0.3s
CIMO AML AML
comp=N,67µm,0.5s
BLY Banja Luka 3.51 56 *e*Pn **Pn** **00 03 38.7 +0.3**
PTCC Patocco-Chiusa 3.57 3 P **Pn** **00 03 38.8 -0.5**
PTCC AML AML
comp=E,166µm,0.5s
PTCC AML AML
comp=N,125µm,0.6s
NOCI Noci 3.59 123 AML AML
comp=N,150µm,1.1s
NOCI AML AML
comp=E,126µm,0.8s
GAGG Gaggia 3.60 335 P **Pn** **00 03 40.7 +1.1**
CLUD Cludinico 3.62 357 P **Pn** **00 03 40.0 +0.1**
CLUD AML AML
comp=E,194µm,0.8s
CLUD AML AML
comp=N,162µm,0.8s
ZONE Zone 3.63 325 P **Pn** **00 03 41.2 +1.1**
ZONE AML AML
comp=E,176µm,0.7s
ZONE AML AML
comp=N,210µm,0.6s
ACOM Acomizza, Ital 3.72 4 P **Pn** **00 03 41.7 +0.2**
ACOM AML AML
comp=E,276µm,0.8s
ACOM AML AML
comp=E,308µm,1.3s
ACOM AML AML
comp=N,236µm,0.7s
ACOM AML AML
comp=N,247µm,1.4s
ZOU Zoufplan 3.72 358 P **Pn** **00 03 41.5 0.0**
ZOU AML AML
comp=N,199µm,0.9s
ZOU AML AML
comp=E,238µm,1.1s
ZOU AML AML
comp=N,212µm,0.9s
ZOU AML AML
comp=E,228µm,1.2s
FVI Forni Avoltri 3.77 356 P **Pn** **00 03 41.9 0.0**
FVI AML AML
comp=N,168µm,0.6s
FVI AML AML
comp=E,139µm,0.5s
MYKA Terra Mystica 3.81 5 Pn **Pn** **00 03 42.9 +0.3**
comp=E,5.2nm,0.4s,SNR=6.3
MYKA *e*Sn **Sn** **00 04 29.4 +1.8**
comp=E,7.2nm,0.2s
OBKA Obir 3.81 15 *e*Pn **Pn** **00 03 40.5 -2.1**
OBKA Obir 3.81 15 Pn **Pn** **00 03 42.5 -0.1**
comp=E,1.0nm,0.2s,SNR=9.0
OBKA *e*Sn **Sn** **00 04 29.9 +2.3**
comp=E,32nm,0.5s
OBKA Obir 3.81 15 *e*Pn **Pn** **00 03 42.5 -0.1**
OBKA *e*Sn **Sn** **00 04 28.4 +0.8**
MDI Monti di Nese 3.82 321 P **Pn** **00 03 43.1 +0.4**
KOSI Kohlern 3.83 342 P **Pn** **00 03 44.7 +1.7**
APPI Appiano 3.88 340 P **Pn** **00 03 44.6 +1.0**
ABTA Abfaltersbach 3.94 354 Pn **Pn** **00 03 45.2 +1.0**
comp=E,36nm,0.5s,SNR=33
ABTA *e*Sn **Sn** **00 04 31.3 +0.8**
comp=E,30nm,0.4s
HCY Herceg Novi 3.99 94 *e*Pn **Pn** **00 03 44.4 -0.5**
HCY Herceg Novi 3.99 94 ⇓*i*Pn **Pn** **00 03 45.6 +0.7**
HCY *i* Sn **Sn** **00 04 32.5 +0.8**
BRY Bratogost 3.99 87 *e*Pn **Pn** **00 03 45.5 +0.5**
BRY Bratogost 3.99 87 ⇓*i*Pn **Pn** **00 03 45.7 +0.7**
BRY *i* Sn **Sn** **00 04 33.0 +1.1**
SOKA Soboth 4.08 19 Pn **Pn** **00 03 46.3 +0.1**
comp=E,0.6nm,0.2s,SNR=7.4
SOKA *e*Sn **Sn** **00 04 35.6 +1.5**
comp=E,11nm,0.5s
RISI Rein 4.18 350 P **Pn** **00 03 49.0 +1.4**
KBA Koelnbreinsper 4.25 2 Pn **Pn** **00 03 49.3 +0.7**
comp=E,5.2nm,0.4s,SNR=15
KBA *e*Sn **Sn** **00 04 38.6 +0.2**
comp=E,24nm,0.4s
KBA Koelnbreinsper 4.25 2 *e*Pn **Pn** **00 03 49.4 +0.7**
KBA *e*Sn **Sn** **00 04 37.7 -0.7**
MUGIO Muggio 4.25 318 AML AML
comp=E,74µm,1.3s
MUGIO AML AML
comp=N,58µm,0.5s
SBF Sospel 4.27 286 *e*Pn **Pn** **00 03 49.2 +0.4**
SBF Sospel 4.27 286 *e*P Pn 00 03 53.7 +4.9
SBF *e*Sn **Sn** **00 04 41.8 +3.0**
comp=N,36nm,0.8s
CEME Cevo 4.29 92 ⇓*i*Pn **Pn** **00 03 49.8 +0.7**
CEME *i* Sn **Sn** **00 04 40.2 +1.0**
NKME Niksic 4.29 89 ⇑*i*Pn **Pn** **00 03 49.9 +0.7**
NKME *i* Sn **Sn** **00 04 40.4 +1.0**
BUM Brajici-Budva 4.30 95 ⇑*i*Pn **Pn** **00 03 50.0 +0.7**
BUM *i* Sn **Sn** **00 04 40.5 +0.9**
HAPS Han Pijesak,Bl 4.43 72 *e*Pn **Pn** **00 03 52.1 +1.1**
FETA Feichten 4.52 339 Pn **Pn** **00 03 54.3 +2.0**
comp=N,2.8nm,0.5s,SNR=16
FETA *e*Sn **Sn** **00 04 48.6 +3.6**
comp=N,8.0nm,0.4s
DRME Dracevica, Mon 4.53 96 *e*Pn **Pn** **00 03 53.3 +0.9**
DRME Dracevica, Mon 4.53 96 ⇑*i*Pn **Pn** **00 03 53.2 +0.9**
DRME *e*Sn **Sn** **00 04 45.8 +0.6**
TTG Podgorica 4.55 93 ⇑*i*Pn **Pn** **00 03 53.4 +0.8**
TTG *i* Sn **Sn** **00 04 46.5 +1.0**
WTTA Wattenberg 4.55 347 Pn **Pn** **00 03 55.1 +2.3**
comp=N,2.5nm,0.3s,SNR=14
WTTA *e*Sn **Sn** **00 04 48.6 +2.7**
comp=N,12nm,0.3s
WTTA Wattenberg 4.55 347 *e*Pn **Pn** **00 03 55.3 +2.5**
WTTA *e*Sn **Sn** **00 04 47.3 +1.4**
DAVOX Davos/Dischmat 4.57 331 Pn **Pn** **00 03 56.0 +3.0**
comp=N,4.6nm,0.3s,baz=138,slow=12,SNR=33
DAVOX Sn **Sn** **00 04 48.1 +1.8**
comp=N,1.9nm,0.3s,baz=128,slow=20,SNR=5.7
comp=N,21nm,0.5s
SQTA Sankt Quirin 4.59 344 *e*Pn **Pn** **00 03 55.6 +2.3**
comp=N,6.4nm,0.3s
SQTA *e*Sn **Sn** **00 04 49.0 +2.2**
comp=N,13nm,0.3s
PLE Pljevlja 4.62 82 ⇑*i*Pn **Pn** **00 03 54.4 +0.7**
PLE *i* Sn **Sn** **00 04 48.3 +0.8**
ULC Ulcinj 4.62 99 ⇑*i*Pn **Pn** **00 03 54.5 +0.9**
ULC *i* Sn **Sn** **00 04 47.8 +0.4**
WATA Walderalm 4.63 347 *e*Pn **Pn** **00 03 56.1 +2.3**
comp=N,2.5nm,0.2s
WATA *e*Sn **Sn** **00 04 51.1 +3.3**
comp=N,17nm,0.2s
RUDO Rudo 4.64 78 *e*Pn **Pn** **00 03 54.5 +0.7**
KOME Kolasin 4.71 88 *e*Pn **Pn** **00 03 55.6 +0.8**
KOME *i* Sn **Sn** **00 04 50.3 +0.7**
MOTA Moosalm 4.73 343 *i* Pn **Pn** **00 03 57.7 +2.5**
comp=N,2.1nm,0.4s,SNR=12
MOTA *e*Sn **Sn** **00 04 55.5 +5.3**
comp=N,7.0nm,0.5s
ARSA Arzberg 4.73 20 Pn **Pn** **00 03 54.6 -0.5**
comp=N,3.5nm,0.4s,SNR=5.9
ARSA *e*Sn **Sn** **00 04 48.6 -1.6**
comp=N,6.4nm,0.4s
ARSA Arzberg 4.73 20 *e*Pn **Pn** **00 03 55.2 +0.1**
ARSA *e*Sn **Sn** **00 04 47.2 -2.9**
KOVH Kovagotottos 4.83 46 P **Pn** **00 03 55.4 -1.0**
KOVH S **Sn** **00 04 49.3 -3.1**
LMR La Mourre 4.87 278 *e*Pn **Pn** **00 03 56.3 -0.6**
LMR *e*Sn **Sn** **00 04 55.3 +1.9**
comp=N,1.1nm,0.3s
BIOA Bad Ischl, Aus 4.87 4 *i* Pn **Pn** **00 03 57.7 +0.7**
comp=N,6.6nm,0.3s,SNR=16
BIOA *e*Sn **Sn** **00 04 55.4 +1.8**
comp=N,26nm,0.4s
RJOB Jochberg 4.91 357 *e*Pn **Pn** **00 03 59.1 +1.5**
RJOB *e*Sn **Sn** **00 04 54.7 +0.2**
RETA Reutte 4.94 341 *i* Pn **Pn** **00 04 00.4 +2.3**
comp=N,2.4nm,0.4s,SNR=15
RETA *e*Sn **Sn** **00 04 59.8 +4.5**
comp=N,5.6nm,0.3s
MBDF Montbardon 4.97 295 *e*Pn **Pn** **00 04 00.0 +1.5**
MBDF Montbardon 4.97 295 *e*P Pn 00 04 04.4 +5.9
MBDF *e*Sn **Sn** **00 04 58.1 +2.0**
comp=N,2.4nm,0.3s
PLONS Plons/SG 4.98 329 *e*Pn **Pn** **00 04 01.5 +2.9**
IVA Berane 4.98 87 ⇓*i*Pn **Pn** **00 03 59.4 +0.8**
IVA *i* Sn **Sn** **00 04 57.0 +0.6**
OBER Oberstdorf 4.99 337 *e*Pn **Pn** **00 04 02.1 +3.4**
DAVA Damuels 5.01 334 *i* Pn **Pn** **00 04 01.4 +2.4**
comp=N,3.0nm,0.3s,SNR=15
DAVA *e*Sn **Sn** **00 05 00.9 +3.8**
comp=N,10.0nm,0.4s
DAVA Damuels 5.01 334 *e*Pn **Pn** **00 04 01.4 +2.4**
DAVA *e*Sn **Sn** **00 04 58.6 +1.5**
PVY Plav 5.05 90 ⇓*i*Pn **Pn** **00 04 00.4 +0.8**
PVY *i* Sn **Sn** **00 04 58.6 +0.5**
MOA Molln 5.08 9 *i* Pn **Pn** **00 04 00.5 +0.5**
comp=N,1.3nm,0.2s,SNR=18
MOA *e*Sn **Sn** **00 05 00.1 +1.4**
comp=N,15nm,0.3s
MOA Molln 5.08 9 *e*Pn **Pn** **00 04 00.4 +0.5**
MOA *e*Sn **Sn** **00 04 59.1 +0.4**
MORH Mrgy, Hungar 5.20 48 ⇑P **Pg** **00 04 20.5 -2.6**
MORH Mrgy, Hungar 5.20 48 P Pn 00 04 07.0 +5.4
UBR Ueberruh 5.29 337 *e*Pn **Pn** **00 04 04.5 +1.7**
LPL La Plagne 5.32 302 *e*Pn **Pn** **00 04 05.4 +2.0**
LPL La Plagne 5.32 302 *e*P Pn 00 04 08.2 +4.8
LPL *e*Sn **Sn** **00 05 05.5 +0.7**
comp=N,2.9nm,0.3s
RONA Rosalia, Austr 5.36 24 *e*Pn **Pn** **00 04 03.8 +0.1**
comp=N,1.3nm,0.2s
RONA *e*Sn **Sn** **00 05 06.7 +1.2**
comp=N,6.1nm,0.5s
CONA Conrad Observa 5.45 20 *i* Pn **Pn** **00 04 05.1 0.0**
comp=N,3.0nm,0.3s,SNR=14
CONA *e*Sn **Sn** **00 05 09.6 +1.8**
comp=N,5.1nm,0.4s
WILA Wila 5.46 328 *e*Pn **Pn** **00 04 07.0 +1.8**
WILA *e*Sn **Sn** **00 05 10.3 +2.2**
SMRF Simiane la Rot 5.61 284 *e*Pn **Pn** **00 04 08.4 +1.2**
SMRF Simiane la Rot 5.61 284 *e*P Pn 00 04 12.3 +5.1
ORIF Oris-en-Rattie 5.63 294 *e*Pn **Pn** **00 04 09.0 +1.5**
ORIF Oris-en-Rattie 5.63 294 *e*P Pn 00 04 12.8 +5.3
ORIF *e*Sn **Sn** **00 05 13.3 +0.9**
comp=N,6.6nm,0.4s
WALHA Wallhausen, DE 5.67 332 *e*Pn **Pn** **00 04 09.8 +1.8**
WALHA *e*Sn **Sn** **00 05 12.6 -0.5**
EMING Emmingen-Lipti 5.88 331 *e*Pn **Pn** **00 04 13.2 +2.2**
SLE Schleitheim 5.91 328 *e*Pn **Pn** **00 04 12.1 +0.8**
BALST Balsthal 5.91 321 *e*Pn **Pn** **00 04 12.4 +1.0**
BALST *e*Sn **Sn** **00 05 18.3 -1.0**
METMA Mettma DE 5.96 327 *e*Pn **Pn** **00 04 12.7 +0.7**
METMA *e*Sn **Sn** **00 05 18.1 -2.4**
OHR Ohrid 5.98 104 *i* Pn **Pn** **00 04 14.6 +2.2**
GEC2 GERESS Array S 6.03 4 *e*Pn **Pn** **00 04 12.6 -0.3**
GEC2 *e*Sn **Sn** **00 05 21.0 -1.1**
GERES GERESS Array B 6.03 4 Pn **Pn** **00 04 12.5 -0.4**
comp=N,1.4nm,0.3s,baz=174,slow=13,SNR=25
comp=N,1.5nm,0.3s
CKRC Cesky Krumlov 6.04 8 *e*PN **Pn** **00 04 12.0 -1.1**
CKRC *e*SN **Sn** **00 05 20.4 -2.0**
BERGE Lenzkirch (DE) 6.12 327 *e*Pn **Pn** **00 04 14.8 +0.5**
MODS Modra-Piesok 6.26 26 *e*PN **Pn** **00 04 15.8 -0.3**
MODS *e*SN **Sn** **00 05 23.8 -3.9**
CABF La Chapelle 6.27 309 *e*Pn **Pn** **00 04 18.0 +1.7**
CABF *e*Sn **Sn** **00 05 28.0 -0.1**
comp=N,1.6nm,0.3s
KHC Kasperske Hory 6.30 3 *e*PN **Pn** **00 04 15.9 -0.9**
KHC *e*SN **Sn** **00 05 26.6 -2.3**
WET Wettzell 6.31 359 *e*Pn **Pn** **00 04 16.4 -0.5**
WET *e*Sn **Sn** **00 05 24.3 -4.8**
VIVF Saint-Julien-l 6.43 291 *e*P Pn 00 04 23.7 +5.2
BFO Black Forest 6.44 330 *e*Pn **Pn** **00 04 20.5 +1.9**
BFO *e*Sn **Sn** **00 05 29.8 -2.4**
KRUC Moravsky 6.63 19 *e*PN **Pn** **00 04 18.3 -2.9**
KRUC *e*SN **Sn** **00 05 33.9 -3.0**
HINF Hinteralfeld 6.65 321 *e*Pn **Pn** **00 04 22.1 +0.5**
HINF Hinteralfeld 6.65 321 *e*P Pn 00 04 26.6 +5.0
HINF *e*Sn **Sn** **00 05 36.8 -0.7**
comp=N,24nm,0.5s
ECH Echery 6.81 324 *e*Pn **Pn** **00 04 24.5 +0.7**
ECH *e*Sn **Sn** **00 05 39.5 -1.9**
STIP Stip 6.83 97 *i* Pn **Pn** **00 04 26.5 +2.6**
LASF Ste Croix 6.85 284 *e*Pn **Pn** **00 04 25.9 +1.6**
LASF *e*Sn **Sn** **00 05 43.9 +1.5**
comp=N,0.3nm,0.2s
VRAC Vranov 6.91 19 Pn **Pn** **00 04 23.0 -2.0**
comp=N,0.3nm,0.3s,baz=206,slow=14,SNR=2.4
VRAC Sn **Sn** **00 05 39.0 -4.8**
comp=N,0.6nm,0.3s,baz=296,slow=20,SNR=2.1
comp=N,0.9nm,0.3s
VRAC Vranov 6.91 19 *e*PN **Pn** **00 04 22.1 -2.9**
VRAC *e*SN **Sn** **00 05 40.2 -3.5**
CDF Champ du Feu 6.92 326 *e*Pn **Pn** **00 04 25.7 +0.5**
CDF Champ du Feu 6.92 326 *e*P Pn 00 04 30.4 +5.2
CDF *e*Sn **Sn** **00 05 43.4 -0.6**
comp=N,6.3nm,0.3s
VYHS Vyhne 6.93 33 *e*PN **Pn** **00 04 23.8 -1.5**
VYHS *e*SN **Sn** **00 05 40.5 -3.8**
ROTZ Rotzenmuhle 6.96 355 *e*Pn **Pn** **00 04 25.2 -0.6**
ROTZ *e*Sn **Sn** **00 05 41.6 -3.4**
GRF Grafenberg Arr 6.98 350 *e*Pn **Pn** **00 04 27.9 +1.9**
HAU Haudompre 7.03 320 *e*Pn **Pn** **00 04 26.8 +0.1**
HAU *e*Sn **Sn** **00 05 44.9 -1.8**
comp=N,16nm,0.3s
MANZ Manzenberg 7.19 355 *e*Pn **Pn** **00 04 29.6 +0.7**
MANZ *e*Sn **Sn** **00 05 44.9 -5.7**
VAY Valandovo 7.20 99 *i* Pn **Pn** **00 04 31.3 +2.4**
NKC Novy Kostel 7.42 357 *e*SN **Sn** **00 05 53.0 -3.2**
SMF Signal de Mont 7.62 303 *e*Pn **Pn** **00 04 35.5 +0.7**
SMF Signal de Mont 7.62 303 *e*P Pn 00 04 40.6 +5.8
SMF *e*Sn **Sn** **00 06 00.9 -0.4**
comp=N,2.6nm,0.3s
KEST Kesra 7.67 204 LR LR 00 07 34.2
comp=N,50nm,18.8s,baz=270,slow=36
PAGF Fort de Pagny 7.71 320 *e*Pn **Pn** **00 04 38.4 +2.4**
baz=138
PAGF *e*Sn **Sn** **00 06 02.7 -0.7**
comp=N,3.8nm,0.2s
SFTF Sexfontaines 7.81 316 *e*Pn **Pn** **00 04 38.1 +0.7**
baz=137
SFTF Sexfontaines 7.81 316 *e*P Pn 00 04 42.7 +5.3
SFTF *e*Sn **Sn** **00 06 05.6 -0.2**
comp=N,3.0nm,0.2s
MOX Moxa 7.88 353 *e*Pn **Pn** **00 04 39.4 +1.1**
LOR Lormes 7.91 307 *e*Pn **Pn** **00 04 39.9 +1.1**
baz=126
LOR Lormes 7.91 307 *e*P Pn 00 04 45.0 +6.2
LOR *e*Sn **Sn** **00 06 06.3 -2.1**
comp=N,2.0nm,0.2s
AVF Avril sur Loir 7.99 303 *e*Pn **Pn** **00 04 41.9 +2.1**
AVF *e*Sn **Sn** **00 06 09.5 -0.7**
comp=N,0.6nm,0.2s
MEZF Maizieres J'vi 8.00 318 *e*Pn **Pn** **00 04 41.7 +1.8**
baz=140
MEZF *e*Sn **Sn** **00 06 10.1 -0.4**
comp=N,2.1nm,0.2s
SSF Saint Saulge 8.02 305 *e*Pn **Pn** **00 04 41.9 +1.7**
SSF *e*Sn **Sn** **00 06 10.6 -0.4**
comp=N,2.1nm,0.3s
SAVF Savonnieres en 8.04 319 *e*Pn **Pn** **00 04 43.0 +2.5**
baz=136
SAVF *e*Sn **Sn** **00 06 10.5 -1.0**
comp=N,2.3nm,0.3s
TNS Taunus Mts 8.06 338 *e*Pn **Pn** **00 04 44.2 +3.4**
BRG Berggiesshubel 8.06 4 *e*P Pn 00 04 50.7 +10
BRG Amp 00 04 56.3
comp=Z,1.7nm,0.5s
BRG *ex* x 00 05 26.5
BRG *ex* x 00 06 07.1
BRG *ex* x 00 07 06.3
BRG Amp 00 07 14.4
comp=Z,7.4nm,1.2s
BGF Bois d'Agland 8.21 300 *e*Pn **Pn** **00 04 44.6 +1.8**
BGF *e*Sn **Sn** **00 06 15.9 +0.3**
comp=Z,1.2nm,0.2s
CAF Calviac 8.25 288 *e*Pn **Pn** **00 04 44.9 +1.4**

CAF	**Calviac**	**8.25**	**288**	*e*P		Pn		00 04 49.7	+6.2
CLL	**Collm**	**8.48**	**360**	*e*Pn		**Pn**		**00 04 49.0**	**+2.5**
CLL				*ex*	x	x		00 05 00.0	
CLL				*e*Sn		Sn		00 06 06.0	-16
CLL				*ex*	x	x		00 06 17.0	
CLL				*ex*	x	x		00 06 36.0	
CLL				*ex*	x	x		00 06 50.0	
CLL				*e*Sg		**Sg**		**00 07 15.0**	**-0.5**
	comp=Z,11nm,1.1s								
CLL				LmV				00 53 00.0	
	comp=Z,100nm,18.5s								
TCF	**Toulx Ste Croi**	**8.52**	**298**	*e*Pn		**Pn**		**00 04 48.7**	**+1.6**
TCF				*e*Sn		**Sn**		**00 06 23.0**	**-0.3**
	comp=Z,0.2nm,0.2s								
HYF	**Humbligny**	**8.64**	**304**	*e*Pn		**Pn**		**00 04 51.3**	**+2.6**
RJF	**Les Rejaudoux**	**8.71**	**290**	*e*Pn		**Pn**		**00 04 51.6**	**+1.9**
LFF	**La Frestale**	**9.18**	**287**	*e*Pn		**Pn**		**00 04 57.6**	**+1.4**
EKA	**Eskdalemuir Ar**	**16.38**	**325**	Pn		**P**		**00 06 35.7**	**-0.8**
	baz=135,slow=15								
	comp=Z,1.7nm,0.9s								
FINES	**FINESS Array B**	**20.19**	**18**	P		Pn		00 07 19.4	-0.8
	comp=Z,0.2nm,0.3s,baz=196,slow=10,SNR=7.0								
	comp=Z,5.2nm,1.1s								
MKAR	**Makanchi Array**	**47.79**	**60**	P		**P**		**00 11 21.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=293,slow=6.7,SNR=4.0								
	comp=Z,0.8nm,0.7s								
SONM	**Songino Array**	**61.82**	**50**	P		**P**		**00 13 04.1**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=297,slow=9.5,SNR=3.3								
	comp=Z,0.6nm,0.9s								

IDC 23 00:08:44.9±11.0, **22°.43S**×**179°.74E**, **h569**km±123km, **mb2.9/4**, **mbtmp4.0/5**, **Error ellipse: s-maj=300.3km s-min=107.9km az=85.0**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.94**	**341**	P		P	00 10 15.5	-0.1
	4.7nm,0.3s,baz=201,slow=17,SNR=12							
CTA	**Charters Tower**	**31.26**	**268**	P		P	00 14 19.8	+0.4
	2.7nm,0.9s,baz=90,slow=16,SNR=1.9							
	2.7nm,0.9s							
STKA	**Stephens Creek**	**35.07**	**246**	P		P	00 14 50.9	-0.3
	1.3nm,0.5s,baz=89,slow=7.4,SNR=3.6							
	1.3nm,0.5s							
ASAR	**Alice Springs**	**42.06**	**259**	P		P	00 15 47.8	0.0
	0.9nm,0.5s,baz=95,slow=7.9,SNR=12							
	0.9nm,0.5s							
WRA	**Warramunga Arr**	**42.29**	**265**	P		P	00 15 49.2	-0.5
	0.8nm,0.5s,baz=101,slow=8.7,SNR=11							
	0.8nm,0.5s							

*IDC **23** 00:19:09.7±0.6, 27°.86N×66°.31E, h0km, mb4.2/29, mbtmp4.2/31, ML3.7/2, MS3.9/47, Error ellipse: s-maj=14.0km s-min=12.5km az=8.0*
*MOS **23** 00:19:11.8±1.3, 27°.99N×66°.31E, h23km, mb4.7/32, Error ellipse: s-maj=6.4km s-min=3.6km az=83.5*
*NEIC **23** 00:19:11.4±2.8, 27°.75N±0°.08×66°.07E±0°.07, h21km±5km, mb4.5/42, Error ellipse: s-maj=13.5km s-min=5.1km az=141.0*

ISC 23 00:19:13.7±0.3, **27°.77N**±0°.04×**66°.18E**±0°.03, **h35**km, **n354**, σ**29**/360, **mb4.5**/88, **MS4.0**/53, **39C-2D**, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**5.11**	**243**	P		**Pn**	**00 20 26.2**	**-1.6**
	SNR=44							
NGCH				S		**Sn**	**00 21 25.4**	**-0.2**
BHUJ	**Bhuj**	**5.48**	**144**	*e*P		**Pn**	**00 20 31.6**	**-1.3**
BHUJ				*e*S		**Sn**	**00 21 34.6**	**-0.1**
BHUJ				IAML			00 21 42.1	
	comp=E,413nm,0.8s							
BHUJ				IAML			00 21 51.0	
	comp=N,343nm,0.5s							
THW	**Thamme Wali**	**6.95**	**42**	P		**Pn**	**00 20 52.1**	**-0.9**
SARP	**Sargodha**	**7.00**	**52**	P		**Pn**	**00 20 53.2**	**-0.5**
KBL	**Kabul**	**7.18**	**19**	Pn		**Pn**	**00 20 55.6**	**-0.9**
KBL	**Kabul**	**7.18**	**19**	P		**Pn**	**00 20 56.3**	**-0.2**
	SNR=36							
KBL				P		**Pn**	**00 20 56.3**	**-0.2**
	SNR=36							
KBL				S		**Sn**	**00 22 19.2**	**+2.2**
KBL				S		**Sn**	**00 22 19.2**	**+2.2**
KBL	**Kabul**	**7.18**	**19**	P		**Pn**	**00 20 55.6**	**-0.9**
HRA	**Herat**	**7.41**	**334**	Pn		**Pn**	**00 20 56.9**	**-2.7**
AJM	**Ajmer**	**7.65**	**98**	*e*P		**Pn**	**00 21 02.8**	**0.0**
AJM				*e*S		**Sn**	**00 22 24.3**	**-4.0**
JASK	**Jask - Hormozg**	**7.66**	**258**	P		**Pn**	**00 21 02.9**	**0.0**
	SNR=9.0							
JASK				S		**Sn**	**00 22 25.2**	**-3.3**
CEP	**Cherat**	**7.79**	**38**	P		**Pn**	**00 21 03.9**	**-0.9**
WSAR	**Wadi Sarin**	**8.17**	**238**	Pn		**Pn**	**00 21 07.5**	**-2.5**
	comp=N,4.2nm,0.3s,baz=84,slow=13,SNR=39							
WSAR				Sn		Sn	00 22 30.4	-11
	comp=N,6.2nm,0.3s,baz=286,slow=16,SNR=7.3							
WSAR				LR		LR	00 25 15.3	
	comp=N,838nm,18.1s,baz=91,slow=44							
WBK	**Wadi Bani Khal**	**8.30**	**233**	P		**Pn**	**00 21 09.1**	**-2.7**
	SNR=49							
WBK				P		**Pn**	**00 21 09.1**	**-2.7**
	SNR=49							
NIL	**Nilore**	**8.45**	**44**	Pn		**Pn**	**00 21 12.8**	**-0.9**
NIL	**Nilore**	**8.45**	**44**	P		**Pn**	**00 21 12.8**	**-0.9**
CHCP	**Chirah Chowk**	**8.46**	**44**	P		**Pn**	**00 21 12.8**	**-1.1**
KHET	**Khetri**	**8.52**	**86**	*e*P		**Pn**	**00 21 13.8**	**-0.9**
KHET				*e*S		**Sn**	**00 22 44.6**	**-5.1**
SMDO	**Samad**	**8.71**	**239**	P		**Pn**	**00 21 16.0**	**-1.5**
	SNR=12							
SMDO				P		**Pn**	**00 21 16.0**	**-1.5**
	SNR=12							
BANOM	**Banah**	**9.01**	**260**	P		**Pn**	**00 21 19.5**	**-2.0**
	SNR=69							
BANOM				P		**Pn**	**00 21 19.5**	**-2.0**
	SNR=69							
BANOM	**Banah**	**9.01**	**260**	*i* Pn		**Pn**	**00 21 19.5**	**-2.0**
	SNR=10							
BANOM				Sn		**Sn**	**00 22 53.4**	**-8.3**
JMU	**Jammu**	**9.01**	**55**	*e*P		**Pn**	**00 21 20.0**	**-1.4**
JMU				*e*S		**Sn**	**00 22 55.9**	**-5.7**
HOQ	**Hoqain**	**9.02**	**244**	P		**Pn**	**00 21 20.0**	**-1.5**
	SNR=8.2							
HOQ				P		**Pn**	**00 21 20.0**	**-1.5**
	SNR=8.2							
JMDO	**Jabal Madar**	**9.08**	**235**	P		**Pn**	**00 21 21.1**	**-1.3**
	SNR=8.9							
SHME	**Shamm**	**9.12**	**261**	P		**Pn**	**00 21 22.8**	**-0.1**
	SNR=16							
SHME				P		**Pn**	**00 21 22.8**	**-0.1**
	SNR=16							
SHME	**Shamm**	**9.12**	**261**	*i* Pn		**Pn**	**00 21 21.1**	**-1.7**
	SNR=15							
KUDL	**Kundal**	**9.13**	**85**	*e*P		**Pn**	**00 21 22.1**	**-0.8**
MDH	**Madha**	**9.18**	**257**	P		**Pn**	**00 21 23.0**	**-0.8**
	SNR=8.4							
MDH				P		**Pn**	**00 21 23.0**	**-0.8**
	SNR=8.4							
MDH	**Madha**	**9.18**	**257**	*i* Pn		**Pn**	**00 21 20.5**	**-3.2**
	SNR=8.4							
MSFE	**Esma-Masafi**	**9.28**	**257**	Pn		**Pn**	**00 21 22.4**	**-2.8**
UOSS	**Minazif**	**9.38**	**255**	Pn		**Pn**	**00 21 22.5**	**-3.9**
UOSS	**Minazif**	**9.38**	**255**	Pn		**Pn**	**00 21 23.2**	**-3.2**
BSY	**Bisya**	**9.54**	**240**	P		**Pn**	**00 21 28.0**	**-0.7**
	SNR=14							
BSY				S		**Sn**	**00 23 11.7**	**-3.0**
BHK	**Bhakra**	**9.63**	**65**	*e*P		**Pn**	**00 21 28.2**	**-1.6**
BHK				*e*S		**Sn**	**00 23 09.5**	**-7.2**
SONA	**Sohna**	**9.65**	**85**	*e*P		**Pn**	**00 21 29.5**	**-0.6**
ARQ	**Araqi**	**9.77**	**245**	P		**Pn**	**00 21 32.5**	**+0.7**
ARQ				P		**Pn**	**00 21 32.5**	**+0.7**
ARQ				S		**Sn**	**00 23 16.8**	**-3.5**
ARQ				S		**Sn**	**00 23 16.8**	**-3.5**
NDI	**New Delhi**	**9.78**	**82**	*e*S		**Sn**	**00 23 15.0**	**-5.5**
NAZ	**Nazwa, Dubai**	**9.83**	**256**	Pn		**Pn**	**00 21 33.0**	**+0.4**
FAQ	**Al Faqa, Dubai**	**9.97**	**255**	Pn		**Pn**	**00 21 34.2**	**-0.3**
ALNE	**Al Ain**	**10.09**	**251**	P		**Pn**	**00 21 35.6**	**-0.5**
ALNE				S		**Sn**	**00 23 22.6**	**-5.5**
ALNE	**Al Ain**	**10.09**	**251**	Pn		**Pn**	**00 21 35.9**	**-0.2**
ASUD	**Al Ashush, Dub**	**10.23**	**255**	Pn		**Pn**	**00 21 39.1**	**+1.0**
BHPL	**Bhopal**	**11.11**	**111**	*e*P		**Pn**	**00 21 47.2**	**-3.0**
BHPL				IAmb		IAmb	00 21 48.2	
	comp=Z,25nm,0.7s							
BHPL				*e*S		**Sn**	**00 23 48.9**	**-4.4**
CHGR	**Chuyangaron**	**11.14**	**12**	Pn		**Pn**	**00 21 48.5**	**-2.1**
CHGR	**Chuyangaron**	**11.14**	**12**	P		**Pn**	**00 21 48.5**	**-2.1**
UMZA	**Um Al Zommool**	**11.17**	**246**	P		**Pn**	**00 21 50.0**	**-0.9**
UMZA				P		**Pn**	**00 21 50.0**	**-0.9**
UMZA				S		**Sn**	**00 23 52.3**	**-2.3**
UMZA				S		**Sn**	**00 23 52.3**	**-2.3**
POO	**Poona**	**11.59**	**141**	*e*P		**Pn**	**00 21 55.0**	**-1.7**
GAR	**Garm**	**11.72**	**16**	Pn		**Pn**	**00 21 56.6**	**-2.0**
AKL	**Akola**	**12.13**	**123**	*e*P		**Pn**	**00 22 02.6**	**-1.5**
GEYT	**Alibeck**	**12.18**	**328**	Pn		**Pn**	**00 22 03.1**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=145,slow=11,SNR=2.8							
GEYT				LR		LR	00 26 38.6	
	comp=Z,339nm,19.3s,baz=154,slow=37							
	comp=Z,1.1nm,0.7s							
GEYT	**Alibeck**	**12.18**	**328**	Pn		**Pn**	**00 22 03.0**	**-1.8**
GYA0	**ALIBECK ARRAY**	**12.18**	**328**	P		**Pn**	**00 22 04.0**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**12.18**	**328**	Pn		**Pn**	**00 22 02.8**	**-2.0**
MZR	**Muzera**	**12.42**	**250**	Pn		**Pn**	**00 22 06.4**	**-1.6**
PTH	**Pithoragarh**	**12.46**	**78**	*e*P		**Pn**	**00 22 06.6**	**-2.2**
LGTI	**Lohaghat**	**12.47**	**79**	*e*P		Pn	00 22 03.6	-5.1
LGTI				*e*S		Sn	00 24 15.8	-11
BTK	**Batken**	**12.85**	**16**	Pn		**Pn**	**00 22 11.6**	**-2.3**
BTK	**Batken**	**12.85**	**16**	P		**Pn**	**00 22 11.6**	**-2.3**
TAS	**Tashkent**	**13.77**	**10**	Pn		**Pn**	**00 22 24.5**	**-1.8**
TAS	**Tashkent**	**13.77**	**10**	P		**Pn**	**00 22 24.5**	**-1.8**
DOK	**Doka**	**14.33**	**233**	P		**Pn**	**00 22 33.4**	**-0.7**
HYBB	**Hyderabad (bro**	**15.37**	**129**	*e*P		**Pn**	**00 22 47.4**	**-0.7**
DANN	**Dangsing**	**15.54**	**84**	*e*P		**Pn**	**00 22 46.7**	**-3.8**
AML	**Almayashu**	**15.59**	**21**	P		**Pn**	**00 22 48.0**	**-3.2**
	SNR=14							
DZA	**Taraz**	**15.66**	**14**	*e*P		**Pn**	**00 22 50.2**	**-1.6**
	baz=14							
DZA	**Taraz**	**15.66**	**14**	*e*P		**Pn**	**00 22 50.1**	**-1.6**
KK31	**Karatay Array**	**15.70**	**12**	Pn		**Pn**	**00 22 49.4**	**-2.8**
KK31	**Karatay Array**	**15.70**	**12**	*i* P		**Pn**	**00 22 49.8**	**-2.4**
KKAR	**Karatay Array**	**15.70**	**12**	Pn		**Pn**	**00 22 49.3**	**-2.9**
KKAR	**Karatay Array**	**15.70**	**12**	P		**Pn**	**00 22 49.3**	**-2.9**
NRN	**Naryn**	**15.83**	**28**	Pn		**Pn**	**00 22 49.8**	**-4.4**
NRN	**Naryn**	**15.83**	**28**	P		**Pn**	**00 22 49.8**	**-4.4**
NRN				pmax		pmax		
	comp=Z,16nm,0.9s							
UCH	**Uchtor**	**15.95**	**23**	P		**Pn**	**00 22 52.7**	**-3.1**
	SNR=30							
EKS2	**Erkin-Say**	**16.09**	**21**	P		**Pn**	**00 22 54.3**	**-3.1**
	SNR=15							
AAK	**Ala-Archa**	**16.30**	**22**	P		**Pn**	**00 22 59.2**	**-0.9**
	SNR=8.9							
AAK	**Ala-Archa**	**16.30**	**22**	Pn		**Pn**	**00 22 57.8**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=209,slow=6.7,SNR=24							
AAK				LR		LR	00 31 08.8	
	comp=Z,403nm,22.0s,baz=214,slow=44							
	comp=Z,6.7nm,0.7s							
AAK	**Ala-Archa**	**16.30**	**22**	Pn		**Pn**	**00 22 57.7**	**-2.3**
AAK	**Ala-Archa**	**16.30**	**22**	P		**Pn**	**00 22 59.0**	**-1.1**
AAK				P		**Pn**	**00 22 59.0**	**-1.1**
AAK	**Ala-Archa**	**16.30**	**22**	*i* Pn		**Pn**	**00 22 58.8**	**-1.3**
	SNR=9.9							
AAK	**Ala-Archa**	**16.30**	**22**	*ce*P		**Pn**	**00 22 59.4**	**-0.7**
AAK				pmax		pmax		
	comp=Z,25nm,1.7s							
GKN	**Gorkha**	**16.33**	**85**	*e*P		**Pn**	**00 22 57.0**	**-3.5**
KBK	**Karagaybulak**	**16.48**	**23**	P		**Pn**	**00 22 59.8**	**-2.5**
	SNR=7.2							
DMN	**Daman**	**16.77**	**86**	*e*P		**Pn**	**00 23 04.5**	**-1.7**
TARG	**Taragay, Kyrgy**	**16.87**	**31**	Pn		**Pn**	**00 23 04.5**	**-2.9**
TARG	**Taragay, Kyrgy**	**16.87**	**31**	P		**Pn**	**00 23 04.6**	**-2.9**
TARG				pmax		pmax		
	comp=Z,14nm,0.8s							
KKN	**Kakani**	**16.91**	**85**	*e*P		**Pn**	**00 23 05.3**	**-2.6**
TKM2	**Tokmak 2**	**16.94**	**24**	P		**Pn**	**00 23 05.4**	**-2.8**
	SNR=17							
TKM2	**Tokmak 2**	**16.94**	**24**	P		**Pn**	**00 23 04.3**	**-3.9**
PKIN	**Phulchoki**	**17.03**	**86**	*e*P		**Pn**	**00 23 06.9**	**-2.6**
PKI	**Pulchoki**	**17.04**	**86**	*e*P		**Pn**	**00 23 07.7**	**-2.0**
SGDS	**Sogindy**	**17.08**	**21**	*e*P		**Pn**	**00 23 05.6**	**-4.2**
	baz=21							
SGDS	**Sogindy**	**17.08**	**21**	*e*P		**Pn**	**00 23 05.5**	**-4.2**
TNSS	**Tian-Shan**	**17.56**	**27**	*e*P		**Pn**	**00 23 12.6**	**-3.5**
	baz=27							
TNSS	**Tian-Shan**	**17.56**	**27**	*e*P		**Pn**	**00 23 12.5**	**-3.5**
AAA	**Alma-Ata**	**17.69**	**27**	*e*P		**Pn**	**00 23 15.2**	**-2.2**
	baz=26							
AAA	**Alma-Ata**	**17.69**	**27**	*e*P		**Pn**	**00 23 15.1**	**-2.2**
MDOK	**Medeo**	**17.70**	**27**	*e*P		**Pn**	**00 23 15.7**	**-2.0**
	baz=27							
MDOK	**Medeo**	**17.70**	**27**	*e*P		**Pn**	**00 23 15.6**	**-2.0**
JIRN	**Jiri**	**17.72**	**86**	*e*P		**Pn**	**00 23 14.9**	**-3.3**
KUU	**Kurty**	**18.05**	**24**	*e*P		**Pn**	**00 23 21.1**	**-0.7**
	comp=Z,48nm,1.3s,baz=24							
KUU	**Kurty**	**18.05**	**24**	*e*P		**Pn**	**00 23 21.0**	**-0.7**
KUU				pmax		pmax		
	comp=Z,48nm,1.3s							
RAMN	**Ramite**	**18.16**	**88**	*e*P		**Pn**	**00 23 21.7**	**-1.7**
BOK	**Bokaro**	**18.18**	**98**	*e*P		**P**	**00 23 25.7**	**+2.2**
SATY	**Saty**	**18.19**	**30**	*e*P		**Pn**	**00 23 21.4**	**-2.2**
	baz=30							
SATY	**Saty**	**18.19**	**30**	*e*P		**Pn**	**00 23 21.3**	**-2.2**
CHKK	**Chushkaly**	**18.26**	**26**	*e*P		**P**	**00 23 21.5**	**-2.8**
	baz=25							
CHKK	**Chushkaly**	**18.26**	**26**	*e*P		**P**	**00 23 21.4**	**-2.8**
BTLS	**Baital**	**18.35**	**18**	*e*P		**P**	**00 23 23.6**	**-1.5**
	baz=18							
BTLS	**Baital**	**18.35**	**18**	*e*P		**P**	**00 23 23.6**	**-1.5**
UZB	**Uzynbulak**	**18.54**	**31**	*e*P		**P**	**00 23 26.4**	**-1.1**
	baz=30							
UZB	**Uzynbulak**	**18.54**	**31**	*e*P		**P**	**00 23 26.3**	**-1.1**
KPKS	**Kokpek**	**18.64**	**30**	*e*P		**P**	**00 23 26.4**	**-2.0**
	baz=29							
KPKS	**Kokpek**	**18.64**	**30**	*e*P		**P**	**00 23 26.4**	**-2.0**
SHLS	**Shalkode**	**18.75**	**32**	*e*P		**Pn**	**00 23 30.5**	**+0.1**
	comp=Z,18nm,1.2s,baz=32							
SHLS	**Shalkode**	**18.75**	**32**	*e*P		**Pn**	**00 23 30.4**	**+0.1**
SHLS				pmax		pmax		
	comp=Z,18nm,1.2s							
PDGK	**Podgornoye**	**18.89**	**31**	P		**P**	**00 23 28.6**	**-2.7**
RAYN	**Ar Rayn**	**19.11**	**262**	P		**P**	**00 23 31.5**	**-2.3**
RAYN	**Ar Rayn**	**19.11**	**262**	P		**P**	**00 23 31.4**	**-2.3**
RAYN				pmax		pmax		
	comp=Z,13nm,0.8s							
PCHI	**Peechi**	**19.63**	**149**	*e*P		**Pn**	**00 23 41.5**	**+0.5**
PCHI				*e*S		**Sn**	**00 27 24.0**	**+3.5**
TDK	**Taldyqorghan**	**19.78**	**26**	*e*P		**P**	**00 23 40.0**	**-0.9**
	baz=26							
TDK	**Taldyqorghan**	**19.78**	**26**	*e*P		**P**	**00 23 39.9**	**-0.9**
MAK	**Makhachkala**	**21.41**	**320**	*e*P		**P**	**00 23 56.9**	**-1.6**
MAK				*e*S		**S**	**00 27 55.0**	**+0.8**
MAK				pmax		pmax		
	comp=Z,224nm,1.2s							
GNI	**Garni**	**21.59**	**310**	P		**P**	**00 24 01.2**	**+0.6**
	comp=Z,14nm,0.8s,baz=227,slow=2.2,SNR=11							
GNI				LR		LR	00 33 20.8	
	comp=Z,139nm,20.1s,baz=106,slow=39							
	comp=Z,14nm,0.8s							
GNI	**Garni**	**21.59**	**310**	P		**P**	**00 23 58.8**	**-1.8**
GNI	**Garni**	**21.59**	**310**	P		**P**	**00 23 58.4**	**-2.1**
GNI				S		**S**	**00 27 57.1**	**-0.9**
GNI	**Garni**	**21.59**	**310**	*ce*P		**P**	**00 24 00.5**	**-0.1**
GNI				pmax		pmax		
	comp=Z,42nm,1.3s							
LSA	**Lhasa**	**21.97**	**79**	P		**P**	**00 24 06.2**	**+1.0**
LSA	**Lhasa**	**21.97**	**79**	P		**P**	**00 24 06.2**	**+1.0**
LSA				pmax		pmax		
	comp=Z,41nm,0.9s							
AB31	**Akbulak array**	**21.99**	**349**	*i* P		**P**	**00 24 04.3**	**-0.3**
ABKAR	**Akbulak array**	**21.99**	**349**	P		**P**	**00 24 03.8**	**-0.8**
ABKAR	**Akbulak array**	**21.99**	**349**	P		**P**	**00 24 03.5**	**-1.1**
ABKAR				IAmb		IAmb	00 24 21.3	
	comp=Z,22nm,0.8s							
GROC	**Groznyy**	**22.55**	**318**	*e*P		**P**	**00 24 11.5**	**+0.8**
GROC				*e*			00 24 31.7	
GROC				*e*S		**S**	**00 28 17.9**	**+2.2**
GROC				pmax		pmax		
	comp=Z,18nm,0.5s							
MAKZ	**Makanchi**	**22.71**	**29**	P		**P**	**00 24 10.5**	**-1.9**
MAKZ	**Makanchi**	**22.71**	**29**	P		**P**	**00 24 10.5**	**-1.9**
MAKZ				pmax		pmax		
	comp=Z,44nm,1.2s							
BRZS	**Berezniki**	**22.73**	**11**	*e*P		**P**	**00 24 11.7**	**-1.0**
	comp=Z,16nm,2.4s,baz=11							
BRZS	**Berezniki**	**22.73**	**11**	*e*P		**P**	**00 24 11.6**	**-1.0**
BRZS				pmax		pmax		
	comp=Z,16nm,2.4s							
GURO	**Guroymak-BITLI**	**22.83**	**304**	P		**P**	**00 24 13.4**	**-0.5**
GURO				IAmb		IAmb	00 24 22.0	
	comp=Z,22nm,1.1s							
MK31	**Makanchi Array**	**22.83**	**29**	P		**P**	**00 24 12.2**	**-1.4**
MK31				IAmb		IAmb	00 24 31.9	
	comp=Z,10nm,0.8s							
MK31	**Makanchi Array**	**22.83**	**29**	*i* P		**P**	**00 24 11.8**	**-1.9**
MK31				pmax		pmax		
	comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**22.83**	**29**	P		**P**	**00 24 12.6**	**-1.1**
	comp=Z,6.9nm,0.9s,baz=207,slow=12,SNR=24							
MKAR				LR		LR	00 35 02.6	
	comp=Z,514nm,21.9s,baz=227,slow=42							
	comp=Z,6.9nm,0.9s							
KARS	**Kars**	**22.93**	**310**	P		**P**	**00 24 13.2**	**-1.7**
KARS	**Kars**	**22.93**	**310**	P		**P**	**00 24 13.2**	**-1.7**
KARS				pmax		pmax		
	comp=Z,76nm,1.2s							
MARD	**Mardin**	**23.37**	**300**	P		**P**	**00 24 18.8**	**-0.5**
MARD				IAmb		IAmb	00 24 26.9	
	comp=Z,18nm,1.0s							
ZEI	**Tsey**	**23.46**	**316**	*e*P		**P**	**00 24 23.0**	**+2.7**
ZEI				pmax		pmax		
	comp=Z,10.0nm,0.8s							
AKTO	**Aktyubinsk**	**23.48**	**347**	P		**P**	**00 24 20.2**	**+0.1**
BRDH	**Bariadhala**	**23.57**	**97**	LR		LR	00 33 28.3	
	comp=Z,171nm,19.4s,baz=354,slow=37							
WMQ	**Urumqi**	**23.59**	**42**	||P	**P**	**00 24 22.5**	**+1.2**
WMQ				pP		pP	00 24 27.9	-3.6
WMQ				sP		sP	00 24 32.3	-3.7
WMQ				pmax		pmax		
	comp=Z,50nm,1.5s							
WMQ				pmax		pmax		
	comp=Z,220nm,4.7s							
WMQ				LR		LR		
	comp=N,800nm,15.7s							
WMQ				LR		LR		
	comp=E,280nm,15.7s							
WMQ				LR		LR		
	comp=Z,340nm,16.7s							
ONI	**Oni**	**23.64**	**315**	P		**P**	**00 24 21.5**	**-0.3**
ONI				IAmb		IAmb	00 24 34.4	
	comp=Z,17nm,1.3s							
ONI	**Oni**	**23.64**	**315**	P		**P**	**00 24 21.5**	**-0.3**
ONI				pmax		pmax		
	comp=Z,17nm,1.3s							
KOPT	**Kop Dagi**	**24.48**	**307**	P		**P**	**00 24 29.1**	**-0.7**
KOPT				IAmb		IAmb	00 24 55.2	
	comp=Z,13nm,1.1s							
ZSN	**Zaisan**	**24.49**	**32**	*e*P		**P**	**00 24 28.1**	**-1.5**
	baz=31							
ZSN	**Zaisan**	**24.49**	**32**	*e*P		**P**	**00 24 28.0**	**-1.5**
KBZ	**Khabaz**	**24.59**	**316**	P		**P**	**00 24 31.9**	**+1.4**
	comp=Z,7.1nm,0.7s,baz=120,slow=12,SNR=15							
	comp=Z,7.1nm,0.7s							
KBZ	**Khabaz**	**24.59**	**316**	*ce*P		**P**	**00 24 32.2**	**+1.8**
KBZ				pmax		pmax		
	comp=Z,7.0nm,0.9s							
PALK	**Pallekele**	**24.59**	**143**	LR		LR	00 34 33.6	
	comp=Z,136nm,19.6s,baz=74,slow=38							
KURBB	**Kurchatov Arra**	**24.68**	**19**	P		**P**	**00 24 31.4**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=214,slow=9.4,SNR=26							
	comp=Z,3.6nm,0.5s							
SHA1	**Shidzhatmaz**	**24.74**	**316**	*i* P		**P**	**00 24 32.7**	**+0.6**
KURK	**Kurchatov**	**24.79**	**19**	P		**P**	**00 24 30.1**	**-2.1**
KURK				IAmb		IAmb	00 24 55.9	
	comp=Z,13nm,1.0s							
KURK	**Kurchatov**	**24.79**	**19**	*ce*P		**P**	**00 24 31.6**	**-0.6**
KURK				pmax		pmax		
	comp=Z,14nm,1.3s							
KIV	**Kislovodsk**	**24.84**	**317**	P		**P**	**00 24 32.7**	**-0.1**
KIV				IAmb		IAmb	00 24 49.0	
	comp=Z,18nm,0.9s							
KIV	**Kislovodsk**	**24.84**	**317**	P		**P**	**00 24 29.3**	**-3.6**
KIV	**Kislovodsk**	**24.84**	**317**	*e*P		**P**	**00 24 34.0**	**+1.1**
KIV				pmax		pmax		
	comp=Z,17nm,1.1s							
BVA0	**Borovoye Array**	**25.42**	**6**	P		**P**	**00 24 38.9**	**+1.0**
BVAR	**Borovoye Array**	**25.42**	**6**	P		**P**	**00 24 38.5**	**+0.5**
	comp=Z,8.0nm,0.8s,baz=169,slow=8.5,SNR=29							
BVAR				LR		LR	00 36 55.1	
	comp=Z,282nm,19.5s,baz=192,slow=42							
	comp=Z,8

CHTO IAmb IAmb 00 25 37.4
comp=Z,6.7nm,0.7s
CHTO Chiang Mai 31.31 99 P **P** **00 25 31.7 +0.8**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 31.45 100 P **P** **00 25 33.8 +1.8**
comp=Z,1.9nm,0.3s,baz=302,slow=7.7,SNR=11
CMAR LR LR 00 39 19.3
comp=Z,106nm,21.5s,baz=285,slow=39
comp=Z,1.9nm,0.3s
CMAR Chiang Mai Arr 31.45 100 P **P** **00 25 33.0 +0.9**
CMAR Chiang Mai Arr 31.45 100 P **P** **00 25 33.0 +0.9**
PZH PanZhiHua 31.61 84 P **P** **00 25 34.8 +1.2**
PZH S **S** **00 30 41.0 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,4.2s
PZH LR LR
comp=N,500nm,22.0s
PZH LR LR
comp=E,240nm,19.0s
PZH LR LR
comp=Z,220nm,19.1s
LZH Lanzhou 32.87 66 *e*P P 00 25 50.3 +5.8
LZH pP sP 00 26 00.3 +0.7
LZH sP pP 00 26 04.0 +8.9
LZH pmax pmax
comp=Z,10.0nm,1.4s
LZH LR LR
comp=N,1µm,13.4s
LZH LR LR
comp=E,360nm,12.7s
LZH LR LR
comp=Z,370nm,13.7s
KIRV Kirov 32.94 344 LR LR 00 40 52.0
comp=Z,388nm,19.5s,baz=150,slow=40
KIRV Kirov 32.94 344*ce*P **P** **00 25 44.3 -0.4**
MOS Moscow 34.67 332 *e*P **P** **00 26 00.0 +0.3**
OBN Obninsk 34.72 330⇑*e*P **P** **00 26 01.5 +1.4**
OBN *PP **pP** **00 26 10.0 -0.8**
OBN 00 27 18.0
OBN *e*PPP PPP 00 27 31.5
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,266nm,16.0s
VLDR Vladesti 35.03 311 ⇑P **P** **00 26 03.9 +0.9**
GHRR 35.54 311 ⇑P **P** **00 26 08.8 +1.4**
SORM Soroca 35.61 315 ⇑P **P** **00 26 07.9 -0.1**
SORM Soroca 35.61 315 ⇑P **P** **00 26 07.9 -0.1**
PLOR Plostina 35.99 311 ⇑P **P** **00 26 11.9 +0.7**
PLOR Plostina 35.99 311 ⇑P **P** **00 26 11.9 +0.7**
SGRR Singureni 36.03 308 ⇑P P 00 26 05.0 -6.5
AKASG Malin Array Be 36.10 320 P **P** **00 26 11.7 -0.4**
comp=Z,1.5nm,0.5s,baz=114,slow=7.7,SNR=9.2
comp=Z,1.5nm,0.5s
AKASG Malin Array Be 36.10 320 *i* P **P** **00 26 15.0 +2.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 36.10 320 P **P** **00 26 10.4 -1.7**
AKBB IAmb IAmb 00 26 22.4
comp=Z,10nm,1.1s
AKBB Malin Array Si 36.10 320*ce*P **P** **00 26 12.1 0.0**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
TESR Tescani 36.18 312 ⇑P **P** **00 26 12.9 0.0**
COVR Voineasa-Covas 36.28 311 ⇑P **P** **00 26 14.4 +0.6**
MLR Muntele Rosu 36.37 310 ⇑P **P** **00 26 16.8 +2.2**
MLR Muntele Rosu 36.37 310 P **P** **00 26 15.3 +0.7**
MLR Muntele Rosu 36.37 310 ⇑P **P** **00 26 16.8 +2.2**
COPA Copaceanca 36.54 308 ⇑P **P** **00 26 13.4 -2.5**
PRGR Permogore 36.54 344 *e*P **P** **00 26 14.4 -1.3**
PRGR pmax pmax
comp=Z,3.0nm,0.6s
DOPR Dopca 36.87 311 ⇑P **P** **00 26 19.0 +0.2**
VOIR 36.96 310 ⇑P **P** **00 26 20.7 +1.1**
VOIR 36.96 310 ⇑P **P** **00 26 20.7 +1.1**
XAN Xi'an 37.00 69 ⇑P **P** **00 26 20.9 +0.8**
XAN pP pP 00 26 25.0 -5.7
XAN pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 37.03 46 P **P** **00 26 21.2 +1.0**
comp=Z,3.7nm,1.0s,baz=248,slow=7.6,SNR=18
SONM PP **PnPn** **00 27 48.4 +3.1**
comp=Z,2.5nm,1.0s,baz=243,slow=9.8,SNR=3.6
SONM LR LR 00 44 14.9
comp=Z,186nm,18.4s,baz=224,slow=41
comp=Z,3.7nm,1.0s
SONM Songino Array 37.03 46 P **P** **00 26 21.0 +0.8**
SONM Songino Array 37.03 46 P **P** **00 26 21.0 +0.8**
SONM pmax pmax
comp=Z,5.0nm,1.1s
ARR Arges 37.23 309 ⇑P **P** **00 26 22.7 +0.8**
BURAR Bucovina Array 37.44 313 ⇑P **P** **00 26 24.9 +1.2**
BURAR Bucovina Array 37.44 313 P **P** **00 26 23.5 -0.2**
BURAR IAmb IAmb 00 26 28.5
comp=Z,5.2nm,0.7s
BURAR Bucovina Array 37.44 313 ⇑P **P** **00 26 24.9 +1.2**
BUR08 Bucovina Ar. S 37.46 313 P **P** **00 26 22.1 -1.8**
ULN Ulaanbaatar 37.46 46 P **P** **00 26 24.4 +0.5**
ULN IAmb IAmb 00 26 26.1
comp=Z,7.9nm,1.2s
ULN Ulaanbaatar 37.46 46*ce*P **P** **00 26 25.8 +1.9**
ULN pmax pmax
comp=Z,4.0nm,1.0s
KLMR Klimovskoe 37.65 339 *e*P **P** **00 26 22.5 -2.6**
KLMR AMP 00 26 30.6
comp=Z,19nm,1.2s
KLMR LR LR 00 41 16.4
KLMR AMP 00 44 00.6
comp=Z,492nm,14.2s
KLMR Klimovskoe 37.65 339 *e*P **P** **00 26 22.4 -2.6**
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR MLR MLR
comp=Z,492nm,14.0s
LOT Lotru 37.84 309 ⇑P **P** **00 26 26.7 -0.4**
ARCR ARCALIA 37.85 312 ⇑P **P** **00 26 29.6 +2.5**
UBPT Khong Chiam 38.44 101 P **P** **00 26 32.7 +0.3**
UBPT IAmb IAmb 00 26 38.3
comp=Z,6.6nm,0.8s
MNK Minsk 38.55 325 *i* P **P** **00 26 31.4 -1.4**
comp=E,2.0nm,0.7s
MNK *i* P **P** **00 26 31.4 -1.4**
comp=N,7.0nm,0.7s
MNK *i* P **P** **00 26 31.4 -1.4**
comp=Z,8.0nm,0.7s,baz=118
MNK *i* PP **PP** **00 28 00.4 -0.9**
MNK *i* PPP PPP 00 28 21.4
MNK *i* PcP **PcP** **00 28 42.8 -2.1**
MNK *i* S **S** **00 32 26.6 +0.4**
MNK *i* SS SS 00 35 39.4 +23
MNK *i* LQ LQ 00 39 54.2
MNK *i* LR LR 00 42 10.6
MNK *i* LRM MLR 00 47 09.4
comp=Z,170nm,17.3s
MNK *i* LRM MLR 00 48 35.3
comp=E,45nm,17.2s
MNK *i* LRM MLR 00 48 50.4
MNK Minsk 38.55 325 *i* P **P** **00 26 31.4 -1.4**
MNK *i* 00 28 00.3
MNK *i* PPP PPP 00 28 21.3
MNK *i* 00 28 42.7
MNK *i* S **S** **00 32 26.6 +0.4**
MNK *i* SS SS 00 35 39.4 +23
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK pmax pmax
comp=N,7.0nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
HHC Hu-ho-hao-te 39.28 59 *e*P **P** **00 26 39.6 +0.3**
HHC S **S** **00 32 39.3 +1.5**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,210nm,5.5s
HHC LR LR
comp=N,560nm,17.1s
HHC LR LR
comp=E,480nm,16.5s
HHC LR LR
comp=Z,480nm,15.9s

TRPA Tarpa 39.31 313 ⇑P **P** **00 26 41.2 +2.0**
TRPA Tarpa 39.31 313 P P 00 26 44.1 +4.8
BZS Buzias 39.35 309 ⇑P **P** **00 26 39.9 +0.2**
BZS Buzias 39.35 309 ⇑P **P** **00 26 39.9 +0.2**
UZH Uzhgorod 39.60 314 *e*P **P** **00 26 42.3 +0.6**
UZH *i* 00 26 50.0
KOLS Kolonicke sedl 39.70 314 *e*P **P** **00 26 43.3 +0.8**
KOLS Kolonicke sedl 39.70 314 *e*P **P** **00 26 43.3 +0.8**
PSI Prapat 39.92 123 LR LR 00 45 47.2
comp=Z,74nm,18.4s,baz=346,slow=40
KMBO Kilima Mbogo 39.97 229 P **P** **00 26 49.0 +3.7**
comp=Z,0.7nm,0.3s,baz=42,slow=14,SNR=4.0
KMBO LR LR 00 43 13.9
comp=Z,86nm,20.6s,baz=80,slow=36
comp=Z,0.7nm,0.3s
ABAH Abaujker 40.20 313 P P 00 26 53.7 +7.0
CRVS Cervenica-Dubn 40.21 314 *e*P **P** **00 26 48.8 +2.1**
CRVS Cervenica-Dubn 40.21 314 *e*P **P** **00 26 48.8 +2.1**
BUD Budapest 41.47 311 P **P** **00 27 01.2 +4.0**
MORH Mrgy, Hungar 41.50 309 ⇑P **P** **00 26 57.5 +0.1**
MORH Mrgy, Hungar 41.50 309 P **P** **00 26 58.5 +1.0**
VYHS Vyhne 41.80 313 *e*P **P** **00 27 01.8 +1.9**
VYHS Vyhne 41.80 313 *e*P **P** **00 27 01.8 +1.9**
KOVH Kovagotottos 41.86 309 P P **00 27 03.7 +3.4**
MPLH Magyarpolny 42.41 311 P P 00 27 10.0 +5.2
MODS Modra-Piesok 42.80 312 *e*P **P** **00 27 12.5 +4.5**
MODS Modra-Piesok 42.80 312 *e*P **P** **00 27 12.5 +4.5**
XLT XiLinHaoTe 42.88 54 *e*P **P** **00 27 11.3 +2.5**
XLT sP pP 00 27 21.3 +1.7
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,200nm,6.7s
MORC Moravsky Berou 42.90 314 ⇑P **P** **00 27 10.5 +1.6**
MORC Moravsky Berou 42.90 314 *e*P **P** **00 27 09.5 +0.6**
MORC Moravsky Berou 42.90 314 ⇑P **P** **00 27 10.5 +1.6**
FINES FINESS Array B 42.94 333 P **P** **00 27 09.8 +0.9**
comp=Z,2.2nm,0.5s,baz=130,slow=10,SNR=19
FINES LR LR 00 48 25.7
comp=Z,181nm,21.4s,baz=76,slow=41
comp=Z,2.2nm,0.5s
FINES FINESS Array B 42.94 333 *i* P **P** **00 27 12.0 +3.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
CUC Castrocucco 43.03 300 P **P** **00 27 09.4 -0.6**
VRAC Vranov 43.41 314 *e*P **P** **00 27 12.1 -0.9**
NRIK Noril'sk 43.44 11 P **P** **00 27 14.8 +2.0**
comp=Z,1.8nm,0.6s,baz=189,slow=6.4,SNR=6.7
NRIK LR LR 00 47 47.6
comp=Z,157nm,19.7s,baz=208,slow=40
comp=Z,1.8nm,0.6s
NRIK Noril'sk 43.44 11 P **P** **00 27 13.1 +0.3**
NRIK Noril'sk 43.44 11 *i* P **P** **00 27 14.5 +1.7**
NRIK pmax pmax
comp=Z,8.0nm,1.2s
KRUC Moravsky 43.50 313 *e*P **P** **00 27 12.1 -1.5**
CONA Conrad Observa 43.65 311 *e*P **P** **00 27 16.0 +1.0**
comp=Z,3.9nm,1.1s
ARSA Arzberg 43.78 310 *e*P P 00 27 21.5 +5.6
comp=Z,5.3nm,1.0s
DPC Dobruska-Polom 43.79 315 *e*P **P** **00 27 14.4 -1.6**
DPC *e*pP pP 00 27 18.3 -8.6
DPC Dobruska-Polom 43.79 315 *e*P **P** **00 27 14.4 -1.6**
DPC *e* 00 27 18.3
SOKA Soboth 44.04 310 *e*P P 00 27 23.9 +5.8
comp=Z,3.9nm,1.2s
MBAR Mbarara 44.19 236 P **P** **00 27 22.6 +2.9**
comp=Z,2.7nm,0.2s,baz=353,slow=23,SNR=4.0
comp=Z,2.7nm,0.2s
OBKA Obir 44.35 309 *e*P **P** **00 27 24.6 +4.0**
comp=Z,7.1nm,1.4s
MOA Molln 44.71 311 *e*P P 00 27 28.8 +5.5
comp=Z,8.2nm,1.5s
CKRC Cesky Krumlov 44.81 312 *e*P **P** **00 27 25.4 +1.2**
MYKA Terra Mystica 44.99 309 *e*P **P** **00 27 27.8 +2.1**
comp=Z,5.0nm,1.1s
GEC2 GERESS Array S 45.21 312 P **P** **00 27 26.1 -1.3**
GEC2 IAmb IAmb 00 27 35.0
comp=Z,4.4nm,0.9s
GERES GERESS Array B 45.21 312 P **P** **00 27 27.5 0.0**
comp=Z,0.9nm,0.7s,baz=101,slow=6.9,SNR=12
comp=Z,0.9nm,0.7s
GERES GERESS Array B 45.21 312 P **P** **00 27 26.3 -1.2**
GERES GERESS Array B 45.21 312 P **P** **00 27 26.3 -1.2**
KBA Koelnbreinsper 45.24 310 *e*P **P** **00 27 31.7 +3.9**
comp=Z,10nm,1.4s
KHC Kasperske Hory 45.33 313 *e*P **P** **00 27 27.4 -0.9**
KHC *e*pP **pP** **00 27 31.6 -7.6**
KHC Kasperske Hory 45.33 313 *e*P **P** **00 27 27.4 -0.9**
KHC *e* 00 27 31.6
BRG Berggiesshubel 45.38 315 *e*P **P** **00 27 32.8 +4.2**
BRG Amp 00 27 40.3
comp=Z,4.2nm,0.8s
BRG Amp 00 53 10.0
comp=Z,0.3nm,14.8s
BRG Berggiesshubel 45.38 315 *e*P **P** **00 27 32.8 +4.2**
BRG pmax pmax
comp=Z,4.0nm,0.8s
MURB Monte Urbino 45.56 305 P **P** **00 27 29.9 -0.4**
ABTA Abfaltersbach 45.77 309 *e*P **P** **00 27 32.9 +1.0**
comp=Z,4.1nm,0.7s
WTTA Wattenberg 46.41 310 *e*P **P** **00 27 37.3 +0.2**
comp=Z,2.4nm,0.5s
SQTA Sankt Quirin 46.70 310 *e*P **P** **00 27 38.1 -1.2**
comp=Z,6.7nm,1.2s
MOTA Moosalm 46.78 310 *e*P **P** **00 27 39.3 -0.6**
comp=Z,10nm,1.3s
FETA Feichten 47.01 310 *e*P **P** **00 27 42.5 +0.8**
comp=Z,6.6nm,0.8s
RETA Reutte 47.02 310 *e*P **P** **00 27 41.0 -0.7**
comp=Z,2.2nm,0.6s
DAVA Damuels 47.61 310 *e*P **P** **00 27 46.9 +0.5**
comp=Z,7.8nm,0.7s
HEF Hetta 47.76 340 *e*P **P** **00 27 45.3 -1.7**
HFS Hagfors 47.83 328 LR LR 00 51 46.0
comp=Z,129nm,19.2s,baz=102,slow=41
ARCES ARCESS Array B 47.92 342 P **P** **00 27 48.0 -0.2**
comp=Z,4.5nm,0.8s,baz=142,slow=6.0,SNR=7.5
ARCES LR LR 00 50 14.2
comp=Z,346nm,18.4s,baz=121,slow=39
comp=Z,4.5nm,0.8s
KEST Kesra 48.40 294 P **P** **00 27 53.1 +0.5**
comp=Z,3.6nm,0.8s,baz=87,slow=1.9,SNR=6.8
comp=Z,3.6nm,0.8s
KIF Kilpisjarvi 48.96 340 *e*P P 00 27 42.7 -13
NB2 NORSAR Subarra 49.27 328 P **P** **00 27 59.1 +0.3**
comp=Z,19nm,2.0s,baz=108,slow=7.9
NOA NORSAR Array B 49.27 328 P **P** **00 27 59.0 +0.2**
comp=Z,2.1nm,1.0s,baz=107,slow=7.6,SNR=4.8
NOA LR LR 00 52 36.3
comp=Z,124nm,18.1s,baz=125,slow=41
comp=Z,2.1nm,1.0s
NOA NORSAR Array B 49.27 328 P **P** **00 27 59.0 +0.2**
OPO Ambohidratompo 49.60 204 LR LR 00 46 23.1
comp=Z,104nm,18.2s,baz=80,slow=33
HEH HeiHe 51.02 46 *e*P **P** **00 28 13.8 +1.7**
KSRS Korea Array 52.09 63 P **P** **00 28 18.4 -1.9**
comp=Z,1.6nm,0.7s,baz=274,slow=7.7,SNR=2.4
KSRS LR LR 00 52 36.2
comp=Z,130nm,19.2s,baz=265,slow=39
comp=Z,1.6nm,0.7s
LEM Lembang 52.78 124 LR LR 00 51 44.2
comp=Z,53nm,20.1s,baz=202,slow=37
YAK Yakutsk 53.48 32 LR LR 00 52 52.5
comp=Z,236nm,20.5s,baz=274,slow=38
KLR Kul'dur 53.83 48 LR LR 00 54 28.8
comp=Z,138nm,19.1s,baz=266,slow=40
KLR Kul'dur 53.83 48*ce*P **P** **00 28 33.2 +0.2**
KLR pmax pmax
comp=Z,12nm,1.7s
SPITS Spitsbergen Ar 55.15 349 LR LR 00 57 16.0
comp=Z,139nm,18.5s,baz=104,slow=42
TIXI Tiksi 55.36 20*ce*P **P** **00 28 46.8 +3.0**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
EKA Eskdalemuir Ar 56.01 320 LR LR 00 56 32.4
comp=Z,67nm,18.4s,baz=148,slow=40
ESDC Sonseca Array 58.20 301 P **P** **00 29 05.5 +1.0**
comp=Z,4.2nm,1.0s,baz=59,slow=7.2,SNR=12
comp=Z,4.2nm,1.0s
ESDC Sonseca Array 58.20 301 P **P** **00 29 03.8 -0.6**
ESDC IAmb IAmb 00 29 10.0
comp=Z,4.5nm,1.1s
MJAR Matsushiro Arr 60.34 62 LR LR 00 56 14.1
comp=Z,97nm,20.3s,baz=288,slow=37
KAPI Kappang 61.06 114 LR LR 00 59 01.2
comp=Z,62nm,18.3s,baz=292,slow=39
NOR Nord 61.67 350 *i* P **P** **00 29 29.8 +2.2**
ASAJ Asahikawa 61.88 53 LR LR 00 58 53.1
comp=Z,88nm,21.3s,baz=74,slow=39
DAG Danmarks Havn 62.01 345 *i* P **P** **00 29 28.6 -1.3**
JHJ Hachijo jima 2 62.49 65 LR LR 00 59 36.1
comp=Z,106nm,19.1s,baz=113,slow=39
MA2 Magadan 63.80 34 LR LR 00 58 46.6
comp=Z,144nm,19.1s,baz=310,slow=37
BORG Borgarnes 64.20 332 LR LR 01 00 05.3
comp=Z,266nm,18.6s,baz=68,slow=38
TSUM Tsumeb 66.27 231 LR LR 00 59 37.1
comp=Z,57nm,18.6s,baz=2.0,slow=36
BOSA Boshof 68.41 218 P **P** **00 30 15.3 +3.1**
comp=Z,3.4nm,0.8s,baz=46,slow=8.8,SNR=5.7
BOSA LR LR 00 58 06.0
comp=Z,65nm,20.4s,baz=3.0,slow=34
comp=Z,3.4nm,0.8s
PETK Petropavlovsk- 69.17 40 LR LR 01 02 45.2
comp=Z,154nm,20.1s,baz=286,slow=38
DBIC Dimbokro 70.15 267 LR LR 01 04 15.2
comp=Z,94nm,18.2s,baz=58,slow=38
SFJD Kangerlussuaq 74.39 339 LR LR 01 05 47.1
comp=Z,96nm,18.2s,baz=56,slow=38
SMPI Sarmi 75.53 100 P P 00 31 01.9 +6.8
BBTS Babate 76.97 280 LR LR 01 09 32.0
comp=Z,91nm,19.7s,baz=66,slow=39
A36M Sachs Harbour 80.20 4 P **P** **00 31 20.9 +0.8**
A36M IAmb IAmb 00 31 44.3
comp=Z,7.4nm,0.9s
WB0 Warramunga Arr 81.15 118 P **P** **00 31 25.1 -0.9**
WB0 IAmb IAmb 00 31 32.0
comp=Z,5.9nm,0.9s
WRA Warramunga Arr 81.20 118 P **P** **00 31 26.1 -0.2**
comp=Z,3.3nm,0.8s,baz=316,slow=4.2,SNR=22
comp=Z,3.3nm,0.8s
WRA Warramunga Arr 81.20 118 P **P** **00 31 26.6 +0.3**
WRA Warramunga Arr 81.20 118 *i* P **P** **00 31 28.0 +1.7**
WRA pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 81.20 118*ce*P **P** **00 31 25.0 -1.3**
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WB2 Warramunga Arr 81.21 118 P **P** **00 31 25.1 -1.2**
COLD Coldfoot 81.42 14 P **P** **00 31 25.1 -1.6**
COLD IAmb IAmb 00 31 38.8
comp=Z,4.8nm,0.9s
IMAR Indian Mountai 81.68 15 P **P** **00 31 26.7 -1.4**
FRB Frobisher Bay 82.08 341 LR LR 01 09 37.3
comp=Z,58nm,18.5s,baz=32,slow=37
H21K Melozitna Rive 82.17 15 P **P** **00 31 30.7 0.0**
BMAR Burnt Mountain 82.33 11 P **P** **00 31 30.6 -0.9**
AS31 Alice Springs 82.94 121 P **P** **00 31 34.7 -0.6**
ASAR Alice Springs 82.94 121 P **P** **00 31 35.2 -0.2**
comp=Z,2.5nm,0.6s,baz=309,slow=5.3,SNR=20
comp=Z,2.5nm,0.6s
ASAR Alice Springs 82.94 121 P **P** **00 31 35.8 +0.5**
INK Inuvik 83.11 7 P **P** **00 31 34.7 -0.7**
INK IAmb IAmb 00 31 40.4
comp=Z,8.4nm,1.4s
INK Inuvik 83.11 7 P **P** **00 31 34.7 -0.7**
INK pmax pmax
comp=Z,8.0nm,1.4s
KIWB Kanaga Island 83.29 34 P **P** **00 31 36.1 -0.7**
ILAR Eielson Array 84.23 14 P **P** **00 31 42.1 +0.7**
comp=Z,0.7nm,1.0s,baz=329,slow=3.2,SNR=4.3
ILAR LR LR 01 15 25.7
comp=Z,120nm,18.1s,baz=297,slow=40
comp=Z,0.7nm,1.0s
ILAR Eielson Array 84.23 14 P **P** **00 31 40.8 -0.5**
ILAR Eielson Array 84.23 14 P **P** **00 31 40.8 -0.5**
SCHQ Schefferville 88.38 335 LR LR 01 13 29.3
comp=Z,96nm,19.7s,baz=106,slow=37
YKA Yellowknife Ar 90.05 0 P **P** **00 32 11.1 +1.6**
comp=Z,0.6nm,0.7s,baz=348,slow=4.4,SNR=2.5
YKA LR LR 01 16 55.2
comp=Z,106nm,18.9s,baz=358,slow=38
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 122.39 349 PKP **PKiKP** **00 38 07.3 +1.3**
comp=Z,0.1nm,0.4s,baz=97,slow=2.1,SNR=2.1

KRNET 23 00:21:52.0±0.1, 39°56N×72°92E, h15km, mb2.9, 8C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.87**	**265**	⇓*i*	P	Pg		00 22 08.7	-0.2
	baz=65								
DRK				⇓*i*	S	Sb		00 22 20.9	+0.4
	baz=65								
DRK	**Karamyk**	**0.87**	**265**		Pn	Pb		00 22 09.0	0.0
OHH	**Osh**	**0.97**	**354**	⇑*i*	P	Pb		00 22 10.6	0.0
	baz=54								
OHH				⇑*i*	S	Sn		00 22 24.2	-0.6
	baz=54								
BTK	**Batken**	**1.69**	**288**	⇑*e*	P	Pb		00 22 23.5	+0.6
	baz=88								
BTK				⇑*i*	S	Sg		00 22 46.8	+0.3
	baz=88								
GAR	**Garm**	**2.09**	**255**	⇓*i*	P	Pb		00 22 30.3	+0.6
	baz=55								
GAR				⇓*i*	S	Sg		00 22 58.3	-1.0
	baz=55								
ARK	**Arkit**	**2.35**	**342**	⇑*i*	P	Pb		00 22 34.1	-0.1
	baz=42								
ARK				⇑*e*	S	Sb		00 23 04.7	+1.6
	baz=42								
TRKS	**Terek-Say**	**2.39**	**326**	⇑*i*	P	Pb		00 22 33.7	-1.1
	baz=26								
TRKS				⇑*i*	S	Sb		00 23 04.0	-0.2
	baz=26								

*NOU **23** 00:29:53.3, 42°79S×173°46E, h0km, MLv4.0/7, South Island, New Zealand*
*WEL **23** 00:29:56.1±0.3, 43°S±3°×17°3E±°, h5km, M3.3/36, ML3.6/15, MLv3.3/36, Error ellipse: s-maj=0.0km s-min=0.0km az=141.8*
ISC 23 00:29:55.4±0.9, 42°66S±0°03×173°22E±0°04, h10km, n62, σ1§04/63, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.34**	**204**			P	**Pg**	**00 30 04.1**	**+2.1**
KHZ	**Kahutara**	**0.34**	**44**			P	**Pg**	**00 30 02.9**	**+0.9**
KHZ						S	**Sg**	**00 30 08.3**	**+1.7**
AMCZ	**Amberley**	**0.66**	**219**			P	**Pb**	**00 30 10.0**	**+1.0**
LTZ	**Lake Taylor**	**0.71**	**260**			P	**Pg**	**00 30 09.1**	**0.0**
THZ	**Tophouse**	**0.93**	**345**			P	**Pg**	**00 30 12.2**	**-1.1**
BSWZ	**Blackbirch Sta**	**1.06**	**27**			P	**Pg**	**00 30 16.1**	**+0.3**
OKCZ	**Okains Bay**	**1.07**	**186**			P	**Pb**	**00 30 16.0**	**+0.1**
OXZ	**Oxford**	**1.09**	**232**			P	**Pg**	**00 30 16.0**	**-0.4**
MOZ	**McQueen's Vall**	**1.12**	**202**			P	**Pb**	**00 30 15.9**	**-1.0**
CMWZ	**Cape Campbell**	**1.17**	**39**			P	**Pn**	**00 30 18.7**	**+0.9**
AKCZ	**Akaroa Harbour**	**1.23**	**191**			P	**Pn**	**00 30 16.7**	**-1.9**
MRNZ	**Matariki Terra**	**1.31**	**345**			P	**Pn**	**00 30 19.0**	**-0.7**
INZ	**Inchbonnie**	**1.31**	**267**			P	**Pn**	**00 30 19.2**	**-0.5**
RACZ	**Rakaia**	**1.33**	**216**			P	**Pn**	**00 30 19.3**	**-0.6**
TUWZ	**Tuamarina**	**1.34**	**24**			P	**Pn**	**00 30 20.6**	**+0.4**
DSZ	**Denniston Nort**	**1.40**	**311**			P	**Pb**	**00 30 20.5**	**-1.0**
NNZ	**Nelson**	**1.45**	**5**			P	**Pn**	**00 30 21.7**	**+0.1**
MHCZ	**Mount Hutt**	**1.49**	**234**			P	**Pn**	**00 30 21.5**	**-0.7**
WACZ	**Wakanui South**	**1.63**	**218**			P	**Pn**	**00 30 23.4**	**-0.7**
TKNZ	**Takaka Hill**	**1.64**	**353**			P	**Pn**	**00 30 24.4**	**+0.1**
TCW	**Tory Channel**	**1.65**	**29**			P	**Pn**	**00 30 24.2**	**-0.1**
PLWZ	**Palliser**	**1.86**	**55**			P	**Pn**	**00 30 26.7**	**-0.7**
WVZ	**Waitaha Valley**	**1.87**	**256**			P	**Pn**	**00 30 27.4**	**0.0**
RPZ	**Rata Peaks**	**1.90**	**236**			P	**Pn**	**00 30 27.3**	**-0.6**
RPZ	**Rata Peaks**	**1.90**	**236**			P	**Pn**	**00 30 27.3**	**-0.6**
QRZ	**Quartz Range**	**1.91**	**344**			P	**Pb**	**00 30 28.9**	**-1.3**
QRZ	**Quartz Range**	**1.91**	**344**			P	**Pb**	**00 30 28.7**	**-1.5**
DUWZ	**D'Urville Isla**	**1.93**	**16**			P	**Pn**	**00 30 29.1**	**+0.8**
MSWZ	**Moikau Station**	**1.96**	**51**			P	**Pn**	**00 30 28.0**	**-0.7**
ARCZ	**Arundel**	**1.97**	**229**			P	**Pn**	**00 30 28.0**	**-0.8**
CAW	**Cannon Point**	**2.08**	**42**			P	**Pn**	**00 30 29.9**	**-0.4**
PAWZ	**Paruwai Farm**	**2.08**	**53**			P	**Pn**	**00 30 29.4**	**-0.9**
KIW	**Kapiti Island**	**2.20**	**36**			P	**Pn**	**00 30 31.9**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.22**	**252**			P	**Pn**	**00 30 32.6**	**+0.3**
TRWZ	**Traveller**	**2.23**	**56**			P	**Pn**	**00 30 31.3**	**-1.1**
OGWZ	**Otaki Gorge**	**2.35**	**39**			P	**Pn**	**00 30 33.6**	**-0.4**
TMZ	**Timaru**	**2.36**	**222**			P	**Pn**	**00 30 33.5**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.46**	**45**			P	**Pn**	**00 30 34.5**	**-1.0**
TMWZ	**Te Maipa**	**2.53**	**53**			P	**Pn**	**00 30 35.3**	**-1.2**
FOZ	**Fox Glacier**	**2.64**	**250**			P	**Pn**	**00 30 39.2**	**+1.2**

MRZ	Mangatainoka R	2.67	42	P	Pn	00 30 37.5	-0.9
LBZ	Lake Benmore	2.80	231	P	Pn	00 30 39.9	-0.3
BFZ	Birch Farm	3.01	50	P	Pn	00 30 40.5	-2.6
BFZ	Birch Farm	3.01	50	P	Pn	00 30 40.1	-2.9
ODZ	Otahua Downs	3.02	217	P	Pn	00 30 42.4	-0.9
ODZ	Otahua Downs	3.02	217	P	Pn	00 30 42.4	-0.9
KHEZ	Kahui Hut	3.42	10	P	Pn	00 30 49.0	+0.2
KHEZ	Kahui Hut	3.42	10	P	Pn	00 30 51.1	+2.4
VRZ	Vera Road	3.72	19	P	Pn	00 30 54.5	+1.6
EAZ	Earnscleugh	3.82	226	P	Pn	00 30 53.6	-0.6
WHVZ	Whangaehu Hut	3.82	29	P	Pn	00 30 55.5	+1.0
BHHZ	Black Hill Sta	3.83	35	P	Pn	00 30 54.0	-0.4
NGZ	Ngauruhoe	3.92	28	P	Pn	00 30 56.3	+0.5
NNVZ	North Ngauruho	3.96	28	P	Pn	00 30 56.9	+0.5
ETVZ	East Tongariro	4.00	29	P	Pn	00 30 56.9	+0.2
TMVZ	Te Maari	4.01	29	P	Pn	00 30 57.1	+0.2
HIZ	Hauiti	4.33	17	P	Pn	00 31 02.5	+1.3
HIZ	Hauiti	4.33	17	P	Pn	00 31 02.3	+1.1
TLZ	Tolley Road	4.67	23	P	Pn	00 31 07.0	+1.0
SYZ	Scrubby Hill	4.85	216	P	Pn	00 31 08.1	-0.2
AWAZ	Awhitu Peninsu	5.70	12	P	Pn	00 31 20.3	+0.3
MKAZ	Moumakai	5.75	16	P	Pn	00 31 20.8	+0.2

IDC ***23*** *00:30:54.4±2.5, 37°.32N×141°.66E, h0km, mb3.3/3, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=45.4km s-min=35.6km az=54.0*

JMA ***23*** *00:30:59.7±0.1, 37°.2N±0°.3×141°.4E±0°.8, h34km±1km, MV3.4/38, E OFF FUKUSHIMA PREF*

ISC 23 00:30:59.8±2.0, 37°.16N±0°.06×141°.4E±0°.1, h31km±11km, n10, σ0s85/17, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.46**	**297**	P	**Pb**	**00 31 09.7**	**0.0**
JFK				S	**Sb**	**00 31 16.9**	**+0.4**
JFFD	**Fukushimafurud**	**0.67**	**264**	*i* P	**Pn**	**00 31 13.3**	**+0.1**
JFFD				S	**Sn**	**00 31 22.9**	**+0.3**
JMST	**Minamisoumatoc**	**0.69**	**325**	*i* P	**Pb**	**00 31 13.1**	**-0.3**
JMST				S	**Sb**	**00 31 22.8**	**+0.2**
JMM	**Marumori**	**0.85**	**326**	P	**Pn**	**00 31 15.6**	**-0.1**
JMM				S	**Sb**	**00 31 26.9**	**-0.3**
JHO	**Hitachi**	**0.86**	**230**	P	**Pb**	**00 31 15.7**	**-0.5**
JHO				S	**Sn**	**00 31 27.0**	**-0.2**
JIO	**Ouri**	**1.29**	**359**	*i* P	**Pn**	**00 31 22.0**	**+0.2**
JIO				S	**Sn**	**00 31 38.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.62**	**257**	Pn	**Pn**	**00 31 41.1**	**+1.0**
	0.5nm,0.3s,baz=74,slow=10,SNR=11						
MJAR				Sn	**Sb**	**00 32 17.2**	**-0.8**
	0.8nm,0.3s,baz=54,slow=22,SNR=6.1 2.6nm,0.4s						
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**00 36 46.9**	**+1.7**
	0.2nm,0.5s,baz=92,slow=8.3,SNR=2.1 0.2nm,0.5s						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**00 39 02.7**	**-1.9**
	0.4nm,0.8s,baz=90,slow=12,SNR=2.5 0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**00 40 44.6**	**+0.7**
	0.2nm,0.5s,baz=6.2,slow=7.1,SNR=1.7 0.2nm,0.5s						

IDC 23 00:45:12.2±5.5, 6°.49S×133°.33E, h0km, mb3.7/1, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=323.3km s-min=34.6km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.41**	**176**	Pn	Pn	00 48 23.1	-0.8
	0.1nm,0.3s,baz=354,slow=13,SNR=2.1 0.3nm,0.9s						
ASAR	**Alice Springs**	**17.08**	**178**	P	Pn	00 49 13.3	+0.6
	0.6nm,0.7s,baz=2.4,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**69.65**	**325**	P	P	00 56 23.7	0.0
	0.5nm,0.8s,baz=134,slow=6.2,SNR=3.7 0.5nm,0.8s						

WEL ***23*** *01:00:00, 41°.74S×174°.28E, h19km, ML4.7, Mw4.7, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁶ Nm; Mrr0.44; Mθθ0.98; Mϕϕ-1.42; Mrθ0.21; Mrϕ-0.58; Mθϕ0.04; Fault plane solution: M₀1.36000×10¹⁶ NP1: ϕs149.00000°, δ78.00000°, λ9.00000°. NP2:ϕs57.00000°, δ81.00000°, λ167.00000°. Principal axes: T -1555.3000, Plg15.0000°, Azm13.0000°; N 1161.1900, Plg75.0000°, Azm201.0000°; P 394.1000, Plg2.0000°, Azm103.0000°;*

IDC ***23*** *01:00:12.5±1.1, 41°.47S×174°.04E, h0km, mb3.9/3, mbtmp4.0/4, ML4.1/1, MS3.8/19 Error ellipse: s-maj=36.3km s-min=30.8km az=57.0*

NOU ***23*** *01:00:13.4, 41°.95S×174°.53E, h9km, MLv5.0/12, Cook Strait, New Zealand*

WEL ***23*** *01:00:14.8±0.3, 42°.5±2°×17°.4E±°, h12km±2km, M4.7/61, ML5.0/23, MLv4.7/61, Error ellipse: s-maj=0.0km s-min=0.0km az=130.0*

NEIC ***23*** *01:00:14.8±1.6, 41°.73S±0°.01×174°.27E±0°.04, h19km±5km, mb4.4/9, Error ellipse: s-maj=4.4km s-min=1.6km az=102.0*

ISC 23 01:00:14.0±0.9, 41°.81S±0°.03×174°.32E±0°.02, h20km±3km, n231, σ1s15/216, mb4.3/9, MS3.8/22, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.10**	**307**	Pg	**Pg**	**01 00 17.8**	**-0.1**
CMWZ					**Sg**	**01 00 20.6**	**0.0**
CMWZ	**Cape Campbell**	**0.10**	**307**	P	**Pg**	**01 00 17.9**	**0.0**
CMWZ				S	**Sg**	**01 00 20.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.35**	**286**	Pg	**Pg**	**01 00 21.3**	**-0.1**
BSWZ					**Sb**	**01 00 26.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.35**	**286**	P	**Pg**	**01 00 21.4**	**-0.1**
BSWZ				S	**Sb**	**01 00 26.7**	**0.0**
TUWZ	**Tuamarina**	**0.48**	**323**	Pg	**Pg**	**01 00 23.1**	**-0.6**
TUWZ				Sg	**Sg**	**01 00 28.8**	**-1.4**
TUWZ	**Tuamarina**	**0.48**	**323**	P	**Pg**	**01 00 23.1**	**-0.6**
TUWZ				S	**Sg**	**01 00 29.3**	**-0.9**
SNZO	**South Karori**	**0.58**	**30**		**Pg**	**01 00 26.0**	**+0.5**
SNZO	**South Karori**	**0.58**	**30**	P	**Pn**	**01 00 26.4**	**-0.7**
TCW	**Tory Channel**	**0.60**	**357**		**Pb**	**01 00 25.2**	**-0.6**
TCW				Sg	**Sb**	**01 00 33.1**	**-0.7**
TCW	**Tory Channel**	**0.60**	**357**	P	**Pb**	**01 00 25.3**	**-0.5**
WEL	**Wellington**	**0.62**	**33**	P	**Pg**	**01 00 26.9**	**+0.5**
PLWZ	**Palliser**	**0.74**	**71**		**Pn**	**01 00 30.0**	**+0.7**
PLWZ	**Palliser**	**0.74**	**71**	P	**Pn**	**01 00 30.1**	**+0.7**
MSWZ	**Moikau Station**	**0.80**	**61**	Pg	**Pn**	**01 00 31.0**	**+0.8**
MSWZ	**Moikau Station**	**0.80**	**61**	P	**Pn**	**01 00 31.4**	**+1.2**
KHZ	**Kahutara**	**0.84**	**224**	Pg	**Pn**	**01 00 32.1**	**+1.4**
KHZ	**Kahutara**	**0.84**	**224**	P	**Pn**	**01 00 32.2**	**+1.5**
CAW	**Cannon Point**	**0.90**	**39**	P	**Pg**	**01 00 31.7**	**+0.2**
NNZ	**Nelson**	**0.92**	**310**	Pg	**Pb**	**01 00 31.0**	**-0.3**
NNZ	**Nelson**	**0.92**	**310**	P	**Pb**	**01 00 31.1**	**-0.2**
PAWZ	**Paruwai Farm**	**0.93**	**63**	P	**Pn**	**01 00 32.7**	**+0.6**
KIW	**Kapiti Island**	**1.05**	**25**	P	**Pn**	**01 00 33.8**	**+0.2**
DUWZ	**D'Urville Isla**	**1.05**	**343**	P	**Pb**	**01 00 33.1**	**-0.4**
THZ	**Tophouse**	**1.06**	**272**		**Pn**	**01 00 34.1**	**+0.3**
THZ	**Tophouse**	**1.06**	**272**	P	**Pg**	**01 00 34.5**	**-0.1**
MTW	**Mount Morrison**	**1.10**	**54**	P	**Pb**	**01 00 34.9**	**+0.6**
TRWZ	**Traveller**	**1.10**	**69**	P	**Pb**	**01 00 34.8**	**+0.4**
OGWZ	**Otaki Gorge**	**1.18**	**33**	P	**Pb**	**01 00 36.3**	**+0.5**
MRNZ	**Matariki Terra**	**1.24**	**289**		**Pb**	**01 00 37.1**	**+0.3**
MRNZ	**Matariki Terra**	**1.24**	**289**	P	**Pg**	**01 00 37.5**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.28**	**45**	P	**Pb**	**01 00 37.4**	**-0.1**
TKNZ	**Takaka Hill**	**1.29**	**307**		**Pb**	**01 00 37.2**	**-0.3**
TKNZ	**Takaka Hill**	**1.29**	**307**	P	**Pb**	**01 00 37.5**	**0.0**
TMWZ	**Te Maipa**	**1.37**	**60**	P	**Pn**	**01 00 38.4**	**+0.3**
MRZ	**Mangatainoka R**	**1.49**	**40**	Pn	**Pn**	**01 00 40.2**	**+0.6**
MRZ	**Mangatainoka R**	**1.49**	**40**	P	**Pn**	**01 00 40.4**	**+0.7**
GVZ	**Greta Valley S**	**1.50**	**219**	Pn	**Pb**	**01 00 41.0**	**-0.1**
GVZ	**Greta Valley S**	**1.50**	**219**	P	**Pb**	**01 00 41.0**	**-0.1**
TIWZ	**Tintock**	**1.57**	**49**	P	**Pn**	**01 00 41.1**	**+0.3**
QRZ	**Quartz Range**	**1.67**	**305**	Pn	**Pb**	**01 00 43.8**	**-0.3**
QRZ	**Quartz Range**	**1.67**	**305**	P	**Pb**	**01 00 44.3**	**+0.2**
QRZ	**Quartz Range**	**1.67**	**305**	P	**Pb**	**01 00 44.0**	**-0.1**
CPWZ	**Castlepoint**	**1.68**	**58**	P	**Pn**	**01 00 43.0**	**+0.8**
PRWZ	**Pori Road**	**1.77**	**45**	P	**Pn**	**01 00 43.9**	**+0.5**
OHWZ	**Ohakea**	**1.77**	**25**	P	**Pb**	**01 00 45.9**	**+0.2**
POWZ	**Post Office Ro**	**1.79**	**38**	P	**Pn**	**01 00 44.5**	**+0.8**
LTZ	**Lake Taylor**	**1.81**	**237**	Pn	**Pn**	**01 00 45.0**	**+1.0**
LTZ	**Lake Taylor**	**1.81**	**237**	P	**Pb**	**01 00 45.3**	**-1.1**
BFZ	**Birch Farm**	**1.84**	**53**	Pn	**Pn**	**01 00 44.2**	**-0.2**
BFZ	**Birch Farm**	**1.84**	**53**	P	**Pn**	**01 00 44.0**	**+0.3**
BFZ	**Birch Farm**	**1.84**	**53**	P	**Pn**	**01 00 44.2**	**-0.3**
AMCZ	**Amberley**	**1.84**	**222**	Pn	**Pn**	**01 00 45.0**	**+0.5**
AMCZ	**Amberley**	**1.84**	**222**	P	**Pn**	**01 00 45.3**	**+0.8**
DSZ	**Denniston Nort**	**1.88**	**271**	Pn	**Pb**	**01 00 46.8**	**-1.0**
DSZ	**Denniston Nort**	**1.88**	**271**	P	**Pb**	**01 00 47.0**	**-0.7**
DVHZ	**Dannevirke**	**2.06**	**43**	P	**Pn**	**01 00 47.3**	**-0.1**
ANWZ	**Angora Road**	**2.11**	**51**	P	**Pn**	**01 00 47.9**	**-0.3**
WAZ	**Wanganui**	**2.12**	**14**	P	**Pb**	**01 00 51.1**	**-0.5**
OKCZ	**Okains Bay**	**2.13**	**206**	P	**Pn**	**01 00 48.9**	**+0.5**
TSZ	**Takapari Road**	**2.15**	**36**	P	**Pn**	**01 00 49.2**	**+0.5**
MQZ	**McQueen's Vall**	**2.26**	**212**	Pn	**Pn**	**01 00 49.6**	**-0.6**
MQZ	**McQueen's Vall**	**2.26**	**212**	P	**Pn**	**01 00 49.9**	**-0.3**
OXZ	**Oxford**	**2.27**	**227**	Pn	**Pn**	**01 00 50.3**	**-0.1**
OXZ	**Oxford**	**2.27**	**227**	P	**Pn**	**01 00 50.4**	**0.0**
AKCZ	**Akaroa Harbour**	**2.31**	**206**	P	**Pn**	**01 00 51.4**	**+0.5**
INZ	**Inchbonnie**	**2.32**	**246**	Pn	**Pn**	**01 00 52.1**	**+1.0**
INZ	**Inchbonnie**	**2.32**	**246**	P	**Pn**	**01 00 52.6**	**+1.5**
PRHZ	**Porangahau**	**2.33**	**49**	P	**Pn**	**01 00 50.7**	**-0.5**
LREZ	**Lake Rotokare**	**2.35**	**2**	P	**Pb**	**01 00 54.7**	**-1.0**
WPHZ	**Waipukurau**	**2.37**	**43**	P	**Pn**	**01 00 51.8**	**0.0**
PNHZ	**Pukenui**	**2.37**	**38**	P	**Pn**	**01 00 51.9**	**+0.1**
NMEZ	**Namu Road**	**2.42**	**352**	P	**Pb**	**01 00 55.7**	**-1.1**
RACZ	**Rakaia**	**2.50**	**219**	P	**Pn**	**01 00 53.5**	**0.0**
KHEZ	**Kahui Hut**	**2.52**	**355**	P	**Pb**	**01 00 58.1**	**-0.6**
KHEZ	**Kahui Hut**	**2.52**	**355**	P	**Pb**	**01 00 57.0**	**-1.7**
NEZ	**North Egmont**	**2.54**	**356**	P	**Pb**	**01 00 57.6**	**-1.4**
NBEZ	**Newall Road No**	**2.56**	**352**	P	**Pn**	**01 00 57.3**	**-2.0**
MTVZ	**Mangateitei**	**2.58**	**20**	P	**Pn**	**01 00 56.7**	**+2.1**
PXZ	**Pawanui**	**2.62**	**48**	P	**Pn**	**01 00 54.3**	**-0.9**
DREZ	**Durham Road**	**2.62**	**358**	P	**Pb**	**01 00 59.2**	**-1.0**
PKEZ	**Pukeiti**	**2.63**	**354**	P	**Pb**	**01 00 58.5**	**-1.9**
MOVZ	**Moawhango**	**2.64**	**25**	P	**Pn**	**01 00 56.4**	**+0.9**
PKVZ	**Pokaka**	**2.64**	**18**	P	**Pn**	**01 00 57.2**	**+1.8**
MHCZ	**Mount Hutt**	**2.66**	**229**	P	**Pn**	**01 00 56.5**	**+0.7**
WNVZ	**Wahianoa**	**2.67**	**22**	P	**Pn**	**01 00 57.5**	**+1.6**
BHHZ	**Black Hill Sta**	**2.67**	**30**	P	**Pn**	**01 00 56.6**	**+0.7**
TRVZ	**Turoa**	**2.68**	**21**	P	**Pn**	**01 00 57.8**	**+1.6**
DRZ	**Dome Shelter**	**2.70**	**21**	P	**Pn**	**01 00 58.6**	**+1.9**
VRZ	**Vera Road**	**2.70**	**7**	P	**Pn**	**01 00 58.9**	**+2.6**
WHVZ	**Whangaehu Hut**	**2.70**	**21**	P	**Pn**	**01 00 58.2**	**+1.6**
FWVZ	**Far West T-bar**	**2.72**	**21**	P	**Pn**	**01 00 58.4**	**+1.7**
MHEZ	**Mangahewa**	**2.73**	**0**	P	**Pb**	**01 01 00.7**	**-1.4**
TUVZ	**Tukino**	**2.74**	**22**	P	**Pn**	**01 00 58.5**	**+1.6**
KAHZ	**Kahuranaki**	**2.80**	**45**	P	**Pn**	**01 00 56.9**	**-0.7**
WACZ	**Wakanui South**	**2.81**	**220**	P	**Pn**	**01 00 58.0**	**+0.3**
NGZ	**Ngauruhoe**	**2.81**	**21**	P	**Pn**	**01 00 59.6**	**+1.7**
SNVZ	**South Ngauruho**	**2.81**	**21**	P	**Pn**	**01 00 59.6**	**+1.7**
OTVZ	**Oturere**	**2.84**	**22**	P	**Pn**	**01 00 59.9**	**+1.6**
NNVZ	**North Ngauruho**	**2.85**	**21**	P	**Pn**	**01 01 00.2**	**+1.6**
TWVZ	**Taurewa**	**2.87**	**18**	P	**Pn**	**01 01 00.3**	**+1.7**
KWHZ	**Kaweka Forest**	**2.87**	**35**	P	**Pn**	**01 00 58.5**	**-0.2**
ETVZ	**East Tongariro**	**2.87**	**22**	P	**Pn**	**01 01 00.1**	**+1.3**
TMVZ	**Te Maari**	**2.89**	**22**	P	**Pn**	**01 01 00.4**	**+1.3**
KRVZ	**Karewarewa**	**2.89**	**21**	P	**Pn**	**01 01 00.8**	**+1.8**
NTVZ	**North Tongarir**	**2.90**	**21**	P	**Pn**	**01 01 00.7**	**+1.5**
WVZ	**Waitaha Valley**	**2.94**	**243**	P	**Pn**	**01 01 01.1**	**+1.6**
MCHZ	**McNeill Hill**	**2.98**	**38**	P	**Pn**	**01 00 59.9**	**-0.1**
CKHZ	**Cape Kidnapper**	**3.00**	**45**	P	**Pn**	**01 00 59.6**	**-0.8**
KATZ	**Kakaramea**	**3.02**	**21**	P	**Pn**	**01 01 03.3**	**+2.5**
RITZ	**Rihia Road**	**3.06**	**23**	P	**Pn**	**01 01 02.5**	**+1.2**
RPZ	**Rata Peaks**	**3.07**	**231**	Pn	**Pn**	**01 01 01.7**	**+0.4**
	22nm,0.3s,baz=93,slow=2.6,SNR=56						
RPZ				Sn	**Sn**	**01 01 37.3**	**-0.2**
	40nm,0.3s,baz=332,slow=23,SNR=10						
RPZ				LR	LR	01 02 03.7	
	comp=Z,485nm,21.7s,baz=42,slow=35 57nm,0.3s						
RPZ	**Rata Peaks**	**3.07**	**231**	P	**Pn**	**01 01 01.9**	**+0.5**
RPZ	**Rata Peaks**	**3.07**	**231**	P	**Pn**	**01 01 01.8**	**+0.4**
BKZ	**Black Stump Fm**	**3.12**	**33**	Pn	**Pn**	**01 01 01.6**	**-0.5**
BKZ	**Black Stump Fm**	**3.12**	**33**	P	**Pn**	**01 01 04.1**	**+2.0**
BKZ	**Black Stump Fm**	**3.12**	**33**	P	**Pn**	**01 01 01.6**	**-0.4**
RATZ	**Rangitukua**	**3.14**	**21**	P	**Pn**	**01 01 03.9**	**+1.5**
ARCZ	**Arundel**	**3.15**	**226**	P	**Pn**	**01 01 02.6**	**+0.2**
HATZ	**Hinemaiaia**	**3.21**	**25**	P	**Pb**	**01 01 09.3**	**-1.1**
ARHZ	**Aropaoanui**	**3.26**	**40**	P	**Pn**	**01 01 03.4**	**-0.6**
NMHZ	**Naumai**	**3.31**	**36**	P	**Pn**	**01 01 05.1**	**+0.3**
GCSZ	**Mount Creek Bo**	**3.31**	**242**	P	**Pn**	**01 01 06.6**	**+1.9**
HIZ	**Hauiti**	**3.32**	**7**	Pn	**Pn**	**01 01 06.5**	**+1.7**
HIZ	**Hauiti**	**3.32**	**7**	P	**Pn**	**01 01 07.5**	**+2.7**
HIZ	**Hauiti**	**3.32**	**7**	P	**Pn**	**01 01 07.0**	**+2.2**
MRHZ	**Matea Rd**	**3.38**	**29**	P	**Pn**	**01 01 05.3**	**-0.3**
WHTZ	**Whakaora**	**3.38**	**22**	P	**Pb**	**01 01 13.1**	**-0.1**
WHHZ	**Waihua**	**3.52**	**40**	P	**Pn**	**01 01 07.3**	**-0.3**
MTHZ	**Maungataniwha**	**3.53**	**34**	P	**Pn**	**01 01 07.7**	**0.0**
TMZ	**Timaru**	**3.54**	**222**	P	**Pn**	**01 01 08.0**	**+0.2**
RAHZ	**Arahi**	**3.58**	**37**	P	**Pn**	**01 01 07.6**	**-0.8**
ALRZ	**Allen Road**	**3.59**	**26**	P	**Pn**	**01 01 08.4**	**-0.2**
TLZ	**Tolley Road**	**3.60**	**15**	P	**Pn**	**01 01 10.0**	**+1.3**
GRRZ	**Galatos Road**	**3.72**	**22**	P	**Pn**	**01 01 10.9**	**+0.6**
HRRZ	**Handcock Road**	**3.73**	**24**	P	**Pn**	**01 01 10.9**	**+0.3**
FOZ	**Fox Glacier**	**3.74**	**241**	Pn	**Pn**	**01 01 11.8**	**+1.2**
FOZ	**Fox Glacier**	**3.74**	**241**	P	**Pn**	**01 01 12.2**	**+1.6**
RTZ	**Ruatahuna**	**3.79**	**33**	P	**Pn**	**01 01 11.8**	**+0.5**
HSRZ	**Hossack Road**	**3.79**	**24**	P	**Pb**	**01 01 19.0**	**-1.3**
SNGZ	**Shannon Statio**	**3.81**	**38**	P	**Pn**	**01 01 09.8**	**-1.7**
MHGZ	**Mahia Peninsul**	**3.81**	**47**	P	**Pn**	**01 01 10.5**	**-1.1**
MUGZ	**Murupara**	**3.82**	**30**	P	**Pn**	**01 01 12.8**	**+1.1**
TARZ	**Mount Tarawera**	**3.94**	**26**	P	**Pn**	**01 01 13.4**	**-0.1**
LBZ	**Lake Benmore**	**3.98**	**228**	Pn	**Pn**	**01 01 13.7**	**-0.1**
LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	**01 01 14.2**	**+0.4**
RIGZ	**Rimuhau**	**4.07**	**41**	P	**Pn**	**01 01 13.8**	**-1.3**
RAGZ	**Rawiri**	**4.07**	**37**	P	**Pn**	**01 01 13.7**	**-1.5**
EDRZ	**Edgecumbe**	**4.14**	**27**	P	**Pn**	**01 01 16.7**	**+0.5**
URZ	**Urewera**	**4.14**	**32**	P	**Pn**	**01 01 16.0**	**-0.1**
URZ	**Urewera**	**4.14**	**32**	P	**Pn**	**01 01 15.0**	**-1.1**
TOZ	**Tahuroa Road**	**4.17**	**13**	P	**Pn**	**01 01 18.1**	**+1.5**
ODZ	**Otahua Downs**	**4.20**	**218**	Pn	**Pn**	**01 01 16.5**	**-0.3**
ODZ	**Otahua Downs**	**4.20**	**218**	P	**Pn**	**01 01 16.9**	**0.0**
ODZ	**Otahua Downs**	**4.20**	**218**	P	**Pn**	**01 01 16.6**	**-0.3**
MARZ	**Manawahe**	**4.23**	**26**	P	**Pn**	**01 01 16.6**	**-0.7**
OPRZ	**Ohinepanea**	**4.32**	**24**	P	**Pn**	**01 01 16.8**	**-0.5**
TGRZ	**Tauranga**	**4.34**	**21**	P	**Pn**	**01 01 19.5**	**+0.7**
CNGZ	**Carnagh Statio**	**4.46**	**43**	P	**Pn**	**01 01 18.6**	**-1.8**
JCZ	**Jackson Bay**	**4.65**	**239**	P	**Pn**	**01 01 26.5**	**+3.4**
JCZ	**Jackson Bay**	**4.65**	**239**	P	**Pn**	**01 01 26.6**	**+3.4**
MKAZ	**Moumakai**	**4.75**	**8**	P	**Pn**	**01 01 25.8**	**+1.4**
AWAZ	**Awhitu Peninsu**	**4.75**	**3**	P	**Pn**	**01 01 26.5**	**+2.1**
MYRZ	**Mayor Island**	**4.76**	**19**	P	**Pn**	**01 01 26.9**	**+2.3**
HAZ	**Te Kaha**	**4.85**	**34**	P	**Pn**	**01 01 25.1**	**-0.7**
PKGZ	**Pakihiroa**	**4.87**	**38**	P	**Pn**	**01 01 25.2**	**-1.0**
ETAZ	**East Tamaki Re**	**4.87**	**6**	P	**Pn**	**01 01 28.6**	**+2.4**
WTAZ	**Waiatarua**	**4.88**	**2**	P	**Pn**	**01 01 29.2**	**+3.0**
HHSZ	**Highcliff Hill**	**4.88**	**212**	P	**Pn**	**01 01 26.6**	**+0.3**
WKZ	**Wanaka**	**4.91**	**230**	Pn	**Pn**	**01 01 27.3**	**+0.7**
WKZ	**Wanaka**	**4.91**	**230**	P	**Pn**	**01 01 27.2**	**+0.6**
EAZ	**Earnscleugh**	**5.00**	**225**	P	**Pn**	**01 01 28.6**	**+0.7**
WIAZ	**Waiheke Island**	**5.05**	**7**	P	**Pn**	**01 01 30.6**	**+2.0**
MBAZ	**Motutapu North**	**5.05**	**5**	P	**Pn**	**01 01 30.7**	**+2.0**
KUZ	**Kuaotunu**	**5.17**	**13**	P	**Pn**	**01 01 31.3**	**+1.0**
KUZ	**Kuaotunu**	**5.17**	**13**	P	**Pn**	**01 01 31.4**	**+1.1**
ABAZ	**Army Bay**	**5.22**	**5**	P	**Pn**	**01 01 32.9**	**+2.1**
MXZ	**Matakaoa Point**	**5.24**	**37**	P	**Pn**	**01 01 32.5**	**+1.3**
MXZ	**Matakaoa Point**	**5.24**	**37**	P	**Pn**	**01 01 30.0**	**-1.1**
TUZ	**Tuapeka**	**5.35**	**218**	P	**Pn**	**01 01 33.3**	**+0.6**
GRZ	**Great Barrier**	**5.62**	**9**	P	**Pn**	**01 01 37.6**	**+1.2**
MLZ	**Mavora Lakes**	**5.74**	**230**	Pn	**Pn**	**01 01 37.5**	**-0.6**
MLZ	**Mavora Lakes**	**5.74**	**230**	P	**Pn**	**01 01 38.1**	**0.0**
WCZ	**Waipu Caves**	**5.86**	**0**	P	**Pn**	**01 01 42.5**	**+2.7**
SYZ	**Scrubby Hill**	**6.02**	**217**	P	**Pn**	**01 01 42.5**	**+0.7**
WHZ	**Wether Hill Ro**	**6.16**	**226**	Pn	**Pn**	**01 01 42.1**	**-1.6**
DCZ	**Deep Cove**	**6.36**	**233**		**Pn**	**01 01 48.1**	**+1.6**
OUZ	**Omahuta**	**6.61**	**355**	Pn	**Pn**	**01 01 51.3**	**+1.3**
OUZ	**Omahuta**	**6.61**	**355**	P	**Pn**	**01 01 53.1**	**+3.2**
APZ	**The Paps**	**6.77**	**220**	P	**Pn**	**01 01 52.4**	**+0.2**
CTZ	**Chatham Island**	**6.94**	**109**	P	**Pn**	**01 01 54.9**	**+0.4**
DZM	**Mont Dzumac**	**20.77**	**339**	eLR	LR	01 09 49.7	
	comp=Z,412nm,24.3s						
DZM	**Mont Dzumac**	**20.77**	**339**	LR	LR	01 12 21.7	
	comp=Z,288nm,18.1s,baz=206,slow=36						
MSVF	**Nonsavu**	**24.21**	**9**	LR	LR	01 13 57.7	
	comp=Z,336nm,20.4s,baz=172,slow=34						
MSVF	**Nonsavu**	**24.21**	**9**		**P**	**01 05 29.2**	**-0.2**
MSVF					IAmb	IAmb	01 05 36.7
	comp=Z,21nm,1.1s						
STKA	**Stephens Creek**	**27.86**	**280**	LR	LR	01 15 25.7	
	comp=Z,101nm,19.7s,baz=214,slow=33						
CTA	**Charters Tower**	**32.14**	**304**	LR	LR	01 17 47.3	
	comp=Z,126nm,20.2s,baz=88,slow=33						
HNR	**Honiara**	**34.65**	**334**	LR	LR	01 20 03.8	
	comp=Z,2μm,19.8s,baz=112,slow=35						
TBI	**Tubuai**	**35.31**	**70**	*e*LR	LR	01 16 35.4	
	comp=Z,610nm,25.5s						
AS31	**Alice Springs**	**38.10**	**286**	P	**P**	**01 07 31.2**	**-0.4**
ASAR	**Alice Springs**	**38.10**	**286**	P	**P**	**01 07 30.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=130,slow=7.4,SNR=7.0						
ASAR					LR	LR	01 23 15.1
	comp=Z,129nm,18.5s,baz=158,slow=37 comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**38.10**	**286**	P	**P**	**01 07 30.7**	**-0.9**
PPT2	**Papeete2**	**39.14**	**63**	*e*LR	LR	01 17 42.5	
	comp=Z,184nm,27.5s						
WR0	**Warramunga Arr**	**40.02**	**291**	P	**P**	**01 07 47.1**	**-0.6**
WR0					IAmb	IAmb	01 07 57.5
	comp=Z,4.9nm,1.1s						
WB2	**Warramunga Arr**	**40.17**	**290**	P	**P**	**01 07 48.4**	**-0.5**
WB2					IAmb	IAmb	01 08 01.8
	comp=Z,9.1nm,1.2s						
WRA	**Warramunga Arr**	**40.17**	**290**	P	**P**	**01 07 48.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=126,slow=8.4,SNR=17						
WRA					LR	LR	01 24 54.2
	comp=Z,121nm,18.3s,baz=106,slow=37 comp=Z,1.1nm,0.6s						
WRA	**Warramunga Arr**	**40.17**	**290**	P	**P**	**01 07 48.4**	**-0.6**
WB0	**Warramunga Arr**	**40.25**	**291**	P	**P**	**01 07 48.9**	**-0.8**
WB0					IAmb	IAmb	01 08 26.5
	comp=Z,6.9nm,1.2s						
KRVT	**Keravat (AS076**	**42.33**	**326

WACZ	**Wakanui South**	**2.33**	**217**	P		Pn	01 35 03.7	-2.5
WVZ	**Waitaha Valley**	**2.44**	**245**	P		Pn	01 35 07.1	-0.6
WAZ	**Wanganui**	**2.51**	**22**	P		Pn	01 35 10.1	+1.5
DVHZ	**Dannevirke**	**2.54**	**46**	P		Pn	01 35 06.4	-2.7
RPZ	**Rata Peaks**	**2.57**	**230**	P		Pn	01 35 07.4	-2.1
TSZ	**Takapari Road**	**2.62**	**40**	P		Pn	01 35 08.3	-1.8
ARCZ	**Arundel**	**2.66**	**225**	P		Pn	01 35 08.2	-2.4
LREZ	**Lake Rotokare**	**2.67**	**11**	P		Pb	01 35 14.1	-1.3
NMEZ	**Namu Road**	**2.67**	**2**	P		Pb	01 35 15.6	+0.2
KHEZ	**Kahui Hut**	**2.80**	**4**	P		Pb	01 35 15.5	-2.2
GCSZ	**Gaunt Creek Bo**	**2.82**	**243**	P		Pn	01 35 12.2	-0.6
NBEZ	**Newall Road No**	**2.82**	**2**	P		Pb	01 35 16.0	-1.9
NEZ	**North Egmont**	**2.83**	**5**	P		Pb	01 35 16.0	-2.2
PNHZ	**Pukenui**	**2.85**	**41**	P		Pn	01 35 11.1	-2.2
PKE	**Pukeiti**	**2.90**	**3**	P		Pb	01 35 16.9	-2.4
DREZ	**Durham Road**	**2.92**	**7**	P		Pn	01 35 16.3	+2.1
PKVZ	**Pokaka**	**3.04**	**24**	P		Pn	01 35 16.6	+0.6
TMZ	**Timaru**	**3.05**	**220**	P		Pn	01 35 14.1	-2.0
VRZ	**Vera Road**	**3.06**	**15**	P		Pn	01 35 17.6	+1.5
MOVZ	**Moawhango**	**3.08**	**30**	P		Pn	01 35 15.4	-1.0
WNVZ	**Wahianoa**	**3.09**	**27**	P		Pn	01 35 17.5	+0.8
TRVZ	**Turoa**	**3.10**	**27**	P		Pn	01 35 17.2	+0.3
DRZ	**Dome Shelter**	**3.12**	**27**	P		Pb	01 35 23.0	-0.4
WHVZ	**Whangaehu Hut**	**3.13**	**27**	P		Pn	01 35 17.6	+0.3
BHHZ	**Black Hill Sta**	**3.13**	**35**	P		Pn	01 35 15.8	-1.3
FWVZ	**Far West T-bar**	**3.14**	**26**	P		Pn	01 35 17.8	+0.4
TUVZ	**Tukino**	**3.16**	**28**	P		Pn	01 35 17.6	-0.1
NGZ	**Ngauruhoe**	**3.23**	**26**	P		Pn	01 35 18.9	+0.3
SNVZ	**South Ngauruho**	**3.23**	**27**	P		Pn	01 35 18.9	+0.2
FOZ	**Fox Glacier**	**3.25**	**242**	P		Pn	01 35 18.2	-0.4
OTVZ	**Oturere**	**3.26**	**27**	P		Pn	01 35 19.1	+0.1
NNVZ	**North Ngauruho**	**3.27**	**26**	P		Pn	01 35 19.2	0.0
TWVZ	**Taurewa**	**3.27**	**23**	P		Pb	01 35 23.3	-2.4
ETVZ	**East Tongariro**	**3.30**	**27**	P		Pn	01 35 19.4	-0.2
KRVZ	**Karewarewa**	**3.31**	**26**	P		Pb	01 35 25.3	-1.2
TMVZ	**Te Maari**	**3.32**	**27**	P		Pn	01 35 19.9	+0.1
LBZ	**Lake Benmore**	**3.48**	**228**	P		Pn	01 35 20.0	-2.0
HIZ	**Hauiti**	**3.67**	**13**	P		Pn	01 35 26.7	+2.2
ODZ	**Otahua Downs**	**3.72**	**216**	P		Pn	01 35 22.6	-2.7
TLZ	**Tolley Road**	**3.99**	**20**	P		Pb	01 35 33.7	-4.2
JCZ	**Jackson Bay**	**4.15**	**240**	P		Pn	01 35 30.6	-0.7
HHSZ	**Highcliff Hill**	**4.43**	**210**	P		Pn	01 35 32.5	-2.5
EAZ	**Earnscleugh**	**4.51**	**224**	P		Pn	01 35 33.8	-2.3
TOZ	**Tahuroa Road**	**4.55**	**18**	P		Pn	01 35 38.4	+1.8
MARZ	**Manawahe**	**4.67**	**30**	P		Pb	01 35 44.2	-5.2
TUZ	**Tuapeka**	**4.88**	**216**	P		Pn	01 35 38.7	-2.5
AWAZ	**Awhitu Peninsu**	**5.06**	**8**	P		Pn	01 35 45.8	+2.1
MKAZ	**Moumakai**	**5.09**	**13**	P		Pn	01 35 45.4	+1.3
MLZ	**Mavora Lakes**	**5.24**	**229**	P		Pn	01 35 44.3	-1.9
HAZ	**Te Kaha**	**5.32**	**37**	P		Pn	01 35 44.3	-2.8
PKGZ	**Pakihiroa**	**5.34**	**40**	P		Pn	01 35 46.4	-1.2
MBAZ	**Motutapu North**	**5.38**	**10**	P		Pn	01 35 51.6	+3.5
SYZ	**Scrubby Hill**	**5.55**	**215**	P		Pn	01 35 48.4	-1.9
WHZ	**Wether Hill Ro**	**5.66**	**226**	P		Pn	01 35 49.8	-2.1
APZ	**The Paps**	**6.29**	**219**	P		Pn	01 35 58.4	-2.2

*JSN **23** 01:37:17.8±0.4, 17°.99N×76°.57W, h0km±2km, MD3.1*
*SSNC **23** 01:37:20.0±1.5, 18°.20N×76°.60W, h5km, MD2.5, ML2.4, MW3.5*

ISC 23 01:37:17.8±1.3, **18°.14N**±0°.07×**76°.63W**±0°.04, **h18**km±3km, **n14**, σ1§**02**/22, **5C-3D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.12**	**235**	⇑*iP*	**Pg**	**01 37 21.7**	**-0.2**
HOJ	**Hope**	**0.18**	**221**	⇑*iP*	**Pb**	**01 37 21.8**	**-0.1**
STH	**Stony Hill**	**0.19**	**250**	⇑*iP*	**Pg**	**01 37 22.9**	**+0.3**
CMJ	**Castle Mountai**	**0.24**	**91**	*iP*	**Pb**	**01 37 23.0**	**-0.5**
PCJ	**Portland Cotta**	**0.64**	**232**	⇑*iP*	**Pb**	**01 37 29.4**	**-1.1**
MTDJ	**Mount Denham**	**0.87**	**276**	*eP*	**Pg**	**01 37 35.0**	**+0.2**
MTDJ				*eS*	**Sn**	**01 37 47.8**	**+0.4**
MCJ	**Malvern**	**1.03**	**258**	⇑*iP*	**Pn**	**01 37 37.4**	**-0.1**
MCJ				⇓*iS*	**Sg**	**01 37 52.0**	**+0.5**
LMGC	**Las Mercedes**	**1.94**	**349**	*eP*	**Pn**	**01 37 49.5**	**-0.4**
LMGC				*eS*	**Sn**	**01 38 12.9**	**-1.0**
LMGC				IAML		01 38 15.1	
	comp=N,158nm,0.1s						
LMGC				IAML		01 38 15.9	
	comp=E,114nm,0.1s						
RCC	**Rio Carpintero**	**2.04**	**25**	*eP*	**Pn**	**01 37 51.4**	**+0.1**
RCC				*eS*	**Sn**	**01 38 14.4**	**-1.9**
RCC				IAML		01 38 17.3	
	comp=N,8.6nm,0.3s						
RCC				IAML		01 38 18.4	
	comp=E,6.6nm,0.3s						
GTBY	**Guantanamo Bay**	**2.28**	**39**	⇓*eP*	**Pn**	**01 37 54.7**	**+0.1**
GTBY				*eS*	**Sn**	**01 38 20.6**	**-1.6**
HLGC	**Holguin**	**2.79**	**11**	⇓*eP*	**Pn**	**01 38 03.7**	**+2.2**
HLGC				*eS*	**Sn**	**01 38 34.5**	**-0.1**
MOAC	**Moa**	**2.96**	**32**	*eP*	**Pn**	**01 38 05.7**	**+1.8**
MOAC				*eS*	**Sn**	**01 38 39.4**	**+0.5**
MASC	**Masc**	**3.04**	**48**	*eP*	**Pn**	**01 38 05.9**	**+1.0**
MASC				*eS*	**Sn**	**01 38 40.8**	**0.0**
CCCC	**Cccc**	**3.23**	**341**	*eP*	**Pn**	**01 38 08.1**	**+0.6**

*KRNET **23** 01:41:39.2±0.1, 39°.29N×73°.53E, mb2.9*

ISC 23 01:41:42.0±1.9, **39°.45N**±0°.08×**73°.31E**±0°.07, **h10**km, **n8, σ1§85**/16, **14C-4D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.15**	**340**	⇑*iP*	**Pn**	**01 42 04.7**	**+0.5**
	baz=35						
OHH				⇑*iS*	**Sn**	**01 42 23.4**	**+3.3**
	baz=35						
DRK	**Karamyk**	**1.17**	**272**	⇑*eP*	**Pn**	**01 42 04.6**	**-0.1**
	baz=79						
DRK				⇑*eS*	**Sn**	**01 42 23.0**	**+2.2**
	baz=79						
BTK	**Batken**	**2.01**	**288**	⇑*iP*	**Pb**	**01 42 18.9**	**+0.1**
	baz=91						
BTK				⇑*iS*	**Sg**	**01 42 48.2**	**+1.5**
	baz=91						
GAR	**Garm**	**2.37**	**260**	⇑*eP*	**Pb**	**01 42 22.9**	**-1.9**
	baz=64						
GAR				⇑*eS*	**Sb**	**01 42 54.7**	**+0.6**
	baz=64						
ARLS	**Aral**	**2.53**	**17**	⇑*iP*	**Pn**	**01 42 24.7**	**+1.4**
	baz=13						
ARLS				⇑*iS*	**Sb**	**01 42 58.2**	**-0.7**
	baz=13						
TRKS	**Terek-Say**	**2.66**	**322**	⇓*eP*	**Pb**	**01 42 27.3**	**-2.5**
	baz=21						
TRKS				⇓*eS*	**Sb**	**01 43 02.4**	**-0.1**
	baz=21						
TKM2	**Tokmak 2**	**3.88**	**26**	⇓Pg	**Pn**	**01 42 43.4**	**+1.6**
	2.1nm,0.9s						
TKM2				⇑Lg	Lg	01 43 38.9	
	2.1nm,0.7s						
KK31	**Karatay Array**	**4.22**	**331**	⇑Pn	**Pn**	**01 42 48.4**	**+2.0**
	1.5nm,0.6s						
KK31				⇓Pg	**Pg**	**01 43 00.5**	**-2.3**
	0.6nm,0.5s,baz=147,slow=16						
KK31				⇑Sn	**Sb**	**01 43 45.9**	**-1.3**
	0.7nm,0.5s						
KK31				⇑Lg	Lg	01 44 03.5	
	1.1nm,0.5s,baz=144,slow=29						

TRN 23 01:44:48.9, 11°.23N×61°.85W, h65km, **MD3.6, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.73**	**143**	*eP*	Pn	01 45 03.5	-0.3
TRN				*eS*	Sn	01 45 14.8	0.0
GRFF	**Grenada Fort F**	**0.82**	**8**	*eP*	Pn	01 45 04.7	-0.2
GRFF				*eS*	Sn	01 45 17.4	+0.7
GRGR	**Grenville**	**0.92**	**12**	*eP*	Pn	01 45 05.7	-0.4
GRGR				*eS*	Sn	01 45 19.1	+0.4
TPP	**Pointe-a-Pierr**	**0.99**	**157**	*eP*	Pn	01 45 07.8	+0.7
TPR	**Prospect**	**1.06**	**92**	*eP*	Pn	01 45 08.7	+0.8
TBH	**Brigand Hill**	**1.07**	**134**	*eP*	Pn	01 45 07.9	-0.1
TOSP	**Speyside**	**1.29**	**87**	*eP*	Pn	01 45 10.9	-0.1
TOSP				*eS*	Sn	01 45 28.1	+0.6
GCMP	**Grenada, Carri**	**1.31**	**18**	*eP*	Pn	01 45 10.9	-0.3
GCMP				*eS*	Sn	01 45 27.6	-0.4
SVB	**Belmont**	**2.11**	**16**	*eP*	Pn	01 45 21.6	-0.3
SVB				*eS*	Sn	01 45 47.5	+0.3
MCLT	**Moule a Chique**	**2.62**	**20**	*eP*	Pn	01 45 29.2	+0.4
MCLT				*eS*	Sn	01 45 59.3	-0.2
SLBI	**Saint Lucia, B**	**2.90**	**17**	*eP*	Pn	01 45 33.3	+0.6
SLBI				*eS*	Sn	01 46 05.9	-0.5
MPOM	**Morne Pois Mar**	**3.34**	**17**	*eP*	Pn	01 45 38.7	+0.1
MPOM				*eS*	Sn	01 46 16.1	-1.0
BIM	**Bigot**	**3.35**	**13**	*eP*	Pn	01 45 38.6	-0.3
BIM				*eS*	Sn	01 46 16.3	-1.2
DSLB	**Salisbury**	**4.20**	**6**	*eP*	Pn	01 45 51.0	+0.5
BAUV	**El Baul**	**6.50**	**250**	*eP*	Pn	01 46 21.8	-0.2
BAUV	**El Baul**	**6.50**	**250**	*eS*	Sn	01 47 32.5	-2.4

RSNC 23 01:54:58.3±1.0, **6°.81N×73°.15W, h150**km±4km, **ML3.2, Mw3.7, 4C-4D, Fault plane solution: NP1:**ϕs78.00000°, δ10.00000°, λ51.00000°., **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**188**	⇓*eP*	Pn	01 55 18.3	-0.7
BARC				*eS*	Sn	01 55 33.8	-0.9
BRRC	**Barranca, Sant**	**0.63**	**298**	⇑*eP*	Pn	01 55 20.1	-0.2
BRRC				*eS*	Sn	01 55 37.5	+0.3
BRRC				IAML		01 55 41.4	
	comp=Z,265nm,0.3s						
PAMC	**Pamplona, Colo**	**0.69**	**40**	⇑*eP*	Pn	01 55 21.1	-0.2
PAMC				*eS*	Sn	01 55 38.3	-0.5
PAMC				IAML		01 55 40.2	
	comp=Z,273nm,0.8s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*eP*	Pn	01 55 24.8	-1.3
PTBC				*eS*	Sn	01 55 46.0	-1.3
PTBC				IAML		01 55 49.2	
	comp=Z,148nm,0.2s						
TAMC	**Tame, Arauca**	**1.40**	**105**	⇑*eP*	Pn	01 55 26.5	-0.4
TAMC				*eS*	Sn	01 55 48.3	-0.4
TAMC				IAML		01 55 49.0	
	comp=Z,116nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*eP*	Pn	01 55 30.7	-0.7
ZARC				*eS*	Sn	01 55 56.3	-0.6
ZARC				IAML		01 56 02.8	
	comp=Z,177nm,0.3s						
NORC	**Norcasia**	**2.11**	**234**	*eP*	Pn	01 55 34.7	-0.1
NORC				*eS*	Sn	01 56 01.9	-1.0
NORC				IAML		01 56 06.7	
	comp=Z,176nm,0.4s						
CHIC	**Chingaza**	**2.25**	**195**	*eP*	Pn	01 55 36.0	-0.7
CHIC				*eS*	Sn	01 56 05.4	-0.9
CHIC				IAML		01 56 11.3	
	comp=Z,130nm,0.4s						
ROSC	**El Rosal**	**2.28**	**211**	⇓*eP*	Pn	01 55 37.9	+0.7
ROSC				*eS*	Sn	01 56 07.1	+0.1
ROSC				IAML		01 56 13.3	
	comp=Z,314nm,0.5s						
UREC	**San Jos de Ur**	**2.54**	**292**	*eP*	Pn	01 55 37.9	-2.1
UREC				*eS*	Sn	01 56 09.6	-2.5
UREC				IAML		01 56 19.8	
	comp=Z,82nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.74**	**352**	*eP*	Pn	01 55 43.3	+0.9
LL1C				*eS*	Sn	01 56 18.6	+2.0
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓*eP*	Pn	01 55 41.2	-1.9
PTGC				*eS*	Sn	01 56 14.3	-3.3
PTGC				IAML		01 56 16.6	
	comp=Z,62nm,0.6s						
NIZA	**Niza - Manizal**	**2.89**	**233**	*eP*	Pn	01 55 48.3	+3.7
NIZA				*eS*	Sn	01 56 21.2	+0.8
CBOC	**Ciudad Bolivar**	**3.00**	**252**	⇓*eP*	Pn	01 55 45.8	0.0
CBOC				*eS*	Sn	01 56 23.0	+0.5
CBOC				IAML		01 56 33.3	
	comp=Z,42nm,0.5s						
DBBC	**Dabeiba**	**3.04**	**274**	*eP*	Pn	01 55 46.2	-0.1
DBBC				*eS*	Sn	01 56 21.7	-1.8
ARGC	**Ariguani, Magd**	**3.21**	**340**	*eP*	Pn	01 55 48.6	+0.1
ARGC				*eS*	Sn	01 56 26.3	-0.9
ARGC				IAML		01 56 36.8	
	comp=Z,39nm,0.5s						
ANIL	**Santa Ana**	**3.22**	**224**	*eP*	Pn	01 55 49.6	+0.8
ANIL				*eS*	Sn	01 56 29.1	+1.3
PRAC	**Prado**	**3.53**	**209**	*eP*	Pn	01 55 51.4	-1.1
PRAC				*eS*	Sn	01 56 33.8	-0.8
PRAC				IAML		01 56 40.4	
	comp=Z,124nm,0.3s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	⇑*eP*	Pn	01 55 52.4	-0.6
ORTC				*eS*	Sn	01 56 35.8	+0.5
ORTC				IAML		01 56 41.6	
	comp=Z,103nm,0.7s						
PLMC	**San Jos del P**	**3.65**	**239**	*eP*	Pn	01 55 53.6	-0.5
PLMC				*eS*	Sn	01 56 36.9	-0.4
PLMC				IAML		01 56 48.6	
	comp=Z,37nm,0.4s						
SJCC	**San Jacinto, C**	**3.66**	**327**	*eP*	Pn	01 55 52.2	-2.1
SJCC				*eS*	Sn	01 56 32.8	-4.9
SJCC				IAML		01 56 38.8	
	comp=Z,40nm,0.3s						
LCBC	**Los crdobas,**	**3.78**	**303**	*eS*	Sn	01 56 37.1	-3.2
LCBC				IAML		01 56 44.6	
	comp=Z,37nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	*eP*	Pn	01 55 58.5	-2.7
CRJC				*eS*	Sn	01 56 46.9	-3.2
CRJC				IAML		01 56 55.2	
	comp=Z,44nm,0.3s						
YOTC	**Yotoco, Valle**	**4.25**	**229**	*eP*	Pn	01 56 00.7	-1.2
GUVC	**San Jose del G**	**4.27**	**173**	*eP*	Pn	01 56 00.6	-1.6
GUVC				*eS*	Sn	01 56 49.2	-2.7
GUVC				IAML		01 56 55.1	
	comp=Z,31nm,0.2s						
PTAC	**Punta Ardita,**	**4.64**	**274**	*eP*	Pn	01 56 05.8	-1.2
URIC	**Uribia, Colomb**	**4.99**	**13**	*eP*	Pn	01 56 08.7	-2.9
URIC				*eS*	Sn	01 57 04.0	-4.9
URIC				IAML		01 57 05.5	
	comp=Z,7.6nm,0.3s						
GARC	**Garzon, Huila**	**5.16**	**207**	*eP*	Pn	01 56 12.3	-1.7
FLOC	**Florencia**	**5.76**	**206**	*eP*	Pn	01 56 21.3	-0.6
BBAC	**Balboa, Cauca**	**6.27**	**221**	*eP*	Pn	01 56 28.8	-0.1
BBAC				*eS*	Sn	01 57 38.0	-1.8
BBAC				IAML		01 57 40.2	
	comp=Z,4.0nm,0.5s						

*MOS **23** 02:06:11.9±1.1, 44°.85N×148°.20E, h129km, mb4.3/20, Error ellipse: s-maj=8.9km s-min=7.5km az=65.0*
*IDC **23** 02:06:12.2±3.1, 44°.85N×148°.21E, h116km±27km, mb3.7/14, mbtmp4.0/18, MS2.9/2, Error ellipse: s-maj=25.4km s-min=13.1km az=171.0*
*SKHL **23** 02:06:12.8±0.1, 44°.80N×148°.20E, h125km±5km, mb5.0/11, msh5.8/7*
*JMA **23** 02:06:13.8±0.4, 44°.N±2°×14°.8E±°, h112km, MV4.5/25, SE OFF ETOROFU*
*NEIC **23** 02:06:14.4±1.3, 44°.9N±0°.1×148°.2E±0°.1, h128km±9km, mb4.4/66, Error ellipse: s-maj=17.5km s-min=12.7km az=165.0*

ISC 23 02:06:11.7±0.7, **44°.72N**±0°.05×**148°.30E**±0°.06, **h117**km±5km, **n188**, σ1§**33**/196, **mb4.3**/63, **5C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.60**	**330**	*iP*	**Pn**	**02 06 31.4**	**+1.5**
KUR				AMB	AMB	02 06 32.3	
	1µm,0.4s						
KUR				*iS*	**Sn**	**02 06 45.3**	**+1.6**
KUR				A	A	02 06 47.4	
	2µm,0.3s						
KUR				A	A	02 06 47.4	
	820nm,0.3s						
KUR	**Kuril'sk**	**0.60**	**330**	*dPN*	**Pn**	**02 06 31.4**	**+1.5**
KUR				*iS*	**Sn**	**02 06 45.3**	**+1.6**
KUR				pmax	pmax		
	comp=Z,1µm,0.4s						
KUR				smax	smax		
	comp=N,2µm,0.5s						
KUR				smax	smax		
	comp=E,816nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.87**	**249**	*iP*	**Pn**	**02 06 44.9**	**+1.5**
YUK				AMB	AMB	02 06 45.8	
	comp=E,2µm,0.3s						
YUK				*iS*	**Sn**	**02 07 09.1**	**+1.5**
YUK				A	A	02 07 11.6	
	comp=E,2µm,0.4s						
YUK				A	A	02 07 11.6	
	comp=E,3µm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.87**	**249**	*dPN*	**Pn**	**02 06 45.2**	**+1.8**
YUK				*iS*	**Sn**	**02 07 09.1**	**+1.5**
YUK				pmax	pmax		
	comp=Z,2µm,0.2s						
YUK				pmax	pmax		
	comp=N,299nm,0.1s						
YUK				pmax	pmax		
	comp=E,261nm,0.1s						
YUK				smax	smax		
	comp=N,2µm,0.3s						
YUK				smax	smax		
	comp=E,3µm,0.4s						
RUSJ	**Misakicho**	**2.27**	**255**	⇓*iPN*	**Pn**	**02 06 51.0**	**+2.6**
RUSJ				*eS*	**Sn**	**02 07 21.6**	**+5.2**
NEM2	**Nemuro 2**	**2.28**	**235**	*eP*	**Pn**	**02 06 49.4**	**+0.8**
NEM2				*eS*	**Sn**	**02 07 16.0**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.29**	**235**	*iP*	**Pn**	**02 06 49.3**	**+0.7**
NMR				AMB	AMB	02 06 50.0	
	comp=E,120nm,0.2s						
NMR				*eS*	**Sn**	**02 07 16.4**	**-0.5**
NMR				A	A	02 07 17.2	
	comp=E,280nm,0.2s						
NMR				A	A	02 07 17.2	
	comp=E,590nm,0.2s						
NMR	**Nemuro--Hokkai**	**2.29**	**235**	⇓*iPN*	**Pn**	**02 06 49.3**	**+0.7**
NMR				*eS*	**Sn**	**02 07 16.0**	**-0.9**
JRA	**Rausu**	**2.41**	**252**	*eP*	**Pn**	**02 06 52.3**	**+2.2**
JRA				*eS*	**Sn**	**02 07 22.0**	**+2.4**
JNSB	**Nemuroshibetsu**	**2.54**	**249**	*eP*	**Pn**	**02 06 54.2**	**+2.3**
JNSB				*eS*	**Sn**	**02 07 25.1**	**+2.3**
JKHN	**Kushirohamanak**	**2.79**	**235**	*eP*	**Pn**	**02 06 56.1**	**+0.9**
JKHN				*eS*	**Sn**	**02 07 27.8**	**-0.8**
JNK	**Nakash**	**2.81**	**248**	*eP*	**Pn**	**02 06 57.4**	**+2.0**
JNK				*eS*	**Sn**	**02 07 30.1**	**+1.1**
AKK	**Akkeshi**	**3.02**	**237**	*eP*	**Pn**	**02 06 58.8**	**+0.7**
AKK				AMB	AMB	02 06 59.5	
	comp=E,40nm,0.3s						
AKK				*eS*	**Sn**	**02 07 32.7**	**-1.2**
AKK				A	A	02 07 36.7	
	comp=E,280nm,0.2s						
AKK				A	A	02 07 36.7	
	comp=E,490nm,0.2s						
JAK	**Akkeshi**	**3.12**	**238**	*eP*	**Pn**	**02 07 00.3**	**+0.9**
JAK				*eS*	**Sn**	**02 07 35.3**	**-1.0**
JTKR	**Abashiri--Toko**	**3.23**	**258**	*eP*	**Pn**	**02 07 03.0**	**+2.0**
JAR	**Ashorobuto**	**3.56**	**248**	*eP*	**Pn**	**02 07 07.8**	**+2.5**
JAR				*eS*	**Sn**	**02 07 48.7**	**+2.0**
JKA	**Kamikawa-asahi**	**4.12**	**264**		**Pn**	**02 07 15.3**	**+2.5**
JKA	**Kamikawa-asahi**	**4.12**	**264**	*eP*	**Pn**	**02 07 15.3**	**+2.5**
ASAJ	**Asahikawa**	**4.13**	**264**	PN	**Pn**	**02 07 15.3**	**+2.5**
JCH	**Churui**	**4.15**	**241**	*eP*	**Pn**	**02 07 14.6**	**+1.5**
JCH				*eS*	**Sn**	**02 07 59.3**	**-1.5**
YSS	**Yuzh-Sakhalins**	**4.47**	**302**	Pn	**Pn**	**02 07 19.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.47**	**302**	*eP*	**Pn**	**02 07 17.9**	**+0.5**
YSS				AMB	AMB	02 07 20.7	
	comp=E,40nm,0.7s						
YSS				*eS*	**Sn**	**02 08 08.4**	**-0.1**
YSS				A	A	02 08 12.8	
	comp=E,40nm,0.8s						
YSS				A	A	02 08 12.8	
	comp=E,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.47**	**302**	*ePN*	**Pn**	**02 07 18.5**	**+1.1**
YSS				*eS*	**Sn**	**02 08 09.5**	**+1.0**
YSS				pmax	pmax		
	comp=Z,40nm,1.2s						
YSS				smax	smax		
	comp=N,40nm,1.1s						
ERM	**Erimo**	**4.62**	**236**	Pn	**Pn**	**02 07 20.9**	**+1.5**
ERM	**Erimo**	**4.62**	**236**	*ePN*	**Pn**	**02 07 20.0**	**+0.6**
ERM				pmax	pmax		
	comp=Z,184nm,1.7s						
JNBK	**Urakawa-nobuka**	**4.71**	**241**	*eP*	**Pn**	**02 07 21.9**	**+1.2**
JOT	**Ohata**	**6.27**	**240**	*eP*	**Pn**	**02 07 42.9**	**+1.2**
JTM	**Tenmabayashi**	**6.61**	**236**	Pn	**Pn**	**02 07 49.3**	**+3.0**
JANG	**Nango**	**6.62**	**231**	*eP*	**Pn**	**02 07 45.5**	**-1.0**
JANG				*eS*	Sn	02 08 53.7	-6.9
TYV	**Tymovskoe**	**7.22**	**330**	*eP*	**Pn**	**02 07 55.5**	**+0.9**
TYV				AMB	AMB	02 07 58.5	
	comp=Z,20nm,0.6s						
SKR	**Severo-Kuril's**	**7.96**	**39**	*eP*	**Pn**	**02 08 05.7**	**+1.2**
SKR				AMB	AMB	02 08 11.0	
	comp=Z,30nm,0.8s						
TEY	**Ternei**	**8.31**	**276**	*eP*	**Pn**	**02 08 08.9**	**-0.4**
TEY				AMB	AMB	02 08 17.7	
PEA0B	**Petropavlovsk-**	**10.42**	**33**	Pn	**Pn**	**02 08 37.3**	**-0.5**
PEA0B	**Petropavlovsk-**	**10.42**	**33**	PN	**Pn**	**02 08 37.3**	**-0.5**
PETK	**Petropavlovsk-**	**10.42**	**33**	P	**Pn**	**02 08 36.1**	**-1.6**
	comp=Z,3.1nm,0.7s,baz=182,slow=11,SNR=11						
PETK	**Petropavlovsk-**	**10.42**	**33**	Pn	**Pn**	**02 08 36.2**	**-1.6**
MAJO	**Matsushiro**	**11.19**	**227**	*i* PN	**Pn**	**02 08 48.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.67**	**273**	P	**Pn**	**02 08 54.5**	**0.0**
	comp=Z,4.3nm,0.6s,baz=80,slow=14,SNR=6.1						
KLR	**Kul'dur**	**12.16**	**298**	P	**Pn**	**02 09 01.9**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=121,slow=19,SNR=2.3						
KLR	**Kul'dur**	**12.16**	**298**	*eP*	**Pn**	**02 09 01.2**	**+0.2**
KLR	**Kul'dur**	**12.16**	**298**	*i* PN	**Pn**	**02 09 01.2**	**+0.2**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZEA	**

TRF				IAmb	IAmb	02 13 45.1	
	comp=Z,7.7nm,1.2s						
NRIK	**Noril'sk**	**38.81**	**330**	*i* P	**P**	**02 13 21.2**	**-3.4**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
O22K	**Cooper Landing**	**39.19**	**44**	P	**P**	**02 13 28.1**	**+0.2**
MCK	**McKinley**	**39.36**	**39**	P	**P**	**02 13 30.0**	**+0.7**
MCK				IAmb	IAmb	02 13 30.7	
	comp=Z,3.4nm,0.7s						
MCK	**McKinley**	**39.36**	**39**	P	**P**	**02 13 30.0**	**+0.7**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GHO	**Glory Hole Cre**	**39.47**	**42**	P	**P**	**02 13 31.0**	**+0.7**
MDM	**Murphy Dome**	**39.64**	**37**	P	**P**	**02 13 32.4**	**+0.8**
MDM				IAmb	IAmb	02 14 15.8	
	comp=Z,6.1nm,1.4s						
SML	**Sawmill**	**39.75**	**42**	P	**P**	**02 13 32.8**	**+0.2**
PWL	**Port Wells**	**39.84**	**43**	P	**P**	**02 13 33.0**	**-0.3**
PWL				IAmb	IAmb	02 13 49.8	
	comp=Z,12nm,1.1s						
DHY	**Denali Highway**	**40.10**	**40**	P	**P**	**02 13 36.3**	**+0.7**
DHY				IAmb	IAmb	02 13 47.8	
	comp=Z,12nm,1.3s						
IL31		**40.22**	**37**	P	**P**	**02 13 36.7**	**+0.3**
ILAR	**Eielson Array**	**40.22**	**37**	P	**P**	**02 13 37.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=265,slow=7.7,SNR=13						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**40.22**	**37**	P	**P**	**02 13 36.7**	**+0.3**
SCM	**Sheep Creek Mo**	**40.22**	**41**	P	**P**	**02 13 36.7**	**+0.2**
SCM	**Sheep Creek Mo**	**40.22**	**41**	P	**P**	**02 13 36.7**	**+0.2**
SCM				pmax	pmax		
	comp=Z,25nm,1.5s						
M24K	**Tolsona, Glenn**	**40.74**	**41**	P	**P**	**02 13 41.3**	**+0.6**
KLU	**Klutina**	**40.93**	**42**	P	**P**	**02 13 43.0**	**+0.7**
KLU				IAmb	IAmb	02 13 44.5	
	comp=Z,9.1nm,1.0s						
BMAR	**Burnt Mountain**	**41.08**	**33**	P	**P**	**02 13 44.1**	**+0.7**
ZALV	**Zalesovo Beam**	**41.08**	**306**	P	**P**	**02 13 42.4**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=51,slow=7.6,SNR=1.9						
	comp=Z,0.5nm,0.4s						
SCRK	**Sand Creek**	**41.54**	**38**	P	**P**	**02 13 47.0**	**-0.3**
L26K	**Log Cabin Wild**	**41.93**	**39**	P	**P**	**02 13 52.1**	**+1.7**
L26K				IAmb	IAmb	02 13 53.1	
	comp=Z,5.3nm,0.7s						
VRDI	**Verde Repeater**	**42.14**	**42**	P	**P**	**02 13 53.1**	**+0.7**
M26K	**Nabesna, AK**	**42.17**	**40**	P	**P**	**02 13 54.0**	**+1.5**
M26K				IAmb	IAmb	02 13 55.0	
	comp=Z,8.0nm,0.7s						
K27K	**Chicken**	**42.37**	**38**	P	**P**	**02 13 54.9**	**+1.0**
K27K				IAmb	IAmb	02 13 56.0	
	comp=Z,7.0nm,0.9s						
L27K	**Beaver Creek,**	**42.61**	**39**	P	**P**	**02 13 57.5**	**+1.5**
BCAR	**Beaver Creek A**	**42.63**	**39**	P	**P**	**02 13 57.8**	**+1.6**
M27K	**Edge Creek, AK**	**42.70**	**40**	P	**P**	**02 13 58.1**	**+1.3**
M27K				IAmb	IAmb	02 13 59.3	
	comp=Z,8.1nm,0.8s						
MK31	**Makanchi Array**	**44.87**	**297**	P	**P**	**02 14 13.2**	**-1.0**
MK31				IAmb	IAmb	02 14 15.2	
	comp=Z,3.9nm,0.8s						
MK31	**Makanchi Array**	**44.87**	**297**	*c i* P	**P**	**02 14 14.2**	**0.0**
MKAR	**Makanchi Array**	**44.87**	**297**	P	**P**	**02 14 13.4**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=74,slow=8.4,SNR=26						
	comp=Z,3.2nm,0.7s						
MKAR	**Makanchi Array**	**44.87**	**297**	P	**P**	**02 14 12.8**	**-1.4**
MKAR	**Makanchi Array**	**44.87**	**297**	*e*P	**P**	**02 14 14.2**	**0.0**
MKAR	**Makanchi Array**	**44.87**	**297**	*e*P	**P**	**02 14 14.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
M30M	**Minto, Yukon**	**44.97**	**39**	P	**P**	**02 14 16.8**	**+1.9**
M30M				IAmb	IAmb	02 14 54.1	
	comp=Z,9.3nm,1.5s						
MAKZ	**Makanchi**	**45.06**	**297**	P	**P**	**02 14 16.0**	**+0.2**
MAKZ	**Makanchi**	**45.06**	**297**	P	**P**	**02 14 16.0**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**45.15**	**31**	P	**P**	**02 14 16.6**	**+0.5**
INK	**Inuvik**	**45.15**	**31**	P	**P**	**02 14 16.6**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**45.68**	**304**	*e*P	**P**	**02 14 18.9**	**-1.6**
KURK	**Kurchatov**	**45.68**	**304**	*i* P	**P**	**02 14 18.9**	**-1.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
M31M	**Drury Creek, Y**	**46.15**	**39**	P	**P**	**02 14 25.6**	**+1.5**
M31M				IAmb	IAmb	02 14 26.6	
	comp=Z,3.4nm,0.6s						
FARO	**Faro, Yukon**	**46.61**	**39**	P	**P**	**02 14 29.1**	**+1.4**
FARO				IAmb	IAmb	02 14 29.9	
	comp=Z,4.9nm,0.9s						
AAK	**Ala-Archa**	**51.68**	**295**	*e*P	**P**	**02 15 07.1**	**+0.4**
AAK	**Ala-Archa**	**51.68**	**295**	*ce*P	**P**	**02 15 07.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**53.99**	**298**	P	**P**	**02 15 23.9**	**+0.4**
KK31	**Karatay Array**	**53.99**	**298**	P	**P**	**02 15 23.9**	**+0.4**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	**Karatay Array**	**53.99**	**298**	P	**P**	**02 15 23.9**	**+0.4**
KKAR	**Karatay Array**	**53.99**	**298**	P	**P**	**02 15 23.8**	**+0.4**
KKAR	**Karatay Array**	**53.99**	**298**	P	**P**	**02 15 23.9**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU	**Arti**	**54.20**	**317**	*d* iP	**P**	**02 15 22.4**	**-2.4**
ARU				S	**S**	**02 22 50.5**	**-2.1**
ARU				SS	**SKiKP**	**02 26 27.7**	**+4.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.3s						
YKA	**Yellowknife Ar**	**54.54**	**34**	P	**P**	**02 15 27.0**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=299,slow=7.2,SNR=8.8						
	comp=Z,1.7nm,0.6s						
YKA	**Yellowknife Ar**	**54.54**	**34**	*e*P	**P**	**02 15 27.9**	**+0.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**57.10**	**309**	P	**P**	**02 15 44.7**	**-0.9**
ABKAR	**Akbulak array**	**57.10**	**309**	P	**P**	**02 15 45.1**	**-0.4**
ABKAR				IAmb	IAmb	02 15 46.2	
	comp=Z,2.5nm,0.5s						
CHGR	**Chuyangaron**	**57.22**	**294**	P	**P**	**02 15 46.6**	**-0.2**
CHGR	**Chuyangaron**	**57.22**	**294**	P	**P**	**02 15 46.6**	**-0.2**
CHGR				pmax	pmax		
	comp=Z,13nm,1.4s						
NIL	**Nilore**	**57.30**	**287**	P	**P**	**02 15 47.7**	**+0.4**
NIL	**Nilore**	**57.30**	**287**	P	**P**	**02 15 47.7**	**+0.4**
NIL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
B08A	**Colville Reser**	**59.81**	**50**	P	**P**	**02 16 05.2**	**+0.7**
B08A				IAmb	IAmb	02 16 06.2	
	comp=Z,2.4nm,0.8s						
NEW	**Newport**	**61.08**	**50**	P	**P**	**02 16 14.1**	**+1.0**
NEW				IAmb	IAmb	02 16 15.3	
	comp=Z,3.1nm,0.8s						
NEW	**Newport**	**61.08**	**50**	P	**P**	**02 16 14.1**	**+1.0**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLID	**Pearl Lake**	**63.59**	**52**	P	**P**	**02 16 30.9**	**+0.7**
PLID				IAmb	IAmb	02 16 31.8	
	comp=Z,5.4nm,1.2s						
FIA1	**FINESS Array S**	**64.38**	**333**	P	**P**	**02 16 33.1**	**-1.6**
FINES	**FINESS Array B**	**64.39**	**333**	P	**P**	**02 16 33.6**	**-1.1**
	comp=Z,3.4nm,0.5s,baz=38,slow=7.0,SNR=40						
	comp=Z,3.4nm,0.5s						
FINES	**FINESS Array B**	**64.39**	**333**	P	**P**	**02 16 33.4**	**-1.3**
GEYT	**Alibeck**	**64.69**	**299**	P	**P**	**02 16 37.9**	**+0.7**
HRY	**Holter Researc**	**64.87**	**48**	P	**P**	**02 16 39.7**	**+1.4**
LRM	**Limekiln Ridge**	**65.10**	**50**	P	**P**	**02 16 40.9**	**+0.9**
WRA	**Warramunga Arr**	**65.60**	**194**	P	**P**	**02 16 43.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=12,slow=6.7,SNR=2.5						
	comp=Z,0.3nm,0.6s						
BOZ	**Bozeman (W)**	**65.69**	**49**	P	**P**	**02 16 44.5**	**+0.9**
BOZ				IAmb	IAmb	02 16 45.6	
	comp=Z,3.9nm,0.6s						
BOZ	**Bozeman (W)**	**65.69**	**49**	P	**P**	**02 16 44.5**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KVN	**Kaiserville**	**66.10**	**58**	P	**P**	**02 16 47.3**	**+0.8**
KVN	**Kaiserville**	**66.10**	**58**	P	**P**	**02 16 47.3**	**+0.8**
KVN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**66.37**	**59**	P	**P**	**02 16 48.7**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=300,slow=7.0,SNR=13						
	comp=Z,1.4nm,0.6s						
NVAR	**Mina Array Bea**	**66.37**	**59**	P	**P**	**02 16 49.8**	**+1.6**
DSP	**Deep Springs**	**67.24**	**60**	P	**P**	**02 16 55.3**	**+1.8**
FXWY	**Fox Creek**	**67.28**	**51**	P	**P**	**02 16 55.4**	**+1.5**
GRAC	**Grapevine Rang**	**67.85**	**60**	P	**P**	**02 16 58.7**	**+1.3**
GRAC				IAmb	IAmb	02 16 59.6	
	comp=Z,4.4nm,0.6s						
R11A	**Troy Canyon, C**	**68.07**	**57**	P	**P**	**02 16 59.8**	**+0.9**
BW06	**Boulder Array**	**68.66**	**51**	P	**P**	**02 17 02.9**	**+0.4**
BW06				IAmb	IAmb	02 17 04.1	
	comp=Z,11nm,1.5s						
PDAR	**Pinedale Array**	**68.66**	**51**	P	**P**	**02 17 02.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=277,slow=2.0,SNR=12						
	comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**68.66**	**51**	P	**P**	**02 17 03.1**	**+0.5**
NC303	**NORSAR Array S**	**68.80**	**339**	P	**P**	**02 17 02.0**	**-0.8**
GWY	**Greenwater Val**	**68.80**	**60**	P	**P**	**02 17 04.5**	**+1.0**
QSM	**Queen of Sheba**	**68.82**	**60**	P	**P**	**02 17 04.2**	**+0.8**
QSM				IAmb	IAmb	02 17 05.3	
	comp=Z,6.4nm,1.4s						
NB2	**NORSAR Subarra**	**68.99**	**339**	P	**P**	**02 17 03.2**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**68.99**	**339**	P	**P**	**02 17 02.9**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=32,slow=6.6,SNR=14						
	comp=Z,0.6nm,0.4s						
NOA	**NORSAR Array B**	**68.99**	**339**	P	**P**	**02 17 02.9**	**-1.2**
NOA	**NORSAR Array B**	**68.99**	**339**	*e*P	**P**	**02 17 03.6**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KBZ	**Khabaz**	**69.77**	**312**	P	**P**	**02 17 10.7**	**+1.7**
	comp=Z,3.5nm,0.8s,baz=46,slow=3.3,SNR=9.7						
	comp=Z,3.5nm,0.8s						
KBZ	**Khabaz**	**69.77**	**312**	P	**P**	**02 17 10.7**	**+1.7**
KBZ	**Khabaz**	**69.77**	**312**	*e*P	**P**	**02 17 10.0**	**+1.0**
KBZ	**Khabaz**	**69.77**	**312**	*i* P	**P**	**02 17 10.0**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MTPU	**Mount Pierson**	**70.29**	**56**	P	**P**	**02 17 14.7**	**+1.9**
AKASG	**Malin Array Be**	**71.28**	**324**	P	**P**	**02 17 17.7**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=38,slow=6.8,SNR=9.0						
	comp=Z,2.0nm,0.6s						
AKBB	**Malin Array Si**	**71.28**	**324**	*ce*P	**P**	**02 17 16.4**	**-1.7**
AKBB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PV13	**Radium Mtn., P**	**72.17**	**54**	P	**P**	**02 17 24.9**	**+0.9**
PV13				IAmb	IAmb	02 17 25.8	
	comp=Z,3.0nm,0.6s						
ECSD	**EROS Data Cent**	**74.70**	**43**	P	**P**	**02 17 38.2**	**-0.2**
ECSD				IAmb	IAmb	02 17 39.1	
	comp=Z,4.8nm,1.0s						
BUR08	**Bucovina Ar. S**	**75.32**	**324**	P	**P**	**02 17 42.5**	**+0.5**
BURAR	**Bucovina Array**	**75.34**	**324**	P	**P**	**02 17 42.3**	**+0.2**
CLL	**Collm**	**76.83**	**333**	*e*(pP)	pP	02 18 20.0	+0.1
GERES	**GERESS Array B**	**78.71**	**331**	P	**P**	**02 18 01.2**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=34,slow=7.1,SNR=4.5						
	comp=Z,0.3nm,0.4s						
P38A	**Dawn**	**79.31**	**44**	P	**P**	**02 18 04.8**	**+0.5**
P38A				IAmb	IAmb	02 18 05.0	
	comp=Z,3.2nm,0.7s						
TX31	**Lajitas Ar. Si**	**81.43**	**57**	P	**P**	**02 18 16.8**	**+0.9**
TX31				IAmb	IAmb	02 18 17.7	
	comp=Z,6.3nm,0.6s						
TX32	**Lajitas Array**	**81.43**	**57**	P	**P**	**02 18 16.6**	**+0.7**
TX32				IAmb	IAmb	02 18 17.3	
	comp=Z,7.9nm,1.5s						
TXAR	**Lajitas Array**	**81.43**	**57**	P	**P**	**02 18 17.0**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=297,slow=3.9,SNR=30						
	comp=Z,1.8nm,0.5s						
TXAR	**Lajitas Array**	**81.43**	**57**	P	**P**	**02 18 16.9**	**+1.0**
MIAR	**Mount Ida**	**83.20**	**47**	P	**P**	**02 18 25.7**	**+0.8**
MIAR				IAmb	IAmb	02 18 31.5	
	comp=Z,10nm,1.3s						
MIAR	**Mount Ida**	**83.20**	**47**	P	**P**	**02 18 25.7**	**+0.8**
MIAR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
H03N2	**Juan Fernandez**	**142.13**	**89**	T	T	05 04 45.6	
	baz=307						
H03N3	**Juan Fernandez**	**142.15**	**89**	T	T	05 04 44.0	
	baz=307,slow=74,SNR=5.1						
H03N1	**Juan Fernandez**	**142.15**	**89**	T	T	05 04 38.8	
	baz=307,slow=74,SNR=6.1						
TROLL	**Troll, Antarti**	**148.18**	**199**	P	**PKPbc**	**02 25 43.8**	**+1.1**
VNA2	**Neumayer--Watz**	**151.15**	**196**	P	**PKPbc**	**02 25 50.7**	**+0.9**
	baz=118,slow=2.2						
VNA3	**Neumayer Olymp**	**151.32**	**195**	P	**PKPbc**	**02 25 50.8**	**+0.6**

IDC ***23*** *02:08:48.7±2.7, 37.°32N×141.°83E, h0km, mb3.5/4, mbtmp3.6/6, ML2.7/2, MS3.1/1, Error ellipse: s-maj=60.9km s-min=27.5km az=74.0*
JMA ***23*** *02:08:53.2±0.2, 37.°3N±0.°4×141.°5E±0.°9, h31km±1km, MV3.3/32, E OFF FUKUSHIMA PREF*
ISC 23 02:08:51.0±2.0, 37.°28N±0.°04×141.°50E±0.°09, h5km±12km, n17, σ0°78/19, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**280**	P		**Pb**	**02 09 03.1**	**+0.7**
JFK				S		**Sb**	**02 09 10.4**	**+0.3**
JMST	**Minamisoumatoc**	**0.66**	**313**	P		**Pb**	**02 09 05.6**	**+0.6**
JMST				S		**Sb**	**02 09 14.7**	**+0.3**
JFFD	**Fukushimafurud**	**0.77**	**256**	P		**Pb**	**02 09 06.9**	**0.0**
JFFD				S		**Sb**	**02 09 17.1**	**-0.6**
JMM	**Marumori**	**0.81**	**317**	P		**Pb**	**02 09 08.0**	**+0.5**
JMM				S		**Sb**	**02 09 18.7**	**-0.1**
JHO	**Hitachi**	**1.00**	**229**	P		**Pg**	**02 09 09.8**	**-0.3**
JHO				S		**Sg**	**02 09 22.3**	**-0.7**
JIO	**Ouri**	**1.18**	**354**	S		**Sg**	**02 09 28.7**	**-0.3**
JOU	**Okura**	**1.27**	**329**	*e*P		**Pn**	**02 09 15.8**	**+0.3**
JOU				S		**Sn**	**02 09 32.4**	**-0.5**
MJAR	**Matsushiro Arr**	**2.74**	**255**	Pn		**Pn**	**02 09 36.8**	**+1.2**
	0.2nm,0.3s,baz=77,slow=16,SNR=6.0							
	2.5nm,0.5s							
JHJ	**Hachijo jima 2**	**4.38**	**199**	Pn		**Pn**	**02 09 59.8**	**+1.7**
	5.0nm,0.3s,baz=343,slow=12,SNR=1.9							
	146nm,0.8s							
SONM	**Songino Array**	**27.71**	**304**	P		**P**	**02 14 40.2**	**0.0**
	0.6nm,0.9s,baz=87,slow=8.8,SNR=2.7							
	0.6nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T		T	02 44 32.5	
	baz=314,slow=75,SNR=4.7							
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T		T	02 44 33.8	
	baz=314,slow=75,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	02 44 37.3	
	baz=314,slow=75,SNR=4.8							
ZALV	**Zalesovo Beam**	**41.80**	**312**	P		**P**	**02 16 41.6**	**+0.3**
	1.1nm,0.7s,baz=77,slow=3.3,SNR=4.0							
	1.1nm,0.7s							
MKAR	**Makanchi Array**	**44.05**	**302**	P		**P**	**02 16 59.4**	**-0.2**
	0.4nm,0.7s,baz=79,slow=10,SNR=2.6							
	0.4nm,0.7s							
PMG	**Port Moresby**	**46.74**	**172**	LR		LR	02 35 44.8	
	comp=Z,23nm,20.6s,baz=211,slow=35							
WRA	**Warramunga Arr**	**57.31**	**188**	P		**P**	**02 18 38.5**	**-1.3**
	0.3nm,0.9s,baz=5.5,slow=7.1,SNR=1.9							
	0.3nm,0.9s							

IDC ***23*** *02:09:13.1±2.6, 37.°14N×141.°66E, h0km, mb3.5/2, mbtmp3.4/3, ML2.8/1, MS2.2/1, Error ellipse: s-maj=50.6km s-min=33.2km az=40.0*
JMA ***23*** *02:09:17.0±0.2, 37.°2N±0.°5×141.°5E±0.°7, h30km±1km, MV3.8/26, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 23 02:09:14.9±2.3, 37.°23N±0.°09×141.°6E±0.°1, h10km, n8, σ0°67/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.61**	**284**	P		**Pg**	**02 09 27.4**	**+0.6**
JFK				S		**Sg**	**02 09 34.7**	**0.0**
JMST	**Minamisoumatoc**	**0.77**	**311**	S		**Sg**	**02 09 39.8**	**+0.1**
JIO	**Ouri**	**1.25**	**350**	*e*P		**Pb**	**02 09 38.5**	**0.0**
JIO				S		**Sb**	**02 09 53.8**	**-0.7**
JSB	**Shiboa**	**1.38**	**260**	S		**Sb**	**02 09 57.4**	**-1.1**
MJAR	**Matsushiro Arr**	**2.82**	**257**	Pn		**Pn**	**02 09 59.6**	**-0.4**
	1.5nm,0.3s,baz=79,slow=16,SNR=14							
MJAR				Sn		**Sn**	**02 10 34.6**	**+0.6**
	1.2nm,0.3s,baz=92,slow=27,SNR=5.5							
	7.9nm,0.3s							
KSRS	**Korea Array**	**10.91**	**275**	LR		LR	02 15 47.9	
	comp=Z,12nm,18.7s,baz=95,slow=36							
SONM	**Songino Array**	**27.81**	**304**	P		**P**	**02 15 04.5**	**+0.2**
	0.4nm,0.7s,baz=111,slow=7.9,SNR=2.7							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**57.27**	**188**	P		P	02 19 01.9	-0.8
	0.3nm,0.5s,baz=4.4,slow=7.0,SNR=7.1							
	0.3nm,0.5s							

IDC ***23*** *02:18:12.7±2.2, 40.°54N×141.°49E, h126km±19km, mb3.7/19, mbtmp4.1/23, MS3.2/2, Error ellipse: s-maj=21.4km s-min=11.9km az=77.0*
NEIC ***23*** *02:18:12.4±1.9, 40.°64N±0.°07×141.°5E±0.°1, h119km±5km, mb4.1/20, Error ellipse: s-maj=13.0km s-min=9.1km az=116.0*
JMA ***23*** *02:18:12.6±0.1, 40.°7N±0.°4×141.°6E±0.°8, h118km, MD3.9/39, MV4.2/39, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
ISC 23 02:18:12.5±0.7, 40.°61N±0.°04×141.°51E±0.°08, h123km±5km, n94, σ1°45/86, mb4.1/29, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JANG	**Nango**	**0.24**	**179**	*i* P		**Pn**	**02 18 29.5**	**-0.2**
JANG				S		**Sn**	**02 18 41.5**	**-1.0**
JANG	**Nango**	**0.24**	**179**	A		A	02 18 29.5	
	comp=E,9.0nm,0.2s,comp=E,6.0nm,0.8s							
JTM	**Tenmabayashi**	**0.38**	**298**			**Pn**	**02 18 29.4**	**-0.7**
JTM						**Sn**	**02 18 41.5**	**-2.0**
JTM	**Tenmabayashi**	**0.38**	**298**	⇓*i* P		**Pn**	**02 18 29.6**	**-0.7**
JTM				⇓S		**Sn**	**02 18 42.3**	**-1.2**
JARK	**Aomorirokkasho**	**0.41**	**345**	⇓*i* P		**Pn**	**02 18 29.7**	**-0.6**
JARK				⇓S		**Sn**	**02 18 42.2**	**-1.5**
JARK	**Aomorirokkasho**	**0.41**	**345**	A		A	02 18 29.7	
	comp=E,31nm,0.6s,comp=E,41nm,0.5s							
JKEN	**Kujiedanarisaw**	**0.43**	**159**	A		A	02 18 30.5	
	comp=E,26nm,0.3s,comp=E,27nm,0.3s							
JKZ	**Kuzumaki**	**0.64**	**192**	A		A	02 18 32.1	
	comp=E,14nm,0.4s,comp=E,6.0nm,0.8s							
JAHD	**Aomorihigashid**	**0.67**	**349**	A		A	02 18 31.1	
	comp=E,22nm,0.6s,comp=E,21nm,0.4s							
JAH	**Hinai**	**0.79**	**238**	⇓*i* P		**Pn**	**02 18 33.3**	**+0.4**
JAH				⇓S		**Sn**	**02 18 48.6**	**+0.3**
JOT	**Ohata**	**0.84**	**336**	⇓*i* P		**Pn**	**02 18 32.5**	**-0.8**
JOT				⇓S		**Sn**	**02 18 47.3**	**-1.9**
JOT	**Ohata**	**0.84**	**336**	A		A	02 18 32.5	
	comp=E,4.0nm,0.9s,comp=E,3.0nm,0.3s							
JIW	**Iwasaki**	**1.14**	**270**	⇓*i* P		**Pn**	**02 18 36.7**	**+0.4**
JOM	**Ohasama**	**1.15**	**188**	*i* P		**Pn**	**02 18 36.8**	**+0.5**
JOM				S		**Sn**	**02 18 54.8**	**+0.4**
JOM	**Ohasama**	**1.15**	**188**	A		A	02 18 36.8	
	comp=E,5.0nm,0.2s,comp=E,4.0nm,0.4s							
JSR	**Shiriuchi**	**1.23**	**318**	⇓*i* P		**Pn**	**02 18 36.5**	**-0.6**
JKB	**Kayabe**	**1.32**	**344**	⇓*i* P		**Pn**	**02 18 37.3**	**-0.8**
JKB				⇓S		**Sn**	**02 18 56.2**	**-1.5**
JRG	**Rokugo**	**1.39**	**209**	⇓*i* P		**Pn**	**02 18 40.0**	**+1.2**
JRG				⇓S		**Sn**	**02 19 01.0**	**+2.1**
JOMM	**Oshimamatsumae**	**1.46**	**309**	⇓*i* P		**Pn**	**02 18 39.1**	**-0.5**
JMK	**Ichinoseki**	**1.67**	**188**	*i* P		**Pn**	**02 18 42.6**	**+0.5**
JMK				S		**Sn**	**02 19 04.7**	**0.0**
ERM	**Erimo**	**1.87**	**41**	Pn		**Pn**	**02 18 44.2**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.91**	**29**	*e*P		**Pn**	**02 18 44.4**	**-0.6**
JNBK	**Urakawa-nobuka**	**1.91**	**29**	A		A	02 18 44.4	
	comp=E,10.0nm,0.4s,comp=E,7.0nm,0.4s							
JMM	**Marumori**	**2.80**	**192**	Pn		**Pn**	**02 18 55.9**	**-0.4**
JKA	**Kamikawa-asahi**	**3.59**	**13**	Pn		**Pn**	**02 19 04.9**	**-1.8**
MJB9	**Matsu-Tunnel**	**4.81**	**214**	Pn		**Pn**	**02 19 23.6**	**+0.5**
MAJO	**Matsushiro**	**4.82**	**214**	Pn		**Pn**	**02 19 24.5**	**+1.4**
MJAR	**Matsushiro Arr**	**4.82**	**214**	P		**Pn**	**02 19 23.5**	**+0.5**
	5.9nm,0.6s,baz=34,slow=12,SNR=12							
MJAR				S		**Sn**	**02 20 10.1**	**-7.8**
	3.6nm,0.6s,baz=259,slow=12,SNR=5.0							
JGF	**Kuroka**	**5.98**	**215**	Pn		**Pn**	**02 19 38.9**	**+0.2**
JHJ	**Hachijo jima 2**	**7.61**	**191**	P		**Pn**	**02 19 59.2**	**-1.5**
	34nm,0.3s,baz=90,slow=20,SNR=1.6							
JHJ				S		**Sn**	**02 21 19.5**	**-5.8**
	93nm,0.6s,baz=68,slow=22,SNR=6.3							
JHJ2	**Mitsune**	**7.61**	**191**	Pn		**Pn**	**02 19 59.1**	**-1.6**
USRK	**Ussuriysk Ar.**	**7.90**	**300**	P		**Pn**	**02 20 06.0**	**+1.5**
	5.1nm,0.6s,baz=104,slow=12,SNR=10							
KSRS	**Korea Array**	**11.03**	**258**	LR		LR	02 24 38.6	
	comp=Z,13nm,21.6s,baz=140,slow=35							
KLR	**Kul'dur**	**11.04**	**325**	P		**Pn**	**02 20 49.4**	**+2.7**
	0

WB2				IAmb	IAmb	02 28 28.7	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**60.61**	**188**	P	**P**	**02 28 09.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=5.2,slow=6.8,SNR=26						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**60.61**	**188**	P	**P**	**02 28 09.4**	**-0.8**
ARCES	**ARCESS Array B**	**60.69**	**339**	P	**P**	**02 28 10.6**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=48,slow=12,SNR=2.6						
	comp=Z,3.2nm,1.0s						
GEYT	**Alibeck**	**62.21**	**297**	P	**P**	**02 28 20.5**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=93,slow=3.2,SNR=2.9						
	comp=Z,1.3nm,0.4s						
ASAR	**Alice Springs**	**64.34**	**188**	P	**P**	**02 28 35.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=14,slow=7.5,SNR=5.9						
	comp=Z,0.4nm,0.5s						
FIA1	**FINESS Array S**	**65.69**	**332**	P	**P**	**02 28 42.1**	**-1.2**
FINES	**FINESS Array B**	**65.70**	**332**	P	**P**	**02 28 42.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=34,slow=10,SNR=10						
	comp=Z,1.2nm,0.5s						
FINES	**FINESS Array B**	**65.70**	**332**	P	**P**	**02 28 42.5**	**-0.8**
KBZ	**Khabaz**	**68.65**	**310**	P	**P**	**02 29 02.5**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=69,slow=1.0,SNR=4.3						
	comp=Z,1.1nm,0.6s						
NB2	**NORSAR Subarra**	**70.92**	**337**	P	**P**	**02 29 15.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**70.92**	**337**	P	**P**	**02 29 15.6**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=38,slow=6.0,SNR=4.0						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**71.53**	**322**	P	**P**	**02 29 19.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=45,slow=6.2,SNR=13						
	comp=Z,1.2nm,0.5s						
BURAR	**Bucovina Array**	**75.56**	**321**	P	**P**	**02 29 43.5**	**0.0**
BRTR	**Keskin Array B**	**76.55**	**311**	P	**P**	**02 29 48.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=70,slow=4.3,SNR=4.2						
	comp=Z,0.4nm,0.5s						
BRTR	**Keskin Array B**	**76.55**	**311**	P	**P**	**02 29 48.6**	**-0.7**
ASF	**Jabal al Asfar**	**79.59**	**303**	LR	LR	03 07 24.3	
	comp=Z,113nm,19.0s,baz=108,slow=37						
GERES	**GERESS Array B**	**79.72**	**328**	P	**P**	**02 30 06.6**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=20,slow=4.4,SNR=4.5						
	comp=Z,0.2nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**82.89**	**329**	P	**P**	**02 30 24.0**	**+0.5**
H03N2	**Juan Fernandez**	**147.15**	**91**	T	T	05 22 58.8	
	baz=299,slow=76,SNR=11						
H03N3	**Juan Fernandez**	**147.16**	**91**	T	T	05 22 60.0	
	baz=299,slow=76,SNR=13						
H03N1	**Juan Fernandez**	**147.17**	**91**	T	T	05 22 59.9	
	baz=299,slow=76,SNR=11						

*IDC **23** 02:30:58.7±2.4, 30°.24N×77°.85E, h0km, mb3.6/4, mbtmp3.5/5, ML3.3/1, MS3.0/2, Error ellipse: s-maj=106.2km s-min=27.0km az=67.0*
*NDI **23** 02:31:01.8±2.0, 30°.46N×78°.10E, h10km, ML3.4*
ISC 23 02:31:00.9±0.9, 30°.42N±0°.05×78°.21E±0°.08, h10km, n16, σ1°38/19, mb3.7/3, Northern India

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**1.14**	**309**	*e*P		**Pb**	**02 31 22.2**	**-0.5**
SMLA				*e*S		**Sb**	**02 31 36.0**	**-1.7**
SMLA				IAML			02 31 37.1	
	comp=E,3μm,0.4s							
KKR	**Kurukshetra**	**1.28**	**250**	*e*P		**Pg**	**02 31 26.5**	**+0.9**
KKR				*e*S		**Sn**	**02 31 41.5**	**-0.7**
MERT	**Meerut**	**1.50**	**196**	*e*P		**Pg**	**02 31 30.7**	**+1.0**
MERT				*e*S		**Sn**	**02 31 48.6**	**+1.1**
NDI	**New Delhi**	**1.93**	**207**	*e*P		**Pg**	**02 31 39.0**	**+1.0**
NDI				*e*S		**Sg**	**02 32 03.0**	**-0.1**
SARP	**Sargodha**	**4.97**	**289**	P		**Pn**	**02 32 16.2**	**+0.5**
CHCP	**Chirah Chowk**	**5.29**	**309**	P		**Pn**	**02 32 20.9**	**+0.8**
THW	**Thamme Wali**	**6.00**	**295**	P		**Pn**	**02 32 31.0**	**+1.2**
CEP	**Cherat**	**6.33**	**304**	P		**Pn**	**02 32 35.6**	**+1.2**
BHPL	**Bhopal**	**7.18**	**186**	*e*P		**Pn**	**02 32 46.2**	**+0.1**
BHPL				*e*S		**Sn**	**02 34 03.5**	**-4.3**
BHPL				IAML			02 34 04.4	
	comp=N,14nm,0.5s							
BHPL				IAML			02 34 04.7	
	comp=E,18nm,0.3s							
MKAR	**Makanchi Array**	**16.65**	**10**	Pn		**P**	**02 34 56.2**	**-0.6**
	comp=E,0.1nm,0.3s,baz=195,slow=12,SNR=5.0							
	comp=E,0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**20.18**	**1**	P		**P**	**02 35 35.6**	**+0.1**
	comp=E,0.3nm,0.5s,baz=189,slow=10,SNR=6.2							
	comp=E,0.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**22.28**	**118**	LR		LR	02 46 03.0	
	comp=E,25nm,18.4s,baz=80,slow=40							
ARCES	**ARCESS Array B**	**49.03**	**338**	P		**P**	**02 39 47.6**	**0.0**
	comp=E,3.5nm,1.0s,baz=106,slow=9.5,SNR=3.9							
	comp=E,3.5nm,1.0s							
GUMO	**Guam**	**63.23**	**90**	LR		LR	03 10 55.0	
	comp=E,17nm,18.8s,baz=108,slow=38							
WRA	**Warramunga Arr**	**73.62**	**125**	P		**P**	**02 42 35.2**	**+0.5**
	comp=E,0.4nm,0.7s,baz=316,slow=5.9,SNR=3.2							
	comp=E,0.4nm,0.7s							
ASAR	**Alice Springs**	**75.80**	**129**	P		**P**	**02 42 47.5**	**+0.1**
	comp=E,0.3nm,0.5s,baz=305,slow=6.0,SNR=4.2							
	comp=E,0.3nm,0.5s							

*IDC **23** 02:32:55.9±0.8, 37°.32N×141°.54E, h0km, mb3.9/12, mbtmp3.9/15, ML2.9/3, MS3.4/8, Error ellipse: s-maj=21.5km s-min=16.3km az=93.0*
*NIED **23** 02:32:57.7, 37°.38N×141°.60E, h27km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=7.40; $M_{\theta\theta}$3.76; $M_{r\theta}$2.33; $M_{\theta\phi}$5.66; $M_{r\phi}$4.01; Fault plane solution: $M_0$9.61000×10^{14} NP1:φs57.00000°, δ32.00000°, λ-72.00000°. NP2:φs216.00000°, δ60.00000°, λ-101.00000°.*
*JMA **23** 02:32:57.7±0.1, 37°.4N±0°.3×141°.6E±0°.7, h27km±1km, MD4.2/36, MV4.2/36, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **23** 02:32:58.5±2.1, 37°.35N±0°.03×141°.45E±0°.07, h10km±1km, mb4.4/6, Error ellipse: s-maj=10.6km s-min=3.2km az=67.0*
ISC 23 02:32:56.9±1.9, 37°.36N±0°.04×141°.57E±0°.06, h6km±11km, n64, σ1°04/51, mb4.0/14, MS3.5/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**271**	⇓P		**Pb**	**02 33 08.9**	**-0.2**
JFK				⇓S		**Sb**	**02 33 16.8**	**-0.5**
JFK	**Kawauchi**	**0.56**	**271**	A		A	02 33 08.9	
	comp=E,13nm,0.2s,comp=E,8.0nm,0.5s							
JMST	**Minamisoumatoc**	**0.65**	**304**	P		**Pg**	**02 33 10.2**	**+0.8**
JMST				S		**Sb**	**02 33 19.2**	**-0.8**
JMST	**Minamisoumatoc**	**0.65**	**304**	A		A	02 33 10.2	
	comp=E,13nm,1.2s,comp=E,13nm,0.4s							
JMM	**Marumori**	**0.80**	**309**	Pg		**Pg**	**02 33 12.2**	**-0.1**
JMM				Sg		**Sg**	**02 33 22.8**	**+0.2**
JMM	**Marumori**	**0.80**	**309**	S		**Sg**	**02 33 23.4**	**+0.8**
JMM	**Marumori**	**0.80**	**309**	A		A	02 33 23.4	
	comp=E,9.0nm,0.3s,comp=E,11nm,0.3s							
JFFD	**Fukushimafurud**	**0.85**	**252**	⇓P		**Pg**	**02 33 13.7**	**+0.5**
JFFD				⇓*e*S		**Sb**	**02 33 25.4**	**-0.3**
JIO	**Ouri**	**1.10**	**351**	P		**Pb**	**02 33 17.1**	**-1.3**
JIO				S		**Sg**	**02 33 30.7**	**-1.8**
JOU	**Okura**	**1.23**	**325**	P		**Pn**	**02 33 20.2**	**-0.5**
JOU				S		**Sb**	**02 33 36.5**	**-0.2**
JOU	**Okura**	**1.23**	**325**	A		A	02 33 20.2	
	comp=E,11nm,1.1s,comp=E,18nm,1.3s							
JYAR	**Yonezawaarcadi**	**1.26**	**296**	A		A	02 33 20.0	
	comp=E,25nm,0.9s,comp=E,22nm,0.4s							
JSB	**Shiboa**	**1.38**	**254**	A		A	02 33 22.1	
	comp=E,14nm,2.5s,comp=E,16nm,1.1s							
JYS	**Shirataka**	**1.47**	**306**	S		**Sb**	**02 33 43.7**	**+0.2**
JYS	**Shirataka**	**1.47**	**306**	A		A	02 33 43.7	
	comp=E,8.0nm,1.0s,comp=E,8.0nm,1.6s							
JFY	**Yanaizu**	**1.49**	**272**	P		**Pn**	**02 33 24.2**	**0.0**
JFY				S		**Sg**	**02 33 44.8**	**0.0**
JYA	**Atsumi**	**1.91**	**310**	A		A	02 33 29.7	
	comp=E,7.0nm,1.0s,comp=E,6.0nm,1.3s							
JSD	**Sado**	**2.71**	**285**	Pn		**Pn**	**02 33 40.7**	**-0.2**
MJAR	**Matsushiro Arr**	**2.81**	**254**	Pn		**Pn**	**02 33 42.9**	**+0.4**
MJAR	1.1nm,0.3s,baz=82,slow=16,SNR=26							
	1.6nm,0.3s,baz=315,slow=30,SNR=6.0				Sn		**Sb**	**02 34 21.3**	**-1.0**
	4.8nm,0.3s							
MAJO	**Matsushiro**	**2.82**	**254**	Pn		**Pn**	**02 33 43.2**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.82**	**254**	Pn		**Pn**	**02 33 43.7**	**+1.2**
JTM	**Tenmabayashi**	**3.44**	**354**	Pn		**Pn**	**02 33 52.4**	**+1.4**
JGF	**Kuroka**	**3.82**	**244**	Pn		**Pn**	**02 33 57.3**	**+1.0**
INU	**Inuyama**	**4.19**	**243**	Pn		**Pn**	**02 34 02.7**	**+1.4**
JHJ	**Hachijo jima 2**	**4.48**	**200**	Pn		**Pn**	**02 34 05.7**	**+0.4**
	7.2nm,0.3s,baz=54,slow=11,SNR=1.7							
JHJ				Sn		**Sn**	**02 34 56.9**	**-0.8**
	11nm,0.3s,baz=242,slow=23,SNR=1.7							
	63nm,0.5s							
JHS	**Saijyo**	**7.23**	**253**	Pn		**Pn**	**02 34 42.9**	**-0.2**
USRK	**Ussuriysk Ar.**	**9.97**	**316**	Pn		**Pn**	**02 35 22.2**	**+1.6**
	baz=234,slow=40,SNR=1.5							
USRK				LR		LR	02 38 53.5	
	comp=Z,197nm,18.1s,baz=153,slow=36							
	0.9nm,0.6s							
KSRS	**Korea Array**	**10.86**	**275**	LR		LR	02 39 32.5	
	comp=Z,84nm,19.7s,baz=80,slow=36							
KLR	**Kul'dur**	**13.84**	**332**	LR		LR	02 41 26.3	
	comp=Z,133nm,18.6s,baz=116,slow=37							
SONM	**Songino Array**	**27.71**	**303**	P		**P**	**02 38 45.2**	**-0.8**
	1.1nm,0.8s,baz=94,slow=9.1,SNR=6.0							
	1.1nm,0.8s							
SONM	**Songino Array**	**27.71**	**303**	P		**P**	**02 38 47.4**	**+1.5**
SONM				IAmb		IAmb	02 39 00.1	
	comp=Z,3.6nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**28.21**	**122**	T		T	03 08 14.3	
	baz=314,slow=75,SNR=173							
H11N1	**WAKE ISLAND Hy**	**28.22**	**122**	T		T	03 08 15.0	
	baz=314,slow=75,SNR=238							
H11N3	**WAKE ISLAND Hy**	**28.23**	**122**	T		T	03 08 15.5	
	baz=314,slow=75,SNR=263							
H11S1	**WAKE ISLAND Hy**	**28.93**	**124**	T		T	03 09 12.8	
	baz=316,slow=76,SNR=179							
H11S3	**WAKE ISLAND Hy**	**28.93**	**124**	T		T	03 09 12.2	
	baz=316,slow=76,SNR=141							
H11S2	**WAKE ISLAND Hy**	**28.95**	**124**	T		T	03 09 12.5	
	baz=316,slow=76,SNR=87							
ZALV	**Zalesovo Beam**	**41.79**	**312**	P		**P**	**02 40 46.4**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=100,slow=6.2,SNR=4.6							
ZALV				LR		LR	02 58 44.0	
	comp=Z,55nm,19.6s,baz=75,slow=37							
	comp=Z,0.6nm,0.4s							
MKAR	**Makanchi Array**	**44.05**	**302**	P		**P**	**02 41 04.4**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=92,slow=10,SNR=10							
	comp=Z,1.8nm,0.8s							
MKAR	**Makanchi Array**	**44.05**	**302**	P		**P**	**02 41 05.4**	**0.0**
BRDH	**Bariadhala**	**45.14**	**266**	LR		LR	03 03 20.8	
	comp=Z,50nm,18.8s,baz=91,slow=40							
KURK	**Kurchatov**	**45.83**	**308**	P		**P**	**02 41 19.4**	**-0.1**
ILAR	**Eielson Array**	**49.15**	**33**	P		**P**	**02 41 45.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=277,slow=6.2,SNR=7.3							
	comp=Z,0.6nm,0.7s							
BVAR	**Borovoye Array**	**50.45**	**312**	LR		LR	03 04 20.8	
	comp=Z,44nm,18.8s,baz=54,slow=37							
INK	**Inuvik**	**54.04**	**27**	P		**P**	**02 42 21.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=319,slow=6.4,SNR=4.8							
	comp=Z,0.6nm,0.5s							
INK	**Inuvik**	**54.04**	**27**	P		**P**	**02 42 22.6**	**+1.1**
INK				IAmb		IAmb	02 42 31.8	
	comp=Z,7.1nm,1.5s							
WRAB	**Tennant Creek**	**57.39**	**188**	P		**P**	**02 42 45.6**	**-0.5**
WRAB				IAmb		IAmb	02 43 16.9	
	comp=Z,9.5nm,1.5s							
WB2	**Warramunga Arr**	**57.40**	**188**	P		**P**	**02 42 45.3**	**-0.9**
WB2				IAmb		IAmb	02 42 46.5	
	comp=Z,3.7nm,0.9s							
WRA	**Warramunga Arr**	**57.40**	**188**	P		**P**	**02 42 45.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=5.8,slow=7.1,SNR=15							
	comp=Z,1.2nm,0.7s							
WRA	**Warramunga Arr**	**57.40**	**188**	P		**P**	**02 42 45.6**	**-0.6**
ABKAR	**Akbulak array**	**57.82**	**310**	P		**P**	**02 42 47.8**	**-1.2**
KIRV	**Kirov**	**60.06**	**323**	LR		LR	03 10 24.8	
	comp=Z,39nm,18.9s,baz=89,slow=37							
ASAR	**Alice Springs**	**61.13**	**188**	P		**P**	**02 43 11.2**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=0.9,slow=7.8,SNR=7.7							
	comp=Z,0.6nm,0.7s							
GEYT	**Alibeck**	**63.79**	**299**	P		**P**	**02 43 30.1**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=90,slow=1.4,SNR=3.4							
	comp=Z,2.2nm,0.9s							
FINES	**FINESS Array B**	**68.58**	**332**	P		**P**	**02 43 59.8**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=92,slow=13,SNR=4.2							
	comp=Z,2.6nm,0.8s							
FINES	**FINESS Array B**	**68.58**	**332**	P		**P**	**02 43 58.9**	**-1.3**
NB2	**NORSAR Subarra**	**73.93**	**337**	P		**P**	**02 44 36.4**	**+3.8**
	comp=Z,8.8nm,1.2s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**73.93**	**337**	P		**P**	**02 44 34.8**	**+2.2**
	comp=Z,2.1nm,0.9s,baz=38,slow=5.9,SNR=4.9							
	comp=Z,2.1nm,0.9s							
AKASG	**Malin Array Be**	**74.11**	**322**	P		**P**	**02 44 33.5**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=44,slow=4.7,SNR=6.0							
AKASG				LR		LR	03 18 11.9	
	comp=Z,36nm,18.3s,baz=200,slow=37							
	comp=Z,0.6nm,0.5s							
TXAR	**Lajitas Array**	**89.82**	**52**	P		**P**	**02 45 57.0**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=286,slow=2.6,SNR=3.8							
	comp=Z,0.4nm,0.8s							
LPAZ	**La Paz**	**146.42**	**59**	PKPbc		**PKPdf**	**02 52 39.5**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=245,slow=12,SNR=2.6							
H03N2	**Juan Fernandez**	**146.93**	**96**	T		T	05 36 44.5	
	baz=291,slow=76,SNR=12							
H03N3	**Juan Fernandez**	**146.94**	**96**	T		T	05 36 45.5	
	baz=291,slow=76,SNR=12							
H03N1	**Juan Fernandez**	**146.95**	**96**	T		T	05 36 45.7	
	baz=291,slow=76,SNR=15							

*IDC **23** 02:39:32.5±0.8, 37°.24N×141°.48E, h0km, mb3.8/14, mbtmp3.7/17, ML3.2/3, Error ellipse: s-maj=20.1km s-min=17.6km az=113.0*
*JMA **23** 02:39:34.3±0.2, 37°.2N±0°.3×141°.5E±0°.9, h24km±1km, MV3.8/38, E OFF FUKUSHIMA PREF*
*NIED **23** 02:39:34.3, 37°.23N×141°.47E, h24km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.04; $M_{\theta\theta}$1.61; $M_{\theta\phi}$2.43; $M_{r\theta}$1.44; $M_{\theta\theta}$2.04; $M_{r\phi}$2.52; Fault plane solution: $M_0$5.00000×10^{14} NP1:φs45.00000°, δ28.00000°, λ-80.00000°. NP2:φs214.00000°, δ63.00000°, λ-95.00000°.*
ISC 23 02:39:33.6±1.9, 37°.25N±0°.04×141°.44E±0°.07, h8km±11km, n35, σ0°65/32, mb3.7/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**285**	P		**Pb**	**02 39 44.0**	**-0.2**
JFK				S		**Sb**	**02 39 51.0**	**-0.4**
JMST	**Minamisoumatoc**	**0.65**	**317**	*i* P		**Pb**	**02 39 47.1**	**-0.1**
JMST				S		**Sb**	**02 39 56.9**	**+0.4**
JFFD	**Fukushimafurud**	**0.72**	**258**	P		**Pb**	**02 39 48.2**	**-0.3**
JMM	**Marumori**	**0.81**	**320**	P		**Pg**	**02 39 49.7**	**+0.6**
JMM				S		**Sb**	**02 40 01.1**	**+0.2**
JHO	**Hitachi**	**0.95**	**228**	P		**Pg**	**02 39 51.4**	**-0.4**
JIO	**Ouri**	**1.21**	**356**	P		**Pn**	**02 39 55.7**	**-1.2**
JSB	**Shiboa**	**1.25**	**258**	P		**Pg**	**02 39 57.6**	**0.0**
JOU	**Okura**	**1.27**	**331**	P		**Pn**	**02 39 57.9**	**+0.1**
JOU				S		**Sg**	**02 40 15.0**	**+0.4**
MJAR	**Matsushiro Arr**	**2.69**	**256**	Pn		**Pn**	**02 40 18.1**	**+0.8**
	1.0nm,0.3s,baz=78,slow=17,SNR=19							
MJAR				Sn		**Sb**	**02 40 54.6**	**-0.5**
	1.0nm,0.3s,baz=64,slow=15,SNR=6.2							
	7.1nm,0.5s							
JHJ	**Hachijo jima 2**	**4.34**	**199**	Pn		**Pn**	**02 40 41.3**	**+1.4**
	12nm,0.3s,baz=40,slow=20,SNR=1.3							
JHJ				Sn		**Sn**	**02 41 30.1**	**-0.6**
	7.1nm,0.3s,baz=80,slow=22,SNR=1.8							
	38nm,0.4s							
USRK	**Ussuriysk Ar.**	**9.98**	**317**	Pn		**Pn**	**02 41 56.2**	**-1.1**
	0.2nm,0.3s,baz=116,slow=44,SNR=1.5							
	0.8nm,0.4s							
SONM	**Songino Array**	**27.69**	**304**	P		**P**	**02 45 23.2**	**+0.9**
	0.8nm,0.7s,baz=95,slow=7.7,SNR=5.1							
	0.8nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	03 14 54.9	
	baz=314,slow=75,SNR=74							
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	03 14 55.6	
	baz=314,slow=75,SNR=63							
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	03 14 56.4	
	baz=314,slow=75,SNR=80							
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T		T	03 15 46.9	
	baz=316,slow=76,SNR=65							
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T		T	03 15 47.8	
	baz=316,slow=76,SNR=43							
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	03 15 49.3	
	baz=316,slow=76,SNR=32							
ZALV	**Zalesovo Beam**	**41.79**	**312**	P		**P**	**02 47 23.4**	**0.0**
	1.6nm,0.8s,baz=108,slow=4.8,SNR=5.4							
	1.6nm,0.8s							
MKAR	**Makanchi Array**	**44.03**	**302**	P		**P**	**02 47 41.4**	**-0.4**
	0.9nm,0.8s,baz=87,slow=11,SNR=5.6							
	0.9nm,0.8s							
ILAR	**Eielson Array**	**49.30**	**32**	P		**P**	**02 48 22.6**	**-0.1**
	0.6nm,0.8s,baz=269,slow=6.0,SNR=7.3							
	0.6nm,0.8s							
INK	**Inuvik**	**54.18**	**27**	P		**P**	**02 49 00.4**	**+1.3**
	1.0nm,0.7s,baz=285,slow=4.9,SNR=2.3							
	1.0nm,0.7s							
WRA	**Warramunga Arr**	**57.28**	**188**	P		**P**	**02 49 21.1**	**-0.7**
	0.4nm,0.5s,baz=5.3,slow=7.2,SNR=2.9							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**61.00**	**188**	P		**P**	**02 49 47.4**	**-0.3**
	0.4nm,0.8s,baz=20,slow=5.9,SNR=2.9							
	0.4nm,0.8s							
ARCES	**ARCESS Array B**	**63.80**	**339**	P		**P**	**02 50 05.7**	**-0.2**
	3.1nm,1.0s,baz=18,slow=5.1,SNR=6.1							
	3.1nm,1.0s							
FINES	**FINESS Array B**	**68.64**	**332**	P		**P**	**02 50 37.1**	**+0.2**
	1.8nm,0.8s,baz=24,slow=11,SNR=2.2							
	1.8nm,0.8s							
NOA	**NORSAR Array B**	**74.00**	**337**	P		**P**	**02 51 09.6**	**+0.1**
	0.5nm,0.7s,baz=39,slow=5.7,SNR=3.4							
	0.5nm,0.7s							
AKASG	**Malin Array Be**	**74.14**	**322**	P		**P**	**02 51 11.3**	**+0.9**
	0.6nm,0.5s,baz=45,slow=5.7,SNR=4.2							
	0.6nm,0.5s							
NVAR	**Mina Array Bea**	**74.84**	**53**	P		**P**	**02 51 14.6**	**-0.5**
	0.7nm,0.9s,baz=284,slow=6.0,SNR=4.4							
	0.7nm,0.9s							
PDAR	**Pinedale Array**	**77.50**	**45**	P		**P**	**02 51 29.8**	**-0.4**
	0.3nm,0.7s,baz=337,slow=3.4,SNR=3.5							
	0.3nm,0.7s							
TXAR	**Lajitas Array**	**89.97**	**52**	P		**P**	**02 52 34.7**	**+0.6**
	0.2nm,0.8s,baz=305,slow=3.2,SNR=1.9							
	0.2nm,0.8s							
LPAZ	**La Paz**	**146.56**	**59**	PKPbc		**PKPbc**	**02 59 16.6**	**-0.3**
	0.7nm,0.6s,baz=46,slow=4.3,SNR=2.5							
H03N2	**Juan Fernandez**	**147.02**	**96**	T		T	05 43 30.0	
	baz=291,slow=76,SNR=7.1							
H03N3	**Juan Fernandez**	**147.03**	**96**	T		T	05 43 30.6	
	baz=291,slow=76,SNR=8.9							
H03N1	**Juan Fernandez**	**147.04**	**96**	T		T	05 43 30.7	
	baz=291,slow=76,SNR=9.3							

WEL 23 02:43:00.8±0.5, 42°.S×3°.×17°.4E±°, h7km±4km, M2.1/10, ML2.3/10, MLv2.1/10, Error ellipse: s-maj=0.0km s-min=0.0km az=78.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**175**	P		Pg	02 43 02.8	+0.4
CMWZ				S		Sg	02 43 04.7	+1.1
BSWZ	**Blackbirch Sta**	**0.25**	**265**	P		Pg	02 43 06.0	+0.2
BSWZ				S		Sg	02 43 10.4	+1.3
TUWZ	**Tuamarina**	**0.33**	**323**	P		Pg	02 43 07.9	+0.6
TUWZ				S		Sb	02 43 13.3	-1.3
TCW	**Tory Channel**	**0.49**	**6**	P		Pg	02 43 10.4	+0.2
WEL	**Wellington**	**0.59**	**46**	P		Pg	02 43 12.7	+0.6
NNZ	**Nelson**	**0.79**	**307**	P		Pg	02 43 15.5	-0.3
PLWZ	**Palliser**	**0.80**	**81**	P		Pb	02 43 16.8	-0.2
CAW	**Cannon Point**	**0.87**	**48**	P		Pg	02 43 17.6	+0.1
KHZ	**Kahutara**	**0.88**	**214**	P		Pg	02 43 17.9	+0.2
DUWZ	**D'Urville Isla**	**0.92**	**346**	P		Pg	02 43 18.2	-0.3
THZ	**Tophouse**	**0.98**	**266**	P		Pg	02 43 19.6	+0.1
KIW	**Kapiti Island**	**0.99**	**33**	P		Pg	02 43 19.7	-0.1
MTW	**Mount Morrison**	**1.11**	**62**	P		Pg	02 43 21.2	-0.9
OGWZ	**Otaki Gorge**	**1.14**	**40**	P		Pg	02 43 22.5	-0.2
QRZ	**Quartz Range**	**1.54**	**304**	P		Pb	02 43 29.2	-0.4
GVZ	**Greta Valley S**	**1.54**	**214**	P		Pn	02 43 27.8	-0.9
DSZ	**Denniston Nort**	**1.80**	**268**	P		Pn	02 43 33.1	+0.8
TMVZ	**Te Maari**	**2.82**	**24**	P		Pb	02 43 49.7	-1.9

*NOU **23** 02:43:17.7, 40°.73S×174°.43E, h190km, MLv3.4/5, Cook Strait, New Zealand*
*WEL **23** 02:43:28.2±0.5,

OUZ	**Omahuta**	**5.31**	**351**	P	Pn	02 44 49.5	+7.0
CTZ	**Chatham Island**	**7.29**	**119**	P	Pn	02 45 11.4	+2.2

WEL 23 02:50:18.0±0.3, 42°S±3°×17°4E±°, h10km±3km, M3.2/35, ML3.5/14, MLv3.2/35, Error ellipse: s-maj=0.0km s-min=0.0km az=119.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**202**	P	Pg	02 50 23.2	+0.8
BSWZ	**Blackbirch Sta**	**0.54**	**19**	P	Pg	02 50 28.7	+0.3
BSWZ				S	Sb	02 50 36.6	-0.7
CMWZ	**Cape Campbell**	**0.64**	**42**	P	Pb	02 50 31.3	+0.1
THZ	**Tophouse**	**0.72**	**310**	P	Pb	02 50 32.4	-0.3
TUWZ	**Tuamarina**	**0.82**	**16**	P	Pg	02 50 33.9	+0.1
GVZ	**Greta Valley S**	**0.87**	**211**	P	Pb	02 50 35.0	-0.2
NNZ	**Nelson**	**1.02**	**349**	P	Pg	02 50 37.4	-0.3
MRNZ	**Matariki Terra**	**1.06**	**321**	P	Pn	02 50 38.8	-0.1
TCW	**Tory Channel**	**1.12**	**25**	P	Pb	02 50 38.4	-1.0
LTZ	**Lake Taylor**	**1.16**	**241**	P	Pb	02 50 39.4	-0.8
AMCZ	**Amberley**	**1.20**	**217**	P	Pb	02 50 39.5	-1.4
WEL	**Wellington**	**1.26**	**42**	P	Pn	02 50 40.2	-1.4
TKNZ	**Takaka Hill**	**1.29**	**336**	P	Pb	02 50 42.2	0.0
PLWZ	**Palliser**	**1.37**	**62**	P	Pn	02 50 40.7	-2.5
DUWZ	**D'Urville Isla**	**1.44**	**8**	P	Pn	02 50 43.8	-0.3
DSZ	**Denniston Nort**	**1.45**	**289**	P	Pn	02 50 44.7	+0.3
CAW	**Cannon Point**	**1.54**	**44**	P	Pn	02 50 43.8	-1.8
OKCZ	**Okains Bay**	**1.56**	**196**	P	Pn	02 50 43.6	-2.2
PAWZ	**Paruwai Farm**	**1.58**	**58**	P	Pn	02 50 43.5	-2.5
OXZ	**Oxford**	**1.62**	**226**	P	Pn	02 50 44.5	-2.1
QRZ	**Quartz Range**	**1.63**	**329**	P	Pb	02 50 47.6	-0.5
MQZ	**McQueen's Vall**	**1.65**	**206**	P	Pn	02 50 44.3	-2.8
KIW	**Kapiti Island**	**1.66**	**35**	P	Pn	02 50 46.0	-1.2
INZ	**Inchbonnie**	**1.70**	**252**	P	Pn	02 50 47.1	-0.7
AKCZ	**Akaroa Harbour**	**1.73**	**198**	P	Pn	02 50 45.8	-2.4
TRWZ	**Traveller**	**1.74**	**62**	P	Pn	02 50 45.3	-2.9
MTW	**Mount Morrison**	**1.75**	**53**	P	Pn	02 50 45.9	-2.5
OGWZ	**Otaki Gorge**	**1.81**	**40**	P	Pn	02 50 47.6	-1.7
RACZ	**Rakaia**	**1.86**	**216**	P	Pn	02 50 47.6	-2.4
HOWZ	**Holdsworth Sta**	**1.93**	**47**	P	Pn	02 50 48.7	-2.3
MHCZ	**Mount Hutt**	**2.01**	**229**	P	Pn	02 50 49.8	-2.2
TMWZ	**Te Maipa**	**2.02**	**57**	P	Pn	02 50 49.2	-2.9
MRZ	**Mangatainoka R**	**2.13**	**44**	P	Pn	02 50 51.4	-2.4
WACZ	**Wakanui South**	**2.17**	**217**	P	Pn	02 50 52.0	-2.2
WVZ	**Waitaha Valley**	**2.31**	**247**	P	Pn	02 50 55.4	-0.7
RPZ	**Rata Peaks**	**2.42**	**231**	P	Pn	02 50 55.8	-1.8
PRWZ	**Pori Road**	**2.42**	**47**	P	Pg	02 51 04.0	-0.4
BFZ	**Birch Farm**	**2.49**	**53**	P	Pg	02 51 05.8	+0.1
ARCZ	**Arundel**	**2.50**	**226**	P	Pn	02 50 56.7	-2.0
GCSZ	**Gaunt Creek Bo**	**2.68**	**245**	P	Pn	02 51 00.8	-0.3
DVHZ	**Dannevirke**	**2.70**	**46**	P	Pg	02 51 09.6	-0.2
TMZ	**Timaru**	**2.89**	**221**	P	Pn	02 51 02.0	-2.2
KHEZ	**Kahui Hut**	**2.94**	**6**	P	Pn	02 51 06.8	+2.0
FOZ	**Fox Glacier**	**3.10**	**244**	P	Pn	02 51 06.2	-0.8
MOVZ	**Moawhango**	**3.24**	**30**	P	Pb	02 51 15.3	-0.3
WNVZ	**Wahianoa**	**3.25**	**28**	P	Pn	02 51 08.9	-0.3
TRVZ	**Turoa**	**3.26**	**27**	P	Pb	02 51 15.3	-0.8
BHHZ	**Black Hill Sta**	**3.29**	**35**	P	Pb	02 51 16.4	-0.1
FWVZ	**Far West T-bar**	**3.30**	**26**	P	Pb	02 51 16.6	-0.2
LBZ	**Lake Benmore**	**3.32**	**228**	P	Pn	02 51 08.4	-1.7
TUVZ	**Tukino**	**3.32**	**28**	P	Pb	02 51 19.0	+1.9
NGZ	**Ngauruhoe**	**3.39**	**27**	P	Pb	02 51 19.6	+1.3
NNVZ	**North Ngauruho**	**3.43**	**27**	P	Pg	02 51 21.6	-2.1
ETVZ	**East Tongariro**	**3.46**	**28**	P	Pb	02 51 20.5	+1.0
TMVZ	**Te Maari**	**3.48**	**27**	P	Pn	02 51 13.5	+1.2
ODZ	**Otahua Downs**	**3.56**	**217**	P	Pn	02 51 10.7	-2.6
BKZ	**Black Stump Fm**	**3.74**	**36**	P	Pb	02 51 23.3	-1.0
HHSZ	**Highcliff Hill**	**4.27**	**210**	P	Pn	02 51 20.7	-2.4
EAZ	**Earnscleugh**	**4.35**	**225**	P	Pn	02 51 21.5	-2.7

*GUC **23** 03:01:50.7±0.5, 39°.84S×71°.72W, h134km±2km, ML3.6*
*IDC **23** 03:01:50.5±5.7, 39°.84S×72°.20W, h86km±82km, mb3.1/2, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=77.9km s-min=57.1km az=148.0*
ISC 23 03:01:51.9±0.9, 39°.79S±0°.04×71°.72W±0°.05, h128km±7km, n17, σ2s77/29, 1C, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	**Curarrehue**	**0.28**	**44**	*i* P	**Pn**	**03 02 09.2**	**-0.8**
GO06				*i* S	**Sn**	**03 02 23.5**	**-0.1**
LR03	**Panguipulli**	**0.51**	**288**	*i* P	**Pn**	**03 02 10.4**	**-0.4**
LR03				*i* S	**Sn**	**03 02 25.0**	**-0.1**
LR03				IAML		03 02 26.4	
	comp=N,730nm,0.9s						
LR02	**Universidad Au**	**1.18**	**269**	*e*P	**Pn**	**03 02 15.3**	**-1.1**
LR02				*e*S	**Sn**	**03 02 33.8**	**-1.2**
LR02				IAML		03 02 36.0	
	comp=N,2μm,0.4s						
LL04	**Puerto Octay**	**1.24**	**205**	*e*P	**Pn**	**03 02 15.8**	**-1.3**
PLCA	**Paso Flores**	**1.30**	**137**	P	**Pn**	**03 02 15.7**	**-2.1**
	comp=N,1.2nm,0.3s,baz=308,slow=11,SNR=25						
PLCA				S	**Sn**	**03 02 36.6**	**-0.9**
	comp=N,3.8nm,0.5s,baz=291,slow=7.2,SNR=8.1						
PLCA	**Paso Flores**	**1.30**	**137**	*e*P	**Pn**	**03 02 16.5**	**-1.3**
PLCA				*e*S	**Sn**	**03 02 36.0**	**-1.5**
LR04	**Corral**	**1.31**	**265**	*e*P	**Pn**	**03 02 16.9**	**-1.0**
LR04				*e*S	**Sn**	**03 02 36.5**	**-1.1**
LR04				IAML		03 02 38.7	
	comp=N,1μm,0.3s						
LL03	**Petrohue**	**1.45**	**201**	*e*P	**Pn**	**03 02 17.6**	**-1.7**
LC02	**Puerto Saavedr**	**1.63**	**307**	*e*P	**Pn**	**03 02 20.7**	**-0.7**
LC02				*e*S	**Sn**	**03 02 43.3**	**-0.5**
LC02				IAML		03 02 46.6	
	comp=E,2μm,0.4s						
LL05	**Los Muermos**	**2.09**	**219**	*e*P	**Pn**	**03 02 24.6**	**-2.4**
LL05				*e*S	**Sn**	**03 02 50.6**	**-3.2**
LL05				IAML		03 02 52.7	
	comp=N,214nm,0.2s						
BI04	**Isla Mocha**	**2.17**	**309**	*i* P	**Pn**	**03 02 27.1**	**-0.8**
BI04				*i* S	**Sn**	**03 02 53.0**	**-2.4**
BI04				IAML		03 02 55.7	
	comp=N,392nm,0.2s						
LL06	**Loncomilla**	**2.82**	**210**	*e*P	**Pn**	**03 02 33.4**	**-2.8**
LL06				*e*S	**Sn**	**03 03 05.5**	**-4.7**
LL06				IAML		03 03 07.5	
	comp=E,195nm,0.1s						
GO05	**Huala**	**4.77**	**358**	*i* P	**Pn**	**03 02 59.4**	**-2.6**
GO05				*e*S	**Sn**	**03 03 51.6**	**-4.9**
BO01	**Tunca**	**5.41**	**6**	*e*P	**Pn**	**03 03 07.5**	**-3.1**
BO01				*e*S	**Sn**	**03 04 05.0**	**-6.8**
CPUP	**Villa Florida**	**18.01**	**46**	P	**Pn**	**03 05 56.2**	**+2.1**
	comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=3.8 comp=E,0.8nm,0.5s						
LPAZ	**La Paz**	**23.62**	**9**	P	**P**	**03 06 57.0**	**+5.0**
	comp=E,0.4nm,0.4s,baz=190,slow=12,SNR=2.3 comp=E,0.4nm,0.4s						
TXAR	**Lajitas Array**	**74.92**	**331**	P	**P**	**03 13 21.1**	**+2.4**
	comp=E,0.2nm,0.5s,baz=147,slow=12,SNR=2.4 comp=E,0.2nm,0.5s						

MAN 23 03:04:04.6, 6°.21N×126°.32E, h18km, mb4.0, ML2.8, MS2.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.46**	**303**	*e*P	Pn	03 04 30.1	0.0
KCP				*i* S	Sn	03 04 46.0	-2.8
BIPH	**Bislig**	**1.96**	**1**	*i* P	Pn	03 04 38.2	+1.2
BIPH				*i* S	Sb	03 05 02.6	-1.2

*NOU **23** 03:09:35.1, 42°.74S×173°.43E, h4km, MLv3.9/8, South Island, New Zealand*
*WEL **23** 03:09:37.3±0.3, 43°S±3°×17°3E±°, h5km, M3.4/28, ML3.7/15, MLv3.4/28, Error ellipse: s-maj=0.0km s-min=0.0km az=132.8*
ISC 23 03:09:36.6±0.9, 42°.66S±0°.04×173°.36E±0°.04, h10km, n57, σ0s77/59, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**28**	P	**Pg**	**03 09 42.1**	**-0.1**
KHZ	**Kahutara**	**0.28**	**28**	P	**Pg**	**03 09 42.3**	**+0.1**
KHZ				S	**Sg**	**03 09 46.4**	**+0.5**
GVZ	**Greta Valley S**	**0.39**	**218**	P	**Pb**	**03 09 46.3**	**+0.6**
GVZ				S	**Sb**	**03 09 53.3**	**+1.5**
AMCZ	**Amberley**	**0.73**	**225**	P	**Pb**	**03 09 52.7**	**+1.2**
LTZ	**Lake Taylor**	**0.81**	**261**	P	**Pg**	**03 09 52.3**	**-0.1**
THZ	**Tophouse**	**0.96**	**339**	P	**Pg**	**03 09 53.8**	**-1.3**
BSWZ	**Blackbirch Sta**	**1.02**	**22**	P	**Pg**	**03 09 56.2**	**0.0**
OKCZ	**Okains Bay**	**1.09**	**192**	P	**Pb**	**03 09 58.1**	**+0.5**
CMWZ	**Cape Campbell**	**1.11**	**35**	P	**Pn**	**03 09 58.6**	**+0.4**
MQZ	**McQueen's Vall**	**1.17**	**206**	P	**Pn**	**03 09 57.6**	**-1.4**
OXZ	**Oxford**	**1.18**	**235**	P	**Pb**	**03 09 58.2**	**-0.9**
AKCZ	**Akaroa Harbour**	**1.26**	**195**	P	**Pn**	**03 09 59.6**	**-0.6**
TUWZ	**Tuamarina**	**1.30**	**20**	P	**Pn**	**03 10 00.9**	**+0.1**
MRNZ	**Matariki Terra**	**1.34**	**340**	P	**Pn**	**03 10 00.7**	**-0.7**
INZ	**Inchbonnie**	**1.42**	**267**	P	**Pn**	**03 10 01.8**	**-0.6**
NNZ	**Nelson**	**1.44**	**0**	P	**Pn**	**03 10 02.6**	**-0.2**
DSZ	**Denniston Nort**	**1.48**	**308**	P	**Pn**	**03 10 02.8**	**-0.6**
MHCZ	**Mount Hutt**	**1.58**	**236**	P	**Pn**	**03 10 03.8**	**-1.0**
TCW	**Tory Channel**	**1.60**	**25**	P	**Pn**	**03 10 04.4**	**-0.6**
TKNZ	**Takaka Hill**	**1.65**	**349**	P	**Pb**	**03 10 05.9**	**-1.3**
WACZ	**Wakanui South**	**1.70**	**220**	P	**Pn**	**03 10 05.5**	**-0.8**
PLWZ	**Palliser**	**1.78**	**53**	P	**Pn**	**03 10 06.7**	**-0.8**
DUWZ	**D'Urville Isla**	**1.90**	**13**	P	**Pn**	**03 10 09.3**	**+0.1**
QRZ	**Quartz Range**	**1.94**	**341**	P	**Pn**	**03 10 09.9**	**+0.2**
QRZ	**Quartz Range**	**1.94**	**341**	P	**Pn**	**03 10 09.8**	**+0.2**
WVZ	**Waitaha Valley**	**1.98**	**257**	P	**Pn**	**03 10 10.0**	**-0.2**
RPZ	**Rata Peaks**	**1.99**	**237**	P	**Pn**	**03 10 09.5**	**-0.9**
RPZ	**Rata Peaks**	**1.99**	**237**	P	**Pn**	**03 10 09.6**	**-0.9**
PAWZ	**Paruwai Farm**	**2.00**	**51**	P	**Pn**	**03 10 09.3**	**-1.2**
CAW	**Cannon Point**	**2.01**	**40**	P	**Pn**	**03 10 09.9**	**-0.7**
KIW	**Kapiti Island**	**2.14**	**33**	P	**Pn**	**03 10 12.0**	**-0.4**
TRWZ	**Traveller**	**2.14**	**55**	P	**Pn**	**03 10 11.9**	**-0.6**
OGWZ	**Otaki Gorge**	**2.29**	**37**	P	**Pn**	**03 10 13.6**	**-0.8**
GCSZ	**Gaunt Creek Bo**	**2.32**	**253**	P	**Pn**	**03 10 15.2**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.38**	**43**	P	**Pn**	**03 10 14.6**	**-1.2**
TMZ	**Timaru**	**2.43**	**224**	P	**Pn**	**03 10 15.5**	**-0.9**
MRZ	**Mangatainoka R**	**2.60**	**40**	P	**Pn**	**03 10 17.7**	**-1.0**
FOZ	**Fox Glacier**	**2.74**	**250**	P	**Pn**	**03 10 21.1**	**+0.5**
LBZ	**Lake Benmore**	**2.88**	**232**	P	**Pn**	**03 10 22.2**	**-0.5**
ODZ	**Otahua Downs**	**3.09**	**219**	P	**Pn**	**03 10 24.2**	**-1.3**
ODZ	**Otahua Downs**	**3.09**	**219**	P	**Pn**	**03 10 24.4**	**-1.1**
KHEZ	**Kahui Hut**	**3.40**	**9**	P	**Pn**	**03 10 30.4**	**+0.7**
KHEZ	**Kahui Hut**	**3.40**	**9**	P	**Pn**	**03 10 30.5**	**+0.7**
PKE	**Pukeiti**	**3.50**	**8**	P	**Pn**	**03 10 32.4**	**+1.3**
VRZ	**Vera Road**	**3.69**	**17**	P	**Pn**	**03 10 35.1**	**+1.4**
WNVZ	**Wahianoa**	**3.73**	**28**	P	**Pn**	**03 10 35.1**	**+0.6**
NGZ	**Ngauruhoe**	**3.87**	**27**	P	**Pn**	**03 10 36.4**	**+0.1**
NNVZ	**North Ngauruho**	**3.92**	**27**	P	**Pn**	**03 10 37.8**	**+0.8**
ETVZ	**East Tongariro**	**3.94**	**28**	P	**Pn**	**03 10 38.0**	**+0.7**
TMVZ	**Te Maari**	**3.96**	**27**	P	**Pn**	**03 10 37.9**	**+0.3**
BKZ	**Black Stump Fm**	**4.22**	**35**	P	**Pn**	**03 10 40.6**	**-0.4**
HIZ	**Hauiti**	**4.30**	**16**	P	**Pn**	**03 10 41.9**	**-0.1**
HIZ	**Hauiti**	**4.30**	**16**	P	**Pn**	**03 10 42.6**	**+0.6**
AWAZ	**Awhitu Peninsu**	**5.67**	**15**	P	**Pn**	**03 11 01.5**	**+0.5**
MKAZ	**Moumakai**	**5.72**	**15**	P	**Pn**	**03 11 01.3**	**-0.3**
WIAZ	**Waiheke Island**	**6.02**	**14**	P	**Pn**	**03 11 05.8**	**+0.1**
KUZ	**Kuaotunu**	**6.18**	**18**	P	**Pn**	**03 11 07.9**	**0.0**
	29nm,1.1s						

*IDC **23** 03:13:51.3±1.5, 37°.31N×141°.80E, h0km, mb3.3/4, mbtmp3.2/5, ML2.0/1, Error ellipse: s-maj=35.5km s-min=28.8km az=169.0*
*JMA **23** 03:13:54.0±0.2, 37°.3N±0°.4×141°.6E±0°.8, h31km±1km, MV3.4/36, E OFF FUKUSHIMA PREF*
ISC 23 03:13:54.8±2.3, 37°.31N±0°.05×141°.55E±0°.10, h24km±14km, n19, σ1s13/22, mb3.3/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**276**	*i* P	**Pb**	**03 14 05.6**	**-0.1**
JFK				S	**Sb**	**03 14 13.7**	**+0.5**
JMST	**Minamisoumatoc**	**0.67**	**308**	P	**Pn**	**03 14 07.6**	**-1.2**
JMST				S	**Sb**	**03 14 17.1**	**+0.4**
JFFD	**Fukushimafurud**	**0.82**	**255**	*i* P	**Pn**	**03 14 09.7**	**-1.1**
JFFD				*e*S	**Sn**	**03 14 20.6**	**-1.7**
JMM	**Marumori**	**0.82**	**313**	*i* P	**Pn**	**03 14 09.9**	**-1.0**
JMM				S	**Sn**	**03 14 21.0**	**-1.2**
JHO	**Hitachi**	**1.05**	**229**	P	**Pn**	**03 14 12.6**	**-1.4**
JHO				S	**Sn**	**03 14 26.6**	**-1.3**
JIO	**Ouri**	**1.15**	**352**	P	**Pn**	**03 14 14.7**	**-0.8**
JIO				*e*S	**Sn**	**03 14 29.1**	**-1.3**
JOU	**Okura**	**1.27**	**327**	P	**Pb**	**03 14 17.6**	**-0.4**
JOU				S	**Sb**	**03 14 34.6**	**+0.7**
JYS	**Shirataka**	**1.49**	**308**	*i* P	**Pb**	**03 14 21.6**	**-0.2**
JYS				S	**Sb**	**03 14 41.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.79**	**255**	Pn	**Pn**	**03 14 39.8**	**+1.9**
	0.2nm,0.3s,baz=74,slow=16,SNR=2.6						
MJAR				Sn	**Sb**	**03 15 17.1**	**-0.5**
	0.4nm,0.3s,baz=180,slow=6.3,SNR=5.6 1.7nm,0.5s						
SONM	**Songino Array**	**27.72**	**303**	P	**P**	**03 19 42.8**	**+1.5**
	0.2nm,0.4s,baz=116,slow=9.8,SNR=1.6 0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	03 49 10.8	
	baz=314,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	03 49 12.8	
	baz=314,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	03 49 12.9	
	baz=314,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	03 50 04.9	
	baz=316,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	03 50 07.3	
	baz=316,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	03 50 07.2	
	baz=316,slow=76,SNR=43						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**03 22 01.9**	**+1.2**
	0.5nm,0.8s,baz=86,slow=10,SNR=2.7 0.5nm,0.8s						
WRA	**Warramunga Arr**	**57.35**	**188**	P	**P**	**03 23 41.3**	**+0.3**
	0.2nm,0.7s,baz=3.1,slow=7.4,SNR=1.7 0.2nm,0.7s						
PDAR	**Pinedale Array**	**77.40**	**46**	P	**P**	**03 25 47.7**	**-0.3**
	0.1nm,0.4s,baz=314,slow=3.3,SNR=1.5 0.1nm,0.4s						

*NOU **23** 03:21:42.5, 42°.22S×173°.92E, h20km, MLv3.9/8, South Island, New Zealand*
*WEL **23** 03:21:42.3±0.3, 42°S±2°×17°4E±°, h10km±3km, M3.6/60, ML3.7/17, MLv3.6/60, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8*
ISC 23 03:21:41.6±0.9, 42°.07S±0°.03×173°.82E±0°.03, h10km, n95, σ1s71/96, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.36**	**7**	P	**Pg**	**03 21 49.6**	**-0.5**
BSWZ				S	**Sb**	**03 21 54.8**	**-1.0**
KHZ	**Kahutara**	**0.40**	**211**	P	**Pg**	**03 21 51.2**	**+1.7**
KHZ	**Kahutara**	**0.40**	**211**	P	**Pg**	**03 21 51.2**	**+1.7**
KHZ				S	**Sg**	**03 21 57.3**	**+2.5**
CMWZ	**Cape Campbell**	**0.44**	**43**	P	**Pb**	**03 21 52.7**	**+1.3**
TUWZ	**Tuamarina**	**0.65**	**8**	P	**Pb**	**03 21 54.7**	**-0.3**
THZ	**Tophouse**	**0.75**	**294**	P	**Pb**	**03 21 55.4**	**-1.4**
NNZ	**Nelson**	**0.92**	**339**	P	**Pg**	**03 21 58.4**	**-0.8**
TCW	**Tory Channel**	**0.93**	**22**	P	**Pg**	**03 21 59.6**	**+0.1**
MRNZ	**Matariki Terra**	**1.04**	**310**	P	**Pb**	**03 22 00.8**	**-0.9**
WEL	**Wellington**	**1.06**	**42**	P	**Pg**	**03 22 02.9**	**+0.9**
GVZ	**Greta Valley S**	**1.06**	**213**	P	**Pg**	**03 22 02.8**	**+0.7**
PLWZ	**Palliser**	**1.19**	**65**	P	**Pn**	**03 22 04.0**	**-0.3**
TKNZ	**Takaka Hill**	**1.22**	**328**	P	**Pb**	**03 22 03.6**	**-1.2**
DUWZ	**D'Urville Isla**	**1.27**	**4**	P	**Pn**	**03 22 04.7**	**-0.8**
LTZ	**Lake Taylor**	**1.34**	**238**	P	**Pn**	**03 22 06.4**	**-0.1**
CAW	**Cannon Point**	**1.35**	**45**	P	**Pn**	**03 22 06.6**	**+0.1**
PAWZ	**Paruwai Farm**	**1.39**	**61**	P	**Pn**	**03 22 06.7**	**-0.4**
AMCZ	**Amberley**	**1.40**	**218**	P	**Pn**	**03 22 06.9**	**-0.3**
KIW	**Kapiti Island**	**1.46**	**34**	P	**Pn**	**03 22 08.4**	**+0.3**
DSZ	**Denniston Nort**	**1.54**	**282**	P	**Pb**	**03 22 09.6**	**-0.6**
TRWZ	**Traveller**	**1.56**	**65**	P	**Pn**	**03 22 08.7**	**-0.6**
MTW	**Mount Morrison**	**1.56**	**55**	P	**Pn**	**03 22 08.9**	**-0.5**
QRZ	**Quartz Range**	**1.58**	**322**	P	**Pg**	**03 22 10.4**	**-1.5**
QRZ	**Quartz Range**	**1.58**	**322**	P	**Pb**	**03 22 09.6**	**-1.3**
OGWZ	**Otaki Gorge**	**1.62**	**39**	P	**Pn**	**03 22 10.3**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.73**	**48**	P	**Pn**	**03 22 11.3**	**-0.5**
OKCZ	**Okains Bay**	**1.74**	**198**	P	**Pn**	**03 22 11.2**	**-0.7**
OXZ	**Oxford**	**1.81**	**226**	P	**Pn**	**03 22 11.8**	**-1.1**
MQZ	**McQueen's Vall**	**1.84**	**207**	P	**Pn**	**03 22 11.8**	**-1.5**
INZ	**Inchbonnie**	**1.87**	**249**	P	**Pn**	**03 22 13.8**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.92**	**200**	P	**Pn**	**03 22 13.4**	**-0.9**
MRZ	**Mangatainoka R**	**1.94**	**44**	P	**Pn**	**03 22 14.2**	**-0.4**
MHCZ	**Mount Hutt**	**2.21**	**228**	P	**Pn**	**03 22 17.2**	**-1.1**
PRWZ	**Pori Road**	**2.22**	**48**	P	**Pn**	**03 22 17.7**	**-0.8**
POWZ	**Post Office Ro**	**2.23**	**42**	P	**Pn**	**03 22 18.2**	**-0.5**
BFZ	**Birch Farm**	**2.30**	**54**	P	**Pn**	**03 22 18.2**	**-1.4**
WACZ	**Wakanui South**	**2.37**	**217**	P	**Pn**	**03 22 19.4**	**-1.0**
WAZ	**Wanganui**	**2.48**	**21**	P	**Pb**	**03 22 25.0**	**-1.3**
WVZ	**Waitaha Valley**	**2.48**	**245**	P	**Pn**	**03 22 22.8**	**+0.7**
DVHZ	**Dannevirke**	**2.51**	**46**	P	**Pn**	**03 22 21.0**	**-1.4**
TSZ	**Takapari Road**	**2.58**	**40**	P	**Pn**	**03 22 22.8**	**-0.7**
RPZ	**Rata Peaks**	**2.61**	**230**	P	**Pn**	**03 22 23.1**	**-0.8**
RPZ	**Rata Peaks**	**2.61**	**230**	P	**Pn**	**03 22 23.0**	**-0.9**
NMEZ	**Namu Road**	**2.66**	**1**	P	**Pb**	**03 22 30.1**	**+0.9**
ARCZ	**Arundel**	**2.69**	**225**	P	**Pn**	**03 22 23.9**	**-1.1**
KHEZ	**Kahui Hut**	**2.78**	**3**	P	**Pb**	**03 22 29.0**	**-2.4**
KHEZ	**Kahui Hut**	**2.78**	**3**	P	**Pb**	**03 22 29.2**	**-2.2**
NBEZ	**Newall Road No**	**2.80**	**1**	P	**Pb**	**03 22 29.6**	**-2.1**
NEZ	**North Egmont**	**2.81**	**4**	P	**Pb**	**03 22 29.6**	**-2.3**
PNHZ	**Pukenui**	**2.81**	**41**	P	**Pn**	**03 22 25.7**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.86**	**243**	P	**Pn**	**03 22 28.0**	**+0.8**
PKE	**Pukeiti**	**2.88**	**3**	P	**Pn**	**03 22 30.4**	**-2.7**
DREZ	**Durham Road**	**2.90**	**6**	P	**Pb**	**03 22 30.7**	**-2.7**
MTVZ	**Mangateitei**	**2.97**	**26**	P	**Pb**	**03 22 36.3**	**+1.7**
PKVZ	**Pokaka**	**3.02**	**23**	P	**Pb**	**03 22 32.8**	**-2.6**
MHEZ	**Mangahewa**	**3.02**	**8**	P	**Pb**	**03 22 36.9**	**+1.4**
VRZ	**Vera Road**	**3.03**	**14**	P	**Pb**	**03 22 33.0**	**-2.7**
MOVZ	**Moawhango**	**3.04**	**30**	P	**Pb**	**03 22 33.5**	**-2.4**
WNVZ	**Wahianoa**	**3.06**	**27**	P	**Pn**	**03 22 31.6**	**+1.4**
TRVZ	**Turoa**	**3.07**	**26**	P	**Pn**	**03 22 33.3**	**+3.0**
TMZ	**Timaru**	**3.09**	**221**	P	**Pn**	**03 22 29.7**	**-0.7**
BHHZ	**Black Hill Sta**	**3.09**	**34**	P	**Pn**	**03 22 30.3**	**-0.3**
DRZ	**Dome Shelter**	**3.10**	**26**	P	**Pb**	**03 22 38.0**	**+1.0**
WHVZ	**Whangaehu Hut**	**3.10**	**26**	P	**Pn**	**03 22 32.6**	**+1.9**
FWVZ	**Far West T-bar**	**3.11**	**26**	P	**Pn**	**03 22 33.9**	**+3.0**
TUVZ	**Tukino**	**3.13**	**27**	P	**Pb**	**03 22 34.9**	**-2.6**
NGZ	**Ngauruhoe**	**3.20**	**26**	P	**Pb**	**03 22 35.7**	**-2.9**
SNVZ	**South Ngauruho**	**3.20**	**26**	P	**Pn**	**03 22 36.6**	**-2.1**
OTVZ	**Oturere**	**3.23**	**26**	P	**Pb**	**03 22 36.5**	**-2.7**
NNVZ	**North Ngauruho**	**3.24**	**26**	P	**Pn**	**03 22 33.8**	**+1.2**
TWVZ	**Taurewa**	**3.24**	**23**	P	**Pn**	**03 22 37.9**	**-1.5**
KAHZ	**Kahuranaki**	**3.25**	**47**	P	**Pn**	**03 22 30.6**	**-2.1**
ETVZ	**East Tongariro**	**3.27**	**27**	P	**Pn**	**03 22 35.1**	**+2.0**
KRVZ	**Karewarewa**	**3.28**	**26**	P	**Pb**	**03 22 37.9**	**-2.1**
FOZ	**Fox Glacier**	**3.29**	**242**	P	**Pn**	**03 22 33.5**	**+0.4**
TMVZ	**Te Maari**	**3.29**	**27**	P	**Pn**	**03 22 34.4**	**+1.2**
NTVZ	**North Tongarir**	**3.29**	**26**	P	**Pn**	**03 22 37.1**	**+3.7**
KATZ	**Kakaramea**	**3.41**	**25**	P	**Pb**	**03 22 42.5**	**+0.3**
RITZ	**Rihia Road**	**3.46**	**27**	P

	1.7nm,0.3s,baz=199,slow=11,SNR=21								
DLBC					Lg		Lg	03 31 37.5	
	2.6nm,0.3s,baz=290,slow=8.9,SNR=11								
	4.3nm,0.4s								
DLBC	**Dease Lake**	**5.88**	**9**	Pn		**Pn**		**03 30 02.1**	**+2.3**
DLBC				Sg		**Sg**		**03 31 38.1**	**-3.8**
DLBC	**Dease Lake**	**5.88**	**9**	P		**Pn**		**03 30 01.0**	**+1.1**
	baz=192								
Q32M	**Nakina River**	**6.32**	**358**	P		**Pn**		**03 30 06.8**	**+0.8**
	baz=179								
R33M	**Jennings River**	**6.77**	**4**	Pn		**Pn**		**03 30 13.8**	**+1.7**
R33M				Sn		**Sn**		**03 31 30.4**	**+1.6**
R33M	**Jennings River**	**6.77**	**4**	P		**Pn**		**03 30 13.6**	**+1.5**
	baz=185								
R33M				S		**Sn**		**03 31 30.7**	**+2.0**
	baz=185								
P32M	**Atlin**	**7.02**	**352**	Pn		**Pn**		**03 30 16.2**	**+0.7**
P32M				Sn		**Sn**		**03 31 34.8**	**-0.1**
P32M	**Atlin**	**7.02**	**352**	P		**Pn**		**03 30 16.1**	**+0.6**
	baz=172,SNR=20								
NBC5	**NorthernBC 5**	**7.17**	**44**	Pn		**Pn**		**03 30 19.2**	**+1.6**
NBC5				Sg		**Sg**		**03 32 20.2**	**-3.0**
PLBC	**Pleasant Camp**	**7.26**	**341**	Pn		**Pn**		**03 30 19.6**	**+0.9**
P33M	**Teslin, Yukon**	**7.59**	**356**	Pn		**Pn**		**03 30 24.4**	**+1.2**
P33M				Sn		**Sn**		**03 31 47.7**	**-1.1**
P33M	**Teslin, Yukon**	**7.59**	**356**	P		**Pn**		**03 30 24.3**	**+1.0**
	baz=176,SNR=74								
P33M				S		**Sn**		**03 31 48.3**	**-0.6**
	baz=176								
BDMTA	**Bald Mountain**	**7.97**	**69**	Pn		**Pn**		**03 30 30.3**	**+1.8**
FNBB	**Fort Nelson**	**7.98**	**35**	Pn		**Pn**		**03 30 30.1**	**+1.4**
FNBB				Sn		**Sn**		**03 31 56.8**	**-1.7**
WHY	**Whitehorse**	**8.19**	**349**	Pn		**Pn**		**03 30 32.0**	**+0.5**
WHY				Sg				03 32 50.4	
WHY	**Whitehorse**	**8.19**	**349**	P		**Pn**		**03 30 31.8**	**+0.3**
	baz=168,SNR=9.6								
MNB	**Mounoet Dainar**	**8.25**	**88**	Pn		**Pn**		**03 30 34.5**	**+2.0**
PNT	**Penticton**	**8.41**	**109**	Sg				03 32 57.6	
N32M	**Quiet Lake**	**8.54**	**356**	Pn		**Pn**		**03 30 37.9**	**+1.6**
N32M	**Quiet Lake**	**8.54**	**356**	P		**Pn**		**03 30 37.5**	**+1.2**
	baz=176								
SLEB	**Sale Mountain**	**8.62**	**95**	Pn		**Pn**		**03 30 39.2**	**+1.7**
SLEB				Sg				03 33 00.9	
TGTN	**Hyland Airport**	**9.10**	**11**	Pn		**Pn**		**03 30 47.0**	**+3.1**
N31M	**Braeburn, Yuko**	**9.10**	**348**	Pn		**Pn**		**03 30 46.3**	**+2.3**
FARO	**Faro, Yukon**	**9.63**	**356**	Pn		**Pn**		**03 30 53.2**	**+2.1**
MMPY	**Sheldon Lake,**	**9.99**	**2**	Pn		**Pn**		**03 30 58.5**	**+2.4**
MMPY	**Sheldon Lake,**	**9.99**	**2**	P		**Pn**		**03 30 58.4**	**+2.3**
	baz=183,SNR=16								
YKA	**Yellowknife Ar**	**13.46**	**36**	Pn		**Pn**		**03 31 42.3**	**-1.2**
	0.1nm,0.3s,baz=232,slow=12,SNR=4.6								
	1.1nm,0.6s								
INK	**Inuvik**	**15.72**	**358**	Pn		**Pn**		**03 32 14.8**	**+1.1**
	0.1nm,0.3s,baz=161,slow=7.3,SNR=4.2								
	0.4nm,0.4s								
PDAR	**Pinedale Array**	**17.91**	**115**	P		**P**		**03 32 43.4**	**+1.0**
	0.1nm,0.3s,baz=305,slow=5.8,SNR=6.7								
	0.5nm,0.7s								
ULM	**Lac du Bonnet**	**22.40**	**82**	LR		LR		03 43 14.4	
	comp=Z,31nm,21.2s,baz=16,slow=39								
TXAR	**Lajitas Array**	**31.20**	**127**	P		**P**		**03 34 53.1**	**+1.2**
	0.5nm,0.6s,baz=334,slow=8.0,SNR=4.7								
	0.5nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**57.17**	**259**	T		T		04 40 11.6	
	baz=39,slow=76,SNR=809								
H11N3	**WAKE ISLAND Hy**	**57.17**	**259**	T		T		04 40 10.2	
	baz=39,slow=76,SNR=776								
H11N1	**WAKE ISLAND Hy**	**57.19**	**259**	T		T		04 40 12.3	
	baz=39,slow=76,SNR=2101								
H11S1	**WAKE ISLAND Hy**	**58.23**	**259**	T		T		04 41 32.6	
	baz=40,slow=75,SNR=23								
H11S2	**WAKE ISLAND Hy**	**58.24**	**259**	T		T		04 41 28.4	
	baz=40,slow=75,SNR=52								
H11S3	**WAKE ISLAND Hy**	**58.25**	**259**	T		T		04 41 30.7	
	baz=40,slow=75,SNR=83								
MKAR	**Makanchi Array**	**76.71**	**337**	P		**P**		**03 40 22.9**	**-0.5**
	0.3nm,0.7s,baz=26,slow=5.6,SNR=2.4								
	0.3nm,0.7s								

*IDC **23** 03:38:38.2±2.7,37°.20N×141°.62E,h0km,mb3.4/2, mbtmp3.5/4,ML2.7/2, Error ellipse: s-maj=42.4km s-min=29.1km az=72.0*
*JMA **23** 03:38:40.7±0.2,37°.3N±0°.3×141°.5E±0°.8,h27km±1km, MV3.3/34,E OFF FUKUSHIMA PREF*
ISC 23 03:38:40.7±1.6,37°.30N±0°.04×141°.48E±0°.08,h20km±5km, n11,σ0s54/18,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**278**	P	**Pg**	**03 38 50.6**	**-0.1**
JFK				S	**Sb**	**03 38 57.8**	**+0.4**
JMST	**Minamisoumatoc**	**0.63**	**312**	*e*P	**Pg**	**03 38 52.8**	**-0.5**
JMST				S	**Sg**	**03 39 01.9**	**+0.1**
JFFD	**Fukushimafurud**	**0.76**	**254**	P	**Pb**	**03 38 55.0**	**-0.3**
JFFD				*e*S	**Sb**	**03 39 05.3**	**0.0**
JMM	**Marumori**	**0.79**	**316**	P	**Pb**	**03 38 55.1**	**-0.6**
JMM				S	**Sb**	**03 39 06.1**	**+0.2**
JHO	**Hitachi**	**1.00**	**227**	*e*S	**Sb**	**03 39 12.1**	**-0.1**
JIO	**Ouri**	**1.16**	**355**	*e*S	**Sb**	**03 39 16.0**	**-0.5**
JOU	**Okura**	**1.24**	**329**	P	**Pn**	**03 39 02.8**	**+0.2**
JOU				S	**Sb**	**03 39 19.6**	**+0.4**
MJAR	**Matsushiro Arr**	**2.73**	**255**	Pn	**Pn**	**03 39 23.5**	**+0.1**
	0.3nm,0.3s,baz=79,slow=27,SNR=8.9						
MJAR				Sn	**Sb**	**03 40 01.3**	**-0.6**
	0.4nm,0.3s,baz=33,slow=26,SNR=4.6						
	2.1nm,0.4s						
JHJ	**Hachijo jima 2**	**4.40**	**199**	Pn	**Pn**	**03 39 46.4**	**0.0**
	6.7nm,0.3s,baz=212,slow=20,SNR=0.9						
JHJ				Sn	**Sn**	**03 40 36.1**	**-0.9**
	10nm,0.3s,baz=70,slow=23,SNR=2.5						
	126nm,0.9s						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**03 46 47.9**	**+1.1**
	0.9nm,1.1s,baz=82,slow=11,SNR=3.0						
	0.9nm,1.1s						
WRA	**Warramunga Arr**	**57.33**	**188**	P	**P**	**03 48 27.7**	**+0.4**
	0.2nm,0.6s,baz=4.7,slow=7.3,SNR=2.2						
	0.2nm,0.6s						

*IDC **23** 03:39:23.0±1.1,24°.42S×67°.61W,h189km±17km, mbtmp3.4/4,Error ellipse: s-maj=35.9km s-min=13.7km az=79.0*
*GUC **23** 03:39:23.1±0.8,24°.18S×67°.59W,h202km±6km,ML3.7*
ISC 23 03:39:23.2±1.1,24°.25S±0°.05×67°.49W±0°.09, h197km±13km,n22,σ1s55/38,6C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.44**	**334**	*e*P	**Pn**	**03 39 56.5**	**-0.1**
AF01				*e*S	**Sn**	**03 40 22.9**	**+0.6**
AF01				IAML		03 40 25.6	
	comp=N,186nm,0.7s						
LVC	**Limon Verde**	**2.09**	**321**	P	**Pn**	**03 40 03.4**	**+0.5**
	comp=N,85nm,0.4s,baz=130,slow=6.2,SNR=287						
LVC				S	**Sn**	**03 40 34.1**	**+0.4**
	comp=N,38nm,0.2s,baz=301,slow=21,SNR=17						
LVC	**Limon Verde**	**2.09**	**321**	*e*P	**Pn**	**03 40 03.1**	**+0.2**
LVC				*e*S	**Sn**	**03 40 34.0**	**+0.3**
PB15	**IPOC Station P**	**2.09**	**299**	*e*P	**Pn**	**03 40 03.7**	**+0.9**
PB15				*e*S	**Sn**	**03 40 33.8**	**+0.4**
GO02	**Mina Guanaco**	**2.12**	**244**	*e*P	**Pn**	**03 40 04.1**	**+0.9**
GO02				*e*S	**Sn**	**03 40 35.6**	**+1.5**
GO02				IAML		03 40 37.5	
	comp=E,516nm,0.1s						
PB06	**IPOC Station P**	**2.45**	**308**	*e*P	**Pn**	**03 40 07.6**	**+1.0**
PB06				*e*S	**Sn**	**03 40 40.6**	**+0.2**
PB06				IAML		03 40 43.7	
	comp=N,253nm,0.1s						
PB10	**IPOC Station P**	**2.90**	**284**	*e*P	**Pn**	**03 40 12.8**	**+1.2**
PB10				*e*S	**Sn**	**03 40 49.4**	**+0.1**
PB10				IAML		03 40 56.2	
	comp=E,130nm,0.2s						
PB09	**IPOC Station P**	**2.92**	**326**	*e*P	**Pn**	**03 40 12.9**	**+0.8**
PB09				*e*S	**Sn**	**03 40 50.7**	**+0.5**
PB09				IAML		03 40 51.7	
	comp=N,92nm,0.5s						
PB03	**IPOC Station P**	**3.02**	**316**	*e*P	**Pn**	**03 40 13.7**	**+0.4**
PB03				*e*S	**Sn**	**03 40 51.8**	**-0.4**
PB03				IAML		03 40 56.4	
	comp=N,124nm,0.2s						
PB04	**IPOC Station P**	**3.10**	**307**	*e*P	**Pn**	**03 40 14.8**	**+0.6**
PB04				*i* S	**Sn**	**03 40 53.5**	**-0.4**
PB04				IAML		03 40 56.5	
	comp=N,169nm,0.2s						
PB07	**IPOC Station P**	**3.34**	**318**	*e*P	**Pn**	**03 40 17.4**	**+0.3**
PB07				*e*S	**Sn**	**03 40 58.1**	**-1.1**
AC01	**Pan de Azucar**	**3.40**	**235**	*e*P	**Pn**	**03 40 17.2**	**-0.2**
AC01				*e*S	**Sn**	**03 40 59.5**	**-0.6**
PB02	**IPOC Station P**	**3.66**	**322**	*e*P	**Pn**	**03 40 20.7**	**-0.2**
PB02				*e*S	**Sn**	**03 41 05.2**	**-0.9**
PB01	**IPOC Station P**	**3.68**	**329**	*e*P	**Pn**	**03 40 20.7**	**-0.4**
PB01				*e*S	**Sn**	**03 41 05.1**	**-1.5**
PATCX	**Punta Patache**	**4.21**	**324**	*e*S	**Sn**	**03 41 16.6**	**-1.6**
PB08	**IPOC Station P**	**4.37**	**339**	*e*P	**Pn**	**03 40 29.8**	**-0.1**
PB08				*e*S	**Sn**	**03 41 20.2**	**-2.1**
HMBC	**Humberstone**	**4.53**	**330**	*e*S	**Sn**	**03 41 22.0**	**-3.7**
MNMC	**Minye Minye**	**5.45**	**339**	*e*P	**Pn**	**03 40 42.4**	**-1.3**
CFA	**Coronel Fontan**	**7.36**	**185**	P	**Pn**	**03 41 06.3**	**-1.9**
	comp=N,0.5nm,0.3s,baz=7.0,slow=15,SNR=10						
CFA				S	**Sn**	**03 42 25.2**	**-6.3**
	comp=N,1.3nm,0.3s,baz=138,slow=22,SNR=7.6						
LPAZ	**La Paz**	**7.94**	**356**	P	**Pn**	**03 41 16.5**	**+0.1**
	comp=N,0.7nm,0.3s,baz=150,slow=11,SNR=12						
CPUP	**Villa Florida**	**9.42**	**105**	P	**Pn**	**03 41 36.2**	**+1.1**
	comp=N,0.6nm,0.5s,baz=278,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**147.00**	**39**	PKPbc	**PKPbc**	**03 58 43.3**	**+0.8**
	comp=N,0.7nm,0.7s,baz=287,slow=3.4,SNR=4.5						

WEL 23 03:41:22.4±0.3,42°S±3°×17°4E±°,h12km±3km,M3.6/36, ML3.8/19,MLv3.6/36,Error ellipse: s-maj=0.0km s-min=0.0km az=136.6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**224**	P	**Pg**	**03 41 25.6**	**+0.8**
CMWZ				S	**Sg**	**03 41 28.2**	**+1.6**
BSWZ	**Blackbirch Sta**	**0.29**	**268**	P	**Pg**	**03 41 29.0**	**+0.6**
BSWZ				S	**Sb**	**03 41 34.0**	**-0.5**
TUWZ	**Tuamarina**	**0.37**	**319**	P	**Pb**	**03 41 30.7**	**-0.1**
TUWZ				S	**Sb**	**03 41 36.4**	**-0.2**
TCW	**Tory Channel**	**0.50**	**1**	P	**Pb**	**03 41 32.8**	**-0.2**
WEL	**Wellington**	**0.56**	**42**	P	**Pb**	**03 41 34.4**	**+0.2**
PLWZ	**Palliser**	**0.75**	**80**	P	**Pb**	**03 41 37.6**	**+0.1**
MSWZ	**Moikau Station**	**0.79**	**69**	P	**Pn**	**03 41 38.8**	**-0.5**
NNZ	**Nelson**	**0.83**	**306**	P	**Pb**	**03 41 38.6**	**-0.1**
CAW	**Cannon Point**	**0.85**	**45**	P	**Pb**	**03 41 39.2**	**+0.1**
KHZ	**Kahutara**	**0.89**	**217**	P	**Pg**	**03 41 39.7**	**0.0**
PAWZ	**Paruwai Farm**	**0.93**	**70**	P	**Pg**	**03 41 40.2**	**-0.1**
DUWZ	**D'Urville Isla**	**0.94**	**344**	P	**Pb**	**03 41 40.6**	**0.0**
KIW	**Kapiti Island**	**0.97**	**30**	P	**Pb**	**03 41 41.3**	**+0.1**
THZ	**Tophouse**	**1.02**	**266**	P	**Pb**	**03 41 42.0**	**+0.1**
MTW	**Mount Morrison**	**1.08**	**60**	P	**Pb**	**03 41 42.3**	**-0.6**
TRWZ	**Traveller**	**1.11**	**74**	P	**Pb**	**03 41 42.3**	**-1.2**
OGWZ	**Otaki Gorge**	**1.12**	**38**	P	**Pb**	**03 41 43.7**	**+0.1**
MRNZ	**Matariki Terra**	**1.18**	**285**	P	**Pg**	**03 41 45.0**	**0.0**
TKNZ	**Takaka Hill**	**1.19**	**304**	P	**Pb**	**03 41 45.1**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.24**	**50**	P	**Pn**	**03 41 44.8**	**-0.7**
TMWZ	**Te Maipa**	**1.36**	**64**	P	**Pn**	**03 41 45.9**	**-1.3**
MRZ	**Mangatainoka R**	**1.44**	**44**	P	**Pn**	**03 41 47.8**	**-0.5**
TIWZ	**Tintock**	**1.53**	**53**	P	**Pn**	**03 41 48.7**	**-0.9**
GVZ	**Greta Valley S**	**1.56**	**216**	P	**Pn**	**03 41 48.6**	**-1.4**
QRZ	**Quartz Range**	**1.58**	**303**	P	**Pb**	**03 41 51.6**	**+0.1**
CPWZ	**Castlepoint**	**1.66**	**62**	P	**Pn**	**03 41 50.4**	**-0.9**
PRWZ	**Pori Road**	**1.73**	**49**	P	**Pn**	**03 41 51.4**	**-0.9**
POWZ	**Post Office Ro**	**1.74**	**41**	P	**Pn**	**03 41 51.7**	**-0.6**
BFZ	**Birch Farm**	**1.81**	**56**	P	**Pn**	**03 41 51.5**	**-1.9**
LTZ	**Lake Taylor**	**1.83**	**233**	P	**Pn**	**03 41 52.7**	**-1.1**
DSZ	**Denniston Nort**	**1.84**	**268**	P	**Pn**	**03 41 54.8**	**+0.9**
DVHZ	**Dannevirke**	**2.01**	**46**	P	**Pn**	**03 41 54.7**	**-1.5**
WAZ	**Wanganui**	**2.02**	**16**	P	**Pn**	**03 41 58.5**	**-0.7**
ANWZ	**Angora Road**	**2.08**	**54**	P	**Pn**	**03 41 54.6**	**-2.5**
TSZ	**Takapari Road**	**2.09**	**38**	P	**Pn**	**03 41 56.5**	**-0.7**
LREZ	**Lake Rotokare**	**2.25**	**3**	P	**Pb**	**03 42 02.8**	**0.0**
PRHZ	**Porangahau**	**2.30**	**52**	P	**Pn**	**03 41 58.1**	**-2.0**
PNHZ	**Pukenui**	**2.31**	**40**	P	**Pn**	**03 41 59.2**	**-1.2**
WPHZ	**Waipukurau**	**2.33**	**46**	P	**Pn**	**03 41 59.2**	**-1.3**
KHEZ	**Kahui Hut**	**2.42**	**355**	P	**Pb**	**03 42 05.1**	**-0.7**
NEZ	**North Egmont**	**2.44**	**357**	P	**Pb**	**03 42 05.0**	**-1.2**
NBEZ	**Newall Road No**	**2.46**	**353**	P	**Pb**	**03 42 05.6**	**-0.9**
DREZ	**Durham Road**	**2.52**	**359**	P	**Pb**	**03 42 06.5**	**-1.0**
PKE	**Pukeiti**	**2.52**	**355**	P	**Pb**	**03 42 05.9**	**-1.7**
PKVZ	**Pokaka**	**2.55**	**19**	P	**Pn**	**03 42 05.3**	**+1.7**
MOVZ	**Moawhango**	**2.56**	**27**	P	**Pn**	**03 42 04.0**	**+0.2**
WNVZ	**Wahianoa**	**2.58**	**24**	P	**Pn**	**03 42 05.0**	**+0.8**
TRVZ	**Turoa**	**2.60**	**22**	P	**Pn**	**03 42 05.5**	**+1.1**
BHHZ	**Black Hill Sta**	**2.60**	**32**	P	**Pn**	**03 42 04.1**	**-0.3**
VRZ	**Vera Road**	**2.61**	**8**	P	**Pn**	**03 42 06.4**	**+2.1**
WHVZ	**Whangaehu Hut**	**2.62**	**23**	P	**Pn**	**03 42 05.6**	**+0.8**
FWVZ	**Far West T-bar**	**2.64**	**22**	P	**Pn**	**03 42 06.2**	**+1.2**
TUVZ	**Tukino**	**2.66**	**24**	P	**Pn**	**03 42 05.9**	**+0.8**
NGZ	**Ngauruhoe**	**2.73**	**22**	P	**Pn**	**03 42 07.0**	**+0.9**
SNVZ	**South Ngauruho**	**2.73**	**23**	P	**Pn**	**03 42 07.0**	**+0.9**
KAHZ	**Kahuranaki**	**2.75**	**47**	P	**Pn**	**03 42 04.3**	**-2.1**
OTVZ	**Oturere**	**2.76**	**23**	P	**Pn**	**03 42 07.5**	**+0.9**
NNVZ	**North Ngauruho**	**2.77**	**22**	P	**Pn**	**03 42 07.6**	**+0.9**
TWVZ	**Taurewa**	**2.78**	**19**	P	**Pn**	**03 42 09.1**	**+2.2**
ETVZ	**East Tongariro**	**2.79**	**24**	P	**Pn**	**03 42 07.6**	**+0.5**
TMVZ	**Te Maari**	**2.81**	**23**	P	**Pn**	**03 42 07.8**	**+0.5**
KRVZ	**Karewarewa**	**2.81**	**22**	P	**Pn**	**03 42 09.1**	**+1.9**
NTVZ	**North Tongarir**	**2.82**	**23**	P	**Pn**	**03 42 08.0**	**+0.7**
BKZ	**Black Stump Fm**	**3.05**	**34**	P	**Pn**	**03 42 09.0**	**-1.5**
HIZ	**Hauiti**	**3.22**	**8**	P	**Pn**	**03 42 14.9**	**+2.1**
MTHZ	**Maungataniwha**	**3.46**	**35**	P	**Pn**	**03 42 17.0**	**+0.8**
TLZ	**Tolley Road**	**3.51**	**17**	P	**Pn**	**03 42 19.1**	**+2.3**
URZ	**Urewera**	**4.08**	**33**	P	**Pn**	**03 42 24.2**	**-0.4**
TOZ	**Tahuroa Road**	**4.08**	**14**	P	**Pn**	**03 42 27.2**	**+2.6**
MWZ	**Matawai**	**4.20**	**38**	P	**Pn**	**03 42 22.8**	**-3.4**
RUGZ	**Raukumara Rang**	**4.57**	**36**	P	**Pn**	**03 42 28.6**	**-2.8**
AWAZ	**Awhitu Peninsu**	**4.65**	**4**	P	**Pn**	**03 42 34.9**	**+2.6**
MKAZ	**Moumakai**	**4.65**	**9**	P	**Pn**	**03 42 33.4**	**+1.0**
WIAZ	**Waiheke Island**	**4.95**	**8**	P	**Pn**	**03 42 38.1**	**+1.5**

OMAN 23 03:45:55.1±0.3,22°.60N×62°.66E,h10km,ml3.6/6,Error ellipse: s-maj=6.9km s-min=5.8km az=347.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**3.08**	**333**	P	**Pn**	**03 46 42.6**	**-1.2**
WBK	**Wadi Bani Khal**	**3.41**	**271**	P	**Pn**	**03 46 48.8**	**+0.5**
WBK				S	**Sn**	**03 47 29.2**	**+0.4**
JMDO	**Jabal Madar**	**4.22**	**268**	P	**Pn**	**03 47 00.3**	**+0.8**
	SNR=8.9						
JMDO				S	**Sn**	**03 47 51.2**	**+2.4**
BIDO	**Bidbid**	**4.27**	**283**	P	**Pn**	**03 47 00.5**	**+0.3**
BIDO				S	**Sn**	**03 47 49.6**	**-0.6**
SMDO	**Samad**	**4.27**	**277**	P	**Pn**	**03 47 00.8**	**+0.5**
	SNR=11						
SMDO				S	**Sn**	**03 47 51.1**	**+0.7**
MHTO	**MHTO**	**4.64**	**251**	P	**Pn**	**03 47 05.1**	**-0.3**
MHTO				S	**Sn**	**03 47 58.6**	**-0.7**
HOQ	**Hoqain**	**5.02**	**282**	P	**Pn**	**03 47 11.0**	**+0.5**
HOQ				S	**Sn**	**03 48 10.3**	**+1.8**
DQM	**DQM**	**5.46**	**242**	P	**Pn**	**03 47 16.4**	**-0.2**
	SNR=15						
DQM				S	**Sn**	**03 48 18.8**	**-0.7**
ARQ	**Araqi**	**5.70**	**279**	P	**Pn**	**03 47 20.0**	**+0.2**
HATD	**Hatta, Dubai**	**6.38**	**292**	P	**Pn**	**03 47 29.4**	**+0.2**
HATD				S	**Sn**	**03 48 45.5**	**+3.4**
MDH	**Madha**	**6.41**	**296**	P	**Pn**	**03 47 28.9**	**-0.6**
MASF	**Masafi**	**6.55**	**296**	P	**Pn**	**03 47 30.9**	**-0.7**
MASF				S	**Sn**	**03 48 46.1**	**-0.3**
BANOM	**Banah**	**6.68**	**301**	P	**Pn**	**03 47 32.1**	**-1.2**
	SNR=17						
DOK	**Doka**	**8.91**	**245**	P	**Pn**	**03 48 02.2**	**-1.8**

*WEL **23** 03:53:17.2±0.3,42°.5S±3°×17°.3E±°,h5km,M3.4/30, ML3.7/14,MLv3.4/30,Error ellipse: s-maj=0.0km s-min=0.0km az=131.4*
*NOU **23** 03:53:17.7,42°.53S×172°.95E,h0km,MLv4.1/8,South Island, New Zealand*
ISC 23 03:53:16.9±0.9,42°.55S±0°.03×173°.24E±0°.04,h15km,n72, σ1s43/73,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**60**	P	**Pg**	**03 53 22.8**	**+0.2**
KHZ				S	**Sg**	**03 53 27.2**	**+0.8**
GVZ	**Greta Valley S**	**0.45**	**199**	P	**Pg**	**03 53 27.5**	**+1.6**
LTZ	**Lake Taylor**	**0.75**	**251**	P	**Pg**	**03 53 31.3**	**-0.2**
AMCZ	**Amberley**	**0.76**	**214**	P	**Pg**	**03 53 33.3**	**+1.5**
THZ	**Tophouse**	**0.82**	**343**	P	**Pg**	**03 53 31.6**	**-1.3**
BSWZ	**Blackbirch Sta**	**0.96**	**30**	P	**Pb**	**03 53 35.1**	**-0.1**
CMWZ	**Cape Campbell**	**1.08**	**43**	P	**Pb**	**03 53 37.4**	**+0.1**
OXZ	**Oxford**	**1.18**	**228**	P	**Pn**	**03 53 38.5**	**-0.4**
OKCZ	**Okains Bay**	**1.18**	**186**	P	**Pn**	**03 53 39.1**	**+0.1**
MRNZ	**Matariki Terra**	**1.20**	**343**	P	**Pb**	**03 53 38.5**	**-0.9**
TUWZ	**Tuamarina**	**1.23**	**26**	P	**Pn**	**03 53 39.7**	**+0.1**
MQZ	**McQueen's Vall**	**1.24**	**200**	P	**Pn**	**03 53 38.9**	**-0.7**
DSZ	**Denniston Nort**	**1.33**	**306**	P	**Pn**	**03 53 40.9**	**-0.1**
NNZ	**Nelson**	**1.33**	**5**	P	**Pn**	**03 53 40.5**	**-0.5**
INZ	**Inchbonnie**	**1.33**	**262**	P	**Pn**	**03 53 41.2**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.35**	**190**	P	**Pn**	**03 53 41.1**	**-0.2**
RACZ	**Rakaia**	**1.43**	**214**	P	**Pn**	**03 53 42.0**	**-0.3**
TKNZ	**Takaka Hill**	**1.52**	**352**	P	**Pn**	**03 53 44.0**	**+0.3**
TCW	**Tory Channel**	**1.54**	**31**	P	**Pn**	**03 53 44.1**	**+0.2**
MHCZ	**Mount Hutt**	**1.57**	**231**	P	**Pn**	**03 53 43.9**	**-0.4**
WACZ	**Wakanui South**	**1.73**	**216**	P	**Pn**	**03 53 46.2**	**-0.3**
PLWZ	**Palliser**	**1.79**	**58**	P	**Pn**	**03 53 46.7**	**-0.6**
QRZ	**Quartz Range**	**1.80**	**343**	P	**Pn**	**03 53 48.4**	**+1.0**
QRZ	**Quartz Range**	**1.80**	**343**	P	**Pn**	**03 53 48.4**	**+1.0**
DUWZ	**D'Urville Isla**	**1.82**	**17**	P	**Pn**	**03 53 49.1**	**+1.4**
WVZ	**Waitaha Valley**	**1.91**	**253**	P	**Pn**	**03 53 49.3**	**+0.3**
RPZ	**Rata Peaks**	**1.98**	**233**	P	**Pn**	**03 53 49.7**	**-0.2**
RPZ	**Rata Peaks**	**1.98**	**233**	P	**Pn**	**03 53 49.7**	**-0.2**
CAW	**Cannon Point**	**1.98**	**44**	P	**Pn**	**03 53 49.8**	**-0.2**
PAWZ	**Paruwai Farm**	**2.01**	**55**	P	**Pn**	**03 53 49.5**	**-0.8**
ARCZ	**Arundel**	**2.06**	**226**	P	**Pn**	**03 53 50.4**	**-0.6**
KIW	**Kapiti Island**	**2.10**	**37**	P	**Pn**	**03 53 51.7**	**+0.2**
MTW	**Mount Morrison**	**2.19**	**51**	P	**Pn**	**03 53 51.9**	**-0.8**
OGWZ	**Otaki Gorge**	**2.25**	**41**	P	**Pn**	**03 53 53.4**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.27**	**249**	P	**Pn**	**03 53 54.7**	**+0.8**
HOWZ	**Holdsworth Sta**	**2.37**	**47**	P	**Pn**	**03 53 54.6**	**-0.7**
TMZ	**Timaru**	**2.45**	**221**	P	**Pn**	**03 53 56.1**	**-0.3**
MRZ	**Mangatainoka R**	**2.58**	**44**	P	**Pn**	**03 53 57.4**	**-0.7**
FOZ	**Fox Glacier**	**2.69**	**247**	P	**Pn**	**03 54 00.0**	**+0.4**
LBZ	**Lake Benmore**	**2.88**	**229**	P	**Pn**	**03 54 02.1**	**-0.2**
WAZ	**Wanganui**	**3.09**	**26**	P	**Pb**	**03 54 10.0**	**-1.5**
ODZ	**Otahua Downs**	**3.12**	**216**	P	**Pn**	**03 54 06.2**	**+0.6**
ODZ	**Otahua Downs**	**3.12**	**216**	P	**Pn**	**03 54 04.9**	**-0.7**
KHEZ	**Kahui Hut**	**3.30**	**11**	P	**Pn**	**03 54 11.2**	**+3.0**
KHEZ	**Kahui Hut**	**3.30**	**11**	P	**Pn**	**03 54 11.1**	**+3.0**
NBEZ	**Newall Road No**	**3.31**	**9**	P	**Pn**	**03 54 11.3**	**+3.2**
NEZ	**North Egmont**	**3.34**	**12**	P	**Pb**	**03 54 13.6**	**-2.3**
PKE	**Pukeiti**	**3.40**	**10**	P	**Pn**	**03 54 12.1**	**+2.7**
MHEZ	**Mangahewa**	**3.56**	**14**	P	**Pn**	**03 54 11.9**	**+0.2**
JCZ	**Jackson Bay**

NNS				*eS*	**Sn**	04 02 28.4	-0.8	
	baz=278							
NWLT	**Wulai**	**0.80**	**305**	*eP*	**Pn**	04 02 17.9	-0.6	
	baz=305							
NWLT				*eS*	**Sn**	04 02 29.7	+0.2	
	baz=305							
SXI1	**Grass Mountain**	**0.84**	**338**	*eP*	**Pn**	04 02 18.6	-0.5	
	baz=346							
SXI1				*eS*	**Sn**	04 02 29.3	-1.2	
	baz=346							
YHNB	**Yeheng**	**0.85**	**295**	P	**Pn**	04 02 19.2	0.0	
YHNB	**Yeheng**	**0.85**	**295**	*eP*	**Pn**	04 02 19.3	+0.1	
	baz=288							
YHNB				*eS*	**Sn**	04 02 30.8	+0.1	
	baz=288							
NWF	**Wu-fen Shan**	**0.85**	**332**	*eP*	**Pn**	04 02 18.9	-0.3	
	baz=341							
NWF				*eS*	**Sn**	04 02 29.9	-0.9	
	baz=341							
WFSB	**Wu-fen Shan**	**0.85**	**332**	P	**Pn**	04 02 18.9	-0.2	
	baz=341							
WFSB				*eS*	**Sn**	04 02 30.3	-0.4	
	baz=341							
NSK	**Sanguang**	**0.86**	**295**	*eP*	**Pn**	04 02 18.4	-1.0	
	baz=288							
NSK				*eS*	**Sn**	04 02 30.2	-0.9	
	baz=288							
ESL	**Shilin**	**0.88**	**236**	*eP*	**Pn**	04 02 18.9	-0.6	
	baz=233							
ESL				*eS*	**Sn**	04 02 30.6	-0.6	
	baz=233							
TWA	**Mucha**	**0.88**	**319**	*eP*	**Pn**	04 02 19.5	0.0	
	baz=330							
TWA				*eS*	**Sn**	04 02 31.2	-0.1	
	baz=330							
WHF	**Hehuan Shan**	**0.89**	**259**	*eP*	**Pn**	04 02 19.9	-0.1	
	baz=257							
WHF				S	**Sn**	04 02 32.2	+0.1	
	baz=257							
FUSS	**Fushou**	**0.89**	**266**	*eP*	**Pn**	04 02 20.3	+0.3	
	baz=264							
FUSS				*eS*	**Sn**	04 02 32.3	+0.3	
	baz=264							
NHDH	**Xindian Distri**	**0.91**	**316**	*eP*	**Pn**	04 02 20.5	+0.6	
	baz=324							
NHDH				*eS*	**Sn**	04 02 31.8	-0.1	
	baz=324							
TATO	**Taipei**	**0.94**	**315**	P	**Pn**	04 02 20.6	+0.3	
TATO	**Taipei**	**0.94**	**315**	*eP*	**Pn**	04 02 20.6	+0.3	
	baz=327							
TATO				S	**Sn**	04 02 32.8	+0.1	
	baz=327							
TWT	**Tachien**	**0.96**	**267**	P	**Pn**	04 02 21.2	+0.6	
	baz=259							
TWT				S	**Sn**	04 02 34.1	+0.7	
	baz=259							
EGFH	**Guangfu**	**0.97**	**229**	*eP*	**Pn**	04 02 20.2	-0.5	
	baz=220							
EGFH				*eS*	**Sn**	04 02 32.5	-0.9	
	baz=220							
TDCB	**Techi**	**0.97**	**267**	P	**Pn**	04 02 21.2	+0.3	
	baz=259							
TDCB				*eS*	**Sn**	04 02 34.0	+0.2	
	baz=259							
CHGB	**Renai**	**0.99**	**255**	*eP*	**Pn**	04 02 21.3	+0.1	
	baz=246							
CHGB				S	**Sn**	04 02 33.9	-0.4	
	baz=246							
YM01	**YM01**	**1.02**	**325**	P	**Pn**	04 02 20.9	-0.5	
	baz=334							
YM01				*eS*	**Sn**	04 02 34.7	0.0	
	baz=334							
YM08	**YM08**	**1.04**	**327**	*eP*	**Pn**	04 02 21.1	-0.7	
	baz=336							
NFF	**Wufeng Townshi**	**1.05**	**288**	*eP*	**Pn**	04 02 21.4	-0.5	
	baz=287							
NFF				*eS*	**Sn**	04 02 35.0	-0.6	
	baz=287							
WUSB	**Renai**	**1.06**	**253**	*eP*	**Pn**	04 02 22.1	+0.1	
	baz=245							
WUSB				*eS*	**Sn**	04 02 35.9	+0.1	
	baz=245							
TWS1	**Kuangyinshan**	**1.07**	**317**	*eP*	**Pn**	04 02 21.9	-0.2	
	baz=328							
TWS1				*eS*	**Sn**	04 02 36.2	+0.3	
	baz=328							
HGSD	**Ruisui**	**1.10**	**222**	P	**Pn**	04 02 21.9	-0.5	
	baz=217							
HGSD				*eS*	**Sn**	04 02 36.2	-0.3	
	baz=217							
NTST	**Danshui**	**1.10**	**321**	*eP*	**Pn**	04 02 22.9	+0.4	
	baz=331							
VWDT	**VWDT**	**1.13**	**241**	*eP*	**Pn**	04 02 23.0	+0.1	
	baz=231							
VWDT				*eS*	**Sn**	04 02 37.2	-0.1	
	baz=231							
LIOB	**Emei**	**1.15**	**287**	*eP*	**Pn**	04 02 23.7	+0.6	
	baz=287							
LIOB				*eS*	**Sn**	04 02 39.2	+1.4	
	baz=287							
EHY	**Hungye**	**1.15**	**226**	*eP*	**Pn**	04 02 22.1	-1.1	
	baz=223							
EHY				*eS*	**Sn**	04 02 36.2	-1.6	
	baz=223							
NSTT	**Nanjuang**	**1.16**	**286**	*eP*	**Pn**	04 02 23.8	+0.6	
	baz=286							
NSTT				*eS*	**Sn**	04 02 39.4	+1.4	
	baz=286							
WHP	**Taichung City**	**1.16**	**269**	*eP*	**Pn**	04 02 24.6	+1.2	
	baz=263							
WHP				*eS*	**Sn**	04 02 39.2	+0.9	
	baz=263							
DPDB	**Guoxing**	**1.22**	**257**	*eP*	**Pn**	04 02 24.4	+0.3	
	baz=252							
DPDB				S	**Sn**	04 02 39.8	+0.3	
	baz=252							
WCS	**Beigang Elemen**	**1.22**	**258**	*eP*	**Pn**	04 02 24.2	0.0	
	baz=253							
WCS				*eS*	**Sn**	04 02 39.8	+0.2	
	baz=253							
YULB	**Yu-li**	**1.25**	**223**	P	**Pn**	04 02 23.5	-1.0	
YULB	**Yu-li**	**1.25**	**223**	*eP*	**Pn**	04 02 23.6	-1.0	
	baz=230							
YULB				*eS*	**Sn**	04 02 38.8	-1.4	
	baz=230							
EYUL	**Yuli**	**1.27**	**221**	*eP*	**Pn**	04 02 24.5	-0.3	
	baz=228							
EYUL				*eS*	**Sn**	04 02 41.1	+0.4	
	baz=228							
SSLB	**Suanglung**	**1.27**	**246**	P	**Pn**	04 02 24.9	+0.1	
SSLB	**Suanglung**	**1.27**	**246**	*eP*	**Pn**	04 02 24.8	0.0	
	baz=239							
SSLB				*eS*	**Sn**	04 02 41.0	+0.2	
	baz=239							
TWF1	**Yuli**	**1.28**	**222**	P	**Pn**	04 02 24.1	-0.8	
	baz=229							
TWF1				S	**Sn**	04 02 39.7	-1.2	
	baz=229							
SMLT	**Sun Moon Lake**	**1.28**	**251**	*eP*	**Pn**	04 02 25.8	+0.8	
	baz=240							
TYC	**Yuchr**	**1.31**	**252**	*eP*	**Pn**	04 02 25.8	+0.4	
	baz=244							
NMLH	**Miaoli**	**1.32**	**280**	*eP*	**Pn**	04 02 25.3	-0.2	
	baz=280							
IRIF	**Iriomote-Funau**	**1.38**	**89**	P	**Pn**	04 02 26.3	+0.1	
IRIF				S	**Sn**	04 02 43.1	-0.2	
WHYT	**Xinyi Township**	**1.39**	**244**	*eP*	**Pn**	04 02 27.3	+0.7	
	baz=238							
FULB	**Fuli**	**1.40**	**218**	*eP*	**Pn**	04 02 26.8	+0.3	
	baz=207							
FULB				*eS*	**Sn**	04 02 44.6	+0.7	
	baz=207							
WWF	**Wufeng**	**1.42**	**259**	*eP*	**Pn**	04 02 28.1	+1.3	
	baz=271							
WWF				*eS*	**Sn**	04 02 45.6	+1.3	
	baz=271							
YUS	**Yu-Shan**	**1.42**	**235**	P	**Pn**	04 02 27.5	+0.2	
	baz=226							
YUS				S	**Sn**	04 02 44.9	-0.2	
	baz=226							
CHKT	**Chengkung**	**1.44**	**213**	*eP*	**Pn**	04 02 25.8	-1.3	
	baz=203							
CHKT				*eS*	**Sn**	04 02 43.2	-1.6	
	baz=203							
WJS	**Zhushan**	**1.45**	**251**	*eP*	**Pn**	04 02 28.7	+1.5	
	baz=240							
HATJ	**Hateruma jima**	**1.47**	**100**	S	**Sn**	04 02 46.7	+1.2	
WNT	**Mingjian**	**1.47**	**253**	*eP*	**Pn**	04 02 28.5	+1.0	
	baz=251							
WNT				*eS*	**Sn**	04 02 47.9	+2.3	
	baz=251							
ALS	**Alishan**	**1.52**	**239**	*eP*	**Pn**	04 02 29.4	+0.9	
	baz=229							
ALS				*eS*	**Sn**	04 02 48.5	+1.2	
	baz=229							
ELDTW	**Lidau**	**1.57**	**225**	*eP*	**Pn**	04 02 28.5	-0.5	
	baz=219							
ELDTW				*eS*	**Sn**	04 02 47.4	-0.8	
	baz=219							
EDH	**Donghe**	**1.58**	**212**	*eP*	**Pn**	04 02 27.5	-1.5	
	baz=204							
JKRS	**Kuro-shima**	**1.63**	**92**	P	**Pn**	04 02 30.1	+0.4	
JKRS				S	**Sn**	04 02 50.2	+0.6	
WDLH	**Douliu**	**1.66**	**248**	*eP*	**Pn**	04 02 30.7	+0.6	
	baz=247							
WCKO	**Fanlu**	**1.72**	**240**	*eP*	**Pn**	04 02 29.4	-1.5	
	baz=239							
LONT	**Longtian**	**1.72**	**216**	*eP*	**Pn**	04 02 30.0	-1.0	
	baz=214							
LONT				*eS*	**Sn**	04 02 51.6	-0.2	
	baz=214							
WRL	**Guolierlin Hig**	**1.73**	**257**	*eP*	**Pn**	04 02 30.9	-0.3	
	baz=255							
WRL				*eS*	**Sn**	04 02 52.0	0.0	
	baz=255							
STYH	**Taoyuan**	**1.75**	**230**	*eP*	**Pn**	04 02 30.9	-0.3	
	baz=224							
STYH				*eS*	**Sn**	04 02 52.4	0.0	
	baz=224							
JIJ	**Ishigaki jima**	**1.75**	**88**	P	**Pn**	04 02 31.5	+0.1	
JIJ				S	**Sn**	04 02 51.5	-1.1	
CHN4	**Tsaushan**	**1.77**	**238**	*eP*	**Pn**	04 02 32.0	+0.3	
	baz=236							
TPUB	**Ta-pu**	**1.77**	**236**	P	**Pn**	04 02 32.9	+1.2	
TPUB	**Ta-pu**	**1.77**	**236**	*eP*	**Pn**	04 02 32.6	+0.9	
	baz=226							
TPUB				*eS*	**Sn**	04 02 54.8	+1.7	
	baz=226							
WTP	**Ta-pu**	**1.82**	**234**	*eP*	**Pn**	04 02 33.2	+1.0	
	baz=233							
TWGBT	**Beinan**	**1.82**	**215**	*eP*	**Pn**	04 02 31.1	-1.2	
	baz=214							
TWG	**Pinlang**	**1.82**	**216**	*eP*	**Pn**	04 02 31.8	-0.5	
	baz=214							
TWK	**Hsinying**	**1.90**	**237**	*eP*	**Pn**	04 02 34.4	+1.0	
	baz=235							
CHN1	**Nanshi**	**1.92**	**234**	*eP*	**Pn**	04 02 34.8	+1.2	
	baz=233							
JISG	**Ishigakijimahi**	**1.92**	**81**	*eP*	**Pn**	04 02 33.5	-0.2	
JISG				S	**Sn**	04 02 55.8	-1.0	
WSL	**Shuilin Townsh**	**1.99**	**247**	*eP*	**Pn**	04 02 34.1	-0.5	
	baz=246							
TSMG	**Majia**	**2.16**	**222**	*eP*	**Pn**	04 02 38.2	+1.3	
	baz=214							
MASBT	**Mashibuluo**	**2.23**	**221**	*eP*	**Pn**	04 02 38.4	+0.4	
	baz=215							
JTJ	**Tarama**	**2.28**	**81**	*eS*	**Sn**	04 03 05.3	-0.2	
SLIU	**Shizi**	**2.46**	**212**	*eP*	**Pn**	04 02 41.6	+0.5	
	baz=207							
PTMZ	**Houxiangcun**	**2.91**	**285**	*eP*	**Pn**	04 02 46.5	-0.7	
	baz=286							
XPSS	**Dashiqiu**	**3.19**	**325**	*eP*	**Pn**	04 02 50.3	-0.7	
	baz=336							

IDC ***23*** *04:06:54.9±2.8, 37.°01N×141.°56E, h0km, mb3.3/2, mbtmp3.1/3, ML2.2/1, Error ellipse: s-maj=46.3km s-min=31.6km az=55.0*
JMA ***23*** *04:06:55.8±0.2, 37.°3N±0.°4×141.°5E±1.°0, h29km±1km, MV3.3/38, E OFF FUKUSHIMA PREF*

ISC 23 04:06:54.5±1.4, 37.°27N±0.°05×141.°57E±0.°08, h10km, n10, σ1°24/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**281**	P		**Pg**		**04 07 05.5**	**0.0**
JFK				*eS*		**Sg**		**04 07 12.7**	**-0.4**
JMST	**Minamisoumatoc**	**0.71**	**310**	*i* P		**Pg**		**04 07 08.2**	**-0.2**
JMST				S		**Sg**		**04 07 17.2**	**-0.5**
JFFD	**Fukushimafurud**	**0.83**	**258**	*i* P		**Pg**		**04 07 10.0**	**-0.5**
JFFD				S		**Sg**		**04 07 20.2**	**-1.1**
JMM	**Marumori**	**0.86**	**314**	*i* P		**Pg**		**04 07 10.6**	**-0.6**
JMM				S		**Sg**		**04 07 21.4**	**-1.0**
JHO	**Hitachi**	**1.04**	**231**	P		**Pg**		**04 07 13.1**	**-1.4**
JIO	**Ouri**	**1.20**	**352**	P		**Pb**		**04 07 16.4**	**-0.9**
JOU	**Okura**	**1.31**	**327**	P		**Pn**		**04 07 18.8**	**-0.2**
JOU				S		**Sb**		**04 07 35.5**	**-0.7**
MJAR	**Matsushiro Arr**	**2.79**	**256**	Pn		**Pn**		**04 07 39.5**	**+0.2**
	0.4nm,0.3s,baz=78,slow=17,SNR=12								
MJAR				Sn		**Sn**		**04 08 14.8**	**+1.8**
	0.7nm,0.3s,baz=78,slow=31,SNR=5.5								
SONM	**Songino Array**	**27.76**	**304**	P		**P**		**04 12 46.7**	**+3.2**
	0.1nm,0.3s,baz=98,slow=7.4,SNR=1.2								
	0.1nm,0.3s								
WRA	**Warramunga Arr**	**57.31**	**188**	P		**P**		**04 16 42.5**	**-0.1**
	0.2nm,0.6s,baz=2.9,slow=7.3,SNR=1.8								
	0.2nm,0.6s								

WEL 23 04:08:32.9±0.7, 42.°S±4.°×17.°4E±.°, h5km, M2.0/6, ML2.4/8, MLv2.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=127.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**250**	P		Pg		04 08 38.6	+0.8
KHZ				S		Sg		04 08 42.9	+1.7
BSWZ	**Blackbirch Sta**	**0.61**	**1**	P		Pg		04 08 44.6	0.0
GVZ	**Greta Valley S**	**0.88**	**223**	P		Pb		04 08 50.4	-0.3
TUWZ	**Tuamarina**	**0.90**	**4**	P		Pg		04 08 50.4	+0.2
TUWZ				S		Sb		04 09 04.0	+0.7
THZ	**Tophouse**	**0.91**	**308**	P		Pg		04 08 50.1	-0.2
THZ				S		Sb		04 09 03.2	-0.4
TCW	**Tory Channel**	**1.16**	**16**	P		Pg		04 08 53.6	-1.9
TCW				S		Sg		04 09 09.9	-0.3
NNZ	**Nelson**	**1.17**	**342**	P		Pg		04 08 54.2	-1.1
NNZ				S		Sb		04 09 10.7	-0.2
MRNZ	**Matariki Terra**	**1.24**	**318**	P		Pg		04 08 56.1	-0.6
LTZ	**Lake Taylor**	**1.26**	**248**	P		Pg		04 08 55.8	-1.3
PLWZ	**Palliser**	**1.29**	**54**	P		Pg		04 08 52.3	-5.3
PAWZ	**Paruwai Farm**	**1.51**	**52**	P		Pn		04 08 57.3	-3.3

WEL ***23*** *04:09:04.3±0.3, 43.°S±2.°×17.°3E±.°, h5km, M3.5/32, ML3.9/16, MLv3.5/32, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6*
NOU ***23*** *04:09:04.5, 42.°86S×173.°62E, h56km, MLv4.4/8, South Island, New Zealand*

ISC 23 04:09:03.2±0.9, 42.°71S±0.°03×173.°38E±0.°04, h10km, n94, σ0°98/96, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**22**	P		**Pg**		**04 09 10.2**	**+0.6**
KHZ				S		**Sg**		**04 09 14.7**	**+0.9**
GVZ	**Greta Valley S**	**0.36**	**225**	P		**Pb**		**04 09 12.8**	**+1.0**
GVZ				S		**Sb**		**04 09 19.1**	**+1.6**
AMCZ	**Amberley**	**0.71**	**229**	P		**Pb**		**04 09 19.0**	**+1.3**
LTZ	**Lake Taylor**	**0.82**	**265**	P		**Pb**		**04 09 19.0**	**-0.6**
THZ	**Tophouse**	**1.01**	**339**	P		**Pg**		**04 09 21.4**	**-1.3**
OKCZ	**Okains Bay**	**1.04**	**193**	P		**Pb**		**04 09 24.0**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.06**	**20**	P		**Pb**		**04 09 23.9**	**+0.2**
MQZ	**McQueen's Vall**	**1.13**	**208**	P		**Pb**		**04 09 23.9**	**-0.9**
CMWZ	**Cape Campbell**	**1.14**	**33**	P		**Pg**		**04 09 25.9**	**+0.7**
OXZ	**Oxford**	**1.16**	**238**	P		**Pb**		**04 09 24.5**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.21**	**196**	P		**Pn**		**04 09 26.0**	**-0.2**
TUWZ	**Tuamarina**	**1.35**	**18**	P		**Pn**		**04 09 28.0**	**-0.1**
RACZ	**Rakaia**	**1.36**	**221**	P		**Pn**		**04 09 27.5**	**-0.8**
MRNZ	**Matariki Terra**	**1.39**	**340**	P		**Pn**		**04 09 27.9**	**-0.8**
INZ	**Inchbonnie**	**1.43**	**269**	P		**Pn**		**04 09 28.2**	**-1.0**
NNZ	**Nelson**	**1.49**	**0**	P		**Pn**		**04 09 29.8**	**-0.3**
DSZ	**Denniston Nort**	**1.52**	**309**	P		**Pn**		**04 09 29.5**	**-1.0**
MHCZ	**Mount Hutt**	**1.56**	**238**	P		**Pn**		**04 09 30.0**	**-1.1**
TCW	**Tory Channel**	**1.64**	**24**	P		**Pn**		**04 09 31.7**	**-0.4**
WACZ	**Wakanui South**	**1.67**	**222**	P		**Pn**		**04 09 31.6**	**-0.9**
TKNZ	**Takaka Hill**	**1.71**	**349**	P		**Pb**		**04 09 33.1**	**-1.5**
WEL	**Wellington**	**1.76**	**36**	P		**Pn**		**04 09 33.4**	**-0.4**
PLWZ	**Palliser**	**1.80**	**51**	P		**Pn**		**04 09 33.6**	**-0.8**
DUWZ	**D'Urville Isla**	**1.95**	**12**	P		**Pn**		**04 09 36.8**	**+0.4**
RPZ	**Rata Peaks**	**1.97**	**239**	P		**Pn**		**04 09 35.8**	**-0.9**
RPZ	**Rata Peaks**	**1.97**	**239**	P		**Pn**		**04 09 35.8**	**-0.9**
WVZ	**Waitaha Valley**	**1.98**	**259**	P		**Pn**		**04 09 36.2**	**-0.5**
QRZ	**Quartz Range**	**1.99**	**341**	P		**Pn**		**04 09 37.0**	**0.0**
PAWZ	**Paruwai Farm**	**2.02**	**50**	P		**Pn**		**04 09 36.5**	**-0.9**
ARCZ	**Arundel**	**2.03**	**232**	P		**Pn**		**04 09 36.4**	**-1.1**
CAW	**Cannon Point**	**2.04**	**39**	P		**Pn**		**04 09 36.9**	**-0.7**
TRWZ	**Traveller**	**2.16**	**53**	P		**Pn**		**04 09 38.5**	**-0.8**
KIW	**Kapiti Island**	**2.17**	**32**	P		**Pn**		**04 09 39.1**	**-0.3**
MTW	**Mount Morrison**	**2.22**	**46**	P		**Pn**		**04 09 39.0**	**-1.1**
GCSZ	**Gaunt Creek Bo**	**2.32**	**254**	P		**Pn**		**04 09 41.2**	**-0.2**
OGWZ	**Otaki Gorge**	**2.32**	**36**	P		**Pn**		**04 09 40.7**	**-0.7**
TMZ	**Timaru**	**2.40**	**225**	P		**Pn**		**04 09 41.7**	**-1.0**
HOWZ	**Holdsworth Sta**	**2.42**	**42**	P		**Pn**		**04 09 41.6**	**-1.2**
TMWZ	**Te Maipa**	**2.47**	**50**	P		**Pn**		**04 09 42.3**	**-1.2**
MRZ	**Mangatainoka R**	**2.63**	**40**	P		**Pn**		**04 09 44.5**	**-1.2**
FOZ	**Fox Glacier**	**2.73**	**251**	P		**Pn**		**04 09 47.1**	**-0.1**
LBZ	**Lake Benmore**	**2.86**	**233**	P		**Pn**		**04 09 48.3**	**-0.6**
PRWZ	**Pori Road**	**2.90**	**43**	P		**Pn**		**04 09 48.1**	**-1.4**
BFZ	**Birch Farm**	**2.95**	**48**	P		**Pn**		**04 09 48.8**	**-1.4**
BFZ	**Birch Farm**	**2.95**	**48**	P		**Pn**		**04 09 48.6**	**-1.5**
ODZ	**Otahua Downs**	**3.06**	**219**	P		**Pn**		**04 09 50.5**	**-1.1**
ODZ	**Otahua Downs**	**3.06**	**219**	P		**Pn**		**04 09 50.7**	**-0.9**
WAZ	**Wanganui**	**3.19**	**23**	P		**Pn**		**04 09 54.7**	**+1.2**
KHEZ	**Kahui Hut**	**3.45**	**8**	P		**Pn**		**04 09 58.3**	**+1.3**
KHEZ	**Kahui Hut**	**3.45**	**8**	P		**Pn**		**04 09 57.8**	**+0.8**
PRHZ	**Porangahau**	**3.46**	**46**	P		**Pn**		**04 09 56.5**	**-0.6**
NEZ	**North Egmont**	**3.48**	**9**	P		**Pn**		**04 09 57.9**	**+0.4**
PNHZ	**Pukenui**	**3.51**	**38**	P		**Pn**		**04 09 56.3**	**-1.6**
PKE	**Pukeiti**	**3.54**	**8**	P		**Pn**		**04 09 59.3**	**+1.0**
JCZ	**Jackson Bay**	**3.61**	**246**	P		**Pn**		**04 10 00.1**	**+0.7**
JCZ	**Jackson Bay**	**3.61**	**246**	P		**Pn**		**04 09 59.1**	**-0.3**
PKVZ	**Pokaka**	**3.73**	**24**	P		**Pn**		**04 10 01.4**	**+0.5**
VRZ	**Vera Road**	**3.73**	**17**	P		**Pn**		**04 10 01.8**	**+1.0**
HHSZ	**Highcliff Hill**	**3.75**	**211**	P		**Pn**		**04 10 00.2**	**-0.9**
MOVZ	**Moawhango**	**3.76**	**29**	P		**Pn**		**04 10 00.4**	**-0.9**
WNVZ	**Wahianoa**	**3.77**	**27**	P		**Pn**		**04 10 01.8**	**+0.2**
TRVZ	**Turoa**	**3.78**	**26**	P		**Pn**		**04 10 01.8**	**0.0**
BHHZ	**Black Hill Sta**	**3.80**	**33**	P		**Pn**		**04 10 01.1**	**-0.8**
WHVZ	**Whangaehu Hut**	**3.81**	**27**	P		**Pn**		**04 10 02.2**	**0.0**
FWVZ	**Far West T-bar**	**3.83**	**26**	P		**Pn**		**04 10 02.4**	**0.0**
TUVZ	**Tukino**	**3.85**	**27**	P		**Pn**		**04 10 02.6**	**0.0**
EAZ	**Earnscleugh**	**3.87**	**228**	P		**Pn**		**04 10 01.8**	**-1.0**
NGZ	**Ngauruhoe**	**3.91**	**26**	P		**Pn**		**04 10 03.6**	**+0.1**
SNVZ	**South Ngauruho**	**3.92**	**27**	P		**Pn**		**04 10 03.8**	**+0.2**
KAHZ	**Kahuranaki**	**3.93**	**43**	P		**Pn**		**04 10 01.4**	**-2.2**
OTVZ	**Oturere**	**3.94**	**27**	P		**Pn**		**04 10 04.0**	**+0.1**
NNVZ	**North Ngauruho**	**3.96**	**26**	P		**Pn**		**04 10 04.1**	**-0.1**
TWVZ	**Taurewa**	**3.96**	**24**	P		**Pn**		**04 10 03.9**	**-0.2**
ETVZ	**East Tongariro**	**3.98**	**27**	P		**Pn**		**04 10 04.4**	**0.0**
TMVZ	**Te Maari**	**4.00**	**27**	P		**Pn**		**04 10 04.6**	**-0.1**
NTVZ	**North Tongarir**	**4.01**	**27**	P		**Pn**		**04 10 05.2**	**+0.5**
TUZ	**Tuapeka**	**4.21**	**218**	P		**Pn**		**04 10 06.5**	**-0.9**
BKZ	**Black Stump Fm**	**4.25**	**35**	P		**Pn**		**04 10 06.0**	**-2.1**
HIZ	**Hauiti**	**4.34**	**15**	P		**Pn**		**04 10 08.9**	**-0.4**
HIZ	**Hauiti**	**4.34**	**15**	P		**Pn**		**04 10 09.6**	**+0.3**
ARHZ	**Aropaoanui**	**4.40**	**40**	P		**Pn**		**04 10 09.0**	**-1.1**
NMHZ	**Naumai**	**4.45**	**37**	P		**Pn**		**04 10 08.5**	**-2.3**
TLZ	**Tolley Road**	**4.68**	**21**	P		**Pn**		**04 10 13.5**	**-0.4**
SYZ	**Scrubby Hill**	**4.88**	**217**	P		**Pn**		**04 10 15.1**	**-1.5**
SYZ	**Scrubby Hill**	**4.88**	**217**	P		**Pn**		**04 10 16.0**	**-0.6**
WHZ	**Wether Hill Ro**	**5.03**	**229**	P		**Pn**		**04 10 16.9**	**-1.8**
TOZ	**Tahuroa Road**	**5.23**	**19**	P		**Pn**		**04 10 21.0**	**-0.5**
APZ	**The Paps**	**5.63**	**221**	P		**Pn**		**04 10 25.5**	**-1.5**
AWAZ	**Awhitu Peninsu**	**5.72**	**10**	P		**Pn**		**04 10 28.5**	**+0.3**
MKAZ	**Moumakai**	**5.76**	**14**	P		**Pn**		**04 10 28.3**	**-0.5**
RUGZ	**Raukumara Rang**	**5.77**	**36**	P		**Pn**		**04 10 25.9**	**-3.1**
WIAZ	**Waiheke Island**	**6.06**	**13**	P		**Pn**		**04 10 33.3**	**+0.4**
ABAZ	**Army Bay**	**6.21**	**11**	P		**Pn**		**04 10 35.1**	**+0.2**
KUZ	**Kuaotunu**	**6.22**	**18**	P		**Pn**		**04 10 34.0**	**-1.1**

WEL 23 04:10:43.6±0.3, 42.°S±2.°×17.°4E±.°, h9km±2km, M3.9/39, ML4.1/22, MLv3.9/39, Error ellipse: s-maj=0.0km s-min=0.0km az=130.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**154**	P		Pg		04 10 46.6	+1.1
BSWZ	**Blackbirch Sta**	**0.23**	**265**	P		Pg		04 10 48.6	+0.4
BSWZ				S		Sg		04 10 52.5	+1.2
TUWZ	**Tuamarina**	**0.32**	**326**	P		Pg		04 10 50.7	+0.7
TUWZ				S		Sb		04 10 55.7	-1.1
TCW	**Tory Channel**	**0.49**	**9**	P		Pg		04

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.80**	**242**	P	P	04 30 02.5	+0.2
	0.9nm,0.5s,baz=98,slow=7.1,SNR=3.3						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**44.00**	**260**	P	P	04 30 53.7	+0.1
	0.2nm,0.3s,baz=97,slow=7.6,SNR=9.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.09**	**255**	P	P	04 30 53.6	-0.7
	0.5nm,0.5s,baz=94,slow=7.5,SNR=6.4						
	0.5nm,0.5s						

BER 23 04:26:47.3±1.6, 66°38N×14°80E, h0km, ML0.8, Explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONS	**Konsvik**	**0.69**	**280**	*e*P	Pg	04 26 58.5	-1.9
KONS				*e*S	Sg	04 27 08.1	-1.2
KONS				IAML		04 27 10.7	
	comp=Z,4.4nm,0.4s						
STOK	**Stokkvaagen**	**0.72**	**267**	*e*S	Sg	04 27 10.2	-0.2
FAUS	**Fauske**	**1.02**	**11**	*e*P	Pg	04 27 05.1	-1.7
FAUS				*e*S	Sg	04 27 19.0	-1.0
FAUS				IAML		04 27 30.9	
	comp=Z,1.8nm,0.1s						
STEI	**Steigen**	**1.56**	**6**	*e*Pg	Pn	04 27 15.1	-1.2
STEI				*e*Sg	Sn	04 27 36.3	-0.8
STEI				IAML		04 27 39.3	
	comp=Z,2.0nm,0.4s						
LOF	**Lofoten**	**1.82**	**345**	*e*P	Pn	04 27 17.3	-2.6
LOF				*e*S	Sn	04 27 41.9	-1.7
LOF				IAML		04 27 48.0	
	comp=Z,1.7nm,0.5s						
NSS	**Namsos**	**2.21**	**214**	*e*Pg	Pn	04 27 26.3	+1.2
NSS				*e*Sg	Sb	04 27 56.9	+1.1
NSS				IAML		04 27 58.8	
	comp=Z,3.4nm,0.4s						

HEL 23 04:27:23.7±0.4, 69°37N×30°61E, h0km, ML1.1, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VADS	**Vadso**	**0.87**	**330**	*e*P	Pg	04 27 39.0	-1.3
KEV	**Kevo**	**1.32**	**289**	PG	Pg	04 27 47.7	-1.3
	baz=108						
KEV				MSG		04 28 03.6	
	comp=Z,1.5nm,0.2s						
KEV				SB	Sg	04 28 05.3	-0.8
KEV	**Kevo**	**1.32**	**289**	*e*P	Pg	04 27 47.7	-1.3
VRF	**Varrio**	**1.68**	**193**	PG	Pn	04 27 54.0	-0.2
VRF				MSG		04 28 13.7	
	comp=Z,1.3nm,0.2s						
ARA0	**ARCESS Array S**	**1.81**	**278**	PG	Pn	04 27 56.1	0.0
	baz=94						
ARA0				SN	Sb	04 28 20.7	-0.1
LVZ	**Lovozero**	**2.10**	**133**	SG	Sb	04 28 28.2	-0.9
KTK1	**Kautokeino**	**2.66**	**266**	PG	Pb	04 28 11.2	-0.9
KTK1				SG	Sb	04 28 45.3	0.0
HEF	**Hetta**	**2.70**	**252**	MSG		04 28 43.2	
	comp=Z,0.5nm,0.2s						
HEF				SG	Sb	04 28 46.2	-0.1
OLKF	**Oulanka, Finla**	**3.10**	**189**	SB	Sn	04 28 52.8	+1.3
KU6	**Riekki**	**3.38**	**185**	SN	Sn	04 28 53.9	-4.4
MSF	**Maaselka**	**3.53**	**191**	SN	Sn	04 28 59.8	-2.3

*IDC **23** 04:35:48.0±2.9, 7°.31N×127°.06E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=217.1km s-min=30.4km az=66.0*
*MAN **23** 04:35:54.2, 5°.89N×126°.56E, h31km, mb4.0, ML2.8, MS2.4*
ISC 23 04:35:56.2±1.7, 7°.2N±0°.2×126°.8E±0°.1, h60km, n4, σ0°80/5, mb3.2/3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.69**	**265**	*e*P	**Pn**	**04 36 23.1**	**-0.4**
KCP				*i* S	**Sn**	**04 36 44.6**	**+0.4**
WRA	**Warramunga Arr**	**27.95**	**165**	P	**P**	**04 41 40.4**	**-0.8**
	0.3nm,0.6s,baz=346,slow=10.0,SNR=5.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**31.43**	**167**	P	**P**	**04 42 12.5**	**+0.5**
	0.2nm,0.5s,baz=341,slow=6.9,SNR=1.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**54.80**	**324**	P	**P**	**04 45 20.2**	**+0.1**
	0.3nm,0.8s,baz=107,slow=4.8,SNR=1.6						
	0.3nm,0.8s						

*WEL **23** 04:49:13.9±0.3, 42°.5S×17°.4E±°, h11km±3km, M3.7/40, ML4.0/19, MLv3.7/40, Error ellipse: s-maj=0.0km s-min=0.0km az=141.9*
*NOU **23** 04:49:15.3, 41°.87S×174°.42E, h36km, MLv4.2/10, Cook Strait, New Zealand*
ISC 23 04:49:13.6±1.1, 41°.77S±0°.03×174°.31E±0°.03, h18km±4km, n90, σ1°14/90, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**288**	P	**Pg**	**04 49 16.8**	**-0.2**
CMWZ				S	**Sg**	**04 49 19.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.33**	**280**	P	**Pg**	**04 49 20.4**	**-0.2**
BSWZ				S	**Sb**	**04 49 25.2**	**-0.6**
TUWZ	**Tuamarina**	**0.44**	**321**	P	**Pb**	**04 49 22.2**	**-0.5**
TCW	**Tory Channel**	**0.56**	**358**	P	**Pg**	**04 49 24.5**	**-0.3**
WEL	**Wellington**	**0.60**	**35**	P	**Pb**	**04 49 26.1**	**+0.7**
PLWZ	**Palliser**	**0.74**	**74**	P	**Pb**	**04 49 29.3**	**+1.4**
MSWZ	**Moikau Station**	**0.79**	**64**	P	**Pb**	**04 49 30.4**	**+1.7**
KHZ	**Kahutara**	**0.86**	**221**	P	**Pb**	**04 49 31.3**	**+1.4**
KHZ	**Kahutara**	**0.86**	**221**	P	**Pb**	**04 49 31.2**	**+1.2**
CAW	**Cannon Point**	**0.88**	**41**	P	**Pb**	**04 49 30.9**	**+0.7**
NNZ	**Nelson**	**0.89**	**308**	P	**Pg**	**04 49 30.0**	**-0.9**
PAWZ	**Paruwai Farm**	**0.93**	**65**	P	**Pg**	**04 49 31.9**	**+0.3**
DUWZ	**D'Urville Isla**	**1.01**	**343**	P	**Pg**	**04 49 32.3**	**-0.9**
KIW	**Kapiti Island**	**1.02**	**27**	P	**Pg**	**04 49 33.0**	**-0.3**
THZ	**Tophouse**	**1.05**	**270**	P	**Pg**	**04 49 33.5**	**-0.4**
MTW	**Mount Morrison**	**1.09**	**56**	P	**Pb**	**04 49 34.1**	**+0.3**
TRWZ	**Traveller**	**1.10**	**71**	P	**Pb**	**04 49 34.0**	**-0.1**
OGWZ	**Otaki Gorge**	**1.16**	**35**	P	**Pb**	**04 49 35.5**	**+0.6**
MRNZ	**Matariki Terra**	**1.22**	**287**	P	**Pg**	**04 49 36.6**	**-0.5**
TKNZ	**Takaka Hill**	**1.25**	**306**	P	**Pn**	**04 49 36.5**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.26**	**47**	P	**Pn**	**04 49 36.5**	**+0.2**
TMWZ	**Te Maipa**	**1.36**	**61**	P	**Pn**	**04 49 37.6**	**-0.1**
MRZ	**Mangatainoka R**	**1.47**	**41**	P	**Pn**	**04 49 39.5**	**+0.5**
GVZ	**Greta Valley S**	**1.52**	**218**	P	**Pn**	**04 49 40.0**	**+0.2**
TIWZ	**Tintock**	**1.55**	**51**	P	**Pn**	**04 49 40.2**	**-0.1**
QRZ	**Quartz Range**	**1.64**	**305**	P	**Pb**	**04 49 43.3**	**+0.1**
QRZ	**Quartz Range**	**1.64**	**305**	P	**Pb**	**04 49 43.0**	**-0.2**
CPWZ	**Castlepoint**	**1.67**	**59**	P	**Pn**	**04 49 41.9**	**+0.1**
OHWZ	**Ohakea**	**1.74**	**26**	P	**Pb**	**04 49 45.0**	**0.0**
PRWZ	**Pori Road**	**1.75**	**46**	P	**Pn**	**04 49 43.0**	**+0.1**
POWZ	**Post Office Ro**	**1.77**	**39**	P	**Pn**	**04 49 43.5**	**+0.3**
BFZ	**Birch Farm**	**1.82**	**54**	P	**Pn**	**04 49 43.6**	**-0.4**
BFZ	**Birch Farm**	**1.82**	**54**	P	**Pn**	**04 49 43.4**	**-0.6**
DVHZ	**Dannevirke**	**2.04**	**44**	P	**Pn**	**04 49 46.4**	**-0.5**
WAZ	**Wanganui**	**2.08**	**15**	P	**Pb**	**04 49 50.4**	**-0.3**
ANWZ	**Angora Road**	**2.10**	**52**	P	**Pn**	**04 49 47.2**	**-0.5**
TSZ	**Takapari Road**	**2.12**	**37**	P	**Pn**	**04 49 48.2**	**+0.1**
LREZ	**Lake Rotokare**	**2.31**	**2**	P	**Pb**	**04 49 55.3**	**+0.6**
PRHZ	**Porangahau**	**2.32**	**50**	P	**Pn**	**04 49 49.9**	**-0.9**
PNHZ	**Pukenui**	**2.35**	**38**	P	**Pn**	**04 49 51.0**	**-0.2**
WPHZ	**Waipukurau**	**2.35**	**44**	P	**Pn**	**04 49 50.8**	**-0.4**
NMEZ	**Namu Road**	**2.38**	**352**	P	**Pb**	**04 49 57.2**	**+1.3**
KHEZ	**Kahui Hut**	**2.48**	**355**	P	**Pn**	**04 49 55.1**	**+1.9**
KHEZ	**Kahui Hut**	**2.48**	**355**	P	**Pn**	**04 49 57.3**	**-0.4**
NEZ	**North Egmont**	**2.50**	**356**	P	**Pb**	**04 49 57.3**	**-0.8**
NBEZ	**Newall Road No**	**2.52**	**352**	P	**Pb**	**04 49 58.9**	**+0.6**
MTVZ	**Mangateitei**	**2.54**	**21**	P	**Pb**	**04 49 57.2**	**-1.5**
DREZ	**Durham Road**	**2.58**	**358**	P	**Pb**	**04 49 57.7**	**-1.6**
PKE	**Pukeiti**	**2.59**	**354**	P	**Pb**	**04 49 57.9**	**-1.5**
PKVZ	**Pokaka**	**2.60**	**18**	P	**Pn**	**04 49 56.8**	**+2.0**
MOVZ	**Moawhango**	**2.61**	**25**	P	**Pn**	**04 49 55.5**	**+0.7**
WNVZ	**Wahianoa**	**2.63**	**22**	P	**Pn**	**04 49 56.8**	**+1.5**
BHHZ	**Black Hill Sta**	**2.64**	**31**	P	**Pn**	**04 49 55.8**	**+0.5**
TRVZ	**Turoa**	**2.65**	**21**	P	**Pn**	**04 49 57.2**	**+1.7**
VRZ	**Vera Road**	**2.67**	**8**	P	**Pn**	**04 49 58.3**	**+2.7**
DRZ	**Dome Shelter**	**2.67**	**21**	P	**Pn**	**04 49 58.0**	**+2.0**
WHVZ	**Whangaehu Hut**	**2.67**	**22**	P	**Pn**	**04 49 57.5**	**+1.6**
FWVZ	**Far West T-bar**	**2.69**	**21**	P	**Pn**	**04 49 58.0**	**+1.9**
MHEZ	**Mangahewa**	**2.69**	**0**	P	**Pb**	**04 50 01.0**	**-0.2**
TUVZ	**Tukino**	**2.70**	**23**	P	**Pn**	**04 49 57.7**	**+1.4**
NGZ	**Ngauruhoe**	**2.77**	**21**	P	**Pn**	**04 49 58.8**	**+1.6**
KAHZ	**Kahuranaki**	**2.78**	**45**	P	**Pn**	**04 49 56.0**	**-1.1**
SNVZ	**South Ngauruho**	**2.78**	**22**	P	**Pn**	**04 49 58.9**	**+1.7**
OTVZ	**Oturere**	**2.80**	**22**	P	**Pn**	**04 49 59.3**	**+1.7**
NNVZ	**North Ngauruho**	**2.82**	**21**	P	**Pn**	**04 49 59.3**	**+1.5**
TWVZ	**Taurewa**	**2.83**	**18**	P	**Pb**	**04 50 03.4**	**-0.2**
ETVZ	**East Tongariro**	**2.84**	**23**	P	**Pn**	**04 49 59.7**	**+1.5**
KWHZ	**Kaweka Forest**	**2.84**	**35**	P	**Pn**	**04 49 57.9**	**-0.2**
TMVZ	**Te Maari**	**2.86**	**22**	P	**Pn**	**04 49 59.5**	**+1.2**
KRVZ	**Karewarewa**	**2.86**	**21**	P	**Pb**	**04 50 05.3**	**+1.2**
NTVZ	**North Tongarir**	**2.87**	**22**	P	**Pn**	**04 49 59.8**	**+1.4**
MCHZ	**McNeill Hill**	**2.95**	**39**	P	**Pn**	**04 49 59.1**	**-0.4**
RITZ	**Rihia Road**	**3.03**	**23**	P	**Pn**	**04 50 08.2**	**+1.2**
RPZ	**Rata Peaks**	**3.08**	**230**	P	**Pn**	**04 50 00.9**	**-0.4**
BKZ	**Black Stump Fm**	**3.09**	**33**	P	**Pn**	**04 50 00.8**	**-0.7**
ARHZ	**Aropaoanui**	**3.24**	**40**	P	**Pn**	**04 50 02.4**	**-1.0**
HIZ	**Hauiti**	**3.28**	**8**	P	**Pn**	**04 50 06.0**	**+1.9**
HIZ	**Hauiti**	**3.28**	**8**	P	**Pn**	**04 50 06.4**	**+2.4**
NMHZ	**Naumai**	**3.28**	**36**	P	**Pn**	**04 50 03.9**	**-0.2**
RIGZ	**Rimuhau**	**4.05**	**42**	P	**Pn**	**04 50 12.4**	**-2.2**
URZ	**Urewera**	**4.12**	**32**	P	**Pn**	**04 50 15.8**	**+0.3**
URZ	**Urewera**	**4.12**	**32**	P	**Pn**	**04 50 15.4**	**-0.1**
TOZ	**Tahuroa Road**	**4.14**	**13**	P	Pn	04 50 20.7	+4.9
ODZ	**Otahua Downs**	**4.22**	**218**	P	**Pn**	**04 50 16.8**	**-0.1**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**04 50 24.2**	**+1.1**
AWAZ	**Awhitu Peninsu**	**4.71**	**3**	P	**Pn**	**04 50 26.8**	**+3.2**
MKAZ	**Moumakai**	**4.71**	**8**	P	**Pn**	**04 50 25.0**	**+1.3**
HAZ	**Te Kaha**	**4.82**	**35**	P	Pn	**04 50 23.7**	**-1.4**
WIAZ	**Waiheke Island**	**5.01**	**8**	P	Pn	04 50 32.8	+5.0
CTZ	**Chatham Island**	**6.96**	**109**	P	**Pn**	**04 50 53.7**	**-0.9**

IDC 23 04:50:55.7±5.0, 22°.04S×147°.85E, h0km, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=41.1km s-min=27.7km az=100.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.45**	**322**	Pn	Pn	04 51 36.9	0.0
	1.0nm,0.3s,baz=145,slow=17,SNR=14						
CTA				Pg	Pb	04 51 41.5	+0.8
	5.4nm,0.3s,baz=138,slow=17,SNR=16						
CTA				Lg	Lg	04 52 14.6	
	3.5nm,0.3s,baz=49,slow=22,SNR=6.9						
	5.2nm,0.4s						
WRA	**Warramunga Arr**	**12.79**	**277**	Pn	Pn	04 53 57.0	-1.9
	0.1nm,0.3s,baz=97,slow=12,SNR=5.3						
WRA				Lg	Lg	04 57 38.2	
	0.1nm,0.3s,baz=98,slow=23,SNR=4.9						
	0.2nm,0.5s						
I07AU	**WARRAMUNGA INF**	**12.80**	**277**	I		06 11 50.0	
	baz=102,slow=314,SNR=2.7						
ASAR	**Alice Springs**	**12.96**	**260**	Pn	Pn	04 54 00.7	-0.5
	baz=82,slow=14,SNR=2.5						
ASAR				Lg	Lg	04 57 48.8	
	baz=82,slow=28						
	0.2nm,0.4s						

*IDC **23** 04:54:43.3±1.6, 37°.23N×141°.72E, h0km, mb3.7/6, mbtmp3.7/7, ML2.7/1, Error ellipse: s-maj=36.1km s-min=27.6km az=78.0*
*JMA **23** 04:54:46.9±0.2, 37°.3N±0°.3×141°.5E±0°.9, h28km±1km, MV3.7/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 23 04:54:45.1±2.3, 37°.25N±0°.05×141°.55E±0°.09, h9km±11km, n21, σ0°72/23, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**283**	P	**Pg**	**04 54 56.4**	**+0.6**
JFK				S	**Sg**	**04 55 03.4**	**+0.3**
JMST	**Minamisoumatoc**	**0.71**	**312**	*i* P	**Pg**	**04 54 59.1**	**+0.3**
JMST				S	**Sg**	**04 55 08.2**	**+0.1**
JFFD	**Fukushimafurud**	**0.80**	**259**	*i* P	**Pg**	**04 55 00.9**	**+0.3**
JFFD				S	**Sg**	**04 55 10.9**	**-0.2**
JMM	**Marumori**	**0.86**	**316**	*i* P	**Pb**	**04 55 01.6**	**-0.6**
JMM				S	**Sg**	**04 55 12.3**	**-0.6**
JHO	**Hitachi**	**1.01**	**231**	P	**Pb**	**04 55 03.9**	**-0.8**
JHO				*e*S	**Sb**	**04 55 16.8**	**-1.3**
JIO	**Ouri**	**1.22**	**353**	P	**Pn**	**04 55 07.4**	**-0.8**
JOU	**Okura**	**1.32**	**328**	*i* P	**Pb**	**04 55 09.6**	**-0.4**
JOU				S	**Sb**	**04 55 26.7**	**-0.3**
JSB	**Shiboa**	**1.33**	**258**	P	**Pb**	**04 55 10.2**	**-0.1**
JSB				S	**Sn**	**04 55 27.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.77**	**256**	Pn	**Pn**	**04 55 30.6**	**+1.0**
	1.2nm,0.3s,baz=78,slow=16,SNR=35						
MJAR				Sn	**Sb**	**04 56 07.0**	**-1.7**
	1.6nm,0.3s,baz=58,slow=23,SNR=11						
	6.4nm,0.4s						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**05 00 34.5**	**+0.4**
	0.8nm,0.9s,baz=87,slow=7.6,SNR=3.6						
	0.8nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	05 30 08.5	
	baz=314,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	05 30 07.4	
	baz=314,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	05 30 10.0	
	baz=314,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	05 30 59.0	
	baz=316,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	05 31 04.1	
	baz=316,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	05 30 59.8	
	baz=316,slow=75,SNR=26						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**05 02 35.8**	**+0.7**
	1.1nm,0.6s,baz=83,slow=4.6,SNR=4.7						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**05 02 53.8**	**+0.3**
	0.7nm,0.6s,baz=90,slow=9.9,SNR=5.6						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**57.29**	**188**	P	**P**	**05 04 32.7**	**-0.4**
	0.2nm,0.5s,baz=7.8,slow=7.7,SNR=7.6						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**05 05 48.8**	**+0.4**
	0.8nm,0.6s,baz=45,slow=8.1,SNR=4.2						
	0.8nm,0.6s						
AKASG	**Malin Array Be**	**74.19**	**322**	P	**P**	**05 06 22.4**	**+0.4**
	0.5nm,0.5s,baz=46,slow=4.1,SNR=4.1						
	0.5nm,0.5s						

IDC 23 05:21:59.9±3.7, 6°.85S×150°.76E, h58km±37km, mb3.5/3, mbtmp3.9/4, ML3.9/1, MS2.4/2, Error ellipse: s-maj=129.0km s-min=18.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.82**	**27**	P	Pn	05 22 42.8	+0.2
	21nm,0.3s,baz=36,slow=2.5,SNR=10						
KRVT				S	Sn	05 23 15.9	+0.5
	124nm,0.4s,baz=17,slow=23,SNR=13						
KRVT				LR	LR	05 23 28.1	
	comp=Z,52nm,18.4s,baz=107,slow=31						
	105nm,0.6s						
PMG	**Port Moresby**	**4.38**	**234**	S	Sn	05 23 54.7	+1.0
	38nm,0.5s,baz=11,slow=17,SNR=8.5						
PMG				LR	LR	05 24 35.2	
	comp=Z,62nm,19.3s,baz=67,slow=35						
WRA	**Warramunga Arr**	**20.58**	**229**	P	P	05 26 34.0	-0.2
	3.4nm,0.7s,baz=55,slow=11,SNR=46						
	3.4nm,0.7s						
ASAR	**Alice Springs**	**23.28**	**222**	P	P	05 27 02.5	-0.3
	2.8nm,0.8s,baz=57,slow=8.8,SNR=19						
	2.8nm,0.8s						
ILAR	**Eielson Array**	**84.81**	**22**	P	P	05 34 28.6	+0.8
	0.3nm,0.7s,baz=233,slow=4.3,SNR=2.3						
	0.3nm,0.7s						

*IDC **23** 05:32:10.3±2.6, 37°.25N×141°.78E, h0km, mb3.3/2, mbtmp3.2/3, ML2.2/1, Error ellipse: s-maj=48.7km s-min=34.8km az=45.0*
*JMA **23** 05:32:14.1±0.2, 37°.2N±0°.5×14°2E±°, h38km±1km, MV3.4/40, E OFF FUKUSHIMA PREF*
ISC 23 05:32:12.3±2.0, 37°.23N±0°.05×141°.61E±0°.08, h13km±12km, n12, σ0°85/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**283**	*i* P	**Pg**	**05 32 24.8**	**+0.8**
JFK				S	**Sb**	**05 32 32.3**	**-0.8**
JMST	**Minamisoumatoc**	**0.75**	**311**	*i* P	**Pg**	**05 32 27.3**	**+0.3**
JMST				S	**Sb**	**05 32 36.8**	**-0.8**
JFFD	**Fukushimafurud**	**0.84**	**261**	*i* P	**Pb**	**05 32 28.5**	**-0.4**
JFFD				S	**Sb**	**05 32 38.9**	**-1.3**
JMM	**Marumori**	**0.91**	**315**	*i* P	**Pb**	**05 32 29.7**	**-0.2**
JMM				S	**Sb**	**05 32 40.8**	**-1.1**
JHO	**Hitachi**	**1.03**	**234**	*i* P	**Pb**	**05 32 31.3**	**-0.8**
JHO				S	**Sb**	**05 32 44.1**	**-1.5**
JIO	**Ouri**	**1.24**	**351**	*i* P	**Pg**	**05 32 35.5**	**-0.7**
JIO				S	**Sb**	**05 32 50.5**	**-1.0**
JOU	**Okura**	**1.36**	**327**	P	**Pb**	**05 32 37.6**	**-0.1**
JOU				S	**Sb**	**05 32 54.5**	**-0.4**
JSB	**Shiboa**	**1.37**	**260**	S	**Sb**	**05 32 55.5**	**+0.1**
JFY	**Yanaizu**	**1.52**	**277**	P	**Pb**	**05 32 39.9**	**-0.6**
JFY				S	**Sn**	**05 32 58.8**	**-0.3**
MJAR	**Matsushiro Arr**	**2.81**	**257**	Pn	**Pn**	**05 32 57.7**	**+0.7**
	0.3nm,0.3s,baz=79,slow=17,SNR=5.0						
MJAR				Sn	**Sb**	**05 33 35.6**	**-1.1**
	0.5nm,0.3s,baz=70,slow=18,SNR=5.8						
	2.6nm,0.4s						
MKAR	**Makanchi Array**	**44.14**	**302**	P	**P**	**05 40 21.4**	**+0.9**
	0.4nm,0.7s,baz=75,slow=7.6,SNR=3.0						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**05 41 60.0**	**+0.2**
	0.2nm,0.7s,baz=6.7,slow=7.4,SNR=4.7						
	0.2nm,0.7s						

WEL 23 05:35:20.7±0.3, 42°.5S±2°×17°.3E±°, h5km, M3.3/38, ML3.5/13, MLv3.3/38, Error ellipse: s-maj=0.0km s-min=0.0km az=90.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**157**	P	**Pg**	05 35 23.4	+0.6
KHZ				S	Sg	05 35 25.5	+1.2
BSWZ	**Blackbirch Sta**	**0.67**	**26**	P	**Pg**	05 35 33.7	+0.1
THZ	**Tophouse**	**0.70**	**322**	P	**Pg**	05 35 34.7	+0.5
GVZ	**Greta Valley S**	**0.73**	**207**	P	**Pb**	05 35 35.5	-0.3
CMWZ	**Cape Campbell**	**0.79**	**44**	P	**Pb**	05 35 36.6	-0.2
TUWZ	**Tuamarina**	**0.95**	**21**	P	**Pg**	05 35 38.9	-0.1
LTZ	**Lake Taylor**	**1.01**	**242**	P	**Pg**	05 35 39.8	-0.2
AMCZ	**Amberley**	**1.05**	**215**	P	**Pg**	05 35 40.0	-0.8
MRNZ	**Matariki Terra**	**1.07**	**329**	P	**Pg**	05 35 41.3	+0.2
NNZ	**Nelson**	**1.10**	**356**	P	**Pg**	05 35 41.5	-0.4
TCW	**Tory Channel**	**1.26**	**28**	P	**Pg**	05 35 43.2	-1.6
TKNZ	**Takaka Hill**	**1.34**	**343**	P	**Pn**	05 35 45.7	-0.4
DSZ	**Denniston Nort**	**1.38**	**294**	P	**Pn**	05 35 46.6	0.0
WEL	**Wellington**	**1.41**	**43**	P	**Pn**	05 35 45.4	-1.6
OKCZ	**Okains Bay**	**1.44**	**192**	P	**Pn**	05 35 44.9	-2.5
OXZ	**Oxford**	**1.46**	**226**	P	**Pn**	05 35 45.2	-2.6
MQZ	**McQueen's Vall**	**1.51**	**203**	P	**Pn**	05 35 45.1	-3.3
PLWZ	**Palliser**	**1.52**	**61**	P	**Pn**	05 35 45.7	-2.9
DUWZ	**D'Urville Isla**	**1.55**	**12**	P	**Pn**	05 35 48.1	-0.8
INZ	**Inchbonnie**	**1.56**	**254**	P	**Pn**	05 35 48.2	-0.9
AKCZ	**Akaroa Harbour**	**1.61**	**195**	P	**Pn**	05 35 46.8	-2.9
QRZ	**Quartz Range**	**1.66**	**334**	P	**Pn**	05 35 50.8	+0.4
CAW	**Cannon Point**	**1.69**	**45**	P	**Pn**	05 35 48.7	-2.2
RACZ	**Rakaia**	**1.72**	**215**	P	**Pn**	05 35 48.5	-2.7
PAWZ	**Paruwai Farm**	**1.73**	**58**	P	**Pn**	05 35 48.4	-3.1
KIW	**Kapiti Island**	**1.81**	**37**	P	**Pn**	05 35 50.8	-1.7
MHCZ	**Mount Hutt**	**1.86**	**229**	P	**Pn**	05 35 50.5	-2.7
TRWZ	**Traveller**	**1.89**	**62**	P	**Pn**	05 35 50.2	-3.4
MTW	**Mount Morrison**	**1.91**	**53**	P	**Pn**	05 35 51.1	-2.7
OGWZ	**Otaki Gorge**	**1.96**	**41**	P	**Pn**	05 35 52.5	-2.1
WACZ	**Wakanui South**	**2.02**	**216**	P	**Pn**	05 35 52.7	-2.7
HOWZ	**Holdsworth Sta**	**2.08**	**48**	P	**Pn**	05 35 53.4	-2.8
WVZ	**Waitaha Valley**	**2.16**	**249**	P	**Pn**	05 35 56.4	-0.9
TMWZ	**Te Maipa**	**2.17**	**57**	P	**Pn**	05 35 52.9	-4.7
RPZ	**Rata Peaks**	**2.26**	**231**	P	**Pn**	05 35 56.4	-2.4
ARCZ	**Arundel**	**2.34**	**225**	P	**Pn**	05 35 57.3	-2.6
GCSZ	**Gaunt Creek Bo**	**2.53**	**246**	P	**Pn**	05 36 01.7	-0.7
TMZ	**Timaru**	**2.74**	**220**	P	**Pn**	05 36 02.7	-2.6
FOZ	**Fox Glacier**	**2.95**	**245**	P	**Pn**	05 36 07.1	-1.1
KHEZ	**Kahui Hut**	**3.05**	**8**	P	**Pn**	05 36 11.4	+1.8
PKE	**Pukeiti**	**3.15**	**7**

PV12	**Saucer Basin,**	**46.32**	**15**	P	**P**		**05 54 23.6**	**+1.2**
Q16A	**Castle Valley**	**46.35**	**12**	P	**P**		**05 54 22.9**	**+0.3**
Q16A				IAmb	IAmb		05 54 24.9	
	comp=Z,7.1nm,1.1s							
PV07	**Paradox Valley**	**46.47**	**15**	P	**P**		**05 54 25.9**	**+2.2**
PV07				IAmb	IAmb		05 54 29.3	
	comp=Z,15nm,1.4s							
T25A	**Trinidad**	**46.51**	**20**	P	**P**		**05 54 24.8**	**+0.8**
SDCO	**Great Sand Dun**	**46.72**	**18**	IAmb	IAmb		05 54 28.0	
	comp=Z,11nm,1.4s							
NLU	**North Lily Min**	**47.18**	**11**	P	**P**		**05 54 30.8**	**+1.6**
NLU				IAmb	IAmb		05 54 32.5	
	comp=Z,9.8nm,1.3s							
P18A	**Preston Nutter**	**47.23**	**13**	P	**P**		**05 54 30.9**	**+1.2**
P18A				IAmb	IAmb		05 54 35.0	
	comp=Z,13nm,1.3s							
DUG	**Dugway, Tooele**	**47.28**	**10**	P	**P**		**05 54 31.8**	**+2.0**
DUG				IAmb	IAmb		05 54 33.0	
	comp=Z,8.4nm,1.1s							
MPU	**Maple Canyon**	**47.32**	**11**	IAmb	IAmb		05 54 33.4	
	comp=Z,7.3nm,1.2s							
ELK	**Elko**	**47.47**	**7**	LR	LR		06 09 24.5	
	comp=Z,44nm,21.1s,baz=258,slow=30							
ELK	**Elko**	**47.47**	**7**	P	**P**		**05 54 32.4**	**+1.0**
ELK				IAmb	IAmb		05 54 34.2	
	comp=Z,6.3nm,1.1s							
JLU	**Jordanelle**	**47.92**	**11**	P	**P**		**05 54 36.3**	**+1.3**
JLU				IAmb	IAmb		05 54 38.1	
	comp=Z,14nm,1.4s							
CTU	**Camp Tracy**	**47.95**	**11**	IAmb	IAmb		05 54 39.8	
	comp=Z,8.4nm,1.1s							
YBH	**Yreka Blue Hor**	**48.02**	**360**	LR	LR		06 08 47.7	
	comp=Z,71nm,20.7s,baz=214,slow=29							
O20A	**White River Ci**	**48.18**	**14**	P	**P**		**05 54 38.5**	**+1.6**
RDMU	**Red Mountain**	**48.28**	**13**	IAmb	IAmb		05 54 42.1	
	comp=Z,7.6nm,1.2s							
TCUT	**Toone Canyon**	**48.43**	**11**	P	**P**		**05 54 40.7**	**+1.9**
TCUT				IAmb	IAmb		05 54 41.9	
	comp=Z,8.8nm,1.1s							
WVOR	**Wild Horse Val**	**48.83**	**4**	IAmb	IAmb		05 54 44.9	
	comp=Z,9.2nm,1.1s							
HVU	**Hansel Valley**	**48.84**	**9**	IAmb	IAmb		05 54 44.5	
	comp=Z,10.0nm,1.5s							
ROSC	**El Rosal**	**49.13**	**78**	LR	LR		06 11 43.3	
	comp=Z,66nm,18.6s,baz=261,slow=31							
AFI	**Afiamalu**	**49.25**	**257**	LR	LR		06 09 51.1	
	comp=Z,82nm,18.3s,baz=104,slow=29							
J08A	**Circle Bar Ran**	**49.76**	**4**	IAmb	IAmb		05 54 52.0	
	comp=Z,10nm,1.0s							
MFID	**Camas Ranch**	**50.03**	**6**	P	**P**		**05 54 51.6**	**+0.7**
MFID				IAmb	IAmb		05 54 53.7	
	comp=Z,8.6nm,0.9s							
PDAR	**Pinedale Array**	**50.39**	**12**	P	**P**		**05 54 53.9**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=190,slow=6.0,SNR=6.7							
PDAR				PcP	**PcP**		**05 56 10.9**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=146,slow=1.8,SNR=3.8							
PDAR				LR	LR		06 12 57.2	
	comp=Z,45nm,18.0s,baz=270,slow=32							
	comp=Z,1.4nm,0.9s							
IMW	**Indian Meadow**	**51.21**	**10**	IAmb	IAmb		05 55 02.2	
	comp=Z,14nm,1.0s							
BMO	**Blue Mountains**	**51.33**	**4**	IAmb	IAmb		05 55 02.8	
	comp=Z,12nm,1.4s							
YMR	**Madison River**	**51.95**	**10**	IAmb	IAmb		05 55 08.4	
	comp=Z,8.1nm,1.0s							
PB16	**IPOC Station P**	**52.62**	**108**	P	**P**		**05 55 11.0**	**-0.4**
LVC	**Limon Verde**	**53.72**	**113**	LR	LR		06 13 36.9	
	comp=Z,36nm,18.4s,baz=246,slow=31							
LPAZ	**La Paz**	**53.76**	**105**	P	**P**		**05 55 20.1**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=254,slow=4.5,SNR=5.2							
LPAZ				LR	LR		06 13 01.3	
	comp=Z,46nm,19.0s,baz=300,slow=30							
	comp=Z,1.0nm,0.6s							
B08A	**Colville Reser**	**54.70**	**2**	IAmb	IAmb		05 55 27.5	
	comp=Z,11nm,1.0s							
NEW	**Newport**	**54.73**	**4**	LR	LR		06 14 05.2	
	comp=Z,69nm,18.6s,baz=258,slow=31							
ECSD	**EROS Data Cent**	**55.12**	**22**	IAmb	IAmb		05 55 29.2	
	comp=Z,8.4nm,1.2s							
CFA	**Coronel Fontan**	**56.13**	**124**	LR	LR		06 13 57.1	
	comp=Z,59nm,18.4s,baz=304,slow=30							
F33A	**5 Mile Ranch,**	**57.04**	**21**	IAmb	IAmb		05 56 05.2	
	comp=Z,9.0nm,1.4s							
PLCA	**Paso Flores**	**57.21**	**135**	P	**P**		**05 55 44.4**	**+0.8**
	comp=Z,6.4nm,1.2s,baz=266,slow=9.8,SNR=5.1							
PLCA				LR	LR		06 14 13.2	
	comp=Z,85nm,20.1s,baz=276,slow=30							
	comp=Z,6.4nm,1.2s							
PLCA	**Paso Flores**	**57.21**	**135**	P	**P**		**05 55 43.1**	**-0.5**
PLCA				IAmb	IAmb		05 55 47.8	
	comp=Z,13nm,1.4s							
ULM	**Lac du Bonnet**	**60.98**	**19**	P	**P**		**05 56 08.4**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=193,slow=5.7,SNR=3.3							
	comp=Z,3.9nm,0.8s							
VILB	**Vilhena**	**61.34**	**101**	P	**P**		**05 56 12.9**	**+0.3**
VILB				IAmb	IAmb		05 56 15.0	
	comp=Z,15nm,1.2s							
PTLB	**Pontes e Lacer**	**62.38**	**104**	P	**P**		**05 56 19.6**	**0.0**
PTLB				IAmb	IAmb		05 56 21.9	
	comp=Z,4.7nm,1.0s							
CPUP	**Villa Florida**	**64.65**	**116**	LR	LR		06 21 16.1	
	comp=Z,17nm,18.1s,baz=228,slow=33							
YKA	**Yellowknife Ar**	**69.06**	**4**	P	**P**		**05 57 00.4**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=186,slow=6.5,SNR=7.7							
YKA				LR	LR		06 21 51.4	
	comp=Z,49nm,20.4s,baz=276,slow=31							
	comp=Z,3.9nm,0.8s							
M31M	**Drury Creek, Y**	**69.16**	**354**	IAmb	IAmb		05 57 04.1	
	comp=Z,7.3nm,1.0s							
MDP	**Montagnes des**	**70.40**	**82**	LR	LR		06 23 50.5	
	comp=Z,38nm,18.1s,baz=186,slow=32							
DAWY	**Dawson**	**71.57**	**352**	P	**P**		**05 57 17.3**	**+0.2**
DAWY				IAmb	IAmb		05 57 19.0	
	comp=Z,8.3nm,1.1s							
K27K	**Chicken**	**71.93**	**351**	IAmb	IAmb		05 57 34.0	
	comp=Z,14nm,1.4s							
SCRK	**Sand Creek**	**72.19**	**350**	P	**P**		**05 57 21.0**	**0.0**
EGAK	**Eagle**	**72.49**	**352**	IAmb	IAmb		05 57 23.9	
	comp=Z,9.6nm,1.0s							
J26L	**Joseph Creek**	**72.61**	**350**	IAmb	IAmb		05 57 24.7	
	comp=Z,8.4nm,1.1s							
I26K	**Coal Creek Min**	**73.29**	**351**	IAmb	IAmb		05 57 28.6	
	comp=Z,9.3nm,1.1s							
ILAR	**Eielson Array**	**73.44**	**349**	P	**P**		**05 57 27.4**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=135,slow=3.6,SNR=4.8							
ILAR				LR	LR		06 22 36.2	
	comp=Z,76nm,18.9s,baz=136,slow=30							
	comp=Z,1.0nm,1.0s							
PRP	**Porcupine Dome**	**73.87**	**350**	IAmb	IAmb		05 57 32.7	
	comp=Z,7.2nm,1.1s							
MLY	**Manley**	**74.43**	**348**	P	**P**		**05 57 33.5**	**-0.6**
MLY				IAmb	IAmb		05 57 35.0	
	comp=Z,8.8nm,1.0s							
H24K	**Noodor Dome**	**74.58**	**349**	IAmb	IAmb		05 57 36.2	
	comp=Z,12nm,1.1s							
SCHQ	**Schefferville**	**76.43**	**29**	P	**P**		**05 57 45.5**	**-0.2**
	comp=Z,13nm,0.9s,baz=228,slow=3.3,SNR=4.1							
	comp=Z,13nm,0.9s							
A36M	**Sachs Harbour**	**78.37**	**359**	IAmb	IAmb		05 57 57.3	
	comp=Z,7.5nm,1.0s							
VNDA	**Vanda**	**80.64**	**192**	P	**P**		**05 58 09.4**	**+0.8**
KRVT	**Keravat (AS076**	**85.31**	**266**	LR	LR		06 29 06.8	
	comp=Z,45nm,19.4s,baz=240,slow=30							
RCBR	**Riachuelo**	**85.71**	**95**	LR	LR		06 32 39.1	
	comp=Z,62nm,18.3s,baz=112,slow=33							
MA2	**Magadan**	**94.06**	**329**	LR	LR		06 33 53.6	
	comp=Z,28nm,20.3s,baz=116,slow=31							
GUMO	**Guam**	**94.33**	**283**	LR	LR		06 33 18.4	
	comp=Z,22nm,19.9s,baz=96,slow=30							
JCJ	**Chichijima**	**97.90**	**296**	LR	LR		06 36 49.2	
	comp=Z,16nm,18.4s,baz=77,slow=31							
ASAJ	**Asahikawa**	**98.22**	**314**	LR	LR		06 35 17.9	
	comp=Z,12nm,19.4s,baz=136,slow=30							
MKAR	**Makanchi Array**	**134.68**	**336**	PKP	**PKPdf**		**06 05 14.4**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=26,slow=3.7,SNR=1.9							
BRTR	**Keskin Array B**	**140.45**	**30**	PKP	**PKPdf**		**06 05 25.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=303,slow=0.7,SNR=3.9							
GEYT	**Alibeck**	**148.73**	**359**	PKPbc	**PKPbc**		**06 05 43.9**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=20,slow=4.6,SNR=4.2							

DJA 23 05:54:32.5±1.2, 9°S±5°×12°4E±°, h81km±15km, M3.4/6, mb4.1/1, MLv3.1/6, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.88**	**172**	P	Pn	05 54 50.7	+0.3
SOEI				S	Sn	05 55 04.7	+1.1

BATI	**Baumata**	**1.40**	**200**	P	Pn		05 54 57.5	+0.9
MMRI	**Maumere**	**1.90**	**277**	P	Pn		05 55 04.1	+1.0
PLAI	**Plampang**	**6.29**	**270**	P	Pn		05 56 00.9	-1.8

KRNET ***23*** *06:11:59.2±0.1, 41.84N×79.61E, mb3.2*
SOME ***23*** *06:12:00.3, 42.23N×79.53E, h15km*
NNC ***23*** *06:12:01.1±0.8, 42.28N×79.53E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=5.4km s-min=2.9km az=141.0
ISC 23 06:11:58.6±1.8, 42.17N±0.05×79.48E±0.05, h2km±11km, n50, σ1§47/86, 16C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.99**	**359**	*eP*	**Pn**	**06 12 19.0**	**-0.6**
	54nm,0.1s						
SHLS				*eS*	**Sn**	06 12 32.6	-1.6
	262nm,0.2s						
SHLS	**Shalkode**	**0.99**	**359**	P	**Pn**	**06 12 19.0**	**-0.6**
	54nm,0.1s						
SHLS				S	**Sn**	**06 12 32.6**	**-1.6**
	262nm,0.2s						
UZB	**Uzynbulak**	**1.04**	**341**	*eP*	**Pg**	**06 12 19.2**	**+0.6**
	2.2nm,0.1s						
UZB				*eS*	**Sb**	**06 12 32.7**	**-0.8**
	51nm,0.2s						
UZB	**Uzynbulak**	**1.04**	**341**	P	**Pg**	**06 12 19.1**	**+0.6**
	2.2nm,0.1s						
UZB				S	**Sb**	**06 12 32.7**	**-0.8**
	51nm,0.2s						
PDGK	**Podgornoye**	**1.16**	**0**	P	**Pb**	**06 12 20.9**	**-0.6**
	10nm,0.3s						
PDGK				S	**Sg**	**06 12 35.7**	**-0.2**
	47nm,0.2s						
PDGK	**Podgornoye**	**1.16**	**0**	⇓P	**Pb**	**06 12 20.8**	**-0.6**
	11nm,0.4s						
PDGK				⇑S	**Sg**	**06 12 35.6**	**-0.4**
	32nm,0.3s						
ZHN	**Zhinishke**	**1.27**	**323**	*eP*	**Pg**	**06 12 23.6**	**+0.7**
	28nm,0.2s						
ZHN				*eS*	**Sn**	**06 12 40.6**	**-0.5**
	188nm,0.2s						
ZHN	**Zhinishke**	**1.27**	**323**	P	**Pg**	**06 12 23.6**	**+0.7**
	28nm,0.2s						
ZHN				S	**Sn**	**06 12 40.6**	**-0.5**
	188nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.33**	**251**	⇓*iP*	**Pn**	**06 12 25.0**	**+0.5**
	baz=66						
TARG				⇓*iS*	**Sg**	**06 12 43.9**	**+2.7**
	baz=66						
KPKS	**Kokpek**	**1.43**	**336**	*eP*	**Pb**	**06 12 26.2**	**+0.2**
	9.2nm,0.2s						
KPKS				*eS*	**Sg**	**06 12 44.9**	**+0.5**
	151nm,0.2s						
KPKS	**Kokpek**	**1.43**	**336**	P	**Pb**	**06 12 26.2**	**+0.2**
	9.2nm,0.2s						
KPKS				S	**Sg**	**06 12 44.9**	**+0.5**
	151nm,0.2s						
KURS	**Kuram**	**1.64**	**324**	*eP*	**Pg**	**06 12 30.6**	**+0.6**
	13nm,0.2s						
KURS				*eS*	**Sg**	**06 12 51.9**	**+0.7**
	30nm,0.3s						
KURS	**Kuram**	**1.64**	**324**	P	**Pg**	**06 12 30.6**	**+0.6**
	13nm,0.2s						
KURS				S	**Sg**	**06 12 51.9**	**+0.7**
	30nm,0.3s						
MDOK	**Medeo**	**2.05**	**300**	*eP*	**Pg**	**06 12 38.0**	**+0.1**
	38nm,0.3s						
MDOK				*eS*	**Sg**	**06 13 05.1**	**+0.5**
	41nm,0.6s						
MDOK	**Medeo**	**2.05**	**300**	Pn	**Pb**	**06 12 37.9**	**+1.2**
	25nm,0.5s						
MDOK				Pg	**Pg**	**06 12 38.1**	**+0.1**
	38nm,0.3s						
MDOK				Sn	**Sg**	**06 13 05.1**	**+0.5**
	29nm,0.5s						
MDOK				Lg	Lg	06 13 05.1	
	41nm,0.6s						
TNSS	**Tian-Shan**	**2.06**	**296**	*eP*	**Pg**	**06 12 38.5**	**+0.3**
	60nm,0.2s						
TNSS				*eS*	**Sg**	**06 13 05.9**	**+0.9**
	25nm,0.2s						
TNSS	**Tian-Shan**	**2.06**	**296**	Pg	**Pg**	**06 12 38.5**	**+0.3**
	60nm,0.2s						
TNSS				Lg	Lg	06 13 05.9	
	25nm,0.2s						
DJR	**Jarkent**	**2.18**	**6**	*eP*	**Pb**	**06 12 38.8**	**+0.1**
	37nm,0.3s						
DJR				*eS*	**Sg**	**06 13 07.4**	**-1.1**
	201nm,0.3s						
DJR	**Jarkent**	**2.18**	**6**	Pg	**Pb**	**06 12 38.8**	**+0.1**
	37nm,0.3s						
DJR				Lg	Lg	06 13 07.4	
	201nm,0.3s						
ARXS	**Arharly**	**2.38**	**330**	*eP*	**Pb**	**06 12 42.9**	**+0.7**
	17nm,0.4s						
ARXS				*eS*	**Sg**	**06 13 13.5**	**-1.4**
	183nm,0.4s						
ARXS	**Arharly**	**2.38**	**330**	Pg	**Pb**	**06 12 42.9**	**+0.7**
	17nm,0.4s						
ARXS				Lg	Lg	06 13 13.5	
	183nm,0.4s						
MTBS	**Maitube**	**2.45**	**294**	*eP*	**Pb**	**06 12 45.0**	**+1.6**
	19nm,0.3s						
MTBS				*eS*	**Sg**	**06 13 17.6**	**+0.2**
	36nm,0.5s						
MTBS	**Maitube**	**2.45**	**294**	Pg	**Pb**	**06 12 45.0**	**+1.6**
	19nm,0.3s						
MTBS				Lg	Lg	06 13 17.5	
	36nm,0.5s						
CHKK	**Chushkaly**	**2.49**	**314**	*eP*	**Pb**	**06 12 45.4**	**+1.3**
	34nm,0.3s						
CHKK				*eS*	**Sg**	**06 13 18.1**	**-0.5**
	151nm,0.2s						
CHKK	**Chushkaly**	**2.49**	**314**	Pg	**Pb**	**06 12 45.4**	**+1.3**
	34nm,0.3s						
CHKK				Lg	Lg	06 13 18.1	
	151nm,0.2s						
BOOM	**Boomskoye usch**	**2.65**	**278**	⇓*eP*	**Pb**	**06 12 47.6**	**+0.8**
	baz=85						
BOOM				⇓*iS*	**Sg**	**06 13 22.8**	**-0.8**
	baz=85						
NRN	**Naryn**	**2.71**	**255**	⇑*iP*	**Pb**	**06 12 46.9**	**-1.0**
	baz=62						
NRN				⇑*iS*	**Sb**	**06 13 21.7**	**0.0**
	baz=62						
KST	**Kastek**	**2.74**	**290**	*eP*	**Pg**	**06 12 51.0**	**-0.1**
	14nm,0.1s						
KST				*eS*	**Sg**	**06 13 27.7**	**+1.0**
	48nm,0.4s						
KST	**Kastek**	**2.74**	**290**	Pg	**Pg**	**06 12 51.0**	**-0.1**
	14nm,0.1s						
KST				Lg	Lg	06 13 27.7	
	48nm,0.4s						
KUU	**Kurty**	**2.88**	**308**	*eP*	**Pb**	**06 12 52.5**	**+1.8**
	8.3nm,0.3s						
KUU				*eS*	**Sg**	**06 13 29.6**	**-1.5**
	72nm,0.2s						
KUU	**Kurty**	**2.88**	**308**	Pg	**Pb**	**06 12 52.5**	**+1.8**
	8.3nm,0.3s						
KUU				Lg	Lg	06 13 29.6	
	72nm,0.2s						
DGS	**Degeres**	**2.94**	**293**	*eP*	**Pb**	**06 12 54.0**	**+2.2**
	12nm,0.2s						
DGS				*eS*	**Sg**	**06 13 32.5**	**-0.5**
	20nm,0.2s						
DGS	**Degeres**	**2.94**	**293**	Pg	**Pb**	**06 12 54.0**	**+2.2**
	12nm,0.2s						
DGS				Lg	Lg	06 13 32.5	
	20nm,0.2s						
TDK	**Taldyqorghan**	**2.94**	**345**	*eP*	**Pb**	**06 12 52.8**	**+1.0**
	7.6nm,0.1s						
TDK				*eS*	**Sg**	**06 13 30.3**	**-2.7**
	80nm,0.3s						
TDK	**Taldyqorghan**	**2.94**	**345**	Pg	**Pb**	**06 12 52.8**	**+1.0**
	7.6nm,0.1s						
TDK				Lg	Lg	06 13 30.3	
	80nm,0.3s						
TKM2	**Tokmak 2**	**2.97**	**286**	⇑*eP*	**Pb**	**06 12 52.5**	**+0.2**
	baz=91						
TKM2				⇑*iS*	**Sb**	**06 13 31.5**	**+2.4**
	baz=91						
TKM2	**Tokmak 2**	**2.97**	**286**	⇓Pg	**Pb**	**06 12 53.2**	**+0.9**
	2.6nm,0.3s						
TKM2				⇑Lg	Lg	06 13 35.3	
	23nm,0.8s						
KRBS	**Karabastau**	**3.19**	**300**	*eP*	**Pb**	**06 12 58.2**	**+2.3**
	8.6nm,0.2s						
KRBS				*eS*	**Sg**	**06 13 39.3**	**-1.7**
	36nm,0.5s						
KRBS	**Karabastau**	**3.19**	**300**	Pg	**Pb**	**06 12 58.2**	**+2.3**
	8.6nm,0.2s						
KRBS				Lg	Lg	06 13 39.3	
	36nm,0.5s						
KBK	**Karagaybulak**	**3.39**	**280**	⇓*iP*	**Pb**	**06 12 58.0**	**-1.5**
	baz=85						
KBK				⇓*iS*	**Sb**	**06 13 40.9**	**-0.4**
	baz=85						
CHMS	**Chumysh**	**3.59**	**285**	⇑*eP*	**Pb**	**06 13 01.0**	**-1.8**
	baz=89						
CHMS				⇑*iS*	**Sb**	**06 13 45.9**	**-1.0**
	baz=89						
CHMS	**Chumysh**	**3.59**	**285**	⇓Pg	**Pg**	**06 13 07.0**	**-0.5**
	4.0nm,0.5s						
CHMS				⇑Lg	Lg	06 13 54.3	
	9.9nm,0.8s						
AAK	**Ala-Archa**	**3.73**	**279**	⇑*eP*	**Pb**	**06 13 02.5**	**-2.7**
	baz=84						
AAK				⇑*iS*	**Sb**	**06 13 48.7**	**-2.1**
	baz=84						
MRKS	**Merke**	**4.67**	**279**	*eP*	**Pg**	**06 13 26.1**	**-1.8**
	3.5nm,0.2s						
MRKS				*eS*	**Sg**	**06 14 27.4**	**-1.1**
	5.1nm,0.5s						
MRKS	**Merke**	**4.67**	**279**	Pg	**Pb**	**06 13 25.4**	**+4.2**
	3.5nm,0.2s						
MRKS				Lg	Lg	06 14 26.2	
	5.1nm,0.5s						
BTLS	**Baital**	**4.88**	**308**	*eP*	**Pg**	**06 13 29.4**	**-2.7**
	2.6nm,0.5s						
BTLS				*eS*	**Sg**	**06 14 33.4**	**-2.0**
	4.8nm,0.6s						
BTLS	**Baital**	**4.88**	**308**	Pg	**Pb**	**06 13 28.3**	**+3.5**
	2.6nm,0.5s						
BTLS				Lg	Lg	06 14 31.3	
	4.8nm,0.6s						
MAKZ	**Makanchi**	**4.97**	**20**	⇓Pn	**Pn**	**06 13 16.6**	**+2.4**
	1.5nm,0.6s						
MAKZ				⇑Sn	**Sn**	**06 14 12.5**	**+0.2**
	2.4nm,0.8s						
MAKZ				⇑Lg	Lg	06 14 34.6	
	3.1nm,0.9s						
MK31	**Makanchi Array**	**5.04**	**23**	Pn	**Pn**	**06 13 17.4**	**+2.1**
	0.3nm,0.2s,baz=203,slow=12,SNR=53						
MK31				⇓Sn	**Sn**	**06 14 15.8**	**+1.7**
	1.5nm,0.6s,baz=198,slow=23,SNR=3.8						
MK31				⇑Lg	Lg	06 14 37.8	
	5.3nm,0.8s						
KK31	**Karatay Array**	**6.68**	**281**	⇑Pg	**Pg**	**06 14 03.2**	**-3.3**
	0.2nm,0.3s,baz=82,slow=17,SNR=4.3						
KK31				⇑Lg	Lg	06 15 35.2	
	0.4nm,0.3s						

KRNET ***23*** *06:33:00.8±0.1, 41.71N×79.66E, mb3.3*
SOME ***23*** *06:33:02.2, 42.23N×79.47E, h10km*
NNC ***23*** *06:33:03.2±0.7, 42.29N×79.50E, h0km, mb4.0, mpv3.8,*
Error ellipse: s-maj=4.5km s-min=2.4km az=146.0
ISC 23 06:33:01.1±1.5, 42.19N±0.05×79.44E±0.04, h4km±10km, n57, σ1§06/97, 19C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.97**	**1**	*eP*	**Pb**	**06 33 20.6**	**0.0**
	99nm,0.1s						
SHLS				*eS*	**Sn**	**06 33 34.1**	**-1.9**
	373nm,0.2s						
SHLS	**Shalkode**	**0.97**	**1**	P	**Pb**	**06 33 20.6**	**0.0**
	99nm,0.1s						
SHLS				S	**Sn**	**06 33 34.1**	**-1.9**
	373nm,0.2s						
UZB	**Uzynbulak**	**1.01**	**343**	*eP*	**Pg**	**06 33 20.7**	**+0.3**
	4.6nm,0.2s						
UZB				*eS*	**Sb**	**06 33 34.3**	**-0.7**
	74nm,0.2s						
UZB	**Uzynbulak**	**1.01**	**343**	P	**Pg**	**06 33 20.7**	**+0.3**
	5.0nm,0.1s						
UZB				S	**Sb**	**06 33 34.3**	**-0.7**
	65nm,0.2s						
PDGK	**Podgornoye**	**1.14**	**2**	P	**Pg**	**06 33 22.4**	**-0.6**
	14nm,0.2s						
PDGK				S	**Sg**	**06 33 37.2**	**-0.6**
	65nm,0.2s						
PDGK	**Podgornoye**	**1.14**	**2**	⇑P	**Pg**	**06 33 22.3**	**-0.6**
	15nm,0.4s						
PDGK				⇑S	**Sg**	**06 33 37.2**	**-0.6**
	44nm,0.3s						
SATY	**Saty**	**1.16**	**319**	*eP*	**Pn**	**06 33 24.1**	**-0.2**
	21nm,0.1s						
SATY				*eS*	**Sn**	**06 33 39.7**	**-0.9**
	165nm,0.1s						
SATY	**Saty**	**1.16**	**319**	P	**Pn**	**06 33 24.1**	**-0.2**
	21nm,0.1s						
SATY				S	**Sn**	**06 33 39.7**	**-0.9**
	165nm,0.1s						
ZHN	**Zhinishke**	**1.23**	**323**	*eP*	**Pg**	**06 33 25.2**	**+0.6**
	46nm,0.2s						
ZHN				*eS*	**Sn**	**06 33 42.0**	**-0.3**
	231nm,0.2s						
ZHN	**Zhinishke**	**1.23**	**323**	P	**Pg**	**06 33 25.3**	**+0.6**
	46nm,0.2s						
ZHN				S	**Sn**	**06 33 42.0**	**-0.3**
	231nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.30**	**250**	⇑*iP*	**Pb**	**06 33 27.0**	**+0.6**
	baz=72						
TARG				⇑*iS*	**Sn**	**06 33 46.1**	**+1.6**
	baz=72						
KPKS	**Kokpek**	**1.39**	**337**	*eP*	**Pg**	**06 33 27.9**	**+0.1**
	15nm,0.1s						
KPKS				*eS*	**Sg**	**06 33 46.2**	**+0.3**
	210nm,0.3s						
KPKS	**Kokpek**	**1.39**	**337**	P	**Pg**	**06 33 27.9**	**+0.1**
	15nm,0.1s						
KPKS				S	**Sg**	**06 33 46.2**	**+0.3**
	210nm,0.3s						
KTMS	**Ketmen**	**1.43**	**28**	*eP*	**Pg**	**06 33 28.7**	**+0.2**
	12nm,0.2s						
KTMS				*eS*	**Sg**	**06 33 47.5**	**+0.5**
	31nm,0.0s						
KTMS	**Ketmen**	**1.43**	**28**	P	**Pg**	**06 33 28.7**	**+0.2**
	12nm,0.1s						
KTMS				S	**Sg**	**06 33 48.0**	**+1.0**
	24nm,0.3s					

	244nm,0.4s							
DJR	**Jarkent**	**2.16**	**7**	Pg	**Pb**	**06 33 41.2**	**+0.4**
	20nm,0.2s							
DJR				Lg	Lg	06 34 08.9		
	244nm,0.4s							
IZV	**Izvestkoviy**	**2.25**	**293**	*e*P	**Pg**	**06 33 43.9**	**-0.3**
	28nm,0.2s							
IZV				*e*S	**Sg**	**06 34 13.8**	**+0.4**
	102nm,0.2s							
IZV	**Izvestkoviy**	**2.25**	**293**	Pg	**Pg**	**06 33 45.1**	**+0.9**
	21nm,0.1s							
IZV				Lg	Lg	06 34 14.9		
	102nm,0.2s							
ARXS	**Arharly**	**2.34**	**330**	*e*P	**Pg**	**06 33 45.2**	**-0.8**
	18nm,0.2s							
ARXS				*e*S	**Sg**	**06 34 16.1**	**-0.2**
	263nm,0.5s							
ARXS	**Arharly**	**2.34**	**330**	Pg	**Pb**	**06 33 44.4**	**+0.5**
	20nm,0.2s							
ARXS				Lg	Lg	06 34 15.1		
	263nm,0.5s							
MTBS	**Maitube**	**2.41**	**294**	*e*P	**Pg**	**06 33 46.9**	**-0.4**
	16nm,0.3s							
MTBS				*e*S	**Sg**	**06 34 18.8**	**+0.3**
	56nm,0.2s							
MTBS	**Maitube**	**2.41**	**294**	Pg	**Pg**	**06 33 47.2**	**-0.1**
	20nm,0.2s							
MTBS				Lg	Lg	06 34 19.5		
	56nm,0.2s							
CHKK	**Chushkaly**	**2.45**	**314**	*e*P	**Pg**	**06 33 47.4**	**-0.7**
	44nm,0.4s							
CHKK				*e*S	**Sg**	**06 34 19.7**	**0.0**
	148nm,0.2s							
CHKK	**Chushkaly**	**2.45**	**314**	Pg	**Pg**	**06 33 47.4**	**-0.7**
	44nm,0.4s							
CHKK				Lg	Lg	06 34 19.7		
	148nm,0.2s							
BOOM	**Boomskoye usch**	**2.61**	**278**⇑	*e*P	**Pb**	**06 33 49.8**	**+1.2**
	baz=87							
BOOM				⇑*i*S	**Sg**	**06 34 25.4**	**+0.5**
	baz=87							
NRN	**Naryn**	**2.68**	**255**⇑	*e*P	**Pb**	**06 33 48.5**	**-1.3**
	baz=65							
NRN				⇑*i*S	**Sb**	**06 34 23.3**	**+0.2**
	baz=65							
KST	**Kastek**	**2.70**	**290**	*e*P	**Pg**	**06 33 52.6**	**-0.3**
	18nm,0.1s							
KST				*e*S	**Sg**	**06 34 29.0**	**+1.1**
	65nm,0.5s							
KST	**Kastek**	**2.70**	**290**	Pg	**Pg**	**06 33 52.6**	**-0.3**
	18nm,0.1s							
KST				Lg	Lg	06 34 29.0		
	65nm,0.5s							
KUU	**Kurty**	**2.84**	**308**	*e*P	**Pg**	**06 33 54.4**	**-1.1**
	13nm,0.3s							
KUU				*e*S	**Sg**	**06 34 31.5**	**-0.8**
	80nm,0.3s							
KUU	**Kurty**	**2.84**	**308**	Pg	**Pb**	**06 33 53.9**	**+1.5**
	13nm,0.2s							
KUU				Lg	Lg	06 34 30.7		
	80nm,0.3s							
DGS	**Degeres**	**2.90**	**293**	*e*P	**Pb**	**06 33 55.4**	**+2.0**
	15nm,0.4s							
DGS				*e*S	**Sg**	**06 34 33.9**	**-0.3**
	28nm,0.3s							
DGS	**Degeres**	**2.90**	**293**	Pg	**Pb**	**06 33 55.4**	**+2.0**
	15nm,0.4s							
DGS				Lg	Lg	06 34 33.9		
	28nm,0.3s							
TDK	**Taldyqorghan**	**2.91**	**345**	*e*P	**Pg**	**06 33 55.8**	**-1.1**
	29nm,0.3s							
TDK				*e*S	**Sg**	**06 34 33.6**	**-1.0**
	76nm,0.4s							
TDK	**Taldyqorghan**	**2.91**	**345**	Pg	**Pb**	**06 33 54.2**	**+0.6**
	21nm,0.3s							
TDK				Lg	Lg	06 34 31.4		
	96nm,0.5s							
TKM2	**Tokmak 2**	**2.93**	**286**⇑	*i*P	**Pb**	**06 33 54.9**	**+0.9**
	baz=93							
TKM2				⇑*i*S	**Sg**	**06 34 34.6**	**-0.6**
	baz=93							
TKM2	**Tokmak 2**	**2.93**	**286**	⇑Pg	**Pb**	**06 33 54.6**	**+0.5**
	3.7nm,0.3s							
TKM2				⇑Lg	Lg	06 34 34.7		
	30nm,0.7s							
KRBS	**Karabastau**	**3.15**	**300**	*e*P	**Pg**	**06 34 00.2**	**-1.1**
	5.2nm,0.1s							
KRBS				*e*S	**Sg**	**06 34 41.0**	**-1.2**
	46nm,0.4s							
KRBS	**Karabastau**	**3.15**	**300**	Pg	**Pg**	**06 34 00.3**	**-1.1**
	5.2nm,0.1s							
KRBS				Lg	Lg	06 34 41.0		
	46nm,0.4s							
KBK	**Karagaybulak**	**3.35**	**280**⇓	*i*P	**Pb**	**06 34 00.2**	**-1.1**
	baz=87							
KBK				⇓*i*S	**Sb**	**06 34 43.5**	**+1.0**
	baz=87							
CHMS	**Chumysh**	**3.55**	**285**	⇑Pg	**Pb**	**06 34 06.8**	**+2.3**
	5.8nm,0.6s							
CHMS				⇑Lg	Lg	06 34 53.9		
	12nm,0.8s							
MRKS	**Merke**	**4.63**	**279**	*e*P	**Pg**	**06 34 27.8**	**-2.0**
	5.1nm,0.3s							
MRKS				*e*S	**Sg**	**06 35 28.1**	**-1.6**
	5.8nm,0.4s							
MRKS	**Merke**	**4.63**	**279**	Pg	**Pg**	**06 34 27.8**	**-2.0**
	5.1nm,0.3s							
MRKS				Lg	Lg	06 35 28.1		
	5.8nm,0.4s							
BTLS	**Baital**	**4.84**	**308**	*e*P	**Pg**	**06 34 31.5**	**-2.3**
	4.6nm,0.6s							
BTLS				*e*S	**Sg**	**06 35 35.5**	**-1.1**
	5.2nm,0.5s							
BTLS	**Baital**	**4.84**	**308**	Pg	**Pb**	**06 34 30.3**	**+3.8**
	4.6nm,0.6s							
BTLS				Lg	Lg	06 35 33.1		
	5.2nm,0.5s							
MAKZ	**Makanchi**	**4.96**	**21**	⇓Pn	**Pn**	**06 34 17.9**	**+1.4**
	3.3nm,0.8s							
MAKZ				⇓Sn	**Sn**	**06 35 14.1**	**-0.2**
	1.6nm,0.6s							
MAKZ				⇑Lg	Lg	06 35 33.6		
	1.2nm,0.4s							
MK31	**Makanchi Array**	**5.04**	**23**	Pn	**Pn**	**06 34 19.0**	**+1.5**
	0.5nm,0.2s,baz=203,slow=13,SNR=72							
MK31				⇑Sn	**Sn**	**06 35 16.1**	**-0.1**
	1.4nm,0.5s							
MK31				⇑Lg	Lg	06 35 36.7		
	7.6nm,0.8s,baz=205,slow=26							
KK31	**Karatay Array**	**6.64**	**281**	Pg	**Pg**	**06 35 05.4**	**-2.9**
	0.3nm,0.3s,baz=82,slow=16,SNR=4.9							
KK31				⇓Lg	Lg	06 36 34.5		
	1.6nm,0.6s							

*KRNET **23** 06:41:20.5±0.1, 41°.57N×80°.60E, mb2.7*
*SOME **23** 06:41:21.4, 41°.83N×80°.22E, h10km*
*NNC **23** 06:41:21.2±1.1, 41°.81N×80°.22E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=6.8km s-min=5.1km az=140.0*

ISC 23 06:41:21.7±2.2, 41°.89N±0°.07×80°.38E±0°.08, h1km±13km, n46, σ1§24/75, 13C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.44**	**332**	*e*P	**Pn**	**06 41 46.8**	**-2.3**
	52nm,0.3s						
SHLS				*e*S	**Sn**	**06 42 05.1**	**-3.6**
	66nm,0.2s						
SHLS	**Shalkode**	**1.44**	**332**	P	**Pn**	**06 41 46.9**	**-2.2**
	51nm,0.2s						
SHLS				S	**Sn**	**06 42 05.5**	**-3.2**
	66nm,0.2s						
KTMS	**Ketmen**	**1.56**	**359**	*e*P	**Pg**	**06 41 51.6**	**+0.1**
	5.4nm,0.2s						
KTMS				*e*S	**Sg**	**06 42 13.2**	**+1.5**
	40nm,0.3s						
KTMS	**Ketmen**	**1.56**	**359**	P	**Pb**	**06 41 50.6**	**-0.8**
	14nm,0.3s						
KTMS				S	**Sg**	**06 42 12.0**	**+0.2**
	38nm,0.4s						
PDGK	**Podgornoye**	**1.58**	**336**	P	**Pn**	**06 41 50.7**	**-0.4**
	5.9nm,0.2s						
PDGK				S	**Sn**	**06 42 12.6**	**+0.3**
	12nm,0.2s						
PDGK	**Podgornoye**	**1.58**	**336**	⇑P	**Pn**	**06 41 50.5**	**-0.6**
	5.4nm,0.4s						
PDGK				⇓S	**Sb**	**06 42 13.2**	**+0.7**
	27nm,0.6s						
UZB	**Uzynbulak**	**1.61**	**322**	*e*P	**Pn**	**06 41 50.9**	**-0.6**
	8.8nm,0.3s						
UZB				*e*S	**Sn**	**06 42 12.3**	**-0.7**
	22nm,0.2s						
UZB	**Uzynbulak**	**1.61**	**322**	P	**Pn**	**06 41 50.9**	**-0.6**
	8.8nm,0.3s						
UZB				S	**Sn**	**06 42 12.3**	**-0.7**
	22nm,0.2s						
SATY	**Saty**	**1.87**	**309**	*e*P	**Pn**	**06 41 55.4**	**+0.4**
	7.8nm,0.2s						
SATY				*e*S	**Sn**	**06 42 20.0**	**+0.6**
	30nm,0.2s						
SATY	**Saty**	**1.87**	**309**	P	**Pn**	**06 41 55.4**	**+0.4**
	7.8nm,0.2s						
SATY				S	**Sn**	**06 42 20.0**	**+0.6**
	30nm,0.2s						
ZHN	**Zhinishke**	**1.93**	**312**	*e*P	**Pn**	**06 41 56.4**	**+0.6**
	17nm,0.3s						
ZHN				*e*S	**Sn**	**06 42 21.8**	**+1.1**
	160nm,0.3s						
ZHN	**Zhinishke**	**1.93**	**312**	Pg	**Pn**	**06 41 56.4**	**+0.6**
	32nm,0.2s						
ZHN				Lg	Lg	06 42 22.4	
	160nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.94**	**266**⇑	*i*P	**Pn**	**06 41 55.8**	**-0.3**
	baz=75						
TARG				⇑*i*S	**Sn**	**06 42 21.5**	**+0.2**
	baz=75						
KPKS	**Kokpek**	**2.01**	**322**	*e*P	**Pb**	**06 41 58.2**	**-1.0**
	22nm,0.2s						
KPKS				*e*S	**Sb**	**06 42 24.7**	**-0.1**
	86nm,0.5s						
KPKS	**Kokpek**	**2.01**	**322**	Pg	**Pb**	**06 41 58.1**	**-1.0**
	22nm,0.2s						
KPKS				Lg	Lg	06 42 24.7	
	49nm,0.3s						
KURS	**Kuram**	**2.29**	**315**	*e*P	**Pb**	**06 42 02.7**	**-1.1**
	11nm,0.6s						
KURS				*e*S	**Sb**	**06 42 32.4**	**-0.1**
	14nm,0.3s						
KURS	**Kuram**	**2.29**	**315**	Pg	**Pb**	**06 42 02.7**	**-1.1**
	11nm,0.6s						
KURS				Lg	Lg	06 42 32.4	
	14nm,0.3s						
DJR	**Jarkent**	**2.48**	**350**	*e*P	**Pb**	**06 42 07.7**	**+0.5**
	4.2nm,0.2s						
DJR				*e*S	**Sg**	**06 42 40.7**	**-0.7**
	44nm,0.2s						
DJR	**Jarkent**	**2.48**	**350**	Pg	**Pb**	**06 42 06.9**	**-0.2**
	3.6nm,0.1s						
DJR				Lg	Lg	06 42 39.8	
	24nm,0.4s						
MDOK	**Medeo**	**2.77**	**298**	*e*P	**Pb**	**06 42 11.1**	**-1.1**
	3.6nm,0.3s						
MDOK				*e*S	**Sb**	**06 42 46.7**	**-0.1**
	22nm,0.6s						
MDOK	**Medeo**	**2.77**	**298**	Pg	**Pn**	**06 42 09.9**	**+2.4**
	4.3nm,0.6s						
MDOK				Pg	**Pb**	**06 42 10.5**	**-1.7**
	5.2nm,0.3s						
MDOK				Lg	Lg	06 42 46.6	
	17nm,0.5s						
MDOK				Lg	Lg	06 42 46.7	
	22nm,0.6s						
TNSS	**Tian-Shan**	**2.79**	**295**	*e*P	**Pb**	**06 42 11.3**	**-1.3**
	3.6nm,0.4s						
TNSS				*e*S	**Sb**	**06 42 46.9**	**-0.5**
	17nm,0.5s						
TNSS	**Tian-Shan**	**2.79**	**295**	Pg	**Pb**	**06 42 11.3**	**-1.3**
	3.6nm,0.4s						
TNSS				Lg	Lg	06 42 46.9	
	17nm,0.5s						
ARXS	**Arharly**	**2.98**	**322**	*e*P	**Pb**	**06 42 15.1**	**-0.7**
	4.5nm,0.4s						
ARXS				*e*S	**Sb**	**06 42 53.9**	**+1.2**
	28nm,0.3s						
ARXS	**Arharly**	**2.98**	**322**	Pg	**Pb**	**06 42 15.1**	**-0.7**
	4.5nm,0.4s						
ARXS				Lg	Lg	06 42 53.9	
	28nm,0.3s						
IZV	**Izvestkoviy**	**3.02**	**294**	*e*P	**Pb**	**06 42 15.5**	**-0.8**
	2.7nm,0.2s						
IZV				*e*S	**Sb**	**06 42 54.0**	**+0.3**
	43nm,0.5s						
IZV	**Izvestkoviy**	**3.02**	**294**	Pg	**Pb**	**06 42 15.5**	**-0.8**
	2.7nm,0.2s						
IZV				Lg	Lg	06 42 54.0	
	43nm,0.5s						
CHKK	**Chushkaly**	**3.18**	**309**	*e*P	**Pb**	**06 42 18.3**	**-0.7**
	3.2nm,0.4s						
CHKK				*e*S	**Sb**	**06 42 59.3**	**+1.1**
	24nm,0.3s						
CHKK	**Chushkaly**	**3.18**	**309**	Pg	**Pb**	**06 42 18.3**	**-0.7**
	3.2nm,0.4s						
CHKK				Lg	Lg	06 42 59.3	
	24nm,0.3s						
MTBS	**Maitube**	**3.18**	**294**	*e*P	**Pb**	**06 42 17.5**	**-1.5**
	1.6nm,0.7s						
MTBS				*e*S	**Sb**	**06 42 58.2**	**0.0**
	20nm,0.5s						
MTBS	**Maitube**	**3.18**	**294**	Pg	**Pb**	**06 42 17.1**	**-1.9**
	4.3nm,0.3s						
MTBS				Lg	Lg	06 42 58.2	
	20nm,0.5s						
NRN	**Naryn**	**3.32**	**264**⇑	*e*P	**Pn**	**06 42 14.8**	**-0.2**
	baz=69						
NRN				⇑*e*S	**Sn**	**06 42 54.0**	**-1.3**
	baz=69						
BOOM	**Boomskoye usch**	**3.36**	**282**⇑	*i*P	**Pn**	**06 42 16.2**	**+0.7**
	baz=86						
BOOM				⇑*i*S	**Sn**	**06 42 56.9**	**+0.8**
	baz=86						
KST	**Kastek**	**3.47**	**291**	*e*P	**Pb**	**06 42 23.0**	**-1.0**
	1.6nm,0.3s						
KST				*e*S	**Sb**	**06 43 08.0**	**+1.3**
	18nm,0.6s						
KST	**Kastek**	**3.47**	**291**	Pg	**Pb**	**06 42 23.0**	**-1.0**
	1.6nm,0.3s						
KST				Lg	Lg	06 43 08.0	
	18nm,0.6s						
KUU	**Kurty**	**3.58**	**305**	*e*P	**Pb**	**06 42 25.5**	**-0.4**
	2.6nm,0.1s						
KUU				*e*S	**Sb**	**06 43 11.3**	**+1.4**
	12nm,0.4s						
KUU	**Kurty**	**3.58**	**305**	Pg	**Pb**	**06 42 25.5**	**-0.4**
	2.6nm,0.1s						
KUU				Lg	Lg	06 43 11.3	
	12nm,0.4s						
DGS	**Degeres**	**3.67**	**293**	*e*P	**Pb**	**06 42 27.0**	**-0.3**
	1.0nm,0.2s						
DGS				*e*S	**Sb**	**06 43 14.1**	**+1.8**
	8.2nm,0.3s						
DGS	**Degeres**	**3.67**	**293**	Pg	**Pb**	**06 42 27.0**	**-0.3**
	1.0nm,0.2s						
DGS				Lg	Lg	06 43 14.1	
	8.2nm,0.3s						
TKM2	**Tokmak 2**	**3.69**	**288**⇓	*i*P	**Pn**	**06 42 21.4**	**+1.3**
	baz=92						
TKM2				⇓*i*S	**Sn**	**06 43 05.7**	**+1.3**
	baz=92						
TKM2	**Tokmak 2**	**3.69**	**288**	⇑Pg	**Pb**	**06 42 24.1**	**-3.8**
	1.3nm,0.5s						
TKM2				⇑Lg	Lg	06 43 14.8	
	3.5nm,0.4s						
KRBS	**Karabastau**	**3.91**	**299**	*e*P	**Pb**	**06 42 30.9**	**-0.5**
	1.0nm,0.3s						
KRBS				*e*S	**Sb**	**06 43 20.8**	**+1.6**
	9.6nm,0.4s						
KRBS	**Karabastau**	**3.91**	**299**	Pg	**Pb**	**06 42 30.3**	**-1.2**
	1.0nm,0.3s						
KRBS				Lg	Lg	06 43 19.8	
	9.6nm,0.4s						
KBK	**Karagaybulak**	**4.11**	**283**⇑	*i*P	**Pn**	**06 42 26.7**	**+0.9**
	baz=86						
KBK				⇑*i*S	**Sn**	**06 43 15.0**	**+0.4**
	baz=86						
MAKZ	**Makanchi**	**5.05**	**13**	⇑Lg	Lg	06 44 04.3	
	3.9nm,1.2s						
MK31	**Makanchi Array**	**5.09**	**15**	Pn	**Pn**	**06 42 40.6**	**+1.5**
	0.3nm,0.3s,baz=200,slow=14,SNR=40						
MK31				⇑Lg	Lg	06 44 05.7	
	1.6nm,0.5s,baz=199,slow=28						

*NOU **23** 06:50:34.9, 42°.38S×173°.93E, h10km, MLv3.8/7, South Island, New Zealand*
*WEL **23** 06:50:35.7±0.4, 42°.5S±3°.×17°.4E±°, h5km, M3.1/32, ML3.5/14, MLv3.1/32, Error ellipse: s-maj=0.0km s-min=0.0km az=120.1*

ISC 23 06:50:34.1±1.0, 42°.30S±0°.04×173°.97E±0°.04, h10km, n77, σ1§17/79, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.34**	**249**	P	**Pg**	**06 50 41.7**	**+0.8**
KHZ	**Kahutara**	**0.34**	**249**	P	**Pg**	**06 50 41.6**	**+0.8**
KHZ				S	**Sg**	**06 50 46.3**	**+0.9**
CMWZ	**Cape Campbell**	**0.58**	**19**	P	**Pb**	**06 50 47.4**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.59**	**353**	P	**Pg**	**06 50 45.7**	**+0.2**
BSWZ				S	**Sb**	**06 50 53.6**	**-1.2**
TUWZ	**Tuamarina**	**0.87**	**359**	P	**Pg**	**06 50 51.0**	**+0.2**
THZ	**Tophouse**	**0.96**	**304**	P	**Pg**	**06 50 51.4**	**-1.0**
GVZ	**Greta Valley S**	**0.96**	**226**	P	**Pg**	**06 50 54.0**	**+1.4**
TCW	**Tory Channel**	**1.11**	**12**	P	**Pg**	**06 50 55.4**	**+0.1**
NNZ	**Nelson**	**1.17**	**338**	P	**Pg**	**06 50 55.4**	**-1.1**
WEL	**Wellington**	**1.18**	**31**	P	**Pb**	**06 50 56.9**	**+0.5**
PLWZ	**Palliser**	**1.20**	**53**	P	**Pn**	**06 50 57.3**	**+0.3**
MRNZ	**Matariki Terra**	**1.27**	**314**	P	**Pb**	**06 50 57.5**	**-0.7**
AMCZ	**Amberley**	**1.31**	**227**	P	**Pn**	**06 50 59.0**	**+0.6**
LTZ	**Lake Taylor**	**1.34**	**248**	P	**Pn**	**06 50 58.9**	**0.0**
PAWZ	**Paruwai Farm**	**1.42**	**50**	P	**Pn**	**06 50 59.9**	**0.1**
CAW	**Cannon Point**	**1.45**	**35**	P	**Pn**	**06 51 00.5**	**+0.2**
TKNZ	**Takaka Hill**	**1.47**	**329**	P	**Pn**	**06 51 00.8**	**+0.1**
DUWZ	**D'Urville Isla**	**1.49**	**359**	P	**Pn**	**06 51 00.9**	**0.0**
TRWZ	**Traveller**	**1.57**	**56**	P	**Pn**	**06 51 01.8**	**-0.1**
OKCZ	**Okains Bay**	**1.57**	**205**	P	**Pn**	**06 51 02.3**	**+0.3**
KIW	**Kapiti Island**	**1.60**	**27**	P	**Pn**	**06 51 02.8**	**+0.4**
MTW	**Mount Morrison**	**1.62**	**46**	P	**Pn**	**06 51 02.1**	**-0.5**
DSZ	**Denniston Nort**	**1.70**	**288**	P	**Pb**	**06 51 04.5**	**-1.0**
MQZ	**McQueen's Vall**	**1.71**	**214**	P	**Pn**	**06 51 03.3**	**-0.6**
OGWZ	**Otaki Gorge**	**1.73**	**32**	P	**Pn**	**06 51 04.3**	**+0.1**
OXZ	**Oxford**	**1.75**	**233**	P	**Pn**	**06 51 04.1**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.75**	**206**	P	**Pn**	**06 51 04.6**	**+0.1**
QRZ	**Quartz Range**	**1.82**	**323**	P	**Pb**	**06 51 06.5**	**-1.0**
QRZ	**Quartz Range**	**1.82**	**323**	P	**Pb**	**06 51 06.3**	**-1.3**
TMWZ	**Te Maipa**	**1.87**	**51**	P	**Pn**	**06 51 05.7**	**-0.4**
INZ	**Inchbonnie**	**1.92**	**256**	P	**Pn**	**06 51 07.0**	**+0.3**
RACZ	**Rakaia**	**1.96**	**223**	P	**Pn**	**06 51 07.2**	**-0.1**
MRZ	**Mangatainoka R**	**2.03**	**37**	P	**Pn**	**06 51 08.1**	**-0.3**
MHCZ	**Mount Hutt**	**2.15**	**234**	P	**Pn**	**06 51 09.3**	**-0.7**
PRWZ	**Pori Road**	**2.30**	**42**	P	**Pn**	**06 51 11.8**	**-0.2**
BFZ	**Birch Farm**	**2.35**	**47**	P	**Pn**	**06 51 12.2**	**-0.6**
WVZ	**Waitaha Valley**	**2.51**	**251**	P	**Pn**	**06 51 15.0**	**+0.2**
RPZ	**Rata Peaks**	**2.56**	**235**	P	**Pn**	**06 51 15.4**	**-0.3**
RPZ	**Rata Peaks**	**2.56**	**235**	P	**Pn**	**06 51 14.9**	**-0.8**
ARCZ	**Arundel**	**2.63**	**230**	P	**Pn**	**06 51 16.2**	**-0.4**
WAZ	**Wanganui**	**2.65**	**17**	P	**Pn**	**06 51 18.9**	**+2.0**
GCSZ	**Gaunt Creek Bo**	**2.87**	**248**	P	**Pn**	**06 51 20.2**	**+0.4**
PNHZ	**Pukenui**	**2.92**	**36**	P	**Pn**	**06 51 19.7**	**-0.8**
KHEZ	**Kahui Hut**	**3.00**	**1**	P	**Pn**	**06 51 24.4**	**+2.7**
KHEZ	**Kahui Hut**	**3.00**	**1**	P	**Pn**	**06 51 24.4**	**+2.7**
TMZ	**Timaru**	**3.00**	**225**	P	**Pn**	**06 51 21.6**	**-0.1**
NEZ	**North Egmont**	**3.02**	**2**	P	**Pb**	**06 51 25.6**	**-2.4**
PKE	**Pukeiti**	**3.10**	**0**	P	**Pn**	**06 51 26.2**	**+3.1**
DREZ	**Durham Road**	**3.11**	**3**	P	**Pn**	**06 51 26.4**	**+3.2**
PKVZ	**Pokaka**	**3.18**	**20**	P	**Pn**	**06 51 25.2**	**+1.0**
MOVZ	**Moawhango**	**3.19**	**26**	P	**Pn**	**06 51 24.5**	**+0.2**
WNVZ	**Wahianoa**	**3.21**	**23**	P	**Pn**	**06 51 25.7**	**+0.9**
BHHZ	**Black Hill Sta**	**3.22**	**30**	P	**Pn**	**06 51 24.8**	**0.0**
TRVZ	**Turoa**	**3.23**	**22**	P	**Pn**	**06 51 26.3**	**+1.3**
VRZ	**Vera Road**	**3.23**	**11**	P	**Pn**	**06 51 26.6**	**+1.8**
WHVZ	**Whangaehu Hut**	**3.25**	**23**	P	**Pn**	**06 51 26.9**	**+1.5**
FWVZ	**Far West T-bar**	**3.27**	**22**	P	**Pn**	**06 51 26.8**	**+1.2**
TUVZ	**Tukino**	**3.29**	**23**	P	**Pn**	**06 51 26.3**	**+0.5**
FOZ	**Fox Glacier**	**3.29**	**247**	P	**Pn**	**06 51 26.9**	**+1.3**
NGZ	**Ngauruhoe**	**3.36**	**22**	P	**Pn**	**06 51 27.7**	**+1.0**
SNVZ	**South Ngauruho**	**3.36**	**23**	P	**Pn**	**06 51 27.6**	**+0.9**
OTVZ	**Oturere**	**3.38**	**23**	P	**Pn**	**06 51 28.5**	**+1.4**
NNVZ	**North Ngauruho**	**3.40**	**22**	P	**Pn**	**06 51 28.5**	**+1.2**
ETVZ	**East Tongariro**	**3.42**	**23**	P	**Pn**	**06 51 28.8**	**+1.2**
TMVZ	**Te Maari**	**3.44**	**23**	P	**Pn**	**06 51 28.6**	**+0.8**
KRVZ	**Karewarewa**	**3.44**	**22**	P	**Pn**	**06 51 30.0**	**+2.2**
NTVZ	**North Tongarir**	**3.45**	**23**	P	**Pn**	**06 51 29.0**	**+1.1**
ODZ	**Otahua Downs**	**3.65**	**220**	P	**Pn**	**06 51 30.6**	**0.0**
ODZ	**Otahua Downs**	**3.65**	**220**	P	**Pn**	**06 51 30.2**	**-0.5**
BKZ	**Black Stump Fm**	**3.67**	**32**	P	**Pn**	**06 51 32.3**	**+1.4**
BKZ	**Black Stump Fm**	**3.67**	**32**	P	**Pn**	**06 51 30.0**	**-0.9**
HIZ	**Hauiti**	**3.84**	**10**	P	**Pn**	**06 51 35.2**	**+2.0**
HIZ	**Hauiti**	**3.84**	**10**	P	**Pn**	**06 51 35.0**	**+1.8**
EAZ	**Earnscleugh**	**4.47**	**227**	P	**Pn**	**06 51 41.8**	**0.0**
AWAZ	**Awhitu Peninsu**	**5.25**	**6**	P	**Pn**	**06 51 53.9**	**+1.3**
MKAZ	**Moumakai**	**5.27**	**10**	P	**Pn**	**06 51 53.4**	**+0.6**
WIAZ	**Waiheke Island**	**5.57**	**10**	P	**Pn**	**06 51 58.6**	**+1.7**

*IDC **23** 06:56:48.1±0.8, 54°.94N×160°.45W, h0km, mb3.9/14, mbtmp4.0/17, ML4.1/3, MS3.1/1, Error ellipse: s-maj=20.8km s-min=13.5km az=163.0*
*AEIC **23** 06:56:49.7±1.5, 54°.52N±0°.09×159°.70W±0°.10, h34km±6km, Error ellipse: s-maj=14.0km s-min=5.2km az=149.0*
*NEIC **23** 06:56:49.3±1.4, 54°.45N±0°.08×159°.60W±0°.09, h31km±7km, mb4.4/7, ML3.7(AEIC), Error ellipse: s-maj=13.4km s-min=3.1km az=149.0*

ISC 23 06:56:50.6±0.7, 54°.64N±0°.08×159°.66W±0°.05, h35km, n83, σ1§62/78, mb4.2/17, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.18**	**13**		**Pn**	**06 56 57.8**	**+0.5**
CNBA	**Chernabura Isl**	**0.18**	**13**		**Sn**	**06 57 04.0**	**+2.2**
CHNA	**Chernabura Isl**	**0.20**	**12**	P	**Pn**	**06 56 57.8**	**+0.4**
	baz=188						
CHNA				S	**Sn**	**06 57 04.0**	**+2.0**
	baz=188						
SDPT	**Sand Point**	**0.85**	**327**	Pn	**Pn**	**06 57 06.8**	**+0.7**
SDPT	**Sand Point**	**0.85**	**327**	P	**Pn**	**06 57 06.7**	**+0.6**
	baz=150						
SDPT				S	**Sn**	**06 57 19.4**	**+2.1**
	baz=150						
S12K	**Black

M19K	**Big River Lodg**	**7.79**	**19**			**Pn**	**06 58 43.4**	**+2.1**
L19K	**White Mountain**	**7.97**	**16**	Pn		**Pn**	**06 58 45.5**	**+1.6**
M20K	**Styx River**	**8.03**	**23**			**Pn**	**06 58 47.0**	**+2.3**
SUA	**Susitna One**	**8.31**	**31**			**Pn**	**06 58 49.3**	**+0.8**
SUA	**Susitna One**	**8.31**	**31**	P		**Pn**	**06 58 49.2**	**+0.7**
	baz=218							
PWL	**Port Wells**	**8.68**	**40**			**Pn**	**06 58 53.0**	**-0.5**
HIN	**Hinchinbrook I**	**9.12**	**45**			**Pn**	**06 59 00.4**	**+0.8**
EYAK	**Cordova Ski Ar**	**9.52**	**46**			**Pn**	**06 59 05.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**9.52**	**46**	P		**Pn**	**06 59 05.3**	**+0.4**
SCM	**Sheep Creek Mo**	**9.70**	**37**			**Pn**	**06 59 07.9**	**+0.5**
KLU	**Klutina**	**9.99**	**41**			**Pn**	**06 59 11.8**	**+0.3**
M24K	**Tolsona, Glenn**	**10.29**	**38**	Pn		**Pn**	**06 59 16.5**	**+1.0**
ADK	**Adak**	**10.56**	**262**	P		**Pn**	**06 59 19.6**	**+0.3**
PAX	**Paxson**	**11.10**	**36**			**Pn**	**06 59 27.0**	**+0.3**
IL31		**12.00**	**27**			**Pn**	**06 59 37.0**	**-1.8**
ILAR	**Eielson Array**	**12.00**	**27**	Pn		**Pn**	**06 59 35.5**	**-3.4**
	0.3nm,0.3s,baz=217,slow=14,SNR=11							
ILAR					Sn	**Sn**	**07 01 45.2**	**-6.1**
	0.1nm,0.3s,baz=213,slow=18,SNR=2.2							
	0.9nm,0.5s							
PNL	**Peninsula**	**12.08**	**57**	P		**Pn**	**06 59 41.4**	**+1.4**
JIS	**Juneau Island**	**14.40**	**65**	P		**Pn**	**07 00 13.9**	**+2.3**
WHY	**Whitehorse**	**14.51**	**55**			**Pn**	**07 00 14.2**	**+0.9**
TOLK	**Toolik Lake Re**	**14.81**	**15**			**Pn**	**07 00 18.6**	**+1.4**
I29M	**Ogilvie Camp,**	**15.05**	**36**	IAmb		IAmb	07 00 29.2	
	comp=Z,38nm,0.8s							
FARO	**Faro, Yukon**	**15.64**	**50**	P		**Pn**	**07 00 29.9**	**+1.8**
DLBC	**Dease Lake**	**16.70**	**65**	Pn		**P**	**07 00 45.2**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=264,slow=6.5,SNR=10							
	comp=Z,1.9nm,0.5s							
INK	**Inuvik**	**18.31**	**31**	P		**P**	**07 01 01.1**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=231,slow=13,SNR=30							
	comp=Z,9.6nm,0.7s							
INK	**Inuvik**	**18.31**	**31**			**P**	**07 01 00.8**	**-0.4**
INK				IAmb		IAmb	07 01 04.5	
	comp=Z,9.0nm,0.8s							
C36M	**Paulatuk**	**21.80**	**34**	P		**P**	**07 01 39.2**	**+0.1**
C36M				IAmb		IAmb	07 01 40.7	
	comp=Z,14nm,0.9s							
A36M	**Sachs Harbour**	**22.70**	**27**			**P**	**07 01 47.7**	**-1.0**
A36M				IAmb		IAmb	07 01 49.1	
	comp=Z,5.8nm,0.7s							
PETK	**Petropavlovsk-**	**24.91**	**284**	P		**P**	**07 02 07.8**	**-2.2**
	comp=Z,3.8nm,0.5s,baz=79,slow=12,SNR=26							
	comp=Z,3.8nm,0.5s							
SEY	**Seymchan**	**25.63**	**308**	P		**P**	**07 02 14.1**	**-2.2**
	comp=Z,5.8nm,0.9s,baz=155,slow=5.1,SNR=3.6							
	comp=Z,5.8nm,0.9s							
YBH	**Yreka Blue Hor**	**27.46**	**103**	LR		LR	07 10 56.8	
	comp=Z,34nm,19.2s,baz=310,slow=30							
NVAR	**Mina Array Bea**	**32.18**	**103**	P		P	07 03 22.4	+7.2
	comp=Z,0.3nm,0.6s,baz=326,slow=8.8,SNR=1.9							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**34.40**	**89**	P		P	07 03 39.2	+4.7
	comp=Z,0.2nm,0.5s,baz=326,slow=4.4,SNR=3.8							
	comp=Z,0.2nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**43.11**	**229**	T		T	07 50 38.8	
	baz=28,slow=76,SNR=107							
H11N3	**WAKE ISLAND Hy**	**43.12**	**229**	T		T	07 50 39.3	
	baz=28,slow=76,SNR=117							
H11N1	**WAKE ISLAND Hy**	**43.13**	**229**	T		T	07 50 40.6	
	baz=28,slow=76,SNR=70							
H11S1	**WAKE ISLAND Hy**	**44.28**	**229**	T		T	07 52 14.4	
	baz=24,slow=74,SNR=84							
H11S2	**WAKE ISLAND Hy**	**44.29**	**229**	T		T	07 52 27.9	
	baz=24,slow=74,SNR=37							
H11S3	**WAKE ISLAND Hy**	**44.30**	**229**	T		T	07 52 22.5	
	baz=24,slow=74,SNR=62							
MJAR	**Matsushiro Arr**	**45.48**	**273**	P		**P**	**07 05 05.6**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=28,slow=6.9,SNR=4.8							
	comp=Z,1.8nm,0.6s							
TXAR	**Lajitas Array**	**47.12**	**99**	P		P	07 05 27.0	+7.8
	comp=Z,0.8nm,0.7s,baz=294,slow=2.9,SNR=9.6							
	comp=Z,0.8nm,0.7s							
KSRS	**Korea Array**	**50.77**	**282**	P		**P**	**07 05 47.7**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=43,slow=6.4,SNR=3.2							
	comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**54.95**	**305**	P		**P**	**07 06 16.0**	**-1.9**
	comp=Z,1.4nm,0.6s,baz=27,slow=7.8,SNR=7.7							
SONM				PcP		**PcP**	**07 07 20.1**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=65,slow=2.5,SNR=3.7							
	comp=Z,1.4nm,0.6s							
FINES	**FINESS Array B**	**64.17**	**357**	P		**P**	**07 07 20.1**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=21,slow=7.0,SNR=12							
	comp=Z,1.7nm,0.6s							
KURK	**Kurchatov**	**64.29**	**323**	P		**P**	**07 07 20.9**	**-1.0**
KURK				IAmb		IAmb	07 07 22.3	
	comp=Z,6.1nm,1.2s							
NOA	**NORSAR Array B**	**64.44**	**5**	P		**P**	**07 07 23.5**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=346,slow=8.1,SNR=2.3							
	comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**66.21**	**318**	P		**P**	**07 07 33.9**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=47,slow=6.0,SNR=10							
	comp=Z,1.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**81.55**	**290**	P		**P**	**07 09 03.6**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=20,slow=5.4,SNR=5.3							
	comp=Z,1.3nm,0.3s							
ESDC	**Sonseca Array**	**83.77**	**19**	P		**P**	**07 09 17.3**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=346,slow=5.7,SNR=2.9							
	comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**93.06**	**239**	P		**P**	**07 10 04.0**	**+3.6**
	comp=Z,0.3nm,1.0s,baz=39,slow=6.2,SNR=2.3							
	comp=Z,0.3nm,1.0s							

*IDC **23** 06:58:36.0±1.7, 19°.91N×121°.60E, h0km, mb3.9/4, mbtmp3.9/4, MS3.3/3, Error ellipse: s-maj=160.8km s-min=21.9km az=66.0*
*MAN **23** 06:58:40.8, 19°.90N×121°.36E, h14km, mb4.0, ML2.8, MS2.4*
ISC 23 06:58:38.0±1.3, 19°.99N±0°.06×121°.7E±0°.3, h10km, n13, σ1°9/15, mb3.8/4, MS2.9/3, 1C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.73**	**193**	**i**	**eP**	**Pg**	**06 58 53.3**	**+1.2**
CICP				*i*	S	**Sg**	**06 59 01.6**	**-0.2**
PACPP	**Pamplona Cagay**	**1.54**	**191**	**i**	**eP**	**Pn**	**06 59 05.1**	**-0.4**
PACPP				*e*	S	**Sg**	**06 59 26.7**	**-1.0**
APYP	**Conner**	**2.15**	**191**	**i**	**eP**	**Pn**	**06 59 14.3**	**+0.4**
APYP				*e*	S	**Sb**	**06 59 42.2**	**-1.4**
SAMP	**Sagada Mountai**	**2.98**	**194**	**i**	**eP**	**Pn**	**06 59 25.9**	**+0.7**
SAMP				*e*	S	**Sn**	**07 00 01.6**	**+0.5**
SMPP	**San Manuel, Pa**	**3.92**	**194**	**i**	**eP**	**Pn**	**06 59 39.4**	**+1.0**
SMPP				*e*	S	**Sn**	**07 00 24.3**	**-0.2**
PCPH	**Palayan**	**4.43**	**187**	**i**	**eP**	**Pn**	**06 59 48.1**	**+2.9**
JCJ	**Chichijima**	**20.09**	**66**	LR		LR	07 10 19.1	
	comp=Z,26nm,19.7s,baz=150,slow=35							
KAPI	**Kappang**	**24.91**	**185**	LR		LR	07 14 27.5	
	comp=Z,31nm,18.1s,baz=284,slow=38							
SONM	**Songino Array**	**30.41**	**339**	P		**P**	**07 04 50.7**	**+0.1**
	0.3nm,0.4s,baz=156,slow=13,SNR=2.4							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**41.58**	**162**	P		**P**	**07 06 24.9**	**-1.3**
	2.4nm,0.6s,baz=342,slow=9.1,SNR=45							
	2.4nm,0.6s							
MKAR	**Makanchi Array**	**41.72**	**319**	P		**P**	**07 06 26.7**	**-0.4**
	0.4nm,0.6s,baz=113,slow=9.2,SNR=4.2							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**45.00**	**164**	P		**P**	**07 06 53.4**	**-0.5**
	1.1nm,0.3s,baz=346,slow=7.6,SNR=16							
	1.1nm,0.3s							
EIL	**Elat**	**77.62**	**297**	LR		LR	07 51 39.7	
	comp=Z,74nm,18.0s,baz=10,slow=41							

*IDC **23** 07:11:22.1±3.7, 20°.99S×167°.51E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=92.3km s-min=30.0km az=119.0*
*NOU **23** 07:11:26.6, 21°.89S×167°.79E, h0km, MLv3.4/6, Loyalty Islands*
ISC 23 07:11:21.2±1.9, 22°.1S±0°.1×168°.2E±0°.1, h10km, n11, σ1°87/12, mb3.9/3, New Caledonia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.58**	**349**	P		**Pn**	**07 11 35.3**	**-0.2**
YATNC	**Mamie plateau,**	**1.17**	**269**	P		**Pn**	**07 11 42.5**	**-1.2**
OUENC	**Ouen Island, N**	**1.27**	**253**	P		**Pg**	**07 11 46.6**	**+1.0**
LIFNC	**LIFOU**	**1.52**	**326**	P		**Pb**	**07 11 49.8**	**+0.2**
DZM	**Mont Dzumac**	**1.58**	**269**	Pn		**Pn**	**07 11 48.6**	**-0.9**
	8.9nm,0.3s,baz=122,slow=12,SNR=10.0							
DZM				Sn		**Sn**	**07 12 10.8**	**+0.7**
	30nm,0.3s,baz=140,slow=18,SNR=6.8							
DZM	**Mont Dzumac**	**1.58**	**269**	P		**Pb**	**07 11 50.2**	**-0.5**
ONTNC	**Ouen Toro**	**1.59**	**260**	P		**Pb**	**07 11 50.8**	**0.0**
STKA	**Stephens Creek**	**25.55**	**242**	P		**P**	**07 16 54.6**	**+4.2**
	2.8nm,0.8s,baz=90,slow=9.1,SNR=4.5							
	2.8nm,0.8s							
ASAR	**Alice Springs**	**31.56**	**260**	P		**P**	**07 17 42.8**	**-1.3**
	1.2nm,0.7s,baz=79,slow=8.7,SNR=11							
	1.2nm,0.7s							
WRA	**Warramunga Arr**	**31.60**	**268**	P		**P**	**07 17 41.8**	**-2.6**
	0.2nm,0.5s,baz=99,slow=7.6,SNR=5.7							
	0.2nm,0.5s							
GERES	**GERESS Array B**	**146.42**	**329**	PKPbc		**PKPdf**	**07 31 00.2**	**-1.0**
	0.4nm,0.2s,baz=52,slow=5.1,SNR=3.5							

*IDC **23** 07:11:43.0±0.5, 32°.44S×80°.07E, h0km, mb4.4/17, mbtmp4.4/17, MS3.8/29, Error ellipse: s-maj=17.1km s-min=15.7km az=175.0*
ISC 23 07:11:44.7±0.5, 32°.5S±0°.1×80°.1E±0°.1, h10km, n50, σ0°.72/26, mb4.3/17, MS3.9/30, Broken Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.66**	**342**	T		T	07 44 05.4	
	baz=166,slow=75,SNR=691							
H08S1	**Diego Garcia H**	**25.67**	**342**	T		T	07 44 06.8	
	baz=166,slow=75,SNR=525							
H08S3	**Diego Garcia H**	**25.68**	**342**	T		T	07 44 06.9	
	baz=166,slow=75,SNR=722							
H01W2	**Cape Leeuwin H**	**28.38**	**104**	T		T	07 47 22.6	
	baz=265,slow=74,SNR=28							
H01W3	**Cape Leeuwin H**	**28.39**	**104**	T		T	07 47 28.7	
	baz=265,slow=74,SNR=26							
H01W1	**Cape Leeuwin H**	**28.40**	**104**	T		T	07 47 22.8	
	baz=265,slow=74,SNR=27							
NWAO	**Narrogin (SRO)**	**31.19**	**101**	LR		LR	07 27 29.2	
	comp=Z,149nm,21.6s,baz=289,slow=30							
LEM	**Lembang**	**36.16**	**51**	LR		LR	07 31 00.7	
	comp=Z,153nm,20.7s,baz=196,slow=32							
MAW	**Mawson**	**36.61**	**191**	LR		LR	07 30 51.5	
	comp=Z,287nm,18.3s,baz=14,slow=31							
PSI	**Prapat**	**39.36**	**31**	LR		LR	07 33 23.1	
	comp=Z,278nm,18.1s,baz=246,slow=33							
PALK	**Pallekele**	**39.50**	**1**	LR		LR	07 33 14.5	
	comp=Z,156nm,18.1s,baz=287,slow=33							
KAPI	**Kappang**	**46.01**	**62**	LR		LR	07 38 01.1	
	comp=Z,81nm,18.4s,baz=258,slow=34							
BOSA	**Boshof**	**46.93**	**260**	P		**P**	**07 20 15.6**	**-0.2**
	3.1nm,0.7s,baz=123,slow=6.1,SNR=6.8							
BOSA				LR		LR	07 36 08.3	
	comp=Z,118nm,19.0s,baz=130,slow=31							
	3.1nm,0.7s							
ASAR	**Alice Springs**	**47.89**	**94**	P		**P**	**07 20 23.6**	**+0.3**
	2.1nm,0.8s,baz=244,slow=6.4,SNR=22							
ASAR				PcP		**PcP**	**07 21 49.6**	**-2.2**
	0.5nm,0.5s,baz=235,slow=3.5,SNR=4.1							
	2.1nm,0.8s							
LBTB	**Lobatse**	**47.90**	**264**	P		**P**	**07 20 23.1**	**-0.3**
	5.6nm,0.7s,baz=124,slow=6.3,SNR=6.9							
LBTB				LR		LR	07 37 26.6	
	comp=Z,55nm,18.5s,baz=101,slow=32							
	5.6nm,0.7s							
SUR	**Sutherland**	**49.43**	**253**	P		**P**	**07 20 35.5**	**+0.4**
	6.6nm,0.5s,baz=107,slow=11,SNR=21							
SUR				LR		LR	07 37 29.3	
	comp=Z,94nm,18.7s,baz=121,slow=31							
	6.6nm,0.5s							
WRA	**Warramunga Arr**	**49.80**	**90**	P		**P**	**07 20 38.3**	**+0.4**
	3.3nm,0.9s,baz=246,slow=7.7,SNR=21							
WRA				PcP		**PcP**	**07 21 57.4**	**-1.3**
	1.0nm,0.8s,baz=256,slow=2.4,SNR=5.1							
WRA				LR		LR	07 40 53.8	
	comp=Z,100nm,18.1s,baz=256,slow=35							
	3.3nm,0.9s							
KMBO	**Kilima Mbogo**	**50.91**	**299**	P		**P**	**07 20 47.4**	**+0.8**
	2.6nm,0.7s,baz=77,slow=7.9,SNR=6.6							
	2.6nm,0.7s							
STKA	**Stephens Creek**	**51.43**	**107**	P		**P**	**07 20 51.0**	**+0.9**
	3.0nm,1.0s,baz=187,slow=17,SNR=3.0							
STKA				LR		LR	07 40 50.9	
	comp=Z,78nm,18.1s,baz=266,slow=34							
	3.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**53.75**	**22**	P		**P**	**07 21 08.0**	**+0.8**
	1.7nm,0.3s,baz=211,slow=7.2,SNR=7.5							
CMAR				LR		LR	07 40 20.1	
	comp=Z,41nm,21.7s,baz=35,slow=32							
	1.7nm,0.3s							
TROLL	**Troll, Antarti**	**55.65**	**202**	P		**P**	**07 21 20.8**	**+0.1**
BRDH	**Bariadhala**	**55.92**	**13**	LR		LR	07 45 12.3	
	comp=Z,146nm,18.1s,baz=246,slow=36							
MBAR	**Mbarara**	**56.18**	**294**	LR		LR	07 42 07.4	
	comp=Z,46nm,18.9s,baz=130,slow=32							
VNDA	**Vanda**	**56.81**	**165**	P		**P**	**07 21 28.6**	**0.0**
	1.3nm,0.8s,baz=282,slow=1.7,SNR=5.3							
VNDA				LR		LR	07 43 48.6	
	comp=Z,63nm,18.4s,baz=264,slow=34							
	1.3nm,0.8s							
TSUM	**Tsumeb**	**57.06**	**267**	LR		LR	07 42 18.8	
	comp=Z,162nm,19.4s,baz=149,slow=32							
SNAA	**Sanae**	**57.34**	**202**	P		**P**	**07 21 32.8**	**+0.2**
SNAA	**Sanae**	**57.34**	**202**	P		**P**	**07 21 33.0**	**+0.4**
	9.0nm,0.9s,baz=126,slow=7.8,SNR=37							
	9.0nm,0.9s							
QSPA	**South Pole Qui**	**57.70**	**180**	P		**P**	**07 21 35.0**	**-0.2**
	7.1nm,0.8s,baz=295,slow=0.6,SNR=25							
QSPA				LR		LR	07 44 26.8	
	comp=Z,271nm,18.3s,baz=298,slow=34							
	7.1nm,0.8s							
DAV	**Davao City (W)**	**58.49**	**56**	LR		LR	07 45 27.9	
	comp=Z,48nm,21.1s,baz=7.5,slow=35							
VNA2	**Neumayer--Watz**	**58.89**	**203**	P		**P**	**07 21 43.7**	**+0.3**
	baz=94,slow=6.5							
WSAR	**Wadi Sarin**	**59.04**	**337**	LR		LR	07 42 29.2	
	comp=Z,102nm,18.0s,baz=136,slow=31							
VNA1	**Neumayer--Stat**	**59.22**	**203**	P		**P**	**07 21 46.0**	**+0.4**
VNA3	**Neumayer Olymp**	**59.56**	**202**	P		**P**	**07 21 48.4**	**+0.3**
CTA	**Charters Tower**	**59.80**	**96**	LR		LR	07 44 30.3	
	comp=Z,83nm,21.3s,baz=258,slow=33							
PMG	**Port Moresby**	**65.71**	**86**	LR		LR	07 50 10.8	
	comp=Z,78nm,18.6s,baz=237,slow=35							
AAK	**Ala-Archa**	**74.89**	**356**	P		**P**	**07 23 25.8**	**+0.2**
	2.3nm,0.8s,baz=137,slow=4.2,SNR=5.5							
	2.3nm,0.8s							
HNR	**Honiara**	**76.50**	**93**	LR		LR	07 56 31.2	
	comp=Z,718nm,18.2s,baz=3.0,slow=35							
PMSA	**Palmer Station**	**79.11**	**195**	LR		LR	07 56 07.9	
	comp=Z,76nm,18.7s,baz=116,slow=34							
GNI	**Garni**	**79.29**	**333**	LR		LR	07 56 32.6	
	comp=Z,43nm,18.7s,baz=128,slow=34							
KSRS	**Korea Array**	**82.64**	**37**	LR		LR	08 01 23.4	
	comp=Z,22nm,18.2s,baz=95,slow=36							
KBZ	**Khabaz**	**83.07**	**334**	P		**P**	**07 24 10.4**	**+0.2**
	2.1nm,0.9s,baz=180,slow=7.1,SNR=2.6							
	2.1nm,0.9s							
SONM	**Songino Array**	**83.34**	**18**	P		**P**	**07 24 11.3**	**-0.4**
	2.0nm,0.9s,baz=203,slow=3.2,SNR=3.6							
SONM				LR		LR	08 00 46.9	
	comp=Z,72nm,18.9s,baz=154,slow=35							
	2.0nm,0.9s							
BRTR	**Keskin Array B**	**83.71**	**326**	P		**P**	**07 24 13.7**	**-0.1**
	1.8nm,0.8s,baz=151,slow=7.9,SNR=6.6							
	1.8nm,0.8s							
ZALV	**Zalesovo Beam**	**86.14**	**3**	P		**P**	**07 24 24.9**	**-0.5**
	5.7nm,0.8s,baz=195,slow=2.9,SNR=9.5							
ZALV				LR		LR	08 01 03.7	
	comp=Z,30nm,21.4s,baz=38,slow=34							
	5.7nm,0.8s							
DBIC	**Dimbokro**	**89.27**	**278**	LR		LR	08 01 25.9	
	comp=Z,51nm,19.1s,baz=147,slow=33							
USRK	**Ussuriysk Ar.**	**89.77**	**34**	LR		LR	08 01 56.9	
	comp=Z,56nm,22.0s,baz=205,slow=34							
MLR	**Muntele Rosu**	**91.77**	**325**	LR		LR	08 02 01.4	
	comp=Z,41nm,20.2s,baz=340,slow=33							
AKASG	**Malin Array Be**	**94.16**	**330**	P		**P**	**07 25 03.2**	**0.0**
	2.1nm,0.7s,baz=130,slow=3.9,SNR=7.5							
	2.1nm,0.7s							
DLBC	**Dease Lake**	**147.03**	**29**	PKPbc		**PKPdf**	**07 31 25.2**	**+0.1**
	5.8nm,1.1s,baz=268,slow=2.5,SNR=3.6							
SCHQ	**Schefferville**	**147.70**	**324**	PKPbc		**PKPbc**	**07 31 27.8**	**-1.3**
	2.4nm,0.5s,baz=0.0,slow=0.0,SNR=7.0							

*MOS **23** 07:13:03.4±0.9, 52°.64N×174°.79W, h153km, mb5.0/59, Error ellipse: s-maj=8.2km s-min=5.3km az=101.6*
*IDC **23** 07:13:04.4±0.4, 52°.58N×174°.76W, h148km±2km, mb4.7/52, mbtmp5.1/54, MS3.5/16, Error ellipse: s-maj=8.2km s-min=5.9km az=172.0*
*NEIC **23** 07:13:04.8±2.2, 52°.42N±0°.10×174°.62W±0°.10, h152km±4km, mb5.1/508, Mww5.0, ML4.9(AEIC), Error ellipse: s-maj=14.6km s-min=7.7km az=162.0*
*GCMT **23** 07:13:04.8±0.2, 52°.59N±0°.02×174°.66W±0°.03, h148km±2km, MW5.0/120, Moment Tensor Solution. s44, c47; s120, c163; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.12±.09; Mθθ1.67±.16; Mφφ1.45±.14; Mrθ-1.27±.10; Mrφ-2.07±.11; Mθφ-0.76±.09; Best double couple: Mo3.71100×10^16 NP1:φs112.00000°, δ53.00000°, λ-120.00000°. NP2:φs335.00000°, δ46.00000°, λ-57.00000°. Principal axes: T 3.6590, Plg4.0000°, Azm222.0000°; N 0.1050, Plg23.0000°, Azm131.0000°; P -3.7640, Plg66.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **23** 07:13:05.9±2.9, 52°.27N±0°.10×174°.57W±0°.10, h142km±2km Error ellipse: s-maj=14.6km s-min=7.4km az=160.0*
*NEIC **23** 07:13:06, 52°.48N×174°.72W, h160km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^16 Nm; Mrr-3.73; Mθθ2.25; Mφφ1.48; Mrθ-0.64; Mθφ-1.59; Mφr-0.45; Fault plane solution: Mo3.70000×10^16 NP1: φs318.00000°, δ44.00000°, λ-75.00000°. NP2: φs118.00000°, δ48.00000°, λ-104.00000°. Principal axes: T 3.5057, Plg2.0000°, Azm218.0000°; N 0.3649, Plg10.0000°, Azm127.0000°; P -3.8706, Plg80.0000°, Azm318.0000°;*
*ANF **23** 07:13:08.7±1.1, 52°.64N×174°.32W, h160km±6km, ML5.3/3 Error ellipse: s-maj=10.8km s-min=4.3km az=65.0*
ISC 23 07:13:04.6±0.3, 52°.55N±0°.05×174°.70W±0°.03, h153km±1km, h152km:pP-P, n1251, σ1°91°/1205, mb5.1/406, 39C-49D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.40**	**242**			**Pn**	**07 13 32.5**	**-0.7**
ADK	**Adak**	**1.40**	**242**	P		**Pn**	**07 13 32.6**	**-0.7**
ADK	**Adak**	**1.40**	**242**	P		**Pn**	**07 13 32.5**	**-0.7**
KIWB	**Kanaga Island**	**1.67**	**246**			**Pn**	**07 13 35.6**	**-0.5**
CLES	**Cleveland East**	**2.94**	**83**			**Pn**	**07 13 50.8**	**-0.3**
NIKH	**Nikolski High**	**3.57**	**81**			**Pn**	**07 13 58.5**	**-0.8**
NIKH	**Nikolski High**	**3.57**	**81**			**Sn**	**07 14 40.0**	**-1.8**
NIKH	**Nikolski High**	**3.57**	**81**	P		**Pn**	**07 13 58.6**	**-0.6**
	baz=263,SNR=49							
NIKH				S		**Sn**	**07 14 39.9**	**-1.8**
	baz=263							
NIKH	**Nikolski High**	**3.57**	**81**	P		**Pn**	**07 13 58.8**	**-0.4**
AMKA	**Amchitka**	**3.89**	**255**	Pn		**Pn**	**07 14 03.2**	**-0.2**
UNV	**Unalaska Valle**	**5.09**	**72**	Pn		**Pn**	**07 14 18.9**	**-0.1**
UNV	**Unalaska Valle**	**5.09**	**72**			**Sn**	**07 15 17.3**	**0.0**
UNV	**Unalaska Valle**	**5.09**	**72**	P		**Pn**	**07 14 19.1**	**+0.1**
	baz=256,SNR=58							
UNV				S		**Sn**	**07 15 16.1**	**-1.2**
	baz=256							
SPIA	**Saint Paul Isl**	**5.30**	**27**	Pn		**Pn**	**07 14 24.1**	**+2.3**
SPIA	**Saint Paul Isl**	**5.30**	**27**	P		**Pn**	**07 14 24.1**	**+2.3**
	baz=210,SNR=21							
AKUT	**Akutan**	**5.58**	**70**	Pn		**Pn**	**07 14 25.9**	**+0.4**
SHEM	**Shemya Is, Ala**	**6.82**	**276**	P		**Pn**	**07 14 42.9**	**+0.8**
	146nm,0.5s,baz=4.4,slow=2.8,SNR=18							
SMY	**Shemya**	**6.82**	**276**			**Pn**	**07 14 42.3**	**+0.2**
SMY	**Shemya**	**6.82**	**276**	P		**Pn**	**07 14 42.3**	**+0.2**
FALS	**False Pass**	**7.08**	**67**			**Pn**	**07 14 45.7**	**+0.2**
FALS	**False Pass**	**7.08**	**67**	P		**Pn**	**07 14 45.5**	**0.0**
	baz=254,SNR=17							
FALS				S		**Sn**	**07 16 05.1**	**+0.4**
	baz=254							
FALS	**False Pass**	**7.08**	**67**	P		**Pn**	**07 14 46.0**	**+0.5**
S12K	**Black Hills**	**8.06**	**62**	P		**Pn**	**07 14 58.9**	**+0.2**
	baz=251,SNR=8.5							
S12K				S		**Sn**	**07 16 28.9**	**+0.5**
	baz=251							
SDPT	**Sand Point**	**8.84**	**66**	Pn		**Pn**	**07 15 07.3**	**-1.6**
SDPT	**Sand Point**	**8.84**	**66**	P		**Pn**	**07 15 07.5**	**-1.4**
	baz=256,SNR=9.6							
SDPT				S		**Sn**	**07 16 42.0**	**-5.0**
	baz=256							
CNBA	**Chernabura Isl**	**9.25**	**70**	Pn		**Pn**	**07 15 11.9**	**-2.4**
**CHN

SUA	**Susitna One**	**15.71**	**46**	P		**P**	**07 16 39.0**	**+0.7**
	baz=246,SNR=20							
J20K	**Nowinta River**	**15.77**	**34**	P		**P**	**07 16 39.9**	**+1.1**
	baz=232							
PPLA	**Purkeypile**	**15.77**	**40**	P		**P**	**07 16 39.9**	**+1.0**
	baz=239,SNR=31							
O22K	**Cooper Landing**	**15.82**	**50**	P		**P**	**07 16 38.9**	**-0.4**
	baz=250,SNR=14							
SEW	**Seward**	**15.83**	**52**	P		**Pn**	**07 16 37.8**	**-0.9**
	baz=252,SNR=8.4							
RC01	**Rabbit Creek A**	**16.02**	**48**	P		**P**	**07 16 41.9**	**+0.3**
	baz=248							
CAST	**Castle Rocks**	**16.09**	**39**	P		**P**	**07 16 43.7**	**+1.5**
CAST	**Castle Rocks**	**16.09**	**39**	P		**P**	**07 16 44.0**	**+1.7**
	baz=237,SNR=43							
PET	**Petropavlovsk**	**16.10**	**282**	*e*P		**Pn**	**07 16 41.6**	**-0.5**
PET				*e*S		**S**	**07 19 34.9**	**-5.9**
PET				MLR		MLR		
	comp=Z,400nm,17.0s							
PET				MLR		MLR		
	comp=Z,1µm,18.0s							
M22K	**Willow**	**16.11**	**45**	P		**P**	**07 16 44.1**	**+1.7**
	baz=246,SNR=12							
CHUM	**Lake Minchumin**	**16.25**	**37**	P		**P**	**07 16 45.8**	**+1.8**
	baz=236,SNR=25							
CUT	**Chulitna**	**16.32**	**43**	P		**P**	**07 16 45.8**	**+1.1**
	baz=243,SNR=9.2							
PMR	**Palmer**	**16.48**	**47**	P		**Pn**	**07 16 47.1**	**+0.5**
	baz=248							
PWL	**Port Wells**	**16.59**	**50**	P		**P**	**07 16 46.8**	**-1.0**
	baz=251,SNR=10							
PEA0B	**Petropavlovsk-**	**16.66**	**283**	‖*e*P		**P**	**07 16 48.1**	**-0.5**
PETK	**Petropavlovsk-**	**16.66**	**283**	P		**Pn**	**07 16 51.0**	**+2.1**
	comp=Z,11nm,0.7s,baz=88,slow=11,SNR=24							
PETK				S		**S**	**07 19 47.8**	**-5.8**
	comp=Z,9.9nm,1.0s,baz=72,slow=6.4,SNR=3.5							
PETK				PcP		**PcP**	**07 21 29.2**	**+0.7**
	comp=Z,6.0nm,0.6s,baz=72,slow=0.7,SNR=8.1							
KNK	**Knik Glacier**	**16.72**	**48**	P		**P**	**07 16 49.2**	**0.0**
	baz=249,SNR=20							
P23K	**Montague Islan**	**16.79**	**53**	P		**Pn**	**07 16 50.2**	**-0.3**
	baz=255							
TRF	**Thorofare Moun**	**16.80**	**40**	P		**Pn**	**07 16 52.3**	**+1.7**
	baz=240,SNR=30							
BPAW	**Bear Paw Mtn.**	**16.86**	**38**	P		**Pn**	**07 16 53.0**	**+1.7**
	baz=237,SNR=23							
SML	**Sawmill**	**16.91**	**46**	P		**Pn**	**07 16 52.1**	**+0.2**
	baz=248,SNR=9.2							
I21K	**Tanana**	**17.12**	**34**	P		**Pn**	**07 16 56.1**	**+1.7**
	baz=233							
H21K	**Melozitna Rive**	**17.15**	**32**	P		**Pn**	**07 16 56.3**	**+1.7**
	baz=230							
M23K	**Glacier View**	**17.18**	**47**	P		**Pn**	**07 16 55.4**	**+0.4**
	baz=249,SNR=16							
WAT1	**Susitna Watana**	**17.22**	**43**	P		**Pn**	**07 16 55.3**	**-0.3**
	baz=245							
SCM	**Sheep Creek Mo**	**17.37**	**47**	P		**P**	**07 16 56.8**	**+0.4**
	baz=250,SNR=15							
WAT6	**Susitna Watana**	**17.46**	**44**	P		**P**	**07 16 57.7**	**+0.2**
	baz=247,SNR=15							
MCK	**McKinley**	**17.46**	**40**	P		**Pn**	**07 16 58.0**	**-0.5**
MCK	**McKinley**	**17.46**	**40**	P		**Pn**	**07 16 58.5**	**0.0**
	baz=242,SNR=45							
MCK	**McKinley**	**17.46**	**40**	P		**Pn**	**07 16 58.0**	**-0.5**
MLY	**Manley**	**17.46**	**35**	P		**Pn**	**07 16 59.4**	**+0.9**
	baz=235,SNR=45							
G21K	**Allakaket**	**17.50**	**29**	P		**Pn**	**07 17 00.0**	**+1.1**
	baz=227							
EYAK	**Cordova Ski Ar**	**17.72**	**52**	P		**Pn**	**07 17 01.2**	**-0.4**
	baz=256							
H22K	**Ishtalitna Cre**	**17.76**	**32**	P		**Pn**	**07 17 02.9**	**+1.0**
	baz=232,SNR=55							
DHY	**Denali Highway**	**17.81**	**43**	P		**Pn**	**07 17 02.7**	**0.0**
	baz=246,SNR=90							
NEA2	**Nenana**	**17.83**	**38**	P		**Pn**	**07 17 02.5**	**-0.3**
	baz=239,SNR=23							
KLU	**Klutina**	**17.89**	**49**	P		**Pn**	**07 17 03.5**	**-0.2**
	baz=252,SNR=21							
M24K	**Tolsona, Glenn**	**17.97**	**47**	P		**Pn**	**07 17 04.1**	**-0.5**
	baz=250,SNR=14							
F21K	**Alatna River**	**18.00**	**27**	P		**Pn**	**07 17 05.3**	**+0.6**
	baz=225,SNR=48							
I23K	**Minto, Yukon-K**	**18.02**	**36**	P		**Pn**	**07 17 05.1**	**+0.2**
	baz=237,SNR=61							
BILL	**Bilibino**	**18.03**	**337**	P		**Pn**	**07 17 05.6**	**+0.5**
BILL	**Bilibino**	**18.03**	**337**	*c i*P		**Pn**	**07 17 05.9**	**+0.8**
BILL				pmax		pmax		
	comp=Z,339nm,1.3s							
H23K	**Yukon River**	**18.33**	**34**	P		**Pn**	**07 17 08.8**	**+0.2**
	baz=235							
G22K	**Bettles**	**18.36**	**30**	P		**Pn**	**07 17 09.1**	**0.0**
	baz=229							
BMRM	**Bremner River**	**18.37**	**51**	P		**Pn**	**07 17 09.2**	**-0.1**
	baz=256							
TCOL	**CIGO, UAF Yank**	**18.42**	**38**	P		**Pn**	**07 17 09.4**	**-0.3**
	baz=240,SNR=14							
COLA	**College**	**18.43**	**38**	P		**P**	**07 17 08.5**	**+0.7**
COLA	**College**	**18.43**	**38**	P		**Pn**	**07 17 09.1**	**-0.7**
	baz=240							
COLA	**College**	**18.43**	**38**	P		**P**	**07 17 08.6**	**+0.7**
COLA	**College**	**18.43**	**38**	*de*P		**P**	**07 17 08.7**	**+0.9**
COLA				pmax		pmax		
	comp=Z,22nm,0.7s							
HARP	**HAARP**	**18.52**	**46**	P		**P**	**07 17 09.7**	**+0.8**
	baz=251,SNR=14							
N25K	**Chitina, Valde**	**18.54**	**49**	P		**Pn**	**07 17 10.7**	**-0.5**
	baz=254,SNR=32							
HDA	**Harding Lake**	**18.55**	**39**	P		**P**	**07 17 10.1**	**+0.8**
	baz=243,SNR=78							
F22K	**John River**	**18.56**	**28**	P		**Pn**	**07 17 11.1**	**-0.3**
	baz=227							
PAX	**Paxson**	**18.57**	**44**	P		**P**	**07 17 10.3**	**+0.7**
	baz=249,SNR=62							
G23K	**Bananza Creek**	**18.69**	**31**	P		**Pn**	**07 17 12.5**	**-0.4**
	baz=232							
POKR	**Poker Plat Res**	**18.70**	**37**	P		**P**	**07 17 09.8**	**-1.1**
	baz=240,SNR=11							
ILAR	**Eielson Array**	**18.74**	**38**	P		**P**	**07 17 10.2**	**-1.0**
	comp=Z,22nm,0.6s,baz=242,slow=9.6,SNR=75							
ILAR				S		**S**	**07 20 32.5**	**-3.8**
	comp=Z,1.3nm,0.9s,baz=187,slow=11,SNR=1.9							
ILAR				PcP		**PcP**	**07 21 31.3**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=261,slow=3.2,SNR=4.3							
ILAR				ScP		**ScP**	**07 24 51.1**	**-1.7**
	comp=Z,2.1nm,0.9s,baz=272,slow=3.2,SNR=6.5							
K24K	**Donnelly Dome**	**18.76**	**42**	P		**Pn**	**07 17 12.8**	**-0.9**
	baz=246,SNR=110							
H24K	**Noodor Dome**	**18.91**	**35**	P		**Pn**	**07 17 15.0**	**-0.5**
	baz=238							
COLD	**Coldfoot**	**18.95**	**30**	P		**Pn**	**07 17 15.4**	**-0.5**
	baz=231,SNR=66							
RIDG	**Independent Ri**	**19.12**	**43**	P		**P**	**07 17 16.1**	**+0.7**
	baz=248,SNR=20							
MCARA	**McCarthy VSAT**	**19.21**	**50**	P		**P**	**07 17 16.4**	**-0.1**
	baz=256,SNR=17							
M26K	**Nabesna, AK**	**19.48**	**47**	P		**P**	**07 17 19.4**	**0.0**
	baz=254,SNR=9.8							
MESA	**MESA**	**19.50**	**54**	P		**P**	**07 17 20.8**	**+1.0**
	baz=261							
L26K	**Log Cabin Wild**	**19.51**	**45**	P		**P**	**07 17 19.8**	**+0.2**
	baz=252,SNR=32							
G24K	**Hadweenzic Riv**	**19.51**	**33**	P		**Pn**	**07 17 21.2**	**-1.3**
	baz=236							
SCRK	**Sand Creek**	**19.56**	**42**	P		**P**	**07 17 20.7**	**+0.5**
	baz=248,SNR=195							
PRP	**Porcupine Dome**	**19.60**	**37**	P		**P**	**07 17 19.8**	**-0.9**
	baz=242,SNR=12							
E23K	**Chandalar**	**19.66**	**28**	P		**Pn**	**07 17 22.8**	**-1.4**
	baz=230							
F24K	**Squaw Lake**	**19.84**	**31**	P		**Pn**	**07 17 25.8**	**-0.6**
	baz=234,SNR=101							
H25L	**Birch Creek**	**19.85**	**35**	P		**P**	**07 17 24.1**	**+0.9**
	baz=240							
J26L	**Joseph Creek**	**19.93**	**41**	P		**P**	**07 17 24.5**	**+0.3**
	baz=247							
D23K	**Nanushuk River**	**19.97**	**25**	P		**Pn**	**07 17 26.1**	**-1.7**
	baz=226							
M27K	**Edge Creek, AK**	**19.97**	**48**	P		**P**	**07 17 24.9**	**+0.1**
	baz=255							
E24K	**Your Creek**	**20.00**	**29**	P		**Pn**	**07 17 26.7**	**-1.6**
	baz=232,SNR=63							
G25K	**Bearman Lake**	**20.01**	**34**	P		Pn	07 17 26.7	-1.6
	baz=238							
TOLK	**Toolik Lake Re**	**20.05**	**27**	P		Pn	07 17 27.1	-1.7
	baz=229,SNR=54							
SEY	**Seymchan**	**20.17**	**314**	P		**P**	**07 17 28.4**	**+1.7**
	comp=Z,43nm,0.8s,baz=120,slow=10,SNR=40							
SEY				PcP		**PcP**	**07 21 34.5**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=160,slow=5.5,SNR=4.3							
SEY				ScP		**ScP**	**07 24 55.1**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=90,slow=11,SNR=5.3							
	comp=Z,43nm,0.8s							
SEY	**Seymchan**	**20.17**	**314**	‖*e*P		Pn	07 17 28.5	-1.7
SEY				pmax		pmax		
	comp=Z,165nm,1.7s							
L27K	**Beaver Creek,**	**20.18**	**46**	P		**P**	**07 17 26.3**	**-0.6**
	baz=253							
MA2	**Magadan**	**20.33**	**304**	P		**P**	**07 17 29.9**	**+1.4**
	comp=Z,22nm,0.8s,baz=70,slow=11,SNR=5.3							
	comp=Z,22nm,0.8s							
MA2	**Magadan**	**20.33**	**304**	‖*e*P		**P**	**07 17 29.4**	**+0.9**
MA2				pmax		pmax		
	comp=Z,177nm,1.6s							
PCA	**Pinnacle**	**20.34**	**55**	P		**P**	**07 17 29.2**	**+0.6**
PINM	**Pinnacle**	**20.34**	**55**	P		**P**	**07 17 27.6**	**-1.0**
	baz=263							
K27K	**Chicken**	**20.37**	**43**	P		**P**	**07 17 29.6**	**+0.8**
	baz=251							
I26K	**Coal Creek Min**	**20.40**	**39**	P		**P**	**07 17 29.1**	**0.0**
	baz=246							
O28M	**Mount Upton**	**20.45**	**53**	P		**P**	**07 17 29.7**	**-0.4**
	baz=261							
A21K	**Barrow**	**20.49**	**17**	P		**P**	**07 17 30.2**	**+0.2**
	baz=212							
YUK3	**Moose Creek**	**20.50**	**50**	P		**P**	**07 17 31.3**	**+0.8**
	baz=258,SNR=17							
C23K	**Itkillik River**	**20.59**	**24**	P		**P**	**07 17 32.1**	**+1.0**
	baz=225							
F25K	**Christian Rive**	**20.60**	**32**	P		**P**	**07 17 32.8**	**+1.5**
	baz=237							
PNL	**Peninsula**	**20.73**	**56**	P		**P**	**07 17 32.4**	**-0.3**
	baz=265							
YUK8	**Steele Glacier**	**20.74**	**51**	P		**P**	**07 17 33.2**	**+0.2**
	baz=260							
BMAR	**Burnt Mountain**	**20.86**	**33**	P		**P**	**07 17 35.4**	**+1.3**
G26K	**Porcupine Rive**	**20.89**	**35**	P		**P**	**07 17 34.3**	**0.0**
	baz=241							
E25K	**Arctic Village**	**20.91**	**31**	P		**P**	**07 17 35.7**	**+1.1**
	baz=236,SNR=70							
EGAK	**Eagle**	**20.99**	**41**	P		**P**	**07 17 35.8**	**+0.3**
EGAK	**Eagle**	**20.99**	**41**	P		**P**	**07 17 35.7**	**+0.3**
	baz=250,SNR=36							
C24K	**Franklin Bluff**	**21.00**	**25**	P		**P**	**07 17 36.6**	**+1.1**
	baz=228							
I27K	**Kandik River**	**21.11**	**39**	P		**P**	**07 17 36.7**	**-0.1**
	baz=247,SNR=23							
F26K	**Sheenjek River**	**21.14**	**33**	P		**P**	**07 17 38.1**	**+1.0**
	baz=239							
O29M	**Mount Kennedy**	**21.19**	**54**	P		**P**	**07 17 37.0**	**-0.8**
	baz=264							
YUK4	**Talbot Arm**	**21.28**	**51**	P		**P**	**07 17 39.2**	**+0.3**
	baz=261							
YUK6	**Outpost Mounta**	**21.36**	**53**	P		**P**	**07 17 39.9**	**+0.1**
	baz=263							
D25K	**Kavik River**	**21.37**	**28**	P		**P**	**07 17 40.0**	**+0.4**
	baz=232,SNR=86							
H27K	**Steamboat Moun**	**21.39**	**37**	P		**P**	**07 17 39.8**	**0.0**
	baz=246,SNR=12							
DAWY	**Dawson**	**21.51**	**44**	P		**P**	**07 17 41.0**	**-0.1**
DAWY				IAmb		IAmb	07 17 44.4	
	comp=Z,36nm,0.7s							
DAWY	**Dawson**	**21.51**	**44**	P		**P**	**07 17 41.1**	**0.0**
	baz=254,SNR=41							
M29M	**Somme Creek**	**21.54**	**48**	P		**P**	**07 17 41.2**	**-0.3**
	baz=259							
P29M	**Windy Craggy**	**21.56**	**56**	P		**P**	**07 17 41.5**	**-0.2**
	baz=267							
G27K	**Doyon Strip**	**21.58**	**36**	P		**P**	**07 17 41.7**	**-0.1**
	baz=244,SNR=8.1							
HYT	**Haines Junctio**	**21.77**	**53**	P		**P**	**07 17 42.9**	**-1.0**
	baz=264							
L29M	**L29M**	**21.82**	**47**	P		**P**	**07 17 44.0**	**-0.4**
	baz=258							
P30M	**Million Dollar**	**21.98**	**55**	P		**P**	**07 17 45.2**	**-0.8**
	baz=266							
N30M	**Aishikik Lake**	**22.04**	**51**	P		**P**	**07 17 45.6**	**-1.0**
	baz=263							
J29M	**Klondike Camp**	**22.10**	**43**	IAmb		IAmb	07 17 57.9	
	comp=Z,38nm,0.7s							
J29M	**Klondike Camp**	**22.10**	**43**	P		**P**	**07 17 48.5**	**+1.3**
	baz=254,SNR=13							
C26K	**Camden Bay**	**22.14**	**27**	P		**P**	**07 17 48.5**	**+1.1**
	baz=233							
E27K	**Coleen River**	**22.22**	**33**	P		**P**	**07 17 49.1**	**+0.8**
	baz=242							
K29M	**Barlow Dome**	**22.25**	**45**	P		**P**	**07 17 48.3**	**-0.5**
	baz=257							
PLBC	**Pleasant Camp**	**22.26**	**57**	P		**P**	**07 17 48.5**	**-0.1**
	baz=268							
C27K	**Jago River**	**22.32**	**28**	P		**P**	**07 17 49.6**	**+0.4**
	baz=236							
I29M	**Ogilvie Camp,**	**22.32**	**41**	IAmb		IAmb	07 17 52.5	
	comp=Z,32nm,0.7s							
I29M	**Ogilvie Camp,**	**22.32**	**41**	P		**P**	**07 17 48.5**	**-0.8**
	baz=252,SNR=32							
M30M	**Minto, Yukon**	**22.33**	**48**	P		**P**	**07 17 48.6**	**-0.8**
	baz=260							
S31K	**Pelican**	**22.35**	**61**	P		**P**	**07 17 48.8**	**-0.7**
	baz=272							
O30N	**Mendenhall**	**22.45**	**53**	P		**P**	**07 17 50.0**	**-0.6**
	baz=266							
N31M	**Braeburn, Yuko**	**22.66**	**51**	P		**P**	**07 17 52.9**	**+0.3**
	baz=264							
EPYK	**Eagle Plains**	**23.25**	**39**	IAmb		IAmb	07 18 34.9	
	comp=Z,194nm,1.7s							
EPYK	**Eagle Plains**	**23.25**	**39**	P		**P**	**07 17 57.4**	**-0.6**
	baz=252,SNR=18							
M31M	**Drury Creek, Y**	**23.39**	**50**	P		**P**	**07 17 59.6**	**+0.4**
	baz=264							
G30M	**tAoh Zraii Nji**	**23.63**	**38**	P		**P**	**07 18 00.8**	**-0.6**
	baz=251							
FARO	**Faro, Yukon**	**23.88**	**50**			**PcP**	**07 21 42.7**	**+0.8**
FARO	**Faro, Yukon**	**23.88**	**50**	P		**P**	**07 18 03.7**	**0.0**
	baz=265							
P33M	**Teslin, Yukon**	**24.05**	**55**	P		**P**	**07 18 05.7**	**+0.4**
	baz=270							
U33K	**Whale Pass**	**24.23**	**65**	P		**P**	**07 18 08.2**	**+1.4**
	baz=279							
CRAG	**Craig**	**24.34**	**66**	P		**P**	**07 18 09.2**	**+1.4**
	baz=280							
Q32M	**Nakina River**	**24.37**	**58**	P		**P**	**07 18 09.4**	**+1.0**
	baz=273							
WRAK	**Wrangell Islan**	**24.61**	**64**	P		**P**	**07 18 11.4**	**+1.1**
	baz=279							
F31M	**Tsiigehtchic**	**24.70**	**37**	P		**P**	**07 18 10.7**	**-0.2**
	baz=253,SNR=11							
MMPY	**Sheldon Lake,**	**24.88**	**49**	P		**P**	**07 18 12.4**	**-0.3**
	baz=266							
R33M	**Jennings River**	**25.02**	**57**	P		**P**	**07 18 14.7**	**+0.5**
	baz=273							
INK	**Inuvik**	**25.03**	**35**	P		**P**	**07 18 14.4**	**+0.4**
	comp=Z,17nm,0.3s,baz=250,slow=7.3,SNR=167							
INK				pP		**pP**	**07 18 46.8**	**+2.3**
	comp=Z,26nm,0.8s,baz=230,slow=12,SNR=5.6							
INK				PcP		**PcP**	**07 21 44.2**	**0.0**
	comp=Z,11nm,0.8s,baz=232,slow=1.5,SNR=5.9							
INK				ScP		**ScP**	**07 25 07.6**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=274,slow=0.8,SNR=4.5							
	comp=Z,17nm,0.3s							
INK	**Inuvik**	**25.03**	**35**	P		**P**	**07 18 14.1**	**+0.1**
INK				IAmb		IAmb	07 18 15.5	
	comp=Z,39nm,1.1s							
INK	**Inuvik**	**25.03**	**35**	P		**P**	**07 18 14.2**	**+0.2**
	baz=251,SNR=27							
DIB	**Dawson Inlet,**	**25.23**	**72**	IAmb		IAmb	07 18 20.6	
	comp=Z,81nm,1.0s							
KUR	**Kuril'sk**	**25.45**	**268**	‖*e*P		**P**	**07 18 17.9**	**-0.1**
KUR				pmax		pmax		
	comp=Z,265nm,1.1s							
DLBC	**Dease Lake**	**25.59**	**59**	P		**P**	**07 18 20.4**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=280,slow=11,SNR=11							
DLBC				pP		**pwP**	**07 18 52.4**	**-1.1**
	comp=Z,6.0nm,0.6s,baz=222,slow=9.0,SNR=4.2							
DLBC				ScP		**ScP**	**07 25 10.5**	**0.0**
	comp=Z,2.4nm,0.8s,baz=298,slow=12,SNR=3.4							
DLBC				LR		LR	07 28 40.1	
	comp=Z,122nm,20.4s,baz=286,slow=36							
	comp=Z,2.1nm,0.5s							
DLBC	**Dease Lake**	**25.59**	**59**	P		**P**	**07 18 19.0**	**-0.2**
DLBC				IAmb		IAmb	07 18 56.8	
	comp=Z,88nm,1.9s							
WTLY	**Watson Lake, Y**	**26.07**	**55**	P		**P**	**07 18 23.3**	**-0.2**
	baz=273							
TYV	**Tymovskoe**	**26.20**	**284**	*e*P		P	07 18 13.4	-11
TYV				pmax		pmax		
	comp=Z,1µm,3.2s							
TYV				pmax		pmax		
	comp=Z,47nm,1.5s							
YSS	**Yuzh-Sakhalins**	**27.74**	**276**	*e*P		**P**	**07 18 39.3**	**+0.8**
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
BBB	**Bella Bella**	**28.06**	**72**	P		**P**	**07 18 42.2**	**+0.9**
	comp=Z,26nm,1.0s,baz=301,slow=13,SNR=4.1							
	comp=Z,26nm,1.0s							
KOTAN	**Kotaneelee Air**	**28.43**	**54**	P		**P**	**07 18 45.3**	**+0.9**
	baz=277							
C36M	**Paulatuk**	**28.62**	**35**	IAmb		IAmb	07 18 47.4	
	comp=Z,47nm,1.1s							
C36M	**Paulatuk**	**28.62**	**35**	P		**P**	**07 18 45.8**	**-0.2**
	baz=260,SNR=29							
A36M	**Sachs Harbour**	**28.82**	**29**	P		**P**	**07 18 48.9**	**+1.2**
A36M	**Sachs Harbour**	**28.82**	**29**	P		**P**	**07 18 49.0**	**+1.2**
	baz=254,SNR=106							
ERM	**Erimo**	**30.06**	**267**	‖*e*P		**P**	**07 18 59.4**	**+0.3**
ERM				pmax		pmax		
	comp=Z,85nm,1.4s							
YAK	**Yakutsk**	**30.58**	**310**	LR		LR	07 33 21.8	
	comp=Z,58nm,18.3s,baz=90,slow=40							
YAK	**Yakutsk**	**30.58**	**310**	*e*P		**P**	**07 19 03.1**	**-0.3**
YAK				*e**PP		**pP**	**07 19 34.8**	**+0.4**
YAK				*e*			07 20 04.9	
YAK				*e*			07 21 56.7	
YAK				*e*S		**S**	**07 23 54.3**	**+0.7**
YAK				*e**SS		**sS**	**07 24 51.0**	**+2.1**
YAK				*e*SS		**SnSn**	**07 25 50.3**	**+1.1**
YAK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,4.0nm,1.0s							
YAK				pmax		pmax		
	comp=Z,285nm,5.1s							
YAK				pmax		pmax		
	comp=N,197nm,3.0s							
YAK				pmax		pmax		
	comp=E,258nm,3.0s							
YAK				smax		smax		
	comp=E,264nm,4.1s							
YAK				smax		smax		
	comp=N,205nm,3.0s							
TIXI	**Tiksi**	**30.90**	**329**	P		**P**	**07 19 07.0**	**+0.9**
	comp=N,7.8nm,0.6s,baz=270,slow=24,SNR=18							
TIXI				PcP		**PcP**	**07 21 57.9**	**-0.7**
	comp=N,8.7nm,0.7s,baz=270,slow=24,SNR=7.5							
TIXI				LR		LR	07 32 45.4	
	comp=N,45nm,19.5s,baz=176,slow=38							
	comp=N,7.8nm,0.6s							
TIXI	**Tiksi**	**30.90**	**329**	P		**P**	**07 19 06.1**	**0.0**
TIXI				PcP		**PcP**	**07 21 57.8**	**-0.7**
TIXI	**Tiksi**	**30.90**	**329**	‖*e*P		**P**	**07 19 06.5**	**+0.4**
TIXI				pmax		pmax		
	comp=Z,42nm,2.5s							
TIXI	**Tiksi**	**30.90**	**329**	P		**P**	**07 19 06.9**	**+0.8**
TIXI				sP		**sP**	**07 19 56.1**	**+1.8**
TIXI				PcP		**PcP**	**07 21 57.9**	**-0.7**
HILA	**High Level**	**32.27**	**56**			**PcP**	**07 22 03.5**	**+0.9**
LLLB	**Lillooet**	**32.27**	**72**	IAmb		IAmb	07 19 21.2	
	comp=Z,20nm,0.8s							
YKA	**Yellowknife Ar**	**32.57**	**48**	P		**P**	**07 19 21.5**	**+0.7**
	comp=Z,6.1nm,0.7s,baz=254,slow=7.4,SNR=21							
YKA				PcP		**PcP**	**07 22 03.9**	**+0.6**
	comp=Z,8.5nm,0.7s,baz=286,slow=3.4,SNR=12							
	comp=Z,6.1nm,0.7s							
KLR	**Kul'dur**	**33.30**	**286**	P		**P**	**07 19 26.1**	**-1.3**
	comp=Z,4.4nm,0.5s,baz=75,slow=7.7,SNR=23							
KLR				LR		LR	07 33 17.1	
	comp=Z,53nm,18.6s,baz=53,slow=36							
	comp=Z,4.4nm,0.5s							
KLR	**Kul'dur**	**33.30**	**286**	*de*P		**P**	**07 19 25.8**	**-1.5**
KLR				pmax		pmax		
	comp=Z,14nm,1.7s							
D05A	**Enumclaw**	**33.75**	**78**	IAmb		IAmb	07 19 49.5	
	comp=Z,26nm,1.0s							
LON	**Longmire**	**34.07**	**78**	IAmb		IAmb	07 19 37.9	
	comp=Z,80nm,1.9s							
B08A	**Colville Reser**	**34.76**	**74**	P		**P**	**07 19 40.1**	**+0.1**
B08A				IAmb		IAmb	07 19 42.8	
	comp=Z,33nm,0.7s							
HOOD	**Mount Hood Mea**	**34.89**	**80**	IAmb		IAmb	07 19 52.1	
	comp=Z,19nm,0.8s							
H04A	**Detroit Lake**	**34.91**	**82**	P		**P**	**07 19 42.4**	**+1.1**
H04A				IAmb		IAmb	07 19 44.0	
	comp=Z,27nm,1.0s							
HEH	**HeiHe**	**35.36**	**290**	*e*P		**P**	**07 19 43.0**	**-2.0**
HEH				pmax		pmax		
	comp=Z,26nm,0.9s							
HAWA	**Hanford**	**35.61**	**77**	P		**P**	**07 19 47.6**	**+0.4**
HAWA				IAmb		IAmb	07 19 50.5	
	comp=Z,23nm,0.7s							
HAWA						**PcP**	**07 22 13.0**	**+0.6**
F07A	**Phinny Hill Vi**	**35.63**	**78**	IAmb		IAmb	07 19 51.3	
	comp=Z,26nm,0.7s							
D08A	**Wollman Farm,**	**35.64**	**76**	P		**P**	**07 19 47.9**	**+0.4**
D08A				IAmb		IAmb	07 19 50.1	
	comp=Z,15nm,0.7s							
D08A				PcP		**PcP**	**07 22 13.0**	**+0.6**
C09A	**Chrisman Ranch**	**35.65**	**75**	IAmb		IAmb	07 19 50.1	
	comp=Z,18nm,0.7s							
USA0B	**Ussuriysk Arra**	**35.65

WALA Waterton Lakes 37.58 70 P P 07 20 04.2 +0.2
WALA IAmb IAmb 07 20 05.7
comp=Z,23nm,0.9s
WALA PcP **PcP 07 22 19.1 +0.7**
MOD Modoc Plateau 37.60 84 P P 07 20 05.6 +1.3
RES Resolute Bay 37.61 25 P P 07 20 04.1 +0.4
comp=Z,3.4nm,0.6s,baz=274,slow=13,SNR=12
RES PcP **PcP 07 22 17.9 0.0**
comp=Z,8.0nm,0.7s,baz=181,slow=1.9,SNR=9.6
comp=Z,3.4nm,0.6s
RES Resolute Bay 37.61 25 PcP 07 22 17.6 -0.3
BMO Blue Mountains 37.75 78 P P 07 20 06.2 +0.7
BMO PcP **PcP 07 22 17.9 -1.1**
BMO Blue Mountains 37.75 78 P P 07 20 06.2 +0.7
BMO 07 22 17.9
BMO pmax pmax
comp=Z,8.0nm,0.7s
JHJ Hachijo jima 2 37.84 257 P P 07 20 06.5 +0.3
comp=Z,151nm,0.9s,baz=96,slow=8.7,SNR=1.7
comp=Z,151nm,0.9s
J08A Circle Bar Ran 37.87 81 PcP 07 22 21.3 +1.9
PLID Pearl Lake 38.40 77 P P 07 20 11.5 +0.4
PLID PcP **PcP 07 22 21.0 -0.2**
MSO Missoula 38.69 73 P P 07 20 13.4 +0.1
MSO IAmb IAmb 07 20 14.7
comp=Z,39nm,1.1s
MSO PcP **PcP 07 22 22.4 +0.5**
MSO Missoula 38.69 73 P P 07 20 13.9 +0.6
baz=301,SNR=25
PLTX Planet X, Gerl 38.81 85 IAmb IAmb 07 20 17.4
comp=Z,42nm,0.8s
MFID Camas Ranch 39.43 79 PcP PcP 07 22 25.6 +1.3
PAHR Pah Rah Range 39.47 86 IAmb IAmb 07 20 22.6
comp=Z,28nm,0.9s
PAHR **PcP 07 22 25.8 +1.2**
VCNR Virginia City 39.56 87 IAmb IAmb 07 20 23.7
comp=Z,30nm,0.9s
CMB Columbia Colle 39.90 89 P P 07 20 24.8 +1.4
CMB **PcP 07 22 25.9 +0.1**
YERR Yerington 40.00 87 IAmb IAmb 07 20 27.2
comp=Z,30nm,1.0s
SAO San Andreas Ge 40.06 91 P P 07 20 25.5 +0.8
SAO San Andreas Ge 40.06 91 P P 07 20 25.5 +0.8
SAO pmax pmax
comp=Z,16nm,0.9s
WAKR Walker 40.18 88 IAmb IAmb 07 20 28.9
comp=Z,32nm,0.9s
HLID Hailey 40.19 78 P P 07 20 27.4 +1.6
HLID Hailey 40.19 78 P P 07 20 27.0 +1.1
baz=305,SNR=22
HIA Hailar 40.20 292 P P 07 20 25.4 -0.2
HIA Hailar 40.20 292 *d* iP **P 07 20 24.5 -1.1**
HIA pmax pmax
comp=Z,11nm,0.9s
MCMT McKenzie Canyo 40.41 75 P P 07 20 28.9 +1.2
BBGB Big Mountain B 40.43 91 IAmb IAmb 07 20 41.7
comp=Z,42nm,0.8s
EGMT Eagleton 40.48 69 P P 07 20 28.2 +0.1
EGMT IAmb IAmb 07 20 29.6
comp=Z,22nm,0.7s
EGMT Eagleton 40.48 69 P P 07 20 28.2 +0.1
baz=301,SNR=9.1
KVN Kaiserville 40.65 86 P P 07 20 31.0 +1.3
KVN Kaiserville 40.65 86 P P 07 20 31.0 +1.3
KVN pmax pmax
comp=Z,17nm,1.1s
RYN Ryan 40.66 87 IAmb IAmb 07 20 32.4
comp=Z,24nm,1.0s
BOZ Bozeman (W) 40.70 74 IAmb IAmb 07 20 31.5
comp=Z,26nm,0.8s
BOZ Bozeman (W) 40.70 74 P P 07 20 30.4 +0.4
baz=303,SNR=35
PMPB Monarch Peak 40.81 92 IAmb IAmb 07 20 36.5
comp=Z,20nm,0.7s
JCJ Chichijima 40.88 249 P P 07 20 31.8 +0.4
comp=Z,102nm,0.5s,baz=12,slow=3.8,SNR=9.8
comp=Z,102nm,0.5s
JCJ Chichijima 40.88 249 P P 07 20 32.2 +0.8
JCJ Chichijima 40.88 249 P P 07 20 32.3 +0.9
NVAR Mina Array Bea 40.92 87 P P 07 20 33.7 +1.7
comp=Z,15nm,0.8s,baz=295,slow=7.6,SNR=82
NVAR PcP **PcP 07 22 30.9 +1.6**
comp=Z,7.4nm,0.7s,baz=278,slow=2.4,SNR=12
NVAR ScP **ScP 07 26 05.0 +0.6**
comp=Z,2.5nm,0.7s,baz=290,slow=4.5,SNR=9.3
comp=Z,15nm,0.8s
MDPB Devils Postpil 40.95 89 IAmb IAmb 07 20 35.3
comp=Z,26nm,0.8s
ALE Alert 41.01 11 P P 07 20 32.6 +0.7
ALE pwP **pwP 07 21 10.5 +1.5**
ALE PcP **PcP 07 22 28.1 -0.5**
MLAC Mammoth, Mammo 41.10 88 P P 07 20 35.7 +2.3
baz=310
Q09A Carvers 41.35 86 IAmb IAmb 07 20 38.3
comp=Z,62nm,0.9s
ELK Elko 41.35 82 P P 07 20 36.6 +1.1
ELK Elko 41.35 82 P P 07 20 36.6 +1.1
ELK pmax pmax
comp=Z,11nm,0.8s
YHL Hebgen Lake 41.38 74 IAmb IAmb 07 20 38.6
comp=Z,57nm,1.3s
YHB Horse Butte 41.43 75 IAmb IAmb 07 20 37.7
comp=Z,30nm,0.9s
YMR Madison River 41.61 74 IAmb IAmb 07 20 39.3
comp=Z,29nm,0.9s
VOG Valley Oaks Go 41.61 90 P P 07 20 38.2 +0.9
baz=311
YNR Norris Junctio 41.75 74 IAmb IAmb 07 20 40.9
comp=Z,31nm,0.9s
TIN Tinemaha, Big 41.84 89 P P 07 20 41.5 +2.2
baz=310,SNR=8.8
SMMC Simmler 41.90 92 P P 07 20 40.8 +1.1
baz=312
H17A Grant Village 41.99 75 IAmb IAmb 07 20 44.4
comp=Z,24nm,0.9s
H17A Grant Village 41.99 75 P P 07 20 42.6 +1.9
baz=305,SNR=25
VES Vestal, Richgr 42.11 91 P P 07 20 42.0 +0.6
baz=311,SNR=8.7
KSRS Korea Array 42.14 273 P P 07 20 42.0 +0.5
comp=Z,4.3nm,0.8s,baz=55,slow=7.8,SNR=9.3
KSRS PcP **PcP 07 22 33.5 +0.5**
comp=Z,9.3nm,0.7s,baz=71,slow=3.7,SNR=15
comp=Z,4.3nm,0.8s
PKM Mcpherson Peak 42.30 92 P P 07 20 44.6 +1.4
baz=312
CWC Cottonwood Cre 42.33 89 P P 07 20 44.5 +1.1
baz=311
RLMT Red Lodge 42.35 73 IAmb IAmb 07 20 45.9
comp=Z,34nm,0.8s
RLMT Red Lodge 42.35 73 P P 07 20 44.3 +0.8
baz=304,SNR=25
GRAC Grapevine Rang 42.41 88 P P 07 20 46.0 +2.1
baz=310,SNR=8.1
ISA Isabella, Lake 42.60 90 P P 07 20 46.4 +0.9
baz=311,SNR=11
R11A Troy Canyon, C 42.62 85 P P 07 20 46.7 +0.9
baz=309,SNR=49
MPMC Manual Prospec 42.94 89 P P 07 20 49.5 +1.2
baz=311,SNR=15
S11A Rachel 42.98 86 IAmb IAmb 07 20 51.2
comp=Z,40nm,1.3s
SPR3 Spring Creek 3 42.98 83 IAmb IAmb 07 20 51.5
comp=Z,8.8nm,0.7s
TULEG Thule 43.05 19 P P 07 20 48.3 -0.2
TULEG IAmb IAmb 07 21 28.2
comp=Z,42nm,1.1s
TULEG Thule 43.05 19 *i* P **P 07 20 48.5 +0.1**
TULEG IAmb IAmb 07 20 50.2
comp=Z,5.9nm,0.7s
FURC Furnace Creek, 43.05 88 P P 07 20 50.6 +1.6
baz=311,SNR=28
TPNV Topopah Spring 43.12 87 IAmb IAmb 07 20 52.2
comp=Z,43nm,0.8s
TPNV Topopah Spring 43.12 87 P P 07 20 51.0 +1.3
baz=310,SNR=51
OSI Osito Audit: C 43.15 92 P P 07 20 51.2 +1.4
baz=312
DUG Dugway, Tooele 43.15 81 P P 07 20 51.2 +1.3
baz=308,SNR=32
TJN Taejon 43.18 272⇑ *eP* **P 07 20 50.1 +0.1**
LRMC Laurel Mtn Rad 43.20 90 P P 07 20 50.6 +0.2
baz=311
JNU Nakatsue 43.22 265 IAmb IAmb 07 20 52.0
comp=Z,56nm,0.9s
JNU Nakatsue 43.22 265 P P 07 20 50.9 +0.5
LAO LASA Array 43.23 69 IAmb IAmb 07 20 51.9
comp=Z,34nm,0.8s
LAO LASA Array 43.23 69 P P 07 20 50.9 +0.5
baz=304
LAO LASA Array 43.23 69 P P 07 20 50.8 +0.5
baz=304,SNR=18
DGMT Dagmar 43.39 66 P P 07 20 51.4 -0.1
baz=303
EDW2 Edwards Air Fo 43.41 91 P P 07 20 52.6 +0.7
baz=312,SNR=12
BW06 Boulder Array 43.55 76 IAmb IAmb 07 20 54.6
comp=Z,31nm,0.9s
BW06 Boulder Array 43.55 76 P P 07 20 53.4 +0.3
baz=306,SNR=38
PD31 Pinedale Array 43.55 76 IAmb IAmb 07 20 54.6
comp=Z,28nm,0.9s
PDAR Pinedale Array 43.55 76 P P 07 20 53.8 +0.6
comp=Z,29nm,0.8s,baz=307,slow=3.6,SNR=195
PDAR pP **pP 07 21 26.0 -0.3**
comp=Z,6.0nm,0.8s,baz=307,slow=5.4,SNR=2.4
comp=Z,29nm,0.8s
PRN Pahroc Range 43.55 86 IAmb IAmb 07 20 58.0
comp=Z,40nm,0.8s
SNCC San Nicolas Is 43.58 94 P P 07 20 53.9 +0.6
baz=313
DECC Green Verdugo 43.63 92 P P 07 20 54.6 +1.0
baz=312
SHOC Shoshone, Teco 43.79 88 P P 07 20 56.1 +1.2
baz=311,SNR=18
GSC Goldstone, Bar 43.86 89 IAmb IAmb 07 20 58.0
comp=Z,47nm,1.1s
GSC Goldstone, Bar 43.86 89 P P 07 20 56.9 +1.4
baz=312,SNR=30
BFSC Mount Baldy Ra 44.05 91 P P 07 20 58.7 +1.6
baz=312,SNR=21
CIS Catalina Islan 44.15 93 P P 07 20 58.6 +0.8
baz=313
TUQ Turquoise Moun 44.31 89 P P 07 21 00.4 +1.2
baz=312,SNR=16
WTNK Soaring Height 44.37 87 IAmb IAmb 07 21 02.2
comp=Z,5.7nm,0.9s
HEC Hector,Ludlow 44.46 90 P P 07 21 01.7 +1.3
baz=312,SNR=17
BBRC Big Bear Solar 44.48 91 P P 07 21 01.5 +0.8
baz=312,SNR=7.6
MVU Marysvale 44.58 83 IAmb IAmb 07 21 03.9
comp=Z,61nm,0.9s
JSU Suzuyama 44.59 264 P P 07 21 00.5 -0.8
JSU IAmb IAmb 07 21 02.8
comp=Z,68nm,1.1s
JSU Suzuyama 44.59 264 P P 07 21 01.7 +0.3
NRIK Noril'sk 44.67 330 P P 07 21 02.2 +0.8
comp=Z,22nm,0.6s,baz=75,slow=9.1,SNR=38
comp=Z,22nm,0.6s
NRIK Noril'sk 44.67 330 IAmb IAmb 07 21 02.8
comp=Z,25nm,0.7s
NRIK Noril'sk 44.67 330 *d* iP **P 07 21 02.0 +0.6**
NRIK pmax pmax
comp=Z,21nm,0.9s
TMUT Trail Mountain 44.68 81 IAmb IAmb 07 21 04.6
comp=Z,26nm,0.7s
MURC Murrieta 44.76 92 P P 07 21 03.8 +1.1
baz=313,SNR=6.3
RDMU Red Mountain 44.87 78 IAmb IAmb 07 21 05.7
comp=Z,24nm,0.8s
GMRC Granite Mounta 44.90 89 P P 07 21 05.3 +1.4
baz=312,SNR=29
P18A Preston Nutter 45.05 80 IAmb IAmb 07 22 45.5
comp=Z,29nm,1.1s
KNB Kanab 45.16 85 IAmb IAmb 07 22 46.4
comp=Z,24nm,0.9s
PFO Pinyon Flats O 45.20 91 P P 07 21 06.2 -0.1
PFO Pinyon Flats O 45.20 91 P P 07 21 07.0 +0.7
baz=313,SNR=7.0
PFO Pinyon Flats O 45.20 91 P P 07 21 06.2 -0.1
PFO pmax pmax
comp=Z,16nm,1.2s
PFO Pinyon Flats O 45.20 91 P P 07 21 07.1 +0.7
PFO PcP **PcP 07 22 44.8 +1.1**
PFO ScP **ScP 07 26 22.4 +0.7**
TPFO Pinon Flats 45.21 91 P P 07 21 07.0 +0.7
baz=313,SNR=6.4
BELC Belle Mtn. Jos 45.22 90 P P 07 21 07.3 +0.9
baz=313,SNR=13
PMD Palm Desert 45.23 91 IAmb IAmb 07 22 45.6
comp=Z,9.4nm,0.8s
XLT XiLinHaoTe 45.27 288 *eP* **P 07 21 06.4 -0.2**
XLT pP pwP 07 21 45.8 +1.5
XLT PcP **PcP 07 22 44.0 +0.2**
XLT pmax pmax
comp=Z,18nm,0.9s
XLT pmax pmax
comp=Z,140nm,6.0s
109C Camp Elliot, M 45.30 92 P P 07 21 08.3 +1.3
baz=313
K22A Casper 45.40 74 P P 07 21 07.8 0.0
baz=307,SNR=13
NOR Nord 45.57 4 *i* P **P 07 21 07.6 -0.7**
NOR IAmb IAmb 07 21 09.3
comp=Z,2.9nm,0.9s
RWWY Rawlins 45.59 76 IAmb IAmb 07 21 11.1
comp=Z,23nm,0.8s
IRM Iron Mountain 45.64 89 P P 07 21 10.7 +1.2
baz=312,SNR=8.9
NEEM North Greenlan 45.67 15 *i* P **P 07 21 08.7 -0.9**
NEEM IAmb IAmb 07 21 11.1
comp=Z,21nm,0.6s
MONP2 Monument Peak 45.72 92 P P 07 21 11.5 +1.0
baz=313,SNR=6.0
BC3 Big Chuckawall 45.79 90 P P 07 21 11.4 +0.6
baz=313,SNR=8.4
U15A North Rim 45.87 85 IAmb IAmb 07 21 14.2
comp=Z,50nm,1.0s
O20A White River Ci 45.94 78 IAmb IAmb 07 21 13.1
comp=Z,32nm,0.6s
O20A White River Ci 45.94 78 P P 07 21 12.7 +0.7
baz=309,SNR=38
RSSD Black Hills 45.97 71 P P 07 21 11.7 -0.6
RSSD Black Hills 45.97 71 P P 07 21 12.1 -0.2
baz=307
RSSD Black Hills 45.97 71 P P 07 21 12.0 -0.2
baz=307
RSSD Black Hills 45.97 71 P P 07 21 11.7 -0.6
RSSD pmax pmax
comp=Z,19nm,0.8s
RSSD Black Hills 45.97 71 P P 07 21 11.9 -0.4
RSSD PcP **PcP 07 22 46.7 +0.3**
RSSD ScP **ScP 07 26 24.5 -0.4**
SWSC Sam W. Stewart 46.06 91 P P 07 21 13.5 +0.6
baz=313
IKP In-Ko-Pah, Jac 46.08 92 P P 07 21 14.1 +1.0
baz=314
PDMCI Parker Dam,Lak 46.15 88 P P 07 21 14.6 +1.0
baz=312,SNR=14
MDND Maddock 46.28 64 IAmb IAmb 07 21 16.3
comp=Z,31nm,0.7s
MDND Maddock 46.28 64 P P 07 21 14.0 -0.4
baz=305
BLYC Blythe 46.29 89 IAmb IAmb 07 21 16.8
comp=Z,32nm,0.8s
PV10 Paradox Valley 46.57 80 IAmb IAmb 07 22 50.8
comp=Z,43nm,1.0s
GLA Glamis 46.58 90 IAmb IAmb 07 21 19.1
comp=Z,26nm,0.8s
GLA Glamis 46.58 90 P P 07 21 18.1 +1.1
baz=313,SNR=12
PV11 David Mesa, Pa 46.72 80 IAmb IAmb 07 21 19.6
comp=Z,38nm,0.5s
N23A Red Feather La 46.83 76 P P 07 21 19.7 +0.7
baz=309,SNR=9.6
PV13 Radium Mtn., P 46.84 80 IAmb IAmb 07 21 20.7
comp=Z,59nm,0.7s
ULM Lac du Bonnet 46.91 60 P P 07 21 18.2 -1.0
comp=Z,1.5nm,0.3s,baz=307,slow=7.2,SNR=7.0
ULM PcP **PcP 07 22 49.1 -0.2**
comp=Z,10.0nm,0.9s,baz=318,slow=8.0,SNR=5.0
comp=Z,1.5nm,0.3s
PV15 Paradox Valley 46.93 80 P P 07 21 19.8 -0.1
WUAZ Wupatki 47.03 85 IAmb IAmb 07 21 23.0
comp=Z,36nm,0.8s
WUAZ Wupatki 47.03 85 P P 07 21 22.0 +1.4
baz=312,SNR=37
SMCO Snowmass 47.30 78 IAmb IAmb 07 22 54.4
comp=Z,51nm,1.8s
BJI Beijing 47.59 284 P P 07 21 24.1 -0.5
BJI pP **pP 07 21 58.5 +0.8**
BJI PcP **PcP 07 22 51.8 0.0**
BJI pmax pmax
comp=Z,8.0nm,0.6s
MVCO Mesa Verde 47.65 81 P P 07 21 25.8 +0.3
MVCO Mesa Verde 47.65 81 P P 07 21 26.0 +0.5
baz=311,SNR=13
ISCO Idaho Springs 47.71 77 P P 07 21 26.5 +0.5
baz=310
ISCO Idaho Springs 47.71 77 P P 07 21 26.4 +0.5
baz=309,SNR=5.1
BRIGG Briggsdale 47.98 75 IAmb IAmb 07 21 29.7
comp=Z,26nm,0.8s
ULN Ulaanbaatar 47.99 297 P P 07 21 27.6 -0.3
ULN pwP **pwP 07 22 07.0 +1.1**
ULN PcP **PcP 07 22 52.9 -0.6**
UPNV Upernavik 48.00 21 *i* P **P 07 21 27.2 -0.2**
UPNV IAmb IAmb 07 21 28.2
comp=Z,32nm,0.5s
W18A Petrified Fore 48.29 84 P P 07 21 31.7 +1.4
baz=312
S22A 4UR Ranch, Cre 48.31 80 P P 07 21 31.9 +1.3
baz=311,SNR=13
SONM Songino Array 48.37 298 P P 07 21 30.9 +0.3
comp=Z,7.0nm,0.7s,baz=50,slow=8.2,SNR=65
SONM PcP **PcP 07 22 53.6 -1.1**
comp=Z,5.8nm,0.8s,baz=43,slow=2.7,SNR=6.8
SONM ScP **ScP 07 26 33.4 -1.3**
comp=Z,1.5nm,0.8s,baz=53,slow=4.2,SNR=5.1
comp=Z,7.0nm,0.7s
SONM Songino Array 48.37 298 P P 07 21 30.3 -0.3
SONM IAmb IAmb 07 22 11.4
comp=Z,61nm,1.6s
ZAK Zakamensk 48.50 302 *eP* **P 07 21 30.8 -0.8**
ZAK pmax pmax
comp=Z,11nm,1.2s
Q24A Divide 48.52 77 P P 07 21 33.0 +0.8
baz=310
X18A Snowflake 48.55 85 IAmb IAmb 07 21 34.4
comp=Z,23nm,0.6s
214A Organ Pipe Nat 48.57 90 IAmb IAmb 07 21 34.4
comp=Z,31nm,1.1s
214A Organ Pipe Nat 48.57 90 P P 07 21 33.4 +1.1
baz=314,SNR=14
SUSD Miller 48.67 68 P P 07 21 32.8 -0.2
baz=308
SUSD Miller 48.67 68 P P 07 21 32.4 -0.5
baz=308,SNR=10
KBS Kingsbay 48.72 358 P P 07 21 34.0 +1.2
KBS IAmb IAmb 07 22 14.2
comp=Z,32nm,0.8s
KBS Kingsbay 48.72 358 *i* P **P 07 21 32.7 0.0**
KBS Kingsbay 48.72 358 *de* P **P 07 21 34.2 +1.4**
KBS pmax pmax
comp=Z,29nm,1.0s
KBS Kingsbay 48.72 358 *eP* **P 07 21 33.6 +0.9**
KBS Kingsbay 48.72 358 P **P 07 21 33.7 +0.9**
KBS pP **pP 07 22 07.0 +0.9**
KBS pwP **pwP 07 22 12.1 +1.2**
OGNE Ogallala 49.09 73 P P 07 21 37.1 +0.8
baz=310
OGNE Ogallala 49.09 73 P P 07 21 36.7 +0.4
baz=309,SNR=7.0
SDCO Great Sand Dun 49.10 79 P P 07 21 37.5 +0.8
baz=311
SDCO Great Sand Dun 49.10 79 P P 07 21 37.6 +1.0
baz=311,SNR=20
JOW Kunigami 49.27 262 P P 07 21 38.9 +1.2
comp=Z,18nm,0.5s,baz=333,slow=4.5,SNR=3.2
comp=Z,18nm,0.5s
SPA0 Spitsbergen Ar 49.36 357 *eP* **P 07 21 38.1 +0.4**
SPITS Spitsbergen Ar 49.36 357 P **P 07 21 38.4 +0.8**
comp=Z,44nm,1.0s,baz=46,slow=6.0,SNR=26
SPITS pP **pP 07 22 11.3 +0.4**
comp=Z,8.8nm,0.6s,baz=66,slow=7.1,SNR=1.1
comp=Z,44nm,1.0s
SPB2 Spitsbergen Ar 49.36 357 IAmb IAmb 07 21 39.9
comp=Z,48nm,1.1s
TUC Tucson 49.56 88 P P 07 21 41.1 +1.2
TUC IAmb IAmb 07 21 42.2
comp=Z,30nm,0.8s
TUC Tucson 49.56 88 P P 07 21 41.1 +1.2
baz=314
TUC Tucson 49.56 88 P P 07 21 41.1 +1.2
TUC pmax pmax
comp=Z,30nm,0.9s
TUC Tucson 49.56 88 P P 07 21 41.0 +1.1
TUC pP **pP 07 22 14.7 +0.5**
TUC PcP **PcP 07 23 00.2 +0.9**
HHC Hu-ho-hao-te 49.78 288 *eP* **P 07 21 40.8 -0.7**
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,300nm,5.1s
KSCO Kaye Shedlock' 49.99 75 IAmb IAmb 07 21 45.0
comp=Z,39nm,0.9s
KSCO Kaye Shedlock' 49.99 75 P P 07 21 44.1 +0.9
baz=311,SNR=6.7
T25A Trinidad 50.16 78 IAmb IAmb 07 21 46.6
comp=Z,35nm,0.9s
T25A Trinidad 50.16 78 P P 07 21 45.4 +0.9
baz=311,SNR=28
HNS HongShan 50.17 282 ⇓ P **P 07 21 44.3 0.0**
HNS pmax pmax
comp=Z,17nm,1.0s
ANMO Albuquerque 50.39 82⇓ *eP* **P 07 21 46.8 +0.5**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO Albuquerque 50.39 82 P P 07 21 47.0 +0.7
ANMO pP **pP 07 22 21.9 +1.0**
ANMO sP **sP 07 22 37.1 -0.5**
ANMO PcP **PcP 07 23 03.5 +1.1**
ECSD EROS Data Cent 50.44 67 P P 07 21 44.9 -1.3
baz=309
ECSD EROS Data Cent 50.44 67 P P 07 21 44.9 -1.3
baz=309,SNR=10.0
EYMN Ely 50.59 60 P P 07 21 46.1 -1.2
baz=308
Y22D IRIS PASSCAL I 50.70 83 IAmb IAmb 07 21 51.4
comp=Z,34nm,0.8s
Y22D IRIS PASSCAL I 50.70 83 P P 07 21 50.4 +1.9
baz=313
Y22F Passcal Instru 50.70 83 P P 07 21 50.4 +1.9
baz=313
Y22A Socorro 50.77 83 P P 07 21 50.6 +1.5
baz=313
BGNE Belgrade 51.05 70 P P 07 21 50.9 0.0
baz=310
BGNE Belgrade 51.05 70 P P 07 21 50.8 0.0
baz=310,SNR=11
121A Cookes Peak, D 51.23 85 IAmb IAmb 07 21 54.8
comp=Z,24nm,0.8s
121A Cookes Peak, D 51.23 85 P P 07 21 53.5 +0.9
baz=314
121A Cookes Peak, D 51.23 85 P P 07 21 53.9 +1.4
baz=314,SNR=13
NJ2 Nanjing 51.29 274 *eP* **P 07 21 52.8 +0.1**
NJ2 pmax pmax
comp=Z,19nm,0.6s
KNGR Kungurtug, Tuv 51.29 305⇑ *eP* **P 07 21 53.3 +0.6**
KNGR pmax pmax
comp=Z,17nm,1.0s
SUMG Summit 51.52 15 *i* P **P 07 21 54.4 0.0**
SUMG IAmb IAmb 07 21 55.1
comp=Z,5.7nm,0.5s
SPMN Marine on St. 51.60 63 P P 07 21 54.5 -0.4
baz=309
L34A Svendsen Farm, 51.70 69 P P 07 21 55.1 -0.6
baz=310
CBKS Cedar Bluff 51.82 74 P P 07 21 56.4 -0.3
baz=312
CBKS Cedar Bluff 51.82 74 P P 07 21 57.2 +0.6
baz=311,SNR=16
I37A Lemond, Waseca 52.05 65 IAmb IAmb 07 21 58.5
comp=Z,27nm,0.9s
DBG Daneborg 52.26 9 *i* P **P 07 21 56.4 -2.9**
DBG IAmb IAmb 07 22 00.2
comp=Z,4.6nm,0.5s
R32A Long Quarter, 52.68 73 IAmb IAmb 07 22 03.7
comp=Z,46nm,0.8s
R32A Long Quarter, 52.68 73 P P 07 22 02.9 -0.1
baz=312
N35A Tabor 52.84 69 P P 07 22 04.1 0.0
baz=311
MSTX Muleshoe 53.28 80 P P 07 22 07.6 0.0
MSTX IAmb IAmb 07 22 09.1
comp=Z,79nm,1.6s
MSTX Muleshoe 53.28 80 P P 07 22 08.1 +0.5
baz=314,SNR=11
AMTX Amarillo 53.31 79 IAmb IAmb 07 22 28.7

comp=Z,18nm,0.7s
AMTX Amarillo 53.31 79 P **P** 07 22 07.7 0.0
baz=313
KSU1 Kansas State U 53.45 71 P **P** 07 22 07.9 -0.7
baz=312
KSU1 Kansas State U 53.45 71 P **P** 07 22 07.6 -1.0
baz=312,SNR=11
SCIA State Center 53.52 67 IAmb IAmb 07 22 09.3
comp=Z,27nm,0.7s
SCIA State Center 53.52 67 P **P** 07 22 07.7 -1.4
baz=311
SFJD Kangerlussuaq 53.58 24 LR LR 07 47 42.0
comp=Z,45nm,18.6s,baz=327,slow=39
SFJD Kangerlussuaq 53.58 24 P **P** 07 22 08.9 -0.2
SFJD pwP **pwP** 07 22 47.8 +0.2
U32A Winter Ranch, 53.88 75 **P** 07 22 11.4 -0.4
E43A Lone Tree Farm 53.96 59 P **P** 07 22 11.3 -0.9
baz=311
OK038 West end E0370 53.97 75 IAmb IAmb 07 22 13.2
comp=Z,34nm,0.9s
N38A Joes South For 54.25 68 P **P** 07 22 13.6 -0.8
baz=312
ICESG Greenland Ices 54.27 18 *i* P **P** 07 22 13.3 -1.1
ICESG IAmb IAmb 07 22 14.5
comp=Z,16nm,0.6s
CROK Carrier 54.40 75 IAmb IAmb 07 22 16.0
comp=Z,38nm,0.7s
JFWS Jewell Farm 54.50 64 IAmb IAmb 07 22 15.4
comp=Z,14nm,0.8s
JFWS Jewell Farm 54.50 64 P **P** 07 22 14.7 -1.5
baz=312
JFWS Jewell Farm 54.50 64 P **P** 07 22 14.5 -1.6
baz=312
I42A Draeger Farm, 54.58 62 P **P** 07 22 15.7 -1.0
baz=312
BLOK Blackwell 54.68 74 IAmb IAmb 07 22 17.9
comp=Z,38nm,1.0s
P38A Dawn 54.87 69 P **P** 07 22 17.7 -1.2
baz=313
T35A Sooner Cattle 54.98 73 IAmb IAmb 07 22 20.0
comp=Z,27nm,0.8s
T35B Sooner Cattle 54.98 73 P **P** 07 22 18.9 -0.8
baz=313
ZAA0 Zalesovo Array 55.03 315 P **P** 07 22 23.3 +3.6
ZAA0 IAmb IAmb 07 22 33.1
comp=Z,38nm,1.6s
ZALV Zalesovo Beam 55.03 315 PcP **PcP** 07 23 19.1 -0.3
comp=Z,4.3nm,0.7s,baz=37,slow=4.1,SNR=7.3
DY2G Dye2 55.04 23 *i* P **P** 07 22 18.8 -1.2
DY2G IAmb IAmb 07 22 20.4
comp=Z,17nm,0.7s
OK045 Pawnee Station 55.06 74 **P** 07 22 19.6 -0.6
OK045 IAmb IAmb 07 22 21.3
comp=Z,59nm,1.3s
OK048 Pawnee Station 55.07 74 P **P** 07 22 18.9 -1.4
OK048 IAmb IAmb 07 22 20.9
comp=Z,35nm,0.9s
OK051 E0350 and S346 55.07 74 **P** 07 22 18.7 -1.6
OK051 IAmb IAmb 07 22 20.8
comp=Z,22nm,0.8s
OK046 Pawnee Station 55.10 74 **P** 07 22 20.2 -0.4
OK046 IAmb IAmb 07 22 21.1
comp=Z,39nm,1.0s
WMOK Wichita Mounta 55.14 77 IAmb IAmb 07 22 22.1
comp=Z,14nm,0.8s
WMOK Wichita Mounta 55.14 77 P **P** 07 22 21.1 +0.3
baz=314
WMOK Wichita Mounta 55.14 77 P **P** 07 22 20.8 -0.1
baz=314,SNR=20
BCOK Bluff Creek, N 55.20 75 IAmb IAmb 07 22 22.1
comp=Z,42nm,0.9s
OK033 Mehan 55.33 74 IAmb IAmb 07 22 22.7
comp=Z,36nm,0.8s
QUOK Quay 55.38 74 IAmb IAmb 07 22 23.0
comp=Z,24nm,0.8s
L42A Oliver, Polo 55.43 64 IAmb IAmb 07 22 22.6
comp=Z,36nm,1.1s
OK053 SW of W Deep R 55.44 74 IAmb IAmb 07 22 23.5
comp=Z,26nm,0.8s
OK052 Battle Ridge R 55.44 74 IAmb IAmb 07 22 23.6
comp=Z,34nm,0.7s
OK034 N. Norfolk Rd. 55.48 74 IAmb IAmb 07 22 23.8
comp=Z,32nm,0.8s
OK030 Cody Creek RV 55.50 74 IAmb IAmb 07 22 24.1
comp=Z,36nm,0.8s
FNO Franklin 55.60 75 IAmb IAmb 07 22 24.8
comp=Z,24nm,0.6s
N41A Harden Midland 55.65 66 IAmb IAmb 07 22 24.2
comp=Z,28nm,1.1s
P40A Paris 55.77 68 P **P** 07 22 24.2 -1.1
baz=313
X34A Smith Ranch, M 55.80 76 IAmb IAmb 07 22 27.4
comp=Z,29nm,1.2s
XAN Xi'an 55.90 283 P **P** 07 22 25.3 -1.0
XAN PcP **PcP** 07 23 22.6 -0.6
XAN pmax pmax
comp=Z,10.0nm,1.1s
SSLB Suanglung 55.96 265 P **P** 07 22 26.9 0.0
TX31 Lajitas Ar. Si 55.99 85 P **P** 07 22 27.7 +0.6
baz=316
TX32 Lajitas Array 55.99 85 IAmb IAmb 07 22 28.8
comp=Z,36nm,1.1s
TXAR Lajitas Array 55.99 85 P **P** 07 22 28.1 +1.0
comp=Z,24nm,0.8s,baz=300,slow=4.9,SNR=222
TXAR pP **pP** 07 23 02.1 -0.1
comp=Z,15nm,0.9s,baz=297,slow=5.5,SNR=7.0
TXAR PcP **PcP** 07 23 24.9 +1.3
comp=Z,5.8nm,0.5s,baz=257,slow=1.9,SNR=11
TXAR ScP **ScP** 07 27 08.4 +0.4
comp=Z,1.7nm,0.7s,baz=295,slow=3.3,SNR=7.2
comp=Z,24nm,0.8s
TUL1 Leonard 56.09 74 IAmb IAmb 07 22 28.2
comp=Z,21nm,0.8s
TUL1 Leonard 56.09 74 P **P** 07 22 27.2 -0.4
baz=314
TUL1 Leonard 56.09 74 P **P** 07 22 26.9 -0.7
baz=314,SNR=16
ABTX Abilene, Hawle 56.09 79 IAmb IAmb 07 22 29.2
comp=Z,47nm,1.1s
ABTX Abilene, Hawle 56.09 79 P **P** 07 22 28.3 +0.6
baz=315
ABTX Abilene, Hawle 56.09 79 P **P** 07 22 28.0 +0.3
baz=315,SNR=16
GLMI Grayling 56.23 59 P **P** 07 22 27.4 -1.1
baz=313
S39A Bolivar 56.30 71 IAmb IAmb 07 22 27.8
comp=Z,11nm,0.7s
S39A Bolivar 56.30 71 P **P** 07 22 27.4 -1.7
baz=314
RLO Rose Lookout 56.37 73 IAmb IAmb 07 22 29.7
comp=Z,30nm,0.8s
VADS Vadso 56.40 350 *e*P **P** 07 22 29.0 -0.2
HAMF Hammerfest 56.40 353 *e*P **P** 07 22 29.2 -0.1
R40A Maddies Statio 56.49 69 P **P** 07 22 28.7 -1.7
baz=314
HPIG 56.50 88 IAmb IAmb 07 22 33.1
comp=Z,29nm,1.1s
LOOK Love County 56.61 76 IAmb IAmb 07 22 33.0
comp=Z,69nm,1.0s
HDIL Hopedale 56.62 65 P **P** 07 22 29.9 -1.3
baz=313,SNR=5.3
DGZ Jazzator, Alta 56.77 310 *de*P **P** 07 22 32.2 -0.2
DGZ *i* *PP **pP** 07 23 06.1 -0.5
DGZ pmax pmax
comp=Z,4.0nm,0.9s
KEV Kevo 56.98 351 P **P** 07 22 33.8 +0.5
KEV Kevo 56.98 351 P **P** 07 22 33.8 +0.5
KEV pmax pmax
comp=Z,39nm,0.9s
KEV Kevo 56.98 351 P **P** 07 22 33.4 +0.1
KEV pwP **pwP** 07 23 12.7 +0.2
Z35A Perchaven, San 57.03 77 IAmb IAmb 07 22 35.3
comp=Z,29nm,0.8s
P43A Skaggs, Pawnee 57.12 66 IAmb IAmb 07 22 34.7
comp=Z,32nm,0.9s
CCM Cathedral Cave 57.24 69 P **P** 07 22 34.2 -1.4
CCM IAmb IAmb 07 22 36.2
comp=Z,22nm,0.6s
CCM Cathedral Cave 57.24 69 P **P** 07 22 34.1 -1.6
baz=314
CCM Cathedral Cave 57.24 69 P **P** 07 22 34.3 -1.4
baz=314
CCM Cathedral Cave 57.24 69 P **P** 07 22 34.2 -1.4
CCM pmax pmax
comp=Z,23nm,0.6s
CCM Cathedral Cave 57.24 69 P **P** 07 22 33.9 -1.8
CCM sP **sP** 07 23 27.5 +0.3

X37A Clayton 57.26 75 P **P** 07 22 36.0 +0.1
baz=315
ARA0 ARCESS Array S 57.33 352 *e*P **P** 07 22 36.0 +0.1
ARCES ARCESS Array B 57.33 352 P **P** 07 22 36.0 +0.1
comp=Z,18nm,0.6s,baz=19,slow=7.2,SNR=63
ARCES pP **pP** 07 23 11.3 +1.2
comp=Z,7.9nm,0.7s,baz=19,slow=8.7,SNR=3.0
ARCES PcP **PcP** 07 23 27.8 -0.3
comp=Z,14nm,0.9s,baz=17,slow=5.1,SNR=7.1
comp=Z,18nm,0.6s
ARCES ARCESS Array B 57.33 352 IAmb IAmb 07 22 36.9
comp=Z,27nm,0.8s
O44A Mansfield 57.35 65 IAmb IAmb 07 22 36.1
comp=Z,17nm,0.7s
SLM Saint Louis 57.41 68 IAmb IAmb 07 22 36.7
comp=Z,26nm,0.7s
GTA Gaotai 57.45 294 ⇑P **P** 07 22 37.0 -0.3
GTA pP pwP 07 23 17.0 +0.4
GTA sP PcP 07 23 36.9 +7.6
GTA pmax pmax
comp=Z,15nm,0.6s
GTA pmax pmax
comp=Z,100nm,4.7s
GTA LR LR
comp=N,110nm,16.4s
GTA LR LR
comp=E,92nm,15.6s
GTA LR LR
comp=Z,78nm,14.9s
LZH Lanzhou 57.46 288 ⇓P **P** 07 22 37.5 0.0
LZH pP pwP 07 23 18.0 +1.3
LZH sP PcP 07 23 29.5 +0.1
LZH pmax pmax
comp=Z,35nm,1.4s
SCHQ Schefferville 57.48 41 P **P** 07 22 36.2 -0.9
comp=Z,4.3nm,0.5s,baz=317,slow=7.0,SNR=8.9
comp=Z,4.3nm,0.5s
JCT Junction City 57.52 81 IAmb IAmb 07 23 31.2
comp=Z,24nm,0.8s
JCT Junction City 57.52 81 P **P** 07 22 37.5 -0.3
baz=316
JCT Junction City 57.52 81 P **P** 07 22 37.3 -0.4
baz=316,SNR=14
JETT Jettan, Norway 57.70 354 *e*P **P** 07 22 39.2 +0.7
TRO Tromso 57.72 354 *e*P **P** 07 22 38.8 +0.3
FVM French Village 57.76 68 P **P** 07 22 38.3 -1.0
baz=314
WHTX Lake Whitney, 57.85 78 P **P** 07 22 40.0 -0.1
baz=316
WHTX Lake Whitney, 57.85 78 P **P** 07 22 40.1 +0.1
baz=315,SNR=5.3
LVZ Lovozero 57.88 347 P **P** 07 22 39.9 +0.1
LVZ Lovozero 57.88 347 P **P** 07 22 39.9 +0.1
LVZ pmax pmax
comp=Z,62nm,0.9s
LVZ Lovozero 57.88 347 P **P** 07 22 39.6 -0.2
LVZ pwP **pwP** 07 23 18.5 -0.6
Q44A Meyer Farm, Va 57.91 67 P **P** 07 22 39.8 -0.5
baz=314
SFIN Lafayette 57.95 64 IAmb IAmb 07 22 40.9
comp=Z,31nm,0.9s
SFIN Lafayette 57.95 64 P **P** 07 22 39.4 -1.2
baz=314
KTK1 Kautokeino 58.03 352 *e*P **P** 07 22 40.7 -0.1
MIAR Mount Ida 58.34 73 P **P** 07 22 43.2 -0.2
baz=315
MIAR Mount Ida 58.34 73 P **P** 07 22 43.1 -0.3
baz=315
APA Apatity 58.36 348 ⇓*i*P **P** 07 22 40.2 -2.8
APA pmax pmax
comp=Z,12nm,1.0s
APA MLR MLR
comp=Z,400nm,14.0s
P46A Rosedale 58.42 65 IAmb IAmb 07 22 44.0
comp=Z,22nm,0.8s
AAM Ann Arbor 58.48 60 P **P** 07 22 43.6 -0.7
baz=314
OLIL Olney 58.54 66 P **P** 07 22 44.4 -0.3
baz=314
S44A Carbondale 58.62 68 P **P** 07 22 44.4 -0.9
baz=315
435B Jarrell 58.63 79 IAmb IAmb 07 22 47.1
comp=Z,28nm,0.9s
435B Jarrell 58.63 79 P **P** 07 22 45.1 -0.4
baz=316
CGM3 Cape Girardeau 58.67 68 IAmb IAmb 07 22 45.0
comp=Z,17nm,0.6s
UALR University of 58.90 72 IAmb IAmb 07 22 47.1
comp=Z,22nm,0.6s
O48B Farmland 59.10 63 P **P** 07 22 47.3 -1.3
baz=314,SNR=5.6
BLO Bloomington 59.11 65 IAmb IAmb 07 22 48.2
comp=Z,17nm,0.7s
833A Chaparral WMA, 59.31 83 IAmb IAmb 07 22 51.9
comp=Z,31nm,1.1s
833A Chaparral WMA, 59.31 83 P **P** 07 22 50.4 +0.2
baz=317
T45B Paducah 59.44 68 P **P** 07 22 50.4 -0.6
baz=315
LOF Lofoten 59.48 356 *e*P **P** 07 22 50.7 0.0
P48A Milroy 59.52 64 P **P** 07 22 50.2 -1.2
baz=315
P48A P **P** 07 22 50.2 -1.2
baz=315
ZSN Zaisan 59.57 309 *e*P **P** 07 22 50.4 -1.4
baz=309
ZSN Zaisan 59.57 309 *e*P **P** 07 22 50.3 -1.4
STEI Steigen 59.61 356 *e*P **P** 07 22 52.3 +0.7
NATX Nacogdoches 59.68 76 P **P** 07 22 52.7 0.0
baz=316
P49A Miami Univ. Ec 59.85 63 IAmb IAmb 07 22 53.7
comp=Z,16nm,0.5s
P49A Miami Univ. Ec 59.85 63 P **P** 07 22 52.3 -1.4
baz=315
P49A Miami Univ. Ec 59.85 63 P **P** 07 22 52.7 -1.0
baz=315,SNR=5.9
WCI Wyandotte Cave 59.91 65 P **P** 07 22 53.4 -0.8
WCI IAmb IAmb 07 22 54.2
comp=Z,28nm,0.8s
WCI Wyandotte Cave 59.91 65 P **P** 07 22 53.5 -0.6
baz=315
WCI Wyandotte Cave 59.91 65 P **P** 07 22 53.0 -1.1
baz=315
WCI Wyandotte Cave 59.91 65 P **P** 07 22 53.4 -0.8
WCI pmax pmax
comp=Z,28nm,0.9s
WCI Wyandotte Cave 59.91 65 P **P** 07 22 53.3 -0.8
WCI sP **sP** 07 23 43.9 -1.7
KURK Kurchatov 60.01 315 P **P** 07 22 54.0 -0.6
KURK IAmb IAmb 07 23 35.5
comp=Z,28nm,1.1s
KURK Kurchatov 60.01 315 *d*iP **P** 07 22 54.3 -0.3
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURK Kurchatov 60.01 315 P **P** 07 22 54.4 -0.2
KURK pP **pP** 07 23 29.1 -0.1
KURK pwP **pwP** 07 23 34.5 +0.4
KURBB Kurchatov Arra 60.12 315 P **P** 07 22 55.1 -0.2
comp=Z,7.2nm,0.8s,baz=42,slow=6.6,SNR=58
KURBB pP **pP** 07 23 29.8 -0.2
comp=Z,11nm,0.8s,baz=37,slow=6.9,SNR=4.1
KURBB PP **PP** 07 25 02.6 -6.5
comp=Z,2.2nm,0.6s,baz=47,slow=9.5,SNR=5.0
comp=Z,7.2nm,0.8s
N51A Ashland 60.13 61 IAmb IAmb 07 22 55.8
comp=Z,25nm,0.8s
FAUS Fauske 60.15 356 *e*P **P** 07 22 55.7 +0.4
M52A Chesterland 60.23 60 P **P** 07 22 56.6 +0.3
baz=316
M52A P **P** 07 22 56.6 +0.3
baz=316
HKT Hockley 60.28 79 P **P** 07 22 57.5 +0.8
HKT IAmb IAmb 07 22 59.5
comp=Z,21nm,1.2s
HKT Hockley 60.28 79⇑ *e*P **P** 07 22 57.2 +0.5
HKT pmax pmax
comp=Z,11nm,1.0s
ACSO Alum Creek Sta 60.30 62 IAmb IAmb 07 23 41.4
comp=Z,16nm,0.8s
ACSO Alum Creek Sta 60.30 62 P **P** 07 22 56.0 -0.8
baz=315
T47A Sharon Grove 60.33 67 P **P** 07 22 56.7 -0.3
baz=316
W45A Hickory Valley 60.45 70 P **P** 07 22 57.7 -0.2
baz=316
WVT Waverly 60.53 68 P **P** 07 22 58.0 -0.4
WVT IAmb IAmb 07 22 59.1
comp=Z,19nm,0.6s
WVT Waverly 60.53 68 P **P** 07 22 58.0 -0.4
baz=316
WVT Waverly 60.53 68 P **P** 07 22 57.8 -0.6
baz=316
WVT Waverly 60.53 68 P **P** 07 22 58.0 -0.4
WVT pmax pmax
comp=Z,19nm,0.6s
WVT Waverly 60.53 68 P **P** 07 22 57.8 -0.6
ERPA Erie 60.54 58 P **P** 07 22 58.2 -0.2
baz=316
M53A WI Miller and 60.66 59 P **P** 07 22 59.2 -0.1
baz=316,SNR=5.1
OXF Oxford 60.79 71 P **P** 07 22 59.7 -0.4
baz=316
OXF Oxford 60.79 71 P **P** 07 22 59.6 -0.6
baz=316
WMQ Urumqi 60.80 305 *e*P **P** 07 23 00.3 +0.1
WMQ pP pwP 07 23 40.5 +0.8
WMQ sP sP 07 23 56.8 +5.7
WMQ pmax pmax
comp=Z,29nm,0.7s
WMQ LR LR
comp=Z,91nm,21.9s
R50A Paris 60.95 64 IAmb IAmb 07 23 01.7
comp=Z,32nm,0.8s
R50A Paris 60.95 64 P **P** 07 23 01.0 -0.2
baz=316
R50A P **P** 07 23 01.0 -0.2
baz=316
Q51A Peebles 60.96 63 IAmb IAmb 07 23 01.8
comp=Z,30nm,0.8s
Q51A Peebles 60.96 63 P **P** 07 23 00.9 -0.3
baz=316
Q51A P **P** 07 23 00.9 -0.3
baz=316
O52A Adamsville 60.99 61 P **P** 07 23 00.9 -0.6
baz=316
O52A P **P** 07 23 00.9 -0.6
baz=316
N53A Lisbon 61.03 60 IAmb IAmb 07 23 02.2
comp=Z,19nm,0.9s
N53A Lisbon 61.03 60 P **P** 07 23 01.5 -0.2
baz=316
N53A P **P** 07 23 01.5 -0.2
baz=316
WVNY West Valley, N 61.05 57 P **P** 07 23 01.6 -0.2
baz=316
KONS Konsvik 61.13 356 *e*P **P** 07 23 02.2 +0.3
Y45A Yeager Farm, C 61.17 71 P **P** 07 23 02.6 -0.1
baz=316
P52A Corning 61.18 62 IAmb IAmb 07 23 44.5
comp=Z,16nm,0.8s
P52A Corning 61.18 62 P **P** 07 23 01.9 -0.9
baz=316
CD2 Chengdu 61.19 284 P **P** 07 23 02.3 -0.7
O53A New Philadelph 61.23 61 P **P** 07 23 02.2 -0.9
baz=316
MK31 Makanchi Array 61.25 310 *d*iP **P** 07 23 02.0 -1.2
MKAR Makanchi Array 61.25 310 P **P** 07 23 02.2 -0.9
comp=Z,3.4nm,0.5s,baz=52,slow=5.3,SNR=37
MKAR pP **pP** 07 23 37.1 -0.8
comp=Z,2.4nm,0.7s,baz=59,slow=7.7,SNR=2.9
MKAR PcP **pwP** 07 23 42.9 +0.1
comp=Z,7.3nm,0.8s,baz=53,slow=5.5,SNR=6.4
comp=Z,3.4nm,0.5s
STOK Stokkvaagen 61.30 356 *e*P **P** 07 23 02.9 -0.2
V48A Smith Brothers 61.38 68 IAmb IAmb 07 23 04.3
comp=Z,19nm,0.7s
V48A Smith Brothers 61.38 68 P **P** 07 23 03.5 -0.6
baz=316
MAKZ Makanchi 61.39 310 P **P** 07 23 03.0 -1.0
MAKZ IAmb IAmb 07 23 44.4
comp=Z,20nm,1.4s
MAKZ Makanchi 61.39 310 P **P** 07 23 03.0 -1.0
MAKZ pmax pmax
comp=Z,20nm,1.4s
MAKZ Makanchi 61.39 310 P **P** 07 23 03.0 -1.0
MAKZ pP **pP** 07 23 38.1 -0.7
MAKZ pwP **pwP** 07 23 43.6 -0.1
U49A Red Boiling Sp 61.41 67 IAmb IAmb 07 23 04.6
comp=Z,34nm,1.2s
U49A Red Boiling Sp 61.41 67 P **P** 07 23 03.8 -0.5
baz=316
LONY Lake Ozonia 61.46 53 P **P** 07 23 02.1 -2.4
baz=317
T50A Nancy 61.58 66 P **P** 07 23 05.0 -0.4
baz=316
T50A P **P** 07 23 05.0 -0.4
baz=316
Q52A Bidwell 61.59 62 IAmb IAmb 07 23 05.7
comp=Z,19nm,0.9s
Q52A Bidwell 61.59 62 P **P** 07 23 04.9 -0.6
baz=316
Q52A P **P** 07 23 04.9 -0.6
baz=316
BVAR Borovoye Array 61.59 321 P **P** 07 23 05.8 +0.5
comp=Z,18nm,0.5s,baz=49,slow=7.7,SNR=78
BVAR pP **pP** 07 23 40.5 +0.5
comp=Z,9.8nm,0.6s,baz=52,slow=7.1,SNR=4.9
BVAR PcP **pwP** 07 23 45.1 +0.2
comp=Z,44nm,0.7s,baz=50,slow=6.8,SNR=29
BVAR PKPPKP **P'P'df** 07 52 17.4 -0.5
comp=Z,2.2nm,0.8s,baz=222,slow=2.0,SNR=6.6
BVAR LR LR 07 53 42.4
comp=Z,56nm,18.1s,baz=49,slow=40
comp=Z,18nm,0.5s
BRVK Borovoye 61.60 322 P **P** 07 23 05.2 -0.2
BRVK IAmb IAmb 07 23 46.9
comp=Z,29nm,0.8s
BRVK Borovoye 61.60 322 *d*iP **P** 07 23 05.3 -0.1
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 61.60 322 P **P** 07 23 05.5 +0.1
BRVK pP **pP** 07 23 40.1 0.0
BRVK pwP **PcP** 07 23 45.3 -0.2
M55A Ridgway 61.64 58 IAmb IAmb 07 23 06.6
comp=Z,25nm,0.8s
M55A Ridgway 61.64 58 P **P** 07 23 05.2 -0.6
baz=316
M55A P **P** 07 23 05.2 -0.6
baz=316
P53A Whipple 61.69 61 IAmb IAmb 07 23 06.5
comp=Z,18nm,0.8s
O54A Avella 61.72 60 IAmb IAmb 07 23 06.8
comp=Z,25nm,0.7s
O54A Avella 61.72 60 P **P** 07 23 05.9 -0.5
baz=316
O54A P **P** 07 23 05.9 -0.5
baz=316
PRGR Permogore 61.74 339 *e*P **P** 07 23 04.5 -1.6
PRGR *e* 07 23 41.7
PRGR pmax pmax
comp=Z,33nm,0.7s
L56A Greenwood 61.78 57 P **P** 07 23 06.7 -0.1
baz=317
L56A P **P** 07 23 06.7 -0.1
baz=317
VBMS Vicksburg 61.79 73 P **P** 07 23 06.8 -0.1
baz=316,SNR=6.7
S51A Beattyville 61.82 64 P **P** 07 23 06.6 -0.4
baz=316
S51A P **P** 07 23 06.6 -0.4
baz=316
K57A Scipio Center 61.87 56 P **P** 07 23 06.8 -0.5
baz=317
SVE Sverdlovsk 61.93 329 *e*P **P** 07 23 08.6 +1.2
J58A Remsen 62.03 55 P **P** 07 23 07.8 -0.7
baz=317
J58A P **P** 07 23 07.8 -0.7
baz=317
X48A Hartselle 62.18 69 P **P** 07 23 08.3 -1.2
baz=317
R53A Hurricane 62.22 63 P **P** 07 23 09.5 -0.2
baz=317
R53A P **P** 07 23 09.5 -0.2
baz=317
344A Westbrook Farm 62.22 74 P **P** 07 23 10.3 +0.6
baz=317
146A Union 62.34 72 P **P** 07 23 10.8 +0.2
baz=317
Q54A Coxs Mills 62.35 61 IAmb IAmb 07 23 11.2
comp=Z,24nm,0.9s
Q54A Coxs Mills 62.35 61 P **P** 07 23 10.0 -0.5
baz=317
Q54A P **P** 07 23 10.0 -0.5
baz=317

MCWV	**Mont Chateau**	**62.38**	**60**	IAmb	IAmb	07 23 11.4					
	comp=Z,30nm,0.8s										
MCWV	**Mont Chateau**	**62.38**	**60**	P	**P**	**07 23 10.0**	**-0.8**				
	baz=317,SNR=5.9										
Z47A	**Carrollton**	**62.50**	**71**	P	**P**	**07 23 11.0**	**-0.6**				
	baz=317										
BINY	**Binghamton**	**62.53**	**56**	P	**P**	**07 23 11.4**	**-0.3**				
	baz=317										
BINY	**Binghamton**	**62.53**	**56**	P	**P**	**07 23 11.0**	**-0.7**				
	baz=317										
M57A	**Sunshine Farm,**	**62.58**	**57**	IAmb	IAmb	07 23 56.0					
	comp=Z,39nm,1.4s										
M57A	**Sunshine Farm,**	**62.58**	**57**	P	**P**	**07 23 11.8**	**-0.2**				
	baz=317										
M57A				P	**P**	**07 23 11.8**	**-0.2**				
	baz=317										
W50A	**Signal Mountai**	**62.62**	**67**	P	**P**	**07 23 11.6**	**-0.9**				
	baz=317										
TZTN	**Tazewell**	**62.63**	**65**	IAmb	IAmb	07 23 13.2					
	comp=Z,33nm,0.8s										
TZTN	**Tazewell**	**62.63**	**65**	P	**P**	**07 23 12.3**	**-0.2**				
	baz=317										
TZTN	**Tazewell**	**62.63**	**65**	P	**P**	**07 23 12.5**	**0.0**				
	baz=316,SNR=11										
SSPA	**Standing Stone**	**62.70**	**58**	P	**P**	**07 23 12.4**	**-0.4**				
SSPA				IAmb	IAmb	07 23 13.8					
	comp=Z,22nm,0.6s										
SSPA	**Standing Stone**	**62.70**	**58**	P	**P**	**07 23 12.2**	**-0.6**				
	baz=317										
SSPA	**Standing Stone**	**62.70**	**58**	P	**P**	**07 23 12.4**	**-0.4**				
	baz=317										
SSPA	**Standing Stone**	**62.70**	**58**	P	**P**	**07 23 12.0**	**-0.9**				
SSPA				pP	**pP**	**07 23 47.6**	**-0.6**				
V51A	**Loudon**	**62.73**	**66**	IAmb	IAmb	07 23 13.2					
	comp=Z,23nm,0.6s										
V51A	**Loudon**	**62.73**	**66**	P	**P**	**07 23 12.3**	**-0.8**				
	baz=317										
ARU	**Arti**	**62.90**	**330**	P	**P**	**07 23 13.9**	**0.0**				
	comp=Z,14nm,0.5s,baz=31,slow=3.7,SNR=22										
ARU				pP	**pP**	**07 23 49.4**	**+0.6**				
	comp=Z,8.0nm,0.2s,baz=27,slow=3.1,SNR=1.2										
	comp=Z,14nm,0.5s										
ARU	**Arti**	**62.90**	**330**	P	**P**	**07 23 14.4**	**+0.5**				
ARU				IAmb	IAmb	07 23 55.1					
	comp=Z,29nm,0.9s										
ARU	**Arti**	**62.90**	**330**	*d* *i*P	**P**	**07 23 13.9**	**0.0**				
ARU						07 23 52.1					
ARU				S	**S**	**07 31 32.9**	**+1.9**				
ARU				SS	**SS**	**07 35 38.8**	**+0.9**				
ARU				pmax	pmax						
	comp=Z,16nm,0.6s										
ARU	**Arti**	**62.90**	**330**	P	**P**	**07 23 14.1**	**+0.2**				
ARU				pwP	**pwP**	**07 23 54.1**	**+0.4**				
S54A	**Dingess, Beckl**	**62.95**	**63**	P	**P**	**07 23 14.5**	**-0.1**				
	baz=317										
S54A				P	**P**	**07 23 14.5**	**-0.1**				
	baz=317										
Y49A	**Blount Mountai**	**62.98**	**69**	P	**P**	**07 23 13.7**	**-1.1**				
	baz=317										
BRZS	**Berezniki**	**63.05**	**318**	*e*P	**P**	**07 23 13.4**	**-1.7**				
	baz=318										
BRZS	**Berezniki**	**63.05**	**318**	*e*P	**P**	**07 23 13.4**	**-1.7**				
V52A	**Sevierville**	**63.12**	**66**	IAmb	IAmb	07 23 16.2					
	comp=Z,34nm,1.1s										
V52A	**Sevierville**	**63.12**	**66**	P	**P**	**07 23 15.2**	**-0.5**				
	baz=317										
NSS	**Namsos**	**63.14**	**357**	*e*P	**P**	**07 23 15.4**	**+0.1**				
TKL	**Tuckaleechee C**	**63.15**	**66**	P	**P**	**07 23 15.4**	**-0.6**				
	comp=Z,19nm,0.8s,baz=275,slow=2.5,SNR=24										
TKL				PcP	**PcP**	**07 23 52.4**	**+0.3**				
	comp=Z,12nm,0.6s,baz=196,slow=2.2,SNR=6.6										
	comp=Z,19nm,0.8s										
TKL	**Tuckaleechee C**	**63.15**	**66**	IAmb	IAmb	07 23 16.3					
	comp=Z,28nm,0.9s										
TKL	**Tuckaleechee C**	**63.15**	**66**	P	**P**	**07 23 15.4**	**-0.6**				
	baz=317										
N58A	**Sunbury**	**63.16**	**57**	IAmb	IAmb	07 23 16.6					
	comp=Z,27nm,1.1s										
N58A	**Sunbury**	**63.16**	**57**	P	**P**	**07 23 15.4**	**-0.5**				
	baz=318										
N58A				P	**P**	**07 23 15.4**	**-0.5**				
	baz=318										
LRAL	**Lakeview Retre**	**63.24**	**70**	IAmb	IAmb	07 23 17.7					
	comp=Z,21nm,0.8s										
LRAL	**Lakeview Retre**	**63.24**	**70**	P	**P**	**07 23 15.4**	**-1.0**				
	baz=317										
LRAL	**Lakeview Retre**	**63.24**	**70**	P	**P**	**07 23 15.5**	**-1.0**				
	baz=317,SNR=20										
R55A	**Marlinton**	**63.24**	**61**	IAmb	IAmb	07 23 17.4					
	comp=Z,26nm,0.9s										
X51A	**Calhoun**	**63.34**	**67**	IAmb	IAmb	07 23 17.4					
	comp=Z,37nm,1.1s										
W52A	**Murphy**	**63.48**	**66**	IAmb	IAmb	07 23 18.0					
	comp=Z,23nm,0.6s										
KIRV	**Kirov**	**63.58**	**336**	P	**P**	**07 23 18.4**	**+0.1**				
	comp=Z,27nm,0.5s,baz=59,slow=2.6,SNR=8.5										
	comp=Z,27nm,0.5s										
KIRV	**Kirov**	**63.58**	**336**	*d* *i*P	**P**	**07 23 18.6**	**+0.3**				
U54A	**Nelsons Funny**	**63.60**	**64**	P	**P**	**07 23 19.0**	**0.0**				
	baz=317										
U54A				P	**P**	**07 23 19.0**	**0.0**				
	baz=317										
V53A	**Saluda**	**63.68**	**65**	IAmb	IAmb	07 23 20.2					
	comp=Z,16nm,0.7s										
V53A	**Saluda**	**63.68**	**65**	P	**P**	**07 23 19.2**	**-0.3**				
	baz=317										
V53A				P	**P**	**07 23 19.2**	**-0.3**				
	baz=317										
KLMR	**Klimovskoe**	**63.68**	**342**	*e*P	**P**	**07 23 16.8**	**-2.2**				
KLMR				AMP		07 23 19.6					
	comp=Z,47nm,1.2s										
KLMR				*e*pP	**pwP**	**07 23 56.4**	**-2.4**				
KLMR	**Klimovskoe**	**63.68**	**342**	*e*P	**P**	**07 23 16.7**	**-2.2**				
KLMR				*e**PP	**pwP**	**07 23 56.4**	**-2.4**				
KLMR				pmax	pmax						
	comp=Z,47nm,1.2s										
BLA	**Blacksburg**	**63.86**	**62**	IAmb	IAmb	07 23 21.5					
	comp=Z,46nm,1.1s										
BLA	**Blacksburg**	**63.86**	**62**	P	**P**	**07 23 20.4**	**-0.2**				
	baz=317										
BLA	**Blacksburg**	**63.86**	**62**	P	**P**	**07 23 20.4**	**-0.2**				
	baz=317,SNR=9.3										
S57A	**Dark Hollow, R**	**64.25**	**61**	IAmb	IAmb	07 23 24.0					
	comp=Z,15nm,0.8s										
Y52A	**Lilburn**	**64.30**	**67**	IAmb	IAmb	07 23 23.8					
	comp=Z,31nm,0.8s										
Y52A	**Lilburn**	**64.30**	**67**	P	**P**	**07 23 23.1**	**-0.4**				
	baz=318										
Y52A				P	**P**	**07 23 23.1**	**-0.4**				
	baz=318										
V55A	**Taylorsville**	**64.43**	**64**	IAmb	IAmb	07 23 25.1					
	comp=Z,34nm,0.9s										
V55A	**Taylorsville**	**64.43**	**64**	P	**P**	**07 23 24.2**	**-0.1**				
	baz=318										
V55A				P	**P**	**07 23 24.2**	**-0.1**				
	baz=318										
250A	**Grady**	**64.43**	**70**	P	**P**	**07 23 23.8**	**-0.5**				
	baz=318										
TBLU	**Trondheim**	**64.47**	**358**	*e*P	**P**	**07 23 22.8**	**-1.3**				
BRAL	**Brewton**	**64.57**	**71**	P	**P**	**07 23 25.1**	**-0.1**				
	baz=317										
T57A	**Hurt**	**64.65**	**62**	IAmb	IAmb	07 23 26.2					
	comp=Z,20nm,0.8s										
R58B	**Mineral**	**64.67**	**60**	IAmb	IAmb	07 23 26.6					
	comp=Z,14nm,0.8s										
CBN	**Corbin Frederi**	**64.76**	**60**	P	**P**	**07 23 26.1**	**-0.2**				
	baz=318										
PAULI	**Pauline**	**64.86**	**65**	IAmb	IAmb	07 23 27.6					
	comp=Z,22nm,0.8s										
KMSC	**Kings Mountain**	**64.89**	**65**	P	**P**	**07 23 27.1**	**-0.1**				
	baz=318,SNR=25										
GOGA	**Godfrey**	**64.97**	**67**	P	**P**	**07 23 26.8**	**-1.0**				
	baz=318										
GOGA	**Godfrey**	**64.97**	**67**	P	**P**	**07 23 27.1**	**-0.7**				
	baz=318,SNR=21										
HODGE	**Hodges**	**65.04**	**66**	P	**P**	**07 23 28.1**	**-0.1**				
	baz=318										
FIA1	**FINESS Array S**	**65.15**	**349**	IAmb	IAmb	07 23 29.1					
	comp=Z,31nm,0.8s										
FINES	**FINESS Array B**	**65.15**	**349**	P	**P**	**07 23 28.3**	**-0.2**				
	comp=Z,22nm,0.8s,baz=22,slow=7.0,SNR=43										
FINES				pP	**pP**	**07 24 05.3**	**+1.7**				
	comp=Z,10nm,0.7s,baz=19,slow=8.1,SNR=4.5										
	comp=Z,22nm,0.8s										
FINES	**FINESS Array B**	**65.15**	**349**	*i* P	**P**	**07 23 28.2**	**-0.2**				
FINES				pmax	pmax						
	comp=Z,23nm,0.8s										
MOL	**Molde**	**65.21**	**359**	*e*P	**P**	**07 23 28.3**	**-0.6**				
SHLS	**Shalkode**	**65.31**	**309**	*e*P	**P**	**07 23 26.6**	**-3.4**				
	baz=309										
SHLS	**Shalkode**	**65.31**	**309**	*e*P	**P**	**07 23 26.6**	**-3.4**				
KPKS	**Kokpek**	**65.44**	**310**	*e*P	**P**	**07 23 29.6**	**-1.2**				
	baz=310										
KPKS	**Kokpek**	**65.44**	**310**	*e*P	**P**	**07 23 29.6**	**-1.2**				
UZB	**Uzynbulak**	**65.52**	**309**	*e*P	**P**	**07 23 30.1**	**-1.3**				
	baz=309										
UZB	**Uzynbulak**	**65.52**	**309**	*e*P	**P**	**07 23 30.1**	**-1.3**				
352A	**Blakely**	**65.57**	**70**	P	**P**	**07 23 31.1**	**-0.6**				
	baz=318										
T59A	**Double "B" Far**	**65.58**	**61**	IAmb	IAmb	07 23 32.5					
	comp=Z,25nm,0.8s										
AKN	**Aaknes**	**65.61**	**359**	*e*P	**P**	**07 23 31.4**	**0.0**				
W57A	**Gilead**	**65.61**	**64**	IAmb	IAmb	07 23 32.3					
	comp=Z,20nm,0.7s										
W57A	**Gilead**	**65.61**	**64**	P	**P**	**07 23 31.7**	**-0.2**				
	baz=318										
W57A				P	**P**	**07 23 31.7**	**-0.2**				
	baz=318										
PZH	**PanZhiHua**	**65.61**	**282**	P	**P**	**07 23 32.1**	**-0.1**				
PZH				pmax	pmax						
	comp=Z,30nm,0.9s										
PZH				pmax	pmax						
	comp=Z,100nm,4.5s										
V58A	**Windy Hill, Pi**	**65.62**	**63**	IAmb	IAmb	07 23 32.7					
	comp=Z,32nm,0.9s										
DOMB	**Dombas**	**65.71**	**358**	*e*P	**P**	**07 23 32.4**	**+0.3**				
154A	**Montrose**	**65.76**	**68**	P	**P**	**07 23 31.9**	**-1.0**				
	baz=318										
T60A	**Surry**	**65.89**	**60**	IAmb	IAmb	07 23 35.0					
	comp=Z,31nm,0.8s										
U59A	**Littleton**	**65.91**	**61**	IAmb	IAmb	07 23 34.6					
	comp=Z,12nm,0.7s										
RAF	**Rauma**	**66.01**	**351**	*e*P	**P**	**07 23 33.7**	**-0.3**				
KMI	**Kunming**	**66.05**	**280**	⇑P	**P**	**07 23 35.3**	**+0.2**				
KMI				sP	pwP	07 24 13.3	-1.8				
KMI				pmax	pmax						
	comp=Z,16nm,0.8s										
HAW	**Hawthorne Fire**	**66.05**	**66**	P	**P**	**07 23 34.4**	**-0.3**				
	baz=318										
Y57A	**Sumter**	**66.24**	**65**	P	**P**	**07 23 36.0**	**+0.1**				
Y57A				P	**P**	**07 23 36.0**	**+0.1**				
	baz=318										
BTLS	**Baital**	**66.33**	**314**	*e*P	**P**	**07 23 34.6**	**-1.8**				
	baz=314										
BTLS	**Baital**	**66.33**	**314**	*e*P	**P**	**07 23 34.5**	**-1.8**				
TIGA	**Tifton**	**66.36**	**69**	P	**P**	**07 23 36.0**	**-0.8**				
	baz=318										
NC204	**NORSAR Array S**	**66.44**	**357**	*e*P	**P**	**07 23 37.5**	**+0.7**				
MEF	**Metsahovi**	**66.54**	**350**	*e*P	**P**	**07 23 37.2**	**-0.1**				
HYA	**Hoyanger**	**66.63**	**360**	*e*P	**P**	**07 23 37.8**	**-0.1**				
255A	**Hazlehurst**	**66.63**	**68**	P	**P**	**07 23 38.0**	**-0.5**				
	baz=318										
NB2	**NORSAR Subarra**	**66.66**	**357**	P	**P**	**07 23 38.5**	**+0.3**				
	baz=5.1,slow=6.5										
NB2	**NORSAR Subarra**	**66.66**	**357**	P	**P**	**07 23 38.5**	**+0.3**				
	comp=Z,12nm,0.5s,baz=5.1,slow=6.5										
NOA	**NORSAR Array B**	**66.66**	**357**	P	**P**	**07 23 38.3**	**+0.1**				
	comp=Z,23nm,0.7s,baz=4.3,slow=7.4,SNR=89										
NOA				pP	**pP**	**07 24 13.7**	**+0.2**				
	comp=Z,5.2nm,0.9s,baz=1.1,slow=6.3,SNR=2.2										
	comp=Z,23nm,0.7s										
CNNC	**Cliffs of the**	**66.69**	**62**	P	**P**	**07 23 39.0**	**+0.2**				
	baz=319										
Y58A	**Scranton**	**66.72**	**64**	P	**P**	**07 23 39.1**	**+0.1**				
	baz=319										
Y58A				P	**P**	**07 23 39.1**	**+0.1**				
	baz=319										
NC602	**NORSAR Array S**	**66.95**	**357**	IAmb	IAmb	07 23 40.6					
	comp=Z,53nm,1.1s										
NC602	**NORSAR Array S**	**66.95**	**357**	*e*P	**P**	**07 23 40.2**	**+0.2**				
NHSC	**New Hope**	**67.04**	**65**	P	**P**	**07 23 41.6**	**+0.7**				
	baz=319										
NHSC	**New Hope**	**67.04**	**65**	P	**P**	**07 23 41.6**	**+0.7**				
	baz=319,SNR=13										
SKAR	**Skarsla**	**67.09**	**358**	*e*P	**P**	**07 23 41.3**	**+0.4**				
SGDS	**Sogindy**	**67.31**	**312**	*e*P	**P**	**07 23 41.0**	**-1.7**				
	baz=312										
SGDS	**Sogindy**	**67.31**	**312**	*e*P	**P**	**07 23 41.0**	**-1.7**				
ASK	**Askoy**	**67.31**	**0**	*e*P	**P**	**07 23 42.6**	**+0.3**				
BER	**Bergen**	**67.41**	**360**	*e*P	**P**	**07 23 43.5**	**+0.6**				
Y60A	**Bolivia**	**67.44**	**63**	P	**P**	**07 23 43.3**	**-0.2**				
	baz=319										
Y60A				P	**P**	**07 23 43.3**	**-0.2**				
	baz=319										
HFS	**Hagfors**	**67.46**	**355**	LR	LR	07 54 16.1					
	comp=Z,19nm,21.8s,baz=14,slow=37										
OSL	**Oslo**	**67.78**	**357**	*e*P	**P**	**07 23 45.4**	**+0.2**				
TLIG	**Tlapa**	**67.84**	**90**	IAmb	IAmb	07 23 48.5					
	comp=Z,23nm,1.1s										
ODD1	**Odda**	**67.88**	**359**	*e*P	**P**	**07 23 45.4**	**-0.6**				
VSU	**Vasula**	**67.98**	**348**	*e*P	**P**	**07 23 46.2**	**-0.2**				
VSU	**Vasula**	**67.98**	**348**	*c* *i*P	**P**	**07 23 46.5**	**+0.1**				
VSU				pmax	pmax						
	comp=Z,216nm,0.9s										
AAK	**Ala-Archa**	**68.01**	**312**	P	**P**	**07 23 47.5**	**+0.3**				
	comp=Z,16nm,0.7s,baz=112,slow=2.5,SNR=32										
AAK				pP	**pP**	**07 24 23.0**	**+0.3**				
	comp=Z,3.7nm,0.8s,baz=105,slow=3.2,SNR=1.4										
	comp=Z,16nm,0.7s										
AAK	**Ala-Archa**	**68.01**	**312**	P	**P**	**07 23 46.7**	**-0.5**				
AAK				IAmb	IAmb	07 23 49.0					
	comp=Z,17nm,0.8s										
AAK	**Ala-Archa**	**68.01**	**312**	*d* *i*P	**P**	**07 23 47.4**	**+0.3**				
AAK				pmax	pmax						
	comp=Z,15nm,0.7s										
AAK	**Ala-Archa**	**68.01**	**312**	P	**P**	**07 23 47.5**	**+0.3**				
AAK				pwP	**pwP**	**07 24 28.7**	**+1.2**				
MTSE	**Matsula**	**68.08**	**350**	*e*P	**P**	**07 23 47.0**	**0.0**				
KONO	**Kongsberg**	**68.10**	**358**	P	**P**	**07 23 47.7**	**+0.5**				
KONO				IAmb	IAmb	07 23 48.7					
	comp=Z,35nm,0.8s										
KONO	**Kongsberg**	**68.10**	**358**	P	**P**	**07 23 47.7**	**+0.5**				
KONO				pmax	pmax						
	comp=Z,35nm,0.9s										
KONO	**Kongsberg**	**68.10**	**358**	*e*P	**P**	**07 23 45.8**	**-1.4**				
KONO	**Kongsberg**	**68.10**	**358**	P	**P**	**07 23 47.8**	**+0.5**				
BLS5	**Blasjo**	**68.38**	**359**	*e*P	**P**	**07 23 49.5**	**+0.5**				
ABKAR	**Akbulak array**	**68.48**	**325**	IAmb	IAmb	07 24 31.8					
	comp=Z,22nm,1.1s										
KMY	**Karmoy**	**68.59**	**0**	*e*P	**P**	**07 23 50.8**	**+0.5**				
TNCH	**TengChong**	**68.64**	**283**	P	**P**	**07 23 52.6**	**+1.2**				
TNCH				pmax	pmax						
	comp=Z,57nm,0.6s										
MOS	**Moscow**	**68.82**	**341**	*e*P	**P**	**07 23 50.4**	**-1.3**				
MOS				*e*		07 24 26.3					
MOS				pmax	pmax						
	comp=Z,52nm,0.7s										
SLIT	**Slitere, Latvi**	**69.30**	**350**	*e*P	**P**	**07 23 54.2**	**-0.5**				
LINV	**Loch Inver, As**	**69.33**	**6**	*e*P	**P**	**07 23 54.8**	**-0.1**				
LSA	**Lhasa**	**69.40**	**292**	IAmb	IAmb	07 24 39.4					
	comp=Z,18nm,0.7s										
SNART	**Snartemo**	**69.45**	**359**	*e*P	**P**	**07 23 55.6**	**0.0**				
HOMB	**Hombsund**	**69.50**	**358**	*e*P	**P**	**07 23 56.2**	**+0.4**				
BELG	**Belogornoye**	**69.56**	**334**	P	**P**	**07 23 56.7**	**+0.3**				
	comp=Z,26nm,0.6s,baz=142,slow=0.9,SNR=15										
	comp=Z,26nm,0.6s										
BELG	**Belogornoye**	**69.56**	**334**	*d* *i*P	**P**	**07 23 56.1**	**-0.2**				
BELG				pmax	pmax						
	comp=Z,7.0nm,1.0s										
OBN	**Obninsk**	**69.61**	**341**	P	**P**	**07 23 56.5**	**-0.1**				
	comp=Z,8.8nm,0.5s,baz=136,slow=2.1,SNR=7.0										
	comp=Z,8.8nm,0.5s										
OBN	**Obninsk**	**69.61**	**341**	*d* *i*P	**P**	**07 23 56.2**	**-0.4**				
OBN				*e*		07 24 12.7					
OBN				*i* *PP	**pwP**	**07 24 35.9**	**-1.2**				
OBN				*e*PPP	PPP	07 28 14.6					
OBN				SSS	SSS	07 40 30.0					
OBN				pmax	pmax						
	comp=Z,43nm,1.3s										
SWI	**Sorong**	**69.72**	**240**	P	**P**	**07 23 58.4**	**+0.6**				
	comp=Z,2µmcomp=Z,149nm,0.7s										
SIJI	**Sorong**	**69.72**	**240**	P	**P**	**07 23 58.4**	**+0.6**				
	comp=Z,107nm,0.7s,baz=27,slow=8.1,SNR=28										
	comp=Z,107nm,0.7s										
KSH	**Kashi**	**69.78**	**309**	P	**P**	**07 24 01.3**	**+3.2**				
KSH				PcP	**PcP**	**07 24 21.6**	**+1.8**				
KSH				pP	pwP	07 24 42.5	+3.9				
KSH				pmax	pmax						
	comp=Z,28nm,0.9s										
MCD	**Coleburn Disti**	**70.00**	**5**	*e*P	**P**	**07 23 59.6**	**+0.6**				
DWPF	**Disney Wildern**	**70.09**	**70**	P	**P**	**07 23 59.7**	**-0.3**				
	baz=320										
IUG	**luzhnay**	**70.39**	**314**	*e*P	**P**	**07 24 00.1**	**-1.7**				
	baz=314										
IUG	**luzhnay**	**70.39**	**314**	*e*P	**P**	**07 24 00.1**	**-1.7**				
VSVD	**Vaisvydziai**	**70.74**	**349**	*e*P	**P**	**07 24 03.0**	**-0.4**				
ISAL	**Salakas**	**70.87**	**348**	*e*P	**P**	**07 24 04.6**	**+0.3**				
FAKI	**Fak Fak**	**70.94**	**238**	P	**P**	**07 24 05.6**	**+0.3**				
	comp=Z,110nm,0.9s										
FAKI	**Fak Fak**	**70.94**	**238**	P	**P**	**07 24 05.9**	**+0.6**				
IIGN	**Ignalina**	**71.08**	**348**	*e*P	**P**	**07 24 05.2**	**-0.3**				
INVG	**Invergeldie, C**	**71.11**	**5**	*e*P	**P**	**07 24 05.2**	**-0.6**				
NONG	**Nongkai**	**71.14**	**275**	P	**P**	**07 24 06.3**	**-0.1**				
LAWE	**Loch Awe, Argy**	**71.19**	**6**	*e*P	**P**	**07 24 06.2**	**+0.1**				
LAWE				IAmb	IAmb	07 24 07.6					
	comp=Z,53nm,1.0s										
PABE	**Paberze**	**71.20**	**349**	*e*P	**P**	**07 24 06.3**	**+0.1**				
LPSR	**Galich'ya Gora**	**71.49**	**339**	*e*P	**P**	**07 24 07.5**	**-0.5**				
LPSR				pmax	pmax						
	comp=Z,40nm,0.9s										
MNK	**Minsk**	**71.67**	**346**	*i* P	**P**	**07 24 07.3**	**-1.8**				
	comp=E,2.0nm,0.9s										
MNK				*i* P	**P**	**07 24 07.3**	**-1.8**				
	comp=N,65nm,0.9s										
MNK				*i* P	**P**	**07 24 07.3**	**-1.8**				
	comp=Z,62nm,0.9s,baz=14										
MNK				*i* pP	**pP**	**07 24 43.8**	**-1.1**				
MNK				*i* sP	**sP**	**07 25 00.1**	**-0.7**				
MNK				*i* PP	**PP**	**07 26 48.1**	**-1.3**				
MNK				*i* PPP	PPP	07 28 32.4					
MNK				*i* S	**S**	**07 33 15.2**	**-0.7**				
MNK				*i* sS	sS	07 34 34.8	+17				
MNK				*i* SS	SS	07 37 05.1	-48				
MNK				*i* SSS	SSS	07 41 03.2					
MNK	**Minsk**	**71.67**	**346**	*i* P	**P**	**07 24 07.3**	**-1.8**				
MNK				*i*		07 24 25.3					
MNK				*i* *PP	**pP**	**07 24 43.7**	**-1.1**				
MNK				*i* *SP	**sP**	**07 25 00.1**	**-0.7**				
MNK				*i*		07 26 48.0					
MNK				*i* PPP	PPP	07 28 32.4					
MNK				*i* S	**S**	**07 33 15.1**	**-0.7**				
MNK				*i* SSS	SSS	07 41 03.2					
MNK				pmax	pmax						
	comp=E,2.0nm,0.9s										
MNK				pmax	pmax						
	comp=Z,62nm,0.9s										
MNK				pmax	pmax						
	comp=N,65nm,0.9s										
BTK	**Batken**	**71.73**	**313**	IAmb	IAmb	07 24 52.1					
	comp=Z,20nm,0.9s										
MYLDM	**Lahad Datu**	**71.91**	**254**	P	**P**	**07 24 12.3**	**+1.3**				
TEIG	**Tepich**	**72.06**	**80**	P	**P**	**07 24 11.3**	**-0.6**				
VRH	**Novokhopyorsk**	**72.15**	**337**	*e*P	**P**	**07 24 11.1**	**-0.9**				
VRH				pmax	pmax						
	comp=Z,30nm,0.7s										
ESK	**Eskdalemuir**	**72.27**	**5**	*e*P	**P**	**07 24 12.9**	**+0.3**				
VORR	**Voronezh**	**72.30**	**339**	*e*P	**P**	**07 24 12.9**	**0.0**				
VORR				pmax	pmax						
	comp=Z,50nm,0.4s										
CLGH	**Cloghs, Cushen**	**72.31**	**7**	*e*P	**P**	**07 24 12.8**	**-0.1**				
BSD	**Bornholm Skovb**	**72.40**	**354**	*e*P	**P**	**07 24 13.2**	**-0.2**				
NEWG	**New Galloway**	**72.41**	**6**	*e*P	**P**	**07 24 13.5**	**+0.1**				
KKM	**Kota Kinabalu**	**72.57**	**257**	P	**P**	**07 24 16.1**	**+1.0**				
GAL	**Galloway**	**72.62**	**6**	*e*P	**P**	**07 24 15.0**	**+0.3**				
VSR	**Storozhevoye**	**72.73**	**338**	*e*P	**P**	**07 24 15.6**	**+0.1**				
VSR				pmax	pmax						
	comp=Z,130nm,1.3s										
EDMD	**Edmundbyers**	**72.81**	**4**	*e*P	**P**	**07 24 16.5**	**+0.6**				
GAR	**Garm**	**72.82**	**312**	IAmb	IAmb	07 24 17.4					
	comp=Z,43nm,1.0s										
MSAI	**Masohi**	**73.04**	**240**	P	**P**	**07 24 20.2**	**+2.4**				
	comp=Z,2µmcomp=Z,11nm,0.7s										
WIM	**Isle of Man**	**73.34**	**6**	*e*P	**P**	**07 24 19.4**	**+0.4**				
CMAR	**Chiang Mai Ar

CLL pmax pmax
comp=Z,41nm,0.7s
CLL Collm 76.31 355 ⇓*i*P **P 07 24 36.1 0.0**
comp=Z,41nm,0.7s
CLL Collm 76.31 355 *e*pP pP 07 25 17.0 +4.8
HTL Hartland 76.50 6 *e*P **P 07 24 37.5 +0.4**
BRG Berggiesshubel 76.69 354 *i*P **P 07 24 38.5 +0.2**
BRG Amp 07 24 39.4
comp=Z,38nm,0.7s
BRG pP **pP 07 25 14.4 0.0**
BRG Amp 07 25 20.2
comp=Z,10nm,0.9s
BRG Berggiesshubel 76.69 354 *i*P **P 07 24 38.4 +0.2**
BRG 07 25 14.3
BRG pmax pmax
comp=Z,38nm,0.7s
BRG pmax pmax
comp=Z,10.0nm,0.9s
LVV L'vov 76.77 348 *e*P **P 07 24 38.6 -0.1**
OSTC Ostas 76.85 353 *e*P **P 07 24 39.5 +0.3**
UPC Upice 76.92 353 *e*P **P 07 24 39.6 +0.1**
UPC Upice 76.92 353 *e*P **P 07 24 39.6 +0.1**
DPC Dobruska-Polom 77.05 353 *e*P **P 07 24 40.9 +0.6**
DPC *e*pP **pwP 07 25 21.8 +0.4**
DPC Dobruska-Polom 77.05 353 *e*P **P 07 24 40.9 +0.6**
DPC *e* 07 25 21.8
MEM Membach 77.21 360 *d*P **P 07 24 41.6 +0.4**
BTNL Ternell 77.23 359 *d*P **P 07 24 41.4 0.0**
comp=Z,33nm,0.8s
KRLC Kraliky 77.28 352 *e*P **P 07 24 42.1 +0.4**
KRLC *e*pP **pwP 07 25 22.8 0.0**
KRLC Kraliky 77.28 352 *e*P **P 07 24 42.1 +0.4**
KRLC *e* 07 25 22.8
SNF Seneffe 77.31 1 *d*P **P 07 24 42.4 +0.7**
comp=Z,33nm,0.8s
BCLA Clavier 77.40 0 *d*P **P 07 24 42.8 +0.6**
NKC Novy Kostel 77.41 355 *e*P **P 07 24 42.7 +0.4**
NKC Novy Kostel 77.41 355 *e*P **P 07 24 42.7 +0.4**
BGES Gesves 77.44 0 *d*P **P 07 24 42.9 +0.5**
STHS Stebnicka Huta 77.51 349 *e*P **P 07 24 42.6 -0.3**
STHS Stebnicka Huta 77.51 349 *e*P **P 07 24 42.6 -0.3**
STHS pmax pmax
comp=Z,13nm,0.9s
BMRD Maredsous 77.52 0 *d*P **P 07 24 43.4 +0.6**
comp=Z,44nm,0.7s
MORC Moravsky Berou 77.52 352 ⇑P **P 07 24 43.3 +0.3**
MORC Moravsky Berou 77.52 352 *e* pP 07 25 20.2 +1.0
MORC Moravsky Berou 77.52 352 *e*P **P 07 24 43.0 0.0**
PRU Pruhonice 77.53 354 *e*P **P 07 24 43.3 +0.3**
PRU Pruhonice 77.53 354 *e*P **P 07 24 43.3 +0.3**
RCHB Rochefort 77.67 0 *d*P **P 07 24 44.1 +0.4**
comp=Z,27nm,0.8s
DOU Dourbes 77.72 0 *d*P **P 07 24 44.4 +0.4**
SORM Soroca 77.78 344 ⇑P **P 07 24 44.0 -0.3**
KOLS Kolonicke sedl 77.86 349 *e*P **P 07 24 45.3 +0.5**
KOLS Kolonicke sedl 77.86 349 *e*P **P 07 24 45.3 +0.5**
KOLS pmax pmax
comp=Z,15nm,0.7s
MAUC Maruska 77.90 352 *e*P **P 07 24 45.7 +0.6**
CRVS Cervenica-Dubn 77.99 349 *e*P **P 07 24 45.8 +0.3**
CRVS Cervenica-Dubn 77.99 349 *e*P **P 07 24 45.8 +0.3**
CRVS pmax pmax
comp=Z,14nm,0.8s
VRAC Vranov 78.06 352 ⇑P **P 07 24 45.6 -0.4**
VRAC Vranov 78.06 352 LR LR 08 04 19.6
comp=Z,30nm,18.4s,baz=9.5,slow=39
VRAC Vranov 78.06 352 *e* pP 07 25 23.4 +1.1
VRAC Vranov 78.06 352 *e*P **P 07 24 46.1 +0.2**
WLF Walferdange 78.16 359 IAmb IAmb 07 24 48.2
comp=Z,37nm,0.8s
WLF Walferdange 78.16 359 *d*P **P 07 24 47.4 +1.0**
comp=Z,32nm,0.8s
KRUC Moravsky 78.32 353 *e*P **P 07 24 47.4 +0.1**
JVM Valle D.L. Mar 78.41 5 *e*P **P 07 24 47.7 0.0**
JSA Saint Aubin 78.44 5 *e*P **P 07 24 47.4 -0.5**
JSA IAmb IAmb 07 24 48.8
comp=Z,78nm,0.7s
KHC Kasperske Hory 78.45 354 IAmb IAmb 07 24 49.7
comp=Z,27nm,0.8s
KHC Kasperske Hory 78.45 354 *e*P **P 07 24 48.7 +0.6**
KHC *e*pP **pP 07 25 24.3 -0.1**
KHC Kasperske Hory 78.45 354 *d*i P **P 07 24 48.4 +0.3**
KHC pmax pmax
comp=Z,55nm,0.9s
SPSI Sidrap Palu 78.59 248 P **P 07 24 49.2 0.0**
comp=Z,31nm,0.9s
KIV Kislovodsk 78.62 333 *e*P **P 07 24 49.2 0.0**
KIV pmax pmax
comp=Z,15nm,1.0s
TRPA Tarpa 78.62 348 ⇓P **P 07 24 49.5 +0.5**
TRPA Tarpa 78.62 348 P **P 07 24 48.8 -0.1**
VYHS Vyhne 78.67 351 *e*P **P 07 24 49.8 +0.5**
VYHS Vyhne 78.67 351 *e*P **P 07 24 49.8 +0.5**
VYHS pmax pmax
comp=Z,17nm,1.2s
CKRC Cesky Krumlov 78.71 354 *e*P **P 07 24 49.6 +0.1**
GEC2 GERESS Array S 78.73 354 IAmb IAmb 07 24 50.8
comp=Z,19nm,0.8s
GERES GERESS Array B 78.73 354 P **P 07 24 50.0 +0.4**
comp=Z,12nm,0.7s,baz=21,slow=4.6,SNR=83
GERES pP **pP 07 25 26.7 +0.7**
comp=Z,0.5nm,0.4s,baz=174,slow=27,SNR=1.5
comp=Z,12nm,0.7s
BUR08 Bucovina Ar. S 78.74 346 IAmb IAmb 07 24 50.7
comp=Z,19nm,0.7s
BNSI Bone 78.75 247 P **P 07 24 50.6 +0.5**
comp=Z,18nm,1.1s
KBZ Khabaz 78.77 333 P **P 07 24 50.2 +0.3**
comp=Z,6.4nm,0.7s,baz=90,slow=1.7,SNR=13
KBZ LR LR 08 04 18.8
comp=Z,33nm,19.6s,baz=13,slow=39
comp=Z,6.4nm,0.7s
KBZ Khabaz 78.77 333 *d*i P **P 07 24 50.1 +0.3**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
BURAR Bucovina Array 78.77 346 ⇑P **P 07 24 50.1 +0.2**
BURAR Bucovina Array 78.77 346 IAmb IAmb 07 24 51.2
comp=Z,34nm,0.7s
SMOL Smolenice 78.78 352 *e*P **P 07 24 50.8 +0.9**
SMOL pmax pmax
comp=Z,12nm,1.0s
MTSU Mount Surprise 78.85 219 P **P 07 24 51.0 +0.5**
GEYT Alibeck 78.88 320 P **P 07 24 50.8 +0.2**
comp=Z,8.7nm,0.7s,baz=347,slow=3.2,SNR=13
comp=Z,8.7nm,0.7s
MILM Milestii Mici 78.88 344 ⇑P **P 07 24 50.2 -0.3**
MODS Modra-Piesok 78.93 352 *e*P **P 07 24 51.7 +1.0**
MODS Modra-Piesok 78.93 352 *e*P **P 07 24 51.7 +1.0**
MODS pmax pmax
comp=Z,38nm,0.8s
TV1H Townsville Har 78.95 217 P **P 07 24 52.1 +1.1**
ZST Bratislava 79.12 352 *e*P **P 07 24 52.7 +1.0**
ZST Bratislava 79.12 352 *e*P **P 07 24 52.7 +1.0**
ZST pmax pmax
comp=Z,135nm,1.6s
PSZ Piszkesteto 79.13 350 ⇑P **P 07 24 51.7 -0.2**
PSZ Piszkesteto 79.13 350 P **P 07 24 51.8 -0.1**
KDU Kakadu 79.21 232 P **P 07 24 52.6 +0.1**
ZEI Tsey 79.36 332 *e*P **P 07 24 52.1 -1.3**
ZEI *e* 07 25 34.3
ZEI pmax pmax
comp=Z,10.0nm,0.6s
ARCR ARCALIA 79.41 347 ⇑P **P 07 24 53.3 0.0**
KAPI Kappang 79.46 247 P **P 07 24 54.6 +0.7**
comp=Z,16nm,0.6s,baz=29,slow=4.4,SNR=13
comp=Z,16nm,0.6s
KAPI Kappang 79.46 247 P **P 07 24 54.3 +0.4**
KAPI IAmb IAmb 07 24 56.9
comp=Z,23nm,0.8s
KAPI Kappang 79.46 247 P **P 07 24 55.0 +1.1**
KAPI Kappang 79.46 247 *d*i P **P 07 24 54.5 +0.6**
KAPI pmax pmax
comp=Z,17nm,0.8s
BFO Black Forest 79.46 358 P **P 07 24 54.3 +0.7**
BFO IAmb IAmb 07 24 54.9
comp=Z,23nm,0.8s
BFO Black Forest 79.46 358 P **P 07 24 54.3 +0.7**
BFO pmax pmax
comp=Z,23nm,0.8s
CONA Conrad Observa 79.49 353 *i*P **P 07 24 54.5 +0.7**
comp=Z,20nm,0.6s,SNR=12
CONA *e*P **pP 07 25 31.3 +1.0**
comp=Z,9.2nm,0.8s
BKSI Bulukumba 79.50 247 P **P 07 24 54.3 +0.1**
comp=Z,856nmcomp=Z,115nm,0.8s
ECH Echery 79.60 359 IAmb IAmb 07 24 56.2
comp=Z,43nm,0.9s
TESR Tescani 79.63 345 ⇓P **P 07 24 54.4 -0.2**
MOA Molln 79.68 354 *e*P **P 07 24 55.2 +0.4**
comp=Z,7.1nm,0.7s
RONA Rosalia, Austr 79.68 352 *i*P **P 07 24 55.6 +0.7**
comp=Z,5.5nm,0.5s,SNR=7.3
RONA *e*P **pP 07 25 32.4 +1.1**
comp=Z,3.9nm,0.6s
KSM Kuching 79.73 259 P **P 07 24 55.4 -0.1**
KSM IAmb IAmb 07 24 57.0
comp=Z,58nm,1.0s
KSM Kuching 79.73 259 P **P 07 24 56.2 +0.7**
BIOA Bad Ischl, Aus 79.88 354 *i*P **P 07 24 56.2 +0.3**
comp=Z,27nm,1.2s,SNR=7.7
BIOA *e*P **pP 07 25 33.3 +1.0**
comp=Z,14nm,1.3s
CTA Charters Tower 79.90 217 P **P 07 24 56.6 +0.4**
comp=Z,23nm,0.8s,baz=24,slow=6.8,SNR=24
comp=Z,23nm,0.8s
CTA Charters Tower 79.90 217 P **P 07 24 56.9 +0.7**
CTAO Charters Tower 79.90 217 P **P 07 24 56.1 -0.1**
CTAO IAmb IAmb 07 24 57.6
comp=Z,43nm,1.1s
CTAO Charters Tower 79.90 217 P **P 07 24 56.9 +0.7**
CTAO Charters Tower 79.90 217 P **P 07 24 56.1 -0.1**
CTAO pmax pmax
comp=Z,43nm,1.1s
DRGR 79.92 348 ⇑P **P 07 24 56.1 0.0**
MTN Manton Dam 80.00 233 P **P 07 24 57.1 +0.3**
VLDR Vladesti 80.05 344 ⇑P **P 07 24 56.5 -0.2**
MPLH Magyarpolny 80.10 352 P **P 07 24 57.9 +0.9**
SURA Surathani 80.17 272 P **P 07 24 58.6 +0.8**
OZUR 80.17 346 ⇑P **P 07 24 57.7 +0.3**
ARSA Arzberg 80.19 353 *i*P **P 07 24 58.3 +0.8**
comp=Z,8.6nm,0.6s,SNR=7.0
ARSA *e*P **pP 07 25 34.9 +0.9**
comp=Z,10.0nm,1.4s
RETA Reutte 80.23 356 *e*P **P 07 24 58.0 +0.2**
comp=Z,11nm,0.7s
RETA *e*P **pP 07 25 35.9 +1.6**
comp=Z,8.3nm,1.3s
VRI Vrincioaia 80.25 345 ⇑P **P 07 24 58.0 +0.1**
PLOR Plostina 80.28 345 ⇑P **P 07 24 58.0 0.0**
WATA Walderalm 80.34 356 *i*P **P 07 24 59.2 +0.6**
comp=Z,18nm,0.8s,SNR=7.3
WATA *e*P **pP 07 25 36.9 +1.9**
comp=Z,18nm,1.5s
COVR Voineasa-Covas 80.35 345 ⇑P **P 07 24 57.7 -0.8**
DOPR Dopca 80.36 346 ⇑P **P 07 24 58.7 +0.2**
MOTA Moosalm 80.36 356 *i*P **P 07 24 59.0 +0.4**
comp=Z,22nm,1.1s,SNR=6.4
MOTA *e*P **pP 07 25 34.9 -0.2**
comp=Z,13nm,1.3s
WTTA Wattenberg 80.41 356 *i*P **P 07 24 59.5 +0.6**
comp=Z,27nm,0.8s,SNR=8.1
WTTA *e*P **pP 07 25 35.7 +0.3**
comp=Z,8.6nm,0.8s
DAVA Damuels 80.46 357 *e*P **P 07 24 59.8 +0.7**
comp=Z,13nm,1.0s
SQTA Sankt Quirin 80.48 356 *i*P **P 07 24 59.8 +0.6**
comp=Z,22nm,0.7s,SNR=5.7
SQTA *e*P **pP 07 25 35.7 0.0**
comp=Z,10nm,0.7s
KBA Koelnbreinsper 80.51 354 *i*P **P 07 25 00.4 +0.9**
comp=Z,54nm,0.7s,SNR=30
KBA *e*P **pP 07 25 36.4 +0.5**
comp=Z,22nm,1.1s
SIRR Siria 80.56 349 ⇑P **P 07 24 59.3 -0.2**
SRIT Nakonsritamara 80.63 272 P **P 07 25 01.5 +1.2**
CFR Carcaliu 80.69 344 ⇑P **P 07 25 00.7 +0.6**
FETA Feichten 80.69 356 *i*P **P 07 25 01.1 +0.7**
comp=Z,22nm,0.8s,SNR=9.6
FETA *e*P **pP 07 25 37.4 +0.5**
comp=Z,9.1nm,0.9s
MLR Muntele Rosu 80.74 345 ⇑P **P 07 25 01.7 +1.0**
MLR Muntele Rosu 80.74 345 IAmb IAmb 07 25 02.9
comp=Z,23nm,0.8s
SOKA Soboth 80.80 353 *i*P **P 07 25 01.2 +0.3**
comp=Z,30nm,0.8s,SNR=16
SOKA *e*P **pP 07 25 38.2 +0.8**
comp=Z,13nm,0.9s
PERS Pernice 80.83 353 *i*P **P 07 25 01.3 +0.3**
PERS *i*pP **pwP 07 25 42.8 +0.4**
ABTA Abfaltersbach 80.89 355 *i*P **P 07 25 01.3 0.0**
comp=Z,17nm,1.0s,SNR=6.5
ABTA *e*P **pP 07 25 37.3 -0.6**
comp=Z,14nm,1.3s
SOEI Soe 80.90 241 IAmb IAmb 07 25 11.4
comp=Z,33nm,0.8s
SOEI Soe 80.90 241 P **P 07 25 02.0 +0.2**
comp=Z,47nm,0.9s
SOEI Soe 80.90 241 P **P 07 25 02.6 +0.8**
VOIR 80.92 346 ⇑P **P 07 25 02.2 +0.7**
MYKA Terra Mystica 80.94 354 *e*P **P 07 25 02.4 +0.8**
comp=Z,8.0nm,0.8s
MYKA *e*P **pP 07 25 38.8 +0.6**
comp=Z,6.0nm,1.0s
MORH Mrgy, Hungar 80.95 351 ⇓P **P 07 25 01.0 -0.5**
TPGR Topolog 80.95 344 ⇑P **P 07 25 01.2 -0.5**
JURR Jurilovca 80.96 343 ⇑P **P 07 25 02.3 +0.7**
DAVOX Davos/Dischmat 80.97 357 LR LR 08 00 05.3
comp=Z,26nm,21.8s,baz=87,slow=35
OBKA Obir 81.00 354 *i*P **P 07 25 02.5 +0.5**
comp=Z,22nm,0.6s,SNR=9.3
OBKA *e*P **pP 07 25 39.8 +1.3**
comp=Z,6.1nm,0.8s
SURR Surduc 81.01 348 ⇑P **P 07 25 02.1 +0.2**
KOVH Kovagotottos 81.12 351 P **P 07 25 02.2 -0.3**
HARR Harsova 81.20 344 ⇑P **P 07 25 03.5 +0.6**
BZS Buzias 81.21 348 ⇑P **P 07 25 02.9 -0.1**
GZR Gura Zlata 81.28 348 ⇑P **P 07 25 03.7 +0.2**
TUE Stuetta 81.29 357 IAmb IAmb 07 25 06.8
comp=Z,27nm,1.0s
CIMO Cimolais 81.33 355 IAmb IAmb 07 25 04.5
comp=Z,5.4nm,0.8s
ROBS Robic 81.33 354 *i*P **P 07 25 02.9 -0.7**
TIRR Tirgusor 81.34 343 ⇓P **P 07 25 04.0 +0.3**
ORTG Ortega, Santa 81.40 84 P **P 07 25 03.9 -0.6**
ORTG IAmb IAmb 07 25 06.0
comp=Z,28nm,0.9s
SENIN Lac Senin/Sane 81.45 359 IAmb IAmb 07 25 05.9
comp=Z,40nm,0.8s
GNI Garni 81.54 331 ⇑*i*P **P 07 25 05.0 0.0**
GNI pmax pmax
comp=Z,10.0nm,0.8s
BATI Baumata 81.60 241 P **P 07 25 05.8 +0.5**
comp=Z,83nm,0.7s,baz=28,slow=2.6,SNR=6.1
comp=Z,83nm,0.7s
JTS Las Juntas de 81.76 84 LR LR 07 59 02.5
comp=Z,70nm,20.7s,baz=132,slow=34
BOJS Bojanci 81.95 353 *i*P **P 07 25 06.7 -0.2**
BOJS *i*pP **pwP 07 25 48.3 0.0**
SGRR Singureni 81.97 345 ⇑P **P 07 25 06.3 -0.6**
JACO JACO, Garabito 82.43 84 IAmb IAmb 07 25 12.4
comp=Z,31nm,0.8s
SSB Saint Sauveur 82.54 1 P **P 07 25 10.1 +0.1**
SSB IAmb IAmb 07 25 11.5
comp=Z,15nm,0.7s
SSB Saint Sauveur 82.54 1 P **P 07 25 10.1 +0.1**
SSB pmax pmax
comp=Z,15nm,0.7s
KULM Kulim 82.58 269 IAmb IAmb 07 25 11.7
comp=Z,36nm,0.8s
PRD Provadia 82.73 344 P **P 07 25 11.4 +0.5**
BNI Bardonecchia 82.77 359 IAmb IAmb 07 25 13.8
comp=Z,36nm,0.8s
DIVS Divibare 82.90 349 IAmb IAmb 07 25 12.6
comp=Z,17nm,1.0s
SZH Strazhica 82.91 345 P **P 07 25 10.8 -1.1**
QIS Mount Isa 82.92 223 P **P 07 25 11.9 -0.2**
IPM Ipoh 82.98 268 P **P 07 25 12.6 -0.1**
PLVB Pleven 82.99 346 ⇓P **P 07 25 12.6 +0.3**
EIDS Eidsvold 83.15 211 IAmb IAmb 07 25 14.9
comp=Z,18nm,0.9s
EIDS Eidsvold 83.15 211 P **P 07 25 14.1 +1.0**
SRBA San Rafael, Bu 83.56 83 IAmb IAmb 07 25 17.9
comp=Z,69nm,1.6s
KNRA Kununurra 83.59 234 IAmb IAmb 07 25 16.6
comp=Z,29nm,0.8s
KNRA Kununurra 83.59 234 P **P 07 25 15.9 +0.4**
GEVA Gevas 83.73 331 IAmb IAmb 07 25 17.6
comp=Z,40nm,1.4s
GURO Guroymak-BITLI 83.81 332 IAmb IAmb 07 26 42.6
comp=Z,11nm,0.2s
VTS Vitosha 83.95 347 IAmb IAmb 07 25 18.2
comp=Z,30nm,1.0s
VTS Vitosha 83.95 347 P **P 07 25 17.0 -0.4**
DIM Dimitrovgrad 84.16 345 P **P 07 25 18.9 +0.7**
OSSC Osservatorio P 84.16 356 IAmb IAmb 07 25 18.8
comp=Z,37nm,1.0s
KMMI Kalianget 84.41 251 P **P 07 25 20.1 +0.3**
comp=Z,46nm,0.9s
WB0 Warramunga Arr 84.47 227 IAmb IAmb 07 25 20.6
comp=Z,24nm,0.9s
WR0 Warramunga Arr 84.57 227 IAmb IAmb 07 25 20.9
comp=Z,21nm,0.8s
PDG Podgorica 84.63 350 ⇑P **P 07 25 20.5 -0.1**
PDG Podgorica 84.63 350 IAmb IAmb 07 25 21.1
comp=Z,35nm,0.9s
WRAB Tennant Creek 84.64 227 P **P 07 25 19.9 -0.9**
WRAB IAmb IAmb 07 25 21.5
comp=Z,38nm,1.2s
WRAB Tennant Creek 84.64 227 P **P 07 25 20.4 -0.4**
comp=Z,31nm,1.3s
WRAB Tennant Creek 84.64 227 *d*i P **P 07 25 19.7 -1.1**
WRAB pmax pmax
comp=Z,24nm,0.8s
RZN Rozhen 84.64 346 P **P 07 25 21.0 +0.1**
WB2 Warramunga Arr 84.64 227 IAmb IAmb 07 25 21.6
comp=Z,35nm,1.1s
WRA Warramunga Arr 84.65 227 P **P 07 25 20.6 -0.2**
comp=Z,14nm,0.7s,baz=33,slow=5.4,SNR=188
WRA PKIKP **PKiKP 07 30 31.6 -1.4**
comp=Z,0.5nm,0.6s,baz=354,slow=1.7,SNR=6.4
WRA PKKPbc **PKKPbc 07 43 29.6 +1.3**
comp=Z,0.2nm,0.5s,baz=218,slow=2.3,SNR=6.0
comp=Z,14nm,0.7s
WRA Warramunga Arr 84.65 227 *i*P **P 07 25 20.5 -0.3**
WRA pmax pmax
comp=Z,16nm,0.7s
DSRI Dabo 84.73 262 P **P 07 25 22.7 +1.2**
comp=Z,4μmcomp=Z,47nm,1.2s
SKO Skopje 84.82 348 *i*P **P 07 25 21.9 +0.3**
BR131 Keskin Array S 84.86 338 IAmb IAmb 07 25 22.9
comp=Z,19nm,1.1s
BR131 Keskin Array S 84.86 338 *c*i P **P 07 25 21.9 -0.1**
BRTR Keskin Array B 84.86 338 P **P 07 25 22.1 +0.1**
comp=Z,7.0nm,0.9s,baz=58,slow=3.1,SNR=21
BRTR pP **pP 07 25 58.8 -0.1**
comp=Z,2.8nm,0.9s,baz=40,slow=2.1,SNR=3.0
BRTR PP **PP 07 28 39.1 -0.5**
comp=Z,0.8nm,0.4s,baz=47,slow=5.4,SNR=4.7
BRTR PKKPbc **PKKPbc 07 43 27.7 +0.8**
comp=Z,1.7nm,0.9s,baz=159,slow=4.4,SNR=6.4
comp=Z,7.0nm,0.9s
MMB Musomiste 84.89 346 P **P 07 25 22.0 +0.1**
LHMI Lhok Sumawe 84.89 272 P **P 07 25 23.3 +1.0**
RMQ Roma 84.93 212 P **P 07 25 23.5 +1.4**
comp=Z,34nm,1.0s
STIP Stip 85.00 347 *i*P **P 07 25 21.7 -0.7**
CESX Cesi 85.01 355 IAmb IAmb 07 25 23.5
comp=Z,26nm,0.8s
CAMP Campotosto 85.03 354 IAmb IAmb 07 25 23.9
comp=Z,32nm,0.9s
RDO Rodhopi 85.04 345 IAmb IAmb 07 25 24.8
comp=Z,31nm,0.8s
LATE Laterza 85.04 355 IAmb IAmb 07 25 23.2
comp=Z,48nm,1.1s
PGAV Gavieira, Arco 85.13 10 *e*P **P 07 25 23.2 0.0**
comp=Z,27nm,1.5s
AQU L'Aquila 85.21 354 IAmb IAmb 07 25 25.4
comp=Z,42nm,0.8s
VAY Valandovo 85.31 347 *i*P **P 07 25 24.4 +0.4**
MARD Mardin 85.32 332 IAmb IAmb 07 25 25.6
comp=Z,20nm,0.7s
BORA Eskisehir 85.39 341 IAmb IAmb 07 25 26.2
comp=Z,21nm,0.7s
PCAB Cabril 85.41 10 *e*P **P 07 25 24.7 +0.2**
comp=Z,63nm,2.1s
PBRG Braganca 85.44 9 *e*P **P 07 25 24.6 -0.1**
comp=Z,25nm,1.7s
INTR Introdaccqua 85.52 354 IAmb IAmb 07 25 26.1
comp=Z,26nm,0.7s
PSI Prapat 85.59 269 P **P 07 25 26.2 +0.4**
comp=Z,80nm,0.6s,baz=13,slow=3.7,SNR=106
comp=Z,80nm,0.6s
PSI Prapat 85.59 269 P **P 07 25 26.1 +0.2**
OHR Ohrid 85.75 348 *i*P **P 07 25 26.4 +0.2**
POLO Lamas de Olo 85.76 10 *e*P **P 07 25 26.3 -0.1**
comp=Z,28nm,0.9s
PTO Porto 85.91 10 *e*P **P 07 25 27.0 +0.1**
FNA Florina 86.00 348 IAmb IAmb 07 25 28.4
comp=Z,16nm,0.6s
MVO Moncorvo 86.05 9 *e*P **P 07 25 27.4 -0.4**
comp=Z,44nm,0.7s
HYBB Hyderabad (bro 86.12 294 *e*P **P 07 25 27.9 -0.5**
UUPR Utuado, UPR, P 86.13 65 IAmb IAmb 07 25 29.9
comp=Z,23nm,0.8s
CELP Cerrillos 86.35 65 IAmb IAmb 07 25 30.4
comp=Z,28nm,0.8s
PVIS Viseu 86.40 10 *e*P **P 07 25 29.1 -0.4**
comp=Z,37nm,0.6s
GCPR Guaynabo City 86.44 64 IAmb IAmb 07 25 31.1
comp=Z,32nm,0.7s
QLP Quilpie 86.57 216 P **P 07 25 31.4 +1.2**
comp=Z,94nm,1.1s
MATE Matera 86.65 351 ⇑P **P 07 25 30.8 +0.2**
MTE Manteigas 86.75 10 *e*P **P 07 25 30.7 -0.5**
comp=Z,35nm,0.9s
PCAS Casmilo, Conde 86.99 11 *e*P **P 07 25 31.8 -0.5**
comp=Z,57nm,0.9s
SDSI Sungai Dareh 87.00 265 P **P 07 25 32.2 -0.4**
comp=Z,2μmcomp=Z,60nm,1.1s
PCBR Castelo Branco 87.31 10 *e*P **P 07 25 33.2 -0.6**
comp=Z,31nm,1.5s
PSBE So Bento 87.49 11 *e*P **P 07 25 34.6 -0.1**
comp=Z,37nm,2.1s
GSI Gunungsitoli 87.59 269 P **P 07 25 35.9 +0.5**
comp=Z,132nm,0.8s
GSI Gunungsitoli 87.59 269 P **P 07 25 36.0 +0.5**
comp=Z,131nm,0.8s
ARMA Armidale 87.71 209 P **P 07 25 37.6 +1.9**
comp=Z,55nm,0.9s
PMRV Marv??o 87.73 10 *e*P **P 07 25 35.4 -0.4**
comp=Z,31nm,1.6s
ESBB Sonseca Array 87.79 7 P **P 07 25 35.1 -1.1**
ESBB IAmb IAmb 07 25 36.5
comp=Z,12nm,0.8s
ESDC Sonseca Array 87.80 7 P **P 07 25 35.7 -0.5**
comp=Z,11nm,0.8s,baz=348,slow=4.5,SNR=51
ESDC PKKPbc **PKKPbc 07 43 20.4 +0.5**
comp=Z,0.9nm,0.7s,baz=222,slow=2.0,SNR=5.3
comp=Z,11nm,0.8s
ESDC Sonseca Array 87.80 7 P **P 07 25 36.0 -0.2**
ESDC IAmb IAmb 07 25 36.5
comp=Z,10nm,0.8s
PMAFR Mafra 87.99 11 *e*P **P 07 25 36.6 -0.4**
comp=Z,134nm,1.3s
PMTG Montargil 88.00 10 *e*P **P 07 25 35.7 -1.4**
comp=Z,41nm,1.4s
AS01 Alice Springs 88.08 226 P **P 07 25 38.1 +0.6**
AS31 Alice Springs 88.10 226 IAmb IAmb 07 25 38.9
comp=Z,9.1nm,0.8s
ASAR Alice Springs 88.10 226 P **P 07 25 38.0 +0.5**
comp=Z,30nm,0.8s,baz=30,slow=4.8,SNR=224
ASAR pP **pP 07 26 13.9 -1.8**
comp=Z,8.1nm,0.7s,baz=30,slow=4.7,SNR=5.1
ASAR PKiKP **PKiKP 07 30 37.6 -1.0**
comp=Z,0.7nm,0.6s,baz=44,slow=1.8,SNR=5.5
ASAR LR LR 08 03 19.6
comp=Z,16nm,19.5s,baz=32,slow=34
comp=Z,30nm,0.8s
ASAR Alice Springs 88.10 226 P **P 07 25 38.2 +0.6**
PESTR Estremoz 88.26 10 *e*P **P 07 25 37.6 -0.8**
comp=Z,26nm,0.8s
URIC Uribia, Colomb 88.39 73 IAmb IAmb 07 25 41.0
comp=Z,26nm,0.9s
EVO Evora 88.55 10 *e*P **P 07 25 39.2 -0.5**
comp=Z,26nm,1.6s
AUPHS Peel High Scho 88.56 209 P **P 07 25 40.6 +1.0**
KASI Kota Agung 88.78 259 P **P 07 25 40.0 -1.0**
INKA Innaminka 88.92 218 P **P 07 25 42.6 +1.3**
PBAR Barrancos 89.01 10 *e*P **P 07 25 41.2 -0.6**
comp=Z,52nm,1.5s
PBEJ Beja 89.07 10 *e*P **P 07 25 42.3 +0.2**
comp=Z,28nm,1.4s
PFVI Vila Bisbo 89.84 11 *e*P **P 07 25 42.6 -3.1**
comp=Z,192nm,1.4s
NTLH Newcastle Hard 90.01 208 P **P 07 25 47.5 +1.3**
OOD Oodnadatta 90.97 222 P **P 07 25 51.1 +0.3**
WSAR Wadi Sarin 91.42 312 P **P 07 25 53.1 -0.2**

	comp=Z,4.3nm,0.5s,baz=34,slow=1.9,SNR=8.1							
	comp=Z,4.3nm,0.5s							
SDV	**Santo Domingo**	**91.44**	**74**	LR	LR	08 09 08.0		
	comp=Z,34nm,18.8s,baz=292,slow=37							
SDV	**Santo Domingo**	**91.44**	**74**	*e*P	**P**	**07 25 54.8**	**+1.1**	
WRKA	**Warakurna**	**91.82**	**230**	P	**P**	**07 25 54.9**	**0.0**	
LCRK	**Leigh Creek**	**92.31**	**219**	P	**P**	**07 25 58.1**	**+1.1**	
STKA	**Stephens Creek**	**92.33**	**216**	P	**P**	**07 25 57.8**	**+0.7**	
	comp=Z,7.8nm,0.6s,baz=354,slow=6.1,SNR=22							
STKA				pP	**pP**	**07 26 33.8**	**-1.7**	
	comp=Z,4.2nm,0.7s,baz=23,slow=7.3,SNR=3.8							
STKA				LR	LR	08 04 08.5		
	comp=Z,35nm,19.7s,baz=23,slow=33							
	comp=Z,7.8nm,0.6s							
STKA	**Stephens Creek**	**92.33**	**216**	P	**P**	**07 25 57.8**	**+0.7**	
PMPS	**Porto Santo**	**92.68**	**18**	*e*P	P	07 26 04.9	+6.0	
	comp=Z,327nm,1.6s							
MBWA	**Marble Bar**	**92.78**	**238**	P	**P**	**07 25 58.8**	**-0.6**	
SLOR	**San Lorenzo -**	**94.36**	**86**	IAmb	IAmb	07 26 10.1		
	comp=Z,7.5nm,0.8s							
CHSH	**Refugio Sur-Vo**	**94.73**	**86**	IAmb	IAmb	07 26 12.0		
	comp=Z,27nm,0.7s							
PORT	**Chimborazo Vol**	**94.77**	**86**	IAmb	IAmb	07 26 14.4		
	comp=Z,9.8nm,0.7s							
BOSC	**San Juan Bosco**	**96.26**	**87**	IAmb	IAmb	07 26 21.6		
	comp=Z,9.9nm,1.3s							
MCRA	**Macar, Loja**	**96.33**	**89**	IAmb	IAmb	07 26 17.3		
	comp=Z,22nm,1.7s							
SIV	**San Ignacio**	**116.88**	**81**	PKP	**PKPdf**	**07 31 30.5**	**-0.4**	
	comp=Z,2.6nm,0.6s,baz=262,slow=3.4,SNR=16							
SIV				PP	**PP**	**07 32 42.6**	**+0.6**	
	comp=Z,1.3nm,0.7s,baz=314,slow=6.7,SNR=5.8							
SALV	**Santo Antonio**	**120.03**	**76**	*e*P	**PKiKP**	**07 31 39.9**	**+2.9**	
DBIC	**Dimbokro**	**120.37**	**12**	PKP	**PKPdf**	**07 31 36.8**	**-1.0**	
	comp=Z,3.1nm,0.4s,baz=43,slow=3.8,SNR=14							
TIC	**Toumodi**	**120.38**	**12**	↓*i*PKP1	**PKPdf**	**07 31 36.5**	**-1.3**	
	comp=Z,7.3nm,0.2s							
KIC	**Kosan Boka**	**120.69**	**12**	↑*i*PKP1	**PKPdf**	**07 31 37.3**	**-1.1**	
	comp=Z,2.6nm,0.2s							
LIC	**Lamto**	**120.79**	**12**	↓*i*PKP1	**PKPdf**	**07 31 37.3**	**-1.3**	
	comp=Z,7.5nm,0.3s							
ARAG	**Araguaiana, MT**	**122.16**	**73**	*e*P	**PKiKP**	**07 31 44.2**	**+3.0**	
KMBO	**Kilima Mbogo**	**122.24**	**321**	PKP	**PKPdf**	**07 31 41.7**	**0.0**	
	comp=Z,3.8nm,0.8s,baz=4.9,slow=3.9,SNR=8.9							
KMBO	**Kilima Mbogo**	**122.24**	**321**	*c i*PKIKP	**PKiKP**	**07 31 42.0**	**+0.1**	
KMBO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
RCBR	**Riachuelo**	**122.47**	**51**	*e*P	**PKiKP**	**07 31 45.0**	**+3.0**	
MURT	**Porto Murtinho**	**123.31**	**82**	*e*P	**PKiKP**	**07 31 46.1**	**+2.7**	
SDBA	**SAO DESIDERIO**	**123.43**	**64**	*e*P	**PKiKP**	**07 31 46.5**	**+2.6**	
AQDB	**Aquidauana**	**123.57**	**80**	PKPdf	**PKPdf**	**07 31 43.5**	**-0.1**	
AQDB	**Aquidauana**	**123.57**	**80**	*e*P	**PKiKP**	**07 31 46.5**	**+2.6**	
C2SB	**Chapadao do Su**	**123.96**	**76**	*e*P	**PKiKP**	**07 31 47.5**	**+2.8**	
CFA	**Coronel Fontan**	**124.10**	**99**	PKP	**PKPdf**	**07 31 44.2**	**-0.2**	
	comp=Z,5.9nm,0.6s,baz=273,slow=2.3,SNR=14							
CFA				pPKP	**pPKPdf**	**07 32 21.9**	**-2.1**	
	comp=Z,2.1nm,0.6s,baz=290,slow=4.0,SNR=2.7							
BDFB	**Brasilia**	**124.31**	**69**	PKP	**PKPdf**	**07 31 45.2**	**-0.1**	
	comp=Z,10nm,0.7s,baz=327,slow=1.6,SNR=22							
BDFB	**Brasilia**	**124.31**	**69**	PKPdf	**PKPdf**	**07 31 44.7**	**-0.6**	
BDFB	**Brasilia**	**124.31**	**69**	*e*P	**PKiKP**	**07 31 48.4**	**+2.8**	
IPMB	**Ipameri, GO**	**126.06**	**71**	*e*P	**PKiKP**	**07 31 51.1**	**+2.1**	
ITRB	**Iturama**	**126.15**	**74**	*e*P	**PKiKP**	**07 31 51.5**	**+2.4**	
CPUP	**Villa Florida**	**126.96**	**86**	PKP	**PKPdf**	**07 31 50.0**	**0.0**	
	comp=Z,5.1nm,0.6s,baz=312,slow=1.6,SNR=23							
CPUP				pPKP	**pPKPdf**	**07 32 27.8**	**-1.9**	
	comp=Z,1.4nm,0.6s,baz=315,slow=1.4,SNR=2.0							
CPUP	**Villa Florida**	**126.96**	**86**	*e*P	**PKiKP**	**07 31 53.2**	**+2.7**	
GDU01	**Guandu, BA**	**127.38**	**60**	*e*P	**PKiKP**	**07 31 54.1**	**+2.4**	
MC01	**Montes Claros**	**127.46**	**66**	*e*P	**PKiKP**	**07 31 54.1**	**+2.2**	
CMC01	**Camacan, BA**	**128.78**	**61**	*e*P	**PKiKP**	**07 31 57.0**	**+2.5**	
DIAM	**Diamantina, MG**	**128.90**	**67**	*e*P	**PKiKP**	**07 31 57.2**	**+2.4**	
PLCA	**Paso Flores**	**128.91**	**109**	PKP	**PKiKP**	**07 31 53.8**	**-0.3**	
	comp=Z,11nm,0.8s,baz=299,slow=2.6,SNR=44							
PLCA				pPKP	**pPKPdf**	**07 32 31.3**	**-2.3**	
	comp=Z,7.5nm,0.9s,baz=265,slow=2.3,SNR=5.5							
PLCA				SKPab	SKiKP	07 34 59.1	-16	
	comp=Z,4.8nm,0.7s,baz=305,slow=4.1,SNR=22							
PLCA	**Paso Flores**	**128.91**	**109**	*e*P	**PKiKP**	**07 31 55.8**	**+1.8**	
AZCA	**Azaras, Argent**	**129.05**	**86**	*e*P	**PKiKP**	**07 31 56.9**	**+2.2**	
LL02	**Futaleuf**	**129.75**	**112**	PKPdf	**PKPdf**	**07 31 52.6**	**-2.1**	
CRSM	**Crissiumal (Br**	**129.81**	**84**	*e*P	**PKiKP**	**07 31 58.5**	**+2.3**	
NAN01	**Guarapari, ES**	**130.49**	**63**	*e*P	**PKiKP**	**07 31 59.7**	**+1.9**	
SJMB	**Sao Joao De Ma**	**130.61**	**65**	*e*P	**PKiKP**	**07 32 00.1**	**+2.1**	
VNDA	**Vanda**	**130.63**	**187**	PKP	**PKPdf**	**07 31 55.5**	**+0.1**	
	comp=Z,1.3nm,0.7s,baz=331,slow=3.9,SNR=8.5							
VNDA				SKPbc	**SKPab**	**07 35 05.4**	**+0.4**	
	comp=Z,3.0nm,0.9s,baz=332,slow=4.9,SNR=8.4							
SBA	**Scott Base**	**130.64**	**185**	PKPdf	**PKPdf**	**07 31 55.6**	**+0.2**	
SBA	**Scott Base**	**130.64**	**185**	PKIKP	**PKPdf**	**07 31 55.6**	**+0.2**	
ITAB	**Concordia**	**130.78**	**82**	*e*P	**PKiKP**	**07 31 59.9**	**+1.8**	
TIJ01	**Guaruva-PR**	**131.25**	**78**	*e*P	**PKiKP**	**07 32 01.2**	**+1.9**	
VAS01	**Vassouras-RJ**	**132.18**	**70**	*e*P	**PKiKP**	**07 32 02.8**	**+1.7**	
TRQA	**Tornquist**	**132.24**	**100**	PKPdf	**PKPdf**	**07 31 58.1**	**-1.6**	
TRQA	**Tornquist**	**132.24**	**100**	*e*P	**PKiKP**	**07 32 02.8**	**+2.0**	
TRQA	**Tornquist**	**132.24**	**100**	PKIKP	**PKPdf**	**07 31 58.1**	**-1.6**	
DUB01	**Friburgo-RJ**	**132.63**	**69**	*e*P	**PKiKP**	**07 32 03.4**	**+1.3**	
QSPA	**South Pole Qui**	**142.31**	**180**	PKhKP	PKPpre	07 32 12.9		
	comp=Z,12nm,0.7s,baz=29,slow=0.2,SNR=70							
QSPA				SKPbc	**SKPbc**	**07 35 40.2**	**-0.3**	
	comp=Z,5.0nm,0.8s,baz=287,slow=0.5,SNR=5.1							
QSPA	**South Pole Qui**	**142.31**	**180**		PKPpre	07 32 12.6		
SMAI	**San Martin Ant**	**143.46**	**143**		PKPpre	07 32 16.7		
PMSA	**Palmer Station**	**143.88**	**137**	PKP	PKPbc	07 32 18.6	+0.3	
	comp=Z,63nm,0.8s,baz=65,slow=2.0,SNR=12							
TSUM	**Tsumeb**	**145.36**	**339**	PKPdf	**PKPdf**	**07 32 23.3**	**-1.0**	
LBTB	**Lobatse**	**148.50**	**323**		**PKPbc**	**07 32 31.9**	**-1.1**	
LBTB	**Lobatse**	**148.50**	**323**	PKP2	**PKPbc**	**07 32 32.0**	**-1.1**	
MAW	**Mawson**	**148.98**	**219**	PKPbc	**PKiKP**	**07 32 34.1**	**+0.1**	
	comp=Z,65nm,0.9s,baz=111,slow=2.6,SNR=59							
MAW	**Mawson**	**148.98**	**219**		**PKPbc**	**07 32 32.4**	**-0.4**	
BOSA	**Boshof**	**151.88**	**320**	PKP	**PKPdf**	**07 32 34.2**	**-0.3**	
	comp=Z,18nm,0.6s,baz=263,slow=2.8,SNR=5.4							
BOSA				PKPbc	**PKPbc**	**07 32 40.8**	**-0.3**	
	comp=Z,18nm,0.6s,baz=17,slow=2.5,SNR=36							
BOSA				PKPab	**PKPab**	**07 32 49.9**	**-0.9**	
	comp=Z,4.1nm,0.5s,baz=42,slow=2.3,SNR=7.3							
VNA3	**Neumayer Olymp**	**160.08**	**166**	PKPdf	**PKPdf**	**07 32 42.4**	**-1.5**	
TROLL	**Troll, Antarti**	**160.43**	**177**	PKPab	**PKPab**	**07 33 26.3**	**-0.1**	
TROLL	**Troll, Antarti**	**160.43**	**177**	PKPdf	**PKPdf**	**07 32 43.0**	**-1.4**	
SNAA	**Sanae**	**160.47**	**172**	PKPab	**PKPab**	**07 33 26.5**	**0.0**	
SNAA	**Sanae**	**160.47**	**172**	PKPdf	**PKPdf**	**07 32 43.3**	**-1.0**	
SNAA	**Sanae**	**160.47**	**172**	PKP	**PKPdf**	**07 32 42.9**	**-1.4**	
	comp=Z,2.8nm,0.8s,baz=147,slow=3.1,SNR=13							
SNAA				PKPab	**PKPab**	**07 33 26.4**	**-0.2**	
	comp=Z,14nm,0.7s,baz=215,slow=7.4,SNR=47							
VNA2	**Neumayer--Watz**	**160.69**	**167**	PKPab	**PKPab**	**07 33 27.5**	**0.0**	
	baz=195,slow=3.3							
VNA2	**Neumayer--Watz**	**160.69**	**167**	PKPdf	**PKPdf**	**07 32 43.4**	**-1.1**	
	baz=296,slow=0.8							
VNA1	**Neumayer--Stat**	**160.82**	**166**	PKPab	**PKPab**	**07 33 27.9**	**-0.1**	
VNA1	**Neumayer--Stat**	**160.82**	**166**	PKPdf	**PKPdf**	**07 32 43.2**	**-1.4**	

IDC ***23*** *07:16:58.1±1.5, 37˚28N×141˚79E, h0km, mb4.1/6, mbtmp4.2/9, ML3.8/3, Error ellipse: s-maj=31.5km s-min=21.5km az=112.0*

NIED ***23*** *07:17:01.9, 37˚30N×141˚50E, h26km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.21; Mθθ0.21; Mφφ2.00; Mrθ0.68; Mθφ1.77; Mφr1.38; Fault plane solution: M₀3.07000×10¹⁴ NP1:φs37.00000°, δ30.00000°, λ-81.00000°. NP2:φs207.00000°, δ60.00000°, λ-95.00000°.*

JMA ***23*** *07:17:01.9±0.2, 37˚3N±0˚3×141˚5E±0˚9, h26km±1km, MD4.2/40, MV4.1/40, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 23 07:16:59.9±1.9, 37˚26N±0˚04×141˚60E±0˚08, h8km±11km, n29, σ1s27/26, mb4.1/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.59**	**281**	*i* P	**Pg**	**07 17 11.8**	**+0.5**
JFK				S	**Sg**	**07 17 18.8**	**-0.2**
JFK	**Kawauchi**	**0.59**	**281**	A	A	07 17 11.8	
	comp=E,5.0nm,0.3s,comp=E,6.0nm,0.3s						
JMST	**Minamisoumatoc**	**0.73**	**310**	*i* P	**Pg**	**07 17 14.3**	**+0.2**
JMST				*e*S	**Sg**	**07 17 23.2**	**-0.4**
JMST	**Minamisoumatoc**	**0.73**	**310**	A	A	07 17 14.3	
	comp=E,7.0nm,0.9s,comp=E,13nm,0.7s						
JFFD	**Fukushimafurud**	**0.85**	**259**	*i* P	**Pg**	**07 17 16.4**	**+0.2**
JFFD				*e*S	**Sg**	**07 17 26.8**	**-0.4**
JMM	**Marumori**	**0.88**	**314**	P	**Pg**	**07 17 16.7**	**-0.2**
JMM				S	**Sg**	**07 17 27.2**	**-1.2**
JHO	**Hitachi**	**1.05**	**232**	P	**Pb**	**07 17 19.5**	**-0.8**
JIO	**Ouri**	**1.21**	**351**	P	**Pb**	**07 17 22.2**	**-0.9**
JYAR	**Yonezawaarcadi**	**1.33**	**300**	A	A	07 17 23.7	
	comp=E,8.0nm,1.0s,comp=E,9.0nm,0.7s						
JOU	**Okura**	**1.33**	**326**	P	**Pn**	**07 17 24.8**	**-0.1**
JOU				S	**Sb**	**07 17 41.6**	**-0.8**
JOU	**Okura**	**1.33**	**326**	A	A	07 17 24.8	
	comp=E,11nm,0.6s,comp=E,9.0nm,1.3s						
JSB	**Shiboa**	**1.37**	**258**	P	**Pn**	**07 17 25.8**	**+0.4**
JSB				S	**Sn**	**07 17 42.9**	**-0.9**
JSB	**Shiboa**	**1.37**	**258**	A	A	07 17 25.8	
	comp=E,11nm,0.9s,comp=E,9.0nm,0.9s						
JOFO	**Osakifurukawao**	**1.45**	**338**	A	A	07 17 25.9	
	comp=E,18nm,1.1s,comp=E,21nm,1.6s						
JYT	**Yasato**	**1.53**	**228**	A	A	07 17 27.6	
	comp=E,8.0nm,0.4s,comp=E,7.0nm,0.3s						
JYA	**Atsumi**	**2.00**	**312**	A	A	07 17 33.8	
	comp=E,5.0nm,1.0s,comp=E,6.0nm,1.4s						
MJAR	**Matsushiro Arr**	**2.81**	**256**	Pn	**Pn**	**07 17 46.0**	**+0.8**
	2.0nm,0.3s,baz=77,slow=17,SNR=25						
MJAR				Sn	**Sb**	**07 18 23.4**	**-1.5**
	3.9nm,0.3s,baz=59,slow=22,SNR=7.7						
	14nm,0.4s						
JHJ	**Hachijo jima 2**	**4.39**	**200**	Pn	**Pn**	**07 18 08.1**	**+1.3**
	18nm,0.3s,baz=136,slow=23,SNR=10.0						
JHJ				Sn	**Sn**	**07 18 58.2**	**+0.1**
	31nm,0.3s,baz=15,slow=3.9,SNR=3.8						
	60nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.06**	**317**	Pn	**Pn**	**07 19 29.1**	**+4.5**
	0.9nm,0.3s,baz=125,slow=13,SNR=4.7						
JCJ	**Chichijima**	**10.14**	**177**	Pn	**Pn**	**07 19 25.1**	**-0.8**
	3.8nm,0.3s,baz=0.0,slow=20,SNR=1.2						
	11nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	07 52 26.0	
	baz=314,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	07 52 28.1	
	baz=314,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	07 52 27.2	
	baz=314,slow=75,SNR=19						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**07 24 50.8**	**+0.4**
	4.3nm,0.8s,baz=89,slow=6.5,SNR=5.4						
	4.3nm,0.8s						
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**07 25 09.5**	**+0.7**
	1.7nm,0.7s,baz=84,slow=11,SNR=2.9						
	1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**07 25 23.5**	**+0.1**
	2.2nm,0.4s,baz=82,slow=8.0,SNR=7.8						
	2.2nm,0.4s						
ILAR	**Eielson Array**	**49.23**	**32**	P	**P**	**07 25 47.1**	**-1.3**
	0.2nm,0.4s,baz=220,slow=8.3,SNR=2.0						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**07 28 04.1**	**+0.6**
	3.9nm,0.8s,baz=62,slow=6.8,SNR=3.9						
	3.9nm,0.8s						
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**07 28 35.8**	**-1.3**
	0.8nm,0.5s,baz=45,slow=6.4,SNR=4.9						
	0.8nm,0.5s						

WEL 23 07:17:19.7±0.4, 42˚S±3˚×17˚4E±˚, h9km±3km, M3.1/36, ML3.4/14, MLv3.1/36, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.20**	**217**	P	Pg	07 17 24.6	+0.8
KHZ				S	Sg	07 17 28.3	+1.7
BSWZ	**Blackbirch Sta**	**0.56**	**14**	P	Pg	07 17 30.8	+0.3
BSWZ				S	Sb	07 17 39.3	-0.4
CMWZ	**Cape Campbell**	**0.64**	**37**	P	Pb	07 17 33.2	+0.2
THZ	**Tophouse**	**0.77**	**310**	P	Pb	07 17 35.0	-0.3
TUWZ	**Tuamarina**	**0.85**	**13**	P	Pg	07 17 36.1	+0.1
GVZ	**Greta Valley S**	**0.86**	**214**	P	Pb	07 17 36.8	-0.1
NNZ	**Nelson**	**1.07**	**347**	P	Pg	07 17 39.7	-0.4
MRNZ	**Matariki Terra**	**1.11**	**320**	P	Pb	07 17 41.1	+0.1
TCW	**Tory Channel**	**1.13**	**23**	P	Pb	07 17 40.2	-1.2
LTZ	**Lake Taylor**	**1.18**	**243**	P	Pb	07 17 41.6	-0.7
AMCZ	**Amberley**	**1.20**	**220**	P	Pb	07 17 41.4	-1.2
WEL	**Wellington**	**1.26**	**40**	P	Pn	07 17 41.9	-1.5
TKNZ	**Takaka Hill**	**1.34**	**335**	P	Pn	07 17 44.6	0.0
PLWZ	**Palliser**	**1.35**	**60**	P	Pn	07 17 42.3	-2.4
DUWZ	**D'Urville Isla**	**1.46**	**7**	P	Pn	07 17 45.4	-0.9
DSZ	**Denniston Nort**	**1.50**	**289**	P	Pb	07 17 47.5	-0.3
CAW	**Cannon Point**	**1.54**	**42**	P	Pn	07 17 45.4	-1.9
OKCZ	**Okains Bay**	**1.54**	**198**	P	Pn	07 17 45.0	-2.3
PAWZ	**Paruwai Farm**	**1.56**	**56**	P	Pn	07 17 44.9	-2.7
OXZ	**Oxford**	**1.62**	**228**	P	Pn	07 17 46.4	-2.1
MQZ	**McQueen's Vall**	**1.64**	**208**	P	Pn	07 17 45.9	-2.7
KIW	**Kapiti Island**	**1.67**	**33**	P	Pn	07 17 47.7	-1.3
QRZ	**Quartz Range**	**1.68**	**328**	P	Pn	07 17 49.9	+0.7
AKCZ	**Akaroa Harbour**	**1.71**	**199**	P	Pn	07 17 47.3	-2.5
TRWZ	**Traveller**	**1.72**	**61**	P	Pn	07 17 47.2	-2.5
INZ	**Inommie**	**1.73**	**254**	P	Pn	07 17 49.5	-0.4
MTW	**Mount Morrison**	**1.74**	**51**	P	Pn	07 17 47.5	-2.5
OGWZ	**Otaki Gorge**	**1.81**	**38**	P	Pn	07 17 49.2	-1.9
RACZ	**Rakaia**	**1.86**	**217**	P	Pn	07 17 49.4	-2.3
HOWZ	**Holdsworth Sta**	**1.92**	**46**	P	Pn	07 17 50.5	-2.1
TMWZ	**Te Maipa**	**2.00**	**56**	P	Pn	07 17 50.8	-2.9
MHCZ	**Mount Hutt**	**2.02**	**230**	P	Pn	07 17 51.7	-2.2
MRZ	**Mangatainoka R**	**2.13**	**42**	P	Pn	07 17 53.0	-2.4
WACZ	**Wakanui South**	**2.17**	**218**	P	Pn	07 17 53.8	-2.0
WVZ	**Waitaha Valley**	**2.33**	**248**	P	Pn	07 17 57.8	-0.4
PRWZ	**Pori Road**	**2.41**	**46**	P	Pb	07 18 03.3	+0.1
RPZ	**Rata Peaks**	**2.43**	**232**	P	Pn	07 17 57.8	-1.7
BFZ	**Birch Farm**	**2.48**	**51**	P	Pg	07 18 08.1	+1.0
ARCZ	**Arundel**	**2.50**	**227**	P	Pn	07 17 58.6	-1.9
WAZ	**Wanganui**	**2.68**	**22**	P	Pn	07 18 03.6	+0.5
DVHZ	**Dannevirke**	**2.70**	**44**	P	Pb	07 18 09.6	+1.5
TSZ	**Takapari Road**	**2.78**	**39**	P	Pb	07 18 11.1	+1.7
TMZ	**Timaru**	**2.90**	**222**	P	Pn	07 18 04.2	-1.7
KHEZ	**Kahui Hut**	**2.97**	**5**	P	Pn	07 18 09.8	+2.8
NEZ	**North Egmont**	**3.00**	**6**	P	Pb	07 18 12.1	-1.2
PNHZ	**Pukenui**	**3.01**	**40**	P	Pb	07 18 14.0	+0.5
PKE	**Pukeiti**	**3.07**	**4**	P	Pb	07 18 14.2	-0.2
PKVZ	**Pokaka**	**3.22**	**23**	P	Pb	07 18 17.5	+0.5
VRZ	**Vera Road**	**3.23**	**15**	P	Pn	07 18 11.1	+0.6
WNVZ	**Wahianoa**	**3.26**	**27**	P	Pn	07 18 11.1	0.0
TRVZ	**Turoa**	**3.27**	**26**	P	Pb	07 18 14.7	-3.3
BHHZ	**Black Hill Sta**	**3.29**	**34**	P	Pb	07 18 17.7	-0.6
WHVZ	**Whangaehu Hut**	**3.30**	**26**	P	Pn	07 18 14.8	+3.1
FWVZ	**Far West T-bar**	**3.31**	**26**	P	Pb	07 18 17.5	-1.3
NGZ	**Ngauruhoe**	**3.40**	**26**	P	Pb	07 18 20.2	+0.1
SNVZ	**South Ngauruho**	**3.40**	**26**	P	Pn	07 18 13.4	+0.3
OTVZ	**Oturere**	**3.43**	**26**	P	Pn	07 18 13.3	-0.2
NNVZ	**North Ngauruho**	**3.44**	**26**	P	Pn	07 18 15.3	+1.6
ETVZ	**East Tongariro**	**3.47**	**27**	P	Pn	07 18 14.5	+0.5
KRVZ	**Karewarewa**	**3.49**	**26**	P	Pn	07 18 22.2	+0.6
TMVZ	**Te Maari**	**3.49**	**27**	P	Pn	07 18 14.4	+0.2
NTVZ	**North Tongarir**	**3.50**	**26**	P	Pn	07 18 20.9	-0.8
ODZ	**Otahua Downs**	**3.56**	**217**	P	Pn	07 18 12.8	-2.2
BKZ	**Black Stump Fm**	**3.75**	**35**	P	Pb	07 18 25.9	-0.2
HIZ	**Hauiti**	**3.84**	**14**	P	Pn	07 18 19.3	+0.4
HRRZ	**Handcock Road**	**4.34**	**28**	P	Pn	07 18 29.8	+4.0
AWAZ	**Awhitu Peninsu**	**5.24**	**8**	P	Pn	07 18 38.3	+0.2
MKAZ	**Moumakai**	**5.27**	**13**	P	Pn	07 18 37.8	-0.7
CTZ	**Chatham Island**	**7.25**	**105**	P	Pn	07 19 01.7	-4.1

IDC 23 07:19:54.7±6.5, 5˚02S×129˚32E, h186km±86km, mb3.3/1, mbtmp3.5/4, Error ellipse: s-maj=153.6km s-min=20.0km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.56**	**25**	P	Pn	07 21 03.5	+0.3
	7.3nm,0.2s,baz=94,slow=4.0,SNR=16						
SIJI				S	Sn	07 21 52.5	-4.5
	45nm,0.2s,baz=218,slow=23,SNR=16						
WRA	**Warramunga Arr**	**15.61**	**162**	P	Pn	07 23 24.1	-1.0
	0.2nm,0.7s,baz=347,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**19.05**	**167**	P	P	07 24 03.5	+0.5
	0.6nm,0.6s,baz=348,slow=11,SNR=9.6						
CMSA	**Cobar Meteorol**	**30.53**	**152**	P	P	07 25 50.0	-0.6
MKAR	**Makanchi Array**	**66.21**	**327**	P	P	07 30 22.4	-0.2
	0.4nm,0.4s,baz=119,slow=7.9,SNR=7.5						
	0.4nm,0.4s						

ROM 23 07:22:31.4±0.0, 42˚806N±0˚002×13˚138E±0˚004, h10km, ML2.4/33, 23C-10D, Error ellipse: s-maj=0.2km s-min=0.2km az=279.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.03**	**328**	P	Pg	07 22 33.7	+0.2
NRCA				S	Sg	07 22 35.0	0.0
NRCA				AML	AML		
	comp=E,21100μm,0.1s						
NRCA				AML	AML		
	comp=N,52100μm,0.1s						
NRCA				AML	AML		
	comp=N,56300μm,0.1s						
NRCA				AML	AML		
	comp=E,24650μm,0.1s						
NRCA				AML	AML		
	comp=E,21150μm,0.1s						
T1245	**Castelsantange**	**0.06**	**36**	↑P	Pg	07 22 34.1	+0.3
T1245				S	Sg	07 22 35.8	+0.2
T1245				AML	AML		
	comp=N,13600μm,0.3s						
T1245				AML	AML		
	comp=E,15850μm,1.4s						
T1245				AML	AML		
	comp=N,14500μm,0.3s						
T1245				AML	AML		
	comp=E,16150μm,1.4s						
T1216	**Preci, Frazion**	**0.12**	**314**	P	Pg	07 22 34.9	+0.5
T1216				S	Sg	07 22 37.3	+0.8
T1216				AML	AML		
	comp=E,3615μm,1.2s						
T1216				AML	AML		
	comp=E,3595μm,1.2s						
T1216				AML	AML		
	comp=N,5025μm,0.2s						
T1216				AML	AML		
	comp=N,5020μm,0.2s						
T1216				AML	AML		
	comp=E,3620μm,1.2s						
T1218	**Civita (PG)**	**0.14**	**187**	↑P	Pg	07 22 35.2	+0.6
T1218				S	Sg	07 22 37.9	+0.9
T1218				AML	AML		
	comp=E,4545μm,1.0s						
T1218				AML	AML		
	comp=N,8590μm,0.9s						
T1218				AML	AML		
	comp=E,4325μm,0.2s						
T1218				AML	AML		
	comp=N,8605μm,0.9s						
T1218				AML	AML		
	comp=E,4325μm,1.0s						
T1218				AML	AML		
	comp=N,8610μm,0.9s						
T1218				AML	AML		
	comp=N,8585μm,0.9s						
T1218				AML	AML		
	comp=N,8615μm,0.9s						
T1218				AML	AML		
	comp=E,4540μm,1.0s						
MMO1	**Montemonaco**	**0.17**	**56**	↑P	Pg	07 22 35.7	+0.5
MMO1				S	Sg	07 22 38.8	+

RM33				AML	AML		
	comp=E,708µm,0.2s						
RM33				AML	AML		
	comp=E,724µm,1.2s						
CAMP	**Campotosto**	**0.34**	**143**	⇑P	Pg	07 22 38.4	+0.3
CAMP				S	Sg	07 22 43.8	+1.1
CAMP				AML	AML		
	comp=E,364µm,0.2s						
CAMP				AML	AML		
	comp=N,254µm,0.7s						
CAMP				AML	AML		
	comp=N,254µm,0.7s						
T1211	**Morro Reatino**	**0.34**	**217**	⇑P	Pg	07 22 38.7	+0.4
T1211				S	Sb	07 22 44.3	-0.9
T1211				AML	AML		
	comp=E,654µm,0.1s						
T1211				AML	AML		
	comp=N,1065µm,0.4s						
ARRO	**Arrone**	**0.36**	**231**	⇓P	Pg	07 22 39.0	+0.5
ARRO				S	Sb	07 22 45.2	-0.2
ARRO				AML	AML		
	comp=E,408µm,0.2s						
ARRO				AML	AML		
	comp=E,408µm,0.2s						
ARRO				AML	AML		
	comp=N,388µm,0.7s						
T1247	**Pizzolo (AQ)**	**0.38**	**162**	⇑P	Pg	07 22 39.4	+0.4
T1247				AML	AML		
	comp=E,936µm,0.1s						
T1247				AML	AML		
	comp=N,700µm,0.4s						
T1247				AML	AML		
	comp=E,936µm,0.1s						
TERO	**Teramo**	**0.39**	**118**	⇑P	Pg	07 22 39.2	+0.1
OFFI	**Offida**	**0.42**	**72**	⇓P	Pb	07 22 41.0	+0.1
OFFI				AML	AML		
	comp=E,512µm,0.6s						
OFFI				AML	AML		
	comp=N,830µm,0.6s						
ASSB	**Assisi San Ben**	**0.42**	**304**	⇓P	Pg	07 22 40.1	+0.3
ASSB				AML	AML		
	comp=N,219µm,0.6s						
ASSB				AML	AML		
	comp=E,213µm,0.3s						
CESX	**Cesi**	**0.46**	**245**	⇑P	Pb	07 22 41.9	+0.4
SNTG	**Esanatoglia**	**0.47**	**342**	⇑P	Pg	07 22 40.9	+0.3
SNTG				AML	AML		
	comp=N,258µm,0.9s						
SNTG				AML	AML		
	comp=E,334µm,0.3s						
GIGS	**Gran Sasso**	**0.48**	**138**	⇓P	Pg	07 22 40.6	-0.1
GIGS				AML	AML		
	comp=E,121µm,1.1s						
GIGS				AML	AML		
	comp=E,120µm,1.1s						
GIGS				AML	AML		
	comp=N,92µm,0.1s						
EL6	**Elcito**	**0.52**	**357**	⇑P	Pg	07 22 41.9	+0.2
ATCC	**AVT- Casa Cast**	**0.53**	**316**	P	Pg	07 22 42.0	+0.3
FIAM	**Fiamignano**	**0.54**	**182**	P	Pg	07 22 41.1	-0.7
FIAM				AML	AML		
	comp=E,156µm,1.1s						
FIAM				AML	AML		
	comp=N,235µm,0.9s						
CING	**Cingoli**	**0.57**	**4**	⇑P	Pg	07 22 42.7	+0.2
CING				AML	AML		
	comp=E,630µm,0.1s						
CING				AML	AML		
	comp=N,582µm,1.2s						
FAGN	**Fagnano**	**0.63**	**148**	⇑P	Pg	07 22 43.3	-0.4
FAGN				AML	AML		
	comp=E,354µm,0.3s						
FAGN				AML	AML		
	comp=N,322µm,0.3s						
VCEL	**Villa Celiera**	**0.66**	**128**	P	Pg	07 22 44.4	+0.2
VCEL				AML	AML		
	comp=E,256µm,0.5s						
VCEL				AML	AML		
	comp=N,231µm,0.5s						
VCEL				AML	AML		
	comp=N,232µm,0.5s						
VCEL				AML	AML		
	comp=E,257µm,0.5s						
SSFR	**Montelago di S**	**0.68**	**338**	⇑P	Pg	07 22 44.7	+0.1
SSFR				AML	AML		
	comp=E,346µm,1.4s						
SSFR				AML	AML		
	comp=N,506µm,0.7s						
SSFR				AML	AML		
	comp=N,615µm,0.7s						
SSFR				AML	AML		
	comp=E,327µm,0.2s						
ARVD	**Arcevia**	**0.71**	**348**	⇑P	Pg	07 22 45.2	+0.1
ARVD				S	Sn	07 22 57.0	-1.4
ARVD				AML	AML		
	comp=N,83µm,0.1s						
ARVD				AML	AML		
	comp=E,123µm,0.9s						
T0110	**Collepietro**	**0.75**	**140**	⇓P	Pg	07 22 45.5	-0.4
T0110				AML	AML		
	comp=E,170µm,0.4s						
T0110				AML	AML		
	comp=N,204µm,1.1s						
FRON	**Frontone**	**0.77**	**337**	⇓P	Pg	07 22 46.5	+0.1
FRON				AML	AML		
	comp=E,92µm,1.4s						
FRON				AML	AML		
	comp=N,125µm,1.6s						
FRON				AML	AML		
	comp=E,92µm,0.4s						
FRON				AML	AML		
	comp=N,125µm,1.6s						
ATVO	**AVT- Monte Val**	**0.79**	**317**	S	Sb	07 22 58.0	+0.1
ATPI	**Pietralunga -**	**0.84**	**320**	⇓P	Pg	07 22 47.7	+0.1
ATPI				AML	AML		
	comp=E,66µm,0.4s						
ATPI				AML	AML		
	comp=N,44µm,1.2s						
PIEI	**Pieia**	**0.85**	**329**	P	Pg	07 22 48.0	+0.1
PIEI				AML	AML		
	comp=N,63µm,1.0s						
PIEI				AML	AML		
	comp=E,84µm,0.3s						
PIEI				AML	AML		
	comp=N,63µm,1.0s						
CERT	**Cerreto**	**0.86**	**188**	P	Pg	07 22 47.8	-0.3
MPAG	**Monte Paganucc**	**0.87**	**342**	⇑P	Pb	07 22 48.4	-0.2
MPAG				AML	AML		
	comp=E,103µm,0.4s						
MPAG				AML	AML		
	comp=N,122µm,0.3s						
FSSB	**Fossombrone**	**0.92**	**344**	P	Pb	07 22 49.6	+0.1
FSSB				AML	AML		
	comp=E,380µm,0.3s						
FSSB				AML	AML		
	comp=N,426µm,0.3s						
IMOL	**Imola, Italy**	**1.85**	**327**	P	Pn	07 23 02.1	-1.1
IMOL				AML	AML		
	comp=E,1250µm,0.1s						
IMOL				AML	AML		
	comp=N,1355µm,0.1s						

*SNET **23** 07:31:24.3±0.9, 14.˚81N×86.˚92W, h0km±21km, ML2.7*
*INET **23** 07:31:27.9±3.9, 14.˚72N×87.˚03W, h10km, MW2.8*
ISC 23 07:31:27.1±2.9, 14.˚7N±0.˚1×87.˚01W±0.˚06, h10km, n8,
σ0°66/12, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**0.71**	**201**	*eP*	**Pg**	**07 31 40.2**	**-0.7**
CNCH	**Conchagua**	**1.65**	**209**	*eP*	**Pn**	**07 31 56.1**	**-0.2**
CNCH				IAML		07 32 22.7	
	comp=Z,187nm,0.3s						
LCND	**La Caada**	**1.65**	**211**	*eP*	**Pn**	**07 31 56.0**	**-0.2**
LCND				*eS*	**Sg**	**07 32 20.9**	**+0.8**
LCND				IAML		07 32 24.6	
	comp=Z,37nm,0.3s						
P5NO	**Presa 5 de nov**	**1.84**	**247**	*eP*	**Pn**	**07 31 58.9**	**+0.1**
P5NO				*eS*	**Sb**	**07 32 25.0**	**+0.9**
PQSS	**Presa 15 de Se**	**1.86**	**234**	*eS*	**Sg**	**07 32 26.1**	**-0.8**
COEB	**Comit de Eme**	**1.91**	**231**	*eP*	**Pn**	**07 32 00.5**	**+0.6**
COEB				*eS*	**Sg**	**07 32 28.3**	**-0.4**
COEB				IAML		07 32 30.6	
	comp=Z,38nm,0.4s						
MATN	**Matagalpa**	**2.07**	**149**	*eP*	**Pn**	**07 32 02.2**	**+0.1**
MATN				*eS*	**Sb**	**07 32 31.5**	**+0.7**
COEG	**Centro de Oper**	**2.12**	**239**	*eS*	**Sb**	**07 32 32.6**	**+0.5**

*SOME **23** 07:38:46.8, 41.˚93N×82.˚42E, h0km*
*NNC **23** 07:38:47.9±1.6, 41.˚87N×82.˚37E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=12.1km s-min=6.7km az=158.0
ISC 23 07:38:52.6±2.4, 42.˚0N±0.˚1×82.˚19E±0.˚08, h14km, n26,
σ1°49/39, 7C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.31**	**300**	*eP*	**Pn**	**07 39 30.6**	**+0.2**
	11nm,0.2s						
SHLS				*eS*	**Sb**	**07 40 02.4**	**-0.2**
	93nm,0.4s						
SHLS	**Shalkode**	**2.31**	**300**	Pg	**Pn**	**07 39 30.3**	**-0.1**
	16nm,0.3s						
SHLS				Lg	Lg	07 40 01.9	
	93nm,0.4s						
PDGK	**Podgornoye**	**2.38**	**304**	Pg	**Pb**	**07 39 33.7**	**-1.6**
	2.1nm,0.3s						
PDGK				Lg	Lg	07 40 08.3	
	24nm,0.4s						
PDGK	**Podgornoye**	**2.38**	**304**	⇑Pg	**Pb**	**07 39 33.7**	**-1.6**
	9.5nm,0.8s						
PDGK				⇑Lg	Lg	07 40 08.7	
	57nm,0.6s						
UZB	**Uzynbulak**	**2.59**	**297**	*eP*	**Pb**	**07 39 39.6**	**+0.6**
	4.5nm,0.3s						
UZB				*eS*	**Sg**	**07 40 17.8**	**+1.8**
	30nm,0.7s						
UZB	**Uzynbulak**	**2.59**	**297**	Pg	**Pb**	**07 39 39.0**	**0.0**
	4.5nm,0.2s						
UZB				Lg	Lg	07 40 17.5	
	22nm,0.4s						
DJR	**Jarkent**	**2.90**	**324**	*eP*	**Pb**	**07 39 44.4**	**+0.3**
	2.8nm,0.4s						
DJR				*eS*	**Sg**	**07 40 26.1**	**+0.3**
	18nm,0.5s						
DJR	**Jarkent**	**2.90**	**324**	Pg	**Pb**	**07 39 44.4**	**+0.3**
	5.4nm,0.6s						
DJR				Lg	Lg	07 40 26.2	
	18nm,0.5s						
KPKS	**Kokpek**	**2.96**	**300**	*eP*	**Pb**	**07 39 45.2**	**+0.1**
	6.5nm,0.3s						
KPKS				*eS*	**Sg**	**07 40 27.5**	**-0.1**
	58nm,0.3s						
KPKS	**Kokpek**	**2.96**	**300**	Pg	**Pb**	**07 39 44.9**	**-0.2**
	6.5nm,0.3s						
KPKS				Lg	Lg	07 40 28.4	
	58nm,0.3s						
SATY	**Saty**	**2.98**	**292**	*eP*	**Pg**	**07 39 47.3**	**-2.4**
	3.4nm,0.4s						
SATY				*eS*	**Sg**	**07 40 30.9**	**+2.5**
	27nm,0.5s						
SATY	**Saty**	**2.98**	**292**	Pg	**Pb**	**07 39 46.4**	**+0.9**
	8.3nm,0.4s						
SATY				Lg	Lg	07 40 29.8	
	21nm,0.5s						
ZHN	**Zhinishke**	**3.00**	**294**	*eP*	**Pb**	**07 39 47.2**	**+1.4**
	9.6nm,0.2s						
ZHN				*eS*	**Sg**	**07 40 31.1**	**+2.2**
	34nm,0.3s						
ZHN	**Zhinishke**	**3.00**	**294**	Pg	**Pb**	**07 39 46.6**	**+0.8**
	8.4nm,0.3s						
ZHN				Lg	Lg	07 40 30.0	
	33nm,0.2s						
ARXS	**Arharly**	**3.87**	**306**	*eP*	**Pb**	**07 40 02.9**	**+2.2**
	2.0nm,0.2s						
ARXS				*eS*	**Sg**	**07 40 57.7**	**+0.8**
	16nm,0.8s						
ARXS	**Arharly**	**3.87**	**306**	Pg	**Pg**	**07 40 03.5**	**-3.2**
	2.0nm,0.2s						
ARXS				Lg	Lg	07 40 58.9	
	10nm,0.5s						
MDOK	**Medeo**	**3.96**	**288**	*eP*	**Pb**	**07 40 04.2**	**+1.9**
	1.5nm,0.1s						
MDOK				*eS*	**Sg**	**07 40 59.9**	**+0.1**
	6.1nm,1.1s						
MDOK	**Medeo**	**3.96**	**288**	Pg	**Pb**	**07 40 04.6**	**+2.3**
	2.7nm,0.5s						
MDOK				Lg	Lg	07 40 59.2	
	9.0nm,0.9s						
TNSS	**Tian-Shan**	**4.00**	**286**	*eP*	**Pb**	**07 40 04.9**	**+1.8**
	4.9nm,0.6s						
TNSS				*eS*	**Sg**	**07 41 00.8**	**-0.4**
	4.6nm,0.4s						
TNSS	**Tian-Shan**	**4.00**	**286**	Pg	**Pb**	**07 40 03.0**	**-0.2**
	4.9nm,0.6s						
TNSS				Lg	Lg	07 40 58.5	
	4.6nm,0.4s						
KST	**Kastek**	**4.71**	**285**	*eP*	**Pb**	**07 40 18.2**	**+3.2**
	2.5nm,0.6s						
KST				*eS*	**Sg**	**07 41 23.7**	**-0.1**
	5.9nm,0.5s						
KST	**Kastek**	**4.71**	**285**	Pg	**Pb**	**07 40 16.1**	**+1.0**
	4.5nm,0.6s						
KST				Lg	Lg	07 41 21.0	
	5.1nm,0.8s						
MK31	**Makanchi Array**	**4.77**	**1**	Pn	**Pn**	**07 40 04.0**	**0.0**
	0.1nm,0.2s,baz=200,slow=14,SNR=23						
MK31				⇓Pg	**Pb**	**07 40 15.4**	**-0.6**
	3.2nm,0.7s,baz=173,slow=15,SNR=5.2						
MK31				⇑Lg	Lg	07 41 22.8	
	17nm,0.9s,baz=179,slow=27,SNR=6.8						
MAKZ	**Makanchi**	**4.79**	**358**	⇑Pn	**Pn**	**07 40 04.7**	**+0.4**
	1.4nm,0.7s						
MAKZ				⇑Pg	**Pb**	**07 40 18.1**	**+1.8**
	3.0nm,0.9s						
MAKZ				⇓Sn	**Sn**	**07 41 02.0**	**+2.4**
	1.5nm,0.5s						
MAKZ				⇓Lg	Lg	07 41 22.9	
	14nm,1.3s						
DGS	**Degeres**	**4.89**	**287**	Pg	**Pb**	**07 40 18.7**	**+0.7**
	2.1nm,0.4s						
DGS				Lg	Lg	07 41 24.5	
	4.5nm,0.6s						
TKM2	**Tokmak 2**	**4.96**	**283**	⇑Pg	**Pb**	**07 40 18.9**	**-0.4**
	1.6nm,0.6s						
TKM2				⇑Lg	Lg	07 41 30.1	
	5.8nm,0.7s						

*NOU **23** 07:40:36.0, 42.˚55S×173.˚84E, h0km, MLv4.0/9, South*
Island, New Zealand
*WEL **23** 07:40:38.7±0.4, 42.˚3S±2.˚2×17.˚4E±.˚, h5km±2km, M3.5/34,*
ML3.9/12, MLv3.5/34, Error ellipse: s-maj=0.0km
s-min=0.0km az=114.0
ISC 23 07:40:37.4±1.1, 42.˚42S±0.˚03×173.˚73E±0.˚04, h12km±8km,
n85, σ1°05/86, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.14**	**273**	P	**Pg**	**07 40 40.9**	**+0.1**
KHZ				S	**Sg**	**07 40 43.0**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.72**	**9**	P	**Pg**	**07 40 51.4**	**+0.1**
GVZ	**Greta Valley S**	**0.74**	**223**	P	**Pb**	**07 40 53.9**	**+1.7**
CMWZ	**Cape Campbell**	**0.77**	**29**	P	**Pb**	**07 40 54.1**	**+1.5**
THZ	**Tophouse**	**0.90**	**317**	P	**Pg**	**07 40 53.3**	**-1.4**
TUWZ	**Tuamarina**	**1.01**	**9**	P	**Pg**	**07 40 56.7**	**-0.1**
AMCZ	**Amberley**	**1.09**	**226**	P	**Pg**	**07 40 58.8**	**+0.5**
LTZ	**Lake Taylor**	**1.13**	**251**	P	**Pg**	**07 40 58.4**	**-0.8**
NNZ	**Nelson**	**1.23**	**348**	P	**Pg**	**07 40 59.8**	**-1.3**
MRNZ	**Matariki Terra**	**1.25**	**325**	P	**Pg**	**07 40 59.9**	**-1.5**
TCW	**Tory Channel**	**1.28**	**19**	P	**Pg**	**07 41 01.1**	**-0.9**
WEL	**Wellington**	**1.38**	**35**	P	**Pn**	**07 41 02.8**	**+0.5**
OKCZ	**Okains Bay**	**1.39**	**200**	P	**Pn**	**07 41 02.9**	**+0.4**
PLWZ	**Palliser**	**1.43**	**54**	P	**Pn**	**07 41 03.1**	**0.0**
MQZ	**McQueen's Vall**	**1.50**	**211**	P	**Pn**	**07 41 03.5**	**-0.6**
TKNZ	**Takaka Hill**	**1.50**	**337**	P	**Pn**	**07 41 04.3**	**+0.2**
OXZ	**Oxford**	**1.53**	**233**	P	**Pn**	**07 41 03.9**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.56**	**202**	P	**Pn**	**07 41 05.0**	**+0.1**
DSZ	**Denniston Nort**	**1.58**	**295**	P	**Pn**	**07 41 05.2**	**0.0**
DUWZ	**D'Urville Isla**	**1.63**	**5**	P	**Pn**	**07 41 06.2**	**+0.4**
PAWZ	**Paruwai Farm**	**1.64**	**51**	P	**Pn**	**07 41 05.8**	**-0.2**
CAW	**Cannon Point**	**1.66**	**38**	P	**Pn**	**07 41 06.3**	**+0.2**
INZ	**Inchbonnie**	**1.71**	**259**	P	**Pn**	**07 41 06.8**	**-0.1**
RACZ	**Rakaia**	**1.75**	**221**	P	**Pn**	**07 41 07.0**	**-0.4**
TRWZ	**Traveller**	**1.79**	**56**	P	**Pn**	**07 41 07.7**	**-0.3**
KIW	**Kapiti Island**	**1.80**	**30**	P	**Pn**	**07 41 08.5**	**+0.4**
QRZ	**Quartz Range**	**1.83**	**330**	P	**Pb**	**07 41 09.6**	**-1.1**
QRZ	**Quartz Range**	**1.83**	**330**	P	**Pn**	**07 41 09.4**	**+0.8**
MTW	**Mount Morrison**	**1.83**	**47**	P	**Pn**	**07 41 08.3**	**-0.3**
MHCZ	**Mount Hutt**	**1.93**	**234**	P	**Pn**	**07 41 09.1**	**-0.9**
OGWZ	**Otaki Gorge**	**1.94**	**34**	P	**Pn**	**07 41 10.1**	**+0.1**
HOWZ	**Holdsworth Sta**	**2.03**	**42**	P	**Pn**	**07 41 11.0**	**-0.4**
WACZ	**Wakanui South**	**2.05**	**222**	P	**Pn**	**07 41 11.4**	**-0.2**
TMWZ	**Te Maipa**	**2.09**	**52**	P	**Pn**	**07 41 11.6**	**-0.5**
MRZ	**Mangatainoka R**	**2.25**	**39**	P	**Pn**	**07 41 13.9**	**-0.4**
WVZ	**Waitaha Valley**	**2.29**	**253**	P	**Pn**	**07 41 15.0**	**+0.1**
RPZ	**Rata Peaks**	**2.34**	**236**	P	**Pn**	**07 41 15.4**	**-0.3**
RPZ	**Rata Peaks**	**2.34**	**236**	P	**Pn**	**07 41 15.2**	**-0.5**
ARCZ	**Arundel**	**2.41**	**230**	P	**Pn**	**07 41 15.6**	**-0.9**
PRWZ	**Pori Road**	**2.52**	**43**	P	**Pn**	**07 41 17.6**	**-0.4**
BFZ	**Birch Farm**	**2.57**	**48**	P	**Pn**	**07 41 18.5**	**-0.3**
BFZ	**Birch Farm**	**2.57**	**48**	P	**Pn**	**07 41 17.8**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.65**	**249**	P	**Pn**	**07 41 20.2**	**+0.3**
TMZ	**Timaru**	**2.79**	**224**	P	**Pn**	**07 41 21.3**	**-0.4**
WAZ	**Wanganui**	**2.83**	**20**	P	**Pn**	**07 41 24.4**	**+2.0**
TSZ	**Takapari Road**	**2.90**	**36**	P	**Pn**	**07 41 22.4**	**-0.9**
FOZ	**Fox Glacier**	**3.08**	**248**	P	**Pn**	**07 41 26.4**	**+0.7**
KHEZ	**Kahui Hut**	**3.13**	**4**	P	**Pn**	**07 41 28.5**	**+1.9**
KHEZ	**Kahui Hut**	**3.13**	**4**	P	**Pn**	**07 41 29.3**	**+2.7**
NBEZ	**Newall Road No**	**3.15**	**2**	P	**Pb**	**07 41 32.0**	**-1.4**
NEZ	**North Egmont**	**3.16**	**5**	P	**Pn**	**07 41 30.2**	**+3.2**
PKE	**Pukeiti**	**3.23**	**4**	P	**Pn**	**07 41 30.3**	**+2.4**
LBZ	**Lake Benmore**	**3.24**	**232**	P	**Pn**	**07 41 28.0**	**+0.1**
PKVZ	**Pokaka**	**3.37**	**22**	P	**Pn**	**07 41 31.1**	**+1.3**
MOVZ	**Moawhango**	**3.38**	**28**	P	**Pn**	**07 41 30.0**	**0.0**
VRZ	**Vera Road**	**3.39**	**14**	P	**Pn**	**07 41 31.8**	**+1.8**
WNVZ	**Wahianoa**	**3.41**	**25**	P	**Pn**	**07 41 31.2**	**+0.8**
TRVZ	**Turoa**	**3.42**	**24**	P	**Pn**	**07 41 31.7**	**+1.1**
BHHZ	**Black Hill Sta**	**3.42**	**32**	P	**Pn**	**07 41 30.6**	**0.0**
ODZ	**Otahua Downs**	**3.44**	**219**	P	**Pn**	**07 41 29.7**	**-1.0**
ODZ	**Otahua Downs**	**3.44**	**219**	P	**Pn**	**07 41 30.0**	**-0.7**
WHVZ	**Whangaehu Hut**	**3.44**	**25**	P	**Pn**	**07 41 32.2**	**+1.3**
FWVZ	**Far West T-bar**	**3.46**	**24**	P	**Pn**	**07 41 32.3**	**+1.2**
TUVZ	**Tukino**	**3.48**	**26**	P	**Pn**	**07 41 32.1**	**+0.8**
NGZ	**Ngauruhoe**	**3.54**	**24**	P	**Pn**	**07 41 33.1**	**+0.9**
SNVZ	**South Ngauruho**	**3.55**	**25**	P	**Pn**	**07 41 33.1**	**+0.8**
OTVZ	**Oturere**	**3.58**	**25**	P	**Pn**	**07 41 33.5**	**+0.8**
NNVZ	**North Ngauruho**	**3.59**	**24**	P	**Pn**	**07 41 33.7**	**+0.8**
ETVZ	**East Tongariro**	**3.62**	**25**	P	**Pn**	**07 41 33.9**	**+0.7**
TMVZ	**Te Maari**	**3.63**	**25**	P	**Pn**	**07 41 34.2**	**+0.8**
NTVZ	**North Tongariro**	**3.64**	**25**	P	**Pn**	**07 41 34.3**	**+0.7**
BKZ	**Black Stump Fm**	**3.87**	**34**	P	**Pn**	**07 41 37.9**	**+1.2**
BKZ	**Black Stump Fm**	**3.87**	**34**	P	**Pn**	**07 41 37.8**	**+1.1**
JCZ	**Jackson Bay**	**3.97**	**244**	P	**Pn**	**07 41 39.1**	**+1.1**
HIZ	**Hauiti**	**4.00**	**13**	P	**Pn**	**07 41 40.1**	**+1.7**
HIZ	**Hauiti**	**4.00**	**13**	P	**Pn**	**07 41 39.9**	**+1.5**
EAZ	**Earnscleugh**	**4.25**	**227**	P	**Pn**	**07 41 41.1**	**-0.7**
TLZ	**Tolley Road**	**4.32**	**19**	P	**Pn**	**07 41 43.4**	**+0.6**
TOZ	**Tahuroa Road**	**4.88**	**17**	P	**Pn**	**07 41 50.9**	**+0.4**
AWAZ	**Awhitu Peninsu**	**5.40**	**8**	P	**Pn**	**07 41 58.9**	**+1.3**
MKAZ	**Moumakai**	**5.43**	**12**	P	**Pn**	**07 41 58.5**	**+0.5**
ETAZ	**East Tamaki Re**	**5.54**	**10**	P	**Pn**	**07 42 00.8**	**+1.2**
HAZ	**Te Kaha**	**5.61**	**35**	P	**Pn**	**07 41 59.6**	**-0.8**
WIAZ	**Waiheke Island**	**5.73**	**11**	P	**Pn**	**07 42 03.2**	**+1.0**
OUZ	**Omahuta**	**7.20**	**359**	P	**Pn**	**07 42 24.3**	**+2.0**

*ASRS **23** 07:41:44.9, 53.˚4N±0.˚4×87.˚4E±0.˚4, h1km, MLh3.5/22,*
confirmed
*IDC **23** 07:41:45.8±1.5, 53.˚42N×87.˚58E, h0km, mb3.4/1,*
mbtmp3.9/4, ML3.6/3, MS3.5/1, Error ellipse: s-maj=14.7km
s-min=13.9km az=27.0
*NNC **23** 07:41:46.2±2.8, 53.˚34N×87.˚48E, h0km, mb4.3, mpv4.0,*
Error ellipse: s-maj=23.2km s-min=9.4km az=61.0,
Suspected Mining explosion.
ISC 23 07:41:45.2±0.7, 53.˚44N±0.˚02×87.˚48E±0.˚02, h0km, n43,
σ1°30/78, 8C-25D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALIN	**Malinovka, Kuz**	**0.12**	**260**	⇓Pg	**Pg**	**07 41 47.7**	**+0.2**
MALIN				Sg	**Sg**	**07 41 49.9**	**+0.8**
TAIL	**Tailep, Kuzbas**	**0.17**	**272**	⇑Pg	**Pg**	**07 41 48.9**	**+0.5**
TAIL				Sg	**Sg**	**07 41 51.5**	**+0.9**
ERU	**Erunakovo, Kuz**	**0.70**	**356**	⇓Pg	**Pb**	**07 41 60.0**	**-0.3**
ERU				Sg	**Sb**	**07 42 10.7**	**+0.2**
TASR	**Tashtagol**	**0.72**	**160**	⇓Pg	**Pg**	**07 41 59.1**	**+0.1**
TASR				Sg	**Sg**	**07 42 09.4**	**+1.0**
ELT	**Eltsovka**	**0.76**	**257**	⇓Pg	**Pg**	**07 41 59.5**	**-0.3**
ELT				Sg	**Sg**	**07 42 10.6**	**+0.9**
VCHU	**Verkh-Chumysh,**	**0.80**	**310**	P	**Pg**	**07 42 01.1**	**+0.5**
VCHU				Sg	**Sb**	**07 42 12.9**	**-0.5**
KOTO	**Kotino, Kuzbas**	**0.82**	**336**	⇓Pg	**Pb**	**07 42 02.0**	**-0.2**
KOTO				Sg	**Sb**	**07 42 14.7**	**+0.9**
LUZB	**Luzhba, Kemero**	**0.88**	**75**	⇓Pg	**Pb**	**07 42 02.6**	**-0.7**
LUZB				Sg	**Sb**	**07 42 15.9**	**+0.3**
POMOR	**Pomortsevo, Ku**	**1.12**	**330**	⇓Pg	**Pn**	**07 42 08.1**	**0.0**
POMOR				Sg	**Sn**	**07 42 25.0**	**+0.8**
BJR2	**Bachatsky-2, K**	**1.16**	**317**	⇓Pg	**Pn**	**07 42 08.6**	**-0.1**
BJR2				Sg	**Sb**	**07 42 24.0**	**+0.2**
BJR1	**Bachatsky 1, K**	**1.17**	**314**	⇓Pg	**Pg**	**07 42 07.4**	**-0.2**
BJR1				Sg	**Sb**	**07 42 23.7**	**-0.3**
SALR	**Pechorkino, Sa**	**1.43**	**314**	⇓P	**Pn**	**07 42 12.0**	**-0.4**
SALR				S	**Sn**	**07 42 33.6**	**+1.6**
ARTR	**Artybash**	**1.65**	**184**	⇓P	**Pn**	**07 42 15.2**	**-0.2**
ARTR				S	**Sn**	**07 42 37.4**	**+0.1**
ZAA0	**Zalesovo Array**	**1.66**	**289**	⇓P	**Pn**	**07 42 15.6**	**+0.1**
	5.4nm,0.5s						
ZAA0				⇓S	**Sg**	**07 42 40.2**	**+1.7**
	12nm,0.6s						
ZALV	**Zalesovo Beam**	**1.66**	**289**	Pn	**Pn**	**07 42 15.8**	**+0.3**
	18nm,0.3s,baz=106,slow=16,SNR=91						
ZALV				Lg	Lg	07 42 40.3	
	14nm,0.3s,baz=107,slow=28,SNR=12						
GALT	**Gorno-Altaysk,**	**1.75**	**213**	P	**Pn**	**07 42 17.0**	**+0.2**
GALT				S	**Sn**	**07 42 39.6**	**-0.2**
KEM	**Kemerovo**	**2.07**	**337**	Pg	**Pb**	**07 42 22.9**	**-0.7**
KEM				S	**Sg**	**07 42 50.9**	**-0.8**
DJO	**Djoy, Khakassi**	**2.35**	**105**	⇑P	**Pb**	**07 42 28.4**	**+0.1**
DJO				S	**Sb**	**07 42 58.1**	**+0.2**
CERR	**Cheremushki**	**2.44**	**102**	⇑P	**Pg**	**07 42 30.9**	**-1.1**
CERR				S	**Sb**	**07 43 00.0**	**-0.6**
DJOS	**Djoyskaya Sosn**	**2.45**	**104**	⇑P	**Pg**	**07 42 31.3**	**-0.

MKAR				Lg	Lg	07 45 40.3	
	0.9nm,0.3s,baz=29,slow=32,SNR=6.5						
	14nm,0.5s						
MKAR	**Makanchi Array**	**7.44**	**209**	⇓P	**Pn**	**07 43 37.0**	**+2.0**
MKAR				S	**Sn**	**07 44 58.6**	**-1.4**
MAKZ	**Makanchi**	**7.52**	**210**	⇓Pn	**Pn**	**07 43 38.1**	**+2.0**
	11nm,0.6s						
MAKZ				⇓Sn	**Sn**	**07 45 02.9**	**+0.9**
	3.2nm,0.6s						
MAKZ				⇑Lg	Lg	07 45 41.3	
	15nm,0.9s						
MAKZ	**Makanchi**	**7.52**	**210**	⇓P	**Pn**	**07 43 38.0**	**+2.0**
MAKZ				S	**Sn**	**07 45 00.1**	**-1.9**
BVAR	**Borovoye Array**	**10.26**	**275**	Pn	**Pn**	**07 44 13.4**	**0.0**
	0.1nm,0.3s,baz=78,slow=15,SNR=9.7						
BVAR				Sn	**Sn**	**07 46 08.0**	**-1.1**
	0.1nm,0.3s,baz=79,slow=26,SNR=6.2						
	1.3nm,0.3s						
VAE	**Valguarnera**	**51.38**	**283**	LR	LR	08 16 34.5	
	comp=Z,46nm,19.3s,baz=160,slow=41						
ILAR	**Eielson Array**	**54.93**	**25**	P	**P**	**07 51 17.4**	**+0.3**
	0.3nm,0.7s,baz=319,slow=4.5,SNR=4.8						
	0.3nm,0.7s						

IDC ***23*** *07:55:36.2±2.1, 12°.38N×87°.63W, h0km, mb4.0/4, mbtmp4.0/5, ML3.0/2, MS3.5/8, Error ellipse: s-maj=59.4km s-min=22.4km az=43.0*

SNET ***23*** *07:55:37.7±1.3, 11°.99N×88°.05W, h14km±8km, ML3.8*

INET ***23*** *07:55:38.8±0.8, 11°.97N×87°.95W, h15km±43km, MW3.9*

UCR ***23*** *07:55:39.0±1.9, 11°.96N×88°.02W, h33km±15km, ML3.6, MW3.8*

NEIC ***23*** *07:55:40.4±2.7, 12°.03N±0°.08×87°.95W±0°.08, h46km±12km, mb4.5/23, Error ellipse: s-maj=13.6km s-min=8.6km az=221.0*

ISC 23 07:55:36.4±1.5, **11°.99N**±0°.05×**87°.98W**±0°.05, **h14**km±9km, **n97**, σ 1.5 **27**/104, **mb4.5**/15, **MS3.6**/8, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.15**	**52**		**Pn**	**07 55 59.5**	**+1.3**
CRIN	**San Cristobal**	**1.15**	**52**	*e*P	**Pn**	**07 55 59.3**	**+1.2**
CNCH	**Conchagua**	**1.28**	**6**	*e*P	**Pg**	**07 56 01.4**	**+0.2**
CNCH				*e*S	**Sn**	**07 56 18.3**	**+1.1**
CNCH	**Conchagua**	**1.28**	**6**	*e*P	**Pg**	**07 56 01.4**	**+0.2**
CNCH				*e*S	**Sn**	**07 56 18.3**	**+1.1**
LCND	**La Caada**	**1.31**	**4**	*e*P	**Pg**	**07 56 01.2**	**-0.5**
LCND				*e*S	**Sg**	**07 56 18.6**	**-0.2**
LCND	**La Caada**	**1.31**	**4**	*e*P	**Pg**	**07 56 01.2**	**-0.5**
LCND				*e*S	**Sg**	**07 56 18.6**	**-0.2**
CNGN	**Cerro Negro**	**1.35**	**68**	Pn	**Pg**	**07 56 02.2**	**-0.2**
ALJI	**Alcalda de J**	**1.45**	**336**	*e*P	**Pn**	**07 56 02.6**	**+0.4**
ALJI				*e*S	**Sb**	**07 56 21.6**	**+0.1**
ALJI	**Alcalda de J**	**1.45**	**336**	*e*P	**Pn**	**07 56 02.6**	**+0.4**
ALJI				*e*S	**Sb**	**07 56 21.6**	**+0.1**
MOMN	**Momotombo**	**1.47**	**73**	*e*P	**Pn**	**07 56 02.7**	**+0.2**
PACA	**Pacayal**	**1.50**	**347**	*e*P	**Pb**	**07 56 03.9**	**-0.4**
PACA				*e*S	**Sg**	**07 56 25.4**	**+0.4**
PACA	**Pacayal**	**1.50**	**347**	*e*P	**Pb**	**07 56 03.9**	**-0.4**
PACA				*e*S	**Sg**	**07 56 25.4**	**+0.4**
PACA	**Pacayal**	**1.50**	**347**	*e*P	**Pb**	**07 56 04.2**	**-0.1**
COEB	**Comit de Eme**	**1.59**	**340**	*e*P	**Pn**	**07 56 04.5**	**+0.2**
COEB				*e*S	**Sg**	**07 56 26.9**	**-0.9**
COEB	**Comit de Eme**	**1.59**	**340**	*e*P	**Pn**	**07 56 04.5**	**+0.2**
COEB				*e*S	**Sg**	**07 56 26.9**	**-0.9**
MGAN	**Managua**	**1.70**	**85**	*e*P	Pn	07 55 60.0	-5.7
BRAN	**Las Pilas**	**1.75**	**65**	*e*P	**Pn**	**07 56 05.1**	**-1.3**
WILN	**Americas 2**	**1.76**	**84**	*e*P	**Pn**	**07 56 06.9**	**+0.4**
HUEN		**1.80**	**79**	*e*P	**Pn**	**07 56 07.5**	**+0.5**
COEG	**Centro de Oper**	**1.84**	**332**	*e*P	**Pn**	**07 56 08.0**	**+0.3**
COEG				*e*S	**Sb**	**07 56 32.9**	**0.0**
COEG	**Centro de Oper**	**1.84**	**332**	*e*P	**Pn**	**07 56 08.0**	**+0.3**
COEG				*e*S	**Sb**	**07 56 32.9**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.16**	**18**		**Pn**	**07 56 13.7**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.16**	**18**	*e*P	**Pn**	**07 56 13.6**	**+1.4**
JAYA	**Jayaque - finc**	**2.19**	**319**	*e*P	**Pn**	**07 56 12.9**	**+0.3**
JAYA				*e*S	**Sn**	**07 56 39.0**	**-0.6**
JAYA	**Jayaque - finc**	**2.19**	**319**	*e*P	**Pn**	**07 56 12.9**	**+0.3**
JAYA				*e*S	**Sn**	**07 56 39.0**	**-0.6**
MATN	**Matagalpa**	**2.21**	**65**	Pn	**Pn**	**07 56 12.3**	**-0.5**
MATN	**Matagalpa**	**2.21**	**65**	*e*P	**Pn**	**07 56 12.5**	**-0.3**
BOAB	**BOACO BROADBAN**	**2.30**	**78**		**Pn**	**07 56 14.0**	**0.0**
CEVE	**Cerro Verde**	**2.43**	**319**	*e*P	**Pn**	**07 56 17.0**	**+1.0**
CEVE				*e*S	**Sn**	**07 56 47.7**	**+2.1**
CEVE				IAML		07 56 53.4	
	comp=Z,454nm,0.5s						
CEVE	**Cerro Verde**	**2.43**	**319**	*e*P	**Pn**	**07 56 17.0**	**+1.0**
CEVE				*e*S	**Sn**	**07 56 47.7**	**+2.1**
CEVE				IAML		07 56 53.4	
	comp=Z,454nm,0.5s						
HZTE	**Horizontes, Gu**	**2.66**	**118**		**Pn**	**07 56 19.8**	**+0.8**
HZTE	**Horizontes, Gu**	**2.66**	**118**	*e*P	**Pn**	**07 56 19.6**	**+0.7**
ACON	**Acoyapa**	**2.74**	**90**		**Pn**	**07 56 21.4**	**+1.3**
ACON	**Acoyapa**	**2.74**	**90**	*e*P	**Pn**	**07 56 21.0**	**+1.0**
MTO3	**Montecristo**	**2.74**	**331**	Pn	**Pn**	**07 56 21.8**	**+1.5**
MTO3	**Montecristo**	**2.74**	**331**	*e*P	**Pn**	**07 56 22.2**	**+1.9**
ESQI	**Esquipulas**	**2.88**	**333**	Pn	**Pn**	**07 56 23.3**	**+1.3**
SAJU	**San Juanillo,**	**2.94**	**130**	*e*P	**Pn**	**07 56 22.1**	**-0.6**
SAJU				*e*S	**Sn**	**07 56 53.4**	**-4.4**
ORTG	**Ortega, Santa**	**2.96**	**123**	Pn	**Pn**	**07 56 23.7**	**+0.6**
ORTG	**Ortega, Santa**	**2.96**	**123**	*e*P	**Pn**	**07 56 23.9**	**+0.9**
CUI	**Cuipilapa**	**3.06**	**115**	*e*P	**Pn**	**07 56 25.8**	**+1.3**
DUNO	**Dulce Nombre,**	**3.09**	**128**	Pn	**Pn**	**07 56 24.8**	**-0.1**
DUNO	**Dulce Nombre,**	**3.09**	**128**	*e*P	**Pn**	**07 56 24.6**	**-0.2**
DUNO	**Dulce Nombre,**	**3.09**	**128**	*e*P	**Pn**	**07 56 24.7**	**-0.1**
NICO	**Nicoya**	**3.10**	**126**	*e*P	**Pn**	**07 56 25.8**	**+0.9**
POPE	**POPE, Guanacas**	**3.28**	**125**	*e*P	**Pn**	**07 56 28.4**	**+0.9**
JTS	**Las Juntas de**	**3.42**	**119**	Pn	**Pn**	**07 56 30.4**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=354,slow=23,SNR=7.0						
JTS				Sn	**Sn**	**07 57 10.7**	**+1.0**
	comp=Z,3.9nm,0.3s,baz=355,slow=23,SNR=5.7						
JTS	**Las Juntas de**	**3.42**	**119**	Pn	**Pn**	**07 56 30.1**	**+0.7**
JTS	**Las Juntas de**	**3.42**	**119**	*e*P	**Pn**	**07 56 30.5**	**+1.2**
JTS	**Las Juntas de**	**3.42**	**119**	*e*P	**Pn**	**07 56 30.6**	**+1.2**
ARE1	**Arenal 1**	**3.54**	**115**	*e*P	**Pn**	**07 56 32.1**	**+1.1**
LAFE	**Finca La Fe, P**	**3.71**	**126**	*e*P	**Pn**	**07 56 33.5**	**+0.1**
LAFE	**Finca La Fe, P**	**3.71**	**126**	*e*P	**Pn**	**07 56 33.3**	**-0.2**
JACO	**JACO, Garabito**	**4.00**	**125**		**Pn**	**07 56 38.2**	**+0.9**
JACO	**JACO, Garabito**	**4.00**	**125**	*e*P	**Pn**	**07 56 39.0**	**+1.7**
JACO	**JACO, Garabito**	**4.00**	**125**	*e*P	**Pn**	**07 56 37.7**	**+0.4**
LCR2	**La Lucha 2**	**4.50**	**119**	*e*P	**Pn**	**07 56 45.8**	**+2.4**
RIMA	**Rio Macho**	**4.61**	**118**	Pn	**Pn**	**07 56 48.7**	**+2.8**
VTCV	**VTCV, Calle Va**	**4.63**	**115**	*e*P	Pn	07 56 51.4	+5.3
CDM	**Cerro de Muert**	**4.80**	**120**	*e*P	**Pn**	**07 56 50.9**	**+2.2**
PEZE	**Perez Zeledon,**	**4.96**	**121**	*e*P	**Pn**	**07 56 52.6**	**+2.0**
SRBA	**San Rafael, Bu**	**5.30**	**121**	Pn	**Pn**	**07 56 57.3**	**+1.9**
SRBA	**San Rafael, Bu**	**5.30**	**121**	*e*P	**Pn**	**07 56 57.3**	**+1.9**
CDITO	**Canoas**	**6.07**	**124**	Pn	**Pn**	**07 57 08.7**	**+3.0**
CDITO	**Canoas**	**6.07**	**124**	*e*P	**Pn**	**07 57 09.5**	**+3.7**
CMIG	**Matias Romero**	**8.39**	**308**	Pn	**Pn**	**07 57 39.1**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=144,slow=11,SNR=8.6						
	comp=Z,1.8nm,0.6s						
833A	**Chaparral WMA,**	**19.44**	**328**	P	**P**	**08 00 03.5**	**+0.9**
435B	**Jarrell**	**20.71**	**336**	P	**P**	**08 00 15.0**	**-1.3**
435B				IAmb	IAmb	08 00 21.0	
	comp=Z,15nm,0.8s						
ATAH	**Atahualpa**	**21.26**	**153**	LR	LR	08 07 13.0	
	comp=Z,50nm,20.6s,baz=338,slow=32						
JCT	**Junction City**	**21.41**	**331**	P	**P**	**08 00 23.6**	**-0.5**
GOGA	**Godfrey**	**21.71**	**10**	P	**P**	**08 00 28.1**	**+0.8**
TX32	**Lajitas Array**	**22.61**	**322**	P	**P**	**08 00 38.2**	**+1.2**
TXAR	**Lajitas Array**	**22.61**	**322**	P	**P**	**08 00 38.0**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=136,slow=10,SNR=35						
	comp=Z,2.2nm,0.6s						
TXAR	**Lajitas Array**	**22.61**	**322**	P	**P**	**08 00 37.8**	**+0.9**
TX31	**Lajitas Ar. Si**	**22.61**	**322**	P	**P**	**08 00 38.0**	**+1.0**
TX31				IAmb	IAmb	08 00 46.7	
	comp=Z,15nm,0.9s						
MIAR	**Mount Ida**	**23.02**	**348**	P	**P**	**08 00 41.0**	**-0.1**
MIAR				IAmb	IAmb	08 00 43.4	
	comp=Z,26nm,0.9s						
BG3	**Lake Jocassee**	**23.35**	**10**	P	**P**	**08 00 45.4**	**+0.9**
BG3				IAmb	IAmb	08 00 45.9	
	comp=Z,18nm,1.1s						
TKL	**Tuckaleechee C**	**23.87**	**8**	P	**P**	**08 00 47.7**	**-1.8**
	comp=Z,10nm,0.9s,baz=178,slow=11,SNR=9.6						
TKL				LR	LR	08 09 23.0	
	comp=Z,48nm,18.9s,baz=254,slow=35						
	comp=Z,10nm,0.9s						
TKL	**Tuckaleechee C**	**23.87**	**8**		**P**	**08 00 50.5**	**+1.0**
TKL				IAmb	IAmb	08 00 51.2	
	comp=Z,14nm,1.0s						
X34A	**Smith Ranch, M**	**24.23**	**340**	IAmb	IAmb	08 00 54.1	
	comp=Z,18nm,0.7s						
WMOK	**Wichita Mounta**	**24.68**	**338**	P	**P**	**08 00 56.4**	**-0.6**
T47A	**Sharon Grove**	**24.90**	**2**	IAmb	IAmb	08 00 58.5	
	comp=Z,8.0nm,0.8s						
U38A	**Gravette**	**25.02**	**348**	P	**P**	**08 00 57.8**	**-2.3**
U38A				IAmb	IAmb	08 01 01.6	
	comp=Z,8.1nm,0.8s						
MSTX	**Muleshoe**	**25.71**	**331**	P	**P**	**08 01 05.6**	**-0.8**
MSTX				IAmb	IAmb	08 01 07.5	
	comp=Z,13nm,0.8s						
S39A	**Bolivar**	**26.03**	**350**	P	**P**	**08 01 07.6**	**-1.7**
S39A				IAmb	IAmb	08 01 09.1	
	comp=Z,12nm,0.7s						
ETMB	**Extrema**	**30.61**	**134**	P	**P**	**08 01 50.3**	**-0.1**
ETMB				IAmb	IAmb	08 01 57.8	
	comp=Z,3.7nm,0.8s						
ECSD	**EROS Data Cent**	**32.49**	**348**	P	**P**	**08 02 04.4**	**-2.3**
ECSD				IAmb	IAmb	08 02 05.4	
	comp=Z,13nm,1.4s						
PDAR	**Pinedale Array**	**35.93**	**333**	P	**P**	**08 02 37.7**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=144,slow=6.7,SNR=2.7						
	comp=Z,0.6nm,0.9s						
REDW	**Red Top Meadow**	**36.99**	**332**	P	**P**	**08 02 46.6**	**+0.8**
REDW				IAmb	IAmb	08 02 51.3	
	comp=Z,4.2nm,0.9s						
ULM	**Lac du Bonnet**	**38.69**	**352**	P	**P**	**08 02 57.5**	**-2.2**
	comp=Z,7.4nm,0.9s,baz=157,slow=7.7,SNR=5.2						
	comp=Z,7.4nm,0.9s						
FRB	**Frobisher Bay**	**53.47**	**11**	LR	LR	08 29 46.1	
	comp=Z,78nm,18.4s,baz=237,slow=39						
YKA	**Yellowknife Ar**	**53.92**	**345**	LR	LR	08 30 22.7	
	comp=Z,117nm,18.0s,baz=293,slow=39						
RCBR	**Riachuelo**	**54.73**	**106**	LR	LR	08 33 25.4	
	comp=Z,48nm,19.7s,baz=114,slow=42						
DLBC	**Dease Lake**	**56.10**	**335**	LR	LR	08 33 59.3	
	comp=Z,72nm,19.2s,baz=180,slow=41						
SFJD	**Kangerlussuaq**	**60.30**	**16**	LR	LR	08 30 57.4	
	comp=Z,28nm,18.4s,baz=216,slow=36						
H24K	**Noodor Dome**	**67.04**	**337**	P	**P**	**08 06 27.8**	**-1.1**
H24K				IAmb	IAmb	08 06 31.5	
	comp=Z,3.5nm,1.2s						
SPITS	**Spitsbergen Ar**	**81.25**	**12**	LR	LR	08 47 51.5	
	comp=Z,26nm,19.1s,baz=269,slow=39						

ANF ***23*** *07:58:34.9±0.1, 34°.32N×119°.50W, h14km±1km, ML3.4/34, Error ellipse: s-maj=2.0km s-min=1.3km az=69.0*

PAS ***23*** *07:58:35.2±2.7, 34°.33N±0°.02×119°.50W±0°.01, h2km±7km, ML3.3/313, ML3.0/60(NEIC), Error ellipse: s-maj=2.6km s-min=1.4km az=179.0*

NEIC ***23*** *07:58:35.5±1.6, 34°.32N±0°.02×119°.52W±0°.01, h15km±1km, Error ellipse: s-maj=3.6km s-min=1.2km az=180.0*

ISC 23 07:58:35.1±0.9, **34°.31N**±0°.02×**119°.51W**±0°.02, **h14**km±7km, **n87**, σ 0.9 **63**/117, **Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBC	**Santa Barbara**	**0.21**	**307**		**Pg**	**07 58 39.7**	**-0.2**
SBC					**Sg**	**07 58 43.7**	**+0.5**
SBC	**Santa Barbara**	**0.21**	**307**	P	**Pg**	**07 58 39.7**	**-0.2**
	baz=122,SNR=130						
SBC				S	**Sg**	**07 58 43.3**	**+0.1**
	baz=122						
STCC	**Santa Clara**	**0.26**	**92**		**Pb**	**07 58 42.4**	**+0.7**
STCC					**Sb**	**07 58 48.1**	**+2.0**
SCZ2	**Santa Cruz Isl**	**0.33**	**199**		**Pb**	**07 58 42.6**	**-0.3**
SCZ2					**Sb**	**07 58 48.4**	**+0.3**
SCZ2	**Santa Cruz Isl**	**0.33**	**199**	P	**Pb**	**07 58 42.6**	**-0.3**
	baz=19,SNR=43						
SCZ2				S	**Sg**	**07 58 47.4**	**+0.8**
	baz=19						
RYS	**Reyes Peak**	**0.35**	**21**		**Pg**	**07 58 42.1**	**-0.4**
SYP	**Santa Ynez Pea**	**0.45**	**299**		**Pg**	**07 58 44.0**	**-0.1**
SYP					**Sb**	**07 58 51.1**	**-0.3**
FIGC	**Figueroa Mtn.**	**0.58**	**316**		**Pg**	**07 58 46.5**	**0.0**
FIGC					**Sg**	**07 58 55.2**	**+0.1**
MPI	**Mount Pinos, F**	**0.58**	**31**		**Pg**	**07 58 46.2**	**-0.5**
MPI					**Sg**	**07 58 54.2**	**-0.2**
NJQ	**Nojoqui County**	**0.60**	**292**		**Pg**	**07 58 46.9**	**+0.1**
NJQ					**Sb**	**07 58 56.5**	**+0.8**
PKM	**Mcpherson Peak**	**0.63**	**336**		**Pg**	**07 58 46.9**	**-0.6**
PKM					**Sb**	**07 58 57.3**	**+0.5**
PKM	**Mcpherson Peak**	**0.63**	**336**	P	**Pg**	**07 58 46.9**	**-0.6**
	baz=155,SNR=126						
PKM				S	**Sg**	**07 58 55.8**	**-0.1**
	baz=155						
BCW	**Bitter Crk WRg**	**0.63**	**7**	Pg	**Pg**	**07 58 47.0**	**-0.5**
BCW	**Bitter Crk WRg**	**0.63**	**7**		**Sb**	**07 58 57.7**	**+0.9**
BLCC	**Black Canyon**	**0.69**	**95**		**Pg**	**07 58 48.7**	**0.0**
BLCC					**Sb**	**07 59 02.2**	**+0.7**
OSI	**Osito Audit: C**	**0.71**	**65**		**Pg**	**07 58 49.0**	**-0.1**
OSI					**Sb**	**07 58 59.6**	**+0.6**
OSI	**Osito Audit: C**	**0.71**	**65**	P	**Pg**	**07 58 49.0**	**-0.1**
	baz=246,SNR=34						
OSI				S	**Sb**	**07 58 59.1**	**+0.1**
	baz=246						
OAT	**Oat Mountain**	**0.74**	**87**		**Pb**	**07 58 50.0**	**+0.2**
OAT					**Sn**	**07 59 01.8**	**-0.6**
BSM	**San Miguel Isl**	**0.75**	**249**		**Pg**	**07 58 49.6**	**-0.1**
BSM					**Sb**	**07 59 00.7**	**+0.6**
PDE	**Pardee, Santa**	**0.77**	**80**		**Pb**	**07 58 50.9**	**+0.5**
BTPC	**Burnt Peak**	**0.85**	**64**		**Pg**	**07 58 51.3**	**-0.4**
BTPC					**Sb**	**07 59 03.7**	**+0.4**
GATR	**Gnd/Air Tx Cnt**	**0.86**	**287**		**Pg**	**07 58 51.5**	**-0.3**
DJJ	**Donna J Jenkin**	**0.89**	**103**		**Pb**	**07 58 51.4**	**-1.1**
DJJ					**Sb**	**07 59 03.6**	**-0.6**
DJJ	**Donna J Jenkin**	**0.89**	**103**	P	**Pb**	**07 58 51.5**	**-0.9**
DJJ					**Sb**	**07 59 03.6**	**-0.6**
THC	**Tehachapi Micr**	**0.92**	**49**		**Pb**	**07 58 51.8**	**-1.1**
SBI	**Santa Barbara**	**0.92**	**154**		**Pb**	**07 58 52.8**	**0.0**
CRGC	**Crocker Grade**	**0.94**	**349**		**Pb**	**07 58 53.1**	**-0.3**
DECC	**Green Verdugo**	**0.97**	**93**		**Pb**	**07 58 53.1**	**-0.7**
DECC	**Green Verdugo**	**0.97**	**93**	P	**Pb**	**07 58 52.9**	**-0.9**
	baz=275,SNR=28						
DECC				S	**Sb**	**07 59 06.7**	**+0.2**
	baz=275						
ARVC	**Arvin**	**0.98**	**34**	P	**Pb**	**07 58 53.3**	**-0.7**
	baz=215,SNR=72						
ARVC				S	**Sb**	**07 59 07.0**	**+0.1**
	baz=215						
SNCC	**San Nicolas Is**	**1.06**	**181**		**Pb**	**07 58 54.5**	**-0.8**
SNCC	**San Nicolas Is**	**1.06**	**181**	P	**Pb**	**07 58 54.5**	**-0.8**
	baz=1.1,SNR=10.0						
SNCC				S	**Sb**	**07 59 09.4**	**+0.4**
	baz=1.1						
SMMC	**Simmler**	**1.08**	**338**	P	**Pb**	**07 58 55.2**	**-0.4**
	baz=157,SNR=128						
SMMC				S	**Sn**	**07 59 10.4**	**-0.2**
	baz=157						
PASC	**Pasadena Art C**	**1.10**	**97**		**Pb**	**07 58 54.9**	**-1.1**
PASC				IAML		07 59 12.3	
	comp=E,421nm,0.3s						
PASC				IAML		07 59 12.4	
	comp=N,372nm,0.6s						
FMP	**Fort Macarthur**	**1.17**	**120**	P	**Pn**	**07 58 56.5**	**-0.6**
	baz=302,SNR=13						
FMP				S	**Sn**	**07 59 12.7**	**-0.1**
	baz=302						
CIS	**Catalina Islan**	**1.28**	**135**	P	**Pn**	**07 58 58.8**	**+0.1**
	baz=316,SNR=33						
CIS				S	**Sb**	**07 59 15.5**	**+0.1**
	baz=316						
CIAC	**Catalina I. Ai**	**1.28**	**135**		**Pb**	**07 58 59.1**	**0.0**
EDW2	**Edwards Air Fo**	**1.37**	**65**	P	**Pn**	**07 58 59.7**	**-0.2**
	baz=246,SNR=144						
EDW2				S	**Sb**	**07 59 18.2**	**+0.2**
	baz=246						
CCAC	**Calif City Air**	**1.48**	**55**		**Pn**	**07 59 01.7**	**+0.2**
THIS	**South End of C**	**1.53**	**337**		**Pb**	**07 59 03.8**	**+0.5**
BFSC	**Mount Baldy Ra**	**1.53**	**92**	P	**Pn**	**07 59 01.9**	**-0.3**
	baz=274,SNR=108						
BFSC				S	**Sn**	**07 59 22.2**	**+0.3**
	baz=274						
SCI2	**San Clemente I**	**1.55**	**149**	Sg	**Sg**	**07 59 25.9**	**+0.9**
	baz=330						
VES	**Vestal, Richgr**	**1.56**	**13**	P	**Pn**	**07 59 02.0**	**-0.5**
	baz=193,SNR=72						
VES				S	**Sb**	**07 59 23.3**	**-0.3**
	baz=193						
ISA	**Isabella, Lake**	**1.59**	**32**	Pn	**Pn**	**07 59 03.0**	**0.0**
ISA				IAML		07 59 26.6	
	comp=N,166nm,0.8s						
ISA				IAML		07 59 27.9	
	comp=E,193nm,0.6s						
ISA	**Isabella, Lake**	**1.59**	**32**	P	**Pn**	**07 59 03.0**	**0.0**
	baz=212,SNR=92						
ISA				S	**Sn**	**07 59 23.9**	**+0.5**
	baz=212						
ELS	**Elsinore Mount**	**1.85**	**110**		**Pn**	**07 59 05.6**	**-0.9**
VOG	**Valley Oaks Go**	**2.01**	**3**	P	**Pn**	**07 59 08.3**	**-0.3**
	baz=183,SNR=5.2						
VOG				S	**Sn**	**07 59 33.8**	**+0.2**
	baz=183						
MURC	**Murrieta**	**2.05**	**110**	P	**Pn**	**07 59 08.8**	**-0.4**
	baz=292,SNR=14						
WLHM	**Little Horse**	**2.08**	**28**		**Pb**	**07 59 11.5**	**-1.4**
BBRC	**Big Bear Solar**	**2.14**	**91**	P	**Pn**	**07 59 10.6**	**-0.1**
	baz=272,SNR=43						
BBRC				Sb	**Sb**	**07 59 40.8**	**+0.5**
	baz=272						
RRX	**Edison Barstow**	**2.14**	**74**	P	**Pn**	**07 59 10.9**	**+0.3**
	baz=256,SNR=9.4						
RRX				S	**Sn**	**07 59 36.6**	**-0.3**
	baz=256						
PMPB	**Monarch Peak**	**2.18**	**331**		**Pn**	**07 59 10.0**	**-1.0**
MPMC	**Manual Prospec**	**2.40**	**43**	Pb	**Pb**	**07 59 18.4**	**+0.2**
	baz=224						
CWC	**Cottonwood Cre**	**2.42**	**28**	Pb	**Pb**	**07 59 17.5**	**-1.1**
	baz=209						
CWC				Sb	**Sb**	**07 59 49.4**	**+1.0**
	baz=209						
GSC	**Goldstone, Bar**	**2.43**	**65**		**Pn**	**07 59 14.2**	**-0.4**
GSC				IAML		08 00 00.1	
	comp=N,90nm,1.0s						
GSC	**Goldstone, Bar**	**2.43**	**65**	P	**Pn**	**07 59 14.2**	**-0.4**
	baz=247,SNR=19						
109C	**Camp Elliot, M**	**2.46**	**125**	Pn	**Pb**	**07 59 17.9**	**-1.2**
109C				IAML		08 00 02.1	
	comp=N,74nm,0.5s						
109C				IAML		08 00 05.3	
	comp=E,72nm,0.8s						
BBGB	**Big Mountain B**	**2.58**	**331**	Pn	**Pn**	**07 59 16.1**	**-0.5**
PFO	**Pinyon Flats O**	**2.63**	**105**	Pn	**Pn**	**07 59 16.1**	**-1.2**
PFO	**Pinyon Flats O**	**2.63**	**105**	P	**Pn**	**07 59 17.4**	**+0.2**
	baz=287						
TPFO	**Pinon Flats**	**2.63**	**105**	P	**Pn**	**07 59 16.9**	**-0.5**
	baz=287						
HEC	**Hector,Ludlow**	**2.67**	**78**	P	**Pn**	**07 59 17.9**	**+0.1**
	baz=260						
PMD	**Palm Desert**	**2.68**	**103**		**Pn**	**07 59 18.2**	**+0.3**
PMD				IAML		07 59 59.8	
	comp=E,25nm,0.4s						
PMD				IAML		08 00 10.6	
	comp=N,40nm,0.7s						
BAR	**Barrett**	**2.87**	**124**	Pn	**Pn**	**07 59 20.6**	**0.0**
BAR				IAML		08 00 05.9	
	comp=E,36nm,0.5s						
BAR				IAML		08 00 06.5	
	comp=N,38nm,0.5s						
SAO	**San Andreas Ge**	**2.91**	**328**	Pn	**Pn**	**07 59 20.6**	**-0.6**
BELC	**Belle Mtn. Jos**	**2.92**	**95**	P	**Pn**	**07 59 21.9**	**+0.6**
	baz=277,SNR=25						
TIN	**Tinemaha, Big**	**2.93**	**20**	Pb	**Pb**	**07 59 26.6**	**-0.6**
	baz=201						
MONP2	**Monument Peak**	**2.94**	**118**	P	**Pn**	**07 59 21.5**	**-0.1**
	baz=300						
GWY	**Greenwater Val**	**2.98**	**50**	Pn	**Pn**	**07 59 22.5**	**+0.4**
GWY				IAML		08 00 22.2	
	comp=N,45nm,1.0s						
GWY				IAML		08 00 24.8	
	comp=E,51nm,1.2s						
SHOC	**Shoshone, Teco**	**3.09**	**58**	P	**Pn**	**07 59 23.9**	**+0.4**
	baz=240						
CBX	**Cerro Bola**	**3.10**	**129**		**Pn**	**07 59 24.4**	**+0.5**
CBX				IAML		08 00 27.6	
	comp=E,38nm,0.7s						
TUQ	**Turquoise Moun**	**3.15**	**68**	P	**Pn**	**07 59 24.1**	**-0.3**
	baz=250						
GRAC	**Grapevine Rang**	**3.19**	**32**	IAML		08 00 20.8	
	comp=E,56nm,0.6s						
GRAC				IAML		08 00 30.5	
	comp=N,54nm,1.1s						
**GRAC

IDC ***23*** *08:15:57.5±1.1, 37.10N×141.43E, h0km, mb3.6/7, mbtmp3.6/8, ML2.7/1, MS2.6/2, Error ellipse: s-maj=26.2km s-min=23.5km az=93.0*
JMA ***23*** *08:15:59.5±0.2, 37.2N±0.3×141.4E±0.9, h27km±1km, MV3.6/38, E OFF FUKUSHIMA PREF*
NIED ***23*** *08:15:59.6, 37.16N×141.38E, h27km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.89; $M_{\theta\theta}$1.17; $M_{\phi\phi}$0.05; $M_{\theta\phi}$2.06; $M_{r\theta}$0.70; Fault plane solution: $M_0$3.29000×10^{14} NP1:ϕ_s51.00000°, δ41.00000°, λ-75.00000°. NP2:ϕ_s212.00000°, δ51.00000°, λ-103.00000°.*

ISC 23 08:16:00.2±1.4, 37.15N±0.05×141.36E±0.06, h19km±4km, n25, σ0s84/24, mb3.6/7, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**299**	*i* P	**Pg**	**08 16 08.7**	**-0.7**
JFK				S	**Sg**	**08 16 15.3**	**-0.2**
JFFD	**Fukushimafurud**	**0.64**	**265**	*i* P	**Pb**	**08 16 12.3**	**-0.5**
JFFD				*e*S	**Sg**	**08 16 21.3**	**-0.2**
JMST	**Minamisoumatoc**	**0.69**	**327**	*i* P	**Pb**	**08 16 12.8**	**-0.8**
JMST				S	**Sb**	**08 16 22.6**	**-0.1**
JHO	**Hitachi**	**0.83**	**230**	*i* P	**Pb**	**08 16 14.6**	**-1.4**
JMM	**Marumori**	**0.85**	**328**	*i* P	**Pb**	**08 16 15.5**	**-0.8**
JMM				S	**Sb**	**08 16 27.1**	**-0.2**
JSB	**Shiboa**	**1.17**	**262**	P	**Pb**	**08 16 21.6**	**-0.2**
JSB				S	**Sg**	**08 16 38.2**	**+0.2**
JIO	**Ouri**	**1.30**	**360**	P	**Pn**	**08 16 22.4**	**-1.1**
JOU	**Okura**	**1.34**	**336**	S	**Sb**	**08 16 41.7**	**+0.3**
JFY	**Yanaizu**	**1.35**	**282**	P	**Pn**	**08 16 24.2**	**+0.2**
JFY				S	**Sb**	**08 16 42.5**	**+0.7**
MJAR	**Matsushiro Arr**	**2.60**	**257**	Pn	**Pn**	**08 16 42.3**	**+1.0**
	1.4nm,0.3s,baz=84,slow=25,SNR=47						
MJAR				Sn	**Sb**	**08 17 15.8**	**-2.0**
	0.7nm,0.3s,baz=83,slow=15,SNR=6.1 7.8nm,0.3s						
KSRS	**Korea Array**	**10.71**	**276**	LR	LR	08 22 40.9	
	comp=Z,19nm,21.5s,baz=85,slow=37						
KLR	**Kul'dur**	**13.95**	**333**	LR	LR	08 24 44.4	
	comp=Z,38nm,18.1s,baz=176,slow=38						
SONM	**Songino Array**	**27.69**	**304**	P	**P**	**08 21 48.3**	**+1.2**
	0.2nm,0.3s,baz=98,slow=6.0,SNR=2.3 0.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	08 51 21.4	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	08 51 22.2	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	08 51 22.0	
	baz=312,SNR=213						
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	08 52 12.3	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	08 52 14.9	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	08 52 15.7	
	baz=316						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**08 24 06.2**	**-0.4**
	0.4nm,0.7s,baz=74,slow=9.4,SNR=2.6 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.90**	**308**	P	**P**	**08 24 21.6**	**+0.3**
	0.5nm,0.6s,baz=84,slow=8.5,SNR=5.0 0.5nm,0.6s						
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**08 24 49.5**	**+1.1**
	0.8nm,0.7s,baz=265,slow=6.7,SNR=5.0 0.8nm,0.7s						
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**08 25 45.5**	**-0.3**
	0.3nm,0.5s,baz=4.4,slow=6.8,SNR=6.7 0.3nm,0.5s						
ASAR	**Alice Springs**	**60.90**	**188**	P	**P**	**08 26 11.7**	**-0.1**
	0.2nm,0.7s,baz=20,slow=8.3,SNR=2.4 0.2nm,0.7s						
ARCES	**ARCESS Array B**	**63.88**	**339**	P	**P**	**08 26 31.6**	**+0.5**
	2.4nm,0.9s,baz=65,slow=11,SNR=1.9 2.4nm,0.9s						

IDC ***23*** *08:17:36.1±0.8, 37.11N×141.35E, h0km, mb3.9/12, mbtmp3.9/14, ML3.4/2, Error ellipse: s-maj=24.7km s-min=18.4km az=73.0*
JMA ***23*** *08:17:38.2±0.2, 37.2N±0.4×141.1E±, h28km±1km, MV3.9/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED ***23*** *08:17:38.2, 37.24N×141.45E, h29km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.74; $M_{\theta\theta}$0.83; $M_{\phi\phi}$0.91; $M_{\theta\phi}$3.07; $M_{r\theta}$1.65; $M_{r\phi}$1.26; Fault plane solution: $M_0$3.99000×10^{14} NP1:ϕ_s17.00000°, δ22.00000°, λ-136.00000°. NP2:ϕ_s245.00000°, δ75.00000°, λ-74.00000°.*

ISC 23 08:17:37.4±0.7, 37.19N±0.05×141.51E±0.06, h10km, n29, σ1s16/27, mb4.0/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**290**	P	**Pg**	**08 17 47.7**	**-0.2**
JMST	**Minamisoumatoc**	**0.73**	**317**	P	**Pg**	**08 17 50.8**	**-0.7**
JMST				S	**Sg**	**08 18 00.1**	**-1.0**
JFFD	**Fukushimafurud**	**0.77**	**263**	P	**Pg**	**08 17 51.9**	**-0.3**
JFFD				S	**Sg**	**08 18 01.4**	**-0.8**
JMM	**Marumori**	**0.89**	**320**	P	**Pg**	**08 17 53.4**	**-1.1**
JMM				S	**Sg**	**08 18 04.4**	**-1.7**
JHO	**Hitachi**	**0.95**	**233**	P	**Pg**	**08 17 54.8**	**-0.8**
JIO	**Ouri**	**1.27**	**354**	P	**Pn**	**08 17 59.3**	**-1.9**
JSB	**Shiboa**	**1.29**	**261**	P	**Pn**	**08 18 01.2**	**-0.3**
MJAR	**Matsushiro Arr**	**2.73**	**257**	Pn	**Pn**	**08 18 20.8**	**-0.4**
	0.8nm,0.3s,baz=311,slow=8.3,SNR=8.5						
MJAR				Sn	**Sn**	**08 18 55.4**	**+1.1**
	0.9nm,0.3s,baz=64,slow=24,SNR=6.2 5.0nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.06**	**317**	Pn	**Pn**	**08 20 04.4**	**+2.5**
	0.5nm,0.3s,baz=145,slow=15,SNR=4.8						
JCJ	**Chichijima**	**10.08**	**177**	Pn	**Pn**	**08 19 60.0**	**-2.2**
	3.3nm,0.3s,baz=276,slow=19,SNR=1.8 18nm,0.5s						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**08 23 26.4**	**0.0**
	1.2nm,0.7s,baz=103,slow=8.9,SNR=7.2 1.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	08 52 58.5	
	baz=314,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	08 53 01.2	
	baz=314,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	08 53 02.3	
	baz=314,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	08 53 50.9	
	baz=316,slow=75,SNR=145						
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	08 53 50.9	
	baz=316,slow=75,SNR=134						
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	08 53 54.3	
	baz=316,slow=75,SNR=97						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**08 25 27.1**	**-0.3**
	1.8nm,0.6s,baz=92,slow=6.6,SNR=7.1 1.8nm,0.6s						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**08 25 45.3**	**-0.4**
	1.4nm,0.8s,baz=90,slow=10,SNR=9.4 1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**08 25 59.9**	**-0.6**
	2.0nm,0.6s,baz=83,slow=8.2,SNR=12 2.0nm,0.6s						
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**08 26 28.6**	**+2.4**
	0.6nm,0.8s,baz=288,slow=6.9,SNR=4.3 0.6nm,0.8s						
WRA	**Warramunga Arr**	**57.22**	**188**	P	**P**	**08 27 24.5**	**-0.3**
	0.5nm,0.5s,baz=5.7,slow=6.9,SNR=6.8 0.5nm,0.5s						
ASAR	**Alice Springs**	**60.95**	**188**	P	**P**	**08 27 50.0**	**-0.7**
	0.4nm,0.8s,baz=11,slow=7.6,SNR=4.2 0.4nm,0.8s						
ARCES	**ARCESS Array B**	**63.88**	**339**	P	**P**	**08 28 09.9**	**+0.1**
	1.7nm,0.8s,baz=50,slow=9.9,SNR=3.3 1.7nm,0.8s						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**08 28 40.8**	**-0.1**
	2.7nm,0.8s,baz=8.6,slow=10,SNR=2.3 2.7nm,0.8s						
NOA	**NORSAR Array B**	**74.08**	**337**	P	**P**	**08 29 13.8**	**+0.5**
	1.9nm,1.1s,baz=44,slow=9.3,SNR=2.8 1.9nm,1.1s						
AKASG	**Malin Array Be**	**74.22**	**322**	P	**P**	**08 29 14.0**	**-0.2**
	0.8nm,0.5s,baz=46,slow=6.1,SNR=4.9 0.8nm,0.5s						
TXAR	**Lajitas Array**	**89.96**	**52**	P	**P**	**08 30 38.7**	**+1.4**
	0.3nm,0.7s,baz=311,slow=5.5,SNR=2.5 0.3nm,0.7s						
LPAZ	**La Paz**	**146.55**	**60**	PKPbc	**PKPbc**	**08 37 20.5**	**+0.3**
	0.7nm,0.5s,baz=236,slow=3.6,SNR=2.9						

IDC ***23*** *08:41:58.8±2.5, 6.33S×154.48E, h61km±21km, mb3.5/6, mbtmp3.9/8, ML3.3/2, MS3.1/5, Error ellipse: s-maj=25.2km s-min=19.2km az=141.0*

ISC 23 08:41:58.8±0.8, 6.17S±0.09×154.47E±0.08, h61km, n15, σ1s17/15, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.06**	**307**	P	**Pn**	**08 42 44.6**	**0.0**
	14nm,0.3s,baz=265,slow=1.9,SNR=29						
KRVT				S	**Sn**	**08 43 18.3**	**-1.8**
	153nm,0.3s,baz=242,slow=23,SNR=11						
KRVT				LR	LR	08 44 19.7	
	comp=Z,277nm,20.0s,baz=228,slow=45 64nm,0.5s						
HNR	**Honiara**	**6.32**	**121**	P	**Pn**	**08 43 28.7**	**-0.7**
	360nm,0.3s,baz=195,slow=17,SNR=1.8						
HNR				S	Sn	08 44 49.6	+9.3
	5μm,1.0s,baz=238,slow=19,SNR=8.9						
HNR				LR	LR	08 46 01.9	
	comp=Z,3μm,18.1s,baz=230,slow=39						
PMG	**Port Moresby**	**7.92**	**246**	P	**Pn**	**08 43 51.6**	**+0.3**
	11nm,0.3s,baz=52,slow=8.9,SNR=27						
PMG				S	**Sn**	**08 45 20.6**	**+1.1**
	35nm,0.8s,baz=160,slow=21,SNR=6.5						
PMG				LR	LR	08 46 35.4	
	comp=Z,126nm,21.4s,baz=44,slow=35 73nm,0.6s						
CTA	**Charters Tower**	**15.97**	**209**	P	**P**	**08 45 41.9**	**-0.2**
	5.8nm,0.7s,baz=31,slow=11,SNR=8.5						
CTA				LR	LR	08 50 59.7	
	comp=Z,60nm,19.3s,baz=78,slow=34						
WRA	**Warramunga Arr**	**23.87**	**233**	P	**P**	**08 47 05.8**	**-1.0**
	0.7nm,0.7s,baz=58,slow=9.4,SNR=11						
WRA				PcP	**PcP**	**08 50 48.4**	**-0.2**
	1.3nm,0.6s,baz=56,slow=2.3,SNR=16						
WRA				LR	LR	08 56 24.9	
	comp=Z,72nm,19.1s,baz=111,slow=36 0.7nm,0.7s						
ASAR	**Alice Springs**	**26.34**	**227**	P	**P**	**08 47 28.1**	**-1.2**
	0.6nm,0.6s,baz=58,slow=9.0,SNR=14						
ASAR				PcP	**PcP**	**08 50 53.7**	**-0.4**
	1.4nm,0.7s,baz=68,slow=2.3,SNR=13 0.6nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.32**	**26**	T	T	09 16 09.8	
	baz=208,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**27.32**	**26**	T	T	09 16 06.3	
	baz=208,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**27.33**	**26**	T	T	09 16 05.8	
	baz=208,slow=75,SNR=11						
STKA	**Stephens Creek**	**28.26**	**204**	LR	LR	08 59 08.0	
	comp=Z,50nm,18.8s,baz=27,slow=37						
SONM	**Songino Array**	**68.36**	**327**	P	**P**	**08 52 56.4**	**+2.4**
	0.7nm,0.4s,baz=137,slow=5.4,SNR=6.1 0.7nm,0.4s						
MKAR	**Makanchi Array**	**82.44**	**319**	P	**P**	**08 54 13.9**	**-0.8**
	0.3nm,0.6s,baz=94,slow=7.1,SNR=2.9 0.3nm,0.6s						
ILAR	**Eielson Array**	**82.81**	**22**	P	**P**	**08 54 17.1**	**+1.0**
	0.4nm,0.6s,baz=251,slow=5.5,SNR=5.5 0.4nm,0.6s						
NVAR	**Mina Array Bea**	**91.63**	**52**	P	**P**	**08 55 00.3**	**+0.5**
	1.0nm,0.8s,baz=248,slow=4.8,SNR=4.5 1.0nm,0.8s						
BOSA	**Boshof**	**120.11**	**232**	PKP	**PKPdf**	**09 00 42.6**	**-1.1**
	2.3nm,0.8s,baz=45,slow=4.3,SNR=3.3						

WEL 23 08:42:05.9, 40.5S±3.3×17.7E±., h11km±3km, M2.5/21, ML2.6/23, MLv2.5/21, Error ellipse: s-maj=0.0km s-min=0.0km az=83.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.03**	**290**	P	Pg	08 42 08.5	+0.5
ANWZ	**Angora Road**	**0.24**	**219**	P	Pb	08 42 11.8	-0.3
WPHZ	**Waipukurau**	**0.27**	**320**	P	Pb	08 42 12.2	-0.5
PXZ	**Pawanui**	**0.29**	**31**	P	Pg	08 42 12.1	+0.4
DVHZ	**Dannevirke**	**0.39**	**266**	P	Pb	08 42 14.4	-0.3
KAHZ	**Kahuranaki**	**0.51**	**18**	P	Pb	08 42 16.7	-0.1
PNHZ	**Pukenui**	**0.51**	**315**	P	Pb	08 42 16.5	-0.3
BFZ	**Birch Farm**	**0.52**	**218**	P	Pb	08 42 17.0	+0.1
TSZ	**Takapari Road**	**0.58**	**292**	P	Pb	08 42 17.8	-0.3
PRWZ	**Pori Road**	**0.60**	**242**	P	Pb	08 42 18.7	+0.3
POWZ	**Post Office Ro**	**0.70**	**260**	P	Pb	08 42 20.2	+0.2
MCHZ	**McNeill Hill**	**0.83**	**1**	P	Pb	08 42 22.6	+0.3
BHHZ	**Black Hill Sta**	**0.91**	**329**	P	Pg	08 42 23.1	-0.4
MRZ	**Mangatainoka R**	**0.92**	**245**	P	Pg	08 42 22.7	-0.8
ARHZ	**Aropaoanui**	**1.04**	**14**	P	Pb	08 42 24.9	-1.0
BKZ	**Black Stump Fm**	**1.12**	**353**	P	Pb	08 42 26.2	-1.0
MOVZ	**Moawhango**	**1.12**	**321**	P	Pb	08 42 26.8	-0.4
WNVZ	**Wahianoa**	**1.26**	**319**	P	Pb	08 42 29.8	+0.2
WHVZ	**Whangaehu Hut**	**1.29**	**320**	P	Pb	08 42 30.4	0.0
TRVZ	**Turoa**	**1.30**	**318**	P	Pg	08 42 31.3	+0.4
SNVZ	**South Ngauruho**	**1.35**	**324**	P	Pb	08 42 31.2	+0.1
OTVZ	**Oturere**	**1.35**	**325**	P	Pb	08 42 31.6	+0.3
ETVZ	**East Tongariro**	**1.36**	**327**	P	Pg	08 42 31.8	-0.2
NGZ	**Ngauruhoe**	**1.37**	**323**	P	Pb	08 42 31.8	+0.1
TMVZ	**Te Maari**	**1.38**	**327**	P	Pg	08 42 32.1	-0.3
NNVZ	**North Ngauruho**	**1.40**	**324**	P	Pg	08 42 32.9	+0.1
NTVZ	**North Tongarir**	**1.40**	**327**	P	Pg	08 42 32.5	-0.3
PKVZ	**Pokaka**	**1.42**	**314**	P	Pb	08 42 32.5	+0.2
TUWZ	**Tuamarina**	**2.37**	**240**	P	Pn	08 42 43.9	-0.7
TUWZ	**Tuamarina**	**2.37**	**240**	P	Pn	08 42 43.8	-0.8

WEL ***23*** *08:42:28.0±0.4, 42.2S±3.3×17.4E±., h12km, M3.3/30, ML3.5/12, MLv3.3/30, Error ellipse: s-maj=0.0km s-min=0.0km az=120.8*
NOU ***23*** *08:42:29.9, 42.32S×173.41E, h9km, MLv3.8/7, South Island, New Zealand*

ISC 23 08:42:27.0±1.0, 42.28S±0.03×173.85E±0.04, h10km, n73, σ1s20/74, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**239**	P	**Pg**	**08 42 33.8**	**+1.4**
KHZ	**Kahutara**	**0.27**	**239**	P	**Pb**	**08 42 34.0**	**+0.1**
KHZ				S	**Sb**	**08 42 38.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.56**	**2**	P	**Pg**	**08 42 38.5**	**+0.5**
BSWZ				S	**Sb**	**08 42 46.6**	**-0.5**
CMWZ	**Cape Campbell**	**0.59**	**27**	P	**Pb**	**08 42 40.5**	**+1.1**
THZ	**Tophouse**	**0.87**	**306**	P	**Pb**	**08 42 43.8**	**-0.5**
GVZ	**Greta Valley S**	**0.92**	**221**	P	**Pb**	**08 42 46.1**	**+1.1**
TCW	**Tory Channel**	**1.11**	**17**	P	**Pg**	**08 42 48.2**	**-0.2**
NNZ	**Nelson**	**1.12**	**341**	P	**Pg**	**08 42 47.8**	**-0.6**
MRNZ	**Matariki Terra**	**1.20**	**317**	P	**Pn**	**08 42 49.9**	**+0.1**
WEL	**Wellington**	**1.21**	**35**	P	**Pb**	**08 42 50.0**	**0.0**
AMCZ	**Amberley**	**1.26**	**224**	P	**Pn**	**08 42 50.6**	**-0.1**
PLWZ	**Palliser**	**1.27**	**56**	P	**Pn**	**08 42 50.2**	**-0.6**
LTZ	**Lake Taylor**	**1.27**	**246**	P	**Pn**	**08 42 50.9**	**0.0**
DUWZ	**D'Urville Isla**	**1.48**	**2**	P	**Pn**	**08 42 53.5**	**-0.2**
PAWZ	**Paruwai Farm**	**1.48**	**53**	P	**Pn**	**08 42 52.9**	**-0.8**
CAW	**Cannon Point**	**1.48**	**38**	P	**Pn**	**08 42 53.3**	**-0.4**
OKCZ	**Okains Bay**	**1.56**	**202**	P	**Pn**	**08 42 54.4**	**-0.4**
DSZ	**Denniston Nort**	**1.62**	**289**	P	**Pb**	**08 42 56.3**	**-0.6**
KIW	**Kapiti Island**	**1.62**	**30**	P	**Pn**	**08 42 55.7**	**0.0**
TRWZ	**Traveller**	**1.63**	**58**	P	**Pn**	**08 42 54.7**	**-1.0**
MTW	**Mount Morrison**	**1.67**	**48**	P	**Pn**	**08 42 55.4**	**-0.8**
MQZ	**McQueen's Vall**	**1.68**	**211**	P	**Pn**	**08 42 55.3**	**-1.1**
OXZ	**Oxford**	**1.70**	**231**	P	**Pn**	**08 42 55.9**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.73**	**203**	P	**Pn**	**08 42 56.7**	**-0.6**
QRZ	**Quartz Range**	**1.76**	**325**	P	**Pb**	**08 42 58.7**	**-0.6**
OGWZ	**Otaki Gorge**	**1.77**	**35**	P	**Pn**	**08 42 57.1**	**-0.5**
INZ	**Inchbonnie**	**1.83**	**255**	P	**Pn**	**08 42 58.7**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.86**	**43**	P	**Pn**	**08 42 58.2**	**-0.8**
RACZ	**Rakaia**	**1.92**	**220**	P	**Pn**	**08 42 58.7**	**-1.0**
TMWZ	**Te Maipa**	**1.93**	**53**	P	**Pn**	**08 42 58.8**	**-1.1**
MHCZ	**Mount Hutt**	**2.09**	**232**	P	**Pn**	**08 43 01.2**	**-1.0**
WACZ	**Wakanui South**	**2.22**	**221**	P	**Pn**	**08 43 03.1**	**-0.8**
WVZ	**Waitaha Valley**	**2.43**	**250**	P	**Pn**	**08 43 06.9**	**+0.2**
RPZ	**Rata Peaks**	**2.50**	**234**	P	**Pn**	**08 43 07.4**	**-0.4**
RPZ	**Rata Peaks**	**2.50**	**234**	P	**Pn**	**08 43 07.1**	**-0.7**
ARCZ	**Arundel**	**2.57**	**229**	P	**Pn**	**08 43 08.1**	**-0.6**
WAZ	**Wanganui**	**2.66**	**19**	P	**Pb**	**08 43 14.4**	**-0.4**
ANWZ	**Angora Road**	**2.68**	**48**	P	**Pb**	**08 43 16.4**	**+1.3**
GCSZ	**Gaunt Creek Bo**	**2.79**	**247**	P	**Pn**	**08 43 12.6**	**+0.9**
NMEZ	**Namu Road**	**2.86**	**0**	P	**Pb**	**08 43 18.4**	**+0.3**
TMZ	**Timaru**	**2.96**	**224**	P	**Pn**	**08 43 13.6**	**-0.4**
KHEZ	**Kahui Hut**	**2.98**	**2**	P	**Pb**	**08 43 18.6**	**-1.7**
KHEZ	**Kahui Hut**	**2.98**	**2**	P	**Pb**	**08 43 18.1**	**-2.2**
NBEZ	**Newall Road No**	**3.01**	**0**	P	**Pb**	**08 43 18.8**	**-1.8**
NEZ	**North Egmont**	**3.01**	**4**	P	**Pb**	**08 43 20.3**	**-0.5**
PKE	**Pukeiti**	**3.08**	**2**	P	**Pb**	**08 43 22.0**	**0.0**
DREZ	**Durham Road**	**3.10**	**5**	P	**Pb**	**08 43 19.6**	**-2.6**
PKVZ	**Pokaka**	**3.19**	**21**	P	**Pn**	**08 43 18.5**	**+1.2**
MOVZ	**Moawhango**	**3.21**	**27**	P	**Pn**	**08 43 17.6**	**+0.1**
FOZ	**Fox Glacier**	**3.22**	**246**	P	**Pn**	**08 43 18.3**	**+0.7**
VRZ	**Vera Road**	**3.23**	**13**	P	**Pn**	**08 43 19.3**	**+1.6**
WNVZ	**Wahianoa**	**3.23**	**25**	P	**Pn**	**08 43 19.2**	**+1.3**
TRVZ	**Turoa**	**3.24**	**24**	P	**Pn**	**08 43 19.6**	**+1.4**
BHHZ	**Black Hill Sta**	**3.25**	**32**	P	**Pb**	**08 43 25.4**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.27**	**24**	P	**Pb**	**08 43 20.1**	**+1.5**
FWVZ	**Far West T-bar**	**3.29**	**24**	P	**Pb**	**08 43 25.1**	**-0.4**
TUVZ	**Tukino**	**3.31**	**25**	P	**Pb**	**08 43 20.9**	**+2.0**
NGZ	**Ngauruhoe**	**3.37**	**24**	P	**Pb**	**08 43 24.2**	**-2.8**
SNVZ	**South Ngauruho**	**3.38**	**24**	P	**Pb**	**08 43 21.3**	**+1.4**
LBZ	**Lake Benmore**	**3.40**	**231**	P	**Pn**	**08 43 19.9**	**-0.3**
OTVZ	**Oturere**	**3.40**	**24**	P	**Pn**	**08 43 23.2**	**+2.9**
NNVZ	**North Ngauruho**	**3.42**	**24**	P	**Pn**	**08 43 22.7**	**+2.2**
ETVZ	**East Tongariro**	**3.44**	**25**	P	**Pn**	**08 43 21.9**	**+1.1**
TMVZ	**Te Maari**	**3.46**	**25**	P	**Pn**	**08 43 23.4**	**+2.4**
NTVZ	**North Tongarir**	**3.47**	**24**	P	**Pn**	**08 43 21.7**	**+0.5**
ODZ	**Otahua Downs**	**3.61**	**219**	P	**Pn**	**08 43 22.3**	**-0.7**
ODZ	**Otahua Downs**	**3.61**	**219**	P	**Pn**	**08 43 22.0**	**-1.1**
HIZ	**Hauiti**	**3.84**	**12**	P	**Pn**	**08 43 29.6**	**+3.5**
HIZ	**Hauiti**	**3.84**	**12**	P	**Pn**	**08 43 27.6**	**+1.4**
TLZ	**Tolley Road**	**4.15**	**19**	P	**Pn**	**08 43 31.6**	**+1.2**
EAZ	**Earnscleugh**	**4.42**	**227**	P	**Pn**	**08 43 32.9**	**-1.2**
URZ	**Urewera**	**4.73**	**33**	P	Pb	08 43 45.3	-4.6
AWAZ	**Awhitu Peninsu**	**5.24**	**7**	P	**Pn**	**08 43 46.5**	**+1.1**

IDC ***23*** *08:55:29.3±1.5, 3.07S×137.18E, h0km, mb3.9/3, mbtmp4.0/6, ML4.0/3, MS3.0/3, Error ellipse: s-maj=50.1km s-min=22.2km az=76.0*

ISC 23 08:55:34.4±1.2, 3.2S±0.1×137.0E±0.1, h32km, n7, σ1s61/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.15**	**292**	Pn	**Pn**	**08 57 04.9**	**+1.9**
	11nm,0.3s,baz=87,slow=11,SNR=23						
SIJI				Sn	**Sn**	**08 58 10.5**	**-1.8**
	4.6nm,0.3s,baz=307,slow=19,SNR=8.1 41nm,0.5s						
PMG	**Port Moresby**	**11.86**	**122**	LR	LR	09 03 16.4	
	comp=Z,58nm,19.4s,baz=84,slow=40						
WRA	**Warramunga Arr**	**16.87**	**189**	Pn	**Pn**	**08 59 27.1**	**-1.1**
	0.4nm,0.3s,baz=12,slow=12,SNR=9.5						
WRA				Sn	Sn	09 02 22.3	-13
	0.3nm,0.3s,baz=1.4,slow=23,SNR=5.6						
WRA				LR	LR	09 06 28.2	
	comp=Z,58nm,18.8s,baz=24,slow=39 2.6nm,0.5s						
CTA	**Charters Tower**	**19.10**	**152**	P	**P**	**08 59 54.2**	**-0.3**
	0.3nm,0.3s,baz=311,slow=9.3,SNR=2.4						
CTA				LR	LR	09 06 37.7	
	comp=Z,38nm,18.1s,baz=79,slow=35 2.2nm,0.7s						
ASAR	**Alice Springs**	**20.59**	**188**	P	**P**	**09 00 12.2**	**+1.2**
	2.6nm,0.6s,baz=15,slow=10,SNR=32 2.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**47.37**	**355**	P	**P**	**09 04 05.4**	**0.0**
	1.4nm,0.5s,baz=161,slow=7.3,SNR=4.0 1.4nm,0.5s						
MKAR	**Makanchi Array**	**69.11**	**323**	P	**P**	**09 06 36.7**	**-0.7**
	0.5nm,0.4s,baz=113,slow=7.6,SNR=7.8 0.5nm,0.4s						

IDC ***23*** *09:05:08.0±1.5, 36.79N×141.70E, h0km, mb3.6/4, mbtmp3.6/5, ML2.5/1, MS2.9/3, Error ellipse: s-maj=36.0km s-min=31.0km az=133.0*
JMA ***23*** *09:05:09.6±0.2, 37.2N±0.4×141.4E±1.0, h28km±1km, MV3.4/33, E OFF FUKUSHIMA PREF*

ISC 23 09:05:09.8±2.4, 37.12N±0.05×141.4E±0.1, h8km±13km, n18, σ1s99/14, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.66**	**268**	*i* P	**Pg**	**09 05 22.9**	**+0.4**
JFFD				*e*S	**Sg**	**09 05 32.2**	**+1.2**
JMST	**Minamisoumatoc**	**0.72**	**327**	P	**Pg**	**09 05 23.3**	**-0.5**
JMST				*e*S	**Sg**	**09 05 33.6**	**+0.4**
JHO	**Hitachi**	**0.83**	**232**	*e*P	**Pb**	**09 05

	40nm,1.1s,baz=36,slow=28,SNR=3.7								
MKAR	**Makanchi Array**	**8.79**	**221**		Pn	**Pn**	**09 08 46.4**	**-0.1**
	0.3nm,0.3s,baz=33,slow=12,SNR=19								
MKAR					Sn	**Sn**	**09 10 26.4**	**0.0**
	0.2nm,0.3s,baz=38,slow=18,SNR=2.6								
MKAR					Lg	Lg	09 11 14.9		
	0.1nm,0.3s,baz=38,slow=22,SNR=5.3								
	0.6nm,0.4s								
MAKZ	**Makanchi**	**8.91**	**222**	⇑	Sn	**Sn**	**09 10 30.1**	**+1.0**
	8.4nm,0.8s								
MAKZ				⇑	Lg	Lg	09 11 19.2		
	36nm,1.1s								
SONM	**Songino Array**	**11.62**	**114**		Pg	Pn	09 09 59.0	+34	
	0.2nm,0.3s,baz=304,slow=16,SNR=2.4								
SONM					Lg	Lg	09 12 30.5		
	0.2nm,0.3s,baz=300,slow=23,SNR=12								
I34MN	**SONGINO INFRAS**	**11.64**	**115**		I		10 12 00.0		
	baz=313,slow=329,SNR=1.6								

*IDC **23** 09:09:15.1±2.1,6.6ˢ64Sₖ149.12E,h88ᵏᵐ±29ᵏᵐ,mb3.3/3, mbtmp3.7/6, Error ellipse: s-maj=89.5km s-min=15.3km az=129.0*

ISC 23 09:09:15.6±1.1,6.8S±0.3×149.3E±0.4,h100ᵏᵐ,n6, σ0ˢ67/7,mb3.5/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**219**	P		Pn	**09 10 05.2**	**-0.7**
	46nm,0.3s,baz=34,slow=5.1,SNR=24							
PMG				S		Sn	**09 10 45.1**	**+0.5**
	113nm,0.5s,baz=13,slow=20,SNR=16							
KRVT	**Keravat (AS076**	**3.69**	**48**	P		Pn	**09 10 10.3**	**-0.4**
	30nm,0.5s,baz=216,slow=8.7,SNR=3.4							
WRA	**Warramunga Arr**	**19.52**	**227**	P		P	**09 13 34.8**	**-0.5**
	0.7nm,0.4s,baz=51,slow=11,SNR=18							
ASAR	**Alice Springs**	**22.35**	**220**	P		P	**09 14 06.3**	**+0.8**
	0.3nm,0.5s,baz=55,slow=8.9,SNR=8.9							
	0.3nm,0.5s							
PETK	**Petropavlovsk-**	**60.11**	**6**	P		P	**09 19 12.4**	**0.0**
	2.0nm,0.9s,baz=171,slow=6.7,SNR=4.8							
	2.0nm,0.9s							
ILAR	**Eielson Array**	**85.34**	**23**	P		P	**09 21 41.6**	**+0.2**
	0.5nm,0.9s,baz=232,slow=4.4,SNR=2.0							
	0.5nm,0.9s							

*NSSP **23** 09:24:28.3,38.35Nₖ43.93E,h10ᵏᵐ,Ms3.5*
*ISK **23** 09:24:31.3,38.55Nₖ43.86E,h5ᵏᵐ,ML3.5/19*
*DDA **23** 09:24:31.0±0.0,38.54Nₖ43.81E,h1ᵏᵐ±5ᵏᵐ,ML3.6*
*TEH **23** 09:24:33.7,38.52Nₖ43.74E,h6ᵏᵐ,ML3.4*
*AZER **23** 09:24:36.0±0.3,38.52Nₖ43.79E,h2ᵏᵐ,Error ellipse: s-maj=2.9km s-min=2.0km az=18.0*

ISC 23 09:24:34.0±1.1,38.49N±0.02×43.76E±0.02,h4ᵏᵐ±10ᵏᵐ, n82,σ1ˢ95/106,6C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.24**	**47**	P		**Pg**	**09 24 36.1**	**-2.7**
VANB	**Van**	**0.31**	**289**	PG		**Pg**	**09 24 39.2**	**-0.9**
VANB				SG		**Sg**	**09 24 45.8**	**+1.6**
VANB	**Van**	**0.31**	**289**	*e*Pg		**Pg**	**09 24 39.1**	**-1.0**
ERCV	**ERCIS-VAN**	**0.62**	**328**	PG		**Pg**	**09 24 44.6**	**-1.4**
ERCV	**ERCIS-VAN**	**0.62**	**328**	*e*Pg		**Pg**	**09 24 45.5**	**-0.5**
AKDM	**Akdamar-Van**	**0.64**	**255**	PG		**Pg**	**09 24 45.8**	**-0.5**
AKDM				SG		**Sg**	**09 24 57.5**	**+2.9**
AKDM	**Akdamar-Van**	**0.64**	**255**	*e*Pg		**Pg**	**09 24 46.5**	**+0.2**
CLDR	**Caldiran**	**0.66**	**10**	PG		Pg	09 24 43.2	-3.5
CLDR	**Caldiran**	**0.66**	**10**	*e*Pg		**Pg**	**09 24 43.8**	**-2.9**
ADCV	**BITLIS_Adilcev**	**0.87**	**291**	*e*Pn		**Pb**	**09 24 49.7**	**-2.2**
ADCV	**BITLIS_Adilcev**	**0.87**	**291**	P		**Pb**	**09 24 49.8**	**-2.2**
ADCV				S		**Sb**	**09 25 03.1**	**-0.9**
YOVA	**Hakkari_Yksek**	**1.00**	**155**	*e*Pn		**Pb**	**09 24 52.3**	**-1.7**
YOVA	**Hakkari_Yksek**	**1.00**	**155**	P		**Pb**	**09 24 52.3**	**-1.7**
YOVA				S		**Sn**	**09 25 08.5**	**-1.2**
PERV	**Siirt/Pervari-**	**1.11**	**241**	P		**Pn**	**09 24 54.3**	**-2.2**
MLAZ	**Malazgirt-MUS**	**1.15**	**305**	PN		**Pn**	**09 24 55.3**	**-1.8**
MLAZ				SN		**Sb**	**09 25 12.4**	**+0.5**
MLAZ	**Malazgirt-MUS**	**1.15**	**305**	*e*Pn		**Pn**	**09 24 55.3**	**-1.8**
AGRB	**Hanur-Agry**	**1.24**	**331**	PN		**Pn**	**09 24 55.5**	**-2.9**
AGRB				SN		**Sb**	**09 25 13.8**	**-0.7**
AGRB	**Hanur-Agry**	**1.24**	**331**	*e*Pn		**Pn**	**09 24 56.0**	**-2.4**
CUKT	**Cukurca**	**1.25**	**186**	PN		**Pn**	**09 24 57.9**	**-0.6**
CUKT				SN		**Sg**	**09 25 16.7**	**+2.5**
CUKT	**Cukurca**	**1.25**	**186**	*e*Pn		**Pb**	**09 24 58.7**	**+0.4**
GURO	**Guroymak-BITLI**	**1.36**	**273**	PN		**Pn**	**09 24 57.2**	**-2.8**
GURO	**Guroymak-BITLI**	**1.36**	**273**	*e*Pn		**Pn**	**09 24 59.0**	**-1.0**
KOTA	**Agri, Merkez-K**	**1.38**	**342**	P		**Pn**	**09 24 58.2**	**-2.1**
HYR	**Heyderabad**	**1.49**	**34**	*e*Pn		**Pg**	**09 25 03.2**	**+0.7**
HYR	**Heyderabad**	**1.49**	**34**	P		**Pg**	**09 25 03.2**	**+0.7**
	SNR=36							
HYR				S		**Sg**	**09 25 25.3**	**+3.4**
NAX	**Nakhchivan**	**1.51**	**63**	*e*Pn		**Pg**	**09 25 03.5**	**+0.5**
NAX	**Nakhchivan**	**1.51**	**63**	P		**Pg**	**09 25 03.5**	**+0.5**
	SNR=22							
NAX				S		**Sg**	**09 25 25.2**	**+2.5**
TASB	**TASBURUN-IGDIR**	**1.53**	**14**	PN		**Pn**	**09 25 00.2**	**-2.1**
TASB	**TASBURUN-IGDIR**	**1.53**	**14**	*e*Pn		**Pn**	**09 25 01.3**	**-1.0**
IMRD	**Marand**	**1.54**	**81**	*e*Pn		**Pb**	**09 25 02.6**	**-0.6**
NRKZ	**NAREK**	**1.66**	**25**	⇑*i*P		**Pn**	**09 25 02.6**	**-1.5**
NRKZ				⇑*i*S		**Sg**	**09 25 27.7**	**+0.4**
SBZ	**Shahbuz**	**1.66**	**57**	*e*Pn		**Pb**	**09 25 05.4**	**+0.1**
SBZ	**Shahbuz**	**1.66**	**57**	P		**Pb**	**09 25 05.4**	**+0.1**
	SNR=106							
SBZ				S		**Sg**	**09 25 27.4**	**-0.1**
METS	**Metsamor**	**1.67**	**8**	⇓*i*P		**Pn**	**09 25 04.2**	**0.0**
METS				⇓*i*S		**Sg**	**09 25 30.0**	**+2.3**
EATA	**Eleskirt**	**1.69**	**324**	*e*Pn		**Pn**	**09 25 04.1**	**-0.6**
EATA	**Eleskirt**	**1.69**	**324**	P		**Pn**	**09 25 04.1**	**-0.6**
EATA				S		**Sg**	**09 25 30.4**	**+2.2**
ORD	**Ordubad**	**1.80**	**75**	S		**Sg**	**09 25 31.7**	**-0.1**
ARUZ	**Aruch**	**1.80**	**8**	⇓*i*P		**Pb**	**09 25 08.1**	**+0.4**
ARUZ				⇑*i*S		**Sg**	**09 25 35.5**	**+3.5**
GNI	**Garni**	**1.82**	**24**	⇑*i*P		**Pn**	**09 25 06.2**	**-0.1**
GNI				⇑*i*S		**Sg**	**09 25 35.5**	**+3.0**
GNI	**Garni**	**1.82**	**24**	PN		**Pn**	**09 25 03.9**	**-2.4**
ITBZ	**Tabriz**	**1.89**	**97**	*e*Pn		**Pb**	**09 25 08.4**	**-0.9**
VRTB	**Varto-Mus**	**1.92**	**291**	PN		**Pn**	**09 25 07.2**	**-0.5**
VRTB	**Varto-Mus**	**1.92**	**291**	*e*Pn		**Pn**	**09 25 08.1**	**+0.4**
IAZR	**Azarshahr**	**1.93**	**114**	*e*			09 25 50.5	
	comp=Z,5μm,0.9s							
IAZR				*e*Pn		**Pb**	**09 25 09.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.05**	**261**	PN		**Pn**	**09 25 09.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.05**	**261**	*e*Pn		**Pn**	**09 25 10.7**	**+1.3**
KOPR	**Koprukoy-ERZUR**	**2.11**	**316**	PN		**Pn**	**09 25 09.5**	**-0.8**
KARS	**Kars**	**2.19**	**346**	PN		**Pn**	**09 25 09.8**	**-1.7**
GRS	**Goris**	**2.24**	**63**	⇑*i*P		Pn	09 25 05.0	-7.1
GRS				⇓*i*S		**Sn**	**09 25 37.0**	**-3.3**
KARO	**Karliova-Bingo**	**2.27**	**292**	PN		**Pn**	**09 25 12.2**	**-0.4**
MAHB	**Mahabad**	**2.31**	**138**	*e*Pn		**Pb**	**09 25 15.8**	**-0.6**
MAHB				*e*			09 25 59.9	
	comp=Z,2μm,0.6s							
EJDE	**Erzurum, Palan**	**2.33**	**306**	P		**Pb**	**09 25 16.5**	**-0.4**
EJDE				S		**Sb**	**09 25 48.6**	**+2.3**
EJDE				*i* AML		AML	09 25 56.0	
	comp=Z,186nm,0.6s							
ERZM	**Erzurum**	**2.34**	**308**	P		**Pb**	**09 25 16.3**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.34**	**333**	PN		**Pn**	**09 25 12.2**	**-1.3**
BNGB	**Bingl**	**2.46**	**283**	PN		**Pn**	**09 25 15.1**	**0.0**
IHRS	**Heris**	**2.58**	**93**	*e*Pn		**Pn**	**09 25 17.9**	**+1.0**
IHRS				*e*			09 26 10.3	
	comp=Z,2μm,0.1s							
BINT	**Bingol**	**2.59**	**279**	*e*Pn		**Pn**	**09 25 16.2**	**-0.7**
IBST	**Bostanabad**	**2.59**	**107**	*e*Pn		**Pb**	**09 25 19.9**	**-1.4**
GDB	**GEDABAY**	**2.70**	**34**	*e*Pn		**Pn**	**09 25 20.2**	**+1.7**
GDB	**GEDABAY**	**2.70**	**34**	P		**Pn**	**09 25 20.2**	**+1.7**
	SNR=12							
GDB				S		**Sb**	**09 25 54.6**	**-2.1**
MAZI	**Mazidag**	**2.82**	**250**	PN		**Pn**	**09 25 20.3**	**+0.3**
MAZI	**Mazidag**	**2.82**	**250**	*e*Pn		**Pn**	**09 25 20.7**	**+0.7**
QZX	**Qazax, Azerbai**	**2.84**	**25**	*e*Pn		**Pn**	**09 25 22.1**	**+1.8**
QZX	**Qazax, Azerbai**	**2.84**	**25**	P		**Pn**	**09 25 22.1**	**+1.8**
QZX				S		**Sb**	**09 25 57.5**	**-3.1**
AKH	**Akhalkalaki**	**2.92**	**356**	PN		**Pn**	**09 25 20.2**	**-1.3**
GANJ	**Ganja**	**2.92**	**42**	P		**Pn**	**09 25 23.3**	**+1.9**
	SNR=11							
GANJ				S		**Sb**	**09 25 59.7**	**-3.2**
QRD	**Qoradiz**	**2.94**	**70**	P		**Pn**	**09 25 23.1**	**+1.6**
	SNR=5.5							
QRD				S		**Sb**	**09 25 59.8**	**-3.4**
AGDM	**Agdam**	**3.05**	**57**	P		**Pn**	**09 25 25.0**	**+1.8**
	SNR=7.2							
AGDM				S		**Sb**	**09 26 02.9**	**-3.8**

BLQ	**Beylaqan**	**3.20**	**66**	P		**Pn**	**09 25 26.8**	**+1.7**
	SNR=4.7								
BLQ				S		**Sb**	**09 26 06.2**	**-4.5**
BAYT	**Aydıntepe-Bayb**	**3.39**	**305**	PN		**Pn**	**09 25 27.7**	**-0.2**
PTK	**Pertek**	**3.44**	**278**	PN		**Pn**	**09 25 29.0**	**+0.3**
YRD	**Yardimli**	**3.53**	**82**	P		**Pn**	**09 25 31.4**	**+1.5**
	SNR=5.9								
YRD				S		**Sb**	**09 26 14.4**	**-6.1**
LRK	**Lerik**	**3.59**	**86**	P		**Pn**	**09 25 32.4**	**+1.7**
GLBA	**Cilalabad**	**3.69**	**77**	P		**Pn**	**09 25 33.6**	**+1.7**
SEKA	**Sheki**	**3.79**	**43**	P		**Pn**	**09 25 35.9**	**+2.6**
LKRN	**Lenkeran, Azer**	**3.94**	**85**	S		**Sn**	**09 26 24.4**	**+2.6**
ASTR	**Astara**	**3.94**	**87**	S		**Sn**	**09 26 24.5**	**+2.4**
QBL	**Gabala**	**3.98**	**51**	P		**Pn**	**09 25 37.6**	**+1.7**
QBL				S		**Sn**	**09 26 25.7**	**+2.5**
IML	**Ismayilli**	**4.11**	**55**	S		**Sn**	**09 26 28.8**	**+2.4**
XNQ	**Khinaliq**	**4.30**	**50**	P		**Pn**	**09 25 42.1**	**+1.6**
XNQ				S		**Sn**	**09 26 33.7**	**+2.5**
ALIB	**Äli-Bayra**	**4.33**	**69**	S		**Sn**	**09 26 34.0**	**+2.5**
QUBA	**Quba, Azerbaij**	**4.62**	**50**	P		Pn	09 25 46.6	+1.8
QUBA				S		**Sn**	**09 26 41.5**	**+2.5**

*IDC **23** 09:30:45.4±2.8,3.97Sₖ134.76E,h0ᵏᵐ,mb3.6/1, mbtmp3.7/4,ML3.6/3, Error ellipse: s-maj=98.2km s-min=27.5km az=71.0*

ISC 23 09:30:48.6±1.5,4.2S±0.2×134.1E±0.3,h10ᵏᵐ,n5,σ1ˢ07/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.38**	**320**	Pn		**Pn**	**09 31 56.5**	**+1.2**
	2.6nm,0.3s,baz=206,slow=22,SNR=9.2							
SIJI				S		**Sn**	**09 32 45.2**	**-1.2**
	3.3nm,0.3s,baz=150,slow=20,SNR=2.4							
	7.6nm,0.2s							
WRA	**Warramunga Arr**	**15.62**	**179**	Pn		**P**	**09 34 32.7**	**-0.6**
	0.2nm,0.3s,baz=0.9,slow=11,SNR=9.7							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**19.33**	**181**	P		**P**	**09 35 14.6**	**+0.3**
	0.2nm,0.3s,baz=6.7,slow=11,SNR=25							
	1.1nm,0.5s							
CN2	**Changchun**	**48.44**	**352**	*e*P		**P**	**09 39 31.0**	**-0.2**
MKAR	**Makanchi Array**	**68.26**	**324**	P		**P**	**09 41 49.5**	**-0.3**
	0.4nm,0.6s,baz=123,slow=6.4,SNR=4.5							
	0.4nm,0.6s							

*IDC **23** 09:30:56.1±1.6,35.79Nₖ4.88E,h0ᵏᵐ,mb3.9/5, mbtmp3.8/8,ML3.5/3,MS2.7/3, Error ellipse: s-maj=41.4km s-min=17.3km az=169.0*
*MDD **23** 09:30:56.1±0.9,35.46Nₖ4.96E,h0ᵏᵐ,Mb4.6/18, M_mb4.1/20, Error ellipse: s-maj=8.4km s-min=5.4km az=150.0*
*LDG **23** 09:30:57.9±0.5,35.66Nₖ4.61E,h10ᵏᵐ,Ml3.6/3, Error ellipse: s-maj=9.7km s-min=5.2km az=136.0*
*CNRM **23** 09:31:22.0,35.38Nₖ2.26E,h14ᵏᵐ,ml3.5*

ISC 23 09:31:00.4±0.9,35.91N±0.07×4.79E±0.05,h24ᵏᵐ,n45, σ2ˢ73/56,mb3.8/5,16C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**3.71**	**91**	Pn		**Pn**	**09 31 55.9**	**-0.3**
	3.7nm,0.3s,baz=273,slow=0.4,SNR=12							
KEST				S		**Sn**	**09 32 38.5**	**-0.6**
	baz=355,slow=19							
	31nm,0.6s							
MAHO	**Mahon**	**4.00**	**354**	P		**Pn**	**09 32 01.4**	**+1.3**
ETOS	**Mallorca**	**4.16**	**338**	P		**Pn**	**09 32 04.5**	**+2.2**
ETOS				⇑*i*Vmb_V			09 32 08.0	
	590nm,SNR=0.7							
ETOS				S		**Sn**	**09 32 52.1**	**+1.9**
CART	**Cartagena**	**4.94**	**291**	P		**Pn**	**09 32 13.5**	**+0.4**
CART				S		**Sn**	**09 33 12.1**	**+2.6**
CART	**Cartagena**	**4.94**	**291**	P		**Pn**	**09 32 13.3**	**+0.2**
CART				S		Sn	09 32 57.3	-12
AFON	**Font Roja**	**5.06**	**304**	P		**Pn**	**09 32 18.2**	**+3.3**
AFON				⇑*i*Vmb_V			09 32 23.7	
	228nm,SNR=2.5							
AFON				S		**Sb**	**09 33 22.7**	**-6.1**
EMUR	**La Murta**	**5.21**	**294**	P		**Pn**	**09 32 17.5**	**+0.8**
EMUR				⇑*i*Vmb_V			09 32 22.5	
	625nm,SNR=2.8							
EMUR				S		**Sn**	**09 33 18.1**	**+2.0**
EZAR	**Zarzadilla de**	**5.56**	**293**	P		**Pn**	**09 32 22.1**	**+0.5**
EZAR				⇑*i*Vmb_V			09 32 24.8	
	898nm,SNR=3.8							
EZAR				S		**Sn**	**09 33 26.7**	**+1.9**
ENIJ	**Nijar**	**5.74**	**283**	P		**Pn**	**09 32 22.9**	**-1.2**
ENIJ				⇑*i*Vmb_V			09 32 29.5	
	340nm,SNR=1.9							
ENIJ				S		**Sn**	**09 33 30.7**	**+1.5**
ETOB	**Tobarra**	**5.74**	**300**	P		**Pn**	**09 32 26.9**	**+2.7**
ETOB				⇑*i*Vmb_V			09 32 31.4	
	455nm,SNR=2.3							
ETOB				S		**Sn**	**09 33 32.9**	**+3.6**
TAF	**Taforalt**	**5.99**	**262**	P		Pn	09 32 21.7	-5.8
TAF				S		Sn	09 33 06.8	-29
EMOS	**Mosqueruela**	**6.08**	**319**	P		**Pn**	**09 32 31.6**	**+2.7**
EMOS				⇑*i*Vmb_V			09 32 36.5	
	214nm,SNR=0.7							
EMOS				S		**Sn**	**09 33 41.6**	**+3.8**
EPOB	**Poblet**	**6.16**	**333**	P		**Pn**	**09 32 32.8**	**+2.9**
EPOB				⇑*i*Vmb_V			09 32 40.5	
	230nm,SNR=0.8							
EPOB				S		**Sn**	**09 33 41.6**	**+2.0**
JBK	**JBK**	**6.23**	**258**	P		**Pn**	**09 32 27.4**	**-3.7**
JBK				S		Sn	09 33 15.8	-26
EBER	**Berja**	**6.27**	**281**	P		**Pn**	**09 32 31.5**	**-0.1**
EBER				⇑*i*Vmb_V			09 32 38.9	
	434nm,SNR=2.4							
EBER				S		**Sn**	**09 33 44.4**	**+1.8**
FIGM	**Figuig**	**6.28**	**235**	P		**Pn**	**09 32 28.2**	**-3.4**
GOG	**Mont Gurugu**	**6.38**	**266**	P		Pn	09 32 27.1	-5.9
EQES	**Quesada**	**6.58**	**289**	P		**Pn**	**09 32 37.8**	**+2.1**
EQES				⇑*i*Vmb_V			09 32 39.8	
	707nm,SNR=7.4							
EQES				S		**Sn**	**09 33 55.4**	**+5.4**
EJON	**La Jonquera**	**6.69**	**348**	P		**Pn**	**09 32 41.6**	**+4.4**
EJON				⇑*i*Vmb_V			09 32 45.8	
	600nm,SNR=1.2							
ELGU	**Los Guajares,**	**6.86**	**280**	P		**Pn**	**09 32 40.8**	**+1.3**
ELGU				⇑*i*Vmb_V			09 32 44.4	
	208nm,SNR=1.3							
EGOR	**Sierra Gorda,**	**7.27**	**282**	P		**Pn**	**09 32 47.4**	**+2.3**
EGOR				⇑*i*Vmb_V			09 32 55.5	
	93nm,SNR=3.6							
ETOR	**Torete**	**7.28**	**314**	P		Pn	09 32 50.1	+4.8
ETOR				⇑*i*Vmb_V			09 32 53.4	
	85nm,SNR=2.1							
MTLF	**Montolieu**	**7.68**	**346**	*e*Pn		**Pn**	**09 32 50.0**	**-0.7**
MTLF	**Montolieu**	**7.68**	**346**	*e*P		Pn	09 32 56.4	+5.7
MTLF				*e*Sn		**Sn**	**09 34 14.9**	**-2.0**
EADA	**Adamuz**	**7.82**	**289**	P		**Pn**	**09 32 53.4**	**+0.7**
EADA				S		**Sn**	**09 34 25.6**	**+5.0**
ESDC	**Sonseca Array**	**7.88**	**301**	Pn		**Pn**	**09 32 55.5**	**+2.0**
	0.3nm,0.3s,baz=114,slow=13,SNR=8.5							
	1.3nm,0.5s							
EPF	**Esparros**	**7.90**	**336**	*e*Pn		**Pn**	**09 32 52.9**	**-0.8**
EPF	**Esparros**	**7.90**	**336**	*e*P		**Pn**	**09 32 58.4**	**+4.7**
EPF				*e*Sn		**Sn**	**09 34 19.2**	**-3.1**
	5.0nm,0.6s							
PAB	**San Pablo**	**8.10**	**299**	P		**Pn**	**09 32 58.2**	**+1.7**
PAB				⇑*i*Vmb_V			09 33 02.3	
	92nm,SNR=1.1							
ETSF	**Etsaut**	**8.11**	**331**	*e*Pn		**Pn**	**09 32 55.8**	**-0.9**
ETSF	**Etsaut**	**8.11**	**331**	*e*P		**Pn**	**09 33 01.3**	**+4.6**
ETSF				*e*Sn		**Sn**	**09 34 24.3**	**-3.4**
	1.6nm,0.4s							
LASF	**Ste Croix**	**8.19**	**355**	*e*Pn		**Pn**	**09 32 57.5**	**-0.2**
LASF	**Ste Croix**	**8.19**	**355**	*e*P		Pn	09 33 02.9	+5.2
MDT	**Midelt**	**8.36**	**251**	Pn		**Pn**	**09 32 58.8**	**-1.3**
	0.4nm,0.3s,baz=123,slow=11,SNR=8.2							
MDT				S		**Sn**	**09 34 34.2**	**+0.3**
	0.2nm,0.3s,baz=307,slow=20,SNR=2.9							
MDT				Lg		Lg	09 35 21.3	
	0.4nm,0.3s,baz=280,slow=18,SNR=2.0							
	1.0nm,0.3s							
ECAB	**El Cabril**	**8.45**	**288**	P		**Pn**	**09 33 02.1**	**+0.8**
ECAB				⇑*i*Vmb_V			09 33 05.4	
	78nm,SNR=1.0							
ECAB				S		**Sn**	**09 34 40.1**	**+4.2**
SJPF	**Ste Jean**	**8.56**	**329**	*e*Pn		**Pn**	**09 33 01.0**	**-1.8**

SJPF	**Ste Jean**	**8.56**	**329**	*e*P		**Pn**	**09 33 06.7**	**+3.9**
SJPF				*e*Sn		**Sn**	**09 34 33.5**	**-5.1**
	113nm,1.6s							
DAVOX	**Davos/Dischmat**	**11.51**	**18**	LR		LR	09 37 49.1	
	comp=Z,32nm,21.3s,baz=85,slow=36							
VRAC	**Vranov**	**15.93**	**29**	LR		LR	09 41 35.6	
	comp=Z,27nm,21.0s,baz=178,slow=40							
IDI	**Anoyia**	**16.36**	**86**	LR		LR	09 42 19.4	
	comp=Z,34nm,20.4s,baz=81,slow=42							
AKASG	**Malin Array Be**	**22.98**	**42**	P		**P**	**09 36 01.1**	**-1.9**
	1.2nm,0.5s,baz=241,slow=10,SNR=3.3							
	1.2nm,0.5s							
BRTR	**Keskin Array B**	**23.06**	**72**	P		**P**	**09 36 02.5**	**-1.6**
	1.2nm,0.8s,baz=262,slow=12,SNR=3.2							
	1.2nm,0.8s							
ARCES	**ARCESS Array B**	**35.54**	**12**	P		**P**	**09 37 55.1**	**0.0**
	2.6nm,0.9s,baz=202,slow=8.7,SNR=6.7							
	2.6nm,0.9s							
MKAR	**Makanchi Array**	**56.97**	**53**	P		**P**	**09 40 42.9**	**-0.9**
	0.5nm,0.6s,baz=288,slow=6.0,SNR=4.8							
	0.5nm,0.6s							
TIXI	**Tiksi**	**65.81**	**17**	P		**P**	**09 41 44.2**	**+1.1**
	1.8nm,0.3s,baz=270,slow=20,SNR=4.7							
	1.8nm,0.3s							

*IDC **23** 09:36:34.8±0.6,37.32Nₖ141.50E,h0ᵏᵐ,mb4.2/22, mbtmp4.2/24,ML3.3/2,MS3.1/9, Error ellipse: s-maj=16.9km s-min=14.8km az=120.0*
*MOS **23** 09:36:34.7±1.2,37.37Nₖ141.54E,h9ᵏᵐ,mb4.7/17, Error ellipse: s-maj=9.9km s-min=7.0km az=109.4*
*NEIC **23** 09:36:36.8±0.9,37.36N±0.04×141.57E±0.06,h10ᵏᵐ±1ᵏᵐ, mb4.6/36, Error ellipse: s-maj=9.2km s-min=6.0km az=52.0*
*JMA **23** 09:36:36.4±0.2,37.3N±0.4×141.6E±0.9,h33ᵏᵐ±1ᵏᵐ, MD4.5/39,MW4.2/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **23** 09:36:36.4,37.33Nₖ141.63E,h33ᵏᵐ,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mᵣᵣ-1.60; Mᵩᵩ1.75; Mᵩᵩ-0.14; Mᵣᵩ0.35; Mᵩᵩ1.10; Mᵩᵣ-0.88; Fault plane solution: Mᵢⱼ2.22000×10¹⁵ NP1: φₛ273.00000°, δ52.00000°, λ-49.00000°. NP2:φₛ38.00000°, δ54.00000°, λ-131.00000°.*

ISC 23 09:36:35.7±1.4,37.32N±0.03×141.59E±0.05,h8ᵏᵐ±8ᵏᵐ, n177,σ1ˢ29/154,mb4.5/51,MS2.9/3,9C-19D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**275**	⇓P		**Pb**	**09 36 48.2**	**+0.1**
JFK				⇓S		**Sb**	**09 36 56.4**	**-0.1**
JFK	**Kawauchi**	**0.57**	**275**	A		A	09 36 48.2	
	comp=E,27nm,0.5s,comp=E,24nm,1.1s							
JMST	**Minamisoumatoc**	**0.69**	**306**	⇓P		**Pb**	**09 36 49.8**	**-0.3**
JMST				⇓S		**Sb**	**09 36 59.4**	**-0.4**
JMST	**Minamisoumatoc**	**0.69**	**306**	A		A	09 36 49.8	
	comp=E,47nm,1.1s,comp=E,27nm,0.6s							
JMM	**Marumori**	**0.84**	**311**			**Pg**	**09 36 51.9**	**+0.1**
JMM						**Sb**	**09 37 03.0**	**-0.9**
JMM	**Marumori**	**0.84**	**311**	P		**Pb**	**09 36 52.2**	**-0.4**
JMM	**Marumori**	**0.84**	**311**	⇓P		**Pg**	**09 36 52.0**	**+0.1**
JMM				⇓S		**Sb**	**09 37 03.1**	**-0.9**
JMM	**Marumori**	**0.84**	**311**	A		A	09 36 52.0	
	comp=E,13nm,1.

MDJ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,100nm,3.9s							
KLR	**Kul'dur**	**13.88**	**332**	Pn	**Pn**	**09 39 56.6**	**+3.9**	
	comp=Z,0.1nm,0.3s,baz=152,slow=15,SNR=2.4							
KLR				LR	LR	09 45 06.1		
	comp=Z,111nm,18.9s,baz=146,slow=37							
HEH	**HeiHe**	**16.45**	**326**	*e*P	P	09 40 40.4	+11	
PETK	**Petropavlovsk-**	**19.37**	**30**	LR	LR	09 48 04.7		
	comp=Z,53nm,19.3s,baz=218,slow=36							
NJ2	**Nanjing**	**19.41**	**261**	P	**P**	**09 41 01.6**	**-0.7**	
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
XLT	**XiLinHaoTe**	**20.41**	**297**	*e*P	**P**	**09 41 10.5**	**-2.8**	
XLT				pmax	pmax			
	comp=Z,20nm,1.1s							
XLT				pmax	pmax			
	comp=Z,180nm,5.1s							
HNS	**HongShan**	**21.35**	**278**	⇑P	**P**	**09 41 21.1**	**-2.3**	
HNS				pmax	pmax			
	comp=Z,16nm,1.0s							
MA2	**Magadan**	**23.04**	**12**	LR	LR	09 50 42.9		
	comp=Z,43nm,18.8s,baz=272,slow=37							
HHC	**Hu-ho-hao-te**	**23.52**	**288**	*e*P	**P**	**09 41 45.3**	**-1.1**	
HHC				pmax	pmax			
	comp=Z,27nm,0.8s							
HHC				pmax	pmax			
	comp=Z,280nm,5.4s							
GUMO	**Guam**	**23.81**	**172**	LR	LR	09 57 20.8		
	comp=Z,15nm,18.1s,baz=132,slow=52							
YAK	**Yakutsk**	**25.82**	**347**	P	**P**	**09 42 06.5**	**-0.7**	
	comp=Z,7.5nm,0.4s,baz=358,slow=0.7,SNR=5.3							
YAK				LR	LR	09 52 26.9		
	comp=Z,122nm,18.8s,baz=87,slow=37							
	comp=Z,7.5nm,0.4s							
YAK	**Yakutsk**	**25.82**	**347**	P	**P**	**09 42 06.5**	**-0.7**	
YAK	**Yakutsk**	**25.82**	**347**	*e*P	**P**	**09 42 06.1**	**-1.1**	
YAK				pmax	pmax			
	comp=Z,12nm,0.7s							
SEY	**Seymchan**	**26.48**	**11**	P	**P**	**09 42 14.9**	**+1.7**	
	comp=Z,2.1nm,0.9s,baz=204,slow=20,SNR=1.3							
	comp=Z,2.1nm,0.9s							
SONM	**Songino Array**	**27.75**	**303**	P	**P**	**09 42 24.3**	**-0.6**	
	comp=Z,4.1nm,0.8s,baz=100,slow=8.7,SNR=18							
	comp=Z,4.1nm,0.8s							
SONM	**Songino Array**	**27.75**	**303**	P	**P**	**09 42 24.6**	**-0.3**	
SONM	**Songino Array**	**27.75**	**303**	P	**P**	**09 42 24.6**	**-0.3**	
SONM				pmax	pmax			
	comp=Z,3.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	10 11 51.2		
	baz=314,slow=75,SNR=575							
H11N1	**WAKE ISLAND Hy**	**28.18**	**122**	T	T	10 11 51.2		
	baz=314,slow=75,SNR=589							
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	10 11 53.5		
	baz=314,slow=75,SNR=507							
H11S1	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	10 12 50.6		
	baz=316,slow=76,SNR=361							
H11S3	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	10 12 50.7		
	baz=316,slow=76,SNR=347							
H11S2	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	10 12 47.8		
	baz=316,slow=76,SNR=282							
LZH	**Lanzhou**	**30.16**	**279**	⇓P	**P**	**09 42 45.5**	**-1.0**	
LZH				pP	sP	09 42 51.8	+2.1	
LZH				sP	pP	09 42 55.8	+7.0	
LZH				pmax	pmax			
	comp=Z,13nm,1.5s							
KMI	**Kunming**	**35.15**	**261**	⇓P	**P**	**09 43 30.3**	**0.0**	
KMI				pP	pP	09 43 32.9	+0.3	
KMI				pmax	pmax			
	comp=Z,12nm,0.7s							
PZH	**PanZhiHua**	**35.27**	**264**	P	**P**	**09 43 32.9**	**+1.6**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,140nm,4.8s							
TNCH	**TengChong**	**38.53**	**264**	P	**P**	**09 43 59.8**	**+0.7**	
TNCH				pP	sP	09 44 03.0	+0.7	
TNCH				pmax	pmax			
	comp=Z,110nm,0.6s							
DGZ	**Jazzator, Alta**	**40.34**	**306**	*d* P	**P**	**09 44 14.6**	**+0.7**	
DGZ				pmax	pmax			
	comp=Z,9.0nm,0.8s							
WMQ	**Urumqi**	**40.84**	**297**	*e*P	**P**	**09 44 20.3**	**+2.3**	
CMAR	**Chiang Mai Arr**	**41.71**	**255**	P	**P**	**09 44 26.2**	**+0.9**	
	comp=Z,1.1nm,0.3s,baz=56,slow=6.2,SNR=5.2							
	comp=Z,1.1nm,0.3s							
CMAR	**Chiang Mai Arr**	**41.71**	**255**	P	**P**	**09 44 25.7**	**+0.4**	
CMAR	**Chiang Mai Arr**	**41.71**	**255**	*i* P	**P**	**09 44 27.5**	**+2.2**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZAA0	**Zalesovo Array**	**41.83**	**312**	P	**P**	**09 44 25.5**	**-0.4**	
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**09 44 25.7**	**-0.2**	
	comp=Z,5.5nm,0.8s,baz=86,slow=6.8,SNR=19							
	comp=Z,5.5nm,0.8s							
MK31	**Makanchi Array**	**44.09**	**302**	P	**P**	**09 44 44.4**	**+0.1**	
MK31				IAmb	IAmb	09 44 45.0		
	comp=Z,6.8nm,0.8s							
MK31	**Makanchi Array**	**44.09**	**302**	*c i* P	**P**	**09 44 44.3**	**0.0**	
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**09 44 44.4**	**0.0**	
	comp=Z,6.5nm,0.7s,baz=89,slow=9.9,SNR=52							
	comp=Z,6.5nm,0.7s							
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**09 44 43.9**	**-0.4**	
MAKZ	**Makanchi**	**44.30**	**302**	P	**P**	**09 44 46.1**	**+0.1**	
MAKZ				IAmb	IAmb	09 44 46.8		
	comp=Z,6.7nm,0.8s							
MAKZ	**Makanchi**	**44.30**	**302**	P	**P**	**09 44 46.1**	**+0.1**	
MAKZ				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KURK	**Kurchatov**	**45.87**	**308**	P	**P**	**09 44 58.0**	**-0.4**	
KURK	**Kurchatov**	**45.87**	**308**	*d i* P	**P**	**09 44 57.7**	**-0.7**	
KURK				pmax	pmax			
	comp=Z,14nm,0.8s							
KAPI	**Kappang**	**46.78**	**211**	P	**P**	**09 45 06.0**	**+0.1**	
KAPI	**Kappang**	**46.78**	**211**	*c i* P	**P**	**09 45 06.9**	**+1.0**	
KAPI				pmax	pmax			
	comp=Z,15nm,1.2s							
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**09 45 24.4**	**+0.5**	
	comp=Z,0.6nm,0.7s,baz=263,slow=5.6,SNR=14							
	comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**09 45 24.6**	**+0.7**	
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**09 45 24.6**	**+0.7**	
BOOM	**Boomskoye usch**	**49.51**	**298**	P	**P**	**09 45 27.7**	**+0.7**	
BOOM				IAmb	IAmb	09 45 30.4		
	comp=Z,10nm,1.5s							
BOOM	**Boomskoye usch**	**49.51**	**298**	P	**P**	**09 45 27.7**	**+0.7**	
BOOM				pmax	pmax			
	comp=Z,10.0nm,1.5s							
BMAR	**Burnt Mountain**	**50.01**	**29**	P	**P**	**09 45 33.7**	**+3.3**	
KSH	**Kashi**	**50.42**	**294**	P	**P**	**09 45 37.1**	**+3.2**	
BRVK	**Borovoye**	**50.54**	**312**	*e*P	**P**	**09 45 34.5**	**0.0**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BCAR	**Beaver Creek A**	**51.58**	**34**	P	**P**	**09 45 42.8**	**+0.6**	
KK31	**Karatay Array**	**53.11**	**300**	P	**P**	**09 45 53.5**	**-0.3**	
KK31	**Karatay Array**	**53.11**	**300**	P	**P**	**09 45 53.5**	**-0.3**	
KK31				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KKAR	**Karatay Array**	**53.11**	**300**	P	**P**	**09 45 53.4**	**-0.4**	
KKAR	**Karatay Array**	**53.11**	**300**	P	**P**	**09 45 53.4**	**-0.4**	
INK	**Inuvik**	**54.06**	**27**	P	**P**	**09 46 00.8**	**+0.5**	
	comp=Z,1.2nm,0.8s,baz=276,slow=3.3,SNR=5.2							
	comp=Z,1.2nm,0.8s							
INK	**Inuvik**	**54.06**	**27**	P	**P**	**09 46 01.7**	**+1.3**	
INK				IAmb	IAmb	09 46 10.3		
	comp=Z,6.0nm,1.2s							
INK	**Inuvik**	**54.06**	**27**	P	**P**	**09 46 01.7**	**+1.3**	
INK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
GSI	**Gunungsitoli**	**54.07**	**239**	P	**P**	**09 46 01.7**	**+0.6**	
KNRA	**Kununurra**	**54.08**	**195**	P	**P**	**09 46 01.2**	**+0.1**	
KNRA				IAmb	IAmb	09 46 13.1		
	comp=Z,11nm,1.1s							
GAR	**Garm**	**54.71**	**295**	P	**P**	**09 46 05.4**	**-0.3**	
GAR				IAmb	IAmb	09 46 06.3		
	comp=Z,9.8nm,1.1s							
CHGR	**Chuyangaron**	**55.67**	**295**	P	**P**	**09 46 12.6**	**0.0**	
CHGR	**Chuyangaron**	**55.67**	**295**	P	**P**	**09 46 12.6**	**0.0**	
CHGR				pmax	pmax			
	comp=Z,35nm,1.0s							
ARU	**Arti**	**56.24**	**318**	P	**P**	**09 46 15.8**	**-0.4**	
ARU				IAmb	IAmb	09 46 16.8		
	comp=Z,14nm,1.1s							
ARU	**Arti**	**56.24**	**318**	*d i* P	**P**	**09 46 15.9**	**-0.4**	
ARU						09 48 17.9		
ARU				S	**S**	**09 54 04.3**	**-1.7**	
ARU				SS	**SS**	**09 57 48.6**	**-3.4**	
ARU				pmax	pmax			
	comp=Z,13nm,1.1s							
WR0	**Warramunga Arr**	**57.36**	**188**	P	**P**	**09 46 24.2**	**-0.4**	
WB2	**Warramunga Arr**	**57.36**	**188**	P	**P**	**09 46 23.5**	**-1.0**	
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**09 46 23.8**	**-0.8**	
	comp=Z,1.4nm,0.8s,baz=4.0,slow=7.3,SNR=13							
	comp=Z,1.4nm,0.8s							
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**09 46 23.9**	**-0.6**	
ABKAR	**Akbulak array**	**57.87**	**310**	P	**P**	**09 46 27.5**	**-0.4**	
EUNU	**Eureka**	**59.88**	**9**	P	**P**	**09 46 41.7**	**+0.2**	
EUNU				IAmb	IAmb	09 46 48.7		
	comp=Z,4.1nm,1.1s							
KIRV	**Kirov**	**60.11**	**323**	*ce*P	**P**	**09 46 43.4**	**+0.2**	
ASAR	**Alice Springs**	**61.09**	**188**	P	**P**	**09 46 50.2**	**-0.1**	
	comp=Z,0.9nm,0.8s,baz=2.1,slow=6.3,SNR=8.7							
	comp=Z,0.9nm,0.8s							
ASAR	**Alice Springs**	**61.09**	**188**	P	**P**	**09 46 51.0**	**+0.6**	
ASAR	**Alice Springs**	**61.09**	**188**	P	**P**	**09 46 51.0**	**+0.6**	
LVZ	**Lovozero**	**61.91**	**336**	⇓*e*P	**P**	**09 46 55.4**	**0.0**	
LVZ				pmax	pmax			
	comp=Z,31nm,1.7s							
RES	**Resolute Bay**	**62.29**	**14**	P	**P**	**09 46 58.6**	**+0.8**	
RES				IAmb	IAmb	09 47 23.2		
	comp=Z,6.2nm,1.2s							
RES	**Resolute Bay**	**62.29**	**14**	P	**P**	**09 46 58.6**	**+0.8**	
RES				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARCES	**ARCESS Array B**	**63.78**	**339**	P	**P**	**09 47 08.1**	**+0.2**	
	comp=Z,3.4nm,0.8s,baz=39,slow=7.8,SNR=6.0							
	comp=Z,3.4nm,0.8s							
GEYT	**Alibeck**	**63.82**	**299**	P	**P**	**09 47 08.6**	**-0.2**	
	comp=Z,4.5nm,0.9s,baz=38,slow=5.8,SNR=5.5							
	comp=Z,4.5nm,0.9s							
GEYT	**Alibeck**	**63.82**	**299**	P	**P**	**09 47 08.5**	**-0.2**	
GEYT				IAmb	IAmb	09 47 10.8		
	comp=Z,12nm,1.4s							
GYA0	**ALIBECK ARRAY**	**63.82**	**299**	P	**P**	**09 47 08.1**	**-0.6**	
GYA0B	**ALIBECK ARRAY**	**63.82**	**299**	P	**P**	**09 47 08.1**	**-0.6**	
GYA0B				IAmb	IAmb	09 47 10.7		
	comp=Z,11nm,1.3s							
WAPA	**Wapiti River**	**65.05**	**39**	P	**P**	**09 47 17.1**	**+0.6**	
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**09 47 38.7**	**-0.3**	
	comp=Z,2.2nm,0.6s,baz=42,slow=8.8,SNR=11							
	comp=Z,2.2nm,0.6s							
KBZ	**Khabaz**	**70.83**	**311**	P	**P**	**09 47 53.3**	**+0.4**	
	comp=Z,2.5nm,0.9s,baz=90,slow=9.8,SNR=3.8							
	comp=Z,2.5nm,0.9s							
KBZ	**Khabaz**	**70.83**	**311**	⇑*e*P	**P**	**09 47 53.2**	**+0.4**	
KBZ				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KIV	**Kislovodsk**	**70.83**	**311**	*e*P	**P**	**09 47 51.8**	**-1.3**	
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
HFS	**Hagfors**	**73.89**	**336**	P	**P**	**09 48 10.6**	**-0.3**	
	comp=Z,1.3nm,0.4s,baz=79,slow=7.7,SNR=9.2							
	comp=Z,1.3nm,0.4s							
NB2	**NORSAR Subarra**	**73.98**	**337**	P	**P**	**09 48 11.0**	**-0.5**	
	comp=Z,2.9nm,0.7s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**73.98**	**337**	P	**P**	**09 48 11.2**	**-0.2**	
	comp=Z,0.9nm,0.5s,baz=38,slow=6.0,SNR=7.1							
	comp=Z,0.9nm,0.5s							
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**09 48 12.1**	**-0.5**	
	comp=Z,2.2nm,0.5s,baz=47,slow=6.2,SNR=18							
	comp=Z,2.2nm,0.5s							
AKBB	**Malin Array Si**	**74.16**	**322**	⇓*e*P	**P**	**09 48 11.8**	**-0.8**	
BMN	**Battle Mountai**	**74.22**	**51**	P	**P**	**09 48 13.5**	**+0.1**	
BMN				IAmb	IAmb	09 48 20.8		
	comp=Z,4.5nm,1.0s							
BMN	**Battle Mountai**	**74.22**	**51**	P	**P**	**09 48 13.5**	**+0.1**	
BMN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
NVAR	**Mina Array Bea**	**74.70**	**53**	P	**P**	**09 48 17.8**	**+1.5**	
	comp=Z,1.1nm,0.8s,baz=278,slow=5.4,SNR=7.7							
	comp=Z,1.1nm,0.8s							
NVAR	**Mina Array Bea**	**74.70**	**53**	P	**P**	**09 48 16.7**	**+0.4**	
H17A	**Grant Village**	**75.77**	**45**	IAmb	IAmb	09 48 31.8		
	comp=Z,5.9nm,0.9s							
GWY	**Greenwater Val**	**77.08**	**54**	P	**P**	**09 48 30.8**	**+1.0**	
GWY				IAmb	IAmb	09 48 37.1		
	comp=Z,3.9nm,0.8s							
QSM	**Queen of Sheba**	**77.08**	**55**	P	**P**	**09 48 30.1**	**+0.4**	
QSM				IAmb	IAmb	09 48 37.2		
	comp=Z,7.2nm,1.0s							
PDAR	**Pinedale Array**	**77.36**	**46**	P	**P**	**09 48 32.4**	**+0.9**	
	comp=Z,0.5nm,0.7s,baz=270,slow=2.8,SNR=9.5							
	comp=Z,0.5nm,0.7s							
PDAR	**Pinedale Array**	**77.36**	**46**	P	**P**	**09 48 31.7**	**+0.3**	
BURAR	**Bucovina Array**	**78.18**	**322**	P	**P**	**09 48 35.6**	**-0.1**	
BR131	**Keskin Array S**	**78.77**	**312**	*e*P	**P**	**09 48 38.7**	**-0.5**	
BRTR	**Keskin Array B**	**78.77**	**312**	P	**P**	**09 48 38.6**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=62,slow=2.9,SNR=3.6							
	comp=Z,0.4nm,0.3s							
BRTR	**Keskin Array B**	**78.77**	**312**	*i* P	**P**	**09 48 40.9**	**+1.7**	
PV11	**David Mesa, Pa**	**80.63**	**49**	IAmb	IAmb	09 49 00.7		
	comp=Z,5.2nm,0.7s							
CLL	**Collm**	**80.92**	**330**	*e*P	**P**	**09 48 52.0**	**+1.6**	
CLL	**Collm**	**80.92**	**330**	*e*P	**P**	**09 48 52.0**	**+1.6**	
GERES	**GERESS Array B**	**82.54**	**328**	P	**P**	**09 48 59.3**	**+0.1**	
	comp=Z,0.4nm,0.3s,baz=288,slow=1.3,SNR=5.1							
	comp=Z,0.4nm,0.3s							
ANMO	**Albuquerque**	**84.29**	**50**	⇑*e*P	**P**	**09 49 09.2**	**+0.6**	
ANMO				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TX32	**Lajitas Array**	**89.83**	**52**	IAmb	IAmb	09 49 37.0		
	comp=Z,3.6nm,1.2s							
TXAR	**Lajitas Array**	**89.83**	**52**	P	**P**	**09 49 36.4**	**+0.9**	
	comp=Z,0.9nm,0.8s,baz=268,slow=3.8,SNR=10							
	comp=Z,0.9nm,0.8s							
TXAR	**Lajitas Array**	**89.83**	**52**	P	**P**	**09 49 36.3**	**+0.8**	
LPAZ	**La Paz**	**146.42**	**59**	PKPbc	**PKPdf**	**09 56 17.9**	**+0.7**	
	comp=Z,2.3nm,0.7s,baz=264,slow=5.4,SNR=3.8							
LPAZ	**La Paz**	**146.42**	**59**	PKP2	**PKPdf**	**09 56 18.0**	**+0.7**	

WEL 23 09:53:30.8±0.5, 42°S±4°×17°4E±°, h5km±2km, M2.3/7, ML2.5/7, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=145.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.12**	**27**	P	Pg	09 53 34.0	+0.6
CMWZ				S	Sg	09 53 36.9	+1.9
BSWZ	**Blackbirch Sta**	**0.24**	**306**	P	Pg	09 53 35.8	+0.2
BSWZ				S	Sg	09 53 39.5	+0.7
TUWZ	**Tuamarina**	**0.45**	**341**	P	Pg	09 53 39.5	0.0
TCW	**Tory Channel**	**0.66**	**9**	P	Pg	09 53 43.4	0.0
WEL	**Wellington**	**0.74**	**40**	P	Pb	09 53 45.9	-0.4
PLWZ	**Palliser**	**0.89**	**71**	P	Pb	09 53 48.3	-0.4
THZ	**Tophouse**	**0.93**	**276**	P	Pg	09 53 48.7	+0.1
CAW	**Cannon Point**	**1.02**	**43**	P	Pg	09 53 50.7	+0.3
DUWZ	**D'Urville Isla**	**1.07**	**351**	P	Pg	09 53 50.7	-0.6
PAWZ	**Paruwai Farm**	**1.08**	**64**	P	Pg	09 53 51.0	-0.5
MRNZ	**Matariki Terra**	**1.13**	**294**	P	Pb	09 53 52.7	-0.2
KIW	**Kapiti Island**	**1.15**	**30**	P	Pg	09 53 53.0	0.0
TKNZ	**Takaka Hill**	**1.21**	**313**	P	Pg	09 53 53.3	-0.7
MTW	**Mount Morrison**	**1.24**	**56**	P	Pg	09 53 53.1	-1.5
OGWZ	**Otaki Gorge**	**1.30**	**37**	P	Pn	09 53 54.7	-0.9
HOWZ	**Holdsworth Sta**	**1.41**	**48**	P	Pn	09 53 56.3	-1.0
QRZ	**Quartz Range**	**1.59**	**310**	P	Pn	09 53 59.9	+0.3
MRZ	**Mangatainoka R**	**1.62**	**43**	P	Pn	09 53 58.7	-1.3
DSZ	**Denniston Nort**	**1.75**	**273**	P	Pb	09 54 03.0	-0.5
OKCZ	**Okains Bay**	**2.02**	**203**	P	Pg	09 54 09.5	-0.1
OXZ	**Oxford**	**2.13**	**226**	P	Pb	09 54 10.7	+0.7
MQZ	**McQueen's Vall**	**2.15**	**210**	P	Pb	09 54 09.6	-0.6
INZ	**Inchbonnie**	**2.18**	**246**	P	Pb	09 54 10.8	+0.1
AKCZ	**Akaroa Harbour**	**2.21**	**204**	P	Pb	09 54 11.7	+0.5
RACZ	**Rakaia**	**2.38**	**218**	P	Pb	09 54 13.1	-1.0
MHCZ	**Mount Hutt**	**2.53**	**228**	P	Pb	09 54 15.1	-1.6
WACZ	**Wakanui South**	**2.68**	**218**	P	Pb	09 54 17.0	-2.3
RPZ	**Rata Peaks**	**2.93**	**230**	P	Pn	09 54 20.8	+2.7
ARCZ	**Arundel**	**3.01**	**225**	P	Pn	09 54 22.0	+2.7

WEL 23 09:53:42.4±0.3, 42°S±2°×17°4E±°, h5km, M3.3/21, ML3.7/13, MLv3.3/21, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.26**	**176**	P	Pg	09 53 47.8	+0.3
KHZ				S	Sg	09 53 51.8	+0.9
BSWZ	**Blackbirch Sta**	**0.52**	**32**	P	Pg	09 53 52.4	0.0
BSWZ				S	Sb	09 54 00.8	-1.0
THZ	**Tophouse**	**0.60**	**311**	P	Pg	09 53 54.3	+0.3
CMWZ	**Cape Campbell**	**0.66**	**52**	P	Pg	09 53 55.8	+0.7
TUWZ	**Tuamarina**	**0.80**	**24**	P	Pg	09 53 57.9	+0.3
TUWZ				S	Sb	09 54 09.4	-0.4
GVZ	**Greta Valley S**	**0.88**	**203**	P	Pb	09 54 00.2	0.0
GVZ	**Greta Valley S**	**0.88**	**203**	P	Pb	09 54 00.1	-0.2
MRNZ	**Matariki Terra**	**0.94**	**323**	P	Pg	09 54 00.6	+0.1
NNZ	**Nelson**	**0.94**	**354**	P	Pg	09 54 00.0	-0.5
TCW	**Tory Channel**	**1.10**	**31**	P	Pg	09 54 02.9	-0.7
TCW				S	Sb	09 54 18.9	+0.2
LTZ	**Lake Taylor**	**1.11**	**235**	P	Pg	09 54 03.2	-0.5
LTZ	**Lake Taylor**	**1.11**	**235**	P	Pg	09 54 03.2	-0.5
TKNZ	**Takaka Hill**	**1.20**	**340**	P	Pg	09 54 04.9	-0.4
AMCZ	**Amberley**	**1.20**	**212**	P	Pg	09 54 05.2	-0.2
AMCZ	**Amberley**	**1.20**	**212**	P	Pg	09 54 04.9	-0.6
WEL	**Wellington**	**1.28**	**48**	P	Pn	09 54 05.8	-1.1
PLWZ	**Palliser**	**1.43**	**66**	P	Pn	09 54 06.8	-2.2
QRZ	**Quartz Range**	**1.52**	**331**	P	Pb	09 54 10.7	-0.4
PAWZ	**Paruwai Farm**	**1.63**	**62**	P	Pn	09 54 09.6	-2.2
KIW	**Kapiti Island**	**1.67**	**40**	P	Pn	09 54 11.4	-0.8
OGWZ	**Otaki Gorge**	**1.83**	**43**	P	Pn	09 54 13.2	-1.3
HOWZ	**Holdsworth Sta**	**1.96**	**51**	P	Pn	09 54 15.1	-1.3
TMWZ	**Te Maipa**	**2.07**	**60**	P	Pn	09 54 15.2	-2.7
MRZ	**Mangatainoka R**	**2.16**	**47**	P	Pn	09 54 17.1	-1.9
OHWZ	**Ohakea**	**2.38**	**36**	P	Pn	09 54 22.0	0.0
PRWZ	**Pori Road**	**2.45**	**50**	P	Pn	09 54 21.7	-1.3
POWZ	**Post Office Ro**	**2.45**	**45**	P	Pn	09 54 21.2	-1.8
BFZ	**Birch Farm**	**2.53**	**55**	P	Pn	09 54 25.4	+1.3
WAZ	**Wanganui**	**2.65**	**25**	P	Pn	09 54 27.1	+1.4
DVHZ	**Dannevirke**	**2.73**	**48**	P	Pn	09 54 24.6	-2.3
NMEZ	**Namu Road**	**2.75**	**6**	P	Pn	09 54 28.9	+1.7
LREZ	**Lake Rotokare**	**2.78**	**14**	P	Pb	09 54 30.9	-1.6
TSZ	**Takapari Road**	**2.80**	**42**	P	Pb	09 54 25.7	-2.1
KHEZ	**Kahui Hut**	**2.88**	**8**	P	Pn	09 54 30.6	+1.5
NBEZ	**Newall Road No**	**2.90**	**5**	P	Pn	09 54 31.6	+2.5
NEZ	**North Egmont**	**2.92**	**9**	P	Pb	09 54 32.2	-2.7
PKE	**Pukeiti**	**2.98**	**7**	P	Pn	09 54 32.9	+2.6
DREZ	**Durham Road**	**3.01**	**10**	P	Pn	09 54 32.5	+1.8
VRZ	**Vera Road**	**3.17**	**18**	P	Pn	09 54 34.8	+1.9
MOVZ	**Moawhango**	**3.23**	**33**	P	Pn	09 54 32.6	-1.2
WNVZ	**Wahianoa**	**3.24**	**30**	P	Pn	09 54 34.4	+0.3
TRVZ	**Turoa**	**3.25**	**29**	P	Pn	09 54 34.1	-0.1
DRZ	**Dome Shelter**	**3.27**	**29**	P	Pb	09 54 40.2	-0.9
WHVZ	**Whangaehu Hut**	**3.28**	**29**	P	Pn	09 54 34.6	0.0
FWVZ	**Far West T-bar**	**3.29**	**29**	P	Pn	09 54 34.8	+0.1
BHHZ	**Black Hill Sta**	**3.29**	**37**	P	Pn	09 54 33.2	-1.4
TUVZ	**Tukino**	**3.31**	**30**	P	Pn	09 54 34.8	-0.3
NGZ	**Ngauruhoe**	**3.38**	**29**	P	Pn	09 54 35.7	-0.2
SNVZ	**South Ngauruho**	**3.38**	**29**	P	Pn	09 54 36.0	+0.1
OTVZ	**Oturere**	**3.41**	**29**	P	Pn	09 54 36.3	-0.1
TWVZ	**Taurewa**	**3.41**	**26**	P	Pn	09 54 36.1	-0.2
NNVZ	**North Ngauruho**	**3.42**	**29**	P	Pn	09 54 36.5	0.0
ETVZ	**East Tongariro**	**3.45**	**30**	P	Pn	09 54 36.7	-0.2
TMVZ	**Te Maari**	**3.47**	**29**	P	Pn	09 54 36.8	-0.3
NTVZ	**North Tongarir**	**3.47**	**29**	P	Pn	09 54 37.1	-0.1
KAHZ	**Kahuranaki**	**3.47**	**48**	P	Pn	09 54 34.4	-2.7
BKZ	**Black Stump Fm**	**3.75**	**38**	P	Pn	09 54 39.0	-1.9
HIZ	**Hauiti**	**3.78**	**16**	P	Pn	09 54 43.0	+1.6
MRHZ	**Matea Rd**	**3.99**	**35**	P	Pn	09 54 41.6	-2.7
TLZ	**T

δ43.00000°,λ-170.00000°. NP2:ϕs350.00000°, δ83.00000°,λ-47.00000°.

*NEIC **23** 09:59:57.3,27.˝16N×140.˝03E,h488km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr=0.68; Mθθ=0.50; Mϕϕ=0.18; Mrθ=0.89; Mrϕ=-4.25; Mθϕ=-5.05; Fault plane solution: M0=6.69000×10^{17} NP1:ϕs88.44000°, δ38.93000°,λ-174.62000°. NP2:ϕs354.25000°, δ86.62000°,λ-51.19000°. Principal axes: T 7.0755, Plg31.0000°, Azm53.0000°; N -0.8516, Plg39.0000°, Azm172.0000°; P -6.2239, Plg36.0000°, Azm298.0000°;*

*NEIC **23** 09:59:58,27.˝05N×140.˝14E,h500km,Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{17}Nm; Mrr=0.22; Mθθ=0.60; Mϕϕ=-0.38; Mrθ=0.29; Mθϕ=-3.56; Mrϕ=-4.73; Fault plane solution: M0=5.95000×10^{17} NP1:ϕs87.00000°, δ37.00000°,λ-177.00000°. NP2:ϕs355.00000°, δ89.00000°,λ-52.00000°. Principal axes: T 5.9440, Plg33.0000°, Azm55.0000°; N 0.0203, Plg37.0000°, Azm174.0000°; P -5.9643, Plg35.0000°, Azm297.0000°;*

*IDC **23** 09:59:58.1±0.4,27.˝15N×140.˝00E,h500km±4km,mb5.1/57, mbtmp6.0/63 Error ellipse: s-maj=6.4km s-min=4.0km az=72.0*

*GCMT **23** 10:00:01.2±0.1,27.˝36N±0.˝01×140.˝02E±0.˝01, h491km,MW5.8/135,Moment Tensor Solution. s135,c228; s77,c82; Duration: 2s0 Moment tensor: Scale 10^{17}Nm; Mrr=0.37±.05; Mθθ=0.18±.08; Mϕϕ0.55±.08; Mrθ0.17±.08; Mθϕ-4.45±.06; Mrϕ-4.97±.07; Best double couple: M0=6.68100×10^{17} NP1:ϕs0.00000°,δ88.00000°, λ-48.00000°. NP2:ϕs92.00000°,δ42.00000°, λ-177.00000°. Principal axes: T 6.8970, Plg30.0000°, Azm57.0000°; N -0.4320, Plg42.0000°, Azm179.0000°; P -6.4640, Plg33.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 23 09:59:58.1±0.2,27.˝16N±0.˝02×140.˝04E±0.˝03,h501km±1km, h501km:pP-P,n1972,σ1s36/1853,mb5.7/568,62C-135D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.92**	**92**	⇓P		**P**	**10 01 00.0**	**-2.8**
CBIJ				*e*S		**S**	**10 01 49.6**	**-5.8**
CBIJ	**Chichi jima**	**1.92**	**92**	A		A	10 01 00.0	
	comp=E,98nm,0.6s,comp=E,124nm,3.5s							
JCJ	**Chichijima**	**1.92**	**92**	P		**P**	**10 00 59.7**	**-3.2**
	5μm,0.4s,baz=284,slow=22,SNR=418							
JCJ				S		**S**	**10 01 49.5**	**-5.9**
	14μm,0.4s,baz=181,slow=23,SNR=11							
JCJ	**Chichijima**	**1.92**	**92**			**P**	**10 00 59.9**	**-3.0**
JCJ				S		**S**	**10 01 49.7**	**-5.7**
JCJ	**Chichijima**	**1.92**	**92**	P		**P**	**10 01 01.7**	**-1.1**
JHH2	**Haha-jima-NKT2**	**1.98**	**105**	⇓P		**P**	**10 01 01.0**	**-2.1**
JHH2				⇓S		**S**	**10 01 51.1**	**-4.9**
JHH2	**Haha-jima-NKT2**	**1.98**	**105**	A		A	10 01 01.0	
	comp=E,287nm,1.6s,comp=E,295nm,0.6s							
JAOM	**Aogashimamukai**	**5.29**	**358**	*e*P		**P**	**10 01 27.2**	**-0.4**
JAOM	**Aogashimamukai**	**5.29**	**358**	A		A	10 01 27.2	
	comp=E,19nm,3.8s,comp=E,22nm,2.9s							
JHCJ	**Hachijojimakas**	**5.89**	**358**	P		**P**	**10 01 32.6**	**-0.7**
JHCJ				*e*S		**S**	**10 02 47.7**	**-3.5**
JHCJ	**Hachijojimakas**	**5.89**	**358**	A		A	10 01 32.6	
	comp=E,7.0nm,3.5s,comp=E,15nm,2.8s							
JHJ2	**Mitsune**	**5.93**	**358**			**P**	**10 01 32.5**	**-1.2**
JHJ2	**Mitsune**	**5.93**	**358**	P		**P**	**10 01 33.5**	**-0.2**
JHJ2	**Mitsune**	**5.93**	**358**	P		**P**	**10 01 32.9**	**-0.8**
JHJ2	**Mitsune**	**5.93**	**358**	A		A	10 01 32.9	
	comp=E,18nm,3.3s,comp=E,22nm,3.6s							
JHJ	**Hachijo jima 2**	**5.94**	**358**	P		**P**	**10 01 33.0**	**-0.8**
	2μm,0.3s,baz=211,slow=23,SNR=36							
JHJ				S		**S**	**10 02 47.9**	**-4.2**
	1μm,0.4s,baz=288,slow=20,SNR=3.2							
JMKN	**Mikurajimanish**	**6.72**	**357**	A		A	10 01 40.6	
	comp=E,9.0nm,3.0s,comp=E,15nm,4.7s							
JMYK	**Miyake Tsubota**	**6.89**	**357**	A		A	10 01 42.4	
	comp=E,17nm,3.2s,comp=E,20nm,3.3s							
TTO1	**TONANKAI O.B.S**	**7.02**	**337**	P		**P**	**10 01 46.4**	**+2.3**
TK02	**Tokai 2**	**7.04**	**344**	P		**P**	**10 01 46.4**	**+2.0**
JKO	**Kozu shima**	**7.04**	**354**	A		A	10 01 44.1	
	comp=E,44nm,3.2s,comp=E,20nm,2.5s							
JSKK	**Shikinejimakit**	**7.18**	**355**	A		A	10 01 45.5	
	comp=E,11nm,2.1s,comp=E,10.0nm,3.3s							
JNIO	**Niijimaoohara**	**7.20**	**355**	A		A	10 01 45.6	
	comp=E,25nm,3.9s,comp=E,20nm,2.7s							
JTHY	**Toshimahigashi**	**7.37**	**355**	A		A	10 01 47.4	
	comp=E,16nm,3.9s,comp=E,14nm,2.3s							
JMMH	**Miemihama**	**7.48**	**333**	A		A	10 01 50.5	
	comp=E,12nm,3.1s,comp=E,6.0nm,4.0s							
BSO1	**Boso 1**	**7.5**	**6**	P		**P**	**10 01 47.9**	**-0.9**
JIM2	**Oshima 3**	**7.55**	**354**	A		A	10 01 49.1	
	comp=E,18nm,3.5s,comp=E,13nm,3.0s							
JIZS	**Izushimoda**	**7.60**	**353**	A		A	10 01 50.0	
	comp=E,4.0nm,2.6s,comp=E,8.0nm,5.3s							
JTNC	**Tanabenakahech**	**7.65**	**331**	⇓P		**P**	**10 01 52.7**	**+1.8**
JTNC				⇓*e*S		**S**	**10 03 27.0**	**+3.7**
JTNC	**Tanabenakahech**	**7.65**	**331**	A		A	10 01 52.7	
	comp=E,18nm,5.1s,comp=E,8.0nm,3.8s							
JSG	**Sagara**	**7.65**	**348**	A		A	10 01 51.0	
	comp=E,12nm,2.5s,comp=E,10.0nm,6.1s							
JIE	**Ise**	**7.75**	**339**	P		**P**	**10 01 53.8**	**+2.0**
JIE				*e*S		**S**	**10 03 25.8**	**+0.7**
JIE	**Ise**	**7.75**	**339**	A		A	10 01 53.8	
	comp=E,12nm,3.9s,comp=E,11nm,3.5s							
JKN2	**Miekihoku**	**7.76**	**336**	A		A	10 01 53.1	
	comp=E,12nm,5.0s,comp=E,13nm,2.5s							
JWM	**Minabe**	**7.79**	**330**	A		A	10 01 54.0	
	comp=E,22nm,4.8s,comp=E,8.0nm,3.7s							
JHTM	**Izuhatsuma**	**7.82**	**354**	A		A	10 01 52.1	
	comp=E,17nm,1.5s,comp=E,34nm,2.9s							
TATJ	**Tateyama 2**	**7.84**	**359**	A		A	10 01 52.0	
	comp=E,19nm,2.9s,comp=E,23nm,4.4s							
JAA	**Atsumi**	**7.85**	**342**	A		A	10 01 53.5	
	comp=E,7.0nm,3.9s,comp=E,7.0nm,3.9s							
JKDJ	**Kitadaitoujima**	**7.92**	**263**	A		A	10 01 59.1	
	comp=E,59nm,4.2s,comp=E,20nm,5.2s							
HMMJ	**Hamamatsu 2**	**7.92**	**346**	A		A	10 01 54.0	
	comp=E,6.0nm,2.6s,comp=E,4.0nm,5.6s							
JNTK	**Naratenkawa**	**7.93**	**334**	A		A	10 01 55.1	
	comp=E,21nm,2.9s,comp=E,10.0nm,3.1s							
JKUC	**kamogawauchiur**	**7.97**	**1**	A		A	10 01 53.1	
	comp=E,12nm,4.3s,comp=E,18nm,3.9s							
JWY	**Kouya**	**8.00**	**333**	P		**P**	**10 01 56.4**	**+1.9**
JWY				*e*S		**S**	**10 03 33.0**	**+2.9**
JWY	**Kouya**	**8.00**	**333**	A		A	10 01 56.4	
	comp=E,34nm,4.5s,comp=E,15nm,2.3s							
JMZ	**Minamidaito 2**	**8.01**	**262**	P		**P**	**10 01 54.9**	**+0.3**
JMZ	**Minamidaito 2**	**8.01**	**262**	A		A	10 01 54.9	
	comp=E,38nm,3.8s,comp=E,26nm,3.6s							
JSSY	**Shinshiroyabe**	**8.03**	**345**	A		A	10 01 55.1	
	comp=E,8.0nm,2.7s,comp=E,5.0nm,3.3s							
MRT2	**Murotomisaki 2**	**8.03**	**322**	A		A	10 01 57.1	
	comp=E,7.0nm,4.3s,comp=E,9.0nm,3.9s							
SHZ3	**Shizuoka 3**	**8.03**	**349**	A		A	10 01 54.9	
	comp=E,8.0nm,2.5s,comp=E,8.0nm,4.0s							
JYO	**Yokosk**	**8.04**	**358**	A		A	10 01 54.1	
	comp=E,13nm,6.3s,comp=E,15nm,4.0s							
JFNN	**Fujinakano**	**8.09**	**352**	A		A	10 01 55.1	
	comp=E,11nm,3.7s,comp=E,11nm,3.7s							
JOD2	**Odawara 2**	**8.12**	**354**	P		**P**	**10 01 55.4**	**-0.2**
JOD2	**Odawara 2**	**8.12**	**354**	A		A	10 01 55.4	
	comp=E,4.0nm,3.8s,comp=E,7.0nm,4.8s							
TSUJ	**Tsu 2**	**8.14**	**338**	A		A	10 01 57.0	
	comp=E,20nm,2.5s,comp=E,12nm,1.8s							
JAI	**Aioi**	**8.18**	**325**	A		A	10 01 58.5	
	comp=E,8.0nm,5.2s,comp=E,7.0nm,4.3s							
JCN	**Nagara**	**8.23**	**1**	A		A	10 01 55.9	
	comp=E,23nm,4.7s,comp=E,26nm,4.6s							
JHE	**Heguri**	**8.35**	**334**	A		A	10 01 59.5	
	comp=E,30nm,4.4s,comp=E,16nm,4.1s							
JNY	**Yasuok**	**8.38**	**348**	A		A	10 01 58.6	
	comp=E,7.0nm,2.7s,comp=E,10.0nm,4.0s							
JAO	**Obara**	**8.42**	**344**	A		A	10 01 59.4	
	comp=E,11nm,3.4s,comp=E,11nm,2.9s							
JMN	**Monobe**	**8.43**	**322**			**P**	**10 02 00.4**	**+1.5**
JMN	**Monobe**	**8.43**	**322**	P		**P**	**10 02 01.4**	**+2.5**
JMN	**Monobe**	**8.43**	**322**	A		A	10 02 01.4	
	comp=E,8.0nm,6.7s,comp=E,13nm,5.9s							
JSGW	**Sagamiharawaka**	**8.44**	**355**	A		A	10 01 58.5	
	comp=E,6.0nm,3.5s,comp=E,10.0nm,3.7s							
JTO	**Tosashimizu**	**8.46**	**314**	P		**P**	**10 02 00.7**	**+1.6**
JTO				*e*S		**S**	**10 03 41.3**	**+2.7**
JTO	**Tosashimizu**	**8.46**	**314**	A		A	10 02 00.7	
	comp=E,16nm,3.2s,comp=E,8.0nm,4.0s							
JSMT	**Sammumatsuo**	**8.46**	**2**	A		A	10 01 58.1	
	comp=E,27nm,3.0s,comp=E,33nm,3.4s							
JKHR	**Kochiharuno**	**8.48**	**320**	A		A	10 02 02.1	
	comp=E,10.0nm,4.1s,comp=E,10.0nm,7.4s							
TOK	**Tokyo**	**8.50**	**358**	A		A	10 01 59.0	
	comp=E,20nm,4.0s,comp=E,30nm,2.0s							
JMAF	**Mimaanabuki**	**8.53**	**325**	A		A	10 02 02.1	
	comp=E,11nm,5.7s,comp=E,7.0nm,4.5s							
JAWN	**Awajishima-nag**	**8.53**	**330**	A		A	10 02 01.8	
	comp=E,18nm,4.2s,comp=E,13nm,3.0s							
JEG	**Eigenji**	**8.54**	**339**	A		A	10 02 01.1	
	comp=E,22nm,2.8s,comp=E,17nm,3.1s							
CHOJ	**Chosi**	**8.54**	**5**	A		A	10 01 58.9	
	comp=E,16nm,3.3s,comp=E,13nm,5.8s							
INU	**Inuyama**	**8.56**	**343**			**P**	**10 01 59.8**	**-0.4**
INU	**Inuyama**	**8.56**	**343**	P		**P**	**10 02 01.6**	**+1.4**
JICN	**Ichinomiyachia**	**8.56**	**342**	A		A	10 02 01.1	
	comp=E,32nm,2.7s,comp=E,32nm,2.5s							
JKU	**Kubokawa**	**8.59**	**317**	A		A	10 02 03.5	
	comp=E,15nm,3.6s,comp=E,9.0nm,3.5s							
JMTN	**Minamitane**	**8.64**	**294**	A		A	10 02 05.7	
	comp=E,36nm,2.9s,comp=E,22nm,2.3s							
JTN	**Tanegashima 3**	**8.66**	**296**	A		A	10 02 05.8	
	comp=E,17nm,4.1s,comp=E,14nm,2.8s							
JHU	**Hanno**	**8.69**	**356**	A		A	10 02 01.1	
	comp=E,5.0nm,1.8s,comp=E,5.0nm,8.4s							
JGF	**Kuroka**	**8.72**	**345**			**P**	**10 02 01.8**	**-0.1**
JGF	**Kuroka**	**8.72**	**345**	P		**P**	**10 02 03.5**	**+1.6**
JGF	**Kuroka**	**8.72**	**345**	A		A	10 02 02.5	
	comp=E,6.0nm,3.8s,comp=E,11nm,3.5s							
JMIK	**Miki**	**8.74**	**332**	A		A	10 02 03.9	
	comp=E,21nm,5.4s,comp=E,16nm,3.7s							
JNKG	**Nichinankitago**	**8.78**	**303**	A		A	10 02 06.7	
	comp=E,25nm,3.4s,comp=E,14nm,4.9s							
JIHU	**Itakohorinouch**	**8.79**	**3**	A		A	10 02 01.6	
	comp=E,26nm,3.5s,comp=E,54nm,4.6s							
JNAR	**Kushima--Naru**	**8.80**	**302**	A		A	10 02 06.8	
	comp=E,15nm,3.2s,comp=E,16nm,4.9s							
UWA2	**Uwa jima 2**	**8.80**	**315**	A		A	10 02 06.0	
	comp=E,13nm,3.9s,comp=E,12nm,4.2s							
JNT	**Takato**	**8.84**	**350**	A		A	10 02 03.3	
	comp=E,5.0nm,5.1s,comp=E,10.0nm,4.8s							
JYTA	**Yamagatataniai**	**8.87**	**342**	A		A	10 02 04.3	
	comp=E,10.0nm,6.0s,comp=E,15nm,3.6s							
JRY	**Ryogami san**	**8.88**	**354**	P		**P**	**10 02 02.8**	**-0.8**
JRY				*e*S		**S**	**10 03 43.2**	**-3.5**
JRY	**Ryogami san**	**8.88**	**354**	A		A	10 02 02.8	
	comp=E,6.0nm,3.8s,comp=E,9.0nm,3.9s							
JJS	**Sakaide**	**8.90**	**325**	A		A	10 02 06.2	
	comp=E,16nm,6.5s,comp=E,10.0nm,3.4s							
JYAK	**Yakushimahirau**	**8.91**	**292**	A		A	10 02 08.7	
	comp=E,25nm,3.5s,comp=E,20nm,2.6s							
JTSR	**Tashiro 2**	**8.91**	**299**	A		A	10 02 08.3	
	comp=E,17nm,3.5s,comp=E,13nm,4.4s							
JET	**Tanbara**	**8.93**	**319**	A		A	10 02 07.1	
	comp=E,14nm,3.7s,comp=E,8.0nm,4.2s							
JTSN	**Tsuno**	**8.98**	**306**	A		A	10 02 08.6	
	comp=E,6.0nm,4.5s,comp=E,8.0nm,4.5s							
JZK	**Kikaishima**	**8.99**	**280**	A		A	10 02 10.2	
	comp=E,109nm,3.4s,comp=E,74nm,4.3s							
JHHC	**Hyugahichiya**	**8.99**	**308**	A		A	10 02 08.6	
	comp=E,7.0nm,2.5s,comp=E,10.0nm,5.4s							
JWT	**Wachi**	**9.01**	**335**	A		A	10 02 06.6	
	comp=E,11nm,5.6s,comp=E,11nm,5.6s							
JSKE	**Saikikamae**	**9.01**	**310**	A		A	10 02 08.6	
	comp=E,11nm,2.1s,comp=E,9.0nm,3.6s							
JFM	**Mihama**	**9.03**	**338**	A		A	10 02 06.3	
	comp=E,18nm,2.9s,comp=E,10.0nm,4.4s							
JYT	**Yasato**	**9.04**	**1**	A		A	10 02 04.5	
	comp=E,11nm,2.8s,comp=E,9.0nm,5.5s							
JTZ	**Takazaki**	**9.11**	**303**	A		A	10 02 10.2	
	comp=E,11nm,5.3s,comp=E,11nm,4.4s							
JNA	**Nagahama**	**9.12**	**316**	A		A	10 02 09.3	
	comp=E,12nm,3.8s,comp=E,18nm,3.8s							
JHYU	**Hitachinakayam**	**9.16**	**3**	A		A	10 02 05.6	
	comp=E,17nm,3.4s,comp=E,34nm,3.3s							
JKIT	**Kitakata**	**9.22**	**308**	A		A	10 02 11.0	
	comp=E,12nm,3.2s,comp=E,16nm,3.5s							
JKC	**Kuchinoerabu**	**9.24**	**293**	A		A	10 02 12.2	
	comp=E,19nm,4.7s,comp=E,8.0nm,3.3s							
JAD	**Aida**	**9.24**	**328**	A		A	10 02 09.6	
	comp=E,13nm,6.6s,comp=E,15nm,5.6s							
JAG	**Ashikaga**	**9.25**	**357**	A		A	10 02 07.1	
	comp=E,7.0nm,3.6s,comp=E,7.0nm,2.6s							
JUS	**Usuki**	**9.28**	**311**	A		A	10 02 11.3	
	comp=E,24nm,3.0s,comp=E,19nm,3.1s							
JAM	**Amami Oshima**	**9.32**	**280**	A		A	10 02 13.7	
	comp=E,23nm,3.7s,comp=E,16nm,3.5s							
JGN	**Niukaw**	**9.32**	**346**	A		A	10 02 08.8	
	comp=E,3.0nm,3.4s,comp=E,9.0nm,4.3s							
JNN	**Nakanoshima**	**9.33**	**289**	A		A	10 02 13.3	
	comp=E,20nm,7.3s,comp=E,14nm,7.3s							
JNG	**Nsakai**	**9.36**	**350**	A		A	10 02 08.8	
	comp=E,5.0nm,2.9s,comp=E,10.0nm,5.9s							
JSU	**Suzuyama**	**9.41**	**300**			**P**	**10 02 10.9**	**+1.7**
JSU	**Suzuyama**	**9.41**	**300**	P		**P**	**10 02 11.4**	**+2.1**
JSU	**Suzuyama**	**9.41**	**300**	A		A	10 02 13.7	
	comp=E,11nm,5.5s,comp=E,8.0nm,4.4s							
JHO	**Hitachi**	**9.43**	**3**	A		A	10 02 08.5	
	comp=E,9.0nm,2.3s,comp=E,22nm,3.8s							
JKY	**Yasaka**	**9.43**	**335**	A		A	10 02 11.1	
	comp=E,10.0nm,4.9s,comp=E,13nm,2.7s							
JGK	**Kuni**	**9.45**	**353**	A		A	10 02 09.5	
	comp=E,5.0nm,3.3s,comp=E,11nm,3.5s							
MJAR	**Matsushiro Arr**	**9.48**	**351**	P		**P**	**10 02 08.3**	**-1.6**
	166nm,0.4s,baz=175,slow=9.8,SNR=90							
MJAR				S		**S**	**10 03 57.7**	**-0.5**
	58nm,0.5s,baz=146,slow=13,SNR=5.1							
MJAR				ScP		**ScP**	**10 10 19.4**	**+0.3**
	12nm,0.9s,baz=183,slow=2.2,SNR=8.9							
MAJO	**Matsushiro**	**9.48**	**351**	P		**P**	**10 02 08.9**	**-0.9**
MAJO	**Matsushiro**	**9.48**	**351**	P		**P**	**10 02 10.3**	**+0.4**
MAJO	**Matsushiro**	**9.48**	**351**	P		**P**	**10 02 09.0**	**-0.9**
MJB9	**Matsu-Tunnel**	**9.48**	**351**	P		**P**	**10 02 09.8**	**-0.1**
JHM	**Kuahasi**	**9.49**	**319**	A		A	10 02 13.1	
	comp=E,20nm,5.3s,comp=E,11nm,3.4s							
JJG	**Jouge**	**9.51**	**323**	A		A	10 02 12.8	
	comp=E,23nm,5.1s,comp=E,18nm,4.3s							
JKSM	**Kasumi**	**9.57**	**333**	A		A	10 02 12.7	
	comp=E,10.0nm,5.3s,comp=E,13nm,4.9s							
JZO	**Okuchi**	**9.59**	**303**	A		A	10 02 15.3	
	comp=E,8.0nm,9.2s,comp=E,9.0nm,3.5s							
JKG	**Kaga**	**9.62**	**342**	A		A	10 02 12.3	
	comp=E,14nm,3.8s,comp=E,11nm,4.2s							
JIU3	**Izumi3**	**9.64**	**306**	A		A	10 02 15.6	
	comp=E,14nm,6.8s,comp=E,17nm,3.9s							
JBEP	**Beppuamama**	**9.67**	**312**	A		A	10 02 15.5	
	comp=E,17nm,3.7s,comp=E,16nm,6.4s							
JAMN	**Amaminishikomi**	**9.69**	**279**	P		**P**	**10 02 13.9**	**+1.8**
JAMN				S		**S**	**10 04 06.2**	**+3.9**
JAMN	**Amaminishikomi**	**9.69**	**279**	A		A	10 02 13.9	
	comp=E,23nm,4.0s,comp=E,15nm,4.0s							
JTT	**Ttatey**	**9.69**	**347**	A		A	10 02 12.7	
	comp=E,12nm,3.9s,comp=E,12nm,3.9s							
JKI	**Kunimi**	**9.74**	**313**	A		A	10 02 16.1	
	comp=E,21nm,3.6s,comp=E,16nm,3.5s							
JKR	**Kurayoshi**	**9.76**	**329**	A		A	10 02 15.1	
	comp=E,35nm,4.4s,comp=E,10.0nm,3.0s							
JTAJ	**Takarajima**	**9.77**	**284**	A		A	10 02 18.3	
	comp=E,11nm,3.7s,comp=E,9.0nm,6.6s							
JSB	**Shiboa**	**9.78**	**359**	A		A	10 02 12.5	
	comp=E,27nm,4.4s,comp=E,26nm,3.8s							
JHS	**Saijyo**	**9.80**	**324**	P		**P**	**10 02 13.2**	**-0.2**
JHS	**Saijyo**	**9.80**	**324**	P		**P**	**10 02 15.6**	**+2.3**
JHS	**Saijyo**	**9.80**	**324**	⇓P		**P**	**10 02 15.2**	**+1.9**
JHS	**Saijyo**	**9.80**	**324**	A		A	10 02 15.2	
	comp=E,25nm,4.7s,comp=E,12nm,3.5s							
JKD	**Kudamatsu**	**9.83**	**316**	A		A	10 02 16.9	
	comp=E,15nm,6.1s,comp=E,12nm,4.2s							
JTK	**Tokunoshima**	**9.87**	**276**	A		A	10 02 19.6	
	comp=E,30nm,3.2s,comp=E,18nm,3.7s							
JNU	**Nakatsue**	**9.90**	**309**			**P**	**10 02 15.8**	**+1.4**
JNU	**Nakatsue**	**9.90**	**309**	P		**P**	**10 02 17.0**	**+2.6**
JNU	**Nakatsue**	**9.90**	**309**	A		A	10 02 18.1	
	comp=E,10.0nm,7.7s,comp=E,6.0nm,6.7s							
JFFD	**Fukushimafurud**	**9.91**	**2**	A		A	10 02 13.6	
	comp=E,11nm,2.0s,comp=E,26nm,3.1s							
JHT	**Toyohira**	**9.93**	**321**	A		A	10 02 17.6	
	comp=E,15nm,5.8s,comp=E,9.0nm,4.7s							
JJN	**Nakama**	**10.04**	**351**	A		A	10 02 16.0	
	comp=E,6.0nm,3.8s,comp=E,9.0nm,3.9s							
JUON	**Uonuma**	**10.05**	**356**	A		A	10 02 15.7	
	comp=E,5.0nm,2.7s,comp=E,5.0nm,5.5s							
JTA	**Tamana**	**10.06**	**307**	A		A	10 02 20.0	
	comp=E,11nm,6.4s,comp=E,8.0nm,5.1s							
JSJ	**Shimokoshiki**	**10.06**	**299**	P		**P**	**10 02 16.9**	**+0.9**
JSJ				S		**S**	**10 04 11.9**	**+2.4**
JSJ	**Shimokoshiki**	**10.06**	**299**	A		A	10 02 16.9	
	comp=E,13nm,3.4s,comp=E,18nm,3.9s							
JHD	**Hondo**	**10.09**	**304**	A		A	10 02 20.6	
	comp=E,8.0nm,10.4s,comp=E,14nm,4.2s							
JJH	**Hakui**	**10.12**	**345**	A		A	10 02 17.4	
	comp=E,11nm,3.6s,comp=E,6.0nm,5.1s							
JHIK	**Hikimi**	**10.12**	**318**	A		A	10 02 19.8	
	comp=E,14nm,5.5s,comp=E,15nm,5.4s							
JGT2	**ShimaneMisato**	**10.18**	**323**	A		A	10 02 20.1	
	comp=E,20nm,6.0s,comp=E,10.0nm,4.4s							
JFK	**Kawauchi**	**10.20**	**4**	A		A	10 02 16.6	
	comp=E,13nm,3.9s,comp=E,13nm,4.6s							
JOKE	**Okinoerabujima**	**10.20**	**274**	A		A	10 02 23.4	
	comp=E,23nm,3.1s,comp=E,14nm,6.3s							
JFY	**Yanaizu**	**10.22**	**359**	A		A	10 02 17.3	
	comp=E,12nm,2.3s,comp=E,8.0nm,3.8s							
JNM	**Ikuma**	**10.24**	**326**	A		A	10 02 20.4	
	comp=E,12nm,3.4s,comp=E,15nm,4.0s							
JYRO	**Yoronjima**	**10.33**	**272**	A		A	10 02 24.6	
	comp=E,17nm,3.8s,comp=E,12nm,3.8s							
JISK	**Izumosakaura**	**10.33**	**325**	A		A	10 02 21.5	
	comp=E,11nm,3.4s,comp=E,13nm,6.1s							
JIZZ	**Izumozaki**	**10.40**	**354**	A		A	10 02 19.6	
	comp=E,15nm,3.2s,comp=E,15nm,5.3s							
JFI	**Itaya**	**10.41**	**309**	A		A	10 02 23.6	
	comp=E,8.0nm,6.5s,comp=E,5.0nm,7.1s							
NGSJ	**Nagasakinomoza**	**10.42**	**304**	A		A	10 02 24.1	
	comp=E,7.0nm,6.2s,comp=E,10.0nm,5.5s							
JTY	**Toyota**	**10.47**	**315**	A		A	10 02 23.8	
	comp=E,8.0nm,4.2s,comp=E,5.0nm,11.0s							
JOW	**Kunigami**	**10.50**	**271**	P		**P**	**10 02 22.0**	**+1.2**
	3μm,0.5s,baz=99,slow=8.2,SNR=506							
JOW				S		**S**	**10 04 15.6**	**-2.6**
	68nm,0.6s,baz=92,slow=10,SNR=5.8							
JOW	**Kunigami**	**10.50**	**271**	P		**P**	**10 02 21.6**	**+0.9**
JOW	**Kunigami**	**10.50**	**271**	P		**P**	**10 02 22.1**	**+1.3**
JOW	**Kunigami**	**10.50**	**271**	P		**P**	**10 02 21.9**	**+1.2**
JOW				*e*S		**S**	**10 04 19.7**	**+1.5**
JOW	**Kunigami**	**10.50**	**271**	A		A	10 02 21.9	
	comp=E,15nm,3.1s,comp=E,14nm,3.4s							
JSZ	**Suzu**	**10.50**	**348**	A		A	10 02 21.1	
	comp=E,4.0nm,3.2s,comp=E,5.0nm,2.6s							
JUR	**Ureshino**	**10.54**	**307**	A		A	10 02 25.1	
	comp=E,6.0nm,4.7s,comp=E,5.0nm,5.4s							
JMST	**Minamisoumatoc**	**10.56**	**4**	A		A	10 02 20.4	
	comp=E,18nm,4.2s,comp=E,19nm,2.3s							
JNS	**Sasagawa**	**10.64**	**357**	A		A	10 02 22.0	
	comp=E,8.0nm,5.1s,comp=E,11nm,3.9s							
JMM	**Marumori**	**10.69**	**3**	P		**P**	**10 02 23.7**	**+1.1**
JMM	**Marumori**	**10.69**	**3**	A		A	10 02 21.9	
	comp=E,13nm,5.2s,comp=E,16nm,2.6s							
JYAR	**Yonezawaarcadi**	**10.72**	**0**	A		A	10 02 22.4	
	comp=E,13nm,2.6s,comp=E,11nm,3.7s							
JNTH	**Nagotoyohara**	**10.75**	**269**	A		A	10 02 29.3	
	comp=E,10.0nm,3.0s,comp=E,9.0nm,4.7s				

comp=E,8.0nm,4.4s,comp=E,7.0nm,4.6s
KSRS Korea Array 14.48 318 P **P** **10 03 02.2 -0.5**
91nm,0.6s,baz=129,slow=10,SNR=182
KSRS ScP **ScP** **10 10 27.1 +0.6**
8.8nm,0.7s,baz=207,slow=1.3,SNR=11
KSAR Wonju Array Be 14.50 318 P **P** **10 03 01.6 -1.3**
KSAR Wonju Array Be 14.50 318 P **P** **10 03 01.6 -1.3**
KS19 Wonju Array Si 14.55 318 P **P** **10 03 01.7 -1.7**
JIJ Ishigaki jima 14.59 263 A A 10 03 09.1
comp=E,6.0nm,12.5s,comp=E,4.0nm,5.2s
JKB Kayabe 14.71 3 A A 10 03 03.8
comp=E,14nm,4.7s,comp=E,6.0nm,5.1s
JKRS Kuro-shima 14.74 262 A A 10 03 10.6
comp=E,21nm,3.8s,comp=E,16nm,4.3s
JOSM Okushiri--Mats 14.89 358 A A 10 03 06.0
comp=E,9.0nm,2.8s,comp=E,6.0nm,2.8s
JYM2 Yakumo 2 14.92 1 A A 10 03 06.1
comp=E,11nm,5.3s,comp=E,5.0nm,3.8s
IRIF Iriomote-Funau 14.96 263 A A 10 03 12.8
comp=E,8.0nm,3.6s,comp=E,5.0nm,5.6s
ERM Erimo 15.04 9 P **P** **10 03 08.7 +0.3**
ERM Erimo 15.04 9 P **P** **10 03 09.6 +1.2**
ERM Erimo 15.04 9*c i* P **P** **10 03 09.3 +0.9**
ERM pmax pmax
comp=Z,247nm,1.0s
JEM Erimo 15.04 9 P **P** **10 03 10.1 +1.7**
JEM Erimo 15.04 9 A A 10 03 06.6
comp=Z,5.0nm,9.2s,comp=Z,5.0nm,3.4s
JHST Hiyamasetana 15.22 360 A A 10 03 09.2
comp=Z,21nm,3.9s,comp=Z,10.0nm,2.8s
JNBK Urakawa-nobuka 15.24 8 A A 10 03 08.8
comp=Z,17nm,2.9s,comp=Z,12nm,3.0s
INCN Inchon 15.29 316 P **P** **10 03 10.2 -1.0**
INCN Inchon 15.29 316 P **P** **10 03 10.1 -1.1**
INCN Inchon 15.29 316 P **P** **10 03 10.2 -1.0**
JNB Noboribetsu 15.29 3 A A 10 03 09.7
comp=Z,8.0nm,4.3s,comp=Z,4.0nm,3.1s
JSHD Hidakashinhida 15.34 7 A A 10 03 09.8
comp=Z,19nm,2.7s,comp=Z,17nm,2.8s
JSH Shimam 15.44 0 A A 10 03 11.3
comp=Z,11nm,4.6s,comp=Z,3.0nm,5.4s
JIAM Iburiatsuma 15.50 5 A A 10 03 11.5
comp=Z,18nm,4.7s,comp=Z,14nm,4.5s
YOJ Yonaguni jima 15.57 264 P **P** **10 03 13.3 -0.9**
YOJ Yonaguni jima 15.57 264 P **P** **10 03 13.7 -0.6**
YOJ Yonaguni jima 15.57 264 P **P** **10 03 13.3 -0.9**
JCH Churui 15.65 9 A A 10 03 12.7
comp=Z,8.0nm,4.7s,comp=Z,4.0nm,4.3s
JEW Eniwo 15.68 4 A A 10 03 13.5
comp=Z,18nm,6.0s,comp=Z,12nm,3.6s
JBT2 Biratori 2 15.70 6 A A 10 03 13.3
comp=Z,7.0nm,5.3s,comp=Z,6.0nm,3.7s
JSK Shakotan 16.16 1 A A 10 03 18.4
comp=Z,13nm,4.9s,comp=Z,11nm,3.3s
HJU Haeju 16.20 316 P **P** **10 03 18.9 -1.8**
HJU pP 10 03 56.0
HJU S **S** **10 06 07.6 +0.1**
HJU AMS AMS
comp=N,1μm,1.9s
HJU AMS AMS
comp=E,2μm,3.6s
HJU AMS AMS
comp=Z,3μm,5.4s
JAK Akkeshi 16.25 12 A A 10 03 18.4
comp=Z,16nm,4.4s,comp=Z,7.0nm,4.0s
JAR Ashorobuto 16.38 10 A A 10 03 19.9
comp=Z,13nm,4.0s,comp=Z,6.0nm,6.3s
JAB Ashibetsu 16.40 6 A A 10 03 20.4
comp=Z,15nm,5.8s,comp=Z,11nm,3.9s
JKHN Kushirohamanak 16.42 13 A A 10 03 19.9
comp=Z,14nm,5.0s,comp=Z,8.0nm,5.2s
HHU Hamhung 16.43 324 P **P** **10 03 21.9 -1.2**
HHU pP 10 03 55.8
HHU S **S** **10 06 13.5 +1.8**
HHU AMS AMS
comp=N,676nm,6.7s
HHU AMS AMS
comp=E,544nm,5.4s
HHU AMS AMS
comp=Z,170nm,1.7s
JHR Hokuryu 16.60 4 A A 10 03 22.5
comp=Z,12nm,6.1s,comp=Z,9.0nm,4.6s
TATO Taipei 16.81 267 P **P** **10 03 26.1 -1.1**
TATO Taipei 16.81 267 P **P** **10 03 25.3 -1.9**
NEM2 Nemuro 2 16.82 15 A A 10 03 23.8
comp=Z,11nm,3.4s,comp=Z,4.0nm,3.2s
PYAG Pyongyang 16.82 318 P **P** **10 03 26.2 -0.8**
PYAG pP 10 04 02.0
PYAG S **S** **10 06 21.1 +2.7**
PYAG AMS AMS
comp=N,548nm,1.8s
PYAG AMS AMS
comp=E,926nm,3.0s
PYAG AMS AMS
comp=Z,1μm,3.9s
JKK2 Kamakawa 2 16.82 7 A A 10 03 24.4
comp=Z,7.0nm,5.6s,comp=Z,5.0nm,6.8s
NMR Nemuro--Hokkai 16.82 14⇓*i* P **P** **10 03 26.0 -1.0**
NMR *i* S **S** **10 06 18.5 +0.2**
NACB Ninganchiao 16.89 264 P **P** **10 03 26.0 -2.0**
SSE Sheshan 16.93 288⇑P **P** **10 03 26.4 -1.9**
SSE sP **sP** **10 05 28.8 -3.5**
SSE S **S** **10 06 17.8 -2.7**
SSE pmax pmax
comp=Z,78nm,0.9s
SSE pmax pmax
comp=Z,1μm,4.1s
YHNB Yeheng 16.97 266 P **P** **10 03 27.2 -1.7**
MSHR Mys Shultsa 17.00 337*d i* P **P** **10 03 28.9 0.0**
MSHR pmax pmax
comp=Z,1μm,1.0s
JMP Maruseppu 17.02 8 A A 10 03 26.3
comp=Z,17nm,3.4s,comp=Z,6.0nm,3.7s
ASAJ Asahikawa 17.04 6 A A 10 03 26.6
comp=Z,4.0nm,3.7s,comp=Z,4.0nm,3.7s
ASAJ Asahikawa 17.04 6 P **P** **10 03 29.6 +0.3**
JKA Kamikawa-asahi 17.04 6 P **P** **10 03 29.6 +0.4**
JNSB Nemuroshibetsu 17.06 12 A A 10 03 26.3
comp=Z,43nm,5.3s,comp=Z,25nm,3.1s
JTKR Abashiri--Toko 17.06 10 A A 10 03 26.6
comp=Z,14nm,5.6s,comp=Z,5.0nm,4.9s
JRA Rausu 17.24 12 A A 10 03 28.0
comp=Z,20nm,3.2s,comp=Z,7.0nm,3.8s
JSS Shosan 17.26 4 A A 10 03 28.9
comp=Z,10.0nm,4.8s,comp=Z,7.0nm,5.4s
YULB Yu-li 17.36 262 P **P** **10 03 31.4 -1.2**
YULB Yu-li 17.36 262 P **P** **10 03 31.7 -0.9**
YUK Yuzh-Kuril'sk 17.48 14*d i* P **P** **10 03 33.7 +0.3**
YUK *i* S **S** **10 06 25.1 -4.2**
YUK pmax pmax
comp=Z,755nm,0.5s
YUK pmax pmax
comp=E,71nm,0.2s
YUK pmax pmax
comp=N,67nm,0.5s
YUK pmax pmax
comp=Z,2μm,1.3s
SSLB Suanglung 17.55 263 P **P** **10 03 34.1 -0.4**
SSLB Suanglung 17.55 263 P **P** **10 03 34.1 -0.4**
TWGBT Beinan 17.72 260 P **P** **10 03 35.2 -0.8**
JSE Soyaes 17.88 6 A A 10 03 34.6
comp=Z,11nm,3.4s,comp=Z,4.0nm,4.0s
TPUB Ta-pu 17.97 262 P **P** **10 03 37.4 -0.9**
TPUB Ta-pu 17.97 262 P **P** **10 03 38.3 0.0**
TEY Ternei 18.05 352⇑*i* P **P** **10 03 39.1 +0.5**
TEY *e* 10 06 38.8
TEY pmax pmax
comp=E,100nm,2.0s
TEY pmax pmax
comp=N,500nm,1.7s
TEY pmax pmax
comp=Z,900nm,1.7s
TEY pmax pmax
comp=N,60nm,1.0s
TEY pmax pmax
comp=E,60nm,1.0s
TEY pmax pmax
comp=Z,520nm,1.0s
TEY pmax pmax
comp=Z,200nm,5.5s
TEY pmax pmax
comp=E,300nm,3.6s
TEY pmax pmax
comp=N,300nm,4.2s
USA0B Ussuriysk Arra 18.20 341 P **P** **10 03 41.3 +1.3**
USA0B Ussuriysk Arra 18.20 341*d i* P **P** **10 03 41.2 +1.2**
USRK Ussuriysk Ar. 18.20 341 P **P** **10 03 40.9 +0.9**
comp=N,1μm,0.9s,baz=157,slow=8.3,SNR=597
USRK S **S** **10 06 42.5 +1.6**
comp=N,12nm,0.9s,baz=153,slow=16,SNR=1.3
USRK ScP **ScP** **10 10 34.8 +1.0**
comp=N,16nm,0.8s,baz=253,slow=2.0,SNR=9.7
USRK Ussuriysk Ar. 18.20 341 P **P** **10 03 41.7 +1.7**
SUJ Sinuiju 18.24 319 P **P** **10 03 40.1 -0.3**
SUJ pP 10 04 15.9
SUJ S **S** **10 06 46.9 +5.1**
SUJ AMS AMS
comp=N,1μm,2.1s
SUJ AMS AMS
comp=E,4μm,5.5s
SUJ AMS AMS
comp=Z,4μm,5.8s
CICP Calayan Island 18.76 249⇑*e* P **P** **10 03 44.5 -1.1**
NJ2 Nanjing 19.04 290 *e* P **P** **10 03 47.6 -0.4**
NJ2 S **S** **10 06 52.8 -2.3**
NJ2 pmax pmax
comp=Z,650nm,1.3s
KUR Kuril'sk 19.09 17*de* P **P** **10 03 49.8 +1.6**
KUR pmax pmax
comp=Z,1μm,0.9s
PACPP Pamplona Cagay 19.26 247⇑*e* P **P** **10 03 48.8 -1.3**
DL2 Dalian 19.33 312⇓*i* P **P** **10 03 50.3 -0.2**
DL2 sP **sP** **10 05 56.3 -2.7**
DL2 S **S** **10 06 58.8 -0.8**
DL2 ScP **ScP** **10 10 37.3 +0.9**
DL2 ScS **ScS** **10 14 18.3 -0.5**
DL2 pmax pmax
comp=Z,3μm,4.0s
MDJ Mudanjiang 19.33 337 P **P** **10 03 51.1 +0.7**
MDJ Mudanjiang 19.33 337 P **P** **10 03 51.1 +0.7**
MDJ S **S** **10 07 01.1 +1.6**
MDJ ScS **ScS** **10 14 17.8 -0.8**
MDJ pmax pmax
comp=Z,690nm,1.1s
MDJ pmax pmax
comp=Z,4μm,4.7s
MDJ Mudanjiang 19.33 337 P **P** **10 03 51.8 +1.4**
QZH Quanzhou 19.39 268⇓*i* P **P** **10 03 51.0 -0.2**
QZH S **S** **10 06 58.8 -2.2**
QZH pmax pmax
comp=Z,330nm,1.4s
QZH pmax pmax
comp=Z,2μm,6.8s
KNMB Chin-men Tao 19.67 267 P **P** **10 03 53.4 -0.4**
YSS Yuzh-Sakhalins 19.87 5 P **P** **10 03 55.9 +0.6**
YSS Yuzh-Sakhalins 19.87 5 P **P** **10 03 57.6 +2.3**
YSS Yuzh-Sakhalins 19.87 5 *e* P **P** **10 03 55.5 +0.2**
YSS *e* S **S** **10 07 07.6 -0.5**
YSS pmax pmax
comp=Z,250nm,0.4s
YSS smax smax
comp=N,100nm,1.3s
YSS smax smax
comp=E,3μm,4.0s
SNY Shenyang 19.90 322⇓P **P** **10 03 55.4 -0.2**
SNY S **S** **10 07 04.9 -3.8**
SNY pmax pmax
comp=E,550nm,0.8s
SNY pmax pmax
comp=E,4μm,5.1s
CN2 Changchun 20.36 328 *e* P **P** **10 03 59.3 -0.5**
CN2 sP sP 10 06 11.1 +0.7
CN2 S **S** **10 07 13.3 -2.8**
CN2 ScS **ScS** **10 14 21.3 -0.9**
CN2 pmax pmax
comp=E,390nm,0.8s
CN2 pmax pmax
comp=E,2μm,5.0s
PCPH Palayan 21.05 241⇑*e* P **P** **10 04 06.6 +0.3**
BNX BinXian 21.09 335⇑P **P** **10 04 06.6 +0.2**
BNX sP **sP** **10 06 21.6 +3.1**
BNX S **S** **10 07 25.0 -2.7**
BNX ScS **ScS** **10 14 23.1 -1.6**
BNX pmax pmax
comp=E,560nm,0.8s
BNX pmax pmax
comp=E,3μm,3.8s
TIA Tai'an 21.44 301⇓P **P** **10 04 09.8 +0.1**
TIA pmax pmax
comp=E,2μm,1.1s
LQP Lukban 21.60 237⇑*e* P **P** **10 04 11.2 -0.4**
UGL Uglegorsk 21.94 4 *e* P **P** **10 04 15.0 +1.1**
UGL pmax pmax
comp=Z,240nm,0.8s
TGY Tagaytay City 22.06 238⇑*e* P **P** **10 04 16.3 +0.8**
WHN Wuhan 22.73 285⇓P **P** **10 04 22.0 +0.6**
WHN ScP **ScP** **10 10 45.9 +0.8**
WHN ScS **ScS** **10 14 32.1 +0.6**
WHN pmax pmax
comp=Z,970nm,0.8s
WHN pmax pmax
comp=Z,4μm,4.8s
LUBP Lubang 22.81 238⇓*e* P **P** **10 04 21.0 -1.2**
GHBP Garcia Hernand 22.90 223⇑*e* P **P** **10 04 22.3 -0.8**
KLR Kul'dur 22.95 346 P **P** **10 04 23.9 +0.8**
comp=Z,160nm,0.6s,baz=166,slow=7.2,SNR=316
KLR S **S** **10 07 57.0 +0.1**
comp=Z,21nm,0.8s,baz=62,slow=23,SNR=13
KLR ScP **ScP** **10 10 45.9 +0.6**
comp=Z,115nm,1.0s,baz=214,slow=1.1,SNR=28
comp=Z,160nm,0.6s
KLR Kul'dur 22.95 346*d i* P **P** **10 04 23.7 +0.7**
KLR pmax pmax
comp=Z,244nm,1.0s
TBP Tagbilaran 23.14 224⇑*e* P **P** **10 04 24.5 -0.7**
BJT Baijiatuan 23.57 309 P **P** **10 04 27.9 -0.9**
BJT Baijiatuan 23.57 309 P **P** **10 04 28.3 -0.5**
BJT Baijiatuan 23.57 309 P **P** **10 04 27.9 -0.9**
BJI Beijing 23.58 309 P **P** **10 04 28.0 -0.8**
BJI S **S** **10 08 05.1 -1.9**
BJI pmax pmax
comp=Z,280nm,0.7s
BJI pmax pmax
comp=Z,2μm,7.7s
HNS HongShan 23.66 302⇓P **P** **10 04 29.5 0.0**
HNS sP **sP** **10 06 48.1 +1.8**
HNS S **S** **10 08 07.8 -0.6**
HNS ScP **ScP** **10 10 49.0 +1.6**
HNS ScS **ScS** **10 14 34.8 -0.1**
HNS pmax pmax
comp=Z,610nm,0.9s
HNS pmax pmax
comp=Z,2μm,3.7s
GRNR Gornyy 23.73 354⇓*i* P **P** **10 04 31.0 +0.9**
GRNR *e* S **S** **10 08 19.0 +10**
GRNR pmax pmax
comp=E,30nm,0.6s
GRNR pmax pmax
comp=N,40nm,0.8s
GRNR pmax pmax
comp=Z,110nm,0.7s
GRNR smax smax
comp=N,20nm,0.8s
TYV Tymovskoe 23.75 4 *e* P **P** **10 04 31.0 +0.8**
TYV *e* S **S** **10 08 19.5 +10**
TYV pmax pmax
comp=Z,2μm,3.6s
TYV pmax pmax
comp=Z,55nm,0.9s
TYV smax smax
comp=N,28nm,1.5s
TYV smax smax
comp=E,62nm,1.5s
TYV smax smax
comp=N,2μm,3.8s
TYV smax smax
comp=E,2μm,3.8s
BUKP Musuan 23.86 219⇓*e* P **P** **10 04 31.4 -0.4**
HKPS Hong Kong Po S 24.00 264 P **P** **10 04 32.6 -0.2**
HKPS Hong Kong Po S 24.00 264 P **P** **10 04 35.1 +2.3**
comp=E,204nm,1.5s
CNSH ChangSha 24.01 279⇓P **P** **10 04 33.3 +0.5**
CNSH sP **sP** **10 06 50.4 +0.1**
CNSH S **S** **10 08 20.1 +5.9**
CNSH ScP **ScP** **10 10 49.3 +0.7**
CNSH pmax pmax
comp=E,190nm,1.2s
LYN LuoYang 24.73 294⇓*i* P **P** **10 04 39.3 +0.1**
LYN S **S** **10 08 26.4 +1.0**
LYN ScP **ScP** **10 10 51.8 +1.3**
LYN pmax pmax
comp=E,250nm,1.4s
LYN pmax pmax
comp=E,2μm,3.3s
HEH HeiHe 25.00 341 *e* P **P** **10 04 41.9 +0.6**
HEH PcP **PcP** **10 08 00.3 +0.8**
HEH S **S** **10 08 29.5 +0.3**
HEH ScP **ScP** **10 10 50.5 -0.5**
HEH ScS **ScS** **10 14 39.1 -0.9**
HEH pmax pmax
comp=E,1μm,0.8s
TIY Taiyuan 25.48 301⇓P **P** **10 04 46.3 +0.5**
TIY sP **sP** **10 07 07.4 +1.9**
TIY S **S** **10 08 33.6 -3.6**
TIY pmax pmax
comp=E,150nm,1.8s
XLT XiLinHaoTe 25.53 317⇓*i* P **P** **10 04 45.8 -0.4**
XLT S **S** **10 08 41.0 +3.1**
XLT ScP **ScP** **10 10 53.8 +1.0**
XLT PcS **PcS** **10 11 43.0 +0.9**
XLT ScS **ScS** **10 14 43.4 +0.7**
XLT pmax pmax
comp=E,160nm,1.2s
XLT pmax pmax
comp=E,1μm,8.9s
WAKE Wake Island 25.65 102 P **P** **10 04 47.6 +0.1**
WAKE Wake Island 25.65 102 P **P** **10 04 47.9 +0.5**
H11N2 WAKE ISLAND Hy 25.69 101 P **P** **10 04 48.4 +0.8**
baz=267,slow=9.7,SNR=67
H11N1 WAKE ISLAND Hy 25.70 101 P **P** **10 04 48.3 +0.6**
baz=267,slow=9.7,SNR=47
H11N3 WAKE ISLAND Hy 25.71 101 P **P** **10 04 48.4 +0.7**
baz=267,slow=9.7,SNR=58
NKL Nikolayevsk 25.96 1 *e* P **P** **10 04 50.0 +0.3**
NKL *e* S **S** **10 08 46.5 +2.4**
NKL pmax pmax
comp=E,46nm,0.6s
NKL pmax pmax
comp=N,85nm,0.8s
NKL pmax pmax
comp=Z,235nm,0.7s
H11S3 WAKE ISLAND Hy 25.99 104 P **P** **10 04 51.0 +0.7**
baz=248,slow=6.3,SNR=14
H11S1 WAKE ISLAND Hy 26.00 104 P **P** **10 04 51.3 +1.0**
baz=248,slow=6.3,SNR=12
H11S2 WAKE ISLAND Hy 26.01 104 P **P** **10 04 51.0 +0.5**
baz=248,slow=6.3,SNR=9.2
SKR Severo-Kuril's 26.50 23 *e* P **P** **10 04 55.3 +0.8**
SKR pmax pmax
comp=Z,258nm,1.3s
SKR pmax pmax
comp=Z,200nm,4.3s
GULI GuiLin 26.66 273⇓P **P** **10 04 53.9 -2.4**
GULI pmax pmax
comp=Z,170nm,1.4s
ENH Enshi 26.93 284 P **P** **10 04 58.1 -0.6**
ENH Enshi 26.93 284 P **P** **10 04 58.6 -0.1**
HIA Hailar 27.06 330 P **P** **10 04 59.8 +0.2**
HIA Hailar 27.06 330 P **P** **10 05 00.4 +0.8**
HIA Hailar 27.06 330 P **P** **10 04 59.8 +0.2**
HHC Hu-ho-hao-te 27.13 308 *e* P **P** **10 05 00.5 +0.1**
HHC S **S** **10 09 02.1 -0.9**
HHC ScS **ScS** **10 14 45.4 -4.5**
HHC pmax pmax
comp=Z,850nm,1.0s
HHC pmax pmax
comp=Z,4μm,4.3s
XAN Xi'an 27.57 292⇓P **P** **10 05 04.4 +0.1**
XAN sP sP 10 07 24.0 -1.0
XAN PcP **PcP** **10 08 03.8 -2.3**
XAN ScP **ScP** **10 11 00.5 +1.4**
XAN ScS **ScS** **10 14 52.4 +0.3**
XAN pmax pmax
comp=Z,410nm,1.2s
XAN pmax pmax
comp=Z,3μm,6.8s
ZEA Zeya 28.18 344 *e* P **P** **10 05 09.8 +0.5**
ZEA *e* S **S** **10 09 19.5 +0.6**
ZEA pmax pmax
comp=E,110nm,0.5s
ZEA pmax pmax
comp=N,470nm,0.7s
ZEA pmax pmax
comp=Z,1μm,0.7s
ZEA pmax pmax
comp=E,200nm,0.5s
ZEA pmax pmax
comp=N,300nm,0.8s
ZEA pmax pmax
comp=Z,400nm,0.9s
ZEA smax smax
comp=N,700nm,2.3s
QIZ Qiongzhong 28.87 260 P **P** **10 05 15.7 -0.1**
QIZ Qiongzhong 28.87 260⇓*i* P **P** **10 05 17.1 +1.2**
QIZ S **S** **10 09 31.8 +1.3**
QIZ pmax pmax
comp=N,150nm,1.4s
QIZ pmax pmax
comp=N,1μm,3.8s
QIZ Qiongzhong 28.87 260 P **P** **10 05 17.0 +1.2**
TNTI Ternate 28.93 207 P **P** **10 05 15.3 -1.0**
TNTI Ternate 28.93 207 P **P** **10 05 16.4 +0.1**
comp=N,130nm,1.0s
TNTI Ternate 28.93 207 P **P** **10 05 17.3 +1.0**
comp=N,110nm,1.0s
SMPI Sarmi 29.01 183 P **P** **10 05 17.9 +0.9**
comp=N,10μmcomp=N,44nm,0.8s
PEA0B Petropavlovsk- 29.06 22 P **P** **10 05 17.3 +0.3**
PEA0B Petropavlovsk- 29.06 22⇑*e* P **P** **10 05 18.2 +1.2**
PETK Petropavlovsk- 29.06 22 P **P** **10 05 17.6 +0.6**
comp=N,51nm,1.0s,baz=204,slow=5.3,SNR=71
PETK ScP **ScP** **10 11 02.4 -1.0**
comp=N,55nm,0.9s,baz=201,slow=7.9,SNR=20
comp=N,51nm,1.0s
RKPI Ransiki, Papua 29.06 192 P **P** **10 05 17.9 +0.4**
comp=N,62nm,1.6s
SIJI Sorong 29.12 198 P **P** **10 05 17.8 -0.2**
comp=N,48nm,0.8s,baz=3.0,slow=9.0,SNR=16
SIJI ScP **ScP** **10 11 04.0 -0.1**
comp=N,23nm,0.7s,baz=354,slow=4.9,SNR=8.2
comp=N,48nm,0.8s
PET Petropavlovsk 29.32 23 P **P** **10 05 19.1 -0.1**
PET Petropavlovsk 29.32 23 P **P** **10 05 20.7 +1.5**
PET Petropavlovsk 29.32 23 *e* P **P** **10 05 19.4 +0.2**
PET *e**SP **sP** **10 07 43.1 +3.7**
PET *e*S **S** **10 09 37.0 +0.5**
PET pmax pmax
comp=Z,559nm,1.0s
PET pmax pmax
comp=Z,700nm,10.6s
PET pmax pmax
comp=Z,300nm,9.6s
PET MLR MLR
comp=Z,1μm,16.0s
PET MLR MLR
comp=Z,1μm,15.0s
GYA Guiyang 29.75 276⇓*i* P **P** **10 05 23.8 +0.3**
GYA PP **PP** **10 06 53.8 -8.4**
GYA PcP **PcP** **10 08 12.8 +0.9**
GYA S **S** **10 09 42.6 -1.6**
GYA ScP **ScP** **10 11 07.1 +0.9**
GYA ScS **ScS** **10 15 03.0 +0.2**
GYA pmax pmax
comp=Z,290nm,1.0s
LBMI Labuha 30.16 206 P **P** **10 05 28.2 +1.2**
comp=Z,4μmcomp=Z,432nm,1.0s
FAKI Fak Fak 30.84 195 P **P** **10 05 31.9 -0.9**
FAKI Fak Fak 30.84 195 P **P** **10 05 32.2 -0.6**
comp=Z,645nmcomp=Z,63nm,0.9s
FAKI Fak Fak 30.84 195 P **P** **10 05 32.3 -0.6**
KKM Kota Kinabalu 30.90 231 P **P** **10 05 32.9 -0.6**
KKM Kota Kinabalu 30.90 231 P **P** **10 05 33.7 +0.2**
GTOI Gorontalo 31.03 215 P **P** **10 05 33.6 -0.9**
comp=Z,836nmcomp=Z,102nm,0.9s
SPMM Sapulut 31.69 229 P **P** **10 05 41.0 +0.8**
MRSI Marisa 31.72 216 P **P** **10 05 41.2 +0.8**
comp=Z,4μmcomp=Z,407nm,1.0s
CIT Chita 31.81 328 *e* P **P** **10 05 41.4 +0.6**
CIT *e* 10 08 01.6
CIT *e*S **S** **10 10 16.2 +1.1**
CIT pmax pmax
comp=Z,742nm,2.2s
TOLI2 Tolitoli 31.82 219 P **P** **10 05 40.6 -0.7**
TOLI2 IAmb IAmb 10 07 09.8
comp=Z,666nm,1.9s

TOLI2 **Tolitoli** 31.82 219 P P 10 05 40.7 -0.6
CD2 **Chengdu** 31.85 285 P P 10 05 41.3 -0.1
CD2 pP pP 10 07 06.3 -0.2
CD2 S S 10 10 13.6 -2.7
CD2 ScP ScP 10 11 14.3 +1.2
CD2 sS sS 10 12 51.5 -2.6
LZH **Lanzhou** 31.93 295 ⇓P P 10 05 42.8 +0.6
LZH pP pwP 10 07 13.8 +0.7
LZH S S 10 10 19.6 +2.0
LZH ScP ScP 10 11 15.3 +1.8
LZH ScS ScS 10 15 13.3 -0.2
LZH pmax pmax
comp=Z,220nm,1.4s
LZH pmax pmax
comp=Z,400nm,4.1s
SANI **Sanana** 32.05 207 P P 10 05 41.4 -1.8
comp=Z,3µmcomp=Z,318nm,0.7s
SANI **Sanana** 32.05 207 P P 10 05 41.4 -1.8
MSAI **Masohi** 32.17 201 P P 10 05 45.5 +1.2
comp=Z,763nmcomp=Z,42nm,1.0s
LUWI **Luwuk** 32.60 213 P P 10 05 46.1 -1.8
LUWI IAmb IAmb 10 05 48.3
comp=Z,268nm,1.2s
LUWI **Luwuk** 32.60 213 P P 10 05 46.4 -1.5
comp=Z,238nm,1.1s
LUWI **Luwuk** 32.60 213 P P 10 05 46.7 -1.2
NLAI **Namlea** 32.70 204 P P 10 05 49.4 +0.6
comp=Z,76nm,1.3s
AAI **Ambon** 32.73 202 P P 10 05 50.1 +1.1
comp=Z,2µmcomp=Z,126nm,1.2s
MPSI **Mapaga** 32.95 219 P P 10 05 50.9 0.0
comp=Z,1µmcomp=Z,914nmcomp=Z,51nm,0.7s
ULN **Ulaanbaatar** 32.97 318 P P 10 05 51.3 +0.5
ULN pP pP 10 07 15.4 -0.7
ULN ScP ScP 10 11 18.0 +1.2
BNDI **Bandanaira** 32.99 199 P P 10 05 50.7 -0.5
comp=Z,226nm,0.8s
BNDI **Bandanaira** 32.99 199 P P 10 05 51.9 +0.7
APSI **Ampana** 33.05 215 P P 10 05 51.1 -0.6
comp=Z,2µmcomp=Z,259nm,1.4s
DLV **T Lat** 33.24 249 P P 10 05 53.3 -0.3
MA2 **Magadan** 33.24 10 P P 10 05 52.3 -0.5
comp=Z,86nm,0.8s,baz=189,slow=8.7,SNR=22
MA2 ScP ScP 10 11 17.4 +0.1
comp=Z,67nm,0.9s,baz=136,slow=4.2,SNR=9.7
comp=Z,86nm,0.8s
MA2 **Magadan** 33.24 10 P P 10 05 52.8 0.0
MA2 **Magadan** 33.24 10 P P 10 05 53.0 +0.3
MA2 **Magadan** 33.24 10 *ce*P P 10 05 53.6 +0.9
MA2 pmax pmax
comp=Z,220nm,1.3s
MA2 **Magadan** 33.24 10 P P 10 05 52.5 -0.2
MA2 ScP ScP 10 11 17.4 +0.1
SONM **Songino Array** 33.35 317 P P 10 05 54.0 -0.1
comp=Z,142nm,0.5s,baz=129,slow=8.9,SNR=740
SONM pP pP 10 07 20.6 +1.2
comp=Z,14nm,0.7s,baz=133,slow=7.8,SNR=1.2
SONM PcP PcP 10 08 21.8 +0.3
comp=Z,20nm,0.6s,baz=133,slow=3.7,SNR=3.0
SONM ScP ScP 10 11 18.5 +0.4
comp=Z,21nm,0.5s,baz=129,slow=3.6,SNR=23
SONM SKKS SKKSdf 10 36 59.1 +5.4
comp=Z,2.1nm,0.9s,baz=251,slow=4.4,SNR=10
comp=Z,142nm,0.5s
SONM **Songino Array** 33.35 317 P P 10 05 54.8 +0.7
SONM IAmb IAmb 10 05 55.5
comp=Z,207nm,0.6s
KMI **Kunming** 33.47 275 ⇓P P 10 05 55.0 -0.5
KMI pP pP 10 07 21.0 +0.2
KMI PP PP 10 07 30.6 -6.8
KMI sP sP 10 08 19.3 +1.4
KMI PcP PcP 10 08 23.3 +1.0
KMI S S 10 10 40.8 -0.6
KMI sS sS 10 13 24.6 +4.5
KMI pmax pmax
comp=Z,240nm,1.0s
KMI pmax pmax
comp=Z,1µm,3.7s
KMI **Kunming** 33.47 275 P P 10 05 56.2 +0.8
KMI pP pP 10 07 20.4 -0.4
KMI ScP ScP 10 11 20.0 +0.9
PZH **PanZhiHua** 34.09 278 P P 10 06 00.4 -0.2
PZH pP pP 10 07 28.4 +1.9
PZH PP PP 10 07 34.6 -7.2
PZH S S 10 10 48.4 -2.3
PZH ScP ScP 10 11 21.9 +0.7
PZH sS sS 10 13 27.8 -1.9
PZH SS SS 10 13 45.5 -2.7
PZH ScS ScS 10 15 23.4 -1.7
PZH pmax pmax
comp=Z,330nm,0.9s
PZH pmax pmax
comp=Z,2µm,5.2s
UBPT **Khong Chiam** 34.21 257 P P 10 06 02.6 +1.1
NONG **Nongkai** 35.13 263 P P 10 06 10.4 +1.1
GTA **Gaotai** 35.50 301 ⇓P P 10 06 12.4 +0.2
GTA pP pP 10 07 37.3 -1.2
GTA PP PP 10 07 45.0 -2.5
GTA PcP PcP 10 08 29.0 +1.1
GTA S S 10 11 10.4 -1.2
GTA ScP ScP 10 11 26.9 +0.8
GTA PcS PcS 10 12 15.9 -0.1
GTA sS sS 10 13 50.8 -0.6
GTA ScS ScS 10 15 31.3 -1.2
GTA pmax pmax
comp=Z,280nm,1.0s
GTA pmax pmax
comp=Z,1µm,6.5s
YAK **Yakutsk** 35.55 352 P P 10 06 12.1 0.0
comp=Z,248nm,0.8s,baz=155,slow=3.3,SNR=89
YAK S S 10 11 08.0 -3.3
comp=Z,26nm,0.7s,baz=218,slow=23,SNR=15
YAK ScP ScP 10 11 25.4 -0.2
comp=Z,82nm,1.0s,baz=180,slow=5.1,SNR=6.1
comp=Z,248nm,0.8s
YAK **Yakutsk** 35.55 352 P P 10 06 11.7 -0.3
YAK **Yakutsk** 35.55 352 *d*iP P 10 06 11.7 -0.3
YAK *e**PP pP 10 07 38.5 -0.8
YAK *e* 10 07 51.9
YAK *e* 10 08 25.5
YAK *e*S S 10 11 11.3 0.0
YAK *e**SS sS 10 13 47.8 -3.3
YAK *e*SS SS 10 14 11.9 -4.1
YAK *e* 10 15 26.8
YAK pmax pmax
comp=Z,560nm,1.1s
YAK pmax pmax
comp=N,199nm,1.3s
YAK pmax pmax
comp=E,30nm,1.2s
YAK pmax pmax
comp=Z,513nm,2.5s
YAK pmax pmax
comp=N,276nm,2.7s
YAK pmax pmax
comp=E,203nm,3.0s
YAK smax smax
comp=N,2µm,2.3s
YAK smax smax
comp=E,583nm,2.0s
YAK **Yakutsk** 35.55 352 P P 10 06 11.5 -0.6
YAK pP pP 10 07 38.8 -0.4
YAK ScP ScP 10 11 24.8 -0.7
BOD **Bodaibo** 35.70 336 ⇑*i*P P 10 06 13.9 +0.4
BOD pmax pmax
comp=Z,467nm,1.1s
SHEM **Shemya Is, Ala** 35.97 35 P P 10 06 16.6 +0.9
comp=Z,490nm,0.6s,baz=39,slow=1.8,SNR=63
comp=Z,490nm,0.6s
BKB **Balikpapan** 35.99 222 IAmb IAmb 10 06 18.4
comp=Z,262nm,1.0s
BKB **Balikpapan** 35.99 222 P P 10 06 17.6 +1.2
comp=Z,3µmcomp=Z,281nm,1.0s
BKB **Balikpapan** 35.99 222 P P 10 06 17.3 +0.9
SBUM **Sibu** 36.24 232 P P 10 06 17.8 -0.7
SBUM **Sibu** 36.24 232 P P 10 06 19.0 +0.5
ZAK **Zakamensk** 36.31 320 *e*P P 10 06 18.8 +0.1
ZAK pmax pmax
comp=Z,503nm,1.3s
ZAK pmax pmax
comp=Z,113nm,1.4s
IRK **Irkutsk** 36.62 323 *e*P P 10 06 21.4 +0.2
IRK *e*S S 10 11 29.3 +1.6
IRK pmax pmax
comp=Z,849nm,1.5s
SPSI **Sidrap Palu** 36.62 215 P P 10 06 20.4 -1.2
comp=Z,1µmcomp=Z,150nm,1.0s
SEY **Seymchan** 36.68 9 ScP ScP 10 11 29.7 -0.1
comp=Z,43nm,1.1s,baz=116,slow=10,SNR=8.2
SEY **Seymchan** 36.68 9*c*i P P 10 06 22.1 +0.6
SEY pmax pmax
comp=Z,237nm,1.3s
BNSI **Bone** 36.82 215 P P 10 06 23.0 -0.2
comp=Z,1µmcomp=Z,74nm,1.1s
MTKI **Muara Teweh, K** 36.96 225 P P 10 06 24.2 -0.3
comp=Z,431nm,1.0s
PMG **Port Moresby** 37.00 168 P P 10 06 23.5 -1.2
comp=Z,12nm,0.5s,baz=320,slow=8.7,SNR=6.4
PMG pP pwP 10 07 57.4 -0.1
comp=Z,25nm,0.9s,baz=314,slow=7.4,SNR=2.7
PMG ScP ScP 10 11 31.1 -0.7
comp=Z,37nm,0.8s,baz=348,slow=6.1,SNR=5.6
PMG **Port Moresby** 37.00 168 P P 10 06 23.7 -1.0
PMG **Port Moresby** 37.00 168 P P 10 06 23.7 -1.0
PMG pmax pmax
comp=Z,47nm,1.2s
TNCH **TengChong** 37.23 276 ⇓P P 10 06 27.3 +0.5
TNCH PP PP 10 08 05.1 -1.8
TNCH S S 10 11 36.3 -1.6
TNCH pmax pmax
comp=Z,440nm,0.7s
TNCH pmax pmax
comp=Z,2µm,4.1s
KAPI **Kappang** 37.52 215 P P 10 06 28.6 -0.5
comp=Z,67nm,1.0s,baz=38,slow=6.0,SNR=28
KAPI ScP ScP 10 11 33.4 -0.4
comp=Z,10nm,0.6s,baz=215,slow=4.5,SNR=4.8
comp=Z,67nm,1.0s
KAPI **Kappang** 37.52 215 P P 10 06 28.5 -0.5
KAPI **Kappang** 37.52 215 P P 10 06 28.9 -0.1
KAPI **Kappang** 37.52 215 P P 10 06 28.5 -0.5
KAPI pmax pmax
comp=Z,82nm,1.0s
KAPI **Kappang** 37.52 215 P P 10 06 28.2 -0.8
KAPI pP pP 10 07 56.0 -0.6
KAPI sP sP 10 08 51.2 -1.6
PHRA **Phrae** 37.56 265 P P 10 06 30.0 +0.6
MIDW **Midway** 37.59 78 P P 10 06 29.4 -0.1
MIDW **Midway** 37.59 78 P P 10 06 31.3 +1.8
MIDW **Midway** 37.59 78 P P 10 06 30.9 +1.4
MIDW pP pP 10 07 52.7 -3.9
MIDW sP sP 10 08 50.6 -2.5
MIDW ScP ScP 10 11 33.1 -0.8
BKSI **Bulukumba** 37.60 214 P P 10 06 29.6 -0.1
comp=Z,532nmcomp=Z,51nm,0.9s
BSSI **Bau Bau, Buton** 38.13 213 P P 10 06 33.8 -0.2
comp=Z,2µmcomp=Z,123nm,0.8s
MOY **Mondy** 38.16 321 *e*P P 10 06 34.4 +0.4
MOY pmax pmax
comp=Z,566nm,1.9s
NAYO **Nakonayok** 38.24 258 P P 10 06 35.8 +0.9
KSM **Kuching** 38.28 233 P P 10 06 35.0 -0.2
KSM **Kuching** 38.28 233 P P 10 06 35.0 -0.2
CHTO **Chiang Mai** 38.59 266 P P 10 06 37.8 0.0
CHTO IAmb IAmb 10 06 39.4
comp=Z,583nm,1.5s
CHTO **Chiang Mai** 38.59 266 P P 10 06 37.8 0.0
CHTO pmax pmax
comp=Z,583nm,1.5s
CM31 **Chiang Mai Arr** 38.72 266 IAmb IAmb 10 06 41.0
comp=Z,445nm,1.6s
CMAR **Chiang Mai Arr** 38.72 266 P P 10 06 38.9 0.0
comp=Z,41nm,0.5s,baz=56,slow=8.0,SNR=210
CMAR PcP PcP 10 08 39.6 +1.6
comp=Z,17nm,0.7s,baz=59,slow=1.6,SNR=11
CMAR ScP ScP 10 11 40.1 +1.7
comp=Z,8.9nm,0.6s,baz=74,slow=1.9,SNR=11
CMAR P3KPbc 10 36 33.5
comp=Z,3.4nm,0.6s,baz=256,slow=5.4,SNR=14
CMAR PKP2ab 10 40 30.5
comp=Z,1.2nm,0.3s,baz=268,slow=3.6,SNR=4.8
comp=Z,41nm,0.5s
CMAR **Chiang Mai Arr** 38.72 266 P P 10 06 39.2 +0.4
BBKI **Banjar Baru** 38.97 223 P P 10 06 41.6 +0.7
LKP **Lekhapani** 39.13 281 *e*P P 10 06 42.9 +0.8
LKP IAmb IAmb 10 06 44.3
comp=Z,683nm,0.8s
MMRI **Maumere** 39.55 208 P P 10 06 45.3 -0.2
MMRI IAmb IAmb 10 06 46.8
comp=Z,227nm,0.9s
MMRI **Maumere** 39.55 208 P P 10 06 45.6 +0.1
comp=Z,4µmcomp=Z,286nm,1.0s
MMRI **Maumere** 39.55 208 P P 10 06 46.0 +0.5
SOEI **Soe** 39.76 205 P P 10 06 46.5 -0.8
SOEI IAmb IAmb 10 07 06.3
comp=Z,238nm,1.1s
SOEI **Soe** 39.76 205 P P 10 06 46.8 -0.5
comp=Z,2µmcomp=Z,171nm,1.0s
SOEI **Soe** 39.76 205 P P 10 06 46.9 -0.4
KNGR **Kungurtug, Tuv** 39.79 318 *d*iP P 10 06 48.0 +0.8
KNGR pmax pmax
comp=Z,244nm,0.8s
DIBR **DIBRUGARH** 39.92 281 *e*P P 10 06 49.4 +0.9
MND **Mandalay** 40.12 273 P P 10 06 49.8 -0.3
KDU **Kakadu** 40.29 191 P P 10 06 50.9 -0.5
BATI **Baumata** 40.40 205 P P 10 06 51.5 -0.9
comp=Z,144nm,0.6s,baz=354,slow=3.0,SNR=13
comp=Z,144nm,0.6s
BATI **Baumata** 40.40 205 P P 10 06 51.9 -0.5
comp=Z,2µmcomp=Z,194nm,1.0s
MOKO **MOKOCHONG** 40.49 280 *e*P P 10 06 53.1 -0.1
MOKO IAmb IAmb 10 06 54.5
comp=Z,322nm,0.5s
JORH **JORHAT** 40.64 280 *e*P P 10 06 55.0 +0.8
TARA **Tarawa** 40.66 124 P P 10 06 53.7 -0.8
TARA IAmb IAmb 10 06 55.7
comp=Z,162nm,0.8s
TARA **Tarawa** 40.66 124 P P 10 06 54.8 +0.3
TARA **Tarawa** 40.66 124 P P 10 06 54.4 0.0
ADK **Adak** 40.68 41 P P 10 06 54.2 +0.1
ADK **Adak** 40.68 41 P P 10 06 55.2 +1.1
ADK **Adak** 40.68 41 P P 10 06 54.2 +0.1
ADK pmax pmax
comp=Z,723nm,0.8s
ADK **Adak** 40.68 41 P P 10 06 53.6 -0.4
ADK pP pP 10 08 20.6 -2.4
ADK PP PP 10 08 40.1 -2.1
ADK ScP ScP 10 11 45.5 +0.1
MTN **Manton Dam** 40.70 193 P P 10 06 53.4 -1.2
MTN **Manton Dam** 40.70 193 P P 10 06 53.7 -1.0
ZIRO **ZIRO** 40.84 282 *e*P P 10 06 56.8 +0.7
ZIRO IAmb IAmb 10 06 58.1
comp=Z,407nm,0.5s
KOHI **KOHIMA** 40.97 279 *e*P P 10 06 55.7 -1.3
KOHI IAmb IAmb 10 06 57.2
comp=Z,118nm,0.4s
COEN **Coen** 40.99 175 P P 10 06 56.9 -0.1
COEN **Coen** 40.99 175 P P 10 06 57.2 +0.2
ITAN **ITANAGAR** 41.02 281 *e*P P 10 06 58.3 +1.0
HNR **Honiara** 41.19 149 P P 10 06 57.8 -0.8
comp=Z,445nm,0.6s,baz=257,slow=6.2,SNR=4.1
comp=Z,445nm,0.6s
IMP **Imphal** 41.32 277 *e*P P 10 06 58.2 -1.5
IMP IAmb IAmb 10 07 05.7
comp=Z,137nm,1.0s
PLAI **Plampang** 41.78 214 P P 10 07 02.3 -1.1
comp=Z,2µmcomp=Z,299nm,0.9s
PLAI **Plampang** 41.78 214 P P 10 07 01.8 -1.6
TEZP **TEZPUR** 41.94 280 *e*P P 10 07 04.8 +0.3
TEZP IAmb IAmb 10 07 06.2
comp=Z,453nm,0.7s
SURA **Surathani** 42.12 253 P P 10 07 06.9 +0.8
TWSI **Taliwang, Sumb** 42.16 215 P P 10 07 05.2 -1.2
comp=Z,2µmcomp=Z,175nm,0.9s
SKLT **Songkhla** 42.33 249 P P 10 07 08.1 +0.4
SILR **SILCHAR** 42.34 278 *e*P P 10 07 08.8 +1.1
SILR IAmb IAmb 10 07 10.2
comp=Z,343nm,0.4s
SRIT **Nakonsritamara** 42.43 252 P P 10 07 09.5 +0.9
SRBI **Singaraja** 42.50 218 P P 10 07 09.6 +0.6
comp=Z,3µmcomp=Z,175nm,0.8s
JRMM **Jerantut** 42.67 244 P P 10 07 11.0 +0.5
SAIH **SAIHA** 42.76 274 *e*P P 10 07 10.5 -0.7
ABJI **Asem Bagus** 42.81 219 P P 10 07 12.0 +0.5
comp=Z,4µmcomp=Z,304nm,1.0s
LSA **Lhasa** 42.81 285 P P 10 07 11.4 -0.6
LSA IAmb IAmb 10 07 15.2
comp=Z,652nm,1.5s
LSA **Lhasa** 42.81 285 P P 10 07 13.6 +1.6
LSA **Lhasa** 42.81 285 P P 10 07 11.4 -0.6
LSA pmax pmax
comp=Z,652nm,1.5s
LSA **Lhasa** 42.81 285 P P 10 07 13.7 +1.7
LSA pP pP 10 08 43.6 +1.3
LSA sP sP 10 09 40.9 +3.0
MYKOM **Kota Tinggi** 42.88 240 P P 10 07 14.0 +2.0
TPRI **Tanjung Pinang** 42.91 239 P P 10 07 14.3 +2.0
comp=Z,137nm,1.1s
SHL **Shillong** 42.97 279 P P 10 07 12.9 0.0
SNR=182
SHL **Shillong** 42.97 279 *e*P P 10 07 12.7 -0.2
GUWA **GUWAHATI** 42.99 280 *e*P P 10 07 12.5 -0.4
GUWA IAmb IAmb 10 07 13.2
comp=Z,234nm,0.7s
KULM **Kulim** 43.34 247 P P 10 07 15.8 +0.1
KULM **Kulim** 43.34 247 P P 10 07 16.0 +0.3
JAGI **Jajag, Banyuwa** 43.41 219 P P 10 07 14.7 -1.5
JAGI IAmb IAmb 10 07 17.5
comp=Z,283nm,1.2s
JAGI **Jajag, Banyuwa** 43.41 219 P P 10 07 16.1 -0.1
comp=Z,2µmcomp=Z,232nm,1.1s
JAGI **Jajag, Banyuwa** 43.41 219 P P 10 07 15.2 -1.0
IPM **Ipoh** 43.49 246 P P 10 07 16.3 -0.6
IPM **Ipoh** 43.49 246 P P 10 07 18.0 +1.1
IPM **Ipoh** 43.49 246 P P 10 07 16.6 -0.3
PPBI **Pangkal Pinang** 43.78 234 P P 10 07 19.8 +0.7
comp=Z,20µmcomp=Z,128nm,1.4s
DSRI **Dabo** 43.79 237 P P 10 07 20.5 +1.3
comp=Z,3µmcomp=Z,96nm,1.4s
BILL **Bilibino** 43.83 14 P P 10 07 19.2 +0.5
BILL **Bilibino** 43.83 14 *d*iP P 10 07 18.9 +0.2
BILL *e**PP pP 10 08 50.8 +0.7
BILL *i* 10 08 55.5
BILL *i* 10 09 06.8
BILL *i* S S 10 13 12.0 -0.4
BILL *i* 10 16 21.6
BILL *i* SS SS 10 16 41.3 +0.3
BILL pmax pmax
comp=Z,874nm,1.3s
BILL MLR MLR
comp=Z,150nm,16.0s
BILL **Bilibino** 43.83 14 P P 10 07 18.6 -0.1
BILL ScP ScP 10 11 57.7 -0.2
BRDH **Bariadhala** 43.91 275 P P 10 07 21.3 +1.3
comp=Z,1µm,0.3s,baz=91,slow=7.0,SNR=79
BRDH ScP ScP 10 12 00.6 +1.5
comp=Z,41nm,0.3s,baz=61,slow=9.9,SNR=9.1
KNRA **Kununurra** 43.97 196 P P 10 07 19.7 -0.7
NGJI **Ngawi** 44.09 223 P P 10 07 22.8 +1.3
comp=Z,76nm,1.1s
PWJI **Pagerwojo** 44.40 222 P P 10 07 23.2 -0.7
comp=Z,121nm,1.0s
DHUB **DHUBRI** 44.52 280 *e*P P 10 07 24.7 0.0
DHUB IAmb IAmb 10 07 25.5
comp=Z,292nm,0.6s
PCJI **Pacitan** 44.92 223 P P 10 07 29.1 +1.3
comp=Z,111nm,1.3s
CLES **Cleveland East** 44.93 41 IAmb IAmb 10 07 29.1
comp=Z,1µm,0.5s
TIXI **Tiksi** 44.96 355 P P 10 07 26.9 -0.5
comp=Z,69nm,0.8s,baz=87,slow=23,SNR=152
TIXI ScP ScP 10 12 01.1 -1.4
comp=Z,12nm,0.7s,baz=271,slow=1.2,SNR=5.0
TIXI S S 10 13 28.5 +0.3
comp=Z,21nm,0.9s,baz=90,slow=23,SNR=25
comp=Z,69nm,0.8s
TIXI **Tiksi** 44.96 355 P P 10 07 27.1 -0.3
TIXI **Tiksi** 44.96 355 P P 10 07 27.2 -0.2
TIXI ScP ScP 10 12 01.1 -1.4
WMQ **Urumqi** 44.98 306 ⇓P P 10 07 29.4 +1.2
WMQ pP pP 10 08 59.8 0.0
WMQ PP PP 10 09 26.1 +4.2
WMQ ScP ScP 10 12 04.1 +0.8
WMQ S S 10 13 29.6 +0.1
WMQ sS sS 10 16 14.3 -2.1
WMQ ScS ScS 10 16 28.4 -1.3
WMQ pmax pmax
comp=Z,880nm,1.3s
WMQ pmax pmax
comp=Z,2µm,5.1s
WMQ **Urumqi** 44.98 306 P P 10 07 29.3 +1.2
WMQ pP pP 10 08 59.8 0.0
WMQ sP sP 10 09 52.5 -2.7
MTSU **Mount Surprise** 45.22 174 P P 10 07 31.4 +1.3
GTK **Tadong** 45.45 283 *e*P P 10 07 32.6 +0.5
GTK IAmb IAmb 10 07 35.3
comp=Z,258nm,0.3s
NIKH **Nikolski High** 45.58 41 P P 10 07 32.4 0.0
baz=256,SNR=23
NIKH **Nikolski High** 45.58 41 P P 10 07 33.1 +0.7
BKNI **Bangkinang** 45.97 241 P P 10 07 36.3 +0.3
BKNI IAmb IAmb 10 07 38.2
comp=Z,350nm,1.5s
BKNI **Bangkinang** 45.97 241 P P 10 07 38.0 +0.2
comp=Z,166nm,1.0s
SPIA **Saint Paul Isl** 46.01 35 P P 10 07 35.8 +0.2
baz=251,SNR=8.4
TSI **Tuntungan** 46.06 247 P P 10 07 39.9 +3.2
comp=Z,186nm,0.7s
DGPR **DIGLIPUR** 46.09 262 *e*P P 10 07 37.0 +0.1
PSI **Prapat** 46.17 246 PcP PcP 10 09 03.5 0.0
comp=Z,41nm,0.7s,baz=27,slow=1.1,SNR=5.8
PSI ScP ScP 10 12 08.6 -0.2
comp=Z,33nm,0.6s,baz=102,slow=2.8,SNR=11
PSI **Prapat** 46.17 246 P P 10 07 37.7 0.0
PSI **Prapat** 46.17 246 P P 10 07 37.5 -0.2
PSI pmax pmax
comp=Z,119nm,0.8s
RPSI **Rantau Prapat** 46.23 245 P P 10 07 37.5 -0.5
LHMI **Lhok Sumawe** 46.44 250 P P 10 07 42.5 +2.9
comp=Z,5µmcomp=Z,352nm,1.0s
LHMI **Lhok Sumawe** 46.44 250 P P 10 07 41.8 +2.2
SDSI **Sungai Dareh** 46.47 239 P P 10 07 40.0 +0.2
comp=Z,58nm,0.9s
TV1H **Townsville Har** 46.61 171 P P 10 07 41.2 +0.5
KCSI **Kotacane, Aceh** 46.70 247 P P 10 07 40.6 -1.0
comp=Z,2µmcomp=Z,121nm,1.7s
MNSI **Mandailing Nat** 46.83 243 P P 10 07 42.4 -0.1
comp=Z,3µmcomp=Z,178nm,0.8s
PBA **Port Blair** 46.91 260 P P 10 07 42.2 -0.9
WB0 **Warramunga Arr** 46.97 187 P P 10 07 42.2 -1.2
WRAB **Tennant Creek** 47.14 187 P P 10 07 44.1 -0.5
WRAB **Tennant Creek** 47.14 187 P P 10 07 43.6 -1.1
WRAB **Tennant Creek** 47.14 187 *ce*P P 10 07 44.2 -0.5
WRAB pmax pmax
comp=Z,70nm,1.3s
WRAB **Tennant Creek** 47.14 187 P P 10 07 43.4 -1.3
WRAB pP pP 10 09 17.0 -0.6
WRAB ScP ScP 10 12 11.8 -0.6
UNV **Unalaska Valle** 47.15 40 IAmb IAmb 10 07 59.5
comp=Z,224nm,1.0s
UNV **Unalaska Valle** 47.15 40 P P 10 07 44.1 -0.2
baz=258,SNR=12
WRA **Warramunga Arr** 47.15 187 P P 10 07 43.2 -1.6
comp=Z,22nm,0.3s,baz=6.9,slow=7.7,SNR=921
WRA pP pP 10 09 17.6 -0.1
comp=Z,10.0nm,0.5s,baz=6.6,slow=7.9,SNR=1.7
WRA ScP ScP 10 12 12.1 -0.4
comp=Z,44nm,0.9s,baz=3.0,slow=4.4,SNR=10
WRA S S 10 13 56.2 -4.0
comp=Z,16nm,0.9s,baz=6.0,slow=14,SNR=6.6
WRA ScS ScS 10 16 47.2 +2.9
comp=Z,3.8nm,1.1s,baz=356,slow=9.1,SNR=4.6
WRA P4KPbc 10 45 20.0
comp=Z,0.3nm,0.5s,baz=12,slow=4.9,SNR=7.1
comp=Z,22nm,0.3s
PDSI **Padang** 47.20 240 P P 10 07 47.4 +2.1
comp=Z,38nm,0.7s
ZSN **Zaisan** 47.24 311 ⇓*i*P P 10 07 46.2 +0.9
comp=Z,289nm,1.5s,baz=310
ZSN *e*S S 10 14 01.2 +0.2
baz=310
ZSN **Zaisan** 47.24 311 *d*iP P 10 07 46.1 +0.9
ZSN *e*S S 10 14 01.1 +0.1
ZSN pmax pmax
comp=Z,289nm,1.5s
LWLI **Liwa** 47.25 233 P P 10 07 45.7 -0.1
comp=Z,227nm,1.0s
MASI **Maura Aman, Be** 47.29 236 P P 10 07 46.3 +0.2
comp=Z,3µmcomp=Z,229nm,0.6s
KASI **Kota Agung** 47.29 232 P P 10 07 44.4 -1.6
comp=Z,111nm,1.0s
CTA **Charters Tower** 47.36 172 P P 10 07 45.7 -0.6
comp=Z,17nm,0.6s,baz=4.6,slow=7.7,SNR=32

CTA pP **pP** **10 09 20.5 +1.0**
comp=Z,25nm,1.1s,baz=354,slow=7.4,SNR=4.7
comp=Z,17nm,0.6s
CTA Charters Tower 47.36 172 P **P** **10 07 46.1 -0.2**
CTAO Charters Tower 47.36 172 P **P** **10 07 46.2 -0.1**
CTAO Charters Tower 47.36 172 P **P** **10 07 46.1 -0.2**
CTAO Charters Tower 47.36 172 P **P** **10 07 46.3 -0.1**
CTAO pmax pmax
comp=Z,112nm,1.5s
CTAO Charters Tower 47.36 172 P **P** **10 07 45.5 -0.8**
CTAO pP **pP** **10 09 20.4 +0.8**
CTAO ScP **ScP** **10 12 12.3 -1.0**
MLSI Meulaboh, Aceh 47.42 249 P **P** **10 07 46.0 -1.0**
comp=Z,109nm,0.6s
QIS Mount Isa 47.44 181 P **P** **10 07 46.5 -0.5**
AKUT Akutan 47.63 40 P **P** **10 07 47.8 -0.2**
JOHN Johnston Islan 47.65 92 P **P** **10 07 50.3 +1.7**
JOHN Johnston Islan 47.65 92 P **P** **10 07 50.2 +1.6**
JOHN Johnston Islan 47.65 92 P **P** **10 07 49.7 +1.0**
JOHN ScP **ScP** **10 12 14.2 -0.6**
GAMB Gambell 47.91 27 IAmb IAmb 10 07 52.7
comp=Z,319nm,1.3s
GAMB Gambell 47.91 27 P **P** **10 07 49.8 0.0**
baz=244,SNR=6.7
GSI Gunungsitoli 48.13 245 P **P** **10 07 52.3 -0.1**
GSI Gunungsitoli 48.13 245 P **P** **10 07 52.4 0.0**
comp=Z,7µmcomp=Z,497nm,1.2s
GSI Gunungsitoli 48.13 245 P **P** **10 07 52.2 -0.1**
ZAA0 Zalesovo Array 48.19 319 P **P** **10 07 52.5 +0.4**
ZAA0 IAmb IAmb 10 07 53.5
comp=Z,309nm,0.8s
ZALV Zalesovo Beam 48.19 319 P **P** **10 07 51.7 -0.4**
comp=Z,234nm,0.5s,baz=104,slow=7.4,SNR=843
ZALV PcP **PcP** **10 09 10.2 +0.3**
comp=Z,65nm,0.5s,baz=124,slow=3.0,SNR=7.7
ZALV ScP **ScP** **10 12 16.4 0.0**
comp=Z,52nm,0.8s,baz=112,slow=4.5,SNR=9.7
ZALV S **S** **10 14 11.8 -1.9**
comp=Z,6.6nm,0.9s,baz=216,slow=4.6,SNR=3.2
ZALV ScS **ScS** **10 16 47.3 -3.1**
comp=Z,4.1nm,0.9s,baz=77,slow=6.7,SNR=5.1
ZALV P4KPbc 10 45 23.9
comp=Z,2.1nm,0.4s,baz=105,slow=2.9,SNR=8.1
comp=Z,234nm,0.5s
ZALV Zalesovo Beam 48.19 319 P **P** **10 07 52.5 +0.4**
SNSI Sinabang, Aceh 48.52 247 P **P** **10 07 56.3 +1.1**
comp=Z,6µmcomp=Z,347nm,1.4s
SISI Saibi 48.52 241 P **P** **10 07 56.4 +1.2**
comp=Z,2µmcomp=Z,134nm,0.7s
BOK Bokaro 48.69 279 *eP* **P** **10 07 57.5 +1.1**
BOK IAmb IAmb 10 07 58.2
comp=Z,322nm,0.7s
MK31 Makanchi Array 48.96 310 P **P** **10 07 58.8 +0.7**
MK31 IAmb IAmb 10 08 00.1
comp=Z,896nm,1.8s
MK31 Makanchi Array 48.96 310 P **P** **10 07 58.8 +0.7**
MK31 pmax pmax
comp=Z,896nm,1.8s
MKAR Makanchi Array 48.96 310 P **P** **10 07 58.0 0.0**
comp=Z,165nm,0.6s,baz=86,slow=10.0,SNR=1078
MKAR PcP **PcP** **10 09 13.4 +0.4**
comp=Z,44nm,0.7s,baz=81,slow=7.5,SNR=5.9
MKAR ScP **ScP** **10 12 20.5 +0.5**
comp=Z,33nm,0.4s,baz=80,slow=5.0,SNR=30
MKAR S **S** **10 14 24.4 -0.2**
comp=Z,2.9nm,0.9s,baz=89,slow=20,SNR=1.9
MKAR PKP2bc 10 39 03.6
comp=Z,2.4nm,0.9s,baz=279,slow=3.6,SNR=8.4
MKAR P4KPbc 10 45 27.6
comp=Z,2.0nm,0.5s,baz=85,slow=5.4,SNR=23
comp=Z,165nm,0.6s
MKAR Makanchi Array 48.96 310 P **P** **10 07 58.6 +0.6**
FALS False Pass 49.12 40 IAmb IAmb 10 08 05.3
comp=Z,274nm,0.6s
FALS False Pass 49.12 40 P **P** **10 07 58.8 -0.2**
baz=259,SNR=10
MAKZ Makanchi 49.17 310 P **P** **10 08 00.1 +0.4**
MAKZ Makanchi 49.17 310 P **P** **10 08 00.1 +0.4**
MAKZ pmax pmax
comp=Z,764nm,1.4s
MAKZ Makanchi 49.17 310 P **P** **10 07 59.9 +0.2**
MAKZ pP **pP** **10 09 33.4 -0.2**
MAKZ ScP **ScP** **10 12 21.1 +0.2**
VLK Valmikinagar 49.56 284 *eP* **P** **10 08 04.0 +1.2**
BWNR Bhubaneshwar 49.80 274 *eP* **P** **10 08 06.0 +1.3**
S12K Black Hills 50.03 39 P **P** **10 08 05.4 -0.5**
baz=260,SNR=10
TNA Tin City 50.14 25 IAmb IAmb 10 08 09.4
comp=Z,280nm,1.0s
TNA Tin City 50.14 25 P **P** **10 08 07.0 +0.6**
baz=246,SNR=20
ANM Nome 50.77 27 IAmb IAmb 10 08 15.1
comp=Z,245nm,0.9s
ANM Nome 50.77 27 P **P** **10 08 11.8 +0.8**
baz=250,SNR=22
SDPT Sand Point 50.87 39 P **P** **10 08 11.4 -0.5**
baz=262,SNR=36
AS01 Alice Springs 50.87 187 P **P** **10 08 11.1 -1.3**
AS31 Alice Springs 50.88 187 P **P** **10 08 11.2 -1.2**
ASAR Alice Springs 50.88 187 P **P** **10 08 10.9 -1.5**
comp=Z,8.7nm,0.3s,baz=358,slow=4.3,SNR=195
ASAR PcP **PcP** **10 09 20.4 +0.1**
comp=Z,6.7nm,0.8s,baz=9.5,slow=4.7,SNR=4.7
ASAR ScP **ScP** **10 12 28.2 -0.2**
comp=Z,12nm,0.9s,baz=7.4,slow=4.4,SNR=6.5
ASAR S **S** **10 14 46.4 -4.7**
comp=Z,3.7nm,0.9s,baz=21,slow=19,SNR=7.1
ASAR P4KPbc 10 45 36.2
comp=Z,0.5nm,0.5s,baz=3.8,slow=4.4,SNR=12
SHLS Shalkode 50.96 305 *eP* **P** **10 08 10.6 -2.4**
comp=Z,106nm,0.8s,baz=305
SHLS *eS* **S** **10 14 47.5 -4.8**
comp=Z,103nm,2.6s,baz=305
SHLS Shalkode 50.96 305 *eP* **P** **10 08 10.6 -2.4**
SHLS *eS* **S** **10 14 47.4 -4.8**
SHLS pmax pmax
comp=Z,106nm,0.8s
SHLS smax smax
comp=E,103nm,2.6s
UZB Uzynbulak 51.29 305 *eP* **P** **10 08 15.4 0.0**
baz=305
UZB *eS* **S** **10 14 55.7 -0.9**
baz=305
UZB Uzynbulak 51.29 305 *eP* **P** **10 08 15.4 0.0**
UZB *eS* **S** **10 14 55.7 -0.9**
CNBA Chernabura Isl 51.30 40 P **P** **10 08 15.3 +0.3**
CHNA Chernabura Isl 51.30 40 P **P** **10 08 15.0 -0.1**
baz=263,SNR=30
KPKS Kokpek 51.52 305 *i*↓P **P** **10 08 16.9 -0.1**
comp=E,268nm,1.5s,baz=305
KPKS *eS* **S** **10 14 59.3 -0.3**
comp=E,71nm,2.9s,baz=305
KPKS Kokpek 51.52 305 *d i*P **P** **10 08 16.9 -0.1**
KPKS *eS* **S** **10 14 59.2 -0.3**
KPKS pmax pmax
comp=Z,268nm,1.5s
KPKS smax smax
comp=E,71nm,2.9s
KURK Kurchatov 51.57 315 P **P** **10 08 17.5 +0.4**
KURK Kurchatov 51.57 315 P **P** **10 08 17.5 +0.4**
KURK Kurchatov 51.57 315 *ce*P **P** **10 08 17.1 0.0**
KURK pmax pmax
comp=Z,1µm,1.3s
KURK Kurchatov 51.57 315 P **P** **10 08 17.1 0.0**
KURK ScP **ScP** **10 12 30.6 -0.5**
KURBB Kurchatov Arra 51.62 314 P **P** **10 08 17.2 -0.3**
comp=Z,526nm,0.6s,baz=92,slow=7.9,SNR=2034
KURBB ScP **ScP** **10 12 30.8 -0.5**
comp=Z,8.1nm,0.5s,baz=90,slow=4.2,SNR=5.4
KURBB S **S** **10 14 59.4 -1.2**
comp=Z,14nm,1.0s,baz=85,slow=11,SNR=11
comp=Z,526nm,0.6s
TDK Taldyqorghan 51.66 307 *eP* **P** **10 08 18.4 +0.5**
comp=Z,161nm,0.5s,baz=307
TDK *eS* **S** **10 15 00.2 -1.0**
baz=307
TDK Taldyqorghan 51.66 307 *eP* **P** **10 08 18.4 +0.5**
TDK *eS* **S** **10 15 00.2 -1.0**
TDK pmax pmax
comp=Z,161nm,0.5s
SATY Saty 51.74 305↓ *i*P **P** **10 08 18.7 0.0**
comp=Z,354nm,1.5s,baz=305
SATY Saty 51.74 305 *d i*P **P** **10 08 18.7 0.0**
SATY pmax pmax
comp=Z,353nm,1.5s
NRIK Noril'sk 51.89 339 P **P** **10 08 19.4 +0.3**
comp=Z,424nm,0.7s,baz=110,slow=7.8,SNR=499
NRIK ScP **ScP** **10 12 32.2 +0.1**
comp=Z,72nm,0.8s,baz=118,slow=5.3,SNR=10
NRIK S **S** **10 15 03.0 -0.6**
comp=Z,55nm,0.9s,baz=224,slow=22,SNR=30
comp=Z,424nm,0.7s
NRIK Noril'sk 51.89 339 P **P** **10 08 19.5 +0.3**
NRIK IAmb IAmb 10 08 20.9
comp=Z,488nm,0.8s
NRIK Noril'sk 51.89 339 *ce*P **P** **10 08 19.3 +0.2**
MBWA Marble Bar 51.90 204 P **P** **10 08 18.9 -1.0**
MBWA Marble Bar 51.90 204 P **P** **10 08 19.3 -0.6**
MBWA Marble Bar 51.90 204 P **P** **10 08 18.6 -1.2**
MBWA ScP **ScP** **10 12 31.4 -1.4**
FUNA Funafuti 51.95 128 P **P** **10 08 20.4 +0.1**
FUNA Funafuti 51.95 128 P **P** **10 08 21.5 +1.2**
FUNA Funafuti 51.95 128 P **P** **10 08 20.8 +0.5**
ARXS Arharly 52.10 306 *eP* **P** **10 08 21.5 +0.3**
CHGN Chignik 52.15 38 IAmb IAmb 10 08 22.0
comp=Z,366nm,0.8s
CHGN Chignik 52.15 38 P **P** **10 08 20.7 -0.4**
baz=263,SNR=21
LGTI Lohaghat 52.18 287 *eP* **P** **10 08 23.8 +1.9**
PTH Pithoragarh 52.19 288 *eP* **P** **10 08 22.6 +0.5**
RAGD RAYAGADA 52.23 274 *eP* **P** **10 08 23.6 +1.1**
PSA00 Pilbara Seismi 52.24 204 P **P** **10 08 21.7 -0.6**
PSA00 Pilbara Seismi 52.24 204 P **P** **10 08 21.6 -0.7**
TARG Taragay, Kyrgy 52.28 303 IAmb IAmb 10 08 25.9
comp=Z,462nm,1.0s
BLSP Bilaspur 52.48 278 *eP* **P** **10 08 24.3 +0.1**
N16K Nishlik Lake 52.62 33 P **P** **10 08 24.9 +0.3**
baz=259
CHKK Chushkaly 52.73 306↓ *eP* **P** **10 08 25.2 -0.4**
baz=306
CHKK Chushkaly 52.73 306↓ *eP* **P** **10 08 25.2 -0.4**
MDOK Medeo 52.73 305 *eP* **P** **10 08 26.3 +0.4**
baz=305
MDOK *eS* **S** **10 15 10.7 -5.2**
baz=305
MDOK Medeo 52.73 305 *eP* **P** **10 08 26.2 +0.4**
MDOK *eS* **S** **10 15 10.6 -5.2**
P16K Nushagak River 52.76 35 P **P** **10 08 25.9 +0.4**
baz=261,SNR=44
R16K Pilot Point 52.77 37 P **P** **10 08 25.5 -0.1**
baz=263,SNR=5.8
O16K Kokwok River B 52.80 34 P **P** **10 08 26.4 +0.7**
baz=261
AAA Alma-Ata 52.82 305↓ *eP* **P** **10 08 26.4 0.0**
comp=Z,1µm,1.0s,baz=305
AAA *eS* **S** **10 15 18.0 +1.0**
baz=305
AAA Alma-Ata 52.82 305 *de*P **P** **10 08 26.4 0.0**
AAA *eS* **S** **10 15 17.9 +1.0**
AAA pmax pmax
comp=Z,1µm,1.0s
VIS Vishakhapatnam 52.88 272 *eP* **P** **10 08 28.1 +1.1**
VIS IAmb IAmb 10 08 28.7
comp=Z,168nm,0.7s
KOUNC Koumac, New Ca 52.93 151 P **P** **10 08 28.8 +1.6**
WRKA Warakurna 53.12 193 P **P** **10 08 27.9 -0.7**
KUU Kurty 53.19 306↓ *i*P **P** **10 08 29.2 +0.3**
comp=Z,613nm,0.7s,baz=306
KUU *eS* **S** **10 15 21.5 -0.3**
comp=Z,249nm,3.2s,baz=306
KUU Kurty 53.19 306 *d i*P **P** **10 08 29.2 +0.3**
KUU *eS* **S** **10 15 21.4 -0.3**
KUU pmax pmax
comp=Z,613nm,0.7s
KUU smax smax
comp=E,249nm,3.2s
EIDS Eidsvold 53.30 168 P **P** **10 08 29.4 -0.4**
EIDS Eidsvold 53.30 168 P **P** **10 08 30.3 +0.5**
O17K Koliganek Bris 53.33 34 P **P** **10 08 30.2 +0.7**
baz=261,SNR=55
ULHL Ulahol 53.39 304 P **P** **10 08 31.4 +0.7**
SNR=120
Q16K King Salmon 53.40 36 P **P** **10 08 30.4 +0.4**
baz=262,SNR=13
R17K Ugashik Creek 53.41 37 P **P** **10 08 30.4 +0.2**
baz=264
P17K Kvichak River 53.58 35 P **P** **10 08 31.4 +0.1**
baz=262
QLP Quilpie 53.59 175 P **P** **10 08 31.3 -0.5**
CHIR Chirikof Islan 53.66 39 P **P** **10 08 33.1 +1.1**
baz=266,SNR=16
Q17K Contact Creek 53.75 36 P **P** **10 08 32.1 -0.7**
baz=264,SNR=34
TKM2 Tokmak 2 53.81 305 P **P** **10 08 34.3 +0.7**
SNR=316
KSH Kashi 53.90 301 P **P** **10 08 37.5 +3.3**
KSH sP sP 10 11 09.5 +5.0
KSH ScP **ScP** **10 12 44.3 +2.6**
KSH PcS **PcS** **10 13 34.3 +2.2**
KSH S **S** **10 15 39.1 +7.7**
KSH ScS **ScS** **10 17 33.3 +2.1**
KSH pmax pmax
comp=E,590nm,0.7s
RMQ Roma 54.00 170 P **P** **10 08 35.4 +0.7**
N18K Kilae Creek 54.05 33 IAmb IAmb 10 08 37.7
comp=Z,328nm,1.0s
N18K Kilae Creek 54.05 33 P **P** **10 08 35.5 +0.7**
baz=262
P18K Big Mountain, 54.22 35 P **P** **10 08 36.2 +0.3**
P18K IAmb IAmb 10 08 38.0
comp=Z,381nm,1.0s
P18K Big Mountain, 54.22 35 P **P** **10 08 35.7 -0.3**
baz=263,SNR=38
Q18K Katmai Hardscr 54.25 36 P **P** **10 08 35.1 -1.1**
baz=264,SNR=38
O18K Koktuh Hills 54.28 34 P **P** **10 08 37.1 +0.7**
baz=263,SNR=103
KBK Karagaybulak 54.31 305 P **P** **10 08 37.7 +0.6**
SNR=179
GCSA Galena City Sc 54.32 28 P **P** **10 08 37.1 +0.6**
baz=258,SNR=33
TTA Tatalina 54.35 30 P **P** **10 08 37.3 +0.4**
baz=260,SNR=58
SMLA Simla 54.41 290 *eP* **P** **10 08 37.6 -0.1**
SMLA IAmb IAmb 10 08 38.7
comp=Z,476nm,0.6s
CHMS Chumysh 54.42 305 P **P** **10 08 39.0 +1.3**
SNR=5.4
SGDS Sogindy 54.46 306↓ *eP* **P** **10 08 37.8 -0.3**
baz=305
SGDS *eS* **S** **10 15 35.1 -3.6**
comp=Z,76nm,3.7s,baz=305
SGDS Sogindy 54.46 306 *de*P **P** **10 08 37.7 -0.3**
SGDS *eS* **S** **10 15 35.0 -3.6**
SGDS smax smax
comp=E,76nm,3.7s
SII Sitkinak Islan 54.51 38 P **P** **10 08 38.1 +0.1**
baz=266,SNR=23
SII Sitkinak Islan 54.51 38 P **P** **10 08 39.2 +1.2**
USP Ospenovka 54.58 305 P **P** **10 08 39.8 +1.1**
SNR=16
INKA Innaminka 54.59 179 P **P** **10 08 38.9 0.0**
KEKH Kekaha 54.60 81 IAmb IAmb 10 08 41.7
comp=Z,455nm,0.9s
AAK Ala-Archa 54.64 305 P **P** **10 08 40.6 +1.2**
SNR=35
AAK Ala-Archa 54.64 305 P **P** **10 08 39.8 +0.4**
comp=Z,188nm,0.7s,baz=120,slow=5.4,SNR=161
AAK PcP **PcP** **10 09 35.6 +0.8**
comp=Z,44nm,0.6s,baz=122,slow=6.8,SNR=4.3
AAK ScP **ScP** **10 12 45.6 +0.7**
comp=Z,9.8nm,0.7s,baz=188,slow=2.6,SNR=4.6
comp=Z,188nm,0.7s
AAK Ala-Archa 54.64 305 P **P** **10 08 39.6 +0.2**
AAK IAmb IAmb 10 08 41.1
comp=Z,179nm,0.7s
AAK Ala-Archa 54.64 305 P **P** **10 08 40.0 +0.6**
AAK P **P** **10 08 40.0 +0.6**
AAK Ala-Archa 54.64 305 *i* P **P** **10 08 39.9 +0.4**
SNR=44
AAK Ala-Archa 54.64 305 P **P** **10 08 39.8 +0.4**
AAK ScP **ScP** **10 12 45.2 +0.3**
JHNI Jhansi 54.65 283 *eP* **P** **10 08 37.6 -1.9**
UCH Uchtor 54.67 304 P **P** **10 08 41.1 +1.2**
SNR=557
BTLS Baital 54.74 308↓ *eP* **P** **10 08 39.7 -0.1**
comp=Z,168nm,0.7s,baz=307
BTLS *eS* **S** **10 15 39.9 -2.2**
baz=307
BTLS Baital 54.74 308 *de*P **P** **10 08 39.7 -0.1**
BTLS *eS* **S** **10 15 39.8 -2.2**
BTLS pmax pmax
comp=Z,168nm,0.7s
N19K Bonanza Creek 54.76 33 IAmb IAmb 10 08 42.5
comp=Z,243nm,0.9s
N19K Bonanza Creek 54.76 33 P **P** **10 08 40.1 +0.3**
baz=263
L19K White Mountain 54.76 31 IAmb IAmb 10 08 42.4
comp=Z,343nm,1.1s
L19K White Mountain 54.76 31 P **P** **10 08 40.1 +0.3**
baz=262
O19K Port Alsworth 54.77 34 P **P** **10 08 40.1 +0.4**
baz=264,SNR=77
OOD Oodnadatta 54.80 185 P **P** **10 08 40.4 0.0**
M19K Big River Lodg 54.94 32 P **P** **10 08 41.7 +0.7**
baz=262
BHK Bhakra 54.97 291 *eP* **P** **10 08 42.2 +0.5**
Q19K Cape Douglas, 54.98 35 P **P** **10 08 40.1 -1.2**
baz=265,SNR=14
OHAK Old Harbor 55.05 38 IAmb IAmb 10 08 43.4
comp=Z,459nm,1.2s
OHAK Old Harbor 55.05 38 P **P** **10 08 41.3 -0.4**
baz=267,SNR=16
SONA Sohna 55.16 287 *eP* **P** **10 08 43.3 +0.2**
EKS2 Erkin-Say 55.17 305 P **P** **10 08 44.2 +1.2**
SNR=28
NOUC Port Laguerre 55.17 150 P **P** **10 08 43.5 +0.4**
NOUC pP **pP** **10 10 19.0 -1.8**
DZM Mont Dzumac 55.21 150 *eP* **P** **10 08 43.9 +0.4**
comp=Z,273nm,1.2s
DZM *ep*P **pP** **10 10 16.9 -4.3**
comp=Z,96nm,1.3s
DZM Mont Dzumac 55.21 150 *e*LR LR 10 25 32.6
comp=Z,269nm,23.1s
DZM Mont Dzumac 55.21 150 P **P** **10 08 44.4 +1.0**
comp=Z,90nm,1.0s,baz=332,slow=4.2,SNR=25
comp=Z,90nm,1.0s
DZM Mont Dzumac 55.21 150 P **P** **10 08 44.8 +1.3**
DZM Mont Dzumac 55.21 150 P **P** **10 08 44.1 +0.6**
DZM pP **pP** **10 10 22.1 +1.0**
L20K Farewell, AK 55.26 31 P **P** **10 08 43.5 +0.3**
baz=262,SNR=64
P19K Oil Pt 55.26 35 P **P** **10 08 43.2 0.0**
baz=265
AML Almayashu 55.29 304 P **P** **10 08 45.2 +1.0**
SNR=111
K20K Telida 55.29 30 IAmb IAmb 10 08 46.6
comp=Z,393nm,0.9s
K20K Telida 55.29 30 P **P** **10 08 44.1 +0.7**
baz=262
THN Thein Dam 55.33 292 *eP* **P** **10 08 44.1 0.0**
ILSW Iliamna Southw 55.33 34 IAmb IAmb 10 08 45.2
comp=Z,153nm,0.9s
BRZS Berezniki 55.37 314 *eP* **P** **10 08 43.9 -0.4**
comp=Z,312nm,1.6s,baz=314
BRZS *eS* **S** **10 15 48.9 -1.3**
comp=Z,195nm,3.0s,baz=314
BRZS Berezniki 55.37 314 *eP* **P** **10 08 43.8 -0.4**
BRZS *eS* **S** **10 15 48.9 -1.3**
BRZS pmax pmax
comp=Z,312nm,1.6s
BRZS smax smax
comp=E,195nm,3.0s
J20K Nowinta River 55.38 29 IAmb IAmb 10 08 47.1
comp=Z,614nm,1.1s
J20K Nowinta River 55.38 29 P **P** **10 08 44.5 +0.5**
baz=261,SNR=245
YATNC Mamie plateau, 55.40 149 P **P** **10 08 46.7 +2.0**
NGP Nagpur 55.51 278 *eP* **P** **10 08 46.0 +0.4**
M20K Styx River 55.53 32 P **P** **10 08 45.4 +0.3**
baz=264
O20K Slope Mountain 55.60 34 P **P** **10 08 45.5 -0.1**
baz=265,SNR=20
Q20K Shuyak Island 55.61 36 P **P** **10 08 45.6 0.0**
baz=266,SNR=32
AUWSH Wavell State H 55.67 166 P **P** **10 08 47.5 +1.1**
OUENC Ouen Island, N 55.69 150 P **P** **10 08 46.8 +0.1**
KUDL Kundal 55.70 287 *eP* **P** **10 08 46.3 -0.5**
SPCR Spurr Chakacha 55.90 33 P **P** **10 08 48.0 +0.3**
baz=265,SNR=34
N20K Mount Spurr 55.90 33 P **P** **10 08 47.8 +0.1**
baz=265,SNR=39
JMU Jammu 55.94 293 *eP* **P** **10 08 49.8 +1.4**
A21K Barrow 56.04 20 IAmb IAmb 10 08 51.0
comp=Z,435nm,0.8s
A21K Barrow 56.04 20 P **P** **10 08 48.6 +0.2**
baz=254,SNR=11
G21K Allakaket 56.04 26 P **P** **10 08 48.8 +0.2**
baz=260
HOM Homer 56.06 35 IAmb IAmb 10 08 51.3
comp=Z,404nm,0.7s
HOM Homer 56.06 35 P **P** **10 08 48.9 +0.1**
baz=266
PPLA Purkeypile 56.08 31 IAmb IAmb 10 08 51.9
comp=Z,863nm,1.6s
PPLA Purkeypile 56.08 31 P **P** **10 08 49.5 +0.5**
baz=264,SNR=77
CHUM Lake Minchumin 56.14 30 P **P** **10 08 49.7 +0.4**
baz=263,SNR=81
F21K Alatna River 56.17 25 P **P** **10 08 48.8 -0.7**
baz=260
H21K Melozitna Rive 56.18 27 IAmb IAmb 10 08 52.7
comp=Z,588nm,1.0s
H21K Melozitna Rive 56.18 27 P **P** **10 08 49.9 +0.4**
baz=261
CAST Castle Rocks 56.19 30 IAmb IAmb 10 08 52.4
comp=Z,607nm,1.2s
CAST Castle Rocks 56.19 30 P **P** **10 08 50.1 +0.4**
baz=263,SNR=168
OPA Opana 56.19 81 IAmb IAmb 10 08 52.9
comp=Z,489nm,0.9s
CNPM China Poot 56.26 35 IAmb IAmb 10 08 51.4
comp=Z,413nm,0.9s
KIP Kipapa 56.27 81 P **P** **10 08 51.5 +0.7**
KIP IAmb IAmb 10 08 53.4
comp=Z,495nm,1.1s
KIP Kipapa 56.27 81 P **P** **10 08 52.6 +1.7**
KIP Kipapa 56.27 81 *ce*P **P** **10 08 52.5 +1.7**
KIP pmax pmax
comp=Z,458nm,1.0s
KIP Kipapa 56.27 81 P **P** **10 08 52.1 +1.2**
KIP pP **pP** **10 10 30.6 +2.9**
BHPL Bhopal 56.28 281 *eP* **P** **10 08 50.0 -1.0**
SKT Skwentna 56.29 32 IAmb IAmb 10 08 52.0
comp=Z,268nm,0.8s
SKT Skwentna 56.29 32 P **P** **10 08 49.9 -0.5**
baz=265,SNR=86
HON Honolulu 56.31 81 IAmb IAmb 10 08 53.7
comp=Z,446nm,1.0s
BRLK Bradley Lake 56.45 35 IAmb IAmb 10 08 54.3
comp=Z,380nm,0.9s
I21K Tanana 56.45 28 IAmb IAmb 10 08 54.6
comp=Z,579nm,1.0s
I21K Tanana 56.45 28 P **P** **10 08 52.1 +0.7**
baz=262,SNR=220
BRSE Bradley Lake S 56.52 35 P **P** **10 08 51.5 -0.5**
baz=267,SNR=29
SUA Susitna One 56.62 33 P **P** **10 08 52.1 -0.6**
baz=266,SNR=39
BVAR Borovoye Array 56.70 317 P **P** **10 08 53.2 -0.1**
comp=Z,699nm,0.5s,baz=87,slow=7.4,SNR=1456
BVAR ScP **ScP** **10 12 53.4 -0.1**
comp=Z,21nm,0.6s,baz=80,slow=5.3,SNR=4.1
BVAR S **S** **10 16 05.8 -1.3**
comp=Z,10nm,0.7s,baz=84,slow=15,SNR=9.3
comp=Z,699nm,0.5s
F22K John River 56.72 25 P **P** **10 08 53.9 +0.7**
baz=261
KTH Kantishna Hill 56.72 30 IAmb IAmb 10 08 56.7
comp=Z,932nm,1.8s
BPAW Bear Paw Mtn. 56.75 29 IAmb IAmb 10 08 56.1
comp=Z,694nm,1.3s
BPAW Bear Paw Mtn. 56.75 29 P **P** **10 08 54.3 +0.8**
baz=264,SNR=55
BRVK Borovoye 56.76 317 P **P** **10 08 54.0 +0.3**
BRVK Borovoye 56.76 317 P **P** **10 08 53.8 0.0**
BRVK P **P** **10 08 53.8 0.0**
BRVK Borovoye 56.76 317 *ce*P **P** **10 08 54.4 +0.7**
BRVK pmax pmax
comp=Z,466nm,0.7s
BRVK Borovoye 56.76 317 P **P** **10 08 53.7 0.0**
BRVK pP **pP** **10 10 30.6 -0.8**
BRVK ScP **ScP** **10 12 53.7 -0.1**
AULRC Lightning Ridg 56.78 172 P **P** **10 08 54.3 +0.2**
H22K Ishtalitna Cre 56.80 27 P **P** **10 08 54.9 +1.2**
baz=262
G22K Bettles 56.89 26 P **P** **10 08 54.7 +0.4**
baz=262
CUT Chulitna 56.92 31 IAmb IAmb 10 08 56.2

	comp=Z,570nm,1.0s								
CUT	**Chulitna**	**56.92**	**31**	P		**P**	**10 08 54.2**	**-0.4**
	baz=266,SNR=40								
DZA	**Taraz**	**56.92**	**305**	*e*P		**P**	**10 08 53.9**	**-1.2**
	baz=305								
DZA	**Taraz**	**56.92**	**305**	*e*P		**P**	**10 08 53.8**	**-1.3**
M22K	**Willow**	**56.94**	**32**	P		**P**	**10 08 55.3**	**+0.5**
M22K	**Willow**	**56.94**	**32**	P		**P**	**10 08 54.5**	**-0.3**
	baz=266,SNR=66								
MLY	**Manley**	**56.95**	**28**	lAmb		lAmb	10 08 57.7		
	comp=Z,292nm,0.9s								
MLY	**Manley**	**56.95**	**28**	P		**P**	**10 08 55.3**	**+0.4**
	baz=264,SNR=194								
TRF	**Thorofare Moun**	**56.99**	**30**	lAmb		lAmb	10 08 57.4		
	comp=Z,446nm,1.1s								
TRF	**Thorofare Moun**	**56.99**	**30**	P		**P**	**10 08 55.8**	**+0.5**
	baz=265,SNR=110								
O22K	**Cooper Landing**	**57.07**	**34**	P		**P**	**10 08 55.5**	**-0.1**
	baz=268,SNR=90								
NIL	**Nilore**	**57.08**	**294**	P		**P**	**10 08 56.9**	**+0.6**
NIL	**Nilore**	**57.08**	**294**	P		**P**	**10 08 57.6**	**+1.3**
NIL	**Nilore**	**57.08**	**294**	P		**P**	**10 08 56.9**	**+0.6**
NIL				pmax		pmax			
	comp=Z,675nm,0.6s								
NIL	**Nilore**	**57.08**	**294**	P		**P**	**10 08 57.4**	**+1.0**
RC01	**Rabbit Creek A**	**57.09**	**33**	P		**P**	**10 08 55.6**	**-0.2**
	baz=267,SNR=51								
SEW	**Seward**	**57.19**	**34**	lAmb		lAmb	10 08 58.0		
	comp=Z,613nm,1.0s								
SEW	**Seward**	**57.19**	**34**	P		**P**	**10 08 56.1**	**-0.4**
	baz=268,SNR=47								
HYB	**Hyderabad**	**57.23**	**274**	*e*P		**P**	**10 08 57.9**	**+0.3**
HYBB	**Hyderabad (bro**	**57.24**	**274**	*e*P		**P**	**10 08 58.1**	**+0.5**
HYBB				lVmB_BB			10 08 58.5		
	comp=Z,1μm,1.5s								
HYBB				*e*PcP		**PcP**	**10 09 44.9**	**-0.3**
HYBB				*e*pP		**pP**	**10 10 34.9**	**-0.5**
HYBB				*e*PP		**PP**	**10 11 11.6**	**-0.4**
HYBB				*e*ScP		**ScP**	**10 12 56.4**	**-0.2**
HYBB				*e*S		**S**	**10 16 16.5**	**+1.3**
LCRK	**Leigh Creek**	**57.31**	**182**	P		**P**	**10 08 58.4**	**+0.7**
MEEK	**Meekatharra**	**57.33**	**203**	P		**P**	**10 08 57.6**	**-0.3**
MDRS	**Chennai**	**57.39**	**268**	*e*P		**P**	**10 09 00.1**	**+1.5**
PMR	**Palmer**	**57.41**	**32**	lAmb		lAmb	10 08 59.4		
	comp=Z,439nm,0.9s								
PMR	**Palmer**	**57.41**	**32**	P		**P**	**10 08 57.3**	**-0.6**
	baz=267,SNR=110								
MULG	**Mulgathing**	**57.41**	**186**	P		**P**	**10 08 58.2**	**-0.2**
BWN	**Browne**	**57.42**	**29**	P		**P**	**10 08 59.2**	**+1.2**
COLD	**Coldfoot**	**57.44**	**26**	lAmb		lAmb	10 09 01.1		
	comp=Z,338nm,0.9s								
COLD	**Coldfoot**	**57.44**	**26**	P		**P**	**10 08 58.7**	**+0.6**
	baz=263,SNR=166								
G23K	**Bananza Creek**	**57.44**	**26**	P		**P**	**10 08 58.9**	**+0.7**
	baz=263								
AKL	**Akola**	**57.45**	**278**	*e*P		**P**	**10 08 59.9**	**+0.8**
KK31	**Karatay Array**	**57.49**	**306**	P		**P**	**10 08 59.3**	**+0.3**
KK31	**Karatay Array**	**57.49**	**306**	P		**P**	**10 08 59.3**	**+0.3**
KK31				pmax		pmax			
	comp=Z,576nm,0.6s								
KKAR	**Karatay Array**	**57.49**	**306**	P		**P**	**10 08 59.3**	**+0.3**
KKAR	**Karatay Array**	**57.49**	**306**	P		**P**	**10 08 59.3**	**+0.3**
KKAR				pmax		pmax			
	comp=Z,576nm,0.6s								
D23K	**Nanushuk River**	**57.50**	**24**	P		**P**	**10 08 59.5**	**+0.9**
	baz=261,SNR=386								
GHO	**Glory Hole Cre**	**57.51**	**32**	lAmb		lAmb	10 09 00.5		
	comp=Z,240nm,0.6s								
H23K	**Yukon River**	**57.54**	**27**	lAmb		lAmb	10 09 02.1		
	comp=Z,439nm,1.1s								
H23K	**Yukon River**	**57.54**	**27**	P		**P**	**10 09 00.0**	**+1.1**
	baz=264,SNR=182								
I23K	**Minto, Yukon-K**	**57.55**	**28**	P		**P**	**10 08 59.7**	**+0.8**
	baz=265,SNR=36								
MCK	**McKinley**	**57.62**	**30**	P		**P**	**10 08 59.5**	**0.0**
	baz=266,SNR=229								
NEA2	**Nenana**	**57.62**	**29**	lAmb		lAmb	10 09 01.9		
	comp=Z,412nm,0.9s								
NEA2	**Nenana**	**57.62**	**29**	P		**P**	**10 08 59.4**	**-0.1**
	baz=265,SNR=208								
RND	**Reindeer**	**57.63**	**30**	lAmb		lAmb	10 09 01.1		
	comp=Z,231nm,0.7s								
C23K	**Itkillik River**	**57.66**	**23**	P		**P**	**10 09 00.1**	**+0.5**
	baz=261								
KNK	**Knik Glacier**	**57.72**	**33**	P		**P**	**10 08 59.7**	**-0.5**
	baz=268,SNR=167								
AJM	**Ajmer**	**57.73**	**285**	*e*P		**P**	**10 09 01.5**	**+0.6**
WAT1	**Susitna Watana**	**57.74**	**31**	P		**P**	**10 08 59.7**	**-0.6**
	baz=267								
E23K	**Chandalar**	**57.76**	**25**	P		**P**	**10 09 01.4**	**+1.0**
	baz=263								
PWL	**Port Wells**	**57.76**	**33**	P		**P**	**10 09 00.0**	**-0.5**
	baz=268,SNR=136								
SML	**Sawmill**	**57.80**	**32**	P		**P**	**10 09 00.2**	**-0.5**
	baz=268,SNR=146								
TOLK	**Toolik Lake Re**	**57.85**	**24**	lAmb		lAmb	10 09 03.9		
	comp=Z,446nm,1.1s								
TOLK	**Toolik Lake Re**	**57.85**	**24**	P		**P**	**10 09 01.6**	**+0.6**
	baz=262,SNR=206								
FUTU	**Fugatoga**	**57.87**	**130**	P		**P**	**10 09 03.7**	**+1.9**
DGTI	**Dogotuki**	**57.88**	**134**	P		**P**	**10 09 03.6**	**+1.7**
MSVF	**Nonsavu**	**57.89**	**136**	P		**P**	**10 09 02.6**	**+0.7**
	comp=Z,84nm,1.1s,baz=277,slow=5.3,SNR=18								
MSVF				pP		**pP**	**10 10 40.5**	**-0.4**
	comp=Z,16nm,0.9s,baz=238,slow=18,SNR=2.5								
	comp=Z,84nm,1.1s								
MSVF	**Nonsavu**	**57.89**	**136**	P		**P**	**10 09 02.7**	**+0.7**
MSVF	**Nonsavu**	**57.89**	**136**	P		**P**	**10 09 04.0**	**+2.0**
MSVF	**Nonsavu**	**57.89**	**136**	P		**P**	**10 09 03.6**	**+1.6**
MSVF				pP		**pP**	**10 10 41.0**	**0.0**
MSVF				ScP		**ScP**	**10 13 01.1**	**+1.7**
IUG	**luzhnay**	**57.98**	**304**	ǁ *i*P		**P**	**10 09 02.8**	**+0.3**
	comp=Z,454nm,0.8s,baz=304								
IUG				*e*S		**S**	**10 16 25.1**	**+0.8**
	baz=304								
IUG	**luzhnay**	**57.98**	**304**	*d i*P		**P**	**10 09 02.7**	**+0.3**
IUG				*e*S		**S**	**10 16 25.1**	**+0.8**
IUG				pmax		pmax			
	comp=Z,455nm,0.8s								
MDM	**Murphy Dome**	**58.01**	**28**	lAmb		lAmb	10 09 05.4		
	comp=Z,792nm,1.6s								
HLK	**Haleakala**	**58.05**	**81**	lAmb		lAmb	10 09 06.1		
	comp=Z,412nm,0.8s								
M23K	**Glacier View**	**58.08**	**32**	P		**P**	**10 09 02.3**	**-0.3**
	baz=268,SNR=87								
WAT6	**Susitna Watana**	**58.10**	**31**	P		**P**	**10 09 02.3**	**-0.6**
	baz=268,SNR=166								
TCOL	**CIGO, UAF Yank**	**58.16**	**29**	P		**P**	**10 09 03.5**	**+0.4**
	baz=266,SNR=55								
COLA	**College**	**58.17**	**29**	P		**P**	**10 09 03.5**	**+0.5**
COLA	**College**	**58.17**	**29**	P		**P**	**10 09 03.6**	**+0.5**
	baz=266								
COLA	**College**	**58.17**	**29**	P		**P**	**10 09 04.3**	**+1.2**
COLA	**College**	**58.17**	**29**	P		**P**	**10 09 03.5**	**+0.5**
COLA				pmax		pmax			
	comp=Z,160nm,0.8s								
COLA	**College**	**58.17**	**29**	P		**P**	**10 09 03.3**	**+0.2**
COLA				pP		**pP**	**10 10 40.5**	**-0.9**
E24K	**Your Creek**	**58.19**	**25**	P		**P**	**10 09 03.9**	**+0.6**
	baz=264								
P23K	**Montague Islan**	**58.21**	**34**	P		**P**	**10 09 04.7**	**+1.2**
	baz=270								
H24K	**Noodor Dome**	**58.22**	**27**	lAmb		lAmb	10 09 06.5		
	comp=Z,387nm,1.1s								
H24K	**Noodor Dome**	**58.22**	**27**	P		**P**	**10 09 04.3**	**+0.7**
	baz=266,SNR=182								
SCM	**Sheep Creek Mo**	**58.27**	**32**	P		**P**	**10 09 03.7**	**-0.3**
	baz=269,SNR=130								
DHY	**Denali Highway**	**58.29**	**31**	P		**P**	**10 09 03.5**	**-0.7**
	baz=268,SNR=80								
C24K	**Franklin Bluff**	**58.31**	**23**	P		**P**	**10 09 04.3**	**+0.4**
	baz=263								
ARMA	**Armidale**	**58.32**	**168**	P		**P**	**10 09 05.1**	**+0.4**
ARMA	**Armidale**	**58.32**	**168**	P		**P**	**10 09 05.3**	**+0.6**
F24K	**Squaw Lake**	**58.36**	**25**	P		**P**	**10 09 05.2**	**+0.8**
	baz=265								
POKR	**Poker Plat Res**	**58.36**	**28**	lAmb		lAmb	10 09 07.3		
	comp=Z,226nm,0.8s								
POKR	**Poker Plat Res**	**58.36**	**28**	P		**P**	**10 09 04.9**	**+0.5**
	baz=267,SNR=64								
TAVE	**Taveuni**	**58.42**	**134**	P		**P**	**10 09 06.9**	**+1.4**
G24K	**Hadweenzic Riv**	**58.45**	**26**	P		**P**	**10 09 05.8**	**+0.8**
	baz=266,SNR=182								
HDA	**Harding Lake**	**58.53**	**29**	lAmb		lAmb	10 09 06.8		
	comp=Z,357nm,1.0s								
HDA	**Harding Lake**	**58.53**	**29**	P		**P**	**10 09 04.3**	**-1.3**
	baz=268,SNR=140								
IL31		**58.57**	**29**	lAmb		lAmb	10 09 07.0		
	comp=Z,366nm,1.1s								
ILAR	**Eielson Array**	**58.57**	**29**	P		**P**	**10 09 04.3**	**-1.5**
	comp=Z,146nm,0.9s,baz=273,slow=3.9,SNR=353								
ILAR				ScP		**ScP**	**10 13 00.6**	**-1.1**
	comp=Z,7.6nm,1.1s,baz=242,slow=5.2,SNR=4.5								
ILAR				S		**S**	**10 16 28.9**	**-1.9**
	comp=Z,7.4nm,1.0s,baz=254,slow=11,SNR=11								
ILAR				PKPPKP		P'P'df	10 38 19.6	-17	
	comp=Z,0.9nm,0.8s,baz=120,slow=3.5,SNR=7.2								
	comp=Z,146nm,0.9s								
CMSA	**Cobar Meteorol**	**58.62**	**174**	P		**P**	**10 09 07.4**	**+0.8**
TAS	**Tashkent**	**58.66**	**304**	lAmb		lAmb	10 09 09.6		
	comp=Z,320nm,0.6s								
STKA	**Stephens Creek**	**58.73**	**178**	P		**P**	**10 09 06.3**	**-1.0**
	comp=Z,17nm,0.6s,baz=7.7,slow=7.6,SNR=33								
STKA				pP		**pP**	**10 10 46.9**	**+0.7**
	comp=Z,15nm,0.8s,baz=343,slow=10.0,SNR=4.4								
	comp=Z,17nm,0.6s								
STKA	**Stephens Creek**	**58.73**	**178**	P		**P**	**10 09 07.4**	**+0.1**
FORT	**Forrest**	**58.74**	**192**	P		**P**	**10 09 06.2**	**-1.2**
FORT	**Forrest**	**58.74**	**192**	P		**P**	**10 09 07.2**	**-0.2**
Q23K	**Middleton Isla**	**58.75**	**35**	P		**P**	**10 09 07.3**	**+0.2**
	baz=271								
HUH	**Hualalai**	**58.78**	**82**	lAmb		lAmb	10 09 10.7		
	comp=Z,286nm,0.8s								
M24K	**Tolsona, Glenn**	**58.82**	**32**	lAmb		lAmb	10 09 10.2		
	comp=Z,388nm,1.2s								
M24K	**Tolsona, Glenn**	**58.82**	**32**	P		**P**	**10 09 07.9**	**+0.2**
	baz=270,SNR=42								
KLU	**Klutina**	**58.94**	**33**	P		**P**	**10 09 08.0**	**-0.5**
	baz=270,SNR=123								
G25K	**Bearman Lake**	**59.00**	**26**	P		**P**	**10 09 08.9**	**+0.3**
	baz=267								
DIV	**Divide**	**59.01**	**33**	lAmb		lAmb	10 09 11.3		
	comp=Z,503nm,1.4s								
POHA	**Pohakuloa**	**59.02**	**82**	P		**P**	**10 09 10.6**	**+0.7**
POHA	**Pohakuloa**	**59.02**	**82**	P		**P**	**10 09 11.6**	**+1.7**
POHA	**Pohakuloa**	**59.02**	**82**	P		**P**	**10 09 11.2**	**+1.3**
K24K	**Donnelly Dome**	**59.02**	**30**	P		**P**	**10 09 08.8**	**-0.2**
	baz=269,SNR=75								
EYAK	**Cordova Ski Ar**	**59.03**	**34**	lAmb		lAmb	10 09 11.2		
	comp=Z,225nm,0.7s								
EYAK	**Cordova Ski Ar**	**59.03**	**34**	P		**P**	**10 09 08.7**	**-0.3**
	baz=271,SNR=29								
EYAK	**Cordova Ski Ar**	**59.03**	**34**	P		**P**	**10 09 09.8**	**+0.8**
MWH	**Moku'aweowe**	**59.06**	**83**	lAmb		lAmb	10 09 12.9		
	comp=Z,507nm,1.0s								
D25K	**Kavik River**	**59.08**	**23**	P		**P**	**10 09 09.9**	**+0.6**
	baz=265								
H25L	**Birch Creek**	**59.09**	**27**	P		**P**	**10 09 10.2**	**+0.9**
	baz=267								
PAX	**Paxson**	**59.15**	**31**	lAmb		lAmb	10 09 12.3		
	comp=Z,610nm,1.3s								
PAX	**Paxson**	**59.15**	**31**	P		**P**	**10 09 09.7**	**-0.2**
	baz=270,SNR=178								
PRP	**Porcupine Dome**	**59.18**	**28**	P		**P**	**10 09 09.7**	**-0.4**
	baz=268,SNR=90								
J25K	**Salcha River,**	**59.22**	**29**	P		**P**	**10 09 10.2**	**-0.1**
	baz=269								
F25K	**Christian Rive**	**59.22**	**25**	P		**P**	**10 09 10.9**	**+0.6**
	baz=267								
E25K	**Arctic Village**	**59.28**	**25**	P		**P**	**10 09 11.4**	**+0.8**
	baz=266,SNR=339								
HARP	**HARP**	**59.30**	**32**	P		**P**	**10 09 11.0**	**+0.1**
	baz=270,SNR=120								
SIMJ	**Simiganj**	**59.38**	**301**	P		**P**	**10 09 12.0**	**0.0**
RIDG	**Independent Ri**	**59.44**	**30**	lAmb		lAmb	10 09 13.5		
	comp=Z,226nm,0.8s								
RIDG	**Independent Ri**	**59.44**	**30**	P		**P**	**10 09 12.0**	**+0.2**
	baz=270,SNR=36								
PALK	**Pallekele**	**59.48**	**262**	P		**P**	**10 09 12.5**	**-0.3**
PALK				lAmb		lAmb	10 09 14.5		
	comp=Z,410nm,1.8s								
PALK	**Pallekele**	**59.48**	**262**	P		**P**	**10 09 13.4**	**+0.5**
PALK				P		**P**	**10 09 13.4**	**+0.5**
PALK	**Pallekele**	**59.48**	**262**	P		**P**	**10 09 12.5**	**-0.3**
PALK				pmax		pmax			
	comp=Z,411nm,1.8s								
PALK	**Pallekele**	**59.48**	**262**	P		**P**	**10 09 12.8**	**0.0**
RAGM	**Ragged Mountai**	**59.57**	**34**	lAmb		lAmb	10 09 17.1		
	comp=Z,597nm,1.3s								
N25K	**Chitina, Valde**	**59.57**	**32**	lAmb		lAmb	10 09 15.1		
	comp=Z,163nm,0.7s								
N25K	**Chitina, Valde**	**59.57**	**32**	P		**P**	**10 09 13.1**	**+0.3**
	baz=271,SNR=62								
BMRM	**Bremner River**	**59.59**	**33**	P		**P**	**10 09 13.3**	**+0.4**
	baz=272								
C26K	**Camden Bay**	**59.63**	**23**	P		**P**	**10 09 13.6**	**+0.7**
	baz=266,SNR=235								
KAIM	**Kayak Island**	**59.72**	**34**	P		**P**	**10 09 14.6**	**+1.0**
	baz=272,SNR=9.9								
BBOO	**Buckleboo**	**59.76**	**184**	P		**P**	**10 09 13.1**	**-1.1**
BBOO	**Buckleboo**	**59.76**	**184**	P		**P**	**10 09 14.5**	**+0.3**
HMT	**Hamilton**	**59.78**	**34**	lAmb		lAmb	10 09 16.3		
	comp=Z,230nm,0.8s								
SALM	**Salem**	**59.80**	**268**	*e*P		**P**	**10 09 15.7**	**+0.8**
F26K	**Sheenjek River**	**59.80**	**25**	P		**P**	**10 09 15.2**	**+1.0**
	baz=268								
SCRK	**Sand Creek**	**59.82**	**30**	P		**P**	**10 09 13.8**	**-0.6**
	baz=270,SNR=346								
G26K	**Porcupine Rive**	**59.92**	**26**	P		**P**	**10 09 16.0**	**+1.1**
	baz=269								
GLB	**Gilahina Butte**	**59.95**	**33**	lAmb		lAmb	10 09 17.6		
	comp=Z,526nm,1.1s								
J26L	**Joseph Creek**	**60.00**	**29**	P		**P**	**10 09 15.3**	**-0.3**
	baz=270								
SUCK	**Suckling Hills**	**60.03**	**34**	lAmb		lAmb	10 09 18.3		
	comp=Z,656nm,1.3s								
C27K	**Jago River**	**60.03**	**23**	P		**P**	**10 09 16.2**	**+0.6**
	baz=267								
L26K	**Log Cabin Wild**	**60.12**	**31**	lAmb		lAmb	10 09 18.8		
	comp=Z,306nm,0.8s								
L26K	**Log Cabin Wild**	**60.12**	**31**	P		**P**	**10 09 16.5**	**+0.2**
	baz=272,SNR=225								
VRDI	**Verde Repeater**	**60.13**	**33**	lAmb		lAmb	10 09 18.7		
	comp=Z,240nm,1.0s								
I26K	**Coal Creek Min**	**60.17**	**28**	P		**P**	**10 09 16.1**	**-0.4**
	baz=270								
HTT	**Hallett**	**60.27**	**181**	P		**P**	**10 09 18.4**	**+0.7**
KBL	**Kabul**	**60.27**	**296**	P		**P**	**10 09 18.4**	**+0.3**
KBL	**Kabul**	**60.27**	**296**	P		**P**	**10 09 18.8**	**+0.7**
	SNR=174								
KBL	**Kabul**	**60.27**	**296**	P		**P**	**10 09 18.4**	**+0.3**
KBL				pmax		pmax			
	comp=Z,650nm,1.0s								
M26K	**Nabesna, AK**	**60.30**	**31**	lAmb		lAmb	10 09 20.0		
	comp=Z,208nm,1.0s								
M26K	**Nabesna, AK**	**60.30**	**31**	P		**P**	**10 09 17.9**	**+0.3**
	baz=272								
MCARA	**McCarthy VSAT**	**60.34**	**33**	P		**P**	**10 09 17.9**	**+0.1**
	baz=273,SNR=92								
MORW	**Morawa**	**60.46**	**204**	P		**P**	**10 09 18.6**	**-0.4**
MORW	**Morawa**	**60.46**	**204**	P		**P**	**10 09 18.9**	**-0.1**
K27K	**Chicken**	**60.66**	**30**	P		**P**	**10 09 19.8**	**0.0**
	baz=270								
ISLE	**Juniper Island**	**60.71**	**34**	lAmb		lAmb	10 09 22.3		
	comp=Z,308nm,1.0s								
KMBL	**Kambalda**	**60.73**	**198**	P		**P**	**10 09 20.0**	**-0.7**
G27K	**Doyon Strip**	**60.76**	**26**	P		**P**	**10 09 20.9**	**+0.4**
	baz=271								
E27K	**Coleen River**	**60.77**	**25**	P		**P**	**10 09 20.6**	**+0.1**
	baz=270								
JASL	**Jaisalmer**	**60.80**	**287**	*e*P		**P**	**10 09 21.7**	**+0.2**
I27K	**Kandik River**	**60.80**	**28**	P		**P**	**10 09 20.9**	**0.0**
	baz=272								
L27K	**Beaver Creek,**	**60.81**	**31**	lAmb		lAmb	10 09 23.4		
	comp=Z,254nm,0.9s								
L27K	**Beaver Creek,**	**60.81**	**31**	P		**P**	**10 09 21.2**	**+0.3**
	baz=273								
H27K	**Steamboat Moun**	**60.82**	**27**	P		**P**	**10 09 21.5**	**+0.5**
	baz=271								
M27K	**Edge Creek, AK**	**60.83**	**32**	lAmb		lAmb	10 09 23.6		
	comp=Z,401nm,1.1s								
M27K	**Edge Creek, AK**	**60.83**	**32**	P		**P**	**10 09 21.3**	**+0.2**
	baz=273								
BCAR	**Beaver Creek A**	**60.83**	**31**	P		**P**	**10 09 21.7**	**+0.6**
MESA	**MESA**	**60.94**	**34**	lAmb		lAmb	10 09 24.3		
	comp=Z,280nm,1.0s								
MESA	**MESA**	**60.94**	**34**	P		**P**	**10 09 21.8**	**-0.1**
	baz=274,SNR=16								
POO	**Poona**	**61.00**	**277**	*e*P		**P**	**10 09 22.7**	**-0.2**
POO				lAmb		lAmb	10 09 23.7		
	comp=Z,241nm,0.7s								
YAH	**Yahtse**	**61.02**	**34**	lAmb		lAmb	10 09 24.9		
	comp=Z,290nm,1.0s								
EGAK	**Eagle**	**61.03**	**29**	P		**P**	**10 09 22.4**	**+0.2**
	baz=272,SNR=53								
KOD	**Kodaikanal**	**61.04**	**267**	*e*P		**P**	**10 09 23.5**	**0.0**
KAD	**Karad**	**61.16**	**276**	*e*P		**P**	**10 09 23.5**	**-0.4**
BVCY	**Beaver Creek**	**61.30**	**31**	P		**P**	**10 09 23.9**	**-0.2**
	baz=274,SNR=82								
TABL	**Table Mountain**	**61.31**	**34**	lAmb		lAmb	10 09 26.6		
	comp=Z,272nm,0.9s								
YUK3	**Moose Creek**	**61.53**	**32**	P		**P**	**10 09 25.8**	**-0.1**
	baz=275,SNR=121								
BLDU	**Ballidu**	**61.63**	**203**	P		**P**	**10 09 26.6**	**0.0**
O28M	**Mount Upton**	**61.75**	**33**	P		**P**	**10 09 27.3**	**-0.1**
	baz=276								
PINM	**Pinnacle**	**61.79**	**34**	P		**P**	**10 09 27.6**	**+0.2**
	baz=276,SNR=30								
DAWY	**Dawson**	**61.84**	**29**	P		**P**	**10 09 27.8**	**+0.1**
DAWY				lAmb		lAmb	10 09 30.1		
	comp=Z,349nm,1.3s								
DAWY	**Dawson**	**61.84**	**29**	P		**P**	**10 09 27.7**	**+0.1**
	baz=274,SNR=130								
YUK8	**Steele Glacier**	**61.91**	**33**	P		**P**	**10 09 28.7**	**+0.3**
	baz=276,SNR=54								
SVE	**Sverdlovsk**	**62.00**	**322**	*c i*P		**P**	**10 09 29.6**	**+0.8**
SVE				*i* S		**S**	**10 17 13.7**	**-0.1**
SVE				pmax		pmax			
	comp=Z,279nm,0.8s								
AFI	**Afiamalu**	**62.07**	**125**	P		**P**	**10 09 30.4**	**+0.5**
	comp=Z,111nm,0.7s,baz=232,slow=3.1,SNR=19								
	comp=Z,111nm,0.7s								
AFI	**Afiamalu**	**62.07**	**125**	P		**P**	**10 09 30.1**	**+0.2**
AFI	**Afiamalu**	**62.07**	**125**	P		**P**	**10 09 30.9**	**+1.0**
AFI	**Afiamalu**	**62.07**	**125**	P		**P**	**10 09 30.3**	**+0.5**
BCPM	**Bancas Point**	**62.11**	**34**	lAmb		lAmb	10 09 32.0		
	comp=Z,421nm,1.0s								
GOA	**Goa**	**62.16**	**274**	*e*P		**P**	**10 09 30.9**	**+0.4**
KLBR	**Kellerberrin**	**62.17**	**201**	P		**P**	**10 09 29.8**	**-0.4**
I29M	**Ogilvie Camp,**	**62.20**	**28**	lAmb		lAmb	10 09 32.4		
	comp=Z,356nm,1.0s								
I29M	**Ogilvie Camp,**	**62.20**	**28**	P		**P**	**10 09 30.4**	**+0.5**
	baz=275,SNR=195								
PNL	**Peninsula**	**62.27**	**34**	P		**P**	**10 09 30.5**	**+0.1**
	baz=277,SNR=20								
PNL	**Peninsula**	**62.27**	**34**	P		**P**	**10 09 32.1**	**+1.6**
J29M	**Klondike Camp**	**62.31**	**29**	P		**P**	**10 09 31.4**	**+0.7**
	baz=275,SNR=130								
M29M	**Somme Creek**	**62.40**	**31**	P		**P**	**10 09 32.2**	**+0.8**
	baz=276								
YUK4	**Talbot Arm**	**62.44**	**33**	P		**P**	**10 09 32.3**	**+0.5**
	baz=277,SNR=100								
L29M	**L29M**	**62.48**	**30**	P		**P**	**10 09 32.3**	**+0.5**
	baz=276								
O29M	**Mount Kennedy**	**62.60**	**34**	P		**P**	**10 09 33.1**	**+0.3**
	baz=277								
YUK6	**Outpost Mounta**	**62.62**	**33**	P		**P**	**10 09 33.6**	**+0.6**
	baz=277,SNR=34								
K29M	**Barlow Dome**	**62.68**	**30**	P		**P**	**10 09 33.5**	**+0.3**
	baz=276								
EPYK	**Eagle Plains**	**62.75**	**27**	P		**P**	**10 09 33.7**	**+0.2**
	baz=276,SNR=481								
G30M	**tAoh Zraii Nji**	**62.89**	**26**	P		**P**	**10 09 34.5**	**+0.1**
	baz=276								
BHUJ	**Bhuj**	**63.04**	**284**	*e*P		**P**	**10 09 37.0**	**+0.9**
BHUJ				lAmb		lAmb	10 09 37.6		
	comp=Z,204nm,0.7s								
MUN	**Mundaring**	**63.04**	**203**	P		**P**	**10 09 36.0**	**+0.2**
HYT	**Haines Junctio**	**63.05**	**33**	lAmb		lAmb	10 09 38.7		
	comp=Z,402nm,1.0s								
HYT	**Haines Junctio**	**63.05**	**33**	P		**P**	**10 09 36.3**	**+0.6**
	baz=278,SNR=142								
P29M	**Windy Craggy**	**63.11**	**34**	P		**P**	**10 09 36.6**	**+0.7**
	baz=278								
M30M	**Minto, Yukon**	**63.16**	**31**	lAmb		lAmb	10 09 39.0		
	comp=Z,197nm,0.9s								
M30M	**Minto, Yukon**	**63.16**	**31**	P		**P**	**10 09 36.8**	**+0.6**
	baz=278								
N30M	**Aishikik Lake**	**63.17**	**32**	P		**P**	**10 09 37.0**	**+0.7**
	baz=278								
ARU	**Arti**	**63.20**	**322**	P		**P**	**10 09 36.8**

P33M	**Teslin, Yukon**	65.44	33	P		**P**		**10 09 50.6**	**-0.2**
	baz=282,SNR=95								
MMPY	**Sheldon Lake,**	65.67	30	P		**P**		**10 09 52.5**	**+0.3**
	baz=282,SNR=114								
HRA	**Herat**	65.73	298	IAmb		IAmb		10 09 55.6	
	comp=Z,245nm,0.8s								
MNCI	**Minicoy**	65.80	267	P		**P**		**10 09 53.6**	**-0.2**
A36M	**Sachs Harbour**	65.87	20	P		**P**		**10 09 53.2**	**0.0**
	baz=283,SNR=191								
Q32M	**Nakina River**	65.99	35	P		**P**		**10 09 54.5**	**+0.1**
	baz=283								
T33K	**Petersburg**	66.12	37	P		**P**		**10 09 55.4**	**+0.4**
	baz=283,SNR=9.2								
U33K	**Whale Pass**	66.19	38	P		**P**		**10 09 56.0**	**+0.6**
	baz=284,SNR=15								
CRAG	**Craig**	66.34	38	IAmb		IAmb		10 09 59.3	
	comp=Z,242nm,0.8s								
CRAG	**Craig**	66.34	38	P		**P**		**10 09 56.8**	**+0.4**
	baz=284,SNR=14								
HMDM	**Hanimaadhoo**	66.36	265	P		**P**		**10 09 56.6**	**-0.6**
HMDM	**Hanimaadhoo**	66.36	265	P		**P**		**10 09 58.5**	**+1.3**
	SNR=5.8								
R33M	**Jennings River**	66.54	34	P		**P**		**10 09 57.8**	**0.0**
	baz=284,SNR=47								
WRAK	**Wrangell Islan**	66.54	37	IAmb		IAmb		10 10 00.4	
	comp=Z,408nm,1.4s								
WRAK	**Wrangell Islan**	66.54	37	P		**P**		**10 09 58.0**	**+0.4**
	baz=284,SNR=18								
NIUE	**Niue**	66.82	128	P		**P**		**10 10 00.1**	**+0.2**
NIUE	**Niue**	66.82	128	P		**P**		**10 10 01.7**	**+1.8**
S34M	**Telegraph Cree**	66.82	35	P		**P**		**10 09 59.6**	**+0.3**
	baz=284,SNR=55								
C36M	**Paulatuk**	66.92	23	P		**P**		**10 09 59.2**	**-0.4**
C36M				IAmb		IAmb		10 10 01.4	
	comp=Z,304nm,1.0s								
C36M	**Paulatuk**	66.92	23	P		**P**		**10 09 59.1**	**-0.6**
	baz=286,SNR=166								
V35K	**Ketchikan**	67.21	38	P		**P**		**10 10 02.1**	**+0.4**
	baz=285,SNR=7.2								
DLBC	**Dease Lake**	67.25	35	IAmb		IAmb		10 10 05.2	
	comp=Z,352nm,1.2s								
DLBC	**Dease Lake**	67.25	35	P		**P**		**10 10 02.6**	**+0.5**
	baz=285,SNR=74								
H02S1	**DAWSON INLET T**	67.28	41	P		**P**		**10 10 02.1**	**-0.1**
	SNR=127								
TGTN	**Hyland Airport**	67.30	31	P		**P**		**10 10 02.9**	**+0.5**
	baz=285,SNR=325								
WTLY	**Watson Lake, Y**	67.42	33	P		**P**		**10 10 03.1**	**0.0**
	baz=285,SNR=111								
T35M	**Bob Quinn**	67.52	36	P		**P**		**10 10 04.1**	**+0.4**
	baz=285,SNR=48								
KIRV	**Kirov**	67.56	325	P		**P**		**10 10 04.5**	**+0.7**
	comp=Z,534nm,0.6s,baz=74,slow=1.9,SNR=140								
KIRV				S		**S**		**10 18 19.3**	**-1.0**
	comp=Z,11nm,0.5s,baz=95,slow=23,SNR=14								
	comp=Z,534nm,0.6s								
KIRV	**Kirov**	67.56	325	*ce*P		**P**		**10 10 04.3**	**+0.5**
GEYT	**Alibeck**	67.85	302	P		**P**		**10 10 07.3**	**+1.2**
	comp=Z,107nm,0.8s,baz=48,slow=2.2,SNR=145								
	comp=Z,107nm,0.8s								
GEYT	**Alibeck**	67.85	302	IAmb		IAmb		10 10 08.6	
	comp=Z,409nm,1.3s								
GYA0B	**ALIBECK ARRAY**	67.85	302	P		**P**		**10 10 06.0**	**-0.1**
GYA0B				IAmb		IAmb		10 10 08.5	
	comp=Z,373nm,1.3s								
RUBB	**Prince Rupert**	68.24	39	IAmb		IAmb		10 10 10.6	
	comp=Z,268nm,1.3s								
HG4B	**Hotspring**	68.28	41	P		**P**		**10 10 08.0**	**-0.4**
PRGR	**Permogore**	68.51	329	*e*P		**P**		**10 10 07.3**	**-2.3**
PRGR				*e*S		**S**		**10 18 28.5**	**-2.9**
PRGR				pmax		pmax			
	comp=Z,343nm,0.7s								
GRNB	**Grenville Isla**	68.55	40	IAmb		IAmb		10 10 12.4	
	comp=Z,167nm,0.7s								
LIRD	**Liard River Hi**	68.93	33	P		**P**		**10 10 12.6**	**+0.3**
	baz=288,SNR=142								
WRGLY	**Wrigley**	68.95	29	P		**P**		**10 10 12.6**	**+0.3**
	baz=286,SNR=31								
RAO	**Raoul Island**	69.06	141	P		**P**		**10 10 13.8**	**+0.5**
	comp=Z,224nm,0.3s,baz=336,slow=21,SNR=3.5								
	comp=Z,224nm,0.3s								
HOPEN	**Hopen**	69.33	347	*e*P		**P**		**10 10 15.9**	**+1.5**
KAAM	**Kaadhehdhoo**	69.43	260	P		**P**		**10 10 16.2**	**+0.3**
NGCH	**Negor - Chabah**	69.60	289	P		**P**		**10 10 18.3**	**+1.5**
	SNR=6.7								
KOTAN	**Kotaneelee Air**	69.69	32	P		**P**		**10 10 17.3**	**+0.5**
	baz=289,SNR=39								
OUZ	**Omahuta**	69.69	151	P		**P**		**10 10 17.7**	**+0.7**
FLDN	**Fort Liard**	69.92	32	P		**P**		**10 10 19.5**	**+1.3**
	baz=290,SNR=14								
SPA0	**Spitsbergen Ar**	69.97	349	*e*P		**P**		**10 10 18.9**	**+0.7**
SPA0				IAmb		IAmb		10 10 19.9	
	comp=Z,81nm,0.9s								
SPITS	**Spitsbergen Ar**	69.97	349	P		**P**		**10 10 19.1**	**+0.9**
	comp=Z,50nm,0.6s,baz=96,slow=8.5,SNR=104								
	comp=Z,50nm,0.6s								
ALE	**Alert**	70.00	3	P		**P**		**10 10 18.6**	**+0.3**
EUNU	**Eureka**	70.09	8	P		**P**		**10 10 19.1**	**+0.1**
BBB	**Bella Bella**	70.12	41	IAmb		IAmb		10 10 21.4	
	comp=Z,210nm,0.9s								
KBS	**Kingsbay**	70.17	351	P		**P**		**10 10 20.1**	**+0.8**
KBS	**Kingsbay**	70.17	351	*i* P		**P**		**10 10 19.2**	**-0.1**
KBS	**Kingsbay**	70.17	351	P		**P**		**10 10 20.1**	**+0.8**
KBS				pmax		pmax			
	comp=Z,101nm,0.8s								
KBS	**Kingsbay**	70.17	351	*e*P		**P**		**10 10 20.7**	**+1.4**
KBS				IAmb		IAmb		10 10 21.4	
	comp=Z,105nm,0.8s								
KBS	**Kingsbay**	70.17	351	P		**P**		**10 10 20.4**	**+1.1**
KBS				pP		**pP**		**10 12 03.6**	**+0.1**
BELG	**Belogornoye**	70.38	319	P		**P**		**10 10 21.4**	**+0.4**
	comp=Z,646nm,0.7s,baz=351,slow=0.7,SNR=161								
	comp=Z,646nm,0.7s								
LVZ	**Lovozero**	70.68	337	P		**P**		**10 10 22.8**	**+0.3**
LVZ				IAmb		IAmb		10 10 24.1	
	comp=Z,158nm,1.0s								
LVZ	**Lovozero**	70.68	337	*ce*P		**P**		**10 10 23.1**	**+0.6**
LVZ				pmax		pmax			
	comp=Z,158nm,0.8s								
LVZ	**Lovozero**	70.68	337	P		**P**		**10 10 22.7**	**+0.2**
NOR	**Nord**	70.80	356	*i* P		**P**		**10 10 22.6**	**-0.4**
NOR				IAmb		IAmb		10 10 26.7	
	comp=Z,7.4nm,0.7s								
HSPB	**Hornsund (broa**	70.85	349	*e*P		**P**		**10 10 24.4**	**+1.0**
HSPB				*e*S		**S**		**10 18 57.8**	**+0.1**
APA	**Apatity**	71.25	337	⇓*i* P		**P**		**10 10 24.6**	**-1.2**
APA				*i*				10 10 45.3	
APA				*i*				10 13 11.9	
APA				*i* S		**S**		**10 19 02.0**	**-0.4**
APA				*i*				10 19 34.0	
APA				pmax		pmax			
	comp=Z,337nm,0.7s								
APA				MLR		MLR			
	comp=Z,500nm,21.0s								
VADS	**Vadso**	71.39	340	*e*P		**P**		**10 10 27.3**	**+0.6**
VADS				IAmb		IAmb		10 10 28.4	
	comp=Z,200nm,0.9s								
KLMR	**Klimovskoe**	71.56	330	⇓*i* P		**P**		**10 10 28.1**	**+0.3**
KLMR				*e*P		**P**		**10 10 28.1**	**+0.3**
KLMR				⇑*i* P		**P**		**10 10 28.1**	**+0.3**
KLMR				AMP				10 10 28.6	
	comp=Z,201nm,0.7s								
KLMR				*e*PP		**PP**		**10 13 14.1**	**-0.6**
KLMR				*e*S		**S**		**10 19 03.8**	**-2.3**
KLMR				*e*S		**S**		**10 19 03.8**	**-2.3**
KLMR	**Klimovskoe**	71.56	330	*d i* P		**P**		**10 10 28.0**	**+0.3**
KLMR				*e*				10 13 14.0	
KLMR				*e*S		**S**		**10 19 03.8**	**-2.3**
KLMR				pmax		pmax			
	comp=Z,201nm,0.7s								
JASK	**Jask - Hormozg**	72.16	290	P		**P**		**10 10 33.4**	**+1.4**
KEV	**Kevo**	72.28	340	P		**P**		**10 10 32.4**	**+0.6**
KEV				IAmb		IAmb		10 10 33.7	
	comp=Z,312nm,1.1s								
KEV	**Kevo**	72.28	340	P		**P**		**10 10 32.4**	**+0.6**
KEV				pmax		pmax			
	comp=Z,312nm,1.1s								
RES	**Resolute Bay**	72.44	13	P		**P**		**10 10 32.4**	**-0.2**
RES	**Resolute Bay**	72.44	13	P		**P**		**10 10 32.4**	**-0.2**
RES				pmax		pmax			
	comp=Z,61nm,0.9s								
WBK	**Wadi Bani Khal**	72.46	287	P		**P**		**10 10 34.6**	**+0.8**
	SNR=22								
WSAR	**Wadi Sarin**	72.50	288	P		**P**		**10 10 34.9**	**+0.9**
	comp=Z,46nm,0.6s,baz=130,slow=5.4,SNR=46								
	comp=Z,46nm,0.6s								
HAMF	**Hammerfest**	72.77	342	*e*P		**P**		**10 10 35.2**	**+0.6**
HAMF				IAmb		IAmb		10 10 35.9	
	comp=Z,141nm,0.9s								
OZB	**Mount Ozzard**	72.80	43	IAmb		IAmb		10 10 38.1	
	comp=Z,289nm,0.9s								
BIDO	**Bidbid**	72.82	288	P		**P**		**10 10 36.5**	**+0.6**
	SNR=27								
ARA0	**ARCESS Array S**	72.84	340	*e*P		**P**		**10 10 35.7**	**+0.6**
ARA0				IAmb		IAmb		10 10 36.9	
	comp=Z,273nm,0.9s								
ARCES	**ARCESS Array B**	72.84	340	P		**P**		**10 10 35.8**	**+0.7**
	comp=Z,197nm,0.8s,baz=73,slow=8.3,SNR=257								
ARCES				S		**S**		**10 19 20.9**	**+0.6**
	comp=Z,12nm,1.1s,baz=57,slow=9.8,SNR=7.9								
	comp=Z,197nm,0.8s								
ARCES	**ARCESS Array B**	72.84	340	P		**P**		**10 10 35.5**	**+0.4**
ARCES				IAmb		IAmb		10 10 37.2	
	comp=Z,264nm,0.9s								
YKA	**Yellowknife Ar**	72.98	28	P		**P**		**10 10 35.2**	**-0.8**
	comp=Z,130nm,0.7s,baz=315,slow=7.8,SNR=178								
YKA				S		**S**		**10 19 20.2**	**-1.8**
	comp=Z,7.1nm,1.0s,baz=302,slow=9.8,SNR=4.2								
	comp=Z,130nm,0.7s								
HIZ	**Hauiti**	73.01	152	P		**P**		**10 10 38.2**	**+1.8**
SMDO	**Samad**	73.07	288	P		**P**		**10 10 37.5**	**+0.1**
	SNR=18								
JMDO	**Jabal Madar**	73.29	287	P		**P**		**10 10 38.7**	**+0.2**
	SNR=18								
BANOM	**Banah**	73.44	291	P		**P**		**10 10 40.2**	**+0.8**
BANOM	**Banah**	73.44	291	*i* P		**P**		**10 10 39.9**	**+0.5**
	SNR=14								
HOQ	**Hoqain**	73.49	288	P		**P**		**10 10 40.6**	**+0.9**
	SNR=46								
HRRZ	**Handcock Road**	73.51	151	P		**P**		**10 10 40.2**	**+0.8**
SHME	**Shamm**	73.53	291	P		**P**		**10 10 40.7**	**+0.9**
	SNR=10								
SHME	**Shamm**	73.53	291	*i* P		**P**		**10 10 40.4**	**+0.6**
	SNR=17								
MDH	**Madha**	73.68	290	P		**P**		**10 10 40.3**	**-0.4**
URZ	**Urewera**	73.77	150	P		**P**		**10 10 39.8**	**-0.9**
URZ	**Urewera**	73.77	150	P		**P**		**10 10 39.3**	**-1.4**
MAK	**Makhachkala**	73.77	310	*e*P		**P**		**10 10 38.3**	**-2.6**
MAK				*e**PP		**pP**		**10 12 24.9**	**-0.8**
MAK				*e**SP		**sP**		**10 13 17.1**	**-0.4**
MAK				*e*				10 13 30.8	
MAK				*e*S		**S**		**10 19 28.2**	**-3.2**
MAK				*e*SS		**SS**		**10 24 34.8**	**+7.0**
MAK				*e*SSS		SSS		10 27 49.7	
MAK				pmax		pmax			
	comp=Z,380nm,0.9s								
MAK				MLR		MLR			
	comp=Z,493nm,14.0s								
MASF	**Masafi**	73.77	290	P		**P**		**10 10 42.4**	**+1.1**
	SNR=10								
MSFE	**Esma-Masafi**	73.78	290	*i* P		**P**		**10 10 41.7**	**+0.4**
	SNR=25								
KTK1	**Kautokeino**	73.81	340	*e*P		**P**		**10 10 41.2**	**+0.6**
KTK1				IAmb		IAmb		10 10 42.1	
	comp=Z,130nm,0.9s								
UOSS	**Minazif**	73.90	290	P		**P**		**10 10 41.8**	**-0.2**
UOSS				IAmb		IAmb		10 10 43.6	
	comp=Z,261nm,1.2s								
UOSS	**Minazif**	73.90	290	P		**P**		**10 10 41.9**	**-0.1**
UOSS	**Minazif**	73.90	290	*i* P		**P**		**10 10 42.1**	**+0.1**
	SNR=27								
BSY	**Bisya**	73.91	288	P		**P**		**10 10 42.1**	**0.0**
	SNR=32								
SOHO	**SOHO**	73.93	289	P		**P**		**10 10 42.1**	**-0.1**
SOHO	**SOHO**	73.93	289	*i* P		**P**		**10 10 42.0**	**-0.1**
	SNR=84								
MHTO	**MHTO**	73.94	286	P		**P**		**10 10 41.9**	**-0.4**
	SNR=45								
HATD	**Hatta, Dubai**	74.00	290	P		**P**		**10 10 43.2**	**+0.6**
	SNR=16								
HATD	**Hatta, Dubai**	74.00	290	*i* P		**P**		**10 10 43.0**	**+0.4**
	SNR=35								
ASHO	**Ashiyiah**	74.12	290	P		**P**		**10 10 43.6**	**+0.3**
	SNR=18								
ASHO	**Ashiyiah**	74.12	290	*i* P		**P**		**10 10 43.2**	**-0.1**
	SNR=26								
UMQ	**Umm Al-Quwin**	74.13	291	P		**P**		**10 10 44.5**	**+1.2**
PGC	**Sisimiut**	74.17	43	IAmb		IAmb		10 10 45.7	
	comp=Z,223nm,0.9s								
VRH	**Novokhopyorsk**	74.22	320	*e*P		**P**		**10 10 43.1**	**-0.2**
VRH				*e*S		**S**		**10 19 30.0**	**-6.0**
VRH				pmax		pmax			
	comp=Z,570nm,0.6s								
VRH				smax		smax			
	comp=E,640nm,8.0s								
ARQ	**Araqi**	74.25	288	P		**P**		**10 10 44.7**	**+0.6**
	SNR=36								
JETT	**Jettan, Norway**	74.31	342	*e*P		**P**		**10 10 44.1**	**+0.6**
JETT				IAmb		IAmb		10 10 45.1	
	comp=Z,192nm,0.7s								
LLLB	**Lillooet**	74.33	41	IAmb		IAmb		10 10 46.7	
	comp=Z,311nm,1.1s								
NAZ	**Nazwa, Dubai**	74.33	290	P		**P**		**10 10 45.3**	**+0.8**
	SNR=10								
NAZ	**Nazwa, Dubai**	74.33	290	*i* P		**P**		**10 10 44.5**	**0.0**
	SNR=16								
B04A	**Port Angeles**	74.36	44	IAmb		IAmb		10 10 47.3	
	comp=Z,295nm,1.0s								
NLWA	**Neilton Lookou**	74.40	45	IAmb		IAmb		10 10 47.8	
	comp=Z,286nm,0.8s								
LKRN	**Lenkeran, Azer**	74.48	306	P		**P**		**10 10 45.9**	**+0.9**
FAQ	**Al Faqa, Dubai**	74.49	290	P		**P**		**10 10 45.4**	**+0.1**
	SNR=9.4								
FAQ	**Al Faqa, Dubai**	74.49	290	*i* P		**P**		**10 10 45.1**	**-0.2**
	SNR=10.0								
ARHZ	**Aropaoanui**	74.55	151	P		**P**		**10 10 44.7**	**-0.5**
MOS	**Moscow**	74.56	325	*e*P		**P**		**10 10 43.3**	**-1.8**
MOS				*e*				10 10 55.2	
MOS				*e**PP		**pP**		**10 12 30.4**	**+0.1**
MOS				*e**SP		**sP**		**10 13 24.0**	**+1.8**
MOS				*e*				10 13 39.9	
MOS				*e*S		**S**		**10 19 36.4**	**-3.1**
MOS				*e*				10 20 06.2	
MOS				pmax		pmax			
	comp=Z,520nm,1.2s								
MOS				pmax		pmax			
	comp=N,175nm,0.9s								
MOS				pmax		pmax			
	comp=E,141nm,0.9s								
MOS				pmax		pmax			
	comp=Z,900nm,1.5s								
MOS				smax		smax			
	comp=N,900nm,3.5s								
MOS				smax		smax			
	comp=E,2μm,3.5s								
MCHZ	**McNeill Hill**	74.57	151	P		**P**		**10 10 45.0**	**-0.3**
ALNE	**Al Ain**	74.62	289	P		**P**		**10 10 46.8**	**+0.7**
	SNR=36								
ALNE	**Al Ain**	74.62	289	*i* P		**P**		**10 10 46.2**	**0.0**
	SNR=23								
SEKA	**Sheki**	74.65	309	P		**P**		**10 10 46.1**	**+0.1**
TRO	**Tromso**	74.68	342	*e*P		**P**		**10 10 46.2**	**+0.7**
TRO				IAmb		IAmb		10 10 46.4	
	comp=Z,129nm,0.6s								
DQM	**DQM**	74.73	285	P		**P**		**10 10 46.8**	**0.0**
	SNR=20								
ASUD	**Al Ashush, Dub**	74.75	290	P		**P**		**10 10 47.3**	**+0.5**
	SNR=8.0								
ASUD	**Al Ashush, Dub**	74.75	290	*i* P		**P**		**10 10 46.8**	**0.0**
	SNR=19								
RADR	**Rader Ridge**	74.83	45	IAmb		IAmb		10 10 50.2	
	comp=Z,392nm,0.8s								
GROC	**Groznyy**	74.84	311	*e*P		**P**		**10 10 47.6**	**+0.7**
GROC				*e*				10 10 59.0	
GROC				*e**SP		**sP**		**10 13 26.9**	**+3.0**
GROC				*e*				10 13 42.3	
GROC				*e*S		**S**		**10 19 42.9**	**-0.1**
GROC				pmax		pmax			
	comp=Z,76nm,0.4s								
MNGR	**Mingechevir, A**	74.90	308	P		**P**		**10 10 48.3**	**+1.0**
TULEG	**Thule**	75.01	7	*i* P		**P**		**10 10 46.6**	**-0.6**
TULEG				IAmb		IAmb		10 10 49.0	
	comp=Z,100nm,0.9s								
LPSR	**Galich'ya Gora**	75.22	322	*e*P		**P**		**10 10 48.8**	**-0.1**
LPSR				*e*S		**S**		**10 19 42.6**	**-4.2**
LPSR				pmax		pmax			
	comp=Z,430nm,1.2s								
LPSR				smax		smax			
	comp=E,610nm,8.0s								
HEBO	**Mount Hebo**	75.34	47	IAmb		IAmb		10 10 52.9	
	comp=Z,328nm,0.9s								
OBN	**Obninsk**	75.38	325	⇓P		**P**		**10 10 50.3**	**+0.6**
OBN	**Obninsk**	75.38	325	P		**P**		**10 10 50.1**	**+0.4**
	comp=Z,40nm,0.7s,baz=63,slow=2.3,SNR=69								
	comp=Z,40nm,0.7s								
OBN	**Obninsk**	75.38	325	P		**P**		**10 10 49.8**	**+0.1**
OBN				IAmb		IAmb		10 10 51.2	
	comp=Z,286nm,0.9s								
OBN	**Obninsk**	75.38	325	*d i* P		**P**		**10 10 50.0**	**+0.4**
OBN				*i*				10 11 00.6	
OBN				*e**PP		**pP**		**10 12 35.9**	**+0.6**
OBN				*e*				10 13 42.5	
OBN				*i* S		**S**		**10 19 46.0**	**-2.4**
OBN				*i*				10 20 07.3	
OBN				*i*				10 20 19.8	
OBN				*e*SS		**SS**		**10 24 53.7**	**+2.5**
OBN				SSS		SSS		10 28 15.0	
OBN				pmax		pmax			
	comp=Z,596nm,1.7s								
OBN				MLR		MLR			
	comp=Z,369nm,15.0s								
NEEM	**North Greenlan**	75.41	2	*i* P		**P**		**10 10 49.4**	**-0.5**
NEEM				IAmb		IAmb		10 10 52.0	
	comp=Z,93nm,0.8s								
VORR	**Voronezh**	75.46	321	*e*P		**P**		**10 10 50.4**	**+0.2**
VORR				pmax		pmax			
	comp=Z,505nm,1.4s								
DAG	**Danmarks Havn**	75.48	355	*i* P		**P**		**10 10 48.0**	**-1.9**
GANJ	**Ganja**	75.48	308	P		**P**		**10 10 50.9**	**+0.3**
D05A	**Enumclaw**	75.65	44	IAmb		IAmb		10 10 54.6	
	comp=Z,305nm,1.0s								
VSR	**Storozhevoye**	75.68	320	*e*P		**P**		**10 10 51.6**	**+0.1**
VSR				pmax		pmax			
	comp=Z,900nm,1.2s								
COR	**Corvallis**	75.89	47	P		**P**		**10 10 55.1**	**+2.3**
COR	**Corvallis**	75.89	47	P		**P**		**10 10 55.1**	**+2.3**
COR				pmax		pmax			
	comp=Z,547nm,1.1s								
GOF	**Gofitskoye**	75.91	314⇑	*e*P		**P**		**10 10 53.4**	**+0.5**
GOF				pmax		pmax			
	comp=Z,386nm,0.7s								
LON	**Longmire**	75.95	45	IAmb		IAmb		10 10 55.6	
	comp=Z,208nm,1.4s								
KBO	**Bosley Butte**	76.24	50	IAmb		IAmb		10 10 58.1	
	comp=Z,294nm,1.0s								
ZEI	**Tsey**	76.28	311	*e*P		**P**		**10 10 52.5**	**-2.7**
ZEI				pmax		pmax			
	comp=Z,155nm,0.7s								
MZWR	**Madinat Zayed**	76.31	290	P		**P**		**10 10 55.2**	**-0.2**
LTY	**Liberty**	76.44	44	IAmb		IAmb		10 10 58.1	
	comp=Z,396nm,1.4s								
DBO	**Dodson Butte**	76.53	48	IAmb		IAmb		10 10 59.4	
	comp=Z,204nm,1.1s								
KBZ	**Khabaz**	76.55	312	P		**P**		**10 10 57.0**	**+0.5**
	comp=Z,271nm,0.6s,baz=108,slow=3.2,SNR=560								
KBZ				S		**S**		**10 20 01.2**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=30,slow=22,SNR=7.6								
	comp=Z,271nm,0.6s								
H04A	**Detroit Lake**	76.57	47	P		**P**		**10 10 57.3**	**+0.6**
H04A				IAmb		IAmb		10 10 59.2	
	comp=Z,392nm,1.0s								
KIV	**Kislovodsk**	76.60	313	⇓P		**P**		**10 10 57.9**	**+1.0**
KIV	**Kislovodsk**	76.60	313	P		**P**		**10 10 56.9**	**0.0**
KIV	**Kislovodsk**	76.60	313	P		**P**		**10 10 57.7**	**+0.9**
KIV	**Kislovodsk**	76.60	313	*i* P		**P**		**10 10 57.5**	**+0.6**
	SNR=57								
KIV	**Kislovodsk**	76.60	313	*e*P		**P**		**10 10 57.7**	**+0.9**
KIV				*e*				10 13 58.7	
KIV				*e*S		**S**		**10 20 03.7**	**+1.5**
KIV				pmax		pmax			
	comp=Z,192nm,1.0s								
KIV				pmax		pmax			
	comp=Z,138nm,3.0s								
KIV				MLR		MLR			
	comp=Z,156nm,18.0s								
NAX	**Nakhchivan**	76.65	307	P		**P**		**10 10 57.6**	**+0.4**
ONI	**Oni**	76.66	311	IAmb		IAmb		10 11 00.0	
	comp=Z,343nm,1.1s								
B08A	**Colville Reser**	76.78	42	IAmb		IAmb		10 11 00.1	
	comp=Z,343nm,0.8s								
GNI	**Garni**	76.78	308	P		**P**		**10 10 59.6**	**+1.5**
	comp=Z,85nm,0.8s,baz=158,slow=1.4,SNR=28								
	comp=Z,85nm,0.8s								
GNI	**Garni**	76.78	308	P		**P**		**10 10 59.2**	**+1.2**
GNI				IAmb		IAmb		10 11 07.4	
	comp=Z,273nm,1.1s								
GNI	**Garni**	76.78	308	P		**P**		**10 10 58.5**	**+0.4**
GNI	**Garni**	76.78	308	P		**P**		**10 10 59.5**	**+1.5**
GNI	**Garni**	76.78	308	P		**P**		**10 10 59.2**	**+1.2**
STEI	**Steigen**	76.80	341	*e*P		**P**		**10 10 57.9**	**+0.5**
STEI				IAmb		IAmb		10 10 58.3	
	comp=Z,180nm,0.7s								
KRPM	**Rodgers**	76.81	50	IAmb		IAmb		10 11 01.3	
	comp=Z,329nm,1.0s								
HUMO	**Hull Mountain**	76.94	49	P		**P**		**10 10 59.3**	**+0.6**
HUMO				IAmb		IAmb		10 11 01.7	
	comp=Z,375nm,1.6s								
JCC	**Jacoby Creek,**	76.95	51	IAmb		IAmb		10 11 01.9	
	comp=Z,450nm,1.2s								
MZR	**Muzera**	76.95	289	P		**P**		**10 10 59.3**	**+0.2**

SNR=26
SOC Sochi 78.70 313 *e*P P **10 11 05.8 -2.3**
SOC *e**PP **pP** **10 12 51.4 -3.3**
SOC *e**SP **sP** **10 13 43.1 -2.9**
SOC *e* 10 14 10.5
SOC *e*S **S** **10 20 22.6 -1.5**
SOC *e*SS **SS** **10 25 37.4 -4.0**
SOC *e*SSS SSS 10 29 11.8
SOC pmax pmax
comp=Z,235nm,0.7s
GEVA Gevas 78.74 307 IAmb IAmb 10 11 10.9
comp=Z,382nm,1.5s
MCCM Marconi Confer 78.89 53 IAmb IAmb 10 11 11.4
comp=Z,238nm,0.9s
RAF Rauma 78.98 334 *e*P P **10 11 09.0 -0.2**
MOD Modoc Plateau 79.02 49 IAmb IAmb 10 11 12.4
comp=Z,228nm,0.9s
ORV Oroville 79.24 51 IAmb IAmb 10 11 13.0
comp=Z,254nm,1.0s
ABTO Aybut 79.45 284 P P **10 11 12.2 -0.4**
SNR=28
MTSE Matsula 79.52 332 *e*P P **10 11 12.1 0.0**
J08A Circle Bar Ran 79.56 47 IAmb IAmb 10 11 15.6
comp=Z,315nm,0.9s
ANN Anapa 79.60 315*d i*P P **10 11 13.2 +0.4**
ANN *e**PP **pP** **10 13 01.0 +1.3**
ANN *e* 10 14 21.7
ANN *i*S **S** **10 20 31.7 -1.7**
ANN pmax pmax
comp=N,99nm,0.8s
ANN pmax pmax
comp=Z,346nm,0.8s
ANN pmax pmax
comp=E,48nm,0.7s
BMO Blue Mountains 79.61 45 IAmb IAmb 10 11 15.6
comp=Z,255nm,0.9s
WALA Waterton Lakes 79.63 40 IAmb IAmb 10 11 15.8
comp=Z,225nm,0.8s
UPNV Upernavik 79.71 5 *i*P P **10 11 12.4 -0.5**
KOPT Kop Dagi 79.78 310 IAmb IAmb 10 11 17.2
comp=Z,271nm,1.3s
KTUT Trabzon 79.84 311 ⇓P P **10 11 15.0 +0.8**
MNK Minsk 80.04 327 *i*P P **10 11 15.9 +0.9**
comp=E,13nm,0.8s
MNK *i*P P **10 11 15.9 +0.9**
comp=N,61nm,0.8s
MNK *i*P P **10 11 15.9 +0.9**
comp=Z,180nm,0.8s,baz=57
MNK *i*pP **pwP** **10 13 08.7 +1.7**
MNK *i*sP **sP** **10 13 58.9 +5.0**
MNK *i*PP **PP** **10 14 23.8 -1.4**
MNK *i*PPP PPP 10 16 21.9
MNK *i*S **S** **10 20 36.4 -1.2**
MNK *i*sS **sS** **10 23 56.3 +7.4**
MNK *i*SS **SS** **10 26 07.7 +7.1**
MNK *i*SSS SSS 10 29 39.8
MNK *i*LRM MLR 10 49 35.7
comp=N,444nm,17.7s
MNK *i*LRM MLR 10 49 35.7
comp=Z,321nm,17.7s
MNK *i*LRM MLR 10 49 51.2
comp=E,63nm,18.0s
MNK Minsk 80.04 327 *i*P P **10 11 15.8 +0.9**
MNK *i**PP **pwP** **10 13 08.7 +1.7**
MNK *i**SP **sP** **10 13 58.9 +5.0**
MNK *i* 10 14 23.8
MNK *i*PPP PPP 10 16 21.8
MNK *i*S **S** **10 20 36.3 -1.2**
MNK *i*SS **SS** **10 26 07.6 +7.1**
MNK pmax pmax
comp=E,13nm,0.9s
MNK pmax pmax
comp=Z,180nm,0.9s
MNK pmax pmax
comp=N,61nm,0.9s
MNK MLR MLR
comp=N,444nm,18.0s
MNK MLR MLR
comp=Z,321nm,18.0s
MNK MLR MLR
comp=E,63nm,18.0s
NSS Namsos 80.10 340 *e*P P **10 11 14.9 -0.1**
NSS IAmb IAmb 10 11 15.7
comp=Z,150nm,0.7s
PLTX Planet X, Gerl 80.12 49 IAmb IAmb 10 11 18.4
comp=Z,331nm,0.9s
IZAR Zarasai 80.13 328 *e*P P **10 11 18.4 +3.0**
ISAL Salakas 80.29 328 *e*P P **10 11 17.5 +1.3**
NACGM Naroch 80.35 327⇓*i*P P **10 11 17.0 +0.4**
comp=Z,339nm,0.9s,baz=56
EMB Emerald Bay 80.47 51 IAmb IAmb 10 11 20.2
comp=Z,282nm,0.9s
SUMG Summit 80.52 360 *i*P P **10 11 17.5 -0.2**
PAHR Pah Rah Range 80.63 50 IAmb IAmb 10 11 20.8
comp=Z,214nm,0.9s
CMB Columbia Colle 80.70 52 IAmb IAmb 10 11 21.1
comp=Z,197nm,0.9s
MSO Missoula 80.72 42 IAmb IAmb 10 11 20.7
comp=Z,424nm,2.0s
MSO Missoula 80.72 42 P P **10 11 18.6 -0.2**
baz=300,SNR=52
PNTR Pine Nut 80.77 51 IAmb IAmb 10 11 21.9
comp=Z,253nm,0.8s
SLIT Slitere, Latvi 80.81 331 *e*P P **10 11 18.4 -0.5**
BBGB Big Mountain B 80.90 54 IAmb IAmb 10 11 23.1
comp=Z,317nm,0.9s
YERR Yerington 81.06 51 IAmb IAmb 10 11 23.2
comp=Z,213nm,0.9s
VSVD Vaisvydziai 81.07 329 *e*P P **10 11 20.2 -0.1**
WAKR Walker 81.15 51 IAmb IAmb 10 11 24.0
comp=Z,135nm,0.7s
MFID Camas Ranch 81.23 46 IAmb IAmb 10 11 24.2
comp=Z,249nm,0.8s
PABE Paberze 81.33 329 *e*P P **10 11 22.0 +0.4**
AKASG Malin Array Be 81.42 323 P P **10 11 21.3 -1.0**
comp=Z,195nm,0.6s,baz=52,slow=5.4,SNR=904
AKASG S **S** **10 20 49.6 -2.1**
comp=Z,5.7nm,0.8s,baz=54,slow=12,SNR=4.1
AKASG PKKPbc **PKKPbc** **10 29 50.8 -2.0**
comp=Z,1.1nm,0.4s,baz=251,slow=2.8,SNR=5.1
comp=Z,195nm,0.6s
AKASG Malin Array Be 81.42 323 IAmb IAmb 10 11 22.9
comp=Z,233nm,0.7s
AKASG Malin Array Be 81.42 323 *i*P P **10 11 21.2 -1.0**
AKASG pmax pmax
comp=Z,206nm,0.6s
PPT Papeete 81.43 115 P P **10 11 25.8 +3.0**
comp=Z,38nm,0.9s,baz=61,slow=19,SNR=4.2
PPT2 Papeete2 81.44 115 *e*P P **10 11 22.2 -0.7**
PPT2 *e*pP **pP** **10 13 07.6 -3.8**
comp=Z,107nm,1.6s
PPT2 Papeete2 81.44 115 *e*LR LR 10 37 41.3
comp=Z,65nm,1.1s
comp=Z,281nm,23.5s
PPTF Pamatai, Papee 81.45 115 P P **10 11 25.0 +2.0**
PAE Paea 81.47 115 *e*P P **10 11 22.0 -1.0**
comp=Z,30nm,1.3s
TBLU Trondheim 81.55 339 *e*P P **10 11 20.9 -1.7**
TBLU IAmb IAmb 10 11 21.3
comp=Z,102nm,0.7s
SIM Simferopol' 81.59 316*d i*P P **10 11 23.8 +0.6**
SIM *i*S **S** **10 20 53.6 -0.1**
SIM pmax pmax
comp=Z,392nm,0.7s
TIAR Tiarei 81.61 115 *e*P P **10 11 24.8 +1.1**
comp=Z,14nm,1.0s
TIAR *e*pP **pP** **10 13 13.3 +1.1**
comp=Z,6.9nm,0.9s
RYN Ryan 81.73 51 IAmb IAmb 10 11 26.7
comp=Z,155nm,0.8s
BMN Battle Mountai 81.76 49 IAmb IAmb 10 11 27.2
comp=Z,487nm,1.6s
SCO Scoresbysund 81.78 354 *i*P P **10 11 24.2 +0.5**
SCO IAmb IAmb 10 11 26.3
comp=Z,64nm,1.2s
VAH Vaihoa 81.82 112 *e*P P **10 11 24.7 -0.1**
comp=Z,120nm,1.4s
LHV Little Huntoon 81.92 51 IAmb IAmb 10 11 28.1
comp=Z,335nm,1.2s
PBUR Paburge 81.94 330 *e*P P **10 11 24.6 -0.1**
NVAR Mina Array Bea 81.97 51 P P **10 11 25.8 +0.2**
comp=Z,116nm,0.8s,baz=290,slow=5.1,SNR=422
comp=Z,116nm,0.8s
MLAC Mammoth, Mammo 81.98 52 P P **10 11 26.4 +0.7**
baz=298,SNR=36
HLID Hailey 82.06 45 IAmb IAmb 10 11 28.7
comp=Z,165nm,1.0s
HLID Hailey 82.06 45 P P **10 11 26.4 +0.5**
baz=300,SNR=178
NV11 Mina Array Sit 82.07 51 IAmb IAmb 10 11 28.5
comp=Z,281nm,1.4s
VOG Valley Oaks Go 82.20 53 P P **10 11 27.1 +0.6**
baz=298,SNR=8.1
SMMC Simmler 82.23 54 P P **10 11 27.0 +0.3**
baz=298,SNR=32
TOKA Tokat 82.36 311 IAmb IAmb 10 11 29.5
comp=Z,140nm,0.8s
DIKM Dikmen 82.51 313⇑P P **10 11 29.1 +1.1**
EGMT Eagleton 82.53 39 P P **10 11 28.2 +0.2**
baz=303,SNR=156
Q09A Carvers 82.55 50 IAmb IAmb 10 11 30.9
comp=Z,316nm,1.0s
PKM Mcpherson Peak 82.56 55 P P **10 11 29.1 +0.4**
baz=298,SNR=74
HFS Hagfors 82.59 336 P P **10 11 26.6 -1.5**
comp=Z,137nm,0.6s,baz=92,slow=3.4,SNR=277
HFS PP **PP** **10 14 45.2 -0.6**
comp=Z,50nm,1.0s,baz=38,slow=6.0,SNR=8.6
HFS S **S** **10 20 59.7 -3.4**
comp=Z,7.7nm,0.7s,baz=85,slow=17,SNR=7.2
comp=Z,137nm,0.6s
VES Vestal, Richgr 82.64 54 P P **10 11 28.6 -0.1**
baz=298,SNR=109
NC303 NORSAR Array S 82.64 338 IAmb IAmb 10 11 29.1
comp=Z,163nm,0.8s
TIN Tinemaha, Big 82.67 52 P P **10 11 29.4 +0.4**
baz=298,SNR=43
FFC Flin Flon 82.68 31 P P **10 11 28.7 +0.1**
FFC IAmb IAmb 10 11 30.5
comp=Z,225nm,1.1s
FFC Flin Flon 82.68 31 P P **10 11 28.7 +0.1**
FFC pmax pmax
comp=Z,225nm,1.1s
BOZ Bozeman (W) 82.73 42 P P **10 11 29.7 +0.5**
baz=302,SNR=92
DOMB Dombas 82.81 339 *e*P P **10 11 29.1 0.0**
DOMB IAmb IAmb 10 11 29.8
comp=Z,145nm,0.9s
NB2 NORSAR Subarra 82.83 338 P P **10 11 28.0 -1.3**
baz=45,slow=5.1
NB2 NORSAR Subarra 82.83 338 P P **10 11 28.0 -1.3**
comp=Z,139nm,0.6s,baz=45,slow=5.1
NB2 PP **PP** **10 14 46.9 -0.7**
comp=Z,207nm,2.5s,baz=44,slow=7.9
NB2 S **S** **10 21 02.6 -2.9**
comp=Z,2.0nm,1.0s,baz=31,slow=6.5
NOA NORSAR Array B 82.83 338 P P **10 11 27.9 -1.3**
comp=Z,140nm,0.6s,baz=46,slow=4.8,SNR=431
NOA PP **PP** **10 14 47.4 -0.3**
comp=Z,24nm,0.9s,baz=47,slow=7.9,SNR=9.4
comp=Z,140nm,0.6s
NOA NORSAR Array B 82.83 338 P P **10 11 28.0 -1.3**
SBC Santa Barbara 82.84 55 P P **10 11 30.4 +0.7**
baz=298,SNR=16
MOL Molde 82.89 340 *e*P P **10 11 28.8 -0.6**
MOL IAmb IAmb 10 11 29.8
comp=Z,84nm,0.8s
ELK Elko 82.92 48 PKKPbc PKKPbc 10 29 49.1 -0.2
comp=Z,0.7nm,0.6s,baz=124,slow=7.7,SNR=3.6
ELK Elko 82.92 48 IAmb IAmb 10 11 33.0
comp=Z,153nm,0.8s
NC602 NORSAR Array S 82.93 337 IAmb IAmb 10 11 30.0
comp=Z,136nm,1.1s
NC602 NORSAR Array S 82.93 337 *e*P P **10 11 28.8 -1.0**
NC602 IAmb IAmb 10 11 29.6
comp=Z,50nm,0.6s
NBO00 NORSAR Array S 82.98 338 IAmb IAmb 10 11 30.2
comp=Z,175nm,0.7s
LCH Last Change Ra 83.00 52 IAmb IAmb 10 11 33.0
comp=Z,154nm,0.9s
CWC Cottonwood Cre 83.07 53 P P **10 11 31.1 -0.1**
baz=299
NAO01 NORSAR Array S 83.08 338 IAmb IAmb 10 11 30.5
comp=Z,190nm,0.7s
SCZ2 Santa Cruz Isl 83.11 55 P P **10 11 31.5 +0.3**
baz=298,SNR=10
ARVC Arvin 83.16 54 P P **10 11 31.6 +0.2**
baz=298,SNR=60
ISA Isabella, Lake 83.16 53 P P **10 11 31.2 -0.3**
baz=298,SNR=113
BZK Bozkurt 83.17 314⇑P P **10 11 29.9 -1.4**
GMN Gold Mountain 83.24 52 IAmb IAmb 10 11 34.3
comp=Z,150nm,0.8s
GRAC Grapevine Rang 83.31 52 IAmb IAmb 10 11 34.6
comp=Z,258nm,1.2s
GRAC Grapevine Rang 83.31 52 P P **10 11 32.3 +0.2**
baz=299,SNR=97
PURM Purcari 83.31 319⇓P P **10 11 32.8 +1.0**
AKN Aaknes 83.36 340 *e*P P **10 11 32.1 +0.3**
AKN IAmb IAmb 10 11 33.0
comp=Z,189nm,1.0s
RAYN Ar Rayn 83.36 293 P P **10 11 33.1 +0.4**
RAYN Ar Rayn 83.36 293 P P **10 11 33.6 +1.0**
RAYN Ar Rayn 83.36 293 *i*P P **10 11 33.1 +0.4**
SNR=164
RAYN Ar Rayn 83.36 293 P P **10 11 33.1 +0.4**
RAYN pmax pmax
comp=Z,429nm,0.9s
FCC Fort Churchill 83.37 25 IAmb IAmb 10 11 33.2
comp=Z,261nm,1.6s
GAZ Gaziantep 83.38 308 IAmb IAmb 10 11 34.9
comp=Z,128nm,0.8s
OSI Osito Audit: C 83.48 55 P P **10 11 33.5 +0.5**
baz=298,SNR=14
BNN Bunyan 83.50 310 IAmb IAmb 10 11 33.5
comp=Z,232nm,0.8s
SNCC San Nicolas Is 83.54 56 IAmb IAmb 10 11 35.5
comp=Z,311nm,1.1s
SNCC San Nicolas Is 83.54 56 P P **10 11 33.8 +0.4**
baz=298,SNR=6.3
KIS Kishinev 83.67 320⇓*i*P P **10 11 33.0 -0.6**
KIS *i*S **S** **10 21 12.0 -2.2**
comp=Z,100nm,1.3s
KIS LRM MLR 10 50 35.0
comp=Z,400nm,1.8s
KIS pmax pmax
comp=Z,200nm,18.0s
KIS Kishinev 83.67 320*d i*P P **10 11 33.0 -0.6**
KIS *i*S **S** **10 21 12.0 -2.2**
KIS pmax pmax
comp=Z,190nm,2.5s
KIS smax smax
comp=N,350nm,2.0s
KIS smax smax
comp=E,400nm,1.8s
KIS MLR MLR
comp=Z,200nm,18.0s
MPMC Manual Prospec 83.67 53 P P **10 11 34.0 -0.2**
baz=299,SNR=158
MILM Milestii Mici 83.71 320⇑P P **10 11 33.5 -0.4**
MILM Milestii Mici 83.71 320⇓*i*P P **10 11 33.0 -0.9**
comp=Z,240nm,1.2s
MILM *i*SKS **S** **10 21 06.0 -8.6**
MILM *i*S **S** **10 21 12.0 -2.6**
comp=Z,700nm,2.9s
MILM LRM MLR 10 50 44.0
comp=Z,400nm,13.0s
MILM Milestii Mici 83.71 320*d i*P P **10 11 33.0 -0.9**
MILM *i* 10 21 06.0
MILM *i*S **S** **10 21 12.0 -2.6**
MILM pmax pmax
comp=Z,240nm,1.2s
MILM smax smax
comp=N,700nm,2.9s
MILM smax smax
comp=E,2μm,9.5s
MILM MLR MLR
comp=Z,400nm,13.0s
YNM Yellowstone No 83.74 43 IAmb IAmb 10 11 38.2
comp=Z,254nm,1.0s
YNR Norris Junctio 83.76 43 IAmb IAmb 10 11 38.4
comp=Z,296nm,1.1s
OSL Oslo 83.79 337 *e*P P **10 11 34.0 0.0**
OSL IAmb IAmb 10 11 34.4
comp=Z,159nm,0.7s
ILGA Ilgaz 83.81 313 IAmb IAmb 10 11 37.1
comp=Z,125nm,0.8s
YUF Upper Falls 83.87 43 IAmb IAmb 10 11 38.5
comp=Z,138nm,1.0s
R11A Troy Canyon, C 83.88 50 IAmb IAmb 10 11 37.5
comp=Z,184nm,0.9s
R11A Troy Canyon, C 83.88 50 P P **10 11 35.4 +0.3**
baz=300,SNR=294
EDW2 Edwards Air Fo 83.88 54 P P **10 11 35.4 +0.3**
baz=299,SNR=215
FURC Furnace Creek, 83.92 52 P P **10 11 35.6 +0.5**
baz=299,SNR=183
WCT Wildcat Mounta 83.93 52 IAmb IAmb 10 11 37.5
comp=Z,386nm,1.6s
DECC Green Verdugo 83.94 55 P P **10 11 35.6 +0.3**
baz=299,SNR=44
H17A Grant Village 84.00 43 P P **10 11 37.7 +2.0**
baz=302,SNR=225
ICESG Greenland Ices 84.03 360 *i*P P **10 11 35.4 0.0**
ICESG IAmb IAmb 10 11 36.8
comp=Z,39nm,0.6s
IMW Indian Meadow 84.04 43 IAmb IAmb 10 11 39.1
comp=Z,193nm,0.8s
PASC Pasadena Art C 84.08 55 IAmb IAmb 10 11 37.9
comp=Z,238nm,0.9s
FLWY Flagg Ranch 84.09 43 IAmb IAmb 10 11 39.7
comp=Z,265nm,0.9s
TPNV Topopah Spring 84.11 51 P P **10 11 36.8 +0.5**
baz=300,SNR=266
S11A Rachel 84.12 51 IAmb IAmb 10 11 38.7
comp=Z,217nm,0.8s
FXWY Fox Creek 84.13 44 IAmb IAmb 10 11 39.4
comp=Z,262nm,1.4s
FMP Fort Macarthur 84.22 55 P P **10 11 37.2 +0.6**
baz=299,SNR=9.1
MOOW Moose Ponds 84.24 43 IAmb IAmb 10 11 39.8
comp=Z,229nm,1.4s
TPAW Teton Pass 84.25 44 IAmb IAmb 10 11 40.0
comp=Z,159nm,0.9s
BGU Big Grassy Mou 84.28 47 IAmb IAmb 10 11 39.5
comp=Z,386nm,1.9s
CIS Catalina Islan 84.28 55 P P **10 11 37.4 +0.3**
baz=299,SNR=30
REDW Red Top Meadow 84.38 44 IAmb IAmb 10 11 40.5
comp=Z,279nm,1.6s
SNOW Snow King Moun 84.39 44 IAmb IAmb 10 11 40.6
comp=Z,129nm,1.1s
RLMT Red Lodge 84.39 42 P P **10 11 38.4 +0.8**
baz=303,SNR=126
SCI2 San Clemente I 84.39 56 P P **10 11 37.4 -0.1**
baz=299,SNR=7.3
KONO Kongsberg 84.39 337 P P **10 11 36.5 -0.5**
KONO IAmb IAmb 10 11 38.6
comp=Z,229nm,1.8s
KONO Kongsberg 84.39 337 P P **10 11 36.5 -0.5**
KONO pmax pmax
comp=Z,229nm,1.8s
SPR3 Spring Creek 3 84.40 49 IAmb IAmb 10 11 40.6
comp=Z,180nm,1.4s
BFSC Mount Baldy Ra 84.43 54 P P **10 11 37.5 -0.4**
baz=299,SNR=83
VASR Vaslui 84.45 320⇓P P **10 11 38.0 +0.4**
GSC Goldstone, Bar 84.53 53 P P **10 11 38.4 +0.1**
baz=300,SNR=267
BR131 Keskin Array S 84.54 312 P P **10 11 37.9 -0.4**
BR131 Keskin Array S 84.54 312 P P **10 11 37.9 -0.4**
BR131 pmax pmax
comp=Z,75nm,0.7s
BRTR Keskin Array B 84.54 312 P P **10 11 38.0 -0.4**
comp=Z,43nm,0.6s,baz=85,slow=3.1,SNR=190
BRTR pP **pP** **10 13 28.1 +1.2**
comp=Z,7.6nm,0.8s,baz=105,slow=3.8,SNR=3.6
BRTR PP **PP** **10 15 02.6 +0.4**
comp=Z,14nm,1.0s,baz=90,slow=6.2,SNR=4.0
BRTR PKKPbc **PKKPbc** **10 29 45.0 -0.5**
comp=Z,1.4nm,0.6s,baz=206,slow=4.2,SNR=6.7
comp=Z,43nm,0.6s
BRTR Keskin Array B 84.54 312 P P **10 11 38.3 -0.1**
BRTR Keskin Array B 84.54 312 P P **10 11 38.3 -0.1**
AHID Auburn Hatcher 84.54 44 IAmb IAmb 10 11 40.8
comp=Z,142nm,0.9s
TBI Tubuai 84.59 120 *e*P P **10 11 39.2 +0.7**
comp=Z,233nm,1.1s
TBI Tubuai 84.59 120 *e*LR LR 10 39 07.0
comp=Z,859nm,27.8s
RRX Edison Barstow 84.60 54 P P **10 11 39.0 +0.4**
baz=299,SNR=7.4
SHOC Shoshone, Teco 84.61 52 P P **10 11 38.9 +0.3**
baz=300,SNR=10
LVV L'vov 84.67 324 *e*P P **10 11 38.4 -0.2**
LVV *e* 10 21 13.1
LVV *e*S **S** **10 21 21.7 -2.2**
LVV pmax pmax
comp=Z,300nm,2.0s
PRN Pahroc Range 84.72 51 IAmb IAmb 10 11 41.7
comp=Z,240nm,1.1s
VLDR Vladesti 84.73 319⇓P P **10 11 39.4 +0.5**
DUG Dugway, Tooele 84.80 47 IAmb IAmb 10 11 42.0
comp=Z,162nm,0.9s
DUG Dugway, Tooele 84.80 47 P P **10 11 39.7 +0.1**
baz=301,SNR=199
GIUM Giurgiulesti 84.86 319⇑P P **10 11 40.2 +0.7**
JURR Jurilovca 84.86 318⇓P P **10 11 39.6 +0.1**
HWUT Hardware Ranch 84.86 46 IAmb IAmb 10 11 42.6
comp=Z,216nm,1.0s
ELS Elsinore Mount 84.89 55 IAmb IAmb 10 11 42.1
comp=Z,180nm,1.0s
BBRC Big Bear Solar 84.95 54 P P **10 11 40.2 -0.3**
baz=300,SNR=89
PSUT Pine Spring 84.96 49 IAmb IAmb 10 11 42.6
comp=Z,116nm,0.9s
GHRR 85.00 320⇓P P **10 11 40.2 0.0**
ANTO Ankara 85.03 312⇓P P **10 11 40.6 0.0**
ANTO Ankara 85.03 312 P P **10 11 40.5 -0.1**
ANTO Ankara 85.03 312 P P **10 11 40.5 -0.1**
ANTO Ankara 85.03 312 P P **10 11 40.5 -0.1**
ANTO pmax pmax
comp=Z,56nm,0.7s
TAOE Nuku Hiva Isla 85.05 102 *e*LR LR 10 39 21.2
comp=Z,343nm,25.6s
TAOE Nuku Hiva Isla 85.05 102 P P **10 11 41.4 +0.3**
BEL Belsk 85.07 327 *e*P P **10 11 40.8 +0.4**
BEL *e*L L 10 55 45.5
comp=Z,410nm,16.8s
CFR Carcaliu 85.07 319⇓P P **10 11 40.5 -0.1**
MURC Murrieta 85.08 55 P P **10 11 40.7 -0.3**
baz=299,SNR=105
TPGR Topolog 85.08 318⇓P P **10 11 41.0 +0.3**
TUQ Turquoise Moun 85.09 53 P P **10 11 40.8 -0.3**
baz=300,SNR=172
HEC Hector,Ludlow 85.10 53 P P **10 11 40.9 -0.2**
baz=300,SNR=196
TESR Tescani 85.17 320⇑P P **10 11 41.0 -0.1**
PANC Panciu 85.25 320⇓P P **10 11 42.6 +1.2**
LAO LASA Array 85.27 39 IAmb IAmb 10 11 44.1
comp=Z,218nm,1.0s
LAO LASA Array 85.27 39 P P **10 11 42.4 +0.7**
baz=305
LAO LASA Array 85.27 39 P P **10 11 41.8 +0.2**
baz=305,SNR=88
TIRR Tirgusor 85.31 318⇑P P **10 11 41.9 +0.2**
BUR08 Bucovina Ar. S 85.33 322 P P **10 11 42.1 +0.2**
BURAR Bucovina Array 85.33 322⇓P P **10 11 42.4 +0.4**
BURAR Bucovina Array 85.33 322 P P **10 11 42.3 +0.3**
BURAR IAmb IAmb 10 11 43.6
comp=Z,90nm,0.8s
DGMT Dagmar 85.34 37 IAmb IAmb 10 11 43.8
comp=Z,161nm,0.8s
DGMT Dagmar 85.34 37 P P **10 11 42.3 +0.4**
baz=306
DGMT Dagmar 85.34 37 P P **10 11 41.6 -0.4**
baz=306,SNR=49
WTNK Soaring Height 85.35 52 IAmb IAmb 10 11 44.7
comp=Z,45nm,0.8s
ODBI Odobesti 85.37 320⇓P P **10 11 43.5 +1.4**
MFTR Murfatlar 85.46 318⇓P P **10 11 42.2 -0.3**
HARR Harsova 85.46 318⇓P P **10 11 42.6 +0.1**
TLBR Topalu 85.47 318⇑P P **10 11 43.0 +0.4**
109C Camp Elliot, M 85.49 55 P P **10 11 42.9 0.0**
baz=300,SNR=37
VRI Vrincioaia 85.50 320⇑P P **10 11 43.2 +0.5**
BW06 Boulder Array 85.50 44 P P **10 11 42.7 -0.4**
baz=303,SNR=84
PDAR Pinedale Array 85.50 44 P P **10 11 42.9 -0.2**
comp=Z,46nm,0.9s,baz=259,slow=0.9,SNR=197
PDAR PP **PP** **10 15 05.2 -4.7**
comp=Z,5.0nm,0.9s,baz=316,slow=5.0,SNR=2.4
comp=Z,46nm,0.9s
PLOR Plostina 85.55 320⇑P P **10 11 43.2 +0.2**
BSD Bornholm Skovb 85.57 332 *e*P P **10 11 41.9 -0.9**
BSD Bornholm Skovb 85.57 332 *i*P P **10 11 41.2 -1.6**
BSD IAmb IAmb 10 11 43.6
comp=Z,83nm,0.8s
GMRC Granite Mounta 85.60 53 P P **10 11 43.7 +0.2**
baz=300,SNR=162

PFO Pinyon Flats O 85.61 54 P **P 10 11 43.8 +0.2**
PFO Pinyon Flats O 85.61 54 P **P 10 11 43.6 0.0**
baz=300,SNR=192
PFO Pinyon Flats O 85.61 54 P **P 10 11 43.8 +0.2**
PFO pmax pmax
comp=Z,310nm,0.9s
TPFO Pinon Flats 85.61 54 P **P 10 11 43.6 -0.1**
baz=300,SNR=206
GRER 85.63 319 ⇑P **P 10 11 44.6 +1.3**
PMD Palm Desert 85.65 54 IAmb IAmb 10 11 45.7
comp=Z,300nm,0.8s
V12A Nelson 85.70 52 IAmb IAmb 10 11 46.5
comp=Z,146nm,1.0s
BELC Belle Mtn. Jos 85.75 54 P **P 10 11 43.8 -0.5**
baz=300,SNR=206
SFJD Kangerlussuaq 85.79 4 P **P 10 11 43.4 -0.2**
SFJD Kangerlussuaq 85.79 4 *i* P **P 10 11 42.6 -1.0**
SFJD IAmb IAmb 10 11 44.6
comp=Z,35nm,0.7s
SFJD Kangerlussuaq 85.79 4 P **P 10 11 43.4 -0.2**
SFJD pmax pmax
comp=Z,37nm,0.8s
GKP Gorka Klasztor 85.80 330 *e*P **P 10 11 43.8 -0.1**
GKP *e*L L 10 56 14.2
comp=Z,423nm,16.9s
GKP Gorka Klasztor 85.80 330 *e*P **P 10 11 43.8 -0.1**
COVR Voineasa-Covas 85.81 320 ⇑P **P 10 11 44.2 0.0**
AMRR Amara 85.86 319 ⇑P **P 10 11 44.7 +0.3**
ICOR Ion Corvin 85.86 318 ⇑P **P 10 11 44.7 +0.3**
OZUR 85.90 320 ⇓P **P 10 11 45.2 +0.6**
BAR Barrett 85.91 55 IAmb IAmb 10 11 47.0
comp=Z,209nm,1.1s
MONP2 Monument Peak 85.99 55 P **P 10 11 45.8 +0.3**
baz=300,SNR=110
NEHR Nehoiu 86.00 320 ⇑P **P 10 11 45.4 +0.3**
TKX Tecate 86.02 55 IAmb IAmb 10 11 47.5
comp=Z,192nm,1.1s
ISR Istrita 86.03 319 ⇓P **P 10 11 45.7 +0.4**
ASF Jabal al Asfar 86.05 304 P **P 10 11 45.6 -0.1**
comp=Z,46nm,1.0s,baz=40,slow=3.4,SNR=19
ASF PP **PP 10 15 14.9 +0.4**
comp=Z,24nm,1.1s,baz=106,slow=12,SNR=5.4
comp=Z,46nm,1.0s
KOLS Kolonicke sedl 86.12 324 *e*P **P 10 11 45.9 +0.3**
KOLS Kolonicke sedl 86.12 324 *e*P **P 10 11 45.9 +0.3**
KOLS pmax pmax
comp=Z,35nm,0.8s
ARCR ARCALIA 86.12 322 ⇑P **P 10 11 46.7 +1.1**
MLR Muntele Rosu 86.16 320 ⇑P **P 10 11 45.9 -0.1**
MLR Muntele Rosu 86.16 320 P **P 10 11 45.6 -0.4**
comp=Z,28nm,0.7s,baz=353,slow=3.8,SNR=26
comp=Z,28nm,0.7s
COP Copenhagen 86.19 333 *i* P **P 10 11 43.9 -1.8**
DOPR Dopca 86.20 321 ⇑P **P 10 11 46.4 +0.3**
BMR Baia Mare 86.24 323 ⇑P **P 10 11 46.7 +0.6**
IRM Iron Mountain 86.28 53 P **P 10 11 46.9 +0.2**
baz=300,SNR=132
UZH Uzhgorod 86.29 324 ⇓*i* P **P 10 11 45.0 -1.4**
BC3 Big Chuckawall 86.31 54 P **P 10 11 47.1 +0.1**
baz=300,SNR=156
CCX Cicese 86.32 56 IAmb IAmb 10 11 48.8
comp=Z,144nm,1.0s
MTPU Mount Pierson 86.34 49 IAmb IAmb 10 11 50.2
comp=Z,164nm,1.5s
IKP In-Ko-Pah, Jac 86.34 55 P **P 10 11 47.1 0.0**
baz=300,SNR=63
NEE2 Needles Airpor 86.35 53 P **P 10 11 47.2 +0.2**
baz=301,SNR=6.6
STHS Stebnicka Huta 86.35 325 *e*P **P 10 11 46.2 -0.5**
STHS Stebnicka Huta 86.35 325 *e*P **P 10 11 46.2 -0.5**
STHS pmax pmax
comp=Z,37nm,0.7s
SECR 86.35 320 ⇑P **P 10 11 47.3 +0.5**
RMX La Rumorosa 86.39 55 IAmb IAmb 10 11 49.9
comp=Z,293nm,1.3s
SWSC Sam W. Stewart 86.42 55 P **P 10 11 47.7 +0.3**
baz=300,SNR=61
KNB Kanab 86.44 50 IAmb IAmb 10 11 51.1
comp=Z,171nm,1.0s
TRPA Tarpa 86.47 323 ⇓P **P 10 11 47.6 +0.4**
TRPA Tarpa 86.47 323 P **P 10 11 47.3 +0.1**
TRPA Tarpa 86.47 323 P **P 10 11 47.4 +0.1**
YUH Yuha Desert 86.48 55 IAmb IAmb 10 11 49.8
comp=Z,306nm,1.4s
LLD Lille Linde 86.53 333 *i* P **P 10 11 46.0 -1.4**
P17A Butcher Ranch, 86.53 47 IAmb IAmb 10 11 50.4
comp=Z,141nm,1.1s
DY2G Dye2 86.54 3 *i* P **P 10 11 47.1 -0.4**
DY2G IAmb IAmb 10 11 48.3
comp=Z,62nm,1.3s
Q16A Castle Valley 86.55 48 IAmb IAmb 10 11 50.8
comp=Z,302nm,1.6s
CRVS Cervenica-Dubn 86.56 325 *e*P **P 10 11 47.9 +0.2**
CRVS Cervenica-Dubn 86.56 325 *e*P **P 10 11 47.9 +0.2**
CRVS pmax pmax
comp=Z,272nm,1.4s
OJC Ojcow 86.57 326 *e*P **P 10 11 44.9 -2.8**
OJC *e*PP **PP 10 15 13.9 -3.9**
OJC *e*S **S 10 21 34.8 -7.3**
OJC *e*L L 10 53 24.7
comp=Z,519nm,17.6s
OJC Ojcow 86.57 326 IAmb IAmb 10 11 46.2
comp=Z,144nm,1.2s
PRD Provadia 86.62 317 P **P 10 11 48.0 0.0**
RDMU Red Mountain 86.69 46 IAmb IAmb 10 11 52.5
comp=Z,119nm,1.0s
VOIR 86.70 320 ⇑P **P 10 11 48.6 0.0**
MMAI Mount Meron Ar 86.72 305 P **P 10 11 49.1 +0.2**
comp=Z,62nm,0.7s,baz=67,slow=6.4,SNR=50
comp=Z,62nm,0.7s
CBBR Cluj-Babes-Bol 86.75 322 ⇓P **P 10 11 49.6 +0.9**
CJR Cluj-Napoca 86.76 322 ⇑P **P 10 11 49.7 +0.9**
ESJX Sierra Juarez 86.78 56 IAmb IAmb 10 11 51.7
comp=Z,128nm,0.9s
NIE Niedzica 86.83 325 *e*P **P 10 11 49.5 +0.5**
NIE *e*PP **PP 10 15 19.9 -0.1**
NIE *e*S **S 10 21 42.0 -2.7**
MESR Meseseni 86.85 323 ⇑P **P 10 11 50.0 +0.9**
MUD Monsted U'grnd 86.90 335 *i* P **P 10 11 48.7 -0.4**
PDMCI Parker Dam,Lak 86.92 53 P **P 10 11 50.3 +0.7**
baz=301,SNR=40
BLYC Blythe 86.93 54 IAmb IAmb 10 11 52.3
comp=Z,120nm,0.9s
RAZG Razgrad 86.94 318 ⇓P **P 10 11 49.6 0.0**
ARR Arges 86.98 320 ⇓P **P 10 11 50.4 +0.5**
ABAH Abaujker 87.05 324 P **P 10 11 49.9 -0.1**
ABAH Abaujker 87.05 324 P **P 10 11 50.5 +0.5**
GLA Glamis 87.07 54 IAmb IAmb 10 11 53.0
comp=Z,180nm,0.8s
GLA Glamis 87.07 54 P **P 10 11 50.8 +0.4**
baz=301,SNR=54
DRGR 87.20 322 ⇓P **P 10 11 51.1 +0.3**
BORG Borgarnes 87.25 352 P **P 10 11 52.3 +1.8**
comp=Z,35nm,1.0s,baz=6.8,slow=2.3,SNR=8.0
comp=Z,35nm,1.0s
BORG Borgarnes 87.25 352 P **P 10 11 51.6 +1.1**
BORG Borgarnes 87.25 352 P **P 10 11 51.6 +1.1**
BORG pmax pmax
comp=Z,116nm,1.4s
GUVIX Guadalupe Vict 87.27 55 IAmb IAmb 10 11 54.1
comp=Z,128nm,0.8s
MSEY Mahe Island 87.28 263 P **P 10 11 51.5 -0.3**
MSEY Mahe Island 87.28 263 P **P 10 11 51.9 +0.1**
MSEY Mahe Island 87.28 263 P **P 10 11 52.1 +0.3**
MSEY Mahe Island 87.28 263 P **P 10 11 51.5 -0.3**
MSEY pmax pmax
comp=Z,113nm,1.4s
HUMR Humele 87.28 320 ⇓P **P 10 11 50.8 -0.4**
KECS Kecovo 87.33 325 *e*P **P 10 11 51.6 +0.3**
KECS Kecovo 87.33 325 *e*P **P 10 11 51.6 +0.3**
KECS pmax pmax
comp=Z,35nm,0.9s
COPA Copaceanca 87.37 319 ⇓P **P 10 11 51.1 -0.4**
LRW Lerwick 87.39 342 *e*P **P 10 11 51.5 +0.2**
LRW IAmb IAmb 10 11 52.4
comp=Z,313nm,1.5s
K22A Casper 87.42 43 P **P 10 11 52.5 +0.4**
baz=305
K22A Casper 87.42 43 P **P 10 11 52.5 +0.4**
baz=305,SNR=14
SZH Strazhica 87.46 318 P **P 10 11 51.0 -1.0**
GHAJ Ghor Haditha 87.47 304 IAmb IAmb 10 11 53.3
comp=Z,111nm,1.0s
BORR Bors 87.51 323 ⇑P **P 10 11 53.2 +1.0**
RWWY Rawlins 87.55 44 IAmb IAmb 10 11 54.0
comp=Z,358nm,1.8s
OKC Ostrava-Krasne 87.63 327 *e*P **P 10 11 52.5 -0.2**
OKC Ostrava-Krasne 87.63 327 *e*P **P 10 11 52.5 -0.2**
DEV Deva 87.64 322 ⇓P **P 10 11 53.7 +0.9**
O20A White River Ci 87.78 45 IAmb IAmb 10 11 55.9
comp=Z,95nm,0.9s
O20A White River Ci 87.78 45 P **P 10 11 53.9 0.0**
baz=304,SNR=53
KSP Ksiaz 87.86 328 *e*P **P 10 11 54.0 +0.3**
KSP *e*PP **PP 10 15 28.0 0.0**
KSP *e*L L 10 54 20.6
comp=Z,227nm,18.3s
RUE Ruedersdorf 87.88 330 *e*P **P 10 11 54.1 +0.3**
VLAD Vladila 87.93 319 ⇓P **P 10 11 54.2 0.0**
MORC Moravsky Berou 87.97 327 ⇓P **P 10 11 54.4 +0.1**
MORC Moravsky Berou 87.97 327 ⇓*i* P **P 10 11 54.4 +0.1**
MORC *e*PP **PP 10 15 28.7 -0.2**
113A Mohawk Valley, 87.98 54 IAmb IAmb 10 11 57.0
comp=Z,100nm,0.9s
PSZ Piszkesteto 87.99 324 ⇑P **P 10 11 55.0 +0.5**
PSZ Piszkesteto 87.99 324 IAmb IAmb 10 11 55.9
comp=Z,122nm,0.9s
PSZ Piszkesteto 87.99 324 P **P 10 11 54.4 -0.2**
PSZ Piszkesteto 87.99 324 P **P 10 11 54.6 +0.1**
GZR Gura Zlata 88.01 321 ⇑P **P 10 11 54.6 -0.1**
RSSD Black Hills 88.02 40 P **P 10 11 55.1 +0.2**
RSSD IAmb IAmb 10 11 57.9
comp=Z,93nm,0.8s
RSSD Black Hills 88.02 40 P **P 10 11 55.3 +0.3**
baz=307
RSSD Black Hills 88.02 40 P **P 10 11 55.0 0.0**
baz=307
RSSD Black Hills 88.02 40 P **P 10 11 55.1 +0.2**
RSSD pmax pmax
comp=Z,93nm,0.8s
SFX San Felipe 88.08 56 IAmb IAmb 10 11 57.5
comp=Z,86nm,0.8s
OSTC Ostas 88.08 328 *e*P **P 10 11 55.2 +0.4**
SIRR Siria 88.09 322 ⇓P **P 10 11 54.8 -0.1**
MAUC Maruska 88.10 326 *e*P **P 10 11 55.3 +0.4**
KRLC Kraliky 88.14 327 *e*P **P 10 11 55.0 -0.1**
KRLC *e*PP **PP 10 15 27.2 -3.1**
KRLC Kraliky 88.14 327 *e*P **P 10 11 55.0 -0.1**
KRLC *e* 10 15 27.2
CHVC Chvalec 88.14 328 *e*P **P 10 11 55.4 +0.3**
MDND Maddock 88.15 36 IAmb IAmb 10 11 58.4
comp=Z,207nm,1.1s
MDND Maddock 88.15 36 P **P 10 11 55.6 +0.4**
baz=310
MDND Maddock 88.15 36 P **P 10 11 55.8 +0.7**
baz=310,SNR=39
SURR Surduc 88.15 322 ⇑P **P 10 11 55.4 +0.2**
PLVB Pleven 88.16 319 ⇓P **P 10 11 55.5 +0.2**
VYHS Vyhne 88.16 325 *e*P **P 10 11 55.4 +0.2**
VYHS *e*PP **PP 10 15 28.8 -1.7**
VYHS Vyhne 88.16 325 *e*P **P 10 11 55.4 +0.2**
VYHS pmax pmax
comp=Z,160nm,0.7s
DPC Dobruska-Polom 88.17 328 *e*P **P 10 11 55.5 +0.2**
DPC Dobruska-Polom 88.17 328 *e*P **P 10 11 55.5 +0.2**
UPC Upice 88.22 328 *e*P **P 10 11 55.6 +0.2**
UPC *e*PP **PP 10 15 31.8 +1.0**
UPC Upice 88.22 328 *e*P **P 10 11 55.6 +0.2**
UPC *e* 10 15 31.8
SRE Strehaia 88.22 320 ⇑P **P 10 11 56.4 +0.9**
PV23 Carpenter Ridg 88.22 47 IAmb IAmb 10 11 58.3
comp=Z,154nm,0.8s
WUAZ Wupatki 88.23 51 P **P 10 11 56.3 +0.3**
baz=302,SNR=37
E28A Huff 88.38 37 P **P 10 11 56.6 +0.3**
baz=309
PV11 David Mesa, Pa 88.39 47 IAmb IAmb 10 11 59.0
comp=Z,115nm,0.8s
ULM Lac du Bonnet 88.42 32 P **P 10 11 56.4 0.0**
comp=Z,36nm,0.9s,baz=308,slow=5.5,SNR=28
comp=Z,36nm,0.9s
PV13 Radium Mtn., P 88.51 47 IAmb IAmb 10 11 59.3
comp=Z,99nm,0.7s
BZS Buzias 88.52 322 ⇑P **P 10 11 56.2 -0.7**
HERR Herculane 88.53 321 ⇓P **P 10 11 56.5 -0.5**
AMBH Ambrzfalva 88.54 323 P **P 10 11 57.9 +0.8**
AMBH Ambrzfalva 88.54 323 P **P 10 11 57.8 +0.8**
DJES Djerdap 88.60 321 ⇓P **P 10 11 57.4 0.0**
KDZ Kurdzhali 88.71 317 P **P 10 11 58.0 +0.1**
BUD Budapest 88.72 324 P **P 10 11 57.9 +0.1**
BUD Budapest 88.72 324 P **P 10 11 58.2 +0.4**
VRAC Vranov 88.74 327 ⇑P **P 10 11 58.7 +0.8**
VRAC Vranov 88.74 327 P **P 10 11 58.3 +0.3**
comp=Z,86nm,0.7s,baz=51,slow=3.9,SNR=81
VRAC PP **PP 10 15 35.3 +0.3**
comp=Z,18nm,1.0s,baz=54,slow=8.0,SNR=5.2
comp=Z,86nm,0.7s
VRAC Vranov 88.74 327 ⇓*i* P **P 10 11 58.2 +0.3**
VRAC *e*PP **PP 10 15 34.7 -0.3**
EIL Elat 88.75 303 P **P 10 11 57.8 -0.5**
comp=Z,38nm,0.9s,baz=3.9,slow=3.1,SNR=7.8
EIL PP **PP 10 15 36.1 +0.3**
comp=Z,39nm,1.2s,baz=285,slow=1.6,SNR=6.0
comp=Z,38nm,0.9s
N23A Red Feather La 88.78 44 IAmb IAmb 10 12 01.5
comp=Z,184nm,0.9s
N23A Red Feather La 88.78 44 P **P 10 11 59.1 +0.5**
baz=306,SNR=118
PHWY Pilot Hill 88.85 43 IAmb IAmb 10 12 01.2
comp=Z,107nm,0.9s
SMOL Smolenice 88.86 326 *e*P **P 10 11 59.6 +1.1**
SMOL pmax pmax
comp=Z,78nm,0.9s
SRO Srobarova 88.87 325 *e*P **P 10 11 59.0 +0.5**
SRO *e*PP **PP 10 15 36.4 +0.4**
SRO Srobarova 88.87 325 *e*P **P 10 11 59.0 +0.5**
SRO pmax pmax
comp=Z,77nm,0.7s
PVCC Panska Ves 88.88 329 *e*P **P 10 11 58.7 +0.2**
PVCC Panska Ves 88.88 329 *e*P **P 10 11 58.7 +0.2**
BRG Berggiesshubel 88.92 329 *i* P **P 10 11 58.7 -0.1**
BRG Amp 10 11 59.7
comp=Z,68nm,0.9s
BRG PP **PP 10 15 35.5 -0.8**
BRG Amp 10 15 39.0
comp=Z,44nm,1.2s
BRG Berggiesshubel 88.92 329 pS pS 10 24 24.0 +3.4
BRG Berggiesshubel 88.92 329 sS sS 10 25 13.0 -6.9
BRG Berggiesshubel 88.92 329 SS SS 10 28 10.0 +0.2
BRG Amp 10 57 35.0
comp=Z,0.5nm,14.2s
BRG Amp 10 57 46.0
comp=N,0.3nm,16.2s
BRG Amp 10 57 59.0
comp=E,0.3nm,14.7s
BRG Berggiesshubel 88.92 329 *i* P **P 10 11 58.6 -0.1**
BRG 10 15 35.5
BRG 10 21 39.0
BRG S **S 10 22 01.0 -2.9**
BRG SP **SP 10 23 11.0 -0.1**
BRG SS **SS 10 28 10.0 +0.2**
BRG pmax pmax
comp=Z,68nm,0.9s
BRG pmax pmax
comp=Z,44nm,1.2s
BRG pmax pmax
comp=Z,533nm,14.2s
PGB Panagyurishte 88.93 318 P **P 10 11 59.0 0.0**
MDVR Moldovita 88.98 321 ⇑P **P 10 11 59.2 0.0**
KRUC Moravsky 89.00 327 ⇓*i* P **P 10 11 59.2 +0.1**
KRUC *e*PP **PP 10 15 36.8 -0.2**
MODS Modra-Piesok 89.03 326 *e*P **P 10 11 59.8 +0.5**
MODS Modra-Piesok 89.03 326 *e*P **P 10 11 59.8 +0.5**
MODS pmax pmax
comp=Z,335nm,1.2s
CLL Collm 89.05 330 IAmb IAmb 10 11 59.9
comp=Z,108nm,1.1s
CLL Collm 89.05 330 ⇓*i* P **P 10 11 58.8 -0.4**
comp=Z,116nm,1.1s
CLL *e*PP **PP 10 15 36.0 -1.3**
CLL *e*PPP PPP 10 17 36.0
CLL *e*pPPP 10 19 00.0
CLL *e*SKSac **SKSac 10 21 38.0 -2.8**
CLL *e*S **S 10 22 04.0 -1.0**
comp=N,800nm,38.4s
CLL *e*S **S 10 22 04.0 -1.0**
comp=E,600nm,29.8s
CLL *e*SP **SP 10 23 06.0 -6.4**
CLL *e*sS **sS 10 25 18.0 -3.1**
CLL *e*SS **SS 10 28 06.0 -5.5**
CLL *e*sSS 10 30 54.0
CLL *e*SSS SSS 10 31 48.0
CLL *e*SSSS 10 35 12.0
CLL *e*PPPrev 10 38 00.0
CLL Collm 89.05 330 ⇓*i* P **P 10 11 58.8 -0.4**
CLL *e* 10 15 36.0
CLL *e* 10 21 38.0
CLL *e*S **S 10 22 04.0 -1.0**
CLL pmax pmax
comp=Z,116nm,1.1s
214A Organ Pipe Nat 89.09 54 IAmb IAmb 10 12 02.6
comp=Z,121nm,0.9s
214A Organ Pipe Nat 89.09 54 P **P 10 12 00.4 +0.4**
baz=302,SNR=61
AKAS Kas 89.10 311 IAmb IAmb 10 11 58.4
comp=Z,93nm,0.8s
SMCO Snowmass 89.13 46 IAmb IAmb 10 12 03.1
comp=Z,132nm,1.1s
CSKK Cskako 89.19 325 P **P 10 11 60.0 -0.1**
CSKK Cskako 89.19 325 P **P 10 12 00.2 +0.1**
GOPC GO Pecny, Ondr 89.20 328 *e*P **P 10 12 00.1 +0.1**
GOPC GO Pecny, Ondr 89.20 328 *e*P **P 10 12 00.1 +0.1**
ZST Bratislava 89.23 326 *e*P **P 10 12 00.8 +0.6**
ZST Bratislava 89.23 326 *e*P **P 10 12 00.8 +0.6**
ZST pmax pmax
comp=Z,451nm,1.6s
MVCO Mesa Verde 89.25 48 IAmb IAmb 10 12 03.1
comp=Z,169nm,1.6s
MVCO Mesa Verde 89.25 48 P **P 10 12 01.8 +1.0**
baz=304,SNR=46
PRU Pruhonice 89.26 328 *e*P **P 10 12 00.1 -0.2**
PRU AMS AMS 10 56 30.0
comp=Z,300nm,16.9s
PRU Pruhonice 89.26 328 *e*P **P 10 12 00.1 -0.2**
PRU MLR MLR
comp=Z,300nm,16.9s
VTS Vitosha 89.44 319 IAmb IAmb 10 12 03.0
comp=Z,88nm,1.0s
MLA1 Latheron 89.54 342 *e*P **P 10 12 01.6 +0.3**
W18A Petrified Fore 89.57 50 IAmb IAmb 10 12 06.0
comp=Z,269nm,1.9s
W18A Petrified Fore 89.57 50 P **P 10 12 03.0 +0.7**
baz=303,SNR=13
ISCO Idaho Springs 89.63 45 IAmb IAmb 10 12 05.2
comp=Z,82nm,0.8s
ISCO Idaho Springs 89.63 45 P **P 10 12 02.9 +0.3**
baz=306
ISCO Idaho Springs 89.63 45 P **P 10 12 02.9 +0.3**
baz=306,SNR=28
EGYH Egyhazaskeszo 89.63 325 P **P 10 12 02.6 +0.5**
EGYH Egyhazaskeszo 89.63 325 P **P 10 12 02.4 +0.4**
MPLH Magyarpolny 89.69 325 P **P 10 12 02.3 0.0**
MPLH Magyarpolny 89.69 325 P **P 10 12 02.0 -0.3**
MORH Mrgy, Hungar 89.74 324 ⇓P **P 10 12 02.3 -0.3**
MORH Mrgy, Hungar 89.74 324 P **P 10 12 02.0 -0.6**
MORH Mrgy, Hungar 89.74 324 P **P 10 12 02.3 -0.3**
X18A Snowflake 89.74 51 IAmb IAmb 10 12 05.7
comp=Z,119nm,1.2s
FRGS Fruska Gora 89.80 322 ⇓*i* P **P 10 12 02.8 -0.1**
SOP Sopron 89.85 326 P **P 10 12 03.5 +0.5**
SOP Sopron 89.85 326 P **P 10 12 03.5 +0.5**
D32A Dogwood Acres, 89.94 35 IAmb IAmb 10 12 05.1
comp=Z,106nm,0.8s
D32B Dogwood Acres, 89.94 35 P **P 10 12 03.3 -0.2**
baz=312
BRIGG Briggsdale 89.97 43 IAmb IAmb 10 12 06.3
comp=Z,27nm,1.0s
RONA Rosalia, Austr 89.97 326 *i* P **P 10 12 04.1 +0.4**
comp=Z,68nm,0.8s,SNR=38
RONA *i* P **PP 10 15 46.8 +2.1**
comp=Z,52nm,1.2s,SNR=5.9
CONA Conrad Observa 90.03 326 *i* P **P 10 12 04.5 +0.5**
comp=Z,47nm,0.7s,SNR=78
CONA *i* P **PP 10 15 46.8 +1.6**
comp=Z,56nm,1.3s,SNR=9.1
S22A 4UR Ranch, Cre 90.04 47 IAmb IAmb 10 12 07.3
comp=Z,131nm,1.1s
S22A 4UR Ranch, Cre 90.04 47 P **P 10 12 04.8 +0.2**
baz=305,SNR=150
NKC Novy Kostel 90.05 329 *e*P **P 10 12 04.1 +0.1**
NKC Novy Kostel 90.05 329 *e*P **P 10 12 04.1 +0.1**
KOVH Kovagotottos 90.11 324 P **P 10 12 03.8 -0.5**
KOVH Kovagotottos 90.11 324 P **P 10 12 04.0 -0.3**
MCD Coleburn Disti 90.12 341 *e*P **P 10 12 03.7 -0.4**
CKRC Cesky Krumlov 90.18 328 *e*P **P 10 12 04.5 -0.1**
CKRC *e*SKS **SKSac 10 21 47.6 +0.1**
LINV Loch Inver, As 90.18 342 *e*P **P 10 12 04.5 +0.2**
LINV IAmb IAmb 10 12 05.1
comp=Z,104nm,1.2s
KHC Kasperske Hory 90.31 328 IAmb IAmb 10 12 06.3
comp=Z,88nm,0.8s
KHC Kasperske Hory 90.31 328 *e*P **P 10 12 05.2 0.0**
KHC *e*PP **PP 10 15 47.8 +0.5**
KHC *e*SKS **SKSac 10 21 48.0 -0.3**
KHC AMS AMS 10 58 40.0
comp=Z,400nm,13.9s
KHC Kasperske Hory 90.31 328 *e*P **P 10 12 05.2 0.0**
KHC *e* 10 15 47.8
KHC *e* 10 21 48.0
KHC MLR MLR
comp=Z,400nm,13.9s
TUC Tucson 90.36 53 P **P 10 12 06.5 +0.6**
TUC IAmb IAmb 10 12 08.5
comp=Z,86nm,0.9s
TUC Tucson 90.36 53 P **P 10 12 06.1 +0.3**
baz=303
TUC Tucson 90.36 53 P **P 10 12 06.5 +0.6**
TUC pmax pmax
comp=Z,86nm,1.0s
DIVS Divibare 90.37 321 ⇓*i* P **P 10 12 05.2 -0.5**
Q24A Divide 90.41 45 IAmb IAmb 10 12 08.5
comp=Z,89nm,0.8s
Q24A Divide 90.41 45 P **P 10 12 06.2 -0.1**
baz=306,SNR=75
GEC2 GERESS Array S 90.45 328 IAmb IAmb 10 12 06.6
comp=Z,89nm,0.9s
GERES GERESS Array B 90.45 328 P **P 10 12 05.6 -0.3**
comp=Z,51nm,0.8s,baz=46,slow=5.8,SNR=165
GERES PP **PP 10 15 47.6 -0.8**
comp=Z,9.8nm,0.8s,baz=54,slow=6.8,SNR=9.9
GERES PKKP **PKKPdf 10 29 23.5 -2.1**
comp=Z,0.3nm,0.3s,baz=176,slow=4.0,SNR=3.8
comp=Z,51nm,0.8s
GERES GERESS Array B 90.45 328 P **P 10 12 05.5 -0.5**
STIP Valandovo 90.62 319 *i* P **P 10 12 05.4 -1.4**
VAY Valandovo 90.62 318 *i* P **P 10 12 06.4 -0.3**
ARSA Arzberg 90.66 326 *i* P **P 10 12 07.0 +0.1**
comp=Z,87nm,1.1s,SNR=30
ARSA *i* P **PP 10 15 49.9 -0.2**
comp=Z,23nm,1.6s,SNR=5.4
SUSD Miller 90.68 38 P **P 10 12 06.6 -0.4**
baz=310
SUSD Miller 90.68 38 P **P 10 12 07.1 +0.1**
baz=310,SNR=20
B35A Bob, Littlefor 90.74 33 IAmb IAmb 10 12 09.0
comp=Z,96nm,1.1s
B35A Bob, Littlefor 90.74 33 P **P 10 12 07.0 -0.2**
baz=314
KOGS Kog 90.83 325 *i* P **P 10 12 07.0 -0.7**
BBLS Lazići 90.84 322 ⇓*i* P **P 10 12 07.7 -0.2**
MOA Molln 90.87 327 *i* P **P 10 12 08.0 +0.2**
comp=Z,62nm,0.7s,SNR=34
MOA *e*P **PP 10 15 48.7 -3.0**
comp=Z,18nm,1.0s
SKO Skopje 90.89 319 *i* P **P 10 12 08.1 +0.1**
SDCO Great Sand Dun 90.90 46 IAmb IAmb 10 12 11.0
comp=Z,126nm,0.9s
SDCO Great Sand Dun 90.90 46 P **P 10 12 09.0 +0.6**
baz=306
SDCO Great Sand Dun 90.90 46 P **P 10 12 09.1 +0.6**
baz=306,SNR=200
EDU Dundee 90.93 341 *e*P **P 10 12 07.8 -0.1**
GRA1 Grafenberg Arr 91.00 330 IAmb IAmb 10 12 09.7
comp=Z,132nm,1.0s
GRFO Grafenberg 91.00 330 P **P 10 12 08.4 +0.1**
GRFO IAmb IAmb 10 12 09.7
comp=Z,136nm,1.0s
GRFO Grafenberg 91.00 330 P **P 10 12 08.4 +0.1**
GRFO pmax pmax
comp=Z,136nm,1.0s
KPL Plockton 91.00 342 *e*P **P 10 12 07.9 -0.2**
KPL IAmb IAmb 10 12 08.9
comp=Z,147nm,1.3s
RUDO Rudo 91.02 321 *e*P **P 10 12 07.7 -0.9**

ATD **Arta Tunnel** 91.09 283 P **P** 10 12 09.6 +0.1
comp=Z,5.9nm,0.2s,baz=57,slow=4.0,SNR=5.8
comp=Z,5.9nm,0.2s
OGNE **Ogallala** 91.13 42 IAmb IAmb 10 12 10.9
comp=Z,98nm,0.8s
OGNE **Ogallala** 91.13 42 P **P** 10 12 08.8 -0.5
baz=308
OGNE **Ogallala** 91.13 42 P **P** 10 12 09.2 -0.1
baz=308,SNR=10
F33A **5 Mile Ranch,** 91.18 36 P **P** 10 12 09.2 -0.1
baz=312
BIOA **Bad Ischl, Aus** 91.28 327 *i* P **P** 10 12 09.7 0.0
comp=Z,111nm,1.3s,SNR=25
SOKA **Soboth** 91.29 326 *i* P **P** 10 12 09.7 -0.2
comp=Z,97nm,1.0s,SNR=54
SOKA *eP* **PP** 10 15 54.8 -0.3
comp=Z,10nm,0.9s
INVG **Invergeldie, C** 91.33 341 *e*P **P** 10 12 09.0 -0.7
ESY **Stoneypath** 91.34 340 *e*P **P** 10 12 09.6 -0.2
BLY **Banja Luka** 91.48 323 ⇓*i*P **P** 10 12 10.4 -0.2
UPM **Unac-Piva** 91.55 321 *e*P **P** 10 12 10.1 -1.2
EBL **Broad Law** 91.59 340 *e*P **P** 10 12 10.9 -0.1
EAB **Aberfoyle** 91.62 341 *e*P **P** 10 12 11.0 0.0
OBKA **Obir** 91.65 326 ⇓*i*P **P** 10 12 10.7 -0.8
OBKA **Obir** 91.65 326 *i* P **P** 10 12 11.0 -0.6
comp=Z,44nm,0.8s,SNR=16
OBKA *i* P **PP** 10 15 58.0 +0.1
comp=Z,67nm,1.5s,SNR=6.3
CRES **Cresnjev** 91.66 325 ⇓*i*P **P** 10 12 10.9 -0.6
MGRS **Mrkonjic Grad** 91.75 323 ⇓*i*P **P** 10 12 12.3 +0.3
OHR **Ohrid** 91.80 319 *i* P **P** 10 12 11.8 -0.5
PDG **Podgorica** 91.85 320 ⇑P **P** 10 12 11.9 -0.5
KBA **Koelnbreinsper** 91.85 327 *i* P **P** 10 12 11.9 -0.6
comp=Z,31nm,0.7s,SNR=35
KBA *i* P **PP** 10 15 57.6 -1.9
comp=Z,66nm,1.1s,SNR=5.4
LAWE **Loch Awe, Argy** 91.87 342 *e*P **P** 10 12 11.3 -0.8
LAWE IAmb IAmb 10 12 12.8
comp=Z,39nm,1.0s
BRY **Bratogost** 91.95 321 ⇓*i*P **P** 10 12 12.0 -1.1
KSCO **Kaye Shedlock'** 91.95 44 IAmb IAmb 10 12 15.9
comp=Z,173nm,1.5s
KSCO **Kaye Shedlock'** 91.95 44 P **P** 10 12 14.0 +0.9
baz=308
KSCO **Kaye Shedlock'** 91.95 44 P **P** 10 12 13.1 -0.1
baz=308,SNR=10
T25A **Trinidad** 91.95 46 P **P** 10 12 13.9 +0.6
baz=307,SNR=103
K31A **O'Neill** 91.97 39 P **P** 10 12 12.9 -0.1
baz=310
BOJS **Bojanci** 91.98 325 ⇓*i*P **P** 10 12 12.5 -0.5
LJU **Ljubljana** 91.98 325 *i* P **P** 10 12 12.2 -0.7
LJU *e*PP **PP** 10 15 59.8 -0.6
A050A **Klekovaca** 92.00 323 ⇓*i*P **P** 10 12 12.8 -0.4
HSIG 92.01 56 IAmb IAmb 10 12 15.9
comp=Z,88nm,1.0s
MYKA **Terra Mystica** 92.02 326 *i* P **P** 10 12 12.0 -1.2
comp=Z,54nm,0.5s,SNR=32
MYKA *e*P **PP** 10 15 57.7 -3.0
comp=Z,36nm,1.3s
ESK **Eskdalemuir** 92.03 340 *e*P **P** 10 12 11.9 -1.1
DRME **Dracevica, Mon** 92.05 320 ⇓*i*P **P** 10 12 12.9 -0.4
Y22D **IRIS PASSCAL I** 92.08 50 IAmb IAmb 10 12 16.6
comp=Z,97nm,0.8s
Y22D **IRIS PASSCAL I** 92.08 50 P **P** 10 12 15.0 +1.2
baz=305
Y22D **IRIS PASSCAL I** 92.08 50 P **P** 10 12 14.6 +0.8
baz=305,SNR=14
Y22F **Passcal Instru** 92.08 50 P **P** 10 12 14.8 +1.0
baz=305,SNR=14
EYMN **Ely** 92.09 32 IAmb IAmb 10 12 15.1
comp=Z,84nm,1.1s
EYMN **Ely** 92.09 32 P **P** 10 12 13.2 -0.2
baz=316
EYMN **Ely** 92.09 32 P **P** 10 12 13.4 0.0
baz=316,SNR=14
Y22A **Socorro** 92.12 50 P **P** 10 12 14.9 +0.8
baz=305
TREB **Trebinje** 92.18 321 *e*P **P** 10 12 12.9 -1.0
CEY **Cerknica** 92.24 325 ⇓*i*P **P** 10 12 13.3 -0.9
CEY **Cerknica** 92.24 325 *i* P **P** 10 12 13.4 -0.8
CEY *e*PP **PP** 10 16 01.8 -0.6
HCY **Herceg Novi** 92.27 321 ⇓*i*P **P** 10 12 13.3 -1.1
121A **Cookes Peak, D** 92.35 52 P **P** 10 12 16.7 +1.5
baz=304
121A **Cookes Peak, D** 92.35 52 P **P** 10 12 16.2 +1.0
baz=304,SNR=49
ECSD **EROS Data Cent** 92.42 37 IAmb IAmb 10 12 16.6
comp=Z,86nm,1.1s
ECSD **EROS Data Cent** 92.42 37 P **P** 10 12 14.8 -0.3
baz=312
ECSD **EROS Data Cent** 92.42 37 P **P** 10 12 14.9 -0.1
baz=312,SNR=36
STON **Ston** 92.44 322 ⇓*i*P **P** 10 12 12.6 -2.5
ABTA **Abfaltersbach** 92.49 327 *i* P **P** 10 12 14.1 -1.3
comp=Z,66nm,0.7s,SNR=30
ABTA *e*P **PP** 10 16 05.0 +0.7
comp=Z,14nm,1.0s
SABO **M.te Sabotino** 92.49 326 IAmb IAmb 10 12 15.1
comp=Z,57nm,0.7s
BTNL **Ternell** 92.52 333 *d*P **P** 10 12 14.6 -0.8
comp=Z,17nm,1.0s
WATA **Walderalm** 92.52 328 *i* P **P** 10 12 14.9 -0.7
comp=Z,28nm,0.6s,SNR=8.3
WATA *e*P **PP** 10 16 03.4 -1.2
comp=Z,26nm,1.1s
WTTA **Wattenberg** 92.55 328 *i* P **P** 10 12 14.9 -0.8
comp=Z,34nm,0.6s,SNR=17
WTTA *e*P **PP** 10 16 04.1 -0.7
comp=Z,45nm,1.7s
MEM **Membach** 92.55 333 *d*P **P** 10 12 14.5 -1.0
STU **Stuttgart** 92.58 330 IAmb IAmb 10 12 16.5
comp=Z,116nm,1.1s
F36A **Milaca** 92.58 34 P **P** 10 12 15.5 -0.1
baz=314
HPK **Haverah Park** 92.67 338 *e*P **P** 10 12 15.8 -0.2
STAL **STALIGIAL** 92.74 326 IAmb IAmb 10 12 15.9
comp=Z,72nm,0.7s
MOTA **Moosalm** 92.74 328 *i* P **P** 10 12 15.9 -0.7
comp=Z,35nm,0.6s,SNR=11
MOTA *e*P **PP** 10 16 04.7 -1.6
comp=Z,40nm,1.3s
BHOU **Houvegnez** 92.75 333 *d*P **P** 10 12 16.4 0.0
BSTI **Sart Tilman** 92.75 333 *d*P **P** 10 12 16.1 -0.3
SQTA **Sankt Quirin** 92.78 328 *i* P **P** 10 12 16.3 -0.5
comp=Z,37nm,0.6s,SNR=12
SQTA *e*P **PP** 10 16 08.7 +2.1
comp=Z,12nm,0.7s
IDI **Anoyia** 92.78 312 ⇑P **P** 10 12 15.5 -1.5
IDI **Anoyia** 92.78 312 P **P** 10 12 15.5 -1.5
comp=Z,13nm,0.4s,baz=34,slow=8.8,SNR=24
comp=Z,13nm,0.4s
RETA **Reutte** 92.80 328 *i* P **P** 10 12 16.4 -0.3
comp=Z,24nm,0.7s,SNR=13
RETA *e*P **PP** 10 16 06.9 +0.3
comp=Z,19nm,1.4s
CIMO **Cimolais** 92.84 327 IAmb IAmb 10 12 15.8
comp=Z,33nm,0.7s
GAL1 **Galloway** 92.87 340 *e*P **P** 10 12 15.8 -1.0
GAL1 IAmb IAmb 10 12 17.7
comp=Z,60nm,1.2s
BCLA **Clavier** 92.99 333 *d*P **P** 10 12 16.7 -0.7
BCLA *d*PcP **PcP** 10 12 17.1 -0.7
E38A **The Farm, Brul** 93.02 33 IAmb IAmb 10 12 19.0
comp=Z,71nm,0.9s
E38A **The Farm, Brul** 93.02 33 P **P** 10 12 17.4 -0.3
baz=316
BGNE **Belgrade** 93.10 40 IAmb IAmb 10 12 19.8
comp=Z,92nm,0.8s
BGNE **Belgrade** 93.10 40 P **P** 10 12 17.9 -0.3
baz=311
BGNE **Belgrade** 93.10 40 P **P** 10 12 17.3 -0.9
baz=311,SNR=8.4
BGES **Gesves** 93.10 333 *d*P **P** 10 12 17.2 -0.8
FETA **Feichten** 93.15 328 *i* P **P** 10 12 18.1 -0.4
comp=Z,50nm,1.0s,SNR=16
FETA *e*P **PP** 10 16 10.4 +0.9
comp=Z,16nm,1.3s
LBWR **Ladybower, Pea** 93.17 338 *e*P **P** 10 12 17.4 -0.8
WLF **Walferdange** 93.22 332 IAmb IAmb 10 12 19.8
comp=Z,94nm,1.1s
WLF **Walferdange** 93.22 332 *d*P **P** 10 12 18.9 +0.3
comp=Z,45nm,1.2s
RCHB **Rochefort** 93.22 333 *d*P **P** 10 12 18.0 -0.5
comp=Z,34nm,0.9s
BFO **Black Forest** 93.29 330 P **P** 10 12 18.4 -0.6
BFO IAmb IAmb 10 12 19.6
comp=Z,114nm,1.2s
BFO **Black Forest** 93.29 330 P **P** 10 12 18.4 -0.6
BFO pmax pmax
comp=Z,113nm,1.2s
BMRD **Maredsous** 93.29 333 *d*P **P** 10 12 18.5 -0.4
SNF **Seneffe** 93.33 333 *d*P **P** 10 12 18.6 -0.3
DAVA **Damuels** 93.36 329 *i* P **P** 10 12 19.0 -0.4
comp=Z,83nm,1.1s,SNR=18
DAVA *e*P **PP** 10 16 11.3 +0.3
comp=Z,22nm,1.1s
SPMN **Marine on St.** 93.39 34 IAmb IAmb 10 12 21.0
comp=Z,78nm,0.9s
SPMN **Marine on St.** 93.39 34 P **P** 10 12 19.6 +0.2
baz=315
SPMN **Marine on St.** 93.39 34 P **P** 10 12 18.8 -0.6
baz=315,SNR=25
DOU **Dourbes** 93.52 333 *d*P **P** 10 12 19.1 -0.8
ITM **Ithomi** 93.56 315 IAmb IAmb 10 12 19.6
comp=Z,51nm,0.7s
FUORN **Ofenpass-Fuorn** 93.66 328 IAmb IAmb 10 12 21.8
comp=Z,82nm,0.8s
DAVOX **Davos/Dischmat** 93.73 328 P **P** 10 12 20.9 -0.3
comp=Z,47nm,0.6s,baz=40,slow=2.1,SNR=50
DAVOX PP **PP** 10 16 10.6 -3.4
comp=Z,5.1nm,0.5s,baz=198,slow=6.8,SNR=3.3
comp=Z,47nm,0.6s
L34A **Svendsen Farm,** 93.73 39 P **P** 10 12 20.8 -0.3
baz=312
GMM **Mts of Mourne** 93.78 341 *e*P **P** 10 12 20.5 -0.4
CBKS **Cedar Bluff** 93.84 43 IAmb IAmb 10 12 22.6
comp=Z,80nm,0.9s
CBKS **Cedar Bluff** 93.84 43 P **P** 10 12 21.2 -0.4
baz=310
CBKS **Cedar Bluff** 93.84 43 P **P** 10 12 20.8 -0.9
baz=310,SNR=12
I37A **Lemond, Waseca** 93.93 36 IAmb IAmb 10 12 23.9
comp=Z,119nm,1.1s
I37B **Waseca** 93.93 36 P **P** 10 12 21.9 0.0
baz=314
FOEL **Foel Wylfa** 94.08 339 *e*P **P** 10 12 20.9 -1.5
D41A **Chassel** 94.09 31 IAmb IAmb 10 12 24.4
comp=Z,144nm,1.5s
D41A **Chassel** 94.09 31 P **P** 10 12 23.3 +0.7
baz=318
TUE **Stuetta** 94.20 328 IAmb IAmb 10 12 24.0
comp=Z,126nm,1.6s
SALO **Salr** 94.27 327 IAmb IAmb 10 12 23.6
comp=Z,59nm,0.9s
MATE **Matera** 94.46 320 ⇑P **P** 10 12 24.3 0.0
G40A **Rib Lake** 94.64 33 IAmb IAmb 10 12 26.7
comp=Z,49nm,0.8s
G40A **Rib Lake** 94.64 33 P **P** 10 12 24.9 -0.3
baz=317
R32A **Long Quarter,** 94.71 42 P **P** 10 12 25.5 -0.1
baz=310
MCH1 **Michaelchurch** 94.77 338 *e*P **P** 10 12 24.6 -0.9
MCH1 IAmb IAmb 10 12 26.7
comp=Z,470nm,1.9s
N35A **Tabor** 94.88 39 IAmb IAmb 10 12 28.4
comp=Z,57nm,1.0s
N35A **Tabor** 94.88 39 P **P** 10 12 26.6 +0.3
baz=312
MSTX **Muleshoe** 94.92 48 P **P** 10 12 26.9 +0.1
baz=307
NRCA **Norcia** 94.94 324 IAmb IAmb 10 12 27.7
comp=Z,42nm,0.8s
CAMP **Campotosto** 94.99 323 IAmb IAmb 10 12 27.8
comp=Z,49nm,0.9s
AMTX **Amarillo** 95.08 47 IAmb IAmb 10 12 29.7
comp=Z,49nm,1.1s
AMTX **Amarillo** 95.08 47 P **P** 10 12 28.0 +0.6
baz=308
AMTX **Amarillo** 95.08 47 P **P** 10 12 28.0 +0.6
baz=308
AQU **L'Aquila** 95.12 323 IAmb IAmb 10 12 28.7
comp=Z,82nm,0.9s
K38A **Parkersburg** 95.21 36 IAmb IAmb 10 12 29.3
comp=Z,78nm,1.3s
SENIN **Lac Senin/Sane** 95.23 329 IAmb IAmb 10 12 28.2
comp=Z,62nm,0.7s
PAOL **Paolisi** 95.40 322 IAmb IAmb 10 12 28.9
comp=Z,51nm,1.2s
TIP **Timpagrande** 95.41 319 ⇑P **P** 10 12 29.3 +0.5
I40A **Norwalk** 95.43 34 IAmb IAmb 10 12 30.2
comp=Z,58nm,1.3s
I40A **Norwalk** 95.43 34 P **P** 10 12 28.5 -0.2
baz=316
SCIA **State Center** 95.49 37 IAmb IAmb 10 12 31.0
comp=Z,54nm,0.7s
SCIA **State Center** 95.49 37 P **P** 10 12 29.0 0.0
baz=314
KSU1 **Kansas State U** 95.50 41 IAmb IAmb 10 12 30.3
comp=Z,55nm,0.9s
KSU1 **Kansas State U** 95.50 41 P **P** 10 12 28.4 -0.8
baz=312
KSU1 **Kansas State U** 95.50 41 P **P** 10 12 28.7 -0.5
baz=312,SNR=18
SLBS **Sierra La Lagu** 95.64 60 P **P** 10 12 30.0 -0.1
SLBS IAmb IAmb 10 12 33.0
comp=Z,27nm,0.8s
ELIS **Ellis County** 95.78 45 IAmb IAmb 10 12 32.7
comp=Z,91nm,1.2s
OK035 **EQ10 Rd and N** 95.81 44 IAmb IAmb 10 12 32.3
comp=Z,40nm,1.1s
U32A **Winter Ranch,** 95.84 44 IAmb IAmb 10 12 32.6
comp=Z,56nm,1.3s
U32A **Winter Ranch,** 95.84 44 P **P** 10 12 31.2 +0.4
baz=310
OK038 **West end E0370** 95.94 44 IAmb IAmb 10 12 33.0
comp=Z,52nm,1.2s
OK032 **Salt Plains WL** 96.05 43 IAmb IAmb 10 12 33.4
comp=Z,74nm,1.4s
CLF **Chambon-Foret** 96.10 333 IAmb IAmb 10 16 31.4
comp=Z,85nm,1.2s
KAN17 **Caldwell West** 96.17 43 IAmb IAmb 10 12 34.6
comp=Z,96nm,1.7s
N38A **Joes South For** 96.26 38 IAmb IAmb 10 12 34.0
comp=Z,49nm,1.0s
N38A **Joes South For** 96.26 38 P **P** 10 12 33.0 +0.5
baz=314
I42A **Draeger Farm,** 96.28 33 IAmb IAmb 10 12 34.0
comp=Z,32nm,0.9s
JFWS **Jewell Farm** 96.32 35 P **P** 10 12 32.7 -0.1
baz=316
L40A **Anamosa** 96.44 36 IAmb IAmb 10 12 34.6
comp=Z,56nm,1.1s
L40A **Anamosa** 96.44 36 P **P** 10 12 32.9 -0.4
baz=316
E46A **Sault Ste Mari** 96.52 29 IAmb IAmb 10 12 35.2
comp=Z,48nm,1.1s
BLOK **Blackwell** 96.69 43 IAmb IAmb 10 13 51.6
comp=Z,55nm,1.1s
P38A **Dawn** 96.90 39 P **P** 10 12 35.4 0.0
baz=314
WMOK **Wichita Mounta** 97.03 45 P Pdif 10 12 36.6 +0.4
baz=310
WMOK **Wichita Mounta** 97.03 45 Pdiff **P** 10 12 36.1 0.0
baz=310
OK048 **Pawnee Station** 97.08 43 IAmb IAmb 10 12 38.7
comp=Z,101nm,1.9s
TX31 **Lajitas Ar. Si** 97.08 52 P Pdif 10 12 37.3 +0.7
baz=306
TX32 **Lajitas Array** 97.08 52 IAmb IAmb 10 12 38.9
comp=Z,43nm,0.8s
TXAR **Lajitas Array** 97.08 52 P Pdif 10 12 37.1 +0.5
comp=Z,32nm,0.7s,baz=307,slow=2.3,SNR=260
TXAR pP pP 10 14 28.8 +1.4
comp=Z,8.8nm,1.1s,baz=309,slow=4.3,SNR=3.8
TXAR PP **PP** 10 16 38.1 -2.1
comp=Z,8.9nm,0.8s,baz=288,slow=5.1,SNR=8.6
comp=Z,32nm,0.7s
L42A **Oliver, Polo** 97.28 35 P **P** 10 12 36.9 -0.2
baz=317
QUOK **Quay** 97.38 43 IAmb IAmb 10 12 41.3
comp=Z,25nm,1.2s
GLMI **Grayling** 97.58 30 Pdiff Pdif 10 12 38.1 -0.3
baz=321
P40A **Paris** 97.79 38 P Pdif 10 12 39.2 -0.2
baz=315
ABTX **Abilene, Hawle** 97.81 47 IAmb IAmb 10 16 45.0
comp=Z,60nm,1.4s
ABTX **Abilene, Hawle** 97.81 47 Pdiff Pdif 10 12 39.6 -0.1
baz=309
TUL1 **Leonard** 98.11 43 Pdiff Pdif 10 12 40.6 -0.3
baz=312
HDIL **Hopedale** 98.53 36 Pdiff Pdif 10 12 42.4 -0.3
baz=317
R40A **Maddies Statio** 98.54 39 P Pdif 10 12 42.0 -0.8
baz=315
JCT **Junction City** 99.05 49 P **Pdif** 10 12 45.5 +0.2
baz=309
JCT **Junction City** 99.05 49 Pdiff **Pdif** 10 12 44.7 -0.6
baz=309
CCM **Cathedral Cave** 99.28 39 P **Pdif** 10 12 46.1 0.0
baz=315
CCM **Cathedral Cave** 99.28 39 Pdiff **Pdif** 10 12 45.9 -0.2
baz=315
WHTX **Lake Whitney,** 99.64 47 Pdiff **Pdif** 10 12 47.3 -0.4
baz=310
SFIN **Lafayette** 99.79 35 Pdiff **Pdif** 10 12 48.2 -0.1
baz=319
435B **Jarrell** 100.33 48 Pdiff **Pdif** 10 12 50.4 -0.5
baz=310
MIAR **Mount Ida** 100.37 42 P **Pdif** 10 12 50.4 -0.6
baz=313
MIAR **Mount Ida** 100.37 42 Pdiff **Pdif** 10 12 50.5 -0.5
baz=313
833A **Chaparral WMA,** 100.67 51 Pdiff **Pdif** 10 12 52.0 -0.4
baz=309
O48B **Farmland** 100.85 34 Pdiff **Pdif** 10 12 52.9 -0.1
baz=320
P49A **Miami Univ. Ec** 101.62 34 Pdiff **Pdif** 10 12 56.2 -0.3
baz=320
KIBK **Kibwezi** 101.73 273 P **Pdif** 10 12 57.2 -0.3
KMBO **Kilima Mbogo** 101.89 275 P **Pdif** 10 12 58.4 0.0
comp=Z,0.9nm,0.4s,baz=20,slow=5.8,SNR=5.9
KMBO **Kilima Mbogo** 101.89 275 P **Pdif** 10 12 58.4 0.0
ACSO **Alum Creek Sta** 101.92 32 Pdiff **Pdif** 10 12 57.1 -0.6
baz=322
KEST **Kesra** 102.04 321 P **Pdif** 10 12 58.6 +0.1
comp=Z,6.5nm,0.7s,baz=345,slow=12,SNR=5.4
VOI **Vohitsoka** 102.43 252 P **Pdif** 10 12 59.6 -0.8
P52A **Corning** 102.79 32 Pdiff **Pdif** 10 13 01.0 -0.7
baz=322
SSPA **Standing Stone** 103.90 29 Pdiff **Pdif** 10 13 06.0 -0.5
baz=326
L61B **Northampton** 104.44 24 Pdiff **Pdif** 10 13 08.8 -0.1
baz=330
TZTN **Tazewell** 104.51 35 Pdiff **Pdif** 10 13 09.3 -0.1
baz=321
MVO **Moncorvo** 105.47 335 *e*PP **PP** 10 17 40.9 -0.7
ESDC **Sonseca Array** 105.52 332 Pdiff **Pdif** 10 13 15.3 -0.3
comp=Z,1.0nm,0.9s,baz=24,slow=4.5,SNR=2.6
ESDC PKiKP **PKiKP** 10 17 24.9 +0.8
comp=Z,3.5nm,0.9s,baz=22,slow=7.1,SNR=8.4
PVIS **Viseu** 106.19 335 *e*PP PP 10 17 37.0 -10
MTE **Manteigas** 106.33 335 *e*PP **PP** 10 17 47.8 0.0
PCBR **Castelo Branco** 106.79 334 *e*PP **PP** 10 17 44.1 -6.9
PESTR **Estremoz** 107.68 334 *e*PP **PP** 10 17 56.9 -0.6
PMTG **Montargil** 107.75 335 *e*PP **PP** 10 17 53.0 -4.9
PBAR **Barrancos** 108.05 333 *e*PP **PP** 10 17 56.5 -3.7
PACT **Alcochete** 108.24 335 *e*PP PP 10 17 47.1 -14
PBEJ **Beja** 108.51 334 *e*PP **PP** 10 18 02.5 -1.0
PNCL **Nicolau / Gran** 108.70 334 *e*PP **PP** 10 18 02.4 -2.4
MORF **Marmelete** 109.45 334 *e*PP **PP** 10 18 06.8 -3.4
QSPA **South Pole Qui** 116.93 180 **PKPdf** 10 17 44.3 -0.5
LBTB **Lobatse** 121.69 256 PKPdf **PKiKP** 10 17 55.4 -0.1
LBTB **Lobatse** 121.69 256 PKiKP **PKiKP** 10 17 55.4 -0.1
JTS **Las Juntas de** 122.65 56 **PKPdf** 10 17 57.2 -0.2
JTS **Las Juntas de** 122.65 56 PKiKP **PKPdf** 10 17 57.2 -0.2
BOSA **Boshof** 123.00 252 PKP **PKPdf** 10 17 57.6 -0.1
comp=Z,7.2nm,0.7s,baz=103,slow=1.7,SNR=16
BOSA PKKPab **PKKPab** 10 27 53.6 +2.3
comp=Z,9.2nm,1.0s,baz=98,slow=0.6,SNR=7.0
BOSA **Boshof** 123.00 252 PKPdf **PKiKP** 10 17 58.0 0.0
BOSA **Boshof** 123.00 252 PKiKP **PKiKP** 10 17 58.0 0.0
TORD **Torodi Ar. Bea** 123.08 309 PKP **PKPdf** 10 17 56.1 -2.0
comp=Z,15nm,0.6s,baz=11,slow=3.0,SNR=56
TSUM **Tsumeb** 126.89 266 PKPdf **PKiKP** 10 18 05.8 -0.2
NVL **N'lazarevskaya** 127.66 199 ⇑*i*PKiKP **PKiKP** 10 18 10.6 +4.8
NVL pmax pmax
comp=Z,13nm,1.0s
TROLL **Troll, Antarti** 129.48 196 PKPdf **PKPdf** 10 18 09.0 +0.2
SNAA **Sanae** 130.96 195 PKPdf **PKPdf** 10 18 11.3 -0.2
DBIC **Dimbokro** 132.19 310 PKhKP PKPpre 10 18 10.7
comp=Z,3.7nm,0.6s,baz=105,slow=1.7,SNR=6.5
DBIC PKP **PKPdf** 10 18 15.8 +0.2
comp=Z,19nm,0.7s,baz=70,slow=1.2,SNR=19
DBIC SKPbc **SKPbc** 10 20 55.8 +0.7
comp=Z,121nm,0.8s,baz=55,slow=3.9,SNR=39
TIC **Toumoli** 132.32 310 ⇑*i*PKiKP **PKiKP** 10 18 16.9 -0.1
comp=Z,9.2nm,0.3s
KIC **Kosan Boka** 132.33 309 ⇓*i*PKiKP **PKiKP** 10 18 17.3 +0.3
comp=Z,18nm,0.5s
VNA2 **Neumayer--Watz** 132.51 194 PKPdf **PKiKP** 10 18 15.5 -0.1
baz=122,slow=2.2
LIC **Lamto** 132.63 309 ⇑*i*PKiKP **PKPdf** 10 18 16.7 +0.3
comp=Z,39nm,0.6s
VNA3 **Neumayer Olymp** 132.73 193 PKPdf **PKiKP** 10 18 15.7 -0.4
VNA1 **Neumayer--Stat** 132.91 194 PKPdf **PKPdf** 10 18 15.5 +0.4
SDV **Santo Domingo** 133.44 44 PKhKP PKPpre 10 18 10.7
baz=253,slow=2.6
SDV PKP **PKPdf** 10 18 18.8 +0.6
baz=9.7,slow=0.2
SDV SKPbc **SKPbc** 10 20 59.7 +0.1
comp=Z,120nm,0.9s,baz=315,slow=2.7,SNR=31
PCRV **Puerto La Cruz** 135.84 36 SKPbc **SKPbc** 10 21 05.8 -1.0
comp=Z,33nm,1.1s,baz=305,slow=2.4,SNR=4.0
ATAH **Atahualpa** 138.47 68 PKhKP PKPpre 10 18 21.1
comp=Z,18nm,1.0s,baz=350,slow=3.6,SNR=7.4
ATAH SKP 10 21 14.6
comp=Z,84nm,1.1s,baz=286,slow=2.4,SNR=22
NNA **Nana** 142.28 74 PKhKP PKPpre 10 18 30.5
comp=Z,34nm,0.4s,baz=338,slow=4.1,SNR=24
NNA SKPbc **SKPbc** 10 21 23.5 -0.8
comp=Z,85nm,0.9s,baz=284,slow=5.5,SNR=14
BOAV **Boa Vista** 144.55 37 PKPbc 10 18 36.6 -1.4
MDP **Montagnes des** 145.66 23 PKPbc **PKPab** 10 18 42.0 -0.6
baz=332,slow=4.0
MDP SKPbc **SKiKP** 10 21 32.7 0.0
comp=Z,62nm,0.9s,baz=321,slow=2.4,SNR=10.0
H10N2 **ASCENSION HYDR** 149.13 304 PKPbc **PKiKP** 10 18 51.1 +0.1
baz=319,slow=76,SNR=3.9
H10N1 **ASCENSION HYDR** 149.14 304 PKPbc **PKiKP** 10 18 51.1 +0.1
baz=319,slow=76,SNR=7.3
H10N3 **ASCENSION HYDR** 149.15 304 PKPbc **PKiKP** 10 18 51.7 +0.7
baz=319,slow=76,SNR=4.5
PLCA **Paso Flores** 151.40 126 PKP **PKPdf** 10 18 48.7 +0.3
comp=Z,4.7nm,1.0s,baz=210,slow=2.7,SNR=13
PLCA PKPbc **PKiKP** 10 18 55.8 +0.4
comp=Z,66nm,0.6s,baz=230,slow=3.2,SNR=118
PLCA PKPab **PKPab** 10 19 07.1 +1.4
comp=Z,45nm,0.9s,baz=228,slow=5.0,SNR=12
LPAZ **La Paz** 151.75 73 PKP **PKPdf** 10 18 51.1 +0.8
comp=Z,51nm,1.1s,baz=354,slow=2.6,SNR=11
LPAZ PKPbc **PKiKP** 10 18 58.0 +0.5
comp=Z,109nm,0.8s,baz=352,slow=4.3,SNR=135
EFI **East Falkland** 151.96 156 PKPdf **PKPdf** 10 18 49.3 +0.5
EFI **PKiKP** 10 18 56.8 +0.8
EFI PKPab **PKPab** 10 19 08.3 +0.8
EFI **East Falkland** 151.96 156 PKiKP **PKPdf** 10 18 49.3 +0.5
VA05 **Santo Domingo** 152.02 111 **PKiKP** 10 18 57.0 +0.2
LCO **Las Campanas** 152.85 101 **PKiKP** 10 19 00.1 +1.1
LCO PKPab **PKPab** 10 19 14.6 +2.1
LCO **Las Campanas** 152.85 101 PKP2 **PKPab** 10 19 14.6 +2.1
CO03 **El Pedregal** 152.92 105 **PKiKP** 10 18 59.0 +0.1
LVC **Limon Verde** 153.38 87 PKP **PKPdf** 10 18 53.9 +1.7
comp=Z,7.8nm,0.9s,baz=257,slow=0.9,SNR=6.1
LVC PKPbc **PKiKP** 10 19 01.2 +0.8
comp=Z,39nm,0.9s,baz=276,slow=3.1,SNR=21
LVC PKPab **PKPab** 10 19 16.7 +1.8
comp=Z,78nm,0.8s,baz=316,slow=3.9,SNR=5.6
TMAB **Tom-Au,PA,Br** 154.15 19 *e*P **PKPab** 10 19 20.4 +2.6
CFA **Coronel Fontan** 155.00 107 PKP **PKPdf** 10 18 55.5 +1.7
comp=Z,2.4nm,0.6s,baz=250,slow=3.1,SNR=7.6
CFA PKPbc PKPbc 10 19 03.7
comp=Z,7.6nm,0.8s,baz=268,slow=4.2,SNR=4.8
CFA PKPab **PKPab** 10 19 22.1 +0.8
comp=Z,44nm,0.7s,baz=262,slow=4.4,SNR=33
SIV **San Ignacio** 157.48 65 PKP **PKPdf** 10 18 58.1 +0.7
comp=Z,1.1nm,1.0s,baz=338,slow=0.7,SNR=28
SIV PKPab **PKPab** 10 19 31.6 -0.7
comp=Z,120nm,0.9s,baz=306,slow=4.2,SNR=62
TRQA **Tornquist** 158.56 126 PKPab **PKPab** 10 19 38.1 +1.7
TRQA **Tornquist** 158.56 126 PKP2 **PKPab** 10 19 38.2 +1.7
PTLB **Pontes e Lacer** 158.70 61 PKPab **PKPab** 10 19 37.8 +0.2
CPUP **Villa Florida** 164.46 91 PKP **PKPdf** 10 19 04.8 +0.4
comp=Z,8.5nm,0.9s,baz=355,slow=1.7,SNR=17
CPUP PKPab **PKPab** 10 20 03.0 +0.2
comp=Z,47nm,0.9s,baz=291,slow=4.4,SNR=36
CPUP **Villa Florida** 164.46 91 **PKPdf** 10 19 05.1 +0.7
CPUP PKPab **PKPab** 10 20 03.9 +1.1
BDFB **Brasilia** 166.31 35 PKP **PKPdf** 10 19 05.6 -0.8

comp=Z,1.4nm,0.5s,baz=24,slow=5.6,SNR=4.0
BDFB PKPab **PKPab 10 20 11.0 +0.1**
comp=Z,23nm,0.8s,baz=323,slow=3.3,SNR=22
IPMB Ipameri, GO 168.11 42 *eP* PKPab 10 20 09.8 -9.1
ITAB Concordia 169.17 93 PKPab **PKPab 10 20 24.2 +0.6**
RCLB Rio Claro- Sao 171.66 57 *eP* **PKPab 10 20 35.0 +0.3**
VAO Valinhos 172.42 58 *eP* **PKPab 10 20 38.2 +0.1**

JMA 23 10:00:16.3±0.3, 37°3N±0.5′×14°1E±°, h26km±2km, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMST	**Minamisoumatoc**	**0.60**	**314**	P	Pb	10 00 27.8	-0.4
JMST				*eS*	Sb	10 00 36.5	+0.2
JMM	**Marumori**	**0.75**	**318**	*eP*	Pb	10 00 30.2	-0.5
JOU	**Okura**	**1.22**	**330**	P	Pb	10 00 38.4	-0.3

*IDC **23** 10:03:14.7±4.1, 38°.25N×44°.10E, h0km, mb3.7/3, mbtmp3.5/5, ML2.7/1, MS3.6/8, Error ellipse: s-maj=59.8km s-min=14.9km az=138.0*
*NSSP **23** 10:03:14.8, 38°.45N×44°.00E, h11km, Ms4.0*
*ISK **23** 10:03:15.4, 38°.52N×43°.87E, h5km, ML4.2/25*
*DDA **23** 10:03:16.7±0.0, 38°.48N×43°.95E, h12km±2km, MW4.1*
*TEH **23** 10:03:17.7, 38°.51N×43°.75E, h12km, ML3.8*
*AZER **23** 10:03:20.2±0.4, 38°.59N×43°.89E, h2km, Error ellipse: s-maj=2.6km s-min=2.4km az=126.0*

ISC 23 10:03:17.9±1.1, 38°.52N±0.02×43.78E±0.02, h2km±9km, n123, σ1§76/150, mb3.7/3, MS3.5/4, 3C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.22**	**49**	P	**Pg**	**10 03 20.7**	**-1.5**
OZAP				S	**Sg**	**10 03 24.1**	**-1.0**
TVAN	**Van**	**0.29**	**272**	P	**Pg**	**10 03 23.7**	**0.0**
TVAN				S	**Sb**	**10 03 31.8**	**+0.3**
VANB	**Van**	**0.32**	**284**	PG	**Pg**	**10 03 23.7**	**-0.3**
VANB				SG	**Sb**	**10 03 30.1**	**-2.0**
VANB	**Van**	**0.32**	**284**	*e*Pg	**Pg**	**10 03 23.6**	**-0.4**
VMUR	**Van-Muradiye**	**0.50**	**341**	P	**Pg**	**10 03 26.3**	**-1.3**
VMUR				S	**Sb**	**10 03 36.8**	**-0.7**
GEVA	**Gevas**	**0.60**	**250**	P	**Pg**	**10 03 29.2**	**-0.3**
GEVA				S	**Sn**	**10 03 41.5**	**-2.7**
ERCV	**ERCIS-VAN**	**0.61**	**325**	PG	**Pg**	**10 03 29.4**	**-0.2**
ERCV	**ERCIS-VAN**	**0.61**	**325**	*e*Pg	**Pg**	**10 03 29.4**	**-0.2**
CLDR	**Caldiran**	**0.63**	**10**	PG	**Pg**	**10 03 27.5**	**-2.6**
CLDR				SG	**Sg**	**10 03 38.7**	**+0.4**
CLDR	**Caldiran**	**0.63**	**10**	*e*Pg	**Pg**	**10 03 27.5**	**-2.6**
AKDM	**Akdamar-Van**	**0.66**	**254**	PG	**Pg**	**10 03 30.3**	**-0.3**
AKDM				SG	**Sn**	**10 03 41.8**	**-3.7**
AKDM	**Akdamar-Van**	**0.66**	**254**	*e*Pg	**Pg**	**10 03 30.2**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.88**	**290**	*e*Pg	**Pg**	**10 03 34.0**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.88**	**290**	P	**Pg**	**10 03 34.3**	**-0.4**
ADCV				S	**Sn**	**10 03 48.4**	**-2.6**
HAKT	**HAKKARI**	**0.96**	**184**	*e*Pg	**Pg**	**10 03 35.6**	**-0.7**
HAKT	**HAKKARI**	**0.96**	**184**	P	**Pg**	**10 03 35.3**	**-1.0**
HAKT				S	**Sn**	**10 03 54.0**	**+1.0**
YOVA	**Hakkari_Yksek**	**1.01**	**157**	*e*Pn	**Pg**	**10 03 36.8**	**-0.5**
DYDN	**Diyadin**	**1.03**	**356**	P	**Pg**	**10 03 35.5**	**-2.1**
DYDN				S	**Sn**	**10 03 53.2**	**-1.5**
PERV	**Siirt/Pervari-**	**1.13**	**240**	P	**Pn**	**10 03 39.6**	**-1.4**
PERV				S	**Sn**	**10 03 59.5**	**+2.4**
MLAZ	**Malazgirt-MUS**	**1.15**	**303**	PN	**Pn**	**10 03 39.7**	**-1.5**
MLAZ	**Malazgirt-MUS**	**1.15**	**303**	*e*Pn	**Pn**	**10 03 39.6**	**-1.6**
AGRB	**Hanur-Agry**	**1.22**	**330**	PN	**Pn**	**10 03 39.7**	**-2.6**
AGRB				SN	**Sn**	**10 03 59.3**	**-0.2**
AGRB	**Hanur-Agry**	**1.22**	**330**	*e*Pn	**Pn**	**10 03 40.1**	**-2.2**
CUKT	**Cukurca**	**1.27**	**186**	PN	**Pn**	**10 03 41.0**	**-1.9**
CUKT	**Cukurca**	**1.27**	**186**	*e*Pn	**Pn**	**10 03 41.2**	**-1.7**
BLIS	**Bitlis-Merkez**	**1.31**	**266**	P	**Pn**	**10 03 41.2**	**-2.3**
BLIS				S	**Sg**	**10 04 01.6**	**+1.5**
KOTA	**Agri, Merkez-K**	**1.36**	**341**	P	**Pn**	**10 03 42.2**	**-2.0**
KOTA				S	**Sg**	**10 04 06.3**	**+4.7**
IGDI	**IGDIR**	**1.37**	**10**	P	**Pn**	**10 03 41.9**	**-2.2**
IGDI				S	**Sg**	**10 04 05.4**	**+3.5**
GURO	**Guroymak-BITLI**	**1.37**	**272**	PN	**Pb**	**10 03 42.7**	**-1.7**
GURO	**Guroymak-BITLI**	**1.37**	**272**	*e*Pn	**Pb**	**10 03 42.7**	**-1.7**
HYR	**Heyderabad**	**1.46**	**34**	*e*Pn	**Pg**	**10 03 45.9**	**0.0**
HYR	**Heyderabad** SNR=128	**1.46**	**34**	P	**Pg**	**10 03 46.0**	**0.0**
HYR				S	**Sg**	**10 04 05.3**	**+0.5**
ISHB	**Shabestar**	**1.46**	**99**	*e*Pn	**Pn**	**10 03 42.9**	**-2.7**
NAX	**Nakhchivan**	**1.49**	**63**	*e*Pn	**Pb**	**10 03 45.9**	**-0.5**
NAX	**Nakhchivan** SNR=35	**1.49**	**63**	P	**Pb**	**10 03 46.0**	**-0.5**
NAX				S	**Sb**	**10 04 05.7**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.51**	**13**	PN	**Pn**	**10 03 44.5**	**-1.6**
TASB	**TASBURUN-IGDIR**	**1.51**	**13**	*e*Pn	**Pn**	**10 03 44.4**	**-1.6**
IMRD	**Marand**	**1.52**	**82**	*e*Pn	**Pb**	**10 03 45.8**	**-1.1**
IMRD				*e*		10 04 12.2	
	comp=Z,35μm,0.5s						
VNNZ	**Vanand**	**1.58**	**1**	*e*P	**Pb**	**10 03 47.3**	**-0.7**
VNNZ				*e*S	**Sg**	**10 04 09.2**	**+0.4**
SBZ	**Shahbuz**	**1.64**	**57**	*e*Pn	**Pb**	**10 03 48.1**	**-0.8**
SBZ	**Shahbuz** SNR=208	**1.64**	**57**	P	**Pb**	**10 03 48.2**	**-0.8**
SBZ				S	**Sb**	**10 04 10.0**	**0.0**
METS	**Metsamor**	**1.65**	**8**	⇓*i*P	**Pb**	**10 03 48.4**	**-0.7**
METS				⇑*i*S	**Sg**	**10 04 13.7**	**+2.8**
EATA	**Eleskirt**	**1.68**	**324**	*e*Pn	**Pb**	**10 03 48.4**	**-1.3**
EATA	**Eleskirt**	**1.68**	**324**	P	**Pb**	**10 03 48.1**	**-1.6**
EATA				S	**Sg**	**10 04 15.3**	**+3.5**
ORD	**Ordubad**	**1.78**	**76**	*e*Pn	**Pb**	**10 03 50.4**	**-0.9**
ORD	**Ordubad** SNR=286	**1.78**	**76**	P	**Pb**	**10 03 50.4**	**-0.9**
ORD				S	**Sb**	**10 04 14.2**	**+0.1**
ARUZ	**Aruch**	**1.78**	**8**	⇑*i*P	**Pg**	**10 03 52.3**	**+0.2**
ARUZ				⇑*i*S	**Sg**	**10 04 18.5**	**+3.4**
GNI	**Garni**	**1.79**	**24**	Pn	**Pb**	**10 03 50.9**	**-0.7**
	comp=Z,86nm,0.3s,baz=245,slow=3.7,SNR=44						
GNI				Sn	**Sg**	**10 04 17.9**	**+2.4**
	comp=Z,62nm,0.3s,baz=95,slow=20,SNR=13						
GNI	**Garni**	**1.79**	**24**	⇓*i*P	**Pb**	**10 03 50.9**	**-0.7**
GNI				⇓*i*S	**Sg**	**10 04 16.1**	**+0.6**
GNI	**Garni**	**1.79**	**24**	PN	**Pn**	**10 03 48.4**	**-1.7**
ITBZ	**Tabriz**	**1.88**	**98**	*e*Pn	**Pn**	**10 03 51.3**	**0.0**
DIGO	**Kars**	**1.92**	**351**	*e*Pn	**Pb**	**10 03 51.8**	**-2.1**
DIGO	**Kars**	**1.92**	**351**	P	**Pb**	**10 03 51.5**	**-0.4**
DIGO				S	**Sg**	**10 04 22.9**	**+3.3**
IAZR	**Azarshahr**	**1.93**	**115**	*e*Pn	**Pb**	**10 03 52.9**	**-1.0**
IAZR				*e*		10 04 40.0	
	comp=Z,11μm,0.9s						
VRTB	**Varto-Mus**	**1.93**	**290**	PN	**Pb**	**10 03 51.6**	**-2.3**
VRTB	**Varto-Mus**	**1.93**	**290**	*e*Pn	**Pb**	**10 03 51.5**	**-2.3**
SVAN	**Silvan-Diyarba**	**2.06**	**261**	PN	**Pb**	**10 03 53.8**	**-2.4**
SVAN	**Silvan-Diyarba**	**2.06**	**261**	*e*Pn	**Pb**	**10 03 53.8**	**-2.4**
BTMN	**Batman**	**2.08**	**253**	P	**Pb**	**10 03 54.2**	**-2.1**
BTMN				S	**Sg**	**10 04 25.0**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**2.10**	**315**	PN	**Pb**	**10 03 54.1**	**-2.8**
HOMI	**Horasan**	**2.11**	**317**	P	**Pb**	**10 03 55.8**	**-1.2**
HOMI				S	**Sg**	**10 04 28.8**	**+3.1**
EAK	**Akyaka**	**2.17**	**356**	*e*Pn	**Pb**	**10 03 57.5**	**-0.6**
EAK	**Akyaka**	**2.17**	**356**	P	**Pb**	**10 03 55.8**	**-2.2**
EAK				S	**Sg**	**10 04 29.5**	**+1.9**
KARS	**Kars**	**2.18**	**346**	PN	**Pn**	**10 03 54.5**	**-0.8**
MIDY	**Mardin/Midyat-**	**2.19**	**240**	P	**Pb**	**10 03 56.6**	**-1.6**
MIDY				S	**Sg**	**10 04 27.8**	**-0.4**
TVRZ	**Varzaqan** comp=Z,8μm,0.8s	**2.26**	**89**	*e*	Sg	10 04 45.4	+15
KARO	**Karliova-Bingo**	**2.27**	**291**	PN	**Pb**	**10 03 56.8**	**-3.0**
MAHB	**Mahabad**	**2.32**	**138**	*e*Pn	**Pb**	**10 03 58.2**	**-2.4**
MAHB				*e*		10 04 51.5	
	comp=Z,6μm,1.0s						
SENK	**Senkaya-Erzuru**	**2.32**	**332**	PN	**Pn**	**10 03 57.1**	**-0.3**
EJDE	**Erzurum, Palan**	**2.33**	**305**	P	**Pb**	**10 03 59.6**	**-1.4**
EJDE				S	**Sg**	**10 04 33.2**	**+0.3**
ERZM	**Erzurum**	**2.33**	**307**	P	**Pg**	**10 04 00.3**	**-0.6**
ERZM				S	**Sg**	**10 04 37.4**	**+4.5**
ECAT	**Cat-ERZURUM**	**2.44**	**297**	P	**Pb**	**10 04 01.3**	**-1.4**
ECAT				S	**Sg**	**10 04 42.5**	**+6.2**
BNGB	**Bingl**	**2.47**	**282**	PN	**Pn**	**10 03 59.5**	**+0.1**
IHRS	**Heris** comp=Z,4μm,0.4s	**2.57**	**93**	*e*		10 04 12.5	
IHRS				*e*Pn	**Pn**	**10 04 02.0**	**+1.2**
IBST	**Bostanabad**	**2.58**	**107**	*e*Pn	**Pn**	**10 04 02.0**	**+1.0**
HANI	**Diyarbakir_Han**	**2.66**	**269**	P	**Pb**	**10 04 04.5**	**-1.8**
HANI				S	**Sg**	**10 04 42.9**	**-0.4**
MARD	**Mardin**	**2.66**	**244**	P	**Pn**	**10 04 02.3**	**+0.3**
MARD				S	**Sg**	**10 04 45.6**	**+2.2**
GDB	**GEDABAY** SNR=67	**2.68**	**34**	P	**Pn**	**10 04 03.4**	**+1.1**
GDB				S	**Sn**	**10 04 36.0**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.69**	**291**	PN	**Pn**	**10 04 02.6**	**+0.3**
MAZI	**Mazidag**	**2.84**	**249**	PN	**Pn**	**10 04 04.8**	**+0.4**
KRIK	**Erzurum-spir**	**2.86**	**310**	P	**Pb**	**10 04 08.6**	**-1.3**
KRIK				S	**Sg**	**10 04 50.6**	**+0.7**
GANJ	**Ganja** SNR=26	**2.89**	**42**	P	**Pn**	**10 04 05.9**	**+0.8**
AKH	**Akhalkalaki**	**2.90**	**356**	PN	**Pn**	**10 04 04.8**	**-0.5**
QRD	**Qoradiz** SNR=16	**2.91**	**70**	P	**Pn**	**10 04 05.8**	**+0.5**
DYBB	**Diyarbakir**	**2.92**	**260**	PN	**Pb**	**10 04 06.1**	**+0.6**
DAGI	**Agillar**	**2.93**	**331**	P	**Pb**	**10 04 07.3**	**-3.8**
DAGI				S	**Sg**	**10 04 51.6**	**-0.6**
IHSH	**Hashtrud**	**3.01**	**113**	*e*Pn	**Pn**	**10 04 08.3**	**+1.4**
AGDM	**Agdam** SNR=28	**3.03**	**57**	P	**Pn**	**10 04 06.9**	**-0.1**
ISRB	**Sarab** comp=Z,2μm,0.5s	**3.14**	**102**	*e*		10 04 27.4	
ISRB				*e*Pn	**Pn**	**10 04 09.0**	**+0.4**
ERZN	**Erzincan**	**3.34**	**290**	PN	**Pn**	**10 04 11.7**	**+0.4**
MNGR	**Mingechevir, A** SNR=10	**3.40**	**48**	P	**Pn**	**10 04 12.0**	**0.0**
PTK	**Pertek**	**3.46**	**278**	PN	**Pn**	**10 04 13.5**	**+0.5**
ZRD	**Zardab** SNR=14	**3.50**	**59**	P	**Pn**	**10 04 13.9**	**+0.5**
YRD	**Yardimli** SNR=32	**3.51**	**82**	P	**Pn**	**10 04 14.4**	**+0.7**
LRK	**Lerik** SNR=7.6	**3.57**	**87**	P	**Pn**	**10 04 15.3**	**+0.8**
GLBA	**Cilabad** SNR=15	**3.67**	**77**	P	**Pn**	**10 04 16.0**	**+0.3**
SEKA	**Sheki** SNR=11	**3.76**	**43**	P	**Pn**	**10 04 18.3**	**+1.3**
URFA	**Urfa**	**4.06**	**256**	PN	**Pn**	**10 04 22.3**	**+1.1**
ONI	**Oni**	**4.08**	**357**	PN	**Pn**	**10 04 21.4**	**0.0**
IML	**Ismayilli** SNR=4.4	**4.09**	**55**	P	**Pn**	**10 04 21.7**	**+0.2**
ARPR	**Arapgir-MALATY**	**4.29**	**279**	PN	**Pn**	**10 04 25.6**	**+1.2**
QUBA	**Quba, Azerbaij**	**4.60**	**50**	P	**Pn**	**10 04 28.7**	**+0.2**
SIZA	**Siyzn**	**4.70**	**55**	P	**Pn**	**10 04 30.3**	**+0.4**
KBZ	**Khabaz** comp=Z,0.1nm,0.3s,baz=50,slow=8.3,SNR=4.5	**5.25**	**353**	Pn	Pb	10 04 44.8	-5.6
IKOM	**Komasi**	**5.28**	**144**	*e*Pn	**Pn**	**10 04 39.6**	**+1.7**
IKOM				*e*		10 06 51.1	
	comp=Z,2μm,1.0s						
IDOB	**Doab**	**5.91**	**142**	*e*Pn	**Pn**	**10 04 47.1**	**+0.4**
IKFM	**Kafar-mosalman**	**5.97**	**145**	*e*Pn	**Pn**	**10 04 49.5**	**+2.2**
IKFM				*e*		10 05 55.9	
	comp=Z,516nm,1.0s						
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=59,slow=12,SNR=1.9 comp=Z,0.4nm,0.4s	**7.98**	**282**	Pn	**Pn**	**10 05 16.4**	**+1.4**
MMAI	**Mount Meron Ar** comp=Z,407nm,18.8s,baz=314,slow=40	**8.74**	**234**	LR	LR	10 09 06.7	
EIL	**Elat** comp=Z,392nm,18.2s,baz=60,slow=42	**11.46**	**222**	LR	LR	10 11 10.7	
BELG	**Belogornoye** comp=Z,136nm,19.1s,baz=279,slow=43	**14.13**	**10**	LR	LR	10 13 30.8	
AKASG	**Malin Array Be** comp=Z,0.3nm,0.4s,baz=130,slow=12,SNR=4.9	**15.96**	**324**	Pn	**P**	**10 07 05.1**	**-2.0**
AKASG				LR	LR	10 14 22.5	
	comp=Z,185nm,18.6s,baz=157,slow=41						
VYHS	**Vyhne**	**20.58**	**307**	*e*P	Pn	10 08 02.2	+2.0
VRAC	**Vranov** comp=Z,4.1nm,0.8s,baz=103,slow=7.6,SNR=5.0 comp=Z,4.1nm,0.8s	**22.24**	**308**	P	**P**	**10 08 18.6**	**+2.7**
CKRC	**Cesky Krumlov**	**23.54**	**305**	*e*P	**P**	**10 08 34.5**	**+5.1**
GERES	**GERESS Array B** comp=Z,0.5nm,0.6s,baz=106,slow=8.4,SNR=4.8 comp=Z,0.5nm,0.6s	**23.93**	**305**	P	**P**	**10 08 33.4**	**+0.1**
KHC	**Kasperske Hory**	**24.08**	**306**	*e*P	**P**	**10 08 36.3**	**+1.6**
CLL	**Collm**	**25.07**	**311**	*e*Px	Px	10 08 47.0	
FINES	**FINESS Array B** comp=Z,130nm,21.5s,baz=55,slow=40	**25.45**	**340**	LR	LR	10 20 30.1	
HFS	**Hagfors** comp=Z,127nm,20.9s,baz=31,slow=38	**28.76**	**329**	LR	LR	10 21 25.8	
NOA	**NORSAR Array B** comp=Z,48nm,18.4s,baz=80,slow=39	**30.28**	**329**	LR	LR	10 23 00.2	
ESDC	**Sonseca Array** comp=Z,1.2nm,0.9s,baz=80,slow=8.9,SNR=4.7 comp=Z,1.2nm,0.9s	**36.73**	**287**	P	**P**	**10 10 27.8**	**+1.2**
TKL	**Tuckaleechee C** comp=Z,81nm,18.5s,baz=326,slow=37	**91.69**	**320**	LR	LR	10 59 33.9	

*WEL **23** 10:04:00, 41°.74S×174°.28E, h17km, ML4.4, Mw4.2, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁵ Nm; Mrr0.38; Mθθ1.89; Mϕϕ-2.27; Mrθ0.33; Mrϕ-0.86; Mθϕ0.42; Fault plane solution: M=2.31000×10¹⁵ NP1: ϕs=146.00000°, δ=78.00000°, λ=-1.00000°. NP2: ϕd=236.00000°, δ=89.00000°, λ=-168.00000°. Principal axes: T -252.3700, Plg8.0000°, Azm10.0000°; N 209.9400, Plg78.0000°, Azm240.0000°; P 42.4300, Plg9.0000°, Azm102.0000°;*
*WEL **23** 10:04:12.7±0.3, 42°.S±2°×17°.4E±°, h12km±2km, M4.4/46, ML4.7/25, MLv4.4/46 Error ellipse: s-maj=0.0km s-min=0.0km az=130.9*
*NEIC **23** 10:04:12.8±1.3, 41°.76S±0°.03×174°.29E±0°.04, h18km±7km, mb4.2/1, ML4.4(WEL), Error ellipse: s-maj=4.5km s-min=3.5km az=131.0*
*NOU **23** 10:04:12.5, 41°.88S×174°.48E, h16km, MLv4.7/16, Cook Strait, New Zealand*

ISC 23 10:04:11.5±0.9, 41°.83S±0°.03×174°.37E±0°.02, h14km±7km, n193, σ1§16/202, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**303**		**Pb**	**10 04 15.7**	**-0.3**
CMWZ				Sg	**Sg**	**10 04 18.3**	**+0.6**
CMWZ	**Cape Campbell**	**0.14**	**303**	P	**Pb**	**10 04 15.9**	**-0.1**
CMWZ				S	**Sg**	**10 04 18.5**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.39**	**287**		**Pg**	**10 04 19.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.39**	**287**	P	**Pg**	**10 04 19.4**	**0.0**
BSWZ				S	**Sg**	**10 04 24.3**	**-0.4**
TUWZ	**Tuamarina**	**0.51**	**321**		**Pg**	**10 04 21.0**	**-0.6**
TUWZ				Sg	**Sg**	**10 04 27.1**	**-1.4**
TUWZ	**Tuamarina**	**0.51**	**321**	P	**Pg**	**10 04 21.2**	**-0.4**
TUWZ				S	**Sg**	**10 04 27.2**	**-1.2**
SNZO	**South Karori**	**0.57**	**26**		**Pb**	**10 04 24.1**	**+0.8**
SNZO				Sg	**Sb**	**10 04 32.2**	**+0.9**
SNZO	**South Karori**	**0.57**	**26**	P	**Pn**	**10 04 24.5**	**-0.7**
WEL	**Wellington**	**0.62**	**29**	P	**Pn**	**10 04 25.0**	**-0.8**
WEL				S	**Sb**	**10 04 34.0**	**+1.4**
TCW	**Tory Channel**	**0.62**	**353**		**Pg**	**10 04 23.2**	**-0.4**
TCW				Sg	**Sg**	**10 04 31.1**	**-0.9**
TCW	**Tory Channel**	**0.62**	**353**	P	**Pg**	**10 04 23.4**	**-0.3**
TCW				S	**Sg**	**10 04 31.0**	**-0.9**
PLWZ	**Palliser**	**0.71**	**69**		**Pn**	**10 04 28.3**	**+1.1**
PLWZ	**Palliser**	**0.71**	**69**	P	**Pn**	**10 04 28.3**	**+1.1**
MSWZ	**Moikau Station**	**0.78**	**58**		**Pn**	**10 04 29.2**	**+1.2**
MSWZ	**Moikau Station**	**0.78**	**58**	P	**Pn**	**10 04 29.4**	**+1.4**
KHZ	**Kahutara**	**0.85**	**226**		**Pn**	**10 04 30.3**	**+1.2**
KHZ	**Kahutara**	**0.85**	**226**	P	**Pn**	**10 04 30.3**	**+1.2**
KHZ	**Kahutara**	**0.85**	**226**	P	**Pn**	**10 04 30.3**	**+1.2**
CAW	**Cannon Point**	**0.89**	**36**	P	**Pn**	**10 04 29.8**	**+0.3**
PAWZ	**Paruwai Farm**	**0.91**	**61**	P	**Pn**	**10 04 30.9**	**+1.0**
NNZ	**Nelson**	**0.96**	**309**		**Pb**	**10 04 29.0**	**-1.0**
NNZ	**Nelson**	**0.96**	**309**	P	**Pb**	**10 04 29.1**	**-0.8**
KIW	**Kapiti Island**	**1.05**	**23**	P	**Pg**	**10 04 31.9**	**+0.2**
TRWZ	**Traveller**	**1.07**	**67**	P	**Pg**	**10 04 33.0**	**+0.7**
DUWZ	**D'Urville Isla**	**1.08**	**341**	P	**Pb**	**10 04 31.2**	**-0.8**
MTW	**Mount Morrison**	**1.08**	**52**	P	**Pg**	**10 04 33.0**	**+0.7**
THZ	**Tophouse**	**1.10**	**273**		**Pb**	**10 04 32.1**	**-0.2**
THZ	**Tophouse**	**1.10**	**273**	P	**Pn**	**10 04 32.5**	**-0.1**
OGWZ	**Otaki Gorge**	**1.17**	**31**	P	**Pg**	**10 04 34.4**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.27**	**43**	P	**Pg**	**10 04 35.5**	**-0.4**
MRNZ	**Matariki Terra**	**1.28**	**289**		**Pb**	**10 04 35.6**	**+0.1**
MRNZ	**Matariki Terra**	**1.28**	**289**	P	**Pb**	**10 04 35.5**	**+0.1**
TKNZ	**Takaka Hill**	**1.32**	**306**		**Pn**	**10 04 35.4**	**-0.2**
TKNZ	**Takaka Hill**	**1.32**	**306**	P	**Pn**	**10 04 35.5**	**-0.1**
TMWZ	**Te Maipa**	**1.35**	**58**	P	**Pb**	**10 04 36.6**	**0.0**
MRZ	**Mangatainoka R**	**1.48**	**38**		**Pb**	**10 04 38.4**	**-0.4**
MRZ	**Mangatainoka R**	**1.48**	**38**	P	**Pb**	**10 04 38.5**	**-0.3**
GVZ	**Greta Valley S**	**1.51**	**221**		**Pb**	**10 04 39.1**	**-0.2**
GVZ	**Greta Valley S**	**1.51**	**221**	P	**Pb**	**10 04 39.1**	**-0.2**
TIWZ	**Tintock**	**1.55**	**48**	P	**Pn**	**10 04 39.2**	**+0.5**
CPWZ	**Castlepoint**	**1.65**	**57**	P	**Pb**	**10 04 41.0**	**-0.8**
QRZ	**Quartz Range**	**1.71**	**305**		**Pb**	**10 04 41.9**	**-0.8**
QRZ	**Quartz Range**	**1.71**	**305**	P	**Pb**	**10 04 42.5**	**-0.3**
QRZ	**Quartz Range**	**1.71**	**305**	P	**Pb**	**10 04 42.1**	**-0.7**
PRWZ	**Pori Road**	**1.75**	**44**	P	**Pn**	**10 04 42.0**	**+0.5**
OHWZ	**Ohakea**	**1.77**	**24**	P	**Pb**	**10 04 43.8**	**+0.1**
POWZ	**Post Office Ro**	**1.78**	**37**	P	**Pn**	**10 04 42.5**	**+0.7**
BFZ	**Birch Farm**	**1.82**	**52**		**Pn**	**10 04 42.1**	**-0.2**
BFZ	**Birch Farm**	**1.82**	**52**	P	**Pn**	**10 04 42.4**	**0.0**
BFZ	**Birch Farm**	**1.82**	**52**	P	**Pn**	**10 04 42.3**	**-0.1**
LTZ	**Lake Taylor**	**1.83**	**238**		**Pn**	**10 04 43.1**	**+0.6**
LTZ	**Lake Taylor**	**1.83**	**238**	P	**Pn**	**10 04 43.4**	**+0.8**
AMCZ	**Amberley**	**1.85**	**223**		**Pn**	**10 04 43.4**	**+0.5**
AMCZ	**Amberley**	**1.85**	**223**	P	**Pn**	**10 04 43.4**	**+0.5**
DSZ	**Denniston Nort**	**1.92**	**272**		**Pb**	**10 04 45.2**	**-1.1**
DSZ	**Denniston Nort**	**1.92**	**272**	P	**Pb**	**10 04 45.1**	**-1.3**
DVHZ	**Dannevirke**	**2.04**	**42**	P	**Pn**	**10 04 45.4**	**-0.1**
ANWZ	**Angora Road**	**2.09**	**50**	P	**Pn**	**10 04 46.0**	**-0.2**
WAZ	**Wanganui**	**2.12**	**13**	P	**Pb**	**10 04 49.1**	**-0.6**
OKCZ	**Okains Bay**	**2.13**	**207**	P	**Pn**	**10 04 47.0**	**+0.3**
TSZ	**Takapari Road**	**2.14**	**35**	P	**Pn**	**10 04 47.2**	**+0.4**
MQZ	**McQueen's Vall**	**2.27**	**213**	Pn	**Pn**	**10 04 47.9**	**-0.6**
MQZ	**McQueen's Vall**	**2.27**	**213**	P	**Pn**	**10 04 48.0**	**-0.5**
OXZ	**Oxford**	**2.28**	**228**		**Pn**	**10 04 48.5**	**-0.3**
OXZ	**Oxford**	**2.28**	**228**	P	**Pn**	**10 04 48.6**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.31**	**207**	P	**Pn**	**10 04 49.5**	**+0.3**
PRHZ	**Porangahau**	**2.31**	**48**	P	**Pn**	**10 04 48.8**	**-0.4**
INZ	**Inchbonnie**	**2.35**	**247**		**Pn**	**10 04 50.2**	**+0.5**
INZ	**Inchbonnie**	**2.35**	**247**	P	**Pn**	**10 04 50.7**	**+1.0**
WPHZ	**Waipukurau**	**2.36**	**42**	P	**Pn**	**10 04 49.8**	**0.0**
PNHZ	**Pukenui**	**2.36**	**37**	P	**Pn**	**10 04 50.0**	**+0.1**
LREZ	**Lake Rotokare**	**2.36**	**1**	P	**Pb**	**10 04 52.6**	**-1.3**
NMEZ	**Namu Road**	**2.44**	**351**	P	**Pn**	**10 04 53.1**	**+2.1**
RACZ	**Rakaia**	**2.51**	**220**	P	**Pn**	**10 04 51.5**	**-0.4**
KHEZ	**Kahui Hut**	**2.54**	**354**	P	**Pb**	**10 04 55.4**	**-1.6**
KHEZ	**Kahui Hut**	**2.54**	**354**	P	**Pb**	**10 04 55.0**	**-2.0**
NEZ	**North Egmont**	**2.56**	**355**	P	**Pb**	**10 04 55.3**	**-2.0**
MTVZ	**Mangateitei**	**2.58**	**19**	P	**Pn**	**10 04 55.1**	**+2.2**
NBEZ	**Newall Road No**	**2.58**	**351**	P	**Pn**	**10 04 55.2**	**+2.3**
PXZ	**Pawanui**	**2.60**	**47**	P	**Pn**	**10 04 52.3**	**-0.9**
MOVZ	**Moawhango**	**2.64**	**24**	P	**Pn**	**10 04 54.6**	**+0.9**
DREZ	**Durham Road**	**2.64**	**357**	P	**Pb**	**10 04 56.2**	**-2.3**
PKVZ	**Pokaka**	**2.64**	**17**	P	**Pn**	**10 04 55.8**	**+2.1**
PKE	**Pukeiti**	**2.65**	**353**	P	**Pn**	**10 04 56.1**	**+2.3**
BHHZ	**Black Hill Sta**	**2.67**	**29**	P	**Pn**	**10 04 54.8**	**+0.7**
WNVZ	**Wahianoa**	**2.67**	**21**	P	**Pn**	**10 04 55.8**	**+1.6**
TRVZ	**Turoa**	**2.68**	**20**	P	**Pn**	**10 04 56.2**	**+1.7**
MHCZ	**Mount Hutt**	**2.68**	**230**	P	**Pn**	**10 04 53.9**	**-0.4**
DRZ	**Dome Shelter**	**2.71**	**20**	P	**Pn**	**10 04 57.4**	**+2.6**
WHVZ	**Whangaehu Hut**	**2.71**	**20**

ODEU	**Stanfors**	**0.33**	**198**	*i* P	Pg	10 06 12.4	-0.6
ODEU				*i* S	Sg	10 06 16.9	-0.3
SVAU	**Svanoeiden**	**0.63**	**250**	*i* P	Pg	10 06 17.9	-1.0
SVAU				*i* S	Sg	10 06 26.4	-0.6
LILU	**Lilltraesk**	**0.74**	**321**	*i* P	Pg	10 06 19.7	-1.2
SJUU	**Sjulsmark**	**0.84**	**19**	*i* P	Pg	10 06 22.1	-0.8
UMAU	**Umeaa**	**0.85**	**188**	*e*P	Pg	10 06 22.0	-0.9
UMAU				*e*SB	Sg	10 06 33.5	-0.4
BREU	**Bredtraesk**	**1.32**	**232**	*e*P	Pg	10 06 30.5	-1.6
OBF0	**Syolatti, Pyha**	**1.44**	**97**	*e*PG	Pn	10 06 33.0	-1.1
OBF0				*e*SN	Sn	10 06 53.4	-0.1
HARU	**Harads**	**1.45**	**0**	*e*P	Pn	10 06 33.0	-1.2
KALU	**Kalix**	**1.53**	**40**	*e*P	Pn	10 06 34.8	-0.5
HUSU	**Husum**	**1.58**	**210**	*e*PN	Pg	10 06 36.9	-0.1
OBF4	**Vikkela, Lumij**	**1.79**	**85**	*e*PN	Pn	10 06 38.7	-0.1
OBF4				*e*SN	Sg	10 07 04.4	+0.3
VAF	**Ylistaro**	**1.85**	**155**	*e*PG	Pn	10 06 40.2	+0.6
VAF				MSG		10 07 01.9	
	comp=Z,1.3nm,0.2s						
VAF				*e*SN	Sn	10 07 04.2	+0.6
ERTU	**Ertsjaerv**	**1.92**	**15**	*e*PG	Pn	10 06 41.3	+0.7
ERTU				*e*SG	Sn	10 07 06.1	+0.6
TOF	**Tornio**	**1.97**	**44**	MSG		10 07 05.0	
	comp=Z,1.9nm,0.2s						
TOF				*e*SG	Sb	10 07 08.5	0.0
OUL	**Oulu**	**2.14**	**78**	*e*P	Pn	10 06 43.4	-0.3
	baz=258						
SGF	**Sodankyl**	**3.56**	**37**	*e*PB	Pn	10 07 06.4	+3.3
RAF	**Rauma**	**3.73**	**174**	*e*P	Pn	10 07 03.1	-2.4
HEF	**Hetta**	**3.86**	**15**	*e*P	Pn	10 07 07.9	+0.5
	baz=197						
FIA0	**FINESS Array S**	**4.03**	**142**	*e*SG	Sg	10 08 12.4	-3.7

WEL 23 10:10:23.0, 38°S±3°×17°8E±°, h16km±6km, M2.2/13, ML2.5/12, MLv2.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=70.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.14**	**28**	P	Pb	10 10 27.4	+0.1
TWGZ	**Tauwhareparae**	**0.15**	**278**	P	Pb	10 10 27.9	+0.4
CNGZ	**Carnagh Statio**	**0.29**	**175**	P	Pb	10 10 30.1	+0.3
PKGZ	**Pakihiroa**	**0.32**	**346**	P	Pb	10 10 30.7	+0.3
TKGZ	**Te Karaka**	**0.35**	**227**	P	Pb	10 10 31.2	+0.3
WMGZ	**Waiomatatini S**	**0.42**	**27**	P	Pb	10 10 32.7	+0.6
RUGZ	**Raukumara Rang**	**0.46**	**301**	P	Pb	10 10 32.8	+0.1
MWZ	**Matawai**	**0.53**	**255**	P	Pb	10 10 33.9	0.0
HAZ	**Te Kaha**	**0.54**	**325**	P	Pb	10 10 34.2	+0.1
RIGZ	**Rimuhau**	**0.60**	**212**	P	Pb	10 10 35.7	+0.5
MXZ	**Matakaoa Point**	**0.64**	**9**	P	Pn	10 10 36.7	-0.8
RAGZ	**Rawiri**	**0.67**	**243**	P	Pn	10 10 37.4	-0.5
SNGZ	**Shannon Statio**	**0.88**	**228**	P	Pn	10 10 40.5	-0.2
MHGZ	**Mahia Peninsul**	**0.97**	**192**	P	Pb	10 10 40.5	-1.1
MARZ	**Manawahe**	**1.20**	**280**	P	Pb	10 10 45.5	+0.1

MAN 23 10:21:11.2, 5°95N×126°63E, h33km, mb4.0, ML2.8, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**2.24**	**353**	⇑*i* P	Pn	10 21 48.0	+2.0
BIPH				*i* S	Sn	10 22 14.4	+2.0

*KRNET **23** 10:30:27.9±0.1, 43°.76N×69°.92E, mb3.3*
*SOME **23** 10:30:27.2, 43°.63N×69°.57E*
*NNC **23** 10:30:29.5±1.9, 43°.62N×69°.80E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=10.1km s-min=7.1km az=130.0, Suspected Mining explosion.*

ISC 23 10:30:30.4±2.0, 43°.64N±0°.07×69°.86E±0°.10, h0km, n11, σ1$05/18, 8C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.72**	**138**	⇓P	**Pg**	**10 30 43.2**	**-1.0**
	2.0nm,0.3s,baz=321,slow=14,SNR=118						
KK31				⇑S	**Sg**	**10 30 54.2**	**+0.6**
	30nm,0.6s,baz=313,slow=30,SNR=59						
KKAR	**Karatay Array**	**0.72**	**138**	⇑*i*P	**Pg**	**10 30 43.4**	**-0.8**
	baz=47						
KKAR				⇑*i*S	**Sg**	**10 30 54.7**	**+1.1**
	baz=47						
IUG	**luzhnay**	**1.50**	**175**	P	**Pn**	**10 30 57.4**	**-1.3**
	28nm,0.3s						
IUG				S	**Sb**	**10 31 19.3**	**+0.5**
	59nm,0.3s						
TRKS	**Terek-Say**	**2.31**	**155**	⇓*i*P	**Pb**	**10 31 11.9**	**-1.2**
	baz=58						
TRKS				⇓*i*S	**Sg**	**10 31 44.1**	**-0.7**
	baz=58						
MRKS	**Merke**	**2.62**	**109**	Pg	**Pb**	**10 31 18.3**	**-0.1**
	4.2nm,0.3s						
MRKS				Lg	Lg	10 31 55.3	
	11nm,0.4s						
EKS2	**Erkin-Say**	**3.03**	**108**	⇓*e*P	**Pn**	**10 31 19.4**	**-0.4**
	baz=10.0						
EKS2				⇓*i*S	**Sn**	**10 31 57.0**	**+0.1**
	baz=10.0						
BTLS	**Baital**	**3.31**	**64**	Pg	**Pg**	**10 31 33.2**	**-0.8**
	9.4nm,0.5s						
BTLS				Lg	Lg	10 32 21.0	
	4.1nm,0.8s						
CHMS	**Chumysh**	**3.63**	**99**	⇓Pg	**Pb**	**10 31 36.5**	**+1.0**
	3.0nm,0.5s						
CHMS				⇓Lg	Lg	10 32 27.4	
	6.0nm,0.6s						
UCH	**Uchtor**	**3.70**	**111**	⇑*e*P	**Pn**	**10 31 29.1**	**-0.2**
	baz=13						
UCH				⇑*i*S	**Sn**	**10 32 13.6**	**-0.2**
	baz=13						
TKM2	**Tokmak 2**	**4.25**	**98**	⇓Pg	**Pb**	**10 31 46.8**	**+0.6**
	1.9nm,0.6s						
TKM2				⇑Lg	Lg	10 32 44.4	
	3.7nm,0.6s						
GAR	**Garm**	**4.65**	**176**	⇑*i*P	**Pn**	**10 31 43.7**	**+1.6**
	baz=76						
GAR				⇑*i*S	**Sn**	**10 32 38.9**	**+2.1**
	baz=76						

*IDC **23** 10:34:11.8±2.4, 37°.31N×141°.25E, h0km, mb3.9/7, mbtmp3.9/7, ML2.1/1, Error ellipse: s-maj=58.9km s-min=26.8km az=163.0*
*JMA **23** 10:34:12.2±0.2, 37°.1N±0°.3×141°.4E±0°.8, h26km±1km, MV3.6/36, E OFF FUKUSHIMA PREF*

ISC 23 10:34:12.1±1.7, 37°.21N±0°.05×141°.30E±0°.08, h5km±10km, n23, σ0$75/23, mb3.8/7, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.37**	**294**	⇓*i*P	**Pb**	**10 34 21.6**	**+0.5**
JFK				⇓S	**Sb**	**10 34 28.7**	**+1.4**
JFFD	**Fukushimafurud**	**0.60**	**258**	*i* P	**Pb**	**10 34 24.9**	**-0.2**
JFFD				*e*S	**Sb**	**10 34 34.2**	**+0.4**
JMST	**Minamisoumatoc**	**0.60**	**328**	⇓*i*P	**Pb**	**10 34 25.9**	**+0.7**
JMST				⇓S	**Sn**	**10 34 36.2**	**-1.3**
JMM	**Marumori**	**0.76**	**329**	⇓*i*P	**Pn**	**10 34 28.6**	**-1.0**
JMM				⇓*e*S	**Sn**	**10 34 40.9**	**-0.6**
JHO	**Hitachi**	**0.84**	**224**	*e*P	**Pg**	**10 34 27.5**	**-0.7**
JHO				*e*S	**Sg**	**10 34 39.5**	**+0.4**
JIO	**Ouri**	**1.24**	**2**	*i* P	**Pg**	**10 34 35.5**	**-0.3**
JIO				S	**Sn**	**10 34 53.2**	**+0.1**
JFY	**Yanaizu**	**1.28**	**279**	*i* P	**Pn**	**10 34 37.4**	**+0.7**
MJAR	**Matsushiro Arr**	**2.56**	**256**	Pn	**Pn**	**10 34 55.0**	**+0.7**
	0.4nm,0.3s,baz=85,slow=18,SNR=17						
MJAR				Sn	**Sb**	**10 35 29.8**	**-0.6**
	0.7nm,0.3s,baz=40,slow=8.3,SNR=4.6						
USRK	**Ussuriysk Ar.**	**9.93**	**318**	Pn	Pn	10 36 41.5	+6.1
	0.2nm,0.3s,baz=134,slow=13,SNR=7.8						
SONM	**Songino Array**	**27.61**	**304**	P	**P**	**10 40 00.6**	**+0.1**
	0.8nm,0.7s,baz=101,slow=8.1,SNR=4.5						
	0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	11 09 37.8	
	baz=314,slow=75,SNR=97						
H11N1	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	11 09 37.8	
	baz=314,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	11 09 36.2	
	baz=314,slow=75,SNR=75						
H11S1	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	11 10 29.6	
	baz=316,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	11 10 29.4	
	baz=316,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**29.05**	**123**	T	T	11 10 30.2	
	baz=316,slow=75,SNR=23						
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**10 42 01.7**	**-0.1**
	1.5nm,0.8s,baz=100,slow=6.6,SNR=5.0						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**43.94**	**302**	P	**P**	**10 42 19.6**	**-0.4**
	1.3nm,0.8s,baz=88,slow=9.7,SNR=8.4						
	1.3nm,0.8s						
ILAR	**Eielson Array**	**49.39**	**32**	P	**P**	**10 43 03.1**	**+0.8**
	1.0nm,0.8s,baz=255,slow=6.6,SNR=7.1						
	1.0nm,0.8s						
ARCES	**ARCESS Array B**	**63.80**	**339**	P	**P**	**10 44 44.7**	**0.0**
	3.1nm,1.0s,baz=20,slow=3.9,SNR=4.3						
	3.1nm,1.0s						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**10 45 15.6**	**-0.1**
	1.9nm,0.8s,baz=96,slow=7.7,SNR=3.8						
	1.9nm,0.8s						
AKASG	**Malin Array Be**	**74.10**	**322**	P	**P**	**10 45 48.1**	**-1.0**
	0.3nm,0.3s,baz=44,slow=6.2,SNR=4.2						
	0.3nm,0.3s						
LPAZ	**La Paz**	**146.68**	**59**	PKPbc	**PKPdf**	**10 53 55.4**	**+0.8**
	0.6nm,0.6s,baz=315,slow=2.9,SNR=1.8						

MAN 23 10:36:28.6, 6°75N×124°28E, h28km, mb4.0, ML2.8, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.74**	**14**	*e*P	Pn	10 36 57.8	+0.9
CGP				*e*S	Sn	10 37 18.5	+0.2

WEL 23 10:40:11.6, 42°S±4°×17°4E±°, h15km±7km, M2.6/18, mB4.4/1, ML2.8/24, MLv2.6/18, Mw(mB)3.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=93.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.29**	**26**	P	Pg	10 40 17.8	+0.2
CMWZ	**Cape Campbell**	**0.44**	**60**	P	Pb	10 40 21.5	+0.4
KHZ	**Kahutara**	**0.46**	**196**	P	Pb	10 40 21.6	+0.1
TUWZ	**Tuamarina**	**0.57**	**18**	P	Pb	10 40 23.1	-0.2
THZ	**Tophouse**	**0.63**	**289**	P	Pb	10 40 24.4	0.0
NNZ	**Nelson**	**0.79**	**342**	P	Pg	10 40 23.5	-3.5
TCW	**Tory Channel**	**0.87**	**30**	P	Pb	10 40 28.2	-0.2
MRNZ	**Matariki Terra**	**0.91**	**309**	P	Pn	10 40 29.7	-0.2
WEL	**Wellington**	**1.05**	**50**	P	Pg	10 40 32.4	+0.5
TKNZ	**Takaka Hill**	**1.09**	**329**	P	Pn	10 40 32.5	+0.1
GVZ	**Greta Valley S**	**1.11**	**206**	P	Pg	10 40 33.4	+0.4
DUWZ	**D'Urville Isla**	**1.18**	**8**	P	Pb	10 40 33.7	0.0
PLWZ	**Palliser**	**1.23**	**71**	P	Pn	10 40 34.2	-0.1
LTZ	**Lake Taylor**	**1.34**	**232**	P	Pb	10 40 36.8	+0.4
CAW	**Cannon Point**	**1.34**	**50**	P	Pb	10 40 36.1	-0.2
PAWZ	**Paruwai Farm**	**1.42**	**66**	P	Pn	10 40 36.5	-0.4
KIW	**Kapiti Island**	**1.43**	**40**	P	Pb	10 40 37.9	-0.1
AMCZ	**Amberley**	**1.43**	**213**	P	Pn	10 40 37.5	+0.5
DSZ	**Denniston Nort**	**1.44**	**278**	P	Pg	10 40 38.6	+0.3
QRZ	**Quartz Range**	**1.45**	**322**	P	Pb	10 40 38.6	+0.3
MTW	**Mount Morrison**	**1.57**	**60**	P	Pn	10 40 38.6	-0.4
OGWZ	**Otaki Gorge**	**1.60**	**44**	P	Pn	10 40 39.8	+0.5
HOWZ	**Holdsworth Sta**	**1.73**	**52**	P	Pg	10 40 44.2	-0.7
OKCZ	**Okains Bay**	**1.81**	**195**	P	Pn	10 40 42.6	+0.2
OXZ	**Oxford**	**1.83**	**222**	P	Pn	10 40 42.4	-0.1
INZ	**Inchbonnie**	**1.84**	**245**	P	Pb	10 40 44.6	-0.3
MQZ	**McQueen's Vall**	**1.90**	**204**	P	Pn	10 40 42.6	-0.9
MRZ	**Mangatainoka R**	**1.93**	**48**	P	Pn	10 40 43.7	-0.1
MHCZ	**Mount Hutt**	**2.22**	**225**	P	Pn	10 40 47.2	-0.7
WAZ	**Wanganui**	**2.42**	**24**	P	Pb	10 40 55.8	+1.0
TSZ	**Takapari Road**	**2.56**	**43**	P	Pb	10 40 58.5	+1.3
NEZ	**North Egmont**	**2.71**	**6**	P	Pb	10 41 01.0	+1.1
VRZ	**Vera Road**	**2.96**	**16**	P	Pb	10 41 03.0	-1.0
PKVZ	**Pokaka**	**2.96**	**26**	P	Pb	10 41 04.9	+0.8
MOVZ	**Moawhango**	**3.00**	**32**	P	Pb	10 41 05.3	+0.5
WNVZ	**Wahianoa**	**3.01**	**29**	P	Pb	10 41 02.9	-2.1
TRVZ	**Turoa**	**3.02**	**28**	P	Pb	10 41 05.0	-0.1
BHHZ	**Black Hill Sta**	**3.06**	**37**	P	Pb	10 41 06.8	+1.0
NGZ	**Ngauruhoe**	**3.14**	**28**	P	Pb	10 41 06.9	-0.4
HIZ	**Hauiti**	**3.56**	**15**	P	Pb	10 41 10.7	-3.6
TWGZ	**Tauwhareparae**	**5.01**	**42**	P	Pb	10 41 33.1	-5.9
RUGZ	**Raukumara Rang**	**5.03**	**39**	P	Pn	10 41 31.6	+4.9
PUZ	**Puketiti**	**5.23**	**43**	P	Pn	10 41 27.6	-1.7

*NOU **23** 10:46:35.4, 42°.36S×173°.67E, h3km, MLv4.4/14, South Island, New Zealand*
*WEL **23** 10:46:36.8±0.3, 42°.5±2°.×17°.4E±°, h5km, M4.1/39, ML4.3/15, MLv4.1/39, Error ellipse: s-maj=0.0km s-min=0.0km az=116.8*
*NEIC **23** 10:46:36.6±1.6, 42°.25S±0°.04×173°.63E±0°.04, h19km±5km, mb4.1/5, ML4.2(WEL), Error ellipse: s-maj=5.6km s-min=3.4km az=150.0*

ISC 23 10:46:37.0±0.8, 42°.25S±0°.03×173°.60E±0°.03, h21km±4km, n155, σ1$47/158, mb4.0/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**195**		**Pb**	**10 46 42.1**	**-0.7**
KHZ	**Kahutara**	**0.17**	**195**	P	**Pb**	**10 46 42.1**	**-0.7**
KHZ				S	**Sb**	**10 46 45.9**	**-0.9**
BSWZ	**Blackbirch Sta**	**0.57**	**21**		**Pb**	**10 46 47.8**	**-0.7**
BSWZ	**Blackbirch Sta**	**0.57**	**21**	P	**Pb**	**10 46 47.5**	**-1.0**
BSWZ				S	**Sb**	**10 46 55.6**	**-0.6**
CMWZ	**Cape Campbell**	**0.68**	**43**		**Pb**	**10 46 50.8**	**+0.6**
CMWZ	**Cape Campbell**	**0.68**	**43**	P	**Pb**	**10 46 50.6**	**+0.4**
THZ	**Tophouse**	**0.71**	**313**		**Pb**	**10 46 49.2**	**-1.5**
THZ	**Tophouse**	**0.71**	**313**	P	**Pb**	**10 46 49.3**	**-1.5**
THZ				S	**Sb**	**10 46 57.9**	**-2.2**
GVZ	**Greta Valley S**	**0.83**	**210**	Pn	**Pn**	**10 46 53.9**	**+0.4**
GVZ	**Greta Valley S**	**0.83**	**210**	P	**Pn**	**10 46 54.1**	**+0.6**
TUWZ	**Tuamarina**	**0.86**	**18**		**Pb**	**10 46 52.7**	**-0.6**
TUWZ	**Tuamarina**	**0.86**	**18**	P	**Pb**	**10 46 52.6**	**-0.6**
TUWZ				S	**Sb**	**10 47 03.8**	**-0.5**
NNZ	**Nelson**	**1.04**	**351**		**Pn**	**10 46 55.3**	**-1.1**
NNZ	**Nelson**	**1.04**	**351**	P	**Pn**	**10 46 55.2**	**-1.2**
MRNZ	**Matariki Terra**	**1.06**	**323**		**Pn**	**10 46 55.9**	**-0.7**
MRNZ	**Matariki Terra**	**1.06**	**323**	P	**Pn**	**10 46 55.7**	**-1.0**
LTZ	**Lake Taylor**	**1.11**	**241**		**Pn**	**10 46 57.2**	**-0.2**
LTZ	**Lake Taylor**	**1.11**	**241**	P	**Pn**	**10 46 57.3**	**-0.2**
TCW	**Tory Channel**	**1.16**	**26**		**Pn**	**10 46 57.7**	**-0.3**
TCW	**Tory Channel**	**1.16**	**26**	P	**Pn**	**10 46 57.6**	**-0.4**
AMCZ	**Amberley**	**1.16**	**217**		**Pn**	**10 46 58.0**	**0.0**
AMCZ	**Amberley**	**1.16**	**217**	P	**Pb**	**10 46 58.5**	**+0.2**
SNZO	**South Karori**	**1.25**	**42**		**Pn**	**10 46 59.4**	**+0.1**
SNZO	**South Karori**	**1.25**	**42**	P	**Pb**	**10 46 59.6**	**-0.3**
WEL	**Wellington**	**1.30**	**43**	P	**Pn**	**10 47 00.1**	**+0.1**
TKNZ	**Takaka Hill**	**1.31**	**338**		**Pn**	**10 46 59.8**	**-0.2**
TKNZ	**Takaka Hill**	**1.31**	**338**	P	**Pn**	**10 46 59.9**	**-0.1**
PLWZ	**Palliser**	**1.41**	**62**		**Pn**	**10 47 00.9**	**-0.7**
PLWZ	**Palliser**	**1.41**	**62**	P	**Pn**	**10 47 01.0**	**-0.5**
DSZ	**Denniston Nort**	**1.43**	**290**		**Pn**	**10 47 02.7**	**+0.9**
DSZ	**Denniston Nort**	**1.43**	**290**	P	**Pn**	**10 47 02.7**	**+0.9**
DUWZ	**D'Urville Isla**	**1.47**	**10**	P	**Pn**	**10 47 02.9**	**+0.6**
OKCZ	**Okains Bay**	**1.52**	**195**	P	**Pn**	**10 47 03.0**	**-0.1**
OXZ	**Oxford**	**1.57**	**226**	Pn	**Pn**	**10 47 03.1**	**-0.6**
OXZ	**Oxford**	**1.57**	**226**	P	**Pn**	**10 47 02.9**	**-0.8**
CAW	**Cannon Point**	**1.59**	**44**	P	**Pn**	**10 47 03.7**	**-0.2**
MQZ	**McQueen's Vall**	**1.61**	**205**		**Pn**	**10 47 03.1**	**-1.2**
MQZ	**McQueen's Vall**	**1.61**	**205**	P	**Pn**	**10 47 03.3**	**-0.9**
PAWZ	**Paruwai Farm**	**1.62**	**58**	P	**Pn**	**10 47 03.6**	**-0.8**
QRZ	**Quartz Range**	**1.63**	**330**		**Pn**	**10 47 05.4**	**+0.8**
QRZ	**Quartz Range**	**1.63**	**330**	P	**Pn**	**10 47 05.7**	**+1.1**
QRZ	**Quartz Range**	**1.63**	**330**	P	**Pn**	**10 47 05.4**	**+0.8**
INZ	**Inchbonnie**	**1.66**	**253**	Pn	**Pn**	**10 47 05.2**	**+0.2**
INZ	**Inchbonnie**	**1.66**	**253**	P	**Pn**	**10 47 05.3**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.70**	**197**	P	**Pn**	**10 47 05.2**	**-0.2**
KIW	**Kapiti Island**	**1.70**	**36**	P	**Pn**	**10 47 05.7**	**+0.2**
TRWZ	**Traveller**	**1.78**	**62**	P	**Pn**	**10 47 05.6**	**-1.0**
MTW	**Mount Morrison**	**1.79**	**53**	P	**Pn**	**10 47 05.9**	**-0.9**
OGWZ	**Otaki Gorge**	**1.86**	**40**	P	**Pn**	**10 47 07.4**	**-0.2**
MHCZ	**Mount Hutt**	**1.97**	**229**	P	**Pn**	**10 47 07.6**	**-1.5**
HOWZ	**Holdsworth Sta**	**1.97**	**47**	P	**Pn**	**10 47 08.4**	**-0.8**
TMWZ	**Te Maipa**	**2.06**	**57**	P	**Pn**	**10 47 09.4**	**-1.1**
MRZ	**Mangatainoka R**	**2.18**	**44**	Pn	**Pn**	**10 47 11.3**	**-0.7**
MRZ	**Mangatainoka R**	**2.18**	**44**	P	**Pn**	**10 47 11.3**	**-0.7**
TIWZ	**Tintock**	**2.26**	**50**	P	**Pb**	**10 47 15.9**	**-1.2**
RPZ	**Rata Peaks**	**2.37**	**231**	Pn	**Pn**	**10 47 14.2**	**-0.6**
RPZ	**Rata Peaks**	**2.37**	**231**	P	**Pn**	**10 47 14.4**	**-0.3**
OHWZ	**Ohakea**	**2.42**	**33**	P	**Pn**	**10 47 16.6**	**+1.3**
PRWZ	**Pori Road**	**2.46**	**47**	P	**Pn**	**10 47 14.8**	**-1.1**
BFZ	**Birch Farm**	**2.53**	**53**	Pn	**Pn**	**10 47 15.5**	**-1.4**
BFZ	**Birch Farm**	**2.53**	**53**	P	**Pn**	**10 47 16.7**	**-0.2**
BFZ	**Birch Farm**	**2.53**	**53**	P	**Pn**	**10 47 15.3**	**-1.6**
WAZ	**Wanganui**	**2.71**	**23**	P	**Pn**	**10 47 21.3**	**+1.9**
DVHZ	**Dannevirke**	**2.75**	**46**	P	**Pn**	**10 47 18.2**	**-1.7**
TSZ	**Takapari Road**	**2.83**	**40**	P	**Pn**	**10 47 19.9**	**-1.1**
NMEZ	**Namu Road**	**2.84**	**4**	P	**Pb**	**10 47 24.8**	**-2.2**
TMZ	**Timaru**	**2.85**	**221**	P	**Pn**	**10 47 20.8**	**-0.5**
LREZ	**Lake Rotokare**	**2.85**	**13**	P	**Pb**	**10 47 25.1**	**-2.1**
KHEZ	**Kahui Hut**	**2.97**	**6**	P	**Pn**	**10 47 25.3**	**+2.3**
KHEZ	**Kahui Hut**	**2.97**	**6**	P	**Pn**	**10 47 25.6**	**+2.6**
NBEZ	**Newall Road No**	**2.99**	**4**	P	**Pn**	**10 47 25.8**	**+2.7**
NEZ	**North Egmont**	**3.00**	**7**	P	**Pn**	**10 47 27.1**	**-2.7**
PNHZ	**Pukenui**	**3.05**	**41**	P	**Pn**	**10 47 22.7**	**-1.4**
FOZ	**Fox Glacier**	**3.06**	**244**	Pn	**Pn**	**10 47 24.4**	**+0.3**
WPHZ	**Waipukurau**	**3.06**	**45**	P	**Pn**	**10 47 23.5**	**-0.7**
PKE	**Pukeiti**	**3.07**	**6**	P	**Pn**	**10 47 27.0**	**+2.7**
DREZ	**Durham Road**	**3.09**	**9**	P	**Pn**	**10 47 27.3**	**+2.7**
MTVZ	**Mangateitei**	**3.20**	**27**	P	**Pn**	**10 47 27.4**	**+1.3**
MHEZ	**Mangahewa**	**3.22**	**10**	P	**Pn**	**10 47 29.8**	**+3.5**
PKVZ	**Pokaka**	**3.24**	**25**	P	**Pn**	**10 47 27.7**	**+1.0**
VRZ	**Vera Road**	**3.25**	**16**	P	**Pn**	**10 47 28.5**	**+1.8**
MOVZ	**Moawhango**	**3.28**	**31**	P	**Pn**	**10 47 27.1**	**-0.1**
LBZ	**Lake Benmore**	**3.28**	**228**	Pn	**Pn**	**10 47 27.2**	**0.0**
WNVZ	**Wahianoa**	**3.29**	**28**	P	**Pn**	**10 47 28.2**	**+0.7**
TRVZ	**Turoa**	**3.30**	**27**	P	**Pn**	**10 47 28.5**	**+0.8**
PXZ	**Pawanui**	**3.32**	**49**	P	**Pn**	**10 47 30.2**	**+2.5**
DRZ	**Dome Shelter**	**3.33**	**27**	P	**Pb**	**10 47 35.2**	**-0.3**
WHVZ	**Whangaehu Hut**	**3.33**	**28**	P	**Pn**	**10 47 28.9**	**+0.9**
BHHZ	**Black Hill Sta**	**3.33**	**35**	P	**Pn**	**10 47 27.4**	**-0.6**
FWVZ	**Far West T-bar**	**3.34**	**27**	P	**Pn**	**10 47 29.2**	**+0.9**
TUVZ	**Tukino**	**3.36**	**28**	P	**Pn**	**10 47 27.2**	**-1.3**
NGZ	**Ngauruhoe**	**3.43**	**27**	P	**Pn**	**10 47 30.1**	**+0.7**
SNVZ	**South Ngauruho**	**3.43**	**28**	P	**Pn**	**10 47 30.4**	**+0.9**
OTVZ	**Oturere**	**3.46**	**28**	P	**Pn**	**10 47 30.6**	**+0.8**
TWVZ	**Taurewa**	**3.47**	**24**	P	**Pn**	**10 47 30.5**	**+0.6**
NNVZ	**North Ngauruho**	**3.47**	**27**	P	**Pn**	**10 47 30.6**	**+0.6**
KAHZ	**Kahuranaki**	**3.49**	**46**	P	**Pn**	**10 47 28.3**	**-1.8**
ETVZ	**East Tongariro**	**3.50**	**28**	P	**Pn**	**10 47 30.9**	**+0.5**
KRVZ	**Karewarewa**	**3.52**	**27**	P	**Pb**	**10 47 38.1**	**-0.5**
TMVZ	**Te Maari**	**3.52**	**28**	P	**Pn**	**10 47 31.1**	**+0.5**
ODZ	**Otahua Downs**	**3.52**	**217**	P	**Pn**	**10 47 30.0**	**-0.5**
NTVZ	**North Tongarir**	**3.52**	**27**	P	**Pn**	**10 47 31.3**	**+0.6**
KWHZ	**Kaweka Forest**	**3.54**	**38**	P	**Pb**	**10 47 39.2**	**+0.2**
KATZ	**Kakaramea**	**3.64**	**27**	P	**Pb**	**10 47 41.1**	**+0.4**
MCHZ	**McNeill Hill**	**3.66**	**41**	P	**Pb**	**10 47 44.2**	**+3.2**
RATZ	**Rangitukua**	**3.76**	**27**	P	**Pb**	**10 47 42.7**	**-0.1**
BKZ	**Black Stump Fm**	**3.79**	**36**	Pn	**Pn**	**10 47 32.5**	**-1.7**
BKZ	**Black Stump Fm**	**3.79**	**36**	P	**Pn**	**10 47 34.9**	**+0.7**
BKZ	**Black Stump Fm**	**3.79**	**36**	P	**Pn**	**10 47 32.4**	**-1.8**
HIZ	**Hauiti**	**3.85**	**15**	Pn	**Pn**	**10 47 36.7**	**+1.6**
HIZ	**Hauiti**	**3.85**	**15**	P	**Pn**	**10 47 38.3**	**+3.2**
HIZ	**Hauiti**	**3.

JFY S Sn 10 57 34.7 -0.9
JFY Yanaizu 1.59 272 A A 10 57 14.3
comp=E,4.0nm,0.4s,comp=E,6.0nm,0.3s
JYK Kaneyama 1.86 326 A A 10 57 18.4
comp=E,4.0nm,0.8s,comp=E,6.0nm,0.9s
JYA Atsumi 1.98 308 A A 10 57 19.8
comp=E,8.0nm,0.7s,comp=E,6.0nm,0.9s
JSD Sado 2.80 285 P Pn 10 57 32.8 +1.4
MJAR Matsushiro Arr 2.92 254 Pn Pn 10 57 33.5 +0.6
2.0nm,0.3s,baz=82,slow=16,SNR=58
MJAR Sn Sb 10 58 13.1 -1.2
1.7nm,0.3s,baz=78,slow=18,SNR=6.6
9.1nm,0.3s
MAJO Matsushiro 2.92 254 P Pn 10 57 34.0 +1.1
JGF Kuroka 3.92 244 P Pn 10 57 48.4 +1.6
INU Inuyama 4.29 243 P Pn 10 57 53.5 +1.8
JHS Saijyo 7.33 254 P Pn 10 58 37.6 +4.0
SONM Songino Array 27.78 303 P P 11 02 35.4 -0.4
0.6nm,0.5s,baz=105,slow=9.2,SNR=5.7
0.6nm,0.5s
H11N2 WAKE ISLAND Hy 28.13 122 T T 11 32 09.1
baz=314,slow=75,SNR=88
H11N1 WAKE ISLAND Hy 28.14 122 T T 11 32 10.2
baz=314,slow=75,SNR=136
H11N3 WAKE ISLAND Hy 28.15 122 T T 11 32 10.8
baz=314,slow=75,SNR=115
H11S1 WAKE ISLAND Hy 28.86 124 T T 11 33 00.6
baz=316,slow=76,SNR=57
H11S3 WAKE ISLAND Hy 28.86 124 T T 11 33 01.4
baz=316,slow=76,SNR=42
H11S2 WAKE ISLAND Hy 28.88 124 T T 11 33 01.8
baz=316,slow=76,SNR=41
ZALV Zalesovo Beam 41.85 312 P P 11 04 36.8 +0.3
1.0nm,0.5s,baz=77,slow=7.6,SNR=1.9
1.0nm,0.5s
MKAR Makanchi Array 44.13 302 P P 11 04 55.6 +0.4
1.5nm,0.7s,baz=85,slow=9.6,SNR=11
1.5nm,0.7s
KURBB Kurchatov Arra 45.97 308 P P 11 05 09.8 +0.1
1.2nm,0.4s,baz=82,slow=8.5,SNR=4.7
1.2nm,0.4s
WRA Warramunga Arr 57.43 188 P P 11 06 36.1 +0.6
1.0nm,0.7s,baz=4.1,slow=7.4,SNR=19
1.0nm,0.7s
ASAR Alice Springs 61.16 188 P P 11 07 02.3 +0.9
0.7nm,0.8s,baz=11,slow=6.1,SNR=7.4
0.7nm,0.8s
FINES FINESS Array B 68.62 332 P P 11 07 49.1 -0.4
1.1nm,0.6s,baz=32,slow=8.6,SNR=1.6
1.1nm,0.6s
AKASG Malin Array Be 74.16 322 P P 11 08 23.1 -0.2
1.1nm,0.6s,baz=46,slow=6.5,SNR=6.1
1.1nm,0.6s
NVAR Mina Array Bea 74.60 53 P P 11 08 25.7 -0.6
0.2nm,0.3s,baz=286,slow=6.4,SNR=3.9
0.2nm,0.3s

*IDC **23** 11:02:31.0±0.6,37.°1N×141.°26E, h0km, mb4.1/19, mbtmp4.1/21, ML3.7/2, MS3.4/14, Error ellipse: s-maj=17.8km s-min=15.0km az=75.0*
*MOS **23** 11:02:30.9±1.0,37.°19N×141.°38E, h14km, mb4.6/13, Error ellipse: s-maj=11.6km s-min=8.3km az=118.7*
*NIED **23** 11:02:32.6,37.°14N×141.°34E, h24km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.49; Mθθ=0.38; Mφφ 1.10; Mrθ=-0.03; Mθφ0.64; Mφr 0.25; Fault plane solution: M0 1.50000×10¹⁵ NP1:φ=36.00000°, δ=41.00000°, λ=-82.00000°. NP2:φ=205.00000°, δ=49.00000°, λ=-97.00000°.*
*NEIC **23** 11:02:32.0±1.4,37.°21N±0.°04×141.°50E±0.°07, h10km±1km, mb4.4/20 Error ellipse: s-maj=11.2km s-min=3.0km az=50.0*
*JMA **23** 11:02:32.6±0.2,37.°1N±0.°3×141.°3E±0.°9, h24km±1km, MD4.4/39, MV4.4/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 23 11:02:31.4±1.5,37.°14N±0.°04×141.°39E±0.°05, h6km±9km, n135, σ1§02/111, mb4.4/41, MS3.5/10, 8C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**299**	P		**Pb**	**11 02 41.3**	**-0.9**
JFK				S		**Sb**	**11 02 47.9**	**-1.5**
JFK	**Kawauchi**	**0.47**	**299**	A		A	11 02 41.3	
	comp=E,14nm,2.0s,comp=E,8.0nm,2.0s							
JFFD	**Fukushimafurud**	**0.67**	**266**	P		**Pg**	**11 02 44.6**	**+0.3**
JFFD				S		**Sg**	**11 02 53.4**	**+0.5**
JFFD	**Fukushimafurud**	**0.67**	**266**	A		A	11 02 44.6	
	comp=E,25nm,0.3s,comp=E,31nm,0.3s							
JMST	**Minamisoumatoc**	**0.71**	**326**	P		**Pb**	**11 02 45.8**	**-0.4**
JMST				S		**Sb**	**11 02 55.7**	**-0.5**
JMST	**Minamisoumatoc**	**0.71**	**326**	A		A	11 02 45.8	
	comp=E,12nm,1.0s,comp=E,14nm,0.7s							
JHO	**Hitachi**	**0.85**	**232**	⇓P		**Pg**	**11 02 47.3**	**-0.3**
JHO				⇓S		**Sg**	**11 02 58.5**	**-0.2**
JHO	**Hitachi**	**0.85**	**232**	A		A	11 02 47.3	
	comp=E,7.0nm,1.8s,comp=E,7.0nm,2.5s							
JMM	**Marumori**	**0.87**	**327**			**Pb**	**11 02 48.8**	**-0.2**
JMM						**Sb**	**11 03 00.4**	**-0.4**
JMM	**Marumori**	**0.87**	**327**	P		**Pb**	**11 02 48.5**	**-0.4**
JMM				S		**Sb**	**11 03 00.2**	**-0.5**
JMM	**Marumori**	**0.87**	**327**	A		A	11 02 48.5	
	comp=E,7.0nm,1.3s,comp=E,13nm,0.8s							
JHYU	**Hitachinakayam**	**1.03**	**219**	A		A	11 02 50.8	
	comp=E,9.0nm,3.0s,comp=E,11nm,0.3s							
JSB	**Shiboa**	**1.19**	**262**	P		**Pn**	**11 02 54.5**	**-0.1**
JSB				S		**Sb**	**11 03 10.0**	**-0.1**
JSB	**Shiboa**	**1.19**	**262**	A		A	11 02 54.5	
	comp=E,27nm,1.3s,comp=E,20nm,1.2s							
JYAR	**Yonezawaarcadi**	**1.26**	**308**	A		A	11 02 54.4	
	comp=E,42nm,0.6s,comp=E,63nm,1.1s							
JIO	**Ouri**	**1.31**	**358**	*i* P		**Pn**	**11 02 55.9**	**-0.4**
JIO				*e*S		**Sb**	**11 03 13.0**	**-0.5**
JYT	**Yasato**	**1.33**	**227**	A		A	11 02 55.5	
	comp=E,16nm,0.4s,comp=E,11nm,0.4s							
JOU	**Okura**	**1.35**	**335**	A		A	11 02 56.2	
	comp=E,13nm,0.6s,comp=E,18nm,1.4s							
JFY	**Yanaizu**	**1.37**	**282**	*i* P		**Pb**	**11 02 57.2**	**-0.3**
JFY				S		**Sb**	**11 03 14.9**	**-0.5**
JFY	**Yanaizu**	**1.37**	**282**	A		A	11 02 57.2	
	comp=E,17nm,0.5s,comp=E,17nm,0.4s							
JYS	**Shirataka**	**1.51**	**316**	A		A	11 02 58.4	
	comp=E,24nm,0.9s,comp=E,19nm,0.8s							
JOFO	**Osakifurukawao**	**1.51**	**346**	A		A	11 02 58.6	
	comp=E,62nm,1.2s,comp=E,36nm,1.2s							
JAG	**Ashikaga**	**1.71**	**246**	A		A	11 03 01.2	
	comp=E,3.0nm,1.6s,comp=E,5.0nm,6.6s							
JNS	**Sasagawa**	**1.78**	**293**	A		A	11 03 02.3	
	comp=E,7.0nm,0.8s,comp=E,6.0nm,0.6s							
JUON	**Uonuma**	**1.87**	**273**	A		A	11 03 03.4	
	comp=E,5.0nm,1.2s,comp=E,6.0nm,1.3s							
JYK	**Kaneyama**	**1.95**	**336**	A		A	11 03 05.1	
	comp=E,6.0nm,3.2s,comp=E,5.0nm,3.5s							
JYA	**Atsumi**	**1.97**	**318**	A		A	11 03 05.1	
	comp=E,12nm,1.0s,comp=E,26nm,1.0s							
JHU	**Hanno**	**2.13**	**234**	A		A	11 03 07.3	
	comp=E,3.0nm,1.7s,comp=E,3.0nm,2.1s							
JGK	**Kuni**	**2.28**	**256**	A		A	11 03 09.4	
	comp=E,6.0nm,4.1s,comp=E,5.0nm,1.2s							
JYW	**Yuwa**	**2.57**	**339**	A		A	11 03 14.0	
	comp=E,7.0nm,3.1s,comp=E,11nm,1.5s							
JJN	**Nakama**	**2.58**	**270**	A		A	11 03 13.7	
	comp=E,8.0nm,4.3s,comp=E,9.0nm,2.5s							
JSZI	**Iwateshizukuis**	**2.62**	**353**	A		A	11 03 14.8	
	comp=E,7.0nm,5.6s,comp=E,8.0nm,2.9s							
MJAR	**Matsushiro Arr**	**2.62**	**258**	Pn		**Pn**	**11 03 14.8**	**+0.4**
	2.4nm,0.3s,baz=83,slow=25,SNR=61							
MJAR				Sn		**Sb**	**11 03 49.5**	**-1.8**
	6.0nm,0.3s,baz=71,slow=15,SNR=3.7							
MJAR				LR		LR	11 04 30.5	
	comp=Z,407nm,19.3s,baz=87,slow=48 29nm,0.6s							
MAJO	**Matsushiro**	**2.62**	**258**	Pn		**Pn**	**11 03 15.3**	**+0.9**
MAJO	**Matsushiro**	**2.62**	**258**	P		**Pn**	**11 03 15.3**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.63**	**258**			**Pn**	**11 03 16.4**	**+2.0**
JSD	**Sado**	**2.64**	**291**	Pn		**Pn**	**11 03 14.6**	**-0.1**
JGF	**Kuroka**	**3.60**	**246**			**Pn**	**11 03 29.4**	**+1.6**
JTM	**Tenmabayashi**	**3.65**	**356**			**Pn**	**11 03 28.8**	**+0.4**
INU	**Inuyama**	**3.96**	**244**	Pn		**Pn**	**11 03 34.2**	**+1.4**
JHJ	**Hachijo jima 2**	**4.22**	**199**	Pn		**Pn**	**11 03 32.2**	**-4.1**
	22nm,0.3s,baz=117,slow=11,SNR=2.0							
JHJ				Sn		**Sn**	**11 04 24.6**	**-1.4**
	23nm,0.3s,baz=90,slow=20,SNR=1.9							
JMN	**Monobe**	**7.01**	**243**	Pn		**Pn**	**11 04 15.6**	**+0.8**
ASAJ	**Asahikawa**	**7.03**	**7**	P		**Pn**	**11 04 12.5**	**-2.4**
JKA	**Kamikawa-asahi**	**7.03**	**7**	Pn		**Pn**	**11 04 12.5**	**-2.4**
JHS	**Saijyo**	**7.04**	**255**			**Pn**	**11 04 16.6**	**+1.6**
MSHR	**Mys Shultsa**	**9.56**	**308**	⇓*e*P		**Pn**	**11 04 50.8**	**+1.2**
MSHR				pmax	pmax			
	comp=Z,17nm,1.4s							
USRK	**Ussuriysk Ar.**	**10.03**	**318**	Pn		Pn	11 05 01.6	+5.6
	comp=Z,0.2nm,0.3s,baz=136,slow=13,SNR=8.0							
USRK				LR		LR	11 08 29.6	
	comp=Z,234nm,19.4s,baz=126,slow=36							
JCJ	**Chichijima**	**10.04**	**176**	Pn		**Pn**	**11 04 55.5**	**-0.7**
	comp=Z,4.2nm,0.3s,baz=252,slow=20,SNR=1.8							
	comp=Z,30nm,0.5s							
KSRS	**Korea Array**	**10.74**	**276**	Pn		Pn	11 05 10.6	+4.8
	comp=Z,0.1nm,0.3s,baz=85,slow=13,SNR=4.5							
KSRS				LR		LR	11 09 11.7	
	comp=Z,126nm,19.2s,baz=95,slow=38							
TJN	**Taejon**	**11.28**	**270**	⇓*e*P		**Pn**	**11 05 13.6**	**+0.4**
KLR	**Kul'dur**	**13.96**	**333**	LR		LR	11 11 04.8	
	comp=Z,134nm,19.0s,baz=142,slow=37							
HHC	**Hu-ho-hao-te**	**23.42**	**288**	*e*P		**P**	**11 07 40.6**	**-0.8**
HHC				pmax	pmax			
	comp=Z,32nm,0.9s							
HHC				pmax	pmax			
	comp=Z,110nm,6.0s							
YAK	**Yakutsk**	**25.96**	**347**	*e*P		P	11 08 14.1	+10
YAK				pmax	pmax			
	comp=Z,15nm,1.3s							
SONM	**Songino Array**	**27.71**	**304**	P		**P**	**11 08 19.8**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=105,slow=8.6,SNR=12							
SONM				LR		LR	11 19 12.4	
	comp=Z,39nm,19.6s,baz=312,slow=36							
	comp=Z,1.7nm,0.7s							
SONM	**Songino Array**	**27.71**	**304**	P		**P**	**11 08 19.9**	**-0.7**
SONM	**Songino Array**	**27.71**	**304**	P		**P**	**11 08 19.9**	**-0.7**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T		T	11 37 54.5	
	baz=314,slow=76,SNR=263							
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	11 37 55.7	
	baz=314,slow=76,SNR=224							
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	11 37 58.0	
	baz=314,slow=76,SNR=182							
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T		T	11 38 47.2	
	baz=316,slow=75,SNR=140							
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T		T	11 38 48.9	
	baz=316,slow=75,SNR=83							
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	11 38 50.1	
	baz=316,slow=75,SNR=90							
PZH	**PanZhiHua**	**35.10**	**264**	P		**P**	**11 09 28.0**	**+2.3**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,5.0s							
TIXI	**Tiksi**	**35.18**	**353**	⇑*e*P		**P**	**11 09 24.8**	**-1.0**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TNCH	**TengChong**	**38.35**	**264**	P		**P**	**11 09 54.9**	**+1.3**
TNCH				pP	sP		11 09 57.8	+1.8
TNCH				pmax	pmax			
	comp=Z,48nm,0.7s							
DGZ	**Jazzator, Alta**	**40.32**	**306**	*de*P		**P**	**11 10 10.3**	**+0.6**
DGZ				pmax	pmax			
	comp=Z,7.0nm,0.9s							
WMQ	**Urumqi**	**40.78**	**297**	*e*P		**P**	**11 10 12.9**	**-0.5**
WMQ				pmax	pmax			
	comp=Z,16nm,0.7s							
LUWI	**Luwuk**	**41.73**	**209**	P		**P**	**11 10 22.1**	**+0.7**
ZAA0	**Zalesovo Array**	**41.83**	**312**	P		**P**	**11 10 20.8**	**-1.1**
ZAA0				IAmb		IAmb	11 10 22.7	
	comp=Z,3.5nm,0.8s							
ZALV	**Zalesovo Beam**	**41.83**	**312**	P		**P**	**11 10 22.0**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=99,slow=8.1,SNR=11							
ZALV				LR		LR	11 28 28.6	
	comp=Z,68nm,18.1s,baz=134,slow=37							
	comp=Z,2.8nm,0.7s							
ZALV	**Zalesovo Beam**	**41.83**	**312**	P		**P**	**11 10 20.8**	**-1.1**
SBUM	**Sibu**	**43.73**	**225**	P		**P**	**11 10 37.9**	**+0.2**
MK31	**Makanchi Array**	**44.05**	**302**	P		**P**	**11 10 38.9**	**-1.1**
MK31	**Makanchi Array**	**44.05**	**302**	*c* iP		**P**	**11 10 39.7**	**-0.3**
MKAR	**Makanchi Array**	**44.05**	**302**	P		**P**	**11 10 39.8**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=88,slow=9.9,SNR=18							
MKAR				LR		LR	11 29 17.1	
	comp=Z,45nm,20.2s,baz=22,slow=36							
	comp=Z,2.7nm,0.8s							
MKAR	**Makanchi Array**	**44.05**	**302**	P		**P**	**11 10 39.0**	**-1.0**
MAKZ	**Makanchi**	**44.26**	**302**	P		**P**	**11 10 41.2**	**-0.4**
MAKZ				IAmb		IAmb	11 10 42.2	
	comp=Z,4.1nm,1.1s							
MAKZ	**Makanchi**	**44.26**	**302**	P		**P**	**11 10 41.2**	**-0.4**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KURK	**Kurchatov**	**45.85**	**308**	P		**P**	**11 10 53.3**	**-0.9**
KURK				IAmb		IAmb	11 10 55.2	
	comp=Z,10nm,1.1s							
KURK	**Kurchatov**	**45.85**	**308**	*d* iP		**P**	**11 10 53.6**	**-0.6**
KURK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KURBB	**Kurchatov Arra**	**45.92**	**308**	P		**P**	**11 10 54.5**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=84,slow=8.3,SNR=28							
	comp=Z,4.2nm,0.8s							
KAPI	**Kappang**	**46.55**	**210**	P		**P**	**11 11 00.3**	**+0.3**
KAPI	**Kappang**	**46.55**	**210**	*ce*P		**P**	**11 11 00.8**	**+0.8**
KAPI				pmax	pmax			
	comp=Z,11nm,1.1s							
SOEI	**Soe**	**49.34**	**202**	P		**P**	**11 11 22.3**	**+0.5**
ILAR	**Eielson Array**	**49.41**	**32**	P		**P**	**11 11 23.1**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=267,slow=6.4,SNR=21							
	comp=Z,2.3nm,0.8s							
ILAR	**Eielson Array**	**49.41**	**32**	P		**P**	**11 11 22.5**	**+0.8**
AAK	**Ala-Archa**	**50.42**	**298**	LR		LR	11 33 48.5	
	comp=Z,74nm,18.1s,baz=53,slow=37							
BRVK	**Borovoye**	**50.54**	**312**	*de*P		**P**	**11 11 29.9**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
L27K	**Beaver Creek,**	**51.80**	**34**	P		**P**	**11 11 42.3**	**+2.5**
L27K				IAmb		IAmb	11 11 43.0	
	comp=Z,4.6nm,1.1s							
BCAR	**Beaver Creek A**	**51.81**	**34**	P		**P**	**11 11 42.3**	**+2.4**
KKAR	**Karatay Array**	**53.06**	**300**	P		**P**	**11 11 49.4**	**0.0**
KKAR	**Karatay Array**	**53.06**	**300**	P		**P**	**11 11 49.4**	**0.0**
BCPM	**Bancas Point**	**53.38**	**38**	P		**P**	**11 11 50.0**	**-1.5**
KNRA	**Kununurra**	**53.87**	**195**	P		**P**	**11 11 55.9**	**+0.5**
INK	**Inuvik**	**54.30**	**27**	P		**P**	**11 11 60.0**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=271,slow=6.3,SNR=4.4							
	comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**54.30**	**27**	P		**P**	**11 12 00.0**	**+1.9**
CHGR	**Chuyangaron**	**55.60**	**295**	IAmb		IAmb	11 12 20.7	
	comp=Z,7.6nm,0.7s							
ARU	**Arti**	**56.27**	**318**	LR		LR	11 38 37.2	
	comp=Z,52nm,19.0s,baz=14,slow=38							
ARU	**Arti**	**56.27**	**318**	*d* iP		**P**	**11 12 12.2**	**-0.3**
ARU				S		**S**	**11 20 01.7**	**-0.9**
ARU				SS		**SS**	**11 23 47.5**	**-1.1**
ARU				pmax	pmax			
	comp=Z,31nm,4.5s							
WB0	**Warramunga Arr**	**56.98**	**188**	P		**P**	**11 12 16.9**	**-0.9**
WB0				IAmb		IAmb	11 12 22.3	
	comp=Z,3.4nm,0.8s							
WRAB	**Tennant Creek**	**57.15**	**188**	P		**P**	**11 12 18.9**	**-0.2**
WRAB				IAmb		IAmb	11 12 20.8	
	comp=Z,3.8nm,0.9s							
WRAB	**Tennant Creek**	**57.15**	**188**	P		**P**	**11 12 18.9**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,4.0nm,1.0s							
WR0	**Warramunga Arr**	**57.16**	**188**	P		**P**	**11 12 19.0**	**-0.1**
WR0				IAmb		IAmb	11 12 19.2	
	comp=Z,2.9nm,0.7s							
WB2	**Warramunga Arr**	**57.16**	**188**	P		**P**	**11 12 19.0**	**-0.1**
WB2				IAmb		IAmb	11 12 19.5	
	comp=Z,2.7nm,0.7s							
WRA	**Warramunga Arr**	**57.16**	**188**	P		**P**	**11 12 19.0**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=4.6,slow=6.8,SNR=56							
	comp=Z,2.2nm,0.6s							
WRA	**Warramunga Arr**	**57.16**	**188**	P		**P**	**11 12 17.9**	**-1.2**
WRA	**Warramunga Arr**	**57.16**	**188**	*i* P		**P**	**11 12 18.7**	**-0.5**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ABKAR	**Akbulak array**	**57.86**	**310**	P		**P**	**11 12 23.9**	**+0.1**
EUNU	**Eureka**	**60.08**	**9**	P		**P**	**11 12 39.2**	**+0.3**
EUNU				IAmb		IAmb	11 12 59.0	
	comp=Z,4.4nm,1.1s							
KIRV	**Kirov**	**60.15**	**323**	*de*P		**P**	**11 12 40.4**	**+0.8**
AS31	**Alice Springs**	**60.89**	**188**	P		**P**	**11 12 45.1**	**+0.1**
ASAR	**Alice Springs**	**60.89**	**188**	P		**P**	**11 12 45.0**	**0.0**
	comp=Z,1.2nm,0.8s,baz=13,slow=5.5,SNR=13							
	comp=Z,1.2nm,0.8s							
ASAR	**Alice Springs**	**60.89**	**188**	P		**P**	**11 12 45.0**	**0.0**
BELG	**Belogornoye**	**63.71**	**317**	*ce*P		**P**	**11 13 03.4**	**-0.2**
BELG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GEYT	**Alibeck**	**63.77**	**299**	P		**P**	**11 13 04.1**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=286,slow=5.5,SNR=4.1							
	comp=Z,2.6nm,0.7s							
ARCES	**ARCESS Array B**	**63.89**	**339**	P		**P**	**11 13 05.1**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=35,slow=4.9,SNR=12							
ARCES				LR		LR	11 43 34.8	
	comp=Z,32nm,18.9s,baz=30,slow=39							
	comp=Z,2.1nm,0.6s							
STKA	**Stephens Creek**	**68.66**	**180**	P		**P**	**11 13 35.9**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=350,slow=12,SNR=3.0							
	comp=Z,2.1nm,0.9s							
FINES	**FINESS Array B**	**68.71**	**332**	P		**P**	**11 13 35.9**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=64,slow=6.3,SNR=4.0							
	comp=Z,3.3nm,0.7s							
KBZ	**Khabaz**	**70.82**	**311**	P		**P**	**11 13 49.4**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=119,slow=4.9,SNR=4.2							
KBZ				LR		LR	11 49 50.3	
	comp=Z,19nm,18.7s,baz=158,slow=40							
	comp=Z,1.8nm,0.7s							
KBZ	**Khabaz**	**70.82**	**311**	⇑*e*P		**P**	**11 13 49.1**	**+0.3**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NB2	**NORSAR Subarra**	**74.08**	**337**	P		**P**	**11 14 08.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=37,slow=6.2							
NOA	**NORSAR Array B**	**74.08**	**337**	P		**P**	**11 14 08.2**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=38,slow=5.9,SNR=5.1							
NOA				LR		LR	11 50 03.5	
	comp=Z,20nm,18.3s,baz=275,slow=38							
	comp=Z,1.6nm,0.8s							
AKASG	**Malin Array Be**	**74.20**	**322**	P		**P**	**11 14 08.8**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=46,slow=6.2,SNR=8.5							
AKASG				LR		LR	11 47 55.1	
	comp=Z,36nm,18.5s,baz=30,slow=37							
	comp=Z,0.9nm,0.5s							
AKBB	**Malin Array Si**	**74.20**	**322**	⇑*e*P		**P**	**11 14 07.9**	**-1.0**
NVAR	**Mina Array Bea**	**74.94**	**53**	P		**P**	**11 14 14.9**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=323,slow=3.7,SNR=3.5							
	comp=Z,0.2nm,0.4s							
PDAR	**Pinedale Array**	**77.60**	**45**	P		**P**	**11 14 30.1**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=280,slow=4.4,SNR=4.3							
	comp=Z,0.4nm,0.6s							
MLR	**Muntele Rosu**	**79.29**	**320**	LR		LR	11 51 48.6	
	comp=Z,62nm,18.6s,baz=34,slow=37							
CLL	**Collm**	**81.00**	**330**	*e*P		**P**	**11 14 47.0**	**+0.2**
	comp=Z,5.0nm,1.1s							
CLL	**Collm**	**81.00**	**330**	*e*P		**P**	**11 14 47.0**	**+0.2**
CLL				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KHC	**Kasperske Hory**	**82.44**	**328**	⇑*e*P		**P**	**11 14 54.8**	**+0.2**
KHC				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GERES	**GERESS Array B**	**82.61**	**328**	P		**P**	**11 14 55.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=39,slow=6.8,SNR=4.2							
	comp=Z,0.5nm,0.6s							
ANMO	**Albuquerque**	**84.53**	**50**	⇑*e*P		**P**	**11 15 04.6**	**-1.2**
ANMO				pmax	pmax			
	comp=Z,1.0nm,1.3s							
TXAR	**Lajitas Array**	**90.07**	**52**	P		**P**	**11 15 32.1**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=316,slow=2.5,SNR=2.5							
	comp=Z,0.4nm,0.7s							
SHEL	**Horse Pasture**	**144.09**	**297**	*i* PKIKP		**PKPdf**	**11 22 09.1**	**+0.5**
LPAZ	**La Paz**	**146.65**	**59**	PKPbc		**PKPab**	**11 22 16.1**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=343,slow=7.2,SNR=6.3							

*IDC **23** 11:07:00.1±2.3,32.°20N×141.°76E, h0km, mb3.9/4, mbtmp3.9/6, ML3.2/2, Error ellipse: s-maj=72.7km s-min=18.8km az=62.0*
ISC 23 11:07:04.3±1.5,32.°1N±0.°1×141.°5E±0.°2, h26km, n7, σ1§16/9, mb3.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.79**	**305**	Pn		**Pn**	**11 07 33.7**	**+0.2**
	49nm,0.3s,baz=91,slow=23,SNR=13							
JHJ				Sn		**Sb**	**11 07 58.1**	**-0.3**
	63nm,0.3s,baz=90,slow=20,SNR=2.2							
JHJ				LR		LR	11 08 18.8	
	comp=Z,151nm,19.1s,baz=84,slow=42							
JCJ	**Chichijima**	**5.02**	**173**	Pn		**Pn**	**11 08 18.3**	**+0.2**
	5.5nm,0.3s,baz=270,slow=20,SNR=18							
JCJ				Sn		**Sn**	**11 09 14.1**	**-1.2**
	5.3nm,0.3s,baz=288,slow=20,SNR=1.4							
	22nm,0.2s							
MJAR	**Matsushiro Arr**	**5.21**	**329**	Pn		**Pn**	**11 08 19.2**	**-1.4**
	0.2nm,0.3s,baz=161,slow=12,SNR=4.8							
MJAR				Sn		Sn	11 09 07.3	-12
	0.4nm,0.3s,baz=306,slow=25,SNR=6.2							
	1.5nm,0.4s							
SONM	**Songino Array**	**30.86**	**311**	P		**P**	**11 13 20.3**	**+1.

CBYP	**Canovanas**	**1.43**	**107**	⇓*eP*	**Pn**	**11 08 44.9**	**-0.4**
CBYP	**Canovanas**	**1.43**	**107**	Pn	**Pb**	**11 08 47.7**	**+0.6**
CBYP				IAML		11 09 07.1	
	comp=E,77nm,0.2s						
CUPR	**Culebra, Puert**	**1.95**	**101**	⇓*eP*	**Pn**	**11 08 52.6**	**+0.3**
CUPR	**Culebra, Puert**	**1.95**	**101**		**Pb**	**11 08 54.5**	**-1.3**
SDDR	**Presa de Saban**	**3.79**	**275**	Pn	**Pn**	**11 09 18.3**	**+0.5**

NEIC ***23*** *11:10:15.0±1.2, 32.76N±0.04×130.59E±0.06, h11km±10km, ML3.5/12, Error ellipse: s-maj=8.7km s-min=4.8km az=123.0*
JMA ***23*** *11:10:15.1±0.0, 32.7N±0.1×130.7E±0.1, h13km, MV3.6/20, NW KUMAMOTO PREF*
JMA Felt III J1 at NW KUMAMOTO PREF .
NIED ***23*** *11:10:15.1, 32.74N×130.68E, h13km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.97; Mθθ2.34; Mφφ-3.31; Mrθ-0.28; Mθφ0.58; Mrφ-0.06; Fault plane solution: M0 2.91000×10¹⁴ NP1: φs310.00000°, δ82.00000°, λ7.00000°. NP2: φs219.00000°, δ83.00000°, λ172.00000°.*

ISC 23 11:10:15.0±1.1, 32.73N±0.03×130.61E±0.06, h12km±9km, n13, σ0.80/18, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.24**	**344**	*eP*	**Pg**	**11 10 20.6**	**+0.5**
JTA				*eS*	**Sg**	**11 10 24.3**	**+0.6**
JIU3	**Izumi3**	**0.25**	**136**	P	**Pg**	**11 10 19.9**	**-0.3**
JIU3				S	**Sg**	**11 10 23.3**	**-0.4**
JNU	**Nakatsue**	**0.45**	**30**	Pg	**Pg**	**11 10 23.7**	**-0.3**
JNU				Sg	**Sg**	**11 10 29.2**	**-0.8**
JNU				IAML		11 10 29.8	
	comp=E,3μm,0.5s						
JNU				IAML		11 10 30.1	
	comp=N,3μm,0.6s						
JTZ	**Takazaki**	**0.92**	**154**	*i* P	**Pg**	**11 10 32.6**	**-0.1**
JTZ				S	**Sg**	**11 10 44.6**	**0.0**
JSU	**Suzuyama**	**1.23**	**186**	Pn	**Pn**	**11 10 38.1**	**+0.1**
JSU				Sn	**Sb**	**11 10 54.3**	**+0.4**
JTU	**Tsushima**	**2.06**	**331**	Pn	**Pn**	**11 10 49.2**	**-0.2**
JTU				IAML		11 11 22.2	
	comp=E,348nm,1.0s						
JMN	**Monobe**	**2.92**	**69**	Pn	**Pn**	**11 11 01.4**	**+0.2**
JMN				IAML		11 11 54.7	
	comp=N,185nm,1.1s						
JMN				IAML		11 11 60.0	
	comp=E,150nm,0.9s						
JHS	**Saijyo**	**3.08**	**42**	Pn	**Pn**	**11 11 04.2**	**+0.8**
JHS				IAML		11 11 56.6	
	comp=E,94nm,0.7s						
TJN	**Taejon**	**4.52**	**325**	Pn	**Pn**	**11 11 24.3**	**+1.1**
KSAR	**Wonju Array Be**	**5.21**	**335**	Pn	**Pn**	**11 11 30.7**	**-2.0**
KS19	**Wonju Array Si**	**5.27**	**335**	Pn	**Pn**	**11 11 32.5**	**-1.0**
INU	**Inuyama**	**5.93**	**62**	Pn	**Pn**	**11 11 43.2**	**+0.6**
JGF	**Kuroka**	**6.28**	**61**	Pn	**Pn**	**11 11 47.8**	**+0.3**

ROM 23 11:12:38.1±0.0, 42.745N±0.001×13.073E±0.001, h11km, ML1.6/12, 7C-5D, Error ellipse: s-maj=0.7km s-min=0.1km az=326.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1218	**Civita (PG)**	**0.08**	**158**	P	Pg	11 12 41.0	+0.4
T1218				S	Sg	11 12 43.1	+0.5
T1218				AML	AML		
	comp=N,1560μm,0.2s						
T1218				AML	AML		
	comp=E,816μm,0.2s						
T1218				AML	AML		
	comp=N,1545μm,0.2s						
T1218				AML	AML		
	comp=E,875μm,0.2s						
T1218				AML	AML		
	comp=N,1560μm,0.2s						
NRCA	**Norcia**	**0.09**	**19**	⇑P	Pg	11 12 41.2	+0.4
NRCA				S	Sg	11 12 43.2	+0.4
NRCA				AML	AML		
	comp=E,1275μm,0.2s						
NRCA				AML	AML		
	comp=N,854μm,0.1s						
T1245	**Castelsantange**	**0.14**	**37**	P	Pg	11 12 42.0	+0.4
T1245				S	Sg	11 12 44.6	+0.6
T1245				AML	AML		
	comp=E,560μm,0.3s						
T1245				AML	AML		
	comp=N,1012μm,0.3s						
T1245				AML	AML		
	comp=E,529μm,0.3s						
T1245				AML	AML		
	comp=N,1000μm,0.3s						
LNSS	**Leonessa**	**0.14**	**190**	⇑P	Pg	11 12 41.9	+0.4
LNSS				S	Sg	11 12 44.6	+0.6
LNSS				AML	AML		
	comp=E,320μm,0.5s						
LNSS				AML	AML		
	comp=N,818μm,0.1s						
T1216	**Preci, Frazion**	**0.15**	**345**	P	Pg	11 12 42.0	+0.4
T1216				S	Sg	11 12 44.9	+0.8
T1215	**Vallo di Nera,**	**0.16**	**291**	P	Pg	11 12 42.1	+0.3
SMA1	**SAN MARTINO**	**0.22**	**121**	P	Pb	11 12 43.6	-0.7
SMA1				AML	AML		
	comp=E,422μm,0.4s						
SMA1				AML	AML		
	comp=N,230μm,0.4s						
MMO1	**Montemonaco**	**0.24**	**50**	⇑P	Pg	11 12 43.5	+0.4
MMO1				S	Sg	11 12 47.7	+1.1
RM33	**Pellescritta (**	**0.26**	**156**	P	Pg	11 12 43.8	+0.4
RM33				S	Sg	11 12 48.1	+1.0
RM33				AML	AML		
	comp=E,832μm,0.4s						
RM33				AML	AML		
	comp=N,573μm,0.4s						
RM33				AML	AML		
	comp=N,154μm,1.1s						
RM33				AML	AML		
	comp=N,154μm,1.1s						
RM33				AML	AML		
	comp=E,136μm,1.5s						
ARRO	**Arrone**	**0.28**	**234**	⇓P	Pg	11 12 44.3	+0.5
ARRO				AML	AML		
	comp=E,88μm,0.8s						
ARRO				AML	AML		
	comp=N,126μm,0.2s						
ARRO				AML	AML		
	comp=N,126μm,0.2s						
ARRO				AML	AML		
	comp=E,88μm,0.8s						
T1243	**Rocca Santa Ma**	**0.28**	**100**	P	Pg	11 12 44.1	+0.2
T1243				S	Sg	11 12 48.8	+1.1
T1256	**Bolognola (MC)**	**0.28**	**23**	⇓P	Pg	11 12 44.4	+0.4
T1256				AML	AML		
	comp=E,60μm,1.1s						
T1256				AML	AML		
	comp=N,64μm,0.8s						
T1241	**Roccafluvione,**	**0.29**	**67**	⇑P	Pg	11 12 44.5	+0.5
CESI	**CESI - Serrava**	**0.29**	**335**	P	Pg	11 12 44.5	+0.5
CESI				S	Sb	11 12 49.2	-0.9
CESI				AML	AML		
	comp=N,294μm,0.2s						
CESI				AML	AML		
	comp=E,143μm,0.2s						
FDMO	**Fiordimonte**	**0.29**	**2**	⇓P	Pg	11 12 44.5	+0.4
T1219	**Muccia, Frazio**	**0.32**	**351**	⇑P	Pg	11 12 44.9	+0.4
T1219				S	Sg	11 12 49.8	+1.0
CAMP	**Campotosto**	**0.32**	**130**	P	Pg	11 12 44.9	+0.2
CAMP				S	Sg	11 12 49.9	+0.9
CAMP				AML	AML		
	comp=E,40μm,1.4s						
CAMP				AML	AML		
	comp=N,29μm,0.5s						
CSP1	**Cessapalombo**	**0.36**	**16**	P	Pg	11 12 45.6	+0.3
CSP1				S	Sb	11 12 51.7	-0.6
CESX	**Cesi**	**0.39**	**250**	S	Sb	11 12 52.0	-1.0
TERO	**Teramo**	**0.41**	**107**	P	Pg	11 12 46.2	0.0
TERO				AML	AML		
	comp=E,61μm,1.1s						
TERO				AML	AML		
	comp=N,58μm,1.2s						
ASSB	**Assisi San Ben**	**0.43**	**314**	⇑P	Pg	11 12 46.8	+0.3
ASSB				AML	AML		
	comp=E,89μm,1.1s						
ASSB				AML	AML		
	comp=N,102μm,0.2s						
FIAM	**Fiamignano**	**0.48**	**176**	⇓P	Pg	11 12 47.6	+0.1
SNTG	**Esanatoglia**	**0.52**	**349**	⇑P	Pg	11 12 48.2	0.0
SNTG				AML	AML		
	comp=E,49μm,0.1s						
SNTG				AML	AML		
	comp=N,51μm,0.2s						
EL6	**Elcito**	**0.58**	**2**	⇓P	Pg	11 12 49.6	+0.1
EL6				S	Sb	11 12 60.0	+1.3

ISK 23 11:15:16.9, 40.51N×29.25E, h0km, ML1.7/4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEMT	**Gemlik**	**0.09**	**211**	PG	Pg	11 15 18.9	+0.4
YLV	**Yalova**	**0.11**	**59**	PG	Pg	11 15 19.5	+0.5
YLV				SG	Sg	11 15 22.0	+1.5
ARMT	**Armutlu**	**0.30**	**281**	PG	Pg	11 15 23.6	+1.0
ARMT				SG	Sg	11 15 28.4	+1.9
TVSB	**Tavsanli**	**1.07**	**171**	PG	Pb	11 15 38.4	0.0
BORA	**Eskisehir**	**1.12**	**124**	PN	Pb	11 15 38.8	-0.3

MAN 23 11:22:20.4, 7.68N×125.68E, h78km, mb4.0, ML2.8, MS2.4, Mindanao

IDC 23 11:37:19.5±2.1, 2.08N×126.18E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=195.5km s-min=25.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.30**	**160**	P	P	11 42 28.9	-0.4
	0.4nm,0.3s,baz=338,slow=10,SNR=18						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**26.67**	**164**	P	P	11 43 00.7	+0.3
	0.1nm,0.3s,baz=347,slow=13,SNR=4.7						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.60**	**326**	P	P	11 47 18.3	0.0
	0.2nm,0.3s,baz=120,slow=7.7,SNR=6.4						
	0.2nm,0.3s						

WEL ***23*** *11:50:35.7, 42.2°S±4.7°×17.7°E±°, h30km±10km, M2.8/21, ML3.0/29, MLv2.8/21, Error ellipse: s-maj=0.0km s-min=0.0km az=87.4*
NOU ***23*** *11:50:38.5, 42.14S×173.17E, h0km, MLv3.7/6, South Island, New Zealand*

ISC 23 11:50:34.4±1.0, 42.15S±0.03×173.82E±0.03, h17km, n50, σ1.36/50, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.34**	**218**	P	**Pn**	**11 50 45.2**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.44**	**6**	P	**Pg**	**11 50 43.7**	**+0.1**
TUWZ	**Tuamarina**	**0.73**	**7**	P	**Pg**	**11 50 48.8**	**+0.2**
THZ	**Tophouse**	**0.79**	**300**	P	**Pg**	**11 50 49.6**	**-0.1**
NNZ	**Nelson**	**0.99**	**340**	P	**Pb**	**11 50 52.6**	**-0.5**
GVZ	**Greta Valley S**	**1.00**	**215**	P	**Pg**	**11 50 54.7**	**+1.0**
TCW	**Tory Channel**	**1.00**	**20**	P	**Pg**	**11 50 53.7**	**-0.1**
MRNZ	**Matariki Terra**	**1.09**	**313**	P	**Pg**	**11 50 55.0**	**-0.6**
WEL	**Wellington**	**1.12**	**40**	P	**Pg**	**11 50 56.8**	**+0.8**
PLWZ	**Palliser**	**1.22**	**62**	P	**Pg**	**11 50 58.1**	**+0.2**
TKNZ	**Takaka Hill**	**1.29**	**330**	P	**Pb**	**11 50 57.9**	**-0.3**
LTZ	**Lake Taylor**	**1.31**	**241**	P	**Pg**	**11 51 00.2**	**+0.6**
AMCZ	**Amberley**	**1.34**	**220**	P	**Pg**	**11 51 00.7**	**+0.6**
DUWZ	**D'Urville Isla**	**1.35**	**3**	P	**Pb**	**11 50 59.2**	**0.0**
CAW	**Cannon Point**	**1.40**	**42**	P	**Pg**	**11 51 00.5**	**-0.8**
PAWZ	**Paruwai Farm**	**1.43**	**58**	P	**Pb**	**11 51 00.7**	**+0.2**
KIW	**Kapiti Island**	**1.53**	**33**	P	**Pb**	**11 51 02.6**	**+0.3**
DSZ	**Denniston Nort**	**1.56**	**285**	P	**Pg**	**11 51 03.8**	**-0.5**
MTW	**Mount Morrison**	**1.61**	**52**	P	**Pb**	**11 51 02.8**	**-0.8**
QRZ	**Quartz Range**	**1.64**	**323**	P	**Pb**	**11 51 03.8**	**-0.3**
OKCZ	**Okains Bay**	**1.67**	**199**	P	**Pg**	**11 51 05.2**	**-1.2**
OGWZ	**Otaki Gorge**	**1.68**	**38**	P	**Pb**	**11 51 04.2**	**-0.6**
OXZ	**Oxford**	**1.76**	**228**	P	**Pb**	**11 51 05.6**	**-0.5**
MQZ	**McQueen's Vall**	**1.77**	**208**	P	**Pb**	**11 51 05.7**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.79**	**46**	P	**Pb**	**11 51 05.3**	**-1.4**
AKCZ	**Akaroa Harbour**	**1.84**	**201**	P	**Pb**	**11 51 07.7**	**+0.1**
INZ	**Inchbonnie**	**1.85**	**251**	P	**Pb**	**11 51 07.8**	**+0.1**
TMWZ	**Te Maipa**	**1.87**	**57**	P	**Pn**	**11 51 06.2**	**+0.5**
MRZ	**Mangatainoka R**	**1.99**	**42**	P	**Pn**	**11 51 08.1**	**+0.8**
RACZ	**Rakaia**	**2.00**	**218**	P	**Pb**	**11 51 08.9**	**-1.3**
MHCZ	**Mount Hutt**	**2.15**	**229**	P	**Pb**	**11 51 11.2**	**-1.7**
WACZ	**Wakanui South**	**2.30**	**218**	P	**Pb**	**11 51 13.1**	**-2.3**
WAZ	**Wanganui**	**2.55**	**21**	P	**Pb**	**11 51 19.8**	**+0.1**
RPZ	**Rata Peaks**	**2.56**	**232**	P	**Pb**	**11 51 17.2**	**-2.6**
RPZ	**Rata Peaks**	**2.56**	**232**	P	**Pb**	**11 51 17.2**	**-2.6**
ARZ	**Arundel**	**2.64**	**226**	P	**Pn**	**11 51 18.1**	**+2.0**
KHEZ	**Kahui Hut**	**2.86**	**3**	P	**Pb**	**11 51 26.7**	**+1.7**
KHEZ	**Kahui Hut**	**2.86**	**3**	P	**Pb**	**11 51 25.8**	**+0.8**
NEZ	**North Egmont**	**2.89**	**4**	P	**Pb**	**11 51 26.4**	**+0.9**
TMZ	**Timaru**	**3.03**	**222**	P	**Pn**	**11 51 23.4**	**+1.8**
VRZ	**Vera Road**	**3.11**	**14**	P	**Pb**	**11 51 27.5**	**-1.7**
WNVZ	**Wahianoa**	**3.13**	**26**	P	**Pb**	**11 51 27.7**	**-1.9**
TUVZ	**Tukino**	**3.20**	**26**	P	**Pn**	**11 51 23.5**	**-0.5**
BKZ	**Black Stump Fm**	**3.61**	**35**	P	**Pb**	**11 51 39.4**	**+1.6**
ODZ	**Otahua Downs**	**3.70**	**218**	P	**Pn**	**11 51 32.3**	**+1.6**
ODZ	**Otahua Downs**	**3.70**	**218**	P	**Pn**	**11 51 32.0**	**+1.4**
HIZ	**Hauiti**	**3.72**	**13**	P	**Pb**	**11 51 38.6**	**-1.0**
HIZ	**Hauiti**	**3.72**	**13**	P	**Pb**	**11 51 36.2**	**-3.4**
TLZ	**Tolley Road**	**4.04**	**20**	P	**Pb**	**11 51 41.2**	**-3.9**

MAN 23 11:51:45.8, 6.17N×126.98E, h100km, mb4.0, ML2.8, MS2.4, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.02**	**268**	⇑*eP*	Pn	11 52 17.6	-1.1
GSPH				*eS*	Sn	11 52 40.8	-3.0
KCP	**Kidapawan**	**2.05**	**294**	⇑*eP*	Pn	11 52 20.9	+1.8
KCP				*i* S	Sn	11 52 44.4	-0.2
BIPH	**Bislig**	**2.09**	**343**	⇓*iP*	Pn	11 52 20.8	+1.2
BIPH				*i* S	Sn	11 52 43.4	-1.9
BUKP	**Musuan**	**2.55**	**312**	⇑*eP*	Pn	11 52 27.5	+1.9
BUKP				*eS*	Sn	11 52 57.5	+1.4
CGP	**Cagayan de Oro**	**3.20**	**315**	⇓*eP*	Pn	11 52 54.0	+20
CGP				*eS*	Sn	11 53 12.8	+1.1

IDC ***23*** *11:58:35.5±0.6, 44.24S×39.16E, h0km, mb4.2/11, mbtmp4.2/13, ML4.0/2, MS4.1/48, Error ellipse: s-maj=22.5km s-min=16.5km az=61.0*
NEIC ***23*** *11:58:37.4±0.7, 44.3S±0.1×39.1E±0.2, h10km±1km, mb4.6/21, Error ellipse: s-maj=24.4km s-min=18.3km az=257.0*
GCMT ***23*** *11:58:39.4±0.3, 44.18S±0.01×39.09E±0.04, h13km±1km, MW5.0/69, Moment Tensor Solution. s19,c19; s69,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.36±.30; Mθθ4.18±.20; Mφφ-1.82±.17; Mrθ0.07±.31; Mθφ0.16±.12; Mrφ0.97±.60; Best double couple: M0 3.64000×10¹⁶ NP1: φs238.00000°, δ56.00000°, λ-137.00000°. NP2: φs120.00000°, δ55.00000°, λ-42.00000°. Principal axes: T 4.1860, Plg1.0000°, Azm358.0000°; N -1.0900, Plg37.0000°, Azm268.0000°; P -3.0950, Plg53.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 11:58:37.0±0.5, 44.23S±0.08×39.1E±0.1, h10km, n94, σ0.68/52, mb4.4/18, MS4.2/48, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POGA	**Pongola**	**17.86**	**338**	P	**P**	**12 02 46.7**	**+0.5**
SUR	**Sutherland**	**18.54**	**303**	P	**P**	**12 02 52.9**	**-0.9**
	0.4nm,0.3s,baz=110,slow=15,SNR=3.3						
SUR				LR	LR	12 08 54.2	
	comp=Z,706nm,18.1s,baz=139,slow=33						
	14nm,0.8s						
SUR	**Sutherland**	**18.54**	**303**	P	**P**	**12 02 52.9**	**-0.9**
SUR				IAmb	IAmb	12 03 04.3	
	comp=Z,70nm,1.4s						
BOSA	**Boshof**	**19.10**	**320**	P	**P**	**12 03 00.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=161,slow=12,SNR=5.8						
BOSA				LR	LR	12 08 58.5	
	comp=Z,1μm,19.5s,baz=162,slow=32						
	comp=Z,7.9nm,1.0s						
BOSA	**Boshof**	**19.10**	**320**	P	**P**	**12 03 00.7**	**+0.7**
LBTB	**Lobatse**	**22.09**	**326**	P	**P**	**12 03 32.2**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=151,slow=11,SNR=5.1						
LBTB				LR	LR	12 10 39.5	
	comp=Z,825nm,20.4s,baz=148,slow=33						
	comp=Z,7.3nm,0.8s						
LBTB	**Lobatse**	**22.09**	**326**	P	**P**	**12 03 32.5**	**+0.1**
OPO	**Ambohidratompo**	**26.47**	**17**	P	**P**	**12 04 15.3**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=252,slow=9.6,SNR=3.7						
OPO				LR	LR	12 12 02.2	
	comp=Z,407nm,21.1s,baz=5.5,slow=30						
	comp=Z,3.4nm,0.8s						
MAW	**Mawson**	**26.60**	**160**	LR	LR	12 12 06.2	
	comp=Z,481nm,21.8s,baz=333,slow=30						
LSZ	**Lusaka**	**30.31**	**339**	LR	LR	12 15 46.0	
	comp=Z,371nm,19.2s,baz=176,slow=34						
TSUM	**Tsumeb**	**30.75**	**317**	LR	LR	12 16 20.5	
	comp=Z,786nm,18.3s,baz=150,slow=35						
TSUM	**Tsumeb**	**30.75**	**317**	P	**P**	**12 04 51.6**	**-1.0**
TSUM				IAmb	IAmb	12 04 53.3	
	comp=Z,7.5nm,1.1s						
TROLL	**Troll, Antarti**	**32.84**	**200**	P	**P**	**12 05 12.2**	**+1.7**
SNAA	**Sanae**	**34.04**	**202**	P	**P**	**12 05 21.7**	**+0.9**
SNAA	**Sanae**	**34.04**	**202**	P	**P**	**12 05 21.8**	**+0.9**
	comp=Z,4.7nm,1.0s,baz=85,slow=8.4,SNR=9.2						
SNAA				LR	LR	12 16 13.5	
	comp=Z,279nm,19.5s,baz=41,slow=31						
	comp=Z,4.7nm,1.0s						
SNAA	**Sanae**	**34.04**	**202**	P	**P**	**12 05 21.8**	**+0.9**
SNAA				IAmb	IAmb	12 05 23.2	
	comp=Z,7.3nm,1.1s						
VNA2	**Neumayer--Watz**	**34.99**	**205**	P	**P**	**12 05 29.9**	**+0.9**
	baz=60,slow=8.8						
VNA1	**Neumayer--Stat**	**35.14**	**205**	P	**P**	**12 05 32.6**	**+2.3**
VNA3	**Neumayer Olymp**	**35.80**	**205**	P	**P**	**12 05 35.0**	**-1.0**
KMBO	**Kilima Mbogo**	**42.95**	**357**	LR	LR	12 22 18.6	
	comp=Z,431nm,20.4s,baz=102,slow=33						
BELA	**Belgrano 2**	**43.78**	**197**	P	**P**	**12 06 42.4**	**+0.2**
BELA				IAmb	IAmb	12 07 03.6	
	comp=Z,10nm,1.5s						
MBAR	**Mbarara**	**44.07**	**348**	LR	LR	12 24 37.3	
	comp=Z,440nm,18.2s,baz=162,slow=35						
MBAR	**Mbarara**	**44.07**	**348**	P	**P**	**12 06 46.5**	**+1.2**
MBAR				IAmb	IAmb	12 06 49.8	
	comp=Z,9.2nm,1.2s						
QSPA	**South Pole Qui**	**45.98**	**180**	P	**P**	**12 06 59.5**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=293,slow=0.1,SNR=25						
	comp=Z,1.8nm,0.7s						
QSPA	**South Pole Qui**	**45.98**	**180**	P	**P**	**12 06 59.6**	**-0.6**
QSPA				IAmb	IAmb	12 07 21.9	
	comp=Z,9.2nm,1.2s						
VNDA	**Vanda**	**53.57**	**167**	P	**P**	**12 07 56.8**	**-0.7**
	comp=Z,2.1nm,1.1s,baz=268,slow=5.2,SNR=8.2						
VNDA				LR	LR	12 29 23.6	
	comp=Z,217nm,18.7s,baz=225,slow=34						
	comp=Z,2.1nm,1.1s						
VNDA	**Vanda**	**53.57**	**167**	P	**P**	**12 07 57.9**	**+0.5**
VNDA				IAmb	IAmb	12 07 58.5	
	comp=Z,5.7nm,1.2s						
SBA	**Scott Base**	**54.11**	**168**	P	**P**	**12 08 01.6**	**+0.2**
ATD	**Arta Tunnel**	**55.60**	**4**	LR	LR	12 31 22.4	
	comp=Z,101nm,18.2s,baz=121,slow=35						
PMSA	**Palmer Station**	**56.08**	**210**	LR	LR	12 26 44.4	
	comp=Z,194nm,21.4s,baz=118,slow=30						
DBIC	**Dimbokro**	**64.28**	**310**	P	**P**	**12 09 12.6**	**+0.1**
	comp=Z,8.4nm,1.1s,baz=36,slow=1.5,SNR=3.5						
DBIC				LR	LR	12 33 49.3	
	comp=Z,148nm,19.8s,baz=168,slow=33						
	comp=Z,8.4nm,1.1s						
DBIC	**Dimbokro**	**64.28**	**310**	P	**P**	**12 09 12.2**	**-0.3**
WSAR	**Wadi Sarin**	**69.49**	**19**	LR	LR	12 35 04.7	
	comp=Z,148nm,20.7s,baz=255,slow=32						
LEM	**Lembang**	**69.92**	**80**	LR	LR	12 34 56.9	
	comp=Z,115nm,19.6s,baz=226,slow=31						
TAM	**Tamanrasset**	**73.43**	**328**	P	**P**	**12 10 09.5**	**0.0**
TAM				IAmb	IAmb	12 10 12.1	
	comp=Z,8.2nm,1.3s						
EIL	**Elat**	**73.64**	**356**	LR	LR	12 38 41.2	
	comp=Z,100nm,21.9s,baz=236,slow=33						
PLCA	**Paso Flores**	**74.44**	**228**	P	**P**	**12 10 15.1**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=65,slow=9.0,SNR=3.3						
	comp=Z,1.4nm,1.0s						
TOO	**Toolangi**	**74.89**	**128**	P	**P**	**12 10 17.6**	**-0.3**
RCBR	**Riachuelo**	**75.20**	**276**	LR	LR	12 35 28.8	
	comp=Z,87nm,19.9s,baz=262,slow=29						
CPUP	**Villa Florida**	**76.43**	**247**	LR	LR	12 36 40.3	
	comp=Z,61nm,20.5s,baz=146,slow=30						
STKA	**Stephens Creek**	**76.54**	**121**	P	**P**	**12 10 27.4**	**0.0**
	comp=Z,1.9nm,0.7s,baz=196,slow=3.3,SNR=3.5						
STKA				LR	LR	12 38 17.5	
	comp=Z,118nm,18.9s,baz=206,slow=31						
	comp=Z,1.9nm,0.7s						
MMAI	**Mount Meron Ar**	**76.95**	**357**	LR	LR	12 44 57.1	
	comp=Z,80nm,18.7s,baz=74,slow=36						
ASAR	**Alice Springs**	**77.17**	**110**	P	**P**	**12 10 31.0**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=219,slow=5.2,SNR=13						
ASAR				LR	LR	12 39 12.0	
	comp=Z,122nm,20.5s,baz=181,slow=32						
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**77.17**	**110**	P	**P**	**12 10 31.0**	**-0.2**
AS31	**Alice Springs**	**77.17**	**110**	P	**P**	**12 10 30.7**	**-0.5**
BDFB	**Brasilia**	**77.21**	**261**	P	**P**	**12 10 31.1**	**-0.4**
BDFB				IAmb	IAmb	12 10 32.8	
	comp=Z,13nm,1.3s						
BBTS	**Babate**	**77.40**	**305**	LR	LR	12 41 30.2	
	comp=Z,90nm,19.4s,baz=100,slow=33						
AQDB	**Aquidauana**	**79.31**	**252**	P	**P**	**12 10 42.7**	**-0.2**
AQDB				IAmb	IAmb	12 10 44.4	
	comp=Z,13nm,1.5s						
CFA	**Coronel Fontan**	**79.64**	**236**	LR	LR	12 39 48.6	
	comp=Z,42nm,21.9s,baz=146,slow=31						
KAPI	**Kappang**	**79.84**	**87**	LR	LR	12 41 05.4	
	comp=Z,57nm,18.4s,baz=258,slow=32						
WRA	**Warramunga Arr**	**80.00**	**108**	P	**P**	**12 10 46.4**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=218,slow=4.2,SNR=9.4						
	comp=Z,2.2nm,1.0s						
WRA	**Warramunga Arr**	**80.00**	**108**	P	**P**	**12 10 46.5**	**-0.2**
WB2	**Warramunga Arr**	**80.01**	**108**	P	**P**	**12 10 46.6**	**-0.2**
WB2				IAmb	IAmb	12 10 55.4	
	comp=Z,10nm,1.2s						
IDI	**Anoyia**	**80.19**	**348**	LR	LR	12 46 27.9	
	comp=Z,102nm,21.1s,baz=166,slow=36						
BRDH	**Bariadhala**	**82.12**	**48**	LR	LR	12 43 32.9	
	comp=Z,113nm,18.9s,baz=277,slow=33						
**GEV

LPAZ	**La Paz**	**90.60**	**247**	LR	LR	12 49 48.1		
	comp=Z,104nm,18.4s,baz=116,slow=34							
ESDC	**Sonseca Array**	**92.09**	**328**	LR	LR	12 53 53.8		
	comp=Z,269nm,18.5s,baz=128,slow=36							
DAVOX	**Davos/Dischmat**	**94.22**	**340**	LR	LR	12 54 56.0		
	comp=Z,144nm,22.0s,baz=76,slow=36							
MDP	**Montagnes des**	**94.75**	**272**	LR	LR	12 50 43.8		
	comp=Z,94nm,18.1s,baz=102,slow=33							
VRAC	**Vranov**	**95.21**	**345**	LR	LR	13 01 12.4		
	comp=Z,35nm,18.2s,baz=154,slow=39							
GERES	**GERESS Array B**	**95.32**	**343**	LR	LR	13 00 11.8		
	comp=Z,81nm,18.4s,baz=160,slow=39							
PMG	**Port Moresby**	**96.16**	**109**	LR	LR	12 51 39.9		
	comp=Z,85nm,18.2s,baz=258,slow=33							
BELG	**Belogornoye**	**96.53**	**5**	LR	LR	12 55 53.1		
	comp=Z,91nm,22.0s,baz=140,slow=36							
DZM	**Mont Dzumac**	**98.34**	**132**	eLR	LR	12 44 40.4		
	comp=Z,232nm,28.6s							
DZM	**Mont Dzumac**	**98.34**	**132**	LR	LR	12 48 36.6		
	comp=Z,86nm,19.4s,baz=218,slow=30							
NNA	**Nana**	**99.44**	**243**	LR	LR	12 53 32.1		
	comp=Z,86nm,19.2s,baz=140,slow=33							
TBI	**Tubuai**	**112.30**	**172**	eLR	LR	12 51 04.0		
	comp=Z,859nm,42.0s							
PPT2	**Papeete2**	**117.98**	**171**	eLR	LR	12 53 41.3		
	comp=Z,312nm,35.5s							
PPT2				eLR	LR	12 53 41.5		
	comp=Z,165nm,38.2s							
TXAR	**Lajitas Array**	**146.98**	**256**	PKPbc	**PKPbc**	**12 18 20.0**	**+0.1**	
	comp=Z,1.0nm,0.7s,baz=151,slow=5.4,SNR=8.9							
ULM	**Lac du Bonnet**	**149.21**	**297**	PKPbc	**PKiKP**	**12 18 26.3**	**+0.1**	
	comp=Z,4.1nm,0.8s,baz=132,slow=5.7,SNR=3.5							
PDAR	**Pinedale Array**	**157.27**	**277**	PKPab	**PKPab**	**12 19 04.3**	**+0.2**	
	comp=Z,0.3nm,0.6s,baz=96,slow=5.5,SNR=3.9							

IDC ***23*** *12:09:26.5±2.5, 37.17N×141.22E, h0km, mb3.5/4, mbtmp3.5/4, ML1.6/1, Error ellipse: s-maj=61.2km s-min=34.2km az=69.0*

JMA ***23*** *12:09:29.4±0.2, 37.39N±0.4×141.51E±1.0, h33km±1km, MV3.5/32, E OFF FUKUSHIMA PREF*

NIED ***23*** *12:09:29.3, 37.29N×141.54E, h33km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.30; Mθθ0.75; Mrθ-0.55; Mrφ-0.19; Mθφ 1.02; Mφφ0.18; Fault plane solution: M₀1.52000×10¹⁴ NP1: φs213.00000°, δ47.00000°, λ-111.00000°. NP2: φs62.00000°, δ47.00000°, λ-70.00000°.*

ISC 23 12:09:29.6±1.9, 37°27'N±0'07'×141°44'E±0'10, h29km±11km, n17, σ1s902/17, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**282**	P		**Pb**	**12 09 39.9**	**+0.5**
JFK				S		**Sn**	**12 09 47.5**	**0.0**
JMST	**Minamisoumatoc**	**0.63**	**316**	P		**Pb**	**12 09 42.2**	**+0.1**
JMST				S		**Sn**	**12 09 51.7**	**+0.1**
JFFD	**Fukushimafurud**	**0.72**	**256**	P		**Pn**	**12 09 44.0**	**+0.1**
JFFD				S		**Sn**	**12 09 54.3**	**+0.4**
JMM	**Marumori**	**0.78**	**320**	P		**Pb**	**12 09 44.6**	**0.0**
JMM				S		**Sn**	**12 09 55.7**	**+0.2**
JHO	**Hitachi**	**0.96**	**227**	S		**Sb**	**12 09 59.8**	**-0.1**
JIO	**Ouri**	**1.18**	**357**	P		**Pn**	**12 09 49.6**	**-0.6**
JIO				S		**Sn**	**12 10 04.5**	**-0.8**
MJAR	**Matsushiro Arr**	**2.69**	**255**	Pn		**Pn**	**12 10 07.9**	**-3.0**
	0.1nm,0.3s,baz=65,slow=15,SNR=4.1							
MJAR				Sn		**Sb**	**12 10 49.9**	**+0.4**
	0.8nm,0.3s,baz=222,slow=30,SNR=5.5							
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	12 44 43.5	
	baz=314,slow=75,SNR=46							
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T		T	12 44 42.5	
	baz=314,slow=75,SNR=61							
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T		T	12 44 44.9	
	baz=314,slow=75,SNR=50							
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	12 45 38.8	
	baz=316,slow=76,SNR=27							
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	12 45 38.9	
	baz=316,slow=76,SNR=28							
H11S2	**WAKE ISLAND Hy**	**28.99**	**123**	T		T	12 45 40.8	
	baz=316,slow=76,SNR=27							
MKAR	**Makanchi Array**	**44.01**	**302**	P		**P**	**12 17 35.8**	**+1.4**
	0.3nm,0.7s,baz=91,slow=6.9,SNR=2.0							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**45.87**	**308**	P		**P**	**12 17 49.9**	**+0.8**
	0.4nm,0.4s,baz=80,slow=7.5,SNR=5.4							
	0.4nm,0.4s							
BVAR	**Borovoye Array**	**50.43**	**312**	P		**P**	**12 18 23.8**	**-0.5**
	0.3nm,0.4s,baz=64,slow=6.9,SNR=2.2							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**57.30**	**188**	P		**P**	**12 19 15.2**	**+0.4**
	0.5nm,0.9s,baz=3.4,slow=7.3,SNR=2.2							
	0.5nm,0.9s							

ISK ***23*** *12:14:34.7, 38.50N×43.91E, h5km, ML4.5/19*

DDA ***23*** *12:14:36.8±0.0, 38.54N×43.87E, h10km±4km, MW4.6*

MOS ***23*** *12:14:37.5±1.3, 38.43N×43.85E, h8km, mb4.6/26, Error ellipse: s-maj=5.8km s-min=3.5km az=93.9*

TEH ***23*** *12:14:37.3, 38.51N×43.77E, h7km, ML4.3*

NSSP ***23*** *12:14:38.0, 38.28N×44.27E, h10km, Ms4.7*

IDC ***23*** *12:14:38.1±0.6, 38.55N×43.81E, h0km, mb4.1/22, mbtmp4.1/32, ML4.1/8, MS3.8/35, Error ellipse: s-maj=11.1km s-min=8.8km az=157.0*

AZER ***23*** *12:14:39.8±0.6, 38.58N×43.96E, h2km, Error ellipse: s-maj=5.7km s-min=3.5km az=67.0*

NEIC ***23*** *12:14:40.2, 38.53N×43.82E, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.41; Mθθ-4.02; Mφφ3.61; Mrθ0.01; Mθφ-3.44; Mrφ0.56; Fault plane solution: M₀5.18000×10¹⁵ NP1:φs293.84000°, δ83.97000°, λ176.96000°. NP2:φs24.16000°, δ86.98000°, λ6.03000°. Principal axes: T 4.9914, Plg6.0000°, Azm249.0000°; N 0.3598, Plg83.0000°, Azm51.0000°; P -5.3512, Plg2.0000°, Azm159.0000°;*

NEIC ***23*** *12:14:40.3±1.8, 38.55N±0.05×43.78E±0.04, h10km±1km, mb4.5/53, Mwr4.4/17, ML4.6(ISK) Error ellipse: s-maj=8.9km s-min=4.6km az=150.0*

GII ***23*** *12:14:41.3±0.0, 38.54N×43.81E, h10km*

ISC 23 12:14:38.9±0.6, 38°52'N±0'02'×43°81'E±0'02, h3km±3km, n430, σ1s959/436, mb4.5/70, MS3.9/41, 27C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.20**	**46**	P		**Pg**	**12 14 40.9**	**-2.0**
OZAP				S		**Sg**	**12 14 46.9**	**+1.3**
TVAN	**Van**	**0.31**	**272**	*e*Pg		**Pg**	**12 14 43.7**	**-1.2**
TVAN	**Van**	**0.31**	**272**	P		**Pg**	**12 14 43.7**	**-1.2**
TVAN				S		**Sg**	**12 14 49.0**	**0.0**
TVAN				*i* AML	AML	12 15 00.0		
	comp=E,11μm,0.8s							
TVAN				*i* AML	AML	12 15 00.0		
	comp=N,10μm,1.0s							
VANB	**Van**	**0.33**	**283**	PG		**Pg**	**12 14 43.7**	**-1.6**
VANB	**Van**	**0.33**	**283**	*e*Pg		**Pg**	**12 14 43.7**	**-1.6**
VMUR	**Van-Muradiye**	**0.50**	**339**	*e*Pg		**Pg**	**12 14 46.3**	**-2.2**
VMUR	**Van-Muradiye**	**0.50**	**339**	P		**Pg**	**12 14 46.5**	**-2.0**
VMUR				*i* AML	AML	12 15 01.0		
	comp=E,3μm,0.8s							
VMUR				*i* AML	AML	12 15 11.0		
	comp=N,2μm,0.8s							
ERCV	**ERCIS-VAN**	**0.62**	**324**	PG		**Pg**	**12 14 49.5**	**-1.2**
ERCV				SG		**Sg**	**12 14 59.9**	**+1.1**
ERCV	**ERCIS-VAN**	**0.62**	**324**	*e*Pg		**Pg**	**12 14 49.5**	**-1.2**
GEVA	**Gevas**	**0.62**	**251**			**Pg**	**12 14 49.1**	**-1.7**
GEVA				Sg		**Sb**	**12 15 01.9**	**+0.1**
GEVA	**Gevas**	**0.62**	**251**	*e*Pg		**Pg**	**12 14 49.1**	**-1.7**
GEVA	**Gevas**	**0.62**	**251**	P		**Pg**	**12 14 49.2**	**-1.6**
GEVA				S		**Sb**	**12 15 01.4**	**-0.3**
CLDR	**Caldiran**	**0.63**	**8**	PG		**Pg**	**12 14 47.9**	**-3.0**
CLDR	**Caldiran**	**0.63**	**8**	*e*Pg		**Pg**	**12 14 48.3**	**-2.6**
AKDM	**Akdamar-Van**	**0.68**	**254**	PG		**Pg**	**12 14 50.3**	**-1.5**
AKDM				SG		**Sg**	**12 15 01.7**	**+1.1**
AKDM	**Akdamar-Van**	**0.68**	**254**	*e*Pg		**Pg**	**12 14 50.5**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.89**	**289**	*e*Pn		**Pg**	**12 14 54.3**	**-1.7**
ADCV	**BITLIS_Adilcev**	**0.89**	**289**	P		**Pg**	**12 14 54.4**	**-1.7**
ADCV				S		**Sb**	**12 15 09.1**	**-0.4**
ADCV				*i* AML	AML	12 15 13.0		
	comp=N,6μm,0.4s							
ADCV				*i* AML	AML	12 15 14.0		
	comp=E,6μm,0.9s							
HAKT	**HAKKARI**	**0.96**	**185**	*e*Pn		**Pg**	**12 14 55.4**	**-1.9**
HAKT	**HAKKARI**	**0.96**	**185**	P		**Pg**	**12 14 55.2**	**-2.1**
HAKT				*i* AML	AML	12 15 16.0		
	comp=E,1μm,0.7s							
HAKT				*i* AML	AML	12 15 20.0		
	comp=N,1μm,0.7s							
YOVA	**Hakkari_Yksek**	**1.01**	**158**	P		**Pg**	**12 14 56.9**	**-1.3**
YOVA				S		**Sb**	**12 15 13.5**	**+0.7**
DYDN	**Diyadin**	**1.03**	**355**	*e*Pn		**Pg**	**12 14 55.7**	**-2.8**
DYDN	**Diyadin**	**1.03**	**355**	P		**Pg**	**12 14 55.7**	**-2.8**
DYDN				*i* AML	AML	12 15 20.0		
	comp=N,5μm,0.8s							
DYDN				*i* AML	AML	12 15 28.0		
	comp=E,6μm,1.7s							
PERV	**Siirt/Pervari-**	**1.15**	**240**	P		**Pg**	**12 14 60.0**	**-0.9**
PERV				*i* AML	AML	12 15 22.0		
	comp=E,9μm,0.6s							
PERV				*i* AML	AML	12 15 25.0		
	comp=N,1μm,0.6s							
MLAZ	**Malazgirt-MUS**	**1.16**	**303**	PN		**Pg**	**12 14 59.1**	**-2.0**
MLAZ	**Malazgirt-MUS**	**1.16**	**303**	*e*Pn		**Pg**	**12 15 00.2**	**-0.9**
AGRB	**Hanur-Agry**	**1.23**	**329**	PN		**Pg**	**12 14 59.6**	**-2.8**
AGRB	**Hanur-Agry**	**1.23**	**329**	*e*Pn		**Pg**	**12 14 59.8**	**-2.2**
CUKT	**Cukurca**	**1.28**	**187**	PN		**Pg**	**12 14 59.9**	**-3.5**
CUKT	**Cukurca**	**1.28**	**187**	*e*Pn		**Pg**	**12 15 00.9**	**-2.5**
BLIS	**Bitlis-Merkez**	**1.33**	**266**	*e*Pn		**Pg**	**12 15 00.9**	**-3.5**
IGDI	**IGDIR**	**1.36**	**9**	P		**Pn**	**12 15 03.5**	**-1.5**
IGDI				S		**Sn**	**12 15 23.8**	**+0.2**
KOTA	**Agri, Merkez-K**	**1.36**	**340**	P		**Pg**	**12 15 02.3**	**-2.7**
GURO	**Guroymak-BITLI**	**1.39**	**272**	PN		**Pn**	**12 15 02.1**	**-3.3**
GURO	**Guroymak-BITLI**	**1.39**	**272**			**Pn**	**12 15 02.0**	**-3.3**
GURO	**Guroymak-BITLI**	**1.39**	**272**	*e*Pn		**Pn**	**12 15 02.6**	**-2.8**
ISHB	**Shabestar**	**1.44**	**99**	*e*Sg		**Sn**	**12 15 26.2**	**+0.4**
ISHB				*e*Pn		**Pn**	**12 15 03.2**	**-3.0**
ISHB				*e*			12 15 35.4	
	comp=Z,65μm,0.6s							
HYR	**Heyderabad**	**1.45**	**34**	*e*Pn		**Pn**	**12 15 04.9**	**-1.2**
HYR	**Heyderabad**	**1.45**	**34**	P		**Pn**	**12 15 05.0**	**-1.2**
	SNR=30							
HYR				S		**Sg**	**12 15 23.7**	**-1.7**
NAX	**Nakhchivan**	**1.47**	**63**	*e*Pn		**Pn**	**12 15 05.9**	**-0.5**
NAX	**Nakhchivan**	**1.47**	**63**	P		**Pn**	**12 15 06.0**	**-0.5**
	SNR=33							
IMRD	**Marand**	**1.50**	**82**	*e*			12 15 32.2	
	comp=Z,26μm,0.6s							
IMRD				*e*Pn		**Pn**	**12 15 04.9**	**-2.0**
TASB	**TASBURUN-IGDIR**	**1.50**	**13**	PN		**Pn**	**12 15 04.4**	**-2.4**
TASB	**TASBURUN-IGDIR**	**1.50**	**13**	*e*Pn		**Pn**	**12 15 06.3**	**-0.5**
EKAR	**Karacoban**	**1.54**	**299**	P		**Pn**	**12 15 07.1**	**-0.5**
EKAR				S		**Sg**	**12 15 30.7**	**+2.2**
VNNZ	**Vanand**	**1.58**	**1**	⇑*i*P		**Pb**	**12 15 08.6**	**-0.2**
VNNZ				⇑*i*S		**Sg**	**12 15 34.8**	**+5.1**
SBZ	**Shahbuz**	**1.62**	**57**	*e*Pn		**Pn**	**12 15 07.9**	**-0.6**
SBZ	**Shahbuz**	**1.62**	**57**	P		**Pn**	**12 15 08.0**	**-0.6**
	SNR=84							
SBZ				S		**Sn**	**12 15 27.6**	**-2.3**
METS	**Metsamor**	**1.64**	**7**	*e*P		**Pn**	**12 15 08.4**	**-0.3**
METS				*e*S		**Sg**	**12 15 34.4**	**+2.7**
EATA	**Eleskirt**	**1.69**	**323**	P		**Pn**	**12 15 07.9**	**-1.7**
EATA				S		**Sg**	**12 15 35.4**	**+2.4**
EATA				*i* AML	AML	12 15 38.0		
	comp=Z,3μm,0.8s							
EATA				*i* AML	AML	12 15 45.0		
	comp=Z,3μm,0.8s							
ORD	**Ordubad**	**1.76**	**76**	P		**Pn**	**12 15 09.6**	**-0.8**
	SNR=31							
ORD				S		**Sn**	**12 15 31.9**	**-1.4**
ORD				S		**Sn**	**12 15 31.9**	**-1.4**
ORD				S		**Sn**	**12 15 31.9**	**-1.4**
GNI	**Garni**	**1.78**	**24**	Pn		**Pn**	**12 15 10.8**	**+0.1**
	comp=Z,146nm,0.3s,baz=213,slow=3.4,SNR=145							
GNI				Lg		Lg	12 15 36.4	
	comp=Z,130nm,0.3s,baz=8.5,slow=22,SNR=5.9							
GNI	**Garni**	**1.78**	**24**	⇑*i*P		**Pn**	**12 15 09.9**	**-0.9**
GNI	**Garni**	**1.78**	**24**	PN		**Pn**	**12 15 08.5**	**-2.3**
GNI	**Garni**	**1.78**	**24**	Pn		**Pn**	**12 15 10.3**	**-0.5**
GNI	**Garni**	**1.78**	**24**	P		**Pn**	**12 15 11.2**	**+0.4**
GNI				S		**Sg**	**12 15 40.9**	**+4.8**
GNI	**Garni**	**1.78**	**24**	*de*P		**Pn**	**12 15 10.9**	**+0.1**
GNI				pmax	pmax			
	comp=Z,2μm,0.7s							
ITBZ	**Tabriz**	**1.86**	**98**	*e*Pn		**Pn**	**12 15 11.1**	**-0.8**
IAZR	**Azarshahr**	**1.91**	**115**	*e*Pn		**Pb**	**12 15 13.4**	**-1.1**
IAZR				*e*			12 15 55.6	
	comp=Z,48μm,0.9s							
DIGO	**Kars**	**1.92**	**350**	P		**Pn**	**12 15 11.8**	**-1.0**
DIGO				*i* AML	AML	12 15 55.0		
	comp=Z,3μm,0.7s							
DIGO				*i* AML	AML	12 16 05.0		
	comp=Z,3μm,0.7s							
VRTB	**Varto-Mus**	**1.94**	**290**	PN		**Pn**	**12 15 11.6**	**-1.4**
TAB1	**Tabriz**	**2.04**	**103**	*e*			12 16 18.9	
	comp=Z,63μm,0.7s							
SVAN	**Silvan-Diyarba**	**2.08**	**261**	PN		**Pn**	**12 15 13.5**	**-1.3**
BTMN	**Batman**	**2.09**	**253**	P		**Pn**	**12 15 14.4**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**2.11**	**315**	PN		**Pn**	**12 15 13.5**	**-1.8**
HOMI	**Horasan**	**2.12**	**317**	P		**Pn**	**12 15 15.8**	**+0.4**
HOMI				*i* AML	AML	12 15 53.0		
	comp=Z,4μm,1.9s							
HOMI				*i* AML	AML	12 15 54.0		
	comp=Z,4μm,1.7s							
EAK	**Akyaka**	**2.17**	**356**	P		**Pn**	**12 15 16.0**	**0.0**
EAK				*i* AML	AML	12 15 59.0		
	comp=Z,3μm,1.0s							
EAK				*i* AML	AML	12 16 03.0		
	comp=Z,2μm,0.9s							
KARS	**Kars**	**2.18**	**345**	PN		**Pn**	**12 15 14.1**	**-2.1**
KARS	**Kars**	**2.18**	**345**			**Pn**	**12 15 16.2**	**0.0**
KARS	**Kars**	**2.18**	**345**	P		**Pn**	**12 15 16.2**	**0.0**
MIDY	**Mardin/Midyat-**	**2.20**	**240**	P		**Pn**	**12 15 16.6**	**+0.1**
SLHN	**Bingol, Solhan**	**2.22**	**282**	P		**Pn**	**12 15 16.5**	**-1.1**
SLHN				S		**Sb**	**12 15 48.8**	**+1.1**
TVRZ	**Varzaqan**	**2.25**	**90**	*e*Pn		**Pn**	**12 15 17.3**	**+0.1**
TVRZ				*e*			12 16 14.1	
	comp=Z,27μm,1.0s							
KARO	**Karliova-Bingo**	**2.29**	**291**	PN		**Pn**	**12 15 16.1**	**-1.7**
MAHB	**Mahabad**	**2.31**	**139**	*e*Pn		**Pn**	**12 15 18.7**	**+0.7**
MAHB				*e*			12 16 09.5	
	comp=Z,17μm,1.1s							
SENK	**Senkaya-Erzuru**	**2.33**	**332**	PN		**Pn**	**12 15 16.8**	**-1.5**
EJDE	**Erzurum, Palan**	**2.34**	**305**	P		**Pb**	**12 15 20.2**	**-1.8**
EJDE				*i* AML	AML	12 16 09.0		
	comp=Z,4μm,1.0s							
EJDE				*i* AML	AML	12 16 11.0		
	comp=Z,1μm,1.0s							
ERZM	**Erzurum**	**2.35**	**307**	P		**Pb**	**12 15 20.3**	**-1.7**
ECAT	**Cat-ERZURUM**	**2.46**	**297**	P		**Pn**	**12 15 21.2**	**+1.1**
ECAT				*i* AML	AML	12 16 09.0		
	comp=Z,645nm,1.0s							
ECAT				*i* AML	AML	12 16 09.0		
	comp=Z,559nm,0.9s							
BNGB	**Bingl**	**2.49**	**282**	PN		**Pn**	**12 15 19.5**	**-0.9**
IHRS	**Heris**	**2.55**	**94**	*e*Pn		**Pn**	**12 15 22.0**	**+0.6**
IHRS				*e*			12 15 33.0	
	comp=Z,17μm,0.7s							
IBST	**Bostanabad**	**2.57**	**108**	*e*Pn		**Pn**	**12 15 22.2**	**+0.6**
IBST				*e*			12 16 02.4	
	comp=Z,7μm,0.8s							
GDB	**GEDABAY**	**2.66**	**34**	P		**Pn**	**12 15 21.8**	**-1.1**
	SNR=13							
GDB				S		**Sn**	**12 15 55.1**	**-0.7**
HANI	**Diyarbakir_Han**	**2.67**	**269**	P		**Pn**	**12 15 23.6**	**+0.7**
MARD	**Mardin**	**2.68**	**244**	Pn		**Pn**	**12 15 22.7**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.70**	**291**	PN		**Pn**	**12 15 22.2**	**-1.2**
QZX	**Qazax, Azerbai**	**2.81**	**25**	P		**Pn**	**12 15 24.2**	**-0.6**
	SNR=79							
QZX				S		**Sn**	**12 15 59.8**	**+0.6**
DMNI	**Dmanisi**	**2.82**	**6**	P		**Pn**	**12 15 25.3**	**+0.3**
DMNI				S		**Sg**	**12 16 10.3**	**+0.8**
MAZI	**Mazidag**	**2.86**	**249**	PN		**Pn**	**12 15 24.3**	**-1.2**
GANJ	**Ganja**	**2.88**	**42**	P		**Pn**	**12 15 25.0**	**-0.7**
	SNR=136							
GANJ	**Ganja**	**2.88**	**42**	P		**Pn**	**12 15 25.0**	**-0.7**
QRD	**Qoradiz**	**2.90**	**70**	P		**Pn**	**12 15 25.4**	**-0.5**
	SNR=54							
AKH	**Akhalkalaki**	**2.90**	**355**	PN		**Pn**	**12 15 24.7**	**-1.4**
AKH	**Akhalkalaki**	**2.90**	**355**	P		**Pn**	**12 15 26.4**	**+0.3**
AKH				S		**Sg**	**12 16 10.0**	**-1.9**
DYRB	**Diyarbakir**	**2.94**	**260**	PN		**Pn**	**12 15 25.2**	**-1.4**
KOPT	**Kop Dagi**	**2.97**	**301**	Pn		**Pb**	**12 15 30.7**	**-2.0**
IHSH	**Hashtrud**	**2.99**	**113**	*e*Pn		**Pn**	**12 15 28.3**	**+0.8**
IHSH				*e*			12 16 23.6	
	comp=Z,8μm,0.7s							
AGDM	**Agdam**	**3.01**	**57**	P		**Pn**	**12 15 27.1**	**-0.5**
	SNR=35							
ISRB	**Sarab**	**3.12**	**102**	*e*Pn		**Pn**	**12 15 29.1**	**-0.1**
ISRB				*e*			12 16 48.0	
	comp=Z,21μm,1.3s							
BRDA	**Brd**	**3.14**	**55**	P		**Pn**	**12 15 28.8**	**-0.5**
	SNR=26							
BLQ	**Beylaqan**	**3.16**	**66**	P		**Pn**	**12 15 29.0**	**-0.5**
	SNR=66							
ABS	**Abastumani**	**3.32**	**347**	P		**Pn**	**12 15 32.0**	**+0.1**
ERZN	**Erzincan**	**3.35**	**290**	PN		**Pn**	**12 15 31.0**	**-1.3**
MNGR	**Mingechevir, A**	**3.39**	**47**	P		**Pn**	**12 15 32.0**	**-0.6**
	SNR=25							
MNGR	**Mingechevir, A**	**3.39**	**47**	P		**Pn**	**12 15 32.0**	**-0.6**
BAYT	**Aydintepe-Bayb**	**3.40**	**305**	PN		**Pn**	**12 15 32.2**	**-0.8**
DDFL	**Dedoflistskaro**	**3.42**	**31**	P		**Pb**	**12 15 37.1**	**-3.1**
PTK	**Pertek**	**3.47**	**278**	PN		**Pn**	**12 15 33.2**	**-0.8**
BATM	**Batumi**	**3.48**	**333**	P		**Pb**	**12 15 41.3**	**+0.2**
ZRD	**Zardab**	**3.48**	**58**	P		**Pn**	**12 15 33.4**	**-0.5**
	SNR=46							
YRD	**Yardimli**	**3.49**	**82**	P		**Pn**	**12 15 33.2**	**-1.1**
	SNR=212							
LRK	**Lerik**	**3.56**	**87**	P		**Pn**	**12 15 33.7**	**-1.4**
	SNR=38							
ALIG	**Mtskhetisjvari**	**3.58**	**358**	P		**Pn**	**12 15 36.0**	**+0.6**
GLBA	**Clilabad**	**3.65**	**77**	P		**Pn**	**12 15 35.5**	**-0.9**
	SNR=40							
SEKA	**Sheki**	**3.75**	**43**	P		**Pn**	**12 15 37.6**	**-0.1**
	SNR=15							
SEKA	**Sheki**	**3.75**	**43**	P		**Pn**	**12 15 37.6**	**-0.1**
ZKTA	**Zakatala**	**3.79**	**34**	P		**Pn**	**12 15 37.1**	**-1.1**
	SNR=47							
LGD	**Lagodekhi**	**3.80**	**29**	P		**Pn**	**12 15 42.0**	**+3.6**
SAAT	**Saatly**	**3.83**	**68**	P		**Pn**	**12 15 37.9**	**-0.8**
	SNR=21							
KDMR	**Kurdemir**	**3.86**	**60**	P		**Pn**	**12 15 38.6**	**-0.6**
	SNR=15							
TKB	**Tkibuli**	**3.88**	**351**	P		**Pn**	**12 15 41.4**	**+2.0**
LKRN	**Lenkeran, Azer**	**3.90**	**86**	P		**Pn**	**12 15 38.5**	**-1.3**
	SNR=8.3							
LKRN	**Lenkeran, Azer**	**3.90**	**86**	P		**Pn**	**12 15 38.4**	**-1.3**
ASTR	**Astara**	**3.91**	**88**	P		**Pn**	**12 15 38.5**	**-1.3**
	SNR=13							
QBL	**Gabala**	**3.94**	**51**	P		**Pn**	**12 15 39.7**	**-0.6**
	SNR=52							
GAS1	**Astara - Iran**	**3.96**	**90**	*e*Pn		**Pn**	**12 15 41.7**	**+1.2**
GAS1				*e*			12 15 59.5	
	comp=Z,4μm,0.8s							
IML	**Ismayilli**	**4.07**	**55**	P		**Pn**	**12 15 41.5**	**-0.6**
	SNR=8.2							
ONI	**Oni**	**4.08**	**356**	Pn		**Pn**	**12 15 43.5**	**+1.3**
ONI	**Oni**	**4.08**	**356**	P		**Pn**	**12 15 43.5**	**+1.3**
PNSH	**Pansheti**	**4.16**	**8**	P		**Pn**	**12 15 46.9**	**+3.5**
XNQ	**Khinaliq**	**4.26**	**50**	P		**Pn**	**12 15 44.2**	**-0.7**
	SNR=6.0							
ZEI	**Tsey**	**4.26**	**1**	*e*P		**Pn**	**12 15 45.1**	**+0.2**
ZEI				pmax	pmax			
	comp=Z,136nm,0.9s							
IDHR	**Dehrash**	**4.34**	**151**	*e*Pn		**Pn**	**12 15 45.7**	**-0.3**
IDHR				*e*			12 17 21.8	
	comp=Z,6μm,1.1s							
ILIN	**Lien**	**4.40**	**144**	*e*Pn		**Pn**	**12 15 46.2**	**-0.6**
ILIN				*e*			12 17 19.4	
	comp=Z,4μm,1.3s							
QUBA	**Quba, Azerbaij**	**4.58**	**50**	P		**Pn**	**12 15 48.4**	**-0.7**
	SNR=5.0							
ATGJ	**Altiaghaj**	**4.60**	**58**	P		**Pn**	**12 15 48.7**	**-0.7**
	SNR=7.9							
SIZA	**Siyzn**	**4.68**	**55**	P		**Pn**	**12 15 49.7**	**-0.8**
	SNR=10							
GROC	**Groznyy**	**4.92**	**17**	*e*P		**Pn**	**12 15 52.3**	**-1.4**
GROC				*e*			12 16 49.5	
GROC				pmax	pmax			
	comp=Z,236nm,0.4s							
GROC				smax	smax			
	comp=E,283nm,2.0s							
GROC				smax	smax			
	com

GYA0B **ALIBECK ARRAY** 11.28 89 Pn 12 17 20.6 -0.4
comp=Z,1.0nm,0.3s,baz=11,slow=9.2,SNR=3.6
TNSJ Nastanj 11.29 110 *e*Pn **Pn** 12 17 22.5 +1.2
ISFR Sfrayin 11.33 93 *e*Pn **Pn** 12 17 22.8 +0.9
EIL Elat 11.47 222 Pn **Pn** 12 17 25.4 +1.8
comp=Z,1.0nm,0.3s,baz=11,slow=9.2,SNR=3.6
EIL LR LR 12 22 21.3
comp=Z,944nm,19.0s,baz=51,slow=40
comp=Z,3.4nm,0.4s
EIL Elat 11.47 222 Pn **Pn** 12 17 26.4 +2.8
IEMG Emamgholi 11.77 91 *e*Pn **Pn** 12 17 28.5 +0.5
TKDS Koohdasht(Taba 11.83 110 *e*Pn **Pn** 12 17 29.4 +0.7
IAKL Akhelmad 12.02 95 *e*Pn **Pn** 12 17 31.8 +0.4
IPAY Payeh 12.24 95 *e*Pn **Pn** 12 17 35.8 +1.4
VSR Storozhevoye 13.11 347 *e*P **Pn** 12 17 46.8 +0.9
VSR pmax pmax
comp=Z,50nm,1.5s
HARR Harsova 13.37 302 ⇓P **Pn** 12 17 52.8 +3.3
HARR Harsova 13.37 302 ⇓P **Pn** 12 17 52.8 +3.3
VORR Voronezh 13.54 348 *e*P **Pn** 12 17 52.8 +1.0
VORR pmax pmax
comp=Z,80nm,0.5s
SHMA Al-Shehemyia 14.00 152 P **P** 12 18 02.8 -3.5
BELG Belogornoye 14.13 10 Pn **Pn** 12 17 59.8 0.0
comp=Z,1.1nm,0.3s,baz=83,slow=4.4,SNR=1.8
BELG LR LR 12 25 08.7
comp=Z,253nm,18.0s,baz=319,slow=45
comp=Z,7.6nm,0.4s
BELG Belogornoye 14.13 10⇑*e*P **Pn** 12 17 59.0 -0.8
BELG pmax pmax
comp=Z,3.0nm,0.9s
RDO Rodhopi 14.28 286 Pn **Pn** 12 18 00.6 -1.4
LPSR Galich'ya Gora 14.48 348 *e*P **Pn** 12 18 04.3 -0.4
LPSR pmax pmax
comp=Z,60nm,1.4s
MLR Muntele Rosu 14.98 303 ⇑P **P** 12 18 14.6 -2.7
MLR Muntele Rosu 14.98 303 Pn **Pn** 12 18 11.6 0.0
comp=Z,0.2nm,0.3s,baz=315,slow=3.6,SNR=3.6
comp=Z,4.7nm,0.9s
MLR Muntele Rosu 14.98 303 Pn **Pn** 12 18 10.2 -1.3
MLR Muntele Rosu 14.98 303 ⇑P **P** 12 18 14.6 -2.7
RAYN Ar Rayn 15.02 174 **Pn** 12 18 07.6 -4.5
RAYN IAmb IAmb 12 18 10.7
comp=Z,17nm,0.8s
RAYN Ar Rayn 15.02 174 P **Pn** 12 18 07.8 -4.4
RAYN Ar Rayn 15.02 174 ⇓P **Pn** 12 18 08.1 -4.1
HRA Herat 15.40 100 Pn **Pn** 12 18 17.9 +0.7
IDI Anoyia 15.47 264 LR LR 12 24 54.0
comp=Z,148nm,18.7s,baz=74,slow=40
DOPR Dopca 15.52 305 ⇑P **P** 12 18 22.0 -1.2
VOIR 15.55 302 ⇑P **Pn** 12 18 19.8 +0.7
VOIR 15.55 302 ⇑P **Pn** 12 18 19.8 +0.7
ABKAR **Akbulak array** 15.79 42 **Pn** 12 18 19.1 -3.1
AKASG **Malin Array Be** 15.97 324 Pn **Pn** 12 18 23.6 -0.8
comp=Z,0.5nm,0.3s,baz=135,slow=12,SNR=18
AKASG LR LR 12 25 51.9
comp=Z,178nm,19.0s,baz=152,slow=42
comp=Z,4.3nm,0.8s
AKBB Malin Array Si 15.97 324 **Pn** 12 18 24.3 -0.1
AKBB IAmb IAmb 12 18 30.2
comp=Z,37nm,1.3s
AKBB Malin Array Si 15.97 324⇓*e*P **Pn** 12 18 24.7 +0.3
VTS Vitosha 16.15 291 **Pn** 12 18 27.2 +0.2
VTS Vitosha 16.15 291 P **Pn** 12 18 27.2 +0.2
VTS pmax pmax
comp=Z,15nm,1.2s
BURAR **Bucovina Array** 16.31 310 ⇑P **P** 12 18 33.1 +1.1
BURAR **Bucovina Array** 16.31 310 Pn **Pn** 12 18 28.9 0.0
BURAR **Bucovina Array** 16.31 310 ⇑P **P** 12 18 33.1 +1.1
BUR08 **Bucovina Ar. S** 16.33 310 **Pn** 12 18 29.5 +0.2
BANOM **Banah** 16.39 136 P **P** 12 18 32.0 -1.0
ASUD Al Ashush, Dub 16.96 141 P **P** 12 18 40.5 +1.3
DJES Djerdap 17.04 298 P **Pn** 12 18 38.9 +0.7
GZR Gura Zlata 17.06 300 ⇑P **P** 12 18 39.6 -0.7
UOSS Minazif 17.13 139 P **P** 12 18 42.2 +1.1
ASHO Ashiyiah 17.27 139 P **P** 12 18 42.3 -0.5
ASHO P **P** 12 18 42.3 -0.5
OBN Obninsk 17.31 346 P **Pn** 12 18 40.1 -1.2
OBN IAmb IAmb 12 18 42.2
comp=Z,38nm,0.9s
OBN Obninsk 17.31 346⇓*e*P **Pn** 12 18 40.1 -1.2
OBN pmax pmax
comp=Z,81nm,1.7s
OBN MLR MLR
comp=Z,369nm,16.0s
MZR Muzera 17.54 149 P **P** 12 18 47.3 +1.6
SNR=14
MZR P **P** 12 18 47.3 +1.6
SNR=14
MDVR Moldovita 17.63 298 ⇓P **P** 12 18 46.1 -0.5
MOS Moscow 17.72 348 *e*P **Pn** 12 18 44.5 -2.0
MOS pmax pmax
comp=Z,61nm,1.2s
SOHO SOHO 17.97 139 P **P** 12 18 51.5 +1.1
SOHO P **P** 12 18 51.5 +1.1
TRPA Tarpa 18.16 309 P **P** 12 18 54.8 +2.5
UZH Uzhgorod 18.52 310 *e*P **Pn** 12 18 57.0 +0.7
ARQ Araqi 18.63 141 P **Pn** 12 19 04.0 +6.2
SNR=5.6
ARQ P **Pn** 12 19 04.0 +6.2
SNR=5.6
DIVS Divibare 18.71 295 P **Pn** 12 18 58.9 0.0
CRVS Cervenica-Dubn 19.13 310 *e*P **Pn** 12 19 05.6 +1.8
CRVS Cervenica-Dubn 19.13 310 *e*P **Pn** 12 19 05.7 +1.9
MNK Minsk 19.30 331 *i* P **Pn** 12 19 05.6 -0.2
comp=E,3.0nm,0.9s
MNK *i* P **Pn** 12 19 05.6 -0.2
comp=N,13nm,0.9s
MNK *i* P **Pn** 12 19 05.6 -0.2
comp=Z,18nm,0.9s,baz=140
MNK *i* PP **PnPn** 12 19 19.1 +0.5
MNK *i* S **S** 12 22 44.0 +0.2
MNK *i* SS **SnSn** 12 22 59.9 +3.4
MNK *i* LQ LQ 12 25 08.6
MNK *i* LR LR 12 26 12.5
MNK *i* LRM MLR 12 27 29.4
comp=E,94nm,14.8s
MNK *i* LRM MLR 12 27 56.3
comp=Z,122nm,14.7s
MNK *i* LRM MLR 12 27 59.5
comp=N,534nm,14.7s
MNK Minsk 19.30 331 *i* P **Pn** 12 19 05.6 -0.2
MNK *i* S **S** 12 22 44.0 +0.2
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=E,94nm,15.0s
MNK MLR MLR
comp=Z,122nm,15.0s
MNK MLR MLR
comp=N,534nm,15.0s
BSY Bisya 19.46 140 P **P** 12 19 06.8 0.0
SMDO Samad 19.64 138 P **P** 12 19 09.1 +0.3
SMDO P **P** 12 19 09.1 +0.3
PSZ Piszkesteto 19.73 306 P **P** 12 19 10.1 +0.4
CHGR Chuyangaron 19.81 82 P **P** 12 19 10.7 +0.1
CHGR IAmb IAmb 12 19 21.4
comp=Z,34nm,1.1s
CHGR Chuyangaron 19.81 82 P **P** 12 19 10.7 +0.1
CHGR pmax pmax
comp=Z,34nm,1.1s
WSAR Wadi Sarin 19.81 136 P **Pn** 12 19 11.8 -0.2
comp=Z,0.7nm,0.3s,baz=316,slow=8.8,SNR=5.8
comp=Z,5.7nm,0.6s
NACGM **Naroch** 20.03 330 *e*P Pn 12 19 13.9 -0.6
comp=Z,35nm,0.9s,baz=140
MORH Mrgy, Hungar 20.06 301 ⇑P Pn 12 19 13.9 -1.0
MORH Mrgy, Hungar 20.06 301 P Pn 12 19 14.1 -0.9
JMDO Jabal Madar 20.23 139 P Pn 12 19 18.0 +0.8
SNR=6.4
KOVH Kovagotottos 20.40 300 P **P** 12 19 16.8 -0.1
KIRV Kirov 20.41 8 P Pn 12 19 17.6 -1.3
comp=Z,12nm,0.5s,baz=210,slow=4.1,SNR=9.3
comp=Z,12nm,0.5s
KIRV Kirov 20.41 8⇓*e*P **P** 12 19 15.3 -1.5
ARU Arti 20.43 24 P **P** 12 19 16.9 -0.2
comp=Z,8.1nm,0.7s,baz=208,slow=8.9,SNR=14
ARU LR LR 12 29 49.1
comp=Z,193nm,18.4s,baz=192,slow=45
comp=Z,8.1nm,0.7s
ARU Arti 20.43 24 P **P** 12 19 16.3 -0.8
ARU IAmb IAmb 12 19 23.5
comp=Z,34nm,1.2s
ARU Arti 20.43 24*c i*P **P** 12 19 16.7 -0.4
ARU 12 19 33.5
ARU S **S** 12 23 06.2 -0.1
ARU SS **SnSn** 12 23 23.5 -0.6
ARU pmax pmax
comp=Z,18nm,0.9s
ARU MLR MLR
comp=Z,194nm,16.0s
WBK Wadi Bani Khal 20.50 136 P Pn 12 19 19.2 -1.1
VYHS Vyhne 20.59 307 *e*P Pn 12 19 20.0 -1.1
VYHS Vyhne 20.59 307 *e*P Pn 12 19 20.0 -1.1
KBL Kabul 20.64 93 P **P** 12 19 20.5 +0.6
KBL Kabul 20.64 93 P Pn 12 19 24.9 +2.8
SNR=7.5
KBL P Pn 12 19 24.9 +2.8
SNR=7.5
KBL Kabul 20.64 93 P **P** 12 19 20.5 +0.6
KBL pmax pmax
comp=Z,13nm,1.0s
GAR Garm 20.66 80 P **P** 12 19 19.5 -0.4
KK31 Karatay Array 20.69 69 P **P** 12 19 19.6 -0.5
KK31 IAmb IAmb 12 19 24.7
comp=Z,14nm,0.8s
KK31 Karatay Array 20.69 69 P **P** 12 19 19.6 -0.5
KK31 pmax pmax
comp=Z,14nm,0.8s
KKAR Karatay Array 20.69 69 P **P** 12 19 19.8 -0.3
KKAR Karatay Array 20.69 69 P **P** 12 19 19.4 -0.7
KKAR IAmb IAmb 12 19 24.7
comp=Z,14nm,0.8s
KKAR Karatay Array 20.69 69 P **P** 12 19 19.8 -0.3
BTK Batken 20.94 77 IAmb IAmb 12 19 28.2
comp=Z,21nm,0.8s
MPLH Magyarpolny 21.03 303 P **P** 12 19 25.0 +1.3
TIP Timpagrande 21.05 280 P **P** 12 19 22.5 -1.6
TIP IAmb IAmb 12 19 46.7
comp=Z,18nm,1.1s
MHTO MHTO 21.32 141 P **P** 12 19 30.0 +3.0
SNR=5.3
MHTO P **P** 12 19 30.0 +3.0
SNR=5.3
SVE Sverdlovsk 21.43 26 *e*P **P** 12 19 29.8 +1.9
SVE pmax pmax
comp=Z,47nm,1.3s
OKC Ostrava-Krasne 21.49 310 AMS AMS 12 30 20.0
comp=Z,300nm,8.4s
MAUC Maruska 21.51 309 *e*P **P** 12 19 31.9 +3.0
MODS Modra-Piesok 21.54 306 *e*P **P** 12 19 31.8 +2.6
MODS Modra-Piesok 21.54 306 *e*P **P** 12 19 31.8 +2.6
PABE Paberze 21.59 328 P **P** 12 19 28.6 -1.0
PABE IAmb IAmb 12 19 31.7
comp=Z,32nm,0.9s
CUC Castrocucco 21.69 283 P **P** 12 19 30.7 -0.2
DOK Doka 21.77 153 P **P** 12 19 34.0 +2.1
SNR=7.4
MORC Moravsky Berou 21.83 310 *e*P **P** 12 19 33.2 +0.8
RONA Rosalia, Austr 21.98 304 *e*P **P** 12 19 34.3 +0.3
comp=Z,5.8nm,0.8s
VRAC Vranov 22.25 308 ⇑P **P** 12 19 38.8 +2.0
VRAC Vranov 22.25 308 P **P** 12 19 38.3 +1.4
comp=Z,14nm,0.9s,baz=105,slow=8.4,SNR=9.0
VRAC LR LR 12 30 48.6
comp=Z,54nm,18.8s,baz=109,slow=44
comp=Z,14nm,0.9s
VRAC Vranov 22.25 308 *e*P **P** 12 19 37.9 +1.0
VRAC Vranov 22.25 308 ⇑P **P** 12 19 38.8 +2.0
KRUC Moravsky 22.30 307 *e*P **P** 12 19 37.6 +0.3
CONA Conrad Observa 22.32 304 *e*P **P** 12 19 38.5 +0.8
comp=Z,10nm,1.1s
KRLC Kraliky 22.40 310 *e*P **P** 12 19 41.9 +3.5
KRLC AMS AMS 12 30 50.0
comp=Z,200nm,16.8s
KRLC Kraliky 22.40 310 *e*P **P** 12 19 41.9 +3.5
KRLC MLR MLR
comp=Z,200nm,16.8s
KLMR Klimovskoe 22.52 355 *e*P **P** 12 19 38.0 -1.6
KLMR AMP 12 19 45.2
comp=Z,89nm,0.9s
KLMR LR LR 12 26 58.7
KLMR AMP 12 29 05.3
comp=Z,324nm,11.5s
KLMR LRM MLR 12 29 14.2
KLMR Klimovskoe 22.52 355 *e*P **P** 12 19 37.9 -1.6
KLMR pmax pmax
comp=Z,89nm,0.9s
KLMR MLR MLR
comp=Z,324nm,12.0s
SOKA Soboth 22.60 300 *e*P **P** 12 19 40.4 -0.3
comp=Z,5.9nm,1.3s
ABTO Aybut 22.66 156 P **P** 12 19 44.0 +2.5
SNR=7.2
DPC Dobruska-Polom 22.77 310 *e*P **P** 12 19 45.2 +2.8
DPC AMS AMS 12 30 40.0
comp=Z,300nm,13.1s
DPC Dobruska-Polom 22.77 310 *e*P **P** 12 19 45.2 +2.8
DPC MLR MLR
comp=Z,300nm,13.1s
RBK Rabkut 22.83 154 P **P** 12 19 42.7 -0.5
RBK P **sP** 12 19 46.0 +0.8
SNR=6.5
DMTO DMTO 22.90 152 P **P** 12 19 43.2 -0.7
OSTC Ostas 22.91 311 AMS AMS 12 31 10.0
comp=Z,300nm,13.9s
PRGR Permogore 23.17 2 *e*P **P** 12 19 43.7 -2.6
PRGR pmax pmax
comp=Z,20nm,0.4s
BRVK Borovoye 23.32 43 P **P** 12 19 48.7 +0.7
BRVK IAmb IAmb 12 19 54.7
comp=Z,16nm,1.0s
BRVK Borovoye 23.32 43 P **P** 12 19 51.5 +3.5
BRVK Borovoye 23.32 43*de*P **P** 12 19 50.3 +2.3
BRVK pmax pmax
comp=Z,17nm,1.0s
BVAR Borovoye Array 23.36 43 P **P** 12 19 48.5 +0.1
comp=Z,3.1nm,0.7s,baz=236,slow=11,SNR=9.9
BVAR LR LR 12 30 10.3
comp=Z,162nm,19.4s,baz=244,slow=40
comp=Z,3.1nm,0.7s
CAMP Campotosto 23.39 290 IAmb IAmb 12 19 58.9
comp=Z,12nm,0.9s
CKRC Cesky Krumlov 23.55 305 *e*P **P** 12 19 52.6 +2.2
CKRC AMS AMS 12 31 10.0
comp=Z,200nm,11.8s
GOPC GO Pecny, Ondr 23.56 308 AMS AMS 12 31 20.0
comp=Z,300nm,14.0s
AAK Ala-Archa 23.60 70 P **P** 12 19 50.7 -0.4
comp=Z,2.4nm,0.7s,baz=261,slow=12,SNR=5.5
AAK LR LR 12 30 43.3
comp=Z,202nm,19.6s,baz=282,slow=41
comp=Z,2.4nm,0.7s
AAK Ala-Archa 23.60 70 P **P** 12 19 51.3 +0.2
AAK IAmb IAmb 12 20 18.2
comp=Z,25nm,1.4s
AAK Ala-Archa 23.60 70 P **P** 12 19 55.6 +4.5
AAK Ala-Archa 23.60 70⇑*i*P **P** 12 19 53.4 +2.3
AAK pmax pmax
comp=Z,7.0nm,1.1s
FDMO Fiordimonte 23.62 291 IAmb IAmb 12 19 54.6
comp=Z,15nm,0.9s
BIOA Bad Ischl, Aus 23.73 302 *e*P **P** 12 19 51.5 -0.7
comp=Z,0.4nm,0.3s
PRU Pruhonice 23.73 308 AMS AMS 12 31 20.0
comp=Z,300nm,14.2s
KBA Koelnbreinsper 23.81 301 *e*P **P** 12 19 53.2 +0.1
comp=Z,8.8nm,1.2s
GERES GERESS Array B 23.95 305 P **P** 12 19 54.2 -0.1
comp=Z,1.4nm,0.6s,baz=103,slow=10,SNR=11
comp=Z,1.4nm,0.6s
CESX Cesi 24.00 290 IAmb IAmb 12 19 59.5
comp=Z,13nm,0.7s
KHC Kasperske Hory 24.10 306 P **P** 12 19 54.9 -0.8
KHC Kasperske Hory 24.10 306 *e*P **P** 12 19 55.7 0.0
KHC AMS AMS 12 31 30.0
comp=Z,200nm,11.4s
KHC Kasperske Hory 24.10 306*de*P **P** 12 19 55.1 -0.6
KHC pmax pmax
comp=Z,17nm,1.4s
ABTA Abfaltersbach 24.32 300 *e*P **P** 12 19 57.8 0.0
comp=Z,9.4nm,0.9s
BRG Berggiesshubel 24.38 310 *e*P **P** 12 20 00.7 +2.5
BRG Amp 12 20 01.7
comp=Z,4.4nm,0.7s
BRG Amp 12 31 42.0
comp=N,0.1nm,10.4s
BRG Amp 12 31 45.0
comp=E,0.2nm,15.1s
BRG Amp 12 31 57.0
comp=Z,0.2nm,14.6s
BRG Berggiesshubel 24.38 310 *e*P **P** 12 20 00.6 +2.5
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG MLR MLR
comp=N,88nm,10.4s
BRG MLR MLR
comp=E,242nm,15.1s
BRG MLR MLR
comp=Z,241nm,14.6s
NRN Naryn 24.77 73 IAmb IAmb 12 20 15.5
comp=Z,9.1nm,0.9s
CTI Castel Tesino 24.82 298 IAmb IAmb 12 20 05.6
comp=Z,10nm,0.9s
KSH Kashi 24.95 78 P **P** 12 20 02.9 -0.7
KSH pmax pmax
comp=Z,5.0nm,1.2s
KSH LR LR
comp=N,420nm,15.5s
KSH LR LR
comp=E,300nm,8.7s
KSH LR LR
comp=Z,220nm,16.0s
WTTA Wattenberg 24.99 301 *e*P **P** 12 20 05.2 +1.2
comp=Z,6.1nm,0.7s
WATA Walderalm 25.04 301 *e*P **P** 12 20 04.7 +0.3
comp=Z,8.6nm,0.8s
CLL Collm 25.08 311 P **P** 12 20 03.4 -1.0
CLL IAmb IAmb 12 20 08.4
comp=Z,16nm,0.8s
CLL Collm 25.08 311 *e*P **P** 12 20 04.0 -0.5
comp=Z,10.0nm,1.3s
CLL *i* pP **sP** 12 20 06.5 0.0
comp=Z,20nm,1.0s
CLL *ex* x 12 20 14.0
CLL *ex* x 12 20 21.0
CLL *e*PPP PPP 12 20 42.0
CLL *e*S **S** 12 24 28.0 -1.5
CLL *e*(SS) 12 25 15.0
CLL *e*SSS SSS 12 25 48.0
CLL LmH 12 30 00.0
comp=N,200nm,18.4s
CLL LmH 12 30 00.0
comp=E,200nm,19.6s
CLL LmH 12 30 00.0
comp=Z,100nm,21.1s
CLL Collm 25.08 311 *e*P **P** 12 20 04.0 -0.5
CLL *i* 12 20 06.5
CLL *e*S **S** 12 24 28.0 -1.5
CLL pmax pmax
comp=Z,10.0nm,1.3s
NKC Novy Kostel 25.09 308 *e*P **P** 12 20 05.2 +0.5
NKC Novy Kostel 25.09 308 *e*P **P** 12 20 05.2 +0.5
SQTA Sankt Quirin 25.27 301 *e*P **P** 12 20 05.2 -1.3
comp=Z,6.4nm,0.8s
MOTA Moosalm 25.36 301 *e*P **P** 12 20 06.2 -1.1
comp=Z,14nm,1.0s
FIA1 FINESS Array S 25.45 340 P **P** 12 20 07.5 -0.2
FINES FINESS Array B 25.45 340 P **P** 12 20 07.7 0.0
comp=Z,2.8nm,0.8s,baz=148,slow=11,SNR=5.9
FINES LR LR 12 30 56.9
comp=Z,285nm,18.2s,baz=136,slow=38
comp=Z,2.8nm,0.8s
FINES FINESS Array B 25.45 340 *i* P **P** 12 20 09.8 +2.1
FINES pmax pmax
comp=Z,4.0nm,0.9s
FETA Feichten 25.57 300 *e*P **P** 12 20 07.8 -1.4
comp=Z,9.2nm,1.1s
SALO Salr 25.57 297 P **P** 12 20 09.9 +0.8
RETA Reutte 25.61 301 *e*P **P** 12 20 09.5 0.0
comp=Z,4.9nm,0.9s
GRFO Grafenberg 25.73 306 P **P** 12 20 10.2 -0.2
GRFO Grafenberg 25.73 306 P **P** 12 20 10.2 -0.2
GRFO pmax pmax
comp=Z,31nm,1.1s
DAVOX **Davos/Dischmat** 26.12 299 P **P** 12 20 14.3 0.0
comp=Z,5.2nm,0.5s,baz=82,slow=6.8,SNR=6.4
DAVOX LR LR 12 31 37.3
comp=Z,166nm,21.1s,baz=80,slow=39
comp=Z,5.2nm,0.5s
DAVA Damuels 26.18 301 *e*P **P** 12 20 13.7 -1.0
comp=Z,7.6nm,1.1s
KURBB **Kurchatov Arra** 27.28 52 P **P** 12 20 24.6 +0.2
comp=Z,10nm,1.0s,baz=264,slow=9.2,SNR=36
KURBB PcP **PcP** 12 23 42.5 -1.4
comp=Z,0.3nm,0.2s,baz=279,slow=3.0,SNR=4.6
comp=Z,10nm,1.0s
KURK Kurchatov 27.36 52 P **P** 12 20 24.9 -0.2
KURK IAmb IAmb 12 20 27.7
comp=Z,14nm,1.0s
KURK Kurchatov 27.36 52 P **P** 12 20 25.4 +0.4
KURK Kurchatov 27.36 52⇓*e*P **P** 12 20 25.1 0.0
KURK pmax pmax
comp=Z,21nm,1.3s
SENIN Lac Senin/Sane 27.86 298 P **P** 12 20 30.2 +0.3
HFS Hagfors 28.77 329 P **P** 12 20 37.5 0.0
comp=Z,3.8nm,0.8s,baz=106,slow=11,SNR=6.5
HFS LR LR 12 33 22.6
comp=Z,140nm,19.4s,baz=120,slow=39
comp=Z,3.8nm,0.8s
MAKZ Makanchi 29.03 61 P **P** 12 20 40.0 -0.1
MAKZ Makanchi 29.03 61 P **P** 12 20 40.0 -0.1
MAKZ pmax pmax
comp=Z,7.0nm,1.3s
MK31 Makanchi Array 29.25 61 P **P** 12 20 41.6 -0.4
MK31 Makanchi Array 29.25 61⇓*e*P **P** 12 20 41.6 -0.4
MKAR Makanchi Array 29.25 61 P **P** 12 20 41.6 -0.4
comp=Z,2.3nm,0.8s,baz=265,slow=7.0,SNR=12
MKAR LR LR 12 34 28.9
comp=Z,193nm,18.5s,baz=268,slow=41
comp=Z,2.3nm,0.8s
MKAR Makanchi Array 29.25 61 P **P** 12 20 41.9 -0.1
MKAR Makanchi Array 29.25 61*ce*P **P** 12 20 41.5 -0.5
MKAR pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 30.29 329 P **P** 12 20 50.5 -0.6
comp=Z,0.7nm,0.8s,baz=126,slow=8.8,SNR=2.7
NOA LR LR 12 33 58.6
comp=Z,101nm,18.6s,baz=130,slow=38
comp=Z,0.7nm,0.8s
ZAA0 Zalesovo Array 31.77 47 P **P** 12 21 03.9 -0.3
ZAA0 IAmb IAmb 12 21 05.9
comp=Z,7.6nm,1.4s
ZALV Zalesovo Beam 31.77 47 P **P** 12 21 04.1 -0.1
comp=Z,1.9nm,0.6s,baz=264,slow=11,SNR=7.5
comp=Z,1.9nm,0.6s
ZALV Zalesovo Beam 31.77 47 P **P** 12 21 03.9 -0.3
ARCES **ARCESS Array B** 32.59 348 P **P** 12 21 11.2 0.0
comp=Z,1.9nm,0.7s,baz=122,slow=9.3,SNR=5.3
ARCES LR LR 12 35 22.5
comp=Z,166nm,19.7s,baz=138,slow=38
comp=Z,1.9nm,0.7s
DGZ Jazzator, Alta 32.82 56*de*P **P** 12 21 13.8 +0.1
DGZ pmax pmax
comp=Z,11nm,1.1s
WMQ Urumqi 33.16 67 *e*P **P** 12 21 17.6 +1.0
WMQ pP sP 12 21 24.0 +5.3
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ LR LR
comp=N,230nm,14.7s
WMQ LR LR
comp=E,140nm,15.5s
WMQ LR LR
comp=Z,270nm,18.5s
DANN Dangsing 34.62 95 *e*P **P** 12 21 30.7 +1.0
comp=Z,24nm,0.7s
EKA Eskdalemuir Ar 35.42 314 P **P** 12 21 34.8 -1.2
comp=Z,2.8nm,0.7s,baz=106,slow=8.7,SNR=7.1
EKA LR LR 12 40 11.3
comp=Z,193nm,18.2s,baz=112,slow=43
comp=Z,2.8nm,0.7s
TAM Tamanrasset 36.18 256 P **P** 12 21 41.9 -1.1
TAM IAmb IAmb 12 21 48.0
comp=Z,5.9nm,0.9s
TAM Tamanrasset 36.18 256 P **P** 12 21 41.9 -1.1
TAM pmax pmax
comp=Z,6.0nm,0.9s
PKIN Phulchoki 36.26 95 *e*P **P** 12 21 44.7 +0.9
comp=Z,8.3nm,0.5s
PKI Pulchoki 36.27 95 *e*P **P** 12 21 44.9 +1.0
GUN Gumba 36.48 94 *e*P **P** 12 21 46.5 +0.8
ESDC Sonseca Array 36.74 287 P **P** 12 21 45.9 -1.6
comp=Z,3.7nm,0.9s,baz=67,slow=8.8,SNR=13
comp=Z,3.7nm,0.9s

JIRN	Jiri	36.84	94	eP		P		12 21 49.4	+0.6
RAMN	Ramite	37.50	95	eP		P		12 21 54.5	+0.2
	comp=Z,16nm,0.6s								
TAPN	Taplejung	38.17	94	eP		P		12 22 00.4	+0.3
	comp=Z,11nm,0.6s								
NRIK	Noril'sk	38.65	23	P		P		12 22 01.9	-1.3
	comp=Z,5.3nm,1.0s,baz=245,slow=9.4,SNR=4.7								
NRIK				LR		LR		12 41 44.3	
	comp=Z,183nm,18.6s,baz=238,slow=42								
	comp=Z,5.3nm,1.0s								
NRIK	Noril'sk	38.65	23	P		P		12 22 03.1	-0.1
NRIK	Noril'sk	38.65	23	eP		P		12 22 04.7	+1.5
NRIK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KNGR	Kungurtug, Tuv	39.30	54	eP		P		12 22 11.2	+2.1
KNGR				pmax		pmax			
	comp=Z,23nm,1.5s								
SFS	San Fernando	39.34	283	P		P		12 22 08.0	-1.4
SFS	San Fernando	39.34	283	P		P		12 22 08.0	-1.4
SFS				pmax		pmax			
	comp=Z,177nm,1.0s								
MBAR	Mbarara	40.75	200	LR		LR		12 39 37.0	
	comp=Z,122nm,19.1s,baz=7.0,slow=37								
MBAR	Mbarara	40.75	200	eP		P		12 22 22.1	+0.7
MBAR				pmax		pmax			
	comp=Z,5.0nm,1.1s								
JMIC	Jan Mayen	42.00	337	LR		LR		12 40 24.4	
	comp=Z,91nm,18.6s,baz=261,slow=37								
BORG	Borgarnes	45.43	327	LR		LR		12 42 58.1	
	comp=Z,40nm,19.1s,baz=113,slow=37								
SONM	Songino Array	45.44	57	P		P		12 22 58.0	-1.2
	comp=Z,0.2nm,0.3s,baz=246,slow=6.8,SNR=1.9								
	comp=Z,0.2nm,0.3s								
SONM	Songino Array	45.44	57	P		P		12 22 58.0	-1.2
PALK	Pallekele	45.55	123	LR		LR		12 41 43.5	
	comp=Z,83nm,19.1s,baz=46,slow=36								
LZH	Lanzhou	47.08	73	eP		P		12 23 12.3	+0.1
LZH				pP		sP		12 23 17.8	+3.5
LZH				pmax		pmax			
	comp=Z,9.0nm,1.4s								
PZH	PanZhiHua	49.58	86	P		P		12 23 32.5	+0.9
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,140nm,4.4s								
HHC	Hu-ho-hao-te	51.00	65	eP		P		12 23 43.0	+0.9
HHC				pmax		pmax			
	comp=Z,20nm,0.8s								
HHC				pmax		pmax			
	comp=Z,360nm,5.6s								
HHC				LR		LR			
	comp=N,500nm,12.1s								
HHC				LR		LR			
	comp=E,280nm,12.7s								
HHC				LR		LR			
	comp=Z,560nm,12.7s								
CHTO	Chiang Mai	51.43	96	P		P		12 23 44.6	-0.9
CHTO				IAmb		IAmb		12 23 49.3	
	comp=Z,4.3nm,0.7s								
CHTO	Chiang Mai	51.43	96	P		P		12 23 44.6	-0.9
CHTO				pmax		pmax			
	comp=Z,4.0nm,0.7s								
CM31	Chiang Mai Arr	51.63	97	P		P		12 23 46.4	-0.6
CM31				IAmb		IAmb		12 24 06.3	
	comp=Z,13nm,1.5s								
CMAR	Chiang Mai Arr	51.63	97	P		P		12 23 45.3	-1.7
	comp=Z,2.1nm,0.7s,baz=298,slow=8.1,SNR=13								
	comp=Z,2.1nm,0.7s								
CMAR	Chiang Mai Arr	51.63	97	P		P		12 23 46.3	-0.7
CMAR	Chiang Mai Arr	51.63	97	iP		P		12 23 46.5	-0.5
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
XAN	Xi'an	51.71	74	P		P		12 23 50.5	+3.0
XAN				pmax		pmax			
	comp=Z,5.0nm,1.0s								
TIXI	Tiksi	52.43	23	eP		P		12 23 53.7	+1.5
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.3s								
HEH	HeiHe	57.88	49	eP		P		12 24 32.9	+1.0
NJ2	Nanjing	60.04	71	eP		P		12 24 52.5	+5.3
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
KLR	Kul'dur	60.87	49	eP		P		12 24 53.8	+1.2
KLR				pmax		pmax			
	comp=Z,12nm,2.5s								
PSI	Prapat	61.43	111	LR		LR		12 53 01.9	
	comp=Z,60nm,19.9s,baz=292,slow=38								
RES	Resolute Bay	63.81	349	LR		LR		12 53 31.4	
	comp=Z,44nm,19.6s,baz=22,slow=37								
KSRS	Korea Array	63.92	62	P		P		12 25 13.4	+0.2
	comp=Z,3.1nm,0.8s,baz=295,slow=5.8,SNR=6.7								
	comp=Z,3.1nm,0.8s								
FRB	Frobisher Bay	64.99	333	LR		LR		12 53 22.4	
	comp=Z,102nm,18.2s,baz=6.0,slow=36								
MA2	Magadan	65.33	32	LR		LR		12 59 33.6	
	comp=Z,120nm,18.1s,baz=298,slow=41								
BILL	Bilibino	65.40	20	eP		P		12 25 21.8	-0.6
BILL								12 25 53.0	
BILL				e				12 34 44.3	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BILL				MLR		MLR			
	comp=Z,60nm,17.0s								
LBTB	Lobatse	65.47	198	LR		LR		12 56 13.6	
	comp=Z,76nm,19.8s,baz=52,slow=38								
BOSA	Boshof	69.00	197	P		P		12 25 45.5	-0.3
	comp=Z,7.5nm,1.0s,baz=26,slow=2.9,SNR=6.1								
	comp=Z,7.5nm,1.0s								
BOSA	Boshof	69.00	197	P		P		12 25 45.2	-0.5
A36M	Sachs Harbour	69.52	356	P		P		12 25 48.1	-0.2
TOLK	Toolik Lake Re	72.69	5	P		P		12 26 07.7	0.0
TOLK				IAmb		IAmb		12 26 09.1	
	comp=Z,5.9nm,1.2s								
SUR	Sutherland	73.71	200	LR		LR		12 59 46.8	
	comp=Z,135nm,18.0s,baz=1.0,slow=37								
BMAR	Burnt Mountain	74.18	3	P		P		12 26 16.9	+0.4
IMAR	Indian Mountai	74.94	7	P		P		12 26 20.3	-0.6
COLA	College	76.53	5	eP		P		12 26 29.8	-0.2
COLA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
ILAR	Eielson Array	76.70	5	P		P		12 26 30.9	-0.1
	comp=Z,0.6nm,0.9s,baz=325,slow=2.7,SNR=4.4								
ILAR				LR		LR		13 03 31.7	
	comp=Z,54nm,18.4s,baz=324,slow=38								
	comp=Z,0.6nm,0.9s								
SHEM	Shemya Is, Ala	79.41	28	LR		LR		13 05 41.5	
	comp=Z,154nm,18.5s,baz=85,slow=39								
ULM	Lac du Bonnet	84.75	335	LR		LR		13 04 50.0	
	comp=Z,77nm,18.9s,baz=35,slow=36								
RCBR	Riachuelo	85.59	259	LR		LR		13 07 27.0	
	comp=Z,47nm,18.2s,baz=197,slow=37								
BATI	Baumata	88.47	104	LR		LR		13 12 01.9	
	comp=Z,47nm,20.1s,baz=276,slow=39								
TKL	Tuckaleechee C	91.70	320	LR		LR		13 10 32.1	
	comp=Z,39nm,18.6s,baz=16,slow=37								

*ISK **23** 12:20:16.4, 38.47N×43.91E, h4km, ML3.5/11*
*NSSP **23** 12:20:16.3, 38.35N×43.92E, h5km, Ms3.3*
*DDA **23** 12:20:17.7±0.0, 38.50N×43.88E, h6km±6km, MW3.6*
*AZER **23** 12:20:26.4±0.4, 38.72N×44.13E, h5km, Error ellipse: s-maj=4.3km s-min=3.1km az=109.0*

ISC 23 12:20:18.5±1.1, 38.51N±0.02×43.80E±0.02, h4km±10km, n50, σ2s01/69, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.21	45	P		Pg	12 20 21.8	-1.0
OZAP				S		Sg	12 20 23.9	-1.7
TVAN	Van	0.31	273	P		Pg	12 20 24.4	-0.2
VANB	Van	0.33	285	PG		Pg	12 20 24.8	-0.2
VMUR	Van-Muradiye	0.51	340	P		Pg	12 20 27.6	-0.8
VMUR				S		Sb	12 20 38.0	0.0
GEVA	Gevas	0.61	251	P		Pg	12 20 29.9	-0.4
GEVA				S		Sn	12 20 42.5	-2.2
ERCV	ERCIS-VAN	0.62	325	PG		Pb	12 20 31.2	-0.9
CLDR	Caldiran	0.64	8	PG		Pg	12 20 29.4	-1.4
CLDR				SG		Sg	12 20 39.9	+0.8
AKDM	Akdamar-Van	0.67	254	PG		Pg	12 20 31.4	0.0
AKDM				SG		Sb	12 20 42.8	+0.2
ADCV	BITLIS_Adilcev	0.89	290	P		Pg	12 20 35.4	-0.3
ADCV				S		Sn	12 20 49.5	-2.0
HAKT	HAKKARI	0.95	184	P		Pg	12 20 36.8	-0.1
HAKT				S		Sn	12 20 54.3	+1.1
YOVA	Hakkari_Yksek	1.00	157	P		Pb	12 20 37.9	-0.6
YOVA				S		Sn	12 20 57.1	+2.8
DYDN	Diyadin	1.03	355	P		Pg	12 20 37.4	-1.0
DYDN				S		Sn	12 20 54.7	-0.5
PERV	Siirt/Pervari-	1.14	241	P		Pn	12 20 42.4	+1.0
PERV				S		Sn	12 20 57.8	+0.3
MLAZ	Malazgirt-MUS	1.16	303	PN		Pn	12 20 41.1	-0.7
AGRB	Hanur-Agry	1.23	330	PN		Pn	12 20 41.3	-1.5
AGRB				SN		Sn	12 21 01.3	+1.3
CUKT	Cukurca	1.27	187	PN		Pn	12 20 41.3	-1.9
KOTA	Agri, Merkez-K	1.37	340	P		Pg	12 20 44.9	+0.1
IGDI	IGDIR	1.37	9	P		Pb	12 20 44.3	-0.6
IGDI				S		Sg	12 21 07.2	+4.5
GURO	Guroymak-BITLI	1.39	272	PN		Pn	12 20 43.9	-0.9
GURO				SN		Sg	12 21 04.4	+1.3
HYR	Heyderabad	1.46	34	S		Sg	12 21 05.0	-0.4
NAX	Nakhchivan	1.48	63	P		Pg	12 20 48.5	+1.6
	SNR=9.8							
NAX				S		Sg	12 21 06.0	-0.1
TASB	TASBURUN-IGDIR	1.51	13	PN		Pn	12 20 45.4	-1.1
EKAR	Karacoban	1.54	299	P		Pg	12 20 48.6	+0.5
SBZ	Shahbuz	1.63	57	P		Pg	12 20 51.3	+1.6
	SNR=45							
SBZ				S		Sb	12 21 09.0	-1.2
NRKZ	NAREK	1.63	24	eS		Sg	12 21 12.3	+1.4
METS	Metsamor	1.65	7	eS		Sg	12 21 14.7	+3.1
EATA	Eleskirt	1.69	323	P		Pb	12 20 49.8	-0.6
EATA				S		Sg	12 21 15.5	+2.7
ORD	Ordubad	1.77	76	P		Pg	12 20 53.6	+1.2
	SNR=45							
ORD				S		Sb	12 21 13.7	-0.4
ARUZ	Aruch	1.78	7	eS		Sg	12 21 21.6	+5.7
GNI	Garni	1.79	24	eP		Pg	12 20 52.3	-0.6
GNI				eS		Sg	12 21 20.0	+3.9
GNI	Garni	1.79	24	PN		Pn	12 20 49.3	-1.1
SVAN	Silvan-Diyarba	2.08	261	PN		Pn	12 20 54.3	+0.1
KOPR	Koprukoy-ERZUR	2.11	315	PN		Pn	12 20 55.2	+0.3
KARS	Kars	2.19	345	PN		Pn	12 20 55.3	-0.5
SENK	Senkaya-Erzuru	2.33	332	PN		Pn	12 20 58.0	+0.1
BNGB	Bingl	2.49	282	PN		Pn	12 20 59.9	0.0
GDB	GEDABAY	2.67	34	P		Pb	12 21 06.3	-0.8
	SNR=11							
GDB				S		Sn	12 21 36.4	+0.9
YEDI	Yedisu-Bingol	2.70	291	PN		Pn	12 21 03.4	+0.5
MAZI	Mazidag	2.85	249	PN		Pn	12 21 05.3	+0.4
QRD	Qoradiz	2.90	70	P		Pb	12 21 09.0	-1.8
AGDM	Agdam	3.02	57	P		Pb	12 21 10.5	-2.4
BRDA	Brd	3.15	55	P		Pb	12 21 12.3	-2.8
MNGR	Mingechevir, A	3.40	47	P		Pb	12 21 15.7	-3.6
ZRD	Zardab	3.49	58	P		Pb	12 21 17.0	-3.9
YRD	Yardimli	3.50	82	P		Pb	12 21 17.6	-3.6
	SNR=11							
GLBA	Clilabad	3.66	77	P		Pb	12 21 19.6	-4.2
SEKA	Sheki	3.75	43	P		Pb	12 21 21.4	-4.1
XNQ	Khinaliq	4.27	50	P		Pn	12 21 27.7	+3.2
GBS	Qobustan	4.46	61	P		Pn	12 21 30.2	+3.2
ATGJ	Altiaghaj	4.61	58	P		Pn	12 21 32.2	+3.1

*IDC **23** 12:42:39.5±1.1, 37.12N×141.25E, h0km, mb3.6/7, mbtmp3.6/10, ML2.9/3, MS3.7/39, Error ellipse: s-maj=24.2km s-min=22.0km az=89.0*
*NIED **23** 12:42:41.6, 37.23N×141.20E, h17km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=3.87; Mθθ1.57; Mϕϕ2.29; Mrθ0.16; Mθϕ 1.71; Mϕr1.58; Fault plane solution: M0=4.08000×10^15 NP1:ϕs=49.00000°, δ=36.00000°, λ=-72.00000°. NP2:ϕs=208.00000°, δ=56.00000°, λ=-103.00000°.*
*JMA **23** 12:42:41.6±0.1, 37.2N±0.2×141.2E±0.7, h17km±1km, MD4.7/34, MW4.4/34, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .

ISC 23 12:42:41.2±1.0, 37.20N±0.05×141.26E±0.07, h10km, n101, σ0s80/19, mb3.6/7, MS3.8/34, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.35	299	P		Pg	12 42 47.8	-0.3
JFK				S		Sg	12 42 52.6	-0.3
JFK	Kawauchi	0.35	299	A		A	12 42 47.8	
	comp=E,54nm,4.9s,comp=E,42nm,4.9s							
JFFD	Fukushimafurud	0.57	259	P		Pg	12 42 51.8	-0.4
JFFD	Fukushimafurud	0.57	259	A		A	12 42 51.8	
	comp=E,27nm,5.3s,comp=E,19nm,5.7s							
JMST	Minamisoumatoc	0.60	331	P		Pg	12 42 52.3	-0.6
JMST				S		Sg	12 43 00.4	-0.5
JMST	Minamisoumatoc	0.60	331	A		A	12 42 52.3	
	comp=E,26nm,4.4s,comp=E,42nm,3.2s							
JMM	Marumori	0.77	331	P		Pg	12 42 55.2	-0.8
JMM				eS		Sg	12 43 05.0	-0.9
JMM	Marumori	0.77	331	A		A	12 42 55.2	
	comp=E,23nm,4.5s,comp=E,32nm,4.9s							
JHO	Hitachi	0.81	224	P		Pg	12 42 55.9	-0.8
JHO	Hitachi	0.81	224	A		A	12 42 55.9	
	comp=E,10.0nm,6.3s,comp=E,10.0nm,5.9s							
JHYU	Hitachinakayam	1.01	213	A		A	12 43 00.3	
	comp=E,7.0nm,5.8s,comp=E,8.0nm,6.0s							
JSB	Shiboa	1.10	258	A		A	12 43 01.0	
	comp=E,46nm,3.8s,comp=E,38nm,4.4s							
JIKH	Ishinomakikobu	1.12	8	A		A	12 43 01.8	
	comp=E,15nm,3.5s,comp=E,13nm,4.3s							
JYAR	Yonezawaarcadi	1.14	309	A		A	12 43 01.5	
	comp=E,41nm,5.3s,comp=E,23nm,6.3s							
JIO	Ouri	1.26	3	A		A	12 43 03.9	
	comp=E,10.0nm,1.7s,comp=E,14nm,3.7s							
JOU	Okura	1.26	338	A		A	12 43 03.6	
	comp=E,28nm,4.4s,comp=E,28nm,4.0s							
JFY	Yanaizu	1.26	280	A		A	12 43 03.5	
	comp=E,13nm,3.9s,comp=E,13nm,5.5s							
JIHU	Itakohorinouch	1.36	206	A		A	12 43 06.0	
	comp=E,50nm,4.3s,comp=E,42nm,3.6s							
JYS	Shirataka	1.40	317	A		A	12 43 05.6	
	comp=E,19nm,4.5s,comp=E,23nm,4.4s							
JOFO	Osakifurukawao	1.43	349	A		A	12 43 06.4	
	comp=E,100nm,1.4s,comp=E,159nm,4.3s							
CHOJ	Chosi	1.53	192	A		A	12 43 08.7	
	comp=E,5.0nm,3.9s,comp=E,8.0nm,8.2s							
JKMT	Kesennumamotoy	1.62	6	A		A	12 43 09.5	
	comp=E,18nm,2.9s,comp=E,10.0nm,4.9s							
JAG	Ashikaga	1.64	243	A		A	12 43 09.7	
	comp=E,8.0nm,4.6s,comp=E,7.0nm,6.8s							
JNS	Sasagawa	1.67	292	A		A	12 43 09.7	
	comp=E,14nm,5.2s,comp=E,7.0nm,8.2s							
JMK	Ichinoseki	1.75	359	A		A	12 43 11.4	
	comp=E,22nm,2.5s,comp=E,9.0nm,7.0s							
JUON	Uonuma	1.76	271	A		A	12 43 11.2	
	comp=E,9.0nm,5.5s,comp=E,7.0nm,5.8s							
JYA	Atsumi	1.85	319	A		A	12 43 12.6	
	comp=E,12nm,3.8s,comp=E,15nm,4.8s							
JYK	Kaneyama	1.86	338	A		A	12 43 12.8	
	comp=E,12nm,4.8s,comp=E,13nm,3.2s							
OFUJ	Ofunato	1.91	10	A		A	12 43 13.8	
	comp=E,12nm,3.7s,comp=E,12nm,4.1s							
JAW	Awa shima	2.03	309	A		A	12 43 15.1	
	comp=E,17nm,4.8s,comp=E,8.0nm,6.9s							
JIZZ	Izumozaki	2.06	280	A		A	12 43 15.6	
	comp=E,41nm,5.9s,comp=E,28nm,4.4s							
JHU	Hanno	2.09	231	A		A	12 43 16.4	
	comp=E,4.0nm,5.4s,comp=E,4.0nm,5.6s							
JYYZ	Yamagatayuza	2.10	330	A		A	12 43 16.1	
	comp=E,49nm,4.1s,comp=E,72nm,5.3s							
JGK	Kuni	2.20	254	A		A	12 43 17.7	
	comp=E,5.0nm,6.7s,comp=E,6.0nm,6.4s							
JRG	Rokugo	2.25	347	A		A	12 43 18.5	
	comp=E,14nm,5.6s,comp=E,12nm,5.2s							
JOM	Ohasama	2.27	1	A		A	12 43 19.0	
	comp=E,13nm,3.8s,comp=E,8.0nm,4.1s							
JJN	Nakama	2.48	269	A		A	12 43 21.6	
	comp=E,12nm,6.0s,comp=E,8.0nm,3.7s							
JYW	Yuwa	2.48	341	A		A	12 43 21.8	
	comp=E,18nm,5.1s,comp=E,35nm,5.0s							
MJAR	Matsushiro Arr	2.54	256	Pn		Pn	12 43 22.5	+0.1
	1.0nm,0.3s,baz=83,slow=15,SNR=26							
MJAR				Sn		Sb	12 43 58.2	+0.3
	2.1nm,0.3s,baz=118,slow=32,SNR=2.2							
	6.8nm,0.4s							
JSZI	Iwateshizukuis	2.55	355	A		A	12 43 22.9	
	comp=E,20nm,5.4s,comp=E,28nm,2.4s							
JTH	Tanohata	2.78	10	A		A	12 43 26.3	
	comp=E,9.0nm,2.8s,comp=E,8.0nm,3.7s							
JKEN	Kujiedanarisaw	3.02	7	A		A	12 43 29.8	
	comp=E,14nm,3.4s,comp=E,9.0nm,1.4s							
JAH	Hinai	3.03	351	A		A	12 43 29.7	
	comp=E,10.0nm,5.7s,comp=E,8.0nm,4.8s							

JANG	Nango	3.18	3	A		A		12 43 32.0	
	comp=E,12nm,4.0s,comp=E,6.0nm,4.7s								
JNTW	Noshirotokiwa	3.19	345	A		A		12 43 31.9	
	comp=E,36nm,3.6s,comp=E,29nm,6.2s								
JHHS	Hirosakihyakuz	3.52	349	A		A		12 43 36.6	
	comp=E,20nm,4.9s,comp=E,14nm,3.2s								
JTM	Tenmabayashi	3.59	358	A		A		12 43 37.7	
	comp=E,7.0nm,4.7s,comp=E,5.0nm,4.1s								
JARK	Aomorirokkasho	3.81	1	A		A		12 43 40.8	
	comp=E,13nm,2.4s,comp=E,6.0nm,5.4s								
JSI2	Shiura 2	3.91	351	A		A		12 43 42.2	
	comp=E,6.0nm,5.0s,comp=E,6.0nm,4.2s								
JOT	Ohata	4.18	358	A		A		12 43 46.1	
	comp=E,8.0nm,4.5s,comp=E,6.0nm,5.1s								
ASAJ	Asahikawa	6.99	8	LR		LR		12 47 15.5	
	comp=Z,177nm,21.4s,baz=62,slow=39								
USRK	Ussuriysk Ar.	9.92	318	Pn		Pn		12 45 04.8	+1.1
	0.3nm,0.3s,baz=114,slow=16,SNR=2.9								
USRK				LR		LR		12 48 35.9	
	comp=Z,700nm,19.2s,baz=123,slow=36								
	2.0nm,0.8s								
JCJ	Chichijima	10.10	175	LR		LR		12 49 40.3	
	comp=Z,238nm,18.8s,baz=360,slow=42								
KSRS	Korea Array	10.63	275	Pn		Pn		12 45 14.8	+1.3
	0.1nm,0.3s,baz=88,slow=14,SNR=1.5								
KSRS				LR		LR		12 48 58.6	
	comp=Z,457nm,19.6s,baz=80,slow=36								
	1.7nm,0.8s								
KLR	Kul'dur	13.87	333	LR		LR		12 51 11.1	
	comp=Z,449nm,18.3s,baz=117,slow=37								
YAK	Yakutsk	25.88	347	LR		LR		12 58 34.8	
	comp=Z,189nm,18.0s,baz=275,slow=37								
SONM	Songino Array	27.59	304	P		P		12 48 28.8	+0.2
	0.5nm,0.6s,baz=100,slow=7.9,SNR=3.2								
SONM				LR		LR		12 59 53.9	
	comp=Z,140nm,19.2s,baz=155,slow=37								
	0.5nm,0.6s								
H11N2	WAKE ISLAND Hy	28.34	121	T		T		13 18 10.6	
	baz=314,slow=75,SNR=870								
H11N1	WAKE ISLAND Hy	28.34	121	T		T		13 18 15.0	
	baz=314,slow=75,SNR=755								
H11N3	WAKE ISLAND Hy	28.35	121	T		T		13 18 17.2	
	baz=314,slow=75,SNR=686								
H11S1	WAKE ISLAND Hy	29.05	123	T		T		13 19 08.6	
	baz=316,slow=76,SNR=287								
H11S3	WAKE ISLAND Hy	29.05	123	T		T		13 19 08.0	
	baz=316,slow=76,SNR=156								
H11S2	WAKE ISLAND Hy	29.07	123	T		T		13 19 04.6	
	baz=316,slow=76,SNR=145								
DAV	Davao City (W)	33.22	209	LR		LR		13 02 17.4	
	comp=Z,54nm,21.0s,baz=44,slow=36								
TIXI	Tiksi	35.11	353	LR		LR		13 03 51.8	
	comp=Z,104nm,18.8s,baz=348,slow=36								
SIJI	Sorong	38.99	196	LR		LR		13 04 10.4	
	comp=Z,54nm,19.8s,baz=344,slow=33								
CMAR	Chiang Mai Arr	41.42	255	LR		LR		13 08 12.7	
	comp=Z,46nm,18.9s,baz=55,slow=37								
ZALV	Zalesovo Beam	41.72	312	P		P		12 50 29.4	-0.5
	0.6nm,0.4s,baz=89,slow=6.2,SNR=3.9								
ZALV				LR		LR		13 07 30.9	
	comp=Z,94nm,21.0s,baz=114,slow=36								
	0.6nm,0.4s								
MKAR	Makanchi Array	43.93	302	P		P		12 50 47.2	-0.9
	0.8nm,0.8s,baz=48,slow=9.9,SNR=5.6								
MKAR				LR		LR		13 09 21.4	
	comp=Z,61nm,19.1s,baz=109,slow=36								
	0.8nm,0.8s								
KURBB	Kurchatov Arra	45.81	308	LR		LR		13 10 24.5	
	comp=Z,136nm,20.6s,baz=177,slow=36								
ILAR	Eielson Array	49.42	32	P		P		12 51 31.4	+0.6
	0.7nm,0.8s,baz=280,slow=6.6,SNR=5.8								
	0.7nm,0.8s								
AAK	Ala-Archa	50.30	298	LR		LR		13 14 05.3	
	comp=Z,277nm,18.8s,baz=75,slow=38								
BVAR	Borovoye Array	50.37	312	LR		LR		13 14 03.4	
	comp=Z,189nm,18.4s,baz=75,slow=37								
INK	Inuvik	54.30	27	P		P		12 52 08.1	+1.0
	1.0nm,1.0s,baz=323,slow=5.1,SNR=2.1								
	1.0nm,1.0s								
ARU	Arti	56.16	318	LR		LR		13 18 25.2	
	comp=Z,127nm,19.2s,baz=120,slow=38								
WRA	Warramunga Arr	57.21	188	P		P		12 52 27.2	-1.3
	0.4nm,0.5s,baz=4.7,slow=7.3,SNR=8.5								
	0.4nm,0.5s								
KIRV	Kirov	60.05	323	LR		LR		13 20 50.4	
	comp=Z,77nm,18.3s,baz=81,slow=38								
ASAR	Alice Springs	60.93	188	P		P		12 52 54.5	+0.1
	0.4nm,0.8s,baz=15,slow=14,SNR=2.0								
ASAR				LR		LR		13 15 47.8	
	comp=Z,29nm,21.3s,baz=30,slow=33								
	0.4nm,0.8s								
PALK	Pallekele	62.29	257	LR		LR		13 23 14.2	
	comp=Z,38nm,18.7s,baz=178,slow=39								
RES	Resolute Bay	62.47	14	LR		LR		13 24 01.9	
	comp=Z,58nm,18.1s,baz=9.0,slow=40								
DZM	Mont Dzumac

KSRS	**Korea Array**	**10.84**	**275**	LR	LR	13 01 03.7	
	comp=Z,27nm,18.7s,baz=290,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.23**	**122**	T	T	13 29 52.7	
	baz=314,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.23**	**122**	T	T	13 29 53.0	
	baz=314,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.24**	**122**	T	T	13 29 54.5	
	baz=314,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	13 30 47.3	
	baz=316,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	13 30 47.2	
	baz=316,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.96**	**124**	T	T	13 30 49.5	
	baz=316,slow=76,SNR=18						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**13 02 42.0**	**+1.4**
	0.4nm,0.7s,baz=82,slow=8.8,SNR=3.7						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**57.41**	**188**	P	**P**	**13 04 21.9**	**+0.5**
	0.3nm,0.8s,baz=6.3,slow=7.6,SNR=2.5						
	0.3nm,0.8s						

*MOS **23** 13:03:43.5±1.2,49.99N×156.13E,h67km,mb4.1/1,Error ellipse: s-maj=25.4km s-min=5.3km az=73.8*
*KRSC **23** 13:03:44.0±2.0,50.05N×157.05E,h16km±33km,ML4.5*
*IDC **23** 13:03:47.1±3.3,50.06N×156.10E,h82km±30km,mb3.4/9,mbtmp3.7/11,Error ellipse: s-maj=30.1km s-min=16.9km az=143.0*

ISC 23 13:03:42.4±2.7,49.8N±0.1×156.44E±0.08,h41km±24km, n53,σ1ᵗ91/64,mb3.9/9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.88**	**347**	*eP*	**Pn**	**13 03 59.4**	**+1.1**
SKR				*eS*	**Sn**	**13 04 09.2**	**-0.6**
SKR	**Severo-Kuril's**	**0.88**	**347**	PN	**Pn**	**13 03 59.4**	**+1.1**
SKR				S	**Sn**	**13 04 09.2**	**-0.6**
PAU	**Pauzhetka**	**1.65**	**8**	*eP*	**Pn**	**13 04 09.9**	**+1.0**
PAU				*eS*	**Sn**	**13 04 28.1**	**-0.8**
PAU	**Pauzhetka**	**1.65**	**8**	PN	**Pn**	**13 04 09.9**	**+1.0**
PAU				S	**Sn**	**13 04 28.1**	**-0.8**
KDTR	**Khodutka, Kamc**	**2.24**	**27**	*eP*	**Pn**	**13 04 17.4**	**+0.5**
KDTR				*eS*	**Sn**	**13 04 41.1**	**-2.2**
KDTR	**Khodutka, Kamc**	**2.24**	**27**	PN	**Pn**	**13 04 17.4**	**+0.5**
KDTR				S	**Sn**	**13 04 41.1**	**-2.2**
MTVR	**Mutnovka**	**2.87**	**22**	*eP*	**Pn**	**13 04 26.8**	**+1.0**
MTVR				*eS*	**Sn**	**13 04 57.9**	**-1.3**
MTVR	**Mutnovka**	**2.87**	**22**	PN	**Pn**	**13 04 26.8**	**+1.0**
MTVR				S	**Sn**	**13 04 57.9**	**-1.3**
GRL	**Gorelyy**	**2.91**	**20**	*eP*	**Pn**	**13 04 27.8**	**+1.5**
GRL				*eS*	**Sn**	**13 04 59.4**	**-0.7**
GRL	**Gorelyy**	**2.91**	**20**	PN	**Pn**	**13 04 27.8**	**+1.5**
GRL				S	**Sn**	**13 04 59.4**	**-0.7**
RUS	**Russkaya**	**2.92**	**26**	*eP*	**Pn**	**13 04 26.5**	**+0.3**
RUS				*eS*	**Sn**	**13 04 57.1**	**-2.9**
RUS	**Russkaya**	**2.92**	**26**	PN	**Pn**	**13 04 26.5**	**+0.3**
RUS				S	**Sn**	**13 04 57.1**	**-2.9**
APC	**Apacha**	**3.13**	**8**	*eP*	**Pn**	**13 04 31.8**	**+2.6**
APC	**Apacha**	**3.13**	**8**	PN	**Pn**	**13 04 31.8**	**+2.6**
KRMR	**Karymshinskiy**	**3.19**	**19**	*eP*	**Pn**	**13 04 32.3**	**+2.4**
KRMR	**Karymshinskiy**	**3.19**	**19**	PN	**Pn**	**13 04 32.3**	**+2.4**
PETK	**Petropavlovsk-**	**3.37**	**13**	P	**Pn**	**13 04 33.7**	**+1.1**
	13nm,0.4s,baz=181,slow=13,SNR=66						
PETK				S	**Sn**	**13 05 14.2**	**+2.8**
	15nm,0.8s,baz=188,slow=28,SNR=3.5						
PET	**Petropavlovsk**	**3.48**	**23**	*eP*	**Pn**	**13 04 35.5**	**+1.5**
PET				*eS*	**Sn**	**13 05 13.4**	**-0.6**
PET	**Petropavlovsk**	**3.48**	**23**	*e*PN	**Pn**	**13 04 35.6**	**+1.5**
PET				*eS*	**Sn**	**13 05 14.5**	**+0.5**
PET				pmax	pmax		
	comp=Z,66nm,0.6s						
PET				smax	smax		
	comp=N,274nm,0.4s						
PET				smax	smax		
	comp=E,301nm,0.6s						
DALK	**Dalny**	**3.52**	**23**	*eP*	**Pn**	**13 04 35.9**	**+1.4**
DALK				*eS*	**Sn**	**13 05 14.1**	**-0.7**
DALK	**Dalny**	**3.52**	**23**	PN	**Pn**	**13 04 35.9**	**+1.4**
DALK				S	**Sn**	**13 05 14.1**	**-0.7**
UGLR	**Uglovaya**	**3.70**	**23**	*eP*	**Pn**	**13 04 40.8**	**+3.7**
UGLR	**Uglovaya**	**3.70**	**23**	PN	**Pn**	**13 04 40.8**	**+3.7**
KOK	**Koryaka**	**3.73**	**21**	*eP*	**Pn**	**13 04 40.2**	**+2.7**
KOK	**Koryaka**	**3.73**	**21**	PN	**Pn**	**13 04 40.2**	**+2.7**
SMAR	**Somma**	**3.74**	**22**	*eP*	**Pn**	**13 04 40.6**	**+2.8**
SMAR	**Somma**	**3.74**	**22**	PN	**Pn**	**13 04 40.6**	**+2.8**
KRER	**Koryakskii**	**3.76**	**22**	*eP*	**Pn**	**13 04 41.0**	**+2.9**
KRER	**Koryakskii**	**3.76**	**22**	PN	**Pn**	**13 04 41.0**	**+2.9**
SDLR	**Sedlovina**	**3.77**	**23**	*eP*	**Pn**	**13 04 39.7**	**+1.5**
SDLR	**Sedlovina**	**3.77**	**23**	PN	**Pn**	**13 04 39.7**	**+1.5**
NLC	**Nalytchevo**	**3.81**	**27**	*eP*	**Pn**	**13 04 38.3**	**-0.2**
NLC	**Nalytchevo**	**3.81**	**27**	PN	**Pn**	**13 04 38.3**	**-0.2**
SPN	**Mys Shipunski**	**3.96**	**33**	*eP*	**Pn**	**13 04 41.9**	**+1.2**
SPN	**Mys Shipunski**	**3.96**	**33**	PN	**Pn**	**13 04 41.9**	**+1.2**
TUMR	**Tumrok**	**5.91**	**21**	*eP*	**Pn**	**13 05 11.4**	**+3.9**
TUMR	**Tumrok**	**5.91**	**21**	PN	**Pn**	**13 05 11.4**	**+3.9**
KLR	**Kul'dur**	**16.02**	**277**	P	**Pn**	**13 07 22.6**	**-2.0**
	comp=E,1.3nm,0.9s,baz=159,slow=17,SNR=1.9						
TIXI	**Tiksi**	**25.23**	**340**	P	**P**	**13 09 02.2**	**-1.8**
	comp=E,1.9nm,0.3s,baz=270,slow=24,SNR=3.7						
	comp=E,1.9nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**31.18**	**161**	T	T	13 43 43.9	
	baz=348,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**31.19**	**161**	T	T	13 43 44.9	
	baz=348,slow=76,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**31.19**	**161**	T	T	13 43 45.4	
	baz=348,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**32.32**	**162**	T	T	13 45 06.5	
	baz=349,SNR=40						
H11S3	**WAKE ISLAND Hy**	**32.33**	**162**	T	T	13 45 08.2	
	baz=349,slow=74,SNR=47						
H11S2	**WAKE ISLAND Hy**	**32.34**	**162**	T	T	13 45 06.5	
	baz=349,slow=74,SNR=42						
ILAR	**Eielson Array**	**32.76**	**41**	P	**P**	**13 10 10.4**	**-0.6**
	comp=E,0.7nm,0.8s,baz=268,slow=4.9,SNR=7.4						
	comp=E,0.7nm,0.8s						
INK	**Inuvik**	**37.85**	**35**	P	**P**	**13 10 54.5**	**-0.2**
	comp=E,1.3nm,0.6s,baz=271,slow=7.7,SNR=7.4						
	comp=E,1.3nm,0.6s						
MKAR	**Makanchi Array**	**47.53**	**296**	P	**P**	**13 12 11.4**	**-2.1**
	comp=E,0.2nm,0.4s,baz=57,slow=6.5,SNR=5.2						
	comp=E,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**59.09**	**66**	P	**P**	**13 13 39.2**	**+0.5**
	comp=E,0.5nm,0.5s,baz=296,slow=8.2,SNR=4.3						
	comp=E,0.5nm,0.5s						
PDAR	**Pinedale Array**	**61.17**	**57**	P	**P**	**13 13 53.8**	**+0.9**
	comp=E,1.1nm,0.9s,baz=343,slow=4.6,SNR=6.5						
	comp=E,1.1nm,0.9s						
WRA	**Warramunga Arr**	**72.18**	**202**	P	**P**	**13 15 03.5**	**+0.7**
	comp=E,0.3nm,0.6s,baz=19,slow=6.1,SNR=6.6						
	comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**74.08**	**63**	P	**P**	**13 15 15.1**	**+0.8**
	comp=E,1.0nm,0.6s,baz=291,slow=5.1,SNR=9.8						
	comp=E,1.0nm,0.6s						
ASAR	**Alice Springs**	**75.86**	**201**	P	**P**	**13 15 26.1**	**+1.8**
	comp=E,0.3nm,0.6s,baz=15,slow=5.4,SNR=7.3						
	comp=E,0.3nm,0.6s						

WEL 23 13:09:06.4±0.3,43°S±2°×17°3E±°,h5km,M2.9/31, ML3.1/16,MLv2.9/31,Error ellipse: s-maj=0.0km s-min=0.0km az=123.8,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**64**	P	Pg	13 09 12.1	-0.1
KHZ				S	Sg	13 09 16.8	+0.7
GVZ	**Greta Valley S**	**0.43**	**194**	P	Pg	13 09 15.6	+0.8
GVZ				S	Sb	13 09 22.9	-0.6
LTZ	**Lake Taylor**	**0.71**	**250**	P	Pg	13 09 20.4	+0.4
AMCZ	**Amberley**	**0.74**	**212**	P	Pb	13 09 21.6	-0.2
THZ	**Tophouse**	**0.81**	**345**	P	Pg	13 09 22.0	0.0
OXZ	**Oxford**	**1.14**	**227**	P	Pg	13 09 27.8	-0.6
OKCZ	**Okains Bay**	**1.18**	**184**	P	Pg	13 09 28.0	-1.0
MRNZ	**Matariki Terra**	**1.19**	**345**	P	Pg	13 09 28.9	-0.3
MQZ	**McQueen's Vall**	**1.22**	**198**	P	Pg	13 09 27.7	-2.1
INZ	**Inchbonnie**	**1.29**	**262**	P	Pn	13 09 31.0	-0.1
DSZ	**Denniston Nort**	**1.30**	**308**	P	Pb	13 09 31.4	0.0
NNZ	**Nelson**	**1.34**	**6**	P	Pn	13 09 31.0	-0.8
RACZ	**Rakaia**	**1.40**	**213**	P	Pn	13 09 30.9	-1.7
TKNZ	**Takaka Hill**	**1.52**	**354**	P	Pn	13 09 34.4	+0.1
MHCZ	**Mount Hutt**	**1.54**	**230**	P	Pn	13 09 33.2	-1.4
WACZ	**Wakanui South**	**1.70**	**215**	P	Pn	13 09 35.1	-1.7
WEL	**Wellington**	**1.73**	**44**	P	Pn	13 09 28.3	-8.8
QRZ	**Quartz Range**	**1.79**	**344**	P	Pn	13 09 38.7	+0.7
PLWZ	**Palliser**	**1.83**	**58**	P	Pn	13 09 32.3	-6.3
DUWZ	**D'Urville Isla**	**1.83**	**18**	P	Pn	13 09 34.0	-4.6
WVZ	**Waitaha Valley**	**1.87**	**253**	P	Pn	13 09 39.6	+0.5
MSWZ	**Moikau Station**	**1.91**	**54**	P	Pn	13 09 32.6	-7.1
RPZ	**Rata Peaks**	**1.94**	**232**	P	Pn	13 09 39.0	-1.2
CAW	**Cannon Point**	**2.02**	**45**	P	Pn	13 09 33.2	-7.9
ARCZ	**Arundel**	**2.02**	**226**	P	Pn	13 09 39.9	-1.4
PAWZ	**Paruwai Farm**	**2.04**	**56**	P	Pn	13 09 34.8	-6.7
KIW	**Kapiti Island**	**2.13**	**38**	P	Pn	13 09 35.4	-7.2
TRWZ	**Traveller**	**2.19**	**59**	P	Pn	13 09 40.3	-3.3
MTW	**Mount Morrison**	**2.22**	**52**	P	Pn	13 09 36.9	-7.0
OGWZ	**Otaki Gorge**	**2.28**	**41**	P	Pn	13 09 37.7	-7.1
HOWZ	**Holdsworth Sta**	**2.40**	**47**	P	Pn	13 09 39.6	-6.9
TMZ	**Timaru**	**2.42**	**220**	P	Pn	13 09 46.0	-0.7
MRZ	**Mangatainoka R**	**2.61**	**44**	P	Pn	13 09 42.2	-7.0
LBZ	**Lake Benmore**	**2.85**	**229**	P	Pn	13 09 52.3	-0.3
BFZ	**Birch Farm**	**2.96**	**52**	P	Pn	13 09 52.3	-1.7
ODZ	**Otahua Downs**	**3.10**	**215**	P	Pn	13 09 54.1	-1.8
TSZ	**Takapari Road**	**3.25**	**41**	P	Pn	13 09 55.2	-2.9
VRZ	**Vera Road**	**3.62**	**20**	P	Pn	13 10 02.8	-0.3
WNVZ	**Wahianoa**	**3.70**	**30**	P	Pn	13 10 03.3	-1.1
BHHZ	**Black Hill Sta**	**3.75**	**36**	P	Pn	13 10 03.8	-1.3
NGZ	**Ngauruhoe**	**3.84**	**29**	P	Pn	13 10 06.4	+0.1
NNVZ	**North Ngauruho**	**3.88**	**29**	P	Pn	13 10 07.1	+0.2
ETVZ	**East Tongariro**	**3.91**	**30**	P	Pn	13 10 07.0	-0.2
MKAZ	**Moumakai**	**5.65**	**16**	P	Pn	13 10 31.7	+0.8
WIAZ	**Waiheke Island**	**5.94**	**15**	P	Pn	13 10 36.3	+1.3

MAN 23 13:16:12.9,7.75N×124.83E,h46km,mb4.0,ML2.8,MS2.4, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.26**	**61**	⇑*iP*	Pn	13 16 23.2	+1.8
BUKP				*eS*	Sn	13 16 30.4	+3.0
CGP	**Cagayan de Oro**	**0.71**	**349**	⇑*eP*	Pn	13 16 28.6	+1.9
CGP				*eS*	Sn	13 16 38.8	+2.2

*KRNET **23** 13:31:11.9±0.1,41.52N×79.16E,mb3.0*
*SOME **23** 13:31:12.0,41.85N×79.13E,h10km*
*NNC **23** 13:31:12.4±0.7,41.87N×79.23E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=4.9km s-min=2.9km az=156.0*

ISC 23 13:31:10.9±1.3,41.77N±0.06×79.15E±0.04,h10km,n53, σ1ᵗ17/92,19C-6D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.01**	**268**	⇑*iP*	**Pn**	**13 31 31.7**	**+0.3**
	baz=82						
TARG				⇑*iS*	**Sn**	**13 31 46.3**	**+0.4**
	baz=82						
UZB	**Uzynbulak**	**1.38**	**356**	*eP*	**Pb**	**13 31 36.4**	**-0.4**
	2.3nm,0.1s						
UZB				*eS*	**Sg**	**13 31 54.4**	**-0.7**
	27nm,0.1s						
UZB	**Uzynbulak**	**1.38**	**356**	P	**Pb**	**13 31 36.4**	**-0.4**
	3.8nm,0.1s						
UZB				S	**Sg**	**13 31 54.4**	**-0.7**
	23nm,0.2s						
SATY	**Saty**	**1.40**	**337**	*eP*	**Pg**	**13 31 37.4**	**-0.3**
	8.5nm,0.2s						
SATY				*eS*	**Sg**	**13 31 56.0**	**+0.1**
	112nm,0.2s						
SATY	**Saty**	**1.40**	**337**	P	**Pg**	**13 31 37.3**	**-0.4**
	8.5nm,0.2s						
SATY				S	**Sg**	**13 31 56.0**	**+0.1**
	112nm,0.2s						
SHLS	**Shalkode**	**1.40**	**9**	*eP*	**Pg**	**13 31 38.3**	**+0.5**
	34nm,0.3s						
SHLS				*eS*	**Sg**	**13 31 57.5**	**+1.6**
	126nm,0.3s						
SHLS	**Shalkode**	**1.40**	**9**	P	**Pg**	**13 31 38.3**	**+0.5**
	34nm,0.3s						
SHLS				S	**Sg**	**13 31 57.5**	**+1.6**
	146nm,0.4s						
ZHN	**Zhinishke**	**1.49**	**339**	*eP*	**Pg**	**13 31 39.1**	**-0.4**
	30nm,0.1s						
ZHN				*eS*	**Sg**	**13 31 59.1**	**+0.3**
	248nm,0.2s						
ZHN	**Zhinishke**	**1.49**	**339**	P	**Pg**	**13 31 39.1**	**-0.4**
	30nm,0.1s						
ZHN				S	**Sg**	**13 31 59.1**	**+0.3**
	248nm,0.2s						
PDGK	**Podgornoye**	**1.57**	**9**	P	**Pb**	**13 31 39.4**	**-0.7**
	12nm,0.2s						
PDGK				S	**Sb**	**13 31 59.7**	**-0.4**
	57nm,0.5s						
PDGK	**Podgornoye**	**1.57**	**9**	⇓P	**Pb**	**13 31 39.4**	**-0.7**
	12nm,0.3s						
PDGK				⇑S	**Sb**	**13 31 59.6**	**-0.6**
	164nm,0.7s						
KPKS	**Kokpek**	**1.73**	**349**	*eP*	**Pg**	**13 31 42.9**	**-1.1**
	37nm,0.1s						
KPKS				*eS*	**Sg**	**13 32 05.3**	**-1.1**
	128nm,0.4s						
KPKS	**Kokpek**	**1.73**	**349**	P	**Pg**	**13 31 42.9**	**-1.1**
	37nm,0.1s						
KPKS				S	**Sg**	**13 32 05.5**	**-0.8**
	128nm,0.4s						
KURS	**Kuram**	**1.86**	**337**	*eP*	**Pg**	**13 31 46.0**	**-0.6**
	7.9nm,0.4s						
KURS				*eS*	**Sg**	**13 32 10.7**	**0.0**
	41nm,0.4s						
KURS	**Kuram**	**1.86**	**337**	P	**Pg**	**13 31 45.8**	**-0.7**
	7.9nm,0.4s						
KURS				S	**Sg**	**13 32 10.5**	**-0.1**
	41nm,0.4s						
KTMS	**Ketmen**	**1.89**	**28**	*eP*	**Pg**	**13 31 46.0**	**-1.2**
	13nm,0.2s						
KTMS				*eS*	**Sg**	**13 32 10.3**	**-1.4**
	40nm,0.5s						
KTMS	**Ketmen**	**1.89**	**28**	P	**Pb**	**13 31 44.5**	**-1.0**
	14nm,0.3s						
KTMS				S	**Sb**	**13 32 08.5**	**-0.9**
	64nm,0.3s						
TNSS	**Tian-Shan**	**2.06**	**308**	*eP*	**Pg**	**13 31 50.1**	**-0.3**
	17nm,0.3s						
TNSS				*eS*	**Sg**	**13 32 18.0**	**+0.8**
	28nm,0.3s						
TNSS	**Tian-Shan**	**2.06**	**308**	Pg	**Pg**	**13 31 50.0**	**-0.5**
	17nm,0.3s						
TNSS				Lg	Lg	13 32 17.7	
	28nm,0.3s						
MDOK	**Medeo**	**2.08**	**312**	*eP*	**Pg**	**13 31 50.6**	**-0.2**
	13nm,0.2s						
MDOK				*eS*	**Sg**	**13 32 18.4**	**+0.5**
	81nm,0.4s						
MDOK	**Medeo**	**2.08**	**312**	Pg	**Pg**	**13 31 49.9**	**-0.9**
	8.2nm,0.4s						
MDOK				Pg	**Pb**	**13 31 50.1**	**+1.3**
	13nm,0.2s						
MDOK				Lg	Lg	13 32 17.9	
	81nm,0.7s						
MDOK				⇑Lg	Lg	13 32 18.1	
	57nm,0.6s						
AAA	**Alma-Ata**	**2.19**	**312**	*eP*	**Pg**	**13 31 52.2**	**-0.6**
	23nm,0.3s						
AAA				*eS*	**Sg**	**13 32 21.4**	**+0.2**
	166nm,0.4s						
AAA	**Alma-Ata**	**2.19**	**312**	Pg	**Pg**	**13 31 52.9**	**+0.1**
	49nm,0.1s						
AAA				Lg	Lg	13 32 22.6	
	166nm,0.4s						
NRN	**Naryn**	**2.39**	**263**	⇑*iP*	**Pb**	**13 31 54.5**	**+0.4**
	baz=69						
NRN				⇑*iS*	**Sb**	**13 32 25.5**	**+1.8**
	baz=69						
MTBS	**Maitube**	**2.43**	**305**	*eP*	**Pg**	**13 31 56.6**	**-0.7**
	6.3nm,0.3s						
MTBS				*eS*	**Sg**	**13 32 29.0**	**+0.2**
	55nm,0.3s						
MTBS	**Maitube**	**2.43**	**305**	Pg	**Pg**	**13 31 56.7**	**-0.7**
	10.0nm,0.2s						
MTBS				Lg	Lg	13 32 29.1	
	55nm,0.3s						
BOOM	**Boomskoye usch**	**2.49**	**288**	⇑*eP*	**Pg**	**13 31 57.2**	**-1.4**
	baz=93						
BOOM				⇑*iS*	**Sg**	**13 32 29.9**	**-1.1**
	baz=93						
DJR	**Jarkent**	**2.60**	**10**	*eP*	**Pg**	**13 31 58.7**	**-2.0**
	7.8nm,0.2s						
DJR				*eS*	**Sg**	**13 32 32.2**	**-2.2**
	45nm,0.3s						
DJR	**Jarkent**	**2.60**	**10**	Pg	**Pb**	**13 31 57.3**	**-0.3**
	6.1nm,0.3s						
DJR				Lg	Lg	13 32 30.1	
	55nm,0.5s						
CHKK	**Chushkaly**	**2.62**	**323**	*eP*	**Pg**	**13 31 59.8**	**-1.2**
	11nm,0.4s						
CHKK				*eS*	**Sg**	**13 32 34.3**	**-0.6**
	149nm,0.3s						
CHKK	**Chushkaly**	**2.62**	**323**	Pg	**Pg**	**13 31 59.9**	**-1.2**
	11nm,0.4s						
CHKK				Lg	Lg	13 32 34.4	
	149nm,0.3s						
ARXS	**Arharly**	**2.62**	**339**	*eP*	**Pg**	**13 31 59.4**	**-1.8**
	5.2nm,0.3s						
ARXS				*eS*	**Sg**	**13 32 33.7**	**-1.5**
	32nm,0.3s						
ARXS	**Arharly**	**2.62**	**339**	Pg	**Pb**	**13 31 58.5**	**+0.5**
	9.4nm,0.4s						
ARXS				Lg	Lg	13 32 32.2	
	29nm,0.3s						
KTBS	**Karatobe**	**2.66**	**318**	*eP*	**Pg**	**13 32 00.6**	**-1.2**
	7.2nm,0.2s						
KTBS				*eS*	**Sg**	**13 32 35.7**	**-0.5**
	144nm,0.5s						
KTBS	**Karatobe**	**2.66**	**318**	Pg	**Pg**	**13 32 00.4**	**-1.4**
	7.2nm,0.2s						
KTBS				Lg	Lg	13 32 35.6	
	144nm,0.5s						
KST	**Kastek**	**2.68**	**299**	*eP*	**Pg**	**13 32 01.2**	**-1.0**
	11nm,0.2s						
KST				*eS*	**Sg**	**13 32 36.8**	**-0.2**
	68nm,0.8s						
KST	**Kastek**	**2.68**	**299**	Pg	**Pg**	**13 32 00.5**	**-1.7**
	13nm,0.2s						
KST				Lg	Lg	13 32 35.6	
	68nm,0.8s						
TKM2	**Tokmak 2**	**2.87**	**295**	⇑*iP*	**Pb**	**13 32 02.8**	**+0.5**
	baz=99						
TKM2				⇑*iS*	**Sb**	**13 32 39.8**	**+2.2**
	baz=99						
TKM2	**Tokmak 2**	**2.87**	**295**	⇑Pg	**Pg**	**13 32 05.5**	**-0.4**
	4.3nm,0.5s						
TKM2				⇓Lg	Lg	13 32 43.2	
	24nm,0.6s						
DGS	**Degeres**	**2.90**	**302**	*eP*	**Pg**	**13 32 05.1**	**-1.3**
	3.9nm,0.6s						
DGS				*eS*	**Sg**	**13 32 43.3**	**-0.6**
	22nm,0.5s						
DGS	**Degeres**	**2.90**	**302**	Pg	**Pg**	**13 32 04.2**	**-2.1**
	6.9nm,0.3s						
DGS				Lg	Lg	13 32 42.5	
	22nm,0.5s						
KUU	**Kurty**	**2.96**	**317**	*eP*	**Pg**	**13 32 06.4**	**-1.1**
	2.1nm,0.2s						
KUU				*eS*	**Sg**	**13 32 45.5**	**-0.4**
	66nm,0.3s						
KUU	**Kurty**	**2.96**	**317**	Pg	**Pg**	**13 32 05.3**	**-2.2**
	3.0nm,0.1s						
KUU				Lg	Lg	13 32 44.1	
	66nm,0.4s						
KRBS	**Karabastau**	**3.20**	**308**	*eP*	**Pg**	**13 32 10.7**	**-1.5**
	4.2nm,0.5s						
KRBS				*eS*	**Sg**	**13 32 52.2**	**-1.4**
	24nm,0.2s						
KRBS	**Karabastau**	**3.20**	**308**	Pg	**Pb**	**13 32 09.2**	**+1.4**
	4.8nm,0.4s						
KRBS				Lg	Lg	13 32 50.9	
	16nm,0.4s						
KBK	**Karagaybulak**	**3.24**	**287**	⇑*eP*	**Pb**	**13 32 07.4**	**-1.2**
	baz=91						
KBK				⇑*iS*	**Sb**	**13 32 47.9**	**-0.4**
	baz=91						
CHMS	**Chumysh**	**3.48**	**292**	⇑*iP*	**Pb**	**13 32 10.9**	**-1.7**
	baz=96						
CHMS				⇑*iS*	**Sb**	**13 32 53.7**	**-1.2**
	baz=96						
MRKS	**Merke**	**4.50**	**284**	*eP*	**Pg**	**13 32 34.9**	**-2.2**
	1.4nm,0.3s						
MRKS				*eS*	**Sg**	**13 33 34.5**	**-0.9**
	6.3nm,0.6s						
BTLS	**Baital**	**4.95**	**313**	*eP*	**Pg**	**13 32 43.2**	**-2.4**
	1.2nm,0.5s						
BTLS				*eS*	**Sg**	**13 33 48.9**	**-0.8**
	4.6nm,0.5s						
BTLS	**Baital**	**4.95**	**313**	Pg	**Pg**	**13 32 42.4**	**-3.2**
	0.9nm,0.3s						
BTLS				Lg	Lg	13 33 47.4	
	4.6nm,0.5s						
MAKZ	**Makanchi**	**5.43**	**21**	⇑Pn	**Pn**	**13 32 34.1**	**+2.3**
	1.5nm,0.8s						
MAKZ				⇑Sn	**Sn**	**13 33 36.4**	**+2.1**
	0.9nm,0.5s						
MAKZ				⇑Lg	Lg	13 34 00.6	
	2.1nm,0.7s						
MK31	**Makanchi Array**	**5.50**	**23**	⇓Pn	**Pn**	**13 32 34.7**	**+1.9**
	0.6nm,0.4s,baz=201,slow=12,SNR=19						
MK31				⇓Sn	**Sn**	**13 33 36.8**	**+0.6**
	1.4nm,0.6s,baz=209,slow=26,SNR=4.6						
MK31				⇓Lg	Lg	13 34 02.5	
	1.5nm,0.4s,baz=204,slow=26,SNR=4.0						
KK31	**Karatay Array**	**6.53**	**285**	⇑Pg	**Pg**	**13 33 15.8**	**-0.1**
	0.3nm,0.3s,baz=88,slow=17,SNR=5.7						
KK31				⇓Lg	Lg	13 34 40.5	
	0.8nm,0.4s,baz=88,slow=26,SNR=5.4						

WEL 23 13:32:57.8±0.3,42°S±2°×17°4E±°,h5km±2km,M3.3/36, ML3.6/23,MLv3.3/36,Error ellipse: s-maj=0.0km s-min=0.0km az=133.6,Cook Strait

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s |

PKVZ	**Pokaka**	**2.55**	**20**	P		Pb	13 33 42.1	-1.9		
MOVZ	**Moawhango**	**2.56**	**28**	P		Pb	13 33 43.2	-1.1		
WNVZ	**Wahianoa**	**2.58**	**24**	P		Pb	13 33 43.0	-1.7		
TRVZ	**Turoa**	**2.59**	**23**	P		Pb	13 33 44.7	-0.2		
VRZ	**Vera Road**	**2.60**	**9**	P		Pn	13 33 42.3	+1.9		
BHHZ	**Black Hill Sta**	**2.61**	**33**	P		Pn	13 33 41.3	+0.6		
WHVZ	**Whangaehu Hut**	**2.62**	**24**	P		Pb	13 33 44.7	-0.7		
FWVZ	**Far West T-bar**	**2.64**	**23**	P		Pb	13 33 45.3	-0.4		
TUVZ	**Tukino**	**2.66**	**25**	P		Pb	13 33 44.1	-1.8		
MHCZ	**Mount Hutt**	**2.69**	**226**	P		Pn	13 33 39.8	-2.0		
NGZ	**Ngauruhoe**	**2.72**	**23**	P		Pn	13 33 44.6	+2.3		
SNVZ	**South Ngauruho**	**2.73**	**24**	P		Pb	13 33 46.0	-1.2		
OTVZ	**Oturere**	**2.75**	**24**	P		Pb	13 33 47.4	-0.2		
KAHZ	**Kahuranaki**	**2.77**	**48**	P		Pn	13 33 41.0	-1.8		
NNVZ	**North Ngauruho**	**2.77**	**23**	P		Pn	13 33 45.0	+2.0		
TWVZ	**Taurewa**	**2.78**	**20**	P		Pb	13 33 48.2	+0.2		
ETVZ	**East Tongariro**	**2.79**	**24**	P		Pn	13 33 45.2	+1.9		
TMVZ	**Te Maari**	**2.81**	**24**	P		Pn	13 33 45.4	+1.9		
KWHZ	**Kaweka Forest**	**2.82**	**37**	P		Pb	13 33 49.2	+0.6		
NTVZ	**North Tongarir**	**2.82**	**24**	P		Pb	13 33 48.5	-0.2		
WACZ	**Wakanui South**	**2.85**	**217**	P		Pn	13 33 41.6	-2.4		
WVZ	**Waitaha Valley**	**2.93**	**241**	P		Pb	13 33 47.8	-2.7		
KATZ	**Kakaramea**	**2.94**	**23**	P		Pb	13 33 51.1	+0.4		
BKZ	**Black Stump Fm**	**3.06**	**35**	P		Pn	13 33 45.6	-1.3		
RATZ	**Rangitukua**	**3.06**	**23**	P		Pb	13 33 53.8	+1.0		
RPZ	**Rata Peaks**	**3.09**	**228**	P		Pn	13 33 45.5	-1.7		
ARCZ	**Arundel**	**3.18**	**224**	P		Pn	13 33 46.8	-1.7		
HIZ	**Hauiti**	**3.21**	**9**	P		Pn	13 33 51.2	+2.3		
GCSZ	**Gaunt Creek Bo**	**3.31**	**239**	P		Pn	13 33 53.5	+3.2		
MRHZ	**Matea Rd**	**3.31**	**31**	P		Pb	13 33 56.6	-0.5		
TLZ	**Tolley Road**	**3.51**	**17**	P		Pn	13 33 56.4	+3.4		
TMZ	**Timaru**	**3.58**	**220**	P		Pn	13 33 51.9	-2.1		
TOZ	**Tahuroa Road**	**4.08**	**14**	P		Pn	13 33 59.4	-1.4		
ODZ	**Otahua Downs**	**4.25**	**217**	P		Pn	13 34 00.5	-2.7		
TWGZ	**Tauwhareparae**	**4.54**	**41**	P		Pn	13 34 08.4	+1.1		
MKAZ	**Moumakai**	**4.64**	**9**	P		Pn	13 34 10.0	+1.5		

*IDC **23** 13:38:37.4±1.3,37.°07N×141.°53E, h0km, mb3.3/4, mbtmp3.2/5, ML2.3/1, MS2.3/1, Error ellipse: s-maj=28.8km s-min=25.5km az=118.0*
*JMA **23** 13:38:39.6±0.2,37.°2N±0.°4×14.°1E±.°, h29km±1km, MV3.6/33, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 23 13:38:36.9±2.6, 37.°19N±0.°06×141.°56E±0.°10, h0km±15km, n18, σ0°95/17, mb3.3/4, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.57**	**288**	P		**Pg**	**13 38 48.8**	**+0.9**
JFK				S		**Sg**	**13 38 55.4**	**+0.1**
JMST	**Minamisoumatoc**	**0.75**	**315**	P		**Pg**	**13 38 52.2**	**+0.8**
JMST				S		**Sg**	**13 39 01.7**	**+0.6**
JFFD	**Fukushimafurud**	**0.81**	**263**	⇓P		**Pg**	**13 38 52.8**	**+0.5**
JFFD				⇓S		**Sg**	**13 39 02.0**	**-0.7**
JMM	**Marumori**	**0.91**	**318**	P		**Pb**	**13 38 54.7**	**-0.8**
JMM				S		**Sg**	**13 39 05.8**	**-0.3**
JHO	**Hitachi**	**0.98**	**234**	P		**Pb**	**13 38 55.6**	**-1.1**
JIO	**Ouri**	**1.27**	**352**	P		**Pn**	**13 39 01.0**	**-0.8**
JIO				S		**Sb**	**13 39 16.9**	**-1.6**
MJAR	**Matsushiro Arr**	**2.77**	**257**	Pn		**Pn**	**13 39 22.5**	**+0.1**
	0.6nm,0.3s,baz=78,slow=17,SNR=22							
MJAR				Sn		**Sn**	**13 39 57.4**	**+0.8**
	0.9nm,0.3s,baz=78,slow=27,SNR=5.6 4.1nm,0.6s							
JCJ	**Chichijima**	**10.08**	**177**	LR		LR	13 44 36.5	
	comp=Z,18nm,21.0s,baz=62,slow=36							
H11N2	**WAKE ISLAND Hy**	**28.13**	**121**	T		T	14 14 04.4	
	baz=314,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**28.14**	**121**	T		T	14 14 04.1	
	baz=314,slow=76,SNR=20							
H11N3	**WAKE ISLAND Hy**	**28.15**	**121**	T		T	14 14 06.1	
	baz=314,slow=76,SNR=27							
H11S1	**WAKE ISLAND Hy**	**28.85**	**123**	T		T	14 14 56.8	
	baz=316,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**28.85**	**123**	T		T	14 14 57.4	
	baz=316,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	**28.86**	**123**	T		T	14 15 05.2	
	baz=316,slow=76,SNR=7.1							
MKAR	**Makanchi Array**	**44.13**	**302**	P		**P**	**13 46 46.9**	**-0.1**
	0.2nm,0.5s,baz=98,slow=8.1,SNR=2.7 0.2nm,0.5s							
ILAR	**Eielson Array**	**49.30**	**32**	P		**P**	**13 47 28.9**	**+1.7**
	0.5nm,0.8s,baz=270,slow=7.2,SNR=4.8 0.5nm,0.8s							
WRA	**Warramunga Arr**	**57.23**	**188**	P		**P**	**13 48 25.4**	**-0.6**
	0.2nm,0.7s,baz=5.8,slow=7.1,SNR=5.4 0.2nm,0.7s							
ASAR	**Alice Springs**	**60.96**	**188**	P		**P**	**13 48 51.6**	**-0.1**
	0.2nm,0.7s,baz=16,slow=5.2,SNR=4.7 0.2nm,0.7s							

*ISK **23** 13:51:04.5, 38.°42N×39.°34E, h5km, ML2.7/4*
*DDA **23** 13:51:05.4±0.0, 38.°45N×39.°44E, h7km±1km, ML2.1*
ISC 23 13:51:05.2±1.2, 38.°45N±0.°03×39.°42E±0.°04, h7km±13km, n7, σ0°84/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOVA	**Elazig, Kovanc**	**0.40**	**51**	P		**Pg**	**13 51 13.1**	**+0.1**
KOVA				S		**Sg**	**13 51 18.7**	**+0.3**
PTK	**Pertek**	**0.44**	**357**	PG		**Pg**	**13 51 14.2**	**+0.4**
PTK				SG		**Sb**	**13 51 21.4**	**-0.9**
DYBB	**Diyarbakir**	**0.76**	**131**	PG		**Pg**	**13 51 20.1**	**+0.3**
DYBB				SG		**Sb**	**13 51 31.5**	**+0.2**
HANI	**Diyarbakir_Han**	**0.77**	**92**	P		**Pg**	**13 51 19.5**	**-0.6**
HANI				S		**Sb**	**13 51 30.9**	**-0.8**
HANI				*i* AML		AML	13 51 34.0	
	comp=E,40nm,0.3s							
ARPR	**Arapgir-MALATY**	**1.06**	**307**	PG		**Pg**	**13 51 25.5**	**-0.1**
ARPR				SG		**Sg**	**13 51 39.9**	**+0.5**
URFA	**Urfa**	**1.11**	**205**	PG		**Pg**	**13 51 25.3**	**-1.3**
URFA				SG		**Sg**	**13 51 40.3**	**-0.7**
SANL	**SANLIURFA_Merk**	**1.32**	**195**	P		**Pg**	**13 51 31.9**	**+1.3**
SANL				S		**Sn**	**13 51 48.8**	**+0.8**
SANL				*i* AML		AML	13 51 52.0	
	comp=E,37nm,0.5s							
SANL				*i* AML		AML	13 51 53.0	
	comp=N,38nm,0.2s							

MAN 23 13:55:49.5, 14.°55N×127.°89E, h1km, mb4.0, ML2.8, MS2.4, Philippine Islands region

*NOU **23** 13:57:37.9, 47.°80S×164.°72E, h0km, mb4.7/12, Off W. Coast of S. Island, N.Z.*
*IDC **23** 13:57:42.0±3.4, 47.°21S×164.°81E, h0km, mb3.7/3, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=82.5km s-min=28.4km az=169.0*
ISC 23 13:57:41.6±1.0, 47.°9S±0.°1×164.°85E±0.°09, h35km, n23, σ1°§60/18, mb3.8/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**2.12**	**37**	P		**Pn**	**13 58 15.2**	**+0.7**
SYZ	**Scrubby Hill**	**3.21**	**67**	P		**Pn**	**13 58 30.5**	**+0.9**
ODZ	**Otahua Downs**	**4.90**	**57**	P		**Pn**	**13 58 52.4**	**-0.4**
RPZ	**Rata Peaks**	**6.01**	**49**	Pn		**Pn**	**13 59 06.1**	**-1.8**
	2.4nm,0.3s,baz=207,slow=3.2,SNR=12							
RPZ				Sn		**Sn**	**14 00 14.9**	**-0.6**
	3.4nm,0.3s,baz=87,slow=18,SNR=2.1 11nm,0.5s							
RPZ	**Rata Peaks**	**6.01**	**49**	P		**Pn**	**13 59 06.4**	**-1.6**
MCQ	**Macquarie Isla**	**7.60**	**207**	P		**Pn**	**13 59 30.0**	**+0.3**
	95nm,1.4s							
QRZ	**Quartz Range**	**8.93**	**41**	P		**Pn**	**13 59 48.7**	**+0.6**
KHEZ	**Kahui Hut**	**10.84**	**41**	P		**Pn**	**14 00 15.4**	**+1.1**
HIZ	**Hauiti**	**11.86**	**42**	P		**Pn**	**14 00 27.7**	**-0.4**
TAU	**Tasmania Unive**	**13.27**	**285**	P		**Pn**	**14 00 45.3**	**-2.1**
	43nm,1.7s							
CTZ	**Chatham Island**	**13.57**	**79**	P		**Pn**	**14 00 52.6**	**+1.1**
	53nm,1.6s							
MOO	**Moorlands**	**13.58**	**287**	P		**Pn**	**14 00 50.9**	**-0.8**
GLAD	**Gladstone**	**13.85**	**294**	P		**Pn**	**14 00 53.4**	**-1.9**
STKA	**Stephens Creek**	**23.81**	**304**	P		**P**	**14 02 53.5**	**+2.3**
	1.7nm,0.7s,baz=130,slow=16,SNR=3.6 1.7nm,0.7s							
ASAR	**Alice Springs**	**34.45**	**304**	P		**P**	**14 04 27.9**	**+2.0**
	0.9nm,0.7s,baz=134,slow=8.7,SNR=19							
	0.9nm,0.7s							
WRA	**Warramunga Arr**	**37.21**	**308**	P		**P**	**14 04 51.0**	**+1.4**
	1.0nm,0.7s,baz=147,slow=9.4,SNR=26 1.0nm,0.7s							
H01W1	**Cape Leeuwin H**	**39.50**	**270**	T		T	14 47 35.5	
	baz=124,slow=75,SNR=4.8							
H01W2	**Cape Leeuwin H**	**39.51**	**270**	T		T	14 47 35.9	
	baz=124,slow=75,SNR=4.3							
H01W3	**Cape Leeuwin H**	**39.52**	**270**	T		T	14 47 21.9	
	baz=124,slow=75,SNR=3.6							
H08S2	**Diego Garcia H**	**85.97**	**263**	T		T	15 45 22.2	
	baz=138,slow=76,SNR=38							
H08S1	**Diego Garcia H**	**85.98**	**263**	T		T	15 45 13.2	
	baz=138,slow=76,SNR=27							
H08S3	**Diego Garcia H**	**85.99**	**263**	T		T	15 45 22.8	
	baz=138,slow=76,SNR=38							
AKASG	**Malin Array Be**	**151.24**	**292**	PKPbc		**PKPab**	**14 17 35.7**	**-2.8**
	0.4nm,0.3s,baz=74,slow=1.6,SNR=2.2							

MAN 23 13:58:09.3, 10.°01N×126.°13E, h25km, mb4.0, ML2.8, MS2.4, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**0.67**	**251**	*e*P		Pb	13 58 22.6	+0.2
SCPH				*e*S		Sn	13 58 32.1	-0.8
BIPH	**Bislig**	**1.82**	**173**	⇓*i*P		Pn	13 58 39.3	+0.2
BIPH				*i* S		Sn	13 59 02.0	+0.6
GHBP	**Garcia Hernand**	**1.82**	**258**	⇓*e*P		Pn	13 58 40.5	+1.5
GHBP				*e*S		Sn	13 59 01.4	0.0

*NOU **23** 14:07:36.1, 36.°95S×179.°79E, h0km, MLv3.8/7, Off E. Coast of N. Island, N.Z.*
*WEL **23** 14:07:44.4±1.0, 37.°5S±6.°×17.°9E±.°, h12km, M3.4/38, ML3.7/25, MLv3.4/38, Error ellipse: s-maj=0.0km s-min=0.0km az=96.9*
ISC 23 14:07:41.3±3.0, 37.°01S±0.°08×179.°3E±0.°1, h9km±14km, n67, σ1°§33/72, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.96**	**235**	P		**Pg**	**14 07 59.9**	**+0.1**
MXZ	**Matakaoa Point**	**0.96**	**235**	P		**Pg**	**14 07 59.9**	**+0.1**
WMGZ	**Waiomatatini S**	**1.07**	**221**	P		**Pn**	**14 08 04.2**	**+1.6**
WMGZ				S		**Sn**	**14 08 17.6**	**+0.1**
PKGZ	**Pakihiroa**	**1.31**	**227**	P		**Pn**	**14 08 06.4**	**+0.6**
PKGZ				S		**Sb**	**14 08 23.1**	**0.0**
PUZ	**Puketiti**	**1.34**	**218**	P		**Pn**	**14 08 07.9**	**+1.5**
PUZ				S		**Sb**	**14 08 24.7**	**+0.6**
HAZ	**Te Kaha**	**1.42**	**238**	P		**Pn**	**14 08 06.7**	**-0.6**
HAZ				S		**Sn**	**14 08 25.4**	**-0.7**
TWGZ	**Tauwhareparae**	**1.57**	**221**	P		**Pn**	**14 08 11.1**	**+1.7**
RUGZ	**Raukumara Rang**	**1.60**	**233**	P		**Pn**	**14 08 11.0**	**+1.0**
CNGZ	**Carnagh Statio**	**1.71**	**210**	P		**Pn**	**14 08 13.5**	**+2.2**
TKGZ	**Te Karaka**	**1.83**	**218**	P		**Pn**	**14 08 14.6**	**+1.6**
MWZ	**Matawai**	**1.93**	**226**	P		**Pn**	**14 08 15.8**	**+1.4**
WHRZ	**Whale Island**	**2.03**	**245**	P		**Pn**	**14 08 17.4**	**+1.6**
RIGZ	**Rimuhau**	**2.08**	**215**	P		**Pn**	**14 08 17.9**	**+1.4**
RAGZ	**Rawiri**	**2.10**	**225**	P		**Pn**	**14 08 18.3**	**+1.5**
URZ	**Urewera**	**2.14**	**234**	P		**Pn**	**14 08 19.0**	**+1.8**
URZ	**Urewera**	**2.14**	**234**	P		**Pn**	**14 08 18.6**	**+1.4**
URZ				S		**Sn**	**14 08 42.6**	**-1.3**
MARZ	**Manawahe**	**2.30**	**244**	P		**Pn**	**14 08 20.6**	**+1.1**
OPRZ	**Ohinepanea**	**2.34**	**248**	P		**Pn**	**14 08 20.7**	**+0.8**
SNGZ	**Shannon Statio**	**2.35**	**221**	P		**Pn**	**14 08 21.3**	**+1.1**
KNZ	**Kokohu**	**2.38**	**212**	P		**Pn**	**14 08 21.0**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.41**	**207**	P		**Pn**	**14 08 22.3**	**+1.4**
RTZ	**Ruatahuna**	**2.44**	**228**	P		**Pn**	**14 08 22.7**	**+1.4**
MYRZ	**Mayor Island**	**2.46**	**263**	P		**Pn**	**14 08 22.5**	**+0.9**
MUGZ	**Murupara**	**2.48**	**233**	P		**Pn**	**14 08 23.3**	**+1.3**
TGRZ	**Tauranga**	**2.52**	**252**	P		**Pn**	**14 08 23.3**	**+0.8**
TARZ	**Mount Tarawera**	**2.53**	**240**	P		**Pb**	**14 08 25.6**	**-1.4**
RRRZ	**Republican Roa**	**2.58**	**238**	P		**Pn**	**14 08 26.2**	**+3.0**
RAHZ	**Arahi**	**2.58**	**222**	P		**Pn**	**14 08 24.4**	**+1.1**
KARZ	**Kaharoa**	**2.63**	**246**	P		**Pn**	**14 08 26.2**	**+2.2**
WHHZ	**Waihua**	**2.63**	**218**	P		**Pn**	**14 08 25.2**	**+1.3**
MTHZ	**Maungataniwha**	**2.67**	**226**	P		**Pn**	**14 08 26.1**	**+1.4**
NMHZ	**Naumai**	**2.87**	**223**	P		**Pn**	**14 08 28.5**	**+1.2**
KUZ	**Kuaotunu**	**2.88**	**274**	P		**Pn**	**14 08 26.8**	**-0.6**
KUZ	**Kuaotunu**	**2.88**	**274**	P		**Pn**	**14 08 26.7**	**-0.7**
ARHZ	**Aropaoanui**	**2.89**	**218**	P		**Pn**	**14 08 28.3**	**+0.7**
MRHZ	**Matea Rd**	**2.92**	**230**	P		**Pn**	**14 08 29.2**	**+1.2**
BKZ	**Black Stump Fm**	**3.09**	**225**	P		**Pn**	**14 08 31.5**	**+1.2**
BKZ	**Black Stump Fm**	**3.09**	**225**	P		**Pn**	**14 08 31.1**	**+0.8**
TOZ	**Tahuroa Road**	**3.11**	**255**	P		**Pn**	**14 08 30.3**	**-0.3**
GRZ	**Great Barrier**	**3.18**	**283**	P		**Pn**	**14 08 32.9**	**+1.4**
MKAZ	**Moumakai**	**3.31**	**267**	P		**Pn**	**14 08 32.9**	**-0.4**
WIAZ	**Waiheke Island**	**3.34**	**272**	P		**Pn**	**14 08 34.7**	**+0.9**
RATZ	**Rangitukua**	**3.35**	**235**	P		**Pn**	**14 08 36.1**	**+2.2**
KAHZ	**Kahuranaki**	**3.37**	**214**	P		**Pn**	**14 08 34.0**	**-0.2**
ETAZ	**East Tamaki Re**	**3.50**	**270**	P		**Pn**	**14 08 37.1**	**+1.2**
TMVZ	**Te Maari**	**3.53**	**232**	P		**Pn**	**14 08 37.3**	**+0.8**
MBAZ	**Motutapu North**	**3.53**	**273**	P		**Pn**	**14 08 37.0**	**+0.6**
ETVZ	**East Tongariro**	**3.54**	**232**	P		**Pn**	**14 08 37.3**	**+0.7**
NTVZ	**North Tongarir**	**3.54**	**233**	P		**Pn**	**14 08 37.5**	**+0.9**
BHHZ	**Black Hill Sta**	**3.55**	**225**	P		**Pn**	**14 08 37.3**	**+0.6**
OTVZ	**Oturere**	**3.58**	**232**	P		**Pn**	**14 08 38.8**	**+1.5**
NNVZ	**North Ngauruho**	**3.60**	**233**	P		**Pn**	**14 08 39.0**	**+1.6**
ABAZ	**Army Bay**	**3.60**	**275**	P		**Pn**	**14 08 39.2**	**+1.8**
SNVZ	**South Ngauruho**	**3.61**	**232**	P		**Pn**	**14 08 38.3**	**+0.7**
NGZ	**Ngauruhoe**	**3.63**	**232**	P		**Pn**	**14 08 38.7**	**+0.9**
MOVZ	**Moawhango**	**3.68**	**228**	P		**Pn**	**14 08 38.8**	**+0.4**
AWAZ	**Awhitu Peninsu**	**3.72**	**268**	P		**Pn**	**14 08 39.5**	**+0.5**
WNVZ	**Wahianoa**	**3.72**	**230**	P		**Pn**	**14 08 39.6**	**+0.4**
WTAZ	**Waiatarua**	**3.78**	**270**	P		**Pn**	**14 08 40.8**	**+1.0**
WPHZ	**Waipukurau**	**3.78**	**215**	P		**Pn**	**14 08 39.1**	**-0.8**
RVAZ	**Riverhead Bore**	**3.79**	**272**	P		**Pn**	**14 08 42.2**	**+2.3**
HIZ	**Hauiti**	**3.83**	**246**	P		**Pn**	**14 08 43.0**	**+2.6**
HIZ	**Hauiti**	**3.83**	**246**	P		**Pn**	**14 08 43.0**	**+2.6**
MTVZ	**Mangateitei**	**3.83**	**231**	P		**Pn**	**14 08 41.6**	**+1.0**
WCZ	**Waipu Caves**	**4.13**	**283**	P		**Pn**	**14 08 45.3**	**+0.7**
BFZ	**Birch Farm**	**4.37**	**212**	P		**Pn**	**14 08 46.1**	**-1.8**
OUZ	**Omahuta**	**4.95**	**289**	P		**Pn**	**14 08 57.1**	**+1.3**

*MOS **23** 14:20:04.6±1.1, 37.°43N×141.°49E, h17km, mb4.9/22, Error ellipse: s-maj=9.1km s-min=5.4km az=107.2*
*NIED **23** 14:20:05.4, 37.°35N×141.°56E, h27km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=6.01; Mθθ=3.65; Mφφ9.66; Mrθ=-0.02; Mθφ4.42; Mφr=0.63; Fault plane solution: M0 8.54000×10^14 NP1: φs206.00000°, δ44.00000°, λ-77.00000°. NP2:φs8.00000°, δ48.00000°, λ-102.00000°.*
*JMA **23** 14:20:05.4±0.2, 37.°4N±0.°4×141.°6E±1.°0, h27km±1km, MD4.4/40, MV4.4/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **23** 14:20:06.6±1.8, 37.°43N±0.°05×141.°47E±0.°06, h14km±5km, mb4.8/24, Error ellipse: s-maj=8.5km s-min=5.2km az=224.0*
*IDC **23** 14:20:08.8±4.0, 37.°34N×141.°35E, h33km±30km, mb4.1/24, mbtmp4.2/29, ML3.1/4, MS3.1/4, Error ellipse: s-maj=16.9km s-min=12.6km az=100.0*
ISC 23 14:20:05.1±1.2, 37.°38N±0.°03×141.°56E±0.°04, h10km±6km, n192, σ1°§42/177, mb4.6/54, MS3.5/3, 11C-25D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.55**	**269**	⇓*i*P		**Pg**	**14 20 16.0**	**+0.3**
JFK				⇓S		**Sg**	**14 20 23.5**	**+0.6**
JFK	**Kawauchi**	**0.55**	**269**	A		A	14 20 16.0	
	comp=E,14nm,4.0s,comp=E,11nm,0.6s							
JMST	**Minamisoumatoc**	**0.64**	**303**	⇓*i*P		**Pb**	**14 20 17.9**	**-0.5**
JMST				⇓S		**Sb**	**14 20 26.9**	**-0.4**
JMST	**Minamisoumatoc**	**0.64**	**303**	A		A	14 20 17.9	
	comp=N,23nm,0.9s							
JMM	**Marumori**	**0.78**	**309**			**Pg**	**14 20 19.8**	**-0.4**
JMM				Sg		**Sg**	**14 20 29.3**	**-1.1**
JMM	**Marumori**	**0.78**	**309**	P		**Pb**	**14 20 20.2**	**-0.6**
JMM	**Marumori**	**0.78**	**309**	⇓*i*P		**Pb**	**14 20 20.2**	**-0.6**
JMM				⇓S		**Sb**	**14 20 31.0**	**-0.4**
JMM	**Marumori**	**0.78**	**309**	A		A	14 20 20.2	
	comp=E,13nm,0.4s,comp=E,14nm,1.0s							
JFFD	**Fukushimafurud**	**0.85**	**251**	⇓*i*P		**Pg**	**14 20 20.8**	**-0.6**
JFFD				⇓*e*S		**Sg**	**14 20 31.6**	**-0.8**
JFFD	**Fukushimafurud**	**0.85**	**251**	A		A	14 20 20.8	
	comp=E,9.0nm,3.3s,comp=E,12nm,0.5s							
JIKH	**Ishinomakikobu**	**0.94**	**355**	A		A	14 20 22.9	
	comp=E,16nm,0.8s,comp=E,7.0nm,4.9s							
JIO	**Ouri**	**1.09**	**351**	⇓*i*P		**Pb**	**14 20 25.0**	**-1.0**
JIO				⇓*e*S		**Sb**	**14 20 39.1**	**-1.2**
JHO	**Hitachi**	**1.10**	**226**	⇓*i*P		**Pb**	**14 20 23.8**	**-2.4**
JHO	**Hitachi**	**1.10**	**226**	A		A	14 20 23.8	
	comp=E,6.0nm,3.9s,comp=E,8.0nm,2.0s							
JOU	**Okura**	**1.22**	**325**	⇓*i*P		**Pg**	**14 20 28.0**	**-0.5**
JOU				⇓*e*S		**Sn**	**14 20 44.5**	**-0.2**
JOU	**Okura**	**1.22**	**325**	A		A	14 20 28.0	
	comp=E,35nm,1.2s,comp=E,23nm,0.8s							
JYAR	**Yonezawaarcadi**	**1.25**	**296**	A		A	14 20 27.5	
	comp=E,41nm,1.1s,comp=E,29nm,0.4s							
JHYU	**Hitachinakayam**	**1.29**	**217**	A		A	14 20 27.7	
	comp=E,6.0nm,1.3s,comp=E,7.0nm,3.8s							
JOFO	**Osakifurukawao**	**1.33**	**338**	A		A	14 20 29.0	
	comp=E,64nm,1.4s,comp=E,59nm,1.6s							
JSB	**Shiboa**	**1.37**	**253**	A		A	14 20 29.1	
	comp=E,26nm,1.6s,comp=E,30nm,1.4s							
JKMT	**Kesennumamotoy**	**1.44**	**357**	A		A	14 20 30.6	
	comp=E,6.0nm,2.4s,comp=E,3.0nm,6.8s							
JYS	**Shirataka**	**1.45**	**306**	⇓*i*P		**Pb**	**14 20 31.7**	**-0.5**
JYS				⇓S		**Sg**	**14 20 51.7**	**-0.1**
JYS	**Shirataka**	**1.45**	**306**	A		A	14 20 31.7	
	comp=E,19nm,0.7s,comp=E,16nm,1.2s							
JFY	**Yanaizu**	**1.48**	**272**	⇓*i*P		**Pn**	**14 20 31.4**	**-0.3**
JFY				⇓*e*S		**Sn**	**14 20 51.4**	**+0.3**
JFY	**Yanaizu**	**1.48**	**272**	A		A	14 20 31.4	
	comp=E,13nm,0.9s,comp=E,13nm,1.0s							
JYT	**Yasato**	**1.58**	**224**	A		A	14 20 32.1	
	comp=E,9.0nm,0.4s,comp=E,9.0nm,0.4s							
JMK	**Ichinoseki**	**1.60**	**350**	A		A	14 20 33.0	
	comp=E,7.0nm,0.8s,comp=E,5.0nm,5.4s							
JIHU	**Itakohorinouch**	**1.63**	**211**	A		A	14 20 32.8	
	comp=E,49nm,2.1s,comp=E,40nm,2.8s							
OFUJ	**Ofunato**	**1.71**	**3**	A		A	14 20 34.6	
	comp=E,5.0nm,3.3s,comp=E,4.0nm,0.8s							
CHOJ	**Chosi**	**1.76**	**199**	A		A	14 20 34.6	
	comp=E,6.0nm,4.9s,comp=E,6.0nm,3.5s							
JYK	**Kaneyama**	**1.81**	**329**	A		A	14 20 36.1	
	comp=E,10.0nm,0.9s,comp=E,9.0nm,1.3s							
JNS	**Sasagawa**	**1.83**	**285**	A		A	14 20 36.2	
	comp=E,10.0nm,1.0s,comp=E,5.0nm,0.7s							
JYA	**Atsumi**	**1.90**	**310**	A		A	14 20 37.3	
	comp=E,26nm,0.9s,comp=E,16nm,0.9s							
JAG	**Ashikaga**	**1.94**	**241**	A		A	14 20 37.4	
	comp=E,4.0nm,2.9s,comp=E,5.0nm,4.0s							
JSMT	**Sammumatsuo**	**1.95**	**208**	A		A	14 20 37.4	
	comp=E,23nm,3.8s,comp=E,23nm,4.5s							
JUON	**Uonuma**	**2.00**	**266**	A		A	14 20 38.5	
	comp=E,3.0nm,6.0s,comp=E,3.0nm,1.1s							
JYYZ	**Yamagatayuza**	**2.08**	**322**	A		A	14 20 39.9	
	comp=E,27nm,2.5s,comp=E,23nm,5.0s							
JOM	**Ohasama**	**2.11**	**354**	A		A	14 20 40.4	
	comp=E,6.0nm,1.3s,comp=E,3.0nm,7.0s							
JAW	**Awa shima**	**2.12**	**301**	A		A	14 20 40.5	
	comp=E,10.0nm,4.3s,comp=E,7.0nm,4.9s							
JRG	**Rokugo**	**2.15**	**340**	A		A	14 20 41.0	
	comp=E,5.0nm,8.8s,comp=E,8.0nm,3.7s

comp=E,4.7nm,0.9s,baz=182,slow=8.6,SNR=6.2
comp=E,4.7nm,0.9s
SONM Songino Array 27.69 303 P **P** **14 25 52.3 -1.1**
comp=E,6.0nm,0.8s,baz=101,slow=8.4,SNR=30
comp=E,6.0nm,0.8s
SONM Songino Array 27.69 303 P **P** **14 25 53.1 -0.3**
SONM Songino Array 27.69 303 P **P** **14 25 53.1 -0.3**
SONM pmax pmax
comp=Z,7.0nm,1.0s
HKPS Hong Kong Po S 28.01 245 P **P** **14 25 57.5 +1.1**
H11N2 WAKE ISLAND Hy 28.22 122 T T 14 55 23.7
baz=314,slow=75,SNR=659
H11N1 WAKE ISLAND Hy 28.23 122 T T 14 55 27.2
baz=314,slow=75,SNR=680
H11N3 WAKE ISLAND Hy 28.24 122 T T 14 55 25.3
baz=314,slow=75,SNR=727
H11S1 WAKE ISLAND Hy 28.95 124 T T 14 56 19.1
baz=316,slow=76,SNR=333
H11S3 WAKE ISLAND Hy 28.95 124 T T 14 56 19.9
baz=316,slow=76,SNR=329
H11S2 WAKE ISLAND Hy 28.96 124 T T 14 56 22.0
baz=316,slow=76,SNR=191
GTA Gaotai 32.58 287 *e*P **P** **14 26 35.5 -1.2**
GTA sP sP 14 26 44.6 +3.6
GTA pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 33.67 16⇓ *e*P **P** **14 26 45.1 -0.6**
BILL *e* 14 26 48.9
BILL 14 27 58.0
BILL SS SS 14 34 09.0 -24
BILL SSS SSS 14 34 38.0
BILL pmax pmax
comp=Z,9.0nm,1.4s
BILL MLR MLR
comp=Z,75nm,15.0s
TIXI Tiksi 34.97 353 P **P** **14 26 56.2 -0.7**
comp=Z,3.4nm,0.8s,baz=270,slow=23,SNR=12
comp=Z,3.4nm,0.8s
TIXI Tiksi 34.97 353 P **P** **14 26 56.2 -0.7**
TIXI Tiksi 34.97 353 P **P** **14 26 56.2 -0.7**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TNCH TengChong 38.51 264 P **P** **14 27 27.4 -0.4**
TNCH pP sP 14 27 32.0 -0.2
TNCH pmax pmax
comp=Z,11nm,0.8s
DGZ Jazzator, Alta 40.29 306 *de*P **P** **14 27 43.1 +0.7**
DGZ pmax pmax
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 41.70 255 P **P** **14 27 52.5 -1.6**
comp=Z,0.4nm,0.3s,baz=44,slow=7.8,SNR=1.0
CMAR LR LR 14 46 02.1
comp=Z,25nm,19.1s,baz=155,slow=37
comp=Z,0.4nm,0.3s
CMAR Chiang Mai Arr 41.70 255 *i* P **P** **14 27 58.0 +3.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 41.77 312 P **P** **14 27 54.5 +0.2**
ZAA0 lAmb lAmb 14 27 55.4
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 41.77 312 P **P** **14 27 54.2 -0.1**
comp=Z,12nm,0.7s,baz=85,slow=7.5,SNR=36
ZALV PcP **PcP** **14 29 50.0 -0.4**
comp=Z,0.5nm,0.4s,baz=111,slow=3.3,SNR=3.9
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 41.77 312 P **P** **14 27 54.1 -0.3**
NRIK Noril'sk 43.01 335 P **P** **14 28 04.5 +0.3**
comp=Z,2.2nm,0.6s,baz=18,slow=10.0,SNR=3.6
comp=Z,2.2nm,0.6s
NRIK Noril'sk 43.01 335⇓ *e*P **P** **14 28 04.0 -0.2**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 44.04 302 P **P** **14 28 13.2 +0.3**
MK31 lAmb lAmb 14 28 13.5
comp=Z,9.1nm,0.8s
MK31 Makanchi Array 44.04 302 *d i*P **P** **14 28 12.4 -0.5**
MKAR Makanchi Array 44.04 302 P **P** **14 28 12.5 -0.3**
comp=Z,7.4nm,0.7s,baz=89,slow=9.9,SNR=58
comp=Z,7.4nm,0.7s
MKAR Makanchi Array 44.04 302 P **P** **14 28 12.6 -0.2**
MAKZ Makanchi 44.25 302 P **P** **14 28 14.6 +0.1**
MAKZ lAmb lAmb 14 28 15.3
comp=Z,14nm,0.9s
MAKZ Makanchi 44.25 302 P **P** **14 28 14.6 +0.1**
MAKZ pmax pmax
comp=Z,14nm,1.0s
KURK Kurchatov 45.81 308 P **P** **14 28 26.6 -0.3**
KURK Kurchatov 45.81 308 *d* iP **P** **14 28 26.4 -0.5**
KURK pmax pmax
comp=Z,34nm,1.0s
TAPN Taplejung 46.03 274 *e*P **P** **14 28 29.3 0.0**
comp=Z,6.7nm,0.4s
RAMN Ramite 47.10 274 *e*P **P** **14 28 37.3 -0.3**
comp=Z,36nm,1.1s
JIRN Jiri 47.10 275 *e*P **P** **14 28 38.0 +0.2**
comp=Z,5.3nm,0.4s
GUN Gumba 47.24 275 *e*P **P** **14 28 39.1 +0.3**
comp=Z,8.8nm,0.5s
PKI Pulchoki 47.76 275 *e*P **P** **14 28 42.3 -0.6**
PKIN Phulchoki 47.77 275 *e*P **P** **14 28 42.5 -0.4**
GKN Gorkha 48.18 276 *e*P **P** **14 28 45.7 -0.2**
TARG Taragay, Kyrgy 48.35 296 P **P** **14 28 46.2 -1.2**
TARG lAmb lAmb 14 28 54.3
comp=Z,5.1nm,0.8s
TARG Taragay, Kyrgy 48.35 296 P **P** **14 28 46.2 -1.2**
TARG pmax pmax
comp=Z,5.0nm,0.8s
DANN Dangsing 48.72 277 *e*P **P** **14 28 50.2 0.0**
comp=Z,38nm,0.9s
ILAR Eielson Array 49.15 33 P **P** **14 28 53.5 +0.8**
comp=Z,1.5nm,0.8s,baz=270,slow=6.7,SNR=10
comp=Z,1.5nm,0.8s
ILAR Eielson Array 49.15 33 *e*P **P** **14 28 55.0 +2.4**
KSH Kashi 50.37 294 P **P** **14 29 05.3 +2.8**
AAK Ala-Archa 50.43 298⇑ *e*P **P** **14 29 03.1 +0.2**
AAK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 50.48 312 P **P** **14 29 02.6 -0.4**
BRVK Borovoye 50.48 312 P **P** **14 29 02.6 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 53.05 300 P **P** **14 29 22.5 +0.2**
KKAR Karatay Array 53.05 300 P **P** **14 29 22.5 +0.2**
EPYK Eagle Plains 53.17 30 P **P** **14 29 24.5 +1.7**
EPYK lAmb lAmb 14 29 40.4
comp=Z,14nm,1.1s
INK Inuvik 54.03 27 P **P** **14 29 30.1 +1.0**
comp=Z,1.1nm,0.6s,baz=292,slow=6.1,SNR=5.7
comp=Z,1.1nm,0.6s
GAR Garm 54.66 295 P **P** **14 29 34.3 0.0**
GAR lAmb lAmb 14 29 35.0
comp=Z,9.3nm,1.0s
SVE Sverdlovsk 54.97 318 *e*P **P** **14 29 36.7 +0.6**
CHGR Chuyangaron 55.62 295 P **P** **14 29 40.7 -0.5**
CHGR Chuyangaron 55.62 295 P **P** **14 29 40.7 -0.5**
CHGR pmax pmax
comp=Z,24nm,0.8s
A36M Sachs Harbour 55.90 22 P **P** **14 29 44.1 +1.6**
ARU Arti 56.18 318 P **P** **14 29 44.2 -0.6**
ARU lAmb lAmb 14 29 45.5
comp=Z,18nm,1.1s
ARU Arti 56.18 318 *d* iP **P** **14 29 44.4 -0.4**
ARU 14 30 40.7
ARU S **S** **14 37 35.9 +2.0**
ARU SS **SS** **14 41 18.5 -1.3**
ARU pmax pmax
comp=Z,18nm,1.1s
WRAB Tennant Creek 57.40 188⇑ *e*P **P** **14 29 55.0 +1.2**
WRAB pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 57.41 188 P **P** **14 29 52.7 -1.1**
comp=Z,1.0nm,0.7s,baz=6.2,slow=7.2,SNR=18
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 57.41 188 P **P** **14 29 53.3 -0.6**
WRA Warramunga Arr 57.41 188 *i* P **P** **14 29 53.2 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ABKAR Akbulak array 57.81 310 P **P** **14 29 55.4 -1.1**
ABKAR Akbulak array 57.81 310 P **P** **14 29 55.5 -0.9**
ABKAR lAmb lAmb 14 29 56.8
comp=Z,7.0nm,0.7s
EUNU Eureka 59.83 9 P **P** **14 30 10.8 +0.7**
EUNU lAmb lAmb 14 30 11.4
comp=Z,3.6nm,0.7s
KIRV Kirov 60.05 323 *d* iP **P** **14 30 11.8 0.0**
PRGR Permogore 60.54 327 *e*P **P** **14 30 14.8 -0.3**
PRGR *e* 14 31 03.3
PRGR *e* 14 32 27.0
PRGR pmax pmax
comp=Z,14nm,1.1s
ASAR Alice Springs 61.14 188 P **P** **14 30 19.6 0.0**
comp=Z,0.8nm,0.8s,baz=8.3,slow=6.6,SNR=11
comp=Z,0.8nm,0.8s
KLMR Klimovskoe 63.53 328 *e*P **P** **14 30 33.8 -1.4**
KLMR AMP 14 30 36.1
comp=Z,14nm,1.2s
KLMR Klimovskoe 63.53 328 *e*P **P** **14 30 33.8 -1.4**
KLMR pmax pmax
comp=Z,14nm,1.2s
BELG Belogornoye 63.63 317 *d* iP **P** **14 30 35.6 -0.4**
BELG pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 63.72 339 P **P** **14 30 36.8 +0.4**
comp=Z,4.0nm,0.8s,baz=30,slow=8.5,SNR=7.6
comp=Z,4.0nm,0.8s
GEYT Alibeck 63.77 299 P **P** **14 30 36.3 -1.0**
comp=Z,6.2nm,0.7s,baz=22,slow=1.6,SNR=13
comp=Z,6.2nm,0.7s
GEYT Alibeck 63.77 299 P **P** **14 30 36.9 -0.4**
GEYT lAmb lAmb 14 30 38.3
comp=Z,9.2nm,0.8s
OBN Obninsk 67.89 323 *e*P **P** **14 31 03.4 0.0**
OBN *e* 14 31 07.8
OBN 14 31 29.0
OBN S **S** **14 40 06.0 +4.3**
OBN *e*SS **SS** **14 44 16.9 -5.7**
OBN pmax pmax
comp=Z,8.0nm,0.5s
LPSR Galich'ya Gora 68.11 320 *e*P **P** **14 31 02.7 -2.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 68.57 332 P **P** **14 31 07.7 +0.1**
comp=Z,8.2nm,0.7s,baz=39,slow=7.1,SNR=17
comp=Z,8.2nm,0.7s
FINES FINESS Array B 68.57 332 *i* P **P** **14 31 08.1 +0.5**
FINES pmax pmax
comp=Z,8.0nm,0.8s
VSR Storozhevoye 68.75 319 *e*P **P** **14 31 06.5 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.6s
NEW Newport 69.80 44 LR LR 15 01 10.0
comp=Z,38nm,19.9s,baz=266,slow=35
ZEI Tsey 70.67 309 *e*P **P** **14 31 20.2 -1.0**
ZEI pmax pmax
comp=Z,8.0nm,1.4s
KBZ Khabaz 70.77 311 P **P** **14 31 22.1 +0.7**
comp=Z,8.1nm,0.9s,baz=32,slow=2.1,SNR=16
comp=Z,8.1nm,0.9s
KBZ Khabaz 70.77 311 *c i*P **P** **14 31 22.0 +0.5**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 70.77 311 P **P** **14 31 20.5 -1.1**
KIV Kislovodsk 70.77 311 *e*P **P** **14 31 22.1 +0.5**
KIV pmax pmax
comp=Z,21nm,1.0s
GNI Garni 71.60 307⇑ *e*P **P** **14 31 28.7 +1.9**
GNI pmax pmax
comp=Z,12nm,1.2s
NB2 NORSAR Subarra 73.92 337 P **P** **14 31 40.0 0.0**
comp=Z,8.3nm,1.2s,baz=40,slow=6.2
NOA NORSAR Array B 73.92 337 P **P** **14 31 39.6 -0.4**
comp=Z,4.0nm,0.9s,baz=39,slow=5.9,SNR=10
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 74.10 322 P **P** **14 31 40.9 -0.3**
comp=Z,2.7nm,0.5s,baz=46,slow=6.0,SNR=24
comp=Z,2.7nm,0.5s
AKBB Malin Array Si 74.10 322 *ce*P **P** **14 31 41.0 -0.2**
NVAR Mina Array Bea 74.69 53 P **P** **14 31 47.5 +2.3**
comp=Z,0.5nm,0.6s,baz=291,slow=5.7,SNR=4.2
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 77.34 46 P **P** **14 32 01.7 +1.4**
comp=Z,0.8nm,0.7s,baz=267,slow=3.0,SNR=8.4
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 78.71 312 P **P** **14 32 08.0 +0.2**
comp=Z,1.9nm,1.0s,baz=95,slow=5.5,SNR=5.4
comp=Z,1.9nm,1.0s
BRTR Keskin Array B 78.71 312 P **P** **14 32 08.0 +0.2**
CLL Collm 80.86 330 *e*P **P** **14 32 19.0 0.0**
CLL Collm 80.86 330 *e*P **P** **14 32 19.0 0.0**
KHC Kasperske Hory 82.31 329⇑ *e*P **P** **14 32 27.5 +0.7**
KHC pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 82.48 328 P **P** **14 32 27.5 -0.3**
comp=Z,0.7nm,0.6s,baz=28,slow=6.0,SNR=4.4
comp=Z,0.7nm,0.6s
ANMO Albuquerque 84.28 50 *i* P **P** **14 32 39.5 +2.1**
TXAR Lajitas Array 89.82 52 P **P** **14 33 06.2 +1.8**
comp=Z,0.4nm,0.6s,baz=291,slow=3.5,SNR=4.4
comp=Z,0.4nm,0.6s
KMBO Kilima Mbogo 102.04 278 *i* P **Pdif** **14 34 02.4 +2.1**
KMBO pmax pmax
comp=Z,1.0nm,0.3s

TRN 23 14:26:33.6,15°.44N×61°.21W,h123km,MD3.9,4C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.11**	**202**	*e*P		Pn		14 26 51.8	+1.3
DLPL				*e*S		Sn		14 27 04.7	+1.5
DSLB	**Salisbury**	**0.21**	**271**	*i*P		Pn		14 26 52.2	+1.6
DSLB				*e*S		Sn		14 27 06.1	+1.6
MDVC	**Dominica, Viel**	**0.26**	**313**	*e*P		Pn		14 26 52.0	+1.2
MDVC				*e*S		Sn		14 27 06.4	+2.6
MDCT	**Cottage Hill,**	**0.31**	**306**	*e*P		Pn		14 26 52.5	+1.6
MDCT				*e*S		Sn		14 27 05.1	+1.1
TDBA	**Terre de Bas,**	**0.58**	**315**⇓	*i*P		Pn		14 26 53.8	+1.4
TDBA				*e*S		Sn		14 27 07.5	+0.8
SVN	**Savane Anatole**	**0.59**	**177**	*e*P		Pn		14 26 54.0	+1.4
TBG	**Guadaloupe-3**	**0.59**	**314**	*e*P		Pn		14 26 53.6	+1.2
PCM	**Pelee Case Pet**	**0.62**	**180**	*e*P		Pn		14 26 53.9	+1.2
PCM	**Pelee Case Pet**	**0.62**	**180**	*e*P		Pn		14 26 54.1	+1.4
BAMF	**Morne Balai**	**0.62**	**175**	*e*P		Pn		14 26 54.1	+1.3
CXM	**Morne La Croix**	**0.62**	**177**	*e*P		Pn		14 26 53.6	+0.7
GBMF	**Grand Be**	**0.64**	**176**	*e*P		Pn		14 26 54.2	+1.2
PML	**Morne Lenard**	**0.65**	**178**	*e*P		Pn		14 26 54.6	+1.6
FDF	**Fort de France**	**0.70**	**176**	*e*P		Pn		14 26 54.6	+1.2
FDF				*e*S		Sn		14 27 09.4	+1.1
ILAM	**Ilet Lapin Mar**	**0.73**	**154**	*e*P		Pn		14 26 54.7	+1.1
ILAM				*e*S		Sn		14 27 09.5	+1.0
ZAM	**Aeronautique**	**0.87**	**169**	*e*P		Pn		14 26 55.8	+1.1
LPMF	**Morne Lapointe**	**0.89**	**165**	*e*P		Pn		14 26 56.1	+1.3
TRMF	**Trois Ilets**	**0.91**	**171**	*e*P		Pn		14 26 56.3	+1.3
BIM	**Bigot**	**0.92**	**172**⇑	*i*P		Pn		14 26 56.6	+1.4
BIM				*e*S		Sn		14 27 13.2	+1.7
MVM	**Montagne Vaucl**	**0.93**	**161**	*e*P		Pn		14 26 56.4	+1.1
MPOM	**Morne Pois Mar**	**1.04**	**161**⇑	*i*P		Pn		14 26 57.5	+1.2
MPOM				*e*S		Sn		14 27 14.2	+0.7
SLBI	**Saint Lucia, B**	**1.42**	**171**⇑	*i*P		Pn		14 27 01.2	+0.8
SLBI				*e*S		Sn		14 27 21.1	+0.4
SLCP	**Castries, St.**	**1.43**	**172**	*e*S		Sn		14 27 21.8	+0.9
MLYT	**Lee's Yard**	**1.59**	**324**	*e*P		Pn		14 27 03.5	+1.2
MLYT				*e*S		Sn		14 27 26.7	+2.5
SLB	**Belfond**	**1.61**	**174**	*e*P		Pn		14 27 04.5	+1.9
SLB				*e*S		Sn		14 27 24.7	+0.1
MBFL	**Flemmings, Mon**	**1.63**	**324**	*e*P		Pn		14 27 03.7	+1.0
MBFL				*e*S		Sn		14 27 26.8	+1.9
ANBD	**Bethesda, Anti**	**1.69**	**342**⇑	*i*P		Pn		14 27 04.3	+0.9
MCLT	**Moule a Chique**	**1.73**	**171**	*e*P		Pn		14 27 05.1	+1.1
MCLT				*e*S		Sn		14 27 28.9	+1.7
ANDO	**Antigua, Disas**	**1.77**	**340**	*e*P		Pn		14 27 06.0	+1.6
ANDO				*e*S		Sn		14 27 28.1	+0.1
SSV	**Crater Summit**	**2.10**	**180**	*e*P		Pn		14 27 09.3	+0.8
SVB	**Belmont**	**2.15**	**181**	*e*P		Pn		14 27 10.1	+0.9
SVB				*e*S		Sn		14 27 37.2	+0.9
ANWB	**Willy Bob**	**2.29**	**346**	*e*P		Pn		14 27 11.0	+0.2
ANWB				*e*S		Sn		14 27 39.2	-0.3
SEUS	**St. Eustatius**	**2.66**	**320**	*e*S		Sn		14 27 49.6	+1.7
BBGH	**Gun Hill**	**2.78**	**145**	*e*P		Pn		14 27 19.8	+2.6
BBGH				*e*S		Sn		14 27 51.0	+0.2
BBSP	**Saint Philip**	**2.87**	**144**	*e*P		Pn		14 27 21.1	+2.8
BBSP				*e*S		Sn		14 27 53.4	+0.6
SABA	**Saba**	**2.92**	**318**	*e*P		Pn		14 27 20.2	+1.2
GCMP	**Grenada, Carri**	**2.94**	**184**	*e*P		Pn		14 27 19.9	+0.6
SMRT	**St. Maarten**	**3.16**	**326**	*e*P		Pn		14 27 23.2	+1.1
SMRT				*e*S		Sn		14 27 58.9	-0.6
GRGR	**Grenville**	**3.31**	**188**	*e*P		Pn		14 27 24.6	+0.5
GRFF	**Grenada Fort F**	**3.41**	**189**	*e*P		Pn		14 27 27.0	+1.7
TOSP	**Speyside**	**4.16**	**171**	*e*P		Pn		14 27 36.8	+1.4
TRN	**Trinidad (W)**	**4.76**	**182**	*e*P		Pn		14 27 45.3	+1.9

*IDC **23** 14:46:54.5±0.7,37°.15N×141°.33E,h0km,mb4.0/17, mbtmp4.0/19,ML2.9/2,MS2.9/5,Error ellipse: s-maj=19.9km s-min=15.6km az=82.0*
*NEIC **23** 14:46:55.6±0.9,37°.28N±0°.05×141°.54E±0°.06,h10km±1km, mb4.3/14,Error ellipse: s-maj=11.2km s-min=2.9km az=46.0*
*JMA **23** 14:46:56.5±0.2,37°.2N±0°.4×141°.4E±1°.0,h27km±1km, MD4.1/40,MV4.1/40,E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **23** 14:46:56.5,37°.23N×141°.42E,h27km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=4.63; Mθθ2.26; Mφφ2.36; Mrθ5.50; Mθφ2.97; Mφr4.60; Fault plane solution: M₀8.72000×10¹⁴ NP1:ϕs38.00000°, δ18.00000°,λ-101.00000°. NP2:ϕs229.00000°, δ73.00000°,λ-87.00000°.*

ISC 23 14:46:55.3±1.8,37°.21N±0°.05×141°.44E±0°.06,h7km±10km, n88,σ1s20/75,mb4.1/25,1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**290**	*i* P		**Pb**		**14 47 05.7**	**-0.5**
JFK				*e*S		**Sb**		**14 47 12.6**	**-0.7**
JFK	**Kawauchi**	**0.48**	**290**	A		A		14 47 05.7	
comp=E,5.0nm,0.6s,comp=E,6.0nm,2.1s									
JMST	**Minamisoumatoc**	**0.68**	**320**	*i* P		**Pb**		**14 47 09.0**	**-0.5**
JMST				S		**Sb**		**14 47 18.2**	**-0.9**
JMST	**Minamisoumatoc**	**0.68**	**320**	A		A		14 47 09.0	
comp=E,8.0nm,0.6s,comp=E,8.0nm,0.8s									
JFFD	**Fukushimafurud**	**0.71**	**261**	P		**Pb**		**14 47 09.8**	**-0.2**
JFFD				S		**Sb**		**14 47 19.1**	**-0.9**
JFFD	**Fukushimafurud**	**0.71**	**261**	A		A		14 47 09.8	
comp=E,10.0nm,0.7s,comp=E,16nm,1.7s									
JMM	**Marumori**	**0.84**	**322**			**Pb**		**14 47 11.6**	**-0.5**
JMM				Sg		**Sg**		**14 47 22.4**	**+0.1**
JMM	**Marumori**	**0.84**	**322**	P		**Pb**		**14 47 11.7**	**-0.5**
JMM	**Marumori**	**0.84**	**322**	*i* P		**Pb**		**14 47 11.6**	**-0.5**
JMM				*e*S		**Sg**		**14 47 22.3**	**+0.1**
JMM	**Marumori**	**0.84**	**322**	A		A		14 47 11.6	
comp=E,4.0nm,0.7s,comp=E,6.0nm,0.5s									
JHO	**Hitachi**	**0.92**	**230**⇓	*i* P		**Pg**		**14 47 12.6**	**-0.4**
JSB	**Shiboa**	**1.24**	**259**	P		**Pg**		**14 47 19.3**	**+0.2**
JSB				S		**Sn**		**14 47 35.6**	**-0.5**
JSB	**Shiboa**	**1.24**	**259**	A		A		14 47 19.3	
comp=E,13nm,1.1s,comp=E,12nm,0.7s									
JIO	**Ouri**	**1.25**	**357**	*i* P		**Pn**		**14 47 17.8**	**-1.4**
JYAR	**Yonezawaarcadi**	**1.25**	**305**	A		A		14 47 18.1	
comp=E,12nm,1.0s,comp=E,16nm,0.9s									
JOU	**Okura**	**1.31**	**332**	*i* P		**Pn**		**14 47 19.7**	**-0.3**
JOU	**Okura**	**1.31**	**332**	A		A		14 47 19.7	
comp=E,5.0nm,0.7s,comp=E,8.0nm,0.7s									
JFY	**Yanaizu**	**1.40**	**279**	A		A		14 47 20.4	
comp=E,3.0nm,0.6s,comp=E,4.0nm,1.1s									
JOFO	**Osakifurukawao**	**1.46**	**343**	A		A		14 47 21.1	
comp=E,36nm,0.8s,comp=E,23nm,2.6s									
JYS	**Shirataka**	**1.49**	**313**	A		A		14 47 21.7	
comp=E,9.0nm,0.6s,comp=E,10.0nm,1.5s									
JYA	**Atsumi**	**1.94**	**316**	A		A		14 47 28.4	
comp=E,10.0nm,0.6s,comp=E,16nm,1.0s									
JSD	**Sado**	**2.66**	**289**			**Pn**		**14 47 39.1**	**+0.5**
JSD	**Sado**	**2.66**	**289**	P		**Pn**		**14 47 39.7**	**+1.1**
MJAR	**Matsushiro Arr**	**2.67**	**257**	Pn		**Pn**		**14 47 39.3**	**+0.4**
1.1nm,0.3s,baz=93,slow=16,SNR=46									
MJAR				Sn		**Sb**		**14 48 15.8**	**-0.8**
2.0nm,0.3s,baz=76,slow=41,SNR=3.6									
10nm,0.4s									
MAJO	**Matsushiro**	**2.68**	**257**			**Pn**		**14 47 40.3**	**+1.5**
MAJO	**Matsushiro**	**2.68**	**257**	P		**Pb**		**14 47 41.3**	**-2.3**
MJB9	**Matsu-Tunnel**	**2.68**	**257**			**Pn**		**14 47 40.9**	**+2.0**
JTM	**Tenmabayashi**	**3.59**	**355**			**Pn**		**14 47 51.9**	**+0.6**
JTM	**Tenmabayashi**	**3.59**	**355**	P		**Pn**		**14 47 52.0**	**+0.6**
JGF	**Kuroka**	**3.66**	**245**			**Pn**		**14 47 53.8**	**+1.4**
JGF	**Kuroka**	**3.66**	**245**	P		**Pn**		**14 47 54.0**	**+1.6**
INU	**Inuyama**	**4.03**	**244**			**Pn**		**14 47 58.2**	**+0.8**
INU	**Inuyama**	**4.03**	**244**	P		**Pn**		**14 48 00.1**	**+2.7**
ERM	**Erimo**	**4.98**	**15**	Pn		**Pn**		**14 48 09.6**	**-0.9**
ERM	**Erimo**	**4.98**	**15**	P		**Pn**		**14 48 11.1**	**+0.6**
JEM	**Erimo**	**4.98**	**15**	P		**Pn**		**14 48 11.3**	**+0.8**
JKA	**Kamikawa-asahi**	**6.96**	**7**	Pn		**Pn**		**14 48 36.5**	**-1.2**
JMN	**Monobe**	**7.08**	**243**	P		**Pn**		**14 48 41.7**	**+2.3**
JHS	**Saijyo**	**7.09**	**254**	Pn		**Pn**		**14 48 42.2**	**+2.7**
JHS	**Saijyo**	**7.09**	**254**	P		**Pn**		**14 48 43.3**	**+3.8**
YSS	**Yuzh-Sakhalins**	**9.79**	**5**	Pn		**Pn**		**14 49 17.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**10.01**	**317**	Pn		**Pn**		**14 49 21.3**	**+1.8**
0.2nm,0.3s,baz=146,slow=12,SNR=6.9									
USRK				LR		LR		14 53 12.7	
comp=Z,70nm,21.2s,baz=79,slow=38									
3.6nm,0.6s									
JCJ	**Chichijima**	**10.10**	**176**	LR		LR		14 53 36.5	
comp=Z,64nm,19.6s,baz=76,slow=40									
KSRS	**Korea Array**	**10.77**	**275**	Pn		**Pn**		**14 49 32.6**	**+2.7**
baz=91,slow=14									
KSRS				LR		LR		14 53 45.8	
comp=Z,25nm,19.8s,baz=70,slow=38									
KLR	**Kul'dur**	**13.92**	**333**	LR		LR		14 56 09.4	
comp=Z,40nm,18.4s,baz=115,slow=40									
SHEM	**Shemya Is, Ala**	**27.53**	**45**	LR		LR		15 04 15.5	
comp=Z,72nm,19.2s,baz=104,slow=38									
SONM	**Songino Array**	**27.71**	**304**	P		**P**		**14 52 44.4**	**+0.1**
1.3nm,0.7s,baz=105,slow=8.8,SNR=12									
1.3nm,0.7s									
SONM	**Songino Array**	**27.71**	**304**	P		**P**		**14 52 43.9**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T		T		15 22 15.8	
baz=314,slow=75,SNR=136									
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T		T		15 22 18.5	
baz=314,slow=75,SNR=158									
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T		T		15 22 17.1	
baz=314,slow=75,SNR=147									
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T		T		15 23 11.9	
baz=316,slow=75,SNR=70									
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T		T		15 23 11.0	
baz=316,slow=75,SNR=70									
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T		T		15 23 12.5	
baz=316,slow=75,SNR=51									
TIXI	**Tiksi**	**35.12**	**353**	P		**P**		**14 53 47.9**	**-1.1**
1.2nm,0.3s,baz=270,slow=24,SNR=3.3									
1.2nm,0.3s									
ZAA0	**Zalesovo Array**	**41.81**	**312**	P		**P**		**14 54 45.0**	**-0.4**
ZAA0				lAmb		lAmb		14 54 50.6	
comp=Z,3.0nm,0.9s									
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**		**14 54 45.2**	**-0.2**
comp=Z,2.5nm,0.7s,baz=84,slow=5.9,SNR=9.1									
comp=Z,2.5nm,0.7s									
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**		**14 54 45.0**	**-0.4**
MK31	**Makanchi Array**	**44.05**	**302**	P		**P**		**14 55 03.5**	**-0.2**
MK31				lAmb		lAmb		14 55 12.2	
comp=Z,4.0nm,1.2s									
MKAR	**Makanchi Array**	**44.05**	**302**	P		**P**		**14 55 03.5**	**-0.2**
comp=Z,1.1nm,0.7s,baz=83,slow=10,SNR=7.9									
comp=Z,1.1nm,0.7s									
MKAR	**Makanchi Array**	**44.05**	**302**	P		**P**		**14 55 03.0**	**-0.6**
MAKZ	**Makanchi**	**44.26**	**302**	P		**P**		**14 55 04.7**	**-0.6**
MAKZ				lAmb		lAmb		14 55 18.3	
comp=Z,4.7nm,1.0s									
KURK	**Kurchatov**	**45.84**	**308**	P		**P**		**14 55 17.8**	**-0.1**
KURK				lAmb		lAmb		14 55 24.2	
comp=Z,6.5nm,0.8s									
M22K	**Willow**	**47.99**	**37**	P		**P**		**14 55 32.2

comp=Z,2.4nm,1.2s
ABKAR **Akbulak array** 57.84 310 P P 14 56 46.5 -1.0
AS31 **Alice Springs** 60.96 188 P P 14 57 08.8 -0.4
ASAR **Alice Springs** 60.96 188 P P 14 57 09.2 0.0
comp=Z,0.9nm,0.7s,baz=14,slow=5.9,SNR=14
comp=Z,0.9nm,0.7s
ASAR **Alice Springs** 60.96 188 P P 14 57 08.9 -0.3
ARCES **ARCESS Array B** 63.84 339 P P 14 57 27.6 -0.4
comp=Z,3.4nm,0.9s,baz=44,slow=7.2,SNR=5.5
comp=Z,3.4nm,0.9s
FINES **FINESS Array B** 68.67 332 P P 14 57 59.1 +0.1
comp=Z,3.0nm,0.7s,baz=71,slow=8.3,SNR=7.3
comp=Z,3.0nm,0.7s
STKA **Stephens Creek** 68.73 180 P P 14 57 60.0 +0.4
comp=Z,2.3nm,0.9s,baz=350,slow=9.5,SNR=3.3
comp=Z,2.3nm,0.9s
KBZ **Khabaz** 70.81 311 P P 14 58 12.0 -0.5
comp=Z,1.0nm,0.6s,baz=294,slow=20,SNR=2.2
comp=Z,1.0nm,0.6s
NB2 **NORSAR Subarra** 74.03 337 P P 14 58 31.8 +0.3
comp=Z,0.6nm,0.6s,baz=36,slow=6.5
NOA **NORSAR Array B** 74.03 337 P P 14 58 32.0 +0.5
comp=Z,1.0nm,0.7s,baz=39,slow=5.9,SNR=5.2
comp=Z,1.0nm,0.7s
AKASG **Malin Array Be** 74.17 322 P P 14 58 32.2 -0.2
comp=Z,1.0nm,0.5s,baz=45,slow=6.2,SNR=6.8
comp=Z,1.0nm,0.5s
NVAR **Mina Array Bea** 74.87 53 P P 14 58 38.5 +1.5
comp=Z,0.3nm,0.5s,baz=305,slow=3.2,SNR=2.5
comp=Z,0.3nm,0.5s
PDAR **Pinedale Array** 77.53 45 P P 14 58 52.6 +0.5
comp=Z,0.3nm,0.5s,baz=336,slow=2.0,SNR=2.4
comp=Z,0.3nm,0.5s
GERES **GERESS Array B** 82.58 328 P P 14 59 20.1 +1.0
comp=Z,0.3nm,0.3s,baz=64,slow=4.7,SNR=2.3
comp=Z,0.3nm,0.3s
LPAZ **La Paz** 146.59 59 PKPbc PKPab 15 06 39.2 -0.6
comp=Z,0.8nm,0.5s,baz=7.6,slow=12,SNR=3.9

*IDC **23** 15:04:17.3±2.1, 37.°19N×141.°69E, h0km, mb3.4/4, mbtmp3.4/5, ML2.4/1, MS3.5/3, Error ellipse: s-maj=46.9km s-min=27.3km az=48.0*
*JMA **23** 15:04:20.4±0.2, 37.°2N±0.°5×14.°1E±.°, h40km±1km, MV3.6/38, E OFF FUKUSHIMA PREF*
ISC 23 15:04:17.5±2.0, 37.°21N±0.°04×141.°65E±0.°08, h5km±10km, n21, σ0§98/23, mb3.4/4, MS3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.64**	**284**	P	**Pg**	**15 04 31.1**	**+1.3**
JFK				S	**Sg**	**15 04 38.7**	**+0.6**
JMST	**Minamisoumatoc**	**0.80**	**310**	P	**Pg**	**15 04 33.7**	**+0.9**
JMST				S	**Sg**	**15 04 43.2**	**+0.1**
JFFD	**Fukushimafurud**	**0.88**	**262**	*e*P	**Pg**	**15 04 33.9**	**-0.5**
JMM	**Marumori**	**0.94**	**314**	*e*P	**Pg**	**15 04 36.0**	**+0.4**
JMM				*e*S	**Sg**	**15 04 47.4**	**-0.5**
JHO	**Hitachi**	**1.06**	**236**	*e*P	**Pg**	**15 04 37.4**	**-0.4**
JHO				*e*S	**Sg**	**15 04 49.9**	**-1.5**
JIO	**Ouri**	**1.26**	**349**	*e*P	**Pn**	**15 04 41.3**	**-0.6**
JIO				*e*S	**Sg**	**15 04 56.8**	**-1.3**
JOU	**Okura**	**1.39**	**326**	P	**Pn**	**15 04 43.8**	**+0.1**
JOU				*e*S	**Sb**	**15 05 01.1**	**-1.1**
JFY	**Yanaizu**	**1.56**	**278**	P	**Pn**	**15 04 46.0**	**-0.1**
JFY				*e*S	**Sn**	**15 05 04.8**	**-2.0**
JYS	**Shirataka**	**1.61**	**309**	P	**Pn**	**15 04 47.1**	**+0.4**
JYS				*e*S	**Sn**	**15 05 06.3**	**-1.6**
MJAR	**Matsushiro Arr**	**2.84**	**257**	Pn	**Pn**	**15 05 04.3**	**+0.7**
	0.6nm,0.3s,baz=82,slow=15,SNR=33						
MJAR				Sn	**Sn**	**15 05 39.0**	**+0.7**
	1.0nm,0.3s,baz=311,slow=38,SNR=2.6						
MJAR				LR	LR	15 06 32.4	
	comp=Z,48nm,20.1s,baz=246,slow=47						
	3.4nm,0.3s						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**15 10 08.8**	**+0.7**
	0.4nm,0.8s,baz=94,slow=9.4,SNR=2.0						
	0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	15 39 32.7	
	baz=314,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	15 39 35.3	
	baz=314,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	15 39 34.0	
	baz=314,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	15 40 30.5	
	baz=316,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	15 40 28.3	
	baz=316,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.81**	**124**	T	T	15 40 29.1	
	baz=316,slow=76,SNR=19						
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**15 12 28.0**	**+0.6**
	0.4nm,0.6s,baz=77,slow=8.2,SNR=2.1						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**57.26**	**188**	P	**P**	**15 14 06.2**	**0.0**
	0.3nm,0.5s,baz=7.8,slow=7.7,SNR=9.0						
WRA				LR	LR	15 38 16.5	
	comp=Z,49nm,21.7s,baz=321,slow=36						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**60.99**	**188**	P	**P**	**15 14 32.6**	**+0.7**
	0.3nm,0.8s,baz=14,slow=7.8,SNR=2.6						
ASAR				LR	LR	15 40 24.8	
	comp=Z,36nm,21.4s,baz=352,slow=36						
	0.3nm,0.8s						
STKA	**Stephens Creek**	**68.73**	**180**	LR	LR	15 48 01.0	
	comp=Z,39nm,18.2s,baz=24,slow=38						

*IDC **23** 15:22:40.0±0.5, 1.°05N×126.°30E, h0km, mb4.3/19, mbtmp4.3/21, ML3.9/2, MS3.4/18, Error ellipse: s-maj=21.5km s-min=11.4km az=78.0*
*NEIC **23** 15:22:46.8±1.4, 1.°07N±0.°07×126.°39E±0.°05, h50km±7km, mb4.6/41, Error ellipse: s-maj=11.1km s-min=7.2km az=199.0*
*DJA **23** 15:22:48.5±0.2, 1.°N±2.°×126.°6E±.°, h59km±3km, M4.4/25, mb4.7/25, mB5.0/11, MLv4.4/18, Mw(mB)4.4/11, MwMwp4.3/1, Mwp4.7/1*
*MAN **23** 15:22:50.2, 1.°45N×125.°64E, h1km, mb5.0, ML3.9, MS3.9*
ISC 23 15:22:45.8±0.3, 1.°09N±0.°04×126.°45E±0.°05, h39km, n170, σ1§67/166, mb4.5/43, MS3.5/18, 4C, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.97**	**109**		**Pn**	**15 23 04.7**	**+1.8**
TNTI				Sn	**Sn**	**15 23 17.6**	**+2.1**
TNTI	**Ternate**	**0.97**	**109**	P	**Pn**	**15 23 04.9**	**+2.0**
TNTI				S	**Sn**	**15 23 20.7**	**+5.2**
LBMI	**Labuha**	**2.02**	**149**	P	**Pn**	**15 23 18.3**	**+1.0**
SGSI	**Sangihe**	**2.73**	**340**	P	**Pn**	**15 23 29.0**	**+1.8**
SGSI				S	**Sn**	**15 24 01.8**	**+2.8**
SANI	**Sanana**	**3.16**	**188**	P	**Pn**	**15 23 33.0**	**0.0**
SANI	**Sanana**	**3.16**	**188**	P	**Pn**	**15 23 32.9**	**0.0**
GTOI	**Gorontalo**	**3.47**	**262**	P	**Pn**	**15 23 40.2**	**+2.9**
GTOI				S	**Sn**	**15 24 24.0**	**+6.8**
LUWI	**Luwuk**	**4.25**	**240**	Pn	**Pn**	**15 23 48.9**	**+0.9**
LUWI	**Luwuk**	**4.25**	**240**	P	**Pn**	**15 23 51.5**	**+3.5**
NLAI	**Namlea**	**4.35**	**171**	P	**Pn**	**15 23 50.7**	**+1.3**
MRSI	**Marisa**	**4.55**	**262**	P	**Pn**	**15 23 54.3**	**+2.1**
MSAI	**Masohi**	**5.06**	**151**	P	**Pn**	**15 24 02.4**	**+3.2**
	0.1nm304nm12nm,0.6s						
AAI	**Ambon**	**5.06**	**160**	P	**Pn**	**15 24 01.7**	**+2.5**
	0.3nm6µm98nm,0.8s						
SIJI	**Sorong**	**5.20**	**112**	Pn	**Pn**	**15 24 02.8**	**+1.7**
	1.7nm,0.3s,baz=346,slow=6.3,SNR=14						
SIJI				LR	LR	15 26 31.8	
	comp=Z,531nm,19.9s,baz=278,slow=44						
	2.1nm,0.3s						
APSI	**Ampana**	**5.20**	**247**	P	**Pn**	**15 24 05.1**	**+4.0**
	1.4nm2µm198nm,0.6s						
TOLI2	**Tolitoli**	**5.67**	**270**	Pn	**Pn**	**15 24 07.5**	**-0.1**
KCP	**Kidapawan**	**6.03**	**347⇑**	*e*P	**Pn**	**15 24 16.1**	**+3.5**
KCP				*e*S	Sn	15 25 29.9	+9.4
CTBH	**Cotabato--PC H**	**6.47**	**340⇑**	*i*P	**Pn**	**15 24 21.4**	**+2.8**
BNDI	**Bandanaira**	**6.56**	**148**	P	**Pn**	**15 24 23.0**	**+3.2**
	1.1nm8µm105nm,0.5s						
MPSI	**Mapaga**	**6.59**	**264**	P	**Pn**	**15 24 23.7**	**+3.4**
	0.1nm417nm27nm,1.6s						
FAKI	**Fak Fak**	**7.04**	**125**	Pn	**Pn**	**15 24 28.9**	**+2.6**
FAKI	**Fak Fak**	**7.04**	**125**	P	**Pn**	**15 24 30.5**	**+4.2**
	0.2nm955nm49nm,0.9s						
BIPH	**Bislig**	**7.04**	**359⇑**	*e*P	**Pn**	**15 24 27.8**	**+1.3**
SPSI	**Sidrap Palu**	**8.36**	**233**	P	**Pn**	**15 24 45.9**	**+1.4**
	0.2nm479nm46nm,0.9s						
BNSI	**Bone**	**8.36**	**229**	P	**Pn**	**15 24 45.3**	**+0.7**
	0.1nm24nm,0.6s						
MYLDM	**Lahad Datu**	**8.91**	**297**	Pn	**Pn**	**15 24 55.0**	**+2.9**
BKSI	**Bulukumba**	**8.97**	**225**	P	**Pn**	**15 24 56.2**	**+3.3**
	0.1nm21nm,0.5s						
KAPI	**Kappang**	**9.03**	**228**	Pn	**Pn**	**15 24 51.8**	**-1.9**
	3.5nm,0.3s,baz=55,slow=10,SNR=10						
	7.1nm,0.3s						
KAPI	**Kappang**	**9.03**	**228**	Pn	**Pn**	**15 24 54.4**	**+0.7**
SOEI	**Soe**	**10.99**	**191**	Pn	**Pn**	**15 25 23.6**	**+2.8**
SOEI	**Soe**	**10.99**	**191**	P	**Pn**	**15 25 23.0**	**+2.3**
	55nm,0.9s						
KKM	**Kota Kinabalu**	**11.34**	**296**	Pn	**Pn**	**15 25 28.2**	**+2.9**
BATI	**Baumata**	**11.56**	**194**	P	Pn	15 25 39.9	+11
TWSI	**Taliwang, Sumb**	**13.65**	**224**	P	**P**	**15 26 07.6**	**+2.6**
SBUM	**Sibu**	**14.29**	**276**		**P**	**15 26 08.9**	**-3.3**
MTN	**Manton Dam**	**14.61**	**162**	P	**Pn**	**15 26 09.2**	**-0.7**
	baz=14,SNR=7.0						
MTN	**Manton Dam**	**14.61**	**162**	Pn	**Pn**	**15 26 08.4**	**-1.5**
KDU	**Kakadu**	**14.94**	**157**	P	**Pn**	**15 26 11.8**	**-2.5**
	baz=15,SNR=4.0						
KSM	**Kuching**	**16.14**	**272**	Pn	**Pn**	**15 26 29.4**	**-0.6**
KNRA	**Kununurra**	**16.82**	**172**	P	**Pn**	**15 26 38.5**	**0.0**
	baz=17,SNR=22						
KNRA	**Kununurra**	**16.82**	**172**	Pn	**Pn**	**15 26 38.0**	**-0.5**
KNRA				IAmb	IAmb	15 26 39.9	
	comp=Z,70nm,1.1s						
KNRA	**Kununurra**	**16.82**	**172**	P	**Pn**	**15 26 38.8**	**+0.3**
WB0	**Warramunga Arr**	**22.15**	**160**	P	**P**	**15 27 37.2**	**-1.2**
TWG	**Pinlang**	**22.22**	**347**	P	**P**	**15 27 38.1**	**-1.0**
TWG				IAmb	IAmb	15 27 54.6	
	comp=Z,57nm,1.3s						
WRAB	**Tennant Creek**	**22.29**	**160**	P	**P**	**15 27 38.4**	**-1.5**
WRAB				IAmb	IAmb	15 27 41.5	
	comp=Z,41nm,1.0s						
WRAB	**Tennant Creek**	**22.29**	**160**	P	**P**	**15 27 39.4**	**-0.5**
WRA	**Warramunga Arr**	**22.29**	**160**	P	**P**	**15 27 39.0**	**-0.9**
	comp=Z,19nm,0.6s,baz=335,slow=11,SNR=147						
WRA				S	**S**	**15 31 38.5**	**-4.5**
	comp=Z,4.4nm,1.0s,baz=340,slow=18,SNR=9.4						
	comp=Z,19nm,0.6s						
WRA	**Warramunga Arr**	**22.29**	**160**	P	**P**	**15 27 38.4**	**-1.5**
WB2	**Warramunga Arr**	**22.30**	**160**	P	**P**	**15 27 38.3**	**-1.7**
WB2				IAmb	IAmb	15 27 41.5	
	comp=Z,46nm,1.1s						
WC3	**Warramunga Arr**	**22.32**	**160**	P	**P**	**15 27 39.2**	**-1.0**
	baz=22						
COEN	**Coen**	**22.32**	**133**	P	**P**	**15 27 41.0**	**+0.7**
	baz=22,SNR=4.3						
COEN	**Coen**	**22.32**	**133**	P	**P**	**15 27 41.3**	**+1.0**
WR0	**Warramunga Arr**	**22.38**	**160**	P	**P**	**15 27 39.3**	**-1.5**
WR0				IAmb	IAmb	15 27 42.4	
	comp=Z,24nm,0.8s						
MYKOM	**Kota Tinggi**	**22.60**	**272**	P	**P**	**15 27 42.3**	**-1.1**
MYKOM				IAmb	IAmb	15 27 47.2	
	comp=Z,19nm,1.3s						
TPUB	**Ta-pu**	**22.79**	**346**	P	**P**	**15 27 44.4**	**-0.8**
TPUB	**Ta-pu**	**22.79**	**346**	P	**P**	**15 27 44.6**	**-0.6**
MBWA	**Marble Bar**	**23.07**	**196**	P	**P**	**15 27 46.1**	**-2.0**
MBWA				IAmb	IAmb	15 27 51.9	
	comp=Z,19nm,1.1s						
MBWA	**Marble Bar**	**23.07**	**196**	P	**P**	**15 27 46.7**	**-1.4**
PMG	**Port Moresby**	**23.11**	**117**	LR	LR	15 37 54.7	
	comp=Z,140nm,19.0s,baz=292,slow=39						
PSA00	**Pilbara Seismi**	**23.43**	**196**	P	**P**	**15 27 50.5**	**-1.2**
PSA00				IAmb	IAmb	15 28 30.0	
	comp=Z,20nm,1.1s						
PSA00	**Pilbara Seismi**	**23.43**	**196**	P	**P**	**15 27 51.5**	**-0.2**
MASI	**Maura Aman, Be**	**24.56**	**260**	P	**P**	15 28 09.8	+7.4
QIS	**Mount Isa**	**25.08**	**150**	P	**P**	**15 28 06.6**	**-0.3**
	baz=25,SNR=11						
QIS	**Mount Isa**	**25.08**	**150**	P	**P**	**15 28 07.9**	**+1.0**
IPM	**Ipoh**	**25.61**	**278**	P	**P**	**15 28 09.3**	**-2.5**
AS31	**Alice Springs**	**25.66**	**164**	P	**P**	**15 28 11.3**	**-0.8**
ASAR	**Alice Springs**	**25.66**	**164**	P	**P**	**15 28 11.6**	**-0.5**
	comp=Z,6.3nm,0.6s,baz=352,slow=7.3,SNR=60						
ASAR				PcP	**PcP**	**15 31 42.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=1.8,slow=3.0,SNR=5.1						
ASAR				S	**S**	**15 32 38.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=344,slow=16,SNR=4.1						
	comp=Z,6.3nm,0.6s						
ASAR	**Alice Springs**	**25.66**	**164**	P	**P**	**15 28 11.0**	**-1.1**
AS01	**Alice Springs**	**25.67**	**164**	P	**P**	**15 28 11.9**	**-0.3**
WRKA	**Warakurna**	**26.04**	**176**	P	**P**	**15 28 15.7**	**+0.1**
	baz=26,SNR=49						
WRKA	**Warakurna**	**26.04**	**176**	P	**P**	**15 28 15.8**	**+0.2**
RPSI	**Rantau Prapat**	**27.56**	**274**	P	**P**	**15 28 27.9**	**-1.4**
PSI	**Prapat**	**27.56**	**274**	P	**P**	**15 28 27.9**	**-1.6**
	comp=Z,3.6nm,0.7s,baz=146,slow=2.9,SNR=3.6						
	comp=Z,3.6nm,0.7s						
MEEK	**Meekatharra**	**28.59**	**195**	P	**P**	**15 28 37.6**	**-0.8**
	baz=29,SNR=7.7						
MEEK	**Meekatharra**	**28.59**	**195**	P	**P**	**15 28 38.3**	**-0.1**
CTA	**Charters Tower**	**28.64**	**138**	LR	LR	15 41 37.0	
	comp=Z,79nm,19.9s,baz=323,slow=40						
OOD	**Oodnadatta**	**30.06**	**164**	P	**P**	**15 28 51.1**	**-0.3**
MORW	**Morawa**	**31.60**	**198**	P	**P**	**15 29 04.2**	**-0.8**
	baz=32,SNR=4.0						
MORW	**Morawa**	**31.60**	**198**	P	**P**	**15 29 03.4**	**-1.6**
MORW				IAmb	IAmb	15 29 05.6	
	comp=Z,18nm,0.9s						
MORW	**Morawa**	**31.60**	**198**	P	**P**	**15 29 04.4**	**-0.6**
NJ2	**Nanjing**	**31.62**	**348**	*e*P	**P**	**15 29 09.0**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FORT	**Forrest**	**31.73**	**177**	P	**P**	**15 29 05.9**	**-0.2**
	baz=32,SNR=15						
FORT	**Forrest**	**31.73**	**177**	P	**P**	**15 29 05.8**	**-0.4**
FORT	**Forrest**	**31.73**	**177**	P	**P**	**15 29 05.8**	**-0.4**
MULG	**Mulgathing**	**32.03**	**168**	P	**P**	**15 29 08.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**32.04**	**304**	P	**P**	**15 29 07.1**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=121,slow=7.5,SNR=7.1						
CMAR				PcP	**PcP**	**15 31 59.5**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=181,slow=2.3,SNR=7.1						
	comp=Z,0.5nm,0.3s						
KMBL	**Kambalda**	**32.57**	**187**	P	**P**	**15 29 12.8**	**-0.7**
	baz=33,SNR=5.0						
BLDU	**Balldu**	**32.87**	**196**	P	**P**	**15 29 15.5**	**-0.7**
	baz=33,SNR=5.8						
BLDU	**Balldu**	**32.87**	**196**	P	**P**	**15 29 15.6**	**-0.5**
ENH	**Enshi**	**33.19**	**333**	P	**P**	**15 29 17.6**	**-1.4**
ENH				IAmb	IAmb	15 29 20.6	
	comp=Z,9.7nm,0.8s						
LCRK	**Leigh Creek**	**33.31**	**161**	P	**P**	**15 29 19.9**	**-0.1**
KLBR	**Kellerberrin**	**33.54**	**194**	P	**P**	**15 29 21.9**	**-0.1**
	baz=34,SNR=10						
KLBR	**Kellerberrin**	**33.54**	**194**	P	**P**	**15 29 22.1**	**+0.1**
JHJ	**Hachijo jima 2**	**34.23**	**20**	LR	LR	15 45 24.1	
	comp=Z,12nm,18.6s,baz=7.0,slow=40						
MUN	**Mundaring**	**34.29**	**196**	P	**P**	**15 29 28.3**	**-0.2**
	baz=34,SNR=6.9						
MUN	**Mundaring**	**34.29**	**196**	P	**P**	**15 29 28.6**	**+0.1**
BBOO	**Buckleboo**	**34.92**	**166**	P	**P**	**15 29 33.6**	**-0.3**
	baz=35,SNR=10						
BBOO	**Buckleboo**	**34.92**	**166**	P	**P**	**15 29 33.4**	**-0.6**
BBOO	**Buckleboo**	**34.92**	**166**	P	**P**	**15 29 33.7**	**-0.3**
NWAO	**Narrogin (SRO)**	**34.94**	**194**	P	**P**	**15 29 32.8**	**-1.3**
	comp=Z,11nm,0.5s,baz=233,slow=6.8,SNR=13						
	comp=Z,11nm,0.5s						
NWAO	**Narrogin (SRO)**	**34.94**	**194**	P	**P**	**15 29 33.9**	**-0.2**
	baz=35,SNR=9.5						
NWAO				P	**P**	**15 29 33.9**	**-0.2**
	baz=35,SNR=9.5						
NWAO	**Narrogin (SRO)**	**34.94**	**194**	P	**P**	**15 29 32.8**	**-1.3**
NWAO	**Narrogin (SRO)**	**34.94**	**194**	P	**P**	**15 29 34.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**34.94**	**194**	P	**P**	**15 29 34.0**	**-0.1**
HNR	**Honiara**	**34.96**	**108**	LR	LR	15 45 01.1	
	comp=Z,1µm,19.2s,baz=152,slow=38						
STKA	**Stephens Creek**	**35.80**	**158**	P	**P**	**15 29 40.8**	**-0.7**
	comp=Z,8.7nm,0.8s,baz=324,slow=9.6,SNR=16						
STKA				PcP	**PcP**	**15 32 08.8**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=346,slow=5.5,SNR=3.2						
	comp=Z,8.7nm,0.8s						
STKA	**Stephens Creek**	**35.80**	**158**	P	**P**	**15 29 41.3**	**-0.1**
	baz=36,SNR=10						
STKA	**Stephens Creek**	**35.80**	**158**	P	**P**	**15 29 40.8**	**-0.7**
STKA	**Stephens Creek**	**35.80**	**158**	P	**P**	**15 29 41.4**	**-0.1**
KSRS	**Korea Array**	**36.21**	**2**	P	**P**	**15 29 46.0**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=178,slow=9.4,SNR=4.8						
	comp=Z,1.7nm,0.8s						
HTT	**Hallett**	**36.30**	**162**	P	**P**	**15 29 45.5**	**-0.3**
	baz=36,SNR=4.3						
HTT	**Hallett**	**36.30**	**162**	P	**P**	**15 29 45.8**	**0.0**
RKGY	**Rocky Gully**	**36.61**	**193**	P	**P**	**15 29 48.6**	**+0.2**
	baz=37,SNR=6.8						
RKGY	**Rocky Gully**	**36.61**	**193**	P	**P**	**15 29 49.4**	**+1.0**
XAN	**Xi'an**	**36.65**	**335⇑**	P	**P**	**15 29 49.0**	**+0.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MJAR	**Matsushiro Arr**	**36.91**	**16**	P	**P**	**15 29 50.7**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=186,slow=9.4,SNR=5.9						
MJAR				LR	LR	15 46 10.0	
	comp=Z,16nm,19.3s,baz=220,slow=38						
	comp=Z,3.9nm,0.9s						
ARPS	**Mount Arapiles**	**40.29**	**161**	P	**P**	**15 30 19.6**	**+0.3**
	baz=40,SNR=8.7						
ARPS	**Mount Arapiles**	**40.29**	**161**	P	**P**	**15 30 19.8**	**+0.5**
LZH	**Lanzhou**	**40.65**	**331**	*e*P	**P**	**15 30 23.9**	**+1.4**
LZH				pP	pP	15 30 30.3	-2.9
LZH				sP	sP	15 30 35.1	-2.3
LZH				pmax	pmax		
	comp=Z,8.0nm,1.5s						
JTM	**Tenmabayashi**	**41.67**	**17**	P	**P**	**15 30 31.9**	**+1.3**
CAN	**Canberra**	**41.91**	**152**	P	**P**	**15 30 33.4**	**+0.7**
CAN				IAmb	IAmb	15 30 56.1	
	comp=Z,31nm,1.3s						
USRK	**Ussuriysk Ar.**	**43.20**	**6**	P	**P**	**15 30 44.4**	**+1.4**
	comp=Z,4.8nm,0.8s,baz=188,slow=8.6,SNR=8.4						
	comp=Z,4.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**43.20**	**6**	P	**P**	**15 30 43.1**	**+0.1**
ASAJ	**Asahikawa**	**45.18**	**16**	LR	LR	15 48 24.4	
	comp=Z,32nm,20.0s,baz=175,slow=34						
GTA	**Gaotai**	**45.22**	**331**	*e*P	**P**	**15 31 00.1**	**+0.7**
GTA				pP	pP	15 31 07.0	-3.4
GTA				sP	sP	15 31 11.1	-3.3
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PALK	**Pallekele**	**46.01**	**279**	LR	LR	15 51 31.7	
	comp=Z,61nm,18.6s,baz=228,slow=38						
HEH	**HeiHe**	**48.98**	**1**	*e*P	**P**	**15 31 29.3**	**+0.9**
SONM	**Songino Array**	**49.70**	**342**	P	**P**	**15 31 33.7**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=160,slow=7.6,SNR=17						
SONM				PcP	**PcP**	**15 32 55.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=167,slow=2.8,SNR=2.6						
SONM				LR	LR	15 53 41.3	
	comp=Z,31nm,21.9s,baz=166,slow=38						
	comp=Z,3.2nm,0.9s						
SONM	**Songino Array**	**49.70**	**342**	P	**P**	**15 31 32.4**	**-1.7**
PETK	**Petropavlovsk-**	**57.96**	**22**	P	**P**	**15 32 34.8**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=184,slow=4.5,SNR=4.1						
	comp=Z,3.2nm,0.8s						
PETK	**Petropavlovsk-**	**57.96**	**22**	P	**P**	**15 32 36.0**	**+1.7**
MK31	**Makanchi Array**	**59.56**	**326**	P	**P**	**15 32 44.7**	**-0.8**
MK31				IAmb	IAmb	15 32 45.6	
	comp=Z,3.6nm,0.8s						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**15 32 45.0**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=121,slow=8.4,SNR=46						
MKAR				LR	LR	15 58 48.1	
	comp=Z,56nm,22.0s,baz=86,slow=36						
	comp=Z,2.5nm,0.5s						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**15 32 44.6**	**-0.9**
KSH	**Kashi**	**59.72**	**316**	P	P	15 32 53.4	+6.5
KSH				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MAKZ	**Makanchi**	**59.75**	**326**	P	**P**	**15 32 46.0**	**-0.7**
BKZ	**Black Stump Fm**	**60.84**	**137**	P	**P**	**15 32 54.1**	**-0.4**
ZAA0	**Zalesovo Array**	**62.80**	**334**	P	**P**	**15 33 04.7**	**-2.6**
ZAA0				IAmb	IAmb	15 33 09.8	
	comp=Z,3.3nm,0.9s						
ZALV	**Zalesovo Beam**	**62.80**	**334**	P	**P**	**15 33 06.5**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=147,slow=7.5,SNR=7.7						
ZALV				LR	LR	16 00 31.3	
	comp=Z,24nm,21.2s,baz=38,slow=36						
	comp=Z,1.9nm,0.4s						
ZALV	**Zalesovo Beam**	**62.80**	**334**	P	**P**	**15 33 06.2**	**-1.1**
KBL	**Kabul**	**62.92**	**309**	P	**P**	**15 33 07.3**	**-1.4**
KBL				IAmb	IAmb	15 33 17.5	
	comp=Z,3.6nm,0.6s						
GAR	**Garm**	**63.51**	**314**	P	**P**	**15 33 10.7**	**-1.8**
GAR				IAmb	IAmb	15 33 14.9	
	comp=Z,14nm,1.3s						
KURK	**Kurchatov**	**63.81**	**328**	P	**P**	**15 33 13.4**	**-0.6**
CHGR	**Chuyangaron**	**64.23**	**313**	P	**P**	**15 33 15.7**	**-1.5**
CHGR				IAmb	IAmb	15 33 20.2	
	comp=Z,11nm,1.1s						
KK31	**Karatay Array**	**64.97**	**318**	P	**P**	**15 33 20.2**	**-1.7**
KKAR	**Karatay Array**	**64.97**	**318**	P	**P**	**15 33 19.9**	**-1.9**
KKAR	**Karatay Array**	**64.97**	**318**	P	**P**	**15 33 20.4**	**-1.4**
KKAR				IAmb	IAmb	15 33 23.9	
	comp=Z,1.8nm,

0.7nm,0.7s,baz=64,slow=10,SNR=17
0.7nm,0.7s
H11S2 WAKE ISLAND Hy 30.14 9 T T 16 19 58.2
baz=188,slow=76,SNR=31
H11S3 WAKE ISLAND Hy 30.14 9 T T 16 19 58.4
baz=188,slow=76,SNR=18
H11S1 WAKE ISLAND Hy 30.16 9 T T 16 19 58.9
baz=188,slow=76,SNR=15
H11N1 WAKE ISLAND Hy 31.37 9 T T 16 21 29.6
baz=188,slow=76,SNR=4.2
H11N3 WAKE ISLAND Hy 31.38 9 T T 16 21 30.8
baz=188,slow=76,SNR=7.5
H11N2 WAKE ISLAND Hy 31.39 9 T T 16 21 19.1
baz=188,slow=76,SNR=5.0
SONM Songino Array 76.78 325 P **P** **15 54 35.7 +0.3**
0.2nm,0.3s,baz=139,slow=7.1,SNR=2.9
0.2nm,0.3s
ILAR Eielson Array 85.15 20 P **P** **15 55 19.1 -0.3**
0.4nm,0.8s,baz=240,slow=5.1,SNR=4.5
0.4nm,0.8s

---

*IDC **23** 15:53:33.9±1.1,37.˝12N×141.˝76E,h0km,mb3.5/6, mbtmp3.5/7,ML2.4/1,MS3.3/5,Error ellipse: s-maj=27.2km s-min=24.1km az=102.0*
*NIED **23** 15:53:37.0,37.˝19N×141.˝44E,h30km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.21; $M_{\theta\theta}$=0.42; $M_{\phi\phi}$=1.79; $M_{r\theta}$=0.22; $M_{\theta\phi}$=1.32; $M_{\phi r}$=1.61; Fault plane solution: M_o=2.91000×10^{14} NP1:ϕ_s47.00000°, δ31.00000°,λ-64.00000°. NP2:ϕ_s197.00000°,δ62.00000°, λ-105.00000°.*
*JMA **23** 15:53:37.0±0.2,37.˝2N±0.˝3×141.˝4E±0.˝9,h30km±1km, MV3.8/40,E OFF FUKUSHIMA PREF .*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 23 15:53:35.6±1.8,37.˝19N±0.˝04×141.˝52E±0.˝07,h8km±10km, n38,σ1§29/34,mb3.5/6,MS3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.54**	**289**	P		**Pg**	**15 53 46.7**	**+0.6**
JFK				S		**Sg**	**15 53 53.8**	**+0.5**
JMST	**Minamisoumatoc**	**0.73**	**317**	P		**Pg**	**15 53 50.1**	**+0.4**
JMST				S		**Sg**	**15 53 59.4**	**+0.1**
JFFD	**Fukushimafurud**	**0.77**	**263**	P		**Pg**	**15 53 50.4**	**-0.1**
JFFD				S		**Sg**	**15 53 59.8**	**-0.6**
JMM	**Marumori**	**0.89**	**320**	P		**Pg**	**15 53 52.9**	**+0.2**
JMM	**Marumori**	**0.89**	**320**	*i* P		**Pg**	**15 53 52.7**	**0.0**
JMM				S		**Sg**	**15 54 04.0**	**-0.2**
JHO	**Hitachi**	**0.95**	**233**	*i* P		**Pb**	**15 53 53.1**	**-1.2**
JHO				S		**Sg**	**15 54 04.9**	**-1.4**
JIO	**Ouri**	**1.27**	**354**	*i* P		**Pn**	**15 53 58.8**	**-0.9**
JIO				*e*S		**Sb**	**15 54 14.7**	**-1.6**
JSB	**Shiboa**	**1.29**	**261**	P		**Pn**	**15 53 59.7**	**-0.3**
JSB				*e*S		**Sb**	**15 54 16.4**	**-0.6**
JOU	**Okura**	**1.36**	**330**	*i* P		**Pn**	**15 54 00.9**	**0.0**
JOU				S		**Sn**	**15 54 17.8**	**-1.2**
JFY	**Yanaizu**	**1.46**	**279**	*i* P		**Pn**	**15 54 02.0**	**-0.3**
JFY				S		**Sn**	**15 54 20.5**	**-1.1**
JSD	**Sado**	**2.72**	**289**	P		**Pn**	**15 54 22.4**	**+2.8**
MJAR	**Matsushiro Arr**	**2.73**	**257**	Pn		**Pn**	**15 54 20.5**	**+0.8**
	0.6nm,0.3s,baz=91,slow=16,SNR=24							
MJAR				Sn		**Sb**	**15 54 57.1**	**-1.2**
	1.1nm,0.3s,baz=80,slow=16,SNR=8.5							
	5.2nm,0.3s							
MAJO	**Matsushiro**	**2.73**	**257**	P		**Pn**	**15 54 21.3**	**+1.6**
JTM	**Tenmabayashi**	**3.61**	**355**	P		**Pn**	**15 54 33.2**	**+1.4**
JGF	**Kuroka**	**3.71**	**246**	P		**Pn**	**15 54 35.1**	**+1.9**
INU	**Inuyama**	**4.07**	**245**	P		**Pn**	**15 54 40.9**	**+2.7**
ERM	**Erimo**	**4.99**	**14**	P		**Pn**	**15 54 51.8**	**+1.1**
JEM	**Erimo**	**4.99**	**14**	P		**Pn**	**15 54 52.6**	**+1.9**
KSRS	**Korea Array**	**10.83**	**276**	LR		LR	15 59 46.7	
	comp=Z,29nm,19.8s,baz=70,slow=34							
SONM	**Songino Array**	**27.77**	**304**	P		**P**	**15 59 26.7**	**+1.9**
	0.4nm,0.5s,baz=104,slow=9.0,SNR=3.0							
	0.4nm,0.5s							
H11N2	**WAKE ISLAND Hy 28.16**	**121**		T		T	16 28 54.5	
	baz=314,slow=76,SNR=150							
H11N1	**WAKE ISLAND Hy 28.16**	**121**		T		T	16 28 57.1	
	baz=314,slow=76,SNR=144							
H11N3	**WAKE ISLAND Hy 28.18**	**121**		T		T	16 28 56.5	
	baz=314,slow=76,SNR=129							
H11S1	**WAKE ISLAND Hy 28.88**	**123**		T		T	16 29 52.4	
	baz=316,slow=76,SNR=86							
H11S3	**WAKE ISLAND Hy 28.89**	**123**		T		T	16 29 52.6	
	baz=316,slow=76,SNR=68							
H11S2	**WAKE ISLAND Hy 28.89**	**123**		T		T	16 29 51.9	
	baz=316,slow=76,SNR=69							
ZALV	**Zalesovo Beam**	**41.87**	**312**	P		**P**	**16 01 27.8**	**+1.9**
	0.4nm,0.3s,baz=79,slow=7.8,SNR=1.9							
	0.4nm,0.3s							
ILAR	**Eielson Array**	**49.32**	**32**	P		**P**	**16 02 23.8**	**-1.0**
	0.7nm,0.7s,baz=271,slow=6.3,SNR=7.0							
	0.7nm,0.7s							
WRA	**Warramunga Arr**	**57.22**	**188**	P		**P**	**16 03 22.5**	**-0.9**
	0.4nm,0.8s,baz=6.0,slow=6.8,SNR=7.2							
	0.4nm,0.8s							
DLBC	**Dease Lake**	**58.45**	**38**	LR		LR	16 34 48.8	
	comp=Z,28nm,18.0s,baz=187,slow=42							
ASAR	**Alice Springs**	**60.95**	**188**	P		**P**	**16 03 48.9**	**-0.3**
	0.3nm,0.9s,baz=17,slow=4.1,SNR=2.1							
	0.3nm,0.9s							
OBN	**Obninsk**	**68.02**	**323**	LR		LR	16 35 17.8	
	comp=Z,32nm,21.8s,baz=146,slow=37							
NEW	**Newport**	**69.96**	**44**	LR		LR	16 35 00.8	
	comp=Z,32nm,18.6s,baz=264,slow=36							
NWAO	**Narrogin (SRO)**	**73.34**	**201**	LR		LR	16 39 33.2	
	comp=Z,31nm,18.8s,baz=245,slow=38							
AKASG	**Malin Array Be**	**74.23**	**322**	P		**P**	**16 05 12.7**	**-0.1**
	0.3nm,0.4s,baz=46,slow=6.3,SNR=4.7							
	0.3nm,0.4s							
H03N2	**Juan Fernandez**	**146.96**	**96**	T		T	18 57 27.5	
	baz=291,slow=76,SNR=79							
H03N3	**Juan Fernandez**	**146.97**	**96**	T		T	18 57 26.2	
	baz=291,slow=76,SNR=74							
H03N1	**Juan Fernandez**	**146.97**	**96**	T		T	18 57 27.3	
	baz=291,slow=76,SNR=75							

---

*NOU **23** 15:57:40.9,42.˝81S×173.˝15E,h0km,MLv4.1/12,South Island, New Zealand*
*WEL **23** 15:57:42.0±0.3,43.˚3S±2.˚7×17.˚3E±.˚,h5km,M3.5/36, ML3.8/16,MLv3.5/36,Error ellipse: s-maj=0.0km s-min=0.0km az=117.5*
ISC 23 15:57:42.0±0.9,42.˝69S±0.˝03×173.˝17E±0.˝04,h15km,n92, σ1§63/94,South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.30**	**199**	P		**Pg**	**15 57 49.2**	**+1.0**
GVZ				S		**Sg**	**15 57 55.5**	**+2.9**
KHZ	**Kahutara**	**0.39**	**46**	P		**Pg**	**15 57 49.9**	**+0.2**
KHZ	**Kahutara**	**0.39**	**46**	P		**Pg**	**15 57 50.0**	**+0.2**
KHZ				S		**Sg**	**15 57 56.4**	**+1.3**
AMCZ	**Amberley**	**0.62**	**218**	P		**Pg**	**15 57 55.0**	**+0.8**
LTZ	**Lake Taylor**	**0.67**	**262**	P		**Pg**	**15 57 53.8**	**-1.2**
THZ	**Tophouse**	**0.94**	**348**	P		**Pb**	**15 57 58.3**	**-1.7**
OKCZ	**Okains Bay**	**1.04**	**184**	P		**Pb**	**15 58 01.7**	**0.0**
OXZ	**Oxford**	**1.04**	**232**	P		**Pb**	**15 58 01.1**	**-0.6**
MQZ	**McQueen's Vall**	**1.09**	**200**	P		**Pb**	**15 58 01.4**	**-1.0**
BSWZ	**Blackbirch Sta**	**1.10**	**29**	P		**Pb**	**15 58 02.7**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.20**	**189**	P		**Pn**	**15 58 03.7**	**-0.5**
CMWZ	**Cape Campbell**	**1.22**	**40**	P		**Pn**	**15 58 05.5**	**+1.0**
INZ	**Inchbonnie**	**1.27**	**268**	P		**Pn**	**15 58 04.3**	**-0.9**
RACZ	**Rakaia**	**1.28**	**215**	P		**Pn**	**15 58 04.7**	**-0.7**
DSZ	**Denniston Nort**	**1.38**	**312**	P		**Pn**	**15 58 06.2**	**-0.6**
TUWZ	**Tuamarina**	**1.38**	**25**	P		**Pn**	**15 58 07.3**	**+0.6**
MHCZ	**Mount Hutt**	**1.44**	**234**	P		**Pn**	**15 58 06.6**	**-1.0**
NNZ	**Nelson**	**1.48**	**6**	P		**Pn**	**15 58 08.0**	**0.0**
WACZ	**Wakanui South**	**1.59**	**217**	P		**Pn**	**15 58 08.7**	**-0.8**
TKNZ	**Takaka Hill**	**1.66**	**355**	P		**Pn**	**15 58 10.7**	**+0.2**
TCW	**Tory Channel**	**1.69**	**30**	P		**Pn**	**15 58 11.1**	**+0.1**
SNZO	**South Karori**	**1.79**	**40**	P		**Pn**	**15 58 12.6**	**+0.3**
WVZ	**Waitaha Valley**	**1.83**	**257**	P		**Pn**	**15 58 12.6**	**-0.2**
WEL	**Wellington**	**1.84**	**41**	P		**Pn**	**15 58 13.2**	**+0.2**
RPZ	**Rata Peaks**	**1.85**	**236**	P		**Pn**	**15 58 12.6**	**-0.7**
RPZ	**Rata Peaks**	**1.85**	**236**	P		**Pn**	**15 58 12.4**	**-0.9**
PLWZ	**Palliser**	**1.91**	**55**	P		**Pn**	**15 58 13.6**	**-0.4**
QRZ	**Quartz Range**	**1.92**	**345**	P		**Pn**	**15 58 14.8**	**+0.7**
QRZ	**Quartz Range**	**1.92**	**345**	P		**Pn**	**15 58 14.5**	**+0.3**
ARCZ	**Arundel**	**1.92**	**228**	P		**Pn**	**15 58 13.3**	**-0.9**
DUWZ	**D'Urville Isla**	**1.97**	**17**	P		**Pn**	**15 58 15.6**	**+0.8**
MSWZ	**Moikau Station**	**2.00**	**51**	P		**Pn**	**15 58 14.9**	**-0.4**
CAW	**Cannon Point**	**2.12**	**43**	P		**Pn**	**15 58 16.7**	**-0.2**
PAWZ	**Paruwai Farm**	**2.13**	**53**	P		**Pn**	**15 58 16.5**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.18**	**252**	P		**Pn**	**15 58 17.5**	**-0.1**
KIW	**Kapiti Island**	**2.24**	**36**	P		**Pn**	**15 58 18.9**	**+0.4**
TRWZ	**Traveller**	**2.28**	**56**	P		**Pn**	**15 58 18.5**	**-0.5**
TMZ	**Timaru**	**2.31**	**222**	P		**Pn**	**15 58 18.7**	**-0.8**
MTW	**Mount Morrison**	**2.32**	**50**	P		**Pn**	**15 58 18.9**	**-0.7**
OGWZ	**Otaki Gorge**	**2.40**	**39**	P		**Pn**	**15 58 20.4**	**-0.2**
HOWZ	**Holdsworth Sta**	**2.51**	**45**	P		**Pn**	**15 58 21.4**	**-0.8**
TMWZ	**Te Maipa**	**2.57**	**53**	P		**Pn**	**15 58 22.2**	**-1.0**
FOZ	**Fox Glacier**	**2.59**	**250**	P		**Pn**	**15 58 23.4**	**0.0**
MRZ	**Mangatainoka R**	**2.71**	**43**	P		**Pn**	**15 58 24.3**	**-0.7**
LBZ	**Lake Benmore**	**2.75**	**231**	P		**Pn**	**15 58 25.0**	**-0.6**
ODZ	**Otahua Downs**	**2.98**	**217**	P		**Pn**	**15 58 27.9**	**-0.8**
ODZ	**Otahua Downs**	**2.98**	**217**	P		**Pn**	**15 58 27.7**	**-1.0**
PRWZ	**Pori Road**	**2.99**	**46**	P		**Pn**	**15 58 29.2**	**+0.3**
BFZ	**Birch Farm**	**3.06**	**50**	P		**Pn**	**15 58 28.5**	**-1.2**
WAZ	**Wanganui**	**3.23**	**26**	P		**Pn**	**15 58 34.7**	**+2.5**
NMEZ	**Namu Road**	**3.31**	**10**	P		**Pb**	**15 58 38.8**	**-1.6**
KHEZ	**Kahui Hut**	**3.45**	**11**	P		**Pn**	**15 58 38.6**	**+3.4**
KHEZ	**Kahui Hut**	**3.45**	**11**	P		**Pn**	**15 58 38.0**	**+2.8**
NBEZ	**Newall Road No**	**3.46**	**9**	P		**Pn**	**15 58 38.5**	**+3.2**
JCZ	**Jackson Bay**	**3.48**	**245**	P		**Pn**	**15 58 35.0**	**-0.7**
JCZ	**Jackson Bay**	**3.48**	**245**	P		**Pn**	**15 58 35.0**	**-0.7**
NEZ	**North Egmont**	**3.48**	**12**	P		**Pn**	**15 58 39.3**	**+3.6**
PKE	**Pukeiti**	**3.54**	**10**	P		**Pn**	**15 58 39.3**	**+2.8**
DREZ	**Durham Road**	**3.58**	**13**	P		**Pn**	**15 58 40.0**	**+3.0**
WKZ	**Wanaka**	**3.69**	**233**	P		**Pn**	**15 58 37.1**	**-1.3**
HHSZ	**Highcliff Hill**	**3.69**	**209**	P		**Pn**	**15 58 37.6**	**-0.9**
MHEZ	**Mangahewa**	**3.71**	**14**	P		**Pb**	**15 58 43.5**	**-3.7**
VRZ	**Vera Road**	**3.76**	**19**	P		**Pn**	**15 58 41.0**	**+1.7**
EAZ	**Earnscleugh**	**3.77**	**226**	P		**Pn**	**15 58 38.4**	**-1.2**
PKVZ	**Pokaka**	**3.77**	**27**	P		**Pn**	**15 58 41.2**	**+1.5**
WNVZ	**Wahianoa**	**3.83**	**30**	P		**Pn**	**15 58 41.6**	**+1.1**
FWVZ	**Far West T-bar**	**3.88**	**29**	P		**Pn**	**15 58 47.6**	**-2.5**
TWVZ	**Taurewa**	**4.00**	**26**	P		**Pb**	**15 58 48.6**	**-3.7**
TUZ	**Tuapeka**	**4.14**	**217**	P		**Pn**	**15 58 43.9**	**-0.7**
HIZ	**Hauiti**	**4.36**	**18**	P		**Pn**	**15 58 49.7**	**+2.0**
HIZ	**Hauiti**	**4.36**	**18**	P		**Pn**	**15 58 49.0**	**+1.3**
MLZ	**Mavora Lakes**	**4.52**	**232**	P		**Pn**	**15 58 48.4**	**-1.5**
TLZ	**Tolley Road**	**4.71**	**23**	P		**Pn**	**15 58 53.2**	**+0.7**
SYZ	**Scrubby Hill**	**4.80**	**215**	P		**Pn**	**15 58 53.0**	**-0.7**
SYZ	**Scrubby Hill**	**4.80**	**215**	P		**Pn**	**15 58 53.0**	**-0.7**
WHZ	**Wether Hill Ro**	**4.93**	**228**	P		**Pn**	**15 58 54.2**	**-1.3**
TOZ	**Tahuroa Road**	**5.26**	**21**	P		**Pn**	**15 59 00.3**	**+0.3**
URZ	**Urewera**	**5.35**	**36**	P		**Pn**	**15 59 04.8**	**+3.6**
	17nm,1.7s							
URZ	**Urewera**	**5.35**	**36**	P		**Pn**	**15 59 00.5**	**-0.8**
MWZ	**Matawai**	**5.47**	**39**	P		**Pn**	**15 59 00.8**	**-2.2**
APZ	**The Paps**	**5.55**	**220**	P		**Pn**	**15 59 02.5**	**-1.4**
AWAZ	**Awhitu Peninsu**	**5.73**	**12**	P		**Pn**	**15 59 07.7**	**+1.2**
MKAZ	**Moumakai**	**5.78**	**16**	P		**Pn**	**15 59 07.8**	**+0.6**
WTAZ	**Waiatarua**	**5.85**	**11**	P		**Pn**	**15 59 12.1**	**+3.9**
ETAZ	**East Tamaki Re**	**5.88**	**14**	P		**Pn**	**15 59 09.8**	**+1.2**
MBAZ	**Motutapu North**	**6.06**	**13**	P		**Pn**	**15 59 13.8**	**+2.8**
WIAZ	**Waiheke Island**	**6.08**	**15**	P		**Pn**	**15 59 12.6**	**+1.3**
ABAZ	**Army Bay**	**6.21**	**12**	P		**Pn**	**15 59 14.3**	**+1.2**
KUZ	**Kuaotunu**	**6.25**	**19**	P		**Pn**	**15 59 15.6**	**+2.0**
KUZ	**Kuaotunu**	**6.25**	**19**	P		**Pn**	**15 59 13.7**	**0.0**
OUZ	**Omahuta**	**7.46**	**3**	P		**Pn**	**15 59 34.2**	**+3.9**
OUZ	**Omahuta**	**7.46**	**3**	P		**Pn**	**15 59 34.1**	**+3.8**

---

*AEIC **23** 16:08:42.8±2.7,51.˝7N±0.˝1×179.˝90W±0.˝08,h92km±3km, Error ellipse: s-maj=14.9km s-min=7.1km az=169.0*
*NEIC **23** 16:08:43.1±2.6,51.˝7N±0.˝1×179.˝95W±0.˝09,h94km±6km, mb5.2/282,ML4.9(AEIC),Error ellipse: s-maj=15.4km s-min=7.6km az=171.0*
*MOS **23** 16:08:43.6±1.1,51.˝93N×179.˝94W,h108km,mb5.1/31, Error ellipse: s-maj=10.1km s-min=6.4km az=142.3*
*IDC **23** 16:08:43.5±0.5,51.˝85N×179.˝93W,h92km±4km,mb4.1/25, mbtmp4.4/27,MS3.2/13,Error ellipse: s-maj=14.9km s-min=8.9km az=167.0*
ISC 23 16:08:43.4±0.5,51.˝67N±0.˝08×179.˝91W±0.˝04,h99km±3km, h99km:pP-P,n844,σ1§01/866,mb5.1/196,5C-3D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AMKA	**Amchitka**	**0.57**	**240**	Pn		**Pn**	**16 08 58.6**	**-0.9**
AMKA				Sn		**Sn**	**16 09 09.7**	**-1.9**
KIWB	**Kanaga Island**	**1.73**	**83**			**Pn**	**16 09 11.8**	**-0.5**
ADK	**Adak**	**2.02**	**83**			**Pn**	**16 09 15.5**	**-0.5**
ADK	**Adak**	**2.02**	**83**	P		**Pn**	**16 09 15.6**	**-0.5**
ADK	**Adak**	**2.02**	**83**	P		**Pn**	**16 09 15.5**	**-0.5**
SHEM	**Shemya Is, Ala**	**3.83**	**288**	P		**Pn**	**16 09 39.5**	**-0.6**
	182nm,0.4s,baz=58,slow=5.4,SNR=21							
SHEM				LR		LR	16 10 56.1	
	comp=Z,116nm,18.2s,baz=286,slow=35							
SMY	**Shemya**	**3.83**	**288**	Pn		**Pn**	**16 09 39.4**	**-0.8**
SMY	**Shemya**	**3.83**	**288**	P		**Pn**	**16 09 39.4**	**-0.8**
NIKH	**Nikolski High**	**6.91**	**75**	Pn		**Pn**	**16 10 22.1**	**+0.3**
NIKH	**Nikolski High**	**6.91**	**75**	P		**Pn**	**16 10 21.2**	**-0.6**
	baz=264,SNR=9.8							
NIKH	**Nikolski High**	**6.91**	**75**	P		**Pn**	**16 10 22.5**	**+0.7**
SPIA	**Saint Paul Isl**	**7.89**	**42**	Pn		**Pn**	**16 10 36.4**	**+1.3**
SPIA	**Saint Paul Isl**	**7.89**	**42**	P		**Pn**	**16 10 34.7**	**-0.4**
	baz=230,SNR=12							
SPIA	**Saint Paul Isl**	**7.89**	**42**	P		**Pn**	**16 10 37.3**	**+2.2**
UNV	**Unalaska Valle**	**8.42**	**70**	Pn		**Pn**	**16 10 43.0**	**+0.6**
UNV	**Unalaska Valle**	**8.42**	**70**	P		**Pn**	**16 10 42.5**	**0.0**
	baz=260,SNR=14							
UNV	**Unalaska Valle**	**8.42**	**70**	P		**Pn**	**16 10 43.3**	**+0.9**
AKUT	**Akutan**	**8.90**	**68**	Pn		**Pn**	**16 10 49.5**	**+0.6**
FALS	**False Pass**	**10.38**	**66**			**Pn**	**16 11 09.7**	**+0.6**
FALS	**False Pass**	**10.38**	**66**	P		**Pn**	**16 11 09.1**	**0.0**
	baz=259,SNR=5.2							
S12K	**Black Hills**	**11.32**	**62**	P		**Pn**	**16 11 21.7**	**-0.1**
	baz=256							
SDPT	**Sand Point**	**12.14**	**65**	Pn		**Pn**	**16 11 30.9**	**-1.7**
SDPT	**Sand Point**	**12.14**	**65**	P		**Pn**	**16 11 31.6**	**-1.0**
	baz=260							
CNBA	**Chernabura Isl**	**12.57**	**67**	Pn		**Pn**	**16 11 35.1**	**-3.2**
CHNA	**Chernabura Isl**	**12.57**	**67**	P		**Pn**	**16 11 36.3**	**-2.0**
	baz=264							
GAMB	**Gambell**	**12.89**	**17**	Pn		**Pn**	**16 11 43.5**	**+1.0**
GAMB	**Gambell**	**12.89**	**17**	P		**Pn**	**16 11 41.9**	**-0.7**
	baz=203							
CHGN	**Chignik**	**13.45**	**61**	Pn		**Pn**	**16 11 48.3**	**-1.6**
CHGN	**Chignik**	**13.45**	**61**	P		**Pn**	**16 11 49.5**	**-0.4**
	baz=259							
PEA0B	**Petropavlovsk-**	**13.74**	**285**	Pn		**Pn**	**16 11 54.8**	**+1.0**
PEA0B	**Petropavlovsk-**	**13.74**	**285**	P		**Pn**	**16 11 54.8**	**+1.0**
PETK	**Petropavlovsk-**	**13.74**	**285**	P		**Pn**	**16 11 54.1**	**+0.4**
	3.8nm,0.8s,baz=327,slow=11,SNR=1.9							
P16K	**Nushagak River**	**14.44**	**51**	P		**Pn**	**16 12 03.2**	**+0.6**
	baz=249							
O16K	**Kokwok River B**	**14.60**	**49**	P		**Pn**	**16 12 04.7**	**0.0**
	baz=247,SNR=8.0							
N16K	**Nishlik Lake**	**14.68**	**45**	P		**Pn**	**16 12 06.1**	**+0.4**
	baz=242,SNR=7.6							
R17K	**Ugashik Creek**	**14.83**	**57**	P		**Pn**	**16 12 07.7**	**+0.1**
	baz=256							
CHIR	**Chirikof Islan**	**14.93**	**64**	Pn		**Pn**	**16 12 05.1**	**-3.8**
Q16K	**King Salmon**	**14.97**	**53**	P		**Pn**	**16 12 09.8**	**+0.3**
	baz=252							
ANM	**Nome**	**14.98**	**25**	P		**P**	**16 12 12.7**	**+0.1**
ANM	**Nome**	**14.98**	**25**	P		**P**	**16 12 12.7**	**+0.1**
O17K	**Koliganek Bris**	**15.14**	**49**	P		**Pn**	**16 12 12.1**	**+0.5**
	baz=248,SNR=13							
Q17K	**Contact Creek**	**15.24**	**55**	P		**Pn**	**16 12 13.6**	**+0.5**
	baz=255							
P17K	**Kvichak River**	**15.24**	**51**	P		**Pn**	**16 12 12.6**	**-0.3**
	baz=251,SNR=6.4							
Q18K	**Katmai Hardscr**	**15.79**	**54**	P		**Pn**	**16 12 20.5**	**+0.6**
	baz=254,SNR=6.8							
SII	**Sitkinak Islan**	**15.81**	**62**	Pn		**Pn**	**16 12 17.6**	**-2.4**
SII	**Sitkinak Islan**	**15.81**	**62**	P		**Pn**	**16 12 19.6**	**-0.5**
	baz=263							
SII	**Sitkinak Islan**	**15.81**	**62**	P		**Pn**	**16 12 18.3**	**-1.8**
P18K	**Big Mountain,**	**15.90**	**51**	Pn		**Pn**	**16 12 19.1**	**-2.0**
P18K	**Big Mountain,**	**15.90**	**51**	P		**Pn**	**16 12 21.0**	**-0.1**
	baz=252							
N18K	**Kilae Creek**	**16.05**	**46**			**P**	**16 12 24.7**	**+0.2**
N18K	**Kilae Creek**	**16.05**	**46**	P		**Pn**	**16 12 22.8**	**-0.2**
	baz=246							
O18K	**Koktuh Hills**	**16.06**	**50**			**P**	**16 12 24.3**	**-0.3**
O18K	**Koktuh Hills**	**16.06**	**50**	P		**Pn**	**16 12 23.3**	**+0.1**
	baz=250,SNR=15							
OHAK	**Old Harbor**	**16.39**	**60**	Pn		**Pn**	**16 12 23.8**	**-3.4**
OHAK	**Old Harbor**	**16.39**	**60**	P		**Pn**	**16 12 25.6**	**-1.6**
	baz=262,SNR=11							
Q19K	**Cape Douglas,**	**16.55**	**54**			**P**	**16 12 30.0**	**0.0**
Q19K	**Cape Douglas,**	**16.55**	**54**	P		**Pn**	**16 12 29.3**	**+0.1**
	baz=255							
O19K	**Port Alsworth**	**16.59**	**49**	P		**Pn**	**16 12 29.9**	**+0.2**
	baz=250,SNR=7.2							
N19K	**Bonanza Creek**	**16.74**	**47**			**P**	**16 12 32.8**	**+0.6**
N19K	**Bonanza Creek**	**16.74**	**47**	P		**Pn**	**16 12 31.1**	**-0.4**
	baz=248,SNR=7.2							
P19K	**Oil Pt**	**16.95**	**51**			**P**	**16 12 34.7**	**+0.2**
P19K	**Oil Pt**	**16.95**	**51**	P		**P**	**16 12 34.4**	**-0.1**
	baz=254							
TTA	**Tatalina**	**17.02**	**39**			**Pn**	**16 12 34.7**	**-0.3**
TTA	**Tatalina**	**17.02**	**39**	P		**P**	**16 12 35.6**	**+0.3**
	baz=240,SNR=15							
TTA	**Tatalina**	**17.02**	**39**	P		**Pn**	**16 12 34.7**	**-0.3**
ILSW	**Iliamna Southw**	**17.09**	**50**			**P**	**16 12 36.3**	**+0.3**
L19K	**White Mountain**	**17.14**	**42**			**P**	**16 12 37.9**	**+1.4**
L19K	**White Mountain**	**17.14**	**42**	P		**Pn**	**16 12 36.1**	**-0.2**
	baz=244							
M19K	**Big River Lodg**	**17.21**	**44**			**Pn**	**16 12 36.8**	**-0.5**
M19K	**Big River Lodg**	**17.21**	**44**	P		**Pn**	**16 12 37.0**	**-0.2**
	baz=245							
O20K	**Slope Mountain**	**17.36**	**50**	P		**Pn**	**16 12 40.0**	**+0.8**
	baz=253							
RSO	**Redoubt South**	**17.42**	**49**	P		**Pn**	**16 12 41.8**	**+1.8**
L20K	**Farewell, AK**	**17.68**	**42**	P		**Pn**	**16 12 42.9**	**0.0**
	baz=244							
GCSA	**Galena City Sc**	**17.71**	**33**	P		**Pn**	**16 12 44.7**	**+1.4**
	baz=233,SNR=13							
M20K	**Styx River**	**17.75**	**44**	P		**Pn**	**16 12 44.9**	**+1.0**
M20K	**Styx River**	**17.75**	**44**	P		**Pn**	**16 12 44.2**	**+0.3**
	baz=247							
BILL	**Bilibino**	**17.75**	**343**	P		**Pn**	**16 12 43.7**	**0.0**
BILL	**Bilibino**	**17.75**	**343**	⇓*i*P		**Pn**	**16 12 45.6**	**+1.9**
BILL					pmax	pmax		
	comp=Z,17nm,1.0s							
BILL					MLR	MLR		
	comp=Z,31nm,12.0s							
CNPM	**China Poot**	**17.89**	**53**	P		**P**	**16 12 44.2**	**-0.6**
N20K	**Mount Spurr**	**17.91**	**47**	P		**Pn**	**16 12 46.3**	**+0.5**
	baz=250,SNR=19							
SPCR	**Spurr Chakacha**	**17.91**	**47**	P		**Pn**	**16 12 45.8**	**0.0**
	baz=250,SNR=14							
SPU	**Mount Spurr**	**17.98**	**47**	P		**Pn**	**16 12 46.5**	**0.0**
K20K	**Telida**	**18.00**	**39**	P		**Pn**	**16 12 47.0**	**+0.2**
K20K	**Telida**	**18.00**	**39**	P		**Pn**	**16 12 46.7**	**0.0**
	baz=241							
BRLK	**Bradley Lake**	**18.12**	**52**	P		**P**	**16 12 45.6**	**-1.8**
BRSE	**Bradley Lake S**	**18.19**	**52**	P		**Pn**	**16 12 48.7**	**-0.4**
	baz=256							
J20K	**Nowinta River**	**18.38

baz=246
COLA College 21.12 39 c i P P 16 13 21.1 +1.4
COLA pmax pmax
comp=Z,17nm,0.8s
G23K Bananza Creek 21.16 33 P P 16 13 20.4 +0.1
baz=239
RAGM Ragged Mountai 21.30 52 P P 16 13 20.9 -0.8
HDA Harding Lake 21.30 41 P P 16 13 19.6 -2.0
HDA Harding Lake 21.30 41 P P 16 13 21.7 0.0
baz=249,SNR=13
COLD Coldfoot 21.37 32 P P 16 13 22.5 0.0
COLD Coldfoot 21.37 32 P P 16 13 22.4 0.0
baz=238,SNR=11
POKR Poker Plat Res 21.38 39 P P 16 13 21.5 -1.0
POKR Poker Plat Res 21.38 39 P P 16 13 22.8 +0.2
baz=246,SNR=30
BMRM Bremner River 21.43 51 P P 16 13 22.2 -0.9
IL31 21.46 40 P P 16 13 20.8 -2.5
ILAR Eielson Array 21.46 40 P P 16 13 21.1 -2.3
comp=Z,5.9nm,0.5s,baz=238,slow=9.2,SNR=41
ILAR ScP ScP 16 20 48.4 -1.6
comp=Z,1.7nm,0.6s,baz=281,slow=3.5,SNR=24
comp=Z,5.9nm,0.5s
ILAR Eielson Array 21.46 40 P P 16 13 22.0 -1.4
ILAR Eielson Array 21.46 40 P P 16 13 22.0 -1.4
HARP HAARP 21.46 47 P P 16 13 23.4 0.0
baz=256
PAX Paxson 21.47 45 P P 16 13 23.2 -0.4
PAX Paxson 21.47 45 P P 16 13 23.2 -0.4
baz=254,SNR=17
PAX Paxson 21.47 45 P P 16 13 23.2 -0.4
HMT Hamilton 21.50 52 P P 16 13 24.4 +0.6
H24K Noodor Dome 21.51 37 P P 16 13 24.2 +0.2
H24K Noodor Dome 21.51 37 P P 16 13 23.6 -0.4
baz=244
N25K Chitina, Valde 21.55 49 P P 16 13 23.5 -0.9
N25K Chitina, Valde 21.55 49 P P 16 13 23.8 -0.6
baz=259
K24K Donnelly Dome 21.58 43 P P 16 13 23.8 -0.9
baz=252
SUCK Suckling Hills 21.70 53 P P 16 13 27.0 +1.0
BERG Berg Lake 21.78 52 P P 16 13 27.0 +0.2
GLB Gilahina Butte 21.89 49 P P 16 13 27.2 -0.8
RIDG Independent Ri 21.96 43 P P 16 13 27.4 -1.3
E23K Chandalar 22.01 30 P P 16 13 29.2 -0.1
baz=237
J25K Salcha River, 22.01 41 P P 16 13 26.9 -2.4
VRDI Verde Repeater 22.02 50 P P 16 13 28.1 -1.5
G24K Hadweenzic Riv 22.04 35 P P 16 13 28.7 -0.9
baz=243
WAX Waxell Ridge 22.20 52 P P 16 13 30.8 -0.5
D23K Nanushuk River 22.21 28 P P 16 13 30.7 -0.5
baz=234,SNR=32
MENT Mentasta 22.24 46 P P 16 13 29.7 -1.9
MCARA McCarthy VSAT 22.25 50 P P 16 13 30.2 -1.5
MCARA McCarthy VSAT 22.25 50 P P 16 13 30.2 -1.5
baz=261
DOT Dot Lake 22.27 44 P P 16 13 31.1 -0.9
PRP Porcupine Dome 22.27 38 P P 16 13 30.0 -2.2
PRP Porcupine Dome 22.27 38 P P 16 13 30.9 -1.2
baz=248,SNR=22
F24K Squaw Lake 22.29 33 P P 16 13 31.4 -0.8
baz=240
A21K Barrow 22.34 20 P P 16 13 33.0 +0.4
TOLK Toolik Lake Re 22.35 29 P P 16 13 33.1 +0.3
TOLK Toolik Lake Re 22.35 29 P P 16 13 32.2 -0.6
baz=236,SNR=16
E24K Your Creek 22.38 31 P P 16 13 33.0 -0.1
baz=238
SCRK Sand Creek 22.39 43 P P 16 13 31.7 -1.6
SCRK Sand Creek 22.39 43 P P 16 13 32.0 -1.3
baz=254,SNR=36
L26K Log Cabin Wild 22.42 45 P P 16 13 33.7 +0.1
L26K Log Cabin Wild 22.42 45 P P 16 13 32.7 -0.9
baz=257,SNR=16
M26K Nabesna, AK 22.45 47 P P 16 13 33.1 -0.7
M26K Nabesna, AK 22.45 47 P P 16 13 32.4 -1.5
baz=258
H25L Birch Creek 22.46 36 P P 16 13 33.0 -0.8
baz=246
ISLE Juniper Island 22.47 52 P P 16 13 33.1 -1.1
G25K Bearman Lake 22.56 35 P P 16 13 34.8 -0.1
baz=245
MESA MESA 22.62 53 P P 16 13 35.5 -0.3
J26L Joseph Creek 22.72 42 P P 16 13 34.4 -2.3
J26L Joseph Creek 22.72 42 P P 16 13 34.9 -1.7
baz=253
YAH Yahtse 22.74 53 P P 16 13 36.7 -0.3
C23K Itkillik River 22.76 26 P P 16 13 35.9 -1.0
baz=232,SNR=19
FYU Fort Yukon 22.79 36 P P 16 13 36.8 -0.5
BARN Barnard Glacie 22.86 51 P P 16 13 36.9 -1.3
M27K Edge Creek, AK 22.95 47 P P 16 13 38.6 -0.4
M27K Edge Creek, AK 22.95 47 P P 16 13 37.6 -1.4
baz=260
TABL Table Mountain 23.05 52 P P 16 13 39.7 -0.3
F25K Christian Rive 23.09 33 P P 16 13 39.4 -0.8
baz=243
L27K Beaver Creek, 23.11 46 P P 16 13 39.8 -0.6
L27K Beaver Creek, 23.11 46 P P 16 13 40.3 -0.1
baz=258
BCAR Beaver Creek A 23.13 46 P P 16 13 40.2 -0.4
I26K Coal Creek Min 23.13 40 P P 16 13 38.2 -2.3
I26K Coal Creek Min 23.13 40 P P 16 13 38.5 -2.1
baz=252
C24K Franklin Bluff 23.22 27 P P 16 13 41.3 0.0
baz=235
E25K Arctic Village 23.35 32 P P 16 13 41.9 -0.7
baz=242,SNR=47
BMAR Burnt Mountain 23.38 34 P P 16 13 43.5 +0.6
BVCY Beaver Creek 23.43 48 P P 16 13 42.6 -0.7
baz=261,SNR=21
PCA Pinnacle 23.46 53 P P 16 13 42.5 -1.3
PINM Pinnacle 23.46 53 P P 16 13 42.6 -1.2
baz=267
G26K Porcupine Rive 23.47 36 P P 16 13 43.1 -0.5
baz=247
YUK3 Moose Creek 23.52 49 P P 16 13 43.8 -0.6
baz=263,SNR=27
O28M Mount Upton 23.54 52 P P 16 13 43.8 -0.9
baz=265
F26K Sheenjek River 23.65 34 P P 16 13 44.6 -0.7
baz=245
D25K Kavik River 23.69 29 P P 16 13 45.5 -0.1
baz=239
BCPM Bancas Point 23.77 54 P P 16 13 45.4 -1.0
EGAK Eagle 23.79 42 P P 16 13 46.7 +0.1
EGAK Eagle 23.79 42 P P 16 13 46.5 -0.1
baz=255,SNR=24
YUK8 Steele Glacier 23.80 51 P P 16 13 46.8 -0.2
baz=264,SNR=7.2
I27K Kandik River 23.84 40 P P 16 13 46.5 -0.6
baz=253
PNL Peninsula 23.88 55 P P 16 13 46.8 -0.6
baz=268
PNL Peninsula 23.88 55 P P 16 13 46.5 -0.9
H27K Steamboat Moun 24.06 38 P P 16 13 47.9 -1.1
baz=252
G27K Doyon Strip 24.20 37 P P 16 13 49.9 -0.4
baz=250
O29M Mount Kennedy 24.31 53 P P 16 13 50.4 -1.0
baz=268
YUK4 Talbot Arm 24.34 50 P P 16 13 51.5 -0.2
baz=265,SNR=11
DAWY Dawson 24.38 44 P P 16 13 51.2 -0.7
DAWY Dawson 24.38 44 P P 16 13 52.0 +0.1
baz=259,SNR=21
C26K Camden Bay 24.43 29 P P 16 13 52.7 +0.5
baz=240
YUK6 Outpost Mounta 24.45 51 P P 16 13 52.0 -0.8
baz=267
M29M Somme Creek 24.53 48 P P 16 13 52.6 -0.8
baz=263,SNR=14
C27K Jago River 24.66 30 P P 16 13 54.2 -0.1
baz=242,SNR=27
P29M Windy Craggy 24.72 55 P P 16 13 54.2 -0.9
P29M Windy Craggy 24.72 55 P P 16 13 55.3 +0.3
baz=270
E27K Colleen River 24.73 34 P P 16 13 54.8 -0.2
baz=247
L29M L29M 24.77 46 P P 16 13 55.4 -0.1
baz=262,SNR=11
HYT Haines Junctio 24.86 52 P P 16 13 55.6 -0.8
HYT Haines Junctio 24.86 52 P P 16 13 55.6 -0.8
baz=268
N30M Aishikik Lake 25.09 50 P P 16 13 57.0 -1.5
baz=267,SNR=5.5
I29M Ogilvie Camp, 25.11 41 P P 16 13 57.6 -0.9
I29M Ogilvie Camp, 25.11 41 P P 16 13 57.7 -0.8
baz=257,SNR=14
K29M Barlow Dome 25.15 45 P P 16 13 58.3 -0.7
baz=261,SNR=13
M30M Minto, Yukon 25.32 48 P P 16 14 00.0 -0.4
M30M Minto, Yukon 25.32 48 P P 16 14 00.0 -0.4
baz=264,SNR=10
N31M Braeburn, Yuko 25.72 50 P P 16 14 04.5 +0.4
SKAG Skagway 25.95 55 P P 16 14 05.9 -0.2
EPYK Eagle Plains 25.97 39 P P 16 14 05.7 -0.7
EPYK Eagle Plains 25.97 39 P P 16 14 05.9 -0.4
baz=257,SNR=6.3
JKA Kamikawa-asahi 26.01 268 P P 16 14 06.5 -0.4
JKA IAmb IAmb 16 14 38.9
comp=Z,115nm,1.7s
ASAJ Asahikawa 26.02 268 LR LR 16 23 49.0
comp=Z,30nm,21.2s,baz=99,slow=35
ASAJ Asahikawa 26.02 268 P P 16 14 06.5 -0.4
ASAJ pmax pmax
comp=Z,115nm,1.7s
WHY Whitehorse 26.15 52 P P 16 14 08.0 0.0
M31M Drury Creek, Y 26.41 49 P P 16 14 10.5 +0.2
baz=268
ERM Erimo 26.78 264 ⇑ e P P 16 14 13.6 -0.2
ERM pmax pmax
comp=Z,36nm,1.0s
FARO Faro, Yukon 26.90 49 P P 16 14 14.9 +0.2
FARO Faro, Yukon 26.90 49 P P 16 14 14.4 -0.3
baz=268
P33M Teslin, Yukon 27.18 53 P P 16 14 17.5 +0.2
P33M Teslin, Yukon 27.18 53 P P 16 14 17.1 -0.2
baz=273
F31M Tsiigehtchic 27.35 37 P P 16 14 18.2 -0.4
baz=258
INK Inuvik 27.62 35 P P 16 14 20.4 -0.6
comp=Z,3.9nm,0.3s,baz=257,slow=7.2,SNR=25
INK ScP ScP 16 21 06.2 -0.8
comp=Z,1.4nm,0.8s,baz=356,slow=4.4,SNR=4.5
comp=Z,3.9nm,0.3s
INK Inuvik 27.62 35 P P 16 14 21.2 +0.2
INK Inuvik 27.62 35 P P 16 14 20.8 -0.2
baz=256,SNR=6.9
INK Inuvik 27.62 35 P P 16 14 21.2 +0.2
INK pmax pmax
comp=Z,26nm,1.6s
MMPY Sheldon Lake, 27.88 48 P P 16 14 24.1 +0.7
baz=270
R33M Jennings River 28.18 55 P P 16 14 26.3 +0.1
baz=276
YAK Yakutsk 28.70 311 ⇑ e P P 16 14 30.2 -0.5
YAK pmax pmax
comp=Z,5.0nm,1.4s
DLBC Dease Lake 28.78 57 P P 16 14 30.5 -1.0
comp=Z,1.4nm,0.5s,baz=326,slow=12,SNR=4.6
DLBC LR LR 16 25 20.7
comp=Z,88nm,19.8s,baz=159,slow=35
comp=Z,1.4nm,0.5s
DLBC Dease Lake 28.78 57 P P 16 14 29.3 -2.3
TGTN Hyland Airport 29.32 50 P P 16 14 36.5 +0.3
baz=274
KLR Kul'dur 30.43 285 LR LR 16 26 53.2
comp=Z,29nm,21.0s,baz=62,slow=36
KLR Kul'dur 30.43 285 ⇓ e P P 16 14 46.4 +0.3
KLR pmax pmax
comp=Z,2.0nm,0.9s
A36M Sachs Harbour 31.17 29 P P 16 14 53.0 +0.6
C36M Paulatuk 31.18 35 P P 16 14 52.0 -0.5
C36M Paulatuk 31.18 35 P P 16 14 52.6 +0.1
baz=264,SNR=6.1
KOTAN Kotaneelee Air 31.54 52 P P 16 14 55.8 +0.1
baz=280
USRK Ussuriysk Ar. 32.57 276 P P 16 15 05.5 +0.6
comp=Z,1.4nm,0.7s,baz=47,slow=12,SNR=4.2
USRK pP pP 16 15 26.3 -0.7
comp=Z,1.8nm,0.5s,baz=59,slow=10,SNR=5.7
comp=Z,1.4nm,0.7s
HEH HeiHe 32.62 289 e P P 16 15 04.8 -0.4
MJAR Matsushiro Arr 33.15 259 pP pP 16 15 31.9 -0.5
comp=Z,4.9nm,1.0s,baz=54,slow=7.4,SNR=7.0
MJAR LR LR 16 31 49.1
comp=Z,5.8nm,18.0s,baz=52,slow=42
H11N2 WAKE ISLAND Hy 33.51 203 T T 16 50 45.7
baz=18,slow=76,SNR=149
H11N3 WAKE ISLAND Hy 33.52 203 T T 16 50 41.9
baz=18,slow=76,SNR=1.5
H11N1 WAKE ISLAND Hy 33.53 203 T T 16 50 45.7
baz=18,slow=76,SNR=91
OZB Mount Ozzard 34.19 73 P P 16 15 20.3 +1.4
H11S1 WAKE ISLAND Hy 34.73 203 T T 16 52 15.5
baz=16,slow=74,SNR=256
H11S2 WAKE ISLAND Hy 34.75 203 T T 16 52 13.9
baz=16,SNR=102
H11S3 WAKE ISLAND Hy 34.75 203 T T 16 52 12.2
baz=16,slow=74,SNR=82
YKA Yellowknife Ar 35.54 47 P P 16 15 30.4 +0.1
comp=Z,5.1nm,0.5s,baz=282,slow=8.0,SNR=22
comp=Z,5.1nm,0.5s
YKA Yellowknife Ar 35.54 47 P P 16 15 30.2 -0.1
NLWA Neilton Lookou 35.86 74 P P 16 15 35.5 +2.1
BRLDA Berland Lookou 36.72 61 P P 16 15 41.9 +1.3
BRLDA IAmb IAmb 16 16 22.9
comp=Z,41nm,1.8s
F03A Seaside 36.76 76 P P 16 15 42.5 +1.6
CN2 Changchun 36.81 280 e P P 16 15 46.1 +4.7
CN2 e PP PnPn 16 17 09.8 +1.6
CN2 e S S 16 21 27.9 +10
COR Corvallis 37.60 78 P P 16 15 49.8 +1.7
COR Corvallis 37.60 78 P P 16 15 49.8 +1.7
COR pmax pmax
comp=Z,650nm,1.9s
COR Corvallis 37.60 78 P P 16 15 50.3 +2.2
KEBM Edson Butte 37.89 81 P P 16 15 53.0 +2.4
BUCK Buck Mountain 38.00 78 P P 16 15 54.1 +2.5
B08A Colville Reser 38.10 70 P P 16 15 52.3 +0.1
HOOD Mount Hood Mea 38.22 76 P P 16 15 54.8 +1.2
HOOD IAmb IAmb 16 15 56.6
comp=Z,23nm,0.8s
H04A Detroit Lake 38.23 77 P P 16 15 54.9 +1.4
DBO Dodson Butte 38.42 80 P P 16 15 57.5 +2.3
DBO IAmb IAmb 16 15 58.6
comp=Z,31nm,0.7s
G06A Carlson Farm, 38.88 75 P P 16 15 59.6 +0.7
G06A IAmb IAmb 16 17 10.8
comp=Z,54nm,1.9s
HUMO Hull Mountain 38.88 80 P P 16 16 01.4 +2.5
HUMO IAmb IAmb 16 16 11.5
comp=Z,106nm,1.9s
KSRS Korea Array 38.94 270 P P 16 16 01.3 +1.9
comp=Z,0.8nm,0.7s,baz=69,slow=7.3,SNR=1.5
KSRS pP pP 16 16 22.5 +0.5
comp=Z,2.2nm,0.6s,baz=57,slow=8.2,SNR=4.7
comp=Z,0.8nm,0.7s
HAWA Hanford 38.95 73 P P 16 15 59.8 +0.5
D08A Wollman Farm, 38.97 72 P P 16 16 00.1 +0.5
C09A Chrisman Ranch 38.99 71 P P 16 16 00.5 +0.8
C09A IAmb IAmb 16 16 02.5
comp=Z,13nm,0.8s
EDM Edmonton 39.28 61 P P 16 16 00.7 -1.4
EDM Edmonton 39.28 61 P P 16 16 00.7 -1.4
EDM pmax pmax
comp=Z,25nm,0.4s
KHMM Horse Mountain 39.39 83 P P 16 16 05.1 +1.9
KMPM Mount Pierce 39.41 84 P P 16 16 04.9 +1.5
NEW Newport 39.43 69 P P 16 16 04.0 +0.6
comp=Z,12nm,0.8s,baz=295,slow=7.0,SNR=20
comp=Z,12nm,0.8s
NEW Newport 39.43 69 P P 16 16 03.0 -0.5
NEW Newport 39.43 69 P P 16 16 03.2 -0.2
baz=299
NEW Newport 39.43 69 P P 16 16 04.0 +0.6
PINE Pine Mountain 39.47 78 P P 16 16 03.0 -0.9
PINE IAmb IAmb 16 16 07.0
comp=Z,21nm,0.8s
YBH Yreka Blue Hor 39.53 81 P P 16 16 06.3 +1.9
comp=Z,19nm,0.9s,baz=311,slow=7.6,SNR=18
comp=Z,19nm,0.9s
YBH Yreka Blue Hor 39.53 81 P P 16 16 06.6 +2.2
YBH IAmb IAmb 16 16 08.1
comp=Z,29nm,1.0s
YBH Yreka Blue Hor 39.53 81 P P 16 16 06.6 +2.2
YBH pmax pmax
comp=Z,29nm,1.0s
RES Resolute Bay 39.77 24 P P 16 16 06.3 +0.5
comp=Z,3.2nm,0.3s,baz=257,slow=7.2,SNR=32
comp=Z,3.2nm,0.3s
RES Resolute Bay 39.77 24 P P 16 16 05.9 +0.1
KMRM Mail Ridge 39.78 84 P P 16 16 08.2 +1.8
G08A Pilot Rock 39.86 74 P P 16 16 06.9 -0.2
K05A Summer Lake 40.08 79 P P 16 16 11.1 +2.0
KCPM Cahto Peak 40.18 85 P P 16 16 12.2 +2.4
KCPM IAmb IAmb 16 16 13.1
comp=Z,66nm,1.3s
I07A Izee 40.18 76 P P 16 16 11.0 +1.3
I07A IAmb IAmb 16 16 12.1
comp=Z,34nm,0.8s
EUNU Eureka 40.20 16 P P 16 16 09.3 -0.1
F10A Beach Ranch, E 40.53 72 P P 16 16 13.1 +0.5
WALA Waterton Lakes 40.90 67 P P 16 16 15.0 -0.6
WALA IAmb IAmb 16 16 17.2
comp=Z,46nm,1.8s
MOD Modoc Plateau 40.91 80 P P 16 16 17.5 +1.7
HOPS Hopland Field 40.91 85 P P 16 16 17.4 +1.8
HOPS IAmb IAmb 16 16 18.8
comp=Z,82nm,1.4s
BMO Blue Mountains 41.08 74 P P 16 16 17.7 +0.5
BMO IAmb IAmb 16 16 19.9
comp=Z,45nm,1.8s
BMO Blue Mountains 41.08 74 P P 16 16 17.7 +0.5
BMO pmax pmax
comp=Z,45nm,1.8s
J08A Circle Bar Ran 41.20 77 P P 16 16 19.2 +1.0
J08A IAmb IAmb 16 16 20.4
comp=Z,26nm,1.0s
ORV Oroville 41.55 83 P P 16 16 22.0 +1.1
ORV Oroville 41.55 83 P P 16 16 22.0 +1.1
ORV pmax pmax
comp=Z,12nm,1.0s
WVOR Wild Horse Val 41.62 78 P P 16 16 23.0 +1.4
WVOR IAmb IAmb 16 16 24.1
comp=Z,47nm,0.8s
WVOR Wild Horse Val 41.62 78 P P 16 16 23.0 +1.4
WVOR pmax pmax
comp=Z,47nm,0.8s
PLID Pearl Lake 41.74 73 P P 16 16 23.0 +0.3
MSO Missoula 42.02 70 P P 16 16 23.5 -1.2
MSO Missoula 42.02 70 P P 16 16 24.2 -0.6
baz=302
BEKR Beckworth 42.06 82 P P 16 16 26.6 +1.3
BEKR IAmb IAmb 16 16 28.0
comp=Z,39nm,1.5s
AFDM Forest Hills D 42.24 84 P P 16 16 27.6 +1.1
ALE Alert 42.46 10 P P 16 16 28.2 +0.4
ALE pP pP 16 16 52.0 +1.4
ALE sP sP 16 17 03.9 +2.0
MPK Martis Peak 42.61 83 P P 16 16 31.3 +1.4
MPK IAmb IAmb 16 17 43.3
comp=Z,32nm,0.9s
PAHR Pah Rah Range 42.76 82 P P 16 16 32.0 +1.0
PAHR IAmb IAmb 16 16 33.7
comp=Z,22nm,0.8s
MFID Camas Ranch 42.77 75 P P 16 16 31.8 +0.9
VCNR Virginia City 42.84 82 P P 16 16 33.2 +1.5
VCNR IAmb IAmb 16 16 34.6
comp=Z,64nm,1.5s
PNTR Pine Nut 43.00 82 P P 16 16 34.6 +1.6
PNTR IAmb IAmb 16 16 36.8
comp=Z,39nm,0.7s
CMB Columbia Colle 43.16 84 P P 16 16 35.2 +1.2
CMB Columbia Colle 43.16 84 P P 16 16 35.2 +1.2
CMB pmax pmax
comp=Z,9.0nm,0.8s
HRY Holter Researc 43.31 69 P P 16 16 35.2 0.0
LRM Limekiln Ridge 43.43 70 P P 16 16 36.0 -0.3
WAKR Walker 43.46 83 P P 16 16 38.0 +1.4
WAKR IAmb IAmb 16 16 39.6
comp=Z,18nm,0.9s
HLID Hailey 43.53 74 P P 16 16 36.8 -0.3
HLID Hailey 43.53 74 P P 16 16 37.1 0.0
baz=305,SNR=15
BMN Battle Mountai 43.65 79 P P 16 16 39.6 +1.5
BMN Battle Mountai 43.65 79 P P 16 16 39.6 +1.5
BMN pmax pmax
comp=Z,44nm,0.6s
MCMT McKenzie Canyo 43.75 71 P P 16 16 38.7 -0.2
EGMT Eagleton 43.80 66 P P 16 16 39.1 0.0
EGMT Eagleton 43.80 66 P P 16 16 38.8 -0.3
baz=302
RYN Ryan 43.95 82 P P 16 16 41.3 +0.8
KVN Kaiserville 43.95 81 P P 16 16 41.7 +1.2
KVN IAmb IAmb 16 16 44.0
comp=Z,48nm,1.5s
KVN Kaiserville 43.95 81 P P 16 16 41.7 +1.2
KVN pmax pmax
comp=Z,48nm,1.5s
BOZ Bozeman (W) 44.04 70 P P 16 16 41.0 -0.1
BOZ Bozeman (W) 44.04 70 P P 16 16 41.0 -0.1
baz=304,SNR=18
BOZ Bozeman (W) 44.04 70 P P 16 16 41.0 -0.1
BOZ pmax pmax
comp=Z,11nm,0.6s
PMPB Monarch Peak 44.05 87 P P 16 16 42.9 +1.7
PMPB IAmb IAmb 16 17 03.7
comp=Z,34nm,1.2s
LHV Little Huntoon 44.19 83 P P 16 16 43.6 +1.4
LHV IAmb IAmb 16 16 45.8
comp=Z,56nm,1.5s
NVAR Mina Array Bea 44.20 82 P P 16 16 44.2 +1.6
comp=Z,9.5nm,0.6s,baz=303,slow=7.1,SNR=73
NVAR PcP PP 16 18 27.1 -0.1
comp=Z,1.9nm,0.7s,baz=282,slow=3.7,SNR=3.6
NVAR ScP ScP 16 22 08.6 +0.4
comp=Z,1.5nm,0.8s,baz=286,slow=5.4,SNR=7.9
comp=Z,9.5nm,0.6s
NVAR Mina Array Bea 44.20 82 P P 16 16 44.0 +1.4
MDPB Devils Postpil 44.22 84 P P 16 16 44.9 +2.1
MDPB IAmb IAmb 16 16 45.8
comp=Z,27nm,0.9s
OMMB Old Mammoth Mi 44.28 84 P P 16 16 45.0 +1.7
NV11 Mina Array Sit 44.29 82 P P 16 16 44.4 +1.2
FFC Flin Flon 44.54 54 P P 16 16 43.8 -1.0
FFC IAmb IAmb 16 17 32.2
comp=Z,45nm,1.9s
FFC Flin Flon 44.54 54 P P 16 16 43.8 -1.0
FFC pmax pmax
comp=Z,45nm,2.0s
QLMT Earthquake Lak 44.58 71 P P 16 16 44.5 -1.0
Q09A Carvers 44.65 81 P P 16 16 47.5 +1.4
ELK Elko 44.68 78 P P 16 16 47.5 +1.1
comp=Z,29nm,0.5s,baz=308,slow=7.7,SNR=14
comp=Z,29nm,0.5s
ELK Elko 44.68 78 P P 16 16 47.6 +1.3
ELK IAmb IAmb 16 16 48.6
comp=Z,39nm,0.8s
ELK Elko 44.68 78 P P 16 16 47.6 +1.3
ELK pmax pmax
comp=Z,39nm,0.9s
YHL Hebgen Lake 44.72 70 P P 16 16 45.2 -1.5
YHB Horse Butte 44.76 71 P P 16 16 46.7 -0.3
YHB IAmb IAmb 16 16 48.0
comp=Z,16nm,0.9s
TULEG Thule 44.92 18 P P 16 16 47.0 -0.5
TULEG Thule 44.92 18 i P P 16 16 46.5 -1.0
TULEG IAmb IAmb 16 16 47.6
comp=Z,3.3nm,0.5s
YMR Madison River 44.95 70 P P 16 16 48.9 +0.5
GCMT Greycliff 45.07 68 P P 16 16 49.5 +0.2
DSP Deep Springs 45.07 83 P P 16 16 51.1 +2.0
DSP IAmb IAmb 16 16 52.4
comp=Z,17nm,0.9s
TPH Tonopah 45.09 82 P P 16 16 50.2 +0.6
TPH Tonopah 45.09 82 P P 16 16 50.2 +0.6
TPH pmax pmax
comp=Z,94nm,0.6s
TIN Tinemaha, Big 45.11 84 P P 16 16 51.1 +1.4
baz=309,SNR=6.4
SMMC Simmler 45.13 87 P P 16 16 50.1 +0.4
baz=311
YPP Pitchstone Pla 45.27 71 P P 16 16 51.1 0.0
H17A Grant Village 45.33 71 P P 16 16 52.7 +1.1
H17A Grant Village 45.33 71 P P 16 16 52.5 +0.9
baz=305,SNR=8.6
VES Vestal, Richgr 45.35 86 P P 16 16 52.8 +1.4
baz=310,SNR=8.2
LCH Last Change Ra 45.36 83 P P 16 16 52.9 +1.2
LCH IAmb IAmb 16 16 54.4
comp=Z,17nm,0.8s
IMW Indian Meadow 45.40 71 P P 16 16 52.7 +0.6
FLWY Flagg Ranch 45.44 71 P P 16 16 53.2 +0.9

FXWY Fox Creek 45.50 72 P **P** **16 16 53.1 +0.2**
PKM Mcpherson Peak 45.52 87 P **P** **16 16 55.1 +2.1**
baz=311,SNR=5.6
HVU Hansel Valley 45.55 75 P **P** **16 16 54.1 +1.0**
HVU IAmb IAmb 16 16 55.6
comp=Z,24nm,0.8s
HVU Hansel Valley 45.55 75 P **P** **16 16 54.1 +1.0**
HVU pmax pmax
comp=Z,24nm,0.8s
GMN Gold Mountain 45.55 83 P **P** **16 16 54.4 +1.1**
GMN IAmb IAmb 16 16 55.9
comp=Z,15nm,0.7s
CWC Cottonwood Cre 45.59 84 P **P** **16 16 54.7 +1.1**
baz=310
MOOW Moose Ponds 45.60 71 P **P** **16 16 53.3 -0.3**
TPAW Teton Pass 45.63 72 P **P** **16 16 54.8 +0.8**
RLMT Red Lodge 45.68 69 P **P** **16 16 54.1 -0.2**
RLMT Red Lodge 45.68 69 P **P** **16 16 54.3 +0.1**
baz=305,SNR=13
BCW Bitter Crk WRg 45.73 87 P **P** **16 16 56.2 +1.6**
BCW IAmb IAmb 16 16 57.7
comp=Z,29nm,0.8s
ISA Isabella, Lake 45.85 85 P **P** **16 16 56.0 +0.6**
ISA Isabella, Lake 45.85 85 P **P** **16 16 56.8 +1.3**
baz=310,SNR=11
ISA Isabella, Lake 45.85 85 P **P** **16 16 56.1 +0.6**
ISA pmax pmax
comp=Z,15nm,1.0s
SONM Songino Array 45.90 296 P **P** **16 16 56.7 +0.9**
comp=Z,2.1nm,0.8s,baz=44,slow=8.0,SNR=8.4
SONM pP **pP** **16 17 18.6 -0.3**
comp=Z,2.1nm,0.5s,baz=59,slow=8.2,SNR=8.1
SONM ScP **ScP** **16 22 15.0 +0.1**
comp=Z,0.9nm,0.7s,baz=39,slow=3.3,SNR=5.1
SONM LR LR 16 36 46.8
comp=Z,26nm,19.2s,baz=1.0,slow=37
comp=Z,2.1nm,0.8s
SONM Songino Array 45.90 296 P **P** **16 16 55.2 -0.5**
BGU Big Grassy Mou 45.91 76 P **P** **16 16 55.9 -0.1**
R11A Troy Canyon, C 45.93 81 P **P** **16 16 57.4 +1.2**
R11A IAmb IAmb 16 16 58.5
comp=Z,26nm,0.6s
R11A Troy Canyon, C 45.93 81 P **P** **16 16 57.0 +0.8**
baz=309,SNR=55
ARVC Arvin 45.97 86 P **P** **16 16 57.1 +0.7**
baz=311
SPUT South Promonto 46.03 75 P **P** **16 16 57.1 +0.1**
SPUT IAmb IAmb 16 16 59.0
comp=Z,19nm,0.9s
MPMC Manual Prospec 46.20 84 P **P** **16 16 59.6 +1.2**
baz=310,SNR=19
WCT Wildcat Mounta 46.27 83 P **P** **16 16 59.9 +1.1**
S11A Rachel 46.27 81 P **P** **16 16 58.7 -0.1**
S11A IAmb IAmb 16 17 01.6
comp=Z,25nm,0.6s
SPR3 Spring Creek 3 46.29 79 P **P** **16 17 00.8 +1.6**
SPR3 IAmb IAmb 16 17 02.0
comp=Z,30nm,0.6s
FURC Furnace Creek, 46.33 83 P **P** **16 17 00.5 +1.4**
baz=310,SNR=6.2
OSI Osito Audit: C 46.37 87 P **P** **16 17 00.6 +1.0**
baz=311
HWUT Hardware Ranch 46.38 74 P **P** **16 16 59.8 +0.1**
TPNV Topopah Spring 46.40 82 P **P** **16 17 01.4 +1.5**
TPNV Topopah Spring 46.40 82 P **P** **16 17 01.0 +1.1**
baz=310,SNR=26
TPNV Topopah Spring 46.40 82 P **P** **16 17 01.4 +1.5**
TPNV pmax pmax
comp=Z,46nm,0.7s
LRMC Laurel Mtn Rad 46.46 85 P **P** **16 17 01.2 +0.9**
baz=311,SNR=7.5
DUG Dugway, Tooele 46.48 77 P **P** **16 17 01.3 +0.8**
DUG Dugway, Tooele 46.48 77 P **P** **16 17 01.5 +1.1**
baz=308,SNR=52
DUG Dugway, Tooele 46.48 77 P **P** **16 17 01.3 +0.8**
DUG pmax pmax
comp=Z,67nm,1.0s
LAO LASA Array 46.54 66 P **P** **16 17 01.1 +0.3**
LAO LASA Array 46.54 66 P **P** **16 17 00.5 -0.3**
baz=305
GWY Greenwater Val 46.63 84 P **P** **16 17 02.6 +0.9**
GWY IAmb IAmb 16 17 03.9
comp=Z,18nm,0.8s
QSM Queen of Sheba 46.65 84 P **P** **16 17 01.9 +0.3**
QSM IAmb IAmb 16 17 05.5
comp=Z,15nm,0.7s
EDW2 Edwards Air Fo 46.65 86 P **P** **16 17 02.2 +0.5**
baz=311,SNR=6.4
DGMT Dagmar 46.67 62 P **P** **16 17 01.2 -0.4**
baz=304
TCUT Toone Canyon 46.77 75 P **P** **16 17 03.0 +0.2**
TCUT IAmb IAmb 16 17 04.8
comp=Z,25nm,0.9s
PRN Pahroc Range 46.85 81 P **P** **16 17 04.8 +1.5**
PRN IAmb IAmb 16 17 06.6
comp=Z,34nm,0.8s
PSUT Pine Spring 46.87 79 P **P** **16 17 04.6 +1.0**
BW06 Boulder Array 46.88 72 P **P** **16 17 03.5 -0.2**
BW06 IAmb IAmb 16 17 04.7
comp=Z,69nm,1.9s
BW06 Boulder Array 46.88 72 P **P** **16 17 03.7 +0.1**
baz=307,SNR=19
PD31 Pinedale Array 46.88 72 P **P** **16 17 03.2 -0.5**
PD31 IAmb IAmb 16 17 04.7
comp=Z,60nm,1.9s
PDAR Pinedale Array 46.88 72 P **P** **16 17 03.7 0.0**
comp=Z,7.9nm,0.6s,baz=303,slow=3.4,SNR=115
PDAR ScP **ScP** **16 22 18.7 -0.6**
comp=Z,1.1nm,0.9s,baz=326,slow=0.5,SNR=5.9
comp=Z,7.9nm,0.6s
HHC Hu-ho-hao-te 46.94 285 *e*P **P** **16 17 04.1 +0.1**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,160nm,4.8s
HHC LR LR
comp=N,350nm,12.7s
HHC LR LR
comp=E,340nm,11.4s
HHC LR LR
comp=Z,400nm,12.7s
SHOC Shoshone, Teco 47.06 84 P **P** **16 17 05.9 +1.0**
baz=310,SNR=13
NLU North Lily Min 47.08 76 P **P** **16 17 06.2 +1.0**
NLU IAmb IAmb 16 17 07.2
comp=Z,26nm,0.8s
GSC Goldstone, Bar 47.12 85 P **P** **16 17 06.9 +1.5**
GSC IAmb IAmb 16 17 07.7
comp=Z,37nm,0.8s
GSC Goldstone, Bar 47.12 85 P **P** **16 17 06.6 +1.2**
baz=311,SNR=36
GSC Goldstone, Bar 47.12 85 P **P** **16 17 06.9 +1.5**
GSC pmax pmax
comp=Z,37nm,0.9s
BFSC Mount Baldy Ra 47.28 86 P **P** **16 17 08.1 +1.3**
baz=312,SNR=9.2
MPU Maple Canyon 47.31 76 P **P** **16 17 07.5 +0.5**
MPU IAmb IAmb 16 17 08.9
comp=Z,20nm,0.8s
NEEM North Greenlan 47.32 13 *i* P **P** **16 17 06.1 -0.5**
NEEM IAmb IAmb 16 17 07.9
comp=Z,20nm,0.5s
SHPR Sheep Range 47.36 82 P **P** **16 17 07.9 +0.5**
CIS Catalina Islan 47.37 88 P **P** **16 17 08.2 +0.9**
baz=312
TUQ Turquoise Moun 47.58 84 P **P** **16 17 10.0 +1.0**
baz=311,SNR=11
TCRU Three Creeks R 47.69 78 P **P** **16 17 11.1 +1.1**
TCRU IAmb IAmb 16 17 12.6
comp=Z,40nm,0.7s
HEC Hector,Ludlow 47.72 85 P **P** **16 17 10.8 +0.8**
baz=311,SNR=8.3
BBRC Big Bear Solar 47.73 86 P **P** **16 17 11.1 +0.8**
baz=312
CCUT Cedar City 47.80 80 P **P** **16 17 12.1 +1.2**
CCUT IAmb IAmb 16 17 13.3
comp=Z,15nm,0.7s
ELS Elsinore Mount 47.82 87 P **P** **16 17 11.4 +0.6**
MVU Marysvale 47.90 78 P **P** **16 17 12.8 +1.2**
MSU Marysvale 47.91 78 P **P** **16 17 13.6 +1.9**
MSU Marysvale 47.91 78 P **P** **16 17 13.6 +1.9**
MURC Murrieta 47.99 87 P **P** **16 17 12.9 +0.7**
baz=312
TMUT Trail Mountain 48.01 77 P **P** **16 17 13.6 +1.0**
GMRC Granite Mounta 48.16 84 P **P** **16 17 14.8 +1.3**
baz=311,SNR=31

P17A Butcher Ranch, 48.18 76 P **P** **16 17 14.6 +0.9**
P17A IAmb IAmb 16 17 15.8
comp=Z,36nm,0.7s
MTPU Mount Pierson 48.20 79 P **P** **16 17 15.1 +1.0**
MTPU IAmb IAmb 16 17 16.8
comp=Z,27nm,0.8s
RDMU Red Mountain 48.21 74 P **P** **16 17 14.1 +0.2**
LCMT Little Creek M 48.21 80 P **P** **16 17 14.8 +0.9**
LCMT IAmb IAmb 16 17 16.6
comp=Z,28nm,0.9s
Q16A Castle Valley 48.27 77 P **P** **16 17 15.3 +0.9**
Q16A IAmb IAmb 16 17 16.6
comp=Z,38nm,0.8s
P18A Preston Nutter 48.38 76 P **P** **16 17 15.9 +0.5**
P18A IAmb IAmb 16 17 17.5
comp=Z,26nm,0.9s
PFO Pinyon Flats O 48.44 86 P **P** **16 17 16.5 +0.8**
PFO Pinyon Flats O 48.44 86 P **P** **16 17 16.8 +1.1**
baz=312
PFO Pinyon Flats O 48.44 86 P **P** **16 17 16.5 +0.8**
PFO pmax pmax
comp=Z,8.0nm,0.6s
PFO Pinyon Flats O 48.44 86 P **P** **16 17 16.6 +0.9**
TPFO Pinon Flats 48.45 86 P **P** **16 17 16.2 +0.4**
baz=312,SNR=5.0
KNB Kanab 48.47 80 P **P** **16 17 17.4 +1.5**
KNB IAmb IAmb 16 17 18.7
comp=Z,27nm,0.7s
KNB Kanab 48.47 80 P **P** **16 17 17.4 +1.5**
KNB pmax pmax
comp=Z,27nm,0.7s
BELC Belle Mtn. Jos 48.47 85 P **P** **16 17 16.8 +0.9**
baz=312,SNR=14
PKCU Pink Cliffs 48.51 79 P **P** **16 17 17.8 +1.4**
PKCU IAmb IAmb 16 17 19.2
comp=Z,28nm,0.7s
109C Camp Elliot, M 48.52 87 P **P** **16 17 17.3 +1.1**
baz=312
SRU San Rafael Swe 48.54 76 P **P** **16 17 17.1 +0.6**
SRU San Rafael Swe 48.54 76 P **P** **16 17 17.1 +0.6**
SRU pmax pmax
comp=Z,52nm,0.9s
K22A Casper 48.74 70 P **P** **16 17 17.9 0.0**
K22A Casper 48.74 70 P **P** **16 17 18.4 +0.5**
baz=308
IRM Iron Mountain 48.90 85 P **P** **16 17 19.7 +0.7**
baz=312,SNR=17
BAR Barrett 48.94 87 P **P** **16 17 20.4 +1.0**
BAR IAmb IAmb 16 17 21.6
comp=Z,30nm,0.9s
MONP2 Monument Peak 48.95 87 P **P** **16 17 20.7 +1.0**
baz=312,SNR=9.2
BC3 Big Chuckawall 49.04 85 P **P** **16 17 21.1 +0.8**
baz=312,SNR=12
U15A North Rim 49.17 80 P **P** **16 17 22.5 +1.0**
O20A White River Ci 49.27 74 P **P** **16 17 22.6 +0.5**
O20A IAmb IAmb 16 17 23.9
comp=Z,30nm,0.8s
O20A White River Ci 49.27 74 P **P** **16 17 22.4 +0.4**
baz=309,SNR=18
RSSD Black Hills 49.29 67 P **P** **16 17 21.1 -1.0**
RSSD Black Hills 49.29 67 P **P** **16 17 21.6 -0.6**
baz=307
RSSD Black Hills 49.29 67 P **P** **16 17 21.4 -0.8**
baz=307
RSSD Black Hills 49.29 67 P **P** **16 17 21.2 -1.0**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 49.29 67 P **P** **16 17 21.3 -0.8**
SWSC Sam W. Stewart 49.30 86 P **P** **16 17 22.5 +0.4**
baz=312
IKP In-Ko-Pah, Jac 49.30 87 P **P** **16 17 22.9 +0.7**
baz=313,SNR=6.8
RMX La Rumorosa 49.36 87 P **P** **16 17 23.6 +0.8**
PDMCI Parker Dam,Lak 49.42 84 P **P** **16 17 23.9 +0.9**
baz=312,SNR=11
YUH Yuha Desert 49.42 87 P **P** **16 17 23.3 +0.3**
MDND Maddock 49.54 61 P **P** **16 17 23.3 -0.5**
MDND IAmb IAmb 16 17 24.1
comp=Z,21nm,0.6s
MDND Maddock 49.54 61 P **P** **16 17 23.0 -0.8**
baz=306
BLYC Blythe 49.55 84 P **P** **16 17 24.8 +0.8**
BLYC IAmb IAmb 16 17 26.1
comp=Z,26nm,0.7s
GLA Glamis 49.83 85 P **P** **16 17 26.8 +0.6**
GLA Glamis 49.83 85 P **P** **16 17 27.3 +1.1**
baz=312,SNR=12
GLA Glamis 49.83 85 P **P** **16 17 26.8 +0.6**
GLA pmax pmax
comp=Z,36nm,0.7s
ESJX Sierra Juarez 49.84 87 P **P** **16 17 27.4 +1.0**
ESJX IAmb IAmb 16 17 28.3
comp=Z,13nm,0.6s
PV23 Carpenter Ridg 49.87 76 P **P** **16 17 25.9 -0.8**
PV10 Paradox Valley 49.90 76 P **P** **16 17 27.5 +0.6**
PV11 David Mesa, Pa 50.05 76 P **P** **16 17 28.5 +0.5**
PV07 Paradox Valley 50.10 76 P **P** **16 17 28.8 +0.5**
PV07 IAmb IAmb 16 17 29.8
comp=Z,27nm,0.8s
ULM Lac du Bonnet 50.10 56 P **P** **16 17 26.2 -1.8**
comp=Z,4.0nm,0.3s,baz=312,slow=6.6,SNR=13
comp=Z,4.0nm,0.3s
N23A Red Feather La 50.16 72 P **P** **16 17 28.8 -0.1**
N23A Red Feather La 50.16 72 P **P** **16 17 29.3 +0.4**
baz=309
PV13 Radium Mtn., P 50.17 76 P **P** **16 17 29.5 +0.6**
PV15 Paradox Valley 50.26 76 P **P** **16 17 29.8 +0.2**
PV15 IAmb IAmb 16 17 31.0
comp=Z,29nm,0.8s
WUAZ Wupatki 50.33 81 P **P** **16 17 31.3 +1.3**
baz=311,SNR=7.8
Y14A Wickenburg 50.37 83 P **P** **16 17 31.0 +0.7**
LYN LuoYang 50.40 278 SS SS 16 28 33.4 +23
LYN LuoYang 50.40 278 pmax pmax
comp=Z,10.0nm,0.8s
MVCO Mesa Verde 50.98 77 P **P** **16 17 35.4 +0.4**
MVCO IAmb IAmb 16 17 36.8
comp=Z,46nm,1.2s
MVCO Mesa Verde 50.98 77 P **P** **16 17 35.6 +0.6**
baz=311,SNR=17
W18A Petrified Fore 51.60 80 P **P** **16 17 40.4 +0.7**
W18A IAmb IAmb 16 17 42.1
comp=Z,28nm,0.9s
W18A Petrified Fore 51.60 80 P **P** **16 17 40.7 +1.1**
baz=312,SNR=16
S22A 4UR Ranch, Cre 51.64 75 P **P** **16 17 41.1 +1.0**
S22A IAmb IAmb 16 17 42.5
comp=Z,18nm,0.9s
S22A 4UR Ranch, Cre 51.64 75 P **P** **16 17 41.0 +1.0**
baz=311,SNR=21
214A Organ Pipe Nat 51.82 85 P **P** **16 17 41.2 +0.1**
214A IAmb IAmb 16 17 42.7
comp=Z,11nm,0.7s
214A Organ Pipe Nat 51.82 85 P **P** **16 17 41.7 +0.5**
baz=313,SNR=6.0
X18A Snowflake 51.86 80 P **P** **16 17 43.1 +1.6**
X18A IAmb IAmb 16 17 44.2
comp=Z,37nm,1.4s
Q24A Divide 51.86 73 P **P** **16 17 41.8 +0.1**
Q24A Divide 51.86 73 P **P** **16 17 42.0 +0.3**
baz=310
B35A Bob, Littlefor 52.37 57 P **P** **16 17 43.8 -1.1**
B35A IAmb IAmb 16 18 45.9
comp=Z,47nm,1.9s
SDCO Great Sand Dun 52.44 74 P **P** **16 17 46.3 +0.4**
SDCO IAmb IAmb 16 17 48.1
comp=Z,28nm,1.2s
SDCO Great Sand Dun 52.44 74 P **P** **16 17 46.6 +0.6**
baz=311,SNR=24
TUC Tucson 52.84 83 P **P** **16 17 48.2 -0.5**
TUC IAmb IAmb 16 17 50.9
comp=Z,11nm,0.8s
TUC Tucson 52.84 83 P **P** **16 17 49.6 +0.9**
baz=313
TUC Tucson 52.84 83 P **P** **16 17 48.2 -0.5**
TUC pmax pmax
comp=Z,11nm,0.9s
TUC Tucson 52.84 83 P **P** **16 17 49.6 +0.9**
TUC pP **pP** **16 18 13.6 +1.2**
SUMG Summit 53.18 14 *i* P **P** **16 17 50.7 -0.4**
SUMG IAmb IAmb 16 17 54.4
comp=Z,2.7nm,0.6s
KSCO Kaye Shedlock' 53.33 71 P **P** **16 17 52.4 +0.2**
baz=311
T25A Trinidad 53.49 74 P **P** **16 17 54.6 +1.0**

T25A IAmb IAmb 16 17 56.3
comp=Z,32nm,0.9s
T25A Trinidad 53.49 74 P **P** **16 17 54.0 +0.4**
baz=312,SNR=18
ANMO Albuquerque 53.71 78 *i* P **P** **16 17 56.3 +1.1**
ANMO Albuquerque 53.71 78 P **P** **16 17 56.1 +0.9**
ECSD EROS Data Cent 53.73 63 P **P** **16 17 52.8 -2.1**
ECSD IAmb IAmb 16 19 53.5
comp=Z,34nm,2.0s
ECSD EROS Data Cent 53.73 63 P **P** **16 17 53.8 -1.2**
baz=310
ECSD EROS Data Cent 53.73 63 P **P** **16 17 52.8 -2.1**
baz=310
EYMN Ely 53.79 56 P **P** **16 17 54.5 -0.9**
EYMN IAmb IAmb 16 17 54.9
comp=Z,11nm,0.8s
EYMN Ely 53.79 56 P **P** **16 17 54.0 -1.4**
baz=310
LENM Lemitar 53.92 79 P **P** **16 17 58.9 +2.1**
F36A Milaca 54.05 59 P **P** **16 17 55.7 -1.6**
F36A IAmb IAmb 16 18 00.5
comp=Z,26nm,1.8s
Y22A Socorro 54.08 79 P **P** **16 17 59.5 +1.6**
baz=313
BNM Barren Site 54.15 79 P **P** **16 17 59.8 +1.4**
BGNE Belgrade 54.36 66 P **P** **16 17 59.2 -0.5**
BGNE IAmb IAmb 16 17 59.9
comp=Z,20nm,0.7s
BGNE Belgrade 54.36 66 P **P** **16 17 59.1 -0.6**
baz=311
121A Cookes Peak, D 54.54 81 P **P** **16 18 01.9 +0.7**
121A IAmb IAmb 16 18 03.5
comp=Z,32nm,1.6s
121A Cookes Peak, D 54.54 81 P **P** **16 18 02.4 +1.2**
baz=314
121A Cookes Peak, D 54.54 81 P **P** **16 18 02.6 +1.4**
baz=313,SNR=7.5
E38A The Farm, Brul 54.62 58 P **P** **16 17 59.8 -1.6**
E38A IAmb IAmb 16 18 01.5
comp=Z,39nm,1.1s
E38A The Farm, Brul 54.62 58 P **P** **16 18 00.2 -1.2**
baz=310
DGZ Jazzator, Alta 54.81 307 ⇓ *e*P **P** **16 18 00.6 -2.3**
DGZ pmax pmax
comp=Z,4.0nm,1.7s
GTA Gaotai 54.81 291 *e*P **P** **16 18 04.0 +1.0**
GTA pP pP 16 18 26.5 -0.4
GTA sP sP 16 18 36.5 -1.3
GTA pmax pmax
comp=Z,4.0nm,0.6s
SPMN Marine on St. 54.85 60 P **P** **16 18 01.9 -1.1**
baz=311
L34A Svendsen Farm, 55.01 65 P **P** **16 18 02.2 -2.0**
L34A Svendsen Farm, 55.01 65 P **P** **16 18 03.2 -1.0**
baz=311
CBKS Cedar Bluff 55.15 70 P **P** **16 18 05.3 -0.1**
CBKS IAmb IAmb 16 18 06.4
comp=Z,24nm,0.8s
CBKS Cedar Bluff 55.15 70 P **P** **16 18 05.6 +0.3**
baz=312
CBKS Cedar Bluff 55.15 70 P **P** **16 18 05.2 -0.1**
baz=312
CBKS Cedar Bluff 55.15 70 P **P** **16 18 05.3 -0.1**
CBKS pmax pmax
comp=Z,25nm,0.8s
I37A Lemond, Waseca 55.31 61 P **P** **16 18 05.6 -0.8**
I37A IAmb IAmb 16 18 49.0
comp=Z,50nm,1.6s
I37B Waseca 55.31 61 P **P** **16 18 05.9 -0.6**
baz=311
R32A Long Quarter, 56.01 69 P **P** **16 18 10.3 -1.2**
ICESG Greenland Ices 56.06 16 *i* P **P** **16 18 10.8 -1.0**
ICESG IAmb IAmb 16 18 12.9
comp=Z,3.8nm,0.6s
COWI Conover 56.22 57 P **P** **16 18 11.7 -1.2**
COWI IAmb IAmb 16 18 12.3
comp=Z,60nm,1.7s
COWI Conover 56.22 57 P **P** **16 18 11.7 -1.2**
baz=312
MSTX Muleshoe 56.61 76 P **P** **16 18 16.1 +0.2**
MSTX IAmb IAmb 16 18 18.2
comp=Z,30nm,0.9s
MSTX Muleshoe 56.61 76 P **P** **16 18 16.2 +0.3**
baz=314
MSTX Muleshoe 56.61 76 P **P** **16 18 16.7 +0.7**
baz=314,SNR=17
AMTX Amarillo 56.64 74 P **P** **16 18 16.5 +0.3**
AMTX IAmb IAmb 16 18 17.8
comp=Z,24nm,1.1s
AMTX Amarillo 56.64 74 P **P** **16 18 16.8 +0.6**
baz=313
AMTX Amarillo 56.64 74 P **P** **16 18 17.2 +1.1**
baz=313
KSU1 Kansas State U 56.77 67 P **P** **16 18 17.3 +0.4**
baz=312
GDL2 Guadalupe Moun 56.86 79 P **P** **16 18 18.7 +1.0**
I40A Norwalk 56.90 60 P **P** **16 18 16.8 -0.9**
I40A IAmb IAmb 16 18 18.4
comp=Z,14nm,0.5s
CLN7 Carlsbad 7 57.05 78 P **P** **16 18 19.8 +0.7**
E43A Lone Tree Farm 57.14 55 P **P** **16 18 18.8 -0.6**
E43A IAmb IAmb 16 19 15.5
comp=Z,45nm,1.5s
E43A Lone Tree Farm 57.14 55 P **P** **16 18 18.9 -0.4**
baz=312
KAN01 Argonia South 57.42 70 P **P** **16 18 20.8 -0.7**
KAN01 IAmb IAmb 16 19 40.3
comp=Z,18nm,0.6s
KAN17 Caldwell West 57.49 70 P **P** **16 18 21.5 -0.5**
N38A Joes South For 57.55 64 P **P** **16 18 21.8 -0.5**
N38A IAmb IAmb 16 18 22.2
comp=Z,18nm,0.7s
GC02 Grant County # 57.57 70 P **P** **16 18 22.7 +0.2**
ARCES ARCESS Array B 57.69 350 P **P** **16 18 22.1 -0.7**
comp=Z,1.4nm,0.6s,baz=22,slow=7.4,SNR=6.2
comp=Z,1.4nm,0.6s
CROK Carrier 57.73 71 P **P** **16 18 23.6 -0.1**
CROK IAmb IAmb 16 18 24.1
comp=Z,24nm,0.5s
JFWS Jewell Farm 57.76 60 P **P** **16 18 22.3 -1.5**
baz=313
I42A Draeger Farm, 57.81 59 P **P** **16 18 23.4 -0.8**
I42A IAmb IAmb 16 18 24.3
comp=Z,31nm,1.1s
LVZ Lovozero 57.99 345 P **P** **16 18 24.2 -0.8**
LVZ Lovozero 57.99 345 P **P** **16 18 24.2 -0.8**
LVZ pmax pmax
comp=Z,87nm,1.8s
H43A Windswept, Lux 58.03 58 P **P** **16 18 24.8 -0.7**
P38A Dawn 58.17 65 P **P** **16 18 25.6 -1.1**
P38A IAmb IAmb 16 18 26.4
comp=Z,34nm,1.0s
P38A Dawn 58.17 65 P **P** **16 18 25.8 -0.9**
baz=313
CD2 Chengdu 58.23 281 P **P** **16 18 26.1 -1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KURK Kurchatov 58.32 313 ⇑ *e*P **P** **16 18 29.6 +2.1**
KURK pmax pmax
comp=Z,4.0nm,1.2s
OK046 Pawnee Station 58.44 70 P **P** **16 18 28.4 -0.2**
WMOK Wichita Mounta 58.48 73 P **P** **16 18 29.3 +0.4**
WMOK IAmb IAmb 16 18 30.6
comp=Z,41nm,1.8s
WMOK Wichita Mounta 58.48 73 P **P** **16 18 29.5 +0.6**
baz=314
WMOK Wichita Mounta 58.48 73 P **P** **16 18 29.6 +0.6**
baz=314,SNR=7.5
WMOK Wichita Mounta 58.48 73 P **P** **16 18 29.3 +0.4**
E46A Sault Ste Mari 58.51 54 P **P** **16 18 28.2 -0.7**
E46A IAmb IAmb 16 18 29.5
comp=Z,19nm,0.9s
WMQ Urumqi 58.60 302 *e*P **P** **16 18 32.0 +2.3**
WMQ sP sP 16 19 06.3 +1.4
WMQ pmax pmax
comp=Z,9.0nm,0.7s
L42A Oliver, Polo 58.69 61 P **P** **16 18 28.7 -1.6**
L42A IAmb IAmb 16 19 26.6
comp=Z,47nm,1.4s
LPIG La Paz 58.93 90 LR LR 16 41 20.2
comp=Z,55nm,18.4s,baz=126,slow=33
K43A Burlington 58.93 59 P **P** **16 18 30.2 -1.7**
P40A Paris 59.08 64 P **P** **16 18 31.7 -1.2**
P40A Paris 59.08 64 P **P** **16 18 32.0 -0.9**
baz=314
TX31 Lajitas Ar. Si 59.29 81 P **P** **16 18 34.0 -0.7**

TX31	**Lajitas Ar. Si**	**59.29**	**81**	P	**P**	**16 18 35.5**	**+0.8**
	baz=316								
TX32	**Lajitas Array**	**59.29**	**81**	P	**P**	**16 18 35.0**	**+0.3**
TX32				IAmb	IAmb	16 18 36.6			
	comp=Z,16nm,0.9s								
TXAR	**Lajitas Array**	**59.30**	**81**	P	**P**	**16 18 35.6**	**+0.9**
	comp=Z,11nm,0.8s,baz=297,slow=4.5,SNR=65								
TXAR				LR	LR	16 42 28.4			
	comp=Z,18nm,18.1s,baz=240,slow=34								
	comp=Z,11nm,0.8s								
TXAR	**Lajitas Array**	**59.30**	**81**	P	**P**	**16 18 35.1**	**+0.4**
MK31	**Makanchi Array**	**59.31**	**308**	P	**P**	**16 18 33.4**	**-1.1**
MK31	**Makanchi Array**	**59.31**	**308**	P	**P**	**16 18 33.4**	**-1.1**
MK31				pmax	pmax				
	comp=Z,12nm,1.5s								
MKAR	**Makanchi Array**	**59.31**	**308**	P	**P**	**16 18 33.9**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=52,slow=7.0,SNR=10								
MKAR				pP	**pP**	**16 18 58.1**	**-0.7**		
	comp=Z,1.5nm,0.5s,baz=51,slow=5.8,SNR=6.3								
	comp=Z,0.4nm,0.4s								
ABTX	**Abilene, Hawle**	**59.43**	**75**	P	**P**	**16 18 35.9**	**+0.4**
ABTX	**Abilene, Hawle**	**59.43**	**75**	P	**P**	**16 18 36.2**	**+0.7**
	baz=315								
ABTX	**Abilene, Hawle**	**59.43**	**75**	P	**P**	**16 18 36.5**	**+1.0**
	baz=315,SNR=7.9								
MAKZ	**Makanchi**	**59.45**	**308**	P	**P**	**16 18 33.8**	**-1.7**
MAKZ				IAmb	IAmb	16 19 00.8			
	comp=Z,18nm,1.4s								
MAKZ	**Makanchi**	**59.45**	**308**	P	**P**	**16 18 33.8**	**-1.7**
MAKZ				pmax	pmax				
	comp=Z,18nm,1.4s								
SLBS	**Sierra La Lagu**	**59.46**	**90**	P	**P**	**16 18 37.0**	**+1.1**
L44A	**Lake County Fo**	**59.52**	**60**	P	**P**	**16 18 35.0**	**-0.9**
	baz=314								
RLO	**Rose Lookout**	**59.70**	**69**	P	**P**	**16 18 36.1**	**-1.2**
RLO				IAmb	IAmb	16 20 15.2			
	comp=Z,10nm,0.8s								
R40A	**Maddies Statio**	**59.81**	**65**	P	**P**	**16 18 36.2**	**-1.8**
R40A	**Maddies Statio**	**59.81**	**65**	P	**P**	**16 18 36.2**	**-1.8**
	baz=314								
U38A	**Gravette**	**59.88**	**68**	P	**P**	**16 18 37.5**	**-1.0**
U38A				IAmb	IAmb	16 18 38.2			
	comp=Z,7.2nm,0.8s								
U38A	**Gravette**	**59.88**	**68**	P	**P**	**16 18 37.4**	**-1.1**
	baz=314								
HDIL	**Hopedale**	**59.90**	**62**	P	**P**	**16 18 37.1**	**-1.5**
HDIL	**Hopedale**	**59.90**	**62**	P	**P**	**16 18 37.5**	**-1.1**
	baz=314								
HDIL	**Hopedale**	**59.90**	**62**	P	**P**	**16 18 37.7**	**-0.9**
	baz=314,SNR=5.6								
M44A	**Midewin, Midew**	**60.00**	**60**	P	**P**	**16 18 38.6**	**-0.6**
M44A	**Midewin, Midew**	**60.00**	**60**	P	**P**	**16 18 38.6**	**-0.6**
	baz=314								
SCHQ	**Schefferville**	**60.21**	**38**	P	**P**	**16 18 39.4**	**-1.1**
	comp=Z,6.4nm,0.5s,baz=343,slow=7.0,SNR=11								
	comp=Z,6.4nm,0.5s								
SCHQ	**Schefferville**	**60.21**	**38**	P	**P**	**16 18 40.0**	**-0.5**
BVAR	**Borovoye Array**	**60.22**	**319**	LR	LR	16 47 32.8			
	comp=Z,33nm,19.4s,baz=42,slow=39								
HHAR	**Hobbs**	**60.24**	**68**	P	**P**	**16 18 39.6**	**-1.4**
HHAR				IAmb	IAmb	16 18 40.6			
	comp=Z,12nm,0.5s								
HHAR	**Hobbs**	**60.24**	**68**	P	**P**	**16 18 40.0**	**-1.0**
	baz=314								
P43A	**Skaggs, Pawnee**	**60.41**	**63**	P	**P**	**16 18 41.4**	**-0.7**
P43A	**Skaggs, Pawnee**	**60.41**	**63**	P	**P**	**16 18 40.9**	**-1.1**
	baz=314								
CCM	**Cathedral Cave**	**60.55**	**65**	P	**P**	**16 18 41.0**	**-2.0**
CCM				IAmb	IAmb	16 18 42.5			
	comp=Z,8.6nm,0.7s								
CCM	**Cathedral Cave**	**60.55**	**65**	P	**P**	**16 18 41.6**	**-1.5**
	baz=314								
CCM	**Cathedral Cave**	**60.55**	**65**	P	**P**	**16 18 41.0**	**-2.0**
CCM				pmax	pmax				
	comp=Z,9.0nm,0.7s								
CCM	**Cathedral Cave**	**60.55**	**65**	P	**P**	**16 18 41.1**	**-1.9**
X37A	**Clayton**	**60.59**	**71**	P	**P**	**16 18 43.3**	**-0.1**
X37A				IAmb	IAmb	16 18 44.1			
	comp=Z,7.4nm,0.7s								
MGMO	**Mountain Grove**	**60.60**	**66**	P	**P**	**16 18 41.7**	**-1.7**
MGMO				IAmb	IAmb	16 18 42.7			
	comp=Z,9.8nm,0.7s								
O44A	**Mansfield**	**60.63**	**62**	P	**P**	**16 18 42.8**	**-0.8**
JCT	**Junction City**	**60.84**	**77**	P	**P**	**16 18 44.8**	**-0.4**
JCT				IAmb	IAmb	16 18 47.0			
	comp=Z,56nm,1.6s								
JCT	**Junction City**	**60.84**	**77**	P	**P**	**16 18 45.0**	**-0.2**
	baz=316								
JCT	**Junction City**	**60.84**	**77**	P	**P**	**16 18 45.5**	**+0.3**
	baz=316,SNR=9.1								
JCT	**Junction City**	**60.84**	**77**	P	**P**	**16 18 44.8**	**-0.4**
JCT				pmax	pmax				
	comp=Z,56nm,1.6s								
FVM	**French Village**	**61.06**	**65**	P	**P**	**16 18 46.0**	**-0.5**
FVM	**French Village**	**61.06**	**65**	P	**P**	**16 18 46.0**	**-0.5**
FVM				pmax	pmax				
	comp=Z,58nm,0.8s								
WHTX	**Lake Whitney,**	**61.19**	**74**	P	**P**	**16 18 47.4**	**-0.1**
	baz=315								
SFIN	**Lafayette**	**61.22**	**61**	P	**P**	**16 18 46.9**	**-0.6**
SFIN	**Lafayette**	**61.22**	**61**	P	**P**	**16 18 47.3**	**-0.2**
	baz=315								
SFIN	**Lafayette**	**61.22**	**61**	P	**P**	**16 18 47.4**	**-0.1**
	baz=315,SNR=11								
FCAR	**Ozark Folk Cen**	**61.57**	**67**	P	**P**	**16 18 48.7**	**-1.3**
MIAR	**Mount Ida**	**61.67**	**69**	P	**P**	**16 18 50.8**	**+0.1**
MIAR				IAmb	IAmb	16 18 51.8			
	comp=Z,16nm,0.8s								
MIAR	**Mount Ida**	**61.67**	**69**	P	**P**	**16 18 50.7**	**0.0**
	baz=315,SNR=8.9								
MIAR	**Mount Ida**	**61.67**	**69**	P	**P**	**16 18 50.8**	**+0.1**
MIAR				pmax	pmax				
	comp=Z,16nm,0.8s								
P46A	**Rosedale**	**61.69**	**61**	P	**P**	**16 18 50.6**	**-0.1**
P46A				IAmb	IAmb	16 18 51.1			
	comp=Z,17nm,0.6s								
WHAR	**Wooly Hollow**	**61.90**	**68**	P	**P**	**16 18 51.0**	**-1.1**
WHAR				IAmb	IAmb	16 18 52.3			
	comp=Z,20nm,1.2s								
CGM3	**Cape Girardeau**	**61.98**	**65**	P	**P**	**16 18 51.6**	**-1.1**
CGM3				IAmb	IAmb	16 18 52.9			
	comp=Z,22nm,1.5s								
LCAR	**Lake Charles**	**62.00**	**67**	P	**P**	**16 18 51.0**	**-1.8**
LCAR				IAmb	IAmb	16 18 52.2			
	comp=Z,9.8nm,0.5s								
LCAR	**Lake Charles**	**62.00**	**67**	P	**P**	**16 18 51.4**	**-1.4**
	baz=315								
O48B	**Farmland**	**62.35**	**59**	P	**P**	**16 18 53.7**	**-1.4**
	baz=316								
O48B	**Farmland**	**62.35**	**59**	P	**P**	**16 18 54.0**	**-1.2**
	baz=316,SNR=7.8								
N49A	**Columbus Grove**	**62.39**	**58**	P	**P**	**16 18 54.4**	**-1.0**
WLAR	**White Oak Lake**	**62.55**	**70**	P	**P**	**16 18 56.4**	**-0.2**
PZH	**PanZhiHua**	**62.61**	**279**	P	**P**	**16 18 57.9**	**+0.7**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
PZH				pmax	pmax				
	comp=Z,120nm,5.9s								
833A	**Chaparral WMA,**	**62.63**	**78**	P	**P**	**16 18 57.6**	**+0.5**
	baz=316								
P48A	**Milroy**	**62.77**	**60**	P	**P**	**16 18 57.1**	**-0.9**
	baz=316								
P48A				P	**P**	**16 18 57.1**	**-0.9**		
	baz=316								
O49A	**Covington**	**62.84**	**59**	P	**P**	**16 18 58.3**	**-0.1**
P49A	**Miami Univ. Ec**	**63.10**	**60**	P	**P**	**16 18 59.2**	**-0.9**
P49A				IAmb	IAmb	16 19 14.4			
	comp=Z,31nm,1.4s								
P49A	**Miami Univ. Ec**	**63.10**	**60**	P	**P**	**16 18 59.1**	**-1.1**
	baz=316								
DELO	**Deloro Mine**	**63.14**	**52**	P	**P**	**16 18 59.2**	**-1.1**
DELO				IAmb	IAmb	16 20 33.9			
	comp=Z,53nm,1.7s								
WCI	**Wyandotte Cave**	**63.18**	**62**	P	**P**	**16 19 00.2**	**-0.5**
WCI				IAmb	IAmb	16 19 01.8			
	comp=Z,14nm,0.5s								
WCI	**Wyandotte Cave**	**63.18**	**62**	P	**P**	**16 19 00.3**	**-0.4**
	baz=316								
WCI	**Wyandotte Cave**	**63.18**	**62**	P	**P**	**16 19 00.4**	**-0.4**
	baz=316								
WCI	**Wyandotte Cave**	**63.18**	**62**	P	**P**	**16 19 00.2**	**-0.5**
WCI				pmax	pmax				
	comp=Z,14nm,0.5s								
N51A	**Ashland**	**63.35**	**57**	P	**P**	**16 19 00.0**	**-1.7**
N51A	**Ashland**	**63.35**	**57**	P	**P**	**16 19 01.1**	**-0.6**
	baz=316								
N51A				P	**P**	**16 19 01.1**	**-0.6**		
	baz=316								
M52A	**Chesterland**	**63.43**	**56**	P	**P**	**16 19 02.0**	**-0.2**
ACSO	**Alum Creek Sta**	**63.53**	**58**	P	**P**	**16 19 01.5**	**-1.4**
	baz=316								
J54A	**Appleton**	**63.55**	**53**	P	**P**	**16 19 02.6**	**-0.4**
J54A	**Appleton**	**63.55**	**53**	P	**P**	**16 19 02.9**	**-0.1**
	baz=317								
J54A				P	**P**	**16 19 02.9**	**-0.1**		
	baz=317								
HKT	**Hockley**	**63.62**	**75**	*e*P	**P**	**16 19 01.8**	**-1.8**
T47A	**Sharon Grove**	**63.62**	**63**	P	**P**	**16 19 02.8**	**-0.8**
T47A				IAmb	IAmb	16 19 04.3			
	comp=Z,25nm,0.8s								
T47A	**Sharon Grove**	**63.62**	**63**	P	**P**	**16 19 03.4**	**-0.2**
	baz=316								
ERPA	**Erie**	**63.71**	**55**	P	**P**	**16 19 03.3**	**-0.8**
	baz=317								
MEDO	**Medina**	**63.72**	**53**	P	**P**	**16 19 03.3**	**-0.9**
MEDO				IAmb	IAmb	16 19 04.7			
	comp=Z,27nm,0.6s								
WVT	**Waverly**	**63.84**	**64**	P	**P**	**16 19 04.5**	**-0.5**
WVT	**Waverly**	**63.84**	**64**	P	**P**	**16 19 04.9**	**-0.1**
	baz=316								
WVT	**Waverly**	**63.84**	**64**	P	**P**	**16 19 04.5**	**-0.5**
WVT				pmax	pmax				
	comp=Z,6.0nm,0.8s								
WVT	**Waverly**	**63.84**	**64**	P	**P**	**16 19 04.2**	**-0.8**
M53A	**WI Miller and**	**63.85**	**56**	P	**P**	**16 19 04.3**	**-0.8**
M53A				IAmb	IAmb	16 19 05.5			
	comp=Z,22nm,0.6s								
M53A	**WI Miller and**	**63.85**	**56**	P	**P**	**16 19 04.3**	**-0.8**
	baz=317								
J55A	**Hilton**	**63.96**	**53**	P	**P**	**16 19 05.0**	**-0.7**
OXF	**Oxford**	**64.11**	**67**	P	**P**	**16 19 06.3**	**-0.4**
OXF	**Oxford**	**64.11**	**67**	P	**P**	**16 19 05.9**	**-0.9**
	baz=316								
OXF	**Oxford**	**64.11**	**67**	P	**P**	**16 19 06.4**	**-0.4**
	baz=316								
OXF	**Oxford**	**64.11**	**67**	P	**P**	**16 19 06.4**	**-0.4**
OXF				pmax	pmax				
	comp=Z,48nm,0.6s								
WVNY	**West Valley, N**	**64.20**	**54**	P	**P**	**16 19 06.9**	**-0.5**
	baz=317								
Q51A	**Peebles**	**64.20**	**59**	P	**P**	**16 19 06.7**	**-0.7**
Q51A	**Peebles**	**64.20**	**59**	P	**P**	**16 19 07.1**	**-0.3**
	baz=317								
Q51A				P	**P**	**16 19 07.1**	**-0.3**		
	baz=317								
O52A	**Adamsville**	**64.21**	**57**	P	**P**	**16 19 06.7**	**-0.7**
	baz=317								
O52A				P	**P**	**16 19 06.7**	**-0.7**		
	baz=317								
R50A	**Paris**	**64.22**	**60**	P	**P**	**16 19 06.7**	**-0.8**
MMNY	**Mt. Morris Dam**	**64.31**	**53**	P	**P**	**16 19 07.2**	**-0.9**
MMNY				IAmb	IAmb	16 19 07.9			
	comp=Z,21nm,0.5s								
P52A	**Corning**	**64.41**	**58**	P	**P**	**16 19 07.7**	**-1.1**
P52A				IAmb	IAmb	16 19 08.6			
	comp=Z,15nm,0.7s								
P52A	**Corning**	**64.41**	**58**	P	**P**	**16 19 08.0**	**-0.7**
	baz=317								
O53A	**New Philadelph**	**64.44**	**57**	P	**P**	**16 19 08.3**	**-0.6**
	baz=317								
PLAL	**Pickwick Lake**	**64.52**	**65**	P	**P**	**16 19 08.4**	**-1.1**
PLAL				IAmb	IAmb	16 19 09.7			
	comp=Z,15nm,0.6s								
U49A	**Red Boiling Sp**	**64.70**	**63**	P	**P**	**16 19 09.8**	**-0.8**
U49A				IAmb	IAmb	16 19 11.0			
	comp=Z,12nm,0.5s								
U49A	**Red Boiling Sp**	**64.70**	**63**	P	**P**	**16 19 10.3**	**-0.4**
	baz=317								
Q52A	**Bidwell**	**64.83**	**59**	P	**P**	**16 19 10.1**	**-1.3**
Q52A				IAmb	IAmb	16 19 11.5			
	comp=Z,17nm,0.6s								
Q52A	**Bidwell**	**64.83**	**59**	P	**P**	**16 19 10.9**	**-0.6**
	baz=317								
Q52A				P	**P**	**16 19 10.9**	**-0.6**		
	baz=317								
T50A	**Nancy**	**64.85**	**62**	P	**P**	**16 19 11.0**	**-0.6**
	baz=317								
T50A				P	**P**	**16 19 11.0**	**-0.6**		
	baz=317								
L56A	**Greenwood**	**64.92**	**53**	P	**P**	**16 19 11.7**	**-0.3**
L56A	**Greenwood**	**64.92**	**53**	P	**P**	**16 19 11.8**	**-0.3**
	baz=318								
L56A				P	**P**	**16 19 11.8**	**-0.3**		
	baz=318								
K57A	**Scipio Center**	**65.00**	**52**	P	**P**	**16 19 11.6**	**-0.9**
	baz=318								
S51A	**Beattyville**	**65.08**	**60**	P	**P**	**16 19 12.4**	**-0.7**
S51A				IAmb	IAmb	16 19 13.4			
	comp=Z,12nm,0.6s								
S51A	**Beattyville**	**65.08**	**60**	P	**P**	**16 19 12.6**	**-0.6**
	baz=317								
S51A				P	**P**	**16 19 12.6**	**-0.6**		
	baz=317								
E62A	**Clayton Lake**	**65.34**	**45**	P	**P**	**16 19 13.7**	**-0.9**
E62A				IAmb	IAmb	16 21 31.8			
	comp=Z,71nm,1.6s								
FINES	**FINES Array B**	**65.35**	**347**	P	**P**	**16 19 13.7**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=22,slow=6.2,SNR=7.8								
	comp=Z,3.7nm,0.8s								
R53A	**Hurricane**	**65.46**	**59**	P	**P**	**16 19 15.0**	**-0.5**
R53A	**Hurricane**	**65.46**	**59**	P	**P**	**16 19 15.1**	**-0.4**
	baz=318								
R53A				P	**P**	**16 19 15.1**	**-0.4**		
	baz=318								
Q54A	**Coxs Mills**	**65.57**	**58**	P	**P**	**16 19 15.4**	**-0.8**
Q54A				IAmb	IAmb	16 19 34.7			
	comp=Z,37nm,1.5s								
BINY	**Binghamton**	**65.66**	**52**	P	**P**	**16 19 16.3**	**-0.5**
	baz=318								
146A	**Union**	**65.66**	**68**	P	**P**	**16 19 16.9**	**-0.1**
TNCH	**TengChong**	**65.67**	**280**	P	**P**	**16 19 16.9**	**-0.4**
TNCH				pP	pP	16 19 38.5	-3.2		
TNCH				S	**S**	**16 27 53.1**	**-2.4**		
TNCH				sS	pS	16 28 23.4	-0.9		
TNCH				pmax	pmax				
	comp=Z,70nm,2.9s								
M57A	**Sunshine Farm,**	**65.73**	**54**	P	**P**	**16 19 16.6**	**-0.6**
M57A				IAmb	IAmb	16 19 17.4			
	comp=Z,20nm,0.6s								
M57A	**Sunshine Farm,**	**65.73**	**54**	P	**P**	**16 19 16.8**	**-0.5**
	baz=318								
M57A				P	**P**	**16 19 16.8**	**-0.5**		
	baz=318								
Z47A	**Carrollton**	**65.82**	**67**	P	**P**	**16 19 17.7**	**-0.3**
	baz=317								
SSPA	**Standing Stone**	**65.87**	**55**	P	**P**	**16 19 17.5**	**-0.7**
	baz=318								
SSPA	**Standing Stone**	**65.87**	**55**	P	**P**	**16 19 17.7**	**-0.4**
	baz=318								
SSPA	**Standing Stone**	**65.87**	**55**	P	**P**	**16 19 17.4**	**-0.7**
SSPA				pP	**pP**	**16 19 42.0**	**-0.4**		
TZTN	**Tazewell**	**65.91**	**61**	P	**P**	**16 19 18.3**	**-0.2**
	baz=317								
W50A	**Signal Mountai**	**65.92**	**63**	P	**P**	**16 19 18.3**	**-0.3**
	baz=317								
V51A	**Loudon**	**66.01**	**62**	P	**P**	**16 19 18.0**	**-1.1**
V51A				IAmb	IAmb	16 19 20.4			
	comp=Z,9.5nm,0.6s								
V51A	**Loudon**	**66.01**	**62**	P	**P**	**16 19 18.8**	**-0.3**
	baz=317								
LBNH	**Lisbon**	**66.06**	**48**	P	**P**	**16 19 17.0**	**-2.3**
	baz=320								
AAK	**Ala-Archa**	**66.14**	**309**	P	**P**	**16 19 20.2**	**+0.1**
AAK				pP	**pP**	**16 19 45.3**	**+0.4**		
H62A	**Milan**	**66.17**	**48**	P	**P**	**16 19 19.4**	**-0.6**
H62A	**Milan**	**66.17**	**48**	P	**P**	**16 19 19.0**	**-1.0**
	baz=320								
H62A				P	**P**	**16 19 19.0**	**-1.0**		
	baz=320								
CPCT	**Cooper Cave**	**66.17**	**63**	P	**P**	**16 19 19.2**	**-1.0**
CPCT				IAmb	IAmb	16 19 20.8			
	comp=Z,25nm,1.5s								
FPAL	**Fort Paine**	**66.23**	**64**	P	**P**	**16 19 19.4**	**-1.2**
FPAL				IAmb	IAmb	16 19 20.4			
	comp=Z,13nm,0.5s								
Y49A	**Blount Mountai**	**66.28**	**65**	P	**P**	**16 19 19.3**	**-1.6**
BATG	**Bathurst New B**	**66.33**	**43**	P	**P**	**16 19 19.5**	**-1.5**
BATG				IAmb	IAmb	16 21 21.9			
	comp=Z,48nm,1.5s								
TKL	**Tuckaleechee C**	**66.43**	**62**	P	**P**	**16 19 21.4**	**-0.4**
TKL	**Tuckaleechee C**	**66.43**	**62**	P	**P**	**16 19 21.4**	**-0.4**
TKL				pmax	pmax				
	comp=Z,14nm,1.2s								
PKME	**Peaks-Kenny Pk**	**66.48**	**46**	P	**P**	**16 19 19.4**	**-2.5**
	baz=321								
LRAL	**Lakeview Retre**	**66.55**	**66**	P	**P**	**16 19 21.2**	**-1.4**
	baz=317								
V53A	**Saluda**	**66.95**	**61**	P	**P**	**16 19 24.1**	**-1.0**
L61B	**Northampton**	**67.07**	**50**	P	**P**	**16 19 26.5**	**+0.7**
	baz=320								
BLA	**Blacksburg**	**67.10**	**59**	P	**P**	**16 19 26.0**	**-0.1**
	baz=318								
LUPA	**Lehigh Univers**	**67.16**	**53**	P	**P**	**16 19 25.9**	**-0.5**
NB2	**NORSAR Subarra**	**67.29**	**354**	P	**P**	**16 19 26.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=7.4,slow=6.9								
NOA	**NORSAR Array B**	**67.29**	**354**	P	**P**	**16 19 25.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=2.5,slow=5.8,SNR=4.2								
	comp=Z,0.3nm,0.5s								
G65A	**Princeton**	**67.30**	**45**	P	**P**	**16 19 25.8**	**-1.3**
G65A				IAmb	IAmb	16 19 38.8			
	comp=Z,63nm,1.4s								
BG3	**Lake Jocassee**	**67.39**	**62**	P	**P**	**16 19 26.8**	**-1.1**
BG3				IAmb	IAmb	16 19 28.2			
	comp=Z,9.3nm,0.5s								
CASEE	**Lake Jocassee**	**67.39**	**62**	P	**P**	**16 19 27.7**	**-0.3**
	baz=318								
PAL	**Palisades**	**67.58**	**52**	P	**P**	**16 19 28.0**	**-1.0**
PAL				IAmb	IAmb	16 20 38.5			
	comp=Z,18nm,0.9s								
PAL	**Palisades**	**67.58**	**52**	P	**P**	**16 19 28.9**	**-0.1**
	baz=320								
PAL	**Palisades**	**67.58**	**52**	P	**P**	**16 19 28.0**	**-1.0**
PAL				pmax	pmax				
	comp=Z,18nm,0.9s								
TUPA	**Temple Univers**	**67.58**	**53**	P	**P**	**16 19 28.0**	**-1.0**
	baz=320								
EMMW	**East Machias**	**67.74**	**45**	P	**P**	**16 19 28.7**	**-1.2**
EMMW				IAmb	IAmb	16 21 53.7			
	comp=Z,63nm,1.3s								
KSH	**Kashi**	**67.77**	**306**	P	**P**	**16 19 34.3**	**+3.9**
KSH				pP	PcP	16 19 58.0	+1.6		
KSH				sP	sP	16 20 09.1	+3.3		
T57A	**Hurt**	**67.88**	**58**	P	**P**	**16 19 30.1**	**-0.8**
T57A				IAmb	IAmb	16 19 30.7			
	comp=Z,9.7nm,0.5s								
T57A	**Hurt**	**67.88**	**58**	P	**P**	**16 19 30.4**	**-0.5**
	baz=319								
T57A				P	**P**	**16 19 30.4**	**-0.5**		
	baz=319								
LMN	**Caledonia Moun**	**67.98**	**43**	P	**P**	**16 19 30.2**	**-1.2**
KMSC	**Kings Mountain**	**68.15**	**61**	P	**P**	**16 19 31.6**	**-1.1**
KMSC				IAmb	IAmb	16 19 32.8			
	comp=Z,16nm,0.5s								
KMSC	**Kings Mountain**	**68.15**	**61**	P	**P**	**16 19 32.4**	**-0.3**
	baz=319								
KMSC	**Kings Mountain**	**68.15**	**61**	P	**P**	**16 19 33.4**	**+0.7**
	baz=319,SNR=5.7								
GOGA	**Godfrey**	**68.27**	**63**	P	**P**	**16 19 33.7**	**+0.3**
	baz=318								
HODGE	**Hodges**	**68.32**	**62**	P	**P**	**16 19 33.0**	**-0.7**
HODGE				IAmb	IAmb	16 19 33.9			
	comp=Z,13nm,0.5s								
HODGE	**Hodges**	**68.32**	**62**	P	**P**	**16 19 33.6**	**-0.2**
	baz=319								
JSC	**Jenkinsville**	**68.83**	**61**	P	**P**	**16 19 36.5**	**-0.4**
JSC				IAmb	IAmb	16 19 37.4			
	comp=Z,16nm,0.5s								
JSC	**Jenkinsville**	**68.83**	**61**	P	**P**	**16 19 36.9**	**-0.1**
	baz=319								
JSC	**Jenkinsville**	**68.83**	**61**	P	**P**	**16 19 36.5**	**-0.4**
JSC				pmax	pmax				
	comp=Z,16nm,0.5s								
BIRD	**Birdtown, Kers**	**69.00**	**61**	P	**P**	**16 19 37.4**	**-0.5**
	baz=319								
CMAR	**Chiang Mai Arr**	**70.29**	**275**	P	**P**	**16 19 48.0**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=21,slow=7.6,SNR=6.3								
CMAR				pP	**pP**	**16 20 09.6**	**-1.2**		
	comp=Z,4.3nm,0.8s,baz=26,slow=7.1,SNR=10								
CMAR				LR	LR	16 51 15.0			
	comp=Z,5.7nm,21.8s,baz=190,slow=36								
	comp=Z,0.4nm,0.3s								
BRDH	**Bariadhala**	**71.61**	**283**	LR	LR	16 53 24.0			
	comp=Z,71nm,19.4s,baz=258,slow=38								
AKASG	**Malin Array Be**	**75.06**	**341**	P	**P**	**16 20 13.1**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=18,slow=5.2,SNR=5.8								
AKASG				pP	**pP**	**16 20 38.0**	**-1.0**		
	comp=Z,0.8nm,0.3s,baz=20,slow=6.2,SNR=4.6								
AKASG				LR	LR	16 59 03.8			
	comp=Z,12nm,18.2s,baz=0.0,slow=40								
	comp=Z,0.9nm,0.3s								
SOR	**Soroa**	**76.57**	**70**	P	**P**	**16 20 22.7**	**-0.2**
SOR				IAmb	IAmb	16 22 54.4			
	comp=Z,41nm,1.3s								
SOR	**Soroa**	**76.57**	**70**	P	**P**	**16 20 22.7**	**-0.2**
SOR				pmax	pmax				
	comp=Z,41nm,1.3s								
KIV	**Kislovodsk**	**77.88**	**330**	*e*P	**P**	**16 20 31.3**	**+1.3**
KIV				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KBZ	**Khabaz**	**78.01**	**330**	LR	LR	16 58 02.8			
	comp=Z,18nm,19.8s,baz=166,slow=38								
BURAR	**Bucovina Array**	**78.78**	**343**	P	**P**	**16 20 35.4**	**+0.5**
WB0	**Warramunga Arr**	**81.56**	**223**	P	**P**	**16 20 50.1**	**+0.2**
WR0	**Warramunga Arr**	**81.67**	**223**	P	**P**	**16 20 51.0**	**+0.4**
WB2	**Warramunga Arr**	**81.74**	**223**	P	**P**	**16 20 51.0**	**+0.2**
WRA	**Warramunga Arr**	**81.74**	**223**	P	**P**	**16 20 51.9**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=32,slow=5.7,SNR=29

KAPI				LR	LR	16 25 12.8		
	comp=Z,132nm,20.1s,baz=218,slow=45							
BKSI	**Bulukumba**	**5.22**	**54**	P	**Pn**	**16 22 49.2**	**-0.4**	
	0.9nm4µm234nm,0.5s							
UGM	**Wanagama**	**5.36**	**276**	Pn	**Pn**	**16 22 52.3**	**+0.7**	
UGM	**Wanagama**	**5.36**	**276**	P	**Pn**	**16 22 53.0**	**+1.4**	
	1.0nm165nm,1.8s							
YOGI	**Yogyakarta**	**5.59**	**276**	P	**Pn**	**16 22 55.2**	**+0.4**	
	0.6nm104nm,1.5s							
BNSI	**Bone**	**5.81**	**46**	P	**Pn**	**16 22 59.1**	**+1.4**	
	0.3nm944nm70nm,0.6s							
SPSI	**Sidrap Palu**	**5.89**	**41**	P	**Pn**	**16 22 58.8**	**-0.1**	
	0.1nm24nm,0.6s							
MMRI	**Maumere**	**6.26**	**92**	Pn	**Pn**	**16 23 03.1**	**-0.8**	
MMRI	**Maumere**	**6.26**	**92**	P	**Pn**	**16 23 03.2**	**-0.8**	
	0.3nm76nm,1.0s							
BATI	**Baumata**	**7.85**	**103**	P	**Pn**	**16 23 27.1**	**+1.3**	
	19nm,0.4s,baz=193,slow=3.0,SNR=5.4							
BATI	**Baumata**	**7.85**	**103**	P	Pn	16 23 39.4	+14	
SOEI	**Soe**	**8.35**	**99**	Pn	**Pn**	**16 23 33.1**	**+0.3**	
SOEI	**Soe**	**8.35**	**99**	P	**Pn**	**16 23 33.6**	**+0.8**	
LEM	**Lembang**	**8.38**	**281**	P	Pn	16 23 45.7	+13	
	16nm,0.6s,baz=84,slow=10.0,SNR=4.0							
LEM				LR	LR	16 28 06.0		
	comp=Z,84nm,18.9s,baz=32,slow=44							
MBWA	**Marble Bar**	**13.15**	**164**	Pn	**Pn**	**16 24 34.8**	**-3.5**	
MBWA	**Marble Bar**	**13.15**	**164**	P	Pn	16 24 34.1	-4.2	
PSA00	**Pilbara Seismi**	**13.57**	**164**	Pn	**Pn**	**16 24 40.8**	**-3.3**	
PSA00	**Pilbara Seismi**	**13.57**	**164**	P	Pn	16 24 40.2	-3.9	
GIRL	**Giralia**	**14.19**	**186**	Pn	**Pn**	**16 24 49.8**	**-2.7**	
KNRA	**Kununurra**	**14.46**	**121**	Pn	**Pn**	**16 24 54.6**	**-1.7**	
KNRA	**Kununurra**	**14.46**	**121**	P	**Pn**	**16 24 54.6**	**-1.7**	
MTN	**Manton Dam**	**15.58**	**108**	Pn	**Pn**	**16 25 09.0**	**-2.2**	
SIJI	**Sorong**	**17.06**	**65**	LR	LR	16 33 16.4		
	comp=Z,48nm,19.1s,baz=170,slow=42							
FAKI	**Fak Fak**	**17.16**	**72**	Pn	**Pn**	**16 25 29.4**	**-1.9**	
FAKI				IAmb	IAmb	16 25 50.4		
	comp=Z,22nm,1.3s							
MEEK	**Meekatharra**	**18.25**	**172**	P	**Pn**	**16 25 46.1**	**+1.4**	
MORW	**Morawa**	**20.49**	**180**	P	**P**	**16 26 09.7**	**+0.7**	
MORW				IAmb	IAmb	16 26 43.7		
	comp=Z,15nm,1.1s							
MORW	**Morawa**	**20.49**	**180**	P	Pn	16 26 21.0	+10	
	comp=Z,9.9nm,1.1s							
WB0	**Warramunga Arr**	**21.13**	**124**	P	**P**	**16 26 15.7**	**-0.3**	
WB0				IAmb	IAmb	16 26 27.1		
	comp=Z,5.9nm,0.7s							
WRA	**Warramunga Arr**	**21.17**	**125**	P	**P**	**16 26 16.9**	**+0.4**	
	comp=Z,0.7nm,0.7s,baz=301,slow=12,SNR=17							
WRA				S	**S**	**16 30 08.7**	**-1.5**	
	comp=Z,0.5nm,0.6s,baz=296,slow=21,SNR=3.7							
WRA				LR	LR	16 35 49.8		
	comp=Z,60nm,18.1s,baz=223,slow=40							
	comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	**21.17**	**125**	P	**P**	**16 26 16.2**	**-0.3**	
WB2	**Warramunga Arr**	**21.18**	**125**	P	**P**	**16 26 16.2**	**-0.4**	
WB2				IAmb	IAmb	16 26 28.4		
	comp=Z,9.6nm,1.1s							
WR0	**Warramunga Arr**	**21.34**	**124**	P	**P**	**16 26 17.8**	**-0.5**	
BLDU	**Ballidu**	**22.05**	**178**	P	P	16 26 36.5	+11	
AS31	**Alice Springs**	**22.92**	**133**	P	**P**	**16 26 35.4**	**+0.2**	
ASAR	**Alice Springs**	**22.92**	**133**	P	**P**	**16 26 34.9**	**-0.3**	
	comp=Z,0.5nm,0.3s,baz=309,slow=9.1,SNR=22							
ASAR				S	**S**	**16 30 45.8**	**+2.8**	
	comp=Z,0.2nm,0.8s,baz=310,slow=22,SNR=2.0							
	comp=Z,0.5nm,0.3s							
ASAR	**Alice Springs**	**22.92**	**133**	P	**P**	**16 26 34.8**	**-0.4**	
AS01	**Alice Springs**	**22.95**	**133**	P	**P**	**16 26 36.6**	**+1.1**	
NWAO	**Narrogin (SRO)**	**24.37**	**177**	P	**P**	**16 26 50.5**	**+1.6**	
QIS	**Mount Isa**	**25.85**	**120**	P	P	16 27 13.5	+11	
	comp=Z,4.9nm,0.9s							
OOD	**Oodnadatta**	**26.81**	**138**	P	**P**	**16 27 17.3**	**+6.3**	
COEN	**Coen**	**27.28**	**104**	P	**P**	**16 27 18.0**	**+2.5**	
COEN				IAmb	IAmb	16 27 56.8		
	comp=Z,12nm,1.2s							
MULG	**Mulgathing**	**27.56**	**144**	P	P	16 27 27.1	+9.3	
	comp=Z,15nm,1.9s							
LCRK	**Leigh Creek**	**30.22**	**139**	P	P	16 27 51.2	+10	
	comp=Z,10nm,2.6s							
PMG	**Port Moresby**	**30.88**	**94**	LR	LR	16 42 31.4		
	comp=Z,45nm,18.1s,baz=107,slow=41							
CMAR	**Chiang Mai Arr**	**31.56**	**328**	P	**P**	**16 27 55.0**	**+1.6**	
	comp=Z,0.3nm,0.4s,baz=156,slow=7.4,SNR=5.0							
	comp=Z,0.3nm,0.4s							
STKA	**Stephens Creek**	**33.35**	**138**	P	**P**	**16 28 10.6**	**+1.6**	
	comp=Z,1.9nm,1.0s,baz=315,slow=11,SNR=2.4							
STKA				LR	LR	16 42 59.8		
	comp=Z,39nm,21.4s,baz=209,slow=38							
	comp=Z,1.9nm,1.0s							
PALK	**Pallekele**	**38.42**	**293**	LR	LR	16 44 03.6		
	comp=Z,70nm,21.2s,baz=256,slow=35							
SONM	**Songino Array**	**56.69**	**352**	P	**P**	**16 31 13.5**	**-0.5**	
	comp=Z,2.4nm,0.8s,baz=172,slow=9.2,SNR=11							
	comp=Z,2.4nm,0.8s							
SONM	**Songino Array**	**56.69**	**352**	P	**P**	**16 31 13.0**	**-1.0**	
SONM				IAmb	IAmb	16 31 14.1		
	comp=Z,1.9nm,0.7s							
MKAR	**Makanchi Array**	**62.63**	**335**	P	**P**	**16 31 54.4**	**-0.5**	
	comp=Z,0.3nm,0.4s,baz=150,slow=7.9,SNR=7.7							
	comp=Z,0.3nm,0.4s							
MKAR	**Makanchi Array**	**62.63**	**335**	P	**P**	**16 31 53.3**	**-1.6**	
GEYT	**Alibeck**	**70.89**	**315**	P	**P**	**16 32 45.8**	**-1.9**	
GEYT				IAmb	IAmb	16 33 12.2		
	comp=Z,5.6nm,1.3s							
VNDA	**Vanda**	**73.00**	**171**	P	**P**	**16 33 00.8**	**+1.1**	
	comp=Z,0.4nm,0.8s,baz=315,slow=7.8,SNR=2.5							
	comp=Z,0.4nm,0.8s							
VNDA	**Vanda**	**73.00**	**171**	P	**P**	**16 32 59.4**	**-0.3**	
VNDA				IAmb	IAmb	16 33 11.9		
	comp=Z,3.9nm,1.4s							
SBA	**Scott Base**	**74.02**	**170**	P	**P**	**16 33 07.5**	**+1.9**	
SBA				IAmb	IAmb	16 33 18.4		
	comp=Z,2.2nm,1.0s							
QSPA	**South Pole Qui**	**81.53**	**180**	P	**P**	**16 33 47.3**	**-0.5**	
CPUP	**Villa Florida**	**144.79**	**191**	PKPbc	PKPbc	16 41 07.3	+0.3	
	comp=Z,2.3nm,0.8s,baz=150,slow=2.3,SNR=4.6							

WEL 23 16:21:57.8,42°S±5′×17°4E±°, h15km±6km, M2.6/18, mB5.6/1, ML2.8/23, MLv2.6/18, Mw(mB)5.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**27**	P	Pb	16 22 02.5	-0.2
BSWZ	**Blackbirch Sta**	**0.25**	**316**	P	Pg	16 22 03.4	+0.1
TUWZ	**Tuamarina**	**0.48**	**345**	P	Pb	16 22 07.9	-0.2
KHZ	**Kahutara**	**0.67**	**219**	P	Pb	16 22 11.7	+0.4
TCW	**Tory Channel**	**0.70**	**10**	P	Pb	16 22 11.7	0.0
WEL	**Wellington**	**0.79**	**39**	P	Pn	16 22 14.0	-0.4
THZ	**Tophouse**	**0.91**	**278**	P	Pg	16 22 15.6	+0.1
MSWZ	**Moikau Station**	**0.98**	**61**	P	Pg	16 22 16.7	0.0
CAW	**Cannon Point**	**1.06**	**43**	P	Pg	16 22 18.4	0.0
DUWZ	**D'Urville Isla**	**1.10**	**352**	P	Pn	16 22 18.9	+0.1
PAWZ	**Paruwai Farm**	**1.11**	**63**	P	Pb	16 22 18.3	-0.4
MRNZ	**Matariki Terra**	**1.13**	**296**	P	Pg	16 22 19.8	+0.2
KIW	**Kapiti Island**	**1.20**	**30**	P	Pg	16 22 20.8	-0.1
TKNZ	**Takaka Hill**	**1.22**	**314**	P	Pg	16 22 21.2	-0.2
MTW	**Mount Morrison**	**1.28**	**55**	P	Pn	16 22 20.9	-0.2
GVZ	**Greta Valley S**	**1.33**	**216**	P	Pn	16 22 22.1	+0.1
OGWZ	**Otaki Gorge**	**1.34**	**37**	P	Pn	16 22 22.2	+0.1
HOWZ	**Holdsworth Sta**	**1.45**	**47**	P	Pn	16 22 23.3	-0.2
TMWZ	**Te Maipa**	**1.55**	**60**	P	Pn	16 22 24.1	-0.9
QRZ	**Quartz Range**	**1.60**	**311**	P	Pb	16 22 27.6	+0.5
LTZ	**Lake Taylor**	**1.63**	**236**	P	Pn	16 22 26.2	+0.2
MRZ	**Mangatainoka R**	**1.66**	**42**	P	Pn	16 22 26.1	-0.3
DSZ	**Denniston Nort**	**1.73**	**274**	P	Pb	16 22 29.5	+0.1
PRWZ	**Pori Road**	**1.94**	**47**	P	Pg	16 22 36.1	+1.0
OKCZ	**Okains Bay**	**1.98**	**203**	P	Pn	16 22 30.5	-0.4
BFZ	**Birch Farm**	**2.01**	**54**	P	Pg	16 22 37.6	+1.1
INZ	**Inchbonnie**	**2.15**	**246**	P	Pn	16 22 34.1	+1.0
WAZ	**Wanganui**	**2.24**	**17**	P	Pg	16 22 39.6	-1.2
TSZ	**Takapari Road**	**2.31**	**38**	P	Pn	16 22 35.2	-0.2
KHEZ	**Kahui Hut**	**2.60**	**358**	P	Pb	16 22 44.2	0.0
WNVZ	**Wahianoa**	**2.81**	**24**	P	Pb	16 22 47.6	-0.2
VRZ	**Vera Road**	**2.81**	**10**	P	Pb	16 22 46.5	-1.3
TRVZ	**Turoa**	**2.81**	**23**	P	Pb	16 22 47.7	-0.2
BHHZ	**Black Hill Sta**	**2.83**	**32**	P	Pb	16 22 48.4	+0.4
NGZ	**Ngauruhoe**	**2.94**	**23**	P	Pb	16 22 51.0	+0.9
NNVZ	**North Ngauruho**	**2.99**	**23**	P	Pb	16 22 49.7	-1.2
ETVZ	**East Tongariro**	**3.02**	**24**	P	Pb	16 22 51.1	-0.2
TMVZ	**Te Maari**	**3.03**	**24**	P	Pb	16 22 51.5	-0.1
MHGZ	**Mahia Peninsul**	**3.98**	**48**	P	Pn	16 22 57.4	-0.9
PKGZ	**Pakihiroa**	**5.03**	**39**	P	Pn	16 23 17.2	+4.4

*TAP **23** 16:27:37.8,24.°63N×122.°48E, h17km, ML3.6, D*
*JMA **23** 16:27:38.1±0.1,25.°1N×122.°5E±0.°4, h26km±2km, MV3.3/13, NW OFF ISHIGAKIJIMA IS*
*IDC **23** 16:28:31.0±4.6,18.°16N×123.°61E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=348.6km s-min=27.5km az=62.0*

ISC 23 16:27:37.7±1.0, 24°59N±0°.02×122°48E±0°.02, h8km±8km, n129, σ0.89/169, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.45**	**108**	P	**Pg**	**16 27 47.1**	**+0.7**
JYNG				S	**Sb**	**16 27 53.8**	**-0.9**
YOJ	**Yonaguni jima**	**0.50**	**105**	*i* P	**Pg**	**16 27 48.2**	**+0.7**
	baz=109						
YOJ				S	**Sg**	**16 27 55.0**	**+0.9**
	baz=109						
YOJ	**Yonaguni jima**	**0.50**	**105**	P	**Pg**	**16 27 48.2**	**+0.7**
YOJ				S	**Sg**	**16 27 55.2**	**+1.1**
TWC	**Suao**	**0.57**	**272**	*e*P	**Pg**	**16 27 48.1**	**-0.6**
	baz=267						
TWC				*e*S	**Sb**	**16 27 57.8**	**-0.4**
	baz=267						
TWB1	**Santiao Chiao**	**0.61**	**313**	*e*P	**Pg**	**16 27 49.8**	**+0.3**
	baz=310						
TWB1				*e*S	**Sg**	**16 27 58.0**	**+0.6**
	baz=310						
ILA	**Ilan**	**0.68**	**285**	*e*P	**Pg**	**16 27 50.7**	**-0.2**
	baz=272						
ILA				*e*S	**Sb**	**16 28 00.8**	**-0.7**
	baz=272						
ENA	**Nanau**	**0.69**	**256**	*e*P	**Pg**	**16 27 50.6**	**-0.4**
	baz=261						
ENA				*e*S	**Sb**	**16 28 01.0**	**-0.5**
	baz=261						
TIPB	**Shuangxi**	**0.70**	**303**	P	**Pg**	**16 27 51.1**	**-0.2**
	baz=308						
TIPB				*e*S	**Sg**	**16 28 01.0**	**+0.5**
	baz=308						
SXI1	**Grass Mountain**	**0.74**	**313**	*i* P	**Pg**	**16 27 52.2**	**+0.2**
	baz=310						
SXI1				*e*S	**Sg**	**16 28 01.9**	**+0.2**
	baz=310						
TWE	**Neicheng**	**0.75**	**280**	*e*P	**Pg**	**16 27 51.4**	**-0.7**
	baz=270						
TWE				S	**Sb**	**16 28 02.5**	**-0.7**
	baz=270						
NWF	**Wu-fen Shan**	**0.79**	**307**	P	**Pb**	**16 27 53.4**	**-0.4**
	baz=319						
NWF				*e*S	**Sb**	**16 28 04.6**	**0.0**
	baz=319						
WFSB	**Wu-fen Shan**	**0.79**	**307**	*i* P	**Pg**	**16 27 53.2**	**+0.3**
	baz=319						
WFSB				S	**Sb**	**16 28 04.1**	**-0.4**
	baz=319						
FUSB	**Fushanzhiwuyua**	**0.82**	**282**	*e*P	**Pg**	**16 27 53.0**	**-0.6**
	baz=279						
FUSB				*e*S	**Sg**	**16 28 04.6**	**+0.3**
	baz=279						
ENTT	**Nioudou**	**0.83**	**274**	*e*P	**Pg**	**16 27 52.1**	**-1.6**
	baz=279						
LATG	**Datong**	**0.87**	**267**	*e*P	**Pg**	**16 27 53.8**	**-0.6**
	baz=263						
LATG				*e*S	**Sb**	**16 28 06.2**	**-0.6**
	baz=263						
ETL	**Fush Village**	**0.89**	**241**	*e*P	**Pg**	**16 27 54.7**	**-0.1**
	baz=247						
ETL				*e*S	**Sb**	**16 28 07.6**	**+0.2**
	baz=247						
TWA	**Mucha**	**0.90**	**296**	P	**Pb**	**16 27 55.3**	**-0.2**
	baz=293						
TWA				*e*S	**Sb**	**16 28 07.0**	**-0.6**
	baz=293						
NACB	**Ninganchiao**	**0.90**	**243**	P	**Pg**	**16 27 54.8**	**-0.3**
	baz=240						
NACB				*e*S	**Sg**	**16 28 07.0**	**+0.2**
	baz=240						
NHY	**Taipei**	**0.94**	**299**	P	**Pg**	**16 27 55.7**	**0.0**
	baz=296						
NHY				*i* S	**Sb**	**16 28 08.5**	**-0.2**
	baz=296						
NHDH	**Xindian Distri**	**0.94**	**293**	*e*P	**Pb**	**16 27 56.0**	**-0.2**
	baz=290						
NHDH				*i* S	**Sb**	**16 28 08.6**	**-0.2**
	baz=290						
TWD	**Chiawan**	**0.95**	**238**	*e*P	**Pg**	**16 27 56.1**	**+0.1**
	baz=235						
TATO	**Taipei**	**0.98**	**293**	*e*P	**Pb**	**16 27 56.7**	**-0.1**
	baz=290						
TATO				*e*S	**Sg**	**16 28 08.7**	**-0.5**
	baz=290						
ETLH	**Xiulin Townshi**	**0.98**	**247**	*e*P	**Pg**	**16 27 56.0**	**-0.6**
	baz=245						
TAP	**Taipei**	**0.99**	**297**	P	**Pg**	**16 27 56.5**	**-0.1**
	baz=308						
TAP				*e*S	**Sg**	**16 28 09.3**	**-0.2**
	baz=308						
YM01	**YM01**	**0.99**	**304**	*i* P	**Pg**	**16 27 56.5**	**-0.2**
	baz=301						
YM01				*e*S	**Sg**	**16 28 09.7**	**+0.1**
	baz=301						
YM08	**YM08**	**1.00**	**307**	P	**Pg**	**16 27 56.5**	**-0.5**
	baz=304						
YM08				*i* S	**Sg**	**16 28 09.6**	**-0.4**
	baz=304						
HWA	**Hwalien**	**1.00**	**233**	*e*P	**Pb**	**16 27 57.2**	**-0.1**
	baz=229						
YHNB	**Yeheng**	**1.00**	**275**	P	**Pg**	**16 27 56.7**	**-0.3**
	baz=272						
NNSB	**Datong**	**1.01**	**261**	*e*P	**Pg**	**16 27 56.4**	**-0.7**
	baz=258						
NNSB				*e*S	**Sg**	**16 28 10.0**	**-0.2**
	baz=258						
NNSH	**Datong**	**1.01**	**261**	*e*P	**Pg**	**16 27 55.4**	**-1.7**
	baz=258						
NNS	**Nan Shan**	**1.01**	**262**	*e*P	**Pg**	**16 27 55.5**	**-1.7**
	baz=259						
NNS				*e*S	**Sg**	**16 28 09.7**	**-0.7**
	baz=259						
NSK	**Sanguang**	**1.02**	**275**	*e*P	**Pg**	**16 27 55.8**	**-1.6**
	baz=272						
NSK				*e*S	**Sg**	**16 28 09.9**	**-0.6**
	baz=272						
TWY	**Chenhua**	**1.05**	**311**	*e*P	**Pb**	**16 27 57.1**	**-0.9**
	baz=308						
TWY				S	**Sg**	**16 28 11.1**	**-0.4**
	baz=308						
ANP	**Anpu**	**1.05**	**305**	*i* P	**Pg**	**16 27 57.3**	**-0.6**
	baz=302						
TWS1	**Kuangyinshan**	**1.09**	**298**	*e*P	**Pg**	**16 27 58.7**	**+0.1**
	baz=296						
ETM	**Tongmen**	**1.09**	**235**	*e*P	**Pb**	**16 27 58.2**	**-0.6**
	baz=232						
NTST	**Danshui**	**1.09**	**302**	*e*P	**Pb**	**16 27 58.5**	**-0.3**
	baz=299						
IRIF	**Iriomote-Funau**	**1.17**	**102**	P	**Pb**	**16 27 58.7**	**-1.4**
IRIF				*e*S	**Sb**	**16 28 14.6**	**-0.9**
FUSS	**Fushou**	**1.17**	**253**	*e*P	**Pb**	**16 27 59.7**	**-0.7**
	baz=243						
WHF	**Hehuan Shan**	**1.19**	**248**	*e*P	**Pb**	**16 28 00.1**	**-0.6**
	baz=245						
ESL	**Shilin**	**1.23**	**231**	*e*P	**Pn**	**16 28 00.7**	**-0.4**
	baz=211						
NCU	**National Centr**	**1.23**	**288**	*e*P	**Pn**	**16 28 00.2**	**-0.9**
	baz=286						
NCUH	**Zhongli**	**1.23**	**288**	*e*P	**Pn**	**16 28 00.3**	**-0.9**
	baz=286						
TWT	**Tachien**	**1.23**	**254**	*e*P	**Pg**	**16 28 01.5**	**+0.1**
	baz=236						
NFF	**Wufeng Townshi**	**1.24**	**272**	*e*P	**Pn**	**16 28 00.3**	**-1.0**
	baz=288						
TDCB	**Techi**	**1.25**	**255**	P	**Pb**	**16 28 01.5**	**0.0**
	baz=237						
NJD	**Zhudong**	**1.27**	**277**	*e*P	**Pg**	**16 28 03.0**	**+1.0**
	baz=295						
CHGB	**Renai**	**1.30**	**246**	*e*P	**Pb**	**16 28 02.4**	**-0.1**
	baz=226						
CHGB				*e*S	**Sb**	**16 28 19.1**	**-0.3**
	baz=226						
HATJ	**Hateruma jima**	**1.32**	**113**	P	**Pn**	**16 28 01.6**	**-0.8**
HATJ				*e*S	**Sb**	**16 28 18.1**	**-1.8**
EGFH	**Guangfu**	**1.33**	**226**	*e*P	**Pn**	**16 28 02.2**	**-0.3**
	baz=209						
EGFH				*e*S	**Sn**	**16 28 20.3**	**0.0**
	baz=209						
LIOB	**Emei**	**1.33**	**273**	*e*P	**Pg**	**16 28 03.4**	**+0.2**
	baz=290						
LIOB				*e*S	**Sb**	**16 28 19.7**	**-0.4**
	baz=290						
HSN1	**Hsinchu**	**1.34**	**278**	*e*P	**Pg**	**16 28 04.5**	**+1.1**
	baz=295						
NSTT	**Nanjuang**	**1.34**	**272**	*e*P	**Pg**	**16 28 03.4**	**-0.1**
	baz=287						
SBCB	**Hsinchu**	**1.37**	**279**	*e*P	**Pb**	**16 28 03.5**	**0.0**
	baz=294						
WUSB	**Renai**	**1.38**	**245**	*e*P	**Pb**	**16 28 03.7**	**0.0**
	baz=225						
WUSB				*e*S	**Sn**	**16 28 21.4**	**-0.3**
	baz=225						
WHP	**Taichung City**	**1.43**	**258**	P	**Pb**	**16 28 04.8**	**+0.2**
	baz=240						
JKRS	**Kuro-shima**	**1.44**	**104**	P	**Pn**	**16 28 03.1**	**-1.0**
JKRS				S	**Sn**	**16 28 21.7**	**-1.4**
HGSD	**Ruisui**	**1.46**	**222**	*e*P	**Pn**	**16 28 04.2**	**-0.1**
	baz=207						
VWDT	**VWDT**	**1.48**	**236**	*e*P	**Pb**	**16 28 05.1**	**-0.3**
	baz=233						
WPL	**Puli Township**	**1.50**	**248**	*e*P	**Pg**	**16 28 06.2**	**-0.3**
	baz=231						
EHY	**Hungye**	**1.51**	**225**	P	**Pn**	**16 28 04.2**	**-0.8**
	baz=221						
DPDB	**Guoxing**	**1.52**	**249**	*e*P	**Pg**	**16 28 06.7**	**-0.2**
	baz=232						
WCS	**Beigang Elemen**	**1.52**	**250**	P	**Pb**	**16 28 05.6**	**-0.6**
	baz=234						
NMLH	**Miaoli**	**1.54**	**268**	P	**Pb**	**16 28 06.5**	**+0.2**
	baz=284						
JIJ	**Ishigaki jima**	**1.54**	**98**	P	**Pn**	**16 28 03.7**	**-1.7**
JIJ				S	**Sn**	**16 28 22.9**	**-2.5**
TWQ1	**Liyutan**	**1.57**	**261**	*e*P	**Pg**	**16 28 07.6**	**-0.3**
	baz=259						
NSY	**Sanyi**	**1.57**	**264**	*e*P	**Pg**	**16 28 08.7**	**+0.9**
	baz=262						
ECBN	**Changbin**	**1.58**	**217**	*e*P	**Pn**	**16 28 04.6**	**-1.3**
	baz=214						
SMLT	**Sun Moon Lake**	**1.60**	**244**	*e*P	**Pb**	**16 28 07.6**	**0.0**
	baz=227						
SSLB	**Suanglung**	**1.60**	**240**	*e*P	**Pb**	**16 28 06.9**	**-0.6**
	baz=220						
YULB	**Yu-li**	**1.61**	**222**	*e*P	**Pn**	**16 28 05.5**	**-0.8**
	baz=219						
YULB				*e*S	**Sn**	**16 28 27.0**	**-0.3**
	baz=219						
TYC	**Yuchr**	**1.63**	**245**	*e*P	**Pb**	**16 28 08.0**	**+0.1**
	baz=228						
EYUL	**Yuli**	**1.63**	**221**	*e*P	**Pn**	**16 28 06.5**	**-0.1**
	baz=235						
EYUL				*e*S	**Sn**	**16 28 27.8**	**0.0**
	baz=235						
TWF1	**Yuli**	**1.64**	**221**	*e*P	**Pn**	**16 28 06.7**	**0.0**
	baz=235						
JISG	**Ishigakijimahi**	**1.67**	**90**	P	**Pn**	**16 28 05.7**	**-1.5**
WWF	**Wufeng**	**1.71**	**252**	*e*P	**Pb**	**16 28 09.8**	**+0.4**
	baz=248						
WHYT	**Xinyi Township**	**1.73**	**239**	*e*P	**Pb**	**16 28 09.4**	**-0.3**
	baz=223						
FULB	**Fuli**	**1.76**	**218**	P	**Pn**	**16 28 07.6**	**-0.9**
	baz=203						
FULB				*e*S	**Sn**	**16 28 29.3**	**-1.7**
	baz=203						
WJS	**Zhushan**	**1.77**	**245**	*e*P	**Pb**	**16 28 10.9**	**+0.6**
	baz=223						
YUS	**Yu-Shan**	**1.77**	**232**	*e*P	**Pb**	**16 28 09.8**	**-0.9**
	baz=213						
WNT	**Mingjian**	**1.78**	**247**	*e*P	**Pb**	**16 28 11.1**	**+0.5**
	baz=242						
CHKT	**Chengkung**	**1.80**	**215**	*e*P	**Pn**	**16 28 08.1**	**-0.8**
	baz=200						
CHKT				*e*S	**Sn**	**16 28 30.2**	**-1.8**
	baz=200						
ALS	**Alishan**	**1.87**	**235**	*e*P	**Pb**	**16 28 11.7**	**-0.6**
	baz=215						
CHN5	**Tsauling**	**1.92**	**239**	P	**Pb**	**16 28 11.7**	**-1.2**
	baz=235						
ELDTW	**Lidau**	**1.93**	**224**	*e*P	**Pn**	**16 28 10.7**	**-0.2**
	baz=220						
EDH	**Donghe**	**1.94**	**214**	*e*P	**Pn**	**16 28 09.3**	**-1.5**
	baz=200						
EDH				*e*S	**Sn**	**16 28 33.1**	**-2.2**
	baz=200						
WGK	**Gukeng**	**1.97**	**243**	*e*P	**Pb**	**16 28 13.5**	**-0.2**
	baz=238						
WDLH	**Douliu**	**1.98**	**243**	*e*P	**Pb**	**16 28 13.5**	**-0.5**
	baz=239						
JTJ	**Tarama**	**2.03**	**88**	*e*P	**Pn**	**16 28 11.8**	**-0.3**
WRL	**Guolierlin Hig**	**2.04**	**251**	*e*P	**Pn**	**16 28 12.5**	**+0.3**
	baz=246						
WCKO	**Fanlu**	**2.06**	**237**	*e*P	**Pb**	**16 28 13.9**	**-1.4**
	baz=232						
LONT	**Longtian**	**2.08**	**217**	*e*P	**Pn**	**16 28 12.4**	**-0.5**
	baz=213						
STYH	**Taoyuan**	**2.10**	**228**	*e*P	**Pn**	**16 28 13.3**	**+0.1**
	baz=213						
CHN4	**Tsaushan**	**2.12**	**235**	P	**Pb**	**16 28 14.8**	**-1.5**
	baz=230						
STYT	**Tauyuan**	**2.12**	**228**	*e*P	**Pn**	**16 28 14.7**	**+1.3**
	baz=213						
TPUB	**Ta-pu**	**2.12**	**233**	*e*P	**Pb**	**16 28 15.3**	**-1.1**
	baz=229						
WTP	**Ta-pu**	**2.17**	**232**	*

ASAR	**Alice Springs**	**49.23**	**166**	P		**P**		**16 36 29.9**	**+3.1**
	0.4nm,0.5s,baz=346,slow=9.7,SNR=10								
	0.4nm,0.5s								

IDC 23 16:35:09.7±4.9, 3°.18N×129°.42E, h45km±56km, mb3.2/3, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=127.5km s-min=29.7km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**4.42**	**155**	P		Pn	16 36 15.4	+1.1
	0.8nm,0.3s,baz=330,slow=17,SNR=4.6							
SIJI				S		Sn	16 37 04.0	-0.6
	2.3nm,0.3s,baz=193,slow=21,SNR=6.5							
	1.8nm,0.4s							
WRA	**Warramunga Arr**	**23.48**	**168**	P		P	16 40 15.8	+0.2
	0.6nm,0.8s,baz=347,slow=10,SNR=5.3							
	0.6nm,0.8s							
ASAR	**Alice Springs**	**27.04**	**171**	P		P	16 40 48.6	+0.7
	0.2nm,0.6s,baz=0.0,slow=7.7,SNR=6.0							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**59.55**	**324**	P		P	16 45 08.1	-0.6
	2.1nm,1.2s,baz=132,slow=6.8,SNR=4.2							
	2.1nm,1.2s							

*SJA **23** 16:43:27.0±1.2, 29°.85S×71°.76W, h6km±14km, ML4.3, MW4.1*
*IDC **23** 16:43:31.1±4.8, 29°.83S×71°.89W, h35km±35km, mb3.7/1, mbtmp3.7/6, ML3.8/6, MS3.2/8, Error ellipse: s-maj=43.0km s-min=25.3km az=90.0*
*NEIC **23** 16:43:33.2±1.4, 29°.85S±0°.03×71°.47W±0°.07, h48km±3km, mb4.4/3, Mwr4.2(GUC), Error ellipse: s-maj=9.4km s-min=4.2km az=99.0*
*GUC **23** 16:43:33.0±0.6, 29°.94S×71°.39W, h48km±2km, ML4.5*
*VAO **23** 16:43:37.2±0.5, 30°.38S×70°.68W, h10km, mb3.9*
ISC 23 16:43:32.4±0.8, 29°.81S±0°.03×71°.66W±0°.05, h39km±2km, n98, σ1°57/121, mb4.4/4, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO05	**La Serena**	**0.38**	**108**			**Pn**	**16 43 41.4**	**0.0**
CO05				Sn		**Sn**	**16 43 47.3**	**-0.7**
CO05	**La Serena**	**0.38**	**108**	*i* P		**Pn**	**16 43 41.4**	**0.0**
CO05				*e*S		**Sn**	**16 43 47.3**	**-0.7**
CO05				IAML			16 43 48.0	
	comp=E,169μm,0.2s							
GO04	**Tololo Observa**	**0.83**	**117**	Pn		**Pn**	**16 43 46.3**	**-1.5**
GO04				Sn		**Sn**	**16 43 55.8**	**-3.1**
GO04	**Tololo Observa**	**0.83**	**117**	⇓*i* P		**Pn**	**16 43 46.5**	**-1.3**
GO04				*e*S		**Sn**	**16 43 56.3**	**-2.7**
GO04				IAML			16 43 57.5	
	comp=E,86μm,0.4s							
GO04	**Tololo Observa**	**0.83**	**117**	*i* P		**Pn**	**16 43 46.5**	**-1.3**
GO04				*e*S		**Sn**	**16 43 56.3**	**-2.7**
CO06	**Fray Jorge**	**0.87**	**179**	Pn		**Pn**	**16 43 48.7**	**+0.6**
CO06				Sn		**Sn**	**16 43 59.9**	**+0.4**
CO06	**Fray Jorge**	**0.87**	**179**	⇑*i* P		**Pn**	**16 43 48.7**	**+0.6**
CO06				*e*S		**Sn**	**16 43 60.0**	**+0.4**
CO06				IAML			16 44 04.8	
	comp=E,10μm,0.2s							
LCO	**Las Campanas**	**1.15**	**47**	Pn		**Pn**	**16 43 52.0**	**-0.2**
LCO				Sn		**Sn**	**16 44 05.9**	**-0.9**
LCO	**Las Campanas**	**1.15**	**47**	*i* P		**Pn**	**16 43 51.9**	**-0.2**
LCO				*i* S		**Sn**	**16 44 06.1**	**-0.7**
LCO	**Las Campanas**	**1.15**	**47**	*i* P		**Pn**	**16 43 52.0**	**-0.2**
LCO				*e*S		**Sn**	**16 44 06.1**	**-0.7**
LCO				IAML			16 44 07.1	
	comp=Z,14μm,0.4s							
CO03	**El Pedregal**	**1.33**	**141**	Pn		**Pn**	**16 43 53.5**	**-1.0**
CO03				Sn		**Sn**	**16 44 08.8**	**-2.2**
CO03	**El Pedregal**	**1.33**	**141**	⇓*i* P		**Pn**	**16 43 53.7**	**-0.8**
CO03				*e*S		**Sn**	**16 44 09.0**	**-2.0**
CO03	**El Pedregal**	**1.33**	**141**	*i* P		**Pn**	**16 43 53.8**	**-0.7**
CO03				*e*S		**Sn**	**16 44 09.7**	**-1.3**
CO03				IAML			16 44 10.0	
	comp=Z,4μm,0.3s							
CO01	**Juntas del Tor**	**1.37**	**98**	Pn		**Pn**	**16 43 54.3**	**-0.9**
CO01				Sn		**Sn**	**16 44 09.4**	**-2.7**
CO01	**Juntas del Tor**	**1.37**	**98**	*i* P		**Pn**	**16 43 54.4**	**-0.8**
CO01				*e*S		**Sn**	**16 44 09.7**	**-2.5**
CO01				IAML			16 44 10.8	
	comp=N,6μm,0.5s							
CO01	**Juntas del Tor**	**1.37**	**98**	*i* P		**Pn**	**16 43 54.4**	**-0.8**
CO01				*e*S		**Sn**	**16 44 09.7**	**-2.5**
CO01				IAML			16 44 10.2	
	comp=Z,6μm,0.6s							
CO02	**Combarbal**	**1.50**	**158**	Pn		**Pn**	**16 43 56.8**	**-0.1**
CO02				Sn		**Sn**	**16 44 14.8**	**-0.6**
CO02	**Combarbal**	**1.50**	**158**	⇑*i* P		**Pn**	**16 43 56.8**	**-0.1**
CO02				*e*S		**Sn**	**16 44 14.8**	**-0.6**
CO02				IAML			16 44 20.9	
	comp=N,18μm,0.3s							
CO02	**Combarbal**	**1.50**	**158**	*i* P		**Pn**	**16 43 57.1**	**+0.1**
CO02				*e*S		**Sn**	**16 44 16.0**	**+0.6**
CO02				IAML			16 44 19.8	
	comp=Z,7μm,0.3s							
AC05	**El Transito**	**1.54**	**52**	Pn		**Pn**	**16 43 57.7**	**+0.3**
AC05	**El Transito**	**1.54**	**52**	⇓*i* P		**Pn**	**16 43 57.8**	**+0.3**
AC05				*e*S		**Sn**	**16 44 15.5**	**-0.9**
AC05	**El Transito**	**1.54**	**52**	*i* P		**Pn**	**16 43 57.8**	**+0.3**
AC05				IAML			16 44 19.5	
	comp=Z,2μm,0.6s							
AC04	**Llanos de Chal**	**1.67**	**18**	Pn		**Pn**	**16 43 59.8**	**+0.6**
AC04	**Llanos de Chal**	**1.67**	**18**	*i* P		**Pn**	**16 43 59.5**	**+0.4**
AC04	**Llanos de Chal**	**1.67**	**18**	*i* P		**Pn**	**16 44 00.0**	**+0.9**
AC04				IAML			16 44 27.6	
	comp=Z,1μm,0.4s							
AROD	**Rodeo**	**1.93**	**101**	*i* P		**Pn**	**16 44 04.0**	**+1.1**
ACDV	**Cuesta del Vie**	**2.23**	**100**	*i* P		**Pn**	**16 44 08.1**	**+1.2**
ACDV				IAML			16 44 56.1	
	comp=Z,524nm,0.6s							
ACCO	**Cerro Coronel**	**2.37**	**110**	*i* P		**Pn**	**16 44 11.2**	**+2.1**
ACCO				IAML			16 44 43.7	
	comp=Z,1μm,0.7s							
GO03	**Copiap**	**2.53**	**30**	Pn		**Pn**	**16 44 11.7**	**+0.7**
AC06	**Mina Casimiro**	**2.69**	**25**	Pn		**Pn**	**16 44 13.6**	**+0.4**
AC06	**Mina Casimiro**	**2.69**	**25**	*i* P		**Pn**	**16 44 13.7**	**+0.4**
AC06				IAML			16 45 02.8	
	comp=E,854nm,0.5s							
VA06	**Catapilco**	**2.77**	**174**	Pn		**Pn**	**16 44 14.4**	**+0.2**
VA06	**Catapilco**	**2.77**	**174**	⇑*i* P		**Pn**	**16 44 14.5**	**+0.4**
VA06				*e*S		**Sn**	**16 44 48.1**	**+1.8**
ZON	**Zonda**	**3.10**	**125**	*i* P		**Pn**	**16 44 21.2**	**+2.4**
ZON				*e*S		**Sn**	**16 44 59.5**	**+4.9**
ZON				IAML			16 45 14.6	
	comp=Z,478nm,1.1s							
VA03	**San Esteban**	**3.10**	**163**	Pn		**Pn**	**16 44 19.7**	**+0.9**
VA03	**San Esteban**	**3.10**	**163**	⇑*i* P		**Pn**	**16 44 19.9**	**+1.1**
VA03				*i* S		**Sn**	**16 44 54.9**	**+0.2**
VA03	**San Esteban**	**3.10**	**163**	*i* P		**Pn**	**16 44 20.0**	**+1.1**
VA03				IAML			16 45 05.6	
	comp=Z,1μm,0.7s							
RTLL	**Cerro Villicun**	**3.14**	**120**	*i* P		**Pn**	**16 44 20.9**	**+1.6**
RTLL				*e*S		**Sn**	**16 45 00.5**	**+5.0**
ROCH	**El Roble**	**3.21**	**170**	⇑*i* P		**Pn**	**16 44 20.9**	**+0.4**
ROCH				⇑*i* P		**Pn**	**16 44 20.9**	**+0.4**
ROCH				*e*S		**Sn**	**16 44 59.4**	**+1.9**
ROCH				*e*S		**Sn**	**16 45 00.9**	**+3.4**
ROCH				IAML			16 45 09.2	
	comp=N,2μm,0.3s							
ROCH				IAML			16 45 09.3	
	comp=N,2μm,0.5s							
VA01	**Torpederas**	**3.21**	**180**	Pn		**Pn**	**16 44 20.0**	**-0.2**
ROC1	**El Roble**	**3.21**	**170**	Pn		**Pn**	**16 44 20.7**	**+0.2**
CFA	**Coronel Fontan**	**3.45**	**122**	Pn		**Pn**	**16 44 25.1**	**+1.5**
	comp=N,45nm,0.3s,baz=309,slow=12,SNR=54							
CFA				Sn		**Sn**	**16 45 06.9**	**+3.7**
	comp=N,61nm,0.3s,baz=318,slow=7.4,SNR=5.1							
CFA				LR		LR	16 45 55.8	
	comp=N,256nm,21.4s,baz=288,slow=40							
MT02	**Curacav**	**3.47**	**173**	Pn		**Pn**	**16 44 23.7**	**-0.2**
MT02	**Curacav**	**3.47**	**173**	*i* P		**Pn**	**16 44 23.7**	**-0.2**
MT02				IAML			16 45 25.4	
	comp=Z,571nm,0.5s							
MT05	**Renca**	**3.66**	**168**	Pn		**Pn**	**16 44 26.8**	**+0.2**
MT05	**Renca**	**3.66**	**168**	*i* P		**Pn**	**16 44 27.1**	**+0.6**
MT05				IAML			16 45 22.8	
	comp=Z,1μm,0.8s							
AC02	**Maricunga**	**3.70**	**38**	Pn		**Pn**	**16 44 28.6**	**+1.0**
AC01	**Pan de Azucar**	**3.76**	**15**	Pn		**Pn**	**16 44 26.9**	**-0.9**
MT03	**Universidad Ad**	**3.81**	**165**	Pn		**Pn**	**16 44 29.6**	**+1.0**
MT03	**Universidad Ad**	**3.81**	**165**	*e*P		**Pn**	**16 44 29.6**	**+1.0**
MT03				*e*S		**Sn**	**16 45 13.5**	**+1.4**
MT03	**Universidad Ad**	**3.81**	**165**	*i* P		**Pn**	**16 44 29.6**	**+1.0**
MT03				IAML			16 45 32.5	
	comp=Z,946nm,1.2s							
VA05	**Santo Domingo**	**3.84**	**179**	Pn		**Pn**	**16 44 28.4**	**-0.5**
MT09	**Talagante**	**4.00**	**172**	Pn		**Pn**	**16 44 31.7**	**+0.5**
MT01	**Popeta**	**4.06**	**175**	Pn		**Pn**	**16 44 31.9**	**-0.1**
MT01	**Popeta**	**4.06**	**175**	⇑*i* P		**Pn**	**16 44 31.9**	**-0.1**
MT01				*e*S		**Sn**	**16 45 19.1**	**+0.9**
MT01	**Popeta**	**4.06**	**175**	*i* P		**Pn**	**16 44 31.9**	**-0.1**
MT01				IAML			16 45 31.1	
	comp=Z,743nm,0.6s							
LMEL	**Las Melosas**	**4.22**	**163**	Pn		**Pn**	**16 44 35.5**	**+1.2**
BO04	**La Punta**	**4.27**	**168**	Pn		**Pn**	**16 44 35.2**	**+0.3**
BO01	**Tunca**	**4.60**	**174**	Pn		**Pn**	**16 44 39.0**	**-0.3**
GO02	**Mina Guanaco**	**4.97**	**22**	Pn		**Pn**	**16 44 46.4**	**+1.6**
BO02	**Sierra Bellavi**	**5.03**	**172**	Pn		**Pn**	**16 44 45.3**	**0.0**
GO05	**Huala**	**5.20**	**182**	Pn		**Pn**	**16 44 46.1**	**-1.5**
ML02	**Panimavida**	**5.95**	**178**	Pn		**Pn**	**16 44 56.9**	**-0.9**
PB10	**IPOC Station P**	**6.34**	**9**	Pn		**Pn**	**16 45 04.3**	**+1.0**
BI05	**Punta Hualpn**	**7.04**	**190**	Pn		**Pn**	**16 45 10.8**	**-2.0**
LVC	**Limon Verde**	**7.58**	**20**	Pn		**Pn**	**16 45 19.6**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=124,slow=9.5,SNR=1.5							
LVC				Lg		Lg	16 47 30.2	
	comp=Z,7.2nm,0.3s,baz=90,slow=22,SNR=5.9							
LVC				LR		LR	16 48 30.0	
	comp=Z,161nm,20.3s,baz=201,slow=39							
	comp=Z,0.9nm,0.3s							
LVC	**Limon Verde**	**7.58**	**20**	Pn		**Pn**	**16 45 20.4**	**-0.2**
LVC	**Limon Verde**	**7.58**	**20**	*e*P		Pn	16 45 32.6	+12
PB09	**IPOC Station P**	**8.27**	**16**	Pn		**Pn**	**16 45 32.1**	**+2.2**
PB02	**IPOC Station P**	**8.60**	**11**	Pn		**Pn**	**16 45 33.4**	**-1.0**
PB01	**IPOC Station P**	**8.94**	**13**	Pn		**Pn**	**16 45 37.2**	**-1.9**
GO06	**Curarrehue**	**9.76**	**179**	Pn		**Pn**	**16 45 48.6**	**-1.7**
LR04	**Corral**	**10.16**	**188**	Pn		**Pn**	**16 45 54.3**	**-1.2**
PLCA	**Paso Flores**	**10.94**	**176**	Pn		**Pn**	**16 46 04.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=340,slow=12,SNR=13							
PLCA				LR		LR	16 50 24.4	
	comp=Z,140nm,20.4s,baz=344,slow=38							
	comp=Z,1.6nm,0.5s							
PLCA	**Paso Flores**	**10.94**	**176**	Pn		**Pn**	**16 46 05.4**	**-0.9**
PLCA	**Paso Flores**	**10.94**	**176**	*e*P		**Pn**	**16 46 05.7**	**-0.7**
LL04	**Puerto Octay**	**11.10**	**183**	Pn		**Pn**	**16 46 05.7**	**-2.8**
TRQA	**Tornquist**	**11.50**	**138**	Pn		**Pn**	**16 46 12.2**	**-1.8**
ITQB	**Itaqui**	**13.06**	**93**	*e*P		Pn	16 46 30.1	-5.2
ITQB				*e*S		Sn	16 48 48.7	-11
CPUP	**Villa Florida**	**13.11**	**78**	Pn		**Pn**	**16 46 37.8**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=272,slow=8.9,SNR=5.3							
CPUP				LR		LR	16 52 05.2	
	comp=Z,74nm,20.6s,baz=248,slow=39							
	comp=Z,1.9nm,0.7s							
LPAZ	**La Paz**	**13.84**	**14**	Pn		**Pn**	**16 46 47.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=168,slow=7.6,SNR=4.3							
LPAZ				LR		LR	16 52 17.6	
	comp=Z,96nm,19.4s,baz=174,slow=38							
	comp=Z,0.8nm,0.5s							
LPAZ	**La Paz**	**13.84**	**14**	Pn		**Pn**	**16 46 47.8**	**+1.2**
SIV	**San Ignacio**	**16.84**	**38**	Pn		**Pn**	**16 47 26.2**	**+0.9**
	baz=205,slow=10,SNR=9.9							
SIV				LR		LR	16 54 57.8	
	comp=Z,105nm,21.3s,baz=194,slow=40							
	comp=Z,1.7nm,0.7s							
PTLB	**Pontes e Lacer**	**18.35**	**42**	*e*P		**Pn**	**16 47 50.3**	**+6.4**
SALV	**Santo Antonio**	**20.16**	**50**	*e*P		Pn	16 48 09.1	+3.6
ETMB	**Extrema**	**20.53**	**15**	*e*P		Pn	16 48 18.8	+9.0
ITRB	**Iturama**	**21.76**	**67**	*e*P		**P**	**16 48 23.3**	**+2.5**
CZSB	**Cruzeiro do Su**	**21.99**	**357**	*e*P		P	16 48 37.8	+15
ATAH	**Atahualpa**	**23.43**	**343**	LR		LR	16 56 12.1	
	comp=Z,47nm,19.2s,baz=175,slow=32							
CLDB	**Colider**	**23.94**	**41**	*e*P		P	16 48 51.8	+8.8
BELA	**Belgrano 2**	**50.95**	**171**	P		**P**	**16 52 29.3**	**-0.2**
BELA				IAmb		IAmb	16 52 48.3	
	comp=Z,3.1nm,0.9s							
CMIG	**Matias Romero**	**51.73**	**331**	LR		LR	17 08 46.4	
	comp=Z,35nm,19.7s,baz=345,slow=29							
SNAA	**Sanae**	**55.35**	**159**	P		**P**	**16 53 00.2**	**-1.8**
SNAA				IAmb		IAmb	16 53 20.2	
	comp=Z,4.4nm,1.0s							
QSPA	**South Pole Qui**	**60.42**	**180**	P		**P**	**16 53 37.3**	**-0.4**
QSPA				IAmb		IAmb	16 53 43.0	
	comp=Z,4.6nm,1.2s							
TORD	**Torodi Ar. Bea**	**82.48**	**70**	P		**P**	**16 55 50.3**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=262,slow=5.2,SNR=3.5							
	comp=Z,0.9nm,0.9s							
ASAR	**Alice Springs**	**121.44**	**208**	PKP		**PKPdf**	**17 02 20.7**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=134,slow=1.7,SNR=4.8							
WRA	**Warramunga Arr**	**124.56**	**210**	PKP		**PKPdf**	**17 02 26.6**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=159,slow=1.9,SNR=9.8							
ZALV	**Zalesovo Beam**	**150.45**	**29**	PKPbc		**PKPbc**	**17 03 19.4**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=291,slow=4.0,SNR=14							
ZALV				pPKPbc		**sPKPbc**	**17 03 33.6**	**-1.8**
	comp=Z,3.7nm,0.5s,baz=296,slow=3.4,SNR=11							

LJU 23 16:44:29.4, 46°.39N×15°.07E, h0km, Confirmed Rockburst, Northwestern Balkan Peninsula

*PRU **23** 16:44:54.5±0.0, 51°.44N×16°.11E, h0km*
*IPEC **23** 16:44:54.3±0.3, 51°.44N×16°.28E, h1km, ML2.2/4, Error ellipse: s-maj=2.2km s-min=1.4km az=37.0*
*IDC **23** 16:44:55.2±1.1, 51°.46N×16°.15E, h0km, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=25.8km s-min=9.9km az=127.0*
*VIE **23** 16:44:56.2±1.1, 51°.31N×16°.08E, h0km, mb2.2/3, ml2.8/2, Error ellipse: s-maj=12.1km s-min=7.4km az=75.0 69 km WNW of Wroclaw Suspected Mining induced.*
ISC 23 16:44:52.5±0.9, 51°.54N±0°.04×16°.23E±0°.05, h0km, n27, σ1°00/39, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**177**	*e*Pg		**Pg**	**16 45 06.2**	**+0.4**
KSP				*e*Sg		**Sg**	**16 45 13.7**	**-1.0**
OSTC	**Ostas**	**0.98**	**181**	*e*PG		**Pg**	**16 45 11.6**	**+0.4**
OSTC				*e*SG		**Sg**	**16 45 23.4**	**-0.5**
UPC	**Upice**	**1.04**	**188**	*e*PG		**Pg**	**16 45 12.4**	**0.0**
UPC				*e*SG		**Sg**	**16 45 24.0**	**-1.8**
	comp=Z,84nm,0.4s							
DPC	**Dobruska-Polom**	**1.19**	**177**	*e*SG		**Sg**	**16 45 30.2**	**-0.4**
PVCC	**Panska Ves**	**1.45**	**227**	*e*PG		**Pb**	**16 45 20.7**	**+0.3**
KRLC	**Kraliky**	**1.50**	**166**	*e*PG		**Pg**	**16 45 21.0**	**-0.3**
KRLC				*e*SG		**Sg**	**16 45 40.1**	**-0.6**
	comp=Z,70nm,0.4s							
BRG	**Berggiesshubel**	**1.58**	**246**	Pg		**Pg**	**16 45 23.9**	**+1.1**
BRG				Sg		**Sg**	**16 45 44.1**	**+0.8**
BRG				Amp			16 45 48.1	
	comp=Z,56nm,0.5s							
PRU	**Pruhonice**	**1.88**	**215**	*e*PG		**Pb**	**16 45 27.9**	**+0.2**
MORC	**Moravsky Berou**	**1.95**	**154**	*e*PN		**Pn**	**16 45 26.8**	**-0.1**
MORC	**Moravsky Berou**	**1.95**	**154**	*e*Pn		**Pn**	**16 45 26.7**	**-0.1**
	baz=335							
CLL	**Collm**	**2.03**	**265**	*e*Pg		**Pb**	**16 45 31.0**	**+0.7**
CLL				*ex*		x	16 45 35.0	
VRAC	**Vranov**	**2.24**	**174**	*e*PN		**Pn**	**16 45 31.1**	**+0.2**
VRAC				*e*SG		**Sb**	**16 46 01.4**	**-0.7**
VRAC	**Vranov**	**2.24**	**174**	*e*Pn		**Pn**	**16 45 31.1**	**+0.2**
	baz=355							
VRAC				*e*Sg		**Sb**	**16 46 01.4**	**-0.7**
	comp=Z,12nn,0.3s,baz=355							
KRUC	**Moravsky**	**2.48**	**177**	*e*PN		**Pn**	**16 45 34.5**	**+0.4**
KRUC				*e*SG		**Sb**	**16 46 08.5**	**-0.4**
KRUC	**Moravsky**	**2.48**	**177**	*e*Pn		**Pn**	**16 45 34.5**	**+0.4**
	baz=358							
KRUC				*e*Sg		**Sb**	**16 46 08.5**	**-0.4**
	comp=Z,8.2nm,0.5s,baz=358							
NKC	**Novy Kostel**	**2.73**	**243**	*e*PG		**Pg**	**16 45 44.3**	**-0.4**
KHC	**Kasperske Hory**	**2.95**	**216**	*e*PN		**Pn**	**16 45 41.0**	**+0.4**
KHC				*e*PG		**Pb**	**16 45 47.0**	**+1.1**
GERES	**GERESS Array B**	**3.15**	**212**	Pn		**Pn**	**16 45 44.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=33,slow=14,SNR=8.9							
GERES				Pg		**Pb**	**16 45 50.6**	**+1.4**
	comp=Z,3.3nm,0.3s,baz=30,slow=17,SNR=38							
GERES				Lg		Lg	16 46 32.8	
	comp=Z,4.3nm,0.3s,baz=31,slow=25,SNR=7.3							
	comp=Z,0.6nm,0.4s							
VYHS	**Vyhne**	**3.48**	**150**	*e*Pn		**Pg**	**16 46 01.7**	**+2.6**
CONA	**Conrad Observa**	**3.62**	**184**	*e*Pn		**Pn**	**16 45 51.5**	**+1.7**
	comp=Z,0.3nm,0.2s							
CONA				*e*Sg		**Sg**	**16 46 47.7**	**-0.9**
	comp=Z,5.3nm,0.3s							
BSD	**Bornholm Skovb**	**3.67**	**348**	*i* P		**Pn**	**16 45 50.7**	**+0.3**
BLEU	**Blekinge**	**4.79**	**357**	*i* P		**Pn**	**16 46 08.0**	**+2.3**
BJUU	**Bjuv**	**4.93**	**339**	*i* P		**Pn**	**16 46 06.4**	**-1.4**
DEL	**Delary**	**5.14**	**345**	*i* P		**Pn**	**16 46 11.6**	**+1.0**
AKASG	**Malin Array Be**	**8.22**	**91**	Pn		**Pn**	**16 46 52.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=275,slow=12,SNR=2.3							
	comp=Z,0.2nm,0.3s							
FINES	**FINESS Array B**	**11.31**	**25**	Pn		**Pn**	**16 47 34.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=219,slow=12,SNR=3.6							
	comp=Z,1.9nm,0.9s							
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**P**	**16 49 09.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=5.3							
	comp=Z,2.1nm,0.9s							

*IDC **23** 16:45:18.0±0.9, 51°.49N×16°.05E, h0km, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=18.9km s-min=8.7km az=119.0*
*BGR **23** 16:45:17.9±0.4, 51°.41N×16°.23E, h1km, ML3.0/15, Error ellipse: s-maj=5.6km s-min=2.2km az=15.0*
*IPEC **23** 16:45:17.0±0.3, 51°.46N×16°.30E, h1km, ML2.7/5, Error ellipse: s-maj=2.2km s-min=1.2km az=35.0*
*PRU **23** 16:45:18.2±0.0, 51°.41N×16°.18E, h0km*
*VIE **23** 16:45:20.1±0.9, 51°.28N×16°.08E, h0km, mb2.6/8, ml3.0/7, Error ellipse: s-maj=5.1km s-min=4.6km az=169.0 68 km WNW of Wroclaw Suspected Mining induced.*
ISC 23 16:45:15.7±0.8, 51°.53N±0°.03×16°.25E±0°.02, h0km, n57, σ1°09/101, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**178**	*e*Pg		**Pg**	**16 45 29.2**	**+0.3**
KSP				*e*Sg		**Sg**	**16 45 36.8**	**-1.1**
KSP	**Ksiaz**	**0.69**	**178**	*e*Pg		**Pg**	**16 45 29.4**	**+0.4**
KSP				*e*Sg		**Sg**	**16 45 36.8**	**-1.1**
CHVC	**Chvalec**	**0.95**	**188**	*e*PG		**Pg**	**16 45 34.1**	**+0.1**
CHVC				*e*SG		**Sg**	**16 45 45.3**	**-1.0**
OSTC	**Ostas**	**0.98**	**181**	*e*PG		**Pg**	**16 45 34.9**	**+0.5**
OSTC				*e*SG		**Sg**	**16 45 45.8**	**-1.3**
	comp=Z,149nm,0.9s							
UPC	**Upice**	**1.04**	**188**	*e*SG		**Sg**	**16 45 47.6**	**-1.4**
	comp=Z,264nm,0.4s							
DPC	**Dobruska-Polom**	**1.19**	**178**	*e*Pg		**Pg**	**16 45 38.4**	**+0.1**
DPC				*e*Sg		**Sg**	**16 45 52.4**	**-1.3**
PVCC	**Panska Ves**	**1.46**	**227**	*e*SG		**Sn**	**16 46 03.1**	**-0.1**
	comp=Z,470nm,0.3s							
BRG	**Berggiesshubel**	**1.59**	**246**	Sg		**Sg**	**16 46 07.2**	**+0.3**
BRG				Amp			16 46 10.1	
	comp=Z,82nm,0.4s							
BRG	**Berggiesshubel**	**1.59**	**246**	*e*Pn		**Pn**	**16 45 44.7**	**-0.4**
BRG				*e*Pg		**Pb**	**16 45 46.0**	**0.0**
BRG				*e*Sg		**Sn**	**16 46 06.3**	**-0.1**
BRG	**Berggiesshubel**	**1.59**	**246**	Pg		**Pg**	**16 45 47.0**	**+0.8**
GOPC	**GO Pecny, Ondr**	**1.87**	**210**	*e*SG		**Sn**	**16 46 13.4**	**+0.2**
	comp=Z,47nm,0.4s							
PRU	**Pruhonice**	**1.89**	**216**	*e*PG		**Pb**	**16 45 50.9**	**-0.1**
PRU				*e*SG		**Sn**	**16 46 14.2**	**+0.5**
	comp=Z,85nm,0.6s							
PRU	**Pruhonice**	**1.89**	**216**	*e*SG		**Pb**	**16 45 50.8**	**-0.2**
FBE	**Freiberg**	**1.92**	**253**	*e*Pg		**Pg**	**16 45 53.5**	**+1.1**
FBE				*e*Sg		**Sg**	**16 46 17.2**	**-0.2**
MORC	**Moravsky Berou**	**1.94**	**154**	*e*Pn		**Pn**	**16 45 50.3**	**+0.4**
MORC				*e*Sg		**Sb**	**16 46 16.0**	**-0.7**
MORC	**Moravsky Berou**	**1.94**	**154**	*e*PN		**Pn**	**16 45 50.0**	**0.0**
MORC				*e*SG		**Sn**	**16 46 14.8**	**-0.3**
MORC	**Moravsky Berou**	**1.94**	**154**	*e*Pn		**Pn**	**16 45 49.9**	**0.0**
	baz=335						

KBA				*e*Sg		**Sg**	**16 47 51.9**	**+0.6**
	comp=Z,15nm,0.7s								
AKASG	**Malin Array Be**	**8.21**	**91**	Pn		**Pn**	**16 47 16.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=278,slow=12,SNR=4.7								
	comp=Z,0.5nm,0.4s								
NOA	**NORSAR Array B**	**9.93**	**346**	Pn		**Pn**	**16 47 38.9**	**-0.6**
	baz=158,slow=12,SNR=2.0								
	comp=Z,0.6nm,0.8s								
FINES	**FINESS Array B**	**11.30**	**25**	Pn		**Pn**	**16 47 57.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=213,slow=12,SNR=8.1								
	comp=Z,1.8nm,0.6s								
ARCES	**ARCESS Array B**	**18.58**	**10**	Pn		**P**	**16 49 31.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=11								
	comp=Z,0.7nm,0.4s								

IDC ***23*** *16:47:43.3±2.3, 1°.20S×13°.08W, h0km, mb3.5/3, mbtmp3.7/4, ML3.7/1, MS3.6/33, Error ellipse: s-maj=112.1km s-min=28.9km az=115.0*

ISC 23 16:47:44.1±1.6, 1°.2S±0°.2×13°.2W±0°.4, h11km, n44, σ0s85/11, MS3.6/32, 3C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.71**	**191**	Pn		**Pn**	**16 49 22.7**	**+0.2**
	baz=6.5,slow=12							
H10N2				T		T	16 56 07.0	
	baz=8.0,slow=73,SNR=69							
H10N1	**ASCENSION HYDR**	**6.73**	**191**	Pn		**Pn**	**16 49 22.7**	**-0.1**
	baz=6.5,slow=12							
H10N1				T		T	16 56 06.3	
	baz=8.0,slow=138,SNR=138							
H10N3	**ASCENSION HYDR**	**6.73**	**191**	Pn		**Pn**	**16 49 22.9**	**+0.2**
	baz=6.5,slow=12							
H10N3				T		T	16 56 10.6	
	baz=8.0,slow=73,SNR=79							
H10S3	**ASCENSION HYDR**	**7.85**	**191**	T		T	16 57 29.7	
	baz=24,slow=74,SNR=141							
H10S2	**ASCENSION HYDR**	**7.85**	**190**	T		T	16 57 31.8	
	baz=196,slow=74,SNR=47							
LIC	**Lamto**	**11.00**	**48**	*e*PKP2		Pn	16 50 26.9	+5.3
	6.7nm,0.3s							
TIC	**Toumodi**	**11.29**	**46**	*e*PKP2		**Pn**	**16 50 25.3**	**-0.2**
	14nm,0.3s							
KIC	**Kosan Boka**	**11.30**	**48**	*i*PKP2		**Pn**	**16 50 26.8**	**+1.1**
	3.2nm,0.4s							
DBIC	**Dimbokro**	**11.42**	**47**	Pn		**Pn**	**16 50 26.3**	**-1.0**
	0.5nm,0.3s,baz=239,slow=14,SNR=4.7							
DBIC				LR		LR	16 54 11.9	
	comp=Z,167nm,19.9s,baz=219,slow=34							
	2.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**20.53**	**46**	P		**P**	**16 52 22.0**	**-0.7**
	2.4nm,0.6s,baz=233,slow=11,SNR=14							
TORD				LR		LR	16 59 44.3	
	comp=Z,136nm,18.5s,baz=216,slow=35							
	2.4nm,0.6s							
MDT	**Midelt**	**34.78**	**13**	LR		LR	17 08 16.8	
	comp=Z,68nm,20.1s,baz=158,slow=36							
TSUM	**Tsumeb**	**35.08**	**123**	LR		LR	17 06 29.9	
	comp=Z,103nm,18.7s,baz=325,slow=32							
MDP	**Montagnes des**	**39.88**	**279**	LR		LR	17 07 17.7	
	comp=Z,71nm,21.8s,baz=81,slow=29							
ESDC	**Sonseca Array**	**41.54**	**11**	LR		LR	17 11 06.9	
	comp=Z,59nm,19.8s,baz=198,slow=34							
KEST	**Kesra**	**42.34**	**28**	LR		LR	17 14 36.6	
	comp=Z,102nm,18.9s,baz=242,slow=38							
LSZ	**Lusaka**	**43.18**	**111**	LR		LR	17 11 54.2	
	comp=Z,109nm,18.4s,baz=244,slow=34							
MBAR	**Mbarara**	**43.95**	**90**	LR		LR	17 13 05.4	
	comp=Z,174nm,18.4s,baz=251,slow=35							
LBTB	**Lobatse**	**44.31**	**126**	LR		LR	17 11 56.9	
	comp=Z,33nm,21.9s,baz=140,slow=33							
SUR	**Sutherland**	**44.59**	**138**	LR		LR	17 12 02.2	
	comp=Z,61nm,18.3s,baz=260,slow=33							
CPUP	**Villa Florida**	**49.21**	**236**	LR		LR	17 15 30.6	
	comp=Z,50nm,19.4s,baz=62,slow=34							
SIV	**San Ignacio**	**49.40**	**250**	LR		LR	17 15 00.9	
	comp=Z,86nm,21.1s,baz=98,slow=33							
KMBO	**Kilima Mbogo**	**50.45**	**90**	LR		LR	17 16 39.9	
	comp=Z,142nm,20.3s,baz=48,slow=34							
IDI	**Anoyia**	**50.82**	**41**	LR		LR	17 18 05.6	
	comp=Z,25nm,20.4s,baz=184,slow=36							
DAVOX	**Davos/Dischmat**	**51.90**	**20**	LR		LR	17 18 11.1	
	comp=Z,53nm,20.0s,baz=98,slow=35							
GERES	**GERESS Array B**	**55.01**	**21**	P		**P**	**16 57 15.7**	**0.0**
	0.3nm,0.6s,baz=218,slow=8.7,SNR=3.8							
	0.3nm,0.6s							
EIL	**Elat**	**55.23**	**52**	LR		LR	17 22 02.7	
	comp=Z,95nm,18.2s,baz=240,slow=37							
SJG	**San Juan**	**55.48**	**293**	LR		LR	17 16 59.7	
	comp=Z,30nm,21.9s,baz=146,slow=32							
VRAC	**Vranov**	**56.48**	**23**	LR		LR	17 22 16.1	
	comp=Z,19nm,18.1s,baz=223,slow=37							
MLR	**Muntele Rosu**	**57.95**	**32**	LR		LR	17 23 31.5	
	comp=Z,59nm,20.4s,baz=236,slow=37							
SDV	**Santo Domingo**	**58.08**	**281**	LR		LR	17 20 44.1	
	comp=Z,32nm,18.1s,baz=40,slow=34							
BRTR	**Keskin Array B**	**59.06**	**41**	P		**P**	**16 57 45.8**	**+1.2**
	0.4nm,0.7s,baz=230,slow=3.6,SNR=2.0							
BRTR				LR		LR	17 26 27.9	
	comp=Z,26nm,19.5s,baz=278,slow=39							
	0.4nm,0.7s							
CFA	**Coronel Fontan**	**60.02**	**234**	LR		LR	17 23 46.0	
	comp=Z,56nm,18.1s,baz=346,slow=36							
AKASG	**Malin Array Be**	**63.04**	**29**	LR		LR	17 26 24.0	
	comp=Z,28nm,19.7s,baz=188,slow=37							
NNA	**Nana**	**63.98**	**257**	LR		LR	17 25 15.2	
	comp=Z,53nm,18.3s,baz=324,slow=35							
HFS	**Hagfors**	**64.64**	**15**	LR		LR	17 28 16.6	
	comp=Z,31nm,19.3s,baz=204,slow=38							
NOA	**NORSAR Array B**	**64.85**	**13**	LR		LR	17 26 35.7	
	comp=Z,17nm,19.6s,baz=200,slow=36							
PLCA	**Paso Flores**	**64.95**	**225**	LR		LR	17 23 00.7	
	comp=Z,36nm,19.3s,baz=80,slow=33							
FINES	**FINESS Array B**	**69.28**	**19**	LR		LR	17 31 19.3	
	comp=Z,50nm,18.0s,baz=284,slow=38							
PMSA	**Palmer Station**	**73.19**	**200**	LR		LR	17 23 44.0	
	comp=Z,118nm,19.2s,baz=342,slow=30							
SADO	**Sadowa**	**73.98**	**317**	LR		LR	17 23 55.3	
	comp=Z,88nm,21.9s,baz=192,slow=29							
TKL	**Tuckaleechee C**	**74.99**	**307**	LR		LR	17 27 50.8	
	comp=Z,45nm,18.3s,baz=23,slow=32							
GEYT	**Alibeck**	**76.08**	**51**	LR		LR	17 35 06.4	
	comp=Z,42nm,18.6s,baz=267,slow=37							
ASAR	**Alice Springs**	**139.60**	**130**	PKP		**PKiKP**	**17 07 14.6**	**-0.7**
	0.4nm,0.9s,baz=226,slow=2.6,SNR=6.3							
WRA	**Warramunga Arr**	**141.88**	**125**	PKP		**PKiKP**	**17 07 19.0**	**-1.0**
	0.4nm,1.0s,baz=234,slow=2.9,SNR=2.4							

SJA ***23*** *16:56:22.9±2.0, 22°.55S×68°.77W, h132km±8km, ML3.9, MW4.0*

IDC ***23*** *16:56:22.5±0.6, 22°.74S×68°.33W, h102km±7km, mb3.7/4, mbtmp4.0/9, Error ellipse: s-maj=19.5km s-min=15.5km az=114.0*

VAO ***23*** *16:56:23.2±0.5, 22°.53S×68°.77W, h112km, mb4.3*

GUC ***23*** *16:56:24.5±0.8, 22°.54S×68°.72W, h115km±4km, ML4.3*

NEIC ***23*** *16:56:24.2±1.7, 22°.57S±0°.05×68°.73W±0°.03, h122km±4km, mb4.1/8, Mwr4.2(GUC), Error ellipse: s-maj=7.1km s-min=3.6km az=203.0*

ISC 23 16:56:23.8±0.6, 22°.56S±0°.04×68°.68W±0°.04, h121km±5km, n151, σ1s51/180, mb4.2/5, 16C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**0.22**	**256**	P		**Pn**	**16 56 41.2**	**+0.2**
	2μm,0.3s,baz=220,slow=7.2,SNR=4537							
LVC				S		**Sn**	**16 56 53.2**	**-0.7**
	8μm,0.2s,baz=237,slow=21,SNR=43							
LVC	**Limon Verde**	**0.22**	**256**			**Pn**	**16 56 41.4**	**+0.4**
LVC					Sn	**Sn**	**16 56 53.4**	**-0.5**
LVC	**Limon Verde**	**0.22**	**256**	*e*P		**Pn**	**16 56 41.3**	**+0.4**
LVC				*e*S		**Sn**	**16 56 53.5**	**-0.5**
LVC	**Limon Verde**	**0.22**	**256**	*i*P		**Pn**	**16 56 41.5**	**+0.4**
LVC				*e*S		**Sn**	**16 56 53.9**	**-0.1**
LVC				IAML			16 56 55.0	
	comp=Z,5μm,0.1s							
AF01	**San Pedro de A**	**0.61**	**130**	Pn		**Pn**	**16 56 43.7**	**+0.8**
AF01				Sn		**Sn**	**16 56 58.2**	**+0.9**
AF01	**San Pedro de A**	**0.61**	**130**	ǁ*i*P		**Pn**	**16 56 43.7**	**+0.8**
AF01				*e*S		**Sn**	**16 56 58.4**	**+1.1**
AF01				IAML			16 57 14.5	
	comp=E,13μm,0.3s							
PB06	**IPOC Station P**	**0.83**	**260**	Pn		**Pn**	**16 56 44.8**	**+0.4**
PB06				Sn		**Sn**	**16 57 00.4**	**+0.2**
PB06	**IPOC Station P**	**0.83**	**260**	ǁ*i*P		**Pn**	**16 56 44.9**	**+0.4**
PB06				*e*S		**Sn**	**16 57 00.6**	**+0.4**
PB06				IAML			16 57 03.4	
	comp=N,7μm,0.1s							
PB06	**IPOC Station P**	**0.83**	**260**	*i*P		**Pn**	**16 56 44.9**	**+0.4**
PB06				*e*S		**Sn**	**16 57 01.0**	**+0.8**
PB06				IAML			16 57 02.4	
	comp=Z,4μm,0.2s							
PB09	**IPOC Station P**	**0.92**	**326**	Pn		**Pn**	**16 56 46.2**	**+0.9**
PB09				Sn		**Sn**	**16 57 02.1**	**+0.5**
PB09	**IPOC Station P**	**0.92**	**326**	ǁ*i*P		**Pn**	**16 56 46.2**	**+0.9**
PB09				*e*S		**Sn**	**16 57 02.2**	**+0.6**
PB09	**IPOC Station P**	**0.92**	**326**	*i*P		**Pn**	**16 56 46.4**	**+1.1**
PB09				*e*S		**Sn**	**16 57 02.8**	**+1.3**
PB09				IAML			16 57 04.4	
	comp=Z,3μm,0.4s							
PB15	**IPOC Station P**	**0.97**	**228**	Pn		**Pn**	**16 56 46.6**	**+0.7**
PB15				Sn		**Sn**	**16 57 02.2**	**-0.3**
PB15	**IPOC Station P**	**0.97**	**228**	ǁ*i*P		**Pn**	**16 56 46.7**	**+0.9**
PB15				*e*S		**Sn**	**16 57 03.1**	**+0.6**
PB15	**IPOC Station P**	**0.97**	**228**	*i*P		**Pn**	**16 56 46.8**	**+0.9**
PB15				*e*S		**Sn**	**16 57 03.6**	**+1.1**
PB15				IAML			16 57 05.8	
	comp=Z,19μm,0.2s							
PB03	**IPOC Station P**	**1.11**	**297**	Pn		**Pn**	**16 56 47.4**	**+0.2**
PB03				Sn		**Sn**	**16 57 04.4**	**-0.5**
PB03	**IPOC Station P**	**1.11**	**297**	ǁ*i*P		**Pn**	**16 56 47.7**	**+0.6**
PB03				*e*S		**Sn**	**16 57 04.8**	**-0.1**
PB03				IAML			16 57 05.8	
	comp=N,7μm,0.3s							
PB03	**IPOC Station P**	**1.11**	**297**	*i*P		**Pn**	**16 56 47.8**	**+0.6**
PB03				*e*S		**Sn**	**16 57 05.2**	**+0.3**
PB03				IAML			16 57 06.2	
	comp=Z,7μm,0.2s							
PB04	**IPOC Station P**	**1.38**	**279**	Pn		**Pn**	**16 56 50.2**	**+0.2**
PB04				Sn		**Sn**	**16 57 09.6**	**-0.3**
PB04	**IPOC Station P**	**1.38**	**279**	ǁ*i*P		**Pn**	**16 56 50.4**	**+0.4**
PB04				*e*S		**Sn**	**16 57 10.1**	**+0.2**
PB04				IAML			16 57 11.5	
	comp=N,5μm,0.2s							
PB04	**IPOC Station P**	**1.38**	**279**	*i*P		**Pn**	**16 56 50.4**	**+0.4**
PB04				*e*S		**Sn**	**16 57 10.8**	**+0.9**
PB04				IAML			16 57 13.8	
	comp=Z,4μm,0.2s							
PB07	**IPOC Station P**	**1.39**	**306**	Pn		**Pn**	**16 56 49.8**	**-0.4**
PB07	**IPOC Station P**	**1.39**	**306**	ǁ*i*P		**Pn**	**16 56 50.7**	**+0.5**
PB07				*e*S		**Sn**	**16 57 10.1**	**-0.1**
PB07				IAML			16 57 11.5	
	comp=E,5μm,0.3s							
PB07	**IPOC Station P**	**1.39**	**306**	*i*P		**Pn**	**16 56 50.7**	**+0.5**
PB07				IAML			16 57 15.8	
	comp=Z,2μm,0.5s							
PB02	**IPOC Station P**	**1.67**	**317**	Pn		**Pn**	**16 56 53.6**	**+0.3**
PB02	**IPOC Station P**	**1.67**	**317**	ǁ*i*P		**Pn**	**16 56 53.7**	**+0.3**
PB02				*e*S		**Sn**	**16 57 15.5**	**-0.4**
PB02				IAML			16 57 23.0	
	comp=E,4μm,0.4s							
PB02	**IPOC Station P**	**1.67**	**317**	*i*P		**Pn**	**16 56 53.7**	**+0.3**
PB02				*e*S		**Sn**	**16 57 16.3**	**+0.4**
PB02				IAML			16 57 26.2	
	comp=Z,4μm,0.2s							
PB01	**IPOC Station P**	**1.68**	**333**	Pn		**Pn**	**16 56 53.2**	**-0.3**
PB01	**IPOC Station P**	**1.68**	**333**	ǁ*i*P		**Pn**	**16 56 53.8**	**+0.3**
PB01				*i*S		**Sn**	**16 57 16.1**	**-0.1**
PB01				IAML			16 57 16.8	
	comp=E,4μm,0.1s							
PB01	**IPOC Station P**	**1.68**	**333**	*i*P		**Pn**	**16 56 53.8**	**+0.3**
PB01				IAML			16 57 19.9	
	comp=Z,2μm,0.2s							
PB10	**IPOC Station P**	**1.97**	**241**	Pn		**Pn**	**16 56 56.8**	**0.0**
PB10	**IPOC Station P**	**1.97**	**241**	ǁ*i*P		**Pn**	**16 56 56.8**	**0.0**
PB10				*e*S		**Sn**	**16 57 21.1**	**-1.1**
PB10				IAML			16 57 22.2	
	comp=E,2μm,0.3s							
PB10	**IPOC Station P**	**1.97**	**241**	*i*P		**Pn**	**16 56 57.0**	**+0.1**
PB10				IAML			16 57 26.9	
	comp=Z,809nm,0.2s							
PATCX	**Punta Patache**	**2.21**	**321**	Pn		**Pn**	**16 56 59.4**	**-0.5**
PATCX	**Punta Patache**	**2.21**	**321**	ǁ*i*P		**Pn**	**16 56 59.4**	**-0.5**
PATCX				*e*S		**Sn**	**16 57 27.0**	**-0.6**
PATCX				IAML			16 57 28.3	
	comp=N,2μm,0.5s							
PATCX	**Punta Patache**	**2.21**	**321**	*i*P		**Pn**	**16 56 59.6**	**-0.3**
PATCX				*e*S		**Sn**	**16 57 27.4**	**-0.2**
PATCX				IAML			16 57 32.0	
	comp=Z,877nm,0.6s							
TA01	**Diego Aracena**	**2.42**	**325**	Pn		**Pn**	**16 57 01.8**	**-0.8**
TA01	**Diego Aracena**	**2.42**	**325**	ǁ*i*P		**Pn**	**16 57 01.7**	**-0.9**
TA01	**Diego Aracena**	**2.42**	**325**	*i*P		**Pn**	**16 57 01.8**	**-0.8**
TA01				IAML			16 57 34.5	
	comp=Z,545nm,0.3s							
PB08	**IPOC Station P**	**2.44**	**350**	Pn		**Pn**	**16 57 03.9**	**+0.6**
PB08	**IPOC Station P**	**2.44**	**350**	ǁ*e*P		**Pn**	**16 57 04.1**	**+0.8**
PB08				IAML			16 57 37.0	
	comp=E,899nm,0.3s							
HMBC	**Humberstone**	**2.53**	**333**	ǁ*e*P		**Pn**	**16 57 03.4**	**-0.7**
TA02	**Huaiquique**	**2.65**	**329**	Pn		**Pn**	**16 57 03.4**	**-2.1**
TA02	**Huaiquique**	**2.65**	**329**	*i*P		**Pn**	**16 57 05.0**	**-0.5**
TA02				IAML			16 57 39.7	
	comp=Z,504nm,0.6s							
GO02	**Mina Guanaco**	**2.72**	**198**	Pn		**Pn**	**16 57 07.2**	**+0.5**
GO02	**Mina Guanaco**	**2.72**	**198**	*e*P		**Pn**	**16 57 07.2**	**+0.5**
GO02				IAML			16 57 47.4	
	comp=N,1μm,0.4s							
GO02	**Mina Guanaco**	**2.72**	**198**	*i*P		**Pn**	**16 57 07.3**	**+0.6**
GO01	**Chusmiza**	**2.92**	**350**	Pn		**Pn**	**16 57 09.7**	**+0.2**
GO01	**Chusmiza**	**2.92**	**350**	ǁ*e*P		**Pn**	**16 57 09.9**	**+0.5**
GO01				IAML			16 57 45.9	
	comp=N,2μm,0.3s							
GO01	**Chusmiza**	**2.92**	**350**	*i*P		**Pn**	**16 57 10.4**	**+0.9**
PB11	**IPOC Station P**	**2.93**	**342**	Pn		**Pn**	**16 57 08.7**	**-0.6**
PB11	**IPOC Station P**	**2.93**	**342**	ǁ*e*P		**Pn**	**16 57 08.7**	**-0.6**
PB11				IAML			16 57 44.8	
	comp=E,1μm,0.2s							
PB11	**IPOC Station P**	**2.93**	**342**	*i*P		**Pn**	**16 57 08.7**	**-0.6**
PB11				IAML			16 57 47.2	
	comp=Z,577nm,0.4s							
YJA	**Yavi**	**2.96**	**83**	*i*P		**Pn**	**16 57 13.0**	**+3.1**
YJA				IAML			16 57 53.5	
	comp=Z,11nm,0.4s							
HJA	**Humahuaca**	**3.09**	**103**	*i*P		**Pn**	**16 57 14.3**	**+2.8**
HJA				IAML			16 58 02.4	
	comp=Z,15nm,0.5s							
PSGC	**Pisagua**	**3.24**	**335**	ǁ*e*P		**Pn**	**16 57 11.6**	**-1.8**
PSGCX	**Pisagua**	**3.24**	**335**	Pn		**Pn**	**16 57 11.2**	**-2.1**
PSGCX	**Pisagua**	**3.24**	**335**	*i*P		**Pn**	**16 57 11.6**	**-1.7**
PSGCX				IAML			16 57 56.0	
	comp=Z,249nm,0.3s							
MNMC	**Minye Minye**	**3.52**	**346**	Pn		**Pn**	**16 57 16.6**	**-0.6**
SLA	**San Lorenzo**	**3.62**	**127**	*i*P		**Pn**	**16 57 21.9**	**+3.4**
AZAP	**Zapla**	**3.71**	**117**	*i*P		**Pn**	**16 57 21.4**	**+1.6**
AZAP				IAML			16 58 14.6	
	comp=Z,45nm,1.0s							
AC01	**Pan de Azucar**	**3.98**	**206**			**Pn**	**16 57 21.8**	**-1.2**
AC01	**Pan de Azucar**	**3.98**	**206**	*i*P		**Pn**	**16 57 22.0**	**-1.0**
AC01				IAML			16 58 28.9	
	comp=Z,163nm,0.6s							
ASTB	**Santa Barbara**	**4.13**	**110**	*i*P		**Pn**	**16 57 26.5**	**+1.3**
ASTB				IAML			16 58 18.5	
	comp=Z,1.2nm,0.4s							
PB12	**IPOC Station P**	**4.22**	**338**	Pn		**Pn**	**16 57 24.4**	**-1.9**
PB12	**IPOC Station P**	**4.22**	**338**	ǁ*e*P		**Pn**	**16 57 24.4**	**-1.9**
PB16	**IPOC Station P**	**4.27**	**349**	Pn		**Pn**	**16 57 27.8**	**+0.3**
PB16	**IPOC Station P**	**4.27**	**349**	*e*P		**Pn**	**16 57 27.8**	**+0.3**
AC02	**Maricunga**	**4.28**	**185**	Pn		**Pn**	**16 57 27.8**	**+0.3**
AC02	**Maricunga**	**4.28**	**185**	*e*P		**Pn**	**16 57 27.9**	**+0.5**
AC02	**Maricunga**	**4.28**	**185**	*i*P		**Pn**	**16 57 28.0**	**+0.5**
AC02				IAML			16 58 55.8	
	comp=Z,90nm,0.6s							
ALOL	**LOMAS DE OLMED**	**4.50**	**107**	*i*P		**Pn**	**16 57 30.7**	**+0.7**
PB18	**Visviri**	**5.00**	**351**	*e*P		**Pn**	**16 57 39.1**	**+1.9**
AC06	**Mina Casimiro**	**5.01**	**197**	Pn		**Pn**	**16 57 34.9**	**-2.0**
AC06	**Mina Casimiro**	**5.01**	**197**	*e*P		**Pn**	**16 57 35.0**	**-1.9**
AHML	**Horco Molle**	**5.19**	**145**	*i*P		**Pn**	**16 57 40.8**	**+1.5**
AHML				IAML			16 58 48.2	
	comp=Z,6.5nm,1.3s							
GO03	**Copiap**	**5.21**	**195**	Pn		**Pn**	**16 57 37.2**	**-2.3**
GO03	**Copiap**	**5.21**	**195**	*i*P		**Pn**	**16 57 38.1**	**-1.4**
AC04	**Llanos de Chal**	**6.02**	**201**	Pn		**Pn**	**16 57 47.3**	**-3.2**
LPAZ	**La Paz**	**6.26**	**5**	P		**Pn**	**16 57 56.2**	**+1.9**
	comp=Z,6.4nm,0.3s,baz=191,slow=5.4,SNR=33							
LPAZ	**La Paz**	**6.26**	**5**	Pn		**Pn**	**16 57 55.2**	**+0.9**
LPAZ	**La Paz**	**6.26**	**5**	*e*P		**Pn**	**16 57 54.4**	**+0.1**
AC05	**El Transito**	**6.41**	**193**	Pn		**Pn**	**16 57 53.6**	**-2.3**
GO04	**Tololo Observa**	**7.82**	**194**	Pn		**Pn**	**16 58 11.2**	**-3.7**
CO03	**El Pedregal**	**8.44**	**192**	Pn		**Pn**	**16 58 19.4**	**-3.8**
CO06	**Fray Jorge**	**8.50**	**197**	Pn		**Pn**	**16 58 22.3**	**-1.7**
CFA	**Coronel Fontan**	**9.02**	**178**	P		**Pn**	**16 58 27.2**	**-3.8**
	comp=Z,3.5nm,0.3s,baz=348,slow=12,SNR=3.9							
CFA				S		**Sn**	**17 00 02.8**	**-8.0**
	comp=Z,4.7nm,0.4s,baz=212,slow=9.0,SNR=3.7							
SIV	**San Ignacio**	**9.71**	**49**	P		**Pn**	**16 58 38.1**	**-2.3**
	comp=Z,3.2nm,0.6s,baz=281,slow=7.7,SNR=16							
SIV				S		**Sn**	**17 00 19.7**	**-8.0**
	comp=Z,3.2nm,0.4s,baz=321,slow=23,SNR=8.3							
MT02	**Curacav**	**10.88**	**191**	Pn		**Pn**	**16 58 54.9**	**-1.1**
CPUP	**Villa Florida**	**11.00**	**112**	P		**Pn**	**16 58 53.7**	**-4.0**
	comp=Z,2.0nm,0.9s,baz=277,slow=13,SNR=3.8							
CPUP	**Villa Florida**	**11.00**	**112**	*e*P		**Pn**	**16 58 59.2**	**+1.5**
PTLB	**Pontes e Lacer**	**11.46**	**54**	Pn		**Pn**	**16 59 04.7**	**+0.8**
PTLB	**Pontes e Lacer**	**11.46**	**54**	*e*P		**Pn**	**16 59 03.9**	**0.0**
AQDB	**Aquidauana**	**12.26**	**83**	Pn		**Pn**	**16 59 16.5**	**+2.1**
AQDB	**Aquidauana**	**12.26**	**83**	*e*P		**Pn**	**16 59 15.1**	**+0.7**
BO02	**Sierra Bellavi**	**12.33**	**188**	Pn		**Pn**	**16 59 13.3**	**-1.9**
VILB	**Vilhena**	**12.51**	**42**	*e*P		**Pn**	**16 59 19.0**	**+1.4**
ITQB	**Itaqui**	**12.94**	**126**	*e*P		**Pn**	**16 59 24.6**	**+1.5**
UNIS	**Unistalda (Bra**	**13.86**	**121**	*e*P		**Pn**	**16 59 35.6**	**+0.5**
CZSB	**Cruzeiro do Su**	**15.24**	**345**	*e*P		**Pn**	**16 59 50.2**	**-2.5**
PTGB	**Pitanga**	**15.38**	**101**	*e*P		**P**	**16 59 56.1**	**-0.3**
ITAB	**Concordia**	**15.72**	**111**			**Pn**	**16 59 59.4**	**+0.8**
ITAB	**Concordia**	**15.72**	**111**	*e*P		**P**	**17 00 00.6**	**+0.6**
PDRB	**Porto dos Gac**	**15.77**	**48**	*e*P		**P**	**17 00 00.3**	**-0.3**
PCMB	**Pacaembu**	**16.18**	**90**	*e*P		**P**	**17 00 06.7**	**+1.6**
TRQA	**Tornquist**	**16.49**	**161**			**Pn**	**17 00 08.4**	**+0.5**
TRQA					IAmb	IAmb	17 00 10.8	
	comp=Z,7.6nm,0.8s							
CLDB	**Colider**	**16.94**	**49**	*e*P		**Pn**	**17 00 14.7**	**+1.2**
GO06	**Curarrehue**	**17.14**	**187**			**Pn**	**17 00 16.5**	**+0.6**
ARAG	**Araguaiana, MT**	**17.33**	**70**	*e*P		**Pn**	**17 00 18.6**	**+0.3**
ITRB	**Iturama**	**17.33**	**84**	*e*P		**Pn**	**17 00 19.0**	**+0.6**
PLCA	**Paso Flores**	**18.19**	**185**	P		**P**	**17 00 27.0**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=15,slow=14,SNR=5.2							
PLCA	**Paso Flores**	**18.19**	**185**	P		**Pn**	**17 00 28.8**	**+0.3**
PLCA	**Paso Flores**	**18.19**	**185**	*e*P		**Pn**	**17 00 28.0**	**-0.5**
TER01	**Tubaro-SC**	**18.61**	**113**	*e*P		**Pn**	**17 00 33.4**	**-0.2**
BB19B	**Bebedouro**	**18.77**	**89**	*e*P		**P**	**17 00 33.5**	**-0.2**
RCLB	**Rio Claro- Sao**	**19.55**	**94**	*e*P		**P**	**17 00 42.4**	**+0.3**
PET01	**Itanhaem-SP**	**19.72**	**99**	*e*P		**P**	**17 00 44.1**	**+0.2**
IPMB	**Ipameri, GO**	**19.73**	**80**	*e*P		**P**	**17 00 43.5**	**-0.7**
VAO	**Valinhos**	**20.03**	**95**	*e*P		**P**	**17 00 47.2**	**-0.1**
NPGB	**Novo Progresso**	**20.07**	**42**	*e*P		Pn	17 00 49.2	-1.5
BDFB	**Brasilia**	**20.70**	**74**	P		**P**	**17 00 53.4**	**-1.2**
	comp=Z,3.8nm,0.5s,baz=268,slow=14,SNR=6.5							
	comp=Z,3.8nm,0.5s							
BDFB	**Brasilia**	**20.70**	**74**	P		**P**	**17 00 53.4**	**-1.2**
BDFB					IAmb	IAmb	17 00 55.2	
	comp=Z,4.6nm,0.6s							
BDFB	**Brasilia**

1µm,0.5s,baz=312,slow=22,SNR=7.2
DAV Davao City (W) 2.67 343 Pn **Pn 17 18 11.2 -1.8**
DAV Davao City (W) 2.67 343 P **Pn 17 18 14.7 +1.7**
KCP Kidapawan 2.79 333 ⇓*i*P **Pn 17 18 15.0 +0.3**
KCP *i* S **Sn 17 18 51.1 +3.0**
CTBH Cotabato--PC H 3.42 322 ⇓*i*P **Pn 17 18 22.4 -0.7**
CTBH *i* S **Sn 17 19 02.4 -0.6**
BUKP Musuan 3.60 339⇑*e*P **Pn 17 18 26.0 +0.6**
BUKP *i* S **Sn 17 19 09.8 +2.6**
BIPH Bislig 3.66 0⇑*e*P **Pn 17 18 25.4 -0.8**
BIPH *i* S **Sn 17 19 08.0 -0.7**
TNTI Ternate 3.84 165 P **Pn 17 18 27.6 -1.0**
TNTI Sn **Sn 17 19 11.3 -1.5**
TNTI Ternate 3.84 165 P **Pn 17 18 28.5 0.0**
TNTI S **Sn 17 19 12.2 -0.6**
TNTI Ternate 3.84 165 P **Pn 17 18 29.0 +0.5**
CGP Cagayan de Oro 4.26 337⇓*e*P **Pn 17 18 34.9 +0.6**
CGP *e*S **Sn 17 19 26.1 +3.0**
DCPH Dipolog City 5.04 324⇑*e*P **Pn 17 18 44.9 +0.2**
GTOI Gorontalo 5.09 221 P **Pn 17 18 46.2 +0.8**
1.9nm6µm477nm,0.8s
GTOI S **Sn 17 19 41.8 -1.2**
1.9nm6µm477nm,0.8s
LBMI Labuha 5.23 167 P **Pn 17 18 47.9 +0.6**
3.1nm5µm263nm,0.7s
LBMI S **Sn 17 19 45.6 -0.9**
3.1nm5µm263nm,0.7s
LSIP Lazi, Siquijor 5.34 330⇑*e*P **Pn 17 18 49.8 +1.0**
LSIP *e*S **Sn 17 19 52.2 +3.1**
GHBP Garcia Hernand 5.48 339⇓*e*P **Pn 17 18 50.9 +0.1**
GHBP *e*S **Sn 17 19 53.5 +0.9**
TBP Tagbilaran 5.72 335 ⇓*i*P **Pn 17 18 53.2 -0.7**
TBP *i* S Sn 17 19 38.8 -20
TABP Talibon, Bohol 5.91 340⇓*e*P **Pn 17 18 56.1 -0.4**
TABP *e*S **Sn 17 20 02.7 -0.2**
MRSI Marisa 5.95 228 P **Pn 17 18 58.7 +1.6**
6.0nm20µm2µm,0.6s
MRSI S **Sn 17 20 04.9 +1.0**
6.0nm20µm2µm,0.6s
LLP Lapu-Lapu 6.25 338⇓*e*P **Pn 17 19 01.0 -0.1**
LLP *e*S **Sn 17 20 12.9 +1.8**
TOLI2 Tolitoli 6.50 239 Pn **Pn 17 19 04.0 -0.6**
TOLI2 Sn **Sn 17 20 15.8 -1.6**
TOLI2 Tolitoli 6.50 239 P **Pn 17 19 05.1 +0.5**
SANI Sanana 6.51 183 P **Pn 17 19 02.9 -1.8**
1.3nm11µm156nm,0.5s
SANI S **Sn 17 20 09.2 -8.4**
1.3nm11µm156nm,0.5s
LUWI Luwuk 6.56 213 Pn **Pn 17 19 07.3 +1.9**
LUWI Luwuk 6.56 213 P **Pn 17 19 06.5 +1.1**
2.3nm8µm533nm,0.6s
LUWI Luwuk 6.56 213 P **Pn 17 19 08.9 +3.5**
APSI Ampana 7.14 221 P **Pn 17 19 15.3 +2.1**
2.7nm6µm717nm,1.2s
SIJI Sorong 7.25 137 P **Pn 17 19 14.7 +0.1**
27nm,0.3s,baz=181,slow=23,SNR=62
SIJI S **Sn 17 20 33.5 -1.9**
21nm,0.5s,baz=206,slow=23,SNR=7.7
MPSI Mapaga 7.66 238 P **Pn 17 19 20.9 +0.6**
0.5nm2µm153nm,0.8s
NLAI Namlea 7.72 174 P **Pn 17 19 19.6 -1.5**
MYLDM Lahad Datu 7.86 275 **Pn 17 19 26.2 +3.2**
RCP Roxas 7.87 333⇓*e*P **Pn 17 19 25.4 +2.2**
AAI Ambon 8.34 167 P **Pn 17 19 29.2 -0.2**
2µm102nm,0.7s
FAKI Fak Fak 9.43 141 Pn **Pn 17 19 44.8 +0.4**
FAKI Fak Fak 9.43 141 P **Pn 17 19 44.7 +0.4**
1µm81nm,1.0s
FAKI Fak Fak 9.43 141 P **Pn 17 19 44.7 +0.4**
BNDI Bandanaira 9.64 158 P **Pn 17 19 47.5 +0.4**
65nm,1.1s
RKPI Ransiki, Papua 9.83 127 P **Pn 17 19 50.7 +0.9**
1µm139nm,1.1s
KKM Kota Kinabalu 10.21 279 **Pn 17 19 57.8 +2.8**
KKM Kota Kinabalu 10.21 279 P **Pn 17 19 58.1 +3.1**
SPSI Sidrap Palu 10.68 218 P **Pn 17 20 02.0 +0.8**
721nm98nm,0.8s
BNSI Bone 10.82 215 P **Pn 17 20 05.0 +1.9**
371nm31nm,1.1s
TGY Tagaytay City 10.94 331⇓*e*P Pn 17 20 11.2 +6.4
BKB Balikpapan 11.05 239 P **Pn 17 20 08.3 +2.1**
338nm,0.8s
KAPI Kappang 11.52 215 P **Pn 17 20 13.0 +0.5**
80nm,0.8s,baz=24,slow=8.0,SNR=51
KAPI LR LR 17 24 54.2
comp=Z,198nm,21.9s,baz=34,slow=38
KAPI Kappang 11.52 215 Pn **Pn 17 20 12.8 +0.2**
BKSI Bulukumba 11.57 213 P **Pn 17 20 13.4 +0.2**
21nm,0.9s
BSSI Bau Bau, Buton 12.08 209 P **P 17 20 25.1 -2.9**
MTKI Muara Teweh, K 12.66 245 P **Pn 17 20 30.2 +2.6**
3µm140nm,0.9s
MMRI Maumere 13.68 197 Pn **Pn 17 20 41.0 +0.2**
MMRI Maumere 13.68 197 P **Pn 17 20 41.3 +0.5**
134nm,1.0s
MMRI Maumere 13.68 197 P **Pn 17 20 42.0 +1.2**
SMPI Sarmi 13.93 117 P **Pn 17 20 44.5 +0.5**
26nm,1.3s
BBKI Banjar Baru 13.96 236 P **P 17 20 47.0 -1.9**
3µm278nm,1.4s
SBUM Sibu 14.26 262 Pn **P 17 20 50.2 -1.9**
SOEI Soe 14.31 188 Pn **Pn 17 20 50.0 +0.9**
SOEI Soe 14.31 188 P **P 17 20 51.8 -1.1**
63nm,0.9s
SOEI Soe 14.31 188 P **P 17 20 51.5 -1.4**
BATI Baumata 14.85 190 P **Pn 17 20 57.0 +1.1**
41nm,0.8s,baz=357,slow=1.0,SNR=15
BATI LR LR 17 26 55.5
comp=Z,173nm,20.0s,baz=30,slow=38
BATI Baumata 14.85 190 P **P 17 20 58.5 -0.3**
56nm,0.9s
GENI Genyem 15.49 117 P **P 17 21 05.1 -0.8**
41nm,1.0s
PLAI Plampang 15.76 213 P **Pn 17 21 07.8 +0.6**
82nm,1.0s
TWSI Taliwang, Sumb 16.19 216 P **P 17 21 13.2 -0.4**
134nm,1.0s
KSM Kuching 16.30 260 **P 17 21 15.4 +0.6**
JAGI Jajag, Banyuwa 17.72 223 P **Pn 17 21 32.5 +1.2**
JAGI Jajag, Banyuwa 17.72 223 P **Pn 17 21 33.4 +2.2**
48nm,1.1s
MTN Manton Dam 17.87 165 P **P 17 21 30.6 -1.5**
MTN Manton Dam 17.87 165 P **P 17 21 31.5 -0.6**
GMJI Gumukmas 18.08 225 P **Pn 17 21 38.1 +2.6**
30nm,1.1s
KDU Kakadu 18.12 160 P **P 17 21 34.4 -0.5**
TWG Pinlang 18.92 345 P **P 17 21 41.1 -2.4**
DLV T Lat 19.16 294 P **Pn 17 21 48.4 -0.1**
84nm,1.2s
YULB Yu-li 19.41 346 P **P 17 21 46.5 -2.4**
TPUB Ta-pu 19.49 344 P **P 17 21 48.0 -1.8**
SSLB Suanglung 19.87 345 P **P 17 21 51.6 -2.4**
KNRA Kununurra 20.19 173 P **P 17 21 58.1 +0.8**
KNRA Kununurra 20.19 173 P **P 17 21 58.7 +1.4**
71nm,1.0s
GUMO Guam 20.38 62 LR LR 17 28 28.5
comp=Z,200nm,21.5s,baz=214,slow=32
YHNB Yeheng 20.62 347 P **P 17 22 01.6 -0.5**
LEM Lembang 21.83 239 P **P 17 22 15.9 +0.8**
30nm,0.9s,baz=155,slow=21,SNR=7.0
LEM LR LR 17 32 37.4
comp=Z,93nm,19.8s,baz=37,slow=42
30nm,0.9s
TPRI Tanjung Pinang 22.09 261 P **P 17 22 19.7 +2.0**
DSRI Dabo 22.31 258 P **P 17 22 21.3 +1.3**
28nm,0.8s
MYKOM Kota Tinggi 22.63 264 P **P 17 22 23.5 +0.3**
UBPT Khong Chiam 23.17 299 P **P 17 22 26.8 -1.6**
UBPT Khong Chiam 23.17 299 P **P 17 22 27.9 -0.5**
KASI Kota Agung 23.99 246 P **P 17 22 37.1 +1.2**
58nm,0.8s
LWLI Liwa 24.19 247 P **P 17 22 38.5 +0.6**
110nm,0.8s
COEN Coen 24.79 138 P **P 17 22 43.8 +0.6**
COEN Coen 24.79 138 P **P 17 22 44.1 +0.9**
PMG Port Moresby 24.91 124 P **P 17 22 43.7 -0.6**
13nm,0.8s,baz=299,slow=12,SNR=4.2
13nm,0.8s
PMG Port Moresby 24.91 124 P **P 17 22 43.0 -1.2**
IPM Ipoh 25.25 271 P **P 17 22 46.8 -0.6**
IPM IAmb IAmb 17 22 50.5
comp=Z,25nm,0.8s
IPM Ipoh 25.25 271 P **P 17 22 47.6 +0.2**
WB0 Warramunga Arr 25.38 162 P **P 17 22 48.6 +0.2**
WB0 IAmb IAmb 17 22 52.0
comp=Z,48nm,1.1s
SDSI Sungai Dareh 25.48 258 P **P 17 22 53.1 +3.6**
comp=Z,576nmcomp=Z,44nm,1.2s
WRAB Tennant Creek 25.52 162 P **P 17 22 50.0 +0.3**
WRAB IAmb IAmb 17 22 53.5
comp=Z,35nm,0.9s
WRAB Tennant Creek 25.52 162 P **P 17 22 50.6 +0.9**
WRA Warramunga Arr 25.52 162 P **P 17 22 49.8 0.0**
comp=Z,20nm,0.8s,baz=342,slow=10,SNR=53
WRA S **S 17 27 07.0 -2.3**
comp=Z,5.2nm,1.3s,baz=339,slow=15,SNR=4.7
WRA LR LR 17 35 14.9
comp=Z,46nm,18.2s,baz=356,slow=42
comp=Z,20nm,0.8s
WRA Warramunga Arr 25.52 162 P **P 17 22 48.7 -1.1**
WB2 Warramunga Arr 25.53 162 P **P 17 22 50.0 +0.2**
WB2 IAmb IAmb 17 22 53.5
comp=Z,36nm,0.9s
WB1 Warramunga Ar. 25.54 162 P **P 17 22 50.0 +0.1**
WR0 Warramunga Arr 25.60 162 P **P 17 22 50.8 +0.3**
KULM Kulim 25.62 273 P **P 17 22 50.0 -0.7**
KULM IAmb IAmb 17 22 54.9
comp=Z,31nm,1.3s
BKNI Bangkinang 25.62 261 P **P 17 22 50.4 -0.4**
BKNI Bangkinang 25.62 261 P **P 17 22 52.5 +1.7**
comp=Z,149nm,0.9s
BKNI Bangkinang 25.62 261 P **P 17 22 52.1 +1.3**
SKLT Songkhla 25.74 277 P **P 17 22 52.5 +0.7**
MBWA Marble Bar 26.31 194 P **P 17 22 57.5 +0.6**
MBWA IAmb IAmb 17 23 03.3
comp=Z,33nm,1.0s
MBWA Marble Bar 26.31 194 P **P 17 22 57.5 +0.6**
PDSI Padang 26.42 259 P **P 17 23 03.9 +5.9**
NAYO Nakonayok 26.52 293 P **P 17 22 59.2 +0.4**
PSA00 Pilbara Seismi 26.68 194 P **P 17 23 00.9 +0.7**
PSA00 IAmb IAmb 17 23 02.4
comp=Z,38nm,0.8s
PSA00 Pilbara Seismi 26.68 194 P **P 17 23 01.3 +1.1**
SRIT Nakonsritamara 26.88 280 P **P 17 23 02.4 +0.3**
SRIT IAmb IAmb 17 23 14.5
comp=Z,26nm,1.1s
SRIT Nakonsritamara 26.88 280 P **P 17 23 03.2 +1.1**
SURA Surathani 26.93 281 P **P 17 23 03.5 +1.0**
JCJ Chichijima 27.08 32 P **P 17 23 01.9 -1.9**
comp=Z,20nm,0.4s,baz=282,slow=16,SNR=6.6
JCJ LR LR 17 36 32.6
comp=Z,39nm,18.1s,baz=199,slow=42
JCJ Chichijima 27.08 32 P **P 17 23 02.2 -1.5**
PSI Prapat 27.43 267 P **P 17 23 06.8 -0.3**
comp=Z,9.0nm,0.8s,baz=80,slow=3.8,SNR=7.8
PSI LR LR 17 36 03.2
comp=Z,100nm,19.4s,baz=87,slow=41
comp=Z,9.0nm,0.8s
PSI Prapat 27.43 267 P **P 17 23 08.4 +1.3**
comp=Z,15nm,0.9s
RPSI Rantau Prapat 27.43 267 P **P 17 23 06.4 -0.6**
RPSI Rantau Prapat 27.43 267 P **P 17 23 06.8 -0.3**
QIS Mount Isa 28.09 153 P **P 17 23 14.2 +1.4**
NJ2 Nanjing 28.30 346 *e*P **P 17 23 18.1 +3.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
MTSU Mount Surprise 28.63 142 P **P 17 23 19.1 +1.5**
JNU Nakatsue 28.79 8 P **P 17 23 18.8 -0.1**
JNU Nakatsue 28.79 8 P **P 17 23 19.3 +0.4**
GSI Gunungsitoli 28.91 265 P **P 17 23 20.1 -0.1**
GSI Gunungsitoli 28.91 265 P **P 17 23 20.9 +0.7**
comp=Z,81nm,0.9s
GSI Gunungsitoli 28.91 265 P **P 17 23 20.3 +0.1**
AS31 Alice Springs 28.94 166 P **P 17 23 20.7 +0.3**
ASAR Alice Springs 28.95 166 P **P 17 23 20.9 +0.5**
comp=Z,3.6nm,0.6s,baz=347,slow=7.3,SNR=106
ASAR PcP **PcP 17 26 27.9 +1.1**
comp=Z,1.4nm,0.5s,baz=354,slow=2.5,SNR=4.3
ASAR ScP **ScP 17 29 59.2 +0.8**
comp=Z,1.1nm,0.9s,baz=354,slow=3.3,SNR=5.1
ASAR LR LR 17 37 23.8
comp=Z,63nm,18.8s,baz=360,slow=41
comp=Z,3.6nm,0.6s
ASAR Alice Springs 28.95 166 P **P 17 23 20.6 +0.2**
AS01 Alice Springs 28.95 166 P **P 17 23 21.4 +0.9**
PHRA Phrae 29.07 301 P **P 17 23 22.5 +0.9**
WRKA Warakurna 29.42 176 P **P 17 23 25.8 +1.3**
CMAR Chiang Mai Arr 30.17 300 P **P 17 23 30.6 -0.7**
comp=Z,1.8nm,0.8s,baz=102,slow=6.4,SNR=19
CMAR ScP **ScP 17 30 03.5 +1.1**
comp=Z,2.3nm,1.0s,baz=122,slow=1.7,SNR=12
CMAR LR LR 17 38 18.7
comp=Z,88nm,18.2s,baz=120,slow=41
comp=Z,1.8nm,0.8s
CMAR Chiang Mai Arr 30.17 300 P **P 17 23 30.9 -0.4**
ENH Enshi 30.18 330 P **P 17 23 30.3 -1.0**
ENH Enshi 30.18 330 P **P 17 23 31.2 0.0**
ENH Enshi 30.18 330 P **P 17 23 31.0 -0.2**
ENH sP **sP 17 24 08.1 +0.5**
CHTO Chiang Mai 30.31 300 P **P 17 23 33.0 +0.5**
TV1H Townsville Har 31.02 140 P **P 17 23 40.8 +2.1**
CTA Charters Tower 31.30 142 P **P 17 23 42.8 +1.6**
comp=Z,7.2nm,0.9s,baz=322,slow=9.9,SNR=10
CTA LR LR 17 37 49.1
comp=Z,70nm,18.6s,baz=337,slow=39
comp=Z,7.2nm,0.9s
CTA Charters Tower 31.30 142 P **P 17 23 42.9 +1.8**
CTAO Charters Tower 31.30 142 P **P 17 23 42.2 +1.1**
CTAO IAmb IAmb 17 23 44.0
comp=Z,45nm,1.9s
CTAO Charters Tower 31.30 142 P **P 17 23 43.0 +1.8**
CTAO Charters Tower 31.30 142 P **P 17 23 42.8 +1.6**
CTAO sP **sP 17 24 18.6 +0.1**
MEEK Meekatharra 31.85 193 P **P 17 23 46.6 +0.7**
LYN LuoYang 32.56 338 ⇑P **P 17 23 52.0 -0.1**
LYN S **S 17 28 57.6 -1.8**
LYN sS sS 17 29 40.8 +0.1
LYN pmax pmax
comp=Z,10.0nm,0.7s
KSRS Korea Array 32.83 2 P **P 17 23 55.1 +0.8**
comp=Z,3.8nm,0.6s,baz=182,slow=9.5,SNR=19
KSRS LR LR 17 36 57.7
comp=Z,37nm,21.8s,baz=130,slow=36
comp=Z,3.8nm,0.6s
OOD Oodnadatta 33.34 165 P **P 17 23 59.9 +1.0**
XAN Xi'an 33.57 333 ⇑P **P 17 24 00.3 -0.6**
XAN pmax pmax
comp=Z,26nm,0.6s
XAN Xi'an 33.57 333 P **P 17 23 59.4 -1.5**
TNCH TengChong 33.64 310 P **P 17 24 03.6 +1.8**
TNCH pP pP 17 24 26.6 +0.5
TNCH sP sP 17 24 41.9 +3.1
TNCH pmax pmax
comp=Z,9.0nm,2.7s
MJAR Matsushiro Arr 33.70 17 LR LR 17 38 02.3
comp=Z,38nm,20.6s,baz=186,slow=36
CD2 Chengdu 33.81 324 P **P 17 24 03.5 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MND Mandalay 34.08 303 P **P 17 24 06.0 +0.6**
HNS HongShan 34.44 343 ⇓P **P 17 24 08.8 +0.5**
HNS pmax pmax
comp=Z,13nm,1.1s
MORW Morawa 34.81 196 P **P 17 24 12.1 +0.4**
MORW IAmb IAmb 17 25 20.8
comp=Z,25nm,1.4s
INKA Innaminka 34.93 157 P **P 17 24 14.1 +1.5**
QLP Quilpie 35.41 152 P **P 17 24 17.5 +0.7**
JMM Marumori 35.73 20 P **P 17 24 16.8 -2.6**
JMM Marumori 35.73 20 P **P 17 24 21.0 +1.6**
KMBL Kambalda 35.92 187 P **P 17 24 22.5 +1.4**
HNR Honiara 36.22 113 P **P 17 24 24.1 +0.2**
comp=Z,622nm,1.0s,baz=204,slow=7.1,SNR=4.5
HNR LR LR 17 38 36.3
comp=Z,860nm,18.3s,baz=87,slow=35
HNR Honiara 36.22 113 P **P 17 24 23.1 -0.8**
HNR Honiara 36.22 113 P **P 17 24 24.1 +0.2**
HNR pP **pP 17 24 48.2 -0.1**
HNR sP **sP 17 25 00.9 0.0**
BJT Baijiatuau 36.54 347 P **P 17 24 26.6 +0.3**
BJT pP **pP 17 24 51.1 +1.0**
LCRK Leigh Creek 36.55 163 P **P 17 24 27.7 +1.2**
BJI Beijing 36.56 347 P **P 17 24 26.8 +0.4**
BJI pmax pmax
comp=Z,12nm,0.6s
LZH Lanzhou 37.66 329 ⇑P **P 17 24 36.8 +0.8**
LZH pP pP 17 24 59.8 -0.5
LZH sP sP 17 25 14.9 +2.2
LZH pmax pmax
comp=Z,18nm,1.4s
RMQ Roma 37.67 146 P **P 17 24 37.4 +1.4**
EIDS Eidsvold 38.18 142 P **P 17 24 41.1 +0.7**
EIDS IAmb IAmb 17 24 41.9
comp=Z,18nm,1.0s
EIDS Eidsvold 38.18 142 P **P 17 24 41.6 +1.3**
HHC Hu-ho-hao-te 38.56 342 *e*P **P 17 24 45.4 +2.0**
HHC S **S 17 30 34.1 +2.8**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,260nm,5.6s
STKA Stephens Creek 38.98 159 P **P 17 24 48.0 +1.2**
comp=Z,25nm,0.8s,baz=339,slow=8.3,SNR=40
STKA LR LR 17 42 24.8
comp=Z,59nm,18.2s,baz=23,slow=38
comp=Z,25nm,0.8s
STKA Stephens Creek 38.98 159 P **P 17 24 47.9 +1.1**
STKA Stephens Creek 38.98 159 P **P 17 24 48.3 +1.4**
SHL Shillong 39.12 306 P **P 17 24 47.5 -1.0**
CN2 Changchun 39.15 359 *e*P **P 17 24 44.3 -3.8**
CN2 sP sP 17 25 27.6 +3.2
CN2 S **S 17 30 35.9 -3.9**
HTT Hallett 39.55 163 P **P 17 24 53.5 +1.8**
AULRC Lightning Ridg 39.61 150 P **P 17 24 53.8 +1.7**
USA0B Ussuriysk Arra 39.85 6 P **P 17 24 54.4 +0.5**
USA0B IAmb IAmb 17 24 55.8
comp=Z,19nm,1.0s
USRK Ussuriysk Ar. 39.85 6 P **P 17 24 54.8 +0.8**
comp=Z,13nm,0.8s,baz=189,slow=6.7,SNR=15
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 39.85 6 P **P 17 24 54.4 +0.4**
MDJ Mudanjiang 40.06 4 P **P 17 24 56.2 +0.6**
MDJ IAmb IAmb 17 24 57.7
comp=Z,26nm,1.0s
MDJ Mudanjiang 40.06 4 P **P 17 24 56.9 +1.2**
MDJ pP pwP 17 25 23.1 -1.6
MDJ pmax pmax
comp=Z,30nm,1.0s
MDJ pmax pmax
comp=Z,120nm,4.0s
MDJ Mudanjiang 40.06 4 P **P 17 24 56.8 +1.1**
MDJ Mudanjiang 40.06 4 P **P 17 24 56.5 +0.9**
MDJ pP **pP 17 25 21.3 +1.6**
XLT XiLinHaoTe 40.27 348 ⇓*i*P **P 17 24 58.8 +1.2**
XLT sP pwP 17 25 29.6 +3.2
XLT S **S 17 31 02.1 +5.3**
XLT SS **SS 17 33 57.8 -1.9**
XLT pmax pmax
comp=Z,15nm,1.1s
XLT pmax pmax
comp=Z,140nm,4.7s
CMSA Cobar Meteorol 40.30 154 P **P 17 24 59.5 +1.7**
LSA Lhasa 41.66 311 P **P 17 25 09.1 -0.5**
ASAJ Asahikawa 41.97 18 LR LR 17 46 00.9
comp=Z,23nm,18.9s,baz=116,slow=41
GTA Gaotai 42.25 329 *e*P **P 17 25 13.6 -0.3**
GTA pP pP 17 25 36.5 -1.9
GTA sP pwP 17 25 45.6 +3.2
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,62nm,5.1s
GTA LR LR
comp=Z,130nm,14.9s
GTA LR LR
comp=Z,97nm,16.4s
GTA LR LR
comp=Z,110nm,16.0s
H11N1 WAKE ISLAND Hy 42.27 66 T T 18 11 31.2
baz=254,slow=75,SNR=13
H11N2 WAKE ISLAND Hy 42.28 66 T T 18 11 25.8
baz=254,slow=75,SNR=10.0
H11N3 WAKE ISLAND Hy 42.29 66 T T 18 11 34.5
baz=254,slow=75,SNR=5.2
ARMA Armidale 42.31 147 P **P 17 25 16.3 +1.9**
ARMA IAmb IAmb 17 25 17.0
comp=Z,23nm,0.8s
ARMA Armidale 42.31 147 P **P 17 25 16.3 +1.9**
ARPS Mount Arapiles 43.53 162 P **P 17 25 26.0 +2.0**
RAMN Ramite 44.01 305 *e*P **P 17 25 27.6 -0.8**
comp=Z,14nm,0.6s
JIRN Jiri 44.62 305 *e*P **P 17 25 32.4 -1.0**
comp=Z,20nm,0.6s
KLR Kul'dur 44.81 5 P **P 17 25 34.7 +0.7**
comp=Z,10nm,0.8s,baz=204,slow=4.7,SNR=17
comp=Z,10nm,0.8s
HIA Hailar 44.96 354 P **P 17 25 35.8 +0.5**
HIA IAmb IAmb 17 25 37.2
comp=Z,26nm,1.2s
HIA Hailar 44.96 354 P **P 17 25 36.7 +1.4**
GUN Gumba 44.98 306 *e*P **P 17 25 35.4 -0.8**
comp=Z,22nm,0.5s
PKI Pulchoki 45.22 305 *e*P **P 17 25 37.1 -1.0**
comp=Z,3.2nm,0.4s
PKIN Phulchoki 45.24 305 *e*P **P 17 25 36.6 -1.6**
comp=Z,5.1nm,0.6s
PALK Pallekele 45.48 276 LR LR 17 46 02.9
comp=Z,40nm,18.9s,baz=206,slow=38
TOO Toolangi 45.49 159 P **P 17 25 41.0 +1.4**
DMN Daman 45.49 305 *e*P **P 17 25 39.5 -0.6**
comp=Z,11nm,0.4s
HEH HeiHe 45.60 1 *e*P **P 17 25 40.8 +0.5**
HEH pmax pmax
comp=Z,24nm,1.2s
ULN Ulaanbaatar 46.28 342 P **P 17 25 46.0 +0.1**
ULN Ulaanbaatar 46.28 342 P **P 17 25 46.6 +0.7**
SONM Songino Array 46.46 342 P **P 17 25 47.1 -0.2**
comp=Z,3.9nm,1.0s,baz=159,slow=6.9,SNR=15
SONM LR LR 17 46 01.8
comp=Z,63nm,18.8s,baz=186,slow=37
comp=Z,3.9nm,1.0s
SONM Songino Array 46.46 342 P **P 17 25 47.4 +0.2**
DANN Dangsing 46.87 305 *e*P **P 17 25 50.0 -1.0**
comp=Z,42nm,0.5s
DZM Mont Dzumac 47.28 126 LR LR 17 47 53.1
comp=Z,43nm,18.1s,baz=39,slow=38
PCHI Peechi 49.89 280 *e*P **P 17 26 14.2 +0.1**
WMQ Urumqi 51.88 325 ⇓P **P 17 26 28.5 -0.1**
WMQ pmax pmax
comp=Z,17nm,0.7s
PETK Petropavlovsk- 54.87 23 P **P 17 26 50.6 +0.4**
comp=Z,8.0nm,0.8s,baz=196,slow=5.7,SNR=27
PETK LR LR 17 50 34.0
comp=Z,28nm,20.5s,baz=208,slow=36
comp=Z,8.0nm,0.8s
PETK Petropavlovsk- 54.87 23 P **P 17 26 49.8 -0.3**
MSVF Nonsavu 55.57 115 P **P 17 26 57.8 +1.9**
comp=Z,18nm,0.9s,baz=265,slow=13,SNR=7.8
comp=Z,18nm,0.9s
MSVF Nonsavu 55.57 115 P **P 17 26 55.5 -0.4**
MSVF Nonsavu 55.57 115 P **P 17 26 58.8 +2.9**
MSVF Nonsavu 55.57 115 P **P 17 26 58.3 +2.5**
DGTI Dogotuki 56.68 113 P **P 17 27 06.0 +2.3**
MK31 Makanchi Array 56.72 325 P **P 17 27 02.5 -1.0**
MK31 IAmb IAmb 17 27 28.2
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 56.72 325 P **P 17 27 02.9 -0.6**
comp=Z,2.6nm,0.3s,baz=120,slow=6.7,SNR=83
MKAR pP **pP 17 27 27.2 -2.1**
comp=Z,5.9nm,0.7s,baz=124,slow=7.9,SNR=9.7
MKAR ScP **ScP 17 31 47.6 -0.2**
comp=Z,1.3nm,0.8s,baz=140,slow=4.0,SNR=4.0
MKAR LR LR 17 51 49.3
comp=Z,54nm,20.4s,baz=170,slow=36
comp=Z,2.6nm,0.3s
MKAR Makanchi Array 56.72 325 P **P 17 27 02.8 -0.7**
TARG Taragay, Kyrgy 56.93 318 P **P 17 27 04.5 -1.1**
NIL Nilore 57.16 307 P **P 17 27 06.2 -0.7**
NIL IAmb IAmb 17 27 08.5
comp=Z,9.6nm,0.8s
KSH Kashi 57.24 315 P **P 17 27 08.4 +0.9**
YAK Yakutsk 57.46 2 P **P 17 27 08.9 +0.5**
comp=Z,7.0nm,0.5s,baz=341,slow=0.8,SNR=16
comp=Z,7.0nm,0.5s
YAK Yakutsk 57.46 2 P **P 17 27 08.3 0.0**
YAK Yakutsk 57.46 2 P **P 17 27 08.6 +0.3**
YAK pP **pP 17 27 30.0 -1.0**
YAK sP **sP 17 27 46.6 +0.8**
MA2 Magadan 58.06 14 LR LR 17 55 28.1
comp=Z,25nm,18.6s,baz=118,slow=39
AAK Ala-Archa 59.54 318 LR LR 17 55 37.9
comp=Z,48nm,18.6s,baz=117,slow=38
ZAA0 Zalesovo Array 59.74 333 P **P 17 27 24.0 -0.4**
ZALV Zalesovo Beam 59.74 333 P **P 17 27 23.0 -1.4**
comp=Z,2.1nm,0.3s,baz=113,slow=9.8,SNR=7.7

ZALV LR LR 17 54 51.1
comp=Z,21nm,19.4s,baz=68,slow=38
comp=Z,2.1nm,0.3s
ZALV Zalesovo Beam 59.74 333 P P 17 27 22.6 -1.8
DRK Karamyk 60.21 313 P P 17 27 25.7 -2.5
DRK IAmb IAmb 17 27 28.7
comp=Z,6.3nm,0.8s
KBL Kabul 60.76 307 P P 17 27 30.6 -1.4
KBL IAmb IAmb 17 27 33.1
comp=Z,7.0nm,1.0s
KURK Kurchatov 60.90 327 P P 17 27 31.3 -1.0
KURK Kurchatov 60.90 327 P P 17 27 31.6 -0.7
KURK pP pP 17 27 55.9 -2.7
BTK Batken 61.12 314 P P 17 27 32.9 -1.3
BTK IAmb IAmb 17 28 01.0
comp=Z,14nm,1.4s
GAR Garm 61.13 312 P P 17 27 33.3 -1.1
GAR IAmb IAmb 17 27 36.9
comp=Z,14nm,0.9s
KK31 Karatay Array 62.42 317 P P 17 27 41.6 -1.1
KKAR Karatay Array 62.42 317 P P 17 27 41.6 -1.1
KKAR Karatay Array 62.42 317 P P 17 27 41.2 -1.6
KKAR IAmb IAmb 17 28 08.8
comp=Z,5.5nm,0.9s
HRA Herat 66.19 306 P P 17 28 07.3 -0.4
BVAR Borovoye Array 66.48 327 LR LR 17 57 32.0
comp=Z,28nm,18.3s,baz=102,slow=36
BRVK Borovoye 66.55 327 P P 17 28 08.3 -1.1
BRVK IAmb IAmb 17 28 10.0
comp=Z,9.2nm,1.0s
BRVK Borovoye 66.55 327 P P 17 28 08.8 -0.6
BRVK pP pP 17 28 33.6 -2.1
TIXI Tiksi 67.08 1 LR LR 17 57 04.3
comp=Z,30nm,21.2s,baz=358,slow=35
TIXI Tiksi 67.08 1 P P 17 28 11.9 -0.5
TIXI IAmb IAmb 17 28 13.7
comp=Z,20nm,1.1s
TIXI Tiksi 67.08 1 P P 17 28 12.3 -0.1
BILL Bilibino 68.91 15 P P 17 28 23.8 -0.1
NRIK Noril'sk 69.60 346 P P 17 28 28.9 +0.8
comp=Z,13nm,0.5s,baz=119,slow=6.1,SNR=20
comp=Z,13nm,0.5s
NRIK Noril'sk 69.60 346 P P 17 28 28.3 +0.2
NRIK IAmb IAmb 17 28 29.5
comp=Z,19nm,0.8s
GEYT Alibeck 70.12 309 P P 17 28 32.2 +0.1
comp=Z,1.1nm,0.5s,baz=129,slow=6.6,SNR=3.8
GEYT LR LR 18 05 03.5
comp=Z,22nm,18.1s,baz=110,slow=41
comp=Z,1.1nm,0.5s
GEYT Alibeck 70.12 309 P P 17 28 31.6 -0.5
ABKAR Akbulak array 71.32 321 P P 17 28 37.6 -1.4
ABKAR Akbulak array 71.32 321 P P 17 28 37.4 -1.6
ABKAR IAmb IAmb 17 29 03.4
comp=Z,3.9nm,0.8s
ARU Arti 74.09 328 LR LR 18 01 28.5
comp=Z,22nm,22.0s,baz=164,slow=36
ARU Arti 74.09 328 P P 17 28 53.3 -1.9
N16K Nishlik Lake 78.67 29 P P 17 29 23.1 +2.0
baz=259
KIRV Kirov 79.38 329 LR LR 18 08 40.6
comp=Z,36nm,18.4s,baz=116,slow=39
P17K Kvichak River 79.61 31 P P 17 29 27.4 +1.3
baz=261
Q17K Contact Creek 79.75 32 P P 17 29 27.2 +0.1
baz=262
GCSA Galena City Sc 80.31 25 P P 17 29 31.5 +1.7
baz=260
O18K Koktuh Hills 80.32 30 P P 17 29 31.2 +1.2
baz=262
TTA Tatalina 80.39 27 P P 17 29 31.3 +0.9
baz=261
N19K Bonanza Creek 80.81 29 P P 17 29 34.0 +1.3
baz=263
L19K White Mountain 80.81 28 P P 17 29 33.9 +1.3
baz=262
M19K Big River Lodg 80.99 28 P P 17 29 35.3 +1.8
baz=263
L20K Farewell, AK 81.30 28 P P 17 29 35.6 +0.4
baz=263
K20K Telida 81.32 27 P P 17 29 36.9 +1.6
K20K IAmb IAmb 17 29 38.6
comp=Z,16nm,1.2s
K20K Telida 81.32 27 P P 17 29 37.2 +1.9
baz=263
J20K Nowinta River 81.39 26 P P 17 29 36.8 +1.2
J20K IAmb IAmb 17 29 39.0
comp=Z,40nm,1.8s
J20K Nowinta River 81.39 26 P P 17 29 37.4 +1.8
baz=262
M20K Styx River 81.58 28 P P 17 29 38.9 +2.1
baz=264
A21K Barrow 81.61 19 P P 17 29 38.8 +2.2
baz=259
N20K Mount Spurr 81.95 29 P P 17 29 40.5 +1.8
baz=265
G21K Allakaket 81.96 24 P P 17 29 40.4 +1.8
baz=263
H21K Melozitna Rive 82.14 24 P P 17 29 40.4 +0.8
H21K IAmb IAmb 17 29 42.2
comp=Z,16nm,1.3s
H21K Melozitna Rive 82.14 24 P P 17 29 41.6 +2.1
baz=263
CAST Castle Rocks 82.22 27 P P 17 29 41.6 +1.6
CAST IAmb IAmb 17 29 42.2
comp=Z,11nm,1.0s
CAST Castle Rocks 82.22 27 P P 17 29 41.0 +1.0
baz=264,SNR=5.7
SKT Skwentna 82.34 28 P P 17 29 41.3 +0.6
baz=265
I21K Tanana 82.44 25 P P 17 29 42.4 +1.4
I21K IAmb IAmb 17 29 43.9
comp=Z,24nm,1.2s
I21K Tanana 82.44 25 P P 17 29 43.1 +2.1
baz=264,SNR=5.4
F22K John River 82.60 23 P P 17 29 43.4 +1.5
baz=264
SUA Susitna One 82.67 29 P P 17 29 43.2 +0.7
baz=266
KTH Kantishna Hill 82.75 27 P P 17 29 44.5 +1.7
KTH IAmb IAmb 17 29 45.3
comp=Z,19nm,1.2s
H22K Ishtalitna Cre 82.75 24 P P 17 29 44.6 +1.8
baz=265,SNR=7.9
G22K Bettles 82.80 23 P P 17 29 44.1 +1.2
baz=264
MLY Manley 82.95 25 P P 17 29 44.8 +1.0
MLY IAmb IAmb 17 29 46.2
comp=Z,16nm,1.1s
MLY Manley 82.95 25 P P 17 29 44.8 +1.0
baz=265,SNR=10
M22K Willow 82.99 28 P P 17 29 44.3 +0.4
M22K Willow 82.99 28 P P 17 29 44.6 +0.7
baz=266
TRF Thorofare Moun 83.03 27 P P 17 29 44.6 +0.3
TRF IAmb IAmb 17 29 45.9
comp=Z,26nm,1.2s
TRF Thorofare Moun 83.03 27 P P 17 29 44.3 0.0
baz=266
RC01 Rabbit Creek A 83.14 29 P P 17 29 44.9 +0.1
baz=267
SEW Seward 83.22 30 P P 17 29 45.5 +0.3
baz=267
D23K Nanushuk River 83.30 21 P P 17 29 47.5 +2.0
baz=265
COLD Coldfoot 83.33 23 P P 17 29 47.1 +1.4
COLD IAmb IAmb 17 29 48.6
comp=Z,20nm,1.0s
COLD Coldfoot 83.33 23 P P 17 29 47.5 +1.9
baz=266,SNR=9.0
G23K Bananza Creek 83.37 23 P P 17 29 47.7 +1.8
baz=266
C23K Itkillik River 83.40 20 P P 17 29 47.6 +1.7
baz=265
PMR Palmer 83.45 29 P P 17 29 46.9 +0.5
PMR IAmb IAmb 17 29 47.6
comp=Z,21nm,1.0s
PMR Palmer 83.45 29 P P 17 29 47.1 +0.8
baz=267
H23K Yukon River 83.50 24 P P 17 29 48.2 +1.6
H23K IAmb IAmb 17 29 49.3
comp=Z,18nm,1.1s
H23K Yukon River 83.50 24 P P 17 29 48.0 +1.5
baz=266
I23K Minto, Yukon-K 83.54 25 P P 17 29 48.1 +1.4
I23K Minto, Yukon-K 83.54 25 P P 17 29 48.3 +1.6
baz=267,SNR=8.3
E23K Chandalar 83.62 22 P P 17 29 49.1 +1.9
baz=266
NEA2 Nenana 83.63 26 P P 17 29 47.9 +0.7
NEA2 IAmb IAmb 17 29 50.0
comp=Z,14nm,1.1s
NEA2 Nenana 83.63 26 P P 17 29 48.6 +1.3
baz=267,SNR=5.6
MCK McKinley 83.65 26 P P 17 29 47.7 +0.3
MCK IAmb IAmb 17 29 48.8
comp=Z,23nm,1.1s
MCK McKinley 83.65 26 P P 17 29 47.5 +0.1
baz=267,SNR=6.0
TOLK Toolik Lake Re 83.67 22 P P 17 29 48.1 +0.7
TOLK Toolik Lake Re 83.67 22 P P 17 29 48.2 +0.8
baz=266,SNR=10
KNK Knik Glacier 83.77 29 P P 17 29 48.8 +0.7
KNK Knik Glacier 83.77 29 P P 17 29 48.6 +0.5
baz=268,SNR=6.5
WAT1 Susitna Watana 83.78 27 P P 17 29 48.6 +0.5
baz=268
PWL Port Wells 83.81 29 P P 17 29 49.0 +0.7
PWL Port Wells 83.81 29 P P 17 29 48.8 +0.5
baz=268
SML Sawmill 83.84 28 P P 17 29 48.7 +0.3
baz=268
MDM Murphy Dome 84.01 25 P P 17 29 49.0 -0.2
MDM IAmb IAmb 17 30 35.4
comp=Z,34nm,2.0s
E24K Your Creek 84.04 22 P P 17 29 50.6 +1.2
baz=267
WRH Wood River Hil 84.05 26 P P 17 29 49.5 +0.1
WRH IAmb IAmb 17 29 50.7
comp=Z,16nm,1.2s
C24K Franklin Bluff 84.05 20 P P 17 29 50.5 +1.3
baz=267
M23K Glacier View 84.13 28 P P 17 29 50.4 +0.5
baz=268
WAT6 Susitna Watana 84.14 28 P P 17 29 50.4 +0.3
baz=268,SNR=6.9
CCB Clear Creek Bu 84.18 26 P P 17 29 49.7 -0.3
CCB IAmb IAmb 17 29 51.6
comp=Z,20nm,1.4s
H24K Noodor Dome 84.19 24 P P 17 29 51.0 +0.9
H24K Noodor Dome 84.19 24 P P 17 29 51.3 +1.2
baz=268
VNDA Vanda 84.23 173 P P 17 29 50.2 +0.3
comp=Z,1.3nm,0.6s,baz=301,slow=4.6,SNR=8.4
comp=Z,1.3nm,0.6s
VNDA Vanda 84.23 173 P P 17 29 51.4 +1.4
F24K Squaw Lake 84.25 23 P P 17 29 51.8 +1.5
baz=268
SCM Sheep Creek Mo 84.32 28 P P 17 29 51.8 +0.9
baz=269
DHY Denali Highway 84.32 27 P P 17 29 51.2 +0.2
baz=269
G24K Hadweenzic Riv 84.38 24 P P 17 29 52.5 +1.5
baz=268
HDA Harding Lake 84.54 26 P P 17 29 54.8 +2.9
HDA IAmb IAmb 17 29 59.1
comp=Z,8.2nm,0.9s
KLMR Klimovskoe 84.56 331 eP P 17 29 50.6 -1.4
KLMR AMP 17 29 53.5
comp=Z,48nm,1.6s
ILAR Eielson Array 84.58 25 P P 17 29 51.5 -0.6
comp=Z,1.8nm,1.0s,baz=240,slow=5.5,SNR=9.4
comp=Z,1.8nm,1.0s
D25K Kavik River 84.85 21 P P 17 29 55.4 +2.0
baz=269
KLU Klutina 84.99 29 P P 17 29 55.3 +1.0
baz=270
EYAK Cordova Ski Ar 85.08 30 P P 17 29 56.2 +1.6
baz=270
F25K Christian Rive 85.11 23 P P 17 29 55.1 +0.4
baz=270
E25K Arctic Village 85.14 22 P P 17 29 55.7 +0.9
baz=270,SNR=5.6
PRP Porcupine Dome 85.16 25 P P 17 29 55.1 +0.1
baz=270
PAX Paxson 85.19 27 P P 17 29 55.7 +0.5
baz=270
HARP HAARP 85.34 28 P P 17 29 55.7 -0.3
baz=271
C26K Camden Bay 85.37 20 P P 17 29 58.1 +2.3
baz=270
BMAR Burnt Mountain 85.52 23 P P 17 29 58.2 +1.5
BMRM Bremner River 85.63 29 P P 17 29 59.1 +1.7
baz=271
C27K Jago River 85.79 21 P P 17 29 59.8 +1.9
baz=271
J26L Joseph Creek 86.01 26 P P 17 30 00.3 +1.0
baz=272
I26K Coal Creek Min 86.15 25 P P 17 30 00.9 +1.1
baz=272
E27K Coleen River 86.62 22 P P 17 30 03.7 +1.5
baz=274
G27K Doyon Strip 86.69 23 P P 17 30 04.1 +1.6
baz=274
H27K Steamboat Moun 86.77 24 P P 17 30 03.8 +0.9
baz=274
I27K Kandik River 86.78 25 P P 17 30 04.5 +1.5
baz=274
DAWY Dawson 87.85 26 P P 17 30 08.8 +0.7
baz=276
YUK8 Steele Glacier 87.96 29 P P 17 30 08.1 -0.9
baz=276
I29M Ogilvie Camp, 88.17 25 P P 17 30 10.6 +1.0
M29M Somme Creek 88.45 28 P P 17 30 12.1 +1.0
baz=277
L29M L29M 88.52 27 P P 17 30 13.0 +1.7
baz=277
EPYK Eagle Plains 88.69 24 P P 17 30 11.8 -0.3
EPYK IAmb IAmb 17 30 13.8
comp=Z,11nm,1.1s
EPYK Eagle Plains 88.69 24 P P 17 30 12.5 +0.4
baz=278
K29M Barlow Dome 88.70 26 P P 17 30 13.0 +0.8
baz=277
G30M tAoh Zraii Nji 88.80 23 P P 17 30 12.8 +0.3
baz=278
BR131 Keskin Array S 89.25 310 P P 17 30 15.2 -0.1
BRTR Keskin Array B 89.25 310 P P 17 30 13.8 -1.6
comp=Z,2.4nm,0.9s,baz=113,slow=4.7,SNR=10
comp=Z,2.4nm,0.9s
BRTR Keskin Array B 89.25 310 P P 17 30 14.5 -0.9
INK Inuik 89.59 21 P P 17 30 15.9 -0.2
comp=Z,7.8nm,1.1s,baz=263,slow=5.4,SNR=8.8
comp=Z,7.8nm,1.1s
INK Inuvik 89.59 21 P P 17 30 16.0 -0.2
INK IAmb IAmb 17 30 17.7
comp=Z,10nm,1.2s
INK Inuvik 89.59 21 P P 17 30 16.3 +0.2
baz=281
ARCES ARCESS Array B 89.60 340 P P 17 30 15.7 -0.6
comp=Z,7.1nm,0.9s,baz=82,slow=5.5,SNR=14
ARCES LR LR 18 16 44.9
comp=Z,29nm,18.8s,baz=332,slow=40
comp=Z,7.1nm,0.9s
N31M Braeburn, Yuko 89.83 28 P P 17 30 17.6 +0.1
baz=279
WHY Whitehorse 90.40 29 P P 17 30 20.5 +0.2
baz=280
SIT Sitka 90.78 33 P P 17 30 22.5 +0.6
baz=279
FARO Faro, Yukon 90.84 27 P P 17 30 22.5 +0.3
FARO IAmb IAmb 17 30 24.5
comp=Z,11nm,1.1s
FARO Faro, Yukon 90.84 27 P P 17 30 22.1 0.0
baz=281
FINES FINESS Array B 90.98 332 P P 17 30 21.2 -1.5
comp=Z,2.2nm,0.6s,baz=81,slow=4.5,SNR=17
FINES LR LR 18 15 06.7
comp=Z,23nm,18.5s,baz=70,slow=38
comp=Z,2.2nm,0.6s
AKASG Malin Array Be 91.06 321 P P 17 30 21.7 -1.7
comp=Z,0.9nm,0.7s,baz=63,slow=3.7,SNR=4.3
AKASG LR LR 18 13 50.2
comp=Z,30nm,19.7s,baz=109,slow=37
comp=Z,0.9nm,0.7s
N32M Quiet Lake 91.17 28 P P 17 30 24.1 +0.3
baz=281
DLBC Dease Lake 93.28 31 LR LR 18 06 26.8
comp=Z,68nm,21.0s,baz=268,slow=31
TGTN Hyland Airport 93.34 28 P P 17 30 33.9 +0.1
baz=286
MLR Muntele Rosu 94.09 316 LR LR 18 18 13.4
comp=Z,28nm,19.0s,baz=191,slow=39
KOTAN Kotaneelee Air 95.73 28 P P 17 30 45.2 +0.5
baz=289
IDI Anoyia 96.74 306 LR LR 18 21 11.1
comp=Z,19nm,18.3s,baz=142,slow=40
NOA NORSAR Array B 97.94 334 P P 17 30 52.8 -1.8
comp=Z,1.1nm,0.7s,baz=67,slow=4.5,SNR=3.5
NOA LR LR 18 21 32.5
comp=Z,6.9nm,18.3s,baz=105,slow=39
comp=Z,1.1nm,0.7s
DIVS Divibare 98.53 316 P P 17 30 57.5 -0.3
GERES GERESS Array B 101.26 322 P Pdif 17 31 09.6 -0.2
comp=Z,0.1nm,0.3s,baz=25,slow=3.2,SNR=3.6
PFO Pinyon Flats O 109.70 52 P PKiKP 17 35 50.4 +0.4
baz=290
TPFO Pinon Flats 109.71 52 P PKiKP 17 35 50.0 0.0
baz=290
WMOK Wichita Mounta 122.34 44 P PKiKP 17 36 14.6 +0.4
baz=303
JFWS Jewell Farm 122.35 31 P PKiKP 17 36 14.4 +0.4
baz=315
MIAR Mount Ida 125.95 41 P PKiKP 17 36 21.5 +0.2
baz=308

IDC ***23*** *17:24:36.4±1.1,37.°11N×141.°59E,h0km,mb3.7/7, mbtmp3.6/8,ML2.4/1,Error ellipse: s-maj=27.0km s-min=23.0km az=78.0*
JMA ***23*** *17:24:38.7±0.2,37.°2N±0.°3×141.°5E±0.°9,h30km±1km, MV3.7/38,E OFF FUKUSHIMA PREF*
NIED ***23*** *17:24:38.4,37.°24N×141.°50E,h30km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.04; $M_{\theta\theta}$0.18; $M_{\phi\phi}$1.87; $M_{r\theta}$0.92; $M_{\theta\phi}$0.94; $M_{r\phi}$1.94; Fault plane solution: $M_0$3.05000×10^{14} NP1:ϕ_s23.00000°, δ23.00000°,λ-92.00000°. NP2:ϕ_s205.00000°,δ67.00000°, λ-89.00000°.*

ISC 23 17:24:37.8±2.0,37.°22N±0.°05×141.°50E±0.°08,h10km±10km, n22,σ1$09/25,mb3.7/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**286**	*i* P			**Pg**	**17 24 48.6**	**+0.6**
JFK				*e*S			**Sg**	**17 24 55.5**	**+0.7**
JMST	**Minamisoumatoc**	**0.70**	**316**	*i* P			**Pg**	**17 24 51.5**	**+0.1**
JMST				*e*S			**Sg**	**17 25 01.2**	**+0.7**
JFFD	**Fukushimafurud**	**0.76**	**260**	*i* P			**Pg**	**17 24 52.6**	**+0.1**
JFFD				*e*S			**Sg**	**17 25 02.5**	**+1.0**
JMM	**Marumori**	**0.85**	**319**	P			**Pb**	**17 24 54.0**	**-0.8**
JMM				*e*S			**Sb**	**17 25 05.3**	**-1.0**
JHO	**Hitachi**	**0.96**	**231**	*e*P			**Pb**	**17 24 55.5**	**-1.1**
JHO				*e*S			**Sb**	**17 25 07.9**	**-1.5**
JIO	**Ouri**	**1.24**	**354**	P			**Pn**	**17 24 59.6**	**-1.5**
JIO				*e*S			**Sb**	**17 25 15.4**	**-1.9**
JOU	**Okura**	**1.32**	**330**	*e*P			**Pn**	**17 25 02.0**	**-0.4**
JOU				*e*S			**Sb**	**17 25 19.1**	**-0.6**
JFY	**Yanaizu**	**1.44**	**278**	*e*P			**Pn**	**17 25 03.6**	**-0.5**
JFY				*e*S			**Sn**	**17 25 22.5**	**-0.6**
MJAR	**Matsushiro Arr**	**2.73**	**257**	Pn			**Pn**	**17 25 22.5**	**+0.9**
	0.7nm,0.3s,baz=79,slow=16,SNR=22								
MJAR					Sn		**Sb**	**17 25 58.4**	**-1.7**
	1.7nm,0.3s,baz=43,slow=40,SNR=2.8								
	14nm,0.7s								
SONM	**Songino Array**	**27.74**	**304**	P			**P**	**17 30 27.6**	**+1.0**
	0.5nm,0.6s,baz=99,slow=9.7,SNR=4.1								
	0.5nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T			T	18 00 00.3	
	baz=314,slow=75,SNR=70								
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T			T	17 59 59.6	
	baz=314,slow=75,SNR=25								
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T			T	18 00 01.0	
	baz=314,slow=75,SNR=30								
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T			T	18 00 53.4	
	baz=315,slow=76,SNR=17								
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T			T	18 00 52.2	
	baz=315,slow=76,SNR=12								
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T			T	18 00 52.1	
	baz=315,slow=76,SNR=11								
ZALV	**Zalesovo Beam**	**41.84**	**312**	P			**P**	**17 32 27.9**	**+0.2**
	0.9nm,0.5s,baz=66,slow=5.0,SNR=3.8								
	0.9nm,0.5s								
MKAR	**Makanchi Array**	**44.08**	**302**	P			**P**	**17 32 45.8**	**-0.2**
	1.6nm,1.0s,baz=88,slow=9.8,SNR=2.7								
	1.6nm,1.0s								
ILAR	**Eielson Array**	**49.30**	**32**	P			**P**	**17 33 27.4**	**+0.8**
	0.6nm,0.8s,baz=261,slow=7.0,SNR=4.3								
	0.6nm,0.8s								
WRA	**Warramunga Arr**	**57.26**	**188**	P			**P**	**17 34 24.6**	**-0.9**
	0.6nm,0.8s,baz=6.1,slow=7.0,SNR=8.5								
	0.6nm,0.8s								
ASAR	**Alice Springs**	**60.98**	**188**	P			**P**	**17 34 50.9**	**-0.4**
	0.3nm,0.8s,baz=16,slow=15,SNR=4.1								
	0.3nm,0.8s								
AKASG	**Malin Array Be**	**74.19**	**322**	P			**P**	**17 36 16.8**	**+2.3**
	0.7nm,0.5s,baz=47,slow=6.3,SNR=4.9								
	0.7nm,0.5s								

JMA 23 17:27:03.5±0.7,37.°N±1.°×14.°1E±.°,h30km±4km,MV1.6/16, E OFF FUKUSHIMA PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**289**	*e*P			Pb	17 27 12.9	-0.4
JMST	**Minamisoumatoc**	**0.66**	**320**	*e*P			Pb	17 27 16.2	-0.4
JFFD	**Fukushimafurud**	**0.70**	**260**	*e*P			Pb	17 27 16.9	-0.3
JMM	**Marumori**	**0.81**	**323**	*e*P			Pn	17 27 18.5	-0.4
JMM				*e*S			Sb	17 27 27.3	-2.6

NOU ***23*** *17:35:49.2,42.°67S×173.°36E,h0km,MLv3.7/8,South Island, New Zealand*
WEL ***23*** *17:35:51.0±0.3,43.°S±2.°×17.°3E±.°,h5km,M3.1/35, ML3.4/18,MLv3.1/35,Error ellipse: s-maj=0.0km s-min=0.0km az=124.6*

ISC 23 17:35:50.4±1.0,42.°57S±0.°03×173.°28E±0.°04,h10km,n73, σ1$02/74,South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**51**	P			**Pg**	**17 35 56.3**	**+0.9**
GVZ	**Greta Valley S**	**0.44**	**205**	P			**Pb**	**17 36 00.9**	**+0.7**
GVZ				S			**Sb**	**17 36 08.3**	**+1.5**
AMCZ	**Amberley**	**0.76**	**217**	P			**Pb**	**17 36 06.8**	**+1.1**
LTZ	**Lake Taylor**	**0.78**	**254**	P			**Pg**	**17 36 05.4**	**0.0**
THZ	**Tophouse**	**0.86**	**341**	P			**Pg**	**17 36 06.1**	**-0.8**
BSWZ	**Blackbirch Sta**	**0.96**	**27**	P			**Pg**	**17 36 09.2**	**+0.3**
CMWZ	**Cape Campbell**	**1.07**	**40**	P			**Pn**	**17 36 12.0**	**+0.5**
OKCZ	**Okains Bay**	**1.16**	**188**	P			**Pn**	**17 36 12.4**	**-0.4**
OXZ	**Oxford**	**1.19**	**230**	P			**Pb**	**17 36 12.2**	**-0.8**
MQZ	**McQueen's Vall**	**1.22**	**202**	P			**Pn**	**17 36 12.5**	**-1.1**
MRNZ	**Matariki Terra**	**1.24**	**341**	P			**Pb**	**17 36 12.9**	**-0.9**
TUWZ	**Tuamarina**	**1.24**	**23**	P			**Pn**	**17 36 13.8**	**0.0**
AKCZ	**Akaroa Harbour**	**1.33**	**192**	P			**Pn**	**17 36 14.3**	**-0.7**
NNZ	**Nelson**	**1.36**	**3**	P			**Pn**	**17 36 15.1**	**-0.2**
INZ	**Inchbonnie**	**1.37**	**263**	P			**Pn**	**17 36 15.2**	**-0.4**
DSZ	**Denniston Nort**	**1.38**	**306**	P			**Pn**	**17 36 15.2**	**-1.0**
RACZ	**Rakaia**	**1.43**	**216**	P			**Pn**	**17 36 15.5**	**-0.9**
TCW	**Tory Channel**	**1.55**	**29**	P			**Pn**	**17 36 17.8**	**-0.3**
TKNZ	**Takaka Hill**	**1.56**	**351**	P			**Pb**	**17 36 18.3**	**-1.0**
MHCZ	**Mount Hutt**	**1.58**	**232**	P			**Pn**	**17 36 17.6**	**-0.9**
SNZO	**South Karori**	**1.65**	**41**	P			**Pn**	**17 36 19.1**	**-0.2**
WEL	**Wellington**	**1.70**	**41**	P			**Pn**	**17 36 19.8**	**-0.3**
WACZ	**Wakanui South**	**1.73**	**217**	P			**Pn**	**17 36 19.6**	**-0.9**
PLWZ	**Palliser**	**1.78**	**56**	P			**Pn**	**17 36 20.2**	**-1.0**
DUWZ	**D'Urville Isla**	**1.83**	**15**	P			**Pn**	**17 36 21.6**	**-0.3**
QRZ	**Quartz Range**	**1.83**	**342**	P			**Pb**	**17 36 22.8**	**-1.2**
QRZ	**Quartz Range**	**1.83**	**342**	P			**Pb**	**17 36 22.4**	**-1.6**
WVZ	**Waitaha Valley**	**1.94**	**254**	P			**Pn**	**17 36 23.2**	**-0.2**
CAW	**Cannon Point**	**1.98**	**43**	P			**Pn**	**17 36 23.3**	**-0.7**
PAWZ	**Paruwai Farm**	**1.99**	**54**	P			**Pn**	**17 36 22.9**	**-1.2**
RPZ	**Rata Peaks**	**1.99**	**234**	P			**Pn**	**17 36 23.4**	**-0.8**
RPZ	**Rata Peaks**	**1.99**	**234**	P			**Pn**	**17 36 23.2**	**-1.0**
ARCZ	**Arundel**	**2.06**	**228**	P			**Pn**	**17 36 24.1**	**-1.0**
KIW	**Kapiti Island**	**2.10**	**36**	P			**Pn**	**17 36 25.3**	**-0.3**
TRWZ	**Traveller**	**2.14**	**58**	P			**Pn**	**17 36 24.9**	**-1.3**
MTW	**Mount Morrison**	**2.18**	**50**	P			**Pn**	**17 36 25.4**	**-1.3**
OGWZ	**Otaki Gorge**	**2.25**	**39**	P			**Pn**	**17 36 27.0**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**2.29**	**250**	P			**Pn**	**17 36 28.3**	**0.0**
HOWZ	**Holdsworth Sta**	**2.36**	**46**	P			**Pn**	**17 36 28.1**	**-1.2**
TMWZ	**Te Maipa**	**2.44**	**54**	P			**Pn**	**17 36 28.7**	**-1.5**
TMZ	**Timaru**	**2.46**	**222**	P			**Pn**	**17 36 29.8**	**-0.7**
MRZ	**Mangatainoka R**	**2.57**	**43**	P			**Pn**	**17 36 30.9**	**-1.2**
FOZ	**Fox Glacier**	**2.72**	**248**	P			**Pn**	**17 36 34.6**	**+0.6**

LBZ	Lake Benmore	2.89	230	P	Pn	17 36 35.9 -0.6
BFZ	Birch Farm	2.92	51	P	Pn	17 36 37.0 +0.2
ODZ	Otahua Downs	3.12	217	P	Pn	17 36 38.9 -0.8
ODZ	Otahua Downs	3.12	217	P	Pn	17 36 38.4 -1.3
KHEZ	Kahui Hut	3.32	10	P	Pn	17 36 44.0 +1.5
KHEZ	Kahui Hut	3.32	10	P	Pn	17 36 44.2 +1.8
NBEZ	Newall Road No	3.33	8	P	Pn	17 36 45.6 +3.1
NEZ	North Egmont	3.35	11	P	Pn	17 36 45.4 +2.5
PKE	Pukeiti	3.42	9	P	Pn	17 36 44.6 +0.8
JCZ	Jackson Bay	3.61	244	P	Pn	17 36 46.8 +0.4
JCZ	Jackson Bay	3.61	244	P	Pn	17 36 46.2 -0.3
VRZ	Vera Road	3.62	18	P	Pn	17 36 49.1 +2.6
WNVZ	Wahianoa	3.69	29	P	Pn	17 36 48.0 +0.4
TRVZ	Turoa	3.69	28	P	Pn	17 36 48.0 +0.2
BHHZ	Black Hill Sta	3.73	35	P	Pn	17 36 47.3 -0.8
FWVZ	Far West T-bar	3.73	28	P	Pn	17 36 49.8 +1.5
NGZ	Ngauruhoe	3.82	28	P	Pn	17 36 49.6 +0.2
SNVZ	South Ngauruho	3.83	29	P	Pn	17 36 49.8 +0.3
OTVZ	Oturere	3.85	29	P	Pn	17 36 50.2 +0.3
NNVZ	North Ngauruho	3.87	28	P	Pn	17 36 50.4 +0.3
ETVZ	East Tongariro	3.90	29	P	Pn	17 36 50.4 0.0
TMVZ	Te Maari	3.91	29	P	Pn	17 36 50.8 +0.2
NTVZ	North Tongarir	3.92	28	P	Pn	17 36 51.4 +0.7
HIZ	Hauiti	4.23	17	P	Pn	17 36 56.0 +1.1
HIZ	Hauiti	4.23	17	P	Pn	17 36 55.8 +0.9
TOZ	Tahuroa Road	5.12	20	P	Pn	17 37 07.6 +0.5
AWAZ	Awhitu Peninsu	5.60	11	P	Pn	17 37 14.6 +0.9
MKAZ	Moumakai	5.65	15	P	Pn	17 37 14.3 -0.1
WIAZ	Waiheke Island	5.95	14	P	Pn	17 37 19.3 +0.9
ABAZ	Army Bay	6.08	12	P	Pn	17 37 21.2 +0.9

*SJA **23** 17:36:14.5±0.8,22°.19S×68°.80W,h132km±4km,ML4.5, MW4.3*
*NEIC **23** 17:36:16.0±2.4,22°.20S±0°.05×68°.69W±0°.08,h113km±6km, Error ellipse: s-maj=11.1km s-min=7.7km az=84.0*
*VAO **23** 17:36:15.7±0.4,22°.07S×68°.52W,h97km±4km,mb4.6*
*IDC **23** 17:36:15.7±0.4,22°.30S×68°.60W,h104km±4km,mb4.1/8, mbtmp4.4/13,MS3.1/5,Error ellipse: s-maj=17.1km s-min=11.4km az=113.0*
*GUC **23** 17:36:16.3±0.7,22°.15S×68°.68W,h113km±3km,ML4.6*
ISC 23 17:36:15.6±0.4,22°.20S±0°.03×68°.68W±0°.04,h110km±4km, h110km:pP-P,n223,σ1s51/260,mb4.6/31,13C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.46**	**208**	P	**Pn**	**17 36 33.1**	**+0.4**
	6μm,0.2s,baz=46,slow=8.3						
LVC				S	**Sn**	**17 36 45.4**	**-0.1**
	23μm,0.3s,baz=198,slow=0.5,SNR=60						
LVC	**Limon Verde**	**0.46**	**208**	*e*P	**Pn**	**17 36 33.1**	**+0.4**
LVC				*e*S	**Sn**	**17 36 45.5**	**+0.1**
LVC	**Limon Verde**	**0.46**	**208**	*e*P	**Pn**	**17 36 33.0**	**+0.4**
LVC	**Limon Verde**	**0.46**	**208**	*e*P	**Pn**	**17 36 33.1**	**+0.4**
PB09	**IPOC Station P**	**0.66**	**307**		**Pn**	**17 36 34.0**	**+0.2**
PB09	**IPOC Station P**	**0.66**	**307**	⇑*i*P	**Pn**	**17 36 34.7**	**+0.8**
PB09				*i* S	**Sn**	**17 36 48.2**	**+0.7**
PB09				IAML		17 36 49.8	
	comp=N,19μm,0.7s						
PB09	**IPOC Station P**	**0.66**	**307**	*e*P	**Pn**	**17 36 34.6**	**+0.8**
PB09				*e*S	**Sn**	**17 36 50.0**	**+2.5**
PB09				IAML		17 36 52.5	
	comp=Z,7μm,0.9s						
AF01	**San Pedro de A**	**0.88**	**149**		**Pn**	**17 36 37.3**	**+1.4**
AF01	**San Pedro de A**	**0.88**	**149**	⇓*e*P	**Pn**	**17 36 37.3**	**+1.4**
PB06	**IPOC Station P**	**0.97**	**238**		**Pn**	**17 36 37.2**	**+0.6**
PB06	**IPOC Station P**	**0.97**	**238**	⇑*i*P	**Pn**	**17 36 37.5**	**+0.9**
PB06				*i* S	**Sn**	**17 36 53.6**	**+1.0**
PB06				IAML		17 36 54.3	
	comp=E,46μm,0.2s						
PB06	**IPOC Station P**	**0.97**	**238**	*e*P	**Pn**	**17 36 37.0**	**+0.4**
PB06				*e*S	**Sn**	**17 36 54.2**	**+1.6**
PB06				IAML		17 36 56.3	
	comp=Z,22μm,0.3s						
PB03	**IPOC Station P**	**1.01**	**278**		**Pn**	**17 36 37.6**	**+0.6**
PB03	**IPOC Station P**	**1.01**	**278**	⇑*i*P	**Pn**	**17 36 37.6**	**+0.6**
PB03				*e*S	**Sn**	**17 36 54.1**	**+0.9**
PB03				IAML		17 36 55.2	
	comp=E,21μm,0.4s						
PB03	**IPOC Station P**	**1.01**	**278**	*e*P	**Pn**	**17 36 37.0**	**0.0**
PB03				*e*P	**Pn**	**17 36 37.6**	**+0.6**
PB03				*e*S	**Sn**	**17 36 54.4**	**+1.2**
PB03				IAML		17 36 55.8	
	comp=Z,19μm,0.2s						
PB07	**IPOC Station P**	**1.22**	**292**		**Pn**	**17 36 39.7**	**+0.4**
PB07	**IPOC Station P**	**1.22**	**292**	⇑*i*P	**Pn**	**17 36 39.9**	**+0.6**
PB07				*e*S	**Sn**	**17 36 57.8**	**+0.5**
PB07				IAML		17 36 58.3	
	comp=N,13μm,0.2s						
PB07	**IPOC Station P**	**1.22**	**292**	*e*P	**Pn**	**17 36 39.7**	**+0.4**
PB07				*e*S	**Sn**	**17 36 58.3**	**+1.1**
PB07				IAML		17 36 58.7	
	comp=Z,6μm,0.3s						
PB15	**IPOC Station P**	**1.25**	**216**		**Pn**	**17 36 40.8**	**+1.1**
PB15	**IPOC Station P**	**1.25**	**216**	⇓*e*P	**Pn**	**17 36 41.0**	**+1.3**
PB15				*e*S	**Sn**	**17 36 59.8**	**+1.9**
PB15	**IPOC Station P**	**1.25**	**216**	*e*P	**Pn**	**17 36 41.0**	**+1.3**
PB15				*e*S	**Sn**	**17 37 00.9**	**+3.0**
PB04	**IPOC Station P**	**1.37**	**264**		**Pn**	**17 36 41.5**	**+0.5**
PB04	**IPOC Station P**	**1.37**	**264**	⇑*i*P	**Pn**	**17 36 41.5**	**+0.5**
PB04				*e*S	**Sn**	**17 37 01.1**	**+0.8**
PB04				IAML		17 37 05.1	
	comp=N,12μm,0.2s						
PB04	**IPOC Station P**	**1.37**	**264**	*e*P	**Pn**	**17 36 41.0**	**0.0**
PB04				*e*P	**Pn**	**17 36 41.6**	**+0.5**
PB04				*e*S	**Sn**	**17 37 01.5**	**+1.2**
PB04				IAML		17 37 03.3	
	comp=Z,9μm,0.3s						
PB01	**IPOC Station P**	**1.37**	**327**		**Pn**	**17 36 40.9**	**0.0**
PB01	**IPOC Station P**	**1.37**	**327**	⇑*i*P	**Pn**	**17 36 41.3**	**+0.3**
PB01				*e*S	**Sn**	**17 37 00.2**	**-0.1**
PB01				IAML		17 37 02.7	
	comp=E,8μm,0.5s						
PB01	**IPOC Station P**	**1.37**	**327**	*e*P	**Pn**	**17 36 41.0**	**0.0**
PB01				*e*P	**Pn**	**17 36 41.3**	**+0.3**
PB01				*e*S	**Sn**	**17 37 01.1**	**+0.9**
PB01				IAML		17 37 01.4	
	comp=Z,5μm,0.2s						
PB02	**IPOC Station P**	**1.43**	**307**		**Pn**	**17 36 41.8**	**+0.1**
PB02	**IPOC Station P**	**1.43**	**307**	⇑*i*P	**Pn**	**17 36 42.1**	**+0.5**
PB02				*e*S	**Sn**	**17 37 01.6**	**+0.1**
PB02				IAML		17 37 03.2	
	comp=E,14μm,0.4s						
PB02	**IPOC Station P**	**1.43**	**307**	*e*P	**Pn**	**17 36 42.0**	**+0.3**
PB02				*e*S	**Sn**	**17 37 02.0**	**+0.5**
PB02				IAML		17 37 04.4	
	comp=Z,9μm,0.2s						
PATCX	**Punta Patache**	**1.94**	**315**		**Pn**	**17 36 48.0**	**+0.1**
PATCX	**Punta Patache**	**1.94**	**315**	⇑*e*P	**Pn**	**17 36 47.8**	**-0.1**
PATCX				*e*S	**Sn**	**17 37 12.6**	**0.0**
PATCX				IAML		17 37 15.4	
	comp=N,5μm,0.4s						
PATCX	**Punta Patache**	**1.94**	**315**	*e*P	**Pn**	**17 36 47.9**	**-0.1**
PATCX				*e*S	**Sn**	**17 37 13.7**	**+1.1**
PATCX				IAML		17 37 19.9	
	comp=Z,3μm,0.3s						
PB08	**IPOC Station P**	**2.09**	**348**		**Pn**	**17 36 51.2**	**+1.0**
PB08	**IPOC Station P**	**2.09**	**348**	*e*P	**Pn**	**17 36 51.0**	**+0.9**
PB08				*e*S	**Sn**	**17 37 13.6**	**-3.0**
TA01	**Diego Aracena**	**2.14**	**319**	Pn	**Pn**	**17 36 50.0**	**-0.4**
TA01	**Diego Aracena**	**2.14**	**319**	⇑*e*P	**Pn**	**17 36 49.9**	**-0.4**
TA01				*e*S	**Sn**	**17 37 16.8**	**-0.2**
TA01				IAML		17 37 19.0	
	comp=N,4μm,0.7s						
TA01	**Diego Aracena**	**2.14**	**319**	*e*P	**Pn**	**17 36 50.0**	**-0.4**
TA01				*e*S	**Sn**	**17 37 17.8**	**+0.7**
TA01				IAML		17 37 22.2	
	comp=Z,2μm,0.8s						
PB10	**IPOC Station P**	**2.17**	**233**	Pn	**Pn**	**17 36 51.1**	**+0.4**
PB10	**IPOC Station P**	**2.17**	**233**	*e*P	**Pn**	**17 36 50.9**	**+0.2**
PB10				IAML		17 37 33.7	
	comp=E,2μm,0.4s						
PB10	**IPOC Station P**	**2.17**	**233**	*e*P	**Pn**	**17 36 51.0**	**+0.3**
PB10				*e*S	**Sn**	**17 37 16.3**	**-1.4**
PB10				IAML		17 37 24.9	
	comp=Z,2μm,0.6s						
TA02	**Huaiquique**	**2.35**	**324**		**Pn**	**17 36 52.4**	**-0.7**
TA02	**Huaiquique**	**2.35**	**324**	*e*P	**Pn**	**17 36 53.4**	**+0.3**
TA02				IAML		17 37 32.0	
	comp=N,4μm,0.2s						

GO01	**Chusmiza**	**2.56**	**349**		**Pn**	**17 36 56.3** **0.0**
GO01	**Chusmiza**	**2.56**	**349**	⇓*e*P	**Pn**	**17 36 56.9** **+0.7**
GO01				*e*S	**Sn**	**17 37 27.8** **+0.3**
GO01				IAML		17 37 32.4
	comp=N,2μm,0.4s					
GO01	**Chusmiza**	**2.56**	**349**	*e*P	**Pn**	**17 36 57.0** **+0.7**
GO01				*e*S	**Sn**	**17 37 32.8** **+5.3**
PB11	**IPOC Station P**	**2.59**	**339**		**Pn**	**17 36 56.1** **-0.3**
PB11	**IPOC Station P**	**2.59**	**339**	*e*P	**Pn**	**17 36 56.2** **-0.2**
PB11				*e*S	**Sn**	**17 37 29.2** **+1.6**
PB11				IAML		17 37 34.3
	comp=Z,1μm,0.3s					
PB14	**IPOC Station P**	**2.89**	**213**	Pn	**Pn**	**17 37 00.8** **+0.4**
PB14	**IPOC Station P**	**2.89**	**213**	*e*P	**Pn**	**17 37 00.5** **+0.1**
PSGC	**Pisagua**	**2.92**	**332**	⇑*e*P	**Pn**	**17 36 59.1** **-1.5**
PSGC				IAML		17 37 59.9
	comp=E,1μm,0.5s					
PSGCX	**Pisagua**	**2.92**	**332**	Pn	**Pn**	**17 36 59.9** **-0.7**
PSGCX	**Pisagua**	**2.92**	**332**	*e*P	**Pn**	**17 36 59.5** **-1.2**
PSGCX				*e*S	Sn	17 37 24.6 -11
PSGCX				IAML		17 37 45.0
	comp=Z,685nm,0.4s					
YJA	**Yavi**	**2.93**	**90**	*e*P	**Pn**	**17 36 58.5** **-2.5**
YJA				*e*P	**Pn**	**17 37 04.0** **+2.9**
YJA				*e*S	**Sn**	**17 37 41.6** **+5.5**
GO02	**Mina Guanaco**	**3.07**	**196**	Pn	**Pn**	**17 37 03.1** **+0.4**
GO02	**Mina Guanaco**	**3.07**	**196**	⇓*e*P	**Pn**	**17 37 03.1** **+0.4**
GO02	**Mina Guanaco**	**3.07**	**196**	*e*P	**Pn**	**17 37 03.0** **+0.2**
GO02				*e*S	Sn	17 37 58.5 +19
MNMC	**Minye Minye**	**3.17**	**344**		**Pn**	**17 37 03.8** **-0.3**
MNMC	**Minye Minye**	**3.17**	**344**	⇓*e*P	**Pn**	**17 37 03.8** **-0.3**
MNMC				IAML		17 37 53.7
	comp=E,3μm,0.2s					
MNMCX	**Minye Minye**	**3.17**	**344**	*e*P	**Pn**	**17 37 04.0** **-0.1**
MNMCX				*e*P	**Pn**	**17 37 04.0** **-0.1**
MNMCX				*e*S	Sn	17 37 29.1 -12
MNMCX				IAML		17 37 51.9
	comp=Z,1μm,0.3s					
HJA	**Humahuaca**	**3.18**	**109**	*e*P	**Pn**	**17 37 07.0** **+2.7**
HJA				*e*S	Sn	17 38 01.6 +20
PB12	**IPOC Station P**	**3.89**	**336**		**Pn**	**17 37 11.8** **-1.7**
PB12	**IPOC Station P**	**3.89**	**336**	⇓*e*P	**Pn**	**17 37 11.7** **-1.9**
PB12	**IPOC Station P**	**3.89**	**336**	*e*P	**Pn**	**17 37 11.8** **-1.7**
PB12				*e*S	**Sn**	**17 37 58.4** **0.0**
PB12				IAML		17 38 13.7
	comp=Z,602nm,0.3s					
AZAP	**Zapla**	**3.89**	**122**	*e*S	**Sn**	**17 37 57.4** **-1.2**
PB16	**IPOC Station P**	**3.92**	**348**		**Pn**	**17 37 14.6** **+0.2**
PB16	**IPOC Station P**	**3.92**	**348**	*e*P	**Pn**	**17 37 15.0** **+0.6**
PB16				IAML		17 38 30.8
	comp=Z,319nm,1.1s					
AP01	**Chacalluta**	**4.12**	**337**		**Pn**	**17 37 15.7** **-0.8**
AP01	**Chacalluta**	**4.12**	**337**	*e*P	**Pn**	**17 37 12.5** **-4.0**
AC01	**Pan de Azucar**	**4.31**	**204**		**Pn**	**17 37 17.8** **-1.3**
AC01	**Pan de Azucar**	**4.31**	**204**	*e*P	**Pn**	**17 37 17.8** **-1.3**
AC01	**Pan de Azucar**	**4.31**	**204**	*e*P	**Pn**	**17 37 18.0** **-1.0**
AC01				IAML		17 38 39.5
	comp=Z,427nm,0.7s					
AC02	**Maricunga**	**4.64**	**185**	Pn	**Pn**	**17 37 24.2** **+0.3**
AC02	**Maricunga**	**4.64**	**185**	⇓*e*P	**Pn**	**17 37 24.3** **+0.4**
AC02	**Maricunga**	**4.64**	**185**	*e*P	**Pn**	**17 37 24.4** **+0.5**
PB18	**Visviri**	**4.64**	**351**		**Pn**	**17 37 24.4** **+0.3**
PB18	**Visviri**	**4.64**	**351**	*e*P	**Pn**	**17 37 25.5** **+1.4**
AC06	**Mina Casimiro**	**5.36**	**196**	Pn	**Pn**	**17 37 30.9** **-2.3**
GO03	**Copiap**	**5.56**	**194**		**Pn**	**17 37 33.9** **-2.0**
LPAZ	**La Paz**	**5.90**	**5**	P	**Pn**	**17 37 43.1** **+1.9**
	comp=Z,20nm,0.3s,baz=188,slow=3.8,SNR=63					
AC04	**Llanos de Chal**	**6.36**	**199**		**Pn**	**17 37 43.1** **-3.7**
AC05	**El Transito**	**6.77**	**192**		**Pn**	**17 37 50.1** **-2.3**
LCO	**Las Campanas**	**7.03**	**195**	Pn	**Pn**	**17 37 52.6** **-3.5**
CO01	**Juntas del Tor**	**7.85**	**189**		**Pn**	**17 38 05.6** **-1.6**
GO04	**Tololo Observa**	**8.17**	**193**		**Pn**	**17 38 08.1** **-3.5**
CO03	**El Pedregal**	**8.79**	**191**		**Pn**	**17 38 15.9** **-3.9**
CO06	**Fray Jorge**	**8.85**	**197**		Pn	17 38 15.2 -5.3
BBSD	**Serra de San D**	**9.09**	**58**	*e*P	**Pn**	**17 38 21.1** **-2.8**
BBRB	**Robore, Bolivi**	**9.19**	**66**	*e*P	**Pn**	**17 38 20.9** **-4.4**
CO02	**Combarbal**	**9.21**	**193**		**Pn**	**17 38 21.0** **-4.5**
CFA	**Coronel Fontan**	**9.38**	**178**	P	**Pn**	**17 38 25.2** **-2.6**
	comp=Z,7.3nm,0.3s,baz=343,slow=15,SNR=20					
CFA				S	**Sn**	**17 40 04.4** **-7.0**
	comp=Z,7.6nm,0.4s,baz=174,slow=15,SNR=1.5					
CFA				LR	LR	17 42 36.9
	comp=Z,89nm,21.6s,baz=336,slow=41					
SIV	**San Ignacio**	**9.47**	**51**	P	**Pn**	**17 38 25.8** **-3.4**
	comp=Z,15nm,0.6s,baz=236,slow=12,SNR=66					
SIV				S	Sn	17 40 04.4 -9.4
	comp=Z,6.1nm,0.6s,baz=297,slow=20,SNR=5.4					
MURT	**Porto Murtinho**	**10.29**	**89**	*e*P	**Pn**	**17 38 37.2** **-2.9**
ROC1	**El Roble**	**10.94**	**190**	Pn	**Pn**	**17 38 44.6** **-4.4**
CPUP	**Villa Florida**	**11.14**	**114**	P	**Pn**	**17 38 49.2** **-2.4**
	comp=Z,3.5nm,0.7s,baz=285,slow=12,SNR=8.5					
CPUP				LR	LR	17 43 57.6
	comp=Z,71nm,20.0s,baz=256,slow=42					
CPUP	**Villa Florida**	**11.14**	**114**		**Pn**	**17 38 50.0** **-1.5**
CPUP	**Villa Florida**	**11.14**	**114**	*e*P	**Pn**	**17 38 49.9** **-1.7**
MT02	**Curacav**	**11.23**	**191**	Pn	Pn	17 38 47.8 -5.0
PTLB	**Pontes e Lacer**	**11.25**	**55**	Pn	**Pn**	**17 38 51.5** **-1.6**
PTLB	**Pontes e Lacer**	**11.25**	**55**	*e*P	**Pn**	**17 38 50.8** **-2.3**
LMEL	**Las Melosas**	**11.69**	**186**	Pn	**Pn**	**17 38 56.6** **-2.4**
MT09	**Talagante**	**11.71**	**190**	Pn	**Pn**	**17 38 58.2** **-1.1**
PANT	**Pantanal (Braz**	**11.74**	**76**	*e*P	**Pn**	**17 38 56.5** **-3.1**
MT01	**Popeta**	**11.84**	**190**		**Pn**	**17 38 59.4** **-1.5**
BO04	**La Punta**	**11.87**	**188**	Pn	**Pn**	**17 38 59.7** **-1.6**
AQDB	**Aquidauana**	**12.22**	**84**	Pn	**Pn**	**17 39 06.0** **+0.1**
AQDB	**Aquidauana**	**12.22**	**84**	*e*P	**Pn**	**17 39 05.1** **-0.7**
VILB	**Vilhena**	**12.24**	**43**	Pn	**Pn**	**17 39 04.6** **-1.6**
VILB	**Vilhena**	**12.24**	**43**	*e*P	**Pn**	**17 39 04.8** **-1.5**
BO01	**Tunca**	**12.33**	**189**	Pn	**Pn**	**17 39 06.1** **-1.2**
ETMB	**Extrema**	**12.54**	**11**	Pn	**Pn**	**17 39 06.3** **-3.8**
BO02	**Sierra Bellavi**	**12.69**	**188**		**Pn**	**17 39 10.5** **-1.5**
NNA	**Nana**	**12.80**	**321**	P	**Pn**	**17 39 14.8** **+1.1**
	comp=Z,6.8nm,0.4s,baz=318,slow=16,SNR=1.6					
NNA				LR	LR	17 43 40.0
	comp=Z,32nm,21.4s,baz=205,slow=34					
AZCA	**Azaras, Argent**	**12.90**	**120**	*e*P	**Pn**	**17 39 15.1** **+0.2**
ITQB	**Itaqui**	**13.15**	**127**	*e*P	**Pn**	**17 39 18.7** **+0.7**
ML02	**Panimavida**	**13.73**	**189**		**Pn**	**17 39 24.6** **-0.9**
SALV	**Santo Antonio**	**13.78**	**65**	*e*P	**Pn**	**17 39 25.5** **-0.8**
UNIS	**Unistalda (Bra**	**14.04**	**122**	*e*P	**Pn**	**17 39 30.5** **+0.8**
CRSM	**Crissiumal (Br**	**14.29**	**115**	*e*P	**Pn**	**17 39 33.9** **+1.0**
CZSB	**Cruzeiro do Su**	**14.90**	**344**	*e*P	**Pn**	**17 39 40.9** **+0.3**
C2SB	**Chapadao do Su**	**15.23**	**80**	*e*P	**Pn**	**17 39 44.9** **+0.2**
PTGB	**Pitanga**	**15.45**	**103**	*e*P	**Pn**	**17 39 47.6** **0.0**
PDRB	**Porto dos Gac**	**15.53**	**49**	*e*P	**Pn**	**17 39 48.7** **+0.1**
ITAB	**Concordia**	**15.85**	**112**	P	**Pn**	**17 39 51.9** **-0.5**
ITAB				IAmb	IAmb	17 39 55.4
	comp=Z,57nm,1.0s					
ITAB	**Concordia**	**15.85**	**112**	*e*P	**P**	**17 39 53.6** **-0.3**
PCMB	**Pacaembu**	**16.18**	**91**	*e*P	**Pn**	**17 39 55.2** **-1.4**
DVLD	**Doverlandia**	**16.52**	**73**	*e*P	**Pn**	**17 39 59.6** **-1.3**
CLDB	**Colider**	**16.70**	**50**	*e*P	**Pn**	**17 40 02.3** **-0.7**
TRQA	**Tornquist**	**16.83**	**161**	P	**P**	**17 40 05.1** **+0.4**
ARAG	**Araguaiana, MT**	**17.20**	**71**	*e*P	**P**	**17 40 08.1** **-0.9**
ITRB	**Iturama**	**17.29**	**85**	*e*P	**P**	**17 40 10.1** **+0.1**
GO06	**Curarrehue**	**17.50**	**187**		**P**	**17 40 11.9** **-0.3**
TBTG	**Tabatinga, AM**	**17.94**	**356**	P	**P**	**17 40 17.3** **+0.1**
TBTG				IAmb	IAmb	17 40 19.8
	comp=Z,91nm,0.9s					
TBTG	**Tabatinga, AM**	**17.94**	**356**	*e*P	**Pn**	**17 40 18.1** **0.0**
PLCA	**Paso Flores**	**18.55**	**184**	P	**P**	**17 40 22.9** **-0.7**
	comp=Z,2.9nm,0.9s,baz=359,slow=12,SNR=6.4					
PLCA	**Paso Flores**	**18.55**	**184**	P	**Pn**	**17 40 24.6** **-0.6**
PLCA	**Paso Flores**	**18.55**	**184**	*e*P	**Pn**	**17 40 25.5** **+0.3**
BB19B	**Bebedouro**	**18.77**	**90**	*e*P	**P**	**17 40 25.7** **-0.5**
LL04	**Puerto Octay**	**18.92**	**189**	P	**P**	**17 40 27.8** **+0.1**
TEFE	**Tefe**	**18.99**	**12**	*e*P	**P**	**17 40 28.0** **-0.6**
SNDB	**Serra Nova Dou**	**19.46**	**61**	*e*P	**P**	**17 40 32.2** **-1.5**
RCLB	**Rio Claro- Sao**	**19.57**	**95**	*e*P	**P**	**17 40 34.4** **-0.5**
IPMB	**Ipameri, GO**	**19.67**	**81**	*e*P	**P**	**17 40 35.2** **-0.9**
PET01	**Itanhaem-SP**	**19.78**	**100**	*e*P	**P**	**17 40 37.1** **0.0**
NPGB	**Novo Progresso**	**19.80**	**42**	*e*P	**P**	**17 40 35.1** **-2.3**
VAO	**Valinhos**	**20.06**	**96**	*e*P	**P**	**17 40 39.6** **-0.7**
MACA	**Manacapuru-AM**	**20.45**	**23**	P	**P**	**17 40 42.9** **-1.6**
MACA				IAmb	IAmb	17 40 46.5
	comp=Z,58nm,0.6s					
MACA	**Manacapuru-AM**	**20.45**	**23**	*e*P	**P**	**17 40 43.0** **-1.5**
BDFB	**Brasilia**	**20.59**	**75**	P	**P**	**17 40 44.9** **-1.3**
	comp=Z,7.4nm,0.7s,baz=250,slow=15,SNR=8.3					
	comp=Z,7.4nm,0.7s					
BDFB	**Brasilia**	**20.59**	**75**	P	**P**	**17 40 45.2** **-1.0**
BDFB	**Brasilia**	**20.59**	**75**	*e*P	**P**	**17 40 44.3** **-1.8**
MCRA	**Macar, Loja**	**20.82**	**327**	P	**P**	**17 40 49.9** **+1.4**

LL02	**Futaleuf**	**21.10**	**186**	P	**P**	**17 40 50.8** **-0.4**
BOSC	**San Juan Bosco**	**21.20**	**332**	P	**P**	**17 40 51.2** **-1.4**
BOSC				IAmb	IAmb	17 41 04.9
	comp=Z,32nm,0.9s					
PARB	**Paraibuna**	**21.29**	**98**	*e*P	**P**	**17 40 54.0** **+0.6**
ITTB	**Itaituba**	**21.71**	**37**	*e*P	**P**	**17 40 56.5** **-1.4**
SGCB	**S£o Gabriel d**	**22.00**	**4**	*e*P	**P**	**17 41 00.8** **-0.2**
COHC	**Cochancay**	**22.14**	**331**	P	**P**	**17 41 04.5** **+2.1**
PORT	**Chimborazo Vol**	**22.83**	**333**	P	**P**	**17 41 11.3** **+1.3**
PORT				IAmb	IAmb	17 41 25.8
	comp=Z,26nm,1.0s					
VAS01	**Vassouras-RJ**	**23.35**	**95**	*e*P	**P**	**17 41 14.5** **+0.1**
SLOR	**San Lorenzo -**	**23.38**	**335**	P	**P**	**17 41 15.0** **-0.2**
DIAM	**Diamantina, MG**	**23.77**	**85**	*e*P	**P**	**17 41 18.1** **-0.2**
MC01	**Montes Claros**	**23.94**	**81**	*e*P	**P**	**17 41 17.7** **-2.0**
JANB	**Januaria**	**24.14**	**77**	*e*P	**P**	**17 41 19.6** **-1.9**
SMTB	**Santa Maria do**	**24.22**	**60**	*e*P	**P**	**17 41 23.1** **+0.9**
MALB	**Monte Alegre**	**24.60**	**37**	*e*P	**P**	**17 41 24.6** **-1.1**
SDBA	**SAO DESIDERIO**	**24.66**	**71**	*e*P	**P**	**17 41 24.9** **-1.5**
BOAV	**Boa Vista**	**25.71**	**19**	P	**P**	**17 41 36.3** **+0.6**
BOAV				IAmb	IAmb	17 41 37.3
	comp=Z,10nm,0.7s					
MCPB	**Macapa, AP**	**27.08**	**39**	*e*P	**P**	**17 41 48.8** **+0.7**
SDV	**Santo Domingo**	**30.95**	**356**	P	**P**	**17 42 22.2** **-0.3**
	comp=Z,5.0nm,0.7s,baz=353,slow=2.4,SNR=4.6					
SDV				LR	LR	17 57 35.4
	comp=Z,59nm,18.7s,baz=134,slow=41					
	comp=Z,5.0nm,0.7s					
MDP	**Montagnes des**	**31.34**	**32**	P	**P**	**17 42 25.2** **-0.6**
	comp=Z,3.4nm,0.6s,baz=190,slow=9.3,SNR=4.9					
MDP				LR	LR	17 56 00.8
	comp=Z,79nm,19.8s,baz=36,slow=38					
	comp=Z,3.4nm,0.6s					
RCBR	**Riachuelo**	**35.60**	**68**	P	**P**	**17 43 01.8** **-1.1**
	comp=Z,17nm,0.8s,baz=24,slow=9.8,SNR=6.7					
	comp=Z,17nm,0.8s					
MTO3	**Montecristo**	**41.64**	**329**	P	**P**	**17 43 53.9** **+0.5**
MTO3				IAmb	IAmb	17 44 22.9
	comp=Z,9.4nm,0.9s					
BELA	**Belgrano 2**	**58.03**	**172**	P	**P**	**17 45 58.4** **+1.9**
VNA3	**Neumayer Olymp**	**59.35**	**161**	P	**P**	**17 46 07.4** **+1.7**
VNA1	**Neumayer--Stat**	**59.56**	**160**	P	**P**	**17 46 09.2** **+2.1**
VNA2	**Neumayer--Watz**	**59.92**	**161**	P	**P**	**17 46 11.1** **+1.5**
	baz=280,slow=7.2					
WVT	**Waverly**	**60.77**	**342**	P	**P**	**17 46 15.7** **-0.1**
WVT				IAmb	IAmb	17 46 16.5
	comp=Z,8.6nm,1.1s					
TXAR	**Lajitas Array**	**61.32**	**325**	P	**P**	**17 46 21.2** **+1.5**
	comp=Z,0.6nm,0.8s,baz=144,slow=8.7,SNR=4.9					
TXAR				pP	**pP

TKNZ	**Takaka Hill**	**0.55**	**342**	P	Pb	17 46 04.2 -0.4
TUWZ	**Tuamarina**	**0.59**	**78**	P	Pg	17 45 60.0 -3.9
QRZ	**Quartz Range**	**0.88**	**326**	P	Pb	17 46 09.9 -0.3
TCW	**Tory Channel**	**0.90**	**68**	P	Pg	17 46 09.7 -0.1
KHZ	**Kahutara**	**0.90**	**163**	P	Pb	17 46 10.7 +0.2
DSZ	**Denniston Nort**	**1.05**	**259**	P	Pb	17 46 13.0 -0.1
GVZ	**Greta Valley S**	**1.42**	**184**	P	Pg	17 46 19.5 -0.2
MQZ	**McQueen's Vall**	**2.18**	**190**	P	Pg	17 46 34.1 -0.4
WNVZ	**Wahianoa**	**2.89**	**40**	P	Pn	17 46 36.3 -3.0
PRHZ	**Porangahau**	**2.92**	**65**	P	Pb	17 46 45.4 +0.5
CKHZ	**Cape Kidnapper**	**3.52**	**59**	P	Pn	17 46 48.7 +0.9

WEL 23 17:46:27.9±2.8, 39°S±4°×17°5E±°, h8km±12km, M0.5/5, ML1.0/10, MLv0.5/5, Error ellipse: s-maj=0.0km s-min=0.0km az=108.8, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.10**	**21**	P	Pg	17 46 31.3	+1.0
TWVZ				S	Sg	17 46 33.4	+1.3
PKVZ	**Pokaka**	**0.13**	**196**	P	Pg	17 46 31.6	+0.8
PKVZ	**Pokaka**	**0.13**	**196**	P	Pg	17 46 31.6	+0.8
PKVZ				S	Sg	17 46 34.2	+1.4
FWVZ	**Far West T-bar**	**0.15**	**126**	P	Pg	17 46 32.2	+0.9
NGZ	**Ngauruhoe**	**0.16**	**94**	P	Pg	17 46 32.3	+0.9
NNVZ	**North Ngauruho**	**0.18**	**79**	P	Pg	17 46 32.5	+0.9
TRVZ	**Turoa**	**0.18**	**138**	P	Pg	17 46 32.6	+0.8
SNVZ	**South Ngauruho**	**0.19**	**96**	P	Pg	17 46 32.9	+0.9
KRVZ	**Karewarewa**	**0.21**	**70**	P	Pg	17 46 32.5	+0.3
OTVZ	**Oturere**	**0.21**	**90**	P	Pg	17 46 33.2	+0.9
NTVZ	**North Tongarir**	**0.23**	**73**	P	Pg	17 46 33.3	+0.8
TMVZ	**Te Maari**	**0.25**	**79**	P	Pg	17 46 33.7	+0.8
KATZ	**Kakaramea**	**0.30**	**51**	P	Pg	17 46 34.5	+0.6

*TIF **23** 17:57:52.7, 41°.30N×43°.93E, h19km*
*DDA **23** 17:57:53.7±0.0, 41°.28N×43°.84E, h7km±3km, ML2.1*
*ISK **23** 17:57:54.5, 41°.25N×43°.79E, h14km, ML2.4/5*
*NORS **23** 17:57:54.0±0.0, 41°.37N×44°.05E, h5km, MPVA3.0*

ISC 23 17:57:53.2±1.0, 41°.33N±0°.02×43°.94E±0°.02, h13km±9km, n27, σ0°85/52, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMNI	**Dmanisi**	**0.18**	**89**	P	**Pb**	**17 57 58.1**	**-0.4**
DMNI				S	**Sb**	**17 58 01.2**	**-0.9**
AKH	**Akhalkalaki**	**0.35**	**284**	PG	**Pg**	**17 58 00.7**	**+0.3**
AKH				SG	**Sg**	**17 58 05.2**	**0.0**
AKH	**Akhalkalaki**	**0.35**	**284**	P	**Pg**	**17 58 00.7**	**+0.3**
AKH				S	**Sg**	**17 58 05.3**	**0.0**
EAK	**Akyaka**	**0.69**	**202**	P	**Pg**	**17 58 05.8**	**-0.9**
EAK				S	**Sg**	**17 58 15.1**	**-0.6**
ALIG	**Mtskhetisjvari**	**0.81**	**344**	P	**Pg**	**17 58 08.7**	**-0.3**
ALIG				S	**Sb**	**17 58 20.2**	**+0.2**
EPOS	**Posof**	**0.93**	**281**	P	**Pg**	**17 58 10.2**	**-1.1**
EPOS				S	**Sg**	**17 58 22.9**	**-0.6**
ABS	**Abastumani**	**0.95**	**297**	P	**Pg**	**17 58 11.4**	**-0.3**
ABS				S	**Sb**	**17 58 24.5**	**+0.3**
KARS	**Kars**	**0.96**	**223**	PG	**Pb**	**17 58 11.0**	**-0.7**
DIGO	**Kars**	**1.01**	**206**	P	**Pb**	**17 58 11.7**	**-1.0**
DIGO				S	**Sg**	**17 58 25.6**	**-0.3**
DIGO				*i* AML	AML	17 58 26.0	
	comp=E,43nm,0.5s						
DIGO				*i* AML	AML	17 58 33.0	
	comp=N,42nm,0.4s						
GUDG	**Gudauri**	**1.21**	**19**	P	**Pg**	**17 58 16.0**	**-0.5**
GUDG				S	**Sn**	**17 58 33.1**	**+0.9**
TKB	**Tkibuli**	**1.25**	**326**	P	**Pg**	**17 58 17.0**	**-0.2**
TKB				S	**Sg**	**17 58 33.7**	**+0.2**
ONI	**Oni**	**1.31**	**344**	P	**Pb**	**17 58 17.8**	**0.0**
ONI				S	**Sg**	**17 58 36.1**	**+0.4**
GNI	**Garni**	**1.32**	**152**	PN	**Pg**	**17 58 19.2**	**+0.5**
GNI				SN	**Sg**	**17 58 36.9**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.36**	**170**	PN	**Pg**	**17 58 19.1**	**-0.3**
PNSH	**Pansheti**	**1.40**	**21**	P	**Pg**	**17 58 19.6**	**-0.6**
PNSH				S	**Sg**	**17 58 38.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.43**	**238**	PN	**Pn**	**17 58 19.0**	**0.0**
SENK				SN	**Sn**	**17 58 36.4**	**-1.3**
IGDI	**IGDIR**	**1.46**	**176**	P	**Pb**	**17 58 20.1**	**-0.2**
IGDI				S	**Sg**	**17 58 39.7**	**-0.6**
IGDI				*i* AML	AML	17 59 06.0	
	comp=E,24nm,0.3s						
ZEI	**Tsey**	**1.46**	**359**	*e*Pg	**Pg**	**17 58 20.9**	**-0.4**
ZEI				*e*Sg	**Sg**	**17 58 40.9**	**+0.5**
LACR	**Lac**	**1.52**	**10**	*e*Pg	**Pg**	**17 58 21.9**	**-0.6**
LACR				*e*Sg	**Sg**	**17 58 42.2**	**-0.1**
DAGI	**Agillar**	**1.55**	**261**	P	**Pg**	**17 58 22.2**	**+0.4**
DAGI				S	**Sg**	**17 58 42.5**	**-0.7**
DIGR	**Digorskoe uzhe**	**1.59**	**350**	*e*Pg	**Pg**	**17 58 24.0**	**+0.1**
DIGR				*e*Sg	**Sg**	**17 58 45.1**	**+0.5**
KOTA	**Agri, Merkez-K**	**1.62**	**201**	P	**Pg**	**17 58 24.8**	**+0.4**
KOTA				S	**Sg**	**17 58 50.0**	**+4.4**
DDEM	**Demirkent**	**1.71**	**256**	P	**Pb**	**17 58 24.9**	**+0.3**
DDEM				S	**Sb**	**17 58 46.5**	**+0.5**
DDEM				*i* AML	AML	17 58 49.0	
	comp=E,53nm,0.4s						
DDEM				*i* AML	AML	17 58 50.0	
	comp=N,33nm,0.3s						
BATM	**Batumi**	**1.71**	**280**	P	**Pb**	**17 58 24.8**	**+0.2**
BATM				S	**Sb**	**17 58 46.9**	**+0.9**
DBOC	**Borcka**	**1.71**	**271**	P	**Pb**	**17 58 24.8**	**+0.2**
DBOC				S	**Sb**	**17 58 45.8**	**-0.2**
DBAD	**Bademkaya**	**1.73**	**260**	P	**Pb**	**17 58 24.9**	**+0.1**
DBAD				S	**Sb**	**17 58 47.0**	**+0.5**
DBAD				*i* AML	AML	17 58 48.0	
	comp=N,24nm,0.6s						
DBAD				*i* AML	AML	17 58 50.0	
	comp=E,17nm,0.3s						
LGD	**Lagodekhi**	**1.80**	**73**	P	**Pb**	**17 58 26.3**	**+0.3**
LGD				S	**Sg**	**17 58 51.3**	**+0.2**

MAN 23 18:12:53.8, 19°.69N×121°.32E, h15km, mb4.0, ML2.8, MS2.4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICP	**Calayan Island**	**0.45**	**160**	⇑*e*P	Pb	18 13 03.4	0.0
CICP				*e*S	Sn	18 13 12.0	-1.5
PACPP	**Pamplona Cagay**	**1.22**	**178**	⇓*e*P	Pn	18 13 13.4	-2.9
PACPP				*e*S	Sb	18 13 27.3	-4.8

*IDC **23** 18:12:57.7±0.5, 37°.22N×141°.26E, h0km, mb4.3/27, mbtmp4.3/33, ML3.3/5, MS3.8/46, Error ellipse: s-maj=14.0km s-min=12.6km az=96.0*
*NIED **23** 18:12:59.6, 37°.22N×141°.33E, h22km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}-4.47; $M_{\theta\theta}$3.75; $M_{\phi\phi}$0.72; $M_{r\theta}$1.14; $M_{\theta\phi}$1.16; $M_{\phi r}$-1.20; Fault plane solution: $M_0$4.57000×10¹⁵ NP1:ϕ_s57.00000°, δ42.00000°, λ-114.00000°. NP2:ϕ_s267.00000°, δ52.00000°, λ-70.00000°.*
*JMA **23** 18:12:59.6±0.1, 37°.2N±0°.3×141°.3E±0°.7, h22km±1km, MD4.8/35, MV4.3/35, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*MOS **23** 18:12:59.2±0.9, 37°.40N×141°.18E, h13km, mb4.8/34, MS4.2/4, Error ellipse: s-maj=8.9km s-min=6.2km az=108.6*
*NEIC **23** 18:13:00.3±2.1, 37°.26N±0°.04×141°.31E±0°.07, h10km±1km, mb4.6/108, Error ellipse: s-maj=10.5km s-min=5.9km az=66.0*

ISC 23 18:13:01.0±0.4, 37°.22N±0°.03×141°.29E±0°.05, h20km±3km, n332, σ1°13/267, mb4.6/99, MS4.0/46, 9C-20D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.37**	**294**	⇓P	**Pg**	**18 13 07.5**	**-1.3**
JFK				⇓S	**Sg**	**18 13 13.5**	**-0.6**
JFK	**Kawauchi**	**0.37**	**294**	A	A	18 13 07.5	
	comp=E,35nm,4.5s,comp=E,51nm,2.3s						
JFFD	**Fukushimafurud**	**0.60**	**258**	⇓P	**Pb**	**18 13 11.7**	**-1.1**
JFFD				⇓*e*S	**Sb**	**18 13 20.5**	**-0.3**
JFFD	**Fukushimafurud**	**0.60**	**258**	A	A	18 13 11.7	
	comp=E,21nm,4.0s,comp=E,22nm,1.0s						
JMST	**Minamisoumatoc**	**0.60**	**328**	P	**Pb**	**18 13 11.4**	**-1.4**
JMST				*e*S	**Sb**	**18 13 20.5**	**-0.3**
JMST	**Minamisoumatoc**	**0.60**	**328**	A	A	18 13 11.4	
	comp=E,18nm,4.0s,comp=E,20nm,3.4s						
JMM	**Marumori**	**0.76**	**329**		**Pb**	**18 13 14.4**	**-1.2**
JMM					**Sb**	**18 13 25.3**	**-0.2**
JMM	**Marumori**	**0.76**	**329**	P	**Pb**	**18 13 14.1**	**-1.5**
JMM	**Marumori**	**0.76**	**329**	⇓P	**Pb**	**18 13 14.2**	**-1.5**
JMM				⇓S	**Sb**	**18 13 25.1**	**-0.5**
JMM	**Marumori**	**0.76**	**329**	A	A	18 13 14.2	
	comp=E,16nm,3.9s,comp=E,26nm,7.3s						
JHO	**Hitachi**	**0.84**	**224**	⇓P	**Pb**	**18 13 14.8**	**-2.1**
JHO				⇓*e*S	**Sb**	**18 13 26.9**	**-0.9**
JHO	**Hitachi**	**0.84**	**224**	A	A	18 13 14.8	
	comp=E,9.0nm,5.2s,comp=E,9.0nm,6.1s						
JHYU	**Hitachinakayam**	**1.04**	**213**	A	A	18 13 18.8	
	comp=E,20nm,2.7s,comp=E,20nm,0.6s						
JIKH	**Ishinomakikobu**	**1.10**	**7**	A	A	18 13 19.4	
	comp=E,15nm,1.2s,comp=E,13nm,7.7s						
JSB	**Shiboa**	**1.13**	**258**	⇓P	**Pn**	**18 13 21.4**	**-0.3**
JSB				⇓S	**Sg**	**18 13 37.2**	**-0.5**
JSB	**Shiboa**	**1.13**	**258**	A	A	18 13 21.4	
	comp=E,36nm,2.8s,comp=E,28nm,1.4s						
JYAR	**Yonezawaarcadi**	**1.15**	**308**	A	A	18 13 20.6	
	comp=E,61nm,1.2s,comp=E,46nm,1.0s						
JIO	**Ouri**	**1.24**	**2**	A	A	18 13 21.6	
	comp=E,12nm,6.5s,comp=E,10.0nm,5.0s						
JOU	**Okura**	**1.25**	**337**	A	A	18 13 22.1	
	comp=E,28nm,0.5s,comp=E,41nm,0.6s						
JFY	**Yanaizu**	**1.28**	**279**	A	A	18 13 22.8	
	comp=E,15nm,4.2s,comp=E,12nm,6.8s						
JYT	**Yasato**	**1.32**	**222**	A	A	18 13 23.3	
	comp=E,28nm,0.4s,comp=E,14nm,0.3s						
JIHU	**Itakohorinouch**	**1.39**	**207**	A	A	18 13 24.3	
	comp=E,59nm,1.2s,comp=E,58nm,3.7s						
JYS	**Shirataka**	**1.40**	**316**	A	A	18 13 24.5	
	comp=E,38nm,0.6s,comp=E,45nm,0.5s						
JOFO	**Osakifurukawao**	**1.42**	**348**	A	A	18 13 24.5	
	comp=E,141nm,1.4s,comp=E,103nm,1.8s						
CHOJ	**Chosi**	**1.55**	**193**	A	A	18 13 26.5	
	comp=E,17nm,7.1s,comp=E,35nm,4.5s						
JKMT	**Kesennumamotoy**	**1.60**	**5**	A	A	18 13 27.1	
	comp=E,12nm,2.4s,comp=E,8.0nm,4.0s						
JAG	**Ashikaga**	**1.67**	**242**	A	A	18 13 28.7	
	comp=E,8.0nm,8.5s,comp=E,7.0nm,6.3s						
JNS	**Sasagawa**	**1.68**	**292**	A	A	18 13 28.8	
	comp=E,10.0nm,1.3s,comp=E,10.0nm,1.6s						
JSMT	**Sammumatsuo**	**1.71**	**204**	A	A	18 13 29.0	
	comp=E,48nm,2.7s,comp=E,53nm,4.0s						
JMK	**Ichinoseki**	**1.73**	**358**	A	A	18 13 29.2	
	comp=E,17nm,1.2s,comp=E,9.0nm,5.2s						
JUON	**Uonuma**	**1.79**	**270**	A	A	18 13 30.3	
	comp=E,9.0nm,5.3s,comp=E,15nm,2.6s						
JYK	**Kaneyama**	**1.85**	**337**	A	A	18 13 31.1	
	comp=E,13nm,2.1s,comp=E,14nm,2.3s						
JYA	**Atsumi**	**1.86**	**318**	A	A	18 13 31.3	
	comp=E,41nm,1.9s,comp=E,30nm,0.9s						
OFUJ	**Ofunato**	**1.88**	**9**	A	A	18 13 31.3	
	comp=E,8.0nm,6.6s,comp=E,6.0nm,5.4s						
JIZZ	**Izumozaki**	**2.08**	**279**	A	A	18 13 34.6	
	comp=E,35nm,2.2s,comp=E,31nm,4.3s						
JYYZ	**Yamagatayuza**	**2.09**	**330**	A	A	18 13 34.6	
	comp=E,61nm,2.5s,comp=E,61nm,2.4s						
JHU	**Hanno**	**2.12**	**231**	A	A	18 13 35.0	
	comp=E,4.0nm,3.0s,comp=E,4.0nm,2.0s						
JKUC	**kamogawauchiur**	**2.23**	**204**	A	A	18 13 36.6	
	comp=E,11nm,6.6s,comp=E,10.0nm,2.5s						
JRG	**Rokugo**	**2.24**	**347**	A	A	18 13 36.6	
	comp=E,15nm,2.6s,comp=E,12nm,3.3s						
JOM	**Ohasama**	**2.25**	**360**	A	A	18 13 36.7	
	comp=E,10.0nm,5.4s,comp=E,6.0nm,6.4s						
JTB	**Tobishima**	**2.40**	**326**	A	A	18 13 39.1	
	comp=E,8.0nm,3.4s,comp=E,10.0nm,4.6s						
TATJ	**Tateyama 2**	**2.46**	**208**	A	A	18 13 39.8	
	comp=E,15nm,4.6s,comp=E,10.0nm,6.4s						
JYW	**Yuwa**	**2.47**	**340**	A	A	18 13 40.0	
	comp=E,18nm,3.5s,comp=E,26nm,1.6s						
JJN	**Nakama**	**2.50**	**268**	A	A	18 13 40.7	
	comp=E,12nm,2.1s,comp=E,14nm,1.4s						
JSZI	**Iwateshizukuis**	**2.54**	**354**	A	A	18 13 40.7	
	comp=E,23nm,4.6s,comp=E,34nm,3.9s						
JSD	**Sado**	**2.54**	**290**	Pn	**Pn**	**18 13 40.7**	**-0.5**
JSD	**Sado**	**2.54**	**290**	P	**Pn**	**18 13 41.8**	**+0.6**
MJAR	**Matsushiro Arr**	**2.56**	**256**	Pn	**Pn**	**18 13 40.8**	**-0.7**
	2.9nm,0.3s,baz=200,slow=18,SNR=139						
MJAR					Sn	**Sb**	**18 14 19.8**	**+2.4**
	6.9nm,0.3s,baz=156,slow=39,SNR=3.1						
	31nm,0.5s						
MAJO	**Matsushiro**	**2.56**	**256**	Pn	**Pn**	**18 13 42.3**	**+0.8**
MAJO	**Matsushiro**	**2.56**	**256**	P	**Pn**	**18 13 42.5**	**+1.0**
MAJO	**Matsushiro**	**2.56**	**256**	P	**Pn**	**18 13 42.3**	**+0.8**
MJB9	**Mau-Tunnel**	**2.57**	**256**		**Pn**	**18 13 43.1**	**+1.6**
JNTW	**Noshirotokiwa**	**3.18**	**344**	A	A	18 13 49.9	
	comp=E,37nm,2.5s,comp=E,31nm,3.9s						
JOG3	**Oga3**	**3.21**	**328**	A	A	18 13 46.6	
	comp=E,14nm,2.8s,comp=E,14nm,2.3s						
JTT	**Ttatey**	**3.23**	**260**	A	A	18 13 51.1	
	comp=E,8.0nm,2.4s,comp=E,9.0nm,2.7s						
JGF	**Kuroka**	**3.56**	**244**	Pn	**Pn**	**18 13 56.5**	**+1.3**
JGF	**Kuroka**	**3.56**	**244**	P	**Pn**	**18 13 56.8**	**+1.6**
JTM	**Tenmabayashi**	**3.57**	**357**	Pn	**Pn**	**18 13 55.2**	**-0.1**
JTM	**Tenmabayashi**	**3.57**	**357**	P	**Pn**	**18 13 55.8**	**+0.5**
INU	**Inuyama**	**3.92**	**243**	Pn	**Pn**	**18 14 01.3**	**+1.1**
INU	**Inuyama**	**3.92**	**243**	P	**Pn**	**18 14 01.8**	**+1.6**
JAHD	**Aomorihigashid**	**4.04**	**0**	A	A	18 14 02.1	
	comp=E,15nm,1.3s,comp=E,16nm,1.5s						
JHJ	**Hachijo jima 2**	**4.27**	**197**	Pn	**Pn**	**18 14 04.8**	**-0.1**
	21nm,0.3s,baz=58,slow=23,SNR=1.4						
JHJ					Sn	**Sn**	**18 14 54.5**	**+0.3**
	21nm,0.3s,baz=239,slow=23,SNR=2.1						
JHJ					LR	LR	18 15 56.2	
	comp=Z,650nm,19.1s,baz=52,slow=42						
	118nm,0.5s						
JHJ2	**Mitsune**	**4.27**	**197**	Pn	**Pn**	**18 14 05.9**	**+1.0**
ERM	**Erimo**	**5.00**	**16**	Pn	**Pn**	**18 14 14.2**	**-0.7**
ERM	**Erimo**	**5.00**	**16**	⇑*e*P	**Pn**	**18 14 14.0**	**-1.0**
ASAJ	**Asahikawa**	**6.96**	**8**	LR	LR	18 17 33.6	
	comp=Z,358nm,20.6s,baz=230,slow=40						
JHS	**Saijyo**	**6.98**	**254**	Pn	**Pn**	**18 14 44.3**	**+2.1**
JHS	**Saijyo**	**6.98**	**254**	P	**Pn**	**18 14 44.1**	**+1.9**
YSS	**Yuzh-Sakhalins**	**9.79**	**6**	*e*P	**Pn**	**18 15 20.3**	**-0.3**
YSS					MLR	MLR		
	comp=Z,1μm,13.0s						
USA0B	**Ussuriysk Arra**	**9.92**	**318**		**Pn**	**18 15 22.7**	**+0.2**
USA0B	**Ussuriysk Arra**	**9.92**	**318**	*e*P	**Pn**	**18 15 20.2**	**-2.3**
USRK	**Ussuriysk Ar.**	**9.92**	**318**	⇓ Pn	**Pn**	**18 15 23.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=125,slow=13,SNR=12						
	comp=Z,7.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**9.92**	**318**	Pn	**Pn**	**18 15 22.5**	**+0.1**
JCJ	**Chichijima**	**10.12**	**175**	Pn	**Pn**	**18 15 22.5**	**-2.8**
	comp=Z,19nm,0.6s,baz=342,slow=20,SNR=1.8						
KSRS	**Korea Array**	**10.65**	**275**	Pn	**Pn**	**18 15 32.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=99,slow=14,SNR=1.9						
	comp=Z,1.0nm,0.6s						
KSAR	**Wonju Array Be**	**10.68**	**275**	Pn	**Pn**	18 15 37.8	+4.9
KSAR	**Wonju Array Be**	**10.68**	**275**	P	**Pn**	18 15 37.8	+4.9
MDJ	**Mudanjiang**	**11.52**	**314**	Pn	**Pn**	**18 15 44.5**	**+0.2**
KLR	**Kul'dur**	**13.86**	**333**	LR	LR	18 21 30.3	
	comp=Z,403nm,19.6s,baz=146,slow=37						
HEH	**HeiHe**	**16.41**	**327**	*e*P	P	18 17 03.3	+11
PETK	**Petropavlovsk-**	**19.58**	**31**	P	**P**	**18 17 27.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=204,slow=9.5,SNR=2.8						
PETK					LR	LR	18 25 41.3	
	comp=Z,160nm,19.5s,baz=216,slow=39						
	comp=Z,5.3nm,0.9s						
HNS	**HongShan**	**21.13**	**279**	⇑P	**P**	**18 17 42.3**	**-2.3**
HNS				S	Sn	18 22 03.5	+18
HNS				pmax	pmax		
	comp=Z,12nm,1.1s						
HNS				LR	LR		
	comp=E,630nm,12.9s						
HNS				LR	LR		
	comp=Z,710nm,13.1s						
YULB	**Yu-li**	**22.03**	**237**	P	**P**	**18 17 51.6**	**-2.7**
MA2	**Magadan**	**23.20**	**12**	LR	LR	18 26 45.9	
	comp=Z,184nm,18.7s,baz=160,slow=36						
YAK	**Yakutsk**	**25.87**	**347**	P	**P**	**18 18 29.3**	**-1.8**
	comp=Z,3.6nm,0.3s,baz=164,slow=13,SNR=4.6						
YAK					LR	LR	18 28 52.2	
	comp=Z,385nm,18.6s,baz=92,slow=37						
	comp=Z,3.6nm,0.3s						
YAK	**Yakutsk**	**25.87**	**347**	P	**P**	**18 18 29.2**	**-1.8**
YAK					IAmb	IAmb	18 18 48.6	
	comp=Z,20nm,0.9s						
YAK	**Yakutsk**	**25.87**	**347**	*e*P	**P**	**18 18 29.3**	**-1.8**
YAK				pmax	pmax		
	comp=Z,19nm,1.1s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.5s						
SEY	**Seymchan**	**26.63**	**11**	P	**P**	**18 18 36.9**	**-1.1**
	comp=E,21nm,1.1s,baz=217,slow=7.8,SNR=7.5						
	comp=E,21nm,1.1s						
SEY	**Seymchan**	**26.63**	**11**	⇑*e*P	**P**	**18 18 38.7**	**+0.7**
SEY				pmax	pmax		
	comp=Z,27nm,1.1s						
ULN	**Ulaanbaatar**	**27.17**	**304**	P	**P**	**18 18 41.5**	**-1.7**
ULN	**Ulaanbaatar**	**27.17**	**304**	P	**P**	**18 18 41.5**	**-1.7**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
ENH	**Enshi**	**27.25**	**265**	P	**P**	**18 18 44.1**	**+0.1**
ENH				IAmb	IAmb	18 18 46.2	
	comp=Z,24nm,1.5s						
SONM	**Songino Array**	**27.60**	**304**	P	**P**	**18 18 45.8**	**-1.3**
	comp=Z,3.3nm,0.7s,baz=107,slow=9.0,SNR=24						
	comp=Z,3.3nm,0.7s						
SONM	**Songino Array**	**27.60**	**304**	P	**P**	**18 18 47.7**	**+0.6**
SONM	**Songino Array**	**27.60**	**304**	P	**P**	**18 18 47.7**	**+0.6**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	18 48 21.8	
	baz=314,slow=75,SNR=2086						
H11N1	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	18 48 23.2	
	baz=314,slow=75,SNR=2827						
H11N3	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	18 48 24.5	
	baz=314,slow=75,SNR=1629						
H11S1	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	18 49 16.0	
	baz=316,slow=76,SNR=875						
H11S3	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	18 49 17.5	
	baz=316,slow=76,SNR=708						
H11S2	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	18 49 17.3	
	baz=316,slow=76,SNR=643						
DAV	**Davao City (W)**	**33.24**	**209**	LR	LR	18 33 42.1	
	comp=Z,99nm,19.0s,baz=343,slow=37						
BILL	**Bilibino**	**33.88**	**17**	⇓*e*P	**P**	**18 19 41.6**	**-0.4**
BILL				*e**PP	**sP**	**18 19 51.6**	**+1.2**
BILL				*e*		18 20 53.7	
BILL				S	**S**	**18 25 07.0**	**+1.9**
BILL				pmax	pmax		
	comp=Z,16nm,2.3s						
TIXI	**Tiksi**	**35.10**	**353**	P	**P**	**18 19 51.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=270,slow=23,SNR=3.8						
TIXI				LR	LR	18 36 23.9	
	comp=Z,131nm,18.1s,baz=187,slow=40						
	comp=Z,0.6nm,0.6s						
TNCH	**TengChong**	**38.28**	**264**	P	**P**	**18 20 22.0**	**+1.6**
TNCH				pP	pP	18 20 30.6	+4.2
TNCH				sP	sP	18 20 34.9	+6.1
TNCH				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SIJI	**Sorong**	**39.02**	**196**	LR	LR	18 34 40.0	
	comp=Z,100nm,21.9s,baz=44,slow=33						
DGZ	**Jazzator, Alta**	**40.21**	**306**	*d* iP	**P**	**18 20 36.7**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.45**	**255**	P	**P**	**18 20 46.2**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=44,slow=6.8,SNR=4.2						
CMAR				LR	LR	18 39 08.6	
	comp=Z,74nm,18.1s,baz=65,slow=38						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.45**	**255**	*ce*P	**P**	**18 20 48.2**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAA0	**Zalesovo Array**	**41.72**	**312**	P	**P**	**18 20 47.4**	**-1.0**
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**18 20 48.0**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=92,slow=6.9,SNR=19						
ZALV				LR	LR	18 38 45.1	
	comp=Z,94nm,19.1s,baz=116,slow=37						
	comp=Z,4.9nm,0.8s						
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**18 20 47.7**	**-0.7**
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**18 20 48.0**	**-0.4**
LUWI	**Luwuk**	**41.76**	**208**	P	**P**	**18 20 49.0**	**-0.1**
LUWI				IAmb	IAmb	18 21 21.7	
	comp=Z,17nm,0.8s						
KRVT	**Keravat (AS076**	**42.50**	**164**	LR	LR	18 35 27.9	
	comp=Z,34nm,21.3s,baz=212,slow=32						
NRIK	**Noril'sk**	**43.06**	**335**	LR	LR	18 41 58.9	
	comp=Z,132nm,19.1s,baz=114,slow=40						
SBUM	**Sibu**	**43.73**	**225**	P	**P**	**18 21 06.1**	**+1.0**
MK31	**Makanchi Array**	**43.94**	**302**	P	**P**

comp=Z,9.8nm,1.0s
M26K Nabesna, AK 51.34 35 P **P** **18 22 03.1 -0.7**
L27K Beaver Creek, 51.78 34 P **P** **18 22 08.0 +1.0**
L27K IAmb IAmb 18 22 11.5
comp=Z,13nm,1.4s
BCAR Beaver Creek A 51.80 34 P **P** **18 22 08.9 +1.7**
M27K Edge Creek, AK 51.86 35 P **P** **18 22 08.9 +1.1**
M27K IAmb IAmb 18 22 35.3
comp=Z,11nm,1.2s
I29M Ogilvie Camp, 52.95 31 P **P** **18 22 16.4 +0.8**
I29M IAmb IAmb 18 22 17.7
comp=Z,11nm,0.9s
KK31 Karatay Array 52.95 300 P **P** **18 22 15.3 -0.7**
KK31 Karatay Array 52.95 300 P **P** **18 22 15.3 -0.7**
KK31 pmax pmax
comp=Z,9.0nm,1.5s
KKAR Karatay Array 52.95 300 P **P** **18 22 15.6 -0.4**
KKAR Karatay Array 52.95 300 P **P** **18 22 15.3 -0.7**
KKAR IAmb IAmb 18 22 33.5
comp=Z,8.8nm,1.4s
KKAR Karatay Array 52.95 300 P **P** **18 22 15.6 -0.4**
EPYK Eagle Plains 53.41 30 P **P** **18 22 20.6 +1.4**
KNRA Kununurra 53.92 195 P **P** **18 22 23.2 0.0**
INK Inuvik 54.27 27 P **P** **18 22 25.1 -0.1**
comp=Z,2.6nm,0.6s,baz=320,slow=5.6,SNR=9.2
comp=Z,2.6nm,0.6s
INK Inuvik 54.27 27 P **P** **18 22 25.1 -0.1**
INK IAmb IAmb 18 22 26.5
comp=Z,3.9nm,0.8s
NIL Nilore 54.47 288 P **P** **18 22 27.2 -0.1**
NIL IAmb IAmb 18 22 44.6
comp=Z,5.6nm,0.8s
NIL Nilore 54.47 288 P **P** **18 22 27.2 -0.1**
NIL pmax pmax
comp=Z,6.0nm,0.9s
CHGR Chuyangaron 55.50 295 P **P** **18 22 34.4 -0.4**
CHGR Chuyangaron 55.50 295 P **P** **18 22 34.4 -0.4**
CHGR pmax pmax
comp=Z,18nm,1.1s
A36M Sachs Harbour 56.12 22 P **P** **18 22 39.6 +1.1**
A36M IAmb IAmb 18 22 40.7
comp=Z,7.9nm,0.8s
ARU Arti 56.16 318 P **P** **18 22 38.1 -1.0**
comp=Z,2.7nm,0.6s,baz=70,slow=6.3,SNR=6.3
ARU LR LR 18 49 11.1
comp=Z,139nm,19.1s,baz=119,slow=39
comp=Z,2.7nm,0.6s
ARU Arti 56.16 318 P **P** **18 22 38.3 -0.7**
ARU IAmb IAmb 18 22 55.4
comp=Z,6.7nm,1.0s
ARU Arti 56.16 318*c iP* **P** **18 22 38.9 -0.2**
ARU 18 23 35.5
ARU 18 24 38.4
ARU S **S** **18 30 27.7 +0.6**
ARU SS **SS** **18 34 13.9 +0.9**
ARU pmax pmax
comp=Z,9.0nm,1.1s
WB0 Warramunga Arr 57.05 188 P **P** **18 22 45.0 -0.8**
WB0 IAmb IAmb 18 22 50.0
comp=Z,13nm,1.4s
CTA Charters Tower 57.19 174 LR LR 18 48 57.9
comp=Z,22nm,18.1s,baz=348,slow=38
WRAB Tennant Creek 57.22 188‖*eP* **P** **18 22 49.0 +2.1**
WRAB pmax pmax
comp=Z,5.0nm,1.3s
WR0 Warramunga Arr 57.22 188 P **P** **18 22 45.8 -1.2**
WR0 IAmb IAmb 18 22 49.6
comp=Z,5.0nm,0.9s
WB2 Warramunga Arr 57.23 188 P **P** **18 22 45.9 -1.0**
WB2 IAmb IAmb 18 22 49.6
comp=Z,6.9nm,1.1s
WRA Warramunga Arr 57.23 188 P **P** **18 22 46.2 -0.8**
comp=Z,2.5nm,0.7s,baz=5.3,slow=7.0,SNR=50
comp=Z,2.5nm,0.7s
WRA Warramunga Arr 57.23 188 P **P** **18 22 44.5 -2.4**
ABKAR Akbulak array 57.75 310 P **P** **18 22 49.6 -0.9**
ABKAR Akbulak array 57.75 310 P **P** **18 22 49.7 -0.7**
ABKAR IAmb IAmb 18 22 50.7
comp=Z,2.2nm,0.6s
EUNU Eureka 60.02 9 P **P** **18 23 05.1 -0.7**
EUNU IAmb IAmb 18 23 06.6
comp=Z,4.8nm,0.8s
KIRV Kirov 60.04 323 P **P** **18 23 06.0 -0.2**
comp=Z,8.4nm,0.6s,baz=83,slow=11,SNR=5.6
KIRV LR LR 18 51 28.5
comp=Z,104nm,19.4s,baz=57,slow=38
comp=Z,8.4nm,0.6s
KIRV Kirov 60.04 323*de***P** **P** **18 23 05.8 -0.4**
SPITS Spitsbergen Ar 60.33 349 LR LR 18 51 24.3
comp=Z,84nm,18.9s,baz=348,slow=38
NOR Nord 60.86 356 *i P* **P** **18 23 10.8 -0.7**
NOR IAmb IAmb 18 23 16.6
comp=Z,2.5nm,0.5s
AS31 Alice Springs 60.95 188 P **P** **18 23 11.6 -1.2**
ASAR Alice Springs 60.96 188 P **P** **18 23 11.8 -1.0**
comp=Z,1.5nm,0.9s,baz=13,slow=12,SNR=6.5
comp=Z,1.5nm,0.9s
RES Resolute Bay 62.45 14 P **P** **18 23 21.2 -1.0**
RES IAmb IAmb 18 23 22.1
comp=Z,8.5nm,1.4s
RES Resolute Bay 62.45 14 P **P** **18 23 21.2 -1.0**
RES pmax pmax
comp=Z,9.0nm,1.4s
KLMR Klimovskoe 63.55 328 *eP* P 18 23 24.9 -4.9
KLMR AMP 18 23 30.4
comp=Z,29nm,1.6s
KLMR Klimovskoe 63.55 328 *eP* P 18 23 24.9 -4.9
KLMR pmax pmax
comp=Z,29nm,1.6s
BELG Belogornoye 63.60 317 LR LR 18 55 06.5
comp=Z,115nm,18.4s,baz=134,slow=40
GEYT Alibeck 63.66 299 P **P** **18 23 31.1 +0.1**
comp=Z,2.9nm,0.8s,baz=48,slow=2.2,SNR=6.7
GEYT LR LR 18 51 56.2
comp=Z,66nm,20.0s,baz=340,slow=37
comp=Z,2.9nm,0.8s
GEYT Alibeck 63.66 299 P **P** **18 23 30.7 -0.2**
GEYT IAmb IAmb 18 23 35.0
comp=Z,5.5nm,0.9s
GYA0B ALIBECK ARRAY 63.66 299 P **P** **18 23 29.6 -1.4**
GYA0B IAmb IAmb 18 23 35.5
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 63.79 339 P **P** **18 23 30.6 -0.7**
comp=Z,4.8nm,0.8s,baz=61,slow=8.0,SNR=16
ARCES LR LR 18 54 39.3
comp=Z,91nm,19.8s,baz=68,slow=39
comp=Z,4.8nm,0.8s
ARCES ARCESS Array B 63.79 339 P **P** **18 23 31.4 +0.1**
ARCES ARCESS Array B 63.79 339 P **P** **18 23 31.4 +0.1**
ARCES pmax pmax
comp=Z,20nm,1.5s
MSVF Nonsavu 64.71 141 LR LR 18 46 46.1
comp=Z,87nm,20.0s,baz=4.9,slow=31
DAG Danmarks Havn 65.58 355 *i P* P 18 23 34.0 -8.8
OBN Obninsk 67.89 323‖*eP* **P** **18 23 58.2 +0.4**
OBN *e**PP **sP** **18 24 08.3 +1.8**
OBN S S 18 32 45.0 -10
OBN pmax pmax
comp=Z,16nm,1.3s
OBN MLR MLR
comp=Z,116nm,16.0s
VORR Voronezh 68.46 319 *eP* **P** **18 24 03.7 +2.2**
VORR pmax pmax
comp=Z,60nm,0.4s
FINES FINESS Array B 68.61 332 P **P** **18 24 02.0 -0.2**
comp=Z,6.4nm,0.7s,baz=44,slow=8.4,SNR=17
FINES LR LR 18 56 25.4
comp=Z,149nm,18.4s,baz=56,slow=38
comp=Z,6.4nm,0.7s
FINES FINESS Array B 68.61 332 P **P** **18 24 01.8 -0.4**
STKA Stephens Creek 68.74 180 P **P** **18 24 03.9 +0.6**
comp=Z,2.3nm,0.9s,baz=23,slow=11,SNR=4.6
comp=Z,2.3nm,0.9s
PINE Pine Mountain 70.29 50 P **P** **18 24 15.1 +1.9**
SUMG Summit 70.50 360 *i P* P 18 24 21.0 +6.7
KBZ Khabaz 70.71 311 P **P** **18 24 15.3 -0.2**
comp=Z,4.9nm,1.1s,baz=34,slow=4.4,SNR=6.0
comp=Z,4.9nm,1.1s
KBZ Khabaz 70.71 311‖*eP* **P** **18 24 15.4 -0.1**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 70.71 311 P **P** **18 24 15.5 -0.2**
KIV Kislovodsk 70.71 311 *eP* **P** **18 24 16.1 +0.4**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,76nm,17.0s
GNI Garni 71.52 307 LR LR 19 00 16.6
comp=Z,54nm,19.5s,baz=82,slow=40
BMO Blue Mountains 71.88 47 P **P** **18 24 23.4 +0.7**
BMO IAmb IAmb 18 24 24.1
comp=Z,3.7nm,0.8s
BMO Blue Mountains 71.88 47 P **P** **18 24 23.4 +0.7**
BMO pmax pmax
comp=Z,4.0nm,0.9s
J08A Circle Bar Ran 72.03 49 P **P** **18 24 24.8 +1.1**
PLID Pearl Lake 72.50 46 P **P** **18 24 26.2 -0.4**
NACGM Naroch 72.52 327 *eP* **P** **18 24 26.7 +0.5**
comp=Z,27nm,1.2s,baz=50
BEKR Beckworth 72.82 53 P **P** **18 24 29.3 +0.7**
BEKR IAmb IAmb 18 24 30.6
comp=Z,6.2nm,1.3s
PABE Paberze 73.33 328 P **P** **18 24 30.4 -0.6**
MFID Camas Ranch 73.57 48 P **P** **18 24 32.1 -0.7**
MFID IAmb IAmb 18 24 34.9
comp=Z,8.2nm,1.2s
CMB Columbia Colle 73.84 54 P **P** **18 24 34.6 +0.2**
CMB Columbia Colle 73.84 54 P **P** **18 24 34.6 +0.2**
CMB pmax pmax
comp=Z,5.0nm,1.0s
HFS Hagfors 73.88 336 LR LR 18 59 54.3
comp=Z,146nm,18.6s,baz=37,slow=38
NC204 NORSAR Array S 73.94 338 P **P** **18 24 34.5 -0.1**
NB2 NORSAR Subarra 73.98 337 P **P** **18 24 34.4 -0.4**
comp=Z,8.6nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.98 337 P **P** **18 24 34.6 -0.2**
comp=Z,3.7nm,0.7s,baz=39,slow=5.9,SNR=15
NOA LR LR 19 02 06.9
comp=Z,96nm,18.4s,baz=40,slow=40
comp=Z,3.7nm,0.7s
LRM Limekiln Ridge 74.08 44 P **P** **18 24 35.7 -0.3**
AKASG Malin Array Be 74.09 322 P **P** **18 24 34.9 -0.7**
comp=Z,3.0nm,0.5s,baz=46,slow=6.0,SNR=21
AKASG LR LR 18 57 51.0
comp=Z,77nm,21.8s,baz=18,slow=36
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 74.09 322 P **P** **18 24 34.3 -1.3**
AKASG IAmb IAmb 18 24 36.3
comp=Z,8.7nm,1.5s
AKBB Malin Array Si 74.09 322 P **P** **18 24 34.3 -1.3**
AKBB IAmb IAmb 18 24 35.9
comp=Z,7.9nm,0.9s
AKBB Malin Array Si 74.09 322 P **P** **18 24 34.3 -1.3**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
NAO01 NORSAR Array S 74.23 337 P **P** **18 24 35.6 -0.6**
BMN Battle Mountai 74.47 51 P **P** **18 24 38.3 +0.1**
BMN Battle Mountai 74.47 51 P **P** **18 24 38.3 +0.1**
BMN pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 74.68 44 P **P** **18 24 39.8 +0.5**
BOZ IAmb IAmb 18 24 41.1
comp=Z,5.8nm,0.9s
BOZ Bozeman (W) 74.68 44 P **P** **18 24 39.8 +0.5**
BOZ pmax pmax
comp=Z,6.0nm,1.0s
KVN Kaiserville 74.72 53 P **P** **18 24 40.5 +0.7**
KVN Kaiserville 74.72 53 P **P** **18 24 40.5 +0.7**
KVN pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 74.95 53 P **P** **18 24 41.8 +0.6**
comp=Z,2.2nm,0.7s,baz=287,slow=5.4,SNR=11
comp=Z,2.2nm,0.7s
NVAR Mina Array Bea 74.95 53 P **P** **18 24 41.5 +0.4**
YHL Hebgen Lake 75.38 45 P **P** **18 24 43.9 +0.3**
YMR Madison River 75.62 45 P **P** **18 24 46.0 +1.1**
YMR IAmb IAmb 18 24 46.6
comp=Z,3.1nm,0.7s
GCMT Greycliff 75.64 43 P **P** **18 24 44.9 +0.1**
SFJD Kangerlussuaq 75.71 5 LR LR 19 02 18.7
comp=Z,59nm,18.4s,baz=286,slow=39
DSP Deep Springs 75.79 54 P **P** **18 24 46.9 +1.3**
TPH Tonopah 75.85 53 P **P** **18 24 47.2 +1.0**
TPH Tonopah 75.85 53 P **P** **18 24 47.2 +1.0**
TPH pmax pmax
comp=Z,34nm,1.3s
YPP Pitchstone Pla 75.96 45 P **P** **18 24 48.0 +1.2**
YPP IAmb IAmb 18 25 04.4
comp=Z,6.6nm,1.4s
H17A Grant Village 76.01 45 P **P** **18 24 49.9 +2.8**
IMW Indian Meadow 76.11 45 P **P** **18 24 48.9 +1.2**
IMW IAmb IAmb 18 24 49.9
comp=Z,4.6nm,0.8s
FXWY Fox Creek 76.22 45 P **P** **18 24 49.7 +1.4**
FXWY IAmb IAmb 18 24 53.5
comp=Z,6.4nm,1.3s
MOOW Moose Ponds 76.31 45 P **P** **18 24 50.2 +1.4**
MOOW IAmb IAmb 18 24 54.7
comp=Z,8.5nm,1.5s
TPAW Teton Pass 76.36 46 P **P** **18 24 51.0 +1.9**
FRB Frobisher Bay 76.62 13 LR LR 19 03 10.4
comp=Z,41nm,18.2s,baz=334,slow=39
R11A Troy Canyon, C 76.72 52 P **P** **18 24 51.6 +0.4**
R11A IAmb IAmb 18 24 57.5
comp=Z,6.0nm,1.3s
LAO LASA Array 76.90 41 P **P** **18 24 52.8 +0.9**
GWY Greenwater Val 77.33 54 P **P** **18 24 54.1 -0.5**
GWY IAmb IAmb 18 25 06.1
comp=Z,8.7nm,1.4s
QSM Queen of Sheba 77.33 54 P **P** **18 24 55.2 +0.8**
QSM IAmb IAmb 18 24 56.4
comp=Z,7.7nm,1.2s
BORG Borgarnes 77.45 352 LR LR 19 01 14.0
comp=Z,25nm,18.1s,baz=213,slow=37
BW06 Boulder Array 77.61 45 P **P** **18 24 56.0 -0.2**
BW06 IAmb IAmb 18 25 08.8
comp=Z,8.0nm,1.5s
PD31 Pinedale Array 77.61 45 P **P** **18 24 56.2 +0.1**
PDAR Pinedale Array 77.61 45 P **P** **18 24 56.5 +0.4**
comp=Z,1.2nm,0.6s,baz=288,slow=2.3,SNR=16
comp=Z,1.2nm,0.6s
PRN Pahroc Range 77.63 52 P **P** **18 24 56.8 +0.6**
PSUT Pine Spring 77.69 51 P **P** **18 24 56.9 +0.3**
PSUT IAmb IAmb 18 25 01.9
comp=Z,5.1nm,1.1s
BUR08 Bucovina Ar. S 78.10 322 P **P** **18 24 58.8 +0.2**
BUR08 IAmb IAmb 18 24 59.7
comp=Z,4.5nm,1.0s
BURAR Bucovina Array 78.11 322 P **P** **18 24 58.8 +0.2**
SHPR Sheep Range 78.11 53 P **P** **18 24 59.4 +0.5**
BR131 Keskin Array S 78.66 311‖*eP* **P** **18 25 02.2 +0.3**
BRTR Keskin Array B 78.66 311 P **P** **18 25 01.4 -0.4**
comp=Z,0.9nm,0.7s,baz=51,slow=4.0,SNR=5.4
BRTR LR LR 19 04 21.4
comp=Z,49nm,18.3s,baz=347,slow=39
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 78.66 311 P **P** **18 25 01.7 -0.2**
BRTR Keskin Array B 78.66 311 P **P** **18 25 01.7 -0.2**
OJC Ojcow 78.83 326 P **P** **18 25 00.1 -2.4**
OJC Ojcow 78.83 326 P **P** **18 25 00.1 -2.4**
OJC pmax pmax
comp=Z,13nm,1.2s
RDMU Red Mountain 79.00 47 P **P** **18 25 04.3 +0.4**
RDMU IAmb IAmb 18 25 06.0
comp=Z,10nm,1.2s
P17A Butcher Ranch, 79.00 49 P **P** **18 25 05.0 +1.2**
P17A IAmb IAmb 18 25 05.5
comp=Z,5.0nm,1.0s
LCMT Little Creek M 79.01 52 P **P** **18 25 04.9 +1.0**
MLR Muntele Rosu 79.18 320 LR LR 19 03 24.2
comp=Z,184nm,19.3s,baz=68,slow=38
SRU San Rafael Swe 79.36 49 P **P** **18 25 06.8 +1.0**
SRU IAmb IAmb 18 25 07.1
comp=Z,4.9nm,0.6s
SRU San Rafael Swe 79.36 49 P **P** **18 25 06.8 +1.0**
SRU pmax pmax
comp=Z,5.0nm,0.6s
U15A North Rim 79.97 52 P **P** **18 25 10.7 +1.4**
MORC Moravsky Berou 80.15 327 P **P** **18 25 10.0 +0.3**
MORC IAmb IAmb 18 25 11.1
comp=Z,6.4nm,1.0s
MORC Moravsky Berou 80.15 327 *eP* **P** **18 25 10.1 +0.4**
MORC Moravsky Berou 80.15 327 P **P** **18 25 10.0 +0.3**
MORC pmax pmax
comp=Z,6.0nm,1.0s
DPC Dobruska-Polom 80.25 328 *eP* **P** **18 25 11.4 +1.2**
KRLC Kraliky 80.26 327 *eP* **P** **18 25 10.6 +0.3**
PSZ Piszkesteto 80.45 324 P **P** **18 25 12.2 +0.8**
PSZ IAmb IAmb 18 25 15.3
comp=Z,9.1nm,1.2s
PSZ Piszkesteto 80.45 324 P **P** **18 25 12.2 +0.8**
PSZ pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 80.52 325 *eP* **P** **18 25 12.3 +0.6**
VYHS Vyhne 80.52 325 *eP* **P** **18 25 12.3 +0.6**
BRG Berggiesshubel 80.85 329 *eP* **P** **18 25 13.8 +0.4**
BRG Amp 18 25 16.5
comp=Z,3.8nm,1.1s
BRG Amp 19 06 10.0
comp=N,0.2nm,13.4s
BRG Amp 19 06 21.0
comp=Z,0.3nm,14.7s
BRG Amp 19 06 37.0
comp=E,0.1nm,15.2s
BRG Berggiesshubel 80.85 329 *eP* **P** **18 25 13.7 +0.4**
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,211nm,13.4s
BRG MLR MLR
comp=Z,260nm,14.7s
BRG MLR MLR
comp=E,68nm,15.2s
PV11 David Mesa, Pa 80.88 49 P **P** **18 25 13.0 -1.0**
PV11 IAmb IAmb 18 25 16.8
comp=Z,5.3nm,0.7s
CLL Collm 80.89 330 P **P** **18 25 12.6 -0.9**
CLL IAmb IAmb 18 25 14.3
comp=Z,6.5nm,0.9s
CLL Collm 80.89 330 *i* P **P** **18 25 13.0 -0.6**
comp=Z,13nm,1.4s
CLL *e*PP **PP** **18 28 24.0 +6.7**
CLL *e*S **S** **18 35 19.0 -1.9**
CLL *e*PS **PnS** **18 36 06.0 -1.8**
CLL *e*SS **SS** **18 40 30.0 -3.6**
CLL *e*SSS SSS 18 44 00.0
CLL Collm 80.89 330 *i* P **P** **18 25 13.0 -0.6**
CLL pmax pmax
comp=Z,13nm,1.4s
VRAC Vranov 80.92 327 LR LR 19 04 02.6
comp=Z,59nm,19.3s,baz=26,slow=38
VRAC Vranov 80.92 327 *eP* **P** **18 25 13.8 0.0**
PV13 Radium Mtn., P 81.00 49 P **P** **18 25 15.4 +0.6**
PV13 IAmb IAmb 18 25 16.7
comp=Z,14nm,1.3s
KRUC Moravsky 81.19 327 *eP* **P** **18 25 15.3 +0.1**
PRU Pruhonice 81.28 328 *eP* **P** **18 25 16.6 +0.9**
MMAI Mount Meron Ar 81.78 305 LR LR 19 05 19.8
comp=Z,55nm,20.2s,baz=277,slow=38
CKRC Cesky Krumlov 82.27 328 *eP* **P** **18 25 20.9 0.0**
KHC Kasperske Hory 82.34 328 P **P** **18 25 20.9 -0.5**
KHC IAmb IAmb 18 25 22.6
comp=Z,8.9nm,1.3s
KHC Kasperske Hory 82.34 328 *eP* **P** **18 25 21.6 +0.2**
KHC Kasperske Hory 82.34 328*de***P** **P** **18 25 21.5 +0.2**
KHC pmax pmax
comp=Z,17nm,1.4s
GERES GERESS Array B 82.50 328 P **P** **18 25 22.1 -0.2**
comp=Z,1.2nm,0.5s,baz=39,slow=5.6,SNR=13
comp=Z,1.2nm,0.5s
EKA Eskdalemuir Ar 82.93 340 LR LR 19 07 29.6
comp=Z,59nm,18.6s,baz=2.0,slow=40
EIL Elat 84.20 303 LR LR 19 08 14.1
comp=Z,34nm,18.0s,baz=60,slow=39
ANMO Albuquerque 84.54 50‖*eP* **P** **18 25 34.5 +1.4**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
PPT Papeete 84.80 116 LR LR 18 59 34.3
comp=Z,84nm,20.6s,baz=311,slow=33
RPZ Rata Peaks 84.97 159 LR LR 18 59 17.5
comp=Z,70nm,19.3s,baz=330,slow=33
BFO Black Forest 85.10 331 P **P** **18 25 35.3 -0.2**
BFO Black Forest 85.10 331 P **P** **18 25 35.3 -0.2**
BFO pmax pmax
comp=Z,13nm,1.3s
SCHQ Schefferville 85.19 16 LR LR 19 08 20.5
comp=Z,45nm,19.0s,baz=120,slow=39
FUORN Ofenpass-Fuorn 85.69 329 P **P** **18 25 38.5 -0.2**
DAVOX Davos/Dischmat 85.72 329 LR LR 19 07 28.6
comp=Z,99nm,19.8s,baz=81,slow=38
TX31 Lajitas Ar. Si 90.08 52 P **P** **18 26 00.5 +0.6**
TXAR Lajitas Array 90.09 52 P **P** **18 26 00.6 +0.7**
comp=Z,1.0nm,0.6s,baz=309,slow=3.2,SNR=12
comp=Z,1.0nm,0.6s
P52A Corning 93.73 32 P **P** **18 26 13.7 -2.8**
KEST Kesra 94.82 323 LR LR 19 15 19.8
comp=Z,62nm,18.1s,baz=300,slow=40
ESDC Sonseca Array 97.08 334 LR LR 19 16 32.8
comp=Z,81nm,18.0s,baz=21,slow=39
LPAZ La Paz 146.68 59 PKPbc **PKPbc** **18 32 42.2 -0.4**
comp=Z,1.9nm,0.5s,baz=254,slow=2.8,SNR=9.4

NIED ***23*** *18:14:48.4,37°.26N×141°.23E,h18km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=3.67; Mθθ1.80; Mϕϕ 1.87; Mrθ-0.71; Mθϕ 1.08; Mϕr1.40; Fault plane solution: M₀3.56000×10¹⁵ NP1:ϕs58.00000°, δ42.00000°,λ-65.00000°. NP2:ϕs206.00000°,δ52.00000°, λ-111.00000°.*

JMA 23 18:14:48.4±0.3,37°.3N±0°.6×14°1E±°,h18km±2km, MD5.1/20,MV3.6/20,E OFF FUKUSHIMA PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.30**	**291**	*eS*		Sb	18 15 00.1	+0.1
JFK	**Kawauchi**	**0.30**	**291**	A	A	A	18 15 00.1	
	comp=E,147nm,3.5s,comp=E,179nm,3.1s							
JMST	**Minamisoumatoc**	**0.54**	**330**	A	A	A	18 14 58.9	
	comp=E,96nm,3.5s,comp=E,96nm,5.5s							
JFFD	**Fukushimafurud**	**0.56**	**253**	*eP*		Pg	18 14 59.2	-0.3
JFFD				*eS*		Sb	18 15 07.4	+0.1
JFFD	**Fukushimafurud**	**0.56**	**253**	A	A	A	18 14 59.2	
	comp=E,154nm,3.2s,comp=E,161nm,4.2s							
JMM	**Marumori**	**0.70**	**330**	*eS*		Sg	18 15 12.3	+0.8
JMM	**Marumori**	**0.70**	**330**	A	A	A	18 15 12.3	
	comp=E,78nm,3.7s,comp=E,85nm,5.7s							
JHO	**Hitachi**	**0.83**	**220**	A	A	A	18 15 04.0	
	comp=E,60nm,4.1s,comp=E,42nm,3.5s							
JHYU	**Hitachinakayam**	**1.05**	**210**	A	A	A	18 15 07.7	
	comp=E,26nm,6.9s,comp=E,24nm,4.3s							
JIKH	**Ishinomakikobu**	**1.07**	**10**	A	A	A	18 15 08.0	
	comp=E,35nm,4.4s,comp=E,50nm,4.5s							
JYAR	**Yonezawaarcadi**	**1.08**	**307**	A	A	A	18 15 08.2	
	comp=E,102nm,3.5s,comp=E,77nm,5.3s							
JSB	**Shiboa**	**1.09**	**255**	A	A	A	18 15 08.3	
	comp=E,325nm,3.8s,comp=E,282nm,3.9s							
JOU	**Okura**	**1.19**	**338**	A	A	A	18 15 10.1	
	comp=E,80nm,3.2s,comp=E,111nm,4.2s							
JIO	**Ouri**	**1.20**	**4**	A	A	A	18 15 10.1	
	comp=E,43nm,5.6s,comp=E,43nm,5.7s							
JFY	**Yanaizu**	**1.23**	**277**	A	A	A	18 15 10.6	
	comp=E,72nm,5.1s,comp=E,65nm,5.4s							
JYT	**Yasato**	**1.32**	**219**	A	A	A	18 15 12.0	
	comp=E,28nm,4.9s,comp=E,25nm,3.7s							
JYS	**Shirataka**	**1.33**	**317**	A	A	A	18 15 12.3	
	comp=E,71nm,2.5s,comp=E,114nm,3.3s							
JOFO	**Osakifurukawao**	**1.37**	**349**	A	A	A	18 15 12.7	
	comp=E,309nm,3.1s,comp=E,322nm,3.3s							
JIHU	**Itakohorinouch**	**1.41**	**204**	A	A	A	18 15 13.4	
	comp=E,273nm,4.4s,comp=E,181nm,3.6s							
JKMT	**Kesennumamotoy**	**1.56**	**7**	A	A	A	18 15 15.7	
	comp=E,45nm,5.7s,comp=E,26nm,4.1s							
JNS	**Sasagawa**	**1.62**	**291**	A	A	A	18 15 16.6	
	comp=E,36nm,5.7s,comp=E,27nm,6.4s							
JAG	**Ashikaga**	**1.65**	**240**	A	A	A	18 15 17.0	
	comp=E,44nm,3.7s,comp=E,61nm,3.7s							
JMK	**Ichinoseki**	**1.69**	**360**	A	A	A	18 15 17.7	
	comp=E,29nm,3.9s,comp=E,23nm,5.7s							
JUON	**Uonuma**	**1.73**	**269**	A	A	A	18 15 18.3	
	comp=E,44nm,4.9s,comp=E,35nm,4.1s							
JYA	**Atsumi**	**1.79**	**319**	A	A	A	18 15 19.2	
	comp=E,32nm,4.6s,comp=E,44nm,5.5s							
JYK	**Kaneyama**	**1.79**	**338**	A	A	A	18 15 19.2	
	comp=E,37nm,4.5s,comp=E,51nm,4.4s							
OFUJ	**Ofunato**	**1.85**	**11**	A	A	A	18 15 20.0	
	comp=E,38nm,5.8s,comp=E,35nm,4.8s							
TOK	**Tokyo**	**1.97**	**218**	A	A	A	18 15 21.6	
	comp=E,114nm,5.2s,comp=E,117nm,4.0s							
JAW	**Awa shima**	**1.97**	**308**	A	A	A	18 15 21.8	
	comp=E,58nm,5.7s,comp=E,24nm,5.5s							
JIZZ	**Izumozaki**	**2.03**	**279**	A	A	A	18 15 22.6	
	comp=E,106nm,3.8s,comp=E,95nm,3.7s							
JYYZ	**Yamagatayuza**	**2.03**	**330**	A	A	A	18 15 22.6	
	comp=E,126nm,4.6s,comp=E,214nm,5.8s							
JHU	**Hanno**	**2.10**	**229**	A	A	A	18 15 23.7	
	comp=E,17nm,5.8s,comp=E,10.0nm,4.6s							

JRG	**Rokugo**	**2.19 348**	A	A	18 15 24.9
	comp=E,25nm,5.7s,comp=E,48nm,4.7s				
JGK	**Kuni**	**2.19 252**	A	A	18 15 24.9
	comp=E,24nm,6.9s,comp=E,37nm,3.7s				
JOM	**Ohasama**	**2.21 1**	A	A	18 15 25.3
	comp=E,18nm,4.1s,comp=E,18nm,3.9s				
JRY	**Ryogami san**	**2.25 237**	A	A	18 15 25.7
	comp=E,14nm,4.0s,comp=E,27nm,4.4s				
JTB	**Tobi-shima**	**2.34 326**	A	A	18 15 27.1
	comp=E,21nm,3.9s,comp=E,16nm,4.7s				
MIYJ	**Miyakonagasawa**	**2.36 11**	A	A	18 15 27.4
	comp=E,30nm,4.7s,comp=E,29nm,4.1s				
JYW	**Yuwa**	**2.42 341**	A	A	18 15 28.2
	comp=E,44nm,4.6s,comp=E,68nm,4.0s				
JJN	**Nakama**	**2.45 267**	A	A	18 15 28.7
	comp=E,44nm,5.4s,comp=E,42nm,5.1s				
JSD	**Sado**	**2.48 289**	A	A	18 15 29.1
	comp=E,5.0nm,6.1s,comp=E,7.0nm,6.2s				
JSZI	**Iwateshizukuis**	**2.49 355**	A	A	18 15 29.2
	comp=E,60nm,4.0s,comp=E,61nm,3.2s				
JNG	**Nsakai**	**2.65 252**	A	A	18 15 31.5
	comp=E,10.0nm,4.1s,comp=E,18nm,7.2s				
JTH	**Tanohata**	**2.72 10**	A	A	18 15 32.6
	comp=E,30nm,3.6s,comp=E,33nm,4.4s				
JKZ	**Kuzumaki**	**2.72 2**	A	A	18 15 32.6
	comp=E,24nm,4.4s,comp=E,14nm,7.1s				
JNT	**Takato**	**2.85 242**	A	A	18 15 34.4
	comp=E,10.0nm,4.4s,comp=E,15nm,5.4s				
JFNN	**Fujinakano**	**2.91 226**	A	A	18 15 35.2
	comp=E,28nm,4.7s,comp=E,18nm,4.1s				
JAH	**Hinai**	**2.96 351**	A	A	18 15 36.0
	comp=E,13nm,6.6s,comp=E,16nm,6.9s				
JKEN	**Kujiedanarisaw**	**2.97 7**	A	A	18 15 36.0
	comp=E,25nm,4.0s,comp=E,34nm,5.0s				
JANG	**Nango**	**3.12 4**	A	A	18 15 38.2
	comp=E,24nm,4.0s,comp=E,18nm,4.1s				
JNTW	**Noshirotokiwa**	**3.12 345**	A	A	18 15 38.3
	comp=E,63nm,4.9s,comp=E,64nm,5.4s				
JTT	**Ttatey**	**3.19 259**	A	A	18 15 39.2
	comp=E,12nm,3.6s,comp=E,11nm,3.0s				
JNY	**Yasuok**	**3.31 236**	A	A	18 15 41.0
	comp=E,13nm,5.2s,comp=E,13nm,6.1s				
JHHS	**Hirosakihyakuz**	**3.46 349**	A	A	18 15 43.0
	comp=E,27nm,3.9s,comp=E,35nm,5.9s				
JIW	**Iwasaki**	**3.46 344**	A	A	18 15 43.1
	comp=E,9.0nm,4.7s,comp=E,12nm,4.4s				
JTM	**Tenmabayashi**	**3.53 358**	A	A	18 15 44.0
	comp=E,12nm,4.8s,comp=E,12nm,8.5s				
JGF	**Kuroka**	**3.53 243**	A	A	18 15 44.1
	comp=E,6.0nm,6.4s,comp=E,10.0nm,5.1s				
JSG	**Sagara**	**3.57 225**	A	A	18 15 44.6
	comp=E,18nm,5.0s,comp=E,18nm,4.7s				
JKKS	**Kakegawashinom**	**3.63 227**	A	A	18 15 45.4
	comp=E,16nm,4.0s,comp=E,13nm,4.8s				
JARK	**Aomorirokkasho**	**3.75 2**	A	A	18 15 47.1
	comp=E,17nm,2.5s,comp=E,18nm,3.7s				
JSI2	**Shiura 2**	**3.85 351**	A	A	18 15 48.6
	comp=E,8.0nm,5.3s,comp=E,12nm,7.3s				

WEL ***23*** *18:25:16.2±0.7,41°S±4°×17°7E±°, h33km, M3.5/55, ML3.8/30, MLv3.5/55, Error ellipse: s-maj=0.0km s-min=0.0km az=125.1*
NOU ***23*** *18:25:24.7, 40.21S×177.09E, h62km, MLv3.2/4, Off E. Coast of N. Island, N.Z.*

ISC 23 18:25:15.8±1.4, 40.85S±0.04×177.17E±0.05, h33km±13km, n91, σ1§41/95, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.66**	**306**	P	**Pb**	**18 25 29.0**	**+0.1**
PRHZ	**Porangahau**	**0.71**	**325**	P	**Pn**	**18 25 29.7**	**+0.2**
PRHZ				S	**Sb**	**18 25 40.0**	**+0.7**
BFZ	**Birch Farm**	**0.72**	**283**	P	**Pb**	**18 25 29.8**	**-0.2**
CPWZ	**Castlepoint**	**0.74**	**265**	P	**Pb**	**18 25 30.7**	**+0.5**
PXZ	**Pawanui**	**0.85**	**344**	P	**Pn**	**18 25 31.7**	**+0.3**
DVHZ	**Dannevirke**	**0.94**	**305**	P	**Pn**	**18 25 32.9**	**+0.2**
DVHZ				S	**Sn**	**18 25 44.8**	**-0.3**
PRWZ	**Pori Road**	**0.96**	**287**	P	**Pb**	**18 25 33.6**	**-0.4**
PRWZ				S	**Sb**	**18 25 45.9**	**-0.4**
WPHZ	**Waipukurau**	**0.96**	**324**	P	**Pn**	**18 25 33.5**	**+0.5**
TIWZ	**Tintock**	**0.98**	**274**	P	**Pn**	**18 25 33.5**	**+0.3**
TMWZ	**Te Maipa**	**1.00**	**255**	P	**Pn**	**18 25 33.6**	**+0.1**
KAHZ	**Kahuranaki**	**1.08**	**348**	P	**Pn**	**18 25 35.1**	**+0.5**
KAHZ				S	**Sn**	**18 25 49.4**	**+0.9**
POWZ	**Post Office Ro**	**1.16**	**293**	P	**Pn**	**18 25 36.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.19**	**356**	P	**Pn**	**18 25 36.5**	**+0.4**
PNHZ	**Pukenui**	**1.19**	**321**	P	**Pn**	**18 25 36.8**	**+0.6**
PNHZ				S	**Sb**	**18 25 52.9**	**-0.2**
TSZ	**Takapari Road**	**1.22**	**310**	P	**Pn**	**18 25 37.0**	**+0.5**
MRZ	**Mangatainoka R**	**1.23**	**278**	P	**Pn**	**18 25 36.8**	**+0.2**
MRZ				S	**Sn**	**18 25 51.8**	**-0.2**
TRWZ	**Traveller**	**1.25**	**243**	P	**Pn**	**18 25 36.6**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.26**	**267**	P	**Pn**	**18 25 37.1**	**0.0**
MTW	**Mount Morrison**	**1.30**	**256**	P	**Pn**	**18 25 37.6**	**-0.1**
PAWZ	**Paruwai Farm**	**1.42**	**247**	P	**Pn**	**18 25 38.9**	**-0.4**
MCHZ	**McNeill Hill**	**1.45**	**345**	P	**Pn**	**18 25 40.5**	**+0.9**
OGWZ	**Otaki Gorge**	**1.52**	**271**	P	**Pn**	**18 25 41.0**	**+0.4**
KWHZ	**Kaweka Forest**	**1.54**	**338**	P	**Pn**	**18 25 41.6**	**+0.7**
MSWZ	**Moikau Station**	**1.56**	**248**	P	**Pn**	**18 25 40.4**	**-0.8**
ARHZ	**Arapoaanui**	**1.59**	**355**	P	**Pn**	**18 25 42.3**	**+0.7**
BHHZ	**Black Hill Sta**	**1.60**	**326**	P	**Pn**	**18 25 42.5**	**+0.7**
CAW	**Cannon Point**	**1.61**	**260**	P	**Pn**	**18 25 42.0**	**+0.1**
PLWZ	**Palliser**	**1.61**	**243**	P	**Pn**	**18 25 41.1**	**-0.9**
KIW	**Kapiti Island**	**1.72**	**269**	P	**Pn**	**18 25 44.0**	**+0.6**
BKZ	**Black Stump Fm**	**1.76**	**343**	P	**Pn**	**18 25 44.7**	**+0.7**
BKZ	**Black Stump Fm**	**1.76**	**343**	P	**Pn**	**18 25 44.7**	**+0.7**
NMHZ	**Naumai**	**1.77**	**351**	P	**Pn**	**18 25 45.0**	**+0.8**
MOVZ	**Moawhango**	**1.81**	**322**	P	**Pn**	**18 25 46.4**	**+1.8**
KNZ	**Kokohu**	**1.87**	**12**	P	**Pn**	**18 25 45.5**	**+0.2**
RAHZ	**Arahi**	**1.93**	**358**	P	**Pn**	**18 25 47.2**	**+0.8**
WNVZ	**Wahianoa**	**1.94**	**321**	P	**Pn**	**18 25 48.7**	**+2.1**
MTVZ	**Mangateitei**	**1.96**	**318**	P	**Pb**	**18 25 50.0**	**-0.9**
WHVZ	**Whangaehu Hut**	**1.98**	**322**	P	**Pb**	**18 25 49.6**	**-1.8**
TRVZ	**Turoa**	**1.99**	**321**	P	**Pb**	**18 25 49.6**	**-1.8**
WAZ	**Wanganui**	**2.00**	**302**	P	**Pb**	**18 25 49.9**	**-1.6**
MTHZ	**Maungataniwha**	**2.01**	**353**	P	**Pn**	**18 25 47.9**	**+0.5**
FWVZ	**Far West T-bar**	**2.02**	**322**	P	**Pn**	**18 25 50.0**	**+2.3**
SNVZ	**South Ngauruho**	**2.04**	**324**	P	**Pn**	**18 25 50.0**	**+2.1**
OTVZ	**Oturere**	**2.04**	**325**	P	**Pn**	**18 25 49.9**	**+1.9**
ETVZ	**East Tongariro**	**2.05**	**326**	P	**Pn**	**18 25 49.9**	**+1.9**
NGZ	**Ngauruhoe**	**2.06**	**324**	P	**Pn**	**18 25 50.2**	**+1.9**
TMVZ	**Te Maari**	**2.07**	**326**	P	**Pn**	**18 25 50.1**	**+1.8**
SNGZ	**Shannon Statio**	**2.07**	**4**	P	**Pn**	**18 25 48.7**	**+0.5**
NNVZ	**North Ngauruho**	**2.09**	**325**	P	**Pn**	**18 25 50.9**	**+2.2**
NTVZ	**North Tongarir**	**2.09**	**326**	P	**Pn**	**18 25 50.4**	**+1.8**
MRHZ	**Matea Rd**	**2.10**	**344**	P	**Pn**	**18 25 50.0**	**+1.4**
KRVZ	**Karewarewa**	**2.11**	**326**	P	**Pb**	**18 25 52.2**	**-1.3**
RIGZ	**Rimuhau**	**2.19**	**12**	P	**Pn**	**18 25 50.7**	**+0.8**
KATZ	**Kakaramea**	**2.19**	**328**	P	**Pb**	**18 25 53.3**	**-1.5**
TCW	**Tory Channel**	**2.22**	**260**	P	**Pn**	**18 25 50.2**	**0.0**
TWVZ	**Taurewa**	**2.22**	**323**	P	**Pn**	**18 25 52.6**	**+2.2**
RTZ	**Ruatahuna**	**2.24**	**356**	P	**Pn**	**18 25 51.0**	**+0.4**
RATZ	**Rangitukua**	**2.25**	**331**	P	**Pb**	**18 25 54.4**	**-1.5**
CMWZ	**Cape Campbell**	**2.40**	**247**	P	**Pn**	**18 25 52.7**	**-0.1**
TKGZ	**Te Karaka**	**2.46**	**12**	P	**Pn**	**18 25 54.2**	**+0.6**
DUWZ	**D'Urville Isla**	**2.47**	**270**	P	**Pn**	**18 25 54.8**	**+1.1**
TUWZ	**Tuamarina**	**2.51**	**256**	P	**Pb**	**18 25 57.2**	**-2.9**
MWZ	**Matawai**	**2.53**	**6**	P	**Pn**	**18 25 54.3**	**-0.2**
VRZ	**Vera Road**	**2.53**	**312**	P	**Pb**	**18 25 59.5**	**-1.0**
URZ	**Urewera**	**2.59**	**359**	P	**Pn**	**18 25 55.5**	**+0.2**
URZ	**Urewera**	**2.59**	**359**	P	**Pn**	**18 25 55.3**	**0.0**
TARZ	**Mount Tarawera**	**2.66**	**349**	P	**Pn**	**18 25 57.4**	**+0.9**
TWGZ	**Tauwhareparae**	**2.74**	**13**	P	**Pn**	**18 25 58.5**	**+1.0**
NEZ	**North Egmont**	**2.84**	**303**	P	**Pn**	**18 26 02.2**	**+3.3**
KHEZ	**Kahui Hut**	**2.88**	**302**	P	**Pb**	**18 26 03.6**	**-2.9**
KHEZ	**Kahui Hut**	**2.88**	**302**	P	**Pb**	**18 26 03.1**	**-3.4**
NNZ	**Nelson**	**2.89**	**261**	P	**Pn**	**18 26 00.3**	**+0.8**
RUGZ	**Raukumara Rang**	**2.91**	**8**	P	**Pn**	**18 25 59.5**	**-0.3**
HIZ	**Hauiti**	**2.94**	**322**	P	**Pn**	**18 26 02.0**	**+1.8**
HIZ	**Hauiti**	**2.94**	**322**	P	**Pn**	**18 26 01.9**	**+1.8**
PKE	**Pukeiti**	**2.95**	**303**	P	**Pn**	**18 26 03.6**	**+3.2**
WHRZ	**Whale Island**	**2.99**	**357**	P	**Pn**	**18 26 01.9**	**+0.9**
PKGZ	**Pakihiroa**	**3.04**	**14**	P	**Pn**	**18 26 01.7**	**+0.2**
HAZ	**Te Kaha**	**3.12**	**9**	P	**Pn**	**18 26 03.9**	**+1.2**
WMGZ	**Waiomatatini S**	**3.18**	**18**	P	**Pn**	**18 26 03.8**	**+0.4**
TKNZ	**Takaka Hill**	**3.20**	**265**	P	**Pn**	**18 26 04.6**	**+0.9**
MRNZ	**Matariki Terra**	**3.38**	**259**	P	**Pn**	**18 26 06.5**	**+0.3**
QRZ	**Quartz Range**	**3.52**	**269**	P	**Pn**	**18 26 08.6**	**+0.4**
AMCZ	**Amberley**	**4.09**	**234**	P	**Pn**	**18 26 20.0**	**+4.0**
AKCZ	**Akaroa Harbour**	**4.37**	**225**	P	**Pn**	**18 26 20.5**	**+0.6**
MQZ	**McQueen's Vall**	**4.40**	**228**	P	**Pn**	**18 26 23.9**	**+3.6**
INZ	**Inchbonnie**	**4.67**	**244**	P	**Pn**	**18 26 29.0**	**+5.0**
WACZ	**Wakanui South**	**5.01**	**230**	P	**Pn**	**18 26 31.3**	**+2.7**
WVZ	**Waitaha Valley**	**5.29**	**243**	P	**Pn**	**18 26 38.9**	**+6.5**
CTZ	**Chatham Island**	**5.43**	**124**	P	**Pn**	**18 26 35.8**	**+1.4**
TMZ	**Timaru**	**5.76**	**230**	P	**Pn**	**18 26 40.4**	**+1.5**

WEL 23 18:53:31.7±0.6, 42°S±4°×17°4E±°, h8km±3km, M3.3/24, ML3.3/15, MLv3.0/24, Error ellipse: s-maj=0.0km s-min=0.0km az=128.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**252**	P	Pg	18 53 36.3	+0.6
KHZ				S	Sg	18 53 40.2	+1.7
BSWZ	**Blackbirch Sta**	**0.64**	**5**	P	Pg	18 53 44.0	0.0
BSWZ				S	Sb	18 53 53.6	-0.7
CMWZ	**Cape Campbell**	**0.68**	**27**	P	Pb	18 53 46.1	+0.3
GVZ	**Greta Valley S**	**0.83**	**222**	P	Pb	18 53 48.9	+0.4
THZ	**Tophouse**	**0.89**	**311**	P	Pg	18 53 48.8	0.0
TUWZ	**Tuamarina**	**0.93**	**7**	P	Pg	18 53 49.4	-0.1
AMCZ	**Amberley**	**1.18**	**225**	P	Pg	18 53 53.4	-0.9
NNZ	**Nelson**	**1.18**	**345**	P	Pg	18 53 53.5	-0.7
TCW	**Tory Channel**	**1.20**	**18**	P	Pb	18 53 53.1	-1.5
LTZ	**Lake Taylor**	**1.20**	**249**	P	Pb	18 53 54.2	-0.6
MRNZ	**Matariki Terra**	**1.23**	**321**	P	Pb	18 53 55.1	-0.1
WEL	**Wellington**	**1.29**	**35**	P	Pn	18 53 54.5	-1.6
PLWZ	**Palliser**	**1.34**	**55**	P	Pn	18 53 53.2	-3.6
MSWZ	**Moikau Station**	**1.43**	**50**	P	Pn	18 53 55.7	-2.3
TKNZ	**Takaka Hill**	**1.46**	**334**	P	Pn	18 53 58.1	-0.3
OKCZ	**Okains Bay**	**1.47**	**201**	P	Pn	18 53 56.9	-1.7
DUWZ	**D'Urville Isla**	**1.55**	**4**	P	Pn	18 53 58.5	-1.2
PAWZ	**Paruwai Farm**	**1.56**	**52**	P	Pn	18 53 57.2	-2.6
CAW	**Cannon Point**	**1.57**	**38**	P	Pn	18 53 58.0	-1.9
MQZ	**McQueen's Vall**	**1.59**	**211**	P	Pn	18 53 58.0	-2.2
DSZ	**Dennistone Nort**	**1.60**	**292**	P	Pb	18 54 01.4	-0.2
OXZ	**Oxford**	**1.62**	**232**	P	Pn	18 53 59.2	-1.4
AKCZ	**Akaroa Harbour**	**1.65**	**203**	P	Pn	18 53 59.2	-1.9
KIW	**Kapiti Island**	**1.71**	**30**	P	Pn	18 54 00.3	-1.5
MTW	**Mount Morrison**	**1.75**	**47**	P	Pn	18 53 59.8	-2.6
INZ	**Inchbonnie**	**1.78**	**257**	P	Pn	18 54 02.3	-0.5
QRZ	**Quartz Range**	**1.80**	**328**	P	Pn	18 54 03.3	+0.5
OGWZ	**Otaki Gorge**	**1.85**	**24**	P	Pn	18 54 01.9	-1.8
HOWZ	**Holdsworth Sta**	**1.94**	**42**	P	Pn	18 54 02.7	-2.3
TMWZ	**Te Maipa**	**2.00**	**52**	P	Pn	18 54 03.0	-2.9
MHCZ	**Mount Hutt**	**2.02**	**233**	P	Pn	18 54 04.6	-1.5
WACZ	**Wakanui South**	**2.14**	**221**	P	Pn	18 54 06.0	-1.7
MRZ	**Mangatainoka R**	**2.16**	**39**	P	Pn	18 54 05.6	-2.4
WVZ	**Waitaha Valley**	**2.37**	**251**	P	Pn	18 54 10.6	-0.2
RPZ	**Rata Peaks**	**2.43**	**235**	P	Pn	18 54 09.9	-1.9
BFZ	**Birch Farm**	**2.49**	**49**	P	Pn	18 54 09.4	-3.1
ARCZ	**Arundel**	**2.49**	**229**	P	Pn	18 54 11.0	-1.6
KHEZ	**Kahui Hut**	**3.06**	**3**	P	Pn	18 54 23.3	+2.8
PKE	**Pukeiti**	**3.16**	**3**	P	Pn	18 54 24.4	+2.6
VRZ	**Vera Road**	**3.31**	**13**	P	Pn	18 54 24.1	+0.4
WNVZ	**Wahianoa**	**3.32**	**25**	P	Pn	18 54 23.1	-1.0
NGZ	**Ngauruhoe**	**3.46**	**24**	P	Pn	18 54 26.3	+0.3
SNVZ	**South Ngauruho**	**3.46**	**25**	P	Pn	18 54 25.3	-0.8
OTVZ	**Oturere**	**3.49**	**25**	P	Pn	18 54 25.6	-0.8
ETVZ	**East Tongariro**	**3.53**	**25**	P	Pn	18 54 25.9	-1.0
ODZ	**Otahua Downs**	**3.53**	**219**	P	Pn	18 54 25.2	-1.7
TMVZ	**Te Maari**	**3.54**	**25**	P	Pn	18 54 26.1	-1.1
HIZ	**Hauiti**	**3.92**	**12**	P	Pn	18 54 32.4	+0.2
RAHZ	**Arahi**	**4.25**	**37**	P	Pn	18 54 38.6	+1.8
KUZ	**Kuaotunu**	**5.79**	**16**	P	Pn	18 55 02.7	+4.7

MDD ***23*** *18:53:50.7±0.9, 35.61N×3.79W, h1km±5km, mb_Lg2.5/5, Error ellipse: s-maj=8.3km s-min=4.4km az=31.0*
CNRM ***23*** *18:53:51.3, 35.67N×3.71W, h23km, ml2.0*

ISC 23 18:53:50.8±1.2, 35.62N±0.02×3.70W±0.03, h11km±10km, n18, σ1§17/34, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.45**	**206**	P	**Pb**	**18 54 01.3**	**+0.7**
PALE				S	**Sb**	**18 54 07.6**	**+0.2**
EALB	**Alboran**	**0.63**	**59**	Pg	**Pg**	**18 54 03.3**	**+0.3**
EALB				Sg	**Sb**	**18 54 14.3**	**+1.7**
EALB				*i* Vmb_Lg		18 54 15.9	
EMEL	**Melilla**	**0.69**	**117**	Pg	**Pg**	**18 54 04.3**	**+0.2**
EMEL				Sg	**Sg**	**18 54 12.8**	**-0.3**
EMEL				*i* Vmb_Lg		18 54 14.1	
AKLM	**AKL**	**1.11**	**187**	P	**Pn**	**18 54 12.9**	**+0.4**
AKLM				S	**Sb**	**18 54 27.1**	**+0.4**
ELGU	**Los Guajares,**	**1.25**	**3**	Pn	**Pb**	**18 54 14.2**	**-0.3**
ELGU				Sn	**Sg**	**18 54 30.1**	**-0.9**
ELGU				*i* Vmb_Lg		18 54 45.1	
EMIJ	**Mijas**	**1.28**	**318**	Pn	**Pb**	**18 54 15.2**	**+0.2**
EMIJ				Sn	**Sb**	**18 54 29.9**	**-1.5**
EMIJ				*i* Vmb_Lg		18 54 32.0	
TAF	**Taforalt**	**1.33**	**127**	P	**Pn**	**18 54 14.5**	**-0.9**
TAF				S	**Sb**	**18 54 33.0**	**+0.2**
CHEFC	**Chefchaouen**	**1.43**	**250**	P	**Pn**	**18 54 16.6**	**-0.2**
CHEFC				S	**Sb**	**18 54 34.3**	**-1.6**
EBER	**Berja**	**1.44**	**27**	Pn	**Pg**	**18 54 18.2**	**-0.1**
EBER				Sn	**Sg**	**18 54 36.6**	**-0.4**
EBER				*i* Vmb_Lg		18 54 44.7	
EGOR	**Sierra Gorda,**	**1.52**	**348**	Pn	**Pn**	**18 54 18.5**	**+0.3**
EGOR				Sn	**Sn**	**18 54 38.6**	**+0.6**
JBK	**JBK**	**1.58**	**144**	P	**Pn**	**18 54 17.9**	**-1.1**
JBK				S	**Sn**	**18 54 39.6**	**0.0**
EQES	**Quesada**	**2.24**	**13**	Pg	**Pb**	**18 54 30.7**	**-0.6**
EQES				Sn	**Sn**	**18 54 56.3**	**+0.7**
EADA	**Adamuz**	**2.64**	**345**	Pn	**Pn**	**18 54 34.6**	**+1.2**
EADA				Sn	**Sn**	**18 55 02.5**	**-2.9**
MD31	**MD31**	**2.88**	**198**	P	**Pn**	**18 54 37.3**	**+0.6**
MD31				S	**Sn**	**18 55 11.4**	**-0.1**
PVAQ	**Vaqueiros**	**3.69**	**300**	*e*Pn	**Pn**	**18 54 50.1**	**+2.3**
PVAQ				*e*Sn	**Sn**	**18 55 30.3**	**-1.0**
PVAQ				A	A	18 55 33.3	
	2.6nm,0.7s						
PBAR	**Barrancos**	**3.69**	**315**	*e*Pn	**Pn**	**18 54 51.2**	**+3.4**
PBAR				*e*Sn	**Sn**	**18 55 30.7**	**-0.7**
PBAR				A	A	18 55 46.5	
	1.8nm,0.7s						
PCVE	**Castro Verde**	**4.03**	**301**	*e*Sn	**Sn**	**18 55 39.3**	**-0.2**
PCVE				A	A	18 56 02.5	
	2.2nm,0.6s						
PNCL	**Nicolau / Gran**	**4.60**	**304**	*e*Pn	**Pn**	**18 55 00.3**	**0.0**

WEL 23 18:54:53.5±1.1, 37°S±6°×17°8E±°, h30km±6km, M3.3/42, ML3.6/30, MLv3.3/42, Error ellipse: s-maj=0.0km s-min=0.0km az=57.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.36**	**176**	P	Pn	18 55 02.8	+0.2
MXZ	**Matakaoa Point**	**0.36**	**176**	P	Pn	18 55 02.7	+0.1
MXZ				S	Sn	18 55 09.0	+0.3
WMGZ	**Waiomatatini S**	**0.62**	**170**	P	Pn	18 55 07.0	+0.7
WMGZ				S	Sn	18 55 17.6	+2.3
HAZ	**Te Kaha**	**0.68**	**216**	P	Pb	18 55 06.8	0.0
HAZ				S	Sn	18 55 17.7	+1.1
PKGZ	**Pakihiroa**	**0.70**	**193**	P	Pn	18 55 07.7	+0.3
PKGZ				S	Sn	18 55 18.3	+1.0
PUZ	**Puketiti**	**0.86**	**181**	P	Pn	18 55 09.8	+0.1
PUZ				S	Sn	18 55 21.9	+0.6
RUGZ	**Raukumara Rang**	**0.90**	**212**	P	Pn	18 55 10.0	-0.2
RUGZ				S	Sb	18 55 23.2	+1.0
TWGZ	**Tauwhareparae**	**1.00**	**194**	P	Pb	18 55 11.9	-0.3
WHRZ	**Whale Island**	**1.22**	**238**	P	Pn	18 55 14.6	0.0
MWZ	**Matawai**	**1.27**	**208**	P	Pn	18 55 15.4	+0.1
CNGZ	**Carnagh Statio**	**1.28**	**183**	P	Pn	18 55 15.1	-0.2
TKGZ	**Te Karaka**	**1.28**	**195**	P	Pn	18 55 15.2	-0.1
URZ	**Urewera**	**1.40**	**221**	P	Pn	18 55 16.4	-0.6
RAGZ	**Rawiri**	**1.46**	**208**	P	Pn	18 55 18.0	+0.1
MARZ	**Manawahe**	**1.49**	**238**	P	Pn	18 55 17.8	-0.5
OPRZ	**Ohinepanea**	**1.51**	**245**	P	Pn	18 55 18.2	-0.3
EDRZ	**Edgecumbe**	**1.52**	**233**	P	Pn	18 55 18.4	-0.3
RIGZ	**Rimuhau**	**1.55**	**195**	P	Pn	18 55 18.5	-0.6
MYRZ	**Mayor Island**	**1.63**	**267**	P	Pn	18 55 19.9	-0.3
MKRZ	**Makatiti**	**1.71**	**237**	P	Pn	18 55 21.3	-0.1
SNGZ	**Shannon Statio**	**1.74**	**205**	P	Pn	18 55 21.4	-0.3
RTZ	**Ruatahuna**	**1.74**	**216**	P	Pn	18 55 21.3	-0.5
TARZ	**Mount Tarawera**	**1.74**	**233**	P	Pn	18 55 21.7	-0.1
MUGZ	**Murupara**	**1.74**	**223**	P	Pn	18 55 21.2	-0.5
OMRZ	**Omania**	**1.76**	**239**	P	Pn	18 55 23.1	+1.1
KARZ	**Kaharoa**	**1.81**	**243**	P	Pn	18 55 22.3	-0.3
HLRZ	**Highlands Stat**	**1.85**	**235**	P	Pn	18 55 23.9	+0.7
KNZ	**Kokohu**	**1.87**	**195**	P	Pn	18 55 21.9	-1.6
HSRZ	**Hossack Road**	**1.95**	**235**	P	Pn	18 55 25.7	+1.0
MHGZ	**Mahia Peninsul**	**1.96**	**188**	P	Pn	18 55 23.5	-1.3
HRRZ	**Handcock Road**	**1.97**	**233**	P	Pn	18 55 26.1	+1.2
MTHZ	**Maungataniwha**	**2.00**	**214**	P	Pn	18 55 24.9	-0.3
WHHZ	**Waihua**	**2.04**	**203**	P	Pn	18 55 25.6	-0.3
ALRZ	**Allen Road**	**2.04**	**228**	P	Pn	18 55 26.0	+0.2
GRRZ	**Galatos Road**	**2.06**	**236**	P	Pn	18 55 27.0	+0.9
KUZ	**Kuaotunu**	**2.10**	**282**	P	Pn	18 55 26.5	-0.1
MRHZ	**Matea Rd**	**2.19**	**222**	P	Pn	18 55 28.0	+0.1
NMHZ	**Naumai**	**2.21**	**211**	P	Pn	18 55 28.2	-0.1
TOZ	**Tahuroa Road**	**2.27**	**256**	P	Pn	18 55 28.8	-0.2
ARHZ	**Arapoaanui**	**2.29**	**206**	P	Pn	18 55 28.6	-0.7
BKZ	**Black Stump Fm**	**2.41**	**215**	P	Pn	18 55 30.5	-0.4
TLZ	**Tolley Road**	**2.44**	**242**	P	Pn	18 55 32.0	+0.6
GRZ	**Great Barrier**	**2.46**	**292**	P	Pn	18 55 32.0	+0.4
MKAZ	**Moumakai**	**2.49**	**271**	P	Pn	18 55 32.2	+0.2
WIAZ	**Waiheke Island**	**2.55**	**278**	P	Pn	18 55 33.1	+0.3
MCHZ	**McNeill Hill**	**2.56**	**209**	P	Pn	18 55 32.0	-0.9
RATZ	**Rangitukua**	**2.58**	**229**	P	Pn	18 55 34.0	+0.7
CKHZ	**Cape Kidnapper**	**2.62**	**201**	P	Pn	18 55 31.9	-2.0
KWHZ	**Kaweka Forest**	**2.65**	**213**	P	Pn	18 55 33.2	-1.0
KATZ	**Kakaramea**	**2.70**	**228**	P	Pn	18 55 35.4	+0.5
MBAZ	**Motutapu North**	**2.74**	**278**	P	Pn	18 55 36.1	+0.7
TMVZ	**Te Maari**	**2.78**	**226**	P	Pn	18 55 36.2	0.0
NTVZ	**North Tongarir**	**2.79**	**227**	P	Pn	18 55 36.3	+0.1
ETVZ	**East Tongariro**	**2.79**	**226**	P	Pn	18 55 36.2	-0.1
KRVZ	**Karewarewa**	**2.81**	**227**	P	Pn	18 55 36.7	+0.2
KAHZ	**Kahuranaki**	**2.81**	**203**	P	Pn	18 55 34.6	-1.9
ABAZ	**Army Bay**	**2.83**	**281**	P	Pn	18 55 37.4	+0.8
OTVZ	**Oturere**	**2.84**	**226**	P	Pn	18 55 36.9	0.0
NNVZ	**North Ngauruho**	**2.85**	**227**	P	Pn	18 55 37.4	+0.3
BHHZ	**Black Hill Sta**	**2.87**	**217**	P	Pn	18 55 36.4	-0.9
SNVZ	**South Ngauruho**	**2.87**	**226**	P	Pn	18 55 37.2	-0.1
NGZ	**Ngauruhoe

	comp=E,429nm,0.5s							
PVMO				IAML		19 20 17.2		
	comp=N,250nm,0.2s							
SJMO	**Saint John's B**	**0.15**	**51**		**Pg**	19 20 14.5		0.0
SJMO					Sg	19 20 17.4		+0.3
KEWM	**Kewanee**	**0.16**	**7**		**Pg**	19 20 14.8		0.0
KEWM					Sg	19 20 17.7		+0.2
PARMO	**Parma**	**0.17**	**319**	Pg	Pg	19 20 14.8		0.0
PARMO				IAML		19 20 18.0		
	comp=E,265nm,0.3s							
COKM	**Charter Oak**	**0.19**	**333**		**Pg**	19 20 15.3		+0.1
COKM					Sg	19 20 18.7		+0.5
WYBT	**Wynnburg**	**0.21**	**153**		**Pg**	19 20 15.6		+0.1
WYBT					Sb	19 20 19.5		-0.6
TOPM	**Tallapoosa**	**0.22**	**267**		**Pg**	19 20 15.7		+0.1
TOPM					Sg	19 20 19.4		+0.5
WADM	**Wardell**	**0.22**	**220**		**Pg**	19 20 15.8		+0.1
WADM					Sg	19 20 19.5		+0.5
MATM	**Matthews**	**0.24**	**2**		**Sg**	19 20 19.9		+0.5
MLDM	**Malden**	**0.26**	**290**		**Pg**	19 20 16.4		+0.1
FLPT	**Flippin**	**0.27**	**118**		**Sg**	19 20 16.6		+0.1
FLPT					Sg	19 20 21.0		+0.6
EPRM	**East Prairie**	**0.28**	**49**		**Pg**	19 20 16.7		+0.1
DWDM	**Dogwood**	**0.28**	**21**		**Pg**	19 20 16.7		+0.1
DWDM					Sg	19 20 21.1		+0.5
HICK	**Hickman**	**0.31**	**89**	Pg	Pg	19 20 16.7		-0.5
HICK				IAML		19 20 23.5		
	comp=E,145nm,0.2s							
BRNM	**Bernie**	**0.36**	**301**		**Pg**	19 20 18.1		+0.1
BETM	**Bethany**	**0.36**	**282**		**Pg**	19 20 18.3		+0.2
CHRM	**Charleston**	**0.38**	**33**		**Pg**	19 20 18.4		0.0
GLAT	**Glass**	**0.38**	**135**	Pg	Pg	19 20 18.4		0.0
GLAT				IAML		19 20 25.9		
	comp=N,90nm,1.6s							
LNXT	**Lenox**	**0.45**	**167**	Pg	Pg	19 20 19.3		-0.3
LNXT				IAML		19 20 33.1		
	comp=N,86nm,1.6s							
PEBM	**Pemiscott Bayo**	**0.47**	**205**	Pg	Pg	19 20 19.8		-0.2
PEBM				IAML		19 20 27.5		
	comp=N,71nm,1.8s							
PEBM				IAML		19 20 27.7		
	comp=E,64nm,0.8s							
UTMT	**University of**	**0.64**	**107**	Pg	Pg	19 20 22.8		-0.4
CGM3	**Cape Girardeau**	**0.76**	**358**	Sg	Sg	19 20 34.9		-0.7
S44A	**Carbondale**	**1.19**	**14**		Pn	19 20 32.1		-0.9
S44A				IAML		19 20 48.6		
	comp=N,16nm,0.2s							
S44A				IAML		19 20 51.1		
	comp=E,18nm,0.1s							
T42A	**Van Buren**	**1.28**	**293**	Pn	Pn	19 20 34.0		-0.2
T42A					Sb	19 20 50.5		-0.5
LCAR	**Lake Charles**	**1.33**	**250**	Pn	Pn	19 20 34.3		-0.5
LCAR				IAML		19 20 56.1		
	comp=N,14nm,2.3s							
W45A	**Hickory Valley**	**1.42**	**166**	Sn	Sb	19 20 54.9		-0.1
PLAL	**Pickwick Lake**	**1.99**	**141**	Pn	Pn	19 20 44.4		+0.4
CCM	**Cathedral Cave**	**2.00**	**320**	Pn	Pn	19 20 44.9		+0.9

IDC 23 19:23:15.1±1.9, 6°.81S×128°.66E, h224km±27km, mb2.9/1, mbtmp3.3/5, Error ellipse: s-maj=35.1km s-min=20.7km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.98**	**235**	P	Pn	19 24 42.6	+0.1
	3.5nm,0.3s,baz=56,slow=7.3,SNR=2.3						
BATI				S	S	19 25 45.2	-6.9
	9.6nm,0.8s,baz=55,slow=16,SNR=2.4						
SIJI	**Sorong**	**6.45**	**24**	P	Pn	19 24 48.5	-0.1
	1.3nm,0.4s,baz=243,slow=22,SNR=6.9						
SIJI				S	S	19 25 58.9	-4.1
	2.1nm,0.7s,baz=216,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**14.17**	**158**	P	Pn	19 26 26.6	+0.3
	0.2nm,0.5s,baz=334,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**17.50**	**164**	P	P	19 27 04.0	-0.1
	0.3nm,0.5s,baz=343,slow=9.9,SNR=7.2						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	19 33 46.2	0.0
	0.4nm,0.7s,baz=136,slow=7.9,SNR=2.2						
	0.4nm,0.7s						

HEL 23 19:38:49.5±0.1, 67°.79N×33°.74E, h0km, ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.36**	**73**	*e*P	Pg	19 38 55.7	-0.7
LVZ				*e*S	Sg	19 39 01.1	0.0
VRF	**Varrio**	**1.57**	**270**	*e*P	Pn	19 39 17.3	-1.3
VRF				*e*S	Sn	19 39 38.2	-1.4
VRF				MSG		19 39 41.9	
	comp=Z,1.5nm,0.1s						
OLKF	**Oulanka, Finla**	**2.25**	**231**	*e*P	Pn	19 39 28.3	+0.3
OLKF				*e*S	Sn	19 39 55.8	-0.6
OLKF				MSG		19 39 59.1	
	comp=Z,0.7nm,0.1s						
KU6	**Riekki**	**2.33**	**222**	*e*P	Pn	19 39 27.6	-1.5
KU6				*e*S	Sn	19 39 56.8	-1.7
MSF	**Maaselka**	**2.65**	**227**	*e*P	Pn	19 39 33.7	+0.3
MSF				*e*S	Sn	19 40 05.8	-0.3
MSF				MSG		19 40 09.3	
	comp=Z,0.7nm,0.1s						
SGF	**Sodankyl**	**2.78**	**266**	*e*PB	Pb	19 39 37.7	-2.3
SGF				*e*SB	Sb	19 40 12.2	-2.4
RNF	**Rovaniemi**	**3.23**	**252**	*e*P	Pn	19 39 40.9	-0.5
RNF				*e*S	Sn	19 40 19.6	-0.9
ARA0	**ARCESS Array S**	**3.48**	**304**	*e*P	Pn	19 39 45.0	+0.2
ARA0				*e*S	Sn	19 40 25.9	-0.7

BER 23 19:39:46.8±1.6, 66°.47N×14°.60E, h0km, ML1.0, Explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONS	**Konsvik**	**0.59**	**274**	*e*P	Pg	19 39 56.8	-1.4
KONS				*e*S	Sg	19 40 05.8	0.0
KONS				IAML		19 40 08.9	
	comp=Z,6.3nm,0.3s						
STOK	**Stokkvaagen**	**0.65**	**259**	*e*P	Pg	19 39 58.1	-1.1
STOK				*e*S	Sg	19 40 07.8	+0.2
FAUS	**Fauske**	**0.96**	**16**	*e*P	Pg	19 40 03.0	-2.2
FAUS				*e*S	Sg	19 40 17.2	-0.4
FAUS				IAML		19 40 22.1	
	comp=Z,3.7nm,0.2s						
STEI	**Steigen**	**1.49**	**9**	*e*P	Pn	19 40 13.1	-1.7
STEI				*e*Sg	Sg	19 40 34.4	-0.3
STEI				IAML		19 40 39.2	
	comp=Z,2.9nm,0.3s						
LOF	**Lofoten**	**1.72**	**347**	*e*P	Pn	19 40 15.1	-2.8
LOF				*e*Sg	Sn	19 40 39.7	-0.9
LOF				IAML		19 40 40.3	
	comp=Z,5.4nm,0.8s						
SALU	**Saltoluokta**	**1.79**	**57**	*e*P	Pn	19 40 17.6	-1.4

IDC 23 19:40:53.4±2.0, 37°.42N×141°.74E, h0km, mb3.3/4, mbtmp3.3/5, ML1.9/1, Error ellipse: s-maj=44.2km s-min=28.9km az=58.0
JMA 23 19:40:55.9±0.2, 37°.3N±0°.4×141°.6E±1°.0, h33km±1km, MV3.1/31, E OFF FUKUSHIMA PREF
ISC 23 19:40:56.9±2.3, 37°.35N±0°.05×141°.5E±0°.1, h24km±14km, n18, σ1^{s}26/20, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**272**	P	**Pb**	**19 41 07.4**	**0.0**
JFK				*e*S	**Sb**	**19 41 15.4**	**+0.9**
JMST	**Minamisoumatoc**	**0.63**	**307**	P	**Pn**	**19 41 09.1**	**-1.2**
JMST				S	**Sb**	**19 41 18.5**	**+0.9**
JMM	**Marumori**	**0.77**	**312**	P	**Pn**	**19 41 11.4**	**-0.9**
JMM				S	**Sn**	**19 41 22.6**	**-0.6**
JFFD	**Fukushimafurud**	**0.81**	**252**	P	**Pn**	**19 41 11.8**	**-1.1**
JFFD				*e*S	**Sn**	**19 41 22.8**	**-1.3**
JHO	**Hitachi**	**1.06**	**226**	P	**Pn**	**19 41 14.9**	**-1.3**
JHO				*e*S	**Sn**	**19 41 28.9**	**-1.4**
JIO	**Ouri**	**1.11**	**353**	P	**Pn**	**19 41 15.8**	**-1.2**
JIO				*e*S	**Sn**	**19 41 30.3**	**-1.2**
JOU	**Okura**	**1.22**	**326**	P	**Pb**	**19 41 18.9**	**-0.5**
JOU				*e*S	**Sb**	**19 41 35.7**	**+1.1**
MJAR	**Matsushiro Arr**	**2.77**	**254**	Pn	**Pn**	**19 41 41.8**	**+2.0**
	0.2nm,0.3s,baz=68,slow=16,SNR=3.4						
MJAR				Sn	**Sb**	**19 42 17.5**	**-1.9**
	0.4nm,0.3s,baz=225,slow=5.4,SNR=6.1						
	1.7nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	20 16 12.9	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	20 16 13.2	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	20 16 13.9	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.96**	**124**	T	T	20 17 07.1	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.96**	**124**	T	T	20 17 07.5	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	20 17 08.6	
	baz=316						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**19 49 03.6**	**+1.1**
	0.6nm,0.8s,baz=80,slow=10,SNR=2.4						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**45.88**	**308**	P	**P**	**19 49 17.7**	**+0.6**
	0.2nm,0.4s,baz=81,slow=7.6,SNR=4.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**57.39**	**188**	P	**P**	**19 50 44.1**	**+0.7**
	0.3nm,0.8s,baz=3.9,slow=7.1,SNR=2.2						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**61.11**	**188**	P	**P**	**19 51 09.9**	**+0.8**
	0.3nm,0.9s,baz=19,slow=5.9,SNR=1.5						
	0.3nm,0.9s						

IDC 23 19:44:31.5±1.0, 24°.42N×99°.48E, h0km, mb3.5/7, mbtmp3.5/8, ML3.9/1, MS3.4/7, Error ellipse: s-maj=36.8km s-min=15.2km az=74.0
NEIC 23 19:44:32.4±0.9, 24°.4N±0°.1×99°.3E±0°.1, h10km±2km, mb4.4/3, Error ellipse: s-maj=25.3km s-min=4.8km az=48.0
ISC 23 19:44:32.4±0.6, 24°.31N±0°.04×99°.17E±0°.05, h7km, n38, σ1^{s}32/39, mb3.6/10, MS3.5/7, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCH	**TengChong**	**0.93**	**321**	Pg	**Pg**	**19 44 48.4**	**-1.9**
TNCH				Sg	**Sg**	**19 45 00.9**	**-1.5**
TNCH				smax	smax		
	comp=N,19μm,0.5s						
TNCH				smax	smax		
	comp=E,7μm,0.6s						
TNCH				LR	LR		
	comp=N,14μm,2.1s						
TNCH				LR	LR		
	comp=E,8μm,2.3s						
PZH	**PanZhiHua**	**3.19**	**46**	Pn	**Pn**	**19 45 21.3**	**-1.8**
PZH				Pg	**Pb**	**19 45 30.6**	**+1.1**
PZH				Sg	**Sb**	**19 46 09.4**	**+0.7**
PZH				smax	smax		
	comp=N,300nm,0.8s						
PZH				smax	smax		
	comp=E,390nm,1.0s						
PZH				LR	LR		
	comp=N,3μm,10.5s						
PZH				LR	LR		
	comp=E,3μm,8.1s						
PZH				LR	LR		
	comp=Z,430nm,9.5s						
KMI	**Kunming**	**3.35**	**75**	⇓Pn	**Pn**	**19 45 24.9**	**-0.4**
KMI				Pg	**Pb**	**19 45 31.8**	**-0.4**
KMI				Sg	**Sb**	**19 46 15.4**	**+2.2**
KMI				smax	smax		
	comp=N,420nm,1.1s						
KMI				smax	smax		
	comp=E,290nm,1.1s						
KMI				LR	LR		
	comp=N,3μm,6.5s						
KMI				LR	LR		
	comp=E,770nm,6.3s						
KMI				LR	LR		
	comp=Z,550nm,5.3s						
MND	**Mandalay**	**3.62**	**232**		**Pn**	**19 45 30.0**	**+1.2**
CHTO	**Chiang Mai**	**5.47**	**182**		**Pn**	**19 45 54.8**	**+0.4**
CM31	**Chiang Mai Arr**	**5.83**	**182**	Pn	**Pn**	**19 45 59.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**5.83**	**182**	Pn	**Pn**	**19 46 00.1**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=358,slow=13,SNR=61						
CMAR				Pg	**Pg**	**19 46 21.6**	**-2.4**
	comp=Z,26nm,0.3s,baz=358,slow=17,SNR=73						
CMAR				Lg	Lg	19 47 39.6	
	comp=Z,13nm,0.3s,baz=11,slow=30,SNR=11						
	comp=Z,3.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**5.83**	**182**		**Pn**	**19 45 59.6**	**+0.3**
PHRA	**Phrae**	**5.86**	**170**	Pn	**Pn**	**19 45 59.9**	**+0.1**
SHL	**Shillong**	**6.73**	**282**	Pn	**Pn**	**19 46 12.2**	**+0.4**
LSA	**Lhasa**	**8.94**	**309**	Pn	**Pn**	**19 46 42.6**	**+0.1**
TAPN	**Taplejung**	**10.76**	**289**	*e*P	**Pn**	**19 47 06.9**	**-0.3**
	comp=Z,11nm,0.6s						
RAMN	**Ramite**	**11.64**	**286**	*e*P	**Pn**	**19 47 18.9**	**-0.3**
	comp=Z,9.7nm,0.6s						
JIRN	**Jiri**	**12.14**	**289**	*e*P	**Pn**	**19 47 24.9**	**-1.3**
	comp=Z,8.9nm,0.7s						
GUN	**Gumba**	**12.47**	**290**	*e*P	**Pn**	**19 47 29.6**	**-1.0**
	comp=Z,35nm,0.9s						
PKI	**Pulchoki**	**12.80**	**288**	*e*P	**Pn**	**19 47 34.4**	**-0.8**
	comp=Z,12nm,0.7s						
PKIN	**Phulchoki**	**12.81**	**288**	*e*P	**Pn**	**19 47 34.0**	**-1.3**
	comp=Z,11nm,0.7s						
KKN	**Kakani**	**12.96**	**288**	*e*P	**Pn**	**19 47 36.3**	**-0.9**
DMN	**Daman**	**13.07**	**288**	*e*P	**Pn**	**19 47 38.0**	**-0.8**
GKN	**Gorkha**	**13.56**	**289**	*e*P	**Pn**	**19 47 45.1**	**-0.2**
	comp=Z,9.8nm,0.7s						
DANN	**Dangsing**	**14.39**	**290**	*e*P	**Pn**	**19 47 56.7**	**-0.2**
	comp=Z,10nm,0.7s						
WMQ	**Urumqi**	**21.62**	**337**	*e*P	**P**	**19 49 22.8**	**-0.3**
SONM	**Songino Array**	**24.17**	**12**	P	**P**	**19 49 48.0**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=212,slow=7.8,SNR=2.9						
	comp=Z,0.4nm,0.6s						
NIL	**Nilore**	**24.45**	**298**	P	**P**	**19 49 52.0**	**0.0**
NIL				IAmb	IAmb	19 49 59.3	
	comp=Z,12nm,1.2s						
KSH	**Kashi**	**24.75**	**313**	P	**P**	**19 49 58.8**	**+4.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,2.3s						
MKAR	**Makanchi Array**	**26.20**	**333**	P	**P**	**19 50 08.3**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=133,slow=11,SNR=5.9						
MKAR				LR	LR	20 02 47.3	
	comp=Z,40nm,21.0s,baz=206,slow=42						
	comp=Z,1.1nm,0.7s						
KBL	**Kabul**	**28.06**	**298**	P	**P**	**19 50 26.3**	**+1.6**
KBL				IAmb	IAmb	19 50 32.0	
	comp=Z,2.9nm,0.5s						
KURBB	**Kurchatov Arra**	**30.75**	**334**	P	**P**	**19 50 46.9**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=141,slow=8.9,SNR=1.9						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**31.50**	**344**	P	**P**	**19 50 53.2**	**-1.5**
BVAR	**Borovoye Array**	**35.98**	**330**	P	**P**	**19 51 35.2**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=140,slow=9.4,SNR=2.3						
BVAR				LR	LR	20 07 30.7	
	comp=Z,67nm,18.9s,baz=123,slow=38						
	comp=Z,0.6nm,0.8s						
GEYT	**Alibeck**	**37.38**	**301**	P	**P**	**19 51 47.9**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=111,slow=7.9,SNR=4.3						
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**50.26**	**12**	LR	LR	20 15 31.0	
	comp=Z,64nm,19.7s,baz=268,slow=37						
WRA	**Warramunga Arr**	**55.75**	**139**	P	**P**	**19 54 08.9**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=328,slow=7.4,SNR=5.7						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**58.39**	**142**	P	**P**	**19 54 29.4**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=327,slow=7.8,SNR=3.5						
	comp=Z,0.4nm,0.9s						
AKASG	**Malin Array Be**	**59.01**	**316**	LR	LR	20 23 20.8	
	comp=Z,38nm,18.2s,baz=40,slow=39						
HFS	**Hagfors**	**67.02**	**327**	LR	LR	20 27 25.2	
	comp=Z,29nm,19.6s,baz=81,slow=38						
VRAC	**Vranov**	**67.25**	**315**	LR	LR	20 30 11.1	
	comp=Z,31nm,18.2s,baz=94,slow=41						
NOA	**NORSAR Array B**	**68.07**	**328**	LR	LR	20 29 36.9	
	comp=Z,25nm,18.9s,baz=120,slow=40						

IDC 23 19:46:46.9±1.2, 24°.35N×99°.69E, h0km, mb3.8/7, mbtmp3.8/7, MS3.4/5, Error ellipse: s-maj=39.3km s-min=17.5km az=80.0
BJI 23 19:46:47.5±0.0, 24°.36N×98°.94E, h10km, mb3.9/11, mB4.5/7, ML4.4/7, Ms4.2/12, Ms7 3.8/11
ISC 23 19:46:46.7±0.8, 24°.27N±0°.06×99°.09E±0°.05, h10km, n23, σ2^{s}12/23, mb3.8/7, MS3.5/5, 1C-2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCH	**TengChong**	**0.92**	**326**	Pg	**Pn**	**19 47 04.3**	**-1.6**
TNCH				Sg	**Sb**	**19 47 14.9**	**-2.3**
TNCH				smax	smax		
	comp=N,21μm,0.5s						
TNCH				smax	smax		
	comp=E,8μm,0.6s						
PZH	**PanZhiHua**	**3.27**	**47**	Pn	**Pn**	**19 47 36.9**	**-1.3**
PZH				Pg	**Pb**	**19 47 42.1**	**-2.9**
PZH				Sg	**Sb**	**19 48 24.1**	**-0.8**
PZH				smax	smax		
	comp=N,1μm,0.8s						
PZH				smax	smax		
	comp=E,1μm,1.0s						
PZH				LR	LR		
	comp=N,5μm,9.2s						
PZH				LR	LR		
	comp=E,4μm,8.1s						
PZH				LR	LR		
	comp=Z,1μm,6.6s						
KMI	**Kunming**	**3.43**	**75**	⇑Pn	**Pn**	**19 47 39.4**	**-1.0**
KMI				Pg	**Pb**	**19 47 48.1**	**+0.4**
KMI				Sg	**Sb**	**19 48 31.1**	**+1.6**
KMI				smax	smax		
	comp=N,1μm,1.0s						
KMI				smax	smax		
	comp=E,810nm,0.8s						
KMI				LR	LR		
	comp=E,1μm,4.9s						
KMI				LR	LR		
	comp=Z,780nm,8.9s						
CMAR	**Chiang Mai Arr**	**5.79**	**181**	Pg	**Pg**	**19 48 36.5**	**-1.1**
	24nm,0.3s,baz=358,slow=17,SNR=16						
CMAR				Lg	Lg	19 49 53.8	
	6.9nm,0.3s,baz=78,slow=3.0,SNR=5.7						
GYA	**Guiyang**	**7.19**	**71**	⇓Pn	**Pn**	**19 48 29.8**	**-2.2**
GYA				Sn	**Sn**	**19 49 52.0**	**-1.9**
GYA				LR	LR		
	comp=N,430nm,6.7s						
GYA				LR	LR		
	comp=E,590nm,5.6s						
GYA				LR	LR		
	comp=Z,520nm,7.8s						
LZH	**Lanzhou**	**12.47**	**18**	⇓P	**Pn**	**19 49 42.9**	**-1.6**
LZH				pmax	pmax		
	comp=Z,190nm,5.8s						
LZH				LR	LR		
	comp=N,520nm,8.9s						
LZH				LR	LR		
	comp=E,1μm,10.7s						
LZH				LR	LR		
	comp=Z,390nm,10.0s						
XAN	**Xi'an**	**12.97**	**39**	P	Pn	19 49 56.6	+5.4
XAN				pP		19 49 59.9	
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				LR	LR		
	comp=N,790nm,11.4s						
XAN				LR	LR		
	comp=E,980nm,11.4s						
XAN				LR	LR		
	comp=Z,480nm,9.2s						
WHN	**Wuhan**	**14.92**	**62**	P	**Pn**	**19 50 16.8**	**-0.9**
GTA	**Gaotai**	**15.11**	**2**	*e*P	**Pn**	**19 50 21.8**	**+1.4**
GTA				pP	P	19 50 26.3	+0.7
GTA				sP	sP	19 50 29.6	-0.9
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,73nm,4.7s						
GTA				LR	LR		
	comp=N,190nm,11.3s						
GTA				LR	LR		
	comp=E,160nm,11.3s						
GTA				LR	LR		
	comp=Z,150nm,12.4s						
HNS	**HongShan**	**18.70**	**42**	*e*P	**Pn**	**19 51 06.8**	**+1.2**
HNS				S	**S**	**19 54 42.3**	**+4.0**
HNS				LR	LR		
	comp=N,370nm,13.7s						
HNS				LR	LR		
	comp=E,560nm,12.4s						
HNS				LR	LR		
	comp=Z,220nm,11.6s						
WMQ	**Urumqi**	**21.63**	**337**	*e*P	**P**	**19 51 37.8**	**+0.7**
SONM	**Songino Array**	**24.22**	**12**	P	**P**	**19 52 04.7**	**+1.0**
	1.4nm,0.9s,baz=190,slow=9.4,SNR=5.9						
	1.4nm,0.9s						
PALK	**Pallekele**	**24.42**	**229**	LR	LR	20 02 37.0	
	comp=Z,95nm,18.4s,baz=158,slow=38						
MKAR	**Makanchi Array**	**26.20**	**333**	P	**P**	**19 52 23.1**	**+1.6**
	2.4nm,0.8s,baz=145,slow=10,SNR=8.6						
	2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**30.75**	**334**	P	**P**	**19 53 05.0**	**+3.0**
	0.6nm,0.6s,baz=143,slow=8.8,SNR=6.6						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**31.51**	**344**	P	**P**	**19 53 11.7**	**+2.9**
	0.6nm,0.4s,baz=156,slow=9.0,SNR=3.7						
	0.6nm,0.4s						
MJAR	**Matsushiro Arr**	**35.65**	**61**	LR	LR	20 09 41.1	
	comp=Z,81nm,18.7s,baz=253,slow=39						
BVAR	**Borovoye Array**	**35.97**	**330**	P	**P**	**19 53 51.2**	**+3.6**
	1.4nm,0.9s,baz=141,slow=9.3,SNR=4.8						
	1.4nm,0.9s						
GEYT	**Alibeck**	**37.34**	**301**	P	P	19 54 05.4	+5.9
	1.1nm,0.4s,baz=111,slow=8.1,SNR=6.2						
	1.1nm,0.4s						
JCJ	**Chichijima**	**38.80**	**76**	LR	LR	20 10 20.4	
	comp=Z,26nm,18.2s,baz=284,slow=37						
ATD	**Arta Tunnel**	**54.68**	**267**	LR	LR	20 18 13.2	
	comp=Z,40nm,21.0s,baz=60,slow=34						
WRA	**Warramunga Arr**	**55.77**	**139**	P	**P**	**19 56 23.1**	**-0.9**
	0.6nm,0.8s,baz=332,slow=7.6,SNR=3.5						
	0.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**77.01**	**325**	LR	LR	20 34 57.0	
	comp=Z,34nm,18.9s,baz=106,slow=37						

NOU 23 19:57:15.8, 43°.26S×174°.12E, h19km, MLv3.9/8, Off E. Coast of S. Island, N.Z.
WEL 23 19:57:23.9±0.3, 43°.3S±2°×17°.3E±°, h8km±2km, M3.2/28, ML3.4/22, MLv3.2/28, Error ellipse: s-maj=0.0km s-min=0.0km az=124.3
ISC 23 19:57:23.3±0.9, 42°.97S±0°.03×173°.02E±0°.04, h15km±6km, n49, σ1^{s}48/49, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.01**	**68**	P	**Pg**	**19 57 26.0**	**0.0**
GVZ				S	Sg	19 57 28.0	+0.1
AMMZ	**Amberley**	**0.34**	**233**	P	**Pb**	**19 57 31.8**	**+0.7**
AMCZ				S	**Sb**	**19 57 37.6**	**+1.2**
LTZ	**Lake Taylor**	**0.58**	**289**	P	**Pg**	**19 57 34.6**	**-0.2**
KHZ	**Kahutara**	**0.67**	**35**	P	**Pg**	**19 57 33.7**	**-2.8**
KHZ	**Kahutara**	**0.67**	**35**	P	**Pb**	**19 57 37.4**	**+0.7**
OKCZ	**Okains Bay**	**0.75**	**178**	P	**Pn**	**19 57 39.9**	**+0.5**
MQZ	**McQueen's Wall**	**0.78**	**200**	P	**Pb**	**19 57 39.4**	**+0.7**
OXZ	**Oxford**	**0.80**	**243**	P	**Pb**	**19 57 39.8**	**+0.8**
AKCZ	**Akaroa Harbour**	**0.91**	**185**	P	**Pb**	**19 57 41.8**	**+1.0**
RACZ	**Rakaia**	**0.99**	**220**	P	**Pb**	**19 57 42.6**	**+0.3**
INZ	**Inchbonnie**	**1.19**	**281**	P	**Pn**	**19 57 45.5**	**+0.2**
MHCZ	**Mount Hutt

LBZ	**Lake Benmore**	**2.50**	**235**	P	**Pn**	**19 58 03.8**	**+0.3**
LBZ				P	**Pb**	**19 58 03.9**	**-4.0**
ODZ	**Otahua Downs**	**2.69**	**219**	P	**Pn**	**19 58 04.3**	**-1.8**
ODZ	**Otahua Downs**	**2.69**	**219**	P	**Pn**	**19 58 06.1**	**0.0**
MRZ	**Mangatainoka R**	**3.00**	**40**	P	**Pn**	**19 58 11.1**	**+0.8**
JCZ	**Jackson Bay**	**3.27**	**249**	P	**Pn**	**19 58 14.5**	**+0.3**
EAZ	**Earnscleugh**	**3.50**	**229**	P	**Pn**	**19 58 17.1**	**-0.2**
KHEZ	**Kahui Hut**	**3.75**	**12**	P	Pn	19 58 15.3	-5.4
KHEZ	**Kahui Hut**	**3.75**	**12**	P	**Pn**	**19 58 24.5**	**+3.8**
PKE	**Pukeiti**	**3.84**	**11**	P	**Pn**	**19 58 24.6**	**+2.7**
WNVZ	**Wahianoa**	**4.13**	**29**	P	**Pn**	**19 58 28.9**	**+3.0**
OTVZ	**Oturere**	**4.30**	**29**	P	**Pb**	**19 58 36.4**	**-2.2**
HIZ	**Hauiti**	**4.67**	**18**	P	Pn	19 58 26.5	-6.7
HIZ	**Hauiti**	**4.67**	**18**	P	**Pn**	**19 58 35.5**	**+2.3**
TKGZ	**Te Karaka**	**5.82**	**41**	P	**Pn**	**19 58 52.5**	**+3.4**
KUZ	**Kuaotunu**	**6.55**	**19**	P	Pn	19 58 51.8	-7.3
	25nm,1.2s						

*NDI **23** 19:57:53.7±2.2,24˚.69N×94˚.70E,h24km±20km,ML3.3*
*IDC **23** 19:57:55.8±3.9,24˚.53N×94˚.92E,h115km±39km,mb3.0/5, mbtmp3.3/6,Error ellipse: s-maj=70.7km s-min=16.7km az=64.0*

ISC 23 19:57:53.5±1.1,24˚.68N±0˚.06×94˚.77E±0˚.07,h89km±12km, n21,σ1§20/28,mb3.3/5,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.20**	**330**	*eP*	**Pn**	**19 58 16.5**	**+0.8**
KOHI				*eS*	**Sn**	**19 58 32.7**	**+0.4**
MOKO	**MOKOCHONG**	**1.65**	**352**	*eP*	**Pn**	**19 58 22.1**	**+0.8**
MOKO				*eS*	**Sn**	**19 58 42.6**	**+0.3**
MOKO				IAML		19 58 44.2	
	comp=E,262nm,0.6s						
TEZP	**TEZPUR**	**2.62**	**318**	*eP*	**Pn**	**19 58 33.5**	**-0.5**
TEZP				*eS*	**Sn**	**19 59 03.5**	**-1.5**
TEZP				IAML		19 59 04.9	
	comp=N,407nm,0.2s						
TEZP				IAML		19 59 04.9	
	comp=E,366nm,0.2s						
ITAN	**ITANAGAR**	**2.63**	**339**	*eS*	**Sn**	**19 59 03.7**	**-1.5**
ITAN				IAML		19 59 06.1	
	comp=N,247nm,0.2s						
ITAN				IAML		19 59 07.2	
	comp=E,222nm,0.3s						
SAIH	**SAIHA**	**2.73**	**217**	*eP*	**Pn**	**19 58 35.6**	**+0.1**
SAIH				*eS*	**Sn**	**19 59 07.5**	**-0.2**
SAIH				IAML		19 59 09.8	
	comp=N,72nm,0.3s						
SHL	**Shillong**	**2.77**	**289**	*eP*	**Pn**	**19 58 36.1**	**0.0**
SHL				*eS*	**Sn**	**19 59 06.7**	**-2.0**
SHL				IAML		19 59 08.8	
	comp=E,152nm,0.2s						
LKP	**Lekhapani**	**2.81**	**20**	*eP*	**Pn**	**19 58 37.0**	**+0.5**
LKP				*eS*	**Sn**	**19 59 09.7**	**+0.1**
ZIRO	**ZIRO**	**2.95**	**344**	*eP*	**Pn**	**19 58 38.0**	**-0.6**
ZIRO				*eS*	**Sn**	**19 59 11.6**	**-1.6**
TAPN	**Taplejung**	**6.89**	**294**	*eP*	**Pn**	**19 59 33.7**	**+1.6**
	comp=E,3.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.31**	**147**	P	**Pn**	**19 59 37.4**	**-0.3**
	comp=E,0.3nm,0.6s,baz=320,slow=14,SNR=3.0						
RAMN	**Ramite**	**7.70**	**289**	*eP*	**Pn**	**19 59 45.2**	**+2.0**
	comp=E,2.3nm,0.3s						
JIRN	**Jiri**	**8.26**	**293**	*eP*	**Pn**	**19 59 52.3**	**+1.4**
	comp=E,2.5nm,0.2s						
GUN	**Gumba**	**8.61**	**294**	*eP*	**Pn**	**19 59 56.2**	**+0.6**
	comp=E,2.4nm,0.3s						
PKI	**Pulchoki**	**8.89**	**291**	*eP*	**Pn**	**19 59 59.5**	**0.0**
	comp=E,1.5nm,0.2s						
PKIN	**Phulchoki**	**8.91**	**291**	*eP*	**Pn**	**19 59 59.9**	**+0.3**
	comp=E,2.6nm,0.3s						
GKN	**Gorkha**	**9.68**	**292**	*eP*	**Pn**	**20 00 10.0**	**0.0**
	comp=E,3.3nm,0.3s						
MKAR	**Makanchi Array**	**24.22**	**339**	P	**P**	**20 03 03.8**	**+2.0**
	comp=E,0.9nm,0.5s,baz=148,slow=9.0,SNR=18						
	comp=E,0.9nm,0.5s						
SONM	**Songino Array**	**24.88**	**19**	P	**P**	**20 03 08.5**	**+0.6**
	comp=E,0.2nm,0.4s,baz=198,slow=8.8,SNR=2.6						
	comp=E,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**28.78**	**338**	P	**P**	**20 03 43.8**	**+1.1**
	comp=E,0.2nm,0.5s,baz=145,slow=9.9,SNR=1.7						
	comp=E,0.2nm,0.5s						
WRA	**Warramunga Arr**	**58.74**	**135**	P	**P**	**20 07 40.4**	**-2.0**
	comp=E,0.1nm,0.4s,baz=323,slow=7.3,SNR=6.5						
	comp=E,0.1nm,0.4s						
ASAR	**Alice Springs**	**61.23**	**139**	P	**P**	**20 07 57.8**	**-1.6**
	comp=E,0.3nm,0.5s,baz=323,slow=6.7,SNR=7.6						
	comp=E,0.3nm,0.5s						

IDC 23 20:05:10.5±9.3,3˚.11N×124˚.72E,h665km±215km,mb2.1/3, mbtmp3.3/3,Error ellipse: s-maj=374.8km s-min=25.0km az=72.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**7.64**	**121**	P	P	20 07 08.9	-0.1
	4.4nm,0.4s,baz=304,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**24.78**	**158**	P	P	20 09 44.2	+0.2
	0.4nm,0.5s,baz=336,slow=9.5,SNR=9.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**28.07**	**162**	P	P	20 10 13.0	+0.3
	0.1nm,0.3s,baz=340,slow=6.8,SNR=2.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**56.94**	**326**	P	P	20 13 55.4	+0.1
	0.2nm,0.4s,baz=132,slow=8.2,SNR=4.5						
	0.2nm,0.4s						

*NEIC **23** 20:06:12.8±2.1,11˚.28S×162˚.10E±0˚.04,h10km±2km, mb4.4/15,Error ellipse: s-maj=13.2km s-min=6.6km az=339.0*
*IDC **23** 20:06:12.7±1.0,11˚.54S×161˚.98E,h0km,mb4.1/9, mbtmp4.2/12,ML4.4/3,MS3.5/19,Error ellipse: s-maj=26.9km s-min=21.1km az=97.0*

ISC 23 20:06:17.8±0.8,11˚.50S±0˚.08×162˚.0E±0˚.1,h39km,n52, σ1§64/43,mb4.1/15,MS3.5/14,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.87**	**315**	Pn	**Pn**	**20 07 01.1**	**0.0**
	461nm,0.3s,baz=199,slow=5.9,SNR=13						
HNR				Sn	**Sn**	**20 07 30.7**	**-3.8**
	1μm,0.3s,baz=335,slow=19,SNR=6.3						
HNR				LR	LR	20 08 08.6	
	comp=Z,7μm,20.0s,baz=107,slow=40						
	2μm,0.4s						
HNR	**Honiara**	**2.87**	**315**		**Pn**	**20 06 57.2**	**-3.9**
KOUNC	**Koumac, New Ca**	**9.27**	**167**	Pn	**Pn**	**20 08 29.5**	**+0.5**
LIFNC	**LIFOU**	**10.51**	**152**	Pn	**Pn**	**20 08 44.7**	**-1.3**
DZM	**Mont Dzumac**	**11.34**	**159**	Pn	**Pn**	**20 08 57.4**	**-0.1**
	0.6nm,0.3s,baz=1.3,slow=13,SNR=8.7						
DZM				Sn	**Sn**	**20 10 59.1**	**-3.9**
	0.2nm,0.3s,baz=94,slow=24,SNR=1.7						
DZM				LR	LR	20 12 27.6	
	comp=Z,339nm,21.2s,baz=11,slow=33						
	1.6nm,0.3s						
DZM	**Mont Dzumac**	**11.34**	**159**	Pn	**Pn**	**20 08 57.6**	**+0.1**
PMG	**Port Moresby**	**14.73**	**277**	LR	LR	20 15 17.1	
	comp=Z,277nm,18.9s,baz=70,slow=37						
MSVF	**Nonsavu**	**16.73**	**114**	LR	LR	20 15 30.1	
	comp=Z,110nm,19.9s,baz=152,slow=33						
EIDS	**Eidsvold**	**17.23**	**215**	P	**P**	**20 10 17.5**	**+0.8**
CTA	**Charters Tower**	**17.37**	**239**	P	**P**	**20 10 18.0**	**-0.4**
	0.5nm,0.3s,baz=73,slow=11,SNR=15						
CTA				LR	LR	20 16 31.6	
	comp=Z,87nm,18.7s,baz=59,slow=36						
	11nm,0.8s						
CTAO	**Charters Tower**	**17.37**	**239**	P	**P**	**20 10 17.6**	**-0.8**
CTAO				IAmb	IAmb	20 10 22.7	
	comp=Z,16nm,0.9s						
COEN	**Coen**	**18.51**	**260**	P	**Pn**	**20 10 34.8**	**+3.4**
COEN				IAmb	IAmb	20 10 51.3	
	comp=Z,18nm,1.1s						
SMPI	**Sarmi**	**24.95**	**291**	P	**P**	**20 11 37.8**	**0.0**
STKA	**Stephens Creek**	**27.66**	**220**	P	**P**	**20 12 02.4**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=341,slow=8.9,SNR=4.2						
STKA				LR	LR	20 21 59.9	
	comp=Z,192nm,21.6s,baz=32,slow=34						
	comp=Z,1.9nm,0.7s						
WR0	**Warramunga Arr**	**27.69**	**249**	P	**P**	**20 12 02.3**	**-0.2**
WR0				IAmb	IAmb	20 12 44.0	
	comp=Z,8.1nm,1.1s						
WB0	**Warramunga Arr**	**27.78**	**249**	P	**P**	**20 12 01.7**	**-1.6**
WB0				IAmb	IAmb	20 12 05.6	
	comp=Z,6.7nm,0.9s						
WB2	**Warramunga Arr**	**27.86**	**249**	P	**P**	**20 12 02.6**	**-1.5**
WB2				IAmb	IAmb	20 12 09.2	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**27.87**	**249**	P	**P**	**20 12 03.2**	**-1.0**
	comp=Z,4.5nm,1.0s,baz=78,slow=9.2,SNR=18						
WRA				PcP	**PcP**	**20 15 20.2**	**+0.7**
	comp=Z,0.9nm,1.0s,baz=87,slow=1.8,SNR=3.6						
	comp=Z,4.5nm,1.0s						
WRA	**Warramunga Arr**	**27.87**	**249**	P	**P**	**20 12 02.8**	**-1.4**
AS31	**Alice Springs**	**29.31**	**242**	P	**P**	**20 12 15.0**	**-2.0**
ASAR	**Alice Springs**	**29.31**	**242**	P	**P**	**20 12 15.2**	**-1.8**
	comp=Z,2.7nm,0.8s,baz=64,slow=9.0,SNR=20						
ASAR				LR	LR	20 24 06.0	
	comp=Z,64nm,18.1s,baz=7.5,slow=37						
	comp=Z,2.7nm,0.8s						
TOO	**Toolangi**	**29.89**	**207**	P	**P**	**20 12 22.7**	**+0.8**
TOO				IAmb	IAmb	20 12 44.6	
	comp=Z,6.4nm,0.9s						
GUMO	**Guam**	**30.16**	**325**	LR	LR	20 23 28.9	
	comp=Z,79nm,22.0s,baz=146,slow=34						
MTN	**Manton Dam**	**30.18**	**264**	P	**P**	**20 12 24.2**	**-0.5**
MTN				IAmb	IAmb	20 12 29.5	
	comp=Z,13nm,1.3s						
SIJI	**Sorong**	**32.27**	**287**	LR	LR	20 27 18.2	
	comp=Z,51nm,18.6s,baz=302,slow=39						
KNRA	**Kununurra**	**32.54**	**259**	P	**P**	**20 12 44.4**	**-1.0**
FORT	**Forrest**	**36.79**	**233**	P	**P**	**20 13 21.2**	**-0.9**
SANI	**Sanana**	**36.91**	**282**	P	**P**	**20 13 27.0**	**+3.7**
BATI	**Baumata**	**37.64**	**268**	P	**P**	**20 13 31.1**	**+1.6**
	comp=Z,6.9nm,0.5s,baz=207,slow=2.4,SNR=4.2						
	comp=Z,6.9nm,0.5s						
LUWI	**Luwuk**	**40.28**	**282**	P	**P**	**20 13 50.0**	**-1.5**
LUWI				IAmb	IAmb	20 14 25.4	
	comp=Z,20nm,1.1s						
DAV	**Davao City (W)**	**40.65**	**295**	LR	LR	20 32 48.2	
	comp=Z,27nm,18.0s,baz=36,slow=39						
JCJ	**Chichijima**	**42.91**	**334**	LR	LR	20 29 07.9	
	comp=Z,43nm,19.8s,baz=120,slow=32						
MORW	**Morawa**	**46.18**	**241**		**P**	**20 14 38.5**	**-0.6**
ASAJ	**Asahikawa**	**58.09**	**344**	LR	LR	20 37 15.8	
	comp=Z,46nm,21.3s,baz=162,slow=32						
PETK	**Petropavlovsk-**	**64.45**	**357**	LR	LR	20 41 06.2	
	comp=Z,30nm,20.2s,baz=193,slow=32						
VNDA	**Vanda**	**66.01**	**180**	P	**P**	**20 17 00.8**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=355,slow=9.1,SNR=3.5						
VNDA				LR	LR	20 41 59.1	
	comp=Z,46nm,18.8s,baz=19,slow=32						
	comp=Z,0.6nm,0.8s						
VNDA	**Vanda**	**66.01**	**180**	P	**P**	**20 17 01.1**	**+1.2**
VNDA				IAmb	IAmb	20 17 23.2	
	comp=Z,2.0nm,1.0s						
KLR	**Kul'dur**	**66.07**	**339**	LR	LR	20 42 24.6	
	comp=Z,37nm,21.8s,baz=154,slow=33						
CMAR	**Chiang Mai Arr**	**68.94**	**295**	P	**P**	**20 17 21.5**	**+2.1**
	comp=Z,1.5nm,0.9s,baz=126,slow=4.6,SNR=9.3						
	comp=Z,1.5nm,0.9s						
MA2	**Magadan**	**71.41**	**354**	LR	LR	20 51 00.6	
	comp=Z,13nm,18.1s,baz=139,slow=38						
SONM	**Songino Array**	**76.89**	**325**	P	**P**	**20 18 06.6**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=150,slow=5.5,SNR=6.3						
SONM				LR	LR	20 52 13.2	
	comp=Z,28nm,18.5s,baz=33,slow=36						
	comp=Z,1.3nm,1.0s						
PKI	**Pulchoki**	**83.64**	**300**	*eP*	**P**	**20 18 42.5**	**-0.7**
PKIN	**Phulchoki**	**83.65**	**300**	*eP*	**P**	**20 18 42.9**	**-0.2**
	comp=Z,2.5nm,0.5s						
DMN	**Daman**	**83.91**	**300**	*eP*	**P**	**20 18 45.3**	**+0.9**
GKN	**Gorkha**	**84.42**	**300**	*eP*	**P**	**20 18 47.7**	**+0.8**
ILAR	**Eielson Array**	**85.14**	**20**	P	**P**	**20 18 50.4**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=237,slow=4.0,SNR=5.8						
	comp=Z,0.7nm,0.9s						
TIXI	**Tiksi**	**85.86**	**350**	LR	LR	21 01 18.5	
	comp=Z,15nm,18.0s,baz=358,slow=38						
MKAR	**Makanchi Array**	**91.34**	**317**	P	**P**	**20 19 19.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=100,slow=5.8,SNR=1.6						
	comp=Z,0.4nm,0.7s						
INK	**Inuvik**	**91.54**	**20**	LR	LR	20 55 29.4	
	comp=Z,61nm,19.8s,baz=270,slow=32						
AKASG	**Malin Array Be**	**125.17**	**325**	PKP	**PKPdf**	**20 25 14.2**	**0.0**
	comp=Z,1.0nm,0.6s,baz=64,slow=2.2,SNR=5.1						
GERES	**GERESS Array B**	**134.39**	**331**	PKP	**PKiKP**	**20 25 32.7**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=86,slow=4.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**160.68**	**277**	PKPab	**PKPab**	**20 26 57.6**	**+1.0**
	comp=Z,1.5nm,1.1s,baz=11,slow=1.5,SNR=4.6						

*IDC **23** 20:30:21.1±0.9,47˚.94S×165˚.04E,h0km,mb4.4/6, mbtmp4.4/7,ML4.1/1,MS4.1/2,Error ellipse: s-maj=30.0km s-min=25.8km az=51.0*
*NOU **23** 20:30:22.4,47˚.82S×164˚.75E,h0km,mb4.8/16,Off W. Coast of S. Island, N.Z.*
*NEIC **23** 20:30:22.7±1.9,48˚.03S±0˚.09×165˚.0E±0˚.2,h13km±5km, mb4.8/23,Error ellipse: s-maj=16.5km s-min=13.3km az=104.0*
*GCMT **23** 20:30:27.7±0.3,47˚.94S±0˚.03×164˚.42E±0˚.03,h21km±1km, MW5.0/77,Moment Tensor Solution. s34,c39; s77,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.27±.21; $M_{\theta\theta}$0.61±.13; $M_{\phi\phi}$-2.89±.14; $M_{r\theta}$-0.67±.27; $M_{r\phi}$0.01±.09; $M_{\theta\phi}$-2.50±.27; Best double couple: M○3.66900×10^{16} NP1:ϕs192.00000°,δ68.00000°,λ101.00000°. NP2: ϕs344.00000°,δ25.00000°,λ64.00000°. Principal axes: T 3.4220, Plg65.0000°, Azm121.0000°; N 0.4890, Plg10.0000°, Azm8.0000°; P -3.9150, Plg22.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 20:30:24.8±2.0,47˚.92S±0˚.06×164˚.98E±0˚.05,h25km±14km, n126,σ1§53/128,mb4.8/17,MS4.4/4,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**2.11**	**34**	Pn	**Pn**	**20 30 58.7**	**+0.3**
PYZ	**Puysegur Point**	**2.11**	**34**	P	**Pn**	**20 30 59.0**	**+0.6**
PYZ	**Puysegur Point**	**2.11**	**34**	P	**Pn**	**20 30 58.7**	**+0.3**
PYZ				S	**Sn**	**20 31 25.5**	**+1.8**
APZ	**The Paps**	**2.32**	**63**	P	**Pn**	**20 31 01.5**	**+0.1**
APZ				S	**Sn**	**20 31 29.7**	**+0.6**
WHZ	**Wether Hill Ro**	**2.88**	**46**		**Pn**	**20 31 09.0**	**0.0**
WHZ				Sn	**Sn**	**20 31 46.4**	**+3.6**
WHZ	**Wether Hill Ro**	**2.88**	**46**	P	**Pn**	**20 31 09.6**	**+0.7**
WHZ				S	**Sn**	**20 31 44.7**	**+2.0**
DCZ	**Deep Cove**	**2.88**	**32**		**Pn**	**20 31 08.9**	**-0.1**
DCZ				Sn	**Sb**	**20 31 47.8**	**-2.3**
DCZ	**Deep Cove**	**2.88**	**32**	P	**Pn**	**20 31 08.9**	**-0.1**
SYZ	**Scrubby Hill**	**3.16**	**66**	P	**Pn**	**20 31 13.7**	**+0.9**
SYZ	**Scrubby Hill**	**3.16**	**66**	P	**Pn**	**20 31 13.5**	**+0.7**
SYZ				S	**Sn**	**20 31 51.7**	**+2.1**
MLZ	**Mavora Lakes**	**3.35**	**41**		**Pn**	**20 31 16.8**	**+1.3**
MLZ				Sn	**Sn**	**20 31 59.8**	**+5.3**
MLZ	**Mavora Lakes**	**3.35**	**41**	P	**Pn**	**20 31 17.0**	**+1.5**
MLZ				S	**Sn**	**20 31 57.9**	**+3.5**
TUZ	**Tuapeka**	**3.75**	**60**	P	**Pn**	**20 31 21.8**	**+0.8**
TUZ				S	**Sn**	**20 32 06.1**	**+1.9**
MSZ	**Milford Sound**	**3.84**	**33**	P	**Pn**	**20 31 24.3**	**+2.1**
EAZ	**Earnscleugh**	**4.02**	**50**	P	**Pn**	**20 31 25.0**	**+0.3**
EAZ				S	**Sn**	**20 32 14.9**	**+3.9**
WKZ	**Wanaka**	**4.17**	**44**		**Pn**	**20 31 26.6**	**-0.2**
WKZ				Sn	**Sn**	**20 32 14.9**	**+0.1**
WKZ	**Wanaka**	**4.17**	**44**	P	**Pn**	**20 31 29.3**	**+2.5**
HHSZ	**Highcliff Hill**	**4.36**	**64**	P	**Pn**	**20 31 30.7**	**+1.4**
JCZ	**Jackson Bay**	**4.67**	**36**	P	**Pn**	**20 31 36.1**	**+2.3**
JCZ	**Jackson Bay**	**4.67**	**36**	P	**Pn**	**20 31 35.9**	**+2.1**
ODZ	**Otahua Downs**	**4.86**	**56**	Pn	**Pn**	**20 31 35.1**	**-1.2**
ODZ	**Otahua Downs**	**4.86**	**56**	P	**Pn**	**20 31 35.6**	**-0.6**
ODZ	**Otahua Downs**	**4.86**	**56**	P	**Pn**	**20 31 35.2**	**-1.0**
LBZ	**Lake Benmore**	**5.06**	**48**	Pn	**Pn**	**20 31 37.4**	**-1.6**
LBZ	**Lake Benmore**	**5.06**	**48**	P	**Pn**	**20 31 38.1**	**-0.8**
TMZ	**Timaru**	**5.48**	**52**	P	**Pn**	**20 31 44.5**	**-0.4**
FOZ	**Fox Glacier**	**5.54**	**39**	Pn	**Pn**	**20 31 46.2**	**+0.6**
FOZ	**Fox Glacier**	**5.54**	**39**	P	**Pn**	**20 31 46.8**	**+1.2**
ARCZ	**Arundel**	**5.87**	**50**	P	**Pn**	**20 31 49.6**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**5.94**	**41**	P	**Pn**	**20 31 52.0**	**+0.9**
RPZ	**Rata Peaks**	**5.98**	**48**	Pn	**Pn**	**20 31 50.1**	**-1.5**
	5.3nm,0.3s,baz=177,slow=2.6,SNR=19						
RPZ				Sn	**Sn**	**20 32 56.7**	**-2.5**
	15nm,0.3s,baz=53,slow=23,SNR=4.3						
RPZ				LR	LR	20 34 24.7	
	comp=Z,4μm,19.6s,baz=218,slow=41						
	18nm,0.4s						

RPZ	**Rata Peaks**	**5.98**	**48**	Pn	**Pn**	**20 31 51.5**	**-0.1**
RPZ	**Rata Peaks**	**5.98**	**48**	P	**Pn**	**20 31 50.4**	**-1.2**
RPZ	**Rata Peaks**	**5.98**	**48**	P	**Pn**	**20 31 50.2**	**-1.4**
WVZ	**Waitaha Valley**	**6.31**	**42**	P	**Pn**	**20 31 57.2**	**+1.1**
OXZ	**Oxford**	**6.75**	**50**		**Pn**	**20 32 01.2**	**-1.0**
OXZ	**Oxford**	**6.75**	**50**	P	**Pn**	**20 32 02.4**	**+0.2**
MQZ	**McQueen's Vall**	**6.82**	**55**		**Pn**	**20 32 02.6**	**-0.6**
MQZ	**McQueen's Vall**	**6.82**	**55**	P	**Pn**	**20 32 02.7**	**-0.4**
AKCZ	**Akaroa Harbour**	**6.86**	**57**	P	**Pn**	**20 32 04.8**	**+1.1**
INZ	**Inchbonnie**	**6.91**	**44**		**Pn**	**20 32 04.1**	**-0.3**
INZ	**Inchbonnie**	**6.91**	**44**	P	**Pn**	**20 32 04.4**	**0.0**
OKCZ	**Okains Bay**	**7.04**	**56**	P	**Pn**	**20 32 08.1**	**+2.0**
LTZ	**Lake Taylor**	**7.27**	**48**	Pn	**Pn**	**20 32 10.0**	**+0.7**
LTZ	**Lake Taylor**	**7.27**	**48**	P	**Pn**	**20 32 11.7**	**+2.4**
MCQ	**Macquarie Isla**	**7.59**	**208**	P	**Pn**	**20 32 16.0**	**+2.4**
DSZ	**Denniston Nort**	**7.85**	**41**	Pn	**Pn**	**20 32 17.0**	**-0.4**
DSZ	**Denniston Nort**	**7.85**	**41**	P	**Pn**	**20 32 17.0**	**-0.4**
KHZ	**Kahutara**	**8.18**	**51**	Pn	**Pn**	**20 32 21.2**	**-0.6**
KHZ	**Kahutara**	**8.18**	**51**	P	**Pn**	**20 32 21.4**	**-0.4**
KHZ	**Kahutara**	**8.18**	**51**	P	**Pn**	**20 32 21.1**	**-0.6**
THZ	**Tophouse**	**8.34**	**45**		**Pn**	**20 32 23.8**	**-0.3**
THZ	**Tophouse**	**8.34**	**45**	P	**Pn**	**20 32 23.9**	**-0.3**
THZ	**Tophouse**	**8.34**	**45**	P	**Pn**	**20 32 23.8**	**-0.3**
MRNZ	**Matariki Terra**	**8.56**	**43**	Pn	**Pn**	**20 32 27.5**	**+0.5**
MRNZ	**Matariki Terra**	**8.56**	**43**	P	**Pn**	**20 32 27.8**	**+0.8**
QRZ	**Quartz Range**	**8.92**	**40**	Pn	**Pn**	**20 32 31.9**	**0.0**
QRZ	**Quartz Range**	**8.92**	**40**	P	**Pn**	**20 32 32.6**	**+0.7**
QRZ	**Quartz Range**	**8.92**	**40**	P	**Pn**	**20 32 32.1**	**+0.2**
TKNZ	**Takaka Hill**	**8.94**	**43**		**Pn**	**20 32 28.3**	**-4.0**
NNZ	**Nelson**	**8.99**	**45**	Pn	**Pn**	**20 32 32.1**	**-0.8**
TAU	**Tasmania Unive**	**13.37**	**285**	P	**Pn**	**20 33 29.3**	**-3.5**
CTZ	**Chatham Island**	**13.50**	**79**	P	**Pn**	**20 33 36.1**	**+1.6**
MOO	**Moorlands**	**13.68**	**287**	P	**Pn**	**20 33 33.4**	**-3.6**
GLAD	**Gladstone**	**13.95**	**294**	P	**Pn**	**20 33 37.6**	**-3.1**
OUZ	**Omahuta**	**14.22**	**30**	Pn	**Pn**	**20 33 45.9**	**+1.4**
OUZ	**Omahuta**	**14.22**	**30**	P	**Pn**	**20 33 46.5**	**+2.0**
MXZ	**Matakaoa Point**	**14.23**	**48**	P	**Pn**	**20 33 46.6**	**+2.0**
MILA	**Mila**	**15.91**	**307**	P	**Pn**	**20 34 04.6**	**-2.3**
CNB	**Canberra Magne**	**17.13**	**312**	P	**Pn**	**20 34 22.1**	**-0.3**
CAN	**Canberra**	**17.31**	**311**		**Pn**	**20 34 22.5**	**-2.1**
CAN				IAmb	IAmb	20 34 28.1	
	comp=Z,70nm,1.1s						
TOO	**Toolangi**	**17.61**	**299**	P	**Pn**	**20 34 28.3**	**-0.1**
TOO	**Toolangi**	**17.61**	**299**	P	**Pn**	**20 34 28.2**	**-0.1**
STKA	**Stephens Creek**	**23.91**	**304**	P	**P**	**20 35 38.1**	**+1.6**
	comp=Z,11nm,0.8s,baz=132,slow=12,SNR=32						
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**23.91**	**304**	P	**P**	**20 35 37.6**	**+1.1**
EIDS	**Eidsvold**	**25.04**	**329**	P	**P**	**20 35 48.1**	**+1.3**
EIDS				IAmb	IAmb	20 35 50.5	
	comp=Z,23nm,0.8s						
DZM	**Mont Dzumac**	**25.82**	**3**	*eP*	**P**	**20 35 50.8**	**-3.2**
	comp=Z,70nm,24.8s						
DZM				*eLR*	LR	20 42 27.6	
	comp=Z,245nm,22.0s						
DZM	**Mont Dzumac**	**25.82**	**3**	P	**P**	**20 35 54.0**	**0.0**
	comp=Z,7.6nm,1.1s,baz=197,slow=16,SNR=1.7						
DZM				LR	LR	20 44 54.1	
	comp=Z,220nm,18.1s,baz=220,slow=34						
	comp=Z,7.6nm,1.1s						
CTAO	**Charters Tower**	**31.63**	**325**	P	**P**	**20 36 46.6**	**+0.9**
CTAO				IAmb	IAmb	20 36 48.1	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**34.55**	**303**	P	**P**	**20 37 11.1**	**-0.2**
ASAR	**Alice Springs**	**34.55**	**303**	P	**P**	**20 37 11.4**	**+0.1**
	comp=Z,11nm,0.8s,baz=140,slow=9.1,SNR=103						
ASAR				PcP	**PcP**	**20 39 45.2**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=101,

comp=Z,6.3nm,0.8s,baz=35,slow=4.4,SNR=8.2
AKASG **Malin Array Be 151.34 292** PKPbc **PKPbc 20 50 15.4 +0.2**
comp=Z,3.2nm,0.7s,baz=76,slow=2.5,SNR=13
FINES **FINESS Array B 153.19 316** PKPbc **PKiKP 20 50 19.7 +0.5**
comp=Z,5.4nm,1.1s,baz=309,slow=6.6,SNR=1.7
GERES **GERESS Array B 160.94 284** PKPab **PKPab 20 51 04.7 -0.2**
comp=Z,0.5nm,0.7s,baz=107,slow=7.1,SNR=5.4

---

*IDC **23** 20:31:29.4±2.3, 47.75°S×165.27°E, h0km, mb4.3/3, mbtmp4.3/3, MS4.4/1, Error ellipse: s-maj=257.3km s-min=48.6km az=34.0*

ISC 23 20:31:30.9±2.8, 47.95°S±0.4×165.2°E±0.2, h10km, n8, σ0.74/6, mb4.3/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**5.86**	**47**	Sn	**Sn**	**20 34 05.0**	**0.0**
	baz=89,slow=24						
RAO	**Raoul Island**	**22.74**	**41**	LR	LR	20 45 55.5	
	comp=Z,866nm,19.1s,baz=171,slow=38						
STKA	**Stephens Creek**	**23.99**	**303**	P	**P**	**20 36 46.5**	**+0.9**
	6.8nm,0.8s,baz=132,slow=11,SNR=4.9						
	6.8nm,0.8s						
ASAR	**Alice Springs**	**34.63**	**303**	P	**P**	**20 38 19.5**	**-0.8**
	5.3nm,0.8s,baz=143,slow=8.9,SNR=5.2						
	5.3nm,0.8s						
WRA	**Warramunga Arr**	**37.38**	**307**	P	**P**	**20 38 43.5**	**-0.3**
	2.7nm,0.7s,baz=144,slow=8.4,SNR=7.4						
	2.7nm,0.7s						
BRTR	**Keskin Array B**	**144.57**	**275**	PKP	PKPbc	20 51 06.9	+0.9
	2.2nm,0.8s,baz=104,slow=3.8,SNR=2.5						
ARCES	**ARCESS Array B**	**150.77**	**332**	PKPbc	**PKPbc**	**20 51 21.8**	**-0.2**
	1.7nm,0.8s,baz=48,slow=4.0,SNR=1.1						
AKASG	**Malin Array Be**	**151.44**	**292**	PKPbc	**PKPbc**	**20 51 24.2**	**+0.2**
	0.2nm,0.3s,baz=83,slow=2.4,SNR=1.0						

WEL 23 20:32:07.4±0.4, 42°S±2°×17°4E±°, h7km±3km, M2.8/22, ML3.1/12, MLv2.8/22, Error ellipse: s-maj=0.0km s-min=0.0km az=120.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.15**	**60**	P	Pg	20 32 11.3	+0.8
CMWZ				S	Sg	20 32 14.9	+2.4
BSWZ	**Blackbirch Sta**	**0.17**	**311**	P	Pg	20 32 11.4	+0.6
BSWZ				S	Sg	20 32 14.9	+1.7
TUWZ	**Tuamarina**	**0.40**	**349**	P	Pg	20 32 15.8	+0.6
TUWZ				S	Sb	20 32 22.0	-1.1
TCW	**Tory Channel**	**0.64**	**16**	P	Pg	20 32 19.7	0.0
WEL	**Wellington**	**0.77**	**45**	P	Pb	20 32 22.7	-0.3
NNZ	**Nelson**	**0.79**	**320**	P	Pg	20 32 22.5	+0.1
PLWZ	**Palliser**	**0.94**	**75**	P	Pg	20 32 24.9	-0.6
MSWZ	**Moikau Station**	**0.99**	**66**	P	Pg	20 32 25.8	-0.6
DUWZ	**D'Urville Isla**	**1.02**	**355**	P	Pg	20 32 26.6	-0.4
CAW	**Cannon Point**	**1.05**	**47**	P	Pg	20 32 27.3	-0.2
PAWZ	**Paruwai Farm**	**1.13**	**67**	P	Pg	20 32 27.4	-1.6
TKNZ	**Takaka Hill**	**1.14**	**314**	P	Pg	20 32 28.8	-0.4
KIW	**Kapiti Island**	**1.16**	**34**	P	Pg	20 32 29.2	-0.5
MTW	**Mount Morrison**	**1.28**	**59**	P	Pn	20 32 29.6	-2.0
TRWZ	**Traveller**	**1.30**	**72**	P	Pn	20 32 29.5	-2.5
OGWZ	**Otaki Gorge**	**1.32**	**40**	P	Pn	20 32 31.1	-1.0
GVZ	**Greta Valley S**	**1.37**	**213**	P	Pg	20 32 33.5	-0.1
HOWZ	**Holdsworth Sta**	**1.44**	**51**	P	Pn	20 32 32.1	-1.8
TMWZ	**Te Maipa**	**1.56**	**63**	P	Pn	20 32 33.1	-2.4
MRZ	**Mangatainoka R**	**1.64**	**45**	P	Pn	20 32 35.0	-1.6
PRWZ	**Pori Road**	**1.93**	**50**	P	Pn	20 32 38.9	-1.7
BFZ	**Birch Farm**	**2.01**	**56**	P	Pb	20 32 44.0	-0.3
WAZ	**Wanganui**	**2.19**	**19**	P	Pb	20 32 47.8	+0.6
DVHZ	**Dannevirke**	**2.21**	**47**	P	Pb	20 32 48.5	+0.8
KHEZ	**Kahui Hut**	**2.53**	**359**	P	Pb	20 32 53.9	+0.8
PKE	**Pukeiti**	**2.63**	**359**	P	Pb	20 32 54.6	-0.2
PKVZ	**Pokaka**	**2.72**	**22**	P	Pb	20 32 56.0	-0.4
MOVZ	**Moawhango**	**2.74**	**29**	P	Pb	20 32 56.2	-0.5
WNVZ	**Wahianoa**	**2.76**	**26**	P	Pb	20 32 56.8	-0.3
TRVZ	**Turoa**	**2.77**	**25**	P	Pn	20 32 54.8	+2.4
FWVZ	**Far West T-bar**	**2.81**	**25**	P	Pb	20 32 58.3	+0.3
TUVZ	**Tukino**	**2.83**	**26**	P	Pb	20 32 58.3	0.0
NGZ	**Ngauruhoe**	**2.90**	**25**	P	Pb	20 32 59.2	-0.3
SNVZ	**South Ngauruho**	**2.90**	**25**	P	Pb	20 32 58.2	-0.9
OTVZ	**Oturere**	**2.93**	**25**	P	Pb	20 32 57.6	-2.4
NNVZ	**North Ngauruho**	**2.94**	**25**	P	Pb	20 32 59.4	-0.8
ETVZ	**East Tongariro**	**2.97**	**26**	P	Pb	20 32 59.6	-1.1
TMVZ	**Te Maari**	**2.99**	**26**	P	Pb	20 33 00.3	-0.7
ARCZ	**Arundel**	**2.99**	**224**	P	Pn	20 32 57.3	+2.1
NTVZ	**North Tongarir**	**2.99**	**25**	P	Pb	20 33 00.1	-1.0
BKZ	**Black Stump Fm**	**3.25**	**36**	P	Pb	20 33 03.9	-1.5
HIZ	**Hauiti**	**3.37**	**11**	P	Pn	20 33 03.2	+2.9
MHGZ	**Mahia Peninsul**	**3.97**	**49**	P	Pn	20 33 08.4	-0.2
EAZ	**Earnscleugh**	**4.84**	**224**	P	Pn	20 33 23.2	+2.6

---

*IDC **23** 20:35:36.7±2.2, 41.77°S×174.02°E, h0km, mb3.8/3, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=45.2km s-min=37.0km az=108.0*
*NOU **23** 20:35:37.4, 42.03°S×174.37°E, h1km, MLv4.2/9, Off E. Coast of S. Island, N.Z.*
*WEL **23** 20:35:38.8±0.3, 42°S±3°×17°4E±°, h7km±3km, M3.9/37, ML4.1/19, MLv3.9/37, Error ellipse: s-maj=0.0km s-min=0.0km az=141.1*

ISC 23 20:35:37.7±1.1, 41°91S±0.03×174°24E±0.03, h10km±7km, n109, σ1.930/114, mb3.5/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.16**	**354**	P	**Pg**	**20 35 41.2**	**-0.1**
CMWZ				S	**Sg**	**20 35 43.6**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.33**	**306**	P	**Pg**	**20 35 44.0**	**-0.3**
BSWZ				S	**Sg**	**20 35 48.6**	**-0.2**
TUWZ	**Tuamarina**	**0.53**	**335**	P	**Pg**	**20 35 47.5**	**-0.4**
TUWZ				S	**Sg**	**20 35 54.4**	**-0.5**
SNZO	**South Karori**	**0.69**	**31**	P	**Pb**	**20 35 52.3**	**+0.5**
TCW	**Tory Channel**	**0.70**	**3**	P	**Pb**	**20 35 50.9**	**-1.1**
TCW				S	**Sg**	**20 36 00.5**	**+0.1**
KHZ	**Kahutara**	**0.72**	**225**	P	**Pn**	**20 35 54.2**	**+0.3**
WEL	**Wellington**	**0.74**	**33**	P	**Pb**	**20 35 53.1**	**+0.4**
PLWZ	**Palliser**	**0.84**	**66**	P	**Pn**	**20 35 55.8**	**+0.3**
MSWZ	**Moikau Station**	**0.91**	**57**	P	**Pn**	**20 35 56.9**	**+0.4**
NNZ	**Nelson**	**0.94**	**317**	P	**Pb**	**20 35 55.0**	**-1.1**
THZ	**Tophouse**	**1.00**	**278**	P	**Pb**	**20 35 57.2**	**0.0**
CAW	**Cannon Point**	**1.02**	**38**	P	**Pb**	**20 35 57.9**	**+0.5**
PAWZ	**Paruwai Farm**	**1.04**	**60**	P	**Pn**	**20 35 58.5**	**+0.2**
DUWZ	**D'Urville Isla**	**1.13**	**348**	P	**Pn**	**20 35 58.2**	**-1.4**
KIW	**Kapiti Island**	**1.16**	**26**	P	**Pn**	**20 35 59.9**	**-0.1**
TRWZ	**Traveller**	**1.20**	**65**	P	**Pn**	**20 36 00.5**	**-0.1**
MTW	**Mount Morrison**	**1.21**	**52**	P	**Pn**	**20 36 00.7**	**0.0**
MRNZ	**Matariki Terra**	**1.22**	**294**	P	**Pn**	**20 36 00.9**	**+0.1**
TKNZ	**Takaka Hill**	**1.30**	**312**	P	**Pn**	**20 36 01.4**	**-0.5**
OGWZ	**Otaki Gorge**	**1.30**	**33**	P	**Pn**	**20 36 02.3**	**+0.5**
GVZ	**Greta Valley S**	**1.38**	**220**	P	**Pb**	**20 36 04.1**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.40**	**44**	P	**Pn**	**20 36 03.2**	**0.0**
TMWZ	**Te Maipa**	**1.48**	**58**	P	**Pn**	**20 36 04.2**	**-0.2**
MRZ	**Mangatainoka R**	**1.61**	**39**	P	**Pn**	**20 36 06.2**	**+0.1**
QRZ	**Quartz Range**	**1.68**	**310**	P	**Pb**	**20 36 08.5**	**-0.2**
QRZ	**Quartz Range**	**1.68**	**310**	P	**Pn**	**20 36 08.0**	**+0.9**
TIWZ	**Tintock**	**1.68**	**48**	P	**Pn**	**20 36 07.3**	**+0.1**
LTZ	**Lake Taylor**	**1.70**	**238**	P	**Pb**	**20 36 08.4**	**-0.6**
AMCZ	**Amberley**	**1.72**	**222**	P	**Pn**	**20 36 08.4**	**+0.7**
CPWZ	**Castlepoint**	**1.79**	**57**	P	**Pn**	**20 36 08.7**	**+0.2**
OSZ	**Dennistoun Nort**	**1.82**	**274**	P	**Pb**	**20 36 10.8**	**-0.4**
PRWZ	**Pori Road**	**1.88**	**45**	P	**Pn**	**20 36 09.7**	**-0.2**
OHWZ	**Ohakea**	**1.89**	**26**	P	**Pb**	**20 36 13.3**	**+1.1**
POWZ	**Post Office Ro**	**1.91**	**38**	P	**Pn**	**20 36 10.4**	**+0.1**
BFZ	**Birch Farm**	**1.95**	**52**	P	**Pn**	**20 36 10.7**	**-0.1**
BFZ	**Birch Farm**	**1.95**	**52**	P	**Pn**	**20 36 09.9**	**-0.9**
OKCZ	**Okains Bay**	**2.01**	**205**	P	**Pn**	**20 36 12.0**	**+0.3**
MQZ	**McQueen's Vall**	**2.14**	**212**	P	**Pn**	**20 36 13.0**	**-0.4**
OXZ	**Oxford**	**2.15**	**228**	P	**Pb**	**20 36 17.8**	**+1.1**
DVHZ	**Dannevirke**	**2.17**	**43**	P	**Pn**	**20 36 13.0**	**-0.8**
AKCZ	**Akaroa Harbour**	**2.19**	**206**	P	**Pn**	**20 36 14.6**	**+0.5**
INZ	**Inchbonnie**	**2.22**	**248**	P	**Pn**	**20 36 15.8**	**+1.3**
WAZ	**Wanganui**	**2.23**	**15**	P	**Pb**	**20 36 18.0**	**0.0**
TSZ	**Takapari Road**	**2.26**	**36**	P	**Pn**	**20 36 15.0**	**-0.2**
RACZ	**Rakaia**	**2.38**	**220**	P	**Pn**	**20 36 16.7**	**0.0**
LREZ	**Lake Rotokare**	**2.45**	**3**	P	**Pb**	**20 36 20.9**	**-0.9**
PNHZ	**Pukenui**	**2.49**	**37**	P	**Pn**	**20 36 16.0**	**-2.3**
NMEZ	**Namu Road**	**2.51**	**354**	P	**Pb**	**20 36 22.3**	**-0.5**
KHEZ	**Kahui Hut**	**2.62**	**356**	P	**Pb**	**20 36 24.1**	**-0.6**
KHEZ	**Kahui Hut**	**2.62**	**356**	P	**Pb**	**20 36 23.7**	**-1.0**
NEZ	**North Egmont**	**2.64**	**358**	P	**Pb**	**20 36 24.1**	**-1.0**
NBEZ	**Newall Road No**	**2.65**	**354**	P	**Pb**	**20 36 23.9**	**-1.4**
WACZ	**Wakanui South**	**2.69**	**220**	P	**Pn**	**20 36 21.2**	**+0.3**
MTVZ	**Mangateitei**	**2.69**	**21**	P	**Pb**	**20 36 24.1**	**-1.9**
DREZ	**Durham Road**	**2.72**	**359**	P	**Pn**	**20 36 23.9**	**+2.5**
PKE	**Pukeiti**	**2.72**	**356**	P	**Pn**	**20 36 23.9**	**+2.4**
PKVZ	**Pokaka**	**2.75**	**18**	P	**Pn**	**20 36 24.2**	**+2.3**
MOVZ	**Moawhango**	**2.75**	**25**	P	**Pn**	**20 36 22.5**	**+0.5**
WNVZ	**Wahianoa**	**2.78**	**22**	P	**Pn**	**20 36 23.7**	**+1.3**
BHHZ	**Black Hill Sta**	**2.79**	**30**	P	**Pn**	**20 36 22.5**	**+0.1**
TRVZ	**Turoa**	**2.79**	**21**	P	**Pn**	**20 36 24.5**	**+1.9**
VRZ	**Vera Road**	**2.81**	**8**	P	**Pn**	**20 36 24.7**	**+2.1**
DRZ	**Dome Shelter**	**2.82**	**21**	P	**Pn**	**20 36 29.7**	**+1.4**
WHVZ	**Whangaehu Hut**	**2.82**	**22**	P	**Pn**	**20 36 24.2**	**+1.2**
MHEZ	**Mangahewa**	**2.83**	**1**	P	**Pb**	**20 36 30.7**	**+2.4**
FWVZ	**Far West T-bar**	**2.84**	**21**	P	**Pn**	**20 36 24.8**	**+1.6**
WVZ	**Waitaha Valley**	**2.84**	**245**	P	**Pn**	**20 36 24.4**	**+1.4**
TUVZ	**Tukino**	**2.85**	**23**	P	**Pn**	**20 36 24.5**	**+1.2**
NGZ	**Ngauruhoe**	**2.92**	**21**	P	**Pn**	**20 36 26.1**	**+1.7**
SNVZ	**South Ngauruho**	**2.92**	**22**	P	**Pn**	**20 36 25.6**	**+1.3**
OTVZ	**Oturere**	**2.95**	**22**	P	**Pn**	**20 36 26.0**	**+1.3**
RPZ	**Rata Peaks**	**2.96**	**231**	Pn	**Pn**	**20 36 25.2**	**+0.6**
	14nm,0.3s,baz=55,slow=0.7,SNR=14						
RPZ				Sn	**Sn**	**20 36 59.7**	**-0.5**
	20nm,0.3s,baz=144,slow=23,SNR=6.8						
	45nm,0.3s						
RPZ	**Rata Peaks**	**2.96**	**231**	P	**Pn**	**20 36 25.3**	**+0.6**
RPZ	**Rata Peaks**	**2.96**	**231**	P	**Pn**	**20 36 24.9**	**+0.3**
NNVZ	**North Ngauruho**	**2.97**	**21**	P	**Pn**	**20 36 26.8**	**+1.8**
TWVZ	**Taurewa**	**2.98**	**18**	P	**Pn**	**20 36 27.6**	**+2.5**
KWHZ	**Kaweka Forest**	**2.99**	**35**	P	**Pn**	**20 36 24.6**	**-0.5**
ETVZ	**East Tongariro**	**2.99**	**23**	P	**Pn**	**20 36 26.5**	**+1.3**
TMVZ	**Te Maari**	**3.01**	**22**	P	**Pn**	**20 36 26.4**	**+0.9**
KRVZ	**Karewarewa**	**3.01**	**21**	P	**Pn**	**20 36 26.9**	**+1.5**
NTVZ	**North Tongarir**	**3.02**	**22**	P	**Pn**	**20 36 26.6**	**+1.0**
ARCZ	**Arundel**	**3.03**	**227**	P	**Pn**	**20 36 26.2**	**+0.5**
KATZ	**Kakaramea**	**3.14**	**21**	P	**Pb**	**20 36 32.9**	**-0.7**
RITZ	**Rihia Road**	**3.18**	**23**	P	**Pb**	**20 36 33.1**	**-1.1**
GCSZ	**Gaunt Creek Bo**	**3.21**	**243**	P	**Pn**	**20 36 31.0**	**+2.9**
BKZ	**Black Stump Fm**	**3.24**	**33**	P	**Pn**	**20 36 30.1**	**+1.6**
BKZ	**Black Stump Fm**	**3.24**	**33**	P	**Pb**	**20 36 36.3**	**+1.1**
RATZ	**Rangitukua**	**3.26**	**22**	P	**Pb**	**20 36 35.7**	**+0.1**
HATZ	**Hinemaiaia**	**3.33**	**26**	P	**Pb**	**20 36 37.5**	**+0.6**
TMZ	**Timaru**	**3.42**	**223**	P	**Pn**	**20 36 31.4**	**+0.4**
HIZ	**Hauiti**	**3.43**	**8**	P	**Pn**	**20 36 33.3**	**+2.2**
HIZ	**Hauiti**	**3.43**	**8**	P	**Pn**	**20 36 33.5**	**+2.4**
FOZ	**Fox Glacier**	**3.64**	**242**	P	**Pn**	**20 36 35.4**	**+1.5**
MTHZ	**Maungataniwha**	**3.65**	**34**	P	**Pn**	**20 36 35.4**	**+1.3**
TLZ	**Tolley Road**	**3.71**	**16**	P	**Pn**	**20 36 36.9**	**+1.8**
LBZ	**Lake Benmore**	**3.86**	**229**	P	**Pn**	**20 36 38.2**	**+1.1**
RTZ	**Ruatahuna**	**3.90**	**33**	P	**Pn**	**20 36 41.2**	**+3.4**
ODZ	**Otahua Downs**	**4.08**	**219**	P	**Pn**	**20 36 39.8**	**-0.3**
URZ	**Urewera**	**4.26**	**32**	P	**Pn**	**20 36 44.3**	**+1.7**
URZ	**Urewera**	**4.26**	**32**	P	**Pn**	**20 36 44.5**	**+2.0**
JCZ	**Jackson Bay**	**4.54**	**240**	P	**Pn**	**20 36 48.3**	**+1.7**
JCZ	**Jackson Bay**	**4.54**	**240**	P	**Pn**	**20 36 50.5**	**+3.9**
AWAZ	**Awhitu Peninsu**	**4.85**	**4**	P	**Pn**	**20 36 52.9**	**+2.2**
MKAZ	**Moumakai**	**4.85**	**9**	P	**Pn**	**20 36 51.8**	**+1.1**
WIAZ	**Waiheke Island**	**5.16**	**8**	P	**Pn**	**20 36 58.1**	**+3.2**
ASAR	**Alice Springs**	**38.06**	**286**	P	**P**	**20 42 55.2**	**-1.3**
	0.5nm,0.6s,baz=122,slow=6.1,SNR=8.1						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**40.15**	**291**	P	**P**	**20 43 12.6**	**-1.3**
	0.6nm,0.5s,baz=126,slow=8.4,SNR=14						
	0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.69**	**293**	P	**P**	**20 48 45.7**	**+0.3**
	0.5nm,0.5s,baz=141,slow=3.5,SNR=2.3						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.62**	**195**	PKPbc	**PKiKP**	**20 55 30.8**	**-0.1**
	0.5nm,0.5s,baz=171,slow=2.5,SNR=5.4						

IDC 23 20:45:06.3±3.9, 47.98S×165.08E, h0km, mb3.8/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=84.6km s-min=31.1km az=163.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**5.97**	**47**	Pn	Pn	20 46 36.1	+0.3
	0.9nm,0.3s,baz=218,slow=5.4,SNR=1.9						
RPZ				Sn	Sn	20 47 45.7	+0.8
	2.4nm,0.3s,baz=203,slow=21,SNR=2.0						
	4.4nm,0.6s						
STKA	**Stephens Creek**	**24.01**	**304**	P	P	20 50 23.3	+0.6
	1.1nm,0.5s,baz=153,slow=11,SNR=4.2						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**34.65**	**303**	P	P	20 51 57.2	-0.2
	1.2nm,0.8s,baz=140,slow=8.8,SNR=13						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**37.41**	**308**	P	P	20 52 20.6	-0.4
	0.8nm,0.6s,baz=145,slow=9.0,SNR=24						
	0.8nm,0.6s						
H01W1	**Cape Leeuwin H**	**39.66**	**270**	T	T	21 35 08.7	
	baz=127						
H01W2	**Cape Leeuwin H**	**39.67**	**270**	T	T	21 35 10.3	
	baz=127						
H01W3	**Cape Leeuwin H**	**39.67**	**270**	T	T	21 35 06.2	
	baz=127						
H08S2	**Diego Garcia H**	**86.11**	**263**	T	T	22 32 47.0	
	baz=138,slow=76,SNR=10						
H08S1	**Diego Garcia H**	**86.12**	**263**	T	T	22 32 45.8	
	baz=138,slow=76,SNR=4.3						
H08S3	**Diego Garcia H**	**86.13**	**263**	T	T	22 32 48.1	
	baz=138,slow=76,SNR=7.5						
BRTR	**Keskin Array B**	**144.53**	**275**	PKP	PKPdf	21 04 43.7	-0.6
	1.3nm,0.8s,baz=100,slow=1.6,SNR=5.9						

---

*IDC **23** 20:49:31.1±0.6, 37.03N×141.33E, h0km, mb4.0/27, mbtmp4.0/31, ML3.2/3, MS3.1/7, Error ellipse: s-maj=16.1km s-min=12.3km az=91.0*
*NIED **23** 20:49:33.7, 37.10N×141.43E, h37km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=1.28; Mθθ=0.07; Mφφ=1.35; Mrθ=0.74; Mθφ=1.03; Mφr=0.12; Fault plane solution: M0=1.82000×10^15 NP1: φs=359.00000°, δ49.00000°, λ-134.00000°. NP2: φs=235.00000°, δ57.00000°, λ-51.00000°.*
*NEIC **23** 20:49:33.6±1.6, 37.10N±0.06×141.48E±0.09, h17km±5km, mb4.6/26 Error ellipse: s-maj=10.3km s-min=8.4km az=96.0*
*JMA **23** 20:49:33.7±0.2, 37.1N±0.4×14°1E±°, h37km±1km, MD4.3/38, MV4.2/38, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 23 20:49:33.3±0.9, 37.07N±0.04×141.43E±0.05, h16km±5km, n145, σ1.824/113, mb4.2/39, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.53**	**304**	P	**Pb**	**20 49 44.1**	**-0.1**
JFK	**Kawauchi**	**0.53**	**304**	A	A	20 49 44.1	
	comp=E,11nm,1.0s,comp=E,5.0nm,0.8s						
JFFD	**Fukushimafurud**	**0.69**	**272**	P	**Pg**	**20 49 46.9**	**0.0**
JFFD	**Fukushimafurud**	**0.69**	**272**	A	A	20 49 46.9	
	comp=E,8.0nm,9.0s,comp=E,8.0nm,1.3s						
JMST	**Minamisoumatoc**	**0.78**	**327**	P	**Pb**	**20 49 47.8**	**-0.7**
JMST				S	**Sb**	**20 49 57.9**	**-0.9**
JMST	**Minamisoumatoc**	**0.78**	**327**	A	A	20 49 47.8	
	comp=E,10.0nm,1.1s,comp=E,10.0nm,2.0s						
JHO	**Hitachi**	**0.83**	**236**	‖P	**Pb**	**20 49 48.8**	**-0.5**
JHO	**Hitachi**	**0.83**	**236**	A	A	20 49 48.8	
	comp=E,7.0nm,7.6s,comp=E,7.0nm,2.8s						
JMM	**Marumori**	**0.94**	**328**		**Pb**	**20 49 50.3**	**-0.9**
JMM	**Marumori**	**0.94**	**328**	P	**Pb**	**20 49 51.1**	**-0.1**
JMM	**Marumori**	**0.94**	**328**	P	**Pb**	**20 49 50.5**	**-0.8**
JMM				*e*S	**Sb**	**20 50 02.3**	**-1.1**
JMM	**Marumori**	**0.94**	**328**	A	A	20 49 50.5	
	comp=E,7.0nm,0.4s,comp=E,8.0nm,0.5s						
JHYU	**Hitachinakayam**	**0.99**	**223**	A	A	20 49 51.8	
	comp=E,13nm,1.8s,comp=E,10.0nm,0.9s						
JSB	**Shiboa**	**1.21**	**265**	A	A	20 49 54.8	
	comp=E,27nm,1.1s,comp=E,15nm,1.2s						
JIKH	**Ishinomakikobu**	**1.23**	**1**	A	A	20 49 54.7	
	comp=E,7.0nm,2.5s,comp=E,6.0nm,8.0s						
JYT	**Yasato**	**1.30**	**230**	A	A	20 49 56.3	
	comp=E,10.0nm,0.3s,comp=E,9.0nm,0.5s						
JYAR	**Yonezawaarcadi**	**1.32**	**310**	A	A	20 49 56.1	
	comp=E,31nm,1.0s,comp=E,38nm,1.0s						
JIHU	**Itakohorinouch**	**1.32**	**213**	A	A	20 49 56.7	
	comp=E,31nm,1.4s,comp=E,31nm,1.8s						
JIO	**Ouri**	**1.38**	**358**	*i* P	**Pn**	**20 49 56.9**	**-1.1**
JIO				S	**Sn**	**20 50 13.7**	**-2.1**
JFY	**Yanaizu**	**1.41**	**284**	*i* P	**Pn**	**20 49 58.8**	**+0.4**
JFY				S	**Sb**	**20 50 17.7**	**+0.5**
JFY	**Yanaizu**	**1.41**	**284**	A	A	20 49 58.8	
	comp=E,7.0nm,1.2s,comp=E,5.0nm,2.1s						
JOU	**Okura**	**1.42**	**335**	*i* P	**Pn**	**20 49 58.5**	**-0.1**
JOU				S	**Sn**	**20 50 16.6**	**-0.4**
JOU	**Okura**	**1.42**	**335**	A	A	20 49 58.5	
	comp=E,9.0nm,0.7s,comp=E,12nm,1.5s						
CHOJ	**Chosi**	**1.44**	**199**	A	A	20 49 58.5	
	comp=E,6.0nm,2.7s,comp=E,11nm,1.1s						
JYS	**Shirataka**	**1.57**	**317**	A	A	20 49 59.8	
	comp=E,22nm,1.0s,comp=E,18nm,0.9s						
JOFO	**Osakifurukawao**	**1.58**	**345**	A	A	20 49 59.8	
	comp=E,44nm,1.5s,comp=E,33nm,1.4s						
JAG	**Ashikaga**	**1.71**	**248**	A	A	20 50 02.2	
	comp=E,2.0nm,2.5s,comp=E,4.0nm,2.4s						
JNS	**Sasagawa**	**1.83**	**295**	A	A	20 50 03.7	
	comp=E,3.0nm,5.7s,comp=E,2.0nm,0.8s						
JMK	**Ichinoseki**	**1.88**	**355**	A	A	20 50 04.2	
	comp=E,5.0nm,1.7s,comp=E,3.0nm,6.9s						
JCN	**Nagara**	**1.93**	**211**	A	A	20 50 05.4	
	comp=E,14nm,3.2s,comp=E,13nm,3.2s						
OFUJ	**Ofunato**	**2.01**	**5**	A	A	20 50 06.0	
	comp=E,3.0nm,1.5s,comp=E,2.0nm,8.8s						
JYK	**Kaneyama**	**2.02**	**336**	A	A	20 50 06.3	
	comp=E,6.0nm,3.7s,comp=E,3.0nm,3.1s						
JYA	**Atsumi**	**2.03**	**319**	A	A	20 50 06.5	
	comp=E,18nm,0.9s,comp=E,15nm,0.9s						
JHU	**Hanno**	**2.12**	**235**	A	A	20 50 08.1	
	comp=E,2.0nm,5.2s,comp=E,3.0nm,1.8s						
JKUC	**kamogawauchiur**	**2.15**	**208**	A	A	20 50 08.7	
	comp=E,5.0nm,8.2s,comp=E,5.0nm,6.0s						
JIZZ	**Izumozaki**	**2.21**	**283**	A	A	20 50 09.2	
	comp=E,16nm,1.4s,comp=E,11nm,3.5s						
JRY	**Ryogami san**	**2.29**	**243**	A	A	20 50 10.6	
	comp=E,3.0nm,4.6s,comp=E,3.0nm,4.8s						
JGK	**Kuni**	**2.29**	**258**	A	A	20 50 10.5	
	comp=E,3.0nm,1.8s,comp=E,5.0nm,3.1s						
JRG	**Rokugo**	**2.40**	**345**	A	A	20 50 11.6	
	comp=E,4.0nm,3.6s,comp=E,3.0nm,0.8s						
JOD2	**Odawara 2**	**2.62**	**227**	A	A	20 50 15.3	
	comp=E,3.0nm,1.3s,comp=E,3.0nm,5.4s						
MJAR	**Matsushiro Arr**	**2.63**	**259**	Pn	**Pn**	**20 50 15.6**	**+0.3**
	2.0nm,0.3s,baz=81,slow=15,SNR=14						
MJAR				Sn	**Sb**	**20 50 50.1**	**-2.2**
	2.6nm,0.3s,baz=242,slow=32,SNR=2.3						
MJAR				LR	LR	20 51 28.8	
	comp=Z,315nm,19.5s,baz=156,slow=46						
	14nm,0.4s						
MAJO	**Matsushiro**	**2.64**	**259**		**Pn**	**20 50 16.8**	**+1.6**
MAJO	**Matsushiro**	**2.64**	**259**	P	**Pn**	**20 50 17.0**	**+1.8**
MJB9	**Matsu-Tunnel**	**2.64**	**259**	Pn	**Pn**	**20 50 18.0**	**+2.7**
JYW	**Yuwa**	**2.64**	**339**	A	A	20 50 15.1	
	comp=E,6.0nm,2.9s,comp=E,8.0nm,2.6s						
JSZI	**Iwateshizukuis**	**2.69**	**352**	A	A	20 50 15.7	
	comp=E,6.0nm,3.6s,comp=E,7.0nm,5.8s						
JSD	**Sado**	**2.69**	**292**	P	**Pn**	**20 50 16.8**	**+0.8**
JHTM	**Izuhatsuma**	**2.88**	**224**	A	A	20 50 19.1	
	comp=E,5.0nm,1.4s,comp=E,6.0nm,4.9s						
JGF	**Kuroka**	**3.60**	**247**		**Pn**	**20 50 30.6**	**+2.1**
JGF	**Kuroka**

PKIN **Phulchoki** 47.69 275 *eP* P 20 58 09.7 +0.1
comp=Z,4.4nm,0.6s
GKN **Gorkha** 48.11 276 *eP* P 20 58 13.3 +0.6
comp=Z,33nm,0.8s
DANN **Dangsing** 48.65 277 *eP* P 20 58 17.7 +0.6
comp=Z,39nm,0.9s
MDM **Murphy Dome** 48.88 32 P P 20 58 19.0 +1.0
MDM IAmb IAmb 20 58 27.0
comp=Z,8.6nm,1.0s
POKR **Poker Plat Res** 49.21 32 P P 20 58 20.4 0.0
POKR IAmb IAmb 20 58 30.1
comp=Z,8.4nm,0.8s
IL31 49.46 32 P P 20 58 22.3 0.0
IL31 IAmb IAmb 20 58 30.4
comp=Z,5.4nm,0.9s
ILAR **Eielson Array** 49.46 32 P P 20 58 22.9 +0.6
comp=Z,1.3nm,0.8s,baz=267,slow=5.6,SNR=13
comp=Z,1.3nm,0.8s
ILAR **Eielson Array** 49.46 32 P P 20 58 22.4 +0.1
BVAR **Borovoye Array** 50.55 312 P P 20 58 30.6 -0.2
comp=Z,0.9nm,0.5s,baz=69,slow=7.4,SNR=7.6
BVAR PcP PcP 20 59 48.9 +0.5
comp=Z,0.8nm,0.6s,baz=64,slow=3.4,SNR=2.4
comp=Z,0.9nm,0.5s
BRVK **Borovoye** 50.61 312 P P 20 58 30.4 -0.8
BCAR **Beaver Creek A** 51.86 34 P P 20 58 41.8 +1.3
BARN **Barnard Glacie** 52.23 37 P P 20 58 42.2 -1.3
BARN IAmb IAmb 20 58 43.4
comp=Z,12nm,0.9s
KK31 **Karatay Array** 53.11 300 P P 20 58 49.0 -1.2
KKAR **Karatay Array** 53.11 300 P 20 58 49.5 -0.6
KKAR **Karatay Array** 53.11 300 P P 20 58 49.5 -0.6
KKAR IAmb IAmb 20 58 51.0
comp=Z,3.0nm,1.2s
EPYK **Eagle Plains** 53.49 30 P P 20 58 52.1 -0.5
INK **Inuvik** 54.35 27 P P 20 58 59.6 +0.9
comp=Z,0.6nm,0.5s,baz=288,slow=3.2,SNR=1.9
comp=Z,0.6nm,0.5s
GAR **Garm** 54.69 295 P P 20 59 01.0 -0.8
GAR IAmb IAmb 20 59 09.9
comp=Z,4.7nm,0.5s
N31M **Braeburn, Yuko** 54.92 36 P P 20 59 03.8 +0.7
CHGR **Chuyangaron** 55.66 295 P P 20 59 08.5 -0.3
ARU **Arti** 56.34 319 P P 20 59 13.2 0.0
comp=Z,3.1nm,0.6s,baz=31,slow=4.3,SNR=10
comp=Z,3.1nm,0.6s
ARU **Arti** 56.34 319 P P 20 59 12.8 -0.4
ARU IAmb IAmb 20 59 20.8
comp=Z,7.3nm,0.6s
CTA **Charters Tower** 57.04 175 P P 20 59 17.1 -1.4
comp=Z,0.5nm,0.3s,baz=323,slow=5.1,SNR=1.2
comp=Z,0.5nm,0.3s
WRA **Warramunga Arr** 57.10 188 P P 20 59 18.6 -0.4
comp=Z,1.6nm,0.5s,baz=5.5,slow=7.4,SNR=11
WRA PcP PcP 21 00 14.2 +0.5
comp=Z,1.2nm,0.6s,baz=3.7,slow=4.1,SNR=2.1
comp=Z,1.6nm,0.5s
WRA **Warramunga Arr** 57.10 188 P P 20 59 17.2 -1.8
ABKAR **Akbulak array** 57.92 310 P P 20 59 23.9 -0.6
ABKAR IAmb IAmb 20 59 32.4
comp=Z,2.5nm,0.8s
ASAR **Alice Springs** 60.83 188 P P 20 59 45.0 +0.1
comp=Z,1.1nm,0.7s,baz=17,slow=6.8,SNR=6.6
comp=Z,1.1nm,0.7s
ASAR **Alice Springs** 60.83 188 P P 20 59 44.6 -0.3
GEYT **Alibeck** 63.82 299 P P 21 00 03.5 -1.5
comp=Z,1.6nm,0.8s,baz=216,slow=4.8,SNR=4.0
comp=Z,1.6nm,0.8s
ARCES **ARCESS Array B** 63.96 339 P P 21 00 04.6 -0.7
comp=Z,3.0nm,0.9s,baz=42,slow=7.2,SNR=1.6
comp=Z,3.0nm,0.9s
WISH **Wishkah** 66.88 48 P P 21 00 25.7 +1.3
FINES **FINESS Array B** 68.78 332 P P 21 00 36.7 +0.5
comp=Z,12nm,1.2s,baz=44,slow=6.6,SNR=4.1
comp=Z,12nm,1.2s
KBZ **Khabaz** 70.88 311 P P 21 00 50.1 +0.7
comp=Z,1.8nm,0.8s,baz=44,slow=6.8,SNR=2.7
comp=Z,1.8nm,0.8s
KARS **Kars** 72.48 308 P P 21 00 59.1 -0.3
NB2 **NORSAR Subarra** 74.15 337 P P 21 01 09.0 +0.3
comp=Z,6.6nm,1.2s,baz=40,slow=5.9
NOA **NORSAR Array B** 74.15 337 P P 21 01 08.6 -0.1
comp=Z,0.7nm,0.8s,baz=39,slow=5.8,SNR=2.1
comp=Z,0.7nm,0.8s
AKASG **Malin Array Be** 74.27 322 P P 21 01 09.5 -0.1
comp=Z,0.9nm,0.5s,baz=46,slow=6.2,SNR=9.7
comp=Z,0.9nm,0.5s
NVAR **Mina Array Bea** 74.96 53 P P 21 01 15.9 +1.8
comp=Z,0.3nm,0.3s,baz=301,slow=7.0,SNR=1.7
comp=Z,0.3nm,0.3s
PDAR **Pinedale Array** 77.63 45 P P 21 01 30.4 +1.2
comp=Z,0.5nm,0.6s,baz=324,slow=3.7,SNR=1.5
comp=Z,0.5nm,0.6s
BUR08 **Bucovina Ar. S** 78.27 322 P P 21 01 32.6 +0.1
BUR08 IAmb IAmb 21 01 33.4
comp=Z,4.8nm,1.3s
BRTR **Keskin Array B** 78.83 312 P P 21 01 35.6 -0.1
comp=Z,0.4nm,0.6s,baz=31,slow=2.4,SNR=1.9
comp=Z,0.4nm,0.6s
PV10 **Paradox Valley** 80.74 49 P P 21 01 46.5 +0.3
CLL **Collm** 81.07 330 *eP* P 21 01 48.0 +0.6
CLL *i* (pP) sP 21 01 54.5 -0.1
comp=Z,8.0nm,1.2s
KHC **Kasperske Hory** 82.51 328 *eP* P 21 02 02.6 +7.4
GERES **GERESS Array B** 82.68 328 P P 21 01 56.5 +0.4
comp=Z,0.3nm,0.4s,baz=35,slow=4.9,SNR=4.2
comp=Z,0.3nm,0.4s
TXAR **Lajitas Array** 90.09 52 P P 21 02 34.2 +1.3
comp=Z,0.2nm,0.5s,baz=312,slow=4.5,SNR=4.6
comp=Z,0.2nm,0.5s
LPAZ **La Paz** 146.66 60 PKPbc PKPbc 21 09 15.8 +0.3
comp=Z,1.5nm,0.7s,baz=29,slow=9.2,SNR=6.3

*DJA **23** 20:53:02.8±0.7, 8˚S±3˚×10˚8E±˚, h24km±6km, M4.7/25, mB5.2/7, mb4.8/25, MLv4.9/24, Mw(mB)4.5/7*
*NEIC **23** 20:53:05.5±1.2, 7.86S±0.09×108.02E±0.05, h89km±7km, mb4.4/30, Error ellipse: s-maj=14.8km s-min=1.4km az=207.0*
*IDC **23** 20:53:07.3±0.8, 7.65S×108.16E, h96km±6km, mb4.0/22, mbtmp4.3/24, MS3.3/5, Error ellipse: s-maj=17.6km s-min=9.6km az=49.0*
ISC 23 20:53:03.9±0.5, 7.91S±0.07×107.96E±0.05, h70km, n112, σ1§63/113, mb4.4/36, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**1.13**	**343**	P	**Pn**	**20 53 26.2**	**+2.0**
	6μm,0.7s,baz=112,slow=8.1,SNR=283						
LEM				S	**Sn**	**20 53 43.6**	**+4.4**
	2μm,0.5s,baz=329,slow=23,SNR=5.9						
LEM	**Lembang**	**1.13**	**343**	P	**Pn**	**20 53 25.9**	**+1.7**
SKJI	**Sukabumi**	**1.65**	**303**	P	**Pn**	**20 53 31.5**	**+0.6**
TNG	**Tangerang**	**2.16**	**323**	P	**Pn**	**20 53 41.8**	**+4.1**
YOGI	**Yogyakarta**	**2.32**	**88**	P	**Pn**	**20 53 39.4**	**-0.5**
SBJI	**Serang**	**2.54**	**314**	P	**Pn**	**20 53 45.3**	**+2.5**
UGM	**Wanagama**	**2.54**	**90**		**Pn**	**20 53 42.1**	**-0.8**
UGM	**Wanagama**	**2.54**	**90**	P	**Pn**	**20 53 42.4**	**-0.5**
SMRI	**Semarang**	**2.61**	**71**	Pn	**Pn**	**20 53 45.7**	**+1.9**
SMRI				Sn	**Sn**	**20 54 16.3**	**+1.9**
SMRI	**Semarang**	**2.61**	**71**	P	**Pn**	**20 53 45.6**	**+1.9**
PCJI	**Pacitan**	**3.20**	**95**	P	**Pn**	**20 53 52.4**	**+0.6**
NGJI	**Ngawi**	**3.51**	**81**	P	**Pn**	**20 53 58.5**	**+2.4**
BLSI	**Bandar Lampung**	**3.69**	**313**	P	**Pn**	**20 54 00.9**	**+2.3**
PWJI	**Pagerwojo**	**3.81**	**92**	P	**Pn**	**20 54 00.5**	**+0.3**
KASI	**Kota Agung**	**4.17**	**304**	P	**Pn**	**20 54 06.6**	**+1.5**
KLI	**Kotabumi**	**4.32**	**314**	P	**Pn**	**20 54 09.4**	**+2.3**
GRJI	**Gresik**	**4.59**	**78**	P	**Pn**	**20 54 11.9**	**+1.0**
LWLI	**Liwa**	**4.82**	**306**	P	**Pn**	**20 54 15.5**	**+1.4**
GMJI	**Gumukmas**	**5.45**	**94**	P	**Pn**	**20 54 23.7**	**+1.2**
	0.7nm2μm77nm,0.7s						
PPBI	**Pangkal Pinang**	**5.99**	**342**	P	**Pn**	**20 54 32.6**	**+2.6**
	0.3nm1μm85nm,0.8s						
MNAI	**Manna**	**6.09**	**305**	Pn	**Pn**	**20 54 33.0**	**+1.5**
JAGI	**Jajag, Banyuwa**	**6.16**	**96**	Pn	**Pn**	**20 54 32.7**	**+0.5**
JAGI	**Jajag, Banyuwa**	**6.16**	**96**	P	**Pn**	**20 54 32.8**	**+0.5**
	0.8nm2μm99nm,0.8s						
ABJI	**Asem Bagus**	**6.22**	**89**	P	**Pn**	**20 54 34.0**	**+0.9**
	0.6nm116nm,0.7s						
KSI	**Kapahiang**	**6.81**	**308**	P	**Pn**	**20 54 42.5**	**+1.2**
	0.6nm136nm,0.7s						
IGBI	**Denpasar**	**7.17**	**98**	P	**Pn**	**20 54 48.4**	**+2.3**
	0.4nm2μm75nm,0.7s						
SRBI	**Singaraja**	**7.19**	**92**	P	**Pn**	**20 54 48.4**	**+2.0**
	0.4nm80nm,0.6s						
DSRI	**Dabo**	**8.11**	**335**	P	**Pn**	**20 55 02.9**	**+3.9**
	0.2nm769nm47nm,1.0s						
BBKI	**Banjar Baru**	**8.15**	**58**	P	**Pn**	**20 55 03.6**	**+4.1**
	3μm23nm,0.7s						
TWSI	**Taliwang, Sumb**	**8.87**	**96**	P	**Pn**	**20 55 10.2**	**+0.8**
	51nm,0.7s						
TPRI	**Tanjung Pinang**	**9.41**	**339**	P	**Pn**	**20 55 20.5**	**+3.7**
KSM	**Kuching**	**9.61**	**14**		**Pn**	**20 55 19.4**	**-0.1**
PLAI	**Plampang**	**9.76**	**96**	P	**Pn**	**20 55 22.4**	**+0.9**
	55nm,0.8s						
SBUM	**Sibu**	**11.13**	**23**	Pn	**Pn**	**20 55 41.4**	**+1.1**
KAPI	**Kappang**	**12.07**	**77**	P	**Pn**	**20 55 51.0**	**-2.1**
	2.7nm,0.4s,baz=222,slow=14,SNR=0.7						
KAPI	**Kappang**	**12.07**	**77**	Pn	**Pn**	**20 55 54.1**	**+1.1**
BKSI	**Bulukumba**	**12.35**	**79**	P	**Pn**	**20 55 59.4**	**+2.4**
	13nm,1.2s						
PSI	**Prapat**	**13.94**	**319**	LR	LR	21 02 49.4	
	comp=Z,107nm,20.7s,baz=132,slow=42						
MMRI	**Maumere**	**14.15**	**94**	Pn	**Pn**	**20 56 17.8**	**-3.2**
MPSI	**Mapaga**	**14.45**	**56**	P	**P**	**20 56 29.6**	**-0.2**
	16nm,1.2s						
KULM	**Kulim**	**15.00**	**331**	Pn	**Pn**	**20 56 32.0**	**-0.1**
TOLI2	**Tolitoli**	**15.62**	**56**	Pn	**Pn**	**20 56 38.7**	**-1.2**
BATI	**Baumata**	**15.68**	**100**	P	**Pn**	**20 56 39.9**	**-0.8**
	18nm,0.7s,baz=180,slow=4.0,SNR=4.5						
BATI				S	**Sn**	**20 59 29.6**	**-4.1**
	7.7nm,0.5s,baz=130,slow=19,SNR=1.9						
BATI	**Baumata**	**15.68**	**100**	P	**Pn**	**20 56 40.8**	**0.0**
	42nm,0.8s						
KKM	**Kota Kinabalu**	**16.12**	**31**	P	**P**	**20 56 47.8**	**-0.7**
KKM				IAmb	IAmb	20 57 12.5	
	comp=Z,16nm,0.9s						
MYLDM	**Lahad Datu**	**16.72**	**39**	P	**P**	**20 56 54.5**	**-0.5**
MYLDM				IAmb	IAmb	20 57 17.6	
	comp=Z,25nm,1.0s						
GTOI	**Gorontalo**	**17.24**	**61**	P	**P**	**20 57 05.2**	**+4.4**
	comp=Z,13nm,0.7s						
SANI	**Sanana**	**18.88**	**73**	P	**Pn**	**20 57 22.5**	**+2.5**
	comp=Z,28nm,0.7s						
NLAI	**Namlea**	**19.60**	**77**	P	**Pn**	**20 57 30.7**	**+2.0**
	comp=Z,25nm,1.0s						
AAI	**Ambon**	**20.56**	**79**	P	Pn	20 57 39.1	-0.9
	comp=Z,46nm,0.9s						
LBMI	**Labuha**	**20.77**	**71**	P	Pn	20 57 41.7	-0.7
	comp=Z,107nm,1.0s						
KNRA	**Kununurra**	**21.77**	**113**	P	**P**	**20 57 50.4**	**+0.4**
KNRA				IAmb	IAmb	20 58 13.0	
	comp=Z,18nm,0.7s						
DAV	**Davao City (W)**	**23.02**	**50**	LR	LR	21 09 08.9	
	comp=Z,56nm,19.1s,baz=189,slow=42						
MTN	**Manton Dam**	**23.31**	**104**		**P**	**20 58 05.7**	**-0.4**
MTN				IAmb	IAmb	20 58 32.4	
	comp=Z,43nm,1.4s						
SIJI	**Sorong**	**24.25**	**74**	P	**P**	**20 58 13.3**	**-1.4**
	comp=Z,11nm,0.7s,baz=274,slow=2.8,SNR=8.7						
	comp=Z,11nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.67**	**341**	P	**P**	**20 58 45.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=181,slow=9.7,SNR=4.2						
CMAR				PcP	**PcP**	**21 02 02.8**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=199,slow=4.2,SNR=5.1						
CMAR				LR	LR	21 11 26.1	
	comp=Z,52nm,18.1s,baz=150,slow=40						
	comp=Z,0.4nm,0.5s						
CHTO	**Chiang Mai**	**28.00**	**342**	P	**P**	**20 58 48.3**	**-0.1**
WB0	**Warramunga Arr**	**28.19**	**117**	P	**P**	**20 58 49.6**	**-0.6**
WB0				IAmb	IAmb	20 59 26.6	
	comp=Z,4.8nm,0.7s						
WRA	**Warramunga Arr**	**28.21**	**118**	P	**P**	**20 58 50.8**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=288,slow=12,SNR=12						
WRA				PcP	**PcP**	**21 02 03.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=310,slow=2.0,SNR=2.4						
	comp=Z,1.7nm,1.0s						
WRA	**Warramunga Arr**	**28.21**	**118**	P	**P**	**20 58 50.7**	**+0.4**
WRAB	**Tennant Creek**	**28.22**	**118**	P	**P**	**20 58 50.0**	**-0.4**
WRAB				IAmb	IAmb	20 59 21.7	
	comp=Z,7.5nm,0.9s						
WR0	**Warramunga Arr**	**28.39**	**118**	P	**P**	**20 58 51.6**	**-0.3**
WR0				IAmb	IAmb	20 59 23.5	
	comp=Z,11nm,1.3s						
ASAR	**Alice Springs**	**29.39**	**125**	P	**P**	**20 59 01.9**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=302,slow=8.1,SNR=15						
ASAR				PcP	**PcP**	**21 02 06.3**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=297,slow=1.9,SNR=4.1						
	comp=Z,1.7nm,0.9s						
TNCH	**TengChong**	**34.00**	**345**	P	**P**	**20 59 41.4**	**0.0**
TNCH				pP	sP	21 00 03.9	-2.9
TNCH				pmax	pmax		
	comp=Z,6.0nm,2.2s						
H08S2	**Diego Garcia H**	**35.13**	**268**	T	T	21 36 52.6	
	baz=93,slow=76,SNR=80						
H08S3	**Diego Garcia H**	**35.14**	**268**	T	T	21 36 53.2	
	baz=93,slow=76,SNR=50						
H08S1	**Diego Garcia H**	**35.15**	**268**	T	T	21 36 52.6	
	baz=93,slow=76,SNR=77						
CTA	**Charters Tower**	**38.98**	**112**	P	**P**	**21 00 23.6**	**-0.1**
	comp=Z,1.3nm,0.2s,baz=260,slow=11,SNR=4.5						
CTA				LR	LR	21 18 25.7	
	comp=Z,44nm,18.0s,baz=268,slow=39						
	comp=Z,1.3nm,0.2s						
STKA	**Stephens Creek**	**39.33**	**132**	P	**P**	**21 00 27.5**	**+1.0**
	comp=Z,7.7nm,0.8s,baz=310,slow=8.6,SNR=18						
STKA				LR	LR	21 19 03.2	
	comp=Z,42nm,19.2s,baz=20,slow=40						
	comp=Z,7.7nm,0.8s						
STKA	**Stephens Creek**	**39.33**	**132**	P	**P**	**21 00 27.3**	**+0.9**
LSA	**Lhasa**	**40.74**	**337**	P	**P**	**21 00 38.0**	**-0.6**
XAN	**Xi'an**	**41.73**	**1**	P	**P**	**21 00 46.8**	**+0.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NIL	**Nilore**	**52.85**	**323**	P	**P**	**21 02 11.3**	**-1.4**
SONM	**Songino Array**	**55.52**	**359**	P	**P**	**21 02 31.3**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=176,slow=8.4,SNR=17						
SONM				PcP	**PcP**	**21 03 31.2**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=176,slow=4.1,SNR=14						
	comp=Z,1.5nm,0.5s						
SONM	**Songino Array**	**55.52**	**359**	P	**P**	**21 02 30.7**	**-1.2**
ULN	**Ulaanbaatar**	**55.53**	**359**	P	**P**	**21 02 30.8**	**-1.2**
ULN				IAmb	IAmb	21 02 32.9	
	comp=Z,3.2nm,0.5s						
KSH	**Kashi**	**55.71**	**330**	P	**P**	**21 02 31.6**	**-1.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBL	**Kabul**	**56.00**	**321**	P	**P**	**21 02 33.9**	**-1.8**
KBL				IAmb	IAmb	21 02 52.9	
	comp=Z,2.6nm,0.7s						
DRK	**Karamyk**	**57.83**	**327**	P	**P**	**21 02 46.7**	**-2.0**
GAR	**Garm**	**58.29**	**326**	P	**P**	**21 02 50.4**	**-1.4**
CHGR	**Chuyangaron**	**58.71**	**325**	P	**P**	**21 02 53.1**	**-1.5**
BTK	**Batken**	**58.77**	**327**	P	**P**	**21 02 54.2**	**-0.7**
MK31	**Makanchi Array**	**59.06**	**340**	P	**P**	**21 02 55.6**	**-1.1**
MK31				IAmb	IAmb	21 02 57.3	
	comp=Z,2.9nm,0.5s						
MKAR	**Makanchi Array**	**59.06**	**340**	P	**P**	**21 02 55.2**	**-1.5**
	comp=Z,4.6nm,0.5s,baz=153,slow=6.3,SNR=65						
MKAR				PcP	**PcP**	**21 03 45.2**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=142,slow=6.1,SNR=3.6						
	comp=Z,4.6nm,0.5s						
KLR	**Kul'dur**	**60.59**	**18**	P	**P**	**21 03 05.7**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=252,slow=6.4,SNR=2.7						
	comp=Z,0.9nm,0.6s						
KKAR	**Karatay Array**	**61.12**	**329**	P	**P**	**21 03 09.8**	**-1.2**
KURBB	**Kurchatov Arra**	**63.63**	**340**	P	**P**	**21 03 26.8**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=157,slow=5.6,SNR=14						
KURBB				PcP	**PcP**	**21 04 03.3**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=149,slow=4.2,SNR=6.1						
	comp=Z,2.1nm,0.7s						
KURK	**Kurchatov**	**63.67**	**340**	P	**P**	**21 03 26.5**	**-1.2**
KURK				IAmb	IAmb	21 03 28.8	
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**64.65**	**345**	P	**P**	**21 03 33.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=125,slow=7.4,SNR=3.6						
	comp=Z,0.9nm,0.3s						
GEYT	**Alibeck**	**65.07**	**318**	P	**P**	**21 03 37.1**	**-0.1**
	comp=Z,2.9nm,0.4s,baz=185,slow=7.4,SNR=5.6						
	comp=Z,2.9nm,0.4s						
GEYT	**Alibeck**	**65.07**	**318**	P	**P**	**21 03 36.2**	**-1.1**
GEYT				IAmb	IAmb	21 03 38.3	
	comp=Z,14nm,1.4s						
GYA0B	**ALIBECK ARRAY**	**65.07**	**318**	P	**P**	**21 03 36.2**	**-1.1**
GYA0B				IAmb	IAmb	21 03 47.2	
	comp=Z,6.4nm,0.9s						
MAW	**Mawson**	**66.78**	**197**	P	**P**	**21 03 49.7**	**+2.1**
	comp=Z,2.6nm,0.7s,baz=72,slow=9.1,SNR=2.3						
	comp=Z,2.6nm,0.7s						
BVAR	**Borovoye Array**	**68.57**	**337**	P	**P**	**21 03 58.2**	**-0.9**
	comp=Z,4.2nm,0.5s,baz=141,slow=8.8,SNR=35						
	comp=Z,4.2nm,0.5s						
BRVK	**Borovoye**	**68.64**	**337**	P	**P**	**21 03 58.7**	**-0.8**
BRVK				IAmb	IAmb	21 03 59.7	
	comp=Z,3.3nm,0.6s						
ABKAR	**Akbulak array**	**70.67**	**329**	P	**P**	**21 04 11.2**	**-0.9**
ABKAR	**Akbulak array**	**70.67**	**329**	P	**P**	**21 04 11.1**	**-1.1**
ABKAR				IAmb	IAmb	21 04 12.5	
	comp=Z,11nm,0.6s						
VNDA	**Vanda**	**74.91**	**170**	P	**P**	**21 04 38.1**	**+1.4**
	comp=Z,1.1nm,0.5s,baz=322,slow=6.4,SNR=11						
	comp=Z,1.1nm,0.5s						
VNDA	**Vanda**	**74.91**	**170**	P	**P**	**21 04 37.9**	**+1.1**
ARU	**Arti**	**75.85**	**334**	P	**P**	**21 04 41.7**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=100,slow=6.8,SNR=6.4						
	comp=Z,2.2nm,0.4s						
KBZ	**Khabaz**	**77.95**	**318**	P	**P**	**21 04 54.4**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=171,slow=8.6,SNR=3.5						
	comp=Z,2.3nm,0.8s						
BOSA	**Boshof**	**79.88**	**242**	P	**P**	**21 05 07.5**	**+1.8**
	comp=Z,2.4nm,0.5s,baz=121,slow=4.7,SNR=16						
	comp=Z,2.4nm,0.5s						
TIXI	**Tiksi**	**80.59**	**7**	P	**P**	**21 05 06.5**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=270,slow=22,SNR=14						
	comp=Z,2.4nm,0.7s						
TIXI	**Tiksi**	**80.59**	**7**	P	**P**	**21 05 06.8**	**-1.5**
TIXI				IAmb	IAmb	21 05 08.0	
	comp=Z,3.1nm,0.7s						
BR131	**Keskin Array S**	**83.14**	**312**	P	**P**	**21 05 22.1**	**-0.5**
BR131				IAmb	IAmb	21 05 23.3	
	comp=Z,3.8nm,0.8s						
BRTR	**Keskin Array B**	**83.14**	**312**	P	**P**	**21 05 22.6**	**0.0**
	comp=Z,1.9nm,0.7s,baz=139,slow=7.3,SNR=11						
	comp=Z,1.9nm,0.7s						
AKASG	**Malin Array Be**	**88.99**	**321**	P	**P**	**21 05 50.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=90,slow=5.3,SNR=5.3						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**93.02**	**332**	P	**P**	**21 06 09.2**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=119,slow=6.7,SNR=7.6						
	comp=Z,3.9nm,0.9s						
SADO	**Sadowa**	**142.76**	**8**	PKP	**PKPdf**	**21 12 27.6**	**-1.9**
	comp=Z,5.1nm,0.8s,baz=271,slow=2.8,SNR=2.5						
TXAR	**Lajitas Array**	**143.43**	**50**	PKP	PKPbc	21 12 29.6	+1.0
	comp=Z,0.7nm,0.6s,baz=284,slow=0.4,SNR=7.1						
BDFB	**Brasilia**	**146.62**	**225**	PKPbc	**PKPab**	**21 12 40.5**	**+0.6**
	comp=Z,5.5nm,0.6s,baz=134,slow=2.7,SNR=9.9						
TKL	**Tuckaleechee C**	**150.36**	**20**	PKPbc	**PKPbc**	**21 12 48.2**	**+0.3**
	comp=Z,7.0nm,0.7s,baz=102,slow=4.6,SNR=13						

*IDC **23** 21:03:13.0±0.7, 4.96S×151.37E, h141km±7km, mb3.7/9, mbtmp4.2/11, Error ellipse: s-maj=22.3km s-min=13.7km az=112.0*
*NEIC **23** 21:03:13.5±1.1, 4.9S±0.1×151.3E±0.1, h141km±8km, mb4.4/20, Error ellipse: s-maj=23.5km s-min=6.7km az=137.0*
*DJA **23** 21:03:14.4±0.3, 5˚S±5˚×15˚1E±˚, h118km±8km, M4.6/8, mB4.9/2, mb4.4/8, MLv4.7/2, Mw(mB)4.1/2*
ISC 23 21:03:12.4±0.5, 4.97S±0.07×151.28E±0.07, h129km, n54, σ1§55/62, mb4.3/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.99**	**48**	P	**Pn**	**21 03 37.2**	**+2.0**
	2μm,0.3s,baz=50,slow=0.2,SNR=180						
KRVT				S	**Sn**	**21 03 54.0**	**+1.5**
	1μm,0.4s,baz=207,slow=23,SNR=4.8						
RABL	**Rabaul**	**1.17**	**49**	Pn	**Pn**	**21 03 38.5**	**+1.6**
RABL				Sn	**Sn**	**21 03 57.5**	**+1.9**
PMG	**Port Moresby**	**6.01**	**223**	P	**Pn**	**21 04 41.0**	**+2.0**
	130nm,0.6s,baz=67,slow=5.2,SNR=34						
PMG				S	**Sn**	**21 05 45.9**	**-0.9**
	169nm,0.6s,baz=75,slow=9.7,SNR=9.1						
PMG	**Port Moresby**	**6.01**	**223**		**Pn**	**21 04 40.3**	**+1.3**
PMG				Sn	**Sn**	**21 05 48.7**	**+1.9**
PMG	**Port Moresby**	**6.01**	**223**	P	**Pn**	**21 04 42.2**	**+3.1**
COEN	**Coen**	**11.98**	**221**	Pn	**Pn**	**21 06 00.8**	**+1.6**
SMPI	**Sarmi**	**12.89**	**283**	P	**P**	**21 06 15.7**	**-1.1**
MTSU	**Mount Surprise**	**14.75**	**207**	P	**P**	**21 06 40.2**	**+2.8**
TV1H	**Townsville Har**	**14.86**	**197**	P	**P**	**21 06 41.2**	**+2.6**
CTA	**Charters Tower**	**15.80**	**198**	P	**P**	**21 06 49.6**	**+0.5**
	5.0nm,0.5s,baz=28,slow=11,SNR=11						
CTA	**Charters Tower**	**15.80**	**198**	P	**P**	**21 06 51.8**	**+2.8**
CTAO	**Charters Tower**	**15.80**	**198**	P	**P**	**21 06 48.9**	**-0.1**
CTAO				IAmb	IAmb	21 06 52.6	
	comp=Z,33nm,1.5s						
CTAO	**Charters Tower**	**15.80**	**198**	P	**P**	**21 06 51.3**	**+2.3**
FAKI	**Fak Fak**	**19.10**	**275**	P	**Pn**	**21 07 30.0**	**+2.5**
	comp=Z,18nm,1.1s						
QIS	**Mount Isa**	**19.20**	**215**	P	**Pn**	**21 07 28.4**	**-0.3**
KDU	**Kakadu**	**20.09**	**246**	P	**P**	**21 07 38.4**	**+2.4**
EIDS	**Eidsvold**	**20.28**	**181**	P	**P**	**21 07 38.5**	**+0.6**
EIDS				IAmb	IAmb	21 07 42.7	
	comp=Z,9.1nm,0.9s						
EIDS	**Eidsvold**	**20.28**	**181**	P	**P**	**21 07 38.8**	**+0.8**
RMQ	**Roma**	**21.53**	**186**	P	**P**	**21 07 53.6**	**+2.2**
WB0	**Warramunga Arr**	**22.06**	**227**	P	**P**	**21 07 57.2**	**+0.1**
WB0				IAmb	IAmb	21 08 21.9	
	comp=Z,8.2nm,0.8s						
LIFNC	**LIFOU**	**22.07**	**137**	P	**P**	**21 07 56.8**	**-0.2**
WR0	**Warramunga Arr**	**22.08**	**226**	P	**P**	**21 07 57.4**	**+0.2**
WRA	**Warramunga Arr**	**22.21**	**226**	P	**P**	**21 07 58.5**	**-0

ILAR	**Eielson Array**	**82.89**	**22**	P		**P**	**21 15 21.1**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=248,slow=5.5,SNR=11							
	comp=Z,0.5nm,0.7s							
M27K	**Edge Creek, AK**	**83.88**	**26**	P		**P**	**21 15 26.8**	**-0.9**
M27K				IAmb		IAmb	21 15 31.0	
	comp=Z,7.6nm,1.3s							

*IDC **23** 21:05:35.3±0.9, 43°.76N×105°.62W, h0km, mb4.0/6, mbtmp3.8/11, ML3.5/5, MS2.8/2, Error ellipse: s-maj=25.8km s-min=7.9km az=148.0*
*NEIC **23** 21:05:36.5±1.2, 43°.76N±0°.03×105°.32W±0°.04, h0km±2km, ML3.4/72, Error ellipse: s-maj=7.3km s-min=3.1km az=39.0*

ISC 23 21:05:35.5±0.7, **43°.76N**±0°.05×**105°.37W**±0°.05, **h0**km, **n68, σ1°32/66, mb4.1/6, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**69**	Pg		**Pg**	**21 05 55.3**	**+0.1**
K22A	**Casper**	**1.39**	**218**			**Pg**	**21 06 01.1**	**-1.0**
K22A				IAML			21 06 23.5	
	comp=E,740nm,0.8s							
K22A				IAML			21 06 25.2	
	comp=N,736nm,0.3s							
PHWY	**Pilot Hill**	**2.45**	**181**			**Pn**	**21 06 17.4**	**+0.3**
PHWY				IAML			21 06 53.4	
	comp=N,181nm,0.3s							
RWWY	**Rawlins**	**2.47**	**214**			**Pn**	**21 06 17.8**	**+0.6**
N23A	**Red Feather La**	**2.89**	**189**			**Pn**	**21 06 23.9**	**+0.9**
N23A				IAML			21 07 07.8	
	comp=N,163nm,0.4s							
N23A				IAML			21 07 17.8	
	comp=E,125nm,0.9s							
LAO	**LASA Array**	**2.99**	**349**			**Pn**	**21 06 25.1**	**+0.9**
RLMT	**Red Lodge**	**3.10**	**297**	Pn		**Pn**	**21 06 27.2**	**+1.3**
RLMT				IAML			21 07 17.4	
	comp=E,131nm,0.3s							
RLMT				IAML			21 07 21.0	
	comp=E,120nm,0.4s							
PD31	**Pinedale Array**	**3.21**	**254**			**Pn**	**21 06 28.7**	**+1.3**
PDAR	**Pinedale Array**	**3.21**	**254**	Pn		**Pn**	**21 06 28.9**	**+1.5**
	comp=E,7.2nm,0.3s,baz=70,slow=16,SNR=50							
PDAR				Lg		Lg	21 07 11.4	
	comp=E,24nm,0.3s,baz=69,slow=31,SNR=10							
PDAR				LR		LR	21 07 19.5	
	comp=E,47nm,21.3s,baz=62,slow=34							
	comp=E,12nm,0.3s							
PDAR	**Pinedale Array**	**3.21**	**254**	Pn		**Pn**	**21 06 28.7**	**+1.3**
BW06	**Boulder Array**	**3.21**	**254**			**Pn**	**21 06 28.8**	**+1.4**
BW06				IAML			21 07 22.1	
	comp=E,89nm,0.7s							
BW06				IAML			21 07 31.1	
	comp=E,72nm,0.9s							
BRIGG	**Briggsdale**	**3.27**	**166**			**Pn**	**21 06 29.5**	**+1.5**
YMP	**Mirror Lake Pl**	**3.57**	**288**			**Pn**	**21 06 33.8**	**+1.4**
GCMT	**Greycliff**	**3.67**	**305**			**Pn**	**21 06 35.4**	**+1.8**
LKWY	**Lake**	**3.71**	**284**			**Pn**	**21 06 36.4**	**+2.2**
LKWY				IAML			21 07 45.1	
	comp=E,41nm,1.5s							
LKWY				IAML			21 07 47.7	
	comp=E,59nm,1.0s							
OGNE	**Ogallala**	**3.74**	**137**	Pn		**Pn**	**21 06 35.4**	**+0.8**
LOHW	**Long Hollow**	**3.80**	**270**			**Pn**	**21 06 37.8**	**+2.3**
LOHW				IAML			21 07 41.8	
	comp=E,36nm,1.1s							
FLWY	**Flagg Ranch**	**3.86**	**277**			**Pn**	**21 06 37.7**	**+1.4**
FLWY				IAML			21 07 46.7	
	comp=E,62nm,1.0s							
FLWY				IAML			21 07 55.7	
	comp=E,42nm,1.8s							
MOOW	**Moose Ponds**	**3.89**	**272**	Pn		**Pn**	**21 06 38.9**	**+2.2**
SNOW	**Snow King Moun**	**3.92**	**268**			**Pn**	**21 06 37.5**	**+0.4**
SNOW				IAML			21 07 51.4	
	comp=E,64nm,1.4s							
SNOW				IAML			21 08 05.8	
	comp=E,60nm,1.1s							
YPP	**Pitchstone Pla**	**3.95**	**279**			**Pn**	**21 06 39.2**	**+1.6**
ISCO	**Idaho Springs**	**3.96**	**183**	Pn		**Pn**	**21 06 38.5**	**+0.8**
REDW	**Red Top Meadow**	**4.00**	**266**			**Pn**	**21 06 39.3**	**+1.0**
REDW				IAML			21 07 56.1	
	comp=E,60nm,1.4s							
REDW				IAML			21 08 04.8	
	comp=E,81nm,0.9s							
IMW	**Indian Meadow**	**4.03**	**274**			**Pn**	**21 06 40.6**	**+2.0**
IMW				IAML			21 07 11.8	
	comp=E,61nm,0.6s							
IMW				IAML			21 07 51.8	
	comp=E,46nm,0.6s							
FXWY	**Fox Creek**	**4.10**	**270**			**Pn**	**21 06 41.6**	**+2.0**
O20A	**White River Ci**	**4.20**	**212**	Pn		**Pn**	**21 06 42.1**	**+1.1**
O20A				IAML			21 07 57.8	
	comp=N,68nm,1.4s							
O20A				IAML			21 07 58.9	
	comp=E,67nm,1.0s							
AHID	**Auburn Hatcher**	**4.30**	**259**			**Pn**	**21 06 42.3**	**0.0**
AHID				IAML			21 07 59.8	
	comp=E,57nm,0.9s							
AHID				IAML			21 08 04.1	
	comp=E,63nm,0.7s							
YHB	**Horse Butte**	**4.30**	**285**			**Pn**	**21 06 43.4**	**+1.1**
YHB				IAML			21 07 56.1	
	comp=N,33nm,0.7s							
E28A	**Huff**	**4.35**	**48**			**Pn**	**21 06 44.4**	**+1.6**
ECR	**Eagle Creek**	**4.43**	**263**	Pn		**Pn**	**21 06 46.6**	**+2.5**
RDMU	**Red Mountain**	**4.46**	**226**			**Pn**	**21 06 46.1**	**+1.6**
QLMT	**Earthquake Lak**	**4.48**	**286**			**Pn**	**21 06 46.6**	**+1.9**
DGMT	**Dagmar**	**4.79**	**9**			**Pn**	**21 06 50.8**	**+2.0**
Q24A	**Divide**	**4.79**	**178**			**Pn**	**21 06 49.6**	**+0.4**
BOZ	**Bozeman (W)**	**4.83**	**295**			**Pn**	**21 06 50.5**	**+1.0**
BOZ				IAML			21 08 10.7	
	comp=N,24nm,0.9s							
BOZ				IAML			21 08 12.5	
	comp=N,31nm,1.1s							
HWUT	**Hardware Ranch**	**5.04**	**247**			**Pn**	**21 06 53.2**	**+0.6**
HWUT				IAML			21 08 22.4	
	comp=N,35nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.17**	**156**			**Pn**	**21 06 53.9**	**-0.4**
TCUT	**Toone Canyon**	**5.19**	**242**	Pn		**Pn**	**21 06 55.0**	**+0.4**
EGMT	**Eagleton**	**5.25**	**326**	Pn		**Pn**	**21 06 56.2**	**+1.0**
HRY	**Holter Researc**	**5.43**	**305**			**Pn**	**21 06 59.8**	**+2.0**
LRM	**Limekiln Ridge**	**5.44**	**295**	Pn		**Pn**	**21 06 58.9**	**+0.8**
MCMT	**McKenzie Canyo**	**5.47**	**284**			**Pn**	**21 06 59.5**	**+1.0**
JLU	**Jordanelle**	**5.50**	**237**			**Pn**	**21 06 59.8**	**+0.9**
MDND	**Maddock**	**5.75**	**43**			**Pn**	**21 07 02.4**	**+0.4**
BGNE	**Belgrade**	**5.83**	**111**			**Pn**	**21 07 02.4**	**-0.7**
PV07	**Paradox Valley**	**5.86**	**206**	Pn		**Pn**	**21 07 04.5**	**+0.7**
PV15	**Paradox Valley**	**5.90**	**205**			**Pn**	**21 07 04.9**	**+0.6**
SDCO	**Great Sand Dun**	**6.00**	**181**			**Pn**	**21 07 06.5**	**+0.7**
S22A	**4UR Ranch, Cre**	**6.11**	**191**	Pn		**Pn**	**21 07 08.1**	**+0.9**
ECSD	**EROS Data Cent**	**6.35**	**87**			**Pn**	**21 07 10.8**	**+0.6**
HLID	**Hailey**	**6.56**	**271**	Pn		**Pn**	**21 07 15.2**	**+1.8**
DUG	**Dugway, Tooele**	**6.59**	**240**			**Pn**	**21 07 15.3**	**+1.6**
MSO	**Missoula**	**6.78**	**300**	Pn		**Pn**	**21 07 17.3**	**+1.1**
F33A	**5 Mile Ranch,**	**6.79**	**69**			**Pn**	**21 07 16.1**	**-0.2**
MVCO	**Mesa Verde**	**6.96**	**201**	Pn		**Pn**	**21 07 21.2**	**+2.4**
ELK	**Elko**	**7.91**	**251**	Pn		**Pn**	**21 07 32.9**	**+0.9**
	comp=N,0.3nm,0.3s,baz=53,slow=12,SNR=3.9							
	comp=N,0.9nm,0.3s							
AGMN	**Agassiz Nation**	**8.03**	**52**	Pn		**Pn**	**21 07 33.4**	**+0.1**
I10CA	**LAC DU BONNET**	**9.07**	**41**	I			22 00 20.0	
	baz=222,slow=326,SNR=6.8							
ULM	**Lac du Bonnet**	**9.18**	**42**	Pn		**Pn**	**21 07 48.0**	**-1.0**
	comp=N,2.4nm,0.3s,baz=222,slow=10.0,SNR=12							
	comp=N,5.3nm,0.3s							
NVAR	**Mina Array Bea**	**11.11**	**246**	Pn		**Pn**	**21 08 15.8**	**+0.1**
	comp=N,0.2nm,0.3s,baz=48,slow=11,SNR=1.9							
	comp=N,0.6nm,0.5s							
TXAR	**Lajitas Array**	**14.46**	**174**	Pn		**Pn**	**21 09 04.1**	**+2.7**
	baz=356,slow=10,SNR=1.6							
	comp=N,0.1nm,0.4s							
CMIG	**Matias Romero**	**28.03**	**158**	LR		LR	21 24 40.3	
	comp=N,76nm,19.7s,baz=199,slow=41							
ARCES	**ARCESS Array B**	**61.42**	**18**	P		**P**	**21 15 51.8**	**-1.2**
	comp=N,0.9nm,0.5s,baz=299,slow=2.5,SNR=9.7							
	comp=N,0.9nm,0.5s							
FINES	**FINESS Array B**	**68.04**	**23**	P		**P**	**21 16 36.4**	**+0.1**
	comp=N,3.7nm,1.1s,baz=348,slow=5.8,SNR=4.4							
	comp=N,3.7nm,1.1s							
AKASG	**Malin Array Be**	**77.97**	**28**	P		**P**	**21 17 34.2**	**-1.0**
	comp=N,0.5nm,0.4s,baz=330,slow=5.5,SNR=2.9							
	comp=N,0.5nm,0.4s							
ZALV	**Zalesovo Beam**	**82.28**	**354**	P		**P**	**21 17 57.0**	**-1.4**
	comp=N,0.7nm,0.3s,baz=18,slow=6.2,SNR=1.9							
	comp=N,0.7nm,0.3s							

SONM	**Songino Array**	**84.59**	**339**	P		**P**	**21 18 09.9**	**-0.8**
	comp=N,0.4nm,0.8s,baz=29,slow=3.3,SNR=2.5							
	comp=N,0.4nm,0.8s							
MKAR	**Makanchi Array**	**89.58**	**355**	P		**P**	**21 18 33.9**	**-0.9**
	comp=N,0.6nm,0.7s,baz=343,slow=4.5,SNR=4.8							
	comp=N,0.6nm,0.7s							

*LJU **23** 21:10:40.3, 46°.32N×13°.27E, h8km, ML0.8*

ISC 23 21:10:40.9±1.7, **46°.33N**±0°.04×**13°.27E**±0°.03, **h4**km±24km, **n11, σ0°34/19, 1D, Austria**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VINO	**Villanova**	**0.07**	**172**	⇓*e*Pg		**Pg**	**21 10 42.3**	**-0.1**
VINO				*e*Sg		**Sg**	**21 10 43.7**	**+0.2**
BAD	**Bernadia**	**0.09**	**191**	*e*Pg		**Pg**	**21 10 42.6**	**-0.2**
BAD				*e*Sg		**Sg**	**21 10 44.4**	**+0.3**
BOO	**Bordano**	**0.12**	**267**	*e*Pg		**Pg**	**21 10 42.9**	**-0.4**
BOO				*e*Sg		**Sg**	**21 10 44.7**	**-0.1**
ROBS	**Robic**	**0.19**	**116**	*i* Pg		**Pg**	**21 10 44.1**	**-0.4**
ROBS				*i* Sg		**Sg**	**21 10 47.0**	**+0.1**
ROBS				IAML			21 10 47.5	
	comp=Z,4.2nm,0.1s							
FUSE	**Fusea**	**0.20**	**296**	*e*Pg		**Pg**	**21 10 44.9**	**0.0**
FUSE				*e*Sg		**Sg**	**21 10 47.7**	**+0.1**
COLI	**Coloredo**	**0.21**	**158**	*e*Pg		**Pg**	**21 10 44.9**	**0.0**
MPRI	**Monte Prat**	**0.21**	**247**	*e*Pg		**Pg**	**21 10 44.7**	**-0.3**
MPRI				*e*Sg		**Sg**	**21 10 48.5**	**+0.7**
LSR	**Lussari**	**0.23**	**50**	*e*Pg		**Pg**	**21 10 45.2**	**-0.3**
LSR				*e*Sg		**Sg**	**21 10 49.0**	**+0.4**
ACOM	**Acomizza, Ital**	**0.28**	**37**	*e*Pg		**Pg**	**21 10 46.2**	**-0.2**
ACOM				*e*Sg		**Sg**	**21 10 50.5**	**+0.4**
CLUD	**Cludinico**	**0.30**	**296**	*e*Pg		**Pg**	**21 10 46.3**	**-0.3**
ZOU	**Zoufplan**	**0.31**	**319**	*e*Pg		**Pg**	**21 10 46.8**	**-0.1**

*BGR **23** 21:11:16.9±0.7, 42°.45N×13°.55E, h10km, ML3.4/5, Error ellipse: s-maj=11.1km s-min=8.9km az=171.0*
*LDG **23** 21:11:16.7±0.1, 42°.72N×13°.21E, h10km, Ml2.9/13, Error ellipse: s-maj=4.4km s-min=2.5km az=47.0*
*ROM **23** 21:11:17.4±0.0, 42°.714N±0°.002×13°.271E±0°.002, h14km, ML3.8/7, Error ellipse: s-maj=0.2km s-min=0.0km az=66.0*
*PRU **23** 21:11:17.7±0.0, 42°.84N×13°.00E, h0km*

ISC 23 21:11:17.3±0.7, **42°.70N**±0°.01×**13°.24E**±0°.02, **h16**km±3km, **n213, σ1°81/299, 27C-11D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.01**	**285**	⇑P		**Pg**	**21 11 20.5**	**+0.1**
T1202				S		**Sg**	**21 11 22.4**	**0.0**
T1201	**Domo (RI)**	**0.04**	**169**	P		**Pg**	**21 11 20.7**	**+0.3**
T1201				S		**Sg**	**21 11 22.7**	**+0.3**
T1204	**Amatrice, Fraz**	**0.06**	**113**	⇓P		**Pg**	**21 11 20.5**	**-0.1**
T1204				S		**Sg**	**21 11 22.3**	**-0.5**
T1244	**Arquata del Tr**	**0.07**	**37**	⇓P		**Pg**	**21 11 20.3**	**-0.3**
T1244				S		**Sg**	**21 11 22.2**	**-0.6**
T1213	**Norcia, Frazio**	**0.09**	**286**	⇑P		**Pg**	**21 11 21.0**	**+0.3**
T1213				S		**Sg**	**21 11 23.5**	**+0.5**
T1218	**Civita (PG)**	**0.10**	**252**	⇑P		**Pg**	**21 11 21.3**	**+0.4**
T1218				S		**Sg**	**21 11 24.0**	**+0.8**
SMA1	**SAN MARTINO**	**0.10**	**135**	⇓P		**Pg**	**21 11 20.9**	**0.0**
SMA1				S		**Sg**	**21 11 23.1**	**-0.1**
T1212	**Cascia, Frazio**	**0.15**	**290**	⇑P		**Pg**	**21 11 21.9**	**+0.4**
T1212				S		**Sb**	**21 11 25.0**	**+0.1**
T1243	**Rocca Santa Ma**	**0.15**	**91**	P		**Pg**	**21 11 21.2**	**-0.3**
T1243				S		**Sg**	**21 11 23.8**	**-0.5**
T1245	**Castelsantange**	**0.16**	**346**	⇓P		**Pg**	**21 11 21.6**	**-0.1**
T1245				S		**Sg**	**21 11 24.4**	**-0.2**
T1245				AML	AML			
	comp=E,97900μm,1.1s							
T1245				AML	AML			
T1245				AML	AML			
T1245				AML	AML			
T1245				AML	AML			
	comp=E,97850μm,1.1s							
NRCA	**Norcia**	**0.16**	**325**	P		**Pg**	**21 11 21.7**	**+0.1**
NRCA				S		**Sg**	**21 11 24.6**	**+0.1**
LNSS	**Leonessa**	**0.18**	**237**	⇑P		**Pb**	**21 11 22.6**	**+0.3**
LNSS				S		**Sb**	**21 11 26.4**	**+0.8**
RM33	**Pellescritta (**	**0.19**	**186**	⇑P		**Pb**	**21 11 22.7**	**+0.1**
RM33				S		**Sb**	**21 11 26.2**	**+0.2**
CAMP	**Campotosto**	**0.21**	**143**	⇑P		**Pg**	**21 11 22.5**	**+0.2**
CAMP				S		**Sg**	**21 11 26.1**	**+0.5**
T1241	**Roccafluvione,**	**0.21**	**42**	P		**Pg**	**21 11 21.9**	**-0.4**
T1241				S		**Sg**	**21 11 25.1**	**-0.6**
T1246	**Crognaleto (TE**	**0.22**	**122**	⇑P		**Pg**	**21 11 22.5**	**0.0**
T1246				S		**Sg**	**21 11 26.0**	**0.0**
T1217	**Poggiodomo (PG**	**0.23**	**273**	⇑P		**Pb**	**21 11 23.2**	**0.0**
T1217				S		**Sb**	**21 11 27.4**	**+0.4**
T1216	**Preci, Frazion**	**0.25**	**320**	P		**Pg**	**21 11 23.2**	**+0.2**
T1216				S		**Sg**	**21 11 27.2**	**+0.5**
T1216				AML	AML			
	comp=E,31900μm,0.3s							
T1216				AML	AML			
	comp=N,41200μm,1.5s							
T1216				AML	AML			
	comp=N,41250μm,1.5s							
T1247	**Pizzolo (AQ)**	**0.26**	**171**	⇑P		**Pg**	**21 11 23.7**	**+0.5**
T1247				S		**Sb**	**21 11 28.5**	**+0.5**
T1247				AML	AML			
	comp=E,13600μm,0.6s							
T1247				AML	AML			
	comp=N,11935μm,0.4s							
TERO	**Teramo**	**0.28**	**106**	⇑P		**Pg**	**21 11 23.2**	**-0.2**
TERO				S		**Sg**	**21 11 27.2**	**-0.4**
AM05	**Amandola Campo**	**0.29**	**17**	⇓P		**Pg**	**21 11 23.5**	**-0.1**
AM05				S		**Sg**	**21 11 27.8**	**0.0**
T1215	**Vallo di Nera,**	**0.29**	**290**	P		**Pg**	**21 11 24.1**	**+0.5**
T1215				S		**Sb**	**21 11 29.3**	**+0.5**
FEMA	**Monte Fema**	**0.30**	**332**	P		**Pg**	**21 11 23.9**	**+0.1**
FEMA				S		**Sg**	**21 11 28.5**	**+0.3**
T1256	**Bolognola (MC)**	**0.31**	**358**	⇓P		**Pg**	**21 11 23.7**	**-0.2**
T1256				S		**Sg**	**21 11 28.2**	**-0.3**
T1256				AML	AML			
	comp=N,20600μm,0.7s							
T1256				AML	AML			
	comp=E,19100μm,0.7s							
T1256				AML	AML			
	comp=N,20650μm,0.7s							
T1256				AML	AML			
	comp=E,19150μm,0.7s							
T1256				AML	AML			
	comp=N,19400μm,0.7s							
T1256				AML	AML			
	comp=E,18050μm,0.4s							
T1256				AML	AML			
	comp=E,18000μm,0.3s							
T1211	**Morro Reatino**	**0.33**	**240**	⇑P		**Pb**	**21 11 25.0**	**+0.1**
T1211				S		**Sb**	**21 11 30.8**	**+0.8**
T1221	**Campello sul C**	**0.33**	**299**	⇑P		**Pg**	**21 11 24.8**	**+0.5**
T1221				S		**Sb**	**21 11 30.0**	**0.0**
GIGS	**Gran Sasso**	**0.35**	**136**	P		**Pg**	**21 11 24.4**	**-0.2**
GIGS				S		**Sg**	**21 11 29.8**	**+0.2**
FDMO	**Fiordimonte**	**0.35**	**342**	⇓P		**Pg**	**21 11 24.7**	**0.0**
FDMO				S		**Sg**	**21 11 29.9**	**+0.2**
FDMO				AML	AML			
	comp=E,7340μm,1.3s							
FDMO				AML	AML			
	comp=N,8305μm,1.2s							
AQU	**L'Aquila**	**0.37**	**161**	P		**Pg**	**21 11 25.2**	**+0.3**
AQU				S		**Sg**	**21 11 30.4**	**+0.3**
GUMA	**Gualdo di Mace**	**0.37**	**11**	P		**Pg**	**21 11 25.1**	**+0.2**
GUMA				S		**Sb**	**21 11 31.1**	**0.0**
ARRO	**Arrone**	**0.37**	**251**	⇑P		**Pb**	**21 11 25.6**	**+0.1**
ARRO				S		**Sb**	**21 11 32.0**	**+1.0**
CESI	**CESI - Serrava**	**0.39**	**321**	P		**Pg**	**21 11 25.6**	**+0.3**
CESI				S		**Sb**	**21 11 31.7**	**0.0**
CSP1	**Cessapalombo**	**0.39**	**356**	⇓P		**Pg**	**21 11 25.3**	**-0.1**
CSP1				S		**Sg**	**21 11 31.2**	**+0.3**
CSP1				AML	AML			
	comp=E,15750μm,0.4s							
CSP1				AML	AML			
	comp=N,13650μm,0.3s							
CSP1				AML	AML			
	comp=N,17900μm,0.3s							
CSP1				AML	AML			
	comp=E,16350μm,0.4s							
T1219	**Muccia, Frazio**	**0.39**	**334**	P		**Pg**	**21 11 25.4**	**0.0**
T1219				S		**Sb**	**21 11 31.6**	**-0.2**
T1219				AML	AML			
	comp=E,16250μm,0.2s							
T1219				AML	AML			
	comp=N,31950μm,0.2s							
T1219				AML	AML			
	comp=N,30500μm,0.2s							
T1219				AML	AML			
	comp=E,16200μm,0.2s							
T1219				AML	AML			
	comp=E,18750μm,0.2s							
T1219				AML	AML			
	comp=N,30500μm,0.2s							
T1219				AML	AML			
	comp=E,18800μm,0.2s							
T1219				AML	AML			
	comp=N,30450μm,0.2s							
T1219				AML	AML			
	comp=N,30450μm,0.2s							
T1219				AML	AML			
	comp=N,31950μm,0.2s							
T1219				AML	AML			
	comp=E,16250μm,0.2s							
OFFI	**Offida**	**0.40**	**54**	⇑P		**Pb**	**21 11 26.1**	**0.0**
T1220	**Camerino, Fraz**	**0.42**	**345**	⇓P		**Pg**	**21 11 25.8**	**-0.1**
T1220				S		**Sb**	**21 11 32.5**	**-0.1**
FIAM	**Fiamignano**	**0.44**	**192**	⇑P		**Pg**	**21 11 26.7**	**+0.5**
FIAM				S		**Sb**	**21 11 33.7**	**+0.5**
MNTP	**Montappone**	**0.47**	**21**	P		**Pg**	**21 11 27.0**	**+0.2**
MNTP				S		**Sb**	**21 11 34.8**	**+0.9**
CESX	**Cesi**	**0.49**	**260**	⇑P		**Pg**	**21 11 27.6**	**+0.4**
CESX				S		**Sb**	**21 11 35.8**	**+1.2**
SEF1	**Sefro**	**0.49**	**334**	P		**Pg**	**21 11 27.2**	**0.0**
SEF1				S		**Sb**	**21 11 35.0**	**+0.3**
MDAR	**Monte D'Aria**	**0.50**	**352**	P		**Pg**	**21 11 27.1**	**-0.2**
MDAR				S		**Sb**	**21 11 34.7**	**-0.1**
FAGN	**Fagnano**	**0.50**	**150**	P		**Pg**	**21 11 27.5**	**+0.1**
TRTR	**Tortoreto Alta**	**0.51**	**78**	⇑P		**Pb**	**21 11 28.1**	**+0.2**
PIO1	**Pioraco**	**0.51**	**339**	P		**Pg**	**21 11 27.4**	**-0.2**
SSM1	**San Severino M**	**0.53**	**355**	P		**Pg**	**21 11 27.7**	**-0.2**
FIU1	**Fiuminata**	**0.54**	**335**	P		**Pg**	**21 11 27.9**	**-0.1**
GAG1	**Gagliole**	**0.55**	**347**	P		**Pg**	**21 11 28.4**	**+0.1**
SNTG	**Esanatoglia**	**0.60**	**338**	⇓P		**Pg**	**21 11 28.8**	**-0.3**
T0110	**Collepietro**	**0.62**	**140**	P		**Pg**	**21 11 29.1**	**-0.4**
CADA	**Capodarco di F**	**0.62**	**38**	P		**Pb**	**21 11 30.6**	**+0.7**
EL6	**Elcito**	**0.64**	**351**	P		**Pg**	**21 11 29.6**	**-0.3**
ATCC	**AVT- Casa Cast**	**0.66**	**318**	P		**Pg**	**21 11 30.2**	**0.0**
CING	**Cingoli**	**0.68**	**357**	P		**Pg**	**21 11 30.1**	**-0.5**
CIMA	**Civitanova Mar**	**0.68**	**27**	P		**Pg**	**21 11 31.4**	**+0.7**
PTQR	**Pietraquaria**	**0.69**	**170**	P		**Pb**	**21 11 30.2**	**+0.8**
FOSV	**Fossato di Vic**	**0.69**	**330**	P		**Pb**	**21 11 30.6**	**-0.5**
SRES	**S.Oreste - Sor**	**0.71**	**230**	P		**Pb**	**21 11 31.1**	**-0.3**
PP3	**Marolino**	**0.73**	**22**	P		**Pg**	**21 11 31.7**	**+0.1**
MMUR	**Monte Murano**	**0.76**	**347**	P		**Pb**	**21 11 31.6**	**-0.6**
MURB	**Monte Urbino**	**0.77**	**317**	P		**Pb**	**21 11 32.4**	**0.0**
MTCE	**Montecelio**	**0.77**	**209**	⇑P		**Pb**	**21 11 32.1**	**-0.2**
CERT	**Cerreto**	**0.78**	**194**	P		**Pb**	**21 11 32.2**	**-0.3**
SSFR	**Montelago di S**	**0.81**	**336**	P		**Pb**	**21 11 32.6**	**-0.4**
ARVD	**Arcevia**	**0.83**	**345**	P		**Pb**	**21 11 32.8**	**-0.5**
ATFO	**Monte Foce - G**	**0.83**	**324**	P		**Pb**	**21 11 32.9**	**-0.4**
ATSC	**Scheggia e Pas**	**0.83**	**331**	P		**Pb**	**21 11 33.0**	**-0.4**
INTR	**Introdacqua**	**0.85**	**144**	P		**Pb**	**21 11 32.8**	**-0.9**
MGAB	**Montegabbione**	**0.86**	**285**	P		**Pb**	**21 11 34.1**	**+0.3**
VVLD	**Villa Vallelon**	**0.88**	**161**	P		**Pb**	**21 11 34.1**	**-0.1**
RCAV	**Rocca di Cave**	**0.88**	**194**	P		**Pb**	**21 11 34.0**	**-0.3**
AOI	**Ancona**	**0.89**	**17**	P		**Pb**	**21 11 33.9**	**-0.5**
FRON	**Frontone**	**0.90**	**335**	P		**Pb**	**21 11 34.0**	**-0.5**
TB01	**Gubbio**	**0.90**	**319**	P		**Pb**	**21 11 34.5**	**-0.1**
TB02	**Pietralunga**	**0.91**	**318**	P		**Pb**	**21 11 34.5**	**-0.1**
GUAR	**Guarcino**	**0.91**	**177**	P		**Pn**	**21 11 35.5**	**+0.1**
ATVA	**AVT- Monte Val**	**0.91**	**310**	P		**Pb**	**21 11 35.0**	**+0.3**
ATVO	**AVT- Monte Val**	**0.92**	**318**	P		**Pb**	**21 11 34.8**	**-0.1**
ATBU	**Serra di Buran**	**0.93**	**327**	P		**Pb**	**21 11 34.8**	**-0.2**
TB03	**Pietralunga**	**0.93**	**319**	P		**Pb**	**21 11 35.1**	**+0.1**
CAFR	**Castel Frentan**	**0.95**	**120**	P		**Pb**	**21 11 35.2**	**-0.1**
COR1	**Corinaldo**	**0.95**	**349**	P		**Pg**	**21 11 35.8**	**+0.1**
ATMI	**Monte Miggiano**	**0.95**	**312**	P		**Pn**	**21 11 36.2**	**+0.2**
ATPC	**Poggio Castell**	**0.97**	**324**	P		**Pb**	**21 11 35.8**	**0.0**
ATPI	**Pietralunga -**	**0.97**	**321**	P		**Pb**	**21 11 35.8**	**+0.1**
RMP	**Rome, Mte Porz**	**0.97**	**204**	P		**Pb**	**21 11 35.8**	**0.0**
PIEI	**Pieia**	**0.98**	**329**	P		**Pb**	**21 11 35.7**	**-0.2**
SACS	**San Casciano

SBF	**Sospel**	**4.39**	**287**	*e*Pn		**Pn**	**21 12 20.5**	**-2.9**
SBF	**Sospel**	**4.39**	**287**	*e*P		**Pn**	**21 12 24.8**	**+1.4**
SBF				*e*Sn		**Sn**	**21 13 10.4**	**-3.9**
	comp=Z,7.5nm,0.3s							
PDG	**Podgorica**	**4.45**	**91**	⇑P		**Pn**	**21 12 23.3**	**-0.8**
FETA	**Feichten**	**4.67**	**338**	*i* Pn		**Pn**	**21 12 29.5**	**+2.2**
	comp=Z,2.9nm,0.4s							
FETA				*e*Sn		**Sn**	**21 13 23.7**	**+2.4**
	comp=Z,7.4nm,0.7s							
WTTA	**Wattenberg**	**4.70**	**347**	*i* Pn		**Pn**	**21 12 30.1**	**+2.4**
	comp=Z,0.9nm,0.2s							
WTTA				*i* Sn		**Sn**	**21 13 23.7**	**+1.7**
	comp=Z,23nm,0.7s							
WTTA	**Wattenberg**	**4.70**	**347**	*e*Pn		**Pn**	**21 12 30.4**	**+2.7**
WTTA				*e*Sn		**Sn**	**21 13 26.4**	**+4.4**
SQTA	**Sankt Quirin**	**4.74**	**343**	*e*Pn		**Pn**	**21 12 31.1**	**+2.9**
	comp=Z,8.2nm,0.3s,SNR=10.0							
SQTA				*e*Sn		**Sn**	**21 13 25.0**	**+2.1**
	comp=Z,5.5nm,0.2s							
WATA	**Walderalm**	**4.78**	**346**	*i* Pn		**Pn**	**21 12 31.7**	**+2.9**
	comp=Z,3.4nm,0.2s							
WATA				*i* Sn		**Sn**	**21 13 26.9**	**+3.0**
	comp=Z,12nm,0.4s							
ARSA	**Arzberg**	**4.83**	**19**	*i* Pn		**Pn**	**21 12 29.1**	**-0.3**
	comp=Z,2.1nm,0.2s							
ARSA				*i* Sn		**Sn**	**21 13 21.7**	**-3.2**
	comp=Z,5.1nm,0.3s							
ARSA	**Arzberg**	**4.83**	**19**	*e*Pn		**Pn**	**21 12 29.2**	**-0.2**
ARSA				*e*Sn		**Sn**	**21 13 21.8**	**-3.2**
MOTA	**Moosalm**	**4.88**	**343**	*e*Pn		**Pn**	**21 12 33.3**	**+3.1**
	comp=Z,1.2nm,0.2s							
MOTA				*e*Sn		**Sn**	**21 13 30.5**	**+4.1**
	comp=Z,3.9nm,0.3s							
LMR	**La Mourre**	**4.98**	**280**	*e*P		**Pn**	**21 12 32.7**	**+1.4**
LMR				*e*Sn		**Sn**	**21 13 24.2**	**-4.3**
	comp=Z,1.6nm,0.3s							
BIOA	**Bad Ischl, Aus**	**5.00**	**3**	*i* Pn		**Pn**	**21 12 33.7**	**+2.0**
	comp=Z,3.0nm,0.3s							
BIOA				*e*Sn		**Sn**	**21 13 30.2**	**+1.1**
	comp=Z,6.0nm,0.3s							
RJOB	**Jochberg**	**5.05**	**357**	*e*Pn		**Pn**	**21 12 35.0**	**+2.6**
RJOB				*e*Sn		**Sn**	**21 13 32.4**	**+2.1**
RETA	**Reutte**	**5.10**	**341**	*i* Pn		**Pn**	**21 12 36.1**	**+3.0**
	comp=Z,0.9nm,0.2s							
RETA				*e*Sn		**Sn**	**21 13 33.9**	**+2.3**
	comp=Z,2.8nm,0.2s							
MBDF	**Montbardon**	**5.11**	**296**	*e*Pn		**Pn**	**21 12 31.3**	**-2.0**
MBDF	**Montbardon**	**5.11**	**296**	*e*P		**Pn**	**21 12 33.9**	**+0.6**
MBDF				*e*Sn		**Sn**	**21 13 27.1**	**-4.8**
	comp=Z,2.0nm,0.3s							
TIR	**Tirane**	**5.12**	**103**	⇑P		**Pn**	**21 12 34.5**	**+1.3**
PLONS	**Plons/SG**	**5.14**	**329**	*e*Pn		**Pn**	**21 12 38.0**	**+4.3**
PLONS				*e*Sn		**Sn**	**21 13 35.6**	**+2.9**
DAVA	**Damuels**	**5.17**	**334**	*i* Pn		**Pn**	**21 12 37.2**	**+3.1**
	comp=Z,1.4nm,0.2s							
DAVA				*e*Sn		**Sn**	**21 13 38.0**	**+4.6**
	comp=Z,4.1nm,0.2s							
DAVA	**Damuels**	**5.17**	**334**	*e*Pn		**Pn**	**21 12 37.5**	**+3.4**
DAVA				*e*Sn		**Sn**	**21 13 37.6**	**+4.2**
MOA	**Molln**	**5.20**	**8**	*e*Pn		**Pn**	**21 12 35.6**	**+1.2**
	comp=Z,2.8nm,0.3s,SNR=5.3							
MOA				*i* Sn		**Sn**	**21 13 33.1**	**-1.0**
	comp=Z,2.2nm,0.2s							
MOA	**Molln**	**5.20**	**8**	*e*Pn		**Pn**	**21 12 36.2**	**+1.8**
MOA				*e*Sn		**Sn**	**21 13 34.6**	**+0.6**
RONA	**Rosalia, Austr**	**5.45**	**22**	*i* Pn		**Pn**	**21 12 38.7**	**+0.9**
	comp=Z,1.1nm,0.2s							
UBR	**Ueberruh**	**5.45**	**337**	*e*Pn		**Pn**	**21 12 42.0**	**+4.1**
UBR				*e*Sn		**Sn**	**21 13 41.6**	**+1.3**
CONA	**Conrad Observa**	**5.54**	**19**	*i* Pn		**Pn**	**21 12 40.0**	**+0.8**
	comp=Z,3.1nm,0.3s,SNR=8.4							
CONA				*i* Sn		**Sn**	**21 13 41.1**	**-1.6**
	comp=Z,5.3nm,0.4s							
WILA	**Wila**	**5.62**	**328**	*e*Pn		**Pn**	**21 12 43.4**	**+3.1**
WILA				*e*Sn		**Sn**	**21 13 46.5**	**+2.0**
SMRF	**Simiane la Rot**	**5.73**	**285**	*e*Pn		**Pn**	**21 12 38.4**	**-3.4**
SMRF	**Simiane la Rot**	**5.73**	**285**	*e*P		**Pn**	**21 12 42.9**	**+1.1**
SMRF				*e*Sn		**Sn**	**21 13 42.0**	**-5.2**
	comp=Z,1.6nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.77**	**295**	*e*P		**Pn**	**21 12 45.1**	**+2.8**
ORIF				*e*Sn		**Sn**	**21 13 42.8**	**-5.4**
	comp=Z,1.4nm,0.3s							
OHR	**Ohrid**	**5.86**	**103**	*i* Pn		**Pn**	**21 12 46.5**	**+3.0**
SLE	**Schleitheim**	**6.07**	**328**	*e*Pn		**Pn**	**21 12 48.0**	**+1.6**
SLE				*e*Sn		**Sn**	**21 13 54.1**	**-1.4**
BALST	**Balsthal**	**6.08**	**322**	*e*Pn		**Pn**	**21 12 50.8**	**+4.3**
BALST				*e*Sn		**Sn**	**21 13 56.3**	**+0.6**
GEC2	**GERESS Array S**	**6.15**	**3**	*e*Pn		**Pn**	**21 12 48.4**	**+0.8**
GEC2				*e*Sn		**Sn**	**21 13 55.6**	**-2.0**
CKRC	**Cesky Krumlov**	**6.17**	**7**	*e*SN		**Sn**	**21 13 56.1**	**-1.7**
BERGE	**Lenzkirch (DE)**	**6.28**	**327**	*e*Pn		**Pn**	**21 12 52.5**	**+3.2**
BERGE				*e*Sn		**Sn**	**21 13 59.8**	**-1.0**
MODS	**Modra-Piesok**	**6.34**	**25**	*e*PN		**Pn**	**21 12 54.8**	**+4.7**
CABF	**La Chapelle**	**6.43**	**310**	*e*Pn		**Pn**	**21 12 49.2**	**-2.1**
CABF	**La Chapelle**	**6.43**	**310**	*e*P		**Pn**	**21 12 54.1**	**+2.8**
CABF				*e*Sn		**Sn**	**21 13 59.3**	**-5.0**
	comp=Z,1.2nm,0.3s							
KHC	**Kasperske Hory**	**6.44**	**2**	*e*PN		**Pn**	**21 12 51.5**	**+0.1**
KHC				*e*SN		**Sn**	**21 14 02.1**	**-2.4**
WET	**Wettzell**	**6.45**	**358**	*e*Pn		**Pn**	**21 12 52.0**	**+0.4**
WET				*e*Sn		**Sn**	**21 14 02.7**	**-2.1**
BFO	**Black Forest**	**6.60**	**330**	*e*Pn		**Pn**	**21 12 56.2**	**+2.5**
BFO				*e*Sn		**Sn**	**21 14 06.7**	**-1.9**
BZS	**Buzias**	**6.69**	**61**	⇓P		**Pn**	**21 12 54.2**	**-0.7**
STIP	**Stip**	**6.72**	**96**	*i* Pn		**Pn**	**21 12 58.9**	**+3.6**
KRUC	**Moravsky**	**6.73**	**18**	*e*PN		**Pn**	**21 12 55.3**	**-0.1**
HINF	**Hinteralfeld**	**6.82**	**321**	*e*P		**Pn**	**21 12 59.1**	**+2.5**
HINF				*e*Sn		**Sn**	**21 14 08.2**	**-5.7**
	comp=Z,5.8nm,0.3s							
ECH	**Echery**	**6.98**	**324**	*e*Pn		**Pn**	**21 13 01.5**	**+2.7**
ECH				*e*Sn		**Sn**	**21 14 15.9**	**-1.9**
VYHS	**Vyhne**	**7.00**	**32**	*e*PN		**Pn**	**21 13 00.8**	**+1.7**
VYHS				*e*SN		**Sn**	**21 14 17.5**	**-0.7**
SURR	**Surduc**	**7.07**	**61**	⇑P		**Pn**	**21 12 59.9**	**-0.2**
CDF	**Champ du Feu**	**7.08**	**326**	*e*P		**Pn**	**21 13 02.0**	**+1.7**
CDF				*e*Sn		**Sn**	**21 14 12.6**	**-7.8**
	comp=Z,2.7nm,0.2s							
ROTZ	**Rotzenmuhle**	**7.10**	**355**	*e*Sn		**Sn**	**21 14 17.9**	**-3.0**
HAU	**Haudompre**	**7.19**	**320**	*e*P		**Pn**	**21 13 04.1**	**+2.4**
HAU				*e*Sn		**Sn**	**21 14 16.2**	**-6.8**
	comp=Z,7.4nm,0.3s							
VTS	**Vitosha**	**7.37**	**87**	⇑P		**Pn**	**21 13 06.1**	**+1.8**
GZR	**Gura Zlata**	**7.38**	**65**	⇑P		**Pn**	**21 13 03.9**	**-0.4**
SMF	**Signal de Mont**	**7.77**	**304**	*e*Pn		**Pn**	**21 13 07.0**	**-2.7**
SMF	**Signal de Mont**	**7.77**	**304**	*e*P		**Pn**	**21 13 12.0**	**+2.3**
SMF				*e*Sn		**Sn**	**21 14 30.5**	**-6.8**
	comp=Z,0.4nm,0.1s							
PAGF	**Fort de Pagny**	**7.87**	**321**	*e*P		**Pn**	**21 13 12.8**	**+1.7**
SFTF	**Sexfontaines**	**7.97**	**316**	*e*Pn		**Pn**	**21 13 09.8**	**-2.6**
	baz=135							
SFTF	**Sexfontaines**	**7.97**	**316**	*e*P		**Pn**	**21 13 14.6**	**+2.2**
LOR	**Lormes**	**8.06**	**308**	*e*P		**Pn**	**21 13 15.4**	**+1.7**
	baz=118							
AVF	**Avril sur Loir**	**8.14**	**304**	*e*P		**Pn**	**21 13 17.7**	**+3.0**
MEZF	**Maizieres J'vi**	**8.16**	**318**	*e*Pn		**Pn**	**21 13 13.1**	**-1.9**
	baz=138							
SSF	**Saint Saulge**	**8.17**	**306**	*e*Pn		**Pn**	**21 13 11.8**	**-3.4**
SSF	**Saint Saulge**	**8.17**	**306**	*e*P		**Pn**	**21 13 17.8**	**+2.6**
SAVF	**Savonnieres en**	**8.20**	**319**	*e*P		**Pn**	**21 13 19.3**	**+3.7**
BGF	**Bois d'Agland**	**8.35**	**301**	*e*Pn		**Pn**	**21 13 14.4**	**-3.3**
BGF	**Bois d'Agland**	**8.35**	**301**	*e*P		**Pn**	**21 13 20.3**	**+2.6**
ARR	**Arges**	**8.63**	**68**	⇑P		**Pn**	**21 13 22.9**	**+1.4**
VOIR		**8.93**	**68**	⇑P		**Pn**	**21 13 26.0**	**+0.3**

RHSSO ***23*** *21:11:31.9±0.3, 43°.22N×17°.55E, h4km, 2km, ML2.4/9*
BEO ***23*** *21:11:32.3±0.5, 43°.20N×17°.51E, h0km, ML2.2/7*

ISC 23 21:11:31.8±1.1, 43°.22N±0'.02×17°.58E±0'.02, h4km±10km, n34, σ0$77/60, 3C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.36**	**165**	*e*Pg	**Pg**	**21 11 37.9**	**-0.8**
STON				*e*Sg	**Sg**	**21 11 44.2**	**+0.8**
STON	**Ston**	**0.36**	**165**	*e*Pg	**Pg**	**21 11 37.8**	**-0.9**
STON				Sg	**Sg**	**21 11 43.7**	**+0.3**
STON	**Ston**	**0.36**	**165**	*e*Pg	**Pg**	**21 11 38.1**	**-0.6**
STON				*e*Sg	**Sg**	**21 11 43.9**	**+0.5**
MAKA	**Makarska**	**0.41**	**280**	*e*Pg	**Pg**	**21 11 40.2**	**+0.5**
MAKA				Sg	**Sb**	**21 11 47.1**	**-1.1**
RICI	**Ricice**	**0.42**	**310**	*e*Pg	**Pg**	**21 11 40.3**	**+0.4**
RICI				Sg	**Sb**	**21 11 47.1**	**-1.5**
LSTV	**Lastovo**	**0.68**	**228**	*e*Pg	**Pg**	**21 11 44.9**	**+0.1**
LSTV				Sg	**Sb**	**21 11 55.8**	**+0.1**
DBRK	**Dubrovnik**	**0.69**	**143**	*e*Pg	**Pg**	**21 11 44.0**	**-1.0**
DBRK				Sg	**Sg**	**21 11 54.8**	**+0.8**
TREB	**Trebinje**	**0.76**	**131**	*e*Pg	**Pg**	**21 11 45.8**	**-0.5**
TREB				*e*Sg	**Sg**	**21 11 56.7**	**+0.5**
TREB	**Trebinje**	**0.76**	**131**	*e*Pg	**Pg**	**21 11 46.0**	**-0.3**
TREB				*e*Sg	**Sb**	**21 11 58.1**	**-0.1**
BRY	**Bratogost**	**0.77**	**114**	⇓*i*Pg	**Pg**	**21 11 45.6**	**-1.0**
BRY				*e*Sg	**Sg**	**21 11 57.5**	**+0.8**
HVAR	**Hvar**	**0.83**	**267**	*e*Pg	**Pg**	**21 11 46.9**	**-0.7**
UPM	**Unac-Piva**	**0.97**	**91**	⇑*i*Pg	**Pg**	**21 11 49.6**	**-0.8**
UPM				*e*Sg	**Sb**	**21 12 04.3**	**-0.2**
HCY	**Herceg Novi**	**1.02**	**139**	⇓*i*Pg	**Pg**	**21 11 50.5**	**-0.9**
HCY				*e*Sg	**Sg**	**21 12 05.3**	**+0.6**
MGRS	**Mrkonjic Grad**	**1.25**	**344**	*e*Pg	**Pg**	**21 11 54.5**	**-1.2**
MGRS				*e*Sg	**Sg**	**21 12 11.3**	**-0.6**
HAPS	**Han Pijesak,Bl**	**1.32**	**49**	⇑*i*Pg	**Pg**	**21 11 56.2**	**-0.9**
HAPS				*e*Sg	**Sg**	**21 12 14.2**	**-0.1**
RUDO	**Rudo**	**1.37**	**72**	*e*Pg	**Pn**	**21 11 56.2**	**-1.4**
RUDO				*e*Sg	**Sb**	**21 12 16.0**	**+0.3**
A050A	**Klekovaca**	**1.47**	**329**	*e*Pn	**Pn**	**21 11 59.1**	**0.0**
BBLS	**Lazići**	**1.48**	**63**	*e*Pg	**Pn**	**21 11 59.1**	**-0.1**
BBLS				*e*Sg	**Sb**	**21 12 19.4**	**+0.4**
BBLS	**Lazići**	**1.48**	**63**	*e*Pg	**Pn**	**21 11 59.2**	**0.0**
BBLS				*e*Sg	**Sg**	**21 12 19.8**	**+0.5**
BLY	**Banja Luka**	**1.56**	**350**	*e*Pn	**Pn**	**21 12 00.7**	**+0.5**
BLY				*e*Sn	**Sn**	**21 12 20.6**	**-0.2**
BLY	**Banja Luka**	**1.56**	**350**	*e*Pg	**Pb**	**21 12 01.3**	**+0.2**
BLY				*e*Sg	**Sg**	**21 12 24.2**	**+2.4**
DRME	**Dracevica, Mon**	**1.57**	**131**	*e*Pg	**Pn**	**21 12 00.3**	**-0.1**
DRME				*e*Sg	**Sg**	**21 12 22.2**	**-0.1**
SJES	**Sjenica**	**1.75**	**88**	*e*Pn	**Pn**	**21 12 03.5**	**+0.5**
SJES				*e*Sn	**Sn**	**21 12 26.2**	**+0.4**
SJES	**Sjenica**	**1.75**	**88**	*e*Pn	**Pb**	**21 12 04.2**	**-0.3**
SJES				*e*Sn	**Sg**	**21 12 29.1**	**+1.0**
IVAS	**Ivanjica**	**1.91**	**78**	*e*Pn	**Pn**	**21 12 05.9**	**+0.8**
IVAS				*e*Sn	**Sb**	**21 12 32.1**	**+0.7**
TEKS	**Tekeris**	**1.94**	**46**	*e*Pn	**Pn**	**21 12 05.7**	**+0.2**
DIVS	**Divibare**	**1.96**	**63**	*e*Pn	**Pn**	**21 12 06.6**	**+0.8**
DIVS				*e*Sn	**Sn**	**21 12 31.5**	**+0.6**
DIVS	**Divibare**	**1.96**	**63**	*e*Pn	**Pn**	**21 12 06.8**	**+1.0**
DIVS				*e*Sn	**Sg**	**21 12 34.8**	**0.0**
GRUS	**Gruza**	**2.38**	**73**	*e*Pn	**Pn**	**21 12 13.0**	**+1.5**
SELS	**Selova**	**2.59**	**89**	*e*Pn	**Pn**	**21 12 15.4**	**+1.0**
CRES	**Cresnjev**	**3.02**	**331**	*e*Pn	**Pn**	**21 12 20.5**	**+0.2**
CRES				*e*Sn	**Sn**	**21 12 56.7**	**-0.1**
MORH	**Mrgy, Hungar**	**3.09**	**14**	⇑P	**Pg**	**21 12 30.3**	**-0.7**
BEHE	**Becsehely**	**3.30**	**350**	*e*Pn	**Pn**	**21 12 23.7**	**-0.5**
CEY	**Cerknica**	**3.38**	**319**	*e*Pn	**Pn**	**21 12 25.1**	**-0.2**

IDC ***23*** *21:22:40.3±11.0, 32°.48S×137°.88E, h0km, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=178.1km s-min=30.1km az=27.0*
AUST ***23*** *21:22:44.3±1.1, 32°.48S×138°.05E, h10km, Error ellipse: s-maj=14.3km s-min=10.0km az=41.0*

ISC 23 21:22:43.3±1.0, 32°.44S±0'.06×138°.06E±0'.05, h10km, n8, σ1$60/13, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**1.23**	**144**	P	**Pn**	**21 23 06.5**	**-0.1**
	baz=1.2						
HTT				S	**Sb**	**21 23 23.7**	**+1.1**
	baz=1.2						
BBOO	**Buckleboo**	**1.73**	**257**	P	**Pn**	**21 23 14.7**	**+1.2**
	baz=1.7						
BBOO				S	**Sb**	**21 23 37.5**	**+0.5**
	baz=1.7						
LCRK	**Leigh Creek**	**1.99**	**4**	P	**Pn**	**21 23 19.0**	**+2.0**
	baz=2.0						
LCRK				S	**Sb**	**21 23 45.3**	**+0.8**
	baz=2.0						
STKA	**Stephens Creek**	**3.05**	**80**	Pn	**Pn**	**21 23 32.9**	**+1.3**
	0.2nm,0.3s,baz=257,slow=13,SNR=1.8						
STKA				Pg	**Pb**	**21 23 37.9**	**+0.2**
	0.3nm,0.3s,baz=252,slow=12,SNR=4.0						
STKA				Lg	Lg	21 24 15.4	
	0.9nm,0.3s,baz=343,slow=19,SNR=8.0						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**3.05**	**80**	P	**Pn**	**21 23 32.9**	**+1.3**
	baz=3.1						
MULG	**Mulgathing**	**4.04**	**301**	P	**Pn**	**21 23 47.0**	**+1.7**
	baz=4.1						
MULG				S	**Sn**	**21 24 33.2**	**+0.6**
	baz=4.1						
ASAR	**Alice Springs**	**9.48**	**336**	Pn	**Pn**	**21 24 58.4**	**-1.6**
	0.1nm,0.3s,baz=176,slow=9.2,SNR=4.4						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**12.88**	**344**	Pn	**Pn**	**21 25 43.6**	**-2.9**
	baz=167,slow=11,SNR=2.0						
	0.3nm,1.1s						

BJI ***23*** *21:23:31.9±0.0, 37°.13N×141°.42E, h5km, mb5.1/70, mB5.8/64, Ms6.1/88, Ms7 6.0/83*
IDC ***23*** *21:23:34.5±0.3, 37°.13N×141°.25E, h0km, mb5.2/41, mbtmp5.1/45, ML3.7/3, MS5.5/90, Error ellipse: s-maj=12.3km s-min=7.7km az=92.0*
MOS ***23*** *21:23:35.8±1.0, 37°.18N×141°.22E, h17km, mb5.7/122, MS5.7/69, Error ellipse: s-maj=5.7km s-min=3.6km az=112.4*
NIED ***23*** *21:23:36.3, 37°.18N×141°.35E, h24km, MW5.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^17 Nm; Mrr=6.11; Mθθ 0.97; Mφφ 5.14; Mrθ 0.77; Mθφ 1.57; Mφr 2.43; Fault plane solution: M0 6.42000×10^17 NP1:φs 19.00000°, δ 33.00000°, λ -89.00000°. NP2:φs 198.00000°, δ 57.00000°, λ -90.00000°.*
JMA ***23*** *21:23:36.3±0.2, 37°.2N±0°.4×14°.1E±°, h24km±1km, MD6.2/39, MW5.8/39, E OFF FUKUSHIMA PREF*
JMA Felt IV J1 at E OFF FUKUSHIMA PREF .
NEIC ***23*** *21:23:36.9±1.7, 37°.21N±0°.04×141°.32E±0°.07, h9km±1km, mb5.7/353, Ms_20 5.5/323, Mwb5.7/96, Mww5.9, Error ellipse: s-maj=9.3km s-min=5.6km az=65.0*
NEIC ***23*** *21:23:37.3, 37°.25N×141°.30E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=3.60; Mθθ 0.08; Mφφ 3.68; Mrθ 0.81; Mθφ 2.25; Mφr 1.75; Fault plane solution: M0 4.69000×10^17 NP1:φs 25.22000°, δ 32.59000°, λ -89.81000°. NP2:φs 204.99000°, δ 57.41000°, λ -90.12000°. Principal axes: T 5.1562, Plg12.0000°, Azm295.0000°; N -1.1352, Plg0.0000°, Azm205.0000°; P -4.0209, Plg78.0000°, Azm115.0000°;*
KEA ***23*** *21:23:38.1, 37°.16N×141°.72E, h23km, MS5.1/4*
GCMT ***23*** *21:23:38.9±0.1, 37°.19N±0°.01×141°.28E, h12km, MW5.8/170, Moment Tensor Solution. s142, c288; s170, c555; Duration: 2s0 Moment tensor: Scale 10^17 Nm; Mrr=6.41±.04; Mθθ 0.84±.04; Mφφ 5.58±.04; Mrθ 1.50±.12; Mθφ 1.97±.03; Mφr 2.18±.11; Best double couple: M0 6.87900×10^17 NP1:φs 205.00000°, δ 56.00000°, λ -84.00000°. NP2:φs 15.00000°, δ 34.00000°, λ -99.00000°. Principal axes: T 6.7910, Plg11.0000°, Azm291.0000°; N 0.1850, Plg5.0000°, Azm22.0000°; P -6.9680, Plg78.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***23*** *21:23:41, 37°.21N×141°.32E, h12km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^17 Nm; Mrr=6.41; Mθθ 0.77; Mφφ 5.63; Mrθ -1.98; Mθφ 2.12; Mφr -4.11; Fault plane solution: M0 7.87000×10^17 NP1: φs 198.00000°, δ 27.00000°, λ -95.00000°. NP2:φs 23.00000°, δ 63.00000°, λ -87.00000°. Principal axes: T 7.8778, Plg18.0000°, Azm112.0000°; N -0.0073, Plg2.0000°, Azm202.0000°; P -7.8705, Plg72.0000°, Azm300.0000°;*

ISC 23 21:23:37.3±0.4, 37°.20N±0°.02×141°.32E±0°.02, h16km±1km, h16km: pP-P, n1928, σ1s50/1873, mb5.6/420, MS5.6/345, 75C-90D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.39**	**295**	P	**Pg**	**21 23 44.6**	**-0.7**
JFK	**Kawauchi**	**0.39**	**295**	A	A	21 23 44.6	
	comp=E,897nm,3.5s,comp=E,592nm,4.2s						
JFFD	**Fukushimafurud**	**0.61**	**260**	P	**Pg**	**21 23 48.3**	**-1.1**
JFFD				S	**Sg**	**21 23 57.2**	**-0.4**
JFFD	**Fukushimafurud**	**0.61**	**260**	A	A	21 23 48.3	
	comp=E,1μm,5.3s,comp=E,771nm,4.3s						

JMST	**Minamisoumatoc**	**0.62**	**327**	P		**Pg**	**21 23 48.9**	**-0.7**
JMST				S		**Sb**	**21 23 58.8**	**+0.3**
JMST	**Minamisoumatoc**	**0.62**	**327**	A		A	21 23 48.9	
	comp=E,508nm,6.7s,comp=E,564nm,2.4s							
JMM	**Marumori**	**0.78**	**328**			**Pg**	**21 23 51.6**	**-1.0**
JMM				Sg		**Sb**	**21 24 03.5**	**+0.4**
JMM	**Marumori**	**0.78**	**328**	P		**Pb**	**21 23 52.9**	**+0.3**
JMM	**Marumori**	**0.78**	**328**	*i* P		**Pg**	**21 23 51.6**	**-1.0**
JMM				S		**Sb**	**21 24 03.6**	**+0.6**
JMM	**Marumori**	**0.78**	**328**	A		A	21 23 51.6	
	comp=E,427nm,5.4s,comp=E,443nm,6.7s							
JHO	**Hitachi**	**0.84**	**226**	*i* P		**Pb**	**21 23 51.3**	**-2.3**
JHO				S		**Sb**	**21 24 02.5**	**-2.2**
JHO	**Hitachi**	**0.84**	**226**	A		A	21 23 51.3	
	comp=E,907nm,2.4s,comp=E,972nm,3.9s							
JHYU	**Hitachinakayam**	**1.04**	**215**	A		A	21 23 55.0	
	comp=E,1μm,1.7s,comp=E,901nm,3.9s							
JIKH	**Ishinomakikobu**	**1.11**	**6**	A		A	21 23 56.7	
	comp=E,277nm,3.2s,comp=E,229nm,7.1s							
JSB	**Shiboa**	**1.14**	**259**	*i* P		**Pn**	**21 23 58.1**	**-0.6**
JSB				S		**Sb**	**21 24 14.1**	**+0.8**
JSB	**Shiboa**	**1.14**	**259**	A		A	21 23 58.1	
	comp=E,2μm,4.7s,comp=E,1μm,2.7s							
JYAR	**Yonezawaarcadi**	**1.17**	**308**	A		A	21 23 57.8	
	comp=E,826nm,1.0s,comp=E,1μm,1.1s							
JIO	**Ouri**	**1.25**	**1**	⇓P		**Pn**	**21 23 59.2**	**-1.0**
JIO				⇓*e*S		**Sb**	**21 24 15.8**	**-0.7**
JIO	**Ouri**	**1.25**	**1**	A		A	21 23 59.2	
	comp=E,292nm,2.2s,comp=E,201nm,6.4s							
JOU	**Okura**	**1.27**	**336**	*i* P		**Pn**	**21 24 00.3**	**-0.2**
JOU				S		**Sg**	**21 24 18.3**	**-0.2**
JOU	**Okura**	**1.27**	**336**	A		A	21 24 00.3	
	comp=E,505nm,4.1s,comp=E,597nm,5.3s							
JFY	**Yanaizu**	**1.30**	**280**	A		A	21 23 59.7	
	comp=E,714nm,5.8s,comp=E,398nm,5.8s							
JYT	**Yasato**	**1.33**	**223**	A		A	21 23 59.6	
	comp=E,693nm,3.5s,comp=E,522nm,1.7s							
JIHU	**Itakohorinouch**	**1.39**	**208**	A		A	21 24 00.4	
	comp=E,3μm,5.2s,comp=E,4μm,5.6s							
JYS	**Shirataka**	**1.42**	**316**	A		A	21 24 01.7	
	comp=E,448nm,1.5s,comp=E,559nm,4.7s							
JOFO	**Osakifurukawao**	**1.43**	**347**	A		A	21 24 01.8	
	comp=E,2μm,2.1s,comp=E,2μm,2.0s							
CHOJ	**Chosi**	**1.54**	**194**	A		A	21 24 02.5	
	comp=E,878nm,1.8s,comp=E,1μm,4.2s							
JAG	**Ashikaga**	**1.69**	**243**	A		A	21 24 05.1	
	comp=E,491nm,5.0s,comp=E,574nm,4.2s							
JNS	**Sasagawa**	**1.71**	**292**	A		A	21 24 05.8	
	comp=E,339nm,5.1s,comp=E,268nm,6.7s							
JSMT	**Sammumatsuo**	**1.71**	**205**	A		A	21 24 05.1	
	comp=E,2μm,7.0s,comp=E,3μm,5.7s							
JMK	**Ichinoseki**	**1.75**	**358**	A		A	21 24 06.4	
	comp=E,277nm,1.9s,comp=E,144nm,3.8s							
JUON	**Uonuma**	**1.81**	**271**	A		A	21 24 07.1	
	comp=E,430nm,5.8s,comp=E,319nm,2.8s							
JYK	**Kaneyama**	**1.87**	**336**	A		A	21 24 08.3	
	comp=E,409nm,2.6s,comp=E,343nm,2.5s							
JYA	**Atsumi**	**1.88**	**318**	A		A	21 24 08.4	
	comp=E,367nm,1.4s,comp=E,355nm,3.1s							
OFUJ	**Ofunato**	**1.90**	**8**	A		A	21 24 08.5	
	comp=E,161nm,2.5s,comp=E,146nm,5.7s							
TOK	**Tokyo**	**1.97**	**220**	A		A	21 24 09.0	
	comp=E

comp=E,96nm,4.5s,comp=E,87nm,3.9s
JGF Kuroka 3.57 245 Pn **Pn 21 24 33.0 +0.8**
JGF Kuroka 3.57 245 P **Pn 21 24 34.2 +2.0**
JGF Kuroka 3.57 245 A A 21 24 32.2
comp=E,148nm,6.7s,comp=E,132nm,7.3s
JSG Sagara 3.58 226 A A 21 24 32.1
comp=E,333nm,7.7s,comp=E,341nm,9.7s
JTM Tenmabayashi 3.58 357 Pn **Pn 21 24 33.1 +0.8**
JTM Tenmabayashi 3.58 357 P **Pn 21 24 34.3 +2.0**
JTM Tenmabayashi 3.58 357 A A 21 24 32.7
comp=E,137nm,10.8s,comp=E,122nm,4.6s
JJH Hakui 3.64 267 A A 21 24 33.3
comp=E,111nm,8.9s,comp=E,158nm,3.6s
JKKS Kakegawashinom 3.65 229 A A 21 24 33.0
comp=E,299nm,4.2s,comp=E,292nm,3.0s
HMMJ Hamamatsu 2 3.74 232 A A 21 24 34.4
comp=E,108nm,2.5s,comp=E,120nm,6.6s
JAO Obara 3.81 241 A A 21 24 35.5
comp=E,149nm,5.5s,comp=E,155nm,4.9s
JSSY Shinshiroyabe 3.84 235 A A 21 24 35.9
comp=E,137nm,6.8s,comp=E,134nm,4.6s
JSI2 Shiura 2 3.91 350 A A 21 24 37.4
comp=E,181nm,2.6s,comp=E,118nm,7.5s
INU Inuyama 3.94 243 **Pn 21 24 37.6 +0.5**
INU Inuyama 3.94 243 P **Pn 21 24 39.5 +2.4**
JYTA Yamagatataniai 4.03 248 A A 21 24 38.7
comp=E,180nm,7.9s,comp=E,145nm,6.1s
JAHD Aomorihigashid 4.06 0 A A 21 24 39.3
comp=E,176nm,1.7s,comp=E,186nm,2.3s
JICN Ichinomiyachia 4.08 244 A A 21 24 39.4
comp=E,162nm,6.2s,comp=E,274nm,3.1s
JKG Kaga 4.11 259 A A 21 24 39.9
comp=E,75nm,3.6s,comp=E,84nm,6.6s
TTO5 TONANKAI O.B.S 4.15 226 A A 21 24 40.2
comp=E,434nm,4.1s,comp=E,426nm,2.8s
JOT Ohata 4.18 357 A A 21 24 41.1
comp=E,111nm,5.9s,comp=E,86nm,8.7s
JAA Atsumi 4.25 234 A A 21 24 41.6
comp=E,95nm,5.0s,comp=E,133nm,6.1s
JHJ2 Mitsune 4.26 197 Pn **Pn 21 24 41.4 -0.2**
JHJ2 Mitsune 4.26 197 P **Pn 21 24 41.6 0.0**
JHJ2 Mitsune 4.26 197 A A 21 24 41.5
comp=E,132nm,9.1s,comp=E,128nm,6.6s
JHJ Hachijo jima 2 4.26 198 Pn **Pn 21 24 41.0 -0.7**
760nm,0.3s,baz=306,slow=23,SNR=26
JHJ Sn **Sn 21 25 28.6 -2.5**
418nm,0.3s,baz=53,slow=23,SNR=9.6
JHJ LR LR 21 26 18.2
comp=Z,42µm,18.5s,baz=34,slow=39
JSR Shiriuchi 4.38 351 A A 21 24 43.9
comp=E,108nm,8.8s,comp=E,113nm,10.0s
TTO4 TONANKAI O.B.S 4.43 225 A A 21 24 44.1
comp=E,333nm,5.3s,comp=E,366nm,5.2s
JOMM Oshimamatsumae 4.43 347 A A 21 24 44.7
comp=E,60nm,8.2s,comp=E,71nm,3.2s
JEG Eigenji 4.49 244 A A 21 24 45.1
comp=E,113nm,7.5s,comp=E,100nm,4.3s
JFM Mihama 4.62 250 A A 21 24 46.9
comp=E,97nm,7.5s,comp=E,106nm,5.1s
TTO3 TONANKAI O.B.S 4.62 225 A A 21 24 46.7
comp=E,447nm,7.2s,comp=E,508nm,6.5s
JIE Ise 4.68 235 A A 21 24 47.7
comp=E,108nm,5.6s,comp=E,100nm,5.7s
JKB Kayabe 4.69 357 A A 21 24 48.2
comp=E,114nm,3.8s,comp=E,60nm,6.7s
TSUJ Tsu 2 4.69 239 A A 21 24 47.8
comp=E,90nm,7.4s,comp=E,112nm,4.4s
JAOM Aogashimamukai 4.90 196 A A 21 24 50.4
comp=E,133nm,7.1s,comp=E,140nm,9.1s
JYM2 Yakumo 2 4.96 352 A A 21 24 52.1
comp=E,87nm,8.3s,comp=E,74nm,9.0s
ERM Erimo 5.01 16 Pn **Pn 21 24 51.6 -0.3**
ERM Erimo 5.01 16 P **Pn 21 24 52.9 +1.0**
ERM Erimo 5.01 16 *de*P **Pn 21 24 50.7 -1.2**
JEM Erimo 5.01 16 P **Pn 21 24 52.7 +0.8**
JKN2 Miekihoku 5.06 236 A A 21 24 53.0
comp=E,64nm,8.1s,comp=E,63nm,6.3s
JOSM Okushiri--Mats 5.08 344 A A 21 24 53.7
comp=E,51nm,8.8s,comp=E,46nm,8.9s
TTO1 TONANKAI O.B.S 5.14 227 A A 21 24 54.1
comp=E,447nm,6.6s,comp=E,505nm,4.5s
JWT Wachi 5.15 250 A A 21 24 54.4
comp=E,78nm,7.5s,comp=E,86nm,7.0s
JHE Heguri 5.23 243 A A 21 24 55.5
comp=E,113nm,7.7s,comp=E,95nm,7.5s
JKY Yasaka 5.25 254 A A 21 24 55.9
comp=E,84nm,6.2s,comp=E,106nm,7.5s
JNB Noboribetsu 5.26 358 A A 21 24 56.3
comp=E,35nm,9.7s,comp=E,32nm,5.3s
JSHD Hidakashinhida 5.28 9 A A 21 24 56.3
comp=E,82nm,4.0s,comp=E,88nm,3.7s
JNTK Naratenkawa 5.30 238 A A 21 24 56.4
comp=E,58nm,6.5s,comp=E,56nm,7.1s
JTHR Tokachihiroo 5.31 16 A A 21 24 56.7
comp=E,36nm,9.1s,comp=E,21nm,8.1s
JHST Hiyamasetana 5.33 348 A A 21 24 57.2
comp=E,77nm,5.2s,comp=E,77nm,5.5s
JIAM Iburiatsuma 5.43 5 A A 21 24 58.6
comp=E,81nm,4.0s,comp=E,95nm,5.0s
JMMH Miemihama 5.48 234 A A 21 24 58.9
comp=E,45nm,7.0s,comp=E,38nm,8.6s
JWY Kouya 5.53 239 A A 21 24 59.6
comp=E,61nm,7.3s,comp=E,83nm,4.5s
JKSM Kasumi 5.60 255 A A 21 25 00.8
comp=E,69nm,6.3s,comp=E,64nm,9.6s
JMIK Miki 5.61 247 A A 21 25 00.9
comp=E,99nm,7.1s,comp=E,100nm,2.3s
JBT2 Biratori 2 5.63 8 A A 21 25 01.3
comp=E,32nm,4.0s,comp=E,28nm,4.4s
JTNC Tanabenakahech 5.75 236 A A 21 25 02.7
comp=E,59nm,4.3s,comp=E,85nm,4.1s
JAWN Awajishima-nag 5.87 244 A A 21 25 04.5
comp=E,122nm,6.2s,comp=E,92nm,4.1s
JWKM Wakayamakushim 5.89 232 A A 21 25 04.6
comp=E,79nm,8.7s,comp=E,51nm,3.8s
JWM Minabe 5.90 237 A A 21 25 04.8
comp=E,49nm,6.7s,comp=E,77nm,9.7s
JAD Aida 6.21 251 A A 21 25 09.3
comp=E,70nm,6.8s,comp=E,50nm,8.9s
ASAJ Asahikawa 6.97 8 LR LR 21 28 11.3
comp=Z,13µm,18.1s,baz=192,slow=39
ASAJ Asahikawa 6.97 8 P **Pn 21 25 18.4 -0.5**
JKA Kamikawa-asahi 6.97 8 Pn **Pn 21 25 18.4 -0.5**
JMN Monobe 6.99 242 Pn **Pn 21 25 19.4 +0.3**
JMN Monobe 6.99 242 P **Pn 21 25 23.6 +4.5**
JHS Saijyo 6.99 254 Pn **Pn 21 25 20.7 +1.5**
JHS Saijyo 6.99 254 P **Pn 21 25 22.3 +3.1**
NMR Nemuro--Hokkai 7.02 27 ⇓ *i*P **Pn 21 25 17.1 -2.4**
NMR *i* S **Sn 21 26 32.8 -6.2**
RUSJ Misakicho 7.51 22 *d i*P **Pn 21 25 25.0 -1.2**
RUSJ *i* S **Sn 21 26 48.6 -2.5**
YUK Yuzh-Kuril'sk 7.65 25 *e*P **Pn 21 25 25.6 -2.5**
YUK *i* S **Sn 21 26 48.3 -6.1**
YUK pmax pmax
comp=Z,913nm,0.5s
YUK pmax pmax
comp=E,209nm,0.4s
YUK pmax pmax
comp=N,272nm,0.5s
TEY Ternei 8.60 337 ⇑ *e*P **Pn 21 25 44.4 +3.3**
TEY pmax pmax
comp=Z,300nm,10.0s
TEY pmax pmax
comp=E,200nm,10.5s
TEY pmax pmax
comp=N,400nm,7.5s
TEY MLR MLR
comp=N,900nm,12.0s
TEY MLR MLR
comp=Z,1µm,12.0s
TEY MLR MLR
comp=Z,2µm,11.0s
KUR Kuril'sk 9.42 30 *e*P **Pn 21 25 51.1 -1.2**
KUR *e*S **Sn 21 27 33.8 -4.0**
KUR pmax pmax
comp=N,69nm,0.5s
KUR pmax pmax
comp=E,136nm,0.5s
KUR pmax pmax
comp=Z,359nm,0.5s
KUR smax smax
comp=E,466nm,0.5s
KUR smax smax
comp=N,296nm,0.7s
KUR MLR MLR
comp=Z,33µm,11.0s
KUR MLR MLR
comp=N,37µm,14.0s
JNU Nakatsue 9.46 248 **Pn 21 25 53.8 +0.7**
JNU Nakatsue 9.46 248 P **Pn 21 25 57.4 +4.3**
MSHR Mys Shultsa 9.47 308 *de*P **Pn 21 25 56.9 +3.8**
YSS Yuzh-Sakhalins 9.80 6 Pn **Pn 21 25 57.5 0.0**
YSS Yuzh-Sakhalins 9.80 6 P **Pn 21 25 59.2 +1.6**
YSS Yuzh-Sakhalins 9.80 6 ⇓ *e*P **Pn 21 25 57.6 0.0**
YSS *e*S **Sn 21 27 48.6 +1.3**
YSS pmax pmax
comp=Z,2µm,5.1s
YSS pmax pmax
comp=N,2µm,4.8s
YSS pmax pmax
comp=Z,150nm,0.6s
YSS smax smax
comp=N,170nm,1.3s
YSS smax smax
comp=E,4µm,4.4s
YSS MLR MLR
comp=N,51µm,13.0s
YSS MLR MLR
comp=Z,42µm,13.0s
USA0B Ussuriysk Arra 9.95 318 **Pn 21 26 01.3 +1.8**
USA0B Ussuriysk Arra 9.95 318 ⇓ *e*P Pn 21 26 04.9 +5.3
USRK Ussuriysk Ar. 9.95 318 Pn **Pn 21 26 02.4 +2.8**
comp=Z,4.0nm,0.3s,baz=131,slow=14,SNR=76
USRK LR LR 21 29 34.7
comp=Z,71µm,19.0s,baz=128,slow=36
USRK Ussuriysk Ar. 9.95 318 Pn **Pn 21 26 02.2 +2.6**
USRK Ussuriysk Ar. 9.95 318 P **Pn 21 26 02.2 +2.6**
JCJ Chichijima 10.10 176 Pn **Pn 21 25 57.5 -4.3**
comp=Z,88nm,0.3s,baz=288,slow=23,SNR=74
JCJ Sn Sn 21 27 43.3 -12
comp=Z,32nm,0.3s,baz=294,slow=20,SNR=1.0
JCJ LR LR 21 30 25.1
comp=Z,28µm,18.6s,baz=358,slow=41
JSU Suzuyama 10.62 241 Pn **Pn 21 26 11.7 +2.8**
JSU Suzuyama 10.62 241 P **Pn 21 26 10.0 +1.1**
KSRS Korea Array 10.67 275 Pn **Pn 21 26 13.4 +3.9**
comp=Z,1.9nm,0.3s,baz=90,slow=13,SNR=39
KSRS LR LR 21 29 57.7
comp=Z,50µm,21.9s,baz=85,slow=36
KSAR Wonju Array Be 10.70 275 Pn **Pn 21 26 12.2 +2.2**
KSAR Wonju Array Be 10.70 275 P **Pn 21 26 12.2 +2.2**
KS19 Wonju Array Si 10.71 276 **Pn 21 26 12.2 +2.1**
HHU Hamhung 11.13 288 P Pn 21 26 20.9 +5.0
HHU sP 21 26 28.5
HHU S Sn 21 28 31.2 +11
HHU AMS AMS
comp=N,24µm,8.3s
HHU AMS AMS
comp=E,53µm,18.0s
HHU AMS AMS
comp=Z,74µm,25.2s
TJN Taejon 11.22 270 Pn **Pn 21 26 18.8 +1.7**
TJN Taejon 11.22 270 P **Pn 21 26 20.7 +3.6**
TJN Taejon 11.22 270 ⇑ *e*P **Pn 21 26 20.7 +3.6**
MDJ Mudanjiang 11.55 314 Pn **Pn 21 26 24.0 +2.5**
MDJ Mudanjiang 11.55 314 P Pn 21 26 27.4 +5.9
MDJ pP 21 26 30.3
MDJ sP 21 26 31.9
MDJ S **Sn 21 28 32.1 +2.0**
MDJ SS **SnSn 21 28 49.8 +7.8**
MDJ pmax pmax
comp=Z,63nm,0.9s
MDJ pmax pmax
comp=Z,12µm,11.8s
MDJ LR LR
comp=N,54µm,15.0s
MDJ LR LR
comp=E,43µm,15.5s
MDJ LR LR
comp=Z,69µm,19.3s
MDJ Mudanjiang 11.55 314 P Pn 21 26 27.1 +5.6
INCN Inchon 11.70 276 **Pn 21 26 26.1 +2.5**
INCN Inchon 11.70 276 P **Pn 21 26 28.4 +4.8**
INCN P **Pn 21 26 28.4 +4.8**
INCN Inchon 11.70 276 P Pn 21 26 29.1 +5.5
INCN Inchon 11.70 276 P **Pn 21 26 26.1 +2.5**
UGL Uglegorsk 11.88 2 *e*P Pn 21 26 31.5 +5.5
UGL *e*S **Sn 21 28 38.5 +0.3**
UGL smax smax
comp=E,4µm,7.0s
UGL smax smax
comp=N,3µm,4.7s
UGL MLR MLR
comp=E,85µm,15.0s
UGL MLR MLR
comp=N,32µm,13.0s
UGL MLR MLR
comp=Z,37µm,15.0s
PYAG Pyongyang 12.39 283 P **Pn 21 26 37.3 +4.2**
PYAG sP **P 21 26 46.1 +1.1**
PYAG S **Sn 21 28 57.1 +6.3**
PYAG AMS AMS
comp=N,10µm,4.2s
PYAG AMS AMS
comp=E,17µm,7.4s
PYAG AMS AMS
comp=Z,19µm,8.2s
HJU Haeju 12.39 279 P **Pn 21 26 37.3 +4.2**
HJU sP **P 21 26 46.2 +1.1**
HJU S **Sn 21 28 58.1 +7.2**
HJU AMS AMS
comp=N,5µm,6.5s
HJU AMS AMS
comp=E,4µm,5.8s
HJU AMS AMS
comp=Z,3µm,4.3s
BNX BinXian 13.46 314 ⇓ P **Pn 21 26 47.8 +0.2**
BNX pP P 21 26 51.3 -5.6
BNX sP 21 26 53.8
BNX S **Sn 21 29 19.1 +2.2**
BNX sS S 21 29 21.9 -19
BNX pmax pmax
comp=Z,5µm,11.8s
BNX LR LR
comp=Z,27µm,13.2s
BNX LR LR
comp=Z,21µm,12.7s
BNX LR LR
comp=Z,43µm,16.6s
SUJ Sinuiju 13.47 288 P **Pn 21 26 51.1 +3.4**
SUJ sP P 21 27 01.8 +4.8
SUJ S **Sn 21 29 24.7 +7.7**
SUJ AMS AMS
comp=N,26µm,6.9s
SUJ AMS AMS
comp=E,20µm,5.4s
SUJ AMS AMS
comp=Z,43µm,11.4s
TYV Tymovskoe 13.69 4 *e*P **P 21 26 57.3 -2.1**
TYV pmax pmax
comp=Z,2µm,4.9s
TYV pmax pmax
comp=Z,150nm,0.7s
TYV MLR MLR
comp=Z,45µm,14.0s
TYV MLR MLR
comp=N,42µm,14.0s
TYV MLR MLR
comp=E,43µm,14.0s
CN2 Changchun 13.75 304 *e*P **Pn 21 26 51.1 -0.5**
CN2 PP **P 21 27 02.1 +2.0**
CN2 S **Sn 21 29 23.1 -0.8**
CN2 sS S 21 29 28.4 -18
CN2 pmax pmax
comp=E,20nm,1.4s
CN2 LR LR
comp=E,31µm,13.0s
CN2 LR LR
comp=E,35µm,13.0s
CN2 LR LR
comp=E,40µm,15.0s
KLR Kul'dur 13.88 333 Pn **Pn 21 26 53.3 -0.1**
comp=E,0.4nm,0.3s,baz=124,slow=12,SNR=6.4
KLR LR LR 21 32 09.6
comp=E,39µm,18.1s,baz=148,slow=37
comp=E,6.7nm,1.0s
KLR Kul'dur 13.88 333 ⇓ *e*P **Pn 21 26 56.1 +2.7**
KLR pmax pmax
comp=Z,17nm,1.5s
GRNR Gornyy 14.01 347 ⇑ *i*P **Pn 21 26 55.4 +0.3**
GRNR *e*S **Sn 21 29 33.7 +3.5**
GRNR pmax pmax
comp=E,2.0nm,0.6s
GRNR pmax pmax
comp=N,2.0nm,0.7s
GRNR pmax pmax
comp=Z,2.0nm,0.7s
GRNR smax smax
comp=N,4.0nm,0.6s
GRNR MLR MLR
comp=E,8µm,18.0s
GRNR MLR MLR
comp=N,7µm,15.0s
GRNR MLR MLR
comp=Z,11µm,15.0s
SNY Shenyang 14.45 294 ⇓ P **Pn 21 27 02.3 +1.2**
SNY S **Sn 21 29 46.5 +5.6**
SNY pmax pmax
comp=Z,7µm,10.8s
SNY LR LR
comp=Z,87µm,13.3s
SNY LR LR
comp=Z,82µm,16.1s
SNY LR LR
comp=Z,113µm,15.2s
JOW Kunigami 15.13 231 Pn **Pn 21 27 11.6 +1.2**
comp=Z,3.0nm,0.3s,baz=30,slow=8.1,SNR=3.3
JOW LR LR 21 32 49.1
comp=Z,5µm,19.8s,baz=51,slow=37
JOW Kunigami 15.13 231 **Pn 21 27 10.9 +0.5**
JOW IAmb IAmb 21 27 15.9
comp=Z,364nm,1.5s
JOW Kunigami 15.13 231 P **Pn 21 27 12.0 +1.6**
DL2 Dalian 15.61 282 P **P 21 27 19.3 -1.5**
DL2 pmax pmax
comp=Z,130nm,1.5s
DL2 pmax pmax
comp=Z,10µm,10.4s
DL2 LR LR
comp=Z,12µm,12.7s
DL2 LR LR
comp=Z,41µm,13.7s
DL2 LR LR
comp=Z,55µm,13.8s
HEH HeiHe 16.43 327 *e*P **Pn 21 27 25.4 -1.7**
HEH pP **P 21 27 29.9 +0.1**
HEH S **Sn 21 30 24.8 -4.3**
HEH SS **SnSn 21 30 45.5 +3.4**
HEH LR LR
comp=Z,43µm,15.9s
HEH LR LR
comp=Z,49µm,14.7s
HEH LR LR
comp=Z,39µm,17.3s
SKR Severo-Kuril's 17.14 33 *e*P **Pn 21 27 32.4 -3.6**
SKR *e*S **Sn 21 30 43.1 -3.0**
SKR pmax pmax
comp=Z,600nm,5.6s
SKR pmax pmax
comp=Z,91nm,1.2s
SKR MLR MLR
comp=Z,8µm,15.0s
SSE Sheshan 17.73 256 P **Pn 21 27 41.3 -2.2**
SSE S **Sn 21 31 01.3 +0.5**
SSE pmax pmax
comp=Z,22nm,0.7s
SSE pmax pmax
comp=Z,2µm,9.2s
SSE LR LR
comp=Z,6µm,17.0s
SSE LR LR
comp=Z,5µm,16.7s
NJ2 Nanjing 19.17 261 *e*P **P 21 27 57.9 -2.3**
NJ2 pP **pP 21 28 03.8 -0.8**
NJ2 sP **sP 21 28 07.1 +0.5**
NJ2 PP **PnPn 21 28 12.9 -1.0**
NJ2 S **S 21 31 39.4 +2.4**
NJ2 SS **SnSn 21 31 54.6 +5.0**
NJ2 pmax pmax
comp=Z,86nm,0.9s
NJ2 pmax pmax
comp=Z,3µm,7.0s
NJ2 LR LR
comp=Z,36µm,15.4s
NJ2 LR LR
comp=Z,22µm,21.2s
NJ2 LR LR
comp=Z,27µm,20.1s
ZEA Zeya 19.19 334 *e*P **P 21 28 00.1 -0.2**
ZEA *e*S Sn 21 31 21.4 -15
ZEA pmax pmax
comp=N,90nm,0.7s
ZEA pmax pmax
comp=E,50nm,0.9s
ZEA pmax pmax
comp=Z,180nm,0.9s
ZEA pmax pmax
comp=Z,2µm,10.6s
ZEA smax smax
comp=N,3µm,13.2s
TIA Tai'an 19.41 274 ⇑ P **P 21 28 01.0 -1.9**
TIA S **Sn 21 31 41.8 +0.3**
TIA pmax pmax
comp=N,83nm,1.3s
TIA pmax pmax
comp=N,6µm,9.3s
TIA LR LR
comp=N,11µm,11.8s
TIA LR LR
comp=N,30µm,12.3s
TIA LR LR
comp=N,44µm,15.7s
PEA0B Petropavlovsk- 19.58 30 P **P 21 28 03.2 -1.3**
PEA0B Petropavlovsk- 19.58 30 ⇑ *e*P **P 21 28 04.4 -0.1**
PETK Petropavlovsk- 19.58 30 P **P 21 28 04.5 0.0**
comp=N,0.6nm,0.3s,baz=212,slow=14,SNR=11
PETK PcP **PcP 21 32 24.2 +0.1**
comp=N,15nm,1.0s,baz=149,slow=3.4,SNR=1.8
PETK LR LR 21 36 33.3
comp=N,3µm,18.6s,baz=215,slow=40
comp=N,23nm,0.9s
HIA Hailar 19.73 314 **P 21 28 06.0 -0.3**
HIA Hailar 19.73 314 P **Pn 21 28 08.4 +0.6**
HIA Hailar 19.73 314 P **P 21 28 06.0 -0.3**
HIA pmax pmax
comp=Z,57nm,1.2s
BJI Beijing 19.83 286 P **P 21 28 06.6 -0.8**
BJI S **S 21 31 46.8 -3.4**
BJI pmax pmax
comp=Z,2µm,9.2s
BJI LR LR
comp=Z,18µm,12.7s
BJI LR LR
comp=Z,17µm,14.1s
BJI LR LR
comp=Z,20µm,15.2s
BJT Baijiatuau 19.84 286 P **P 21 28 05.8 -1.6**
BJT Baijiatuau 19.84 286 P **P 21 28 08.3 +0.9**
BJT Baijiatuau 19.84 286 P **P 21 28 05.8 -1.6**
BJT pmax pmax
comp=Z,180nm,1.3s
PET Petropavlovsk 19.91 32 P **P 21 28 06.6 -1.6**
PET IAmb IAmb 21 28 23.6
comp=Z,900nm,2.0s
PET Petropavlovsk 19.91 32 P **Pn 21 28 10.5 +0.7**
PET Petropavlovsk 19.91 32 *e*P **Pn 21 28 13.0 +3.2**
PET *e*S **S 21 31 50.4 -1.2**
PET pmax pmax
comp=Z,198nm,1.0s
PET pmax pmax
comp=Z,10µm,14.3s
PET pmax pmax
comp=Z,4µm,14.0s
PET MLR MLR
comp=Z,11µm,16.0s
PET MLR MLR
comp=Z,12µm,15.0s
XLT XiLinHaoTe 20.27 297 ⇓ *i*P **P 21 28 09.6 -2.6**
XLT pP Pn 21 28 12.3 -1.9
XLT sP pP 21 28 17.3 +0.7
XLT S **S 21 31 51.0 -8.0**
XLT pmax pmax
comp=Z,190nm,1.1s
XLT pmax pmax
comp=Z,4µm,11.8s
XLT LR LR
comp=Z,51µm,14.6s
XLT LR LR

comp=Z,56µm,14.8s
YHNB Yeheng 21.13 239 P **P** **21 28 21.3 -0.4**
YHNB IAMs_20 IAMs_20 21 36 48.1
comp=Z,18µm,20.0s
YHNB Yeheng 21.13 239 P **P** **21 28 22.0 +0.3**
HNS HongShan 21.15 279 ⇑P **P** **21 28 19.0 -2.7**
HNS S **S** **21 32 09.5 -6.9**
HNS pmax pmax
comp=Z,58nm,1.2s
HNS LR LR
comp=Z,11µm,12.7s
HNS LR LR
comp=Z,41µm,15.5s
HNS LR LR
comp=Z,41µm,14.5s
NACB Ninganchiao 21.31 238 P **P** **21 28 20.8 -2.7**
SSLB Suanglung 22.00 238 P **P** **21 28 28.2 -2.8**
SSLB IAMs_20 IAMs_20 21 37 27.2
comp=Z,19µm,20.0s
SSLB Suanglung 22.00 238 P **P** **21 28 28.9 -2.1**
YULB Yu-li 22.04 237 P **P** **21 28 28.2 -3.1**
YULB Yu-li 22.04 237 P **P** **21 28 31.7 +0.4**
TPUB Ta-pu 22.55 238 P **P** **21 28 32.8 -4.1**
TPUB IAMs_20 IAMs_20 21 37 33.7
comp=Z,21µm,20.0s
TWGBT Beinan 22.57 236 P **P** **21 28 37.9 +0.8**
TWG Pinlang 22.58 236 P **P** **21 28 35.6 -1.5**
TWG IAmb IAmb 21 28 49.8
comp=Z,182nm,1.1s
TIY Taiyuan 22.90 280 P **P** **21 28 42.8 +2.3**
TIY S **S** **21 32 52.1 +2.3**
TIY pmax pmax
comp=Z,1µm,8.8s
TIY LR LR
comp=Z,21µm,14.4s
TIY LR LR
comp=Z,46µm,13.7s
TIY LR LR
comp=Z,51µm,15.1s
QZH Quanzhou 22.92 244 ⇑*i*P **P** **21 28 42.0 +1.3**
QZH S **S** **21 32 51.5 +1.4**
QZH pmax pmax
comp=Z,110nm,2.2s
QZH pmax pmax
comp=Z,2µm,6.1s
QZH LR LR
comp=Z,13µm,16.3s
QZH LR LR
comp=Z,14µm,15.6s
QZH LR LR
comp=Z,11µm,17.5s
MA2 Magadan 23.21 12 P **P** **21 28 43.6 +0.2**
comp=Z,56nm,0.6s,baz=192,slow=6.5,SNR=14
MA2 LR LR 21 38 49.8
comp=Z,9µm,18.1s,baz=206,slow=39
comp=Z,56nm,0.6s
MA2 Magadan 23.21 12 P **P** **21 28 41.4 -1.9**
MA2 IAmb IAmb 21 28 51.5
comp=Z,211nm,0.9s
MA2 IAMs_20 IAMs_20 21 38 56.5
comp=Z,13µm,18.0s
MA2 Magadan 23.21 12 P **P** **21 28 43.6 +0.2**
MA2 Magadan 23.21 12*ce*P **P** **21 28 45.4 +2.1**
MA2 pmax pmax
comp=Z,165nm,0.7s
WHN Wuhan 23.31 261 P **P** **21 28 41.9 -2.7**
WHN sP **pP** **21 28 46.6 -2.5**
WHN S **S** **21 32 57.3 +0.7**
WHN pmax pmax
comp=Z,500nm,1.5s
WHN LR LR
comp=Z,111µm,16.2s
WHN LR LR
comp=Z,32µm,12.8s
WHN LR LR
comp=Z,72µm,17.4s
HHC Hu-ho-hao-te 23.35 288 *e*P **P** **21 28 43.3 -1.8**
HHC S **S** **21 32 48.8 -8.5**
HHC pmax pmax
comp=Z,28nm,1.3s
HHC pmax pmax
comp=Z,2µm,8.3s
HHC LR LR
comp=Z,44µm,12.7s
HHC LR LR
comp=Z,30µm,14.0s
HHC LR LR
comp=Z,41µm,13.3s
KNMB Chin-men Tao 23.36 244 IAMs_20 IAMs_20 21 38 21.0
comp=Z,14µm,20.0s
LYN LuoYang 23.49 272 ⇑*i*P **P** **21 28 45.1 -1.3**
LYN pP pP 21 28 49.8 -1.2
LYN pmax pmax
comp=Z,20nm,0.8s
LYN pmax pmax
comp=Z,2µm,10.4s
LYN LR LR
comp=Z,38µm,15.1s
LYN LR LR
comp=Z,38µm,16.8s
LYN LR LR
comp=Z,42µm,17.3s
GUMO Guam 23.73 171 P **P** **21 28 46.2 -2.6**
comp=Z,74nm,0.9s,baz=24,slow=20,SNR=2.1
GUMO LR LR 21 36 26.7
comp=Z,5µm,21.4s,baz=17,slow=33
comp=Z,74nm,0.9s
GUMO Guam 23.73 171 P **P** **21 28 48.2 -0.6**
GUMO Guam 23.73 171 P **P** **21 28 52.4 +3.6**
CIT Chita 24.50 316 *e*P **P** **21 28 54.8 -1.1**
CIT *e* 21 29 23.4
CIT *e* 21 29 46.4
CIT pmax pmax
comp=Z,309nm,2.2s
CNSH ChangSha 25.45 258 ⇑P **P** **21 29 04.4 -0.2**
CNSH S **S** **21 33 29.4 -1.6**
CNSH LR LR
comp=Z,33µm,13.8s
CNSH LR LR
comp=Z,27µm,15.2s
CNSH LR LR
comp=Z,28µm,15.2s
YAK Yakutsk 25.89 347 P **P** **21 29 07.6 -0.6**
comp=Z,36nm,0.5s,baz=144,slow=1.9,SNR=22
YAK S **S** **21 33 32.7 -4.6**
comp=Z,2.1nm,0.3s,baz=84,slow=17,SNR=0.8
YAK LR LR 21 39 32.7
comp=Z,8µm,20.8s,baz=160,slow=37
comp=Z,36nm,0.5s
YAK Yakutsk 25.89 347 P **P** **21 29 06.9 -1.3**
YAK Yakutsk 25.89 347 *e*P **P** **21 29 08.2 0.0**
YAK *e**PP **sP** **21 29 15.6 +0.8**
YAK *e* 21 29 45.8
YAK *e* 21 32 35.7
YAK *e*S **S** **21 33 39.7 +2.4**
YAK *e*SS **SnSn** **21 34 37.6 +3.9**
YAK pmax pmax
comp=Z,88nm,0.9s
YAK pmax pmax
comp=N,37nm,1.0s
YAK pmax pmax
comp=E,13nm,0.9s
YAK pmax pmax
comp=Z,572nm,2.3s
YAK pmax pmax
comp=N,206nm,1.8s
YAK pmax pmax
comp=E,254nm,2.0s
YAK smax smax
comp=N,9µm,7.9s
YAK smax smax
comp=E,2µm,6.2s
YAK MLR MLR
comp=Z,8µm,17.0s
YAK MLR MLR
comp=N,8µm,21.0s
YAK MLR MLR
comp=E,6µm,18.0s
XAN Xi'an 26.45 273 ⇑P **P** **21 29 12.1 -1.6**
XAN pP sP 21 29 19.8 -0.6
XAN S **S** **21 33 41.8 -5.1**
XAN pmax pmax
comp=E,2µm,6.5s
XAN LR LR
comp=E,32µm,15.5s
XAN LR LR
comp=E,25µm,15.6s
XAN LR LR
comp=E,24µm,16.8s
SEY Seymchan 26.64 11 P **P** **21 29 15.5 +0.5**
comp=E,47nm,0.8s,baz=198,slow=7.5,SNR=26
SEY LR LR 21 41 48.2
comp=E,4µm,18.1s,baz=194,slow=41
comp=E,47nm,0.8s
SEY Seymchan 26.64 11⇑*e*P **P** **21 29 16.7 +1.7**
SEY pmax pmax
comp=Z,167nm,1.7s
ULN Ulaanbaatar 27.20 304 IAMs_20 IAMs_20 21 41 15.0
comp=Z,13µm,19.0s
ENH Enshi 27.27 265 P **P** **21 29 19.6 -1.5**
ENH IAmb IAmb 21 29 31.3
comp=Z,117nm,0.7s
ENH IAMs_20 IAMs_20 21 40 30.5
comp=Z,19µm,20.0s
ENH Enshi 27.27 265 P **P** **21 29 21.0 -0.1**
BOD Bodaibo 27.35 328 *e*P **P** **21 29 20.5 -0.9**
BOD pmax pmax
comp=Z,33nm,0.5s
SHEM Shemya Is, Ala 27.60 45 LR LR 21 38 28.7
comp=Z,2µm,20.9s,baz=246,slow=32
SONM Songino Array 27.63 304 P **P** **21 29 23.3 -0.9**
comp=Z,18nm,0.7s,baz=103,slow=6.8,SNR=94
SONM PcP **PcP** **21 32 40.5 -0.9**
comp=Z,4.2nm,0.8s,baz=109,slow=2.9,SNR=2.2
SONM LR LR 21 40 34.4
comp=Z,11µm,19.2s,baz=101,slow=37
comp=Z,18nm,0.7s
SONM Songino Array 27.63 304 P **P** **21 29 22.5 -1.7**
HKPS Hong Kong Po S 27.77 245 IAMs_20 IAMs_20 21 41 24.5
comp=Z,12µm,20.0s
H11N2 WAKE ISLAND Hy 28.30 121 T T 21 59 03.1
baz=314,slow=75,SNR=2295
H11N1 WAKE ISLAND Hy 28.31 121 T T 21 58 59.4
baz=314,slow=75,SNR=2188
H11N3 WAKE ISLAND Hy 28.32 121 T T 21 59 04.5
baz=314,slow=75,SNR=2386
WAKE Wake Island 28.44 122 IAMs_20 IAMs_20 21 39 12.7
comp=Z,16µm,20.0s
H11S1 WAKE ISLAND Hy 29.02 123 T T 21 59 52.0
baz=317
H11S3 WAKE ISLAND Hy 29.02 123 T T 21 59 58.4
baz=317,slow=74,SNR=2333
H11S2 WAKE ISLAND Hy 29.03 123 T T 21 59 56.1
baz=317,slow=74,SNR=2204
IRK Irkutsk 29.93 312 *e*P P 21 29 52.2 +7.7
IRK pmax pmax
comp=Z,110nm,2.8s
LZH Lanzhou 29.96 279 ⇑P **P** **21 29 44.4 -0.8**
LZH pP pP 21 29 49.5 -0.4
LZH sP sP 21 29 52.9 +1.1
LZH S **S** **21 34 38.1 -4.3**
LZH pmax pmax
comp=Z,37nm,1.5s
LZH LR LR
comp=Z,28µm,12.4s
LZH LR LR
comp=Z,36µm,12.7s
LZH LR LR
comp=Z,54µm,14.8s
ZAK Zakamensk 30.11 308 *e*P **P** **21 29 45.2 -1.0**
ZAK pmax pmax
comp=Z,33nm,1.2s
GYA Guiyang 31.17 260 ⇑*i*P **P** **21 29 54.3 -1.6**
GYA pP pP 21 30 01.3 +0.7
GYA S **S** **21 34 57.3 -4.1**
GYA SS **SnSn** **21 36 49.3 +5.8**
GYA pmax pmax
comp=Z,22nm,1.0s
GYA pmax pmax
comp=Z,750nm,5.9s
GYA LR LR
comp=Z,16µm,15.0s
GYA LR LR
comp=Z,9µm,12.2s
GYA LR LR
comp=Z,17µm,21.1s
CD2 Chengdu 31.60 270 P **P** **21 29 59.9 +0.4**
CD2 sP sP 21 30 06.3 +0.1
CD2 PP **PP** **21 31 07.4 -3.4**
CD2 S **S** **21 35 03.8 -4.0**
CD2 sS pS 21 35 12.8 -0.5
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,18µm,11.6s
CD2 LR LR
comp=Z,15µm,12.7s
CD2 LR LR
comp=Z,29µm,18.8s
MOY Mondy 31.77 310 *e*P **P** **21 30 05.4 +4.5**
MOY pmax pmax
comp=Z,74nm,3.0s
GTA Gaotai 32.44 287 ⇑P **P** **21 30 06.9 0.0**
GTA pP pP 21 30 10.9 -0.8
GTA sP sP 21 30 14.5 +0.9
GTA PP **PP** **21 31 17.8 -2.4**
GTA PcP **PcP** **21 32 54.3 +0.4**
GTA S **S** **21 35 23.1 +2.1**
GTA pmax pmax
comp=Z,20nm,0.8s
GTA pmax pmax
comp=Z,590nm,7.3s
GTA LR LR
comp=Z,16µm,15.6s
GTA LR LR
comp=Z,15µm,15.3s
GTA LR LR
comp=Z,14µm,15.3s
ADK Adak 32.83 50 P **P** **21 30 09.9 -0.1**
ADK IAmb IAmb 21 30 17.7
comp=Z,72nm,1.1s
ADK Adak 32.83 50 IAMs_20 IAMs_20 21 39 35.4
comp=Z,9µm,22.0s
ADK Adak 32.83 50 P **P** **21 30 09.9 -0.1**
ADK pmax pmax
comp=Z,72nm,1.2s
ADK MLR MLR
comp=Z,9µm,22.0s
QIZ Qiongzhong 32.93 245 P **P** **21 30 11.2 +0.1**
QIZ IAmb IAmb 21 30 22.3
comp=Z,123nm,1.5s
QIZ Qiongzhong 32.93 245 IAMs_20 IAMs_20 21 43 28.1
comp=Z,8µm,20.0s
QIZ Qiongzhong 32.93 245 P **P** **21 30 12.0 +0.8**
QIZ S **S** **21 35 30.9 +2.3**
QIZ LR LR
comp=Z,14µm,16.5s
QIZ LR LR
comp=Z,11µm,16.6s
QIZ LR LR
comp=Z,9µm,12.7s
DAV Davao City (W) 33.24 209 P **P** **21 30 12.3 -1.6**
comp=Z,105nm,0.4s,baz=99,slow=8.5,SNR=3.6
DAV LR LR 21 43 13.9
comp=Z,4µm,21.4s,baz=47,slow=36
comp=Z,105nm,0.4s
DAV Davao City (W) 33.24 209 P **P** **21 30 13.3 -0.6**
BILL Bilibino 33.89 17 P **P** **21 30 18.8 -0.2**
BILL Bilibino 33.89 17*c* *i*P **P** **21 30 18.8 -0.2**
BILL *i* *PP **pP** **21 30 22.7 -1.1**
BILL *i* *SP **sP** **21 30 24.9 -0.8**
BILL *e* 21 31 31.1
BILL *e*PPP PPP 21 31 48.2
BILL 21 32 54.0
BILL *i* S **S** **21 35 45.8 +3.2**
BILL *e*SS **SnSn** **21 37 46.5 -1.7**
BILL pmax pmax
comp=Z,13nm,1.1s
BILL MLR MLR
comp=Z,8µm,15.0s
PATS Pohnpei 33.96 149 P **P** **21 30 20.7 +0.6**
PATS IAMs_20 IAMs_20 21 40 40.2
comp=Z,9µm,22.0s
KMI Kunming 34.91 261 ⇓P **P** **21 30 26.9 -1.7**
KMI pP pP 21 30 30.3 -3.1
KMI sP sP 21 30 31.5 -3.8
KMI PP **PnPn** **21 31 43.5 -1.8**
KMI S **S** **21 35 55.4 -4.3**
KMI SS **SnSn** **21 38 16.6 +2.2**
KMI pmax pmax
comp=Z,48nm,1.4s
KMI pmax pmax
comp=Z,800nm,6.2s
KMI LR LR
comp=Z,12µm,14.9s
KMI LR LR
comp=Z,13µm,17.0s
KMI LR LR
comp=Z,15µm,23.5s
PZH PanZhiHua 35.04 264 P **P** **21 30 27.8 -1.9**
PZH sP **sP** **21 30 40.9 +4.5**
PZH PP **PP** **21 31 49.3 +0.2**
PZH S **S** **21 35 57.1 -4.4**
PZH sS **pS** **21 36 06.5 -0.6**
PZH PcS **PcS** **21 36 48.6 0.0**
PZH SS **SnSn** **21 38 13.4 -4.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,950nm,5.1s
PZH LR LR
comp=Z,24µm,18.2s
PZH LR LR
comp=Z,13µm,18.6s
PZH LR LR
comp=Z,12µm,19.8s
TIXI Tiksi 35.11 353 P **P** **21 30 28.9 -0.6**
comp=Z,4.4nm,0.4s,baz=90,slow=20,SNR=24
comp=Z,4.4nm,0.4s
TIXI Tiksi 35.11 353 P **P** **21 30 28.6 -0.9**
TIXI Tiksi 35.11 353⇑*e*P **P** **21 30 29.2 -0.4**
TIXI pmax pmax
comp=Z,26nm,1.7s
TIXI MLR MLR
comp=Z,8µm,14.0s
MIDW Midway 35.67 92 IAMs_20 IAMs_20 21 42 33.2
comp=Z,10µm,21.0s
KWAJ Kwajalein Atol 36.96 133 IAMs_20 IAMs_20 21 42 42.2
comp=Z,8µm,21.0s
SPIA Saint Paul Isl 37.49 42 P **P** **21 30 50.6 +0.5**
baz=259
NIKH Nikolski High 37.72 49 P **P** **21 30 52.8 +0.7**
baz=266
MYLDM Lahad Datu 38.09 219 P **P** **21 30 56.1 +0.6**
MYLDM IAMs_20 IAMs_20 21 47 00.1
comp=Z,7µm,19.0s
TNCH TengChong 38.30 264 P **P** **21 30 56.8 -0.7**
TNCH pP pP 21 31 01.3 -1.0
TNCH sP sP 21 31 04.3 +0.1
TNCH PP **PP** **21 32 23.5 -1.6**
TNCH pmax pmax
comp=Z,53nm,1.0s
TNCH pmax pmax
comp=Z,1µm,3.8s
TNCH LR LR
comp=Z,14µm,17.3s
TNCH LR LR
comp=Z,8µm,15.1s
TNCH LR LR
comp=Z,15µm,15.9s
TNTI Ternate 38.47 203 P **P** **21 30 58.3 -0.5**
TNTI Ternate 38.47 203 P **P** **21 30 59.5 +0.8**
comp=Z,3µmcomp=Z,6µmcomp=Z,293nm,2.1s
TNTI Ternate 38.47 203 P **P** **21 30 59.8 +1.1**
NONG Nongkai 38.49 251 P **P** **21 30 58.9 0.0**
UBPT Khong Chiam 38.53 245 P **P** **21 30 58.7 -0.6**
UBPT Khong Chiam 38.53 245 P **P** **21 30 59.4 +0.1**
KKM Kota Kinabalu 38.55 223 P **P** **21 30 58.9 -0.7**
KKM IAmb IAmb 21 31 08.4
comp=Z,93nm,1.0s
KKM Kota Kinabalu 38.55 223 P **P** **21 31 00.9 +1.4**
GAMB Gambell 38.61 31 P **P** **21 31 00.2 +0.8**
baz=249
DLV T Lat 38.70 238 P **P** **21 31 01.4 +0.4**
SIJI Sorong 39.01 196 P **P** **21 31 02.0 -1.3**
comp=Z,36nm,0.7s,baz=9.5,slow=10,SNR=18
SIJI LR LR 21 45 29.3
comp=Z,5µm,19.3s,baz=16,slow=34
comp=Z,36nm,0.7s
SMPI Sarmi 39.07 184 P **P** **21 31 04.4 +0.7**
comp=Z,6µmcomp=Z,6µmcomp=Z,292nm,1.6s
RKPI Ransiki, Papua 39.08 191 P **P** **21 31 06.8 +2.9**
comp=Z,4µmcomp=Z,7µmcomp=Z,80nm,1.6s
SRPI Serui, Papua 39.16 188 P **P** **21 31 05.8 +1.3**
comp=Z,4µmcomp=Z,3µmcomp=Z,74nm,0.9s
LKP Lekhapani 39.37 269 *e*P **P** **21 31 05.8 -0.5**
LKP IAmb IAmb 21 31 16.6
comp=Z,530nm,0.9s
GENI Genyem 39.61 182 P **P** **21 31 08.9 +0.7**
comp=Z,6µmcomp=Z,6µmcomp=Z,297nm,1.0s
GENI Genyem 39.61 182 P **P** **21 31 08.9 +0.7**
LBMI Labuha 39.77 202 P **P** **21 31 10.1 +0.5**
comp=Z,8µmcomp=Z,453nm,1.6s
GTOI Gorontalo 40.12 209 P **P** **21 31 11.6 -0.9**
comp=Z,2µmcomp=Z,286nm,1.2s
DGZ Jazzator, Alta 40.23 306*de*P **P** **21 31 14.2 +0.9**
DGZ pmax pmax
comp=Z,68nm,0.9s
DGZ MLR MLR
comp=Z,17µm,15.0s
PHRA Phrae 40.45 254 P **P** **21 31 14.6 -0.7**
TOLI2 Tolitoli 40.61 213 P **P** **21 31 15.6 -0.9**
TOLI2 IAmb IAmb 21 31 24.3
comp=Z,83nm,0.9s
TOLI2 Tolitoli 40.61 213 P **P** **21 31 15.9 -0.7**
MRSI Marisa 40.70 211 P **P** **21 31 17.2 -0.1**
comp=Z,5µmcomp=Z,8µmcomp=Z,644nm,1.3s
WMQ Urumqi 40.70 297 *e*P **P** **21 31 17.3 +0.1**
WMQ pP sP 21 31 23.3 -0.6
WMQ sP pP 21 31 26.3 +4.3
WMQ PP **PnPn** **21 32 56.6 +1.7**
WMQ PcP **PcP** **21 33 18.3 -0.3**
WMQ S **S** **21 37 25.3 -1.5**
WMQ sS sS 21 37 37.1 +2.4
WMQ SS **SS** **21 40 27.3 +0.2**
WMQ pmax pmax
comp=Z,50nm,0.9s
WMQ pmax pmax
comp=Z,340nm,3.9s
WMQ LR LR
comp=Z,15µm,12.5s
WMQ LR LR
comp=Z,17µm,16.5s
WMQ LR LR
comp=Z,12µm,22.7s
TNA Tin City 40.75 30 P **P** **21 31 18.0 +0.9**
TNA IAmb IAmb 21 31 27.6
comp=Z,110nm,1.1s
TNA Tin City 40.75 30 P **P** **21 31 18.2 +1.1**
baz=251
FAKI Fak Fak 40.80 194 P **P** **21 31 17.2 -0.9**
FAKI IAmb IAmb 21 31 25.5
comp=Z,127nm,1.0s
FAKI IAMs_20 IAMs_20 21 44 11.4
comp=Z,5µm,20.0s
FAKI Fak Fak 40.80 194 P **P** **21 31 18.6 +0.5**
comp=Z,5µmcomp=Z,5µmcomp=Z,203nm,0.8s
FAKI Fak Fak 40.80 194 P **P** **21 31 18.0 -0.1**
ZIRO ZIRO 40.88 270 *e*P **P** **21 31 18.2 -0.7**
ZIRO IAmb IAmb 21 31 29.3
comp=Z,468nm,1.2s
MOKO MOKOCHONG 40.88 268 *e*P **P** **21 31 18.2 -0.8**
MOKO IAmb IAmb 21 31 32.9
comp=Z,761nm,1.4s
MOKO IAMs_20 IAMs_20 21 50 04.9
comp=Z,23µm,14.1s
JORH JORHAT 40.90 269 *e*P **P** **21 31 19.1 +0.2**
JORH IAmb IAmb 21 31 33.1
comp=Z,662nm,1.4s
JORH IAMs_20 IAMs_20 21 50 38.6
comp=Z,14µm,17.4s
FALS False Pass 41.04 46 P **P** **21 31 20.7 +1.0**
baz=268
ITAN ITANAGAR 41.15 270 *e*P **P** **21 31 21.0 +0.1**
ITAN IAML 21 31 31.7
comp=Z,304nm,1.0s
ITAN IAMs_20 IAMs_20 21 51 05.2
comp=Z,10µm,15.2s
CHTO Chiang Mai 41.26 255 P **P** **21 31 20.8 -1.2**
CHTO Chiang Mai 41.26 255 P **P** **21 31 20.8 -1.2**
CHTO pmax pmax
comp=Z,41nm,1.2s
CHTO MLR MLR
comp=Z,10µm,18.0s
CM31 Chiang Mai Arr 41.47 255 P **P** **21 31 22.8 -0.8**
CMAR Chiang Mai Arr 41.47 255 P **P** **21 31 22.9 -0.7**
comp=Z,5.7nm,0.9s,baz=46,slow=5.4,SNR=32
CMAR PcP **PcP** **21 33 21.4 0.0**

comp=Z,4.0nm,0.8s,baz=32,slow=2.8,SNR=2.1
CMAR LR LR 21 49 56.3
comp=Z,7µm,18.1s,baz=45,slow=38
comp=Z,5.7nm,0.9s
CMAR Chiang Mai Arr 41.47 255 P P 21 31 22.4 -1.3
KOHI KOHIMA 41.48 268 *eP* **P 21 31 21.3 -2.6**
KOHI IAmb IAmb 21 31 38.1
comp=Z,67nm,0.6s
KOHI IAMs_20 IAMs_20 21 50 28.3
comp=Z,19µm,15.2s
ANM Nome 41.49 32 P P 21 31 24.8 +1.5
baz=255
SANI Sanana 41.57 203 P P 21 31 23.0 -1.4
comp=Z,6µmcomp=Z,7µmcomp=Z,252nm,1.4s
SANI Sanana 41.57 203 P P 21 31 23.4 -1.0
MPSI Mapaga 41.68 213 P P 21 31 25.0 -0.4
comp=Z,3µmcomp=Z,3µmcomp=Z,180nm,1.9s
MND Mandalay 41.72 262 P P 21 31 25.0 -0.7
ZAA0 Zalesovo Array 41.74 312 P P 21 31 24.8 -0.8
ZAA0 IAmb IAmb 21 31 34.0
comp=Z,198nm,1.4s
ZALV Zalesovo Beam 41.74 312 P P 21 31 25.4 -0.1
comp=Z,46nm,0.9s,baz=92,slow=6.8,SNR=92
ZALV PcP PcP 21 33 21.2 -0.5
comp=Z,16nm,0.7s,baz=93,slow=4.1,SNR=1.9
ZALV LR LR 21 49 24.2
comp=Z,16µm,18.0s,baz=88,slow=37
comp=Z,46nm,0.9s
ZALV Zalesovo Beam 41.74 312 P P 21 31 24.8 -0.8
LUWI Luwuk 41.76 209 P P 21 31 23.7 -2.3
LUWI Luwuk 41.76 209 P P 21 31 24.3 -1.7
comp=Z,4µmcomp=Z,8µmcomp=Z,362nm,1.3s
LUWI Luwuk 41.76 209 P P 21 31 26.6 +0.6
MSAI Masohi 41.96 199 P P 21 31 30.2 +2.6
comp=Z,807nmcomp=Z,36nm,1.7s
APSI Ampana 42.08 210 P P 21 31 27.9 -0.7
comp=Z,4µmcomp=Z,8µmcomp=Z,643nm,1.0s
LSA Lhasa 42.12 275 P P 21 31 29.0 -0.5
LSA IAmb IAmb 21 31 40.2
comp=Z,110nm,1.1s
LSA IAMs_20 IAMs_20 21 50 35.0
comp=Z,7µm,18.0s
LSA Lhasa 42.12 275 *i* P **P 21 31 29.9 +0.4**
SNR=35
LSA Lhasa 42.12 275 P P 21 31 29.0 -0.5
LSA pmax pmax
comp=Z,110nm,1.1s
LSA MLR MLR
comp=Z,8µm,18.0s
TEZP TEZPUR 42.12 270 *eP* **P 21 31 28.0 -0.9**
TEZP IAmb IAmb 21 31 38.8
comp=Z,124nm,1.1s
TEZP IAMs_20 IAMs_20 21 50 43.5
comp=Z,12µm,17.4s
ZSN Zaisan 42.13 303 *eP* **P 21 31 28.4 -0.5**
baz=302
ZSN *eS* **S 21 37 47.6 -0.2**
baz=302
ZSN Zaisan 42.13 303 *eP* **P 21 31 28.3 -0.5**
ZSN *eS* **S 21 37 47.6 -0.2**
NAYO Nakonayok 42.20 248 P P 21 31 29.8 +0.2
RABL Rabaul 42.40 164 P P 21 31 30.6 -0.7
RABL IAmb IAmb 21 31 48.5
comp=Z,137nm,1.4s
AAI Ambon 42.48 200 P P 21 31 32.7 +0.9
comp=Z,8µmcomp=Z,390nm,1.2s
KRVT Keravat (AS076 42.48 164 P P 21 31 29.9 -2.0
comp=Z,11nm,0.3s,baz=324,slow=22,SNR=1.5
comp=Z,11nm,0.3s
BNDI Bandanaira 42.85 197 P P 21 31 35.6 +0.7
comp=Z,7µmcomp=Z,22µmcomp=Z,707nm,1.1s
BNDI Bandanaira 42.85 197 P P 21 31 35.3 +0.4
SILR SILCHAR 42.97 268 *eP* **P 21 31 36.9 +1.1**
SILR IAMs_20 IAMs_20 21 50 21.8
comp=Z,17µm,18.5s
NRIK Noril'sk 43.08 335 P P 21 31 35.5 -0.8
comp=Z,4.6nm,0.4s,baz=149,slow=2.2,SNR=7.7
NRIK S **S 21 37 59.2 -2.0**
comp=Z,1.3nm,0.5s,baz=73,slow=21,SNR=1.1
NRIK LR LR 21 50 44.0
comp=Z,14µm,18.0s,baz=110,slow=38
comp=Z,4.6nm,0.4s
NRIK Noril'sk 43.08 335 P P 21 31 35.4 -0.8
NRIK IAmb IAmb 21 31 46.2
comp=Z,177nm,1.9s
GUWA GUWAHATI 43.20 270 *eP* **P 21 31 36.6 -1.1**
GUWA IAmb IAmb 21 31 47.0
comp=Z,56nm,1.0s
GUWA IAMs_20 IAMs_20 21 51 17.7
comp=Z,11µm,15.2s
CHNA Chernabura Isl 43.25 46 P P 21 31 38.2 +0.5
baz=271
SHL Shillong 43.33 269 *eP* **P 21 31 37.5 -1.5**
SBUM Sibu 43.73 225 P P 21 31 41.0 -1.0
SBUM IAmb IAmb 21 31 50.4
comp=Z,126nm,1.2s
CHGN Chignik 43.90 44 P P 21 31 44.5 +1.6
baz=271
SAIH SAIHA 43.95 265 *eP* **P 21 31 42.3 -1.7**
SAIH IAmb IAmb 21 31 53.5
comp=Z,115nm,0.8s
SAIH IAMs_20 IAMs_20 21 50 03.3
comp=Z,16µm,19.5s
MK31 Makanchi Array 43.96 302 P P 21 31 43.5 -0.2
MK31 Makanchi Array 43.96 302 *d iP* **P 21 31 43.2 -0.5**
MKAR Makanchi Array 43.96 302 P P 21 31 43.5 -0.2
comp=Z,27nm,0.8s,baz=89,slow=9.3,SNR=122
MKAR PcP **PP 21 33 27.5 +1.6**
comp=Z,21nm,1.1s,baz=96,slow=4.5,SNR=1.3
MKAR S **S 21 38 12.4 -2.4**
comp=Z,1.2nm,1.0s,baz=48,slow=27,SNR=1.5
MKAR LR LR 21 50 11.0
comp=Z,10µm,21.6s,baz=94,slow=36
comp=Z,27nm,0.8s
MKAR Makanchi Array 43.96 302 *i* P **P 21 31 43.2 -0.5**
MKAR pmax pmax
comp=Z,28nm,0.8s
O16K Kokwok River B 44.13 40 P P 21 31 46.0 +1.3
baz=267,SNR=7.4
P16K Nushagak River 44.16 40 P P 21 31 47.2 +2.2
baz=268,SNR=15
MAKZ Makanchi 44.17 302 P P 21 31 45.2 -0.2
MAKZ IAmb IAmb 21 32 02.5
comp=Z,88nm,1.1s
MAKZ Makanchi 44.17 302 P P 21 31 45.2 -0.2
MAKZ pmax pmax
comp=Z,88nm,1.1s
MAKZ MLR MLR
comp=Z,10µm,21.0s
BKB Balikpapan 44.46 216 P P 21 31 47.0 -0.9
BKB Balikpapan 44.46 216 P P 21 31 48.9 +1.0
comp=Z,6µmcomp=Z,10µmcomp=Z,624nm,1.6s
BKB Balikpapan 44.46 216 P P 21 31 49.0 +1.0
O17K Koliganek Bris 44.64 39 P P 21 31 50.0 +1.1
baz=268,SNR=9.0
Q16K King Salmon 44.84 41 P P 21 31 51.5 +1.0
baz=270,SNR=8.0
BRDH Bariadhala 44.93 266 LR LR 21 53 41.2
comp=Z,12µm,18.6s,baz=77,slow=40
P17K Kvichak River 44.96 40 P P 21 31 53.0 +1.6
baz=269
GTK Tadong 45.16 273 *eP* **P 21 31 53.0 -0.6**
GTK IAmb IAmb 21 32 02.6
comp=Z,34nm,0.8s
MTKI Muara Teweh, K 45.16 219 P P 21 31 54.3 +0.8
comp=Z,5µmcomp=Z,9µmcomp=Z,478nm,1.3s
Q17K Contact Creek 45.25 41 P P 21 31 54.0 +0.2
baz=271
N18K Kilae Creek 45.27 38 P P 21 31 54.9 +1.0
N18K IAmb IAmb 21 32 03.4
comp=Z,68nm,0.9s
N18K Kilae Creek 45.27 38 P P 21 31 56.2 +2.3
baz=268
TTA Tatalina 45.33 35 P P 21 31 54.3 -0.1
TTA Tatalina 45.33 35 P P 21 31 55.4 +1.0
baz=266,SNR=6.4
TTA Tatalina 45.33 35 P P 21 31 54.3 -0.1
TTA pmax pmax
comp=Z,24nm,1.0s
P18K Big Mountain, 45.58 40 P P 21 31 57.0 +0.6
P18K IAmb IAmb 21 32 06.3
comp=Z,64nm,0.9s
P18K Big Mountain, 45.58 40 P P 21 31 57.8 +1.4
baz=270,SNR=7.7
O18K Koktuh Hills 45.60 39 P P 21 31 57.3 +0.8
O18K Koktuh Hills 45.60 39 P P 21 31 57.7 +1.2
baz=270,SNR=13

SPSI Sidrap Palu 45.61 211 P P 21 31 56.1 -0.9
comp=Z,3µmcomp=Z,3µmcomp=Z,162nm,1.3s
KSM Kuching 45.61 226 P P 21 31 56.5 -0.6
KSM Kuching 45.61 226 P P 21 31 57.6 +0.5
Q18K Katmai Hardscr 45.71 41 P P 21 31 58.2 +0.7
baz=271
KURK Kurchatov 45.77 308 P P 21 31 57.2 -0.7
KURK Kurchatov 45.77 308 P P 21 31 56.5 -1.4
KURK P **P 21 31 56.5 -1.4**
KURK Kurchatov 45.77 308 *d iP* **P 21 31 57.3 -0.7**
KURK pmax pmax
comp=Z,208nm,1.7s
L19K White Mountain 45.82 36 P P 21 31 59.3 +1.0
L19K White Mountain 45.82 36 P P 21 31 60.0 +1.7
baz=268
KURBB Kurchatov Arra 45.84 308 LR LR 21 51 55.5
comp=Z,14µm,18.9s,baz=77,slow=37
TAPN Taplejung 45.85 274 *eP* **P 21 31 58.8 -0.5**
comp=Z,469nm,1.2s
BNSI Bone 45.87 210 P P 21 31 58.9 -0.1
comp=Z,3µmcomp=Z,4µmcomp=Z,302nm,1.4s
SAUI Saumlaki 45.92 194 P P 21 31 59.7 +0.3
SAUI Saumlaki 45.92 194 P P 21 32 03.6 +4.2
comp=Z,10µmcomp=Z,8µmcomp=Z,368nm,1.0s
N19K Bonanza Creek 45.96 38 P P 21 32 00.5 +1.0
N19K Bonanza Creek 45.96 38 P P 21 31 60.0 +0.5
baz=269
M19K Big River Lodg 46.03 36 P P 21 32 01.0 +1.1
M19K IAmb IAmb 21 33 46.4
comp=Z,77nm,1.6s
M19K Big River Lodg 46.03 36 P P 21 32 00.7 +0.8
baz=266
O19K Port Alsworth 46.04 39 P P 21 32 00.7 +0.8
O19K IAmb IAmb 21 32 10.2
comp=Z,87nm,1.1s
O19K Port Alsworth 46.04 39 P P 21 32 01.2 +1.2
baz=270,SNR=7.7
TARA Tarawa 46.05 133 P P 21 32 00.7 +0.2
TARA IAmb IAmb 21 33 26.1
comp=Z,118nm,1.2s
TARA Tarawa 46.05 133 IAMs_20 IAMs_20 21 47 03.8
comp=Z,8µm,21.0s
K20K Telida 46.23 34 P P 21 32 02.5 +1.0
K20K IAmb IAmb 21 32 10.7
comp=Z,48nm,0.8s
K20K Telida 46.23 34 P P 21 32 03.1 +1.6
baz=267
SII Sitkinak Islan 46.24 44 P P 21 32 00.9 -0.6
SII Sitkinak Islan 46.24 44 P P 21 32 03.1 +1.5
baz=274
J20K Nowinta River 46.24 33 P P 21 32 03.2 +1.7
baz=266
L20K Farewell, AK 46.29 36 P P 21 32 03.2 +1.3
baz=268
A21K Barrow 46.33 23 P P 21 32 03.2 +1.1
A21K Barrow 46.33 23 P P 21 32 03.5 +1.4
baz=257
Q19K Cape Douglas, 46.41 40 P P 21 32 03.5 +0.6
Q19K Cape Douglas, 46.41 40 P P 21 32 04.4 +1.5
baz=272
IMAR Indian Mountai 46.55 31 P P 21 32 05.0 +1.1
KAPI Kappang 46.57 210 P P 21 32 04.0 -0.5
comp=Z,106nm,1.0s,baz=25,slow=8.1,SNR=72
KAPI S **S 21 38 51.8 -1.0**
comp=Z,3.1nm,0.2s,baz=238,slow=21,SNR=16
comp=Z,106nm,1.0s
KAPI Kappang 46.57 210 P P 21 32 04.8 +0.2
KAPI Kappang 46.57 210 P P 21 32 04.3 -0.3
KAPI P **P 21 32 04.3 -0.3**
KAPI Kappang 46.57 210 P P 21 32 05.4 +0.8
KAPI Kappang 46.57 210 *d iP* **P 21 32 04.2 -0.3**
KAPI pmax pmax
comp=Z,219nm,1.4s
P19K Oil Pt 46.60 39 P P 21 32 05.5 +1.1
baz=272
M20K Styx River 46.63 36 P P 21 32 06.9 +2.2
baz=270
OHAK Old Harbor 46.68 43 P P 21 32 05.5 +0.5
OHAK IAmb IAmb 21 32 10.8
comp=Z,48nm,0.7s
OHAK Old Harbor 46.68 43 P P 21 32 06.1 +1.1
baz=274
PMG Port Moresby 46.68 172 P P 21 32 04.5 -0.9
comp=Z,8.7nm,0.5s,baz=358,slow=4.3,SNR=7.3
PMG S **S 21 38 53.2 -1.2**
comp=Z,5.0nm,0.4s,baz=261,slow=11,SNR=1.3
PMG LR LR 21 51 43.8
comp=Z,630nm,19.3s,baz=352,slow=36
comp=Z,8.7nm,0.5s
PMG Port Moresby 46.68 172 P **P 21 32 05.2 -0.2**
PMG IAmb IAmb 21 32 45.1
comp=Z,118nm,1.2s
PMG Port Moresby 46.68 172 P **P 21 32 07.0 +1.6**
PMG Port Moresby 46.68 172 *de* P **P 21 32 05.3 -0.2**
PMG pmax pmax
comp=Z,27nm,1.1s
G21K Allakaket 46.69 30 P P 21 32 06.3 +1.3
baz=265
SHLS Shalkode 46.69 298 ⇓ *i* P **P 21 32 02.5 -3.1**
comp=Z,56nm,1.9s,baz=297
SHLS *eS* **S 21 38 50.0 -4.5**
comp=Z,481nm,6.1s,baz=297
SHLS Shalkode 46.69 298 *d iP* **P 21 32 02.4 -3.1**
SHLS *eS* **S 21 38 49.9 -4.5**
SHLS pmax pmax
comp=Z,56nm,1.9s
SHLS smax smax
comp=E,481nm,6.1s
BKSI Bulukumba 46.70 210 P P 21 32 05.0 -0.6
comp=E,5µmcomp=E,2µmcomp=E,121nm,1.3s
F21K Alatna River 46.77 29 P P 21 32 06.9 +1.3
baz=264
RSO Redoubt South 46.82 38 P P 21 32 06.8 +0.5
SURA Surathani 46.84 244 P P 21 32 07.4 +0.7
O20K Slope Mountain 46.89 39 P P 21 32 07.8 +1.1
baz=272
H21K Melozitna Rive 46.91 31 P P 21 32 08.5 +1.7
baz=266
RAMN Ramite 46.91 274 *eP* **P 21 32 07.1 -0.5**
comp=E,772nm,1.2s
JIRN Jiri 46.93 275 *eP* **P 21 32 07.6 -0.2**
comp=E,357nm,1.1s
TDK Taldyqorghan 46.98 300 ⇓ *i* P **P 21 32 07.3 -0.4**
comp=E,166nm,2.1s,baz=300
TDK *eS* **S 21 38 58.2 -0.2**
comp=E,808nm,5.5s,baz=300
TDK *eLR* LR 21 51 58.6
comp=E,14µm,16.5s,baz=300
TDK Taldyqorghan 46.98 300 *d iP* **P 21 32 07.2 -0.4**
TDK *eS* **S 21 38 58.1 -0.2**
TDK pmax pmax
comp=Z,166nm,2.1s
TDK smax smax
comp=E,808nm,5.5s
TDK MLR MLR
comp=Z,14µm,17.0s
UZB Uzynbulak 47.01 298 *eP* **P 21 32 06.8 -1.1**
baz=297
UZB *eS* **S 21 38 58.8 -0.3**
baz=297
UZB Uzynbulak 47.01 298 *eP* **P 21 32 06.8 -1.1**
UZB *eS* **S 21 38 58.7 -0.3**
CHUM Lake Minchumin 47.04 34 P P 21 32 09.4 +1.7
baz=268,SNR=24
GUN Gumba 47.06 275 *eP* **P 21 32 08.6 -0.2**
comp=Z,293nm,0.8s
N20K Mount Spurr 47.07 37 P P 21 32 09.3 +1.2
baz=271,SNR=22
SPCR Spurr Chakacha 47.07 37 P P 21 32 09.7 +1.5
baz=271,SNR=12
PPLA Purkeypile 47.07 35 P P 21 32 09.6 +1.3
baz=269,SNR=12
Q20K Shuyak Island 47.07 41 P P 21 32 09.5 +1.4
baz=273
CAST Castle Rocks 47.13 34 P P 21 32 08.8 +0.4
CAST IAmb IAmb 21 32 17.2
comp=Z,51nm,1.0s
CAST Castle Rocks 47.13 34 P P 21 32 09.6 +1.1
baz=269,SNR=27
SPU Mount Spurr 47.15 37 P P 21 32 10.0 +1.3
KPKS Kokpek 47.16 298 ⇓ *i* P **P 21 32 08.3 -0.8**
comp=Z,74nm,1.9s,baz=298
KPKS *eS* **S 21 39 01.1 -0.1**
comp=Z,369nm,6.4s,baz=298
KPKS Kokpek 47.16 298 *d iP* **P 21 32 08.3 -0.8**
KPKS *eS* **S 21 39 01.0 -0.1**

KPKS pmax pmax
comp=Z,75nm,1.9s
KPKS smax smax
comp=E,369nm,6.4s
I21K Tanana 47.23 32 P P 21 32 11.1 +1.9
baz=268
SRIT Nakonsritamara 47.25 244 P P 21 32 10.0 0.0
SRIT Nakonsritamara 47.25 244 P P 21 32 10.5 +0.5
F22K John River 47.30 29 P P 21 32 11.6 +1.9
baz=265
BSSI Bau Bau, Buton 47.31 209 P P 21 32 12.2 +1.9
comp=E,5µmcomp=E,5µmcomp=E,209nm,1.7s
BBKI Banjar Baru 47.37 217 P P 21 32 10.5 -0.3
comp=E,6µmcomp=E,7µmcomp=E,424nm,1.3s
SKT Skwentna 47.38 36 P P 21 32 11.6 +1.1
SKT IAMs_20 IAMs_20 21 50 32.2
comp=Z,4µm,20.0s
SKT Skwentna 47.38 36 P P 21 32 12.1 +1.6
baz=271,SNR=7.4
ZHN Zhinishke 47.41 298 *eP* **P 21 32 10.3 -0.9**
baz=297
ZHN *eS* **S 21 39 04.2 -0.6**
baz=297
ZHN Zhinishke 47.41 298 *eP* **P 21 32 10.2 -0.9**
ZHN *eS* **S 21 39 04.1 -0.6**
SATY Saty 47.46 298 ⇓ *iP* **P 21 32 10.3 -1.2**
comp=Z,65nm,2.2s,baz=297
SATY *eS* **S 21 39 05.1 -0.5**
comp=Z,228nm,4.6s,baz=297
SATY Saty 47.46 298 *d iP* **P 21 32 10.3 -1.2**
SATY *eS* **S 21 39 05.0 -0.5**
SATY pmax pmax
comp=Z,65nm,2.2s
SATY smax smax
comp=E,228nm,4.6s
H22K Ishtalitna Cre 47.51 31 P P 21 32 13.0 +1.6
baz=267,SNR=19
G22K Bettles 47.52 30 P P 21 32 13.0 +1.6
baz=266
SKLT Songkhla 47.52 241 P P 21 32 12.8 +0.7
PKI Pulchoki 47.59 275 *eP* **P 21 32 12.0 -0.9**
comp=E,129nm,0.8s
KKN Kakani 47.59 276 *eP* **P 21 32 11.6 -1.2**
PKIN Phulchoki 47.59 275 *eP* **P 21 32 12.0 -0.9**
comp=E,142nm,0.9s
CNPM China Poot 47.62 40 P P 21 32 13.1 +0.7
CNPM IAmb IAmb 21 32 26.1
comp=Z,59nm,1.0s
CNPM IAMs_20 IAMs_20 21 52 10.7
comp=Z,4µm,18.0s
BPAW Bear Paw Mtn. 47.63 33 P P 21 32 13.7 +1.4
baz=269
KTH Kantishna Hill 47.65 34 IAMs_20 IAMs_20 21 54 08.3
comp=Z,4µm,18.0s
MLY Manley 47.75 32 P P 21 32 14.2 +0.9
MLY IAmb IAmb 21 32 22.4
comp=Z,47nm,1.0s
MLY Manley 47.75 32 P P 21 32 15.1 +1.8
baz=269,SNR=34
SUA Susitna One 47.77 37 P P 21 32 14.4 +0.8
SUA IAmb IAmb 21 32 24.1
comp=Z,55nm,0.9s
SUA Susitna One 47.77 37 P P 21 32 15.0 +1.4
baz=272
BRLK Bradley Lake 47.78 39 P P 21 32 14.6 +1.0
BRLK IAmb IAmb 21 32 22.9
comp=Z,40nm,0.8s
BRLK IAMs_20 IAMs_20 21 52 18.6
comp=Z,5µm,18.0s
DMN Daman 47.81 275 *eP* **P 21 32 14.1 -0.5**
BRSE Bradley Lake S 47.86 39 P P 21 32 15.4 +1.2
baz=274
TRF Thorofare Moun 47.94 34 IAMs_20 IAMs_20 21 54 26.7
comp=Z,4µm,18.0s
TRF Thorofare Moun 47.94 34 P P 21 32 16.0 +1.1
baz=271,SNR=11
CUT Chulitna 47.97 36 P P 21 32 15.5 +0.5
baz=272
D23K Nanushuk River 47.98 27 P P 21 32 16.4 +1.4
baz=265,SNR=22
GKN Gorkha 48.01 276 *eP* **P 21 32 15.6 -0.4**
comp=Z,500nm,1.0s
COLD Coldfoot 48.04 29 P P 21 32 16.7 +1.2
baz=267,SNR=9.7
M22K Willow 48.06 37 P P 21 32 15.5 -0.2
baz=272
C23K Itkillik River 48.08 26 P P 21 32 17.4 +1.7
baz=264
G23K Bananza Creek 48.09 30 P P 21 32 17.7 +1.8
baz=268
CHKK Chushkaly 48.25 299 *eP* **P 21 32 16.6 -0.9**
baz=299
CHKK Chushkaly 48.25 299 *eP* **P 21 32 16.5 -0.9**
TARG Taragay, Kyrgy 48.26 296 P P 21 32 17.5 -0.6
TARG Taragay, Kyrgy 48.26 296 P P 21 32 17.5 -0.6
TARG pmax pmax
comp=Z,110nm,0.9s
H23K Yukon River 48.26 31 IAMs_20 IAMs_20 21 54 53.3
comp=Z,4µm,19.0s
H23K Yukon River 48.26 31 P P 21 32 19.5 +2.3
baz=269
RC01 Rabbit Creek A 48.27 37 IAMs_20 IAMs_20 21 55 23.8
comp=Z,4µm,19.0s
RC01 Rabbit Creek A 48.27 37 P P 21 32 17.6 +0.2
baz=273,SNR=11
BWN Browne 48.29 33 P P 21 32 19.5 +2.0
E23K Chandalar 48.31 28 P P 21 32 19.5 +1.9
baz=267
O22K Cooper Landing 48.32 38 IAMs_20 IAMs_20 21 52 49.1
comp=Z,4µm,18.0s
O22K Cooper Landing 48.32 38 P P 21 32 18.6 +0.9
baz=274
I23K Minto, Yukon-K 48.33 32 IAMs_20 IAMs_20 21 51 55.2
comp=Z,4µm,18.0s
I23K Minto, Yukon-K 48.33 32 P P 21 32 19.4 +1.7
baz=270,SNR=11
TOLK Toolik Lake Re 48.36 27 P P 21 32 19.4 +1.4
TOLK IAmb IAmb 21 32 26.9
comp=Z,58nm,0.9s
TOLK IAMs_20 IAMs_20 21 54 58.6
comp=Z,5µm,18.0s
TOLK Toolik Lake Re 48.36 27 P P 21 32 19.8 +1.9
baz=267,SNR=19
MDOK Medeo 48.39 298 *eP* **P 21 32 17.8 -0.9**
baz=298
MDOK *eS* **S 21 39 18.5 -0.2**
baz=298
MDOK *eLR* LR 21 52 26.9
comp=Z,12µm,16.9s,baz=298
MDOK Medeo 48.39 298 *eP* **P 21 32 17.8 -0.9**
MDOK *eS* **S 21 39 18.5 -0.2**
MDOK MLR MLR
comp=Z,12µm,17.0s
NEA2 Nenana 48.46 33 P P 21 32 19.8 +1.0
baz=271,SNR=38
AAA Alma-Ata 48.47 298 *eP* **P 21 32 18.8 -0.5**
baz=298
AAA *eS* **S 21 39 18.8 -0.9**
baz=298
AAA *eLR* LR 21 52 47.9
comp=Z,20µm,18.0s,baz=298
AAA Alma-Ata 48.47 298 *eP* **P 21 32 18.8 -0.5**
AAA *eS* **S 21 39 18.8 -0.9**
AAA MLR MLR
comp=Z,20µm,18.0s
SEW Seward 48.48 39 P P 21 32 19.0 0.0
baz=274
TNSS Tian-Shan 48.50 298 *i* P **P 21 32 19.1 -0.8**
baz=298
TNSS Tian-Shan 48.50 298 *i* P **P 21 32 19.1 -0.8**
MCK McKinley 48.54 34 P P 21 32 20.1 +0.7
MCK IAmb IAmb 21 32 29.8
comp=Z,57nm,0.9s
MCK IAMs_20 IAMs_20 21 54 33.5
comp=Z,4µm,19.0s
MCK McKinley 48.54 34 P P 21 32 20.3 +0.9
baz=272,SNR=20
MCK McKinley 48.54 34 P P 21 32 20.1 +0.7
MCK pmax pmax
comp=Z,57nm,0.9s
MCK MLR MLR
comp=Z,4µm,19.0s
PMR Palmer 48.54 37 P P 21 32 20.1 +0.7
baz=273
DANN Dangsing 48.55 277 *eP* **P 21 32 20.2 -0.1**
comp=Z,684nm,0.9s
RND Reindeer 48.58 34 P P 21 32 20.1 +0.3

RND IAmb IAmb 21 32 27.7
comp=Z,52nm,1.0s
RND Reindeer 48.58 34 P **P** **21 32 20.1 +0.3**
RND pmax pmax
comp=Z,52nm,1.0s
RND MLR MLR
comp=Z,3µm,20.0s
KUU Kurty 48.69 299⇓*i*P **P** **21 32 19.7 -1.2**
comp=Z,160nm,1.9s,baz=299
KUU *e*S **S** **21 39 22.3 -0.4**
comp=Z,680nm,4.5s,baz=299
KUU Kurty 48.69 299*d i*P **P** **21 32 19.6 -1.2**
KUU *e*S **S** **21 39 22.3 -0.4**
KUU pmax pmax
comp=Z,160nm,1.9s
KUU smax smax
comp=E,680nm,4.5s
E24K Your Creek 48.73 28 P **P** **21 32 23.1 +2.2**
baz=268
C24K Franklin Bluff 48.73 26 P **P** **21 32 22.3 +1.6**
baz=266
WAT1 Susitna Watana 48.74 35 P **P** **21 32 21.6 +0.6**
baz=273
KULM Kulim 48.84 240 P **P** **21 32 21.7 -0.5**
KULM IAmb IAmb 21 32 30.0
comp=Z,120nm,1.4s
KNK Knik Glacier 48.87 37 P **P** **21 32 22.6 +0.6**
KNK IAmb IAmb 21 32 29.6
comp=Z,52nm,0.7s
KNK Knik Glacier 48.87 37 P **P** **21 32 23.0 +1.0**
baz=274,SNR=15
SML Sawmill 48.90 36 P **P** **21 32 23.4 +1.1**
SML Sawmill 48.90 36 P **P** **21 32 22.8 +0.5**
baz=274,SNR=16
F24K Squaw Lake 48.95 29 P **P** **21 32 24.0 +1.5**
baz=269
H24K Noodor Dome 48.95 31 P **P** **21 32 24.2 +1.7**
baz=271
BOK Bokaro 48.97 271 *e*P **P** **21 32 22.4 -0.8**
PWL Port Wells 48.97 38 IAMs_20 IAMs_20 21 54 05.3
comp=Z,4µm,19.0s
PWL Port Wells 48.97 38 P **P** **21 32 23.1 +0.3**
baz=275,SNR=9.0
TCOL CIGO, UAF Yank 48.97 32 P **P** **21 32 24.1 +1.4**
baz=272
COLA College 48.98 32 P **P** **21 32 23.1 +0.4**
COLA IAmb IAmb 21 32 33.6
comp=Z,52nm,0.8s
COLA College 48.98 32 P **P** **21 32 24.1 +1.4**
baz=272
COLA College 48.98 32 P **P** **21 32 24.5 +1.8**
COLA College 48.98 32*de*P **P** **21 32 24.0 +1.4**
COLA pmax pmax
comp=Z,63nm,1.9s
MMRI Maumere 48.98 205 P **P** **21 32 22.9 -0.3**
MMRI Maumere 48.98 205 P **P** **21 32 23.3 +0.1**
comp=Z,6µmcomp=Z,7µmcomp=Z,349nm,1.1s
MMRI Maumere 48.98 205 P **P** **21 32 23.1 -0.1**
G24K Hadweenzic Riv 49.10 30 P **P** **21 32 25.9 +2.2**
baz=270
WAT6 Susitna Watana 49.13 35 P **P** **21 32 25.0 +0.9**
baz=274,SNR=9.1
POKR Poker Plat Res 49.15 32 P **P** **21 32 25.5 +1.5**
POKR Poker Plat Res 49.15 32 P **P** **21 32 26.0 +1.9**
baz=272,SNR=76
IPM Ipoh 49.16 238 P **P** **21 32 23.7 -1.1**
IPM IAmb IAmb 21 32 31.8
comp=Z,76nm,0.9s
IPM IAMs_20 IAMs_20 21 54 59.8
comp=Z,5µm,19.0s
IPM Ipoh 49.16 238 P **P** **21 32 24.5 -0.3**
M23K Glacier View 49.19 36 P **P** **21 32 25.9 +1.4**
baz=274,SNR=16
DGPR DIGLIPUR 49.24 254 *e*P **P** **21 32 23.7 -1.7**
DHY Denali Highway 49.27 35 IAMs_20 IAMs_20 21 55 11.9
comp=Z,4µm,19.0s
DHY Denali Highway 49.27 35 P **P** **21 32 25.9 +0.7**
baz=274,SNR=8.6
MYKOM Kota Tinggi 49.30 233 P **P** **21 32 25.4 -0.3**
SOEI Soe 49.37 202 P **P** **21 32 25.2 -1.1**
SOEI Soe 49.37 202 P **P** **21 32 25.7 -0.7**
comp=Z,4µmcomp=Z,4µmcomp=Z,556nm,1.0s
SOEI Soe 49.37 202 P **P** **21 32 25.9 -0.5**
SCM Sheep Creek Mo 49.38 36 P **P** **21 32 26.9 +1.0**
SCM IAmb IAmb 21 32 43.7
comp=Z,78nm,0.9s
SCM Sheep Creek Mo 49.38 36 P **P** **21 32 26.9 +1.0**
baz=275,SNR=10.0
SCM Sheep Creek Mo 49.38 36 P **P** **21 32 26.9 +1.0**
SCM pmax pmax
comp=Z,78nm,0.9s
SCM MLR MLR
comp=Z,3µm,21.0s
HDA Harding Lake 49.38 33 P **P** **21 32 26.2 +0.3**
baz=273,SNR=30
IL31 49.39 32 P **P** **21 32 26.1 +0.3**
IL31 IAmb IAmb 21 32 36.0
comp=Z,86nm,0.8s
ILAR Eielson Array 49.39 32 P **P** **21 32 26.9 +1.1**
comp=Z,44nm,0.9s,baz=270,slow=6.5,SNR=299
ILAR LR LR 21 55 11.3
comp=Z,2µm,18.3s,baz=262,slow=38
comp=Z,44nm,0.9s
ILAR Eielson Array 49.39 32 P **P** **21 32 26.3 +0.4**
ILAR Eielson Array 49.39 32 P **P** **21 32 27.0 +1.1**
TKM2 Tokmak 2 49.48 298 P **P** **21 32 27.5 +0.3**
SNR=32
D25K Kavik River 49.53 26 P **P** **21 32 28.7 +1.7**
baz=269
TPRI Tanjung Pinang 49.54 232 P **P** **21 32 28.2 +0.6**
comp=Z,µmcomp=Z,3µmcomp=Z,117nm,0.9s
HNR Honiara 49.57 156 LR LR 21 51 33.8
comp=Z,53µm,20.9s,baz=330,slow=34
HNR Honiara 49.57 156 IAMs_20 IAMs_20 21 51 42.6
comp=Z,5µm,19.0s
NRN Naryn 49.64 296 P **P** **21 32 28.0 -0.5**
NRN Naryn 49.64 296 P **P** **21 32 28.0 -0.5**
NRN pmax pmax
comp=Z,49nm,1.1s
BRZS Berezniki 49.64 308⇓*i*P **P** **21 32 26.9 -1.2**
baz=308
BRZS *e*S **S** **21 39 33.0 -2.9**
baz=308
BRZS Berezniki 49.64 308*d i*P **P** **21 32 26.9 -1.2**
BRZS *e*S **S** **21 39 32.9 -2.9**
G25K Bearman Lake 49.65 30 P **P** **21 32 29.8 +2.0**
baz=272
H25L Birch Creek 49.78 30 P **P** **21 32 31.6 +2.8**
baz=272
F25K Christian Rive 49.81 29 P **P** **21 32 31.9 +2.8**
baz=271
E25K Arctic Village 49.83 28 P **P** **21 32 31.1 +1.9**
baz=271,SNR=27
M24K Tolsona, Glenn 49.90 36 P **P** **21 32 31.2 +1.4**
baz=275
K24K Donnelly Dome 49.93 34 P **P** **21 32 31.0 +1.0**
baz=274,SNR=12
PRP Porcupine Dome 49.93 31 P **P** **21 32 30.8 +0.6**
PRP IAmb IAmb 21 32 38.9
comp=Z,45nm,0.9s
PRP Porcupine Dome 49.93 31 P **P** **21 32 30.7 +0.5**
baz=273,SNR=37
BTLS Baital 49.96 301⇓*i*P **P** **21 32 29.6 -0.9**
baz=301
BTLS *e*S **S** **21 39 40.3 -0.1**
baz=301
BTLS Baital 49.96 301*d i*P **P** **21 32 29.6 -0.9**
BTLS *e*S **S** **21 39 40.2 -0.1**
BATI Baumata 49.98 203 P **P** **21 32 30.0 -0.9**
comp=Z,54nm,0.6s,baz=33,slow=2.1,SNR=19
BATI S **S** **21 39 40.0 -1.1**
comp=Z,5.6nm,0.3s,baz=124,slow=22,SNR=11
BATI LR LR 21 52 37.5
comp=Z,3µm,21.7s,baz=5.5,slow=35
comp=Z,54nm,0.6s
BATI Baumata 49.98 203 P **P** **21 32 30.5 -0.4**
comp=Z,3µmcomp=Z,5µmcomp=Z,319nm,0.9s
FYU Fort Yukon 50.00 30 P **P** **21 32 32.0 +1.5**
SGDS Sogindy 50.01 299⇓*i*P **P** **21 32 29.1 -1.9**
baz=299
SGDS *e*S **S** **21 39 41.2 -0.1**
baz=299
SGDS Sogindy 50.01 299*d i*P **P** **21 32 29.9 -1.1**
SGDS *e*S **S** **21 39 41.1 -0.1**
KBK Karagaybulak 50.02 298 P **P** **21 32 31.5 +0.3**
SNR=16
C26K Camden Bay 50.05 26 P **P** **21 32 32.7 +1.9**
baz=270,SNR=46
J25K Salcha River, 50.05 33 P **P** **21 32 31.0 0.0**
baz=274
CHMS Chumysh 50.05 299 P **P** **21 32 31.3 0.0**
SNR=6.3
KLU Klutina 50.08 37 IAMs_20 IAMs_20 21 54 14.4
comp=Z,5µm,20.0s
KLU Klutina 50.08 37 P **P** **21 32 32.3 +1.0**
baz=276,SNR=9.3
PAX Paxson 50.14 35 P **P** **21 32 32.0 +0.2**
PAX Paxson 50.14 35 P **P** **21 32 32.5 +0.8**
baz=275,SNR=11
PAX Paxson 50.14 35 P **P** **21 32 32.0 +0.2**
PAX pmax pmax
comp=Z,31nm,1.0s
USP Ospenovka 50.15 299 P **P** **21 32 32.3 +0.2**
SNR=7.3
DIV Divide 50.19 37 P **P** **21 32 33.1 +1.0**
DIV IAmb IAmb 21 32 40.9
comp=Z,98nm,1.0s
BMAR Burnt Mountain 50.22 29 P **P** **21 32 34.2 +2.0**
EYAK Cordova Ski Ar 50.27 38 P **P** **21 32 33.3 +0.7**
baz=277
EYAK Cordova Ski Ar 50.27 38 P **P** **21 32 34.8 +2.2**
KSH Kashi 50.27 294 P **P** **21 32 36.0 +2.9**
KSH sP sP 21 32 44.5 +4.6
KSH S **S** **21 39 50.9 +5.8**
KSH pmax pmax
comp=Z,24nm,1.6s
KSH pmax pmax
comp=Z,2µm,9.5s
KSH LR LR
comp=Z,14µm,16.8s
KSH LR LR
comp=Z,13µm,17.9s
KSH LR LR
comp=Z,26µm,16.9s
KDU Kakadu 50.31 191 P **P** **21 32 32.6 -0.8**
HARP HAARP 50.34 35 P **P** **21 32 35.6 +2.4**
baz=276,SNR=11
AAK Ala-Archa 50.34 298 LR LR 21 55 14.5
comp=Z,28µm,19.4s,baz=72,slow=38
AAK Ala-Archa 50.34 298 P **P** **21 32 32.8 -0.9**
AAK IAmb IAmb 21 32 49.1
comp=Z,62nm,1.1s
AAK Ala-Archa 50.34 298 P **P** **21 32 34.0 +0.3**
AAK P **P** **21 32 34.0 +0.3**
AAK S **S** **21 39 44.8 -1.3**
AAK S **S** **21 39 44.8 -1.3**
AAK Ala-Archa 50.34 298 *i*P **P** **21 32 33.9 +0.3**
SNR=21
AAK Ala-Archa 50.34 298*de*P **P** **21 32 33.1 -0.6**
AAK pmax pmax
comp=Z,38nm,1.7s
RIDG Independent Ri 50.35 34 P **P** **21 32 33.6 +0.3**
RIDG IAMs_20 IAMs_20 21 56 11.5
comp=Z,4µm,18.0s
RIDG Independent Ri 50.35 34 P **P** **21 32 34.4 +1.2**
baz=275
F26K Sheenjek River 50.38 29 P **P** **21 32 36.0 +2.6**
baz=272
BVAR Borovoye Array 50.40 312 LR LR 21 55 03.0
comp=Z,14µm,19.4s,baz=78,slow=38
BRVK Borovoye 50.46 312 P **P** **21 32 33.7 -0.4**
BRVK IAmb IAmb 21 32 51.2
comp=Z,85nm,1.1s
BRVK Borovoye 50.46 312 P **P** **21 32 34.2 +0.1**
BRVK P **P** **21 32 34.2 +0.1**
BRVK S **S** **21 39 46.7 -0.4**
BRVK S **S** **21 39 46.7 -0.4**
BRVK Borovoye 50.46 312*de*P **P** **21 32 33.8 -0.4**
BRVK pmax pmax
comp=Z,43nm,1.7s
C27K Jago River 50.47 26 P **P** **21 32 35.9 +1.8**
baz=271
G26K Porcupine Rive 50.56 29 P **P** **21 32 36.6 +2.0**
baz=273
DSRI Dabo 50.59 231 P **P** **21 32 37.2 +1.6**
comp=Z,3µmcomp=Z,2µmcomp=Z,86nm,1.9s
MTN Manton Dam 50.69 193 P **P** **21 32 35.5 -0.7**
MTN Manton Dam 50.69 193 P **P** **21 32 35.8 -0.4**
N25K Chitina, Valde 50.69 36 IAMs_20 IAMs_20 21 54 39.8
comp=Z,3µm,19.0s
N25K Chitina, Valde 50.69 36 P **P** **21 32 38.1 +2.1**
baz=277
DOT Dot Lake 50.71 34 P **P** **21 32 36.3 +0.4**
SCRK Sand Creek 50.71 33 P **P** **21 32 36.2 +0.1**
SCRK IAmb IAmb 21 32 44.1
comp=Z,66nm,1.0s
SCRK Sand Creek 50.71 33 P **P** **21 32 37.0 +0.9**
baz=276,SNR=34
BMRM Bremner River 50.77 37 P **P** **21 32 37.3 +0.8**
BMRM IAmb IAmb 21 32 50.1
comp=Z,64nm,1.0s
BMRM Bremner River 50.77 37 P **P** **21 32 37.6 +1.1**
baz=278
RAGM Ragged Mountai 50.82 38 IAMs_20 IAMs_20 21 57 08.0
comp=Z,4µm,20.0s
PLAI Plampang 50.83 211 P **P** **21 32 36.1 -1.2**
comp=Z,4µmcomp=Z,3µmcomp=Z,205nm,1.3s
PLAI Plampang 50.83 211 P **P** **21 32 36.2 -1.1**
J26L Joseph Creek 50.84 33 IAMs_20 IAMs_20 21 56 20.8
comp=Z,3µm,18.0s
J26L Joseph Creek 50.84 33 P **P** **21 32 37.1 +0.1**
baz=276
COEN Coen 50.91 178 P **P** **21 32 37.5 -0.4**
COEN IAmb IAmb 21 32 46.5
comp=Z,81nm,1.0s
COEN Coen 50.91 178 P **P** **21 32 38.0 +0.1**
I26K Coal Creek Min 50.94 32 P **P** **21 32 37.8 +0.2**
I26K IAMs_20 IAMs_20 21 52 32.8
comp=Z,3µm,20.0s
I26K Coal Creek Min 50.94 32 P **P** **21 32 37.7 +0.1**
baz=275
PPBI Pangkal Pinang 50.98 228 P **P** **21 32 40.5 +2.0**
comp=Z,57nm,1.0s
KAIM Kayak Island 51.01 39 P **P** **21 32 40.0 +1.8**
baz=279
HMT Hamilton 51.03 38 IAMs_20 IAMs_20 21 52 17.6
comp=Z,5µm,20.0s
AML Almayashu 51.06 298 P **P** **21 32 40.3 +0.9**
SNR=22
GLB Gilahina Butte 51.09 37 P **P** **21 32 40.1 +1.2**
GLB IAmb IAmb 21 32 55.4
comp=Z,142nm,1.7s
GLB IAMs_20 IAMs_20 21 53 38.2
comp=Z,4µm,20.0s
L26K Log Cabin Wild 51.10 35 IAMs_20 IAMs_20 21 56 15.4
comp=Z,4µm,18.0s
L26K Log Cabin Wild 51.10 35 P **P** **21 32 40.9 +2.0**
baz=277,SNR=22
TWSI Taliwang, Sumb 51.12 212 P **P** **21 32 37.9 -1.6**
comp=Z,3µmcomp=Z,292nm,1.0s
SRBI Singaraja 51.26 214 P **P** **21 32 41.8 +1.3**
comp=Z,9µmcomp=Z,8µmcomp=Z,422nm,1.1s
VRDI Verde Repeater 51.29 37 P **P** **21 32 41.5 +0.9**
VRDI IAMs_20 IAMs_20 21 54 00.5
comp=Z,4µm,20.0s
BERG Berg Lake 51.29 38 IAMs_20 IAMs_20 21 57 10.7
comp=Z,4µm,18.0s
SUCK Suckling Hills 51.31 38 IAMs_20 IAMs_20 21 52 34.0
comp=Z,5µm,19.0s
E27K Coleen River 51.31 28 P **P** **21 32 42.4 +2.0**
baz=274
M26K Nabesna, AK 51.34 35 IAMs_20 IAMs_20 21 55 18.1
comp=Z,4µm,20.0s
M26K Nabesna, AK 51.34 35 P **P** **21 32 42.7 +1.9**
baz=278
G27K Doyon Strip 51.41 30 P **P** **21 32 43.2 +2.1**
baz=275
ABJI Asem Bagus 51.44 215 P **P** **21 32 45.6 +3.7**
comp=Z,8µmcomp=Z,8µmcomp=Z,315nm,1.6s
LHMI Lhok Sumawe 51.47 243 P **P** **21 32 42.8 +0.6**
LHMI IAmb IAmb 21 32 54.0
comp=Z,129nm,0.9s
LHMI IAMs_20 IAMs_20 21 54 05.8
comp=Z,6µm,22.0s
LHMI Lhok Sumawe 51.47 243 P **P** **21 32 44.5 +2.3**
comp=Z,5µmcomp=Z,4µmcomp=Z,188nm,1.3s
LHMI Lhok Sumawe 51.47 243 P **P** **21 32 44.1 +1.9**
MCARA McCarthy VSAT 51.47 37 IAMs_20 IAMs_20 21 53 57.3
comp=Z,4µm,20.0s
MCARA McCarthy VSAT 51.47 37 P **P** **21 32 42.8 +1.1**
baz=279,SNR=9.5
GRJI Gresik 51.51 218 P **P** **21 32 45.9 +3.5**
comp=Z,3µmcomp=Z,5µmcomp=Z,408nm,1.5s
H27K Steamboat Moun 51.51 30 P **P** **21 32 43.3 +1.3**
baz=276
I27K Kandik River 51.55 31 P **P** **21 32 43.8 +1.6**
baz=276
WAX Waxell Ridge 51.70 38 IAMs_20 IAMs_20 21 53 02.4
comp=Z,4µm,20.0s
SNH Sunshine Point 51.75 38 IAMs_20 IAMs_20 21 57 55.8
comp=Z,4µm,18.0s
L27K Beaver Creek, 51.78 34 IAMs_20 IAMs_20 21 55 07.7
comp=Z,4µm,19.0s
L27K Beaver Creek, 51.78 34 P **P** **21 32 45.4 +1.4**
baz=278,SNR=66
DNP Denpasar 51.78 214 P P 21 32 50.9 +6.5
BCAR Beaver Creek A 51.80 34 P **P** **21 32 45.9 +1.7**
PSI Prapat 51.81 239 LR LR 21 56 13.2
comp=Z,2µm,18.4s,baz=2.5,slow=38
PSI Prapat 51.81 239 P **P** **21 32 44.6 -0.3**
PSI Prapat 51.81 239 P **P** **21 32 44.2 -0.7**
PSI pmax pmax
comp=Z,43nm,0.9s
PSI MLR MLR
comp=Z,3µm,18.0s
EGAK Eagle 51.84 32 P **P** **21 32 44.4 +0.1**
EGAK Eagle 51.84 32 P **P** **21 32 45.2 +0.9**
baz=278,SNR=21
M27K Edge Creek, AK 51.86 35 IAMs_20 IAMs_20 21 56 52.5
comp=Z,4µm,18.0s
M27K Edge Creek, AK 51.86 35 P **P** **21 32 45.5 +0.8**
baz=279
RPSI Rantau Prapat 51.89 239 P **P** **21 32 44.2 -1.2**
ISLE Juniper Island 51.93 38 P **P** **21 32 46.0 +0.7**
ISLE IAmb IAmb 21 33 02.1
comp=Z,94nm,1.2s
IGBI Denpasar 51.94 214 P P 21 32 51.7 +6.1
JAGI Jajag, Banyuwa 52.07 215 P **P** **21 32 45.7 -0.9**
JAGI IAmb IAmb 21 33 33.6
comp=Z,129nm,1.2s
JAGI Jajag, Banyuwa 52.07 215 P P 21 32 51.7 +5.0
JAGI Jajag, Banyuwa 52.07 215 P **P** **21 32 46.5 -0.2**
KCSI Kotacane, Aceh 52.09 241 P P 21 32 51.9 +5.0
BARN Barnard Glacie 52.17 37 P **P** **21 32 48.3 +1.1**
DDI Dehra Dun 52.19 282 *e*P **P** **21 32 46.6 -0.9**
MESA MESA 52.19 38 IAMs_20 IAMs_20 21 58 19.4
comp=Z,4µm,18.0s
MESA MESA 52.19 38 P **P** **21 32 48.8 +1.5**
baz=280
BKNI Bangkinang 52.23 235 P **P** **21 32 47.4 -0.5**
BKNI IAMs_20 IAMs_20 21 56 45.1
comp=Z,3µm,18.0s
BKNI Bangkinang 52.23 235 P **P** **21 32 49.2 +1.4**
comp=Z,3µmcomp=Z,4µmcomp=Z,383nm,1.2s
BKNI Bangkinang 52.23 235 P **P** **21 32 49.6 +1.8**
GMJI Gumukmas 52.23 216 P **P** **21 32 47.0 -0.8**
comp=Z,117nm,1.0s
YAH Yahtse 52.26 38 P **P** **21 32 49.1 +1.3**
YAH IAMs_20 IAMs_20 21 53 28.1
comp=Z,4µm,19.0s
BVCY Beaver Creek 52.32 35 P **P** **21 32 49.4 +1.4**
baz=280,SNR=18
NGJI Ngawi 52.40 219 P P 21 32 53.9 +4.8
PMBI Palembang 52.40 229 P **P** **21 32 50.0 +0.8**
DZA Taraz 52.48 299 *e*P **P** **21 32 48.5 -1.0**
baz=299
DZA Taraz 52.48 299 *e*P **P** **21 32 48.4 -1.0**
TABL Table Mountain 52.54 38 IAMs_20 IAMs_20 21 52 33.5
comp=Z,4µm,22.0s
SMLA Simla 52.54 284 *e*P **P** **21 32 48.8 -1.2**
YUK3 Moose Creek 52.62 36 P **P** **21 32 51.3 +0.8**
baz=280,SNR=9.8
SMRI Semarang 52.64 220 P **P** **21 32 51.1 +0.2**
SMRI Semarang 52.64 220 P P 21 32 57.3 +6.4
DAWY Dawson 52.70 33 P **P** **21 32 51.6 +0.7**
DAWY Dawson 52.70 33 P **P** **21 32 52.2 +1.4**
baz=280,SNR=13
MNSI Mandalling Nat 52.84 237 P **P** **21 32 53.2 +0.8**
comp=Z,1µmcomp=Z,51nm,0.7s
SDSI Sungai Dareh 52.93 233 P **P** **21 32 52.9 -0.1**
comp=Z,3µmcomp=Z,3µmcomp=Z,196nm,1.0s
O28M Mount Upton 52.93 37 P **P** **21 32 54.2 +1.3**
baz=281
I29M Ogilvie Camp, 52.95 31 P **P** **21 32 54.3 +1.7**
baz=280,SNR=72
KK31 Karatay Array 52.97 300 P **P** **21 32 52.8 -0.4**
KK31 IAmb IAmb 21 33 45.4
comp=Z,97nm,1.4s
KK31 Karatay Array 52.97 300 P **P** **21 32 52.8 -0.4**
KK31 pmax pmax
comp=Z,97nm,1.4s
KKAR Karatay Array 52.97 300 P **P** **21 32 52.5 -0.6**
KKAR Karatay Array 52.97 300 P **P** **21 32 52.7 -0.5**
KKAR IAmb IAmb 21 33 45.4
comp=Z,97nm,1.4s
KKAR Karatay Array 52.97 300 P **P** **21 32 52.5 -0.6**
KKAR 21 32 52.7
KKAR pmax pmax
comp=Z,97nm,1.4s
YUK8 Steele Glacier 53.04 36 P **P** **21 32 54.7 +1.1**
baz=281
PINM Pinnacle 53.04 38 P **P** **21 32 54.2 +0.7**
baz=282
J29M Klondike Camp 53.14 32 P **P** **21 32 55.7 +1.5**
baz=280,SNR=28
PCJI Pacitan 53.25 218 P **P** **21 32 58.5 +3.1**
comp=Z,157nm,2.3s
DRK Karamyk 53.31 295 P **P** **21 32 54.5 -1.6**
UGM Wanagama 53.34 219 P **P** **21 32 55.1 -1.0**
UGM Wanagama 53.34 219 P **P** **21 32 56.9 +0.9**
comp=Z,7µmcomp=Z,458nm,1.0s
UGM Wanagama 53.34 219 P **P** **21 32 55.2 -0.8**
YOGI Yogyakarta 53.37 220 P **P** **21 32 57.3 +1.0**
comp=Z,4µmcomp=Z,263nm,0.9s
BCPM Bancas Point 53.37 38 IAMs_20 IAMs_20 21 52 55.6
comp=Z,4µm,20.0s
M29M Somme Creek 53.41 35 P **P** **21 32 57.9 +1.7**
baz=282,SNR=23
EPYK Eagle Plains 53.42 30 P **P** **21 32 58.0 +1.9**
baz=280,SNR=70
L29M L29M 53.43 34 P **P** **21 32 58.3 +2.0**
baz=281,SNR=47
G30M tAoh Zraii Nji 53.51 29 P **P** **21 32 58.2 +1.5**
baz=280,SNR=36
PDSI Padang 53.53 234 P P 21 33 04.7 +7.2
PNL Peninsula 53.55 38 P **P** **21 32 58.9 +1.8**
baz=283
YUK4 Talbot Arm 53.55 36 P **P** **21 32 59.1 +1.8**
baz=282,SNR=12
K29M Barlow Dome 53.55 33 P **P** **21 32 59.2 +1.9**
baz=281
IUG Iuzhnay 53.63 299⇓*i*P **P** **21 32 57.5 -0.7**
comp=Z,70nm,1.9s,baz=299
IUG *e*S **S** **21 40 31.6 +0.4**
comp=Z,335nm,4.8s,baz=299
IUG Iuzhnay 53.63 299*d i*P **P** **21 32 57.4 -0.7**
IUG *e*S **S** **21 40 31.5 +0.4**
IUG pmax pmax
comp=Z,70nm,1.9s
IUG smax smax
comp=E,335nm,4.8s
YUK6 Outpost Mounta 53.77 37 P **P** **21 33 00.8 +1.8**
baz=283,SNR=9.0
BTK Batken 53.81 296 P **P** **21 32 58.6 -0.8**
BTK IAmb IAmb 21 33 13.5
comp=Z,133nm,1.6s
BTK Batken 53.81 296 P **P** **21 32 58.6 -0.8**
BTK pmax pmax
comp=Z,133nm,1.6s
O29M Mount Kennedy 53.81 37 P **P** **21 33 01.1 +1.9**
baz=283
GSI Gunungsitoli 53.82 239 P **P** **21 32 58.4 -1.3**
GSI IAMs_20 IAMs_20 21 57 05.2
comp=Z,6µm,19.0s
GSI Gunungsitoli 53.82 239 P **P** **21 32 59.6 0.0**
comp=Z,4µmcomp=Z,7µmcomp=Z,413nm,1.3s
GSI Gunungsitoli 53.82 239 P **P** **21 32 59.3 -0.3**
CHM Chimkent 53.87 299 *e*P **P** **21 32 58.4 -1.4**
baz=299
CHM *e*S **S** **21 40 34.3 0.0**
baz=299
CHM *e*LR LR 21 56 39.1
comp=Z,3µm,15.3s,baz=299
CHM Chimkent 53.87 299 *e*P **P** **21 32 58.3 -1.4**
CHM *e*S **S** **21 40 34.2 0.0**
CHM MLR MLR
comp=Z,3µm,15.0s
KLI Kotabumi 53.90 227 P **P** **21 33 00.5 +0.3**
comp=Z,5µmcomp=Z,324nm,1.0s

KNRA Kununurra 53.91 195 P P 21 32 59.9 -0.1
KNRA Kununurra 53.91 195 P P 21 33 00.0 -0.1
LEM Lembang 53.95 223 P P 21 32 59.6 -1.0
comp=Z,90nm,0.8s,baz=97,slow=2.6,SNR=12
LEM S S 21 40 36.0 +0.1
comp=Z,11nm,0.3s,baz=313,slow=23,SNR=1.9
LEM LR LR 21 56 55.8
comp=Z,1μm,19.6s,baz=348,slow=37
comp=Z,90nm,0.8s
LEM Lembang 53.95 223 P P 21 33 00.5 -0.2
comp=Z,4μmcomp=Z,5μmcomp=Z,254nm,0.9s
BLSI Bandar Lampung 54.08 226 P P 21 33 05.0 +3.5
comp=Z,3μmcomp=Z,154nm,0.7s
MASI Maura Aman, Be 54.12 231 P P 21 33 01.8 0.0
comp=Z,1μmcomp=Z,2μmcomp=Z,156nm,1.2s
M30M Minto, Yukon 54.14 34 P P 21 33 03.4 +2.0
baz=283
VIS Vishakhapatnam 54.16 266 eP P 21 33 00.7 -1.4
HYT Haines Junctio 54.21 37 P P 21 33 03.6 +1.6
HYT Haines Junctio 54.21 37 P P 21 33 04.4 +2.4
baz=283,SNR=24
N30M Aishikik Lake 54.26 36 P P 21 33 03.6 +1.3
baz=283
INK Inuvik 54.27 27 LR LR 21 59 21.1
comp=Z,2μm,18.6s,baz=268,slow=40
INK Inuvik 54.27 27 P P 21 33 02.9 +0.7
INK Inuvik 54.27 27 P P 21 33 03.5 +1.4
baz=282,SNR=20
INK Inuvik 54.27 27 P P 21 33 02.9 +0.7
INK pmax pmax
comp=Z,41nm,1.0s
MAYO Mayo, Yukon 54.31 33 P P 21 33 04.4 +1.7
baz=283
PBSI Pulau Batu 54.34 237 P P 21 33 06.0 +2.6
comp=Z,422nm,1.5s
F31M Tsiigehtchic 54.37 28 P P 21 33 04.2 +1.4
baz=282,SNR=10
P29M Windy Craggy 54.38 38 IAMs_20 IAMs_20 21 59 10.1
comp=Z,3μm,19.0s
P29M Windy Craggy 54.38 38 P P 21 33 04.5 +1.3
baz=284
TAS Tashkent 54.43 298 P P 21 33 04.2 +0.3
TAS IAmb IAmb 21 33 21.8
comp=Z,70nm,0.8s
TAS Tashkent 54.43 298 P P 21 33 04.2 +0.3
TAS pmax pmax
comp=Z,70nm,0.8s
BBJI Bungbulang 54.46 223 P P 21 33 06.6 +2.3
NIL Nilore 54.49 288 P P 21 33 04.0 -0.4
NIL IAmb IAmb 21 33 21.0
comp=Z,79nm,0.8s
NIL Nilore 54.49 288 IAMs_20 IAMs_20 21 59 12.4
comp=Z,5μm,20.0s
NIL Nilore 54.49 288 P P 21 33 04.6 +0.2
NIL P P 21 33 04.6 +0.2
NIL Nilore 54.49 288 P P 21 33 04.0 -0.4
NIL pmax pmax
comp=Z,79nm,0.8s
NIL MLR MLR
comp=Z,5μm,20.0s
LWLI Liwa 54.49 228 P P 21 33 05.8 +1.2
comp=Z,2μmcomp=Z,208nm,0.7s
GAR Garm 54.56 295 P P 21 33 04.3 -0.6
MNAI Manna 54.63 229 P P 21 33 07.9 +2.4
comp=Z,437nm,2.5s
P30M Million Dollar 54.64 37 P P 21 33 06.6 +1.5
baz=284
KASI Kota Agung 54.64 227 P P 21 33 05.4 -0.2
comp=Z,1μmcomp=Z,59nm,0.8s
SKJI Sukabumi 54.68 224 P P 21 33 06.4 +0.6
N31M Braeburn, Yuko 54.86 36 P P 21 33 08.2 +1.6
baz=284,SNR=9.7
O30N Mendenhall 54.90 37 P P 21 33 09.4 +2.5
baz=285,SNR=10.0
SVE Sverdlovsk 54.97 319 ceP P 21 33 07.8 +0.3
SVE eS S 21 40 50.2 +1.7
SVE pmax pmax
comp=Z,115nm,1.3s
SVE MLR MLR
comp=E,12μm,17.0s
SVE MLR MLR
comp=Z,14μm,17.0s
PLBC Pleasant Camp 55.10 38 P P 21 33 10.1 +1.7
baz=285,SNR=11
MTSU Mount Surprise 55.11 177 P P 21 33 08.8 0.0
PPSI Pulau Pagai 55.23 233 P P 21 33 11.9 +2.1
comp=Z,327nm,1.2s
M31M Drury Creek, Y 55.32 35 IAMs_20 IAMs_20 21 57 15.9
comp=Z,3μm,18.0s
M31M Drury Creek, Y 55.32 35 P P 21 33 11.1 +1.1
baz=285,SNR=14
WHY Whitehorse 55.50 36 P P 21 33 12.9 +1.6
baz=286,SNR=10
CHGR Chuyangaron 55.52 295 P P 21 33 11.3 -0.6
CHGR Chuyangaron 55.52 295 P P 21 33 11.3 -0.6
CHGR pmax pmax
comp=Z,211nm,0.9s
S31K Pelican 55.58 40 P P 21 33 13.5 +1.8
baz=286
SKAG Skagway 55.61 38 P P 21 33 14.3 +2.3
baz=286
FARO Faro, Yukon 55.78 34 P P 21 33 15.3 +2.0
baz=286,SNR=13
BHPL Bhopal 55.98 275 eP P 21 33 12.7 -2.6
BESE Bessie Mountai 56.10 39 P P 21 33 17.2 +1.6
BESE IAmb IAmb 21 33 25.0
comp=Z,62nm,1.0s
A36M Sachs Harbour 56.13 22 P P 21 33 16.5 +1.0
A36M IAmb IAmb 21 33 24.9
comp=Z,86nm,0.9s
A36M Sachs Harbour 56.13 22 P P 21 33 17.3 +1.7
baz=286,SNR=33
ARU Arti 56.18 318 LR LR 21 59 42.4
comp=Z,11μm,18.2s,baz=70,slow=39
ARU Arti 56.18 318 P P 21 33 15.7 -0.5
ARU IAmb IAmb 21 33 34.0
comp=Z,101nm,1.0s
ARU Arti 56.18 318 d iP P 21 33 15.8 -0.4
ARU 21 34 10.0
ARU 21 35 16.2
ARU S S 21 41 06.4 +1.7
ARU 21 43 04.5
ARU SS SS 21 44 47.6 -3.1
ARU SSS SSS 21 46 58.3
ARU pmax pmax
comp=Z,169nm,1.6s
ARU MLR MLR
comp=Z,10μm,16.0s
N32M Quiet Lake 56.21 36 P P 21 33 17.8 +1.4
baz=287
SIT Sitka 56.31 41 P P 21 33 18.8 +1.7
baz=288
R32K Eaglecrest 56.36 39 P P 21 33 19.3 +1.9
baz=288
P32M Atlin 56.36 37 P P 21 33 19.3 +1.9
baz=287,SNR=7.1
TV1H Townsville Har 56.40 174 P P 21 33 19.9 +1.9
JIS Juneau Island 56.42 39 P P 21 33 20.6 +2.8
S32K Killisnoo 56.57 40 P P 21 33 20.9 +2.0
baz=288
MMPY Sheldon Lake, 56.60 34 P P 21 33 20.8 +1.6
baz=287,SNR=11
P33M Teslin, Yukon 56.61 37 P P 21 33 20.8 +1.5
P33M IAmb IAmb 21 33 35.4
comp=Z,54nm,0.9s
P33M Teslin, Yukon 56.61 37 P P 21 33 21.1 +1.8
baz=288,SNR=13
WB0 Warramunga Arr 57.04 188 P P 21 33 21.5 -1.1
CTA Charters Tower 57.17 174 P P 21 33 21.7 -1.8
comp=Z,3.9nm,0.5s,baz=339,slow=7.4,SNR=9.7
CTA LR LR 21 56 16.1
comp=Z,943nm,21.4s,baz=347,slow=34
comp=Z,3.9nm,0.5s
CTA Charters Tower 57.17 174 P P 21 33 23.4 -0.1
CTAO Charters Tower 57.17 174 P P 21 33 23.0 -0.6
CTAO Charters Tower 57.17 174 P P 21 33 22.9 -0.6
CTAO Charters Tower 57.17 174 P P 21 33 23.0 -0.6
CTAO pmax pmax
comp=Z,37nm,1.1s
CTAO MLR MLR
comp=Z,2μm,19.0s
WRAB Tennant Creek 57.21 188 IAMs_20 IAMs_20 21 55 40.4
comp=Z,3μm,21.0s
WRAB Tennant Creek 57.21 188 P P 21 33 22.7 -1.0
WRAB Tennant Creek 57.21 188 d iP P 21 33 22.8 -1.0
WRAB pmax pmax
comp=Z,27nm,1.0s
WR0 Warramunga Arr 57.21 188 P P 21 33 22.9 -1.0
WRA Warramunga Arr 57.22 188 P P 21 33 22.7 -1.1
comp=Z,22nm,0.5s,baz=5.3,slow=7.2,SNR=206
WRA S S 21 41 25.8 +6.7
comp=Z,5.9nm,1.2s,baz=5.1,slow=12,SNR=5.1
WRA LR LR 21 55 51.0
comp=Z,3μm,21.8s,baz=354,slow=34
comp=Z,22nm,0.5s
WRA Warramunga Ar 57.22 188 P P 21 33 22.1 -1.7
Q32M Nakina River 57.26 38 P P 21 33 26.1 +2.0
baz=289
KBL Kabul 57.28 291 P P 21 33 23.7 -0.9
KBL IAmb IAmb 21 33 39.8
comp=Z,91nm,1.1s
KBL Kabul 57.28 291 P P 21 33 23.9 -0.7
SNR=59
KBL S S 21 41 19.3 -1.1
KBL Kabul 57.28 291 P P 21 33 23.7 -0.9
KBL pmax pmax
comp=Z,91nm,1.2s
C36M Paulatuk 57.31 25 P P 21 33 24.2 +0.2
C36M IAmb IAmb 21 33 32.2
comp=Z,55nm,1.1s
C36M Paulatuk 57.31 25 P P 21 33 25.5 +1.6
baz=289,SNR=18
QIS Mount Isa 57.47 182 P P 21 33 24.8 -0.9
R33M Jennings River 57.75 37 P P 21 33 29.4 +2.0
baz=289
U33K Whale Pass 57.77 41 P P 21 33 29.1 +1.7
baz=290
ABKAR Akbulak array 57.77 310 P P 21 33 27.2 -0.3
ABKAR Akbulak array 57.77 310 P P 21 33 27.0 -0.5
ABKAR IAmb IAmb 21 33 34.2
comp=Z,45nm,0.6s
WRAK Wrangell Islan 58.07 41 P P 21 33 31.7 +2.2
baz=290
HYB Hyderabad 58.13 268 eP P 21 33 29.6 -0.9
HYBB Hyderabad (bro 58.13 268 eP P 21 33 29.9 -0.6
HYBB IVmB_BB 21 33 44.2
comp=Z,532nm,2.1s
HYBB eS S 21 41 33.2 +1.7
HYBB IVMs_BB IVMs_BB 22 00 08.2
comp=Z,994nm,18.6s
S34M Telegraph Cree 58.17 39 P P 21 33 32.4 +2.1
baz=290,SNR=8.6
TGTN Hyland Airport 58.29 34 P P 21 33 33.5 +2.4
baz=290,SNR=12
DLBC Dease Lake 58.54 38 LR LR 21 58 35.7
comp=Z,1μm,21.6s,baz=300,slow=36
DLBC Dease Lake 58.54 38 P P 21 33 34.6 +1.7
DLBC IAmb IAmb 21 33 42.7
comp=Z,63nm,1.1s
DLBC Dease Lake 58.54 38 P P 21 33 35.3 +2.4
baz=291,SNR=9.1
V35K Ketchikan 58.84 42 P P 21 33 37.8 +2.9
baz=291
T35M Bob Quinn 58.95 40 P P 21 33 38.5 +2.7
baz=291,SNR=10
MDRS Chennai 59.23 263 eP P 21 33 38.6 +0.5
WRGLY Wrigley 59.74 31 P P 21 33 42.7 +1.7
baz=293
EUNU Eureka 60.03 9 P P 21 33 43.0 +1.1
EUNU IAmb IAmb 21 33 54.8
comp=Z,44nm,0.8s
KIRV Kirov 60.07 323 LR LR 22 02 44.7
comp=Z,7μm,18.1s,baz=70,slow=39
KIRV Kirov 60.07 323 d iP P 21 33 43.2 -0.1
LIRD Liard River Hi 60.07 36 P P 21 33 45.6 +2.2
baz=289,SNR=30
GRNB Grenville Isla 60.30 43 P P 21 33 46.1 +1.1
SPA0 Spitsbergen Ar 60.34 349 eP P 21 33 45.8 +0.8
SPA0 IAmb IAmb 21 33 55.2
comp=Z,90nm,1.5s
SPB2 Spitsbergen Ar 60.34 349 P P 21 33 45.5 +0.6
SPITS Spitsbergen Ar 60.34 349 LR LR 22 01 09.6
comp=Z,3μm,19.1s,baz=10,slow=37
SPITS Spitsbergen Ar 60.34 349 P P 21 33 45.5 +0.5
SPITS pmax pmax
comp=Z,94nm,1.4s
KBS Kingsbay 60.48 350 P P 21 33 46.8 +1.0
KBS IAmb IAmb 21 33 54.0
comp=Z,68nm,0.9s
KBS Kingsbay 60.48 350 i P P 21 33 46.6 +0.8
KBS Kingsbay 60.48 350 deP P 21 33 46.9 +1.0
KBS pmax pmax
comp=Z,28nm,0.7s
KBS Kingsbay 60.48 350 eP P 21 33 47.1 +1.2
KBS IAmb IAmb 21 33 53.8
comp=Z,68nm,0.9s
PRGR Permogore 60.58 327 eP P 21 33 45.8 -1.0
PRGR pmax pmax
comp=Z,52nm,1.0s
KOTAN Kotaneelee Air 60.73 35 P P 21 33 49.7 +1.9
baz=294
NOR Nord 60.88 356 i P P 21 33 47.6 -1.0
NOR IAmb IAmb 21 33 57.8
comp=Z,30nm,0.8s
AS01 Alice Springs 60.94 188 P P 21 33 49.0 -0.6
AS31 Alice Springs 60.94 188 P P 21 33 49.4 -0.3
ASAR Alice Springs 60.94 188 P P 21 33 49.0 -0.7
comp=Z,11nm,0.7s,baz=12,slow=8.6,SNR=100
ASAR S S 21 42 12.8 +5.4
comp=Z,0.4nm,0.7s,baz=25,slow=20,SNR=1.5
ASAR LR LR 21 57 44.4
comp=Z,2μm,21.4s,baz=12,slow=34
ASAR PKPPKP P'P'df 22 03 01.4 +1.7
comp=Z,0.4nm,0.8s,baz=172,slow=2.4,SNR=4.2
ASAR PKP2bc P'P'ab 22 03 20.2 +1.7
comp=Z,2.0nm,0.8s,baz=161,slow=2.1,SNR=11
comp=Z,11nm,0.7s
ASAR Alice Springs 60.94 188 P P 21 33 49.1 -0.6
ASAR Alice Springs 60.94 188 P P 21 33 49.1 -0.6
HSPB Hornsund (broa 61.27 348 eP P 21 33 51.8 +0.6
HSPB eS S 21 42 11.4 +1.2
HSPB eL L 22 01 13.6
comp=Z,5μm,19.9s
POO Poona 61.28 272 eP P 21 33 51.5 -0.8
KOUNC Koumac, New Ca 61.39 155 IAMs_20 IAMs_20 21 57 57.8
comp=Z,5μm,20.0s
KOUNC Koumac, New Ca 61.39 155 P P 21 33 54.5 +1.8
MBWA Marble Bar 61.51 203 P P 21 33 53.2 -0.3
MBWA Marble Bar 61.51 203 P P 21 33 53.5 -0.1
MBWA P P 21 33 53.5 -0.1
MBWA Marble Bar 61.51 203 P P 21 33 53.5 -0.1
PSA00 Pilbara Seismi 61.87 203 P P 21 33 55.6 -0.2
PSA00 Pilbara Seismi 61.87 203 P P 21 33 55.8 -0.1
PSA00 IAmb IAmb 21 34 03.3
comp=Z,146nm,1.6s
PSA00 Pilbara Seismi 61.87 203 P P 21 33 55.7 -0.2
LVZ Lovozero 61.93 336 P P 21 33 55.7 -0.2
LVZ IAmb IAmb 21 34 03.9
comp=Z,86nm,1.0s
LVZ Lovozero 61.93 336 e P P 21 33 55.6 -0.3
LVZ pmax pmax
comp=Z,44nm,1.1s
BBB Bella Bella 62.00 44 LR LR 21 56 34.5
comp=Z,17nm,21.7s,baz=296,slow=32
PALK Pallekele 62.33 257 LR LR 22 04 11.9
comp=Z,6μm,19.1s,baz=153,slow=39
PALK Pallekele 62.33 257 P P 21 33 58.8 -0.6
PALK IAmb IAmb 21 34 09.9
comp=Z,105nm,1.4s
PALK Pallekele 62.33 257 P P 21 33 58.4 -1.0
PALK P P 21 33 58.4 -1.0
PALK Pallekele 62.33 257 e P P 21 33 59.5 +0.1
PALK pmax pmax
comp=Z,71nm,1.2s
HRA Herat 62.38 294 P P 21 33 59.8 +0.1
HRA IAmb IAmb 21 34 12.1
comp=Z,37nm,0.9s
VADS Vadso 62.38 339 eP P 21 33 59.4 +0.6
VADS IAmb IAmb 21 34 06.5
comp=Z,177nm,1.2s
RES Resolute Bay 62.46 14 LR LR 22 04 53.7
comp=Z,2μm,18.7s,baz=316,slow=40
RES Resolute Bay 62.46 14 P P 21 33 59.5 +0.3
RES IAmb IAmb 21 34 19.0
comp=Z,25nm,0.7s
RES Resolute Bay 62.46 14 P P 21 33 59.5 +0.3
RES pmax pmax
comp=Z,25nm,0.7s
APA Apatity 62.50 336 i P P 21 33 58.2 -1.5
APA i 21 34 33.0
APA i 21 36 14.0
APA i PPP PPP 21 37 50.0
APA i S S 21 42 22.0 -4.1
APA i PS PnS 21 42 38.0 -3.6
APA i 21 43 50.0
APA pmax pmax
APA MLR MLR
comp=Z,10μm,17.0s
EIDS Eidsvold 62.91 170 P P 21 34 02.5 -0.3
EIDS Eidsvold 62.91 170 P P 21 34 03.3 +0.5
GOA Goa 62.97 269 eP P 21 34 02.9 -0.7
WRKA Warakurna 63.11 193 P P 21 34 04.1 -0.1
KEV Kevo 63.26 339 P P 21 34 04.8 +0.2
KEV IAmb IAmb 21 34 11.6
comp=Z,56nm,0.8s
KEV IAMs_20 IAMs_20 22 05 43.5
comp=Z,4μm,18.0s
KEV Kevo 63.26 339 P P 21 34 04.8 +0.2
KEV pmax pmax
comp=Z,56nm,0.8s
KEV MLR MLR
comp=Z,4μm,18.0s
QLP Quilpie 63.51 177 P P 21 34 06.9 +0.2
NOUC Port Laguerre 63.51 154 P P 21 34 08.5 +1.6
DZM Mont Dzumac 63.54 154 eP P 21 34 07.2 +0.1
comp=Z,440nm,29.6s
DZM eS S 21 42 42.7 +2.6
comp=Z,2μm,24.3s
DZM Mont Dzumac 63.54 154 eLR LR 21 53 04.4
comp=Z,7μm,22.1s
DZM Mont Dzumac 63.54 154 P P 21 34 07.7 +0.6
comp=Z,54nm,1.0s,baz=24,slow=10,SNR=12
DZM LR LR 21 58 55.9
comp=Z,3μm,21.1s,baz=350,slow=33
comp=Z,54nm,1.0s
DZM Mont Dzumac 63.54 154 P P 21 34 07.8 +0.6
DZM Mont Dzumac 63.54 154 P P 21 34 09.4 +2.3
KLMR Klimovskoe 63.57 328 eP P 21 34 06.5 -0.4
KLMR eP P 21 34 06.5 -0.4
KLMR eP P 21 34 06.5 -0.4
KLMR AMP 21 34 15.9
comp=Z,113nm,1.0s
KLMR S S 21 42 40.5 +0.8
KLMR S S 21 42 40.5 +0.8
KLMR SS SS 21 47 01.6 +15
KLMR SS SS 21 47 01.6 +15
KLMR LQ LQ 21 54 34.8
KLMR LQ LQ 21 54 34.8
KLMR LR LR 21 57 13.1
KLMR AMP 22 03 55.8
comp=Z,6μm,15.2s
KLMR Klimovskoe 63.57 328 eP P 21 34 06.5 -0.4
KLMR S S 21 42 40.4 +0.8
KLMR pmax pmax
comp=Z,113nm,1.0s
KLMR MLR MLR
comp=Z,6μm,15.0s
BELG Belogornoye 63.62 317 LR LR 22 02 56.9
comp=Z,5μm,18.5s,baz=62,slow=37
BELG Belogornoye 63.62 317 d iP P 21 34 07.0 -0.3
BELG pmax pmax
comp=Z,12nm,0.9s
HAMF Hammerfest 63.63 341 IAmb IAmb 21 34 07.4
comp=Z,54nm,0.9s
HAMF eP P 21 34 07.5 +0.3
YATNC Mamie plateau, 63.68 153 P P 21 34 09.9 +1.9
GEYT Alibeck 63.69 299 P P 21 34 08.1 -0.1
comp=Z,28nm,0.8s,baz=33,slow=3.5,SNR=56
GEYT S S 21 42 40.9 -1.1
comp=Z,2.4nm,0.2s,baz=208,slow=34,SNR=3.0
GEYT LR LR 22 03 11.6
comp=Z,5μm,18.8s,baz=56,slow=37
comp=Z,28nm,0.8s
GEYT Alibeck 63.69 299 P P 21 34 07.9 -0.2
GEYT IAmb IAmb 21 34 13.8
comp=Z,64nm,0.9s
GYA0B ALIBECK ARRAY 63.69 299 P P 21 34 07.9 -0.2
GYA0B IAmb IAmb 21 34 13.8
comp=Z,67nm,0.9s
YKA Yellowknife Ar 63.70 30 P P 21 34 08.4 +0.7
comp=Z,8.6nm,0.8s,baz=302,slow=6.8,SNR=13
comp=Z,8.6nm,0.8s
YKA Yellowknife Ar 63.70 30 P P 21 34 07.7 0.0
RMQ Roma 63.73 173 P P 21 34 09.2 +0.9
ONTNC Ouen Toro 63.76 154 P P 21 34 08.7 +0.2
ONTNC Ouen Toro 63.76 154 P P 21 34 10.3 +1.8
PCHI Peechi 63.80 263 eP P 21 34 08.5 -0.5
PCHI eS S 21 42 43.6 -0.1
ARA0 ARCESS Array S 63.81 339 eP P 21 34 09.1 +0.7
ARA0 IAmb IAmb 21 34 15.5
comp=Z,44nm,0.6s
ARCES ARCESS Array B 63.81 339 P P 21 34 08.7 +0.3
comp=Z,23nm,0.8s,baz=49,slow=7.1,SNR=52
ARCES LR LR 22 05 12.7
comp=Z,3μm,18.7s,baz=62,slow=39
comp=Z,23nm,0.8s
ARCES ARCESS Array B 63.81 339 P P 21 34 08.7 +0.3
ARCES IAmb IAmb 21 34 15.9
comp=Z,49nm,0.8s
ARCES ARCESS Array B 63.81 339 P P 21 34 08.7 +0.3
ARCES pmax pmax
comp=Z,49nm,0.9s
OUENC Ouen Island, N 64.00 154 P P 21 34 10.7 +0.6
OUENC Ouen Island, N 64.00 154 P P 21 34 12.0 +2.0
INKA Innaminka 64.60 181 P P 21 34 13.8 -0.1
AUBSH Beerwah State 64.66 169 P P 21 34 15.4 +1.1
MSVF Nonsavu 64.68 141 P P 21 34 13.8 -0.9
comp=Z,7.6nm,0.7s,baz=311,slow=20,SNR=1.8
MSVF LR LR 21 56 43.1
comp=Z,4μm,21.6s,baz=324,slow=31
comp=Z,7.6nm,0.7s
MSVF Nonsavu 64.68 141 P P 21 34 15.8 +1.0
MSVF IAmb IAmb 21 34 24.7
comp=Z,117nm,1.5s
MSVF Nonsavu 64.68 141 P P 21 34 17.0 +2.2
KTK1 Kautokeino 64.77 339 eP P 21 34 15.2 +0.6
KTK1 IAmb IAmb 21 34 21.8
comp=Z,92nm,0.9s
OOD Oodnadatta 64.87 186 P P 21 34 15.7 +0.1
TULEG Thule 64.94 7 P P 21 34 15.3 -0.3
TULEG IAmb IAmb 21 35 06.6
comp=Z,123nm,1.7s
TULEG Thule 64.94 7 i P P 21 34 14.6 -1.1
TULEG IAmb IAmb 21 34 27.3
comp=Z,27nm,0.8s
JETT Jettan, Norway 65.19 341 eP P 21 34 18.1 +0.7
JETT IAmb IAmb 21 34 26.6
comp=Z,62nm,0.9s
NEEM North Greenlan 65.36 3 i P P 21 34 18.9 +0.1
NEEM IAmb IAmb 21 34 30.1
comp=Z,70nm,0.8s
TRO Tromso 65.53 341 eP P 21 34 19.9 +0.3
TRO IAmb IAmb 21 34 26.0
comp=Z,54nm,0.9s
DAG Danmarks Havn 65.60 355 i P P 21 34 18.9 -1.0
DAG IAmb IAmb 21 34 26.9
comp=Z,64nm,0.9s
LLLB Lillooet 66.19 44 P P 21 34 24.8 +0.7
LLLB IAmb IAmb 21 34 28.4
comp=Z,45nm,1.1s
BRLDA Berland Lookou 66.76 39 P P 21 34 28.4 +0.5
MEEK Meekatharra 67.00 202 P P 21 34 28.8 -0.6
MOS Moscow 67.07 323 eP P 21 34 28.5 -1.1
MOS e 21 34 55.9
MOS e 21 36 57.1
MOS eS S 21 43 22.0 -0.6
MOS e 21 44 23.6
MOS eSS SS 21 47 45.0 +4.3
MOS pmax pmax
comp=Z,186nm,1.6s
MOS pmax pmax
comp=Z,500nm,2.2s
MOS smax smax
comp=E,2μm,6.0s
MOS MLR MLR
comp=N,5μm,14.0s
MOS MLR MLR
comp=E,6μm,14.0s
MOS MLR MLR
comp=Z,8μm,14.0s
E03A Lebam 67.26 48 P P 21 34 32.1 +1.1
AFI Afiamalu 67.30 130 LR LR 21 59 27.9
comp=Z,3μm,19.6s,baz=326,slow=32
AFI Afiamalu 67.30 130 IAMs_20 IAMs_20 21 59 05.2
comp=Z,4μm,22.0s

LCRK	**Leigh Creek**	67.36	183		P		**P**	21 34 31.7	+0.1
VRH	**Novokhopyorsk**	67.40	318		*e*P		**P**	21 34 30.7	-1.1
VRH					*e*S		**S**	21 43 22.0	-4.8
VRH					pmax	pmax			
	comp=Z,50nm,0.6s								
VRH					smax	smax			
	comp=E,660nm,7.7s								
VRH					MLR	MLR			
	comp=Z,9µm,17.0s								
MULG	**Mulgathing**	67.47	187		P		**P**	21 34 32.4	+0.1
STEI	**Steigen**	67.68	341		*e*P		**P**	21 34 33.5	+0.2
STEI					IAmb	IAmb		21 34 40.1	
	comp=Z,69nm,0.9s								
KULLO	**Kullorsuaq**	67.82	5	*i*	P		**P**	21 34 35.0	+0.9
OBN	**Obninsk**	67.92	323		LR	LR		22 04 56.8	
	comp=Z,1µm,18.7s,baz=61,slow=36								
OBN	**Obninsk**	67.92	323		P		**P**	21 34 34.7	-0.3
OBN	**Obninsk**	67.92	323	*d*	*i*P		**P**	21 34 34.7	-0.3
OBN					*i* *SP		**pP**	21 34 40.5	+0.5
OBN					*i*			21 35 03.8	
OBN								21 37 11.0	
OBN					*i* PPP	PPP		21 38 43.5	
OBN					*i* S	S		**21 43 32.1**	**-0.7**
OBN					pmax	pmax			
	comp=Z,148nm,1.7s								
OBN					MLR	MLR			
	comp=Z,7µm,17.0s								
ARMA	**Armidale**	67.96	170		P		**P**	21 34 35.7	+0.2
ARMA					IAmb	IAmb		21 34 44.1	
	comp=Z,99nm,1.4s								
ARMA	**Armidale**	67.96	170		P		**P**	21 34 36.5	+1.0
LOF	**Lofoten**	67.98	341		*e*P		**P**	21 34 36.0	+0.9
FAUS	**Fauske**	68.07	340		*e*P		**P**	21 34 36.2	+0.5
FAUS					IAmb	IAmb		21 34 42.8	
	comp=Z,142nm,0.9s								
DBG	**Daneborg**	68.09	355	*i*	P		**P**	21 34 34.5	**-1.3**
DBG					IAmb	IAmb		21 34 43.2	
	comp=Z,22nm,1.1s								
LPSR	**Galich'ya Gora**	68.12	320		*e*P		**P**	21 34 35.9	-0.4
LPSR					*e*S		S	21 43 25.8	-10
LPSR					pmax	pmax			
	comp=Z,130nm,1.6s								
LPSR					smax	smax			
	comp=E,1µm,9.9s								
LPSR					MLR	MLR			
	comp=Z,17µm,17.0s								
MAK	**Makhachkala**	68.29	308	*c*	*i*P		**P**	21 34 33.5	**-4.1**
MAK					*e*			21 37 04.2	
MAK					*e*PPP	PPP		21 38 47.6	
MAK					*e*S		**S**	**21 43 33.4**	**-4.3**
MAK					*e*SS		**SS**	**21 48 02.4**	**+2.1**
MAK					pmax	pmax			
	comp=Z,315nm,1.3s								
MAK					MLR	MLR			
	comp=Z,6µm,17.0s								
VORR	**Voronezh**	68.48	319		*e*P		**P**	21 34 38.3	-0.3
VORR					pmax	pmax			
	comp=Z,30nm,0.5s								
CMSA	**Cobar Meteorol**	68.50	176		P		**P**	21 34 39.3	+0.5
AUPHS	**Peel High Scho**	68.53	171		P		**P**	21 34 40.3	+1.3
LTY	**Liberty**	68.59	46		P		**P**	21 34 40.3	+0.8
FIA1	**FINESS Array S**	68.63	332		P		**P**	21 34 39.3	0.0
FINES	**FINESS Array B**	68.63	332		P		**P**	21 34 39.6	+0.3
	comp=Z,49nm,0.7s,baz=59,slow=7.4,SNR=97								
FINES					LR	LR		22 07 03.4	
	comp=Z,7µm,18.2s,baz=46,slow=38								
	comp=Z,49nm,0.7s								
FINES	**FINESS Array B**	68.63	332		P		**P**	21 34 39.4	0.0
STKA	**Stephens Creek**	68.72	180		P		**P**	21 34 40.0	-0.1
	comp=Z,19nm,0.9s,baz=343,slow=8.0,SNR=36								
STKA					LR	LR		22 04 13.6	
	comp=Z,2µm,20.5s,baz=359,slow=36								
	comp=Z,19nm,0.9s								
STKA	**Stephens Creek**	68.72	180		P		**P**	21 34 39.8	-0.4
STKA	**Stephens Creek**	68.72	180		P		**P**	21 34 39.7	-0.4
STKA	**Stephens Creek**	68.72	180	*de*	P		**P**	21 34 40.2	0.0
VSR	**Storozhevoye**	68.75	319		*e*P		**P**	21 34 39.4	-0.9
VSR					*e*S		**S**	**21 43 38.2**	**-4.8**
VSR					pmax	pmax			
	comp=Z,160nm,1.7s								
VSR					smax	smax			
	comp=E,600nm,8.5s								
VSR					MLR	MLR			
	comp=Z,17µm,16.0s								
FORT	**Forrest**	68.76	192		P		**P**	21 34 40.4	0.0
FORT	**Forrest**	68.76	192		P		**P**	21 34 40.6	+0.2
B08A	**Colville Reser**	68.77	45		P		**P**	21 34 40.5	0.0
B08A					IAmb	IAmb		21 35 15.4	
	comp=Z,118nm,1.9s								
BUCK	**Buck Mountain**	68.82	50		P		**P**	21 34 41.8	+0.8
HOOD	**Mount Hood Mea**	69.04	49		P		**P**	21 34 43.2	+0.8
HOOD					IAmb	IAmb		21 35 01.4	
	comp=Z,70nm,0.8s								
H04A	**Detroit Lake**	69.06	49		P		**P**	21 34 43.3	+1.0
H04A					IAmb	IAmb		21 35 03.5	
	comp=Z,84nm,1.2s								
DBO	**Dodson Butte**	69.23	51		P		**P**	21 34 44.9	+1.3
DBO					IAmb	IAmb		21 35 16.2	
	comp=Z,69nm,1.2s								
GROC	**Groznyy**	69.24	309		*e*P		**P**	21 34 40.5	-3.0
GROC					*e*			21 35 04.4	
GROC					*e*S		**S**	**21 43 45.3**	**-3.7**
GROC					pmax	pmax			
	comp=Z,19nm,0.4s								
KONS	**Konsvik**	69.30	340		*e*P		**P**	21 34 45.1	+1.8
AUDCS	**Dubbo College**	69.41	173		P		**P**	21 34 45.9	+1.5
STOK	**Stokkvaagen**	69.45	340		*e*P		**P**	21 34 45.0	+0.7
HAWA	**Hanford**	69.72	47		P		**P**	21 34 47.2	+0.8
BBOO	**Buckleboo**	69.83	185		P		**P**	21 34 46.9	0.0
BBOO	**Buckleboo**	69.83	185		P		**P**	21 34 47.0	0.0
WHYH	**Whyalla**	69.96	183		P		**P**	21 34 48.7	+0.9
JMIC	**Jan Mayen**	69.97	350		LR	LR		22 05 21.9	
	comp=Z,837nm,20.3s,baz=58,slow=36								
MEF	**Metsahovi**	70.05	332		*e*P		**P**	21 34 47.4	-0.8
MORW	**Morawa**	70.06	203		P		**P**	21 34 48.2	-0.3
MORW	**Morawa**	70.06	203		P		**P**	21 34 48.5	0.0
NEW	**Newport**	70.06	44		LR	LR		22 09 44.6	
	comp=Z,712nm,18.1s,baz=304,slow=40								
NEW	**Newport**	70.06	44		P		**P**	21 34 48.8	+0.3
NEW	**Newport**	70.06	44		P		**P**	21 34 49.0	+0.4
	baz=304,SNR=8.8								
NEW	**Newport**	70.06	44		P		**P**	21 34 48.8	+0.3
NEW					pmax	pmax			
	comp=Z,25nm,1.0s								
VSU	**Vasula**	70.27	329		*e*P		**P**	21 34 49.4	-0.1
VSU	**Vasula**	70.27	329	*d*	*i*P		**P**	21 34 49.7	+0.2
VSU					pmax	pmax			
	comp=Z,118nm,0.9s								
PINE	**Pine Mountain**	70.29	50		P		**P**	21 34 51.9	+1.7
YBH	**Yreka Blue Hor**	70.30	52		LR	LR		21 57 59.0	
	comp=Z,1µm,21.3s,baz=300,slow=29								
HTT	**Hallett**	70.31	182		P		**P**	21 34 50.5	+0.5
NCK	**Nalchik**	70.44	310	⇓	*e*P		**P**	21 34 51.0	+0.1
NCK					pmax	pmax			
	comp=Z,40nm,1.6s								
RAF	**Rauma**	70.48	333		*e*P		**P**	21 34 50.5	-0.3
SUMG	**Summit**	70.52	360		*i* P		**P**	21 34 51.1	-0.3
SUMG					IAmb	IAmb		21 34 60.0	
	comp=Z,61nm,0.9s								
KMBL	**Kambalda**	70.59	198		P		**P**	21 34 51.2	-0.5
ZEI	**Tsey**	70.63	309		*e*P		**P**	21 34 48.5	-3.8
ZEI					pmax	pmax			
	comp=Z,52nm,1.4s								
KVAR	**Kislovodsk Arr**	70.73	311		LR	LR		22 06 34.9	
	comp=Z,5µm,18.9s,baz=294,slow=36								
KBZ	**Khabaz**	70.73	311		P		**P**	21 34 51.7	-0.9
	comp=Z,27nm,0.9s,baz=51,slow=4.7,SNR=45								
KBZ					S		**S**	**21 44 03.7**	**-2.8**
	comp=Z,1.7nm,0.9s,baz=176,slow=13,SNR=2.2								
KBZ					LR	LR		22 10 37.9	
	comp=Z,10µm,18.1s,baz=60,slow=40								
	comp=Z,27nm,0.9s								
KBZ	**Khabaz**	70.73	311	*de*	P		**P**	21 34 52.6	0.0
KBZ					pmax	pmax			
	comp=Z,31nm,0.9s								
KIV	**Kislovodsk**	70.74	311	⇓	P		**P**	21 34 53.3	+0.4
KIV	**Kislovodsk**	70.74	311		P		**P**	21 34 53.1	+0.3
KIV	**Kislovodsk**	70.74	311		P		**P**	21 34 53.9	+1.1
KIV					P		**P**	21 34 53.9	+1.1
KIV					S		**S**	21 44 05.7	-1.1
KIV					S		**S**	21 44 05.7	-1.1
KIV	**Kislovodsk**	70.74	311	*i*	P		**P**	21 34 53.2	+0.4
	SNR=22								
KIV	**Kislovodsk**	70.74	311		*e*P		**P**	21 34 52.8	0.0
KIV					*e*PPP	PPP		21 39 07.6	
KIV					*e*S		**S**	**21 44 07.8**	**+1.0**
KIV					*e*SS		**SS**	**21 48 37.9**	**-0.2**
KIV					pmax	pmax			
	comp=Z,127nm,1.1s								
KIV					pmax	pmax			
	comp=Z,208nm,3.8s								
KIV					MLR	MLR			
	comp=Z,5µm,17.0s								
WSAR	**Wadi Sarin**	70.75	285		LR	LR		22 08 52.3	
	comp=Z,4µm,19.9s,baz=80,slow=38								
WBK	**Wadi Bani Khal**	70.83	284		P		**P**	21 34 54.0	+0.4
	SNR=7.2								
WBK					P		**P**	21 34 54.0	+0.4
	SNR=7.2								
WBK					S		**S**	21 44 09.8	+1.5
WBK					S		**S**	21 44 09.8	+1.5
BIDO	**Bidbid**	70.98	285		P		**P**	21 34 55.2	+0.7
	SNR=7.7								
BIDO					P		**P**	21 34 55.2	+0.7
	SNR=7.7								
ONI	**Oni**	71.02	309		P		**P**	21 34 54.5	0.0
ONI					IAmb	IAmb		21 35 08.7	
	comp=Z,59nm,1.2s								
ONI	**Oni**	71.02	309		P		**P**	21 34 54.5	0.0
ONI					pmax	pmax			
	comp=Z,59nm,1.2s								
BANOM	**Banah**	71.08	288		P		**P**	21 34 55.0	-0.1
BANOM					P		**P**	21 34 55.0	-0.1
BANOM	**Banah**	71.08	288		P		**P**	21 34 54.9	-0.2
NSS	**Namsos**	71.10	339		*e*P		**P**	21 34 54.9	+0.5
NSS					IAmb	IAmb		21 35 01.3	
	comp=Z,45nm,0.8s								
NEY	**Neytrino**	71.11	310	⇓	*e*P		**P**	21 34 56.6	+1.4
NEY					pmax	pmax			
	comp=Z,3.0nm,0.8s								
SHME	**Shamm**	71.13	289		P		**P**	21 34 55.0	-0.3
SHME					P		**P**	21 34 55.0	-0.3
SHME	**Shamm**	71.13	289	*i*	P		**P**	21 34 55.5	+0.2
	SNR=9.7								
SYDH	**Sydney Hard Ro**	71.15	172		P		**P**	21 34 56.3	+1.3
MTSE	**Matsula**	71.27	331	*e*	P		**P**	21 34 55.9	+0.3
BLDU	**Ballidu**	71.29	202		P		**P**	21 34 55.9	-0.1
SMDO	**Samad**	71.30	285		P		**P**	21 34 57.0	+0.5
	SNR=10								
SMDO					P		**P**	21 34 57.0	+0.5
	SNR=10								
SMDO					S		**S**	21 44 15.7	+1.9
SMDO					S		**S**	21 44 15.7	+1.9
WALA	**Waterton Lakes**	71.36	42		P		**P**	21 34 57.0	+0.5
WALA					IAmb	IAmb		21 35 07.0	
	comp=Z,34nm,0.9s								
MDH	**Madha**	71.42	288		P		**P**	21 34 53.1	-4.0
MDH					P		**P**	21 34 53.1	-4.0
MASF	**Masafi**	71.49	288		P		**P**	21 34 57.6	0.0
MASF					P		**P**	21 34 57.6	0.0
MSFE	**Esma-Masafi**	71.49	288		P		**P**	21 34 56.7	-0.9
GNI	**Garni**	71.54	307		LR	LR		22 08 59.1	
	comp=Z,3µm,18.4s,baz=72,slow=38								
GNI	**Garni**	71.54	307		P		**P**	21 34 58.1	+0.2
GNI	**Garni**	71.54	307		P		**P**	21 34 58.4	+0.5
GNI	**Garni**	71.54	307	*de*	P		**P**	21 34 58.3	+0.5
GNI					pmax	pmax			
	comp=Z,76nm,1.7s								
HOQ	**Hoqain**	71.58	286		P		**P**	21 34 58.1	0.0
	SNR=14								
HOQ					S		**S**	21 44 18.3	+1.3
JMDO	**Jabal Madar**	71.63	284		P		**P**	21 34 58.2	-0.2
	SNR=9.6								
JMDO					P		**P**	21 34 58.2	-0.2
	SNR=9.6								
UOSS	**Minazif**	71.68	288		P		**P**	21 34 58.3	-0.5
UOSS					IAmb	IAmb		21 35 04.4	
	comp=Z,39nm,0.8s								
UOSS	**Minazif**	71.68	288		IAMs_20	IAMs_20		22 08 20.1	
	comp=Z,4µm,22.0s								
UOSS	**Minazif**	71.68	288		P		**P**	21 34 58.0	-0.7
UOSS					P		**P**	21 34 58.0	-0.7
UOSS	**Minazif**	71.68	288		P		**P**	21 34 57.8	-1.0
HATD	**Hatta, Dubai**	71.80	288		P		**P**	21 34 59.6	+0.1
	SNR=5.9								
HATD					P		**P**	21 34 59.6	+0.1
	SNR=5.9								
HATD					S		**S**	21 44 19.9	+0.4
HATD					S		**S**	21 44 19.9	+0.4
HATD	**Hatta, Dubai**	71.80	288	*i*	P		**P**	21 34 59.4	-0.1
	SNR=17								
BMO	**Blue Mountains**	71.87	47		P		**P**	21 35 00.4	+0.7
BMO	**Blue Mountains**	71.87	47		P		**P**	21 35 00.4	+0.7
BMO					pmax	pmax			
	comp=Z,28nm,0.8s								
KLBR	**Kellerberrin**	71.90	201		P		**P**	21 35 01.0	+1.4
ASHO	**Ashiyiah**	71.94	288		P		**P**	21 34 60.0	-0.3
	SNR=6.5								
ASHO					P		**P**	21 34 60.0	-0.3
	SNR=6.5								
ASHO	**Ashiyiah**	71.94	288	*i*	P		**P**	21 34 59.6	-0.6
	SNR=10								
SCO	**Scoresbysund**	71.94	354		P		**P**	21 35 00.2	+0.8
SCO					IAmb	IAmb		21 35 12.9	
	comp=Z,40nm,0.9s								
SCO	**Scoresbysund**	71.94	354	*i*	P		**P**	21 34 58.9	-0.6
SCO					IAmb	IAmb		21 35 13.1	
	comp=Z,43nm,1.0s								
SCO	**Scoresbysund**	71.94	354		P		**P**	21 35 00.2	+0.8
SCO					pmax	pmax			
	comp=Z,40nm,0.9s								
SCO					MLR	MLR			
	comp=Z,2µm,19.0s								
BSY	**Bisya**	72.12	285		P		**P**	21 35 01.3	-0.1
	SNR=16								
BSY					P		**P**	21 35 01.3	-0.1
	SNR=16								
IZAR	**Zarasai**	72.22	327		*e*P		**P**	21 35 02.1	+0.7
ORV	**Oroville**	72.26	54		P		**P**	21 35 02.0	0.0
ORV	**Oroville**	72.26	54		P		**P**	21 35 02.0	0.0
ORV					pmax	pmax			
	comp=Z,20nm,0.9s								
MNK	**Minsk**	72.31	326	*i*	P		**P**	21 35 02.1	+0.2
	comp=E,5.0nm,0.9s								
MNK				*i*	P		**P**	21 35 02.1	+0.2
	comp=N,52nm,0.9s								
MNK				*i*	P		**P**	21 35 02.1	+0.2
	comp=Z,71nm,0.9s,baz=50								
MNK				*i*	PcP		**PcP**	21 35 23.0	+3.1
MNK				*i*	PP		**PP**	21 37 41.4	-0.7
MNK				*i*	PPP	PPP		21 39 25.1	
MNK				*i*	S		**S**	21 44 23.0	-1.4
MNK				*i*	SS		SS	21 48 44.1	-17
MNK				*i*	SSS		SSS	21 51 36.9	
MNK				*i*	LQ		LQ	22 00 02.3	
MNK				*i*	LR		LR	22 02 50.9	
MNK				*i*	LRM		MLR	22 07 27.2	
	comp=Z,5µm,18.7s								
MNK				*i*	LRM		MLR	22 07 32.6	
	comp=N,5µm,18.9s								
MNK				*i*	LRM		MLR	22 08 51.3	
	comp=E,999nm,18.9s								
MNK	**Minsk**	72.31	326	*i*	P		**P**	21 35 02.1	+0.2
MNK				*i*				21 35 23.0	
MNK				*i*				21 37 41.4	
MNK				*i*	PPP	PPP		21 39 25.0	
MNK				*i*	S		**S**	**21 44 22.9**	**-1.4**
MNK					pmax	pmax			
	comp=E,5.0nm,0.9s								
MNK					pmax	pmax			
	comp=Z,71nm,0.9s								
MNK					pmax	pmax			
	comp=N,52nm,0.9s								
MNK					MLR	MLR			
	comp=Z,5µm,19.0s								
MNK					MLR	MLR			
	comp=N,5µm,19.0s								
MNK					MLR	MLR			
	comp=E,999nm,19.0s								
ARQ	**Araqi**	72.32	286		P		**P**	21 35 02.7	+0.1
	SNR=15								
ARQ					P		**P**	21 35 02.7	+0.1
	SNR=15								
KARS	**Kars**	72.34	308		P		**P**	21 35 03.3	+0.7
KARS					IAmb	IAmb		21 35 19.9	
	comp=Z,89nm,0.9s								
KARS	**Kars**	72.34	308		P		**P**	21 35 03.3	+0.7
KARS					pmax	pmax			
	comp=Z,89nm,0.9s								
ISAL	**Salakas**	72.39	327		*e*P		**P**	21 35 03.2	+0.8
WVOR	**Wild Horse Val**	72.44	50		P		**P**	21 35 04.4	+1.2
WVOR	**Wild Horse Val**	72.44	50		P		**P**	21 35 04.4	+1.2
WVOR					pmax	pmax			
	comp=Z,53nm,1.5s								
IIGN	**Ignalina**	72.50	327		*e*P		**P**	21 35 03.6	+0.5
MHTO	**MHTO**	72.50	283		P		**P**	21 35 03.4	-0.2
	SNR=21								
MHTO					P		**P**	21 35 03.4	-0.2
	SNR=21								
PLID	**Pearl Lake**	72.50	46		P		**P**	21 35 04.3	+0.7
CAN	**Canberra**	72.51	173		P		**P**	21 35 03.9	+0.7
CAN					IAmb	IAmb		21 35 12.5	
	comp=Z,94nm,1.3s								
CAN					IAMs_20	IAMs_20		22 03 18.9	
	comp=Z,3µm,22.0s								
CAN	**Canberra**	72.51	173		P		**P**	21 35 04.7	+1.5
CAN	**Canberra**	72.51	173		P		**P**	21 35 03.9	+0.7
CAN					pmax	pmax			
	comp=Z,94nm,1.3s								
CAN					MLR	MLR			
	comp=Z,2µm,22.0s								
ALNE	**Al Ain**	72.51	287		P		**P**	21 35 03.6	-0.1
	SNR=9.6								
ASUD	**Al Ashush, Dub**	72.52	288		P		**P**	21 35 03.7	0.0
KAAM	**Kaadhehdhoo**	72.54	257		IAMs_20	IAMs_20		22 09 06.4	
	comp=Z,3µm,19.0s								
NACGM	**Naroch**	72.54	327	⇓	*i*P		**P**	21 35 03.5	+0.1
	comp=Z,145nm,0.8s,baz=50								
TBLU	**Trondheim**	72.57	339		*e*P		**P**	21 35 01.9	-1.4
TBLU					IAmb	IAmb		21 35 08.5	
	comp=Z,84nm,0.9s								
SLIT	**Slitere, Latvi**	72.60	330		*e*P		**P**	21 35 03.9	+0.3
MSO	**Missoula**	72.65	44		P		**P**	21 35 05.1	+0.8
MSO	**Missoula**	72.65	44		P		**P**	21 35 05.5	+1.2
	baz=306								
SOC	**Sochi**	72.73	312		*e*P		**P**	21 35 02.5	-2.1
SOC					*e*			21 37 47.1	
SOC					*e*S		**S**	**21 44 28.6**	**-0.9**
SOC					*e*SS		**SS**	**21 49 05.8**	**-2.5**
SOC					*e*SSS		SSS	21 52 22.6	
SOC					pmax	pmax			
	comp=Z,51nm,1.2s								
SOC					MLR	MLR			
	comp=Z,8µm,19.0s								
BEKR	**Beckworth**	72.82	53		P		**P**	21 35 06.4	+0.9
AFDM	**Forest Hills D**	72.94	54		P		**P**	21 35 07.1	+1.0
VSVD	**Vaisvydziai**	73.05	329		*e*P		**P**	21 35 06.4	+0.1
NWAO	**Narrogin (SRO)**	73.30	201		P		**P**	21 35 07.2	-0.7
	comp=Z,14nm,0.6s,baz=292,slow=4.6,SNR=12								
NWAO					LR	LR		22 08 03.1	
	comp=Z,738nm,20.1s,baz=258,slow=36								
	comp=Z,14nm,0.6s								
NWAO	**Narrogin (SRO)**	73.30	201		P		**P**	21 35 08.0	+0.1
NWAO	**Narrogin (SRO)**	73.30	201		P		**P**	21 35 09.3	+1.4
NWAO	**Narrogin (SRO)**	73.30	201		P		**P**	21 35 09.7	+1.8
NWAO	**Narrogin (SRO)**	73.30	201		P		**P**	21 35 08.0	+0.1
NWAO					pmax	pmax			
	comp=Z,365nm,1.9s								
PABE	**Paberze**	73.36	328		P		**P**	21 35 08.3	+0.2
PABE	**Paberze**	73.36	328		*e*P		**P**	21 35 07.8	-0.3
ANN	**Anapa**	73.36	314		*e*P		**P**	21 35 07.1	-1.2
ANN					*e*			21 35 25.0	
ANN					*e*S		**S**	**21 44 35.6**	**-1.0**
ANN					*e*			21 45 20.8	
ANN					pmax	pmax			
	comp=Z,92nm,1.2s								
ANN					MLR	MLR			
	comp=N,3µm,18.0s								
ANN					MLR	MLR			
	comp=Z,6µm,15.0s								
ANN					MLR	MLR			
	comp=E,3µm,15.0s								
DQM	**DQM**	73.42	283		P		**P**	21 35 08.2	-0.9
DQM					P		**P**	21 35 08.2	-0.9
ILULI	**Ilulissat**	73.50	5		IAMs_20	IAMs_20		22 07 21.2	
	comp=Z,3µm,21.0s								
ARPS	**Mount Arapiles**	73.60	180		P		**P**	21 35 10.3	+0.7
FFC	**Flin Flon**	73.61	33		P		**P**	21 35 10.4	+0.8
FFC					IAmb	IAmb		21 35 30.8	
	comp=Z,41nm,0.9s								
FFC	**Flin Flon**	73.61	33		P		**P**	21 35 10.5	+0.8
FFC					pmax	pmax			
	comp=Z,41nm,1.0s								
UMZA	**Um Al Zommool**	73.71	286		P		**P**	21 35 09.7	-1.0
UMZA					P		**P**	21 35 09.7	-1.0
NC405	**NORSAR Array S**	73.79	337		P		**P**	21 35 11.1	+0.5
PBUR	**Paburge**	73.84	329		*e*P		**P**	21 35 11.2	+0.3
DOMB	**Dombas**	73.86	339		*e*P		**P**	21 35 11.7	+0.6
DOMB					IAmb	IAmb		21 35 18.2	
	comp=Z,80nm,1.0s								
MOL	**Molde**	73.87	340		*e*P		**P**	21 35 11.3	+0.3
MOL					IAmb	IAmb		21 35 17.5	
	comp=Z,45nm,0.8s								
FCC	**Fort Churchill**	73.89	27		P		**P**	21 35 11.7	+0.5
FCC					IAmb	IAmb		21 35 31.2	
	comp=Z,81nm,1.2s								
FCC	**Fort Churchill**	73.89	27		P		**P**	21 35 11.7	+0.5
FCC					pmax	pmax			
	comp=Z,81nm,1.2s								
HFS	**Hagfors**	73.90	336		LR	LR		22 10 15.2	
	comp=Z,9µm,19.1s,baz=41,slow=38								
NB2	**NORSAR Subarra**	74.00	337		P		**P**	21 35 12.1	+0.2
	baz=39,slow=6.2								
NB2	**NORSAR Subarra**	74.00	337		P		**P**	21 35 12.1	+0.2
	comp=Z,450nm,3.3s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	74.00	337		P		**P**	21 35 11.8	-0.1
	comp=Z,25nm,0.8s,baz=39,slow=5.9,SNR=78								
NOA					LR	LR		22 10 24.9	
	comp=Z,6µm,19.8s,baz=40,slow=38								
	comp=Z,25nm,0.8s								
ICESG	**Greenland Ices**	74.02	0	*i*	P		**P**	21 35 12.9	+0.7
ICESG			

BOZ	**Bozeman (W)**	**74.67**	**44**	P	**P**	**21 35 17.4**	**+1.2**
BOZ				IAmb	IAmb	21 35 24.8	
	comp=Z,40nm,0.8s						
BOZ				IAMs_20	IAMs_20	22 12 56.7	
	comp=Z,2µm,18.0s						
BOZ	**Bozeman (W)**	**74.67**	**44**	P	**P**	**21 35 17.6**	**+1.3**
	baz=308,SNR=44						
BOZ	**Bozeman (W)**	**74.67**	**44**	P	**P**	**21 35 17.5**	**+1.2**
BOZ				pmax	pmax		
	comp=Z,40nm,0.9s						
BOZ				MLR	MLR		
	comp=Z,2µm,18.0s						
GHWR	**Ruwais**	**74.75**	**289**	P	**P**	**21 35 15.6**	**-1.2**
GHWR				P	**P**	**21 35 15.6**	**-1.2**
MZR	**Muzera**	**74.83**	**287**	P	**P**	**21 35 16.6**	**-0.7**
	SNR=11						
MZR				P	**P**	**21 35 16.6**	**-0.7**
	SNR=11						
MZR	**Muzera**	**74.83**	**287**	*i* P	**P**	**21 35 16.2**	**-1.2**
	SNR=18						
NVAR	**Mina Array Bea**	**74.95**	**53**	P	**P**	**21 35 19.6**	**+1.5**
	comp=Z,16nm,0.8s,baz=286,slow=6.2,SNR=28						
NVAR				LR	LR	22 06 10.2	
	comp=Z,1µm,18.3s,baz=295,slow=34						
	comp=Z,16nm,0.8s						
NVAR	**Mina Array Bea**	**74.95**	**53**	P	**P**	**21 35 19.2**	**+1.1**
OSL	**Oslo**	**75.01**	**337**	*eP*	**P**	**21 35 18.8**	**+1.1**
NV11	**Mina Array Sit**	**75.04**	**53**	P	**P**	**21 35 19.1**	**+0.5**
MLAC	**Mammoth, Mammo**	**75.07**	**54**	P	**P**	**21 35 20.4**	**+1.6**
	baz=306						
SHMA	**Al-Shehemyia**	**75.13**	**291**	P	**P**	**21 35 17.8**	**-1.1**
SIM	**Simferopol'**	**75.15**	**315**	*eP*	**P**	**21 35 18.8**	**0.0**
SIM				*eS*	**S**	**21 44 55.0**	**-1.8**
SIM				pmax	pmax		
	comp=Z,119nm,1.2s						
SIM				MLR	MLR		
	comp=Z,3µm,18.6s						
SKAR	**Skarslia**	**75.17**	**338**	*eP*	**P**	**21 35 19.6**	**+0.9**
SKAR				IAmb	IAmb	21 35 26.4	
	comp=Z,65nm,1.1s						
QLMT	**Earthquake Lak**	**75.25**	**45**	P	**P**	**21 35 20.6**	**+0.9**
FOO	**Floro**	**75.35**	**340**	*eP*	**P**	**21 35 20.7**	**+1.1**
SAKB	**Bahrain**	**75.38**	**292**	P	**P**	**21 35 19.3**	**-1.1**
HYA	**Hoyanger**	**75.39**	**339**	*eP*	**P**	**21 35 20.9**	**+1.1**
HYA				IAmb	IAmb	21 35 27.3	
	comp=Z,82nm,0.9s						
YHB	**Horse Butte**	**75.44**	**45**	P	**P**	**21 35 22.1**	**+1.3**
YHB				IAmb	IAmb	21 35 28.0	
	comp=Z,42nm,0.7s						
ELK	**Elko**	**75.50**	**50**	LR	LR	22 02 10.3	
	comp=Z,982nm,21.5s,baz=308,slow=31						
ELK	**Elko**	**75.50**	**50**	P	**P**	**21 35 22.5**	**+1.3**
ELK				IAMs_20	IAMs_20	22 01 24.7	
	comp=Z,2µm,22.0s						
ELK	**Elko**	**75.50**	**50**	P	**P**	**21 35 22.5**	**+1.3**
ELK				pmax	pmax		
	comp=Z,15nm,0.8s						
ELK				MLR	MLR		
	comp=Z,2µm,22.0s						
KLNR	**Kaliningrad**	**75.54**	**329**	⇑*eP*	**P**	**21 35 20.7**	**-0.1**
KLNR				pmax	pmax		
	comp=Z,71nm,1.1s						
SLWR	**Sila**	**75.59**	**289**	P	**P**	**21 35 20.9**	**-0.7**
SLWR				P	**P**	**21 35 20.9**	**-0.7**
KONO	**Kongsberg**	**75.59**	**337**	P	**P**	**21 35 21.4**	**+0.4**
KONO				IAmb	IAmb	21 36 13.2	
	comp=Z,128nm,1.8s						
KONO	**Kongsberg**	**75.59**	**337**	P	**P**	**21 35 21.4**	**+0.4**
KONO				pmax	pmax		
	comp=Z,128nm,1.8s						
KONO				MLR	MLR		
	comp=Z,9µm,18.0s						
KONO	**Kongsberg**	**75.59**	**337**	*eP*	**P**	**21 35 21.9**	**+0.9**
KONO				IAmb	IAmb	21 35 28.3	
	comp=Z,20nm,0.6s						
SMMC	**Simmler**	**75.65**	**57**	P	**P**	**21 35 23.9**	**+1.9**
	baz=306						
MARD	**Mardin**	**75.70**	**306**	P	**P**	**21 35 22.5**	**+0.2**
SFJD	**Kangerlussuaq**	**75.72**	**5**	LR	LR	22 09 45.8	
	comp=Z,1µm,21.4s,baz=348,slow=37						
SFJD	**Kangerlussuaq**	**75.72**	**5**	IAMs_20	IAMs_20	22 08 37.9	
	comp=Z,3µm,21.0s						
TIN	**Tinemaha, Big**	**75.80**	**54**	P	**P**	**21 35 24.2**	**+1.4**
	baz=306						
TPH	**Tonopah**	**75.85**	**53**	P	**P**	**21 35 24.1**	**+0.9**
TPH	**Tonopah**	**75.85**	**53**	P	**P**	**21 35 24.1**	**+0.9**
TPH				pmax	pmax		
	comp=Z,300nm,1.2s						
SMRA	**Abu-Samra**	**75.86**	**290**	P	**P**	**21 35 22.0**	**-1.2**
VES	**Vestal, Richgr**	**75.95**	**56**	P	**P**	**21 35 24.1**	**+0.5**
	baz=306						
LKWY	**Lake**	**76.00**	**44**	P	**P**	**21 35 26.0**	**+2.0**
LKWY				IAmb	IAmb	21 35 42.8	
	comp=Z,65nm,1.4s						
LKWY	**Lake**	**76.00**	**44**	P	**P**	**21 35 26.0**	**+2.0**
LKWY				pmax	pmax		
	comp=Z,65nm,1.4s						
H17A	**Grant Village**	**76.00**	**45**	P	**P**	**21 35 27.3**	**+3.3**
	baz=309,SNR=32						
PKM	**Mcpherson Peak**	**76.02**	**57**	P	**P**	**21 35 26.2**	**+2.0**
	baz=306						
SORM	**Soroca**	**76.21**	**321**	⇑P	**P**	**21 35 24.8**	**0.0**
ASK	**Askoy**	**76.23**	**339**	*eP*	**P**	**21 35 25.8**	**+1.1**
ASK				IAmb	IAmb	21 35 34.3	
	comp=Z,113nm,0.9s						
CWC	**Cottonwood Cre**	**76.26**	**55**	P	**P**	**21 35 27.0**	**+1.5**
	baz=306						
BER	**Bergen**	**76.27**	**339**	*eP*	**P**	**21 35 25.9**	**+1.0**
BER				IAmb	IAmb	21 35 28.4	
	comp=Z,48nm,0.9s						
RLMT	**Red Lodge**	**76.27**	**43**	P	**P**	**21 35 26.2**	**+0.7**
RLMT				IAmb	IAmb	21 35 35.8	
	comp=Z,153nm,1.9s						
RLMT	**Red Lodge**	**76.27**	**43**	P	**P**	**21 35 27.1**	**+1.6**
	baz=309,SNR=19						
ODD1	**Odda**	**76.28**	**338**	*eP*	**P**	**21 35 25.9**	**+0.9**
ODD1				IAmb	IAmb	21 35 33.1	
	comp=Z,90nm,1.2s						
RAO	**Raoul Island**	**76.36**	**144**	IAMs_20	IAMs_20	22 00 02.1	
	comp=Z,3µm,22.0s						
GRAC	**Grapevine Rang**	**76.39**	**54**	P	**P**	**21 35 27.9**	**+1.8**
	baz=306						
ISA	**Isabella, Lake**	**76.45**	**56**	P	**P**	**21 35 27.1**	**+0.5**
ISA				IAmb	IAmb	21 35 36.4	
	comp=Z,76nm,1.9s						
ISA	**Isabella, Lake**	**76.45**	**56**	P	**P**	**21 35 27.1**	**+0.5**
	baz=306						
ISA	**Isabella, Lake**	**76.45**	**56**	P	**P**	**21 35 27.1**	**+0.5**
ISA				pmax	pmax		
	comp=Z,76nm,2.0s						
PURM	**Purcari**	**76.47**	**319**	⇑P	**P**	**21 35 26.4**	**+0.1**
DY2G	**Dye2**	**76.48**	**3**	*i* P	**P**	**21 35 27.7**	**+1.4**
DY2G				IAmb	IAmb	21 35 42.3	
	comp=Z,145nm,1.5s						
ARVC	**Arvin**	**76.53**	**56**	P	**P**	**21 35 27.5**	**+0.6**
	baz=306						
TOKA	**Tokat**	**76.60**	**311**	P	**P**	**21 35 27.8**	**+0.5**
TOKA				IAmb	IAmb	21 35 51.7	
	comp=Z,39nm,0.6s						
FRB	**Frobisher Bay**	**76.63**	**13**	LR	LR	22 12 24.6	
	comp=Z,3µm,19.3s,baz=338,slow=38						
DMTO	**DMTO**	**76.69**	**282**	P	**P**	**21 35 25.9**	**-2.1**
DMTO				P	**P**	**21 35 25.9**	**-2.1**
KIS	**Kishinev**	**76.72**	**319**	⇓*iP*	**P**	**21 35 26.8**	**-0.9**
	comp=Z,310nm,6.6s						
KIS				*i* S	**S**	**21 45 12.0**	**-1.9**
	comp=Z,560nm,8.0s						
KIS				*e*L	L	22 02 07.0	
KIS				LRM	MLR	22 11 59.0	
	comp=Z,4µm,16.5s						
KIS	**Kishinev**	**76.72**	**319**	*d iP*	**P**	**21 35 26.8**	**-0.9**
KIS				*i* S	**S**	**21 45 12.0**	**-1.9**
KIS				*e*		21 50 11.0	
KIS				pmax	pmax		
	comp=Z,310nm,6.6s						
KIS				smax	smax		
	comp=E,560nm,8.0s						
KIS				MLR	MLR		
	comp=E,4µm,16.5s						
KIS				MLR	MLR		
	comp=Z,6µm,16.5s						
R11A	**Troy Canyon, C**	**76.72**	**52**	P	**P**	**21 35 29.5**	**+1.4**
	baz=307,SNR=31						
AHID	**Auburn Hatcher**	**76.72**	**46**	P	**P**	**21 35 28.9**	**+0.8**
AHID				IAmb	IAmb	21 35 49.1	
	comp=Z,106nm,1.9s						
BLS5	**Blasjo**	**76.73**	**338**	*eP*	**P**	**21 35 28.9**	**+1.3**
BLS5				IAmb	IAmb	21 35 36.4	
	comp=Z,182nm,1.5s						
DGMT	**Dagmar**	**76.75**	**38**	P	**P**	**21 35 28.4**	**+0.4**
DGMT				IAmb	IAmb	21 35 37.1	
	comp=Z,85nm,1.1s						
DGMT	**Dagmar**	**76.75**	**38**	P	**P**	**21 35 28.6**	**+0.6**
	baz=312						
DGMT	**Dagmar**	**76.75**	**38**	P	**P**	**21 35 28.3**	**+0.4**
	baz=312						
MILM	**Milestii Mici**	**76.77**	**319**	⇑P	**P**	**21 35 27.8**	**-0.2**
MILM	**Milestii Mici**	**76.77**	**319**	⇓*iP*	**P**	**21 35 25.0**	**-3.0**
	comp=Z,840nm,5.9s						
MILM				*e*S	**S**	**21 45 10.0**	**-4.5**
MILM				*e*L	L	22 01 04.0	
MILM				LRM	MLR	22 11 55.0	
	comp=Z,9µm,16.4s						
MILM	**Milestii Mici**	**76.77**	**319**	*d iP*	**P**	**21 35 25.0**	**-3.0**
MILM				*e*S	**S**	**21 45 10.0**	**-4.5**
MILM				*e*		21 46 16.0	
MILM				*e*		21 50 10.0	
MILM				pmax	pmax		
	comp=Z,840nm,5.9s						
MILM				MLR	MLR		
	comp=Z,16µm,17.0s						
MILM				MLR	MLR		
	comp=E,9µm,16.5s						
MILM				MLR	MLR		
	comp=N,9µm,16.0s						
DOK	**Doka**	**76.81**	**283**	P	**P**	**21 35 27.4**	**-1.2**
	SNR=10						
DOK				P	**P**	**21 35 27.4**	**-1.2**
	SNR=10						
MPMC	**Manual Prospec**	**76.87**	**55**	P	**P**	**21 35 30.2**	**+1.2**
	baz=307,SNR=15						
LAO	**LASA Array**	**76.90**	**41**	P	**P**	**21 35 29.6**	**+0.8**
LAO				IAmb	IAmb	21 35 37.6	
	comp=Z,55nm,0.9s						
LAO				IAMs_20	IAMs_20	22 05 01.0	
	comp=Z,2µm,20.0s						
LAO	**LASA Array**	**76.90**	**41**	P	**P**	**21 35 30.6**	**+1.8**
	baz=311						
LAO	**LASA Array**	**76.90**	**41**	P	**P**	**21 35 29.9**	**+1.0**
	baz=311						
FURC	**Furnace Creek,**	**77.03**	**54**	P	**P**	**21 35 30.7**	**+1.1**
	baz=307						
HOMB	**Homborsund**	**77.04**	**337**	*eP*	**P**	**21 35 29.8**	**+0.6**
TPNV	**Topopah Spring**	**77.14**	**53**	P	**P**	**21 35 31.0**	**+0.5**
TPNV				IAmb	IAmb	21 35 36.9	
	comp=Z,41nm,1.1s						
TPNV	**Topopah Spring**	**77.14**	**53**	P	**P**	**21 35 31.5**	**+1.1**
	baz=307						
TPNV	**Topopah Spring**	**77.14**	**53**	P	**P**	**21 35 31.0**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,41nm,1.1s						
SNCC	**San Nicolas Is**	**77.17**	**58**	P	**P**	**21 35 31.3**	**+0.8**
	baz=306						
HWUT	**Hardware Ranch**	**77.17**	**47**	P	**P**	**21 35 31.6**	**+1.0**
HWUT				IAmb	IAmb	21 35 41.9	
	comp=Z,47nm,1.1s						
LVV	**L'vov**	**77.20**	**324**	*eP*	**P**	**21 35 30.3**	**-0.1**
LVV				*e*		21 38 27.2	
LVV				*e*S	**S**	**21 45 17.4**	**-1.7**
LVV				*e*PS	**PnS**	**21 45 58.3**	**+0.1**
LVV				*e*SS	**SS**	**21 50 12.6**	**-3.2**
LVV				pmax	pmax		
	comp=N,210nm,1.6s						
LVV				MLR	MLR		
	comp=E,8µm,16.0s						
LVV				MLR	MLR		
	comp=N,6µm,17.0s						
LVV				MLR	MLR		
	comp=Z,9µm,17.0s						
EDW2	**Edwards Air Fo**	**77.23**	**56**	P	**P**	**21 35 32.0**	**+1.1**
	baz=307,SNR=8.8						
BSD	**Bornholm Skovb**	**77.26**	**332**	*eP*	**P**	**21 35 29.9**	**-0.7**
BSD	**Bornholm Skovb**	**77.26**	**332**	*i* P	**P**	**21 35 30.1**	**-0.5**
BSD				IAmb	IAmb	21 35 39.8	
	comp=Z,64nm,0.9s						
BEL	**Belsk**	**77.26**	**327**	*eP*	**P**	**21 35 31.4**	**+0.7**
BEL				*e*L	L	22 12 38.0	
	comp=Z,7µm,19.2s						
DUG	**Dugway, Tooele**	**77.30**	**49**	P	**P**	**21 35 32.5**	**+1.1**
DUG				IAmb	IAmb	21 35 53.3	
	comp=Z,34nm,0.8s						
DUG	**Dugway, Tooele**	**77.30**	**49**	P	**P**	**21 35 32.8**	**+1.5**
	baz=308						
DUG	**Dugway, Tooele**	**77.30**	**49**	P	**P**	**21 35 32.5**	**+1.1**
DUG				pmax	pmax		
	comp=Z,34nm,0.9s						
DUG				MLR	MLR		
	comp=Z,1µm,21.0s						
LEOM	**Leova**	**77.36**	**319**	⇑P	**P**	**21 35 31.4**	**+0.1**
SNART	**Snartemo**	**77.39**	**337**	*eP*	**P**	**21 35 32.3**	**+1.1**
SNART				IAmb	IAmb	21 35 32.8	
	comp=Z,108nm,1.0s						
RBK	**Rabkut**	**77.39**	**282**	P	**P**	**21 35 30.8**	**-1.2**
	SNR=6.6						
RBK				P	**P**	**21 35 30.8**	**-1.2**
	SNR=6.6						
BORG	**Borgarnes**	**77.47**	**352**	LR	LR	22 09 52.1	
	comp=Z,1µm,21.9s,baz=21,slow=36						
VASR	**Vaslui**	**77.48**	**320**	⇑P	**P**	**21 35 32.5**	**+0.5**
PASC	**Pasadena Art C**	**77.53**	**57**	IAMs_20	IAMs_20	22 02 40.2	
	comp=Z,3µm,21.0s						
BW06	**Boulder Array**	**77.60**	**45**	P	**P**	**21 35 34.1**	**+1.0**
	baz=310,SNR=25						
PD31	**Pinedale Array**	**77.60**	**45**	P	**P**	**21 35 33.8**	**+0.6**
PDAR	**Pinedale Array**	**77.60**	**45**	P	**P**	**21 35 34.0**	**+0.9**
	comp=Z,11nm,0.7s,baz=269,slow=2.1,SNR=61						
PDAR				LR	LR	22 09 00.0	
	comp=Z,540nm,19.4s,baz=342,slow=35						
	comp=Z,11nm,0.7s						
PDAR	**Pinedale Array**	**77.60**	**45**	P	**P**	**21 35 33.7**	**+0.6**
GKP	**Gorka Klasztor**	**77.72**	**329**	*eP*	**P**	**21 35 33.4**	**+0.2**
GKP				*e*L	L	22 12 36.9	
	comp=Z,11µm,16.6s						
GKP	**Gorka Klasztor**	**77.72**	**329**	*eP*	**P**	**21 35 32.9**	**-0.3**
COP	**Copenhagen**	**77.74**	**333**	*i* P	**P**	**21 35 33.2**	**0.0**
COP				IAmb	IAmb	21 35 38.4	
	comp=Z,66nm,0.7s						
GSC	**Goldstone, Bar**	**77.76**	**55**	P	**P**	**21 35 35.2**	**+1.3**
	baz=307						
ILGA	**Ilgaz**	**77.80**	**312**	P	**P**	**21 35 35.2**	**+0.9**
BIR	**Birlad**	**77.82**	**319**	⇑P	**P**	**21 35 34.7**	**+0.8**
CIS	**Catalina Islan**	**77.83**	**57**	P	**P**	**21 35 35.5**	**+1.3**
	baz=307						
VLDR	**Vladesti**	**77.86**	**319**	⇓P	**P**	**21 35 34.7**	**+0.6**
BNN	**Bunyan**	**77.89**	**310**	P	**P**	**21 35 34.2**	**-0.4**
DGAR	**Diego Garcia**	**77.97**	**251**	IAMs_20	IAMs_20	22 08 14.5	
	comp=Z,3µm,20.0s						
OUZ	**Omahuta**	**78.05**	**153**	IAMs_20	IAMs_20	22 06 34.9	
	comp=Z,3µm,21.0s						
GAZ	**Gaziantep**	**78.07**	**308**	P	**P**	**21 35 36.0**	**+0.5**
GAZ				IAmb	IAmb	21 35 51.8	
	comp=Z,30nm,0.8s						
LLD	**Lille Linde**	**78.09**	**333**	*i* P	**P**	**21 35 35.3**	**+0.1**
BUR08	**Bucovina Ar. S**	**78.12**	**322**	P	**P**	**21 35 36.0**	**+0.3**
BUR08				IAmb	IAmb	21 35 43.9	
	comp=Z,45nm,0.9s						
BURAR	**Bucovina Array**	**78.13**	**322**	⇑P	**P**	**21 35 36.4**	**+0.7**
BURAR	**Bucovina Array**	**78.13**	**322**	P	**P**	**21 35 36.2**	**+0.4**
BURAR				IAmb	IAmb	21 35 44.2	
	comp=Z,43nm,0.8s						
JURR	**Jurilovca**	**78.15**	**318**	⇑P	**P**	**21 35 36.8**	**+1.1**
TESR	**Tescani**	**78.16**	**320**	⇑P	**P**	**21 35 36.4**	**+0.6**
ABTO	**Aybut**	**78.18**	**283**	P	**P**	**21 35 34.5**	**-1.9**
ABTO				P	**P**	**21 35 34.5**	**-1.9**
ABTO				P	**P**	**21 35 34.6**	**-1.9**
	SNR=10						
ABTO				P	**P**	**21 35 34.6**	**-1.9**
	SNR=10						
TUQ	**Turquoise Moun**	**78.26**	**54**	P	**P**	**21 35 38.0**	**+1.3**
	baz=307,SNR=13						
AULHS	**Lilydale High**	**78.26**	**175**	P	**P**	**21 35 40.2**	**+4.1**
CFR	**Carcaliu**	**78.27**	**318**	⇑P	**P**	**21 35 36.6**	**+0.3**
MUD	**Monsted U'grnd**	**78.27**	**335**	*i* P	**P**	**21 35 36.2**	**+0.1**
MUD				IAmb	IAmb	21 35 44.0	
	comp=Z,51nm,0.9s						
RGN	**Rugen**	**78.29**	**332**	P	**P**	**21 35 36.6**	**+0.3**
RGN				IAmb	IAmb	21 35 44.2	
	comp=Z,75nm,1.1s						
TPGR	**Topolog**	**78.33**	**318**	⇑P	**P**	**21 35 37.5**	**+0.7**
HEC	**Hector,Ludlow**	**78.36**	**55**	P	**P**	**21 35 38.7**	**+1.5**
	baz=307						
ODBI	**Odobesti**	**78.45**	**319**	⇑P	**P**	**21 35 38.4**	**+1.1**
MURC	**Murrieta**	**78.53**	**57**	P	**P**	**21 35 39.4**	**+1.3**
	baz=307						
VRI	**Vrincioaia**	**78.55**	**320**	⇑P	**P**	**21 35 38.9**	**+1.0**
TIRR	**Tirgusor**	**78.60**	**318**	P	**P**	**21 35 38.0**	**-0.2**
TIRR	**Tirgusor**	**78.60**	**318**	P	**P**	**21 35 38.0**	**-0.2**
TIRR				pmax	pmax		
	comp=Z,223nm,1.7s						
TIRR				MLR	MLR		
	comp=Z,29µm,19.0s						
PLOR	**Plostina**	**78.60**	**320**	⇑P	**P**	**21 35 39.0**	**+0.8**
KOLS	**Kolonicke sedl**	**78.64**	**324**	*eP*	**P**	**21 35 39.0**	**+0.6**
KOLS	**Kolonicke sedl**	**78.64**	**324**	*eP*	**P**	**21 35 39.0**	**+0.6**
KOLS				pmax	pmax		
	comp=Z,36nm,1.0s						
BR131	**Keskin Array S**	**78.68**	**311**	P	**P**	**21 35 38.7**	**-0.3**
BR131				IAmb	IAmb	21 35 50.3	
	comp=Z,70nm,1.4s						
BR131	**Keskin Array S**	**78.68**	**311**	P	**P**	**21 35 38.7**	**-0.3**
BR131				pmax	pmax		
	comp=Z,70nm,1.4s						
BRTR	**Keskin Array B**	**78.68**	**311**	P	**P**	**21 35 38.9**	**-0.1**
	comp=Z,7.8nm,1.0s,baz=100,slow=5.1,SNR=29						
BRTR				LR	LR	22 15 52.7	
	comp=Z,3µm,18.1s,baz=62,slow=40						
	comp=Z,7.8nm,1.0s						
BRTR	**Keskin Array B**	**78.68**	**311**	P	**P**	**21 35 38.4**	**-0.6**
HARR	**Harsova**	**78.70**	**318**	⇑P	**P**	**21 35 39.4**	**+0.6**
TLBR	**Topalu**	**78.74**	**318**	⇑P	**P**	**21 35 39.6**	**+0.6**
BISRR	**Bisoca**	**78.77**	**319**	⇑P	**P**	**21 35 40.4**	**+1.1**
STHS	**Stebnicka Huta**	**78.78**	**325**	*eP*	**P**	**21 35 39.0**	**-0.2**
STHS	**Stebnicka Huta**	**78.78**	**325**	*eP*	**P**	**21 35 39.0**	**-0.2**
STHS				pmax	pmax		
	comp=Z,50nm,1.0s						
GMRC	**Granite Mounta**	**78.82**	**55**	P	**P**	**21 35 41.2**	**+1.3**
	baz=308,SNR=12						
UZH	**Uzhgorod**	**78.84**	**324**	⇓*iP*	**P**	**21 35 39.4**	**-0.1**
UZH				*i*		21 35 42.9	
UZH				*i*		21 35 46.6	
UZH				*i*		21 38 35.0	
UZH				*i* S	**S**	**21 45 35.0**	**-1.8**
UZH				*e*		21 54 00.0	
UZH				MLR	MLR		
	comp=N,2µm,16.0s						
UZH				MLR	MLR		
	comp=E,2µm,16.0s						
UZH				MLR	MLR		
	comp=Z,1µm,16.0s						
OJC	**Ojcow**	**78.86**	**326**	*eP*	**P**	**21 35 36.9**	**-2.7**
OJC				*e*S	**S**	**21 45 35.0**	**-2.0**
OJC				*e*L	L	22 13 48.1	
	comp=Z,8µm,17.5s						
OJC	**Ojcow**	**78.86**	**326**	P	**P**	**21 35 37.2**	**-2.4**
OJC				IAmb	IAmb	21 35 44.6	
	comp=Z,104nm,1.0s						
OJC	**Ojcow**	**78.86**	**326**	P	**P**	**21 35 37.2**	**-2.4**
OJC				pmax	pmax		
	comp=Z,104nm,1.0s						
OZUR		**78.88**	**320**	⇓P	**P**	**21 35 41.0**	**+1.2**
ARCR	**ARCALIA**	**78.92**	**322**	⇑P	**P**	**21 35 41.3**	**+1.3**
BMR	**Baia Mare**	**78.94**	**322**	⇑P	**P**	**21 35 41.4**	**+1.4**
PFO	**Pinyon Flats O**	**79.01**	**56**	P	**P**	**21 35 40.5**	**-0.4**
PFO	**Pinyon Flats O**	**79.01**	**56**	IAMs_20	IAMs_20	22 03 59.5	
	comp=Z,3µm,20.0s						
PFO	**Pinyon Flats O**	**79.01**	**56**	P	**P**	**21 35 42.3**	**+1.4**
	baz=308,SNR=7.3						
PFO	**Pinyon Flats O**	**79.01**	**56**	P	**P**	**21 35 40.5**	**-0.4**
PFO				pmax	pmax		
	comp=Z,42nm,1.3s						
PFO				MLR	MLR		
	comp=Z,3µm,20.0s						
TPFO	**Pinon Flats**	**79.02**	**56**	P	**P**	**21 35 42.2**	**+1.3**
	baz=308,SNR=7.2						
CRVS	**Cervenica-Dubn**	**79.04**	**324**	*eP*	**P**	**21 35 41.7**	**+1.1**
CRVS	**Cervenica-Dubn**	**79.04**	**324**	*eP*	**P**	**21 35 41.7**	**+1.1**
CRVS				pmax	pmax		
	comp=Z,170nm,1.8s						
NEHR	**Nehoiu**	**79.07**	**319**	⇑P	**P**	**21 35 41.8**	**+0.9**
TRPA	**Tarpa**	**79.08**	**323**	⇑P	**P**	**21 35 41.9**	**+1.1**
TRPA	**Tarpa**	**79.08**	**323**	P	**P**	**21 35 41.1**	**+0.4**
BELC	**Belle Mtn. Jos**	**79.08**	**56**	P	**P**	**21 35 42.1**	**+0.8**
	baz=308,SNR=6.5						
ANTO	**Ankara**	**79.09**	**312**	⇑P	**P**	**21 35 40.9**	**-0.2**
ANTO	**Ankara**	**79.09**	**312**	P	**P**	**21 35 41.1**	**-0.1**
ANTO	**Ankara**	**79.09**	**312**	IAMs_20	IAMs_20	22 13 22.9	
	comp=Z,2µm,19.0s						
ANTO	**Ankara**	**79.09**	**312**	P	**P**	**21 35 40.8**	**-0.4**
ANTO	**Ankara**	**79.09**	**312**	P	**P**	**21 35 41.1**	**-0.1**
ANTO				pmax	pmax		
	comp=Z,44nm,1.2s						
ANTO				MLR	MLR		
	comp=Z,2µm,19.0s						
BR231	**Keskin MP Arra**	**79.12**	**312**	P	**P**	**21 35 41.5**	**+0.1**
BR231				IAmb	IAmb	21 35 48.1	
	comp=Z,103nm,1.7s						
ISR	**Istrita**	**79.15**	**319**	⇑P	**P**	**21 35 42.3**	**+0.9**
ICOR	**Ion Corvin**	**79.15**	**318**	⇑P	**P**	**21 35 42.4**	**+1.1**
DOPR	**Dopca**	**79.17**	**320**	⇑P	**P**	**21 35 42.8**	**+1.4**
MLR	**Muntele Rosu**	**79.21**	**320**	⇑P	**P**	**21 35 42.4**	**+0.7**
MLR	**Muntele Rosu**	**79.21**	**320**	LR	LR	22 13 45.2	
	comp=Z,12µm,18.2s,baz=42,slow=38						
MLR	**Muntele Rosu**	**79.21**	**320**	P	**P**	**21 35 41.6**	**-0.1**
MLR	**Muntele Rosu**	**79.21**	**320**	P	**P**	**21 35 41.7**	**-0.1**
MLR				pmax	pmax		
	comp=Z,46nm,1.3s						
MLR				MLR	MLR		
	comp=Z,15µm,18.0s						
NIE	**Niedzica**	**79.21**	**325**	*eP*	**P**	**21 35 41.9**	**+0.3**
NIE				*e*S	**S**	**21 45 42.5**	**+1.7**
NIE				*e*L	L	22 13 35.0	
	comp=Z,3µm,17.0s						
K22A	**Casper**	**79.38**	**44**	P	**P**	**21 35 43.2**	**+0.3**
K22A				IAmb	IAmb	21 35 53.1	
	comp=Z,96nm,1.4s						
K22A	**Casper**	**79.38**	**44**	P	**P**	**21 35 44.0**	**+1.2**
	baz=311						
ULM	**Lac du Bonnet**	**79.41**	**33**	P	**P**	**21 35 42.4**	**-0.2**
	comp=Z,12nm,0.9s,baz=295,slow=5.9,SNR=9.1	

comp=Z,7µm,16.8s
LTVH **Ltavrtes, Hu** 79.91 323 P P 21 35 50.9 +5.5
KSP **Ksiaz** 79.92 328 eP P 21 35 45.7 +0.3
KSP eS S 21 45 49.6 +1.4
KSP eL L 22 14 05.1
comp=Z,9µm,18.1s
DRGR 79.94 322 ⇑P P 21 35 46.6 +0.9
O20A **White River Ci** 80.05 47 P P 21 35 47.7 +1.2
baz=311,SNR=10
PDMCI **Parker Dam,Lak** 80.11 54 P P 21 35 47.6 +1.0
baz=308
OSTC **Ostas** 80.17 328 eP P 21 35 46.8 +0.1
OSTC eS S 21 45 51.9 +1.0
OSTC AMS AMS 22 16 00.0
comp=Z,9µm,13.9s
MORC **Moravsky Berou** 80.18 327 ⇑P P 21 35 47.9 +1.1
MORC **Moravsky Berou** 80.18 327 P P 21 35 46.9 +0.1
MORC **Moravsky Berou** 80.18 327 eP P 21 35 47.1 +0.3
MORC **Moravsky Berou** 80.18 327 eS S 21 45 52.1 +1.1
MORC **Moravsky Berou** 80.18 327 P P 21 35 46.9 +0.1
MORC pmax pmax
comp=Z,49nm,1.0s
CHVC **Chvalec** 80.21 328 AMS AMS 22 16 20.0
comp=Z,9µm,14.2s
RAZG **Razgrad** 80.22 318 ⇑P P 21 35 47.4 +0.3
DPC **Dobruska-Polom** 80.28 328 eP P 21 35 48.4 +1.1
DPC eS S 21 45 54.4 +2.3
DPC AMS AMS 22 16 00.0
comp=Z,7µm,13.7s
DPC **Dobruska-Polom** 80.28 328 eP P 21 35 48.4 +1.1
DPC eS S 21 45 54.4 +2.3
DPC MLR MLR
comp=Z,7µm,13.7s
KRLC **Kraliky** 80.28 327 eP P 21 35 48.2 +0.8
KRLC epP pP 21 35 52.5 0.0
KRLC AMS AMS 22 15 50.0
comp=Z,6µm,14.8s
KRLC **Kraliky** 80.28 327 eP P 21 35 48.2 +0.8
KRLC e*PP pP 21 35 52.5 0.0
KRLC MLR MLR
comp=Z,6µm,14.8s
UPC **Upice** 80.29 328 eP P 21 35 48.2 +0.8
UPC eS S 21 45 53.9 +1.8
UPC AMS AMS 22 16 10.0
comp=Z,10µm,13.8s
UPC **Upice** 80.29 328 eP P 21 35 48.2 +0.8
UPC eS S 21 45 53.9 +1.8
UPC MLR MLR
comp=Z,10µm,13.8s
RAR **Rarotonga** 80.32 126 LR LR 22 06 43.3
comp=Z,3µm,19.4s,baz=310,slow=32
LOT **Lotru** 80.35 321 ⇑P P 21 35 48.7 +0.8
MAUC **Maruska** 80.36 326 eP P 21 35 48.4 +0.6
MAUC AMS AMS 22 14 40.0
comp=Z,10µm,17.4s
HUMR **Humele** 80.36 319 ⇑P P 21 35 48.8 +0.9
GLA **Glamis** 80.43 56 P P 21 35 50.0 +1.5
baz=308
BORA **Eskisehir** 80.46 313 P P 21 35 48.8 +0.2
BORA IAmb IAmb 21 35 53.2
comp=Z,74nm,1.5s
PSZ **Piszkesteto** 80.47 324 ⇑P P 21 35 49.7 +1.2
PSZ **Piszkesteto** 80.47 324 P P 21 35 48.9 +0.4
PSZ IAmb IAmb 21 35 57.0
comp=Z,80nm,1.0s
PSZ IAMs_20 IAMs_20 22 10 01.7
comp=Z,3µm,20.0s
PSZ **Piszkesteto** 80.47 324 P P 21 35 49.5 +1.0
PSZ **Piszkesteto** 80.47 324 P P 21 35 48.9 +0.4
PSZ pmax pmax
comp=Z,80nm,1.0s
PSZ MLR MLR
comp=Z,3µm,20.0s
DEV **Deva** 80.48 321 ⇑P P 21 35 49.5 +1.1
RAYN **Ar Rayn** 80.52 292 P P 21 35 48.9 -0.3
RAYN IAmb IAmb 21 35 58.0
comp=Z,46nm,0.9s
RAYN **Ar Rayn** 80.52 292 P P 21 35 48.1 -1.1
RAYN **Ar Rayn** 80.52 292 *i* P P 21 35 48.7 -0.4
SNR=16
RAYN *i* P P 21 35 48.8 -0.3
SNR=41
RAYN **Ar Rayn** 80.52 292 P P 21 35 48.9 -0.3
RAYN pmax pmax
comp=Z,46nm,1.0s
VYHS **Vyhne** 80.54 325 eP P 21 35 49.8 +1.0
VYHS **Vyhne** 80.54 325 eP P 21 35 49.8 +1.0
VYHS pmax pmax
comp=Z,41nm,1.0s
PV23 **Carpenter Ridg** 80.69 49 P P 21 35 51.0 +1.0
PV23 IAmb IAmb 21 36 02.5
comp=Z,60nm,0.7s
SZH **Strazhica** 80.73 318 eP P 21 35 51.2 +1.4
BSZH **Besenyszg** 80.75 324 ⇑P P 21 35 51.1 +1.3
BSZH **Besenyszg** 80.75 324 P P 21 35 51.8 +1.9
SIRR **Siria** 80.82 322 ⇓P P 21 35 50.8 +0.5
AGMN **Agassiz Nation** 80.84 35 IAMs_20 IAMs_20 22 18 04.6
comp=Z,2µm,19.0s
BRG **Berggiesshubel** 80.87 329 *i* P P 21 35 51.1 +0.7
BRG Amp 21 35 54.0
comp=Z,28nm,1.0s
BRG PP PP 21 38 57.7 +3.6
BRG Amp 21 38 59.6
comp=Z,20nm,1.4s
BRG **Berggiesshubel** 80.87 329 *i* P P 21 35 51.1 +0.7
BRG 21 38 57.7
BRG S S 21 46 00.0 +1.9
BRG SS SS 21 51 14.0 +3.3
BRG pmax pmax
comp=Z,28nm,1.0s
BRG pmax pmax
comp=Z,20nm,1.4s
N23A **Red Feather La** 80.87 45 P P 21 35 51.8 +0.7
N23A IAmb IAmb 21 36 01.0
comp=Z,94nm,1.4s
N23A **Red Feather La** 80.87 45 P P 21 35 51.9 +0.9
baz=312,SNR=20
PVCC **Panska Ves** 80.88 329 eP P 21 35 51.5 +1.0
PVCC eS S 21 45 59.4 +1.2
PVCC AMS AMS 22 14 30.0
comp=Z,9µm,16.2s
PVCC **Panska Ves** 80.88 329 eP P 21 35 51.5 +1.0
PVCC eS S 21 45 59.4 +1.2
PVCC MLR MLR
comp=Z,9µm,16.2s
GZR **Gura Zlata** 80.89 321 ⇑P P 21 35 51.2 +0.4
CLL **Collm** 80.91 330 P P 21 35 50.4 -0.2
CLL IAmb IAmb 21 35 58.4
comp=Z,58nm,1.0s
CLL **Collm** 80.91 330 ⇓*i*P P 21 35 50.3 -0.4
comp=Z,42nm,0.9s
CLL *i* pP pP 21 35 53.0 -2.8
comp=Z,66nm,1.2s
CLL *i* PcP PcP 21 35 57.0 -0.2
comp=Z,56nm,0.9s
CLL *ex* x 21 36 32.0
CLL eS S 21 46 01.0 +2.4
CLL *e*PS PnS 21 46 42.0 -2.9
CLL *ex* x 21 47 54.0
CLL eSS SS 21 51 12.0 +0.7
CLL eSSS SSS 21 54 36.0
CLL LmH 22 09 00.0
comp=N,7µm,18.1s
CLL LmH 22 09 00.0
comp=E,6µm,18.0s
CLL LV 22 15 00.0
comp=Z,7µm,18.5s
CLL **Collm** 80.91 330 ⇓*i*P P 21 35 50.3 -0.4
CLL *i* 21 35 57.0
CLL eS S 21 45 53.0 -5.6
CLL pmax pmax
comp=Z,42nm,0.9s
CLL MLR MLR
comp=Z,7µm,18.5s
VRAC **Vranov** 80.94 327 ⇑P P 21 35 52.1 +1.2
VRAC **Vranov** 80.94 327 LR LR 22 13 30.7
comp=Z,4µm,19.0s,baz=50,slow=37
VRAC **Vranov** 80.94 327 eP P 21 35 51.6 +0.7
VRAC **Vranov** 80.94 327 eS S 21 45 58.6 -0.4
LINV **Loch Inver, As** 80.95 343 eP P 21 35 49.9 -0.9
LINV IAmb IAmb 21 35 56.5
comp=Z,56nm,1.0s
SURR **Surduc** 80.96 322 ⇑P P 21 35 51.7 +0.7
VLAD **Vladila** 81.03 319 ⇑P P 21 35 51.9 +0.5

Y14A **Wickenburg** 81.07 54 P P 21 35 52.5 +0.6
WUAZ **Wupatki** 81.12 52 P P 21 35 53.2 +0.9
WUAZ IAmb IAmb 21 36 02.4
comp=Z,200nm,2.0s
WUAZ **Wupatki** 81.12 52 P P 21 35 53.8 +1.5
baz=310,SNR=16
D32B **Dogwood Acres,** 81.16 36 P P 21 35 52.5 +0.5
baz=317
SMOL **Smolenice** 81.16 326 eP P 21 35 53.4 +1.3
SMOL pmax pmax
comp=Z,28nm,1.0s
SRE **Strehaia** 81.18 320 ⇑P P 21 35 52.2 0.0
BUD **Budapest** 81.20 325 P P 21 35 53.9 +1.6
KRUC **Moravsky** 81.21 327 eP P 21 35 52.7 +0.4
KRUC **Moravsky** 81.21 327 eS S 21 46 03.5 +1.7
GOPC **GO Pecny, Ondr** 81.25 328 eP P 21 35 53.2 +0.6
GOPC AMS AMS 22 16 40.0
comp=Z,9µm,14.0s
GOPC **GO Pecny, Ondr** 81.25 328 eP P 21 35 53.2 +0.6
GOPC MLR MLR
comp=Z,9µm,14.0s
SRO **Srobarova** 81.28 325 eP P 21 35 54.3 +1.6
SRO **Srobarova** 81.28 325 eP P 21 35 54.3 +1.6
SRO pmax pmax
comp=Z,52nm,0.9s
PRU **Pruhonice** 81.30 328 eP P 21 35 53.5 +0.7
PRU epP pP 21 35 58.0 +0.1
PRU eS S 21 46 03.9 +1.2
PRU AMS AMS 22 14 40.0
comp=Z,9µm,17.1s
PRU **Pruhonice** 81.30 328 eP P 21 35 53.5 +0.7
PRU e*PP pP 21 35 58.0 +0.1
PRU eS S 21 46 03.9 +1.2
PRU MLR MLR
comp=Z,9µm,17.1s
BZS **Buzias** 81.30 322 ⇑P P 21 35 53.2 +0.4
MODS **Modra-Piesok** 81.33 326 eP P 21 35 54.4 +1.4
MODS **Modra-Piesok** 81.33 326 eP P 21 35 54.4 +1.4
MODS pmax pmax
comp=Z,130nm,1.4s
LEWI **Lewis, Hebride** 81.34 344 eP P 21 35 52.7 -0.1
LEWI IAmb IAmb 21 36 01.5
comp=Z,39nm,0.9s
PLVB **Pleven** 81.34 319 ⇑P P 21 35 53.6 +0.5
ASF **Jabal al Asfar** 81.35 304 LR LR 22 15 06.8
comp=Z,3µm,20.0s,baz=71,slow=38
TREC **Trest** 81.43 328 AMS AMS 22 14 20.0
comp=Z,6µm,15.1s
HIZ **Hauiti** 81.44 154 P P 21 35 55.4 +2.0
HIZ IAmb IAmb 21 36 02.0
comp=Z,120nm,1.3s
HIZ IAMs_20 IAMs_20 22 06 02.8
comp=Z,3µm,22.0s
HIZ **Hauiti** 81.44 154 P P 21 35 55.6 +2.2
DJES **Djerdap** 81.53 321 ⇑P P 21 35 54.9 +0.8
DJES **Djerdap** 81.53 321 P P 21 35 53.8 -0.3
ZST **Bratislava** 81.54 326 eP P 21 35 54.8 +0.7
ZST **Bratislava** 81.54 326 eP P 21 35 54.9 +0.8
ZST pmax pmax
comp=Z,327nm,1.9s
BAIL **Bailesti** 81.56 320 ⇑P P 21 35 54.6 +0.4
CSKK **Cskako** 81.64 325 P P 21 35 55.5 +0.9
B35A **Bob, Littlefor** 81.75 34 P P 21 35 55.6 +0.4
baz=319
ISP **Isparta** 81.77 312 IAMs_20 IAMs_20 22 18 27.6
comp=Z,3µm,19.0s
KPL **Plockton** 81.79 343 eP P 21 35 56.2 +1.1
KPL IAmb IAmb 21 36 04.1
comp=Z,115nm,1.0s
KPL IAMs_20 IAMs_20 22 20 11.1
comp=Z,3µm,15.1s
ISCO **Idaho Springs** 81.79 46 P P 21 35 56.0 0.0
ISCO IAmb IAmb 21 36 00.4
comp=Z,87nm,1.9s
ISCO IAMs_20 IAMs_20 22 16 12.1
comp=Z,2µm,18.0s
ISCO **Idaho Springs** 81.79 46 P P 21 35 56.2 +0.2
baz=312
ISCO **Idaho Springs** 81.79 46 P P 21 35 56.7 +0.8
baz=312
ISCO **Idaho Springs** 81.79 46 P P 21 35 56.0 0.0
ISCO pmax pmax
comp=Z,87nm,1.9s
ISCO MLR MLR
comp=Z,2µm,18.0s
MVCO **Mesa Verde** 81.80 49 P P 21 35 57.0 +1.0
MVCO **Mesa Verde** 81.80 49 P P 21 35 57.6 +1.6
baz=311,SNR=12
MMAI **Mount Meron Ar** 81.81 305 LR LR 22 15 22.5
comp=Z,6µm,20.9s,baz=274,slow=38
MXZ **Matakaoa Point** 81.88 151 IAMs_20 IAMs_20 22 06 29.2
comp=Z,2µm,20.0s
NKC **Novy Kostel** 81.97 330 eS S 21 46 10.2 +0.6
NKC AMS AMS 22 14 50.0
comp=Z,7µm,15.2s
BRIGG **Briggsdale** 82.00 44 P P 21 35 57.5 +0.6
BRIGG IAmb IAmb 21 36 06.4
comp=Z,35nm,0.9s
EGYH **Egyhazaskeszo** 82.02 325 P P 21 35 57.9 +1.3
MPLH **Matyarpolny** 82.11 325 P P 21 35 57.4 +0.3
SOP **Sopron** 82.17 326 P P 21 35 58.8 +1.4
INVG **Invergeldie, C** 82.21 341 eP P 21 35 58.0 +0.6
INVG IAmb IAmb 21 36 03.6
comp=Z,184nm,2.0s
INVG IAMs_20 IAMs_20 22 22 09.9
comp=Z,2µm,16.8s
PIX **Pinacate** 82.26 56 P P 21 35 58.8 +0.6
PIX IAmb IAmb 21 36 07.8
comp=Z,64nm,1.4s
RONA **Rosalia, Austr** 82.28 326 *i* P P 21 35 58.8 +0.8
comp=Z,47nm,0.8s,SNR=30
ESY **Stoneypath** 82.28 340 eP P 21 35 58.1 +0.2
CKRC **Cesky Krumlov** 82.29 328 eP P 21 35 58.4 +0.3
CKRC AMS AMS 22 15 10.0
comp=Z,6µm,17.6s
CONA **Conrad Observa** 82.30 326 *i* P P 21 35 59.0 +0.8
comp=Z,42nm,1.0s,SNR=30
RTZ **Ruatahuna** 82.30 153 P P 21 35 57.8 -0.2
RTZ IAmb IAmb 21 36 05.5
comp=Z,109nm,1.3s
MORH **Mrgy, Hungar** 82.30 324 ⇑P P 21 35 58.4 +0.2
MORH **Mrgy, Hungar** 82.30 324 P P 21 35 55.7 -2.4
KHC **Kasperske Hory** 82.36 328 P P 21 35 58.7 +0.3
KHC IAmb IAmb 21 36 06.1
comp=Z,44nm,0.9s
KHC **Kasperske Hory** 82.36 328 eP P 21 35 59.0 +0.6
KHC epP PcP 21 36 03.7 +0.1
KHC eS S 21 46 14.9 +1.2
KHC AMS AMS 22 17 20.0
comp=Z,8µm,14.9s
KHC **Kasperske Hory** 82.36 328 eP P 21 35 59.0 +0.6
KHC e*PP PcP 21 36 03.7 +0.1
KHC eS S 21 46 14.9 +1.2
KHC MLR MLR
comp=Z,8µm,14.9s
RDO **Rodhopi** 82.39 317 P P 21 35 58.2 -0.5
214A **Organ Pipe Nat** 82.44 56 P P 21 35 59.6 +0.4
214A **Organ Pipe Nat** 82.44 56 P P 21 36 00.3 +1.1
baz=309
F33A **5 Mile Ranch,** 82.44 37 P P 21 35 58.8 -0.1
F33A IAmb IAmb 21 36 06.6
comp=Z,46nm,0.9s
F33A **5 Mile Ranch,** 82.44 37 P P 21 35 59.7 +0.8
baz=317
S22A **4UR Ranch, Cre** 82.45 48 P P 21 35 59.9 +0.5
S22A **4UR Ranch, Cre** 82.45 48 P P 21 36 01.2 +1.8
baz=312,SNR=26
RZN **Rozhen** 82.47 318 eP P 21 35 59.6 +0.3
MANT **Manisa** 82.49 313 P P 21 35 59.1 -0.4
MANT IAmb IAmb 21 36 42.6
comp=Z,78nm,1.5s
EAB **Aberfoyle** 82.50 341 eP P 21 35 59.7 +0.8
FRGS **Fruska Gora** 82.52 323 ⇓*i*P P 21 35 59.2 -0.1
GEC2 **GERESS Array S** 82.53 328 P P 21 35 58.8 -0.6
GERES **GERESS Array B** 82.53 328 P P 21 35 59.4 0.0
comp=Z,5.6nm,0.5s,baz=46,slow=0.8,SNR=63
GERES S S 21 46 13.8 -1.8
comp=Z,0.1nm,0.3s,baz=64,slow=26,SNR=1.5
GERES PKKPbc PKKPbc 21 54 26.2 +1.8
comp=Z,0.4nm,0.7s,baz=265,slow=6.2,SNR=4.2
GERES LR LR 22 16 14.3
comp=Z,5µm,19.2s,baz=38,slow=38
comp=Z,5.6nm,0.5s
GERES **GERESS Array B** 82.53 328 P P 21 35 59.0 -0.4
GERES **GERESS Array B** 82.53 328 P P 21 35 59.0 -0.4

VTS **Vitosha** 82.60 319 ⇓P P 21 36 00.9 +0.9
VTS **Vitosha** 82.60 319 P P 21 35 59.7 -0.3
VTS **Vitosha** 82.60 319 eP P 21 36 00.8 +0.8
VTS **Vitosha** 82.60 319 P P 21 35 59.7 -0.3
VTS pmax pmax
comp=Z,24nm,0.9s
BKZ **Black Stump Fm** 82.61 153 P P 21 36 00.2 +0.6
BKZ IAmb IAmb 21 36 33.4
comp=Z,65nm,1.5s
Q24A **Divide** 82.62 46 P P 21 36 01.5 +1.2
baz=313
X18A **Snowflake** 82.65 52 P P 21 36 01.0 +0.6
KOVH **Kovagotottos** 82.65 324 P P 21 35 59.6 -0.3
LAWE **Loch Awe, Argy** 82.69 342 eP P 21 36 00.7 +0.8
LAWE IAmb IAmb 21 36 06.1
comp=Z,21nm,0.8s
LAWE IAMs_20 IAMs_20 22 16 32.8
comp=Z,4µm,19.7s
QRZ **Quartz Range** 82.75 157 IAMs_20 IAMs_20 22 06 14.4
comp=Z,3µm,22.0s
GHAJ **Ghor Haditha** 82.78 304 P P 21 36 01.2 +0.4
ELL **Elmali** 82.84 311 P P 21 36 01.0 -0.3
ELL **Elmali** 82.84 311 P P 21 36 01.0 -0.3
ELL pmax pmax
comp=Z,349nm,1.5s
GRA1 **Grafenberg Arr** 82.89 330 P P 21 36 01.0 -0.1
GRF **Grafenberg Arr** 82.89 330 P P 21 36 01.0 -0.1
GRF pmax pmax
comp=Z,188nm,1.5s
GRF MLR MLR
comp=Z,4µm,21.0s
GRFO **Grafenberg** 82.89 330 P P 21 36 01.2 +0.1
GRFO **Grafenberg** 82.89 330 P P 21 36 01.2 +0.1
GRFO pmax pmax
comp=Z,172nm,1.5s
GRFO MLR MLR
comp=Z,4µm,21.0s
EKA **Eskdalemuir Ar** 82.95 340 LR LR 22 16 33.9
comp=Z,4µm,18.7s,baz=38,slow=38
ARSA **Arzberg** 82.96 326 *i* P P 21 36 01.2 -0.4
comp=Z,35nm,1.1s,SNR=19
ESK **Eskdalemuir** 82.97 340 eP P 21 36 02.0 +0.6
ESK IAmb IAmb 21 36 09.3
comp=Z,43nm,1.1s
ESK IAMs_20 IAMs_20 22 16 17.7
comp=Z,5µm,18.7s
ESK **Eskdalemuir** 82.97 340 P P 21 36 01.8 +0.4
ESK IAmb IAmb 21 36 10.1
comp=Z,31nm,0.8s
ESK **Eskdalemuir** 82.97 340 P P 21 36 01.8 +0.4
ESK pmax pmax
comp=Z,31nm,0.9s
ESK MLR MLR
comp=Z,4µm,18.0s
BEHE **Becsehely** 82.98 325 P P 21 36 06.2 +4.5
OGNE **Ogallala** 83.01 43 P P 21 36 02.8 +0.8
baz=314
EYMN **Ely** 83.04 33 P P 21 36 02.3 +0.4
EYMN IAmb IAmb 21 36 09.3
comp=Z,43nm,0.9s
EYMN **Ely** 83.04 33 P P 21 36 02.6 +0.7
baz=320
EYMN **Ely** 83.04 33 P P 21 36 02.2 +0.2
baz=320
MOA **Molln** 83.05 327 *i* P P 21 36 02.5 +0.4
comp=Z,49nm,1.2s,SNR=23
MMB **Musomiste** 83.07 318 eP P 21 36 01.9 -0.3
DIVS **Divibare** 83.20 322 P P 21 36 02.8 -0.2
DIVS IAmb IAmb 21 36 09.7
comp=Z,30nm,1.0s
DIVS **Divibare** 83.20 322 ⇓*i*P P 21 36 02.3 -0.6
KKB **Krupnik** 83.21 318 eP P 21 36 03.2 +0.2
SDCO **Great Sand Dun** 83.23 47 P P 21 36 04.5 +1.0
SDCO IAmb IAmb 21 36 13.4
comp=Z,61nm,1.6s
SDCO **Great Sand Dun** 83.23 47 P P 21 36 04.9 +1.4
baz=312
SDCO **Great Sand Dun** 83.23 47 P P 21 36 04.3 +0.8
baz=312,SNR=19
KOGS **Kog** 83.24 325 *i* P P 21 36 02.5 -0.5
KOGS *e*PP PP 21 39 17.6 +3.9
DSZ **Denniston Nort** 83.36 158 IAMs_20 IAMs_20 22 06 55.5
comp=Z,2µm,20.0s
NNZ **Nelson** 83.38 156 IAMs_20 IAMs_20 22 09 34.0
comp=Z,2µm,20.0s
NEWG **New Galloway** 83.42 341 eP P 21 36 03.5 -0.2
NEWG IAmb IAmb 21 36 09.6
comp=Z,23nm,0.8s
BIOA **Bad Ischl, Aus** 83.44 327 *i* P P 21 36 04.4 +0.3
comp=Z,42nm,1.0s,SNR=23
TUC **Tucson** 83.54 54 P P 21 36 05.0 +0.1
TUC **Tucson** 83.54 54 IAMs_20 IAMs_20 22 06 40.3
comp=Z,2µm,20.0s
TUC **Tucson** 83.54 54 P P 21 36 06.0 +1.0
baz=310
TUC **Tucson** 83.54 54 P P 21 36 05.0 +0.1
TUC pmax pmax
comp=Z,29nm,1.2s
TUC MLR MLR
comp=Z,2µm,20.0s
MRZ **Mangatainoka R** 83.61 154 P P 21 36 04.6 -0.1
MRZ IAMs_20 IAMs_20 22 08 21.1
comp=Z,3µm,20.0s
SOKA **Soboth** 83.61 326 *i* P P 21 36 05.1 +0.1
comp=Z,107nm,1.0s,SNR=37
BBLS **Lazići** 83.66 322 ⇓*i*P P 21 36 04.6 -0.7
HAPS **Han Pijesak,Bl** 83.72 322 ⇓*i*P P 21 36 05.9 +0.2
THZ **Tophouse** 83.72 157 IAMs_20 IAMs_20 22 09 40.0
comp=Z,2µm,19.0s
HPK **Haverah Park** 83.73 339 eP P 21 36 06.1 +0.7
HPK IAmb IAmb 21 36 13.0
comp=Z,64nm,0.7s
HPK IAMs_20 IAMs_20 22 16 02.7
comp=Z,5µm,19.0s
GAL1 **Galloway** 83.77 341 eP P 21 36 06.2 +0.6
GAL1 IAmb IAmb 21 36 12.5
comp=Z,56nm,0.8s
GAL1 IAMs_20 IAMs_20 22 18 25.4
comp=Z,3µm,16.6s
STIP **Stip** 83.81 319 *i* P P 21 36 05.3 -0.7
ECSD **EROS Data Cent** 83.83 38 P P 21 36 06.2 0.0
ECSD IAmb IAmb 21 36 14.2
comp=Z,41nm,1.0s
ECSD **EROS Data Cent** 83.83 38 IAMs_20 IAMs_20 22 18 19.6
comp=Z,2µm,19.0s
ECSD **EROS Data Cent** 83.83 38 P P 21 36 06.8 +0.7
baz=317
ECSD **EROS Data Cent** 83.83 38 P P 21 36 06.6 +0.5
baz=317
RUDO **Rudo** 83.86 322 ⇓*i*P P 21 36 06.0 -0.2
BFZ **Birch Farm** 83.86 154 P P 21 36 06.8 +0.8
BFZ IAmb IAmb 21 36 10.4
comp=Z,98nm,1.5s
VAY **Valandovo** 83.87 318 *i* P P 21 36 06.6 +0.3
SNZO **South Karori** 83.90 155 IAMs_20 IAMs_20 22 09 49.6
comp=Z,2µm,20.0s
CLGH **Cloghs, Cushen** 83.93 342 eP P 21 36 07.3 +0.9
CLGH IAmb IAmb 21 36 14.0
comp=Z,66nm,0.8s
CLGH IAMs_20 IAMs_20 22 17 09.9
comp=Z,2µm,15.8s
OBKA **Obir** 83.96 326 ⇓*i*P P 21 36 05.9 -0.9
OBKA **Obir** 83.96 326 eP P 21 36 06.5 -0.3
comp=Z,26nm,1.0s
SKO **Skopje** 84.00 319 *i* P P 21 36 08.0 +1.0
A051A **Mrakovica** 84.01 324 ⇓*i*P P 21 36 06.5 -0.6
KSCO **Kaye Shedlock'** 84.02 45 P P 21 36 07.7 +0.4
KSCO IAmb IAmb 21 36 17.5
comp=Z,56nm,1.1s
KSCO **Kaye Shedlock'** 84.02 45 P P 21 36 07.9 +0.6
baz=314
E38A **The Farm, Brul** 84.04 34 P P 21 36 06.7 -0.4
baz=320
KBA **Koelnbreinsper** 84.05 327 *i* P P 21 36 07.2 -0.1
comp=Z,29nm,0.9s,SNR=18
CRES **Cresnjev** 84.07 325 ⇓*i*P P 21 36 06.8 -0.5
BLY **Banja Luka** 84.08 324 ⇓*i*P P 21 36 06.8 -0.5
BTNL **Ternell** 84.10 333 *d*P P 21 36 07.1 -0.3
comp=Z,20nm,1.0s
MEM **Membach** 84.13 333 *d*P P 21 36 07.2 -0.2
comp=Z,22nm,0.9s
EIL **Elat** 84.22 303 LR LR 22 17 54.1
comp=Z,4µm,18.0s,baz=60,slow=39
MYKA **Terra Mystica** 84.26 327 *i* P P 21 36 07.6 -0.7
comp=Z,24nm,0.7s,SNR=13
ARG **Arkhangelos** 84.27 312 P P 21 36 08.9 +0.5

ARG	**Arkhangelos**		**84.27**	**312**	P	**P**	**21**	**36**	**08.9**	**+0.5**
ARG	comp=Z,178nm,1.2s				pmax	pmax				
T25A	**Trinidad**		**84.28**	**47**	P	**P**	**21**	**36**	**09.7**	**+0.9**
T25A	comp=Z,34nm,0.8s				IAmb	IAmb	21	36	17.4	
T25A	**Trinidad**		**84.28**	**47**	P	**P**	**21**	**36**	**09.3**	**+0.5**
	baz=313									
BSTI	**Sart Tilman**		**84.31**	**333**	*d*P	**P**	**21**	**36**	**08.8**	**+0.4**
LJU	**Ljubljana**		**84.32**	**326**	*i* P	**P**	**21**	**36**	**08.0**	**-0.6**
LJU					*e*PP	**PP**	**21**	**39**	**27.4**	**+4.8**
LJU					*e*		21	46	15.2	
LJU					*e*S	**S**	**21**	**46**	**33.1**	**-0.5**
LJU					*e*		21	47	24.2	
BHOU	**Houvegnez**		**84.34**	**333**	*d*P	**P**	**21**	**36**	**08.9**	**+0.4**
MGRS	**Mrkonjic Grad**		**84.38**	**323**	*e*P	**P**	**21**	**36**	**09.9**	**+1.0**
UPM	**Unac-Piva**		**84.39**	**322**	*e*P	**P**	**21**	**36**	**08.5**	**-0.7**
BOJS	**Bojanci**		**84.41**	**325**	⇓*i* P	**P**	**21**	**36**	**07.9**	**-1.1**
STU	**Stuttgart**		**84.42**	**330**	P	**P**	**21**	**36**	**09.2**	**+0.2**
STU	comp=Z,58nm,0.9s				IAmb	IAmb	21	36	16.5	
STU	**Stuttgart**		**84.42**	**330**	P	**P**	**21**	**36**	**09.2**	**+0.2**
STU	comp=Z,58nm,0.9s				pmax	pmax				
STU	comp=Z,4μm,18.0s				MLR	MLR				
FOZ	**Fox Glacier**		**84.42**	**160**	IAMs_20	IAMs_20	22	06	39.6	
PRED	comp=Z,2μm,22.0s **Cave del Predi**		**84.44**	**327**	P	**P**	**21**	**36**	**08.7**	**-0.6**
LTZ	**Lake Taylor**		**84.45**	**158**	IAMs_20	IAMs_20	22	07	17.3	
KHZ	comp=Z,3μm,22.0s **Kahutara**		**84.51**	**157**	IAMs_20	IAMs_20	22	07	54.0	
BCLA	comp=Z,2μm,21.0s **Clavier**		**84.53**	**333**	*d*P	**P**	**21**	**36**	**09.6**	**+0.1**
SPMN	comp=Z,14nm,1.3s **Marine on St.**		**84.53**	**35**	P	**P**	**21**	**36**	**09.9**	**+0.2**
SPMN	baz=320 **Marine on St.**		**84.53**	**35**	P	**P**	**21**	**36**	**09.9**	**+0.2**
ANMO	baz=320 **Albuquerque**		**84.54**	**50**	IAMs_20	IAMs_20	22	13	09.2	
A050A	comp=Z,1μm,18.0s **Klekovaca**		**84.59**	**324**	*e*P	**P**	**21**	**36**	**09.7**	**-0.3**
WATA	**Walderalm**		**84.60**	**328**	*e*P	**P**	**21**	**36**	**09.7**	**-0.4**
CEY	comp=Z,33nm,1.3s **Cerknica**		**84.60**	**326**	*e*P	**P**	**21**	**36**	**08.9**	**-1.1**
CEY	**Cerknica**		**84.60**	**326**	*i* P	**P**	**21**	**36**	**09.2**	**-0.8**
WTTA	**Wattenberg**		**84.63**	**328**	*e*P	**P**	**21**	**36**	**09.4**	**-0.9**
GMM	comp=Z,32nm,1.7s **Mts of Mourne**		**84.66**	**341**	*e*P	**P**	**21**	**36**	**10.2**	**+0.2**
ABTA	**Abfaltersbach**		**84.66**	**327**	*i* P	**P**	**21**	**36**	**09.2**	**-1.2**
CLUD	comp=Z,24nm,1.3s,SNR=9.9 **Cludinico**		**84.73**	**327**	P	**P**	**21**	**36**	**09.5**	**-1.1**
CLUD	comp=Z,55nm,0.9s				IAmb	IAmb	21	36	17.6	
BGNE	**Belgrade**		**84.75**	**41**	P	**P**	**21**	**36**	**10.3**	**-0.5**
BGNE	**Belgrade**		**84.75**	**41**	P	**P**	**21**	**36**	**10.7**	**-0.1**
PPT	baz=316 **Papeete**		**84.78**	**117**	LR	LR	22	08	48.0	
RCHB	comp=Z,3μm,19.2s,baz=292,slow=32 **Rochefort**		**84.78**	**333**	*d*P	**P**	**21**	**36**	**10.5**	**-0.3**
PDG	comp=Z,22nm,1.0s **Podgorica**		**84.78**	**321**	⇑P	**P**	**21**	**36**	**11.0**	**+0.1**
PDG	**Podgorica**		**84.78**	**321**	P	**P**	**21**	**36**	**10.4**	**-0.5**
PDG	comp=Z,58nm,0.8s				IAmb	IAmb	21	36	18.6	
SABO	**M.te Sabotino**		**84.78**	**326**	P	**P**	**21**	**36**	**10.2**	**-0.8**
SABO	comp=Z,20nm,0.9s				IAmb	IAmb	21	36	17.5	
MOTA	**Moosalm**		**84.79**	**329**	*i* P	**P**	**21**	**36**	**10.9**	**-0.2**
PPT2	comp=Z,49nm,1.1s,SNR=13 **Papeete2**		**84.79**	**117**	*e*P	**P**	**21**	**36**	**13.6**	**+2.3**
PPT2	comp=Z,367nm,31.2s **Papeete2**		**84.79**	**117**	*e*S	**S**	**21**	**46**	**40.3**	**+1.3**
PPT2	comp=Z,2μm,25.0s				*e*SS	**SS**	**21**	**52**	**13.9**	**+2.2**
PPT2	comp=Z,1μm,24.5s **Papeete2**		**84.79**	**117**	*e*LR	LR	22	02	55.2	
PPT2	comp=Z,7μm,27.8s				*e*LR	LR	22	02	55.5	
BRY	comp=Z,12μm,29.2s **Bratogost**		**84.80**	**322**	*e*P	**P**	**21**	**36**	**10.3**	**-0.9**
RETA	**Reutte**		**84.82**	**329**	*i* P	**P**	**21**	**36**	**11.2**	**+0.1**
SNF	comp=Z,58nm,1.2s,SNR=14 **Seneffe**		**84.82**	**334**	*d*P	**P**	**21**	**36**	**11.1**	**+0.2**
BMRD	**Maredsous**		**84.82**	**334**	*d*P	**P**	**21**	**36**	**11.1**	**+0.1**
Y22D	comp=Z,35nm,1.0s **IRIS PASSCAL I**		**84.83**	**51**	P	**P**	**21**	**36**	**12.7**	**+1.1**
Y22F	baz=312 **Passcal Instru**		**84.83**	**51**	P	**P**	**21**	**36**	**12.7**	**+1.1**
SQTA	baz=312 **Sankt Quirin**		**84.84**	**328**	*e*P	**P**	**21**	**36**	**10.9**	**-0.5**
WLF	comp=Z,21nm,0.7s **Walferdange**		**84.85**	**333**	P	**P**	**21**	**36**	**11.1**	**0.0**
WLF	comp=Z,116nm,1.6s				IAmb	IAmb	21	36	15.6	
WLF	**Walferdange**		**84.85**	**333**	*d*P	**P**	**21**	**36**	**12.0**	**+0.8**
WLF	**Walferdange**		**84.85**	**333**	P	**P**	**21**	**36**	**11.1**	**0.0**
WLF	comp=Z,117nm,1.6s				pmax	pmax				
WLF	comp=Z,4μm,20.0s				MLR	MLR				
FNA	**Florina**		**84.89**	**319**	P	**P**	**21**	**36**	**11.2**	**-0.4**
FNA	**Florina**		**84.89**	**319**	P	**P**	**21**	**36**	**11.2**	**-0.4**
FNA	comp=Z,11nm,0.9s				pmax	pmax				
Y22A	**Socorro**		**84.90**	**51**	P	**P**	**21**	**36**	**13.2**	**+1.2**
TIAR	baz=312 **Tiarei**		**84.94**	**116**	*e*T	T	23	09	44.7	
RPZ	comp=Z,5.6nm,0.3s **Rata Peaks**		**84.94**	**159**	LR	LR	22	10	37.7	
OHR	comp=Z,2μm,20.3s,baz=328,slow=33 **Ohrid**		**84.95**	**319**	*i* P	**P**	**21**	**36**	**11.9**	**0.0**
STAL	**STALIGIAL**		**84.96**	**327**	P	**P**	**21**	**36**	**10.5**	**-1.3**
STAL	comp=Z,38nm,0.8s				IAmb	IAmb	21	36	24.7	
BNM	**Barren Site**		**84.96**	**50**	P	**P**	**21**	**36**	**12.6**	**+0.3**
DRME	**Dracevica, Mon**		**85.00**	**321**	*e*P	**P**	**21**	**36**	**11.9**	**-0.1**
TREB	**Trebinje**		**85.03**	**322**	*e*P	**P**	**21**	**36**	**10.7**	**-1.5**
CIMO	**Cimolais**		**85.03**	**327**	P	**P**	**21**	**36**	**10.9**	**-1.3**
CIMO	comp=Z,26nm,1.0s				IAmb	IAmb	21	36	31.9	
DOU	**Dourbes**		**85.06**	**334**	*d*P	**P**	**21**	**36**	**10.2**	**-1.9**
WLF1	comp=Z,13nm,1.0s **Llynfaes**		**85.10**	**340**	*e*P	**P**	**21**	**36**	**12.8**	**+0.6**
WLF1	comp=Z,10μm,17.5s				IAMs_20	IAMs_20	22	17	49.0	
BFO	**Black Forest**		**85.12**	**331**	P	**P**	**21**	**36**	**12.4**	**-0.2**
BFO	comp=Z,66nm,0.9s				IAmb	IAmb	21	36	19.9	
BFO	**Black Forest**		**85.12**	**331**	P	**P**	**21**	**36**	**12.4**	**-0.2**
BFO	comp=Z,66nm,0.9s				pmax	pmax				
BFO	comp=Z,4μm,18.0s				MLR	MLR				
319A	**Douglas**		**85.12**	**54**	P	**P**	**21**	**36**	**13.3**	**+0.3**
319A	comp=Z,60nm,1.1s				IAmb	IAmb	21	36	22.6	
FOEL	**Foel Wylfa**		**85.12**	**339**	*e*P	**P**	**21**	**36**	**12.4**	**-0.1**
FOEL	comp=Z,90nm,0.8s				IAmb	IAmb	21	36	19.3	
FOEL	comp=Z,4μm,15.3s				IAMs_20	IAMs_20	22	18	50.1	
HCY	**Herceg Novi**		**85.15**	**321**	*e*P	**P**	**21**	**36**	**11.2**	**-1.6**
YLL	**Llanberis**		**85.17**	**340**	*e*P	**P**	**21**	**36**	**12.5**	**-0.2**
I37B	**Waseca**		**85.17**	**36**	P	**P**	**21**	**36**	**14.0**	**+1.1**
SCHQ	baz=319 **Schefferville**		**85.20**	**16**	P	**P**	**21**	**36**	**13.0**	**+0.2**
SCHQ	comp=Z,8.7nm,0.9s,baz=348,slow=9.3,SNR=2.9				LR	LR	22	16	53.2	
SCHQ	comp=Z,2μm,19.7s,baz=348,slow=38 **Schefferville**		**85.20**	**16**	P	**P**	**21**	**36**	**12.8**	**0.0**
FETA	comp=Z,8.7nm,0.9s **Feichten**		**85.20**	**329**	*i* P	**P**	**21**	**36**	**12.7**	**-0.5**
STON	comp=Z,32nm,0.9s,SNR=13 **Ston**		**85.23**	**322**	*e*P	**P**	**21**	**36**	**10.6**	**-2.5**
TIR	**Tirane**		**85.27**	**320**	⇓P	**P**	**21**	**36**	**13.7**	**+0.3**
LLW	**Llanuwchllyn**		**85.29**	**340**	*e*P	**P**	**21**	**36**	**13.8**	**+0.6**
KARP	**Karpathos**		**85.30**	**312**	P	**P**	**21**	**36**	**13.4**	**-0.3**
KBN	**Korca**		**85.31**	**319**	P	**P**	**21**	**36**	**13.5**	**-0.2**
KBN	**Korca**		**85.31**	**319**	P	**P**	**21**	**36**	**13.5**	**-0.2**
KBN	comp=Z,116nm,1.0s				pmax	pmax				
LBZ	**Lake Benmore**		**85.31**	**160**	IAMs_20	IAMs_20	22	09	38.1	
121A	comp=Z,2μm,21.0s **Cookes Peak, D**		**85.32**	**52**	P	**P**	**21**	**36**	**15.6**	**+1.6**
	baz=312									
121A	**Cookes Peak, D**		**85.32**	**52**	P	**P**	**21**	**36**	**14.9**	**+0.9**
	baz=312									
DAVA	**Damuels**		**85.34**	**329**	*i* P	**P**	**21**	**36**	**13.6**	**-0.2**
MQZ	comp=Z,72nm,1.0s,SNR=17 **McQueen's Vall**		**85.41**	**158**	IAMs_20	IAMs_20	22	06	52.6	
COWI	comp=Z,3μm,22.0s **Conover**		**85.49**	**33**	P	**P**	**21**	**36**	**14.2**	**-0.3**
COWI	comp=Z,41nm,1.2s				IAmb	IAmb	21	36	35.0	
COWI	comp=Z,2μm,22.0s				IAMs_20	IAMs_20	22	11	48.0	
HSIG			**85.55**	**57**	P	**P**	**21**	**36**	**14.8**	**-0.2**
HSIG	comp=Z,108nm,2.0s				IAmb	IAmb	21	36	24.3	
CTI	**Castel Tesino**		**85.58**	**327**	P	**P**	**21**	**36**	**14.0**	**-1.0**
CTI	**Castel Tesino**		**85.58**	**327**	P	**P**	**21**	**36**	**14.0**	**-1.0**
CTI	comp=Z,21nm,0.9s				pmax	pmax				
DSB	**Dublin**		**85.66**	**341**	P	**P**	**21**	**36**	**14.8**	**-0.3**
DSB	comp=Z,39nm,0.7s				IAmb	IAmb	21	36	28.0	
ECH	**Echery**		**85.67**	**331**	P	**P**	**21**	**36**	**15.4**	**+0.1**
ECH	comp=Z,49nm,1.0s				IAmb	IAmb	21	36	22.8	
ECH	**Echery**		**85.67**	**331**	P	**P**	**21**	**36**	**15.4**	**+0.1**
ECH	comp=Z,49nm,1.0s				pmax	pmax				
ECH	comp=Z,3μm,19.0s				MLR	MLR				
G40A	**Rib Lake**		**85.67**	**34**	P	**P**	**21**	**36**	**15.8**	**+0.4**
FUORN	baz=321 **Ofenpass-Fuorn**		**85.71**	**329**	P	**P**	**21**	**36**	**15.8**	**0.0**
FUORN	comp=Z,83nm,1.2s				IAmb	IAmb	21	36	24.3	
SANT	**Santorini**		**85.73**	**313**	P	**P**	**21**	**36**	**15.1**	**-0.8**
SANT	comp=Z,3μm,20.0s				IAMs_20	IAMs_20	22	17	23.5	
DAVOX	**Davos/Dischmat**		**85.75**	**329**	LR	LR	22	17	58.1	
	comp=Z,10μm,18.4s,baz=44,slow=38									
CBKS	**Cedar Bluff**		**85.76**	**43**	P	**P**	**21**	**36**	**15.8**	**-0.2**
CBKS	comp=Z,64nm,1.3s				IAmb	IAmb	21	36	25.1	
CBKS	**Cedar Bluff**		**85.76**	**43**	P	**P**	**21**	**36**	**16.0**	**0.0**
	baz=316									
CBKS	**Cedar Bluff**		**85.76**	**43**	P	**P**	**21**	**36**	**15.8**	**-0.2**
CBKS	comp=Z,64nm,1.3s				pmax	pmax				
STRD	**Stroud**		**85.81**	**338**	*e*P	**P**	**21**	**36**	**16.0**	**+0.1**
STRD	comp=Z,131nm,0.8s				IAmb	IAmb	21	36	23.3	
STRD	comp=Z,6μm,21.6s				IAMs_20	IAMs_20	22	14	14.0	
HMNX	**Herstmonceux**		**85.83**	**336**	*e*P	**P**	**21**	**36**	**16.0**	**0.0**
HMNX	comp=Z,148nm,0.8s				IAmb	IAmb	21	36	22.6	
HMNX	comp=Z,9μm,17.3s				IAMs_20	IAMs_20	22	18	31.0	
MCH1	**Michaelchurch**		**85.86**	**339**	*e*P	**P**	**21**	**36**	**16.3**	**+0.2**
MCH1	comp=Z,163nm,0.8s				IAmb	IAmb	21	36	23.6	
MCH1	comp=Z,10μm,27.5s				IAMs_20	IAMs_20	22	17	36.2	
SWN1	**Swindon**		**85.93**	**338**	*e*P	**P**	**21**	**36**	**16.6**	**+0.1**
SWN1	comp=Z,5μm,14.1s				IAMs_20	IAMs_20	22	18	53.7	
MONM	**Monmouth**		**85.94**	**339**	*e*P	**P**	**21**	**36**	**17.1**	**+0.6**
MONM	comp=Z,91nm,1.0s				IAmb	IAmb	21	36	24.4	
MONM	comp=Z,4μm,19.4s				IAMs_20	IAMs_20	22	16	45.4	
ODZ	**Otahua Downs**		**86.05**	**160**	IAMs_20	IAMs_20	22	10	11.5	
MEH	comp=Z,3μm,21.0s **Mehetia**		**86.06**	**116**	*e*T	T	23	11	13.5	
TEOL	comp=Z,153nm,0.3s **Teolo**		**86.11**	**327**	P	**P**	**21**	**36**	**17.2**	**-0.3**
E43A	**Lone Tree Farm**		**86.17**	**31**	P	**P**	**21**	**36**	**18.2**	**+0.4**
TAOE	baz=323 **Nuku Hiva Isla**		**86.29**	**104**	*e*P	**P**	**21**	**36**	**20.7**	**+1.8**
TAOE	comp=Z,296nm,37.2s **Nuku Hiva Isla**		**86.29**	**104**	*e*S	**S**	**21**	**46**	**54.2**	**+0.2**
TAOE	comp=Z,1μm,26.2s				*e*SS	**SS**	**21**	**52**	**35.1**	**+1.4**
TAOE	comp=Z,717nm,24.8s **Nuku Hiva Isla**		**86.29**	**104**	*e*LR	LR	22	03	36.0	
TAOE	comp=Z,9μm,25.4s **Nuku Hiva Isla**		**86.29**	**104**	*e*T	T	23	11	29.8	
RSBS	comp=Z,43nm,0.2s **Rosebush, Pemb**		**86.39**	**340**	*e*P	**P**	**21**	**36**	**18.8**	**+0.1**
RSBS	comp=Z,4μm,16.9s				IAMs_20	IAMs_20	22	19	23.4	
N35A	**Tabor**		**86.44**	**40**	P	**P**	**21**	**36**	**20.4**	**+1.1**
KEK	baz=318 **Kerkira**		**86.49**	**319**	P	**P**	**21**	**36**	**18.9**	**-0.6**
KEK	comp=Z,92nm,1.5s				IAmb	IAmb	21	36	30.3	
IDI	**Anoyia**		**86.82**	**313**	LR	LR	22	19	56.6	
	comp=Z,2μm,18.4s,baz=34,slow=39									
IDI	**Anoyia**		**86.82**	**313**	P	**P**	**21**	**36**	**20.9**	**-0.3**
IDI	comp=Z,91nm,1.3s				IAmb	IAmb	21	36	30.2	
IDI	comp=Z,3μm,20.0s				IAMs_20	IAMs_20	22	18	08.3	
SCIA	**State Center**		**86.86**	**38**	P	**P**	**21**	**36**	**21.8**	**+0.6**
SCIA	comp=Z,98nm,1.3s				IAmb	IAmb	21	36	31.5	
SCIA	**State Center**		**86.86**	**38**	P	**P**	**21**	**36**	**21.9**	**+0.6**
SGRT	baz=320 **San Giovanni R**		**87.03**	**322**	P	**P**	**21**	**36**	**21.7**	**-0.5**
SGRT	comp=Z,92nm,1.2s				IAmb	IAmb	21	36	30.1	
SENIN	**Lac Senin/Sane**		**87.13**	**330**	P	**P**	**21**	**36**	**22.3**	**-0.4**
ITM	**Ithomi**		**87.17**	**316**	P	**P**	**21**	**36**	**22.0**	**-0.9**
ZCCA	**Zocca**		**87.21**	**327**	P	**P**	**21**	**36**	**23.4**	**+0.4**
KSU1	**Kansas State U**		**87.23**	**41**	P	**P**	**21**	**36**	**23.2**	**0.0**
KSU1	comp=Z,41nm,0.8s				IAmb	IAmb	21	36	30.9	
KSU1	**Kansas State U**		**87.23**	**41**	IAMs_20	IAMs_20	22	20	02.9	
KSU1	comp=Z,2μm,20.0s **Kansas State U**		**87.23**	**41**	P	**P**	**21**	**36**	**23.7**	**+0.5**
KSU1	baz=318 **Kansas State U**		**87.23**	**41**	P	**P**	**21**	**36**	**24.0**	**+0.9**
E46A	baz=318 **Sault Ste Mari**		**87.27**	**30**	P	**P**	**21**	**36**	**23.4**	**+0.3**
FDMO	baz=325 **Fiordimonte**		**87.30**	**325**	P	**P**	**21**	**36**	**23.0**	**-0.4**
FDMO	comp=Z,59nm,1.0s				IAmb	IAmb	21	36	31.3	
MURB	**Monte Urbino**		**87.38**	**325**	P	**P**	**21**	**36**	**24.3**	**+0.4**
MURB	comp=Z,56nm,1.0s				IAmb	IAmb	21	36	34.9	
MATE	**Matera**		**87.39**	**321**	⇑P	**P**	**21**	**36**	**24.0**	**+0.2**
MSTX	**Muleshoe**		**87.43**	**48**	P	**P**	**21**	**36**	**25.0**	**+0.7**
AMTX	baz=314 **Amarillo**		**87.44**	**47**	P	**P**	**21**	**36**	**24.7**	**+0.4**
AMTX	comp=Z,42nm,0.9s				IAmb	IAmb	21	36	33.1	
AMTX	comp=Z,2μm,18.0s				IAMs_20	IAMs_20	22	21	44.7	
AMTX	**Amarillo**		**87.44**	**47**	P	**P**	**21**	**36**	**25.6**	**+1.3**
AMTX	baz=315 **Amarillo**		**87.44**	**47**	P	**P**	**21**	**36**	**25.2**	**+0.9**
JFWS	baz=315 **Jewell Farm**		**87.49**	**35**	P	**P**	**21**	**36**	**25.2**	**+0.9**
CAMP	baz=321 **Campotosto**		**87.54**	**324**	P	**P**	**21**	**36**	**24.5**	**-0.2**
CAMP	comp=Z,32nm,1.0s				IAmb	IAmb	21	36	36.2	
CLF	**Chambon-Foret**		**87.63**	**334**	P	**P**	**21**	**36**	**25.0**	**+0.2**
AQU	**L'Aquila**		**87.68**	**324**	P	**P**	**21**	**36**	**25.7**	**+0.4**
AQU	comp=Z,36nm,0.9s				IAmb	IAmb	21	36	33.1	
AQU	**L'Aquila**		**87.68**	**324**	P	**P**	**21**	**36**	**25.7**	**+0.4**
AQU	comp=Z,36nm,0.9s				pmax	pmax				
AQU	comp=Z,8μm,19.0s				MLR	MLR				
L40A	**Anamosa**		**87.69**	**36**	P	**P**	**21**	**36**	**25.5**	**+0.2**
L40A	comp=Z,46nm,1.1s				IAmb	IAmb	21	36	33.2	
L40A	**Anamosa**		**87.69**	**36**	P	**P**	**21**	**36**	**25.9**	**+0.6**
INTR	baz=321 **Introdacqua**		**87.71**	**324**	P	**P**	**21**	**36**	**24.8**	**-0.7**
INTR	comp=Z,24nm,0.9s				IAmb	IAmb	21	36	32.7	
OK035	**E0210 Rd and N**		**87.84**	**44**	IAMs_20	IAMs_20	22	22	51.1	
	comp=Z,2μm,18.0s									
ELIS	**Ellis County**		**87.90**	**45**	P	**P**	**21**	**36**	**27.4**	**+1.0**
ELIS	comp=Z,84nm,1.2s				IAmb	IAmb	21	36	36.0	
HTMS	**Hat Mesa**		**87.94**	**50**	P	**P**	**21**	**36**	**26.3**	**-0.5**
OK038	**West end E0370**		**87.98**	**44**	IAMs_20	IAMs_20	22	17	45.0	
KAN01	comp=Z,1μm,20.0s **Argonia South**		**88.04**	**43**		**P**	**21**	**36**	**27.0**	**-0.1**
KAN01	comp=Z,83nm,1.4s				IAmb	IAmb	21	36	36.2	
JSA	**Saint Aubin**		**88.09**	**337**	*e*P	**P**	**21**	**36**	**27.7**	**+0.7**
JSA	comp=Z,7μm,19.0s				IAMs_20	IAMs_20	22	20	11.8	
GLMI	**Grayling**		**88.41**	**31**	P	**P**	**21**	**36**	**29.5**	**+0.9**
TIP	baz=325 **Timpagrande**		**88.47**	**320**	⇑P	**P**	**21**	**36**	**29.5**	**+0.4**
TIP	**Timpagrande**		**88.47**	**320**	P	**P**	**21**	**36**	**28.5**	**-0.6**
TIP	comp=Z,41nm,1.1s				IAmb	IAmb	21	36	41.4	
TBI	**Tubuai**		**88.68**	**121**	*e*P	**P**	**21**	**36**	**31.9**	**+1.9**
TBI	comp=Z,975nm,31.8s **Tubuai**		**88.68**	**121**	*e*PP	**PP**	**21**	**39**	**59.2**	**+0.1**
TBI	comp=Z,503nm,26.5s				*e*S	**S**	**21**	**47**	**16.7**	**+0.4**
TBI	comp=Z,5μm,27.0s				*e*SS	**SS**	**21**	**53**	**10.7**	**+2.3**
TBI	comp=Z,3μm,26.2s **Tubuai**		**88.68**	**121**	*e*LR	LR	22	04	42.6	
TBI	comp=Z,37μm,26.5s				*e*LR	LR	22	04	42.9	
TBI	comp=Z,132μm,23.0s **Tubuai**		**88.68**	**121**	*e*T	T	23	14	19.4	
OK045	comp=Z,172nm,0.3s **Pawnee Station**		**89.01**	**43**	IAMs_20	IAMs_20	22	22	06.1	
OK051	comp=Z,2μm,19.0s **E0350 and S346**		**89.02**	**43**	IAMs_20	IAMs_20	22	22	14.3	
OK050	comp=Z,2μm,19.0s **Pawnee Station**		**89.02**	**43**	IAMs_20	IAMs_20	22	22	15.3	
OK048	comp=Z,2μm,19.0s **Pawnee Station**		**89.02**	**43**	IAMs_20	IAMs_20	22	22	08.4	
OK046	comp=Z,2μm,21.0s **Pawnee Station**		**89.06**	**43**	IAMs_20	IAMs_20	22	22	16.3	
L44A	comp=Z,2μm,18.0s **Lake County Fo**		**89.13**	**34**	IAMs_20	IAMs_20	22	14	44.5	
LPIG	comp=Z,2μm,19.0s **La Paz**		**89.17**	**60**	LR	LR	22	12	19.4	
OK029	comp=Z,1μm,18.6s,baz=299,slow=33 **Liberty Lake**		**89.19**	**44**	IAMs_20	IAMs_20	22	12	45.0	
WMOK	comp=Z,1μm,19.0s **Wichita Mounta**		**89.22**	**46**	IAMs_20	IAMs_20	22	21	26.7	
WMOK	comp=Z,1μm,19.0s **Wichita Mounta**		**89.22**	**46**	P	**P**	**21**	**36**	**33.6**	**+1.0**
WMOK	baz=316 **Wichita Mounta**		**89.22**	**46**	P	**P**	**21**	**36**	**33.6**	**+1.0**
P40A	baz=316 **Paris**		**89.24**	**38**	P	**P**	**21**	**36**	**33.4**	**+0.7**
OK053	baz=320 **SW of W Deep R**		**89.40**	**44**	IAMs_20	IAMs_20	22	22	35.5	
OK052	comp=Z,2μm,18.0s **Battle Ridge R**		**89.41**	**44**	IAMs_20	IAMs_20	22	22	36.7	
OK031	comp=Z,2μm,18.0s **S. Brethren Rd**		**89.42**	**44**	IAMs_20	IAMs_20	22	22	37.0	
HQIL	comp=Z,2μm,18.0s **Hanson Quary C**		**89.46**	**34**	IAMs_20	IAMs_20	22	16	34.2	
MSEY	comp=Z,1μm,22.0s **Mahe Island**		**89.48**	**264**	P	**P**	**21**	**36**	**33.4**	**-0.8**
MSEY	comp=Z,95nm,1.4s				IAmb	IAmb	21	36	43.3	
MSEY	**Mahe Island**		**89.48**	**264**	IAMs_20	IAMs_20	22	16	11.1	
MSEY	comp=Z,2μm,22.0s **Mahe Island**		**89.48**	**264**	P	**P**	**21**	**36**	**33.4**	**-0.8**
MSEY	comp=Z,95nm,1.5s				pmax	pmax				
MSEY	comp=Z,2μm,22.0s				MLR	MLR				
CEL	**Celeste**		**89.60**	**320**	P	**P**	**21**	**36**	**33.7**	**-0.7**
CEL	comp=Z,54nm,0.8s				IAmb	IAmb	21	36	41.8	
J47A	**Sunmer**		**89.62**	**32**	P	**P**	**21**	**36**	**35.7**	**+1.3**
J47A	baz=325				P	**P**	**21**	**36**	**35.7**	**+1.3**
ATD	baz=325 **Arta Tunnel**		**89.75**	**284**	LR	LR	22	21	39.0	
HDIL	comp=Z,2μm,18.8s,baz=46,slow=39 **Hopedale**		**89.78**	**36**	P	**P**	**21**	**36**	**35.3**	**+0.2**
HDIL	comp=Z,72nm,1.2s				IAmb	IAmb	21	36	45.0	
HDIL	comp=Z,2μm,19.0s				IAMs_20	IAMs_20	22	14	32.8	
HDIL	**Hopedale**		**89.78**	**36**	P	**P**	**21**	**36**	**35.3**	**+0.2**
TUL1	baz=322 **Leonard**		**90.03**	**43**		**P**	**21**	**36**	**36.5**	**+0.1**
TUL1	**Leonard**		**90.03**	**43**	P	**P**	**21**	**36**	**37.4**	**+1.0**
TX31	baz=318 **Lajitas Ar. Si**		**90.08**	**52**	P	**P**	**21**	**36**	**37.4**	**+0.5**
TX31	comp=Z,54nm,0.9s				IAmb	IAmb	21	36	45.5	
TX31	**Lajitas Ar. Si**		**90.08**	**52**	P	**P**	**21**	**36**	**37.9**	**+1.0**
TXAR	baz=314 **Lajitas Array**		**90.08**	**52**	P	**P**	**21**	**36**	**37.9**	**+1.0**
TXAR	comp=Z,4.3nm,0.7s,baz=303,slow=3.2,SNR=52				PP	**PP**	**21**	**40**	**09.7**	**+0.1**
TXAR	comp=Z,0.4nm,0.7s,baz=228,slow=3.5,SNR=1.2				PKKPbc	**PKKPbc**	**21**	**54**	**09.8**	**+3.7**
TXAR	comp=Z,0.6nm,0.6s,baz=139,slow=5.9,SNR=4.6				LR	LR	22	10	48.5	
TXAR	comp=Z,1μm,21.8s,baz=319,slow=31 **Lajitas Array**		**90.08**	**52**	P	**P**	**21**	**36**	**37.6**	**+0.7**
TXAR	comp=Z,4.3nm,0.7s **Lajitas Array**		**90.08**	**52**	P	**P**	**21**	**36**	**37.6**	**+0.7**
R40A	**Maddies Statio**		**90.08**	**39**	P	**P**	**21**	**36**	**37.1**	**+0.5**
ABTX	baz=320 **Abilene, Hawle**		**90.23**	**48**	P	**P**	**21**	**36**	**38.1**	**+0.6**
ABTX	comp=Z,48nm,1.1s				IAmb

	baz=317								
FCAR	Ozark Folk Cen	92.00	41	P		P		21 36 45.4	-0.1
S44A	Carbondale	92.05	38	P		P		21 36 46.1	+0.4
	baz=322								
H06N1	SOCORRO T-PHAS	92.08	65	T		T		23 19 18.1	
	SNR=4.3								
MIAR	Mount Ida	92.25	43	P		P		21 36 46.4	-0.3
MIAR				IAmb		IAmb		21 36 55.2	
	comp=Z,31nm,1.1s								
MIAR	Mount Ida	92.25	43	P		P		21 36 47.6	+0.9
	baz=319								
MIAR	Mount Ida	92.25	43	P		P		21 36 47.3	+0.6
	baz=319								
MIAR	Mount Ida	92.25	43	P		P		21 36 46.4	-0.3
MIAR				pmax		pmax			
	comp=Z,31nm,1.1s								
LONY	Lake Ozonia	92.32	25	P		P		21 36 46.3	-0.6
	baz=332								
LCAR	Lake Charles	92.36	40	P		P		21 36 47.2	0.0
ERPA	Erie	92.52	29	P		P		21 36 48.9	+1.0
	baz=328								
P49A	Miami Univ. Ec	92.69	34	P		P		21 36 49.8	+1.1
	baz=325								
435B	Jarrell	92.77	48	IAMs_20		IAMs_20		22 21 33.0	
	comp=Z,2µm,18.0s								
435B	Jarrell	92.77	48	P		P		21 36 49.6	+0.4
	baz=317								
M53A	WI Miller and	92.82	30	IAMs_20		IAMs_20		22 25 13.9	
	comp=Z,2µm,20.0s								
M53A	WI Miller and	92.82	30	P		P		21 36 49.9	+0.6
	baz=328								
ACSO	Alum Creek Sta	92.88	32	IAMs_20		IAMs_20		22 17 10.5	
	comp=Z,2µm,19.0s								
WCI	Wyandotte Cave	93.03	36	IAMs_20		IAMs_20		22 16 24.9	
	comp=Z,2µm,19.0s								
WCI	Wyandotte Cave	93.03	36	P		P		21 36 51.1	+0.9
	baz=324								
PKME	Peaks-Kenny Pk	93.39	21	IAMs_20		IAMs_20		22 23 07.2	
	comp=Z,2µm,20.0s								
PKME	Peaks-Kenny Pk	93.39	21	P		P		21 36 52.7	+1.0
	baz=336								
833A	Chaparral WMA,	93.45	50	P		P		21 36 53.0	+0.6
	baz=316								
LBNH	Lisbon	93.52	23	P		P		21 36 53.5	+1.1
	baz=334								
O53A	New Philadelph	93.61	31	P		P		21 36 51.8	-1.1
	baz=327								
MAHO	Mahon	93.73	328	P		P		21 36 52.5	-0.9
P52A	Corning	93.73	32	IAMs_20		IAMs_20		22 17 58.2	
	comp=Z,1µm,20.0s								
P52A	Corning	93.73	32	P		P		21 36 52.1	-1.4
	baz=327								
NATX	Nacogdoches	93.74	45	IAMs_20		IAMs_20		22 26 34.4	
	comp=Z,2µm,18.0s								
NATX	Nacogdoches	93.74	45	P		P		21 36 53.5	-0.1
	baz=319								
WVT	Waverly	93.98	38	IAMs_20		IAMs_20		22 26 03.2	
	comp=Z,1µm,18.0s								
HKT	Hockley	94.41	47	IAMs_20		IAMs_20		22 24 38.0	
	comp=Z,1µm,19.0s								
OXF	Oxford	94.46	40	IAMs_20		IAMs_20		22 25 17.6	
	comp=Z,2µm,20.0s								
SSPA	Standing Stone	94.61	29	IAMs_20		IAMs_20		22 25 13.0	
	comp=Z,2µm,19.0s								
KEST	Kesra	94.84	323	P		P		21 36 58.9	+0.1
	comp=Z,6.3nm,0.9s,baz=31,slow=5.9,SNR=2.7								
KEST				LR		LR		22 25 24.3	
	comp=Z,4µm,18.2s,baz=354,slow=39								
	comp=Z,6.3nm,0.9s								
HRV	Adam Dziewonsk	95.20	24	P		P		21 36 59.5	-0.7
	baz=334								
ZAIG	Zacatecas	95.32	56	P		P		21 37 01.4	0.0
ZAIG				IAmb		IAmb		21 37 11.4	
	comp=Z,22nm,1.2s								
BCX	Boston College	95.47	24	IAMs_20		IAMs_20		22 23 34.6	
	comp=Z,2µm,21.0s								
VBMS	Vicksburg	95.67	42	P		P		21 37 03.2	+0.7
	baz=321								
TZTN	Tazewell	95.67	35	IAMs_20		IAMs_20		22 23 40.6	
	comp=Z,2µm,19.0s								
TZTN	Tazewell	95.67	35	P		P		21 37 02.2	-0.3
	baz=326								
PAL	Palisades	95.75	26	IAMs_20		IAMs_20		22 22 25.0	
	comp=Z,1µm,20.0s								
PAL	Palisades	95.75	26	P		P		21 37 02.5	-0.1
	baz=332								
TKL	Tuckaleechee C	96.30	35	LR		LR		22 22 23.3	
	comp=Z,939nm,20.6s,baz=332,slow=37								
BLA	Blacksburg	96.50	32	IAMs_20		IAMs_20		22 27 48.3	
	comp=Z,2µm,18.0s								
BLA	Blacksburg	96.50	32	P		P		21 37 05.8	-0.4
	baz=328								
LRAL	Lakeview Retre	96.86	39	IAMs_20		IAMs_20		22 17 04.3	
	comp=Z,1µm,20.0s								
CBN	Corbin Frederi	96.90	30	IAMs_20		IAMs_20		22 28 54.8	
	comp=Z,2µm,18.0s								
ESDC	Sonseca Array	97.11	334	P		P		21 37 08.6	-0.4
	comp=Z,1.9nm,0.8s,baz=16,slow=3.6,SNR=7.8								
ESDC				PP		PP		21 40 59.8	-4.1
	comp=Z,2.5nm,1.0s,baz=23,slow=6.8,SNR=4.9								
ESDC				LR		LR		22 25 05.3	
	comp=Z,4µm,19.6s,baz=18,slow=38								
	comp=Z,1.9nm,0.8s								
ESDC	Sonseca Array	97.11	334	P		P		21 37 08.3	-0.7
CART	Cartagena	97.83	331	P		Pdif		21 37 13.0	+0.8
GOGA	Godfrey	98.28	37	IAMs_20		IAMs_20		22 27 02.0	
	comp=Z,2µm,18.0s								
CNNC	Cliffs of the	99.24	32	IAMs_20		IAMs_20		22 28 26.0	
	comp=Z,2µm,18.0s								
EVO	Evora	99.50	336	P		Pdif		21 37 18.1	-1.6
LIS	Lisbon	99.70	337	*e*PP		PP		21 41 25.3	+1.7
LIS				IAMs_20		IAMs_20		22 21 49.2	
	comp=E,8µm,28.3s								
EMAL	Malaga-Limoner	99.86	333	P		Pdif		21 37 15.3	-6.0
UNM	Universidad Na	99.98	57	IAMs_20		IAMs_20		22 15 27.8	
	comp=Z,2µm,20.0s								
MESJ	Messejana	100.20	336	*e*Pdif		Pdif		21 37 23.4	+0.6
MESJ				*e*PP		PP		21 41 29.0	+1.6
MESJ				IAMs_20		IAMs_20		22 24 01.6	
	comp=Z,5µm,20.2s								
MESJ	Messejana	100.20	336	*e*P		Pdif		21 37 23.3	+0.6
MESJ				*e*				21 41 29.0	
ARNO	Arenosillo	100.38	335	P		Pdif		21 37 27.5	+4.0
MORF	Marmelete	100.83	336	*e*Pdif		Pdif		21 37 26.1	+0.5
MORF				*e*PP		PP		21 41 33.9	+1.6
MORF				IAMs_20		IAMs_20		22 20 11.6	
	comp=N,5µm,15.8s								
MORF	Marmelete	100.83	336	*e*P		Pdif		21 37 26.1	+0.5
MORF				*e*				21 41 33.8	
CEU	Ceuta	100.97	333	P		Pdif		21 37 29.3	+3.1
PVLZ	Peæn de	101.22	332	P		Pdif		21 37 24.4	-2.9
KMBO	Kilima Mbogo	101.88	278	IAMs_20		IAMs_20		22 24 31.8	
	comp=Z,2µm,21.0s								
KMBO	Kilima Mbogo	101.88	278	*i* P		Pdif		21 37 38.7	+7.8
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KIBK	Kibwezi	101.98	276	IAMs_20		IAMs_20		22 31 33.0	
	comp=Z,1µm,20.0s								
DWPF	Disney Wildern	103.64	38	IAMs_20		IAMs_20		22 24 23.9	
	comp=Z,1µm,20.0s								
AVE	Averroes	104.04	333	P		Pdif		21 37 50.4	+10
TGUH	Tegucigalpa,Un	111.54	51	IAMs_20		IAMs_20		22 26 23.7	
	comp=Z,1µm,22.0s								
VNDA	Vanda	115.15	175	PKP		PKiKP		21 42 15.3	-1.2
	comp=Z,0.9nm,0.7s,baz=311,slow=3.9,SNR=5.7								
VNDA				PP		PP		21 43 13.4	-4.0
	comp=Z,1.6nm,0.9s,baz=316,slow=6.9,SNR=4.2								
VNDA				PKKPbc		PKKPab		21 52 56.2	+1.4
	comp=Z,0.8nm,0.8s,baz=260,slow=6.1,SNR=4.0								
SJG	San Juan	119.19	30	IAMs_20		IAMs_20		22 40 54.3	
	comp=Z,886nm,19.0s								
MAW	Mawson	119.66	206	PKP		PKiKP		21 42 25.5	+0.1
	comp=Z,2.1nm,0.8s,baz=67,slow=19,SNR=1.9								
SMRT	St. Maarten	120.43	27	IAMs_20		IAMs_20		22 36 54.6	
	comp=Z,1µm,20.0s								
SEUS	St. Eustatius	120.97	27	IAMs_20		IAMs_20		22 36 50.1	
	comp=Z,1µm,21.0s								
GDSD	La Dsirade Is	122.74	26	IAMs_20		IAMs_20		22 39 47.9	
	comp=Z,986nm,21.0s								
HATO	Hato, Curacao	123.23	36	IAMs_20		IAMs_20		22 44 04.8	
	comp=Z,862nm,19.0s								
FDF	Fort de France	124.18	27	IAMs_20		IAMs_20		22 40 14.9	
	comp=Z,791nm,20.0s								
BIM	Bigot	124.41	27	IAMs_20		IAMs_20		22 40 40.0	
	comp=Z,776nm,20.0s								
MPOM	Morne Pois Mar	124.55	26	IAMs_20		IAMs_20		22 40 43.7	
	comp=Z,776nm,19.0s								

LBTB	Lobatse	124.58	263	PKPdf		PKPdf		21 42 36.5	+0.1
LBTB	Lobatse	124.58	263	PKIKP		PKPdf		21 42 36.5	+0.1
SDV	Santo Domingo	125.25	40	PKPdf		PKPdf		21 42 38.1	-0.1
SDV	Santo Domingo	125.25	40	IAMs_20		IAMs_20		22 45 35.6	
	comp=Z,942nm,19.0s								
DBIC	Dimbokro	126.11	317	PKP		PKPdf		21 42 38.9	-0.7
	comp=Z,8.8nm,0.7s,baz=6.5,slow=2.3,SNR=12								
DBIC	Dimbokro	126.11	317	PKPdf		PKPdf		21 42 39.3	-0.3
TIC	Toumodi	126.22	317	*i* PKP1		PKPdf		21 42 39.2	-0.6
	comp=Z,5.9nm,0.3s								
KIC	Kosan Boka	126.31	316	*i* PKP1		PKPdf		21 42 39.7	-0.2
	comp=Z,5.0nm,0.6s								
GRGR	Grenville	126.39	28	IAMs_20		IAMs_20		22 36 18.6	
	comp=Z,1µm,22.0s								
BAUV	El Baul	126.48	37	PKPdf		PKPdf		21 42 40.3	+0.1
BOSA	Boshof	126.53	259	PKP		PKPdf		21 42 39.8	-0.2
	comp=Z,11nm,0.8s,baz=30,slow=1.3,SNR=11								
BOSA	Boshof	126.53	259	PKPdf		PKPdf		21 42 40.2	+0.1
LIC	Lamto	126.58	317	*i* PKP1		PKPdf		21 42 40.3	-0.2
	comp=Z,27nm,0.6s								
ROSC	El Rosal	126.60	46	PKP		PKiKP		21 42 41.3	-0.2
	comp=Z,9.1nm,0.3s,baz=307,slow=20,SNR=7.0								
QSPA	South Pole Qui	126.94	180			PKPdf		21 42 39.4	-0.2
QSPA	South Pole Qui	126.94	180	IAMs_20		IAMs_20		22 33 53.8	
	comp=Z,1µm,22.0s								
PRAC	Prado	127.17	48	PKPdf		PKPdf		21 42 41.7	+0.1
TSUM	Tsumeb	128.02	274			PKPdf		21 42 42.9	-0.3
COHC	Cochancay	129.17	57			PKPdf		21 42 44.4	-1.0
MCRA	Macar, Loja	130.09	59			PKPdf		21 42 46.3	-0.9
NVL	N'lazarevskaya	137.42	202	*e*PKIKP		PKPdf		21 42 59.3	+0.2
NVL				*e*SS		SS		22 03 47.5	-4.0
NVL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
NNA	Nana	137.61	64	PKPdf		PKPdf		21 42 59.9	-1.3
NNA	Nana	137.61	64	IAMs_20		IAMs_20		22 53 54.8	
	comp=Z,958nm,18.0s								
NNA	Nana	137.61	64	PKIKP		PKPdf		21 42 59.9	-1.3
NNA				MLR		MLR			
	comp=Z,1µm,18.0s								
TROLL	Troll, Antarti	139.37	198	PKPdf		PKPpre		21 42 54.7	
SNAA	Sanae	140.89	197	PKPdf		PKPpre		21 42 57.3	
SNAA	Sanae	140.89	197	IAMs_20		IAMs_20		22 43 03.5	
	comp=Z,805nm,22.0s								
VNA2	Neumayer--Watz	142.46	196	PKPdf		PKPdf		21 43 04.1	-4.2
	baz=111,slow=4.0								
VNA3	Neumayer Olymp	142.71	195	PKPdf		PKPdf		21 43 05.4	-3.3
VNA1	Neumayer--Stat	142.86	196	PKPdf		PKPdf		21 43 05.1	-3.8
ETMB	Extrema	143.11	49	PKPdf		PKPdf		21 43 09.6	-1.5
SMAI	San Martin Ant	145.21	162			PKPbc		21 43 12.4	-0.4
PB18	Visviri	146.62	63			PKPbc		21 43 19.1	-0.2
LPAZ	La Paz	146.67	59	PKPbc		PKPbc		21 43 19.0	-0.6
	comp=Z,24nm,0.6s,baz=352,slow=5.1,SNR=33								
LPAZ	La Paz	146.67	59			PKPdf		21 43 17.8	-0.2
PB12	IPOC Station P	146.68	65			PKPdf		21 43 17.6	+0.3
PB16	IPOC Station P	147.09	64			PKPdf		21 43 19.6	+1.0
H03N2	Juan Fernandez	147.12	96	T		T		00 27 41.6	
	baz=291,slow=76,SNR=1162								
H03N3	Juan Fernandez	147.13	96	T		T		00 27 42.6	
	baz=291,slow=76,SNR=1596								
H03N1	Juan Fernandez	147.13	96	T		T		00 27 44.7	
	baz=291,slow=76,SNR=1166								
H03S2	Juan Fernandez	147.24	96	T		T		00 28 03.5	
	baz=284								
H03S3	Juan Fernandez	147.25	96	T		T		00 28 01.7	
	baz=284								
H03S1	Juan Fernandez	147.26	96	T		T		00 28 03.0	
	baz=284								
PSGCX	Pisagua	147.46	66			PKPdf		21 43 18.1	-0.5
PB11	IPOC Station P	147.90	66			PKPdf		21 43 20.0	+0.6
TA01	Diego Aracena	148.02	68	PKPdf		PKPdf		21 43 18.6	-0.7
PATCX	Punta Patache	148.19	68			PKPdf		21 43 19.9	+0.2
PB08	IPOC Station P	148.50	66			PKPdf		21 43 22.2	+1.5
RCBR	Riachuelo	148.67	355			PKPbc		21 43 23.9	-0.5
RCBR	Riachuelo	148.67	355	PKP2		PKPbc		21 43 23.9	-0.5
RCBR				MLR		MLR			
	comp=Z,2µm,22.0s								
PB04	IPOC Station P	149.10	70			PKPbc		21 43 25.4	0.0
VILB	Vilhena	149.12	44			PKPdf		21 43 22.8	+1.4
PB14	IPOC Station P	150.18	74			PKPbc		21 43 27.5	-0.7
AC01	Pan de Azucar	150.82	77			PKPbc		21 43 28.8	-0.5
AC06	Mina Casimiro	151.59	79			PKPbc		21 43 30.4	-0.7
CO06	Fray Jorge	151.99	86			PKPbc		21 43 31.5	-0.3
GO04	Tololo Observa	152.46	85			PKPbc		21 43 31.3	-2.0
VA01	Torpederas	152.79	91			PKPdf		21 43 26.2	-0.2
CO03	El Pedregal	152.81	86	PKPdf		PKPdf		21 43 25.7	-1.0
VA06	Catapilco	152.93	90	PKPdf		PKPdf		21 43 26.1	-0.5
VA05	Santo Domingo	153.01	92			PKPdf		21 43 26.4	-0.3
GO05	Huala	153.12	95			PKPdf		21 43 26.6	-0.3
MT02	Curacav	153.27	91			PKPbc		21 43 33.5	-1.2
MT01	Popeta	153.36	93			PKPdf		21 43 26.6	-0.7
MT09	Talagante	153.54	92			PKPdf		21 43 27.0	-0.7
VA03	San Esteban	153.59	90			PKPdf		21 43 27.4	-0.3
MT05	Renca	153.63	91			PKPdf		21 43 27.4	-0.3
MT03	Universidad Ad	153.84	91			PKPdf		21 43 27.5	-0.6
BO02	Sierra Bellavi	153.98	94			PKPdf		21 43 27.8	-0.4
GO06	Curarrehue	154.27	105	PKPdf		PKPdf		21 43 29.3	+0.8
ZON	Zonda	154.67	86	PKPdf		PKPdf		21 43 28.8	-0.4
ZON	Zonda	154.67	86	PKIKP		PKPdf		21 43 28.8	-0.4
PLCA	Paso Flores	155.05	108	PKP		PKPdf		21 43 26.7	-2.8
	comp=Z,0.7nm,0.8s,baz=270,slow=12,SNR=1.5								
BDFB	Brasilia	156.98	24	PKP		PKPdf		21 43 31.1	-1.7
	comp=Z,0.9nm,0.4s,baz=30,slow=12,SNR=1.7								
BDFB				PKPab		PKPab		21 44 00.1	-2.7
	comp=Z,2.5nm,0.6s,baz=49,slow=13,SNR=2.2								
CPUP	Villa Florida	160.83	61	PKP		PKPdf		21 43 35.1	-1.8
	comp=Z,0.7nm,0.4s,baz=304,slow=15,SNR=2.1								
CPUP				PKPab		PKPab		21 44 16.9	-2.3
	comp=Z,2.5nm,0.8s,baz=291,slow=8.6,SNR=1.8								
TRQA	Tornquist	161.53	100	PKPab		PKPab		21 44 22.3	+0.1
TRQA	Tornquist	161.53	100	PKP2		PKPab		21 44 22.3	+0.1

*IDC **23** 21:36:47.9±5.1,36.80N×141.33E,h0km,mb3.4/2, mbtmp3.3/3,ML2.2/1, Error ellipse: s-maj=101.2km s-min=34.3km az=20.0*
*JMA **23** 21:36:48.8±0.2,37.1N±0.3×141.3E±0.8,h24km±1km, MV3.4/30,E OFF FUKUSHIMA PREF*
ISC 23 21:36:48.0±2.3,37.13N±0.06×141.34E±0.10,h14km±15km, n11,σ0953/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.44	302	P	Pb	21 36 57.3	-0.3
JFK				S	Sb	21 37 03.5	-0.7
JFFD	Fukushimafurud	0.63	266	P	Pb	21 37 00.6	-0.2
JFFD				S	Sb	21 37 08.9	-0.5
JMST	Minamisoumatoc	0.69	329	P	Pb	21 37 01.7	-0.2
JMST				S	Sb	21 37 11.3	0.0
JHO	Hitachi	0.81	230	S	Sb	21 37 14.3	-0.3
JMM	Marumori	0.85	329	P	Pg	21 37 04.6	0.0
JMM				S	Sb	21 37 16.0	+0.1
MJAR	Matsushiro Arr	2.58	258	Pn	Pn	21 37 30.5	+1.0
	0.5nm,0.3s,baz=81,slow=16,SNR=2.4						
MJAR				Sn	Sn	21 38 00.9	+0.3
	0.6nm,0.3s,baz=57,slow=32,SNR=4.8						
	7.4nm,0.5s						
H11N2	WAKE ISLAND Hy	28.25	121	T	T	22 12 11.4	
	baz=314,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	28.25	121	T	T	22 12 10.8	
	baz=314,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	28.26	121	T	T	22 12 11.9	
	baz=314,slow=75,SNR=15						
WRA	Warramunga Arr	57.15	188	P	P	21 46 34.2	-0.1
	0.5nm,0.9s,baz=4.8,slow=7.3,SNR=1.9						
	0.5nm,0.9s						
ASAR	Alice Springs	60.88	188	P	P	21 46 59.6	-0.6
	0.1nm,0.3s,baz=7.6,slow=8.4,SNR=1.8						
	0.1nm,0.3s						

*IDC **23** 21:42:27.1±0.6,37.06N×141.47E,h0km,mb4.1/18, mbtmp4.1/22,ML3.5/4,MS4.1/1,Error ellipse: s-maj=17.3km s-min=14.8km az=98.0*
*JMA **23** 21:42:29.6±0.2,37.2N±0.3×141.3E±0.9,h24km±1km, MD4.6/40,MV4.3/40,E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **23** 21:42:30.1±1.9,37.18N±0.04×141.31E±0.08,h10km±1km, mb4.5/20,Error ellipse: s-maj=11.5km s-min=6.2km az=64.0*
ISC 23 21:42:28.6±0.5,37.11N±0.03×141.45E±0.05,h10km,n100, σ1957/91,mb4.2/26,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.53	299	*i* P	Pg	21 42 37.9	-0.9
JFFD	Fukushimafurud	0.71	269	P	Pg	21 42 41.6	-0.7
JFFD				S	Sg	21 42 50.3	-1.4
JMST	Minamisoumatoc	0.76	324	P	Pg	21 42 42.2	-1.0
JMST				S	Sg	21 42 51.5	-1.7
JMST	Minamisoumatoc	0.76	324	A	A	21 42 42.2	
	comp=E,19nm,2.1s,comp=E,13nm,0.6s						
JHO	Hitachi	0.87	235	P	Pb	21 42 44.7	-1.0
JHO				S	Sg	21 42 55.9	-0.6
JMM	Marumori	0.92	325		Pg	21 42 44.9	-1.4
JMM				Sg	Sg	21 42 56.1	-2.1
JMM	Marumori	0.92	325	P	Pg	21 42 44.5	-1.8
JMM	Marumori	0.92	325	*i* P	Pg	21 42 44.9	-1.4
JMM				S	Sg	21 42 56.2	-2.1
JMM	Marumori	0.92	325	A	A	21 42 44.9	
	comp=E,11nm,0.5s,comp=E,15nm,0.4s						
JSB	Shiboa	1.23	264	*i* P	Pb	21 42 51.2	-0.7
JSB				S	Sb	21 43 06.9	-1.1
JYAR	Yonezawaarcadi	1.31	308	A	A	21 42 51.1	
	comp=E,35nm,0.6s,comp=E,57nm,1.3s						
JIO	Ouri	1.34	356	P	Pn	21 42 52.5	-0.9
JIO				S	Sb	21 43 08.8	-2.3
JOU	Okura	1.40	334	*i* P	Pn	21 42 53.6	-0.6
JOU				S	Sn	21 43 11.4	-1.3
JOU	Okura	1.40	334	A	A	21 42 53.6	
	comp=E,15nm,1.8s,comp=E,27nm,0.7s						
JOFO	Osakifurukawao	1.55	344	A	A	21 42 55.1	
	comp=E,54nm,1.6s,comp=E,32nm,3.0s						
JYS	Shirataka	1.56	316	A	A	21 42 55.0	
	comp=E,19nm,0.9s,comp=E,15nm,0.9s						
JYA	Atsumi	2.02	318	A	A	21 43 01.7	
	comp=E,20nm,1.1s,comp=E,19nm,1.3s						
MJAR	Matsushiro Arr	2.66	259	Pn	Pn	21 43 11.3	-0.3
	2.0nm,0.3s,baz=82,slow=24,SNR=47						
MJAR				Sn	Sn	21 43 45.3	+1.4
	4.8nm,0.3s,baz=51,slow=23,SNR=7.7						
	17nm,0.4s						
MAJO	Matsushiro	2.67	259		Pn	21 43 12.2	+0.6
MAJO	Matsushiro	2.67	259	P	Pn	21 43 12.9	+1.3
MJB9	Matsu-Tunnel	2.67	259		Pn	21 43 12.5	+0.9
JSD	Sado	2.70	291		Pn	21 43 11.2	-0.8
JSD	Sado	2.70	291	P	Pn	21 43 11.5	-0.5
JGF	Kuroka	3.63	247		Pn	21 43 25.9	+1.0
JGF	Kuroka	3.63	247	P	Pn	21 43 26.6	+1.7
JTM	Tenmabayashi	3.68	355		Pn	21 43 25.7	+0.1
JTM	Tenmabayashi	3.68	355	P	Pn	21 43 27.1	+1.6
INU	Inuyama	3.99	245		Pn	21 43 30.9	+1.1
INU	Inuyama	3.99	245	P	Pn	21 43 32.5	+2.7
JHJ	Hachijo jima 2	4.21	199	Pn	Pn	21 43 34.0	+1.2
	21nm,0.3s,baz=107,slow=20,SNR=1.6						
JHJ				Sn	Sn	21 44 20.8	-1.2
	14nm,0.3s,baz=53,slow=23,SNR=1.9						
	144nm,0.6s						
ERM	Erimo	5.07	15	Pn	Pn	21 43 45.4	+0.8
ERM	Erimo	5.07	15	P	Pn	21 43 45.6	+1.0
JEM	Erimo	5.07	15	P	Pn	21 43 45.8	+1.2
JKA	Kamikawa-asahi	7.05	7	Pn	Pn	21 44 11.3	-0.4
JHS	Saijyo	7.07	255	Pn	Pn	21 44 13.7	+1.5
JHS	Saijyo	7.07	255	P	Pn	21 44 14.6	+2.4
JCJ	Chichijima	10.01	176	Pn	Pn	21 44 50.8	-1.6
	3.4nm,0.3s,baz=324,slow=19,SNR=1.2						
JCJ				Sn	Sn	21 46 36.9	-7.8
	2.6nm,0.3s,baz=284,slow=23,SNR=1.5						
JCJ				LR	LR	21 48 07.6	
	comp=Z,1µm,19.4s,baz=166,slow=34						
	26nm,0.6s						
USA0B	Ussuriysk Arra	10.09	318		Pn	21 44 53.6	+0.2
USRK	Ussuriysk Ar.	10.09	318	Pn	Pn	21 44 56.5	+3.1
	0.4nm,0.3s,baz=138,slow=12,SNR=14						
USRK	Ussuriysk Ar.	10.09	318		Pn	21 44 54.8	+1.4
KSRS	Korea Array	10.79	276	Pn	Pn	21 45 08.5	+5.4
	0.3nm,0.3s,baz=90,slow=13,SNR=7.7						
KLR	Kul'dur	14.01	333	Pn	Pn	21 45 48.2	+1.2
	0.1nm,0.3s,ba

KBZ	**Khabaz**	**70.88**	**311**	P		**P**	**21 53 46.9**	**+1.3**
	comp=Z,4.4nm,1.1s,baz=72,slow=20,SNR=3.9							
	comp=Z,4.4nm,1.1s							
NB2	**NORSAR Subarra**	**74.13**	**337**	P		P	21 54 08.7	+3.9
	comp=Z,1.1nm,0.6s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**74.13**	**337**	P		**P**	**21 54 05.8**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=38,slow=6.0,SNR=7.6							
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**74.25**	**322**	P		**P**	**21 54 05.8**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=47,slow=6.2,SNR=12							
	comp=Z,2.1nm,0.6s							
NVAR	**Mina Array Bea**	**74.92**	**53**	P		**P**	**21 54 09.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=299,slow=4.0,SNR=3.2							
	comp=Z,0.4nm,0.3s							
PDAR	**Pinedale Array**	**77.59**	**45**	P		**P**	**21 54 26.4**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=290,slow=2.4,SNR=4.4							
	comp=Z,0.3nm,0.5s							
BRTR	**Keskin Array B**	**78.82**	**312**	P		**P**	**21 54 32.5**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=57,slow=3.7,SNR=2.1							
	comp=Z,0.5nm,0.6s							
DPC	**Dobruska-Polom**	**80.41**	**328**	*e*P		P	21 54 45.8	+5.6
CKRC	**Cesky Krumlov**	**82.42**	**328**	*e*P		**P**	**21 54 54.3**	**+3.4**
KHC	**Kasperske Hory**	**82.49**	**328**	*e*P		P	21 54 56.0	+4.7
GERES	**GERESS Array B**	**82.66**	**328**	P		**P**	**21 54 52.0**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=38,slow=5.0,SNR=1.8							
	comp=Z,0.7nm,0.5s							
TXAR	**Lajitas Array**	**90.05**	**52**	P		**P**	**21 55 28.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=236,slow=1.0,SNR=2.6							
	comp=Z,0.4nm,0.7s							
LPAZ	**La Paz**	**146.63**	**60**	PKPbc		**PKPab**	**22 02 11.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=295,slow=6.9,SNR=1.7							
H03N2	**Juan Fernandez**	**147.00**	**96**	T		T	00 46 36.6	
	baz=291,slow=76,SNR=24							
H03N3	**Juan Fernandez**	**147.01**	**96**	T		T	00 46 35.6	
	baz=291,slow=76,SNR=33							
H03N1	**Juan Fernandez**	**147.02**	**96**	T		T	00 46 36.8	
	baz=291,slow=76,SNR=46							

IDC ***23*** *21:51:36.4±2.0, 37.°22N×141.°55E, h0km, mb3.6/4, mbtmp3.5/5, ML2.1/1, Error ellipse: s-maj=42.3km s-min=28.8km az=61.0*

JMA ***23*** *21:51:39.9±0.2, 37.°2N±0.°3×141.°3E±0.°9, h23km±1km, MV3.6/40, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF.

ISC 23 21:51:38.2±1.8**, 37.°20N**±0.°04×**141.°38E**±0.°08**, h9**km±10km, n19, σ0.°70/21, mb3.5/4, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.44**	**292**	P		**Pb**	**21 51 47.8**	**-0.4**
JMST	**Minamisoumatoc**	**0.66**	**323**	P		**Pb**	**21 51 51.6**	**-0.2**
JMST				S		**Sb**	**21 52 00.6**	**-0.5**
JFFD	**Fukushimafurud**	**0.67**	**261**	P		**Pb**	**21 51 51.8**	**-0.2**
JFFD				S		**Sg**	**21 52 00.3**	**+0.5**
JMM	**Marumori**	**0.81**	**325**	*i* P		**Pb**	**21 51 54.3**	**-0.2**
JMM				S		**Sb**	**21 52 05.4**	**-0.3**
JHO	**Hitachi**	**0.88**	**228**	P		**Pb**	**21 51 55.3**	**-0.4**
JHO				S		**Sg**	**21 52 05.9**	**-0.6**
JSB	**Shiboa**	**1.19**	**259**	P		**Pg**	**21 52 01.7**	**+0.6**
JSB				S		**Sn**	**21 52 17.2**	**-0.3**
JIO	**Ouri**	**1.25**	**359**	P		**Pg**	**21 52 01.9**	**-0.3**
JIO				*e*S		**Sb**	**21 52 17.8**	**-0.4**
JOU	**Okura**	**1.29**	**334**	P		**Pg**	**21 52 02.9**	**-0.1**
JOU				S		**Sg**	**21 52 19.9**	**0.0**
MJAR	**Matsushiro Arr**	**2.63**	**256**	Pn		**Pn**	**21 52 22.1**	**+1.2**
	0.3nm,0.3s,baz=79,slow=14,SNR=12							
MJAR				Sn		**Sb**	**21 52 56.0**	**-2.0**
	1.1nm,0.3s,baz=94,slow=15,SNR=6.0							
	3.9nm,0.5s							
SONM	**Songino Array**	**27.67**	**304**	P		**P**	**21 57 27.4**	**+0.8**
	0.3nm,0.5s,baz=108,slow=8.8,SNR=2.4							
	0.3nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	22 27 06.3	
	baz=314,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T		T	22 27 05.3	
	baz=314,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T		T	22 27 05.7	
	baz=314,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	22 28 01.1	
	baz=315,slow=76,SNR=7.1							
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	22 28 03.9	
	baz=315,slow=76,SNR=6.0							
H11S2	**WAKE ISLAND Hy**	**28.99**	**123**	T		T	22 28 01.6	
	baz=315,slow=76,SNR=6.2							
ZALV	**Zalesovo Beam**	**41.78**	**312**	P		**P**	**21 59 27.8**	**-0.1**
	0.5nm,0.3s,baz=96,slow=7.7,SNR=1.4							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**44.01**	**302**	P		**P**	**21 59 46.1**	**0.0**
	0.6nm,0.9s,baz=78,slow=9.0,SNR=1.7							
	0.6nm,0.9s							
WRA	**Warramunga Arr**	**57.22**	**188**	P		**P**	**22 01 25.7**	**-0.2**
	0.4nm,0.6s,baz=5.0,slow=7.0,SNR=7.7							
	0.4nm,0.6s							

IDC ***23*** *21:59:12.0±0.8, 37.°16N×141.°37E, h0km, mb3.8/13, mbtmp3.8/15, ML3.0/2, Error ellipse: s-maj=20.0km s-min=17.9km az=138.0*

NEIC ***23*** *21:59:13.4±1.7, 37.°25N±0.°08×141.°5E±0.°1, h11km±5km, mb4.4/8, Error ellipse: s-maj=15.5km s-min=4.1km az=46.0*

JMA ***23*** *21:59:14.4±0.2, 37.°2N±0.°3×141.°3E±0.°8, h23km±1km, MV3.9/40, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF.

ISC 23 21:59:13.0±1.7**, 37.°18N**±0.°04×**141.°40E**±0.°07**, h8**km±10km, n50, σ1§10/53, mb3.9/17, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.46**	**295**	P		**Pb**	**21 59 22.6**	**-0.8**
JFFD	**Fukushimafurud**	**0.68**	**263**	P		**Pg**	**21 59 26.4**	**+0.4**
JFFD				S		**Sg**	**21 59 35.1**	**+0.3**
JMST	**Minamisoumatoc**	**0.68**	**324**	P		**Pb**	**21 59 26.7**	**-0.5**
JMST				S		**Sb**	**21 59 35.9**	**-1.0**
JMM	**Marumori**	**0.84**	**325**			**Pg**	**21 59 29.4**	**+0.2**
JMM				Sg		**Sg**	**21 59 40.0**	**-0.1**
JMM	**Marumori**	**0.84**	**325**	P		**Pg**	**21 59 29.4**	**+0.2**
JMM				*e*S		**Sb**	**21 59 40.5**	**-0.9**
JHO	**Hitachi**	**0.87**	**230**	P		**Pg**	**21 59 29.7**	**-0.1**
JHO				S		**Sg**	**21 59 39.9**	**-1.3**
JSB	**Shiboa**	**1.20**	**261**	*i* P		**Pg**	**21 59 36.0**	**-0.1**
JSB				S		**Sn**	**21 59 51.7**	**-1.0**
JIO	**Ouri**	**1.28**	**358**	P		**Pn**	**21 59 36.7**	**-0.5**
JIO				S		**Sb**	**21 59 53.1**	**-0.8**
JOU	**Okura**	**1.32**	**334**	*i* P		**Pb**	**21 59 38.0**	**-0.1**
JOU				S		**Sg**	**21 59 55.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.63**	**257**	Pn		**Pn**	**21 59 56.7**	**+0.8**
	1.3nm,0.3s,baz=78,slow=16,SNR=24							
MJAR				Sn		**Sn**	**22 00 29.5**	**+1.4**
	2.1nm,0.3s,baz=93,slow=26,SNR=7.2							
	14nm,0.4s							
JSD	**Sado**	**2.64**	**290**			**Pn**	**21 59 55.8**	**-0.1**
MAJO	**Matsushiro**	**2.64**	**257**			**Pn**	**21 59 56.6**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.64**	**257**			**Pn**	**21 59 57.2**	**+1.3**
JGF	**Kuroka**	**3.62**	**245**			**Pn**	**22 00 11.2**	**+1.8**
INU	**Inuyama**	**3.98**	**244**			**Pn**	**22 00 16.3**	**+1.9**
JHS	**Saijyo**	**7.05**	**255**	Pn		**Pn**	**22 00 56.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.01**	**317**	Pn		**Pn**	**22 01 41.5**	**+4.4**
	0.2nm,0.3s,baz=115,slow=13,SNR=3.0							
KSRS	**Korea Array**	**10.74**	**276**	Pn		**Pn**	**22 01 49.0**	**+1.9**
	0.2nm,0.3s,baz=87,slow=14,SNR=1.7							
	0.7nm,0.4s							
SONM	**Songino Array**	**27.70**	**304**	P		**P**	**22 05 01.5**	**-0.3**
	1.2nm,0.6s,baz=106,slow=8.8,SNR=8.7							
	1.2nm,0.6s							
SONM	**Songino Array**	**27.70**	**304**	P		**P**	**22 04 59.6**	**-2.1**
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	22 34 41.9	
	baz=314,slow=75,SNR=60							
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	22 34 38.3	
	baz=314,slow=75,SNR=50							
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	22 34 43.2	
	baz=314,slow=75,SNR=39							
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	22 35 32.7	
	baz=315,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	22 35 33.5	
	baz=315,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T		T	22 35 33.3	
	baz=315,slow=76,SNR=12							
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**	**22 07 03.6**	**+0.7**
	0.6nm,0.3s,baz=85,slow=6.2,SNR=1.7							
	0.6nm,0.3s							
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**	**22 07 02.3**	**-0.7**
MKAR	**Makanchi Array**	**44.03**	**302**	P		**P**	**22 07 20.4**	**-0.8**
	0.6nm,0.5s,baz=84,slow=8.0,SNR=5.5							
	0.6nm,0.5s							
KURK	**Kurchatov**	**45.84**	**308**	P		**P**	**22 07 34.8**	**-0.6**
KURK				IAmb		IAmb	22 07 40.3	
	comp=Z,3.3nm,0.7s							
IMAR	**Indian Mountai**	**46.53**	**31**	P		**P**	**22 07 40.7**	**0.0**
ILAR	**Eielson Array**	**49.38**	**32**	P		**P**	**22 08 03.5**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=269,slow=6.1,SNR=13							
	comp=Z,1.0nm,0.7s							
BMAR	**Burnt Mountain**	**50.21**	**29**	P		**P**	**22 08 08.7**	**-1.3**
BRVK	**Borovoye**	**50.52**	**312**	P		**P**	**22 08 09.8**	**-1.8**
BRVK				IAmb		IAmb	22 08 18.8	
	comp=Z,3.8nm,0.9s							
SCRK	**Sand Creek**	**50.69**	**33**	P		**P**	**22 08 13.2**	**+0.3**
SCRK				IAmb		IAmb	22 08 19.6	
	comp=Z,4.9nm,1.2s							
KNRA	**Kununurra**	**53.90**	**195**	P		**P**	**22 08 37.2**	**+0.2**
INK	**Inuvik**	**54.26**	**27**	P		**P**	**22 08 40.8**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=228,slow=6.8,SNR=1.7							
	comp=Z,0.6nm,0.7s							
WR0	**Warramunga Arr**	**57.20**	**188**	P		**P**	**22 08 59.9**	**-0.7**
WR0				IAmb		IAmb	22 09 05.3	
	comp=Z,4.5nm,1.1s							
WRA	**Warramunga Arr**	**57.20**	**188**	P		**P**	**22 09 00.4**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=5.7,slow=7.3,SNR=15							
	comp=Z,0.9nm,0.5s							
WRA	**Warramunga Arr**	**57.20**	**188**	P		**P**	**22 08 60.0**	**-0.7**
ASAR	**Alice Springs**	**60.93**	**188**	P		**P**	**22 09 26.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=11,slow=7.2,SNR=5.9							
	comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**60.93**	**188**	P		**P**	**22 09 26.5**	**-0.1**
ARCES	**ARCESS Array B**	**63.86**	**339**	P		**P**	**22 09 45.2**	**-0.4**
	comp=Z,3.4nm,0.9s,baz=66,slow=3.0,SNR=5.7							
	comp=Z,3.4nm,0.9s							
FINES	**FINESS Array B**	**68.68**	**332**	P		**P**	**22 10 16.3**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=44,slow=4.2,SNR=1.8							
	comp=Z,1.7nm,0.8s							
FINES	**FINESS Array B**	**68.68**	**332**	P		**P**	**22 10 16.5**	**-0.1**
NOA	**NORSAR Array B**	**74.05**	**337**	P		**P**	**22 10 49.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=37,slow=6.1,SNR=1.4							
	comp=Z,0.4nm,0.8s							
AKASG	**Malin Array Be**	**74.18**	**322**	P		**P**	**22 10 50.4**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=46,slow=5.9,SNR=4.5							
	comp=Z,1.1nm,0.5s							
PDAR	**Pinedale Array**	**77.58**	**45**	P		**P**	**22 11 11.0**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=251,slow=4.5,SNR=2.5							
	comp=Z,0.2nm,0.6s							
TXAR	**Lajitas Array**	**90.04**	**52**	P		**P**	**22 12 14.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=300,slow=1.3,SNR=3.4							
	comp=Z,0.2nm,0.6s							
LPAZ	**La Paz**	**146.63**	**59**	PKPbc		**PKPbc**	**22 18 55.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=27,slow=2.3,SNR=1.7							

IDC ***23*** *22:15:32.9±0.6, 54.°48N×160.°91W, h0km, mb4.7/30, mbtmp4.6/32, ML4.1/2, MS4.3/18, Error ellipse: s-maj=18.2km s-min=11.1km az=1.0*

MOS ***23*** *22:15:33.9±0.9, 54.°57N×160.°93W, h14km, mb5.2/89, Error ellipse: s-maj=10.3km s-min=4.6km az=100.1*

BJI ***23*** *22:15:36.2±0.0, 54.°60N×160.°94W, h32km, mb5.1/52, mB5.5/21, Ms5.2/9, Ms7 4.9/9*

NEIC ***23*** *22:15:37.7±2.0, 54.°51N±0.°06×160.°72W±0.°03, h29km±4km, mb5.1/126, ML4.6/14, Mwr4.6/20, ML4.5(AEIC), Error ellipse: s-maj=8.8km s-min=2.7km az=176.0*

AEIC ***23*** *22:15:37.6±1.9, 54.°44N±0.°06×160.°71W±0.°09, h30km±4km, Error ellipse: s-maj=10.3km s-min=6.2km az=144.0*

NEIC ***23*** *22:15:38.1, 54.°53N×160.°79W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.67; $M_{\theta\theta}$0.60; $M_{\phi\phi}$-1.26; $M_{r\theta}$7.26; $M_{\theta\phi}$-0.42; $M_{r\phi}$5.68; Fault plane solution: $M_0$9.29000×10^{15} NP1:ϕ_s158.19000°, δ6.47000°, λ16.70000°. NP2:ϕ_s51.60000°, δ88.14000°, λ96.20000°. Principal axes: T 9.3617, Plg47.0000°, Azm328.0000°; N -0.1412, Plg6.0000°, Azm231.0000°; P -9.2205, Plg43.0000°, Azm136.0000°;*

ISC 23 22:15:39.5±0.7**, 54.°55N**±0.°06×**160.°75W**±0.°04**, h47**km±5km, n758, σ1§09/757, mb5.0/183, MS4.5/22, 51C-24D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNBA	**Chernabura Isl**	**0.73**	**68**			**Pn**	**22 15 51.5**	**-1.9**
CNBA						**Sn**	**22 16 01.8**	**-1.6**
CHNA	**Chernabura Isl**	**0.73**	**67**	P		**Pn**	**22 15 51.6**	**-1.8**
	baz=240,SNR=78							
CHNA				S		**Sn**	**22 16 02.6**	**-1.0**
	baz=240							
SDPT	**Sand Point**	**0.82**	**11**			**Pn**	**22 15 53.4**	**-1.2**
SDPT						**Sn**	**22 16 04.2**	**-1.4**
SDPT				IAML			22 16 13.8	
	comp=E,17μm,0.9s							
SDPT	**Sand Point**	**0.82**	**11**	P		**Pn**	**22 15 53.9**	**-0.7**
	baz=188,SNR=62							
SDPT				S		**Sn**	**22 16 05.5**	**-0.2**
	baz=188							
S12K	**Black Hills**	**1.38**	**327**	P		**Pn**	**22 16 03.1**	**+0.9**
	baz=148,SNR=168							
S12K				Sb		**Sn**	**22 16 22.5**	**+3.1**
	baz=148							
FALS	**False Pass**	**1.58**	**282**			**Pn**	**22 16 04.0**	**-1.0**
FALS	**False Pass**	**1.58**	**282**			**Sn**	**22 16 26.6**	**+2.5**
FALS	**False Pass**	**1.58**	**282**	P		**Pn**	**22 16 04.6**	**-0.4**
	baz=103,SNR=206							
FALS	**False Pass**	**1.58**	**282**	P		**Pn**	**22 16 04.5**	**-0.4**
CHGN	**Chignik**	**2.20**	**36**			**Pn**	**22 16 14.1**	**+0.6**
CHGN				IAML			22 16 47.2	
	comp=N,3μm,1.1s							
CHGN				IAML			22 16 49.5	
	comp=E,5μm,1.1s							
CHGN	**Chignik**	**2.20**	**36**	P		**Pn**	**22 16 14.4**	**+1.0**
	baz=216,SNR=70							
AKUT	**Akutan**	**2.97**	**264**	Pn		**Pn**	**22 16 22.5**	**-1.5**
CHIR	**Chirikof Islan**	**3.20**	**64**	Pn		**Pn**	**22 16 26.6**	**-0.5**
CHIR				IAML			22 17 26.0	
	comp=E,2μm,1.6s							
CHIR				IAML			22 17 26.7	
	comp=N,2μm,1.5s							
CHIR	**Chirikof Islan**	**3.20**	**64**	P		**Pn**	**22 16 26.7**	**-0.5**
	baz=247							
UNV	**Unalaska Valle**	**3.45**	**261**	Pn		**Pn**	**22 16 29.5**	**-1.2**
UNV	**Unalaska Valle**	**3.45**	**261**	P		**Pn**	**22 16 29.4**	**-1.2**
	baz=78,SNR=19							
UNV	**Unalaska Valle**	**3.45**	**261**	P		**Pn**	**22 16 29.8**	**-0.8**
R16K	**Pilot Point**	**3.51**	**29**	P		**Pn**	**22 16 32.6**	**+1.2**
	baz=211							
R17K	**Ugashik Creek**	**3.94**	**36**	P		**Pn**	**22 16 38.4**	**+1.1**
	baz=219							
SII	**Sitkinak Islan**	**4.24**	**59**	Pn		**Pn**	**22 16 41.0**	**-0.4**
SII				IAML			22 18 05.5	
	comp=N,913nm,0.8s							
SII	**Sitkinak Islan**	**4.24**	**59**	P		**Pn**	**22 16 41.3**	**-0.1**
	baz=243							
SII	**Sitkinak Islan**	**4.24**	**59**	P		**Pn**	**22 16 41.4**	**0.0**
Q17K	**Contact Creek**	**4.60**	**34**	P		**Pn**	**22 16 45.9**	**-0.6**
	baz=217,SNR=10							
Q16K	**King Salmon**	**4.71**	**27**	P		**Pn**	**22 16 48.9**	**+1.0**
	baz=210							
P16K	**Nushagak River**	**4.74**	**18**	P		**Pn**	**22 16 50.1**	**+1.8**
	baz=199,SNR=18							
OHAK	**Old Harbor**	**4.98**	**54**	Pn		**Pn**	**22 16 50.8**	**-0.8**
OHAK				IAML			22 18 15.7	
	comp=N,487nm,1.8s							
OHAK				IAML			22 18 17.4	
	comp=E,358nm,1.6s							
OHAK	**Old Harbor**	**4.98**	**54**	P		**Pn**	**22 16 50.8**	**-0.8**
	baz=239							
NIKH	**Nikolski High**	**5.06**	**255**	Pn		**Pn**	**22 16 51.3**	**-1.5**
NIKH	**Nikolski High**	**5.06**	**255**	P		**Pn**	**22 16 51.2**	**-1.5**
	baz=70							
NIKH	**Nikolski High**	**5.06**	**255**	P		**Pn**	**22 16 51.9**	**-0.8**
Q18K	**Katmai Hardscr**	**5.19**	**35**	P		**Pn**	**22 16 54.8**	**+0.2**
	baz=219,SNR=11							
P17K	**Kvichak River**	**5.22**	**25**	P		**Pn**	**22 16 54.9**	**+0.1**
	baz=208,SNR=13							
O16K	**Kokwok River B**	**5.26**	**15**	P		**Pn**	**22 16 55.8**	**+0.4**
	baz=196							
O17K	**Koliganek Bris**	**5.60**	**19**	P		**Pn**	**22 16 59.3**	**-0.7**
	baz=202,SNR=13							
CLES	**Cleveland East**	**5.70**	**256**	Pn		**Pn**	**22 17 00.8**	**-0.7**
P18K	**Big Mountain,**	**5.71**	**30**			**Pn**	**22 17 03.0**	**+1.4**
P18K	**Big Mountain,**	**5.71**	**30**	P		**Pn**	**22 17 00.9**	**-0.8**
	baz=213,SNR=7.9							
Q19K	**Cape Douglas,**	**5.88**	**39**			**Pn**	**22 17 04.5**	**+0.6**
Q19K	**Cape Douglas,**	**5.88**	**39**	P		**Pn**	**22 17 03.7**	**-0.2**
	baz=224							
SPIA	**Saint Paul Isl**	**5.96**	**300**	Pn		**Pn**	**22 17 05.2**	**+0.2**
SPIA	**Saint Paul Isl**	**5.96**	**300**	P		**Pn**	**22 17 05.3**	**+0.2**
	baz=113							
N16K	**Nishlik Lake**	**6.04**	**9**	P		**Pn**	**22 17 08.0**	**+1.9**
	baz=191,SNR=62							
O18K	**Koktuh Hills**	**6.11**	**27**			**Pn**	**22 17 07.8**	**+0.7**
O18K	**Koktuh Hills**	**6.11**	**27**	P		**Pn**	**22 17 07.7**	**+0.7**
	baz=211,SNR=9.6							
P19K	**Oil Pt**	**6.55**	**36**	P		**Pn**	**22 17 13.9**	**+0.8**
	baz=221							
O19K	**Port Alsworth**	**6.64**	**29**			**Pn**	**22 17 15.2**	**+0.9**
O19K	**Port Alsworth**	**6.64**	**29**	P		**Pn**	**22 17 14.8**	**+0.6**
	baz=214,SNR=25							
N18K	**Kilae Creek**	**6.68**	**21**			**Pn**	**22 17 16.8**	**+2.0**
N18K	**Kilae Creek**	**6.68**	**21**	P		**Pn**	**22 17 15.7**	**+0.9**
	baz=204							
ILSW	**Iliamna Southw**	**6.83**	**34**			**Pn**	**22 17 18.0**	**+1.0**
N19K	**Bonanza Creek**	**7.12**	**26**			**Pn**	**22 17 21.9**	**+0.9**
N19K	**Bonanza Creek**	**7.12**	**26**	P		**Pn**	**22 17 22.6**	**+1.6**
	baz=210							
CNPM	**China Poot**	**7.19**	**42**	Pn		**Pn**	**22 17 22.4**	**+0.4**
RSO	**Redoubt South**	**7.32**	**33**			**Pn**	**22 17 24.5**	**+0.7**
BRLK	**Bradley Lake**	**7.48**	**42**	Pn		**Pn**	**22 17 25.0**	**-0.9**
BRSE	**Bradley Lake S**	**7.53**	**42**	P		**Pn**	**22 17 26.1**	**-0.4**
	baz=230							
N20K	**Mount Spurr**	**8.07**	**31**	P		**Pn**	**22 17 35.1**	**+1.2**
	baz=218							
M19K	**Big River Lodg**	**8.10**	**22**			**Pn**	**22 17 35.3**	**+1.0**
M19K	**Big River Lodg**	**8.10**	**22**	P		**Pn**	**22 17 35.2**	**+1.0**
	baz=207							
SPU	**Mount Spurr**	**8.10**	**31**			**Pn**	**22 17 34.9**	**+0.6**
L19K	**White Mountain**	**8.25**	**20**			**Pn**	**22 17 37.6**	**+1.2**
L19K	**White Mountain**	**8.25**	**20**	P		**Pn**	**22 17 36.6**	**+0.2**
	baz=204,SNR=19							
SEW	**Seward**	**8.26**	**43**	P		**Pn**	**22 17 36.9**	**+0.4**
	baz=232							
M20K	**Styx River**	**8.37**	**26**			**Pn**	**22 17 40.3**	**+2.2**
M20K	**Styx River**	**8.37**	**26**	P		**Pn**	**22 17 39.6**	**+1.5**
	baz=212							
O22K	**Cooper Landing**	**8.39**	**40**			**Pn**	**22 17 39.0**	**+0.7**
O22K	**Cooper Landing**	**8.39**	**40**	P		**Pn**	**22 17 38.6**	**+0.3**
	baz=229							
L20K	**Farewell, AK**	**8.72**	**21**	P		**Pn**	**22 17 43.6**	**+0.7**
	baz=207							
SUA	**Susitna One**	**8.72**	**33**			**Pn**	**22 17 43.1**	**+0.1**
SUA	**Susitna One**	**8.72**	**33**	P		**Pn**	**22 17 42.9**	**-0.1**
	baz=221							
TTA	**Tatalina**	**8.76**	**14**			**Pn**	**22 17 44.3**	**+1.0**
TTA	**Tatalina**	**8.76**	**14**	P		**Pn**	**22 17 44.4**	**+1.1**
	baz=198							
TTA	**Tatalina**	**8.76**	**14**	P		**Pn**	**22 17 44.3**	**+1.0**
RC01	**Rabbit Creek A**	**8.79**	**37**			**Pn**	**22 17 43.8**	**0.0**
RC01	**Rabbit Creek A**	**8.79**	**37**	P		**Pn**	**22 17 43.3**	**-0.5**
	baz=226							
SKT	**Skwentna**	**8.88**	**29**			**Pn**	**22 17 46.0**	**+0.9**
SKT	**Skwentna**	**8.88**	**29**	P		**Pn**	**22 17 45.4**	**+0.4**
	baz=217,SNR=9.3							
P23K	**Montague Islan**	**9.05**	**48**	P		**Pn**	**22 17 48.0**	**+0.7**
	baz=238							
M22K	**Willow**	**9.14**	**34**	P		**Pn**	**22 17 49.5**	**+1.0**
	baz=222							
PWL	**Port Wells**	**9.16**	**41**			**Pn**	**22 17 48.2**	**-0.7**
PWL	**Port Wells**	**9.16**	**41**	P		**Pn**	**22 17 49.0**	**+0.2**
	baz=231,SNR=13							
KNK	**Knik Glacier**	**9.47**	**38**			**Pn**	**22 17 53.3**	**+0.2**
KNK	**Knik Glacier**	**9.47**	**38**	P		**Pn**	**22 17 52.5**	**-0.6**
	baz=228							
PPLA	**Purkeypile**	**9.47**	**24**	P		**Pn**	**22 17 52.8**	**-0.4**
	baz=211,SNR=13							
K20K	**Telida**	**9.48**	**19**			**Pn**	**22 17 54.1**	**+0.9**
K20K	**Telida**	**9.48**	**19**	P		**Pn**	**22 17 53.9**	**+0.8**
	baz=204							
GSTR	**Great Sitkin T**	**9.49**	**261**	Pn		**Pn**	**22 17 52.9**	**-0.4**
GHO	**Glory Hole Cre**	**9.55**	**36**			**Pn**	**22 17 53.7**	**-0.5**
CUT	**Chulitna**	**9.59**	**31**			**Pn**	**22 17 55.1**	**+0.5**
CUT	**Chulitna**	**9.59**	**31**	P		**Pn**	**22 17 54.4**	**-0.2**
	baz=219							
HIN	**Hinchinbrook I**	**9.64**	**47**			**Pn**	**22 17 54.8**	**-0.7**
SML	**Sawmill**	**9.78**	**37**			**Pn**	**22 17 57.1**	**-0.2**
SML	**Sawmill**	**9.78**	**37**	P		**Pn**	**22 17 57.5

HDA	Harding Lake	12.09	30			Pn		22 18 25.7	-3.1
HDA	Harding Lake	12.09	30	P		Pn		22 18 25.6	-3.1
	baz=221,SNR=15								
M26K	Nabesna, AK	12.14	42	P		Pn		22 18 29.9	+0.4
	baz=237								
COLA	College	12.20	27			Pn		22 18 27.9	-2.3
COLA	College	12.20	27	P		Pn		22 18 29.3	-0.9
COLA	College	12.20	27	‖	eP	Pn		22 18 27.6	-2.6
COLA				pmax		pmax			
	comp=Z,5.0nm,0.2s								
RIDG	Independent Ri	12.27	35	P		Pn		22 18 32.0	+0.7
	baz=228								
H22K	Ishtalitna Cre	12.28	18	P		Pn		22 18 33.1	+1.7
	baz=206,SNR=19								
L26K	Log Cabin Wild	12.35	40	P		Pn		22 18 32.9	+0.5
	baz=234								
PINM	Pinnacle	12.36	55	P		Pn		22 18 32.8	+0.2
	baz=252								
IL31		12.38	29			Pn		22 18 29.7	-3.0
ILAR	Eielson Array	12.38	29	LR		LR		22 23 51.4	
	comp=Z,976nm,20.3s,baz=237,slow=40								
ILAR	Eielson Array	12.38	29			Pn		22 18 29.7	-3.0
ILAR	Eielson Array	12.38	29	P		Pn		22 18 29.7	-3.0
AMKA	Amchitka	12.43	263			Pn		22 18 30.2	-3.3
DOT	Dot Lake	12.47	36			Pn		22 18 33.3	-0.7
POKR	Poker Plat Res	12.50	27	Pn		Pn		22 18 32.5	-1.9
POKR	Poker Plat Res	12.50	27	P		Pn		22 18 33.1	-1.3
	baz=218,SNR=7.1								
G21K	Allakaket	12.51	13	P		Pn		22 18 34.3	-0.2
	baz=200								
M27K	Edge Creek, AK	12.56	44	P		Pn		22 18 35.2	-0.2
	baz=240								
H23K	Yukon River	12.58	22	P		Pn		22 18 35.3	-0.2
	baz=211								
O28M	Mount Upton	12.61	52	P		Pn		22 18 36.3	+0.1
	baz=249								
PNL	Peninsula	12.66	57	P		Pn		22 18 35.9	-0.7
	baz=255								
PNL	Peninsula	12.66	57	P		Pn		22 18 36.4	-0.2
J25K	Salcha River,	12.70	31	P		Pn		22 18 35.0	-2.2
	baz=224								
SCRK	Sand Creek	12.71	35			Pn		22 18 35.8	-1.6
SCRK	Sand Creek	12.71	35	P		Pn		22 18 36.8	-0.6
	baz=229								
YUK3	Moose Creek	12.88	48	P		Pn		22 18 39.5	-0.3
	baz=244								
L27K	Beaver Creek,	12.95	41	P		Pn		22 18 40.2	-0.3
	baz=237								
BCAR	Beaver Creek A	12.96	41			Pn		22 18 38.4	-2.4
H24K	Noodor Dome	12.97	24	P		Pn		22 18 39.9	-0.9
	baz=215								
YUK8	Steele Glacier	12.99	50	P		Pn		22 18 41.5	+0.1
	baz=248								
BVCY	Beaver Creek	13.00	45	P		Pn		22 18 41.5	+0.2
	baz=241								
F21K	Alatna River	13.18	12	P		Pn		22 18 44.4	+0.7
	baz=199,SNR=14								
G22K	Bettles	13.19	16	P		Pn		22 18 43.5	-0.2
	baz=204								
J26L	Joseph Creek	13.20	34	P		Pn		22 18 43.9	-0.1
	baz=229								
O29M	Mount Kennedy	13.22	55	P		Pn		22 18 44.6	+0.2
	baz=254								
G23K	Bananza Creek	13.26	19	P		Pn		22 18 45.0	+0.3
	baz=208,SNR=9.1								
PRP	Porcupine Dome	13.32	28	Pn		Pn		22 18 43.2	-2.5
PRP	Porcupine Dome	13.32	28	P		Pn		22 18 44.6	-1.1
	baz=221,SNR=6.7								
P29M	Windy Craggy	13.47	59	P		Pn		22 18 47.4	-0.3
	baz=257								
YUK6	Outpost Mounta	13.51	53	P		Pn		22 18 48.5	+0.1
	baz=251								
YUK4	Talbot Arm	13.52	51	P		Pn		22 18 49.9	+1.4
	baz=249								
RDOG	Red Dog Mine	13.59	357	P		Pn		22 18 50.6	+1.3
	baz=174								
F22K	John River	13.63	14	P		Pn		22 18 50.2	+0.5
	baz=201								
COLD	Coldfoot	13.68	18			Pn		22 18 50.3	-0.2
COLD	Coldfoot	13.68	18	P		Pn		22 18 51.5	+1.0
	baz=206,SNR=12								
G24K	Hadweenzic Riv	13.77	23	P		Pn		22 18 51.3	-0.4
	baz=214								
I26K	Coal Creek Min	13.87	32	P		Pn		22 18 52.8	-0.2
	baz=227								
HYT	Haines Junctio	13.88	54	Pn		Pn		22 18 52.6	-0.7
M29M	Somme Creek	14.02	47	P		Pn		22 18 54.6	-0.6
	baz=245,SNR=18								
S31K	Pelican	14.02	66	P		Pn		22 18 54.1	-0.9
	baz=266								
PLBC	Pleasant Camp	14.12	60	P		Pn		22 18 55.9	-0.6
	baz=260								
G25K	Bearman Lake	14.14	24	P		Pn		22 18 57.5	+0.8
	baz=217								
EGAK	Eagle	14.17	36			Pn		22 18 55.6	-1.5
EGAK	Eagle	14.17	36	P		Pn		22 18 56.3	-0.8
	baz=232								
FYU	Fort Yukon	14.20	26			Pn		22 18 56.2	-1.2
F24K	Squaw Lake	14.38	20	P		Pn		22 18 59.6	-0.2
	baz=211								
DAWY	Dawson	14.40	40			Pn		22 18 58.2	-2.0
DAWY	Dawson	14.40	40	P		Pn		22 19 00.2	-0.1
	baz=238,SNR=14								
L29M	L29M	14.44	45	P		Pn		22 19 01.1	+0.3
	baz=244								
E23K	Chandalar	14.53	17	P		Pn		22 19 01.6	-0.3
	baz=206								
I27K	Kandik River	14.54	33	P		Pn		22 19 00.5	-1.6
	baz=229,SNR=7.2								
E24K	Your Creek	14.74	18	P		Pn		22 19 04.6	-0.1
	baz=209								
M30M	Minto, Yukon	14.78	47	P		Pn		22 19 05.3	0.0
	baz=248								
N31M	Braeburn, Yuko	14.87	52			Pn		22 19 05.7	-0.8
N31M	Braeburn, Yuko	14.87	52	P		Pn		22 19 05.4	-1.0
	baz=253								
S32K	Killisnoo	14.89	68	P		Pn		22 19 06.4	-0.3
	baz=269								
F25K	Christian Rive	14.92	23	P		Pn		22 19 07.3	+0.3
	baz=216								
H27K	Steamboat Moun	14.99	31	P		Pn		22 19 08.1	+0.1
	baz=228,SNR=7.4								
SHEM	Shemya Is, Ala	15.01	273	LR		LR		22 24 51.5	
	comp=Z,470nm,19.6s,baz=114,slow=38								
K29M	Barlow Dome	15.01	42	P		P		22 19 13.1	+0.2
	baz=242								
JIS	Juneau Island	15.02	65			Pn		22 19 07.8	-0.5
JIS	Juneau Island	15.02	65	P		Pn		22 19 08.7	+0.4
BMAR	Burnt Mountain	15.03	24			Pn		22 19 05.8	-2.8
TOLK	Toolik Lake Re	15.06	16	P		Pn		22 19 09.3	+0.4
	baz=206,SNR=16								
WHY	Whitehorse	15.09	56			Pn		22 19 09.1	-0.2
WHY	Whitehorse	15.09	56	P		Pn		22 19 09.2	-0.2
	baz=257								
D23K	Nanushuk River	15.19	14	P		Pn		22 19 10.1	-0.4
	baz=203								
G27K	Doyon Strip	15.35	29	P		Pn		22 19 12.0	-0.6
	baz=226,SNR=6.4								
F26K	Sheenjek River	15.35	24	P		Pn		22 19 12.6	0.0
	baz=219								
E25K	Arctic Village	15.36	22	P		Pn		22 19 12.7	-0.1
	baz=215								
P32M	Atlin	15.48	60	P		Pn		22 19 15.2	+0.8
	baz=262								
I29M	Ogilvie Camp,	15.50	37	P		Pn		22 19 15.0	+0.4
	baz=236								
M31M	Drury Creek, Y	15.71	50	P		Pn		22 19 17.3	0.0
	baz=252								
P33M	Teslin, Yukon	16.01	58	P		Pn		22 19 21.7	+0.5
	baz=261,SNR=8.5								
C23K	Itkillik River	16.01	13	P		Pn		22 19 20.9	-0.1
	baz=202								
C24K	Franklin Bluff	16.17	15	P		Pn		22 19 22.5	-0.6
	baz=206								
FARO	Faro, Yukon	16.19	51	P		Pn		22 19 23.6	+0.2
	baz=254								
D25K	Kavik River	16.21	18	P		Pn		22 19 24.0	+0.3
	baz=211								
E27K	Coleen River	16.35	26	P		Pn		22 19 25.7	+0.3
	baz=222								
EPYK	Eagle Plains	16.61	35	P		Pn		22 19 29.9	+1.3
	baz=236,SNR=29								
S34M	Telegraph Cree	16.74	66	P		Pn		22 19 30.6	+0.4
	baz=271								
R33M	Jennings River	16.86	61	P		Pn		22 19 32.0	+0.1
	baz=266								
C27K	Jago River	16.99	21	P		Pn		22 19 33.3	0.0
	baz=216,SNR=6.3								
C26K	Camden Bay	16.99	19	P		Pn		22 19 33.2	-0.2
	baz=213,SNR=21								
G30M	tAoh Zraii Nji	17.11	34	P		Pn		22 19 34.8	-0.2
	baz=235								
MMPY	Sheldon Lake,	17.23	50	P		Pn		22 19 35.9	-0.5
	baz=255,SNR=5.6								
DLBC	Dease Lake	17.32	65	P		Pn		22 19 35.4	-2.1
	comp=Z,0.3nm,0.3s,baz=195,slow=21,SNR=1.2								
	comp=Z,0.7nm,0.4s								
F31M	Tsiigehtchic	18.18	34	P		P		22 19 46.9	-0.8
	baz=238								
TGTN	Hyland Airport	18.40	55	P		P		22 19 50.1	-0.2
	baz=262,SNR=11								
INK	Inuvik	18.72	32	P		P		22 19 52.6	-1.0
	comp=Z,0.7nm,0.3s,baz=226,slow=9.1,SNR=20								
INK				LR		LR		22 28 01.0	
	comp=Z,902nm,19.0s,baz=241,slow=40								
	comp=Z,4.3nm,0.4s								
INK	Inuvik	18.72	32	P		P		22 19 53.0	-0.6
INK	Inuvik	18.72	32	P		P		22 19 53.0	-0.6
	baz=236,SNR=20								
INK	Inuvik	18.72	32	P		P		22 19 53.0	-0.6
INK				pmax		pmax			
	comp=Z,35nm,1.2s								
LIRD	Liard River Hi	19.34	61	P		Pn		22 20 02.2	+0.2
	baz=270								
BBB	Bella Bella	19.52	84	LR		LR		22 26 09.4	
	comp=Z,617nm,18.4s,baz=303,slow=32								
KOTAN	Kotaneelee Air	20.37	59	P		P		22 20 13.0	+1.2
	baz=270,SNR=7.6								
BILL	Bilibino	20.46	324	P		P		22 20 11.5	-1.2
BILL	Bilibino	20.46	324	‖	eP	P		22 20 12.3	-0.4
BILL					e			22 20 16.7	
BILL					i			22 20 30.0	
BILL				S		S		22 23 50.0	-8.8
BILL				pmax		pmax			
	comp=Z,27nm,1.7s								
BILL				MLR		MLR			
	comp=Z,1µm,17.0s								
C36M	Paulatuk	22.23	34	P		P		22 20 30.6	-1.0
C36M	Paulatuk	22.23	34	P		P		22 20 31.1	-0.5
	baz=247,SNR=13								
A36M	Sachs Harbour	23.07	27	P		P		22 20 38.7	-1.7
A36M	Sachs Harbour	23.07	27	P		P		22 20 39.2	-1.2
	baz=240,SNR=15								
PET	Petropavlovsk	23.80	283	P		P		22 20 47.1	-0.5
PET	Petropavlovsk	23.80	283	eP		P		22 20 47.0	-0.5
PET				pmax		pmax			
	comp=Z,184nm,1.2s								
PEA0B	Petropavlovsk-	24.32	284	P		P		22 20 51.5	-0.7
PEA0B	Petropavlovsk-	24.32	284	de	P	P		22 20 52.4	+0.1
PETK	Petropavlovsk-	24.32	284	P		P		22 20 51.5	-0.8
	comp=Z,31nm,0.6s,baz=82,slow=12,SNR=118								
PETK				LR		LR		22 30 25.9	
	comp=Z,493nm,20.1s,baz=99,slow=37								
	comp=Z,31nm,0.6s								
PETK	Petropavlovsk-	24.32	284	P		P		22 20 51.2	-1.1
PETK	Petropavlovsk-	24.32	284	P		P		22 20 51.2	-1.1
SEY	Seymchan	25.18	308	P		P		22 20 58.5	-1.5
	comp=Z,6.5nm,0.7s,baz=106,slow=11,SNR=5.9								
	comp=Z,6.5nm,0.7s								
MA2	Magadan	26.34	301	P		P		22 21 08.5	-2.1
	comp=Z,12nm,0.5s,baz=77,slow=11,SNR=4.5								
MA2				LR		LR		22 30 48.6	
	comp=Z,435nm,19.9s,baz=110,slow=35								
	comp=Z,12nm,0.5s								
MA2	Magadan	26.34	301	P		P		22 21 10.6	0.0
MA2	Magadan	26.34	301	P		P		22 21 10.6	0.0
MA2				pmax		pmax			
	comp=Z,153nm,1.5s								
YBH	Yreka Blue Hor	28.06	101	LR		LR		22 29 43.1	
	comp=Z,741nm,21.7s,baz=332,slow=30								
HLID	Hailey	31.73	91	P		P		22 22 00.2	+1.4
	baz=307								
RES	Resolute Bay	32.12	27	P		P		22 22 01.6	-0.1
	comp=Z,1.8nm,0.7s,baz=245,slow=11,SNR=6.2								
	comp=Z,1.8nm,0.7s								
NVAR	Mina Array Bea	32.78	102	P		P		22 22 07.7	-0.4
	comp=Z,3.6nm,0.8s,baz=298,slow=8.5,SNR=8.0								
	comp=Z,3.6nm,0.8s								
NVAR	Mina Array Bea	32.78	102	P		P		22 22 09.7	+1.6
ELK	Elko	33.00	96	P		P		22 22 10.8	+0.8
	comp=Z,1.4nm,0.8s,baz=286,slow=6.6,SNR=3.4								
ELK				LR		LR		22 33 43.0	
	comp=Z,404nm,19.2s,baz=316,slow=33								
	comp=Z,1.4nm,0.8s								
ELK	Elko	33.00	96	P		P		22 22 11.3	+1.3
ELK	Elko	33.00	96	P		P		22 22 11.3	+1.3
ELK				pmax		pmax			
	comp=Z,5.0nm,1.1s								
TIXI	Tiksi	33.60	327	P		P		22 22 13.7	-1.0
	comp=Z,6.9nm,1.0s,baz=90,slow=20,SNR=12								
TIXI				PcP		PcP		22 24 53.7	0.0
	comp=Z,2.0nm,0.6s,baz=90,slow=22,SNR=4.8								
TIXI				LR		LR		22 36 42.1	
	comp=Z,412nm,19.2s,baz=352,slow=38								
	comp=Z,6.9nm,1.0s								
TIXI	Tiksi	33.60	327	P		P		22 22 13.0	-1.7
TIXI	Tiksi	33.60	327	‖	eP	P		22 22 13.4	-1.2
TIXI				pmax		pmax			
	comp=Z,8.0nm,1.0s								
EUNU	Eureka	34.13	17	P		P		22 22 20.1	+0.9
CWC	Cottonwood Cre	34.30	104	P		P		22 22 21.8	+0.6
	baz=316								
GRAC	Grapevine Rang	34.31	103	P		P		22 22 22.1	+0.8
	baz=315								
R11A	Troy Canyon, C	34.39	99	P		P		22 22 22.9	+0.9
R11A	Troy Canyon, C	34.39	99	P		P		22 22 23.4	+1.3
	baz=313								
DUG	Dugway, Tooele	34.77	94	P		P		22 22 26.1	+0.8
DUG	Dugway, Tooele	34.77	94	P		P		22 22 26.1	+0.8
DUG				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MPMC	Manual Prospec	34.91	104	P		P		22 22 27.3	+0.8
	baz=316,SNR=5.4								
TPNV	Topopah Spring	34.98	102	P		P		22 22 27.9	+0.8
TPNV				IAmb		IAmb		22 22 43.8	
	comp=Z,15nm,1.1s								
TPNV	Topopah Spring	34.98	102	P		P		22 22 27.9	+0.8
	baz=314								
TPNV	Topopah Spring	34.98	102	P		P		22 22 27.9	+0.8
TPNV				pmax		pmax			
	comp=Z,15nm,1.1s								
PDAR	Pinedale Array	35.04	88	P		P		22 22 26.2	-1.5
	comp=Z,0.3nm,0.5s,baz=296,slow=4.7,SNR=2.3								
PDAR	Pinedale Array	35.04	88	P		P		22 22 27.5	-0.2
GWY	Greenwater Val	35.28	103	P		P		22 22 30.5	+0.8
YAK	Yakutsk	35.64	311	LR		LR		22 38 18.1	
	comp=Z,784nm,19.2s,baz=20,slow=38								
YAK	Yakutsk	35.64	311	P		P		22 22 31.0	-1.4
YAK	Yakutsk	35.64	311	eP		P		22 22 30.6	-1.7
YAK				pmax		pmax			
	comp=Z,26nm,0.8s								
TCRU	Three Creeks R	36.03	96	P		P		22 22 36.2	0.0
TCRU				IAmb		IAmb		22 22 41.2	
	comp=Z,9.5nm,0.5s								
GMRC	Granite Mounta	36.86	104	P		P		22 22 45.0	+1.9
	baz=316								
GRNR	Gornyy	37.17	291	‖	iP	P		22 22 43.5	-2.0
GRNR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
GRNR				MLR		MLR			
	comp=E,710nm,12.0s								
GRNR				MLR		MLR			
	comp=N,350nm,15.0s								
GRNR				MLR		MLR			
	comp=Z,800nm,16.0s								
O20A	White River Ci	37.47	90	P		P		22 22 48.5	+0.1
	baz=310,SNR=5.0								
IRM	Iron Mountain	37.60	104	P		P		22 22 50.7	+1.3
	baz=317								
W13A	Hualapai Mount	37.64	102	P		P		22 22 51.2	+1.3
BC3	Big Chuckawall	37.80	105	P		P		22 22 52.5	+1.4
	baz=318								
MONP2	Monument Peak	37.82	107	P		P		22 22 53.1	+1.6
	baz=318								
SWSC	Sam W. Stewart	38.13	106	P		P		22 22 53.3	-0.5
	baz=318								
BLYC	Blythe	38.25	104	P		P		22 22 56.8	+2.0
PV13	Radium Mtn., P	38.44	93	P		P		22 22 57.8	+1.2
PV13				IAmb		IAmb		22 23 10.6	
	comp=Z,28nm,1.0s								
ULM	Lac du Bonnet	38.56	69	P		P		22 22 58.0	+0.9
	comp=Z,3.4nm,0.7s,baz=315,slow=13,SNR=2.6								
	comp=Z,3.4nm,0.7s								
WUAZ	Wupatki	38.78	99	P		P		22 23 00.8	+1.4
	baz=315								
WUAZ	Wupatki	38.78	99	P		P		22 23 00.6	+1.1
	baz=315								
ISCO	Idaho Springs	39.22	89	P		P		22 23 04.9	+1.7
	baz=311								
S22A	4UR Ranch, Cre	39.88	92	P		P		22 23 10.3	+1.6
	baz=313,SNR=6.5								
ZEA	Zeya	40.47	299	eP		P		22 23 12.3	-0.8
ZEA				pmax		pmax			
	comp=Z,20nm,0.7s								
KLR	Kul'dur	40.54	291	de	P	P		22 23 13.2	-0.5
KLR				pmax		pmax			
	comp=Z,20nm,1.3s								
214A	Organ Pipe Nat	40.55	104	P		P		22 23 15.3	+1.3
	baz=318								
SDCO	Great Sand Dun	40.65	91	P		P		22 23 15.6	+0.5
	baz=313								
NEEM	North Greenlan	41.40	18	i	P	P		22 23 18.6	-2.2
NEEM				IAmb		IAmb		22 23 22.2	
	comp=Z,16nm,0.9s								
ANMO	Albuquerque	42.03	95	‖	eP	P		22 23 28.2	+1.9
ANMO				pmax		pmax			
	comp=Z,1.0nm,1.0s								
EYMN	Ely	42.23	69	P		P		22 23 28.9	+1.3
HEH	HeiHe	42.29	295	eP		P		22 23 26.3	-1.7
HEH				pmax		pmax			
	comp=Z,27nm,0.9s								
H11N2	WAKE ISLAND Hy	42.58	228	T		T		23 08 50.2	
	baz=27,slow=76,SNR=314								
H11N3	WAKE ISLAND Hy	42.58	228	T		T		23 08 53.8	
	baz=27,slow=76,SNR=360								
H11N1	WAKE ISLAND Hy	42.60	228	T		T		23 08 57.2	
	baz=27,slow=76,SNR=55								
NOR	Nord	42.73	7	i	P	P		22 23 29.5	-1.7
NOR				IAmb		IAmb		22 23 35.4	
	comp=Z,14nm,1.1s								
121A	Cookes Peak, D	42.99	99	P		P		22 23 35.6	+1.5
121A	Cookes Peak, D	42.99	99	P		P		22 23 35.9	+1.8
	baz=317								
CBKS	Cedar Bluff	43.29	85	P		P		22 23 35.1	-1.1
	baz=312								
USRK	Ussuriysk Ar.	43.40	285	P		P		22 23 35.1	-1.9
	comp=Z,4.6nm,1.0s,baz=65,slow=9.3,SNR=7.9								
	comp=Z,4.6nm,1.0s								
H11S1	WAKE ISLAND Hy	43.74	228	T		T		23 09 59.2	
	baz=27,slow=76,SNR=80								
H11S2	WAKE ISLAND Hy	43.76	228	T		T		23 10 01.5	
	baz=27,slow=76,SNR=31								
H11S3	WAKE ISLAND Hy	43.76	228	T		T		23 09 59.6	
	baz=27,slow=76,SNR=45								
JSD	Sado	43.80	274	P		P		22 23 39.9	-0.5
JSD				IAmb		IAmb		22 23 41.0	
	comp=Z,52nm,1.0s								
FRB	Frobisher Bay	44.11	40	P		P		22 23 43.6	+1.1
	comp=Z,35nm,0.9s,baz=305,slow=8.3,SNR=17								
	comp=Z,35nm,0.9s								
MDJ	Mudanjiang	44.48	287	P		P		22 23 44.9	-0.8
MDJ				pmax		pmax			
	comp=Z,14nm,0.9s								
MDJ				pmax		pmax			
	comp=Z,440nm,5.9s								
BOD	Bodaibo	44.57	311	eP		P		22 23 45.0	-1.2
BOD				pmax		pmax			
	comp=Z,20nm,0.8s								
MJAR	Matsushiro Arr	44.85	272	P		P		22 23 47.3	-1.4
	comp=Z,10nm,0.9s,baz=34,slow=6.2,SNR=11								
	comp=Z,10nm,0.9s								
MAJO	Matsushiro	44.85	272	P		P		22 23 48.4	-0.3
MAJO				IAmb		IAmb		22 23 50.8	
	comp=Z,40nm,1.1s								
MAJO	Matsushiro	44.85	272	ce	P	P		22 23 48.7	-0.1
MAJO				pmax		pmax			
	comp=Z,36nm,1.0s								
MJB9	Matsu-Tunnel	44.85	272	P		P		22 23 49.2	+0.4
MJB9				IAmb		IAmb		22 23 51.8	
	comp=Z,38nm,1.0s								
MSHR	Mys Shultsa	44.89	284	de	P	P		22 23 49.2	+0.2
MSHR				pmax		pmax			
	comp=Z,56nm,1.7s								
JGF	Kuroka	46.00	272	P		P		22 23 58.2	+0.3
JGF				IAmb		IAmb		22 24 10.9	
	comp=Z,45nm,1.3s								
WMOK	Wichita Mounta	46.65	89	P		P		22 24 03.8	+0.8
WMOK	Wichita Mounta	46.65	89	P		P		22 24 03.7	+0.8
	baz=315								
WMOK	Wichita Mounta	46.65	89	P		P		22 24 03.8	+0.8
WMOK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KBS	Kingsbay	46.71	2	‖	eP	P		22 24 01.2	-1.7
KBS				pmax		pmax			
	comp=Z,60nm,1.3s								
DAG	Danmarks Havn	46.76	11	i	P	P		22 24 01.4	-1.9
NRIK	Noril'sk	46.89	333	P		P		22 24 04.7	+0.3
	comp=Z,11nm,0.7s,baz=58,slow=6.8,SNR=16								
NRIK				LR		LR		22 45 21.6	
	comp=Z,551nm,18.1s,baz=256,slow=38								
	comp=Z,11nm,0.7s								
NRIK	Noril'sk	46.89	333	P		P		22 24 04.5	+0.1
NRIK				IAmb		IAmb		22 24 05.6	
	comp=Z,17nm,0.9s								
NRIK	Noril'sk	46.89	333	de	P	P		22 24 04.9	+0.5
NRIK				pmax		pmax			
	comp=Z,15nm,0.9s								
SUMG	Summit	47.06	20	i	P	P		22 24 06.6	+0.4
SUMG				IAmb		IAmb		22 24 10.1	
	comp=Z,11nm,1.0s								
CN2	Changchun	47.29	289	eP		P		22 24 06.5	-1.4
CN2				pmax		pmax			
	comp=Z,30nm,1.0s								
SPITS	Spitsbergen Ar	47.52	1	P		P		22 24 09.2	0.0
SPITS				pmax		pmax			
	comp=Z,34nm,1.2s								
TX31	Lajitas Ar. Si	47.73	98	P		P		22 24 12.0	+0.4
TXAR	Lajitas Array	47.73	98	P		P		22 24 13.1	+1.5
	comp=Z,1.0nm,0.7s,baz=302,slow=6.0,SNR=14								
TXAR				PcP		P

XLT pP pP 22 24 55.8 -3.1
XLT pmax pmax
comp=Z,34nm,1.0s
XLT pmax pmax
comp=Z,540nm,11.5s
Q51A Peebles 52.51 73 P **P** **22 24 47.7 +0.2**
Q51A IAmb IAmb 22 25 01.7
comp=Z,22nm,1.1s
PLAL Pickwick Lake 52.67 80 P **P** **22 24 48.4 -0.4**
PLAL IAmb IAmb 22 25 01.8
comp=Z,25nm,1.5s
IVI Ivigtut 52.92 34 P **P** **22 24 51.1 +0.9**
M55A Ridgway 53.33 68 P **P** **22 24 53.7 +0.1**
M55A IAmb IAmb 22 24 54.9
comp=Z,28nm,1.2s
ULN Ulaanbaatar 54.14 304 P **P** **22 24 59.6 0.0**
ULN IAmb IAmb 22 25 01.1
comp=Z,16nm,1.1s
ULN Ulaanbaatar 54.14 304 P **P** **22 24 59.6 0.0**
ULN pmax pmax
comp=Z,16nm,1.1s
ZAK Zakamensk 54.16 308 *e*P **P** **22 24 58.1 -1.5**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
M57A Sunshine Farm, 54.30 67 P **P** **22 25 00.7 0.0**
M57A IAmb IAmb 22 25 27.9
comp=Z,13nm,1.0s
BINY Binghamton 54.31 66 P **P** **22 25 00.9 +0.2**
baz=314
SSPA Standing Stone 54.38 68 P **P** **22 25 01.2 -0.1**
SSPA IAmb IAmb 22 25 14.3
comp=Z,13nm,0.8s
SSPA Standing Stone 54.38 68 P **P** **22 25 01.3 0.0**
baz=315
SONM Songino Array 54.48 304 P **P** **22 25 02.5 +0.5**
comp=Z,15nm,0.9s,baz=45,slow=7.1,SNR=71
SONM PcP **PcP** **22 26 05.9 +1.0**
comp=Z,4.1nm,0.9s,baz=38,slow=2.4,SNR=6.3
comp=Z,15nm,0.9s
SONM Songino Array 54.48 304 P **P** **22 25 02.2 +0.2**
SONM IAmb IAmb 22 25 03.4
comp=Z,16nm,0.9s
SONM Songino Array 54.48 304 P **P** **22 25 02.2 +0.2**
SONM pmax pmax
comp=Z,16nm,0.9s
HAMF Hammerfest 55.07 358 *e*P **P** **22 25 05.9 +0.1**
HAMF IAmb IAmb 22 25 08.5
comp=Z,220nm,2.1s
BATG Bathurst New B 55.75 55 P **P** **22 25 11.0 0.0**
BATG IAmb IAmb 22 25 54.2
comp=Z,43nm,1.5s
KEV Kevo 55.87 357 P **P** **22 25 11.4 -0.1**
KEV Kevo 55.87 357 P **P** **22 25 11.4 -0.1**
KEV pmax pmax
comp=Z,55nm,1.5s
BRAL Brewton 56.03 83 P **P** **22 25 14.3 +1.1**
baz=318
TRO Tromso 56.12 0 *e*P **P** **22 25 14.0 +0.7**
TRO IAmb IAmb 22 25 14.2
comp=Z,11nm,0.7s
ARA0 ARCESS Array S 56.14 357 *e*P **P** **22 25 13.6 +0.1**
ARCES ARCESS Array B 56.14 357 P **P** **22 25 13.2 -0.3**
comp=Z,4.5nm,0.7s,baz=32,slow=7.1,SNR=15
comp=Z,4.5nm,0.7s
ARCES ARCESS Array B 56.14 357 P **P** **22 25 13.3 -0.2**
ARCES IAmb IAmb 22 25 51.6
comp=Z,16nm,1.2s
ARCES ARCESS Array B 56.14 357 P **P** **22 25 13.3 -0.2**
ARCES pmax pmax
comp=Z,16nm,1.3s
JETT Jettan, Norway 56.20 360 *e*P **P** **22 25 15.4 +1.4**
KMSC Kings Mountain 56.40 75 P **P** **22 25 15.8 0.0**
baz=317
KTK1 Kautokeino 56.72 358 *e*P **P** **22 25 18.0 +0.4**
KTK1 IAmb IAmb 22 25 24.8
comp=Z,114nm,2.0s
HHC Hu-ho-hao-te 56.81 295 *e*P **P** **22 25 19.1 +0.3**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,1μm,5.7s
T59A Double "B" Far 57.18 71 P **P** **22 25 21.6 +0.3**
T59A IAmb IAmb 22 25 32.3
comp=Z,9.0nm,0.8s
LVZ Lovozero 57.33 353 P **P** **22 25 22.2 +0.2**
LVZ Lovozero 57.33 353 P **P** **22 25 22.2 +0.2**
LVZ pmax pmax
comp=Z,43nm,1.3s
HNS HongShan 57.61 290 ⇑P **P** **22 25 24.8 +0.5**
HNS pmax pmax
comp=Z,17nm,1.0s
STEI Steigen 57.80 2 *e*P **P** **22 25 25.3 +0.1**
STEI IAmb IAmb 22 25 27.6
comp=Z,29nm,1.4s
FAUS Fauske 58.35 2 *e*P **P** **22 25 29.4 +0.3**
FAUS IAmb IAmb 22 25 32.2
comp=Z,16nm,1.0s
ZAA0 Zalesovo Array 59.13 321 P **P** **22 25 33.9 -0.8**
ZAA0 IAmb IAmb 22 25 35.7
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 59.13 321 P **P** **22 25 34.8 +0.1**
comp=Z,4.1nm,0.6s,baz=46,slow=6.4,SNR=14
ZALV PcP **PcP** **22 26 23.7 +0.9**
comp=Z,1.8nm,0.6s,baz=29,slow=3.3,SNR=2.3
ZALV LR LR 22 54 10.1
comp=Z,284nm,18.2s,baz=35,slow=39
comp=Z,4.1nm,0.6s
ZALV Zalesovo Beam 59.13 321 P **P** **22 25 34.1 -0.5**
ZALV Zalesovo Beam 59.13 321 P **P** **22 25 34.1 -0.5**
NJ2 Nanjing 59.22 283 *e*P **P** **22 25 35.1 -0.5**
NJ2 pmax pmax
comp=Z,16nm,0.6s
NSS Namsos 61.12 4 *e*P **P** **22 25 48.6 +0.5**
DGZ Jazzator, Alta 61.48 317 *de*P **P** **22 25 51.9 +0.9**
DGZ pmax pmax
comp=Z,14nm,1.0s
PRGR Permogore 62.30 346 *e*P **P** **22 25 53.4 -2.7**
PRGR pmax pmax
comp=Z,41nm,0.9s
MOL Molde 62.86 6 *e*P **P** **22 26 00.1 +0.3**
XAN Xi'an 63.25 292 ⇑P **P** **22 26 02.8 -0.1**
XAN pmax pmax
comp=Z,13nm,0.9s
DOMB Dombas 63.47 5 *e*P **P** **22 26 04.5 +0.6**
DOMB IAmb IAmb 22 26 04.8
comp=Z,19nm,0.9s
KLMR Klimovskoe 63.82 349 *e*P **P** **22 26 04.6 -1.6**
KLMR AMP 22 26 07.4
comp=Z,39nm,1.2s
KLMR Klimovskoe 63.82 349 *e*P **P** **22 26 04.6 -1.6**
KLMR pmax pmax
comp=Z,39nm,1.2s
GTA Gaotai 63.90 302 ⇓P **P** **22 26 07.5 +0.2**
GTA pP pP 22 26 20.3 -0.3
GTA sP sP 22 26 24.9 -1.0
GTA pmax pmax
comp=Z,21nm,1.2s
KURK Kurchatov 63.98 323 P **P** **22 26 07.9 +0.5**
KURK IAmb IAmb 22 26 08.8
comp=Z,14nm,0.9s
KURK Kurchatov 63.98 323 *ce*P **P** **22 26 07.5 +0.1**
KURK pmax pmax
comp=Z,23nm,1.3s
KURBB Kurchatov Arra 64.09 322 LR LR 22 55 13.1
comp=Z,330nm,20.9s,baz=160,slow=37
FIA1 FINESS Array S 64.22 356 P **P** **22 26 09.0 +0.2**
FINES FINESS Array B 64.22 356 P **P** **22 26 09.1 +0.3**
comp=Z,20nm,0.8s,baz=24,slow=7.3,SNR=66
comp=Z,20nm,0.8s
FINES FINESS Array B 64.22 356 P **P** **22 26 08.9 +0.1**
SSLB Suanglung 64.26 275 P **P** **22 26 08.8 -0.9**
ZSN Zaisan 64.30 317 *e*P **P** **22 26 09.1 -0.5**
comp=Z,17nm,0.9s,baz=317
ZSN Zaisan 64.30 317 *e*P **P** **22 26 09.1 -0.5**
ZSN pmax pmax
comp=Z,17nm,0.9s
NC204 NORSAR Array S 64.32 5 P **P** **22 26 09.9 +0.3**
YULB Yu-li 64.37 275 P **P** **22 26 10.4 0.0**
LZH Lanzhou 64.39 297 ⇑P **P** **22 26 10.9 +0.3**
LZH pP pP 22 26 19.8 -4.1
LZH sP sP 22 26 23.9 -5.4
LZH pmax pmax
comp=Z,27nm,1.5s
NB2 NORSAR Subarra 64.58 4 P **P** **22 26 11.5 +0.3**
baz=355,slow=6.5

NB2 NORSAR Subarra 64.58 4 P **P** **22 26 11.5 +0.3**
comp=Z,6.9nm,0.7s,baz=355,slow=6.5
NOA NORSAR Array B 64.58 4 P **P** **22 26 12.0 +0.7**
comp=Z,17nm,0.9s,baz=356,slow=6.6,SNR=44
comp=Z,17nm,0.9s
KIRV Kirov 64.62 343 *c* *i*P **P** **22 26 11.4 -0.1**
BRVK Borovoye 64.73 329 P **P** **22 26 12.8 +0.5**
BRVK Borovoye 64.73 329 P **P** **22 26 12.8 +0.5**
BRVK pmax pmax
comp=Z,40nm,1.4s
RAF Rauma 64.75 359 *e*P **P** **22 26 12.6 +0.3**
SKAR Skarslia 64.79 6 *e*P **P** **22 26 13.3 +0.7**
SKAR IAmb IAmb 22 26 14.3
comp=Z,29nm,0.9s
ARU Arti 64.82 337 P **P** **22 26 12.7 -0.1**
ARU Arti 64.82 337 *c* *i*P **P** **22 26 12.7 -0.1**
ARU S **S** **22 34 51.9 +2.0**
ARU pmax pmax
comp=Z,34nm,1.2s
NC602 NORSAR Array S 64.90 4 *e*P **P** **22 26 14.1 +0.8**
TAOE Nuku Hiva Isla 65.50 158 *e*LR LR 22 45 58.7
comp=Z,269nm,24.4s
TAOE Nuku Hiva Isla 65.50 158 *e*T T 23 37 25.0
comp=Z,36nm,0.2s
MEF Metsahovi 65.51 357 *e*P **P** **22 26 17.7 +0.5**
ENH Enshi 65.81 288 P **P** **22 26 18.8 -0.9**
ENH IAmb IAmb 22 26 20.5
comp=Z,25nm,1.1s
MK31 Makanchi Array 65.85 318 P **P** **22 26 19.6 -0.1**
MK31 IAmb IAmb 22 26 20.5
comp=Z,10nm,0.9s
MK31 Makanchi Array 65.85 318 P **P** **22 26 19.6 -0.1**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 65.85 318 P **P** **22 26 19.6 -0.1**
comp=Z,7.6nm,0.7s,baz=46,slow=5.8,SNR=58
comp=Z,7.6nm,0.7s
MKAR Makanchi Array 65.85 318 P **P** **22 26 19.4 -0.3**
MKAR Makanchi Array 65.85 318 *i* P **P** **22 26 19.7 0.0**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
KONO Kongsberg 65.89 5 P **P** **22 26 20.5 +0.8**
KONO Kongsberg 65.89 5 *ce*P **P** **22 26 21.7 +2.0**
KONO pmax pmax
comp=Z,24nm,1.3s
MAKZ Makanchi 65.96 318 P **P** **22 26 20.5 +0.1**
MAKZ IAmb IAmb 22 26 21.2
comp=Z,12nm,0.9s
MAKZ Makanchi 65.96 318 P **P** **22 26 20.5 +0.1**
MAKZ pmax pmax
comp=Z,12nm,0.9s
WMQ Urumqi 66.06 313 ⇓P **P** **22 26 22.3 +1.2**
WMQ sP pP 22 26 37.4 +2.9
WMQ PcP **PcP** **22 26 52.3 +1.0**
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ LR LR
comp=Z,530nm,13.5s
WMQ LR LR
comp=Z,710nm,14.7s
WMQ LR LR
comp=Z,270nm,21.3s
BRZS Berezniki 66.63 326 *e*P **P** **22 26 23.8 -0.8**
comp=Z,5.8nm,0.9s,baz=326
BRZS Berezniki 66.63 326 *e*P **P** **22 26 23.8 -0.8**
BRZS pmax pmax
comp=Z,6.0nm,0.9s
VSU Vasula 67.18 356 *e*P **P** **22 26 29.1 +1.2**
VSU Vasula 67.18 356 *de*P **P** **22 26 28.7 +0.8**
VSU pmax pmax
comp=Z,86nm,0.9s
SLIT Slitere, Latvi 68.15 358 *e*P **P** **22 26 34.2 +0.2**
CD2 Chengdu 68.44 293 P **P** **22 26 35.3 -1.0**
TDK Taldyqorghan 68.84 319 *e*P **P** **22 26 38.1 -0.5**
baz=319
TDK Taldyqorghan 68.84 319 *e*P **P** **22 26 38.1 -0.5**
ESK Eskdalemuir 68.95 14 P **P** **22 26 39.7 +0.6**
ESK IAmb IAmb 22 26 41.3
comp=Z,14nm,0.9s
ESK Eskdalemuir 68.95 14 P **P** **22 26 39.7 +0.6**
ESK pmax pmax
comp=Z,15nm,0.9s
MOS Moscow 69.05 349 *e*P **P** **22 26 38.6 -1.0**
MOS pmax pmax
comp=Z,31nm,0.9s
DEL Delary 69.25 3 *i*P **P** **22 26 40.5 -0.4**
BLEU Blekinge 69.47 2 *i*P **P** **22 26 41.5 -0.7**
BJUU Bjuv 69.62 4 *i*P **P** **22 26 43.4 +0.3**
OBN Obninsk 69.78 349 P **P** **22 26 44.1 0.0**
OBN Obninsk 69.78 349 *c* *i*P **P** **22 26 44.1 0.0**
OBN *e* 22 27 07.0
OBN SSS SSS 22 43 20.0
OBN pmax pmax
comp=Z,45nm,1.3s
OBN MLR MLR
comp=Z,243nm,15.0s
IZAR Zarasai 69.91 356 *e*P **P** **22 26 47.1 +2.1**
SHLS Shalkode 69.99 317 *e*P **P** **22 26 44.9 -1.0**
comp=Z,22nm,0.8s,baz=317
SHLS Shalkode 69.99 317 *e*P **P** **22 26 44.9 -1.0**
SHLS pmax pmax
comp=Z,22nm,0.8s
KPKS Kokpek 70.04 318 *e*P **P** **22 26 45.9 -0.3**
comp=Z,13nm,0.7s,baz=318
KPKS Kokpek 70.04 318 *e*P **P** **22 26 45.8 -0.3**
KPKS pmax pmax
comp=Z,13nm,0.7s
LUNU Lund 70.08 3 *i*P **P** **22 26 45.0 -1.0**
ISAL Salakas 70.10 356 *e*P **P** **22 26 48.5 +2.3**
UZB Uzynbulak 70.17 318 *e*P **P** **22 26 47.5 +0.4**
baz=318
UZB Uzynbulak 70.17 318 *e*P **P** **22 26 47.4 +0.4**
PABE Paberze 70.24 357 P **P** **22 26 47.4 +0.4**
PABE Paberze 70.24 357 *e*P **P** **22 26 47.3 +0.4**
IIGN Ignalina 70.31 356 *e*P **P** **22 26 50.2 +2.8**
GYA Guiyang 70.33 288 ⇓*i*P **P** **22 26 48.8 +0.6**
GYA pP pP 22 27 00.3 -1.4
GYA pmax pmax
comp=Z,27nm,1.0s
CHKK Chushkaly 70.36 319 *e*P **P** **22 26 47.0 -1.0**
baz=320
CHKK Chushkaly 70.36 319 *e*P **P** **22 26 46.9 -1.0**
BTLS Baital 70.42 322 *e*P **P** **22 26 47.8 -0.5**
comp=Z,9.9nm,0.8s,baz=322
BTLS Baital 70.42 322 *e*P **P** **22 26 47.8 -0.5**
BTLS pmax pmax
comp=Z,10.0nm,0.8s
SATY Saty 70.49 318 *e*P **P** **22 26 48.4 -0.6**
comp=Z,12nm,1.3s,baz=318
SATY Saty 70.49 318 *e*P **P** **22 26 48.3 -0.6**
SATY pmax pmax
comp=Z,11nm,1.3s
KUU Kurty 70.57 320 *e*P **P** **22 26 48.7 -0.6**
comp=Z,17nm,1.0s,baz=320
KUU Kurty 70.57 320 *e*P **P** **22 26 48.7 -0.6**
KUU pmax pmax
comp=Z,17nm,1.0s
BSD Bornholm Skovb 70.64 3 *e*P **P** **22 26 50.2 +0.8**
NACGM Naroch 70.73 355 *e*P **P** **22 26 45.5 -4.5**
comp=Z,47nm,0.8s,baz=4.4
BELG Belogornoye 70.84 342 LR LR 23 03 51.2
comp=Z,211nm,19.9s,baz=356,slow=41
BELG Belogornoye 70.84 342 *de*P **P** **22 26 51.3 +0.6**
BELG pmax pmax
comp=Z,12nm,1.0s
MDOK Medeo 70.92 319 *e*P **P** **22 26 50.9 -0.7**
baz=319
MDOK Medeo 70.92 319 *e*P **P** **22 26 50.9 -0.7**
AAA Alma-Ata 70.94 319 *e*P **P** **22 26 51.4 -0.2**
baz=319
AAA Alma-Ata 70.94 319 *e*P **P** **22 26 51.4 -0.2**
ABKAR Akbulak array 71.06 333 P **P** **22 26 52.5 +0.4**
ABKAR Akbulak array 71.06 333 P **P** **22 26 52.4 +0.3**
ABKAR IAmb IAmb 22 26 54.0
comp=Z,21nm,0.9s
TNSS Tian-Shan 71.07 319 *e*P **P** **22 26 50.3 -2.5**
baz=319
TNSS Tian-Shan 71.07 319 *e*P **P** **22 26 50.3 -2.5**
MNK Minsk 71.08 355 *i*P **P** **22 26 53.1 +0.9**
comp=E,1.0nm,0.8s
MNK *i*P **P** **22 26 53.1 +0.9**
comp=N,22nm,0.8s
MNK *i*P **P** **22 26 53.1 +0.9**
comp=Z,46nm,0.8s,baz=5.9
MNK *i* PcP **sP** **22 27 13.1 +2.2**

MNK *i* PP **PP** **22 29 30.2 +0.9**
MNK *i* PPP PPP 22 31 13.1
MNK *i* S **S** **22 36 03.8 -0.8**
MNK *i* SS SS 22 41 07.5 +30
MNK Minsk 71.08 355 *i*P **P** **22 26 53.0 +0.9**
MNK *i* 22 27 13.1
MNK *i* 22 29 30.2
MNK *i* PPP PPP 22 31 13.1
MNK *i* S **S** **22 36 03.7 -0.8**
MNK pmax pmax
comp=Z,46nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,22nm,0.8s
KLNR Kaliningrad 71.21 359 ⇓*e*P **P** **22 26 53.5 +0.6**
KLNR pmax pmax
comp=Z,70nm,1.1s
SGDS Sogindy 71.58 321 *e*P **P** **22 26 55.1 -0.4**
comp=Z,4.4nm,0.7s,baz=321
SGDS Sogindy 71.58 321 *e*P **P** **22 26 55.1 -0.4**
SGDS pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 71.68 320 P **P** **22 26 57.5 +1.2**
SNR=18
USP Ospenovka 71.79 321 P **P** **22 26 57.8 +1.1**
SNR=10
TARG Taragay, Kyrgy 71.85 318 P **P** **22 26 58.8 +1.2**
TARG IAmb IAmb 22 27 02.5
comp=Z,13nm,0.9s
TARG Taragay, Kyrgy 71.85 318 P **P** **22 26 58.8 +1.2**
TARG pmax pmax
comp=Z,13nm,0.9s
BOOM Boomskoye usch 71.92 319 P **P** **22 26 58.8 +1.1**
BOOM Boomskoye usch 71.92 319 P **P** **22 26 58.8 +1.1**
CHMS Chumysh 71.93 321 P **P** **22 26 58.6 +1.1**
SNR=22
LPSR Galich'ya Gora 71.97 348 *e*P **P** **22 26 56.2 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KBK Karagaybulak 72.15 320 P **P** **22 27 00.1 +1.1**
SNR=21
AAK Ala-Archa 72.33 320 P **P** **22 27 01.2 +1.1**
SNR=22
AAK Ala-Archa 72.33 320 LR LR 23 01 44.8
comp=Z,403nm,18.1s,baz=352,slow=38
AAK Ala-Archa 72.33 320 P **P** **22 27 00.8 +0.7**
AAK IAmb IAmb 22 27 02.3
comp=Z,22nm,0.9s
AAK Ala-Archa 72.33 320 *c* *i*P **P** **22 27 01.0 +0.9**
AAK pmax pmax
comp=Z,36nm,1.3s
TIAR Tiarei 72.48 169 *e*T T 23 46 10.4
comp=Z,7.9nm,0.3s
PPT2 Papeete2 72.48 169 *e*LR LR 22 49 12.0
comp=Z,335nm,24.8s
PPT2 *e*LR LR 22 49 13.0
comp=Z,266nm,26.5s
GKP Gorka Klasztor 72.53 1 *e*P **P** **22 27 01.5 +0.7**
EKS2 Erkin-Say 72.58 321 P **P** **22 27 02.7 +1.2**
SNR=14
UCH Uchtor 72.68 320 P **P** **22 27 03.8 +1.2**
SNR=8.1
NRN Naryn 72.81 319 P **P** **22 27 03.9 +0.7**
NRN IAmb IAmb 22 27 06.2
comp=Z,33nm,1.1s
NRN Naryn 72.81 319 P **P** **22 27 03.9 +0.7**
NRN pmax pmax
comp=Z,33nm,1.1s
VORR Voronezh 72.85 347 *e*P **P** **22 27 03.1 +0.4**
VORR pmax pmax
comp=Z,20nm,0.4s
VRH Novokhopyorsk 72.96 345 *e*P **P** **22 27 01.5 -1.9**
VRH pmax pmax
comp=Z,20nm,1.0s
PZH PanZhiHua 72.99 292 P **P** **22 27 04.1 -0.1**
PZH pmax pmax
comp=Z,20nm,1.0s
AML Almayashu 73.07 321 P **P** **22 27 06.3 +1.5**
SNR=15
DZA Taraz 73.26 323 *e*P **P** **22 27 04.8 -0.6**
baz=323
DZA Taraz 73.26 323 *e*P **P** **22 27 04.8 -0.6**
VSR Storozhevoye 73.30 347 *e*P **P** **22 27 04.3 -1.1**
VSR pmax pmax
comp=Z,20nm,1.0s
KK31 Karatay Array 73.36 323 P **P** **22 27 05.9 -0.1**
KK31 IAmb IAmb 22 27 07.5
comp=Z,20nm,1.0s
KK31 Karatay Array 73.36 323 P **P** **22 27 05.9 -0.1**
KK31 pmax pmax
comp=Z,20nm,1.0s
KKAR Karatay Array 73.36 323 P **P** **22 27 05.7 -0.3**
KKAR Karatay Array 73.36 323 P **P** **22 27 05.7 -0.3**
KMI Kunming 73.54 290 ⇓P **P** **22 27 08.0 +0.4**
KMI pmax pmax
comp=Z,10.0nm,1.0s
CHM Chimkent 74.37 324 *e*P **P** **22 27 11.5 -0.4**
baz=324
CHM Chimkent 74.37 324 *e*P **P** **22 27 11.5 -0.4**
IUG Iuzhnay 74.37 323 *e*P **P** **22 27 12.0 0.0**
comp=Z,21nm,1.3s,baz=323
IUG Iuzhnay 74.37 323 *e*P **P** **22 27 12.0 0.0**
IUG pmax pmax
comp=Z,21nm,1.3s
CLL Collm 74.38 4 P **P** **22 27 11.5 -0.3**
CLL Collm 74.38 4 *i*P **P** **22 27 12.3 +0.5**
comp=Z,11nm,1.2s
CLL Collm 74.38 4 *i*P **P** **22 27 12.3 +0.5**
CLL pmax pmax
comp=Z,11nm,1.2s
KSH Kashi 74.47 318 P **P** **22 27 16.3 +3.7**
KSH pmax pmax
comp=Z,38nm,1.3s
BSTI Sart Tilman 74.61 9 *d*P **P** **22 27 14.8 +1.7**
MEM Membach 74.63 9 *d*P **P** **22 27 13.6 +0.4**
AKASG Malin Array Be 74.79 353 P **P** **22 27 14.2 +0.1**
comp=Z,21nm,0.6s,baz=9.5,slow=5.7,SNR=79
comp=Z,21nm,0.6s
AKASG Malin Array Be 74.79 353 P **P** **22 27 13.9 -0.3**
AKASG Malin Array Be 74.79 353 *i*P **P** **22 27 14.1 0.0**
AKASG pmax pmax
comp=Z,21nm,0.6s
AKBB Malin Array Si 74.79 353 P **P** **22 27 13.9 -0.2**
AKBB Malin Array Si 74.79 353 *c* *i*P **P** **22 27 14.2 +0.1**
BMRD Maredsous 74.81 10 *d*P **P** **22 27 14.5 +0.2**
BRG Berggiesshubel 74.85 3 *i*P **P** **22 27 15.9 +1.3**
BRG Amp 22 27 17.3
comp=Z,15nm,1.1s
BRG Berggiesshubel 74.85 3 *i*P **P** **22 27 15.8 +1.3**
BRG pmax pmax
comp=Z,15nm,1.1s
AK05 Malin Array Si 74.87 353 P **P** **22 27 14.3 -0.3**
PVCC Panska Ves 75.22 3 *e*P **P** **22 27 18.1 +1.5**
PVCC Panska Ves 75.22 3 *e*P **P** **22 27 18.1 +1.5**
OSTC Ostas 75.23 2 *e*P **P** **22 27 18.1 +1.3**
NKC Novy Kostel 75.43 5 *e*P **P** **22 27 19.3 +1.4**
NKC Novy Kostel 75.43 5 *e*P **P** **22 27 19.3 +1.4**
DPC Dobruska-Polom 75.44 2 *e*P **P** **22 27 19.3 +1.3**
DPC Dobruska-Polom 75.44 2 *e*P **P** **22 27 19.3 +1.3**
KRLC Kraliky 75.73 2 *e*P **P** **22 27 20.9 +1.3**
KRLC Kraliky 75.73 2 *e*P **P** **22 27 20.9 +1.3**
PRU Pruhonice 75.76 3 *e*P **P** **22 27 20.7 +1.0**
PRU Pruhonice 75.76 3 *e*P **P** **22 27 20.7 +1.0**
TNCH TengChong 75.90 293 ⇑P **P** **22 27 21.8 +0.6**
TNCH pP PcP 22 27 30.8 -2.7
TNCH sP pP 22 27 35.8 +1.0
TNCH S **S** **22 37 02.8 +2.5**
TNCH pmax pmax
comp=Z,19nm,0.9s
TNCH pmax pmax
comp=Z,180nm,4.9s
TNCH LR LR
comp=Z,240nm,7.9s
TNCH LR LR
comp=Z,260nm,10.4s
TNCH LR LR
comp=Z,300nm,13.5s
LSA Lhasa 75.93 302 P **P** **22 27 22.3 +0.7**
LSA IAmb IAmb 22 27 24.2
comp=Z,23nm,0.8s
LSA Lhasa 75.93 302 P **P** **22 27 22.3 +0.7**
LSA pmax pmax
comp=Z,23nm,0.8s
LVV L'vov 75.93 357 *e*P **P** **22 27 21.3 +0.6**

BTK	**Batken**	**75.93**	**322**	P	**P**	**22 27 21.7**	**+0.7**
BTK				IAmb	IAmb	22 27 22.8	
	comp=Z,32nm,1.4s						
BTK	**Batken**	**75.93**	**322**	P	**P**	**22 27 21.7**	**+0.7**
BTK				pmax	pmax		
	comp=Z,32nm,1.5s						
OKC	**Ostrava-Krasne**	**75.98**	**1**	*e*P	**P**	**22 27 22.1**	**+1.1**
OKC	**Ostrava-Krasne**	**75.98**	**1**	*e*P	**P**	**22 27 22.1**	**+1.1**
MORC	**Moravsky Berou**	**76.03**	**1**	⇑P	**P**	**22 27 22.4**	**+1.0**
MORC	**Moravsky Berou**	**76.03**	**1**	P	**P**	**22 27 21.6**	**+0.2**
MORC	**Moravsky Berou**	**76.03**	**1**	*e*P	**P**	**22 27 22.2**	**+0.8**
MORC	**Moravsky Berou**	**76.03**	**1**	P	**P**	**22 27 21.6**	**+0.2**
MORC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DRK	**Karamyk**	**76.08**	**321**	P	**P**	**22 27 21.6**	**-0.5**
DRK				IAmb	IAmb	22 27 24.6	
	comp=Z,10nm,0.7s						
STHS	**Stebnicka Huta**	**76.39**	**359**	*e*P	**P**	**22 27 24.3**	**+0.9**
STHS	**Stebnicka Huta**	**76.39**	**359**	*e*P	**P**	**22 27 24.3**	**+0.9**
STHS				pmax	pmax		
	comp=Z,17nm,0.7s						
MAUC	**Maruska**	**76.45**	**1**	*e*P	**P**	**22 27 25.2**	**+1.5**
VRAC	**Vranov**	**76.49**	**2**	⇑P	**P**	**22 27 25.4**	**+1.5**
VRAC	**Vranov**	**76.49**	**2**	*e*P	**P**	**22 27 25.2**	**+1.3**
KHC	**Kasperske Hory**	**76.58**	**4**	P	**P**	**22 27 25.3**	**+0.8**
KHC				IAmb	IAmb	22 27 27.2	
	comp=Z,21nm,1.3s						
KHC	**Kasperske Hory**	**76.58**	**4**	*e*P	**P**	**22 27 25.7**	**+1.2**
KHC	**Kasperske Hory**	**76.58**	**4**	⇑*e*P	**P**	**22 27 26.0**	**+1.5**
KHC				pmax	pmax		
	comp=Z,38nm,1.3s						
KRUC	**Moravsky**	**76.73**	**2**	*e*P	**P**	**22 27 25.9**	**+0.6**
KOLS	**Kolonicke sedl**	**76.86**	**358**	*e*P	**P**	**22 27 27.8**	**+1.8**
KOLS	**Kolonicke sedl**	**76.86**	**358**	*e*P	**P**	**22 27 27.8**	**+1.8**
KOLS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GEC2	**GERESS Array S**	**76.87**	**4**	P	**P**	**22 27 26.7**	**+0.5**
GERES	**GERESS Array B**	**76.87**	**4**	P	**P**	**22 27 27.2**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=5.5,slow=4.2,SNR=23						
	comp=Z,2.9nm,0.8s						
GERES	**GERESS Array B**	**76.87**	**4**	P	**P**	**22 27 26.9**	**+0.7**
GERES	**GERESS Array B**	**76.87**	**4**	P	**P**	**22 27 26.9**	**+0.7**
CRVS	**Cervenica-Dubn**	**76.90**	**359**	*e*P	**P**	**22 27 27.6**	**+1.3**
CRVS	**Cervenica-Dubn**	**76.90**	**359**	*e*P	**P**	**22 27 27.6**	**+1.3**
CRVS				pmax	pmax		
	comp=Z,13nm,0.8s						
CKRC	**Cesky Krumlov**	**76.92**	**3**	*e*P	**P**	**22 27 27.3**	**+0.9**
GAR	**Garm**	**77.05**	**322**	P	**P**	**22 27 27.8**	**+0.4**
ECH	**Echery**	**77.10**	**8**	P	**P**	**22 27 28.2**	**+0.8**
ECH				IAmb	IAmb	22 27 29.5	
	comp=Z,11nm,1.0s						
ECH	**Echery**	**77.10**	**8**	P	**P**	**22 27 28.2**	**+0.8**
ECH				pmax	pmax		
	comp=Z,11nm,1.0s						
UZH	**Uzhgorod**	**77.16**	**358**	⇑*i*P	**P**	**22 27 29.0**	**+1.3**
UZH				*i*		22 27 41.0	
PMG	**Port Moresby**	**77.22**	**233**	P	**P**	**22 27 28.2**	**-0.2**
PMG				IAmb	IAmb	22 27 45.6	
	comp=Z,24nm,1.1s						
PMG	**Port Moresby**	**77.22**	**233**	⇑*e*P	**P**	**22 27 29.1**	**+0.7**
PMG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SMOL	**Smolenice**	**77.30**	**1**	*e*P	**P**	**22 27 30.4**	**+1.9**
SMOL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VYHS	**Vyhne**	**77.33**	**0**	*e*P	**P**	**22 27 30.0**	**+1.4**
VYHS	**Vyhne**	**77.33**	**0**	*e*P	**P**	**22 27 30.1**	**+1.4**
VYHS				pmax	pmax		
	comp=Z,16nm,1.2s						
SORM	**Soroca**	**77.40**	**354**	⇑P	**P**	**22 27 29.0**	**0.0**
MODS	**Modra-Piesok**	**77.44**	**1**	*e*P	**P**	**22 27 31.0**	**+1.7**
MODS	**Modra-Piesok**	**77.44**	**1**	*e*P	**P**	**22 27 31.0**	**+1.7**
MODS				pmax	pmax		
	comp=Z,35nm,1.2s						
ABAH	**Abaujker**	**77.51**	**359**	P	**P**	**22 27 31.0**	**+1.4**
ZST	**Bratislava**	**77.61**	**1**	*e*P	**P**	**22 27 32.4**	**+2.2**
ZST	**Bratislava**	**77.61**	**1**	*e*P	**P**	**22 27 32.4**	**+2.2**
ZST				pmax	pmax		
	comp=Z,53nm,1.4s						
TRPA	**Tarpa**	**77.66**	**358**	⇓P	**P**	**22 27 31.8**	**+1.4**
TRPA	**Tarpa**	**77.66**	**358**	P	**P**	**22 27 31.6**	**+1.2**
CHGR	**Chuyangaron**	**77.77**	**322**	P	**P**	**22 27 31.5**	**+0.1**
CHGR	**Chuyangaron**	**77.77**	**322**	P	**P**	**22 27 31.5**	**+0.1**
CHGR				pmax	pmax		
	comp=Z,64nm,0.7s						
CONA	**Conrad Observa**	**77.86**	**2**	*e*P	**P**	**22 27 33.4**	**+1.7**
	comp=Z,10.0nm,0.8s,SNR=6.4						
PSZ	**Piszkesteto**	**77.90**	**360**	⇑P	**P**	**22 27 32.1**	**+0.2**
PSZ	**Piszkesteto**	**77.90**	**360**	P	**P**	**22 27 32.7**	**+0.7**
PSZ				IAmb	IAmb	22 27 34.8	
	comp=Z,16nm,1.1s						
PSZ	**Piszkesteto**	**77.90**	**360**	P	**P**	**22 27 33.4**	**+1.4**
PSZ	**Piszkesteto**	**77.90**	**360**	P	**P**	**22 27 32.7**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,16nm,1.1s						
BIOA	**Bad Ischl, Aus**	**78.02**	**4**	*e*P	**P**	**22 27 33.8**	**+1.3**
	comp=Z,4.0nm,0.8s						
BUR08	**Bucovina Ar. S**	**78.06**	**356**	P	**P**	**22 27 33.5**	**+0.6**
BURAR	**Bucovina Array**	**78.08**	**356**	⇑P	**P**	**22 27 33.7**	**+0.7**
BURAR	**Bucovina Array**	**78.08**	**356**	P	**P**	**22 27 33.6**	**+0.7**
BURAR				IAmb	IAmb	22 27 34.9	
	comp=Z,9.5nm,0.7s						
BMR	**Baia Mare**	**78.09**	**357**	⇑P	**P**	**22 27 33.5**	**+0.7**
RONA	**Rosalia, Austr**	**78.09**	**2**	*i* P	**P**	**22 27 34.6**	**+1.6**
	comp=Z,9.2nm,1.2s						
TBI	**Tubuai**	**78.18**	**169**	*e*T	T	23 53 18.7	
	comp=Z,37nm,0.3s						
MOTA	**Moosalm**	**78.25**	**6**	*i* P	**P**	**22 27 35.1**	**+1.2**
	comp=Z,8.0nm,0.9s						
WATA	**Walderalm**	**78.28**	**5**	*i* P	**P**	**22 27 35.5**	**+1.4**
	comp=Z,14nm,1.1s						
WTTA	**Wattenberg**	**78.36**	**5**	*i* P	**P**	**22 27 35.6**	**+1.0**
	comp=Z,10nm,0.7s						
SQTA	**Sankt Quirin**	**78.38**	**6**	*e*P	**P**	**22 27 36.1**	**+1.4**
	comp=Z,11nm,0.8s,SNR=5.1						
ARSA	**Arzberg**	**78.52**	**3**	*i* P	**P**	**22 27 36.0**	**+0.7**
	comp=Z,13nm,1.0s						
FETA	**Feichten**	**78.55**	**6**	*e*P	**P**	**22 27 37.2**	**+1.6**
	comp=Z,8.6nm,1.0s						
MILM	**Milestii Mici**	**78.58**	**353**	⇑P	**P**	**22 27 35.6**	**+0.1**
KBA	**Koelnbreinsper**	**78.62**	**4**	*e*P	**P**	**22 27 37.7**	**+1.7**
	comp=Z,15nm,1.1s,SNR=7.0						
MESR	**Meseseni**	**78.63**	**357**	⇑P	**P**	**22 27 37.7**	**+1.8**
ARCR	**ARCALIA**	**78.65**	**356**	⇑P	**P**	**22 27 37.7**	**+1.7**
ABTA	**Abfaltersbach**	**78.92**	**5**	*i* P	**P**	**22 27 39.6**	**+2.1**
	comp=Z,8.4nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**78.92**	**6**	P	**P**	**22 27 39.0**	**+1.2**
VASR	**Vaslui**	**78.92**	**354**	⇑P	**P**	**22 27 38.0**	**+0.6**
SHL	**Shillong**	**78.94**	**299**	P	**P**	**22 27 36.9**	**-1.3**
SHL				IAmb	IAmb	22 27 38.2	
	comp=Z,14nm,0.9s						
SHL	**Shillong**	**78.94**	**299**	P	**P**	**22 27 36.9**	**-1.3**
SHL				pmax	pmax		
	comp=Z,14nm,0.9s						
DRGR		**78.99**	**358**	⇑P	**P**	**22 27 39.0**	**+1.0**
CJR	**Cluj-Napoca**	**79.04**	**357**	⇑P	**P**	**22 27 39.3**	**+1.0**
MYKA	**Terra Mystica**	**79.08**	**4**	*i* P	**P**	**22 27 40.2**	**+1.8**
	comp=Z,2.4nm,0.6s						
SOKA	**Soboth**	**79.08**	**3**	*e*P	**P**	**22 27 39.7**	**+1.3**
	comp=Z,8.4nm,0.7s,SNR=9.2						
PERS	**Pernice**	**79.13**	**3**	*i* P	**P**	**22 27 40.0**	**+1.4**
OBKA	**Obir**	**79.24**	**3**	*e*P	**P**	**22 27 40.7**	**+1.4**
	comp=Z,30nm,0.9s,SNR=10						
FAKI	**Fak Fak**	**79.27**	**249**	P	**P**	**22 27 39.2**	**-0.5**
FAKI				IAmb	IAmb	22 27 41.0	
	comp=Z,15nm,0.9s						
CADS	**Cadrg**	**79.49**	**4**	*i* P	**P**	**22 27 41.1**	**+0.5**
SIRR	**Siria**	**79.54**	**358**	⇑P	**P**	**22 27 42.3**	**+1.4**
TAPN	**Taplejung**	**79.56**	**303**	*e*P	**P**	**22 27 41.6**	**-0.1**
	comp=Z,67nm,0.9s						
OZUR		**79.58**	**355**	⇓P	**P**	**22 27 42.6**	**+1.5**
MORH	**Mrgy, Hungar**	**79.61**	**0**	⇓P	**P**	**22 27 42.2**	**+0.9**
MORH	**Mrgy, Hungar**	**79.61**	**0**	P	**P**	**22 27 42.0**	**+0.8**
DOPR	**Dopca**	**79.72**	**356**	⇑P	**P**	**22 27 43.7**	**+1.8**
VRI	**Vrincioaia**	**79.76**	**355**	⇑P	**P**	**22 27 42.5**	**+0.4**
PLOR	**Plostina**	**79.78**	**355**	⇑P	**P**	**22 27 42.5**	**+0.3**
COVR	**Voineasa-Covas**	**79.81**	**355**	⇑P	**P**	**22 27 44.1**	**+1.8**
KIV	**Kislovodsk**	**79.86**	**343**	⇑P	**P**	**22 27 44.0**	**+1.2**
KIV	**Kislovodsk**	**79.86**	**343**	P	**P**	**22 27 42.8**	**0.0**
KIV				IAmb	IAmb	22 27 44.9	
	comp=Z,17nm,0.8s						
KIV	**Kislovodsk**	**79.86**	**343**	*e*P	**P**	**22 27 43.7**	**+1.0**
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
UBPT	**Khong Chiam**	**79.88**	**282**	P	**P**	**22 27 43.0**	**-0.1**
UBPT				IAmb	IAmb	22 27 44.1	
	comp=Z,11nm,0.9s						
GUN	**Gumba**	**79.98**	**304**	*e*P	**P**	**22 27 44.6**	**+0.6**
	comp=Z,120nm,0.9s						
KBZ	**Khabaz**	**80.04**	**343**	P	**P**	**22 27 45.0**	**+1.4**
	comp=Z,17nm,0.9s,baz=332,slow=3.4,SNR=25						
	comp=Z,17nm,0.9s						
KBZ	**Khabaz**	**80.04**	**343**	*c*e P	**P**	**22 27 44.8**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,19nm,0.9s						
SURR	**Surduc**	**80.04**	**358**	⇓P	**P**	**22 27 44.5**	**+0.9**
JIRN	**Jiri**	**80.04**	**304**	*e*P	**P**	**22 27 44.9**	**+0.5**
	comp=Z,129nm,0.9s						
NCK	**Nalchik**	**80.14**	**342**	⇑*e*P	**P**	**22 27 45.6**	**+1.4**
NCK				pmax	pmax		
	comp=Z,32nm,0.6s						
MLR	**Muntele Rosu**	**80.17**	**355**	P	**P**	**22 27 45.4**	**+0.9**
MLR	**Muntele Rosu**	**80.17**	**355**	P	**P**	**22 27 45.4**	**+0.9**
MLR				pmax	pmax		
	comp=Z,12nm,1.4s						
BZS	**Buzias**	**80.19**	**358**	⇑P	**P**	**22 27 45.6**	**+1.2**
GBRS	**Gornja Briga**	**80.22**	**3**	*i* P	**P**	**22 27 45.5**	**+0.8**
PHRA	**Phrae**	**80.23**	**288**	P	**P**	**22 27 44.9**	**-0.1**
VOIR		**80.27**	**356**	⇓P	**P**	**22 27 46.1**	**+1.2**
LOT	**Lotru**	**80.30**	**357**	⇑P	**P**	**22 27 45.6**	**+0.4**
ARR	**Arges**	**80.35**	**356**	⇑P	**P**	**22 27 46.7**	**+1.3**
CFR	**Carcaliu**	**80.36**	**354**	⇑P	**P**	**22 27 46.7**	**+1.5**
GZR	**Gura Zlata**	**80.39**	**357**	⇑P	**P**	**22 27 46.7**	**+1.2**
RAMN	**Ramite**	**80.44**	**303**	*e*P	**P**	**22 27 46.7**	**+0.4**
	comp=Z,133nm,0.9s						
PKI	**Pulchoki**	**80.49**	**305**	*e*P	**P**	**22 27 46.4**	**-0.3**
	comp=Z,59nm,1.0s						
PKIN	**Phulchoki**	**80.50**	**305**	*e*P	**P**	**22 27 46.7**	**0.0**
	comp=Z,49nm,1.0s						
GKN	**Gorkha**	**80.50**	**305**	*e*P	**P**	**22 27 46.7**	**+0.1**
	comp=Z,63nm,0.9s						
DMN	**Daman**	**80.61**	**305**	*e*P	**P**	**22 27 47.6**	**+0.3**
	comp=Z,60nm,0.9s						
DANN	**Dangsing**	**80.62**	**306**	*e*P	**P**	**22 27 47.6**	**+0.2**
	comp=Z,154nm,0.8s						
NIL	**Nilore**	**80.64**	**317**	P	**P**	**22 27 47.0**	**-0.1**
NIL	**Nilore**	**80.64**	**317**	P	**P**	**22 27 47.0**	**-0.1**
NIL				pmax	pmax		
	comp=Z,27nm,0.8s						
TPGR	**Topolog**	**80.66**	**353**	⇑P	**P**	**22 27 47.8**	**+0.8**
CHTO	**Chiang Mai**	**80.69**	**289**	P	**P**	**22 27 47.0**	**-0.5**
CHTO	**Chiang Mai**	**80.69**	**289**	P	**P**	**22 27 47.0**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SOC	**Sochi**	**80.69**	**345**	*e*P	**P**	**22 27 46.0**	**-1.1**
SOC				*e*S	**S**	**22 37 50.2**	**-0.6**
SOC				*e*SS	**SS**	**22 43 03.8**	**+0.9**
SOC				*e*SSS	SSS	22 46 33.8	
SOC				pmax	pmax		
	comp=Z,25nm,0.8s						
ZEI	**Tsey**	**80.77**	**342**	*e*P	**P**	**22 27 48.2**	**+0.4**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HARR	**Harsova**	**80.86**	**354**	⇑P	**P**	**22 27 49.4**	**+1.4**
HERR	**Herculane**	**80.91**	**358**	⇑P	**P**	**22 27 49.1**	**+0.8**
CM31	**Chiang Mai Arr**	**80.98**	**289**	P	**P**	**22 27 48.7**	**-0.3**
CM31				IAmb	IAmb	22 27 50.8	
	comp=Z,18nm,0.9s						
CMAR	**Chiang Mai Arr**	**80.98**	**289**	P	**P**	**22 27 49.4**	**+0.3**
	comp=Z,16nm,0.9s,baz=16,slow=5.7,SNR=60						
	comp=Z,16nm,0.9s						
CMAR	**Chiang Mai Arr**	**80.98**	**289**	P	**P**	**22 27 49.1**	**0.0**
CMAR	**Chiang Mai Arr**	**80.98**	**289**	*i* P	**P**	**22 27 49.4**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,15nm,0.9s						
ONI	**Oni**	**81.05**	**342**	P	**P**	**22 27 50.8**	**+1.7**
ONI	**Oni**	**81.05**	**342**	P	**P**	**22 27 50.8**	**+1.7**
ONI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIRR	**Tirgusor**	**81.06**	**353**	P	**P**	**22 27 50.4**	**+1.4**
TIRR	**Tirgusor**	**81.06**	**353**	P	**P**	**22 27 50.4**	**+1.4**
TIRR				pmax	pmax		
	comp=Z,55nm,1.0s						
DZM	**Mont Dzumac**	**81.34**	**211**	*e*LR	LR	22 53 18.8	
	comp=Z,253nm,21.8s						
KBL	**Kabul**	**81.47**	**320**	P	**P**	**22 27 50.9**	**-0.8**
KBL				IAmb	IAmb	22 27 52.4	
	comp=Z,14nm,0.8s						
KBL	**Kabul**	**81.47**	**320**	P	**P**	**22 27 50.9**	**-0.8**
KBL				pmax	pmax		
	comp=Z,14nm,0.8s						
DIVS	**Divibare**	**81.72**	**359**	P	**P**	**22 27 52.7**	**0.0**
GEYT	**Alibeck**	**82.02**	**330**	P	**P**	**22 27 55.5**	**+1.2**
	comp=Z,10nm,0.9s,baz=323,slow=4.7,SNR=26						
	comp=Z,10nm,0.9s						
GEYT	**Alibeck**	**82.02**	**330**	P	**P**	**22 27 55.0**	**+0.7**
GEYT				IAmb	IAmb	22 27 56.6	
	comp=Z,13nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**82.02**	**330**	P	**P**	**22 27 54.8**	**+0.5**
GYA0B				IAmb	IAmb	22 27 56.6	
	comp=Z,11nm,0.9s						
GNI	**Garni**	**83.17**	**341**	LR	LR	23 09 45.6	
	comp=Z,163nm,19.3s,baz=7.5,slow=39						
GNI	**Garni**	**83.17**	**341**	⇑*e*P	**P**	**22 28 02.1**	**+1.7**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PDG	**Podgorica**	**83.39**	**360**	⇑P	**P**	**22 28 01.5**	**+0.2**
PDG	**Podgorica**	**83.39**	**360**	P	**P**	**22 28 01.0**	**-0.3**
PDG				IAmb	IAmb	22 28 02.7	
	comp=Z,9.6nm,0.8s						
HRA	**Herat**	**84.00**	**325**	P	**P**	**22 28 04.0**	**-0.8**
HRA				IAmb	IAmb	22 28 06.4	
	comp=Z,7.2nm,1.0s						
ESBB	**Sonseca Array**	**84.05**	**18**	P	**P**	**22 28 04.7**	**-0.1**
ESBB				IAmb	IAmb	22 28 07.3	
	comp=Z,12nm,1.1s						
ESDC	**Sonseca Array**	**84.05**	**18**	P	**P**	**22 28 06.1**	**+1.3**
	comp=Z,7.4nm,0.9s,baz=343,slow=5.2,SNR=23						
	comp=Z,7.4nm,0.9s						
ESDC	**Sonseca Array**	**84.05**	**18**	P	**P**	**22 28 05.4**	**+0.6**
ESDC				IAmb	IAmb	22 28 07.4	
	comp=Z,9.5nm,1.1s						
TOKA	**Tokat**	**84.35**	**347**	P	**P**	**22 28 06.8**	**+0.5**
TOKA				IAmb	IAmb	22 28 09.3	
	comp=Z,9.9nm,0.9s						
RDO	**Rodhopi**	**84.52**	**355**	P	**P**	**22 28 07.9**	**+0.8**
RDO				IAmb	IAmb	22 28 22.0	
	comp=Z,17nm,0.9s						
FNA	**Florina**	**85.02**	**358**	P	**P**	**22 28 10.1**	**+0.4**
FNA	**Florina**	**85.02**	**358**	P	**P**	**22 28 10.1**	**+0.4**
FNA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BR131	**Keskin Array S**	**85.29**	**349**	P	**P**	**22 28 11.2**	**+0.1**
BR131				IAmb	IAmb	22 28 13.2	
	comp=Z,13nm,0.9s						
BR131	**Keskin Array S**	**85.29**	**349**	*c i*P	**P**	**22 28 11.8**	**+0.7**
BRTR	**Keskin Array B**	**85.29**	**349**	P	**P**	**22 28 12.2**	**+1.0**
	comp=Z,5.8nm,0.9s,baz=28,slow=2.9,SNR=25						
	comp=Z,5.8nm,0.9s						
BRTR	**Keskin Array B**	**85.29**	**349**	P	**P**	**22 28 12.0**	**+0.9**
BNN	**Bunyan**	**85.88**	**347**	P	**P**	**22 28 14.1**	**0.0**
TIP	**Timpagrande**	**86.62**	**2**	P	**P**	**22 28 18.5**	**+0.9**
TIP				IAmb	IAmb	22 28 19.7	
	comp=Z,14nm,1.1s						
MARD	**Mardin**	**86.64**	**343**	P	**P**	**22 28 18.7**	**+0.8**
CTAO	**Charters Tower**	**87.02**	**229**	P	**P**	**22 28 19.0**	**-0.6**
CTAO				IAmb	IAmb	22 28 20.7	
	comp=Z,9.5nm,1.0s						
CTAO	**Charters Tower**	**87.02**	**229**	P	**P**	**22 28 19.0**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KAPI	**Kappang**	**87.98**	**259**	P	**P**	**22 28 24.4**	**+0.1**
KAPI				IAmb	IAmb	22 28 40.1	
	comp=Z,15nm,1.1s						
KAPI	**Kappang**	**87.98**	**259**	*de*P	**P**	**22 28 25.0**	**+0.6**
KAPI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WRAB	**Tennant Creek**	**92.46**	**239**	*de*P	**P**	**22 28 44.7**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WB2	**Warramunga Arr**	**92.47**	**239**	P	**P**	**22 28 44.0**	**-1.1**
WB2				IAmb	IAmb	22 28 45.5	
	comp=Z,5.5nm,1.0s						
WRA	**Warramunga Arr**	**92.48**	**239**	P	**P**	**22 28 44.3**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=42,slow=5.2,SNR=22						
	comp=Z,3.1nm,0.9s						
WRA	**Warramunga Arr**	**92.48**	**239**	*i* P	**P**	**22 28 44.7**	**-0.5**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR	**Alice Springs**	**95.83**	**237**	P	**P**	**22 29 00.3**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=37,slow=3.9,SNR=14						
	comp=Z,1.4nm,0.8s						
KMBO	**Kilima Mbogo**	**124.74**	**338**	PKP	**PKiKP**	**22 34 34.4**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=28,slow=3.1,SNR=5.9						
BOSA	**Boshof**	**153.72**	**348**	PKPbc	**PKPbc**	**22 35 32.4**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=13,slow=3.3,SNR=4.0						

IDC ***23*** *22:33:35.8±1.6,37.°14N×141.°42E,h0km,mb3.4/4, mbtmp3.4/6,ML3.0/2,Error ellipse: s-maj=32.4km s-min=27.6km az=156.0*
JMA ***23*** *22:33:38.0±0.2,37.°2N±0.°3×141.°3E±0.°8,h23km±1km, MV3.5/37,E OFF FUKUSHIMA PREF*
ISC 23 22:33:37.3±2.0,37.°16N±0.°05×141.°36E±0.°08,h11km±10km, n16,σ0°77/19,mb3.3/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.44**	**299**	*i* P	**Pg**	**22 33 46.3**	**+0.3**
JFFD	**Fukushimafurud**	**0.64**	**265**	*i* P	**Pg**	**22 33 49.8**	**0.0**
JFFD				*e*S	**Sg**	**22 33 58.2**	**0.0**
JMST	**Minamisoumatoc**	**0.68**	**327**	*i* P	**Pg**	**22 33 50.6**	**+0.1**
JMST				S	**Sg**	**22 33 59.9**	**+0.4**
JHO	**Hitachi**	**0.83**	**230**	P	**Pg**	**22 33 52.8**	**-0.6**
JMM	**Marumori**	**0.84**	**328**	P	**Pg**	**22 33 53.2**	**-0.3**
JMM				*e*S	**Sg**	**22 34 04.5**	**0.0**
JSB	**Shiboa**	**1.17**	**261**	*e*P	**Pg**	**22 33 59.4**	**-0.4**
JSB				*e*S	**Sn**	**22 34 15.0**	**-0.4**
JIO	**Ouri**	**1.30**	**360**	P	**Pn**	**22 34 00.6**	**-0.7**
JIO				*e*S	**Sb**	**22 34 16.7**	**-1.6**
MJAR	**Matsushiro Arr**	**2.60**	**257**	Pn	**Pn**	**22 34 20.0**	**+0.8**
	0.7nm,0.3s,baz=84,slow=26,SNR=25						
MJAR				Sn	**Sb**	**22 34 54.2**	**-1.6**
	0.7nm,0.3s,baz=59,slow=24,SNR=6.9						
	5.6nm,0.4s						
USRK	**Uesuriysk Ar.**	**10.00**	**318**	Pn	**Pn**	**22 36 01.7**	**+0.9**
	0.6nm,0.3s,baz=138,slow=12,SNR=2.1						
	0.9nm,0.3s						
SONM	**Songino Array**	**27.68**	**304**	P	**P**	**22 39 25.5**	**+0.2**
	0.3nm,0.5s,baz=102,slow=7.8,SNR=2.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**22 41 44.6**	**-0.2**
	0.8nm,0.8s,baz=77,slow=8.9,SNR=2.6						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**22 42 27.4**	**+0.8**
	0.3nm,0.8s,baz=263,slow=7.0,SNR=1.8						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**22 43 24.1**	**0.0**
	0.2nm,0.6s,baz=4.6,slow=7.3,SNR=1.5						
	0.2nm,0.6s						
H03N2	**Juan Fernandez**	**147.08**	**96**	T	T	01 37 14.1	
	baz=287,slow=72						
H03N3	**Juan Fernandez**	**147.09**	**96**	T	T	01 37 07.2	
	baz=287,slow=72						
H03N1	**Juan Fernandez**	**147.10**	**96**	T	T	01 37 11.3	
	baz=287,slow=72						

IDC ***23*** *22:40:30.7±1.0,53.°69S×140.°95E,h0km,mb4.4/5, mbtmp4.4/5,Error ellipse: s-maj=100.4km s-min=17.1km az=84.0*
NEIC ***23*** *22:40:31.5±0.7,53.°70S±0.°09×140.°9E±0.°6,h10km±2km, mb4.5/16,Error ellipse: s-maj=57.5km s-min=6.8km az=76.0*
ISC 23 22:40:32.3±0.7,53.°77S±0.°08×140.°4E±0.°3,h10km,n45, σ1s48/38,mb4.4/11,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOO	**Toolangi**	**16.58**	**14**	P	**P**	**22 44 24.7**	**-2.6**
HTT	**Hallett**	**20.36**	**357**	P	Pn	22 45 10.5	-0.4
BBOO	**Buckleboo**	**21.17**	**350**		**P**	**22 45 16.2**	**-1.4**
BBOO				IAmb	IAmb	22 45 22.6	
	comp=Z,17nm,1.1s						
BBOO	**Buckleboo**	**21.17**	**350**	P	**P**	**22 45 21.1**	**+3.5**
STKA	**Stephens Creek**	**21.90**	**3**	P	**P**	**22 45 25.6**	**+0.3**
	comp=Z,11nm,0.8s,baz=169,slow=11,SNR=21						
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**21.90**	**3**	P	**P**	**22 45 23.5**	**-1.8**
STKA	**Stephens Creek**	**21.90**	**3**	P	**P**	**22 45 26.2**	**+0.8**
**C

mbtmp3.8/4,ML4.0/2,Error ellipse: s-maj=62.7km s-min=32.3km az=30.0
*NEIC **23** 22:49:58.5±1.5,9.05S±0.09×124.23E±0.09,h86km±8km, mb4.3/4,Error ellipse: s-maj=15.6km s-min=9.5km az=217.0*

ISC 23 22:49:58.7±0.8,**9.14S**±0.09×**124.23E**±0.10,**h100**km,**n18, σ1§50/20, mb3.8/3, Timor region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.61**	**177**		Pn		**Pn**	**22 50 15.3**	**-0.3**
SOEI					Sn		**Sn**	**22 50 26.6**	**-1.5**
BATI	**Baumata**	**1.20**	**208**		P		**Pn**	**22 50 21.9**	**+0.5**
	142nm,0.3s,baz=86,slow=3.7,SNR=41								
BATI					S		**Sn**	**22 50 38.5**	**-0.1**
	335nm,0.3s,baz=336,slow=23,SNR=12								
MMRI	**Maumere**	**2.03**	**284**				**Pn**	**22 50 30.6**	**-1.1**
MTN	**Manton Dam**	**7.71**	**119**		Pn		**Pn**	**22 51 48.4**	**+0.1**
KNRA	**Kununurra**	**7.86**	**146**				**Pn**	**22 51 49.5**	**-0.8**
WB0	**Warramunga Arr**	**14.43**	**138**		Pn		**Pn**	**22 53 15.8**	**-2.5**
WRA	**Warramunga Arr**	**14.52**	**139**		P		**Pn**	**22 53 16.6**	**-2.9**
	0.8nm,0.3s,baz=316,slow=15,SNR=42								
WRA					S		Sn	22 55 46.9	-13
	4.3nm,0.6s,baz=320,slow=25,SNR=12								
	1.4nm,0.4s								
WRA	**Warramunga Arr**	**14.52**	**139**		Pn		**Pn**	**22 53 16.9**	**-2.5**
AS31	**Alice Springs**	**17.16**	**149**				**Pn**	**22 53 50.9**	**-1.4**
ASAR	**Alice Springs**	**17.16**	**149**		P		**Pn**	**22 53 52.2**	**-0.1**
	0.4nm,0.3s,baz=320,slow=11,SNR=25								
ASAR					S		Sn	22 56 51.0	-12
	2.2nm,0.6s,baz=311,slow=20,SNR=13								
	2.0nm,0.6s								
ASAR	**Alice Springs**	**17.16**	**149**				**Pn**	**22 53 51.9**	**-0.5**
COEN	**Coen**	**19.16**	**106**		P		**Pn**	**22 54 16.4**	**0.0**
COEN					IAmb	IAmb		22 54 26.0	
	comp=Z,21nm,1.4s								
FORT	**Forrest**	**21.82**	**171**		P		**P**	**22 54 44.0**	**+1.0**
FORT					IAmb	IAmb		22 54 51.6	
	comp=Z,15nm,0.9s								
BBOO	**Buckleboo**	**25.97**	**157**		P		**P**	**22 55 24.9**	**+2.8**
SONM	**Songino Array**	**58.89**	**346**		P		**P**	**22 59 47.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=163,slow=6.0,SNR=3.9								
	comp=Z,0.4nm,0.5s								
MKAR	**Makanchi Array**	**67.05**	**330**		P		**P**	**23 00 41.7**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=119,slow=7.1,SNR=5.3								
	comp=Z,0.5nm,0.7s								
MKAR	**Makanchi Array**	**67.05**	**330**		P		**P**	**23 00 41.3**	**+0.1**
KKAR	**Karatay Array**	**71.31**	**321**		P		**P**	**23 01 08.7**	**+1.1**

*IDC **23** 22:53:39.1±1.1,20.03S×66.28E,h0km,mb4.0/9, mbtmp4.0/9,MS4.0/11,Error ellipse: s-maj=34.5km s-min=23.4km az=57.0*
*NEIC **23** 22:53:39.8±1.4,20.1S±0.2×66.01E±0.06,h10km±1km, mb4.5/12,Error ellipse: s-maj=25.6km s-min=8.9km az=188.0*

ISC 23 22:53:40.1±0.7,**20.08S**±0.1×**66.1E**±0.1,**h10**km,**n36, σ1§06/22, mb4.3/12, MS4.0/11, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.55**	**276**		Pn		**Pn**	**22 54 20.0**	**-1.5**
H08S1	**Diego Garcia H**	**13.80**	**28**		T		T	23 10 53.4	
	baz=205,slow=76,SNR=88								
H08S2	**Diego Garcia H**	**13.80**	**28**		T		T	23 10 56.5	
	baz=205,slow=76,SNR=74								
H08S3	**Diego Garcia H**	**13.82**	**28**		T		T	23 10 57.5	
	baz=205,slow=76,SNR=149								
PALK	**Pallekele**	**30.23**	**29**		LR		LR	23 08 56.5	
	comp=Z,300nm,20.6s,baz=331,slow=30								
PSI	**Prapat**	**39.44**	**59**		LR		LR	23 14 48.4	
	comp=Z,221nm,18.9s,baz=188,slow=32								
LEM	**Lembang**	**42.36**	**78**		LR		LR	23 15 05.7	
	comp=Z,149nm,21.7s,baz=220,slow=30								
BRDH	**Bariadhala**	**49.25**	**32**		LR		LR	23 20 47.7	
	comp=Z,184nm,21.6s,baz=264,slow=33								
CMAR	**Chiang Mai Arr**	**50.04**	**42**		P		**P**	**23 02 35.8**	**+0.6**
	2.9nm,0.3s,baz=245,slow=7.8,SNR=4.3								
CMAR					LR		LR	23 22 29.8	
	comp=Z,149nm,18.1s,baz=220,slow=35								
	2.9nm,0.3s								
SHL	**Shillong**	**51.81**	**30**		P		**P**	**23 02 47.7**	**-1.0**
SHL					IAmb		IAmb	23 03 03.8	
	comp=Z,7.6nm,1.2s								
KAPI	**Kappang**	**54.25**	**82**		LR		LR	23 22 55.1	
	comp=Z,65nm,21.8s,baz=296,slow=32								
KBL	**Kabul**	**54.35**	**3**		P		**P**	**23 03 06.9**	**-0.3**
ASAR	**Alice Springs**	**62.54**	**107**		P		**P**	**23 04 03.2**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=260,slow=6.4,SNR=18								
ASAR					LR		LR	23 27 07.6	
	comp=Z,209nm,21.3s,baz=295,slow=32								
	comp=Z,2.0nm,0.8s								
AS31	**Alice Springs**	**62.54**	**107**		P		**P**	**23 04 03.6**	**-1.0**
AAK	**Ala-Archa**	**62.84**	**7**		P		**P**	**23 04 06.5**	**+0.3**
AAK					IAmb		IAmb	23 04 25.8	
	comp=Z,4.2nm,1.4s								
KKAR	**Karatay Array**	**62.96**	**4**		P		**P**	**23 04 07.1**	**+0.3**
WRA	**Warramunga Arr**	**63.71**	**103**		P		**P**	**23 04 12.1**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=260,slow=6.1,SNR=17								
WRA					LR		LR	23 28 35.2	
	comp=Z,97nm,19.0s,baz=222,slow=33								
	comp=Z,3.0nm,1.0s								
WRA	**Warramunga Arr**	**63.71**	**103**		P		**P**	**23 04 10.9**	**-1.5**
WB2	**Warramunga Arr**	**63.72**	**103**		P		**P**	**23 04 10.6**	**-1.9**
WB0	**Warramunga Arr**	**63.80**	**103**		P		**P**	**23 04 11.9**	**-1.1**
SNAA	**Sanae**	**64.52**	**199**		P		P	23 04 25.1	+8.2
SNAA	**Sanae**	**64.52**	**199**		P		**P**	**23 04 18.6**	**+1.7**
	comp=Z,2.4nm,1.2s,baz=24,slow=20,SNR=2.3								
	comp=Z,2.4nm,1.2s								
VNA2	**Neumayer--Watz**	**65.81**	**200**		P		P	23 04 33.8	+8.6
	baz=40,slow=2.4								
VNA3	**Neumayer Olymp**	**66.59**	**200**		P		P	23 04 38.6	+8.4
BRTR	**Keskin Array B**	**66.72**	**333**		P		**P**	**23 04 33.4**	**+1.8**
	comp=Z,1.1nm,1.0s,baz=194,slow=4.7,SNR=4.7								
	comp=Z,1.1nm,1.0s								
MKAR	**Makanchi Array**	**68.11**	**12**		P		**P**	**23 04 40.8**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=190,slow=7.2,SNR=2.9								
	comp=Z,1.1nm,1.0s								
ABKAR	**Akbulak array**	**69.19**	**356**		P		**P**	**23 04 46.6**	**-0.1**
QSPA	**South Pole Qui**	**70.07**	**180**		P		**P**	**23 04 52.3**	**0.0**
ZAA0	**Zalesovo Array**	**75.43**	**11**		P		**P**	**23 05 23.2**	**-0.7**
ZAA0					IAmb		IAmb	23 05 25.3	
	comp=Z,7.0nm,1.3s								
ZALV	**Zalesovo Beam**	**75.43**	**11**		P		**P**	**23 05 23.6**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=212,slow=5.3,SNR=4.6								
	comp=Z,0.7nm,0.4s								
ZALV	**Zalesovo Beam**	**75.43**	**11**		P		**P**	**23 05 23.3**	**-0.5**
SONM	**Songino Array**	**76.63**	**27**		P		**P**	**23 05 31.3**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=226,slow=5.3,SNR=5.0								
	comp=Z,0.7nm,0.8s								
AKASG	**Malin Array Be**	**77.55**	**337**		P		**P**	**23 05 36.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=126,slow=4.7,SNR=5.2								
	comp=Z,0.2nm,0.3s								
KSRS	**Korea Array**	**81.57**	**45**		LR		LR	23 41 46.1	
	comp=Z,71nm,19.2s,baz=250,slow=36								
MJAR	**Matsushiro Arr**	**88.27**	**50**		LR		LR	23 46 52.8	
	comp=Z,73nm,18.5s,baz=344,slow=36								
RCBR	**Riachuelo**	**99.18**	**260**		LR		LR	23 45 10.4	
	comp=Z,90nm,20.7s,baz=220,slow=31								

IDC 23 23:15:04.0±2.3,**0.71S**×**136.23E**,**h0**km,**mb3.7**/2, **mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=59.3km s-min=27.6km az=73.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.97**	**268**		Pn		Pn	23 16 20.8	+0.8
	1.1nm,0.3s,baz=0.0,slow=20,SNR=1.7								
	4.8nm,0.4s								
WRA	**Warramunga Arr**	**19.20**	**185**		P		P	23 19 29.5	-0.1
	0.1nm,0.3s,baz=6.6,slow=11,SNR=14								
	1.0nm,0.7s								
ASAR	**Alice Springs**	**22.93**	**185**		P		P	23 20 09.8	0.0
	2.8nm,0.6s,baz=13,slow=11,SNR=30								
	2.8nm,0.6s								
MKAR	**Makanchi Array**	**66.71**	**323**		P		P	23 25 56.9	-0.1
	0.4nm,0.7s,baz=101,slow=8.1,SNR=4.2								
	0.4nm,0.7s								

IDC 23 23:15:53.0±2.3,**6.18S**×**145.44E**,**h0**km,**mb3.4**/2, **mbtmp3.5/4, ML2.6/2, Error ellipse: s-maj=54.9km s-min=28.5km az=68.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.63**	**152**		Pn		Pn	23 16 49.7	-0.8
	4.8nm,0.3s,baz=356,slow=9.4,SNR=19								
PMG					Sn		Sn	23 17 36.7	+2.6
	2.0nm,0.3s,baz=273,slow=20,SNR=3.7								
	56nm,0.6s								
WRA	**Warramunga Arr**	**17.43**	**217**		P		Pn	23 19 57.8	+0.2
	0.1nm,0.3s,baz=43,slow=12,SNR=7.5								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**20.63**	**211**		P		P	23 20 34.2	0.0
	1.0nm,0.7s,baz=34,slow=12,SNR=1.8								
	1.0nm,0.7s								
MKAR	**Makanchi Array**	**76.65**	**321**		P		P	23 27 46.0	+0.2
	0.4nm,0.9s,baz=101,slow=6.0,SNR=1.5								
	0.4nm,0.9s								

MAN 23 23:18:42.0, 7.49N×127.35E, h30km, mb4.0, ML2.8, MS2.4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.20**	**305**	⇑*i*	*i*P		Pb	23 19 04.0	-0.1
BIPH					*i* S		Sb	23 19 21.1	+1.9
KCP	**Kidapawan**	**2.29**	**258**	⇓*e*	*e*P		Pb	23 19 20.9	-1.8
KCP					*i* S		Sb	23 19 50.0	-0.7

*MAN **23** 23:24:37.9, 6.93N×126.50E, h26km, mb4.0, ML2.8, MS2.4*
*IDC **23** 23:24:38.2±0.9, 7.22N×126.40E, h0km, mb4.0/6, mbtmp4.1/7, ML4.8/1, MS3.6/2, Error ellipse: s-maj=18.8km s-min=11.1km az=1.0*
*NEIC **23** 23:24:42.2±1.1, 7.13N±0.09×126.05E±0.04, h19km±5km, mb4.5/19, Error ellipse: s-maj=13.8km s-min=5.6km az=170.0*

ISC 23 23:24:38.4±1.8,**7.10N**±0.04×**126.32E**±0.06,**h3**km±11km, **n47, σ1§86/58, mb4.4/16, 7C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.74**	**268**		Pg		**Pg**	**23 24 53.3**	**+0.6**
	247nm,0.3s,baz=97,slow=1.9,SNR=32								
DAV					Lg		Lg	23 25 06.6	
	390nm,0.3s,baz=125,slow=21,SNR=6.1								
DAV					LR		LR	23 25 25.2	
	comp=Z,1µm,21.5s,baz=235,slow=57								
DAV	**Davao City (W)**	**0.74**	**268**				**Pg**	**23 24 51.8**	**-0.8**
DAV							**Sg**	**23 24 58.0**	**-4.3**
BIPH	**Bislig**	**1.08**	**2**	⇓*i*	*i*P		**Pb**	**23 24 58.1**	**-1.8**
BIPH					*e*S		**Sb**	**23 25 11.9**	**-2.5**
KCP	**Kidapawan**	**1.23**	**266**	⇑*i*	*i*P		**Pn**	**23 25 00.9**	**-1.7**
KCP					*i* S		**Sg**	**23 25 23.2**	**+5.2**
BUKP	**Musuan**	**1.47**	**302**	⇑*e*	*e*P		**Pn**	**23 25 05.2**	**-0.7**
BUKP					*e*S		**Sn**	**23 25 25.3**	**-0.5**
GSPH	**General Santos**	**1.69**	**234**	⇑*e*	*e*P		**Pn**	**23 25 06.6**	**-2.5**
GSPH					*i* S		**Sn**	**23 25 27.4**	**-4.0**
CTBH	**Cotabato--PC H**	**2.06**	**274**	⇑*i*	*i*P		**Pn**	**23 25 13.3**	**-0.7**
CTBH					*i* S		**Sn**	**23 25 41.7**	**+1.4**
CGP	**Cagayan de Oro**	**2.10**	**310**	⇓*i*	*i*P		**Pn**	**23 25 15.9**	**+1.3**
CGP					*i* S		**Sb**	**23 25 43.0**	**-0.8**
GHBP	**Garcia Hernand**	**3.20**	**322**	⇑*e*	*e*P		**Pn**	**23 25 31.9**	**+2.2**
GHBP					*e*S		**Sn**	**23 26 09.5**	**+1.0**
LSIP	**Lazi, Siquijor**	**3.34**	**307**	⇑*e*	*e*P		**Pb**	**23 25 38.9**	**+0.4**
TBP	**Tagbilaran**	**3.54**	**317**	*e*	*e*P		**Pn**	**23 25 35.9**	**+1.5**
TBP					*i* S		**Sn**	**23 26 21.1**	**+4.2**
TABP	**Talibon, Bohol**	**3.57**	**327**	⇓*e*	*e*P		**Pn**	**23 25 34.9**	**+0.1**
TABP					*e*S		**Sn**	**23 26 17.2**	**-0.3**
LLP	**Lapu-Lapu**	**3.96**	**324**	⇑*e*	*e*P		**Pn**	**23 25 44.1**	**+4.0**
LLP					*e*S		**Sn**	**23 26 30.2**	**+3.1**
TNTI	**Ternate**	**6.37**	**171**		Pn		**Pn**	**23 26 16.8**	**+3.5**
TOLI2	**Tolitoli**	**8.12**	**223**		Pn		**Pn**	**23 26 37.6**	**+0.3**
LUWI	**Luwuk**	**8.83**	**204**		Pn		**Pn**	**23 26 48.2**	**+1.1**
BATI	**Baumata**	**17.39**	**189**		P		**Pn**	**23 28 43.8**	**+1.4**
	3.0nm,0.3s,baz=324,slow=2.6,SNR=1.5								
	13nm,0.2s								
MTN	**Manton Dam**	**20.38**	**166**		P		**P**	**23 29 18.6**	**+2.0**
MTN					IAmb		IAmb	23 29 27.4	
	comp=Z,7.3nm,0.7s								
KNRA	**Kununurra**	**22.76**	**174**		P		**P**	**23 29 43.6**	**+1.5**
KNRA					IAmb		IAmb	23 29 56.1	
	comp=Z,19nm,0.8s								
LEM	**Lembang**	**23.23**	**234**		LR		LR	23 40 14.0	
	comp=Z,75nm,18.9s,baz=188,slow=40								
JMN	**Monobe**	**27.41**	**14**		P		**P**	**23 30 24.6**	**-0.9**
WB0	**Warramunga Arr**	**27.85**	**164**		P		**P**	**23 30 30.8**	**+1.3**
WB0					IAmb		IAmb	23 30 44.9	
	comp=Z,11nm,1.5s								
WRA	**Warramunga Arr**	**28.00**	**164**		P		**P**	**23 30 31.6**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=344,slow=10,SNR=14								
WRA					PcP		**PcP**	**23 33 47.2**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=328,slow=1.9,SNR=1.2								
	comp=Z,0.8nm,0.6s								
WRA	**Warramunga Arr**	**28.00**	**164**		P		**P**	**23 30 32.0**	**+1.1**
WB2	**Warramunga Arr**	**28.01**	**164**		P		**P**	**23 30 32.6**	**+1.7**
MBWA	**Marble Bar**	**28.82**	**193**		P		**P**	**23 30 36.0**	**-2.1**
PSA00	**Pilbara Seismi**	**29.19**	**192**		P		**P**	**23 30 41.2**	**-0.2**
ASAR	**Alice Springs**	**31.46**	**167**		P		**P**	**23 31 02.8**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=338,slow=6.5,SNR=11								
ASAR					PcP		**PcP**	**23 33 55.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=352,slow=2.7,SNR=2.0								
	comp=Z,0.9nm,0.4s								
MORW	**Morawa**	**37.30**	**195**		P		**P**	**23 31 52.1**	**+0.2**
MORW					IAmb		IAmb	23 32 19.1	
	comp=Z,18nm,1.3s								
FORT	**Forrest**	**37.70**	**178**		P		**P**	**23 31 56.0**	**+0.7**
BBOO	**Buckleboo**	**40.75**	**167**		P		**P**	**23 32 21.9**	**+1.1**
BBOO					IAmb		IAmb	23 32 43.8	
	comp=Z,27nm,1.4s								
STKA	**Stephens Creek**	**41.41**	**160**		P		**P**	**23 32 27.5**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=330,slow=11,SNR=4.7								
	comp=Z,1.7nm,0.6s								
STKA	**Stephens Creek**	**41.41**	**160**		P		**P**	**23 32 27.4**	**+1.2**
SONM	**Songino Array**	**44.00**	**341**		P		**P**	**23 32 46.6**	**-0.7**
	comp=Z,0.3nm,0.9s,baz=132,slow=4.3,SNR=1.9								
	comp=Z,0.3nm,0.9s								
MK31	**Makanchi Array**	**54.59**	**324**		P		**P**	**23 34 08.8**	**+0.6**
MK31					IAmb		IAmb	23 34 22.7	
	comp=Z,6.8nm,1.5s								
MKAR	**Makanchi Array**	**54.59**	**324**		P		**P**	**23 34 08.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=120,slow=7.6,SNR=20								
	comp=Z,1.3nm,0.6s								
MKAR	**Makanchi Array**	**54.59**	**324**		P		**P**	**23 34 08.8**	**+0.5**
MAKZ	**Makanchi**	**54.78**	**324**		P		**P**	**23 34 10.2**	**+0.5**
MAKZ					IAmb		IAmb	23 34 16.5	
	comp=Z,7.4nm,1.3s								
KURK	**Kurchatov**	**58.71**	**327**		P		**P**	**23 34 37.1**	**-0.4**
KURK					IAmb		IAmb	23 34 43.9	
	comp=Z,4.4nm,1.2s								
KKAR	**Karatay Array**	**60.53**	**316**		P		**P**	**23 34 49.4**	**-0.8**
KKAR	**Karatay Array**	**60.53**	**316**		P		**P**	**23 34 49.1**	**-1.1**
KKAR					IAmb		IAmb	23 34 57.3	
	comp=Z,1.9nm,1.0s								
ABKAR	**Akbulak array**	**69.31**	**320**		P		**P**	**23 35 46.2**	**-1.0**
ABKAR	**Akbulak array**	**69.31**	**320**		P		**P**	**23 35 46.3**	**-1.0**
ABKAR					IAmb		IAmb	23 36 03.5	
	comp=Z,1.0nm,1.1s								
ARU	**Arti**	**71.90**	**327**		P		**P**	**23 36 02.5**	**-0.3**
ARU					IAmb		IAmb	23 36 12.6	
	comp=Z,8.7nm,1.5s								
ILAR	**Eielson Array**	**82.26**	**26**		LR		LR	00 13 15.3	
	comp=Z,54nm,21.7s,baz=110,slow=36								
VNDA	**Vanda**	**86.80**	**173**		P		**P**	**23 37 22.7**	**-1.0**
VNDA					IAmb		IAmb	23 37 26.4	
	comp=Z,1.8nm,1.2s								
FINES	**FINESS Array B**	**88.69**	**332**		P		**P**	**23 37 31.9**	**-1.3**
	comp=Z,3.6nm,1.0s,baz=41,slow=9.2,SNR=3.3								
	comp=Z,3.6nm,1.0s								

*JMA **23** 23:31:48.3±0.2, 37.2N±0.4×14.1E±, h22km±1km, MV2.8/33, E OFF FUKUSHIMA PREF*
*IDC **23** 23:31:49.3±2.8, 37.14N×141.16E, h0km, mb3.4/2, mbtmp3.1/3, ML1.4/1, Error ellipse: s-maj=46.6km s-min=34.0km az=49.0*

ISC 23 23:31:49.7±1.7,**37.24N**±0.07×**141.3E**±0.1,**h10**km,**n13, σ0§90/11, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.33**	**293**		P		**Pg**	**23 31 56.3**	**0.0**
JMST	**Minamisoumatoc**	**0.57**	**329**		P		**Pg**	**23 32 00.6**	**-0.2**
JMST						eS	**Sb**	**23 32 09.6**	**-0.3**
JFFD	**Fukushimafurud**	**0.57**	**255**		*e*P		**Pg**	**23 32 00.3**	**-0.6**
JFFD						eS	**Sg**	**23 32 09.2**	**+0.8**
JMM	**Marumori**	**0.73**	**330**		*e*P		**Pg**	**23 32 03.5**	**-0.3**
JMM						eS	**Sb**	**23 32 14.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.54**	**255**		P		**Pn**	**23 32 29.4**	**-1.7**
	0.1nm,0.3s,baz=77,slow=18,SNR=1.9								
MJAR							Sn	**23 33 03.3**	**+1.2**
	0.2nm,0.3s,baz=77,slow=16,SNR=5.4								
	1.1nm,0.4s								
SONM	**Songino Array**	**27.57**	**304**		P		**P**	**23 37 37.7**	**+0.8**
	0.2nm,0.5s,baz=106,slow=10.0,SNR=2.2								
	0.2nm,0.5s								
H11N2	**WAKE ISLAND Hy 28.36**	**121**			T		T	00 07 15.6	
	baz=314,slow=75,SNR=22								
H11N1	**WAKE ISLAND Hy 28.37**	**121**			T		T	00 07 16.1	
	baz=314,slow=75,SNR=23								
H11N3	**WAKE ISLAND Hy 28.38**	**121**			T		T	00 07 17.0	
	baz=314,slow=75,SNR=18								
H11S1	**WAKE ISLAND Hy 29.08**	**123**			T		T	00 08 06.4	
	baz=316,slow=76,SNR=10								
H11S3	**WAKE ISLAND Hy 29.08**	**123**			T		T	00 08 06.7	
	baz=316,slow=76,SNR=12								
H11S2	**WAKE ISLAND Hy 29.09**	**123**			T		T	00 08 07.9	
	baz=316,slow=76,SNR=5.5								
WRA	**Warramunga Arr**	**57.25**	**188**		P		**P**	**23 41 38.0**	**+0.6**
	0.3nm,0.6s,baz=2.3,slow=7.2,SNR=2.5								
	0.3nm,0.6s								

*WEL **24** 00:08:00, 41.97S×174.03E, h12km, ML4.3, Mw4.2, Moment Tensor Solution. s5 Moment tensor: Scale 10^15 Nm; Mrr=0.22; Mθθ 1.53; Mϕϕ-1.30; Mrθ 0.15; Mrϕ-2.21; Mθϕ 0.77; Fault plane solution: M0 2.74000×10^15 NP1: ϕs 255.00000°, δ 75.00000°, λ -171.00000°. NP2: ϕs 163.00000°, δ 82.00000°, λ -15.00000°. Principal axes: T 275.2000, Plg5.0000°, Azm210.0000°; N -273.2900, Plg73.0000°, Azm315.0000°; P -1.9200, Plg16.0000°, Azm118.0000°;*
*WEL **24** 00:08:29.4±0.5, 42.2S±4.4E±, h12km±4km, M4.3/21, ML4.5/21, MLv4.3/21 Error ellipse: s-maj=0.0km s-min=0.0km az=156.0*
*NOU **24** 00:08:29.3, 42.17S×174.25E, h13km, MLv4.7/13, Off E. Coast of S. Island, N.Z.*
*IDC **24** 00:08:30.0±3.8, 41.80S×173.47E, h0km, mb3.5/2, mbtmp3.7/3, ML4.3/1, MS3.5/3, Error ellipse: s-maj=75.2km s-min=34.4km az=108.0*

ISC 24 00:08:28.2±1.1,**42.09S**±0.03×**174.13E**±0.03,**h14**km±8km, **n135, σ1§65/139, Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.35**	**10**		P		**Pg**	**00 08 36.0**	**+0.6**
CMWZ					S		**Sg**	**00 08 42.0**	**+1.9**
BSWZ	**Blackbirch Sta**	**0.42**	**333**		P		**Pg**	**00 08 35.4**	**-1.2**
BSWZ					S		**Sg**	**00 08 39.6**	**-2.8**
KHZ	**Kahutara**	**0.55**	**233**		P		**Pn**	**00 08 41.8**	**+0.2**
KHZ	**Kahutara**	**0.55**	**233**		P		**Pn**	**00 08 41.7**	**+0.2**
TUWZ	**Tuamarina**	**0.68**	**348**		P		**Pb**	**00 08 40.4**	**-1.4**
TUWZ					S		**Sb**	**00 08 48.3**	**-2.7**
TCW	**Tory Channel**	**0.89**	**7**		P		**Pb**	**00 08 44.4**	**-1.0**
SNZO	**South Karori**	**0.89**	**29**		P		**Pb**	**00 08 46.3**	**+0.9**
WEL	**Wellington**	**0.94**	**31**		P		**Pb**	**00 08 47.1**	**+0.9**
WEL					S		**Sg**	**00 09 00.8**	**+2.1**
THZ	**Tophouse**	**0.97**	**289**		P		**Pb**	**00 08 46.2**	**-0.7**
THZ					S		**Sb**	**00 08 57.8**	**-1.8**
PLWZ	**Palliser**	**0.99**	**58**		P		**Pn**	**00 08 48.2**	**+0.5**
NNZ	**Nelson**	**1.04**	**327**		P		**Pn**	**00 08 46.4**	**-2.0**
MSWZ	**Moeikau Station**	**1.08**	**51**		P		**Pn**	**00 08 49.3**	**+0.4**
GVZ	**Greta Valley S**	**1.19**	**222**		P		**Pg**	**00 08 52.2**	**+1.0**
PAWZ	**Paruwai Farm**	**1.20**	**54**		P		**Pn**	**00 08 50.8**	**+0.2**
CAW	**Cannon Point**	**1.21**	**36**		P		**Pn**	**00 08 51.1**	**+0.4**
MRNZ	**Matariki Terra**	**1.24**	**304**		P		**Pn**	**00 08 50.6**	**-0.5**
DUWZ	**D'Urville Isla**	**1.30**	**353**		P		**Pn**	**00 08 51.1**	**-0.8**
TRWZ	**Traveller**	**1.36**	**60**		P		**Pn**	**00 08 52.8**	**+0.1**
KIW	**Kapiti Island**	**1.36**	**26**		P		**Pn**	**00 08 53.2**	**+0.3**
TKNZ	**Takaka Hill**	**1.38**	**320**		P		**Pn**	**00 08 52.3**	**-0.7**
MTW	**Mount Morrison**	**1.39**	**48**		P		**P

NMHZ				P	Pn	00 09 23.5	-0.4
LBZ	Lake Benmore	3.68	230	P	Pn	00 09 25.5	+0.8
MRHZ	Matea Rd	3.69	29	P	Pn	00 09 23.7	-1.2
MTHZ	Maungataniwha	3.84	33	P	Pn	00 09 27.0	+0.1
ODZ	Otahua Downs	3.89	219	P	Pn	00 09 27.9	+0.4
ODZ	Otahua Downs	3.89	219	P	Pn	00 09 27.9	+0.4
TLZ	Tolley Road	3.91	16	P	Pn	00 09 29.2	+1.3
SNGZ	Shannon Statio	4.12	38	P	Pn	00 09 28.6	-2.1
TARZ	Mount Tarawera	4.26	26	P	Pn	00 09 36.1	+3.3
JCZ	Jackson Bay	4.39	241	P	Pn	00 09 36.4	+1.9
JCZ	Jackson Bay	4.39	241	P	Pn	00 09 36.0	+1.6
URZ	Urewera	4.46	32	P	Pn	00 09 38.5	+3.2
TOZ	Tahuroa Road	4.48	14	P	Pn	00 09 38.7	+3.0
HHSZ	Highcliff Hill	4.57	213	P	Pn	00 09 37.9	+1.0
WKZ	Wanaka	4.62	232	P	Pn	00 09 37.7	+0.1
EAZ	Earnscleugh	4.70	226	P	Pn	00 09 39.2	+0.6
AWAZ	Awhitu Peninsu	5.04	5	P	Pn	00 09 45.5	+2.2
MKAZ	Moumakai	5.04	9	P	Pn	00 09 44.6	+1.2
MYRZ	Mayor Island	5.07	19	P	Pn	00 09 51.0	+7.1
WTAZ	Waiatarua	5.17	4	P	Pn	00 09 48.0	+2.9
WIAZ	Waiheke Island	5.35	9	P	Pn	00 09 50.2	+2.6
MBAZ	Motutapu North	5.35	7	P	Pn	00 09 50.6	+3.0
MLZ	Mavora Lakes	5.45	231	P	Pn	00 09 49.3	+0.3
SYZ	Scrubby Hill	5.71	217	P	Pn	00 09 54.1	+1.6
SYZ	Scrubby Hill	5.71	217	P	Pn	00 09 51.9	-0.5
APZ	The Paps	6.46	221	P	Pn	00 10 03.4	+0.6
OUZ	Omahuta	6.88	356	P	Pn	00 10 11.7	+3.1
OUZ	Omahuta	6.88	356	P	Pn	00 10 11.5	+2.9
CTZ	Chatham Island	6.99	107	P	Pn	00 10 10.5	+0.4
CTZ	Chatham Island	6.99	107	P	Pn	00 10 10.5	+0.4
MSVF	Nonsavu	24.51	9	LR	LR	00 22 34.8	
	comp=Z,132nm,18.3s,baz=183,slow=35						
ASAR	Alice Springs	38.04	286	P	P	00 15 46.0	-0.2
	0.3nm,0.4s,baz=124,slow=6.9,SNR=8.2						
	0.3nm,0.4s						
WRA	Warramunga Arr	40.14	291	P	P	00 16 02.4	-1.4
	0.4nm,0.5s,baz=128,slow=7.7,SNR=11						
	0.4nm,0.5s						
MAW	Mawson	59.11	205	LR	LR	00 43 33.0	
	comp=Z,82nm,18.1s,baz=102,slow=36						
BRTR	Keskin Array B	150.23	279	PKPbc	PKiKP	00 28 21.4	+2.0
	0.4nm,0.8s,baz=126,slow=2.5,SNR=2.6						

NEIC ***24*** *00:09:41.3±1.4, 18°.73N±0°.05×145°.6E±0°.2, h196km±8km, mb4.3/21, Error ellipse: s-maj=21.1km s-min=7.2km az=100.0*

IDC ***24*** *00:09:43.0±2.2, 18°.76N×145°.32E, h225km±21km, mb3.5/13, mbtmp4.1/15, Error ellipse: s-maj=23.9km s-min=11.3km az=84.0*

ISC 24 00:09:40.8±0.6, 18.78N±0°.05×145.5E±0°.1, h200km, n42, σ0.98/44, mb4.1/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.20	187	P		Pn	Pn	00 11 00.4	+2.6
	30nm,0.3s,baz=12,slow=21,SNR=13								
GUMO				S		Sn	Sn	00 11 56.8	-1.7
	111nm,0.7s,baz=5.4,slow=21,SNR=2.6								
GUMO	Guam	5.20	187	Pn		Pn	Pn	00 10 56.2	-1.6
JCJ	Chichijima	8.82	340	P		Pn	Pn	00 11 46.0	+1.3
	18nm,0.6s,baz=270,slow=20,SNR=2.0								
JCJ				S		Sn	Sn	00 13 21.6	-2.1
	10.0nm,0.3s,baz=288,slow=19,SNR=1.6								
JCJ	Chichijima	8.82	340	Pn		Pn	Pn	00 11 45.9	+1.2
JGF	Kuroka	18.24	338	P		Pn	Pn	00 13 41.8	+0.2
JNU	Nakatsue	19.38	320	P		Pn	Pn	00 13 54.9	-0.1
FAKI	Fak Fak	25.20	213	P		P	P	00 14 48.3	0.0
FAKI				IAmb		IAmb		00 14 53.4	
	comp=Z,11nm,0.8s								
TOLI2	Tolitoli	29.93	237	P		P	P	00 15 30.4	0.0
TOLI2				IAmb		IAmb		00 15 32.7	
	comp=Z,9.4nm,1.2s								
KKM	Kota Kinabalu	31.21	250	P		P	P	00 15 42.8	+1.0
MTN	Manton Dam	34.47	205	P		P	P	00 16 09.9	+0.1
SBUM	Sibu	36.39	247	P		P	P	00 16 27.8	+1.5
SBUM				IAmb		IAmb		00 16 29.5	
	comp=Z,7.1nm,1.3s								
KNRA	Kununurra	38.00	207	P		P	P	00 16 40.3	+0.6
KNRA				IAmb		IAmb		00 16 41.5	
	comp=Z,11nm,0.8s								
WB0	Warramunga Arr	39.83	196	P		P	P	00 16 55.3	+0.4
WB0				IAmb		IAmb		00 16 56.6	
	comp=Z,17nm,1.2s								
WB2	Warramunga Arr	40.01	196	P		P	P	00 16 56.9	+0.5
WB2				IAmb		IAmb		00 16 58.4	
	comp=Z,8.1nm,0.8s								
WRA	Warramunga Arr	40.01	196	P		P	P	00 16 55.1	-1.3
	comp=Z,3.2nm,0.5s,baz=12,slow=8.6,SNR=44								
	comp=Z,3.2nm,0.5s								
WRA	Warramunga Arr	40.01	196	P		P	P	00 16 56.0	-0.4
SONM	Songino Array	42.96	321	P		P	P	00 17 19.5	-0.7
	comp=Z,0.3nm,0.6s,baz=121,slow=6.1,SNR=2.2								
	comp=Z,0.3nm,0.6s								
AS31	Alice Springs	43.68	195	P		P	P	00 17 26.1	+0.1
ASAR	Alice Springs	43.68	195	P		P	P	00 17 25.4	-0.7
	comp=Z,0.7nm,0.4s,baz=21,slow=8.0,SNR=12								
	comp=Z,0.7nm,0.4s								
ASAR	Alice Springs	43.68	195	P		P	P	00 17 26.3	+0.2
DZM	Mont Dzumac	45.48	152	P		P	P	00 17 39.7	-0.7
	comp=Z,4.5nm,0.6s,baz=111,slow=23,SNR=7.1								
	comp=Z,4.5nm,0.6s								
DZM	Mont Dzumac	45.48	152	P		P	P	00 17 40.0	-0.4
DZM				IAmb		IAmb		00 17 41.8	
	comp=Z,26nm,1.4s								
MBWA	Marble Bar	47.03	214	P		P	P	00 17 52.5	+0.1
STKA	Stephens Creek	50.51	184	P		P	P	00 18 19.2	+0.6
	comp=Z,0.7nm,0.4s,baz=358,slow=12,SNR=4.9								
	comp=Z,0.7nm,0.4s								
STKA	Stephens Creek	50.51	184	P		P	P	00 18 18.8	+0.2
MKAR	Makanchi Array	58.27	314	P		P	P	00 19 13.6	-1.0
	comp=Z,0.7nm,0.6s,baz=95,slow=7.5,SNR=7.5								
	comp=Z,0.7nm,0.6s								
NRIK	Noril'sk	61.47	340	P		P	P	00 19 35.3	-0.5
	comp=Z,1.8nm,0.5s,baz=71,slow=6.9,SNR=5.0								
	comp=Z,1.8nm,0.5s								
BRVK	Borovoye	66.35	320	P		P	P	00 20 09.0	+1.0
KK31	Karatay Array	66.57	310	P		P	P	00 20 10.4	+0.9
KKAR	Karatay Array	66.57	310	P		P	P	00 20 10.4	+0.8
EPYK	Eagle Plains	68.06	25	P		P	P	00 20 19.8	+1.3
EPYK				IAmb		IAmb		00 20 48.7	
	comp=Z,5.3nm,1.2s								
INK	Inuvik	69.37	23	P		P	P	00 20 26.6	+0.1
	comp=Z,0.5nm,0.3s,baz=248,slow=7.2,SNR=4.3								
	comp=Z,0.5nm,0.3s								
INK	Inuvik	69.37	23	P		P	P	00 20 26.9	+0.4
INK				IAmb		IAmb		00 20 32.7	
	comp=Z,3.9nm,1.4s								
ARU	Arti	72.89	325	P		P	P	00 20 48.4	+0.6
ARU				IAmb		IAmb		00 21 06.4	
	comp=Z,5.6nm,1.4s								
ABKAR	Akbulak array	73.15	317	P		P	P	00 20 49.3	-0.2
ABKAR				IAmb		IAmb		00 20 50.5	
	comp=Z,1.3nm,0.5s								
ABKAR	Akbulak array	73.15	317	P		P	P	00 20 49.3	-0.2
YKA	Yellowknife Ar	78.01	28	P		P	P	00 21 16.9	+0.1
	comp=Z,0.6nm,0.5s,baz=285,slow=5.7,SNR=4.6								
	comp=Z,0.6nm,0.5s								
ARCES	ARCESS Array B	82.36	342	P		P	P	00 21 39.4	-0.6
	comp=Z,0.7nm,0.5s,baz=83,slow=9.2,SNR=5.4								
	comp=Z,0.7nm,0.5s								
NVAR	Mina Array Bea	83.24	52	P		P	P	00 21 46.4	+1.0
	comp=Z,0.9nm,0.5s,baz=269,slow=5.8,SNR=6.7								
	comp=Z,0.9nm,0.5s								
FINES	FINESS Array B	86.73	335	P		P	P	00 22 00.0	-1.9
	comp=Z,2.7nm,0.9s,baz=60,slow=5.2,SNR=15								
	comp=Z,2.7nm,0.9s								
PDAR	Pinedale Array	87.91	45	P		P	P	00 22 07.5	-0.8
	comp=Z,0.2nm,0.3s,baz=178,slow=1.6,SNR=6.2								
	comp=Z,0.2nm,0.3s								
LPAZ	La Paz	147.87	91	PKPbc		PKPbc	PKPbc	00 29 03.5	-0.4
	comp=Z,0.9nm,0.4s,baz=332,slow=3.1,SNR=5.8								

DDA ***24*** *00:10:12.3±0.0, 35°.64N×30°.76E, h21km±1km, ML2.9*
ISK ***24*** *00:10:14.4, 35°.72N×30°.73E, h18km, ML3.0/15*
NIC ***24*** *00:10:17.2±0.0, 35°.95N×30°.79E, h32km±28km, Ml3.4/6*
GII ***24*** *00:10:19.7±0.0, 35°.47N×31°.00E, h10km, Mm2.8/2*

ISC 24 00:10:13.1±1.2, 35.69N±0°.03×30.61E±0°.02, h12km±10km, n57, σ1.61/90, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKUM	Antalya-Kumluc	0.67	341	P		Pn	Pn	00 10 27.7	-0.7
AKUM				S		Sn	Sn	00 10 37.9	-0.9
AKUM				*i* AML		AML		00 10 40.0	
	comp=N,604nm,0.4s								
AKUM				*i* AML		AML		00 10 43.0	
	comp=E,610nm,0.6s								
KSL	Kastellorizon	0.95	299	P		Pn	Pn	00 10 34.5	+2.2
KSL				S		Sn	Sn	00 10 48.1	+2.3
KSL				AML		AML		00 10 54.5	
	0.5nm,0.8s								
KSL				AML		AML		00 10 54.5	
	0.5nm,0.8s								
KSL				AML		AML		00 10 59.0	
	0.6nm,0.5s								
KSL				AML		AML		00 10 59.0	
	0.6nm,0.5s								
AKAS	Kas	0.98	304	PG		Pn	Pn	00 10 35.4	+2.6
AKAS				SG		Sn	Sn	00 10 49.4	+2.7
AKAS	Kas	0.98	304	P		Pn	Pn	00 10 33.0	+0.2
AKAS				S		Sn	Sn	00 10 52.6	+5.9
AKAS				*i* AML		AML		00 10 55.0	
	comp=N,271nm,0.7s								
AKAS				*i* AML		AML		00 11 02.0	
	comp=E,263nm,0.4s								
ELL	Elmali	1.20	332	PN		Pg	Pg	00 10 37.1	+1.0
ELL	Elmali	1.20	332	P		Pg	Pg	00 10 36.1	0.0
ANTB	Antalya	1.21	2	PN		Pb	Pb	00 10 36.1	+0.2
ANTB				SN		Sb	Sb	00 10 52.5	+1.0
KORT	Korkueli	1.32	351	PN		Pg	Pg	00 10 38.7	+0.2
KORT	Korkueli	1.32	351	P		Pg	Pg	00 10 38.5	-0.1
KORT				S		Sg	Sg	00 10 59.3	+3.5
KEPZ	Antalya-Kepez	1.45	33	P		Pn	Pn	00 10 38.6	-0.7
KEPZ				S		Sn	Sn	00 10 56.1	-2.1
KEPZ				*i* AML		AML		00 10 58.0	
	comp=E,171nm,0.5s								
GAZI	Gazipasa	1.49	68	PN		Pn	Pn	00 10 39.5	-0.2
GAZI	Gazipasa	1.49	68	P		Pn	Pn	00 10 39.1	-0.6
GAZI				S		Sn	Sn	00 10 57.1	-2.0
GAZI				*i* AML		AML		00 11 00.0	
	comp=E,211nm,0.8s								
GAZI				*i* AML		AML		00 11 01.0	
	comp=N,240nm,0.7s								
AKMS	Akamas	1.56	115	P		Pg	Pg	00 10 42.5	-0.6
AKMS				S		Sb	Sb	00 11 02.4	+0.6
AKMS				AML		AML		00 11 10.5	
	1.2nm,0.6s								
AKMS				AML		AML		00 11 10.5	
	1.2nm,0.6s								
AKMS				AML		AML		00 11 18.9	
	1.5nm,0.6s								
AKMS				AML		AML		00 11 18.9	
	1.5nm,0.6s								
BUCA	Burdur, Bucak-	1.63	359	P		Pb	Pb	00 10 42.7	-0.5
BUCA				S		Sg	Sg	00 11 06.3	+0.6
CAME	Cameli-Denizli	1.64	320	PN		Pg	Pg	00 10 43.7	-0.8
ALFC	Alefka	1.71	108	P		Pb	Pb	00 10 44.1	-0.4
ALFC				S		Sn	Sn	00 11 05.5	+0.8
ALFC				AML		AML		00 11 15.1	
	1.3nm,0.3s								
ALFC				AML		AML		00 11 15.1	
	1.3nm,0.3s								
ALFC				AML		AML		00 11 17.3	
	1.0nm,0.6s								
ALFC				AML		AML		00 11 17.3	
	1.0nm,0.6s								
GOLH	Golhisar	1.76	332	P		Pg	Pg	00 10 45.8	-1.1
GOLH				S		Sb	Sb	00 11 08.1	+0.7
CAEL	Denizli, Camel	1.77	324	P		Pg	Pg	00 10 46.3	-0.7
CAEL				S		Sg	Sg	00 11 12.2	+2.3
CAEL				*i* AML		AML		00 11 30.0	
	comp=N,125nm,0.8s								
CAEL				*i* AML		AML		00 11 34.0	
	comp=E,138nm,0.7s								
NATA	Nata	1.85	119	P		Pg	Pg	00 10 47.2	-1.3
NATA				S		Sb	Sb	00 11 10.2	+0.2
NATA				AML		AML		00 11 27.1	
	3.5nm,0.6s								
NATA				AML		AML		00 11 27.1	
	3.5nm,0.6s								
NATA				AML		AML		00 11 31.0	
	2.4nm,1.0s								
NATA				AML		AML		00 11 31.0	
	2.4nm,1.0s								
DALY	Dalyan (Mula)	1.94	306	PN		Pg	Pg	00 10 47.9	-2.4
LEF	Lefka	1.95	106	PN		Pn	Pn	00 10 45.8	-0.3
SEYD	Seydisehir-KON	1.98	30	PN		Pn	Pn	00 10 47.2	+0.6
HDMB	Hadim	1.98	50	PN		Pn	Pn	00 10 46.4	-0.3
SEDI	Konya, Seydise	1.98	27	P		Pn	Pn	00 10 47.0	+0.3
SEDI				S		Sn	Sn	00 11 11.3	-0.3
SEDI				*i* AML		AML		00 11 23.0	
	comp=N,100nm,0.6s								
TROD	Troodos	1.99	111	P		Pb	Pb	00 10 48.6	-0.8
TROD				S		Sn	Sn	00 11 12.1	+0.3
TROD				AML		AML		00 11 24.4	
	0.5nm,0.6s								
TROD				AML		AML		00 11 24.4	
	0.5nm,0.6s								
TROD				AML		AML		00 11 36.9	
	0.7nm,1.1s								
TROD				AML		AML		00 11 36.9	
	0.7nm,1.1s								
BRDR	BURDUR-Merkez	2.05	348	P		Pb	Pb	00 10 48.9	-1.4
BRDR				S		Sb	Sb	00 11 15.6	-0.2
APMY	Acipayam-Deniz	2.06	330	PN		Pb	Pb	00 10 49.6	-1.0
ARG	Arkhangelos	2.08	285	PN		Pg	Pg	00 10 50.5	-2.5
SZAC	Souni	2.08	116	P		Pb	Pb	00 10 49.7	-1.1
SZAC				S		Sb	Sb	00 11 16.0	-0.8
SZAC				AML		AML		00 11 36.5	
	0.8nm,0.8s								
SZAC				AML		AML		00 11 36.5	
	0.8nm,0.8s								
SZAC				AML		AML		00 11 44.0	
	0.8nm,0.8s								
SZAC				AML		AML		00 11 44.0	
	0.8nm,0.8s								
TEKE	Tekeli-Mersin	2.08	77	PN		Pn	Pn	00 10 48.0	+0.1
ERMK	Ermenek	2.09	62	P		Pn	Pn	00 10 48.7	+0.4
ERMK				S		Sb	Sb	00 11 19.6	+2.5
ERMK				*i* AML		AML		00 11 25.0	
	comp=N,115nm,0.3s								
ERMK				*i* AML		AML		00 11 30.0	
	comp=E,122nm,0.4s								
ERMK				*i* AML		AML		00 11 35.0	
	comp=Z,95nm,0.5s								
TURN	Turunc	2.19	300	PN		Pg	Pg	00 10 52.0	-3.2
TURN	Turunc	2.19	300	P		Pb	Pb	00 10 51.7	-1.0
TURN				S		Sb	Sb	00 11 16.6	-3.4
TAVA	DENIZLI_Tavas	2.23	323	P		Pb	Pb	00 10 51.3	-2.2
TAVA				S		Sg	Sg	00 11 25.0	+0.1
BAGO	Egridir - ISPA	2.30	4	P		Pn	Pn	00 10 51.2	+0.3
BAGO				S		Sb	Sb	00 11 22.9	-0.2
ASGA	Asgata	2.34	112	P		Pb	Pb	00 10 53.5	-1.8
CSS	Mathiatis	2.34	107	P		Pn	Pn	00 10 52.3	+0.8
ATHAL	Athalassa	2.34	103	S		Sn	Sn	00 11 20.0	-0.1
YER	Yerkesik	2.36	308	PN		Pb	Pb	00 10 54.3	-1.4
MULA	Mugla, Merkez-	2.42	311	P		Pg	Pg	00 10 58.9	-0.5
KKBE	Karaman, Kazim	2.42	50	P		Pn	Pn	00 10 54.2	+1.6
KKBE				S		Sn	Sn	00 11 22.4	+0.1
GULN	MERSIN_Gulnar	2.43	78	P		Pn	Pn	00 10 54.0	+1.4
GULN				S		Sn	Sn	00 11 23.0	+0.6
KMER	Konya-Meram	2.51	34	P		Pn	Pn	00 10 54.9	+1.0
KMER				S		Sn	Sn	00 11 24.8	+0.3
KMER				*i* AML		AML		00 11 32.0	
	comp=E,68nm,0.6s								
KMER				*i* AML		AML		00 11 33.0	
	comp=N,59nm,0.5s								
DOGA	KONYA_Doganhis	2.56	19	P		Pn	Pn	00 10 55.8	+1.2
DOGA				S		Sn	Sn	00 11 26.6	+0.9
DOGA				*i* AML		AML		00 11 37.0	
	comp=N,67nm,0.5s								
MVOU	Mavrovouni	2.56	104	P		Pn	Pn	00 10 54.6	+0.1
MVOU				S		Sn	Sn	00 11 25.4	-0.2
YVAC	Isparta, Yalva	2.62	11	P		Pn	Pn	00 10 56.6	+1.1
YVAC				S		Sn	Sn	00 11 26.0	-1.4
PASA	Karahalli, USA	2.80	342	P		Pn	Pn	00 10 58.1	+0.2
PASA				S		Sn	Sn	00 11 30.1	-1.5
AYDN	Tasoluk	2.94	313	P		Pb	Pb	00 11 02.1	-3.5
KDHN	Kadinhani	3.07	23	P		Pn	Pn	00 11 02.0	+0.4
KDHN				S		Sn	Sn	00 11 36.2	-2.1
MANT	Manisa	3.24	330	P		Pn	Pn	00 11 03.3	-0.7
MMA0B	Mount Meron ar	4.78	123	Pn		Pn	Pn	00 11 26.9	+1.8
MMA0B				Sn		Sn	Sn	00 12 18.9	-1.6
GEM	Giv'at Ha'Em	4.86	119	Pn		Pn	Pn	00 11 28.0	+2.0
SLTI	Sal'it	5.04	132	Pn		Pn	Pn	00 11 30.4	+1.8
MMLI	Mount Malkishu	5.15	128	Pn		Pn	Pn	00 11 31.9	+1.8
HMDT	Nahal Hemdat	5.33	129	Pn		Pn	Pn	00 11 35.5	+2.9
HMDT				Sn		Sn	Sn	00 12 33.6	-0.4
PRNI	Paran	6.48	144	Pn		Pn	Pn	00 11 50.8	+2.4
PRNI				Sn		Sn	Sn	00 13 02.4	+0.1
MBRI	Mt Berech	6.91	147	Pn		Pn	Pn	00 11 57.0	+2.7

MAN 24 00:19:58.7, 7.12N×126.48E, h18km, mb4.3, ML3.1, MS2.8, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.28	233	↑ *e*	P	Pb		00 20 05.6	+0.5
BIPH	Bislig	1.07	354	↑ *i*	P	Pb		00 20 18.3	-0.4
BIPH				*i*	S	Sb		00 20 31.3	-1.0
DDMP	Don Marcelino,	1.26	217	↑ *i*	P	Pn		00 20 21.1	-0.4
DDMP				*i*	S	Sn		00 20 38.4	+0.4
KCP	Kidapawan	1.39	266	↓ *i*	P	Pn		00 20 21.7	-1.5
KCP				*i*	S	Sn		00 20 38.8	-2.3
BUKP	Musuan	1.60	298	↑ *e*	P	Pn		00 20 25.8	-0.3
BUKP				*e*	S	Sn		00 20 44.9	-1.4

KEA ***24*** *00:34:32.9, 28°.14N×142°.13E, h601km, MS4.9/3*
MOS ***24*** *00:35:08.4±0.8, 31°.77N×138°.11E, h348km, mb5.3/100, Error ellipse: s-maj=6.0km s-min=3.5km az=113.1*
BJI ***24*** *00:35:08.8±0.0, 31°.84N×138°.03E, h350km, mb5.1/77, mB5.1/44*
JMA ***24*** *00:35:09.3±0.3, 32°.N±1°×138°.4E±0°.9, h365km±2km, MD5.3/37, MV5.3/37, NEAR TORISHIMA IS*
JMA Felt II J1 at NEAR TORISHIMA IS .
NEIC ***24*** *00:35:09.7±1.5, 31°.75N±0°.07×138°.19E±0°.08, h346km±4km, mb5.2/291, Error ellipse: s-maj=10.0km s-min=9.4km az=79.0*
NIED ***24*** *00:35:09.3, 31°.78N×138°.36E, h365km, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.53; Mθθ0.07; Mϕϕ0.46; Mrθ-0.07; Mθϕ-0.43; Mϕr-0.85; Fault plane solution: M0 1.08000×10¹⁷ NP1: ϕs119.00000°, δ28.00000°, λ-143.00000°. NP2: ϕs356.00000°, δ74.00000°, λ-67.00000°.*
IDC ***24*** *00:35:09.5±0.3, 31°.74N×138°.20E, h348km±3km, mb4.8/47, mbtmp5.5/52 Error ellipse: s-maj=7.6km s-min=4.7km az=91.0*
GCMT ***24*** *00:35:11.7±0.3, 31°.80N±0°.03×137°.99E±0°.04, h351km±1km, MW5.3/78, Moment Tensor Solution. s78, c113; Duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.53±.03; Mθθ0.07±.04; Mϕϕ0.45±.04; Mrθ0.12±.04; Mθϕ-0.23±.04; Mϕr-0.91±.04; Best double couple: M0 1.06700×10¹⁷ NP1:ϕs350.00000°, δ75.00000°, λ-82.00000°. NP2:ϕs141.00000°, δ17.00000°, λ-118.00000°. Principal axes: T 1.0620, Plg30.0000°, Azm73.0000°; N 0.0080, Plg8.0000°, Azm168.0000°; P -1.0710, Plg59.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 24 00:35:10.0±0.2, 31.77N±0°.03×138.19E±0°.03, h355km±1km, h355km:pP-P, n1528, σ1.20/1636, mb5.2/359, 61C-136D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.50	62	↓ *i*	P	Pn		00 35 58.7	+0.1
JAOM	Aogashimamukai	1.50	62	A		A		00 35 58.7	
	comp=E,42nm,0.8s,comp=E,37nm,0.5s								
JHCJ	Hachijojimakas	1.88	46	↓ *i*	P	Pn		00 36 00.6	-0.2
JHCJ				↓ *e*	S	S		00 36 40.6	-1.1
JHCJ	Hachijojimakas	1.88	46	A		A		00 36 00.6	
	comp=E,18nm,2.2s,comp=E,20nm,3.6s								
JHJ	Hachijo jima 2	1.90	45	P		Pn		00 35 59.9	-1.1
	8μm,0.3s,baz=310,slow=20,SNR=1.28								
JHJ				S		S		00 36 39.5	-2.5
	4μm,0.3s,baz=78,slow=23,SNR=7.2								
JHJ2	Mitsune	1.92	45			Pn		00 36 00.5	-0.5
JHJ2	Mitsune	1.92	45	*i*	P	Pn		00 36 00.8	-0.2
JHJ2	Mitsune	1.92	45	A		A		00 36 00.8	
	comp=E,48nm,2.3s,comp=E,29nm,4.0s								
TTO1	TONANKAI O.B.S	2.20	328	*e*	P	Pn		00 36 04.4	+1.7
TK02	Tokai 2	2.20	351	↓	P	Pn		00 36 04.2	+1.4
JMKN	Mikurajimaish	2.42	29	P		Pn		00 36 04.2	-0.6
JKO	Kozu shima	2.54	18	A		A		00 36 05.8	
	comp=E,36nm,1.8s,comp=E,27nm,2.2s								
JMYK	Miyake Tsubota	2.55	26	A		A		00 36 05.7	
	comp=E,20nm,0.7s,comp=E,26nm,1.4s								
JWKM	Wakayamakushim	2.65	310	A		A		00 36 08.0	
	comp=E,33nm,2.1s,comp=E,9.0nm,3.6s								
JSKK	Shikinejimakit	2.70	18	A		A		00 36 07.0	
	comp=E,31nm,2.2s,comp=E,33nm,2.2s								
JMMH	Miemihama	2.74	319	A		A		00 36 08.6	
	comp=E,18nm,2.3s,comp=E,4.0nm,5.1s								
JTHY	Toshimahigashi	2.90	18	A		A		00 36 08.7	
	comp=E,21nm,3.0s,comp=E,33nm,2.4s								
JIE	Ise	2.90	335	*i*	P	Pn		00

JWT	**Wachi**	**4.21**	**327**	P		**Pn**	**00 36 22.3**	**+0.9**
JRY	**Ryogami san**	**4.28**	**8**	*i* P		**Pn**	**00 36 21.3**	**-0.8**
JRY	**Ryogami san**	**4.28**	**8**	A		A	00 36 21.3	
	comp=E,15nm,2.5s,comp=E,13nm,3.0s							
JSMT	**Sammumatsuo**	**4.30**	**25**	A		A	00 36 21.8	
	comp=E,24nm,0.6s,comp=E,36nm,0.4s							
CHOJ	**Chosi**	**4.51**	**29**	A		A	00 36 24.0	
	comp=E,22nm,2.6s,comp=E,15nm,1.2s							
JIHU	**Itakohorinouch**	**4.62**	**24**	A		A	00 36 25.2	
	comp=E,48nm,1.3s,comp=E,42nm,1.2s							
JNG	**Nsakai**	**4.63**	**359**	A		A	00 36 26.0	
	comp=E,8.0nm,2.2s,comp=E,13nm,2.0s							
JTO	**Tosashimizu**	**4.69**	**285**	*i* P		**Pn**	**00 36 27.6**	**+1.1**
MJAR	**Matsushiro Arr**	**4.76**	**0**	P		**Pn**	**00 36 26.5**	**-0.6**
	113nm,0.6s,baz=160,slow=8.5,SNR=156							
MJAR				S		**S**	**00 37 26.9**	**-2.6**
	110nm,0.4s,baz=282,slow=40,SNR=3.2							
MAJO	**Matsushiro**	**4.76**	**0**			**Pn**	**00 36 26.6**	**-0.5**
MAJO	**Matsushiro**	**4.76**	**0**	P		**Pn**	**00 36 27.2**	**0.0**
MAJO	**Matsushiro**	**4.76**	**0**	*d* *i* P		**Pn**	**00 36 26.8**	**-0.4**
MJB9	**Matsu-Tunnel**	**4.77**	**0**			**Pn**	**00 36 27.2**	**0.0**
JGK	**Kuni**	**4.80**	**4**	A		A	00 36 27.6	
	comp=E,5.0nm,2.0s,comp=E,8.0nm,3.9s							
UWA2	**Uwa jima 2**	**4.92**	**289**	A		A	00 36 30.6	
	comp=E,4.0nm,3.3s,comp=E,6.0nm,3.2s							
JHYU	**Hitachinakayam**	**4.97**	**23**	A		A	00 36 29.0	
	comp=E,24nm,0.7s,comp=E,22nm,0.7s							
JJG	**Jouge**	**5.10**	**306**	A		A	00 36 32.4	
	comp=E,4.0nm,3.6s,comp=E,8.0nm,4.6s							
JKR	**Kurayoshi**	**5.13**	**316**	A		A	00 36 32.4	
	comp=E,6.0nm,2.7s,comp=E,13nm,4.5s							
JHO	**Hitachi**	**5.22**	**22**	A		A	00 36 31.7	
	comp=E,13nm,0.4s,comp=E,14nm,0.7s							
JJN	**Nakama**	**5.32**	**360**	A		A	00 36 33.5	
	comp=E,5.0nm,2.7s,comp=E,5.0nm,1.4s							
JHS	**Saijyo**	**5.33**	**309**	Pn		**Pn**	**00 36 34.3**	**+0.9**
JHS	**Saijyo**	**5.33**	**309**	P		**Pn**	**00 36 35.1**	**+1.7**
JHS	**Saijyo**	**5.33**	**309**	P		**Pn**	**00 36 35.0**	**+1.7**
JHS				*e*S		**S**	**00 37 43.1**	**+2.1**
JSB	**Shiboa**	**5.38**	**15**	A		A	00 36 33.7	
	comp=E,23nm,0.7s,comp=E,22nm,0.6s							
JUON	**Uonuma**	**5.47**	**7**	A		A	00 36 34.9	
	comp=E,8.0nm,3.4s,comp=E,5.0nm,3.1s							
JUS	**Usuki**	**5.60**	**285**	A		A	00 36 38.1	
	comp=E,6.0nm,2.3s,comp=E,4.0nm,3.9s							
JFFD	**Fukushimafurud**	**5.66**	**20**	A		A	00 36 36.6	
	comp=E,17nm,0.5s,comp=E,38nm,0.8s							
JFY	**Yanaizu**	**5.76**	**12**	A		A	00 36 38.0	
	comp=E,5.0nm,2.1s,comp=E,4.0nm,2.9s							
CBIJ	**Chichi jima**	**5.81**	**142**	*e*P		Pn	00 36 34.0	-4.9
CBIJ	**Chichi jima**	**5.81**	**142**	A		A	00 36 34.0	
	comp=E,29nm,0.4s,comp=E,22nm,0.4s							
JCJ	**Chichijima**	**5.81**	**142**	P		**Pn**	**00 36 35.5**	**-3.5**
	3μm,0.4s,baz=325,slow=6.0,SNR=400							
JCJ				S		**S**	**00 37 42.8**	**-8.2**
	8μm,0.5s,baz=306,slow=22,SNR=21							
JCJ	**Chichijima**	**5.81**	**142**	Pn		**Pn**	**00 36 34.4**	**-4.6**
JCJ	**Chichijima**	**5.81**	**142**	P		**Pn**	**00 36 35.6**	**-3.3**
JNAR	**Kushima--Naru**	**5.91**	**269**	A		A	00 36 41.7	
	comp=E,7.0nm,3.9s,comp=E,4.0nm,3.0s							
JHIK	**Hikimi**	**5.93**	**299**	A		A	00 36 41.7	
	comp=E,4.0nm,3.3s,comp=E,4.0nm,4.7s							
JFK	**Kawauchi**	**6.01**	**21**	A		A	00 36 40.5	
	comp=E,15nm,0.5s,comp=E,15nm,0.9s							
JOI	**OKI**	**6.10**	**319**	P		**Pn**	**00 36 43.1**	**+1.2**
JNS	**Sasagawa**	**6.11**	**8**	A		A	00 36 42.0	
	comp=E,3.0nm,6.5s,comp=E,4.0nm,3.9s							
JHH2	**Haha-jima-NKT2**	**6.19**	**145**	A		A	00 36 42.4	
	comp=E,35nm,0.4s,comp=E,28nm,0.4s							
JSD	**Sado**	**6.25**	**0**			**Pn**	**00 36 42.3**	**-1.4**
JSD	**Sado**	**6.25**	**0**	P		**Pn**	**00 36 42.6**	**-1.1**
JNU	**Nakatsue**	**6.33**	**284**	Pn		**Pn**	**00 36 46.3**	**+1.6**
JNU	**Nakatsue**	**6.33**	**284**	P		**Pn**	**00 36 46.6**	**+1.9**
JYAR	**Yonezawaarcadi**	**6.34**	**14**	A		A	00 36 44.4	
	comp=E,16nm,1.1s,comp=E,16nm,1.1s							
JMST	**Minamisoumatoc**	**6.34**	**20**	A		A	00 36 44.3	
	comp=E,15nm,1.0s,comp=E,22nm,0.9s							
JMM	**Marumori**	**6.45**	**19**			**Pn**	**00 36 43.5**	**-2.5**
JMM	**Marumori**	**6.45**	**19**	P		**Pn**	**00 36 44.5**	**-1.4**
JMM	**Marumori**	**6.45**	**19**	A		A	00 36 45.6	
	comp=E,11nm,0.9s,comp=E,13nm,0.6s							
JSU	**Suzuyama**	**6.61**	**270**	Pn		**P**	**00 36 49.2**	**0.0**
JSU	**Suzuyama**	**6.61**	**270**	P		**P**	**00 36 50.2**	**+1.0**
JYS	**Shirataka**	**6.62**	**13**	A		A	00 36 47.7	
	comp=E,10.0nm,1.4s,comp=E,8.0nm,1.9s							
JOU	**Okura**	**6.89**	**16**	A		A	00 36 50.7	
	comp=E,14nm,3.1s,comp=E,12nm,1.2s							
JYA	**Atsumi**	**6.92**	**10**	A		A	00 36 51.3	
	comp=E,6.0nm,1.0s,comp=E,5.0nm,1.1s							
JIKH	**Ishinomakikobu**	**7.06**	**21**	A		A	00 36 52.5	
	comp=E,7.0nm,0.6s,comp=E,6.0nm,0.6s							
JIO	**Ouri**	**7.15**	**20**	A		A	00 36 53.7	
	comp=E,10.0nm,0.6s,comp=E,8.0nm,4.6s							
JOFO	**Osakifurukawao**	**7.17**	**17**	A		A	00 36 54.0	
	comp=E,31nm,2.0s,comp=E,40nm,1.3s							
JSJ	**Shimokoshiki**	**7.22**	**272**	*e*P		**P**	**00 36 56.6**	**+0.2**
JKMT	**Kesennumamotoy**	**7.52**	**20**	A		A	00 36 58.0	
	comp=E,11nm,1.0s,comp=E,9.0nm,0.8s							
JMK	**Ichinoseki**	**7.58**	**18**	P		**Pn**	**00 36 57.3**	**-1.8**
JMK	**Ichinoseki**	**7.58**	**18**	A		A	00 36 57.3	
	comp=E,7.0nm,1.7s,comp=E,5.0nm,4.2s							
OFUJ	**Ofunato**	**7.83**	**20**	A		A	00 37 01.6	
	comp=E,4.0nm,0.5s,comp=E,6.0nm,1.1s							
JRG	**Rokugo**	**7.87**	**14**	A		A	00 37 02.2	
	comp=E,5.0nm,2.4s,comp=E,4.0nm,4.2s							
JTU	**Tsushima**	**7.87**	**293**	Pn		**P**	**00 37 04.1**	**+0.3**
JTU	**Tsushima**	**7.87**	**293**	P		**P**	**00 37 04.6**	**+0.8**
JYW	**Yuwa**	**7.93**	**11**	A		A	00 37 03.0	
	comp=E,8.0nm,2.6s,comp=E,7.0nm,3.4s							
JOM	**Ohasama**	**8.09**	**17**	A		A	00 37 04.7	
	comp=E,6.0nm,3.1s,comp=E,4.0nm,1.4s							
JTH	**Tanohata**	**8.68**	**19**	A		A	00 37 11.7	
	comp=E,5.0nm,2.0s,comp=E,5.0nm,0.8s							
JKEN	**Kujiedanarisaw**	**8.89**	**18**	A		A	00 37 14.1	
	comp=E,9.0nm,0.9s,comp=E,8.0nm,1.1s							
JTM	**Tenmabayashi**	**9.29**	**14**	Pn		**Pn**	**00 37 18.1**	**-1.2**
JTM	**Tenmabayashi**	**9.29**	**14**	P		**Pn**	**00 37 18.9**	**-0.5**
JOW	**Kunigami**	**9.96**	**243**	P		**Pn**	**00 37 27.4**	**-0.1**
	283nm,0.8s,baz=69,slow=9.1,SNR=14							
JOW	**Kunigami**	**9.96**	**243**			**Pn**	**00 37 27.5**	**+0.1**
JOW	**Kunigami**	**9.96**	**243**	P		**P**	**00 37 29.2**	**+0.4**
TJN	**Taejon**	**10.09**	**300**			**P**	**00 37 30.0**	**0.0**
TJN	**Taejon**	**10.09**	**300**	P		**P**	**00 37 31.0**	**+0.9**
TJN	**Taejon**	**10.09**	**300** *d* *i* P			**P**	**00 37 30.5**	**+0.4**
KSRS	**Korea Array**	**10.19**	**307**	P		**P**	**00 37 32.1**	**+1.0**
	134nm,0.9s,baz=121,slow=13,SNR=38							
KSAR	**Wonju Array Be**	**10.21**	**306**			**P**	**00 37 31.5**	**+0.1**
KSAR	**Wonju Array Be**	**10.21**	**306**	P		**P**	**00 37 31.5**	**+0.1**
KS19	**Wonju Array Si**	**10.25**	**307**	P		**P**	**00 37 31.8**	**-0.1**
ERM	**Erimo**	**10.97**	**20**			**Pn**	**00 37 38.2**	**-1.0**
ERM	**Erimo**	**10.97**	**20**	P		**Pn**	**00 37 39.0**	**-0.2**
ERM	**Erimo**	**10.97**	**20** *c* *i* P			**Pn**	**00 37 38.1**	**-1.1**
ERM				pmax		pmax		
	comp=Z,2μm,1.0s							
JEM	**Erimo**	**10.97**	**20**	P		**Pn**	**00 37 39.0**	**-0.3**
INCN	**Inchon**	**11.10**	**304**	P		**P**	**00 37 41.7**	**+0.4**
INCN	**Inchon**	**11.10**	**304**	P		**P**	**00 37 41.8**	**+0.4**
INCN	**Inchon**	**11.10**	**304**	P		**P**	**00 37 42.8**	**+1.5**
INCN	**Inchon**	**11.10**	**304**	P		**P**	**00 37 41.7**	**+0.4**
JNBK	**Urakawa-nobuka**	**11.10**	**18**	A		A	00 37 40.5	
	comp=Z,7.0nm,2.8s,comp=Z,11nm,2.3s							
JSHD	**Hidakashinhida**	**11.15**	**17**	A		A	00 37 41.1	
	comp=Z,10.0nm,1.7s,comp=Z,15nm,4.1s							
JIAM	**Iburiatsuma**	**11.23**	**14**	A		A	00 37 42.1	
	comp=Z,11nm,0.9s,comp=Z,8.0nm,1.2s							
JTHR	**Tokachihiroo**	**11.27**	**20**	A		A	00 37 42.3	
	comp=Z,5.0nm,2.9s,comp=Z,4.0nm,1.9s							
HJU	**Haeju**	**11.99**	**305**	P		**Pn**	**00 37 51.5**	**+0.1**
HJU				sP			00 40 05.3	
HJU				S		S	00 40 37.2	+33
HJU				AMS		AMS		
	comp=N,2μm,2.8s							
HJU				AMS		AMS		
	comp=E,4μm,4.2s							
HJU				AMS		AMS		
	comp=Z,2μm,2.6s							
MSHR	**Mys Shultsa**	**12.16**	**335** *d* *i* P			**P**	**00 37 52.6**	**-0.3**
MSHR				pmax		pmax		
	comp=Z,93nm,1.0s							
PYAG	**Pyongyang**	**12.47**	**309**	P		**Pn**	**00 37 57.1**	**0.0**
PYAG				sP			00 40 14.9	
PYAG				S		S	00 40 47.2	+33
PYAG				AMS		AMS		
	comp=N,1μm,2.5s							
PYAG				AMS		AMS		
	comp=E,1μm,3.1s							
PYAG				AMS		AMS		
	comp=Z,1μm,3.3s							
ASAJ	**Asahikawa**	**12.80**	**14**	P		**P**	**00 38 00.1**	**0.0**
JKA	**Kamikawa-asahi**	**12.81**	**14**			**P**	**00 38 00.1**	**+0.1**
NMR	**Nemuro--Hokkai**	**13.02**	**25** ⇑ *i* P			**Pn**	**00 38 03.3**	**-0.2**
NMR				*i* S		**S**	**00 40 23.1**	**-2.3**
TEY	**Ternei**	**13.31**	**355** ⇑ *e* P			**P**	**00 38 06.0**	**+0.4**
TEY				*e*			00 40 24.9	
TEY				pmax		pmax		
	comp=E,10.0nm,1.0s							
TEY				pmax		pmax		
	comp=Z,20nm,0.8s							
TEY				pmax		pmax		
	comp=N,20nm,1.0s							
USA0B	**Ussuriysk Arra**	**13.34**	**340**	P		**P**	**00 38 05.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**13.34**	**340**	P		**P**	**00 38 05.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**13.34**	**340**	P		**P**	**00 38 05.8**	**-0.1**
	comp=N,84nm,0.5s,baz=161,slow=10,SNR=108							
RUSJ	**Misakicho**	**13.51**	**22**	*e*P		**Pn**	**00 38 10.6**	**+1.4**
RUSJ				*e*S		**S**	**00 40 36.9**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**13.65**	**24** ⇑ *i* P			**Pn**	**00 38 11.0**	**+0.1**
YUK				*i* S		**S**	**00 40 38.1**	**0.0**
YUK				pmax		pmax		
	comp=Z,2μm,0.5s							
YUK				pmax		pmax		
	comp=E,174nm,0.2s							
YUK				pmax		pmax		
	comp=N,296nm,0.5s							
SUJ	**Sinuiju**	**13.86**	**311**	P		**P**	**00 38 11.1**	**-0.7**
SUJ				sP			00 40 34.8	
SUJ				S		S	00 41 12.2	+30
SUJ				AMS		AMS		
	comp=N,230nm,1.9s							
SUJ				AMS		AMS		
	comp=E,514nm,4.3s							
SUJ				AMS		AMS		
	comp=Z,399nm,3.3s							
MDJ	**Mudanjiang**	**14.49**	**335**	P		**P**	**00 38 18.2**	**-0.4**
YOJ	**Yonaguni jima**	**15.24**	**245**	P		**Pn**	**00 38 28.9**	**-0.6**
	comp=Z,445nm,1.1s							
SNY	**Shenyang**	**15.40**	**315** ⇓ P			**P**	**00 38 28.9**	**+0.3**
SNY				S		**S**	**00 41 08.8**	**-4.5**
SNY				ScS		**ScS**	**00 49 45.8**	**-1.3**
SNY				pmax		pmax		
	comp=Z,140nm,1.1s							
SNY				pmax		pmax		
	comp=Z,580nm,2.9s							
SNY				LR		LR		
	comp=Z,900nm,10.3s							
SNY				LR		LR		
	comp=Z,640nm,7.8s							
SNY				LR		LR		
	comp=Z,730nm,11.3s							
KUR	**Kuril'sk**	**15.41**	**27**	*e*P		**Pn**	**00 38 33.3**	**+2.1**
KUR				pmax		pmax		
	comp=Z,390nm,0.6s							
KUR				pmax		pmax		
	comp=E,133nm,0.7s							
KUR				pmax		pmax		
	comp=N,102nm,1.1s							
YSS	**Yuzh-Sakhalins**	**15.57**	**12**	P		**P**	**00 38 30.9**	**+0.7**
YSS	**Yuzh-Sakhalins**	**15.57**	**12**	P		**Pn**	**00 38 31.9**	**-1.1**
YSS	**Yuzh-Sakhalins**	**15.57**	**12**	*e*P		**P**	**00 38 31.5**	**+1.2**
YSS				*e*S		**S**	**00 41 14.7**	**-1.7**
YSS				pmax		pmax		
	comp=Z,660nm,0.9s							
YSS				pmax		pmax		
	comp=Z,1μm,3.5s							
YSS				smax		smax		
	comp=N,2μm,4.4s							
YSS				smax		smax		
	comp=E,1μm,3.9s							
YSS				smax		smax		
	comp=N,350nm,1.1s							
YSS				smax		smax		
	comp=E,260nm,1.0s							
YSS				MLR		MLR		
	comp=Z,1μm,18.0s							
CN2	**Changchun**	**15.66**	**324** ⇓ *i* P			**P**	**00 38 31.6**	**+0.3**
CN2				S		**S**	**00 41 16.8**	**-1.5**
CN2				PcP		**PcP**	**00 43 09.8**	**+0.6**
CN2				ScP		**ScP**	**00 46 09.0**	**-0.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CN2				pmax		pmax		
	comp=Z,500nm,5.0s							
TATO	**Taipei**	**16.18**	**249**	P		**P**	**00 38 37.3**	**+0.1**
BNX	**BinXian**	**16.27**	**332** ⇓ P			**P**	**00 38 37.3**	**-0.6**
BNX				sP		sP	00 39 59.5	-14
BNX				S		**S**	**00 41 22.0**	**-8.4**
BNX				PcS		**PcS**	**00 46 51.3**	**+5.5**
BNX				pmax		pmax		
	comp=Z,280nm,0.9s							
BNX				pmax		pmax		
	comp=Z,410nm,4.0s							
YHNB	**Yeheng**	**16.41**	**249**	P		**P**	**00 38 39.2**	**-0.6**
YHNB	**Yeheng**	**16.41**	**249**	P		**P**	**00 38 39.8**	**0.0**
NJ2	**Nanjing**	**16.43**	**276** ⇓ *i* P			**P**	**00 38 39.5**	**-0.3**
NJ2				sP		**sP**	**00 40 08.3**	**-7.3**
NJ2				S		**S**	**00 41 34.4**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,60nm,1.0s							
NJ2				pmax		pmax		
	comp=Z,570nm,4.7s							
NACB	**Ninganchiao**	**16.49**	**247**	P		**P**	**00 38 40.0**	**-0.6**
NACB	**Ninganchiao**	**16.49**	**247**	P		**P**	**00 38 40.9**	**+0.3**
YULB	**Yu-li**	**17.13**	**245**	P		**P**	**00 38 46.6**	**-0.9**
YULB	**Yu-li**	**17.13**	**245**	P		**P**	**00 38 46.7**	**-0.8**
SSLB	**Suanglung**	**17.19**	**247**	P		**P**	**00 38 47.6**	**-0.5**
SSLB	**Suanglung**	**17.19**	**247**	P		**P**	**00 38 48.8**	**+0.7**
TWGBT	**Beinan**	**17.61**	**244**	P		**P**	**00 38 53.3**	**+0.7**
TPUB	**Ta-pu**	**17.70**	**246**	P		**P**	**00 38 53.6**	**0.0**
TPUB	**Ta-pu**	**17.70**	**246**	P		**P**	**00 38 54.2**	**+0.6**
TIA	**Tai'an**	**18.02**	**290** ⇓ P			**P**	**00 38 55.6**	**-1.2**
TIA				sP		**sP**	**00 40 31.5**	**-1.8**
TIA				S		**S**	**00 42 03.0**	**-1.9**
TIA				pmax		pmax		
	comp=Z,53nm,1.2s							
TIA				pmax		pmax		
	comp=Z,440nm,3.1s							
TIA				LR		LR		
	comp=Z,570nm,15.3s							
TIA				LR		LR		
	comp=Z,220nm,9.2s							
TIA				LR		LR		
	comp=Z,450nm,11.4s							
KLR	**Kul'dur**	**18.11**	**346**	P		**P**	**00 38 57.0**	**-0.6**
	comp=Z,134nm,0.7s,baz=166,slow=8.9,SNR=212							
KLR				S		**S**	**00 42 09.4**	**+3.2**
	comp=Z,30nm,1.1s,baz=257,slow=23,SNR=10							
KLR				ScP		**ScP**	**00 46 14.5**	**+0.5**
	comp=Z,10nm,0.9s,baz=308,slow=2.4,SNR=11							
KLR				ScS		**ScS**	**00 49 55.5**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=16,slow=22,SNR=6.1							
GUMO	**Guam**	**19.10**	**160**	P		**P**	**00 39 07.0**	**-1.5**
	comp=Z,172nm,0.7s,baz=186,slow=5.9,SNR=7.5							
GUMO	**Guam**	**19.10**	**160**	P		**P**	**00 39 08.5**	**0.0**
GUMO	**Guam**	**19.10**	**160**	P		**P**	**00 39 08.5**	**0.0**
TYV	**Tymovskoe**	**19.36**	**9**	*e*P		**P**	**00 39 11.4**	**+0.6**
TYV				*e*S		**S**	**00 42 27.5**	**-1.9**
TYV				pmax		pmax		
	comp=Z,1μm,5.2s							
TYV				pmax		pmax		
	comp=Z,60nm,0.7s							
TYV				smax		smax		
	comp=N,3μm,5.9s							
TYV				smax		smax		
	comp=E,3μm,5.9s							
BJT	**Baijiatuau**	**19.62**	**301**	P		**P**	**00 39 14.1**	**+0.4**
BJT	**Baijiatuau**	**19.62**	**301**	P		**P**	**00 39 14.1**	**+0.4**
BJI	**Beijing**	**19.62**	**301**	P		**P**	**00 39 11.6**	**-2.0**
BJI				sP		**sP**	**00 40 49.8**	**-1.4**
BJI				S		**S**	**00 42 29.3**	**-4.6**
BJI				ScP		**ScP**	**00 46 18.0**	**+0.4**
BJI				pmax		pmax		
	comp=E,79nm,1.4s							
BJI				pmax		pmax		
	comp=E,550nm,4.1s							
BJI				LR		LR		
	comp=E,520nm,18.4s							
BJI				LR		LR		
	comp=E,490nm,16.7s							
BJI				LR		LR		
	comp=E,540nm,16.3s							
HNS	**HongShan**	**20.12**	**293** ⇓ P			**P**	**00 39 16.4**	**-2.2**
HNS				sP		**sP**	**00 40 56.3**	**-0.2**
HNS				S		**S**	**00 42 39.9**	**-2.1**
HNS				ScP		**ScP**	**00 46 20.1**	**+1.3**
HNS				PcS		**PcS**	**00 46 52.1**	**-2.5**
HNS				pmax		pmax		
	comp=E,56nm,1.6s							
HNS				pmax		pmax		
	comp=E,600nm,3.6s							
HNS				LR		LR		
	comp=E,510nm,13.1s							
HNS				LR		LR		
	comp=E,380nm,13.1s							
HNS				LR		LR		
	comp=E,510nm,14.1s							
HEH	**HeiHe**	**20.14**	**340**	*e*P		**P**	**00 39 17.3**	**-1.4**
HEH				S		**S**	**00 42 42.3**	**+0.2**
HEH				PcP		**PcP**	**00 43 17.3**	**+0.7**
HEH				ScP		**ScP**	**00 46 19.1**	**+0.5**
HEH				ScS		**ScS**	**00 50 01.1**	**-0.3**
HEH				pmax		pmax		
	comp=E,170nm,1.3s							
WHN	**Wuhan**	**20.44**	**273** ⇑ P			**P**	**00 39 21.5**	**-0.2**
WHN				pmax		pmax		
	comp=E,260nm,1.0s							
XLT	**XiLinHaoTe**	**21.18**	**311** ⇓ *i* P			**P**	**00 39 27.8**	**-0.5**
XLT				S		**S**	**00 42 58.8**	**-0.6**
XLT				ScP		**ScP**	**00 46 22.6**	**+1.2**
XLT				pmax		pmax		
	comp=E,370nm,0.8s							
XLT				pmax		pmax		
	comp=E,850nm,8.1s							
XLT				LR		LR		
	comp=E,70nm,13.0s							
XLT				LR		LR		
	comp=E,430nm,14.7s							
XLT				LR		LR		
	comp=E,500nm,11.1s							
LYN	**LuoYang**	**21.70**	**284** ⇓ *i* P			**P**	**00 39 32.0**	**-1.0**
LYN				sP		sP	00 41 09.3	-4.5
LYN				S		**S**	**00 43 07.8**	**0.0**
LYN				pmax		pmax		
	comp=E,40nm,1.1s							
LYN				pmax		pmax		
	comp=E,460nm,4.3s							
TIY	**Taiyuan**	**21.95**	**293**	P		**P**	**00 39 35.9**	**+0.5**
TIY				sP		**sP**	**00 41 15.4**	**-1.3**
TIY				S		**S**	**00 43 14.4**	**+2.5**
TIY				pmax		pmax		
	comp=E,98nm,1.4s							
TIY				pmax		pmax		
	comp=E,840nm,4.5s							
TIY				LR		LR		
	comp=E,280nm,10.3s							
TIY				LR		LR		
	comp=E,300nm,11.7s							
TIY				LR		LR		
	comp=E,290nm,9.6s							
HIA	**Hailar**	**22.31**	**327**	P		**P**	**00 39 39.1**	**+0.6**
HIA	**Hailar**	**22.31**	**327** *d* *i* P			**P**	**00 39 39.0**	**+0.6**
HIA				pmax		pmax		
	comp=Z,143nm,0.9s							
HHC	**Hu-ho-hao-te**	**23.22**	**300** ⇓ *i* P			**P**	**00 39 47.0**	**0.0**
HHC				S		**S**	**00 43 34.1**	**+2.0**
HHC				pmax		pmax		
	comp=Z,210nm,1.1s							
HHC				pmax		pmax		
	comp=Z,730nm,4.7s							
ZEA	**Zeya**	**23.33**	**343**	*e*P		**P**	**00 39 48.3**	**+0.7**
ZEA				*e*S		**S**	**00 43 31.7**	**-1.5**
ZEA				pmax		pmax		
	comp=E,30nm,0.5s							
ZEA				pmax		pmax		
	comp=N,90nm,0.8s							
ZEA				pmax		pmax		
	comp=Z,160nm,0.9s							
ZEA				pmax		pmax		
	comp=E,100nm,3.1s							
ZEA				pmax		pmax		
	comp=N,100nm,2.1s							
ZEA				pmax		pmax		
	comp=Z,200nm,2.0s							
ZEA				smax		smax		
	comp=N,400nm,4.8s							
ZEA				smax		smax		
	comp=E,400nm,7.7s							
BTO	**Baotou**	**24.31**	**299**	*e*P		**P**	**00 39 57.9**	**+1.2**
BTO				LR		LR		
	comp=E,5μm,12.9s							
BTO				LR		LR		
	comp=E,1μm,10.9s							
ENH	**Enshi**	**24.62**	**274**	P		**P**	**00 39 58.5**	**-1.1**
ENH				IAmb		IAmb	00 39 59.9	
	comp=Z,64nm,0.8s							
XAN	**Xi'an**	**24.65**	**283** ⇓ P			**P**	**00 39 59.0**	**-0.8**
XAN				sP		sP	00 41 43.5	-2.2
XAN				ScP		**ScP**	**00 46 31.9**	**+1.1**
XAN				pmax		pmax		
	comp=Z,95nm,1.1s							
XAN				pmax		pmax		
	comp=Z,540nm,8.3s							
PEA0B	**Petropavlovsk-**	**25.57**	**28**	P		**P**	**00 40 08.1**	**+0.4**
PEA0B				IAmb		IAmb	00 40 22.4	
	comp=Z,166nm,1.3s							
PEA0B	**Petropavlovsk-**	**25.57**	**28**	P		**P**	**00 40 08.1**	**+0.4**
PEA0B				pmax		pmax		
	comp=Z,166nm,1.3s							
PETK	**Petropavlovsk-**	**25.57**	**28**	P		**P**	**00 40 07.6**	**-0.2**
	comp=Z,24nm,0.9s,baz=212,slow=3.6,SNR=12							
PETK				ScP		**ScP**	**00 46 32.0**	**-0.9**
	comp=Z,9.7nm,0.9s,baz=232,slow=9.2,SNR=5.0							
PETK				P3KP			01 13 52.6	
	comp=Z,2.6nm,0.7s,baz=56,slow=2.7,SNR=4.4							
	comp=Z,24nm,0.9s							

comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,460nm,6.9s
CD2 LR LR
comp=Z,620nm,11.6s
YAK Yakutsk 30.77 352 P P 00 40 53.1 -0.3
comp=Z,38nm,0.6s,baz=139,slow=1.6,SNR=23
comp=Z,38nm,0.6s
YAK Yakutsk 30.77 352 P P 00 40 53.1 -0.3
YAK IAmb IAmb 00 40 54.1
comp=Z,105nm,0.7s
YAK Yakutsk 30.77 352 *d* iP **P 00 40 53.1 -0.3**
YAK pmax pmax
comp=Z,149nm,1.0s
YAK Yakutsk 30.77 352 P P 00 40 53.1 -0.3
BOD Bodaibo 30.86 335 *e*P **P 00 40 54.0 -0.3**
BOD pmax pmax
comp=Z,62nm,1.3s
PATS Pohnpei 31.11 139 P P 00 40 56.0 -1.0
KMI Kunming 31.77 267 ⇑P **P 00 41 02.5 -0.4**
KMI pP pP 00 42 08.8 +0.6
KMI PP **PnPn 00 42 27.8 +2.8**
KMI S **S 00 45 48.8 +2.2**
KMI SS **SS 00 48 10.8 -10**
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI pmax pmax
comp=Z,350nm,4.7s
KMI LR LR
comp=Z,280nm,10.3s
KMI LR LR
comp=Z,450nm,14.4s
KMI LR LR
comp=Z,400nm,14.5s
ZAK Zakamensk 31.83 316 *e*P **P 00 41 03.0 +0.1**
ZAK pmax pmax
comp=Z,129nm,1.1s
GTA Gaotai 31.94 295 ⇓P **P 00 41 03.8 -0.3**
GTA PP **PnPn 00 42 30.0 +3.2**
GTA PcP **PcP 00 43 45.4 +0.8**
GTA S **S 00 45 47.9 -0.9**
GTA ScP **ScP 00 46 56.0 +2.3**
GTA PcS **PcS 00 47 29.6 -0.3**
GTA sS sS 00 47 48.3 -0.4
GTA SS **SS 00 48 14.0 -10**
GTA pmax pmax
comp=Z,110nm,1.2s
GTA pmax pmax
comp=Z,330nm,4.4s
IRK Irkutsk 32.03 320 *e*P **P 00 41 05.3 +0.8**
IRK pmax pmax
comp=Z,200nm,2.1s
PZH PanZhiHua 32.17 270 P P 00 41 05.3 -0.9
PZH PP **PnPn 00 42 33.3 +3.7**
PZH sP **sP 00 42 54.4 +2.3**
PZH S **S 00 45 47.3 -5.2**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,220nm,3.6s
MYLDM Lahad Datu 32.25 219 P P 00 41 07.6 +0.8
MYLDM IAmb IAmb 00 41 09.7
comp=Z,65nm,0.9s
SEY Seymchan 32.47 12 P P 00 41 08.5 +0.4
comp=Z,4.6nm,0.5s,baz=186,slow=8.7,SNR=12
SEY ScP **ScP 00 46 54.6 -0.2**
comp=Z,6.8nm,0.9s,baz=244,slow=3.8,SNR=4.3
SEY Seymchan 32.47 12⇑ *e*P **P 00 41 06.3 -1.8**
SEY pmax pmax
comp=Z,16nm,1.4s
TNTI Ternate 32.48 200 P P 00 41 08.5 -0.3
TNTI IAmb IAmb 00 41 11.1
comp=Z,105nm,1.1s
TNTI Ternate 32.48 200 P P 00 41 10.9 +2.1
comp=Z,60nm,0.9s
TNTI Ternate 32.48 200 P P 00 41 09.1 +0.3
KKM Kota Kinabalu 32.83 223 P P 00 41 12.1 +0.2
KKM Kota Kinabalu 32.83 223 P P 00 41 12.4 +0.5
SIJI Sorong 33.12 193 P P 00 41 14.3 0.0
comp=Z,86nm,0.9s,baz=5.0,slow=9.3,SNR=32
SIJI ScP **ScP 00 46 57.7 -0.2**
comp=Z,20nm,0.7s,baz=40,slow=5.2,SNR=8.9
comp=Z,86nm,0.9s
RKPI Ransiki, Papua 33.31 187 P P 00 41 16.2 +0.3
comp=Z,114nm,0.8s
SHEM Shemya Is, Ala 33.34 40 P P 00 41 16.7 +1.1
comp=Z,92nm,0.4s,baz=15,slow=3.6,SNR=18
comp=Z,92nm,0.4s
SMY Shemya 33.34 40 P P 00 41 16.8 +1.2
SMY Shemya 33.34 40 P P 00 41 16.8 +1.2
SMY pmax pmax
comp=Z,1μm,2.0s
SMPI Sarmi 33.58 179 P P 00 41 14.6 -3.5
MOY Mondy 33.65 317 *e*P **P 00 41 19.1 +0.6**
MOY pmax pmax
comp=Z,118nm,1.4s
DLV T Lat 33.72 241 P P 00 41 20.5 +0.8
LBMI Labuha 33.78 199 P P 00 41 20.6 +0.6
comp=Z,3μmcomp=Z,90nm,0.9s
UBPT Khong Chiam 34.03 249 P P 00 41 22.1 +0.1
UBPT IAmb IAmb 00 41 23.7
comp=Z,73nm,1.0s
UBPT Khong Chiam 34.03 249 P P 00 41 23.0 +1.0
GTOI Gorontalo 34.13 208 P P 00 41 22.1 -0.8
comp=Z,574nmcomp=Z,51nm,1.2s
NONG Nongkai 34.43 255 P P 00 41 26.1 +0.7
TOLI2 Tolitoli 34.65 212 P P 00 41 26.4 -0.8
TOLI2 Tolitoli 34.65 212 P P 00 41 26.9 -0.4
MRSI Marisa 34.71 209 P P 00 41 28.1 +0.3
comp=Z,2μmcomp=Z,170nm,1.3s
FAKI Fak Fak 34.96 190 P P 00 41 29.3 -0.6
FAKI IAmb IAmb 00 41 31.3
comp=Z,63nm,0.8s
FAKI Fak Fak 34.96 190 P P 00 41 29.6 -0.3
comp=Z,3μmcomp=Z,91nm,0.8s
FAKI Fak Fak 34.96 190 P P 00 41 29.6 -0.3
KNGR Kungurtug, Tuv 35.37 314 *de*P **P 00 41 33.7 +0.5**
KNGR pmax pmax
comp=Z,41nm,0.9s
TNCH TengChong 35.40 269 ⇓P **P 00 41 33.8 0.0**
TNCH pP pP 00 42 41.3 +1.2
TNCH pmax pmax
comp=Z,65nm,1.8s
TNCH pmax pmax
comp=Z,260nm,2.7s
SANI Sanana 35.57 201 P P 00 41 33.7 -1.4
comp=Z,2μmcomp=Z,189nm,0.9s
SANI Sanana 35.57 201 P P 00 41 33.9 -1.2
MPSI Mapaga 35.73 213 P P 00 41 36.7 +0.2
comp=Z,7μmcomp=Z,33nm,1.9s
LUWI Luwuk 35.76 207 P P 00 41 34.7 -2.0
LUWI IAmb IAmb 00 41 41.7
comp=Z,95nm,1.2s
LUWI Luwuk 35.76 207 P P 00 41 41.1 +4.4
comp=Z,3μmcomp=Z,62nm,1.0s
LUWI Luwuk 35.76 207 P P 00 41 36.4 -0.3
MSAI Masohi 36.02 196 P P 00 41 41.5 +2.7
comp=Z,16nm,1.3s
APSI Ampana 36.09 209 P P 00 41 39.1 -0.3
comp=Z,3μmcomp=Z,295nm,1.2s
NLAI Namlea 36.38 199 P P 00 41 42.4 +0.5
comp=Z,10μmcomp=Z,20nm,0.6s
AAI Ambon 36.52 197 P P 00 41 43.9 +0.8
comp=Z,195nm,0.8s
PHRA Phrae 36.63 258 P P 00 41 43.6 -0.4
BNDI Bandanaira 36.94 194 P P 00 41 47.1 +0.5
comp=Z,6μmcomp=Z,383nm,0.9s
BNDI Bandanaira 36.94 194 P P 00 41 46.7 +0.1
CHTO Chiang Mai 37.56 259 P P 00 41 51.1 -0.6
CHTO Chiang Mai 37.56 259 P P 00 41 51.1 -0.6
CHTO pmax pmax
comp=Z,46nm,0.9s
CM31 Chiang Mai Arr 37.73 259 P P 00 41 53.1 0.0
CMAR Chiang Mai Arr 37.73 259 P P 00 41 53.2 +0.1
comp=Z,13nm,0.7s,baz=48,slow=7.4,SNR=74
CMAR PcP **PcP 00 44 02.6 +0.9**
comp=Z,5.4nm,0.6s,baz=42,slow=0.8,SNR=11
CMAR ScP **ScP 00 47 15.4 +0.7**
comp=Z,4.3nm,0.9s,baz=24,slow=2.5,SNR=10
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 37.73 259 P P 00 41 53.0 -0.2
CMAR Chiang Mai Arr 37.73 259 *ce*P **P 00 41 53.2 +0.1**
CMAR pmax pmax
comp=Z,14nm,0.7s
NAYO Nakonayok 37.89 251 P P 00 41 55.2 +0.7

SBUM Sibu 38.07 225 P P 00 41 55.9 -0.1
KIWB Kanaga Island 38.12 45 P P 00 41 55.8 -0.1
ADK Adak 38.40 45 P P 00 41 58.3 +0.1
ADK IAmb IAmb 00 41 59.0
comp=Z,55nm,0.6s
ADK Adak 38.40 45 P P 00 41 58.3 +0.1
ADK pmax pmax
comp=Z,55nm,0.6s
ADK Adak 38.40 45 P P 00 41 58.0 -0.2
MND Mandalay 38.56 266 P P 00 41 59.4 -0.5
MND IAmb IAmb 00 42 01.0
comp=Z,88nm,1.5s
MND Mandalay 38.56 266 P P 00 41 59.5 -0.5
GSTR Great Sitkin T 38.83 45 P P 00 42 02.2 +0.4
SPSI Sidrap Palu 39.63 210 P P 00 42 07.8 -0.9
comp=Z,842nmcomp=Z,81nm,1.1s
BILL Bilibino 39.81 16 P P 00 42 10.4 +0.8
BILL IAmb IAmb 00 42 12.2
comp=Z,170nm,1.2s
BILL Bilibino 39.81 16 *d* iP **P 00 42 10.4 +0.8**
BILL *i* *PP **pP 00 43 20.4 +1.7**
BILL pmax pmax
comp=Z,128nm,1.0s
BILL Bilibino 39.81 16 P P 00 42 10.4 +0.8
BNSI Bone 39.88 209 P P 00 42 10.8 0.0
comp=Z,1μmcomp=Z,116nm,1.1s
KSM Kuching 40.00 227 P P 00 42 12.0 +0.2
KSM IAmb IAmb 00 42 14.0
comp=Z,114nm,1.0s
KSM Kuching 40.00 227 P P 00 42 13.1 +1.2
LSA Lhasa 40.25 280 P P 00 42 14.3 0.0
LSA Lhasa 40.25 280 P P 00 42 14.3 0.0
LSA pmax pmax
comp=Z,64nm,1.5s
TIXI Tiksi 40.26 355 P P 00 42 12.8 -0.3
comp=Z,16nm,0.6s,baz=269,slow=24,SNR=62
TIXI ScP **ScP 00 47 23.8 +0.3**
comp=Z,6.2nm,0.8s,baz=270,slow=22,SNR=4.7
TIXI ScS **ScS 00 51 34.4 -3.7**
comp=Z,2.9nm,0.7s,baz=270,slow=24,SNR=22
comp=Z,16nm,0.6s
TIXI Tiksi 40.26 355 P P 00 42 12.6 -0.5
TIXI Tiksi 40.26 355 *d* iP **P 00 42 12.7 -0.4**
TIXI pmax pmax
comp=Z,31nm,1.0s
TIXI Tiksi 40.26 355 P P 00 42 12.8 -0.3
KAPI Kappang 40.58 209 P P 00 42 16.4 -0.1
comp=Z,158nm,1.1s,baz=23,slow=5.4,SNR=85
KAPI PcP **PcP 00 44 10.5 -0.4**
comp=Z,18nm,0.6s,baz=322,slow=1.7,SNR=5.2
KAPI ScP **ScP 00 47 25.9 +0.1**
comp=Z,9.6nm,1.1s,baz=350,slow=3.5,SNR=4.2
KAPI S **S 00 47 58.0 -1.0**
comp=Z,2.3nm,0.3s,baz=241,slow=23,SNR=6.4
comp=Z,158nm,1.1s
KAPI Kappang 40.58 209 P P 00 42 16.5 0.0
KAPI IAmb IAmb 00 42 18.0
comp=Z,202nm,1.1s
KAPI Kappang 40.58 209 P P 00 42 16.5 0.0
KAPI Kappang 40.58 209 P P 00 42 16.8 +0.3
KAPI Kappang 40.58 209 P P 00 42 16.6 +0.2
BKSI Bulukumba 40.71 208 P P 00 42 17.0 -0.5
comp=Z,693nmcomp=Z,87nm,1.0s
SHL Shillong 40.86 273 P P 00 42 17.9 -1.0
SHL Shillong 40.86 273 P P 00 42 18.1 -0.9
SNR=12
SHL Shillong 40.86 273 P P 00 42 18.0 -0.9
SHL pmax pmax
comp=Z,33nm,0.6s
WMQ Urumqi 41.09 302 ⇓P **P 00 42 21.3 +0.8**
WMQ PP **PP 00 44 06.4 +2.5**
WMQ PcP **PcP 00 44 13.3 +1.0**
WMQ S **S 00 48 06.5 +0.4**
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,750nm,4.1s
WMQ LR LR
comp=Z,340nm,17.5s
WMQ LR LR
comp=Z,150nm,21.9s
WMQ Urumqi 41.09 302 P P 00 42 21.2 +0.8
WMQ sP **PcP 00 44 12.0 -0.3**
BSSI Bau Bau, Buton 41.31 207 P P 00 42 22.2 -0.2
comp=Z,56nm,1.1s
BBKI Banjar Baru 41.48 217 P P 00 42 23.4 -0.4
comp=Z,5μmcomp=Z,187nm,1.2s
DGZ Jazzator, Alta 41.56 311 *d* iP **P 00 42 24.9 +0.7**
DGZ pmax pmax
comp=Z,221nm,0.9s
SURA Surathani 42.22 246 P P 00 42 30.6 +0.9
SRIT Nakonsritamara 42.59 246 P P 00 42 32.9 +0.2
SRIT Nakonsritamara 42.59 246 P P 00 42 33.8 +1.1
CLES Cleveland East 42.67 45 P P 00 42 32.7 -0.1
CLES IAmb IAmb 00 42 33.7
comp=Z,917nm,0.6s
SKLT Songkhla 42.71 243 P P 00 42 34.6 +1.0
MMRI Maumere 42.98 204 P P 00 42 34.7 -1.0
MMRI IAmb IAmb 00 42 36.4
comp=Z,178nm,1.2s
MMRI Maumere 42.98 204 P P 00 42 35.6 -0.1
comp=Z,130nm,1.1s
MMRI Maumere 42.98 204 P P 00 42 35.6 -0.1
ZSN Zaisan 43.11 307 ⇓ iP **P 00 42 37.0 +0.6**
comp=Z,113nm,1.3s,baz=307
ZSN Zaisan 43.11 307 *d* iP **P 00 42 37.0 +0.6**
ZSN pmax pmax
comp=Z,113nm,1.3s
NIKH Nikolski High 43.31 45 P P 00 42 37.3 -0.7
NIKH Nikolski High 43.31 45 P P 00 42 37.2 -0.7
baz=262,SNR=8.3
NIKH Nikolski High 43.31 45 P P 00 42 37.6 -0.3
SOEI Soe 43.39 200 P P 00 42 37.7 -1.3
SOEI IAmb IAmb 00 42 57.7
comp=Z,183nm,1.1s
SOEI Soe 43.39 200 P P 00 42 38.4 -0.7
comp=Z,2μmcomp=Z,143nm,1.0s
SOEI Soe 43.39 200 P P 00 42 38.6 -0.5
comp=Z,144nm,1.0s
ZAA0 Zalesovo Array 43.70 317 P P 00 42 40.4 -0.6
ZALV Zalesovo Beam 43.70 317 P P 00 42 40.6 -0.3
comp=Z,41nm,0.7s,baz=100,slow=6.5,SNR=126
ZALV PcP **PcP 00 44 20.0 -0.7**
comp=Z,44nm,0.7s,baz=100,slow=3.6,SNR=19
ZALV ScP **ScP 00 47 37.2 -0.6**
comp=Z,6.2nm,0.7s,baz=64,slow=3.4,SNR=4.4
comp=Z,41nm,0.7s
ZALV Zalesovo Beam 43.70 317 P P 00 42 40.8 -0.2
ZALV Zalesovo Beam 43.70 317 P P 00 42 40.8 -0.2
TAPN Taplejung 43.82 278 *e*P **P 00 42 42.4 -0.3**
comp=Z,62nm,0.5s
KULM Kulim 43.90 241 P P 00 42 42.8 -0.3
BATI Baumata 43.99 201 P P 00 42 42.9 -0.8
comp=Z,186nm,0.7s,baz=167,slow=1.8,SNR=30
comp=Z,186nm,0.7s
BATI Baumata 43.99 201 P P 00 42 43.3 -0.4
comp=Z,2μmcomp=Z,222nm,1.0s
MYKOM Kota Tinggi 44.01 234 P P 00 42 43.9 -0.1
IPM Ipoh 44.16 240 P P 00 42 44.4 -0.8
IPM IAmb IAmb 00 42 46.0
comp=Z,160nm,1.6s
IPM Ipoh 44.16 240 P P 00 42 45.1 -0.1
ODAN Ódare 44.25 277 *e*Pg **P 00 42 46.0 0.0**
comp=Z,15nm,0.4s
KDU Kakadu 44.54 188 P P 00 42 47.5 -0.4
TARA Tarawa 44.59 126 P P 00 42 48.1 -0.3
TARA IAmb IAmb 00 42 50.4
comp=Z,106nm,0.8s
GAMB Gambell 44.59 29 P P 00 42 49.0 +1.2
baz=248
UNV Unalaska Valle 44.82 44 P P 00 42 49.6 -0.1
baz=263
UNV Unalaska Valle 44.82 44 P P 00 42 50.2 +0.5
PLAI Plampang 44.84 209 P P 00 42 48.9 -1.5
comp=Z,1μmcomp=Z,130nm,1.0s
PLAI Plampang 44.84 209 P P 00 42 49.2 -1.2
MK31 Makanchi Array 44.87 306 P P 00 42 50.4 +0.2
MK31 IAmb IAmb 00 42 51.7
comp=Z,149nm,0.8s
MK31 Makanchi Array 44.87 306 *d* iP **P 00 42 50.3 0.0**
MK31 pmax pmax
comp=Z,208nm,0.8s
MKAR Makanchi Array 44.87 306 P P 00 42 50.6 +0.4
comp=Z,152nm,0.7s,baz=91,slow=9.8,SNR=764
MKAR PcP **PcP 00 44 24.6 -0.4**
comp=Z,14nm,0.7s,baz=90,slow=3.6,SNR=4.0
MKAR ScP **ScP 00 47 43.0 +0.3**
comp=Z,14nm,0.7s,baz=78,slow=5.5,SNR=13
MKAR S **S 00 49 00.9 +0.4**
comp=Z,2.0nm,1.1s,baz=89,slow=15,SNR=3.6
comp=Z,152nm,0.7s
MKAR Makanchi Array 44.87 306 P P 00 42 50.5 +0.2
MTN Manton Dam 44.87 190 P P 00 42 49.7 -0.8
MTN IAmb IAmb 00 42 50.8
comp=Z,95nm,0.9s
MTN Manton Dam 44.87 190 P P 00 42 50.0 -0.5
RAMN Ramite 44.89 278 *e*P **P 00 42 50.5 -0.5**
comp=Z,97nm,0.4s
JIRN Jiri 45.01 279 *e*P **P 00 42 52.2 +0.2**
comp=Z,175nm,0.4s
MAKZ Makanchi 45.08 306 P P 00 42 52.2 +0.3
MAKZ IAmb IAmb 00 42 53.4
comp=Z,227nm,1.2s
MAKZ Makanchi 45.08 306 P P 00 42 52.2 +0.3
MAKZ pmax pmax
comp=Z,227nm,1.3s
MAKZ Makanchi 45.08 306 ⇓P **P 00 42 52.3 +0.4**
MAKZ PcP **PcP 00 44 25.0 -0.8**
MAKZ sP **sP 00 44 40.7 -1.5**
TWSI Taliwang, Sumb 45.14 210 P P 00 42 51.6 -1.1
comp=Z,1μmcomp=Z,152nm,1.0s
GUN Gumba 45.19 279 *e*P **P 00 42 53.3 -0.1**
comp=Z,328nm,0.7s
AKUT Akutan 45.28 43 P P 00 42 52.6 -0.7
AKUT IAmb IAmb 00 43 44.9
comp=Z,290nm,1.6s
SRBI Singaraja 45.31 213 P P 00 42 54.2 +0.2
comp=Z,1μmcomp=Z,106nm,1.0s
PPBI Pangkal Pinang 45.43 228 P P 00 42 55.9 +0.9
ABJI Asem Bagus 45.52 214 P P 00 42 55.9 +0.3
comp=Z,3μmcomp=Z,116nm,1.1s
GRJI Gresik 45.63 217 P P 00 42 57.9 +1.4
comp=Z,136nm,1.0s
PKI Pulchoki 45.69 279 *e*P **P 00 42 56.7 -0.6**
PKIN Phulchoki 45.70 279 *e*P **P 00 42 56.7 -0.6**
comp=Z,16nm,0.3s
COEN Coen 45.71 173 P P 00 42 57.1 0.0
COEN Coen 45.71 173 P P 00 42 57.5 +0.4
KKN Kakani 45.73 279 *e*P **P 00 42 57.6 +0.1**
DMN Daman 45.93 279 *e*P **P 00 42 58.8 -0.3**
JAGI Jajag, Banyuwa 46.15 214 P P 00 42 59.0 -1.5
JAGI Jajag, Banyuwa 46.15 214 P P 00 42 59.6 -0.9
comp=Z,78nm,1.1s
JAGI Jajag, Banyuwa 46.15 214 P P 00 42 59.6 -0.9
GKN Gorkha 46.20 280 *e*P **P 00 43 00.9 -0.2**
TNA Tin City 46.74 27 P P 00 43 05.4 +1.1
TNA Tin City 46.74 27 P P 00 43 05.8 +1.4
baz=251,SNR=5.5
SMRI Semarang 46.82 219 P P 00 43 05.5 -0.2
SMRI IAmb IAmb 00 43 07.0
comp=Z,92nm,0.9s
SMRI Semarang 46.82 219 P P 00 43 06.8 +1.1
comp=Z,108nm,0.8s
SMRI Semarang 46.82 219 P P 00 43 06.1 +0.4
DANN Dangsing 46.83 281 *e*P **P 00 43 06.3 +0.3**
comp=Z,61nm,0.3s
PSI Prapat 46.84 240 P P 00 43 06.0 0.0
PSI Prapat 46.84 240 P P 00 43 05.5 -0.5
PSI 00 44 32.9
PSI pmax pmax
comp=Z,37nm,0.8s
PMBI Palembang 46.89 229 P P 00 43 06.9 +0.7
RPSI Rantau Prapat 46.91 240 P P 00 43 05.5 -0.9
RPSI PcP **PcP 00 44 32.9 +0.3**
BKNI Bangkinang 47.01 236 P P 00 43 07.1 -0.1
BKNI IAmb IAmb 00 43 08.7
comp=Z,136nm,1.1s
BKNI Bangkinang 47.01 236 P P 00 43 08.0 +0.8
comp=Z,2μmcomp=Z,124nm,1.1s
BKNI Bangkinang 47.01 236 P P 00 43 08.6 +1.4
NRIK Noril'sk 47.04 338 P P 00 43 07.0 +0.4
comp=Z,58nm,0.6s,baz=111,slow=9.3,SNR=111
NRIK ScP **ScP 00 47 51.3 0.0**
comp=Z,12nm,0.8s,baz=128,slow=3.8,SNR=6.5
NRIK S **S 00 49 29.6 -0.8**
comp=Z,7.9nm,0.9s,baz=208,slow=22,SNR=12
comp=Z,58nm,0.6s
NRIK Noril'sk 47.04 338 P P 00 43 06.9 +0.2
NRIK IAmb IAmb 00 43 08.0
comp=Z,180nm,1.2s
NRIK Noril'sk 47.04 338 *d* iP **P 00 43 06.8 +0.2**
NRIK pmax pmax
comp=Z,110nm,1.0s
PDGK Podgornoye 47.07 302 P P 00 43 07.1 -0.4
SHLS Shalkode 47.11 301 ⇓ iP **P 00 43 05.0 -2.8**
comp=Z,47nm,0.8s,baz=301
SHLS Shalkode 47.11 301 *d* iP **P 00 43 04.9 -2.8**
SHLS pmax pmax
comp=Z,47nm,0.8s
KURK Kurchatov 47.26 312 P P 00 43 08.3 -0.2
KURK IAmb IAmb 00 43 09.6
comp=Z,236nm,0.9s
KURK Kurchatov 47.26 312 P P 00 43 08.4 -0.2
KURK Kurchatov 47.26 312 *d* iP **P 00 43 08.2 -0.4**
KURK pmax pmax
comp=Z,251nm,1.0s
KURK Kurchatov 47.26 312 P P 00 43 08.4 -0.2
KURK PcP **PcP 00 44 33.1 -0.2**
KURK sP **sP 00 44 58.2 -1.4**
KURBB Kurchatov Arra 47.32 312 P P 00 43 08.9 -0.1
comp=Z,128nm,0.9s,baz=91,slow=7.3,SNR=415
KURBB PcP **PcP 00 44 33.7 +0.2**
comp=Z,15nm,0.7s,baz=89,slow=8.1,SNR=6.6
comp=Z,128nm,0.9s
UZB Uzynbulak 47.43 301 *e*P **P 00 43 09.9 -0.4**
baz=302
UZB Uzynbulak 47.43 301 *e*P **P 00 43 09.8 -0.4**
ANM Nome 47.47 29 P P 00 43 11.2 +1.2
ANM Nome 47.47 29 P P 00 43 11.6 +1.6
baz=254,SNR=6.0
ANM Nome 47.47 29 P P 00 43 11.2 +1.2
ANM pmax pmax
comp=Z,75nm,1.2s
UGM Wanagama 47.50 219 P P 00 43 10.1 -0.8
UGM Wanagama 47.50 219 P P 00 43 11.0 +0.1
comp=Z,5μmcomp=Z,375nm,1.2s
UGM Wanagama 47.50 219 P P 00 43 10.6 -0.3
YOGI Yogyakarta 47.54 219 P P 00 43 11.3 +0.1
comp=Z,210nm,1.0s
S12K Black Hills 47.56 41 P P 00 43 09.6 -1.2
baz=266
KPKS Kokpek 47.64 302 ⇓ iP **P 00 43 11.6 -0.2**
comp=Z,29nm,0.6s,baz=302
KPKS Kokpek 47.64 302 *d* iP **P 00 43 11.5 -0.2**
KPKS pmax pmax
comp=Z,29nm,0.6s
SDSI Sungai Dareh 47.64 234 P P 00 43 12.0 0.0
comp=Z,888nmcomp=Z,56nm,1.6s
TDK Taldyqorghan 47.68 304 ⇓ iP **P 00 43 12.2 +0.2**
comp=Z,138nm,1.3s,baz=304
TDK Taldyqorghan 47.68 304 *d* iP **P 00 43 12.1 +0.2**
TDK pmax pmax
comp=Z,138nm,1.3s
SATY Saty 47.89 301 ⇓ iP **P 00 43 13.6 -0.1**
comp=Z,41nm,0.9s,baz=301
SATY Saty 47.89 301 *d* iP **P 00 43 13.6 -0.1**
SATY pmax pmax
comp=Z,41nm,0.9s
KNRA Kununurra 48.03 192 P P 00 43 14.7 -0.1
KNRA IAmb IAmb 00 43 15.7
comp=Z,117nm,0.8s
KNRA Kununurra 48.03 192 P P 00 43 14.9 +0.1
ARXS Arharly 48.17 303 *e*P **P 00 43 15.6 -0.1**
LEM Lembang 48.22 223 P P 00 43 16.3 -0.2
comp=Z,186nm,0.8s,baz=84,slow=7.9,SNR=27
comp=Z,186nm,0.8s
KLI Kotabumi 48.32 227 P P 00 43 17.0 -0.1
comp=Z,8μmcomp=Z,358nm,1.0s
SDPT Sand Point 48.44 42 P P 00 43 16.6 -0.8
SDPT Sand Point 48.44 42 P P 00 43 16.6 -0.8
baz=267,SNR=5.4
TARG Taragay, Kyrgy 48.51 300 P P 00 43 19.6 +0.8
TARG IAmb IAmb 00 43 20.9
comp=Z,172nm,0.9s
TARG Taragay, Kyrgy 48.51 300 P P 00 43 19.6 +0.8
TARG pmax pmax
comp=Z,172nm,0.9s
MASI Maura Aman, Be 48.70 231 P P 00 43 20.5 +0.4
comp=Z,123nm,1.0s
BBJI Bungbulang 48.71 222 P P 00 43 18.3 -1.8
CHKK Chushkaly 48.81 303 ⇓ iP **P 00 43 20.2 -0.3**

baz=303
CHKK Chushkaly 48.81 303 ⇓iP P 00 43 20.2 -0.3
GSI Gunungsitoli 48.84 240 P P 00 43 21.0 0.0
GSI Gunungsitoli 48.84 240 P P 00 43 20.7 -0.3
comp=Z,3μmcomp=Z,348nm,1.2s
GSI Gunungsitoli 48.84 240 P P
MDOK Medeo 48.86 302 iP P 00 43 21.3 +0.2
baz=302
MDOK Medeo 48.86 302 P P 00 43 21.3 +0.2
KNDC Almaty 48.91 302 P P 00 43 22.0 +0.6
CHNA Chernabura Isl 48.93 43 P P 00 43 21.1 0.0
baz=268,SNR=12
CNBA Chernabura Isl 48.93 43 P P 00 43 21.1 -0.1
AAA Alma-Ata 48.95 302 ⇓iP P 00 43 21.6 0.0
comp=Z,211nm,0.6s,baz=302
AAA Alma-Ata 48.95 302 diP P 00 43 21.6 0.0
AAA pmax pmax
comp=Z,211nm,0.6s
TNSS Tian-Shan 48.95 302 eP P 00 43 22.8 +0.7
baz=302
TNSS Tian-Shan 48.95 302 eP P 00 43 22.7 +0.7
KASI Kota Agung 49.06 227 P P 00 43 21.5 -1.1
comp=Z,72nm,1.0s
MNAI Manna 49.15 230 P P 00 43 22.1 -1.2
KUU Kurty 49.27 303 ⇓iP P 00 43 23.7 -0.3
comp=Z,230nm,0.8s,baz=303
KUU Kurty 49.27 303 diP P 00 43 23.7 -0.3
KUU pmax pmax
comp=Z,230nm,0.8s
ULHL Ulahol 49.59 301 P P 00 43 26.9 +0.3
SNR=19
CHGN Chignik 49.64 41 P P 00 43 25.8 -0.6
CHGN IAmb IAmb 00 43 29.4
comp=Z,85nm,0.6s
CHGN Chignik 49.64 41 P P 00 43 25.8 -0.6
baz=268
N16K Nishlik Lake 49.73 35 P P 00 43 28.6 +1.5
baz=264
NRN Naryn 49.90 300 P P 00 43 29.5 +0.4
NRN IAmb IAmb 00 43 30.6
comp=Z,90nm,1.0s
NRN Naryn 49.90 300 P P 00 43 29.5 +0.4
NRN pmax pmax
comp=Z,90nm,1.0s
TKM2 Tokmak 2 49.95 302 P P 00 43 29.9 +0.6
SNR=90
TKM2 Tokmak 2 49.95 302 iP P 00 43 29.3 0.0
TKM2 pmax pmax
comp=Z,98nm,0.8s
O16K Kokwok River B 49.99 37 P P 00 43 30.1 +1.2
baz=266
P16K Nushagak River 50.00 37 P P 00 43 30.5 +1.5
baz=266,SNR=14
R16K Pilot Point 50.14 39 P P 00 43 30.0 -0.2
baz=268
KSH Kashi 50.27 297 P P 00 43 34.8 +3.2
KSH sP sP 00 45 25.8 +3.4
KSH S S 00 50 23.4 +6.9
KSH ScS ScS 00 52 46.4 +1.8
KSH pmax pmax
comp=Z,220nm,0.9s
KSH LR LR
comp=Z,180nm,15.2s
KSH LR LR
comp=Z,180nm,13.8s
KBK Karagaybulak 50.46 301 P P 00 43 33.5 +0.4
SNR=137
O17K Koliganek Bris 50.51 36 P P 00 43 34.1 +1.3
baz=266,SNR=17
CHMS Chumysh 50.55 302 P P 00 43 34.0 +0.5
SNR=48
CHMS Chumysh 50.55 302 iP P 00 43 33.3 -0.2
CHMS pmax pmax
comp=Z,89nm,1.0s
SGDS Sogindy 50.56 302 ⇓iP P 00 43 33.5 -0.2
comp=Z,32nm,0.9s,baz=302
SGDS Sogindy 50.56 302 diP P 00 43 33.4 -0.2
SGDS pmax pmax
comp=Z,32nm,0.9s
Q16K King Salmon 50.67 38 P P 00 43 34.7 +0.7
baz=268,SNR=17
BTLS Baital 50.74 305 ⇓iP P 00 43 34.6 -0.2
comp=Z,53nm,0.6s,baz=304
BTLS Baital 50.74 305 diP P 00 43 34.6 -0.2
BTLS pmax pmax
comp=Z,53nm,0.6s
R17K Ugashik Creek 50.78 39 P P 00 43 34.2 -0.7
baz=269
AAK Ala-Archa 50.80 301 P P 00 43 35.9 +0.4
SNR=8.4
AAK Ala-Archa 50.80 301 P P 00 43 35.9 +0.4
comp=Z,68nm,0.7s,baz=120,slow=5.5,SNR=105
comp=Z,68nm,0.7s
AAK Ala-Archa 50.80 301 P P 00 43 35.9 +0.4
AAK IAmb IAmb 00 43 36.9
comp=Z,81nm,0.8s
AAK Ala-Archa 50.80 301 P P 00 43 35.8 +0.3
AAK Ala-Archa 50.80 301 iP P 00 43 36.1 +0.6
SNR=37
AAK Ala-Archa 50.80 301 diP P 00 43 36.0 +0.4
AAK pmax pmax
comp=Z,132nm,1.3s
AAK Ala-Archa 50.80 301 P P 00 43 35.8 +0.3
AAK pP pP 00 44 49.5 +2.0
UCH Uchtor 50.85 301 P P 00 43 37.2 +0.9
SNR=102
Q17K Contact Creek 51.06 38 P P 00 43 36.8 -0.4
baz=269,SNR=8.0
GCSA Galena City Sc 51.09 30 P P 00 43 37.6 +0.6
baz=262
BRZS Berezniki 51.10 311 ⇓iP P 00 43 37.0 -0.4
comp=Z,39nm,0.8s,baz=311
BRZS Berezniki 51.10 311 diP P 00 43 37.0 -0.4
BRZS pmax pmax
comp=Z,39nm,0.8s
N18K Kilae Creek 51.16 35 P P 00 43 39.2 +1.5
baz=267
CHIR Chirikof Islan 51.20 41 P P 00 43 38.6 +0.6
CHIR Chirikof Islan 51.20 41 P P 00 43 38.8 +0.8
baz=271
TTA Tatalina 51.27 32 P P 00 43 39.4 +0.9
TTA Tatalina 51.27 32 P P 00 43 39.4 +0.9
baz=265,SNR=7.9
TTA Tatalina 51.27 32 P P 00 43 39.4 +0.9
TTA pmax pmax
comp=Z,17nm,1.0s
EKS2 Erkin-Say 51.31 302 P P 00 43 39.8 +0.5
SNR=49
WB0 Warramunga Arr 51.37 185 P P 00 43 39.2 -0.5
TV1H Townsville Har 51.40 170 P P 00 43 40.2 +0.3
P18K Big Mountain, 51.44 37 P P 00 43 40.7 +1.0
baz=268,SNR=21
O18K Koktuh Hills 51.46 36 P P 00 43 41.3 +1.4
baz=268,SNR=13
AML Almayashu 51.47 301 P P 00 43 41.6 +0.9
SNR=275
OTUK Ortayu 51.50 309 P P 00 43 40.7 +0.3
Q18K Katmai Hardscr 51.53 38 P P 00 43 40.2 -0.4
baz=269,SNR=18
WRAB Tennant Creek 51.54 185 diP P 00 43 40.4 -0.5
WRAB pmax pmax
comp=Z,57nm,1.0s
WRAB Tennant Creek 51.54 185 P P 00 43 40.2 -0.7
WRAB pP PcP 00 44 50.5 +1.1
WRAB pwP pwP 00 44 57.8 -0.5
WB2 Warramunga Arr 51.55 185 P P 00 43 40.6 -0.4
WRA Warramunga Arr 51.55 185 P P 00 43 40.4 -0.6
comp=Z,43nm,0.9s,baz=1.8,slow=7.6,SNR=119
WRA PcP PcP 00 44 50.4 +1.0
comp=Z,17nm,0.8s,baz=357,slow=3.7,SNR=7.9
WRA ScP ScP 00 48 11.0 -0.3
comp=Z,3.6nm,0.8s,baz=359,slow=4.7,SNR=3.9
WRA S S 00 50 29.4 -4.4
comp=Z,2.5nm,1.0s,baz=8.2,slow=15,SNR=6.4
comp=Z,43nm,0.9s
WRA Warramunga Arr 51.55 185 P P 00 43 39.4 -1.6
WRA Warramunga Arr 51.55 185 iP P 00 43 39.2 -1.8
WRA pmax pmax
comp=Z,43nm,0.9s
WR0 Warramunga Arr 51.55 184 P P 00 43 40.2 -0.8
WB1 Warramunga Ar. 51.56 185 P P 00 43 40.6 -0.5
L19K White Mountain 51.75 33 P P 00 43 43.3 +1.3
baz=266
N19K Bonanza Creek 51.86 35 P P 00 43 43.9 +1.0
N19K IAmb IAmb 00 43 45.1
comp=Z,65nm,0.7s
N19K Bonanza Creek 51.86 35 P P 00 43 44.2 +1.3
baz=268,SNR=24
O19K Port Alsworth 51.92 36 P P 00 43 44.5 +1.3
O19K Port Alsworth 51.92 36 P P 00 43 44.5 +1.3
baz=268,SNR=32
M19K Big River Lodg 51.95 34 P P 00 43 45.0 +1.5
baz=267
SII Sitkinak Islan 51.99 41 P P 00 43 44.2 +0.3
SII IAmb IAmb 00 43 45.0
comp=Z,127nm,0.8s
SII Sitkinak Islan 51.99 41 P P 00 43 44.1 +0.3
baz=271,SNR=5.8
SII Sitkinak Islan 51.99 41 P P 00 43 44.3 +0.5
QIS Mount Isa 52.05 178 P P 00 43 44.7 +0.1
CTA Charters Tower 52.14 170 P P 00 43 45.0 -0.2
comp=Z,9.7nm,1.0s,baz=356,slow=8.5,SNR=8.2
CTA pP pP 00 44 58.1 +0.2
comp=Z,7.2nm,0.9s,baz=6.3,slow=6.6,SNR=3.7
comp=Z,9.7nm,1.0s
CTA Charters Tower 52.14 170 P P 00 43 45.4 +0.1
CTAO Charters Tower 52.14 170 P P 00 43 45.4 +0.1
CTAO Charters Tower 52.14 170 P P 00 43 45.3 +0.1
CTAO Charters Tower 52.14 170 P P 00 43 45.4 +0.1
CTAO pmax pmax
comp=Z,40nm,1.4s
CTAO Charters Tower 52.14 170 P P 00 43 45.4 +0.1
CTAO pP pP 00 44 58.7 +0.7
K20K Telida 52.18 32 P P 00 43 46.9 +1.7
baz=266
J20K Nowinta River 52.21 31 P P 00 43 46.8 +1.5
baz=266
L20K Farewell, AK 52.22 33 P P 00 43 46.8 +1.4
baz=267
Q19K Cape Douglas, 52.25 38 P P 00 43 45.4 -0.3
baz=270,SNR=6.1
BVA0 Borovoye Array 52.27 315 P P 00 43 45.6 -0.4
BVAR Borovoye Array 52.27 315 P P 00 43 46.2 +0.3
comp=Z,106nm,0.6s,baz=94,slow=7.9,SNR=314
BVAR PcP PcP 00 44 52.2 +0.4
comp=Z,38nm,0.7s,baz=94,slow=3.0,SNR=11
BVAR ScP ScP 00 48 14.5 +0.3
comp=Z,5.5nm,0.7s,baz=100,slow=6.0,SNR=4.1
BVAR S S 00 50 40.8 -2.2
comp=Z,2.1nm,0.9s,baz=94,slow=15,SNR=2.3
comp=Z,106nm,0.6s
A21K Barrow 52.33 22 P P 00 43 47.4 +1.4
baz=258
BRVK Borovoye 52.33 315 P P 00 43 46.6 +0.2
BRVK IAmb IAmb 00 43 48.6
comp=Z,114nm,1.1s
BRVK Borovoye 52.33 315 P P 00 43 46.6 +0.2
BRVK Borovoye 52.33 315 diP P 00 43 46.2 -0.2
BRVK pmax pmax
comp=Z,94nm,0.8s
BRVK Borovoye 52.33 315 P P 00 43 46.4 0.0
BRVK PcP PcP 00 44 52.3 +0.3
P19K Oil Pt 52.46 37 P P 00 43 47.9 +0.7
baz=270
OHAK Old Harbor 52.46 40 P P 00 43 47.4 +0.2
OHAK IAmb IAmb 00 43 48.1
comp=Z,86nm,0.7s
OHAK Old Harbor 52.46 40 P P 00 43 47.2 0.0
baz=272,SNR=12
ILSW Iliamna Southw 52.50 36 P P 00 43 47.9 +0.3
ILSW IAmb IAmb 00 43 49.1
comp=Z,35nm,0.7s
IMAR Indian Mountai 52.53 29 P P 00 43 48.5 +0.8
M20K Styx River 52.55 34 P P 00 43 49.4 +1.5
baz=268,SNR=14
G21K Allakaket 52.68 28 P P 00 43 49.9 +1.2
baz=264,SNR=32
RSO Redoubt South 52.70 36 P P 00 43 49.7 +0.6
O20K Slope Mountain 52.77 36 P P 00 43 50.1 +0.6
baz=270,SNR=10
F21K Alatna River 52.77 27 P P 00 43 50.2 +0.9
baz=264
H21K Melozitna Rive 52.89 29 P P 00 43 51.6 +1.4
baz=266
Q20K Shuyak Island 52.90 38 P P 00 43 50.3 0.0
baz=271
N20K Mount Spurr 52.97 35 P P 00 43 52.2 +1.2
baz=270,SNR=36
SPCR Spurr Chakacha 52.97 35 P P 00 43 52.1 +1.1
baz=270,SNR=15
CHUM Lake Minchumin 52.99 31 P P 00 43 52.5 +1.6
baz=267,SNR=41
PPLA Purkeypile 53.01 33 P P 00 43 52.6 +1.3
PPLA IAmb IAmb 00 43 53.7
comp=Z,80nm,0.6s
PPLA Purkeypile 53.01 33 P P 00 43 53.0 +1.6
baz=268,SNR=34
DZA Taraz 53.04 302 eP P 00 43 50.5 -1.3
baz=302
DZA Taraz 53.04 302 eP P 00 43 50.4 -1.3
SPU Mount Spurr 53.05 35 P P 00 43 52.1 +0.6
CAST Castle Rocks 53.08 32 P P 00 43 52.9 +1.2
CAST IAmb IAmb 00 43 54.0
comp=Z,82nm,1.0s
CAST Castle Rocks 53.08 32 P P 00 43 53.1 +1.4
baz=268,SNR=62
I21K Tanana 53.20 30 P P 00 43 54.1 +1.7
baz=272
F22K John River 53.30 27 P P 00 43 54.8 +1.6
baz=265
SKT Skwentna 53.30 34 P P 00 43 53.7 +0.4
SKT Skwentna 53.30 34 P P 00 43 53.7 +0.4
baz=270,SNR=18
DRK Karamyk 53.43 298 P P 00 43 54.4 -0.5
CAPN Captain Cook N 53.49 35 P P 00 43 56.3 +1.8
baz=271
H22K Ishtalitna Cre 53.50 29 P P 00 43 56.4 +1.8
baz=267,SNR=64
G22K Bettles 53.51 27 P P 00 43 55.6 +1.0
baz=266
KK31 Karatay Array 53.59 303 P P 00 43 55.9 +0.3
KK31 Karatay Array 53.59 303 iP P 00 43 55.8 +0.2
KKAR Karatay Array 53.59 303 P P 00 43 55.9 +0.3
KKAR Karatay Array 53.59 303 P P 00 43 55.8 +0.1
KKAR IAmb IAmb 00 43 57.0
comp=Z,173nm,0.8s
KKAR Karatay Array 53.59 303 P P 00 43 55.9 +0.3
KKAR pmax pmax
comp=Z,173nm,0.8s
BPAW Bear Paw Mtn. 53.59 31 P P 00 43 56.4 +1.1
BPAW Bear Paw Mtn. 53.59 31 P P 00 43 56.4 +1.1
baz=268,SNR=20
KTH Kantishna Hill 53.60 32 P P 00 43 56.3 +0.8
BRLK Bradley Lake 53.65 36 P P 00 43 55.1 -0.7
BRLK IAmb IAmb 00 43 58.4
comp=Z,119nm,0.9s
SUA Susitna One 53.68 34 P P 00 43 56.2 +0.1
baz=271,SNR=16
BRSE Bradley Lake S 53.72 36 P P 00 43 56.9 +0.6
baz=272,SNR=14
MLY Manley 53.72 30 P P 00 43 57.7 +1.4
baz=268,SNR=51
NIL Nilore 53.85 291 P P 00 43 58.2 +0.5
NIL Nilore 53.85 291 P P 00 43 58.2 +0.5
NIL pmax pmax
comp=Z,228nm,0.9s
NIL Nilore 53.85 291 P P 00 43 58.5 +0.7
TRF Thorofare Moun 53.89 32 P P 00 43 58.0 +0.4
baz=270,SNR=20
CUT Chulitna 53.90 33 P P 00 43 57.2 -0.3
CUT IAmb IAmb 00 43 58.2
comp=Z,52nm,0.5s
CUT Chulitna 53.90 33 P P 00 43 57.7 +0.2
baz=270,SNR=7.4
M22K Willow 53.97 34 P P 00 43 58.2 +0.2
baz=271,SNR=16
D23K Nanushuk River 53.98 25 P P 00 43 59.8 +1.8
baz=265
BTK Batken 54.03 299 P P 00 43 59.2 +0.2
BTK IAmb IAmb 00 44 00.2
comp=Z,148nm,1.2s
BTK Batken 54.03 299 P P 00 43 59.2 +0.2
BTK pmax pmax
comp=Z,148nm,1.2s
COLD Coldfoot 54.04 27 P P 00 43 59.6 +1.1
baz=267,SNR=9.4
C23K Itkillik River 54.08 24 P P 00 44 00.1 +1.4
baz=265
G23K Bananza Creek 54.08 28 P P 00 44 00.2 +1.4
baz=267
IUG luzhnay 54.13 302 ⇓iP P 00 43 60.0 +0.2
comp=Z,132nm,0.6s,baz=302
IUG luzhnay 54.13 302 diP P 00 43 59.9 +0.2
IUG pmax pmax
comp=Z,132nm,0.6s
RC01 Rabbit Creek A 54.17 35 P P 00 43 59.4 -0.1
RC01 IAmb IAmb 00 44 00.5
comp=Z,56nm,0.8s
RC01 Rabbit Creek A 54.17 35 P P 00 43 59.6 +0.1
baz=272,SNR=14
O22K Cooper Landing 54.20 36 P P 00 43 59.7 0.0
baz=272,SNR=9.3
H23K Yukon River 54.25 29 P P 00 44 01.6 +1.6
baz=268
BWN Browne 54.26 31 P P 00 44 01.8 +1.7
BWN IAmb IAmb 00 44 02.7
comp=Z,153nm,1.2s
E23K Chandalar 54.31 26 P P 00 44 02.1 +1.6
baz=267
I23K Minto, Yukon-K 54.31 30 P P 00 44 01.6 +1.2
baz=269,SNR=19
SEW Seward 54.35 36 P P 00 44 00.9 +0.2
baz=273,SNR=13
TOLK Toolik Lake Re 54.36 25 P P 00 44 02.1 +1.3
baz=266,SNR=35
CHM Chimkent 54.41 302 ⇓iP P 00 44 01.8 +0.2
comp=Z,135nm,0.9s,baz=302
CHM Chimkent 54.41 302 diP P 00 44 01.7 +0.2
CHM pmax pmax
comp=Z,135nm,0.9s
NEA2 Nenana 54.43 30 P P 00 44 02.4 +1.1
baz=270,SNR=45
PMR Palmer 54.45 34 P P 00 44 01.6 +0.1
PMR IAmb IAmb 00 44 02.5
comp=Z,56nm,0.8s
PMR Palmer 54.45 34 P P 00 44 01.5 +0.1
baz=272,SNR=13
PMR Palmer 54.45 34 P P 00 44 01.6 +0.1
PMR pmax pmax
comp=Z,55nm,0.8s
MCK McKinley 54.49 31 P P 00 44 02.1 +0.3
baz=271,SNR=38
RND Reindeer 54.53 32 P P 00 44 02.5 +0.4
RND IAmb IAmb 00 44 03.2
comp=Z,87nm,0.6s
RND Reindeer 54.53 32 P P 00 44 02.5 +0.4
RND pmax pmax
comp=Z,87nm,0.6s
GAR Garm 54.67 298 P P 00 44 03.8 +0.2
WAT1 Susitna Watana 54.68 33 P P 00 44 03.3 +0.1
baz=272
E24K Your Creek 54.73 26 P P 00 44 05.0 +1.5
baz=268
C24K Franklin Bluff 54.74 24 P P 00 44 04.7 +1.4
baz=266
KNK Knik Glacier 54.78 34 P P 00 44 04.2 +0.4
KNK IAmb IAmb 00 44 05.2
comp=Z,89nm,0.7s
KNK Knik Glacier 54.78 34 P P 00 44 04.2 +0.4
baz=273,SNR=27
SML Sawmill 54.82 34 P P 00 44 04.8 +0.6
SML IAmb IAmb 00 44 05.6
comp=Z,76nm,0.8s
SML Sawmill 54.82 34 P P 00 44 04.6 +0.4
baz=272,SNR=19
WRH Wood River Hil 54.85 31 P P 00 44 04.8 +0.6
TAS Tashkent 54.86 301 P P 00 44 05.0 +0.2
TAS Tashkent 54.86 301 P P 00 44 05.0 +0.2
TAS pmax pmax
comp=Z,183nm,0.8s
PWL Port Wells 54.87 35 P P 00 44 04.5 0.0
PWL IAmb IAmb 00 44 05.6
comp=Z,85nm,0.7s
PWL Port Wells 54.87 35 P P 00 44 04.6 +0.1
baz=273,SNR=18
H24K Noodor Dome 54.93 29 P P 00 44 06.4 +1.5
baz=270
F24K Squaw Lake 54.95 27 P P 00 44 06.5 +1.5
baz=269
TCOL CIGO, UAF Yank 54.95 30 P P 00 44 05.6 +0.7
baz=271,SNR=9.3
COLA College 54.95 30 P P 00 44 05.6 +0.7
COLA IAmb IAmb 00 44 07.5
comp=Z,58nm,0.8s
COLA College 54.95 30 P P 00 44 05.6 +0.7
baz=271
COLA College 54.95 30 P P 00 44 06.0 +1.1
COLA College 54.95 30 ceP P 00 44 06.5 +1.6
COLA pmax pmax
comp=Z,22nm,0.7s
COLA College 54.95 30 P P 00 44 06.0 +1.1
COLA pP pwP 00 45 20.0 -0.9
CCB Clear Creek Bu 54.97 30 P P 00 44 05.1 0.0
WAT6 Susitna Watana 55.06 33 P P 00 44 06.3 +0.3
baz=272,SNR=31
G24K Hadweenzic Riv 55.10 28 P P 00 44 07.8 +1.8
baz=270
M23K Glacier View 55.11 34 P P 00 44 06.5 +0.4
baz=273,SNR=17
POKR Poker Plat Res 55.12 30 P P 00 44 07.2 +0.9
POKR IAmb IAmb 00 44 08.5
comp=Z,65nm,0.7s
POKR Poker Plat Res 55.12 30 P P 00 44 07.1 +0.9
baz=271,SNR=34
DHY Denali Highway 55.21 32 P P 00 44 07.6 +0.6
baz=272,SNR=24
AS01 Alice Springs 55.27 185 P P 00 44 07.6 -0.2
AS31 Alice Springs 55.27 185 P P 00 44 07.2 -0.6
ASAR Alice Springs 55.27 185 P P 00 44 07.7 -0.1
comp=Z,10nm,0.8s,baz=10,slow=8.2,SNR=112
ASAR PcP PcP 00 45 03.5 -0.2
comp=Z,8.2nm,0.9s,baz=9.0,slow=4.5,SNR=8.0
ASAR pP pP 00 45 21.5 +0.3
comp=Z,3.0nm,0.7s,baz=6.8,slow=7.1,SNR=1.2
ASAR ScP ScP 00 48 28.9 +1.3
comp=Z,2.3nm,0.7s,baz=7.8,slow=4.7,SNR=3.8
ASAR S S 00 51 22.0 -1.5
comp=Z,2.0nm,0.8s,baz=19,slow=20,SNR=9.6
comp=Z,10nm,0.8s
ASAR Alice Springs 55.27 185 P P 00 44 07.3 -0.4
SCM Sheep Creek Mo 55.30 34 P P 00 44 08.3 +0.7
baz=273,SNR=19
HDA Harding Lake 55.35 31 P P 00 44 07.7 -0.1
baz=272,SNR=25
IL31 55.37 30 P P 00 44 07.3 -0.5
ILAR Eielson Array 55.37 30 P P 00 44 07.7 -0.3
comp=Z,13nm,0.7s,baz=277,slow=5.7,SNR=106
ILAR pP pP 00 45 21.5 -0.4
comp=Z,5.8nm,0.8s,baz=255,slow=6.9,SNR=3.4
ILAR S S 00 51 22.5 -1.2
comp=Z,0.7nm,1.1s,baz=289,slow=14,SNR=4.2
comp=Z,13nm,0.7s
P23K Montague Islan 55.39 36 P P 00 44 09.0 +0.9
baz=275
HYBB Hyderabad (bro 55.47 270 eP P 00 44 09.4 0.0
HYBB ePcP PcP 00 45 04.8 0.0
HYBB epP pP 00 45 22.5 -0.3
MBWA Marble Bar 55.52 201 P P 00 44 09.1 -0.4
MBWA IAmb IAmb 00 44 10.3
comp=Z,53nm,0.7s
MBWA Marble Bar 55.52 201 P P 00 44 09.6 +0.1
MBWA Marble Bar 55.52 201 P P 00 44 09.2 -0.4
MBWA pwP pwP 00 45 31.3 +2.8
MBWA sP sP 00 46 05.2 +4.1
D25K Kavik River 55.54 25 P P 00 44 10.5 +1.4
baz=269
CHGR Chuyangaron 55.63 298 P P 00 44 10.8 +0.5
CHGR Chuyangaron 55.63 298 P P 00 44 10.8 +0.5
CHGR pmax pmax
comp=Z,1μm,0.7s
G25K Bearman Lake 55.64 28 P P 00 44 11.7 +1.9
baz=271
SIMJ Simiganj 55.74 298 ⇓P P 00 44 11.6 +0.4
H25L Birch Creek 55.77 28 P P 00 44 12.6 +2.0
baz=272
F25K Christian Rive 55.81 27 P P 00 44 13.2 +2.1
baz=271
M24K Tolsona, Glenn 55.82 33 P P 00 44 12.5 +1.2
baz=274,SNR=7.1
E25K Arctic Village 55.83 26 P P 00 44 13.1 +2.0
baz=271,SNR=50
PSA00 Pilbara Seismi 55.88 201 P P 00 44 11.7 -0.3
PSA00 IAmb IAmb 00 44 12.8
comp=Z,50nm,0.8s
PSA00 Pilbara Seismi 55.88 201 P P 00 44 12.0 0.0
K24K Donnelly Dome 55.89 31 P P 00 44 11.8 +0.1
baz=273,SNR=10
PRP Porcupine Dome 55.91 29 P P 00 44 11.8 -0.2

baz=272,SNR=30
KLU Klutina 55.99 34 P P 00 44 13.4 +0.9
KLU Klutina 55.99 34 P P 00 44 13.3 +0.9
baz=275,SNR=14
J25K Salcha River, 56.02 30 P P 00 44 12.4 -0.2
baz=273
C26K Camden Bay 56.06 24 P P 00 44 14.6 +2.0
baz=270
PAX Paxson 56.09 32 P P 00 44 13.8 +0.6
baz=274,SNR=18
DIV Divide 56.09 35 P P 00 44 13.9 +0.7
DIV IAmb IAmb 00 44 15.1
comp=Z,95nm,1.4s
EYAK Cordova Ski Ar 56.16 35 P P 00 44 14.3 +0.8
baz=276
EYAK Cordova Ski Ar 56.16 35 P P 00 44 14.7 +1.2
BMAR Burnt Mountain 56.22 27 P P 00 44 15.5 +1.6
HARP HAARP 56.27 33 P P 00 44 15.5 +1.2
baz=275,SNR=16
F26K Sheenjek River 56.38 27 P P 00 44 17.1 +2.1
baz=272
C27K Jago River 56.48 24 P P 00 44 17.3 +1.7
baz=271
G26K Porcupine Rive 56.55 27 P P 00 44 18.0 +1.8
baz=273
N25K Chitina, Valde 56.61 34 P P 00 44 17.9 +1.1
baz=276,SNR=8.1
SCRK Sand Creek 56.67 31 P P 00 44 17.4 +0.2
SCRK Sand Creek 56.67 31 P P 00 44 17.4 +0.2
baz=275,SNR=31
BMRM Bremner River 56.67 35 P P 00 44 18.4 +1.1
baz=276
RAGM Ragged Mountai 56.70 35 P P 00 44 20.4 +3.0
RAGM IAmb IAmb 00 44 22.6
comp=Z,55nm,0.8s
J26L Joseph Creek 56.81 30 P P 00 44 18.0 -0.1
baz=275
KAIM Kayak Island 56.89 36 P P 00 44 20.0 +1.3
baz=277
KBL Kabul 56.91 293 P P 00 44 19.4 -0.1
KBL Kabul 56.91 293 P P 00 44 19.6 +0.1
SNR=64
KBL Kabul 56.91 293 P P 00 44 19.4 -0.1
KBL pmax pmax
comp=Z,157nm,0.9s
I26K Coal Creek Min 56.92 29 P P 00 44 18.7 -0.1
baz=275,SNR=7.6
L26K Log Cabin Wild 57.04 32 P P 00 44 20.9 +1.2
baz=276,SNR=35
OPA Opana 57.16 83 P P 00 44 22.6 +1.5
OPA IAmb IAmb 00 45 55.2
comp=Z,203nm,1.2s
OPA Opana 57.16 83 P P 00 44 22.6 +1.5
OPA pmax pmax
comp=Z,203nm,1.2s
BERG Berg Lake 57.18 35 P P 00 44 21.9 +1.2
BERG IAmb IAmb 00 44 23.0
comp=Z,106nm,0.6s
WRKA Warakurna 57.27 191 P P 00 44 22.0 +0.3
M26K Nabesna, AK 57.27 33 P P 00 44 22.6 +1.2
baz=277
E27K Coleen River 57.31 26 P P 00 44 23.3 +1.8
baz=274
MCARA McCarthy VSAT 57.39 34 P P 00 44 23.3 +1.3
MCARA IAmb IAmb 00 44 24.2
comp=Z,77nm,0.6s
MCARA McCarthy VSAT 57.39 34 P P 00 44 23.4 +1.3
baz=277,SNR=22
G27K Doyon Strip 57.40 28 P P 00 44 23.6 +1.5
baz=275
SVE Sverdlovsk 57.41 320 *ce* **P P 00 44 22.8 +0.5**
SVE pmax pmax
comp=Z,212nm,1.3s
H27K Steamboat Moun 57.50 28 P P 00 44 24.6 +1.7
baz=276
I27K Kandik River 57.53 29 P P 00 44 24.0 +0.9
baz=276
L27K Beaver Creek, 57.73 32 P P 00 44 25.6 +1.2
baz=277
BCAR Beaver Creek A 57.75 32 P P 00 44 25.8 +1.1
M27K Edge Creek, AK 57.80 33 P P 00 44 26.2 +1.1
baz=278
EGAK Eagle 57.81 30 P P 00 44 25.2 +0.3
EGAK Eagle 57.81 30 P P 00 44 25.1 +0.2
baz=277,SNR=15
MESA MESA 58.08 35 P P 00 44 28.2 +1.1
baz=279
BARN Barnard Glacie 58.08 34 P P 00 44 27.9 +0.8
EIDS Eidsvold 58.13 166 P P 00 44 27.8 +0.2
EIDS Eidsvold 58.13 166 P P 00 44 28.0 +0.4
BVCY Beaver Creek 58.26 33 P P 00 44 29.0 +0.9
baz=278
QLP Quilpie 58.31 174 P P 00 44 28.7 -0.1
YUK3 Moose Creek 58.54 33 P P 00 44 31.3 +1.0
baz=279,SNR=16
ARU Arti 58.62 320 P P 00 44 30.6 0.0
comp=Z,133nm,0.7s,baz=85,slow=3.9,SNR=240
comp=Z,133nm,0.7s
ARU Arti 58.62 320 P P 00 44 30.6 0.0
ARU Arti 58.62 320 *d* **iP P 00 44 30.5 0.0**
ARU 00 45 14.2
ARU 00 46 43.6
ARU S S 00 52 06.2 +0.1
ARU 00 53 38.6
ARU pmax pmax
comp=Z,294nm,1.3s
ARU Arti 58.62 320 P P 00 44 30.5 0.0
PALK Pallekele 58.67 258 P P 00 44 31.8 +0.2
PALK Pallekele 58.67 258 *ce* **P P 00 44 32.2 +0.6**
PALK pmax pmax
comp=Z,64nm,1.3s
PALK Pallekele 58.67 258 P P 00 44 31.4 -0.2
PALK sP **sP** 00 46 25.8 +1.7
DAWY Dawson 58.67 31 P P 00 44 31.8 +0.8
DAWY Dawson 58.67 31 P P 00 44 31.7 +0.8
baz=279,SNR=12
GIRL Giralia 58.77 206 P P 00 44 32.6 +0.6
RMQ Roma 58.80 169 P P 00 44 32.3 +0.1
O28M Mount Upton 58.84 35 P P 00 44 33.6 +1.1
baz=280
PINM Pinnacle 58.93 35 P P 00 44 32.8 0.0
baz=280
I29M Ogilvie Camp, 58.93 29 P P 00 44 33.5 +0.9
baz=279
YUK8 Steele Glacier 58.95 34 P P 00 44 33.9 +0.7
baz=280,SNR=8.2
POO Poona 58.98 274 ⇓ *i* P P 00 44 27.0 -6.7
comp=Z,210nm,1.0s
HLK Haleakala 59.04 83 P P 00 44 35.9 +1.5
J29M Klondike Camp 59.11 30 P P 00 44 35.2 +1.2
baz=280
INKA Innaminka 59.23 177 P P 00 44 35.4 +0.4
OOD Oodnadatta 59.28 183 P P 00 44 35.6 +0.2
M29M Somme Creek 59.35 32 P P 00 44 37.4 +1.8
baz=280
AB31 Akbulak array 59.37 312 *i* **P P 00 44 35.2 -0.7**
ABKAR Akbulak array 59.37 312 P P 00 44 36.0 +0.1
ABKAR Akbulak array 59.37 312 P P 00 44 36.0 +0.1
L29M L29M 59.38 32 P P 00 44 37.7 +1.9
baz=280,SNR=37
EPYK Eagle Plains 59.41 28 P P 00 44 37.3 +1.4
baz=280,SNR=103
PNL Peninsula 59.43 36 P P 00 44 37.3 +1.2
baz=281
PNL Peninsula 59.43 36 P P 00 44 37.5 +1.4
YUK4 Talbot Arm 59.47 34 P P 00 44 38.2 +1.6
baz=281,SNR=17
G30M tAoh Zraii Nji 59.50 27 P P 00 44 37.5 +1.0
baz=280,SNR=29
K29M Barlow Dome 59.52 31 P P 00 44 38.1 +1.3
baz=280
YUK6 Outpost Mounta 59.69 34 P P 00 44 39.9 +1.8
baz=281,SNR=7.2
O29M Mount Kennedy 59.71 35 P P 00 44 40.1 +1.9
baz=282
NOUC Port Laguerre 59.95 150 P P 00 44 41.2 +1.2
NOUC pP **pwP** 00 45 58.1 -0.4
NOUC sP **sP** 00 46 34.6 +1.2
AUBSH Beerwah State 59.98 165 P P 00 44 38.4 -1.7
DZM Mont Dzumac 59.98 150 P P 00 44 42.1 +1.7
DZM Mont Dzumac 59.98 150 P P 00 44 42.0 +1.7
DZM pP **pP** 00 45 56.9 +1.3
POHA Pohakuloa 60.08 84 P P 00 44 42.8 +1.4
POHA Pohakuloa 60.08 84 P P 00 44 42.8 +1.4
POHA pP **pP** 00 45 55.6 -0.9
M30M Minto, Yukon 60.09 32 P P 00 44 42.0 +1.4
baz=282
HYT Haines Junctio 60.12 34 P P 00 44 42.4 +1.5
HYT IAmb IAmb 00 44 43.7
comp=Z,51nm,0.9s
HYT Haines Junctio 60.12 34 P P 00 44 42.8 +1.9
baz=282,SNR=18
N30M Aishikik Lake 60.19 33 P P 00 44 42.6 +1.4
baz=282
P29M Windy Craggy 60.27 36 P P 00 44 43.6 +1.8
baz=283
INK Inuvik 60.27 25 P P 00 44 42.2 +0.6
comp=Z,31nm,0.5s,baz=292,slow=5.9,SNR=195
INK pP **pP** 00 45 57.5 +0.5
comp=Z,4.1nm,0.5s,baz=299,slow=3.4,SNR=2.2
comp=Z,31nm,0.5s
INK Inuvik 60.27 25 P P 00 44 42.2 +0.6
INK Inuvik 60.27 25 P P 00 44 42.2 +0.6
baz=281,SNR=34
INK Inuvik 60.27 25 P P 00 44 42.2 +0.6
INK pmax pmax
comp=Z,28nm,0.7s
MAYO Mayo, Yukon 60.28 31 P P 00 44 42.2 +0.5
baz=282
AKTO Aktyubinsk 60.28 313 P P 00 44 41.6 -0.4
F31M Tsiigehtchic 60.37 26 P P 00 44 42.7 +0.5
baz=282,SNR=12
P30M Million Dollar 60.54 35 P P 00 44 45.3 +1.6
baz=283
PCHI Peechi 60.64 264 ⇓ *eP* **P 00 44 44.9 0.0**
PCHI *ex* **S 00 52 33.4 +0.4**
N31M Braeburn, Yuko 60.79 33 P P 00 44 46.9 +1.7
baz=283,SNR=23
O30N Mendenhall 60.81 34 P P 00 44 46.7 +1.3
baz=283,SNR=11
PLBC Pleasant Camp 60.99 36 P P 00 44 48.0 +1.5
baz=284,SNR=31
MEEK Meekatharra 61.01 200 P P 00 44 46.7 -0.4
M31M Drury Creek, Y 61.26 32 P P 00 44 49.5 +1.1
baz=284,SNR=37
WHY Whitehorse 61.41 34 P P 00 44 51.0 +1.5
baz=284,SNR=21
S31K Pelican 61.42 37 P P 00 44 51.0 +1.6
baz=285
SKAG Skagway 61.50 35 P P 00 44 50.8 +0.9
SKAG IAmb IAmb 00 44 52.6
comp=Z,67nm,1.0s
SKAG Skagway 61.50 35 P P 00 44 51.7 +1.8
baz=285,SNR=13
R31K City Hall, Gus 61.56 37 P P 00 44 51.7 +1.4
baz=285
FARO Faro, Yukon 61.73 32 P P 00 44 52.5 +1.0
FARO IAmb IAmb 00 44 53.6
comp=Z,62nm,1.1s
FARO Faro, Yukon 61.73 32 P P 00 44 52.8 +1.3
baz=285,SNR=41
MULG Mulgathing 61.84 184 P P 00 44 52.7 +0.3
LCRK Leigh Creek 61.88 180 P P 00 44 53.5 +0.8
A36M Sachs Harbour 62.12 20 P P 00 44 55.1 +1.3
baz=287,SNR=71
N32M Quiet Lake 62.14 33 P P 00 44 55.2 +1.0
baz=286
SIT Sitka 62.14 38 P P 00 44 55.5 +1.4
baz=286
R32K Eaglecrest 62.22 37 P P 00 44 56.5 +1.8
baz=286,SNR=8.9
DGTI Dogotuki 62.22 134 P P 00 44 54.8 -0.5
HRA Herat 62.25 295 P P 00 44 55.9 +0.2
HRA IAmb IAmb 00 44 57.4
comp=Z,91nm,0.9s
P32M Atlin 62.26 35 P P 00 44 56.5 +1.4
baz=286,SNR=6.0
JIS Juneau Island 62.29 37 P P 00 44 56.9 +1.8
MSVF Nonsavu 62.32 136 P P 00 44 58.2 +2.3
MSVF IAmb IAmb 00 44 59.9
comp=Z,46nm,1.1s
MSVF Nonsavu 62.32 136 P P 00 44 56.2 +0.2
MSVF Nonsavu 62.32 136 P P 00 44 58.3 +2.3
MSVF pmax pmax
comp=Z,47nm,1.1s
MSVF Nonsavu 62.32 136 P P 00 44 58.7 +2.7
MSVF pP **pwP** 00 46 13.6 -0.8
S32K Killisnoo 62.41 38 P P 00 44 57.4 +1.5
baz=286
P33M Teslin, Yukon 62.52 34 P P 00 44 57.8 +1.1
P33M IAmb IAmb 00 44 59.2
comp=Z,46nm,1.1s
P33M Teslin, Yukon 62.52 34 P P 00 44 58.1 +1.4
baz=286,SNR=20
MMPY Sheldon Lake, 62.56 31 P P 00 44 58.6 +1.6
baz=286,SNR=23
KIRV Kirov 62.88 324 P P 00 44 59.4 +0.4
comp=Z,259nm,0.7s,baz=82,slow=3.1,SNR=116
comp=Z,259nm,0.7s
KIRV Kirov 62.88 324 *d* **iP P 00 44 59.3 +0.3**
FORT Forrest 62.94 190 P P 00 44 59.9 +0.2
FORT IAmb IAmb 00 45 00.9
comp=Z,77nm,0.8s
FORT Forrest 62.94 190 P P 00 45 00.2 +0.5
Q32M Nakina River 63.15 36 P P 00 45 02.6 +1.6
baz=287,SNR=6.7
C36M Paulatuk 63.31 23 P P 00 45 02.2 +0.6
C36M IAmb IAmb 00 45 03.2
comp=Z,68nm,0.7s
C36M Paulatuk 63.31 23 P P 00 45 02.4 +0.8
baz=289,SNR=60
CMSA Cobar Meteorol 63.36 173 P P 00 45 03.0 +0.6
STKA Stephens Creek 63.38 177 P P 00 45 02.6 +0.1
comp=Z,19nm,0.8s,baz=349,slow=7.3,SNR=36
STKA pP **pP** 00 46 19.0 +0.7
comp=Z,11nm,0.9s,baz=40,slow=11,SNR=3.2
comp=Z,19nm,0.8s
STKA Stephens Creek 63.38 177 P P 00 45 02.8 +0.3
STKA Stephens Creek 63.38 177 P P 00 45 02.8 +0.3
STKA Stephens Creek 63.38 177 P P 00 45 02.8 +0.3
STKA pmax pmax
comp=Z,4.0nm,0.9s
T33K Petersburg 63.45 38 P P 00 45 03.9 +1.2
baz=288
U33K Whale Pass 63.58 39 P P 00 45 05.2 +1.6
baz=288
R33M Jennings River 63.66 35 P P 00 45 05.7 +1.5
baz=288
PRGR Permogore 63.76 328 *eP* **P 00 45 02.6 -2.1**
PRGR *e* 00 45 38.8
PRGR pmax pmax
comp=Z,150nm,0.9s
CRAG Craig 63.78 39 P P 00 45 06.4 +1.5
baz=288
WRAK Wrangell Islan 63.89 38 P P 00 45 06.9 +1.3
baz=288
S34M Telegraph Cree 64.04 36 P P 00 45 08.4 +1.8
baz=289,SNR=9.7
MORW Morawa 64.06 202 P P 00 45 06.4 -0.6
MORW IAmb IAmb 00 45 07.9
comp=Z,70nm,1.1s
MORW Morawa 64.06 202 P P 00 45 07.0 0.0
GEYT Alibeck 64.10 300 P P 00 45 07.9 +0.5
comp=Z,65nm,0.9s,baz=60,slow=3.6,SNR=120
GEYT PP **PP** 00 47 33.4 +0.1
comp=Z,12nm,1.0s,baz=53,slow=7.4,SNR=4.5
comp=Z,65nm,0.9s
GEYT Alibeck 64.10 300 P P 00 45 07.6 +0.2
GEYT IAmb IAmb 00 45 09.1
comp=Z,87nm,0.9s
GYA0 ALIBECK ARRAY 64.10 300 P P 00 45 07.4 0.0
GYA0B ALIBECK ARRAY 64.10 300 P P 00 45 07.6 +0.2
GYA0B IAmb IAmb 00 45 09.1
comp=Z,79nm,0.9s
TGTN Hyland Airport 64.23 32 P P 00 45 09.3 +1.4
baz=289,SNR=63
BBOO Buckleboo 64.26 182 P P 00 45 08.2 0.0
BBOO Buckleboo 64.26 182 P P 00 45 08.5 +0.3
DLBC Dease Lake 64.43 36 P P 00 45 10.6 +1.4
DLBC IAmb IAmb 00 45 11.9
comp=Z,65nm,1.2s
DLBC Dease Lake 64.43 36 P P 00 45 10.9 +1.8
baz=289,SNR=9.4
WHYH Whyalla 64.46 181 P P 00 45 09.6 +0.2
HOPEN Hopen 64.50 346 *eP* **P 00 45 10.5 +1.3**
V35K Ketchikan 64.64 39 P P 00 45 12.0 +1.6
baz=290
KMBL Kambalda 64.67 195 P P 00 45 10.6 -0.2
T35M Bob Quinn 64.80 37 P P 00 45 13.4 +1.9
baz=290,SNR=10
HTT Hallett 64.85 179 P P 00 45 12.9 +0.8
DIB Dawson Inlet, 64.88 42 P P 00 45 12.3 +0.3
DIB IAmb IAmb 00 45 13.4
comp=Z,42nm,0.7s
SPA0 Spitsbergen Ar 65.16 349 *eP* **P 00 45 14.3 +0.8**
SPA0 IAmb IAmb 00 45 14.8
comp=Z,63nm,1.1s
SPB2 Spitsbergen Ar 65.16 349 P P 00 45 13.8 +0.3
SPB2 IAmb IAmb 00 45 15.0
comp=Z,38nm,0.8s
SPITS Spitsbergen Ar 65.16 349 P P 00 45 13.6 +0.2
comp=Z,28nm,0.7s,baz=79,slow=8.6,SNR=15
comp=Z,28nm,0.7s
SPITS Spitsbergen Ar 65.16 349 P P 00 45 13.8 +0.3
SPITS pmax pmax
comp=Z,47nm,0.9s
MOBC Moresby Island 65.19 42 P P 00 45 14.3 +0.3
BLDU Ballidu 65.30 200 P P 00 45 14.8 -0.1
KBS Kingsbay 65.38 350 P P 00 45 15.4 +0.6
KBS IAmb IAmb 00 45 16.7
comp=Z,48nm,0.8s
KBS Kingsbay 65.38 350 *i* **P P 00 45 13.8 -1.0**
KBS Kingsbay 65.38 350 P P 00 45 15.4 +0.6
KBS pmax pmax
comp=Z,48nm,0.8s
KBS Kingsbay 65.38 350 *eP* **P 00 45 16.2 +1.5**
KBS IAmb IAmb 00 45 16.5
comp=Z,50nm,0.8s
KBS Kingsbay 65.38 350 P P 00 45 14.9 +0.1
ALE Alert 65.50 3 P P 00 45 16.5 +1.0
ALE pP **pP** 00 46 31.3 -1.0
WRGLY Wrigley 65.72 29 P P 00 45 18.4 +1.3
baz=292,SNR=7.9
EUNU Eureka 65.76 8 P P 00 45 17.7 +0.4
LVZ Lovozero 65.83 336 P P 00 45 17.8 -0.1
LVZ IAmb IAmb 00 45 19.0
comp=Z,36nm,0.8s
LVZ Lovozero 65.83 336 *ce* **P P 00 45 19.2 +1.4**
LVZ pmax pmax
comp=Z,41nm,1.0s
LVZ Lovozero 65.83 336 P P 00 45 17.5 -0.3
LVZ pP **pP** 00 46 31.7 -2.6
BELG Belogornoye 65.87 318 P P 00 45 18.4 +0.2
comp=Z,308nm,0.9s,baz=333,slow=0.7,SNR=131
comp=Z,308nm,0.9s
KLBR Kellerberrin 65.92 199 P P 00 45 18.7 -0.1
LIRD Liard River Hi 65.99 34 P P 00 45 20.7 +1.7
baz=292,SNR=72
HSPB Hornsund (broa 66.03 348 eP P 00 45 19.7 +0.8
NOR Nord 66.12 356 *i* **P P 00 45 18.3 -1.2**
NOR IAmb IAmb 00 45 20.2
comp=Z,3.9nm,1.0s
VADS Vadso 66.53 339 eP P 00 45 22.7 +0.6
VADS IAmb IAmb 00 45 23.0
comp=Z,94nm,0.9s
KOTAN Kotanelee Air 66.67 33 P P 00 45 24.4 +1.2
baz=293,SNR=7.2
KLMR Klimovskoe 66.80 328 ⇓ *iP* **P 00 45 24.1 +0.1**
KLMR *eP* **P 00 45 24.1 +0.1**
KLMR ⇑ *iP* **P 00 45 24.1 +0.1**
KLMR AMP 00 45 24.8
comp=Z,30nm,0.5s
KLMR *e*pP **pP 00 46 40.7 -0.4**
KLMR *e*PP **PP 00 47 54.8 -1.2**
KLMR Klimovskoe 66.80 328 *d* **iP P 00 45 24.1 +0.1**
KLMR *e**PP **pP 00 46 40.6 -0.5**
KLMR *e* 00 47 54.8
KLMR pmax pmax
comp=Z,30nm,0.5s
FLDN Fort Liard 66.89 32 P P 00 45 26.1 +1.5
baz=294
XMAS Kiritimati 67.24 102 P P 00 45 27.8 +0.3
XMAS IAmb IAmb 00 45 29.9
comp=Z,73nm,0.8s
NWAO Narrogin (SRO) 67.32 199 P P 00 45 27.5 -0.1
comp=Z,55nm,0.7s,baz=240,slow=5.5,SNR=31
comp=Z,55nm,0.7s
NWAO Narrogin (SRO) 67.32 199 P P 00 45 27.5 -0.1
NWAO IAmb IAmb 00 45 28.5
comp=Z,73nm,0.8s
NWAO Narrogin (SRO) 67.32 199 P P 00 45 27.7 +0.2
NWAO Narrogin (SRO) 67.32 199 P P 00 45 27.8 +0.2
NWAO Narrogin (SRO) 67.32 199 P P 00 45 27.5 -0.1
NWAO pmax pmax
comp=Z,73nm,0.9s
NWAO Narrogin (SRO) 67.32 199 P P 00 45 27.4 -0.1
KEV Kevo 67.42 339 P P 00 45 28.1 +0.4
KEV IAmb IAmb 00 45 29.2
comp=Z,69nm,0.8s
KEV Kevo 67.42 339 P P 00 45 28.1 +0.4
KEV pmax pmax
comp=Z,69nm,0.8s
KEV Kevo 67.42 339 P P 00 45 27.8 +0.1
CAN Canberra 67.50 170 P P 00 45 28.9 +0.2
CAN IAmb IAmb 00 47 58.9
comp=Z,98nm,1.7s
CAN Canberra 67.50 170 P P 00 45 28.9 +0.2
CAN pmax pmax
comp=Z,98nm,1.7s
BBB Bella Bella 67.72 42 P P 00 45 30.3 +0.4
HAMF Hammerfest 67.91 341 eP P 00 45 30.9 +0.2
HAMF IAmb IAmb 00 45 31.2
comp=Z,47nm,0.7s
ARA0 ARCESS Array S 67.98 340 eP P 00 45 31.9 +0.7
ARA0 IAmb IAmb 00 45 32.2
comp=Z,67nm,0.7s
ARCES ARCESS Array B 67.98 340 P P 00 45 31.9 +0.6
comp=Z,52nm,0.6s,baz=67,slow=9.1,SNR=283
comp=Z,52nm,0.6s
ARCES ARCESS Array B 67.98 340 P P 00 45 31.8 +0.6
ARCES IAmb IAmb 00 45 32.8
comp=Z,74nm,0.8s
ARPS Mount Arapiles 68.27 177 P P 00 45 34.1 +0.8
RES Resolute Bay 68.34 13 P P 00 45 34.0 +0.7
RES Resolute Bay 68.34 13 P P 00 45 34.0 +0.7
RES pmax pmax
comp=Z,18nm,1.0s
KTK1 Kautokeino 68.94 340 eP P 00 45 37.7 +0.6
KTK1 IAmb IAmb 00 45 38.4
comp=Z,82nm,1.1s
HEF Hetta 69.16 339 eP P 00 45 39.4 +0.9
BRAT Ballarat 69.17 175 P P 00 45 40.2 +1.4
TOO Toolangi 69.32 174 P P 00 45 40.6 +0.8
TOO IAmb IAmb 00 47 52.7
comp=Z,96nm,1.8s
TOO Toolangi 69.32 174 P P 00 45 40.6 +0.8
TOO pmax pmax
comp=Z,96nm,1.8s
JETT Jettan, Norway 69.45 341 eP P 00 45 40.9 +0.6
JETT IAmb IAmb 00 45 41.5
comp=Z,63nm,0.7s
WBK Wadi Bani Khal 69.67 285 P P 00 45 43.0 +0.6
SNR=8.0
YKA Yellowknife Ar 69.69 28 P P 00 45 42.3 +0.5
comp=Z,28nm,0.8s,baz=301,slow=6.6
comp=Z,28nm,0.8s
VRH Novokhopyorsk 69.71 318 eP P 00 45 41.1 -0.9
VRH pmax pmax
comp=Z,180nm,0.6s
TRO Tromso 69.82 341 eP P 00 45 42.7 +0.3
TRO IAmb IAmb 00 45 43.4
comp=Z,59nm,0.8s
MOS Moscow 69.90 324 eP P 00 45 42.2 -0.9
MOS *e* 00 46 01.1
MOS *e**PP **pwP 00 47 04.2 -0.8**
MOS *e* 00 48 22.8
MOS *e*S **S 00 54 20.9 -2.4**
MOS pmax pmax
comp=Z,195nm,1.0s
MOS pmax pmax
comp=N,70nm,0.9s
MOS pmax pmax
comp=E,90nm,0.9s
MOS pmax pmax
comp=Z,500nm,1.5s
BIDO Bidbid 69.95 286 P P 00 45 44.9 +0.8
SNR=11
SMDO Samad 70.22 285 P P 00 45 46.2 +0.4
SNR=9.8
BANOM Banah 70.37 289 P P 00 45 47.5 +0.9
SHME Shamm 70.44 289 P P 00 45 47.9 +1.0
SNR=5.2
SHME Shamm 70.44 289 *i* **P P 00 45 47.9 +1.0**
SNR=22
JMDO Jabal Madar 70.49 285 P P 00 45 47.4 +0.1
SNR=7.7
OZB Mount Ozzard 70.59 44 P P 00 45 48.7 +1.2

HOQ Hoqain 70.59 286 P P 00 45 48.3 +0.4
SNR=15
HILA High Level 70.60 33 P P 00 45 47.8 +0.5
TULEG Thule 70.64 6 P P 00 45 47.6 +0.4
TULEG Thule 70.64 6 *i* P P 00 45 45.2 -2.0
LPSR Galich'ya Gora 70.64 320 *e*P P 00 45 47.1 -0.5
LPSR pmax pmax
comp=Z,180nm,1.0s
GROC Groznyy 70.65 309 *e*P P 00 45 48.1 +0.2
GROC *e* 00 46 07.1
GROC *e**PP **pP** 00 47 06.5 +1.3
GROC *e* 00 48 29.7
GROC pmax pmax
comp=Z,14nm,0.5s
OBN Obninsk 70.72 323 P P 00 45 48.1 +0.1
comp=Z,31nm,0.8s,baz=45,slow=2.2,SNR=50
comp=Z,31nm,0.8s
OBN Obninsk 70.72 323 P P 00 45 48.1 +0.1
OBN Obninsk 70.72 323*d* *i*P P 00 45 48.0 -0.1
OBN *i* 00 46 02.8
OBN *i**PP **pwP** 00 47 08.9 -1.7
OBN *i* 00 48 28.7
OBN pmax pmax
comp=Z,140nm,0.9s
OBN Obninsk 70.72 323 P P 00 45 47.9 -0.1
MSFE Esma-Masafi 70.73 288 *i* P P 00 45 49.4 +0.7
SNR=11
DAG Danmarks Havn 70.76 354 *i* P P 00 45 47.2 -0.8
DAG IAmb IAmb 00 45 49.2
comp=Z,41nm,0.9s
UOSS Minazif 70.88 288 P P 00 45 49.7 +0.1
UOSS IAmb IAmb 00 45 50.8
comp=Z,74nm,1.1s
UOSS Minazif 70.88 288 *i* P P 00 45 49.8 +0.2
SNR=7.3
UOSS Minazif 70.88 288 P P 00 45 49.1 -0.6
NEEM North Greenlan 70.89 2 *i* P P 00 45 49.3 +0.2
NEEM IAmb IAmb 00 45 50.7
comp=Z,45nm,1.0s
VORR Voronezh 70.91 319 *e*P P 00 45 49.3 +0.1
VORR pmax pmax
comp=Z,122nm,0.7s
HATD Hatta, Dubai 71.00 288 P P 00 45 51.0 +0.7
SNR=8.0
HATD Hatta, Dubai 71.00 288 *i* P P 00 45 51.0 +0.7
SNR=23
BSY Bisya 71.06 285 P P 00 45 51.3 +0.5
SNR=13
VSR Storozhevoye 71.14 319 *e*P P 00 45 49.8 -0.8
VSR pmax pmax
comp=Z,310nm,1.1s
WAPA Wapiti River 71.16 36 P P 00 45 51.0 +0.2
MHTO MHTO 71.24 283 P P 00 45 51.8 +0.1
SNR=20
NAZ Nazwa, Dubai 71.30 288 *i* P P 00 45 52.2 +0.1
SNR=6.9
ARQ Araqi 71.35 286 P P 00 45 53.0 +0.5
SNR=18
PUL Pulkovo 71.36 329*ce*P P 00 45 52.9 +1.1
PUL pmax pmax
comp=Z,64nm,0.5s
CLRS Cowichan Lake 71.46 44 P P 00 45 53.8 +1.3
CLRS IAmb IAmb 00 45 54.9
comp=Z,34nm,0.8s
ALNE Al Ain 71.65 287 P P 00 45 54.7 +0.6
SNR=16
ALNE Al Ain 71.65 287 *i* P P 00 45 54.8 +0.6
SNR=19
ASUD Al Ashush, Dub 71.74 288 *i* P P 00 45 55.2 +0.5
SNR=7.8
LLLB Lillooet 71.92 41 P P 00 45 56.2 +0.8
LLLB IAmb IAmb 00 45 57.3
comp=Z,58nm,0.9s
PGC Sidney 71.94 44 P P 00 45 56.4 +1.1
PGC IAmb IAmb 00 45 57.7
comp=Z,59nm,0.7s
STEI Steigen 71.94 341 *e*P P 00 45 55.4 +0.4
STEI IAmb IAmb 00 45 55.8
comp=Z,83nm,0.6s
ZEI Tsey 72.08 310 *e*P P 00 45 52.8 -3.9
ZEI pmax pmax
comp=Z,75nm,1.0s
B04A Port Angeles 72.18 44 P P 00 45 58.5 +1.6
B04A IAmb IAmb 00 45 59.6
comp=Z,58nm,0.9s
FIA1 FINESS Array S 72.22 332 P P 00 45 57.0 +0.2
FINES FINESS Array B 72.22 332 P P 00 45 57.0 +0.2
comp=Z,77nm,0.6s,baz=64,slow=5.5,SNR=558
comp=Z,77nm,0.6s
FINES FINESS Array B 72.22 332 P P 00 45 56.8 -0.1
NLWA Neilton Lookou 72.27 45 P P 00 45 59.1 +1.6
LOF Lofoten 72.28 341 *e*P P 00 45 57.2 +0.2
LOF IAmb IAmb 00 45 57.6
comp=Z,47nm,1.1s
FAUS Fauske 72.29 340 *e*P P 00 45 57.5 +0.4
FAUS IAmb IAmb 00 45 58.3
comp=Z,104nm,0.9s
KBZ Khabaz 72.31 311 P P 00 45 58.4 +0.7
comp=Z,165nm,0.8s,baz=76,slow=4.4,SNR=228
comp=Z,165nm,0.8s
KIV Kislovodsk 72.34 311 P P 00 45 58.5 +0.4
KIV Kislovodsk 72.34 311 P P 00 45 58.8 +0.7
KIV Kislovodsk 72.34 311 *i* P P 00 45 58.7 +0.7
SNR=82
KIV Kislovodsk 72.34 311 *e*P P 00 45 58.7 +0.7
KIV pmax pmax
comp=Z,233nm,1.1s
KIV MLR MLR
comp=Z,16nm,18.0s
ONI Oni 72.47 309 P P 00 45 59.7 +1.0
ONI Oni 72.47 309 P P 00 45 59.7 +1.0
ONI pmax pmax
comp=Z,106nm,1.1s
GNI Garni 72.71 307 P P 00 46 01.2 +0.8
comp=Z,53nm,0.9s,baz=360,slow=1.9,SNR=34
comp=Z,53nm,0.9s
GNI Garni 72.71 307 P P 00 46 01.4 +1.1
GNI Garni 72.71 307 P P 00 46 01.5 +1.1
GNI Garni 72.71 307*ce*P P 00 46 01.9 +1.5
GNI pmax pmax
comp=Z,175nm,1.7s
UMZA Um Al Zommool 72.75 286 P P 00 46 00.2 -0.5
DBG Daneborg 73.23 354 *i* P P 00 46 01.4 -1.1
DBG IAmb IAmb 00 46 03.6
comp=Z,22nm,1.1s
MZWR Madinat Zayed 73.31 288 P P 00 46 03.2 -0.7
D05A Enumclaw 73.50 45 P P 00 46 05.9 +1.3
D05A IAmb IAmb 00 46 07.2
comp=Z,24nm,0.7s
KONS Konsvik 73.52 340 *e*P P 00 46 05.1 +0.8
KONS IAmb IAmb 00 46 05.3
comp=Z,30nm,0.8s
MEF Metsahovi 73.60 332 *e*P P 00 46 05.0 +0.2
KARS Kars 73.62 308 P P 00 46 06.6 +1.0
KARS Kars 73.62 308 P P 00 46 06.6 +1.0
KARS pmax pmax
comp=Z,217nm,1.0s
VSU Vasula 73.62 329 *e*P P 00 46 05.3 +0.3
STOK Stokkvaagen 73.67 340 *e*P P 00 46 05.6 +0.5
STOK IAmb IAmb 00 46 13.4
comp=E,78nm,1.1s
MZR Muzera 73.99 287 P P 00 46 07.5 -0.3
SNR=11
MZR Muzera 73.99 287 *i* P P 00 46 07.7 -0.1
SNR=5.8
RAF Rauma 74.16 333 *e*P P 00 46 08.8 +0.8
BUCK Buck Mountain 74.33 48 P P 00 46 11.5 +2.0
SOC Sochi 74.41 312 *e*P P 00 46 08.7 -1.2
SOC *e**PP **pP** 00 47 27.5 -0.6
SOC *e**SP **sP** 00 48 04.0 -1.3
SOC *e* 00 49 00.2
SOC *e*PPP PPP 00 50 47.2
SOC *e*S **S** 00 55 14.0 -0.7
SOC *e*SS **SS** 01 00 08.1 -0.7
SOC *e*SSS SSS 01 03 26.3
SOC pmax pmax
comp=Z,115nm,0.7s
GEVA Gevas 74.72 306 P P 00 46 12.8 +0.8
MTSE Matsula 74.72 330 *e*P P 00 46 11.6 +0.3
SLWR Sila 74.93 289 P P 00 46 12.8 -0.3
HUMO Hull Mountain 75.13 49 P P 00 46 15.6 +1.6
NSS Namsos 75.24 339 *e*P P 00 46 13.9 -0.2
NSS IAmb IAmb 00 46 14.9
comp=Z,39nm,0.8s
ANN Anapa 75.24 314 *e*P P 00 46 14.0 -0.5
ANN *e**PP **pP** 00 47 32.6 -0.4
ANN *e*S **S** 00 55 25.3 +1.6
ANN pmax pmax
comp=Z,286nm,0.9s
MNK Minsk 75.34 326 *i* P P 00 46 14.2 -0.7
comp=E,9.0nm,1.0s
MNK *i* P P 00 46 14.2 -0.7
comp=N,42nm,1.0s
MNK *i* P P 00 46 14.2 -0.7
comp=Z,121nm,1.0s,baz=56
MNK *i* pP **pP** 00 47 35.6 +2.2
MNK *i* sP **sP** 00 48 10.8 0.0
MNK *i* PP **PP** 00 49 03.8 -4.9
MNK *i* PPP PPP 00 50 56.9
MNK *i* S **S** 00 55 24.4 0.0
MNK *i* sS **sS** 00 57 46.4 +0.7
MNK *i* SS SS 01 00 01.2 -21
MNK *i* LRM MLR 01 21 08.4
comp=Z,101nm,18.7s
MNK *i* LRM MLR 01 22 08.7
comp=E,22nm,18.9s
MNK *i* LRM MLR 01 22 18.4
comp=N,300nm,18.8s
MNK Minsk 75.34 326 *i* P P 00 46 14.1 -0.7
MNK *i* 00 46 25.7
MNK *i**PP **pP** 00 47 35.6 +2.2
MNK *i**SP **sP** 00 48 10.7 0.0
MNK *i* PPP PPP 00 50 56.8
MNK *i* S **S** 00 55 24.4 0.0
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=Z,121nm,1.0s
MNK pmax pmax
comp=N,42nm,1.0s
MNK MLR MLR
comp=Z,101nm,19.0s
MNK MLR MLR
comp=E,22nm,19.0s
MNK MLR MLR
comp=N,300nm,19.0s
HAWA Hanford 75.36 44 P P 00 46 16.4 +1.2
HAWA IAmb IAmb 00 46 17.4
comp=Z,38nm,1.1s
IZAR Zarasai 75.40 327 *e*P P 00 46 16.6 +1.4
KHMM Horse Mountain 75.47 51 P P 00 46 17.8 +1.6
KHMM IAmb IAmb 00 46 18.9
comp=Z,38nm,0.8s
DOK Doka 75.53 283 P P 00 46 16.1 -0.6
SNR=11
ISAL Salakas 75.56 327 *e*P P 00 46 17.6 +1.6
NACGM Naroch 75.63 326 ⇓*i*P P 00 46 17.0 +0.5
comp=Z,190nm,0.8s,baz=55
IIGN Ignalina 75.64 327 *e*P P 00 46 18.1 +1.6
KOPT Kop Dagi 75.64 308 P P 00 46 18.5 +1.2
KOPT IAmb IAmb 00 46 19.8
comp=Z,91nm,1.2s
YBH Yreka Blue Hor 75.72 50 P P 00 46 18.7 +1.3
YBH Yreka Blue Hor 75.72 50 P P 00 46 18.7 +1.3
YBH pmax pmax
comp=Z,23nm,0.9s
NEW Newport 75.79 42 P P 00 46 18.4 +0.8
NEW IAmb IAmb 00 46 19.5
comp=Z,38nm,0.9s
NEW Newport 75.79 42 P P 00 46 18.5 +0.8
baz=302,SNR=22
NEW Newport 75.79 42 P P 00 46 18.4 +0.8
NEW pmax pmax
comp=Z,38nm,0.9s
SUMG Summit 75.91 359 *i* P P 00 46 18.1 -0.2
SUMG IAmb IAmb 00 46 20.5
comp=Z,51nm,0.8s
RBK Rabkut 76.01 282 P P 00 46 18.7 -0.7
SNR=7.2
SLIT Slitere, Latvi 76.03 330 *e*P P 00 46 18.4 -0.2
VSVD Vaisvydziai 76.31 328 *e*P P 00 46 20.5 +0.2
K05A Summer Lake 76.39 48 P P 00 46 22.8 +1.5
K05A IAmb IAmb 00 46 24.0
comp=Z,81nm,1.0s
PABE Paberze 76.58 328 P P 00 46 22.4 +0.6
PABE Paberze 76.58 328 *e*P P 00 46 22.4 +0.6
TBLU Trondheim 76.69 338 *e*P P 00 46 20.7 -1.6
MARD Mardin 76.78 306 P P 00 46 24.1 +0.5
AKASG Malin Array Be 76.81 322 P P 00 46 23.2 0.0
comp=Z,48nm,0.5s,baz=50,slow=6.2,SNR=311
comp=Z,48nm,0.5s
AKASG Malin Array Be 76.81 322 P P 00 46 23.1 -0.1
AKASG Malin Array Be 76.81 322*ce*P P 00 46 23.2 0.0
AKASG pmax pmax
comp=Z,51nm,0.5s
AKBB Malin Array Si 76.81 322 P P 00 46 23.3 +0.2
AKBB Malin Array Si 76.81 322 P P 00 46 23.3 +0.2
AKBB pmax pmax
comp=Z,136nm,0.8s
ABTO Aybut 76.84 282 P P 00 46 22.9 -1.1
SNR=12
SCO Scoresbysund 77.04 353 P P 00 46 25.5 +1.4
SCO IAmb IAmb 00 46 26.6
comp=Z,54nm,1.0s
SCO Scoresbysund 77.04 353 *i* P P 00 46 23.4 -0.7
SCO IAmb IAmb 00 46 26.3
comp=Z,46nm,0.9s
SCO Scoresbysund 77.04 353 P P 00 46 25.5 +1.4
SCO pmax pmax
comp=Z,54nm,1.0s
WALA Waterton Lakes 77.15 40 P P 00 46 26.5 +1.2
WALA IAmb IAmb 00 46 27.3
comp=Z,45nm,0.7s
PBUR Paburge 77.18 329 *e*P P 00 46 25.3 +0.2
SIM Simferopol' 77.19 315 *e*P P 00 46 25.8 +0.4
SIM *e* 00 49 26.2
SIM pmax pmax
comp=Z,183nm,0.8s
SIM pmax pmax
comp=Z,15nm,17.2s
BMO Blue Mountains 77.49 45 P P 00 46 28.2 +1.0
BMO IAmb IAmb 00 46 29.3
comp=Z,34nm,0.9s
BMO Blue Mountains 77.49 45 P P 00 46 28.2 +1.0
BMO pmax pmax
comp=Z,34nm,1.0s
HFS Hagfors 77.75 335 P P 00 46 27.8 -0.4
comp=Z,52nm,0.8s,baz=98,slow=3.1,SNR=67
HFS PP PP 00 49 26.6 -2.0
comp=Z,5.3nm,0.7s,baz=116,slow=3.4,SNR=3.0
comp=Z,52nm,0.8s
NC405 NORSAR Array S 77.75 336 P P 00 46 28.3 +0.1
DOMB Dombas 77.95 338 *e*P P 00 46 29.4 +0.1
DOMB IAmb IAmb 00 46 30.2
comp=Z,69nm,0.9s
WVOR Wild Horse Val 77.96 47 P P 00 46 31.2 +1.3
WVOR IAmb IAmb 00 46 31.6
comp=Z,28nm,0.6s
WVOR Wild Horse Val 77.96 47 P P 00 46 31.2 +1.3
WVOR pmax pmax
comp=Z,28nm,0.6s
NB2 NORSAR Subarra 77.98 337 P P 00 46 29.0 -0.5
baz=41,slow=5.6
NB2 NORSAR Subarra 77.98 337 P P 00 46 29.0 -0.5
comp=Z,60nm,1.0s,baz=41,slow=5.6
NB2 pP **pwP** 00 47 54.0 0.0
comp=Z,26nm,1.4s,baz=40,slow=5.6
NOA NORSAR Array B 77.98 337 P P 00 46 29.4 -0.1
comp=Z,37nm,0.8s,baz=44,slow=5.4,SNR=103
NOA pP **pP** 00 47 50.1 +1.4
comp=Z,0.8nm,0.8s,baz=55,slow=7.0,SNR=1.0
NOA PP PP 00 49 28.9 -1.6
comp=Z,6.7nm,1.0s,baz=46,slow=8.6,SNR=3.5
comp=Z,37nm,0.8s
MOL Molde 78.03 339 *e*P P 00 46 29.4 -0.2
NC602 NORSAR Array S 78.08 336 *e*P P 00 46 29.7 -0.3
NC602 IAmb IAmb 00 46 30.4
comp=Z,60nm,1.3s
PLID Pearl Lake 78.14 44 P P 00 46 31.1 +0.2
MSO Missoula 78.38 42 P P 00 46 32.2 +0.2
MSO IAmb IAmb 00 46 33.5
comp=Z,72nm,1.9s
MSO Missoula 78.38 42 P P 00 46 32.4 +0.4
baz=304,SNR=10
AKN Aaknes 78.49 339 *e*P P 00 46 32.9 +0.7
AKN IAmb IAmb 00 46 33.6
comp=Z,87nm,1.0s
SORM Soroca 78.74 320 ⇓P P 00 46 33.6 -0.2
RTZ Ruatahuna 78.78 150 P P 00 46 33.9 -0.2
PURM Purcari 78.81 318 ⇑P P 00 46 34.7 +0.6
BZK Bozkurt 78.86 313 P P 00 46 33.4 -1.2
BKZ Black Stump Fm 79.04 151 P P 00 46 35.6 +0.1
SAO San Andreas Ge 79.09 54 P P 00 46 35.7 -0.2
SAO San Andreas Ge 79.09 54 P P 00 46 35.7 -0.2
SAO pmax pmax
comp=Z,20nm,1.0s
KIS Kishinev 79.13 319 ⇓P P 00 46 36.0 0.0
KIS Kishinev 79.13 319 ⇓*i*P P 00 46 35.8 -0.1
comp=Z,70nm,0.8s
KIS Kishinev 79.13 319*d* *i*P P 00 46 35.8 -0.1
KIS pmax pmax
comp=Z,70nm,0.8s
MILM Milestii Mici 79.18 319 ⇓P P 00 46 36.0 -0.2
MILM Milestii Mici 79.18 319 ⇓*i*P P 00 46 35.5 -0.7
comp=Z,120nm,0.8s
MILM Milestii Mici 79.18 319*d* *i*P P 00 46 35.5 -0.7
MILM pmax pmax
comp=Z,120nm,0.8s
GAZ Gaziantep 79.30 307 P P 00 46 37.6 +0.4
BNN Bunyan 79.33 309 P P 00 46 37.0 -0.4
ICESG Greenland Ices 79.43 359 *i* P P 00 46 37.8 +0.2
ICESG IAmb IAmb 00 46 39.2
comp=Z,47nm,0.9s
ILGA Ilgaz 79.53 312 P P 00 46 39.2 +0.7
FFC Flin Flon 79.57 31 P P 00 46 38.5 +0.4
FFC Flin Flon 79.57 31 P P 00 46 38.5 +0.4
FFC pmax pmax
comp=Z,23nm,1.1s
HRY Holter Researc 79.63 41 P P 00 46 39.7 +0.9
LEOM Leova 79.76 319 ⇑P P 00 46 39.5 +0.2
FCC Fort Churchill 79.89 25 P P 00 46 39.6 -0.1
FCC Fort Churchill 79.89 25 P P 00 46 39.6 -0.1
FCC pmax pmax
comp=Z,169nm,2.0s
VASR Vaslui 79.91 319 ⇓P P 00 46 40.9 +0.8
BMN Battle Mountai 79.94 49 P P 00 46 41.5 +0.9
BMN IAmb IAmb 00 46 43.0
comp=Z,42nm,1.2s
BMN Battle Mountai 79.94 49 P P 00 46 41.5 +0.9
BMN pmax pmax
comp=Z,42nm,1.2s
HLID Hailey 79.94 45 P P 00 46 41.8 +1.2
HLID IAmb IAmb 00 46 42.9
comp=Z,22nm,0.8s
HLID Hailey 79.94 45 P P 00 46 41.8 +1.2
baz=304,SNR=28
EGMT Eagleton 80.00 39 P P 00 46 41.3 +0.6
EGMT IAmb IAmb 00 46 42.5
comp=Z,60nm,0.8s
EGMT Eagleton 80.00 39 P P 00 46 41.5 +0.8
baz=307,SNR=20
LVV L'vov 80.02 323 *e*P P 00 46 40.2 -0.4
SOEG Soedalen 80.03 356 *i* P P 00 46 39.7 -0.5
VLDR Vladesti 80.22 318 ⇓P P 00 46 42.7 +1.0
BIR Birlad 80.23 319 ⇑P P 00 46 42.6 +0.9
BR131 Keskin Array S 80.30 311 P P 00 46 42.9 +0.4
BR131 Keskin Array S 80.30 311 P P 00 46 42.9 +0.4
BR131 pmax pmax
comp=Z,118nm,0.9s
BRTR Keskin Array B 80.30 311 P P 00 46 42.9 +0.4
comp=Z,63nm,0.8s,baz=104,slow=4.2,SNR=344
comp=Z,63nm,0.8s
BRTR Keskin Array B 80.30 311 P P 00 46 42.8 +0.3
VARL Varlezi 80.32 318 ⇓P P 00 46 43.3 +1.1
NVAR Mina Array Bea 80.32 51 P P 00 46 43.8 +1.1
comp=Z,17nm,0.6s,baz=292,slow=5.6,SNR=72
NVAR pP **pP** 00 48 03.1 -0.4
comp=Z,4.2nm,0.7s,baz=289,slow=5.3,SNR=4.2
comp=Z,17nm,0.6s
NVAR Mina Array Bea 80.32 51 P P 00 46 43.5 +0.7
BEL Belsk 80.35 326 *e*P P 00 46 43.2 +0.9
SCTR Scanteiesti 80.36 318 ⇓P P 00 46 43.7 +1.2
TATR Tatarca 80.38 318 ⇓P P 00 46 43.3 +0.7
JURR Jurilovca 80.39 317 ⇑P P 00 46 43.3 +0.7
BOZ Bozeman (W) 80.40 42 P P 00 46 43.7 +0.8
BOZ IAmb IAmb 00 46 44.9
comp=Z,28nm,0.8s
BOZ Bozeman (W) 80.40 42 P P 00 46 43.8 +0.9
baz=306,SNR=37
BOZ Bozeman (W) 80.40 42 P P 00 46 43.7 +0.8
BOZ pmax pmax
comp=Z,28nm,0.9s
NV11 Mina Array Sit 80.42 51 P P 00 46 43.9 +0.8
GHRR 80.47 319 ⇑P P 00 46 44.6 +1.6
SLCR Slobozia Conac 80.54 318 ⇑P P 00 46 44.5 +1.1
IZVR Izvoarele 80.57 318 ⇑P P 00 46 42.8 -0.8
CFR Carcaliu 80.58 318 ⇓P P 00 46 43.9 +0.3
TUDR 80.60 318 ⇓P P 00 46 44.9 +1.2
TPGR Topolog 80.60 317 ⇑P P 00 46 44.5 +0.7
TESR Tescani 80.63 319 ⇓P P 00 46 44.5 +0.6
BIZ Bicaz 80.67 320 ⇑P P 00 46 41.4 -2.7
PANC Panciu 80.73 319 ⇓P P 00 46 46.0 +1.6
BUR08 Bucovina Ar. S 80.74 321 P P 00 46 45.4 +0.8
BUR08 IAmb IAmb 00 46 46.3
comp=Z,31nm,0.9s
BUR01 Bucovina Ar. S 80.74 321 ⇑P P 00 46 45.9 +1.2
BURAR Bucovina Array 80.74 321 P P 00 46 45.3 +0.7
BURAR IAmb IAmb 00 46 46.2
comp=Z,38nm,0.8s
ANTO Ankara 80.77 311 ⇓P P 00 46 46.0 +1.1
ANTO Ankara 80.77 311 P P 00 46 45.2 +0.4
ANTO Ankara 80.77 311 P P 00 46 45.5 +0.6
BSD Bornholm Skovb 80.78 331 *e*P P 00 46 43.8 -0.6
BSD Bornholm Skovb 80.78 331 *i* P P 00 46 43.7 -0.8
BSD IAmb IAmb 00 46 45.0
comp=Z,70nm,0.9s
BR231 Keskin MP Arra 80.79 311 P P 00 46 45.8 +0.7
TIRR Tirgusor 80.84 317 ⇓P P 00 46 45.6 +0.6
TIRR Tirgusor 80.84 317 ⇓P P 00 46 45.3 +0.3
ODBI Odobesti 80.84 319 ⇓P P 00 46 47.3 +2.3
SMMC Simmler 80.86 54 P P 00 46 46.7 +1.3
baz=302
VRI Vrincioaia 80.97 319 ⇑P P 00 46 46.9 +1.2
HARR Harsova 80.98 317 ⇑P P 00 46 46.7 +1.0
MFTR Murfatlar 80.99 317 ⇑P P 00 46 46.9 +1.1
TLBR Topalu 81.00 317 ⇑P P 00 46 46.9 +1.1
ELK Elko 81.02 48 P P 00 46 47.7 +1.3
ELK IAmb IAmb 00 46 48.7
comp=Z,24nm,0.9s
PLOR Plostina 81.02 319 ⇑P P 00 46 47.1 +1.1
GKP Gorka Klasztor 81.04 329 *e*P P 00 46 46.2 +0.3
GKP Gorka Klasztor 81.04 329 *e*P P 00 46 45.6 +0.3
YHL Hebgen Lake 81.09 42 P P 00 46 48.1 +1.4
YHL IAmb IAmb 00 46 49.2
comp=Z,34nm,0.9s
MANR Mangalia 81.11 316 ⇑P P 00 46 47.8 +1.3
GRER 81.12 318 ⇓P P 00 46 49.0 +2.5
CVDA Cernavoda 81.13 317 ⇑P P 00 46 47.5 +1.0
BISRR Bisoca 81.17 319 ⇓P P 00 46 48.6 +1.8
VES Vestal, Richgr 81.20 53 P P 00 46 47.2 +0.1
baz=303,SNR=8.9
PKM Mcpherson Peak 81.21 54 P P 00 46 48.6 +1.2
baz=303,SNR=7.7
COVR Voinesa-Covas 81.27 319 ⇑P P 00 46 48.4 +1.1
SFJD Kangerlussuaq 81.32 3 P P 00 46 47.3 +0.3
SFJD IAmb IAmb 00 46 48.4
comp=Z,34nm,0.9s
SFJD Kangerlussuaq 81.32 3 *i* P P 00 46 46.1 -0.9
OZUR 81.35 319 ⇓P P 00 46 49.3 +1.5
AMRR Amara 81.37 318 ⇑P P 00 46 49.4 +1.6
COP Copenhagen 81.38 332 *i* P P 00 46 47.1 -0.5
COP IAmb IAmb 00 46 48.6
comp=Z,219nm,1.0s
ICOR Ion Corvin 81.39 317 ⇓P P 00 46 49.4 +1.5
PGOR Pogoanele 81.39 318 ⇑P P 00 46 49.8 +1.9
MDUB Mudurnu 81.44 312 P P 00 46 47.8 -0.6
KOLS Kolonicke sedl 81.47 323 *e*P P 00 46 48.4 +0.1
NEHR Nehoiu 81.47 319 ⇑P P 00 46 49.6 +1.2
ISR Istrita 81.52 318 ⇑P P 00 46 50.3 +1.7
ARCR ARCALIA 81.53 321 ⇓P P 00 46 50.2 +1.6
CWC Cottonwood Cre 81.55 52 P P 00 46 49.7 +0.5
baz=303
BMR Baia Mare 81.63 322 ⇓P P 00 46 50.3 +1.2
MLR Muntele Rosu 81.63 319 ⇓P P 00 46 49.8 +0.5
MLR Muntele Rosu 81.63 319 P P 00 46 49.7 +0.4
comp=Z,20nm,0.6s,baz=53,slow=5.1,SNR=36
comp=Z,20nm,0.6s
MLR Muntele Rosu 81.63 319 P P 00 46 49.7 +0.4
MLR Muntele Rosu 81.63 319 P P 00 46 49.7 +0.4
MLR pmax pmax
comp=Z,102nm,1.3s
UZH Uzhgorod 81.65 323 ⇓*i*P P 00 46 49.3 +0.1
DOPR Dopca 81.65 319 ⇑P P 00 46 50.5 +1.2

STHS **Stebnicka Huta** 81.68 324 *e*P P 00 46 49.4 0.0
STHS **Stebnicka Huta** 81.68 324 *e*P P 00 46 49.4 0.0
STHS pmax pmax
comp=Z,32nm,0.9s
H17A **Grant Village** 81.71 42 P P 00 46 53.0 +3.1
baz=307,SNR=48
ISA **Isabella, Lake** 81.71 53 P P 00 46 49.7 -0.1
baz=303
RASA **Rasa** 81.71 317 ⇓P P 00 46 50.6 +1.1
LEHL **Lehliu** 81.75 318 ⇑P P 00 46 50.4 +0.7
ARVC **Arvin** 81.76 54 P P 00 46 50.6 +0.5
baz=303
SECR 81.84 318 ⇑P P 00 46 51.7 +1.4
TRPA **Tarpa** 81.84 322 ⇑P P 00 46 51.5 +1.3
TRPA **Tarpa** 81.84 322 P P 00 46 51.0 +0.9
OJC **Ojcow** 81.88 325 *e*P P 00 46 47.9 -2.4
OJC *e*S S 00 56 26.8 -6.5
CRVS **Cervenica-Dubn** 81.90 323 *e*P P 00 46 51.4 +0.9
CRVS **Cervenica-Dubn** 81.90 323 *e*P P 00 46 51.4 +0.9
CRVS pmax pmax
comp=Z,236nm,1.8s
SULR 81.95 318 ⇓P P 00 46 51.6 +0.8
DY2G **Dye2** 82.01 2 *i*P P 00 46 51.0 0.0
RLMT **Red Lodge** 82.02 41 P P 00 46 52.2 +0.8
RLMT IAmb IAmb 00 46 53.9
comp=Z,27nm,0.7s
RLMT **Red Lodge** 82.02 41 P P 00 46 52.8 +1.4
baz=308,SNR=25
ECR **Eagle Creek** 82.05 44 P P 00 46 52.9 +1.3
MUD **Monsted U'grnd** 82.06 334 *i*P P 00 46 49.6 -1.6
MUD IAmb IAmb 00 46 52.0
comp=Z,68nm,1.0s
MDB **Medias** 82.10 320 ⇓P P 00 46 53.6 +2.0
R11A **Troy Canyon, C** 82.15 50 P P 00 46 53.2 +1.0
baz=304,SNR=31
NIE **Niedzica** 82.15 324 *e*P P 00 46 52.7 +0.9
NIE *e*S S 00 56 36.2 -0.1
CBBR **Cluj-Babes-Bol** 82.16 321 ⇓P P 00 46 53.1 +1.2
MPMC **Manual Prospec** 82.16 52 P P 00 46 52.9 +0.6
baz=304,SNR=18
VOIR 82.16 319 ⇑P P 00 46 53.0 +1.0
CJR **Cluj-Napoca** 82.17 321 ⇓P P 00 46 53.3 +1.3
MESR **Meseseni** 82.24 321 ⇑P P 00 46 53.4 +1.1
BORA **Eskisehir** 82.25 312 P P 00 46 52.6 0.0
MTUR **Matau** 82.29 319 ⇓P P 00 46 52.4 -0.2
LRMC **Laurel Mtn Rad** 82.35 53 P P 00 46 53.8 +0.6
baz=304,SNR=10
FURC **Furnace Creek,** 82.36 52 P P 00 46 54.0 +1.0
baz=304,SNR=9.8
AHID **Auburn Hatcher** 82.38 44 P P 00 46 54.2 +0.9
SGRR **Singureni** 82.38 318 ⇑P P 00 46 53.6 +0.5
ABAH **Abaujker** 82.41 323 P P 00 46 53.8 +0.7
ARR **Arges** 82.44 319 ⇓P P 00 46 55.0 +1.6
EDW2 **Edwards Air Fo** 82.47 54 P P 00 46 54.8 +1.1
baz=304,SNR=12
RAZG **Razgrad** 82.47 317 ⇓P P 00 46 54.3 +0.8
BORG **Borgarnes** 82.47 351 P P 00 46 55.2 +2.1
BORG **Borgarnes** 82.47 351 P P 00 46 55.2 +2.1
BORG pmax pmax
comp=Z,78nm,0.9s
TPNV **Topopah Spring** 82.50 51 P P 00 46 54.8 +0.8
TPNV IAmb IAmb 00 46 55.9
comp=Z,31nm,0.9s
TPNV **Topopah Spring** 82.50 51 P P 00 46 54.7 +0.8
baz=304,SNR=40
TPNV **Topopah Spring** 82.50 51 P P 00 46 54.8 +0.8
TPNV pmax pmax
comp=Z,31nm,0.9s
DECC **Green Verdugo** 82.58 54 P P 00 46 54.7 +0.4
baz=304
DRGR 82.60 321 ⇓P P 00 46 54.5 +0.3
DGMT **Dagmar** 82.63 36 P P 00 46 54.6 +0.3
baz=310
LTVH **Ltavrtes, Hu** 82.65 322 P P 00 46 55.2 +0.9
KECS **Kecovo** 82.67 324 *e*P P 00 46 55.1 +0.7
KECS **Kecovo** 82.67 324 *e*P P 00 46 55.1 +0.7
LAO **LASA Array** 82.71 39 P P 00 46 55.6 +0.8
baz=309
LAO **LASA Array** 82.71 39 P P 00 46 55.8 +1.0
baz=309,SNR=11
HUMR **Humele** 82.76 318 ⇑P P 00 46 55.1 +0.1
HWUT **Hardware Ranch** 82.78 45 P P 00 46 56.3 +0.9
HWUT IAmb IAmb 00 46 57.9
comp=Z,58nm,0.9s
DUG **Dugway, Tooele** 82.85 47 P P 00 46 56.6 +0.9
DUG IAmb IAmb 00 46 58.0
comp=Z,53nm,0.8s
DUG **Dugway, Tooele** 82.85 47 P P 00 46 57.0 +1.3
baz=306,SNR=49
DUG **Dugway, Tooele** 82.85 47 P P 00 46 56.6 +0.9
DUG pmax pmax
comp=Z,53nm,0.9s
LOT **Lotru** 82.87 320 ⇑P P 00 46 56.6 +0.9
COPA **Copaceanca** 82.87 318 ⇑P P 00 46 55.9 +0.4
BORR **Bors** 82.89 322 ⇓P P 00 46 55.6 0.0
OKC **Ostrava-Krasne** 82.93 326 *e*P P 00 46 56.0 +0.3
OKC *ex* x 00 48 22.9
OKC **Ostrava-Krasne** 82.93 326 *e*P P 00 46 56.0 +0.3
CIS **Catalina Islan** 82.99 55 P P 00 46 56.8 +0.4
baz=304
GSC **Goldstone, Bar** 83.05 53 P P 00 46 57.4 +0.6
baz=304,SNR=19
BFSC **Mount Baldy Ra** 83.05 54 P P 00 46 57.1 +0.3
baz=304
KSP **Ksiaz** 83.12 327 *e*P P 00 46 57.1 +0.5
KSP *e*S S 00 56 44.9 -0.9
CSS **Mathiatis** 83.14 307 P P 00 46 57.0 -0.2
PSUT **Pine Spring** 83.16 49 P P 00 46 57.9 +0.5
PSUT IAmb IAmb 00 46 59.3
comp=Z,26nm,0.8s
MORC **Moravsky Berou** 83.26 326 ⇓P P 00 46 57.8 +0.4
MORC **Moravsky Berou** 83.26 326 P P 00 46 57.5 +0.1
MORC IAmb IAmb 00 46 58.9
comp=Z,48nm,1.2s
MORC **Moravsky Berou** 83.26 326 ⇓*i*P P 00 46 57.6 +0.1
MORC *e*pP pwP 00 48 24.5 +1.2
MORC **Moravsky Berou** 83.26 326 P P 00 46 57.5 +0.1
MORC pmax pmax
comp=Z,48nm,1.2s
BW06 **Boulder Array** 83.28 43 P P 00 46 58.5 +0.5
baz=308,SNR=26
PD31 **Pinedale Array** 83.28 43 P P 00 46 58.2 +0.2
PDAR **Pinedale Array** 83.28 43 P P 00 46 58.5 +0.5
comp=Z,18nm,0.9s,baz=301,slow=1.4,SNR=98
PDAR pP pP 00 48 18.3 -1.1
comp=Z,2.4nm,0.7s,baz=289,slow=2.5,SNR=3.6
comp=Z,18nm,0.9s
PDAR **Pinedale Array** 83.28 43 P P 00 46 58.0 0.0
PSZ **Piszkesteto** 83.34 323 ⇑P P 00 46 58.7 +0.8
PSZ **Piszkesteto** 83.34 323 P P 00 46 57.9 0.0
PSZ IAmb IAmb 00 46 59.6
comp=Z,51nm,1.1s
PSZ **Piszkesteto** 83.34 323 P P 00 46 58.2 +0.3
PSZ **Piszkesteto** 83.34 323 P P 00 46 57.9 0.0
PSZ pmax pmax
comp=Z,51nm,1.1s
OSTC **Ostas** 83.35 327 *e*P P 00 46 58.1 +0.2
ISP **Isparta** 83.39 311 P P 00 46 57.8 -0.6
ISP IAmb IAmb 00 46 59.0
comp=Z,38nm,0.8s
ISP **Isparta** 83.39 311 P P 00 46 57.8 -0.6
ISP pmax pmax
comp=Z,38nm,0.8s
MAUC **Maruska** 83.40 325 *e*P P 00 46 58.4 +0.2
VLAD **Vladila** 83.41 318 ⇓P P 00 46 58.7 +0.4
KRLC **Kraliky** 83.42 326 *e*P P 00 46 58.1 -0.2
KRLC *ex* x 00 48 24.6
KRLC **Kraliky** 83.42 326 *e*P P 00 46 58.1 -0.2
DPC **Dobruska-Polom** 83.44 327 *e*P P 00 46 58.6 +0.2
DPC *ex* x 00 48 25.5
DPC **Dobruska-Polom** 83.44 327 *e*P P 00 46 58.6 +0.2
GZR **Gura Zlata** 83.44 320 ⇑P P 00 46 58.9 +0.4
UPC **Upice** 83.48 327 *e*P P 00 46 58.8 +0.3
UPC *ex* x 00 48 25.6
UPC **Upice** 83.48 327 *e*P P 00 46 58.8 +0.3
VYHS **Vyhne** 83.49 324 *e*P P 00 46 59.1 +0.5
VYHS *e* 00 48 26.0
VYHS *e*PP PP 00 50 13.6 -2.3
VYHS **Vyhne** 83.49 324 *e*P P 00 46 59.1 +0.5
VYHS *e* 00 50 13.6
VYHS pmax pmax
comp=Z,57nm,1.2s
SIRR **Siria** 83.49 321 ⇓P P 00 46 59.1 +0.4
BBRC **Big Bear Solar** 83.55 54 P P 00 46 59.8 +0.3
baz=304
BSZH **Besenyszg** 83.55 323 ⇑P P 00 46 59.6 +0.8
BSZH **Besenyszg** 83.55 323 P P 00 46 58.9 0.0
TUQ **Turquoise Moun** 83.57 52 P P 00 47 00.3 +0.9
baz=305,SNR=26
SURR **Surduc** 83.57 321 ⇑P P 00 46 59.8 +0.8
GHAJ **Ghor Haditha** 83.60 303 P P 00 47 00.0 +0.6
HEC **Hector,Ludlow** 83.63 53 P P 00 47 00.6 +0.9
baz=304,SNR=8.8
PLVB **Pleven** 83.67 318 ⇑P P 00 47 00.2 +0.6
SRE **Strehaia** 83.67 319 ⇑P P 00 47 01.1 +1.5
MURC **Murrieta** 83.73 54 P P 00 47 00.7 +0.5
baz=304,SNR=12
BZS **Buzias** 83.93 321 ⇓P P 00 47 00.9 0.0
HERR **Herculane** 83.97 320 ⇑P P 00 47 01.2 +0.1
BAIL **Bailesti** 84.00 319 ⇓P P 00 47 02.2 +1.0
TCRU **Three Creeks R** 84.01 48 P P 00 47 02.9 +1.2
TCRU IAmb IAmb 00 47 04.1
comp=Z,22nm,0.8s
VRAC **Vranov** 84.03 326 P P 00 47 01.8 +0.4
comp=Z,33nm,0.9s,baz=48,slow=4.4,SNR=31
comp=Z,33nm,0.9s
VRAC **Vranov** 84.03 326 ⇓*i*P P 00 47 01.7 +0.4
VRAC *e*pP pwP 00 48 28.5 +1.4
DJES **Djerdap** 84.05 320 ⇓P P 00 47 01.6 +0.2
BUD **Budapest** 84.06 323 P P 00 47 01.4 -0.1
GMRC **Granite Mounta** 84.11 53 P P 00 47 02.9 +0.7
baz=305,SNR=21
PVCC **Panska Ves** 84.13 328 *e*P P 00 47 02.1 +0.4
PVCC *ex* x 00 48 27.6
PVCC **Panska Ves** 84.13 328 *e*P P 00 47 02.1 +0.4
PVCC *e* 00 48 27.6
BRG **Berggiesshubel** 84.17 328 *i*P P 00 47 02.0 +0.1
BRG Amp 00 47 02.7
comp=Z,30nm,0.8s
BRG pP pwP 00 48 29.1 +1.1
BRG Amp 00 48 30.4
comp=Z,16nm,1.0s
BRG **Berggiesshubel** 84.17 328 *i*P P 00 47 02.0 +0.1
BRG pmax pmax
comp=Z,30nm,0.9s
BRG pmax pmax
comp=Z,17nm,1.0s
SMOL **Smolenice** 84.17 325 *e*P P 00 47 03.0 +1.0
SMOL pmax pmax
comp=Z,25nm,1.1s
109C **Camp Elliot, M** 84.19 55 P P 00 47 03.0 +0.6
baz=304
SRO **Srobarova** 84.20 324 *e*P P 00 47 02.7 +0.5
SRO **Srobarova** 84.20 324 *e*P P 00 47 02.7 +0.5
PFO **Pinyon Flats O** 84.23 54 P P 00 47 03.3 +0.5
PFO IAmb IAmb 00 47 04.4
comp=Z,55nm,0.9s
PFO **Pinyon Flats O** 84.23 54 P P 00 47 03.5 +0.7
baz=304,SNR=25
PFO **Pinyon Flats O** 84.23 54 P P 00 47 03.3 +0.5
PFO pmax pmax
comp=Z,55nm,0.9s
TPFO **Pinon Flats** 84.24 54 P P 00 47 03.5 +0.7
baz=304,SNR=25
MANT **Manisa** 84.25 312 P P 00 47 02.6 -0.3
MANT IAmb IAmb 00 47 04.6
comp=Z,53nm,1.0s
CLL **Collm** 84.28 329 P P 00 47 02.1 -0.3
CLL IAmb IAmb 00 47 03.4
comp=Z,72nm,1.2s
CLL **Collm** 84.28 329 ⇓*i*P P 00 47 02.3 -0.2
comp=Z,73nm,1.3s
CLL *i* pP pwP 00 48 28.8 +0.5
comp=Z,39nm,1.2s
CLL *e*pPcP 00 48 34.0
CLL *e*PP PP 00 50 24.0 +1.9
CLL *e*S S 00 56 56.0 -1.2
CLL *e*sS sS 00 59 17.0 -5.6
CLL *e*SS SS 01 02 33.0 -1.7
CLL *ex* x 01 03 52.0
CLL *e*SS 01 04 43.0
CLL *e*SSS SSS 01 06 18.0
CLL *e*SSSS 01 09 06.0
CLL **Collm** 84.28 329 ⇓*i*P P 00 47 02.3 -0.2
CLL *e*S S 00 56 51.0 -6.2
CLL pmax pmax
comp=Z,73nm,1.3s
KRUC **Moravsky** 84.29 326 ⇓*i*P P 00 47 02.8 +0.2
KRUC *e*pP pwP 00 48 29.8 +1.4
BELC **Belle Mtn. Jos** 84.33 53 P P 00 47 03.8 +0.5
baz=305,SNR=28
MODS **Modra-Piesok** 84.34 325 *e*P P 00 47 03.9 +1.0
MODS *e* 00 48 30.6
MODS *e*PP PP 00 50 21.4 -1.3
MODS **Modra-Piesok** 84.34 325 *e*P P 00 47 03.9 +1.0
MODS *e* 00 50 21.4
ELL **Elmali** 84.41 310 P P 00 47 03.0 -0.6
ELL **Elmali** 84.41 310 P P 00 47 03.0 -0.6
ELL pmax pmax
comp=Z,148nm,1.0s
MDVR **Moldovita** 84.42 320 ⇓P P 00 47 03.2 -0.1
GOPC **GO Pecny, Ondr** 84.46 327 *e*P P 00 47 03.6 +0.2
GOPC **GO Pecny, Ondr** 84.46 327 *e*P P 00 47 03.6 +0.2
RDO **Rodhopi** 84.51 316 P P 00 47 03.6 -0.2
RDO IAmb IAmb 00 47 05.3
comp=Z,46nm,1.0s
PRU **Pruhonice** 84.52 327 *e*P P 00 47 03.5 -0.2
PRU *ex* x 00 47 07.4
PRU *ex* x 00 48 31.3
PRU **Pruhonice** 84.52 327 *e*P P 00 47 03.5 -0.2
CSKK **Cskako** 84.53 324 P P 00 47 02.9 -0.9
ZST **Bratislava** 84.54 325 *e*P P 00 47 04.6 +0.7
ZST **Bratislava** 84.54 325 *e*P P 00 47 04.6 +0.7
ZST pmax pmax
comp=Z,121nm,1.6s
TREC **Trest** 84.56 326 *e*P P 00 47 04.0 0.0
TREC **Trest** 84.56 326 *e*P P 00 47 04.0 0.0
MONP2 **Monument Peak** 84.66 55 P P 00 47 05.8 +0.8
baz=305,SNR=13
MLA1 **Latheron** 84.68 341 *e*P P 00 47 05.0 +0.7
CBX **Cerro Bola** 84.82 55 P P 00 47 06.4 +0.7
IRM **Iron Mountain** 84.82 53 P P 00 47 06.5 +0.9
baz=305,SNR=17
BC3 **Big Chuckawall** 84.89 53 P P 00 47 06.8 +0.8
baz=305,SNR=26
AKAS **Kas** 84.91 310 P P 00 47 04.2 -1.9
AKAS IAmb IAmb 00 47 04.5
comp=Z,49nm,0.8s
VTS **Vitosha** 84.94 318 ⇓P P 00 47 06.9 +0.7
VTS **Vitosha** 84.94 318 P P 00 47 06.5 +0.3
VTS IAmb IAmb 00 47 08.4
comp=Z,34nm,0.9s
VTS **Vitosha** 84.94 318 *e*P P 00 47 06.5 +0.3
VTS **Vitosha** 84.94 318 P P 00 47 06.5 +0.3
VTS pmax pmax
comp=Z,34nm,0.9s
IKP **In-Ko-Pah, Jac** 85.01 55 P P 00 47 07.4 +0.8
baz=305,SNR=8.1
MPLH **Magyarpolny** 85.02 324 P P 00 47 05.9 -0.3
SWSC **Sam W. Stewart** 85.06 54 P P 00 47 07.2 +0.5
baz=305,SNR=6.2
RMX **La Rumorosa** 85.06 55 P P 00 47 08.0 +1.0
RMX IAmb IAmb 00 47 09.0
comp=Z,33nm,1.0s
MORH **Mrgy, Hungar** 85.11 323 P P 00 47 06.0 -0.6
K22A **Casper** 85.11 42 P P 00 47 07.3 +0.3
K22A **Casper** 85.11 42 P P 00 47 07.1 +0.1
baz=310
K22A **Casper** 85.11 42 P P 00 47 07.6 +0.6
baz=310,SNR=10.0
W13A **Hualapai Mount** 85.12 52 P P 00 47 07.8 +0.5
SOP **Sopron** 85.16 325 P P 00 47 09.0 +2.1
FRGS **Fruska Gora** 85.19 321 ⇓*i*P P 00 47 07.1 -0.1
MCD **Coleburn Disti** 85.26 340 *e*P P 00 47 07.2 0.0
RONA **Rosalia, Austr** 85.28 325 *i*P P 00 47 07.8 +0.2
comp=Z,19nm,1.2s,SNR=10
RONA *e*P pwP 00 48 35.9 +2.1
comp=Z,16nm,2.1s
NKC **Novy Kostel** 85.29 328 *e*P P 00 47 07.4 -0.2
NKC *ex* x 00 48 33.4
NKC **Novy Kostel** 85.29 328 *e*P P 00 47 07.4 -0.2
NKC *e* 00 48 33.4
MMB **Musomiste** 85.31 317 *e*P P 00 47 07.4 -0.4
LINV **Loch Inver, As** 85.32 342 *e*P P 00 47 07.6 +0.2
LINV IAmb IAmb 00 47 08.3
comp=Z,40nm,0.9s
CONA **Conrad Observa** 85.33 325 *i*P P 00 47 08.2 +0.3
comp=Z,22nm,1.2s,SNR=10
CONA *i*P pwP 00 48 36.3 +2.2
comp=Z,13nm,1.3s
CONA *e*P PP 00 50 29.3 -1.5
comp=Z,11nm,1.6s
ULM **Lac du Bonnet** 85.36 31 P P 00 47 07.4 -0.5
comp=Z,5.0nm,0.4s,baz=300,slow=5.2,SNR=13
comp=Z,5.0nm,0.4s
PDMCI **Parker Dam,Lak** 85.41 52 P P 00 47 09.2 +0.8
baz=306,SNR=6.5
CKRC **Cesky Krumlov** 85.45 327 *e*P P 00 47 08.2 -0.2
CKRC *ex* x 00 48 35.9
KOVH **Kovagotottos** 85.47 323 P P 00 47 08.0 -0.5
KKB **Krupnik** 85.50 317 *e*P P 00 47 09.8 +1.0
RSSD **Black Hills** 85.55 40 P P 00 47 09.5 +0.3
RSSD **Black Hills** 85.55 40 P P 00 47 09.5 +0.3
baz=311
RSSD **Black Hills** 85.55 40 P P 00 47 09.5 +0.3
baz=311
RSSD **Black Hills** 85.55 40 P P 00 47 09.5 +0.3
RSSD pmax pmax
comp=Z,12nm,0.8s
KHC **Kasperske Hory** 85.57 327 P P 00 47 08.8 -0.2
KHC **Kasperske Hory** 85.57 327 *e*P P 00 47 08.7 -0.2
KHC *ex* x 00 48 36.2
KHC **Kasperske Hory** 85.57 327 P P 00 47 08.8 -0.2
KHC pmax pmax
comp=Z,18nm,0.9s
E28A **Huff** 85.66 36 P P 00 47 09.3 -0.1
baz=313
GLA **Glamis** 85.67 54 P P 00 47 10.7 +0.9
baz=305,SNR=15
O20A **White River Ci** 85.68 45 P P 00 47 10.7 +0.8
baz=309,SNR=22
GEC2 **GERESS Array S** 85.72 327 P P 00 47 09.2 -0.5
GERES **GERESS Array B** 85.72 327 P P 00 47 09.2 -0.5
comp=Z,7.9nm,0.7s,baz=46,slow=4.6,SNR=62
GERES pP pP 00 48 32.4 +1.9
comp=Z,3.5nm,0.9s,baz=55,slow=8.5,SNR=5.2
comp=Z,7.9nm,0.7s
GERES **GERESS Array B** 85.72 327 P P 00 47 09.1 -0.7
LEWI **Lewis, Hebride** 85.76 342 *e*P P 00 47 08.9 -0.7
LEWI IAmb IAmb 00 47 09.9
comp=Z,57nm,0.7s
DIVS **Divibare** 85.80 320 P P 00 47 09.6 -0.6
DIVS IAmb IAmb 00 47 10.9
comp=Z,21nm,1.0s
DIVS **Divibare** 85.80 320 ⇓*i*P P 00 47 09.6 -0.6
ARG **Arkhangelos** 85.88 310 P P 00 47 10.2 -0.5
ARG **Arkhangelos** 85.88 310 P P 00 47 10.2 -0.5
ARG pmax pmax
comp=Z,93nm,1.2s
ARSA **Arzberg** 85.97 325 *i*P P 00 47 09.7 -1.2
comp=Z,4.8nm,0.6s
STIP **Stip** 86.13 318 *i*P P 00 47 10.4 -1.3
KPL **Plockton** 86.14 341 *e*P P 00 47 11.5 +0.1
KPL IAmb IAmb 00 47 12.8
comp=Z,82nm,0.7s
VAY **Valandovo** 86.15 317 *i*P P 00 47 11.3 -0.6
MOA **Molln** 86.16 326 *i*P P 00 47 11.7 -0.1
comp=Z,13nm,1.1s,SNR=5.2
MOA *e*P pwP 00 48 38.3 +0.1
comp=Z,12nm,1.6s
GRFO **Grafenberg** 86.23 329 P P 00 47 11.7 -0.4
GRFO IAmb IAmb 00 47 13.6
comp=Z,68nm,1.4s
GRFO **Grafenberg** 86.23 329 P P 00 47 11.7 -0.4
GRFO pmax pmax
comp=Z,68nm,1.4s
MSEY **Mahe Island** 86.26 262 P P 00 47 12.7 -0.2
MSEY IAmb IAmb 00 47 14.4
comp=Z,46nm,0.9s
MSEY **Mahe Island** 86.26 262 P P 00 47 12.2 -0.7
MSEY **Mahe Island** 86.26 262 P P 00 47 12.7 -0.2
MSEY pmax pmax
comp=Z,46nm,1.0s
PV10 **Paradox Valley** 86.28 47 P P 00 47 13.7 +0.8
HAPS **Han Pijesak,Bl** 86.36 321 ⇓*i*P P 00 47 12.9 -0.1
SKO **Skopje** 86.38 318 *i*P P 00 47 13.1 +0.2
RUDO **Rudo** 86.45 320 *e*P P 00 47 12.1 -1.2
INVG **Invergeldie, C** 86.47 340 *e*P P 00 47 13.2 +0.1
INVG IAmb IAmb 00 47 14.1
comp=Z,31nm,0.7s
WUAZ **Wupatki** 86.53 50 P P 00 47 14.4 +0.3
WUAZ IAmb IAmb 00 47 16.2
comp=Z,19nm,1.1s
WUAZ **Wupatki** 86.53 50 P P 00 47 15.1 +1.1
baz=307,SNR=10
N23A **Red Feather La** 86.56 43 P P 00 47 15.7 +1.5
baz=310,SNR=30
BIOA **Bad Ischl, Aus** 86.57 326 *i*P P 00 47 13.5 -0.3
comp=Z,12nm,0.7s,SNR=7.4
BIOA *i*P pwP 00 48 38.5 -1.8
comp=Z,13nm,1.4s
PERS **Pernice** 86.60 325 *i*P P 00 47 13.4 -0.6
PERS *i* 00 47 14.3
comp=Z,14nm,0.8s
SOKA **Soboth** 86.61 325 *i*P P 00 47 13.6 -0.4
comp=Z,17nm,0.9s,SNR=14
SOKA *e*P pwP 00 48 40.4 -0.2
comp=Z,7.7nm,1.1s
SOKA *e*P PP 00 50 38.2 -2.9
comp=Z,12nm,1.3s
AGMN **Agassiz Nation** 86.78 33 P P 00 47 14.6 -0.2
baz=316
AGMN **Agassiz Nation** 86.78 33 P P 00 47 14.7 0.0
baz=316
BLY **Banja Luka** 86.85 322 *e*P P 00 47 13.4 -1.8
OBKA **Obir** 86.97 325 *e*P P 00 47 13.4 -2.4
OBKA **Obir** 86.97 325 *i*P P 00 47 14.9 -0.9
comp=Z,6.1nm,0.9s
OBKA *e*P PP 00 50 43.6 -0.3
comp=Z,13nm,1.2s
UPM **Unac-Piva** 86.98 320 *e*P P 00 47 14.9 -1.2
CRES **Cresnjev** 86.99 324 ⇓*i*P P 00 47 14.5 -1.3
LAWE **Loch Awe, Argy** 87.00 341 *e*P P 00 47 15.4 -0.2
LAWE IAmb IAmb 00 47 16.6
comp=Z,118nm,1.7s
MGRS **Mrkonjic Grad** 87.13 322 *e*P P 00 47 16.2 -0.3
KBA **Koelnbreinsper** 87.14 326 *i*P P 00 47 15.9 -0.9
comp=Z,8.6nm,0.8s
KBA *e*P PP 00 50 44.7 -0.7
comp=Z,19nm,1.2s
FNA **Florina** 87.19 317 P P 00 47 15.8 -1.1
FNA **Florina** 87.19 317 P P 00 47 15.8 -1.1
FNA pmax pmax
comp=Z,4.0nm,0.8s
IVI **Ivigtut** 87.22 3 P P 00 47 16.6 +0.1
LJU **Ljubljana** 87.30 325 *i*P P 00 47 16.6 -0.6
LJU *i* 00 47 17.2
comp=Z,13nm,0.7s
PDG **Podgorica** 87.30 320 P P 00 47 16.6 -0.7
PDG IAmb IAmb 00 47 17.7
comp=Z,27nm,0.8s
OHR **Ohrid** 87.30 318 *i*P P 00 47 17.0 -0.4
BOJS **Bojanci** 87.32 324 *e*P P 00 47 16.6 -0.8
MYKA **Terra Mystica** 87.32 325 *i*P P 00 47 16.3 -1.2
comp=Z,7.7nm,0.6s
MYKA *e*P PP 00 50 46.2 -0.6
comp=Z,35nm,1.7s
SRKY **Kupres RS** 87.33 322 *e*P P 00 47 17.0 -0.6
MVCO **Mesa Verde** 87.34 47 P P 00 47 18.2 +0.3
MVCO **Mesa Verde** 87.34 47 P P 00 47 18.6 +0.7
baz=309,SNR=5.3
A050A **Klekovaca** 87.38 322 ⇓*i*P P 00 47 17.1 -0.7
BRY **Bratogost** 87.38 320 *e*P P 00 47 11.7 -6.2
ISCO **Idaho Springs** 87.46 44 P P 00 47 19.9 +1.3
baz=310
ISCO **Idaho Springs** 87.46 44 P P 00 47 19.8 +1.3
baz=310
DRME **Dracevica, Mon** 87.50 319 ⇓*i*P P 00 47 16.9 -1.4
CEY **Cerknica** 87.57 324 ⇓*i*P P 00 47 17.4 -1.2
CEY **Cerknica** 87.57 324 *i*P P 00 47 17.6 -0.9
KBN **Korca** 87.63 317 P P 00 47 18.1 -0.9
KBN IAmb IAmb 00 47 19.8
comp=Z,81nm,1.5s
KBN **Korca** 87.63 317 P P 00 47 18.1 -0.9
KBN pmax pmax
comp=Z,81nm,1.5s
NEWG **New Galloway** 87.65 339 *e*P P 00 47 19.1 +0.4
214A **Organ Pipe Nat** 87.69 54 P P 00 47 20.2 +0.8
baz=306
B35A **Bob, Littlefor** 87.71 32 P P 00 47 19.4 +0.3
baz=318
BTNL **Ternell** 87.71 332 *d*P P 00 47 18.6 -0.5
MEM **Membach** 87.75 332 *d*P P 00 47 18.7 -0.5

	comp=Z,6.9nm,0.9s								
ABTA	**Abfaltersbach**	**87.78**	**326**	*i* P		**P**	**00 47 18.0**	**-1.6**
	comp=Z,32nm,1.0s,SNR=10								
WATA	**Walderalm**	**87.79**	**327**	*i* P		**P**	**00 47 18.9**	**-0.8**
	comp=Z,11nm,0.9s								
CLUD	**Cludinico**	**87.81**	**326**	P		**P**	**00 47 18.6**	**-1.1**
CLUD				IAmb		IAmb	00 47 19.1		
	comp=Z,40nm,0.9s								
WTTA	**Wattenberg**	**87.82**	**327**	*i* P		**P**	**00 47 19.3**	**-0.6**
	comp=Z,22nm,1.2s,SNR=5.4								
STON	**Ston**	**87.86**	**321**	*e*P		**P**	**00 47 21.5**	**+1.6**
BSTI	**Sart Tilman**	**87.94**	**332**	*d*P		**P**	**00 47 20.0**	**-0.2**
MOTA	**Moosalm**	**88.01**	**327**	*i* P		**P**	**00 47 20.0**	**-0.7**
	comp=Z,11nm,0.8s								
GAL1	**Galloway**	**88.01**	**340**	*e*P		**P**	**00 47 20.5**	**+0.2**
SUSD	**Miller**	**88.02**	**37**	P		**P**	**00 47 21.2**	**+0.5**
	baz=314								
SUSD	**Miller**	**88.02**	**37**	P		**P**	**00 47 21.3**	**+0.6**
	baz=314,SNR=9.6								
S22A	**4UR Ranch, Cre**	**88.04**	**46**	P		**P**	**00 47 22.6**	**+1.3**
	baz=310,SNR=10								
STAL	**STALIGIAL**	**88.04**	**326**	P		**P**	**00 47 19.1**	**-1.7**
STAL				IAmb		IAmb	00 47 20.1		
	comp=Z,29nm,0.9s								
SQTA	**Sankt Quirin**	**88.05**	**327**	*i* P		**P**	**00 47 20.2**	**-0.7**
	comp=Z,14nm,0.8s,SNR=5.4								
RETA	**Reutte**	**88.06**	**327**	*i* P		**P**	**00 47 20.4**	**-0.5**
	comp=Z,26nm,1.2s,SNR=7.2								
CIMO	**Cimolais**	**88.13**	**326**	P		**P**	**00 47 19.5**	**-1.7**
CIMO				IAmb		IAmb	00 47 20.5		
	comp=Z,13nm,0.8s								
BCLA	**Clavier**	**88.17**	**332**	*d*P		**P**	**00 47 20.8**	**-0.4**
	comp=Z,5.7nm,1.1s								
Q24A	**Divide**	**88.27**	**44**	P		**P**	**00 47 23.4**	**+1.0**
	baz=310								
BGES	**Gesves**	**88.29**	**332**	*d*P		**P**	**00 47 21.5**	**-0.3**
	comp=Z,5.7nm,1.0s								
F33A	**5 Mile Ranch,**	**88.35**	**35**	P		**P**	**00 47 21.3**	**-1.0**
	baz=316								
RCHB	**Rochefort**	**88.41**	**332**	*d*P		**P**	**00 47 21.8**	**-0.6**
	comp=Z,8.6nm,0.9s								
FETA	**Feichten**	**88.42**	**327**	*i* P		**P**	**00 47 22.0**	**-0.7**
	comp=Z,26nm,0.9s,SNR=10								
WLF	**Walferdange**	**88.42**	**331**	*d*P		**P**	**00 47 22.0**	**-0.4**
	comp=Z,6.1nm,1.0s								
BMRD	**Maredsous**	**88.48**	**332**	*d*P		**P**	**00 47 22.3**	**-0.3**
	comp=Z,11nm,0.9s								
SNF	**Seneffe**	**88.51**	**333**	*d*P		**P**	**00 47 22.3**	**-0.5**
	comp=Z,14nm,0.9s								
BFO	**Black Forest**	**88.52**	**329**	P		**P**	**00 47 22.6**	**-0.4**
BFO				IAmb		IAmb	00 47 23.6		
	comp=Z,20nm,1.0s								
BFO	**Black Forest**	**88.52**	**329**	P		**P**	**00 47 22.6**	**-0.4**
BFO				pmax		pmax			
	comp=Z,20nm,1.0s								
IDI	**Anoyia**	**88.53**	**311**	P		**P**	**00 47 21.8**	**-1.5**
DAVA	**Damuels**	**88.61**	**328**	*i* P		**P**	**00 47 23.0**	**-0.5**
	comp=Z,37nm,0.9s,SNR=9.8								
CTI	**Castel Tesino**	**88.70**	**326**	P		**P**	**00 47 22.7**	**-1.3**
CTI				IAmb		IAmb	00 47 23.5		
	comp=Z,19nm,0.9s								
CTI	**Castel Tesino**	**88.70**	**326**	P		**P**	**00 47 22.7**	**-1.3**
CTI				pmax		pmax			
	comp=Z,19nm,0.9s								
DOU	**Dourbes**	**88.71**	**332**	*d*P		**P**	**00 47 23.3**	**-0.5**
	comp=Z,6.7nm,1.5s								
CWF	**Charnwood Fore**	**88.73**	**337**	*e*P		**P**	**00 47 22.7**	**-1.1**
CWF				IAmb		IAmb	00 47 23.4		
	comp=Z,33nm,0.9s								
OGNE	**Ogallala**	**88.76**	**41**	P		**P**	**00 47 25.0**	**+0.6**
	baz=312								
OGNE	**Ogallala**	**88.76**	**41**	P		**P**	**00 47 24.8**	**+0.5**
	baz=312								
KEK	**Kerkira**	**88.80**	**317**	P		**P**	**00 47 23.2**	**-1.3**
KEK				IAmb		IAmb	00 47 24.4		
	comp=Z,28nm,1.0s								
SDCO	**Great Sand Dun**	**88.84**	**45**	P		**P**	**00 47 26.0**	**+0.9**
SDCO	**Great Sand Dun**	**88.84**	**45**	P		**P**	**00 47 26.1**	**+1.1**
	baz=310								
SDCO	**Great Sand Dun**	**88.84**	**45**	P		**P**	**00 47 26.3**	**+1.3**
	baz=310,SNR=24								
TUC	**Tucson**	**88.86**	**52**	P		**P**	**00 47 25.7**	**+0.8**
TUC	**Tucson**	**88.86**	**52**	P		**P**	**00 47 25.9**	**+1.0**
	baz=307								
TUC	**Tucson**	**88.86**	**52**	P		**P**	**00 47 25.7**	**+0.8**
TUC				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GMM	**Mts of Mourne**	**88.92**	**340**	*e*P		**P**	**00 47 24.7**	**0.0**
FUORN	**Ofenpass-Fuorn**	**88.93**	**327**	P		**P**	**00 47 25.1**	**-0.1**
EYMN	**Ely**	**89.00**	**31**	P		**P**	**00 47 25.7**	**+0.5**
EYMN				IAmb		IAmb	00 47 28.8		
	comp=Z,63nm,1.7s								
EYMN	**Ely**	**89.00**	**31**	P		**P**	**00 47 25.8**	**+0.5**
	baz=320								
WME	**Myndd Eilian**	**89.14**	**339**	*e*P		**P**	**00 47 25.3**	**-0.4**
ITM	**Ithomi**	**89.19**	**314**	P		**P**	**00 47 25.3**	**-1.0**
TEOL	**Teolo**	**89.19**	**325**	P		**P**	**00 47 25.4**	**-0.7**
FOEL	**Foel Wylfa**	**89.23**	**338**	*e*P		**P**	**00 47 25.2**	**-1.0**
FOEL				IAmb		IAmb	00 47 26.1		
	comp=Z,47nm,0.8s								
WLF1	**Llynfaes**	**89.27**	**339**	*e*P		**P**	**00 47 25.9**	**-0.4**
WLF1				IAmb		IAmb	00 47 27.1		
	comp=Z,76nm,0.9s								
ECSD	**EROS Data Cent**	**89.71**	**36**	P		**P**	**00 47 29.0**	**+0.4**
	baz=316								
ECSD	**EROS Data Cent**	**89.71**	**36**	P		**P**	**00 47 29.0**	**+0.4**
	baz=316,SNR=6.5								
KSCO	**Kaye Shedlock'**	**89.72**	**43**	P		**P**	**00 47 30.0**	**+1.1**
	baz=312								
KSCO	**Kaye Shedlock'**	**89.72**	**43**	P		**P**	**00 47 29.5**	**+0.6**
	baz=312								
STRD	**Stroud**	**89.83**	**337**	*e*P		**P**	**00 47 28.6**	**-0.3**
STRD				IAmb		IAmb	00 47 29.7		
	comp=Z,108nm,0.9s								
T25A	**Trinidad**	**89.90**	**45**	P		**P**	**00 47 30.8**	**+0.9**
T25A				IAmb		IAmb	00 47 32.0		
	comp=Z,19nm,0.8s								
T25A	**Trinidad**	**89.90**	**45**	P		**P**	**00 47 31.1**	**+1.2**
	baz=311,SNR=10.0								
DSB	**Dublin**	**89.91**	**340**	P		**P**	**00 47 29.2**	**-0.1**
DSB				IAmb		IAmb	00 48 14.7		
	comp=Z,56nm,1.4s								
MCH1	**Michaelchurch**	**89.92**	**337**	*e*P		**P**	**00 47 29.0**	**-0.3**
MCH1				IAmb		IAmb	00 47 29.7		
	comp=Z,87nm,0.7s								
MONM	**Monmouth**	**89.99**	**337**	*e*P		**P**	**00 47 29.5**	**-0.2**
MONM				IAmb		IAmb	00 47 30.4		
	comp=Z,59nm,0.8s								
E38A	**The Farm, Brul**	**90.00**	**32**	P		**P**	**00 47 30.3**	**+0.4**
	baz=320								
ANMO	**Albuquerque**	**90.05**	**48**	*ce*P		**P**	**00 47 32.1**	**+1.5**
ANMO				pmax		pmax			
	comp=Z,16nm,1.7s								
NRCA	**Norcia**	**90.30**	**323**	P		**P**	**00 47 31.1**	**-0.4**
NRCA				IAmb		IAmb	00 47 32.5		
	comp=Z,30nm,0.9s								
Y22A	**Socorro**	**90.36**	**49**	P		**P**	**00 47 33.5**	**+1.5**
	baz=310								
SPMN	**Marine on St.**	**90.47**	**33**	P		**P**	**00 47 32.8**	**+0.7**
	baz=319								
SPMN	**Marine on St.**	**90.47**	**33**	P		**P**	**00 47 32.5**	**+0.4**
	baz=319								
AQU	**L'Aquila**	**90.49**	**322**	P		**P**	**00 47 32.2**	**-0.1**
AQU				IAmb		IAmb	00 47 33.4		
	comp=Z,30nm,0.8s								
AQU	**L'Aquila**	**90.49**	**322**	P		**P**	**00 47 32.2**	**-0.1**
AQU				pmax		pmax			
	comp=Z,30nm,0.8s								
BGNE	**Belgrade**	**90.56**	**39**	P		**P**	**00 47 33.1**	**+0.5**
	baz=315								
BGNE	**Belgrade**	**90.56**	**39**	P		**P**	**00 47 32.9**	**+0.3**
	baz=315								
121A	**Cookes Peak, D**	**90.72**	**50**	P		**P**	**00 47 34.2**	**+0.5**
121A				IAmb		IAmb	00 47 36.1		
	comp=Z,15nm,0.8s								
121A	**Cookes Peak, D**	**90.72**	**50**	P		**P**	**00 47 34.9**	**+1.2**
	baz=309								
121A	**Cookes Peak, D**	**90.72**	**50**	P		**P**	**00 47 35.1**	**+1.4**
	baz=309,SNR=13								
I37B	**Waseca**	**91.09**	**34**	P		**P**	**00 47 36.1**	**+1.2**
	baz=318								
CBKS	**Cedar Bluff**	**91.50**	**41**	P		**P**	**00 47 37.0**	**0.0**
CBKS				IAmb		IAmb	00 47 38.1		
	comp=Z,18nm,0.9s								
CBKS	**Cedar Bluff**	**91.50**	**41**	P		**P**	**00 47 37.0**	**0.0**
	baz=314								
CBKS	**Cedar Bluff**	**91.50**	**41**	P		**P**	**00 47 37.2**	**+0.2**
	baz=314								
CBKS	**Cedar Bluff**	**91.50**	**41**	P		**P**	**00 47 37.0**	**0.0**
CBKS				pmax		pmax			
	comp=Z,18nm,0.9s								
CEL	**Celeste**	**92.02**	**318**	P		**P**	**00 47 38.5**	**-0.9**
SSB	**Saint Sauveur**	**92.53**	**329**	P		**P**	**00 47 40.8**	**-0.8**
SSB				IAmb		IAmb	00 47 41.7		
	comp=Z,17nm,0.8s								
SSB	**Saint Sauveur**	**92.53**	**329**	P		**P**	**00 47 40.8**	**-0.8**
SSB				pmax		pmax			
	comp=Z,17nm,0.8s								
MSTX	**Muleshoe**	**92.99**	**47**	P		**P**	**00 47 44.1**	**+0.1**
MSTX				IAmb		IAmb	00 47 45.3		
	comp=Z,26nm,1.4s								
MSTX	**Muleshoe**	**92.99**	**47**	P		**P**	**00 47 44.4**	**+0.3**
	baz=312								
MSTX	**Muleshoe**	**92.99**	**47**	P		**P**	**00 47 44.3**	**+0.3**
	baz=312								
KSU1	**Kansas State U**	**93.03**	**40**	P		**P**	**00 47 44.2**	**+0.2**
	baz=316								
KSU1	**Kansas State U**	**93.03**	**40**	P		**P**	**00 47 44.4**	**+0.4**
	baz=316,SNR=9.1								
AMTX	**Amarillo**	**93.05**	**45**	P		**P**	**00 47 45.1**	**+0.8**
AMTX	**Amarillo**	**93.05**	**45**	P		**P**	**00 47 44.8**	**+0.5**
	baz=313								
AMTX	**Amarillo**	**93.05**	**45**	P		**P**	**00 47 45.5**	**+1.2**
	baz=313								
CLNB	**Carlsbad**	**93.42**	**49**	P		**P**	**00 47 46.4**	**+0.3**
JFWS	**Jewell Farm**	**93.42**	**33**	P		**P**	**00 47 46.1**	**+0.4**
	baz=320								
P38A	**Dawn**	**94.28**	**37**	P		**P**	**00 47 50.3**	**+0.5**
	baz=318								
WMOK	**Wichita Mounta**	**94.88**	**44**	P		**P**	**00 47 52.8**	**+0.2**
WMOK	**Wichita Mounta**	**94.88**	**44**	P		**P**	**00 47 52.4**	**-0.2**
	baz=314								
WMOK	**Wichita Mounta**	**94.88**	**44**	P		**P**	**00 47 53.0**	**+0.3**
	baz=314,SNR=6.2								
WMOK	**Wichita Mounta**	**94.88**	**44**	P		**P**	**00 47 52.8**	**+0.2**
WMOK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
TX31	**Lajitas Ar. Si**	**95.47**	**51**	P		**P**	**00 47 56.5**	**+1.0**
TX31	**Lajitas Ar. Si**	**95.47**	**51**	P		**P**	**00 47 56.7**	**+1.2**
	baz=311								
TXAR	**Lajitas Array**	**95.47**	**51**	P		**P**	**00 47 56.5**	**+1.0**
	comp=Z,12nm,0.6s,baz=303,slow=2.4,SNR=172								
TXAR				pP		**pP**	**00 49 18.0**	**-0.5**
	comp=Z,9.5nm,0.8s,baz=293,slow=2.8,SNR=11								
TXAR				PP		**PP**	**00 51 48.4**	**-2.7**
	comp=Z,3.0nm,1.0s,baz=298,slow=5.8,SNR=4.2								
	comp=Z,12nm,0.6s								
TXAR	**Lajitas Array**	**95.47**	**51**	P		**P**	**00 47 56.3**	**+0.8**
HPIG		**95.68**	**54**	P		**P**	**00 47 57.3**	**+0.7**
HPIG				IAmb		IAmb	00 47 59.3		
	comp=Z,8.6nm,0.7s								
TUL1	**Leonard**	**95.78**	**41**	P		**P**	**00 47 56.7**	**+0.1**
	baz=316								
ABTX	**Abilene, Hawle**	**95.83**	**46**	P		**P**	**00 47 59.0**	**+2.1**
	baz=314								
ABTX	**Abilene, Hawle**	**95.83**	**46**	P		**P**	**00 47 58.7**	**+1.8**
	baz=314								
R40A	**Maddies Statio**	**95.93**	**38**	P		**P**	**00 47 56.9**	**-0.3**
	baz=319								
CCM	**Cathedral Cave**	**96.64**	**37**	P		**P**	**00 48 00.4**	**-0.1**
	baz=320								
JCT	**Junction City**	**97.20**	**48**	P		Pdif	00 48 03.5	+0.3
	baz=313								
WHTX	**Lake Whitney,**	**97.59**	**45**	P		Pdif	00 48 05.2	+0.3
	baz=315								
MIAR	**Mount Ida**	**98.01**	**41**	P		Pdif	00 48 06.7	+0.1
MIAR				IAmb		IAmb	00 49 32.1		
	comp=Z,9.8nm,1.0s								
MIAR	**Mount Ida**	**98.01**	**41**	P		Pdif	00 48 07.0	+0.4
	baz=318								
MIAR	**Mount Ida**	**98.01**	**41**	P		Pdif	00 48 06.7	0.0
MIAR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
WCI	**Wyandotte Cave**	**98.96**	**34**	P		**P**	**00 48 11.1**	**+0.3**
	baz=323								
KMBO	**Kilima Mbogo**	**99.90**	**275**	P		**Pdif**	**00 48 15.5**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=41,slow=8.8,SNR=7.2								
	comp=Z,2.7nm,0.8s								
KMBO	**Kilima Mbogo**	**99.90**	**275**	P		**Pdif**	**00 48 15.7**	**0.0**
KMBO	**Kilima Mbogo**	**99.90**	**275**	*i* P		**Pdif**	**00 48 15.8**	**+0.1**
KMBO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ESDC	**Sonseca Array**	**100.72**	**331**	P		**Pdif**	**00 48 17.7**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=17,slow=4.7,SNR=4.6								
VNDA	**Anda**	**109.98**	**175**	PKiKP		**PKiKP**	**00 52 58.5**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=344,slow=4.8,SNR=5.2								
MAW	**Mawson**	**113.66**	**204**	PKiKP		**PKiKP**	**00 53 05.9**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=84,slow=10,SNR=4.5								
MAW				PP		**PP**	**00 54 03.8**	**-0.8**
	comp=Z,8.1nm,1.1s,baz=41,slow=4.9,SNR=5.4								
TORD	**Torodi Ar. Bea**	**118.91**	**310**	PKP		**PKPdf**	**00 53 16.6**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=14,slow=3.0,SNR=36								
LBTB	**Lobatse**	**121.15**	**258**	PKPdf		**PKiKP**	**00 53 21.6**	**0.0**
LBTB	**Lobatse**	**121.15**	**258**	PKiKP		**PKiKP**	**00 53 21.6**	**0.0**
QSPA	**South Pole Qui**	**121.52**	**180**			**PKPdf**	**00 53 20.9**	**+0.1**
BOSA	**Boshof**	**122.78**	**254**	PKP		**PKPdf**	**00 53 24.6**	**+0.1**
	comp=Z,9.9nm,0.7s,baz=101,slow=1.2,SNR=23								
BOSA				PKKPab		**PKKPab**	**01 03 20.1**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=229,slow=4.7,SNR=6.1								
TSUM	**Tsumeb**	**125.53**	**268**	PKPdf		**PKiKP**	**00 53 30.3**	**-0.2**
DBIC	**Dimbokro**	**128.00**	**311**	PKP		**PKPdf**	**00 53 34.6**	**-0.2**
	comp=Z,11nm,0.7s,baz=52,slow=2.2,SNR=18								
DBIC	**Dimbokro**	**128.00**	**311**	PKPdf		**PKPdf**	**00 53 34.8**	**0.0**
DBIC	**Dimbokro**	**128.00**	**311**	PKiKP		**PKPdf**	**00 53 34.8**	**0.0**
TIC	**Toumodi**	**128.13**	**311**	*e*PKiKP		**PKiKP**	**00 53 35.5**	**-0.2**
	comp=Z,2nm,0.3s								
KIC	**Kosan Boka**	**128.16**	**310**	⇑*i*PKiKP		**PKiKP**	**00 53 35.6**	**-0.2**
	comp=Z,10nm,0.5s								
LIC	**Lamto**	**128.45**	**311**	⇑*i*PKiKP		**PKPdf**	**00 53 36.0**	**+0.3**
	comp=Z,14nm,0.4s								
TROLL	**Troll, Antarti**	**133.42**	**197**	PKPdf		**PKPdf**	**00 53 43.8**	**+0.4**
SNAA	**Sanae**	**134.95**	**196**	PKPdf		**PKPdf**	**00 53 46.3**	**0.0**
SNAA	**Sanae**	**134.95**	**196**			**PKPdf**	**00 53 46.1**	**-0.2**
SNAA	**Sanae**	**134.95**	**196**	*c i*PKIKP		**PKiKP**	**00 53 47.6**	**-0.2**
SNAA				pmax		pmax			
	comp=Z,14nm,1.7s								
VNA2	**Neumayer--Watz**	**136.54**	**196**	PKPdf		**PKPdf**	**00 53 49.3**	**+0.1**
	baz=106,slow=2.4								
VNA3	**Neumayer Olymp**	**136.81**	**195**	PKPdf		**PKPdf**	**00 53 50.3**	**+0.7**
VNA1	**Neumayer--Stat**	**136.94**	**196**	PKPdf		**PKPdf**	**00 53 50.7**	**+0.9**
SHEL	**Horse Pasture**	**143.66**	**287**	PKPdf		PKPbc	00 54 02.3	+0.1
SHEL	**Horse Pasture**	**143.66**	**287**	PKiKP		PKPbc	00 54 02.3	+0.1
MACA	**Manacapuru-AM**	**146.45**	**36**	PKPdf		**PKPdf**	**00 54 07.8**	**-0.8**
ETMB	**Extrema**	**148.56**	**51**	PKPdf		**PKPdf**	**00 54 11.6**	**-0.3**
ETMB				PKPbc		**PKPbc**	**00 54 15.4**	**-0.7**
LPAZ	**La Paz**	**151.55**	**63**	PKPbc		**PKiKP**	**00 54 24.1**	**-0.1**
	comp=Z,6.2nm,0.6s,baz=341,slow=1.8,SNR=21								
VILB	**Vilhena**	**154.77**	**46**	PKPab		**PKPab**	**00 54 46.9**	**+0.2**
PLCA	**Paso Flores**	**155.24**	**119**	PKPab		**PKPab**	**00 54 48.9**	**+0.5**
	comp=Z,5.8nm,0.8s,baz=228,slow=5.5,SNR=14								
PTLB	**Pontes e Lacer**	**157.34**	**48**	PKPdf		**PKPdf**	**00 54 24.9**	**+0.4**
PTLB				PKPab		**PKPab**	**00 54 57.1**	**-0.6**
BDFB	**Brasilia**	**162.98**	**21**	PKP		**PKPdf**	**00 54 30.8**	**0.0**
	comp=Z,3.2nm,0.8s,baz=84,slow=7.4,SNR=4.8								
BDFB				PKPab		**PKPab**	**00 55 23.1**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=72,slow=3.2,SNR=2.5								
CPUP	**Villa Florida**	**165.39**	**72**	PKP		**PKPdf**	**00 54 33.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=272,slow=2.1,SNR=3.7								
CPUP				PKPab		**PKPab**	**00 55 32.8**	**-0.1**
	comp=Z,7.9nm,0.9s,baz=299,slow=4.4,SNR=14								
CPUP	**Villa Florida**	**165.39**	**72**	PKPab		**PKPab**	**00 55 32.5**	**-0.4**

*HEL **24** 00:50:40.8±0.0, 67.83N×20.20E, h0km, ML1.9, ML1.7(UPP), Suspected explosion*
UPP 24 00:50:40.3±0.0, 67.83N×20.20E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	00 50 43.1	+0.3
KUA				S	Sg	00 50 45.0	+0.5
KUA	**Kurravaara**	**0.13**	**23**	*i* P	Pg	00 50 43.1	+0.3
KUA				*i* S	Sg	00 50 45.0	+0.5
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	00 50 44.9	+0.2
RATU	**Laukkuluspa**	**0.23**	**268**	*i* P	Pg	00 50 44.9	+0.2
KOVU	**Salmi**	**0.39**	**358**	P	Pg	00 50 47.8	0.0
KOVU	**Salmi**	**0.39**	**358**	*i* P	Pg	00 50 47.8	0.0
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 50 48.8	0.0
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 50 48.8	0.0
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 50 53.6	-0.3
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	00 50 53.5	-0.3
LANU				*e*S	Sg	00 50 58.8	-4.2
DUNU	**Dundret**	**0.73**	**169**	P	Pg	00 50 54.1	-0.1
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	00 50 54.1	-0.1
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 50 55.1	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 50 55.1	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 50 55.1	-0.4
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 50 55.1	-0.4
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PB	Pb	00 51 03.5	-0.3
KIF				MSG		00 51 18.6	
	comp=Z,13nm,0.2s						
KIF				*e*S	Sg	00 51 19.0	+0.3
PAJU	**Pajala**	**1.39**	**125**	P	Pg	00 51 05.6	-1.2
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	00 51 05.4	-1.4
PAJU				*e*SB	Sg	00 51 24.1	-0.7
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	00 51 06.4	-0.9
HEF				MSG		00 51 23.5	
	comp=Z,8.3nm,0.2s						
HEF				*e*SB	Sg	00 51 24.9	-0.9
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 51 06.4	-0.9
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 51 07.7	-0.8
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pn	00 51 07.7	-0.7
ERTU				*e*SN	Sg	00 51 28.4	0.0
KLF	**Kolari**	**1.57**	**111**	*e*PG	Pn	00 51 08.8	-0.5
KLF				*e*SN	Sb	00 51 30.4	0.0
KTK1	**Kautokeino**	**1.63**	**42**	*e*PG	Pn	00 51 10.1	-0.2
KTK1				*e*SN	Sb	00 51 32.3	0.0
TRO	**Tromso**	**1.87**	**346**	*e*PG	Pb	00 51 14.5	-0.7
TRO				*e*SG	Sb	00 51 39.1	+0.1
KALU	**Kalix**	**2.34**	**146**	*e*PB	Pn	00 51 21.2	+1.2
KALU				*e*SG	Sb	00 51 52.7	0.0
TOF	**Tornio**	**2.40**	**135**	*e*PB	Pn	00 51 22.1	+1.4
	baz=323						
TOF				MSG		00 51 51.5	
	comp=Z,5.5nm,0.2s						
TOF				*e*SG	Sb	00 51 54.3	+0.1
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 51 23.5	-1.6
	baz=285						
SGF				*e*SG	Sb	00 51 55.9	+0.1
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	00 51 25.1	+2.0
RNF				*e*SG	Sb	00 51 58.9	-0.5
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*S	Sn	00 51 53.6	-1.8
KEV	**Kevo**	**3.14**	**49**	*e*S	Sn	00 52 10.0	+1.1
KEV				MSG		00 52 13.0	
	comp=Z,3.2nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 51 32.6	+1.7
VRF	**Varrio**	**3.58**	**87**	*e*SB	Sb	00 52 26.8	-1.3

*HEL **24** 00:50:41.0, 67.83N×20.23E, h0km, ML1.9, Explosion*
UPP 24 00:50:42.8±0.1, 67.83N×20.19E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**24**	P	Pg	00 50 45.7	+0.3
KUA				S	Sg	00 50 47.4	+0.3
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	00 50 47.3	+0.2
KOVU	**Salmi**	**0.39**	**358**	P	Pg	00 50 50.3	0.0
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 50 51.3	+0.1
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 51 08.1	-1.3

*IDC **24** 01:04:55.9±1.3, 36.98N×141.55E, h0km, mb3.5/4, mbtmp3.4/5, ML1.8/1, MS2.2/1, Error ellipse: s-maj=34.6km s-min=26.8km az=125.0*
*JMA **24** 01:04:59.3±0.2, 37.1N±0.3×141.3E±0.8, h22km±1km, MV3.1/38, E OFF FUKUSHIMA PREF*
ISC 24 01:04:57.7±2.0, 37.10N±0.06×141.38E±0.08, h11km±11km, n18, σ0.70/19, mb3.5/4, Near east coast of eastern Honshu

| Code | Station Name | Δ° | A

0.3nm,0.8s,baz=88,slow=10,SNR=1.8
0.3nm,0.8s
WRA Warramunga Arr 57.23 188 P **P** **01 19 54.0 +0.5**
0.3nm,0.7s,baz=5.7,slow=7.3,SNR=4.6
0.3nm,0.7s

---

*FUNV **24** 01:14:28.9, 10°.84N×62°.22W, h96km, MW3.3*
*TRN **24** 01:14:28.9, 10°.85N×62°.29W, h83km, MD3.5*
ISC 24 01:14:27.5±1.4, 10°.84N±0°.05×62°.30W±0°.04, h102km±13km, n21, σ1§19/35, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.90**	**102**	*iP*	**Pn**	**01 14 47.6**	**+0.7**
TRN				*eS*	**Sn**	**01 15 00.3**	**-1.4**
CRUV	**Carupano**	**0.94**	**260**	*iP*	**Pn**	**01 14 48.4**	**+1.1**
CRUV				*eS*	**Sn**	**01 15 02.3**	**0.0**
TBH	**Brigand Hill**	**1.26**	**106**	*eP*	**Pn**	**01 14 51.7**	**+0.7**
TBH				*eS*	**Sn**	**01 15 08.7**	**-0.1**
GRFF	**Grenada Fort F**	**1.32**	**25**	*eP*	**Pn**	**01 14 51.7**	**0.0**
GRFF				*eS*	**Sn**	**01 15 08.9**	**-1.1**
GRGR	**Grenville**	**1.43**	**26**	*eP*	**Pn**	**01 14 53.1**	**+0.1**
GRGR				*eS*	**Sn**	**01 15 11.9**	**-0.5**
TPR	**Prospect**	**1.53**	**77**	*eP*	**Pn**	**01 14 55.9**	**+1.7**
TPR				*eS*	**Sn**	**01 15 14.7**	**+0.1**
BOT	**Bacolet**	**1.59**	**78**	*eP*	**Pn**	**01 14 55.4**	**+0.6**
BOT				*eS*	**Sn**	**01 15 14.3**	**-1.4**
TOSP	**Speyside**	**1.79**	**75**	*eP*	**Pn**	**01 14 57.1**	**-0.3**
TOSP				*eS*	**Sn**	**01 15 18.6**	**-1.6**
GCMP	**Grenada, Carri**	**1.85**	**28**	*eP*	**Pn**	**01 14 58.4**	**+0.2**
GCMP				*eS*	**Sn**	**01 15 20.3**	**-1.2**
PCRV	**Puerto La Cruz**	**2.39**	**254**	*eP*	**Pn**	**01 15 06.8**	**+1.6**
SVB	**Belmont**	**2.62**	**23**	*eP*	**Pn**	**01 15 09.6**	**+1.2**
SVB				*eS*	**Sn**	**01 15 40.0**	**+0.2**
PRGV	**PARIAGUAN**	**3.10**	**228**	*eP*	**Pn**	**01 15 16.5**	**+1.8**
MCLT	**Moule a Chique**	**3.15**	**25**	*eP*	**Pn**	**01 15 16.5**	**+1.2**
MCLT				*eS*	**Sn**	**01 15 50.9**	**-1.2**
SLCP	**Castries, St.**	**3.40**	**22**	*eS*	**Sn**	**01 15 58.0**	**-0.2**
SLBI	**Saint Lucia, B**	**3.42**	**22**	*eP*	**Pn**	**01 15 19.6**	**+0.7**
SLBI				*eS*	**Sn**	**01 15 58.4**	**-0.2**
MPOM	**Morne Pois Mar**	**3.85**	**21**	*eP*	**Pn**	**01 15 26.4**	**+1.7**
MPOM				*eS*	**Sn**	**01 16 08.3**	**-0.7**
MERV	**Las Mercedes**	**4.24**	**249**	*eP*	**Pn**	**01 15 31.1**	**+1.1**
MERV				*eS*	**Sn**	**01 16 17.9**	**-0.6**
BENV	**Beln**	**5.29**	**261**	*eP*	**Pn**	**01 15 44.2**	**+0.1**
CACV	**CAICARA DEL OR**	**5.30**	**232**	*eP*	Pn	01 15 39.4	-5.0
BAUV	**El Baul**	**5.96**	**252**	*eP*	**Pn**	**01 15 53.1**	**-0.2**
BAUV				*eS*	**Sn**	**01 16 56.8**	**-3.5**
MAPV	**Macapo**	**6.14**	**261**	*eP*	**Pn**	**01 15 56.6**	**+0.8**

---

*IPEC **24** 01:18:41.7±0.3, 51°.49N×16°.31E, h0km, ML2.5/5, Error ellipse: s-maj=2.1km s-min=1.1km az=39.0*
*DNK **24** 01:18:41.4±1.2, 51°.52N×16°.10E, h0km, ML2.6, ML2.2(UPP), Suspected explosion*
*PRU **24** 01:18:42.8±0.0, 51°.44N×16°.20E, h0km*
*IDC **24** 01:18:43.8±0.9, 51°.56N×15°.81E, h0km, mbtmp3.4/5, ML2.7/5, Error ellipse: s-maj=17.8km s-min=8.2km az=109.0*
*UPP **24** 01:18:44.3±3.1, 51°.60N×15°.77E, h0km, ML2.2, Suspected explosion*
*VIE **24** 01:18:45.9±0.7, 51°.24N×15°.96E, h0km, mb2.6/7, ml2.6/9, Error ellipse: s-maj=6.0km s-min=4.4km az=19.0 75 km WNW of Wroclaw Suspected Mining induced.*
ISC 24 01:18:41.1±0.7, 51°.52N±0°.03×16°.14E±0°.02, h0km, n51, σ1§30/112, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**172**	*ePg*	**Pg**	**01 18 54.5**	**+0.2**
KSP				*eSg*	**Sg**	**01 19 02.0**	**-1.0**
CHVC	**Chvalec**	**0.93**	**183**	*ePG*	**Pg**	**01 18 59.4**	**+0.4**
CHVC				*eSG*	**Sg**	**01 19 10.6**	**-0.5**
OSTC	**Ostas**	**0.97**	**177**	*ePG*	**Pg**	**01 19 00.0**	**+0.4**
OSTC				*eSG*	**Sg**	**01 19 11.8**	**-0.3**
	comp=Z,76nm,0.8s						
UPC	**Upice**	**1.02**	**184**	*ePG*	**Pg**	**01 19 00.9**	**+0.3**
UPC				*eSG*	**Sg**	**01 19 13.3**	**-0.4**
	comp=Z,174nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**174**	*ePG*	**Pg**	**01 19 03.4**	**-0.3**
DPC				*eSG*	**Sg**	**01 19 17.6**	**-1.3**
	comp=Z,68nm,0.6s						
PVCC	**Panska Ves**	**1.40**	**226**	*ePG*	**Pb**	**01 19 08.4**	**+0.2**
PVCC				*eSG*	**Sn**	**01 19 27.6**	**+0.5**
	comp=Z,217nm,0.4s						
KRLC	**Kraliky**	**1.50**	**164**	*ePG*	**Pn**	**01 19 08.8**	**-0.6**
KRLC				*eSG*	**Sg**	**01 19 27.8**	**-1.6**
	comp=Z,32nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**246**	Pn	**Pb**	**01 19 10.0**	**-0.2**
BRG				Pg	**Pg**	**01 19 12.1**	**+1.8**
BRG				Sg	**Sn**	**01 19 32.3**	**+2.2**
BRG				Amp		01 19 35.1	
	comp=Z,44nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.82**	**209**	*ePG*	**Pb**	**01 19 15.5**	**+0.2**
GOPC				*eSG*	**Sb**	**01 19 39.1**	**+0.4**
	comp=Z,38nm,0.5s						
PRU	**Pruhonice**	**1.84**	**214**	*ePG*	**Pg**	**01 19 16.0**	**-0.3**
PRU				*eSG*	**Sb**	**01 19 39.6**	**+0.5**
	comp=Z,22nm,0.2s						
MORC	**Moravsky Berou**	**1.96**	**152**	*ePN*	**Pn**	**01 19 15.0**	**-0.7**
MORC				*eSG*	**Sn**	**01 19 40.9**	**-0.1**
MORC	**Moravsky Berou** baz=336	**1.96**	**152**	*ePn*	**Pn**	**01 19 15.0**	**-0.7**
MORC				*eSg*	**Sn**	**01 19 40.8**	**-0.2**
	comp=Z,23nm,0.4s,baz=336						
CLL	**Collm**	**1.97**	**265**	*ePn*	**Pn**	**01 19 16.0**	**+0.2**
CLL				*ePg*	**Pg**	**01 19 20.0**	**+1.1**
CLL				*eSg*	**Sg**	**01 19 45.0**	**+0.5**
	comp=Z,23nm,0.6s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*ePG*	**Pb**	**01 19 20.6**	**+0.3**
OKC				*eSG*	**Sb**	**01 19 47.0**	**-0.1**
	comp=Z,37nm,0.6s						
VRAC	**Vranov**	**2.23**	**172**	*ePN*	**Pn**	**01 19 19.4**	**0.0**
VRAC				*eSG*	**Sb**	**01 19 50.4**	**-0.1**
VRAC	**Vranov** baz=355	**2.23**	**172**	*ePn*	**Pn**	**01 19 19.3**	**-0.1**
VRAC				*eSg*	**Sb**	**01 19 50.4**	**-0.1**
	comp=Z,25nm,0.5s,baz=355						
TREC	**Trest**	**2.27**	**191**	*ePG*	**Pb**	**01 19 23.4**	**+0.5**
TREC				*eSG*	**Sb**	**01 19 52.1**	**+0.6**
	comp=Z,27nm,0.3s						
MAUC	**Maruska**	**2.41**	**153**	*ePN*	**Pn**	**01 19 22.6**	**+0.7**
MAUC				*ePG*	**Pb**	**01 19 26.0**	**+0.6**
MAUC				*eSG*	**Sb**	**01 19 57.0**	**+1.3**
	comp=Z,106nm,1.0s						
KRUC	**Moravsky**	**2.47**	**176**	*ePN*	**Pn**	**01 19 22.8**	**+0.2**
KRUC				*eSG*	**Sb**	**01 19 58.0**	**+0.7**
KRUC	**Moravsky** baz=359	**2.47**	**176**	*ePn*	**Pn**	**01 19 22.7**	**+0.2**
KRUC				*eSg*	**Sb**	**01 19 57.9**	**+0.7**
	comp=Z,22nm,0.6s,baz=359						
OJC	**Ojcow**	**2.66**	**118**	*ePg*	**Pb**	**01 19 29.2**	**-0.4**
OJC				*eSg*	**Sb**	**01 20 03.8**	**+1.0**
NKC	**Novy Kostel**	**2.67**	**243**	*ePN*	**Pn**	**01 19 27.0**	**+1.6**
NKC				*ePG*	**Pg**	**01 19 32.2**	**0.0**
NKC				*eSG*	**Sg**	**01 20 07.9**	**+1.1**
	comp=Z,32nm,0.4s						
KHC	**Kasperske Hory**	**2.90**	**215**	*ePN*	**Pn**	**01 19 29.7**	**+1.1**
KHC				*ePG*	**Pb**	**01 19 35.0**	**+1.3**
KHC				*eSG*	**Sg**	**01 20 13.2**	**-1.0**
	comp=Z,12nm,0.5s						
CKRC	**Cesky Krumlov**	**2.95**	**204**	*ePN*	**Pn**	**01 19 30.3**	**+1.1**
CKRC				*ePG*	**Pb**	**01 19 36.0**	**+1.5**
CKRC				*eSG*	**Sg**	**01 20 14.0**	**-1.7**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**01 19 32.8**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=19						
GERES				Pg	**Pb**	**01 19 38.8**	**+1.6**
	comp=Z,6.9nm,0.3s,baz=30,slow=17,SNR=62						
GERES				Lg	Lg	01 20 20.6	
	comp=Z,5.7nm,0.3s,baz=35,slow=24,SNR=9.5						
	comp=Z,0.8nm,0.3s						
MODS	**Modra-Piesok**	**3.23**	**166**	*ePG*	**Pg**	**01 19 42.6**	**-0.5**
MODS				*eSG*	**Sb**	**01 20 21.3**	**+2.0**
VYHS	**Vyhne**	**3.49**	**149**	*ePN*	**Pn**	**01 19 36.6**	**-0.1**
VYHS				*ePG*	**Pg**	**01 19 49.5**	**+1.4**
VYHS				*eSG*	**Sg**	**01 20 32.6**	**-0.7**
CONA	**Conrad Observa**	**3.60**	**183**	*ePn*	**Pn**	**01 19 38.8**	**+0.6**
	comp=Z,2.7nm,0.4s						
CONA				Sg	**Sg**	**01 20 34.7**	**-2.0**
	comp=Z,11nm,0.3s						

BSD	**Bornholm Skovb**	**3.67**	**349**	*iP*	**Pn**	**01 19 39.5**	**+0.3**
BSD				*eS*	**Sn**	**01 20 22.1**	**-1.0**
BSD				IAML		01 20 32.5	
	comp=Z,6.3nm,0.8s						
MOA	**Molln**	**3.87**	**199**	*iPn*	**Pn**	**01 19 42.6**	**+0.7**
	comp=Z,2.3nm,0.3s,SNR=7.5						
MOA				*ePg*	**Pg**	**01 19 54.9**	**-0.3**
	comp=Z,4.4nm,0.3s						
MOA				*iSn*	**Sn**	**01 20 27.0**	**-1.0**
	comp=Z,3.8nm,0.3s						
MOA				*eSg*	**Sg**	**01 20 44.0**	**-1.4**
	comp=Z,5.3nm,0.3s						
STHS	**Stebnicka Huta**	**3.88**	**121**	*ePN*	**Pn**	**01 19 41.6**	**-0.5**
STHS				*ePG*	**Pg**	**01 19 56.2**	**+0.7**
STHS				*eSG*	**Sg**	**01 20 48.3**	**+2.5**
ARSA	**Arzberg**	**4.29**	**186**	*iPn*	**Pn**	**01 19 49.5**	**+1.8**
	comp=Z,1.1nm,0.2s						
ARSA				Sg	**Sg**	**01 20 57.6**	**-1.4**
	comp=Z,9.9nm,0.8s						
LUNU	**Lund**	**4.42**	**340**	*iP*	**Pn**	**01 19 49.8**	**+0.5**
LUNU				P	**Pn**	**01 19 49.9**	**+0.5**
LUNU				S	**Sn**	**01 20 39.2**	**-2.3**
LUNU				*eS*	**Sn**	**01 20 40.4**	**-1.1**
LUNU	**Lund**	**4.42**	**340**	P	**Pn**	**01 19 49.9**	**+0.5**
LUNU				S	**Sn**	**01 20 39.2**	**-2.3**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*ePN*	**Pn**	**01 19 53.7**	**+0.2**
KOLS				*ePG*	**Pg**	**01 20 13.1**	**+1.7**
KOLS				*eSN*	**Sn**	**01 20 45.5**	**-3.3**
KOLS				*eSG*	**Sg**	**01 21 15.1**	**+2.6**
BLEU	**Blekinge**	**4.80**	**358**	*iP*	**Pn**	**01 19 55.8**	**+1.3**
BLEU				P	**Pn**	**01 19 55.8**	**+1.3**
BLEU				*eS*	**Sn**	**01 20 48.0**	**-2.7**
BLEU	**Blekinge**	**4.80**	**358**	P	**Pn**	**01 19 55.8**	**+1.3**
KBA	**Koelnbreinsper**	**4.80**	**203**	*iPn*	**Pn**	**01 19 56.1**	**+1.2**
	comp=Z,0.4nm,0.2s						
KBA				Sg	**Sg**	**01 21 15.0**	**-0.4**
	comp=Z,12nm,0.8s						
BJUU	**Bjuv**	**4.92**	**339**	*iP*	**Pn**	**01 19 56.5**	**+0.3**
BJUU				P	**Pn**	**01 19 56.7**	**+0.4**
BJUU				*eS*	**Sn**	**01 20 51.9**	**-2.0**
BJUU	**Bjuv**	**4.92**	**339**	P	**Pn**	**01 19 56.7**	**+0.4**
DEL	**Delary**	**5.14**	**346**	*iP*	**Pn**	**01 19 59.6**	**+0.4**
DEL				P	**Pn**	**01 19 60.0**	**+0.7**
DEL				*eS*	**Sn**	**01 20 57.9**	**-1.3**
DEL				S	**Sn**	**01 20 58.1**	**-1.1**
DEL	**Delary**	**5.14**	**346**	P	**Pn**	**01 19 60.0**	**+0.7**
DEL				S	**Sn**	**01 20 58.1**	**-1.1**
WTTA	**Wattenberg**	**5.17**	**216**	*iPn*	**Pn**	**01 20 00.6**	**+0.6**
	comp=Z,1.1nm,0.2s						
WTTA				*eSg*	**Sg**	**01 21 25.6**	**-1.7**
	comp=Z,2.3nm,0.3s						
MOTA	**Moosalm**	**5.31**	**220**	Sg	**Sg**	**01 21 31.5**	**-0.2**
	comp=Z,4.4nm,0.6s						
ABTA	**Abfaltersbach**	**5.33**	**208**	Sg	**Sg**	**01 21 30.8**	**-1.7**
	comp=Z,2.7nm,0.3s						
RETA	**Reutte**	**5.34**	**223**	*iPn*	**Pn**	**01 20 02.6**	**+0.4**
	comp=Z,0.9nm,0.2s						
RETA				*eSg*	**Sg**	**01 21 33.4**	**+0.7**
	comp=Z,2.1nm,0.3s						
SQTA	**Sankt Quirin**	**5.37**	**219**	*iPn*	**Pn**	**01 20 04.9**	**+2.3**
	comp=Z,0.9nm,0.2s						
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**01 20 44.7**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=116,slow=24,SNR=1.8						
AKASG				Lg	Lg	01 23 06.0	
	comp=Z,0.2nm,0.3s,baz=232,slow=13,SNR=1.5						
	comp=Z,0.3nm,0.4s						
NOA	**NORSAR Array B** baz=158,slow=12,SNR=2.9	**9.92**	**346**	Pn	**Pn**	**01 21 04.5**	**-0.4**
NOA				Sn	**Sn**	**01 22 50.8**	**-6.2**
	baz=164,slow=16,SNR=1.1						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**01 21 22.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=5.8						
	comp=Z,2.9nm,0.9s						
ARCES	**ARCESS Array B**	**18.61**	**10**	P	**Pn**	**01 23 00.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=6.8						
	comp=Z,8.7nm,1.3s						

---

*IDC **24** 01:24:00.3±16.0, 27°.18S×177°.33W, h181km±145km, mb3.1/4, mbtmp3.6/4, Error ellipse: s-maj=320.9km s-min=41.0km az=161.0*
ISC 24 01:24:02.6±3.5, 27°.5S±1°×177°.5W±0°.5, h200km, n8, σ0§71/8, mb3.3/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.88**	**263**	P	**P**	**01 31 49.6**	**+0.1**
	0.2nm,0.5s,baz=106,slow=6.8,SNR=1.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.55**	**268**	P	**P**	**01 31 55.3**	**+0.4**
	0.5nm,0.9s,baz=104,slow=7.6,SNR=9.2						
	0.5nm,0.9s						
NVAR	**Mina Array Bea**	**85.34**	**43**	P	**P**	**01 36 18.4**	**+1.0**
	0.3nm,0.3s,baz=220,slow=6.6,SNR=4.2						
	0.3nm,0.3s						
PDAR	**Pinedale Array**	**93.26**	**43**	P	**P**	**01 36 54.5**	**-0.2**
	0.3nm,0.7s,baz=160,slow=2.9,SNR=3.9						
	0.3nm,0.7s						
NB2	**NORSAR Subarra**	**145.34**	**353**	PKP	**PKPab**	**01 43 16.3**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=13,slow=3.5						
NOA	**NORSAR Array B**	**145.34**	**353**	PKPbc	**PKPab**	**01 43 16.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=2.1,slow=2.3,SNR=6.2						
AKASG	**Malin Array Be**	**148.70**	**327**	PKPbc	**PKiKP**	**01 43 26.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=45,slow=2.8,SNR=1.9						
BRTR	**Keskin Array B**	**151.16**	**304**	PKPbc	**PKiKP**	**01 43 32.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=130,slow=4.5,SNR=2.1						

---

*DJA **24** 01:32:59.2±0.6, 2°.5S±12°×13°.8E±°, h28km±7km, M4.3/5, MLv4.3/5*
*IDC **24** 01:33:10.4±3.6, 2°.12S×138°.01E, h85km±32km, mb3.1/3, mbtmp3.4/5, MS2.9/2, Error ellipse: s-maj=52.0km s-min=13.9km az=97.0*
ISC 24 01:33:02.1±0.9, 1°.95S±0°.09×138°.11E±0°.05, h30km, n11, σ2§51/14, mb3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.60**	**93**	P	**Pb**	**01 33 12.3**	**-1.9**
SMPI				S	**Sb**	**01 33 20.8**	**-1.6**
SRPI	**Serui, Papua**	**1.87**	**273**	P	**Pn**	**01 33 29.7**	**-2.5**
GENI	**Genyem**	**2.15**	**107**	P	**Pn**	**01 33 34.8**	**-1.2**
GENI				S	**Sn**	**01 33 58.9**	**-2.7**
RKPI	**Ransiki, Papua**	**3.96**	**276**	P	**Pn**	**01 33 58.1**	**-2.8**
FAKI	**Fak Fak**	**5.94**	**261**	P	**Pn**	**01 34 24.5**	**-3.6**
WRA	**Warramunga Arr**	**18.26**	**191**	P	**Pn**	**01 37 14.6**	**+1.2**
	0.5nm,0.7s,baz=14,slow=13,SNR=10						
WRA				S	**Sn**	**01 40 37.7**	**+1.2**
	2.2nm,1.0s,baz=14,slow=22,SNR=6.9						
KAPI	**Kappang**	**18.58**	**260**	LR	LR	01 44 37.6	
	comp=Z,33nm,20.5s,baz=90,slow=37						
CTA	**Charters Tower**	**19.70**	**157**	P	**Pn**	**01 37 32.7**	**+1.9**
	1.3nm,0.6s,baz=315,slow=7.1,SNR=4.4						
CTA				LR	LR	01 46 22.9	
	comp=Z,38nm,20.8s,baz=290,slow=40						
ASAR	**Alice Springs**	**21.97**	**190**	P	**P**	**01 37 55.9**	**+2.2**
	0.7nm,0.8s,baz=24,slow=9.8,SNR=8.6						
ASAR				S	**S**	**01 41 52.7**	**-2.1**
	1.8nm,0.8s,baz=12,slow=23,SNR=11						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**68.83**	**322**	P	**P**	**01 44 06.2**	**+2.3**
	0.4nm,0.9s,baz=108,slow=9.3,SNR=1.9						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**85.40**	**25**	P	**P**	**01 45 39.0**	**+2.5**
	0.4nm,0.9s,baz=259,slow=4.4,SNR=2.8						
	0.4nm,0.9s						

WEL 24 01:33:45.5±0.2, 41°.3S×17°.5E±°, h35km±3km, M3.2/59, ML3.5/43, MLv3.2/59, Error ellipse: s-maj=0.0km s-min=0.0km az=125.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.10**	**139**	P	Pb	01 33 53.6	+2.1
KIW	**Kapiti Island**	**0.18**	**343**	P	Pb	01 33 53.3	+1.2
KIW				S	Sb	01 33 58.7	+2.1
OGWZ	**Otaki Gorge**	**0.26**	**34**	P	Pb	01 33 54.2	+1.3
OGWZ				S	Sb	01 34 00.5	+2.5
WEL	**Wellington**	**0.30**	**213**	P	Pb	01 33 54.7	+1.4
WEL				S	Sb	01 34 01.3	+2.6
MTW	**Mount Morrison**	**0.41**	**108**	P	Pn	01 33 56.3	+1.2
MTW				S	Sn	01 34 04.1	+2.6
HOWZ	**Holdsworth Sta**	**0.43**	**72**	P	Pn	01 33 56.2	+0.9
MSWZ	**Moikau Station**	**0.43**	**152**	P	Pn	01 33 56.7	+1.4
MSWZ				S	Sn	01 34 04.8	+2.8
PAWZ	**Paruwai Farm**	**0.48**	**136**	P	Pn	01 33 57.3	+1.2
PAWZ				S	Sn	01 34 05.9	+2.6
TCW	**Tory Channel**	**0.56**	**251**	P	Pb	01 33 57.1	-0.1
PLWZ	**Palliser**	**0.57**	**159**	P	Pb	01 33 58.2	+0.8
MRZ	**Mangatainoka R**	**0.59**	**51**	P	Pb	01 33 57.8	+0.3
TRWZ	**Traveller**	**0.65**	**125**	P	Pb	01 33 59.1	+0.6
TMWZ	**Te Maipa**	**0.69**	**96**	P	Pb	01 33 59.5	+0.3
TIWZ	**Tintock**	**0.73**	**70**	P	Pb	01 33 59.8	-0.2
DUWZ	**D'Urville Isla**	**0.84**	**286**	P	Pn	01 34 00.8	-0.1
OHWZ	**Ohakea**	**0.86**	**17**	P	Pn	01 34 02.0	-0.2
POWZ	**Post Office Ro**	**0.88**	**43**	P	Pn	01 34 01.2	-0.2
TUWZ	**Tuamarina**	**0.88**	**243**	P	Pn	01 34 01.2	-0.2
PRWZ	**Pori Road**	**0.89**	**58**	P	Pn	01 34 01.8	+0.2
CMWZ	**Cape Campbell**	**0.92**	**219**	P	Pb	01 34 02.9	-0.2
CPWZ	**Castlepoint**	**0.93**	**83**	P	Pb	01 34 03.1	-0.2
BFZ	**Birch Farm**	**1.02**	**70**	P	Pn	01 34 03.2	-0.2
DVHZ	**Dannevirke**	**1.16**	**51**	P	Pn	01 34 04.6	-0.7
NNZ	**Nelson**	**1.22**	**261**	P	Pn	01 34 06.0	-0.1
TSZ	**Takapari Road**	**1.23**	**38**	P	Pn	01 34 05.8	-0.4
ANWZ	**Angora Road**	**1.27**	**64**	P	Pn	01 34 06.3	-0.5
WAZ	**Wanganui**	**1.28**	**0**	P	Pn	01 34 07.9	+0.9
PNHZ	**Pukenui**	**1.46**	**40**	P	Pn	01 34 08.6	-0.8
PRHZ	**Porangahau**	**1.47**	**59**	P	Pn	01 34 08.6	-1.0
WPHZ	**Waipukurau**	**1.48**	**49**	P	Pn	01 34 09.0	-0.6
TKNZ	**Takaka Hill**	**1.53**	**269**	P	Pn	01 34 10.4	0.0
LREZ	**Lake Rotokare**	**1.63**	**344**	P	Pn	01 34 12.7	+1.0
MTVZ	**Mangateitei**	**1.69**	**13**	P	Pn	01 34 13.3	+0.7
MRNZ	**Matariki Terra**	**1.72**	**257**	P	Pn	01 34 13.1	+0.1
THZ	**Tophouse**	**1.72**	**244**	P	Pn	01 34 12.7	-0.4
MOVZ	**Moawhango**	**1.73**	**20**	P	Pn	01 34 12.8	-0.4
PXZ	**Pawanui**	**1.75**	**56**	P	Pn	01 34 12.0	-1.4
BHHZ	**Black Hill Sta**	**1.75**	**29**	P	Pn	01 34 13.1	-0.4
PKVZ	**Pokaka**	**1.77**	**9**	P	Pn	01 34 14.1	+0.4
WNVZ	**Wahianoa**	**1.77**	**16**	P	Pn	01 34 13.9	0.0
TRVZ	**Turoa**	**1.79**	**14**	P	Pn	01 34 14.3	+0.2
WHVZ	**Whangaehu Hut**	**1.81**	**15**	P	Pn	01 34 14.8	+0.4
DRZ	**Dome Shelter**	**1.81**	**14**	P	Pn	01 34 15.5	+1.0
FWVZ	**Far West T-bar**	**1.83**	**14**	P	Pn	01 34 15.0	+0.3
TUVZ	**Tukino**	**1.84**	**17**	P	Pn	01 34 14.7	-0.1
QRZ	**Quartz Range**	**1.87**	**276**	P	Pn	01 34 14.7	-0.4
NEZ	**North Egmont**	**1.89**	**339**	P	Pn	01 34 16.4	+1.1
KHEZ	**Kahui Hut**	**1.89**	**337**	P	Pn	01 34 16.2	+0.8
SNVZ	**South Ngauruho**	**1.91**	**16**	P	Pn	01 34 16.0	+0.2
VRZ	**Vera Road**	**1.92**	**355**	P	Pn	01 34 16.1	+0.4
NGZ	**Ngauruhoe**	**1.92**	**15**	P	Pn	01 34 16.2	+0.4
DREZ	**Durham Road**	**1.94**	**342**	P	Pn	01 34 17.3	+1.3
OTEZ	**Oturere**	**1.94**	**16**	P	Pn	01 34 16.4	+0.2
NBEZ	**Newall Road No**	**1.96**	**334**	P	Pn	01 34 17.4	+1.1
NNVZ	**North Ngauruho**	**1.96**	**15**	P	Pn	01 34 16.7	+0.3
ETVZ	**East Tongariro**	**1.98**	**17**	P	Pn	01 34 16.8	+0.2
PKE	**Pukeiti**	**1.99**	**337**	P	Pn	01 34 17.5	+0.7
TWVZ	**Taurewa**	**1.99**	**10**	P	Pn	01 34 16.7	-0.1
TMVZ	**Te Maari**	**1.99**	**16**	P	Pn	01 34 16.9	0.0
KRVZ	**Karewarewa**	**2.00**	**15**	P	Pn	01 34 17.4	+0.5
NTVZ	**North Tongarir**	**2.00**	**16**	P	Pn	01 34 17.1	0.0
KATZ	**Kakaramea**	**2.13**	**15**	P	Pn	01 34 19.4	+0.7
RITZ	**Rihia Road**	**2.16**	**18**	P	Pb	01 34 21.7	-2.3
BKZ	**Black Stump Fm**	**2.20**	**32**	P	Pn	01 34 20.6	+1.0
RATZ	**Rangitukua**	**2.25**	**16**	P	Pn	01 34 21.3	+1.0
HIZ	**Hauiti**	**2.52**	**358**	P	Pn	01 34 24.5	+0.5
MTHZ	**Maungataniwha**	**2.61**	**34**	P	Pn	01 34 24.3	-0.9
TLZ	**Tolley Road**	**2.73**	**9**	P	Pn	01 34 26.8	-0.2
HSRZ	**Hossack Road**	**2.89**	**20**	P	Pn	01 34 27.8	-1.2
OKCZ	**Okains Bay**	**3.04**	**207**	P	Pn	01 34 29.5	-1.7
TOZ	**Tuhuroa Road**	**3.32**	**7**	P	Pn	01 34 34.6	-0.4
MKAZ	**Moumakai**	**3.93**	**2**	P	Pn	01 34 43.0	-0.3
AWAZ	**Awhitu Peninsu**	**3.97**	**356**	P	Pn	01 34 44.3	+0.3
CTZ	**Chatham Island**	**6.78**	**116**	P	P

RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	**Pn**	**01 49 11.9**	**+1.5**
RNF				*e*SG	**Sb**	**01 49 46.3**	**-0.2**
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**01 49 10.8**	**+0.1**
	baz=228						
ARA0				*e*S	**Sn**	**01 49 41.1**	**-1.7**
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**01 49 10.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=227,slow=15,SNR=49						
ARCES				Lg	Lg	01 49 42.8	
	comp=Z,2.7nm,0.3s,baz=227,slow=25,SNR=25						
	comp=Z,1.5nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	**Pn**	**01 49 18.4**	**+0.1**
KEV				*e*S	**Sn**	**01 49 57.1**	**+0.7**
KEV				MSG		01 50 00.2	
	comp=Z,6.8nm,0.2s						
VRF	**Varrio**	**3.57**	**87**	*e*PG	**Pb**	**01 49 31.6**	**0.0**
VRF				*e*SG	**Sb**	**01 50 18.1**	**+2.7**
OUL	**Oulu**	**3.57**	**138**	*e*PG	**Pb**	**01 49 32.6**	**+1.0**
OUL				*e*SG	**Sb**	**01 50 16.8**	**+1.3**
OLKF	**Oulanka, Finla**	**3.90**	**108**	*e*P	**Pn**	**01 49 29.4**	**+0.7**
OLKF				*e*SG	**Sb**	**01 50 28.6**	**+3.7**
MSF	**Maaselka**	**3.98**	**115**	*e*P	**Pn**	**01 49 31.0**	**+1.2**
KU6	**Riekki**	**4.22**	**111**	*e*P	**Pn**	**01 49 34.0**	**+0.9**
	baz=295						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**01 50 09.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=3.5						
FINES				Sn	**Sn**	**01 51 24.4**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=353,slow=23,SNR=1.9						
FINES				Lg	Lg	01 51 58.5	
	comp=Z,0.3nm,0.3s,baz=360,slow=24,SNR=2.5						
	comp=Z,4.2nm,1.1s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**01 50 22.2**	**-0.6**
	baz=24,slow=12,SNR=1.3						
NOA				Lg	Lg	01 52 31.2	
	baz=125,slow=22,SNR=1.9						
	comp=Z,0.9nm,1.0s						

SKO ***24*** *01:56:08.2, 41°.86N×22°.15E, h15km*
ISK ***24*** *01:56:09.6, 41°.79N×22°.17E, h2km, ML3.1/10*
BEO ***24*** *01:56:10.2±0.2, 41°.87N×22°.10E, h2km±2km, ML2.6/13*

ISC 24 01:56:10.1±0.9, 41°.86N±0°.02×22°.14E±0°.02, h10km±8km, n64,σ1¶41/87, 13C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.17**	**167**	⇓	*i*	Pg	**Pg**	**01 56 14.2**	**+0.4**
STIP					*i*	Sg	**Sg**	**01 56 18.2**	**+1.9**
STIP					*e*	Lg	Lg	01 56 18.4	
	comp=E,717nm,0.2s								
STIP					*e*	Lg	Lg	01 56 20.0	
	comp=N,502nm,0.2s								
SKO	**Skopje**	**0.53**	**282**		*e*Pg	**Pg**	**01 56 20.5**	**+0.1**
SKO					*e*Sg	**Sg**	**01 56 26.8**	**-0.6**
SKO	**Skopje**	**0.53**	**282**		*i* Pg	**Pg**	**01 56 20.5**	**+0.1**
SKO					*i* Sg	**Sg**	**01 56 27.5**	**+0.1**
SKO					*e*	Lg	Lg	01 56 29.4	
	comp=E,11nm,0.6s								
SKO					*e*	Lg	Lg	01 56 30.0	
	comp=N,12nm,0.4s								
VAY	**Valandovo**	**0.63**	**149**		*e*Pg	**Pg**	**01 56 21.9**	**-0.4**
VAY					*e*Sg	**Sg**	**01 56 30.3**	**-0.4**
VAY	**Valandovo**	**0.63**	**149**		*i* Pg	**Pg**	**01 56 21.6**	**-0.7**
VAY					*i* Sg	**Sg**	**01 56 30.2**	**-0.4**
VAY					*e*	Lg	Lg	01 56 30.8	
	comp=E,384nm,0.3s								
VAY					*e*	Lg	Lg	01 56 31.4	
	comp=N,377nm,0.4s								
BOSS	**Bosilegrad**	**0.68**	**22**		*e*Pg	**Pg**	**01 56 22.5**	**-0.8**
BOSS					*e*Sg	**Sg**	**01 56 31.0**	**-1.3**
KNT	**Kendrikon**	**0.91**	**140**	PG		**Pg**	**01 56 26.2**	**-1.3**
KNT				SG		**Sg**	**01 56 38.4**	**-0.9**
KNT	**Kendrikon**	**0.91**	**140**	⇓	*i* Pg	**Pg**	**01 56 25.9**	**-1.6**
KNT					*i* Sg	**Sg**	**01 56 38.0**	**-1.3**
GRG	**Griva**	**0.93**	**167**	PG		**Pg**	**01 56 26.9**	**-1.0**
GRG				SG		**Sg**	**01 56 39.4**	**-0.6**
GRG	**Griva**	**0.93**	**167**	⇑	*i* Pg	**Pg**	**01 56 26.6**	**-1.3**
GRG					*i* Sg	**Sb**	**01 56 40.9**	**+0.3**
BARS	**Barje**	**0.98**	**346**		*e*Pg	**Pg**	**01 56 27.9**	**-1.1**
BARS					*e*Sg	**Sg**	**01 56 41.9**	**+0.1**
BARS	**Barje**	**0.98**	**346**		*i* Pg	**Pg**	**01 56 28.0**	**-1.1**
BARS					*i* Sg	**Sg**	**01 56 41.8**	**+0.1**
VTS	**Vitosha**	**1.11**	**47**	⇓	P	**Pg**	**01 56 30.8**	**-0.8**
VTS	**Vitosha**	**1.11**	**47**		*e*Pg	**Pg**	**01 56 30.7**	**-0.8**
VTS					*e*Sg	**Sg**	**01 56 45.0**	**-1.0**
VTS	**Vitosha**	**1.11**	**47**		*i* Pg	**Pg**	**01 56 30.5**	**-1.0**
VTS					*i* Sg	**Sg**	**01 56 45.4**	**-0.6**
FNA	**Florina**	**1.22**	**208**	PN		**Pg**	**01 56 32.2**	**-1.3**
FNA				SN		**Sb**	**01 56 49.5**	**+0.4**
FNA	**Florina**	**1.22**	**208**	⇑	*i* Pg	**Pg**	**01 56 32.1**	**-1.4**
FNA					*i* Sg	**Sb**	**01 56 49.9**	**+0.8**
OHR	**Ohrid**	**1.25**	**234**		*e*Pg	**Pg**	**01 56 32.8**	**-1.4**
OHR					*e*Sg	**Sg**	**01 56 50.3**	**-0.1**
OHR	**Ohrid**	**1.25**	**234**	⇑	*i* Pg	**Pg**	**01 56 33.1**	**-1.1**
OHR					*i* Sg	**Sb**	**01 56 50.4**	**+0.4**
OHR					*e*	Lg	Lg	01 56 51.2	
	comp=E,223nm,0.5s								
OHR					*e*	Lg	Lg	01 56 52.4	
	comp=N,136nm,0.4s								
SRS	**Serrai**	**1.32**	**124**		*i* Pn	**Pg**	**01 56 33.8**	**-1.7**
THE	**Thessaloniki**	**1.38**	**153**		*i* Pn	**Pb**	**01 56 35.9**	**0.0**
SOH	**Sokhos**	**1.39**	**138**		*i* Pn	**Pn**	**01 56 35.6**	**0.0**
HORT	**Hortiatis**	**1.46**	**150**	PN		**Pn**	**01 56 36.9**	**+0.3**
ZAPS	**Zavoj**	**1.46**	**14**		*e*Pn	**Pn**	**01 56 36.9**	**+0.3**
SELS	**Selova**	**1.55**	**331**		*e*Pg	**Pn**	**01 56 37.1**	**-0.7**
SELS					*e*Sg	**Sn**	**01 56 58.4**	**+0.4**
TIR	**Tirane**	**1.78**	**254**	⇑	P	**Pg**	**01 56 44.7**	**+0.5**
PLD	**Plovdiv**	**1.93**	**82**	PN		**Pb**	**01 56 44.4**	**-1.0**
PLD	**Plovdiv**	**1.93**	**82**		*e*Pn	**Pn**	**01 56 44.0**	**+1.0**
PLD					*e*Sn	**Sg**	**01 57 10.6**	**-1.5**
ZAGS	**Zajecar**	**1.95**	**2**		*e*Pg	**Pn**	**01 56 44.3**	**+1.0**
ZAGS					*e*Sg	**Sg**	**01 57 12.1**	**-0.7**
OUR	**Ouranopolis**	**2.07**	**137**	PN		**Pn**	**01 56 45.4**	**+0.5**
SJES	**Sjenica**	**2.12**	**312**		*e*Pn	**Pn**	**01 56 46.4**	**+0.6**
SJES					*e*Sn	**Sn**	**01 57 12.3**	**+0.1**
PDG	**Podgorica**	**2.21**	**286**	⇑	P	**Pb**	**01 56 49.6**	**-0.6**
IVAS	**Ivanjica**	**2.25**	**320**		*e*Pn	**Pn**	**01 56 47.0**	**-0.5**
GRUS	**Gruza**	**2.28**	**333**		*e*Pn	**Pn**	**01 56 47.6**	**-0.2**
BAIL	**Bailesti**	**2.33**	**22**	⇑	P	**Pg**	**01 56 53.8**	**-1.0**
PLVB	**Pleven**	**2.38**	**49**	⇑	P	**Pg**	**01 56 55.5**	**-0.3**
KDZ	**Kurdzhali**	**2.46**	**94**	PN		**Pn**	**01 56 50.6**	**+0.2**
KUBS	**Kucevo**	**2.57**	**353**		*e*Pn	**Pn**	**01 56 53.2**	**+1.4**
RDO	**Rodhopi**	**2.65**	**105**	PN		**Pn**	**01 56 54.2**	**+1.3**
TRUS	**Trudelj**	**2.68**	**332**		*e*Pn	**Pn**	**01 56 52.4**	**-0.9**
TRUS					*e*Sn	**Sn**	**01 57 27.3**	**+1.5**
VLAD	**Vladila**	**2.71**	**37**	⇓	P	**Pg**	**01 57 00.9**	**-1.1**
DIVS	**Divibare**	**2.73**	**326**		*e*Pn	**Pn**	**01 56 53.7**	**-0.4**
BBLS	**Lazići**	**2.83**	**316**		*e*Pn	**Pn**	**01 56 55.8**	**+0.3**
MDVR	**Moldovita**	**2.93**	**354**	⇓	P	**Pn**	**01 56 58.2**	**+1.4**
HERR	**Herculane**	**3.02**	**4**	⇓	P	**Pn**	**01 57 00.7**	**+2.7**
COPA	**Copaceanca**	**3.20**	**44**	⇑	P	**Pn**	**01 57 08.2**	**+1.1**
ENEZ	**Enez**	**3.23**	**109**	PN		**Pn**	**01 57 02.7**	**+1.4**
UKOP	**Uzunkopru-Edir**	**3.46**	**101**	PN		**Pn**	**01 57 05.7**	**+1.7**
ERIK	**Erikli-Kesan**	**3.51**	**108**	PN		**Pn**	**01 57 06.4**	**+1.7**
GZR	**Gura Zlata**	**3.56**	**7**	⇓	P	**Pb**	**01 57 10.5**	**-2.7**
RAZG	**Razgrad**	**3.65**	**61**	⇑	P	**Pg**	**01 57 18.5**	**-1.4**
SGRR	**Singureni**	**3.67**	**49**	⇑	P	**Pb**	**01 57 16.5**	**+1.5**
BZS	**Buzias**	**3.77**	**354**	⇓	P	**Pn**	**01 57 09.9**	**+1.6**
LOT	**Lotru**	**3.78**	**18**	⇑	P	**Pb**	**01 57 13.8**	**-3.1**
SURR	**Surduc**	**3.89**	**360**	⇑	P	**Pn**	**01 57 13.2**	**+3.3**
ARR	**Arges**	**3.95**	**27**	⇓	P	**Pn**	**01 57 13.1**	**+2.3**
SIRR	**Siria**	**4.42**	**356**	⇑	P	**Pn**	**01 57 18.0**	**+0.8**
MLR	**Muntele Rosu**	**4.56**	**36**	⇓	P	**Pn**	**01 57 23.5**	**+4.2**
MLR	**Muntele Rosu**	**4.56**	**36**	PN		**Pn**	**01 57 22.4**	**+3.1**
DOPR	**Dopca**	**4.73**	**29**	⇓	P	**Pn**	**01 57 25.3**	**+3.8**
MORH	**Mrgy, Hungar**	**5.03**	**331**	⇓	P	**Pn**	**01 57 25.7**	**+0.2**
VRI	**Vrincioaia**	**5.20**	**38**	⇓	P	**Pn**	**01 57 30.4**	**+2.4**
VYHS	**Vyhne**	**7.03**	**342**		*e*PN	**Pn**	**01 57 55.1**	**+2.1**
MODS	**Modra-Piesok**	**7.36**	**334**		*e*PN	**Pn**	**01 57 59.5**	**+1.9**

SKO ***24*** *01:56:45.9, 41°.84N×22°.14E, h15km*
SOF ***24*** *01:56:47.3, 41°.91N×22°.16E, h13km, MD3.1*
BEO ***24*** *01:56:48.3±0.2, 41°.85N×22°.11E, h3km±2km, ML2.7/18*
THE ***24*** *01:56:49.6, 41°.71N×22°.16E, h5km±1km, ML2.8/5, Error ellipse: s-maj=3.5km s-min=1.1km az=178.0*

ISC 24 01:56:48.0±0.9, 41°.85N±0°.02×22°.14E±0°.02, h14km±7km, n40,σ0¶96/66, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.16**	**166**		*i*	Pg	**Pg**	**01 56 52.5**	**+0.5**
STIP					*i*	Sg	**Sg**	**01 56 56.0**	**+1.4**
STIP					*e*	Lg	Lg	01 56 56.1	
	comp=E,932nm,0.2s								
STIP					*e*	Lg	Lg	01 56 57.7	
	comp=N,792nm,0.2s								
SKO	**Skopje**	**0.53**	**283**		*e*Pg	**Pg**	**01 56 57.7**	**-0.9**
SKO					*e*Sg	**Sg**	**01 57 04.9**	**-0.8**
SKO	**Skopje**	**0.53**	**283**		*i* Pg	**Pg**	**01 56 58.5**	**0.0**
SKO					*i* Sg	**Sg**	**01 57 04.7**	**-1.0**
SKO					*e*	Lg	Lg	01 57 04.8	
	comp=N,20nm,0.3s								
SKO					*e*	Lg	Lg	01 57 05.2	
	comp=E,12nm,0.4s								
VAY	**Valandovo**	**0.62**	**148**		*e*Pg	**Pg**	**01 56 59.5**	**-0.7**
VAY					*e*Sg	**Sg**	**01 57 07.7**	**-0.7**
VAY	**Valandovo**	**0.62**	**148**		*i* Pg	**Pg**	**01 56 59.7**	**-0.4**
VAY					*i* Sg	**Sg**	**01 57 07.9**	**-0.5**
VAY					*e*	Lg	Lg	01 57 08.5	
	comp=E,560nm,0.4s								
VAY					*e*	Lg	Lg	01 57 10.1	
	comp=N,868nm,0.5s								
BOSS	**Bosilegrad**	**0.69**	**21**		*e*Pg	**Pg**	**01 57 00.1**	**-1.5**
BOSS					*e*Sg	**Sg**	**01 57 09.3**	**-1.5**
KKB	**Krupnik**	**0.71**	**88**		*i* P	**Pb**	**01 57 01.9**	**-0.2**
KNT	**Kendrikon**	**0.89**	**140**	P		**Pg**	**01 57 03.4**	**-1.9**
KNT				S		**Sg**	**01 57 16.1**	**-0.9**
	comp=N,885nm,0.4s								
KNT	**Kendrikon**	**0.89**	**140**		*i* Pg	**Pg**	**01 57 03.8**	**-1.6**
KNT					*i* Sg	**Sg**	**01 57 15.7**	**-1.4**
GRG	**Griva**	**0.91**	**167**	P		**Pg**	**01 57 04.8**	**-0.9**
GRG	**Griva**	**0.91**	**167**		*i* Pg	**Pg**	**01 57 04.6**	**-1.1**
GRG					*i* Sg	**Sb**	**01 57 17.9**	**+0.2**
BARS	**Barje**	**0.99**	**346**		*e*Pg	**Pg**	**01 57 06.7**	**-0.6**
BARS					*e*Sg	**Sg**	**01 57 19.3**	**-1.0**
BARS	**Barje**	**0.99**	**346**		*i* Pg	**Pb**	**01 57 06.9**	**-0.1**
BARS					*i* Sg	**Sb**	**01 57 19.9**	**-0.1**
VTS	**Vitosha**	**1.12**	**46**		*e*Pg	**Pg**	**01 57 08.7**	**-1.0**
VTS					*e*Sg	**Sg**	**01 57 23.0**	**-1.3**
VTS	**Vitosha**	**1.12**	**46**		*i* Pg	**Pg**	**01 57 08.5**	**-0.8**
VTS					*i* Sg	**Sg**	**01 57 23.2**	**-1.1**
VTS	**Vitosha**	**1.12**	**46**		*i* P	**Pg**	**01 57 08.1**	**-1.6**
FNA	**Florina**	**1.21**	**209**	P		**Pn**	**01 57 10.0**	**-0.5**
FNA				S		**Sb**	**01 57 25.6**	**-0.6**
	comp=N,465nm,0.5s								
FNA	**Florina**	**1.21**	**209**		*i* Pg	**Pn**	**01 57 09.8**	**-0.7**
FNA					*i* Sg	**Sn**	**01 57 27.5**	**+0.8**
MMB	**Musomiste**	**1.22**	**102**		*i* P	**Pg**	**01 57 11.1**	**-0.4**
OHR	**Ohrid**	**1.25**	**234**		*e*Pg	**Pn**	**01 57 10.5**	**-0.6**
OHR					*e*Sg	**Sn**	**01 57 28.6**	**+0.9**
OHR	**Ohrid**	**1.25**	**234**		*i* Pg	**Pn**	**01 57 10.8**	**-0.2**
OHR					*i* Sg	**Sg**	**01 57 27.9**	**-0.4**
OHR					*e*	Lg	Lg	01 57 28.2	
	comp=N,243nm,0.6s								
OHR					*e*	Lg	Lg	01 57 28.9	
	comp=E,360nm,0.5s								
SRS	**Serrai**	**1.32**	**123**	P		**Pg**	**01 57 13.0**	**-0.3**
SRS				S		**Sg**	**01 57 30.6**	**+0.1**
	comp=E,280nm,0.5s								
SRS	**Serrai**	**1.32**	**123**		*i* Pn	**Pg**	**01 57 13.2**	**-0.2**
SOH	**Sokhos**	**1.38**	**138**	P		**Pb**	**01 57 13.6**	**0.0**
SOH				S		**Sb**	**01 57 31.1**	**+0.1**
	comp=E,372nm,0.4s								
SOH	**Sokhos**	**1.38**	**138**		*i* Pn	**Pg**	**01 57 14.2**	**-0.3**
NVR	**Nevrokopi**	**1.39**	**111**	P		**Pb**	**01 57 13.7**	**0.0**
NVR				S		**Sg**	**01 57 32.4**	**-0.3**
	comp=E,430nm,0.5s								
ZAPS	**Zavoj**	**1.47**	**14**		*e*Pg	**Pg**	**01 57 15.4**	**-0.9**
ZAPS					*e*Sg	**Sg**	**01 57 35.0**	**-0.4**
SELS	**Selova**	**1.56**	**332**		*e*Pg	**Pb**	**01 57 16.3**	**-0.4**
SELS					*e*Sg	**Sg**	**01 57 38.9**	**+0.6**
KZN	**Kozani**	**1.57**	**190**	P		**Pn**	**01 57 16.2**	**+0.7**
PLD	**Plovdiv**	**1.93**	**82**		*e*Pn	**Pb**	**01 57 22.9**	**-0.1**
PLD					*e*Sn	**Sb**	**01 57 47.8**	**+0.9**
ZAGS	**Zajecar**	**1.96**	**2**		*e*Pg	**Pb**	**01 57 23.3**	**-0.2**
ZAGS					*e*Sg	**Sg**	**01 57 51.2**	**0.0**
SJES	**Sjenica**	**2.13**	**312**		*e*Pn	**Pn**	**01 57 24.0**	**+0.7**
SJES					*e*Sn	**Sn**	**01 57 50.6**	**+1.0**
IVAS	**Ivanjica**	**2.26**	**320**		*e*Pn	**Pn**	**01 57 25.7**	**+0.7**
GRUS	**Gruza**	**2.29**	**333**		*e*Pn	**Pn**	**01 57 25.8**	**+0.4**
SVIS	**Svilajnac**	**2.51**	**345**		*e*Pn	**Pb**	**01 57 31.1**	**-1.7**
KUBS	**Kucevo**	**2.58**	**353**		*e*Pn	**Pn**	**01 57 31.2**	**+1.8**
TRUS	**Trudelj**	**2.69**	**332**		*e*Pn	**Pn**	**01 57 31.1**	**+0.2**
DIVS	**Divibare**	**2.74**	**326**		*e*Pn	**Pn**	**01 57 32.5**	**+0.8**
DIVS					*e*Sn	**Sn**	**01 58 05.2**	**+0.5**
VYHS	**Vyhne**	**7.04**	**342**		*e*PN	**Pn**	**01 58 33.1**	**+2.5**
MODS	**Modra-Piesok**	**7.37**	**334**		*e*PN	**Pn**	**01 58 37.5**	**+2.3**

IDC ***24*** *01:57:35.4±1.1, 36°.48N×89°.65W, h0km, mbtmp3.4/5, ML3.2/5, Error ellipse: s-maj=16.8km s-min=9.4km az=1.0*
ANF ***24*** *01:57:37.3±0.1, 36°.15N×89°.70W, h9km, ML3.9/22, Error ellipse: s-maj=1.9km s-min=1.5km az=53.0*
NEIC ***24*** *01:57:37.8±1.2, 36°.153N±0°.009×89°.69W±0°.01, h12km±3km, Error ellipse: s-maj=1.4km s-min=1.3km az=128.0*
SLM ***24*** *01:57:37.6±0.9, 36°.155N±0°.009×89°.69W±0°.01, h9km±3km, mb_Lg3.3/134(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=130.0*

ISC 24 01:57:37.4±0.7, 36°.15N±0°.01×89°.70W±0°.02, h17km±4km, n219,σ1¶04/210, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PEBM	**Pemiscott Bayo**	**0.13**	**254**				**Pg**	**01 57 41.1**	**-0.3**
PEBM						Sg	**Sg**	**01 57 43.8**	**-0.2**
BRGM	**Braggadocio**	**0.14**	**293**				**Pg**	**01 57 41.1**	**-0.3**
BRGM							**Sg**	**01 57 43.8**	**-0.3**
CWPT	**Cottonwood Poi**	**0.15**	**156**				**Pg**	**01 57 41.1**	**-0.4**
CWPT							**Sg**	**01 57 44.0**	**-0.3**
MIST	**Miston**	**0.16**	**83**				**Pg**	**01 57 41.2**	**-0.5**
MIST							**Sg**	**01 57 44.1**	**-0.5**
LNXT	**Lenox**	**0.18**	**106**				**Pg**	**01 57 41.6**	**-0.4**
LNXT							**Sg**	**01 57 44.0**	**-1.0**
LNXT	**Lenox**	**0.18**	**106**	P			**Pg**	**01 57 41.5**	**-0.4**
	baz=288								
LNXT				S			**Sg**	**01 57 44.0**	**-1.0**
	baz=288								
CHNM	**Channel**	**0.21**	**239**				**Pg**	**01 57 42.5**	**0.0**
CHNM							**Sg**	**01 57 46.1**	**+0.3**
WADM	**Wardell**	**0.23**	**341**				**Pg**	**01 57 42.6**	**-0.1**
WADM							**Sg**	**01 57 46.3**	**-0.2**
WYBT	**Wynnburg**	**0.26**	**40**				**Pg**	**01 57 43.0**	**-0.2**
POBM	**Portage Bay**	**0.26**	**7**				**Pg**	**01 57 43.1**	**-0.1**
PVMO	**Portageville**	**0.26**	**1**				**Pg**	**01 57 42.9**	**-0.4**
PVMO						Sg	**Sg**	**01 57 46.9**	**-0.3**
FPST	**Four Points**	**0.27**	**130**				**Pg**	**01 57 43.2**	**-0.1**
FPST							**Sg**	**01 57 47.4**	**+0.1**
PPLM	**Point Pleasant**	**0.27**	**21**				**Pg**	**01 57 43.3**	**-0.1**
GSAR	**Gosnell High S**	**0.29**	**229**				**Pg**	**01 57 43.8**	**+0.2**
GSAR							**Sg**	**01 57 48.4**	**+0.5**
PENMO	**Penman**	**0.30**	**11**				**Pg**	**01 57 43.8**	**-0.2**
PGVM	**Portageville**	**0.31**	**356**				**Pg**	**01 57 44.0**	**-0.1**
PGVM							**Sg**	**01 57 48.6**	**0.0**
EDIT	**Edith**	**0.31**	**157**				**Pg**	**01 57 44.0**	**-0.1**
GNAR	**Gosnell**	**0.32**	**234**				**Pg**	**01 57 44.4**	**+0.3**
RELT	**Roellen**	**0.34**	**110**				**Pg**	**01 57 44.6**	**-0.1**
GLAT	**Glass**	**0.36**	**70**				**Pg**	**01 57 44.7**	**-0.2**
GLAT						Sg	**Sg**	**01 57 49.3**	**-0.6**
HALT	**Halls**	**0.38**	**129**				**Pg**	**01 57 45.1**	**-0.1**
HALT						Sg	**Sg**	**01 57 50.7**	**+0.1**
MARMO	**Marston**	**0.38**	**4**				**Pg**	**01 57 45.2**	**-0.1**
MARMO							**Sg**	**01 57 50.9**	**+0.3**
ARPT	**Arp**	**0.39**	**176**				**Pg**	**01 57 45.5**	**0.0**
FLPT	**Flippin**	**0.40**	**50**				**Pg**	**01 57 45.5**	**-0.2**
TOPM	**Tallapoosa**	**0.40**	**338**				**Pg**	**01 57 45.6**	**-0.1**
WALK	**Watson Lake**	**0.41**	**18**				**Pg**	**01 57 45.6**	**-0.2**
NMEM	**New Madrid Sch**	**0.43**	**13**				**Pg**	**01 57 46.1**	**-0.1**
NMMO	**New Madrid**	**0.45**	**16**				**Pg**	**01 57 46.5**	**-0.1**
CATM	**Catron**	**0.46**	**6**				**Pg**	**01 57 46.7**	**-0.1**
LVAR	**Leachville**	**0.48**	**241**				**Pg**	**01 57 47.3**	**+0.2**
MLDM	**Malden**	**0.51**	**340**				**Pg**	**01 57 47.3**	**-0.2**
SJMO	**Saint John's B**	**0.51**	**21**				**Pg**	**01 57 47.5**	**-0.2**
MSAR	**Manila South**	**0.51**	**225**				**Pg**	**01 57 47.8**	**+0.1**
PARMO	**Parma**	**0.51**	**356**				**Pg**	**01 57 47.6**	**-0.1**
PARMO						Sg	**Sg**	**01 57 54.8**	**+0.2**
BETM	**Bethany**	**0.54**	**328**				**Pg**	**01 57 48.2**	**0.0**
HICK	**Hickman**	**0.55**	**44**				**Pg**	**01 57 47.8**	**-0.5**
HICK						Sg	**Sg**	**01 57 55.7**	**+0.1**
KEWM	**Kewanee**	**0.55**	**9**				**Pg**	**01 57 48.2**	**-0.3**
COKM	**Charter Oak**	**0.56**	**358**				**Pg**	**01 57 48.4**	**-0.2**
HENM	**Henderson Moun**	**0.59**	**18**				**Pg**	**01 57 48.8**	**-0.4**

CVTN	**Covington**	**0.61**	**175**			**Pg**	**01 57 49.1**	**-0.4**
BRNM	**Bernie**	**0.62**	**338**			**Pg**	**01 57 49.5**	**-0.2**
MATM	**Matthews**	**0.63**	**7**			**Pg**	**01 57 49.5**	**-0.3**
EPRM	**East Prairie**	**0.63**	**26**			**Pg**	**01 57 49.5**	**-0.3**
DWDM	**Dogwood**	**0.67**	**15**			**Pg**	**01 57 50.2**	**-0.3**
UTMT	**University of**	**0.70**	**74**			**Pg**	**01 57 51.0**	**-0.2**
UTMT					Sg	**Sb**	**01 58 00.8**	**+0.2**
LPAR	**Lepanto**	**0.73**	**222**			**Pg**	**01 57 51.7**	**0.0**
GUAMO	**Guam**	**0.75**	**352**			**Pg**	**01 57 51.6**	**-0.4**
CHRM	**Charleston**	**0.75**	**21**			**Pg**	**01 57 51.5**	**-0.6**
V43A	**Jonesboro**	**0.77**	**242**			**Pg**	**01 57 52.7**	**+0.2**
FMKY	**Fulgham**	**0.82**	**51**			**Pg**	**01 57 52.9**	**-0.5**
SFTN	**Shelby Forest**	**0.83**	**198**			**Pg**	**01 57 53.4**	**-0.2**
PBMO	**Poplar Bluff**	**0.86**	**317**			**Pg**	**01 57 53.3**	**-0.8**
PBMO					Sg	**Sg**	**01 58 05.0**	**-0.4**
PBMO	**Poplar Bluff**	**0.86**	**317**	P		**Pg**	**01 57 53.4**	**-0.7**
	baz=136							
PBMO				S		**Sg**	**01 58 05.0**	**-0.4**
	baz=136							
QUAR	**Qualls**	**0.92**	**237**			**Pg**	**01 57 55.2**	**0.0**
GILT	**SW Tenn Gill C**	**0.94**	**194**			**Pg**	**01 57 55.5**	**-0.3**
HBAR	**Harrisburg**	**0.98**	**233**			**Pg**	**01 57 55.9**	**-0.5**
HBAR	**Harrisburg**	**0.98**	**233**	P		**Pg**	**01 57 56.1**	**-0.2**
	baz=52							
HBAR				S		**Sb**	**01 58 09.9**	**+1.4**
	baz=52							
MET	**Memphis--Engin**	**1.04**	**190**			**Pg**	**01 57 57.0**	**-0.6**
EBZ	**Ebenezer Churc**	**1.05**	**164**			**Pg**	**01 57 57.1**	**-0.6**
TWAR	**Twist**	**1.05**	**222**			**Pg**	**01 57 57.5**	**-0.2**
W45A	**Hickory Valley**	**1.08**	**157**			**Pg**	**01 57 57.3**	**-1.0**
W45A	**Hickory Valley**	**1.08**	**157**	P		**Pg**	**01 57 57.3**	**-1.0**
	baz=338							
W45A				S		**Sg**	**01 58 11.7**	**-0.7**
	baz=338							
CGM3	**Cape Girardeau**	**1.15**	**2**			**Pb**	**01 57 58.4**	**-0.4**
MCIL	**McClure**	**1.16**	**8**			**Pb**	**01 57 57.7**	**-1.2**
LCAR	**Lake Charles**	**1.18**	**267**			**Pb**	**01 57 59.1**	**-0.2**
LCAR	**Lake Charles**	**1.18**	**267**	P		**Pb**	**01 57 59.1**	**-0.2**
	baz=86							
T45B	**Paducah**	**1.21**	**44**	P		**Pb**	**01 57 59.6**	**-0.3**
	baz=225

P40A	**Paris**	**3.85**	**332**	Pn	**Pn**	**01 58 37.0**	**+1.2**		
P40A				IAmb_Lg		01 59 37.5			
	comp=Z,85nm,1.0s								
P40A	**Paris**	**3.85**	**332**	P	**Pn**	**01 58 37.0**	**+1.2**		
	baz=150								
BLO	**Bloomington**	**3.93**	**39**	Pn	**Pn**	**01 58 38.0**	**+1.0**		
P46A	**Rosedale**	**3.98**	**29**	Pn	**Pn**	**01 58 39.5**	**+1.8**		
P46A				IAmb_Lg		01 59 48.2			
	comp=Z,89nm,0.8s								
T50A	**Nancy**	**4.01**	**76**	Pn	**Pn**	**01 58 39.6**	**+1.5**		
CMGA	**Chestnut Mount**	**4.11**	**110**		**Pn**	**01 58 40.7**	**+1.3**		
O44A	**Mansfield**	**4.11**	**13**	Pn	**Pn**	**01 58 40.7**	**+1.3**		
R49A	**Shelbyville**	**4.20**	**58**	Pn	**Pn**	**01 58 41.6**	**+1.0**		
X51A	**Calhoun**	**4.26**	**110**		**Pn**	**01 58 42.7**	**+1.2**		
CPCT	**Cooper Cave**	**4.27**	**98**		**Pn**	**01 58 42.9**	**+1.3**		
GMG	**Grassy Mountai**	**4.30**	**106**		**Pn**	**01 58 43.2**	**+1.0**		
RLO	**Rose Lookout**	**4.30**	**272**		**Pn**	**01 58 42.8**	**+0.7**		
RLO				IAmb_Lg		01 59 54.7			
	comp=Z,48nm,0.8s								
ETT	**Etowah**	**4.35**	**99**		**Pn**	**01 58 44.3**	**+1.6**		
V51A	**Loudon**	**4.35**	**93**	Pn	**Pn**	**01 58 44.1**	**+1.3**		
V51A				IAmb_Lg		01 59 58.6			
	comp=Z,81nm,0.8s								
HDIL	**Hopedale**	**4.41**	**4**	Pn	**Pn**	**01 58 44.8**	**+1.3**		
HDIL	**Hopedale**	**4.41**	**4**	P	**Pn**	**01 58 45.5**	**+2.0**		
	baz=184								
GRBT	**Greenback**	**4.49**	**94**		**Pn**	**01 58 46.6**	**+1.9**		
P38A	**Dawn**	**4.61**	**320**		**Pn**	**01 58 47.1**	**+0.9**		
P38A	**Dawn**	**4.61**	**320**	IAmb_Lg		02 00 13.5			
	comp=Z,47nm,0.7s								
P38A	**Dawn**	**4.61**	**320**	P	**Pn**	**01 58 47.1**	**+0.9**		
	baz=138								
N41A	**Harden Midland**	**4.64**	**349**	P	**Pn**	**01 58 47.7**	**+1.0**		
	baz=168								
Z51A	**Franklin**	**4.68**	**126**		**Pn**	**01 58 48.0**	**+0.8**		
SFIN	**Lafayette**	**4.69**	**25**	IAmb_Lg		02 00 08.8			
	comp=Z,48nm,0.8s								
P48A	**Milroy**	**4.73**	**44**	Pn	**Pn**	**01 58 49.2**	**+1.3**		
R50A	**Paris**	**4.79**	**62**	Pn	**Pn**	**01 58 50.4**	**+1.6**		
W52A	**Murphy**	**4.82**	**101**	Pn	**Pn**	**01 58 50.0**	**+0.8**		
W52A				IAmb_Lg		02 00 06.5			
	comp=Z,63nm,0.8s								
TKL	**Tuckaleechee C**	**4.84**	**94**	Pn	**Pn**	**01 58 50.9**	**+1.5**		
	comp=Z,0.4nm,0.3s,baz=261,slow=8.4,SNR=10								
TKL				Sn	**Sn**	**01 59 46.7**	**+1.6**		
	comp=Z,3.2nm,0.3s,baz=260,slow=12,SNR=2.3								
TKL				Lg	Lg	02 00 05.2			
	comp=Z,23nm,0.3s,baz=1.7,slow=18,SNR=26								
	comp=Z,1.2nm,0.3s								
TKL	**Tuckaleechee C**	**4.84**	**94**	Pn	**Pn**	**01 58 50.6**	**+1.2**		
X37A	**Clayton**	**4.89**	**253**	Pn	**Pn**	**01 58 52.3**	**+2.2**		
X37A				IAmb_Lg		02 00 12.8			
	comp=Z,67nm,0.7s								
TUL1	**Leonard**	**4.94**	**269**		**Pn**	**01 58 51.2**	**+0.3**		
TUL1				IAmb_Lg		02 00 12.7			
	comp=Z,40nm,0.9s								
TUL1	**Leonard**	**4.94**	**269**	P	**Pn**	**01 58 51.3**	**+0.5**		
	baz=85								
V52A	**Sevierville**	**4.96**	**92**	Pn	**Pn**	**01 58 52.4**	**+1.3**		
TZTN	**Tazewell**	**4.98**	**84**	Pn	**Pn**	**01 58 52.9**	**+1.5**		
TZTN				IAmb_Lg		02 00 27.1			
	comp=Z,41nm,0.8s								
250A	**Grady**	**5.04**	**145**	Pn	**Pn**	**01 58 53.7**	**+1.4**		
250A				IAmb_Lg		02 00 15.7			
	comp=Z,58nm,0.7s								
S51A	**Beattyville**	**5.12**	**71**	Pn	**Pn**	**01 58 54.7**	**+1.5**		
S51A				IAmb_Lg		02 00 16.7			
	comp=Z,43nm,0.7s								
Y52A	**Lilburn**	**5.16**	**115**	Pn	**Pn**	**01 58 54.8**	**+0.9**		
Y52A					**Sb**	**02 00 10.8**	**+1.9**		
Y52A				IAmb_Lg		02 00 29.4			
	comp=Z,53nm,0.8s								
P49A	**Miami Univ. Ec**	**5.19**	**48**	Pn	**Pn**	**01 58 55.3**	**+1.0**		
152A	**Waverly Hall**	**5.39**	**129**	Pn	**Pn**	**01 58 57.6**	**+0.6**		
152A				IAmb_Lg		02 00 24.8			
	comp=Z,40nm,0.8s								
M44A	**Midewin, Midew**	**5.39**	**13**	IAmb_Lg		02 00 30.1			
	comp=Z,53nm,1.1s								
N38A	**Joes South For**	**5.40**	**330**		**Pn**	**01 58 58.1**	**+0.9**		
BRAL	**Brewton**	**5.44**	**155**	IAmb_Lg		02 00 40.0			
	comp=Z,60nm,0.9s								
DEOK	**Depew**	**5.52**	**269**	Pn	**Pn**	**01 58 59.0**	**+0.2**		
DEOK					**Pg**	**01 59 21.9**	**-1.1**		
DEOK					LR	02 00 31.6			
DEOK				IAmb_Lg		02 00 37.3			
	comp=Z,79nm,1.1s								
T35A	**Sooner Cattle**	**5.54**	**280**	IAmb_Lg		02 00 37.3			
	comp=Z,59nm,0.9s								
V53A	**Saluda**	**5.61**	**93**	Pn	**Pn**	**01 59 01.3**	**+1.2**		
V53A				IAmb_Lg		02 00 38.0			
	comp=Z,51nm,0.8s								
BG3	**Lake Jocassee**	**5.64**	**100**	Pn	**Pn**	**01 59 01.5**	**+1.1**		
QUOK	**Quay**	**5.67**	**272**	IAmb_Lg		02 00 45.6			
	comp=Z,45nm,0.8s								
N47A	**Urbana**	**5.67**	**32**	IAmb_Lg		02 00 44.8			
	comp=Z,37nm,0.8s								
OK034	**N. Norfolk Rd.**	**5.68**	**271**	IAmb_Lg		02 00 46.8			
	comp=Z,53nm,0.8s								
Q51A	**Peebles**	**5.81**	**58**	Pn	**Pn**	**01 59 04.0**	**+1.3**		
Q51A				IAmb_Lg		02 00 46.4			
	comp=Z,46nm,0.8s								
GOGA	**Godfrey**	**5.81**	**116**	IAmb_Lg		02 00 51.9			
	comp=Z,36nm,0.9s								
OK045	**Pawnee Station**	**5.84**	**275**	IAmb_Lg		02 00 48.9			
	comp=Z,55nm,0.9s								
L42A	**Oliver, Polo**	**5.85**	**0**	IAmb_Lg		02 00 46.2			
	comp=Z,43nm,0.8s								
OK033	**Mehan**	**5.86**	**271**	IAmb_Lg		02 00 52.6			
	comp=Z,50nm,1.0s								
L40A	**Anamosa**	**6.02**	**349**	IAmb_Lg		02 00 45.2			
	comp=Z,40nm,0.8s								
BLOK	**Blackwell**	**6.08**	**278**	IAmb_Lg		02 00 55.2			
	comp=Z,21nm,0.7s								
352A	**Blakely**	**6.12**	**138**	IAmb_Lg		02 00 49.0			
	comp=Z,48nm,0.8s								
P51A	**Williamsport**	**6.22**	**56**	IAmb_Lg		02 00 50.4			
	comp=Z,47nm,0.8s								
KSU1	**Kansas State U**	**6.22**	**300**	Pn	**Pn**	**01 59 09.2**	**+0.7**		
KSU1	**Kansas State U**	**6.22**	**300**	P	**Pn**	**01 59 09.2**	**+0.7**		
	baz=116								
OK029	**Liberty Lake**	**6.30**	**269**	IAmb_Lg		02 01 14.9			
	comp=Z,38nm,1.2s								
SCIA	**State Center**	**6.37**	**336**	IAmb_Lg		02 00 59.3			
	comp=Z,43nm,0.8s								
U54A	**Nelsons Funny**	**6.37**	**84**	IAmb_Lg		02 01 11.8			
	comp=Z,43nm,0.7s								
BCOK	**Bluff Creek, N**	**6.44**	**268**	IAmb_Lg		02 01 00.1			
	comp=Z,21nm,0.7s								
LOOK	**Love County**	**6.50**	**253**	IAmb_Lg		02 01 19.5			
	comp=Z,44nm,1.0s								
Q52A	**Bidwell**	**6.54**	**62**	IAmb_Lg		02 01 13.4			
	comp=Z,45nm,1.0s								
PAULI	**Pauline**	**6.57**	**99**	Pn	**Pn**	**01 59 14.1**	**+0.9**		
N35A	**Tabor**	**6.62**	**317**		**Pn**	**01 59 14.8**	**+0.9**		
ACSO	**Alum Creek Sta**	**6.68**	**50**	IAmb_Lg		02 01 10.4			
	comp=Z,47nm,0.8s								
CROK	**Carrier**	**6.69**	**275**	IAmb_Lg		02 01 06.6			
	comp=Z,87nm,0.8s								
JFWS	**Jewell Farm**	**6.77**	**357**	IAmb_Lg		02 01 07.7			
	comp=Z,37nm,0.8s								
KMSC	**Kings Mountain**	**6.89**	**96**	IAmb_Lg		02 01 15.2			
	comp=Z,30nm,0.8s								
K38A	**Parkersburg**	**6.91**	**341**	IAmb_Lg		02 01 11.6			
	comp=Z,28nm,0.8s								
P52A	**Corning**	**6.92**	**58**	IAmb_Lg		02 01 19.3			
	comp=Z,42nm,0.9s								
L48A	**N Adams**	**7.09**	**34**	IAmb_Lg		02 01 22.8			
	comp=Z,46nm,0.8s								
JSC	**Jenkinsville**	**7.16**	**103**		**Pn**	**01 59 23.1**	**+1.8**		
JSC				IAmb_Lg		02 01 26.6			
	comp=Z,42nm,1.1s								
OK038	**West end E0370**	**7.30**	**275**	IAmb_Lg		02 01 32.3			
	comp=Z,43nm,0.9s								
P53A	**Whipple**	**7.37**	**61**	IAmb_Lg		02 01 29.7			
	comp=Z,33nm,0.9s								
N51A	**Ashland**	**7.46**	**48**	IAmb_Lg		02 01 40.5			
	comp=Z,29nm,0.8s								
U32A	**Winter Ranch,**	**7.51**	**274**	IAmb_Lg		02 01 52.2			
	comp=Z,30nm,0.8s								
R32A	**Long Quarter,**	**7.53**	**290**	IAmb_Lg		02 01 52.9			
	comp=Z,37nm,0.9s								
BLA	**Blacksburg**	**7.53**	**79**	IAmb_Lg		02 01 52.0			
	comp=Z,31nm,0.9s								
O53A	**New Philadelph**	**7.84**	**56**	IAmb_Lg		02 01 45.6			
	comp=Z,25nm,1.0s								
ELIS	**Ellis County**	**7.86**	**272**	IAmb_Lg		02 01 49.0			
	comp=Z,30nm,0.8s								
Y57A	**Sumter**	**7.92**	**103**	IAmb_Lg		02 02 00.7			
	comp=Z,29nm,0.8s								
R55A	**Marlinton**	**7.94**	**72**	IAmb_Lg		02 01 54.2			
	comp=Z,22nm,0.8s								
K31A	**O'Neill**	**9.53**	**315**	IAmb_Lg		02 02 49.6			
	comp=Z,30nm,0.7s								
SADO	**Sadowa**	**11.77**	**40**	Pn	Pn	02 00 17.6	-6.9		
	comp=Z,0.2nm,0.3s,baz=96,slow=18,SNR=1.4								
SADO				Lg	Lg	02 03 29.0			
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=1.3								
	comp=Z,3.5nm,0.9s								
TXAR	**Lajitas Array**	**13.57**	**244**	Pn	**Pn**	**02 00 48.0**	**-1.2**		
	comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=2.9								
TXAR				Sn	**Sn**	**02 03 14.7**	**-5.0**		
	comp=Z,0.1nm,0.3s,baz=58,slow=26,SNR=2.1								
TXAR				Lg	Lg	02 04 39.7			
	comp=Z,0.1nm,0.3s,baz=37,slow=21,SNR=1.4								
	comp=Z,0.2nm,0.4s								
ULM	**Lac du Bonnet**	**14.79**	**344**	Pn	Pn	02 00 57.4	-8.2		
	comp=Z,0.2nm,0.3s,baz=153,slow=6.8,SNR=1.0								
ULM				Lg	Lg	02 05 03.0			
	comp=Z,0.2nm,0.3s,baz=84,slow=18,SNR=1.4								
	comp=Z,1.7nm,0.9s								
PDAR	**Pinedale Array**	**16.68**	**299**	Pn	**Pn**	**02 01 29.8**	**-0.7**		
	comp=Z,0.1nm,0.3s,baz=108,slow=14,SNR=2.1								
PDAR				Lg	Lg	02 06 09.9			
	comp=Z,0.1nm,0.3s,baz=102,slow=32,SNR=2.3								
	comp=Z,0.6nm,0.9s								

IDC ***24*** *02:03:53.4±4.1, 49°.20N×154°.16E, h139km±34km, mb3.3/10, mbtmp3.7/11, Error ellipse: s-maj=31.3km s-min=17.9km az=174.0*

ISC 24 02:03:51.1±1.0, 49°.1N±0°.2×154°.1E±0°.1, h119km, n14, σ0s74/11, mb3.5/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.60**	**28**	P	**Pn**	**02 04 59.9**	**+1.3**
	6.7nm,0.9s,baz=212,slow=14,SNR=2.1						
H11S1	**WAKE ISLAND Hy**	**32.17**	**157**	T	T	02 44 15.6	
	baz=346,slow=76						
H11S3	**WAKE ISLAND Hy**	**32.17**	**157**	T	T	02 44 14.3	
	baz=346						
H11S2	**WAKE ISLAND Hy**	**32.18**	**157**	T	T	02 44 16.1	
	baz=346,slow=76						
ILAR	**Eielson Array**	**34.30**	**41**	P	**P**	**02 10 24.8**	**-0.9**
	0.4nm,0.8s,baz=261,slow=7.1,SNR=5.5						
	0.4nm,0.8s						
INK	**Inuvik**	**39.31**	**34**	P	**P**	**02 11 07.5**	**-0.3**
	1.3nm,0.6s,baz=297,slow=6.2,SNR=11						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**46.49**	**296**	P	**P**	**02 12 06.7**	**+0.6**
	0.3nm,0.6s,baz=82,slow=6.9,SNR=2.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.75**	**302**	P	**P**	**02 12 07.5**	**-0.5**
	0.2nm,0.3s,baz=74,slow=8.2,SNR=4.1						
	0.2nm,0.3s						
ARU	**Arti**	**53.75**	**317**	P	**P**	**02 13 00.3**	**-0.3**
	1.8nm,0.5s,baz=344,slow=5.3,SNR=4.5						
	1.8nm,0.5s						
NVAR	**Mina Array Bea**	**60.77**	**64**	P	**P**	**02 13 49.9**	**-0.5**
	0.3nm,0.6s,baz=299,slow=8.1,SNR=2.4						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**62.20**	**335**	P	**P**	**02 13 59.0**	**-0.4**
	1.2nm,0.6s,baz=90,slow=1.9,SNR=6.5						
	1.2nm,0.6s						
PDAR	**Pinedale Array**	**62.83**	**55**	P	**P**	**02 14 03.9**	**-0.3**
	0.9nm,0.8s,baz=318,slow=1.5,SNR=9.1						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**70.96**	**200**	P	**P**	**02 14 56.2**	**+0.7**
	0.5nm,1.0s,baz=18,slow=6.2,SNR=2.1						
	0.5nm,1.0s						
TXAR	**Lajitas Array**	**75.76**	**62**	P	**P**	**02 15 23.8**	**-0.1**
	0.4nm,0.6s,baz=294,slow=4.4,SNR=6.8						
	0.4nm,0.6s						

WEL 24 02:15:22.7±0.3, 42°S±2°×17°4E±°, h12km±3km, M3.3/40, ML3.7/18, MLv3.3/40, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**170**	P	Pb	02 15 26.7	0.0
CMWZ				S	Sg	02 15 30.1	+2.3
BSWZ	**Blackbirch Sta**	**0.24**	**253**	P	Pb	02 15 28.6	-0.5
BSWZ				S	Sg	02 15 32.8	+1.5
TUWZ	**Tuamarina**	**0.28**	**319**	P	Pb	02 15 29.6	-0.1
TUWZ				S	Sb	02 15 34.5	+0.1
TCW	**Tory Channel**	**0.44**	**9**	P	Pb	02 15 32.1	-0.2
TCW				S	Sb	02 15 38.7	-0.2
WEL	**Wellington**	**0.56**	**51**	P	Pb	02 15 34.6	+0.1
NNZ	**Nelson**	**0.74**	**305**	P	Pb	02 15 37.5	0.0
PLWZ	**Palliser**	**0.80**	**85**	P	Pb	02 15 38.8	+0.3
MSWZ	**Moikau Station**	**0.83**	**74**	P	Pn	02 15 39.8	-0.4
CAW	**Cannon Point**	**0.85**	**51**	P	Pb	02 15 39.5	+0.1
DUWZ	**D'Urville Isla**	**0.87**	**346**	P	Pb	02 15 39.6	-0.1
KHZ	**Kahutara**	**0.91**	**212**	P	Pg	02 15 38.0	-2.2
KIW	**Kapiti Island**	**0.95**	**35**	P	Pg	02 15 40.9	-0.1
PAWZ	**Paruwai Farm**	**0.97**	**75**	P	Pg	02 15 41.2	-0.1
THZ	**Tophouse**	**0.97**	**263**	P	Pg	02 15 41.2	-0.2
MTW	**Mount Morrison**	**1.10**	**64**	P	Pb	02 15 43.1	-0.5
MRNZ	**Matariki Terra**	**1.10**	**282**	P	Pn	02 15 44.0	0.0
TKNZ	**Takaka Hill**	**1.11**	**303**	P	Pg	02 15 43.9	-0.1
OGWZ	**Otaki Gorge**	**1.11**	**42**	P	Pb	02 15 43.8	0.0
TRWZ	**Traveller**	**1.15**	**78**	P	Pb	02 15 43.5	-1.0
HOWZ	**Holdsworth Sta**	**1.25**	**54**	P	Pn	02 15 45.3	-0.6
TMWZ	**Te Maipa**	**1.39**	**68**	P	Pn	02 15 46.7	-1.2
MRZ	**Mangatainoka R**	**1.44**	**47**	P	Pn	02 15 48.2	-0.4
QRZ	**Quartz Range**	**1.50**	**303**	P	Pb	02 15 50.3	-0.1
TIWZ	**Tintock**	**1.55**	**56**	P	Pn	02 15 49.0	-1.1
GVZ	**Greta Valley S**	**1.57**	**213**	P	Pn	02 15 49.3	-1.2
OHWZ	**Ohakea**	**1.67**	**31**	P	Pg	02 15 54.3	-0.4
CPWZ	**Castlepoint**	**1.69**	**65**	P	Pn	02 15 50.9	-1.1
POWZ	**Post Office Ro**	**1.73**	**44**	P	Pn	02 15 52.4	-0.2
PRWZ	**Pori Road**	**1.73**	**52**	P	Pn	02 15 51.8	-0.8
DSZ	**Denniston Nort**	**1.79**	**266**	P	Pn	02 15 54.3	+0.9
LTZ	**Lake Taylor**	**1.82**	**231**	P	Pn	02 15 53.3	-0.6
BFZ	**Birch Farm**	**1.83**	**59**	P	Pn	02 15 52.2	-1.7
AMCZ	**Amberley**	**1.91**	**216**	P	Pn	02 15 53.6	-1.5
WAZ	**Wanganui**	**1.98**	**18**	P	Pb	02 15 58.5	-0.2
DVHZ	**Dannevirke**	**2.01**	**49**	P	Pn	02 15 55.2	-1.2
TSZ	**Takapari Road**	**2.08**	**41**	P	Pb	02 16 00.9	+0.6
LREZ	**Lake Rotokare**	**2.19**	**4**	P	Pb	02 16 02.3	+0.1
OKCZ	**Okains Bay**	**2.24**	**201**	P	Pn	02 15 57.3	-2.2
NMEZ	**Namu Road**	**2.24**	**354**	P	Pb	02 16 03.6	+0.5
PNHZ	**Pukenui**	**2.31**	**42**	P	Pn	02 15 59.8	-0.8
INZ	**Inchbonnie**	**2.31**	**241**	P	Pn	02 16 01.0	+0.5
PRHZ	**Porangahau**	**2.31**	**54**	P	Pn	02 15 59.1	-1.4
OXZ	**Oxford**	**2.31**	**223**	P	Pn	02 15 58.7	-1.9
WPHZ	**Waipukurau**	**2.33**	**48**	P	Pg	02 16 06.8	-0.4
MQZ	**McQueen's Vall**	**2.35**	**208**	P	Pn	02 15 58.3	-2.8
KHEZ	**Kahui Hut**	**2.35**	**357**	P	Pb	02 16 04.0	-1.0
NEZ	**North Egmont**	**2.37**	**358**	P	Pb	02 16 05.5	0.0
NBEZ	**Newall Road No**	**2.39**	**354**	P	Pb	02 16 06.2	+0.6
AKCZ	**Akaroa Harbour**	**2.42**	**203**	P	Pn	02 15 59.7	-2.3
PKE	**Pukeiti**	**2.45**	**356**	P	Pn	02 16 04.6	+2.0
DREZ	**Durham Road**	**2.45**	**0**	P	Pn	02 16 04.6	+2.1
MTVZ	**Mangateitei**	**2.46**	**24**	P	Pb	02 16 06.6	-0.2
PKVZ	**Pokaka**	**2.51**	**21**	P	Pb	02 16 07.0	-0.8
MOVZ	**Moawhango**	**2.53**	**29**	P	Pb	02 16 06.4	-1.8
WNVZ	**Wahianoa**	**2.55**	**25**	P	Pb	02 16 07.4	-1.1
VRZ	**Vera Road**	**2.56**	**10**	P	Pn	02 16 05.9	+2.0
TRVZ	**Turoa**	**2.56**	**24**	P	Pb	02 16 07.5	-1.2
BHHZ	**Black Hill Sta**	**2.58**	**34**	P	Pn	02 16 06.2	+1.9
DRZ	**Dome Shelter**	**2.59**	**24**	P	Pb	02 16 09.2	0.0
WHVZ	**Whangaehu Hut**	**2.59**	**25**	P	Pb	02 16 07.2	-2.0
FWVZ	**Far West T-bar**	**2.60**	**24**	P	Pb	02 16 08.9	-0.5
NGZ	**Ngauruhoe**	**2.69**	**24**	P	Pb	02 16 09.2	-1.7
SNVZ	**South Ngauruho**	**2.69**	**25**	P	Pb	02 16 09.2	-1.7
OTVZ	**Oturere**	**2.72**	**25**	P	Pn	02 16 08.7	+2.3
NNVZ	**North Ngauruho**	**2.74**	**24**	P	Pb	02 16 09.9	-1.8
TWVZ	**Taurewa**	**2.74**	**21**	P	Pn	02 16 08.5	+1.9
KAHZ	**Kahuranaki**	**2.75**	**49**	P	Pn	02 16 04.8	-1.9
ETVZ	**East Tongariro**	**2.76**	**25**	P	Pb	02 16 10.3	-1.7
KRVZ	**Karewarewa**	**2.78**	**24**	P	Pb	02 16 10.4	-2.0
TMVZ	**Te Maari**	**2.78**	**25**	P	Pb	02 16 10.3	-2.0
NTVZ	**North Tongarir**	**2.79**	**25**	P	Pb	02 16 10.1	-2.4
KWHZ	**Kaweka Forest**	**2.80**	**38**	P	Pb	02 16 13.1	+0.5
KATZ	**Kakaramea**	**2.91**	**24**	P	Pb	02 16 15.1	+0.6
WVZ	**Waitaha Valley**	**2.93**	**240**	P	Pb	02 16 12.2	-2.6
RITZ	**Rihia Road**	**2.96**	**26**	P	Pb	02 16 15.2	-0.1
RATZ	**Rangitukua**	**3.03**	**24**	P	Pb	02 16 18.0	+1.5
BKZ	**Black Stump Fm**	**3.04**	**36**	P	Pb	02 16 16.9	+0.2
RPZ	**Rata Peaks**	**3.10**	**227**	P	Pn	02 16 10.2	-1.2
HIZ	**Hauiti**	**3.17**	**9**	P	Pn	02 16 15.3	+2.9
MRHZ	**Matea Rd**	**3.29**	**32**	P	Pb	02 16 22.1	+1.2
GCSZ	**Gaunt Creek Bo**	**3.31**	**238**	P	Pb	02 16 18.4	-2.9
TLZ	**Tolley Road**	**3.47**	**18**	P	Pn	02 16 20.3	+3.8
TMZ	**Timaru**	**3.60**	**219**	P	Pn	02 16 16.8	-1.5
FOZ	**Fox Glacier**	**3.74**	**238**	P	Pb	02 16 20.5	+0.3
URZ	**Urewera**	**4.06**	**35**	P	Pb	02 16 32.3	-1.8
ODZ	**Otahua Downs**	**4.27**	**216**	P	Pn	02 16 24.9	-2.6
AWAZ	**Awhitu Peninsu**	**4.59**	**5**	P	Pn	02 16 35.0	+3.1
JCZ	**Jackson Bay**	**4.66**	**237**	P	Pn	02 16 35.9	+3.1
PKGZ	**Pakihiroa**	**4.80**	**40**	P	Pn	02 16 36.0	+1.2

NIED ***24*** *02:21:30.6, 37°.11N×141°.33E, h28km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.25; Mθθ-0.08; Mφφ1.33; Mrθ-0.02; Mφθ0.38; Mφr0.29; Fault plane solution: M₀1.37000×10¹⁴ NP1:φs19.00000°, δ39.00000°, λ-83.00000°. NP2:φs190.00000°, δ51.00000°, λ-96.00000°.*

JMA ***24*** *02:21:30.6±0.1, 37°.1N±0°.3×141°.3E±0°.7, h28km, MV3.7/40, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

IDC ***24*** *02:21:31.0±1.6, 36°.59N×141°.34E, h0km, mb3.4/3, mbtmp3.3/4, ML2.2/1, Error ellipse: s-maj=34.0km s-min=28.4km az=167.0*

ISC 24 02:21:29.9±1.8, 37°.10N±0°.05×141°.38E±0°.07, h20km±4km, n19, σ0s63/21, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**303**	P	**Pg**	**02 21 39.6**	**-0.1**
JFK				S	**Sg**	**02 21 45.9**	**-0.5**
JFFD	**Fukushimafurud**	**0.66**	**269**	P	**Pb**	**02 21 42.6**	**-0.1**
JFFD				*e*S	**Sb**	**02 21 50.9**	**-0.4**
JMST	**Minamisoumatoc**	**0.73**	**328**	P	**Pb**	**02 21 44.0**	**0.0**
JMST				S	**Sb**	**02 21 53.6**	**0.0**
JHO	**Hitachi**	**0.82**	**233**	P	**Pb**	**02 21 44.9**	**-0.5**
JHO				S	**Sb**	**02 21 55.6**	**-0.4**
JMM	**Marumori**	**0.89**	**329**	*i* P	**Pb**	**02 21 46.6**	**-0.1**
JMM				S	**Sb**	**02 21 58.2**	**-0.1**
JSB	**Shiboa**	**1.18**	**264**	*e*P	**Pb**	**02 21 51.9**	**+0.3**
JSB				S	**Sn**	**02 22 07.2**	**+0.5**
JIO	**Ouri**	**1.35**	**359**	P	**Pn**	**02 21 53.5**	**-0.1**
JIO				S	**Sn**	**02 22 10.3**	**-0.7**
JFY	**Yanaizu**	**1.37**	**283**	P	**Pb**	**02 21 54.9**	**0.0**
JFY				S	**Sb**	**02 22 12.6**	**+0.6**
JOU	**Okura**	**1.38**	**336**	P	**Pb**	**02 21 54.8**	**-0.3**
JOU				S	**Sb**	**02 22 12.8**	**+0.4**
MJAR	**Matsushiro Arr**	**2.61**	**259**	Pn	**Pn**	**02 22 11.8**	**+0.8**
	0.5nm,0.3s,baz=84,slow=15,SNR=14						
MJAR				Sn	**Sb**	**02 22 45.7**	**-1.9**
	1.9nm,0.3s,baz=68,slow=10,SNR=5.3						
	2.6nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	02 56 54.7	
	baz=314,slow=75						
**H

*JMA **24** 02:48:33.4±0.2,37.3°N±0.4×14.2°E±, h37km±1km, MV3.4/38,E OFF FUKUSHIMA PREF*

ISC 24 02:48:31.5±1.9,37°22'N±0'04×141°62'E±0'08, h8km±10km, n24,σ0§84/27,mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.61**	**284**	P			**Pb**	**02 48 44.5**	**+0.1**
JFK				*eS*			**Sg**	**02 48 52.0**	**+0.8**
JMST	**Minamisoumatoc**	**0.77**	**311**	*i* P			**Pg**	**02 48 46.9**	**+0.6**
JMST				*eS*			**Sg**	**02 48 56.4**	**+0.1**
JFFD	**Fukushimafurud**	**0.85**	**262**	P			**Pg**	**02 48 48.3**	**+0.4**
JFFD				S			**Sg**	**02 48 58.9**	**0.0**
JMM	**Marumori**	**0.92**	**315**	P			**Pg**	**02 48 49.2**	**+0.1**
JMM				S			**Sg**	**02 49 00.6**	**-0.5**
JHO	**Hitachi**	**1.03**	**234**	P			**Pg**	**02 48 51.0**	**-0.3**
JHO				*eS*			**Sg**	**02 49 03.9**	**-0.9**
JIO	**Ouri**	**1.25**	**350**	P			**Pn**	**02 48 54.3**	**-0.9**
JIO				*eS*			**Sb**	**02 49 09.0**	**-2.6**
JOU	**Okura**	**1.37**	**327**	P			**Pn**	**02 48 57.1**	**+0.2**
JOU				S			**Sb**	**02 49 14.1**	**-0.9**
JFY	**Yanaizu**	**1.53**	**278**	P			**Pn**	**02 48 59.5**	**+0.4**
JFY				S			**Sn**	**02 49 18.6**	**-0.7**
JYS	**Shirataka**	**1.58**	**310**	P			**Pn**	**02 49 00.8**	**+1.0**
JYS				S			**Sn**	**02 49 20.5**	**0.0**
MJAR	**Matsushiro Arr**	**2.81**	**257**	Pn			**Pn**	**02 49 16.0**	**-0.7**
	0.4nm,0.3s,baz=80,slow=17,SNR=8.5								
MJAR				Sn			**Sn**	**02 49 50.8**	**-0.1**
	0.7nm,0.3s,baz=95,slow=18,SNR=4.2								
MJAR				LR			LR	02 50 10.8	
	comp=Z,17nm,19.9s,baz=166,slow=36 7.3nm,0.7s								
KSRS	**Korea Array**	**10.91**	**275**	Pn			Pn	02 51 12.9	+5.2
	baz=81,slow=14,SNR=1.3								
SONM	**Songino Array**	**27.82**	**304**	P			**P**	**02 54 20.7**	**-0.5**
	0.4nm,0.7s,baz=62,slow=12,SNR=3.0 0.4nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T			T	03 23 48.7	
	baz=314,slow=75,SNR=23								
H11N1	**WAKE ISLAND Hy**	**28.11**	**121**	T			T	03 23 51.9	
	baz=314,slow=75,SNR=19								
H11N3	**WAKE ISLAND Hy**	**28.12**	**121**	T			T	03 23 49.9	
	baz=314,slow=75,SNR=23								
H11S1	**WAKE ISLAND Hy**	**28.82**	**123**	T			T	03 24 45.1	
	baz=316,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**28.83**	**123**	T			T	03 24 43.5	
	baz=316,slow=76,SNR=14								
H11S2	**WAKE ISLAND Hy**	**28.84**	**123**	T			T	03 24 46.3	
	baz=316,slow=76,SNR=13								
MKAR	**Makanchi Array**	**44.16**	**302**	P			**P**	**02 56 40.1**	**-0.5**
	0.6nm,0.7s,baz=82,slow=12,SNR=4.9 0.6nm,0.7s								
ILAR	**Eielson Array**	**49.25**	**32**	P			**P**	**02 57 20.9**	**+0.7**
	0.5nm,1.1s,baz=262,slow=5.8,SNR=2.9 0.5nm,1.1s								
WRA	**Warramunga Arr**	**57.27**	**188**	P			**P**	**02 58 19.2**	**-0.3**
	0.3nm,0.6s,baz=4.2,slow=6.9,SNR=6.5 0.3nm,0.6s								
ASAR	**Alice Springs**	**60.99**	**188**	P			**P**	**02 58 46.0**	**+0.7**
	0.3nm,0.6s,baz=9.3,slow=6.9,SNR=2.2 0.3nm,0.6s								
NOA	**NORSAR Array B**	**74.08**	**337**	P			**P**	**03 00 09.1**	**+1.4**
	0.3nm,0.3s,baz=54,slow=7.5,SNR=1.9 0.3nm,0.3s								
LPAZ	**La Paz**	**146.46**	**60**	PKPbc			**PKPdf**	**03 08 13.0**	**0.0**
	0.7nm,0.4s,baz=328,slow=5.3,SNR=4.6								

*MEX **24** 02:51:27.3±0.8,32°33N×115°55W, h50km±14km, MD2.7*

ECX 24 02:51:26.9±0.6,32°23N×115°62W, h6km±5km, MD2.6, ML2.8,10C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.30**	**108**	*i* P			Pg	02 51 31.8	-0.9
CPBX	**Cerro Prieto**	**0.33**	**54**	*e* P			Pg	02 51 33.1	-0.2
CPBX				*e*				02 51 40.6	
CPBX				IAML				02 51 40.6	
	comp=E,5µm,0.2s								
MBIG	**Mexicali**	**0.40**	**63**	*e* P			Pg	02 51 33.3	-1.3
MBIG				*e* P			Pb	02 51 34.6	-1.8
MBIG				*e* S			Sg	02 51 38.0	-1.8
MBIG				*i* S			Sb	02 51 41.6	-1.1
SGL	**Mount Signal**	**0.43**	**348**	⇓*i* P			Pg	02 51 34.6	-0.6
CTLX	**Tlaxcala, TLX**	**0.47**	**59**	*e* P			Pg	02 51 36.0	+0.1
CTLX				IAML				02 51 44.8	
	comp=N,610nm,0.3s								
CTLX				⇑*e*				02 51 44.8	
CTLX				IAML				02 51 45.7	
	comp=E,723nm,0.3s								
YUH2	**Yuha Desert**	**0.49**	**328**	*e* P			Pg	02 51 35.6	-0.8
YUH2				*e* S			Sg	02 51 42.0	-0.8
WESC	**Westside Schoo**	**0.54**	**350**	*e* P			Pg	02 51 36.9	-0.4
RMX	**La Rumorosa**	**0.54**	**314**	⇑*i* P			Pg	02 51 35.5	-1.8
RMX				*e* S			Sg	02 51 42.0	-2.4
RMX				⇑*e*				02 51 42.3	
RMX				IAML				02 51 42.3	
	comp=E,605nm,0.2s								
RMX				IAML				02 51 42.3	
	comp=N,712nm,0.2s								
RMX				⇑*e*				02 51 42.3	
SJX	**San Joaquin**	**0.55**	**212**	⇑*i* P			Pg	02 51 33.6	-3.8
SJX				*e* S			Sg	02 51 38.6	-6.0
IKP	**In-Ko-Pah, Jac**	**0.59**	**315**	⇑*i* P			Pg	02 51 37.5	-0.8
IKP				*e* S			Sg	02 51 45.1	-0.9
SWSC	**Sam W. Stewart**	**0.73**	**348**	*e* P			Pg	02 51 39.8	-1.2
SWSC				*e* S			Sg	02 51 49.8	-0.6
VTX	**Valle De La Tr**	**0.85**	**190**	⇓*i* P			Pg	02 51 42.0	-1.2
VTX				*e* S			Sg	02 51 53.1	-1.0
CBX	**Cerro Bola**	**0.89**	**276**	⇑*i* P			Pg	02 51 42.9	-1.1
CBX	**Cerro Bola**	**0.89**	**276**	*e* P			Pg	02 51 42.7	-1.3
CBX				*e* S			Sg	02 51 54.9	-0.7
ECBX	**El Chinero**	**0.90**	**147**	*e* P			Pg	02 51 42.6	-1.5
ECBX				*e* S			Sg	02 51 54.3	-1.3
TJIG	**Tijuana**	**0.92**	**283**	*e* P			Pg	02 51 43.1	-1.4
TJIG	**Tijuana**	**0.92**	**283**	*e* P			Pg	02 51 43.1	-1.4
TJIG				*e* S			Sg	02 51 54.8	-1.7
MONP2	**Monument Peak**	**0.95**	**314**	*e* P			Pg	02 51 43.9	-1.3
MONP2				*e* S			Sg	02 51 56.1	-1.4
BAR	**Barrett**	**1.00**	**297**	⇑*e* P			Pg	02 51 44.6	-1.4
BAR				*e* S			Sg	02 51 57.3	-1.7
SPIG	**San Pedro Mart**	**1.19**	**174**	*e* P			Pg	02 51 47.2	-2.5
SPIG				*e* S			Sg	02 52 03.2	-1.9
SDRC	**San Diego Road**	**1.23**	**295**	*e* P			Pg	02 51 48.4	-2.1
EML	**El Monte Cty P**	**1.23**	**303**	*e* P			Pg	02 51 48.4	-2.1
EML				*e* S			Sg	02 52 04.2	-2.3
SFX	**San Felipe**	**1.36**	**151**	*e* P			Pn	02 51 50.2	-2.2
SFX				⇑*e*				02 52 09.2	
SFX				IAML				02 52 09.2	
	comp=N,175nm,0.4s								
SFX				IAML				02 52 10.0	
	comp=E,132nm,0.2s								
SFX				⇓*e*				02 52 10.0	
SFX	**San Felipe**	**1.36**	**151**	*e* P			Pn	02 51 50.2	-2.2
SFX				*e* S			Sb	02 52 07.8	-2.6

*IDC **24** 03:00:45.9±0.8,37.16°N×141.56°E, h0km, mb3.8/9, mbtmp3.8/10,ML2.6/1,MS3.0/6,Error ellipse: s-maj=21.8km s-min=19.8km az=170.0*

*NIED **24** 03:00:47.7,37.22°N×141.66°E, h36km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.93; $M_{\theta\theta}$=4.06; $M_{\phi\phi}$=-1.14; $M_{r\theta}$=2.96; $M_{\theta\phi}$=4.71; $M_{r\phi}$=4.05; Fault plane solution: $M_0$7.48000×10^{14} NP1: ϕ_s=100.00000°,δ38.00000°,λ-24.00000°. NP2: ϕ_s=209.00000°,δ75.00000°,λ-126.00000°.*

*JMA **24** 03:00:47.7±0.2,37.2°N±0.4×141.7°E±1.0, h36km±2km, MD4.1/33,MV4.1/33,E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

*NEIC **24** 03:00:48.6±1.0,37.17°N±0.06×141.33°E±0.08, h13km±5km, mb4.2/7,Error ellipse: s-maj=11.3km s-min=7.0km az=51.0*

ISC 24 03:00:49.8±2.0,37°25N±0'05×141°52E±0'08, h26km±12km, n53,σ1§34/40,mb4.0/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**283**	*i* P			**Pb**	**03 00 60.0**	**-0.5**
JFK				*eS*			**Sb**	**03 01 08.5**	**+0.7**
JFK	**Kawauchi**	**0.53**	**283**	A			A	03 00 60.0	
	comp=E,7.0nm,0.4s,comp=E,10.0nm,0.9s								
JMST	**Minamisoumatoc**	**0.69**	**314**	*i* P			**Pn**	**03 01 02.3**	**-1.6**
JMST				S			Sn	03 01 13.0	-0.8
JMST	**Minamisoumatoc**	**0.69**	**314**	A			A	03 01 02.3	
	comp=E,6.0nm,1.5s,comp=E,12nm,0.4s								
JFFD	**Fukushimafurud**	**0.78**	**259**	P			**Pn**	**03 01 03.7**	**-1.5**
JFFD				S			**Sn**	**03 01 15.2**	**-0.8**
JMM	**Marumori**	**0.84**	**317**	Pg			**Pn**	**03 01 04.7**	**-1.3**
JMM				Sg			Sn	03 01 15.6	-2.0
JMM	**Marumori**	**0.84**	**317**	*i* P			**Pn**	**03 01 04.7**	**-1.3**
JMM				S			**Sn**	**03 01 16.7**	**-0.9**
JHO	**Hitachi**	**0.99**	**230**	P			**Pn**	**03 01 06.3**	**-1.7**
JHO				S			**Sn**	**03 01 19.8**	**-1.4**
JIO	**Ouri**	**1.21**	**354**	*i* P			**Pn**	**03 01 09.5**	**-1.6**
JIO				S			**Sn**	**03 01 25.2**	**-1.5**
JOU	**Okura**	**1.31**	**329**	A			A	03 01 11.5	
	comp=E,8.0nm,1.0s,comp=E,7.0nm,0.5s								
JSB	**Shiboa**	**1.31**	**258**	A			A	03 01 11.7	
	comp=E,14nm,1.3s,comp=E,9.0nm,1.3s								
JFY	**Yanaizu**	**1.45**	**277**	A			A	03 01 14.1	
	comp=E,3.0nm,0.9s,comp=E,3.0nm,2.0s								
JYS	**Shirataka**	**1.51**	**311**	A			A	03 01 14.7	
	comp=E,13nm,1.0s,comp=E,14nm,1.0s								
JYA	**Atsumi**	**1.96**	**314**	A			A	03 01 21.2	
	comp=E,5.0nm,0.8s,comp=E,6.0nm,1.1s								
MJAR	**Matsushiro Arr**	**2.74**	**256**	Pn			**Pn**	**03 01 33.1**	**+0.9**
	1.0nm,0.3s,baz=83,slow=15,SNR=18								
MJAR				Sn			**Sn**	**03 02 07.3**	**+2.9**
	1.8nm,0.3s,baz=23,slow=30,SNR=6.8								
MJAR				LR			LR	03 02 50.8	
	comp=Z,127nm,18.8s,baz=344,slow=45 5.9nm,0.4s								
MAJO	**Matsushiro**	**2.75**	**256**	Pn			**Pn**	**03 01 29.8**	**-2.4**
MJB9	**Matsu-Tunnel**	**2.75**	**256**	Pn			**Pn**	**03 01 30.6**	**-1.6**
JTM	**Tenmabayashi**	**3.55**	**354**				**Pn**	**03 01 44.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.02**	**317**	Pn			**Pn**	**03 03 15.6**	**+3.6**
	baz=108,slow=14								
USRK				LR			LR	03 06 39.6	
	comp=Z,92nm,20.6s,baz=112,slow=35								
KSRS	**Korea Array**	**10.83**	**275**	Pn			Pn	03 03 28.4	+5.4
	0.2nm,0.3s,baz=83,slow=12,SNR=2.8								
KSRS				LR			LR	03 07 19.6	
	comp=Z,38nm,21.7s,baz=75,slow=36								
KLR	**Kul'dur**	**13.92**	**332**	LR			LR	03 08 46.4	
	comp=Z,36nm,18.6s,baz=94,slow=34								
SONM	**Songino Array**	**27.74**	**304**	P			**P**	**03 06 36.0**	**-0.2**
	1.2nm,0.7s,baz=104,slow=9.2,SNR=8.5 1.2nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.19**	**121**	T			T	03 35 54.0	
	baz=314,slow=75,SNR=276								
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T			T	03 36 08.0	
	baz=314,slow=75,SNR=198								
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T			T	03 35 59.0	
	baz=314,slow=75,SNR=188								
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T			T	03 36 59.0	
	baz=316,slow=76,SNR=178								
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T			T	03 36 59.3	
	baz=316,slow=76,SNR=103								
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T			T	03 36 48.2	
	baz=316,slow=76,SNR=89								
AMKA	**Amchitka**	**30.13**	**50**	P			P	03 07 02.3	+5.0
ZALV	**Zalesovo Beam**	**41.83**	**312**	P			**P**	**03 08 37.4**	**+0.2**
	2.8nm,0.6s,baz=87,slow=6.4,SNR=11 2.8nm,0.6s								
ZALV	**Zalesovo Beam**	**41.83**	**312**	P			**P**	**03 08 36.8**	**-0.5**
MK31	**Makanchi Array**	**44.08**	**302**	P			**P**	**03 08 54.9**	**-0.7**
MK31				IAmb			IAmb	03 08 57.0	
	comp=Z,2.6nm,0.8s								
MKAR	**Makanchi Array**	**44.08**	**302**	P			**P**	**03 08 56.0**	**+0.5**
	comp=Z,2.8nm,0.9s,bas=88,slow=9.8,SNR=14 comp=Z,2.8nm,0.9s								
MKAR	**Makanchi Array**	**44.08**	**302**	P			**P**	**03 08 55.4**	**-0.2**
MAKZ	**Makanchi**	**44.29**	**302**	P			**P**	**03 08 56.3**	**-1.0**
MAKZ				IAmb			IAmb	03 08 59.1	
	comp=Z,3.2nm,0.9s								
KURK	**Kurchatov**	**45.87**	**308**	P			**P**	**03 09 09.1**	**-0.6**
KURK				IAmb			IAmb	03 09 11.6	
	comp=Z,4.2nm,0.8s								
ILAR	**Eielson Array**	**49.27**	**32**	P			**P**	**03 09 36.5**	**+0.5**
	comp=Z,8.8nm,0.8s,baz=265,slow=6.8,SNR=7.7 comp=Z,0.8nm,0.8s								
BATI	**Baumata**	**50.09**	**203**	LR			LR	03 33 39.4	
	comp=Z,23nm,18.4s,baz=360,slow=40								
KK31	**Karatay Array**	**53.09**	**300**	P			**P**	**03 10 05.6**	**+0.7**
KK31				IAmb			IAmb	03 10 08.2	
	comp=Z,3.2nm,1.2s								
KKAR	**Karatay Array**	**53.09**	**300**	P			**P**	**03 10 05.4**	**+0.5**
KKAR	**Karatay Array**	**53.09**	**300**	P			**P**	**03 10 04.4**	**-0.5**
KKAR				IAmb			IAmb	03 10 08.2	
	comp=Z,3.2nm,1.2s								
CHGR	**Chuyangaron**	**55.65**	**295**	P			**P**	**03 10 22.4**	**-1.3**
ARU	**Arti**	**56.26**	**318**	LR			LR	03 36 49.8	
	comp=Z,33nm,19.6s,baz=184,slow=38								
WRA	**Warramunga Arr**	**57.28**	**188**	P			**P**	**03 10 34.0**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=5.4,slow=7.3,SNR=6.6 comp=Z,0.7nm,0.6s								
ABKAR	**Akbulak array**	**57.87**	**310**	P			**P**	**03 10 39.5**	**+0.4**
ASAR	**Alice Springs**	**61.01**	**188**	P			**P**	**03 11 00.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=8.2,slow=5.6,SNR=6.2 comp=Z,0.5nm,0.7s								
AKASG	**Malin Array Be**	**74.18**	**322**	P			**P**	**03 12 24.4**	**+0.5**
	comp=Z,0.2nm,0.2s,baz=46,slow=5.9,SNR=3.3 comp=Z,0.2nm,0.2s								
NVAR	**Mina Array Bea**	**74.80**	**53**	P			**P**	**03 12 29.3**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=305,slow=6.5,SNR=3.7 comp=Z,0.3nm,0.7s								
TXAR	**Lajitas Array**	**89.93**	**52**	P			**P**	**03 13 46.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=331,slow=4.2,SNR=4.1 comp=Z,0.2nm,0.5s								
LPAZ	**La Paz**	**146.51**	**59**	PKPbc			**PKPbc**	**03 20 30.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=270,slow=2.0,SNR=1.7								
H03N2	**Juan Fernandez**	**146.96**	**96**	T			T	06 04 40.6	
	baz=292								
H03N3	**Juan Fernandez**	**146.97**	**96**	T			T	06 04 53.0	
	baz=292								
H03N1	**Juan Fernandez**	**146.98**	**96**	T			T	06 04 42.7	
	baz=292								

*WEL **24** 03:03:59.5±0.3,42.2°S×174.4°E±, h5km±2km, M3.3/37, ML3.5/18,MLv3.3/37,Error ellipse: s-maj=0.0km s-min=0.0km az=145.0*

*NOU **24** 03:03:59.3,41.87°S×174.45E, h12km, MLv3.7/10, Cook Strait, New Zealand*

ISC 24 03:03:59.2±0.9,41°74S±0'03×174°26E±0'02, h9km±6km, n66,σ1§10/72, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**245**	P			**Pg**	**03 04 00.6**	**-0.2**
CMWZ				S			**Sg**	**03 04 02.3**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.28**	**274**	P			**Pg**	**03 04 04.8**	**-0.1**
BSWZ				S			**Sg**	**03 04 09.5**	**+0.8**
TUWZ	**Tuamarina**	**0.39**	**322**	P			**Pg**	**03 04 06.6**	**-0.1**
TUWZ				S			**Sg**	**03 04 12.1**	**+0.3**
TCW	**Tory Channel**	**0.52**	**2**	P			**Pg**	**03 04 09.0**	**-0.4**
SNZO	**South Karori**	**0.54**	**39**	P			**Pb**	**03 04 10.6**	**-0.3**
WEL	**Wellington**	**0.59**	**41**	P			**Pg**	**03 04 11.2**	**+0.6**
WEL				S			**Sb**	**03 04 20.0**	**-0.2**
PLWZ	**Palliser**	**0.77**	**78**	P			**Pb**	**03 04 15.4**	**+0.7**
PLWZ				S			**Sn**	**03 04 28.9**	**+0.9**
MSWZ	**Moikau Station**	**0.81**	**67**	P			**Pb**	**03 04 16.5**	**+1.0**
NNZ	**Nelson**	**0.84**	**308**	P			**Pg**	**03 04 14.6**	**-0.7**
KHZ	**Kahutara**	**0.86**	**218**	P			**Pb**	**03 04 17.6**	**+1.2**
KHZ	**Kahutara**	**0.86**	**218**	P			**Pb**	**03 04 17.2**	**+0.8**
CAW	**Cannon Point**	**0.88**	**44**	P			**Pg**	**03 04 16.1**	**+0.1**
PAWZ	**Paruwai Farm**	**0.95**	**69**	P			**Pg**	**03 04 18.1**	**+0.7**
PAWZ				S			**Sn**	**03 04 32.8**	**+0.4**
DUWZ	**D'Urville Isla**	**0.97**	**345**	P			**Pg**	**03 04 16.8**	**-1.0**
KIW	**Kapiti Island**	**1.00**	**30**	P			**Pg**	**03 04 17.9**	**-0.6**
THZ	**Tophouse**	**1.01**	**268**	P			**Pg**	**03 04 18.3**	**-0.3**
MTW	**Mount Morrison**	**1.10**	**59**	P			**Pg**	**03 04 20.2**	**-0.1**
TRWZ	**Traveller**	**1.13**	**73**	P			**Pg**	**03 04 20.4**	**-0.4**
OGWZ	**Otaki Gorge**	**1.15**	**37**	P			**Pg**	**03 04 20.8**	**-0.4**
MRNZ	**Matariki Terra**	**1.17**	**286**	P			**Pg**	**03 04 21.2**	**-0.5**
TKNZ	**Takaka Hill**	**1.20**	**305**	P			**Pg**	**03 04 21.0**	**-1.2**
HOWZ	**Holdsworth Sta**	**1.27**	**49**	P			**Pg**	**03 04 22.6**	**-0.8**
TMWZ	**Te Maipa**	**1.38**	**64**	P			**Pn**	**03 04 23.8**	**-0.9**
MRZ	**Mangatainoka R**	**1.47**	**43**	P			**Pn**	**03 04 25.5**	**-0.3**
TIWZ	**Tintock**	**1.56**	**53**	P			**Pn**	**03 04 26.9**	**-0.3**
QRZ	**Quartz Range**	**1.59**	**304**	P			**Pb**	**03 04 28.6**	**-0.1**
QRZ	**Quartz Range**	**1.59**	**304**	P			**Pn**	**03 04 27.9**	**+0.4**
CPWZ	**Castlepoint**	**1.68**	**61**	P			**Pn**	**03 04 28.7**	**-0.1**
PRWZ	**Pori Road**	**1.75**	**48**	P			**Pn**	**03 04 29.2**	**-0.6**
POWZ	**Post Office Ro**	**1.76**	**41**	P			**Pn**	**03 04 29.9**	**-0.1**
LTZ	**Lake Taylor**	**1.81**	**234**	P			**Pn**	**03 04 30.3**	**-0.2**
BFZ	**Birch Farm**	**1.83**	**56**	P			**Pn**	**03 04 29.8**	**-1.1**
BFZ	**Birch Farm**	**1.83**	**56**	P			**Pn**	**03 04 29.5**	**-1.4**
DSZ	**Denniston Nort**	**1.83**	**269**	P			**Pn**	**03 04 31.5**	**+0.6**
DVHZ	**Dannevirke**	**2.04**	**46**	P			**Pn**	**03 04 32.5**	**-1.2**
WAZ	**Wanganui**	**2.06**	**16**	P			**Pb**	**03 04 37.1**	**+0.4**
TSZ	**Takapari Road**	**2.12**	**38**	P			**Pn**	**03 04 34.4**	**-0.4**
MQZ	**McQueen's Vall**	**2.30**	**210**	P			**Pn**	**03 04 35.1**	**-2.1**
PRHZ	**Porangahau**	**2.32**	**52**	P			**Pn**	**03 04 36.6**	**-1.0**
PNHZ	**Pukenui**	**2.34**	**40**	P			**Pn**	**03 04 37.1**	**-0.8**
KHEZ	**Kahui Hut**	**2.44**	**356**	P			**Pb**	**03 04 42.6**	**-0.8**
PKE	**Pukeiti**	**2.55**	**355**	P			**Pb**	**03 04 43.5**	**-1.5**
PKVZ	**Pokaka**	**2.58**	**19**	P			**Pb**	**03 04 45.6**	**-0.1**
MOVZ	**Moawhango**	**2.59**	**27**	P			**Pn**	**03 04 44.0**	**+2.6**
WNVZ	**Wahianoa**	**2.61**	**23**	P			**Pn**	**03 04 43.3**	**+1.5**
TRVZ	**Turoa**	**2.62**	**22**	P			**Pb**	**03 04 46.3**	**-0.2**
BHHZ	**Black Hill Sta**	**2.63**	**32**	P			**Pb**	**03 04 46.0**	**-0.6**
VRZ	**Vera Road**	**2.64**	**9**	P			**Pb**	**03 04 44.8**	**-1.8**
WHVZ	**Whangaehu Hut**	**2.65**	**23**	P			**Pb**	**03 04 46.8**	**-0.2**
FWVZ	**Far West T-bar**	**2.67**	**22**	P			**Pb**	**03 04 46.4**	**-0.8**
TUVZ	**Tukino**	**2.69**	**24**	P			**Pn**	**03 04 44.4**	**+1.6**
NGZ	**Ngauruhoe**	**2.75**	**22**	P			**Pn**	**03 04 44.9**	**+1.2**
SNVZ	**South Ngauruho**	**2.76**	**23**	P			**Pn**	**03 04 46.6**	**+2.8**
KAHZ	**Kahuranaki**	**2.78**	**47**	P			**Pn**	**03 04 42.5**	**-1.4**
OTVZ	**Oturere**	**2.79**	**23**	P			**Pn**	**03 04 45.0**	**+0.9**
NNVZ	**North Ngauruho**	**2.80**	**22**	P			**Pn**	**03 04 47.1**	**+2.8**
TWVZ	**Taurewa**	**2.81**	**19**	P			**Pb**	**03 04 48.9**	**-0.7**
ETVZ	**East Tongariro**	**2.82**	**24**	P			**Pb**	**03 04 49.6**	**-0.3**
TMVZ	**Te Maari**	**2.84**	**23**	P			**Pb**	**03 04 48.2**	**-2.0**
NTVZ	**North Tongarir**	**2.85**	**23**	P			**Pn**	**03 04 47.3**	**+2.3**
RPZ	**Rata Peaks**	**3.08**	**229**	P			**Pn**	**03 04 47.3**	**-0.7**
BKZ	**Black Stump Fm**	**3.08**	**34**	P			**Pn**	**03 04 48.5**	**+0.4**
HIZ	**Hauiti**	**3.25**	**8**	P			**Pn**	**03 04 51.7**	**+1.3**
HIZ	**Hauiti**	**3.25**	**8**	P			**Pn**	**03 04 52.8**	**+2.4**
ODZ	**Otahua Downs**	**4.23**	**217**	P			**Pn**	**03 05 02.6**	**-1.2**
JCZ	**Jackson Bay**	**4.65**	**238**	P			**Pn**	**03 05 10.5**	**+0.8**

*IDC **24** 03:12:27.4±0.6,37.03°N×141.30°E, h0km, mb3.9/15, mbtmp3.9/17,ML3.8/2,MS3.1/4, Error ellipse: s-maj=20.1km s-min=16.4km az=87.0*

*JMA **24** 03:12:29.7±0.1,37.1°N±0.3×141.4°E±0.7, h33km, MD4.3/39, MV4.3/39,E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

*NEIC **24** 03:12:29.9±2.1,37.14°N±0.05×141.36°E±0.09, h10km±1km, mb4.4/13,Error ellipse: s-maj=12.6km s-min=6.8km az=64.0*

*NIED **24** 03:12:29.7,37.07N×141.36E, h33km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=6.70; $M_{\theta\theta}$3.36; $M_{\phi\phi}$3.34; $M_{r\theta}$2.33; $M_{\theta\phi}$3.93; $M_{r\phi}$2.57; Fault plane solution: $M_0$7.80000×10^{14} NP1:ϕ_s47.00000°, δ32.00000°,λ-88.00000°. NP2:ϕ_s224.00000°,δ58.00000°, λ-92.00000°.*

ISC 24 03:12:28.8±1.5,37°07N±0'04×141°38E±0'06, h9km±9km, n83,σ1§41/71,mb4.0/21,2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.50**	**307**	*i* P			**Pb**	**03 12 39.6**	**-0.1**
JFK				S			**Sb**	**03 12 46.4**	**-0.7**
JFK	**Kawauchi**	**0.50**	**307**	A

K20K	**Telida**	**46.31**	**34**	P	**P**	**03 20 55.5**	**+1.0**
K20K				IAmb	IAmb	03 21 12.9	
	comp=Z,4.4nm,1.1s						
IMAR	**Indian Mountai**	**46.63**	**31**	P	**P**	**03 20 57.5**	**+0.5**
CAST	**Castle Rocks**	**47.21**	**34**	P	**P**	**03 21 02.9**	**+1.3**
CAST				IAmb	IAmb	03 21 37.1	
	comp=Z,4.0nm,1.4s						
PMR	**Palmer**	**48.61**	**37**	P	**P**	**03 21 12.3**	**-0.1**
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**03 21 19.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=267,slow=6.1,SNR=17						
	comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**50.52**	**312**	P	**P**	**03 21 27.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=54,slow=7.3,SNR=2.4						
	comp=Z,0.3nm,0.5s						
KNRA	**Kununurra**	**53.80**	**195**	P	**P**	**03 21 51.9**	**+0.1**
INK	**Inuvik**	**54.37**	**27**	P	**P**	**03 21 55.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=319,slow=5.2,SNR=4.6						
	comp=Z,0.4nm,0.3s						
INK	**Inuvik**	**54.37**	**27**	P	**P**	**03 21 56.3**	**+0.9**
INK				IAmb	IAmb	03 22 03.5	
	comp=Z,2.8nm,1.0s						
WB0	**Warramunga Arr**	**56.91**	**188**	P	**P**	**03 22 13.3**	**-1.0**
WB0				IAmb	IAmb	03 22 46.2	
	comp=Z,9.7nm,1.5s						
WR0	**Warramunga Arr**	**57.09**	**188**	P	**P**	**03 22 14.7**	**-0.7**
WR0				IAmb	IAmb	03 22 22.7	
	comp=Z,2.3nm,0.6s						
WB2	**Warramunga Arr**	**57.09**	**188**	P	**P**	**03 22 14.7**	**-0.8**
WRA	**Warramunga Arr**	**57.09**	**188**	P	**P**	**03 22 14.7**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=5.5,slow=7.2,SNR=42						
WRA				PcP	**PcP**	**03 23 10.9**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=0.4,slow=4.9,SNR=5.5						
	comp=Z,1.4nm,0.5s						
WRA	**Warramunga Arr**	**57.09**	**188**	P	**P**	**03 22 14.7**	**-0.8**
ABKAR	**Akbulak array**	**57.89**	**310**	P	**P**	**03 22 20.2**	**-0.7**
ABKAR				IAmb	IAmb	03 22 27.2	
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**60.82**	**188**	P	**P**	**03 22 40.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=10,slow=5.9,SNR=9.6						
	comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**63.95**	**339**	P	**P**	**03 23 03.1**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=50,slow=6.0,SNR=1.2						
	comp=Z,0.9nm,0.5s						
FINES	**FINESS Array B**	**68.77**	**332**	P	**P**	**03 23 32.5**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=40,slow=12,SNR=4.2						
	comp=Z,2.7nm,0.8s						
NOA	**NORSAR Array B**	**74.14**	**337**	P	**P**	**03 24 05.3**	**0.0**
	comp=Z,1.0nm,0.9s,baz=34,slow=4.3,SNR=2.5						
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**03 24 05.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=46,slow=4.1,SNR=4.3						
AKASG				LR	LR	03 57 13.6	
	comp=Z,33nm,18.1s,baz=232,slow=36						
	comp=Z,0.2nm,0.3s						
PDAR	**Pinedale Array**	**77.66**	**45**	P	**P**	**03 24 26.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=298,slow=3.2,SNR=3.6						
	comp=Z,0.4nm,0.7s						
GERES	**GERESS Array B**	**82.66**	**328**	P	**P**	**03 24 52.3**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=40,slow=7.0,SNR=2.8						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**90.12**	**52**	P	**P**	**03 25 30.7**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=297,slow=3.0,SNR=9.7						
	comp=Z,0.6nm,0.6s						
LPAZ	**La Paz**	**146.70**	**59**	PKPbc	**PKPbc**	**03 32 12.5**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=359,slow=2.2,SNR=14						
LPAZ	**La Paz**	**146.70**	**59**	PKPbc	**PKPbc**	**03 32 11.4**	**-0.8**
H03N2	**Juan Fernandez**	**147.06**	**96**	T	T	06 16 48.1	
	baz=294						
H03N3	**Juan Fernandez**	**147.07**	**96**	T	T	06 16 46.1	
	baz=294,SNR=23						
H03N1	**Juan Fernandez**	**147.07**	**96**	T	T	06 16 47.8	
	baz=294						

WEL 24 03:17:47.0±1.2, 38°S±8°×17°9E±°, h33km, M2.7/19, ML3.0/19, MLv2.7/19, Error ellipse: s-maj=0.0km s-min=0.0km az=76.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.54**	**276**	P	Pn	03 17 58.5	+0.2
WMGZ				S	Sn	03 18 08.0	+1.7
PUZ	**Puketiti**	**0.69**	**253**	P	Pn	03 18 00.3	-0.1
PUZ				S	Sn	03 18 10.9	+0.9
MXZ	**Matakaoa Point**	**0.69**	**296**	P	Pb	03 18 01.1	+0.3
PKGZ	**Pakihiroa**	**0.80**	**269**	P	Pn	03 18 02.0	0.0
CNGZ	**Carnagh Statio**	**0.92**	**228**	P	Pn	03 18 04.1	+0.4
TWGZ	**Tauwhareparae**	**0.93**	**251**	P	Pn	03 18 03.7	-0.1
TWGZ				S	Sb	03 18 17.5	+0.8
HAZ	**Te Kaha**	**1.04**	**276**	P	Pb	03 18 06.1	-0.4
RUGZ	**Raukumara Rang**	**1.12**	**265**	P	Pn	03 18 06.5	0.0
TKGZ	**Te Karaka**	**1.13**	**240**	P	Pn	03 18 07.0	+0.4
MWZ	**Matawai**	**1.31**	**249**	P	Pn	03 18 08.8	-0.3
MWZ				S	Sn	03 18 25.8	+0.3
RIGZ	**Rimuhau**	**1.33**	**231**	P	Pn	03 18 10.0	+0.6
RIGZ				S	Sn	03 18 26.7	+0.7
MHGZ	**Mahia Peninsul**	**1.58**	**216**	P	Pn	03 18 12.5	-0.2
KNZ	**Kokohu**	**1.60**	**224**	P	Pn	03 18 12.2	-0.7
URZ	**Urewera**	**1.61**	**256**	P	Pn	03 18 14.0	+0.9
SNGZ	**Shannon Statio**	**1.65**	**236**	P	Pn	03 18 13.9	+0.2
RTZ	**Ruatahuna**	**1.82**	**245**	P	Pn	03 18 16.8	+0.7
WHHZ	**Waihua**	**1.89**	**230**	P	Pn	03 18 17.1	+0.1
MTHZ	**Maungataniwha**	**2.02**	**240**	P	Pn	03 18 19.0	+0.2
ARHZ	**Aropaoanui**	**2.15**	**229**	P	Pn	03 18 20.6	+0.1
NMHZ	**Naumai**	**2.17**	**235**	P	Pn	03 18 21.1	+0.2
BKZ	**Black Stump Fm**	**2.41**	**237**	P	Pn	03 18 24.3	+0.1
MCHZ	**McNeill Hill**	**2.44**	**229**	P	Pn	03 18 24.3	-0.3
KWHZ	**Kaweka Forest**	**2.60**	**233**	P	Pn	03 18 26.5	-0.3
TMVZ	**Te Maari**	**2.93**	**244**	P	Pn	03 18 30.7	-0.8
OTVZ	**Oturere**	**2.98**	**243**	P	Pn	03 18 32.0	-0.1
NNVZ	**North Ngauruho**	**3.00**	**244**	P	Pn	03 18 32.9	+0.5
SNVZ	**South Ngauruho**	**3.01**	**243**	P	Pn	03 18 32.4	-0.1
MOVZ	**Moawhango**	**3.03**	**239**	P	Pn	03 18 33.7	+1.0
NGZ	**Ngauruhoe**	**3.03**	**244**	P	Pb	03 18 37.7	-2.7
TUVZ	**Tukino**	**3.03**	**242**	P	Pb	03 18 36.6	-3.8
WHVZ	**Whangaehu Hut**	**3.08**	**242**	P	Pn	03 18 36.0	+2.3
FWVZ	**Far West T-bar**	**3.10**	**242**	P	Pn	03 18 35.9	+2.1
WNVZ	**Wahianoa**	**3.10**	**241**	P	Pn	03 18 32.5	-1.2
HIZ	**Hauiti**	**3.40**	**258**	P	Pb	03 18 43.7	-2.8
TKNZ	**Takaka Hill**	**5.70**	**234**	P	Pn	03 19 09.9	+0.5
QRZ	**Quartz Range**	**5.88**	**238**	P	Pn	03 19 15.3	+3.5

*IDC **24** 03:35:51.4±1.8, 35°.04N×139°.58E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=34.4km s-min=16.4km az=65.0*
*JMA **24** 03:35:56.2±0.2, 35°.7N±0°.6×140°.2E±0°.9, h67km±2km, MV3.0/38, CENTRAL CHIBA PREF*
JMA Felt I J1 at CENTRAL CHIBA PREF .
ISC 24 03:35:56.9±1.1, 35°.61N±0°.06×140°.14E±0°.06, h71km±8km, n20, σ0°64/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.20**	**164**	*i* P	**Pn**	**03 36 07.4**	**-0.2**
JCN				*e*S	**Sn**	**03 36 16.3**	**+0.9**
JSMT	**Sammumatsuo**	**0.26**	**82**	*e*P	**Pn**	**03 36 07.0**	**-0.9**
JSMT				S	**Sn**	**03 36 15.9**	**0.0**
TOK	**Tokyo**	**0.32**	**285**	*e*P	**Pn**	**03 36 08.3**	**+0.1**
BSO3	**Boso 3**	**0.86**	**159**	*i* P	**Pn**	**03 36 13.1**	**-0.3**
JOD2	**Odawara 2**	**0.92**	**248**	*i* P	**Pn**	**03 36 14.2**	**-0.3**
JOD2				*i* S	**Sn**	**03 36 27.0**	**-0.5**
JAG	**Ashikaga**	**0.99**	**326**	*i* P	**Pn**	**03 36 14.3**	**-1.0**
JIM2	**Oshima 3**	**1.06**	**213**	*e*P	**Pn**	**03 36 15.6**	**-0.6**
JIM2				S	**Sn**	**03 36 30.0**	**-0.6**
JRY	**Ryogami san**	**1.08**	**292**	*i* P	**Pn**	**03 36 16.7**	**+0.2**
JRY				*e*S	**Sn**	**03 36 31.9**	**+0.7**
BSO1	**Boso 1**	**1.18**	**144**	S	**Sn**	**03 36 33.0**	**+0.7**
JFNN	**Fujinakano**	**1.26**	**251**	*e*P	**Pn**	**03 36 18.8**	**+0.1**
JIZS	**Izushimoda**	**1.36**	**230**	P	**Pn**	**03 36 19.9**	**-0.2**
JIZS				S	**Sn**	**03 36 37.1**	**-0.4**
MJAR	**Matsushiro Arr**	**1.82**	**301**	Pn	**Pn**	**03 36 25.3**	**-0.8**
	1.1nm,0.3s,baz=142,slow=14,SNR=51						
MJAR				Lg	Lg	03 36 50.2	
	2.9nm,0.3s,baz=143,slow=31,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	04 11 38.1	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	04 11 11.2	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	04 11 44.8	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**29.01**	**119**	T	T	04 12 06.8	
	baz=307						
H11S1	**WAKE ISLAND Hy**	**29.01**	**119**	T	T	04 11 50.6	
	baz=307						
H11S2	**WAKE ISLAND Hy**	**29.03**	**119**	T	T	04 12 02.0	
	baz=307						
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**03 43 58.1**	**+0.8**
	0.3nm,0.6s,baz=82,slow=10,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**55.52**	**187**	P	**P**	**03 45 24.3**	**-0.4**
	0.1nm,0.3s,baz=0.4,slow=8.0,SNR=7.7						
	0.1nm,0.3s						

IDC 24 03:54:56.7±2.3, 3°.46N×127°.60E, h0km, mb3.3/3, mbtmp3.3/3, MS2.9/2, Error ellipse: s-maj=154.2km s-min=28.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**14.13**	**196**	LR	LR	04 03 52.5	
	comp=Z,42nm,20.6s,baz=9.0,slow=38						
WRA	**Warramunga Arr**	**24.18**	**164**	P	P	04 00 14.6	-0.4
	0.3nm,0.5s,baz=344,slow=10,SNR=6.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**27.65**	**167**	P	P	04 00 46.9	+0.5
	0.2nm,0.4s,baz=355,slow=7.9,SNR=5.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.27**	**325**	P	P	04 04 53.1	-0.2
	0.3nm,0.6s,baz=115,slow=8.1,SNR=2.7						
	0.3nm,0.6s						
YAK	**Yakutsk**	**58.46**	**1**	LR	LR	04 33 28.9	
	comp=Z,14nm,18.9s,baz=104,slow=40						

*WEL **24** 04:02:08.2±0.3, 41°.S±3°×17°.5E±°, h27km±3km, M3.9/51, ML4.3/33, MLv3.9/51, Error ellipse: s-maj=0.0km s-min=0.0km az=136.5*
*NOU **24** 04:02:08.2, 40°.82S×175°.28E, h47km, MLv4.0/7, North Island, New Zealand*
ISC 24 04:02:09.1±0.9, 40°.74S±0°.03×175°.22E±0°.03, h33km±4km, n122, σ1°24/133, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	**Otaki Gorge**	**0.09**	**206**	P	**Pb**	**04 02 14.8**	**+0.1**
OGWZ				S	**Sb**	**04 02 19.6**	**+1.0**
KIW	**Kapiti Island**	**0.26**	**243**	P	**Pb**	**04 02 16.0**	**-0.4**
KIW				S	**Sb**	**04 02 21.4**	**0.0**
HOWZ	**Holdsworth Sta**	**0.27**	**125**	P	**Pn**	**04 02 16.9**	**+0.1**
HOWZ				S	**Sb**	**04 02 23.5**	**+2.0**
MRZ	**Mangatainoka R**	**0.28**	**74**	P	**Pb**	**04 02 16.6**	**0.0**
MRZ				S	**Sb**	**04 02 22.6**	**+0.9**
CAW	**Cannon Point**	**0.38**	**197**	P	**Pn**	**04 02 18.0**	**0.0**
CAW				S	**Sn**	**04 02 25.4**	**+0.8**
MTW	**Mount Morrison**	**0.47**	**153**	P	**Pn**	**04 02 19.7**	**+0.1**
MTW				S	**Sn**	**04 02 28.8**	**+2.1**
TIWZ	**Tintock**	**0.51**	**94**	P	**Pn**	**04 02 20.1**	**0.0**
TIWZ				S	**Sn**	**04 02 29.4**	**+1.7**
OHWZ	**Ohakea**	**0.54**	**8**	P	**Pb**	**04 02 19.6**	**-0.7**
POWZ	**Post Office Ro**	**0.54**	**50**	P	**Pb**	**04 02 19.7**	**-0.7**
POWZ				S	**Sb**	**04 02 28.0**	**-0.1**
PRWZ	**Pori Road**	**0.60**	**72**	P	**Pb**	**04 02 21.4**	**+0.1**
PRWZ				S	**Sn**	**04 02 31.8**	**+1.8**
TMWZ	**Te Maipa**	**0.63**	**126**	P	**Pn**	**04 02 21.6**	**-0.1**
WEL	**Wellington**	**0.64**	**212**	P	**Pn**	**04 02 21.5**	**-0.4**
WEL				S	**Sn**	**04 02 31.5**	**+0.6**
PAWZ	**Paruwai Farm**	**0.66**	**166**	P	**Pn**	**04 02 21.9**	**-0.3**
MSWZ	**Moikau Station**	**0.68**	**178**	P	**Pb**	**04 02 22.7**	**+0.2**
MSWZ				S	**Sn**	**04 02 33.6**	**+1.8**
SNZO	**South Karori**	**0.69**	**214**	P	**Pn**	**04 02 22.0**	**-0.5**
TRWZ	**Traveller**	**0.75**	**152**	P	**Pb**	**04 02 22.9**	**+0.2**
CPWZ	**Trastlepoint**	**0.77**	**103**	P	**Pb**	**04 02 23.9**	**-0.1**
BFZ	**Birch Farm**	**0.78**	**86**	P	**Pn**	**04 02 23.4**	**-0.5**
BFZ	**Birch Farm**	**0.78**	**86**	P	**Pn**	**04 02 23.3**	**-0.5**
PLWZ	**Palliser**	**0.83**	**178**	P	**Pn**	**04 02 24.0**	**-0.5**
DVHZ	**Dannevirke**	**0.85**	**59**	P	**Pn**	**04 02 24.1**	**-0.7**
TCW	**Tory Channel**	**0.85**	**236**	P	**Pn**	**04 02 24.1**	**-0.8**
TSZ	**Takapari Road**	**0.89**	**40**	P	**Pn**	**04 02 24.8**	**-0.5**
DUWZ	**D'Urville Isla**	**0.99**	**266**	P	**Pn**	**04 02 25.8**	**-0.9**
ANWZ	**Angora Road**	**1.00**	**74**	P	**Pn**	**04 02 26.2**	**-0.6**
WAZ	**Wanganui**	**1.00**	**350**	P	**Pn**	**04 02 26.4**	**-0.5**
PNHZ	**Pukenui**	**1.12**	**43**	P	**Pn**	**04 02 27.7**	**-0.7**
WPHZ	**Waipukurau**	**1.15**	**54**	P	**Pn**	**04 02 28.1**	**-0.8**
PRHZ	**Porangahau**	**1.18**	**67**	P	**Pn**	**04 02 28.3**	**-1.0**
TUWZ	**Tuamarina**	**1.19**	**234**	P	**Pn**	**04 02 28.7**	**-0.7**
CMWZ	**Cape Campbell**	**1.26**	**217**	P	**Pn**	**04 02 30.6**	**+0.2**
MTVZ	**Mangateitei**	**1.37**	**8**	P	**Pn**	**04 02 31.9**	**0.0**
MOVZ	**Moawhango**	**1.39**	**17**	P	**Pn**	**04 02 31.7**	**-0.6**
BSWZ	**Blackbirch Sta**	**1.41**	**226**	P	**Pn**	**04 02 31.6**	**-0.8**
BHHZ	**Black Hill Sta**	**1.41**	**28**	P	**Pn**	**04 02 31.8**	**-0.7**
LREZ	**Lake Rotokare**	**1.42**	**334**	P	**Pn**	**04 02 32.6**	**-0.1**
PXZ	**Pawanui**	**1.44**	**61**	P	**Pn**	**04 02 31.7**	**-1.1**
WNVZ	**Wahianoa**	**1.44**	**12**	P	**Pn**	**04 02 32.8**	**-0.3**
PKVZ	**Pokaka**	**1.45**	**4**	P	**Pn**	**04 02 33.0**	**-0.2**
TRVZ	**Turoa**	**1.46**	**10**	P	**Pn**	**04 02 33.3**	**-0.1**
NNZ	**Nelson**	**1.47**	**251**	P	**Pn**	**04 02 32.7**	**-0.6**
WHVZ	**Whangaehu Hut**	**1.48**	**11**	P	**Pn**	**04 02 33.5**	**-0.2**
DRZ	**Dome Shelter**	**1.49**	**10**	P	**Pn**	**04 02 34.1**	**+0.3**
FWVZ	**Far West T-bar**	**1.51**	**10**	P	**Pn**	**04 02 33.9**	**-0.1**
TUVZ	**Tukino**	**1.51**	**13**	P	**Pn**	**04 02 33.9**	**-0.1**
KAHZ	**Kahuranaki**	**1.58**	**54**	P	**Pn**	**04 02 33.7**	**-1.1**
SNVZ	**South Ngauruho**	**1.59**	**12**	P	**Pn**	**04 02 35.0**	**0.0**
NGZ	**Ngauruhoe**	**1.59**	**11**	P	**Pn**	**04 02 35.2**	**+0.1**
KWHZ	**Kaweka Forest**	**1.61**	**35**	P	**Pn**	**04 02 34.2**	**-1.1**
OTVZ	**Oturere**	**1.61**	**12**	P	**Pn**	**04 02 35.3**	**-0.1**
NNVZ	**North Ngauruho**	**1.64**	**11**	P	**Pn**	**04 02 35.6**	**+0.1**
ETVZ	**East Tongariro**	**1.65**	**13**	P	**Pn**	**04 02 35.6**	**-0.3**
VRZ	**Vera Road**	**1.65**	**347**	P	**Pn**	**04 02 35.6**	**-0.2**
TMVZ	**Te Maari**	**1.67**	**13**	P	**Pn**	**04 02 35.8**	**-0.3**
KRVZ	**Karewarewa**	**1.68**	**11**	P	**Pn**	**04 02 36.3**	**0.0**
TWVZ	**Taurewa**	**1.68**	**6**	P	**Pn**	**04 02 35.9**	**-0.3**
NTVZ	**North Tongarir**	**1.68**	**12**	P	**Pn**	**04 02 36.2**	**-0.1**
NMEZ	**Namu Road**	**1.68**	**322**	P	**Pn**	**04 02 36.8**	**+0.6**
NEZ	**North Egmont**	**1.70**	**329**	P	**Pn**	**04 02 36.8**	**+0.2**
KHEZ	**Kahui Hut**	**1.71**	**327**	P	**Pn**	**04 02 37.2**	**+0.5**
KHEZ	**Kahui Hut**	**1.71**	**327**	P	**Pn**	**04 02 37.0**	**+0.3**
MCHZ	**McNeill Hill**	**1.72**	**42**	P	**Pn**	**04 02 35.7**	**-1.0**
DREZ	**Durham Road**	**1.74**	**333**	P	**Pn**	**04 02 37.5**	**+0.6**
TKNZ	**Takaka Hill**	**1.74**	**260**	P	**Pn**	**04 02 36.4**	**-0.5**
CKHZ	**Cape Kidnapper**	**1.79**	**53**	P	**Pn**	**04 02 36.7**	**-1.0**
MHEZ	**Mangahewa**	**1.80**	**337**	P	**Pn**	**04 02 38.5**	**+0.6**
NBEZ	**Newall Road No**	**1.80**	**324**	P	**Pn**	**04 02 38.5**	**+0.7**
KATZ	**Kakaramea**	**1.80**	**12**	P	**Pn**	**04 02 37.8**	**-0.1**
PKEZ	**Pukeiti**	**1.81**	**328**	P	**Pn**	**04 02 38.6**	**+0.6**
RITZ	**Ohia Road**	**1.83**	**16**	P	**Pn**	**04 02 38.4**	**+0.2**
BKZ	**Black Stump Fm**	**1.85**	**32**	P	**Pn**	**04 02 37.4**	**-1.2**
BKZ	**Black Stump Fm**	**1.85**	**32**	P	**Pn**	**04 02 37.3**	**-1.4**
RATZ	**Rangitukua**	**1.92**	**13**	P	**Pn**	**04 02 39.8**	**+0.3**
MRNZ	**Matariki Terra**	**1.97**	**250**	P	**Pn**	**04 02 39.8**	**-0.5**
ARHZ	**Aropaoanui**	**2.01**	**43**	P	**Pn**	**04 02 39.5**	**-1.2**
THZ	**Tophouse**	**2.02**	**239**	P	**Pn**	**04 02 40.1**	**-0.9**
QRZ	**Quartz Range**	**2.04**	**267**	P	**Pn**	**04 02 40.2**	**-1.0**
NMHZ	**Naumai**	**2.05**	**37**	P	**Pn**	**04 02 39.9**	**-1.4**
MRHZ	**Matea Rd**	**2.12**	**26**	P	**Pn**	**04 02 40.8**	**-1.5**
HIZ	**Hauiti**	**2.24**	**353**	P	**Pn**	**04 02 44.0**	**0.0**
HIZ	**Hauiti**	**2.24**	**353**	P	**Pn**	**04 02 43.9**	**0.0**
MTHZ	**Maungataniwha**	**2.26**	**34**	P	**Pn**	**04 02 42.9**	**-1.3**
RAHZ	**Arahi**	**2.32**	**39**	P	**Pn**	**04 02 43.3**	**-1.7**
ALRZ	**Allen Road**	**2.34**	**22**	P	**Pn**	**04 02 43.7**	**-1.6**
TLZ	**Tolley Road**	**2.42**	**6**	P	**Pn**	**04 02 45.9**	**-0.5**
HRRZ	**Handcock Road**	**2.49**	**20**	P	**Pn**	**04 02 46.1**	**-1.2**
RTZ	**Ruatahuna**	**2.52**	**33**	P	**Pn**	**04 02 46.2**	**-1.7**
SNGZ	**Shannon Statio**	**2.55**	**41**	P	**Pn**	**04 02 46.0**	**-2.2**
MHGZ	**Mahia Peninsul**	**2.60**	**53**	P	**Pn**	**04 02 47.0**	**-1.9**
TARZ	**Mount Tarawera**	**2.69**	**22**	P	**Pn**	**04 02 48.8**	**-1.4**
GVZ	**Greta Valley S**	**2.76**	**216**	P	**Pn**	**04 02 49.6**	**-1.5**
DSZ	**Denniston Nort**	**2.76**	**248**	P	**Pn**	**04 02 49.6**	**-1.5**
URZ	**Urewera**	**2.88**	**31**	P	**Pn**	**04 02 50.2**	**-2.4**
LIRZ	**Lichensteins R**	**2.88**	**19**	P	**Pn**	**04 02 56.2**	**+3.5**
MARZ	**Manawahe**	**2.97**	**23**	P	**Pn**	**04 02 52.0**	**-2.0**
MWZ	**Matawai**	**2.99**	**37**	P	**Pn**	**04 02 51.6**	**-2.7**
LTZ	**Lake Taylor**	**3.00**	**226**	P	**Pn**	**04 02 52.5**	**-1.9**
TOZ	**Tahuroa Road**	**3.01**	**4**	P	**Pn**	**04 02 54.0**	**-0.5**
TWGZ	**Tauwhareparae**	**3.33**	**41**	P	**Pn**	**04 02 59.8**	**+0.9**
RUGZ	**Raukumara Rang**	**3.36**	**35**	P	**Pn**	**04 02 56.9**	**-2.6**
OKCZ	**Okains Bay**	**3.38**	**208**	P	**Pn**	**04 02 57.2**	**-2.4**
INZ	**Inchbonnie**	**3.45**	**234**	P	**Pn**	**04 02 58.9**	**-1.6**
OXZ	**Oxford**	**3.50**	**221**	P	**Pn**	**04 02 58.5**	**-2.8**
MOZ	**McQueen's Vall**	**3.52**	**212**	P	**Pn**	**04 02 58.4**	**-3.0**
AKCZ	**Akaroa Harbour**	**3.57**	**208**	P	**Pn**	**04 02 59.8**	**-2.3**
HAZ	**Te Kaha**	**3.58**	**35**	P	**Pn**	**04 03 00.2**	**-2.2**
PKGZ	**Pakihiroa**	**3.61**	**39**	P	**Pn**	**04 03 00.6**	**-2.1**
MKAZ	**Moumakai**	**3.63**	**359**	P	**Pn**	**04 03 02.4**	**-0.6**
AWAZ	**Awhitu Peninsu**	**3.70**	**353**	P	**Pn**	**04 03 04.7**	**+0.7**
WMGZ	**Waiomatatini S**	**3.83**	**41**	P	**Pn**	**04 03 02.3**	**-3.4**
MHCZ	**Mount Hutt**	**3.89**	**223**	P	**Pn**	**04 03 04.6**	**-2.1**
MXZ	**Matakaoa Point**	**3.98**	**38**	P	**Pn**	**04 03 07.6**	**-0.2**
KUZ	**Kuaotunu**	**4.01**	**6**	P	**Pn**	**04 03 07.6**	**-0.6**
WVZ	**Waitaha Valley**	**4.08**	**234**	P	**Pn**	**04 03 09.3**	**+0.2**
ARCZ	**Arundel**	**4.39**	**222**	P	**Pn**	**04 03 15.3**	**+1.9**
GCSZ	**Gaunt Creek Bo**	**4.46**	**233**	P	**Pn**	**04 03 16.6**	**+2.2**
TMZ	**Timaru**	**4.79**	**219**	P	**Pn**	**04 03 16.8**	**-2.1**
FOZ	**Fox Glacier**	**4.89**	**233**	P	**Pn**	**04 03 19.2**	**-1.1**
LBZ	**Lake Benmore**	**5.20**	**224**	P	**Pn**	**04 03 23.7**	**-0.9**
ODZ	**Otahua Downs**	**5.46**	**216**	P	**Pn**	**04 03 25.6**	**-2.5**
JCZ	**Jackson Bay**	**5.81**	**233**	P	**Pn**	**04 03 33.8**	**+0.8**
CTZ	**Chatham Island**	**6.76**	**119**	P	**Pn**	**04 03 44.8**	**-1.1**

IDC 24 04:14:37.0±6.1, 15°.05S×177°.28W, h371km±42km, mb2.8/3, mbtmp3.6/4, Error ellipse: s-maj=353.1km s-min=31.3km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.22**	**239**	P	Pn	04 16 00.1	+0.1
	4.1nm,0.5s,baz=152,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**46.28**	**257**	P	P	04 22 26.8	-0.6
	0.4nm,1.0s,baz=91,slow=6.9,SNR=2.4						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**46.66**	**252**	P	P	04 22 30.3	0.0
	0.9nm,0.5s,baz=84,slow=8.2,SNR=13						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**82.88**	**13**	P	P	04 26 20.5	0.0
	0.3nm,0.6s,baz=216,slow=4.4,SNR=5.6						
	0.3nm,0.6s						

*JMA **24** 04:25:07.2±0.0, 35°.4N±0°.1×133°.90E±0°.08, h9km, MV2.9/20, EASTERN TOTTORI PREF*
JMA Felt I J1 at EASTERN TOTTORI PREF .
ISC 24 04:25:05.7±1.4, 35°.4N±0°.1×133°.90E±0°.08, h18km±8km, n6, σ0°55/8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.07**	**242**	P	**Pg**	**04 25 09.3**	**+0.2**
JKR				S	**Sg**	**04 25 10.8**	**-0.4**
JAD	**Aida**	**0.52**	**154**	P	**Pb**	**04 25 16.9**	**+0.6**
JAD				S	**Sb**	**04 25 23.7**	**+0.1**
JHS	**Saijyo**	**0.76**	**237**	P	**Pn**	**04 25 21.4**	**-0.2**
JMN	**Monobe**	**1.68**	**180**	P	**Pg**	**04

SULM				eS		Sn	04 41 53.1	-0.5
P5NO	**Presa 5 de nov**	**1.41**	**85**	∥eP		Pn	04 41 34.1	-0.1
SCLA	**Alcaldia de Sa**	**1.44**	**96**	eP		Pn	04 41 35.1	+0.5
SCLA	**Alcaldia de Sa**	**1.44**	**96**	eP		Pn	04 41 35.1	+0.5
STG3	**Santiaguito 3,**	**1.57**	**303**	∥eP		Pn	04 41 37.4	+1.0
STG3				eS		Sn	04 41 58.1	+0.4
RTAL	**Retalhuleu**	**1.59**	**295**		eP	Pn	04 41 36.5	+0.1
RTAL	**Retalhuleu**	**1.59**	**295**	eP		Pn	04 41 36.6	+0.2
PQSS	**Presa 15 de Se**	**1.61**	**98**	eP		Pn	04 41 37.0	+0.4
PQSS	**Presa 15 de Se**	**1.61**	**98**	eP		Pn	04 41 37.0	+0.4
COEB	**Comit de Eme**	**1.66**	**102**	eP		Pn	04 41 37.7	+0.3
COEB	**Comit de Eme**	**1.66**	**102**	eP		Pn	04 41 37.7	+0.3
ALJI	**Alcalda de J**	**1.67**	**108**	eP		Pn	04 41 37.7	+0.3
ALJI				IAML			04 42 06.8	
	comp=Z,987nm,0.2s							
ALJI	**Alcalda de J**	**1.67**	**108**	eP		Pn	04 41 37.7	+0.3
ALJI				IAML			04 42 06.8	
	comp=Z,987nm,0.2s							
PACA	**Pacayal**	**1.87**	**102**	eP		Pn	04 41 40.6	+0.7
PACA	**Pacayal**	**1.87**	**102**	eP		Pn	04 41 40.6	+0.7
HUEH	**Huehuetenango**	**1.92**	**319**	Pn		Pn	04 41 39.2	-1.5
HUEH	**Huehuetenango**	**1.92**	**319**	eP		Pn	04 41 41.9	+1.3
HUEH	**Huehuetenango**	**1.92**	**319**	eP		Pn	04 41 41.9	+1.3
HUEH	**Huehuetenango**	**1.92**	**319**	eP		Pn	04 41 42.2	+1.5
CNCH	**Conchagua**	**2.37**	**104**	eP		Pn	04 41 46.7	+0.4
CNCH	**Conchagua**	**2.37**	**104**	eP		Pn	04 41 46.7	+0.4
TGUH	**Tegucigalpa,Un**	**2.85**	**86**			Pn	04 41 53.0	+0.5
CCIG	**Comitan**	**3.05**	**322**	Pn		Pn	04 41 56.8	+1.6
PETF	**Flores**	**3.05**	**6**	Pn		Pn	04 41 56.4	+1.4
CRIN	**San Cristobal**	**3.28**	**110**	Pn		Pn	04 41 59.3	+1.2
CRIN	**San Cristobal**	**3.28**	**110**	eP		Pn	04 41 59.5	+1.4
CRIN				eS		Sn	04 42 36.9	+0.3
CRIN				eS		Sn	04 42 37.3	+0.7
CNGN	**Cerro Negro**	**3.67**	**111**			Pn	04 42 03.8	+0.5
CNGN	**Cerro Negro**	**3.67**	**111**	eP		Pn	04 42 03.9	+0.5
CNGN				eS		Sn	04 42 44.6	-1.4
MATN	**Matagalpa**	**4.26**	**102**			Pn	04 42 12.1	+0.8
BOAB	**BOACO BROADBAN**	**4.63**	**107**			Pn	04 42 16.2	0.0
CONN	**Concepcion**	**5.01**	**117**	eP		Pn	04 42 21.9	+0.6
ACON	**Acoyapa**	**5.25**	**110**			Pn	04 42 24.8	+0.3
HZTE	**Horizontes, Gu**	**5.48**	**124**			Pn	04 42 29.8	+2.1
HZTE	**Horizontes, Gu**	**5.48**	**124**	eP		Pn	04 42 30.0	+2.4
HZTE	**Horizontes, Gu**	**5.48**	**124**	eP		Pn	04 42 30.1	+2.4
CMIG	**Matias Romero**	**5.54**	**306**	P		Pn	04 42 28.6	+0.2
	comp=Z,7.5nm,0.4s,baz=138,slow=8.2,SNR=60							
CMIG				S		Sn	04 43 28.6	-2.3
	comp=Z,11nm,0.5s,baz=338,slow=3.1,SNR=4.3							
GBS3	**Finca Las Img**	**5.56**	**123**	eP		Pn	04 42 30.3	+1.6
LAPC	**Finca la Perla**	**5.58**	**123**	eP		Pn	04 42 30.6	+1.6
BUEV	**Buena Vista**	**5.59**	**123**	eP		Pn	04 42 29.9	+0.8
BUAI	**Buenos Aires**	**5.61**	**121**	eP		Pn	04 42 30.2	+0.8
GPS3	**Bodega del ICE**	**5.64**	**123**	eP		Pn	04 42 30.7	+0.8
GPS2	**Hotel Rincn d**	**5.66**	**123**	eP		Pn	04 42 31.4	+1.3
SAJU	**San Juanillo,**	**5.79**	**130**	eP		Pn	04 42 33.4	+1.6
MESS	**Mesas**	**5.79**	**122**	eP		Pn	04 42 33.1	+1.2
ORTG	**Ortega, Santa**	**5.80**	**126**			Pn	04 42 34.1	+2.1
ORTG	**Ortega, Santa**	**5.80**	**126**	eP		Pn	04 42 34.0	+2.0
VMAR	**Armenia, Volca**	**5.82**	**121**	eP		Pn	04 42 33.3	+1.1
HORNC	**Hornillas**	**5.82**	**122**	eP		Pn	04 42 33.3	+0.9
COLC	**Colonia**	**5.83**	**123**	eP		Pn	04 42 32.5	+0.2
CUI	**Cuipilapa**	**5.86**	**122**	eP		Pn	04 42 34.3	+1.5
CUI				eS		Sn	04 43 36.0	-2.8
DUNO	**Dulce Nombre,**	**5.95**	**129**	eP		Pn	04 42 35.9	+1.9
NICO	**Nicoya**	**5.95**	**128**	eP		Pn	04 42 35.6	+1.7
PTEN	**Parque Tenorio**	**5.98**	**121**	eP		Pn	04 42 34.6	+0.2
ACAL	**Aguas Claras**	**5.98**	**122**	eP		Pn	04 42 36.3	+1.8
VERA	**Finca Concepci**	**6.01**	**119**	eP		Pn	04 42 34.2	-0.5
POPE	**POPE, Guanacas**	**6.13**	**127**	eP		Pn	04 42 38.2	+1.8
JTS	**Las Juntas de**	**6.24**	**124**	P		Pn	04 42 39.4	+1.5
	comp=Z,300nm,0.4s,baz=10,slow=11,SNR=108							
JTS				S		Sn	04 43 43.7	-4.3
	comp=Z,12nm,0.6s,baz=148,slow=23,SNR=1.7							
JTS	**Las Juntas de**	**6.24**	**124**			Pn	04 42 39.3	+1.3
JTS	**Las Juntas de**	**6.24**	**124**	eP		Pn	04 42 39.4	+1.5
COVE	**Coope Vega, Sa**	**6.47**	**118**			Pn	04 42 41.4	+0.4
LAFE	**Finca La Fe, P**	**6.56**	**127**	eP		Pn	04 42 43.6	+1.3
JACO	**JACO, Garabito**	**6.84**	**127**			Pn	04 42 47.3	+1.2
JACO	**JACO, Garabito**	**6.84**	**127**	eP		Pn	04 42 48.1	+2.0
JACO	**JACO, Garabito**	**6.84**	**127**	eP		Pn	04 42 48.1	+2.0
LCR2	**La Lucha 2**	**7.32**	**123**	eP		Pn	04 42 53.8	+1.1
RIMA	**Rio Macho**	**7.42**	**123**			Pn	04 42 55.4	+1.3
RIMA	**Rio Macho**	**7.42**	**123**	eP		Pn	04 42 55.4	+1.3
CDM	**Cerro de Muert**	**7.62**	**124**	eP		Pn	04 42 59.1	+2.1
SRBA	**San Rafael, Bu**	**8.13**	**124**			Pn	04 43 05.2	+1.5
SRBA	**San Rafael, Bu**	**8.13**	**124**	eP		Pn	04 43 05.3	+1.7
TLIG	**Tlapa**	**8.86**	**296**			Pn	04 43 13.0	-0.5
344A	**Westbrook Farm**	**17.52**	**358**			Pn	04 45 05.1	-0.1
344A				IAmb		IAmb	04 45 15.2	
	comp=Z,29nm,1.2s							
PRAC	**Prado**	**18.17**	**122**	P		Pn	04 45 12.9	-0.4
WHTX	**Lake Whitney,**	**19.23**	**341**	P		P	04 45 24.0	+0.5
WHTX				IAmb		IAmb	04 45 24.9	
	comp=Z,16nm,0.9s							
LRAL	**Lakeview Retre**	**19.31**	**8**	P		P	04 45 25.3	+1.0
LRAL				IAmb		IAmb	04 45 30.6	
	comp=Z,9.0nm,0.8s							
Z47A	**Carrollton**	**19.35**	**5**	P		P	04 45 25.1	+0.4
Z47A				IAmb		IAmb	04 45 31.5	
	comp=Z,18nm,0.7s							
TXAR	**Lajitas Array**	**19.81**	**323**	P		Pn	04 45 32.2	-0.4
	comp=Z,0.7nm,0.5s,baz=150,slow=9.7,SNR=16							
TX31	**Lajitas Ar. Si**	**19.82**	**323**	P		P	04 45 30.2	+0.3
TX32	**Lajitas Array**	**19.82**	**323**	P		P	04 45 30.4	+0.4
Z35A	**Perchaven, San**	**20.42**	**343**	P		P	04 45 36.6	+0.3
Z35A				IAmb		IAmb	04 45 37.3	
	comp=Z,17nm,0.9s							
X48A	**Hartselle**	**20.70**	**7**	P		P	04 45 40.0	+0.7
X48A				IAmb		IAmb	04 45 42.6	
	comp=Z,7.9nm,0.6s							
LOOK	**Love County**	**21.02**	**344**			P	04 45 43.1	+0.3
LOOK				IAmb		IAmb	04 45 44.3	
	comp=Z,22nm,0.7s							
SWET	**Sewanee**	**21.61**	**10**	P		P	04 45 48.8	-0.3
V48A	**Smith Brothers**	**22.00**	**7**	P		P	04 45 53.2	+0.1
FNO	**Franklin**	**22.27**	**344**			P	04 45 55.4	-0.6
CLTN	**Cedars of Leba**	**22.41**	**8**	P		P	04 45 58.0	+0.6
TKL	**Tuckaleechee C**	**22.46**	**14**	P		P	04 45 57.9	0.0
	comp=Z,5.2nm,0.9s,baz=190,slow=12,SNR=7.3							
	comp=Z,5.2nm,0.9s							
RLO	**Rose Lookout**	**22.63**	**350**	P		P	04 45 57.3	-2.3
RLO				IAmb		IAmb	04 45 57.9	
	comp=Z,22nm,1.1s							
U49A	**Red Boiling Sp**	**22.90**	**9**	P		P	04 46 02.6	+0.4
U49A				IAmb		IAmb	04 46 04.1	
	comp=Z,9.5nm,0.7s							
T45A	**Paducah**	**23.10**	**3**	P		P	04 46 04.6	+0.4
OK044	**Pawnee Station**	**23.18**	**346**			P	04 46 04.3	-0.6
OK044				IAmb		IAmb	04 46 05.2	
	comp=Z,9.0nm,0.9s							
T47A	**Sharon Grove**	**23.20**	**6**	P		P	04 46 04.8	-0.2
OK051	**E0350 and S346**	**23.32**	**346**			P	04 46 04.6	-1.6
OK051				IAmb		IAmb	04 46 06.0	
	comp=Z,9.1nm,0.7s							
TZTN	**Tazewell**	**23.36**	**14**	P		P	04 46 05.7	-0.8
TZTN				IAmb		IAmb	04 46 08.7	
	comp=Z,17nm,1.2s							
T50A	**Nancy**	**23.55**	**11**	P		P	04 46 08.3	0.0
S44A	**Carbondale**	**23.75**	**2**	P		P	04 46 09.9	-0.1
S44A				IAmb		IAmb	04 46 12.4	
	comp=Z,23nm,1.0s							
WCI	**Wyandotte Cave**	**24.52**	**7**	P		P	04 46 17.2	+0.2
SPMN	**Marine on St.**	**31.34**	**356**	P		P	04 47 17.0	-0.7
RDMU	**Red Mountain**	**31.55**	**331**	P		P	04 47 20.2	+0.3
NVAR	**Mina Array Bea**	**34.89**	**320**	P		P	04 47 51.0	+2.0
	comp=Z,1.6nm,0.7s,baz=133,slow=8.3,SNR=12							
	comp=Z,1.6nm,0.7s							
ULM	**Lac du Bonnet**	**36.58**	**354**	P		P	04 48 01.6	-1.4
	comp=Z,3.4nm,0.5s,baz=180,slow=9.5,SNR=4.6							
	comp=Z,3.4nm,0.5s							
SCHQ	**Schefferville**	**44.76**	**19**	P		P	04 49 08.5	-1.7
	comp=Z,4.2nm,0.7s,baz=204,slow=6.2,SNR=8.2							
	comp=Z,4.2nm,0.7s							
YKA	**Yellowknife Ar**	**51.57**	**346**	P		P	04 50 00.9	-1.4
	comp=Z,0.7nm,0.7s,baz=137,slow=7.2,SNR=6.3							
	comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	**137.05**	**256**	PKP		**PKPdf**	**05 00 19.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=98,slow=2.1,SNR=2.0							

WEL 24 04:42:27.1±0.5, 42°S±3°×17°4E±°, h5km±3km, M1.9/11, ML2.1/15, MLv1.9/11, Error ellipse: s-maj=0.0km s-min=0.0km az=73.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**188**	P	Pg	04 42 28.2	-0.1
CMWZ				S	Sg	04 42 29.8	+0.6
BSWZ	**Blackbirch Sta**	**0.26**	**268**	P	Pg	04 42 32.2	+0.1
BSWZ				S	Sg	04 42 37.0	+1.4
TUWZ	**Tuamarina**	**0.35**	**323**	P	Pg	04 42 34.1	+0.3
TUWZ				S	Sg	04 42 39.5	+1.1
TCW	**Tory Channel**	**0.50**	**5**	P	Pg	04 42 36.5	-0.2
PLWZ	**Palliser**	**0.79**	**80**	P	Pb	04 42 42.9	-0.4
NNZ	**Nelson**	**0.80**	**307**	P	Pb	04 42 43.1	-0.4
KHZ	**Kahutara**	**0.87**	**215**	P	Pb	04 42 44.6	-0.2
CAW	**Cannon Point**	**0.87**	**47**	P	Pg	04 42 43.8	-0.1
DUWZ	**D'Urville Isla**	**0.93**	**346**	P	Pg	04 42 45.0	0.0
PAWZ	**Paruwai Farm**	**0.96**	**71**	P	Pg	04 42 45.9	+0.4
THZ	**Tophouse**	**0.99**	**266**	P	Pn	04 42 47.5	-0.2
KIW	**Kapiti Island**	**0.99**	**32**	P	Pg	04 42 45.6	-0.5
MTW	**Mount Morrison**	**1.11**	**61**	P	Pg	04 42 47.9	-0.4
MRNZ	**Matariki Terra**	**1.14**	**285**	P	Pg	04 42 48.9	-0.1
OGWZ	**Otaki Gorge**	**1.14**	**39**	P	Pg	04 42 49.1	+0.1

*IDC **24** 04:43:11.3±13.0, 41°24'S×174°20'E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=666.8km s-min=66.9km az=178.0*
*NOU **24** 04:43:11.3, 41°95'S×174°53'E, h3km, MLv4.0/9, Cook Strait, New Zealand*
*WEL **24** 04:43:13.0±0.3, 42°S±3°×17°4E±°, h9km±3km, M3.6/45, ML3.9/23, MLv3.6/45, Error ellipse: s-maj=0.0km s-min=0.0km az=139.5*

ISC 24 04:43:11.5±1.0, 41°.86S±0°.03×174°.41E±0°.03, h14km±8km, n103, σ19°34/106, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.18**	**307**	P	**Pg**	**04 43 15.7**	**-0.1**
CMWZ				S	**Sg**	**04 43 18.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.42**	**290**	P	**Pg**	**04 43 20.2**	**+0.3**
BSWZ				S	**Sg**	**04 43 26.0**	**+0.3**
TUWZ	**Tuamarina**	**0.55**	**321**	P	**Pg**	**04 43 22.1**	**-0.3**
TUWZ				S	**Sg**	**04 43 28.8**	**-0.9**
SNZO	**South Karori**	**0.59**	**22**	P	**Pb**	**04 43 24.2**	**+0.6**
WEL	**Wellington**	**0.64**	**25**	P	**Pb**	**04 43 25.0**	**+0.7**
TCW	**Tory Channel**	**0.66**	**351**	P	**Pg**	**04 43 24.1**	**-0.2**
PLWZ	**Palliser**	**0.70**	**66**	P	**Pn**	**04 43 28.3**	**+1.3**
KHZ	**Kahutara**	**0.85**	**229**	P	**Pn**	**04 43 30.8**	**+1.8**
CAW	**Cannon Point**	**0.90**	**34**	P	**Pn**	**04 43 29.9**	**+0.2**
PAWZ	**Paruwai Farm**	**0.90**	**58**	P	**Pn**	**04 43 30.9**	**+1.1**
NNZ	**Nelson**	**1.00**	**309**	P	**Pb**	**04 43 30.1**	**-0.5**
TRWZ	**Traveller**	**1.06**	**65**	P	**Pg**	**04 43 33.0**	**+1.0**
KIW	**Kapiti Island**	**1.07**	**21**	P	**Pn**	**04 43 32.1**	**+0.1**
MTW	**Mount Morrison**	**1.08**	**50**	P	**Pg**	**04 43 33.1**	**+0.8**
DUWZ	**D'Urville Isla**	**1.12**	**341**	P	**Pb**	**04 43 32.2**	**-0.4**
THZ	**Tophouse**	**1.13**	**274**	P	**Pg**	**04 43 33.5**	**+0.2**
OGWZ	**Otaki Gorge**	**1.18**	**29**	P	**Pb**	**04 43 34.5**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.27**	**41**	P	**Pb**	**04 43 35.7**	**+0.5**
MRNZ	**Matariki Terra**	**1.32**	**290**	P	**Pg**	**04 43 36.6**	**-0.2**
TMWZ	**Te Maipa**	**1.34**	**57**	P	**Pn**	**04 43 36.6**	**+0.8**
TKNZ	**Takaka Hill**	**1.36**	**307**	P	**Pb**	**04 43 36.7**	**-0.1**
MRZ	**Mangatainoka R**	**1.49**	**37**	P	**Pn**	**04 43 38.7**	**+0.9**
GVZ	**Greta Valley S**	**1.50**	**222**	P	**Pb**	**04 43 39.8**	**+0.6**
TIWZ	**Tintock**	**1.55**	**46**	P	**Pn**	**04 43 39.4**	**+0.7**
CPWZ	**Castlepoint**	**1.65**	**56**	P	**Pb**	**04 43 41.6**	**-0.1**
QRZ	**Quartz Range**	**1.75**	**306**	P	**Pb**	**04 43 43.1**	**-0.2**
QRZ	**Quartz Range**	**1.75**	**306**	P	**Pb**	**04 43 43.2**	**-0.2**
PRWZ	**Pori Road**	**1.76**	**43**	P	**Pn**	**04 43 42.1**	**+0.6**
OHWZ	**Ohakea**	**1.79**	**23**	P	**Pn**	**04 43 41.9**	**0.0**
POWZ	**Post Office Ro**	**1.79**	**36**	P	**Pn**	**04 43 42.7**	**+0.8**
BFZ	**Birch Farm**	**1.82**	**50**	P	**Pn**	**04 43 43.0**	**+0.7**
BFZ	**Birch Farm**	**1.82**	**50**	P	**Pn**	**04 43 42.5**	**+0.2**
LTZ	**Lake Taylor**	**1.83**	**239**	P	**Pb**	**04 43 44.2**	**-0.6**
AMCZ	**Amberley**	**1.85**	**224**	P	**Pn**	**04 43 44.1**	**+1.3**
DSZ	**Denniston Nort**	**1.95**	**272**	P	**Pb**	**04 43 46.0**	**-0.8**
DVHZ	**Dannevirke**	**2.05**	**41**	P	**Pn**	**04 43 45.6**	**+0.1**
ANWZ	**Angora Road**	**2.10**	**49**	P	**Pn**	**04 43 46.8**	**+0.6**
OKCZ	**Okains Bay**	**2.11**	**208**	P	**Pn**	**04 43 47.4**	**+1.0**
WAZ	**Wanganui**	**2.15**	**12**	P	**Pb**	**04 43 49.6**	**-0.5**
TSZ	**Takapari Road**	**2.15**	**34**	P	**Pn**	**04 43 47.4**	**+0.5**
MQZ	**McQueen's Vall**	**2.25**	**214**	P	**Pn**	**04 43 48.6**	**+0.3**
OXZ	**Oxford**	**2.28**	**229**	P	**Pn**	**04 43 49.4**	**+0.6**
AKCZ	**Akaroa Harbour**	**2.29**	**208**	P	**Pn**	**04 43 49.8**	**+0.9**
INZ	**Inchbonnie**	**2.36**	**248**	P	**Pn**	**04 43 51.3**	**+1.5**
PNHZ	**Pukenui**	**2.37**	**36**	P	**Pn**	**04 43 50.3**	**+0.3**
NMEZ	**Namu Road**	**2.48**	**350**	P	**Pb**	**04 43 57.3**	**+1.6**
KHEZ	**Kahui Hut**	**2.58**	**353**	P	**Pb**	**04 43 56.4**	**-1.2**
KHEZ	**Kahui Hut**	**2.58**	**353**	P	**Pb**	**04 43 56.9**	**-0.7**
NEZ	**North Egmont**	**2.60**	**355**	P	**Pb**	**04 43 57.4**	**-0.4**
MTVZ	**Mangateitei**	**2.60**	**18**	P	**Pb**	**04 43 56.6**	**-1.3**
PXZ	**Pawanui**	**2.61**	**46**	P	**Pn**	**04 43 53.2**	**0.0**
NBEZ	**Newall Road No**	**2.62**	**351**	P	**Pb**	**04 43 58.9**	**+0.7**
MOVZ	**Moawhango**	**2.66**	**23**	P	**Pn**	**04 43 55.0**	**+1.1**
PKVZ	**Pokaka**	**2.67**	**16**	P	**Pn**	**04 43 56.3**	**+2.2**
DREZ	**Durham Road**	**2.67**	**357**	P	**Pb**	**04 43 58.1**	**-1.0**
MHCZ	**Mount Hutt**	**2.68**	**230**	P	**Pn**	**04 43 54.6**	**+0.4**
BHHZ	**Black Hill Sta**	**2.68**	**29**	P	**Pn**	**04 43 55.3**	**+1.0**
PKE	**Pukeiti**	**2.68**	**353**	P	**Pb**	**04 43 58.0**	**-1.2**
WNVZ	**Wahianoa**	**2.69**	**20**	P	**Pn**	**04 43 56.0**	**+1.6**
TRVZ	**Turoa**	**2.70**	**19**	P	**Pn**	**04 43 57.3**	**+2.6**
WHVZ	**Whangaehu Hut**	**2.73**	**20**	P	**Pn**	**04 43 56.9**	**+1.9**
DRZ	**Dome Shelter**	**2.73**	**19**	P	**Pg**	**04 44 03.0**	**-0.8**
FWVZ	**Far West T-bar**	**2.74**	**19**	P	**Pn**	**04 43 57.4**	**+2.1**
VRZ	**Vera Road**	**2.75**	**6**	P	**Pn**	**04 43 57.7**	**+2.6**
TUVZ	**Tukino**	**2.76**	**21**	P	**Pn**	**04 43 57.1**	**+1.7**
KAHZ	**Kahuranaki**	**2.79**	**43**	P	**Pn**	**04 43 55.1**	**-0.6**
WACZ	**Wakanui South**	**2.81**	**221**	P	**Pn**	**04 43 56.8**	**+0.9**
SNVZ	**South Ngauruho**	**2.83**	**20**	P	**Pn**	**04 43 58.1**	**+1.7**
NGZ	**Ngauruhoe**	**2.83**	**19**	P	**Pn**	**04 43 58.3**	**+1.9**
OTVZ	**Oturere**	**2.86**	**20**	P	**Pn**	**04 43 58.5**	**+1.7**
KWHZ	**Kaweka Forest**	**2.88**	**33**	P	**Pn**	**04 43 57.5**	**+0.6**
NNVZ	**North Ngauruho**	**2.88**	**19**	P	**Pn**	**04 43 59.0**	**+2.0**
TWVZ	**Taurewa**	**2.89**	**16**	P	**Pb**	**04 44 01.0**	**-1.9**
ETVZ	**East Tongariro**	**2.90**	**21**	P	**Pn**	**04 43 59.2**	**+1.9**
TMVZ	**Te Maari**	**2.91**	**20**	P	**Pn**	**04 43 59.1**	**+1.6**
KRVZ	**Karewarewa**	**2.92**	**19**	P	**Pb**	**04 44 03.9**	**+0.5**
WVZ	**Waitaha Valley**	**2.98**	**245**	P	**Pn**	**04 44 00.1**	**+1.9**
KATZ	**Kakaramea**	**3.04**	**19**	P	**Pn**	**04 44 02.6**	**+3.3**
RITZ	**Rihia Road**	**3.08**	**22**	P	**Pb**	**04 44 07.2**	**+1.1**
RPZ	**Rata Peaks**	**3.09**	**232**	P	**Pn**	**04 44 01.3**	**+1.5**
RPZ	**Rata Peaks**	**3.09**	**232**	P	**Pn**	**04 44 00.7**	**+0.9**
BKZ	**Black Stump Fm**	**3.12**	**31**	P	**Pn**	**04 44 01.5**	**+1.1**
BKZ	**Black Stump Fm**	**3.12**	**31**	P	**Pn**	**04 44 00.4**	**0.0**
ARCZ	**Arundel**	**3.16**	**228**	P	**Pn**	**04 44 00.1**	**-0.7**
RATZ	**Rangitukua**	**3.17**	**20**	P	**Pb**	**04 44 08.1**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**3.35**	**243**	P	**Pb**	**04 44 09.6**	**-1.0**
HIZ	**Hauiti**	**3.36**	**6**	P	**Pn**	**04 44 05.9**	**+2.4**
HIZ	**Hauiti**	**3.36**	**6**	P	**Pn**	**04 44 05.9**	**+2.4**
TMZ	**Timaru**	**3.54**	**223**	P	**Pn**	**04 44 06.9**	**+0.8**
TLZ	**Tolley Road**	**3.63**	**14**	P	**Pb**	**04 44 14.5**	**-1.0**
FOZ	**Fox Glacier**	**3.77**	**242**	P	**Pn**	**04 44 11.5**	**+2.3**
LBZ	**Lake Benmore**	**3.99**	**229**	P	**Pn**	**04 44 14.0**	**+1.8**
ODZ	**Otahua Downs**	**4.20**	**219**	P	**Pn**	**04 44 15.6**	**+0.5**
ODZ	**Otahua Downs**	**4.20**	**219**	P	**Pn**	**04 44 15.3**	**+0.2**
TOZ	**Tahuroa Road**	**4.21**	**12**	P	**Pb**	**04 44 21.6**	**-3.6**
RUGZ	**Raukumara Rang**	**4.63**	**34**	P	**Pn**	**04 44 20.0**	**-1.1**
JCZ	**Jackson Bay**	**4.68**	**240**	P	**Pn**	**04 44 23.7**	**+1.9**
JCZ	**Jackson Bay**	**4.68**	**240**	P	**Pn**	**04 44 25.5**	**+3.7**
MKAZ	**Moumakai**	**4.78**	**7**	P	**Pn**	**04 44 25.1**	**+2.0**
AWAZ	**Awhitu Peninsu**	**4.79**	**2**	P	**Pn**	**04 44 26.6**	**+3.4**
ASAR	**Alice Springs**	**38.17**	**286**	P	**P**	**04 50 30.0**	**-0.6**
	0.3nm,0.5s,baz=135,slow=9.2,SNR=2.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**40.25**	**290**	P	**P**	**04 50 46.7**	**-1.3**
	0.4nm,0.7s,baz=127,slow=8.2,SNR=7.2						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**147.92**	**340**	PKPbc	**PKPbc**	**05 02 54.7**	**-0.3**
	4.4nm,1.2s,baz=59,slow=2.4,SNR=3.8						

*IDC **24** 04:48:04.8±0.5, 37°.07N×141°.30E, h0km, mb4.4/21, mbtmp4.4/24, ML3.3/2, MS3.4/23, Error ellipse: s-maj=15.2km s-min=13.6km az=95.0*
*BJI **24** 04:48:05.9±0.0, 37°.26N×141°.35E, h19km, mb4.5/39, mB4.8/17, Ms4.1/7, Ms7 3.7/7*
*MOS **24** 04:48:06.1±1.0, 37°.06N×141°.30E, h20km, mb5.0/25, Error ellipse: s-maj=10.8km s-min=7.2km az=112.8*
*NIED **24** 04:48:06.5, 37°.10N×141°.39E, h27km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.25; $M_{\theta\theta}$ 1.26; $M_{\phi\phi}$ 1.99; $M_{r\theta}$ 0.20; $M_{\theta\phi}$-1.18; $M_{\phi r}$ 1.03;*

Fault plane solution: M_o3.21000×10^{15} NP1: ϕ_s313.00000°, δ39.00000°, λ-107.00000°. NP2: ϕ_s156.00000°, δ53.00000°, λ-76.00000°.
*JMA **24** 04:48:06.5±0.2, 37°.1N±0°.3×141°.4E±0°.8, h27km±1km, MD4.7/33, MW4.3/33, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **24** 04:48:07.3±2.0, 37°.17N±0°.04×141°.32E±0°.08, h10km±1km, mb4.8/54, Error ellipse: s-maj=10.3km s-min=7.1km az=78.0*

ISC 24 04:48:07.1±1.0, 37°.12N±0°.03×141°.36E±0°.05, h14km±5km, n255, σ19°38/198, mb4.7/81, MS3.5/23, 11C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**302**	∥P	**Pg**	**04 48 16.2**	**-0.1**
JFK				∥eS	**Sb**	**04 48 23.1**	**-0.5**
JFK	**Kawauchi**	**0.46**	**302**	A	A	04 48 16.2	
	comp=E,14nm,5.7s,comp=E,9.0nm,2.2s						
JFFD	**Fukushimafurud**	**0.64**	**267**	*i* P	**Pb**	**04 48 19.2**	**-0.9**
JFFD				S	**Sg**	**04 48 27.9**	**-0.1**
JFFD	**Fukushimafurud**	**0.64**	**267**	A	A	04 48 19.2	
	comp=E,24nm,0.4s,comp=E,71nm,0.7s						
JMST	**Minamisoumatoc**	**0.71**	**328**	*i* P	**Pb**	**04 48 20.5**	**-0.8**
JMST				S	**Sg**	**04 48 30.7**	**+0.4**
JMST	**Minamisoumatoc**	**0.71**	**328**	A	A	04 48 20.5	
	comp=E,26nm,0.3s,comp=E,19nm,1.1s						
JHO	**Hitachi**	**0.81**	**231**	*i* P	**Pb**	**04 48 21.6**	**-1.5**
JHO				S	**Sb**	**04 48 33.1**	**-0.7**
JHO	**Hitachi**	**0.81**	**231**	A	A	04 48 21.6	
	comp=E,13nm,1.5s,comp=E,12nm,1.8s						
JMM	**Marumori**	**0.87**	**329**		**Pb**	**04 48 23.2**	**-0.8**
JMM				Sn	**Sb**	**

KLR	**Kul'dur**	**13.97**	**333**	Pn		**Pn**		**04 51 27.1**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=144,slow=18,SNR=3.2								
KLR	**Kul'dur**	**13.97**	**333**⇑	*e*P		**Pn**		**04 51 26.7**	**+2.2**
KLR				pmax		pmax			
	comp=Z,5.0nm,1.2s								
NJ2	**Nanjing**	**19.19**	**261**	*e*P		**P**		**04 52 30.0**	**-0.4**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
PETK	**Petropavlovsk-**	**19.63**	**30**	LR		LR		05 00 22.0	
	comp=Z,86nm,21.1s,baz=158,slow=37								
PET	**Petropavlovsk**	**19.96**	**32**	*e*P		P		04 52 22.7	-16
PET				pmax		pmax			
	comp=Z,40nm,0.5s								
XLT	**XiLinHaoTe**	**20.33**	**297**	*e*P		**P**		**04 52 40.8**	**-2.1**
XLT				pP		pP		04 52 48.3	+1.4
XLT				PP		**PnPn**		**04 53 02.4**	**+2.7**
XLT				S		**S**		**04 56 31.4**	**+1.0**
XLT				pmax		pmax			
	comp=Z,17nm,1.0s								
XLT				pmax		pmax			
	comp=Z,200nm,9.2s								
XLT				LR		LR			
	comp=Z,280nm,13.5s								
XLT				LR		LR			
	comp=Z,180nm,11.6s								
HNS	**HongShan**	**21.19**	**279**	⇑P		**P**		**04 52 49.8**	**-2.3**
HNS				PP		**PnPn**		**04 53 14.5**	**+3.0**
HNS				S		**S**		**04 56 36.8**	**-11**
HNS				pmax		pmax			
	comp=Z,14nm,0.7s								
HNS				LR		LR			
	comp=Z,260nm,11.2s								
HNS				LR		LR			
	comp=Z,330nm,10.8s								
HNS				LR		LR			
	comp=Z,190nm,12.0s								
MA2	**Magadan**	**23.28**	**12**	LR		LR		05 03 50.8	
	comp=Z,68nm,19.8s,baz=138,slow=40								
HHC	**Hu-ho-hao-te**	**23.40**	**288**	*e*P		**P**		**04 53 16.0**	**+0.4**
HHC				pmax		pmax			
	comp=Z,34nm,0.9s								
HHC				pmax		pmax			
	comp=Z,190nm,4.5s								
YAK	**Yakutsk**	**25.97**	**347**	LR		LR		05 04 09.2	
	comp=Z,95nm,18.9s,baz=260,slow=37								
YAK	**Yakutsk**	**25.97**	**347***ce*	P		**P**		**04 53 39.2**	**+0.2**
YAK				pmax		pmax			
	comp=Z,13nm,0.5s								
SEY	**Seymchan**	**26.71**	**11**	P		**P**		**04 53 45.8**	**+0.2**
	comp=Z,9.9nm,0.9s,baz=216,slow=7.1,SNR=6.6								
	comp=Z,9.9nm,0.9s								
SEY	**Seymchan**	**26.71**	**11**⇓	*e*P		**P**		**04 53 48.9**	**+3.2**
SEY				pmax		pmax			
	comp=Z,66nm,2.5s								
SONM	**Songino Array**	**27.70**	**304**	P		**P**		**04 53 53.8**	**-1.1**
	comp=Z,4.1nm,0.7s,baz=106,slow=8.4,SNR=26								
	comp=Z,4.1nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T		T		05 23 28.7	
	baz=314,slow=75,SNR=835								
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T		T		05 23 29.3	
	baz=314,slow=75,SNR=859								
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T		T		05 23 30.0	
	baz=314,slow=75,SNR=585								
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T		T		05 24 22.0	
	baz=316,slow=76,SNR=390								
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T		T		05 24 22.2	
	baz=316,slow=76,SNR=193								
H11S2	**WAKE ISLAND Hy**	**29.96**	**123**	T		T		05 24 20.7	
	baz=316,slow=76,SNR=172								
LZH	**Lanzhou**	**30.01**	**280**	*e*P		**P**		**04 54 16.8**	**+1.2**
LZH				pP		sP		04 54 23.1	+1.5
LZH				sP		pP		04 54 25.5	+5.6
LZH				pmax		pmax			
	comp=Z,9.0nm,1.1s								
CD2	**Chengdu**	**31.63**	**270**	P		**P**		**04 54 29.5**	**-0.3**
GTA	**Gaotai**	**32.49**	**287**	*e*P		**P**		**04 54 36.8**	**-0.6**
GTA				pP		sP		04 54 45.1	+1.6
GTA				pmax		pmax			
	comp=Z,4.0nm,0.7s								
GTA				pmax		pmax			
	comp=Z,120nm,4.0s								
GTA				LR		LR			
	comp=Z,120nm,13.4s								
GTA				LR		LR			
	comp=Z,94nm,12.7s								
GTA				LR		LR			
	comp=Z,130nm,14.5s								
DAV	**Davao City (W)**	**33.19**	**210**	LR		LR		05 05 41.0	
	comp=Z,63nm,20.7s,baz=20,slow=32								
PZH	**PanZhiHua**	**35.07**	**264**	P		**P**		**04 55 02.1**	**+2.2**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,130nm,5.1s								
MYLDM	**Lahad Datu**	**38.05**	**219**	P		**P**		**04 55 26.9**	**+1.6**
MYLDM				IAmb		IAmb		04 55 29.4	
	comp=Z,27nm,1.0s								
TNCH	**TengChong**	**38.32**	**264**	P		**P**		**04 55 28.8**	**+1.1**
TNCH				pP		sP		04 55 36.5	+2.7
TNCH				pmax		pmax			
	comp=Z,15nm,0.7s								
SIJI	**Sorong**	**38.94**	**196**	LR		LR		05 09 18.7	
	comp=Z,70nm,20.2s,baz=28,slow=33								
DGZ	**Jazzator, Alta**	**40.30**	**306***d*	*i*P		**P**		**04 55 44.5**	**+0.5**
DGZ				pmax		pmax			
	comp=Z,13nm,0.8s								
FAKI	**Fak Fak**	**40.73**	**194**	P		**P**		**04 55 47.2**	**-0.3**
WMQ	**Urumqi**	**40.76**	**297**	*e*P		**P**		**04 55 49.1**	**+1.4**
WMQ				pP		sP		04 55 55.9	+2.1
WMQ				pmax		pmax			
	comp=Z,22nm,0.9s								
CMAR	**Chiang Mai Arr**	**41.48**	**255**	P		**P**		**04 55 53.0**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=46,slow=7.7,SNR=1.1								
CMAR				LR		LR		05 14 50.4	
	comp=Z,65nm,18.9s,baz=60,slow=39								
	comp=Z,0.6nm,0.3s								
CMAR	**Chiang Mai Arr**	**41.48**	**255**	P		**P**		**04 55 53.0**	**-0.8**
ZAA0	**Zalesovo Array**	**41.82**	**312**			**P**		**04 55 55.5**	**-0.7**
ZAA0				IAmb		IAmb		04 56 00.8	
	comp=Z,10nm,0.7s								
ZALV	**Zalesovo Beam**	**41.82**	**312**	P		**P**		**04 55 55.9**	**-0.3**
	comp=Z,9.4nm,0.7s,baz=91,slow=6.6,SNR=24								
ZALV				PcP		**PcP**		**04 57 52.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=101,slow=2.9,SNR=2.9								
	comp=Z,9.4nm,0.7s								
ZALV	**Zalesovo Beam**	**41.82**	**312**			**P**		**04 55 55.3**	**-0.8**
SBUM	**Sibu**	**43.69**	**225**	P		**P**		**04 56 11.8**	**0.0**
MK31	**Makanchi Array**	**44.03**	**302**			**P**		**04 56 14.0**	**-0.3**
MK31	**Makanchi Array**	**44.03**	**302***de*	P		**P**		**04 56 13.5**	**-0.8**
MKAR	**Makanchi Array**	**44.03**	**302**	P		**P**		**04 56 14.0**	**-0.3**
	comp=Z,8.2nm,0.8s,baz=88,slow=9.8,SNR=41								
MKAR				LR		LR		05 14 07.7	
	comp=Z,30nm,19.6s,baz=136,slow=36								
	comp=Z,8.2nm,0.8s								
MKAR	**Makanchi Array**	**44.03**	**302**	P		**P**		**04 56 13.8**	**-0.4**
MAKZ	**Makanchi**	**44.24**	**302**			**P**		**04 56 14.9**	**-1.0**
MAKZ				IAmb		IAmb		04 56 20.3	
	comp=Z,7.8nm,0.8s								
MAKZ	**Makanchi**	**44.24**	**302**	P		**P**		**04 56 14.9**	**-1.0**
MAKZ				pmax		pmax			
	comp=Z,8.0nm,0.8s								
BRDH	**Bariadhala**	**44.95**	**266**	LR		LR		05 18 26.6	
	comp=Z,69nm,18.0s,baz=92,slow=41								
KSM	**Kuching**	**45.58**	**226**	P		**P**		**04 56 27.8**	**+0.9**
KURK	**Kurchatov**	**45.84**	**308**	P		**P**		**04 56 27.6**	**-1.0**
KURK	**Kurchatov**	**45.84**	**308***c*	*i*P		**P**		**04 56 28.4**	**-0.1**
KURK				pmax		pmax			
	comp=Z,19nm,0.8s								
K20K	**Telida**	**46.28**	**34**	P		**P**		**04 56 33.0**	**+1.1**
K20K				IAmb		IAmb		04 56 34.5	
	comp=Z,6.8nm,0.8s								
KAPI	**Kappang**	**46.52**	**210**	LR		LR		05 14 42.5	
	comp=Z,19nm,20.2s,baz=54,slow=34								
KAPI	**Kappang**	**46.52**	**210**	P		**P**		**04 56 34.3**	**+0.2**
KAPI	**Kappang**	**46.52**	**210***d*	*i*P		**P**		**04 56 33.9**	**-0.3**
KAPI				pmax		pmax			
	comp=Z,18nm,1.1s								
CAST	**Castle Rocks**	**47.18**	**34**	P		**P**		**04 56 40.2**	**+1.3**
CAST				IAmb		IAmb		04 56 48.3	
	comp=Z,14nm,1.4s								
KTH	**Kantishna Hill**	**47.70**	**34**	P		**P**		**04 56 43.9**	**+0.9**
KTH				IAmb		IAmb		04 56 49.5	
	comp=Z,12nm,1.0s								
MLY	**Manley**	**47.80**	**32**	P		**P**		**04 56 45.3**	**+1.6**
MLY				IAmb		IAmb		04 56 46.3	
	comp=Z,6.4nm,0.9s								
H23K	**Yukon River**	**48.31**	**31**	P		**P**		**04 56 49.0**	**+1.3**
H23K				IAmb		IAmb		04 56 56.1	
	comp=Z,8.6nm,1.0s								
TOLK	**Toolik Lake Re**	**48.41**	**27**	P		**P**		**04 56 49.7**	**+1.3**
TOLK				IAmb		IAmb		04 56 55.2	
	comp=Z,6.4nm,0.9s								
NEA2	**Nenana**	**48.51**	**33**	P		**P**		**04 56 49.6**	**+0.5**
MDM	**Murphy Dome**	**48.87**	**32**	P		**P**		**04 56 53.1**	**+1.2**
MDM				IAmb		IAmb		04 56 54.3	
	comp=Z,9.2nm,0.8s								
COLA	**College**	**49.03**	**32**⇑	*e*P		**P**		**04 56 53.7**	**+0.6**
COLA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
POKR	**Poker Plat Res**	**49.20**	**32**	P		**P**		**04 56 56.0**	**+1.5**
HDA	**Harding Lake**	**49.43**	**33**	P		**P**		**04 56 57.0**	**+0.7**
HDA				IAmb		IAmb		04 56 57.5	
	comp=Z,5.6nm,0.7s								
IL31		**49.44**	**32**	P		**P**		**04 56 57.1**	**+0.9**
IL31				IAmb		IAmb		04 56 58.0	
	comp=Z,7.9nm,0.8s								
ILAR	**Eielson Array**	**49.44**	**32**	P		**P**		**04 56 57.0**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=264,slow=5.8,SNR=72								
	comp=Z,5.7nm,0.7s								
PRP	**Porcupine Dome**	**49.98**	**31**	P		**P**		**04 57 01.7**	**+1.1**
KSH	**Kashi**	**50.33**	**294**	P		**P**		**04 57 05.3**	**+1.7**
KSH				sP		sP		04 57 17.8	+8.0
KSH				pmax		pmax			
	comp=Z,6.0nm,0.5s								
AAK	**Ala-Archa**	**50.41**	**298**	LR		LR		05 19 03.1	
	comp=Z,43nm,18.9s,baz=56,slow=37								
BRVK	**Borovoye**	**50.54**	**312**⇑	*e*P		**P**		**04 57 04.7**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.7s								
MTN	**Manton Dam**	**50.62**	**193**	P		**P**		**04 57 05.8**	**+0.1**
MTN				IAmb		IAmb		04 57 06.2	
	comp=Z,30nm,1.6s								
SCRK	**Sand Creek**	**50.76**	**33**	P		**P**		**04 57 07.5**	**+1.1**
L26K	**Log Cabin Wild**	**51.15**	**34**	P		**P**		**04 57 09.6**	**+0.3**
L26K				IAmb		IAmb		04 57 11.9	
	comp=Z,7.4nm,0.8s								
PSI	**Prapat**	**51.80**	**239**	LR		LR		05 19 57.1	
	comp=Z,45nm,18.7s,baz=20,slow=37								
L27K	**Beaver Creek,**	**51.83**	**34**	P		**P**		**04 57 14.4**	**0.0**
I29M	**Ogilvie Camp,**	**53.00**	**31**	P		**P**		**04 57 23.2**	**+0.2**
EPYK	**Eagle Plains**	**53.47**	**30**	P		**P**		**04 57 28.4**	**+1.9**
KNRA	**Kununurra**	**53.84**	**195**	P		**P**		**04 57 29.9**	**+0.2**
INK	**Inuvik**	**54.33**	**27**	P		**P**		**04 57 32.2**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=298,slow=5.7,SNR=12								
INK				LR		LR		05 22 22.4	
	comp=Z,52nm,19.6s,baz=215,slow=38								
	comp=Z,3.2nm,0.8s								
INK	**Inuvik**	**54.33**	**27**	P		**P**		**04 57 33.9**	**+1.3**
INK				IAmb		IAmb		04 58 57.2	
	comp=Z,15nm,1.6s								
INK	**Inuvik**	**54.33**	**27**	P		**P**		**04 57 33.9**	**+1.3**
INK				pmax		pmax			
	comp=Z,15nm,1.7s								
A36M	**Sachs Harbour**	**56.19**	**22**	P		**P**		**04 57 47.4**	**+1.3**
A36M				IAmb		IAmb		04 57 52.2	
	comp=Z,8.6nm,0.9s								
ARU	**Arti**	**56.27**	**318**	P		**P**		**04 57 45.8**	**-1.0**
ARU				IAmb		IAmb		04 57 51.2	
	comp=Z,9.2nm,0.7s								
ARU	**Arti**	**56.27**	**318***d*	*i*P		**P**		**04 57 46.3**	**-0.5**
ARU								04 58 40.9	
ARU								04 59 51.8	
ARU				S		**S**		**05 05 35.0**	**-1.0**
ARU				SS		**SS**		**05 09 21.6**	**-0.5**
ARU				pmax		pmax			
	comp=Z,14nm,1.3s								
WRAB	**Tennant Creek**	**57.13**	**188**	P		**P**		**04 57 52.4**	**-0.9**
WRAB				IAmb		IAmb		04 57 57.2	
	comp=Z,5.4nm,0.8s								
WRAB	**Tennant Creek**	**57.13**	**188***ce*	P		**P**		**04 57 52.7**	**-0.6**
WRAB				pmax		pmax			
	comp=Z,6.0nm,0.8s								
WR0	**Warramunga Arr**	**57.14**	**188**	P		**P**		**04 57 52.5**	**-0.8**
WR0				IAmb		IAmb		04 57 52.9	
	comp=Z,5.6nm,0.7s								
WB2	**Warramunga Arr**	**57.14**	**188**	P		**P**		**04 57 52.6**	**-0.7**
WB2				IAmb		IAmb		04 57 57.3	
	comp=Z,6.5nm,0.8s								
WRA	**Warramunga Arr**	**57.14**	**188**	P		**P**		**04 57 52.0**	**-1.3**
	comp=Z,4.1nm,0.6s,baz=5.6,slow=7.1,SNR=101								
WRA				PcP		**PcP**		**04 58 48.6**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=359,slow=4.3,SNR=6.7								
	comp=Z,4.1nm,0.6s								
WRA	**Warramunga Arr**	**57.14**	**188**	P		**P**		**04 57 52.1**	**-1.3**
WRA	**Warramunga Arr**	**57.14**	**188**	P		**P**		**04 57 52.1**	**-1.3**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
C36M	**Paulatuk**	**57.37**	**25**	P		**P**		**04 57 54.8**	**+0.4**
ABKAR	**Akbulak array**	**57.85**	**310**	P		**P**		**04 57 57.3**	**-0.8**
KIRV	**Kirov**	**60.15**	**323**	LR		LR		05 24 39.3	
	comp=Z,32nm,21.6s,baz=49,slow=36								
KIRV	**Kirov**	**60.15**	**323***de*	P		**P**		**04 58 13.9**	**0.0**
PRGR	**Permogore**	**60.67**	**327**	*e*P		**P**		**04 58 15.0**	**-2.4**
PRGR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ASAR	**Alice Springs**	**60.87**	**188**	P		**P**		**04 58 18.4**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=9.9,slow=5.4,SNR=27								
ASAR				LR		LR		05 25 36.6	
	comp=Z,29nm,18.1s,baz=17,slow=37								
	comp=Z,2.7nm,0.7s								
PALK	**Pallekele**	**62.34**	**258**	LR		LR		05 26 36.9	
	comp=Z,36nm,20.5s,baz=171,slow=37								
KLMR	**Klimovskoe**	**63.66**	**328**	*e*P		**P**		**04 58 36.3**	**-1.2**
KLMR				AMP				04 58 41.8	
	comp=Z,13nm,0.9s								
KLMR	**Klimovskoe**	**63.66**	**328**	*e*P		**P**		**04 58 36.2**	**-1.2**
KLMR				pmax		pmax			
	comp=Z,13nm,0.9s								
GEYT	**Alibeck**	**63.75**	**299**	P		**P**		**04 58 38.7**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=5.4,slow=3.1,SNR=7.1								
	comp=Z,5.5nm,0.8s								
GEYT	**Alibeck**	**63.75**	**299**	P		**P**		**04 58 38.6**	**0.0**
ARCES	**ARCESS Array B**	**63.90**	**339**	P		**P**		**04 58 39.2**	**+0.3**
	comp=Z,6.5nm,0.8s,baz=58,slow=7.8,SNR=18								
	comp=Z,6.5nm,0.8s								
WAPA	**Wapiti River**	**65.32**	**39**	P		**P**		**04 58 49.0**	**+0.5**
OBN	**Obninsk**	**68.00**	**323**	*i*P		**P**		**04 59 04.7**	**-0.8**
OBN				*i*				04 59 08.8	
OBN				*i*				04 59 33.5	
OBN				pmax		pmax			
	comp=Z,11nm,1.1s								
VORR	**Voronezh**	**68.56**	**319**	*e*P		**P**		**04 59 12.2**	**+3.1**
VORR				pmax		pmax			
	comp=Z,50nm,0.4s								
STKA	**Stephens Creek**	**68.64**	**180**	P		**P**		**04 59 09.8**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=1.3,slow=9.6,SNR=4.5								
	comp=Z,2.4nm,0.7s								
FINES	**FINESS Array B**	**68.72**	**332**	P		**P**		**04 59 09.8**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=62,slow=5.2,SNR=15								
	comp=Z,7.7nm,0.7s								
FINES	**FINESS Array B**	**68.72**	**332**	*i*P		**P**		**04 59 09.8**	**-0.1**
FINES				pmax		pmax			
	comp=Z,9.0nm,0.8s								
KBZ	**Khabaz**	**70.81**	**311**	P		**P**		**04 59 23.3**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=356,slow=2.4,SNR=5.8								
	comp=Z,5.4nm,0.8s								
KIV	**Kislovodsk**	**70.81**	**311**	P		**P**		**04 59 22.0**	**-1.3**
KIV				IAmb		IAmb		04 59 28.9	
	comp=Z,11nm,0.8s								
KIV	**Kislovodsk**	**70.81**	**311**	*e*P		**P**		**04 59 24.0**	**+0.7**
KIV				pmax		pmax			
	comp=Z,16nm,1.1s								
KIV				MLR		MLR			
	comp=Z,27nm,18.0s								
NACGM	**Naroch**	**72.63**	**327**	*e*P		**P**		**04 59 34.6**	**+0.8**
	comp=Z,18nm,0.9s								
PABE	**Paberze**	**73.44**	**328**	P		**P**		**04 59 38.7**	**+0.1**
NB2	**NORSAR Subarra**	**74.09**	**337**	P		**P**		**04 59 42.1**	**-0.3**
	comp=Z,9.8nm,1.1s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**74.09**	**337**	P		**P**		**04 59 42.4**	**0.0**
	comp=Z,4.3nm,0.8s,baz=39,slow=5.8,SNR=9.3								
NOA				LR		LR		05 35 31.4	
	comp=Z,27nm,21.4s,baz=20,slow=38								
	comp=Z,4.3nm,0.8s								
AKASG	**Malin Array Be**	**74.20**	**322**	P		**P**		**04 59 42.7**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=46,slow=6.0,SNR=23								
	comp=Z,2.1nm,0.4s								
AKBB	**Malin Array Si**	**74.20**	**322**	P		**P**		**04 59 42.8**	**-0.3**
AKBB				IAmb		IAmb		04 59 47.5	
	comp=Z,11nm,0.9s								
AKBB	**Malin Array Si**	**74.20**	**322***ce*	P		**P**		**04 59 42.9**	**-0.3**
LHV	**Little Huntoon**	**74.95**	**53**	P		**P**		**04 59 49.6**	**+1.9**
LHV				IAmb		IAmb		04 59 50.8	
	comp=Z,18nm,1.5s								
NVAR	**Mina Array Bea**	**74.97**	**53**	P		**P**		**04 59 48.7**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=303,slow=5.1,SNR=8.8								
	comp=Z,1.0nm,0.7s								
KONO	**Kongsberg**	**75.68**	**337**⇓	*e*P		**P**		**04 59 50.9**	**-0.7**
KONO				pmax		pmax			
	comp=Z,16nm,1.2s								
SFJD	**Kangerlussuaq**	**75.80**	**5**	LR		LR		05 34 23.8	
	comp=Z,6.4nm,19.2s,baz=285,slow=37								
TPAW	**Teton Pass**	**76.39**	**46**	P		**P**		**04 59 58.2**	**+1.9**
TPAW				IAmb		IAmb		04 59 59.9	
	comp=Z,24nm,1.9s								
PD31	**Pinedale Array**	**77.64**	**45**	P		**P**		**05 00 03.6**	**+0.4**
PDAR	**Pinedale Array**	**77.64**	**45**	P		**P**		**05 00 04.1**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=285,slow=2.1,SNR=14								
	comp=Z,0.9nm,0.6s								
BUR08	**Bucovina Ar. S**	**78.20**	**322**	P		**P**		**05 00 05.9**	**-0.3**
BURAR	**Bucovina Array**	**78.21**	**322**	P		**P**		**05 00 05.9**	**-0.3**
BR131	**Keskin Array S**	**78.76**	**311**⇑	*e*P		**P**		**05 00 08.9**	**-0.5**
BRTR	**Keskin Array B**	**78.76**	**311**	P		**P**		**05 00 09.8**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=106,slow=2.7,SNR=6.3								
	comp=Z,1.6nm,0.9s								
BRTR	**Keskin Array B**	**78.76**	**311**	*i*P		**P**		**05 00 09.8**	**+0.3**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
OJC	**Ojcow**	**78.94**	**326**	P		**P**		**05 00 08.3**	**-1.7**
OJC				IAmb		IAmb		05 00 12.5	
	comp=Z,7.8nm,0.8s								
OJC	**Ojcow**	**78.94**	**326**	P		**P**		**05 00 08.3**	**-1.7**
OJC				pmax		pmax			
	comp=Z,8.0nm,0.8s								
DPC	**Dobruska-Polom**	**80.36**	**328**	*e*P		**P**		**05 00 18.6**	**+0.8**
DPC	**Dobruska-Polom**	**80.36**	**328**	*e*P		**P**		**05 00 18.6**	**+0.8**
KRLC	**Kraliky**	**80.37**	**327**	*e*P		**P**		**05 00 18.1**	**+0.2**
KRLC	**Kraliky**	**80.37**	**327**	*e*P		**P**		**05 00 18.1**	**+0.2**
RAYN	**Ar Rayn**	**80.58**	**292**	P		**P**		**05 00 18.9**	**-0.6**
RAYN	**Ar Rayn**	**80.58**	**292**	P		**P**		**05 00 18.9**	**-0.6**
RAYN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
VYHS	**Vyhne**	**80.63**	**325**	*e*P		**P**		**05 00 20.0**	**+0.7**
VYHS	**Vyhne**	**80.63**	**325**	*e*P		**P**		**05 00 20.0**	**+0.7**
BRG	**Berggiesshubel**	**80.95**	**329**	*e*P		**P**		**05 00 21.1**	**+0.1**
BRG				Amp				05 00 26.0	
	comp=Z,5.0nm,1.0s								
BRG	**Berggiesshubel**	**80.95**	**329**	*e*P		**P**		**05 00 21.0**	**+0.1**
BRG				pmax		pmax			
	comp=Z,5.0nm,1.0s								
CLL	**Collm**	**81.00**	**330**	P		**P**		**05 00 21.8**	**+0.7**
CLL				IAmb		IAmb		05 00 25.9	
	comp=Z,6.3nm,0.8s								
CLL	**Collm**	**81.00**	**330**	*e*P		**P**		**05 00 20.0**	**-1.1**
	comp=Z,5.0nm,1.0s								
CLL				*i* (pP)		**pP**		**05 00 25.0**	**-0.8**
	comp=Z,8.0nm,0.9s								
CLL	**Collm**	**81.00**	**330**	P		**P**		**05 00 21.8**	**+0.7**
CLL				pmax		pmax			
	comp=Z,6.0nm,0.8s								
PRU	**Pruhonice**	**81.38**	**328**	*e*P		P		05 00 28.1	+4.9
PRU	**Pruhonice**	**81.38**	**328**	*e*P		P		05 00 28.1	+4.9
RONA	**Rosalia, Austr**	**82.36**	**326**	*e*P		**P**		**05 00 29.5**	**+1.1**
	comp=Z,5.2nm,0.9s								
CKRC	**Cesky Krumlov**	**82.38**	**328**	*e*P		**P**		**05 00 28.8**	**+0.3**
CONA	**Conrad Observa**	**82.38**	**326**	*e*P		**P**		**05 00 29.6**	**+1.0**
	comp=Z,4.0nm,1.1s								
KHC	**Kasperske Hory**	**82.44**	**328**	P		**P**		**05 00 28.6**	**-0.3**
KHC				IAmb		IAmb		05 00 30.1	
	comp=Z,4.9nm,0.9s								
KHC	**Kasperske Hory**	**82.44**	**328**	*e*P		**P**		**05 00 29.3**	**+0.4**
KHC	**Kasperske Hory**	**82.44**	**328**⇑	*e*P		**P**		**05 00 29.4**	**+0.5**
KHC				pmax		pmax			
	comp=Z,17nm,1.2s								
GERES	**GERESS Array B**	**82.61**	**328**	P		**P**		**05 00 29.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=35,slow=4.9,SNR=7.3								
	comp=Z,1.0nm,0.6s								
VTS	**Vitosha**	**82.69**	**319**	P		**P**		**05 00 29.8**	**-0.6**
VTS	**Vitosha**	**82.69**	**319**	P		**P**		**05 00 29.8**	**-0.6**
VTS				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ARSA	**Arzberg**	**83.04**	**326**	*i*P		**P**		**05 00 35.2**	**+3.2**
	comp=Z,4.2nm,1.0s								
BIOA	**Bad Ischl, Aus**	**83.53**	**327**

	5.1nm,0.4s							
MRKS	**Merke**	**3.92**	**24**	Pg		**Pb**	**05 34 37.7**	**-4.7**
	3.5nm,0.3s							
MRKS				Lg		Lg	05 35 26.8	
	5.1nm,0.4s							
KK31	**Karatay Array**	**3.95**	**354**	Pn		**Pb**	**05 34 38.2**	**-4.5**
	1.0nm,0.3s,baz=177,slow=12,SNR=23							
KK31				⇓Pg		**Pg**	**05 34 49.1**	**+0.3**
	0.7nm,0.3s,baz=184,slow=13,SNR=5.7							
KK31				⇓Sn		**Sb**	**05 35 28.8**	**-1.9**
	1.1nm,0.3s,baz=183,slow=32,SNR=6.7							
KK31				⇓Lg		Lg	05 35 44.8	
	4.6nm,0.5s,baz=182,slow=28,SNR=3.8							
UCH	**Uchtor**	**4.02**	**39**	⇑*e*P		**Pb**	**05 34 39.7**	**-4.5**
	baz=42							
UCH				⇑*e*S		**Sb**	**05 35 30.4**	**-2.5**
	baz=42							
SGDS	**Sogindy**	**5.04**	**31**	*e*P		**Pb**	**05 34 56.9**	**-4.6**
	2.7nm,0.5s							
SGDS				*e*S		**Sb**	**05 35 59.6**	**-2.5**
	2.3nm,0.4s							
SGDS	**Sogindy**	**5.04**	**31**	Pg		**Pb**	**05 34 56.8**	**-4.6**
	2.7nm,0.5s							
SGDS				Lg		Lg	05 35 59.6	
	2.3nm,0.4s							
KUU	**Kurty**	**6.15**	**38**	*e*P		**Pb**	**05 35 17.3**	**-2.9**
	1.7nm,0.7s							
KUU				*e*S		**Sb**	**05 36 34.9**	**+1.1**
	4.1nm,0.3s							
KUU	**Kurty**	**6.15**	**38**	Pg		**Pb**	**05 35 17.3**	**-2.9**
	1.7nm,0.7s							
KUU				Lg		Lg	05 36 34.9	
	4.1nm,0.3s							
KTBS	**Karatobe**	**6.19**	**41**	*e*P		**Pb**	**05 35 17.2**	**-3.7**
KTBS				*e*S		**Sb**	**05 36 35.0**	**0.0**
	4.6nm,0.3s							
KTBS	**Karatobe**	**6.19**	**41**	Pg		**Pb**	**05 35 17.2**	**-3.7**
KTBS				Lg		Lg	05 36 35.0	
	4.6nm,0.3s							

*IDC **24** 05:38:44.2±1.8,36°.94N×141°.52E, h0km, mb3.3/2, mbtmp3.2/3, ML1.7/1, MS3.2/1, Error ellipse: s-maj=43.9km s-min=28.9km az=149.0*
*JMA **24** 05:38:45.9±0.1,37°.2N±0°.2×141°.3E±0°.7, h22km±1km, MV2.8/33, E OFF FUKUSHIMA PREF*
ISC 24 05:38:44.8±2.3,**37°.13N**±0°.05×**141°.35E**±0°.10,**h6**km±14km, **n16**,σ0**s57**/15, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.44**	**302**	P	**Pg**	**05 38 53.5**	**+0.1**
JFK				S	**Sg**	**05 38 59.3**	**+0.1**
JFFD	**Fukushimafurud**	**0.63**	**266**	P	**Pg**	**05 38 56.9**	**0.0**
JFFD				S	**Sg**	**05 39 05.1**	**0.0**
JMST	**Minamisoumatoc**	**0.69**	**329**	*i* P	**Pg**	**05 38 58.1**	**-0.1**
JMST				S	**Sg**	**05 39 07.4**	**+0.2**
JHO	**Hitachi**	**0.81**	**230**	P	**Pg**	**05 39 00.2**	**-0.1**
JHO				*e*S	**Sg**	**05 39 11.2**	**+0.3**
JMM	**Marumori**	**0.85**	**329**	P	**Pg**	**05 39 00.8**	**-0.5**
JMM				S	**Sg**	**05 39 12.0**	**-0.3**
JSB	**Shiboa**	**1.15**	**262**	P	**Pn**	**05 39 06.9**	**-0.6**
MJAR	**Matsushiro Arr**	**2.58**	**258**	Pn	**Pn**	**05 39 28.1**	**+0.9**
MJAR	0.1nm,0.3s,baz=78,slow=16,SNR=3.0			Sn	**Sb**	**05 40 03.4**	**-0.2**
	0.3nm,0.3s,baz=238,slow=36,SNR=1.4 1.8nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	06 14 12.8	
	baz=314,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	06 14 14.2	
	baz=314,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	06 14 13.5	
	baz=314,slow=75,SNR=64						
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	06 15 03.4	
	baz=316,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	06 15 05.8	
	baz=316,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	06 15 07.8	
	baz=316,slow=75,SNR=13						
MKAR	**Makanchi Array**	**44.02**	**302**	LR	LR	06 05 26.8	
	comp=Z,28nm,19.1s,baz=28,slow=36						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**05 47 36.3**	**+1.0**
	0.3nm,0.7s,baz=260,slow=5.4,SNR=2.7 0.3nm,0.7s						
WRA	**Warramunga Arr**	**57.15**	**188**	P	**P**	**05 48 31.4**	**-1.0**
	0.4nm,0.9s,baz=5.8,slow=7.4,SNR=2.2 0.4nm,0.9s						

*IDC **24** 06:13:30.4±2.8,37°.17N×141°.52E, h0km, mb3.3/2, mbtmp3.1/3, ML2.2/1, Error ellipse: s-maj=49.5km s-min=36.0km az=41.0*
*JMA **24** 06:13:33.2±0.1,37°.2N±0°.2×141°.3E±0°.7, h22km±1km, MV2.9/33, E OFF FUKUSHIMA PREF*
ISC 24 06:13:32.0±2.4,**37°.13N**±0°.06×**141°.35E**±0°.10,**h6**km±13km, **n18**,σ0**s34**/15, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**302**	P	**Pg**	**06 13 40.9**	**+0.3**
JFK				S	**Sg**	**06 13 46.6**	**+0.1**
JFFD	**Fukushimafurud**	**0.63**	**267**	P	**Pg**	**06 13 44.2**	**+0.1**
JFFD				S	**Sg**	**06 13 52.4**	**0.0**
JMST	**Minamisoumatoc**	**0.70**	**328**	*e*P	**Pg**	**06 13 45.4**	**0.0**
JMST				S	**Sg**	**06 13 54.3**	**-0.2**
JHO	**Hitachi**	**0.81**	**231**	P	**Pg**	**06 13 47.4**	**-0.2**
JMM	**Marumori**	**0.86**	**329**	P	**Pg**	**06 13 48.2**	**-0.3**
JMM				S	**Sg**	**06 13 59.4**	**-0.1**
JSB	**Shiboa**	**1.16**	**262**	P	**Pb**	**06 13 54.2**	**-0.1**
JSB				S	**Sb**	**06 14 09.3**	**-0.3**
MJAR	**Matsushiro Arr**	**2.59**	**258**	Pn	**Pn**	**06 14 15.1**	**+0.7**
MJAR	0.4nm,0.3s,baz=80,slow=15,SNR=8.6			Sn	**Sb**	**06 14 50.1**	**-0.7**
	0.6nm,0.3s,baz=75,slow=11,SNR=2.8 1.4nm,0.3s						
SONM	**Songino Array**	**27.69**	**304**	P	**P**	**06 19 20.8**	**0.0**
	0.2nm,0.5s,baz=106,slow=9.2,SNR=2.1 0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	06 49 01.7	
	baz=313,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	06 49 02.5	
	baz=313,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	06 49 03.2	
	baz=313,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	06 49 55.5	
	baz=316,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	06 49 50.6	
	baz=316,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	06 49 54.2	
	baz=316,slow=76						
WRA	**Warramunga Arr**	**57.15**	**188**	P	**P**	**06 23 19.5**	**-0.1**
	0.2nm,0.5s,baz=5.8,slow=7.4,SNR=1.3 0.2nm,0.5s						
H03N2	**Juan Fernandez**	**147.08**	**96**	T	T	09 17 41.1	
	baz=291						
H03N3	**Juan Fernandez**	**147.09**	**96**	T	T	09 17 42.4	
	baz=291						
H03N1	**Juan Fernandez**	**147.10**	**96**	T	T	09 17 44.3	
	baz=291						

IDC 24 06:16:45.6±2.3,**2°.89N**×**125°.85E**,**h0**km,**mb3.5**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=200.3km s-min=28.7km az=65.0**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.18**	**160**	P	P	06 22 03.9	+0.1
	0.9nm,0.5s,baz=339,slow=10,SNR=33 0.9nm,0.5s						
ASAR	**Alice Springs**	**27.54**	**164**	P	P	06 22 34.6	+0.4
	0.1nm,0.3s,baz=346,slow=9.6,SNR=2.5 0.1nm,0.3s						
MKAR	**Makanchi Array**	**57.74**	**326**	P	P	06 26 38.0	-0.4
	0.1nm,0.4s,baz=124,slow=6.9,SNR=1.8 0.1nm,0.4s						

*HVO **24** 06:23:52.8±0.8,19°.38N±0°.01×155°.236W±0°.003, h1km±4km, ML3.0/27, ML1.8/37(NEIC), Error ellipse: s-maj=1.9km s-min=0.4km az=176.0*
NEIC 24 06:23:53.0±0.6,**19°.397N**±0°.005×**155°.237W**±0°.006, **h1**km,7km, **Error ellipse: s-maj=1.0km s-min=0.4km az=139.0**, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.03**	**303**		Pg	06 23 53.5	0.0
KKO	**Keanakako'i**	**0.03**	**271**		Pg	06 23 53.5	-0.1
PUH	**Pauahi**	**0.03**	**140**		Sg	06 23 53.5	-0.1
HATHI	**Halema'uma'u T**	**0.03**	**318**		Pg	06 23 53.6	0.0
RIM	**Rim**	**0.04**	**267**		Pg	06 23 53.6	-0.1
RIM				IAML		06 23 54.4	
	comp=N,1μm,1.1s						
RIM				IAML		06 23 54.7	
	comp=E,1μm,0.7s						
SBLHI	**Steaming Bluff**	**0.04**	**315**		Pg	06 23 53.8	0.0
SBLHI				IAML		06 23 55.7	
	comp=N,1μm,0.3s						
SBLHI				IAML		06 23 55.8	
	comp=E,2μm,0.2s						
NPH	**North Pit**	**0.04**	**289**		Pg	06 23 53.8	-0.1
NPH				IAML		06 23 54.3	
	comp=N,523nm,1.6s						
NPH				IAML		06 23 55.3	
	comp=E,693nm,0.6s						
UWB	**Uwekahuna B**	**0.05**	**305**		Pg	06 23 54.0	0.0
UWB				IAML		06 23 55.7	
	comp=E,524nm,0.3s						
OBL	**Observatory Le**	**0.05**	**294**		Pg	06 23 53.9	-0.1
OBL				IAML		06 23 54.7	
	comp=E,465nm,0.9s						
OBL				IAML		06 23 55.8	
	comp=N,986nm,0.3s						
SDHHI	**Sand Hill**	**0.06**	**262**		Pg	06 23 53.9	-0.2
SDHHI				IAML		06 23 55.7	
	comp=E,540nm,0.1s						
SDHHI				IAML		06 23 55.7	
	comp=N,1μm,0.1s						
UWE	**Uwekahuna**	**0.06**	**294**		Pg	06 23 54.3	+0.2
UWE				IAML		06 23 54.6	
	comp=N,582nm,1.7s						
UWE				IAML		06 23 54.8	
	comp=E,716nm,2.0s						
WRMHI	**West Rim**	**0.06**	**279**		Pg	06 23 54.8	+0.6
KNHH	**Kane Nui o Ham**	**0.07**	**106**		Pg	06 23 54.6	+0.3
RSD	**Rainshed**	**0.08**	**329**		Pg	06 23 54.4	-0.1
RSD				IAML		06 23 57.4	
	comp=N,276nm,0.3s						
NPOC	**North of Pu'u**	**0.12**	**92**		Pg	06 23 55.0	-0.3
NPOC				IAML		06 23 58.1	
	comp=N,548nm,0.5s						
HLP	**Hilina Pali**	**0.12**	**214**		Pg	06 23 54.8	-0.5
HLP				IAML		06 23 57.8	
	comp=E,574nm,2.1s						
HLP				IAML		06 23 58.1	
	comp=N,422nm,0.9s						
JCUZ	**Jacuzzi**	**0.13**	**96**		Pg	06 23 55.2	-0.2
JCUZ				IAML		06 23 58.3	
	comp=E,531nm,0.8s						
JCUZ				IAML		06 23 59.3	
	comp=N,599nm,0.6s						
HTC	**Hot Caves**	**0.22**	**224**		Pg	06 23 58.9	+1.7
JOKA	**Jonika Flow**	**0.22**	**81**		Pg	06 23 57.6	+0.4
JOKA					Sg	06 24 00.4	+0.2
HMH	**Humu'ula Sheep**	**0.31**	**311**		Pg	06 23 58.8	-0.1
MWH	**Moku'aweowe**	**0.35**	**284**	Pg	Pg	06 23 59.6	-0.1
KHU	**Kahuku**	**0.39**	**247**	Pg	Pg	06 24 00.1	-0.3
ALEP	**Alea Permanent**	**0.41**	**290**		Pg	06 24 01.6	+0.8
POHA	**Pohakuloa**	**0.45**	**322**	Pg	Pg	06 24 01.7	0.0
KHLU	**Kahalu'u**	**0.65**	**287**	Pg	Pg	06 24 05.3	-0.1

JSN 24 06:46:36.4±1.9,**16°.58N**×**78°.46W**,**h0**km±999km, **MD3.8**, **Caribbean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.53**	**29**	*i* P	Pn	06 47 03.5	-1.5
MCJ				*i* S	Sg	06 47 23.7	-1.9
PCJ	**Portland Cotta**	**1.70**	**47**	*e*P	Pn	06 47 04.5	-2.8
MTDJ	**Mount Denham**	**1.86**	**28**	*e*P	Pn	06 47 06.1	-0.5
MTDJ				*e*S	Sn	06 47 32.0	-1.9
HOJ	**Hope**	**2.16**	**49**	*e*P	Pn	06 47 13.5	-0.2
STH	**Stony Hill**	**2.17**	**46**	*e*P	Pn	06 47 11.8	-2.0
GWJ	**Greenwich**	**2.22**	**48**	*e*P	Pn	06 47 13.9	-0.8
RCC	**Rio Carpintero**	**4.29**	**37**	*e*P	Pn	06 47 40.3	-2.7
GTBY	**Guantanamo Bay**	**4.60**	**43**	*e*P	Pn	06 47 45.9	-1.4
GTBY				*e*S	Sn	06 48 32.7	-8.8
GTBY				*e*Sg	Sn	06 48 36.3	-5.2
CCCC	**Cccc**	**4.64**	**8**	*e*P	Pn	06 47 48.6	+0.8

*HEL **24** 07:02:18.1, 65°.11N×25°.67E, h0km, ML1.3, Explosion*
HEL 24 07:02:18.3±0.1,**65°.11N**×**25°.68E**,**h0**km,**ML1.3**, **ML1.5**(UPP), **Explosion**, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**0.10**	**105**	*e*S	Sg	07 02 19.4	-1.9
OUL				*e*P	Pg	07 02 20.0	-0.2
OBF4	**Vikkela, Lumij**	**0.39**	**219**	*e*P	Pg	07 02 25.0	-0.6
OBF4				*e*S	Sg	07 02 30.3	-0.3
OBF0	**Syolatti, Pyha**	**0.87**	**226**	*e*P	Pg	07 02 34.1	-0.8
OBF0				*e*SB	Sg	07 02 45.8	-0.4
TOF	**Tornio**	**1.12**	**331**	*e*P	Pg	07 02 38.2	-1.6
TOF				MSG		07 02 52.1	
	comp=Z,2.0nm,0.2s						
TOF				*e*S	Sg	07 02 52.3	-2.0
KALU	**Kalix**	**1.23**	**309**	*e*PB	Pg	07 02 40.7	-1.1
KALU				*e*SB	Sg	07 02 56.9	-0.7
RNF	**Rovaniemi**	**1.51**	**5**	*e*PN	Pn	07 02 46.1	-0.5
	baz=181						
RNF				*e*SB	Sg	07 03 05.4	-1.4
MSF	**Maaselka**	**1.62**	**59**	*e*PN	Pn	07 02 47.9	-0.1
MSF				*e*SN	Sn	07 03 08.9	-0.6
SJUU	**Sjulsmark**	**1.75**	**285**	*e*P	Pn	07 02 49.7	-0.2
SJUU				*e*S	Sn	07 03 13.3	+0.4
BURU	**Burvik**	**1.91**	**256**	*e*PN	Pn	07 02 52.1	0.0
BURU				*e*SG	Sb	07 03 17.9	-0.4
OLKF	**Oulanka, Finla**	**1.96**	**50**	*e*PG	Pb	07 02 54.1	-0.8
OLKF				*e*SG	Sb	07 03 19.4	-0.4
KU6	**Riekki**	**1.98**	**60**	*e*PG	Pn	07 02 53.6	+0.6
KU6				MSG		07 03 16.9	
	comp=Z,1.9nm,0.2s						
KU6				*e*SG	Sb	07 03 20.0	-0.3
ERTU	**Ertsjaerv**	**2.04**	**317**	*e*PG	Pn	07 02 54.5	+0.7
	baz=132						
ERTU				*e*SG	Sb	07 03 21.3	-0.7
RMF	**Romuvaara**	**2.04**	**114**	*e*PG	Pn	07 02 54.6	+0.8
RMF				*e*SG	Sb	07 03 21.2	-0.8
PAJU	**Pajala**	**2.19**	**333**	*e*PB	Pn	07 02 56.8	+0.9
PAJU				*e*SB	Sn	07 03 24.7	+1.0
HARU	**Harads**	**2.22**	**301**	*e*P	Pn	07 02 57.3	+1.1
ODEU	**Stanfors**	**2.24**	**254**	*e*P	Pn	07 02 56.3	-0.2
KLF	**Kolari**	**2.24**	**343**	*e*P	Pn	07 02 56.8	+0.1
KLF				*e*S	Sn	07 03 24.8	-0.2
SGF	**Sodankyl**	**2.37**	**8**	*e*SG	Sb	07 03 30.7	-0.8
VAF	**Ylistaro**	**2.46**	**214**	MSG		07 03 30.7	
	comp=Z,1.1nm,0.2s						
VAF				*e*SG	Sb	07 03 33.3	-0.8
UMAU	**Umeaa**	**2.49**	**243**	*e*PG	Pb	07 03 02.3	-1.5
UMAU				*e*SB	Sb	07 03 33.9	-1.1
HEF	**Hetta**	**3.41**	**347**	*e*SB	Sb	07 03 59.8	-1.5

WEL 24 07:06:59.9±0.5,**42°.S**±3°×**17°.4E**±°,**h8**km±3km, **M3.0**/25, **ML3.2**/12, **MLv3.0**/25, **Error ellipse: s-maj=0.0km s-min=0.0km az=123.7**, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.12**	**251**	P	Pg	07 07 03.1	+0.5
KHZ				S	Sg	07 07 05.9	+1.5
BSWZ	**Blackbirch Sta**	**0.68**	**12**	P	Pg	07 07 12.9	0.0
BSWZ				S	Sb	07 07 23.1	-0.3
CMWZ	**Cape Campbell**	**0.74**	**32**	P	Pb	07 07 14.7	-0.3
THZ	**Tophouse**	**0.85**	**316**	P	Pg	07 07 16.5	+0.3
TUWZ	**Tuamarina**	**0.97**	**11**	P	Pg	07 07 18.1	-0.3
AMCZ	**Amberley**	**1.11**	**223**	P	Pg	07 07 20.1	-1.1
LTZ	**Lake Taylor**	**1.12**	**248**	P	Pg	07 07 20.7	-0.8
NNZ	**Nelson**	**1.18**	**349**	P	Pb	07 07 21.7	-0.9
MRNZ	**Matariki Terra**	**1.20**	**324**	P	Pb	07 07 22.7	-0.2
TCW	**Tory Channel**	**1.25**	**21**	P	Pn	07 07 21.6	-2.0
WEL	**Wellington**	**1.36**	**37**	P	Pn	07 07 23.0	-2.2
PLWZ	**Palliser**	**1.42**	**56**	P	Pn	07 07 22.9	-3.2
OKCZ	**Okains Bay**	**1.42**	**199**	P	Pn	07 07 23.6	-2.5
TKNZ	**Takaka Hill**	**1.45**	**338**	P	Pn	07 07 26.3	-0.1

MQZ	**McQueen's Vall**	**1.53**	**209**	P		Pn	07 07 24.5	-3.0
DSZ	**Denniston Nort**	**1.54**	**294**	P		Pn	07 07 27.5	-0.2
OXZ	**Oxford**	**1.54**	**231**	P		Pn	07 07 25.4	-2.4
DUWZ	**D'Urville Isla**	**1.58**	**6**	P		Pn	07 07 27.6	-0.7
AKCZ	**Akaroa Harbour**	**1.60**	**201**	P		Pn	07 07 25.9	-2.6
CAW	**Cannon Point**	**1.63**	**40**	P		Pn	07 07 26.5	-2.5
PAWZ	**Paruwai Farm**	**1.63**	**53**	P		Pn	07 07 25.8	-3.2
INZ	**Inchbonnie**	**1.70**	**257**	P		Pn	07 07 29.0	-0.8
RACZ	**Rakaia**	**1.76**	**220**	P		Pn	07 07 28.3	-2.4
KIW	**Kapiti Island**	**1.77**	**31**	P		Pn	07 07 28.7	-2.1
QRZ	**Quartz Range**	**1.78**	**330**	P		Pn	07 07 31.3	+0.4
OGWZ	**Otaki Gorge**	**1.91**	**36**	P		Pn	07 07 30.3	-2.5
MHCZ	**Mount Hutt**	**1.94**	**233**	P		Pn	07 07 31.0	-2.2
HOWZ	**Holdsworth Sta**	**2.01**	**43**	P		Pn	07 07 31.2	-3.0
WACZ	**Wakanui South**	**2.07**	**220**	P		Pn	07 07 32.5	-2.4
MRZ	**Mangatainoka R**	**2.23**	**40**	P		Pn	07 07 34.1	-3.0
WVZ	**Waitaha Valley**	**2.29**	**251**	P		Pn	07 07 37.2	-0.7
TIWZ	**Tintock**	**2.30**	**47**	P		Pn	07 07 33.1	-5.0
RPZ	**Rata Peaks**	**2.35**	**234**	P		Pn	07 07 36.7	-2.1
ARCZ	**Arundel**	**2.42**	**229**	P		Pn	07 07 37.5	-2.3
BFZ	**Birch Farm**	**2.56**	**49**	P		Pn	07 07 37.9	-3.8
GCSZ	**Gaunt Creek Bo**	**2.65**	**248**	P		Pn	07 07 42.4	-0.4
TMZ	**Timaru**	**2.80**	**223**	P		Pn	07 07 42.9	-2.2
FOZ	**Fox Glacier**	**3.07**	**247**	P		Pn	07 07 48.2	-0.4
PKE	**Pukeiti**	**3.19**	**4**	P		Pb	07 07 54.6	-2.2
LBZ	**Lake Benmore**	**3.25**	**231**	P		Pn	07 07 49.5	-1.7
VRZ	**Vera Road**	**3.35**	**14**	P		Pn	07 07 52.5	0.0
WNVZ	**Wahianoa**	**3.37**	**26**	P		Pn	07 07 52.6	-0.5
TUVZ	**Tukino**	**3.44**	**26**	P		Pn	07 07 53.8	-0.2
ODZ	**Otahua Downs**	**3.46**	**219**	P		Pn	07 07 51.5	-2.6
OTVZ	**Oturere**	**3.54**	**26**	P		Pn	07 07 54.1	-1.3
TMVZ	**Te Maari**	**3.60**	**26**	P		Pn	07 07 54.6	-1.5
HIZ	**Hauiti**	**3.96**	**13**	P		Pn	07 08 00.8	-0.2
WHHZ	**Waihua**	**4.26**	**40**	P		Pn	07 08 08.6	+3.6
EAZ	**Earnscleugh**	**4.27**	**227**	P		Pn	07 08 02.5	-2.7
RTZ	**Ruatahuna**	**4.52**	**35**	P		Pn	07 08 13.2	+4.6
AWAZ	**Awhitu Peninsu**	**5.36**	**8**	P		Pn	07 08 19.9	-0.2

*IDC **24** 07:12:26.1±3.3,4°.20S×143°.45E, h70km±30km, mb3.5/6, mbtmp3.9/8, ML4.4/1, Error ellipse: s-maj=26.2km s-min=13.6km az=117.0*
ISC 24 07:12:29.4±0.9,**4°.25S**±0°.09×**143°.6E**±0°.1,**h103**km,**n17**, σ1**s22**/19, **mb3.6**/6, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.24**	**145**	P	**Pn**	**07 13 58.9**	**-0.1**
	5.0nm,0.3s,baz=305,slow=5.2,SNR=1.8						
PMG				S	**Sn**	**07 15 08.1**	**-0.8**
	10nm,0.5s,baz=313,slow=23,SNR=5.5						
CTA	**Charters Tower**	**15.96**	**171**	P	**P**	**07 16 10.5**	**+0.9**
	0.9nm,0.4s,baz=350,slow=9.0,SNR=2.1						
WRAB	**Tennant Creek**	**17.99**	**209**	P	**Pn**	**07 16 32.6**	**-0.3**
WRA	**Warramunga Arr**	**18.00**	**209**	P	**P**	**07 16 32.1**	**-0.1**
	1.2nm,0.3s,baz=28,slow=11,SNR=62						
WRA				S	**S**	**07 19 51.2**	**-2.3**
	1.8nm,1.0s,baz=34,slow=17,SNR=5.0 8.1nm,0.9s						
SOEI	**Soe**	**19.91**	**253**	P	Pn	07 17 03.8	+8.0
AS01	**Alice Springs**	**21.41**	**205**	P	**P**	**07 17 10.1**	**+0.9**
ASAR	**Alice Springs**	**21.43**	**205**	P	**P**	**07 17 09.5**	**+0.1**
	2.0nm,0.5s,baz=36,slow=8.2,SNR=42						
ASAR				S	**S**	**07 21 04.0**	**+2.4**
	0.2nm,0.5s,baz=27,slow=19,SNR=4.2 2.0nm,0.5s						
OOD	**Oodnadatta**	**24.59**	**197**	P	**P**	**07 17 41.1**	**+1.2**
MULG	**Mulgathing**	**27.40**	**198**	P	**P**	**07 18 07.0**	**+1.7**
STKA	**Stephens Creek**	**27.54**	**184**	P	**P**	**07 18 07.8**	**+1.3**
	1.2nm,0.6s,baz=2.9,slow=11,SNR=4.5 1.2nm,0.6s						
BBOO	**Buckleboo**	**29.27**	**193**	P	**P**	**07 18 22.6**	**+0.7**
FORT	**Forrest**	**30.16**	**207**	P	**P**	**07 18 29.0**	**-0.8**
MEEK	**Meekatharra**	**32.63**	**224**	P	**P**	**07 18 50.6**	**-1.0**
VNDA	**Vanda**	**73.86**	**176**	P	**P**	**07 23 53.1**	**+0.6**
	0.5nm,0.7s,baz=336,slow=7.5,SNR=3.6 0.5nm,0.7s						
MKAR	**Makanchi Array**	**73.99**	**321**	P	**P**	**07 23 54.4**	**+0.6**
	0.2nm,0.4s,baz=117,slow=5.0,SNR=2.8 0.2nm,0.4s						
BVAR	**Borovoye Array**	**83.36**	**324**	P	**P**	**07 24 45.1**	**+0.1**
	1.0nm,0.5s,baz=115,slow=7.7,SNR=4.2 1.0nm,0.5s						
ILAR	**Eielson Array**	**85.25**	**24**	P	**P**	**07 24 53.2**	**-1.0**
	0.4nm,0.7s,baz=265,slow=5.1,SNR=6.4 0.4nm,0.7s						

*KOLA **24** 07:15:25.7, 67°.95N×18°.17E, h0km, ML2.5*
*NAO **24** 07:15:27.2±0.8, 67°.16N×20°.95E, ML2.8*
*HEL **24** 07:15:27.1±0.1, 67°.18N×20°.65E, h0km, ML2.4, ML2.6(UPP), Confirmed Induced event*
*IDC **24** 07:15:27.0±0.9, 67°.13N×20°.91E, h0km, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=14.4km s-min=7.3km az=116.0*
*BER **24** 07:15:29.0±2.4, 67°.11N×20°.70E, h0km±12km, ML2.2, ML2.8(NAO), Confirmed Induced event*
ISC 24 07:15:25.6±0.7,**67°.17N**±0°.02×**20°.67E**±0°.02,**h0**km,**n48**, σ1**s50**/87, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**217**	*i* P	**Pg**	**07 15 28.3**	**+1.4**
DUNU				*i* S	**Sg**	**07 15 29.4**	**+1.8**
MASU	**Masugnsbyn**	**0.59**	**60**	*i* P	**Pg**	**07 15 37.7**	**+0.8**
MASU				*i* S	**Sg**	**07 15 45.7**	**+1.1**
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P	**Pg**	**07 15 40.6**	**+0.

TRO					*e*S	**Sn**	**07 16 41.7**	**+1.8**
TRO					IAML		07 16 47.6	
	comp=Z,31nm,0.4s							
LOF	**Lofoten**	**2.89**	**293**		*e*Sg	**Sg**	**07 16 58.6**	**+0.4**
LOF					IAML		07 17 07.5	
	comp=Z,12nm,0.4s							
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn		**Pn**	**07 16 15.1**	**+1.1**
	baz=209,slow=14							
ARA0					Sn	**Sn**	**07 16 52.5**	**+2.1**
	baz=216,slow=22							
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P		**Pn**	**07 16 15.4**	**+1.4**
ARA0					*e*S	**Sn**	**07 16 52.1**	**+1.8**
ARA0					IAML		07 16 59.7	
	comp=Z,7.3nm,0.2s							
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn		**Pn**	**07 16 15.0**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=215,slow=13,SNR=99							
ARCES					Sn	**Sn**	**07 16 52.3**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=214,slow=23,SNR=9.8							
	comp=Z,1.7nm,0.3s							
ARCES	**ARCESS Array B**	**2.97**	**35**	P		**Pn**	**07 16 15.3**	**+1.4**
ARCES				S		**Sn**	**07 16 52.2**	**+1.9**
KONS	**Konsvik**	**3.06**	**261**	*e*P		**Pn**	**07 16 16.3**	**+1.1**
KONS				*e*Sg		**Sg**	**07 17 04.3**	**+0.5**
KONS				IAML			07 17 04.7	
	comp=Z,20nm,0.4s							
STOK	**Stokkvaagen**	**3.15**	**258**	*e*P		**Pn**	**07 16 18.6**	**+2.2**
KEV	**Kevo**	**3.49**	**39**	*e*P		**Pn**	**07 16 22.2**	**+1.1**
KEV				*e*S		**Sn**	**07 17 03.7**	**+0.7**
VADS	**Vadso**	**4.34**	**43**	*e*P		**Pn**	**07 16 33.4**	**+0.7**
VADS				*e*S		**Sn**	**07 17 23.7**	**-0.3**
VADS				IAML			07 17 40.8	
	comp=Z,9.9nm,0.5s							
NSS	**Namsos**	**4.45**	**237**	*e*P		**Pn**	**07 16 36.4**	**+2.1**
NSS				*e*S		**Sn**	**07 17 25.1**	**-1.5**
NSS				*e*Sg		**Sg**	**07 17 46.6**	**-1.8**
NSS				IAML			07 17 49.3	
	comp=Z,10nm,0.5s							
APA0	**Apatity Array**	**4.78**	**79**	Pn		**Pn**	**07 16 39.2**	**+0.5**
	baz=263,slow=11							
APA0					Sn	**Sn**	**07 17 34.5**	**-0.2**
	baz=263,slow=22							
APA0					Lg	Lg	07 17 53.5	
	baz=282,slow=22							
APA0	**Apatity Array**	**4.78**	**79**	P		**Pb**	**07 16 48.7**	**-1.4**
APA0				S		**Sb**	**07 17 51.8**	**+3.7**
TERR	**Teriberka**	**5.75**	**63**	P		Pn	07 16 59.0	+6.9
TERR				S		**Sb**	**07 18 08.6**	**-7.4**
FIA0	**FINESS Array S**	**6.21**	**155**	Pn		**Pn**	**07 17 00.3**	**+1.9**
	baz=347,slow=14							
FIA0					Sn	**Sn**	**07 18 09.8**	**-0.2**
	baz=347,slow=28							
FIA0					Lg	Lg	07 18 40.5	
	baz=340,slow=37							
FINES	**FINESS Array B**	**6.21**	**155**	Pn		**Pn**	**07 16 59.8**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=346,slow=12,SNR=25							
FINES					Sn	**Sn**	**07 18 09.0**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=348,slow=23,SNR=8.0							
FINES					Lg	Lg	07 18 37.9	
	comp=Z,1.2nm,0.3s,baz=343,slow=28,SNR=7.7							
	comp=Z,1.6nm,0.3s							
NB2	**NORSAR Subarra**	**7.41**	**218**	Pn		**Pn**	**07 17 16.4**	**+1.5**
	baz=26,slow=14							
NB2					Sn	**Sn**	**07 18 36.8**	**-2.8**
NB2					Lg	Lg	07 19 16.9	
	baz=24,slow=37							
NOA	**NORSAR Array B**	**7.41**	**218**	Pn		**Pn**	**07 17 15.4**	**+0.5**
	baz=26,slow=11,SNR=3.9							
NOA					Sn	**Sn**	**07 18 37.7**	**-1.9**
	baz=26,slow=19,SNR=2.3							
NOA					Lg	Lg	07 19 20.3	
	comp=Z,0.1nm,0.3s,baz=55,slow=21,SNR=4.2							
	comp=Z,0.6nm,0.9s							
NRA0	**NORESS Array S**	**7.60**	**216**	Pn		**Pn**	**07 17 18.8**	**+1.4**
	baz=22,slow=12							
NRA0					Sn	**Sn**	**07 18 41.7**	**-2.5**
	baz=19,slow=28							
NRA0					Lg	Lg	07 19 24.9	
	baz=38,slow=37							
HFS	**Hagfors**	**7.71**	**207**	Pn		**Pn**	**07 17 19.0**	**0.0**
	baz=22,slow=11							
HFS					Sn	**Sn**	**07 18 44.9**	**-2.0**
	baz=22,slow=22							
HFS					Lg	Lg	07 19 27.5	
	baz=35,slow=37							
HFS	**Hagfors**	**7.71**	**207**	Pn		**Pn**	**07 17 18.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=7.2							
HFS					Sn	**Sn**	**07 18 42.7**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=19,slow=24,SNR=6.5							
HFS					Lg	Lg	07 19 28.5	
	comp=Z,0.4nm,0.3s,baz=26,slow=28,SNR=2.2							
	comp=Z,0.9nm,0.3s							

*IDC **24** 07:16:45.5±1.4,54.˚93N×112.˚70E, h0km, mb3.6/6, mbtmp3.7/9, ML3.4/2, Error ellipse: s-maj=30.2km s-min=22.3km az=30.0*
*BYKL **24** 07:16:45.8±0.2,54.˚87N×112.˚71E*
*MOS **24** 07:16:45.2±2.3,54.˚79N×112.˚65E, h9km, mb3.7/1, Error ellipse: s-maj=11.3km s-min=8.5km az=75.1*
ISC 24 07:16:46.5±0.6,54.˚94N±0.˚02×112.˚81E±0.˚02, h10km, n59, σ2ˢ38/102, mb3.6/5, 9C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.72**	**40**	⇑*i*	Pg	**Pg**	**07 16 59.9**	**-0.6**
UKT				*e*	Sg	**Sb**	**07 17 10.5**	**-0.8**
UKT				Pmax				
	171nm,0.4s							
UKT				Smax				
	957nm,0.2s							
UKT	**Uakit**	**0.72**	**40**	⇑*i*	PG	**Pg**	**07 16 59.8**	**-0.7**
UKT				*e*			07 17 10.2	
UKT				pmax	pmax			
	comp=Z,171nm,0.4s							
UKT				smax	smax			
	comp=N,957nm,0.3s							
YLYR	**Ulyunkhan**	**0.95**	**267**	⇑*i*	Pg	**Pg**	**07 17 01.9**	**-2.9**
YLYR				*e*	Sg	**Sg**	**07 17 13.9**	**-3.4**
YLYR				Pmax				
	comp=N,449nm,0.3s							
YLYR				Smax				
	comp=N,2μm,0.4s							
YLYR	**Ulyunkhan**	**0.95**	**267**	⇑*i*	PG	**Pg**	**07 17 01.9**	**-2.9**
YLYR				*e*			07 17 14.1	
YLYR				pmax	pmax			
	comp=Z,450nm,0.3s							
YLYR				smax	smax			
	comp=E,2μm,0.5s							
SVKR	**Severomuysk**	**1.26**	**19**	*e*	Pg	**Pg**	**07 17 11.0**	**+0.4**
SVKR				*e*			07 17 15.1	
SVKR				*e*	Sg	**Sn**	**07 17 29.1**	**+1.9**
SVKR				*e*			07 17 32.6	
SVKR				max				
	comp=E,551nm,0.1s							
SVKR				max				
	comp=E,5μm,0.6s							
KMO	**Kumora**	**1.32**	**317**	*e*	Pg	**Pn**	**07 17 09.5**	**-1.6**
KMO				*e*	Sg	**Sb**	**07 17 26.8**	**-1.6**
KMO				Pmax				
	comp=E,253nm,0.6s							
KMO				Smax				
	comp=E,2μm,1.1s							
KMO	**Kumora**	**1.32**	**317**	⇑*i*	PG	**Pn**	**07 17 09.4**	**-1.6**
KMO				*e*			07 17 25.0	
KMO				pmax	pmax			
	comp=Z,128nm,0.3s							
KMO				smax	smax			
	comp=N,2μm,1.1s							
YOA	**Uoyan**	**1.35**	**333**	*e*	Pg	**Pb**	**07 17 11.2**	**-0.7**
YOA				*e*	Sg	**Sg**	**07 17 30.0**	**+0.1**
YOA				Pmax				
	comp=N,632nm,0.4s							
YOA				Smax				
	comp=N,3μm,0.6s							
YOA	**Uoyan**	**1.35**	**333**	*e*	PG	**Pn**	**07 17 11.0**	**-0.4**
YOA				*i*			07 17 29.8	
YOA				pmax	pmax			
	comp=Z,141nm,0.1s							
YOA				smax	smax			
	comp=E,3μm,0.5s							
NIZ	**Nizh Angarsk**	**2.05**	**296**	*e*	Pg	**Pn**	**07 17 21.5**	**+0.5**
NIZ				*e*	Sg	**Sb**	**07 17 49.1**	**-0.2**
NIZ				Pmax				
	comp=E,273nm,0.6s							
NIZ				Smax				
	comp=E,1μm,0.5s							
NIZ	**Nizh Angarsk**	**2.05**	**296**	⇑*i*	PN	**Pn**	**07 17 21.5**	**+0.5**
NIZ				*e*			07 17 48.2	
NIZ				pmax	pmax			
	comp=Z,272nm,0.6s							
NIZ				smax	smax			
	comp=N,1μm,0.9s							
SYVR	**Suvo**	**2.09**	**233**	*e*	Pn	**Pn**	**07 17 20.8**	**-0.8**
SYVR				*e*	Pg	**Pb**	**07 17 21.6**	**-2.8**
SYVR				*e*	Sg	**Sb**	**07 17 49.2**	**-1.2**
SYVR				Pmax				
	comp=N,146nm,0.5s							
SYVR				Smax				
	comp=N,928nm,0.3s							
SYVR	**Suvo**	**2.09**	**233**	*e*	PN	**Pn**	**07 17 20.7**	**-0.8**
SYVR				*e*			07 17 21.9	
SYVR				*e*			07 17 49.4	
SYVR				pmax	pmax			
	comp=Z,148nm,0.5s							
SYVR				smax	smax			
	comp=E,954nm,0.3s							
NLYR	**Nelyaty**	**2.26**	**45**	*e*	Pn	**Pn**	**07 17 25.0**	**+1.1**
NLYR				⇑*i*	Pg	**Pb**	**07 17 27.4**	**0.0**
NLYR				*e*			07 17 30.0	
NLYR				*e*	Sn	**Sb**	**07 17 53.7**	**-1.7**
NLYR				*e*	Sg	**Sg**	**07 17 59.4**	**+0.4**
NLYR				max				
	comp=E,341nm,0.7s							
NLYR				Smax				
	comp=E,2μm,1.1s							
NLYR	**Nelyaty**	**2.26**	**45**	⇑*i*	PN	**Pn**	**07 17 25.1**	**+1.1**
NLYR				*e*			07 17 27.2	
NLYR				pmax	pmax			
	comp=Z,340nm,0.7s							
MXMB	**Maximikha**	**2.92**	**237**	*e*	Pn	**Pn**	**07 17 31.1**	**-1.9**
MXMB				*e*	Pg	**Pb**	**07 17 36.7**	**-1.9**
MXMB				*e*	Sg	**Sb**	**07 18 14.6**	**+0.2**
CIT	**Chita**	**2.95**	**171**	*e*	Pg	**Pb**	**07 17 37.8**	**-1.4**
CIT				*e*	Sg	**Sb**	**07 18 16.3**	**+1.0**
CIT				*e*			07 18 19.9	
CIT				Pmax				
	comp=Z,96nm,0.1s							
CIT				max				
	comp=Z,1μm,0.3s							
BOD	**Bodaibo**	**2.97**	**12**	*e*	Pn	**Pn**	**07 17 35.0**	**+1.4**
BOD				*e*	Pg	**Pb**	**07 17 39.9**	**+0.5**
BOD				*e*	Sn	**Sn**	**07 18 10.3**	**+1.1**
BOD				*e*	Sg	**Sg**	**07 18 18.3**	**-3.4**
BOD				Pmax				
	comp=Z,42nm,0.6s							
BOD				Smax				
	comp=Z,477nm,0.7s							
BOD	**Bodaibo**	**2.97**	**12**	*e*	PN	**Pg**	**07 17 40.8**	**-2.5**
BOD				*e*			07 18 18.0	
BOD				pmax	pmax			
	comp=Z,40nm,0.5s							
BOD				smax	smax			
	comp=E,476nm,0.7s							
OGRR	**Ongureny**	**3.32**	**249**	*e*	Pg	**Pb**	**07 17 43.3**	**-2.1**
OGRR				*e*	Sn	**Sn**	**07 18 15.5**	**-2.4**
OGRR				*e*			07 18 20.9	
OGRR				*e*	Sg	**Sb**	**07 18 27.6**	**+1.8**
OGRR				Pmax				
	comp=E,55nm,0.5s							
OGRR				Smax				
	comp=E,225nm,0.8s							
OGRR	**Ongureny**	**3.32**	**249**	*e*	PN	**Pn**	**07 17 39.6**	**+1.1**
OGRR				*e*			07 17 46.4	
OGRR				*e*			07 18 27.7	
OGRR				pmax	pmax			
	comp=Z,55nm,0.7s							
OGRR				smax	smax			
	comp=N,225nm,1.7s							
KELR	**Kotokel**	**3.55**	**234**	*e*	Pn	**Pn**	**07 17 39.8**	**-1.8**
KELR				*e*	Pg	**Pb**	**07 17 48.8**	**-0.5**
KELR				*e*			07 17 51.9	
KELR				*e*	Sg	**Sb**	**07 18 34.5**	**+2.0**
CRS	**Chara**	**3.65**	**55**	*e*	Pn	**Pn**	**07 17 43.9**	**+0.9**
CRS				*e*	Pg	**Pb**	**07 17 52.1**	**+1.1**
CRS				*e*	Sg	**Sg**	**07 18 40.9**	**-2.6**
CRS				Pmax				
	comp=N,89nm,0.9s							
CRS				Smax				
	comp=N,303nm,1.0s							
CRS	**Chara**	**3.65**	**55**	*e*	PN	**Pb**	**07 17 51.9**	**+0.9**
CRS				*e*			07 18 41.6	
CRS				pmax	pmax			
	comp=Z,89nm,0.9s							
CRS				smax	smax			
	comp=E,302nm,1.0s							
ZRHB	**Zarechye**	**4.12**	**237**	*e*	Sn	**Pg**	**07 18 03.3**	**-2.1**
ZRHB				*e*	Sg	**Sb**	**07 18 50.3**	**+1.4**
ZRHB				Smax				
	comp=E,825nm,1.0s							
TUP	**Tupik**	**4.18**	**94**	*e*	Pn	**Pn**	**07 17 50.5**	**+0.3**
TUP				*e*	Pg	**Pb**	**07 18 01.3**	**+1.3**
TUP				*e*	Sg	**Sg**	**07 18 57.2**	**-3.3**
TUP				Pmax				
	comp=E,107nm,0.6s							
TUP				Smax				
	comp=E,457nm,1.0s							
TUP	**Tupik**	**4.18**	**94**	⇑*i*	PN	**Pn**	**07 17 50.6**	**+0.3**
TUP				*e*			07 17 59.1	
TUP				*e*	S	**Sn**	**07 18 38.8**	**-0.3**
TUP				*e*			07 18 55.2	
TUP				pmax	pmax			
	comp=Z,87nm,0.4s							
TUP				smax	smax			
	comp=N,352nm,0.7s							
TRG	**Tyrgan**	**4.40**	**243**	*e*	Pn	**Pn**	**07 17 52.8**	**-0.6**
TRG				*e*	Pg	**Pb**	**07 18 03.1**	**-0.8**
TRG				*e*	Sg	**Sb**	**07 18 58.8**	**+1.7**
TRG				Pmax				
	comp=N,22nm,0.6s							
TRG				Smax				
	comp=N,131nm,0.4s							
TRG	**Tyrgan**	**4.40**	**243**	*e*	PN	**Pn**	**07 17 51.8**	**-1.6**
TRG				*e*			07 18 03.1	
TRG				*e*	S	**Sn**	**07 18 41.6**	**-3.1**
TRG				*e*			07 18 58.7	
TRG				pmax	pmax			
	comp=Z,17nm,0.5s							
TRG				smax	smax			
	comp=E,131nm,0.4s							
KHNR	**Khani**	**4.50**	**61**	*e*	Pn	**Pn**	**07 17 55.1**	**+0.5**
KHNR				*e*	Pg	**Pb**	**07 18 07.2**	**+1.8**
KHNR				*e*	Sg	**Sg**	**07 19 07.7**	**-3.0**
VTMR	**Vitim**	**4.52**	**358**	*e*	Pg	**Pb**	**07 18 08.8**	**+3.0**
VTMR				*e*	Sg	**Sg**	**07 19 08.5**	**-2.9**
VTMR				*e*			07 19 16.4	
FFNB	**Fofonovo**	**4.63**	**234**	*e*	Pg	**Pb**	**07 18 07.8**	**+0.1**
FFNB				*e*			07 18 15.6	
FFNB				*e*	Sg	**Sb**	**07 19 06.7**	**+3.3**
STDB	**Stepnoy Dvoret**	**4.74**	**237**	*e*	Sg	**Sb**	**07 19 08.8**	**+2.2**
KPC	**Khapcheranga**	**5.25**	**183**	*e*	Pn	**Pn**	**07 18 05.1**	**+0.1**
KPC				*e*	Pg	**Pb**	**07 18 19.2**	**+0.9**
KPC				*e*			07 18 35.8	
KPC				*e*	Sg	**Sb**	**07 19 26.6**	**+5.3**
KPC				max				
	comp=E,12nm,0.5s							
KPC				Smax				
	comp=E,166nm,0.5s							
YKLR	**Yuktali**	**5.26**	**68**	*e*	Pn	**Pn**	**07 18 05.7**	**+0.6**
YKLR				*e*	Pg	**Pb**	**07 18 21.2**	**+2.7**
YKLR				*e*	Sg	**Sg**	**07 19 30.4**	**-4.9**
BGT	**Bolshoye Golou**	**5.28**	**240**	*e*	Pg	**Pb**	**07 18 18.9**	**0.0**
BGT				*e*			07 19 20.1	
BGT				*e*	Sg	**Sb**	**07 19 25.8**	**+3.5**
BGT				Pmax				
	comp=E,18nm,1.2s							
BGT				Smax				
	comp=E,76nm,0.8s							
LSTR	**Listvyanka**	**5.68**	**240**	*e*	Pn	**Pn**	**07 18 09.8**	**-1.0**
LSTR				*e*	Pg	**Pb**	**07 18 25.8**	**+0.3**
LSTR				*e*	Sg	**Sb**	**07 19 38.8**	**+5.2**
LSTR				Pmax				
	comp=E,19nm,1.1s							
LSTR				Smax				
	comp=E,71nm,1.3s							
IRK	**Irkutsk**	**5.76**	**246**	*e*	Sg	**Sb**	**07 19 42.2**	**+6.3**
IRK				Smax				
	comp=E,246nm,0.5s							
IVK	**Ivanovka**	**5.93**	**241**	*e*	Pg	**Pb**	**07 18 30.1**	**+0.3**
IVK				*e*	Sg	**Sb**	**07 19 46.3**	**+5.5**
IVK				Pmax				
	comp=E,22nm,1.4s							
IVK				Smax				
	comp=E,73nm,0.9s							
TLY	**Talaya**	**6.39**	**243**	*e*	Sg	**Sb**	**07 20 00.1**	**+6.0**
TLY				Smax				
	comp=E,49nm,0.8s							
ARS	**Arshan**	**6.90**	**248**	*e*	Pg	**Pb**	**07 18 48.9**	**+2.4**
ARS				*e*			07 20 13.5	
ARS				*e*	Sg	**Sb**	**07 20 17.0**	**+8.1**
ARS				Pmax				
	comp=E,24nm,0.5s							
ARS				Smax				
	comp=E,188nm,0.9s							
IENR	**Iengra**	**6.95**	**74**	*e*	Sg	**Sg**	**07 20 23.5**	**-5.9**
CLNS	**Chul'man**	**7.06**	**69**	*e*			07 20 22.9	
CLNS				*e*	Sg	**Sg**	**07 20 27.3**	**-5.5**
ZAK	**Zakamensk**	**7.37**	**236**	*e*			07 20 28.9	
ZAK				*e*	Sg	Sb	07 20 31.7	+9.3
ZAK				Smax				
	comp=E,45nm,0.9s							
MOY	**Mondy**	**7.80**	**250**	*e*	Pn	**Pn**	**07 18 40.2**	**+0.1**
MOY				*e*	Sg	Sb	07 20 43.8	+9.1
MOY				Smax				
	comp=E,129nm,1.5s							
ORL	**Orlik**	**8.07**	**258**	*e*	Pn	**Pn**	**07 18 43.9**	**+0.1**
ORL				*e*			07 18 54.2	
ORL				*e*			07 20 15.8	
ORL				*e*	Sg	Sb	07 20 52.7	+10
ORL				Smax				
	comp=E,84nm,1.5s							
ORL	**Orlik**	**8.07**	**258**	*e*	PN	**Pn**	**07 18 43.8**	**0.0**
ORL				*e*			07 19 10.0	
ORL				pmax	pmax			
	comp=Z,25nm,1.1s							
SONM	**Songino Array**	**8.16**	**212**	Pn		**Pn**	**07 18 44.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=29,slow=12,SNR=12							
SONM					Sn	**Sn**	**07 20 18.9**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=23,slow=17,SNR=4.5							
SONM					Lg	Lg	07 20 59.5	
	comp=Z,1.9nm,0.3s,baz=33,slow=27,SNR=6.1							
	comp=Z,0.7nm,0.3s							
KNGR	**Kungurtug, Tuv**	**10.23**	**251**	*e*	Sg	Sn	07 22 00.1	+52
KLR	**Kul'dur**	**12.95**	**108**	Pn		**Pn**	**07 19 50.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=315,slow=15,SNR=4.5							
KLR					Sn	**Sn**	**07 22 17.4**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=300,slow=18,SNR=1.4							
KLR					Lg	Lg	07 23 34.4	
	comp=Z,0.4nm,0.3s,baz=319,slow=20,SNR=5.6							
	comp=Z,0.9nm,0.4s							
ZALV	**Zalesovo Beam**	**16.27**	**278**	Pn		**Pn**	**07 20 34.8**	**0.0**
	comp=Z,1.5nm,0.5s,baz=74,slow=11,SNR=5.1							
MKAR	**Makanchi Array**	**20.78**	**260**	P		**P**	**07 21 27.9**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=66,slow=8.8,SNR=9.9							
	comp=Z,1.6nm,0.8s							
KURK	**Kurchatov**	**20.95**	**273**	P		**P**	**07 21 29.5**	**+0.2**
KURBB	**Kurchatov Arra**	**21.04**	**272**	P		**P**	**07 21 29.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=69,slow=11,SNR=4.5							
	comp=Z,0.9nm,0.6s							
BVAR	**Borovoye Array**	**24.75**	**283**	P		**P**	**07 22 07.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=52,slow=7.9,SNR=3.6							
	comp=Z,0.8nm,0.5s							
FINES	**FINESS Array B**	**42.94**	**315**	P		**P**	**07 24 45.0**	**0.0**
	comp=Z,4.0nm,1.0s,baz=57,slow=10,SNR=2.3							
	comp=Z,4.0nm,1.0s							
NOA	**NORSAR Array B**	**48.93**	**321**	P		**P**	**07 25 33.0**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=54,slow=7.9,SNR=2.7							
	comp=Z,0.8nm,0.8s							
NOA	**NORSAR Array B**	**48.93**	**321**	P		**P**	**07 25 33.0**	**+0.7**
WRA	**Warramunga Arr**	**76.81**	**159**	P		**P**	**07 28 39.4**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=351,slow=6.5,SNR=3.2							
	comp=Z,0.3nm,0.8s							

*JMA **24** 07:23:20.9±0.2,37.˚1N±0.˚3×141.˚3E±0.˚8, h22km±1km, MV2.9/33, E OFF FUKUSHIMA PREF*
*IDC **24** 07:23:20.0±2.4,36.˚47N×141.˚52E, h0km, mb3.4/3, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=52.3km s-min=32.8km az=47.0*
ISC 24 07:23:20.1±1.8,37.˚17N±0.˚07×141.˚4E±0.˚1, h33km, n19, σ1ˢ28/12, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**296**	P		**Pb**	**07 23 29.0**	**-1.1**
JFK				*e*S		**Sb**	**07 23 34.9**	**-2.0**
JFFD	**Fukushimafurud**	**0.66**	**264**	*e*P		**Pn**	**07 23 32.2**	**-1.1**
JMST	**Minamisoumatoc**	**0.68**	**325**	P		**Pb**	**07 23 33.6**	**-0.1**
JMST				*e*S		**Sb**	**07 23 43.3**	**+0.3**
JMM	**Marumori**	**0.84**	**326**	P		**Pb**	**07 23 36.3**	**-0.1**
JMM				S		**Sb**	**07 23 48.0**	**+0.6**
JHO	**Hitachi**	**0.86**	**230**	*e*P		**Pn**	**07 23 35.3**	**-0.6**
JSB	**Shiboa**	**1.19**	**261**	P		**Pb**	**07 23 41.9**	**-0.3**
MJAR	**Matsushiro Arr**	**2.62**	**257**	Pn		**Pn**	**07 24 02.7**	**+2.5**
	0.3nm,0.3s,baz=86,slow=16,SNR=4.8							
MJAR				Sn		**Sb**	**07 24 39.5**	**+1.2**
	0.2nm,0.3s,baz=69,slow=15,SNR=4.7							
	1.3nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	07 58 46.5	
	baz=313,slow=75,SNR=58							
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T		T	07 58 52.6	
	baz=313,slow=75,SNR=59							
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	07 58 48.8	
	baz=313,slow=75,SNR=59							
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	07 59 39.6	
	baz=316,slow=75,SNR=23							
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T		T	07 59 39.1	
	baz=316,slow=75,SNR=18							
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	07 59 41.3	
	baz=316,slow=75,SNR=26							
MKAR	**Makanchi Array**	**44.03**	**302**	P		P	07 31 32.2	+7.6
	0.4nm,0.9s,baz=84,slow=7.4,SNR=2.1							
	0.4nm,0.9s							
KURBB	**Kurchatov Arra**	**45.90**	**308**	P		P	07 31 49.2	+10
	0.5nm,0.3s,baz=82,slow=8.5,SNR=2.2							
	0.5nm,0.3s							
WRA	**Warramunga Arr**	**57.19**	**188**	P		**P**	**07 33 03.9**	**0.0**
	0.3nm,0.9s,baz=7.0,slow=7.6,SNR=2.0							
	0.3nm,0.9s							
H03N2	**Juan Fernandez**	**147.06**	**96**	T		T	10 27 26.5	
	baz=291							
H03N3	**Juan Fernandez**	**147.07**	**96**	T		T	10 27 27.5	
	baz=291,slow=76							
H03N1	**Juan Fernandez**	**147.08**	**96**	T		T	10 27 27.7	
	baz=291							

*NOU **24** 07:45:50.2,42.˚53S×173.˚80E, h0km, MLv4.2/13, South Island, New Zealand*
*WEL **24** 07:45:52.3±0.4,42.˚5S±3.˚×17.˚4E±.˚, h5km±3km, M3.7/42, ML4.1/13, MLv3.7/42, Error ellipse: s-maj=0.0km s-min=0.0km az=125.1*
ISC 24 07:45:50.0±1.6,42.˚47S±0.˚03×173.˚82E±0.˚04, h1km±17km, n116, σ1ˢ12/117, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**285**	P		**Pg**	**07 45 54.5**	**+0.4**
KHZ	**Kahutara**	**0.21**	**285**	P		**Pg**	**07 45 54.4**	**+0

INZ	Inchbonnie	1.77	261	P		Pn	07 46 21.1	-0.6
KIW	Kapiti Island	1.81	27	P		Pn	07 46 21.9	-0.2
MTW	Mount Morrison	1.82	44	P		Pn	07 46 21.6	-0.7
QRZ	Quartz Range	1.91	329	P		Pb	07 46 23.9	-1.6
QRZ	Quartz Range	1.91	329	P		Pn	07 46 23.5	0.0
OGWZ	Otaki Gorge	1.94	32	P		Pn	07 46 23.6	-0.4
MHCZ	Mount Hutt	1.96	237	P		Pn	07 46 23.3	-1.1
HOWZ	Holdsworth Sta	2.02	40	P		Pn	07 46 24.4	-0.7
WACZ	Wakanui South	2.06	224	P		Pn	07 46 24.9	-0.8
TMWZ	Te Maipa	2.06	49	P		Pn	07 46 24.8	-0.9
MRZ	Mangatainoka R	2.24	37	P		Pn	07 46 27.4	-0.8
TIWZ	Tintock	2.30	43	P		Pn	07 46 28.0	-1.0
WVZ	Waitaha Valley	2.35	254	P		Pn	07 46 29.4	-0.2
RPZ	Rata Peaks	2.38	238	P		Pn	07 46 29.3	-0.7
RPZ	Rata Peaks	2.38	238	P		Pn	07 46 29.0	-1.1
ARCZ	Arundel	2.43	232	P		Pn	07 46 29.6	-1.2
PRWZ	Pori Road	2.51	41	P		Pn	07 46 30.8	-1.0
POWZ	Post Office Ro	2.54	36	P		Pn	07 46 30.8	-1.5
BFZ	Birch Farm	2.55	46	P		Pn	07 46 31.6	-0.8
BFZ	Birch Farm	2.55	46	P		Pn	07 46 31.2	-1.2
GCSZ	Gaunt Creek Bo	2.70	251	P		Pn	07 46 34.4	-0.1
DVHZ	Dannevirke	2.80	40	P		Pn	07 46 34.2	-1.7
TMZ	Timaru	2.80	226	P		Pn	07 46 35.0	-0.9
ANWZ	Angora Road	2.83	46	P		Pn	07 46 35.1	-1.1
WAZ	Wanganui	2.85	18	P		Pn	07 46 37.7	+1.1
TSZ	Takapari Road	2.90	35	P		Pn	07 46 36.2	-1.1
NMEZ	Namu Road	3.06	1	P		Pn	07 46 42.4	+3.1
PRHZ	Porangahau	3.06	45	P		Pn	07 46 38.3	-1.1
FOZ	Fox Glacier	3.12	249	P		Pn	07 46 40.1	-0.2
PNHZ	Pukenui	3.12	36	P		Pn	07 46 38.9	-1.4
KHEZ	Kahui Hut	3.18	3	P		Pn	07 46 44.2	+3.1
KHEZ	Kahui Hut	3.18	3	P		Pn	07 46 43.6	+2.5
NBEZ	Newall Road No	3.20	1	P		Pn	07 46 43.4	+2.1
NEZ	North Egmont	3.20	4	P		Pn	07 46 43.5	+2.0
LBZ	Lake Benmore	3.27	233	P		Pn	07 46 41.5	-0.8
PKE	Pukeiti	3.28	2	P		Pn	07 46 44.1	+1.7
DREZ	Durham Road	3.29	5	P		Pn	07 46 45.0	+2.4
PKVZ	Pokaka	3.38	21	P		Pn	07 46 44.7	+0.8
MOVZ	Moawhango	3.39	26	P		Pn	07 46 43.5	-0.6
VRZ	Vera Road	3.42	12	P		Pn	07 46 45.5	+1.2
WNVZ	Wahianoa	3.42	24	P		Pn	07 46 44.7	+0.2
BHHZ	Black Hill Sta	3.43	30	P		Pn	07 46 43.7	-0.8
TRVZ	Turoa	3.43	23	P		Pn	07 46 45.5	+0.7
ODZ	Otahua Downs	3.45	221	P		Pn	07 46 43.8	-1.0
ODZ	Otahua Downs	3.45	221	P		Pn	07 46 43.8	-1.0
WHVZ	Whangaehu Hut	3.46	23	P		Pn	07 46 46.0	+0.9
FWVZ	Far West T-bar	3.47	23	P		Pn	07 46 45.9	+0.6
TUVZ	Tukino	3.49	24	P		Pn	07 46 46.4	+0.9
KAHZ	Kahuranaki	3.53	42	P		Pn	07 46 44.3	-1.7
NGZ	Ngauruhoe	3.56	23	P		Pn	07 46 46.7	+0.3
SNVZ	South Ngauruho	3.56	23	P		Pn	07 46 46.7	+0.3
OTVZ	Oturere	3.59	24	P		Pn	07 46 47.0	+0.2
NNVZ	North Ngauruho	3.60	23	P		Pn	07 46 47.5	+0.5
TWVZ	Taurewa	3.61	20	P		Pn	07 46 47.3	+0.2
ETVZ	East Tongariro	3.63	24	P		Pn	07 46 47.5	+0.2
TMVZ	Te Maari	3.64	24	P		Pn	07 46 47.8	+0.2
KRVZ	Karewarewa	3.65	23	P		Pn	07 46 48.5	+0.9
NTVZ	North Tongarir	3.65	23	P		Pn	07 46 47.9	+0.3
KATZ	Kakaramea	3.77	23	P		Pn	07 46 51.3	+1.9
BKZ	Black Stump Fm	3.88	32	P		Pn	07 46 48.9	-1.8
ARHZ	Aropaoanui	4.01	38	P		Pn	07 46 53.1	+0.7
JCZ	Jackson Bay	4.01	245	P		Pn	07 46 52.3	-0.2
JCZ	Jackson Bay	4.01	245	P		Pn	07 46 52.2	-0.4
HIZ	Hauiti	4.03	12	P		Pn	07 46 53.7	+0.9
HIZ	Hauiti	4.03	12	P		Pn	07 46 53.7	+0.9
HHSZ	Highcliff Hill	4.12	213	P		Pn	07 46 53.5	-0.5
WKZ	Wanaka	4.21	234	P		Pn	07 46 54.1	-1.1
EAZ	Earnscleugh	4.27	228	P		Pn	07 46 55.0	-1.0
MTHZ	Maungataniwha	4.28	33	P		Pn	07 46 55.3	-1.0
TUZ	Tuapeka	4.60	219	P		Pn	07 46 60.0	-0.6
URZ	Urewera	4.90	32	P		Pn	07 47 05.4	+0.7
URZ	Urewera	4.90	32	P		Pn	07 47 03.7	-1.0
TOZ	Tahuroa Road	4.91	16	P		Pn	07 47 04.6	-0.1
MWZ	Matawai	5.01	36	P		Pn	07 47 05.0	-1.2
MLZ	Mavora Lakes	5.03	233	P		Pn	07 47 05.2	-1.4
SYZ	Scrubby Hill	5.26	218	P		Pn	07 47 09.6	-0.1
SYZ	Scrubby Hill	5.26	218	P		Pn	07 47 09.4	-0.3
RUGZ	Raukumara Rang	5.38	35	P		Pn	07 47 10.0	-1.4
WHZ	Wether Hill Ro	5.43	229	P		Pn	07 47 10.2	-1.9
AWAZ	Awhitu Peninsu	5.44	7	P		Pn	07 47 12.7	+0.6
MKAZ	Moumakai	5.46	11	P		Pn	07 47 12.2	-0.1
ETAZ	East Tamaki Re	5.58	9	P		Pn	07 47 14.6	+0.7
HAZ	Te Kaha	5.60	34	P		Pn	07 47 12.4	-1.9
RVAZ	Riverhead Bore	5.72	6	P		Pn	07 47 16.3	+0.3
MBAZ	Motutapu North	5.75	9	P		Pn	07 47 18.0	+1.5
APZ	The Paps	6.02	222	P		Pn	07 47 19.0	-1.1
CTZ	Chatham Island	7.12	103	P		Pn	07 47 36.6	+1.5
CTZ	Chatham Island	7.12	103	P		Pn	07 47 35.4	+0.3
OUZ	Omahuta	7.24	359	P		Pn	07 47 38.9	+2.0
OUZ	Omahuta	7.24	359	P		Pn	07 47 38.7	+1.8

*DJA **24** 07:50:46.8±1.0,9°S±9°×11°0E±°, h10km,M3.8/9,MLv3.8/9*
*IDC **24** 07:50:53.4±3.2,8°61S×110°74E, h76km±37km, mb3.4/3, mbtmp3.7/4,ML3.5/1,MS2.5/2,Error ellipse: s-maj=79.0km s-min=18.3km az=40.0*

ISC 24 07:50:51.0±1.1,9°1S±0°1×110°44E±0°08,h51km,n15, σ1°86/14,mb3.4/3,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCJI	Pacitan	1.12	40	P	Pn	07 51 11.1	+0.7
UGM	Wanagama	1.14	4	P	Pn	07 51 09.7	-1.0
YOGI	Yogyakarta	1.24	353	P	Pn	07 51 11.5	-0.5
NGJI	Ngawi	1.96	31	P	Pn	07 51 24.0	+2.2
SMRI	Semarang	1.99	360	P	Pn	07 51 23.5	+1.2
GMJI	Gumukmas	3.07	76	P	Pn	07 51 38.4	+1.4
LEM	Lembang	3.57	308	P	Pn	07 51 45.6	+1.5
	4.3nm,0.3s,baz=128,slow=19,SNR=2.5						
LEM				S	Sn	07 52 28.6	+3.5
	48nm,0.8s,baz=143,slow=20,SNR=6.3						
LEM				LR	LR	07 53 11.3	
	comp=Z,63nm,18.9s,baz=72,slow=39 22nm,0.5s						
JAGI	Jajag, Banyuwa	3.71	81	P	Pn	07 51 47.2	+1.4
KAPI	Kappang	10.07	67	LR	LR	07 57 06.7	
	comp=Z,35nm,20.1s,baz=241,slow=39						
WRA	Warramunga Arr	25.50	118	P	P	07 56 13.8	-1.1
	1.2nm,0.9s,baz=291,slow=11,SNR=14						
WRA				PcP	PcP	07 59 44.9	-0.7
	0.3nm,1.0s,baz=300,slow=1.8,SNR=1.6 1.2nm,0.9s						
ASAR	Alice Springs	26.73	126	P	P	07 56 27.0	+1.0
	0.7nm,0.6s,baz=300,slow=9.0,SNR=13						
ASAR				PcP	PcP	07 59 47.6	-0.9
	0.2nm,0.5s,baz=319,slow=1.9,SNR=5.1 0.7nm,0.6s						
H08S2	Diego Garcia H	37.56	269	T	T	08 37 43.8	
	baz=95						
H08S3	Diego Garcia H	37.58	269	T	T	08 37 36.9	
	baz=95						
H08S1	Diego Garcia H	37.58	269	T	T	08 37 53.5	
	baz=95						
MKAR	Makanchi Array	61.01	338	P	P	08 00 56.4	-2.8
	0.5nm,0.6s,baz=142,slow=7.0,SNR=5.9 0.5nm,0.6s						

*IDC **24** 07:51:14.7±0.9,54°85N×166°14E, h0km,mb3.6/10, mbtmp3.6/11,ML2.7/1,MS3.4/2,Error ellipse: s-maj=29.5km s-min=17.5km az=156.0*
*KRSC **24** 07:51:16.8±2.2,54°63N×165°89E, h23km±16km, ML4.0*

ISC 24 07:51:19.4±0.7,54°69N±0°05×166°21E±0°06,h35km,n42, σ1°72/54,mb3.6/10,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.53	345	eP	Pn	07 51 26.7	-3.7
BKI				eS	Sn	07 51 32.9	-5.3
KBTR	Krutoberegovo	2.46	310	eP	Pn	07 51 55.4	-1.5
KBTR				eS	Sn	07 52 23.5	-2.1
SMKR	Semkarok	3.29	307	S	Sn	07 52 45.8	-0.4
TUMD	Tumrok D	3.39	281	eP	Pn	07 52 10.0	+0.3
TUMD				S	Sn	07 52 46.7	-2.0
BDR	Baidarnaya	3.40	306	eP	Pn	07 52 10.9	+1.0
BDR				S	Sn	07 52 50.6	+1.5
SRKR	Sorokina	3.47	307	P	Pn	07 52 12.6	+1.8
SRKR				eS	Sn	07 52 52.4	+1.8
BZMR	Bezymyannaya	3.50	293	P	Pn	07 52 13.1	+1.8
BZMR				eS	Sn	07 52 50.9	-0.6
BZWR	Bezymyannyi-We	3.50	294	P	Pn	07 52 12.5	+1.1
BZWR				eS	Sn	07 52 52.1	+0.4
TUMR	Tumrok	3.54	282	eP	Pn	07 52 12.5	+0.6
KLY	Kiyuchi	3.55	300	P	Pn	07 52 12.2	+0.3
KLY				eS	Sn	07 52 50.5	-2.1
KRSR	Krestovskiy	3.56	298	eP	Pn	07 52 13.1	+1.0
KRSR				eS	Sn	07 52 51.0	-1.9
KIRR	Kirishev	3.58	293	eP	Pn	07 52 13.2	+0.7
KIRR				eS	Sn	07 52 54.1	+0.5
KMNR	Kamenistaya	3.58	290	eP	Pn	07 52 12.6	+0.2
SRDR	Sredinnyy	4.03	296	eP	Pn	07 52 19.8	+1.2
SRDR				eS	Sn	07 53 07.0	+2.4
NLC	Nalytchevo	4.33	252	S	Sn	07 53 10.1	-1.7
SDLR	Sedlovina	4.55	255	eP	Pn	07 52 27.5	+1.8
SDLR				eS	Sn	07 53 14.8	-2.6
SMAR	Somma	4.60	255	eP	Pn	07 52 27.1	+0.6
SMAR				eS	Sn	07 53 17.5	-1.3
UGLR	Uglovaya	4.61	254	eS	Sn	07 53 16.7	-2.1
KRER	Koryakskii	4.61	256	eP	Pn	07 52 27.1	+0.4
KRER				eS	Sn	07 53 17.5	-1.6
KOK	Koryaka	4.68	256	eP	Pn	07 52 28.0	+0.4
DALK	Dalny	4.71	252	S	Sn	07 53 18.9	-2.4
RUS	Russkaya	5.11	247	P	Pn	07 52 33.9	+0.5
KRMR	Karymshinskiy	5.14	252	eP	Pn	07 52 35.4	+1.7
KRMR				eS	Sn	07 53 30.0	-1.8
MTVR	Mutnovka	5.27	248	eP	Pn	07 52 35.9	+0.3
MTVR				eS	Sn	07 53 33.1	-2.0
PETK	Petropavlovsk-	5.28	256	Pn	Pn	07 52 35.9	+0.3
	1.4nm,0.3s,baz=81,slow=19,SNR=9.3						
PETK				Sn	Sn	07 53 36.3	+1.2
	1.5nm,0.3s,baz=45,slow=16,SNR=6.0 4.0nm,0.6s						
GRL	Gorelyy	5.29	249	eP	Pn	07 52 37.4	+1.4
GRL				eS	Sn	07 53 33.6	-2.1
KDTR	Khodutka, Kamc	5.67	243	S	Sn	07 53 40.0	-4.8
ILAR	Eielson Array	25.09	48	P	P	07 56 39.8	-0.5
	1.1nm,0.6s,baz=252,slow=7.6,SNR=21 1.1nm,0.6s						
H11N2	WAKE ISLAND Hy	34.90	179	T	T	08 35 07.5	
	baz=360,slow=76,SNR=158						
H11N3	WAKE ISLAND Hy	34.92	179	T	T	08 35 08.6	
	baz=360,slow=76,SNR=135						
H11N1	WAKE ISLAND Hy	34.92	179	T	T	08 35 08.2	
	baz=360,slow=76,SNR=127						
SONM	Songino Array	37.03	285	P	P	07 58 26.8	+1.3
	0.5nm,0.7s,baz=59,slow=8.6,SNR=3.7 0.5nm,0.7s						
YKA	Yellowknife Ar	39.49	46	P	P	07 58 46.0	0.0
	0.5nm,0.8s,baz=296,slow=8.1,SNR=1.6 0.5nm,0.8s						
KURBB	Kurchatov Arra	50.01	304	P	P	08 00 09.0	-0.8
	0.6nm,0.6s,baz=56,slow=7.9,SNR=4.4 0.6nm,0.6s						
MKAR	Makanchi Array	50.66	298	LR	LR	08 22 20.1	
	comp=Z,33nm,18.1s,baz=254,slow=37						
NVAR	Mina Array Bea	51.81	75	P	P	08 00 25.0	+1.2
	0.5nm,0.8s,baz=291,slow=8.4,SNR=2.8 0.5nm,0.8s						
BVAR	Borovoye Array	52.17	310	LR	LR	08 23 44.1	
	comp=Z,43nm,19.2s,baz=200,slow=38						
ARCES	ARCESS Array B	52.83	344	P	P	08 00 28.9	-1.8
	1.3nm,0.8s,baz=17,slow=10,SNR=1.0 1.3nm,0.8s						
NOA	NORSAR Array B	62.92	347	P	P	08 01 40.9	-0.6
	0.7nm,0.7s,baz=13,slow=6.7,SNR=2.3 0.7nm,0.7s						
TXAR	Lajitas Array	66.69	72	P	P	08 02 07.6	+0.9
	0.2nm,0.5s,baz=300,slow=4.1,SNR=3.0 0.2nm,0.5s						
WRA	Warramunga Arr	79.17	210	P	P	08 03 20.8	+0.5
	0.5nm,0.8s,baz=27,slow=6.0,SNR=3.4 0.5nm,0.8s						
ASAR	Alice Springs	82.82	210	P	P	08 03 41.2	+1.5
	0.6nm,0.8s,baz=14,slow=5.9,SNR=7.2 0.6nm,0.8s						

*IDC **24** 07:58:14.5±1.4,24°71S×68°97W, h81km±12km, mb3.7/5, mbtmp4.0/9,MS2.5/5,Error ellipse: s-maj=23.9km s-min=10.7km az=80.0*
*SJA **24** 07:58:15.4±1.7,24°62S×69°03W, h80km, ML4.2,MW4.2*
*NEIC **24** 07:58:15.4±1.8,24°61S±0°04×69°21W±0°09, h116km±13km, mb4.4/6, ML4.0(GUC), Error ellipse: s-maj=11.5km s-min=5.3km az=82.0*
*GUC **24** 07:58:16.1±0.8,24°62S×69°14W, h108km±6km, ML4.0*
*VAO **24** 07:58:20.2±0.8,24°24S×68°51W, h96km±4km, mb4.4*

ISC 24 07:58:15.1±0.7,24°64S±0°03×69°01W±0°04,h100km±7km, n139,σ1°65/163,mb4.0/6,1C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	Mina Guanaco	0.74	225	Pn	Pn	07 58 34.4	+1.1
GO02	Mina Guanaco	0.74	225	eP	Pn	07 58 34.4	+1.1
GO02				eS	Sn	07 58 48.0	+1.2
GO02				IAML		07 58 49.2	
	comp=N,5μm,0.2s						
GO02	Mina Guanaco	0.74	225	eP	Sn	07 58 48.8	+2.0
PB14	IPOC Station P	1.27	270	Pn	Pn	07 58 39.0	+0.1
PB14	IPOC Station P	1.27	270	‖P	Pn	07 58 39.3	+0.5
PB14				*i* S	Sn	07 58 56.8	0.0
PB14	IPOC Station P	1.27	270	eP	Pn	07 58 39.6	+0.8
PB14				eS	Sn	07 58 58.8	+2.0
PB15	IPOC Station P	1.48	343		Pn	07 58 42.2	+0.9
PB15	IPOC Station P	1.48	343	eP	Pn	07 58 42.3	+1.0
PB15				eS	Sn	07 59 02.4	+1.2
PB10	IPOC Station P	1.80	308	Pn	Pn	07 58 45.6	+0.5
PB10	IPOC Station P	1.80	308	eP	Pn	07 58 46.0	+0.9
PB10				eS	Sn	07 59 07.2	-0.8
PB10				IAML		07 59 12.1	
	comp=E,915nm,0.4s						
AF01	San Pedro de A	1.84	25		Pn	07 58 48.0	+2.1
AF01	San Pedro de A	1.84	25	eP	Pn	07 58 48.1	+2.2
AF01				eS	Sn	07 59 12.2	+3.0
PB06	IPOC Station P	1.99	345		Pn	07 58 48.9	+1.2
PB06	IPOC Station P	1.99	345	eP	Pn	07 58 48.9	+1.2
PB06				eS	Sn	07 59 13.1	+0.6
PB06				IAML		07 59 17.6	
	comp=N,2μm,0.3s						
PB06	IPOC Station P	1.99	345	eP	Pn	07 58 48.9	+1.2
PB06				eP	Pn	07 58 49.0	+1.3
PB06				eS	Sn	07 59 14.0	+1.5
PB06				eS	Sn	07 59 14.1	+1.6
PB06				IAML		07 59 14.6	
	comp=Z,1μm,0.5s						
LVC	Limon Verde	2.02	3	P	Pn	07 58 49.3	+1.0
	comp=Z,137nm,0.4s,baz=186,slow=8.1,SNR=317						
LVC				S	Sn	07 59 13.6	+0.1
	comp=Z,555nm,0.3s,baz=186,slow=8.0,SNR=61						
LVC				LR	LR	07 59 24.1	
	comp=Z,30nm,19.0s,baz=216,slow=33						
LVC	Limon Verde	2.02	3	Pn	Pn	07 58 49.0	+0.8
LVC	Limon Verde	2.02	3	‖P	Pn	07 58 49.5	+1.2
LVC				*i* S	Sn	07 59 14.8	+1.4
LVC	Limon Verde	2.02	3	eP	Pn	07 58 49.0	+0.8
LVC	Limon Verde	2.02	3	eP	Pn	07 58 49.6	+1.4
LVC				eS	Sn	07 59 09.0	-4.4
AC01	Pan de Azucar	2.08	223		Pn	07 58 49.6	+0.9
AC01	Pan de Azucar	2.08	223	eP	Pn	07 58 49.3	+0.6
AC01				eS	Sn	07 59 14.5	+0.1
AC01	Pan de Azucar	2.08	223	*i* P	Pn	07 58 49.3	+0.6
AC01				eS	Sn	07 59 15.4	+1.0
AC02	Maricunga	2.19	183	Pn	Pn	07 58 52.5	+1.8
AC02	Maricunga	2.19	183	eP	Pn	07 58 52.8	+2.1
AC02	Maricunga	2.19	183	eP	Pn	07 58 53.0	+2.4
PB04	IPOC Station P	2.52	335		Pn	07 58 54.5	-0.1
PB04	IPOC Station P	2.52	335	eP	Pn	07 58 54.9	+0.3
PB04				IAML		07 59 35.4	
	comp=E,1μm,0.5s						
PB04	IPOC Station P	2.52	335	eP	Pn	07 58 54.9	+0.3
PB04				eS	Sn	07 59 25.4	+0.5
PB04				IAML		07 59 34.5	
	comp=Z,1μm,0.7s						
PB03	IPOC Station P	2.66	345	Pn	Pn	07 58 56.9	+0.3
PB03	IPOC Station P	2.66	345	eP	Pn	07 58 57.1	+0.6
PB09	IPOC Station P	2.83	356		Pn	07 58 59.9	+1.2
PB09	IPOC Station P	2.83	356	‖P	Pn	07 59 00.4	+1.6
PB09	IPOC Station P	2.83	356	eP	Pn	07 59 00.0	+1.2
PB09				eS	Sn	07 59 20.7	-12
PB09				eS	Sn	07 59 22.2	-10
PB09				IAML		07 59 41.5	
	comp=Z,811nm,0.8s						
AC06	Mina Casimiro	2.97	204	Pn	Pn	07 59 00.1	-0.3
AC06	Mina Casimiro	2.97	204	eP	Pn	07 59 00.4	0.0
AC06				IAML		07 59 50.6	
	comp=N,214nm,0.2s						
PB07	IPOC Station P	3.01	344		Pn	07 59 01.2	+0.2
PB07	IPOC Station P	3.01	344	‖P	Pn	07 59 01.3	+0.2
PB07	IPOC Station P	3.01	344	*i* P	Pn	07 59 01.4	+0.3
PB07				eS	Sn	07 59 20.7	-16
PB07				IAML		08 00 02.2	
	comp=Z,656nm,0.8s						
GO03	Copiap	3.15	200		Pn	07 59 03.0	+0.2
GO03	Copiap	3.15	200	eP	Pn	07 59 03.1	+0.3
GO03	Copiap	3.15	200	eP	Pn	07 59 03.4	+0.6
GO03				eS	Sn	07 59 26.7	-13
SLA	San Lorenzo	3.19	92	eP	Pn	07 59 06.5	+3.0
PB02	IPOC Station P	3.40	346		Pn	07 59 06.6	+0.3
PB02	IPOC Station P	3.40	346	*i* P	Pn	07 59 06.1	-0.2
PB02	IPOC Station P	3.40	346	eP	Pn	07 59 07.0	+0.7
PB02				eS	Sn	07 59 47.0	+1.2
PB02				IAML		07 59 56.4	
	comp=Z,798nm,0.3s						
HJA	Humahuaca	3.59	67	eP	Pn	07 59 13.0	+4.0
PB01	IPOC Station P	3.60	353		Pn	07 59 09.6	+0.5
PB01	IPOC Station P	3.60	353	*i* P	Pn	07 59 09.2	+0.1
AZAP	Zapla	3.62	84	eP	Pn	07 59 01.2	-8.1
AZAP				eP	Pn	07 59 12.0	+2.7
TINO	Tinogasta	3.65	160	eP	Pn	07 59 10.0	+0.4
TINO				eS	Sn	07 59 39.7	-12
PATCX	Punta Patache	3.94	344		Pn	07 59 12.4	-1.2
PATCX	Punta Patache	3.94	344	*i* P	Pn	07 59 12.6	-0.9
PATCX	Punta Patache	3.94	344	eP	Pn	07 59 13.0	-0.6
PATCX				eS	Sn	07 59 56.2	-2.7
PATCX				IAML		08 00 11.0	
	comp=Z,521nm,0.7s						
AHML	Horco Molle	3.94	124	eP	Pn	07 59 16.3	+2.7
AHML				eS	Sn	08 00 22.2	+23
AC04	Llanos de Chal	4.01	207	Pn	Pn	07 59 12.7	-1.7
AC04	Llanos de Chal	4.01	207	*i* P	Pn	07 59 12.3	-2.0
AC04	Llanos de Chal	4.01	207	eP	Pn	07 59 12.6	-1.7
AC04				eS	Sn	08 00 01.2	+0.9
AC04				IAML		08 00 14.8	
	comp=Z,262nm,0.9s						
YJA	Yavi	4.04	53	eP	Pn	07 59 18.0	+2.8
TA01	Diego Aracena	4.19	345	Pn	Pn	07 59 15.1	-1.8
AC05	El Transito	4.33	195		Pn	07 59 19.2	+0.4
AC05	El Transito	4.33	195	eP	Pn	07 59 19.3	+0.4
AC05				eS	Sn	08 00 11.7	+3.3
AC05				IAML		08 00 20.7	
	comp=Z,150nm,1.1s						
TA02	Huaiquique	4.47	346		Pn	07 59 19.7	-0.9
PB08	IPOC Station P	4.47	358		Pn	07 59 20.8	-0.2
PB08	IPOC Station P	4.47	358	eP	Pn	07 59 21.4	+0.3
PB08				eS	Sn	08 00 14.0	+1.8
PB08				IAML		08 00 42.5	
	comp=Z,153nm,0.7s						
LCO	Las Campanas	4.61	199	Pn	Pn	07 59 22.7	-0.1
LCO	Las Campanas	4.61	199	eP	Pn	07 59 23.0	+0.2
CYA	Choya	4.76	144	eP	Pn	07 59 26.5	+2.0
CYA				eP	Pn	07 59 26.7	+2.2
CYA				eS	Sn	08 00 16.2	-2.3
PB11	IPOC Station P	4.89	353		Pn	07 59 24.9	-1.5
GO01	Chusmiza	4.95	358		Pn	07 59 27.0	-0.5
ACLC	CERRO LA CRUZ	5.11	159	eP	Pn	07 59 31.0	+1.6
PSGCX	Pisagua	5.12	348		Pn	07 59 27.6	-1.9
CO01	Juntas del Tor	5.41	190		Pn	07 59 35.2	+1.7
MNMC	Minye Minye	5.50	354		Pn	07 59 34.8	-0.1
GO04	Tololo Observa	5.74	196		Pn	07 59 37.7	-0.4
PB12	IPOC Station P	6.12	348		Pn	07 59 40.4	-2.7
PB16	IPOC Station P	6.29	356		Pn	07 59 45.3	-0.5
CO03	El Pedregal	6.36	193		Pn	07 59 44.4	-1.9
CO02	Combarbal	6.78	195		Pn	07 59 50.4	-1.6
ZON	Zonda	6.89	178		Pn	07 59 54.5	+1.0
CFA	Coronel Fontan	6.98	175	P	Pn	07 59 54.5	-0.2
	comp=Z,5.7nm,0.6s,baz=349,slow=13,SNR=13						
CFA				S	Sn	08 01 08.9	-3.6
	comp=Z,3.9nm,0.5s,baz=311,slow=18,SNR=1.9						
CFA				LR	LR	08 02 30.6	
	comp=Z,41nm,18.5s,baz=336,slow=37						
PB18	Visviri	7.03	356		Pn	07 59 56.2	+0.4
LPAZ	La Paz	8.35	6	P	Pn	08 00 14.2	+0.4
	comp=Z,2.1nm,0.5s,baz=198,slow=4.9,SNR=22						
LPAZ				S	Sn	08 01 47.0	+0.2
	comp=Z,3.7nm,0.7s,baz=178,slow=14,SNR=1.5						
LPAZ	La Paz	8.35	6		Pn	08 00 13.7	-0.1
L

KURBB	**Kurchatov Arra**	**143.97**	**36**	PKP	**PKPdf**	**08 17 39.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=305,slow=3.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**144.80**	**27**	PKP	**PKPdf**	**08 17 41.4**	**+1.5**
	comp=Z,5.8nm,0.7s,baz=305,slow=4.6,SNR=18						
MKAR	**Makanchi Array**	**148.17**	**39**	PKPbc	**PKiKP**	**08 17 51.2**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=296,slow=2.9,SNR=10						
PZH	**PanZhiHua**	**171.44**	**75**	PKP	**PKPdf**	**08 18 09.3**	**-3.2**

*WEL **24** 08:11:07.6±0.3, 42°S±2°×17°4E±°, h5km, M4.0/38, ML4.3/18, MLv4.0/38, Error ellipse: s-maj=0.0km s-min=0.0km az=134.3*
*NOU **24** 08:11:07.0, 42.23S×174.02E, h18km, MLv4.4/15, Off E. Coast of S. Island, N.Z.*
ISC 24 08:11:06.2±0.9, 42.11S±0.03×173.90E±0.04, h10km, n134, σ1s59/137, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.39**	**357**	P	**Pg**	**08 11 14.3**	**+0.4**
BSWZ				S	**Sg**	**08 11 19.0**	**-0.1**
KHZ	**Kahutara**	**0.41**	**221**	P	**Pg**	**08 11 16.4**	**+2.2**
KHZ	**Kahutara**	**0.41**	**221**	P	**Pg**	**08 11 16.5**	**+2.2**
KHZ				S	**Sb**	**08 11 23.0**	**+1.2**
CMWZ	**Cape Campbell**	**0.43**	**33**	P	**Pb**	**08 11 17.3**	**+1.5**
TUWZ	**Tuamarina**	**0.68**	**3**	P	**Pg**	**08 11 19.5**	**+0.2**
TUWZ				S	**Sb**	**08 11 28.2**	**-1.3**
THZ	**Tophouse**	**0.82**	**294**	P	**Pb**	**08 11 20.7**	**-1.8**
TCW	**Tory Channel**	**0.94**	**17**	P	**Pg**	**08 11 24.3**	**+0.1**
NNZ	**Nelson**	**0.97**	**336**	P	**Pg**	**08 11 23.5**	**-1.4**
SNZO	**South Karori**	**1.00**	**37**	P	**Pg**	**08 11 26.9**	**+1.6**
WEL	**Wellington**	**1.05**	**39**	P	**Pg**	**08 11 27.7**	**+1.4**
GVZ	**Greta Valley S**	**1.07**	**216**	P	**Pg**	**08 11 28.0**	**+1.2**
MRNZ	**Matariki Terra**	**1.11**	**309**	P	**Pb**	**08 11 26.1**	**-1.4**
PLWZ	**Palliser**	**1.14**	**62**	P	**Pn**	**08 11 28.9**	**+0.7**
TKNZ	**Takaka Hill**	**1.28**	**326**	P	**Pb**	**08 11 28.9**	**-1.6**
DUWZ	**D'Urville Isla**	**1.30**	**1**	P	**Pb**	**08 11 29.6**	**-1.2**
CAW	**Cannon Point**	**1.33**	**42**	P	**Pn**	**08 11 31.4**	**+0.6**
PAWZ	**Paruwai Farm**	**1.35**	**58**	P	**Pn**	**08 11 31.5**	**+0.4**
LTZ	**Lake Taylor**	**1.38**	**240**	P	**Pn**	**08 11 31.9**	**+0.3**
AMCZ	**Amberley**	**1.41**	**220**	P	**Pn**	**08 11 32.2**	**+0.3**
KIW	**Kapiti Island**	**1.46**	**32**	P	**Pn**	**08 11 33.2**	**+0.7**
TRWZ	**Traveller**	**1.51**	**63**	P	**Pn**	**08 11 33.5**	**+0.2**
MTW	**Mount Morrison**	**1.53**	**52**	P	**Pn**	**08 11 33.7**	**+0.1**
OGWZ	**Otaki Gorge**	**1.60**	**37**	P	**Pn**	**08 11 34.1**	**+0.5**
DSZ	**Dennistorn Nort**	**1.61**	**282**	P	**Pb**	**08 11 34.9**	**-1.0**
QRZ	**Quartz Range**	**1.65**	**321**	P	**Pb**	**08 11 35.0**	**-1.6**
QRZ	**Quartz Range**	**1.65**	**321**	P	**Pb**	**08 11 34.8**	**-1.8**
HOWZ	**Holdsworth Sta**	**1.71**	**46**	P	**Pn**	**08 11 36.1**	**0.0**
OKCZ	**Okains Bay**	**1.73**	**201**	P	**Pn**	**08 11 36.5**	**+0.2**
TMWZ	**Te Maipa**	**1.79**	**57**	P	**Pn**	**08 11 37.1**	**-0.1**
OXZ	**Oxford**	**1.84**	**228**	P	**Pn**	**08 11 37.2**	**-0.6**
MQZ	**McQueen's Vall**	**1.84**	**209**	P	**Pn**	**08 11 37.0**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.91**	**202**	P	**Pn**	**08 11 38.8**	**0.0**
MRZ	**Mangatainoka R**	**1.92**	**42**	P	**Pn**	**08 11 39.0**	**+0.1**
INZ	**Inchbonnie**	**1.92**	**250**	P	**Pn**	**08 11 39.3**	**+0.3**
TIWZ	**Tintock**	**2.00**	**49**	P	**Pn**	**08 11 39.7**	**-0.3**
RACZ	**Rakaia**	**2.07**	**218**	P	**Pn**	**08 11 40.3**	**-0.7**
OHWZ	**Ohakea**	**2.18**	**30**	P	**Pn**	**08 11 43.9**	**+1.4**
PRWZ	**Pori Road**	**2.20**	**46**	P	**Pn**	**08 11 42.5**	**-0.2**
POWZ	**Post Office Ro**	**2.22**	**40**	P	**Pn**	**08 11 42.9**	**-0.1**
MHCZ	**Mount Hutt**	**2.23**	**230**	P	**Pn**	**08 11 42.5**	**-0.8**
BFZ	**Birch Farm**	**2.27**	**52**	P	**Pn**	**08 11 42.9**	**-0.8**
BFZ	**Birch Farm**	**2.27**	**52**	P	**Pn**	**08 11 42.8**	**-0.8**
WACZ	**Wakanui South**	**2.38**	**219**	P	**Pn**	**08 11 44.5**	**-0.7**
DVHZ	**Dannevirke**	**2.49**	**44**	P	**Pn**	**08 11 45.9**	**-0.8**
WAZ	**Wanganui**	**2.49**	**20**	P	**Pb**	**08 11 50.6**	**-0.3**
WVZ	**Waitaha Valley**	**2.53**	**246**	P	**Pn**	**08 11 47.3**	**0.0**
ANWZ	**Angora Road**	**2.54**	**51**	P	**Pn**	**08 11 47.0**	**-0.5**
TSZ	**Takapari Road**	**2.57**	**38**	P	**Pn**	**08 11 47.6**	**-0.3**
RPZ	**Rata Peaks**	**2.64**	**232**	P	**Pn**	**08 11 48.5**	**-0.3**
RPZ	**Rata Peaks**	**2.64**	**232**	P	**Pn**	**08 11 48.0**	**-0.8**
LREZ	**Lake Rotokare**	**2.67**	**8**	P	**Pb**	**08 11 53.7**	**-0.4**
NMEZ	**Namu Road**	**2.69**	**360**	P	**Pb**	**08 11 52.5**	**-1.9**
ARCZ	**Arundel**	**2.72**	**226**	P	**Pn**	**08 11 49.2**	**-0.7**
PRHZ	**Porangahau**	**2.76**	**49**	P	**Pn**	**08 11 50.4**	**-0.1**
PNHZ	**Pukenui**	**2.80**	**39**	P	**Pn**	**08 11 50.4**	**-0.6**
WPHZ	**Waipukurau**	**2.80**	**44**	P	**Pn**	**08 11 50.6**	**-0.4**
KHEZ	**Kahui Hut**	**2.81**	**2**	P	**Pb**	**08 11 54.0**	**-2.5**
KHEZ	**Kahui Hut**	**2.81**	**2**	P	**Pb**	**08 11 53.9**	**-2.6**
NBEZ	**Newall Road No**	**2.84**	**359**	P	**Pn**	**08 11 54.0**	**+2.5**
NEZ	**North Egmont**	**2.84**	**3**	P	**Pn**	**08 11 54.2**	**+2.6**
GCSZ	**Gaunt Creek Bo**	**2.90**	**244**	P	**Pn**	**08 11 52.6**	**+0.2**
PKE	**Pukeiti**	**2.91**	**1**	P	**Pb**	**08 11 55.3**	**-2.9**
DREZ	**Durham Road**	**2.92**	**5**	P	**Pn**	**08 11 55.1**	**+2.4**
MTVZ	**Mangateitei**	**2.97**	**24**	P	**Pn**	**08 11 56.9**	**+3.5**
PKVZ	**Pokaka**	**3.02**	**22**	P	**Pn**	**08 11 55.5**	**+1.4**
MOVZ	**Moawhango**	**3.04**	**28**	P	**Pn**	**08 11 54.6**	**+0.2**
PXZ	**Pawanui**	**3.05**	**48**	P	**Pn**	**08 11 52.9**	**-1.6**
PXZ				P	**Pb**	08 11 53.2	-7.3
VRZ	**Vera Road**	**3.05**	**13**	P	**Pn**	**08 11 57.0**	**+2.6**
WNVZ	**Wahianoa**	**3.06**	**25**	P	**Pn**	**08 11 55.8**	**+1.1**
TRVZ	**Turoa**	**3.07**	**25**	P	**Pn**	**08 11 58.4**	**+3.4**
BHHZ	**Black Hill Sta**	**3.09**	**33**	P	**Pn**	**08 11 55.1**	**+0.1**
DRZ	**Dome Shelter**	**3.10**	**25**	P	**Pb**	**08 11 59.6**	**-1.9**
WHVZ	**Whangaehu Hut**	**3.10**	**25**	P	**Pn**	**08 11 56.7**	**+1.4**
TMZ	**Timaru**	**3.11**	**222**	P	**Pn**	**08 11 54.5**	**-0.7**
FWVZ	**Far West T-bar**	**3.11**	**244**	P	**Pn**	**08 11 57.0**	**+1.5**
TUVZ	**Tukino**	**3.13**	**26**	P	**Pn**	**08 11 57.0**	**+1.3**
NGZ	**Ngauruhoe**	**3.20**	**24**	P	**Pn**	**08 11 57.8**	**+1.1**
SNVZ	**South Ngauruho**	**3.20**	**25**	P	**Pn**	**08 11 57.7**	**+0.9**
KAHZ	**Kahuranaki**	**3.23**	**45**	P	**Pn**	**08 11 55.7**	**-1.2**
OTVZ	**Oturere**	**3.23**	**25**	P	**Pn**	**08 11 58.0**	**+0.9**
NNVZ	**North Ngauruho**	**3.25**	**24**	P	**Pn**	**08 11 58.3**	**+1.0**
TWVZ	**Taurewa**	**3.25**	**22**	P	**Pn**	**08 12 00.5**	**+3.2**
ETVZ	**East Tongariro**	**3.27**	**25**	P	**Pn**	**08 11 58.6**	**+1.0**
KRVZ	**Karewarewa**	**3.29**	**24**	P	**Pn**	**08 12 00.7**	**+2.9**
TMVZ	**Te Maari**	**3.29**	**25**	P	**Pn**	**08 11 58.7**	**+0.8**
KWHZ	**Kaweka Forest**	**3.29**	**36**	P	**Pn**	**08 11 56.9**	**-0.9**
NTVZ	**North Tongarir**	**3.29**	**25**	P	**Pn**	**08 11 59.0**	**+1.1**
FOZ	**Fox Glacier**	**3.33**	**243**	P	**Pn**	**08 11 58.2**	**-0.1**
MCHZ	**McNeill Hill**	**3.40**	**39**	P	**Pn**	**08 11 58.4**	**-0.9**
KATZ	**Kakaramea**	**3.41**	**24**	P	**Pn**	**08 12 03.7**	**+4.1**
RITZ	**Rihia Road**	**3.46**	**26**	P	**Pb**	**08 12 06.3**	**-1.3**
RATZ	**Rangitukua**	**3.54**	**24**	P	**Pn**	**08 12 05.1**	**+3.9**
BKZ	**Black Stump Fm**	**3.54**	**35**	P	**Pn**	**08 12 00.6**	**-0.6**
BKZ	**Black Stump Fm**	**3.54**	**35**	P	**Pn**	**08 12 00.0**	**-1.2**
LBZ	**Lake Benmore**	**3.54**	**229**	P	**Pn**	**08 12 00.6**	**-0.6**
HIZ	**Hauiti**	**3.66**	**12**	P	**Pn**	**08 12 05.2**	**+2.3**
HIZ	**Hauiti**	**3.66**	**12**	P	**Pn**	**08 12 05.5**	**+2.6**
NMHZ	**Naumai**	**3.73**	**37**	P	**Pn**	**08 12 02.6**	**-1.3**
ODZ	**Otahua Downs**	**3.77**	**218**	P	**Pn**	**08 12 03.6**	**-0.8**
ODZ	**Otahua Downs**	**3.77**	**218**	P	**Pn**	**08 12 03.4**	**-1.0**
MTHZ	**Maungataniwha**	**3.95**	**36**	P	**Pn**	**08 12 05.5**	**-1.3**
TLZ	**Tolley Road**	**3.98**	**19**	P	**Pn**	**08 12 10.6**	**+3.4**
ALRZ	**Allen Road**	**4.00**	**29**	P	**Pb**	**08 12 14.6**	**-2.1**
JCZ	**Jackson Bay**	**4.23**	**241**	P	**Pn**	**08 12 10.6**	**-0.2**
JCZ	**Jackson Bay**	**4.23**	**241**	P	**Pn**	**08 12 09.9**	**-0.9**
MUGZ	**Murupara**	**4.24**	**32**	P	**Pn**	**08 12 11.0**	**+0.2**
HHSZ	**Highcliff Hill**	**4.47**	**211**	P	**Pn**	**08 12 13.0**	**-0.9**
WKZ	**Wanaka**	**4.48**	**231**	P	**Pn**	**08 12 12.8**	**-1.3**
KMRZ	**Kaimai**	**4.54**	**21**	P	**Pn**	**08 12 17.7**	**+2.8**
TOZ	**Tahuroa Road**	**4.54**	**16**	P	**Pn**	**08 12 15.7**	**+0.8**
URZ	**Urewera**	**4.56**	**34**	P	**Pn**	**08 12 15.0**	**-0.2**
EAZ	**Earnscleugh**	**4.57**	**225**	P	**Pn**	**08 12 14.4**	**-0.9**
TGRZ	**Tauranga**	**4.73**	**23**	P	**Pn**	**08 12 22.3**	**+4.7**
TUZ	**Tuapeka**	**4.93**	**217**	P	**Pn**	**08 12 19.6**	**-0.6**
AWAZ	**Awhitu Peninsu**	**5.07**	**7**	P	**Pn**	**08 12 23.7**	**+1.5**
MKAZ	**Moumakai**	**5.09**	**11**	P	**Pn**	**08 12 23.5**	**+1.0**
WTAZ	**Waiatarua**	**5.19**	**6**	P	**Pn**	**08 12 26.6**	**+2.7**
ETAZ	**East Tamaki Re**	**5.21**	**9**	P	**Pn**	**08 12 25.9**	**+1.8**
PUZ	**Puketiti**	**5.23**	**41**	P	**Pn**	**08 12 23.8**	**-0.7**
HAZ	**Te Kaha**	**5.27**	**36**	P	**Pn**	**08 12 23.2**	**-1.7**
PKGZ	**Pakihiroa**	**5.29**	**39**	P	**Pn**	**08 12 26.6**	**+1.3**
MLZ	**Mavora Lakes**	**5.31**	**230**	P	**Pn**	**08 12 24.5**	**-1.0**
RVAZ	**Riverhead Bore**	**5.36**	**6**	P	**Pn**	**08 12 28.7**	**+2.6**
MBAZ	**Motutapu North**	**5.39**	**9**	P	**Pn**	**08 12 29.7**	**+3.1**
WIAZ	**Waiheke Island**	**5.39**	**11**	P	**Pn**	**08 12 29.1**	**+2.5**
KUZ	**Kuaotunu**	**5.54**	**15**	P	**Pn**	**08 12 31.4**	**+2.8**
KUZ	**Kuaotunu**	**5.54**	**15**	P	**Pn**	**08 12 30.0**	**+1.4**
ABAZ	**Army Bay**	**5.55**	**8**	P	**Pn**	**08 12 31.4**	**+2.6**
SYZ	**Scrubby Hill**	**5.59**	**216**	P	**Pn**	**08 12 29.2**	**-0.1**
SYZ	**Scrubby Hill**	**5.59**	**216**	P	**Pn**	**08 12 29.2**	**-0.1**
APZ	**The Paps**	**6.34**	**220**	P	**Pn**	**08 12 38.6**	**-1.1**
PYZ	**Puysegur Point**	**6.59**	**230**	P	**Pn**	**08 12 43.1**	**0.0**
OUZ	**Omahuta**	**6.88**	**358**	P	**Pn**	**08 12 49.2**	**+2.1**
OUZ	**Omahuta**	**6.88**	**358**	P	**Pn**	**08 12 49.0**	**+1.9**

*IDC **24** 08:13:40.1±4.9, 36.45N×71.01E, h216km±40km, mb3.2/6, mbtmp3.9/11, Error ellipse: s-maj=40.3km s-min=20.0km az=40.0*
*NNC **24** 08:13:42.9±2.1, 36.85N×70.67E, h190km±31km, mb3.2, mpv4.4, Error ellipse: s-maj=21.0km s-min=12.4km az=14.0*
ISC 24 08:13:38.4±0.8, 36.51N±0.06×70.8E±0.1, h200km, n30, σ1s26/34, mb3.4/6, 1C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.83**	**161**	P	**Pn**	**08 14 27.5**	**+1.2**
CEP				S	**Sn**	**08 15 03.0**	**-0.7**
CHCP	**Chirah Chowk**	**3.50**	**144**	P	**Pn**	**08 14 34.8**	**+0.7**
THW	**Thamme Wali**	**3.79**	**168**	P	**Pn**	**08 14 37.5**	**-0.2**
AML	**Almayashu**	**6.05**	**21**	P	**Pn**	**08 15 07.7**	**+1.0**
	SNR=105						
UCH	**Uchtor**	**6.41**	**26**	P	**Pn**	**08 15 12.1**	**+0.8**
	SNR=50						
EKS2	**Erkin-Say**	**6.57**	**20**	P	**Pn**	**08 15 14.5**	**+1.4**
	SNR=9.9						
KK31	**Karatay Array**	**6.59**	**358**	P	**Pn**	**08 15 13.7**	**+0.5**
	6.2nm,0.3s,baz=197,slow=16,SNR=219						
KK31				S	**Sn**	**08 16 25.1**	**-3.5**
	19nm,0.5s,baz=180,slow=16,SNR=12						
AAK	**Ala-Archa**	**6.76**	**24**	P	**Pn**	**08 15 16.9**	**+1.3**
	SNR=15						
AAK	**Ala-Archa**	**6.76**	**24**	P	**Pn**	**08 15 16.9**	**+1.3**
	16nm,0.5s,baz=189,slow=6.1,SNR=55						
AAK				S	**Sn**	**08 16 32.7**	**-0.1**
	13nm,0.6s,baz=152,slow=23,SNR=18						
KBK	**Karagaybulak**	**6.94**	**26**	P	**Pn**	**08 15 19.4**	**+1.6**
	SNR=12						
ULHL	**Ulahol**	**7.12**	**35**	P	**Pn**	**08 15 21.6**	**+1.2**
	SNR=12						
CHMS	**Chumysh**	**7.17**	**24**	P	**Pn**	**08 15 22.1**	**+1.3**
	SNR=11						
CHMS	**Chumysh**	**7.17**	**24**	⇓P	**Pn**	**08 15 21.4**	**+0.6**
	10nm,0.4s						
CHMS				⇑S	**Sn**	**08 16 40.3**	**-1.9**
	14nm,0.6s						
USP	**Ospenovka**	**7.33**	**22**	P	**Pn**	**08 15 23.6**	**+0.7**
	SNR=28						
TKM2	**Tokmak 2**	**7.40**	**29**	P	**Pn**	**08 15 25.2**	**+1.2**
	SNR=28						
TKM2	**Tokmak 2**	**7.40**	**29**	⇓P	**Pn**	**08 15 24.8**	**+0.8**
	19nm,0.5s						
MDOK	**Medeo**	**8.21**	**34**	P	**Pn**	**08 15 35.7**	**+1.2**
	13nm,0.6s						
MAKZ	**Makanchi**	**13.25**	**36**	⇓P	**P**	**08 16 42.2**	**+0.3**
	2.6nm,0.5s						
MK31	**Makanchi Array**	**13.39**	**36**	P	**P**	**08 16 42.3**	**-1.0**
	0.7nm,0.5s,baz=207,slow=12,SNR=12						
MKAR	**Makanchi Array**	**13.39**	**36**	P	**P**	**08 16 42.8**	**-0.6**
	0.8nm,0.5s,baz=206,slow=9.0,SNR=12						
AB31	**Akbulak array**	**14.99**	**332**	⇓P	**P**	**08 17 00.4**	**-0.6**
	0.4nm,0.4s,baz=143,slow=12,SNR=20						
KURBB	**Kurchatov Arra**	**15.18**	**19**	P	**P**	**08 17 02.4**	**-0.6**
	0.6nm,0.4s,baz=209,slow=9.6,SNR=7.9						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**Pn**	**08 17 20.3**	**+1.6**
	0.7nm,0.3s,baz=154,slow=8.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**19.98**	**25**	P	**P**	**08 17 56.6**	**+1.3**
	4.3nm,0.3s,baz=216,slow=11,SNR=16						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**08 20 32.9**	**+1.4**
	2.3nm,0.7s,baz=111,slow=10,SNR=6.3						
	2.3nm,0.7s						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**08 21 03.4**	**+1.4**
	2.8nm,0.8s,baz=116,slow=8.3,SNR=13						
	2.8nm,0.8s						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**08 21 28.7**	**+0.9**
	0.2nm,0.3s,baz=104,slow=7.3,SNR=1.3						
	0.2nm,0.3s						
INK	**Inuvik**	**73.93**	**9**	P	**P**	**08 24 50.2**	**-0.9**
	0.8nm,0.4s,baz=320,slow=4.1,SNR=9.8						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**82.15**	**122**	P	**P**	**08 25 35.8**	**-1.2**
	0.3nm,0.9s,baz=328,slow=4.9,SNR=6.8						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**84.41**	**125**	P	**P**	**08 25 47.4**	**-1.1**
	0.2nm,0.5s,baz=314,slow=4.7,SNR=4.2						
	0.2nm,0.5s						

*TUL **24** 08:18:29.6±0.5, 36.214N±0.010×96.98W±0.02, h5km±4km, ML3.5, mb_Lg3.3/81(NEIC), Error ellipse: s-maj=2.3km s-min=1.2km az=111.0*
*NEIC **24** 08:18:30.3±0.5, 36.207N±0.008×96.97W±0.02, h4km±4km, Error ellipse: s-maj=2.3km s-min=1.1km az=107.0*
*ANF **24** 08:18:30.1±0.3, 36.21N×96.98W, h5km, ML3.8/15, Error ellipse: s-maj=3.9km s-min=3.2km az=11.0*
ISC 24 08:18:30.1±1.0, 36.22N±0.02×96.99W±0.02, h7km±8km, n95, σ0s55/68, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK033	**Mehan**	**0.18**	**167**	Pg	**Pg**	**08 18 33.4**	**-0.3**
OK033				Sg	**Sg**	**08 18 36.1**	**-0.1**
OK050	**Pawnee Station**	**0.18**	**2**		**Pg**	**08 18 33.6**	**-0.1**
OK046	**Pawnee Station**	**0.19**	**20**	Pg	**Pg**	**08 18 33.9**	**-0.1**
OK046				Sg	**Sg**	**08 18 36.8**	**+0.1**
OK048	**Pawnee Station**	**0.20**	**10**		**Pg**	**08 18 34.0**	**-0.2**
OK048				Sg	**Sg**	**08 18 37.1**	**+0.1**
OK044	**Pawnee Station**	**0.22**	**45**		**Pg**	**08 18 34.4**	**-0.1**
OK044				Sg	**Sg**	**08 18 37.5**	**0.0**
OK045	**Pawnee Station**	**0.24**	**13**	Pg	**Pg**	**08 18 34.7**	**-0.1**
OK052	**Battle Ridge R**	**0.27**	**146**	Pg	**Pg**	**08 18 35.1**	**-0.2**
OK034	**N. Norfolk Rd.**	**0.30**	**133**	Pg	**Pg**	**08 18 35.8**	**-0.2**
OK030	**Cody Creek RV**	**0.33**	**150**		**Pg**	**08 18 36.4**	**-0.2**
DEOK	**Depew**	**0.55**	**133**	Pg	**Pg**	**08 18 40.3**	**-0.4**
OK029	**Liberty Lake**	**0.56**	**222**	Pg	**Pg**	**08 18 40.7**	**-0.3**
BLOK	**Blackwell**	**0.57**	**341**	Pg	**Pg**	**08 18 41.0**	**-0.2**
OK005	**Luther M Schoo**	**0.58**	**196**	Pg	**Pg**	**08 18 41.2**	**-0.2**
OK025	**Westminster Rd**	**0.69**	**204**	Pg	**Pg**	**08 18 43.1**	**-0.3**
BCOK	**Bluff Creek, N**	**0.75**	**222**	Pg	**Pg**	**08 18 44.1**	**-0.5**
T35A	**Sooner Cattle**	**0.80**	**29**	Pg	**Pg**	**08 18 44.9**	**-0.5**
T35B	**Sooner Cattle**	**0.80**	**29**	P	**Pg**	**08 18 44.9**	**-0.5**
	baz=208						
KAN13	**South Haven SW**	**0.89**	**334**		**Pg**	**08 18 46.7**	**-0.5**
GC02	**Grant County #**	**0.95**	**312**	Pg	**Pg**	**08 18 47.7**	**-0.6**
FNO	**Franklin**	**1.01**	**199**	Pg	**Pg**	**08 18 48.4**	**-1.1**
TUL1	**Leonard**	**1.02**	**107**		**Pg**	**08 18 48.5**	**-1.1**
TUL1	**Leonard**	**1.02**	**107**	P	**Pg**	**08 18 48.6**	**-1.1**
	baz=288						
TUL1				S	**Sg**	**08 19 01.9**	**-0.9**
	baz=288						
KAN17	**Caldwell West**	**1.04**	**323**		**Pg**	**08 18 49.4**	**-0.6**
KS20	**Mayfield South**	**1.11**	**336**		**Pg**	**08 18 50.7**	**-0.7**
KAN01	**Argonia South**	**1.12**	**327**		**Pg**	**08 18 50.9**	**-0.8**
KAN05	**Bluff City Nor**	**1.14**	**322**		**Pg**	**08 18 51.4**	**-0.5**
OK032	**Salt Plains WL**	**1.15**	**301**		**Pg**	**08 18 51.2**	**-0.9**
KAN08	**Anthony NE Sta**	**1.28**	**322**		**Pn**	**08 18 53.8**	**-0.6**
KAN12	**Harper NE Stat**	**1.35**	**323**		**Pn**	**08 18 55.0**	**-0.3**
OK038	**West end E0370**	**1.44**	**281**		**Pn**	**08 18 55.8**	**-0.8**
CSTR	**Hydro, Custer**	**1.49**	**248**		**Pn**	**08 18 56.9**	**-0.4**
RLO	**Rose Lookout**	**1.59**	**91**		**Pn**	**08 18 57.7**	**-0.9**
U32A	**Winter Ranch,**	**1.63**	**276**		**Pn**	**08 18 59.6**	**+0.3**
U32A	**Winter Ranch,**	**1.63**	**276**	P	**Pn**	**08 18 59.6**	**+0.3**
	baz=95						
U32A				S	**Sb**	**08 19 22.0**	**+0.6**
	baz=95						
X34A	**Smith Ranch, M**	**1.75**	**203**		**Pn**	**08 19 01.4**	**+0.5**
X34A				IAmb_Lg		08 19 29.2	
	comp=Z,152nm,0.9s						
ELIS	**Ellis County**	**1.97**	**266**	Pn	**Pn**	**08 19 04.7**	**+0.7**
ELIS				IAmb_Lg		08 19 31.7	
	comp=Z,33nm,0.7s						
WMOK	**Wichita Mounta**	**2.08**	**225**		**Pn**	**08 19 06.2**	**+0.8**
WMOK	**Wichita Mounta**	**2.08**	**225**	P	**Pn**	**08 19 06.1**	**+0.7**
	baz=44						
WMOK				S	**Sb**	**08 19 34.4**	**+0.2**
	baz=44						
X37A	**Clayton**	**2.09**	**140**		**Pn**	**08 19 06.3**	**+0.7**
X37A	**Clayton**	**2.09**	**140**	P	**Pn**	**08 19 06.2**	**+0.7**
	baz=322						
U38A	**Gravette**	**2.11**	**83**		**Pn**	**08 19 06.3**	**+0.5**
U38A	**Gravette**	**2.11**	**83**	P	**Pn**	**08 19 06.5**	**+0.6**
	baz=265						
U38A				S	**Sb**	**08 19 35.8**	**+0.7**
	baz=265						
LOOK	**Love County**	**2.22**	**184**		**Pn**	**08 19 08.3**	**+0.9**
LOOK				IAmb_Lg		08 19 42.5	
	comp=Z,59nm,0.7s						
HHAR	**Hobbs**	**2.46**	**88**		**Pn**	**08 19 10.5**	**-0.2**
HHAR	**Hobbs**	**2.46**	**88**	P	**Pn**	**08 19 11.2**	**+0.5**
	baz=269						
R32A	**Long Quarter,**	**2.59**	**329**	P	**Pn**	**08 19 13.1**	**+0.6**
	baz=148						
Z35A	**Perchaven, San**	**2.89**	**184**	P	**Pn**	**08 19 17.1**	**+0.6**
	baz=4.3						
KSU1	**Kansas State U**	**2.90**	**6**	P	**Pn**	**08 19 17.2**	**+0.6**
	baz=186						
MIAR	**Mount Ida**	**3.25**	**120**		**Pn**	**08 19 21.7**	**+0.3**
MIAR	**Mount Ida**	**3.25**	**120**	P	**Pn**	**08 19 21.9**	**+0.4**
	baz=302						
S39A	**Bolivar**	**3.28**	**62**	IAmb_Lg		08 20 18.9	
	comp=Z,74nm,0.8s						
S39A	**Bolivar**	**3.28**	**62**	P	**Pn**	**08 19 22.8**	**+0.8**
	baz=244						
Z38A	**Mt. Pleasant**	**3.38**	**150**	Pn	**Pn**	**08 19 22.8**	**-0.4**
CBKS	**Cedar Bluff**	**3.39**	**321**	IAmb_Lg		08 20 26.3	
	comp=Z,62nm,0.9s						
CBKS	**Cedar Bluff**	**3.39**	**321**	S	**Sn**	**08 20 04.4**	**+0.5**
	baz=139						
MGMO	**Mountain Grove**	**3.91**	**75**	IAmb_Lg		08 20 36.7	
	comp=Z,106nm,0.7s						
WHAR	**Wooly Hollow**	**3.93**	**102**	IAmb_Lg		08 20 34.7	
	comp=Z,45nm,0.7s						
FCAR	**Ozark Folk Cen**	**3.96**	**93**	IAmb_Lg		08 20 36.9	
	comp=Z,64nm,0.7s						
AMTX	**Amarillo**	**4.05**	**252**	IAmb_Lg		08 20 46.6	
	comp=Z,50nm,0.7s						
WLAR	**White Oak Lake**	**4.06**	**127**	IAmb_Lg		08 20 36.3	
	comp=Z,45nm,1.0s						
WHTX	**Lake Whitney,**	**4.23**	**185**	P	**Pn**	**08 19 35.2**	**+0.2**
	baz=5.2						
R40A	**Maddies Statio**	**4.30**	**60**	Pn	**Pn**	**08 19 36.3**	**+0.4**
R40A				IAmb_Lg		08 20 55.0	
	comp=Z,43nm,0.7s						
237A	**Washetta, Mont**	**4.32**	**167**	Pn	**Pn**	**08 19 35.7**	**-0.4**
237A	**Washetta, Mont**	**4.32**	**167**	S	**Sn**	**08 20 26.7**	**0.0**
	baz=347						
LCAR	**Lake Charles**	**4.72**	**90**	IAmb_Lg		08 21 04.5	
	comp=Z,37nm,0.8s						
N35A	**Tabor**	**4.76**	**12**		**Pn**	**08 19 42.0**	**-0.2**
N35A	**Tabor**	**4.76**	**12**	P	**Pn**	**08 19 42.2**	**0.0**
	baz=193						
NATX	**Nacogdoches**	**4.85**	**156**	IAmb_Lg		08 21 15.7	
	comp=Z,34nm,0.8s						
CCM	**Cathedral Cave**	**4.94**	**66**	IAmb_Lg		08 21 04.3	
	comp=Z,82nm,0.8s						
P40A	**Paris**	**5.12**	**48**	IAmb_Lg		08 21 09.2	
	comp=Z,71nm,0.8s						
BGNE	**Belgrade**	**5.26**	**350**	Pn	**Pn**	**08 19 49.0**	**-0.2**
BGNE				IAmb_Lg		08 21 24.0	
	comp=Z,37nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.27**	**304**	IAmb_Lg		08 21 31.7	
	comp=Z,39nm,0.8s						
PBMO	**Poplar Bluff**	**5.31**	**

KURK					⇑Sn		Sn	08 26 44.4	+1.5
	comp=Z,7.3nm,0.9s								
KURK					⇑Lg		Lg	08 27 28.2	
	comp=Z,57nm,1.1s								
KURK	**Kurchatov**	**8.19**	**253**		P		**Pn**	**08 25 12.0**	**+2.3**
KURK								08 26 43.3	
KURBB	**Kurchatov Arra**	**8.29**	**253**		Pn		**Pn**	**08 25 12.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=15								
KURBB					Sn		**Sn**	**08 26 43.3**	**-1.9**
	baz=67,slow=24,SNR=1.3								
KURBB					Lg		Lg	08 27 33.7	
	comp=Z,0.1nm,0.3s,baz=68,slow=33,SNR=9.9								
	comp=Z,3.6nm,0.7s								
MK31	**Makanchi Array**	**8.91**	**222**	⇓	Pn		**Pn**	**08 25 21.2**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=42,slow=14,SNR=6.7								
MK31					⇑Sn		**Sn**	**08 26 59.7**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=48,slow=24,SNR=3.7								
MK31					⇑Lg		Lg	08 27 50.3	
	comp=Z,24nm,1.1s,baz=37,slow=28,SNR=2.8								
MK31	**Makanchi Array**	**8.91**	**222**	*i*	P		**Pn**	**08 25 19.1**	**-0.5**
MKAR	**Makanchi Array**	**8.91**	**222**		Pn		**Pn**	**08 25 20.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=41,slow=14,SNR=8.7								
MKAR					Sn		**Sn**	**08 27 02.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=24,slow=25,SNR=2.8								
MKAR					Lg		Lg	08 27 49.7	
	comp=Z,0.1nm,0.3s,baz=34,slow=22,SNR=6.1								
	comp=Z,0.9nm,0.6s								
MKAR	**Makanchi Array**	**8.91**	**222**	*i*	P		**Pn**	**08 25 21.6**	**+2.0**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
MAKZ	**Makanchi**	**9.03**	**224**	⇓	Sn		**Sn**	**08 27 03.9**	**+0.5**
	comp=Z,3.2nm,0.8s								
MAKZ					⇑Lg		Lg	08 27 54.0	
	comp=Z,20nm,1.3s								
SONM	**Songino Array**	**11.37**	**115**		Lg		Lg	08 29 11.4	
	comp=Z,0.2nm,0.3s,baz=305,slow=31,SNR=8.6								
I34MN	**SONGINO INFRAS**	**11.39**	**115**		I			09 31 10.0	
	baz=310,slow=328,SNR=2.6								
BRVK	**Borovoye**	**12.40**	**275**	*i*	P		**Pn**	**08 26 06.7**	**-0.5**
AAK	**Ala-Archa**	**15.60**	**231**	*i*	P		**Pn**	**08 26 52.4**	**+1.6**
NRIK	**Noril'sk**	**15.75**	**355**	*i*	P		**Pn**	**08 26 50.9**	**-1.6**
NRIK					pmax		pmax		
	comp=Z,7.0nm,1.5s								
ARU	**Arti**	**18.69**	**291**		P		**Pn**	**08 27 31.0**	**+1.6**
ARU					S		**S**	**08 31 04.0**	**+1.5**
ZEA	**Zeya**	**21.29**	**75**	*i*	P		**P**	**08 27 59.9**	**+2.5**
TIXI	**Tiksi**	**24.28**	**28**	*i*	P		**P**	**08 28 28.0**	**-0.1**
TIXI					pmax		pmax		
	comp=Z,1.0nm,1.0s								
KLR	**Kul'dur**	**25.50**	**83**	*i*	P		**P**	**08 28 38.6**	**-0.7**
KLR					pmax		pmax		
	comp=Z,2.0nm,1.2s								

*OTT **24** 08:30:15.7±0.2,72°.22N×72°.62W,h18km,MN3.7/5,*
189km east from Pond Inlet, Nu Eastern Arctic
Background Seismic Zone.
*DNK **24** 08:30:19.2±2.2,72°.35N×72°.76W,h32km±79km,ML2.0*
ISC 24 08:30:11.8±0.9,72°.22N±0.05×72°.63W±0.06,h10km,n12,
σ3.13/24,Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLRN	**Clyde River**	**2.19**	**142**	PN		**Pn**	**08 30 50.7**	**+2.6**
CLRN				SN		**Sn**	**08 31 17.1**	**+1.9**
CLRN				Trac			08 31 23.4	
	comp=Z,136nm,0.2s							
CLRN				LG		Lg	08 31 23.8	
ILON	**Igloolik, Nuna**	**4.17**	**231**	PN		**Pn**	**08 31 18.2**	**+2.9**
ILON				SN		**Sn**	**08 32 05.0**	**+0.9**
ILON				Trac			08 32 22.6	
	comp=Z,203nm,0.3s							
ILON				LG		Lg	08 32 25.9	
TULEG	**Thule**	**4.46**	**12**	*e*		**Pn**	**08 31 20.9**	**+1.7**
	baz=199,slow=12							
TULEG				*i*	P	Pb	08 31 21.6	-8.4
TULEG				*i*	S	**Sn**	**08 32 08.8**	**-2.2**
TULEG				IAML			08 32 10.8	
	comp=Z,20nm,0.4s							
KULLO	**Kullorsuaq**	**5.00**	**55**	*i*	P	**Pn**	**08 31 30.0**	**+3.2**
KULLO				*i*	S	**Sn**	**08 32 23.7**	**-0.8**
KULLO				IAML			08 32 26.7	
	comp=Z,6.9nm,0.4s							
KULLO	**Kullorsuaq**	**5.00**	**55**	PN		**Pn**	**08 31 30.0**	**+3.2**
KULLO				SN		**Sn**	**08 32 23.9**	**-0.6**
KULLO				Trac			08 32 28.0	
	comp=Z,2.7nm,0.1s							
UPNV	**Upernavik**	**5.00**	**76**	*e*	P	**Pn**	**08 31 30.2**	**+3.4**
UPNV				*i*	S	**Sn**	**08 32 24.4**	**-0.2**
UPNV				IAML			08 32 27.8	
	comp=Z,5.3nm,0.3s							
RES	**Resolute Bay**	**6.79**	**302**	PN		**Pn**	**08 31 52.5**	**+1.3**
RES				SN		**Sn**	**08 33 07.4**	**-1.1**
RES				LG		Lg	08 33 48.7	
RES				Trac			08 33 57.2	
	comp=Z,43nm,0.8s							
NEEM	**North Greenlan**	**7.65**	**37**	*i*	P	**Pn**	**08 32 06.8**	**+3.5**
NEEM				*i*	S	**Sn**	**08 33 29.9**	**-0.1**
EUNU	**Eureka**	**8.49**	**344**	PN		**Pn**	**08 32 17.2**	**+2.6**
EUNU				SN		**Sn**	**08 33 45.9**	**-4.5**
EUNU				Trac			08 33 50.5	
	comp=Z,58nm,2.1s							
FRB	**Frobisher Bay**	**8.65**	**168**	PN		**Pn**	**08 32 18.6**	**+1.8**
FRB				SN		**Sn**	**08 33 50.1**	**-4.1**
FRB				LG		Lg	08 34 45.0	
FRB				Trac			08 34 58.5	
	comp=Z,54nm,0.8s							
SUMG	**Summit**	**10.26**	**72**	*i*	P	**Pn**	**08 32 42.5**	**+3.3**
SUMG				*i*	S	**Sn**	**08 34 28.8**	**-5.4**
SUMG				IAML			08 34 31.5	
	comp=Z,1.5nm,0.3s							
KNGQ	**Kangiqsujuaq**	**10.69**	**178**	PN		**Pn**	**08 32 45.4**	**+0.7**
KNGQ				SN		**Sn**	**08 34 37.9**	**-6.4**
KNGQ				LG		Lg	08 35 45.7	
KNGQ				Trac			08 35 48.1	
	comp=Z,78nm,0.9s							

*DNK **24** 08:37:18.7±6.0,79°.44N×4°.10E,h13km±80km,ML1.9*
*NAO **24** 08:37:20.9±7.3,79°.45N×3°.57E,h23km±59km,ML3.7*
*BER **24** 08:37:20.4±2.0,79°.22N×3°.40E,h10km,ML3.2,*
ML3.7(NAO),Confirmed Earthquake
*IDC **24** 08:37:21.4±0.9,79°.25N×3°.52E,h0km,mb3.8/11,*
mbtmp3.9/15,ML3.2/3,MS3.3/26,Error ellipse:
s-maj=21.3km s-min=12.9km az=37.0
ISC 24 08:37:19.2±2.7,79°.18N±0°.06×3°.33E±0°.04,h11km±18km,
n64,σ2.97/61,mb3.8/10,MS3.2/21,2D,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**1.67**	**95**	PN		**Pb**	**08 37 47.7**	**-2.1**
KBS				Lg		Lg	08 38 05.7	
KBS	**Kingsbay**	**1.67**	**95**	*i*	P	**Pb**	**08 37 47.6**	**-2.1**
KBS				*i*	S	**Sn**	**08 38 05.7**	**-3.9**
KBS	**Kingsbay**	**1.67**	**95**	⇓	*i*P	**Pb**	**08 37 47.7**	**-2.1**
KBS				*e*	S	**Sn**	**08 38 05.9**	**-3.7**
KBS				IAML			08 38 08.9	
	comp=Z,363nm,0.4s							
BRBB	**Barentsburg B**	**2.41**	**111**	Pn		**Pn**	**08 37 58.7**	**+0.1**
BRBB				SN		**Sn**	**08 38 25.7**	**-2.3**
BRBB	**Barentsburg B**	**2.41**	**111**	*e*	P	**Pb**	**08 37 58.8**	**-3.7**
BRBB				*e*	S	**Sn**	**08 38 25.7**	**-2.3**
BRBA	**Barentsburg A**	**2.43**	**112**	Pn		**Pb**	**08 37 59.2**	**-3.7**
BRBA				SN		**Sn**	**08 38 27.2**	**-1.3**
BRBA	**Barentsburg A**	**2.43**	**112**	*e*	P	**Pb**	**08 37 59.3**	**-3.6**
BRBA				*e*	S	**Sn**	**08 38 26.1**	**-2.4**
BRBA				IAML			08 38 29.7	
	comp=Z,368nm,0.5s							
SPA0	**Spitsbergen Ar**	**2.76**	**105**	Pn		**Pb**	**08 38 04.1**	**-4.3**
	baz=291,slow=7.9							
SPA0				SN		**Sn**	**08 38 34.4**	**-2.3**
	baz=288,slow=22							
SPA0	**Spitsbergen Ar**	**2.76**	**105**	⇓	*i*P	**Pn**	**08 38 04.0**	**+0.7**
SPA0				*e*	S	**Sn**	**08 38 34.2**	**-2.5**
SPA0				IAML			08 38 41.4	
	comp=Z,256nm,0.5s							
SPITS	**Spitsbergen Ar**	**2.76**	**105**	Pn		**Pn**	**08 38 04.0**	**+0.7**
	comp=Z,132nm,0.3s,baz=285,slow=9.4,SNR=974							
SPITS				SN		**Sn**	**08 38 37.7**	**+1.0**
	baz=329,slow=2.9							
HSPB	**Hornsund (broa**	**3.34**	**125**	Pn		**Pn**	**08 38 11.9**	**+0.7**
HSPB				SN		**Sn**	**08 38 47.8**	**-3.0**
HSPB	**Hornsund (broa**	**3.34**	**125**	*e*	P	**Pn**	**08 38 12.0**	**+0.7**
HSPB				*e*	S	**Sn**	**08 38 47.6**	**-3.2**
HSPB				IAML			08 38 50.8	
	comp=Z,84nm,0.4s							
NOR	**Nord**	**4.12**	**316**	Pn		**Pn**	**08 38 21.2**	**-0.7**
NOR				SN		**Sn**	**08 39 06.5**	**-3.5**
NOR	**Nord**	**4.12**	**316**	*i*	P	**Pn**	**08 38 20.0**	**-2.0**
NOR				*i*	S	**Sn**	**08 39 06.3**	**-3.6**
NOR				IAML			08 39 13.9	
	comp=Z,7.2nm,0.8s							
NOR	**Nord**	**4.12**	**316**	*e*	P	**Pn**	**08 38 20.9**	**-1.1**
NOR				*e*	S	**Sn**	**08 39 06.0**	**-3.9**
DAG	**Danmarks Havn**	**5.16**	**253**	*i*	P	**Pn**	**08 38 36.3**	**0.0**
DAG	**Danmarks Havn**	**5.16**	**253**	*e*	P	**Pn**	**08 38 36.9**	**+0.6**
DAG				*e*	S	**Sn**	**08 39 30.1**	**-5.7**
HOPEN	**Hopen**	**5.28**	**109**	Pn		**Pn**	**08 38 37.6**	**-0.2**
HOPEN				SN		**Sn**	**08 39 34.3**	**-4.2**
HOPEN	**Hopen**	**5.28**	**109**	*e*	P	**Pn**	**08 38 37.9**	**0.0**
HOPEN				*e*	S	**Sn**	**08 39 34.1**	**-4.4**
HOPEN				IAML			08 39 36.4	
	comp=Z,87nm,0.4s							
DBG	**Daneborg**	**7.22**	**240**	Pn		**Pn**	**08 39 04.8**	**+0.2**
DBG				SN		**Sn**	**08 40 20.8**	**-5.7**
DBG	**Daneborg**	**7.22**	**240**	*i*	P	**Pn**	**08 39 05.5**	**+1.0**
DBG	**Daneborg**	**7.22**	**240**	*e*	P	**Pn**	**08 39 06.6**	**+2.0**
NEEM	**North Greenlan**	**10.81**	**288**	*i*	P	**Pn**	**08 39 51.4**	**-2.5**
KIF	**Kilpisjarvi**	**11.20**	**146**	Pn		Pn	08 40 03.3	+4.3
KEV	**Kevo**	**11.24**	**134**	Pn		**Pn**	**08 40 01.5**	**+2.0**
KEV	**Kevo**	**11.24**	**134**	Pn		**Pn**	**08 40 01.5**	**+2.0**
ARA0	**ARCESS Array S**	**11.25**	**137**	Pn		**Pn**	**08 40 01.1**	**+1.4**
	baz=348,slow=14							
ARA0				SN		**Sn**	**08 41 58.5**	**-6.7**
	baz=350,slow=22							
ARA0	**ARCESS Array S**	**11.25**	**137**	Pn		**Pn**	**08 40 01.1**	**+1.4**
	slow=14							
ARA0				SN		**Sn**	**08 41 58.5**	**-6.7**
	slow=22							
ARCES	**ARCESS Array B**	**11.25**	**137**	Pn		**Pn**	**08 40 00.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=11							
ARCES				SN		**Sn**	**08 42 02.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=168,slow=35,SNR=1.6							
ARCES				LR		LR	08 44 06.1	
	comp=Z,102nm,20.9s,baz=345,slow=36							
	comp=Z,3.9nm,0.8s							
SUMG	**Summit**	**11.82**	**259**	*i*	P	**Pn**	**08 40 08.3**	**+0.6**
APA0	**Apatity Array**	**14.08**	**129**	Pn		**Pn**	**08 40 37.4**	**-0.9**
	baz=342,slow=16							
APA0	**Apatity Array**	**14.08**	**129**	Pn		**Pn**	**08 40 37.4**	**-0.9**
	slow=16							
TULEG	**Thule**	**14.48**	**297**	*i*	P	Pn	08 40 38.2	-5.5
NOA	**NORSAR Array B**	**18.39**	**168**	LR		LR	08 47 29.6	
	comp=Z,51nm,21.0s,baz=350,slow=33							
SFJD	**Kangerlussuaq**	**18.80**	**260**	LR		LR	08 49 09.7	
	comp=Z,93nm,18.0s,baz=342,slow=38							
FIA0	**FINESS Array S**	**19.10**	**145**	P		**Pn**	**08 41 42.4**	**0.0**
FINES	**FINESS Array B**	**19.10**	**145**	P		**Pn**	**08 41 45.0**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=359,slow=10.0,SNR=8.3							
FINES				LR		LR	08 49 02.3	
	comp=Z,59nm,19.9s,baz=16,slow=37							
	comp=Z,2.1nm,0.5s							
HFS	**Hagfors**	**19.41**	**164**	P		**Pn**	**08 41 49.2**	**+3.1**
	slow=7.9							
HFS	**Hagfors**	**19.41**	**164**	P		**Pn**	**08 41 49.1**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=15,slow=6.9,SNR=7.2							
HFS				LR		LR	08 48 12.4	
	comp=Z,78nm,18.2s,baz=34,slow=33							
	comp=Z,3.4nm,0.6s							
RES	**Resolute Bay**	**20.03**	**310**	P		Pn	08 41 53.3	0.0
	comp=Z,1.9nm,0.6s,baz=28,slow=10,SNR=2.9							
RES				LR		LR	08 49 28.6	
	comp=Z,86nm,20.7s,baz=60,slow=36							
	comp=Z,1.9nm,0.6s							
NRIK	**Noril'sk**	**22.36**	**68**	P		**P**	**08 42 19.6**	**+2.9**
	comp=Z,2.6nm,0.3s,baz=351,slow=10.0,SNR=5.3							
NRIK				LR		LR	08 53 29.8	
	comp=Z,39nm,18.9s,baz=330,slow=43							
	comp=Z,2.6nm,0.3s							
EKA	**Eskdalemuir Ar**	**24.05**	**189**	P		P	08 42 40.1	+6.2
	comp=Z,0.4nm,0.4s,baz=87,slow=17,SNR=1.6							
	comp=Z,0.4nm,0.4s							
FRB	**Frobisher Bay**	**25.09**	**275**	LR		LR	08 52 43.9	
	comp=Z,64nm,18.2s,baz=346,slow=37							
ARU	**Arti**	**28.79**	**109**	LR		LR	08 56 23.2	
	comp=Z,54nm,18.1s,baz=250,slow=40							
AKASG	**Malin Array Be**	**30.01**	**146**	P		**P**	**08 43 30.4**	**+2.9**
	comp=Z,1.0nm,0.6s,baz=349,slow=9.2,SNR=5.9							
AKASG				LR		LR	08 55 23.5	
	comp=Z,59nm,21.5s,baz=16,slow=36							
	comp=Z,1.0nm,0.6s							
VRAC	**Vranov**	**30.37**	**163**	LR		LR	08 55 04.9	
	comp=Z,34nm,19.9s,baz=320,slow=35							
INK	**Inuvik**	**30.64**	**330**	LR		LR	08 58 12.3	
	comp=Z,22nm,18.0s,baz=311,slow=41							
BELG	**Belogornoye**	**30.81**	**123**	LR		LR	08 56 23.6	
	comp=Z,44nm,18.7s,baz=139,slow=37							
DAVOX	**Davos/Dischmat**	**32.61**	**172**	LR		LR	08 56 20.8	
	comp=Z,45nm,19.7s,baz=278,slow=35							
BVAR	**Borovoye Array**	**34.20**	**98**	P		**P**	**08 44 07.5**	**+3.4**
	comp=Z,1.7nm,0.7s,baz=338,slow=9.3,SNR=8.6							
BVAR				LR		LR	09 01 19.6	
	comp=Z,67nm,18.1s,baz=337,slow=42							
	comp=Z,1.7nm,0.7s							
MLR	**Muntele Rosu**	**34.85**	**152**	LR		LR	08 58 54.2	
	comp=Z,67nm,18.3s,baz=348,slow=37							
ILAR	**Eielson Array**	**35.22**	**338**	P		P	08 44 17.6	+4.7
	comp=Z,0.6nm,1.0s,baz=354,slow=7.8,SNR=4.3							
ILAR				LR		LR	08 59 42.4	
	comp=Z,43nm,18.6s,baz=312,slow=38							
	comp=Z,0.6nm,1.0s							
KURBB	**Kurchatov Arra**	**38.02**	**91**	P		P	08 44 40.7	+3.9
	comp=Z,1.8nm,0.8s,baz=338,slow=7.9,SNR=15							
	comp=Z,1.8nm,0.8s							
KBZ	**Khabaz**	**38.56**	**132**	P		P	08 44 47.0	+5.7
	comp=Z,2.0nm,0.7s,baz=6.8,slow=7.0,SNR=3.8							
KBZ				LR		LR	09 01 28.7	
	comp=Z,27nm,18.1s,baz=21,slow=38							
	comp=Z,2.0nm,0.7s							
DLBC	**Dease Lake**	**39.92**	**323**	LR		LR	09 02 35.4	
	comp=Z,54nm,19.2s,baz=220,slow=38							
BRTR	**Keskin Array B**	**41.33**	**144**	P		P	08 45 09.2	+4.5
	comp=Z,1.0nm,0.7s,baz=7.4,slow=5.9,SNR=4.5							
BRTR				LR		LR	09 03 37.1	
	comp=Z,32nm,19.0s,baz=324,slow=38							
	comp=Z,1.0nm,0.7s							
GNI	**Garni**	**42.33**	**131**	LR		LR	09 03 51.1	
	comp=Z,31nm,20.2s,baz=335,slow=38							
MKAR	**Makanchi Array**	**42.41**	**89**	P		**P**	**08 45 16.8**	**+3.5**
	comp=Z,0.9nm,0.6s,baz=336,slow=7.4,SNR=11							
	comp=Z,0.9nm,0.6s							
AAK	**Ala-Archa**	**44.95**	**99**	LR		LR	09 06 57.4	
	comp=Z,25nm,20.0s,baz=343,slow=40							
NEW	**Newport**	**48.19**	**309**	LR		LR	09 06 32.9	
	comp=Z,66nm,19.6s,baz=14,slow=36							
EIL	**Elat**	**51.42**	**144**	LR		LR	09 12 37.4	
	comp=Z,22nm,18.3s,baz=256,slow=41							
TKL	**Tuckaleechee C**	**54.71**	**275**	LR		LR	09 09 42.2	
	comp=Z,51nm,19.0s,baz=0.5,slow=36							
WSAR	**Wadi Sarin**	**61.04**	**120**	LR		LR	09 17 26.9	
	comp=Z,24nm,18.1s,baz=170,slow=39							
TXAR	**Lajitas Array**	**64.51**	**292**	P		**P**	**08 47 58.6**	**+2.9**
	comp=Z,0.4nm,0.6s,baz=26,slow=4.5,SNR=6.6							
	comp=Z,0.4nm,0.6s							

*VAO **24** 08:37:27.7±0.5,7°.57N×73°.44W,h151km,mb4.1*
*NEIC **24** 08:37:28.9±1.7,7°.55N±0°.06×73°.28W±0°.07,h153km±13km,*
mb4.4/15,ML4.0(RSNC),Error ellipse: s-maj=12.4km
s-min=2.6km az=130.0
*RSNC **24** 08:37:30.6±0.9,7°.46N×73°.19W,h135km±4km,ML4.0,*
Mw4.2,Fault plane solution: NP1:φ±0.00000°,δ48.00000°,
λ58.00000°.
*IDC **24** 08:37:30.8±0.8,7°.38N×72°.97W,h154km±7km,mb3.6/11,*
mbtmp4.2/15,Error ellipse: s-maj=13.6km s-min=7.1km
az=121.0
ISC 24 08:37:29.1±0.6,7°.49N±0°.03×73°.17W±0°.03,h141km±5km,
n112,σ1.65/147,mb4.2/17,3C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAMC	**Pamplona, Colo**	**0.49**	**108**	*i*	P	**Pn**	**08 37 50.9**	**+0.9**
PAMC				*e*	S	**Sn**	**08 38 06.1**	**+0.3**
PAMC				IAML			08 38 08.4	
	comp=Z,6μm,0.8s							
BRRC	**Barranca, Sant**	**0.66**	**234**	⇑	*i*P	**Pn**	**08 37 50.7**	**+0.4**
BRRC				*e*	S	**Sn**	**08 38 05.9**	**-0.6**
BRRC				IAML			08 38 09.1	
	comp=Z,3μm,0.3s							
BARC	**Barichara**	**0.89**	**180**	⇑	*i*P	**Pn**	**08 37 52.6**	**+0.2**
BARC				*e*	S	**Sn**	**08 38 09.2**	**-1.0**
BARC				IAML			08 38 10.9	
	comp=Z,2μm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.58**	**233**	*e*	P	**Pn**	**08 37 58.8**	**-0.2**
PTBC				*e*	S	**Sn**	**08 38 20.9**	**-0.9**
PTBC				IAML			08 38 24.6	
	comp=Z,1μm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.67**	**270**	⇓	*e*P	**Pn**	**08 38 00.6**	**+0.7**
ZARC				*e*	S	**Sn**	**08 38 23.9**	**+0.5**
ZARC				IAML			08 38 28.6	
	comp=Z,2μm,0.5s							
TAMC	**Tame, Arauca**	**1.73**	**127**	⇓	*i*P	**Pn**	**08 38 01.6**	**+1.0**
TAMC				*e*	S	**Sn**	**08 38 25.0**	**+0.3**
TAMC				IAML			08 38 31.2	
	comp=Z,680nm,0.4s							
LL1C	**La Loma 1 Cana**	**2.07**	**350**	*e*	P	**Pn**	**08 38 07.5**	**+2.9**
LL1C				*e*	S	**Sn**	**08 38 35.7**	**+3.8**
LL1C				IAML			08 38 37.3	
	comp=Z,1μm,0.4s							
LL5C	**La Loma 5 El P**	**2.31**	**346**	*e*	P	**Pn**	**08 38 09.1**	**+1.6**
LL5C				*e*	S	**Sn**	**08 38 38.9**	**+1.9**
LL5C				IAML			08 38 42.0	
	comp=Z,577nm,0.3s							
UREC	**San Jos de Ur**	**2.35**	**276**	⇓	*e*P	**Pn**	**08 38 07.5**	**-0.5**
UREC				*e*	S	**Sn**	**08 38 36.3**	**-1.6**
UREC				IAML			08 38 46.8	
	comp=Z,1μm,0.3s							
NORC	**Norcasia**	**2.55**	**221**	*e*	P	**Pn**	**08 38 11.0**	**+0.5**
NORC				*e*	S	**Sn**	**08 38 42.2**	**-0.2**
NORC				IAML			08 38 49.7	
	comp=Z,1μm,0.9s							
ARGC	**Ariguani, Magd**	**2.58**	**336**	*e*	P	**Pn**	**08 38 13.0**	**+2.2**
ARGC				*e*	S	**Sn**	**08 38 45.1**	**+2.1**
ARGC				IAML			08 38 50.0	
	comp=Z,205nm,0.3s							
ROSC	**El Rosal**	**2.87**	**203**	P		**Pn**	**08 38 17.3**	**+2.4**
	comp=Z,99nm,0.3s,baz=293,slow=4.5,SNR=74							
ROSC				S		**Sn**	**08 38 53.3**	**+3.2**
	comp=Z,395nm,0.4s,baz=18,slow=23,SNR=7.5							
ROSC	**El Rosal**	**2.87**	**203**			**Pn**	**08 38 15.9**	**+1.1**
ROSC	**El Rosal**	**2.87**	**203**	*e*	P	**Pn**	**08 38 17.0**	**+2.1**
ROSC				*e*	S	**Sn**	**08 38 51.9**	**+1.8**
ROSC				IAML			08 39 01.2	
	comp=Z,430nm,0.7s							
SDV	**Santo Domingo**	**2.87**	**61**	P		**Pn**	**08 38 16.4**	**+1.8**
	comp=Z,224nm,0.3s,baz=272,slow=5.3,SNR=253							
SDV				S		**Sn**	**08 38 50.0**	**+0.1**
	comp=Z,302nm,0.3s,baz=49,slow=19,SNR=21							
SDV	**Santo Domingo**	**2.87**	**61**	Pn		**Pn**	**08 38 16.3**	**+1.7**
SDV	**Santo Domingo**	**2.87**	**61**	*e*	P	**Pn**	**08 38 15.8**	**+1.2**
CHIC	**Chingaza**	**2.90**	**191**	*e*	P	**Pn**	**08 38 16.1**	**+0.8**
CHIC				*e*	S	**Sn**	**08 38 52.0**	**+1.2**
CHIC				IAML			08 39 00.4	
	comp=Z,208nm,0.6s							
DBBC	**Dabeiba**	**3.05**	**261**	*e*	P	**Pn**	**08 38 17.5**	**+0.7**
DBBC				*e*	S	**Sn**	**08 38 51.1**	**-2.6**
SJCC	**San Jacinto, C**	**3.10**	**320**	*e*	P	**Pn**	**08 38 18.4**	**+0.9**
SJCC				*e*	S	**Sn**	**08 38 54.2**	**-0.8**
SJCC				IAML			08 38 57.7	
	comp=Z,270nm,0.5s							
CBOC	**Ciudad Bolivar**	**3.25**	**240**	⇓	*e*P	**Pn**	**08 38 20.4**	**+0.9**
CBOC				*e*	S	**Sn**	**08 38 57.1**	**-1.3**
CBOC				IAML			08 39 11.2	
	comp=Z,205nm,0.4s							
NIZA	**Niza - Manizal**	**3.33**	**223**	*e*	P	**Pn**	**08 38 24.6**	**+4.0**
NIZA				*e*	S	**Sn**	**08 39 04.4**	**+4.0**
PTGC	**Puerto Gaitan,**	**3.43**	**162**	*e*	P	**Pn**	**08 38 21.0**	**-0.7**
PTGC				*e*	S	**Sn**	**08 38 59.8**	**-2.7**
PTGC				IAML			08 39 10.9	
	comp=Z,109nm,0.3s							
LCBC	**Los crdobas,**	**3.44**	**293**	*e*	P	**Pn**	**08 38 21.9**	**+0.1**
LCBC				*e*	S	**Sn**	**08 39 04.6**	**+2.0**
LCBC				IAML			08 39 07.6	
	comp=Z,214nm,0.3s							
CRJC	**Cerrejon, Guaj**	**3.52**	**5**	*e*	P	**Pn**	**08 38 23.3**	**+0.4**
CRJC				*e*	S	**Sn**	**08 38 57.5**	**-7.1**
CRJC				IAML			08 39 06.8	
	comp=Z,562nm,0.2s							
ANIL	**Santa Ana**	**3.71**	**217**	*e*	P	**Pn**	**08 38 27.2**	**+1.5**
ANIL				*e*	S	**Sn**	**08 39 14.2**	**+4.7**
PLMC	**San Jos del P**	**4.02**	**230**	*e*	P	**Pn**	**08 38 30.0**	**+0.5**
PLMC				IAML			08 39 27.6	
	comp=Z,140nm,0.5s							

MCPB	**Macapa, AP**	**22.46**	**109**	*eP*	**P**	**08 42 17.9**	**+1.2**
NPGB	**Novo Progresso**	**22.90**	**129**	*eP*	**P**	**08 42 20.8**	**-0.1**
VILB	**Vilhena**	**24.06**	**148**	P	**P**	**08 42 31.1**	**-0.3**
VILB				IAmb	IAmb	08 42 33.6	
	comp=Z,18nm,0.6s						
VILB	**Vilhena**	**24.06**	**148**	*eP*	**P**	**08 42 29.9**	**-1.5**
LPAZ	**La Paz**	**24.15**	**168**	P	**P**	**08 42 32.1**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=350,slow=7.4,SNR=17						
	comp=Z,2.6nm,0.5s						
LPAZ	**La Paz**	**24.15**	**168**	P	**P**	**08 42 31.6**	**-1.3**
LPAZ	**La Paz**	**24.15**	**168**	*eP*	**P**	**08 42 32.1**	**-0.8**
456A	**Hilliard**	**24.55**	**341**	P	**P**	**08 42 34.0**	**-1.7**
PDRB	**Porto dos Gac**	**25.06**	**139**	*eP*	**P**	**08 42 40.3**	**-0.2**
PB18	**Visviri**	**25.19**	**172**	P	**P**	**08 42 40.2**	**-2.0**
PB18				IAmb	IAmb	08 42 45.9	
	comp=Z,13nm,1.2s						
PB16	**IPOC Station P**	**25.92**	**172**	P	**P**	**08 42 46.4**	**-2.5**
PB16				IAmb	IAmb	08 43 18.6	
	comp=Z,8.6nm,1.3s						
MNMC	**Minye Minye**	**26.69**	**172**	P	**P**	**08 42 53.0**	**-2.4**
MNMC				IAmb	IAmb	08 42 55.1	
	comp=Z,11nm,1.3s						
PRPB	**Parauapebas**	**26.97**	**120**	*eP*	**P**	**08 42 57.8**	**+0.1**
PSGCX	**Pisagua**	**27.09**	**174**	P	**P**	**08 42 56.9**	**-1.9**
PSGCX				IAmb	IAmb	08 42 58.1	
	comp=Z,28nm,1.5s						
PB11	**IPOC Station P**	**27.30**	**173**	P	**P**	**08 42 58.7**	**-2.0**
PB11				IAmb	IAmb	08 43 29.6	
	comp=Z,22nm,1.3s						
PB08	**IPOC Station P**	**27.74**	**172**	P	**P**	**08 43 03.8**	**-1.1**
PB01	**IPOC Station P**	**28.59**	**173**	P	**P**	**08 43 10.0**	**-2.1**
PB01				IAmb	IAmb	08 43 11.3	
	comp=Z,4.9nm,0.7s						
LVC	**Limon Verde**	**30.21**	**172**	P	**P**	**08 43 25.1**	**-1.6**
	comp=Z,4.6nm,0.8s,baz=333,slow=9.0,SNR=4.6						
	comp=Z,4.6nm,0.8s						
LVC	**Limon Verde**	**30.21**	**172**	*eP*	**P**	**08 43 25.2**	**-1.6**
SMTB	**Santa Maria do**	**30.23**	**122**	*eP*	**P**	**08 43 27.7**	**+1.0**
ARAG	**Araguaiana, MT**	**31.29**	**138**	*eP*	**P**	**08 43 35.2**	**-0.8**
BDFB	**Brasilia**	**33.90**	**133**	P	**P**	**08 43 58.3**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=294,slow=8.8,SNR=4.0						
	comp=Z,2.3nm,0.6s						
BDFB	**Brasilia**	**33.90**	**133**	*eP*	**P**	**08 43 59.3**	**+0.4**
TXAR	**Lajitas Array**	**35.98**	**311**	P	**P**	**08 44 18.1**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=117,slow=7.3,SNR=4.7						
TXAR				PcP	**PcP**	**08 46 42.8**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=146,slow=6.4,SNR=5.9						
	comp=Z,0.3nm,0.7s						
CFA	**Coronel Fontan**	**39.16**	**173**	P	**P**	**08 44 41.7**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=314,slow=5.6,SNR=6.2						
	comp=Z,1.3nm,0.4s						
GDU01	**Guandu, BA**	**39.45**	**122**	*eP*	**P**	**08 44 45.2**	**-0.6**
RIB01	**Linhares ES**	**41.86**	**130**	*eP*	**P**	**08 45 05.3**	**-0.3**
BO02	**Sierra Bellavi**	**42.12**	**177**	P	**P**	**08 45 05.4**	**-2.0**
BO02				IAmb	IAmb	08 45 07.5	
	comp=Z,4.4nm,0.8s						
SCHQ	**Schefferville**	**47.48**	**5**	P	**P**	**08 45 49.5**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=166,slow=4.7,SNR=5.7						
	comp=Z,4.4nm,0.6s						
PDAR	**Pinedale Array**	**47.51**	**324**	P	**P**	**08 45 52.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=125,slow=8.9,SNR=2.0						
PDAR				PcP	**PcP**	**08 47 19.6**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=134,slow=6.4,SNR=2.8						
	comp=Z,0.1nm,0.3s						
PLCA	**Paso Flores**	**48.05**	**177**	P	**P**	**08 45 52.4**	**-1.8**
	comp=Z,2.0nm,0.6s,baz=351,slow=8.9,SNR=13						
	comp=Z,2.0nm,0.6s						
PLCA	**Paso Flores**	**48.05**	**177**	*eP*	**P**	**08 45 52.5**	**-1.7**
NVAR	**Mina Array Bea**	**50.98**	**314**	PcP	**PcP**	**08 47 33.0**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=115,slow=5.2,SNR=4.9						
YKA	**Yellowknife Ar**	**62.62**	**340**	P	**P**	**08 47 39.9**	**+1.8**
	baz=132,slow=6.5						
ILAR	**Eielson Array**	**76.34**	**335**	P	**P**	**08 49 03.6**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=108,slow=4.6,SNR=9.6						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**86.07**	**20**	P	**P**	**08 49 54.9**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=269,slow=3.6,SNR=8.4						
	comp=Z,1.9nm,0.8s						
PZH	**PanZhiHua**	**145.85**	**8**	PKPbc	**PKPdf**	**08 56 48.1**	**-3.9**
ASAR	**Alice Springs**	**149.45**	**235**	PKP	**PKPdf**	**08 56 58.7**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=119,slow=1.7,SNR=7.2						
ASAR				PKPbc	**PKPbc**	**08 57 02.5**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=117,slow=3.2,SNR=13						
ASAR				PKPab	**PKPab**	**08 57 06.8**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=120,slow=3.7,SNR=16						
WRA	**Warramunga Arr**	**150.60**	**242**	PKP	**PKPdf**	**08 57 00.6**	**+0.9**
	comp=Z,2.6nm,0.4s,baz=104,slow=2.6,SNR=6.8						
WRA				PKPbc	**PKiKP**	**08 57 05.7**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=106,slow=2.7,SNR=24						
WRA				PKPab	**PKPab**	**08 57 13.2**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=100,slow=3.1,SNR=8.0						
CMAR	**Chiang Mai Arr**	**153.07**	**17**	PKPbc	**PKPbc**	**08 57 10.9**	**0.0**
	comp=Z,1.7nm,0.4s,baz=302,slow=2.6,SNR=6.0						

*IDC **24** 08:46:08.2±2.3, 37.49N×141.96E, h0km, mb3.5/3, mbtmp3.4/4, ML2.0/1, Error ellipse: s-maj=44.3km s-min=33.9km az=70.0*
*JMA **24** 08:46:11.9±0.2, 37.4N±0.4×141.6E±0.9, h29km±1km, MV3.2/38, E OFF FUKUSHIMA PREF*

ISC 24 08:46:10.0±2.1, 37.35N±0.05×141.68E±0.08, h8km±11km, n13, σ1s10/23, mb3.6/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.64**	**272**	P	**Pg**	**08 46 22.9**	**+0.5**
JFK				S	**Sg**	**08 46 30.6**	**-0.2**
JMST	**Minamisoumatoc**	**0.73**	**301**	P	**Pg**	**08 46 24.4**	**+0.2**
JMST				S	**Sg**	**08 46 33.5**	**-0.2**
JMM	**Marumori**	**0.87**	**307**	↓P	**Pb**	**08 46 26.8**	**-0.6**
JMM				↓S	**Sb**	**08 46 37.6**	**-1.6**
JFFD	**Fukushimafurud**	**0.93**	**254**	P	**Pb**	**08 46 27.5**	**-0.8**
JFFD				*eS*	**Sb**	**08 46 38.8**	**-2.0**
JIO	**Ouri**	**1.14**	**347**	P	**Pb**	**08 46 31.4**	**-0.5**
JIO				*eS*	**Sb**	**08 46 45.6**	**-1.2**
JHO	**Hitachi**	**1.15**	**231**	P	**Pn**	**08 46 31.2**	**-1.2**
JHO				*eS*	**Sb**	**08 46 45.3**	**-2.0**
JOU	**Okura**	**1.29**	**322**	↓*P*	**Pn**	**08 46 34.4**	**+0.1**
JOU				↓*eS*	**Sb**	**08 46 50.9**	**-0.4**
JYS	**Shirataka**	**1.55**	**305**	P	**Pn**	**08 46 38.2**	**+0.4**
JYS				S	**Sb**	**08 46 58.1**	**-0.5**
JFY	**Yanaizu**	**1.57**	**273**	P	**Pb**	**08 46 39.8**	**+0.4**
JFY				S	**Sn**	**08 46 58.4**	**-0.3**
MJAR	**Matsushiro Arr**	**2.89**	**255**	Pn	**Pn**	**08 46 58.3**	**+1.9**
	0.2nm,0.3s,baz=82,slow=16,SNR=7.9						
MJAR				Sn	**Sb**	**08 47 39.0**	**+1.6**
	0.3nm,0.3s,baz=69,slow=20,SNR=5.1						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**08 54 19.3**	**+0.4**
	0.7nm,0.7s,baz=87,slow=10,SNR=7.7						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**08 54 33.5**	**+0.1**
	0.5nm,0.4s,baz=84,slow=8.2,SNR=7.3						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**57.40**	**188**	P	**P**	**08 55 59.7**	**+0.7**
	0.2nm,0.8s,baz=5.7,slow=7.2,SNR=2.1						
	0.2nm,0.8s						

*HVO **24** 08:52:25.1±1.8, 19.44N±0.02×154.91W±0.03, h0km±9km, ML2.4/3, ML2.5/32(NEIC), Error ellipse: s-maj=4.6km s-min=2.6km az=115.0*

NEIC 24 08:52:26.2±1.5, 19.48N±0.02×154.97W±0.03, h10km±1km, Error ellipse: s-maj=5.2km s-min=3.2km az=277.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.06**	**217**		Pg	08 52 27.6	-0.7
JCUZ	**Jacuzzi**	**0.16**	**233**	Pg	Pg	08 52 29.4	-0.4
NPOC	**North of Pu'u**	**0.16**	**237**		Sg	08 52 32.7	+0.4
NPOC	**North of Pu'u**	**0.16**	**237**	Pg	Pg	08 52 29.5	-0.3
NPOC	**North of Pu'u**	**0.16**	**237**	IAML		08 52 32.8	
	comp=E,479nm,0.3s						
NPOC				IAML		08 52 33.2	
	comp=N,458nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.22**	**242**		Pg	08 52 31.7	+1.0
PUH	**Pauahi**	**0.26**	**245**		Pg	08 52 31.2	-0.4
PUH				IAML		08 52 39.7	
	comp=N,548nm,1.1s						
HATHI	**Halema'uma'u T**	**0.29**	**258**	Pg	Pg	08 52 31.7	-0.3
HATHI				IAML		08 52 35.0	
	comp=E,617nm,1.1s						
HATHI				IAML		08 52 42.1	
	comp=N,550nm,0.6s						
SBLHI	**Steaming Bluff**	**0.29**	**259**		Pg	08 52 31.7	-0.4
SBLHI				IAML		08 52 41.1	
	comp=E,417nm,1.5s						
RSD	**Rainshed**	**0.30**	**266**		Sb	08 52 38.9	+0.2
RSD	**Rainshed**	**0.30**	**266**	Pg	Pg	08 52 32.0	-0.2
RSD				IAML		08 52 43.0	
	comp=E,532nm,0.9s						
RSD				IAML		08 52 43.4	
	comp=N,545nm,1.2s						
UWB	**Uwekahuna B**	**0.30**	**259**		Pg	08 52 32.8	+0.5
UWB	**Uwekahuna B**	**0.30**	**259**	IAML		08 52 34.1	
	comp=N,350nm,1.7s						
UWB				IAML		08 52 36.9	
	comp=E,217nm,1.8s						
UWE	**Uwekahuna**	**0.32**	**259**	Pg	Pg	08 52 32.9	+0.3
UWE				IAML		08 52 40.0	
	comp=N,628nm,1.5s						
MLH	**Mauna Loa**	**0.40**	**272**		Pg	08 52 34.5	+0.4
MLH				IAML		08 52 42.0	
	comp=E,396nm,0.6s						
MLH				IAML		08 52 42.2	
	comp=N,616nm,0.6s						
MLH	**Mauna Loa**	**0.40**	**272**		Sb	08 52 41.6	-0.1
HTC	**Hot Caves**	**0.48**	**239**		Pg	08 52 35.5	0.0
AIN	**Ainahou**	**0.48**	**257**		Pg	08 52 35.5	0.0
AIN	**Ainahou**	**0.48**	**257**	IAML		08 52 44.8	
	comp=N,534nm,1.7s						
AIN				IAML		08 52 47.0	
	comp=E,376nm,0.8s						
HMH	**Humu'ula Sheep**	**0.50**	**284**		Pg	08 52 36.3	+0.2
MLOA	**Mauna Loa Obse**	**0.58**	**275**	Pg	Pg	08 52 37.1	-0.4
MLOA				IAML		08 52 47.0	
	comp=N,365nm,0.4s						
MLOA				IAML		08 52 51.8	
	comp=E,253nm,2.5s						
MWH	**Moku'aweowe**	**0.60**	**270**		Pg	08 52 37.4	-0.5
MWH	**Moku'aweowe**	**0.60**	**270**	IAML		08 52 40.4	
	comp=N,403nm,2.1s						
MWH				IAML		08 52 57.8	
	comp=E,375nm,1.1s						
POHA	**Pohakuloa**	**0.60**	**297**		Pg	08 52 37.4	-0.5
POHA				IAML		08 52 54.0	
	comp=E,307nm,2.4s						
POHA				IAML		08 53 00.9	
	comp=E,308nm,1.4s						
ALEP	**Alea Permanent**	**0.64**	**275**		Pg	08 52 38.0	-0.7
ALEP					Sb	08 52 48.4	-0.5
KHU	**Kahuku**	**0.66**	**249**		Pg	08 52 38.3	-0.7
KHU	**Kahuku**	**0.66**	**249**	IAML		08 53 00.1	
	comp=N,330nm,4.2s						
HUH	**Hualalai**	**0.84**	**284**		Pg	08 52 41.3	-1.2

NNC 24 08:55:35.8±3.1, 54.64N×85.87E, h0km, mb3.7, mpv2.7, 4C, Error ellipse: s-maj=142.2km s-min=18.9km az=132.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.93**	**222**	↑P	Pg	08 55 53.8	+0.2
	0.1nm,0.2s						
ZAA0				↑S	Sg	08 56 06.6	+1.0
	2.4nm,0.5s						
KURBB	**Kurchatov Arra**	**6.01**	**231**	↑Pn	Pn	08 57 05.0	-0.9
	2.5nm,0.7s						
MK31	**Makanchi Array**	**8.18**	**198**	↑Pn	Pn	08 57 35.4	-0.3
	0.7nm,0.5s,baz=25,slow=13,SNR=17						

*IDC **24** 08:55:38.3±4.3, 15.88N×98.53W, h0km, mb3.8/4, mbtmp3.7/6, ML3.1/2, Error ellipse: s-maj=81.4km s-min=20.0km az=180.0*
*MEX **24** 08:55:39.1±1.1, 15.83N×98.75W, h12km±24km, MD4.4*
*NEIC **24** 08:55:43.9±2.4, 16.30N±0.05×98.32W±0.06, h10km±1km, mb4.2/19, Md4.4/12(MEX), Error ellipse: s-maj=10.2km s-min=8.1km az=228.0*

ISC 24 08:55:38.9±0.8, 15.91N±0.05×98.65W±0.03, h10km, n76, σ2s41/102, mb4.1/10, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.69**	**46**		**Pb**	**08 55 51.9**	**-1.2**
PNIG	**Pinotepa**	**0.69**	**46**	*i* P	**Pb**	**08 55 51.9**	**-1.2**
PNIG				*eS*	**Sn**	**08 56 05.5**	**-0.1**
CRIG	**Cruz Grande**	**0.94**	**330**	*i* P	**Pg**	**08 55 54.6**	**-2.5**
CRIG				*i* S	**Sg**	**08 56 06.1**	**-3.3**
MGIG	**Malinaltepec**	**1.31**	**1**		**Pn**	**08 56 01.0**	**-2.5**
MGIG					**Sb**	**08 56 17.2**	**-3.6**
MGIG	**Malinaltepec**	**1.31**	**1**	*i* P	**Pn**	**08 56 01.0**	**-2.5**
MGIG				*i* S	**Sb**	**08 56 17.2**	**-3.6**
YOIG	**Yosondua**	**1.41**	**48**		**Pn**	**08 56 02.5**	**-2.4**
YOIG	**Yosondua**	**1.41**	**48**	*i* P	**Pn**	**08 56 02.5**	**-2.4**
YOIG				*i* S	**Sg**	**08 56 26.6**	**+2.1**
PEIG	**Puerto Escondi**	**1.44**	**86**		**Pn**	**08 56 03.0**	**-2.2**
PEIG					**Sn**	**08 56 20.5**	**-3.7**
PEIG	**Puerto Escondi**	**1.44**	**86**	*i* P	**Pn**	**08 56 03.0**	**-2.2**
PEIG				*i* S	**Sn**	**08 56 20.5**	**-3.7**
TXIG	**Tlaxiaco**	**1.58**	**32**	*eP*	**Pn**	**08 56 05.6**	**-1.7**
TXIG				*eS*	**Sg**	**08 56 29.8**	**0.0**
TLIG	**Tlapa**	**1.64**	**3**		**Pn**	**08 56 06.8**	**-1.2**
TLIG	**Tlapa**	**1.64**	**3**	*i* P	**Pn**	**08 56 06.2**	**-1.8**
TLIG				*eS*	**Sn**	**08 56 27.6**	**-1.7**
CAIG	**El Cayaco**	**1.92**	**306**	*eP*	**Pn**	**08 56 08.4**	**-3.3**
CAIG				*eS*	**Sb**	**08 56 36.6**	**-1.6**
FTIG	**Fresnillo de T**	**2.04**	**14**	*eP*	**Pn**	**08 56 12.3**	**-1.2**
FTIG				*e*		08 56 38.3	
VHO	**Vista Hermosa**	**2.17**	**58**	*eP*	**Pn**	**08 56 14.2**	**-1.1**
VHO				*eS*	**Sb**	**08 56 42.9**	**-2.5**
MEIG	**Mezcala**	**2.21**	**335**	*eP*	**Pn**	**08 56 14.3**	**-1.4**
MEIG				*eS*	**Sn**	**08 56 39.4**	**-3.8**
HUIG	**Huatulco**	**2.45**	**93**	*eP*	**Pn**	**08 56 16.1**	**-2.8**
HUIG				*eS*	**Sn**	**08 56 44.7**	**-4.3**
PLIG	**Platanillo**	**2.60**	**342**	*eP*	**Pn**	**08 56 18.7**	**-2.4**
PLIG				*eS*	**Sn**	**08 56 47.2**	**-5.6**
TOIG	**Toxpalan**	**2.65**	**35**	*eP*	**Pn**	**08 56 21.3**	**-0.5**
TOIG				*eS*	**Sb**	**08 56 57.0**	**-2.2**
TPIG	**Tehuac#an**	**2.78**	**26**	*eP*	**Pn**	**08 56 22.8**	**-0.9**
TPIG				*eS*	**Sn**	**08 56 55.7**	**-1.7**
ARIG	**Puente Sto Nin**	**2.86**	**326**	*eP*	**Pn**	**08 56 22.1**	**-2.6**
ARIG				*eS*	**Sn**	**08 56 56.1**	**-3.2**
YAIG	**Yautepec**	**2.96**	**352**	*eP*	**Pn**	**08 56 25.8**	**-0.4**
YAIG				*eS*	**Sn**	**08 57 00.2**	**-1.6**
PPM	**Popocatepetl**	**3.14**	**0**	*eP*	**Pn**	**08 56 28.9**	**0.0**
PPM				*eS*	**Sb**	**08 57 11.5**	**-2.1**
UNM	**Universidad Na**	**3.44**	**352**		**Pn**	**08 56 34.1**	**+1.3**
UNM	**Universidad Na**	**3.44**	**352**	*eP*	**Pn**	**08 56 33.2**	**+0.4**
UNM				*eS*	**Sn**	**08 57 11.6**	**-2.2**
APVM	**Azcapotzalco**	**3.60**	**352**	*e*	**Pb**	**08 57 01.8**	**-1.8**
APVM				*e*		08 57 22.8	
CMIG	**Matias Romero**	**3.79**	**71**	Pn	**Pn**	**08 56 36.9**	**-0.6**
	1.7nm,0.3s,baz=253,slow=13,SNR=19						
CMIG				Sn	**Sn**	**08 57 20.6**	**-1.6**
	3.9nm,0.3s,baz=251,slow=21,SNR=5.2						
CMIG				Lg	Lg	08 57 36.5	
	6.9nm,0.3s,baz=6.9,slow=20,SNR=6.6						
	15nm,0.7s						
CMIG	**Matias Romero**	**3.79**	**71**	*eP*	**Pn**	**08 56 36.3**	**-1.2**
CMIG				*eS*	**Sb**	**08 57 26.9**	**-5.2**
PMUV	**Sontecomapan**	**4.26**	**52**	*eP*	**Pn**	**08 56 43.9**	**-0.2**
PMUV				*eS*	**Sb**	**08 57 40.4**	**-5.4**
LVIG	**Laguna Verde**	**4.34**	**29**	*eP*	**Pn**	**08 56 46.3**	**+1.3**
LVIG				*eS*	**Sn**	**08 57 40.5**	**+4.8**
DEIG	**Demacu**	**4.38**	**355**	*eP*	**Pn**	**08 56 46.4**	**+0.7**
DEIG				*eS*	**Sn**	**08 57 35.5**	**-1.6**
MOIG	**Morelia**	**4.46**	**327**		**Pn**	**08 56 48.8**	**+2.0**
MOIG	**Morelia**	**4.46**	**327**	*eP*	**Pn**	**08 56 49.0**	**+2.2**
MOIG				*eS*	**Sn**	**08 57 43.8**	**+4.9**
UXUV	**UXUV**	**4.54**	**71**	*eP*	**Pn**	**08 56 46.3**	**-1.4**
UXUV				*eS*	**Sn**	**08 57 37.9**	**-2.6**
RPIG	**Rio Verde**	**6.07**	**348**	*e*	**Pn**	**08 57 10.8**	**+1.8**
RPIG				*eS*	**Sn**	**08 58 21.7**	**+3.1**
CCIG	**Comitan**	**6.27**	**86**		**Pn**	**08 57 13.1**	**+1.5**
CCIG	**Comitan**	**6.27**	**86**	*eP*	**Pn**	**08 57 13.3**	**+1.7**
CCIG				*eS*	**Sn**	**08 58 27.3**	**+3.8**
RTAL	**Retalhuleu**	**6.85**	**101**	Pn	**Pn**	**08 57 21.7**	**+2.2**
HUEH	**Huehuetenango**	**6.91**	**94**	Pn	**Pn**	**08 57 21.3**	**+0.8**
GTIG	**Gomez Farias**	**7.13**	**356**	*eP*	**Pn**	**08 57 26.9**	**+3.4**
GTIG				*eS*	**Sn**	**08 58 50.8**	**+6.2**
ZAIG	**Zacatecas**	**7.76**	**332**	Pn	**Pn**	**08 57 32.8**	**+0.5**
MTO3	**Montecristo**	**9.09**	**98**	Pn	**Pn**	**08 57 50.8**	**+0.3**
TX32	**Lajitas Array**	**14.14**	**342**	Pn	**Pn**	**08 59 00.1**	**+0.7**
TXAR	**Lajitas Array**	**14.14**	**342**	Pn	**Pn**	**08 59 01.6**	**+2.2**
	baz=161,slow=16,SNR=6.6						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**14.14**	**342**	Pn	**Pn**	**08 58 59.9**	**+0.6**
ABTX	**Abilene, Hawle**	**16.66**	**357**	P	**P**	**08 59 36.7**	**+1.7**
ABTX				IAmb	IAmb	08 59 37.5	
	comp=Z,10nm,0.8s						
GDL2	**Guadalupe Moun**	**17.03**	**343**	P	**P**	**08 59 39.5**	**+0.3**
HTMS	**Hat Mesa**	**17.10**	**346**	P	**P**	**08 59 41.3**	**+1.3**
Z35A	**Perchaven, San**	**17.39**	**4**	P	**P**	**08 59 43.0**	**0.0**
Z38A	**Mt. Pleasant**	**17.59**	**10**	P	**P**	**08 59 44.7**	**-0.5**
LOOK	**Love County**	**18.05**	**4**	P	**P**	**08 59 51.8**	**+1.4**
LOOK				IAmb	IAmb	09 00 30.6	
	comp=Z,19nm,1.4s						
MSTX	**Muleshoe**	**18.36**	**349**	P	**P**	**08 59 54.8**	**+0.9**
MIAR	**Mount Ida**	**19.11**	**13**	P	**Pn**	**09 00 02.1**	**-0.7**
FNO	**Franklin**	**19.30**	**3**	P	**Pn**	**09 00 05.3**	**+0.3**
FNO				IAmb	IAmb	09 00 07.4	
	comp=Z,14nm,1.4s						
CRNM	**Carthage**	**19.39**	**339**	P	**Pn**	**09 00 08.1**	**+1.8**
BNM	**Barren Site**	**19.53**	**340**	P	**Pn**	**09 00 08.1**	**0.0**
OK030	**Cody Creek RV**	**20.00**	**4**	P	**P**	**09 00 10.9**	**-0.9**
OK030				IAmb	IAmb	09 00 18.7	
	comp=Z,9.5nm,1.0s						
TUL1	**Leonard**	**20.08**	**7**	P	Pn	09 00 12.5	-1.9
TUL1				IAmb	IAmb	09 00 26.4	
	comp=Z,12nm,1.1s						
WVT	**Waverly**	**22.32**	**24**	P	**P**	**09 00 37.2**	**+0.4**
WVT				IAmb	IAmb	09 00 39.2	
	comp=Z,8.9nm,0.9s						
WUAZ	**Wupatki**	**22.60**	**332**	P	**P**	**09 00 43.8**	**+3.9**
WUAZ				IAmb	IAmb	09 00 51.2	
	comp=Z,14nm,0.9s						
S22A	**4UR Ranch, Cre**	**22.92**	**343**	P	**P**	**09 00 44.9**	**+1.5**
S22A				IAmb	IAmb	09 01 06.9	
	comp=Z,6.3nm,1.3s						
R40A	**Maddies Statio**	**22.99**	**13**	P	**P**	**09 00 44.6**	**+0.8**
CCM	**Cathedral Cave**	**23.00**	**15**	P	**P**	**09 00 44.0**	**+0.1**
CCM				IAmb	IAmb	09 00 55.8	
	comp=Z,14nm,1.1s						
TUMC	**Tumaco**	**24.11**	**124**	P	**P**	**09 00 58.1**	**+3.0**
SMCO	**Snowmass**	**24.30**	**344**	P	**P**	**09 00 58.8**	**+1.7**
SMCO				IAmb	IAmb	09 01 06.4	
	comp=Z,15nm,1.3s						
N33A	**J Bar K, Exete**	**24.76**	**2**	P	**P**	**09 01 01.5**	**+0.7**
TULM	**Tulcn-Chalpat**	**25.52**	**124**	P	**P**	**09 01 12.7**	**+4.3**
P18A	**Preston Nutter**	**25.71**	**339**	P	**P**	**09 01 13.1**	**+3.3**
P18A				IAmb	IAmb	09 01 22.8	
	comp=Z,14nm,1.4s						
NVAR	**Mina Array Bea**	**28.32**	**326**	P	**P**	**09 01 35.3**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=159,slow=7.7,SNR=6.5						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**28.35**	**343**	P	**P**	**09 01 35.6**	**+2.2**
	comp=Z,1.4nm,1.0s,baz=158,slow=7.4,SNR=6.2						
	comp=Z,1.4nm,1.0s						
H03N2	**Juan Fernandez**	**52.56**	**159**	T	T	10 01 46.1	
	baz=337						
H03N1	**Juan Fernandez**	**52.57**	**159**	T	T	10 01 49.7	
	baz=337						
H03N3	**Juan Fernandez**	**52.58**	**159**	T	T	10 01 49.7	
	baz=337						
INK	**Inuvik**	**56.88**	**345**	P	**P**	**09 05 24.1**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=158,slow=5.4,SNR=3.8						
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**58.61**	**338**	P	**P**	**09 05 37.3**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=134,slow=4.7,SNR=7.7						
	comp=Z,0.9nm,0.9s						
KSH	**Kashi**	**124.63**	**5**	PKP	**PKiKP**	**09 14 41.3**	**+1.7**

*WEL **24** 09:05:27.7±0.3, 42.2S±3.3×17.4E±1.1, h10km±3km, M3.3/47, ML3.5/25, MLv3.3/47, Error ellipse: s-maj=0.0km s-min=0.0km az=137.7*
*NOU **24** 09:05:29.1, 42.01S×174.40E, h30km, MLv3.7/8, Off E. Coast of S. Island, N.Z.*

ISC 24 09:05:27.3±1.0, 41.88S±0.03×174.27E±0.03, h17km±7km, n96, σ1s19/99, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**341**	P	**Pg**	**09 05 31.4**	**+0.2**
CMWZ				S	**Sg**	**09 05 34.1**	**+0.3**

NTVZ	North Tongarir	2.98	22	P		Pn	09 06 15.1	+1.2
RPZ	Rata Peaks	3.00	231	P		Pn	09 06 14.6	+0.6
RPZ	Rata Peaks	3.00	231	P		Pn	09 06 14.4	+0.4
KATZ	Kakaramea	3.10	21	P		Pb	09 06 22.3	+0.3
RITZ	Rihia Road	3.14	23	P		Pb	09 06 23.0	+0.3
BKZ	Black Stump Fm	3.19	33	P		Pn	09 06 18.4	+1.6
BKZ	Black Stump Fm	3.19	33	P		Pn	09 06 16.2	-0.6
RATZ	Rangitukua	3.22	21	P		Pb	09 06 24.3	+0.2
GCSZ	Gaunt Creek Bo	3.25	242	P		Pb	09 06 22.7	-1.8
HIZ	Hauiti	3.39	8	P		Pn	09 06 21.7	+2.2
HIZ	Hauiti	3.39	8	P		Pn	09 06 21.6	+2.1
TMZ	Timaru	3.46	223	P		Pn	09 06 20.5	0.0
TLZ	Tolley Road	3.68	16	P		Pb	09 06 28.5	-3.3
ODZ	Otahua Downs	4.12	219	P		Pn	09 06 29.5	0.0
ODZ	Otahua Downs	4.12	219	P		Pn	09 06 29.1	-0.4
URZ	Urewera	4.22	32	P		Pn	09 06 33.1	+2.2
AWAZ	Awhitu Peninsu	4.82	4	P		Pn	09 06 41.7	+2.7
MKAZ	Moumakai	4.82	8	P		Pn	09 06 40.5	+1.4

IDC ***24*** *09:07:00.9±6.3,4.˝43S×134.˚06E, h0km, mb3.3/1, mbtmp3.5/3, ML3.4/2, MS2.9/5, Error ellipse: s-maj=351.9km s-min=32.8km az=78.0*

ISC 24 09:07:05.1±1.4,**4.˚6S**±0.˚1×**134.˚6E**±0.˚2,**h22**km,**n12,** σ3**20**/11,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**4.95**	**318**	LR		LR	09 10 05.6	
	comp=Z,28nm,20.3s,baz=204,slow=41							
KDU	**Kakadu**	**8.35**	**194**	P		**Pn**	**09 09 06.6**	**+1.8**
MTN	**Manton Dam**	**8.92**	**202**	P		**Pn**	**09 09 14.3**	**+1.6**
COEN	**Coen**	**12.60**	**138**	P		**Pn**	**09 10 04.6**	**+1.5**
WRA	**Warramunga Arr**	**15.29**	**181**	Pn		**Pn**	**09 10 38.4**	**-1.4**
	0.1nm,0.3s,baz=357,slow=13,SNR=6.3							
WRA				Sn		**Sn**	**09 13 24.3**	**-4.4**
	0.1nm,0.3s,baz=7.9,slow=22,SNR=1.0							
WRA				LR		LR	09 16 58.1	
	comp=Z,50nm,19.3s,baz=310,slow=39							
	0.4nm,0.7s							
BKB	**Balikpapan**	**17.98**	**280**	P		**P**	**09 11 15.2**	**+0.9**
	78nm,1.0s							
AS01	**Alice Springs**	**19.01**	**182**	P		**Pn**	**09 11 28.8**	**+2.5**
ASAR	**Alice Springs**	**19.01**	**182**	P		**Pn**	**09 11 26.3**	**0.0**
	0.4nm,0.3s,baz=6.8,slow=10,SNR=40							
ASAR				Sn		**Sn**	**09 14 53.0**	**-5.8**
	baz=4.1,slow=27,SNR=1.4							
ASAR				LR		LR	09 19 27.5	
	comp=Z,54nm,21.3s,baz=274,slow=39							
	2.3nm,0.5s							
WRKA	**Warakurna**	**21.25**	**196**	P		**P**	**09 11 51.3**	**+1.4**
LEM	**Lembang**	**26.95**	**264**	LR		LR	09 23 48.1	
	comp=Z,33nm,21.5s,baz=210,slow=38							
STKA	**Stephens Creek**	**27.96**	**167**	LR		LR	09 25 52.3	
	comp=Z,41nm,19.1s,baz=41,slow=40							
MKAR	**Makanchi Array**	**68.82**	**324**	P		**P**	**09 18 04.5**	**-3.2**
	0.2nm,0.6s,baz=115,slow=6.8,SNR=2.5							
	0.2nm,0.6s							

JMA ***24*** *09:10:46.6±0.7,30.˚N±4.˚×13.˚8E±.˚, h449km, MV3.4/28, NEAR TORISHIMA IS*

IDC ***24*** *09:10:48.4±1.8,30.˚53N×137.˚74E, h475km±21km, mb3.2/11, mbtmp4.1/15, Error ellipse: s-maj=26.8km s-min=11.0km az=79.0*

ISC 24 09:10:48.4±0.9,**30.˚6N**±0.˚1×**137.˚8E**±0.˚1,**h477**km,**n23,** σ1**19**/26,**mb3.6**/11,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTNC	**Tanabenakahech**	**3.75**	**331**	P		**P**	**09 12 04.4**	**+1.3**
JKN2	**Miekihoku**	**3.90**	**341**	P		**P**	**09 12 05.8**	**+1.6**
JIE	**Ise**	**3.94**	**346**	P		**P**	**09 12 06.4**	**+1.8**
JNY	**Yasuok**	**4.79**	**0**	P		**P**	**09 12 14.4**	**+2.3**
JOD2	**Odawara 2**	**4.81**	**12**	P		**P**	**09 12 12.6**	**+0.3**
JTO	**Tosashimizu**	**4.86**	**299**	P		**P**	**09 12 13.7**	**+1.0**
BSO4	**Boso 4**	**4.90**	**25**	P		**P**	**09 12 12.9**	**0.0**
BSO4				S		**S**	**09 13 21.2**	**-0.8**
MJAR	**Matsushiro Arr**	**5.97**	**3**	P		**P**	**09 12 23.2**	**-0.2**
	3.7nm,0.6s,baz=173,slow=9.9,SNR=8.2							
KSRS	**Korea Array**	**10.71**	**313**	P		**P**	**09 13 13.2**	**+0.2**
	2.5nm,0.4s,baz=128,slow=10,SNR=10							
USRK	**Ussuriysk Ar.**	**14.38**	**343**	P		**P**	**09 13 52.6**	**+0.5**
	23nm,0.6s,baz=147,slow=11,SNR=52							
CN2	**Changchun**	**16.46**	**327**	P		**P**	**09 14 10.9**	**-3.3**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KLR	**Kul'dur**	**19.21**	**348**	P		**P**	**09 14 41.5**	**+0.8**
	comp=Z,4.5nm,0.7s,baz=166,slow=9.1,SNR=16							
SONM	**Songino Array**	**29.57**	**315**	P		**P**	**09 16 14.5**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=101,slow=7.7,SNR=3.5							
	comp=Z,0.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**37.20**	**260**	P		**P**	**09 17 17.7**	**-0.5**
	comp=Z,1nm,0.4s,baz=55,slow=7.1,SNR=8.5							
	comp=Z,2.1nm,0.4s							
MKAR	**Makanchi Array**	**45.33**	**307**	P		**P**	**09 18 21.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=83,slow=11,SNR=5.4							
	comp=Z,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**47.89**	**312**	P		**P**	**09 18 41.2**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=91,slow=6.7,SNR=12							
	comp=Z,1.0nm,0.5s							
NRIK	**Noril'sk**	**48.04**	**338**	P		**P**	**09 18 42.4**	**-0.3**
	comp=Z,3.0nm,0.4s,baz=105,slow=8.8,SNR=3.9							
	comp=Z,3.0nm,0.4s							
WRA	**Warramunga Arr**	**50.32**	**184**	P		**P**	**09 18 59.9**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=13,slow=8.0,SNR=46							
WRA				PcP		**PcP**	**09 20 11.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=359,slow=4.1,SNR=2.5							
	comp=Z,0.9nm,0.3s							
BVAR	**Borovoye Array**	**52.91**	**316**	P		**P**	**09 19 18.7**	**0.0**
	comp=Z,1.1nm,0.4s,baz=101,slow=8.9,SNR=4.8							
	comp=Z,1.1nm,0.4s							
ASAR	**Alice Springs**	**54.05**	**184**	P		**P**	**09 19 26.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=9.3,slow=7.6,SNR=13							
ASAR				PcP		**PcP**	**09 20 26.1**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=12,slow=5.3,SNR=2.7							
	comp=Z,0.3nm,0.3s							
ARCES	**ARCESS Array B**	**69.00**	**340**	P		**P**	**09 21 05.2**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=62,slow=8.3,SNR=7.1							
	comp=Z,0.8nm,0.4s							
FINES	**FINESS Array B**	**73.14**	**332**	P		**P**	**09 21 28.9**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=66,slow=4.6,SNR=8.2							
	comp=Z,0.6nm,0.3s							
HFS	**Hagfors**	**78.71**	**335**	P		**P**	**09 21 59.6**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=91,slow=6.7,SNR=4.7							
	comp=Z,3.3nm,0.8s							

IDC ***24*** *09:14:52.9±15.0, 10.˚23N×86.˚43W, h0km, mb3.3/1, mbtmp3.3/1, Error ellipse: s-maj=1232.0km s-min=79.1km az=64.0*

INET ***24*** *09:15:12.6±1.2, 11.˚34N×85.˚86W, h178km±7km, ML2.6, MW2.7*

ISC 24 09:15:11.5±1.6,**11.˚8N**±0.˚1×**85.˚3W**±0.˚3,**h150**km,**n8,** σ1**50**/11,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**1.17**	**197**	eP		**Pn**	**09 15 38.4**	**+0.5**
HZTE				eS		**Sn**	**09 15 57.7**	**-0.3**
BRAN	**Las Pilas**	**1.39**	**309**	eP		**Pn**	**09 15 39.9**	**0.0**
BRAN				eS		**Sn**	**09 16 02.8**	**+1.2**
JTS	**Las Juntas de**	**1.56**	**169**	eP		**Pn**	**09 15 43.2**	**+1.4**
LAFE	**Finca La Fe, P**	**2.04**	**171**	eP		**Pn**	**09 15 47.6**	**+0.4**
JACO	**JACO, Garabito**	**2.24**	**165**	eP		**Pn**	**09 15 50.7**	**+1.2**
JACO				eS		**Sn**	**09 16 18.2**	**-0.5**
TXAR	**Lajitas Array**	**24.44**	**318**	P		**P**	**09 20 18.0**	**+1.5**
	0.5nm,0.7s,baz=142,slow=10,SNR=6.6							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**141.03**	**247**	PKP		**PKPdf**	**09 34 22.4**	**-2.4**
	0.3nm,0.9s,baz=95,slow=1.9,SNR=4.8							
WRA	**Warramunga Arr**	**141.16**	**253**	PKP		**PKPdf**	**09 34 23.0**	**-2.1**
	0.2nm,0.5s,baz=92,slow=2.4,SNR=7.5							

IDC ***24*** *09:25:38.1±1.8,2.˚14N×93.˚50W, h0km, mb3.9/8, mbtmp4.0/10, ML3.1/1, Error ellipse: s-maj=57.3km s-min=19.3km az=40.0*

ISC 24 09:25:39.8±1.5,**2.˚2N**±0.˚2×**93.˚5W**±0.˚2,**h10**km,**n16,** σ0**98**/10,**mb3.8/8,Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**17.65**	**122**	P		**P**	**09 29 48.1**	**+0.7**
	6.9nm,0.9s,baz=319,slow=14,SNR=5.3							
ROSC	**El Rosal**	**19.29**	**82**	P		**Pn**	**09 30 06.6**	**+0.1**
	1.2nm,0.3s,baz=140,slow=20,SNR=1.9							
	6.1nm,0.4s							
SDV	**Santo Domingo**	**23.67**	**73**	P		**P**	**09 30 51.3**	**-0.8**
	2.5nm,0.3s,baz=210,slow=5.9,SNR=4.9							
	2.5nm,0.3s							
TXAR	**Lajitas Array**	**28.71**	**341**	P		**P**	**09 31 37.2**	**-0.4**
	0.3nm,0.7s,baz=149,slow=11,SNR=4.0							
	0.3nm,0.7s							
LPAZ	**La Paz**	**31.02**	**127**	P		**P**	**09 31 58.5**	**-0.2**
	1.6nm,1.0s,baz=300,slow=6.6,SNR=4.6							
	1.6nm,1.0s							
H03N2	**Juan Fernandez**	**37.97**	**160**	T		T	10 13 27.1	
	baz=338,slow=77,SNR=109							
H03N1	**Juan Fernandez**	**37.98**	**160**	T		T	10 13 28.3	
	baz=338,slow=77,SNR=331							
H03N3	**Juan Fernandez**	**37.99**	**160**	T		T	10 13 27.3	
	baz=338,slow=77,SNR=293							
NVAR	**Mina Array Bea**	**42.66**	**331**	P		**P**	**09 33 37.7**	**+0.7**
	1.5nm,0.9s,baz=154,slow=8.8,SNR=6.7							
	1.5nm,0.9s							
PDAR	**Pinedale Array**	**42.91**	**343**	P		**P**	**09 33 40.0**	**+0.9**
	0.7nm,0.7s,baz=147,slow=8.3,SNR=4.8							
	0.7nm,0.7s							
ULM	**Lac du Bonnet**	**47.96**	**358**	P		**P**	**09 34 18.9**	**+0.3**
	3.7nm,0.8s,baz=186,slow=9.5,SNR=3.5							
	3.7nm,0.8s							
INK	**Inuvik**	**71.39**	**345**	P		**P**	**09 37 00.5**	**+0.7**
	2.3nm,1.1s,baz=99,slow=2.0,SNR=3.9							
	2.3nm,1.1s							
ILAR	**Eielson Array**	**73.20**	**339**	P		**P**	**09 37 08.8**	**-1.9**
	0.8nm,0.9s,baz=144,slow=4.0,SNR=6.7							
	0.8nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**98.63**	**289**	T		T	11 29 08.8	
	baz=85,slow=74,SNR=26							
H11S1	**WAKE ISLAND Hy**	**98.64**	**289**	T		T	11 29 08.3	
	baz=85,slow=74,SNR=11							
H11S3	**WAKE ISLAND Hy**	**98.65**	**289**	T		T	11 29 08.2	
	baz=85,slow=74,SNR=14							

IDC ***24*** *09:28:30.0±0.6,2.˚16N×93.˚46W, h0km, mb4.3/15, mbtmp4.3/17, ML3.3/1, MS4.2/34, Error ellipse: s-maj=30.1km s-min=12.3km az=54.0*

NEIC ***24*** *09:28:32.5±1.6,2.˚23N±0.˚08×93.˚2W±0.˚1, h10km±1km, mb4.6/112, Error ellipse: s-maj=18.9km s-min=12.6km az=246.0*

GCMT ***24*** *09:28:35.5±0.3,2.˚49N±0.˚01×93.˚28W±0.˚02, h22km±1km, MW5.0/103, Moment Tensor Solution. s33,c36; s103,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.54±.13; $M_{\theta\theta}$-0.21±.11; $M_{\phi\phi}$0.74±.13; $M_{r\theta}$-1.30±.18; $M_{\theta\phi}$-3.35±.10; $M_{\phi r}$0.22±.18; Best double couple: M_o3.63400×10^{16} NP1:ϕ_s95.00000°, δ87.00000°, λ-158.00000°. NP2:ϕ_s4.00000°, δ68.00000°, λ-3.00000°. Principal axes: T 3.8930, Plg13.0000°, Azm227.0000°; N -0.5170, Plg68.0000°, Azm102.0000°; P -3.3760, Plg17.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 09:28:31.7±0.5,**2.˚21N**±0.˚07×**93.˚23W**±0.˚08,**h10**km,**n165,** σ1**29**/111,**mb4.6**/67,**MS4.2**/34,**Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAYG	**Puerto Ayora**	**4.11**	**134**			**Pn**	**09 29 32.7**	**-2.0**
DUNO	**Dulce Nombre,**	**10.97**	**44**	Pn		**Pn**	**09 31 07.7**	**-1.2**
ORTG	**Ortega, Santa**	**11.19**	**43**	Pn		**Pn**	09 31 07.4	-4.6
HZTE	**Horizontes, Gu**	**11.35**	**42**	Pn		**Pn**	**09 31 15.1**	**+1.0**
JTS	**Las Juntas de**	**11.49**	**45**	LR		LR	09 34 28.1	
	comp=Z,3μm,19.3s,baz=325,slow=31							
SRBA	**San Rafael, Bu**	**12.05**	**54**			**Pn**	**09 31 25.2**	**+1.4**
COVE	**Coope Vega, Sa**	**12.18**	**46**	Pn		**Pn**	**09 31 21.6**	**-3.9**
ACON	**Acoyapa**	**12.56**	**39**	Pn		**Pn**	**09 31 29.0**	**-1.7**
MTO3	**Montecristo**	**12.70**	**17**	Pn		**Pn**	**09 31 33.8**	**+1.0**
ESQI	**Esquipulas**	**12.86**	**17**	Pn		**Pn**	**09 31 35.5**	**+0.7**
ARNL	**Arenillas**	**14.35**	**113**			**Pn**	**09 31 57.5**	**+2.4**
COHC	**Cochancay**	**14.72**	**108**	Pn		**Pn**	**09 32 01.5**	**+1.2**
COHC				P		**P**	**09 32 02.8**	**-3.6**
MCRA	**Macar, Loja**	**14.79**	**116**			**Pn**	**09 32 02.4**	**+1.2**
CHSH	**Refugio Sur-Vo**	**14.82**	**104**	Pn		**Pn**	**09 32 03.7**	**+1.6**
CHSH				P		**P**	**09 32 12.8**	**+4.7**
CMIG	**Matias Romero**	**14.88**	**354**	LR		LR	09 36 13.0	
	comp=Z,321nm,21.2s,baz=170,slow=31							
SLOR	**San Lorenzo -**	**15.02**	**101**	Pn		**Pn**	**09 32 04.0**	**-0.7**
TULM	**Tulcn-Chalpat**	**15.51**	**95**	Pn		**Pn**	**09 32 12.7**	**+1.5**
TULM				IAmb		IAmb	09 32 35.1	
	comp=Z,39nm,1.2s							
BOSC	**San Juan Bosco**	**15.66**	**110**	Pn		**Pn**	**09 32 13.9**	**+1.0**
TLIG	**Tlapa**	**16.14**	**341**	P		**Pn**	**09 32 19.6**	**+0.7**
ATAH	**Atahualpa**	**17.48**	**122**	P		**P**	**09 32 38.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=307,slow=14,SNR=3.4							
ATAH				LR		LR	09 38 10.5	
	comp=Z,1μm,18.8s,baz=314,slow=33							
	comp=Z,5.1nm,0.8s							
ROSC	**El Rosal**	**19.05**	**82**	P		**Pn**	**09 32 58.5**	**+3.0**
	comp=Z,40nm,1.1s,baz=230,slow=1.0,SNR=9.8							
ROSC				LR		LR	09 38 59.0	
	comp=Z,1μm,21.5s,baz=265,slow=33							
ROSC	**El Rosal**	**19.05**	**82**	P		**P**	**09 32 54.3**	**-0.5**
ROSC				IAmb		IAmb	09 33 03.1	
	comp=Z,64nm,1.2s							
NNA	**Nana**	**21.54**	**131**	P		**P**	**09 33 22.6**	**+1.1**
	comp=Z,12nm,0.8s,baz=331,slow=8.7,SNR=4.3							
NNA				LR		LR	09 40 00.1	
	comp=Z,755nm,19.5s,baz=314,slow=32							
	comp=Z,12nm,0.8s							
CZSB	**Cruzeiro do Su**	**22.73**	**116**	P		**P**	**09 33 34.5**	**+0.3**
CZSB				IAmb		IAmb	09 33 47.3	
	comp=Z,62nm,1.2s							
URIC	**Uribia, Colomb**	**23.07**	**65**	P		**P**	**09 33 37.1**	**-0.7**
URIC				IAmb		IAmb	09 33 43.7	
	comp=Z,23nm,0.9s							
SDV	**Santo Domingo**	**23.44**	**73**	P		**P**	**09 33 43.3**	**+1.6**
	comp=Z,12nm,1.0s,baz=225,slow=8.4,SNR=7.8							
SDV				LR		LR	09 42 00.5	
	comp=Z,526nm,18.3s,baz=251,slow=34							
	comp=Z,12nm,1.0s							
SDV	**Santo Domingo**	**23.44**	**73**	P		**P**	**09 33 40.5**	**-1.2**
BAUV	**El Baul**	**25.93**	**74**	P		**P**	**09 34 03.5**	**-1.0**
LPIG	**La Paz**	**27.32**	**324**	LR		LR	09 42 19.2	
	comp=Z,345nm,21.9s,baz=132,slow=30							
HPIG		**27.33**	**335**	P		**P**	**09 34 18.2**	**+1.0**
HPIG				IAmb		IAmb	09 35 01.7	
	comp=Z,8.3nm,0.5s							
TXAR	**Lajitas Array**	**28.75**	**341**	P		**P**	**09 34 29.7**	**0.0**
	comp=Z,2.6nm,0.9s,baz=156,slow=8.7,SNR=15							
TXAR				PcP		**PcP**	**09 37 39.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=151,slow=4.0,SNR=3.6							
TXAR				LR		LR	09 44 53.6	
	comp=Z,666nm,19.8s,baz=142,slow=34							
	comp=Z,2.6nm,0.9s							
TX31	**Lajitas Ar. Si**	**28.75**	**341**	P		**P**	**09 34 29.6**	**-0.2**
TX31				IAmb		IAmb	09 34 36.5	
	comp=Z,10nm,1.0s							
TX32	**Lajitas Array**	**28.75**	**341**	P		**P**	**09 34 29.8**	**+0.1**
PCRV	**Puerto La Cruz**	**29.49**	**73**	LR		LR	09 47 16.1	
	comp=Z,456nm,18.2s,slow=38							
WHTX	**Lake Whitney,**	**29.89**	**353**	P		**P**	**09 34 39.1**	**-0.7**
WHTX				IAmb		IAmb	09 34 47.7	
	comp=Z,7.9nm,0.9s							
LPAZ	**La Paz**	**30.87**	**127**	P		**P**	**09 34 50.0**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=296,slow=7.3,SNR=13							
LPAZ				LR		LR	09 46 18.3	
	comp=Z,804nm,21.6s,baz=314,slow=34							
	comp=Z,2.9nm,0.8s							
LPAZ	**La Paz**	**30.87**	**127**	P		**P**	**09 34 48.2**	**-1.0**
LPAZ				IAmb		IAmb	09 34 56.0	
	comp=Z,5.7nm,0.9s							
SJG	**San Juan**	**30.91**	**57**	LR		LR	09 45 06.9	
	comp=Z,321nm,21.6s,baz=240,slow=32							
PB16	**IPOC Station P**	**31.02**	**132**	P		**P**	**09 34 50.5**	**0.0**
PB16				IAmb		IAmb	09 34 54.3	
	comp=Z,8.0nm,0.8s							
WLAR	**White Oak Lake**	**31.32**	**0**	P		**P**	**09 34 53.0**	**+0.7**
GDL2	**Guadalupe Moun**	**31.62**	**342**	P		**P**	**09 34 54.7**	**-0.5**
HTMS	**Hat Mesa**	**31.66**	**343**	P		**P**	**09 34 55.2**	**-0.2**
X34A	**Smith Ranch, M**	**32.51**	**353**	P		**P**	**09 35 04.4**	**+1.6**
319A	**Douglas**	**32.73**	**334**	IAmb		IAmb	09 35 11.2	
	comp=Z,6.4nm,0.8s							
WMOK	**Wichita Mounta**	**32.78**	**352**	IAmb		IAmb	09 35 13.2	
	comp=Z,11nm,1.2s							
MSTX	**Muleshoe**	**32.83**	**345**	IAmb		IAmb	09 35 10.5	
	comp=Z,8.8nm,0.9s							
RPN	**Rapa Nui**	**33.04**	**207**	LR		LR	09 44 46.9	
	comp=Z,540nm,21.7s,baz=21,slow=30							
FCAR	**Ozark Folk Cen**	**33.53**	**2**	P		**P**	**09 35 11.4**	**-0.3**
FCAR				IAmb		IAmb	09 35 26.3	
	comp=Z,10.0nm,1.2s							
GNAR	**Gosnell**	**33.72**	**5**	P		**P**	**09 35 14.9**	**+1.5**
BNM	**Barren Site**	**34.15**	**340**	P		**P**	**09 35 17.7**	**+0.2**
OK044	**Pawnee Station**	**34.16**	**355**	P		**P**	**09 35 16.7**	**-0.4**
TUC	**Tucson**	**34.20**	**333**	P		**P**	**09 35 18.2**	**+0.6**
LVC	**Limon Verde**	**34.23**	**137**	LR		LR	09 45 56.4	
	comp=Z,192nm,20.7s,baz=302,slow=30							
TKL	**Tuckaleechee C**	**34.42**	**14**	LR		LR	09 48 41.8	
	comp=Z,220nm,18.0s,baz=194,slow=35							
X18A	**Snowflake**	**35.74**	**336**	P		**P**	**09 35 31.7**	**+0.7**
R40A	**Maddies Statio**	**35.92**	**1**	P		**P**	**09 35 32.1**	**-0.3**
R40A				IAmb		IAmb	09 35 53.8	
	comp=Z,8.0nm,1.1s							
113A	**Mohawk Valley,**	**36.00**	**330**	P		**P**	**09 35 33.7**	**+0.6**
113A				IAmb		IAmb	09 35 38.9	
	comp=Z,7.0nm,1.0s							
SIV	**San Ignacio**	**36.57**	**121**	LR		LR	09 50 06.0	
	comp=Z,705nm,19.9s,baz=320,slow=35							
BLYC	**Blythe**	**37.16**	**330**	P		**P**	**09 35 41.9**	**-1.1**
WUAZ	**Wupatki**	**37.18**	**335**	P		**P**	**09 35 42.3**	**-1.0**
WUAZ				IAmb		IAmb	09 35 47.0	
	comp=Z,13nm,1.4s							
BLO	**Bloomington**	**37.30**	**9**	P		**P**	**09 35 42.7**	**-1.4**
BLO				IAmb		IAmb	09 35 47.7	
	comp=Z,15nm,1.1s							
S22A	**4UR Ranch, Cre**	**37.51**	**342**	P		**P**	**09 35 46.3**	**0.0**
S22A				IAmb		IAmb	09 35 56.0	
	comp=Z,15nm,1.4s							
MVCO	**Mesa Verde**	**37.56**	**340**	P		**P**	**09 35 47.1**	**+0.4**
MVCO				IAmb		IAmb	09 35 52.1	
	comp=Z,6.9nm,0.9s							
AC05	**El Transito**	**37.91**	**146**	P		**P**	**09 35 50.0**	**+0.4**
AC05				IAmb		IAmb	09 35 53.4	
	comp=Z,9.7nm,0.9s							
H03N2	**Juan Fernandez**	**37.94**	**160**	T		T	10 16 14.9	
	baz=338,slow=77,SNR=85							
H03N1	**Juan Fernandez**	**37.95**	**160**	T		T	10 16 20.8	
	baz=338,slow=77,SNR=231							
W13A	**Hualapai Mount**	**37.95**	**332**	P		**P**	**09 35 50.6**	**+0.7**
H03N3	**Juan Fernandez**	**37.95**	**160**	T		T	10 16 14.6	
	baz=338,slow=77,SNR=101							
PTLB	**Pontes e Lacer**	**38.01**	**119**	P		**P**	**09 35 49.6**	**-0.8**
PTLB				IAmb		IAmb	09 35 52.6	
	comp=Z,4.3nm,0.8s							
PFO	**Pinyon Flats O**	**38.06**	**328**	LR		LR	09 48 40.1	
	comp=Z,472nm,19.3s,baz=150,slow=32							
VA04	**Juan Fernndez**	**38.16**	**160**	P		**P**	**09 35 51.6**	**+0.2**
HDIL	**Hopedale**	**38.34**	**5**	P		**P**	**09 35 51.5**	**-1.4**
HDIL				IAmb		IAmb	09 35 53.5	
	comp=Z,14nm,0.9s							
N35A	**Tabor**	**38.54**	**357**	P		**P**	**09 35 53.8**	**-0.7**
N35A				IAmb		IAmb	09 35 56.1	
	comp=Z,18nm,1.1s							
PV03	**Paradox Valley**	**38.62**	**340**	P		**P**	**09 35 55.2**	**-0.4**
PV12	**Saucer Basin,**	**38.67**	**340**	P		**P**	**09 35 56.2**	**+0.3**
PV12				IAmb		IAmb	09 36 01.4	
	comp=Z,14nm,1.0s							
PV23	**Carpenter Ridg**	**38.86**	**340**	IAmb		IAmb	09 36 02.9	
	comp=Z,7.7nm,0.8s							
SMCO	**Snowmass**	**38.87**	**343**	IAmb		IAmb	09 36 12.1	
	comp=Z,14nm,1.4s							
ISCO	**Idaho Springs**	**39.08**	**345**	P		**P**	**09 35 59.0**	**-0.4**
ISCO				IAmb		IAmb	09 36 09.4	
	comp=Z,15nm,1.1s							
CO03	**El Pedregal**	**39.26**	**149**	P		**P**	**09 36 00.3**	**-0.5**
Q16A	**Castle Valley**	**40.04**	**338**	IAmb		IAmb	09 36 13.2	
	comp=Z,13nm,1.1s							
MVU	**Marysvale**	**40.08**	**337**	P		**P**	**09 36 07.2**	**-0.6**
MVU				IAmb		IAmb	09 36 21.3	
	comp=Z,16nm,1.3s							
O20A	**White River Ci**	**40.14**	**342**	P		**P**	**09 36 08.1**	**-0.1**
O20A				IAmb

PLCA				LR	LR	09 52 17.2		
	comp=Z,168nm,19.1s,baz=330,slow=30							
	comp=Z,1.3nm,0.9s							
ULM	**Lac du Bonnet**	**47.92 358**		P	**P**	**09 37 12.2**	**+2.0**	
	comp=Z,7.3nm,0.8s,baz=195,slow=9.6,SNR=4.5							
	comp=Z,7.3nm,0.8s							
TAOE	**Nuku Hiva Isla**	**48.03 256**		*e*LR	LR	09 50 51.2		
	comp=Z,479nm,25.1s							
NEW	**Newport**	**50.29 339**		LR	LR	09 57 32.3		
	comp=Z,193nm,20.4s,baz=152,slow=35							
SCHQ	**Schefferville**	**56.70 18**		LR	LR	10 01 15.1		
	comp=Z,199nm,20.3s,baz=219,slow=35							
BBB	**Bella Bella**	**57.67 335**		LR	LR	10 02 11.4		
	comp=Z,96nm,18.2s,baz=174,slow=35							
RCBR	**Riachuelo**	**57.81 98**		LR	LR	10 04 55.3		
	comp=Z,211nm,18.2s,baz=63,slow=38							
PPT	**Papeete**	**58.88 248**		LR	LR	09 56 47.0		
	comp=Z,180nm,20.7s,baz=100,slow=29							
PPT2	**Papeete2**	**58.89 248**		*e*LR	LR	09 55 53.2		
	comp=Z,217nm,28.5s							
PPT2				*e*LR	LR	09 55 53.6		
	comp=Z,296nm,27.2s							
TBI	**Tubuai**	**60.30 242**		*e*LR	LR	09 56 31.8		
	comp=Z,2μm,25.2s							
TBI				*e*LR	LR	09 56 32.4		
	comp=Z,935nm,35.2s							
TBI	**Tubuai**	**60.30 242**		*e*T	T	10 43 57.8		
	comp=Z,18nm,0.4s							
YKA	**Yellowknife Ar**	**62.23 349**		P	**P**	**09 38 52.5**	**-0.9**	
	comp=Z,2.7nm,0.9s,baz=155,slow=6.7,SNR=6.2							
	comp=Z,2.7nm,0.9s							
DLBC	**Dease Lake**	**63.04 339**		P	**P**	**09 38 59.2**	**+0.2**	
	comp=Z,3.1nm,0.8s,baz=255,slow=24,SNR=1.9							
	comp=Z,3.1nm,0.8s							
RAR	**Rarotonga**	**69.06 246**		LR	LR	10 03 55.0		
	comp=Z,198nm,18.4s,baz=128,slow=31							
M26K	**Nabesna, AK**	**70.46 338**		IAmb	IAmb	09 39 51.3		
	comp=Z,8.3nm,1.2s							
INK	**Inuvik**	**71.41 345**		P	**P**	**09 39 51.7**	**-0.1**	
	comp=Z,9.5nm,1.1s,baz=134,slow=7.4,SNR=6.2							
	comp=Z,9.5nm,1.1s							
INK	**Inuvik**	**71.41 345**		P	**P**	**09 39 51.5**	**-0.3**	
J26L	**Joseph Creek**	**71.91 339**		IAmb	IAmb	09 40 00.3		
	comp=Z,6.6nm,0.9s							
RES	**Resolute Bay**	**72.40 360**		P	**P**	**09 39 56.0**	**-1.7**	
	comp=Z,4.9nm,1.1s,baz=215,slow=14,SNR=2.9							
RES				LR	LR	10 13 16.7		
	comp=Z,122nm,18.1s,baz=34,slow=37							
	comp=Z,4.9nm,1.1s							
IL31		**73.24 339**		P	**P**	**09 40 02.8**	**0.0**	
ILAR	**Eielson Array**	**73.24 339**		P	**P**	**09 40 01.3**	**-1.5**	
	comp=Z,2.1nm,1.0s,baz=143,slow=3.0,SNR=14							
	comp=Z,2.1nm,1.0s							
ILAR	**Eielson Array**	**73.24 339**		P	**P**	**09 40 01.6**	**-1.3**	
NEA2	**Nenana**	**73.94 338**		IAmb	IAmb	09 40 11.2		
	comp=Z,4.2nm,0.8s							
H24K	**Noodor Dome**	**74.17 340**		IAmb	IAmb	09 40 13.1		
	comp=Z,9.4nm,1.3s							
I23K	**Minto, Yukon-K**	**74.33 339**		IAmb	IAmb	09 40 13.1		
	comp=Z,10nm,1.2s							
CAST	**Castle Rocks**	**74.53 336**		P	**P**	**09 40 10.3**	**-0.2**	
CAST				IAmb	IAmb	09 40 14.1		
	comp=Z,6.4nm,0.9s							
AFI	**Afiamalu**	**79.42 256**		LR	LR	10 06 42.1		
	comp=Z,148nm,20.2s,baz=65,slow=29							
BELA	**Belgrano 2**	**85.83 170**		P	**P**	**09 41 11.7**	**+0.5**	
BELA				IAmb	IAmb	09 41 14.3		
	comp=Z,5.0nm,1.1s							
VNA3	**Neumayer Olymp**	**90.00 161**		P	**P**	**09 41 31.6**	**+0.4**	
VNA1	**Neumayer--Stat**	**90.39 161**		P	**P**	**09 41 33.5**	**+0.6**	
TROLL	**Troll, Antarti**	**93.87 162**		P	**P**	**09 41 49.7**	**+0.5**	
VNDA	**Vanda**	**95.35 192**		LR	LR	10 17 52.6		
	comp=Z,67nm,18.3s,baz=128,slow=31							
RPZ	**Rata Peaks**	**95.65 226**		LR	LR	10 15 36.1		
	comp=Z,162nm,20.0s,baz=66,slow=30							
H11S2	**WAKE ISLAND Hy**	**98.84 289**		T	T	11 32 03.8		
	baz=85,slow=74,SNR=20							
H11S1	**WAKE ISLAND Hy**	**98.84 289**		T	T	11 32 03.7		
	baz=85,slow=74,SNR=9.2							
H11S3	**WAKE ISLAND Hy**	**98.85 289**		T	T	11 32 12.9		
	baz=85,slow=74,SNR=11							
DZM	**Mont Dzumac**	**100.39 248**		*e*LR	LR	10 15 07.0		
	comp=Z,64nm,27.0s							
ZALV	**Zalesovo Beam**	**124.02 1**		PKP	**PKPdf**	**09 47 28.5**	**-1.9**	
	comp=Z,0.4nm,0.3s,baz=204,slow=3.2,SNR=2.1							
SONM	**Songino Array**	**127.29 343**		PKP	**PKPdf**	**09 47 35.7**	**-1.3**	
	comp=Z,0.8nm,0.8s,baz=217,slow=0.9,SNR=4.8							
ASAR	**Alice Springs**	**129.68 241**		PKP	**PKPdf**	**09 47 41.2**	**-1.0**	
	comp=Z,1.4nm,1.0s,baz=93,slow=2.3,SNR=6.6							
WRA	**Warramunga Arr**	**130.33 246**		PKP	**PKPdf**	**09 47 42.4**	**-1.0**	
	comp=Z,1.7nm,1.0s,baz=113,slow=1.8,SNR=6.1							
MKAR	**Makanchi Array**	**131.05 4**		PKP	**PKPdf**	**09 47 44.5**	**+0.4**	
	comp=Z,1.1nm,0.9s,baz=331,slow=2.5,SNR=5.7							
KSH	**Kashi**	**137.31 12**		PKP	**PKiKP**	**09 47 59.1**	**+1.0**	
PZH	**PanZhiHua**	**148.00 334**		PKPbc	**PKPdf**	**09 48 14.6**	**-0.8**	
CMAR	**Chiang Mai Arr**	**156.22 330**		PKPab	**PKPab**	**09 48 56.4**	**+1.1**	
	comp=Z,1.4nm,0.3s,baz=17,slow=4.3,SNR=7.1							

WEL 24 09:47:07.8±0.9, 38°S±4.4° × 17°9E±°, h12km, M3.4/55, ML3.7/28, MLv3.4/55, Error ellipse: s-maj=0.0km s-min=0.0km az=76.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.61**	**257**	P	Pn	09 47 21.6	-0.7
PUZ	**Puketiti**	**0.62**	**296**	P	Pb	09 47 20.7	+0.1
PUZ				S	Sb	09 47 29.3	0.0
WMGZ	**Waiomatatini S**	**0.68**	**320**	P	Pb	09 47 22.2	+0.6
WMGZ				S	Sb	09 47 31.8	+0.8
TWGZ	**Tauwhareparae**	**0.79**	**282**	P	Pb	09 47 23.8	+0.2
TWGZ				S	Sb	09 47 35.2	+0.9
PKGZ	**Pakihiroa**	**0.84**	**303**	P	Pb	09 47 24.3	0.0
PKGZ				S	Sb	09 47 35.3	-0.3
TKGZ	**Te Karaka**	**0.88**	**264**	P	Pb	09 47 25.1	+0.1
TKGZ				S	Sb	09 47 37.1	+0.3
MXZ	**Matakaoa Point**	**0.94**	**326**	P	Pb	09 47 26.3	+0.3
RIGZ	**Rimuhau**	**1.01**	**249**	P	Pb	09 47 27.1	-0.2
RIGZ				S	Sb	09 47 41.0	+0.4
RUGZ	**Raukumara Rang**	**1.08**	**290**	P	Pb	09 47 27.8	-0.8
HAZ	**Te Kaha**	**1.10**	**302**	P	Pb	09 47 27.9	-1.0
MWZ	**Matawai**	**1.13**	**270**	P	Pb	09 47 28.5	-0.8
MHGZ	**Mahia Peninsul**	**1.16**	**225**	P	Pb	09 47 29.6	-0.1
KNZ	**Kokohu**	**1.22**	**236**	P	Pn	09 47 30.0	-0.7
RAGZ	**Rawiri**	**1.23**	**262**	P	Pn	09 47 30.2	-0.7
SNGZ	**Shannon Statio**	**1.35**	**251**	P	Pn	09 47 31.7	-0.8
URZ	**Urewera**	**1.46**	**273**	P	Pn	09 47 33.5	-0.5
WHHZ	**Waihua**	**1.54**	**241**	P	Pn	09 47 34.7	-0.4
RAHZ	**Arahi**	**1.58**	**248**	P	Pn	09 47 35.3	-0.4
RTZ	**Ruatahuna**	**1.58**	**260**	P	Pn	09 47 35.0	-0.8
WHRZ	**Whale Island**	**1.65**	**287**	P	Pn	09 47 37.3	+0.7
MUGZ	**Murupara**	**1.73**	**265**	P	Pn	09 47 37.5	-0.2
MTHZ	**Maungataniwha**	**1.74**	**252**	P	Pn	09 47 37.7	-0.2
EDRZ	**Edgecumbe**	**1.77**	**277**	P	Pb	09 47 40.4	+0.1
ARHZ	**Aropaoanui**	**1.79**	**239**	P	Pn	09 47 38.2	-0.3
MARZ	**Manawahe**	**1.84**	**281**	P	Pn	09 47 39.1	-0.2
NMHZ	**Naumai**	**1.85**	**245**	P	Pn	09 47 39.3	-0.2
RRRZ	**Republican Roa**	**1.93**	**269**	P	Pn	09 47 40.8	+0.4
TARZ	**Mount Tarawera**	**1.94**	**272**	P	Pn	09 47 40.7	0.0
OPRZ	**Ohinepanea**	**1.97**	**284**	P	Pn	09 47 40.1	-0.9
MRHZ	**Matea Rd**	**2.06**	**255**	P	Pn	09 47 42.0	-0.2
OMRZ	**Omania**	**2.06**	**276**	P	Pn	09 47 42.3	+0.1
ALRZ	**Allen Road**	**2.07**	**263**	P	Pn	09 47 42.4	0.0
MCHZ	**McNeill Hill**	**2.08**	**237**	P	Pn	09 47 42.3	-0.2
BKZ	**Black Stump Fm**	**2.10**	**246**	P	Pn	09 47 42.7	-0.1
HRRZ	**Handcock Road**	**2.11**	**268**	P	Pb	09 47 44.5	-1.5
HSRZ	**Hossack Road**	**2.14**	**270**	P	Pn	09 47 43.6	+0.2
KAHZ	**Kahuranaki**	**2.18**	**228**	P	Pn	09 47 43.3	-0.6
TGRZ	**Tauranga**	**2.22**	**285**	P	Pn	09 47 43.6	-0.9
KWHZ	**Kaweka Forest**	**2.26**	**241**	P	Pn	09 47 44.3	-0.8
PXZ	**Pawanui**	**2.35**	**224**	P	Pn	09 47 44.9	-1.3
RITZ	**Rihia Road**	**2.51**	**254**	P	Pn	09 47 48.4	-0.1
BHHZ	**Black Hill Sta**	**2.54**	**242**	P	Pn	09 47 48.2	-0.7
RATZ	**Rangitukua**	**2.56**	**257**	P	Pn	09 47 49.4	+0.3
WPHZ	**Waipukurau**	**2.61**	**228**	P	Pn	09 47 48.6	-1.2
PRHZ	**Porangahau**	**2.64**	**223**	P	Pn	09 47 48.5	-1.7
PNHZ	**Pukenui**	**2.66**	**233**	P	Pn	09 47 49.6	-1.0
ETVZ	**East Tongariro**	**2.67**	**252**	P	Pn	09 47 50.3	-0.4
TMVZ	**Te Maari**	**2.67**	**252**	P	Pn	09 47 50.5	-0.2
NTVZ	**North Tongarir**	**2.68**	**253**	P	Pn	09 47 50.6	-0.3
TLZ	**Tolley Road**	**2.70**	**269**	P	Pn	09 47 50.9	-0.1
KRVZ	**Karewarewa**	**2.71**	**253**	P	Pn	09 47 50.8	-0.5
OTVZ	**Oturere**	**2.71**	**251**	P	Pn	09 47 51.1	-0.3
MOVZ	**Moawhango**	**2.72**	**246**	P	Pn	09 47 50.9	-0.5
SNVZ	**South Ngauruho**	**2.73**	**251**	P	Pn	09 47 51.3	-0.4
NNVZ	**North Ngauruho**	**2.74**	**252**	P	Pn	09 47 51.7	0.0
NGZ	**Ngauruhoe**	**2.76**	**251**	P	Pn	09 47 51.7	-0.3
TOZ	**Tahuroa Road**	**2.80**	**282**	P	Pn	09 47 51.9	-0.5
WNVZ	**Wahianoa**	**2.81**	**249**	P	Pn	09 47 52.2	-0.5
ANWZ	**Angora Road**	**2.86**	**222**	P	Pn	09 47 52.4	-0.8
TSZ	**Takapari Road**	**2.90**	**233**	P	Pn	09 47 52.3	-1.5
DVHZ	**Dannevirke**	**2.92**	**227**	P	Pn	09 47 52.5	-1.6
MTVZ	**Mangateitei**	**2.92**	**248**	P	Pn	09 47 53.9	-0.2
KUZ	**Kuaotunu**	**3.03**	**301**	P	Pn	09 47 54.5	-1.1
BFZ	**Birch Farm**	**3.14**	**221**	P	Pn	09 47 54.7	-2.4
PRWZ	**Pori Road**	**3.20**	**225**	P	Pn	09 47 56.8	-1.2
POWZ	**Post Office Ro**	**3.21**	**229**	P	Pn	09 47 56.8	-1.4
HIZ	**Hauiti**	**3.23**	**266**	P	Pn	09 47 58.8	+0.5
MKAZ	**Moumakai**	**3.26**	**291**	P	Pn	09 47 58.4	-0.3
VRZ	**Vera Road**	**3.38**	**255**	P	Pn	09 48 00.5	0.0
TIWZ	**Tintock**	**3.40**	**223**	P	Pn	09 47 58.6	-2.2
WAZ	**Wanganui**	**3.40**	**244**	P	Pn	09 48 00.8	+0.1
GRZ	**Great Barrier**	**3.49**	**306**	P	Pn	09 48 01.1	-0.9
ETAZ	**East Tamaki Re**	**3.49**	**292**	P	Pn	09 48 02.0	+0.1
MRZ	**Mangatainoka R**	**3.50**	**228**	P	Pn	09 47 59.8	-2.2
MBAZ	**Motutapu North**	**3.59**	**295**	P	Pn	09 48 03.7	+0.4
TMWZ	**Te Maipa**	**3.64**	**220**	P	Pn	09 48 01.2	-2.7
HOWZ	**Holdsworth Sta**	**3.69**	**225**	P	Pn	09 48 02.2	-2.5
DREZ	**Durham Road**	**3.82**	**256**	P	Pn	09 48 07.3	+0.9
NEZ	**North Egmont**	**3.92**	**255**	P	Pn	09 48 08.7	+0.9
KHEZ	**Kahui Hut**	**3.98**	**255**	P	Pn	09 48 09.7	+0.9
PKE	**Pukeiti**	**3.98**	**256**	P	Pn	09 48 10.1	+1.4
KIW	**Kapiti Island**	**4.02**	**230**	P	Pn	09 48 07.4	-1.7
CTZ	**Chatham Island**	**6.34**	**150**	P	Pn	09 48 42.9	+1.9

*KRSC **24** 09:51:01.4±1.1, 52°.48N×160°.25E, h40km±15km, ML3.9*
*IDC **24** 09:51:04.6±5.2, 52°.22N×159°.90E, h62km±33km, mb3.3/6, mbtmp3.6/6, Error ellipse: s-maj=68.0km s-min=24.9km az=5.0*
ISC 24 09:51:04.5±1.7, 52°.49N±0°.07×160°.07E±0°.08, h46km±16km, n29, σ1°21/39, mb3.5/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.82**	**328**	*e*P	**Pn**	**09 51 18.2**	**-1.4**
NLC				S	**Sn**	**09 51 30.2**	**-0.4**
RUS	**Russkaya**	**0.95**	**268**	*e*P	**Pn**	**09 51 20.4**	**-1.1**
RUS				*e*S	**Sn**	**09 51 34.7**	**+0.8**
DALK	**Dalny**	**0.97**	**305**	*i* P	**Pn**	**09 51 20.5**	**-1.2**
DALK				*e*S	**Sn**	**09 51 34.2**	**-0.1**
PET	**Petropavlovsk**	**1.02**	**303**	*e*P	**Pn**	**09 51 21.3**	**-1.0**
PET				*e*S	**Sn**	**09 51 35.6**	**+0.2**
UGLR	**Uglovaya**	**1.05**	**314**	*e*P	**Pn**	**09 51 22.3**	**-0.6**
SDLR	**Sedlovina**	**1.07**	**318**	*e*P	**Pn**	**09 51 22.4**	**-0.8**
SMAR	**Somma**	**1.09**	**316**	P	**Pn**	**09 51 22.5**	**-1.1**
KRER	**Koryakskii**	**1.15**	**316**	*e*P	**Pn**	**09 51 22.7**	**-1.6**
MTVR	**Mutnovka**	**1.15**	**271**	*i* P	**Pn**	**09 51 23.9**	**-0.4**
MTVR				*e*S	**Sn**	**09 51 40.6**	**+1.6**
KOK	**Koryaka**	**1.19**	**314**	*e*P	**Pn**	**09 51 24.2**	**-0.5**
GRL	**Gorelyy**	**1.22**	**274**	*i* P	**Pn**	**09 51 25.5**	**+0.3**
KRMR	**Karymshinskiy**	**1.23**	**287**	*e*P	**Pn**	**09 51 24.6**	**-0.6**
KRMR				S	**Sn**	**09 51 41.9**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.40**	**242**	*e*P	**Pn**	**09 51 27.1**	**-0.5**
KDTR				*i* S	**Sn**	**09 51 46.1**	**+1.3**
PETK	**Petropavlovsk-**	**1.57**	**294**	P	**Pn**	**09 51 30.0**	**+0.1**
	47nm,0.5s,baz=124,slow=17,SNR=92						
PETK				S	**Sn**	**09 51 50.9**	**+1.9**
	24nm,0.4s,baz=78,slow=14,SNR=2.5						
GNL	**Ganaly**	**1.77**	**314**	*e*P	**Pn**	**09 51 33.8**	**+1.1**
APC	**Apacha**	**1.83**	**285**	*e*P	**Pn**	**09 51 34.5**	**+1.1**
APC				S	**Sn**	**09 51 59.0**	**+3.7**
TUMD	**Tumrok D**	**2.73**	**4**	*e*P	**Pn**	**09 51 45.2**	**-0.6**
TUMD				S	**Sn**	**09 52 18.0**	**+0.4**
TUMR	**Tumrok**	**2.80**	**1**	*e*P	**Pn**	**09 51 47.1**	**+0.2**
KMNR	**Kamenistaya**	**3.28**	**2**	*e*P	**Pn**	**09 51 54.8**	**+1.4**
ESO	**Esso**	**3.54**	**347**	*e*P	**Pn**	**09 51 58.2**	**+1.3**
SRDR	**Sredinnyy**	**3.85**	**357**	P	**Pn**	**09 52 01.8**	**+0.7**
KBTR	**Krutoberegovo**	**4.06**	**22**	P	**Pn**	**09 52 03.8**	**-0.2**
SMKR	**Semkarok**	**4.19**	**11**	P	**Pn**	**09 52 07.6**	**+1.8**
ILAR	**Eielson Array**	**29.26**	**44**	P	**P**	**09 57 02.5**	**+0.8**
	0.3nm,0.7s,baz=271,slow=7.9,SNR=2.3						
	0.3nm,0.7s						
INK	**Inuvik**	**34.36**	**37**	P	**P**	**09 57 46.6**	**+0.3**
	0.4nm,0.6s,baz=306,slow=9.4,SNR=4.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**48.41**	**296**	P	**P**	**09 59 40.0**	**-1.7**
	0.1nm,0.3s,baz=55,slow=7.4,SNR=2.5						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**60.67**	**337**	P	**P**	**10 01 10.4**	**+0.1**
	1.9nm,0.6s,baz=52,slow=9.0,SNR=4.3						
	1.9nm,0.6s						
AKASG	**Malin Array Be**	**69.13**	**329**	P	**P**	**10 02 04.3**	**-1.1**
	0.7nm,0.4s,baz=29,slow=6.8,SNR=4.2						
	0.7nm,0.4s						
TXAR	**Lajitas Array**	**70.89**	**67**	P	**P**	**10 02 17.1**	**+0.4**
	0.2nm,0.5s,baz=311,slow=4.2,SNR=3.7						
	0.2nm,0.5s						

*IDC **24** 09:52:07.9±12.0, 14°.01N×90°.95W, h0km, mb3.7/2, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=253.5km s-min=102.5km az=5.0*
*MEX **24** 09:52:48.0±0.6, 15°.83N×92°.59W, h225km±6km, MD4.3*
ISC 24 09:52:48.7±1.0, 15°.91N±0°.07×92°.63W±0°.06, h207km±7km, n35, σ2°69/66, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.60**	**52**	*e*P	**Pn**	**09 53 17.0**	**-0.3**
CCIG				*i* S	**S**	**09 53 38.7**	**-0.8**
PCIG		**0.60**	**251**	*e*P	**Pn**	**09 53 16.9**	**-0.1**
PCIG				*e*S	**S**	**09 53 39.3**	**+0.3**
PAVE	**Pavencul**	**0.83**	**149**	*e*P	**Pn**	**09 53 17.6**	**-0.9**
PAVE				*e*S	**S**	**09 53 40.0**	**-1.6**
PATR	**El Naranjo**	**0.87**	**154**	*e*P	**Pn**	**09 53 17.1**	**-1.7**
PATR				*e*S	**S**	**09 53 41.1**	**-0.9**
CHUJ	**Union Juarez**	**0.95**	**148**	*e*P	**Pn**	**09 53 17.8**	**-1.4**
CHUJ				*e*S	**S**	**09 53 42.9**	**0.0**
TGIG		**0.99**	**331**	*i* P	**Pn**	**09 53 20.0**	**+0.8**
TGIG				*e*S	**S**	**09 53 43.9**	**+0.9**
THIG		**1.05**	**161**	*i* P	**Pn**	**09 53 18.9**	**-0.7**
THIG				*e*S	**S**	**09 53 43.1**	**-0.4**
NILT	**Santiago Nilte**	**2.02**	**289**	*i* P	**Pn**	**09 53 28.1**	**+0.1**
NILT				*i* S	**S**	**09 53 59.0**	**+0.9**
UXUV	**UXUV**	**2.02**	**314**	*e*P	**Pn**	**09 53 28.5**	**+0.5**
UXUV				*e*S	**S**	**09 53 57.6**	**-0.6**
CMIG	**Matias Romero**	**2.46**	**299**	*e*P	**Pn**	**09 53 33.0**	**+0.3**
CMIG				*e*S	**S**	**09 54 06.4**	**-0.1**
HUIG	**Huatulco**	**3.35**	**268**	*e*P	**Pn**	**09 53 42.6**	**-0.3**
HUIG				*e*S	**S**	**09 54 23.0**	**-1.8**
NEUV	**Arroyo Zacate**	**3.53**	**301**	*e*P	**Pn**	**09 53 45.4**	**+0.4**
NEUV				*e*S	**S**	**09 54 26.9**	**-1.9**
PMUV	**Sontecomapan**	**3.54**	**318**	*e*P	**Pn**	**09 53 45.4**	**+0.1**
PMUV				*i* S	**S**	**09 54 26.0**	**-3.2**
PMUV				*e*S	S	09 54 28.5	-0.8
OXLC	**Oaxaca**	**4.08**	**287**	*e*P	**Pn**	**09 53 54.0**	**+2.1**
OXLC				*e*S	**S**	**09 54 43.7**	**+2.6**
OXBJ	**Oaxaca**	**4.10**	**287**	*e*P	**Pn**	**09 53 53.8**	**+1.7**
OXBJ				*e*S	**S**	**09 54 43.4**	**+1.8**
VHO	**Vista Hermosa**	**4.11**	**287**	*e*P	**Pn**	**09 53 54.2**	**+1.9**
VHO				*e*S	**S**	**09 54 42.3**	**+0.5**
PEIG	**Puerto Escondi**	**4.35**	**272**	*e*P	**Pn**	**09 53 55.5**	**+0.4**
PEIG				*e*S	**S**	**09 54 46.3**	**-0.7**
YOIG	**Yosondua**	**4.81**	**282**	*e*P	**Pn**	**09 54 03.0**	**+1.7**
YOIG				*e*S	**S**	**09 54 54.1**	**-3.9**
TXIG	**Tlaxiaco**	**5.11**	**286**	*e*P	**Pn**	**09 54 07.3**	**+2.4**
TXIG				*e*S	**S**	**09 55 03.0**	**-1.7**
JAUV	**Jalcomulco**	**5.26**	**311**	*e*P	**Pn**	**09 54 06.4**	**-0.3**
JAUV				*e*S	**S**	**09 55 04.7**	**-3.3**
PNIG	**Pinotepa**	**5.31**	**276**	*e*P	**Pn**	**09 54 08.5**	**+1.3**
PNIG				*e*S	**S**	**09 55 09.2**	**+0.2**
HLIG	**Huajuapan de L**	**5.31**	**292**	*e*P	**Pn**	**09 54 09.7**	**+2.2**
HLIG				*e*S	**S**	**09 55 04.9**	**-4.5**
FTIG	**Fresnillo de T**	**5.63**	**291**	*e*P	**Pn**	**09 54 14.0**	**+2.5**
FTIG				*e*S	**S**	**09 55 10.0**	**-6.8**
MGIG	**Malinaltepec**	**5.91**	**284**	*e*P	**Pn**	**09 54 17.5**	**+2.4**
MGIG				*e*S	**S**	**09 55 19.5**	**-3.8**
TLIG	**Tlapa**	**5.92**	**287**	*e*P	**Pn**	**09 54 17.8**	**+2.6**
TLIG				*e*S	**S**	**09 55 17.1**	**-6.4**
CRIG	**Cruz Grande**	**6.30**	**278**	*e*P	**Pn**	**09 54 21.4**	**+1.5**
CRIG				*e*S	**S**	**09 55 29.4**	**-2.7**
YAIG	**Yautepec**	**6.81**	**296**	*e*P	**Pn**	**09 54 30.0**	**+3.2**
YAIG				*e*S	**S**	**09 55 37.5**	**-7.0**
DAIG	**Los Arroyos**	**6.83**	**280**	*e*P	**Pn**	**09 54 28.8**	**+2.0**
DAIG				*e*S	**S**	**09 55 40.0**	**-4.7**
MEIG	**Mezcala**	**6.99**	**288**	*e*P	**Pn**	**09 54 32.0**	**+3.1**
MEIG				*e*S	**S**	**09 55 42.8**	**-5.7**
PLIG	**Platanillo**	**7.02**	**292**	*e*P	**Pn**	**09 54 32.7**	**+3.3**
PLIG				*e*S	**S**	**09 55 43.7**	**-5.6**
CAIG	**El Cayaco**	**7.42**	**280**	*e*P	**Pn**	**09 54 36.7**	**+2.3**
ARIG	**Puente Sto Nin**	**7.75**	**289**	*e*P	**Pn**	**09 54 42.5**	**+3.7**
ARIG				*e*S	**S**	**09 56 04.0**	**-2.5**
TXAR	**Lajitas Array**	**16.79**	**325**	P	**Pn**	**09 56 33.9**	**+1.6**
	0.2nm,0.3s,baz=143,slow=11,SNR=27						
	1.5nm,0.7s						
NVAR	**Mina Array Bea**	**31.82**	**320**	P	**P**	**09 58 56.5**	**+2.2**
	0.8nm,0.6s,baz=126,slow=10,SNR=9.8						
	0.8nm,0.6s						
YKA	**Yellowknife Ar**	**49.04**	**347**	P	**P**	**10 01 13.1**	**-1.4**
	0.5nm,0.4s,baz=150,slow=7.4,SNR=10						
	0.5nm,0.4s						

*IDC **24** 09:56:16.3±0.9, 37°.18N×141°.42E, h0km, mb3.8/11, mbtmp3.7/13, ML3.0/2, MS3.2/3, Error ellipse: s-maj=22.2km s-min=19.9km az=105.0*
*NIED **24** 09:56:18.3, 37°.23N×141°.45E, h27km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.94; $M_{\theta\theta}$1.51; $M_{\phi\phi}$ 1.43; $M_{r\theta}$2.00; $M_{\theta\phi}$1.59; $M_{\phi r}$2.52; Fault plane solution: $M_0$4.40000×10^{14} NP1:$\phi_{\rm s}$51.00000°, δ22.00000°, λ-80.00000°. NP2:$\phi_{\rm s}$220.00000°, δ69.00000°, λ-94.00000°.*
*JMA **24** 09:56:18.3±0.2, 37°.2N±0°.3×141°.5E±0°.9, h27km±1km, MV3.6/40, E OFF FUKUSHIMA PREF*
ISC 24 09:56:17.6±2.1, 37°.23N±0°.05×141°.44E±0°.08, h9km±11km, n30, σ0°83/27, mb3.8/11, MS3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.47**	**287**	*i* P	**Pb**	**09 56 27.9**	**-0.2**
JFK				S	**Sb**	**09 56 34.7**	**-0.5**
JMST	**Minamisoumatoc**	**0.66**	**318**	*i* P	**Pg**	**09 56 31.1**	**+0.7**
JMST				S	**Sb**	**09 56 40.4**	**-0.1**
JFFD	**Fukushimafurud**	**0.71**	**259**	*i* P	**Pg**	**09 56 32.0**	**+0.5**
JFFD				S	**Sb**	**09 56 41.6**	**-0.6**
JMM	**Marumori**	**0.82**	**321**	*i* P	**Pg**	**09 56 33.6**	**+0.2**
JHO	**Hitachi**	**0.93**	**229**	P	**Pb**	**09 56 34.9**	**-1.0**
JIO	**Ouri**	**1.22**	**357**	*i* P	**Pn**	**09 56 39.6**	**-1.3**
JSB	**Shiboa**	**1.24**	**258**	P	**Pb**	**09 56 41.3**	**0.0**
JSB				S	**Sg**	**09 56 57.7**

	comp=Z,1.2nm,0.7s						
SJUU	**Sjulsmark**	**3.97**	**285**	P	**Pn**	**10 01 56.4**	**+1.1**
SJUU				S	**Sn**	**10 02 44.9**	**+2.4**
SJUU	**Sjulsmark**	**3.97**	**285**	P	**Pn**	**10 01 56.4**	**+1.1**
SJUU				S	**Sn**	**10 02 44.9**	**+2.4**
VAF	**Ylistaro**	**3.99**	**248**	PB	**Pn**	**10 01 59.1**	**+3.6**
BURU	**Burvik**	**4.07**	**272**	P	**Pn**	**10 01 55.9**	**-0.7**
BURU	**Burvik**	**4.07**	**272**	PN	**Pn**	**10 01 57.5**	**+0.8**
BURU	**Burvik**	**4.07**	**272**	P	**Pn**	**10 01 55.9**	**-0.7**
HARU	**Harads**	**4.35**	**294**	P	**Pn**	**10 02 01.4**	**+0.9**
HARU	**Harads**	**4.35**	**294**	P	**Pn**	**10 02 01.4**	**+0.9**
ODEU	**Stanfors**	**4.37**	**270**	P	**Pn**	**10 02 00.8**	**-0.1**
ODEU	**Stanfors**	**4.37**	**270**	P	**Pn**	**10 02 00.8**	**-0.1**
UMAU	**Umeaa**	**4.50**	**264**	P	**Pn**	**10 02 02.0**	**-0.6**
UMAU	**Umeaa**	**4.50**	**264**	PN	**Pn**	**10 02 02.3**	**-0.3**
UMAU	**Umeaa**	**4.50**	**264**	P	**Pn**	**10 02 02.0**	**-0.6**
HEF	**Hetta**	**4.66**	**325**	*eP*	**Pn**	**10 02 05.9**	**+1.0**
HEF				*eS*	**Sn**	**10 02 59.5**	**0.0**
LILU	**Lilltraesk**	**4.69**	**282**	P	**Pn**	**10 02 06.1**	**+0.9**
LILU	**Lilltraesk**	**4.69**	**282**	P	**Pn**	**10 02 06.1**	**+0.9**
DUNU	**Dundret**	**4.83**	**304**	P	**Pn**	**10 02 09.7**	**+2.6**
DUNU	**Dundret**	**4.83**	**304**	P	**Pn**	**10 02 09.7**	**+2.6**
SVAU	**Svanoeiden**	**4.85**	**272**	P	**Pn**	**10 02 07.5**	**+0.1**
SVAU	**Svanoeiden**	**4.85**	**272**	P	**Pn**	**10 02 07.5**	**+0.1**
KTK1	**Kautokeino**	**5.22**	**328**	*eP*	**Pn**	**10 02 13.3**	**+0.8**
KTK1				IAML		10 03 42.6	
	comp=Z,2.6nm,0.4s						
ARA0	**ARCESS Array S**	**5.24**	**339**	*eP*	**Pn**	**10 02 12.9**	**+0.1**
ARA0				*eS*	**Sn**	**10 03 12.9**	**-0.9**
ARA0				IAML		10 03 40.4	
	comp=Z,2.1nm,0.3s						
ARCES	**ARCESS Array B**	**5.24**	**339**	Pn	**Pn**	**10 02 12.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=151,slow=12,SNR=17						
ARCES				Sn	**Sn**	**10 03 12.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=155,slow=20,SNR=1.3						
ARCES				Lg	Lg	10 03 33.0	
	comp=Z,0.3nm,0.3s,baz=159,slow=31,SNR=2.1						
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**5.24**	**339**	P	**Pn**	**10 02 13.7**	**+0.9**
ARCES				S	**Sn**	**10 03 12.3**	**-1.5**
KEV	**Kevo**	**5.25**	**345**	*eP*	**Pn**	**10 02 12.5**	**-0.3**
KEV				*eS*	**Sn**	**10 03 12.6**	**-1.4**
HUSU	**Husum**	**5.29**	**260**	P	**Pn**	**10 02 13.8**	**+0.4**
HUSU	**Husum**	**5.29**	**260**	P	**Pn**	**10 02 13.8**	**+0.4**
VADS	**Vadso**	**5.43**	**355**	*eS*	**Sn**	**10 03 18.3**	**-0.1**
SALU	**Saltoluokta**	**5.67**	**303**	*eP*	**Pn**	**10 02 19.4**	**+0.7**
KIF	**Kilpisjarvi**	**5.82**	**322**	*eP*	**Pn**	**10 02 22.2**	**+1.6**
KIF				*eS*	**Sn**	**10 03 30.4**	**+2.4**
JETT	**Jettan, Norway**	**6.30**	**325**	*eP*	**Pn**	**10 02 27.9**	**+0.5**
JETT				*eS*	**Sn**	**10 03 39.6**	**-0.4**
JETT				IAML		10 04 13.8	
	comp=Z,5.1nm,0.4s						
FAUS	**Fauske**	**6.85**	**300**	*e*	**Pn**	**10 02 34.4**	**-0.4**
FAUS				*eS*	**Sn**	**10 03 52.2**	**-1.1**
FAUS				IAML		10 04 32.1	
	comp=Z,2.8nm,1.0s						
NOA	**NORSAR Array B**	**9.67**	**256**	Pn	**Pn**	**10 03 14.2**	**+0.7**
	baz=60,slow=14,SNR=1.9						
	comp=Z,0.1nm,0.3s						

*INET **24** 10:05:48.3±1.2, 9.27N×84.27W, h26km±6km, MW2.8*
*UCR **24** 10:05:48.9±1.7, 9.29N×84.28W, h33km±1km, MW3.7*
ISC 24 10:05:48.4±1.1, 9.27N±0.04×84.30W±0.03, h32km±10km, n33, σ0ᵗ54/57, 1C-13D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.43**	**92**	*i* P	**Pb**	**10 05 57.9**	**+0.1**
EDDO				*eS*	**Sn**	**10 06 05.2**	**+0.1**
JACO	**JACO, Garabito**	**0.53**	**318**	*i* P	**Pb**	**10 05 59.2**	**-0.2**
JACO				*eS*	**Sb**	**10 06 07.5**	**+0.6**
JACO	**JACO, Garabito**	**0.53**	**318**	*eP*	**Pb**	**10 05 59.2**	**-0.2**
JACO				*eS*	**Sb**	**10 06 07.6**	**+0.6**
LCR2	**La Lucha 2**	**0.55**	**32**	*i* P	**Pb**	**10 05 59.6**	**-0.3**
LCR2				*eS*	**Sn**	**10 06 08.0**	**-0.4**
CDM	**Cerro de Muert**	**0.60**	**62**	*i* P	**Pb**	**10 06 00.7**	**-0.2**
CDM				*eS*	**Sn**	**10 06 10.2**	**+0.3**
CDM	**Cerro de Muert**	**0.60**	**62**	*eP*	**Pb**	**10 06 00.7**	**-0.2**
CDM				*eS*	**Sn**	**10 06 10.3**	**+0.3**
PEZE	**Perez Zeledon,**	**0.62**	**80**	*eP*	**Pb**	**10 06 00.5**	**-0.5**
PEZE	**Perez Zeledon,**	**0.62**	**80**	*eP*	**Pb**	**10 06 00.6**	**-0.4**
PEZE				*eS*	**Sn**	**10 06 09.9**	**-0.1**
RIMA	**Rio Macho**	**0.66**	**41**	*i* P	**Pb**	**10 06 01.1**	**-0.5**
RIMA				*eS*	**Sb**	**10 06 10.1**	**-0.5**
RIMA	**Rio Macho**	**0.66**	**41**	*eP*	**Pb**	**10 06 01.1**	**-0.5**
RIMA				*eS*	**Sn**	**10 06 10.6**	**-0.4**
OCM	**Ochomogo**	**0.71**	**28**	*i* P	**Pb**	**10 06 02.0**	**-0.5**
OCM				*eS*	**Sn**	**10 06 11.9**	**-0.3**
SJS	**Escuela Geolog**	**0.71**	**20**	*eP*	**Pb**	**10 06 02.2**	**-0.3**
SJS				*eS*	**Sn**	**10 06 12.8**	**+0.6**
HDC	**Heredia**	**0.75**	**14**	*i* P	**Pb**	**10 06 03.0**	**-0.1**
HDC				*eS*	**Sn**	**10 06 14.0**	**+0.8**
HDC3	**Heredia 3**	**0.75**	**14**	*i* P	**Pb**	**10 06 03.0**	**-0.2**
HDC3				*eS*	**Sn**	**10 06 14.0**	**+0.8**
HDC3	**Heredia 3**	**0.75**	**14**	*eP*	**Pb**	**10 06 03.0**	**-0.2**
HDC3				*eS*	**Sn**	**10 06 14.1**	**+0.8**
LAFE	**Finca La Fe, P**	**0.81**	**312**	*i* P	**Pb**	**10 06 03.2**	**-0.2**
LAFE	**Finca La Fe, P**	**0.81**	**312**	*eP*	**Pn**	**10 06 03.2**	**-0.2**
LAFE				*eS*	**Sb**	**10 06 14.9**	**+0.3**
HAYA	**Volcan Irazu**	**0.84**	**32**	*eP*	**Pn**	**10 06 04.5**	**+0.1**
HAYA				*eS*	**Sn**	**10 06 16.2**	**+0.4**
EDPN	**Palmar Norte**	**0.89**	**110**	*i* P	**Pn**	**10 06 04.6**	**0.0**
EDPN				*eS*	**Sn**	**10 06 16.5**	**+0.2**
CVTR	**Volcan Turrial**	**0.92**	**35**	*eP*	**Pn**	**10 06 05.7**	**+0.3**
CVTR				*eS*	**Sn**	**10 06 18.3**	**+0.6**
VTUN	**Crater Central**	**0.92**	**35**	*eP*	**Pn**	**10 06 05.6**	**+0.2**
CRPO	**Crater poas**	**0.92**	**5**	*eP*	**Pn**	**10 06 05.5**	**+0.1**
CRPO				*eS*	**Sb**	**10 06 18.7**	**+0.4**
SRBA	**San Rafael, Bu**	**0.93**	**92**	*i* P	**Pn**	**10 06 05.1**	**-0.2**
SRBA				*eS*	**Sb**	**10 06 17.9**	**-0.2**
MRVA	**Moravia de Chi**	**1.01**	**57**	*i* P	**Pn**	**10 06 06.8**	**+0.4**
EDBA	**Buenos Aires**	**1.02**	**96**	*eP*	**Pn**	**10 06 06.0**	**-0.4**
EDBA				*eS*	**Sn**	**10 06 19.2**	**-0.4**
RIFO	**Rio Frio, Sara**	**1.11**	**20**	*eP*	**Pb**	**10 06 09.1**	**+0.1**
JTS	**Las Juntas de**	**1.20**	**328**	*eP*	**Pn**	**10 06 09.1**	**+0.1**
JTS				*eS*	**Sn**	**10 06 24.8**	**+0.6**
PTJ1	**Puerto Jimnez**	**1.23**	**126**	*eP*	**Pb**	**10 06 12.0**	**+1.0**
BATAN	**Batan**	**1.23**	**48**	*eP*	**Pb**	**10 06 10.1**	**-0.9**
INDI	**Punta indio, G**	**1.33**	**297**	*eP*	**Pn**	**10 06 09.5**	**-1.1**
DUNO	**Dulce Nombre,**	**1.43**	**304**	*eP*	**Pn**	**10 06 12.7**	**+0.7**
DUNO	**Dulce Nombre,**	**1.43**	**304**	*eP*	**Pn**	**10 06 11.1**	**-0.9**
DUNO				*eS*	**Sn**	**10 06 28.8**	**-0.9**
CUI	**Cuipilapa**	**1.62**	**328**	*eP*	**Pn**	**10 06 16.0**	**+1.2**
CUI				*eS*	**Sb**	**10 06 36.8**	**-1.0**

*SKHL **24** 10:06:04.3±0.4, 44.90N×151.10E, h27km±4km, mb4.4/7*
*JMA **24** 10:06:04.1±0.8, 45°N±4′×15°1E±°, h30km, MV4.3/15, KURILE ISLANDS REGION*
ISC 24 10:06:05.4±4.4, 44.7N±0.1×151.2E±0.2, h35km, n16, σ1ᵍ66/25, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.41**	**284**	*eP*	**Pn**	**10 06 40.8**	**-1.6**
KUR				AMB	AMB	10 06 42.4	
	80nm,0.5s						
KUR				*eS*	**Sn**	**10 07 08.5**	**-2.2**
KUR				A	A	10 07 12.9	
	280nm,0.5s						
KUR				A	A	10 07 12.9	
	220nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.87**	**262**	*eP*	**Pn**	**10 07 03.0**	**+0.6**
YUK				AMB	AMB	10 07 07.3	
	60nm,0.3s						
YUK				*eS*	**Sn**	**10 07 46.7**	**+0.1**
YUK				A	A	10 07 54.3	
	90nm,0.4s						
YUK				A	A	10 07 54.3	
	130nm,0.4s						
NEM2	**Nemuro 2**	**4.14**	**253**	*eP*	**Pn**	**10 07 06.8**	**+0.7**
NEM2				*eS*	**Sn**	**10 07 53.3**	**0.0**
NMR	**Nemuro--Hokkai**	**4.15**	**253**	*i* P	**Pn**	**10 07 06.9**	**+0.7**
NMR				AMB	AMB	10 07 07.9	
	10.0nm,0.2s						
NMR				*i* S	**Sn**	**10 07 54.1**	**+0.6**
NMR				A	A	10 07 57.1	
	40nm,0.3s						
NMR				A	A	10 07 57.1	
	30nm,0.3s						
JRA	**Rausu**	**4.41**	**262**	*eP*	**Pn**	**10 07 11.6**	**+1.7**
JNK	**Nakash**	**4.78**	**259**	*eP*	**Pn**	**10 07 16.3**	**+1.4**
JNK				*eS*	**Sn**	**10 08 09.9**	**+0.8**
AKK	**Akkeshi**	**4.88**	**252**	*i* P	**Pn**	**10 07 17.0**	**+0.7**
AKK				AMB	AMB	10 07 18.9	
	20nm,0.4s						
AKK				*eS*	**Sn**	**10 08 12.0**	**+0.4**
AKK				A	A	10 08 36.4	
	30nm,0.5s						
AKK				A	A	10 08 36.4	
	80nm,0.5s						
JAK	**Akkeshi**	**4.99**	**252**	*eP*	**Pn**	**10 07 18.4**	**+0.6**
JAK				*eS*	**Sn**	**10 08 14.3**	**+0.2**
JTKR	**Abashiri--Toko**	**5.27**	**265**	*eP*	**Pn**	**10 07 23.1**	**+1.5**
JAR	**Ashorobuto**	**5.53**	**258**	*eP*	**Pn**	**10 07 27.1**	**+2.0**
JAR				*eS*	**Sn**	**10 08 29.2**	**+1.8**
JOB	**Onbets**	**5.61**	**254**	*eP*	**Pn**	**10 07 27.4**	**+1.1**
JCH	**Churui**	**6.04**	**253**	*eP*	**Pn**	**10 07 33.0**	**+0.7**
JCH				*eS*	**Sn**	**10 08 39.1**	**-1.1**
JKK2	**Kamakawa 2**	**6.11**	**265**	*eP*	**Pn**	**10 07 35.2**	**+2.0**
JNBK	**Urakawa-nobuka**	**6.59**	**251**	*eP*	**Pn**	**10 07 40.3**	**+0.5**
JANG	**Nango**	**8.34**	**242**	*eS*	**Sn**	**10 09 32.6**	**-4.2**
JTH	**Tanohata**	**8.38**	**239**	*eS*	**Sn**	**10 09 34.3**	**-3.4**

*NEIC **24** 10:14:03.2±0.7, 21.9S±0.2×174.2W±0.2, h23km±10km, mb4.4/12, Error ellipse: s-maj=33.2km s-min=13.2km az=148.0*
*IDC **24** 10:14:16.3±5.5, 22.30S×174.70W, h113km±46km, mb3.6/5, mbtmp4.0/6, Error ellipse: s-maj=39.1km s-min=29.1km az=143.0*
ISC 24 10:14:03.2±0.8, 21.8S±0.2×174.3W±0.1, h35km, n25, σ1ᵍ65/21, mb4.4/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.91**	**57**	Pn	**Pn**	**10 15 15.7**	**+1.2**
NIUE				Sn	**Sn**	**10 16 07.0**	**-3.1**
MSVF	**Nonsavu**	**8.29**	**298**	P	Pn	10 16 12.9	+12
	8.0nm,0.7s,baz=108,slow=19,SNR=8.0						
OUZ	**Omahuta**	**17.06**	**216**	Pn	**P**	**10 17 59.2**	**-1.3**
OUENC	**Ouen Island, N**	**17.51**	**265**	Pn	**Pn**	**10 18 01.2**	**-3.4**
OUENC				IAmb	IAmb	10 18 10.6	
	comp=Z,39nm,1.5s						
BKZ	**Black Stump Fm**	**19.01**	**203**	P	**Pn**	**10 18 21.8**	**-1.1**
EIDS	**Eidsvold**	**31.89**	**257**	P	**P**	**10 20 23.7**	**-1.7**
EIDS				IAmb	IAmb	10 20 28.0	
	comp=Z,7.1nm,1.0s						
CTA	**Charters Tower**	**36.84**	**265**	P	**P**	**10 21 10.2**	**+1.9**
	comp=Z,1.0nm,0.4s,baz=112,slow=9.5,SNR=5.1						
	comp=Z,1.0nm,0.4s						
CTAO	**Charters Tower**	**36.84**	**265**	P	**P**	**10 21 09.5**	**+1.2**
CTAO				IAmb	IAmb	10 21 45.5	
	comp=Z,6.9nm,1.4s						
AS31	**Alice Springs**	**47.61**	**257**	P	**P**	**10 22 37.2**	**+1.1**
AS31				IAmb	IAmb	10 22 38.6	
	comp=Z,2.6nm,1.2s						
ASAR	**Alice Springs**	**47.61**	**257**	P	**P**	**10 22 37.1**	**+1.0**
	comp=Z,4.2nm,0.7s,baz=97,slow=7.8,SNR=52						
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**47.61**	**257**	P	**P**	**10 22 36.8**	**+0.7**
WR0	**Warramunga Arr**	**47.68**	**262**	P	**P**	**10 22 37.5**	**+0.8**
WR0				IAmb	IAmb	10 22 38.5	
	comp=Z,2.6nm,0.6s						
WB0	**Warramunga Arr**	**47.85**	**263**	P	**P**	**10 22 39.0**	**+1.0**
WB2	**Warramunga Arr**	**47.86**	**262**	P	**P**	**10 22 39.0**	**+0.9**
WRAB	**Tennant Creek**	**47.86**	**262**	P	**P**	**10 22 38.5**	**+0.4**
WRAB				IAmb	IAmb	10 22 39.6	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**47.87**	**262**	P	**P**	**10 22 39.1**	**+1.0**
	comp=Z,3.7nm,0.7s,baz=103,slow=8.1,SNR=113						
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**47.87**	**262**	P	**P**	**10 22 39.1**	**+1.0**
KNRA	**Kununurra**	**54.04**	**266**	P	**P**	**10 23 26.5**	**+1.9**
VNDA	**Vanda**	**56.93**	**186**	P	**P**	**10 23 45.9**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=357,slow=5.7,SNR=3.9						
	comp=Z,0.6nm,0.9s						
NVAR	**Mina Array Bea**	**79.65**	**41**	P	P	10 26 13.9	+6.5
	comp=Z,0.1nm,0.3s,baz=230,slow=7.7,SNR=2.8						
	comp=Z,0.1nm,0.3s						
H03S2	**Juan Fernandez**	**82.37**	**123**	T	T	11 58 26.3	
	baz=250						
H03S1	**Juan Fernandez**	**82.38**	**123**	T	T	11 58 30.7	
	baz=250						
H03S3	**Juan Fernandez**	**82.39**	**123**	T	T	11 58 26.0	
	baz=250						
AKASG	**Malin Array Be**	**145.81**	**333**	PKPbc	**PKiKP**	**10 33 43.4**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=50,slow=2.4,SNR=5.2						
CLL	**Collm**	**150.03**	**351**	*i* PKPbc	**PKPab**	**10 33 55.7**	**+0.1**
	comp=Z,4.0nm,0.8s						

*IDC **24** 10:29:02.1±0.7, 37.12N×141.56E, h0km, mb3.8/13, mbtmp3.8/16, ML3.3/3, MS3.3/2, Error ellipse: s-maj=18.5km s-min=17.0km az=110.0*
*JMA **24** 10:29:04.1±0.2, 37.2N±0.4×141.5E±1.0, h30km±1km, MW3.9/37, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **24** 10:29:04.1, 37.21N×141.46E, h30km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.98; Mθθ 0.84; Mϕϕ 3.14; Mrθ 0.63; Mθϕ 2.47; Mϕr 2.16; Fault plane solution: Mo 4.90000×10¹⁴ NP1:ϕs 42.00000°, δ 33.00000°, λ -74.00000°. NP2:ϕs 204.00000°, δ 59.00000°, λ -100.00000°.*
ISC 24 10:29:02.6±1.8, 37.20N±0.04×141.55E±0.06, h5km±10km, n45, σ1ᵍ29/43, mb3.8/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**287**	*i* P	**Pg**	**10 29 14.0**	**+0.6**
JFK				S	**Sg**	**10 29 20.9**	**+0.1**
JMST	**Minamisoumatoc**	**0.74**	**315**	*i* P	**Pg**	**10 29 17.3**	**+0.4**
JMST				S	**Sg**	**10 29 26.8**	**+0.3**
JFFD	**Fukushimafurud**	**0.80**	**262**	*i* P	**Pg**	**10 29 17.9**	**0.0**
JFFD				S	**Sg**	**10 29 27.6**	**-0.6**
JMM	**Marumori**	**0.89**	**318**	P	**Pb**	**10 29 20.0**	**-0.7**
JMM	**Marumori**	**0.89**	**318**	*i* P	**Pb**	**10 29 19.7**	**-0.9**
JMM				S	**Sb**	**10 29 31.0**	**-1.9**
JHO	**Hitachi**	**0.98**	**233**	*i* P	**Pb**	**10 29 20.6**	**-1.6**
JHO				*eS*	**Sb**	**10 29 32.8**	**-2.7**
JIO	**Ouri**	**1.26**	**353**	*i* P	**Pn**	**10 29 25.9**	**-1.1**
JSB	**Shiboa**	**1.32**	**260**	P	**Pn**	**10 29 27.4**	**-0.5**
JSB				*eS*	**Sn**	**10 29 44.1**	**-1.8**
JOU	**Okura**	**1.35**	**329**	*i* P	**Pn**	**10 29 27.9**	**-0.4**
JOU				S	**Sn**	**10 29 45.2**	**-1.6**
JSD	**Sado**	**2.74**	**289**	P	**Pb**	**10 29 51.5**	**-0.6**
MJAR	**Matsushiro Arr**	**2.76**	**257**	Pn	**Pn**	**10 29 47.7**	**+0.1**
	1.0nm,0.3s,baz=80,slow=15,SNR=21						
MJAR				Sn	**Sn**	**10 30 22.2**	**+0.9**
	1.7nm,0.3s,baz=86,slow=20,SNR=6.8						
MJAR				LR	LR	10 30 26.0	
	comp=Z,48nm,21.1s,baz=83,slow=30						
	11nm,0.4s						
MAJO	**Matsushiro**	**2.76**	**257**	P	**Pn**	**10 29 48.3**	**+0.7**
JTM	**Tenmabayashi**	**3.60**	**354**	P	**Pn**	**10 30 00.0**	**+0.9**
JGF	**Kuroka**	**3.74**	**246**	P	**Pn**	**10 30 02.9**	**+1.8**
INU	**Inuyama**	**4.10**	**245**	P	**Pn**	**10 30 08.0**	**+2.0**
ERM	**Erimo**	**4.96**	**14**	P	**Pn**	**10 30 18.4**	**+0.5**
JEM	**Erimo**	**4.96**	**14**	P	**Pn**	**10 30 18.4**	**+0.5**
JMN	**Monobe**	**7.15**	**243**	P	Pn	10 30 52.4	+4.4
JHS	**Saijyo**	**7.17**	**255**	P	**Pn**	**10 30 51.7**	**+3.5**
USRK	**Ussuriysk Ar.**	**10.07**	**317**	Pn	**Pn**	**10 31 30.9**	**+3.0**
	0.1nm,0.3s,baz=140,slow=13,SNR=6.7						
USRK				LR	LR	10 34 52.3	
	comp=Z,74nm,21.4s,baz=144,slow=35						
	1.4nm,0.6s						
JCJ	**Chichijima**	**10.09**	**177**	Pn	**Pn**	**10 31 27.4**	**-0.9**
	2.4nm,0.3s,baz=322,slow=19,SNR=1.7						
JCJ				Sn	Sn	10 33 07.6	-14
	3.1nm,0.3s,baz=313,slow=19,SNR=1.6						
	48nm,0.9s						
SONM	**Songino Array**	**27.78**	**304**	P	**P**	**10 34 52.5**	**0.0**
	0.5nm,0.5s,baz=110,slow=9.1,SNR=3.7						
	0.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	11 04 24.6	
	baz=314,slow=75,SNR=202						
H11N1	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	11 04 25.1	
	baz=314,slow=75,SNR=150						
H11N3	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	11 04 25.9	
	baz=314,slow=75,SNR=192						
H11S1	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	11 05 18.5	
	baz=316,slow=76,SNR=122						
H11S3	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	11 05 19.6	
	baz=316,slow=76,SNR=98						
H11S2	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	11 05 19.5	
	baz=316,slow=76,SNR=59						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**10 36 53.6**	**-0.1**
	1.6nm,0.8s,baz=78,slow=6.6,SNR=2.3						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**10 37 14.1**	**+2.1**
	0.8nm,0.7s,baz=83,slow=9.9,SNR=5.2						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**49.30**	**32**	P	**P**	**10 37 53.0**	**+0.8**
	0.9nm,0.7s,baz=270,slow=6.5,SNR=11						
	0.9nm,0.7s						
INK	**Inuvik**	**54.19**	**27**	P	**P**	**10 38 29.6**	**+0.9**
	1.1nm,0.7s,baz=306,slow=4.6,SNR=5.1						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**10 38 50.1**	**-1.0**
	0.5nm,0.5s,baz=6.2,slow=7.2,SNR=15						
WRA				PcP	**PcP**	**10 39 46.4**	**+0.9**
	0.3nm,0.7s,baz=0.5,slow=4.5,SNR=2.0						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**60.97**	**188**	P	**P**	**10 39 16.5**	**-0.5**
	0.3nm,0.5s,baz=19,slow=6.1,SNR=4.2						
	0.3nm,0.5s						
PALK	**Pallekele**	**62.51**	**258**	LR	LR	11 09 46.8	
	comp=Z,60nm,18.2s,baz=333,slow=39						
ARCES	**ARCESS Array B**	**63.88**	**339**	P	**P**	**10 39 36.1**	**+0.2**
	2.4nm,0.9s,baz=52,slow=7.9,SNR=4.4						
	2.4nm,0.9s						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**10 40 06.6**	**-0.3**
	2.4nm,0.8s,baz=66,slow=7.9,SNR=2.3						
	2.4nm,0.8s						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**10 40 39.8**	**-0.7**
	0.3nm,0.3s,baz=47,slow=6.3,SNR=1.5						
	0.3nm,0.3s						
NVAR	**Mina Array Bea**	**74.80**	**53**	P	**P**	**10 40 45.1**	**+0.7**
	0.2nm,0.4s,baz=275,slow=5.4,SNR=4.1						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**77.47**	**46**	P	**P**	**10 41 00.3**	**+0.8**
	0.3nm,0.3s,baz=335,slow=4.0,SNR=1.7						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**89.93**	**52**	P	**P**	**10 42 03.0**	**-0.4**
	0.3nm,0.6s,baz=290,slow=3.1,SNR=5.9						
	0.3nm,0.6s						
LPAZ	**La Paz**	**146.51**	**60**	PKPbc	**PKPab**	**10 48 46.8**	**-0.5**
	0.7nm,0.5s,baz=0.8,slow=3.2,SNR=4.8						
H03N2	**Juan Fernandez**	**146.94**	**96**	T	T	13 33 02.1	
	baz=291,slow=76,SNR=14						
H03N3	**Juan Fernandez**	**146.95**	**96**	T	T	13 33 04.4	
	baz=291,slow=76,SNR=16						
H03N1	**Juan Fernandez**	**146.95**	**96**	T	T	13 33 03.3	
	baz=291,slow=76,SNR=14						

*IDC **24** 10:32:34.5±5.5, 36.88N×144.73E, h0km, mb3.2/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=111.5km s-min=37.2km az=24.0*
*JMA **24** 10:32:38.5±0.3, 37°N±1′×14′4E±°, h54km, MV3.8/26, FAR E OFF NORTH HONSHU*
ISC 24 10:32:36.0±1.4, 37.45N±0.07×144.77E±0.09, h35km, n16, σ1ᵍ76/29, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.75**	**289**	P	**Pn**	**10 33 18.6**	**+1.0**
JIO	**Ouri**	**2.88**	**291**	P	**Pn**	**10 33 20.9**	**+1.5**
JIO				*eS*	**Sn**	**10 33 52.6**	**-0.3**
JKMT	**Kesennumamotoy**	**2.93**	**299**	P	**Pn**	**10 33 21.4**	**+1.3**
JKMT				S	**Sn**	**10 33 54.0**	**0.0**
OFUJ	**Ofunato**	**2.93**	**305**	P	**Pn**	**10 33 21.6**	**+1.5**
OFUJ				*eS*	**Sn**	**10 33 51.8**	**-2.3**
JMK	**Ichinoseki**	**3.17**	**299**	P	**Pn**	**10 33 25.1**	**+1.7**
JMK				S	**Sn**	**10 34 00.1**	**+0.2**
JOM	**Ohasama**	**3.39**	**308**	P	**Pn**	**10 33 29.0**	**+2.5**
JOM				*eS*	**Sn**	**10 34 06.3**	**+0.8**
JYK	**Kaneyama**	**3.77**	**294**	P	**Pn**	**10 33 33.8**	**+2.2**
JYK				*eS*	**Sn**	**10 34 14.6**	**-0.2**
JOT	**Ohata**	**4.87**	**325**	*eP*	**Pn**	**10 33 48.2**	**+1.4**
JOT				S	**Sn**	**10 34 42.4**	**+0.5**
JRY	**Ryogami san**	**4.92**	**255**	P	**Pn**	**10 33 47.4**	**-0.2**
JRY				S	**Sn**	**10 34 39

comp=Z,45nm,1.9s
FRB Frobisher Bay 36.55 340 LR LR 10 57 01.3
comp=Z,246nm,21.7s,baz=167,slow=33
RCBR Riachuelo 37.51 172 LR LR 10 55 56.9
comp=Z,423nm,19.8s,baz=139,slow=30
CLTN Cedars of Leba 37.65 289 P **P** **10 44 19.6 +0.6**
CLTN IAmb IAmb 10 44 27.3
comp=Z,26nm,1.5s
PLAL Pickwick Lake 39.20 288 P **P** **10 44 30.2 -1.9**
PLAL IAmb IAmb 10 44 40.3
comp=Z,52nm,1.8s
W45A Hickory Valley 40.08 289 P **P** **10 44 39.9 +0.6**
Y45A Yeager Farm, C 40.59 287 P **P** **10 44 44.5 +1.0**
Y45A IAmb IAmb 10 44 52.0
comp=Z,60nm,1.6s
BFO Black Forest 40.62 51 P **P** **10 44 44.8 +1.0**
FVM French Village 40.69 293 P **P** **10 44 46.1 +1.6**
ROSC El Rosal 41.01 236 LR LR 11 01 20.7
comp=Z,237nm,20.4s,baz=37,slow=36
LCAR Lake Charles 41.52 290 P **P** **10 44 51.5 +0.2**
DAVOX Davos/Dischmat 41.55 54 LR LR 10 59 47.2
comp=Z,38nm,19.3s,baz=263,slow=33
KEST Kesra 41.77 70 LR LR 10 58 56.5
comp=Z,182nm,20.0s,baz=240,slow=32
DBIC Dimbokro 41.88 119 P **P** **10 44 55.9 +1.5**
comp=Z,4.5nm,1.0s,baz=300,slow=11,SNR=3.7
DBIC LR LR 11 00 54.5
comp=Z,666nm,18.2s,baz=332,slow=34
comp=Z,4.5nm,1.0s
FCAR Ozark Folk Cen 42.33 290 P **P** **10 44 57.2 -0.7**
WHAR Wooly Hollow 42.56 289 P **P** **10 44 59.8 0.0**
UALR University of 42.70 289 P **P** **10 45 01.0 +0.2**
UALR IAmb IAmb 10 45 08.3
comp=Z,33nm,1.4s
CLL Collm 43.92 47 *e*P **P** **10 45 11.0 +0.5**
comp=Z,7.0nm,0.9s
CLL *e*S **S** **10 51 46.0 +4.5**
CLL *e*SS **ScS** **10 55 06.0 -3.0**
CLL *e*SSS SSS 10 55 42.0
U38A Gravette 44.04 291 P **P** **10 45 12.2 +0.5**
ULM Lac du Bonnet 44.36 311 LR LR 11 01 46.7
comp=Z,220nm,21.5s,baz=90,slow=34
RLO Rose Lookout 44.59 291 P **P** **10 45 16.9 +0.8**
RLO IAmb IAmb 10 45 23.6
comp=Z,53nm,1.6s
NOA NORSAR Array B 44.80 33 P **P** **10 45 16.9 -0.6**
comp=Z,0.7nm,0.7s,baz=256,slow=8.1,SNR=2.9
NOA LR LR 11 01 48.3
comp=Z,82nm,19.2s,baz=250,slow=33
comp=Z,0.7nm,0.7s
X37A Clayton 45.18 289 P **P** **10 45 21.5 +0.7**
X37A IAmb IAmb 10 45 35.7
comp=Z,32nm,1.8s
TUL1 Leonard 45.25 291 P **P** **10 45 20.4 -1.0**
VAE Valguarnera 45.50 67 LR LR 11 02 53.6
comp=Z,244nm,18.3s,baz=163,slow=34
HFS Hagfors 45.75 35 LR LR 11 02 22.6
comp=Z,137nm,18.0s,baz=248,slow=33
JTS Las Juntas de 45.78 252 LR LR 11 04 12.3
comp=Z,220nm,18.3s,baz=114,slow=36
VRAC Vranov 46.12 50 LR LR 11 02 36.7
comp=Z,128nm,19.7s,baz=254,slow=33
H10N2 ASCENSION HYDR 46.68 143 T T 11 34 57.6
baz=328,slow=75,SNR=262
H10N3 ASCENSION HYDR 46.68 143 T T 11 34 58.7
baz=328,slow=75,SNR=328
H10N1 ASCENSION HYDR 46.70 143 T T 11 35 01.8
baz=328,slow=75,SNR=386
LOOK Love County 46.77 289 P **P** **10 45 32.6 -0.8**
LOOK IAmb IAmb 10 45 36.3
comp=Z,14nm,0.6s
BDFB Brasilia 47.42 189 P **P** **10 45 39.8 +1.2**
comp=Z,1.9nm,0.4s,baz=11,slow=5.2,SNR=3.9
BDFB LR LR 11 02 39.3
comp=Z,203nm,20.8s,baz=5.3,slow=32
comp=Z,1.9nm,0.4s
H10S3 ASCENSION HYDR 47.55 144 T T 11 36 05.1
baz=328,slow=74,SNR=1201
H10S2 ASCENSION HYDR 47.56 144 T T 11 36 05.3
baz=252,slow=74,SNR=329
ETMB Extrema 47.71 215 P **P** **10 45 39.4 -1.4**
ETMB IAmb IAmb 10 45 40.6
comp=Z,7.1nm,1.3s
WMOK Wichita Mounta 47.89 290 P **P** **10 45 41.9 -0.2**
WMOK IAmb IAmb 10 45 48.5
comp=Z,30nm,1.9s
435B Jarrell 47.92 285 IAmb IAmb 10 45 50.5
comp=Z,25nm,1.4s
STHS Stebnicka Huta 49.16 50 *e*P **P** **10 45 53.0 +1.3**
CRVS Cervenica-Dun 49.33 50 *e*P **P** **10 45 53.1 +0.1**
BOSC San Juan Bosco 49.61 233 IAmb IAmb 10 45 55.5
comp=Z,12nm,0.9s
JCT Junction City 49.84 285 P **P** **10 45 57.4 +0.2**
CMIG Matias Romero 50.68 267 LR LR 11 05 45.2
comp=Z,233nm,20.9s,baz=52,slow=34
SIV San Ignacio 51.06 205 LR LR 11 05 28.7
comp=Z,233nm,20.0s,baz=46,slow=33
FINES FINESS Array B 51.94 34 P **P** **10 46 12.3 -0.1**
comp=Z,4.1nm,0.9s,baz=254,slow=5.1,SNR=2.5
FINES LR LR 11 05 46.6
comp=Z,122nm,19.1s,baz=252,slow=33
comp=Z,4.1nm,0.9s
BURAR Bucovina Array 51.95 52 P **P** **10 46 12.3 -0.6**
NACGM Naroch 52.30 43 *e*P P 10 46 08.2 -7.0
comp=Z,16nm,0.8s,baz=272
ATAH Atahualpa 52.49 229 LR LR 11 08 08.9
comp=Z,167nm,21.5s,baz=18,slow=36
ARCES ARCESS Array B 52.60 24 LR LR 11 04 50.3
comp=Z,80nm,21.8s,baz=270,slow=32
MLR Muntele Rosu 52.75 54 P **P** **10 46 19.0 +0.1**
comp=Z,4.9nm,0.9s,baz=270,slow=7.1,SNR=4.3
MLR LR LR 11 07 37.7
comp=Z,116nm,19.5s,baz=254,slow=35
comp=Z,4.9nm,0.9s
MLR Muntele Rosu 52.75 54 P **P** **10 46 17.1 -1.8**
GDL2 Guadalupe Moun 53.06 289 P **P** **10 46 20.9 -0.5**
TXAR Lajitas Array 53.38 285 P **P** **10 46 23.9 +0.1**
comp=Z,0.5nm,0.6s,baz=97,slow=7.6,SNR=7.1
TXAR LR LR 11 09 14.2
comp=Z,128nm,18.1s,baz=70,slow=36
comp=Z,0.5nm,0.6s
EGMT Eagleton 53.55 309 P **P** **10 46 25.0 +0.3**
AKASG Malin Array Be 54.16 48 P **P** **10 46 27.3 -1.7**
comp=Z,1.9nm,0.6s,baz=272,slow=7.1,SNR=9.0
AKASG LR LR 11 07 33.6
comp=Z,205nm,18.1s,baz=258,slow=34
comp=Z,1.9nm,0.6s
IDI Anoyia 54.22 67 LR LR 11 08 08.7
comp=Z,59nm,21.1s,baz=272,slow=34
LPAZ La Paz 54.24 213 P **P** **10 46 30.3 -0.4**
comp=Z,2.7nm,0.8s,baz=1.0,slow=7.1,SNR=7.6
LPAZ LR LR 11 08 15.7
comp=Z,255nm,19.6s,baz=28,slow=34
comp=Z,2.7nm,0.8s
LPAZ La Paz 54.24 213 P **P** **10 46 30.2 -0.4**
PD31 Pinedale Array 54.37 303 IAmb IAmb 10 46 37.8
comp=Z,39nm,1.9s
PDAR Pinedale Array 54.37 303 P **P** **10 46 30.0 -1.0**
comp=Z,2.8nm,0.8s,baz=79,slow=7.9,SNR=13
PDAR LR LR 11 09 06.7
comp=Z,793nm,18.1s,baz=110,slow=36
comp=Z,2.8nm,0.8s
SNOW Snow King Moun 55.08 304 IAmb IAmb 10 46 43.6
comp=Z,22nm,1.7s
REDW Red Top Meadow 55.17 303 IAmb IAmb 10 46 44.8
comp=Z,16nm,1.4s
TPAW Teton Pass 55.21 304 IAmb IAmb 10 47 03.2
comp=Z,16nm,1.6s
P18A Preston Nutter 55.61 299 IAmb IAmb 10 46 47.6
comp=Z,36nm,1.8s
HPIG 55.87 283 IAmb IAmb 10 46 50.0
comp=Z,18nm,1.4s
SRU San Rafael Swe 55.95 298 IAmb IAmb 10 46 50.1
comp=Z,28nm,1.9s
HWUT Hardware Ranch 56.09 302 IAmb IAmb 10 46 50.7
comp=Z,17nm,1.6s
JLU Jordanelle 56.25 300 IAmb IAmb 10 46 51.9
comp=Z,20nm,1.7s
Q16A Castle Valley 56.49 298 IAmb IAmb 10 46 53.9
comp=Z,14nm,1.4s
DUG Dugway, Tooele 57.37 300 IAmb IAmb 10 46 59.2
comp=Z,27nm,1.8s
WUAZ Wupatki 57.62 295 IAmb IAmb 10 47 02.8
comp=Z,23nm,1.6s
GO01 Chusmiza 57.67 212 IAmb IAmb 10 46 57.4
comp=Z,14nm,1.1s
NEW Newport 58.35 310 LR LR 11 10 25.0
comp=Z,247nm,22.0s,baz=76,slow=34
CCUT Cedar City 58.53 297 IAmb IAmb 10 47 08.8
comp=Z,13nm,1.4s
MFID Camas Ranch 58.68 305 IAmb IAmb 10 47 09.0
comp=Z,25nm,1.6s
SPR3 Spring Creek 3 58.83 299 IAmb IAmb 10 47 11.5
comp=Z,22nm,1.7s
ELK Elko 58.99 301 LR LR 11 11 02.5
comp=Z,655nm,20.3s,baz=86,slow=35
BRTR Keskin Array B 59.62 60 P **P** **10 47 06.2 -1.9**
comp=Z,0.7nm,0.6s,baz=289,slow=9.0,SNR=3.0
BRTR LR LR 11 12 00.7
comp=Z,50nm,18.6s,baz=300,slow=35
comp=Z,0.7nm,0.6s
CPUP Villa Florida 59.65 197 LR LR 11 10 40.4
comp=Z,78nm,20.9s,baz=16,slow=34
W13A Hualapai Mount 59.70 295 IAmb IAmb 10 47 16.9
comp=Z,24nm,1.8s
PRN Pahroc Range 59.85 298 IAmb IAmb 10 47 12.2
comp=Z,10nm,1.2s
V12A Nelson 60.24 296 P **P** **10 47 13.7 +1.3**
V12A IAmb IAmb 10 47 20.8
comp=Z,16nm,1.4s
TPNV Topopah Spring 60.91 298 P **P** **10 47 17.7 +0.7**
TPNV IAmb IAmb 10 47 25.8
comp=Z,16nm,1.4s
WCT Wildcat Mounta 61.24 298 IAmb IAmb 10 48 07.2
comp=Z,20nm,1.9s
GWY Greenwater Val 61.48 297 P **P** **10 47 23.1 +2.2**
KVN Kaiserville 61.60 300 IAmb IAmb 10 47 28.0
comp=Z,31nm,2.0s
QSM Queen of Sheba 61.70 297 IAmb IAmb 10 47 31.0
comp=Z,14nm,1.3s
NVAR Mina Array Bea 61.96 300 P **P** **10 47 23.1 -1.1**
comp=Z,0.4nm,0.6s,baz=77,slow=6.7,SNR=6.8
NVAR LR LR 11 13 37.2
comp=Z,950nm,19.0s,baz=90,slow=36
comp=Z,0.4nm,0.6s
INK Inuvik 61.98 335 P **P** **10 47 22.1 -1.4**
comp=Z,3.0nm,1.1s,baz=16,slow=7.1,SNR=6.4
INK LR LR 11 14 08.2
comp=Z,339nm,18.5s,baz=66,slow=36
comp=Z,3.0nm,1.1s
INK Inuvik 61.98 335 P **P** **10 47 23.3 -0.2**
PFO Pinyon Flats O 62.21 294 LR LR 11 12 37.0
comp=Z,613nm,21.4s,baz=74,slow=34
DLBC Dease Lake 63.19 324 LR LR 11 14 59.8
comp=Z,646nm,18.1s,baz=78,slow=36
KIRV Kirov 63.87 36 LR LR 11 13 40.1
comp=Z,92nm,18.7s,baz=282,slow=34
YBH Yreka Blue Hor 64.03 305 LR LR 11 13 57.6
comp=Z,244nm,21.5s,baz=68,slow=35
BBB Bella Bella 64.07 317 LR LR 11 16 09.7
comp=Z,452nm,18.2s,baz=80,slow=37
KBZ Khabz 64.89 53 LR LR 11 15 24.5
comp=Z,26nm,18.0s,baz=336,slow=36
BELG Belogornoye 64.91 43 LR LR 11 14 46.0
comp=Z,208nm,18.3s,baz=322,slow=35
I26K Coal Creek Min 66.58 333 IAmb IAmb 10 47 55.7
comp=Z,22nm,1.7s
BCPM Bancas Point 67.30 327 P **P** **10 47 59.6 +1.2**
PRP Porcupine Dome 67.38 334 P **P** **10 47 59.7 +0.7**
PRP IAmb IAmb 10 48 01.1
comp=Z,13nm,1.4s
GNI Garni 67.48 56 LR LR 11 17 39.0
comp=Z,46nm,20.2s,baz=261,slow=36
CFA Coronel Fontan 67.92 205 LR LR 11 17 32.6
comp=Z,112nm,21.7s,baz=343,slow=36
ILAR Eielson Array 68.23 334 P **P** **10 48 03.8 -0.5**
comp=Z,1.9nm,1.0s,baz=59,slow=4.0,SNR=12
ILAR LR LR 11 17 47.8
comp=Z,380nm,19.0s,baz=82,slow=36
comp=Z,1.9nm,1.0s
CCB Clear Creek Bu 68.64 334 IAmb IAmb 10 48 08.2
comp=Z,14nm,1.3s
WRH Wood River Hil 68.83 334 IAmb IAmb 10 48 09.6
comp=Z,14nm,1.3s
ARU Arti 69.25 36 LR LR 11 17 15.7
comp=Z,79nm,18.2s,baz=286,slow=35
NRIK Noril'sk 72.65 17 LR LR 11 18 28.0
comp=Z,48nm,19.7s,baz=326,slow=34
H09W1 TRISTAN DA CUN 73.40 156 T T 12 08 28.4
SNR=3.8
MBAR Mbarara 74.83 100 LR LR 11 20 29.4
comp=Z,437nm,19.5s,baz=294,slow=35
TSUM Tsumeb 75.53 124 LR LR 11 17 33.7
comp=Z,163nm,19.7s,baz=332,slow=32
TIXI Tiksi 76.82 3 LR LR 11 17 58.8
comp=Z,44nm,21.7s,baz=359,slow=32
BVAR Borovoye Array 76.88 35 P **P** **10 48 55.3 -0.5**
comp=Z,0.8nm,0.6s,baz=289,slow=8.7,SNR=2.3
BVAR LR LR 11 22 43.2
comp=Z,73nm,18.7s,baz=299,slow=36
comp=Z,0.8nm,0.6s
PLCA Paso Flores 76.96 203 P **P** **10 48 56.6 +0.2**
comp=Z,2.0nm,1.0s,baz=5.2,slow=11,SNR=3.0
PLCA LR LR 11 21 42.4
comp=Z,81nm,20.1s,baz=21,slow=35
comp=Z,2.0nm,1.0s
KMBO Kiki Mbogo 80.61 97 LR LR 11 24 22.9
comp=Z,470nm,19.9s,baz=276,slow=35
LSZ Lusaka 81.03 114 LR LR 11 23 48.0
comp=Z,122nm,19.2s,baz=322,slow=35
KURBB Kurchatov Arra 82.33 34 P **P** **10 49 24.5 -1.0**
comp=Z,0.9nm,0.6s,baz=311,slow=6.4,SNR=8.3
KURBB LR LR 11 24 26.1
comp=Z,62nm,20.5s,baz=149,slow=35
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 82.83 29 P **P** **10 49 25.9 -2.1**
comp=Z,0.4nm,0.3s,baz=311,slow=6.8,SNR=6.0
ZALV LR LR 11 25 55.5
comp=Z,72nm,18.8s,baz=1.5,slow=36
comp=Z,0.4nm,0.3s
LBTB Lobatse 84.94 123 LR LR 11 21 03.9
comp=Z,203nm,21.9s,baz=358,slow=31
AAK Ala-Archa 85.39 42 LR LR 11 27 19.7
comp=Z,103nm,19.6s,baz=326,slow=35
WSAR Wadi Sarin 85.83 65 LR LR 11 31 18.9
comp=Z,89nm,18.1s,baz=298,slow=38
SUR Sutherland 86.38 132 LR LR 11 19 46.8
comp=Z,91nm,21.9s,baz=326,slow=30
MKAR Makanchi Array 86.76 35 P **P** **10 49 47.4 -0.7**
comp=Z,1.6nm,1.1s,baz=305,slow=7.0,SNR=4.9
MKAR LR LR 11 27 51.5
comp=Z,141nm,19.9s,baz=278,slow=35
comp=Z,1.6nm,1.1s
BOSA Boshof 86.93 126 LR LR 11 22 12.5
comp=Z,165nm,21.6s,baz=3.0,slow=31
RPN Rapa Nui 87.43 236 LR LR 11 22 17.7
comp=Z,73nm,21.6s,baz=67,slow=31
MA2 Magadan 88.66 354 LR LR 11 27 30.0
comp=Z,42nm,19.7s,baz=40,slow=34
SHEM Shemya Is, Ala 90.63 340 LR LR 11 33 51.3
comp=Z,118nm,18.5s,baz=292,slow=38
WMQ Urumqi 91.54 34 *e*P **P** **10 50 12.8 +2.0**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ LR LR
comp=N,140nm,15.9s
WMQ LR LR
comp=Z,140nm,20.9s
PETK Petropavlovsk- 94.11 349 LR LR 11 32 25.0
comp=Z,82nm,20.0s,baz=62,slow=35
SONM Songino Array 95.71 21 LR LR 11 35 04.8
comp=Z,60nm,18.2s,baz=3.5,slow=36
PMSA Palmer Station 97.71 190 LR LR 11 34 43.4
comp=Z,72nm,21.7s,baz=32,slow=35
OPO Ambohidratompo 98.03 107 LR LR 11 33 42.3
comp=Z,158nm,19.2s,baz=119,slow=35
KLR Kul'dur 99.30 5 LR LR 11 34 38.9
comp=Z,47nm,18.1s,baz=22,slow=35
TAOE Nuku Hiva Isla 102.32 267 *e*LR LR 11 24 29.1
comp=Z,172nm,24.6s
CD2 Chengdu 109.45 32 Pdif **Pdif** **10 51 29.8 -1.7**
PPT2 Papeete2 114.55 264 *e*LR LR 11 30 09.3
comp=Z,131nm,35.0s
PPT2 *e*LR LR 11 30 09.3
comp=Z,93nm,23.0s
TBI Tubuai 116.96 258 *e*LR LR 11 31 15.5
comp=Z,576nm,26.2s
TBI *e*LR LR 11 31 16.5
comp=Z,2μm,23.8s
VNDA Vanda 132.82 187 PKP **PKPdf** **10 56 18.3 +0.5**
comp=Z,1.3nm,1.0s,baz=181,slow=2.1,SNR=4.4
KAPI Kappang 148.01 38 PKPbc **PKPbc** **10 56 49.3 -0.7**
comp=Z,5.1nm,0.3s,baz=344,slow=6.2,SNR=6.2
DZM Mont Dzumac 153.78 284 *e*LR LR 11 48 20.8
comp=Z,176nm,23.4s
WRA Warramunga Arr 167.69 21 PKP **PKPdf** **10 57 09.2 -1.6**
comp=Z,0.3nm,0.9s,baz=54,slow=1.4,SNR=2.2
ASAR Alice Springs 170.93 31 PKP **PKPdf** **10 57 10.9 -1.8**
comp=Z,0.6nm,0.8s,baz=262,slow=0.7,SNR=5.6
ASAR PKPab **PKPab** **10 58 30.6 -0.6**
comp=Z,1.4nm,0.8s,baz=335,slow=4.7,SNR=12

---

*IDC **24** 10:47:25.0±3.8, 31°.41N×40°.92W, h0km, mb3.7/8, mbtmp3.7/8, MS3.5/5, Error ellipse: s-maj=119.6km s-min=23.4km az=171.0*
ISC 24 10:47:26.9±3.5, 31°.3N±0°.8×40°.9W±0°.2, h14km, n19, σ0°73/9, mb3.7/8, MS3.5/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**26.38**	**246**	LR	LR			11 03 58.9	
	comp=Z,35nm,18.1s,baz=128,slow=38								
MDP	**Montagnes des**	**28.34**	**205**	LR	LR			11 02 03.4	
	comp=Z,56nm,18.5s,baz=5.5,slow=31								
MDT	**Midelt**	**30.69**	**78**	LR	LR			11 04 33.4	
	comp=Z,99nm,18.3s,baz=344,slow=34								
EKA	**Eskdalemuir Ar**	**35.76**	**37**	P	**P**			**10 54 25.8**	**+0.6**
	0.6nm,0.6s,baz=248,slow=7.6,SNR=2.2								
	0.6nm,0.6s								
TKL	**Tuckaleechee C**	**35.81**	**289**	LR	LR			11 06 14.4	
	comp=Z,104nm,21.9s,baz=78,slow=32								
DBIC	**Dimbokro**	**41.67**	**118**	LR	LR			11 10 12.2	
	comp=Z,105nm,19.2s,baz=296,slow=33								
GERES	**GERESS Array B**	**44.27**	**50**	P	**P**			**10 55 34.8**	**-1.3**
	0.3nm,0.3s,baz=264,slow=9.8,SNR=3.9								
	0.3nm,0.3s								
H10N2	**ASCENSION HYDR**	**46.42**	**143**	T	T			11 45 32.0	
	baz=329,slow=75,SNR=29								
H10N3	**ASCENSION HYDR**	**46.43**	**143**	T	T			11 45 25.3	
	baz=329,slow=75,SNR=22								
H10N1	**ASCENSION HYDR**	**46.44**	**143**	T	T			11 45 27.7	
	baz=329,slow=75,SNR=30								
H10S3	**ASCENSION HYDR**	**47.29**	**144**	T	T			11 46 25.8	
	baz=328,slow=74,SNR=40								
H10S2	**ASCENSION HYDR**	**47.30**	**144**	T	T			11 46 42.8	
	baz=252,slow=74,SNR=18								
TXAR	**Lajitas Array**	**53.56**	**285**	P	**P**			**10 56 48.1**	**+0.4**
	0.3nm,0.8s,baz=73,slow=6.0,SNR=3.8								
	0.3nm,0.8s								
AKASG	**Malin Array Be**	**54.23**	**47**	P	**P**			**10 56 52.8**	**+0.7**
	1.1nm,0.6s,baz=283,slow=6.0,SNR=5.4								
	1.1nm,0.6s								
PDAR	**Pinedale Array**	**54.59**	**303**	P	**P**			**10 56 54.7**	**-0.5**
	0.7nm,0.6s,baz=80,slow=7.7,SNR=6.1								
	0.7nm,0.6s								
NVAR	**Mina Array Bea**	**62.17**	**300**	P	**P**			**10 57 47.9**	**-0.3**
	0.4nm,0.7s,baz=98,slow=6.5,SNR=2.7								
	0.4nm,0.7s								
ILAR	**Eielson Array**	**68.49**	**334**	P	**P**			**10 58 28.3**	**-0.1**
	1.0nm,1.0s,baz=52,slow=4.0,SNR=7.0								
	1.0nm,1.0s								
KURBB	**Kurchatov Arra**	**82.45**	**34**	P	**P**			**10 59 48.9**	**+0.2**
	0.3nm,0.7s,baz=308,slow=5.7,SNR=2.1								
	0.3nm,0.7s								
ASAR	**Alice Springs**	**171.07**	**32**	PKPab	**PKPab**			**11 08 54.5**	**+0.1**
	0.2nm,0.8s,baz=333,slow=3.2,SNR=4.2								

---

*NNC **24** 11:08:08.4±1.5, 53°.36N×87°.46E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=12.5km s-min=6.2km az=68.0, Suspected Mining explosion.*
*ASRS **24** 11:08:08.2, 53°.4N±0°.6×87°.4E±0°.6, h3km, MLh3.8/20, confirmed*
*MOS **24** 11:08:08.6±1.3, 53°.33N×87°.36E, h8km, mb4.4/1, Error ellipse: s-maj=8.9km s-min=6.4km az=95.2*
*IDC **24** 11:08:09.3±1.1, 53°.43N×87°.41E, h0km, mb3.8/5, mbtmp3.9/9, ML3.6/3, MS3.7/3, Error ellipse: s-maj=12.2km s-min=11.6km az=125.0*
ISC 24 11:08:09.0±0.5, 53°.39N±0°.02×87°.40E±0°.02, h0km, n82, σ1s58/132, mb3.7/6, MS3.7/3, 16C-27D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MALIN	**Malinovka, Kuz**	**0.08**	**291**	⇓Pg			**Pg**	**11 08 10.6**	**+0.1**
MALIN						Sg	**Sg**	**11 08 12.0**	**+0.5**
TAIL	**Tailep, Kuzbas**	**0.13**	**294**	⇓Pg			**Pg**	**11 08 11.6**	**+0.1**
TAIL						Sg	**Sg**	**11 08 14.2**	**+1.0**
TASR	**Tashtagol**	**0.70**	**155**	⇓Pg			**Pg**	**11 08 21.9**	**-0.3**
TASR						Sg	**Sg**	**11 08 31.7**	**+0.4**
TASR	**Tashtagol**	**0.70**	**155**	PG			**Pg**	**11 08 22.2**	**-0.1**
TASR								11 08 31.2	
ELT	**Eltsovka**	**0.71**	**260**	⇓Pg			**Pg**	**11 08 22.3**	**-0.3**
ELT						Sg	**Sg**	**11 08 30.8**	**-0.9**
ELT	**Eltsovka**	**0.71**	**260**	PG			**Pg**	**11 08 22.2**	**-0.3**
ELT								11 08 30.8	
ERU	**Erunakovo, Kuz**	**0.75**	**359**	⇓Pg			**Pg**	**11 08 22.8**	**-0.4**
ERU						Sg	**Sg**	**11 08 33.8**	**+0.8**
VCHU	**Verkh-Chumysh,**	**0.80**	**315**	⇓Pg			**Pg**	**11 08 23.6**	**-0.7**
VCHU						Sg	**Sg**	**11 08 35.5**	**+0.8**
VCHU	**Verkh-Chumysh,**	**0.80**	**315**	PG			**Pg**	**11 08 24.0**	**-0.3**
VCHU								11 08 34.5	
KOTO	**Kotino, Kuzbas**	**0.84**	**341**	⇓Pg			**Pg**	**11 08 25.0**	**-0.1**
KOTO						Sg	**Sb**	**11 08 37.4**	**-1.0**
LUZB	**Luzhba, Kemero**	**0.94**	**73**	⇓Pg			**Pg**	**11 08 25.5**	**-1.4**
LUZB						Sg	**Sg**	**11 08 38.4**	**-0.6**
LUZB	**Luzhba, Kemero**	**0.94**	**73**	PG			**Pg**	**11 08 25.7**	**-1.2**
LUZB								11 08 38.8	
POMOR	**Pomortsevo, Ku**	**1.14**	**333**	⇓Pg			**Pb**	**11 08 31.6**	**+0.1**
POMOR						Sg	**Sn**	**11 08 48.6**	**+0.2**
BJR2	**Bachatsky-2, K**	**1.17**	**320**	⇓Pg			**Pg**	**11 08 29.5**	**-1.8**
BJR2						Sg	**Sb**	**11 08 47.6**	**0.0**
BJR2	**Bachatsky-2, K**	**1.17**	**320**	PG			**Pg**	**11 08 29.5**	**-1.8**
BJR2								11 08 47.2	
BJR1	**Bachatsky 1, K**	**1.17**	**317**	⇓Pg			**Pg**	**11 08 30.4**	**-1.0**
BJR1						Sg	**Sg**	**11 08 46.6**	**+0.1**
ARTR	**Artybash**	**1.60**	**183**	⇓Pg			**Pn**	**11 08 38.2**	**-0.3**
ARTR						Sg	**Sn**	**11 09 00.1**	**+0.2**
ARTR	**Artybash**	**1.60**	**183**	P*			**Pn**	**11 08 38.4**	**-0.1**
ARTR								11 08 59.3	
ZAA0	**Zalesovo Array**	**1.63**	**291**	⇓P			**Pn**	**11 08 38.1**	**-0.8**
	13nm,0.7s								
ZAA0				⇑S			**Sg**	**11 09 02.2**	**+0.9**
	54nm,1.1s								
ZALV	**Zalesovo Beam**	**1.63**	**291**	Pg			**Pn**	**11 08 38.5**	**-0.5**
	17nm,0.3s,baz=109,slow=16,SNR=164								
ZALV				Lg		Lg	Lg	11 09 01.7	
	14nm,0.3s,baz=112,slow=30,SNR=8.1								
ZALV	**Zalesovo Beam**	**1.63**	**291**	*i* PN			**Pn**	**11 08 38.5**	**-0.5**
ZALV				pmax		pmax			
	comp=Z,60nm,0.5s								
GALT	**Gorno-Altaysk,**	**1.69**	**212**	Pg			**Pn**	**11 08 39.7**	**0.0**
GALT						Sg	**Sg**	**11 09 03.5**	**+0.3**
SHRR	**Shira**	**1.97**	**55**	*i* PN			**Pb**	**11 08 45.2**	**-0.5**
SHRR				*i* S			**Sb**	**11 09 10.7**	**0.0**
TBTR	**Tabat**	**2.05**	**102**	*i* PN			**Pn**	**11 08 43.4**	**-1.3**
TBTR				*i* S			**Sb**	**11 09 13.2**	**+0.1**
TBTR				pmax		pmax			
	comp=Z,211nm,1.2s								
TBTR				smax		smax			
	comp=N,859nm,1.8s								
KEM	**Kemerovo**	**2.10**	**339**	P			**Pn**	**11 08 45.2**	**-0.1**
KEM				S			**Sb**	**11 09 14.2**	**-0.3**
KEM	**Kemerovo**	**2.10**	**339**	PN			**Pb**	**11 08 46.6**	**-1.3**
KEM								11 09 15.2	
BRCR	**Berchikul'**	**2.31**	**13**	⇓P			**Pn**	**11 08 48.7**	**+0.4**
BRCR				S			**Sb**	**11 09 19.6**	**-1.1**
BRCR	**Berchikul'**	**2.31**	**13**	PN			**Pn**	**11 08 49.3**	**+1.0**
BRCR								11 09 22.5	
DJO	**Djoy, Khakassi**	**2.38**	**103**	⇑Pg			**Pn**	**11 08 50.3**	**+1.0**
DJO				S			**Sb**	**11 09 21.9**	**-0.8**
ABNR	**Abakan**	**2.43**	**81**	*i* PN			**Pb**	**11 08 52.9**	**-0.6**
ABNR				*i* S			**Sb**	**11 09 24.6**	**+0.7**
CERR	**Cheremushki**	**2.48**	**101**	⇑P			**Pb**	**11 08 52.5**	**-1.8**
CERR				S			**Sb**	**11 09 24.6**	**-0.8**
DJOS	**Djoyskaya Sosn**	**2.48**	**102**	⇑P			**Pb**	**11 08 53.2**	**-1.2**
DJOS				S			**Sb**	**11 09 25.7**	**+0.1**
KHAR	**Kharino, NSO,**	**2.56**	**300**	P			**Pn**	**11 08 49.5**	**-2.2**
KHAR				S			**Sn**	**11 09 25.0**	**+1.5**
ULGR	**Ulagan, Altay**	**2.80**	**173**	⇓P			**Pb**	**11 08 58.1**	**-1.7**
ULGR				Sg			**Sg**	**11 09 39.7**	**+1.0**
NVSII	**Novosibirsk**	**2.85**	**302**	⇑P			**Pn**	**11 08 56.3**	**+0.7**
NVSII				S			**Sb**	**11 09 33.6**	**-2.3**
NVS	**Novosibirsk**	**2.85**	**302**	⇑P			**Pn**	**11 08 56.7**	**+1.1**
NVS				S			**Sb**	**11 09 33.6**	**-2.4**
NVS	**Novosibirsk**	**2.85**	**302**	PN			**Pb**	**11 08 59.5**	**-1.1**
NVS								11 09 40.9	
UKR	**Ust'-Kan**	**2.94**	**214**	⇓P			**Pn**	**11 08 58.9**	**+1.8**

UKR				Sg	Sg	11 09 42.9	-0.6	
UKR	**Ust'-Kan**	**2.94**	**214**	PN	Pb	**11 09 02.8**	**+0.5**	
UKR						11 09 42.6		
BSTK	**Bystrovka, Nov**	**3.04**	**295**	⇑P	Pn	**11 08 58.8**	**+0.5**	
BSTK				Sg	Sg	**11 09 44.7**	**-1.9**	
BSTK	**Bystrovka, Nov**	**3.04**	**295**	PN	Pb	**11 09 04.6**	**+0.7**	
BSTK						11 09 44.6		
BLRR	**Bol'shaya Rech**	**3.04**	**95**	*i* PN	Pb	**11 09 04.0**	**0.0**	
BLRR				*i* S	Sb	**11 09 43.2**	**+1.5**	
CHBI	**Chibit, Altay**	**3.09**	**179**	⇓P	Pb	**11 09 02.1**	**-2.7**	
CHBI				Sg	Sg	**11 09 48.2**	**+0.2**	
CUR	**Chagan-Uzun**	**3.35**	**169**	⇓P	Pn	**11 09 05.3**	**+2.6**	
CUR				Pn	Pb	**11 09 05.7**	**-3.6**	
CUR				Sg	Sg	**11 09 55.7**	**-0.8**	
DGZ	**Jazzator, Alta**	**3.70**	**180**	P	Pb	**11 09 11.6**	**-3.6**	
DGZ				Sg	Sb	**11 10 04.1**	**+3.5**	
DGZ	**Jazzator, Alta**	**3.70**	**180**	*i* PN	Pn	**11 09 04.2**	**-3.3**	
MINR	**Mina**	**4.27**	**67**	P	Pn	**11 09 17.0**	**+1.8**	
MINR				S	Sn	**11 10 08.5**	**+2.7**	
HVS	**Khovu-Aksy**	**4.48**	**118**	*i* PN	Pb	**11 09 29.6**	**+1.1**	
HVS				*i* S	Sg	**11 10 28.2**	**-4.7**	
HVS				pmax	pmax			
	comp=Z,14nm,1.1s							
HVS				smax	smax			
	comp=N,53nm,1.2s							
KZLR	**Kyzyl**	**4.62**	**109**	Pg	Pb	**11 09 33.8**	**+2.9**	
KZLR				Sg	Sg	**11 10 35.6**	**-1.9**	
SHTK	**Zheleznogorsk-**	**4.64**	**48**	P	Pn	**11 09 17.2**	**-3.0**	
GZLN	**Zheleznogorsk**	**4.74**	**48**	P	Pn	**11 09 25.3**	**+3.7**	
GZLN				S	Sn	**11 10 21.0**	**+3.7**	
ORY	**Orie**	**4.80**	**67**	*i* PN	Pn	**11 09 23.9**	**+1.4**	
KURK	**Kurchatov**	**6.04**	**247**	⇑Pn	Pn	**11 09 38.7**	**-0.8**	
	comp=N,24nm,0.6s							
KURK				⇓Sn	Sn	**11 10 49.8**	**+0.5**	
	comp=N,17nm,1.0s							
KURK				⇑Lg	Lg	11 11 20.7		
	comp=N,83nm,1.0s							
KURK	**Kurchatov**	**6.04**	**247**	⇑P	Pn	**11 09 41.2**	**+1.7**	
KURK				S	Sn	**11 10 48.6**	**-0.7**	
KURK	**Kurchatov**	**6.04**	**247**	PN	Pn	**11 09 42.3**	**+2.8**	
KURK						11 10 52.3		
KURBB	**Kurchatov Arra**	**6.14**	**247**	Pn	Pn	**11 09 42.3**	**+1.5**	
	comp=N,1.2nm,0.3s,baz=62,slow=14,SNR=164							
KURBB				Sn	Sn	**11 10 52.2**	**+0.6**	
	comp=N,0.2nm,0.3s,baz=56,slow=28,SNR=2.0							
KURBB				Lg	Lg	11 11 23.0		
	comp=N,0.2nm,0.3s,baz=69,slow=36,SNR=4.5							
	comp=N,40nm,0.7s							
KURBB	**Kurchatov Arra**	**6.14**	**247**	⇓Pn	Pn	**11 09 41.1**	**+0.3**	
	comp=N,40nm,0.6s							
KURBB				⇑Sn	Sn	**11 10 52.0**	**+0.4**	
	comp=N,40nm,0.7s							
KURBB				⇑Lg	Lg	11 11 23.7		
	comp=N,141nm,0.8s							
KURBB	**Kurchatov Arra**	**6.14**	**247**	PN	Pn	**11 09 41.1**	**+0.3**	
KURBB				S	Sn	**11 10 52.1**	**+0.4**	
KNGR	**Kungurtug, Tuv**	**6.84**	**110**	P	Pn	**11 09 51.8**	**+1.2**	
KNGR				S	Sn	**11 11 10.9**	**+1.7**	
MK31	**Makanchi Array**	**7.38**	**208**	⇓Pn	Pn	**11 09 59.0**	**+1.1**	
	comp=N,16nm,0.6s,baz=30,slow=13,SNR=233							
MK31				⇓Sn	Sn	**11 11 22.7**	**+0.4**	
	comp=N,3.4nm,0.7s,baz=33,slow=26,SNR=4.2							
MK31				⇑Lg	Lg	11 12 02.0		
	comp=N,67nm,1.1s,baz=36,slow=26,SNR=11							
MK31	**Makanchi Array**	**7.38**	**208**	*i* P	Pn	**11 09 54.5**	**-3.4**	
MKAR	**Makanchi Array**	**7.38**	**208**	Pn	Pn	**11 10 00.1**	**+2.2**	
	comp=N,4.6nm,0.3s,baz=29,slow=14,SNR=234							
MKAR				Sn	Sn	**11 11 22.8**	**+0.6**	
	comp=N,0.7nm,0.3s,baz=32,slow=26,SNR=2.0							
MKAR				Lg	Lg	11 12 02.7		
	comp=N,0.6nm,0.3s,baz=35,slow=28,SNR=7.7							
	comp=N,27nm,0.6s							
MKAR	**Makanchi Array**	**7.38**	**208**	⇓P	Pn	**11 09 59.9**	**+2.0**	
MKAR				S	Sn	**11 11 21.8**	**-0.4**	
MAKZ	**Makanchi**	**7.46**	**210**	⇑Pn	Pn	**11 09 59.2**	**+0.3**	
	comp=N,18nm,0.6s							
MAKZ				⇓Sn	Sn	**11 11 24.9**	**+0.7**	
	comp=N,6.7nm,0.8s							
MAKZ				⇑Lg	Lg	11 12 03.1		
	comp=N,31nm,1.1s							
MAKZ	**Makanchi**	**7.46**	**210**	⇓P	Pn	**11 10 00.7**	**+1.8**	
MAKZ				S	Sn	**11 11 24.1**	**-0.1**	
MAKZ	**Makanchi**	**7.46**	**210**	P	Pn	**11 09 59.2**	**+0.3**	
MAKZ				S	Sn	**11 11 24.9**	**+0.7**	
BVA0	**Borovoye Array**	**10.21**	**275**	⇓Pn	Pn	**11 10 37.1**	**+0.4**	
	comp=N,3.7nm,0.8s							
BVA0				⇑Sn	Sn	**11 12 30.6**	**-1.2**	
	comp=N,7.4nm,0.7s							
BVA0	**Borovoye Array**	**10.21**	**275**	P	Pn	**11 10 37.8**	**+1.1**	
BVA0				S	Sn	**11 12 30.6**	**-1.2**	
BVAR	**Borovoye Array**	**10.21**	**275**	Pn	Pn	**11 10 36.4**	**-0.3**	
	comp=N,0.1nm,0.3s,baz=72,slow=14,SNR=14							
BVAR				Sn	Sn	**11 12 25.4**	**-6.4**	
	baz=74,slow=21,SNR=4.2							
	comp=N,5.1nm,0.7s							
BRVK	**Borovoye**	**10.27**	**275**	*i* P	Pn	**11 10 37.1**	**-0.4**	
SONM	**Songino Array**	**13.27**	**107**	Pn	Pn	**11 11 20.0**	**+1.5**	
	comp=N,1.2nm,1.0s,baz=297,slow=13,SNR=5.5							
SONM				Lg	Lg	11 15 05.7		
	baz=300,slow=32							
AAK	**Ala-Archa**	**13.77**	**224**	Lg	Lg	11 15 22.2		
	comp=N,0.1nm,0.3s,baz=54,slow=19,SNR=1.7							
NRIK	**Noril'sk**	**16.00**	**0**	*i* P	P	**11 11 57.2**	**-1.5**	
NRIK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARU	**Arti**	**16.80**	**292**	*d* iP	Pn	**11 12 06.3**	**+1.0**	
ARU				S	Sn	**11 15 13.9**	**+1.6**	
ARU				pmax	pmax			
	comp=Z,7.0nm,1.6s							
TIXI	**Tiksi**	**25.61**	**29**	*i* P	P	**11 13 41.0**	**+1.5**	
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AKASG	**Malin Array Be**	**35.03**	**290**	P	P	**11 15 02.1**	**-0.8**	
	comp=Z,0.5nm,0.6s,baz=56,slow=8.1,SNR=1.8							
	comp=Z,0.5nm,0.6s							
BRTR	**Keskin Array B**	**38.48**	**271**	P	P	**11 15 32.3**	**-0.4**	
	comp=Z,0.8nm,0.9s,baz=78,slow=7.5,SNR=3.6							
BRTR				LR	LR	11 34 56.8		
	comp=Z,51nm,20.2s,baz=176,slow=42							
	comp=Z,0.6nm,0.9s							
HFS	**Hagfors**	**38.98**	**310**	P	P	**11 15 36.8**	**+0.4**	
	comp=Z,5.4nm,0.8s,baz=77,slow=12,SNR=4.4							
	comp=Z,5.4nm,0.8s							
NOA	**NORSAR Array B**	**39.72**	**312**	P	P	**11 15 43.9**	**+1.3**	
	comp=Z,0.6nm,0.8s,baz=62,slow=8.1,SNR=2.0							
	comp=Z,0.6nm,0.8s							
GERES	**GERESS Array B**	**44.58**	**295**	LR	LR	11 38 05.5		
	comp=Z,91nm,18.1s,baz=308,slow=40							
ILAR	**Eielson Array**	**54.99**	**25**	P	P	**11 17 40.4**	**-1.0**	
	comp=Z,0.9nm,0.8s,baz=312,slow=4.7,SNR=11							
	comp=Z,0.9nm,0.8s							
KRVT	**Keravat (AS076**	**78.69**	**113**	LR	LR	11 56 24.7		
	comp=Z,107nm,21.7s,baz=197,slow=37							

*STR **24** 11:08:48.0±2.6,51°N±19°×±°, h6km±17km, MLv2.1/5, Error ellipse: s-maj=0.0km s-min=0.0km az=179.7, preliminary*

UCC 24 11:08:47.1±0.7, 50.62N×6.30E, h10km±2km, ML0.9, 2C-14D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTNL	**Ternell**	**0.11**	**254**	*b*P	Pg	11 08 49.4	-0.4
BTNL				*d*S	Sg	11 08 51.5	-0.3
	comp=N,11nm,0.2s						
MEM	**Membach**	**0.18**	**268**	κP	Pg	11 08 50.7	-0.3
MEM				*d*S	Sg	11 08 53.7	+0.1
	comp=E,12nm,0.3s						
BHOU	**Houvegnez**	**0.32**	**215**	*b*P	Pg	11 08 53.6	+0.1
BHOU				*d*S	Sg	11 08 58.1	+0.3
	comp=N,5.1nm,0.1s						
BEBN	**Eben Emael**	**0.43**	**295**	κP	Pg	11 08 55.1	-0.5
LKLB	**Kalborn**	**0.53**	**193**	κP	Pg	11 08 57.6	+0.2
LKLB				*d*S	Sg	11 09 03.4	-0.9
RCHB	**Rochefort**	**0.82**	**236**	Sg	Sb	11 09 14.9	+0.2
RCHB	**Rochefort**	**0.82**	**236**	Pg	Pg	11 09 03.2	+0.2
WLF	**Walferdange**	**0.96**	**186**	Pg	Pg	11 09 05.6	+0.1
DOU	**Dourbes**	**1.21**	**245**	*d*P	Pb	11 09 09.8	-0.3
DOU				*d*S	Sb	11 09 25.8	+0.1
	comp=E,2.5nm,0.2s						
DOU	**Dourbes**	**1.21**	**245**	Pg	Pn	11 09 10.1	0.0
DOU				Sg	Sg	11 09 25.9	-0.1

*IDC **24** 11:35:39.9±1.7, 36.96N×141.57E, h0km, mb3.3/2, mbtmp3.3/2, ML1.9/1, Error ellipse: s-maj=44.2km s-min=28.4km az=149.0*
*JMA **24** 11:35:42.4±0.1, 37.2N±0.3×141.3E±0.8, h21km±1km, MV2.7/36, E OFF FUKUSHIMA PREF*

ISC 24 11:35:41.1±2.0, 37.15N±0.05×141.37E±0.08, h9km±11km, n15, σ0955/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**299**	P	Pg	**11 35 49.8**	**0.0**
JFK				S	Sg	**11 35 55.6**	**-0.1**
JFFD	**Fukushimafurud**	**0.65**	**265**	P	Pg	**11 35 53.5**	**-0.1**
JFFD				S	Sg	**11 36 02.1**	**0.0**
JMST	**Minamisoumatoc**	**0.69**	**326**	*i* P	Pg	**11 35 54.3**	**0.0**
JMST				*e*S	Sg	**11 36 03.4**	**+0.1**
JHO	**Hitachi**	**0.84**	**230**	*e*P	Pg	**11 35 57.0**	**-0.2**
JMM	**Marumori**	**0.84**	**328**	P	Pg	**11 35 57.0**	**-0.4**
JMM				*e*S	Sg	**11 36 08.0**	**-0.3**
JFY	**Yanaizu**	**1.35**	**281**	P	Pn	**11 36 06.2**	**+0.1**
JFY				S	Sn	**11 36 23.3**	**-0.8**
MJAR	**Matsushiro Arr**	**2.60**	**257**	Pn	Pn	**11 36 24.2**	**+0.8**
	0.2nm,0.3s,baz=79,slow=16,SNR=4.4						
MJAR				Sn	Sb	**11 37 00.5**	**+0.5**
	0.2nm,0.3s,baz=92,slow=28,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	12 11 10.7	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	12 11 11.3	
	baz=314,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	12 11 12.1	
	baz=314,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	12 12 03.6	
	baz=318,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	12 12 06.7	
	baz=318,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	12 12 05.7	
	baz=318,slow=76						
ILAR	**Eielson Array**	**49.41**	**32**	P	P	**11 44 31.6**	**+0.8**
	0.4nm,0.9s,baz=254,slow=6.2,SNR=3.4						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**57.17**	**188**	P	P	**11 45 27.4**	**-0.9**
	0.2nm,0.6s,baz=4.4,slow=7.4,SNR=2.0						
	0.2nm,0.6s						

*SOME **24** 11:55:34.1, 41.65N×74.32E, h0km*
*KRNET **24** 11:55:34.1±0.1, 41.65N×74.33E, h16km, mb2.5*
*KNET **24** 11:55:35.6±0.4, 41.75N×74.29E, h15km±3km, ml1.4, Error ellipse: s-maj=3.5km s-min=1.2km az=152.0*
*NNC **24** 11:55:35.9±1.1, 41.72N×74.33E, h0km, mb3.4, mpv3.3, Error ellipse: s-maj=8.5km s-min=4.5km az=0.0*

ISC 24 11:55:35.5±1.4, 41.72N±0.06×74.26E±0.03, h8km±8km, n44, σ0997/72, 20C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.15**	**19**	⇑*i* P	Pg	**11 55 38.2**	**-0.5**
	baz=59						
ARLS				⇑*i* S	Sg	**11 55 41.5**	**+0.5**
	baz=59						
UCH	**Uchtor**	**0.54**	**21**	⇑P	Pg	**11 55 46.1**	**+0.1**
	10.0nm,0.2s,SNR=47						
UCH				⇑S	Sg	**11 55 54.2**	**+1.1**
	12nm,0.2s						
UCH	**Uchtor**	**0.54**	**21**	⇑*i* P	Pg	**11 55 45.9**	**-0.1**
	baz=13						
UCH				⇑*i* S	Sg	**11 55 54.2**	**+1.1**
	baz=13						
AML	**Almayashu**	**0.59**	**314**	⇑P	Pb	**11 55 47.3**	**-0.9**
	10nm,0.2s,SNR=7.7						
AAK	**Ala-Archa**	**0.93**	**11**	⇑P	Pb	**11 55 53.4**	**-0.5**
	4.6nm,0.2s,SNR=14						
AAK				⇑S	Sb	**11 56 06.6**	**+0.1**
	5.1nm,0.2s						
AAK	**Ala-Archa**	**0.93**	**11**	⇑*i* P	Pg	**11 55 53.0**	**-0.4**
	baz=7.0						
AAK				⇑*i* S	Sb	**11 56 06.4**	**-0.1**
	baz=7.0						
EKS2	**Erkin-Say**	**1.00**	**339**	⇓P	Pn	**11 55 54.9**	**-1.1**
	1.6nm,0.2s,SNR=8.1						
EKS2	**Erkin-Say**	**1.00**	**339**	⇑*i* P	Pb	**11 55 54.5**	**-0.6**
	baz=38						
EKS2				⇑*i* S	Sn	**11 56 09.7**	**-0.6**
	baz=38						
KBK	**Karagaybulak**	**1.06**	**29**	⇑P	Pg	**11 55 55.6**	**-0.3**
	4.5nm,0.1s,SNR=6.9						
KBK	**Karagaybulak**	**1.06**	**29**	⇑*i* P	Pg	**11 55 54.7**	**-1.2**
	baz=24						
KBK				⇑*i* S	Sb	**11 56 10.2**	**-0.1**
	baz=24						
MRKS	**Merke**	**1.28**	**323**	*e*P	Pg	**11 56 00.2**	**+0.3**
	4.6nm,0.2s						
MRKS				*e*S	Sn	**11 56 18.5**	**+1.5**
	4.9nm,0.2s						
MRKS	**Merke**	**1.28**	**323**	P	Pg	**11 56 00.2**	**+0.3**
	4.6nm,0.2s						
MRKS				S	Sn	**11 56 17.7**	**+0.7**
	4.9nm,0.2s						
CHMS	**Chumysh**	**1.33**	**16**	⇓*i* P	Pn	**11 55 59.8**	**-0.5**
	baz=13						
CHMS				⇓*i* S	Sn	**11 56 18.4**	**+0.3**
	baz=13						
USP	**Ospenovka**	**1.55**	**7**	⇓*i* P	Pb	**11 56 04.2**	**-0.3**
	baz=4.0						
USP				⇓*i* S	Sg	**11 56 25.9**	**+0.5**
	baz=4.0						
TKM2	**Tokmak 2**	**1.56**	**39**	⇑P	Pn	**11 56 03.7**	**+0.2**
	5.5nm,0.2s						
TKM2	**Tokmak 2**	**1.56**	**39**	⇑*i* P	Pn	**11 56 03.2**	**-0.4**
	baz=36						
TKM2				⇑*i* S	Sn	**11 56 24.4**	**+0.4**
	baz=36						
TKM2	**Tokmak 2**	**1.56**	**39**	⇑Pn	Pn	**11 56 03.3**	**-0.2**
	2.9nm,0.4s						
SGDS	**Sogindy**	**1.75**	**9**	*e*P	Pg	**11 56 08.6**	**-0.5**
	3.0nm,0.1s						
SGDS				*e*S	Sg	**11 56 33.4**	**+1.7**
	4.3nm,0.3s						
SGDS	**Sogindy**	**1.75**	**9**	P	Pg	**11 56 08.5**	**-0.5**
	3.0nm,0.1s						
SGDS				S	Sg	**11 56 31.7**	**0.0**
	4.3nm,0.3s						
KST	**Kastek**	**1.83**	**43**	*e*P	Pb	**11 56 09.4**	**+0.3**
	2.2nm,0.4s						
KST				*e*S	Sg	**11 56 35.0**	**+0.9**
	6.0nm,0.5s						
KST	**Kastek**	**1.83**	**43**	P	Pb	**11 56 09.2**	**0.0**
	6.2nm,0.3s						
KST				S	Sb	**11 56 33.0**	**+0.8**
DGS	**Degeres**	**1.89**	**36**	*e*P	Pg	**11 56 11.8**	**+0.2**
	4.3nm,0.2s						
DGS				*e*S	Sg	**11 56 38.6**	**+2.5**
	5.7nm,0.2s						
DGS	**Degeres**	**1.89**	**36**	P	Pb	**11 56 10.6**	**+0.5**
	8.0nm,0.4s						
DGS				S	Sg	**11 56 35.7**	**-0.4**
	5.7nm,0.2s						
MTBS	**Maitube**	**2.13**	**48**	*e*P	Pg	**11 56 15.3**	**-1.1**
	7.1nm,0.1s						
MTBS				*e*S	Sg	**11 56 44.1**	**+0.1**
	7.3nm,0.4s						
MTBS	**Maitube**	**2.13**	**48**	Pg	Pb	**11 56 13.8**	**-0.6**
	7.1nm,0.1s						
KRBS	**Karabastau**	**2.23**	**27**	*e*P	Pb	**11 56 16.6**	**+0.5**
	5.0nm,0.1s						
KRBS				*e*S	Sg	**11 56 47.3**	**+0.2**
	4.7nm,0.4s						
KRBS	**Karabastau**	**2.23**	**27**	Pg	Pb	**11 56 16.6**	**+0.5**
	5.0nm,0.1s						
KRBS				Lg	Lg	11 56 45.7	
	4.7nm,0.4s						
TNSS	**Tian-Shan**	**2.39**	**56**	*e*P	Pb	**11 56 19.2**	**+0.3**
	4.2nm,0.2s						
TNSS				*e*S	Sg	**11 56 51.8**	**-0.4**
	5.0nm,0.4s						
TNSS	**Tian-Shan**	**2.39**	**56**	Pg	Pb	**11 56 17.9**	**-1.0**
	7.0nm,0.4s						
TNSS				Lg	Lg	11 56 48.1	
	5.0nm,0.4s						
MDOK	**Medeo**	**2.52**	**54**	*e*P	Pb	**11 56 21.4**	**+0.5**
	4.1nm,0.4s						
MDOK				*e*S	Sg	**11 56 54.8**	**-1.6**
	11nm,0.6s						
MDOK	**Medeo**	**2.52**	**54**	Pn	Pn	**11 56 18.3**	**+1.5**
	9.3nm,1.0s						
MDOK				Pg	Pb	**11 56 20.8**	**-0.2**
	6.0nm,0.5s						
MDOK				Lg	Lg	11 56 52.9	
	11nm,0.6s						
MDOK				⇓Lg	Lg	11 56 55.3	
	18nm,1.0s						
KUU	**Kurty**	**2.65**	**35**	Pg	Pb	**11 56 23.7**	**+0.5**
	5.2nm,0.1s						
KUU				Lg	Lg	11 56 57.8	
	5.8nm,0.1s						
KTBS	**Karatobe**	**2.67**	**41**	*e*P	Pb	**11 56 23.7**	**+0.2**
	3.3nm,0.3s						
KTBS				*e*S	Sg	**11 56 59.5**	**-1.8**
	8.1nm,0.3s						
KTBS	**Karatobe**	**2.67**	**41**	Pg	Pb	**11 56 23.7**	**+0.2**
	3.3nm,0.3s						
KTBS				Lg	Lg	11 56 58.0	
	8.1nm,0.3s						
CHKK	**Chushkaly**	**2.93**	**42**	*e*P	Pb	**11 56 28.9**	**+1.0**
	2.8nm,0.3s						
CHKK				*e*S	Sg	**11 57 08.3**	**-1.2**
	6.0nm,0.2s						
CHKK	**Chushkaly**	**2.93**	**42**	Pg	Pb	**11 56 28.5**	**+0.6**
	2.3nm,0.1s						
CHKK				Lg	Lg	11 57 06.2	
	6.0nm,0.2s						
IUG	**Iuzhnay**	**3.18**	**279**	*e*P	Pg	**11 56 35.2**	**-1.2**
	6.6nm,0.2s						
IUG				*e*S	Sg	**11 57 19.9**	**+2.3**
	13nm,0.3s						
IUG	**Iuzhnay**	**3.18**	**279**	Pg	Pg	**11 56 35.2**	**-1.2**
	6.6nm,0.2s						
IUG				Lg	Lg	11 57 17.6	
	13nm,0.3s						
BTLS	**Baital**	**3.32**	**357**	*e*P	Pb	**11 56 36.0**	**+1.4**
	1.2nm,0.4s						
BTLS				*e*S	Sg	**11 57 20.4**	**-1.7**
	2.2nm,0.4s						
BTLS	**Baital**	**3.32**	**357**	Pg	Pg	**11 56 36.7**	**-2.4**
	1.2nm,0.4s						
BTLS				Lg	Lg	11 57 20.3	
	2.2nm,0.4s						
KURS	**Kuram**	**3.38**	**57**	Pg	Pb	**11 56 36.1**	**+0.4**
	5.5nm,0.9s						
KURS				Lg	Lg	11 57 08.8	
	12nm,0.7s						
ARXS	**Arharly**	**3.61**	**45**	*e*P	Pb	**11 56 41.3**	**+1.7**
	4.1nm,0.7s						
ARXS				*e*S	Sg	**11 57 29.6**	**-1.9**
	13nm,0.6s						
ARXS	**Arharly**	**3.61**	**45**	Pg	Pb	**11 56 40.6**	**+1.0**
	4.1nm,0.7s						
ARXS				Lg	Lg	11 57 27.1	
	13nm,0.6s						
KPKS	**Kokpek**	**3.70**	**60**	Pg	Pb	**11 56 41.5**	**+0.4**
	4.7nm,0.3s						
KPKS				Lg	Lg	11 57 28.7	
	11nm,0.5s						

*WEL **24** 11:56:01.0±0.6, 42.2°S±4°×17.4E±°, h9km±3km, M2.8/19, ML3.1/13, MLv2.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=137.2*
*NOU **24** 11:56:02.5, 42.30S×173.66E, h30km, MLv3.2/4, South Island, New Zealand*

ISC 24 11:55:59.2±0.8, 42.09S±0.03×174.04E±0.04, h17km, n51, σ1852/49, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.36**	**21**	P	Pg	**11 56 06.8**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.39**	**342**	P	Pg	**11 56 06.2**	**-1.0**
BSWZ				S	Sg	**11 56 10.3**	**-2.4**
KHZ	**Kahutara**	**0.49**	**228**	P	Pb	**11 56 09.5**	**+0.1**
KHZ	**Kahutara**	**0.49**	**228**	P	Pb	**11 56 09.5**	**+0.1**
KHZ				S	Sg	**11 56 13.5**	**-2.2**
TUWZ	**Tuamarina**	**0.66**	**354**	P	Pg	**11 56 11.2**	**-1.0**
TCW	**Tory Channel**	**0.90**	**12**	P	Pb	**11 56 15.3**	**-1.0**
WEL	**Wellington**	**0.97**	**34**	P	Pb	**11 56 18.1**	**+0.5**
NNZ	**Nelson**	**1.00**	**330**	P	Pb	**11 56 17.2**	**-0.9**
PLWZ	**Palliser**	**1.05**	**61**	P	Pn	**11 56 19.2**	**+0.1**
GVZ	**Greta Valley S**	**1.15**	**220**	P	Pg	**11 56 22.2**	**+0.8**
GVZ				S	Sg	**11 56 35.3**	**-1.2**
MRNZ	**Matariki Terra**	**1.18**	**305**	P	Pb	**11 56 21.5**	**+0.4**
CAW	**Cannon Point**	**1.25**	**39**	P	Pn	**11 56 21.9**	**+0.1**
PAWZ	**Paruwai Farm**	**1.26**	**56**	P	Pn	**11 56 21.6**	**-0.3**
DUWZ	**D'Urville Isla**	**1.29**	**356**	P	Pn	**11 56 22.1**	**-0.3**
TKNZ	**Takaka Hill**	**1.33**	**322**	P	Pn	**11 56 23.3**	**+0.3**
KIW	**Kapiti Island**	**1.39**	**28**	P	Pn	**11 56 24.1**	**+0.3**
TRWZ	**Traveller**	**1.42**	**61**	P	Pn	**11 56 23.9**	**-0.2**
MTW	**Mount Morrison**	**1.44**	**50**	P	Pn	**11 56 24.1**	**-0.4**
LTZ	**Lake Taylor**	**1.48**	**242**	P	Pn	**11 56 25.4**	**+0.3**
LTZ				S	Sn	**11 56 42.1**	**-1.9**
AMCZ	**Amberley**	**1.49**	**223**	P	Pb	**11 56 27.3**	**+0.9**
OGWZ	**Otaki Gorge**	**1.53**	**34**	P	Pn	**11 56 25.8**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.63**	**43**	P	Pn	**11 56 26.6**	**-0.4**
QRZ	**Quartz Range**	**1.70**	**318**	P	Pb	**11 56 30.1**	**+0.2**
QRZ	**Quartz Range**	**1.70**	**318**	P	Pn	**11 56 29.6**	**+1.6**
DSZ	**Denniston Nort**	**1.70**	**281**	P	Pb	**11 56 30.5**	**+0.5**
OKCZ	**Okains Bay**	**1.78**	**203**	P	Pn	**11 56 31.5**	**+2.2**
MRZ	**Mangatainoka R**	**1.84**	**40**	P	Pn	**11 56 29.6**	**-0.4**
MQZ	**McQueen's Vall**	**1.91**	**212**	P	Pn	**11 56 31.6**	**+0.7**
TIWZ	**Tintock**	**1.91**	**47**	P	Pn	**11 56 30.5**	**-0.4**
OXZ	**Oxford**	**1.92**	**229**	P	Pn	**11 56 31.6**	**+0.5**
AKCZ	**Akaroa Harbour**	**1.96**	**205**	P	Pn	**11 56 33.6**	**+1.9**
INZ	**Inchbonnie**	**2.02**	**251**	P	Pb	**11 56 34.2**	**-1.3**
PRWZ	**Pori Road**	**2.12**	**44**	P	Pb	**11 56 40.4**	**+3.3**
POWZ	**Post Office Ro**	**2.14**	**38**	P	Pn	**11 56 34.3**	**+0.2**
RACZ	**Rakaia**	**2.15**	**220**	P	Pn	**11 56 35.1**	**+0.9**
WAZ	**Wanganui**	**2.44**	**17**	P	Pn	**11 56 43.0**	**+4.7**
WACZ	**Wakanui South

BKZ	**Black Stump Fm**	**7.71 215**	P		Pb		12 05 47.8	-0.8
CKHZ	**Cape Kidnapper**	**7.85 210**	P		Pb		12 05 48.0	+0.9
BFZ	**Birch Farm**	**9.05 210**	Pn		**Pn**		**12 06 05.7**	**-0.5**
KOUNC	**Koumac, New Ca**	**20.15 303**	P		**Pn**		**12 08 30.9**	**-0.4**
KOUNC			IAmb		IAmb		12 08 32.1	
	comp=Z,15nm,0.9s							
EIDS	**Eidsvold**	**28.11 277**	P		**P**		**12 09 47.3**	**+0.7**
EIDS			IAmb		IAmb		12 10 15.1	
	comp=Z,12nm,1.2s							
CTA	**Charters Tower**	**34.42 283**	P		**P**		**12 10 42.5**	**+0.1**
	comp=Z,5.1nm,0.5s,baz=121,slow=10,SNR=20							
	comp=Z,5.1nm,0.5s							
CTAO	**Charters Tower**	**34.42 283**	P		**P**		**12 10 43.0**	**+0.7**
KRVT	**Keravat (AS076**	**40.05 309**	P		**P**		**12 11 27.5**	**-2.6**
	comp=Z,17nm,0.5s,baz=157,slow=3.9,SNR=2.1							
	comp=Z,17nm,0.5s							
AS31	**Alice Springs**	**43.17 270**	P		**P**		**12 11 54.7**	**-1.0**
ASAR	**Alice Springs**	**43.17 270**	P		**P**		**12 11 55.0**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=111,slow=7.8,SNR=75							
ASAR			PcP		**PcP**		**12 13 44.7**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=123,slow=4.5,SNR=1.0							
	comp=Z,1.5nm,0.4s							
ASAR	**Alice Springs**	**43.17 270**	P		**P**		**12 11 54.4**	**-1.2**
WR0	**Warramunga Arr**	**44.21 275**	P		**P**		**12 12 03.4**	**-0.7**
WR0			IAmb		IAmb		12 12 16.7	
	comp=Z,4.5nm,0.7s							
WB2	**Warramunga Arr**	**44.38 275**	P		**P**		**12 12 04.4**	**-1.0**
WRAB	**Tennant Creek**	**44.38 275**	P		**P**		**12 12 04.5**	**-0.9**
WRAB			IAmb		IAmb		12 12 05.7	
	comp=Z,4.8nm,0.7s							
WRA	**Warramunga Arr**	**44.39 275**	P		**P**		**12 12 04.3**	**-1.2**
	comp=Z,4.6nm,0.6s,baz=115,slow=7.4,SNR=100							
WRA			ScP		ScP		12 17 24.2	-14
	comp=Z,0.2nm,0.4s,baz=104,slow=8.0,SNR=2.1							
	comp=Z,4.6nm,0.6s							
WRA	**Warramunga Arr**	**44.39 275**	P		**P**		**12 12 04.2**	**-1.2**
WB0	**Warramunga Arr**	**44.42 275**	P		**P**		**12 12 05.1**	**-0.6**
KNRA	**Kununurra**	**51.08 276**	P		**P**		**12 12 56.5**	**-0.8**
QSPA	**South Pole Qui**	**57.16 180**	P		P		12 13 50.0	+8.8
	comp=Z,1.0nm,0.7s,baz=351,slow=4.0,SNR=3.3							
	comp=Z,1.0nm,0.7s							
RPN	**Rapa Nui**	**58.66 104**	LR		LR		12 35 51.9	
	comp=Z,18nm,19.1s,baz=359,slow=32							
VNA3	**Neumayer Olymp**	**75.75 176**	P		P		12 15 53.9	+14
VNA2	**Neumayer--Watz**	**76.19 177**	P		P		12 15 56.5	+14
	baz=169,slow=4.8							
VNA1	**Neumayer--Stat**	**76.42 176**	P		P		12 15 57.9	+14
H03S2	**Juan Fernandez**	**78.95 123**	T		T		13 44 56.6	
	baz=236							
H03S1	**Juan Fernandez**	**78.96 123**	T		T		13 44 51.2	
	baz=236							
H03S3	**Juan Fernandez**	**78.96 123**	T		T		13 44 55.4	
	baz=236							
H03N3	**Juan Fernandez**	**79.15 123**	T		T		13 44 59.9	
	baz=243							
H03N2	**Juan Fernandez**	**79.15 123**	T		T		13 44 46.7	
	baz=243							
H03N1	**Juan Fernandez**	**79.17 123**	T		T		13 45 07.3	
	baz=243							
MKAR	**Makanchi Array**	**119.50 309**	PKP		**PKiKP**		**12 22 44.8**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=96,slow=1.2,SNR=4.4							
GEYT	**Alibeck**	**134.72 293**	PKP		**PKiKP**		**12 23 15.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=134,slow=4.2,SNR=2.1							
FINES	**FINESS Array B**	**147.58 339**	PKPbc		**PKPbc**		**12 23 39.5**	**+1.7**
	comp=Z,3.2nm,0.5s,baz=49,slow=4.4,SNR=18							
NB2	**NORSAR Subarra151.29 351**		PKP		**PKiKP**		**12 23 49.4**	**+1.7**
	comp=Z,3.5nm,1.1s,baz=14,slow=4.1							
NOA	**NORSAR Array B 151.29 351**		PKPbc		**PKiKP**		**12 23 49.4**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=14,slow=4.1,SNR=3.4							
AKASG	**Malin Array Be**	**153.38 320**	PKPbc		**PKPbc**		**12 23 52.0**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=48,slow=2.4,SNR=2.6							
BRTR	**Keskin Array B**	**153.85 294**	PKPbc		**PKPbc**		**12 23 52.5**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=92,slow=33,SNR=2.7							

WEL 24 12:04:52.4,42.5$^{S}_{\pm}$5″×17.4E$^{\pm}$, h15km$^{\pm}$5km, M2.6/22, ML2.8/23, MLv2.6/22, Error ellipse: s-maj=0.0km s-min=0.0km az=130.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**67**	P	Pg	12 04 56.0	+0.5
BSWZ	**Blackbirch Sta**	**0.19**	**291**	P	Pg	12 04 57.1	+0.2
TUWZ	**Tuamarina**	**0.37**	**340**	P	Pb	12 05 00.8	+0.1
TCW	**Tory Channel**	**0.58**	**12**	P	Pb	12 05 04.3	0.0
WEL	**Wellington**	**0.70**	**45**	P	Pn	12 05 07.0	-0.7
NNZ	**Nelson**	**0.79**	**315**	P	Pb	12 05 07.9	+0.2
PLWZ	**Palliser**	**0.88**	**76**	P	Pg	12 05 09.7	+0.2
THZ	**Tophouse**	**0.90**	**271**	P	Pg	12 05 10.0	+0.1
CAW	**Cannon Point**	**0.98**	**47**	P	Pn	12 05 12.0	+0.4
DUWZ	**D'Urville Sta**	**0.99**	**352**	P	Pg	12 05 11.6	+0.1
PAWZ	**Paruwai Farm**	**1.06**	**68**	P	Pb	12 05 32.3	-0.1
MRNZ	**Matariki Terra**	**1.09**	**290**	P	Pg	12 05 13.8	+0.5
KIW	**Kapiti Island**	**1.10**	**33**	P	Pg	12 05 13.5	-0.1
TKNZ	**Takaka Hill**	**1.14**	**310**	P	Pg	12 05 14.4	0.0
MTW	**Mount Morrison**	**1.22**	**60**	P	Pn	12 05 14.5	-0.2
TRWZ	**Traveller**	**1.24**	**73**	P	Pn	12 05 14.4	-0.8
OGWZ	**Otaki Gorge**	**1.25**	**40**	P	Pb	12 05 15.8	+0.2
HOWZ	**Holdsworth Sta**	**1.38**	**51**	P	Pn	12 05 17.3	+0.3
GVZ	**Greta Valley S**	**1.43**	**214**	P	Pn	12 05 18.2	+0.5
TMWZ	**Te Maipa**	**1.50**	**64**	P	Pn	12 05 18.2	-0.5
QRZ	**Quartz Range**	**1.53**	**308**	P	Pb	12 05 20.9	+0.6
MRZ	**Mangatainoka R**	**1.57**	**45**	P	Pn	12 05 19.8	+0.1
TIWZ	**Tintock**	**1.67**	**54**	P	Pn	12 05 21.1	+0.1
LTZ	**Lake Taylor**	**1.69**	**233**	P	Pn	12 05 21.3	-0.1
DSZ	**Denniston Nort**	**1.73**	**270**	P	Pb	12 05 24.1	+0.3
WAZ	**Wanganui**	**2.13**	**18**	P	Pg	12 05 32.0	-1.2
INZ	**Inchbonnie**	**2.19**	**244**	P	Pb	12 05 30.6	-1.1
VRZ	**Vera Road**	**2.70**	**11**	P	Pb	12 05 37.8	-2.5
WNVZ	**Wahianoa**	**2.70**	**25**	P	Pb	12 05 39.1	-1.3
BHHZ	**Black Hill Sta**	**2.73**	**34**	P	Pb	12 05 41.4	+0.5
OTVZ	**Oturere**	**2.87**	**25**	P	Pb	12 05 43.0	-0.4
ETVZ	**East Tongariro**	**2.91**	**25**	P	Pb	12 05 45.5	+1.5
RPZ	**Rata Peaks**	**2.97**	**228**	P	Pb	12 05 46.3	+1.4
HIZ	**Hauiti**	**3.31**	**10**	P	Pb	12 05 48.1	-2.7

*IDC **24** 12:15:13.4±1.1, 32.2°91S×178.27W, h0km, mb4.5/4, mbtmp4.4/6, ML4.3/2, Error ellipse: s-maj=34.7km s-min=31.0km az=80.0*
*WEL **24** 12:15:14.0, 33.78S×178.04W, h10km, M4.2/19, mB4.8/12, ML4.6/19, MLv4.5/19, Mw(mB)4.1/12*
*NEIC **24** 12:15:14.7±1.1, 32.8S±0.2×178.0W±0.2, h10km±2km, mb4.5/11, Error ellipse: s-maj=26.6km s-min=21.5km az=165.0*

ISC 24 12:15:17.6±0.9, 32.86S±0.07×178.1W±0.1, h34km, n63, σ1§28/62, mb4.5/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.53**	**211**	Pn	**Pn**	**12 16 37.0**	**-0.4**
PKGZ	**Pakihiroa**	**5.90**	**211**	P	**Pn**	**12 16 42.8**	**+0.1**
PKGZ				S	**Sn**	**12 17 47.9**	**-1.2**
HAZ	**Te Kaha**	**5.92**	**213**	P	**Pn**	**12 16 42.8**	**0.0**
HAZ				S	**Sn**	**12 17 52.3**	**+2.8**
PUZ	**Puketiti**	**5.98**	**209**	P	**Pn**	**12 16 42.4**	**-1.3**
PUZ				S	**Sn**	**12 17 50.0**	**-1.0**
RUGZ	**Raukumara Rang**	**6.14**	**213**	P	**Pn**	**12 16 46.1**	**+0.1**
RUGZ				S	**Sn**	**12 17 55.7**	**+0.6**
TWGZ	**Tauwhareparae**	**6.18**	**210**	P	**Pn**	**12 16 46.3**	**-0.2**
TWGZ				S	**Sn**	**12 17 57.1**	**+1.0**
CNGZ	**Carnagh Statio**	**6.36**	**207**	P	**Pn**	**12 16 48.2**	**-0.6**
TKGZ	**Te Karaka**	**6.46**	**209**	P	**Pn**	**12 16 49.2**	**-1.1**
TKGZ				S	**Sn**	**12 18 02.2**	**-0.6**
MWZ	**Matawai**	**6.51**	**212**	P	**Pn**	**12 16 49.7**	**-1.3**
MWZ				S	**Sn**	**12 18 03.6**	**-0.5**
URZ	**Urewera**	**6.64**	**214**	P	**Pn**	**12 16 52.0**	**-0.7**
RIGZ	**Rimuhau**	**6.72**	**209**	P	**Pn**	**12 16 52.2**	**-1.7**
SNGZ	**Shannon Statio**	**6.98**	**211**	P	**Pn**	**12 16 57.2**	**0.0**
MUGZ	**Murupara**	**6.98**	**215**	P	**Pn**	**12 16 58.2**	**+0.8**
RTZ	**Ruatahuna**	**6.99**	**213**	Pn	**Pn**	**12 16 58.2**	**+0.6**
RTZ	**Ruatahuna**	**6.99**	**213**	P	**Pn**	**12 16 58.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**7.06**	**206**	P	**Pn**	**12 16 59.7**	**+1.2**
RAHZ	**Arahi**	**7.19**	**211**	P	**Pn**	**12 17 01.4**	**+1.2**
MTHZ	**Maungataniwha**	**7.25**	**213**	P	**Pn**	**12 17 01.4**	**+0.4**
OUZ	**Omahuta**	**7.27**	**249**		**Pn**	**12 17 03.0**	**+1.7**
MRHZ	**Matea Rd**	**7.43**	**215**	P	**Pn**	**12 17 03.7**	**+0.1**
NMHZ	**Naumai**	**7.46**	**212**	P	**Pn**	**12 17 04.3**	**+0.3**
ARHZ	**Aropaoanui**	**7.51**	**210**	P	**Pn**	**12 17 03.9**	**-0.8**
BKZ	**Black Stump Fm**	**7.66**	**213**	P	**Pn**	**12 17 06.4**	**-0.3**
MCHZ	**McNeill Hill**	**7.79**	**211**	P	**Pn**	**12 17 08.0**	**-0.6**
CKHZ	**Cape Kidnapper**	**7.81**	**208**	P	**Pn**	**12 17 07.7**	**-1.1**
KWHZ	**Kaweka Forest**	**7.90**	**212**	P	**Pn**	**12 17 08.8**	**-1.2**
HIZ	**Hauiti**	**8.03**	**223**	Pn	**Pn**	**12 17 14.1**	**+2.3**
BHHZ	**Black Hill Sta**	**8.12**	**214**	P	**Pn**	**12 17 13.5**	**+0.5**
WNVZ	**Wahianoa**	**8.21**	**216**	P	**Pn**	**12 17 14.5**	**0.0**
RPZ	**Rata Peaks**	**13.76**	**215**	Pn	**Pn**	**12 18 26.7**	**-3.5**
	0.4nm,0.3s,baz=49,slow=14,SNR=2.5						
RPZ				Sn	Sn	12 20 46.9	-15
	0.5nm,0.3s,baz=8.7,slow=19,SNR=1.3						
	18nm,1.1s						
MSVF	**Nonsavu**	**15.45**	**346**	Pn	**Pn**	**12 18 52.0**	**-1.1**
	0.1nm,0.3s,baz=125,slow=19,SNR=1.9						
	3.3nm,0.9s						
DZM	**Mont Dzumac**	**17.39**	**304**	P	**Pn**	**12 19 13.6**	**-4.1**
	1.7nm,0.8s,baz=76,slow=18,SNR=1.2						
KOUNC	**Koumac, New Ca**	**19.90**	**304**	P	**Pn**	**12 19 44.6**	**-1.6**
KOUNC				IAmb	IAmb	12 19 50.5	
	comp=Z,10nm,0.8s						
CTAO	**Charters Tower**	**34.17**	**283**	P	**P**	**12 21 59.7**	**-0.1**
CTAO				IAmb	IAmb	12 22 04.1	
	comp=Z,7.0nm,0.6s						
KRVT	**Keravat (AS076**	**39.81**	**309**	P	**P**	**12 22 46.3**	**-1.4**
	comp=Z,28nm,0.8s,baz=195,slow=20,SNR=3.7						
	comp=Z,28nm,0.8s						
COEN	**Coen**	**39.91**	**289**	P	**P**	**12 22 49.7**	**+1.1**
COEN				IAmb	IAmb	12 22 55.5	
	comp=Z,8.1nm,1.2s						
AS31	**Alice Springs**	**42.93**	**270**	P	**P**	**12 23 13.9**	**+0.5**
ASAR	**Alice Springs**	**42.93**	**270**	P	**P**	**12 23 13.7**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=108,slow=7.6,SNR=86						
	comp=Z,2.6nm,0.5s						
WR0	**Warramunga Arr**	**43.97**	**275**	P	**P**	**12 23 22.1**	**+0.4**
WR0				IAmb	IAmb	12 23 35.5	
	comp=Z,3.6nm,0.7s						
WB2	**Warramunga Arr**	**44.13**	**275**	P	**P**	**12 23 23.3**	**+0.3**
WRAB	**Tennant Creek**	**44.14**	**275**	P	**P**	**12 23 23.0**	**-0.1**
WRAB				IAmb	IAmb	12 23 24.5	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**44.14**	**275**	P	**P**	**12 23 23.1**	**0.0**
	comp=Z,5.6nm,0.6s,baz=116,slow=7.5,SNR=131						
WRA				ScP	**ScP**	**12 29 00.8**	**+3.7**
	comp=Z,0.2nm,0.7s,baz=152,slow=5.6,SNR=1.5						
	comp=Z,5.6nm,0.6s						
WRA	**Warramunga Arr**	**44.14**	**275**	P	**P**	**12 23 23.2**	**+0.1**
WB0	**Warramunga Arr**	**44.18**	**275**	P	**P**	**12 23 23.9**	**+0.6**
WB0				IAmb	IAmb	12 23 37.2	
	comp=Z,7.9nm,0.7s						
FORT	**Forrest**	**45.37**	**257**	P	**P**	**12 23 32.6**	**-0.1**
KNRA	**Kununurra**	**50.83**	**276**	P	**P**	**12 24 15.7**	**+0.6**
KNRA				IAmb	IAmb	12 24 29.1	
	comp=Z,9.3nm,1.1s						
QSPA	**South Pole Qui**	**57.26**	**180**	P	**P**	**12 25 01.6**	**+0.1**
	comp=Z,1.4nm,1.1s,baz=135,slow=18,SNR=3.0						
	comp=Z,1.4nm,1.1s						
VNA3	**Neumayer Olymp**	**75.86**	**176**	P	P	12 27 13.1	+13
VNA2	**Neumayer--Watz**	**76.30**	**177**	P	P	12 27 15.6	+13
	baz=169,slow=3.4						
H03S2	**Juan Fernandez**	**79.20**	**123**	T	T	13 56 15.3	
	baz=235						
H03S1	**Juan Fernandez**	**79.21**	**123**	T	T	13 56 17.8	
	baz=235						
H03S3	**Juan Fernandez**	**79.22**	**123**	T	T	13 56 11.9	
	baz=235						
H03N3	**Juan Fernandez**	**79.40**	**123**	T	T	13 56 26.6	
	baz=237,slow=74						
H03N2	**Juan Fernandez**	**79.41**	**123**	T	T	13 56 26.5	
	baz=237						
H03N1	**Juan Fernandez**	**79.42**	**123**	T	T	13 56 28.8	
	baz=237,slow=74						
MKAR	**Makanchi Array**	**119.26**	**309**	PKP	**PKiKP**	**12 34 03.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=205,slow=2.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**119.78**	**317**	PKP	**PKiKP**	**12 34 04.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=97,slow=3.3,SNR=1.4						
ARCES	**ARCESS Array B**	**140.96**	**347**	PKhKP	PKPpre	12 34 41.1	
	comp=Z,1.8nm,0.8s,baz=23,slow=4.9,SNR=1.0						
FINES	**FINESS Array B**	**147.40**	**339**	PKPbc	**PKPab**	**12 34 58.9**	**-0.1**
	comp=Z,4.4nm,0.5s,baz=69,slow=3.7,SNR=18						
NB2	**NORSAR Subarra151.16 351**		PKP		**PKiKP**	**12 35 08.7**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=15,slow=2.6						
NOA	**NORSAR Array B 151.16 351**		PKPbc		**PKPbc**	**12 35 07.0**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=17,slow=4.2,SNR=4.4						
AKASG	**Malin Array Be**	**153.15 320**	PKPbc		**PKiKP**	**12 35 12.6**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=35,slow=2.4,SNR=5.0						
BRTR	**Keskin Array B**	**153.59 294**	PKPbc		**PKiKP**	**12 35 13.9**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=141,slow=4.3,SNR=6.0						

*IDC **24** 12:26:50.7±1.6, 37.25N×141.73E, h0km, mb3.3/3, mbtmp3.2/4, ML1.9/1, Error ellipse: s-maj=38.7km s-min=28.2km az=148.0*
*JMA **24** 12:26:55.0±0.2, 37.2N±0.5×141.1E±, h32km±1km, MV3.0/36, E OFF FUKUSHIMA PREF*

ISC 24 12:26:54.8±2.3, 37.16N±0.06×141.5E±0.1, h27km±15km, n21, σ0§71/19, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**293**	*eP*	**Pb**	**12 27 05.3**	**-0.4**
JFK				*eS*	**Sb**	**12 27 13.4**	**+0.3**
JMST	**Minamisoumatoc**	**0.74**	**320**	P	**Pn**	**12 27 08.8**	**-0.7**
JMST				*eS*	**Sb**	**12 27 19.1**	**+0.2**
JFFD	**Fukushimafurud**	**0.75**	**265**	P	**Pn**	**12 27 09.0**	**-0.6**
JFFD				*eS*	**Sb**	**12 27 19.4**	**+0.4**
JMM	**Marumori**	**0.90**	**322**	P	**Pn**	**12 27 11.4**	**-0.2**
JMM				*eS*	**Sn**	**12 27 23.4**	**-0.3**
JHO	**Hitachi**	**0.92**	**234**	*eP*	**Pn**	**12 27 11.6**	**-0.4**
JIO	**Ouri**	**1.30**	**355**	P	**Pn**	**12 27 17.6**	**+0.5**
JOU	**Okura**	**1.37**	**332**	P	**Pb**	**12 27 19.5**	**+0.3**
JOU				S	**Sb**	**12 27 38.0**	**+1.0**
JFY	**Yanaizu**	**1.45**	**280**	P	**Pb**	**12 27 20.8**	**-0.3**
JFY				*eS*	**Sb**	**12 27 39.4**	**+0.3**
MJAR	**Matsushiro Arr**	**2.71**	**258**	Pn	**Pn**	**12 27 37.6**	**+1.0**
	0.2nm,0.3s,baz=76,slow=9.7,SNR=7.1						
MJAR				Sn	**Sb**	**12 28 15.2**	**-0.1**
	0.2nm,0.3s,baz=70,slow=15,SNR=4.5						
	1.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	13 02 14.6	
	baz=314,slow=75,SNR=391						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	13 02 15.2	
	baz=314,slow=75,SNR=229						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	13 02 15.9	
	baz=314,slow=75,SNR=219						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	13 03 08.3	
	baz=316,slow=75,SNR=195						
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	13 03 08.8	
	baz=316,slow=75,SNR=166						
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	13 03 09.3	
	baz=316,slow=75,SNR=77						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**12 35 01.4**	**+0.8**
	0.4nm,0.8s,baz=92,slow=8.7,SNR=2.2						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**12 35 40.0**	**-1.4**
	0.5nm,1.1s,baz=249,slow=7.5,SNR=2.1						
	0.5nm,1.1s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**12 36 40.3**	**+0.8**
	0.3nm,1.1s,baz=6.5,slow=7.5,SNR=1.5						
	0.3nm,1.1s						
H03N2	**Juan Fernandez**	**146.97**	**96**	T	T	15 30 50.5	
	baz=292,slow=76,SNR=20						
H03N3	**Juan Fernandez**	**146.99**	**96**	T	T	15 30 51.6	
	baz=292,slow=76,SNR=27						
H03N1	**Juan Fernandez**	**146.99**	**96**	T	T	15 30 51.0	
	baz=292,slow=76,SNR=28						

*WEL **24** 12:30:09.0, 32.97S×177.43W, h10km, M4.4/13, mB4.9/7, ML4.7/13, MLv4.6/13, Mw(mB)4.2/7*
*NEIC **24** 12:30:09.6±1.8, 33.0S±0.2×177.43W±0.06, h10km±2km, mb4.3/7, Error ellipse: s-maj=26.2km s-min=8.8km az=2.0*
*IDC **24** 12:30:13.4±1.2, 32.42S×178.39W, h0km, mb4.0/3, mbtmp4.0/3, MS3.3/2, Error ellipse: s-maj=46.0km s-min=37.7km az=11.0*

ISC 24 12:30:14.1±1.3, 33.04S±0.10×177.7W±0.2, h26km, n43, σ1§31/42, mb4.2/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.59**	**215**	Pn	**Pn**	**12 31 36.1**	**+0.5**
MXZ	**Matakaoa Point**	**5.59**	**215**	P	**Pn**	**12 31 36.7**	**+1.1**
WMGZ	**Waiomatatini S**	**5.75**	**213**	P	**Pn**	**12 31 39.5**	**+1.8**
WMGZ				S	**Sn**	**12 32 44.2**	**+1.4**
PKGZ	**Pakihiroa**	**5.96**	**215**	P	**Pn**	**12 31 41.5**	**+0.8**
PKGZ				S	**Sn**	**12 32 47.4**	**-0.8**
HAZ	**Te Kaha**	**6.00**	**217**	P	**Pn**	**12 31 41.8**	**+0.6**
HAZ				S	**Sn**	**12 32 50.7**	**+1.6**
PUZ	**Puketiti**	**6.03**	**212**	P	**Pn**	**12 31 41.5**	**-0.1**
RUGZ	**Raukumara Rang**	**6.22**	**216**	P	**Pn**	**12 31 45.1**	**+0.8**
RUGZ				S	**Sn**	**12 32 54.6**	**+0.1**
TWGZ	**Tauwhareparae**	**6.24**	**214**	P	**Pn**	**12 31 45.9**	**+1.3**
TWGZ				S	**Sn**	**12 32 55.4**	**+0.4**
CNGZ	**Carnagh Statio**	**6.39**	**211**	P	**Pn**	**12 31 48.1**	**+1.5**
TKGZ	**Te Karaka**	**6.51**	**213**	P	**Pn**	**12 31 49.1**	**+0.9**
MWZ	**Matawai**	**6.58**	**215**	P	**Pn**	**12 31 48.8**	**-0.4**
URZ	**Urewera**	**6.73**	**218**	P	**Pn**	**12 31 51.0**	**-0.2**
OPRZ	**Ohinepanea**	**6.73**	**223**	P	**Pn**	**12 31 53.5**	**+2.2**
RIGZ	**Rimuhau**	**6.77**	**212**	P	**Pn**	**12 31 51.6**	**-0.2**
SNGZ	**Shannon Statio**	**7.02**	**214**	P	**Pn**	**12 31 57.4**	**+2.1**
RTZ	**Ruatahuna**	**7.07**	**217**	Pn	**Pn**	**12 31 56.4**	**+0.4**
MUGZ	**Murupara**	**7.07**	**218**	P	**Pn**	**12 31 56.2**	**+0.3**
OUZ	**Omahuta**	**7.58**	**251**		**Pn**	**12 32 03.8**	**+1.0**
BKZ	**Black Stump Fm**	**7.73**	**216**	Pn	**Pn**	**12 32 05.4**	**+0.4**
BFZ	**Birch Farm**	**9.06**	**211**	Pn	**Pn**	**12 32 21.4**	**-1.7**
MRZ	**Mangatainoka R**	**9.34**	**214**	Pn	**Pn**	**12 32 25.6**	**-1.4**
RPZ	**Rata Peaks**	**13.84**	**216**	Pn	**Pn**	**12 33 26.3**	**-2.3**
	0.2nm,0.3s,baz=4.1,slow=23,SNR=1.1						
RPZ				Sn	Sn	12 35 47.1	-14
	0.3nm,0.3s,baz=94,slow=19,SNR=1.1						
DZM	**Mont Dzumac**	**17.82**	**304**	LR	LR	12 39 08.4	
	comp=Z,123nm,18.8s,baz=197,slow=32						
STKA	**Stephens Creek**	**34.26**	**261**	LR	LR	12 49 48.0	
	comp=Z,41nm,18.9s,baz=32,slow=35						
CTAO	**Charters Tower**	**34.59**	**283**	P	**P**	**12 37 00.8**	**-0.3**
CTAO				IAmb	IAmb	12 37 01.6	
	comp=Z,3.6nm,0.8s						
AS31	**Alice Springs**	**43.33**	**270**	P	**P**	**12 38 13.2**	**-1.0**
AS31				IAmb	IAmb	12 38 26.9	
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**43.33**	**270**	P	**P**	**12 38 12.3**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=108,slow=7.6,SNR=40						
	comp=Z,0.9nm,0.3s						
ASAR	**Alice Springs**	**43.33**	**270**	P	**P**	**12 38 12.7**	**-1.5**
WR0	**Warramunga Arr**	**44.38**	**275**	P	**P**	**12 38 20.9**	**-1.8**
WR0				IAmb	IAmb	12 38 24.1	
	comp=Z,2.8nm,0.8s						
WB2	**Warramunga Arr**	**44.54**	**275**	P	**P**	**12 38 22.3**	**-1.6**
WB2				IAmb	IAmb	12 38 24.5	
	comp=Z,9.6nm,1.4s						
WRAB	**Tennant Creek**	**44.55**	**275**	P	**P**	**12 38 22.3**	**-1.7**
WRAB				IAmb	IAmb	12 38 23.5	
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**44.55**	**275**	P	**P**	**12 38 22.0**	**-2.0**
	comp=Z,2.7nm,0.5s,baz=116,slow=7.5,SNR=63						
	comp=Z,2.7nm,0.5s						
WRA	**Warramunga Arr**	**44.55**	**275**	P	**P**	**12 38 22.3**	**-1.8**
WB0	**Warramunga Arr**	**44.59**	**275**		**P**	**12 38 22.7**	**-1.6**
QSPA	**South Pole Qui**	**57.08**	**180**	P	P	12 40 05.9	+8.0
	comp=Z,0.7nm,0.8s,baz=112,slow=3.3,SNR=3.1						
	comp=Z,0.7nm,0.8s						
H03S2	**Juan Fernandez**	**78.77**	**123**	T	T	14 11 10.7	
	baz=232						
H03S1	**Juan Fernandez**	**78.78**	**123**	T	T	14 11 15.2	
	baz=232						
H03S3	**Juan Fernandez**	**78.79**	**123**	T	T	14 11 01.5	
	baz=232						
MKAR	**Makanchi Array**	**119.68**	**309**

H21K	**Melozitna Rive**	**31.68**	**38**	P	**P**	**12 39 06.4**	**+0.6**
H21K				IAmb	IAmb	12 39 16.9	
	comp=Z,5.6nm,1.1s						
SONM	**Songino Array**	**32.13**	**287**	P	**P**	**12 39 08.6**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=72,slow=9.3,SNR=2.6						
SONM				PcP	**PcP**	**12 41 59.1**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=121,slow=5.4,SNR=1.7						
SONM				LR	LR	12 53 31.8	
	comp=Z,93nm,19.2s,baz=51,slow=39						
	comp=Z,0.6nm,0.9s						
COLD	**Coldfoot**	**32.91**	**36**	P	**P**	**12 39 16.9**	**+0.4**
TOLK	**Toolik Lake Re**	**33.33**	**33**	P	**P**	**12 39 21.4**	**+1.3**
MDM	**Murphy Dome**	**33.55**	**40**	P	**P**	**12 39 22.7**	**+0.6**
MDM				IAmb	IAmb	12 39 32.3	
	comp=Z,11nm,1.2s						
SML	**Sawmill**	**33.56**	**46**	P	**P**	**12 39 22.9**	**+0.6**
H24K	**Noodor Dome**	**33.73**	**38**	P	**P**	**12 39 24.2**	**+0.5**
CCB	**Clear Creek Bu**	**33.73**	**41**	P	**P**	**12 39 24.3**	**+0.6**
CCB				IAmb	IAmb	12 39 35.5	
	comp=Z,8.1nm,1.2s						
POKR	**Poker Plat Res**	**33.89**	**40**	P	**P**	**12 39 25.3**	**+0.2**
HDA	**Harding Lake**	**34.10**	**41**	P	**P**	**12 39 27.5**	**+0.6**
HDA				IAmb	IAmb	12 39 36.8	
	comp=Z,4.5nm,0.6s						
ILAR	**Eielson Array**	**34.12**	**40**	P	**P**	**12 39 25.8**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=278,slow=7.9,SNR=10						
	comp=Z,1.2nm,0.9s						
PRP	**Porcupine Dome**	**34.70**	**39**	P	**P**	**12 39 32.8**	**+0.6**
PRP				IAmb	IAmb	12 39 43.0	
	comp=Z,8.1nm,1.0s						
BMAR	**Burnt Mountain**	**35.09**	**36**	P	**P**	**12 39 36.8**	**+1.3**
DOT	**Dot Lake**	**35.40**	**42**	P	**P**	**12 39 38.1**	**0.0**
DOT				IAmb	IAmb	12 39 47.6	
	comp=Z,2.8nm,0.8s						
VRDI	**Verde Repeater**	**35.95**	**46**	P	**P**	**12 39 43.6**	**+0.5**
VRDI				IAmb	IAmb	12 40 12.9	
	comp=Z,9.2nm,1.3s						
EGAK	**Eagle**	**36.57**	**40**	P	**P**	**12 39 48.5**	**+0.4**
EGAK				IAmb	IAmb	12 39 58.0	
	comp=Z,5.6nm,0.8s						
ISLE	**Juniper Island**	**36.58**	**47**	P	**P**	**12 39 48.8**	**+0.3**
BARN	**Barnard Glacie**	**36.83**	**46**	P	**P**	**12 39 51.8**	**+1.2**
BARN				IAmb	IAmb	12 40 01.8	
	comp=Z,7.4nm,0.8s						
INK	**Inuvik**	**39.23**	**34**	P	**P**	**12 40 10.3**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=278,slow=10,SNR=5.1						
	comp=Z,1.2nm,0.7s						
A36M	**Sachs Harbour**	**41.47**	**28**	P	**P**	**12 40 30.2**	**+1.3**
C36M	**Paulatuk**	**42.41**	**31**	P	**P**	**12 40 37.5**	**+0.9**
C36M				IAmb	IAmb	12 40 47.8	
	comp=Z,6.2nm,0.8s						
ZALV	**Zalesovo Beam**	**42.70**	**305**	PcP	**PcP**	**12 42 30.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=69,slow=2.1,SNR=5.4						
ZALV				LR	LR	12 59 48.3	
	comp=Z,31nm,20.7s,baz=38,slow=38						
EUNU	**Eureka**	**46.94**	**12**	P	**P**	**12 41 13.3**	**+0.6**
EUNU				IAmb	IAmb	12 41 13.9	
	comp=Z,3.9nm,0.7s						
MK31	**Makanchi Array**	**47.38**	**297**	P	**P**	**12 41 16.7**	**+0.2**
MKAR	**Makanchi Array**	**47.38**	**297**	P	**P**	**12 41 15.1**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=69,slow=8.1,SNR=11						
MKAR				PcP	**PcP**	**12 42 46.3**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=68,slow=5.3,SNR=2.6						
MKAR				ScP	**ScP**	**12 46 42.7**	**+4.9**
	comp=Z,0.5nm,0.9s,baz=32,slow=8.5,SNR=3.1						
MKAR				LR	LR	13 02 06.6	
	comp=Z,51nm,19.6s,baz=18,slow=37						
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**47.38**	**297**	P	**P**	**12 41 16.4**	**-0.1**
KURBB	**Kurchatov Arra**	**47.63**	**303**	LR	LR	13 01 58.7	
	comp=Z,51nm,19.8s,baz=181,slow=37						
YKA	**Yellowknife Ar**	**48.50**	**38**	P	**P**	**12 41 25.2**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=297,slow=7.6,SNR=3.7						
	comp=Z,1.7nm,0.8s						
BVAR	**Borovoye Array**	**50.78**	**309**	LR	LR	13 04 21.0	
	comp=Z,36nm,18.2s,baz=79,slow=38						
CHTO	**Chiang Mai**	**53.99**	**257**	P	**P**	**12 42 08.3**	**+1.6**
CHTO				IAmb	IAmb	12 42 17.5	
	comp=Z,4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.25**	**257**	P	**P**	**12 42 09.8**	**+1.3**
	comp=Z,1.8nm,0.5s,baz=33,slow=7.1,SNR=18						
CMAR				LR	LR	13 07 42.9	
	comp=Z,19nm,18.2s,baz=80,slow=39						
	comp=Z,1.8nm,0.5s						
ARCES	**ARCESS Array B**	**56.51**	**341**	P	**P**	**12 42 22.3**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=37,slow=6.2,SNR=4.8						
ARCES				LR	LR	13 12 13.3	
	comp=Z,34nm,18.1s,baz=59,slow=42						
	comp=Z,1.4nm,0.7s						
ABKAR	**Akbulak array**	**58.32**	**310**	P	**P**	**12 42 37.2**	**0.0**
NVAR	**Mina Array Bea**	**60.25**	**65**	P	**P**	**12 42 51.5**	**+0.6**
	comp=Z,0.4nm,0.2s,baz=337,slow=1.4,SNR=2.5						
	comp=Z,0.4nm,0.2s						
NV11	**Mina Array Sit**	**60.34**	**64**	P	**P**	**12 42 54.8**	**+3.3**
NV11				IAmb	IAmb	12 42 57.0	
	comp=Z,5.3nm,1.2s						
PDAR	**Pinedale Array**	**62.43**	**56**	P	**P**	**12 43 06.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=349,slow=3.0,SNR=3.8						
PDAR				LR	LR	13 12 36.5	
	comp=Z,25nm,18.1s,baz=272,slow=38						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**62.91**	**335**	P	**P**	**12 43 07.1**	**-1.1**
	comp=Z,3.2nm,1.0s,baz=41,slow=4.4,SNR=1.2						
	comp=Z,3.2nm,1.0s						
NOA	**NORSAR Array B**	**66.87**	**342**	P	**P**	**12 43 31.7**	**-2.3**
	comp=Z,0.7nm,0.7s,baz=24,slow=6.4,SNR=2.5						
NOA				LR	LR	13 16 58.7	
	comp=Z,21nm,19.8s,baz=25,slow=40						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**67.15**	**340**	LR	LR	13 15 59.2	
	comp=Z,34nm,18.2s,baz=69,slow=39						
AKASG	**Malin Array Be**	**70.75**	**327**	P	**P**	**12 43 57.1**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=33,slow=6.4,SNR=4.2						
	comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**70.83**	**201**	P	**P**	**12 43 58.8**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=19,slow=6.0,SNR=12						
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**74.52**	**200**	P	**P**	**12 44 21.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=11,slow=4.6,SNR=11						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**75.28**	**62**	P	**P**	**12 44 25.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=296,slow=4.7,SNR=11						
	comp=Z,0.7nm,0.7s						
GERES	**GERESS Array B**	**77.35**	**335**	P	**P**	**12 44 35.6**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=29,slow=4.5,SNR=2.4						
	comp=Z,0.7nm,0.5s						
BR131	**Keskin Array S**	**77.97**	**318**	P	**P**	**12 44 40.6**	**-0.1**
BR131				IAmb	IAmb	12 44 42.6	
	comp=Z,4.5nm,0.8s						
BRTR	**Keskin Array B**	**77.97**	**318**	P	**P**	**12 44 40.0**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=62,slow=3.4,SNR=11						
	comp=Z,2.5nm,0.9s						
BRTR	**Keskin Array B**	**77.97**	**318**	P	**P**	**12 44 40.7**	**0.0**
RAYN	**Ar Rayn**	**84.77**	**300**	P	**P**	**12 45 16.9**	**+0.1**
RAYN				IAmb	IAmb	12 45 18.2	
	comp=Z,4.8nm,1.0s						
H03N2	**Juan Fernandez**	**137.28**	**90**	T	T	15 25 19.1	
	baz=312						
H03N1	**Juan Fernandez**	**137.29**	**90**	T	T	15 25 19.0	
	baz=312						
H03N3	**Juan Fernandez**	**137.29**	**90**	T	T	15 25 13.9	
	baz=312						
CPUP	**Villa Florida**	**146.23**	**61**	PKPbc	**PKPdf**	**12 52 19.5**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=315,slow=1.4,SNR=3.5						
PLCA	**Paso Flores**	**146.88**	**94**	PKPbc	**PKPbc**	**12 52 23.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=258,slow=5.1,SNR=4.7						

*IDC **24** 12:42:32.5±1.6, 1.°15N×123.°25E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=202.0km s-min=28.0km az=62.0*

*DJA **24** 12:42:45.2±0.5, 1.°N±4.°×12.°2E±.°, h54km±6km, M3.4/7, MLv3.4/7*

ISC 24 12:42:43.0±1.5, 0.°7N±0.°1×122.°23E±0.°07, h50km, n8, σ3°81/10, mb3.2/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.37**	**232**	P	**Pn**	**12 42 55.5**	**+2.8**
MRSI				S	**Sn**	**12 43 04.5**	**+4.8**
GTOI	**Gorontalo**	**0.79**	**95**	P	**Pn**	**12 43 01.4**	**+3.6**
APSI	**Ampana**	**1.71**	**200**	P	**Pn**	**12 43 11.4**	**+1.1**
APSI				S	**Sn**	**12 43 32.6**	**+1.6**
LUWI	**Luwuk**	**1.82**	**163**	P	**Pn**	**12 43 14.6**	**+2.7**
MPSI	**Mapaga**	**2.36**	**261**	P	**Pn**	**12 43 20.7**	**+1.5**
WRA	**Warramunga Arr**	**23.71**	**151**	P	**P**	**12 47 46.3**	**-4.2**
	0.7nm,0.8s,baz=332,slow=12,SNR=12						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**26.75**	**156**	P	**P**	**12 48 14.2**	**-4.0**
	0.1nm,0.8s,baz=326,slow=9.1,SNR=1.5						
ASAR				PcP	**PcP**	**12 51 37.2**	**-3.4**
	0.2nm,0.3s,baz=349,slow=2.2,SNR=7.5						
	0.1nm,0.8s						
MKAR	**Makanchi Array**	**57.61**	**329**	P	P	12 52 24.8	-3.1
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.5						
	0.2nm,0.6s						

*NOU **24** 12:43:17.6, 14.°72S×167.°35E, h92km, MLv4.7/14, Vanuatu Islands*

*IDC **24** 12:43:22.9±3.0, 15.°17S×167.°53E, h166km±26km, mb3.3/8, mbtmp3.8/9, MS3.1/1, Error ellipse: s-maj=27.2km s-min=22.4km az=95.0*

ISC 24 12:43:19.3±0.8, 14.°89S±0.°09×167.°4E±0.°1, h129km, n24, σ1°15/24, mb3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.91**	**166**	P	**Pn**	**12 44 05.2**	**+0.5**
RTV	**Rentapao**	**3.03**	**162**	P	**Pn**	**12 44 06.7**	**+0.4**
LIFNC	**LIFOU**	**5.86**	**182**	P	**Pn**	**12 44 43.1**	**-0.8**
KOUNC	**Koumac, New Ca**	**6.38**	**208**	P	**Pn**	**12 44 50.4**	**-0.5**
MARNC	**Mare, Loyalty**	**6.58**	**175**	P	**Pn**	**12 44 52.4**	**-1.2**
YATNC	**Mamie plateau,**	**7.15**	**184**	P	**Pn**	**12 45 00.7**	**-0.6**
DZM	**Mont Dzumac**	**7.20**	**187**	P	**Pn**	**12 45 00.8**	**-1.3**
	15nm,0.4s,baz=92,slow=5.5,SNR=56						
DZM				S	**Sn**	**12 46 22.8**	**+0.3**
	22nm,0.5s,baz=324,slow=22,SNR=11						
DZM	**Mont Dzumac**	**7.20**	**187**	P	**Pn**	**12 45 02.2**	**+0.1**
ONTNC	**Ouen Toro**	**7.43**	**187**	P	**Pn**	**12 45 07.4**	**+2.3**
OUENC	**Ouen Island, N**	**7.51**	**184**	P	**Pn**	**12 45 07.5**	**+1.4**
HNR	**Honiara**	**9.12**	**306**	P	Pn	12 45 35.6	+7.8
	358nm,0.3s,baz=169,slow=4.2,SNR=3.6						
MSVF	**Nonsavu**	**10.57**	**107**	LR	LR	12 49 16.6	
	comp=Z,103nm,18.7s,baz=319,slow=34						
STKA	**Stephens Creek**	**29.02**	**230**	P	**P**	**12 49 07.9**	**+0.7**
	2.1nm,0.5s,baz=38,slow=10,SNR=5.8						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**31.95**	**256**	P	**P**	**12 49 31.6**	**-1.6**
	0.2nm,0.8s,baz=85,slow=9.5,SNR=1.6						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**32.77**	**249**	P	**P**	**12 49 38.9**	**-1.4**
	0.4nm,0.5s,baz=79,slow=9.2,SNR=16						
ASAR				PcP	**PcP**	**12 52 23.4**	**+0.7**
	0.3nm,0.9s,baz=90,slow=3.7,SNR=1.8						
	0.4nm,0.5s						
SONM	**Songino Array**	**82.73**	**324**	P	**P**	**12 55 30.9**	**+2.1**
	0.2nm,0.3s,baz=159,slow=8.8,SNR=1.8						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**86.63**	**18**	P	**P**	**12 55 46.9**	**-1.0**
	0.4nm,0.9s,baz=198,slow=5.5,SNR=3.0						
	0.4nm,0.9s						
TROLL	**Troll, Antarti**	**92.71**	**185**	P	**P**	**12 56 17.0**	**+0.4**
VNA3	**Neumayer Olymp**	**94.06**	**181**	P	**P**	**12 56 22.4**	**-0.2**
VNA2	**Neumayer--Watz**	**94.32**	**182**	P	**P**	**12 56 23.8**	**-0.1**
	baz=158,slow=2.8						
TXAR	**Lajitas Array**	**96.21**	**61**	P	**P**	**12 56 32.2**	**-1.1**
	0.4nm,0.9s,baz=197,slow=5.9,SNR=1.5						
MKAR	**Makanchi Array**	**97.44**	**316**	P	**P**	**12 56 39.7**	**+1.4**
	0.2nm,0.6s,baz=101,slow=7.5,SNR=2.3						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**97.62**	**324**	P	**P**	**12 56 39.5**	**+0.6**
	0.4nm,0.6s,baz=74,slow=11,SNR=3.7						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**120.45**	**345**	PKP	**PKPdf**	**13 01 53.8**	**-1.2**
	4.9nm,1.0s,baz=58,slow=11,SNR=2.4						

IDC 24 12:46:37.3±7.2, 19.°87S×178.°61W, h576km±53km, mb2.7/4, mbtmp3.6/5, Error ellipse: s-maj=224.8km s-min=26.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.81**	**303**	P	P	12 47 59.6	-0.3
	5.2nm,0.4s,baz=108,slow=20,SNR=19						
CTA	**Charters Tower**	**32.98**	**264**	P	P	12 52 26.6	+0.8
	1.2nm,0.3s,baz=104,slow=8.3,SNR=2.3						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**44.10**	**256**	P	P	12 53 55.6	0.0
	1.0nm,0.8s,baz=97,slow=7.6,SNR=14						
ASAR				PcP	PcP	12 55 27.0	-1.0
	0.7nm,1.2s,baz=101,slow=4.0,SNR=1.2						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**44.12**	**262**	P	P	12 53 55.3	-0.5
	0.5nm,0.6s,baz=96,slow=8.0,SNR=7.6						
	0.5nm,0.6s						
NVAR	**Mina Array Bea**	**80.97**	**44**	P	P	12 57 53.1	+0.3
	0.1nm,0.4s,baz=225,slow=5.0,SNR=1.7						
	0.1nm,0.4s						

*IDC **24** 12:56:21.2±0.8, 6.°75N×73.°01W, h161km±9km, mb2.8/2, mbtmp3.3/4, Error ellipse: s-maj=31.9km s-min=7.9km az=131.0*

*RSNC **24** 12:56:23.2±0.8, 6.°83N×73.°15W, h149km±4km, ML3.2, Mw3.7, Fault plane solution: NP1:φs60.00000°, δ60.00000°, λ78.00000°.*

ISC 24 12:56:21.6±0.9, 6.°84N±0.°04×73.°11W±0.°04, h156km±7km, n29, σ1°34/52, 6C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**196**	i*P*	**Pn**	**12 56 43.2**	**+0.2**
BARC				*eS*	**Sn**	**12 56 58.8**	**-0.6**
BARC				IAML		12 56 59.4	
	comp=Z,686nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**40**	i*P*	**Pn**	**12 56 46.0**	**+1.1**
PAMC				*eS*	**Sn**	**12 57 02.9**	**+0.1**
PAMC				IAML		12 57 05.3	
	comp=Z,368nm,0.6s						
BRRC	**Barranca, Sant**	**0.65**	**294**	*eP*	**Pn**	**12 56 45.1**	**+0.7**
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*eP*	**Pn**	**12 56 49.7**	**-0.6**
PTBC				*eS*	**Sn**	**12 57 11.0**	**-1.2**
PTBC				IAML		12 57 14.2	
	comp=Z,219nm,0.2s						
TAMC	**Tame, Arauca**	**1.37**	**107**	i*P*	**Pn**	**12 56 51.5**	**+1.1**
TAMC				*eS*	**Sn**	**12 57 12.6**	**+0.2**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*eP*	**Pn**	**12 56 55.8**	**+0.5**
ZARC				*eS*	**Sn**	**12 57 21.6**	**+0.3**
ZARC				IAML		12 57 24.2	
	comp=Z,194nm,0.3s						
NORC	**Norcasia**	**2.16**	**234**	*eP*	**Pn**	**12 56 59.1**	**+0.1**
NORC				*eS*	**Sn**	**12 57 27.3**	**-0.5**
NORC				IAML		12 57 32.0	
	comp=Z,130nm,0.2s						
CHIC	**Chingaza**	**2.28**	**196**	*eP*	**Pn**	**12 57 01.3**	**+0.5**
CHIC				*eS*	**Sn**	**12 57 30.5**	**-0.5**
CHIC				IAML		12 57 38.8	
	comp=Z,66nm,0.5s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**12 57 02.6**	**+1.3**
	comp=Z,40nm,0.3s,baz=61,slow=13,SNR=31						
ROSC				S	**Sn**	**12 57 31.6**	**-0.3**
	comp=Z,159nm,0.4s,baz=78,slow=17,SNR=8.2						
ROSC	**El Rosal**	**2.32**	**211**	*eP*	**Pn**	**12 57 03.0**	**+1.8**
ROSC				*eS*	**Sn**	**12 57 33.4**	**+1.6**
ROSC				IAML		12 57 38.8	
	comp=Z,180nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*eP*	**Pn**	**12 57 03.6**	**-0.2**
UREC				*eS*	**Sn**	**12 57 35.7**	**-0.7**
UREC				IAML		12 57 48.2	
	comp=Z,136nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.80**	**160**	i*P*	**Pn**	**12 57 06.2**	**-0.6**
PTGC				*eS*	**Sn**	**12 57 39.6**	**-2.1**
PTGC				IAML		12 57 42.1	
	comp=Z,69nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*eP*	**Pn**	**12 57 11.1**	**+1.2**
CBOC				*eS*	**Sn**	**12 57 45.9**	**-1.3**
CBOC				IAML		12 57 49.9	
	comp=Z,22nm,0.2s						
DBBC	**Dabeiba**	**3.08**	**273**	*eP*	**Pn**	**12 57 11.9**	**+1.7**
DBBC				*eS*	**Sn**	**12 57 47.0**	**-1.0**
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**12 57 12.6**	**+0.9**
	comp=Z,5.9nm,0.3s,baz=232,slow=2.8,SNR=7.1						
SDV				S	**Sn**	**12 57 50.1**	**-0.5**
	comp=Z,35nm,0.4s,baz=253,slow=19,SNR=37						
ANIL	**Santa Ana**	**3.26**	**224**	*eP*	**Pn**	**12 57 14.8**	**+2.0**
ANIL				*eS*	**Sn**	**12 57 54.1**	**+1.6**
PRAC	**Prado**	**3.57**	**210**	*eP*	**Pn**	**12 57 16.9**	**+0.3**
PRAC				*eS*	**Sn**	**12 57 58.7**	**-0.6**
PRAC				IAML		12 58 06.6	
	comp=Z,82nm,0.4s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	*eP*	**Pn**	**12 57 18.1**	**+1.1**
ORTC				*eS*	**Sn**	**12 58 00.6**	**+0.6**
ORTC				IAML		12 58 09.2	
	comp=Z,46nm,0.3s						
SJCC	**San Jacinto, C**	**3.66**	**326**	*eP*	**Pn**	**12 57 17.6**	**-0.1**
SJCC				*eS*	**Sn**	**12 57 58.2**	**-3.1**
SJCC				IAML		12 58 03.3	
	comp=Z,29nm,0.5s						
PLMC	**San Jos del P**	**3.69**	**239**	i*P*	**Pn**	**12 57 19.1**	**+0.9**
PLMC				*eS*	**Sn**	**12 58 01.0**	**-1.0**
PLMC				IAML		12 58 06.2	
	comp=Z,37nm,0.3s						
LCBC	**Los crdobas,**	**3.80**	**302**	*eS*	**Sn**	**12 58 05.3**	**+1.1**
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*eP*	**Pn**	**12 57 23.8**	**-0.4**
CRJC				*eS*	**Sn**	**12 58 12.1**	**-0.8**
CRJC				IAML		12 58 15.7	
	comp=Z,14nm,0.5s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	*eP*	**Pn**	**12 57 26.1**	**+0.1**
YOTC				*eS*	**Sn**	**12 58 16.2**	**+0.2**
GARC	**Garzon, Huila**	**5.20**	**207**	*eP*	**Pn**	**12 57 37.6**	**-0.3**
GARC				*eS*	**Sn**	**12 58 33.3**	**-4.4**
GARC				IAML		12 58 35.8	
	comp=Z,36nm,0.2s						
BBAC	**Balboa, Cauca**	**6.32**	**221**	*eP*	**Pn**	**12 57 54.2**	**+1.4**
BBAC				*eS*	**Sn**	**12 59 01.3**	**-3.0**
BBAC				IAML		12 59 06.9	
	comp=Z,2.8nm,0.4s						
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**13 01 16.8**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=348,slow=8.9,SNR=1.9						
	comp=Z,0.7nm,0.6s						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**13 03 12.1**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=126,slow=9.1,SNR=2.5						
	comp=Z,0.1nm,0.5s						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPdf**	**13 15 50.1**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=118,slow=2.5,SNR=4.5						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**13 15 54.8**	**-0.6**
	comp=Z,0.3nm,1.0s,baz=108,slow=3.0,SNR=4.7						

*SNET **24** 12:59:30.7±1.1, 13.°14N×90.°23W, h18km±5km, ML3.6*

*UCR **24** 12:59:30.6±1.3, 13.°14N×90.°25W, h19km±5km, ML3.5*

*GCG **24** 12:59:30.3±0.5, 13.°19N×90.°63W, h19km±4km, MD3.8*

ISC 24 12:59:27.3±1.9, 13.°15N±0.°08×90.°34W±0.°05, h10km±12km, n47, σ0°57/68, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.93**	**36**	*eP*	**Pn**	**12 59 46.4**	**-0.2**
NUBE				*eS*	**Sn**	**12 59 59.0**	**-1.1**
NUBE	**Las Nubes**	**0.93**	**36**	*eP*	**Pn**	**12 59 46.4**	**-0.2**
NUBE				*eS*	**Sn**	**12 59 59.0**	**-1.1**
CEVE	**Cerro Verde**	**0.97**	**46**	*eP*	**Pn**	**12 59 47.8**	**+0.5**
CEVE				*eS*	**Sn**	**13 00 01.7**	**+0.4**
CEVE				IAML		13 00 05.6	
	comp=Z,4μm,0.3s						
CEVE	**Cerro Verde**	**0.97**	**46**	*eP*	**Pn**	**12 59 47.8**	**+0.5**
CEVE				*eS*	**Sn**	**13 00 01.7**	**+0.4**
CEVE				IAML		13 00 05.6	
	comp=Z,4μm,0.3s						
SBLS	**San Blas**	**0.98**	**45**	*eP*	**Pn**	**12 59 47.7**	**+0.2**
SBLS				*eS*	**Sn**	**13 00 00.9**	**-0.6**
SBLS	**San Blas**	**0.98**	**45**	*eP*	**Pn**	**12 59 47.7**	**+0.2**
SBLS				*eS*	**Sn**	**13 00 00.9**	**-0.6**
JAYA	**Jayaque - finc**	**1.00**	**60**	*eP*	**Pn**	**12 59 47.8**	**+0.2**
JAYA				*eS*	**Sb**	**13 00 00.2**	**0.0**
JAYA				IAML		13 00 04.7	
	comp=Z,2μm,0.3s						
JAYA	**Jayaque - finc**	**1.00**	**60**	*eP*	**Pn**	**12 59 47.8**	**+0.2**
JAYA				*eS*	**Sb**	**13 00 00.2**	**0.0**
JAYA				IAML		13 00 04.7	
	comp=Z,2μm,0.3s						
RTR	**El Retiro**	**1.00**	**42**	*eP*	**Pn**	**12 59 48.2**	**+0.5**
RTR				*eS*	**Sn**	**13 00 02.9**	**+0.9**
RTR	**El Retiro**	**1.00**	**42**	*eP*	**Pn**	**12 59 48.2**	**+0.5**
RTR				*eS*	**Sn**	**13 00 02.9**	**+0.9**
SNJE	**San Jose**	**1.01**	**45**	*eP*	**Pn**	**12 59 48.2**	**+0.4**
SNJE				*eS*	**Sn**	**13 00 02.3**	**+0.1**
SNJE	**San Jose**	**1.01**	**45**	*eP*	**Pn**	**12 59 48.2**	**+0.4**
SNJE				*eS*	**Sn**	**13 00 02.3**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.02**	**32**	*eP*	**Pn**	**12 59 48.0**	**+0.1**
SLOZ				*eS*	**Sn**	**13 00 02.5**	**+0.1**
BOQS	**Boqueron**	**1.18**	**60**	*eP*	**Pn**	**12 59 51.0**	**+0.8**
BOQS				*eS*	**Sn**	**13 00 06.3**	**-0.2**
BOQS	**Boqueron**	**1.18**	**60**	*eP*	**Pn**	**12 59 51.0**	**+0.8**
BOQS				*eS*	**Sn**	**13 00 06.3**

ML2.1/3, Error ellipse: s-maj=40.3km s-min=11.5km az=131.0

ISC 24 13:08:00.9±1.1, **69°22N**±0.0′04×**18°21E**±0.0′04, **h0**km, **n22**, σ1s**05**/35, **Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**0.48**	**31**	PG	**Pg**	**13 08 10.1**	**-0.1**
	baz=216						
TRO				SG	**Sb**	**13 08 20.1**	**+0.1**
TRO	**Tromso**	**0.48**	**31**	*e*P	**Pg**	**13 08 10.1**	**-0.1**
TRO				*e*S	**Sg**	**13 08 17.1**	**+0.6**
TRO				IAML		13 08 17.4	
	comp=Z,34nm,0.4s						
JETT	**Jettan, Norway**	**0.85**	**66**	*e*P	**Pg**	**13 08 17.1**	**0.0**
JETT				*e*S	**Sg**	**13 08 28.2**	**+0.1**
JETT				IAML		13 08 40.3	
	comp=Z,17nm,0.3s						
KIF	**Kilpisjarvi**	**0.95**	**102**	PG	**Pg**	**13 08 18.6**	**-0.6**
KIF				SG	**Sg**	**13 08 31.4**	**0.0**
KIF				MSG		13 08 31.8	
	comp=Z,28nm,0.2s						
KIF	**Kilpisjarvi**	**0.95**	**102**	*e*P	**Pg**	**13 08 18.9**	**-0.3**
KIF				*e*S	**Sg**	**13 08 31.9**	**+0.5**
STEI	**Steigen**	**1.69**	**221**	*e*P	**Pn**	**13 08 31.1**	**-0.6**
STEI				*e*Sg	**Sn**	**13 08 54.1**	**+0.1**
STEI				IAML		13 08 55.8	
	comp=Z,20nm,0.4s						
KTK1	**Kautokeino**	**1.81**	**94**	PG	**Pb**	**13 08 34.3**	**-0.7**
KTK1				SB	**Sb**	**13 08 58.3**	**+0.1**
KTK1	**Kautokeino**	**1.81**	**94**	*e*Pg	**Pb**	**13 08 34.2**	**-0.7**
KTK1				*e*Sg	**Sn**	**13 08 57.1**	**0.0**
KTK1				IAML		13 09 00.8	
	comp=Z,14nm,0.5s						
LANU	**Lannavaara**	**1.82**	**129**	PG	**Pn**	**13 08 31.0**	**-2.4**
SALU	**Saltoluokta**	**1.85**	**176**	*e*Pg	**Pn**	**13 08 34.5**	**+0.6**
SALU				*e*Sg	**Sg**	**13 09 00.3**	**0.0**
HEF	**Hetta**	**2.14**	**110**	PG	**Pn**	**13 08 38.5**	**+0.7**
	baz=285						
HEF				MSG		13 09 04.9	
	comp=Z,9.8nm,0.2s						
HEF				SG	**Sb**	**13 09 07.4**	**-0.2**
ARA0	**ARCESS Array S**	**2.60**	**80**	PG	**Pg**	**13 08 50.3**	**-0.4**
	baz=262						
ARA0				SN	**Sb**	**13 09 19.8**	**-1.0**
ARCES	**ARCESS Array B**	**2.60**	**80**	Pn	**Pn**	**13 08 44.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=254,slow=12,SNR=14						
ARCES				Sn	**Sn**	**13 09 17.3**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=249,slow=15,SNR=5.2						
ARCES	**ARCESS Array B**	**2.60**	**80**	P	**Pn**	**13 08 45.4**	**+1.2**
ARCES				S	**Sb**	**13 09 18.7**	**-2.2**
PAJU	**Pajala**	**2.87**	**138**	PG	**Pn**	**13 08 48.7**	**+0.9**
KLF	**Kolari**	**2.93**	**130**	PG	**Pn**	**13 08 50.1**	**+1.4**
KLF				SG	**Sn**	**13 09 26.2**	**+1.7**
KEV	**Kevo**	**3.14**	**76**	PN	**Pn**	**13 08 52.2**	**+0.6**
	baz=258						
KEV				SN	**Sn**	**13 09 30.1**	**+0.3**
SGF	**Sodankyl**	**3.56**	**116**	PB	**Pn**	**13 08 59.6**	**+2.3**
VRF	**Varrio**	**4.45**	**104**	SN	**Sn**	**13 10 00.9**	**-1.0**
BURU	**Burvik**	**4.82**	**164**	SB	**Sn**	**13 10 13.4**	**+2.4**
FINES	**FINESS Array B**	**8.46**	**153**	Pn	Pn	13 09 55.1	-9.5
	comp=Z,0.2nm,0.3s,baz=339,slow=7.4,SNR=1.6						
	comp=Z,3.1nm,1.0s						
NOA	**NORSAR Array B**	**8.72**	**203**	Pn	Pn	13 10 02.4	-5.7
	baz=17,slow=14,SNR=2.4						
NOA				Lg	Lg	13 12 24.5	
	baz=24,slow=5.4,SNR=1.3						
	comp=Z,1.4nm,1.0s						

*NIC **24** 13:12:10.4±0.0,35.41N×28.89E, h19km±3km, Ml3.6/5*
*ISK **24** 13:12:11.4,35.57N×28.86E, h19km, ML2.9/17*
*ATH **24** 13:12:11.8,35.49N×28.82E, h39km±8km, ML2.8/3, Error ellipse: s-maj=10.3km s-min=2.2km az=37.0*
*DDA **24** 13:12:12.0±0.0,35.61N×28.86E, h38km±1km, ML2.7*
*THE **24** 13:12:13.9,35.51N×28.88E, h36km±9km, ML2.5/6, Error ellipse: s-maj=9.9km s-min=0.9km az=355.0*

ISC 24 13:12:11.2±1.3, **35°45N**±0.0′04×**28°90E**±0.0′02, **h27**km±13km, **n61**, σ0s**96**/96, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.89**	**38**	P	**Pb**	**13 12 28.7**	**+0.6**
KSL				S	**Sn**	**13 12 40.7**	**+0.7**
	170nm,0.4s						
KSL	**Kastellorizon**	**0.89**	**38**	P	**Pb**	**13 12 28.7**	**+0.6**
KSL				S	**Sn**	**13 12 40.9**	**+0.9**
AKAS	**Kas**	**0.97**	**36**	PG	**Pn**	**13 12 29.0**	**-0.2**
AKAS				SG	**Sb**	**13 12 41.9**	**-0.1**
AKAS	**Kas**	**0.97**	**36**	P	**Pn**	**13 12 29.0**	**-0.2**
AKAS				S	**Sb**	**13 12 41.4**	**-0.5**
AKAS				*i* AML	AML	13 12 43.0	
	comp=N,548nm,0.3s						
AKAS				*i* AML	AML	13 12 44.0	
	comp=E,386nm,0.3s						
ARG	**Arkhangelos**	**0.99**	**321**	PG	**Pn**	**13 12 29.2**	**-0.2**
ARG				SG	**Sn**	**13 12 41.7**	**-0.8**
ARG	**Arkhangelos**	**0.99**	**321**	P	**Pb**	**13 12 29.6**	**-0.2**
ARG				S	**Sn**	**13 12 42.6**	**+0.1**
	272nm,0.3s						
ARG	**Arkhangelos**	**0.99**	**321**	P	**Pb**	**13 12 29.4**	**-0.4**
ARG				S	**Sn**	**13 12 44.3**	**+1.8**
ARG	**Arkhangelos**	**0.99**	**321**	P	**Pb**	**13 12 29.5**	**-0.4**
ARG				S	**Sn**	**13 12 42.3**	**-0.2**
ARG				AML	AML	13 12 45.0	
	comp=N,329μm,0.2s						
ARG				AML	AML	13 12 45.7	
	comp=E,775μm,0.3s						
FETY	**Fethiye**	**1.19**	**7**	PG	**Pn**	**13 12 31.0**	**-1.2**
FETY				SG	**Sn**	**13 12 46.9**	**-0.6**
DALY	**Dalyan (Mula)**	**1.38**	**352**	PN	**Pn**	**13 12 34.6**	**-0.1**
DALY				SN	**Sn**	**13 12 51.2**	**-0.8**
KARP	**Karpathos**	**1.42**	**274**	PN	**Pn**	**13 12 36.0**	**+0.7**
KARP	**Karpathos**	**1.42**	**274**	P	**Pn**	**13 12 36.2**	**+0.8**
KARP				S	**Sb**	**13 12 53.8**	**-1.1**
	comp=E,215nm,0.1s						
KARP	**Karpathos**	**1.42**	**274**	P	**Pn**	**13 12 36.1**	**+0.8**
KARP				S	**Sn**	**13 12 53.7**	**+0.4**
KARP				AML	AML	13 12 56.3	
	comp=E,0.4nm,0.2s						
KARP				AML	AML	13 12 56.3	
	comp=E,0.4nm,0.2s						
KARP				AML	AML	13 12 57.6	
	comp=E,0.4nm,0.3s						
KARP				AML	AML	13 12 57.6	
	comp=E,0.4nm,0.3s						
KARP	**Karpathos**	**1.42**	**274**	P	**Pn**	**13 12 36.2**	**+0.8**
KARP				S	**Sn**	**13 12 53.5**	**+0.3**
KARP				AML	AML	13 12 56.1	
	comp=E,407μm,0.2s						
KARP				AML	AML	13 12 56.8	
	comp=N,446μm,0.1s						
TURN	**Turunc**	**1.43**	**338**	PN	**Pn**	**13 12 35.3**	**0.0**
TURN	**Turunc**	**1.43**	**338**	P	**Pn**	**13 12 36.0**	**+0.7**
TURN				S	**Sn**	**13 12 52.7**	**-0.5**
TURN				*i* AML	AML	13 12 54.0	
	comp=N,115nm,0.2s						
AKUM	**Antalya-Kumluc**	**1.46**	**53**	P	**Pn**	**13 12 36.2**	**+0.4**
AKUM				S	**Sn**	**13 12 54.0**	**0.0**
AKUM				*i* AML	AML	13 12 55.0	
	comp=N,58nm,0.2s						
CAME	**Cameli-Denizli**	**1.53**	**12**	PN	**Pn**	**13 12 37.5**	**+0.6**
ELL	**Elmali**	**1.53**	**32**	PN	**Pn**	**13 12 37.5**	**+0.6**
ELL	**Elmali**	**1.53**	**32**	P	**Pn**	**13 12 38.3**	**+1.4**
ELL				S	**Sb**	**13 12 58.2**	**+0.1**
DAT	**Datca**	**1.67**	**320**	PN	**Pn**	**13 12 39.2**	**+0.4**
DAT	**Datca**	**1.67**	**320**	P	**Pn**	**13 12 39.2**	**+0.4**
DAT				S	**Sn**	**13 12 58.3**	**-1.0**
CAEL	**Denizli, Camel**	**1.70**	**11**	P	**Pn**	**13 12 40.4**	**+1.1**
CAEL				S	**Sn**	**13 13 00.7**	**+0.3**
YER	**Yerkesik**	**1.75**	**344**	PN	**Pn**	**13 12 40.7**	**+0.8**
YER	**Yerkesik**	**1.75**	**344**	P	**Pn**	**13 12 41.1**	**+1.2**
YER				S	**Sn**	**13 13 01.1**	**-0.3**
NIS1	**Nisyros Isl.**	**1.81**	**310**	PN	**Pn**	**13 12 41.1**	**+0.4**
NIS1	**Nisyros Isl.**	**1.81**	**310**	P	**Pn**	**13 12 41.0**	**+0.4**
NIS1				S	**Sn**	**13 13 02.2**	**-0.5**
	comp=N,362nm,0.3s						
NIS1	**Nisyros Isl.**	**1.81**	**310**	P	**Pn**	**13 12 41.0**	**+0.4**
NIS1				AML	AML	13 13 05.6	
	comp=E,742μm,0.3s						
NIS1				AML	AML	13 13 06.3	
	comp=N,781μm,0.3s						
GOLH	**Golhisar**	**1.86**	**16**	P	**Pn**	**13 12 43.2**	**+1.7**
GOLH				S	**Sn**	**13 13 05.4**	**+1.3**
MULA	**Mugla, Merkez-**	**1.86**	**346**	P	**Pn**	**13 12 42.8**	**+1.3**
MULA				S	**Sn**	**13 13 03.7**	**-0.5**
MULA				*i* AML	AML	13 13 05.0	
	comp=N,75nm,0.2s						
KORT	**Korkueli**	**1.94**	**37**	PN	**Pn**	**13 12 43.4**	**+0.8**
KORT	**Korkueli**	**1.94**	**37**	P	**Pn**	**13 12 44.2**	**+1.7**
KORT				S	**Sn**	**13 13 07.4**	**+1.3**
BDRM	**Kayabasi**	**2.00**	**324**	P	**Pn**	**13 12 43.2**	**0.0**
BDRM				S	**Sn**	**13 13 05.4**	**-2.0**
TAVA	**DENIZLI_Tavas**	**2.01**	**0**	P	**Pn**	**13 12 44.2**	**+0.7**
TAVA				S	**Sn**	**13 13 08.2**	**+0.4**
TAVA				*i* AML	AML	13 13 10.0	
	comp=N,41nm,0.2s						
APMY	**Acipayam-Deniz**	**2.04**	**9**	PN	**Pn**	**13 12 44.4**	**+0.5**
MLSB	**Milas**	**2.05**	**334**	PN	**Pn**	**13 12 44.1**	**+0.1**
BODT	**Bodrum**	**2.06**	**322**	PN	**Pn**	**13 12 43.2**	**-0.9**
ZKR	**Zakros**	**2.22**	**262**	P	**Pn**	**13 12 47.3**	**+1.0**
ZKR				S	**Sn**	**13 13 14.4**	**+1.5**
	comp=N,45nm,0.4s						
ZKR	**Zakros**	**2.22**	**262**	P	**Pn**	**13 12 46.9**	**+0.7**
ZKR				S	**Sn**	**13 13 12.3**	**-0.5**
BUCA	**Burdur, Bucak-**	**2.30**	**35**	P	**Pn**	**13 12 49.9**	**+2.4**
BUCA				S	**Sn**	**13 13 14.6**	**-0.4**
STIA	**Sitia Lasithi**	**2.31**	**265**	P	**Pn**	**13 12 48.9**	**+1.4**
STIA				S	**Sn**	**13 13 15.9**	**+0.9**
AYDN	**Tasoluk**	**2.35**	**340**	P	**Pn**	**13 12 49.0**	**+0.8**
AYDN				S	**Sn**	**13 13 14.8**	**-1.5**
AYDN				*i* AML	AML	13 13 17.0	
	comp=N,64nm,0.2s						
AYDN				*i* AML	AML	13 13 17.0	
	comp=N,114nm,0.4s						
DDIM	**Aydin, Didim**	**2.41**	**327**	P	**Pn**	**13 12 48.6**	**-0.3**
DDIM				S	**Sn**	**13 13 15.6**	**-1.8**
BRDR	**BURDUR-Merkez**	**2.43**	**22**	P	**Pn**	**13 12 50.3**	**+1.0**
BRDR				S	**Sn**	**13 13 18.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.62**	**342**	PN	**Pn**	**13 12 51.9**	**0.0**
KEPZ	**Antalya-Kepez**	**2.62**	**56**	P	**Pn**	**13 12 52.7**	**+0.9**
KEPZ				S	**Sn**	**13 13 20.8**	**-2.0**
OSCI	**CSNet OBS 1**	**2.76**	**134**	P	**Pn**	**13 12 53.3**	**-0.7**
SMG	**Samos**	**2.80**	**324**	P	**Pn**	**13 12 54.1**	**-0.2**
AKMS	**Akamas**	**2.84**	**98**	P	**Pn**	**13 12 55.4**	**+0.6**
AKMS				AML	AML	13 13 27.1	
	comp=N,0.9nm,0.3s						
AKMS				AML	AML	13 13 28.1	
	comp=N,0.7nm,0.6s						
GAZI	**Gazipasa**	**2.88**	**73**	PN	**Pn**	**13 12 54.9**	**-0.5**
GAZI	**Gazipasa**	**2.88**	**73**	P	**Pn**	**13 12 55.0**	**-0.4**
GAZI				S	**Sn**	**13 13 25.8**	**-3.4**
GAZI				*i* AML	AML	13 13 28.0	
	comp=N,26nm,0.4s						
GAZI				*i* AML	AML	13 13 29.0	
	comp=N,22nm,0.5s						
PASA	**Karahalli, USA**	**2.93**	**9**	P	**Pn**	**13 12 56.0**	**-0.2**
THR3	**Thira Island,**	**3.00**	**290**	P	**Pn**	**13 12 57.2**	**+0.3**
ALFC	**Alefka**	**3.04**	**94**	P	**Pn**	**13 12 58.2**	**+0.6**
ALFC				AML	AML	13 13 32.2	
	comp=N,0.4nm,0.5s						
ALFC				AML	AML	13 13 33.6	
	comp=N,0.4nm,0.2s						
SEYD	**Seydisehir-KON**	**3.07**	**50**	PN	**Pn**	**13 12 59.6**	**+1.5**
APE	**Apeiranthos**	**3.17**	**302**	P	**Pn**	**13 12 59.5**	**+0.2**
IDI	**Anoyia**	**3.28**	**268**	P	**Pn**	**13 13 01.2**	**+0.3**
IDI				S	**Sn**	**13 13 37.9**	**-1.2**
	comp=N,28nm,0.2s						
TROD	**Troodos**	**3.29**	**98**	P	**Pn**	**13 13 00.7**	**-0.5**
TROD				AML	AML	13 13 42.5	
	comp=N,0.3nm,1.1s						
TROD				AML	AML	13 13 44.8	
	comp=N,0.2nm,0.5s						
SZAC	**Souni**	**3.34**	**101**	P	**Pn**	**13 13 02.2**	**+0.6**
SZAC				AML	AML	13 13 39.8	
	comp=N,0.6nm,0.4s						
SZAC				AML	AML	13 13 40.7	
	comp=N,0.4nm,0.6s						
ASGA	**Asgata**	**3.62**	**99**	P	**Pn**	**13 13 05.8**	**+0.3**
GVD	**Gavdhos**	**3.99**	**263**	P	**Pn**	**13 13 12.2**	**+1.6**

*SOME **24** 13:15:44.5, 42.68N×78.45E, h5km*
*NNC **24** 13:15:45.7±2.1, 42.76N×78.57E, h2km±10km, mpv2.5, Error ellipse: s-maj=15.0km s-min=7.1km az=2.0*

ISC 24 13:15:44.0±2.3, **42.7N**±0.1×**78°46E**±0.0′04, **h7**km±19km, **n14**, σ0s**48**/26, **2C-1D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.38**	**354**	*e*P	**Pg**	**13 15 51.6**	**+0.1**
	3.2nm,0.1s						
SATY				*e*S	**Sg**	**13 15 56.6**	**+0.1**
	8.0nm,0.1s						
SATY	**Saty**	**0.38**	**354**	P	**Pg**	**13 15 51.6**	**+0.1**
	3.2nm,0.1s						
SATY				S	**Sg**	**13 15 56.6**	**+0.1**
	8.0nm,0.1s						
UZB	**Uzunbulak**	**0.62**	**41**	*e*P	**Pg**	**13 15 55.9**	**-0.1**
	0.6nm,0.1s						
UZB				*e*S	**Sg**	**13 16 04.5**	**+0.3**
	2.6nm,0.1s						
UZB	**Uzunbulak**	**0.62**	**41**	P	**Pg**	**13 15 55.9**	**-0.1**
	0.6nm,0.1s						
UZB				S	**Sg**	**13 16 04.5**	**+0.3**
	2.6nm,0.1s						
KPKS	**Kokpek**	**0.80**	**12**	*e*P	**Pg**	**13 15 59.1**	**-0.3**
	1.2nm,0.1s						
KPKS				*e*S	**Sg**	**13 16 09.9**	**+0.1**
	2.3nm,0.1s						
KPKS	**Kokpek**	**0.80**	**12**	P	**Pg**	**13 15 59.1**	**-0.3**
	1.2nm,0.1s						
KPKS				S	**Sg**	**13 16 09.9**	**+0.1**
	2.3nm,0.1s						
PDGK	**Podgornoye**	**0.99**	**49**	⇑P	**Pg**	**13 16 03.6**	**+0.5**
	0.4nm,0.2s						
PDGK				⇑S	**Sg**	**13 16 14.6**	**-1.4**
	1.4nm,0.1s						
BLB	**Baldybastay**	**1.42**	**0**	*e*P	**Pb**	**13 16 10.6**	**-0.3**
	3.9nm,0.1s						
BLB				*e*S	**Sg**	**13 16 29.3**	**-0.2**
	1.8nm,0.2s						
BLB	**Baldybastay**	**1.42**	**0**	P	**Pb**	**13 16 10.5**	**-0.3**
	3.9nm,0.1s						
BLB				S	**Sg**	**13 16 29.3**	**-0.2**
	1.8nm,0.2s						
ARXS	**Arharly**	**1.60**	**343**	*e*P	**Pg**	**13 16 14.4**	**-0.2**
	0.8nm,0.2s						
ARXS				*e*S	**Sg**	**13 16 35.9**	**+0.5**
	1.0nm,0.1s						
KTBS	**Karatobe**	**1.66**	**309**	*e*P	**Pb**	**13 16 15.2**	**+0.3**
	0.9nm,0.1s						
KTBS				*e*S	**Sg**	**13 16 37.2**	**-0.1**
	2.8nm,0.2s						
KUU	**Kurty**	**1.97**	**309**	*e*P	**Pb**	**13 16 20.3**	**+0.2**
	1.5nm,0.2s						
KUU				*e*S	**Sg**	**13 16 45.9**	**-1.2**
	4.6nm,0.3s						
TKM2	**Tokmak 2**	**2.12**	**277**	⇓Lg	Lg	13 16 53.3	
	0.6nm,0.1s						
KRBS	**Karabastau**	**2.28**	**297**	*e*P	**Pb**	**13 16 25.3**	**-0.2**
	0.4nm,0.5s						
KRBS				*e*S	**Sb**	**13 16 54.3**	**+0.5**
	1.9nm,0.3s						

*NEIC **24** 13:15:52.0±2.0, 32.97S±0.07×178.75W±0.05, h10km±1km, mb5.0/28, Error ellipse: s-maj=12.0km s-min=7.3km az=6.0*
*WEL **24** 13:15:51.0, 32.97S×178.75W, h10km, M5.0/13, mB5.4/10, ML5.6/13, MLv5.3/13, Mw(mB)4.9/10*
*GCMT **24** 13:15:53.0±0.3, 32.73S±0.03×178.09W±0.02, h23km, MW5.0/75, Moment Tensor Solution. s43,c56; s75,c112; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.37±.18; Mθθ-0.34±.12; Mϕϕ-3.02±.11; Mrθ 0.13±.17; Mrϕ-0.84±.07; Mθϕ 2.26±.15; Best double couple: Mo 4.01400×10^16 NP1:ϕs 9.00000°, δ 62.00000°, λ 84.00000°. NP2: ϕs 202.00000°, δ 28.00000°, λ 102.00000°. Principal axes: T 4.0920, Plg 72.0000°, Azm 264.0000°; N -0.1500, Plg 6.0000°, Azm 12.0000°; P -3.9360, Plg 17.0000°, Azm 104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **24** 13:15:54.6±1.6, 32.66S×178.72W, h52km, mb5.1/8 Error ellipse: s-maj=13.5km s-min=10.4km az=98.3*

*IDC **24** 13:15:55.5±2.1, 32.63S×178.47W, h58km±18km, mb4.2/16, mbtmp4.5/18, ML4.8/2, MS4.3/45, Error ellipse: s-maj=17.0km s-min=13.5km az=21.0*

ISC 24 13:15:52.3±0.4, **32°69S**±0.0′04×**178°48W**±0.0′07, **h33**km, **n211**, σ2s**05**/185, **mb4.9**/39, **MS4.4**/52, **7C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.45**	**8**	P	**Pn**	**13 16 41.5**	**-2.3**
GLKZ				S	**Sn**	**13 17 21.0**	**-2.5**
RAO	**Raoul Island**	**3.46**	**8**	P	**Pn**	**13 16 40.5**	**-3.4**
	299nm,0.4s,baz=127,slow=20,SNR=2.0						
RAO				S	**Sn**	**13 17 22.1**	**-1.7**
	579nm,0.3s,baz=243,slow=23,SNR=2.2						
RAO	**Raoul Island**	**3.46**	**8**	Pn	**Pb**	**13 16 49.0**	**-3.9**
RAO	**Raoul Island**	**3.46**	**8**	P	**Pb**	**13 16 49.0**	**-3.9**
MXZ	**Matakaoa Point**	**5.53**	**208**	Pn	**Pn**	**13 17 08.7**	**-3.6**
MXZ	**Matakaoa Point**	**5.53**	**208**	P	**Pn**	**13 17 08.3**	**-4.0**
TWGZ	**Tauwhareparae**	**6.19**	**207**	P	**Pn**	**13 17 18.9**	**-2.5**
TWGZ				S	**Sn**	**13 18 28.9**	**-2.1**
WHRZ	**Whale Island**	**6.35**	**215**	P	**Pn**	**13 17 25.4**	**+1.7**
CNGZ	**Carnagh Statio**	**6.38**	**204**	P	**Pn**	**13 17 20.5**	**-3.5**
TKGZ	**Te Karaka**	**6.47**	**206**	P	**Pn**	**13 17 23.4**	**-1.8**
TKGZ				S	**Sn**	**13 18 36.0**	**-1.9**
MWZ	**Matawai**	**6.50**	**209**	P	**Pn**	**13 17 23.1**	**-2.6**
MWZ				S	**Sn**	**13 18 36.0**	**-2.7**
URZ	**Urewera**	**6.62**	**212**	P	**Pn**	**13 17 24.7**	**-2.5**
EDRZ	**Edgecumbe**	**6.66**	**214**	P	**Pn**	**13 17 29.0**	**+1.0**
RAGZ	**Rawiri**	**6.69**	**209**	P	**Pn**	**13 17 27.2**	**-1.0**
RIGZ	**Rimuhau**	**6.73**	**206**	P	**Pn**	**13 17 25.6**	**-3.3**
RIGZ				S	**Sn**	**13 18 41.7**	**-2.8**
KARZ	**Kaharoa**	**6.84**	**218**	P	**Pn**	**13 17 33.0**	**+2.6**
OMRZ	**Omania**	**6.84**	**216**	P	**Pn**	**13 17 33.0**	**+2.6**
TARZ	**Mount Tarawera**	**6.88**	**215**	P	**Pn**	**13 17 33.1**	**+2.2**
MUGZ	**Murupara**	**6.95**	**212**	P	**Pn**	**13 17 28.4**	**-3.4**
RRRZ	**Republican Roa**	**6.96**	**214**	P	**Pn**	**13 17 32.3**	**+0.3**
SNGZ	**Shannon Statio**	**6.96**	**208**	P	**Pn**	**13 17 29.4**	**-2.6**
SNGZ				S	**Sn**	**13 18 46.8**	**-3.3**
RTZ	**Ruatahuna**	**6.97**	**211**		**Pn**	**13 17 29.8**	**-2.4**
RTZ	**Ruatahuna**	**6.97**	**211**	P	**Pn**	**13 17 29.9**	**-2.2**
KNZ	**Kokohu**	**7.05**	**205**	P	**Pn**	**13 17 30.1**	**-3.0**
MHGZ	**Mahia Peninsul**	**7.08**	**203**	P	Pn	13 17 29.2	-4.4
RAHZ	**Arahi**	**7.18**	**209**	P	**Pn**	**13 17 33.9**	**-1.0**
ALRZ	**Allen Road**	**7.21**	**214**	P	**Pn**	**13 17 34.4**	**-1.1**
MTHZ	**Maungataniwha**	**7.23**	**210**	P	**Pn**	**13 17 34.6**	**-1.1**
MRHZ	**Matea Rd**	**7.40**	**213**	P	**Pn**	**13 17 35.6**	**-2.4**
NMHZ	**Naumai**	**7.45**	**210**	P	**Pn**	**13 17 37.4**	**-1.3**
ARHZ	**Aropaoanui**	**7.51**	**208**	P	**Pn**	**13 17 36.1**	**-3.4**
BKZ	**Black Stump Fm**	**7.64**	**211**	Pn	**Pn**	**13 17 38.7**	**-2.6**
CKHZ	**Cape Kidnapper**	**7.82**	**206**	P	**Pn**	**13 17 39.8**	**-4.0**
BFZ	**Birch Farm**	**9.03**	**206**		**Pn**	**13 17 56.3**	**-4.1**
RPZ	**Rata Peaks**	**13.73**	**214**	P	Pn	13 18 56.3	-8.3
	6.5nm,0.7s,baz=56,slow=22,SNR=1.5						
RPZ				S	Sn	13 21 19.3	-17
	7.2nm,0.3s,baz=103,slow=18,SNR=7.1						
MSVF	**Nonsavu**	**15.22**	**347**	P	**Pn**	**13 19 24.8**	**-0.2**
	0.3nm,0.3s,baz=108,slow=22,SNR=4.8						
MSVF				LR	LR	13 24 29.6	
	comp=Z,2μm,18.7s,baz=169,slow=34						
	1.4nm,0.3s						
MSVF	**Nonsavu**	**15.22**	**347**	*i* P	**Pn**	**13 19 24.6**	**-0.3**
WKZ	**Wanaka**	**15.53**	**215**	Pn	**Pn**	**13 19 24.7**	**-4.1**
WKZ				IAmb	IAmb	13 19 44.5	
	comp=Z,99nm,1.5s						
OUENC	**Ouen Island, N**	**16.54**	**305**	P	**P**	**13 19 45.1**	**+1.0**
ONTNC	**Ouen Toro**	**16.88**	**304**	P	**P**	**13 19 50.0**	**+2.2**
DZM	**Mont Dzumac**	**17.04**	**305**	*e*Pn	**P**	**13 19 51.8**	**+2.0**
	comp=Z,135nm,1.2s						
DZM				*e*LR	LR	13 23 46.3	
	comp=Z,3μm,22.9s						
DZM	**Mont Dzumac**	**17.04**	**305**	P	**P**	**13 19 52.1**	**+2.4**
	comp=Z,32nm,1.1s,baz=101,slow=16,SNR=8.8						
DZM				LR	LR	13 25 22.9	
	comp=Z,4μm,18.6s,baz=162,slow=33						
DZM	**Mont Dzumac**	**17.04**	**305**	Pn	**P**	**13 19 49.5**	**-0.3**
DZM				IAmb	IAmb	13 20 02.9	
	comp=Z,54nm,1.1s						
KOUNC	**Koumac, New Ca**	**19.55**	**304**	P	**Pn**	**13 20 21.1**	**+2.3**
KOUNC				IAmb	IAmb	13 20 23.5	
	comp=Z,80nm,1.0s						
AFI	**Afiamalu**	**19.67**	**20**	P	**Pn**	**13 20 20.7**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=122,slow=19,SNR=1.3						
	comp=Z,6.8nm,0.6s						
RAR	**Rarotonga**	**20.18**	**60**	LR	LR	13 29 05.1	
	comp=Z,378nm,18.2s,baz=248,slow=39						
TBI	**Tubuai**	**27.19**	**77**	*e*LR	LR	13 28 30.8	
	comp=Z,13μm,23.8s						
TBI				*e*LR	LR	13 28 31.0	
	comp=Z,3μm,25.5s						
TBI	**Tubuai**	**27.19**	**77**	*e*T	T	13 50 07.4	
	comp=Z,13nm,0.3s						
EIDS	**Eidsvold**	**27.53**	**277**	P	**P**	**13 21 34.1**	**-2.0**
	baz=25,SNR=5.7						
EIDS	**Eidsvold**	**27.53**	**277**	P	**P**	**13 21 37.7**	**+1.6**
EIDS				IAmb	IAmb	13 21 39.8	
	comp=Z,20nm,0.8s						
RMQ	**Roma**	**29.07**	**274**	P	**P**	**13 21 47.4**	**-2.4**
	baz=26,SNR=26						
TOO	**Toolangi**	**29.75**	**250**	P	**P**	**13 21 53.8**	**-1.9**
TOO				IAmb	IAmb	13 22 00.5	
	comp=Z,36nm,1.4

comp=Z,296nm,22.7s
AS31 Alice Springs 42.63 270 P **P** **13 23 46.0 +0.2**
ASAR Alice Springs 42.63 270 P **P** **13 23 46.3 +0.5**
comp=Z,9.5nm,0.8s,baz=108,slow=7.6,SNR=184
ASAR S **S** **13 30 07.3 +0.5**
comp=Z,1.6nm,1.0s,baz=110,slow=15,SNR=6.2
ASAR LR LR 13 41 11.6
comp=Z,358nm,18.3s,baz=134,slow=36
comp=Z,9.5nm,0.8s
ASAR Alice Springs 42.63 270 P **P** **13 23 46.4 +0.6**
WR0 Warramunga Arr 43.65 275 P **P** **13 23 54.2 +0.2**
WR0 IAmb IAmb 13 24 08.4
comp=Z,20nm,0.7s
WB2 Warramunga Arr 43.81 275 P **P** **13 23 56.1 +0.8**
WRAB Tennant Creek 43.82 275 P **P** **13 23 55.5 +0.1**
WRAB IAmb IAmb 13 24 09.7
comp=Z,30nm,0.8s
WRAB Tennant Creek 43.82 275 *c*eP **P** **13 23 55.4 0.0**
WRAB pmax pmax
comp=Z,33nm,0.8s
WRA Warramunga Arr 43.82 275 P **P** **13 23 55.8 +0.3**
comp=Z,26nm,0.7s,baz=115,slow=7.4,SNR=345
WRA ScP **ScP** **13 29 28.8 -2.0**
comp=Z,1.3nm,1.0s,baz=118,slow=4.3,SNR=3.7
WRA S **S** **13 30 21.5 -2.9**
comp=Z,0.8nm,1.0s,baz=112,slow=15,SNR=3.9
WRA LR LR 13 42 14.0
comp=Z,462nm,18.0s,baz=120,slow=36
comp=Z,26nm,0.7s
WRA Warramunga Arr 43.82 275 P **P** **13 23 56.0 +0.5**
WB0 Warramunga Arr 43.86 275 P **P** **13 23 56.3 +0.6**
FORT Forrest 45.10 257 P **P** **13 24 05.5 0.0**
baz=42,SNR=8.4
FORT Forrest 45.10 257 P **P** **13 24 04.7 -0.8**
SBA Scott Base 45.73 184 P **P** **13 24 11.2 +1.3**
SBA IAmb IAmb 13 24 26.0
comp=Z,11nm,1.1s
SBA Scott Base 45.73 184 P **P** **13 24 11.2 +1.3**
SBA pmax pmax
comp=Z,11nm,1.1s
VNDA Vanda 45.78 186 P **P** **13 24 11.7 +1.4**
comp=Z,0.8nm,0.7s,baz=12,slow=5.3,SNR=5.9
VNDA LR LR 13 39 57.7
comp=Z,225nm,19.8s,baz=7.5,slow=32
comp=Z,0.8nm,0.7s
VNDA Vanda 45.78 186 P **P** **13 24 11.0 +0.7**
WRKA Warakurna 46.83 265 P **P** **13 24 19.1 -0.1**
baz=44,SNR=17
KDU Kakadu 48.95 282 P **P** **13 24 37.0 +1.3**
baz=46,SNR=14
MTN Manton Dam 49.98 281 P **P** **13 24 44.0 +0.4**
baz=47,SNR=6.6
MTN Manton Dam 49.98 281 P **P** **13 24 43.5 -0.1**
MTN IAmb IAmb 13 24 57.7
comp=Z,16nm,0.8s
KNRA Kununurra 50.51 276 P **P** **13 24 48.3 +0.7**
baz=48,SNR=9.5
KNRA Kununurra 50.51 276 P **P** **13 24 48.3 +0.7**
KNRA IAmb IAmb 13 25 02.1
comp=Z,17nm,0.8s
CASY Casey 52.93 209 P **P** **13 25 04.0 -0.9**
CASY IAmb IAmb 13 25 14.6
comp=Z,42nm,1.4s
NWAO Narrogin (SRO) 53.23 251 LR LR 13 47 42.9
comp=Z,275nm,18.1s,baz=316,slow=36
MEEK Meekatharra 54.30 259 P **P** **13 25 14.9 -0.8**
baz=51,SNR=3.9
MORW Morawa 55.51 255 P **P** **13 25 23.3 -1.0**
MORW IAmb IAmb 13 25 36.1
comp=Z,27nm,1.5s
MBWA Marble Bar 55.60 265 P **P** **13 25 24.0 -1.0**
MBWA IAmb IAmb 13 25 25.1
comp=Z,18nm,1.1s
SIJI Sorong 56.82 293 P **P** **13 25 33.1 -0.8**
comp=Z,5.1nm,0.7s,baz=74,slow=5.5,SNR=7.7
SIJI LR LR 13 50 50.8
comp=Z,306nm,18.2s,baz=122,slow=37
comp=Z,5.1nm,0.7s
SOEI Soe 57.31 280 P **P** **13 25 39.9 +2.5**
comp=Z,42nm,1.1s
QSPA South Pole Qui 57.43 180 P **P** **13 25 38.8 +1.2**
comp=Z,4.4nm,0.9s,baz=330,slow=1.7,SNR=20
QSPA LR LR 13 47 38.0
comp=Z,365nm,19.4s,baz=36,slow=33
comp=Z,4.4nm,0.9s
QSPA South Pole Qui 57.43 180 P **P** **13 25 39.0 +1.4**
BATI Baumata 57.57 279 P **P** **13 25 40.1 +0.9**
comp=Z,20nm,0.5s,baz=107,slow=3.3,SNR=4.4
BATI LR LR 13 50 33.8
comp=Z,540nm,18.7s,baz=154,slow=36
comp=Z,20nm,0.5s
GUMO Guam 57.84 317 LR LR 13 48 03.6
comp=Z,137nm,20.0s,baz=112,slow=33
NLAI Namlea 58.66 288 P **P** **13 25 47.0 +0.2**
comp=Z,6µmcomp=Z,6.9nm,1.3s
RPN Rapa Nui 59.25 104 LR LR 13 48 04.8
comp=Z,130nm,18.4s,baz=220,slow=33
GIRL Giralia 59.56 261 P **P** **13 25 53.8 +0.8**
SANI Sanana 60.26 288 P **P** **13 25 58.3 +0.5**
comp=Z,17nm,0.9s
BKSI Bulukumba 63.16 282 P **P** **13 26 17.9 +0.6**
comp=Z,9.4nm,1.1s
KAPI Kappang 63.63 282 P **P** **13 26 19.2 -1.3**
comp=Z,1.9nm,0.3s,baz=90,slow=2.7,SNR=5.3
KAPI LR LR 13 54 50.8
comp=Z,309nm,18.2s,baz=118,slow=37
comp=Z,1.9nm,0.3s
KAPI Kappang 63.63 282 *i* P **P** **13 26 21.0 +0.5**
KAPI pmax pmax
comp=Z,7.0nm,1.1s
BNSI Bone 63.69 282 P **P** **13 26 22.2 +1.4**
comp=Z,7.5nm,1.8s
DAV Davao City (W) 66.23 296 LR LR 13 55 04.2
comp=Z,104nm,20.6s,baz=134,slow=36
MPSI Magaga 66.57 286 P **P** **13 26 40.4 +0.9**
MAW Mawson 70.03 201 P **P** **13 27 01.3 +0.9**
comp=Z,4.0nm,1.0s,baz=149,slow=16,SNR=4.1
comp=Z,4.0nm,1.0s
MAW Mawson 70.03 201 P **P** **13 27 00.5 +0.2**
JCJ Chichijima 70.25 323 LR LR 13 52 19.2
comp=Z,118nm,19.5s,baz=112,slow=31
PMSA Palmer Station 70.36 156 LR LR 13 52 14.8
comp=Z,128nm,18.3s,baz=127,slow=31
LEM Lembang 72.80 273 LR LR 13 59 47.6
comp=Z,370nm,20.3s,baz=206,slow=36
TROLL Troll, Antarti 75.59 180 P **P** **13 27 34.4 +1.0**
VNA3 Neumayer Olymp 76.05 176 P **P** **13 27 35.9 -0.1**
VNA3 Neumayer Olymp 76.05 176 PcP **PcP** **13 27 45.6 -2.6**
VNA2 Neumayer--Watz 76.48 177 P **P** **13 27 38.6 +0.2**
baz=173,slow=4.5
VNA2 Neumayer--Watz 76.48 177 PcP **PcP** **13 27 48.0 -2.0**
baz=172,slow=4.8
NVL N'lazarevskaya 76.57 183 *e*P **P** **13 27 42.0 +3.1**
NVL *e*S **S** **13 37 25.8 +3.5**
NVL pmax pmax
comp=Z,8.0nm,0.9s
NVL MLR MLR
comp=Z,186nm,16.0s
VNA1 Neumayer--Stat 76.72 177 PcP **PcP** **13 27 49.5 -1.4**
JOW Kunigami 77.90 313 LR LR 14 01 46.9
comp=Z,171nm,18.1s,baz=288,slow=35
H03S2 Juan Fernandez 79.55 123 T T 14 56 48.5
baz=236,slow=74,SNR=9.6
H03S1 Juan Fernandez 79.56 123 T T 14 56 49.8
baz=236,slow=74,SNR=8.3
H03S3 Juan Fernandez 79.57 123 T T 14 56 48.6
baz=236,slow=74,SNR=9.0
H03N3 Juan Fernandez 79.75 123 T T 14 56 53.0
baz=240,slow=74
H03N2 Juan Fernandez 79.76 123 T T 14 56 55.9
baz=240
H03N1 Juan Fernandez 79.77 123 T T 14 56 56.5
baz=240,slow=74
MJAR Matsushiro Arr 79.89 326 LR LR 13 59 45.0
comp=Z,98nm,20.1s,baz=141,slow=33
EFI East Falkland 81.10 147 *i* P **P** **13 28 06.0 +1.9**
EFI pmax pmax
comp=Z,25nm,1.0s
PLCA Paso Flores 81.25 133 P **P** **13 28 06.1 +0.9**
comp=Z,1.3nm,0.8s,baz=207,slow=15,SNR=2.4
PLCA LR LR 13 58 22.6
comp=Z,109nm,18.0s,baz=216,slow=31
comp=Z,1.3nm,0.8s
PSI Prapat 85.27 276 LR LR 14 07 01.7
comp=Z,290nm,21.0s,baz=136,slow=36
KSRS Korea Array 85.83 320 P **P** **13 28 29.3 +1.0**
comp=Z,1.2nm,0.7s,baz=160,slow=15,SNR=2.6
KSRS LR LR 14 05 04.7
comp=Z,98nm,18.8s,baz=145,slow=34
comp=Z,1.2nm,0.7s
LPIG La Paz 86.09 58 LR LR 13 59 48.8
comp=Z,180nm,19.2s,baz=232,slow=31
YSS Yuzh-Sakhalins 86.63 335 *e*P **P** **13 28 34.1 +2.0**
YSS MLR MLR
comp=Z,600nm,18.0s
NJ2 Nanjing 87.42 311 *e*P **P** **13 28 39.0 +2.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PETK Petropavlovsk- 87.92 346 P **P** **13 28 38.4 +0.2**
comp=Z,5.8nm,0.9s,baz=157,slow=10,SNR=2.4
PETK LR LR 14 00 46.0
comp=Z,159nm,21.9s,baz=127,slow=31
comp=Z,5.8nm,0.9s
PFO Pinyon Flats O 88.05 48 LR LR 14 04 46.2
comp=Z,166nm,18.1s,baz=235,slow=33
PFO Pinyon Flats O 88.05 48 *i* P **P** **13 28 38.4 -1.1**
CFA Coronel Fontan 88.20 127 LR LR 13 59 46.4
comp=Z,135nm,21.1s,baz=218,slow=30
USRK Ussuriysk Ar. 88.84 327 P **P** **13 28 42.4 -0.3**
comp=Z,1.3nm,0.7s,baz=176,slow=11,SNR=2.2
comp=Z,1.3nm,0.7s
YBH Yreka Blue Hor 90.08 38 LR LR 14 04 11.2
comp=Z,140nm,18.7s,baz=234,slow=32
NVAR Mina Array Bea 90.19 43 P **P** **13 28 50.9 +1.4**
comp=Z,0.8nm,0.9s,baz=183,slow=5.8,SNR=4.1
comp=Z,0.8nm,0.9s
KLR Kul'dur 92.80 330 LR LR 14 03 58.1
comp=Z,107nm,21.9s,baz=140,slow=31
NNA Nana 93.19 106 LR LR 14 01 47.6
comp=Z,124nm,20.0s,baz=208,slow=30
ELK Elko 93.50 43 LR LR 14 06 54.4
comp=Z,221nm,18.2s,baz=246,slow=33
CMAR Chiang Mai Arr 93.77 289 P **P** **13 29 04.7 -1.6**
comp=Z,0.5nm,0.4s,baz=131,slow=5.2,SNR=2.3
CMAR PP **PP** **13 32 50.9 -1.2**
comp=Z,0.3nm,0.4s,baz=134,slow=6.3,SNR=5.5
CMAR LR LR 14 15 46.4
comp=Z,40nm,18.4s,baz=115,slow=38
comp=Z,0.5nm,0.4s
CMIG Matias Romero 93.85 72 LR LR 14 01 12.7
comp=Z,73nm,21.2s,baz=223,slow=29
TXAR Lajitas Array 93.96 58 LR LR 14 06 40.8
comp=Z,121nm,18.0s,baz=234,slow=32
KMI Kunming 94.48 297 ⇑P **P** **13 29 13.6 +3.9**
KMI pmax pmax
comp=Z,10.0nm,1.4s
ATAH Atahualpa 94.60 101 LR LR 14 04 49.0
comp=Z,89nm,18.4s,baz=213,slow=31
MA2 Magadan 95.39 345 LR LR 14 06 46.4
comp=Z,161nm,21.8s,baz=140,slow=32
PZH PanZhiHua 96.00 298 P **P** **13 29 20.9 +4.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,3.7s
CD2 Chengdu 96.95 302 P **P** **13 29 23.5 +2.9**
NEW Newport 97.46 36 LR LR 14 07 14.2
comp=Z,237nm,19.4s,baz=222,slow=32
HHC Hu-ho-hao-te 97.53 314 *e*P Pdif 13 29 26.9 +3.8
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.4s
LPAZ La Paz 97.58 115 LR LR 14 02 45.7
comp=Z,76nm,21.9s,baz=270,slow=29
PDAR Pinedale Array 98.07 44 LR LR 14 07 19.8
comp=Z,150nm,19.4s,baz=246,slow=32
JTS Las Juntas de 98.42 83 LR LR 14 08 34.8
comp=Z,68nm,18.0s,baz=290,slow=32
CPUP Villa Florida 98.88 129 LR LR 14 08 25.7
comp=Z,73nm,19.6s,baz=227,slow=32
TIXI Tiksi 110.35 344 *c i* PKIKP **PKiKP** **13 34 18.8 -1.1**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
WMQ Urumqi 114.30 308 *e*P **PKiKP** **13 34 31.3 +2.9**
WMQ LR LR
comp=N,160nm,12.3s
WMQ LR LR
comp=E,150nm,14.9s
WMQ LR LR
comp=Z,140nm,19.5s
MKAR Makanchi Array 118.91 309 PKP **PKPdf** **13 34 36.5 -0.6**
comp=Z,1.2nm,0.6s,baz=79,slow=1.9,SNR=12
ZALV Zalesovo Beam 119.45 318 PKP **PKPdf** **13 34 37.3 -0.5**
comp=Z,0.5nm,0.3s,baz=35,slow=3.5,SNR=4.6
NRIK Noril'sk 121.55 335 PKP **PKPdf** **13 34 40.6 -0.8**
comp=Z,1.5nm,0.4s,baz=132,slow=4.3,SNR=3.5
KURK Kurchatov 122.31 313 *c i* PKIKP **PKiKP** **13 34 44.3 +0.7**
KURK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 127.80 315 *c i* PKIKP **PKiKP** **13 34 55.7 +1.2**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 132.37 232 SKPbc **SKPab** **13 38 32.1 +2.5**
comp=Z,0.9nm,0.3s,baz=139,slow=8.0,SNR=12
ARU Arti 134.57 319 *i* PKIKP **PKiKP** **13 35 08.7 +0.7**
ARU 13 37 37.4
ARU SS SS 13 55 24.3 -4.9
ARCES ARCESS Array B 140.73 347 PKhKP PKPpre 13 35 13.3
comp=Z,8.3nm,1.2s,baz=29,slow=2.3,SNR=2.0
KLMR Klimovskoe 142.56 330 *e*PKPdf **PKPdf** **13 35 16.1 -5.0**
KLMR AMP 13 35 28.7
comp=Z,16nm,1.3s
KLMR Klimovskoe 142.56 330 *e*PKHKP PKPpre 13 35 16.0
KLMR pmax pmax
comp=Z,16nm,1.3s
ZEI Tsey 145.32 299 *i* PKIKP **PKPbc** **13 35 26.3 -0.4**
ZEI pmax pmax
comp=Z,14nm,1.4s
VRH Novokhopyorsk 145.39 314 *e*PKP2 **PKPbc** **13 35 24.6 -1.7**
VRH pmax pmax
comp=Z,20nm,0.6s
MOS Moscow 145.96 323 *i* PKP2 **PKPbc** **13 35 27.9 0.0**
MOS pmax pmax
comp=Z,96nm,0.7s
KBZ Khabaz 145.99 301 PKPbc **PKPdf** **13 35 27.3 -0.3**
comp=Z,11nm,1.1s,baz=49,slow=9.1,SNR=5.5
KBZ Khabaz 145.99 301 *c i* PKP2 **PKPab** **13 35 29.5 +0.5**
KIV Kislovodsk 146.12 301 *i* PKP2 **PKiKP** **13 35 32.6 +0.4**
KIV pmax pmax
comp=Z,11nm,1.1s
LPSR Galich'ya Gora 146.56 318 *e*PKP2 **PKPbc** **13 35 29.8 0.0**
LPSR pmax pmax
comp=Z,50nm,0.9s
VORR Voronezh 146.73 316 *e*PKP2 **PKPab** **13 35 31.3 -0.3**
VORR pmax pmax
comp=Z,70nm,0.5s
OBN Obninsk 146.78 323 *c i* PKP2 **PKPbc** **13 35 30.7 +0.4**
OBN pmax pmax
comp=Z,77nm,1.7s
OBN MLR MLR
comp=Z,83nm,18.0s
VSR Storozhevoye 146.91 315 *e*PKP2 **PKPbc** **13 35 30.5 -0.4**
VSR pmax pmax
comp=Z,30nm,0.8s
FIA1 FINESS Array S 147.13 338 PKPdf **PKPbc** **13 35 31.5 +0.3**
FINES FINESS Array B 147.13 338 PKPbc **PKPbc** **13 35 30.8 -0.3**
comp=Z,35nm,0.8s,baz=72,slow=6.2,SNR=43
FINES FINESS Array B 147.13 338 PKPdf **PKPbc** **13 35 31.6 +0.4**
FINES FINESS Array B 147.13 338 PKP2 **PKPbc** **13 35 31.6 +0.4**
SOC Sochi 148.30 301 *e*PKIKP **PKPdf** **13 35 31.7 +0.2**
SOC *e* 13 39 03.4
SOC *e*PPP PPP 13 42 22.9
ANN Anapa 149.73 304 *i* PKP2 **PKPbc** **13 35 38.8 +0.3**
ANN pmax pmax
comp=Z,39nm,0.8s
NB2 NORSAR Subarra 150.94 350 PKP **PKiKP** **13 35 41.9 +0.4**
comp=Z,2.8nm,0.7s,baz=16,slow=2.6
NOA NORSAR Array B 150.94 350 PKPbc **PKPbc** **13 35 40.4 -0.6**
comp=Z,3.0nm,0.8s,baz=19,slow=4.7,SNR=18
MNK Minsk 151.32 327 *i* PKP **PKPdf** **13 35 32.8 -3.1**
comp=E,3.0nm,1.1s
MNK *i* PKP **PKPdf** **13 35 32.8 -3.1**
comp=N,45nm,1.3s
MNK *i* PKP **PKPdf** **13 35 32.8 -3.1**
comp=Z,6.0nm,0.8s,baz=52
MNK *i* PKiKP **PKPbc** **13 35 40.6 -1.3**
MNK *i* PP **PP** **13 39 19.1 -1.8**
MNK *i* SKS **SKSdf** **13 42 37.2 -3.5**
MNK *i* SKKS **SKKSdf** **13 51 24.2 -6.4**
MNK *i* SS **SS** **13 58 39.8 -2.3**
MNK *i* LQ LQ 14 30 42.4
MNK *i* LR LR 14 35 55.9
MNK *i* LRM MLR 14 46 39.6
comp=E,84nm,24.1s
MNK *i* LRM MLR 14 46 49.9
comp=N,783nm,17.2s
MNK *i* LRM MLR 14 47 01.1
comp=Z,226nm,19.1s
MNK Minsk 151.32 327 *i* PKIKP **PKPdf** **13 35 32.7 -3.1**
MNK *i* 13 35 40.6
MNK *i* 13 39 19.1
MNK *i* 13 42 37.1
MNK *i* SS SS 13 58 39.7 -2.3
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=N,45nm,1.3s
NACGM Naroch 151.55 329 *e*PKP **PKiKP** **13 35 44.7 +1.9**
comp=Z,269nm,27.4s
AKASG Malin Array Be 152.82 320 PKPbc **PKPbc** **13 35 45.0 -0.4**
comp=Z,3.8nm,0.6s,baz=54,slow=2.7,SNR=28
BRTR Keskin Array B 153.25 294 PKPbc **PKPbc** **13 35 46.1 -0.9**
comp=Z,5.4nm,0.8s,baz=132,slow=3.8,SNR=20
DBIC Dimbokro 153.44 166 PKPbc **PKPbc** **13 35 47.5 -0.5**
comp=Z,4.1nm,0.9s,baz=112,slow=6.2,SNR=3.2
VYHS Vyhne 159.53 326 *e*PKP2 **PKPab** **13 36 27.3 +1.9**
CLL Collm 159.58 339 *e*PKPab **PKPab** **13 36 26.0 +0.6**
comp=Z,9.0nm,1.1s
CLL Lm MLR 14 55 00.0
comp=Z,100nm,19.2s
CLL Collm 159.58 339 *e*PKP2 **PKPab** **13 36 26.0 +0.6**
CLL pmax pmax
comp=Z,9.0nm,1.1s
GERES GERESS Array B 161.45 334 PKPab **PKPab** **13 36 32.9 -0.9**
comp=Z,0.2nm,0.3s,baz=62,slow=3.2,SNR=4.1

IDC ***24*** *13:26:20.6±4.9, 33.29S×178.28W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=198.8km s-min=59.7km az=164.0*
WEL ***24*** *13:26:27.2±1.6, 33°S±39'×17°8W±6'2, h12km, M4.2/9, mB4.6/3, ML4.3/9, MLv4.2/9, Mw(mB)3.8/3, Error ellipse: s-maj=0.1km s-min=0.0km az=121.8*
ISC 24 13:26:28.3±2.4, 32.8S±0.1×178.6W±0.3, h32km, n16, σ1s05/18, mb3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.58**	**205**	P	**Pn**	**13 27 49.5**	**+0.4**
PKGZ	**Pakihiroa**	**5.76**	**207**	P	**Pn**	**13 27 50.1**	**-1.5**
HAZ	**Te Kaha**	**5.77**	**210**	P	**Pn**	**13 27 52.2**	**+0.5**
HAZ				S	**Sn**	**13 28 58.7**	**+2.0**
PUZ	**Puketiti**	**5.86**	**205**	P	**Pn**	**13 27 52.7**	**-0.2**
PUZ				S	**Sn**	**13 28 58.0**	**-1.1**
RUGZ	**Raukumara Rang**	**5.99**	**209**	P	**Pn**	**13 27 54.0**	**-0.8**
RUGZ				S	**Sn**	**13 29 03.0**	**+0.6**
CNGZ	**Carnagh Statio**	**6.25**	**203**	P	**Pn**	**13 27 58.4**	**+0.2**
TKGZ	**Te Karaka**	**6.33**	**206**	P	Pn	13 27 52.2	-7.2
MWZ	**Matawai**	**6.37**	**208**	P	**Pn**	**13 27 58.1**	**-1.8**
URZ	**Urewera**	**6.48**	**211**	P	**Pn**	**13 28 00.7**	**-0.6**
RIGZ	**Rimuhau**	**6.60**	**205**	P	**Pn**	**13 28 02.6**	**-0.5**
SNGZ	**Shannon Statio**	**6.83**	**208**	P	**Pn**	**13 28 05.7**	**-0.6**
BKZ	**Black Stump Fm**	**7.50**	**210**	P	**Pn**	**13 28 14.9**	**-0.6**
CTA	**Charters Tower**	**33.74**	**283**	P	**P**	**13 33 08.0**	**+0.9**
	0.7nm,0.4s,baz=122,slow=13,SNR=1.9						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**42.51**	**270**	P	**P**	**13 34 20.5**	**-0.4**
	0.4nm,0.6s,baz=110,slow=7.8,SNR=10						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.71**	**275**	P	**P**	**13 34 29.5**	**-1.2**
	0.5nm,0.5s,baz=116,slow=7.4,SNR=9.1						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**147.17**	**338**	PKPbc	**PKPdf**	**13 46 05.8**	**+0.7**
	1.1nm,0.7s,baz=69,slow=7.6,SNR=3.6						

DJA 24 13:27:01.4±0.8, 1.S±11.×13.4E±., h20km±16km, M3.7/4, MLv3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.98**	**139**	P	Pb	13 27 19.8	+0.1
RKPI				S	Sn	13 27 33.3	-0.1
FAKI	**Fak Fak**	**2.50**	**211**	P	Pn	13 27 41.3	+0.3
FAKI				S	Sn	13 28 11.1	+0.1

DJA 24 13:28:19.1±0.5, 4.S±4.×12.9E±., h10km, M2.4/4, MLv2.4/4, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.30**	**59**	P	Pb	13 28 26.6	0.0
MSAI				S	Sg	13 28 30.2	+1.0
MSAI	**Masohi**	**0.30**	**59**	P	Pb	13 28 26.6	0.0
AAI	**Ambon**	**0.51**	**249**	P	Pb	13 28 30.1	-0.1
AAI				S	Sb	13 28 37.0	-0.6
AAI	**Ambon**	**0.51**	**249**	P	Pb	13 28 30.4	+0.2

MAN 24 13:29:11.7, 19.03N×120.83E, h26km, mb4.1, ML2.9, MS2.5, 4C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICP	**Calayan Island**	**0.66**	**69⇑**	*e*P	Pn	13 29 25.8	+0.4
CICP				*e*S	Sn	13 29 35.4	+0.4
PACPP	**Pamplona Cagay**	**0.75**	**138⇓**	*e*P	Pb	13 29 25.6	-0.6
PACPP				*e*S	Sb	13 29 35.1	-0.9
SGCP	**Gonzaga**	**1.39**	**124⇑**	*e*P	Pn	13 29 36.0	+0.5
SGCP				*e*S	Sb	13 29 53.9	-0.5
SAMP	**Sagada Mountai**	**1.94**	**178⇑**	*e*P	Pn	13 29 42.8	-0.2
SAMP				*e*S	Sn	13 30 07.7	+1.2
SMPP	**San Manuel, Pa**	**2.86**	**183⇑**	*e*P	Pn	13 29 57.2	+1.5
SMPP				*e*S	Sn	13 30 30.6	+1.2

DNK 24 13:40:08.9±1.3, 59.09N×9.55E, h0km, ML1.2(UPP), Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STRU	**Stroemstad**	**0.84**	**93**	P	Pg	13 40 24.8	-0.2
STRU				S	Sg	13 40 36.0	0.0
VANU	**Vaenersborg**	**1.44**	**113**	P	Pn	13 40 35.3	-0.9
FINU	**Finntorp**	**1.54**	**77**	P	Pn	13 40 36.7	-0.9
FINU				S	Sn	13 40 56.1	-2.1
NASU	**Vaermlandsnaes**	**1.89**	**93**	P	Pb	13 40 43.3	-0.9

DNK 24 13:40:35.0±0.4, 57.71N×11.87E, h0km, ML0.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAU	**Onsala**	**0.31**	**175**	P	Pg	13 40 40.8	-0.1
ONAU				S	Sg	13 40 44.9	-0.1
TJOU	**Tjoern**	**0.35**	**338**	P	Pg	13 40 41.5	-0.3
TJOU				S	Sg	13 40 46.0	-0.3
BORU	**Boraas**	**0.49**	**98**	P	Pg	13 40 44.2	-0.2
BORU				S	Sg	13 40 50.6	-0.1
VANU	**Vaenersborg**	**0.80**	**8**	P	Pg	13 40 49.9	-0.3
FKPU	**Falk**	**1.09**	**65**	P	Pg	13 40 54.9	-1.0
GNOU	**Gnosjoe**	**1.10**	**111**	P	Pg	13 40 55.0	-1.1
GNOU	**Gnosjoe**	**1.10**	**111**	P	Pg	13 40 54.9	-1.2

IDC ***24*** *13:40:47.0±6.9, 3.75N×93.01E, h45km±56km, mb3.5/7, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=66.1km s-min=16.5km az=57.0*
ISC 24 13:40:45.0±0.8, 3.7N±0.1×92.81E±0.09, h35km, n15, σ0s92/16, mb3.8/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.16**	**98**	P	**Pn**	**13 42 14.9**	**+1.3**
	1.5nm,0.3s,baz=307,slow=8.7,SNR=6.4						
PSI				S	**Sn**	**13 43 20.8**	**-2.2**
	20nm,0.6s,baz=244,slow=11,SNR=14						
	5.0nm,0.3s						
PALK	**Pallekele**	**12.57**	**287**	P	**Pn**	**13 43 40.4**	**-1.1**
	5.3nm,0.8s,baz=112,slow=11,SNR=1.9						
PALK				S	Sn	13 45 47.9	-13
	11nm,0.4s,baz=20,slow=7.9,SNR=12						
CMAR	**Chiang Mai Arr**	**15.87**	**22**	P	**Pn**	**13 44 25.4**	**-0.5**

0.2nm,0.3s,baz=217,slow=13,SNR=8.8
0.7nm,0.6s
H08S2 Diego Garcia H 23.18 241 T T 14 11 16.2
baz=61,slow=76,SNR=29
H08S3 Diego Garcia H 23.18 241 T T 14 11 05.4
baz=61,slow=76,SNR=31
H08S1 Diego Garcia H 23.20 241 T T 14 11 06.2
baz=61,slow=76,SNR=20
MKAR Makanchi Array 43.92 350 P **P 13 48 48.6 +0.3**
0.9nm,0.5s,baz=171,slow=9.1,SNR=13
0.9nm,0.5s
SONM Songino Array 45.53 13 P **P 13 49 01.6 +0.3**
0.8nm,0.7s,baz=186,slow=12,SNR=3.8
SONM PcP **PcP 13 50 40.1 +0.5**
0.3nm,0.6s,baz=191,slow=1.5,SNR=2.2
0.8nm,0.7s
WRA Warramunga Arr 47.05 122 P **P 13 49 13.4 -0.2**
1.2nm,0.8s,baz=300,slow=9.0,SNR=14
WRA PcP **PcP 13 50 45.9 +0.4**
0.3nm,0.7s,baz=304,slow=3.7,SNR=1.0
1.2nm,0.8s
ASAR Alice Springs 48.38 126 P **P 13 49 23.6 -0.3**
0.7nm,0.8s,baz=298,slow=7.5,SNR=12
ASAR PcP **PcP 13 50 50.4 +0.3**
0.4nm,0.7s,baz=301,slow=3.6,SNR=5.9
0.7nm,0.8s
ZALV Zalesovo Beam 50.55 354 P **P 13 49 40.1 +0.3**
0.4nm,0.3s,baz=169,slow=8.6,SNR=2.5
0.4nm,0.3s
STKA Stephens Creek 58.26 131 P **P 13 50 36.6 +0.3**
1.3nm,0.9s,baz=282,slow=5.6,SNR=2.9
1.3nm,0.9s
GERES GERESS Array B 80.08 319 P **P 13 52 52.0 +0.6**
0.5nm,0.5s,baz=101,slow=3.1,SNR=1.8
0.5nm,0.5s
NVAR Mina Array Bea 129.17 32 PKP **PKiKP 13 59 51.3 +0.3**
0.2nm,0.5s,baz=6.8,slow=2.3,SNR=1.9
TXAR Lajitas Array 143.57 25 PKP **PKPdf 14 00 15.9 -1.1**
0.1nm,0.7s,baz=336,slow=2.7,SNR=1.6

IDC 24 13:52:38.6±6.4, 31.77S×178.90W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=262.2km s-min=61.5km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.28**	**269**	P	P	14 00 33.6	-0.6
	0.3nm,0.5s,baz=109,slow=7.8,SNR=11						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.40**	**274**	P	P	14 00 43.5	+0.3
	0.3nm,0.4s,baz=114,slow=7.7,SNR=8.4						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**146.15**	**339**	PKPbc	PKPdf	14 12 19.1	+0.1
	3.7nm,0.8s,baz=308,slow=4.6,SNR=3.5						

MAN 24 13:56:27.4, 9.44N×126.28E, h118km, mb4.0, ML2.8, MS2.4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.38**	**336**	*eP*	Pn	13 56 46.0	+1.6
GLSP				*eS*	Sn	13 56 59.8	+2.5
BIPH	**Bislig**	**1.25**	**176**	*iP*	Pn	13 56 52.0	+0.2
CGP	**Cagayan de Oro**	**1.85**	**238**	*eP*	Pn	13 56 59.7	+0.8
CGP				*eS*	Sn	13 57 23.6	+0.8
BUKP	**Musuan**	**1.96**	**218**	*eP*	Pn	13 57 00.5	+0.2
BUKP				*eS*	Sn	13 57 26.3	+0.9

*IDC **24** 14:03:21.8±1.0, 6.10S×127.81E, h388km±12km, mb3.3/4, mbtmp4.2/9, Error ellipse: s-maj=16.7km s-min=9.9km az=84.0*
*DJA **24** 14:03:23.0±0.5, 6.3°S±4.4°×12.8E±.°, h404km±7km, M4.0/15, mb4.4/6, mB4.6/6, MLv4.0/15, Mw(mB)3.7/6*
ISC 24 14:03:22.8±0.7, 6.07S±0.06×127.69E±0.08, h404km, n29, σ1s47/34, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.42**	**12**	P	**P**	**14 04 22.1**	**+0.2**
BNDI	**Bandanaira**	**2.69**	**55**	P	**P**	**14 04 24.2**	**+0.4**
BNDI				S	**S**	**14 05 13.6**	**+0.3**
NLAI	**Namlea**	**2.87**	**348**	P	**P**	**14 04 25.9**	**+0.7**
NLAI				S	**S**	**14 05 15.3**	**-0.5**
MSAI	**Masohi**	**2.97**	**25**	P	**P**	**14 04 26.1**	**+0.1**
SAUI	**Saumlaki**	**4.06**	**118**	P	**P**	**14 04 36.3**	**+0.8**
SAUI	**Saumlaki**	**4.06**	**118**	P	**P**	**14 04 36.5**	**+1.0**
SANI	**Sanana**	**4.33**	**337**	P	**P**	**14 04 37.6**	**-0.6**
SOEI	**Soe**	**4.99**	**223**	P	**P**	**14 04 45.5**	**+0.7**
	0.5nm1μm60nm,0.5s						
LBMI	**Labuha**	**5.40**	**358**	P	**P**	**14 04 47.0**	**-1.9**
	0.1nm28nm,1.8s						
FAKI	**Fak Fak**	**5.52**	**56**	P	**P**	**14 04 50.0**	**-0.2**
	0.6nm963nm34nm,0.6s						
FAKI	**Fak Fak**	**5.52**	**56**	P	**P**	**14 04 50.0**	**-0.2**
BATI	**Baumata**	**5.72**	**224**	P	**P**	**14 04 53.4**	**+1.1**
	114nm,0.6s,baz=32,slow=3.2,SNR=20						
BATI				S	**S**	**14 06 03.3**	**-2.5**
	84nm,0.6s,baz=108,slow=20,SNR=12						
BATI	**Baumata**	**5.72**	**224**	P	**P**	**14 04 53.5**	**+1.1**
	0.4nm1μm106nm,0.7s						
MMRI	**Maumere**	**5.98**	**244**	P	**P**	**14 04 55.3**	**+0.3**
	0.2nm40nm,0.5s						
SIJI	**Sorong**	**6.28**	**35**	P	**P**	**14 04 58.2**	**-0.1**
	18nm,0.3s,baz=195,slow=20,SNR=34						
SIJI				S	**S**	**14 06 11.5**	**-5.3**
	11nm,0.2s,baz=197,slow=19,SNR=11						
BSSI	**Bau Bau, Buton**	**7.16**	**269**	P	P	14 05 17.8	+8.9
MTN	**Manton Dam**	**7.54**	**153**	P	**P**	**14 05 13.5**	**+0.4**
RKPI	**Ransiki, Papua**	**7.90**	**55**	P	**P**	**14 05 18.9**	**+1.8**
KAPI	**Kappang**	**7.97**	**277**	P	**P**	**14 05 17.4**	**-0.5**
	13nm,0.4s,baz=189,slow=18,SNR=2.4						
KDU	**Kakadu**	**8.10**	**145**	P	**P**	**14 05 19.9**	**+0.7**
KNRA	**Kununurra**	**9.61**	**174**	P	**P**	**14 05 37.1**	**+1.1**
WRAB	**Tennant Creek**	**15.23**	**155**	P	**P**	**14 06 38.4**	**+0.7**
WRA	**Warramunga Arr**	**15.23**	**155**	P	**P**	**14 06 38.2**	**+0.4**
	1.8nm,0.4s,baz=332,slow=11,SNR=19						
WRA				S		**14 09 15.9**	**-3.2**
	1.0nm,0.7s,baz=324,slow=19,SNR=6.7						
ASAR	**Alice Springs**	**18.49**	**162**	P	**P**	**14 07 12.8**	**+0.4**
	0.9nm,0.3s,baz=347,slow=11,SNR=36						
ASAR				S	**S**	**14 10 20.8**	**-0.9**
	1.8nm,0.9s,baz=344,slow=22,SNR=16						
AS01	**Alice Springs**	**18.51**	**162**	P	**P**	**14 07 13.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**37.38**	**311**	P	**P**	**14 09 59.8**	**+0.5**
	0.4nm,0.3s,baz=132,slow=5.4,SNR=1.3						
	0.4nm,0.3s						
SONM	**Songino Array**	**56.86**	**343**	P	**P**	**14 12 29.0**	**+1.8**
	0.6nm,0.5s,baz=169,slow=8.0,SNR=5.0						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**66.20**	**328**	P	**P**	**14 13 30.0**	**+1.2**
	1.9nm,0.5s,baz=118,slow=8.3,SNR=47						
	1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**69.75**	**335**	P	**P**	**14 13 50.6**	**+0.3**
	1.5nm,0.4s,baz=112,slow=5.4,SNR=6.0						
	1.5nm,0.4s						

*WEL **24** 14:06:23.2±0.3, 42.3°S±3.1°×17.4E±.°, h7km±3km, M3.2/39, ML3.5/24, MLv3.2/39, Error ellipse: s-maj=0.0km s-min=0.0km az=136.0*
*NOU **24** 14:06:23.4, 41.88S×174.32E, h8km, MLv3.6/8, Cook Strait, New Zealand*
ISC 24 14:06:22.8±1.0, 41.82S±0.03×174.26E±0.03, h13km±6km, n90, σ1s07/93, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**333**	P	**Pg**	**14 06 25.3**	**-0.1**
CMWZ				S	**Sg**	**14 06 27.4**	**0.0**
BSWZ	**Blackbirch Sta**	**0.31**	**290**	P	**Pg**	**14 06 28.7**	**-0.4**
BSWZ				S	**Sg**	**14 06 33.3**	**0.0**
TUWZ	**Tuamarina**	**0.46**	**328**	P	**Pg**	**14 06 31.7**	**-0.1**
TUWZ				S	**Sb**	**14 06 38.0**	**-1.4**
SNZO	**South Karori**	**0.61**	**33**	P	**Pb**	**14 06 35.6**	**+0.3**
TCW	**Tory Channel**	**0.61**	**1**	P	**Pg**	**14 06 34.6**	**0.0**
TCW				S	**Sb**	**14 06 43.1**	**-0.7**
WEL	**Wellington**	**0.66**	**36**	P	**Pb**	**14 06 36.7**	**+0.6**
PLWZ	**Palliser**	**0.79**	**72**	P	**Pb**	**14 06 39.7**	**+1.4**
KHZ	**Kahutara**	**0.80**	**222**	P	**Pb**	**14 06 39.6**	**+0.9**
KHZ	**Kahutara**	**0.80**	**222**	P	**Pb**	**14 06 39.6**	**+0.9**
NNZ	**Nelson**	**0.89**	**312**	P	**Pg**	**14 06 39.3**	**-0.8**
CAW	**Cannon Point**	**0.93**	**41**	P	**Pb**	**14 06 41.4**	**+0.5**
PAWZ	**Paruwai Farm**	**0.98**	**64**	P	**Pg**	**14 06 42.3**	**+0.6**
THZ	**Tophouse**	**1.01**	**273**	P	**Pg**	**14 06 41.9**	**-0.5**
DUWZ	**D'Urville Isla**	**1.05**	**346**	P	**Pg**	**14 06 42.1**	**-0.9**
KIW	**Kapiti Island**	**1.07**	**27**	P	**Pg**	**14 06 43.4**	**-0.1**
MTW	**Mount Morrison**	**1.14**	**55**	P	**Pg**	**14 06 44.4**	**-0.3**
TRWZ	**Traveller**	**1.15**	**69**	P	**Pg**	**14 06 44.4**	**-0.5**
MRNZ	**Matariki Terra**	**1.20**	**290**	P	**Pg**	**14 06 45.3**	**-0.6**
OGWZ	**Otaki Gorge**	**1.21**	**35**	P	**Pb**	**14 06 45.9**	**+0.3**
TKNZ	**Takaka Hill**	**1.25**	**308**	P	**Pb**	**14 06 45.8**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.32**	**46**	P	**Pn**	**14 06 46.9**	**-0.1**
TMWZ	**Te Maipa**	**1.42**	**60**	P	**Pn**	**14 06 47.9**	**-0.4**
GVZ	**Greta Valley S**	**1.46**	**218**	P	**Pn**	**14 06 49.3**	**+0.3**
MRZ	**Mangatainoka R**	**1.52**	**41**	P	**Pn**	**14 06 49.9**	**+0.1**
TIWZ	**Tintock**	**1.61**	**50**	P	**Pn**	**14 06 50.5**	**-0.5**
QRZ	**Quartz Range**	**1.64**	**307**	P	**Pb**	**14 06 52.6**	**-0.3**
QRZ	**Quartz Range**	**1.64**	**307**	P	**Pb**	**14 06 52.5**	**-0.4**
LTZ	**Lake Taylor**	**1.76**	**236**	P	**Pn**	**14 06 53.3**	**+0.2**
OHWZ	**Ohakea**	**1.80**	**27**	P	**Pn**	**14 06 55.2**	**-0.4**
AMCZ	**Amberley**	**1.81**	**221**	P	**Pn**	**14 06 54.8**	**+1.1**
PRWZ	**Pori Road**	**1.81**	**46**	P	**Pn**	**14 06 53.4**	**-0.3**
POWZ	**Post Office Ro**	**1.82**	**39**	P	**Pn**	**14 06 54.2**	**+0.3**
DSZ	**Denniston Nort**	**1.84**	**271**	P	**Pn**	**14 06 55.5**	**+1.4**
BFZ	**Birch Farm**	**1.88**	**53**	P	**Pn**	**14 06 55.8**	**+1.1**
BFZ	**Birch Farm**	**1.88**	**53**	P	**Pn**	**14 06 54.0**	**-0.6**
DVHZ	**Dannevirke**	**2.09**	**44**	P	**Pn**	**14 06 56.8**	**-0.8**
OKCZ	**Okains Bay**	**2.10**	**205**	P	**Pn**	**14 06 56.7**	**-1.0**
WAZ	**Wanganui**	**2.13**	**15**	P	**Pb**	**14 07 00.9**	**-0.5**
ANWZ	**Angora Road**	**2.15**	**52**	P	**Pn**	**14 06 57.9**	**-0.5**
TSZ	**Takapari Road**	**2.18**	**37**	P	**Pn**	**14 06 58.6**	**-0.2**
MQZ	**McQueen's Vall**	**2.23**	**212**	P	**Pn**	**14 06 57.9**	**-1.5**
OXZ	**Oxford**	**2.23**	**227**	P	**Pn**	**14 06 58.8**	**-0.7**
INZ	**Inchbonnie**	**2.28**	**246**	P	**Pn**	**14 07 00.7**	**+0.6**
AKCZ	**Akaroa Harbour**	**2.28**	**205**	P	**Pn**	**14 06 59.7**	**-0.5**
LREZ	**Lake Rotokare**	**2.36**	**3**	P	**Pb**	**14 07 03.7**	**-1.5**
PNHZ	**Pukenui**	**2.41**	**38**	P	**Pn**	**14 07 01.4**	**-0.6**
WPHZ	**Waipukurau**	**2.41**	**44**	P	**Pn**	**14 07 01.9**	**0.0**
NMEZ	**Namu Road**	**2.42**	**353**	P	**Pn**	**14 07 04.4**	**+2.3**
KHEZ	**Kahui Hut**	**2.53**	**356**	P	**Pb**	**14 07 07.0**	**-1.1**
KHEZ	**Kahui Hut**	**2.53**	**356**	P	**Pb**	**14 07 07.8**	**-0.3**
NEZ	**North Egmont**	**2.55**	**357**	P	**Pb**	**14 07 07.8**	**-0.6**
NBEZ	**Newall Road No**	**2.56**	**353**	P	**Pb**	**14 07 06.9**	**-1.8**
DREZ	**Durham Road**	**2.63**	**359**	P	**Pb**	**14 07 08.9**	**-0.9**
PKE	**Pukeiti**	**2.63**	**355**	P	**Pb**	**14 07 09.5**	**-0.3**
MOVZ	**Moawhango**	**2.66**	**26**	P	**Pb**	**14 07 10.4**	**0.0**
WNVZ	**Wahianoa**	**2.69**	**23**	P	**Pn**	**14 07 07.2**	**+1.2**
BHHZ	**Black Hill Sta**	**2.70**	**31**	P	**Pn**	**14 07 06.6**	**+0.6**
TRVZ	**Turoa**	**2.70**	**22**	P	**Pn**	**14 07 11.7**	**+0.5**
VRZ	**Vera Road**	**2.72**	**8**	P	**Pn**	**14 07 08.3**	**+2.1**
WHVZ	**Whangaehu Hut**	**2.73**	**22**	P	**Pb**	**14 07 10.7**	**-0.9**
FWVZ	**Far West T-bar**	**2.74**	**21**	P	**Pb**	**14 07 11.3**	**-0.6**
TUVZ	**Tukino**	**2.76**	**23**	P	**Pb**	**14 07 12.6**	**+0.5**
WACZ	**Wakanui South**	**2.77**	**219**	P	**Pn**	**14 07 06.3**	**-0.6**
NGZ	**Ngauruhoe**	**2.83**	**22**	P	**Pb**	**14 07 13.6**	**+0.3**
SNVZ	**South Ngauruho**	**2.83**	**22**	P	**Pb**	**14 07 13.5**	**+0.2**
KAHZ	**Kahuranaki**	**2.83**	**45**	P	**Pn**	**14 07 06.6**	**-1.2**
OTVZ	**Oturere**	**2.86**	**22**	P	**Pb**	**14 07 13.1**	**-0.8**
NNVZ	**North Ngauruho**	**2.88**	**21**	P	**Pn**	**14 07 10.2**	**+1.7**
WVZ	**Waitaha Valley**	**2.89**	**243**	P	**Pn**	**14 07 10.6**	**+2.0**
ETVZ	**East Tongariro**	**2.90**	**23**	P	**Pb**	**14 07 13.9**	**-0.6**
KWHZ	**Kaweka Forest**	**2.90**	**35**	P	**Pb**	**14 07 16.5**	**+2.0**
TMVZ	**Te Maari**	**2.92**	**23**	P	**Pb**	**14 07 13.6**	**-1.1**
KRVZ	**Karewarewa**	**2.92**	**22**	P	**Pb**	**14 07 14.1**	**-0.7**
NTVZ	**North Tongarir**	**2.92**	**22**	P	**Pb**	**14 07 14.2**	**-0.6**
RPZ	**Rata Peaks**	**3.03**	**230**	P	**Pn**	**14 07 10.9**	**+0.4**
RPZ	**Rata Peaks**	**3.03**	**230**	P	**Pn**	**14 07 10.2**	**-0.3**
KATZ	**Kakaramea**	**3.04**	**22**	P	**Pb**	**14 07 16.5**	**-0.5**
RITZ	**Rihia Road**	**3.09**	**24**	P	**Pb**	**14 07 17.5**	**-0.2**
BKZ	**Black Stump Fm**	**3.15**	**33**	P	**Pn**	**14 07 13.6**	**+1.4**
BKZ	**Black Stump Fm**	**3.15**	**33**	P	**Pn**	**14 07 18.0**	**-0.7**
RATZ	**Rangitukua**	**3.17**	**22**	P	**Pb**	**14 07 18.6**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**3.27**	**241**	P	**Pn**	**14 07 18.0**	**+4.2**
HIZ	**Hauiti**	**3.33**	**8**	P	**Pn**	**14 07 16.5**	**+1.8**
HIZ	**Hauiti**	**3.33**	**8**	P	**Pn**	**14 07 16.8**	**+2.1**
TMZ	**Timaru**	**3.50**	**222**	P	**Pn**	**14 07 17.1**	**+0.2**
TLZ	**Tolley Road**	**3.62**	**16**	P	**Pn**	**14 07 20.5**	**+1.8**
FOZ	**Fox Glacier**	**3.70**	**241**	P	**Pn**	**14 07 21.1**	**+1.5**
TOZ	**Tahuroa Road**	**4.19**	**14**	P	**Pn**	**14 07 29.1**	**+2.6**
JCZ	**Jackson Bay**	**4.61**	**239**	P	Pn	14 07 37.3	+5.0
MKAZ	**Moumakai**	**4.76**	**9**	P	**Pn**	**14 07 35.2**	**+1.0**

*IDC **24** 14:09:08.6±1.7, 24.25S×67.04W, h162km±15km, mb3.8/9, mbtmp4.2/15, Error ellipse: s-maj=18.7km s-min=11.9km az=76.0*
*NEIC **24** 14:09:09.3±2.5, 24.32S±0.06×66.99W±0.08, h181km±7km, mb4.6/46, Md4.4(SJA), Error ellipse: s-maj=10.6km s-min=8.4km az=116.0*
*VAO **24** 14:09:11.6±0.3, 24.15S×66.96W, h185km±3km, mb4.3*
*SJA **24** 14:09:11.9±1.1, 24.30S×67.16W, h150km, ML4.3, MW4.4*
ISC 24 14:09:09.8±0.6, 24.29S±0.03×67.13W±0.03, h184km±6km, n199, σ1s42/231, mb4.4/30, 10C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.54**	**107**	*eP*	P	**14 09 44.3**	**+1.5**
SLA				*eS*	**Sn**	**14 10 08.8**	**+0.5**
SLA				IAML		14 10 10.4	
	comp=Z,1μm,1.0s						
AF01	**San Pedro de A**	**1.64**	**324**		**Pn**	**14 09 44.9**	**+1.0**
AF01	**San Pedro de A**	**1.64**	**324**	*iP*	**Pn**	**14 09 45.9**	**+2.0**
AF01				*eS*	**Sn**	**14 10 13.2**	**+3.0**
AF01				IAML		14 10 15.6	
	comp=E,2μm,0.7s						
AZAP	**Zapla**	**1.88**	**89**	*eP*	**Pn**	**14 09 47.3**	**+1.0**
AZAP				*eS*	**Sn**	**14 10 14.6**	**+0.1**
AZAP				IAML		14 10 17.6	
	comp=Z,899nm,0.6s						
HJA	**Humahuaca**	**1.91**	**56**	*eP*	**Pn**	**14 09 48.2**	**+1.5**
HJA				*eS*	**Sn**	**14 10 15.7**	**+0.5**
LVC	**Limon Verde**	**2.33**	**315**		**Pn**	**14 09 53.0**	**+1.6**
LVC	**Limon Verde**	**2.33**	**315**	*iP*	**Pn**	**14 09 52.8**	**+1.4**
LVC	**Limon Verde**	**2.33**	**315**	*eP*	**Pn**	**14 09 53.0**	**+1.6**
LVC				*eS*	**Sn**	**14 10 24.2**	**+0.7**
PB15	**IPOC Station P**	**2.40**	**296**		**Pn**	**14 09 53.1**	**+1.3**
PB15	**IPOC Station P**	**2.40**	**296**	*iP*	**Pn**	**14 09 53.4**	**+1.5**
PB15				*eS*	**Sn**	**14 10 24.4**	**0.0**
PB15	**IPOC Station P**	**2.40**	**296**	*eP*	**Pn**	**14 09 53.3**	**+1.5**
PB15				*eS*	**Sn**	**14 10 25.0**	**+0.5**
GO02	**Mina Guanaco**	**2.40**	**248**		**Pn**	**14 09 53.1**	**+1.2**
GO02	**Mina Guanaco**	**2.40**	**248**	*iP*	**Pn**	**14 09 53.2**	**+1.2**
GO02				*eS*	**Sn**	**14 10 25.4**	**+0.7**
GO02				IAML		14 10 28.5	
	comp=E,6μm,0.2s						
GO02	**Mina Guanaco**	**2.40**	**248**	*iP*	**Pn**	**14 09 53.2**	**+1.2**
GO02				*eS*	**Sn**	**14 10 25.5**	**+0.7**
ASTB	**Santa Barbara**	**2.47**	**83**	*eP*	**Pn**	**14 09 53.5**	**+0.9**
ASTB				*eS*	**Sn**	**14 10 25.8**	**0.0**
YJA	**Yavi**	**2.57**	**36**	*eP*	**Pn**	**14 09 55.8**	**+1.7**
YJA				*eS*	**Sn**	**14 10 29.0**	**+0.5**
PB06	**IPOC Station P**	**2.74**	**305**		**Pn**	**14 09 57.2**	**+1.4**
PB06	**IPOC Station P**	**2.74**	**305**	*iP*	**Pn**	**14 09 57.1**	**+1.3**
PB06				*eS*	**Sn**	**14 10 30.9**	**-0.5**
PB06				IAML		14 10 34.1	
	comp=N,5μm,0.1s						
PB06	**IPOC Station P**	**2.74**	**305**	*iP*	**Pn**	**14 09 57.0**	**+1.3**
PB06				*eS*	**Sn**	**14 10 31.9**	**+0.4**
ALOL	**LOMAS DE OLMED**	**2.92**	**81**	*e*	**Pn**	**14 09 58.5**	**+0.8**
ALOL				*eP*	**Pn**	**14 09 58.5**	**+0.8**
ALOL				*eS*	**Sn**	**14 10 37.2**	**+2.2**
AHML	**Horco Molle**	**2.97**	**147**	*eP*	**Pn**	**14 09 59.1**	**+0.7**
AHML				*eS*	**Sn**	**14 10 35.4**	**-0.9**
PB14	**IPOC Station P**	**3.00**	**263**		**Pn**	**14 09 57.9**	**-1.1**
PB14	**IPOC Station P**	**3.00**	**263**	*eP*	**Pn**	**14 10 00.0**	**+1.0**
PB14				*eS*	**Sn**	**14 10 36.5**	**-0.8**
PB14				IAML		14 10 40.5	
	comp=Z,1μm,0.4s						
AC02	**Maricunga**	**3.12**	**215**		**Pn**	**14 09 59.9**	**-0.6**
AC02	**Maricunga**	**3.12**	**215**	*iP*	**Pn**	**14 10 01.9**	**+1.3**
PB09	**IPOC Station P**	**3.15**	**321**		**Pn**	**14 10 02.2**	**+1.5**
PB09	**IPOC Station P**	**3.15**	**321**	*iP*	**Pn**	**14 10 02.2**	**+1.5**
PB09				*eS*	**Sn**	**14 10 40.1**	**-0.3**
PB09				IAML		14 10 41.7	
	comp=N,1μm,0.7s						
PB09	**IPOC Station P**	**3.15**	**321**	*eP*	**Pn**	**14 10 02.2**	**+1.5**
PB09				*eS*	**Sn**	**14 10 41.2**	**+0.8**
PB09				IAML		14 10 42.0	
	comp=Z,664nm,0.3s						
PB10	**IPOC Station P**	**3.23**	**283**		**Pn**	**14 10 02.4**	**+0.9**
PB10	**IPOC Station P**	**3.23**	**283**	*iP*	**Pn**	**14 10 02.4**	**+0.9**
PB10				*eS*	**Sn**	**14 10 40.9**	**-0.8**
PB10				IAML		14 10 43.9	
	comp=N,1μm,0.4s						
PB10	**IPOC Station P**	**3.23**	**283**	*eP*	**Pn**	**14 10 02.4**	**+0.9**
PB10				*eS*	**Sn**	**14 10 40.7**	**-1.0**
PB10				IAML		14 10 43.4	
	comp=Z,1μm,0.4s						
PB03	**IPOC Station P**	**3.28**	**312**		**Pn**	**14 10 03.1**	**+0.7**
PB03	**IPOC Station P**	**3.28**	**312**	*iP*	**Pn**	**14 10 03.1**	**+0.7**
PB03				*eS*	**Sn**	**14 10 42.1**	**-1.2**
PB03				IAML		14 10 44.5	
	comp=E,2μm,0.2s						
PB03	**IPOC Station P**	**3.28**	**312**	*iP*	**Pn**	**14 10 03.1**	**+0.7**
PB03				*eS*	**Sn**	**14 10 42.3**	**-1.0**
PB04	**IPOC Station P**	**3.39**	**304**		**Pn**	**14 10 04.3**	**+0.7**
PB04	**IPOC Station P**	**3.39**	**304**	*iP*	**Pn**	**14 10 04.1**	**+0.5**
PB04				*eS*	**Sn**	**14 10 44.5**	**-1.1**
PB04				IAML		14 10 46.9	
	comp=N,2μm,0.2s						
PB04	**IPOC Station P**	**3.39**	**304**	*iP*	**Pn**	**14 10 04.1**	**+0.5**
PB04				*eS*	**Sn**	**14 10 45.3**	**-0.3**
PB07	**IPOC Station P**	**3.60**	**315**		**Pn**	**14 10 06.6**	**+0.3**
PB07	**IPOC Station P**	**3.60**	**315**	*iP*	**Pn**	**14 10 06.8**	**+0.6**
PB07				*eS*	**Sn**	**14 10 47.8**	**-2.4**
PB07	**IPOC Station P**	**3.60**	**315**	*iP*	**Pn**	**14 10 06.6**	**+0.3**
PB07				*eS*	**Sn**	**14 10 49.1**	**-1.2**
AC01	**Pan de Azucar**	**3.65**	**239**		**Pn**	**14 10 05.7**	**+0.9**
AC01	**Pan de Azucar**	**3.65**	**239**	*iP*	**Pn**	**14 10 06.2**	**-0.4**
PB01	**IPOC Station P**	**3.89**	**326**		**Pn**	**14 10 10.0**	**+0.2**
PB01	**IPOC Station P**	**3.89**	**326**	*iP*	**Pn**	**14 10 10.2**	**+0.3**
PB01				*eS*	**Sn**	**14 10 55.7**	**-1.1**
PB02	**IPOC Station P**	**3.90**	**319**		**Pn**	**14 10 10.2**	**+0.2**
PB02	**IPOC Station P**	**3.90**	**319**	*iP*	**Pn**	**14 10 10.0**	**0.0**
PB02				*eS*	**Sn**	**14 10 55.2**	**-1.9**
AC06	**Mina Casimiro**	**4.22**	**223**	Pn	**Pn**	**14 10 13.1**	**-0.7**
CYA	**Choya**	**4.31**	**164**	*iP*	**Pn**	**14 10 15.4**	**+0.4**
GO03	**Copiap**	**4.32**	**220**		**Pn**	**14 10 14.2**	**-1.0**
PATCX	**Punta Patache**	**4.44**	**320**		**Pn**	**14 10 16.2**	**-0.5**
PATCX	**Punta Patache**	**4.44**	**320**	*iP*	**Pn**	**14 10 17.0**	**+0.2**
PB08	**IPOC Station P**	**4.53**	**335**		**Pn**	**14 10 19.0**	**+0.8**
PB08	**IPOC Station P**	**4.53**	**335**	*iP*	**Pn**	**14 10 18.5**	**+0.3**
PB08				*eS*	**Sn**	**14 11 12.0**	**+0.1**
TA01	**Diego Aracena**	**4.66**	**322**	Pn	**Pn**	**14 10 18.6**	**-0.8**
TA02	**Huaiquique**	**4.87**	**325**		**Pn**	**14 10 21.0**	**-1.2**
GO01	**Chusmiza**	**4.98**	**337**		**Pn**	**14 10 24.2**	**+0.1**
PB11	**IPOC Station P**	**5.08**	**332**		**Pn**	**14 10 23.9**	**-1.1**
ACLC	**CERRO LA CRUZ**	**5.12**	**178**	*eP*	**Pn**	**14 10 26.3**	**+0.7**
ACLC				*eS*	**Sn**	**14 11 17.9**	**-7.4**
AC04	**Llanos de Chal**	**5.27**	**221**	Pn	**Pn**	**14 10 25.7**	**-1.7**
AC04	**Llanos de Chal**	**5.27**	**221**	*iP*	**Pn**	**14 10 26.3**	**-1.0**
AC05	**El Transito**	**5.33**	**211**		**Pn**	**14 10 26.8**	**-1.6**
AC05	**El Transito**	**5.33**	**211**	*iP*	**Pn**	**14 10 28.1**	**-0.2**
PSGCX	**Pisagua**	**5.43**	**329**	Pn	**Pn**	**14 10 27.7**	**-2.0**
MNMC	**Minye Minye**	**5.62**	**335**		**Pn**	**14 10 31.9**	**-0.4**
LCO	**Las Campanas**	**5.69**	**213**	Pn	**Pn**	**14 10 31.5**	**-1.5**
PB16	**IPOC Station P**	**6.32**	**339**	Pn	**Pn**	**14 10 41.3**	**-0.4**
PB12	**IPOC Station P**	**6.38**	**332**		**Pn**	**14 10 40.2**	**-1.8**
GO04	**Tololo Observa**	**6.71**	**208**		**Pn**	**14 10 44.3**	**-2.1**
CO03	**El Pedregal**	**7.25**	**205**	Pn	**Pn**	**14 10 51.5**	**-1.8**
CFA	**Coronel Fontan**	**7.36**	**187**	P	**Pn**	**14 10 54.0**	**-0.7**
	comp=N,2.6nm,0.3s,baz=8.7,slow=14,SNR=18					

VNA1	Neumayer--Stat	57.12	160	P	P	14 18 38.5 +1.9
VNA2	Neumayer--Watz	57.49	160	P	P	14 18 40.7 +1.4
	baz=276,slow=6.9					
GOGA	Godfrey	59.45	344	P	P	14 18 51.7 -1.5
JSC	Jenkinsville	59.77	346	P	P	14 18 55.4 0.0
BG3	Lake Jocassee	60.83	345	P	P	14 19 03.0 +0.4
BG3				IAmb	IAmb	14 19 04.7
	comp=Z,4.6nm,0.8s					
TROLL	Troll, Antarti	60.84	161	P	P	14 19 03.9 +1.5
833A	Chaparral WMA,	60.84	327	P	P	14 19 02.4 -0.4
833A				IAmb	IAmb	14 19 05.6
	comp=Z,13nm,0.9s					
X51A	Calhoun	60.90	343	P	P	14 19 03.1 +0.1
X51A				IAmb	IAmb	14 19 04.8
	comp=Z,13nm,0.8s					
V55A	Taylorsville	61.28	347	P	P	14 19 05.5 0.0
V55A				IAmb	IAmb	14 19 07.9
	comp=Z,9.6nm,0.6s					
CPCT	Cooper Cave	61.65	344	P	P	14 19 08.3 +0.3
CPCT				IAmb	IAmb	14 19 09.7
	comp=Z,5.0nm,0.7s					
TKL	Tuckaleechee C	61.66	345	P	P	14 19 08.0 -0.1
TKL				IAmb	IAmb	14 19 09.6
	comp=Z,5.6nm,0.9s					
SWET	Sewanee	61.80	343	P	P	14 19 09.3 +0.2
SWET				IAmb	IAmb	14 19 10.7
	comp=Z,12nm,0.8s					
R58B	Mineral	62.74	350	P	P	14 19 15.1 -0.1
R58B				IAmb	IAmb	14 19 24.2
	comp=Z,7.0nm,0.6s					
S54A	Dingess, Beckl	63.18	347	P	P	14 19 18.4 +0.2
S54A				IAmb	IAmb	14 19 20.0
	comp=Z,10nm,0.7s					
WVT	Waverly	63.19	341	P	P	14 19 18.0 -0.3
WVT				IAmb	IAmb	14 19 19.4
	comp=Z,8.5nm,0.7s					
TX31	Lajitas Ar. Si	63.84	325	P	P	14 19 22.9 +0.1
TX31				IAmb	IAmb	14 19 32.3
	comp=Z,7.6nm,1.4s					
TXAR	Lajitas Array	63.84	325	P	P	14 19 24.5 +1.7
	comp=Z,0.9nm,0.8s,baz=150,slow=8.8,SNR=10					
	comp=Z,0.9nm,0.8s					
QSPA	South Pole Qui	65.92	180	P	P	14 19 37.4 +1.6
QSPA				IAmb	IAmb	14 19 38.1
	comp=Z,5.7nm,0.6s					
CCM	Cathedral Cave	66.02	339	P	P	14 19 35.9 -0.6
CCM				IAmb	IAmb	14 19 38.7
	comp=Z,11nm,1.1s					
OK025	Westminster Rd	66.05	333	P	P	14 19 36.3 -0.5
DBIC	Dimbokro	68.00	71	P	P	14 19 49.9 +0.3
	comp=Z,4.0nm,1.0s,baz=261,slow=9.1,SNR=3.1					
	comp=Z,4.0nm,1.0s					
MVCO	Mesa Verde	72.51	326	P	P	14 20 18.5 +1.7
ECSD	EROS Data Cent	72.90	338	P	P	14 20 18.6 0.0
ECSD				IAmb	IAmb	14 20 20.6
	comp=Z,8.9nm,1.2s					
F36A	Milaca	73.82	341	P	P	14 20 23.9 0.0
F36A				IAmb	IAmb	14 20 25.5
	comp=Z,6.1nm,0.7s					
VNDA	Vanda	74.40	190	P	P	14 20 27.1 +0.2
	comp=Z,1.3nm,0.9s,baz=136,slow=4.5,SNR=7.3					
	comp=Z,1.3nm,0.9s					
SRU	San Rafael Swe	74.99	326	P	P	14 20 31.6 +0.5
SRU				IAmb	IAmb	14 20 34.4
	comp=Z,6.1nm,0.7s					
MTPU	Mount Pierson	75.05	325	P	P	14 20 33.0 +1.4
MVU	Marysvale	75.41	325	P	P	14 20 35.7 +2.2
RDMU	Red Mountain	75.64	328	P	P	14 20 36.2 +1.4
SPR3	Spring Creek 3	76.89	324	P	P	14 20 43.8 +1.8
SPR3				IAmb	IAmb	14 20 45.0
	comp=Z,2.8nm,0.7s					
PDAR	Pinedale Array	77.33	329	P	P	14 20 45.9 +1.6
	comp=Z,0.7nm,0.5s,baz=136,slow=8.6,SNR=8.8					
	comp=Z,0.7nm,0.5s					
ULM	Lac du Bonnet	78.46	342	P	P	14 20 49.5 -0.5
	comp=Z,5.6nm,0.7s,baz=168,slow=7.7,SNR=6.2					
	comp=Z,5.6nm,0.7s					
ELK	Elko	78.64	325	P	P	14 20 52.7 +1.2
NVAR	Mina Array Bea	78.69	321	P	P	14 20 53.5 +1.7
	comp=Z,0.7nm,0.5s,baz=151,slow=5.5,SNR=8.7					
	comp=Z,0.7nm,0.5s					
KVN	Kaiserville	79.00	322	P	P	14 20 55.5 +2.0
BOSA	Boshof	80.71	117	P	P	14 21 04.1 +1.1
	comp=Z,1.5nm,0.5s,baz=259,slow=2.6,SNR=7.7					
	comp=Z,1.5nm,0.5s					
MAW	Mawson	81.20	163	P	P	14 21 06.8 +2.2
	comp=Z,3.5nm,0.6s,baz=210,slow=7.0,SNR=12					
	comp=Z,3.5nm,0.6s					
PLID	Pearl Lake	82.15	327		P	14 21 10.9 +0.8
PLID				IAmb	IAmb	14 21 13.3
	comp=Z,6.7nm,0.8s					
J08A	Circle Bar Ran	82.19	325	P	P	14 21 11.1 +0.9
J08A				IAmb	IAmb	14 21 13.2
	comp=Z,5.2nm,0.8s					
YKA	Yellowknife Ar	94.35	340	P	P	14 22 09.2 +1.3
	comp=Z,2.0nm,0.7s,baz=134,slow=4.3,SNR=12					
	comp=Z,2.0nm,0.7s					
ASAR	Alice Springs	128.15	205	PKP	PKiKP	14 27 55.8 +0.4
	comp=Z,1.4nm,0.7s,baz=138,slow=2.0,SNR=24					
WRA	Warramunga Arr	131.32	207	PKP	PKiKP	14 28 02.0 +0.2
	comp=Z,0.8nm,0.5s,baz=164,slow=2.1,SNR=23					
BVAR	Borovoye Array	137.09	37	PKP	PKiKP	14 28 12.9 +0.4
	comp=Z,0.5nm,0.6s,baz=27,slow=39,SNR=3.3					
KURBB	Kurchatov Arra	142.68	36	PKP	PKiKP	14 28 22.5 -1.4
	comp=Z,0.8nm,1.0s,baz=300,slow=2.9,SNR=4.5					
ZALV	Zalesovo Beam	143.70	28	PKP	PKPdf	14 28 21.9 -0.6
	comp=Z,3.8nm,0.5s,baz=303,slow=3.8,SNR=15					
KSH	Kashi	145.46	55	PKPbc	PKPbc	14 28 26.6 +0.1
MKAR	Makanchi Array	146.82	40	PKPbc	PKPbc	14 28 29.6 -0.5
	comp=Z,5.8nm,0.6s,baz=295,slow=1.7,SNR=42					
SIJI	Sorong	149.28	218	PKPbc	PKiKP	14 28 39.1 +0.4
	comp=Z,6.9nm,0.7s,baz=15,slow=4.1,SNR=7.1					
KLR	Kul'dur	151.03	334	PKPbc	PKiKP	14 28 41.9 +0.7
	comp=Z,4.4nm,0.7s,baz=50,slow=2.3,SNR=12					
SONM	Songino Array	155.94	11	PKPab	PKPab	14 29 10.9 +1.1
	comp=Z,0.5nm,0.5s,baz=319,slow=5.7,SNR=2.5					

GUC 24 14:12:02.8±0.7, 38.18S×74.12W, h29km±4km, ML3.1, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI04	Isla Mocha	0.30	141	⇓*i*	P	14 12 09.3	-0.8
BI04				*e*S	Sb	14 12 13.2	-1.8
LC02	Puerto Saavedr	0.84	137	*e*P	Pn	14 12 17.9	-0.8
LC02				*e*S	Sb	14 12 28.4	-1.4
BI05	Punta Hualpn	1.61	28	⇓*e*P	Pn	14 12 29.4	+0.1
BI05				*e*S	Sn	14 12 47.4	-1.7
BI05				IAML		14 12 50.9	
	comp=E,171nm,0.1s						
LR04	Corral	1.78	162	*e*P	Pn	14 12 32.0	+0.4
LR04				IAML		14 13 04.1	
	comp=E,451nm,0.3s						
LR03	Panguipulli	2.01	137	*e*P	Pn	14 12 35.4	+0.6
LR03				IAML		14 13 09.3	
	comp=E,586nm,0.4s						

*ISK **24** 14:13:42.8, 37.52N×43.76E, h1km, ML2.1/4*
*DDA **24** 14:13:43.5±0.0, 37.53N×43.77E, h3km±1km, ML2.5*
ISC 24 14:13:43.7±1.1, 37.51N±0.04×43.75E±0.04, h4km±8km, n8, σ0.76/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAKT	HAKKARI	0.06	323	P	Pg	14 13 45.3	0.0
HAKT				*i* AML	AML	14 13 46.0	
	comp=N,8μm,0.2s						
HAKT				*i* AML	AML	14 13 46.0	
	comp=E,6μm,0.2s						
HAKT				S	Sg	14 13 46.6	+0.1
CUKT	Cukurca	0.29	204	PG	Pg	14 13 49.8	+0.5
CUKT				SG	Sb	14 13 55.0	-1.6
YOVA	Hakkari_Yksek	0.43	79	P	Pg	14 13 52.0	-0.1
YOVA				S	Sg	14 13 58.3	+0.5
GEVA	Gevas	0.97	326	P	Pg	14 14 01.6	-0.8
AKDM	Akdamar-Van	1.02	323	PG	Pg	14 14 03.2	-0.1
AKDM				SG	Sb	14 14 18.3	+0.4
PERV	Siirt/Pervari-	1.05	295	P	Pn	14 14 05.2	-0.2
PERV				S	Sn	14 14 21.6	+1.1
PERV				*i* AML	AML	14 14 26.0	
	comp=N,73nm,0.5s						
CLDR	Caldiran	1.64	4	PN	Pb	14 14 14.0	-0.6
CLDR				SN	Sb	14 14 35.8	+0.2
SVAN	Silvan-Diyarba	2.12	288	PN	Pn	14 14 20.5	+0.5

WEL 24 14:16:06.5±0.5, 42°S×17°4E±°, h9km±3km, M2.2/15, ML2.7/12, MLv2.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=142.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	Cape Campbell	0.17	49	P	Pg	14 16 10.9	+0.9
CMWZ				S	Sg	14 16 14.8	+2.3
BSWZ	Blackbirch Sta	0.19	319	P	Pg	14 16 11.2	+0.8
BSWZ				S	Sg	14 16 14.6	+1.5
TUWZ	Tuamarina	0.44	350	P	Pg	14 16 15.7	+0.7
KHZ	Kahutara	0.67	214	P	Pb	14 16 20.3	-0.1
TCW	Tory Channel	0.67	15	P	Pg	14 16 19.2	-0.2
WEL	Wellington	0.79	44	P	Pb	14 16 22.6	+0.2
WEL				S	Sn	14 16 35.1	-0.7
NNZ	Nelson	0.81	322	P	Pg	14 16 22.2	+0.1
THZ	Tophouse	0.86	276	P	Pb	14 16 23.4	-0.2
PLWZ	Palliser	0.95	73	P	Pg	14 16 24.6	-0.1
DUWZ	D'Urville Isla	1.06	355	P	Pg	14 16 26.4	-0.4
MRNZ	Matariki Terra	1.07	295	P	Pb	14 16 27.3	+0.1
CAW	Cannon Point	1.07	46	P	Pg	14 16 27.0	-0.1
PAWZ	Paruwai Farm	1.14	66	P	Pg	14 16 27.1	-1.3
KIW	Kapiti Island	1.19	33	P	Pb	14 16 29.0	-0.3
MTW	Mount Morrison	1.30	58	P	Pn	14 16 29.3	-1.5
OGWZ	Otaki Gorge	1.34	39	P	Pn	14 16 30.9	-0.6
QRZ	Quartz Range	1.54	312	P	Pb	14 16 35.2	0.0
DSZ	Denniston Nort	1.68	273	P	Pn	14 16 36.4	+0.3

*IDC **24** 14:16:34.7±0.6, 33.53N×72.64E, h0km, mb4.2/21, mbtmp4.3/26, ML4.0/5, MS3.1/6, Error ellipse: s-maj=16.8km s-min=12.3km az=49.0*
*NEIC **24** 14:16:36.7±3.0, 33.2N±0.1×72.77E±0.10, h38km±12km, mb4.5/16, Error ellipse: s-maj=19.4km s-min=10.5km az=162.0*
*NDI **24** 14:16:38.2±2.3, 33.52N×72.40E, h10km, ML4.3, mb4.5(NEIC)*
*BJI **24** 14:16:38.0±0.0, 33.40N×72.70E, h30km, mb4.6/22, mB4.7/11, ML4.5/3, Ms3.9/9, Ms7 3.6/10*
*MOS **24** 14:16:38.1±1.4, 33.55N×72.65E, h33km, mb4.5/13, Error ellipse: s-maj=8.7km s-min=3.8km az=87.3*
*NNC **24** 14:16:45.1±2.3, 33.76N×72.61E, h79km±18km, mb4.2, Error ellipse: s-maj=17.5km s-min=15.3km az=10.0*
ISC 24 14:16:39.8±0.4, 33.49N±0.04×72.58E±0.04, h35km, n188, σ1.79/202, mb4.4/36, MS3.3/6, 15C-9D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIL	Nilore	0.59	74		Pn	14 16 50.0	-1.7
NIL	Nilore	0.59	74	P	Pn	14 16 50.0	-1.7
CHCP	Chirah Chowk	0.60	73	P	Pn	14 16 50.0	-1.9
CEP	Cherat	0.65	301	⇑P	Pn	14 16 50.5	-2.1
THW	Thamme Wali	0.98	225	⇓P	Pn	14 16 58.9	+1.8
SARP	Sargodha	1.57	177	⇓P	Pn	14 17 08.5	+3.4
JMU	Jammu	2.10	111	*e*P	Pn	14 17 15.7	+3.3
JMU				*e*S	Sn	14 17 40.5	+3.2
JMU				*e*S	Sn	14 17 43.5	+6.3
KBL	Kabul	3.12	291	Pn	Pn	14 17 28.4	+1.8
KBL	Kabul	3.12	291	P	Pn	14 17 28.4	+1.8
BHK	Bhakra	3.85	121	*e*P	Pn	14 17 40.1	+3.6
SMLA	Simla	4.54	120	*e*P	Pn	14 17 49.3	+3.3
SMLA				IAML		14 19 17.9	
	comp=N,672nm,0.8s						
SMLA				IAML		14 19 22.2	
	comp=E,903nm,0.6s						
DRK	Karamyk	6.01	354	Pn	Pn	14 18 07.9	+1.4
KHET	Khetri	6.07	152	*e*P	Pn	14 18 09.1	+2.0
KHET				*e*S	Sn	14 19 15.1	-0.2
NDI	New Delhi	6.23	139	*e*P	Pn	14 18 12.5	+3.3
KUDL	Kundal	6.30	147	*e*P	Pn	14 18 12.1	+1.9
KUDL				*e*S	Sn	14 19 20.3	-0.6
SONA	Sohna	6.50	142	*e*P	Pn	14 18 15.3	+2.4
KSH	Kashi	6.61	23	Pn	Pn	14 18 12.0	-2.5
KSH				Sn	Sn	14 19 18.3	-10
KSH				smax	smax		
	comp=E,430nm,0.7s						
KSH				smax	smax		
	comp=E,260nm,1.0s						
BTK	Batken	6.71	348	Pn	Pn	14 18 17.6	+1.8
BTK	Batken	6.71	348	P	Pn	14 18 17.6	+1.8
AJM	Ajmer	7.21	165	*e*P	Pn	14 18 25.9	+3.1
PTH	Pithoragarh	7.61	119	*e*P	Pn	14 18 30.4	+2.0
LGTI	Lohaghat	7.69	120	*e*P	Pn	14 18 30.5	+1.2
LGTI				*e*S	Sn	14 19 53.1	-2.0
NRN	Naryn	8.38	18	Pn	Pn	14 18 41.1	+2.1
NRN	Naryn	8.38	18	P	Pn	14 18 41.1	+2.1
AML	Almayashu	8.67	6	P	Pn	14 18 45.0	+1.9
	SNR=75						
UCH	Uchtor	8.86	9	P	Pn	14 18 47.6	+1.9
	SNR=56						
IUG	luzhnay	8.87	348	*e*P	Pn	14 18 46.1	+0.5
	baz=347						
IUG				*e*S	Sn	14 20 24.0	-0.4
	baz=347						
IUG	luzhnay	8.87	348	*e*P	Pn	14 18 46.0	+0.5
IUG				*e*S	Sn	14 20 23.9	-0.4
EKS2	Erkin-Say	9.21	6	P	Pn	14 18 52.7	+2.6
	SNR=30						
TARG	Taragay, Kyrgy	9.21	25		Pn	14 18 52.4	+2.0
TARG	Taragay, Kyrgy	9.21	25	P	Pn	14 18 52.4	+2.0
AAK	Ala-Archa	9.26	9	P	Pn	14 18 53.4	+2.5
	SNR=19						
AAK	Ala-Archa	9.26	9	Pn	Pn	14 18 52.3	+1.5
	comp=E,8.0nm,0.3s,baz=163,slow=5.4,SNR=63						
AAK				Sn	Sn	14 20 32.4	-1.4
	comp=E,1.5nm,0.3s,baz=242,slow=20,SNR=2.4						
AAK				LR	LR	14 22 39.1	
	comp=E,174nm,21.0s,baz=168,slow=40						
	comp=E,20nm,0.4s						
AAK	Ala-Archa	9.26	9	Pn	Pn	14 18 53.4	+2.5
AAK	Ala-Archa	9.26	9	*ce*P	Pn	14 18 52.1	+1.2
AAK				pmax	pmax		
	comp=Z,70nm,1.7s						
KBK	Karagaybulak	9.34	11	P	Pn	14 18 55.0	+3.0
	SNR=15						
BOOM	Boomskoye usch	9.37	15		Pn	14 18 54.6	+2.2
BOOM	Boomskoye usch	9.37	15	P	Pn	14 18 54.6	+2.2
DZA	Taraz	9.44	354	*e*P	Pn	14 18 53.4	+0.2
	baz=354						
DZA	Taraz	9.44	354	*e*P	Pn	14 18 53.4	+0.2
JHNI	Jhansi	9.53	145	*e*S	Sn	14 20 39.8	-0.7
CHMS	Chumysh	9.65	10	P	Pn	14 18 58.4	+2.3
	SNR=9.9						
CHMS	Chumysh	9.65	10	⇓P	Pn	14 18 57.8	+1.7
	comp=Z,17nm,0.6s						
CHMS				⇓S	Sn	14 20 41.9	-1.3
	comp=Z,31nm,0.9s						
CHMS	Chumysh	9.65	10	*i* P	Pn	14 18 57.7	+1.7
CHMS				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TKM2	Tokmak 2	9.71	13	P	Pn	14 19 01.1	+4.0
	SNR=18						
TKM2	Tokmak 2	9.71	13	⇓P	Pn	14 18 59.2	+2.1
	comp=Z,15nm,0.5s						
TKM2				⇑S	Sn	14 20 44.3	-0.7
	comp=Z,32nm,0.8s						
TKM2	Tokmak 2	9.71	13	*i* P	Pn	14 18 59.2	+2.1
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
KK31	Karatay Array	9.73	351	Pn	Pn	14 18 57.4	+0.1
KK31	Karatay Array	9.73	351	⇑P	Pn	14 18 57.7	+0.4
	comp=Z,10nm,0.3s,baz=165,slow=12,SNR=228						
KK31				⇑S	Sn	14 20 43.4	-2.0
	comp=Z,11nm,0.7s,baz=175,slow=13,SNR=3.8						
KK31	Karatay Array	9.73	351	*i* P	Pn	14 18 57.6	+0.4
KKAR	Karatay Array	9.73	351	Pn	Pn	14 18 57.2	0.0
KKAR	Karatay Array	9.73	351		Pn	14 18 57.5	+0.2
KKAR	Karatay Array	9.73	351	P	Pn	14 18 57.5	+0.2
USP	Ospenovka	9.88	8	P	Pn	14 19 02.2	+3.0
	SNR=19						
SGDS	Sogindy	10.08	9	*e*P	Pn	14 19 01.6	-0.4
	baz=8.0						
SGDS	Sogindy	10.08	9	*e*P	Pn	14 19 01.6	-0.4
MDOK	Medeo	10.28	19	*e*P	Pn	14 19 05.0	+0.1
	baz=18						
MDOK	Medeo	10.28	19	⇑P	Pn	14 19 06.8	+2.0
	comp=Z,14nm,0.6s						
MDOK	Medeo	10.28	19	*e*P	Pn	14 19 04.9	+0.1
BHUJ	Bhuj	10.52	195	*e*P	Pn	14 19 08.8	+0.7
SATY	Saty	10.59	24	*e*P	Pn	14 19 10.6	+1.5
	baz=23						
SATY	Saty	10.59	24	*e*P	Pn	14 19 10.6	+1.5
DANN	Dangsing	10.88	115	*e*P	Pn	14 19 13.1	-0.2
UZB	Uzynbulak	10.89	26	*e*P	Pn	14 19 11.4	-1.7
	baz=25						
UZB	Uzynbulak	10.89	26	*e*P	Pn	14 19 11.4	-1.7
KPKS	Kokpek	11.05	24	*e*P	Pn	14 19 14.4	-1.0
	baz=23						
KPKS	Kokpek	11.05	24	*e*P	Pn	14 19 14.3	-1.0
SHLS	Shalkode	11.06	27	*e*P	Pn	14 19 19.4	+3.9
	baz=28						
SHLS	Shalkode	11.06	27	*e*P	Pn	14 19 19.4	+3.9
BHPL	Bhopal	11.06	156	*e*P	Pn	14 19 13.9	-1.7
BHPL				*e*S	Sn	14 21 13.0	-5.1
KOLN	Koldanda	11.07	118	*e*P	Pn	14 19 15.4	-0.4
PDGK	Podgornoye	11.22	27	⇑P	Pn	14 19 18.7	+1.0
	comp=Z,12nm,0.4s						
PDGK				⇑S	Sn	14 21 20.2	-1.6
	comp=Z,65nm,1.4s						
PDGK	Podgornoye	11.22	27	P	Pn	14 19 18.0	+0.3
BTLS	Baital	11.59	5	*e*P	Pn	14 19 22.0	-0.7
	baz=4.7						
BTLS	Baital	11.59	5	*e*P	Pn	14 19 21.9	-0.7
GKN	Gorkha	11.72	115	*e*P	Pn	14 19 24.0	-0.7
DMN	Daman	12.28	115	*e*P	Pn	14 19 30.6	-1.8
	comp=Z,48nm,0.4s						
KKN	Kakani	12.32	114	*e*P	Pn	14 19 31.1	-1.8
PKIN	Phulchoki	12.52	115	*e*P	Pn	14 19 34.3	-1.4
	comp=Z,51nm,0.4s						
PKI	Pulchoki	12.53	115	*e*P	Pn	14 19 34.1	-1.8
	comp=Z,78nm,0.6s						
GEYT	Alibeck	12.56	295	Pn	Pn	14 19 35.0	-0.9
	comp=Z,0.6nm,0.3s,baz=125,slow=15,SNR=8.8						
GEYT				LR	LR	14 25 19.0	
	comp=Z,54nm,19.8s,baz=175,slow=42						
	comp=Z,4.0nm,0.6s						
GEYT	Alibeck	12.56	295	Pn	Pn	14 19 34.4	-1.5
GYA0B	ALIBECK ARRAY	12.56	295	Pn	Pn	14 19 35.0	-0.9
GUN	Gumba	12.72	112	*e*P	Pn	14 19 36.7	-1.8
	comp=Z,49nm,0.5s						
JIRN	Jiri	13.09	113	*e*P	Pn	14 19 41.5	-2.0
	comp=Z,104nm,0.6s						
AKL	Akola	13.33	162	*e*P	Pn	14 19 46.4	-0.2
RAMN	Ramite	13.76	115	*e*P	Pn	14 19 49.4	-3.2
	comp=Z,28nm,0.5s						
TAPN	Taplejung	14.41	111	*e*P	Pn	14 19 58.3	-3.3
	comp=Z,35nm,0.5s						
MAKZ	Makanchi	15.10	26		Pn	14 20 09.0	-1.5
MAKZ	Makanchi	15.10	26	⇑P	Pn	14 20 08.8	-1.6
	comp=Z,3.1nm,0.5s						
MAKZ	Makanchi	15.10	26	P	Pn	14 20 08.8	-1.6
MK31	Makanchi Array	15.21	26	P	Pn	14 20 08.9	-1.5
MK31	Makanchi Array	15.21	26	*i* P	Pn	14 20 10.4	-1.4
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	15.21	26	Pn	Pn	14 20 10.5	-1.3
	comp=Z,0.6nm,0.3s,baz=190,slow=9.3,SNR=22						
MKAR				LR	LR	14 25 31.6	
	comp=Z,18nm,18.8s,baz=182,slow=35						
	comp=Z,0.9nm,0.4s						
MKAR	Makanchi Array	15.21	26		Pn	14 20 10.1	-1.8
MKAR	Makanchi Array	15.21	26	*i* P	Pn	14 20 11.1	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	Urumqi	15.66	44	*e*P	Pn	14 20 17.5	-0.2
WMQ				sP	pP	14 20 29.3	-1.5
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				LR	LR		
	comp=Z,300nm,9.7s						
WMQ				LR	LR		
	comp=Z,140nm,14.1s						
BRZS	Berezniki	16.48	0	*e*P	Pn	14 20 27.9	-0.2
	baz=360						
BRZS	Berezniki	16.48	0	*e*P	Pn	14 20 27.9	-0.2
ZSN	Zaisan	16.76	30	*e*P	Pn	14 20 29.8	-2.0
	baz=30						
ZSN	Zaisan	16.76	30	*e*P	Pn	14 20 29.7	-2.0
KURBB	Kurchatov Arra	17.67	13	P	Pn	14 20 40.4	-2.6
	comp=Z,0.2nm,0.3s,baz=205,slow=11,SNR=7.6						
	comp=Z,3.1nm,0.3s						
KURK	Kurchatov	17.78	13		Pn	14 20 40.9	-3.4
KURK	Kurchatov	17.78	13	⇓P	Pn	14 20 41.6	-2.7
	comp=Z,11nm,0.7s						
KURK	Kurchatov	17.78	13	*i* P	Pn	14 20 41.5	-2.7
KURK				pmax	pmax		
	comp=Z,11nm,0.7s						
AB31	Akbulak array	18.34	333	⇓P	P	14 20 49.2	-1.9
	comp=Z,6.6nm,0.5s,baz=146,slow=12,SNR=285						
AB31				S	Sn	14 24 13.0	-1.9
	comp=Z,2.2nm,0.4s,baz=155,slow=24,SNR=3.2						
AB31	Akbulak array	18.34	333	*i* P	P	14 20 49.1	-1.9
ABKAR	Akbulak array	18.34	333	P	P	14 20 48.7	-2.3
ABKAR	Akbulak array	18.34	333	P	P	14 20 49.7	-1.4
ABKAR				IAmb	IAmb	14 20 53.0	
	comp=Z,14nm,0.7s						
DGZ	Jazzator, Alta	19.58	30	*i* P	P	14 21 05.0	+0.2
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BVA0	Borovoye Array	19.59	356	⇑P	P	14 21 04.1	-0.6
	comp=Z,7.0nm,0.6s						
BVA0	Borovoye Array	19.59	356	P	P	14 21 04.1	-0.6
BVAR	Borovoye Array	19.59	356	P	P	14 21 03.6	-1.1
	comp=Z,0.3nm,0.3s,baz=167,slow=11,SNR=65						
	comp=Z,13nm,0.7s						
BRVK	Borovoye	19.63	356	P	P	14 21 04.4	-0.7
BRVK				IAmb	IAmb	14 21 09.0	
	comp=Z,10nm,0.7s						
BRVK	Borovoye	19.63	356	⇓P	P	14 21 04.9	-0.3
	comp=Z,10nm,0.8s						
BRVK	Borovoye	19.63	356	*i* P	P	14 21 04.8	-0.3
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AKTO

ARU					SS	SnSn	14 27 11.4	+2.2	
ARU					pmax	pmax			
	comp=Z,8.0nm,0.6s								
KBZ	**Khabaz**	**25.22**	**303**	P	**P**		14 22 00.7	-1.5	
	comp=Z,1.1nm,0.6s,baz=344,slow=7.4,SNR=1.5								
	comp=Z,1.1nm,0.6s								
KIV	**Kislovodsk**	**25.43**	**303**	*e*P	**P**		14 22 07.4	+3.2	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,40nm,15.0s								
BELG	**Belogornoye**	**26.06**	**324**	P	**P**		14 22 08.3	-1.4	
	comp=Z,33nm,0.9s,baz=50,slow=7.1,SNR=5.1								
	comp=Z,33nm,0.9s								
PZH	**PanZhiHua**	**26.15**	**98**	P	**P**		14 22 14.3	+3.4	
PZH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PZH				pmax	pmax				
	comp=Z,80nm,3.7s								
CMAR	**Chiang Mai Arr**	**27.93**	**116**	P	**P**		14 22 25.9	-0.9	
	comp=Z,1.0nm,0.3s,baz=310,slow=10,SNR=1.9								
CMAR				LR	LR		14 36 25.1		
	comp=Z,32nm,18.2s,baz=305,slow=43								
	comp=Z,1.0nm,0.3s								
SONM	**Songino Array**	**29.12**	**50**	P	**P**		14 22 37.2	-0.2	
	comp=Z,1.0nm,0.6s,baz=249,slow=8.8,SNR=7.6								
SONM				S	S		14 27 16.5	-10	
	comp=Z,0.6nm,0.4s,baz=288,slow=10,SNR=1.8								
SONM				LR	LR		14 36 51.5		
	comp=Z,54nm,18.9s,baz=200,slow=42								
	comp=Z,1.0nm,0.6s								
KIRV	**Kirov**	**29.51**	**335**	*ce*P	**P**		14 22 41.9	+1.5	
BRTR	**Keskin Array B**	**31.69**	**293**	P	**P**		14 23 01.8	+1.7	
	comp=Z,0.3nm,0.4s,baz=75,slow=12,SNR=1.8								
	comp=Z,0.3nm,0.4s								
HHC	**Hu-ho-hao-te**	**31.72**	**65**	*e*P	**P**		14 22 59.0	-1.4	
HHC				pmax	pmax				
	comp=Z,32nm,0.9s								
HHC				pmax	pmax				
	comp=Z,190nm,4.4s								
OBN	**Obninsk**	**33.08**	**322**	*i* P	**P**		14 23 12.2	+0.3	
OBN				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AKASG	**Malin Array Be**	**35.88**	**312**	P	**P**		14 23 36.5	+0.3	
	comp=Z,1.9nm,0.5s,baz=83,slow=7.1,SNR=18								
	comp=Z,1.9nm,0.5s								
AKASG	**Malin Array Be**	**35.88**	**312**	P	**P**		14 23 37.0	+0.8	
AKBB	**Malin Array Si**	**35.88**	**312**	P	**P**		14 23 34.5	-1.7	
AKBB				IAmb	IAmb		14 23 37.5		
	comp=Z,5.6nm,0.5s								
AKBB	**Malin Array Si**	**35.88**	**312**	P	**P**		14 23 34.5	-1.7	
AKBB				pmax	pmax				
	comp=Z,6.0nm,0.5s								
NRIK	**Noril'sk**	**36.87**	**9**	P	**P**		14 23 45.0	+0.6	
	comp=Z,5.4nm,0.9s,baz=165,slow=4.8,SNR=3.0								
	comp=Z,5.4nm,0.9s								
NRIK	**Noril'sk**	**36.87**	**9**	*ce*P	**P**		14 23 45.7	+1.3	
NRIK				pmax	pmax				
	comp=Z,28nm,3.3s								
BURAR	**Bucovina Array**	**38.05**	**306**	P	**P**		14 23 53.2	-1.7	
NJ2	**Nanjing**	**38.69**	**79**	*e*P	**P**		14 23 56.4	-3.9	
NJ2				pmax	pmax				
	comp=Z,8.0nm,0.5s								
PSI	**Prapat**	**39.23**	**135**	P	**P**		14 24 03.9	-1.2	
	comp=Z,4.7nm,0.6s,baz=338,slow=9.0,SNR=4.3								
	comp=Z,4.7nm,0.6s								
FIA1	**FINESS Array S**	**40.70**	**328**	P	**P**		14 24 15.0	-1.6	
FIA1				IAmb	IAmb		14 24 18.6		
	comp=Z,17nm,1.1s								
FINES	**FINESS Array B**	**40.71**	**328**	P	**P**		14 24 16.9	+0.2	
	comp=Z,8.1nm,0.8s,baz=116,slow=9.5,SNR=16								
	comp=Z,8.1nm,0.8s								
FINES	**FINESS Array B**	**40.71**	**328**	P	**P**		14 24 14.7	-2.0	
FINES	**FINESS Array B**	**40.71**	**328**	*i* P	**P**		14 24 17.2	+0.6	
FINES				pmax	pmax				
	comp=Z,8.0nm,0.8s								
VADS	**Vadso**	**43.58**	**340**	*e*P	**P**		14 24 40.6	+0.7	
ARA0	**ARCESS Array S**	**44.41**	**338**	*e*P	**P**		14 24 47.5	+0.8	
ARCES	**ARCESS Array B**	**44.41**	**338**	P	**P**		14 24 46.3	-0.4	
	comp=Z,5.9nm,0.7s,baz=114,slow=8.5,SNR=26								
	comp=Z,5.9nm,0.7s								
ARCES	**ARCESS Array B**	**44.41**	**338**	P	**P**		14 24 47.3	+0.6	
ARCES				IAmb	IAmb		14 24 54.3		
	comp=Z,19nm,1.3s								
KTK1	**Kautokeino**	**44.89**	**337**	*e*P	**P**		14 24 50.8	+0.3	
KTK1				IAmb	IAmb		14 24 51.5		
	comp=Z,16nm,0.9s								
HAMF	**Hammerfest**	**45.49**	**339**	*e*P	**P**		14 24 56.3	+1.1	
HAMF				IAmb	IAmb		14 25 00.5		
	comp=Z,132nm,1.6s								
GERES	**GERESS Array B**	**45.76**	**308**	P	**P**		14 24 58.0	+0.3	
	comp=Z,0.9nm,0.7s,baz=81,slow=12,SNR=5.1								
	comp=Z,0.9nm,0.7s								
TRO	**Tromso**	**46.54**	**337**	*e*P	**P**		14 25 04.3	+0.8	
FAUS	**Fauske**	**47.07**	**334**	*e*P	**P**		14 25 07.2	-0.4	
MOR8	**Moi Rana**	**47.07**	**332**	*e*P	**P**		14 25 07.5	-0.2	
STEI	**Steigen**	**47.24**	**334**	*e*P	**P**		14 25 09.5	+0.6	
NC405	**NORSAR Array S**	**47.34**	**325**	P	**P**		14 25 08.6	-1.3	
NC602	**NORSAR Array S**	**47.38**	**324**	*e*P	**P**		14 25 09.8	-0.3	
NC303	**NORSAR Array S**	**47.52**	**325**	P	**P**		14 25 11.6	+0.4	
NB2	**NORSAR Subarra**	**47.57**	**325**	P	**P**		14 25 11.4	-0.3	
	baz=97,slow=7.4								
NB2	**NORSAR Subarra**	**47.57**	**325**	P	**P**		14 25 11.4	-0.3	
	comp=Z,2.6nm,0.6s,baz=97,slow=7.4								
NOA	**NORSAR Array B**	**47.57**	**325**	P	**P**		14 25 11.3	-0.3	
	comp=Z,2.7nm,0.6s,baz=104,slow=7.3,SNR=16								
	comp=Z,2.7nm,0.6s								
KONS	**Konsvik**	**47.67**	**332**	*e*P	**P**		14 25 13.4	+1.1	
NBO00	**NORSAR Array S**	**47.78**	**325**	P	**P**		14 25 13.0	-0.3	
TIXI	**Tiksi**	**48.10**	**21**	P	**P**		14 25 16.5	+0.9	
TIXI				IAmb	IAmb		14 25 26.2		
	comp=Z,5.5nm,0.8s								
TIXI	**Tiksi**	**48.10**	**21**	*ce*P	**P**		14 25 16.2	+0.6	
TIXI				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SENIN	**Lac Senin/Sane**	**50.34**	**305**	P	**P**		14 25 32.4	-1.0	
ESDC	**Sonseca Array**	**60.04**	**300**	P	**P**		14 26 43.4	+0.2	
	comp=Z,1.0nm,0.7s,baz=63,slow=6.7,SNR=6.4								
	comp=Z,1.0nm,0.7s								
BILL	**Bilibino**	**60.75**	**25**	*i* P	**P**		14 26 51.0	+3.5	
BILL				pmax	pmax				
	comp=Z,5.0nm,1.2s								
GUMO	**Guam**	**67.95**	**88**	LR	LR		14 56 30.3		
	comp=Z,26nm,21.6s,baz=52,slow=35								
BOSA	**Boshof**	**76.32**	**222**	P	**P**		14 28 26.4	+1.1	
	comp=Z,4.9nm,0.7s,baz=33,slow=2.8,SNR=9.1								
	comp=Z,4.9nm,0.7s								
ILAR	**Eielson Array**	**77.31**	**16**	P	**P**		14 28 30.1	-0.2	
	comp=Z,0.9nm,1.0s,baz=287,slow=4.5,SNR=4.9								
	comp=Z,0.9nm,1.0s								
WRA	**Warramunga Arr**	**79.30**	**122**	P	**P**		14 28 43.0	+1.1	
	comp=Z,1.3nm,0.7s,baz=324,slow=5.2,SNR=15								
	comp=Z,1.3nm,0.7s								
WRA	**Warramunga Arr**	**79.30**	**122**	*i* P	**P**		14 28 43.9	+2.0	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**81.47**	**126**	P	**P**		14 28 54.0	+0.5	
	comp=Z,0.7nm,0.6s,baz=311,slow=5.2,SNR=18								
	comp=Z,0.7nm,0.6s								
YKA	**Yellowknife Ar**	**84.18**	**3**	P	**P**		14 29 07.3	+0.3	
	comp=Z,1.0nm,0.6s,baz=348,slow=5.5,SNR=6.6								
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**84.18**	**3**	*i* P	**P**		14 29 08.0	+1.0	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
HNR	**Honiara**	**92.96**	**99**	LR	LR		15 12 04.3		
	comp=Z,321nm,18.9s,baz=146,slow=36								

*NOU **24** 14:16:48.9, 42.˚54S× 174.˚08E, h0km, MLv3.4/6, Off E. Coast of S. Island, N.Z.*
*WEL **24** 14:16:51.2±0.5, 42.˚S±3.˚× 17.˚4E±.˚, h5km, M3.0/32, ML3.2/15, MLv3.0/32, Error ellipse: s-maj=0.0km s-min=0.0km az=126.5*

ISC 24 14:16:49.5±1.0, 42.˚43S±0.˚03× 174.˚03E±0.˚04, h10km, n52, σ0.˚85/54, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.36**	**272**	P	**Pg**	**14 16 56.8**	**+0.1**
KHZ	**Kahutara**	**0.36**	**272**	P	**Pg**	**14 16 56.8**	**+0.1**
KHZ				S	**Sg**	**14 17 01.4**	**-0.1**
CMWZ	**Cape Campbell**	**0.69**	**11**	P	**Pg**	**14 17 01.2**	**-1.7**
BSWZ	**Blackbirch Sta**	**0.72**	**351**	P	**Pg**	**14 17 03.8**	**+0.3**
GVZ	**Greta Valley S**	**0.91**	**233**	P	**Pn**	**14 17 09.1**	**+0.8**
TUWZ	**Tuamarina**	**1.00**	**356**	P	**Pg**	**14 17 08.6**	**-0.1**
TUWZ				S	**Sb**	**14 17 22.4**	**+0.3**
THZ	**Tophouse**	**1.07**	**308**	P	**Pg**	**14 17 08.9**	**-1.1**
SNZO	**South Karori**	**1.23**	**24**	P	**Pg**	**14 17 13.6**	**+0.6**
TCW	**Tory Channel**	**1.23**	**9**	P	**Pn**	**14 17 12.7**	**0.0**
PLWZ	**Palliser**	**1.25**	**47**	P	**Pg**	**14 17 13.9**	**+0.3**
AMCZ	**Amberley**	**1.26**	**233**	P	**Pg**	**14 17 14.4**	**+0.8**
WEL	**Wellington**	**1.27**	**26**	P	**Pg**	**14 17 14.0**	**+0.1**
NNZ	**Nelson**	**1.31**	**338**	P	**Pn**	**14 17 13.3**	**-0.4**
LTZ	**Lake Taylor**	**1.34**	**254**	P	**Pb**	**14 17 14.5**	**-0.2**
MRNZ	**Matariki Terra**	**1.40**	**317**	P	**Pn**	**14 17 15.4**	**+0.3**
OKCZ	**Okains Bay**	**1.48**	**208**	P	**Pg**	**14 17 17.3**	**-0.5**
PAWZ	**Paruwai Farm**	**1.48**	**45**	P	**Pn**	**14 17 16.6**	**+0.4**
CAW	**Cannon Point**	**1.53**	**31**	P	**Pn**	**14 17 17.4**	**+0.5**
TKNZ	**Takaka Hill**	**1.61**	**330**	P	**Pn**	**14 17 18.5**	**+0.6**
TRWZ	**Traveller**	**1.61**	**51**	P	**Pn**	**14 17 18.5**	**+0.6**
MQZ	**McQueen's Vall**	**1.62**	**218**	P	**Pn**	**14 17 18.4**	**+0.2**
DUWZ	**D'Urville Isla**	**1.63**	**357**	P	**Pb**	**14 17 19.3**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.66**	**209**	P	**Pb**	**14 17 19.6**	**-0.5**
MTW	**Mount Morrison**	**1.68**	**41**	P	**Pn**	**14 17 19.3**	**+0.4**
KIW	**Kapiti Island**	**1.70**	**23**	P	**Pb**	**14 17 20.3**	**-0.5**
OXZ	**Oxford**	**1.71**	**238**	P	**Pn**	**14 17 19.4**	**0.0**
DSZ	**Denniston Nort**	**1.79**	**292**	P	**Pb**	**14 17 21.7**	**-0.7**
OGWZ	**Otaki Gorge**	**1.82**	**28**	P	**Pn**	**14 17 21.3**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.89**	**37**	P	**Pn**	**14 17 22.4**	**+0.5**
RACZ	**Rakaia**	**1.90**	**226**	P	**Pn**	**14 17 22.1**	**+0.3**
INZ	**Inchbonnie**	**1.93**	**260**	P	**Pn**	**14 17 22.5**	**+0.1**
QRZ	**Quartz Range**	**1.96**	**324**	P	**Pn**	**14 17 23.8**	**+1.1**
MHCZ	**Mount Hutt**	**2.12**	**238**	P	**Pn**	**14 17 24.8**	**-0.2**
MRZ	**Mangatainoka R**	**2.12**	**34**	P	**Pn**	**14 17 25.3**	**+0.4**
WACZ	**Wakanui South**	**2.20**	**226**	P	**Pn**	**14 17 26.4**	**+0.3**
BFZ	**Birch Farm**	**2.41**	**44**	P	**Pn**	**14 17 29.6**	**+0.6**
BFZ	**Birch Farm**	**2.41**	**44**	P	**Pn**	**14 17 28.8**	**-0.2**
WVZ	**Waitaha Valley**	**2.51**	**254**	P	**Pn**	**14 17 30.9**	**+0.6**
RPZ	**Rata Peaks**	**2.53**	**239**	P	**Pn**	**14 17 30.7**	**+0.1**
RPZ	**Rata Peaks**	**2.53**	**239**	P	**Pn**	**14 17 30.6**	**+0.1**
ARCZ	**Arundel**	**2.58**	**233**	P	**Pn**	**14 17 31.2**	**-0.1**
WAZ	**Wanganui**	**2.77**	**15**	P	**Pb**	**14 17 37.8**	**-1.2**
GCSZ	**Gaunt Creek Bo**	**2.86**	**251**	P	**Pn**	**14 17 36.0**	**+0.8**
TMZ	**Timaru**	**2.94**	**227**	P	**Pn**	**14 17 36.9**	**+0.6**
WNVZ	**Wahianoa**	**3.32**	**22**	P	**Pn**	**14 17 43.8**	**+2.2**
VRZ	**Vera Road**	**3.35**	**10**	P	**Pn**	**14 17 43.7**	**+1.9**
KWHZ	**Kaweka Forest**	**3.51**	**32**	P	**Pb**	**14 17 50.2**	**-1.4**
ODZ	**Otahua Downs**	**3.58**	**222**	P	**Pn**	**14 17 45.1**	**0.0**
ODZ	**Otahua Downs**	**3.58**	**222**	P	**Pn**	**14 17 45.6**	**+0.5**
HIZ	**Hauiti**	**3.96**	**9**	P	**Pn**	**14 17 52.7**	**+2.4**
HIZ	**Hauiti**	**3.96**	**9**	P	**Pn**	**14 17 52.6**	**+2.3**
MKAZ	**Moumakai**	**5.39**	**10**	P	**Pn**	**14 18 10.5**	**+0.6**

IDC 24 14:22:19.1±2.5, 5.˚61S× 129.˚29E, h0km, mb3.1/1, mbtmp3.0/3, ML3.1/2, MS3.4/1, Error ellipse: s-maj=159.6km s-min=32.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.07**	**161**	Pn	Pn	14 25 52.5	-1.0
	0.1nm,0.3s,baz=340,slow=12,SNR=9.2						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**18.50**	**167**	P	Pn	14 26 37.2	+0.2
	0.1nm,0.3s,baz=348,slow=11,SNR=10						
	0.1nm,0.4s						
MJAR	**Matsushiro Arr**	**42.75**	**11**	LR	LR	14 46 09.0	
	comp=Z,53nm,21.6s,baz=51,slow=33						
MKAR	**Makanchi Array**	**66.68**	**327**	P	P	14 33 11.9	0.0
	0.1nm,0.5s,baz=120,slow=5.7,SNR=1.2						
	0.1nm,0.5s						

WEL 24 14:24:38.2±0.5, 42.˚S±3.˚× 17.˚4E±.˚, h5km, M3.1/34, ML3.3/14, MLv3.1/34, Error ellipse: s-maj=0.0km s-min=0.0km az=126.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.25**	**250**	P	Pg	14 24 43.3	+0.3
KHZ				S	Sg	14 24 47.7	+1.4
BSWZ	**Blackbirch Sta**	**0.61**	**1**	P	Pg	14 24 49.9	-0.1
CMWZ	**Cape Campbell**	**0.64**	**25**	P	Pb	14 24 51.7	-0.1
GVZ	**Greta Valley S**	**0.88**	**223**	P	Pb	14 24 55.7	-0.2
TUWZ	**Tuamarina**	**0.90**	**4**	P	Pg	14 24 55.4	0.0
TUWZ				S	Sb	14 25 08.8	+0.2
THZ	**Tophouse**	**0.91**	**308**	P	Pg	14 24 55.3	-0.3
TCW	**Tory Channel**	**1.16**	**16**	P	Pg	14 24 59.2	-1.3
NNZ	**Nelson**	**1.17**	**342**	P	Pg	14 24 59.8	-0.8
AMCZ	**Amberley**	**1.23**	**226**	P	Pg	14 25 00.9	-0.8
MRNZ	**Matariki Terra**	**1.24**	**318**	P	Pg	14 25 01.8	-0.1
WEL	**Wellington**	**1.25**	**33**	P	Pg	14 25 00.3	-1.8
LTZ	**Lake Taylor**	**1.25**	**248**	P	Pg	14 25 01.0	-1.2
PLWZ	**Palliser**	**1.29**	**54**	P	Pn	14 25 00.1	-2.8
TKNZ	**Takaka Hill**	**1.46**	**332**	P	Pn	14 25 04.9	-0.3
OKCZ	**Okains Bay**	**1.51**	**202**	P	Pn	14 25 03.7	-2.2
PAWZ	**Paruwai Farm**	**1.51**	**52**	P	Pn	14 25 02.9	-2.9
CAW	**Cannon Point**	**1.52**	**37**	P	Pn	14 25 03.8	-2.2
DUWZ	**D'Urville Isla**	**1.53**	**2**	P	Pn	14 25 05.3	-0.8
MQZ	**McQueen's Vall**	**1.63**	**212**	P	Pn	14 25 04.7	-2.8
DSZ	**Denniston Nort**	**1.64**	**290**	P	Pn	14 25 07.2	-0.4
TRWZ	**Traveller**	**1.66**	**56**	P	Pn	14 25 04.9	-2.9
OXZ	**Oxford**	**1.67**	**233**	P	Pn	14 25 05.7	-2.3
KIW	**Kapiti Island**	**1.67**	**29**	P	Pn	14 25 06.5	-1.5
AKCZ	**Akaroa Harbour**	**1.69**	**204**	P	Pn	14 25 06.1	-2.2
MTW	**Mount Morrison**	**1.70**	**47**	P	Pn	14 25 05.6	-2.9
QRZ	**Quartz Range**	**1.80**	**326**	P	Pn	14 25 10.4	+0.5
OGWZ	**Otaki Gorge**	**1.81**	**34**	P	Pn	14 25 07.7	-2.2
INZ	**Inchbonnie**	**1.82**	**257**	P	Pn	14 25 08.9	-1.3
RACZ	**Rakaia**	**1.88**	**221**	P	Pn	14 25 08.5	-2.4
HOWZ	**Holdsworth Sta**	**1.90**	**42**	P	Pn	14 25 09.0	-2.2
MHCZ	**Mount Hutt**	**2.06**	**234**	P	Pn	14 25 11.3	-2.3
MRZ	**Mangatainoka R**	**2.11**	**38**	P	Pn	14 25 11.4	-2.7
WACZ	**Wakanui South**	**2.19**	**222**	P	Pn	14 25 12.8	-2.4
WVZ	**Waitaha Valley**	**2.42**	**251**	P	Pn	14 25 17.3	-1.0
BFZ	**Birch Farm**	**2.44**	**48**	P	Pn	14 25 15.2	-3.4
RPZ	**Rata Peaks**	**2.48**	**235**	P	Pn	14 25 17.1	-2.1
ARCZ	**Arundel**	**2.54**	**230**	P	Pn	14 25 18.2	-1.8
WAZ	**Wanganui**	**2.71**	**19**	P	Pn	14 25 19.9	-2.5
TSZ	**Takapari Road**	**2.77**	**36**	P	Pn	14 25 20.4	-2.8
GCSZ	**Gaunt Creek Bo**	**2.78**	**248**	P	Pn	14 25 22.5	-0.8
TMZ	**Timaru**	**2.92**	**224**	P	Pn	14 25 23.4	-1.9
NBEZ	**Newall Road No**	**3.06**	**0**	P	Pb	14 25 33.1	+0.1
FOZ	**Fox Glacier**	**3.20**	**247**	P	Pn	14 25 29.0	0.0
VRZ	**Vera Road**	**3.28**	**12**	P	Pn	14 25 30.2	0.0
WNVZ	**Wahianoa**	**3.28**	**24**	P	Pn	14 25 30.2	-0.2
OTVZ	**Oturere**	**3.45**	**24**	P	Pn	14 25 33.6	+0.9
ODZ	**Otahua Downs**	**3.58**	**220**	P	Pn	14 25 31.8	-2.4
HIZ	**Hauiti**	**3.89**	**12**	P	Pn	14 25 39.1	+0.5
NGRZ	**Ngongotaha**	**4.58**	**24**	P	Pn	14 25 51.6	+3.4
MKAZ	**Moumakai**	**5.32**	**11**	P	Pn	14 25 57.1	-1.1

*IDC **24** 14:28:34.9±1.4, 37.˚69N× 141.˚53E, h0km, mb3.3/4, mbtmp3.2/5, ML2.5/1, MS2.3/1, Error ellipse: s-maj=33.9km s-min=26.6km az=129.0*
*JMA **24** 14:28:41.2±0.2, 37.˚2N±0.˚3× 141.˚3E±0.˚9, h24km±1km, MV3.6/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **24** 14:28:41.2, 37.˚19N× 141.˚33E, h24km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.89; $M_{\theta\theta}$=0.21; $M_{\phi\phi}$=1.10; $M_{r\theta}$=0.40; $M_{\theta\phi}$=0.30; $M_{\phi r}$=0.79; Fault plane solution: $M_0$1.38000×10^{14} NP1:ϕ_s38.00000°, δ34.00000°, λ-45.00000°. NP2:ϕ_s168.00000°, δ67.00000°, λ-115.00000°.*

ISC 24 14:28:39.8±1.8, 37.˚19N±0.˚05× 141.˚43E±0.˚10, h31km±12km, n19, σ1.˚81/20, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.47**	**292**	P	**Pb**	**14 28 49.3**	**-0.6**
JMST	**Minamisoumatoc**	**0.68**	**321**	P	**Pn**	**14 28 53.4**	**+0.1**
JMST				S	**Sb**	**14 29 02.4**	**0.0**
JFFD	**Fukushimafurud**	**0.70**	**262**	P	**Pn**	**14 28 53.2**	**-0.3**
JFFD				S	**Sb**	**14 29 01.9**	**-1.1**
JMM	**Marumori**	**0.84**	**323**	P	**Pn**	**14 28 56.0**	**+0.5**
JMM				S	**Sn**	**14 29 07.2**	**+0.5**
JHO	**Hitachi**	**0.90**	**230**	P	**Pn**	**14 28 56.1**	**-0.2**
JHO				S	**Sb**	**14 29 07.5**	**-1.1**
JSB	**Shiboa**	**1.23**	**260**	*e*P	**Pb**	**14 29 03.0**	**+0.6**
JSB				S	**Sb**	**14 29 18.3**	**+0.4**
JIO	**Ouri**	**1.26**	**357**	P	**Pb**	**14 29 03.5**	**+0.5**
JOU	**Okura**	**1.32**	**333**	P	**Pb**	**14 29 04.7**	**+0.7**
JOU				S	**Sb**	**14 29 22.1**	**+1.5**
MJAR	**Matsushiro Arr**	**2.66**	**257**	Pn	**Pn**	**14 29 22.9**	**+2.4**
	0.7nm,0.3s,baz=87,slow=16,SNR=19						
MJAR				Sn	**Sb**	**14 29 58.7**	**-0.3**
	2.3nm,0.3s,baz=149,slow=4.0,SNR=4.8						
MJAR				LR	LR	14 30 48.1	
	comp=Z,46nm,18.2s,baz=70,slow=46						
	3.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	15 04 03.0	
	baz=314,slow=76,SNR=157						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	15 04 08.9	
	baz=314,slow=76,SNR=125						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	15 04 09.5	
	baz=314,slow=76,SNR=144						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	15 04 57.1	
	baz=316,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	15 04 58.2	
	baz=316,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	15 04 58.3	
	baz=316,slow=76,SNR=35						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**14 36 42.0**	**-2.5**
	0.2nm,0.6s,baz=89,slow=8.3,SNR=3.5						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**14 37 22.4**	**-3.4**
	0.4nm,1.0s,baz=277,slow=5.8,SNR=2.0						
	0.4nm,1.0s						
WRA	**Warramunga Arr**	**57.22**	**188**	P	**P**	**14 38 27.1**	**+3.1**
	0.4nm,0.5s,baz=5.6,slow=7.3,SNR=8.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**60.95**	**188**	P	**P**	**14 38 53.2**	**+3.4**
	0.2nm,0.8s,baz=12,slow=9.8,SNR=2.0						
	0.2nm,0.8s						

*IDC **24** 14:28:41.7±1.1, 6.˚12S× 127.˚85E, h387km±13km, mb3.1/3, mbtmp4.1/7, Error ellipse: s-maj=18.6km s-min=10.6km az=89.0*

ISC 24 14:28:42.3±0.8, 6.˚08S±0.˚08× 127.˚8E±0.˚1, h400km, n7, σ2.˚28/11, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.83**	**225**	P	**Pn**	**14 30 13.5**	**+0.3**
	22nm,0.4s,baz=68,slow=18,SNR=8.7						
BATI				S	**S**	**14 31 23.6**	**-3.5**
	43nm,0.6s,baz=110,slow=14,SNR=12						
SIJI	**Sorong**	**6.20**	**34**	P	**Pn**	**14 30 18.2**	**+1.0**
	13nm,0.4s,baz=212,slow=12,SNR=18						
SIJI				S	**S**	**14 31 30.1**	**-4.5**
	3.7nm,0.4s,baz=245,slow=9.5,SNR=6.2						
WRA	**Warramunga Arr**	**15.16**	**156**	P	**P**	**14 31 58.0**	**+1.4**
	6.1nm,0.4s,baz=331,slow=11,SNR=140						
WRA				S	**S**	**14 34 36.9**	**-0.5**
	0.4nm,0.5s,baz=326,slow=21,SNR=3.0						
ASAR	**Alice Springs**	**18.43**	**162**	P	**P**	**14 32 33.0**	**+1.4**
	2.7nm,0.3s,baz=347,slow=11,SNR=120						
ASAR				S	**S**	**14 35 39.6**	**-1.0**
	0.9nm,0.9s,baz=342,slow=20,SNR=8.5						
SONM	**Songino Array**	**56.91**	**343**	P	**P**	**14 37 49.1**	**+1.5**
	0.3nm,0.4s,baz=165,slow=6.0,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**66.30**	**328**	P	**P**	**14 38 50.1**	**+0.8**
	0.6nm,0.4s,baz=144,slow=6.4,SNR=

comp=Z,126nm,18.3s,baz=90,slow=31
RAR Rarotonga 13.19 109 P **Pn** **14 42 23.2 -0.2**
32nm,1.0s,baz=290,slow=12,SNR=2.0
RAR LR LR 14 46 49.1
comp=Z,75nm,18.5s,baz=274,slow=34
WRA Warramunga Arr 49.61 258 P **P** **14 48 00.9 -0.7**
0.4nm,0.5s,baz=100,slow=7.5,SNR=11
0.4nm,0.5s
ASAR Alice Springs 49.70 254 P **P** **14 48 01.2 -1.1**
1.9nm,0.5s,baz=89,slow=8.3,SNR=37
1.9nm,0.5s
PDAR Pinedale Array 83.66 42 P **P** **14 51 38.9 +1.1**
0.1nm,0.3s,baz=231,slow=5.1,SNR=1.6
0.1nm,0.3s

---

*IDC **24** 14:43:28.5±0.7,37.°08N×141.°50E,h0km,mb3.7/15, mbtmp3.7/17,ML2.8/2,MS3.2/9,Error ellipse: s-maj=19.8km s-min=18.0km az=171.0*
*JMA **24** 14:43:31.8±0.2,37.°2N±0.°4×14.°1E±.°,h29km±1km, MV3.9/37,E OFF FUKUSHIMA PREF .*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **24** 14:43:31.8,37.°22N×141.°44E,h29km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.87; $M_{\theta\theta}$0.44; $M_{\phi\phi}$0.43; $M_{r\theta}$0.52; $M_{\theta\phi}$0.53; $M_{\phi r}$0.58; Fault plane solution: $M_0$1.20000×10^{15} NP1:ϕ_s48.00000°, δ25.00000°,λ-86.00000°. NP2:ϕ_s223.00000°,δ65.00000°, λ-92.00000°.*

ISC 24 14:43:30.5±2.2,37.°19N±0.°05×141.°51E±0.°09,h11km±12km, n41,σ1°22/31,mb3.7/15,MS3.2/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54**	**290**	**P**	**Pg**	**14 43 41.3**	**+0.4**
JFK				S	Sg	14 43 47.8	-0.2
JMST	**Minamisoumatoc**	**0.73**	**318**	**P**	**Pg**	**14 43 44.6**	**-0.1**
JMST				S	Sg	14 43 54.1	0.0
JFFD	**Fukushimafurud**	**0.76**	**263**	**P**	**Pg**	**14 43 45.3**	**+0.1**
JFFD				S	Sg	14 43 54.9	-0.4
JMM	**Marumori**	**0.88**	**320**	**P**	**Pb**	**14 43 47.0**	**-0.9**
JMM				S	Sb	14 43 58.4	-1.4
JHO	**Hitachi**	**0.95**	**233**	**P**	**Pb**	**14 43 48.2**	**-0.8**
JIO	**Ouri**	**1.27**	**354**	**P**	**Pn**	**14 43 53.2**	**-1.1**
JOU	**Okura**	**1.35**	**331**	**P**	**Pn**	**14 43 55.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.72**	**257**	Pn	**Pn**	**14 44 14.4**	**+0.1**
MJAR	0.8nm,0.3s,baz=79,slow=17,SNR=28			Sn	**Sb**	**14 44 51.3**	**-1.4**
	2.0nm,0.3s,baz=253,slow=21,SNR=3.2 4.9nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.06**	**317**	Pn	**Pn**	**14 45 56.8**	**+1.9**
USRK	0.2nm,0.3s,baz=144,slow=36,SNR=2.5			LR	LR	14 49 28.2	
	comp=Z,102nm,18.6s,baz=132,slow=36 2.2nm,0.7s						
KSRS	**Korea Array**	**10.82**	**276**	Pn	**Pn**	**14 46 10.2**	**+4.7**
KSRS	0.2nm,0.3s,baz=143,slow=40,SNR=2.0			LR	LR	14 50 05.3	
	comp=Z,36nm,20.9s,baz=90,slow=36						
KLR	**Kul'dur**	**13.97**	**333**	LR	LR	14 51 53.2	
	comp=Z,69nm,19.6s,baz=142,slow=36						
YAK	**Yakutsk**	**25.94**	**347**	LR	LR	14 59 26.4	
	comp=Z,44nm,20.4s,baz=128,slow=37						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**14 49 19.5**	**+0.1**
	0.5nm,0.6s,baz=98,slow=9.1,SNR=4.2 0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	15 18 51.8	
	baz=314,slow=76,SNR=115						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	15 18 51.6	
	baz=314,slow=76,SNR=102						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	15 18 53.1	
	baz=314,slow=76,SNR=96						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	15 19 46.1	
	baz=316,slow=76,SNR=176						
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	15 19 49.3	
	baz=316,slow=76,SNR=143						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	15 19 50.5	
	baz=316,slow=76,SNR=94						
TIXI	**Tiksi**	**35.15**	**353**	LR	LR	15 05 55.6	
	comp=Z,49nm,18.4s,baz=322,slow=38						
CMAR	**Chiang Mai Arr**	**41.61**	**255**	LR	LR	15 09 56.3	
	comp=Z,16nm,19.3s,baz=65,slow=38						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**14 51 20.4**	**-0.1**
	0.6nm,0.4s,baz=50,slow=4.6,SNR=3.9 0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**14 51 38.5**	**-0.3**
	0.8nm,0.8s,baz=90,slow=10,SNR=5.5 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**14 51 53.8**	**+0.3**
	0.7nm,0.4s,baz=84,slow=8.0,SNR=7.0 0.7nm,0.4s						
ILAR	**Eielson Array**	**49.33**	**32**	P	**P**	**14 52 20.3**	**+0.9**
	1.1nm,0.8s,baz=267,slow=6.5,SNR=13 1.1nm,0.8s						
AAK	**Ala-Archa**	**50.48**	**298**	LR	LR	15 14 05.3	
	comp=Z,47nm,18.6s,baz=14,slow=36						
BVAR	**Borovoye Array**	**50.52**	**312**	P	**P**	**14 52 28.0**	**-0.6**
	0.4nm,0.7s,baz=71,slow=8.1,SNR=3.3 0.4nm,0.7s						
INK	**Inuvik**	**54.22**	**27**	P	**P**	**14 52 56.1**	**+0.4**
	1.3nm,0.8s,baz=294,slow=1.7,SNR=3.9 1.3nm,0.8s						
WRA	**Warramunga Arr**	**57.22**	**188**	P	**P**	**14 53 16.8**	**-1.1**
	0.8nm,0.9s,baz=5.9,slow=6.8,SNR=6.9 0.8nm,0.9s						
ASAR	**Alice Springs**	**60.95**	**188**	P	**P**	**14 53 42.1**	**-1.6**
	0.5nm,0.8s,baz=48,slow=3.7,SNR=5.8 0.5nm,0.8s						
YKA	**Yellowknife Ar**	**63.64**	**30**	P	**P**	**14 54 01.5**	**+0.2**
	1.3nm,0.9s,baz=326,slow=11,SNR=2.3 1.3nm,0.9s						
NOA	**NORSAR Array B**	**74.07**	**337**	P	**P**	**14 55 05.3**	**-1.1**
	0.4nm,0.7s,baz=85,slow=1.3,SNR=1.5						
NOA				LR	LR	15 30 46.3	
	comp=Z,9.6nm,18.1s,baz=150,slow=38 0.4nm,0.7s						
AKASG	**Malin Array Be**	**74.22**	**322**	P	**P**	**14 55 07.8**	**+0.5**
	0.6nm,0.5s,baz=46,slow=5.5,SNR=1.6 0.6nm,0.5s						
NVAR	**Mina Array Bea**	**74.84**	**53**	P	**P**	**14 55 12.1**	**+0.6**
	0.7nm,0.8s,baz=306,slow=5.1,SNR=4.7 0.7nm,0.8s						
PDAR	**Pinedale Array**	**77.51**	**46**	P	**P**	**14 55 25.9**	**-0.6**
	0.3nm,0.6s,baz=254,slow=2.6,SNR=3.9 0.3nm,0.6s						
MLR	**Muntele Rosu**	**79.32**	**320**	LR	LR	15 32 25.8	
	comp=Z,36nm,18.8s,baz=343,slow=37						
TXAR	**Lajitas Array**	**89.97**	**52**	P	**P**	**14 56 30.6**	**+0.3**
	0.4nm,0.8s,baz=331,slow=4.9,SNR=4.8 0.4nm,0.8s						
LPAZ	**La Paz**	**146.55**	**59**	PKPbc	**PKPbc**	**15 03 13.4**	**+0.1**
	0.7nm,0.5s,baz=288,slow=3.2,SNR=3.8						
H03N2	**Juan Fernandez**	**146.97**	**96**	T	T	17 47 28.3	
	baz=291,slow=76,SNR=16						
H03N3	**Juan Fernandez**	**146.98**	**96**	T	T	17 47 29.3	
	baz=291,slow=76,SNR=12						
H03N1	**Juan Fernandez**	**146.98**	**96**	T	T	17 47 30.0	
	baz=291,slow=76,SNR=13						

---

*JMA **24** 14:47:49.9±0.2,25.°5N±3.°3×12.°4E±.°,h110km±3km, MV3.2/13, NW OFF ISHIGAKIJIMA IS*
*IDC **24** 14:47:49.6±7.9,25.°37N×124.°44E,h123km±89km,mb3.5/7, mbtmp3.9/9,ML3.4/2,Error ellipse: s-maj=77.4km s-min=14.5km az=61.0*

ISC 24 14:47:48.6±0.8,25.°25N±0.°09×124.°33E±0.°05,h111km±9km, n21,σ0°84/34,mb3.9/7,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.66**	**182**	*i* P	**Pn**	**14 48 06.7**	**-0.1**
JISG				S	Sn	14 48 19.7	-0.7
JTJ	**Tarama**	**0.69**	**151**	*i* P	**Pn**	**14 48 07.3**	**+0.3**
JTJ				*eS*	Sn	14 48 20.8	0.0
JIRB	**Irabujima**	**0.87**	**118**	*i* P	**Pn**	**14 48 08.9**	**+0.3**
JIRB				S	Sn	14 48 23.3	-0.3
JIKM	**Ikemajima**	**0.89**	**111**	*i* P	**Pn**	**14 48 09.5**	**+0.7**
JIKM				S	Sn	14 48 24.5	+0.6
JIJ	**Ishigaki jima**	**0.90**	**191**	*i* P	**Pn**	**14 48 08.4**	**-0.5**
JIJ				S	Sn	14 48 22.6	-1.5
JMJ2	**Miyako jima3**	**1.03**	**119**	P	**Pn**	**14 48 11.0**	**+0.7**
JMJ2				S	Sn	14 48 27.3	+0.8
JKRS	**Kuro-shima**	**1.05**	**196**	P	**Pn**	**14 48 10.2**	**-0.2**
JKRS				S	Sn	14 48 25.9	-0.9
IRIF	**Iriomote-Funau**	**1.06**	**211**	P	**Pn**	**14 48 10.2**	**-0.4**
IRIF				S	Sn	14 48 25.9	-1.1
JOGS	**Gusukube**	**1.09**	**116**	P	**Pn**	**14 48 11.7**	**+0.8**
JOGS				S	Sn	14 48 28.3	+0.7
HATJ	**Hateruma jima**	**1.28**	**202**	P	**Pn**	**14 48 12.8**	**-0.1**
HATJ				S	Sn	14 48 30.2	-1.1
YOJ	**Yonaguni jima**	**1.43**	**237**	P	**Pn**	**14 48 16.4**	**+1.6**
YOJ				S	Sn	14 48 34.9	+0.4
JYNG	**Yonagunijimaku**	**1.49**	**238**	P	**Pn**	**14 48 16.4**	**+1.0**
JYNG				S	Sn	14 48 35.7	+0.1
JOW	**Kunigami**	**3.88**	**65**	P	**Pn**	**14 48 46.1**	**-0.3**
	6.3nm,0.3s,baz=106,slow=21,SNR=8.1						
JOW				S	Sn	14 49 29.5	-1.7
	11nm,0.3s,baz=102,slow=22,SNR=1.9 17nm,0.3s						
KSRS	**Korea Array**	**12.55**	**13**	P	**Pn**	**14 50 43.2**	**+0.1**
	0.2nm,0.3s,baz=196,slow=11,SNR=2.0 0.8nm,0.8s						
MKAR	**Makanchi Array**	**39.62**	**314**	P	**P**	**14 55 08.1**	**-1.2**
	0.6nm,0.5s,baz=99,slow=9.5,SNR=13 0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**40.97**	**325**	P	**P**	**14 55 19.4**	**-0.9**
	1.5nm,0.4s,baz=107,slow=9.7,SNR=6.5 1.5nm,0.4s						
KURBB	**Kurchatov Arra**	**43.19**	**318**	P	**P**	**14 55 37.5**	**-0.9**
	0.5nm,0.5s,baz=124,slow=3.2,SNR=2.5 0.5nm,0.5s						
WRA	**Warramunga Arr**	**45.96**	**167**	P	**P**	**14 56 00.6**	**-0.1**
	1.2nm,0.5s,baz=349,slow=8.6,SNR=18 1.2nm,0.5s						
BVAR	**Borovoye Array**	**48.70**	**319**	P	**P**	**14 56 21.4**	**-0.2**
	0.3nm,0.3s,baz=104,slow=10,SNR=2.8 0.3nm,0.3s						
ASAR	**Alice Springs**	**49.50**	**168**	P	**P**	**14 56 28.9**	**+0.9**
	0.8nm,0.5s,baz=352,slow=9.1,SNR=37 0.8nm,0.5s						
GEYT	**Allbeck**	**56.74**	**300**	P	**P**	**14 57 22.1**	**+1.0**
	1.2nm,0.4s,baz=97,slow=4.5,SNR=2.9 1.2nm,0.4s						

---

*IDC **24** 14:49:43.1±1.0,37.°21N×141.°70E,h0km,mb3.9/12, mbtmp3.9/16,ML3.0/3,Error ellipse: s-maj=23.3km s-min=16.9km az=88.0*
*JMA **24** 14:49:47.2±0.2,37.°2N±0.°3×141.°4E±0.°9,h28km±1km, MV3.9/40,E OFF FUKUSHIMA PREF .*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 24 14:49:45.4±1.9,37.°19N±0.°04×141.°50E±0.°07,h11km±10km, n40,σ1°04/39,mb3.9/12,12D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**289**	**P**	**Pg**	**14 49 56.1**	**+0.4**
JFK				S	Sg	14 50 02.4	-0.3
JMST	**Minamisoumatoc**	**0.72**	**318**	↓↓P	**Pb**	**14 49 59.8**	**+0.2**
JMST				↓↓*eS*	Sg	14 50 09.1	+0.3
JFFD	**Fukushimafurud**	**0.76**	**263**	↓↓P	**Pg**	**14 49 59.9**	**-0.1**
JFFD				↓↓*eS*	Sg	14 50 09.0	-0.9
JMM	**Marumori**	**0.88**	**320**	P	**Pb**	**14 50 02.3**	**-0.3**
JMM	**Marumori**	**0.88**	**320**	↓↓P	**Pb**	**14 50 02.4**	**-0.3**
JMM				↓↓S	Sg	14 50 13.5	-0.2
JHO	**Hitachi**	**0.94**	**232**	↓↓P	**Pb**	**14 50 02.4**	**-1.4**
JIO	**Ouri**	**1.27**	**355**	P	**Pb**	**14 50 08.8**	**-0.4**
JSB	**Shiboa**	**1.28**	**260**	↓↓P	**Pn**	**14 50 09.2**	**-0.1**
JOU	**Okura**	**1.35**	**331**	↓↓P	**Pb**	**14 50 10.6**	**-0.1**
JOU				↓↓*eS*	Sg	14 50 28.3	-0.4
JFY	**Yanaizu**	**1.45**	**279**	↓↓P	**Pn**	**14 50 11.5**	**-0.1**
JFY				↓↓S	Sn	14 50 29.7	-0.9
JSD	**Sado**	**2.71**	**289**	P	**Pn**	**14 50 29.2**	**+0.3**
MJAR	**Matsushiro Arr**	**2.72**	**257**	Pn	**Pn**	**14 50 28.5**	**-0.5**
MJAR	1.7nm,0.3s,baz=84,slow=26,SNR=62			Sn	**Sb**	**14 51 07.5**	**+0.1**
	1.8nm,0.3s,baz=76,slow=39,SNR=2.1 20nm,0.5s						
MAJO	**Matsushiro**	**2.72**	**257**	P	**Pn**	**14 50 30.5**	**+1.5**
JGF	**Kuroka**	**3.70**	**246**	P	**Pn**	**14 50 44.4**	**+1.8**
	56nm,0.8s						
INU	**Inuyama**	**4.06**	**244**	P	**Pn**	**14 50 49.2**	**+1.7**
	48nm,0.8s						
JHJ	**Hachijo jima 2**	**4.30**	**200**	Pn	**Pn**	**14 50 52.0**	**+1.2**
JHJ	243nm,0.5s,baz=78,slow=22,SNR=0.9			Sn	**Sn**	**14 51 42.2**	**+1.3**
	36nm,0.3s,baz=72,slow=20,SNR=1.3						
JHS	**Saijyo**	**7.13**	**255**	P	**Pn**	**14 51 31.9**	**+2.2**
	53nm,1.1s						
USRK	**Ussuriysk Ar.**	**10.05**	**317**	Pn	**Pn**	**14 52 10.3**	**+0.7**
	0.1nm,0.3s,baz=138,slow=19,SNR=1.8 2.5nm,0.6s						
KSRS	**Korea Array**	**10.82**	**275**	Pn	**Pn**	**14 52 23.2**	**+3.0**
	0.1nm,0.3s,baz=92,slow=14,SNR=3.3 1.4nm,0.8s						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**14 55 34.2**	**+0.1**
	1.4nm,0.6s,baz=104,slow=9.1,SNR=9.7 1.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	15 25 07.1	
	baz=314,slow=76,SNR=170						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	15 25 08.4	
	baz=314,slow=76,SNR=159						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	15 25 09.2	
	baz=314,slow=76,SNR=154						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	15 26 00.3	
	baz=316,slow=76,SNR=107						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	15 26 04.8	
	baz=316,slow=76,SNR=91						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	15 26 01.4	
	baz=316,slow=76,SNR=54						
CMAR	**Chiang Mai Arr**	**41.60**	**255**	P	**P**	**14 57 33.3**	**-0.3**
	0.6nm,0.3s,baz=52,slow=10,SNR=4.8 0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**14 57 36.0**	**+0.8**
	0.8nm,0.4s,baz=87,slow=6.1,SNR=6.7 0.8nm,0.4s						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**14 57 53.6**	**+0.1**
	1.6nm,0.8s,baz=89,slow=9.7,SNR=13 1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**14 58 08.3**	**+0.1**
	3.1nm,0.8s,baz=83,slow=8.2,SNR=24 3.1nm,0.8s						
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**14 58 32.4**	**-1.8**
	0.2nm,0.8s,baz=268,slow=5.1,SNR=3.7 0.2nm,0.8s						
BVAR	**Borovoye Array**	**50.52**	**312**	P	**P**	**14 58 44.0**	**+0.6**
	0.5nm,0.5s,baz=82,slow=10,SNR=2.4 0.5nm,0.5s						
WRA	**Warramunga Arr**	**57.23**	**188**	P	**P**	**14 59 31.6**	**-1.2**
	0.4nm,0.6s,baz=5.4,slow=7.6,SNR=8.7 0.4nm,0.6s						
ASAR	**Alice Springs**	**60.95**	**188**	P	**P**	**14 59 59.4**	**+0.8**
	0.4nm,0.8s,baz=30,slow=5.5,SNR=4.3 0.4nm,0.8s						
FINES	**FINESS Array B**	**68.71**	**332**	P	**P**	**15 00 47.9**	**-0.7**
	2.4nm,0.7s,baz=150,slow=4.2,SNR=4.2 2.4nm,0.7s						
NOA	**NORSAR Array B**	**74.07**	**337**	P	**P**	**15 01 21.7**	**+0.6**
	1.2nm,0.8s,baz=39,slow=6.0,SNR=3.6 1.2nm,0.8s						
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**15 01 22.0**	**-0.1**
	0.9nm,0.5s,baz=47,slow=5.8,SNR=5.7 0.9nm,0.5s						
H03N2	**Juan Fernandez**	**146.97**	**96**	T	T	17 53 46.9	
	baz=291,slow=76,SNR=8.1						
H03N3	**Juan Fernandez**	**146.98**	**96**	T	T	17 53 46.4	
	baz=291,slow=76,SNR=7.2						
H03N1	**Juan Fernandez**	**146.99**	**96**	T	T	17 53 53.1	
	baz=291,slow=76,SNR=7.3						

MAN 24 14:54:31.4,9.°80N×125.°91E,h24km,mb3.8,ML2.6,MS2.1, 5C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.21**	**95**	↑*eP*	Pn	14 54 38.7	-0.3
GLSP				*i* S	Sb	14 54 45.5	+4.6
BUTP	**Butuan**	**0.88**	**199**	↑*eP*	Pb	14 54 46.7	-1.2
BUTP				*i* S	Sn	14 55 01.5	+1.3
GHBP	**Garcia Hernand**	**1.58**	**264**	↑*eP*	Pn	14 54 58.3	+0.5
GHBP				*eS*	Sn	14 55 18.2	+0.6
TABP	**Talibon, Bohol**	**1.58**	**281**	↑*eP*	Pn	14 54 58.2	+0.3
TABP				*eS*	Sn	14 55 18.5	+0.8
LSIP	**Lazi, Siquijor**	**2.35**	**254**	↑*eP*	Pn	14 55 08.3	-0.1
LSIP				*eS*	Sn	14 55 36.9	+0.4

---

*IDC **24** 15:06:50.0±3.1,16.°49S×179.°31W,h465km±32km, mb3.4/10,mbtmp4.1/10,Error ellipse: s-maj=29.3km s-min=15.8km az=141.0*
*NEIC **24** 15:06:52.6±2.0,16.°6S±0.°1×179.°3W±0.°1,h499km±8km, mb4.2/78,Error ellipse: s-maj=16.9km s-min=12.4km az=222.0*

ISC 24 15:06:52.4±0.4,16.°61S±0.°09×179.°2W±0.°1,h500km,n104, σ1°05/106,mb4.1/51,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.83**	**246**	P	**P**	**15 08 04.0**	**+1.7**
	160nm,0.8s,baz=90,slow=6.1,SNR=183						
MSVF	**Nonsavu**	**2.83**	**246**	P	**P**	**15 08 03.8**	**+1.4**
AFI	**Afiamalu**	**7.67**	**71**	P	**P**	**15 08 42.8**	**-2.8**
NIUE	**Niue**	**9.19**	**107**	P	**P**	**15 09 00.2**	**-1.0**
OUZ	**Omahuta**	**19.61**	**198**	P	**P**	**15 10 47.9**	**+0.5**
OXZ	**Oxford**	**27.65**	**194**	P	**P**	**15 11 58.1**	**-0.9**
MQZ	**McQueen's Vall**	**27.88**	**193**	P	**P**	**15 11 58.9**	**-2.1**
FOZ	**Fox Glacier**	**28.41**	**197**	P	**P**	**15 12 03.3**	**-2.3**
DCZ	**Deep Cove**	**30.95**	**199**	P	**P**	**15 12 24.9**	**-2.8**
WHZ	**Wether Hill Ro**	**31.10**	**197**	P	**P**	**15 12 27.7**	**-1.3**
WB0	**Warramunga Arr**	**44.08**	**259**	P	**P**	**15 14 15.0**	**-0.8**
WB2	**Warramunga Arr**	**44.10**	**258**	P	**P**	**15 14 13.7**	**-2.3**
WRA	**Warramunga Arr**	**44.12**	**258**	P	**P**	**15 14 15.8**	**-0.3**
	0.1nm,0.3s,baz=92,slow=7.6,SNR=5.4						
AS31	**Alice Springs**	**44.41**	**253**	P	**P**	**15 14 17.8**	**-0.6**
ASAR	**Alice Springs**	**44.41**	**253**	P	**P**	**15 14 18.3**	**0.0**
	0.8nm,0.5s,baz=86,slow=8.3,SNR=30						
ASAR				PcP	**PcP**	**15 15 52.1**	**+0.6**
	0.7nm,1.1s,baz=91,slow=3.7,SNR=2.3						
ASAR				ScP	**ScP**	**15 18 59.6**	**+3.8**
	0.3nm,0.6s,baz=88,slow=4.6,SNR=6.8 0.8nm,0.5s						
ASAR	**Alice Springs**	**44.41**	**253**	P	**P**	**15 14 17.5**	**-0.8**
MTN	**Manton Dam**	**48.06**	**268**	P	**P**	**15 14 46.3**	**+0.1**
MTN				IAmb	IAmb	15 15 21.7	
	comp=Z,11nm,1.4s						
KNRA	**Kununurra**	**49.85**	**263**	P	**P**	**15 14 59.1**	**-0.4**
KNRA				IAmb	IAmb	15 15 23.7	
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**61.67**	**185**	P	**P**	**15 16 21.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=353,slow=8.1,SNR=3.7 comp=Z,0.4nm,0.5s						
MAJO	**Matsushiro**	**66.41**	**324**	P	**P**	**15 16 50.2**	**-1.3**
MAJO				IAmb	IAmb	15 16 52.2	
	comp=Z,15nm,1.4s						
MJB9	**Matsu-Tunnel**	**66.41**	**324**	P	**P**	**15 16 51.0**	**-0.5**
MJB9				IAmb	IAmb	15 17 13.3	
	comp=Z,16nm,1.4s						
SBUM	**Sibu**	**70.24**	**279**	P	**P**	**15 17 14.5**	**-0.8**
UNV	**Unalaska Valle**	**71.02**	**8**	P	**P**	**15 17 18.7**	**-0.2**
AKUT	**Akutan**	**71.40**	**8**	P	**P**	**15 17 20.8**	**-0.4**
PEA0B	**Petropavlovsk-**	**72.24**	**346**	P	**P**	**15 17 26.0**	**-0.1**
PETK	**Petropavlovsk-**	**72.24**	**346**	P	**P**	**15 17 25.5**	**-0.7**
	comp=Z,7.0nm,1.0s,baz=141,slow=10,SNR=2.4 comp=Z,7.0nm,1.0s						
QSPA	**South Pole Qui**	**73.44**	**180**	P	**P**	**15 17 33.2**	**+0.1**
QSPA				IAmb	IAmb	15 17 34.2	
	comp=Z,4.9nm,0.9s						
CHIR	**Chirikof Islan**	**74.85**	**14**	P	**P**	**15 17 42.2**	**+1.2**
KMRM	**Mail Ridge**	**76.53**	**40**	P	**P**	**15 17 52.6**	**+1.8**
OHAK	**Old Harbor**	**76.67**	**14**	P	**P**	**15 17 51.7**	**+0.7**
YBH	**Yreka Blue Hor**	**78.02**	**40**	P	**P**	**15 18 00.3**	**+1.4**
YBH				IAmb	IAmb	15 18 12.3	
	comp=Z,14nm,1.5s						
P18K	**Big Mountain,**	**78.22**	**12**	P	**P**	**15 17 59.7**	**+0.2**
P18K				IAmb	IAmb	15 18 37.8	
	comp=Z,10nm,0.9s						
WAKR	**Walker**	**78.32**	**44**	P	**P**	**15 18 02.2**	**+1.4**
WAKR				IAmb	IAmb	15 18 29.6	
	comp=Z,7.6nm,1.4s						
MPK	**Martis Peak**	**78.36**	**43**	P	**P**	**15 18 02.0**	**+0.9**
MPK				IAmb	IAmb	15 18 02.8	
	comp=Z,5.3nm,0.6s						
HUMO	**Hull Mountain**	**78.38**	**39**	P	**P**	**15 18 02.5**	**+1.7**
HUMO				IAmb	IAmb	15 18 16.5	
	comp=Z,23nm,1.4s						
BEKR	**Beckworth**	**78.45**	**42**	P	**P**	**15 18 02.7**	**+1.2**
PNTR	**Pine Nut**	**78.53**	**43**	P	**P**	**15 18 02.2**	**+0.4**
PNTR				IAmb	IAmb	15 18 04.5	
	comp=Z,5.0nm,0.7s						
O18K	**Koktuh Hills**	**78.65**	**12**	P	**P**	**15 18 02.5**	**+0.8**
YERR	**Yerington**	**78.71**	**43**	P	**P**	**15 18 04.0**	**+1.2**
YERR				IAmb	IAmb	15 18 04.5	
	comp=Z,3.8nm,0.6s						
DSP	**Deep Springs**	**78.72**	**45**	P	**P**	**15 18 04.1**	**+1.5**
LCH	**Last Change Ra**	**78.87**	**46**	P	**P**	**15 18 04.7**	**+1.1**
LCH				IAmb	IAmb	15 18 05.5	
	comp=Z,8.7nm,1.5s						
RYN	**Ryan**	**79.00**	**44**	P	**P**	**15 18 04.9**	**+0.5**
NVAR	**Mina Array Bea**	**79.04**	**44**	P	**P**	**15 18 05.6**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=226,slow=7.9,SNR=13 comp=Z,1.4nm,0.6s						
NVAR	**Mina Array Bea**	**79.04**	**44**	P	**P**	**15 18 05.9**	**+1.3**
O19K	**Port Alsworth**	**79.15**	**12**	P	**P**	**15 18 05.1**	**+0.7**
O19K				IAmb	IAmb	15 18 05.6	
	comp=Z,13nm,0.8s						
CNPM	**China Poot**	**79.22**	**14**	P	**P**	**15 18 05.3**	**+0.5**
CNPM				IAmb	IAmb	15 18 49.9	
	comp=Z,15nm,1.1s						
N18K	**Kilae Creek**	**79.28**	**11**	P	**P**	**15 18 05.1**	**0.0**
N18K				IAmb	IAmb	15 18 47.9	
	comp=Z,22nm,1.5s						
WCT	**Wildcat Mounta**	**79.35**	**46**	P	**P**	**15 18 07.5**	**+1.3**
PLTX	**Planet X, Gerl**	**79.48**	**42**	P	**P**	**15 18 07.9**	**+1.1**
PLTX				IAmb	IAmb	15 18 32.7	
	comp=Z,35nm,0.4s						
KVN	**Kaiserville**	**79.50**	**44**	P	**P**	**15 18 08.0**	**+0.9**
**BR

N25K					IAmb	IAmb	15 18 38.8	
	comp=Z,15nm,1.5s							
GLB	**Gilahina Butte**	**82.74**	**16**	P	**P**		**15 18 23.6**	**+0.6**
GLB					IAmb	IAmb	15 18 24.2	
	comp=Z,3.1nm,0.7s							
J20K	**Nowinta River**	**82.82**	**11**	P	**P**		**15 18 24.1**	**+0.8**
J20K					IAmb	IAmb	15 18 25.0	
	comp=Z,3.9nm,0.8s							
KTH	**Kantishna Hill**	**82.88**	**12**	P	**P**		**15 18 23.2**	**-0.6**
KTH					IAmb	IAmb	15 18 25.6	
	comp=Z,4.9nm,1.0s							
TRF	**Thorofare Moun**	**82.92**	**13**	P	**P**		**15 18 24.1**	**0.0**
TRF					IAmb	IAmb	15 18 24.8	
	comp=Z,9.7nm,1.0s							
BARN	**Barnard Glacie**	**83.03**	**17**	P	**P**		**15 18 25.3**	**+0.7**
BARN					IAmb	IAmb	15 18 40.4	
	comp=Z,13nm,1.4s							
MCK	**McKinley**	**83.46**	**13**	P	**P**		**15 18 26.4**	**-0.2**
BELA	**Belgrano 2**	**83.54**	**173**	P	**P**		**15 18 26.7**	**-0.2**
BELA					IAmb	IAmb	15 18 27.2	
	comp=Z,5.5nm,0.7s							
M26K	**Nabesna, AK**	**83.75**	**16**	P	**P**		**15 18 28.9**	**+0.8**
M26K					IAmb	IAmb	15 18 29.8	
	comp=Z,4.5nm,0.8s							
HLID	**Hailey**	**84.17**	**41**	P	**P**		**15 18 31.6**	**+0.9**
IL31		**84.81**	**13**	P	**P**		**15 18 33.1**	**0.0**
IL31					IAmb	IAmb	15 18 34.5	
	comp=Z,3.3nm,0.9s							
ILAR	**Eielson Array**	**84.81**	**13**	P	**P**		**15 18 32.9**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=223,slow=5.2,SNR=29							
	comp=Z,1.3nm,0.6s							
MAW	**Mawson**	**84.81**	**200**	P	**P**		**15 18 34.3**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=112,slow=11,SNR=2.0							
	comp=Z,1.4nm,0.6s							
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**		**15 18 41.5**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=213,slow=6.3,SNR=10							
	comp=Z,0.8nm,0.8s							
PD31	**Pinedale Array**	**86.95**	**44**	P	**P**		**15 18 44.5**	**+0.3**
PDAR	**Pinedale Array**	**86.95**	**44**	P	**P**		**15 18 45.1**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=217,slow=3.4,SNR=21							
	comp=Z,1.4nm,0.5s							
TROLL	**Troll, Antarti**	**91.59**	**181**	P	**P**		**15 19 05.1**	**-0.1**
SNAA	**Sanae**	**91.90**	**179**	P	**P**		**15 19 06.2**	**-0.4**
SONM	**Songino Array**	**92.06**	**320**	P	**P**		**15 19 07.1**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=75,slow=4.0,SNR=1.6							
	comp=Z,0.2nm,0.4s							
VNA3	**Neumayer Olymp**	**92.07**	**177**	P	**P**		**15 19 07.3**	**0.0**
VNA2	**Neumayer--Watz**	**92.50**	**177**	P	**P**		**15 19 09.1**	**-0.2**
	baz=183,slow=3.9							
YKA	**Yellowknife Ar**	**93.49**	**25**	P	**P**		**15 19 12.8**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=194,slow=15,SNR=4.0							
	comp=Z,1.1nm,0.8s							
ARCES	**ARCESS Array B**	**124.91**	**350**	PKP		**PKPdf**	**15 24 54.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=30,slow=1.1,SNR=11							
FINES	**FINESS Array B**	**131.73**	**344**	PKP		**PKPdf**	**15 25 08.0**	**+0.2**
	comp=Z,5.2nm,1.0s,baz=358,slow=16,SNR=4.0							
NOA	**NORSAR Array B**	**135.00**	**353**	PKP		**PKiKP**	**15 25 15.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=44,slow=1.9,SNR=1.5							
BRTR	**Keskin Array B**	**143.32**	**316**	PKP		**PKPdf**	**15 25 29.3**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=64,slow=2.9,SNR=8.2							
CLL	**Collm**	**144.03**	**347**	⇓*i*PKPbc		**PKPbc**	**15 25 30.5**	**0.0**
	comp=Z,10.0nm,0.6s							
GERES	**GERESS Array B**	**146.16**	**345**	PKPbc		**PKPbc**	**15 25 37.2**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=29,slow=3.0,SNR=7.4							

WEL 24 15:12:11.6±0.3, 43°S±2°×17°3E±°, h5km, M3.1/30, ML3.2/24, MLv3.1/30, Error ellipse: s-maj=0.0km s-min=0.0km az=117.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.27**	**57**	P	Pg	15 12 16.8	0.0
GVZ	**Greta Valley S**	**0.43**	**200**	P	Pb	15 12 21.4	-0.3
GVZ				S	Sb	15 12 28.7	+0.3
LTZ	**Lake Taylor**	**0.74**	**253**	P	Pg	15 12 26.1	+0.3
AMCZ	**Amberley**	**0.75**	**215**	P	Pb	15 12 27.3	+0.3
AMCZ	**Amberley**	**0.75**	**215**	P	Pb	15 12 27.3	+0.2
THZ	**Tophouse**	**0.84**	**343**	P	Pg	15 12 27.5	-0.1
THZ				S	Sg	15 12 38.2	-0.2
BSWZ	**Blackbirch Sta**	**0.97**	**30**	P	Pb	15 12 31.0	0.0
OXZ	**Oxford**	**1.16**	**229**	P	Pg	15 12 33.3	-0.6
OKCZ	**Okains Bay**	**1.17**	**186**	P	Pg	15 12 33.0	-0.9
OKCZ	**Okains Bay**	**1.17**	**186**	P	Pg	15 12 33.0	-1.0
MRNZ	**Matariki Terra**	**1.22**	**343**	P	Pg	15 12 34.7	-0.2
MQZ	**McQueen's Vall**	**1.22**	**200**	P	Pg	15 12 33.0	-2.0
MQZ	**McQueen's Vall**	**1.22**	**200**	P	Pg	15 12 33.0	-2.0
TUWZ	**Tuamarina**	**1.25**	**25**	P	Pg	15 12 35.5	-0.1
INZ	**Inchbonnie**	**1.33**	**262**	P	Pn	15 12 36.1	-0.7
AKCZ	**Akaroa Harbour**	**1.33**	**190**	P	Pn	15 12 35.2	-1.6
DSZ	**Denniston Nort**	**1.34**	**307**	P	Pn	15 12 36.8	-0.1
DSZ				S	Sg	15 12 54.6	0.0
NNZ	**Nelson**	**1.35**	**5**	P	Pn	15 12 37.0	-0.1
RACZ	**Rakaia**	**1.41**	**214**	P	Pn	15 12 36.4	-1.5
TKNZ	**Takaka Hill**	**1.54**	**352**	P	Pn	15 12 39.9	+0.2
MHCZ	**Mount Hutt**	**1.56**	**231**	P	Pn	15 12 38.7	-1.3
TCW	**Tory Channel**	**1.56**	**30**	P	Pn	15 12 40.1	+0.1
WACZ	**Wakanui South**	**1.71**	**216**	P	Pn	15 12 40.6	-1.4
WEL	**Wellington**	**1.72**	**42**	P	Pn	15 12 41.5	-0.5
PLWZ	**Palliser**	**1.80**	**57**	P	Pn	15 12 42.5	-0.9
QRZ	**Quartz Range**	**1.81**	**343**	P	Pn	15 12 44.2	+0.8
DUWZ	**D'Urville Isla**	**1.83**	**17**	P	Pb	15 12 44.8	-0.8
MSWZ	**Moikau Station**	**1.89**	**53**	P	Pn	15 12 43.5	-1.0
WVZ	**Waitaha Valley**	**1.91**	**254**	P	Pn	15 12 44.5	-0.2
RPZ	**Rata Peaks**	**1.97**	**233**	P	Pn	15 12 44.4	-1.1
CAW	**Cannon Point**	**2.00**	**44**	P	Pn	15 12 45.4	-0.6
PAWZ	**Paruwai Farm**	**2.02**	**55**	P	Pn	15 12 44.9	-1.4
ARCZ	**Arundel**	**2.04**	**227**	P	Pn	15 12 45.5	-1.2
KIW	**Kapiti Island**	**2.11**	**37**	P	Pn	15 12 47.5	-0.1
MTW	**Mount Morrison**	**2.20**	**51**	P	Pn	15 12 45.3	-3.5
GCSZ	**Gaunt Creek Bo**	**2.26**	**250**	P	Pn	15 12 49.9	+0.3
OGWZ	**Otaki Gorge**	**2.27**	**40**	P	Pn	15 12 41.8	-7.9
HOWZ	**Holdsworth Sta**	**2.38**	**47**	P	Pn	15 12 49.9	-1.5
TMZ	**Timaru**	**2.44**	**221**	P	Pn	15 12 50.6	-1.4
MRZ	**Mangatainoka R**	**2.59**	**44**	P	Pn	15 12 49.3	-4.8
FOZ	**Fox Glacier**	**2.69**	**248**	P	Pn	15 12 55.8	+0.4
LBZ	**Lake Benmore**	**2.87**	**230**	P	Pn	15 12 57.9	-0.1
WAZ	**Wanganui**	**3.10**	**26**	P	Pn	15 13 03.2	+2.0
ODZ	**Otahua Downs**	**3.11**	**216**	P	Pn	15 12 59.6	-1.6
NMEZ	**Namu Road**	**3.18**	**9**	P	Pb	15 13 05.9	-2.7
LREZ	**Lake Rotokare**	**3.22**	**16**	P	Pb	15 13 07.3	-1.9
TSZ	**Takapari Road**	**3.24**	**40**	P	Pn	15 13 01.6	-1.5
KHEZ	**Kahui Hut**	**3.32**	**11**	P	Pb	15 13 07.9	-3.1
NBEZ	**Newall Road No**	**3.33**	**9**	P	Pn	15 13 06.5	+2.2
NEZ	**North Egmont**	**3.35**	**12**	P	Pn	15 13 08.2	-3.4
PKE	**Pukeiti**	**3.41**	**10**	P	Pn	15 13 08.7	+3.2
DREZ	**Durham Road**	**3.45**	**13**	P	Pn	15 13 08.6	+2.6
VRZ	**Vera Road**	**3.62**	**19**	P	Pn	15 13 09.9	+1.6
WNVZ	**Wahianoa**	**3.70**	**30**	P	Pn	15 13 10.0	+0.5
FWVZ	**Far West T-bar**	**3.74**	**29**	P	Pb	15 13 18.4	+0.1
NGZ	**Ngauruhoe**	**3.83**	**29**	P	Pb	15 13 21.3	+1.5
SNVZ	**South Ngauruho**	**3.84**	**29**	P	Pb	15 13 21.4	+1.6
OTVZ	**Oturere**	**3.87**	**29**	P	Pn	15 13 13.1	+1.3
NNVZ	**North Ngauruho**	**3.88**	**29**	P	Pn	15 13 12.6	+0.7
ETVZ	**East Tongariro**	**3.91**	**30**	P	Pb	15 13 22.5	+1.5
KRVZ	**Karewarewa**	**3.92**	**29**	P	Pb	15 13 21.3	+0.2
TMVZ	**Te Maari**	**3.92**	**29**	P	Pn	15 13 13.3	+0.8
NTVZ	**North Tongarir**	**3.93**	**29**	P	Pn	15 13 14.0	+1.4
KATZ	**Kakaramea**	**4.04**	**28**	P	Pb	15 13 23.5	+0.2
RATZ	**Rangitukua**	**4.17**	**28**	P	Pb	15 13 26.0	+0.6
HIZ	**Hauiti**	**4.23**	**18**	P	Pn	15 13 17.6	+0.9
TLZ	**Tolley Road**	**4.58**	**23**	P	Pn	15 13 22.4	+0.8
MBAZ	**Motutapu North**	**5.93**	**13**	P	Pn	15 13 41.3	+1.3

WEL 24 15:18:58.0, 33°.25S×177°.83W, h10km, M4.2/8, mB4.7/6, ML4.5/8, MLv4.3/8, Mw(mB)4.0/6
NEIC 24 15:18:58.4±2.1, 33°.25S±0°.09×177°.8W±0°.2, h10km±2km, mb4.4/8, Error ellipse: s-maj=25.9km s-min=3.2km az=124.0
IDC 24 15:19:02.3±1.7, 31°.63S×178°.71W, h0km, mb4.1/3, mbtmp4.1/3, MS3.2/2, Error ellipse: s-maj=52.1km s-min=36.8km az=40.0
ISC 24 15:18:59.6±1.2, 32°.95S±0°.09×178°.0W±0°.1, h10km, n34, σ1§69/31, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.51**	**212**	Pn	**Pn**	**15 20 19.3**	**-2.4**
WMGZ	**Waiomatatini S**	**5.67**	**210**	P	**Pn**	**15 20 25.5**	**+1.5**
WMGZ				S	**Sn**	**15 21 29.5**	**+0.3**
PKGZ	**Pakihiroa**	**5.88**	**212**	P	**Pn**	**15 20 27.4**	**+0.6**
PKGZ				S	**Sn**	**15 21 33.8**	**-0.5**
HAZ	**Te Kaha**	**5.91**	**215**	P	**Pn**	**15 20 28.7**	**+1.5**
HAZ				S	**Sn**	**15 21 36.8**	**+1.9**
PUZ	**Puketiti**	**5.95**	**210**	P	**Pn**	**15 20 29.5**	**+1.7**
RUGZ	**Raukumara Rang**	**6.12**	**214**	P	**Pn**	**15 20 32.3**	**+2.0**
TWGZ	**Tauwhareparae**	**6.16**	**211**	P	**Pn**	**15 20 33.8**	**+3.1**
CNGZ	**Carnagh Station**	**6.33**	**208**	P	**Pn**	**15 20 33.8**	**+0.9**
TKGZ	**Te Karaka**	**6.44**	**211**	P	**Pn**	**15 20 36.4**	**+2.0**
OPRZ	**Ohinepanea**	**6.61**	**221**	P	**Pn**	**15 20 40.1**	**+3.3**
URZ	**Urewera**	**6.63**	**216**	P	**Pn**	**15 20 36.8**	**-0.3**
RTZ	**Ruatahuna**	**6.97**	**214**		**Pn**	**15 20 41.2**	**-0.7**
OUZ	**Omahuta**	**7.34**	**250**	Pn	**Pn**	**15 20 46.5**	**-0.3**
BKZ	**Black Stump Fm**	**7.64**	**214**		**Pn**	**15 20 49.5**	**-1.5**
BFZ	**Birch Farm**	**8.99**	**209**	Pn	**Pn**	**15 21 05.2**	**-4.3**
MRZ	**Mangatainoka R**	**9.26**	**212**		**Pn**	15 21 06.8	-6.4
MSWZ	**Moikau Station**	**10.02**	**211**	Pn	Pn	15 21 17.0	-6.6
MRNZ	**Matariki Terra**	**11.20**	**219**	Pn	Pn	15 21 34.0	-5.7
NIUE	**Niue**	**15.59**	**30**	Pn	**Pn**	**15 22 40.3**	**+0.7**
DZM	**Mont Dzumac**	**17.53**	**304**	LR	LR	15 28 06.1	
	comp=Z,85nm,20.7s,baz=187,slow=33						
KOUNC	**Koumac, New Ca**	**20.04**	**304**	P	**Pn**	**15 23 35.5**	**+0.8**
STKA	**Stephens Creek**	**33.99**	**261**	LR	LR	15 38 06.7	
	comp=Z,49nm,19.6s,baz=35,slow=34						
CTAO	**Charters Tower**	**34.29**	**283**	P	**P**	**15 25 46.1**	**-0.2**
CTAO					IAmb	IAmb	15 26 11.8	
	comp=Z,7.2nm,1.4s							
AS31	**Alice Springs**	**43.04**	**270**	P	**P**	**15 26 58.6**	**-1.1**
ASAR	**Alice Springs**	**43.04**	**270**	P	**P**	**15 26 59.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=110,slow=7.7,SNR=48							
	comp=Z,1.3nm,0.6s							
ASAR	**Alice Springs**	**43.04**	**270**	P	**P**	**15 26 58.6**	**-1.2**
WB2	**Warramunga Arr**	**44.25**	**275**	P	**P**	**15 27 07.9**	**-1.6**
WB2					IAmb	IAmb	15 27 09.0	
	comp=Z,2.9nm,0.6s							
WRA	**Warramunga Arr**	**44.26**	**275**	P	**P**	**15 27 08.1**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=114,slow=7.4,SNR=24							
	comp=Z,1.8nm,0.5s							
WRA	**Warramunga Arr**	**44.26**	**275**	P	**P**	**15 27 08.4**	**-1.1**
WB0	**Warramunga Arr**	**44.29**	**275**	P	**P**	**15 27 09.0**	**-0.9**
WB0					IAmb	IAmb	15 27 10.0	
	comp=Z,4.0nm,0.8s							
KNRA	**Kununurra**	**50.95**	**276**	P	**P**	**15 28 00.8**	**-0.7**
KNRA					IAmb	IAmb	15 28 11.1	
	comp=Z,7.2nm,1.1s							
QSPA	**South Pole Qui**	**57.17**	**180**	P	P	15 29 00.0	+14
	comp=Z,1.6nm,1.0s,baz=39,slow=2.2,SNR=5.3							
	comp=Z,1.6nm,1.0s							
FINES	**FINESS Array B**	**147.53**	**339**	PKPbc	**PKPbc**		**15 38 43.2**	**-0.1**
	comp=Z,7.0nm,0.9s,baz=44,slow=4.2,SNR=12							
BRTR	**Keskin Array B**	**153.73**	**294**	PKPbc	**PKiKP**		**15 38 59.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=75,slow=2.3,SNR=2.4							

IDC 24 15:23:34.6±2.2, 17°.26S×178°.91W, h615km±20km, mb2.7/5, mbtmp3.7/6, Error ellipse: s-maj=122.1km s-min=21.3km az=154.0
ISC 24 15:23:33.9±1.9, 17°.1S±0°.7×178°.9W±0°.4, h600km, n6, σ1§44/6, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.02**	**258**	P	**P**	**15 24 54.8**	**+1.5**
	29nm,0.8s,baz=150,slow=3.5,SNR=31						
WRA	**Warramunga Arr**	**44.37**	**259**	P	**P**	**15 30 51.8**	**-0.9**
	0.5nm,0.5s,baz=95,slow=7.0,SNR=9.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**44.60**	**253**	P	**P**	**15 30 53.5**	**-1.0**
	2.3nm,0.8s,baz=86,slow=8.8,SNR=30						
	2.3nm,0.6s						
ILAR	**Eielson Array**	**85.22**	**13**	P	**P**	**15 35 08.1**	**+0.4**
	0.1nm,0.5s,baz=230,slow=4.7,SNR=1.3						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**85.93**	**58**	P	**P**	**15 35 12.6**	**+0.5**
	0.4nm,0.7s,baz=231,slow=6.3,SNR=6.2						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.08**	**44**	P	**P**	**15 35 16.1**	**-1.2**
	0.1nm,0.4s,baz=216,slow=4.5,SNR=2.1						
	0.1nm,0.4s						

UPA 24 15:24:34.4±0.7, 8°.50N×82°.98W, h3km±2km, MW3.4
UCR 24 15:24:35.1±2.2, 8°.51N×83°.12W, h8km±11km, MW3.9
ISC 24 15:24:34.9±1.1, 8°.48N±0°.06×83°.04W±0°.04, h23km±8km, n18, σ1§09/30, 2C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCOL	**Caracol de Cor**	**0.10**	**136**	⇑*i*P	**Pb**	**15 24 38.6**	**-0.7**
CCOL				*e*S	**Sb**	**15 24 42.8**	**+0.5**
EDSV	**San Vito**	**0.35**	**11**	⇓*i*P	**Pb**	**15 24 42.0**	**-0.6**
EDSV				*e*S	**Sb**	**15 24 48.8**	**+0.9**
BRU2	**Volcan**	**0.47**	**48**	⇓*i*P	**Pb**	**15 24 44.1**	**-0.5**
BRU2				*e*S	**Sb**	**15 24 51.4**	**+0.2**
BC3P	**Paso Ancho**	**0.54**	**52**	⇓*e*P	**Pb**	**15 24 45.1**	**-0.8**
BC3P				*e*S	**Sb**	**15 24 53.6**	**+0.2**
BCO2	**Palmira**	**0.56**	**65**	*e*P	**Pb**	**15 24 45.7**	**-0.5**
BCO2				*e*S	**Sb**	**15 24 54.3**	**+0.4**
PTAR3	**Potrerillos Ar**	**0.58**	**68**	*e*P	**Pb**	**15 24 46.1**	**-0.4**
PTAR3				*e*S	**Sb**	**15 24 54.3**	**-0.1**
DVD	**David**	**0.58**	**94**	*e*P	**Pb**	**15 24 45.6**	**-0.9**
DVD				*e*S	**Sb**	**15 24 54.3**	**-0.1**
EDPN	**Palmar Norte**	**0.63**	**320**	*e*P	**Pb**	**15 24 45.8**	**-1.5**
EDPN				*e*S	**Sb**	**15 24 55.3**	**-0.5**
PSOM3	**Paja de Sombre**	**0.74**	**74**	*e*P	**Pb**	**15 24 48.1**	**-1.1**
PSOM3				*e*S	**Sb**	**15 24 58.9**	**0.0**
CNI2	**El Empalme, Bo**	**1.10**	**31**	*e*S	**Sn**	**15 25 09.0**	**-0.3**
PEZE	**Perez Zeledon,**	**1.10**	**325**	*e*P	**Pn**	**15 24 54.4**	**-0.5**
PEZE				*e*S	**Sn**	**15 25 09.2**	**-0.3**
CDM	**Cerro de Muert**	**1.29**	**326**	*e*P	**Pn**	**15 24 56.6**	**-1.3**
RIMA	**Rio Macho**	**1.52**	**328**	*e*P	**Pn**	**15 24 59.6**	**-1.2**
LCR2	**La Lucha 2**	**1.58**	**323**	*e*P	**Pn**	**15 25 02.5**	**+0.8**
LCR2				*e*S	**Sn**	**15 25 21.7**	**+0.3**
JACO	**JACO, Garabito**	**1.99**	**306**	*e*P	**Pn**	**15 25 06.6**	**-0.5**
CUI	**Cuipilapa**	**3.01**	**316**	⇑*i*P	**Pn**	**15 25 24.4**	**+3.2**
CUI				*e*S	**Sn**	**15 25 58.2**	**+1.5**
SAJU	**San Juanillo,**	**3.07**	**301**	*e*P	**Pn**	**15 25 22.1**	**0.0**
LAPC	**Finca la Perla**	**3.28**	**314**	*e*P	**Pn**	**15 25 27.3**	**+2.4**

MAN 24 15:29:46.5, 4°.97N×127°.70E, h68km, mb4.7, ML3.6, MS3.5
IDC 24 15:29:49.4±3.9, 4°.89N×127°.74E, h103km±37km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=65.4km s-min=18.5km az=70.0
NEIC 24 15:29:50.6±1.8, 4°.8N±0°.1×127°.4E±0°.2, h106km±12km, mb4.1/11, Error ellipse: s-maj=25.9km s-min=14.4km az=60.0
ISC 24 15:29:49.4±0.6, 4°.80N±0°.07×127°.46E±0°.09, h108km, n36, σ1§92/46, mb4.1/11, 4C-8D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.17**	**307**	⇓*e*P	**Pn**	**15 30 22.9**	**-1.7**
DDMP				*i* S	**Sn**	**15 30 49.9**	**-1.6**
MATI	**Mati**	**2.45**	**331**	⇓*e*P	**Pn**	**15 30 29.3**	**+1.1**
MATI				*i* S	**Sn**	**15 30 51.4**	**-6.4**
GSPH	**General Santos**	**2.81**	**297**	⇑*e*P	**Pn**	**15 30 30.2**	**-2.8**
GSPH				*i* S	**Sn**	**15 31 03.2**	**-3.3**
KCP	**Kidapawan**	**3.23**	**313**	⇓*i*P	**Pn**	**15 30 38.0**	**-0.4**
KCP				*i* S	**Sn**	**15 31 14.9**	**-1.3**
SKMP	**Bagumbayan, Su**	**3.37**	**301**	⇑*e*P	**Pn**	**15 30 40.2**	**-0.1**
SKMP				*e*S	**Sn**	**15 31 20.4**	**+0.7**
BIPH	**Bislig**	**3.54**	**342**	⇑*e*P	**Pn**	**15 30 39.5**	**-3.1**
BIPH				*e*S	Sn	15 31 15.7	-8.0
BUKP	**Musuan**	**3.88**	**322**	⇑*e*P	**Pn**	**15 30 47.9**	**+0.7**
BUKP				*e*S	**Sn**	**15 31 37.7**	**+5.7**
BUKP	**Musuan**	**3.88**	**322**	⇓*e*P	**Pn**	**15 30 48.5**	**+1.3**
BUKP				*e*S	**Sn**	**15 31 32.3**	**+0.3**
TNTI	**Ternate**	**4.00**	**181**		**Pn**	**15 30 49.2**	**+0.5**
CTBH	**Cotabato--PC H**	**4.00**	**307**	⇓*e*P	**Pn**	**15 30 47.9**	**-0.9**
CTBH				*i* S	**Sn**	**15 31 37.2**	**+2.4**
BUTP	**Butuan**	**4.53**	**336**	⇓*e*P	**Pn**	**15 30 58.1**	**+2.2**
GLSP	**General Luna,**	**5.13**	**345**	⇓*e*P	**Pn**	**15 31 01.7**	**-2.3**
GHBP	**Garcia Hernand**	**5.72**	**327**	⇓*e*P	**Pn**	**15 31 12.5**	**+0.5**
GHBP				*e*S	Sn	15 32 35.1	+19
SIJI	**Sorong**	**6.79**	**146**	P	**Pn**	**15 31 26.8**	**+0.3**
	4.3nm,0.3s,baz=283,slow=12,SNR=26						
SIJI				S	**Sn**	**15 32 39.4**	**-3.0**
	2.8nm,0.2s,baz=343,slow=19,SNR=1.9						
LUWI	**Luwuk**	**7.46**	**219**	Pn	**Pn**	**15 31 34.6**	**-0.9**
TOLI2	**Tolitoli**	**7.61**	**241**	Pn	**Pn**	**15 31 36.6**	**-1.0**
KNRA	**Kununurra**	**20.38**	**176**	P	**P**	**15 34 18.6**	**+0.9**
KNRA					IAmb	IAmb	15 34 22.8	
	comp=Z,17nm,1.4s							

WB0	**Warramunga Arr**	**25.34**	**165**	P	**P**		**15 35 07.3**	**+0.8**
WB0					IAmb	IAmb	15 35 10.4	
	comp=Z,5.2nm,0.5s							
WRA	**Warramunga Arr**	**25.50**	**165**	P	**P**		**15 35 08.4**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=340,slow=11,SNR=21							
	comp=Z,1.1nm,0.5s							
WRA	**Warramunga Arr**	**25.50**	**165**	P	**P**		**15 35 08.7**	**+0.8**
WB2	**Warramunga Arr**	**25.50**	**165**	P	**P**		**15 35 08.9**	**+1.0**
WB2					IAmb	IAmb	15 35 41.8	
	comp=Z,12nm,1.5s							
AS31	**Alice Springs**	**28.98**	**168**	P	**P**		**15 35 38.5**	**-0.5**
ASAR	**Alice Springs**	**28.98**	**168**	P	**P**		**15 35 39.4**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=349,slow=7.1,SNR=12							
ASAR				PcP	**PcP**		**15 38 45.7**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=353,slow=2.4,SNR=6.0							
	comp=Z,0.2nm,0.4s							
ASAR	**Alice Springs**	**28.98**	**168**	P	**P**		**15 35 38.1**	**-0.9**
BBOO	**Buckleboo**	**38.28**	**168**	P	**P**		**15 37 00.5**	**+1.1**
STKA	**Stephens Creek**	**38.87**	**161**	P	**P**		**15 37 05.4**	**+1.0**
	comp=Z,3.5nm,0.4s,baz=344,slow=7.5,SNR=13							
	comp=Z,3.5nm,0.4s							
STKA	**Stephens Creek**	**38.87**	**161**	P	**P**		**15 37 05.8**	**+1.4**
STKA					IAmb	IAmb	15 37 06.6	
	comp=Z,1.0nm,0.8s							
MK31	**Makanchi Array**	**57.11**	**325**	P	**P**		**15 39 26.1**	**+1.4**
MK31					IAmb	IAmb	15 39 26.6	
	comp=Z,1.9nm,1.2s							
MKAR	**Makanchi Array**	**57.11**	**325**	P	**P**		**15 39 25.8**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=118,slow=7.6,SNR=46							
	comp=Z,1.3nm,0.4s							
MKAR	**Makanchi Array**	**57.11**	**325**	P	**P**		**15 39 25.9**	**+1.2**
KURK	**Kurchatov**	**61.25**	**327**	P	**P**		**15 39 54.2**	**+1.1**
KK31	**Karatay Array**	**62.96**	**316**	P	**P**		**15 40 05.1**	**+0.4**
KK31					IAmb	IAmb	15 40 48.6	
	comp=Z,3.4nm,1.4s							
KKAR	**Karatay Array**	**62.96**	**316**	P	**P**		**15 40 04.8**	**0.0**
KKAR	**Karatay Array**	**62.96**	**316**	P	**P**		**15 40 04.6**	**-0.1**
KKAR					IAmb	IAmb	15 40 48.5	
	comp=Z,3.4nm,1.4s							
ILAR	**Eielson Array**	**83.83**	**25**	P	**P**		**15 42 06.6**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=204,slow=6.5,SNR=2.2							
	comp=Z,0.1nm,0.6s							
ARCES	**ARCESS Array B**	**89.71**	**340**	P	**P**		**15 42 34.5**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=63,slow=3.0,SNR=3.8							
	comp=Z,2.5nm,0.9s							

MAN 24 15:33:46.4, 8°.79N×126°.46E, h33km, mb3.8, ML2.5, MS2.0, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.61**

WVZ	**Waitaha Valley**	**2.24**	**253**	P		**Pn**	**15 50 24.4**	**+0.9**
RPZ	**Rata Peaks**	**2.29**	**235**	Pn		**Pn**	**15 50 23.8**	**-0.4**
	60nm,0.3s,baz=58,slow=2.5,SNR=50							
RPZ					Sn	**Sn**	**15 50 51.9**	**-0.2**
	145nm,0.3s,baz=29,slow=18,SNR=69							
	221nm,0.4s							
RPZ	**Rata Peaks**	**2.29**	**235**	Pn		**Pn**	**15 50 24.1**	**-0.2**
RPZ	**Rata Peaks**	**2.29**	**235**	P		**Pn**	**15 50 24.6**	**+0.3**
RPZ	**Rata Peaks**	**2.29**	**235**	P		**Pn**	**15 50 24.3**	**0.0**
MRZ	**Mangatainoka R**	**2.29**	**40**			**Pn**	**15 50 24.4**	**+0.1**
MRZ	**Mangatainoka R**	**2.29**	**40**	P		**Pn**	**15 50 24.5**	**+0.2**
ARCZ	**Arundel**	**2.35**	**229**	P		**Pn**	**15 50 25.1**	**-0.1**
TIWZ	**Tintock**	**2.36**	**46**	P		**Pn**	**15 50 25.3**	**+0.1**
CPWZ	**Castlepoint**	**2.45**	**52**	P		**Pn**	**15 50 27.8**	**+1.4**
OHWZ	**Ohakea**	**2.56**	**30**	P		**Pn**	**15 50 30.0**	**+2.0**
PRWZ	**Pori Road**	**2.57**	**44**	P		**Pn**	**15 50 28.2**	**+0.2**
POWZ	**Post Office Ro**	**2.59**	**39**	P		**Pn**	**15 50 28.7**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**2.60**	**249**	P		**Pn**	**15 50 29.5**	**+1.1**
BFZ	**Birch Farm**	**2.62**	**49**			**Pn**	**15 50 28.4**	**-0.4**
BFZ	**Birch Farm**	**2.62**	**49**	P		**Pn**	**15 50 29.4**	**+0.6**
BFZ	**Birch Farm**	**2.62**	**49**	P		**Pn**	**15 50 28.6**	**-0.3**
TMZ	**Timaru**	**2.74**	**224**	P		**Pn**	**15 50 30.5**	**+0.1**
DVHZ	**Dannevirke**	**2.86**	**42**	P		**Pn**	**15 50 31.5**	**-0.5**
WAZ	**Wanganui**	**2.87**	**21**	P		**Pn**	**15 50 34.8**	**+2.6**
ANWZ	**Angora Road**	**2.90**	**48**	P		**Pn**	**15 50 33.3**	**+0.6**
TSZ	**Takapari Road**	**2.95**	**37**	P		**Pn**	**15 50 33.3**	**0.0**
FOZ	**Fox Glacier**	**3.02**	**248**	Pn		**Pn**	**15 50 34.9**	**+0.6**
FOZ	**Fox Glacier**	**3.02**	**248**	P		**Pn**	**15 50 35.3**	**+1.0**
NMEZ	**Namu Road**	**3.03**	**3**	P		**Pb**	**15 50 38.0**	**-2.7**
LREZ	**Lake Rotokare**	**3.03**	**11**	P		**Pn**	**15 50 37.1**	**+2.7**
PRHZ	**Porangahau**	**3.12**	**47**	P		**Pn**	**15 50 36.7**	**+1.0**
KHEZ	**Kahui Hut**	**3.16**	**5**	P		**Pn**	**15 50 38.9**	**+2.7**
KHEZ	**Kahui Hut**	**3.16**	**5**	P		**Pn**	**15 50 39.5**	**+3.3**
WPHZ	**Waipukurau**	**3.17**	**42**	P		**Pn**	**15 50 38.0**	**+1.7**
NBEZ	**Newall Road No**	**3.17**	**3**	P		**Pn**	**15 50 39.3**	**+2.9**
PNHZ	**Pukenui**	**3.17**	**38**	P		**Pn**	**15 50 36.2**	**-0.3**
NEZ	**North Egmont**	**3.19**	**6**	P		**Pn**	**15 50 39.9**	**+3.2**
LBZ	**Lake Benmore**	**3.19**	**231**			**Pn**	**15 50 36.8**	**+0.2**
LBZ	**Lake Benmore**	**3.19**	**231**	P		**Pn**	**15 50 36.9**	**+0.2**
PKE	**Pukeiti**	**3.25**	**5**	P		**Pn**	**15 50 40.7**	**+3.2**
DREZ	**Durham Road**	**3.28**	**7**	P		**Pb**	**15 50 41.4**	**-3.5**
MTVZ	**Mangateitei**	**3.35**	**25**	P		**Pb**	**15 50 44.8**	**-1.4**
ODZ	**Otahua Downs**	**3.39**	**219**	Pn		**Pn**	**15 50 39.3**	**-0.1**
ODZ	**Otahua Downs**	**3.39**	**219**	P		**Pn**	**15 50 39.8**	**+0.4**
ODZ	**Otahua Downs**	**3.39**	**219**	P		**Pn**	**15 50 39.5**	**+0.1**
MHEZ	**Mangahewa**	**3.40**	**9**	P		**Pb**	**15 50 43.7**	**-3.3**
PXZ	**Pawanui**	**3.41**	**46**	P		**Pn**	**15 50 40.4**	**+0.7**
VRZ	**Vera Road**	**3.42**	**15**	P		**Pn**	**15 50 41.9**	**+2.1**
MOVZ	**Moawhango**	**3.42**	**28**	P		**Pn**	**15 50 40.8**	**+0.9**
WNVZ	**Wahianoa**	**3.44**	**26**	P		**Pn**	**15 50 42.0**	**+1.7**
TRVZ	**Turoa**	**3.45**	**25**	P		**Pb**	**15 50 44.6**	**-3.5**
BHHZ	**Black Hill Sta**	**3.47**	**33**	P		**Pn**	**15 50 41.3**	**+0.8**
DRZ	**Dome Shelter**	**3.48**	**25**	P		**Pb**	**15 50 45.4**	**-3.1**
WHVZ	**Whangaehu Hut**	**3.48**	**26**	P		**Pn**	**15 50 42.8**	**+2.0**
FWVZ	**Far West T-bar**	**3.49**	**25**	P		**Pn**	**15 50 42.7**	**+1.6**
TUVZ	**Tukino**	**3.52**	**26**	P		**Pb**	**15 50 46.6**	**-2.5**
NGZ	**Ngauruhoe**	**3.58**	**25**	P		**Pn**	**15 50 43.9**	**+1.7**
SNVZ	**South Ngauruho**	**3.58**	**26**	P		**Pn**	**15 50 43.9**	**+1.7**
KAHZ	**Kahuranaki**	**3.59**	**44**	P		**Pn**	**15 50 42.1**	**-0.2**
OTVZ	**Oturere**	**3.61**	**26**	P		**Pn**	**15 50 44.0**	**+1.4**
NNVZ	**North Ngauruho**	**3.63**	**25**	P		**Pn**	**15 50 45.2**	**+2.4**
TWVZ	**Taurewa**	**3.63**	**25**	P		**Pn**	**15 50 44.1**	**+1.3**
ETVZ	**East Tongariro**	**3.65**	**26**	P		**Pn**	**15 50 45.2**	**+2.1**
KRVZ	**Karewarewa**	**3.67**	**25**	P		**Pn**	**15 50 47.5**	**+4.2**
TMVZ	**Te Maari**	**3.67**	**26**	P		**Pn**	**15 50 45.1**	**+1.8**
KWHZ	**Kaweka Forest**	**3.67**	**36**	P		**Pb**	**15 50 49.9**	**-1.8**
NTVZ	**North Tongariro**	**3.68**	**25**	P		**Pn**	**15 50 45.5**	**+2.1**
MCHZ	**McNeill Hill**	**3.78**	**39**	P		**Pn**	**15 50 47.4**	**+2.7**
KATZ	**Kakaramea**	**3.79**	**25**	P		**Pb**	**15 50 52.3**	**-1.6**
JCZ	**Jackson Bay**	**3.91**	**244**	P		**Pn**	**15 50 51.1**	**+4.5**
BKZ	**Black Stump Fm**	**3.92**	**34**			**Pn**	**15 50 47.4**	**+0.7**
HIZ	**Hauiti**	**4.03**	**14**	Pn		**Pn**	**15 50 49.1**	**+1.0**
HIZ	**Hauiti**	**4.03**	**14**	P		**Pn**	**15 50 50.6**	**+2.4**
HIZ	**Hauiti**	**4.03**	**14**	P		**Pn**	**15 50 50.4**	**+2.2**
ARHZ	**Aropaoanui**	**4.06**	**40**	P		**Pn**	**15 50 51.2**	**+2.5**
HHSZ	**Highcliff Hill**	**4.08**	**212**	P		**Pn**	**15 50 49.5**	**+0.6**
NMHZ	**Naumai**	**4.11**	**37**	P		**Pn**	**15 50 54.0**	**+4.6**
WKZ	**Wanaka**	**4.12**	**233**			**Pn**	**15 50 49.1**	**-0.4**
WKZ	**Wanaka**	**4.12**	**233**	P		**Pn**	**15 50 49.4**	**-0.1**
MRHZ	**Matea Rd**	**4.17**	**31**	P		**Pn**	**15 50 52.8**	**+2.6**
EAZ	**Earnscleugh**	**4.20**	**227**	P		**Pn**	**15 50 50.3**	**-0.2**
MTHZ	**Maungataniwha**	**4.33**	**35**	P		**Pn**	**15 50 56.5**	**+4.2**
TLZ	**Tolley Road**	**4.35**	**20**	P		**Pn**	**15 50 54.4**	**+1.8**
RAHZ	**Arahi**	**4.38**	**38**	P		**Pn**	**15 50 55.5**	**+2.5**
TUZ	**Tuapeka**	**4.55**	**218**	P		**Pn**	**15 50 56.4**	**+1.2**
RTZ	**Ruatahuna**	**4.59**	**35**			**Pn**	**15 50 57.1**	**+1.2**
MHGZ	**Mahia Peninsul**	**4.61**	**46**	P		**Pn**	**15 50 57.3**	**+1.2**
MUGZ	**Murupara**	**4.62**	**32**	P		**Pn**	**15 50 57.5**	**+1.2**
RIGZ	**Rimuhau**	**4.87**	**41**	P		**Pn**	**15 51 01.1**	**+1.3**
TOZ	**Tahuroa Road**	**4.91**	**17**	P		**Pn**	**15 51 01.3**	**+1.0**
URZ	**Urewera**	**4.94**	**33**	P		**Pn**	**15 51 01.9**	**+1.2**
URZ	**Urewera**	**4.94**	**33**	P		**Pn**	**15 51 00.2**	**-0.5**
MLZ	**Mavora Lakes**	**4.95**	**232**	Pn		**Pn**	**15 51 00.6**	**-0.3**
MLZ	**Mavora Lakes**	**4.95**	**232**	P		**Pn**	**15 51 01.0**	**+0.1**
MWZ	**Matawai**	**5.06**	**37**	P		**Pn**	**15 51 01.3**	**-1.0**
TKGZ	**Te Karaka**	**5.12**	**40**	P		**Pn**	**15 51 05.0**	**+1.9**
SYZ	**Scrubby Hill**	**5.21**	**217**	P		**Pn**	**15 51 05.3**	**+0.9**
SYZ	**Scrubby Hill**	**5.21**	**217**	P		**Pn**	**15 51 05.2**	**+0.8**
WHZ	**Wether Hill Ro**	**5.36**	**228**	Pn		**Pn**	**15 51 05.5**	**-0.9**
WHZ	**Wether Hill Ro**	**5.36**	**228**	P		**Pn**	**15 51 05.6**	**-0.9**
TWGZ	**Tauwhareparae**	**5.39**	**39**	P		**Pn**	**15 51 08.8**	**+1.9**
AWAZ	**Awhitu Peninsu**	**5.42**	**8**	P		**Pn**	**15 51 09.1**	**+1.7**
RUGZ	**Raukumara Rang**	**5.43**	**36**	P		**Pn**	**15 51 08.3**	**+0.8**
MKAZ	**Moumakai**	**5.46**	**13**	P		**Pn**	**15 51 08.7**	**+0.9**
WTAZ	**Waiatarua**	**5.55**	**8**	P		**Pn**	**15 51 11.0**	**+2.0**
ETAZ	**East Tamaki Re**	**5.57**	**11**	P		**Pn**	**15 51 11.1**	**+1.8**
DCZ	**Deep Cove**	**5.58**	**235**	Pn		**Pn**	**15 51 08.4**	**-1.0**
HAZ	**Te Kaha**	**5.65**	**35**	P		**Pn**	**15 51 10.2**	**-0.2**
RVAZ	**Riverhead Bore**	**5.71**	**7**	P		**Pn**	**15 51 12.6**	**+1.4**
MBAZ	**Motutapu North**	**5.75**	**10**	P		**Pn**	**15 51 13.7**	**+1.9**
WIAZ	**Waiheke Island**	**5.76**	**12**	P		**Pn**	**15 51 13.8**	**+1.9**
WMGZ	**Waiomatatini S**	**5.88**	**40**	P		**Pn**	**15 51 14.4**	**+0.8**
ABAZ	**Army Bay**	**5.90**	**9**	P		**Pn**	**15 51 15.9**	**+1.9**
KUZ	**Kuaotunu**	**5.91**	**16**	P		**Pn**	**15 51 15.2**	**+1.2**
KUZ	**Kuaotunu**	**5.91**	**16**	P		**Pn**	**15 51 14.6**	**+0.6**
APZ	**The Pass**	**5.96**	**221**	P		**Pn**	**15 51 15.1**	**+0.3**
MXZ	**Matakaoa Point**	**6.04**	**38**	Pn		**Pn**	**15 51 14.6**	**-1.2**
MXZ	**Matakaoa Point**	**6.04**	**38**	P		**Pn**	**15 51 17.1**	**+1.3**
PYZ	**Puysegur Point**	**6.24**	**231**	Pn		**Pn**	**15 51 17.6**	**-0.8**
GRZ	**Great Barrier**	**6.34**	**13**	P		**Pn**	**15 51 20.9**	**+1.0**
OUZ	**Omahuta**	**7.21**	**360**	Pn		**Pn**	**15 51 33.7**	**+1.8**
OUZ	**Omahuta**	**7.21**	**360**	P		**Pn**	**15 51 33.8**	**+1.9**
OUZ	**Omahuta**	**7.21**	**360**	P		**Pn**	**15 51 34.1**	**+2.2**
CTZ	**Chatham Island**	**7.24**	**104**	P		**Pn**	**15 51 32.0**	**-0.2**
CTZ	**Chatham Island**	**7.24**	**104**	P		**Pn**	**15 51 32.5**	**+0.3**
DZM	**Mont Dzumac**	**21.19**	**341**	P		**P**	**15 54 30.2**	**-1.8**
	3.2nm,1.0s,baz=92,slow=18,SNR=2.3							
DZM					LR	LR	16 02 31.3	
	comp=Z,32nm,18.9s,baz=174,slow=37							
	3.2nm,1.0s							
KOUNC	**Koumac, New Ca**	**23.21**	**337**	P		**P**	**15 54 52.5**	**-0.9**
KOUNC					IAmb	IAmb	15 55 29.3	
	comp=Z,36nm,1.4s							
MSVF	**Nonsavu**	**24.91**	**10**	LR		LR	16 03 37.2	
	comp=Z,63nm,18.1s,baz=57,slow=34							
MSVF	**Nonsavu**	**24.91**	**10**	P		**P**	**15 55 09.0**	**-0.5**
EIDS	**Eidsvold**	**25.20**	**305**	P		**P**	**15 55 12.2**	**+0.3**
STKA	**Stephens Creek**	**27.49**	**282**	P		**P**	**15 55 33.4**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=148,slow=12,SNR=3.9							
	comp=Z,2.1nm,0.8s							
STKA	**Stephens Creek**	**27.49**	**282**	P		**P**	**15 55 33.0**	**+0.4**
CTA	**Charters Tower**	**32.09**	**305**	LR		LR	16 09 08.1	
	comp=Z,44nm,18.3s,baz=74,slow=36							
AS31	**Alice Springs**	**37.80**	**287**	P		**P**	**15 57 02.0**	**-0.7**
ASAR	**Alice Springs**	**37.80**	**287**	P		**P**	**15 57 02.0**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=133,slow=6.9,SNR=25							
ASAR					PcP	**PcP**	**15 59 18.4**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=126,slow=3.8,SNR=10							
ASAR					LR	LR	16 12 14.6	
	comp=Z,36nm,19.4s,baz=148,slow=36							
	comp=Z,0.9nm,0.6s							
ASAR	**Alice Springs**	**37.80**	**287**	P		**P**	**15 57 01.1**	**-1.6**
WR0	**Warramunga Arr**	**39.79**	**292**	P		**P**	**15 57 18.3**	**-1.2**
WR0					IAmb	IAmb	15 57 28.9	
	comp=Z,8.1nm,1.4s							
WB2	**Warramunga Arr**	**39.93**	**292**	P		**P**	**15 57 18.9**	**-1.8**
WB2					IAmb	IAmb	15 57 39.6	
	comp=Z,8.6nm,1.5s							
WRA	**Warramunga Arr**	**39.94**	**292**	P		**P**	**15 57 19.7**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=129,slow=8.1,SNR=17							
WRA					PcP	**PcP**	**15 59 25.4**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=92,slow=2.6,SNR=5.5							
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**39.94**	**292**	P		**P**	**15 57 19.5**	**-1.2**
WB0	**Warramunga Arr**	**40.02**	**292**	P		**P**	**15 57 20.7**	**-0.7**
WB0					IAmb	IAmb	15 57 22.4	
	comp=Z,2.3nm,0.8s							
KNRA	**Kununurra**	**46.71**	**291**	P		**P**	**15 58 16.0**	**+0.6**
KNRA					IAmb	IAmb	15 58 36.3	
	comp=Z,7.8nm,1.2s							
MTN	**Manton Dam**	**47.11**	**296**	P		**P**	**15 58 18.1**	**-0.4**
QSPA	**South Pole Qui**	**47.69**	**180**	P		**P**	**15 58 26.4**	**+3.8**
	comp=Z,2.3nm,1.1s,baz=74,slow=0.1,SNR=3.8							
	comp=Z,2.3nm,1.1s							
QSPA	**South Pole Qui**	**47.69**	**180**	P		**P**	**15 58 22.8**	**+0.2**
QSPA					IAmb	IAmb	15 58 38.6	
	comp=Z,3.1nm,1.2s							
BELA	**Belgrano 2**	**58.71**	**173**	P		**P**	**15 59 44.1**	**+0.8**
BELA					IAmb	IAmb	15 59 46.6	
	comp=Z,2.5nm,1.0s							
JAGI	**Jajag, Banyuwa**	**61.96**	**285**	P		**P**	**16 00 04.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**91.51**	**294**	P		**P**	**16 02 54.1**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=148,slow=3.0,SNR=7.7							
	comp=Z,0.6nm,0.6s							
SHEM	**Shemya Is, Ala**	**94.79**	**0**	LR		LR	16 37 58.7	
	comp=Z,62nm,21.6s,baz=286,slow=31							
KBZ	**Khabaz**	**144.44**	**289**	PKP		PKPbc	16 09 20.5	-0.1
	comp=Z,2.8nm,0.8s,baz=117,slow=7.5,SNR=3.8							
ARCES	**ARCESS Array B**	**149.27**	**339**	PKPbc		**PKPbc**	**16 09 30.4**	**-0.9**
	comp=Z,6.7nm,1.1s,baz=29,slow=2.8,SNR=5.2							
BRTR	**Keskin Array B**	**149.93**	**278**	PKPbc		**PKPbc**	**16 09 36.5**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=159,slow=7.3,SNR=5.4							
FINES	**FINESS Array B**	**152.86**	**326**	PKPbc		**PKiKP**	**16 09 42.7**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=38,slow=5.3,SNR=4.1							

DJA 24 15:54:10.6±0.4,9°S±7°×11°3E±°, h64km±15km, M3.9/17, mb3.8/2, MLv3.9/17, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.99**	**19**	P	P	Pn	15 54 29.1	+0.4
GMJI				S	S	Sn	15 54 41.8	-0.4
JAGI	**Jajag, Banyuwa**	**1.26**	**54**	P	P	Pn	15 54 32.3	0.0
JAGI				S	S	Sn	15 54 48.9	+0.4
PWJI	**Pagerwojo**	**1.76**	**312**	P	P	Pn	15 54 39.1	+0.2
PWJI				S	S	Sn	15 55 00.0	-0.4
ABJI	**Asem Bagus**	**1.79**	**38**	P	P	Pn	15 54 39.6	+0.2
ABJI				S	S	Sn	15 55 01.9	+0.8
IGBI	**Denpasar**	**2.04**	**79**	P	P	Pn	15 54 42.3	-0.4
IGBI				S	S	Sn	15 55 06.2	-0.9
DNP	**Denpasar**	**2.13**	**76**	P	P	Pn	15 54 44.6	+0.6
DNP				S	S	Sn	15 55 10.5	+1.1
PCJI	**Pacitan**	**2.17**	**298**	P	P	Pn	15 54 44.9	+0.4
PCJI				S	S	Sn	15 55 09.9	-0.5
SRBI	**Singaraja**	**2.36**	**62**	P	P	Pn	15 54 46.5	-0.5
GRJI	**Gresik**	**2.38**	**344**	P	P	Pn	15 54 46.6	-0.7
NGJI	**Ngawi**	**2.47**	**318**	P	P	Pn	15 54 48.1	-0.4
UGM	**Wanagama**	**2.88**	**297**	P	P	Pn	15 54 54.2	+0.1
YOGI	**Yogyakarta**	**3.12**	**296**	P	P	Pn	15 54 57.5	0.0
TWSI	**Taliwang, Sumb**	**3.75**	**83**	P	P	Pn	15 55 05.8	-0.2
PLAI	**Plampang**	**4.62**	**86**	P	P	Pn	15 55 18.1	+0.2

*IDC **24** 15:58:06.7±1.0,37°.19N×141°.36E, h0km, mb3.5/7, mbtmp3.5/8, ML2.4/1, Error ellipse: s-maj=27.0km s-min=24.9km az=110.0*
*JMA **24** 15:58:08.8±0.2,37°.2N±0°.3×141°.4E±0°.9, h28km±1km, MV3.8/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **24** 15:58:08.8, 37°.22N×141°.39E, h28km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.90; Mθθ1.20; Mφφ0.70; Mrθ0.38; Mθφ0.82; Mφr0.21; Fault plane solution: M₀1.90000×10¹⁴ NP1:φ52.00000°, δ38.00000°, λ-93.00000°. NP2:φ235.00000°, δ52.00000°, λ-88.00000°.*

ISC 24 15:58:08.0±2.1,37°.21N±0°.04×141°.40E±0°.07, h10km±13km, n32, σ0°88/30, mb3.5/7,5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.44**	**290**	*i* P	P	**Pb**	**15 58 17.7**	**-0.2**
JFK				S	S	**Sb**	**15 58 23.9**	**-0.7**
JMST	**Minamisoumatoc**	**0.65**	**322**	P	P	**Pb**	**15 58 21.1**	**-0.3**
JMST				S	S	**Sb**	**15 58 30.3**	**-0.2**
JFFD	**Fukushimafurud**	**0.68**	**260**	↓P	P	**Pb**	**15 58 21.7**	**-0.2**
JFFD				↓S	S	**Sb**	**15 58 30.7**	**-0.7**
JMM	**Marumori**	**0.81**	**324**	P	P	**Pb**	**15 58 23.9**	**-0.2**
JMM	**Marumori**	**0.81**	**324**	*i* P	P	**Pb**	**15 58 23.7**	**-0.4**
JMM				S	S	**Sb**	**15 58 34.8**	**-0.4**
JHO	**Hitachi**	**0.90**	**228**	P	P	**Pb**	**15 58 24.6**	**-0.9**
JHO				S	S	**Sb**	**15 58 36.9**	**-0.7**
JSB	**Shiboa**	**1.21**	**259**	↓P	P	**Pg**	**15 58 31.0**	**-0.1**
JIO	**Ouri**	**1.24**	**358**	*i* P	P	**Pn**	**15 58 30.0**	**-1.3**
JOU	**Okura**	**1.29**	**333**	↓*i* P	P	**Pb**	**15 58 31.9**	**-0.4**
JOU				↓S	S	**Sg**	**15 58 49.8**	**+0.3**
MJAR	**Matsushiro Arr**	**2.64**	**256**	Pn	P	**Pn**	**15 58 51.0**	**+0.4**
	0.7nm,0.3s,baz=62,slow=13,SNR=33							
MJAR				Sn		**Sb**	**15 59 27.8**	**-0.1**
	1.1nm,0.3s,baz=321,slow=30,SNR=7.0							
	4.3nm,0.4s							
MAJO	**Matsushiro**	**2.64**	**256**	P	P	**Pn**	**15 58 52.0**	**+1.3**
JTM	**Tenmabayashi**	**3.58**	**356**	P	P	**Pn**	**15 59 04.5**	**+1.0**
JGF	**Kuroka**	**3.63**	**245**	P	P	**Pn**	**15 59 06.1**	**+1.8**
ERM	**Erimo**	**4.99**	**15**	P	P	**Pn**	**15 59 23.8**	**+1.0**
JEM	**Erimo**	**4.99**	**15**	P	P	**Pn**	**15 59 24.8**	**+2.0**
SONM	**Songino Array**	**27.68**	**304**	P	P	**P**	**16 03 56.6**	**+0.5**
	0.7nm,0.8s,baz=111,slow=9.3,SNR=4.4							
	0.7nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	T	16 33 29.9	
	baz=314,slow=75,SNR=52							
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	T	16 33 31.8	
	baz=314,slow=75,SNR=56							
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	T	16 33 31.4	
	baz=314,slow=75,SNR=45							
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	T	16 34 23.1	
	baz=316,slow=76,SNR=30							
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	T	16 34 25.4	
	baz=316,slow=76,SNR=24							
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	T	16 34 24.3	
	baz=316,slow=76,SNR=22							
ZALV	**Zalesovo Beam**	**41.78**	**312**	P	P	**P**	**16 05 57.6**	**+0.2**
	0.8nm,0.4s,baz=110,slow=7.8,SNR=1.9							
	0.8nm,0.4s							
ILAR	**Eielson Array**	**49.35**	**32**	P	P	**P**	**16 06 57.3**	**+0.2**
	0.4nm,0.7s,baz=272,slow=6.3,SNR=6.1							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**57.24**	**188**	P	P	**P**	**16 07 54.1**	**-1.4**
	0.5nm,0.9s,baz=4.8,slow=7.4,SNR=3.6							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**60.96**	**188**	P	P	**P**	**16 08 22.1**	**+0.8**
	0.2nm,0.8s,baz=0.0,slow=7.4,SNR=1.5							
	0.2nm,0.8s							
AKASG	**Malin Array Be**	**74.15**	**322**	P	P	**P**	**16 09 43.7**	**-0.7**
	0.5nm,0.5s,baz=46,slow=6.1,SNR=5.8							
	0.5nm,0.5s							
TXAR	**Lajitas Array**	**90.02**	**52**	P	P	**P**	**16 11 08.6**	**+0.5**
	0.1nm,0.6s,baz=339,slow=4.3,SNR=1.9							
	0.1nm,0.6s							
LPAZ	**La Paz**	**146.61**	**59**	PKPbc		**PKiKP**	**16 17 53.2**	**-0.6**
	0.5nm,0.4s,baz=271,slow=5.2,SNR=1.6							
H03N2	**Juan Fernandez**	**147.06**	**96**	T	T	T	19 02 11.2	
	baz=291,slow=76,SNR=5.7							
H03N3	**Juan Fernandez**	**147.07**	**96**	T	T	T	19 02 09.4	
	baz=291,slow=76,SNR=4.5							
H03N1	**Juan Fernandez**	**147.07**	**96**	T	T	T	19 02 15.9	
	baz=291,slow=76,SNR=4.9							

*IDC **24** 16:06:58.2±2.1,6°.80S×130°.11E, h120km±22km, mb3.5/6, mbtmp4.0/10, MS2.8/1, Error ellipse: s-maj=21.6km s-min=13.3km az=66.0*
*NEIC **24** 16:06:59.4±2.6,6°.62S±0°.06×130°.07E±0°.08, h128km±10km, mb4.0/10, Error ellipse: s-maj=11.0km s-min=8.8km az=94.0*

ISC 24 16:07:00.1±0.6,6°.69S±0°.05×130°.15E±0°.06, h146km, n52, σ2°19/57, mb4.0/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.72**	**138**	Pn	P	**Pn**	**16 07 33.6**	**+1.8**
SAUI				Sn		**Sn**	**16 07 52.8**	**-3.2**
SAUI	**Saumlaki**	**1.72**	**138**	P	P	**Pn**	**16 07 32.9**	**+1.2**

BNDI	**Bandanaira**	**2.17**	**354**	P		**Pn**	**16 07 38.5**	**+1.5**
FAKI	**Fak Fak**	**4.29**	**29**	Pn		**Pn**	**16 08 02.7**	**-1.4**
FAKI				Sn		**Sn**	**16 08 49.1**	**-4.8**
FAKI	**Fak Fak**	**4.29**	**29**	P		**Pn**	**16 08 03.2**	**-0.9**
SIJI	**Sorong**	**5.89**	**11**	P		**Pn**	**16 08 24.1**	**-1.3**
	2.7nm,0.3s,baz=178,slow=23,SNR=18							
SIJI				S		Sn	16 09 24.6	-7.4
	16nm,0.2s,baz=218,slow=9.1,SNR=4.6							
MTN	**Manton Dam**	**6.19**	**171**			**Pn**	**16 08 28.8**	**-0.5**
MTN						Sn	**Sn**	**16 09 35.4**	**-3.8**
MTN	**Manton Dam**	**6.19**	**171**	P		**Pn**	**16 08 29.8**	**+0.5**
KDU	**Kakadu**	**6.38**	**159**	P		**Pn**	**16 08 31.8**	**-0.1**
	50nm,0.4s							
SOEI	**Soe**	**6.57**	**242**			**Pn**	**16 08 35.9**	**+1.4**
SOEI	**Soe**	**6.57**	**242**	P		**Pn**	**16 08 36.0**	**+1.5**
	40nm,0.9s							
BATI	**Baumata**	**7.30**	**241**	P		**Pn**	**16 08 42.8**	**-1.5**
	21nm,0.3s,baz=48,slow=6.9,SNR=15							
BATI					S	**Sn**	**16 10 02.2**	**-3.8**
	25nm,0.5s,baz=90,slow=12,SNR=2.7							
BATI					LR	LR	16 12 03.7	
	comp=Z,70nm,18.2s,baz=134,slow=42							
KNRA	**Kununurra**	**9.03**	**189**			**Pn**	**16 09 06.1**	**-1.3**
KNRA	**Kununurra**	**9.03**	**189**	P		**Pn**	**16 09 06.6**	**-0.7**
	30nm,0.5s							
PLAI	**Plampang**	**12.44**	**259**	P		**Pn**	**16 09 51.9**	**-0.4**
	18nm,0.9s							
WB0	**Warramunga Arr**	**13.64**	**163**	Pn		**Pn**	**16 10 04.3**	**-3.3**
WRA	**Warramunga Arr**	**13.79**	**163**	P		**Pn**	**16 10

T35A	**Sooner Cattle**	**0.95**	**14**			**Pg**	**16 34 24.8**	**+0.1**
T35B	**Sooner Cattle**	**0.95**	**14**	P		**Pg**	**16 34 24.9**	**+0.2**
	baz=194							
T35B				S		**Sb**	**16 34 37.8**	**-0.1**
	baz=194							
CROK	**Carrier**	**1.09**	**298**	Pg		**Pg**	**16 34 27.1**	**-0.2**
CROK				Sg		**Sg**	**16 34 41.7**	**+0.2**
KAN13	**South Haven SW**	**1.16**	**332**			**Pg**	**16 34 28.5**	**-0.2**
KAN13				Sg		**Sg**	**16 34 44.0**	**+0.2**
GC02	**Grant County #**	**1.22**	**315**			**Pg**	**16 34 29.3**	**-0.4**
GC02				Sg		**Sg**	**16 34 45.5**	**0.0**
KAN17	**Caldwell West**	**1.31**	**324**			**Pn**	**16 34 31.1**	**+0.2**
KAN17				Sg		**Sb**	**16 34 48.2**	**+0.1**
KAN14	**Manchester OK**	**1.35**	**316**			**Pn**	**16 34 31.6**	**+0.2**
KAN14						**Sb**	**16 34 49.4**	**+0.2**
KS20	**Mayfield South**	**1.38**	**334**			**Pn**	**16 34 32.2**	**+0.4**
KS20						**Sb**	**16 34 50.5**	**+0.3**
KAN01	**Argonia South**	**1.40**	**326**			**Pn**	**16 34 32.5**	**+0.4**
KAN01						**Sb**	**16 34 51.0**	**+0.4**
OK032	**Salt Plains WL**	**1.40**	**306**			**Pn**	**16 34 32.3**	**+0.1**
OK032						**Sn**	**16 34 51.4**	**+0.5**
KAN05	**Bluff City Nor**	**1.42**	**322**			**Pn**	**16 34 32.9**	**+0.5**
RLO	**Rose Lookout**	**1.44**	**83**			**Pn**	**16 34 32.9**	**+0.2**
KS21	**Milan North St**	**1.47**	**332**	Pg		**Pn**	**16 34 33.7**	**+0.5**
KAN06	**Argonia West S**	**1.52**	**326**			**Pn**	**16 34 34.5**	**+0.7**
KAN10	**Anthony SW Sta**	**1.54**	**318**	Pg		**Pn**	**16 34 33.5**	**-0.6**
KAN08	**Anthony NE Sta**	**1.56**	**323**	Pg		**Pn**	**16 34 34.8**	**+0.5**
CSTR	**Hydro, Custer**	**1.58**	**258**	Pg		**Pn**	**16 34 35.2**	**+0.6**
KAN12	**Harper NE Stat**	**1.63**	**324**	Pg		**Pn**	**16 34 36.1**	**+0.8**
X34A	**Smith Ranch, M**	**1.63**	**212**	Pg		**Pn**	**16 34 35.9**	**+0.7**
OK038	**West end E0370**	**1.65**	**288**	Pg		**Pn**	**16 34 36.4**	**+0.8**
OK035	**E0210 Rd and N**	**1.71**	**295**	Pg		**Pn**	**16 34 37.1**	**+0.8**
OK035				IAmb_Lg			16 35 00.7	
	comp=Z,104nm,0.8s							
X37A	**Clayton**	**1.82**	**140**	Pn		**Pn**	**16 34 38.8**	**+1.0**
X37A				IAmb_Lg			16 35 07.0	
	comp=Z,180nm,0.8s							
X37A	**Clayton**	**1.82**	**140**	P		**Pb**	**16 34 39.3**	**-0.5**
	baz=321							
X37A				Sb		**Sg**	**16 35 04.7**	**0.0**
	baz=321							
U32A	**Winter Ranch,**	**1.83**	**283**			**Pn**	**16 34 38.8**	**+0.8**
U32A	**Winter Ranch,**	**1.83**	**283**	P		**Pn**	**16 34 39.1**	**+1.0**
	baz=102							
U32A				Sb		**Sg**	**16 35 04.7**	**-0.4**
	baz=102							
U38A	**Gravette**	**2.00**	**76**	Pn		**Pn**	**16 34 41.1**	**+0.7**
U38A	**Gravette**	**2.00**	**76**	P		**Pb**	**16 34 42.1**	**-0.8**
	baz=258							
U38A				Sb		**Sg**	**16 35 09.8**	**-0.7**
	baz=258							
LOOK	**Love County**	**2.02**	**189**			**Pn**	**16 34 42.1**	**+1.5**
LOOK				IAmb_Lg			16 35 10.6	
	comp=Z,99nm,0.8s							
WMOK	**Wichita Mounta**	**2.05**	**233**			**Pn**	**16 34 42.4**	**+1.3**
WMOK	**Wichita Mounta**	**2.05**	**233**	P		**Pn**	**16 34 42.6**	**+1.5**
	baz=52							
WMOK				S		**Sb**	**16 35 09.8**	**+0.3**
	baz=52							
HHAR	**Hobbs**	**2.33**	**82**			**Pn**	**16 34 45.8**	**+0.9**
HHAR	**Hobbs**	**2.33**	**82**	P		**Pb**	**16 34 47.3**	**-1.2**
	baz=264							
Z35A	**Perchaven, San**	**2.68**	**188**	P		**Pn**	**16 34 51.3**	**+1.6**
	baz=7.8							
MIAR	**Mount Ida**	**3.00**	**118**	Pn		**Pn**	**16 34 55.6**	**+1.5**
MIAR	**Mount Ida**	**3.00**	**118**	P		**Pn**	**16 34 55.8**	**+1.7**
	baz=300							
FW02	**City of Haslet**	**3.07**	**189**			**Pn**	**16 34 54.4**	**-0.6**
Z38A	**Mt. Pleasant**	**3.10**	**151**			**Pn**	**16 34 55.6**	**0.0**
KSU1	**Kansas State U**	**3.11**	**3**	Pn		**Pn**	**16 34 54.8**	**-0.8**
KSU1				IAmb_Lg			16 35 53.7	
	comp=Z,56nm,0.8s							
KSU1	**Kansas State U**	**3.11**	**3**	P		**Pn**	**16 34 56.5**	**+0.8**
	baz=183							
S39A	**Bolivar**	**3.26**	**58**			**Pn**	**16 34 57.0**	**-0.8**
S39A				IAmb_Lg			16 35 57.1	
	comp=Z,134nm,0.8s							
CBKS	**Cedar Bluff**	**3.67**	**321**			**Pn**	**16 35 03.7**	**+0.4**
CBKS				IAmb_Lg			16 36 09.9	
	comp=Z,80nm,0.7s							
WHAR	**Wooly Hollow**	**3.73**	**99**			**Pn**	**16 35 04.8**	**+0.5**
WHAR				IAmb_Lg			16 36 04.9	
	comp=Z,58nm,0.8s							
FCAR	**Ozark Folk Cen**	**3.79**	**90**	Pn		**Pn**	**16 35 05.7**	**+0.7**
FCAR				IAmb_Lg			16 36 09.0	
	comp=Z,83nm,0.8s							
WLAR	**White Oak Lake**	**3.80**	**126**			**Pn**	**16 35 06.2**	**+1.1**
MGMO	**Mountain Grove**	**3.82**	**71**			**Pn**	**16 35 05.9**	**+0.4**
MGMO				IAmb_Lg			16 36 08.2	
	comp=Z,121nm,0.7s							
UALR	**University of**	**3.83**	**107**			**Pn**	**16 35 06.3**	**+0.7**
WHTX	**Lake Whitney,**	**4.03**	**188**			**Pn**	**16 35 09.1**	**+0.9**
237A	**Washetta, Mont**	**4.06**	**168**			**Pn**	**16 35 07.2**	**-1.5**
ABTX	**Abilene, Hawle**	**4.10**	**216**			**Pn**	**16 35 09.0**	**-0.3**
AMTX	**Amarillo**	**4.14**	**256**			**Pn**	**16 35 11.2**	**+1.3**
AMTX				IAmb_Lg			16 36 28.7	
	comp=Z,74nm,0.7s							
R40A	**Maddies Statio**	**4.28**	**56**			**Pn**	**16 35 12.8**	**+1.0**
R40A				IAmb_Lg			16 36 25.2	
	comp=Z,49nm,0.8s							
P38A	**Dawn**	**4.45**	**34**	IAmb_Lg			16 36 27.6	
	comp=Z,74nm,0.7s							
LCAR	**Lake Charles**	**4.57**	**87**			**Pn**	**16 35 15.8**	**+0.1**
LCAR				IAmb_Lg			16 36 31.8	
	comp=Z,47nm,1.0s							
CCAR	**Cane Creek**	**4.61**	**115**	Pn		**Pn**	**16 35 17.3**	**+1.1**
N33A	**J Bar K, Exete**	**4.77**	**354**			**Pn**	**16 35 18.0**	**-0.5**
N33A				IAmb_Lg			16 36 44.5	
	comp=Z,66nm,0.7s							
CCM	**Cathedral Cave**	**4.89**	**63**			**Pn**	**16 35 19.1**	**-1.1**
CCM				IAmb_Lg			16 36 41.0	
	comp=Z,73nm,0.8s							
HBAR	**Harrisburg**	**5.01**	**93**			**Pn**	**16 35 21.0**	**-0.7**
HBAR				IAmb_Lg			16 36 47.4	
	comp=Z,96nm,0.8s							
P40A	**Paris**	**5.16**	**45**			**Pn**	**16 35 24.4**	**+0.6**
P40A				IAmb_Lg			16 37 02.9	
	comp=Z,75nm,0.8s							
PBMO	**Poplar Bluff**	**5.19**	**79**	Pn		**Pn**	**16 35 23.6**	**-0.7**
435B	**Jarrell**	**5.24**	**187**	Pn		**Pn**	**16 35 22.5**	**-2.3**
435B				IAmb_Lg			16 37 07.6	
	comp=Z,32nm,0.8s							
MSTX	**Muleshoe**	**5.31**	**249**			**Pn**	**16 35 23.5**	**-2.4**
FVM	**French Village**	**5.47**	**67**	Pn		**Pn**	**16 35 26.6**	**-1.5**
FVM				IAmb_Lg			16 37 01.0	
	comp=Z,85nm,1.2s							
GNAR	**Gosnell**	**5.49**	**88**	Pn		**Pn**	**16 35 26.7**	**-1.7**
GNAR				IAmb_Lg			16 37 05.6	
	comp=Z,87nm,0.9s							
BGNE	**Belgrade**	**5.51**	**349**	Pn		**Pn**	**16 35 26.6**	**-2.1**
BGNE				IAmb_Lg			16 37 12.1	
	comp=Z,88nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.53**	**305**	Pn		**Pn**	**16 35 27.1**	**-2.0**
KSCO				IAmb_Lg			16 37 16.9	
	comp=Z,48nm,0.9s							
N38A	**Joes South For**	**5.55**	**29**	Pn		**Pn**	**16 35 30.3**	**+1.1**
N38A				IAmb_Lg			16 37 10.5	
	comp=Z,72nm,0.7s							
PEBM	**Pemiscott Bayo**	**5.62**	**87**	Pn		**Pn**	**16 35 30.9**	**+0.8**
PEBM				IAmb_Lg			16 37 05.4	
	comp=Z,91nm,0.9s							
PARMO	**Parma**	**5.72**	**81**	Pn		**Pn**	**16 35 31.2**	**-0.3**
PVMO	**Portageville**	**5.75**	**84**	Pn		**Pn**	**16 35 34.2**	**+2.2**
CGM3	**Cape Girardeau**	**5.88**	**75**	Pn		**Pn**	**16 35 36.2**	**+2.5**
CGM3				IAmb_Lg			16 37 15.5	
	comp=Z,89nm,0.8s							
LNXT	**Lenox**	**5.92**	**87**	Pn		**Pn**	**16 35 33.6**	**-0.6**
L34A	**Svendsen Farm,**	**5.98**	**3**			**Pn**	**16 35 35.6**	**+0.6**
L34A				IAmb_Lg			16 37 21.6	
	comp=Z,85nm,0.8s							
HALT	**Halls**	**6.05**	**89**	Pn		**Pn**	**16 35 35.5**	**-0.5**
JCT	**Junction City**	**6.05**	**205**			**Pn**	**16 35 35.9**	**-0.2**
JCT				IAmb_Lg			16 37 30.0	
	comp=Z,29nm,0.8s							
GLAT	**Glass**	**6.08**	**85**	Pn		**Pn**	**16 35 33.7**	**-2.8**
HICK	**Hickman**	**6.14**	**83**	Pn		**Pn**	**16 35 35.8**	**-1.4**
OXF	**Oxford**	**6.22**	**102**	IAmb_Lg			16 37 30.2	
	comp=Z,27nm,1.0s							
T25A	**Trinidad**	**6.24**	**283**	IAmb_Lg			16 37 41.5	
	comp=Z,31nm,0.9s							
W45A	**Hickory Valley**	**6.25**	**95**	IAmb_Lg			16 37 34.5	
	comp=Z,50nm,0.7s							
OGNE	**Ogallala**	**6.43**	**322**	IAmb_Lg			16 37 41.6	
	comp=Z,54nm,0.7s							
SCIA	**State Center**	**6.53**	**24**	IAmb_Lg			16 37 34.4	
	comp=Z,32nm,0.7s							
Q44A	**Meyer Farm, Va**	**6.83**	**63**	IAmb_Lg			16 37 50.8	
	comp=Z,58nm,0.9s							
Q24A	**Divide**	**7.28**	**297**	IAmb_Lg			16 38 03.7	
	comp=Z,29nm,0.9s							
HDIL	**Hopedale**	**7.45**	**50**	Pn		**Pn**	**16 35 55.3**	**+0.1**
L40A	**Anamosa**	**7.45**	**34**	IAmb_Lg			16 38 02.8	
	comp=Z,32nm,0.7s							
BRIGG	**Briggsdale**	**7.49**	**310**	IAmb_Lg			16 38 09.6	
	comp=Z,54nm,0.9s							
O44A	**Mansfield**	**7.77**	**55**	IAmb_Lg			16 38 16.8	
	comp=Z,46nm,0.8s							
ISCO	**Idaho Springs**	**7.94**	**301**	IAmb_Lg			16 38 39.2	
	comp=Z,19nm,1.1s							
V48A	**Smith Brothers**	**8.10**	**89**	IAmb_Lg			16 38 27.2	
	comp=Z,22nm,1.0s							
L42A	**Oliver, Polo**	**8.17**	**41**	IAmb_Lg			16 38 23.7	
	comp=Z,41nm,0.9s							
S22A	**4UR Ranch, Cre**	**8.23**	**285**			**Pn**	**16 36 05.0**	**-1.3**
I37A	**Lemond, Waseca**	**8.43**	**17**			**Pn**	**16 36 06.5**	**-2.1**
JFWS	**Jewell Farm**	**8.57**	**34**	IAmb_Lg			16 38 41.3	
	comp=Z,35nm,0.7s							
SUSD	**Miller**	**8.60**	**350**	IAmb_Lg			16 39 04.0	
	comp=Z,23nm,0.8s							
N23A	**Red Feather La**	**8.69**	**307**	Pn		**Pn**	**16 36 13.7**	**+1.1**
N23A				IAmb_Lg			16 39 03.6	
	comp=Z,36nm,0.8s							
SFIN	**Lafayette**	**8.80**	**57**	IAmb_Lg			16 38 46.0	
	comp=Z,46nm,0.9s							
TXAR	**Lajitas Array**	**8.81**	**223**	Pn		**Pn**	**16 36 13.8**	**-0.2**
HQIL	**Hanson Quary C**	**9.06**	**48**	IAmb_Lg			16 39 11.0	
	comp=Z,50nm,0.9s							
I40A	**Norwalk**	**9.20**	**29**	IAmb_Lg			16 38 58.2	
	comp=Z,20nm,0.9s							
RSSD	**Black Hills**	**9.83**	**328**	IAmb_Lg			16 39 31.6	
	comp=Z,19nm,0.9s							

*IDC **24** 16:34:27.8±2.1,7°.10S×154°.18E,h0km,mb3.5/7,*
mbtmp3.5/8,ML3.3/1,MS2.6/1,Error ellipse: s-maj=54.6km
s-min=25.3km az=111.0
ISC 24 16:34:32.5±1.3,7°.2S±0°.1×154°.2E±0°.2,h35km,n9,σ1§39/9,
mb3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.62**	**322**	Pn	**Pn**	**16 35 24.9**	**-1.2**
	2.8nm,0.3s,baz=154,slow=18,SNR=12						
KRVT				Sn	**Sn**	**16 36 09.3**	**+1.7**
	5.5nm,0.3s,baz=149,slow=19,SNR=2.2						
	18nm,0.8s						
WRA	**Warramunga Arr**	**23.09**	**235**	P	**P**	**16 39 36.0**	**+0.6**
	0.9nm,0.8s,baz=56,slow=9.0,SNR=7.3						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**25.49**	**228**	P	**P**	**16 39 57.9**	**+0.2**
	0.3nm,0.7s,baz=58,slow=8.7,SNR=7.6						
	0.3nm,0.7s						
DAV	**Davao City (W)**	**31.91**	**296**	LR	LR	16 52 18.8	
	comp=Z,11nm,19.7s,baz=44,slow=34						
KSRS	**Korea Array**	**50.77**	**333**	P	**P**	**16 43 28.7**	**-0.5**
	0.8nm,0.8s,baz=151,slow=10.0,SNR=2.3						
	0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.20**	**296**	P	**P**	**16 44 36.9**	**-0.6**
	0.3nm,0.3s,baz=86,slow=14,SNR=2.6						
	0.3nm,0.3s						
SONM	**Songino Array**	**69.10**	**328**	P	**P**	**16 45 33.5**	**-1.7**
	0.2nm,0.3s,baz=130,slow=6.6,SNR=2.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**83.06**	**319**	P	**P**	**16 46 56.1**	**+1.5**
	0.7nm,0.9s,baz=93,slow=6.8,SNR=3.1						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**83.83**	**22**	P	**P**	**16 46 59.1**	**+1.1**
	0.2nm,0.7s,baz=261,slow=4.0,SNR=1.5						
	0.2nm,0.7s						

*AZER **24** 16:40:40.5±0.0,38°.43N×43°.75E,h3km,Error ellipse:*
s-maj=0.3km s-min=0.2km az=298.0
*NSSP **24** 16:40:40.9,38°.33N×44°.17E,h10km,Ms4.0*
*ISK **24** 16:40:42.5,38°.51N×43°.90E,h5km,ML4.0/14*
*DDA **24** 16:40:43.0±0.0,38°.53N×43°.87E,h9km±9km,MW4.0*
*IDC **24** 16:40:45.0±1.0,38°.71N×43°.81E,h0km,mb3.7/10,*
mbtmp3.7/17,ML3.5/5,MS3.1/11,Error ellipse:
s-maj=16.9km s-min=13.1km az=150.0
*TEH **24** 16:40:44.7,38°.53N×43°.80E,h9km,ML3.7*
ISC 24 16:40:44.4±1.1,38°.51N±0°.02×43.79E±0°.01,h2km±8km,
n131,σ1§85/170,mb3.8/9,MS3.1/6,5C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.22**	**47**	P	**Pg**	**16 40 47.6**	**-1.1**
OZAP				S	**Sg**	**16 40 50.8**	**-0.9**
OZAP				*i* AML	AML	16 40 55.0	
	comp=N,2μm,0.6s						
OZAP				*i* AML	AML	16 40 57.0	
	comp=E,1μm,0.6s						
TVAN	**Van**	**0.30**	**274**	P	**Pg**	**16 40 50.6**	**+0.4**
TVAN				S	**Sb**	**16 40 58.8**	**+0.8**
TVAN				*i* AML	AML	16 41 05.0	
	comp=N,9μm,0.7s						
TVAN				*i* AML	AML	16 41 05.0	
	comp=E,1μm,0.9s						
VANB	**Van**	**0.32**	**285**	PG	**Pg**	**16 40 50.7**	**+0.1**
VANB	**Van**	**0.32**	**285**	*e*Pg	**Pg**	**16 40 50.5**	**-0.1**
VMUR	**Van-Muradiye**	**0.51**	**341**	P	**Pg**	**16 40 53.3**	**-0.8**
VMUR				S	**Sb**	**16 41 03.7**	**-0.4**
VMUR				*i* AML	AML	16 41 05.0	
	comp=E,7μm,0.7s						
VMUR				*i* AML	AML	16 41 06.0	
	comp=N,6μm,1.0s						
GEVA	**Gevas**	**0.60**	**251**	P	**Pg**	**16 40 56.3**	**+0.3**
GEVA				S	**Sn**	**16 41 08.3**	**-2.2**
GEVA				*i* AML	AML	16 41 09.0	
	comp=N,4μm,0.3s						
GEVA				*i* AML	AML	16 41 09.0	
	comp=E,4μm,0.4s						
ERCV	**ERCIS-VAN**	**0.62**	**326**	PG	**Pb**	**16 40 57.1**	**-0.9**
ERCV				SG	**Sb**	**16 41 06.9**	**-0.3**
ERCV	**ERCIS-VAN**	**0.62**	**326**	*e*Pg	**Pb**	**16 40 57.1**	**-0.9**
CLDR	**Caldiran**	**0.64**	**9**	PG	**Pg**	**16 40 55.1**	**-1.6**
CLDR				SG	**Sg**	**16 41 05.2**	**+0.2**
CLDR	**Caldiran**	**0.64**	**9**	*e*Pg	**Pg**	**16 40 54.7**	**-2.0**
AKDM	**Akdamar-Van**	**0.66**	**254**	PG	**Pg**	**16 40 57.4**	**+0.4**
AKDM				SG	**Sn**	**16 41 09.7**	**-2.2**
AKDM	**Akdamar-Van**	**0.66**	**254**	*e*Pg	**Pb**	**16 40 58.6**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.88**	**290**	P	**Pg**	**16 41 01.5**	**+0.2**
ADCV				S	**Sn**	**16 41 16.0**	**-1.5**
ADCV				*i* AML	AML	16 41 21.0	
	comp=E,2μm,0.5s						
ADCV				*i* AML	AML	16 41 22.0	
	comp=N,2μm,0.6s						
HAKT	**HAKKARI**	**0.95**	**184**	P	**Pg**	**16 41 02.2**	**-0.4**
HAKT				S	**Sn**	**16 41 20.7**	**+1.5**
HAKT				*i* AML	AML	16 41 23.0	
	comp=N,2μm,0.4s						
HAKT				*i* AML	AML	16 41 23.0	
	comp=E,2μm,0.7s						
YOVA	**Hakkari_Yksek**	**1.00**	**156**	*e*Pg	**Pg**	**16 41 03.6**	**0.0**
YOVA	**Hakkari_Yksek**	**1.00**	**156**	P	**Pg**	**16 41 03.6**	**0.0**
YOVA				S	**Sn**	**16 41 22.2**	**+1.7**
YOVA				*i* AML	AML	16 41 25.0	
	comp=E,884nm,0.5s						
YOVA				*i* AML	AML	16 41 26.0	
	comp=N,724nm,0.5s						
DYDN	**Diyadin**	**1.03**	**356**	P	**Pg**	**16 41 02.6**	**-1.7**
DYDN				S	**Sg**	**16 41 12.5**	**-5.2**
DYDN				*i* AML	AML	16 41 25.0	
	comp=N,2μm,0.7s						
DYDN				*i* AML	AML	16 41 30.0	
	comp=E,2μm,0.7s						
PERV	**Siirt/Pervari-**	**1.13**	**241**	P	**Pn**	**16 41 06.5**	**-0.8**
PERV				S	**Sn**	**16 41 25.6**	**+2.1**
PERV				*i* AML	AML	16 41 31.0	
	comp=N,2μm,0.5s						
PERV				*i* AML	AML	16 41 34.0	
	comp=E,2μm,0.6s						
MLAZ	**Malazgirt-MUS**	**1.15**	**304**	PN	**Pn**	**16 41 07.3**	**-0.4**
MLAZ	**Malazgirt-MUS**	**1.15**	**304**	*e*Pn	**Pn**	**16 41 07.3**	**-0.4**
AGRB	**Hanur-Agry**	**1.23**	**330**	PN	**Pn**	**16 41 07.7**	**-1.1**
AGRB	**Hanur-Agry**	**1.23**	**330**	*e*Pn	**Pn**	**16 41 07.7**	**-1.1**
CUKT	**Cukurca**	**1.27**	**186**	PN	**Pn**	**16 41 07.9**	**-1.3**
CUKT	**Cukurca**	**1.27**	**186**	*e*Pn	**Pg**	**16 41 09.6**	**+0.9**
BLIS	**Bitlis-Merkez**	**1.31**	**266**	*e*Pn	**Pn**	**16 41 08.8**	**-1.1**
BLIS	**Bitlis-Merkez**	**1.31**	**266**	P	**Pn**	**16 41 08.9**	**-1.1**
BLIS				S	**Sg**	**16 41 28.5**	**+1.8**
BLIS				*i* AML	AML	16 41 34.0	
	comp=E,475nm,0.4s						
KOTA	**Agri, Merkez-K**	**1.37**	**341**	P	**Pn**	**16 41 08.3**	**-2.4**
KOTA				S	**Sg**	**16 41 31.9**	**+3.6**
KOTA				*i* AML	AML	16 41 36.0	
	comp=N,598nm,1.6s						
KOTA				*i* AML	AML	16 41 37.0	
	comp=E,469nm,0.8s						
GURO	**Guroymak-BITLI**	**1.38**	**272**	PN	**Pb**	**16 41 10.3**	**-0.6**
GURO	**Guroymak-BITLI**	**1.38**	**272**	*e*Pn	**Pn**	**16 41 09.7**	**-1.0**
IGDI	**IGDIR**	**1.38**	**9**	*e*Pn	**Pn**	**16 41 10.0**	**-0.7**
IGDI	**IGDIR**	**1.38**	**9**	P	**Pn**	**16 41 09.4**	**-1.3**
IGDI				*i* AML	AML	16 41 33.0	
	comp=N,2μm,0.7s						
IGDI				S	**Sg**	**16 41 33.2**	**+4.6**
IGDI				*i* AML	AML	16 41 35.0	
	comp=E,886nm,0.7s						
ISHB	**Shabestar**	**1.46**	**98**	*e*Pn	**Pn**	**16 41 10.0**	**-2.0**
HYR	**Heyderabad**	**1.47**	**34**	*e*Pn	**Pb**	**16 41 12.1**	**-0.3**
HYR	**Heyderabad**	**1.47**	**34**	P	**Pb**	**16 41 12.2**	**-0.3**
	SNR=181						
HYR				S	**Sg**	**16 41 35.5**	**+4.0**
NAX	**Nakhchivan**	**1.49**	**63**	*e*Pn	**Pg**	**16 41 12.7**	**-0.3**
NAX	**Nakhchivan**	**1.49**	**63**	P	**Pg**	**16 41 12.7**	**-0.3**
	SNR=69						
NAX				S	**Sg**	**16 41 35.3**	**+3.0**
TASB	**TASBURUN-IGDIR**	**1.51**	**13**	PN	**Pn**	**16 41 11.8**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.51**	**13**	*e*Pn	**Pn**	**16 41 11.9**	**-0.7**
IMRD	**Marand**	**1.52**	**82**	*e*Pn	**Pn**	**16 41 11.1**	**-1.6**
IMRD				*e*		16 41 17.7	
	comp=Z,29μm,0.4s						
VNNZ	**Vanand**	**1.59**	**1**	⇑*i*P	**Pb**	**16 41 14.2**	**-0.4**
VNNZ				⇓*i*S	**Sg**	**16 41 39.4**	**+3.9**
NRKZ	**NAREK**	**1.64**	**24**	⇑*i*P	**Pn**	**16 41 12.9**	**-1.4**
NRKZ				⇑*i*S	**Sg**	**16 41 37.0**	**+0.1**
SBZ	**Shahbuz**	**1.64**	**57**	*e*Pn	**Pb**	**16 41 14.8**	**-0.6**
SBZ	**Shahbuz**	**1.64**	**57**	P	**Pb**	**16 41 14.9**	**-0.6**
	SNR=42						
SBZ				S	**Sg**	**16 41 40.0**	**+2.9**
METS	**Metsamor**	**1.65**	**8**	⇓*i*P	**Pb**	**16 41 14.6**	**-1.0**
METS				⇓*i*S	**Sg**	**16 41 40.1**	**+2.6**
EATA	**Eleskirt**	**1.68**	**324**	P	**Pb**	**16 41 15.3**	**-1.0**
EATA				S	**Sg**	**16 41 42.6**	**+4.1**
EATA				*i* AML	AML	16 41 47.0	
	comp=Z,721nm,0.7s						
EATA				*i* AML	AML	16 41 49.0	
	comp=Z,560nm,0.5s						
ORD	**Ordubad**	**1.78**	**76**	*e*Pn	**Pb**	**16 41 17.2**	**-0.5**
ORD	**Ordubad**	**1.78**	**76**	P	**Pb**	**16 41 17.2**	**-0.5**
	SNR=179						
ORD				S	**Sg**	**16 41 43.0**	**+1.4**
ARUZ	**Aruch**	**1.79**	**8**	⇓*i*P	**Pg**	**16 41 18.4**	**-0.3**
ARUZ				⇑*i*S	**Sg**	**16 41 46.6**	**+4.8**
MUSM	**Mu-Merkez**	**1.79**	**278**	P	**Pb**	**16 41 16.6**	**-1.4**
MUSM				S	**Sg**	**16 41 44.2**	**+2.2**
GNI	**Garni**	**1.80**	**24**	Pn	**Pn**	**16 41 15.8**	**-0.8**
	comp=Z,63nm,0.3s,baz=251,slow=3.1,SNR=156						
GNI	**Garni**	**1.80**	**24**	⇓*i*P	**Pb**	**16 41 17.0**	**-1.2**
GNI				⇓S	**Sg**	**16 41 42.5**	**+0.3**
GNI	**Garni**	**1.80**	**24**	PN	**Pn**	**16 41 15.9**	**-1.0**
ITBZ	**Tabriz**	**1.88**	**98**	*e*Pn	**Pn**	**16 41 17.8**	**-0.1**
IAZR	**Azarshahr**	**1.92**	**115**	*e*Pn	**Pb**	**16 41 19.7**	**-0.6**
IAZR				*e*		16 41 26.4	
	comp=Z,11μm,0.5s						
DIGO	**Kars**	**1.93**	**351**	P	**Pn**	**16 41 18.5**	**+0.1**
DIGO				S	**Sg**	**16 41 51.8**	**+5.4**
DIGO				*i* AML	AML	16 41 56.0	
	comp=Z,969nm,0.7s						
DIGO				*i* AML	AML	16 42 13.0	
	comp=Z,696nm,0.9s						
VRTB	**Varto-Mus**	**1.93**	**290**	PN	**Pb**	**16 41 19.7**	**-0.7**
VRTB	**Varto-Mus**	**1.93**	**290**	*e*Pn	**Pb**	**16 41 19.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.07**	**261**	PN	**Pb**	**16 41 21.1**	**-1.5**
SVAN	**Silvan-Diyarba**	**2.07**	**261**	*e*Pn	**Pb**	**16 41 21.4**	**-1.2**
BTMN	**Batman**	**2.08**	**253**	P	**Pb**	**16 41 22.5**	**-0.3**
BTMN				S	**Sg**	**16 41 50.7**	**-0.4**
BTMN			

IML S **Sn** **16 42 38.8 +2.4**
XNQ Khinaliq 4.28 50 P **Pn** **16 41 51.3 +0.6**
XNQ S **Sb** **16 42 47.9 -4.7**
PQL Pirkuli 4.35 57 P **Pn** **16 41 50.0 -1.7**
PQL S **Sn** **16 42 47.2 +4.2**
GBS Qobustan 4.47 61 P **Pn** **16 41 55.3 +2.0**
GBS S **Sn** **16 42 47.5 +1.6**
QSAR Qusar 4.56 47 S **Sn** **16 42 50.6 +2.5**
QUBA Quba, Azerbaij 4.60 50 P **Pn** **16 41 56.4 +1.4**
QUBA S **Sn** **16 42 50.8 +1.8**
SIZA Siyzn 4.70 55 P **Pn** **16 41 55.9 -0.5**
SIZA S **Sn** **16 42 56.1 +4.6**
JIR1 Jirandeh 5.11 109 *e*Pn **Pn** **16 42 03.5 +1.5**
KBZ Khabaz 5.26 353 Pn **Pn** **16 42 03.6 -0.3**
comp=Z,1.0nm,0.7s,baz=225,slow=7.1,SNR=1.5
KBZ LR LR 16 44 26.5
comp=Z,181nm,18.6s,baz=177,slow=44
IKOM Komasi 5.27 144 *e*Pn **Pn** **16 42 06.5 +2.2**
IKOM *e* 16 44 00.5
comp=Z,548nm,1.0s
KVAR Kislovodsk Arr 5.50 352 Pn **Pn** **16 42 08.8 +1.3**
comp=Z,1.6nm,0.5s,baz=219,slow=14,SNR=1.5
HAGD Aghdareh 5.66 129 *e*Pn **Pn** **16 42 12.5 +2.7**
IDOB Doab 5.90 142 *e*Pn **Pn** **16 42 15.1 +2.1**
IKFM Kafar-mosalman 5.96 145 *e*Pn **Pn** **16 42 15.2 +1.5**
IKFM *e* 16 42 21.8
comp=Z,566nm,0.4s
ASF Jabal al Asfar 8.46 224 Pn **Pn** **16 42 49.3 +1.3**
comp=Z,0.2nm,0.3s,baz=310,slow=21,SNR=2.2
ASF Lg Lg 16 45 20.7
comp=Z,0.2nm,0.3s,baz=256,slow=21,SNR=1.5
comp=Z,2.1nm,0.7s
MMAI Mount Meron Ar 8.74 234 Pn **Pn** **16 42 54.5 +2.6**
comp=Z,0.8nm,0.3s,baz=75,slow=14,SNR=3.0
comp=Z,0.5nm,0.4s
GEYT Alibeck 11.29 88 Pn **Pn** **16 43 28.0 +1.2**
comp=Z,0.2nm,0.3s,baz=206,slow=33,SNR=2.6
comp=Z,3.0nm,1.1s
EIL Elat 11.46 222 LR LR 16 48 33.7
comp=Z,53nm,19.7s,baz=38,slow=40
BELG Belogornoye 14.14 10 Pn **Pn** **16 44 04.6 -0.9**
comp=Z,0.3nm,0.3s,baz=201,slow=6.1,SNR=3.2
BELG LR LR 16 51 23.0
comp=Z,31nm,18.7s,baz=112,slow=46
comp=Z,6.3nm,0.8s
AKASG Malin Array Be 15.96 324 Pn **Pn** **16 44 28.9 -1.1**
comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=5.4
AKASG LR LR 16 51 48.2
comp=Z,41nm,18.2s,baz=188,slow=42
comp=Z,0.4nm,0.3s
WSAR Wadi Sarin 19.81 136 LR LR 16 54 49.6
comp=Z,24nm,21.3s,baz=337,slow=42
ARU Arti 20.44 24 P Pn 16 45 23.1 -1.9
comp=Z,2.1nm,0.5s,baz=217,slow=10,SNR=3.7
comp=Z,2.1nm,0.5s
VYHS Vyhne 20.58 307 *e*P Pn 16 45 25.3 -1.4
KLMR Klimovskoe 22.53 355 *e* **P** **16 45 44.3 -0.9**
KLMR AMP 16 45 51.9
comp=Z,37nm,1.2s
BVAR Borovoye Array 23.38 43 P **P** **16 45 54.9 +0.7**
comp=Z,0.2nm,0.4s,baz=297,slow=6.3,SNR=2.2
comp=Z,0.2nm,0.4s
GERES GERESS Array B 23.94 305 P **P** **16 45 59.0 -0.8**
comp=Z,0.3nm,0.4s,baz=116,slow=3.1,SNR=3.5
comp=Z,0.3nm,0.4s
CLL Collm 25.07 311 *e*Px Px 16 46 12.0
CLL *ex* x 16 46 18.0
FINES FINESS Array B 25.46 340 P **P** **16 46 13.5 +0.2**
comp=Z,3.6nm,0.9s,baz=141,slow=18,SNR=2.0
FINES LR LR 16 56 54.7
comp=Z,35nm,19.1s,baz=158,slow=38
comp=Z,3.6nm,0.9s
DAVOX Davos/Dischmat 26.11 299 P **P** **16 46 20.4 +0.7**
comp=Z,2.4nm,0.6s,baz=103,slow=10,SNR=3.7
comp=Z,2.4nm,0.6s
KURBB Kurchatov Arra 27.30 52 P **P** **16 46 30.4 +0.2**
comp=Z,1.4nm,0.2s,baz=263,slow=9.1,SNR=6.9
comp=Z,1.4nm,0.2s
HFS Hagfors 28.77 329 LR LR 16 58 57.3
comp=Z,33nm,18.3s,baz=66,slow=38
MKAR Makanchi Array 29.27 61 P **P** **16 46 47.9 +0.1**
comp=Z,0.5nm,0.8s,baz=278,slow=8.5,SNR=3.9
comp=Z,0.5nm,0.8s
NOA NORSAR Array B 30.29 329 LR LR 17 00 14.0
comp=Z,14nm,18.7s,baz=310,slow=39
ZALV Zalesovo Beam 31.79 47 P **P** **16 47 11.1 +1.1**
comp=Z,0.8nm,0.5s,baz=219,slow=6.7,SNR=1.9
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 32.60 348 LR LR 17 01 00.5
comp=Z,58nm,18.0s,baz=64,slow=38
ESDC Sonseca Array 36.73 287 P **P** **16 47 53.0 -0.1**
comp=Z,0.8nm,0.7s,baz=67,slow=9.0,SNR=5.4
comp=Z,0.8nm,0.7s
CMAR Chiang Mai Arr 51.64 97 P **P** **16 49 52.5 -0.1**
comp=Z,0.6nm,0.5s,baz=293,slow=9.1,SNR=6.6
comp=Z,0.6nm,0.5s
LSZ Lusaka 55.46 198 LR LR 17 16 58.3
comp=Z,70nm,18.5s,baz=140,slow=39
PDAR Pinedale Array 95.56 341 LR LR 17 36 44.5
comp=Z,31nm,18.1s,baz=48,slow=35

BJI ***24*** *16:55:51.6±0.0, 37.°20N×141.°65E, h10km, mb4.6/29, mB4.8/13*
MOS ***24*** *16:55:53.0±1.0, 37.°15N×141.°47E, h13km, mb4.9/28, Error ellipse: s-maj=8.3km s-min=5.5km az=101.6*
NIED ***24*** *16:55:54.7, 37.°16N×141.°49E, h29km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.99; Mθθ0.30; Mϕϕ0.69; Mrθ0.76; Mθϕ0.71; Mϕr1.04; Fault plane solution: M₀1.70000×10¹⁵ NP1:ϕs39.00000°, δ20.00000°, λ-87.00000°. NP2:ϕs216.00000°, δ70.00000°, λ-91.00000°.*
JMA ***24*** *16:55:54.7±0.2, 37.°2N±0.°4×141.°5E±1.°0, h29km±1km, MD4.5/40, MV4.6/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
NEIC ***24*** *16:55:55.1±2.3, 37.°19N±0.°04×141.°42E±0.°06, h10km±1km, mb4.7/103, Error ellipse: s-maj=9.1km s-min=6.1km az=240.0*
IDC ***24*** *16:55:60.0±1.8, 37.°12N×141.°37E, h54km±17km, mb4.0/25, mbtmp4.3/31, ML3.4/6, MS3.4/15, Error ellipse: s-maj=13.1km s-min=10.6km az=97.0*
ISC 24 16:55:54.5±1.2, 37.°16N±0.°03×141.°48E±0.°04, h11km±7km, n346, σ1ϕ59/291, mb4.6/106, MS3.5/14, 12C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**293**	P		**Pg**	**16 56 05.1**	**+0.4**
JFK	**Kawauchi**	**0.52**	**293**	A		A	16 56 05.1	
	comp=E,25nm,3.2s,comp=E,14nm,3.6s							
JMST	**Minamisoumatoc**	**0.73**	**321**	*i* P		**Pg**	**16 56 08.7**	**0.0**
JMST				S		**Sb**	**16 56 19.0**	**-0.3**
JMST	**Minamisoumatoc**	**0.73**	**321**	A		A	16 56 08.7	
	comp=E,21nm,1.0s,comp=E,14nm,0.6s							
JFFD	**Fukushimafurud**	**0.73**	**265**	*i* P		**Pg**	**16 56 08.7**	**0.0**
JFFD				S		**Sg**	**16 56 18.4**	**+0.1**
JFFD	**Fukushimafurud**	**0.73**	**265**	A		A	16 56 08.7	
	comp=E,17nm,0.4s,comp=E,42nm,0.5s							
JMM	**Marumori**	**0.89**	**323**			**Pg**	**16 56 11.2**	**-0.5**
JMM						**Sg**	**16 56 22.8**	**-0.4**
JMM	**Marumori**	**0.89**	**323**	P		**Pg**	**16 56 11.5**	**-0.1**
JMM	**Marumori**	**0.89**	**323**	*i* P		**Pg**	**16 56 11.3**	**-0.3**
JMM				S		**Sg**	**16 56 23.2**	**0.0**
JMM	**Marumori**	**0.89**	**323**	A		A	16 56 11.3	
	comp=E,12nm,4.3s,comp=E,11nm,4.9s							
JHO	**Hitachi**	**0.91**	**233**	*i* P		**Pg**	**16 56 10.9**	**-1.1**
JHO				*e*S		**Sg**	**16 56 23.5**	**-0.3**
JHO	**Hitachi**	**0.91**	**233**	A		A	16 56 10.9	
	comp=E,12nm,0.9s,comp=E,12nm,2.2s							
JHYU	**Hitachinakayam**	**1.08**	**221**	A		A	16 56 14.2	
	comp=E,15nm,0.7s,comp=E,18nm,0.7s							
JSB	**Shiboa**	**1.26**	**262**	*i* P		**Pn**	**16 56 17.9**	**-0.2**
JSB				S		**Sb**	**16 56 34.7**	**+0.3**
JSB	**Shiboa**	**1.26**	**262**	A		A	16 56 17.9	
	comp=E,41nm,4.4s,comp=E,28nm,0.8s							
JIO	**Ouri**	**1.30**	**356**	P		**Pn**	**16 56 17.4**	**-1.2**
JYAR	**Yonezawaarcadi**	**1.30**	**306**	A		A	16 56 17.5	
	comp=E,58nm,1.0s,comp=E,45nm,0.8s							
JOU	**Okura**	**1.36**	**332**	*i* P		**Pn**	**16 56 19.4**	**-0.1**
JOU				S		**Sb**	**16 56 37.6**	**0.0**
JOU	**Okura**	**1.36**	**332**	A		A	16 56 19.4	
	comp=E,15nm,1.5s,comp=E,24nm,0.9s							
JYT	**Yasato**	**1.39**	**228**	A		A	16 56 18.8	
	comp=E,17nm,0.4s,comp=E,14nm,0.3s							
JIHU	**Itakohorinouch**	**1.42**	**213**	A		A	16 56 19.2	
	comp=E,55nm,1.9s,comp=E,66nm,6.0s							
JFY	**Yanaizu**	**1.43**	**280**	*i* P		**Pn**	**16 56 20.4**	**-0.1**
JFY	**Yanaizu**	**1.43**	**280**	A		A	16 56 20.4	
	comp=E,14nm,1.2s,comp=E,9.0nm,2.1s							
JOFO	**Osakifurukawao**	**1.51**	**343**	A		A	16 56 20.5	
	comp=E,57nm,2.0s,comp=E,51nm,1.5s							
CHOJ	**Chosi**	**1.54**	**199**	A		A	16 56 20.9	
	comp=E,13nm,1.5s,comp=E,11nm,3.2s							
JYS	**Shirataka**	**1.54**	**314**	A		A	16 56 21.1	
	comp=E,34nm,1.0s,comp=E,34nm,1.4s							
JSMT	**Sammumatsuo**	**1.73**	**209**	A		A	16 56 23.7	
	comp=E,29nm,5.1s,comp=E,41nm,2.1s							
JAG	**Ashikaga**	**1.78**	**246**	A		A	16 56 24.6	
	comp=E,7.0nm,1.1s,comp=E,6.0nm,0.5s							
JNS	**Sasagawa**	**1.84**	**292**	A		A	16 56 25.5	
	comp=E,4.0nm,2.6s,comp=E,3.0nm,3.0s							
OFUJ	**Ofunato**	**1.92**	**5**	A		A	16 56 26.6	
	comp=E,7.0nm,3.4s,comp=E,3.0nm,1.0s							
JUON	**Uonuma**	**1.93**	**272**	A		A	16 56 26.8	
	comp=E,5.0nm,4.3s,comp=E,4.0nm,0.9s							
JYA	**Atsumi**	**2.00**	**316**	A		A	16 56 27.8	
	comp=E,13nm,0.9s,comp=E,9.0nm,0.9s							
JCN	**Nagara**	**2.02**	**211**	A		A	16 56 28.0	
	comp=E,27nm,2.4s,comp=E,21nm,4.6s							
TOK	**Tokyo**	**2.02**	**224**	A		A	16 56 28.0	
	comp=E,17nm,2.1s,comp=E,20nm,2.7s							
JHU	**Hanno**	**2.20**	**234**	A		A	16 56 30.6	
	comp=E,6.0nm,1.3s,comp=E,7.0nm,6.4s							
JYYZ	**Yamagatayuza**	**2.22**	**327**	A		A	16 56 30.9	
	comp=E,16nm,6.7s,comp=E,21nm,1.8s							
JIZZ	**Izumozaki**	**2.23**	**280**	A		A	16 56 31.2	
	comp=E,28nm,2.7s,comp=E,15nm,3.3s							
JOM	**Ohasama**	**2.31**	**357**	A		A	16 56 32.2	
	comp=E,5.0nm,1.8s,comp=E,3.0nm,0.6s							
JRG	**Rokugo**	**2.33**	**344**	A		A	16 56 32.5	
	comp=E,5.0nm,4.3s,comp=E,5.0nm,1.0s							
JGK	**Kuni**	**2.35**	**256**	A		A	16 56 32.9	
	comp=E,6.0nm,3.0s,comp=E,7.0nm,3.4s							
JRY	**Ryogami san**	**2.36**	**242**	A		A	16 56 33.0	
	comp=E,4.0nm,1.6s,comp=E,4.0nm,1.4s							
JSGW	**Sagamiharawaka**	**2.40**	**230**	A		A	16 56 33.5	
	comp=E,5.0nm,2.9s,comp=E,4.0nm,1.2s							
TATJ	**Tateyama 2**	**2.48**	**212**	A		A	16 56 34.6	
	comp=E,13nm,2.4s,comp=E,11nm,2.1s							
JYW	**Yuwa**	**2.58**	**338**	A		A	16 56 36.1	
	comp=E,13nm,2.3s,comp=E,13nm,4.3s							
JSZI	**Iwateshizukuis**	**2.61**	**351**	A		A	16 56 36.4	
	comp=E,12nm,1.8s,comp=E,13nm,1.6s							
JJN	**Nakama**	**2.65**	**270**	A		A	16 56 37.1	
	comp=E,8.0nm,2.6s,comp=E,6.0nm,2.6s							
MJAR	**Matsushiro Arr**	**2.69**	**258**	P		**Pn**	**16 56 38.4**	**+0.6**
	4.9nm,0.3s,baz=84,slow=24,SNR=144							
MJAR				S		**Sn**	**16 57 11.0**	**+0.6**
	104nm,0.6s,baz=63,slow=23,SNR=4.8							
	76nm,0.4s							
MAJO	**Matsushiro**	**2.69**	**258**	Pn		**Pn**	**16 56 38.6**	**+0.8**
MAJO	**Matsushiro**	**2.69**	**258**	P		**Pn**	**16 56 39.2**	**+1.4**
MAJO	**Matsushiro**	**2.69**	**258**	*i* P		**Pn**	**16 56 38.9**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.69**	**258**			**Pn**	**16 56 39.5**	**+1.7**
JSD	**Sado**	**2.70**	**290**	Pn		**Pn**	**16 56 37.4**	**-0.5**
JSD	**Sado**	**2.70**	**290**	P		**Pn**	**16 56 38.0**	**+0.2**
JOD2	**Odawara 2**	**2.70**	**226**	A		A	16 56 37.8	
	comp=E,6.0nm,2.7s,comp=E,5.0nm,5.2s							
JHTM	**Izuhatsuma**	**2.97**	**223**	A		A	16 56 41.6	
	comp=E,7.0nm,1.4s,comp=E,10.0nm,1.1s							
JKEN	**Kujiedanarisaw**	**3.05**	**3**	A		A	16 56 42.6	
	comp=E,7.0nm,5.7s,comp=E,8.0nm,0.8s							
JANG	**Nango**	**3.21**	**1**	A		A	16 56 45.0	
	comp=E,3.0nm,1.8s,comp=E,2.0nm,1.3s							
JNTW	**Noshirotokiwa**	**3.27**	**342**	A		A	16 56 45.9	
	comp=E,13nm,2.8s,comp=E,15nm,3.4s							
JOG3	**Oga3**	**3.33**	**326**	A		A	16 56 42.8	
	comp=E,5.0nm,2.8s,comp=E,6.0nm,2.4s							
SHZ3	**Shizuoka 3**	**3.37**	**233**	A		A	16 56 47.3	
	comp=E,3.0nm,5.1s,comp=E,3.0nm,2.9s							
JTM	**Tenmabayashi**	**3.64**	**355**	Pn		**Pn**	**16 56 51.2**	**+0.5**
JTM	**Tenmabayashi**	**3.64**	**355**	P		**Pn**	**16 56 52.0**	**+1.3**
JGF	**Kuroka**	**3.67**	**246**	Pn		**Pn**	**16 56 52.3**	**+1.1**
JGF	**Kuroka**	**3.67**	**246**	P		**Pn**	**16 56 53.1**	**+1.9**
INU	**Inuyama**	**4.03**	**245**	Pn		**Pn**	**16 56 57.2**	**+1.1**
JAHD	**Aomorihigashid**	**4.10**	**359**	A		A	16 56 57.5	
	comp=E,8.0nm,5.1s,comp=E,5.0nm,1.2s							
JHJ2	**Mitsune**	**4.26**	**199**	Pn		**Pn**	**16 57 00.9**	**+1.6**
JHJ	**Hachijo jima 2**	**4.26**	**199**	P		**Pn**	**16 57 00.4**	**+1.1**
	42nm,0.3s,baz=74,slow=18,SNR=1.4							
JHJ				S		**Sn**	**16 57 48.8**	**-0.3**
	311nm,0.4s,baz=61,slow=19,SNR=2.0							
	169nm,0.3s							
ERM	**Erimo**	**5.02**	**14**	Pn		**Pn**	**16 57 10.3**	**+0.6**
ERM	**Erimo**	**5.02**	**14**	*ce*P		**Pn**	**16 57 09.7**	**0.0**
ERM				pmax	pmax			
	comp=Z,55nm,1.7s							
ASAJ	**Asahikawa**	**7.00**	**7**	P		**Pn**	**16 57 36.6**	**-0.4**
JKA	**Kamikawa-asahi**	**7.00**	**7**	Pn		**Pn**	**16 57 36.6**	**-0.4**
NMR	**Nemuro--Hokkai**	**7.00**	**26**	*e*P		**Pn**	**16 57 35.4**	**-1.5**
NMR				*e*S		**Sn**	**16 58 51.6**	**-4.9**
JMN	**Monobe**	**7.08**	**243**	Pn		**Pn**	**16 57 35.4**	**-2.7**
JHS	**Saijyo**	**7.10**	**255**	Pn		**Pn**	**16 57 40.1**	**+1.7**
JHS	**Saijyo**	**7.10**	**255**	P		**Pn**	**16 57 40.6**	**+2.2**
RUSJ	**Misakicho**	**7.51**	**21**	*e*P		Pn	16 57 49.4	+5.5
RUSJ				*e*S		**Sn**	**16 59 06.3**	**-2.6**
YUK	**Yuzh-Kuril'sk**	**7.63**	**25**	*e*P		**Pn**	**16 57 47.5**	**+1.9**
YUK				*e*S		**Sn**	**16 59 09.8**	**-2.3**
YUK				pmax	pmax			
	comp=N,19nm,0.4s							
YUK				pmax	pmax			
	comp=Z,56nm,0.4s							
YSS	**Yuzh-Sakhalins**	**9.83**	**5**	*e*P		**Pn**	**16 58 17.2**	**+1.4**
YSS				pmax	pmax			
	comp=Z,20nm,0.7s							
YSS				MLR	MLR			
	comp=Z,900nm,16.0s							
JCJ	**Chichijima**	**10.05**	**176**	P		**Pn**	**16 58 18.3**	**-0.5**
	comp=Z,35nm,0.3s,baz=298,slow=20,SNR=1.3							
JCJ				S		Sn	17 00 01.6	-10
	comp=Z,46nm,0.6s,baz=292,slow=24,SNR=1.4							
JCJ				LR	LR		17 02 43.9	
	comp=Z,180nm,18.1s,baz=344,slow=40							
JCJ	**Chichijima**	**10.05**	**176**	Pn		**Pn**	**16 58 17.9**	**-1.0**
USA0B	**Ussuriysk Arra**	**10.06**	**317**	Pn		**Pn**	**16 58 23.0**	**+4.1**
USA0B	**Ussuriysk Arra**	**10.06**	**317**	P		**Pn**	**16 58 23.0**	**+4.1**
USRK	**Ussuriysk Ar.**	**10.06**	**317**	P		**Pn**	**16 58 22.7**	**+3.8**
	comp=Z,0.7nm,0.3s,baz=130,slow=13,SNR=36							
USRK				LR	LR		17 01 51.1	
	comp=Z,233nm,19.5s,baz=154,slow=35							
	comp=Z,13nm,0.7s							
JTU	**Tsushima**	**10.15**	**259**	Pn		**Pn**	**16 58 18.1**	**-2.1**
JSU	**Suzuyama**	**10.71**	**241**	Pn		**Pn**	**16 58 27.9**	**0.0**
KSRS	**Korea Array**	**10.80**	**276**	P		**Pn**	**16 58 31.6**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=91,slow=14,SNR=13							
	comp=Z,8.0nm,1.0s							
KSAR	**Wonju Array Be**	**10.83**	**276**	Pn		**Pn**	**16 58 27.3**	**-2.2**
KSAR	**Wonju Array Be**	**10.83**	**276**	P		**Pn**	**16 58 27.3**	**-2.2**
KS19	**Wonju Array Si**	**10.84**	**276**	Pn		**Pn**	**16 58 28.8**	**-0.9**
MDJ	**Mudanjiang**	**11.67**	**313**			**Pn**	**16 58 39.0**	**-1.9**
MDJ	**Mudanjiang**	**11.67**	**313**	P		Pn	16 58 45.9	+5.0
MDJ				pmax	pmax			
	comp=Z,16nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,280nm,7.5s							
CN2	**Changchun**	**13.88**	**304**	P		**P**	**16 59 15.3**	**-4.1**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
KLR	**Kul'dur**	**13.98**	**333**	P		**Pn**	**16 59 13.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=178,slow=17,SNR=1.5							
KLR				LR	LR		17 04 16.3	
	comp=Z,98nm,18.6s,baz=140,slow=36							
	comp=Z,0.4nm,0.4s							
SNY	**Shenyang**	**14.58**	**294**	⇓P		**P**	**16 59 29.4**	**+2.2**
SNY				S		**S**	**17 02 24.8**	**+3.2**
SNY				pmax	pmax			
	comp=Z,24nm,1.1s							
SNY				pmax	pmax			
	comp=Z,100nm,5.8s							
SNY				LR	LR			
	comp=N,760nm,13.2s							
SNY				LR	LR			
	comp=Z,370nm,10.5s							
SNY				LR	LR			
	comp=Z,390nm,10.9s							
HEH	**HeiHe**	**16.53**	**327**	*e*P		**P**	**16 59 48.8**	**0.0**
HEH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ZEA	**Zeya**	**19.29**	**334**	*e*P		**Pn**	**17 00 19.8**	**-0.4**
ZEA				pmax	pmax			
	comp=N,10.0nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.0s							
NJ2	**Nanjing**	**19.29**	**261**	*e*P		**Pn**	**17 00 20.3**	**-0.1**
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
TIA	**Tai'an**	**19.54**	**275**	*e*P		**P**	**17 00 22.8**	**+0.7**
TIA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PETK	**Petropavlovsk-**	**19.55**	**30**	P		**Pn**	**17 00 24.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=317,slow=8.3,SNR=2.1							
	comp=Z,11nm,1.1s							
XLT	**XiLinHaoTe**	**20.40**	**297**	⇓*i*P		**P**	**17 00 29.6**	**-1.9**
XLT				pmax	pmax			
	comp=Z,30nm,0.8s							
XLT				pmax	pmax			
	comp=Z,150nm,4.8s							
HNS	**HongShan**	**21.28**	**279**	⇓P		**P**	**17 00 38.9**	**-2.0**
HNS				pmax	pmax			
	comp=Z,33nm,1.0s							
MA2	**Magadan**	**23.22**	**12**	P		**P**	**17 01 03.0**	**+1.7**
	comp=Z,26nm,1.0s,baz=182,slow=13,SNR=4.0							
	comp=Z,26nm,1.0s							
MA2	**Magadan**	**23.22**	**12**	P		**P**	**17 01 02.4**	**+1.0**
MA2				lAmb	lAmb		17 01 07.7	
	comp=Z,39nm,1.0s							
YAK	**Yakutsk**	**25.96**	**347**	P		**P**	**17 01 25.9**	**-0.8**
	comp=Z,6.0nm,0.5s,baz=96,slow=5.6,SNR=7.7							
YAK				LR	LR		17 11 57.7	
	comp=Z,80nm,19.2s,baz=256,slow=37							
	comp=Z,6.0nm,0.5s							
YAK	**Yakutsk**	**25.96**	**347**	P		**P**	**17 01 25.3**	**-1.4**
YAK				lAmb	lAmb		17 01 32.6	
	comp=Z,26nm,0.8s							
YAK	**Yakutsk**	**25.96**	**347**	*e*P		**P**	**17 01 26.5**	**-0.2**
YAK				pmax	pmax			
	comp=Z,24nm,0.9s							
YAK				pmax	pmax			
	comp=E,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,5.0nm,0.9s							
XAN	**Xi'an**	**26.58**	**273**	P		**P**	**17 01 35.8**	**+3.1**
XAN				pP	sP		17 01 39.3	+2.0
XAN				sP	pP		17 01 42.0	+6.1
XAN				pmax	pmax			
	comp=N,5.0nm,0.9s							
SEY	**Seymchan**	**26.66**	**11**	P		**P**	**17 01 34.5**	**+1.4**
	comp=N,4.5nm,0.8s,baz=213,slow=16,SNR=3.4							
	comp=N,4.5nm,0.8s							
ENH	**Enshi**	**27.39**	**265**	P		**P**	**17 01 37.1**	**-2.9**
ENH				lAmb	lAmb		17 01 44.5	
	comp=Z,12nm,0.7s							
SONM	**Songino Array**	**27.75**	**304**	P		**P**	**17 01 42.4**	**-0.8**
	comp=Z,4.5nm,0.8s,baz=104,slow=8.8,SNR=29							
	comp=Z,4.5nm,0.8s							
SONM	**Songino Array**	**27.75**	**304**	P		**P**	**17 01 42.5**	**-0.8**
SONM				lAmb	lAmb		17 01 48.5	
	comp=Z,8.6nm,0.7s							
SONM	**Songino Array**	**27.75**	**304**	*e*P		**P**	**17 01 43.7**	**+0.4**
SONM				pmax	pmax			
	comp=Z,8.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T		T	17 31 08.6	
	baz=314,slow=75,SNR=697							
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T		T	17 31 14.3	
	baz=314,slow=75,SNR=435							
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T		T	17 31 15.0	
	baz=314,slow=75,SNR=525							
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T		T	17 32 05.6	
	baz=316,slow=76,SNR=416							
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T		T	17 32 05.7	
	baz=316,slow=76,SNR=465							
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T		T	17 32 05.8	
	baz=316,slow=76,SNR=331							
LZH	**Lanzhou**	**30.09**	**279**	*e*P		**P**	**17 02 04.3**	**+0.1**
LZH				pmax	pmax			
	comp=Z,12nm,1.1s							
ZAK	**Zakamensk**	**30.23**	**308**	*e*P		**P**	**17 02 01.2**	**-4.0**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
DAV	**Davao City (W)**	**33.27**	**210**	LR	LR		17 15 01.7	
	comp=Z,16nm,19.4s,baz=19,slow=34							
TIXI	**Tiksi**	**35.17**	**353**	*i* P		**P**	**17 02 51.2**	**+3.2**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.7s							
NIKH	**Nikolski High**	**37.66**	**49**	P		**P**	**17 03 11.7**	**+2.3**
TNCH	**TengChong**	**38.42**	**264**	P		**P**	**17 03 17.3**	**+0.9**
TNCH				sP	sP		17 03 24.3	+3.3
TNCH				pmax	pmax			
	comp=Z,17nm,0.9s							
TNCH				pmax	pmax			
	comp=Z,43nm,3.7s							
CRAI	**Chiangrai**	**39.46**	**256**	P		**P**	**17 03 25.1**	**+0.1**
DGZ	**Jazzator, Alta**	**40.36**	**306**	*i* P		**P**	**17 03 32.7**	**+0.4**
DGZ				pmax	pmax			
	comp=Z,22nm,0.8s							
PHRA	**Phrae**	**40.56**	**254**	P		**P**	**17 03 34.1**	**+0.1**
TOLI2	**Tolitoli**	**40.64**	**213**	P		**P**	**17 03 35.8**	**+1.1**
CM31	**Chiang Mai Arr**	**41.58**	**255**	P		**P**	**17 03 41.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**41.58**	**255**	P		**P**	**17 03 41.1**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=46,slow=7.9,SNR=4.4							
CMAR				LR	LR		17 22 14.9	
	comp=Z,14nm,18.7s,baz=70,slow=38							
	comp=Z,0.6nm,0.6s							
ZAA0	**Zalesovo Array**	**41.87**	**312**	P		**P**	**17 03 44.0**	**-0.5**
ZAA0				lAmb	lAmb	

comp=Z,18nm,1.4s
RAMN Ramite 47.04 274 *e*P P **17 04 26.3 -0.2**
comp=Z,28nm,0.8s
JIRN Jiri 47.05 275 *e*P P **17 04 26.9 +0.2**
CAST Castle Rocks 47.09 34 P P **17 04 26.6 +0.4**
CAST IAmb IAmb 17 04 37.8
comp=Z,6.7nm,1.3s
GUN Gumba 47.19 276 *e*P P **17 04 27.7 -0.1**
comp=Z,18nm,0.5s
BPAW Bear Paw Mtn. 47.59 33 P P **17 04 32.5 +2.4**
BPAW IAmb IAmb 17 04 47.4
comp=Z,8.0nm,1.4s
PKI Pulchoki 47.72 275 *e*P P **17 04 31.6 -0.2**
MLY Manley 47.72 32 P P **17 04 32.3 +1.3**
KKN Kakani 47.72 276 *e*P P **17 04 31.7 0.0**
PKIN Phulchoki 47.72 275 *e*P P **17 04 31.6 -0.2**
comp=Z,5.7nm,0.5s
GKN Gorkha 48.14 276 *e*P P **17 04 34.6 -0.3**
comp=Z,36nm,0.8s
H23K Yukon River 48.23 31 P P **17 04 36.3 +1.3**
H23K IAmb IAmb 17 05 04.4
comp=Z,7.9nm,1.2s
TOLK Toolik Lake Re 48.34 27 P P **17 04 37.6 +1.9**
TOLK IAmb IAmb 17 04 44.8
comp=Z,13nm,1.4s
TARG Taragay, Kyrgy 48.39 296 P P **17 04 36.7 -0.2**
TARG IAmb IAmb 17 05 00.4
comp=Z,8.2nm,0.9s
TARG Taragay, Kyrgy 48.39 296 P P **17 04 36.7 -0.2**
TARG pmax pmax
comp=Z,8.0nm,0.9s
NEA2 Nenana 48.43 33 P P **17 04 38.8 +2.3**
GHO Glory Hole Cre 48.58 36 P P **17 04 38.9 +1.1**
GHO IAmb IAmb 17 04 58.7
comp=Z,22nm,1.4s
DANN Dangsing 48.68 277 *e*P P **17 04 39.4 +0.2**
comp=Z,49nm,0.7s
MDM Murphy Dome 48.78 32 P P **17 04 41.0 +1.8**
MDM IAmb IAmb 17 04 42.2
comp=Z,5.3nm,1.0s
SML Sawmill 48.86 36 P P **17 04 41.3 +1.4**
KOLN Koldanda 49.06 277 *e*P P **17 04 41.3 -0.8**
SCM Sheep Creek Mo 49.34 36 P P **17 04 43.9 +0.4**
SCM Sheep Creek Mo 49.34 36 P P **17 04 43.9 +0.4**
SCM pmax pmax
comp=Z,25nm,1.4s
IL31 49.36 32 P P **17 04 44.4 +0.9**
IL31 IAmb IAmb 17 05 14.2
comp=Z,8.0nm,1.3s
ILAR Eielson Array 49.36 32 P P **17 04 44.8 +1.2**
comp=Z,2.1nm,0.8s,baz=266,slow=5.8,SNR=21
comp=Z,2.1nm,0.8s
KSH Kashi 50.40 294 P P **17 04 56.1 +4.1**
KSH sP sP 17 05 06.0 +9.4
AAK Ala-Archa 50.47 298 LR LR 17 27 22.0
comp=Z,71nm,18.8s,baz=64,slow=37
BVAR Borovoye Array 50.52 312 LR LR 17 27 11.7
comp=Z,37nm,20.1s,baz=71,slow=37
BRVK Borovoye 50.58 312 P P **17 04 50.8 -2.2**
BRVK IAmb IAmb 17 04 59.3
comp=Z,4.3nm,0.8s
BRVK Borovoye 50.58 312 *ce*P P **17 04 53.2 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
N25K Chitina, Valde 50.65 36 P P **17 04 54.3 +0.7**
N25K IAmb IAmb 17 05 35.9
comp=Z,10.0nm,1.5s
MTN Manton Dam 50.68 193 P P **17 04 54.2 +0.1**
MTN IAmb IAmb 17 05 01.0
comp=Z,4.3nm,0.8s
EGAK Eagle 51.81 32 P P **17 05 01.5 -0.5**
EGAK IAmb IAmb 17 05 08.9
comp=Z,9.9nm,1.5s
I29M Ogilvie Camp, 52.92 31 P P **17 05 12.1 +1.8**
I29M IAmb IAmb 17 05 17.4
comp=Z,7.1nm,1.0s
KK31 Karatay Array 53.10 300 P P **17 05 10.6 -1.4**
KK31 Karatay Array 53.10 300 P P **17 05 10.6 -1.4**
KK31 pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 53.10 300 P P **17 05 10.8 -1.2**
KKAR Karatay Array 53.10 300 P P **17 05 10.7 -1.3**
KKAR IAmb IAmb 17 05 31.1
comp=Z,5.1nm,1.1s
KKAR Karatay Array 53.10 300 P P **17 05 10.8 -1.2**
EPYK Eagle Plains 53.39 30 P P **17 05 15.0 +1.2**
EPYK IAmb IAmb 17 05 21.4
comp=Z,10nm,0.9s
DRK Karamyk 53.44 295 P P **17 05 13.6 -1.3**
DRK IAmb IAmb 17 05 24.8
comp=Z,5.6nm,0.7s
KNRA Kununurra 53.90 195 P P **17 05 18.7 +0.7**
KNRA IAmb IAmb 17 05 35.3
comp=Z,10nm,1.0s
GSI Gunungsitoli 53.91 239 P P **17 05 18.8 +0.6**
BTK Batken 53.94 296 P P **17 05 18.5 +0.2**
BTK Batken 53.94 296 P P **17 05 18.5 +0.2**
BTK pmax pmax
comp=Z,5.0nm,1.1s
M30M Minto, Yukon 54.10 34 P P **17 05 21.8 +2.7**
INK Inuvik 54.25 27 P P **17 05 20.1 +0.2**
comp=Z,2.8nm,0.9s,baz=274,slow=9.7,SNR=7.4
comp=Z,2.8nm,0.9s
INK Inuvik 54.25 27 P P **17 05 20.6 +0.7**
INK IAmb IAmb 17 05 51.1
comp=Z,6.0nm,1.2s
INK Inuvik 54.25 27 P P **17 05 20.7 +0.7**
INK pmax pmax
comp=Z,6.0nm,1.2s
P29M Windy Craggy 54.34 38 P P **17 05 23.3 +2.5**
P29M IAmb IAmb 17 05 51.9
comp=Z,18nm,1.4s
NIL Nilore 54.62 288 P P **17 05 22.0 -1.3**
NIL Nilore 54.62 288 P P **17 05 22.0 -1.3**
NIL pmax pmax
comp=Z,10.0nm,0.6s
M31M Drury Creek, Y 55.28 35 P P **17 05 29.3 +1.7**
WHY Whitehorse 55.46 36 P P **17 05 31.0 +2.0**
WHY IAmb IAmb 17 06 05.8
comp=Z,9.2nm,1.3s
A36M Sachs Harbour 56.12 22 P P **17 05 35.6 +2.2**
A36M IAmb IAmb 17 06 05.3
comp=Z,7.7nm,1.2s
SIT Sitka 56.26 41 P P **17 05 35.8 +1.2**
SIT Sitka 56.26 41 P P **17 05 35.8 +1.2**
SIT pmax pmax
comp=Z,73nm,1.5s
ARU Arti 56.30 318 LR LR 17 31 31.9
comp=Z,47nm,19.0s,baz=240,slow=38
ARU Arti 56.30 318 P P **17 05 34.5 -0.5**
ARU IAmb IAmb 17 05 40.2
comp=Z,14nm,0.9s
ARU Arti 56.30 318 *c i*P P **17 05 35.1 +0.2**
ARU 17 06 34.2
ARU 17 07 37.7
ARU S S **17 13 23.8 -0.9**
ARU SS SS **17 17 08.7 -2.2**
ARU pmax pmax
comp=Z,18nm,1.0s
WR0 Warramunga Arr 57.19 188 P P **17 05 41.0 -0.6**
WR0 IAmb IAmb 17 05 55.8
comp=Z,5.9nm,1.1s
WB2 Warramunga Arr 57.19 188 P P **17 05 41.2 -0.4**
WRA Warramunga Arr 57.19 188 P P **17 05 41.4 -0.3**
comp=Z,1.1nm,0.5s,baz=5.7,slow=7.4,SNR=20
comp=Z,1.1nm,0.5s
WRA Warramunga Arr 57.19 188 P P **17 05 41.3 -0.3**
C36M Paulatuk 57.29 25 P P **17 05 41.7 -0.1**
KBL Kabul 57.42 291 P P **17 05 41.8 -1.7**
KBL IAmb IAmb 17 06 05.5
comp=Z,5.0nm,0.5s
KBL Kabul 57.42 291 P P **17 05 41.8 -1.7**
KBL pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 57.90 310 P P **17 05 45.1 -1.2**
ABKAR Akbulak array 57.90 310 P P **17 05 45.0 -1.3**
ABKAR IAmb IAmb 17 05 51.3
comp=Z,8.1nm,0.9s
EUNU Eureka 60.05 9 P P **17 06 01.3 +0.3**
EUNU IAmb IAmb 17 06 32.9
comp=Z,4.5nm,1.1s
KIRV Kirov 60.18 323 *ce*P P **17 06 02.3 +0.3**
SPITS Spitsbergen Ar 60.41 349 P P **17 06 03.5 +0.1**
SPITS pmax pmax
comp=Z,41nm,1.4s

PRGR Permogore 60.69 327 *e*P P **17 06 05.8 +0.4**
PRGR pmax pmax
comp=Z,7.0nm,1.1s
ASAR Alice Springs 60.92 188 P P **17 06 06.7 -0.8**
comp=Z,0.7nm,0.9s,baz=358,slow=4.4,SNR=9.2
comp=Z,0.7nm,0.9s
ASAR Alice Springs 60.92 188 P P **17 06 07.6 +0.1**
ASAR Alice Springs 60.92 188 P P **17 06 07.6 +0.1**
RES Resolute Bay 62.47 14 P P **17 06 14.1 -3.2**
RES IAmb IAmb 17 06 32.8
comp=Z,3.8nm,1.0s
RES Resolute Bay 62.47 14 P P **17 06 14.1 -3.2**
RES pmax pmax
comp=Z,4.0nm,1.0s
HRA Herat 62.51 294 P P **17 06 16.5 -2.0**
HRA IAmb IAmb 17 06 25.4
comp=Z,3.1nm,0.8s
YKA Yellowknife Ar 63.67 30 P P **17 06 24.9 -0.6**
comp=Z,0.8nm,0.8s,baz=324,slow=8.8,SNR=2.3
comp=Z,0.8nm,0.8s
KLMR Klimovskoe 63.68 328 *e*P P **17 06 24.8 -0.7**
KLMR AMP 17 06 30.3
comp=Z,11nm,0.7s
KLMR Klimovskoe 63.68 328 *e*P P **17 06 24.8 -0.7**
KLMR pmax pmax
comp=Z,11nm,0.7s
BELG Belogornoye 63.74 317 *i*P P **17 06 26.8 +0.8**
BELG pmax pmax
comp=Z,3.0nm,0.8s
GEYT Alibeck 63.82 299 P P **17 06 26.3 -0.6**
comp=Z,6.0nm,1.1s,baz=29,slow=3.4,SNR=11
comp=Z,6.0nm,1.1s
GEYT Alibeck 63.82 299 P P **17 06 25.1 -1.8**
GEYT IAmb IAmb 17 06 32.4
comp=Z,9.6nm,0.9s
GYA0B ALIBECK ARRAY 63.82 299 P P **17 06 25.1 -1.8**
ARCES ARCESS Array B 63.90 339 P P **17 06 26.7 -0.2**
comp=Z,3.2nm,0.7s,baz=53,slow=8.1,SNR=6.5
ARCES LR LR 17 39 29.2
comp=Z,28nm,18.8s,baz=287,slow=41
comp=Z,3.2nm,0.7s
ARCES ARCESS Array B 63.90 339 P P **17 06 27.9 +1.0**
ARCES ARCESS Array B 63.90 339 *e*P P **17 06 27.6 +0.7**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
OUENC Ouen Island, N 63.90 154 P P **17 06 28.9 +1.5**
OBN Obninsk 68.02 323 *i*P P **17 06 53.2 -0.4**
OBN *i* 17 07 20.4
OBN *i* 17 09 21.9
OBN pmax pmax
comp=Z,12nm,0.7s
OBN MLR MLR
comp=Z,56nm,15.0s
VORR Voronezh 68.60 319 *e*P P 17 07 02.1 +4.8
VORR pmax pmax
comp=Z,30nm,0.4s
FIA1 FINESS Array S 68.72 332 P P **17 06 57.8 -0.1**
FINES FINESS Array B 68.72 332 P P **17 06 58.0 +0.1**
comp=Z,10nm,0.7s,baz=120,slow=8.2,SNR=16
comp=Z,10nm,0.7s
FORT Forrest 68.74 192 P P **17 06 58.3 +0.1**
ZEI Tsey 70.76 309 *e*P P 17 07 04.4 -6.6
ZEI pmax pmax
comp=Z,7.0nm,1.2s
KBZ Khabaz 70.86 311 P P **17 07 11.0 -0.3**
comp=Z,4.2nm,0.9s,baz=332,slow=3.3,SNR=3.9
comp=Z,4.2nm,0.9s
KBZ Khabaz 70.86 311 *e*P P **17 07 12.8 +1.5**
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 70.86 311 *e*P P **17 07 12.9 +1.4**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,13nm,18.0s
GNI Garni 71.67 307 LR LR 17 41 32.9
comp=Z,28nm,18.1s,baz=222,slow=38
UOSS Minazif 71.82 288 P P **17 07 17.5 0.0**
NACGM Naroch 72.65 327 *e*P P **17 07 23.8 +1.9**
comp=Z,21nm,0.8s,baz=49
CMB Columbia Colle 73.76 55 P P **17 07 30.4 +1.6**
CMB Columbia Colle 73.76 55 P P **17 07 30.4 +1.6**
CMB pmax pmax
comp=Z,3.0nm,1.1s
HFS Hagfors 73.99 336 LR LR 17 42 00.4
comp=Z,34nm,18.8s,baz=69,slow=37
LRM Limekiln Ridge 74.02 44 P P **17 07 31.4 +0.9**
NC204 NORSAR Array S 74.04 338 P P **17 07 30.8 +0.6**
NB201 NORSAR Array S 74.06 337 P P **17 07 30.6 +0.4**
NB2 NORSAR Subarra 74.09 337 P P **17 07 31.6 +1.2**
comp=Z,8.1nm,1.0s,baz=38,slow=6.2
NOA NORSAR Array B 74.09 337 P P **17 07 30.1 -0.2**
comp=Z,2.4nm,0.9s,baz=34,slow=18,SNR=5.2
NOA LR LR 17 42 49.0
comp=Z,26nm,19.5s,baz=40,slow=38
comp=Z,2.4nm,0.9s
AKASG Malin Array Be 74.23 322 P P **17 07 31.0 -0.3**
comp=Z,3.2nm,0.5s,baz=46,slow=6.2,SNR=9.8
comp=Z,3.2nm,0.5s
AKASG Malin Array Be 74.23 322 P P **17 07 31.0 -0.3**
AKASG Malin Array Be 74.23 322 *e*P P **17 07 31.4 +0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 74.23 322 P P **17 07 31.2 -0.1**
AKBB IAmb IAmb 17 07 35.9
comp=Z,10nm,0.7s
AKBB Malin Array Si 74.23 322 *ce*P P **17 07 32.0 +0.7**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
GURO Guroymak-BITLI 74.30 307 P P **17 07 30.5 -1.7**
GURO IAmb IAmb 17 07 38.1
comp=Z,4.0nm,0.6s
TOO Toolangi 74.45 177 P P **17 07 34.0 +1.5**
TOO IAmb IAmb 17 08 08.3
comp=Z,20nm,1.2s
TOO Toolangi 74.45 177 P P **17 07 34.1 +1.5**
TOO pmax pmax
comp=Z,20nm,1.2s
NVAR Mina Array Bea 74.87 53 P P **17 07 36.6 +1.0**
comp=Z,0.6nm,0.7s,baz=300,slow=4.2,SNR=4.2
comp=Z,0.6nm,0.7s
YHB Horse Butte 75.38 45 P P **17 07 38.7 +0.3**
YHB IAmb IAmb 17 08 19.1
comp=Z,7.2nm,1.1s
MARD Mardin 75.83 306 P P **17 07 40.6 -0.4**
MARD IAmb IAmb 17 07 46.3
comp=Z,7.6nm,0.7s
SORM Soroca 76.33 321 ⇑P P **17 07 44.6 +1.3**
R11A Troy Canyon, C 76.65 52 P P **17 07 46.4 +0.7**
DUG Dugway, Tooele 77.24 49 P P **17 07 50.1 +1.2**
DUG Dugway, Tooele 77.24 49 P P **17 07 50.1 +1.2**
DUG pmax pmax
comp=Z,3.0nm,1.1s
GWY Greenwater Val 77.25 54 P P **17 07 48.7 -0.3**
BW06 Boulder Array 77.54 45 P P **17 07 51.9 +1.2**
PD31 Pinedale Array 77.54 45 P P **17 07 51.0 +0.3**
PDAR Pinedale Array 77.54 45 P P **17 07 51.5 +0.8**
comp=Z,0.7nm,0.7s,baz=272,slow=2.4,SNR=10
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 77.54 45 P P **17 07 51.2 +0.5**
BNN Bunyan 78.01 310 P P **17 07 51.8 -1.5**
BUR08 Bucovina Ar. S 78.23 322 P P **17 07 53.5 -0.7**
BUR08 IAmb IAmb 17 07 59.7
comp=Z,5.0nm,0.8s
BURAR Bucovina Array 78.24 322 ⇓P P **17 07 55.1 +0.8**
BURAR Bucovina Array 78.24 322 P P **17 07 53.6 -0.7**
BURAR IAmb IAmb 17 08 00.0
comp=Z,5.1nm,0.8s
TESR Tescani 78.27 320 ⇑P P **17 07 58.7 +4.3**
TPGR Topolog 78.45 318 ⇑P P **17 07 59.5 +4.1**
VRI Vrincioaia 78.66 320 ⇑P P **17 07 59.5 +3.0**
MSU Marysvale 78.66 50 P P **17 07 56.4 -0.6**
MSU Marysvale 78.66 50 P P **17 07 56.4 -0.6**
TIRR Tirgusor 78.71 318 P P **17 07 56.6 -0.2**
TIRR Tirgusor 78.71 318 P P **17 07 56.6 -0.2**
TIRR pmax pmax
comp=Z,21nm,1.1s
KOLS Kolonicke sedl 78.75 324 *e*P P 17 08 01.8 +4.8
KOLS Kolonicke sedl 78.75 324 *e*P P 17 08 01.8 +4.8
KOLS pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 78.80 312 P P **17 07 56.8 -0.8**
BR131 IAmb IAmb 17 08 05.5
comp=Z,5.1nm,0.9s
BR131 Keskin Array S 78.80 312 P P **17 07 56.8 -0.8**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 78.80 312 P P **17 07 57.3 -0.3**
comp=Z,0.3nm,0.3s,baz=24,slow=4.9,SNR=2.1
comp=Z,0.3nm,0.3s
BRTR Keskin Array B 78.80 312 P P **17 07 56.6 -1.0**
CRVS Cervenica-Dubn 79.15 324 *e*P P 17 08 04.2 +5.0
CRVS Cervenica-Dubn 79.15 324 *e*P P 17 08 04.2 +5.0
CRVS pmax pmax
comp=Z,10.0nm,1.1s
TRPA Tarpa 79.19 323 ⇓P P **17 08 03.8 +4.5**
DOPR Dopca 79.28 320 ⇓P P **17 08 02.0 +2.0**
SRU San Rafael Swe 79.29 49 P P **17 08 00.8 +0.4**
SRU San Rafael Swe 79.29 49 P P **17 08 00.8 +0.4**
SRU pmax pmax
comp=Z,3.0nm,0.8s
MLR Muntele Rosu 79.32 320 LR LR 17 45 40.9
comp=Z,42nm,18.3s,baz=158,slow=38
VOIR 79.82 320 ⇑P P **17 08 06.3 +3.4**
DPC Dobruska-Polom 80.38 328 *e*PCP **PcP 17 08 10.1 -2.8**
DPC Dobruska-Polom 80.38 328 *e*P **PcP 17 08 10.1 -2.8**
KRLC Kraliky 80.39 327 *e*PCP **PcP 17 08 10.5 -2.5**
KRLC Kraliky 80.39 327 *e*P **PcP 17 08 10.5 -2.5**
PV23 Carpenter Ridg 80.62 49 P P **17 08 08.8 +1.1**
PV23 IAmb IAmb 17 08 40.9
comp=Z,7.9nm,1.2s
VYHS Vyhne 80.65 325 *e*P P **17 08 11.7 +4.4**
VYHS Vyhne 80.65 325 *e*P P **17 08 11.7 +4.4**
RAYN Ar Rayn 80.65 292 P P **17 08 07.8 0.0**
RAYN Ar Rayn 80.65 292 P P **17 08 07.8 0.0**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
PV10 Paradox Valley 80.65 49 P P **17 08 08.6 +0.7**
PV10 IAmb IAmb 17 08 31.8
comp=Z,8.0nm,0.7s
PV11 David Mesa, Pa 80.80 49 P P **17 08 09.8 +1.2**
PV11 IAmb IAmb 17 08 37.2
comp=Z,6.5nm,1.1s
PV13 Radium Mtn., P 80.93 49 P P **17 08 09.9 +0.6**
GZR Gura Zlata 81.00 321 ⇑P P **17 08 13.5 +4.2**
CLL Collm 81.01 330 P P **17 08 09.3 +0.2**
CLL IAmb IAmb 17 08 14.7
comp=Z,7.4nm,1.0s
CLL Collm 81.01 330 *i*P P **17 08 13.0 +3.9**
comp=Z,8.0nm,1.1s
CLL Collm 81.01 330 *i*P P **17 08 13.0 +3.9**
CLL pmax pmax
comp=Z,8.0nm,1.1s
MODS Modra-Piesok 81.44 326 *e*P P 17 08 16.5 +5.0
MODS Modra-Piesok 81.44 326 *e*P P 17 08 16.5 +5.0
CKRC Cesky Krumlov 82.39 328 *e*PCP **PcP 17 08 20.7 -1.0**
KHC Kasperske Hory 82.46 328 *e*PCP **PcP 17 08 20.4 -1.7**
KHC Kasperske Hory 82.46 328 *e*P **PcP 17 08 20.4 -1.7**
GERES GERESS Array B 82.63 328 P P **17 08 17.1 -0.7**
comp=Z,0.7nm,0.5s,baz=307,slow=9.7,SNR=2.6
comp=Z,0.7nm,0.5s
GERES GERESS Array B 82.63 328 P P **17 08 17.0 -0.8**
SOKA Soboth 83.72 326 *e*P P **17 08 27.5 +4.0**
comp=Z,3.2nm,0.9s
KBA Koelnbreinsper 84.15 327 *e*P P 17 08 31.1 +5.3
comp=Z,2.0nm,0.7s
RETA Reutte 84.92 329 *e*P P **17 08 33.7 +4.2**
comp=Z,1.0nm,0.3s
ITM Ithomi 87.29 316 P P **17 08 40.2 -1.2**
LPIG La Paz 89.08 60 P P **17 08 49.5 -0.6**
comp=Z,18nm,0.3s,baz=246,slow=20,SNR=1.1
TXAR Lajitas Array 90.00 52 P P **17 08 54.8 +0.2**
comp=Z,0.4nm,0.6s,baz=314,slow=3.5,SNR=8.3
comp=Z,0.4nm,0.6s
HODGE Hodges 98.13 35 P P **17 09 31.0 -0.6**
JSC Jenkinsville 98.55 35 P P **17 09 32.4 -1.0**
JSC Jenkinsville 98.55 35 P P **17 09 32.4 -1.0**
JSC pmax pmax
comp=Z,83nm,1.4s
H03N2 Juan Fernandez 146.99 96 T T 19 59 55.4
baz=291,slow=76,SNR=35
H03N3 Juan Fernandez 147.00 96 T T 19 59 56.0
baz=291,slow=76,SNR=41
H03N1 Juan Fernandez 147.00 96 T T 19 59 56.3
baz=291,slow=76,SNR=34

ROM 24 17:06:15.4±0.2, 42°.769N±0°.005×13°.18E±0°.01, h12km±2km, ML1.3/4, 3C-3D, Error ellipse: s-maj=0.9km s-min=0.6km az=95.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
T1245	**Castelsantange**	**0.09**	**2**	⇑P	Pg	17 06 18.6	+0.3
T1245				S	Sg	17 06 20.6	+0.2
T1245				AML	AML		
	comp=E,183μm,0.2s						
T1245				AML	AML		
	comp=N,216μm,0.3s						
T1245				AML	AML		
	comp=E,348μm,0.8s						
T1245				AML	AML		
	comp=N,473μm,0.7s						
T1245				AML	AML		
	comp=E,325μm,1.2s						
T1245				AML	AML		
	comp=N,304μm,1.0s						
T1218	**Civita (PG)**	**0.11**	**207**	P	Pg	17 06 18.7	+0.2
T1218				S	Sg	17 06 21.3	+0.5
MC2	**Monte Cornacci**	**0.14**	**2**	⇑P	Pb	17 06 19.7	-0.5
MC2				S	Sg	17 06 22.8	+1.2
MMO1	**Montemonaco**	**0.17**	**39**	P	Pg	17 06 19.8	+0.4
MMO1				S	Sg	17 06 22.7	+0.6
T1216	**Preci, Frazion**	**0.17**	**315**	⇓P	Pg	17 06 20.0	+0.6
T1216				S	Sg	17 06 22.1	0.0
T1216				AML	AML		
	comp=N,144μm,1.6s						
T1216				AML	AML		
	comp=E,166μm,0.4s						
T1241	**Roccafluvione,**	**0.20**	**64**	P	Pg	17 06 20.3	+0.5
T1241				S	Sg	17 06 23.6	+0.7
T1215	**Vallo di Nera,**	**0.23**	**278**	⇓P	Pb	17 06 21.1	-0.6
RM33	**Pellescritta (**	**0.26**	**175**	P	Pg	17 06 21.3	+0.4
RM33				S	Sb	17 06 25.6	-1.0
FDMO	**Fiordimonte**	**0.28**	**345**	P	Pg	17 06 21.8	+0.6
FDMO				AML	AML		
	comp=E,79μm,1.5s						
FDMO				AML	AML		
	comp=N,51μm,0.2s						
T1219	**Muccia, Frazio**	**0.31**	**336**	⇓P	Pb	17 06 22.5	-0.6
T1219				AML	AML		
	comp=E,68μm,0.2s						
T1219				AML	AML		
	comp=N,74μm,0.2s						
CSP1	**Cessapalombo**	**0.32**	**3**	P	Pb	17 06 22.8	-0.5
TERO	**Teramo**	**0.34**	**115**	⇑P	Pg	17 06 22.4	0.0
SAMA	**S.Maria delle**	**1.08**	**204**	S	Sn	17 06 52.0	+0.7
ARCI	**Arcidosso**	**1.26**	**274**	P	Pg	17 06 42.4	+2.7

---

*IDC **24** 17:11:16.6±2.4, 20°.97S×70°.59W, h0km, mbtmp3.6/4, ML3.8/4, Error ellipse: s-maj=59.2km s-min=31.5km az=107.0*

*GUC **24** 17:11:17.9±0.6, 20°.64S×70°.93W, h35km±3km, ML3.5*

ISC 24 17:11:15.0±2.5, 20°.65S±0°.05×71°.0W±0°.1, h9km±11km, n20, σ1°.50/20, 5C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TA01	**Diego Aracena**	**0.76**	**84**	⇑*e*P	**Pg**	**17 11 30.1**	**+0.3**
TA01				*e*S	**Sg**	**17 11 39.8**	**+0.1**
TA01				IAML		17 11 40.9	
	comp=N,5μm,0.3s						
PATCX	**Punta Patache**	**0.80**	**103**	⇓*e*P	**Pg**	**17 11 31.1**	**+0.5**
PATCX				*e*S	**Sg**	**17 11 41.1**	**+0.1**
PATCX				IAML		17 11 43.0	
	comp=E,3μm,0.3s						
TA02	**Huaiquique**	**0.89**	**65**	*e*P	**Pb**	**17 11 32.4**	**-0.2**
TA02				*e*S	**Sb**	**17 11 43.5**	**-1.2**
TA02				IAML		17 11 44.2	
	comp=N,5μm,0.1s						
PB02	**IPOC Station P**	**1.22**	**123**	⇑*e*P	**Pn**	**17 11 38.1**	**-0.4**
PB02				*e*S	**Sb**	**17 11 53.3**	**-1.1**
PB02				IAML		17 11 58.2	
	comp=E,2μm,0.7s						
PSGC	**Pisagua**	**1.33**	**38**	⇑*e*P	**Pn**	**17 11 38.9**	**-1.0**
PSGC				*e*S	**Sb**	**17 11 56.7**	**-0.6**
PSGC				IAML		17 12 00.5	
	comp=E,690nm,0.6s						

PB01	**IPOC Station P**	**1.46**	**106**	⇓ *e*P		**Pn**	17 11 40.4	**-1.3**
PB01				*e*S		**Sn**	**17 11 59.4**	**-1.6**
PB01				IAML			17 12 04.5	
	comp=N,2µm,0.7s							
PB07	**IPOC Station P**	**1.49**	**136**	⇑ *i*P		**Pn**	**17 11 42.1**	**0.0**
PB07				*e*S		**Sn**	**17 12 00.6**	**-1.2**
PB07				IAML			17 12 07.0	
	comp=E,580nm,0.5s							
PB11	**IPOC Station P**	**1.53**	**55**	⇑ *i*P		**Pn**	**17 11 42.3**	**-0.5**
PB11				*e*S		**Sn**	**17 12 01.4**	**-1.5**
PB11				IAML			17 12 06.6	
	comp=N,1µm,0.3s							
AF01	**San Pedro de A**	**3.48**	**132**	*e*P		**Pb**	**17 12 16.7**	**-0.3**
LPAZ	**La Paz**	**5.12**	**32**	Pn	Pn		17 12 38.1	+5.6
	comp=N,1.2nm,0.3s,baz=204,slow=5.7,SNR=21							
LPAZ				Lg	Lg		17 13 59.2	
	baz=128,slow=10 comp=N,2.6nm,0.3s							
SIV	**San Ignacio**	**10.49**	**65**	Pn		**Pn**	**17 13 46.3**	**+0.5**
	baz=252,slow=12,SNR=8.5							
SIV				Sn		**Sn**	**17 15 48.4**	**+4.7**
	baz=25,slow=7.5,SNR=3.1 comp=N,2.1nm,0.5s							
CPUP	**Villa Florida**	**13.75**	**117**	Pn	Pn		17 14 24.8	-5.4
	comp=N,0.4nm,0.3s,baz=1.9,slow=5.5,SNR=3.1 comp=N,1.1nm,0.3s							
H03N1	**Juan Fernandez**	**14.56**	**207**	T	T		17 29 53.8	
	baz=34,slow=72,SNR=24							
H03N2	**Juan Fernandez**	**14.56**	**207**	T	T		17 30 02.7	
	baz=34,slow=72,SNR=21							
H03N3	**Juan Fernandez**	**14.57**	**207**	T	T		17 29 52.2	
	baz=34,slow=72,SNR=21							
PLCA	**Paso Flores**	**20.02**	**179**	P	Pn		17 15 49.1	-1.0
	comp=N,0.1nm,0.3s,baz=38,slow=19,SNR=1.9 comp=N,0.6nm,0.6s							
H11S2	**WAKE ISLAND Hy**	**25.84**	**278**	T	T		19 49 44.8	
	baz=98							
H11S1	**WAKE ISLAND Hy**	**25.85**	**278**	T	T		19 49 36.6	
	baz=98							
H11S3	**WAKE ISLAND Hy**	**25.86**	**278**	T	T		19 49 46.4	
	baz=98							
MKAR	**Makanchi Array**	**146.04**	**34**	PKPbc		**PKPab**	**17 30 56.5**	**+0.5**
	comp=N,0.3nm,0.6s,baz=329,slow=3.3,SNR=4.3							

*IDC **24** 17:27:30.3±1.4,5.°61S×147.°39E,h141km±14km,mb3.6/7, mbtmp4.1/11,Error ellipse: s-maj=26.1km s-min=9.3km az=110.0*
*NEIC **24** 17:27:32.4±2.0,5.°6S±0.°1×147.°4E±0.°1,h153km±11km, mb4.1/12,Error ellipse: s-maj=21.7km s-min=8.2km az=137.0*

ISC 24 17:27:31.3±0.7,5.°62S±0.°08×147.°4E±0.°1,h150km,n29, σ1s06/33,mb3.8/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.77**	**184**	P	**Pn**	**17 28 28.6**	**0.0**
	81nm,0.3s,baz=12,slow=5.7,SNR=215						
PMG				S	**Sn**	**17 29 11.0**	**-2.1**
	127nm,0.3s,baz=200,slow=19,SNR=16						
PMG	**Port Moresby**	**3.77**	**184**		**Pn**	**17 28 28.4**	**-0.2**
KRVT	**Keravat (AS076**	**4.79**	**74**	P	**Pn**	**17 28 42.4**	**+0.4**
	62nm,0.9s,baz=96,slow=0.7,SNR=10						
RABL	**Rabaul**	**4.95**	**74**	Pn	**Pn**	**17 28 45.4**	**+1.2**
COEN	**Coen**	**9.27**	**206**		**Pn**	**17 29 43.0**	**+1.3**
CTA	**Charters Tower**	**14.42**	**184**	P	**Pn**	**17 30 48.6**	**0.0**
	1.0nm,0.7s,baz=324,slow=16,SNR=1.7						
CTAO	**Charters Tower**	**14.42**	**184**	Pn	**Pn**	**17 30 48.4**	**-0.2**
MTN	**Manton Dam**	**17.58**	**245**	P	**P**	**17 31 26.4**	**+0.3**
MTN				IAmb	IAmb	17 31 56.9	
	comp=Z,7.3nm,1.1s						
WB0	**Warramunga Arr**	**18.92**	**221**	P	**P**	**17 31 41.4**	**+0.7**
WB0				IAmb	IAmb	17 31 42.8	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**18.96**	**220**	P	**P**	**17 31 42.0**	**+0.8**
WRAB	**Tennant Creek**	**19.07**	**221**	P	**P**	**17 31 42.9**	**+0.6**
WB2	**Warramunga Arr**	**19.07**	**221**	P	**P**	**17 31 43.2**	**+0.8**
WRA	**Warramunga Arr**	**19.08**	**221**	P	**P**	**17 31 43.3**	**+0.8**
	comp=Z,15nm,0.5s,baz=48,slow=11,SNR=228						
WRA				S	**S**	**17 35 09.8**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=39,slow=21,SNR=4.1						
WRA	**Warramunga Arr**	**19.08**	**221**	P	**P**	**17 31 41.4**	**-1.1**
KNRA	**Kununurra**	**20.84**	**240**	P	**P**	**17 32 00.9**	**-0.6**
KNRA				IAmb	IAmb	17 32 04.7	
	comp=Z,8.6nm,0.6s						
AS31	**Alice Springs**	**22.15**	**215**	P	**P**	**17 32 15.8**	**+0.6**
AS31				IAmb	IAmb	17 32 19.5	
	comp=Z,4.5nm,0.6s						
ASAR	**Alice Springs**	**22.15**	**215**	P	**P**	**17 32 15.9**	**+0.7**
	comp=Z,14nm,0.8s,baz=50,slow=8.0,SNR=174						
ASAR				S	**S**	**17 36 11.9**	**+3.2**
	comp=Z,2.7nm,0.9s,baz=32,slow=23,SNR=17						
ASAR				ScP	**ScP**	**17 39 29.2**	**-1.0**
	comp=Z,0.2nm,0.9s,baz=33,slow=3.5,SNR=1.9 comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**22.15**	**215**	P	**P**	**17 32 16.0**	**+0.8**
KSRS	**Korea Array**	**46.55**	**339**	P	**P**	**17 35 44.7**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=154,slow=9.8,SNR=3.0 comp=Z,1.1nm,0.8s						
SONM	**Songino Array**	**64.27**	**331**	P	**P**	**17 37 50.9**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=144,slow=4.4,SNR=5.9 comp=Z,0.9nm,0.7s						
SONM	**Songino Array**	**64.27**	**331**	P	**P**	**17 37 50.8**	**+0.1**
SONM				IAmb	IAmb	17 37 51.7	
	comp=Z,3.8nm,1.5s						
VNDA	**Vanda**	**72.26**	**177**	P	**P**	**17 38 40.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=340,slow=6.7,SNR=8.3 comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**72.26**	**177**	P	**P**	**17 38 40.6**	**+0.8**
MK31	**Makanchi Array**	**77.46**	**320**	P	**P**	**17 39 09.1**	**-1.1**
MKAR	**Makanchi Array**	**77.46**	**320**	P	**P**	**17 39 10.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=97,slow=9.0,SNR=9.6 comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**77.46**	**320**	P	**P**	**17 39 09.8**	**-0.4**
MAKZ	**Makanchi**	**77.67**	**320**	P	**P**	**17 39 10.4**	**-0.9**
MAKZ				IAmb	IAmb	17 39 11.4	
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**78.91**	**328**	P	**P**	**17 39 16.5**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=96,slow=5.8,SNR=5.0 comp=Z,1.1nm,0.5s						
ILAR	**Eielson Array**	**84.98**	**23**	P	**P**	**17 39 48.4**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=252,slow=5.1,SNR=23 comp=Z,1.0nm,0.6s						

*NIED **24** 17:42:03.4,37.°32N×141.°60E,h33km,MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.93; Mθθ0.69; Mφφ0.24; Mrθ=0.66; Mθφ0.57; Mφr=0.13; Fault plane solution: M₀1.21000×10¹⁴ NP1:φs34.00000°, δ37.00000°,λ-128.00000°. NP2:φs258.00000°, δ62.00000°,λ-65.00000°.*

JMA 24 17:42:03.4±0.2,37.°3N±0.°4×141.°6E±0.°9,h33km±1km, MV3.5/35,2D,E OFF FUKUSHIMA PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.58**	**274**	⇓ *i*P	Pb	17 42 14.8	-0.5
JFK				⇓S	Sb	17 42 22.8	-0.7
JMST	**Minamisoumatoc**	**0.69**	**305**	*i*P	Pn	17 42 16.6	-0.3
JMST				S	Sn	17 42 25.8	-0.7
JMM	**Marumori**	**0.84**	**310**	P	Pn	17 42 18.7	-0.2
JMM				S	Sn	17 42 29.9	-0.2
JFFD	**Fukushimafurud**	**0.86**	**255**	*i*P	Pn	17 42 19.1	-0.1
JFFD				*e*S	Sn	17 42 30.3	-0.4
JHO	**Hitachi**	**1.09**	**230**	*i*P	Pn	17 42 22.3	-0.1
JHO				*e*S	Sn	17 42 35.9	-0.4
JIO	**Ouri**	**1.15**	**350**	*i*P	Pn	17 42 23.2	+0.1
JIO				S	Sn	17 42 38.2	+0.5
JOU	**Okura**	**1.28**	**325**	*i*P	Pb	17 42 26.4	-0.6
JOU				S	Sb	17 42 43.0	-0.1

JMA 24 18:08:22.6±0.2,38.°N±2.°×13.°4E±.°,h428km,MV3.5/27, SEA OF JAPAN,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKSM	**Kasumi**	**1.95**	**174**	*e*P	P	18 09 20.8	-0.1
JKY	**Yasaka**	**1.98**	**164**	*e*P	P	18 09 21.0	-0.1
JWT	**Wachi**	**2.38**	**160**	*e*P	P	18 09 24.1	+0.5
JYTA	**Yamagatataniai**	**2.69**	**135**	*e*P	P	18 09 26.4	+0.8
JSD	**Sado**	**3.08**	**79**	*e*P	P	18 09 28.9	+0.4
JMM	**Marumori**	**5.06**	**84**	*e*P	P	18 09 47.1	+0.8
JFK	**Kawauchi**	**5.13**	**90**	*e*P	P	18 09 47.1	-0.1
JRG	**Rokugo**	**5.21**	**67**	*e*P	P	18 09 49.0	+1.2
JIW	**Iwasaki**	**5.31**	**53**	*e*P	P	18 09 50.6	+1.7
JMK	**Ichinoseki**	**5.53**	**73**	*e*P	P	18 09 52.0	+0.9
BSO1	**Boso 1**	**6.03**	**116**	*e*P	P	18 09 56.7	+0.9
JOT	**Ohata**	**6.40**	**51**	*e*P	P	18 10 01.5	+1.3
JKB	**Kayabe**	**6.70**	**47**	*e*P	P	18 10 04.4	+0.8
JCH	**Churui**	**8.52**	**51**	*e*P	P	18 10 23.7	+0.4
JCH				*e*S	S	18 11 56.4	-6.3

*IDC **24** 18:16:29.5±2.2,40.°35S×176.°62E,h0km,mb4.0/3, mbtmp4.0/4,ML3.4/1,Error ellipse: s-maj=66.2km s-min=44.3km az=157.0*
*WEL **24** 18:16:38.2±0.2,40.°S±2.°×17.°6E±.°,h33km±2km,M4.0/71, ML4.3/36,MLv4.0/71,Error ellipse: s-maj=0.0km s-min=0.0km az=119.0*
*NOU **24** 18:16:38.1,40.°31S×176.°21E,h42km,MLv4.2/13,North Island, New Zealand*

ISC 24 18:16:37.8±0.9,40.°32S±0.°03×176.°20E±0.°04,h51km±5km, n153,σ1s03/157,mb3.9/3,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVHZ	**Dannevirke**	**0.03**	**311**	P	**Pn**	**18 16 45.3**	**-0.3**
DVHZ				S	**Sn**	**18 16 50.1**	**-1.1**
ANWZ	**Angora Road**	**0.25**	**124**	P	**Pn**	**18 16 48.0**	**+1.4**
PRWZ	**Pori Road**	**0.29**	**216**	P	**Pn**	**18 16 47.9**	**+0.9**
PRWZ				S	**Sn**	**18 16 54.8**	**+1.2**
WPHZ	**Waipukurau**	**0.32**	**36**	P	**Pn**	**18 16 47.4**	**+0.3**
TSZ	**Takapari Road**	**0.32**	**325**	P	**Pn**	**18 16 46.5**	**-0.7**
TSZ				S	**Sn**	**18 16 52.1**	**-1.9**
POWZ	**Post Office Ro**	**0.34**	**258**	P	**Pn**	**18 16 47.4**	**0.0**
PRHZ	**Porangahau**	**0.34**	**81**	P	**Pn**	**18 16 48.4**	**+1.0**
BFZ	**Birch Farm**	**0.36**	**174**	P	**Pn**	**18 16 48.7**	**+1.1**
BFZ	**Birch Farm**	**0.36**	**174**	P	**Pn**	**18 16 48.9**	**+1.2**
PNHZ	**Pukenui**	**0.41**	**0**	P	**Pn**	**18 16 47.7**	**-0.4**
TIWZ	**Tintock**	**0.51**	**208**	P	**Pn**	**18 16 50.6**	**+1.3**
MRZ	**Mangatainoka R**	**0.58**	**234**	P	**Pn**	**18 16 50.8**	**+0.7**
PXZ	**Pawanui**	**0.58**	**61**	P	**Pn**	**18 16 50.9**	**+0.9**
CPWZ	**Castlepoint**	**0.59**	**180**	P	**Pn**	**18 16 52.3**	**+2.2**
OHWZ	**Ohakea**	**0.69**	**279**	P	**Pn**	**18 16 52.4**	**+1.0**
KAHZ	**Kahuranaki**	**0.74**	**45**	P	**Pn**	**18 16 53.0**	**+0.9**
HOWZ	**Holdsworth Sta**	**0.78**	**222**	P	**Pn**	**18 16 53.4**	**+0.8**
TMWZ	**Te Maipa**	**0.82**	**196**	P	**Pn**	**18 16 54.4**	**+1.2**
BHHZ	**Black Hill Sta**	**0.84**	**353**	P	**Pn**	**18 16 53.4**	**0.0**
KWHZ	**Kaweka Forest**	**0.91**	**11**	P	**Pn**	**18 16 54.6**	**+0.2**
OGWZ	**Otaki Gorge**	**0.93**	**237**	P	**Pn**	**18 16 55.2**	**+0.7**
CKHZ	**Cape Kidnapper**	**0.94**	**46**	P	**Pn**	**18 16 55.3**	**+0.5**
MCHZ	**McNeill Hill**	**0.95**	**24**	P	**Pn**	**18 16 55.5**	**+0.6**
MOVZ	**Moawhango**	**0.97**	**339**	P	**Pn**	**18 16 55.4**	**+0.2**
MTW	**Mount Morrison**	**0.99**	**212**	P	**Pn**	**18 16 56.0**	**+0.6**
MTVZ	**Mangateitei**	**1.09**	**329**	P	**Pn**	**18 16 57.7**	**+0.9**
WAZ	**Wanganui**	**1.09**	**301**	P	**Pn**	**18 16 57.8**	**+1.1**
WNVZ	**Wahianoa**	**1.09**	**335**	P	**Pn**	**18 16 57.5**	**+0.6**
KIW	**Kapiti Island**	**1.12**	**241**	P	**Pn**	**18 16 57.9**	**+0.7**
TUVZ	**Tukino**	**1.13**	**338**	P	**Pn**	**18 16 58.3**	**+0.8**
TRVZ	**Turoa**	**1.14**	**334**	P	**Pn**	**18 16 58.2**	**+0.7**
WHVZ	**Whangaehu Hut**	**1.14**	**335**	P	**Pn**	**18 16 58.2**	**+0.6**
TRWZ	**Traveller**	**1.15**	**200**	P	**Pn**	**18 16 58.4**	**+0.9**
DRZ	**Dome Shelter**	**1.15**	**335**	P	**Pn**	**18 16 58.6**	**+0.8**
CAW	**Cannon Point**	**1.17**	**227**	P	**Pn**	**18 16 58.3**	**+0.5**
FWVZ	**Far West T-bar**	**1.17**	**335**	P	**Pn**	**18 16 58.6**	**+0.6**
BKZ	**Black Stump Fm**	**1.18**	**11**	P	**Pn**	**18 16 58.0**	**+0.1**
BKZ	**Black Stump Fm**	**1.18**	**11**	P	**Pn**	**18 16 58.1**	**+0.1**
SNVZ	**South Ngauruho**	**1.21**	**339**	P	**Pn**	**18 16 59.1**	**+0.6**
PAWZ	**Paruwai Farm**	**1.21**	**209**	P	**Pn**	**18 16 58.8**	**+0.4**
ARHZ	**Aropaoanui**	**1.22**	**30**	P	**Pn**	**18 16 58.8**	**+0.3**
PKVZ	**Pokaka**	**1.22**	**327**	P	**Pn**	**18 16 59.5**	**+1.0**
OTVZ	**Oturere**	**1.23**	**340**	P	**Pn**	**18 16 59.3**	**+0.6**
NGZ	**Ngauruhoe**	**1.23**	**338**	P	**Pn**	**18 16 59.4**	**+0.6**
ETVZ	**East Tongariro**	**1.24**	**342**	P	**Pn**	**18 16 59.4**	**+0.5**
TMVZ	**Te Maari**	**1.26**	**342**	P	**Pn**	**18 16 59.6**	**+0.5**
NNVZ	**North Ngauruho**	**1.27**	**339**	P	**Pn**	**18 16 59.9**	**+0.6**
NTVZ	**North Tongarir**	**1.28**	**342**	P	**Pn**	**18 16 60.0**	**+0.5**
KRVZ	**Karewarewa**	**1.30**	**340**	P	**Pn**	**18 17 00.3**	**+0.7**
NMHZ	**Naumai**	**1.31**	**21**	P	**Pn**	**18 17 00.2**	**+0.4**
MSWZ	**Moikau Station**	**1.31**	**213**	P	**Pn**	**18 16 59.8**	**+0.1**
TWVZ	**Taurewa**	**1.38**	**335**	P	**Pn**	**18 17 01.6**	**+0.8**
KATZ	**Kakaramea**	**1.40**	**344**	P	**Pn**	**18 17 02.2**	**+1.2**
HATZ	**Hinemaiaia**	**1.43**	**357**	P	**Pn**	**18 17 01.7**	**+0.4**
PLWZ	**Palliser**	**1.44**	**209**	P	**Pn**	**18 17 01.6**	**+0.1**
WEL	**Wellington**	**1.45**	**228**	P	**Pn**	**18 17 02.3**	**+0.7**
WHHZ	**Waihua**	**1.48**	**33**	P	**Pn**	**18 17 02.8**	**+0.9**
RATZ	**Rangitukua**	**1.49**	**347**	P	**Pn**	**18 17 02.6**	**+0.4**
MRHZ	**Matea Rd**	**1.49**	**7**	P	**Pn**	**18 17 02.4**	**+0.2**
SNZO	**South Karori**	**1.50**	**228**	P	**Pn**	**18 17 03.2**	**+0.9**
MTHZ	**Maungataniwha**	**1.55**	**19**	P	**Pn**	**18 17 03.1**	**+0.2**
RAHZ	**Arahi**	**1.56**	**26**	P	**Pn**	**18 17 03.2**	**+0.1**
LREZ	**Lake Rotokare**	**1.63**	**301**	P	**Pn**	**18 17 05.5**	**+1.5**
VRZ	**Vera Road**	**1.63**	**311**	P	**Pn**	**18 17 04.8**	**+0.9**
WHTZ	**Whakaora**	**1.66**	**353**	P	**Pn**	**18 17 05.0**	**+0.5**
TCW	**Tory Channel**	**1.71**	**238**	P	**Pn**	**18 17 05.1**	**0.0**
ALRZ	**Allen Road**	**1.76**	**4**	P	**Pn**	**18 17 05.7**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.76**	**49**	P	**Pn**	**18 17 06.0**	**+0.2**
SNGZ	**Shannon Statio**	**1.77**	**30**	P	**Pn**	**18 17 05.9**	**-0.1**
DUWZ	**D'Urville Isla**	**1.80**	**254**	P	**Pn**	**18 17 06.5**	**+0.1**
RTZ	**Ruatahuna**	**1.81**	**20**	P	**Pn**	**18 17 06.4**	**-0.2**
MHEZ	**Mangahewa**	**1.91**	**310**	P	**Pn**	**18 17 09.5**	**+1.7**
DREZ	**Durham Road**	**1.91**	**306**	P	**Pn**	**18 17 09.3**	**+1.5**
HRRZ	**Handcock Road**	**1.93**	**2**	P	**Pn**	**18 17 08.3**	**+0.2**
NEZ	**North Egmont**	**1.93**	**302**	P	**Pn**	**18 17 09.9**	**+1.7**
GRRZ	**Galatos Road**	**1.97**	**358**	P	**Pn**	**18 17 08.9**	**+0.2**
KHEZ	**Kahui Hut**	**1.97**	**301**	P	**Pn**	**18 17 09.8**	**+1.0**
KHEZ	**Kahui Hut**	**1.97**	**301**	P	**Pn**	**18 17 10.7**	**+1.9**
NMEZ	**Namu Road**	**2.00**	**296**	P	**Pn**	**18 17 11.0**	**+1.9**
RIGZ	**Rimuhau**	**2.02**	**37**	P	**Pn**	**18 17 08.8**	**-0.5**
TUWZ	**Tuamarina**	**2.04**	**236**	P	**Pn**	**18 17 09.1**	**-0.5**
PKE	**Pukeiti**	**2.04**	**303**	P	**Pn**	**18 17 12.1**	**+2.4**
RAGZ	**Rakaia**	**2.05**	**28**	P	**Pn**	**18 17 09.4**	**-0.8**
TLZ	**Tolley Road**	**2.05**	**345**	P	**Pn**	**18 17 09.6**	**-0.2**
HLRZ	**Highlands Stat**	**2.07**	**3**	P	**Pn**	**18 17 10.8**	**+0.8**
CMWZ	**Cape Campbell**	**2.07**	**226**	P	**Pn**	**18 17 11.5**	**+1.5**
NBEZ	**Newall Road No**	**2.08**	**300**	P	**Pn**	**18 17 12.0**	**+1.8**
HIZ	**Hauiti**	**2.08**	**330**	P	**Pn**	**18 17 11.6**	**+1.4**
HIZ	**Hauiti**	**2.08**	**330**	P	**Pn**	**18 17 11.0**	**+0.7**
TARZ	**Mount Tarawera**	**2.10**	**7**	P	Pn	18 17 15.7	+4.7
UTU	**Utuhina**	**2.14**	**360**	P	**Pn**	**18 17 10.4**	**-1.1**
URZ	**Urewera**	**2.18**	**19**	P	**Pn**	**18 17 10.5**	**-1.1**
URZ	**Urewera**	**2.18**	**19**	P	**Pn**	**18 17 11.7**	**-0.4**
OMRZ	**Omania**	**2.21**	**4**	P	**Pn**	**18 17 11.4**	**-1.0**
MWZ	**Matawai**	**2.23**	**28**	P	**Pn**	**18 17 12.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**2.24**	**231**	P	**Pn**	**18 17 12.1**	**-0.7**
TKGZ	**Te Karaka**	**2.27**	**35**	P	**Pn**	**18 17 14.0**	**+0.5**
NNZ	**Nelson**	**2.32**	**246**	P	**Pn**	**18 17 15.7**	**0.0**
KMRZ	**Kaimai**	**2.48**	**355**	P	**Pn**	**18 17 16.0**	**-0.4**
WHWZ	**Whale Island**	**2.53**	**14**	P	**Pn**	**18 17 16.4**	**-0.2**
TWGZ	**Tauwhareparae**	**2.55**	**33**	P	**Pn**	**18 17 17.4**	**+0.6**
TKNZ	**Takaka Hill**	**2.56**	**253**	P	**Pn**	**18 17 16.6**	**-1.1**
RUGZ	**Raukumara Rang**	**2.62**	**27**	P	**Pn**	**18 17 18.0**	**+0.1**
TOZ	**Tahuroa Road**	**2.64**	**348**	P	**Pn**	**18 17 18.3**	**-1.2**
PUZ	**Puketiti**	**2.76**	**36**	P	**Pn**	**18 17 20.4**	**+0.1**
MRNZ	**Matariki Terra**	**2.82**	**246**	P	**Pn**	**18 17 19.8**	**-0.8**
PKGZ	**Pakihiroa**	**2.83**	**32**	P	**Pn**	**18 17 20.0**	**-0.5**
QRZ	**Quartz Range**	**2.84**	**259**	P	**Pn**	**18 17 20.1**	**-0.5**
QRZ	**Quartz Range**	**2.84**	**259**	P	**Pn**	**18 17 19.9**	**-0.7**
HAZ	**Te Kaha**	**2.84**	**26**	P	**Pn**	**18 17 20.8**	**-0.3**
THZ	**Tophouse**	**2.88**	**239**	P	**Pn**	**18 17 21.7**	**-1.5**
WMGZ	**Waiomatatini S**	**3.04**	**35**	P	**Pn**	**18 17 25.4**	**-0.2**
MXZ	**Matakaoa Point**	**3.21**	**32**	P	**Pn**	**18 17 24.9**	**-0.7**
MXZ	**Matakaoa Point**	**3.21**	**32**	P	**Pn**	**18 17 27.9**	**+0.8**
MKAZ	**Moumakai**	**3.31**	**345**	P	**Pn**	**18 17 30.5**	**+1.3**
AWAZ	**Awhitu Peninsu**	**3.47**	**339**	P	**Pn**	**18 17 31.8**	**+1.4**
GVZ	**Greta Valley S**	**3.55**	**221**	P	**Pn**	**18 17 30.9**	**0.0**
KUZ	**Kuaotunu**	**3.59**	**354**	P	**Pn**	**18 17 31.1**	**+0.2**
KUZ	**Kuaotunu**	**3.59**	**354**	P	**Pn**	**18 17 32.8**	**+1.6**
WTAZ	**Waiatarua**	**3.61**	**339**	P	**Pn**	**18 17 31.1**	**-0.2**
DSZ	**Denniston Nort**	**3.62**	**245**	P	**Pn**	**18 17 33.0**	**+0.8**
MBAZ	**Motutapu North**	**3.69**	**344**	P	**Pn**	**18 17 33.2**	**-1.1**
LTZ	**Lake Taylor**	**3.84**	**229**	P	**Pn**	**18 17 36.2**	**+1.1**
AMCZ	**Amberley**	**3.90**	**222**	P	**Pn**	**18 17 38.0**	**+0.1**
GRZ	**Great Barrier**	**4.11**	**352**	P	**Pn**	**18 17 36.5**	**-1.7**
OKCZ	**Okains Bay**	**4.13**	**213**	P	**Pn**	**18 17 39.8**	**-0.7**
MQZ	**McQueen's Vall**	**4.29**	**217**	P	**Pn**	**18 17 39.9**	**-0.7**
INZ	**Inchbonnie**	**4.30**	**235**	P	**Pn**	**18 17 39.7**	**-1.1**
AKCZ	**Akaroa Harbour**	**4.31**	**213**	P	**Pn**	**18 17 43.7**	**-0.4**
RACZ	**Rakaia**	**4.55**	**220**	P	**Pn**	**18 17 47.6**	**+1.3**
MHCZ	**Mount Hutt**	**4.71**	**226**	P	**Pn**	**18 17 47.0**	**-1.3**
WACZ	**Wakanui South**	**4.86**	**220**	P	**Pn**	**18 17 51.7**	**-0.2**
RPZ	**Rata Peaks**	**5.12**	**227**	Pn	**Pn**	**18 17 51.7**	**-0.2**
	1.2nm,0.3s,baz=342,slow=22,SNR=2.9						
RPZ				Sn	**Sn**	**18 18 44.4**	**-5.2**
	12nm,0.3s,baz=134,slow=23,SNR=25 16nm,0.8s						
RPZ	**Rata Peaks**	**5.12**	**227**	P	**Pn**	**18 17 52.8**	**+1.0**
RPZ	**Rata Peaks**	**5.12**	**227**	P	**Pn**	**18 17 51.7**	**-0.2**
ARCZ	**Arundel**	**5.20**	**224**	P	**Pn**	**18 17 52.7**	**-0.3**
OUZ	**Omahuta**	**5.49**	**337**	P	**Pn**	**18 17 57.4**	**+0.4**
OUZ	**Omahuta**	**5.49**	**337**	P	**Pn**	**18 17 58.0**	**+1.1**
TMZ	**Timaru**	**5.59**	**222**	P	**Pn**	**18 17 56.6**	**-1.7**
FOZ	**Fox Glacier**	**5.74**	**234**	P	**Pn**	**18 18 00.2**	**-0.2**
ODZ	**Otahua Downs**	**6.25**	**219**	P	**Pn**	**18 18 06.7**	**-0.6**
ODZ	**Otahua Downs**	**6.25**	**219**	P	**Pn**	**18 18 05.9**	**-1.4**
CTZ	**Chatham Island**	**6.34**	**125**	P	**Pn**	**18 18 10.0**	**+1.4**
CTZ	**Chatham Island**	**6.34**	**125**	P	**Pn**	**18 18 09.7**	**+1.1**
HHSZ	**Highcliff Hill**	**6.91**	**215**	P	**Pn**	**18 18 18.1**	**+1.7**
EAZ	**Earnscleugh**	**7.05**	**224**	P	**Pn**	**18 18 18.2**	**-0.1**
TUZ	**Tuapeka**	**7.40**	**218**	P	**Pn**	**18 18 24.6**	**+1.6**
SYZ	**Scrubby Hill**	**8.06**	**217**	P	**Pn**	**18 18 34.0**	**+1.9**
ASAR	**Alice Springs**	**39.12**	**282**	P	**P**	**18 24 01.2**	**+0.9**
	1.2nm,0.7s,baz=123,slow=7.1,SNR=15						
ASAR				PcP	**PcP**	**18 26 08.6**	**-0.5**
	0.3nm,0.6s,baz=125,slow=4.9,SNR=2.9 1.2nm,0.7s						
WRA	**Warramunga Arr**	**41.04**	**287**	P	**P**	**18 24 17.1**	**+0.9**
	2.0nm,0.5s,baz=126,slow=8.1,SNR=47 2.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.45**	**292**	P	**P**	**18 29 44.8**	**+1.6**
	0.2nm,0.4s,baz=158,slow=2.6,SNR=2.6 0.2nm,0.4s						
ARCES	**ARCESS Array B**	**146.91**	**342**	PKPbc	**PKPbc**	**18 36 13.6**	**+0.4**
	1.5nm,0.6s,baz=82,slow=1.9,SNR=7.1						
BRTR	**Keskin Array B**	**151.46**	**281**	PKPbc	**PKPbc**	**18 36 24.3**	**-1.5**
	0.3nm,0.4s,baz=137,slow=5.0,SNR=4.3						

IDC 24 18:16:45.6±3.0,40.°03S×175.°99E,h0km,mb4.1/3, mbtmp4.1/4,ML3.5/1,MS3.0/4,Error ellipse: s-maj=69.5km s-min=46.6km az=132.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**5.21**	**223**	P	**Pn**	**18 18 04.4**	**-0.4**
	1.6nm,0.3s,baz=212,slow=2.4,SNR=7.4						
RPZ				LR	LR	18 19 52.6

ZAA0					IAmb	IAmb	18 25 43.3	
	comp=Z,3.9nm,0.8s							
ZALV	**Zalesovo Beam**	**41.82**	**312**	P		**P**	**18 25 39.8**	**-1.6**
	comp=Z,3.7nm,0.7s,baz=76,slow=6.1,SNR=14							
ZALV					PcP	**PcP**	**18 27 36.6**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=90,slow=6.1,SNR=2.7							
	comp=Z,3.7nm,0.7s							
ZALV	**Zalesovo Beam**	**41.82**	**312**	P		**P**	**18 25 41.8**	**+0.4**
MK31	**Makanchi Array**	**44.01**	**302**	P		**P**	**18 25 57.7**	**-1.7**
MKAR	**Makanchi Array**	**44.01**	**302**	P		**P**	**18 25 57.7**	**-1.6**
	comp=Z,2.1nm,0.7s,baz=87,slow=9.2,SNR=14							
	comp=Z,2.1nm,0.7s							
MKAR	**Makanchi Array**	**44.01**	**302**			**P**	**18 25 56.8**	**-2.5**
MAKZ	**Makanchi**	**44.22**	**302**	P		**P**	**18 26 00.2**	**-0.9**
MAKZ					IAmb	IAmb	18 26 40.3	
	comp=Z,8.3nm,0.9s							
KURK	**Kurchatov**	**45.83**	**308**	P		**P**	**18 26 13.3**	**-0.4**
KURBB	**Kurchatov Arra**	**45.90**	**308**	P		**P**	**18 26 12.9**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=83,slow=8.4,SNR=25							
	comp=Z,4.6nm,0.8s							
KAPI	**Kappang**	**46.43**	**210**	P		**P**	**18 26 17.8**	**-0.9**
	comp=Z,6.5nm,0.3s,baz=26,slow=7.7,SNR=7.2							
	comp=Z,6.5nm,0.3s							
ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**18 26 41.2**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=256,slow=6.0,SNR=7.5							
	comp=Z,0.7nm,0.7s							
ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**18 26 43.7**	**+1.4**
BATI	**Baumata**	**49.84**	**203**	P		**P**	**18 26 45.4**	**+0.3**
	comp=Z,9.1nm,0.7s,baz=68,slow=2.0,SNR=5.0							
	comp=Z,9.1nm,0.7s							
BVAR	**Borovoye Array**	**50.47**	**312**	P		**P**	**18 26 50.8**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=90,slow=9.1,SNR=3.9							
BVAR					PcP	**PcP**	**18 28 08.6**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=48,slow=2.1,SNR=4.9							
	comp=Z,0.5nm,0.5s							
PSI	**Prapat**	**51.71**	**239**	P		**P**	**18 27 01.3**	**+1.8**
	comp=Z,5.6nm,0.4s,baz=144,slow=13,SNR=3.6							
	comp=Z,5.6nm,0.4s							
RPSI	**Rantau Prapat**	**51.79**	**239**	P		**P**	**18 27 01.3**	**+1.4**
LEM	**Lembang**	**53.82**	**223**	P		**P**	**18 27 16.2**	**+1.1**
	comp=Z,9.3nm,0.5s,baz=82,slow=3.1,SNR=4.9							
	comp=Z,9.3nm,0.5s							
ARU	**Arti**	**56.27**	**319**	P		**P**	**18 27 32.4**	**+0.3**
	comp=Z,4.7nm,0.7s,baz=179,slow=1.0,SNR=12							
	comp=Z,4.7nm,0.7s							
ARU	**Arti**	**56.27**	**319**	P		**P**	**18 27 32.1**	**0.0**
WB0	**Warramunga Arr**	**56.89**	**188**	P		**P**	**18 27 36.7**	**-0.2**
WB2	**Warramunga Arr**	**57.07**	**188**	P		**P**	**18 27 38.8**	**+0.6**
WB2					IAmb	IAmb	18 27 39.5	
	comp=Z,7.3nm,1.2s							
WRA	**Warramunga Arr**	**57.07**	**188**	P		**P**	**18 27 35.3**	**-2.8**
	comp=Z,1.5nm,0.6s,baz=3.4,slow=7.6,SNR=16							
WRA					PcP	**PcP**	**18 28 34.1**	**+1.0**
	comp=Z,1.2nm,1.1s,baz=2.2,slow=4.5,SNR=2.1							
	comp=Z,1.5nm,0.6s							
WRA	**Warramunga Arr**	**57.07**	**188**	P		**P**	**18 27 38.5**	**+0.3**
ABKAR	**Akbulak array**	**57.84**	**310**	P		**P**	**18 27 43.2**	**-0.2**
ABKAR					IAmb	IAmb	18 27 44.7	
	comp=Z,2.2nm,0.7s							
KIRV	**Kirov**	**60.16**	**323**	P		**P**	**18 28 00.0**	**+0.8**
	comp=Z,8.1nm,0.5s,baz=87,slow=3.6,SNR=5.1							
	comp=Z,8.1nm,0.5s							
ASAR	**Alice Springs**	**60.80**	**188**	P		**P**	**18 28 01.8**	**-2.3**
	comp=Z,1.1nm,0.8s,baz=15,slow=7.5,SNR=9.6							
	comp=Z,1.1nm,0.8s							
BELG	**Belogornoye**	**63.71**	**317**	P		**P**	**18 28 24.1**	**+0.9**
	comp=Z,10nm,0.8s,baz=173,slow=5.9,SNR=5.8							
	comp=Z,10nm,0.8s							
GEYT	**Alibeck**	**63.73**	**299**	P		**P**	**18 28 24.2**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=289,slow=9.0,SNR=4.5							
	comp=Z,2.1nm,0.7s							
FINES	**FINESS Array B**	**68.74**	**332**	P		**P**	**18 28 56.7**	**+1.3**
	comp=Z,3.2nm,0.9s,baz=51,slow=11,SNR=4.4							
	comp=Z,3.2nm,0.9s							
KBZ	**Khabaz**	**70.80**	**311**	P		**P**	**18 29 09.0**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=349,slow=3.1,SNR=4.7							
	comp=Z,3.5nm,0.9s							
NOA	**NORSAR Array B**	**74.12**	**337**	P		**P**	**18 29 27.4**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=36,slow=5.5,SNR=3.2							
	comp=Z,0.7nm,0.7s							
AKASG	**Malin Array Be**	**74.21**	**322**	P		**P**	**18 29 28.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=48,slow=6.4,SNR=8.5							
	comp=Z,1.0nm,0.5s							
PDAR	**Pinedale Array**	**77.73**	**45**	P		**P**	**18 29 49.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=246,slow=6.8,SNR=2.6							
	comp=Z,0.3nm,0.6s							
BUR08	**Bucovina Ar. S**	**78.21**	**322**	P		**P**	**18 29 52.8**	**+1.2**
BUR08					IAmb	IAmb	18 29 53.8	
	comp=Z,2.0nm,0.9s							
BURAR	**Bucovina Array**	**78.22**	**322**	P		**P**	**18 29 52.5**	**+0.8**
BURAR					IAmb	IAmb	18 29 54.2	
	comp=Z,1.6nm,0.9s							
BRTR	**Keskin Array B**	**78.75**	**311**	P		**P**	**18 29 55.7**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=70,slow=1.7,SNR=2.8							
	comp=Z,0.4nm,0.7s							
TXAR	**Lajitas Array**	**90.19**	**52**	P		**P**	**18 30 52.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=316,slow=4.1,SNR=4.3							
	comp=Z,0.2nm,0.5s							
LPAZ	**La Paz**	**146.78**	**59**	PKPbc		**PKPbc**	**18 37 33.5**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=17,slow=7.0,SNR=5.3							
H03N2	**Juan Fernandez**	**147.14**	**96**	T		T	21 21 52.3	
	baz=291,slow=76,SNR=75							
H03N3	**Juan Fernandez**	**147.15**	**96**	T		T	21 21 53.8	
	baz=291,slow=76,SNR=118							
H03N1	**Juan Fernandez**	**147.15**	**96**	T		T	21 21 52.0	
	baz=291,slow=76,SNR=42							

MAN 24 18:21:15.8, 8°.75N×125°.64E, h29km, mb3.7, ML2.4, MS1.9, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.91**	**128**	⇓*iP*	Pn	18 21 31.3	-1.3
BIPH				*i* S	Sb	18 21 42.8	-2.0
CGP	**Cagayan de Oro**	**0.98**	**253**	⇑*iP*	Pn	18 21 33.2	-0.5
CGP				*i* S	Sn	18 21 46.2	-0.4
GLSP	**General Luna,**	**1.13**	**25**	⇑*iP*	Pn	18 21 35.0	-0.8
GHBP	**Garcia Hernand**	**1.57**	**304**	⇑*eP*	Pn	18 21 42.7	+0.9
GHBP				*eS*	Sn	18 22 02.4	+1.3
TABP	**Talibon, Bohol**	**1.85**	**316**	⇓*eP*	Pn	18 21 45.8	+0.1
TABP				*eS*	Sn	18 22 08.2	0.0

*IDC **24** 18:23:41.2±4.6, 36°.51N×71°.25E, h199km±38km, mb3.2/8, mbtmp3.9/13, Error ellipse: s-maj=37.4km s-min=18.6km az=31.0*

*NNC **24** 18:23:49.3±1.2, 37°.16N×71°.13E, h214km±18km, mb2.9, mpv4.2, Error ellipse: s-maj=12.7km s-min=7.1km az=14.0*

ISC 24 18:23:41.9±1.1, 36°.7N±0°.1×71°.2E±0°.1, h200km, n29, σ1°68/33, mb3.6/8, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.81**	**19**	P	**Pn**	**18 25 08.8**	**+1.9**
	SNR=172						
UCH	**Uchtor**	**6.13**	**24**	P	**Pn**	**18 25 13.5**	**+2.2**
	SNR=42						
EKS2	**Erkin-Say**	**6.33**	**18**	P	**Pn**	**18 25 15.5**	**+2.1**
	SNR=18						
KK31	**Karatay Array**	**6.47**	**356**	P	**Pn**	**18 25 16.1**	**+0.9**
	4.9nm,0.5s,baz=189,slow=14,SNR=68						
KK31				⇑S	**Sn**	**18 26 25.6**	**-3.6**
	9.0nm,0.4s,baz=171,slow=14,SNR=22						
AAK	**Ala-Archa**	**6.50**	**22**	P	**Pn**	**18 25 18.0**	**+2.3**
	SNR=20						
AAK	**Ala-Archa**	**6.50**	**22**	P	**Pn**	**18 25 17.5**	**+1.9**
	23nm,0.3s,baz=171,slow=4.3,SNR=92						
AAK				S	**Sn**	**18 26 29.9**	**-0.1**
	12nm,0.6s,baz=186,slow=22,SNR=7.4						
KBK	**Karagaybulak**	**6.66**	**25**	P	**Pn**	**18 25 20.2**	**+2.5**
	SNR=15						
CHMS	**Chumysh**	**6.91**	**22**	P	**Pn**	**18 25 22.8**	**+1.9**
	SNR=11						
CHMS	**Chumysh**	**6.91**	**22**	⇓P	**Pn**	**18 25 22.8**	**+1.9**
	6.4nm,0.3s						
CHMS				⇓S	**Sn**	**18 26 37.2**	**-2.2**
	12nm,0.8s						
USP	**Ospenovka**	**7.08**	**20**	P	**Pn**	**18 25 24.1**	**+1.0**
	SNR=23						
TKM2	**Tokmak 2**	**7.12**	**27**	P	**Pn**	**18 25 25.9**	**+2.1**
	SNR=34						
TKM2	**Tokmak 2**	**7.12**	**27**	⇓P	**Pn**	**18 25 25.9**	**+2.1**
	23nm,0.5s						
TKM2				⇑S	**Sn**	**18 26 43.5**	**-1.2**
	14nm,1.1s						
MDOK	**Medeo**	**7.91**	**33**	⇑P	**Pn**	**18 25 36.2**	**+2.2**
	13nm,0.6s						
MK31	**Makanchi Array**	**13.08**	**36**	P	**P**	**18 26 41.6**	**-1.7**
	0.2nm,0.2s,baz=98,slow=48,SNR=4.6						
MKAR	**Makanchi Array**	**13.08**	**36**	P	**P**	**18 26 41.5**	**-1.8**
	2.1nm,0.7s,baz=211,slow=12,SNR=13						
KURBB	**Kurchatov Arra**	**14.93**	**18**	P	**P**	**18 27 03.4**	**-0.4**
	0.8nm,0.4s,baz=204,slow=10,SNR=7.5						
AB31	**Akbulak array**	**15.04**	**330**	⇑P	**P**	**18 27 06.4**	**+1.5**
	0.8nm,0.6s,baz=146,slow=11,SNR=12						
BVAR	**Borovoye Array**	**16.39**	**358**	P	**Pn**	**18 27 21.0**	**+0.4**
	1.2nm,0.4s,baz=168,slow=12,SNR=9.4						
AKTO	**Aktyubinsk**	**16.74**	**330**	⇑P	**Pn**	**18 27 24.8**	**-0.1**
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**19.72**	**24**	P	**P**	**18 27 57.1**	**+1.2**
	2.2nm,0.4s,baz=214,slow=12,SNR=9.3						
AKASG	**Malin Array Be**	**32.98**	**309**	P	**P**	**18 29 57.8**	**+0.2**
	0.8nm,0.6s,baz=80,slow=7.4,SNR=6.5						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**18 30 36.2**	**+0.6**
	1.4nm,0.4s,baz=134,slow=8.2,SNR=8.6						
	1.4nm,0.4s						
ARCES	**ARCESS Array B**	**41.07**	**337**	P	**P**	**18 31 06.1**	**+0.7**
	3.4nm,1.1s,baz=111,slow=8.7,SNR=7.8						
	3.4nm,1.1s						
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**18 31 32.2**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=95,slow=7.4						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**18 31 31.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=101,slow=7.3,SNR=9.0						
	comp=Z,1.6nm,0.6s						
ILAR	**Eielson Array**	**74.59**	**16**	P	**P**	**18 34 58.5**	**0.0**
	comp=Z,0.2nm,0.7s,baz=325,slow=5.5,SNR=2.3						
	comp=Z,0.2nm,0.7s						
YKA	**Yellowknife Ar**	**81.09**	**3**	P	**P**	**18 35 34.3**	**0.0**
	comp=Z,1.1nm,0.8s,baz=344,slow=6.0,SNR=2.6						
	comp=Z,1.1nm,0.8s						
WRA	**Warramunga Arr**	**81.93**	**122**	P	**P**	**18 35 37.7**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=319,slow=3.6,SNR=1.1						
	comp=Z,0.1nm,0.5s						
ASAR	**Alice Springs**	**84.20**	**125**	P	**P**	**18 35 49.8**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=308,slow=4.7,SNR=5.0						
	comp=Z,0.4nm,0.9s						

*IDC **24** 18:42:34.6±3.7, 8°.88N×93°.72E, h74km±34km, mb3.3/10, mbtmp3.6/12, ML3.6/2, MS2.9/2, Error ellipse: s-maj=36.8km s-min=16.4km az=57.0*

ISC 24 18:42:37.4±0.8, 9°.0N±0°.1×93°.9E±0°.2, h100km, n23, σ1°50/18, mb3.6/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.91**	**140**	P	**Pn**	**18 44 29.2**	**-0.7**
	0.8nm,0.3s,baz=348,slow=19,SNR=1.6						
PSI				LR	LR	18 47 40.5	
	comp=Z,106nm,20.4s,baz=313,slow=38						
	2.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**10.65**	**27**	P	**Pn**	**18 45 06.1**	**-1.0**
	0.1nm,0.3s,baz=212,slow=15,SNR=5.9						
	0.4nm,0.5s						
PALK	**Pallekele**	**13.15**	**264**	LR	LR	18 50 03.6	
	comp=Z,47nm,21.7s,baz=171,slow=35						
RAMN	**Ramite**	**19.18**	**340**	*eP*	**Pn**	**18 46 57.4**	**+1.9**
TAPN	**Taplejung**	**19.20**	**343**	*eP*	**Pn**	**18 46 53.8**	**-2.0**
	16nm,0.7s						
JIRN	**Jiri**	**19.97**	**340**	*eP*	**Pn**	**18 47 02.1**	**-2.7**
GKN	**Gorkha**	**20.86**	**337**	*eP*	Pn	18 47 11.1	-3.8
	24nm,0.7s						
KOLN	**Koldanda**	**21.08**	**334**	*eP*	**P**	**18 47 17.0**	**+3.0**
DANN	**Dangsing**	**21.52**	**335**	*eP*	**P**	**18 47 18.1**	**-0.7**
	20nm,0.6s						
H08S3	**Diego Garcia H**	**26.94**	**233**	T	T	19 15 07.3	
	baz=52,slow=76,SNR=10						
H08S2	**Diego Garcia H**	**26.94**	**233**	T	T	19 15 11.6	
	baz=52,slow=76,SNR=7.0						
H08S1	**Diego Garcia H**	**26.96**	**233**	T	T	19 15 12.1	
	baz=52,slow=76,SNR=3.9						
MKAR	**Makanchi Array**	**38.98**	**347**	P	**P**	**18 49 54.4**	**+0.5**
	0.4nm,0.7s,baz=164,slow=10.0,SNR=4.1						
	0.4nm,0.7s						
SONM	**Songino Array**	**40.18**	**13**	P	**P**	**18 50 04.9**	**+1.0**
	0.3nm,0.7s,baz=205,slow=9.1,SNR=2.0						
	0.3nm,0.7s						
GEYT	**Alibeck**	**43.23**	**318**	P	**P**	**18 50 27.5**	**-1.4**
	1.8nm,0.8s,baz=158,slow=9.2,SNR=2.4						
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**43.44**	**346**	P	**P**	**18 50 30.0**	**-0.3**
	0.4nm,0.2s,baz=160,slow=6.6,SNR=1.2						
	0.4nm,0.2s						
ZALV	**Zalesovo Beam**	**45.46**	**352**	P	**P**	**18 50 46.9**	**+0.6**
	0.4nm,0.4s,baz=348,slow=41,SNR=1.7						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**49.10**	**126**	P	**P**	**18 51 15.5**	**+0.3**
	0.2nm,0.5s,baz=306,slow=8.7,SNR=7.2						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**50.81**	**130**	P	**P**	**18 51 28.5**	**+0.5**
	0.5nm,0.7s,baz=305,slow=7.3,SNR=6.8						
	0.5nm,0.7s						
BRTR	**Keskin Array B**	**61.53**	**310**	P	**P**	**18 52 43.1**	**-1.1**
	0.6nm,0.6s,baz=108,slow=8.6,SNR=5.1						
	0.6nm,0.6s						
PETK	**Petropavlovsk-**	**67.29**	**36**	P	**P**	**18 53 21.8**	**+0.4**
	21nm,1.1s,baz=249,slow=11,SNR=4.6						
ARCES	**ARCESS Array B**	**74.17**	**340**	P	**P**	**18 54 03.6**	**+0.8**
	1.4nm,0.8s,baz=104,slow=7.7,SNR=1.5						
	1.4nm,0.8s						
GERES	**GERESS Array B**	**76.85**	**318**	P	**P**	**18 54 19.8**	**+1.1**
	0.6nm,0.7s,baz=65,slow=9.9,SNR=2.5						
	0.6nm,0.7s						

*IDC **24** 18:43:46.4±0.3, 12°.00N×88°.83W, h0km, mb6.1/50, mbtmp6.1/53, ML5.3/3, MS6.6/59, Error ellipse: s-maj=11.2km s-min=7.7km az=59.0*

*MOS **24** 18:43:46.7±1.2, 11°.98N×88°.88W, h14km, mb6.6/101, MS6.7/82, Error ellipse: s-maj=5.6km s-min=3.6km az=100.3*

*NEIC **24** 18:43:47.9, 11°.91N×88°.89W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=1.47; $M_{\theta\theta}$=1.06; $M_{\phi\phi}$=0.41; $M_{r\theta}$=-0.64; $M_{\theta\phi}$=-0.70; $M_{\phi r}$=0.63; Fault plane solution: M_0=1.74000×10^{19} NP1:ϕ_s=295.80000°, δ=30.07000°, λ=-101.37000°. NP2:ϕ_s=128.88000°, δ=60.58000°, λ=-83.49000°. Principal axes: T 1.7484, Plg15.0000°, Azm214.0000°; N -0.0200, Plg6.0000°, Azm306.0000°; P -1.7284, Plg74.0000°, Azm55.0000°;*

*NEIC **24** 18:43:47.7±2.1, 11°.91N±0°.05×88°.90W±0°.05, h10km±1km, mb6.6/1040, Ms_20 6.7/379, Mwb6.8/61, Mwc7.0/140, Mww6.9, Md7.2(SNET) Error ellipse: s-maj=9.4km s-min=7.7km az=233.0*

*BJI **24** 18:43:48.0±0.0, 11°.95N×89°.00W, h20km, mB7.0/52, Ms7.2/74, Ms7 7.1/71*

*UCR **24** 18:43:48.8±1.5, 11°.93N×88°.94W, h10km, MW6.2, mb6.9(NEIC)*

*GCG **24** 18:43:49.4±3.1, 11°.94N×88°.87W, h20km, MD6.9*

*SNET **24** 18:43:49.2±2.2, 11°.96N×88°.84W, h10km, MW7.0(NEIC)*

*INET **24** 18:43:49.4±0.7, 11°.82N×88°.98W, h15km, MW7.2*

*GCMT **24** 18:43:52.7±0.0, 11°.83N×89°.20W, h12km, MW6.9/172, Moment Tensor Solution. s167,c433; s172,c876; Duration: 78 Moment tensor: Scale 10^{19}Nm; M_{rr}=3.01±.01; $M_{\theta\theta}$=2.02±.01; $M_{\phi\phi}$=0.98±.01; $M_{r\theta}$=-0.40±.03; $M_{\theta\phi}$=-1.64±.01; $M_{\phi r}$=0.32±.03; Best double couple: M_o=3.15700×10^{19} NP1:ϕ_s=127.00000°, δ=50.00000°, λ=-89.00000°. NP2:ϕ_s=306.00000°, δ=40.00000°, λ=-91.00000°. Principal axes: T 3.2640, Plg5.0000°, Azm216.0000°; N -0.2160, Plg0.0000°, Azm306.0000°; P -3.0510, Plg85.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*UPA **24** 18:43:54.3±2.7, 11°.88N×88°.81W, h38km±212km, MW6.8*

*NEIC **24** 18:43:56, 11°.86N×88°.94W, h12km, Moment Tensor Solution. Duration: 16s4 Moment tensor: Scale 10^{19}Nm; M_{rr}=2.78; $M_{\theta\theta}$=1.87; $M_{\phi\phi}$=0.91; $M_{r\theta}$=-0.67; $M_{\theta\phi}$=-1.64; $M_{\phi r}$=-0.49; Fault plane solution: M_0=3.07000×10^{19} NP1: ϕ_s=323.00000°, δ=45.00000°, λ=-66.00000°. NP2: ϕ_s=111.00000°, δ=50.00000°, λ=-111.00000°. Principal axes: T 3.1120, Plg2.0000°, Azm216.0000°; N -0.0870, Plg16.0000°, Azm126.0000°; P -3.0250, Plg74.0000°, Azm315.0000°;*

*NEIC **24** 18:44:08.8, 11°.92N×88°.93W, h22km, Moment Tensor Solution. Duration: 18s3 Moment tensor: Scale 10^{19}Nm; M_{rr}=3.92; $M_{\theta\theta}$=2.40; $M_{\phi\phi}$=1.52; $M_{r\theta}$=-0.80; $M_{\theta\phi}$=-1.79; $M_{\phi r}$=2.23;*

Fault plane solution: M_0=4.51000×10^{19} NP1: ϕ_s=295.10000°, δ=32.72000°, λ=-114.17000°. NP2: ϕ_s=143.17000°, δ=60.45000°, λ=-75.26000°. Principal axes: T 4.3099, Plg14.0000°, Azm222.0000°; N 0.4072, Plg13.0000°, Azm316.0000°; P -4.7171, Plg71.0000°, Azm86.0000°;

ISC 24 18:43:47.8±0.3, 11°.92N±0°.02×88°.87W±0°.02, h15km±1km, h15km:pP-P, n3236, σ1°99/4166, mb6.5/692, MS6.8/361, 116C-167D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**1.43**	**12**	*eP*	**Pb**	**18 44 14.7**	**+0.4**
ALJI				*eS*	**Sg**	**18 44 34.3**	**+0.3**
ALJI	**Alcalda de J**	**1.43**	**12**	*eP*	**Pb**	**18 44 14.7**	**+0.4**
ALJI				*eS*	**Sg**	**18 44 34.3**	**+0.3**
COEB	**Comit de Eme**	**1.60**	**12**	*eP*	**Pb**	**18 44 17.1**	**-0.1**
COEB	**Comit de Eme**	**1.60**	**12**	*eP*	**Pb**	**18 44 17.1**	**-0.1**
PACA	**Pacayal**	**1.63**	**19**	*eP*	**Pg**	**18 44 18.5**	**-0.7**
PACA	**Pacayal**	**1.63**	**19**	*eP*	**Pg**	**18 44 18.5**	**-0.7**
PACA	**Pacayal**	**1.63**	**19**	*eP*	**Pg**	**18 44 18.6**	**-0.7**
LCND	**La Caada**	**1.68**	**34**	*eP*	**Pb**	**18 44 18.6**	**+0.2**
LCND	**La Caada**	**1.68**	**34**	*eP*	**Pb**	**18 44 18.6**	**+0.2**
CNCH	**Conchagua**	**1.69**	**37**	*eP*	**Pb**	**18 44 18.7**	**0.0**
CNCH	**Conchagua**	**1.69**	**37**	*eP*	**Pb**	**18 44 18.7**	**0.0**
CNRM	**Centro Naciona**	**1.69**	**24**	*eP*	**Pb**	**18 44 19.1**	**+0.4**
CNRM	**Centro Naciona**	**1.69**	**24**	*eP*	**Pb**	**18 44 19.1**	**+0.4**
SJTE	**Alcalda de S**	**1.69**	**355**	*eP*	**Pb**	**18 44 17.8**	**-0.9**
SJTE	**Alcalda de S**	**1.69**	**355**	*eP*	**Pb**	**18 44 17.8**	**-0.9**
COEG	**Centro de Oper**	**1.69**	**360**	*eP*	**Pb**	**18 44 18.2**	**-0.5**
COEG	**Centro de Oper**	**1.69**	**360**	*eP*	**Pb**	**18 44 18.2**	**-0.5**
LFRS	**El Faro**	**1.71**	**354**	*eP*	**Pn**	**18 44 17.1**	**-0.1**
LFRS	**El Faro**	**1.71**	**354**	*eP*	**Pn**	**18 44 17.1**	**-0.1**
PQSS	**Presa 15 de Se**	**1.72**	**10**	*eP*	**Pb**	**18 44 19.0**	**-0.2**
PQSS	**Presa 15 de Se**	**1.72**	**10**	*eP*	**Pb**	**18 44 19.0**	**-0.2**
PAVA	**Las Pavas**	**1.79**	**358**	*eP*	**Pb**	**18 44 19.4**	**-1.0**
PAVA	**Las Pavas**	**1.79**	**358**	*eP*	**Pb**	**18 44 19.4**	**-1.0**
ITCA	**Escuela Especi**	**1.79**	**347**	*eP*	**Pn**	**18 44 19.3**	**+1.0**
ITCA	**Escuela Especi**	**1.79**	**347**	*eP*	**Pn**	**18 44 19.3**	**+1.0**
SNET	**Serv Nac Est T**	**1.79**	**349**		**Pn**	**18 44 18.4**	**0.0**
SNET					Sn	**Sn**	**18 44 38.5**	**-2.5**
SNET	**Serv Nac Est T**	**1.79**	**349**	*eP*	**Pn**	**18 44 19.3**	**+0.9**
SNET	**Serv Nac Est T**	**1.79**	**349**	*eP*	**Pn**	**18 44 19.3**	**+0.9**
SNET	**Serv Nac Est T**	**1.79**	**349**	*eP*	**Pn**	**18 44 19.3**	**+0.9**
SEMO	**Seminario San**	**1.81**	**349**	*eP*	**Pb**	**18 44 19.7**	**-1.0**
IGN	**Direccin Gen**	**1.81**	**351**	*eP*	**Pb**	**18 44 19.8**	**-0.9**
IGN				*eS*	**Sn**	**18 44 42.3**	**+0.9**
IGN	**Direccin Gen**	**1.81**	**351**	*eP*	**Pb**	**18 44 19.8**	**-0.9**
IGN				*eS*	**Sn**	**18 44 42.3**	**+0.9**
JAYA	**Jayaque - finc**	**1.82**	**342**	*eP*	**Pn**	**18 44 19.4**	**+0.7**
JAYA	**Jayaque - finc**	**1.82**	**342**	*eP*	**Pn**	**18 44 19.4**	**+0.7**
LBRS	**Las Brisas**	**1.82**	**355**	*eP*	**Pn**	**18 44 19.7**	**+1.0**
LBRS	**Las Brisas**	**1.82**	**355**	*eP*	**Pn**	**18 44 19.7**	**+1.0**
LFU	**La Fuente**	**1.84**	**352**	*eP*	**Pn**	**18 44 19.5**	**+0.6**
LFU	**La Fuente**	**1.84**	**352**	*eP*	**Pn**	**18 44 19.5**	**+0.6**
PMON	**Piamonte**	**1.84**	**346**	*eP*	**Pn**	**18 44 19.8**	**+0.8**
PMON	**Piamonte**	**1.84**	**346**	*eP*	**Pn**	**18 44 19.8**	**+0.8**
BOQS	**Boqueron**	**1.85**	**347**	*eP*	**Pn**	**18 44 19.8**	**+0.5**
BOQS	**Boqueron**	**1.85**	**347**	*eP*	**Pn**	**18 44 19.8**	**+0.5**
CRIN	**San Cristobal**	**1.94**	**66**		**Pn**	**18 44 21.1**	**+0.7**
CRIN	**San Cristobal**	**1.94**	**66**	*eP*	**Pb**	**18 44 22.4**	**-0.5**
CRIN				*eS*	**Sg**	**18 44 50.5**	**+0.3**
CEDA	**San Andres**	**1.94**	**345**	*eP*	**Pn**	**18 44 21.4**	**+1.0**
CEDA				*eS*	**Sn**	**18 44 45.5**	**+0.9**
CEDA	**San Andres**	**1.94**	**345**	*eP*	**Pn**	**18 44 21.4**	**+1.0**
CEDA				*eS

HUEH eS Sn 18 45 43.3 +1.7
PACM Arenal 4.27 109 eP Pn 18 44 46.4 -6.0
CASO Castillo 4.32 110 eP Pn 18 44 54.8 +1.7
CEDE Laguna Cedeo 4.33 109 eP Pn 18 44 55.2 +2.0
VACR Volcan Arenal 4.35 109 eP Pn 18 44 55.4 +1.8
FORC Fortuna 4.36 109 eP Pn 18 44 55.4 +1.7
LAFE Finca La Fe, P 4.42 118 eP Pn 18 44 54.8 +0.4
ESPN Las Esperanzas 4.48 86 Pn 18 44 56.6 +1.4
ESPN Las Esperanzas 4.48 86 eP Pn 18 44 57.0 +1.9
ESPN Las Esperanzas 4.48 86 eP Pn 18 44 57.0 +1.9
COVE Coope Vega, Sa 4.54 105 Pn 18 44 57.3 +1.3
COVE Coope Vega, Sa 4.54 105 eP Pn 18 44 57.0 +0.9
JACO JACO, Garabito 4.70 118 Pn 18 44 59.7 +1.4
JACO JACO, Garabito 4.70 118 eP Pn 18 45 01.0 +2.7
CRPO Crater poas 4.87 110 eP Pn 18 45 03.5 +2.7
HDC Heredia 5.04 112 Pn 18 45 05.2 +2.1
HDC Heredia 5.04 112 eP Pn 18 45 06.6 +3.5
HDC Heredia 5.04 112 ⇓iP Pn 18 45 06.3 +3.3
HDC Heredia 5.04 112 ⇑P Pn 18 45 06.0 +2.9
HDC Heredia 5.04 112 eP Pn 18 45 05.8 +2.8
HDC3 Heredia 3 5.04 112 eP Pn 18 45 05.6 +2.5
PETF Flores 5.06 349 Pn 18 45 05.9 +2.7
RIFO Rio Frio, Sara 5.11 108 eP Pn 18 45 06.2 +2.4
SJS Escuela Geolog 5.12 112 eP Pn 18 45 08.8 +4.6
OCM Ochomogo 5.22 112 eP Pn 18 45 07.8 +2.2
LCR2 La Lucha 2 5.24 114 eP Pn 18 45 08.6 +2.6
HAYA Volcan Irazu 5.30 111 eP Pn 18 45 09.6 +2.7
RAFA San Farael, Vo 5.33 111 eP Pn 18 45 10.7 +3.5
VTUN Crater Central 5.35 110 eP Pn 18 45 11.0 +3.4
VTUC Crater, Volcan 5.35 110 eP Pn 18 45 10.0 +2.4
CVTR Volcan Turrial 5.36 110 Pn Pn 18 45 09.7 +2.0
RIMA Rio Macho 5.36 113 Pn 18 45 09.2 +1.7
RIMA Rio Macho 5.36 113 eP Pn 18 45 09.9 +2.4
CCIG Comitan 5.38 324 Pn 18 45 09.7 +2.0
VTCV VTCV, Calle Va 5.40 110 eP Pn 18 45 10.6 +2.5
CDM Cerro de Muert 5.54 115 eP Pn 18 45 12.7 +2.5
BATAN Batan 5.69 108 Pn 18 45 14.1 +2.3
BATAN Batan 5.69 108⇑eP Pn 18 45 15.4 +3.6
PEZE Perez Zeledon, 5.69 116 Pn 18 45 14.0 +2.1
PEZE Perez Zeledon, 5.69 116 eP Pn 18 45 14.5 +2.6
MRVA Moravia de Chi 5.72 111 eP Pn 18 45 15.4 +3.0
SRBA San Rafael, Bu 6.04 116 Pn Pn 18 45 18.6 +1.8
SRBA San Rafael, Bu 6.04 116 eP Pn 18 45 19.7 +3.0
EDPN Palmar Norte 6.08 118 eP Pn 18 45 20.7 +3.5
EDBA Buenos Aires 6.14 116 eP Pn 18 45 21.0 +2.8
POTG Potrero Grande 6.33 116 eP Pn 18 45 24.4 +3.7
PTJ1 Puerto Jimnez 6.42 121 eP Pn 18 45 25.4 +3.4
EDSV San Vito 6.56 117 eP Pn 18 45 28.4 +4.4
RGM0 Gandoca 6.57 110 eP Pn 18 45 27.5 +3.5
CTCR Cotoan 6.72 116 eP Pn 18 45 29.6 +3.4
CNI2 El Empalme, Bo 6.76 111 eP Pn 18 45 30.2 +3.6
CNI2 eS Sn 18 46 45.3 +2.0
CCOL Caracol de Cor 6.77 120 eP Pn 18 45 31.0 +4.3
BRU2 Volcan 6.82 116 Pn 18 45 29.9 +2.3
BRU2 Volcan 6.82 116 eP Pn 18 45 31.0 +3.4
BRU2 Volcan 6.82 116⇑eP Pn 18 45 31.0 +3.4
BRU2 eS Sn 18 46 47.6 +2.4
BC3P Paso Ancho 6.88 116⇓eP Pn 18 45 31.6 +3.1
BCO2 Palmira 7.00 116 eP Pn 18 45 33.0 +2.9
BCO2 eS Sn 18 46 51.7 +2.2
LIMO3 Limones 7.02 122 eP Pn 18 45 33.3 +3.1
PTAR3 Potrerillos Ar 7.04 116⇓eP Pn 18 45 33.2 +2.7
PSOM3 Paja de Sombre 7.20 116⇓eP Pn 18 45 35.9 +3.3
DVD David 7.20 118⇓iP Pn 18 45 36.8 +4.2
DVD eS Sn 18 46 56.8 +2.6
GUAL3 Gualaca, Chiri 7.29 117⇑eP Pn 18 45 37.7 +3.9
PRVC Isla de Provid 7.46 78 Pn Pn 18 45 37.3 +1.0
PRVC Isla de Provid 7.46 78⇓eP Pn 18 45 39.6 +3.3
CMIG Matias Romero 7.77 312 Pn Pn 18 45 40.0 -0.5
42nm,0.3s,baz=117,slow=9.6,SNR=172
CMIG Sn 18 47 06.9 -1.4
187nm,0.3s,baz=136,slow=20,SNR=6.1
CMIG LR LR 18 48 40.2
comp=Z,335µm,21.5s,baz=146,slow=38
454nm,0.5s
REME3 Remedios, Chir 7.84 117⇓eP Pn 18 45 45.7 +4.3
TEIG Tepich 8.28 4 Pn Pn 18 45 49.5 +2.0
TEIG Tepich 8.28 4 ⇓P Pn 18 45 50.2 +2.8
RSUS3 Rio de Jesus, 8.54 117⇓eP Pn 18 45 53.5 +2.5
CHIT3 Chitre 9.21 115 eP Pn 18 46 04.5 +4.3
VTON El Valle, Cocl 9.22 110⇓eP Pn 18 46 04.2 +3.8
SABA3 Sabanitas, Col 9.27 105⇓eP Pn 18 46 06.2 +5.1
BCIP Isla Barro Col 9.29 106 Pn Pn 18 46 02.7 +1.4
BCIP Isla Barro Col 9.29 106⇑eP Pn 18 46 04.2 +2.8
BCIP Isla Barro Col 9.29 106 ⇓P Pn 18 46 03.9 +2.6
BCIP Isla Barro Col 9.29 106 P Pn 18 46 02.7 +1.4
AZU Azuero 9.41 115⇑eP Pn 18 46 06.4 +3.5
UPA Univ. de Panam 9.63 107⇑iP Pn 18 46 08.3 +2.3
ACHO3 Achotines, Los 9.67 117 eP Pn 18 46 11.2 +4.7
PEDA3 Pedasi 9.74 116 eP Pn 18 46 12.4 +4.8
CHPO Chepo, Panama 9.97 105 eP Pn 18 46 15.6 +4.9
CNTA3 Canitas, Panam 10.17 104⇓eP Pn 18 46 18.0 +4.6
TLIG Tlapa 10.93 302 Pn Pn 18 46 24.6 +0.7
TLIG Tlapa 10.93 302 ⇓P Pn 18 46 24.8 +0.9
UPD2 Meteti 11.19 106⇑iP Pn 18 46 31.3 +3.9
PTAC Punta Ardita, 11.89 113⇑eP Pn 18 46 38.6 +1.7
SOR Soroa 12.17 27 Pn Pn 18 46 43.7 +2.9
SOR Soroa 12.17 27 eP Pn 18 46 44.1 +3.3
SOR Soroa 12.17 27 P Pn 18 46 43.7 +2.9
MCJ Malvern 12.34 60 *i* P Pn 18 46 47.3 +4.0
MCJ *i* S Sg 18 50 32.0
UNM Universidad Na 12.36 308 Pn 18 46 45.2 +1.5
UNM Universidad Na 12.36 308 ⇓P Pn 18 46 45.8 +2.1
UNM Universidad Na 12.36 308 P Pn 18 46 45.2 +1.5
PAYG Puerto Ayora 12.59 187 Pn Pn 18 46 45.9 -0.7
PAYG Puerto Ayora 12.59 187 ⇑P Pn 18 46 47.2 +0.6
MTDJ Mount Denham 12.61 59 Pn Pn 18 46 48.5 +1.6
MTDJ Mount Denham 12.61 59 eP Pn 18 46 50.0 +3.1
MTDJ Mount Denham 12.61 59 ⇑P Pn 18 46 49.5 +2.6
LCBC Los crdobas, 12.66 103 eP Pn 18 46 50.1 +2.5
PCJ Portland Cotta 12.71 62 *i* P Pn 18 46 51.8 +3.6
BNJ Bonny Gate 13.14 60 *i* P P 18 46 59.3 -5.0
STH Stony Hill 13.18 61⇑iP Pn 18 46 59.1 +4.8
HOJ Hope 13.18 61 *i* P P 18 47 01.0 -4.6
MGV Manicaragua 13.22 39 eP Pn 18 46 57.0 +1.8
GWJ Greenwich 13.22 61⇑iP P 18 47 00.7 -4.5
CMJ Castle Mountai 13.56 61 *i* P P 18 47 06.5 -2.3
UREC San Jos de Ur 13.77 106⇑iP Pn 18 47 04.3 +1.5
MOIG Morelia 14.14 305 Pn 18 47 09.6 +1.7
TUMC Tumaco 14.20 134 Pn 18 47 09.2 +0.6
RCC Rio Carpintero 14.99 56 eP Pn 18 47 19.2 -0.1
RCC eS S 18 50 19.2 -3.6
RCC IAMs_20 IAMs_20 18 57 28.7
comp=N,247µm,12.4s
RCC IAMs_20 IAMs_20 18 57 29.9
comp=E,376µm,11.8s
HLGC Holguin 15.18 52 eP Pn 18 47 22.7 +0.9
GTBY Guantanamo Bay 15.43 57 Pn Pn 18 47 25.4 +0.3
GTBY IAmb IAmb 18 47 33.4
comp=Z,2µm,0.8s
GTBY Guantanamo Bay 15.43 57 eP Pn 18 47 26.7 +1.6
GTBY Guantanamo Bay 15.43 57 ⇑P Pn 18 47 27.0 +1.8
TULM Tulcn-Chalpat 15.64 135 Pn 18 47 30.3 +1.9
PULU Pululahua 15.67 138 Pn 18 47 30.5 +1.9
PULU IAmb IAmb 18 47 34.6
comp=Z,4µm,1.2s
IMBA Imbabura, San 15.68 137 P P 18 47 31.6 -1.3
061Z Ochoppi 15.78 27 Pn 18 47 31.1 +1.6
061Z IAmb IAmb 18 47 38.0
comp=Z,6µm,1.4s
061Z Ochoppi 15.78 27 P Pn 18 47 31.4 +1.8
baz=210
061Z S S 18 50 42.0 +3.1
baz=210
MOAC Moa 15.92 55 eP Pn 18 47 32.5 +1.1
ROSC El Rosal 16.01 115 Pn P 18 47 36.9 +0.3
comp=Z,1.8nm,0.3s,baz=319,slow=8.9,SNR=108
ROSC El Rosal 16.01 115 P P 18 47 37.7 +1.2
ROSC El Rosal 16.01 115 P P 18 47 37.7 +1.2
ROSC pmax pmax
comp=Z,1µm,1.5s
SLOR San Lorenzo - 16.25 140 P P 18 47 40.1 +0.8
MASC Masc 16.28 58 eP Pn 18 47 37.2 +1.1
URIC Uribia, Colomb 16.52 89 P Pn 18 47 38.2 -0.9
URIC IAmb IAmb 18 47 48.2
comp=Z,3µm,1.2s
CHSH Refugio Sur-Vo 16.62 143 P P 18 47 44.2 +0.7
CHSH IAmb IAmb 18 47 49.3
comp=Z,604nm,1.3s
ZAIG Zacatecas 16.94 311 P Pn 18 47 45.3 +0.5
ZAIG IAmb IAmb 18 47 52.7
comp=Z,4µm,1.4s
ZAIG Zacatecas 16.94 311 ⇓P Pn 18 47 45.5 +0.8
LGNH Logne 17.00 65 P P 18 47 46.9 -0.2
LGNH IAmb IAmb 18 47 52.6
comp=Z,4µm,1.3s
LGNH Logne 17.00 65 eP Pn 18 47 42.7 -2.5
060A Indiantown 17.03 27 P P 18 47 47.5 +0.2
060A IAmb IAmb 18 47 55.0
comp=Z,7µm,1.4s
060A Indiantown 17.03 27 P P 18 47 48.0 +0.7
baz=210
060A S Sn 18 50 57.0 +2.2
baz=210
COHC Cochancay 17.19 146 P P 18 47 49.4 +0.2
DWPF Disney Wildern 17.55 22 P P 18 47 53.8 +0.7
DWPF IAmb IAmb 18 48 00.8
comp=Z,9µm,1.7s
DWPF Disney Wildern 17.55 22 P P 18 47 54.3 +1.2
baz=205
DWPF S Sn 18 51 06.0 -1.3
baz=205
DWPF Disney Wildern 17.55 22 P P 18 47 54.2 +1.2
baz=205
DWPF S S 18 51 21.9 +6.9
baz=205
DWPF Disney Wildern 17.55 22 eP P 18 47 53.8 +0.7
DWPF Disney Wildern 17.55 22 ⇑P P 18 47 54.2 +1.2
ARNL Arenillas 17.68 150 P P 18 47 55.7 +1.1
KVTX Kingsville 17.70 333 P P 18 47 54.7 -0.1
KVTX IAmb IAmb 18 48 01.7
comp=Z,10µm,1.2s
KVTX Kingsville 17.70 333 P P 18 47 56.1 +1.4
baz=150
KVTX S Sn 18 51 10.6 -0.5
baz=150
KVTX Kingsville 17.70 333 ⇓P P 18 47 55.2 +0.4
545A Edgard 18.10 355 P P 18 48 01.6 +2.4
545A IAmb IAmb 18 48 09.5
comp=Z,4µm,1.2s
545B Wilberts Farm, 18.10 355 P P 18 48 03.4 +4.3
baz=175
545B S S 18 51 29.6 +3.4
baz=175
BOSC San Juan Bosco 18.18 145 P P 18 48 02.5 +2.2
SDV Santo Domingo 18.18 98 P P 18 48 01.6 +1.2
comp=Z,15nm,0.3s,baz=275,slow=5.5,SNR=195
SDV S S 18 51 29.7 +1.1
comp=Z,43nm,0.7s,baz=158,slow=23,SNR=5.8
SDV PcP PcP 18 52 35.4 +1.9
comp=Z,89nm,0.7s,baz=66,slow=3.9,SNR=4.0
SDV ScP ScP 18 56 12.7 +4.1
comp=Z,72nm,1.2s,baz=162,slow=21,SNR=5.7
SDV LR LR 18 56 38.3
comp=Z,143µm,18.5s,baz=305,slow=42
SDV ScS ScS 19 00 03.2 +13
comp=Z,3.1nm,0.4s,baz=242,slow=23,SNR=5.8
comp=Z,776nm,0.8s
SDV Santo Domingo 18.18 98 P P 18 48 00.3 -0.1
SDV Santo Domingo 18.18 98 eP P 18 48 01.5 +1.1
SDDR Presa de Saban 18.33 65 P P 18 48 02.7 +0.8
SDDR Presa de Saban 18.33 65 eP P 18 48 03.3 +1.4
SDDR Presa de Saban 18.33 65 ⇑P P 18 48 03.8 +1.9
656A Willston 18.34 18 P P 18 48 02.9 +1.2
656A IAmb IAmb 18 48 11.9
comp=Z,4µm,1.1s
656A Willston 18.34 18 P P 18 48 04.9 +3.2
baz=200
656A S S 18 51 32.1 +1.0
baz=200
MCRA Macar, Loja 18.45 151 P Pn 18 48 03.6 +0.3
735A Kenedy 18.81 335 P P 18 48 06.3 -0.6
735A IAmb IAmb 18 48 18.8
comp=Z,4µm,1.2s
735A Kenedy 18.81 335 P Pn 18 48 07.3 -0.1
baz=152
735A S S 18 51 41.2 +0.6
baz=152
451A Vernon 18.83 8 P Pn 18 48 08.5 +0.8
451A IAmb IAmb 18 48 16.3
comp=Z,2µm,0.9s
451A Vernon 18.83 8 P Pn 18 48 09.4 +1.7
baz=189
451A S S 18 51 47.1 +6.1
baz=189
833A Chaparral WMA, 19.06 330 P P 18 48 09.3 -0.5
833A IAmb IAmb 18 48 20.1
comp=Z,6µm,1.4s
833A Chaparral WMA, 19.06 330 P Pn 18 48 10.3 -0.3
baz=147
833A S Sn 18 51 43.4 -0.5
baz=147
833A Chaparral WMA, 19.06 330 P P 18 48 10.1 +0.4
baz=147,SNR=955
833A S S 18 51 45.0 -0.7
baz=147
HKT Hockley 19.08 341 P P 18 48 09.6 -0.2
HKT IAmb IAmb 18 48 16.7
comp=Z,6µm,1.6s
HKT Hockley 19.08 341 P Pn 18 48 10.8 +0.2
baz=159
HKT S Sn 18 51 44.1 -0.1
baz=159
HKT Hockley 19.08 341 ⇑P P 18 48 10.1 +0.3
HKT Hockley 19.08 341 *d* iP P 18 48 10.2 +0.4
441A DeRidder 19.16 349 P Pn 18 48 12.0 +0.3
441A DeRidder 19.16 349 P Pn 18 48 13.6 +1.9
baz=167
441A S Sn 18 51 46.6 +0.2
baz=167
BRAL Brewton 19.23 5 P Pn 18 48 13.2 +0.7
BRAL IAmb IAmb 18 48 22.7
comp=Z,5µm,1.1s
BRAL Brewton 19.23 5 P Pn 18 48 14.3 +1.8
baz=185
BRAL S S 18 51 49.1 0.0
baz=185
BRAL Brewton 19.23 5 P Pn 18 48 13.4 +0.8
baz=185,SNR=81
BRAL S S 18 51 53.3 +4.2
baz=185
BRAL Brewton 19.23 5 ⇑P Pn 18 48 13.8 +1.3
346A Big Creek Wild 19.39 358 P Pn 18 48 14.6 +0.2
346A IAmb IAmb 18 48 19.8
comp=Z,7µm,1.4s
346A Big Creek Wild 19.39 358 P Pn 18 48 16.2 +1.8
baz=178
346A S S 18 51 53.3 +1.1
baz=178
SDD Santo Domingo 19.40 68 P Pn 18 48 15.2 +0.5
SDD IAmb IAmb 18 48 24.3
comp=Z,5µm,1.1s
GRTK Grand Turk 19.46 58 P Pn 18 48 16.0 +0.6
GRTK IAmb IAmb 18 48 24.1
comp=Z,2µm,0.9s
GRTK Grand Turk 19.46 58 eP Pn 18 48 15.4 0.0
GRTK Grand Turk 19.46 58 ⇑P Pn 18 48 16.9 +1.5
HATO Hato, Curacao 19.47 87 P P 18 48 14.6 +0.2
344A Westbrook Farm 19.52 355 P Pn 18 48 16.3 +0.3
344A IAmb IAmb 18 48 27.8
comp=Z,4µm,0.9s
344A Westbrook Farm 19.52 355 P Pn 18 48 17.6 +1.6
baz=174
344A S S 18 51 58.6 +3.7
baz=174
342A Flagon Creek P 19.63 351 P Pn 18 48 17.3 0.0
342B Flagon Creek P 19.63 351 P Pn 18 48 18.3 +1.0
baz=170
342B S Sn 18 51 57.6 +0.1
baz=170
456A Hilliard 19.76 18 P Pn 18 48 18.8 -0.1
456A Hilliard 19.76 18 P Pn 18 48 19.9 +1.0
baz=200
456A S Sn 18 52 03.7 +3.0
baz=200
352A Blakely 19.81 10 P Pn 18 48 19.3 -0.2
352A Blakely 19.81 10 P Pn 18 48 20.2 +0.8
baz=191
352A S Sn 18 52 03.8 +2.0
baz=191
TIGA Tifton 20.03 13 P Pn 18 48 21.7 -0.3
TIGA Tifton 20.03 13 P Pn 18 48 22.5 +0.4
baz=195
TIGA S S 18 52 05.1 0.0
baz=195
TIGA Tifton 20.03 13 P Pn 18 48 22.1 +0.1
baz=195,SNR=468
TIGA S Sn 18 52 07.6 +0.3
baz=195
250A Grady 20.11 6 P P 18 48 21.9 +0.8
250A Grady 20.11 6 P Pn 18 48 22.9 -0.1
baz=187
250A S Sn 18 52 09.6 +0.5
baz=187
VBMS Vicksburg 20.26 356 P Pn 18 48 24.6 -0.2
VBMS Vicksburg 20.26 356 P Pn 18 48 25.0 +0.3
baz=175
VBMS S Sn 18 52 11.6 -1.2
baz=175
VBMS Vicksburg 20.26 356 P Pn 18 48 24.6 -0.2
baz=175
435B Jarrell 20.44 338 P P 18 48 24.2 -0.6
435B Jarrell 20.44 338 P P 18 48 24.9 +0.2
baz=155
435B S S 18 52 09.1 -4.2
baz=155
435B Jarrell 20.44 338 P P 18 48 24.8 +0.1
baz=155
435B S S 18 52 12.0 -1.3
baz=155
NATX Nacogdoches 20.46 346 P P 18 48 26.0 +1.0
NATX Nacogdoches 20.46 346 P P 18 48 25.7 +0.7
baz=164
NATX S S 18 52 11.8 -1.8
baz=164
NATX Nacogdoches 20.46 346 P P 18 48 25.4 +0.5
baz=164,SNR=214
NATX S S 18 52 10.8 -2.9
baz=164
146A Union 20.62 360 P Pn 18 48 27.9 -1.1
146A Union 20.62 360 P Pn 18 48 28.3 -0.7
baz=179
146A S S 18 52 15.2 -1.7
baz=179
BAUV El Baul 20.69 96 P P 18 48 28.2 +0.6
BAUV IAmb IAmb 18 48 35.1
comp=Z,3µm,0.8s
255A Hazlehurst 20.77 15 P P 18 48 29.1 +0.8
255A Hazlehurst 20.77 15 P Pn 18 48 30.4 -0.4
baz=198
255A S S 18 52 18.0 -1.8
baz=198
PCDR Punta Cana, DR 20.82 69 P Pn 18 48 30.3 -1.1
PCDR IAmb IAmb 18 48 33.5
comp=Z,2µm,0.8s
143A Socs Landing, 20.82 354 P Pn 18 48 30.2 -1.1
143A Socs Landing, 20.82 354 P Pn 18 48 30.5 -0.8
baz=173
143A S S 18 52 16.8 -3.9
baz=173
237A Washetta, Mont 20.99 343 P P 18 48 31.2 +0.5
237A IAmb IAmb 18 48 44.3
comp=Z,6µm,1.3s
237A Washetta, Mont 20.99 343 P P 18 48 31.4 +0.7
baz=161
237A S S 18 52 19.2 -5.0
baz=161
152A Waverly Hall 21.00 10 P P 18 48 31.7 +0.9
152A IAmb IAmb 18 48 40.1
comp=Z,4µm,1.1s
152A Waverly Hall 21.00 10 P P 18 48 32.6 +1.8
baz=191
152A S S 18 52 24.7 +0.2
baz=191
JCT Junction City 21.07 333 P P 18 48 31.8 +0.1
JCT IAmb IAmb 18 48 43.0
comp=Z,5µm,1.2s
JCT Junction City 21.07 333 P P 18 48 31.5 -0.1
baz=149
JCT S S 18 52 22.2 -3.8
baz=149
JCT Junction City 21.07 333 P P 18 48 31.0 -0.7
baz=149,SNR=652
JCT S S 18 52 22.5 -3.4
baz=149
JCT Junction City 21.07 333 ⇓P P 18 48 30.8 -0.8
JCT Junction City 21.07 333 P P 18 48 31.8 +0.1
JCT pmax pmax
comp=Z,5µm,1.3s
JCT MLR MLR
comp=Z,49µm,19.0s
LRAL Lakeview Retre 21.09 4 P P 18 48 32.9 +1.1
LRAL Lakeview Retre 21.09 4 P P 18 48 33.4 +1.6
baz=185
LRAL S S 18 52 29.0 +2.8
baz=185
LRAL Lakeview Retre 21.09 4 P P 18 48 33.1 +1.3
baz=185,SNR=387
LRAL S S 18 52 26.8 +0.7
baz=185
Z47A Carrollton 21.20 2 P P 18 48 34.0 +1.1
Z47A Carrollton 21.20 2 P P 18 48 34.1 +1.2
baz=182
Z47A S S 18 52 27.4 -0.9
baz=182
257A Skidaway Islan 21.23 19 P P 18 48 34.7 +1.4
257A Skidaway Islan 21.23 19 P P 18 48 35.1 +1.8
baz=202
257A S Sn 18 52 34.3 -1.7
baz=202
154A Montrose 21.27 14 P P 18 48 34.8 +1.1
154A Montrose 21.27 14 P P 18 48 35.4 +1.7
baz=196
154A S S 18 52 30.5 +0.8
baz=196
WHTX Lake Whitney, 21.49 340 P P 18 48 35.9 -0.1
WHTX IAmb IAmb 18 48 50.5
comp=Z,5µm,1.1s
WHTX Lake Whitney, 21.49 340 P P 18 48 35.8 -0.3
baz=156
WHTX S S 18 52 27.6 -6.5
baz=156
WHTX Lake Whitney, 21.49 340 P P 18 48 35.7 -0.4
baz=156,SNR=294
WHTX S S 18 52 28.0 -6.1
baz=156
Z51A Franklin 21.57 8 P P 18 48 37.7 +0.8
Z51A IAmb IAmb 18 48 53.4
comp=Z,2µm,1.1s
Z51A Franklin 21.57 8 P P 18 48 38.6 +1.7
baz=190
Z51A S S 18 52 34.0 -1.6
baz=190
ATAH Atahualpa 21.60 151 P P 18 48 40.6 +2.7
comp=Z,857nm,1.0s,baz=339,slow=10,SNR=74
ATAH PcP PcP 18 52 42.6 +2.7
comp=Z,92nm,0.9s,baz=63,slow=3.7,SNR=3.9
ATAH LR LR 18 56 03.2
comp=Z,358µm,18.8s,baz=331,slow=34
comp=Z,857nm,1.0s
HPIG 21.73 316 P P 18 48 39.5 +0.5
HPIG 21.73 316 ⇓P P 18 48 39.7 +0.7
Y45A Yeager Farm, C 21.86 358 P P 18 48 41.1 +1.1
Y45A Yeager Farm, C 21.86 358 P P 18 48 42.0 +2.0
baz=178
Y45A S S 18 52 40.2 -1.0
baz=178
CRPR Cabo Rojo, PR 21.86 71 P P 18 48 40.8 +0.6
PRSN Puerto Rico Se 21.88 71 P P 18 48 41.2 +0.8
MLPR Magueyes Islan 21.92 71 P P 18 48 41.3 +0.5
MLPR IAmb IAmb 18 48 49.1
comp=Z,2µm,1.2s
Y49A Blount Mountai 21.95 5 P P 18 48 41.0 0.0
Y49A IAmb IAmb 18 48 50.0
comp=Z,1µm,0.9s
Y49A Blount Mountai 21.95 5 P P 18 48 42.3 +1.2
baz=186
Y49A S S 18 52 43.1 -0.1
baz=186
GOGA Godfrey 21.96 12 P P 18 48 41.2 +0.1
GOGA IAmb IAmb 18 48 54.6
comp=Z,1µm,0.9s
GOGA Godfrey 21.96 12 IAMs_20 IAMs_20 18 53 34.3
comp=Z,250µm,19.0s
GOGA Godfrey 21.96 12 P P 18 48 42.4 +1.3
baz=194
GOGA S S 18 52 44.7 +1.5
baz=194
GOGA Godfrey 21.96 12 P P 18 48 41.9 +0.8
baz=194,SNR=324
GOGA S S 18 52 43.4 +0.2
baz=194
GOGA Godfrey 21.96 12 P P 18 48 41.2 +0.1
GOGA pmax pmax

comp=Z,1µm,0.9s
GOGA MLR MLR

comp=Z,250µm,19.0s
AGPR Aguadilla, PR 21.97 70 P P 18 48 40.9 -0.5
AGPR IAmb IAmb 18 48 48.0

comp=Z,2µm,1.1s
Z38A Mt. Pleasant 21.97 346 P P 18 48 41.2 0.0
Z38A IAmb IAmb 18 48 49.2

comp=Z,3µm,1.0s
Z38A Mt. Pleasant 21.97 346 P P 18 48 41.6 +0.3
baz=164
Z38A S S 18 52 42.0 -1.4

baz=164
WLAR White Oak Lake 22.02 351 P P 18 48 41.9 +0.2
CCAR Cane Creek 22.06 354 P P 18 48 42.7 +0.5
CCAR Cane Creek 22.06 354 P P 18 48 43.5 +1.4
baz=172
CCAR S S 18 52 45.9 +0.8

baz=172
DAL Dallas 22.06 342 P P 18 48 41.1 -1.1
TXAR Lajitas Array 22.14 324 P P 18 48 43.8 +0.6
comp=Z,1µm,1.0s,baz=141,slow=8.7,SNR=855
TXAR PcP PcP 18 52 42.8 +2.4

comp=Z,72nm,1.0s,baz=123,slow=3.3,SNR=4.5
TXAR ScP ScP 18 56 27.6 +10

comp=Z,5.4nm,0.8s,baz=152,slow=5.9,SNR=3.0
TXAR PKiKP PKiKP 19 00 26.3 -0.1

comp=Z,3.6nm,0.9s,baz=264,slow=2.5,SNR=3.8
TXAR P3KPbc 19 22 28.1

comp=Z,1.4nm,0.8s,baz=333,slow=1.4,SNR=7.8
comp=Z,1µm,1.0s
TXAR Lajitas Array 22.14 324 P P 18 48 43.1 -0.1
TX31 Lajitas Ar. Si 22.14 324 P P 18 48 43.9 +0.6
TX31 IAmb IAmb 18 48 47.6

comp=Z,3µm,1.0s
TX31 Lajitas Ar. Si 22.14 324 P P 18 48 44.4 +1.1
baz=138
TX31 S S 18 52 48.3 +1.2

baz=138
TX32 Lajitas Array 22.14 324 P P 18 48 43.2 0.0
AOPR Arecibo Observ 22.27 71 P P 18 48 45.0 +0.4
UUPR Utuado, UPR, P 22.28 71 P P 18 48 44.9 +0.1
Y52A Lilburn 22.28 11 P P 18 48 45.1 +0.5
Y52A IAmb IAmb 18 48 54.1

comp=Z,3µm,1.1s
Y52A Lilburn 22.28 11 P P 18 48 45.5 +0.9
baz=192
Y52A P P 18 48 45.5 +0.9

baz=192
Y52A S S 18 52 50.6 +1.2

baz=192
Y52A S S 18 52 50.6 +1.2

baz=192
H06E1 SOCORRO T-PHAS 22.32 291 P P 18 48 46.8 +1.6
SNR=25
H06E1 T T 19 11 59.7

SNR=61
H06S1 SOCORRO T 22.34 290 P P 18 48 47.0 +1.6
SNR=22
HAW Hawthorne Fire 22.35 16 P P 18 48 46.6 +1.2
baz=199
HAW S S 18 52 51.9 +1.2

baz=199
CELP Cerrillos 22.37 71 P P 18 48 46.0 +0.3
H06N1 SOCORRO T-PHAS 22.40 291 P P 18 48 48.2 +2.2
SNR=10
CSU Charleston Sou 22.47 20 P P 18 48 46.6 0.0
X48A Hartselle 22.49 4 P P 18 48 46.5 -0.4
X48A IAmb IAmb 18 48 56.2

comp=Z,3µm,1.8s
X48A Hartselle 22.49 4 P P 18 48 47.1 +0.2
baz=185
X48A S S 18 52 52.9 -0.3

baz=185
OXF Oxford 22.50 359 P P 18 48 46.6 -0.3
OXF IAmb IAmb 18 49 01.7

comp=Z,3µm,0.9s
OXF IAMs_20 IAMs_20 18 53 45.2

comp=Z,259µm,19.0s
OXF Oxford 22.50 359 P P 18 48 47.1 +0.3
baz=178
OXF S S 18 52 51.9 -1.4

baz=178
OXF Oxford 22.50 359 P P 18 48 47.2 +0.3
baz=178
OXF S S 18 52 51.6 -1.8

baz=178
OXF Oxford 22.50 359 P P 18 48 46.6 -0.3
OXF pmax pmax

comp=Z,3µm,1.0s
OXF MLR MLR

comp=Z,259µm,19.0s
EMPR Esperanza - Ma 22.51 70 P P 18 48 46.5 -0.6
NHSC New Hope 22.55 19 P P 18 48 46.3 -1.1
NHSC New Hope 22.55 19 P P 18 48 49.1 +1.7
baz=203
NHSC S S 18 52 56.5 +2.3

baz=203
NHSC New Hope 22.55 19 P P 18 48 48.7 +1.3
baz=203,SNR=290
NHSC S S 18 52 56.5 +2.3

baz=203
Z35A Perchaven, San 22.66 342 P P 18 48 47.6 -0.9
Z35A Perchaven, San 22.66 342 P P 18 48 47.7 -0.9
baz=158
Z35A S S 18 52 50.1 -6.2

baz=158
FPAL Fort Paine 22.72 7 P P 18 48 49.1 -0.2
SJG San Juan 22.78 72 P P 18 48 49.9 -0.1
comp=Z,838nm,0.8s,baz=268,slow=6.7,SNR=139
SJG PcP PcP 18 52 43.3 +1.6

comp=Z,189nm,1.1s,baz=290,slow=2.5,SNR=4.5
SJG ScP ScP 18 56 22.2 +3.0

comp=Z,31nm,0.9s,baz=279,slow=23,SNR=3.0
SJG LR LR 18 58 48.0

comp=Z,132µm,19.2s,baz=272,slow=40
comp=Z,838nm,0.8s
SJG San Juan 22.78 72 P P 18 48 49.6 -0.4
SJG San Juan 22.78 72 ⇑P P 18 48 49.8 -0.2
X51A Calhoun 22.84 9 P P 18 48 50.1 -0.4
X51A IAmb IAmb 18 49 05.1

comp=Z,2µm,1.3s
X51A Calhoun 22.84 9 P P 18 48 50.4 -0.1
baz=190
X51A P P 18 48 50.4 -0.1

baz=190
X51A S S 18 52 57.7 -1.9

baz=190
X51A S S 18 52 57.7 -1.9

baz=190
ABTX Abilene, Hawle 22.86 336 P P 18 48 49.8 -1.0
ABTX Abilene, Hawle 22.86 336 P P 18 48 49.8 -1.0
baz=152
ABTX S S 18 52 52.0 -8.1

baz=152
ABTX Abilene, Hawle 22.86 336 P P 18 48 49.4 -1.4
baz=152,SNR=718
ABTX S S 18 52 55.0 -5.1

baz=152
GCPR Guaynabo City 22.88 71 P P 18 48 50.2 -0.9
MIAR Mount Ida 22.93 350 P P 18 48 51.3 -0.1
MIAR Mount Ida 22.93 350 P P 18 48 51.1 -0.4
baz=168
MIAR S S 18 53 00.1 -1.0

baz=168
MIAR Mount Ida 22.93 350 P P 18 48 51.3 -0.1
baz=168
MIAR S S 18 53 00.4 -0.7

baz=168
MIAR Mount Ida 22.93 350 ⇓P P 18 48 50.7 -0.8
MIAR Mount Ida 22.93 350 P P 18 48 51.3 -0.1
MIAR pmax pmax

comp=Z,4µm,0.9s
PLAL Pickwick Lake 22.97 2 P P 18 48 51.3 -0.6
UALR University of 22.97 353 P P 18 48 51.8 -0.1
HODGE Hodges 23.02 14 P P 18 48 52.1 -0.2
HODGE IAmb IAmb 18 49 07.5

comp=Z,3µm,1.3s
HODGE Hodges 23.02 14 P P 18 48 52.8 +0.4
baz=197
HODGE S S 18 53 01.4 -1.2

baz=197
HUMP Col San Antoni 23.06 72 P P 18 48 53.0 +0.1
HUMP IAmb IAmb 18 48 57.1

comp=Z,1µm,0.9s
CBYP Canovanas 23.08 71 P P 18 48 53.0 -0.3
CBYP IAmb IAmb 18 48 55.9

comp=Z,1µm,0.9s
MET Memphis--Engin 23.12 358 P P 18 48 53.0 -0.4
W45A Hickory Valley 23.14 359 P P 18 48 53.1 -0.5
W45A IAmb IAmb 18 49 06.2

comp=Z,3µm,0.9s
W45A Hickory Valley 23.14 359 P P 18 48 53.0 -0.5
baz=179
W45A S S 18 53 01.7 -2.9

baz=179
HDBT Hernando Brdge 23.16 358 P P 18 48 53.4 -0.4
HDBT IAmb IAmb 18 49 00.5

comp=Z,1µm,0.7s
SLBS Sierra La Lagu 23.19 303 P P 18 48 54.6 +0.2
SLBS Sierra La Lagu 23.19 303 ⇓P P 18 48 55.6 +1.2
LOOK Love County 23.25 342 P P 18 48 54.0 -0.7
LOOK IAmb IAmb 18 49 17.8

comp=Z,4µm,1.1s
JSC Jenkinsville 23.32 16 P P 18 48 54.8 -0.6
JSC Jenkinsville 23.32 16 P P 18 48 56.5 +1.1
baz=199
JSC S S 18 53 08.3 +0.7

baz=199
JSC Jenkinsville 23.32 16 P P 18 48 54.8 -0.6
JSC pmax pmax

comp=Z,7µm,1.5s
Y57A Sumter 23.32 18 P P 18 48 56.3 +0.9
Y57A Sumter 23.32 18 P P 18 48 56.2 +0.8
baz=201
Y57A P P 18 48 56.2 +0.8

baz=201
Y57A S S 18 53 09.7 +2.0

baz=201
Y57A S S 18 53 09.7 +2.0

baz=201
MTP Monte Pirata 23.33 72 P P 18 48 56.2 +0.5
MTP IAmb IAmb 18 48 59.3

comp=Z,2µm,0.8s
X37A Clayton 23.33 346 P P 18 48 55.6 0.0
X37A Clayton 23.33 346 P P 18 48 55.5 0.0
baz=164
X37A S S 18 53 08.9 +1.1

baz=164
SWET Sewanee 23.35 6 P P 18 48 55.1 -0.6
SWET IAmb IAmb 18 49 07.1

comp=Z,3µm,1.4s
W50A Signal Mountai 23.40 7 P P 18 48 55.3 -1.0
W50A Signal Mountai 23.40 7 P P 18 48 56.2 -0.1
baz=189
W50A S S 18 53 07.4 -1.7

baz=189
Y58A Scranton 23.45 20 P P 18 48 56.6 0.0
Y58A IAmb IAmb 18 49 23.2

comp=Z,3µm,1.3s
Y58A Scranton 23.45 20 P P 18 48 57.3 +0.6
baz=203
Y58A P P 18 48 57.3 +0.6

baz=203
Y58A S S 18 53 12.0 +2.4

baz=203
Y58A S S 18 53 12.0 +2.4

baz=203
WHAR Wooly Hollow 23.48 353 P P 18 48 56.8 -0.1
W52A Murphy 23.50 10 P P 18 48 57.4 0.0
W52A IAmb IAmb 18 49 12.3

comp=Z,5µm,1.8s
W52A Murphy 23.50 10 P P 18 48 57.8 +0.5
baz=192
W52A S S 18 53 10.9 +0.1

baz=192
HBAR Harrisburg 23.59 356 P P 18 48 58.5 +0.4
HBAR Harrisburg 23.59 356 P P 18 48 58.6 +0.6
baz=176
HBAR S S 18 53 06.0 -5.9

baz=176
BG3 Lake Jocassee 23.60 12 P P 18 48 58.2 0.0
CASEE Lake Jocassee 23.60 12 P P 18 48 58.9 +0.7
baz=194
CASEE S S 18 53 10.6 -1.6

baz=194
CUPR Culebra, Puert 23.62 72 P P 18 48 59.7 +1.1
CUPR IAmb IAmb 18 49 03.4

comp=Z,1µm,0.8s
LPIG La Paz 23.68 304 P P 18 49 00.9 +1.8
comp=Z,569nm,1.1s,baz=128,slow=4.4,SNR=31
comp=Z,569nm,1.1s
PAULI Pauline 23.69 15 P P 18 48 59.4 +0.4
PAULI IAmb IAmb 18 49 13.4

comp=Z,4µm,1.5s
PAULI Pauline 23.69 15 P P 18 48 59.8 +0.8
baz=197
PAULI S S 18 53 14.9 +1.4

baz=197
CPCT Cooper Cave 23.76 9 P P 18 48 59.6 -0.2
CPCT IAmb IAmb 18 49 08.5

comp=Z,2µm,1.3s
V48A Smith Brothers 23.79 4 P P 18 48 59.1 -0.9
V48A IAmb IAmb 18 49 13.4

comp=Z,3µm,1.5s
V48A Smith Brothers 23.79 4 P P 18 48 59.8 -0.3
baz=185
V48A S S 18 53 12.5 -2.8

baz=185
Y59A Loris 23.79 21 P P 18 49 00.2 +0.2
Y59A IAmb IAmb 18 49 14.7

comp=Z,1µm,0.9s
Y59A Loris 23.79 21 P P 18 49 00.7 +0.7
baz=205
Y59A P P 18 49 00.7 +0.7

baz=205
Y59A S S 18 53 18.0 +2.8

baz=205
Y59A S S 18 53 18.0 +2.8

baz=205
PCRV Puerto La Cruz 23.84 92 P P 18 49 03.5 +2.6
comp=Z,1µm,0.6s,baz=222,slow=4.4,SNR=101
PCRV ScP ScP 18 56 26.5 +4.3

comp=Z,45nm,0.9s,baz=30,slow=7.2,SNR=5.0
comp=Z,1µm,0.6s
BIRD Birdtown, Kers 23.88 17 P P 18 49 00.7 -0.2
BIRD IAmb IAmb 18 49 14.8

comp=Z,2µm,1.1s
BIRD Birdtown, Kers 23.88 17 P P 18 49 01.8 +0.8
baz=201
BIRD S S 18 53 18.6 +1.9

baz=201
HALT Halls 23.89 359 P P 18 49 00.5 -0.5
STVI Saint Thomas 23.94 72 P P 18 49 01.6 0.0
GNAR Gosnell 23.97 358 P P 18 49 01.6 -0.1
CDVI St. Croix 24.00 73 P P 18 49 01.9 -0.2
X34A Smith Ranch, M 24.01 342 P P 18 49 01.3 -0.9
Y60A Bolivia 24.04 22 P P 18 49 02.8 +0.4
Y60A Bolivia 24.04 22 P P 18 49 02.9 +0.6
baz=206
Y60A P P 18 49 02.9 +0.6

baz=206
Y60A S S 18 53 20.2 +1.1

baz=206
Y60A S S 18 53 20.2 +1.1

baz=206
FCAR Ozark Folk Cen 24.05 353 P P 18 49 01.6 -0.9
TKL Tuckaleechee C 24.08 10 P P 18 49 03.1 +0.3
comp=Z,708nm,0.9s,baz=186,slow=9.1,SNR=414
TKL LR LR 18 59 20.6

comp=Z,54µm,20.9s,baz=215,slow=39
comp=Z,708nm,0.9s
TKL Tuckaleechee C 24.08 10 P P 18 49 02.3 -0.5
TKL IAmb IAmb 18 49 17.4

comp=Z,3µm,1.0s
TKL Tuckaleechee C 24.08 10 P P 18 49 03.2 +0.4
baz=192
TKL S S 18 53 16.4 -3.5

baz=192
LNXT Lenox 24.09 359 P P 18 49 02.5 -0.4
LNXT Lenox 24.09 359 P P 18 49 02.4 -0.4
baz=178
LNXT S S 18 53 16.8 -3.1

baz=178
SJVI Gifft Hill Sch 24.10 72 P P 18 49 03.4 +0.2
PEBM Pemiscott Bayo 24.11 358 P P 18 49 03.2 +0.2
KMSC Kings Mountain 24.11 15 P P 18 49 03.0 -0.1
KMSC IAmb IAmb 18 49 17.1

comp=Z,2µm,0.9s
KMSC Kings Mountain 24.11 15 P P 18 49 03.5 +0.5
baz=198
KMSC S S 18 53 18.5 -1.8

baz=198
KMSC Kings Mountain 24.11 15 P P 18 49 03.4 +0.3
baz=198,SNR=371
KMSC S S 18 53 19.5 -0.8

baz=198
WVT Waverly 24.12 2 P P 18 49 01.5 -1.7
WVT Waverly 24.12 2 P P 18 49 02.2 -1.0
baz=182
WVT S S 18 53 17.4 -3.1

baz=182
WVT Waverly 24.12 2 P P 18 49 02.4 -0.8
baz=182
WVT S S 18 53 17.8 -2.7

baz=182
WVT Waverly 24.12 2 ⇑P P 18 49 01.8 -1.4
WVT Waverly 24.12 2 P P 18 49 01.5 -1.7
WVT pmax pmax

comp=Z,1µm,1.5s
WVT MLR MLR

comp=Z,176µm,22.0s
V51A Loudon 24.13 9 P P 18 49 03.0 -0.3
V51A IAmb IAmb 18 49 30.5

comp=Z,1µm,1.3s
V51A Loudon 24.13 9 P P 18 49 03.5 +0.3
baz=191
V51A S S 18 53 19.9 -0.8

baz=191
LCAR Lake Charles 24.14 355 P P 18 49 02.2 -1.0
LCAR IAmb IAmb 18 49 08.4

comp=Z,1µm,0.9s
LCAR Lake Charles 24.14 355 P P 18 49 02.8 -0.5
baz=174
LCAR S S 18 53 17.6 -3.1

baz=174
X58A Rowland 24.15 20 P P 18 49 03.3 -0.1
X58A Rowland 24.15 20 P P 18 49 04.1 +0.8
baz=203
X58A P P 18 49 04.1 +0.8

baz=203
X58A S S 18 53 21.0 +0.1

baz=203
X58A S S 18 53 21.0 +0.1

baz=203
CLTN Cedars of Leba 24.18 5 P P 18 49 02.9 -0.8
CLTN IAmb IAmb 18 49 10.6

comp=Z,717nm,0.8s
GLAT Glass 24.25 359 P P 18 49 04.0 -0.3
V53A Saluda 24.27 12 P P 18 49 04.6 -0.1
V53A IAmb IAmb 18 49 16.9

comp=Z,3µm,1.1s
V53A Saluda 24.27 12 P P 18 49 04.9 +0.2
baz=194
V53A P P 18 49 04.9 +0.2

baz=194
V53A S S 18 53 21.7 -1.4

baz=194
V53A S S 18 53 21.7 -1.4

baz=194
V52A Sevierville 24.29 10 P P 18 49 04.4 -0.3
V52A IAmb IAmb 18 49 16.7

comp=Z,2µm,1.1s
V52A Sevierville 24.29 10 P P 18 49 05.0 +0.2
baz=192
V52A S S 18 53 20.8 -2.5

baz=192
UTMT University of 24.32 0 P P 18 49 04.8 -0.2
PVMO Portageville 24.40 358 P P 18 49 05.4 -0.3
PVMO IAmb IAmb 18 49 24.6

comp=Z,3µm,1.1s
WMOK Wichita Mounta 24.44 340 P P 18 49 04.8 -1.4
WMOK IAmb IAmb 18 49 09.4

comp=Z,2µm,1.3s
WMOK Wichita Mounta 24.44 340 P P 18 49 05.1 -1.0
baz=156
WMOK S S 18 53 17.9 -7.9

baz=156
WMOK Wichita Mounta 24.44 340 P P 18 49 05.2 -1.0
baz=156,SNR=1000
WMOK S S 18 53 23.5 -2.2

baz=156
WMOK Wichita Mounta 24.44 340 ⇓P P 18 49 04.2 -2.0
WMOK Wichita Mounta 24.44 340 P P 18 49 04.8 -1.4
WMOK pmax pmax

comp=Z,2µm,1.3s
FNO Franklin 24.49 343 P P 18 49 06.3 -0.3
W57A Gilead 24.50 18 P P 18 49 06.0 -0.5
W57A IAmb IAmb 18 49 20.8

comp=Z,2µm,1.0s
W57A Gilead 24.50 18 P P 18 49 06.4 -0.2
baz=201
W57A P P 18 49 06.4 -0.2

baz=201
W57A S S 18 53 26.1 -0.4

baz=201
W57A S S 18 53 26.1 -0.4

baz=201
CLNB Carlsbad 24.51 328 P P 18 49 06.7 -0.3
HICK Hickman 24.52 359 P P 18 49 06.2 -0.6
HTMS Hat Mesa 24.55 329 P P 18 49 06.6 -0.7
U49A Red Boiling Sp 24.65 6 P P 18 49 07.1 -0.8
U49A IAmb IAmb 18 49 16.8

comp=Z,1µm,1.1s
U49A Red Boiling Sp 24.65 6 P P 18 49 07.5 -0.5
baz=187
U49A S S 18 53 26.8 -2.2

baz=187
PARMO Parma 24.65 358 P P 18 49 08.1 +0.1
HHAR Hobbs 24.69 350 P P 18 49 07.2 -1.1
HHAR Hobbs 24.69 350 P P 18 49 07.8 -0.6
baz=168
TUL1 Leonard 24.70 346 P P 18 49 06.9 -1.5
TUL1 IAmb IAmb 18 49 11.5

comp=Z,2µm,1.0s
TUL1 Leonard 24.70 346 P P 18 49 07.5 -0.9
baz=164
TUL1 S S 18 53 24.8 -4.9

baz=164
TUL1 Leonard 24.70 346 P P 18 49 07.8 -0.7
baz=164,SNR=518
GDL2 Guadalupe Moun 24.71 327 P P 18 49 08.1 -0.7
TBTG Tabatinga, AM 24.73 129 P P 18 49 10.0 +1.1
TBTG IAmb IAmb 18 49 18.4

comp=Z,2µm,1.2s
TBTG Tabatinga, AM 24.73 129 eP P 18 49 10.9 +2.0
SGCB SΣo Gabriel d 24.76 117 eP P 18 49 09.4 +0.2
RLO Rose Lookout 24.77 348 P P 18 49 08.3 -0.8
RLO IAmb IAmb 18 49 15.2

comp=Z,1µm,0.8s
OK025 Westminster Rd 24.78 343 P P 18 49 08.2 -1.0
PBMO Poplar Bluff 24.80 357 P P 18 49 08.9 -0.3
PBMO IAmb IAmb 18 49 21.1

comp=Z,1µm,0.9s
PBMO Poplar Bluff 24.80 357 P P 18 49 09.2 -0.1
baz=176
PBMO S S 18 53 28.2 -3.1

baz=176
DEOK Depew 24.80 345 P P 18 49 08.4 -1.0
DEOK IAmb IAmb 18 49 13.8

comp=Z,3µm,1.0s
V55A Taylorsville 24.82 15 P P 18 49 09.2 -0.3
V55A IAmb IAmb 18 49 25.1

comp=Z,2µm,0.9s
V55A Taylorsville 24.82 15 P P 18 49 09.9 +0.4
baz=198
V55A P P 18 49 09.9 +0.4

baz=198
U38A Gravette 24.92 349 P P 18 49 09.3 -1.1
U38A IAmb IAmb 18 49 20.5

comp=Z,2µm,1.1s
U38A Gravette 24.92 349 P P 18 49 09.9 -0.5
baz=167
U38A S S 18 53 42.1 +8.7

baz=167
BCOK Bluff Creek, N 24.93 343 P P 18 49 09.5 -1.0
BCOK IAmb IAmb 18 49 26.3

comp=Z,3µm,1.1s
OK030 Cody Creek RV 24.95 345 P P 18 49 09.5 -1.2
TZTN Tazewell 24.98 10 P P 18 49 10.6 -0.4
TZTN IAmb IAmb 18 49 21.7

comp=Z,2µm,1.3s
TZTN Tazewell 24.98 10 P P 18 49 10.9 -0.1
baz=192
TZTN S S 18 53 35.2 +0.8

baz=192
TZTN Tazewell 24.98 10 P P 18 49 11.1 +0.1
baz=192,SNR=171
TZTN S S 18 53 34.7 +0.3

baz=192

T45B	**Paducah**	**24.99**	**0**	P	**P**	**18 49 10.6**	**-0.4**
	baz=180						
T45B				S	**S**	**18 53 32.7**	**-1.8**
	baz=180						
OK031	**S. Brethren Rd**	**24.99**	**345**		**P**	**18 49 09.7**	**-1.4**
T45A	**Paducah**	**25.00**	**0**	P	**P**	**18 49 10.3**	**-0.7**
OK029	**Liberty Lake**	**25.01**	**343**		**P**	**18 49 10.2**	**-1.1**
OK034	**N. Norfolk Rd.**	**25.01**	**345**		**P**	**18 49 09.9**	**-1.4**
T47A	**Sharon Grove**	**25.01**	**3**	P	**P**	**18 49 10.0**	**-1.3**
T47A				IAmb	IAmb	18 49 23.1	
	comp=Z,2μm,1.1s						
T47A	**Sharon Grove**	**25.01**	**3**	P	**P**	**18 49 10.5**	**-0.7**
	baz=184						
OK052	**Battle Ridge R**	**25.02**	**345**		**P**	**18 49 10.1**	**-1.2**
OK053	**SW of W Deep R**	**25.04**	**345**		**P**	**18 49 10.3**	**-1.2**
T42A	**Van Buren**	**25.09**	**356**	P	**P**	**18 49 10.9**	**-1.0**
T42A				IAmb	IAmb	18 49 23.6	
	comp=Z,1μm,1.0s						
T42A	**Van Buren**	**25.09**	**356**	P	**P**	**18 49 11.3**	**-0.6**
	baz=175						
OK033	**Mehan**	**25.11**	**344**		**P**	**18 49 10.7**	**-1.4**
CPRX	**Cap Rock**	**25.11**	**329**	P	**P**	**18 49 11.9**	**-0.5**
QUOK	**Quay**	**25.17**	**345**		**P**	**18 49 11.2**	**-1.5**
QUOK				IAmb	IAmb	18 49 14.9	
	comp=Z,3μm,1.0s						
CSTR	**Hydro, Custer**	**25.24**	**341**		**P**	**18 49 13.1**	**-0.3**
CSTR				IAmb	IAmb	18 49 16.6	
	comp=Z,354nm,1.1s						
T50A	**Nancy**	**25.26**	**8**	P	**P**	**18 49 12.6**	**-0.9**
T50A				IAmb	IAmb	18 49 46.6	
	comp=Z,1μm,1.4s						
T50A	**Nancy**	**25.26**	**8**	P	**P**	**18 49 12.5**	**-0.9**
	baz=189						
T50A				P	**P**	**18 49 12.5**	**-0.9**
	baz=189						
T50A				S	**S**	**18 53 41.0**	**+2.3**
	baz=189						
T50A				S	**S**	**18 53 41.0**	**+2.3**
	baz=189						
CNNC	**Cliffs of the**	**25.26**	**21**	P	**P**	**18 49 14.1**	**+0.6**
CNNC				IAmb	IAmb	18 49 22.8	
	comp=Z,758nm,0.7s						
CNNC	**Cliffs of the**	**25.26**	**21**	P	**P**	**18 49 14.1**	**+0.6**
	baz=206						
CNNC				S	**S**	**18 53 39.8**	**+0.9**
	baz=206						
CNNC	**Cliffs of the**	**25.26**	**21**	P	**P**	**18 49 14.3**	**+0.7**
	baz=206,SNR=60						
CNNC				S	**S**	**18 53 39.8**	**+0.9**
	baz=206						
CNNC	**Cliffs of the**	**25.26**	**21**	⇓P	**P**	**18 49 14.2**	**+0.7**
CGM3	**Cape Girardeau**	**25.28**	**359**	P	**P**	**18 49 12.8**	**-0.8**
CGM3				IAmb	IAmb	18 49 19.8	
	comp=Z,1μm,0.9s						
CZSB	**Cruzeiro do Su**	**25.28**	**140**	P	**P**	**18 49 13.8**	**-0.1**
CZSB				IAmb	IAmb	18 49 24.8	
	comp=Z,5μm,1.3s						
CZSB	**Cruzeiro do Su**	**25.28**	**140**	*e*P	**P**	**18 49 14.1**	**+0.2**
U54A	**Nelsons Funny**	**25.31**	**13**	P	**P**	**18 49 14.0**	**0.0**
U54A	**Nelsons Funny**	**25.31**	**13**	P	**P**	**18 49 14.6**	**+0.5**
	baz=196						
U54A				P	**P**	**18 49 14.6**	**+0.5**
	baz=196						
U54A				S	**S**	**18 53 40.9**	**+1.2**
	baz=196						
U54A				S	**S**	**18 53 40.9**	**+1.2**
	baz=196						
MGMO	**Mountain Grove**	**25.32**	**354**	P	**P**	**18 49 13.7**	**-0.3**
MSTX	**Muleshoe**	**25.36**	**332**	P	**P**	**18 49 13.2**	**-1.3**
MSTX				IAmb	IAmb	18 49 20.4	
	comp=Z,2μm,0.9s						
MSTX	**Muleshoe**	**25.36**	**332**	P	**P**	**18 49 14.0**	**-0.6**
	baz=147						
MSTX				S	**S**	**18 53 39.5**	**-1.2**
	baz=147						
MSTX	**Muleshoe**	**25.36**	**332**	P	**P**	**18 49 14.0**	**-0.6**
	baz=147,SNR=685						
MSTX				S	**S**	**18 53 41.4**	**+0.8**
	baz=147						
V58A	**Windy Hill, Pi**	**25.36**	**19**	P	**P**	**18 49 14.2**	**-0.2**
V58A	**Windy Hill, Pi**	**25.36**	**19**	P	**P**	**18 49 14.8**	**+0.4**
	baz=203						
V58A				P	**P**	**18 49 14.8**	**+0.4**
	baz=203						
V58A				S	**S**	**18 53 41.2**	**+0.9**
	baz=203						
V58A				S	**S**	**18 53 41.2**	**+0.9**
	baz=203						
OK044	**Pawnee Station**	**25.38**	**345**		**P**	**18 49 13.2**	**-1.4**
SABA	**Saba**	**25.40**	**74**	P	**P**	**18 49 15.9**	**+0.9**
SABA				IAmb	IAmb	18 49 39.2	
	comp=Z,1μm,0.8s						
SABA				IAMs_20	IAMs_20	18 58 01.3	
	comp=Z,283μm,22.0s						
SABA	**Saba**	**25.40**	**74**	*e*P	**P**	**18 49 15.5**	**+0.5**
OK046	**Pawnee Station**	**25.43**	**345**		**P**	**18 49 14.0**	**-1.1**
OK050	**Pawnee Station**	**25.45**	**345**	P	**P**	**18 49 14.0**	**-1.2**
OK048	**Pawnee Station**	**25.46**	**345**	P	**P**	**18 49 14.2**	**-1.1**
OK045	**Pawnee Station**	**25.48**	**345**		**P**	**18 49 14.8**	**-0.7**
U56A	**King**	**25.50**	**16**	P	**P**	**18 49 15.6**	**-0.1**
U56A				IAmb	IAmb	18 49 29.3	
	comp=Z,2μm,1.0s						
U56A	**King**	**25.50**	**16**	P	**P**	**18 49 16.4**	**+0.7**
	baz=200						
U56A				P	**P**	**18 49 16.4**	**+0.7**
	baz=200						
U56A				S	**S**	**18 53 42.6**	**-0.1**
	baz=200						
U56A				S	**S**	**18 53 42.6**	**-0.1**
	baz=200						
OK051	**E0350 and S346**	**25.51**	**345**		**P**	**18 49 15.0**	**-0.8**
KIDD	**KIDD Seismic O**	**25.59**	**323**	P	**P**	**18 49 16.2**	**-0.5**
	baz=137						
KIDD				S	**S**	**18 53 47.4**	**+3.1**
	baz=137						
SEUS	**St. Eustatius**	**25.63**	**74**	P	**P**	**18 49 18.1**	**+1.0**
SEUS				IAMs_20	IAMs_20	19 00 53.3	
	comp=Z,251μm,19.0s						
SMRT	**St. Maarten**	**25.63**	**73**	P	**P**	**18 49 16.6**	**-0.6**
SMRT				IAMs_20	IAMs_20	18 59 40.4	
	comp=Z,177μm,21.0s						
SMRT	**St. Maarten**	**25.63**	**73**	*e*P	**P**	**18 49 15.4**	**-1.7**
AMTX	**Amarillo**	**25.66**	**335**	P	**P**	**18 49 16.2**	**-1.0**
AMTX	**Amarillo**	**25.66**	**335**	P	**P**	**18 49 16.9**	**-0.3**
	baz=150						
AMTX				S	**S**	**18 53 46.3**	**+1.0**
	baz=150						
AMTX	**Amarillo**	**25.66**	**335**	P	**P**	**18 49 16.9**	**-0.3**
	baz=150						
AMTX				S	**S**	**18 53 46.3**	**+1.0**
	baz=150						
S44A	**Carbondale**	**25.67**	**359**	P	**P**	**18 49 16.8**	**-0.4**
S44A				IAmb	IAmb	18 49 35.8	
	comp=Z,1μm,0.8s						
S44A	**Carbondale**	**25.67**	**359**	P	**P**	**18 49 17.1**	**-0.1**
	baz=179						
S44A				S	**S**	**18 53 41.8**	**-3.4**
	baz=179						
CROK	**Carrier**	**25.82**	**343**		**P**	**18 49 17.5**	**-1.1**
CROK				IAmb	IAmb	18 49 23.0	
	comp=Z,2μm,0.9s						
T35A	**Sooner Cattle**	**25.82**	**346**		**P**	**18 49 17.5**	**-1.1**
T35A				IAmb	IAmb	18 49 32.7	
	comp=Z,2μm,1.3s						
T35B	**Sooner Cattle**	**25.82**	**346**	P	**P**	**18 49 18.0**	**-0.6**
	baz=163						
T35B				S	**S**	**18 53 46.2**	**-1.5**
	baz=163						
BLOK	**Blackwell**	**25.85**	**344**		**P**	**18 49 17.8**	**-1.1**
BLOK				IAmb	IAmb	18 49 21.8	
	comp=Z,3μm,1.1s						
ELIS	**Ellis County**	**25.86**	**340**	P	**P**	**18 49 18.5**	**-0.5**
ELIS				IAmb	IAmb	18 49 22.3	
	comp=Z,4μm,1.0s						
USIN	**University of**	**25.96**	**2**	P	**P**	**18 49 18.7**	**-1.2**
S39A	**Bolivar**	**25.97**	**352**	P	**P**	**18 49 19.0**	**-0.9**
S39A	**Bolivar**	**25.97**	**352**	P	**P**	**18 49 19.5**	**-0.4**
	baz=170						
FVM	**French Village**	**26.00**	**357**	P	**P**	**18 49 18.8**	**-1.4**
FVM	**French Village**	**26.00**	**357**	P	**P**	**18 49 19.4**	**-0.7**
	baz=176						
FVM				S	**S**	**18 53 45.3**	**-5.1**
	baz=176						
FVM	**French Village**	**26.00**	**357**	P	**P**	**18 49 18.8**	**-1.4**
FVM				pmax	pmax		
	comp=Z,588nm,1.0s						
U32A	**Winter Ranch,**	**26.02**	**341**		**P**	**18 49 19.9**	**-0.5**
U32A				IAmb	IAmb	18 49 23.2	
	comp=Z,2μm,1.0s						
U32A	**Winter Ranch,**	**26.02**	**341**	P	**P**	**18 49 20.1**	**-0.3**
	baz=157						
U32A				S	**S**	**18 53 48.8**	**-2.1**
	baz=157						
OK038	**West end E0370**	**26.02**	**342**		**P**	**18 49 19.9**	**-0.6**
OK038				IAmb	IAmb	18 49 23.0	
	comp=Z,2μm,1.0s						
S51A	**Beattyville**	**26.05**	**10**	P	**P**	**18 49 19.7**	**-1.0**
S51A	**Beattyville**	**26.05**	**10**	P	**P**	**18 49 20.3**	**-0.4**
	baz=192						
S51A				P	**P**	**18 49 20.3**	**-0.4**
	baz=192						
S51A				S	**S**	**18 53 50.9**	**-0.4**
	baz=192						
S51A				S	**S**	**18 53 50.9**	**-0.4**
	baz=192						
GC02	**Grant County #**	**26.11**	**343**		**P**	**18 49 20.1**	**-1.1**
CCM	**Cathedral Cave**	**26.12**	**356**	P	**P**	**18 49 19.9**	**-1.4**
CCM	**Cathedral Cave**	**26.12**	**356**	IAMs_20	IAMs_20	19 00 40.6	
	comp=Z,172μm,21.0s						
CCM	**Cathedral Cave**	**26.12**	**356**	P	**P**	**18 49 20.7**	**-0.6**
	baz=175						
CCM				S	**S**	**18 53 48.9**	**-3.4**
	baz=175						
CCM	**Cathedral Cave**	**26.12**	**356**	P	**P**	**18 49 20.9**	**-0.4**
	baz=175						
CCM				S	**S**	**18 53 49.4**	**-2.9**
	baz=175						
CCM	**Cathedral Cave**	**26.12**	**356**	⇓P	**P**	**18 49 20.1**	**-1.2**
CCM	**Cathedral Cave**	**26.12**	**356**	P	**P**	**18 49 19.9**	**-1.4**
CCM				pmax	pmax		
	comp=Z,3μm,1.0s						
CCM				MLR	MLR		
	comp=Z,172μm,21.0s						
KAN13	**South Haven SW**	**26.16**	**344**		**P**	**18 49 20.7**	**-1.0**
OK032	**Salt Plains WL**	**26.17**	**343**		**P**	**18 49 20.6**	**-1.1**
OK035	**E0210 Rd and N**	**26.23**	**342**		**P**	**18 49 21.5**	**-0.9**
KAN14	**Manchester OK**	**26.24**	**343**	P	**P**	**18 49 21.3**	**-1.1**
KAN14				IAmb	IAmb	18 49 25.1	
	comp=Z,2μm,1.1s						
V61A	**Roper**	**26.24**	**23**	P	**P**	**18 49 22.6**	**+0.2**
V61A	**Roper**	**26.24**	**23**	P	**P**	**18 49 23.4**	**+1.0**
	baz=208						
V61A				P	**P**	**18 49 23.4**	**+1.0**
	baz=208						
V61A				S	**S**	**18 53 56.2**	**+2.0**
	baz=208						
V61A				S	**S**	**18 53 56.2**	**+2.0**
	baz=208						
MBFL	**Flemmings, Mon**	**26.25**	**76**	*e*P	**P**	**18 49 23.5**	**+0.7**
KAN17	**Caldwell West**	**26.27**	**344**		**P**	**18 49 21.6**	**-1.0**
MLYT	**Lee's Yard**	**26.27**	**76**	*e*P	**P**	**18 49 23.2**	**+0.2**
U59A	**Littleton**	**26.30**	**20**	P	**P**	**18 49 23.0**	**+0.1**
U59A				IAmb	IAmb	18 49 40.2	
	comp=Z,1μm,1.4s						
U59A	**Littleton**	**26.30**	**20**	P	**P**	**18 49 23.2**	**+0.3**
	baz=205						
U59A				P	**P**	**18 49 23.2**	**+0.3**
	baz=205						
U59A				S	**S**	**18 53 56.6**	**+1.3**
	baz=205						
U59A				S	**S**	**18 53 56.6**	**+1.3**
	baz=205						
WCI	**Wyandotte Cave**	**26.30**	**5**	P	**P**	**18 49 21.6**	**-1.3**
WCI				IAmb	IAmb	18 49 31.5	
	comp=Z,1μm,0.8s						
WCI	**Wyandotte Cave**	**26.30**	**5**	P	**P**	**18 49 22.0**	**-1.0**
	baz=186						
WCI				S	**S**	**18 53 52.7**	**-2.6**
	baz=186						
WCI	**Wyandotte Cave**	**26.30**	**5**	P	**P**	**18 49 22.3**	**-0.6**
	baz=186						
WCI				S	**S**	**18 53 52.4**	**-2.9**
	baz=186						
WCI	**Wyandotte Cave**	**26.30**	**5**	⇑P	**P**	**18 49 22.0**	**-1.0**
WCI	**Wyandotte Cave**	**26.30**	**5**	P	**P**	**18 49 21.6**	**-1.3**
WCI				pmax	pmax		
	comp=Z,1μm,0.9s						
WCI				MLR	MLR		
	comp=Z,116μm,21.0s						
BLA	**Blacksburg**	**26.30**	**15**	P	**P**	**18 49 22.9**	**-0.1**
BLA				IAmb	IAmb	18 49 36.9	
	comp=Z,1μm,1.0s						
BLA	**Blacksburg**	**26.30**	**15**	P	**P**	**18 49 23.6**	**+0.5**
	baz=199						
BLA				S	**S**	**18 53 56.4**	**+1.0**
	baz=199						
BLA	**Blacksburg**	**26.30**	**15**	P	**P**	**18 49 23.4**	**+0.4**
	baz=199,SNR=101						
BLA				S	**S**	**18 53 54.7**	**-0.7**
	baz=199						
BLA	**Blacksburg**	**26.30**	**15**	P	**P**	**18 49 22.9**	**-0.1**
BLA				pmax	pmax		
	comp=Z,1μm,1.0s						
KAN05	**Bluff City Nor**	**26.36**	**344**	P	**P**	**18 49 22.9**	**-0.6**
KAN01	**Argonia South**	**26.37**	**344**		**P**	**18 49 22.7**	**-0.9**
KS20	**Mayfield South**	**26.39**	**344**		**P**	**18 49 22.6**	**-1.1**
T57A	**Hurt**	**26.43**	**17**	P	**P**	**18 49 23.5**	**-0.6**
T57A				IAmb	IAmb	18 49 37.8	
	comp=Z,931nm,0.9s						
T57A	**Hurt**	**26.43**	**17**	P	**P**	**18 49 24.4**	**+0.3**
	baz=201						
T57A				P	**P**	**18 49 24.4**	**+0.3**
	baz=201						
T57A				S	**S**	**18 53 57.2**	**-0.1**
	baz=201						
T57A				S	**S**	**18 53 57.2**	**-0.1**
	baz=201						
KAN10	**Anthony SW Sta**	**26.43**	**343**	P	**P**	**18 49 22.7**	**-1.4**
KAN10				IAmb	IAmb	18 49 28.5	
	comp=Z,1μm,1.0s						
R40A	**Maddies Statio**	**26.44**	**354**	P	**P**	**18 49 23.1**	**-1.0**
R40A				IAmb	IAmb	18 49 36.8	
	comp=Z,2μm,1.0s						
R40A	**Maddies Statio**	**26.44**	**354**	P	**P**	**18 49 23.5**	**-0.7**
	baz=172						
R40A				S	**S**	**18 53 55.3**	**-2.1**
	baz=172						
KS21	**Milan North St**	**26.47**	**344**		**P**	**18 49 24.2**	**-0.3**
R49A	**Shelbyville**	**26.47**	**7**	P	**P**	**18 49 23.3**	**-1.2**
R49A				IAmb	IAmb	18 49 31.2	
	comp=Z,1μm,1.4s						
R49A	**Shelbyville**	**26.47**	**7**	P	**P**	**18 49 23.6**	**-0.8**
	baz=188						
R49A				P	**P**	**18 49 23.6**	**-0.8**
	baz=188						
R49A				S	**S**	**18 53 55.0**	**-2.9**
	baz=188						
R49A				S	**S**	**18 53 55.0**	**-2.9**
	baz=188						
KAN06	**Argonia West S**	**26.48**	**344**	P	**P**	**18 49 23.9**	**-0.7**
KAN08	**Anthony NE Sta**	**26.50**	**344**		**P**	**18 49 22.6**	**-2.1**
GRFF	**Grenada Fort F**	**26.54**	**87**	*e*P	**P**	**18 49 23.7**	**-1.6**
R50A	**Paris**	**26.57**	**8**	P	**P**	**18 49 24.4**	**-0.9**
R50A	**Paris**	**26.57**	**8**	P	**P**	**18 49 25.0**	**-0.3**
	baz=190						
R50A				P	**P**	**18 49 25.0**	**-0.3**
	baz=190						
R50A				S	**S**	**18 53 58.8**	**-0.6**
	baz=190						
R50A				S	**S**	**18 53 58.8**	**-0.6**
	baz=190						
KAN12	**Harper NE Stat**	**26.57**	**344**		**P**	**18 49 24.4**	**-1.0**
NNA	**Nana**	**26.58**	**153**	P	**P**	**18 49 26.9**	**+1.2**
	comp=Z,258nm,1.1s,baz=335,slow=7.9,SNR=17						
NNA				PcP	**PcP**	**18 52 51.4**	**+1.3**
	comp=Z,47nm,0.7s,baz=341,slow=3.2,SNR=4.4						
	comp=Z,258nm,1.1s						
NNA	**Nana**	**26.58**	**153**	P	**P**	**18 49 25.7**	**0.0**
NNA	**Nana**	**26.58**	**153**	⇓P	**P**	**18 49 26.3**	**+0.6**
NNA	**Nana**	**26.58**	**153**	*d*iP	**P**	**18 49 26.7**	**+1.0**
NNA				pmax	pmax		
	comp=Z,853nm,1.3s						
NNA				MLR	MLR		
	comp=Z,45μm,13.0s						
GRGR	**Grenville**	**26.61**	**87**	P	**P**	**18 49 27.1**	**+1.1**
GRGR	**Grenville**	**26.61**	**87**	*e*P	**P**	**18 49 24.5**	**-1.5**
GRGR	**Grenville**	**26.61**	**87**	⇑P	**P**	**18 49 27.5**	**+1.5**
GDHS	**Morne Mazeau,**	**26.63**	**77**	P	**P**	**18 49 26.1**	**-0.1**
GDHS				IAmb	IAmb	18 49 34.5	
	comp=Z,1μm,1.0s						
GDHS				IAMs_20	IAMs_20	18 59 35.8	
	comp=Z,157μm,18.0s						
SLM	**Saint Louis**	**26.64**	**358**	P	**P**	**18 49 25.1**	**-0.9**
SLM				IAmb	IAmb	18 49 34.5	
	comp=Z,857nm,0.8s						
SLM	**Saint Louis**	**26.64**	**358**	P	**P**	**18 49 25.5**	**-0.4**
	baz=177						
SLM				S	**S**	**18 53 57.9**	**-2.6**
	baz=177						
SLM	**Saint Louis**	**26.64**	**358**	P	**P**	**18 49 25.1**	**-0.9**
SLM				pmax	pmax		
	comp=Z,857nm,0.9s						
S54A	**Dingess, Beckl**	**26.65**	**13**	P	**P**	**18 49 25.0**	**-1.1**
S54A				IAmb	IAmb	18 49 39.6	
	comp=Z,1μm,1.2s						
S54A	**Dingess, Beckl**	**26.65**	**13**	P	**P**	**18 49 26.1**	**0.0**
	baz=197						
S54A				P	**P**	**18 49 26.1**	**0.0**
	baz=197						
S54A				S	**S**	**18 54 01.1**	**+0.3**
	baz=197						
S54A				S	**S**	**18 54 01.1**	**+0.3**
	baz=197						
ANDO	**Antigua, Disas**	**26.66**	**76**	*e*P	**P**	**18 49 27.3**	**+0.9**
HSIG		**26.70**	**313**	P	**P**	**18 49 25.9**	**-0.8**
HSIG		**26.70**	**313**	⇓P	**P**	**18 49 27.2**	**+0.5**
TDBA	**Terre de Bas,**	**26.71**	**78**	P	**P**	**18 49 26.6**	**-0.3**
TDBA	**Terre de Bas,**	**26.71**	**78**	*e*P	**P**	**18 49 29.6**	**+2.7**
OLIL	**Olney**	**26.71**	**1**	P	**P**	**18 49 25.9**	**-0.7**
OLIL				IAmb	IAmb	18 49 39.8	
	comp=Z,1μm,1.0s						
OLIL	**Olney**	**26.71**	**1**	P	**P**	**18 49 25.7**	**-0.9**
	baz=182						
OLIL				S	**S**	**18 53 57.5**	**-4.2**
	baz=182						
ANBD	**Bethesda, Anti**	**26.72**	**76**	*e*P	**P**	**18 49 24.7**	**-2.2**
SRIG	**Santa Rosalia**	**26.75**	**308**	P	**P**	**18 49 27.9**	**+0.8**
SRIG				IAmb	IAmb	18 49 31.4	
	comp=Z,1μm,1.2s						
SRIG	**Santa Rosalia**	**26.75**	**308**	⇓P	**P**	**18 49 28.1**	**+1.0**
ANWB	**Willy Bob**	**26.78**	**74**	P	**P**	**18 49 26.8**	**-0.7**
ANWB				IAmb	IAmb	18 49 30.4	
	comp=Z,998nm,0.8s						
ANWB				IAMs_20	IAMs_20	18 58 29.9	
	comp=Z,168μm,21.0s						
ANWB	**Willy Bob**	**26.78**	**74**	*e*P	**P**	**18 49 25.6**	**-1.9**
ANWB	**Willy Bob**	**26.78**	**74**	⇑P	**P**	**18 49 25.8**	**-1.7**
GCMP	**Grenada, Carri**	**26.82**	**86**	*e*P	**P**	**18 49 28.4**	**+0.5**
Q44A	**Meyer Farm, Va**	**26.88**	**360**	P	**P**	**18 49 27.4**	**-0.7**
Q44A				IAmb	IAmb	18 49 34.5	
	comp=Z,588nm,0.7s						
Q44A	**Meyer Farm, Va**	**26.88**	**360**	P	**P**	**18 49 27.5**	**-0.6**
	baz=180						
Q44A				S	**S**	**18 54 03.3**	**-1.0**
	baz=180						
121A	**Cookes Peak, D**	**26.89**	**323**	P	**P**	**18 49 30.1**	**+1.6**
121A				IAmb	IAmb	18 49 33.9	
	comp=Z,786nm,1.0s						
121A	**Cookes Peak, D**	**26.89**	**323**	P	**P**	**18 49 30.2**	**+1.7**
	baz=136						
121A				S	**S**	**18 54 10.3**	**+5.3**
	baz=136						
121A	**Cookes Peak, D**	**26.89**	**323**	P	**P**	**18 49 30.7**	**+2.2**
	baz=136,SNR=571						
121A				S	**S**	**18 54 10.7**	**+5.7**
	baz=136						
T59A	**Double "B" Far**	**26.94**	**20**	P	**P**	**18 49 28.5**	**-0.2**
T59A				IAmb	IAmb	18 49 38.5	
	comp=Z,922nm,1.1s						
T59A	**Double "B" Far**	**26.94**	**20**	P	**P**	**18 49 29.1**	**+0.4**
	baz=205						
T59A				P	**P**	**18 49 29.1**	**+0.4**
	baz=205						
T59A				S	**S**	**18 54 05.3**	**0.0**
	baz=205						
T59A				S	**S**	**18 54 05.3**	**0.0**
	baz=205						
TRN	**Trinidad (W)**	**26.96**	**90**	*e*P	**P**	**18 49 27.6**	**-1.5**
SVB	**Belmont**	**26.98**	**84**	P	**P**	**18 49 30.3**	**+1.0**
SVB				IAmb	IAmb	18 49 43.9	
	comp=Z,3μm,1.5s						
SVB	**Belmont**	**26.98**	**84**	*e*P	**P**	**18 49 30.8**	**+1.5**
R53A	**Hurricane**	**27.02**	**12**	P	**P**	**18 49 28.7**	**-0.7**
R53A				IAmb	IAmb	18 50 09.3	
	comp=Z,2μm,1.7s						
R53A	**Hurricane**	**27.02**	**12**	P	**P**	**18 49 29.3**	**-0.1**
	baz=195						
R53A				P	**P**	**18 49 29.3**	**-0.1**
	baz=195						
R53A				S	**S**	**18 54 05.9**	**-0.7**
	baz=195						
R53A				S	**S**	**18 54 05.9**	**-0.7**
	baz=195						
319A	**Douglas**	**27.02**	**319**	P	**P**	**18 49 31.3**	**+1.6**
319A				IAmb	IAmb	18 49 35.2	
	comp=Z,2μm,1.1s						
SSV	**Crater Summit**	**27.04**	**84**	*e*P	**P**	**18 49 32.1**	**+2.1**
DLPL	**La Plaine**	**27.05**	**80**	P	**P**	**18 49 28.7**	**-1.2**
DLPL				IAmb	IAmb	18 49 40.0	
	comp=Z,930nm,0.9s						
DLPL	**La Plaine**	**27.05**	**80**	*e*P	**P**	**18 49 25.2**	**-4.8**
SVN	**Savane Anatole**	**27.10**	**81**	P	**P**	**18 49 30.5**	**+0.1**
SVN				IAmb	IAmb	18 49 57.4	
	comp=Z,860nm,1.0s						
FDF	**Fort de France**	**27.11**	**81**	P	**P**	**18 49 30.2**	**-0.3**
FDF				IAmb	IAmb	18 49 35.7	
	comp=Z,568nm,0.8s						
FDF	**Fort de France**	**27.11**	**81**	*e*P	**P**	**18 49 26.1**	**-4.4**
FDF	**Fort de France**	**27.11**	**81**	⇑P	**P**	**18 49 31.1**	**+0.6**
FDF	**Fort de France**	**27.11**	**81**	P	**P**	**18 49 30.2**	**-0.3**
FDF				pmax	pmax		
	comp=Z,568nm,0.8s						
BIM	**Bigot**	**27.18**	**81**	P	**P**	**18 49 31.8**	**+0.7**
BIM				IAmb	IAmb	18 49 36.6	
	comp=Z,2μm,1.0s						
BIM	**Bigot**	**27.18**	**81**	*e*P	**P**	**18 49 32.2**	**+1.1**
S57A	**Dark Hollow, R**	**27.22**	**17**	P	**P**	**18 49 30.7**	**-0.5**
S57A	**Dark Hollow, R**	**27.22**	**17**	P	**P**	**18 49 31.1**	**-0.2**
	baz=202						
S57A				P	**P**	**18 49 31.1**	**-0.2**
	baz=202						
BLO	**Bloomington**	**27.22**	**4**	P	**P**	**18 49 29.9**	**-1.3**
BLO	**Bloomington**	**27.22**	**4**	P	**P**	**18 49 30.0**	**-1.3**
BLO				pmax	pmax		
	comp=Z,451nm,0.8s						
SLBI	**Saint Lucia, B**	**27.26**	**83**	*e*P	**P**	**18 49 33.3**	**+1.5**
MCLT	**Moule a Chique**	**27.28**	**83**	P	**P**	**18 49 32.4**	**+0.3**
MCLT				IAmb	IAmb	18 49 43.6	
	comp=Z,911nm,0.9s						
MCLT	**Moule a Chique**	**27.28**	**83**	*e*P	**P**	**18 49 31.6**	**-0.5**
GDSD	**La Dsirade Is**	**27.30**	**78**	P	**P**	**18 49 30.6**	**-1.6**
H05N1	**Guadeloupe/Mar**	**27.31**	**78**	P	**P**	**18 49 32.3**	**0.0**
	SNR=95						
CRNM	**Carthage**	**27.33**	**326**	P	**P**	**18 49 34.0**	**+1.5**
ILAM	**Ilet Lapin Mar**	**27.38**	**81**	P	**P**	**18 49 33.5**	**+0.7**
ILAM				IAMs_20	IAMs_20	19 00 51.6	
	comp=Z,199μm,21.0s						
ILAM	**Ilet Lapin Mar**	**27.38**	**81**	*e*P	**P**	**18 49 32.2**	**-0.6**
MPOM	**Morne Pois Mar**	**27.38**	**82**	P	**P**	**18 49 33.4**	**+0.6**
MPOM			

Q51A					IAmb	IAmb	18 49 46.5		
	comp=Z,1μm,0.9s								
Q51A	**Peebles**	**27.44**	**9**	P	**P**	**18 49 32.9**	**-0.3**		
	baz=192								
Q51A				P	**P**	**18 49 32.9**	**-0.3**		
	baz=192								
Q51A				S	**S**	**18 54 08.9**	**-4.4**		
	baz=192								
Q51A				S	**S**	**18 54 08.9**	**-4.4**		
	baz=192								
Y22A	**Socorro**	**27.45**	**326**	P	**P**	**18 49 34.9**	**+1.4**		
	baz=139								
Y22A				S	**S**	**18 54 17.0**	**+3.2**		
	baz=139								
JSRW	**J. Sargeant Re**	**27.49**	**19**	P	**P**	**18 49 33.3**	**-0.3**		
Y22D	**IRIS PASSCAL I**	**27.52**	**326**	P	**P**	**18 49 35.8**	**+1.6**		
Y22D				IAmb	IAmb	18 49 42.0			
	comp=Z,2μm,1.4s								
Y22D	**IRIS PASSCAL I**	**27.52**	**326**	P	**P**	**18 49 35.7**	**+1.6**		
	baz=139								
Y22D				S	**S**	**18 54 18.8**	**+3.8**		
	baz=139								
Y22D	**IRIS PASSCAL I**	**27.52**	**326**	P	**P**	**18 49 35.8**	**+1.6**		
	baz=139,SNR=40								
Y22D				S	**S**	**18 54 19.7**	**+4.8**		
	baz=139								
Y22F	**Passcal Instru**	**27.52**	**326**	P	**P**	**18 49 36.0**	**+1.8**		
	baz=139,SNR=38								
Q52A	**Bidwell**	**27.57**	**11**	P	**P**	**18 49 33.6**	**-0.7**		
Q52A				IAmb	IAmb	18 49 44.8			
	comp=Z,683nm,0.8s								
Q52A	**Bidwell**	**27.57**	**11**	P	**P**	**18 49 34.2**	**-0.1**		
	baz=194								
Q52A				P	**P**	**18 49 34.2**	**-0.1**		
	baz=194								
Q52A				S	**S**	**18 54 13.0**	**-2.2**		
	baz=194								
Q52A				S	**S**	**18 54 13.0**	**-2.2**		
	baz=194								
SBM	**South Baldy**	**27.59**	**326**	P	**P**	**18 49 33.8**	**-1.3**		
P48A	**Milroy**	**27.60**	**6**	P	**P**	**18 49 32.6**	**-2.0**		
P48A	**Milroy**	**27.60**	**6**	P	**P**	**18 49 33.1**	**-1.6**		
	baz=187								
P48A				P	**P**	**18 49 33.1**	**-1.6**		
	baz=187								
P43A	**Skaggs, Pawnee**	**27.62**	**359**	P	**P**	**18 49 33.7**	**-1.0**		
P43A				IAmb	IAmb	18 49 42.7			
	comp=Z,942nm,1.2s								
P43A	**Skaggs, Pawnee**	**27.62**	**359**	P	**P**	**18 49 34.2**	**-0.6**		
	baz=179								
P43A				S	**S**	**18 54 14.9**	**-1.1**		
	baz=179								
LENM	**Lemitar**	**27.62**	**326**	P	**P**	**18 49 36.5**	**+1.5**		
P46A	**Rosedale**	**27.63**	**3**	P	**P**	**18 49 34.0**	**-0.9**		
P46A	**Rosedale**	**27.63**	**3**	P	**P**	**18 49 33.8**	**-1.0**		
	baz=183								
P46A				S	**S**	**18 54 13.3**	**-2.8**		
	baz=183								
P40A	**Paris**	**27.65**	**355**	P	**P**	**18 49 33.6**	**-1.4**		
P40A				IAmb	IAmb	18 49 46.2			
	comp=Z,1μm,0.9s								
P40A	**Paris**	**27.65**	**355**	P	**P**	**18 49 34.2**	**-0.8**		
	baz=173								
P40A				S	**S**	**18 54 13.8**	**-2.6**		
	baz=173								
DUN6	**Lazy B Ranch**	**27.69**	**321**	P	**P**	**18 49 37.3**	**+1.6**		
DUN6				IAmb	IAmb	18 50 00.6			
	comp=Z,3μm,1.2s								
R58B	**Mineral**	**27.74**	**19**	P	**P**	**18 49 35.5**	**-0.3**		
R58B	**Mineral**	**27.74**	**19**	P	**P**	**18 49 36.3**	**+0.4**		
	baz=204								
R58B				P	**P**	**18 49 36.3**	**+0.4**		
	baz=204								
R58B				S	**S**	**18 54 19.6**	**+1.7**		
	baz=204								
R58B				S	**S**	**18 54 19.6**	**+1.7**		
	baz=204								
P49A	**Miami Univ. Ec**	**27.75**	**7**	P	**P**	**18 49 34.0**	**-2.0**		
P49A	**Miami Univ. Ec**	**27.75**	**7**	P	**P**	**18 49 35.0**	**-1.0**		
	baz=189								
P49A	**Miami Univ. Ec**	**27.75**	**7**	P	**P**	**18 49 35.0**	**-1.0**		
	baz=189,SNR=77								
P49A				S	**S**	**18 54 16.0**	**-2.1**		
	baz=189								
TOSP	**Speyside**	**27.75**	**88**	P	**P**	**18 49 34.9**	**-1.4**		
TOSP	**Speyside**	**27.75**	**88**	*e*P	**P**	**18 49 34.5**	**-1.7**		
R32A	**Long Quarter,**	**27.82**	**343**	P	**P**	**18 49 35.4**	**-1.2**		
R32A	**Long Quarter,**	**27.82**	**343**	P	**P**	**18 49 36.3**	**-0.3**		
	baz=159								
R32A				S	**S**	**18 54 19.4**	**+0.1**		
	baz=159								
Q54A	**Coxs Mills**	**27.89**	**13**	P	**P**	**18 49 36.5**	**-0.7**		
Q54A				IAmb	IAmb	18 49 48.9			
	comp=Z,3μm,1.8s								
Q54A	**Coxs Mills**	**27.89**	**13**	P	**P**	**18 49 37.6**	**+0.4**		
	baz=197								
Q54A				P	**P**	**18 49 37.6**	**+0.4**		
	baz=197								
Q54A				S	**S**	**18 54 20.7**	**+0.4**		
	baz=197								
Q54A				S	**S**	**18 54 20.7**	**+0.4**		
	baz=197								
P38A	**Dawn**	**27.91**	**352**	P	**P**	**18 49 36.3**	**-1.1**		
P38A				IAmb	IAmb	18 49 51.4			
	comp=Z,1μm,1.1s								
P38A	**Dawn**	**27.91**	**352**	P	**P**	**18 49 36.5**	**-0.8**		
	baz=170								
P38A				S	**S**	**18 54 18.5**	**-2.0**		
	baz=170								
P51A	**Williamsport**	**27.93**	**10**	P	**P**	**18 49 36.6**	**-1.0**		
P51A				IAmb	IAmb	18 49 43.8			
	comp=Z,449nm,0.7s								
P51A	**Williamsport**	**27.93**	**10**	P	**P**	**18 49 37.3**	**-0.3**		
	baz=192								
P51A				P	**P**	**18 49 37.3**	**-0.3**		
	baz=192								
P51A				S	**S**	**18 54 18.7**	**-2.2**		
	baz=192								
P51A				S	**S**	**18 54 18.7**	**-2.2**		
	baz=192								
KSU1	**Kansas State U**	**27.93**	**347**	P	**P**	**18 49 36.6**	**-1.0**		
KSU1				IAmb	IAmb	18 49 42.3			
	comp=Z,1μm,0.9s								
KSU1	**Kansas State U**	**27.93**	**347**	P	**P**	**18 49 37.1**	**-0.5**		
	baz=164								
KSU1				S	**S**	**18 54 18.8**	**-2.2**		
	baz=164								
KSU1	**Kansas State U**	**27.93**	**347**	P	**P**	**18 49 37.1**	**-0.5**		
	baz=164,SNR=296								
KSU1				S	**S**	**18 54 19.7**	**-1.3**		
	baz=164								
KSU1	**Kansas State U**	**27.93**	**347**	⇓P	**P**	**18 49 37.0**	**-0.5**		
ANMO	**Albuquerque**	**27.94**	**328**	⇑P	**P**	**18 49 38.5**	**+0.6**		
ANMO	**Albuquerque**	**27.94**	**328**	*d* i P	**P**	**18 49 38.6**	**+0.6**		
ANMO				pmax	pmax				
	comp=Z,315nm,1.5s								
CBN	**Corbin Frederi**	**28.12**	**19**	P	**P**	**18 49 39.5**	**+0.2**		
CBN				IAmb	IAmb	18 49 53.3			
	comp=Z,898nm,0.9s								
CBN	**Corbin Frederi**	**28.12**	**19**	P	**P**	**18 49 40.2**	**+0.9**		
	baz=204								
CBN				S	**S**	**18 54 25.9**	**+2.0**		
	baz=204								
CBN	**Corbin Frederi**	**28.12**	**19**	P	**P**	**18 49 40.1**	**+0.9**		
	baz=204,SNR=49								
CBN				S	**S**	**18 54 25.7**	**+1.8**		
	baz=204								
O44A	**Mansfield**	**28.13**	**1**	P	**P**	**18 49 37.9**	**-1.3**		
O44A				IAmb	IAmb	18 49 43.8			
	comp=Z,509nm,0.8s								
O44A	**Mansfield**	**28.13**	**1**	P	**P**	**18 49 38.4**	**-0.9**		
	baz=181								
O44A				S	**S**	**18 54 21.3**	**-2.7**		
	baz=181								
P52A	**Corning**	**28.24**	**11**	P	**P**	**18 49 39.7**	**-0.7**		
P52A				IAmb	IAmb	18 49 54.8			
	comp=Z,623nm,0.8s								
P52A	**Corning**	**28.24**	**11**	P	**P**	**18 49 40.0**	**-0.4**		
	baz=194,SNR=96								
P52A				S	**S**	**18 54 25.2**	**-0.7**		
	baz=194								
S61A	**Accomac**	**28.25**	**22**	P	**P**	**18 49 42.3**	**+1.9**		
S61A				IAmb	IAmb	18 50 27.6			
	comp=Z,2μm,1.1s								
S61A	**Accomac**	**28.25**	**22**	P	**P**	**18 49 41.0**	**+0.6**		
	baz=208								
S61A				P	**P**	**18 49 41.0**	**+0.6**		
	baz=208								
S61A				S	**S**	**18 54 27.0**	**+1.1**		
	baz=208								
S61A				S	**S**	**18 54 27.0**	**+1.1**		
	baz=208								
P53A	**Whipple**	**28.25**	**12**	P	**P**	**18 49 40.2**	**-0.2**		
P53A				IAmb	IAmb	18 49 54.1			
	comp=Z,2μm,1.1s								
P53A	**Whipple**	**28.25**	**12**	P	**P**	**18 49 40.6**	**+0.2**		
	baz=196								
P53A				P	**P**	**18 49 40.6**	**+0.2**		
	baz=196								
P53A				S	**S**	**18 54 23.7**	**-2.3**		
	baz=196								
P53A				S	**S**	**18 54 23.7**	**-2.3**		
	baz=196								
Q56A	**Snyder Ridge,**	**28.35**	**16**	P	**P**	**18 49 41.6**	**+0.3**		
Q56A				IAmb	IAmb	18 50 19.2			
	comp=Z,1μm,1.4s								
Q56A	**Snyder Ridge,**	**28.35**	**16**	P	**P**	**18 49 42.2**	**+0.8**		
	baz=200								
Q56A				P	**P**	**18 49 42.2**	**+0.8**		
	baz=200								
Q56A				S	**S**	**18 54 28.6**	**+1.0**		
	baz=200								
Q56A				S	**S**	**18 54 28.6**	**+1.0**		
	baz=200								
SFIN	**Lafayette**	**28.39**	**3**	P	**P**	**18 49 40.3**	**-1.4**		
SFIN	**Lafayette**	**28.39**	**3**	P	**P**	**18 49 40.4**	**-1.3**		
	baz=184								
SFIN				S	**S**	**18 54 23.7**	**-4.5**		
	baz=184								
SFIN	**Lafayette**	**28.39**	**3**	P	**P**	**18 49 40.5**	**-1.1**		
	baz=184,SNR=68								
SFIN				S	**S**	**18 54 25.2**	**-3.0**		
	baz=184								
O48B	**Farmland**	**28.42**	**6**	P	**P**	**18 49 40.6**	**-1.3**		
	baz=188								
O48B				S	**S**	**18 54 22.5**	**-6.1**		
	baz=188								
O48B	**Farmland**	**28.42**	**6**	P	**P**	**18 49 40.6**	**-1.3**		
	baz=188,SNR=60								
O48B				S	**S**	**18 54 25.4**	**-3.2**		
	baz=188								
O49A	**Covington**	**28.44**	**7**	P	**P**	**18 49 40.2**	**-2.0**		
O49A				IAmb	IAmb	18 49 52.6			
	comp=Z,906nm,1.3s								
O49A	**Covington**	**28.44**	**7**	P	**P**	**18 49 41.2**	**-0.9**		
	baz=189								
O49A				P	**P**	**18 49 41.2**	**-0.9**		
	baz=189								
O49A				S	**S**	**18 54 25.2**	**-3.8**		
	baz=189								
O49A				S	**S**	**18 54 25.2**	**-3.8**		
	baz=189								
CBKS	**Cedar Bluff**	**28.48**	**342**	P	**P**	**18 49 42.2**	**-0.4**		
CBKS				IAmb	IAmb	18 49 47.7			
	comp=Z,2μm,1.1s								
CBKS	**Cedar Bluff**	**28.48**	**342**	P	**P**	**18 49 42.4**	**-0.1**		
	baz=157								
CBKS				S	**S**	**18 54 29.9**	**+0.2**		
	baz=157								
CBKS	**Cedar Bluff**	**28.48**	**342**	P	**P**	**18 49 42.4**	**-0.1**		
	baz=157,SNR=126								
CBKS				S	**S**	**18 54 30.7**	**+1.0**		
	baz=157								
CBKS	**Cedar Bluff**	**28.48**	**342**	⇓P	**P**	**18 49 42.4**	**-0.1**		
CBKS	**Cedar Bluff**	**28.48**	**342**	P	**P**	**18 49 42.2**	**-0.4**		
CBKS				pmax	pmax				
	comp=Z,2μm,1.1s								
HDIL	**Hopedale**	**28.53**	**359**	P	**P**	**18 49 42.0**	**-0.9**		
HDIL	**Hopedale**	**28.53**	**359**	P	**P**	**18 49 42.2**	**-0.6**		
	baz=179								
HDIL	**Hopedale**	**28.53**	**359**	P	**P**	**18 49 42.3**	**-0.6**		
	baz=179,SNR=75								
HDIL				S	**S**	**18 54 27.7**	**-2.6**		
	baz=179								
BCHC	**Barbados, Cave**	**28.56**	**84**	*e*P	**P**	**18 49 43.1**	**-0.3**		
TUC	**Tucson**	**28.60**	**319**	P	**P**	**18 49 44.6**	**+0.9**		
TUC	**Tucson**	**28.60**	**319**	IAMs_20	IAMs_20	19 01 26.1			
	comp=Z,160μm,18.0s								
TUC	**Tucson**	**28.60**	**319**	P	**P**	**18 49 44.8**	**+1.1**		
	baz=130								
TUC				S	**S**	**18 54 34.7**	**+2.9**		
	baz=130								
TUC	**Tucson**	**28.60**	**319**	⇓P	**P**	**18 49 44.8**	**+1.1**		
TUC	**Tucson**	**28.60**	**319**	P	**P**	**18 49 44.6**	**+0.9**		
TUC				pmax	pmax				
	comp=Z,604nm,1.1s								
TUC				MLR	MLR				
	comp=Z,160μm,18.0s								
BBGH	**Gun Hill**	**28.63**	**84**	P	**P**	**18 49 46.4**	**+2.3**		
BBGH				IAmb	IAmb	18 50 01.9			
	comp=Z,1μm,1.0s								
BBGH	**Gun Hill**	**28.63**	**84**	⇑P	**P**	**18 49 45.6**	**+1.5**		
ACSO	**Alum Creek Sta**	**28.68**	**9**	P	**P**	**18 49 43.2**	**-1.0**		
ACSO				IAmb	IAmb	18 49 50.6			
	comp=Z,703nm,0.8s								
ACSO				IAMs_20	IAMs_20	19 02 32.1			
	comp=Z,162μm,19.0s								
ACSO	**Alum Creek Sta**	**28.68**	**9**	P	**P**	**18 49 43.7**	**-0.6**		
	baz=192								
ACSO	**Alum Creek Sta**	**28.68**	**9**	P	**P**	**18 49 43.9**	**-0.4**		
	baz=192,SNR=126								
ACSO				S	**S**	**18 54 31.4**	**-1.3**		
	baz=192								
BBSP	**Saint Philip**	**28.73**	**84**	*e*P	P	18 49 40.1	-4.9		
N41A	**Harden Midland**	**28.73**	**357**	P	**P**	**18 49 43.5**	**-1.2**		
N41A				IAmb	IAmb	18 49 50.8			
	comp=Z,2μm,1.1s								
N41A	**Harden Midland**	**28.73**	**357**	P	**P**	**18 49 43.9**	**-0.8**		
	baz=176								
T25A	**Trinidad**	**28.73**	**334**	P	**P**	**18 49 44.8**	**-0.2**		
T25A				IAmb	IAmb	18 49 55.2			
	comp=Z,941nm,1.1s								
T25A	**Trinidad**	**28.73**	**334**	P	**P**	**18 49 46.1**	**+1.1**		
	baz=147,SNR=378								
T25A				S	**S**	**18 54 38.1**	**+4.1**		
	baz=147								
MCWV	**Mont Chateau**	**28.76**	**15**	P	**P**	**18 49 44.6**	**-0.4**		
MCWV				IAMs_20	IAMs_20	19 02 31.7			
	comp=Z,160μm,19.0s								
MCWV	**Mont Chateau**	**28.76**	**15**	P	**P**	**18 49 45.0**	**+0.1**		
	baz=198								
MCWV				S	**S**	**18 54 33.9**	**-0.1**		
	baz=198								
MCWV	**Mont Chateau**	**28.76**	**15**	P	**P**	**18 49 45.0**	**+0.1**		
	baz=198,SNR=51								
MCWV				S	**S**	**18 54 32.4**	**-1.6**		
	baz=198								
O52A	**Adamsville**	**28.77**	**11**	P	**P**	**18 49 44.4**	**-0.7**		
O52A				IAmb	IAmb	18 49 58.2			
	comp=Z,1μm,1.0s								
O52A	**Adamsville**	**28.77**	**11**	P	**P**	**18 49 44.5**	**-0.5**		
	baz=194								
O52A				P	**P**	**18 49 44.5**	**-0.5**		
	baz=194								
O52A				S	**S**	**18 54 32.9**	**-1.2**		
	baz=194								
O52A				S	**S**	**18 54 32.9**	**-1.2**		
	baz=194								
R61A	**Willards**	**28.94**	**22**	P	**P**	**18 49 48.1**	**+1.6**		
R61A				IAmb	IAmb	18 50 47.8			
	comp=Z,1μm,1.1s								
R61A	**Willards**	**28.94**	**22**	P	**P**	**18 49 47.2**	**+0.6**		
	baz=208								
R61A				P	**P**	**18 49 47.2**	**+0.6**		
	baz=208								
N47A	**Urbana**	**28.98**	**5**	P	**P**	**18 49 44.9**	**-2.0**		
N47A	**Urbana**	**28.98**	**5**	P	**P**	**18 49 45.1**	**-1.9**		
	baz=186								
N47A				P	**P**	**18 49 45.1**	**-1.9**		
	baz=186								
N47A				S	**S**	**18 54 30.3**	**-7.2**		
	baz=186								
N47A				S	**S**	**18 54 30.3**	**-7.2**		
	baz=186								
N38A	**Joes South For**	**29.02**	**353**	P	**P**	**18 49 46.1**	**-1.1**		
N38A				IAmb	IAmb	18 50 00.6			
	comp=Z,1μm,1.1s								
N38A	**Joes South For**	**29.02**	**353**	P	**P**	**18 49 47.0**	**-0.3**		
	baz=171								
N38A				S	**S**	**18 54 36.9**	**-1.2**		
	baz=171								
O53A	**New Philadelph**	**29.02**	**12**	P	**P**	**18 49 46.2**	**-1.0**		
O53A				IAmb	IAmb	18 50 01.1			
	comp=Z,1μm,1.1s								
O53A	**New Philadelph**	**29.02**	**12**	P	**P**	**18 49 47.0**	**-0.3**		
	baz=196,SNR=76								
O53A				S	**S**	**18 54 37.7**	**-0.4**		
	baz=196								
P57A	**Homestead Farm**	**29.09**	**17**	P	**P**	**18 49 48.1**	**+0.1**		
P57A				IAmb	IAmb	18 49 55.5			
	comp=Z,437nm,0.7s								
P57A	**Homestead Farm**	**29.09**	**17**	P	**P**	**18 49 49.0**	**+1.0**		
	baz=202								
P57A				P	**P**	**18 49 49.0**	**+1.0**		
	baz=202								
O54A	**Avella**	**29.14**	**13**	P	**P**	**18 49 47.4**	**-0.9**		
O54A				IAmb	IAmb	18 49 58.0			
	comp=Z,456nm,0.8s								
O54A	**Avella**	**29.14**	**13**	P	**P**	**18 49 47.9**	**-0.4**		
	baz=197								
O54A				P	**P**	**18 49 47.9**	**-0.4**		
	baz=197								
N49A	**Columbus Grove**	**29.18**	**7**	P	**P**	**18 49 47.3**	**-1.4**		
N49A				IAmb	IAmb	18 50 01.8			
	comp=Z,795nm,1.1s								
N49A	**Columbus Grove**	**29.18**	**7**	P	**P**	**18 49 47.6**	**-1.1**		
	baz=189								
N49A				P	**P**	**18 49 47.6**	**-1.1**		
	baz=189								
M44A	**Midewin, Midew**	**29.37**	**1**	P	**P**	**18 49 48.5**	**-1.8**		
M44A	**Midewin, Midew**	**29.37**	**1**	P	**P**	**18 49 48.9**	**-1.4**		
	baz=182								
M44A				S	S	18 54 34.2	-9.3		
	baz=182								
SDMD	**Soldier's Deli**	**29.39**	**19**	P	**P**	**18 49 50.7**	**+0.1**		
SDMD	**Soldier's Deli**	**29.39**	**19**	P	**P**	**18 49 50.6**	**+0.1**		
	baz=204								
SDMD				S	**S**	**18 54 44.0**	**+0.2**		
	baz=204								
N35A	**Tabor**	**29.44**	**350**	P	**P**	**18 49 50.3**	**-0.8**		
N35A				IAmb	IAmb	18 49 57.5			
	comp=Z,849nm,1.0s								
N35A	**Tabor**	**29.44**	**350**	P	**P**	**18 49 50.2**	**-0.8**		
	baz=166								
N51A	**Ashland**	**29.45**	**10**	P	**P**	**18 49 50.0**	**-1.0**		
N51A				IAmb	IAmb	18 50 03.9			
	comp=Z,736nm,1.1s								
N51A	**Ashland**	**29.45**	**10**	P	**P**	**18 49 50.5**	**-0.6**		
	baz=193								
N51A				P	**P**	**18 49 50.5**	**-0.6**		
	baz=193								
N51A				S	**S**	**18 54 42.6**	**-2.2**		
	baz=193								
N51A				S	**S**	**18 54 42.6**	**-2.2**		
	baz=193								
UPAO	**U. Pittsburgh**	**29.50**	**14**	P	**P**	**18 49 50.9**	**-0.6**		
	baz=198								
X18A	**Snowflake**	**29.57**	**323**	P	**P**	**18 49 53.1**	**+0.6**		
KSCO	**Kaye Shedlock'**	**29.63**	**338**	P	**P**	**18 49 52.4**	**-0.4**		
KSCO	**Kaye Shedlock'**	**29.63**	**338**	P	**P**	**18 49 53.0**	**+0.1**		
	baz=152								
KSCO	**Kaye Shedlock'**	**29.63**	**338**	P	**P**	**18 49 53.2**	**+0.3**		
	baz=152,SNR=55								
KSCO				S	**S**	**18 54 49.6**	**+1.7**		
	baz=152								
N53A	**Lisbon**	**29.63**	**12**	P	**P**	**18 49 51.7**	**-1.0**		
N53A	**Lisbon**	**29.63**	**12**	P	**P**	**18 49 52.1**	**-0.6**		
	baz=196								
N53A				P	**P**	**18 49 52.1**	**-0.6**		
	baz=196								
N53A				S	**S**	**18 54 41.3**	**-6.4**		
	baz=196								
N53A				S	**S**	**18 54 41.3**	**-6.4**		
	baz=196								
BOAV	**Boa Vista**	**29.64**	**106**	P	**P**	**18 49 52.4**	**-0.6**		
BOAV				IAmb	IAmb	18 49 57.4			
	comp=Z,311nm,0.8s								
BOAV	**Boa Vista**	**29.64**	**106**	*e*P	**P**	**18 49 54.2**	**+1.2**		
N33B	**J Bar K, Exete**	**29.69**	**347**	P	**P**	**18 49 53.0**	**-0.2**		
	baz=163								
N33A	**J Bar K, Exete**	**29.69**	**347**	P	**P**	**18 49 52.7**	**-0.5**		
SDCO	**Great Sand Dun**	**29.72**	**333**	P	**P**	**18 49 54.1**	**+0.2**		
SDCO	**Great Sand Dun**	**29.72**	**333**	P	**P**	**18 49 54.5**	**+0.7**		
	baz=146								
SDCO				S	**S**	**18 54 48.9**	**-0.8**		
	baz=146								
SDCO	**Great Sand Dun**	**29.72**	**333**	P	**P**	**18 49 54.7**	**+0.9**		
	baz=146,SNR=219								
214A	**Organ Pipe Nat**	**29.72**	**316**	P	**P**	**18 49 54.4**	**+0.7**		
214A				IAmb	IAmb	18 49 58.3			
	comp=Z,918nm,1.0s								
214A	**Organ Pipe Nat**	**29.72**	**316**	P	**P**	**18 49 55.5**	**+1.8**		
	baz=127,SNR=224								
214A				S	**S**	**18 54 55.0**	**+5.5**		
	baz=127								
HQIL	**Hanson Quary C**	**29.78**	**2**	P	**P**	**18 49 52.7**	**-1.3**		
HQIL				IAmb	IAmb	18 49 59.6			
	comp=Z,1μm,1.5s								
HQIL				IAMs_20	IAMs_20	19 02 50.6			
	comp=Z,77μm,22.0s								
M50A	**Fremont**	**29.81**	**9**	P	**P**	**18 49 53.1**	**-1.1**		
M50A				IAmb	IAmb	18 50 07.1			
	comp=Z,990nm,0.9s								
M50A	**Fremont**	**29.81**	**9**	P	**P**	**18 49 53.7**	**-0.6**		
	baz=191								
M50A				P	**P**	**18 49 53.7**	**-0.6**		
	baz=191								
M50A				S	**S**	**18 54 47.3**	**-3.1**		
	baz=191								
M50A				S	**S**	**18 54 47.3**	**-3.1**		
	baz=191								
W18A	**Petrified Fore**	**29.86**	**324**	P	**P**	**18 49 56.7**	**+1.7**		
W18A				IAmb	IAmb	18 50 01.2			
	comp=Z,984nm,1.1s								
W18A	**Petrified Fore**	**29.86**	**324**	P	**P**	**18 49 56.6**	**+1.5**		
	baz=136,SNR=74								
W18A				S	**S**	**18 54 56.6**	**+4.7**		
	baz=136								
PIX	**Pinacate**	**29.94**	**315**	P	**P**	**18 49 55.7**	**+0.2**		
L42A	**Oliver, Polo**	**29.98**	**359**	P	**P**	**18 49 54.5**	**-1.2**		
L42A	**Oliver, Polo**	**29.98**	**359**	P	**P**	**18 49 55.0**	**-0.8**		
	baz=178								
L42A				S	**S**	**18 54 48.4**	**-4.7**		
	baz=178								
L46A	**Eue Claire**	**30.07**	**4**	P	**P**	**18 49 54.5**	**-2.0**		
L46A				IAmb	IAmb	18 50 08.1			
	comp=Z,1μm,1.1s								
L46A	**Eue Claire**	**30.07**	**4**	P	**P**	**18 49 54.9**	**-1.6**		
	baz=185								
L46A				P	**P**	**18 49 54.9**	**-1.6**		
	baz=185								
L46A				S	**S**	**18 54 48.6**	**-5.8**		
	baz=185								
L46A				S	**S**	**18 54 48.6**	**-5.8**		
	baz=185								
MVL	**Millersville**	**30.08**	**19**	P	**P**	**18 49 57.2**	**+0.6**		
L40A	**Anamosa**	**30.10**	**357**	P	**P**	**18 49 55.5**	**-1.4**		
L40A	**Anamosa**	**30.10**	**357**	P	**P**	**18 49 56.0**	**-0.8**		
	baz=175								
L40A				S	**S**	**18 54 50.5**	**-4.5**		
	baz=175								
SCIA	**State Center**	**30.12**	**354**	P	**P**	**18 49 55.6**	**-1.4**		
SCIA				IAMs_20	IAMs_20	19 03 31.5			
	comp=Z,164μm,22.0s								
SCIA	**State Center**	**30.12**	**354**	P	**P**	**18 49 56.3**	**-0.6**		
	baz=172								
SCIA

L44A S **S** **18 54 51.0 -4.8**
baz=182
L48A N Adams 30.16 7 P **P** **18 49 55.1 -2.3**
L48A N Adams 30.16 7 P **P** **18 49 56.1 -1.3**
baz=189
L48A P **P** **18 49 56.1 -1.3**
baz=189
L48A S S 18 54 44.1 -12
baz=189
L48A S S 18 54 44.1 -12
baz=189
PAGS Pennsylvania G 30.17 19 P **P** **18 49 57.2 -0.2**
PAGS IAmb IAmb 18 50 05.8
comp=Z,577nm,0.8s
SSPA Standing Stone 30.20 17 P **P** **18 49 57.5 -0.2**
SSPA Standing Stone 30.20 17 IAMs_20 IAMs_20 19 03 36.5
comp=Z,167μm,18.0s
SSPA Standing Stone 30.20 17 P **P** **18 49 58.0 +0.3**
baz=202
SSPA S **S** **18 54 56.5 0.0**
baz=202
SSPA Standing Stone 30.20 17 P **P** **18 49 58.0 +0.3**
baz=202
SSPA S **S** **18 54 54.3 -2.3**
baz=202
SSPA Standing Stone 30.20 17 ⇓P **P** **18 49 57.6 -0.2**
M52A Chesterland 30.23 11 P **P** **18 49 55.5 -2.6**
M52A Chesterland 30.23 11 P **P** **18 49 57.0 -1.0**
baz=195
M52A P **P** **18 49 57.0 -1.0**
baz=195
M52A S **S** **18 54 54.0 -3.2**
baz=195
M52A S **S** **18 54 54.0 -3.2**
baz=195
WUPA West Chester U 30.27 20 P **P** **18 49 57.9 -0.4**
M53A WI Miller and 30.27 12 P **P** **18 49 57.0 -1.3**
M53A IAmb IAmb 18 50 08.5
comp=Z,723nm,1.1s
M53A WI Miller and 30.27 12 P **P** **18 49 58.0 -0.4**
baz=196,SNR=48
M53A S **S** **18 54 56.5 -1.2**
baz=196
PSUB Penn St. - Bra 30.32 21 P **P** **18 49 58.7 -0.1**
baz=207
PSUB S **S** **18 54 55.6 -2.8**
baz=207
P61A Hammonton 30.33 22 P **P** **18 49 58.7 -0.1**
P61A IAmb IAmb 18 50 54.2
comp=Z,1μm,1.3s
P61A Hammonton 30.33 22 P **P** **18 50 00.1 +1.3**
baz=208
P61A P **P** **18 50 00.1 +1.3**
baz=208
P61A S **S** **18 54 56.6 -2.0**
baz=208
P61A S **S** **18 54 56.6 -2.0**
baz=208
S22A 4UR Ranch, Cre 30.33 331 P **P** **18 49 59.1 -0.2**
S22A 4UR Ranch, Cre 30.33 331 P **P** **18 50 00.3 +1.0**
baz=143,SNR=471
S22A S **S** **18 55 03.3 +3.9**
baz=143
PSDB Penn State Uni 30.42 15 P **P** **18 49 59.3 -0.4**
baz=200
PSDB S **S** **18 55 00.5 +0.4**
baz=200
BGNE Belgrade 30.48 346 P **P** **18 49 59.4 -0.9**
BGNE Belgrade 30.48 346 P **P** **18 50 00.0 -0.3**
baz=162
BGNE Belgrade 30.48 346 P **P** **18 49 60.0 -0.3**
baz=162,SNR=74
BGNE S **S** **18 54 57.9 -3.2**
baz=162
Q24A Divide 30.58 335 P **P** **18 50 01.4 -0.1**
Q24A Divide 30.58 335 P **P** **18 50 01.5 0.0**
baz=147,SNR=119
Q24A S **S** **18 55 05.4 +2.1**
baz=147
ALLY Alegheny Colle 30.59 13 P **P** **18 50 00.7 -0.5**
ALLY IAmb IAmb 18 50 27.9
comp=Z,589nm,1.1s
ALLY Alegheny Colle 30.59 13 P **P** **18 50 01.1 -0.1**
baz=197
ALLY S **S** **18 55 00.0 -2.7**
baz=197
AAM Ann Arbor 30.61 8 P **P** **18 49 59.7 -1.6**
AAM IAmb IAmb 18 50 11.9
comp=Z,639nm,1.1s
AAM Ann Arbor 30.61 8 P **P** **18 50 00.5 -0.8**
baz=190
AAM S **S** **18 54 57.3 -5.6**
baz=190
AAM Ann Arbor 30.61 8 P **P** **18 50 00.2 -1.1**
baz=190,SNR=61
AAM S **S** **18 54 58.6 -4.3**
baz=190
AAM Ann Arbor 30.61 8 P **P** **18 49 59.7 -1.6**
AAM pmax pmax
comp=Z,639nm,1.1s
AAM MLR MLR
comp=Z,69μm,20.0s
TUPA Temple Univers 30.62 21 P **P** **18 50 01.9 +0.5**
baz=207
TUPA S **S** **18 55 03.6 +0.4**
baz=207
SFX San Felipe 30.63 312 P **P** **18 50 03.8 +2.1**
L34A Svendsen Farm, 30.65 349 P **P** **18 50 00.1 -1.6**
L34A IAmb IAmb 18 50 09.9
comp=Z,909nm,1.2s
L34A Svendsen Farm, 30.65 349 P **P** **18 50 00.7 -1.0**
baz=165
K43A Burlington 30.68 1 P **P** **18 50 00.6 -1.3**
K43A IAmb IAmb 18 50 06.6
comp=Z,650nm,1.0s
K43A Burlington 30.68 1 P **P** **18 50 00.8 -1.1**
baz=181
K43A S **S** **18 54 59.9 -4.1**
baz=181
N58A Sunbury 30.73 18 P **P** **18 50 02.0 -0.4**
N58A Sunbury 30.73 18 P **P** **18 50 02.1 -0.4**
baz=204
N58A P **P** **18 50 02.1 -0.4**
baz=204
MVCO Mesa Verde 30.74 328 P **P** **18 50 03.6 +0.8**
MVCO Mesa Verde 30.74 328 P **P** **18 50 03.8 +1.0**
baz=140,SNR=213
MVCO S **S** **18 55 02.9 -2.7**
baz=140
K38A Parkersburg 30.80 354 P **P** **18 50 01.4 -1.7**
K38A Parkersburg 30.80 354 P **P** **18 50 02.4 -0.6**
baz=172
K38A S **S** **18 55 05.0 -1.0**
baz=172
113A Mohawk Valley, 30.86 316 P **P** **18 50 03.3 -0.3**
113A IAmb IAmb 18 50 09.0
comp=Z,2μm,1.5s
JFWS Jewell Farm 30.91 358 P **P** **18 50 02.6 -1.3**
JFWS IAmb IAmb 18 50 10.3
comp=Z,2μm,1.4s
JFWS Jewell Farm 30.91 358 P **P** **18 50 03.2 -0.7**
baz=177
JFWS S **S** **18 55 02.9 -4.7**
baz=177
JFWS Jewell Farm 30.91 358 P **P** **18 50 03.4 -0.5**
baz=177,SNR=199
JFWS S **S** **18 55 03.8 -3.8**
baz=177
JFWS Jewell Farm 30.91 358 P **P** **18 50 02.6 -1.3**
JFWS pmax pmax
comp=Z,2μm,1.4s
JFWS MLR MLR
comp=Z,126μm,22.0s
LUPA Lehigh Univers 30.95 20 P **P** **18 50 04.0 -0.3**
LUPA IAmb IAmb 18 50 19.1
comp=Z,1μm,1.6s
PANJ Princeton 30.98 21 P **P** **18 50 05.2 +0.6**
baz=208
PANJ S **S** **18 55 09.2 +0.4**
baz=208
M57A Sunshine Farm, 31.06 17 P **P** **18 50 04.6 -0.7**
M57A IAmb IAmb 18 50 19.1
comp=Z,431nm,0.9s
M57A Sunshine Farm, 31.06 17 P **P** **18 50 05.5 +0.2**
baz=203
M57A P **P** **18 50 05.5 +0.2**
baz=203
M57A S **S** **18 55 09.0 -1.1**
baz=203
M57A S **S** **18 55 09.0 -1.1**
baz=203
Y14A Wickenburg 31.07 319 P **P** **18 50 06.9 +1.4**
ERPA Erie 31.07 13 P **P** **18 50 04.9 -0.4**
ERPA IAmb IAmb 18 50 18.3
comp=Z,693nm,1.1s
ERPA IAMs_20 IAMs_20 19 03 39.5
comp=Z,155μm,20.0s
ERPA Erie 31.07 13 P **P** **18 50 05.0 -0.4**
baz=197
ERPA S **S** **18 55 06.7 -3.5**
baz=197
ERPA Erie 31.07 13 P **P** **18 50 05.0 -0.4**
baz=197,SNR=12
ERPA S **S** **18 55 07.7 -2.5**
baz=197
WUAZ Wupatki 31.10 323 P **P** **18 50 06.9 +0.9**
WUAZ IAmb IAmb 18 50 11.7
comp=Z,611nm,1.0s
WUAZ Wupatki 31.10 323 P **P** **18 50 07.8 +1.8**
baz=134,SNR=364
WUAZ S **S** **18 55 18.0 +6.8**
baz=134
WUAZ Wupatki 31.10 323 ⇓P **P** **18 50 07.2 +1.3**
OGNE Ogallala 31.15 341 P **P** **18 50 05.9 -0.3**
OGNE IAmb IAmb 18 50 09.8
comp=Z,1μm,1.2s
OGNE Ogallala 31.15 341 P **P** **18 50 06.4 +0.2**
baz=154
OGNE S **S** **18 55 13.8 +2.2**
baz=154
OGNE Ogallala 31.15 341 P **P** **18 50 06.7 +0.5**
baz=154,SNR=46
OGNE S **S** **18 55 13.3 +1.7**
baz=154
ETMB Extrema 31.19 133 P **P** **18 50 06.2 -0.6**
ETMB IAmb IAmb 18 50 20.3
comp=Z,1μm,0.7s
ETMB Extrema 31.19 133 *e*P **P** **18 50 06.6 -0.1**
K50A Casco 31.22 9 P **P** **18 50 05.4 -1.2**
K50A Casco 31.22 9 P **P** **18 50 05.5 -1.2**
baz=192
K50A P **P** **18 50 05.5 -1.2**
baz=192
K50A S **S** **18 55 10.5 -2.0**
baz=192
K50A S **S** **18 55 10.5 -2.0**
baz=192
BRNJ Basking Ridge 31.30 21 P **P** **18 50 07.0 -0.4**
BRNJ IAmb IAmb 18 50 22.1
comp=Z,1μm,1.0s
BRNJ Basking Ridge 31.30 21 P **P** **18 50 08.0 +0.6**
baz=208
BRNJ S **S** **18 55 15.9 +2.2**
baz=208
PSWB Penn State Wil 31.37 19 P **P** **18 50 08.4 +0.3**
baz=205
PSWB S **S** **18 55 16.6 +1.6**
baz=205
J47A Sunmer 31.40 6 P **P** **18 50 06.0 -2.3**
J47A IAmb IAmb 18 50 14.2
comp=Z,492nm,1.0s
J47A Sunmer 31.40 6 P **P** **18 50 06.9 -1.3**
baz=188
J47A P **P** **18 50 06.9 -1.3**
baz=188
J47A S **S** **18 55 08.7 -6.6**
baz=188
J47A S **S** **18 55 08.7 -6.6**
baz=188
ISCO Idaho Springs 31.48 335 P **P** **18 50 10.0 +0.7**
baz=147
ISCO S **S** **18 55 17.7 +0.4**
baz=147
ISCO Idaho Springs 31.48 335 P **P** **18 50 10.1 +0.7**
baz=147,SNR=62
ISCO S **S** **18 55 19.1 +1.8**
baz=147
PV01 Paradox Valley 31.48 329 P **P** **18 50 10.1 +0.7**
GUVIX Guadalupe Vict 31.49 314 P **P** **18 50 09.1 -0.1**
GUVIX IAmb IAmb 18 50 16.2
comp=Z,1μm,1.3s
SMCO Snowmass 31.55 333 P **P** **18 50 10.7 +0.5**
SMCO Snowmass 31.55 333 ⇑P **P** **18 50 11.0 +0.8**
PV15 Paradox Valley 31.60 330 P **P** **18 50 11.1 +0.6**
CPNY Central Park 31.61 22 P **P** **18 50 09.9 -0.3**
PV02 Paradox Valley 31.62 329 P **P** **18 50 11.3 +0.7**
PV02 IAmb IAmb 18 50 16.7
comp=Z,745nm,1.4s
PV13 Radium Mtn., P 31.63 329 P **P** **18 50 11.2 +0.5**
PV13 IAmb IAmb 18 50 16.6
comp=Z,879nm,1.2s
BRIGG Briggsdale 31.63 337 P **P** **18 50 11.1 +0.6**
BRIGG IAmb IAmb 18 50 16.0
comp=Z,873nm,1.1s
ODNJ Ogdensburg 31.64 21 P **P** **18 50 10.1 -0.3**
ODNJ IAmb IAmb 18 50 24.0
comp=Z,590nm,1.2s
ODNJ Ogdensburg 31.64 21 P **P** **18 50 10.6 +0.2**
baz=207
ODNJ S **S** **18 55 18.9 -0.2**
baz=207
WVNY West Valley, N 31.66 15 P **P** **18 50 09.8 -0.9**
WVNY IAmb IAmb 18 50 24.6
comp=Z,1μm,1.4s
WVNY West Valley, N 31.66 15 P **P** **18 50 10.1 -0.6**
baz=199
WVNY S **S** **18 55 15.8 -3.7**
baz=199
KSPA Keystone Colle 31.68 19 P **P** **18 50 10.5 -0.3**
KSPA Keystone Colle 31.68 19 P **P** **18 50 10.9 +0.2**
baz=205
KSPA S **S** **18 55 17.8 -1.9**
baz=205
L56A Greenwood 31.68 16 P **P** **18 50 10.3 -0.5**
L56A IAmb IAmb 18 50 24.8
comp=Z,709nm,1.4s
L56A Greenwood 31.68 16 P **P** **18 50 09.8 -1.0**
baz=201
L56A P **P** **18 50 09.8 -1.0**
baz=201
L56A S **S** **18 55 17.9 -2.0**
baz=201
L56A S **S** **18 55 17.9 -2.0**
baz=201
FOR Fordham 31.70 22 P **P** **18 50 10.5 -0.4**
baz=209
FOR S **S** **18 55 17.5 -2.6**
baz=209
PV05 Paradox Valley 31.71 329 P **P** **18 50 11.6 +0.3**
PV05 IAmb IAmb 18 50 17.0
comp=Z,984nm,1.1s
CPBX Cerro Prieto 31.71 314 P **P** **18 50 13.3 +2.1**
CPBX IAmb IAmb 18 50 21.5
comp=Z,985nm,1.2s
PV03 Paradox Valley 31.72 329 P **P** **18 50 12.2 +0.8**
PV03 IAmb IAmb 18 50 19.5
comp=Z,605nm,1.0s
PV18 Skein Mesa, Pa 31.74 329 P **P** **18 50 12.3 +0.7**
PV18 IAmb IAmb 18 50 19.7
comp=Z,830nm,1.0s
PV12 Saucer Basin, 31.74 329 P **P** **18 50 12.7 +1.1**
PV12 IAmb IAmb 18 50 19.9
comp=Z,1μm,0.8s
GLA Glamis 31.74 316 P **P** **18 50 12.8 +1.4**
GLA Glamis 31.74 316 P **P** **18 50 13.4 +1.9**
baz=126,SNR=337
GLA S **S** **18 55 23.3 +2.2**
baz=126
GLA Glamis 31.74 316 P **P** **18 50 12.9 +1.4**
GLA pmax pmax
comp=Z,2μm,1.2s
PV07 Paradox Valley 31.76 330 P **P** **18 50 12.3 +0.6**
PV07 IAmb IAmb 18 50 17.7
comp=Z,626nm,1.1s
PV11 David Mesa, Pa 31.76 329 P **P** **18 50 12.1 +0.3**
PV11 IAmb IAmb 18 50 28.4
comp=Z,562nm,1.0s
MACA Manacapuru-AM 31.77 116 P **P** **18 50 12.6 +0.7**
MACA IAmb IAmb 18 50 29.2
comp=Z,1μm,1.1s
MACA Manacapuru-AM 31.77 116 *e*P **P** **18 50 12.7 +0.8**
K31A O'Neill 31.78 346 P **P** **18 50 11.3 -0.4**
K31A O'Neill 31.78 346 P **P** **18 50 11.7 +0.1**
baz=161
K31A S **S** **18 55 17.4 -3.9**
baz=161
PV17 East Wray Mesa 31.79 329 P **P** **18 50 12.3 +0.3**
PV17 IAmb IAmb 18 50 20.1
comp=Z,728nm,0.9s
PV16 Nyswonger Mesa 31.79 329 P **P** **18 50 12.5 +0.4**
PV16 IAmb IAmb 18 50 20.2
comp=Z,702nm,1.1s
PAL Palisades 31.82 22 P **P** **18 50 11.7 -0.2**
PAL IAmb IAmb 18 50 25.6
comp=Z,1μm,1.2s
PAL Palisades 31.82 22 P **P** **18 50 11.9 0.0**
baz=208
PAL S **S** **18 55 20.5 -1.4**
baz=208
PAL Palisades 31.82 22 P **P** **18 50 12.1 +0.1**
baz=208,SNR=34
PAL S **S** **18 55 20.0 -1.9**
baz=208
PAL Palisades 31.82 22 P **P** **18 50 11.7 -0.2**
PAL pmax pmax
comp=Z,1μm,1.2s
PAL MLR MLR
comp=Z,420μm,18.0s
PV19 Morning Glory 31.83 329 P **P** **18 50 12.5 +0.1**
PV19 IAmb IAmb 18 50 20.4
comp=Z,578nm,1.0s
TRNY Table Rock, Ra 31.83 21 P **P** **18 50 11.7 -0.4**
PV20 West Nyswonger 31.84 329 P **P** **18 50 13.3 +0.8**
PV20 IAmb IAmb 18 50 20.5
comp=Z,527nm,1.0s
PV04 Paradox Valley 31.85 329 P **P** **18 50 12.7 +0.1**
PV04 IAmb IAmb 18 50 20.7
comp=Z,548nm,0.9s
I42A Draeger Farm, 31.86 360 P **P** **18 50 10.8 -1.5**
I42A Draeger Farm, 31.86 360 P **P** **18 50 11.3 -1.0**
baz=180
I42A S **S** **18 55 15.7 -6.8**
baz=180
PV14 Lion Creek, Pa 31.89 329 P **P** **18 50 12.8 -0.2**
PV14 IAmb IAmb 18 50 20.9
comp=Z,713nm,1.0s
I40A Norwalk 31.90 358 P **P** **18 50 11.3 -1.4**
I40A IAmb IAmb 18 50 26.1
comp=Z,660nm,1.0s
I40A Norwalk 31.90 358 P **P** **18 50 11.5 -1.2**
baz=177
I40A S **S** **18 55 18.0 -5.1**
baz=177
PV22 Blue Mesa, Par 31.90 330 P **P** **18 50 13.3 +0.3**
PV22 IAmb IAmb 18 50 21.1
comp=Z,494nm,0.9s
PV10 Paradox Valley 31.91 329 P **P** **18 50 13.2 +0.1**
PV10 IAmb IAmb 18 50 20.5
comp=Z,776nm,1.0s
N62A Caumsett State 31.91 22 P **P** **18 50 12.8 0.0**
N62A IAmb IAmb 18 50 27.0
comp=Z,469nm,0.8s
N62A Caumsett State 31.91 22 P **P** **18 50 13.1 +0.3**
baz=209
N62A P **P** **18 50 13.1 +0.3**
baz=209
N62A S **S** **18 55 18.4 -5.0**
baz=209
N62A S **S** **18 55 18.4 -5.0**
baz=209
UABX UABC, Campus M 31.93 314 P **P** **18 50 14.6 +1.6**
ESJX Sierra Juarez 31.94 313 P **P** **18 50 15.0 +1.6**
ESJX IAmb IAmb 18 50 18.3
comp=Z,733nm,1.5s
BLYC Blythe 31.95 317 P **P** **18 50 14.8 +1.6**
BLYC IAmb IAmb 18 50 18.1
comp=Z,871nm,1.1s
PV23 Carpenter Ridg 31.95 329 P **P** **18 50 14.0 +0.5**
PV23 IAmb IAmb 18 50 22.3
comp=Z,753nm,0.9s
PV21 Cone Mtn., Par 32.02 329 P **P** **18 50 14.0 0.0**
PDMCI Parker Dam,Lak 32.03 318 P **P** **18 50 16.0 +2.0**
baz=128,SNR=447
PDMCI S **S** **18 55 28.2 +2.8**
baz=128
I45A Fountain 32.09 4 P **P** **18 50 12.1 -2.1**
I45A Fountain 32.09 4 P **P** **18 50 12.8 -1.5**
baz=185
I45A P **P** **18 50 12.8 -1.5**
baz=185
I45A S **S** **18 55 21.6 -4.4**
baz=185
I45A S **S** **18 55 21.6 -4.4**
baz=185
BRNY Black Rk. Fore 32.14 21 P **P** **18 50 15.1 +0.3**
baz=208
BRNY S **S** **18 55 24.3 -2.7**
baz=208
MMNY Mt. Morris Dam 32.15 15 P **P** **18 50 14.0 -0.8**
MMNY IAmb IAmb 18 50 28.7
comp=Z,927nm,1.5s
WSPT Westport, CT 32.17 22 P **P** **18 50 14.7 -0.4**
WSPT IAmb IAmb 18 50 28.5
comp=Z,476nm,1.1s
WSPT IAMs_20 IAMs_20 19 05 45.1
comp=Z,193μm,18.0s
BINY Binghamton 32.19 18 P **P** **18 50 14.8 -0.5**
BINY IAmb IAmb 18 50 21.6
comp=Z,412nm,0.9s
BINY IAMs_20 IAMs_20 19 05 46.6
comp=Z,198μm,19.0s
BINY Binghamton 32.19 18 P **P** **18 50 15.0 -0.3**
baz=204
BINY S **S** **18 55 24.8 -3.0**
baz=204
BINY Binghamton 32.19 18 P **P** **18 50 15.4 +0.1**
baz=204,SNR=75
BINY S **S** **18 55 25.6 -2.2**
baz=204
I37A Lemond, Waseca 32.22 354 P **P** **18 50 14.1 -1.4**
I37B Waseca 32.22 354 P **P** **18 50 14.5 -1.0**
baz=172
I37B S **S** **18 55 23.8 -4.4**
baz=172
U15A North Rim 32.26 323 P **P** **18 50 17.7 +1.4**
U15A IAmb IAmb 18 50 21.7
comp=Z,591nm,1.0s
YUH Yuha Desert 32.28 314 P **P** **18 50 17.9 +1.8**
YUH IAmb IAmb 18 50 21.2
comp=Z,1μm,1.6s
I49A Point Hope 32.33 8 P **P** **18 50 14.1 -2.4**
I49A IAmb IAmb 18 50 28.6
comp=Z,988nm,0.9s
I49A Point Hope 32.33 8 P **P** **18 50 15.0 -1.5**
baz=191
I49A P **P** **18 50 15.0 -1.5**
baz=191
I49A S **S** **18 55 23.2 -6.6**
baz=191
I49A S **S** **18 55 23.2 -6.6**
baz=191
SWSC Sam W. Stewart 32.35 315 P **P** **18 50 19.0 +2.2**
baz=124,SNR=128
SWSC S **S** **18 55 37.6 +7.1**
baz=124
RMX La Rumorosa 32.36 314 P **P** **18 50 17.7 +0.7**
RMX IAmb IAmb 18 50 21.5
comp=Z,648nm,1.3s
W13A Hualapai Mount 32.36 320 P **P** **18 50 18.3 +1.2**
W13A IAmb IAmb 18 50 23.0
comp=Z,1μm,1.3s
CCX Cicese 32.39 312 P **P** **18 50 18.5 +1.4**
NPNY Mohonk Preserv 32.40 21 P **P** **18 50 17.2 +0.1**
baz=208
NPNY S **S** **18 55 29.5 -1.4**
baz=208
ECSD EROS Data Cent 32.40 349 P **P** **18 50 15.2 -1.8**
ECSD IAmb IAmb 18 50 21.8
comp=Z,740nm,1.1s
ECSD EROS Data Cent 32.40 349 IAMs_20 IAMs_20 19 05 14.1
comp=Z,141μm,22.0s
ECSD EROS Data Cent 32.40 349 P **P** **18 50 15.8 -1.3**
baz=166
ECSD EROS Data Cent 32.40 349 P **P** **18 50 15.9 -1.2**
baz=166,SNR=470
ECSD S **S** **18 55 26.8 -4.2**
baz=166
IKP In-Ko-Pah, Jac 32.41 314 P **P** **18 50 19.0 +1.6**
baz=123,SNR=104
IKP S **S** **18 55 36.1 +4.6**

baz=123
MEDO Medina 32.42 14 P P 18 50 16.8 -0.4
MEDO IAmb IAmb 18 50 30.9
comp=Z,939nm,1.3s
YLE Yale 32.45 23 P P 18 50 17.5 0.0
YLE IAMs_20 IAMs_20 19 04 35.6
comp=Z,159µm,20.0s
H43A Windswept, Lux 32.45 1 P P 18 50 15.9 -1.6
H43A IAmb IAmb 18 50 27.1
comp=Z,514nm,1.0s
H43A Windswept, Lux 32.45 1 P P 18 50 16.2 -1.3
baz=182
H43A S S 18 55 27.2 -4.5
baz=182
J54A Appleton 32.47 14 P P 18 50 17.3 -0.4
J54A IAmb IAmb 18 50 24.0
comp=Z,929nm,1.2s
J54A Appleton 32.47 14 P P 18 50 16.8 -0.8
baz=199
J54A P P 18 50 16.8 -0.8
baz=199
J54A S S 18 55 30.3 -1.8
baz=199
J54A S S 18 55 30.3 -1.8
baz=199
L59A Walton 32.48 19 P P 18 50 17.4 -0.5
L59A IAmb IAmb 18 50 30.1
comp=Z,996nm,1.3s
L59A Walton 32.48 19 P P 18 50 17.8 -0.1
baz=206
L59A P P 18 50 17.8 -0.1
baz=206
L59A S S 18 55 28.8 -3.6
baz=206
L59A S S 18 55 28.8 -3.6
baz=206
BC3 Big Chuckawall 32.52 316 P P 18 50 20.1 +1.7
baz=126,SNR=419
BC3 S S 18 55 35.9 +2.6
baz=126
K57A Scipio Center 32.52 17 P P 18 50 17.3 -0.8
K57A IAmb IAmb 18 50 31.9
comp=Z,603nm,1.0s
K57A Scipio Center 32.52 17 P P 18 50 17.4 -0.8
baz=203
K57A S S 18 55 29.2 -3.7
baz=203
N23A Red Feather La 32.54 336 P P 18 50 18.6 0.0
N23A Red Feather La 32.54 336 P P 18 50 19.2 +0.5
baz=148,SNR=122
N23A S S 18 55 36.8 +3.1
baz=148
KSCT Kent School, K 32.60 22 P P 18 50 18.7 -0.1
KSCT IAmb IAmb 18 50 33.3
comp=Z,767nm,1.1s
IRM Iron Mountain 32.61 317 P P 18 50 21.1 +2.0
baz=126,SNR=659
IRM S S 18 55 39.1 +4.6
baz=126
CBX Cerro Bola 32.62 313 P P 18 50 21.2 +1.9
NEE2 Needles Airpor 32.63 318 P P 18 50 21.4 +2.2
baz=128,SNR=46
NEE2 S S 18 55 38.2 +3.5
baz=128
J55A Hilton 32.67 15 P P 18 50 18.4 -0.9
J55A Hilton 32.67 15 P P 18 50 18.8 -0.6
baz=200
J55A P P 18 50 18.8 -0.6
baz=200
J55A S S 18 55 31.5 -3.6
baz=200
J55A S S 18 55 31.5 -3.6
baz=200
PHWY Pilot Hill 32.69 337 P P 18 50 19.7 -0.3
TKX Tecate 32.72 313 P P 18 50 19.4 -0.6
TKX IAmb IAmb 18 50 24.8
comp=Z,488nm,1.1s
MONP2 Monument Peak 32.76 314 P P 18 50 22.3 +1.7
baz=123,SNR=64
MONP2 S S 18 55 42.2 +4.9
baz=123
BAR Barrett 32.82 313 P P 18 50 21.9 +0.9
BAR IAmb IAmb 18 50 25.6
comp=Z,865nm,1.8s
M63A Gales Ferry 32.87 24 P P 18 50 21.5 +0.3
M63A IAmb IAmb 18 50 36.1
comp=Z,1µm,1.1s
M63A Gales Ferry 32.87 24 P P 18 50 21.5 +0.3
baz=211
M63A P P 18 50 21.5 +0.3
baz=211
M63A S S 18 55 35.5 -2.7
baz=211
M63A S S 18 55 35.5 -2.7
baz=211
O20A White River Ci 32.90 332 P P 18 50 22.5 +0.7
O20A IAmb IAmb 18 50 30.9
comp=Z,1µm,1.0s
O20A White River Ci 32.90 332 P P 18 50 22.6 +0.9
baz=143,SNR=822
O20A S S 18 55 44.4 +5.1
baz=143
J56A Wolcott 32.93 16 P P 18 50 20.9 -0.8
J56A Wolcott 32.93 16 P P 18 50 21.4 -0.3
baz=202
J56A P P 18 50 21.4 -0.3
baz=202
KNB Kanab 32.98 323 P P 18 50 23.6 +1.1
KNB IAmb IAmb 18 50 27.9
comp=Z,708nm,1.0s
KNB Kanab 32.98 323 P P 18 50 23.6 +1.1
KNB pmax pmax
comp=Z,708nm,1.0s
PKCU Pink Cliffs 32.98 324 P P 18 50 24.4 +1.8
GLMI Grayling 32.99 6 P P 18 50 20.4 -1.9
GLMI IAmb IAmb 18 50 35.7
comp=Z,968nm,1.1s
GLMI Grayling 32.99 6 P P 18 50 20.6 -1.6
baz=188
GLMI Grayling 32.99 6 P P 18 50 20.8 -1.5
baz=188,SNR=36
GLMI S S 18 55 36.2 -4.0
baz=188
TJX Tijuana 33.01 313 P P 18 50 22.8 +0.3
BELC Belle Mtn. Jos 33.09 316 P P 18 50 25.5 +2.1
baz=125,SNR=299
BELC S S 18 55 48.0 +5.8
baz=125
G45A Suttons Bay 33.12 4 P P 18 50 21.8 -1.6
G45A Suttons Bay 33.12 4 P P 18 50 21.7 -1.7
baz=186
G45A P P 18 50 21.7 -1.7
baz=186
G45A S S 18 55 37.0 -5.1
baz=186
G45A S S 18 55 37.0 -5.1
baz=186
UCCT U. Connecticut 33.13 23 P P 18 50 23.8 +0.3
HCNY Howe Caverns 33.15 20 P P 18 50 23.2 -0.4
baz=206
HCNY S S 18 55 39.5 -3.1
baz=206
PMD Palm Desert 33.15 315 P P 18 50 24.9 +1.1
PMD IAmb IAmb 18 50 28.7
comp=Z,815nm,1.3s
TPFO Pinon Flats 33.18 315 P P 18 50 26.2 +2.0
baz=124,SNR=141
TPFO S S 18 55 50.3 +6.8
baz=124
PFO Pinyon Flats O 33.18 315 LR LR 19 05 20.3
comp=Z,96µm,18.7s,baz=118,slow=39
PFO Pinyon Flats O 33.18 315 P P 18 50 24.6 +0.4
PFO IAmb IAmb 18 50 32.5
comp=Z,1µm,1.6s
PFO Pinyon Flats O 33.18 315 P P 18 50 26.3 +2.0
baz=124,SNR=124
PFO S S 18 55 49.5 +5.8
baz=124
PFO Pinyon Flats O 33.18 315 P P 18 50 24.7 +0.4
PFO pmax pmax
comp=Z,1µm,1.6s
PFO MLR MLR
comp=Z,117µm,22.0s
SRU San Rafael Swe 33.22 328 P P 18 50 24.8 +0.3
SRU IAmb IAmb 18 50 30.2
comp=Z,838nm,1.6s
SRU San Rafael Swe 33.22 328 P P 18 50 24.8 +0.3
SRU pmax pmax
comp=Z,838nm,1.6s
LCMT Little Creek M 33.22 323 P P 18 50 25.2 +0.7
109C Camp Elliot, M 33.24 313 P P 18 50 26.1 +1.5
109C IAmb IAmb 18 50 29.2
comp=Z,665nm,1.4s
109C Camp Elliot, M 33.24 313 P P 18 50 26.5 +1.9
baz=122,SNR=44
109C S S 18 55 50.9 +6.6
baz=122
G40A Rib Lake 33.26 358 P P 18 50 23.3 -1.2
G40A Rib Lake 33.26 358 P P 18 50 23.5 -1.1
baz=178
G40A S S 18 55 35.7 -8.5
baz=178
J57A Williamstown 33.30 17 P P 18 50 24.0 -0.9
J57A IAmb IAmb 18 50 38.4
comp=Z,913nm,1.1s
J57A Williamstown 33.30 17 P P 18 50 24.2 -0.8
baz=203
J57A P P 18 50 24.2 -0.8
baz=203
GMRC Granite Mounta 33.32 318 P P 18 50 27.4 +2.0
baz=127,SNR=760
GMRC S S 18 55 50.2 +4.4
baz=127
MTPU Mount Pierson 33.33 325 P P 18 50 27.1 +1.5
MTPU IAmb IAmb 18 50 31.9
comp=Z,619nm,1.1s
SPMN Marine on St. 33.36 355 P P 18 50 23.8 -1.7
SPMN Marine on St. 33.36 355 P P 18 50 24.5 -1.0
baz=173
SPMN S S 18 55 35.7 -10
baz=173
SPMN Marine on St. 33.36 355 P P 18 50 24.5 -1.0
baz=173,SNR=458
SPMN S S 18 55 39.3 -6.6
baz=173
V12A Nelson 33.37 320 P P 18 50 27.8 +2.0
Q16A Castle Valley 33.41 327 P P 18 50 27.0 +0.8
Q16A IAmb IAmb 18 50 32.2
comp=Z,540nm,1.2s
TRY Troy 33.42 21 P P 18 50 25.9 -0.1
TRY Troy 33.42 21 P P 18 50 26.3 +0.3
baz=208
J58A Remsen 33.46 18 P P 18 50 25.6 -0.8
J58A Remsen 33.46 18 P P 18 50 25.8 -0.6
baz=204
J58A P P 18 50 25.8 -0.6
baz=204
J58A S S 18 55 49.1 +1.6
baz=204
J58A S S 18 55 49.1 +1.6
baz=204
P18A Preston Nutter 33.47 329 P P 18 50 27.3 +0.4
QUA2 Belchertown 33.50 22 P P 18 50 26.3 -0.4
QUA2 IAmb IAmb 18 50 40.9
comp=Z,937nm,1.1s
QUA2 IAMs_20 IAMs_20 19 05 15.2
comp=Z,196µm,19.0s
QUA2 Belchertown 33.50 22 P P 18 50 26.8 +0.1
baz=210
QUA2 S S 18 55 43.9 -4.1
baz=210
BRYW Bryant College 33.50 24 P P 18 50 27.0 +0.3
BRYW IAmb IAmb 18 50 40.3
comp=Z,865nm,1.3s
PECO Prince Edward 33.51 16 P P 18 50 25.1 -1.6
L61B Northampton 33.53 22 P P 18 50 25.7 -1.2
L61B IAmb IAmb 18 50 40.3
comp=Z,741nm,1.1s
L61B IAMs_20 IAMs_20 19 06 25.7
comp=Z,103µm,19.0s
L61B Northampton 33.53 22 P P 18 50 26.7 -0.3
baz=210
L61B S S 18 55 46.1 -2.3
baz=210
L61B Northampton 33.53 22 P P 18 50 26.9 0.0
baz=210,SNR=70
L61B S S 18 55 47.0 -1.5
baz=210
SZCU Shurtz Canyon 33.53 324 P P 18 50 28.9 +1.6
SZCU IAmb IAmb 18 50 32.7
comp=Z,524nm,1.0s
SUSD Miller 33.55 347 P P 18 50 25.9 -1.3
SUSD Miller 33.55 347 P P 18 50 26.3 -0.9
baz=162
SUSD Miller 33.55 347 P P 18 50 26.3 -0.9
baz=162,SNR=281
SUSD S S 18 55 42.0 -6.9
baz=162
P17A Butcher Ranch, 33.60 329 P P 18 50 28.1 +0.3
P17A IAmb IAmb 18 50 33.4
comp=Z,518nm,1.1s
CCUT Cedar City 33.66 324 P P 18 50 30.0 +1.6
CCUT IAmb IAmb 18 50 34.2
comp=Z,821nm,1.1s
MSU Marysvale 33.66 326 P P 18 50 29.5 +1.1
MSU Marysvale 33.66 326 P P 18 50 29.5 +1.1
MVU Marysvale 33.67 326 P P 18 50 29.5 +1.0
MURC Murrieta 33.69 314 P P 18 50 30.7 +2.1
baz=123,SNR=184
MURC S S 18 55 56.4 +5.0
baz=123
TMUT Trail Mountain 33.71 328 P P 18 50 29.4 +0.4
RWWY Rawlins 33.72 335 P P 18 50 28.5 -0.5
F42A Maple Grove Fa 33.73 1 P P 18 50 26.7 -2.0
F42A IAmb IAmb 18 50 36.7
comp=Z,562nm,1.3s
F42A Maple Grove Fa 33.73 1 P P 18 50 27.2 -1.5
baz=181
F42A S S 18 55 47.2 -4.4
baz=181
WTNK Soaring Height 33.76 320 P P 18 50 30.4 +1.2
WTNK IAmb IAmb 18 50 33.8
comp=Z,134nm,1.2s
SADO Sadowa 33.78 12 P P 18 50 28.2 -1.0
comp=Z,102nm,0.5s,baz=250,slow=6.3,SNR=79
SADO PKiKP **PKiKP 19 00 33.0 0.0**
comp=Z,17nm,0.9s,baz=269,slow=18,SNR=1.7
SADO LR LR 19 05 32.4
comp=Z,153µm,18.6s,baz=187,slow=39
comp=Z,102nm,0.5s
SADO Sadowa 33.78 12 P P 18 50 27.8 -1.4
SADO IAmb IAmb 18 50 41.7
comp=Z,856nm,1.3s
SADO Sadowa 33.78 12 ⇑P P 18 50 28.0 -1.2
HEC Hector,Ludlow 33.80 317 P P 18 50 32.0 +2.5
baz=126,SNR=355
HEC S S 18 55 59.0 +5.9
baz=126
L64A Middleborough 33.80 25 P P 18 50 29.2 -0.1
L64A IAmb IAmb 18 50 44.0
comp=Z,845nm,1.4s
L64A Middleborough 33.80 25 P P 18 50 29.8 +0.6
baz=213
L64A P P 18 50 29.8 +0.6
baz=213
L64A S S 18 55 49.9 -2.7
baz=213
L64A S S 18 55 49.9 -2.7
baz=213
J59A Piesco 33.80 19 P P 18 50 28.5 -0.8
J59A IAmb IAmb 18 50 43.0
comp=Z,607nm,1.1s
J59A Piesco 33.80 19 P P 18 50 29.1 -0.2
baz=206
J59A P P 18 50 29.1 -0.2
baz=206
J59A S S 18 55 51.5 -1.3
baz=206
J59A S S 18 55 51.5 -1.3
baz=206
BBRC Big Bear Solar 33.87 316 P P 18 50 33.0 +2.7
baz=124,SNR=57
BBRC S S 18 55 59.3 +4.9
baz=124
RDMU Red Mountain 33.87 331 P P 18 50 30.3 +0.1
TCRU Three Creeks R 33.87 326 P P 18 50 31.6 +1.3
K62A Royalston 33.88 22 P P 18 50 30.0 0.0
K62A IAmb IAmb 18 50 44.4
comp=Z,652nm,1.2s
K62A Royalston 33.88 22 P P 18 50 29.7 -0.3
baz=210
K62A P P 18 50 29.7 -0.3
baz=210
K62A S S 18 55 54.1 +0.2
baz=210
K62A S S 18 55 54.1 +0.2
baz=210
ELS Elsinore Mount 33.88 314 P P 18 50 31.8 +1.6
TUQ Turquoise Moun 33.88 318 P P 18 50 32.4 +2.1
baz=127,SNR=444
TUQ S S 18 55 59.0 +4.5
baz=127
DELO Deloro Mine 33.89 14 P P 18 50 29.0 -1.1
DELO IAmb IAmb 18 50 43.4
comp=Z,480nm,1.1s
WCNY West Carthage 33.92 17 P P 18 50 29.7 -0.6
baz=204
WCNY S S 18 55 52.1 -2.5
baz=204
WES Weston 33.98 24 P P 18 50 30.1 -0.8
WES IAmb IAmb 18 50 43.9
comp=Z,754nm,1.1s
WES Weston 33.98 24 P P 18 50 29.9 -1.0
baz=212
WES S S 18 55 56.0 +0.4
baz=212
WES Weston 33.98 24 P P 18 50 30.1 -0.8
WES pmax pmax
comp=Z,754nm,1.1s
WES MLR MLR
comp=Z,311µm,18.0s
HRV Adam Dziewonsk 34.00 23 P P 18 50 30.5 -0.5
HRV Adam Dziewonsk 34.00 23 IAMs_20 IAMs_20 19 05 07.2
comp=Z,151µm,19.0s
HRV Adam Dziewonsk 34.00 23 P P 18 50 30.2 -0.8
baz=211
HRV S S 18 55 55.6 -0.2
baz=211
HRV Adam Dziewonsk 34.00 23 P P 18 50 32.0 +0.9
baz=211
HRV S S 18 55 54.5 -1.2
baz=211
HRV Adam Dziewonsk 34.00 23 ⇓P P 18 50 31.2 +0.2
HRV Adam Dziewonsk 34.00 23 ⇑P P 18 50 31.7 +0.7
BCX Boston College 34.00 24 P P 18 50 30.3 -0.8
BCX IAmb IAmb 18 50 45.7
comp=Z,711nm,1.0s
SHPR Sheep Range 34.05 320 P P 18 50 33.0 +1.2
F36A Milaca 34.06 354 P P 18 50 29.6 -2.0
F36A IAmb IAmb 18 50 44.2
comp=Z,803nm,1.1s
F36A Milaca 34.06 354 P P 18 50 29.9 -1.7
baz=172
F36A S S 18 55 51.5 -5.2
baz=172
COWI Conover 34.07 360 P P 18 50 30.2 -1.5
COWI IAmb IAmb 18 50 37.2
comp=Z,597nm,0.8s
COWI Conover 34.07 360 P P 18 50 30.2 -1.5
baz=180
COWI S S 18 55 52.1 -4.8
baz=180
K22A Casper 34.25 337 P P 18 50 33.4 0.0
K22A IAmb IAmb 18 50 44.4
comp=Z,811nm,1.2s
K22A Casper 34.25 337 P P 18 50 33.7 +0.2
baz=148
K22A S S 18 56 01.4 +1.4
baz=148
K22A Casper 34.25 337 P P 18 50 34.0 +0.5
baz=148,SNR=166
K22A S S 18 56 01.5 +1.4
baz=148
RRX Edison Barstow 34.27 316 P P 18 50 35.6 +2.1
baz=125,SNR=86
RRX S S 18 56 08.3 +8.1
baz=125
SCI2 San Clemente I 34.32 312 P P 18 50 35.9 +1.9
baz=121,SNR=11
SCI2 S S 18 56 08.0 +6.9
baz=121
NCB Newcomb 34.34 19 P P 18 50 33.2 -0.8
NCB Newcomb 34.34 19 P P 18 50 33.3 -0.7
baz=206
NCB S S 18 55 58.2 -3.0
baz=206
J61A Chester 34.35 21 P P 18 50 34.1 0.0
J61A IAmb IAmb 18 50 48.7
comp=Z,569nm,1.1s
J61A Chester 34.35 21 P P 18 50 34.4 +0.3
baz=209
J61A P P 18 50 34.4 +0.3
baz=209
J61A S S 18 56 01.1 -0.1
baz=209
J61A S S 18 56 01.1 -0.1
baz=209
BFSC Mount Baldy Ra 34.36 315 P P 18 50 36.2 +1.8
baz=123,SNR=165
BFSC S S 18 56 09.9 +8.0
baz=123
E43A Lone Tree Farm 34.38 2 P P 18 50 32.5 -1.8
E43A IAmb IAmb 18 50 44.4
comp=Z,443nm,0.9s
E43A Lone Tree Farm 34.38 2 P P 18 50 32.9 -1.4
baz=183
E43A S S 18 55 56.2 -5.4
baz=183
GSC Goldstone, Bar 34.38 317 P P 18 50 36.2 +1.6
GSC IAmb IAmb 18 50 39.5
comp=Z,628nm,1.1s
GSC Goldstone, Bar 34.38 317 P P 18 50 36.7 +2.1
baz=126,SNR=271
GSC S S 18 56 08.6 +6.5
baz=126
GSC Goldstone, Bar 34.38 317 P P 18 50 36.2 +1.6
SHOC Shoshone, Teco 34.39 319 P P 18 50 36.7 +2.2
baz=127,SNR=43
SHOC S S 18 56 07.6 +5.5
baz=127
F33A 5 Mile Ranch, 34.39 351 P P 18 50 32.3 -2.1
F33A IAmb IAmb 18 50 37.7
comp=Z,494nm,0.9s
F33A 5 Mile Ranch, 34.39 351 P P 18 50 32.8 -1.6
baz=167
F33A S S 18 55 58.3 -3.5
baz=167
CIS Catalina Islan 34.45 313 P P 18 50 36.9 +1.8
baz=122,SNR=32
CIS S S 18 56 09.6 +6.5
baz=122
MPU Maple Canyon 34.46 328 P P 18 50 35.5 +0.1
FMP Fort Macarthur 34.52 314 P P 18 50 37.7 +2.0
baz=122
FMP S S 18 56 10.9 +6.8
baz=122
E46A Sault Ste Mari 34.55 6 P P 18 50 34.0 -1.7
E46A Sault Ste Mari 34.55 6 P P 18 50 33.9 -1.9
baz=188
E46A S S 18 55 58.7 -5.6
baz=188
PRN Pahroc Range 34.56 322 P P 18 50 37.8 +1.6
PRN Pahroc Range 34.56 322 ⇑P P 18 50 38.0 +1.8
PSUT Pine Spring 34.61 324 P P 18 50 38.0 +1.4
NLU North Lily Min 34.65 328 P P 18 50 37.6 +0.7
RSSD Black Hills 34.65 341 P P 18 50 36.9 0.0
RSSD IAmb IAmb 18 50 47.9
comp=Z,638nm,1.1s
RSSD Black Hills 34.65 341 P P 18 50 37.7 +0.7
baz=153
RSSD S S 18 56 07.8 +1.6
baz=153
RSSD Black Hills 34.65 341 P P 18 50 37.6 +0.7
baz=153
RSSD S S 18 56 08.3 +2.0
baz=153
RSSD Black Hills 34.65 341 ⇑P P 18 50 37.3 +0.3
RSSD Black Hills 34.65 341 P P 18 50 36.9 0.0
RSSD pmax pmax
comp=Z,638nm,1.1s
RSSD MLR MLR
comp=Z,24µm,19.0s
E38A The Farm, Brul 34.65 357 P P 18 50 35.1 -1.5
E38A The Farm, Brul 34.65 357 P P 18 50 35.4 -1.3
baz=175
E38A S S 18 55 57.1 -8.6
baz=175
PASC Pasadena Art C 34.69 314 P P 18 50 38.1 +0.9
PASC IAmb IAmb 18 50 45.3
comp=Z,2µm,1.6s
LPAZ La Paz 34.73 143 P P 18 50 38.6 +0.3

comp=Z,44nm,0.7s,baz=330,slow=8.3,SNR=47
LPAZ LR LR 19 05 00.9
comp=Z,128µm,19.0s,baz=303,slow=37
LPAZ P3KPbc 19 21 35.3
comp=Z,3.8nm,1.0s,baz=104,slow=8.1,SNR=5.6
comp=Z,44nm,0.7s
LPAZ La Paz 34.73 143 P **P** **18 50 37.1 -1.2**
LPAZ La Paz 34.73 143 ⇓P **P** **18 50 38.2 -0.1**
LPAZ La Paz 34.73 143 *e*P **P** **18 50 38.2 -0.1**
MCVT Middlebury Col 34.73 20 P **P** **18 50 37.7 +0.2**
baz=208
MCVT S **S** **18 56 02.0 -5.2**
baz=208
HNH Hanover 34.76 21 P **P** **18 50 38.0 +0.4**
HNH IAMs_20 IAMs_20 19 06 07.5
comp=Z,105µm,19.0s
HNH Hanover 34.76 21 P **P** **18 50 38.6 +1.0**
baz=209
HNH S **S** **18 56 07.6 +0.1**
baz=209
UNH University of 34.76 23 P **P** **18 50 37.8 +0.2**
baz=212
FFD Franklin Falls 34.79 22 P **P** **18 50 38.1 +0.3**
FFD IAmb IAmb 18 50 50.8
comp=Z,474nm,1.0s
FFD IAMs_20 IAMs_20 19 06 37.3
comp=Z,188µm,18.0s
FFD Franklin Falls 34.79 22 P **P** **18 50 38.2 +0.4**
baz=210
JLU Jordanelle 34.81 329 P **P** **18 50 38.8 +0.4**
QSM Queen of Sheba 34.81 318 P **P** **18 50 39.0 +0.8**
QSM IAmb IAmb 18 50 43.1
comp=Z,1µm,1.1s
GWY Greenwater Val 34.82 319 P **P** **18 50 39.6 +1.2**
GWY IAmb IAmb 18 50 47.2
comp=Z,755nm,1.1s
LONY Lake Ozonia 34.82 18 P **P** **18 50 37.4 -0.8**
LONY IAmb IAmb 18 50 51.8
comp=Z,834nm,1.2s
LONY Lake Ozonia 34.82 18 P **P** **18 50 37.7 -0.5**
baz=205,SNR=87
LONY S **S** **18 56 05.7 -2.7**
baz=205
DECC Green Verdugo 34.84 314 P **P** **18 50 40.8 +2.3**
baz=123,SNR=48
DECC S **S** **18 56 16.7 +7.6**
baz=123
EDW2 Edwards Air Fo 34.95 316 P **P** **18 50 41.4 +1.9**
baz=124,SNR=300
EDW2 S **S** **18 56 15.4 +4.7**
baz=124
TPNV Topopah Spring 35.01 320 P **P** **18 50 42.0 +1.9**
TPNV IAmb IAmb 18 50 45.5
comp=Z,908nm,1.1s
TPNV Topopah Spring 35.01 320 P **P** **18 50 42.8 +2.7**
baz=128,SNR=467
TPNV S **S** **18 56 20.0 +8.0**
baz=128
TPNV Topopah Spring 35.01 320 ⇓P **P** **18 50 42.0 +1.9**
TPNV Topopah Spring 35.01 320 P **P** **18 50 42.0 +1.9**
TPNV pmax pmax
comp=Z,908nm,1.2s
TPNV MLR MLR
comp=Z,97µm,20.0s
PB18 Visviri 35.02 147 P **P** **18 50 41.3 +0.6**
PB18 IAmb IAmb 18 51 11.5
comp=Z,563nm,1.1s
CTU Camp Tracy 35.03 329 P **P** **18 50 39.9 -0.3**
D41A Chassel 35.03 0 P **P** **18 50 38.3 -1.6**
D41A IAmb IAmb 18 50 45.6
comp=Z,2µm,1.5s
D41A Chassel 35.03 0 P **P** **18 50 38.8 -1.1**
baz=180
D41A S **S** **18 56 03.8 -7.8**
baz=180
BMNY Brushton-Moira 35.04 18 P **P** **18 50 39.3 -0.7**
baz=205
BMNY S **S** **18 56 10.6 -1.2**
baz=205
LRMC Laurel Mtn Rad 35.07 317 P **P** **18 50 42.6 +2.0**
baz=125,SNR=718
LRMC S **S** **18 56 18.7 +5.8**
baz=125
FURC Furnace Creek, 35.11 319 P **P** **18 50 43.0 +2.3**
baz=127,SNR=206
FURC S **S** **18 56 20.0 +6.9**
baz=127
CCAC Calif City Air 35.11 316 P **P** **18 50 42.6 +1.7**
S11A Rachel 35.14 321 P **P** **18 50 42.9 +1.7**
S11A IAmb IAmb 18 50 47.4
comp=Z,1µm,1.0s
VT1 Waterbury 35.15 20 P **P** **18 50 40.3 -0.7**
VT1 Waterbury 35.15 20 P **P** **18 50 40.3 -0.7**
baz=208
WCT Wildcat Mounta 35.16 320 P **P** **18 50 42.7 +1.5**
WCT IAmb IAmb 18 50 46.5
comp=Z,755nm,1.1s
SNCC San Nicolas Is 35.17 312 P **P** **18 50 40.1 -1.2**
SNCC IAmb IAmb 18 50 45.9
comp=Z,1µm,1.5s
SNCC San Nicolas Is 35.17 312 P **P** **18 50 43.2 +2.0**
baz=120,SNR=5.4
SNCC S **S** **18 56 20.8 +6.7**
baz=120
TCUT Toone Canyon 35.18 330 P **P** **18 50 42.1 +0.5**
TCUT IAmb IAmb 18 50 47.5
comp=Z,2µm,1.7s
SPR3 Spring Creek 3 35.20 324 P **P** **18 50 42.3 +0.4**
SPR3 IAmb IAmb 18 50 46.6
comp=Z,442nm,1.1s
DUG Dugway, Tooele 35.21 327 P **P** **18 50 42.1 +0.4**
DUG IAMs_20 IAMs_20 19 06 33.1
comp=Z,99µm,18.0s
DUG Dugway, Tooele 35.21 327 P **P** **18 50 43.2 +1.4**
baz=136,SNR=274
DUG S **S** **18 56 18.6 +3.8**
baz=136
DUG Dugway, Tooele 35.21 327 P **P** **18 50 42.1 +0.4**
DUG pmax pmax
comp=Z,444nm,1.3s
DUG MLR MLR
comp=Z,99µm,18.0s
AP01 Chacalluta 35.21 148 P **P** **18 50 42.0 +0.2**
AP01 IAmb IAmb 18 50 46.7
comp=Z,731nm,1.1s
I62A Tamworth 35.25 22 P **P** **18 50 42.0 +0.1**
I62A Tamworth 35.25 22 P **P** **18 50 42.1 +0.2**
baz=211
I62A P **P** **18 50 42.1 +0.2**
baz=211
MPMC Manual Prospec 35.28 318 P **P** **18 50 44.3 +1.9**
baz=126,SNR=879
MPMC S **S** **18 56 22.9 +6.8**
baz=126
OSI Osito Audit: C 35.30 315 P **P** **18 50 44.4 +1.9**
baz=123,SNR=54
OSI S **S** **18 56 21.6 +5.4**
baz=123
LBNH Lisbon 35.35 21 P **P** **18 50 42.9 +0.1**
LBNH IAMs_20 IAMs_20 19 06 24.2
comp=Z,95µm,19.0s
LBNH Lisbon 35.35 21 P **P** **18 50 42.6 -0.1**
baz=209
LBNH S **S** **18 56 16.1 -0.6**
baz=209
LBNH Lisbon 35.35 21 P **P** **18 50 43.8 +1.0**
baz=209,SNR=34
LBNH S **S** **18 56 17.4 +0.7**
baz=209
LBNH Lisbon 35.35 21 P **P** **18 50 42.9 +0.1**
LBNH pmax pmax
comp=Z,320nm,1.1s
LBNH MLR MLR
comp=Z,95µm,19.0s
PB12 IPOC Station P 35.42 149 P **P** **18 50 44.1 +0.4**
R11A Troy Canyon, C 35.50 322 P **P** **18 50 44.8 +0.5**
R11A Troy Canyon, C 35.50 322 P **P** **18 50 46.4 +2.1**
baz=131,SNR=398
R11A S **S** **18 56 26.3 +6.9**
baz=131
BW06 Boulder Array 35.60 333 P **P** **18 50 44.3 -0.9**
BW06 Boulder Array 35.60 333 P **P** **18 50 45.0 -0.3**
baz=144,SNR=125
BW06 S **S** **18 56 20.8 -0.2**
baz=144
PD31 Pinedale Array 35.60 333 P **P** **18 50 44.8 -0.4**
PD31 Pinedale Array 35.60 333 ⇓P **P** **18 50 44.9 -0.4**
PDAR Pinedale Array 35.60 333 P **P** **18 50 45.2 0.0**
comp=Z,71nm,1.0s,baz=134,slow=8.6,SNR=117
PDAR PcP **PcP** **18 53 15.6 +1.7**
comp=Z,106nm,0.9s,baz=115,slow=3.4,SNR=6.6
PDAR ScP **ScP** **18 57 04.5 +4.8**
comp=Z,7.3nm,0.9s,baz=134,slow=7.7,SNR=1.7
PDAR PKiKP **PKiKP** **19 00 34.2 -0.5**
comp=Z,6.0nm,0.9s,baz=118,slow=2.3,SNR=5.9
PDAR LR LR 19 09 20.4
comp=Z,53µm,18.2s,baz=137,slow=43
PDAR P3KPbc 19 21 29.8
comp=Z,1.0nm,0.8s,baz=49,slow=1.3,SNR=6.9
PDAR PKPPKP P'P'df 19 23 37.8 -17
comp=Z,2.5nm,1.1s,baz=79,slow=0.8,SNR=6.3
comp=Z,71nm,1.0s
PDAR Pinedale Array 35.60 333 P **P** **18 50 44.5 -0.7**
PB16 IPOC Station P 35.62 147 P **P** **18 50 45.2 -0.7**
SCZ2 Santa Cruz Isl 35.62 313 P **P** **18 50 47.1 +1.8**
baz=121,SNR=18
SCZ2 S **S** **18 56 27.2 +6.1**
baz=121
HWUT Hardware Ranch 35.62 330 P **P** **18 50 45.7 +0.3**
HWUT IAmb IAmb 18 50 50.8
comp=Z,590nm,1.2s
ARVC Arvin 35.65 315 P **P** **18 50 47.8 +2.4**
baz=123,SNR=315
ARVC S **S** **18 56 30.3 +8.8**
baz=123
I63A Otisfield 35.69 23 P **P** **18 50 45.5 0.0**
I63A IAmb IAmb 18 51 00.2
comp=Z,1µm,1.1s
I63A Otisfield 35.69 23 P **P** **18 50 45.5 0.0**
baz=212
I63A P **P** **18 50 45.5 0.0**
baz=212
ISA Isabella, Lake 35.71 316 P **P** **18 50 47.2 +1.2**
ISA IAmb IAmb 18 50 51.9
comp=Z,978nm,1.3s
ISA Isabella, Lake 35.71 316 P **P** **18 50 48.2 +2.2**
baz=124,SNR=352
ISA S **S** **18 56 29.0 +6.5**
baz=124
ISA Isabella, Lake 35.71 316 P **P** **18 50 47.2 +1.2**
ISA pmax pmax
comp=Z,978nm,1.3s
GRAC Grapevine Rang 35.75 319 P **P** **18 50 48.0 +1.7**
GRAC Grapevine Rang 35.75 319 P **P** **18 50 49.1 +2.8**
baz=127,SNR=352
GRAC S **S** **18 56 29.8 +6.7**
baz=127
D32A Dogwood Acres, 35.77 350 P **P** **18 50 44.1 -2.2**
D32A IAmb IAmb 18 50 49.9
comp=Z,672nm,0.9s
D32B Dogwood Acres, 35.77 350 P **P** **18 50 44.8 -1.4**
baz=166
SPUT South Promonto 35.84 329 P **P** **18 50 47.8 +0.6**
SPUT IAmb IAmb 18 50 58.1
comp=Z,710nm,1.5s
BGU Big Grassy Mou 35.85 328 P **P** **18 50 47.5 +0.2**
GMN Gold Mountain 35.87 320 P **P** **18 50 48.7 +1.2**
CWC Cottonwood Cre 35.89 318 P **P** **18 50 49.7 +2.1**
baz=126
CWC S **S** **18 56 33.7 +8.3**
baz=126
MNTQ Montreal, Queb 35.91 18 P **P** **18 50 46.8 -0.7**
MNTQ IAmb IAmb 18 51 01.1
comp=Z,2µm,1.1s
MNTQ Montreal, Queb 35.91 18 ⇓P **P** **18 50 47.0 -0.4**
SBC Santa Barbara 35.91 314 P **P** **18 50 49.5 +1.9**
baz=121,SNR=7.9
SBC S **S** **18 56 32.5 +7.1**
baz=121
H62A Milan 35.92 22 P **P** **18 50 47.7 +0.1**
H62A Milan 35.92 22 P **P** **18 50 47.1 -0.5**
baz=210
H62A P **P** **18 50 47.1 -0.5**
baz=210
H62A S **S** **18 56 18.5 -6.8**
baz=210
H62A S **S** **18 56 18.5 -6.8**
baz=210
BCW Bitter Crk WRg 35.96 315 P **P** **18 50 50.0 +1.8**
E28A Huff 35.97 346 P **P** **18 50 46.9 -1.1**
E28A IAmb IAmb 18 50 55.1
comp=Z,464nm,0.7s
E28A Huff 35.97 346 P **P** **18 50 47.3 -0.7**
baz=160
E28A S **S** **18 56 21.1 -4.9**
baz=160
EYMN Ely 35.98 357 P **P** **18 50 46.1 -2.0**
EYMN IAmb IAmb 18 51 04.2
comp=Z,2µm,1.4s
EYMN Ely 35.98 357 IAMs_20 IAMs_20 19 06 06.0
comp=Z,119µm,21.0s
EYMN Ely 35.98 357 P **P** **18 50 46.5 -1.6**
baz=176
EYMN S **S** **18 56 17.3 -8.9**
baz=176
EYMN Ely 35.98 357 P **P** **18 50 46.7 -1.4**
baz=176,SNR=144
EYMN S **S** **18 56 19.8 -6.5**
baz=176
LCH Last Change Ra 36.07 319 P **P** **18 50 50.3 +1.1**
LCH IAmb IAmb 18 50 54.1
comp=Z,598nm,1.1s
MZP Montezuma Peak 36.19 320 P **P** **18 50 51.7 +1.4**
PKM Mcpherson Peak 36.21 314 P **P** **18 50 52.4 +1.9**
baz=122,SNR=107
PKM S **S** **18 56 35.7 +5.3**
baz=122
VES Vestal, Richgr 36.22 316 P **P** **18 50 52.8 +2.5**
baz=124,SNR=543
VES S **S** **18 56 37.3 +7.1**
baz=124
MNMC Minye Minye 36.23 148 P **P** **18 50 50.9 +0.1**
MNMC IAmb IAmb 18 51 05.2
comp=Z,629nm,1.1s
TRQ Mont Tremblant 36.28 17 P **P** **18 50 49.1 -1.7**
AHID Auburn Hatcher 36.30 332 P **P** **18 50 50.6 -0.5**
AHID IAmb IAmb 18 51 03.0
comp=Z,475nm,0.9s
TPH Tonopah 36.32 321 P **P** **18 50 52.7 +1.3**
TPH Tonopah 36.32 321 P **P** **18 50 52.7 +1.3**
TPH pmax pmax
comp=Z,5µm,1.4s
TIN Tinemaha, Big 36.34 319 P **P** **18 50 53.9 +2.4**
baz=126,SNR=157
TIN S **S** **18 56 40.1 +7.8**
baz=126
HVU Hansel Valley 36.35 329 P **P** **18 50 50.8 -0.7**
HVU IAmb IAmb 18 50 57.2
comp=Z,1µm,1.7s
HVU Hansel Valley 36.35 329 P **P** **18 50 50.8 -0.7**
HVU pmax pmax
comp=Z,1µm,1.7s
PSGCX Pisagua 36.35 149 P **P** **18 50 52.1 +0.4**
DSP Deep Springs 36.36 319 **P** **18 50 53.6 +2.2**
DSP IAmb IAmb 18 50 56.8
comp=Z,772nm,1.2s
MPGF Montagnes des 36.43 98 ⇓P **P** **18 50 53.0 +0.7**
MDP Montagnes des 36.43 98 P **P** **18 50 54.0 +1.6**
comp=Z,337nm,1.0s,baz=286,slow=9.1,SNR=7.1
MDP PcP **PcP** **18 53 18.6 +2.0**
comp=Z,71nm,0.9s,baz=299,slow=12,SNR=2.9
MDP ScP **ScP** **18 57 11.5 +8.6**
comp=Z,11nm,1.0s,baz=13,slow=21,SNR=1.3
MDP LR LR 19 06 38.0
comp=Z,98µm,20.6s,baz=293,slow=38
comp=Z,337nm,1.0s
MDP Montagnes des 36.43 98 P **P** **18 50 54.0 +1.6**
WVL Waterville 36.47 23 P **P** **18 50 52.6 +0.3**
WVL IAmb IAmb 18 51 07.1
comp=Z,811nm,1.2s
WVL Waterville 36.47 23 P **P** **18 50 53.2 +0.9**
baz=213
WVL S **S** **18 56 34.4 +0.7**
baz=213
B35A Bob, Littlefor 36.56 355 P **P** **18 50 50.8 -2.2**
B35A IAmb IAmb 18 50 58.8
comp=Z,1µm,1.2s
B35A Bob, Littlefor 36.56 355 P **P** **18 50 51.5 -1.4**
baz=172
B35A S **S** **18 56 29.1 -5.9**
baz=172
SMMC Simmler 36.56 315 P **P** **18 50 55.2 +1.9**
baz=122,SNR=58
SMMC S **S** **18 56 41.4 +5.9**
baz=122
ECR Eagle Creek 36.65 332 P **P** **18 50 54.0 -0.1**
REDW Red Top Meadow 36.65 333 P **P** **18 50 53.6 -0.5**
REDW IAmb IAmb 18 51 06.4
comp=Z,2µm,1.1s
VOG Valley Oaks Go 36.68 317 P **P** **18 50 56.0 +1.7**
baz=124,SNR=17
VOG S **S** **18 56 43.2 +6.0**
baz=124
SNOW Snow King Moun 36.69 333 P **P** **18 50 54.6 +0.1**
SNOW IAmb IAmb 18 51 03.9
comp=Z,1µm,1.1s
G62A West of Eustis 36.70 22 P **P** **18 50 54.0 -0.3**
G62A IAmb IAmb 18 51 07.0
comp=Z,784nm,0.9s
G62A West of Eustis 36.70 22 P **P** **18 50 54.6 +0.3**
baz=211
G62A P **P** **18 50 54.6 +0.3**
baz=211
G62A S **S** **18 56 35.4 -1.9**
baz=211
G62A S **S** **18 56 35.4 -1.9**
baz=211
ITTB Itaituba 36.70 114 *e*P **P** **18 50 54.5 -0.2**
PB11 IPOC Station P 36.73 149 P **P** **18 50 53.4 -1.5**
AGMN Agassiz Nation 36.74 352 P **P** **18 50 53.0 -1.5**
AGMN IAmb IAmb 18 51 07.5
comp=Z,2µm,1.2s
AGMN IAMs_20 IAMs_20 19 07 03.4
comp=Z,194µm,22.0s
AGMN Agassiz Nation 36.74 352 P **P** **18 50 53.5 -1.0**
baz=168
AGMN S S 18 56 27.7 -10
baz=168
AGMN Agassiz Nation 36.74 352 P **P** **18 50 53.5 -1.0**
baz=168
AGMN S **S** **18 56 31.5 -6.2**
baz=168
LOHW Long Hollow 36.74 333 P **P** **18 50 55.0 0.0**
LOHW IAmb IAmb 18 51 05.6
comp=Z,710nm,1.2s
Q09A Carvers 36.77 322 P **P** **18 50 57.4 +2.2**
Q09A IAmb IAmb 18 51 03.4
comp=Z,1µm,1.2s
GO01 Chusmiza 36.88 148 P **P** **18 50 56.3 -0.4**
ELK Elko 36.91 326 P **P** **18 50 57.8 +1.4**
comp=Z,167nm,1.0s,baz=141,slow=5.8,SNR=185
ELK PcP **PcP** **18 53 19.4 +1.6**
comp=Z,144nm,1.0s,baz=154,slow=1.6,SNR=6.2
ELK ScP **ScP** **18 57 13.8 +9.3**
comp=Z,22nm,0.9s,baz=128,slow=4.4,SNR=6.6
ELK LR LR 19 07 25.9
comp=Z,72µm,21.2s,baz=110,slow=38
comp=Z,167nm,1.0s
ELK Elko 36.91 326 P **P** **18 50 56.9 +0.5**
MOOW Moose Ponds 36.91 333 P **P** **18 50 56.1 -0.2**
TA02 Huaiquique 36.92 150 P **P** **18 50 57.0 +0.7**
TA02 IAmb IAmb 18 51 02.2
comp=Z,1µm,1.5s
MDND Maddock 36.93 348 P **P** **18 50 55.2 -1.0**
MDND Maddock 36.93 348 P **P** **18 50 55.7 -0.6**
baz=162
MDND S **S** **18 56 39.1 -1.6**
baz=162
MDND Maddock 36.93 348 P **P** **18 50 55.6 -0.6**
baz=162,SNR=431
MDND S **S** **18 56 39.6 -1.1**
baz=162
FXWY Fox Creek 36.95 333 P **P** **18 50 56.2 -0.5**
MALB Monte Alegre 37.00 109 *e*P **P** **18 50 57.7 +0.5**
MLAC Mammoth, Mammo 37.07 319 P **P** **18 51 00.1 +2.3**
baz=126,SNR=78
MLAC S **S** **18 56 50.5 +6.9**
baz=126
IMW Indian Meadow 37.11 333 P **P** **18 50 58.1 0.0**
NV11 Mina Array Sit 37.12 320 P **P** **18 50 58.9 +0.8**
NV11 IAmb IAmb 18 51 04.2
comp=Z,1µm,1.1s
TA01 Diego Aracena 37.14 150 P **P** **18 50 59.1 +0.8**
TA01 IAmb IAmb 18 51 04.4
comp=Z,958nm,1.4s
FLWY Flagg Ranch 37.16 334 P **P** **18 50 58.8 +0.3**
OMMB Old Mammoth Mi 37.17 319 P **P** **18 50 59.9 +1.2**
OMMB IAmb IAmb 18 51 06.1
comp=Z,1µm,1.2s
PKME Peaks-Kenny Pk 37.20 23 P **P** **18 50 58.9 +0.4**
PKME IAmb IAmb 18 51 12.3
comp=Z,973nm,1.1s
PKME Peaks-Kenny Pk 37.20 23 P **P** **18 50 58.4 -0.1**
baz=213
PKME S **S** **18 56 38.7 -6.2**
baz=213
PKME Peaks-Kenny Pk 37.20 23 P **P** **18 50 58.4 -0.1**
baz=213,SNR=65
PKME S **S** **18 56 44.3 -0.6**
baz=213
NVAR Mina Array Bea 37.21 320 P **P** **18 51 01.3 +2.3**
comp=Z,880nm,1.0s,baz=136,slow=7.1,SNR=803
NVAR PP **PnPn** **18 52 25.9 +1.6**
comp=Z,11nm,0.6s,baz=129,slow=7.6,SNR=0.5
NVAR PcP **PcP** **18 53 20.3 +1.5**
comp=Z,170nm,0.8s,baz=137,slow=4.1,SNR=10
NVAR ScP **ScP** **18 57 12.5 +6.8**
comp=Z,2.3nm,0.9s,baz=160,slow=2.9,SNR=1.3
NVAR LR LR 19 08 10.5
comp=Z,104µm,18.6s,baz=128,slow=40
NVAR P3KPbc 19 21 24.7
comp=Z,1.0nm,0.7s,baz=302,slow=5.3,SNR=6.4
NVAR P3KP 19 22 39.1
comp=Z,2.2nm,1.0s,baz=70,slow=3.2,SNR=4.3
NVAR PKPPKP P'P'df 19 23 38.9 -14
comp=Z,2.8nm,1.0s,baz=20,slow=1.2,SNR=5.5
comp=Z,880nm,1.0s
NVAR Mina Array Bea 37.21 320 P **P** **18 51 01.1 +2.2**
LHV Little Huntoon 37.23 320 P **P** **18 50 59.4 +0.6**
LHV IAmb IAmb 18 51 04.7
comp=Z,1µm,1.0s
MDPB Devils Postpil 37.23 319 P **P** **18 51 01.3 +2.1**
MDPB IAmb IAmb 18 51 04.3
comp=Z,1µm,1.0s
PB08 IPOC Station P 37.30 148 P **P** **18 50 59.8 -0.2**
H17A Grant Village 37.35 334 P **P** **18 51 01.3 +1.1**
H17A Grant Village 37.35 334 P **P** **18 51 01.0 +0.8**
baz=143,SNR=32
H17A S **S** **18 56 48.5 +0.8**
baz=143
PATCX Punta Patache 37.38 150 P **P** **18 51 00.8 +0.4**
PATCX IAmb IAmb 18 51 06.5
comp=Z,1µm,1.5s
RLMT Red Lodge 37.41 336 P **P** **18 51 00.2 -0.3**
RLMT IAmb IAmb 18 51 11.5
comp=Z,1µm,1.4s
RLMT Red Lodge 37.41 336 P **P** **18 51 00.6 +0.1**
baz=146,SNR=233
RLMT S **S** **18 56 47.8 -0.6**
baz=146
LKWY Lake 37.41 334 P **P** **18 51 02.2 +1.5**
LKWY IAMs_20 IAMs_20 19 08 53.4
comp=Z,140µm,21.0s
LKWY Lake 37.41 334 P **P** **18 51 02.2 +1.5**
LKWY pmax pmax
comp=Z,881nm,1.6s
LKWY MLR MLR
comp=Z,140µm,21.0s
YMP Mirror Lake Pl 37.45 335 P **P** **18 51 01.9 +0.8**
KVN Kaiserville 37.46 321 P **P** **18 51 01.9 +0.8**
KVN IAmb IAmb 18 51 06.7
comp=Z,862nm,1.1s
KVN Kaiserville 37.46 321 P **P** **18 51 01.9 +0.8**
KVN pmax pmax
comp=Z,862nm,1.1s
RYN Ryan 37.47 320 P **P** **18 51 02.7 +1.7**
RYN IAmb IAmb 18 51 07.0
comp=Z,1µm,1.5s
EMMW East Machias 37.48 25 P **P** **18 51 01.0 +0.2**
EMMW IAmb IAmb 18 51 15.4
comp=Z,666nm,1.1s
EMMW IAMs_20 IAMs_20 19 07 03.5
comp=Z,159µm,20.0s
EMMW East Machias 37.48 25 P **P** **18 51 01.5 +0.7**
baz=216
F62A Pittston Farm, 37.49 22 P **P** **18 51 00.2 -0.7**
F62A Pittston Farm, 37.49 22 P **P** **18 51 00.7 -0.2**
baz=211
F62A P **P** **18 51 00.7 -0.2**
baz=211

F62A S **S** **18 56 48.9 -0.3**
baz=211
F62A S **S** **18 56 48.9 -0.3**
baz=211
YUF Upper Falls 37.58 334 P **P** **18 51 03.5 +1.4**
PMPB Monarch Peak 37.59 315 P **P** **18 51 03.5 +1.5**
PMPB IAmb IAmb 18 51 07.4
comp=Z,2μm,1.3s
LAO LASA Array 37.64 340 P **P** **18 51 01.3 -1.0**
LAO IAmb IAmb 18 51 12.2
comp=Z,1μm,1.1s
LAO LASA Array 37.64 340 P **P** **18 51 02.5 +0.2**
baz=151
LAO S **S** **18 56 51.9 +0.3**
baz=151
LAO LASA Array 37.64 340 P **P** **18 51 02.3 0.0**
baz=151,SNR=50
LAO S **S** **18 56 49.0 -2.6**
baz=151
F63A Nahmakanta, Br 37.64 23 P **P** **18 51 01.5 -0.7**
F63A Nahmakanta, Br 37.64 23 P **P** **18 51 02.1 -0.2**
baz=213
F63A P **P** **18 51 02.1 -0.2**
baz=213
F63A S **S** **18 56 49.8 -1.9**
baz=213
F63A S **S** **18 56 49.8 -1.9**
baz=213
YNR Norris Junctio 37.66 334 P **P** **18 51 03.3 +0.6**
YNM Yellowstone No 37.67 334 P **P** **18 51 03.0 +0.2**
VILB Vilhena 37.67 130 P **P** **18 51 02.5 -0.4**
VILB IAmb IAmb 18 51 24.5
comp=Z,2μm,1.0s
VILB Vilhena 37.67 130 *e*P **P** **18 51 03.1 +0.1**
YMR Madison River 37.74 334 P **P** **18 51 03.3 -0.1**
KAPO Kapuskasing 37.79 7 ⇓P **P** **18 51 02.1 -1.3**
BMN Battle Mountai 37.81 324 P **P** **18 51 05.2 +1.2**
BMN Battle Mountai 37.81 324 P **P** **18 51 05.2 +1.2**
BMN pmax pmax
comp=Z,677nm,1.2s
G65A Princeton 37.84 25 P **P** **18 51 04.8 +1.0**
G65A IAmb IAmb 18 51 17.9
comp=Z,2μm,1.1s
G65A Princeton 37.84 25 P **P** **18 51 04.6 +0.8**
baz=215
G65A P **P** **18 51 04.6 +0.8**
baz=215
G65A S **S** **18 56 51.3 -3.1**
baz=215
G65A S **S** **18 56 51.3 -3.1**
baz=215
PB01 IPOC Station P 37.89 150 P **P** **18 51 04.0 -0.7**
YHB Horse Butte 37.90 334 P **P** **18 51 05.2 +0.5**
PB02 IPOC Station P 37.92 150 P **P** **18 51 04.1 -0.9**
BBGB Big Mountain B 37.95 316 P **P** **18 51 06.1 +1.0**
BBGB IAmb IAmb 18 51 19.1
comp=Z,881nm,1.1s
WAKR Walker 37.97 320 P **P** **18 51 07.7 +2.3**
WAKR IAmb IAmb 18 51 13.0
comp=Z,2μm,1.4s
F64A Sherman 38.07 23 P **P** **18 51 05.5 -0.3**
F64A Sherman 38.07 23 P **P** **18 51 06.3 +0.4**
baz=214
F64A P **P** **18 51 06.3 +0.4**
baz=214
F64A S **S** **18 56 53.3 -4.7**
baz=214
F64A S **S** **18 56 53.3 -4.7**
baz=214
GGN Saint George 38.07 26 P **P** **18 51 06.0 +0.2**
GGN IAmb IAmb 18 51 19.8
comp=Z,700nm,1.1s
QLMT Earthquake Lak 38.07 334 P **P** **18 51 07.3 +1.2**
GCMT Greycliff 38.12 336 P **P** **18 51 06.4 -0.1**
YERR Yerington 38.13 320 P **P** **18 51 08.2 +1.5**
YERR IAmb IAmb 18 51 12.5
comp=Z,1μm,1.3s
E62A Clayton Lake 38.26 22 P **P** **18 51 06.8 -0.7**
E62A Clayton Lake 38.26 22 P **P** **18 51 06.8 -0.7**
baz=212
E62A P **P** **18 51 06.8 -0.7**
baz=212
E62A S **S** **18 56 55.5 -5.5**
baz=212
E62A S **S** **18 56 55.5 -5.5**
baz=212
PB07 IPOC Station P 38.28 151 P **P** **18 51 07.6 -0.5**
PB07 IAmb IAmb 18 51 14.2
comp=Z,1μm,1.5s
NPGB Novo Progresso 38.28 118 *e*P **P** **18 51 06.7 -1.3**
CMB Columbia Colle 38.31 318 P **P** **18 51 08.8 +0.8**
CMB IAmb IAmb 18 51 12.5
comp=Z,756nm,1.1s
CMB Columbia Colle 38.31 318 P **P** **18 51 08.8 +0.8**
CMB pmax pmax
comp=Z,756nm,1.1s
CMB MLR MLR
comp=Z,70μm,20.0s
SAO San Andreas Ge 38.32 316 P **P** **18 51 09.7 +1.5**
SAO IAMs_20 IAMs_20 19 08 31.2
comp=Z,105μm,20.0s
SAO San Andreas Ge 38.32 316 ⇓P **P** **18 51 09.5 +1.3**
SAO San Andreas Ge 38.32 316 P **P** **18 51 09.7 +1.5**
SAO pmax pmax
comp=Z,701nm,1.2s
SAO MLR MLR
comp=Z,105μm,20.0s
PNTR Pine Nut 38.41 320 P **P** **18 51 11.3 +2.1**
PNTR IAmb IAmb 18 51 17.5
comp=Z,2μm,1.6s
HLID Hailey 38.48 330 P **P** **18 51 09.2 -0.4**
HLID Hailey 38.48 330 P **P** **18 51 10.3 +0.7**
baz=137,SNR=257
HLID S **S** **18 57 07.3 +2.6**
baz=137
E63A Oxbow 38.50 23 P **P** **18 51 09.3 -0.2**
baz=213
E63A P **P** **18 51 09.3 -0.2**
baz=213
E63A S **S** **18 57 03.7 -0.9**
baz=213
E63A S **S** **18 57 03.7 -0.9**
baz=213
MCPB Macapa, AP 38.53 106 *e*P **P** **18 51 10.4 +0.2**
VCNR Virginia City 38.57 320 P **P** **18 51 12.6 +2.2**
PB03 IPOC Station P 38.61 151 P **P** **18 51 11.7 +0.8**
DGMT Dagmar 38.62 344 P **P** **18 51 11.1 +0.6**
DGMT IAmb IAmb 18 51 13.8
comp=Z,2μm,0.9s
DGMT Dagmar 38.62 344 IAMs_20 IAMs_20 19 09 22.0
comp=Z,106μm,22.0s
DGMT Dagmar 38.62 344 P **P** **18 51 10.6 +0.1**
baz=156
DGMT S **S** **18 57 08.5 +2.1**
baz=156
DGMT Dagmar 38.62 344 P **P** **18 51 10.9 +0.4**
baz=156,SNR=169
DGMT S **S** **18 57 04.3 -2.1**
baz=156
PB09 IPOC Station P 38.65 150 P **P** **18 51 11.2 0.0**
PAHR Pah Rah Range 38.65 321 P **P** **18 51 12.9 +1.8**
ULM Lac du Bonnet 38.65 353 P **P** **18 51 09.1 -1.6**
comp=Z,397nm,0.9s,baz=172,slow=8.7,SNR=155
ULM S **S** **18 56 59.9 -6.9**
comp=Z,26nm,1.1s,baz=54,slow=20,SNR=1.4
ULM LR LR 19 08 43.6
comp=Z,106μm,21.6s,baz=165,slow=39
comp=Z,397nm,0.9s
ULM Lac du Bonnet 38.65 353 P **P** **18 51 08.6 -2.1**
ULM IAmb IAmb 18 51 23.1
comp=Z,2μm,1.1s
ULM Lac du Bonnet 38.65 353 ⇑P **P** **18 51 08.8 -1.9**
EMB Emerald Bay 38.66 320 P **P** **18 51 12.7 +1.4**
EMB IAmb IAmb 18 51 17.3
comp=Z,2μm,1.2s
PB04 IPOC Station P 38.67 152 P **P** **18 51 10.2 -1.1**
MCMT McKenzie Canyo 38.70 332 P **P** **18 51 12.2 +0.7**
BOZ Bozeman (W) 38.76 334 P **P** **18 51 11.8 -0.1**
BOZ Bozeman (W) 38.76 334 P **P** **18 51 12.4 +0.5**
baz=143,SNR=138
BOZ S **S** **18 57 10.2 +1.3**
baz=143
BOZ Bozeman (W) 38.76 334 P **P** **18 51 11.8 -0.1**
BOZ pmax pmax
comp=Z,612nm,1.4s
BOZ MLR MLR
comp=Z,29μm,18.0s
MPK Martis Peak 38.80 320 P **P** **18 51 13.9 +1.4**
MPK IAmb IAmb 18 51 18.5
comp=Z,2μm,1.2s
PQI Presque Isle 38.87 23 P **P** **18 51 12.0 -0.5**
SIV San Ignacio 39.05 135 LR LR 19 06 41.5
comp=Z,95μm,18.2s,baz=316,slow=35
MFID Camas Ranch 39.09 328 P **P** **18 51 14.9 +0.3**
MFID IAMs_20 IAMs_20 19 08 21.9
comp=Z,80μm,19.0s
HAL Halifax 39.15 29 P **P** **18 51 15.7 +0.8**
HAL Halifax 39.15 29 P **P** **18 51 15.7 +0.8**
HAL pmax pmax
comp=Z,654nm,1.3s
AFDM Forest Hills D 39.20 319 P **P** **18 51 16.9 +1.4**
PB06 IPOC Station P 39.26 151 P **P** **18 51 15.9 -0.4**
LRM Limekiln Ridge 39.29 334 P **P** **18 51 16.6 +0.2**
BEKR Beckworth 39.35 321 P **P** **18 51 18.0 +1.1**
BEKR IAmb IAmb 18 51 21.9
comp=Z,794nm,1.0s
LVC Limon Verde 39.50 150 P **P** **18 51 18.4 -0.1**
LVC Limon Verde 39.50 150 *e*P **P** **18 51 18.7 +0.2**
LVC Limon Verde 39.50 150 P **P** **18 51 18.4 -0.1**
LVC pmax pmax
comp=Z,680nm,1.6s
LVC MLR MLR
comp=Z,44μm,19.0s
PB10 IPOC Station P 39.51 153 P **P** **18 51 18.7 +0.6**
LMN Caledonia Moun 39.52 27 P **P** **18 51 17.9 -0.2**
LMN IAmb IAmb 18 51 32.2
comp=Z,2μm,1.2s
PDRB Porto dos Gac 39.56 125 *e*P **P** **18 51 17.3 -1.4**
HRY Holter Researc 39.74 335 P **P** **18 51 19.9 -0.1**
PB15 IPOC Station P 39.74 151 P **P** **18 51 20.4 +0.1**
ORV Oroville 39.88 319 P **P** **18 51 23.4 +2.2**
ORV IAmb IAmb 18 51 27.2
comp=Z,2μm,1.5s
ORV Oroville 39.88 319 P **P** **18 51 23.4 +2.2**
ORV pmax pmax
comp=Z,2μm,1.5s
ORV MLR MLR
comp=Z,71μm,18.0s
CLDB Colider 39.90 123 *e*P **P** **18 51 19.8 -1.7**
WVOR Wild Horse Val 39.93 325 P **P** **18 51 22.1 +0.5**
WVOR Wild Horse Val 39.93 325 ⇓P **P** **18 51 22.5 +0.9**
WVOR Wild Horse Val 39.93 325 P **P** **18 51 22.2 +0.5**
WVOR pmax pmax
comp=Z,626nm,1.1s
WVOR MLR MLR
comp=Z,72μm,20.0s
EGMT Eagleton 40.01 338 P **P** **18 51 22.7 +0.5**
EGMT Eagleton 40.01 338 P **P** **18 51 22.7 +0.5**
baz=147,SNR=74
EGMT S **S** **18 57 26.1 -1.3**
baz=147
MCCM Marconi Confer 40.02 317 P **P** **18 51 24.4 +2.1**
MCCM IAmb IAmb 18 51 27.1
comp=Z,2μm,1.1s
MCCM Marconi Confer 40.02 317 ⇓P **P** **18 51 24.6 +2.4**
PTLB Pontes e Lacer 40.07 132 P **P** **18 51 21.9 -1.1**
PTLB IAmb IAmb 18 51 35.4
comp=Z,389nm,1.1s
PTLB Pontes e Lacer 40.07 132 *e*P **P** **18 51 22.2 -0.7**
BATG Bathurst New B 40.13 24 P **P** **18 51 23.2 +0.2**
BATG IAmb IAmb 18 51 36.7
comp=Z,1μm,1.2s
AF01 San Pedro de A 40.14 150 P **P** **18 51 25.0 +1.2**
AF01 IAmb IAmb 18 51 44.3
comp=Z,1μm,1.1s
GDXM Geysers 40.31 318 P **P** **18 51 27.0 +2.2**
J08A Circle Bar Ran 40.45 326 P **P** **18 51 25.9 0.0**
J08A IAmb IAmb 18 51 31.2
comp=Z,2μm,1.3s
MOD Modoc Plateau 40.54 323 P **P** **18 51 26.7 -0.1**
PB14 IPOC Station P 40.55 154 P **P** **18 51 26.3 -0.9**
HOPS Hopland Field 40.59 318 P **P** **18 51 28.4 +1.4**
HOPS IAmb IAmb 18 51 52.4
comp=Z,1μm,1.4s
HOPS IAMs_20 IAMs_20 19 09 16.3
comp=Z,93nm,21.0s
GBN Guysborough 40.71 30 P **P** **18 51 28.1 +0.2**
GBN IAmb IAmb 18 51 42.2
comp=Z,924nm,1.1s
MSO Missoula 40.73 334 P **P** **18 51 28.7 +0.5**
MSO Missoula 40.73 334 P **P** **18 51 28.3 +0.1**
baz=140,SNR=206
MSO S **S** **18 57 34.3 -3.9**
baz=140
BMO Blue Mountains 40.85 329 P **P** **18 51 28.3 -1.0**
BMO Blue Mountains 40.85 329 P **P** **18 51 28.3 -1.0**
BMO pmax pmax
comp=Z,309nm,1.3s
BMO MLR MLR
comp=Z,67μm,20.0s
KCPM Cahto Peak 41.30 318 P **P** **18 51 35.1 +2.1**
GO02 Mina Guanaco 41.37 153 P **P** **18 51 34.0 +0.1**
K05A Summer Lake 41.40 324 P **P** **18 51 34.6 +0.7**
I07A Izee 41.48 326 P **P** **18 51 34.4 -0.1**
ICQ Pointe Anglais 41.52 21 ⇑P **P** **18 51 33.4 -1.2**
F10A Beach Ranch, E 41.61 330 P **P** **18 51 34.5 -0.9**
F10A Beach Ranch, E 41.61 330 ⇑P **P** **18 51 34.1 -1.3**
KMRM Mail Ridge 41.67 319 P **P** **18 51 37.8 +1.8**
AC01 Pan de Azucar 41.80 155 P **P** **18 51 37.5 +0.4**
YBH Yreka Blue Hor 41.88 321 P **P** **18 51 38.1 +0.3**
comp=Z,329nm,1.1s,baz=146,slow=4.5,SNR=92
YBH LR LR 19 11 09.8
comp=Z,107μm,20.1s,baz=142,slow=39
comp=Z,329nm,1.1s
YBH Yreka Blue Hor 41.88 321 P **P** **18 51 37.4 -0.3**
YBH IAMs_20 IAMs_20 19 10 59.4
comp=Z,105μm,21.0s
G08A Pilot Rock 42.01 328 P **P** **18 51 38.2 -0.6**
KHMM Horse Mountain 42.04 320 P **P** **18 51 39.9 +0.8**
KHMM IAmb IAmb 18 51 44.2
comp=Z,1μm,1.1s
KMPM Mount Pierce 42.04 319 P **P** **18 51 39.2 +0.2**
KMPM IAmb IAmb 18 51 43.9
comp=Z,2μm,1.1s
PINE Pine Mountain 42.09 325 P **P** **18 51 39.7 +0.2**
JCC Jacoby Creek, 42.20 319 P **P** **18 51 41.8 +1.6**
JCC IAMs_20 IAMs_20 19 10 37.7
comp=Z,76μm,18.0s
KRPM Rodgers 42.38 320 P **P** **18 51 43.7 +1.9**
E09A Wood Farm, Sta 42.44 330 P **P** **18 51 41.2 -0.9**
WALA Waterton Lakes 42.45 336 P **P** **18 51 42.3 0.0**
WALA Waterton Lakes 42.45 336 ⇓P **P** **18 51 42.5 +0.1**
HUMO Hull Mountain 42.54 322 P **P** **18 51 43.1 0.0**
HUMO IAMs_20 IAMs_20 19 11 23.8
comp=Z,93μm,20.0s
HUMO Hull Mountain 42.54 322 ⇑P **P** **18 51 42.8 -0.2**
PRPB Parauapebas 42.80 113 *e*P **P** **18 51 44.9 -0.5**
E08A Dider Farm, El 42.88 329 P **P** **18 51 45.1 -0.5**
SALV Santo Antonio 42.91 129 *e*P **P** **18 51 45.4 -0.9**
F07A Phinny Hill Vi 42.91 328 P **P** **18 51 45.5 -0.5**
TMAB Tom-Áu,PA,Br 42.93 107 *e*P **P** **18 51 47.6 +1.1**
AC06 Mina Casimiro 42.97 156 P **P** **18 51 45.7 -0.9**
DBO Dodson Butte 43.01 323 P **P** **18 51 47.5 +0.6**
AC02 Maricunga 43.03 154 P **P** **18 51 47.9 +0.2**
HAWA Hanford 43.05 329 P **P** **18 51 46.7 -0.4**
HAWA Hanford 43.05 329 ⇑P **P** **18 51 46.5 -0.6**
KBO Bosley Butte 43.09 321 P **P** **18 51 49.6 +2.1**
D08A Wollman Farm, 43.20 330 P **P** **18 51 48.2 -0.1**
NEW Newport 43.22 332 P **P** **18 51 48.2 -0.3**
comp=Z,102nm,1.2s,baz=139,slow=8.6,SNR=26
NEW PcP **PcP** **18 53 39.0 +1.4**
comp=Z,134nm,1.1s,baz=144,slow=7.6,SNR=4.3
NEW LR LR 19 12 23.5
comp=Z,72μm,20.1s,baz=134,slow=40
comp=Z,102nm,1.2s
NEW Newport 43.22 332 P **P** **18 51 47.9 -0.5**
NEW Newport 43.22 332 IAMs_20 IAMs_20 19 12 02.7
comp=Z,71μm,19.0s
NEW Newport 43.22 332 P **P** **18 51 48.0 -0.5**
baz=137,SNR=59
NEW S **S** **18 58 16.3 +1.3**
baz=137
GO03 Copiap 43.23 156 P **P** **18 51 49.4 +0.6**
GO03 Copiap 43.23 156 ⇓P **P** **18 51 48.9 +0.1**
H04A Detroit Lake 43.35 325 P **P** **18 51 49.4 -0.2**
H04A IAmb IAmb 18 51 54.1
comp=Z,2μm,1.3s
C09A Chrisman Ranch 43.42 331 P **P** **18 51 49.9 -0.1**
AC04 Llanos de Chal 43.45 157 P **P** **18 51 50.7 +0.3**
HOOD Mount Hood Mea 43.45 326 P **P** **18 51 51.9 +1.3**
BUCK Buck Mountain 43.50 324 P **P** **18 51 51.1 +0.3**
BUCK IAmb IAmb 18 51 55.0
comp=Z,2μm,1.1s
KEBM Edson Butte 43.52 322 P **P** **18 51 53.3 +2.3**
RPN Rapa Nui 43.60 207 P **P** **18 51 53.2 +1.6**
comp=Z,410nm,1.1s,baz=307,slow=4.7,SNR=10.0
comp=Z,410nm,1.1s
RPN Rapa Nui 43.60 207 P **P** **18 51 51.0 -0.7**
RPN Rapa Nui 43.60 207 ⇓P **P** **18 51 53.2 +1.6**
VA02 Isla de Pascua 43.67 207 P **P** **18 51 52.5 +0.3**
VA02 IAmb IAmb 18 52 05.8
comp=Z,3μm,1.8s
COR Corvallis 43.92 324 P **P** **18 51 55.1 +1.1**
COR IAmb IAmb 18 51 58.3
comp=Z,996nm,1.1s
COR Corvallis 43.92 324 ⇓P **P** **18 51 55.4 +1.3**
COR Corvallis 43.92 324 P **P** **18 51 55.1 +1.1**
COR pmax pmax
comp=Z,996nm,1.1s
COR MLR MLR
comp=Z,59μm,20.0s
FFC Flin Flon 43.94 349 P **P** **18 51 53.2 -0.9**
FFC IAmb IAmb 18 51 57.0
comp=Z,701nm,1.2s
FFC Flin Flon 43.94 349 IAMs_20 IAMs_20 19 11 14.1
comp=Z,138μm,22.0s
FFC Flin Flon 43.94 349 ⇑P **P** **18 51 53.3 -0.8**
FFC Flin Flon 43.94 349 P **P** **18 51 53.2 -0.9**
FFC pmax pmax
comp=Z,701nm,1.2s
FFC MLR MLR
comp=Z,138μm,22.0s
LTY Liberty 44.21 329 P **P** **18 51 56.5 +0.1**
SNDB Serra Nova Dou 44.21 121 *e*P **P** **18 51 56.2 -0.6**
LCO Las Campanas 44.31 157 P **P** **18 51 57.5 -0.2**
LCO Las Campanas 44.31 157 ⇑P **P** **18 51 57.0 -0.7**
LCO Las Campanas 44.31 157 P **P** **18 51 57.5 -0.2**
LCO pmax pmax
comp=Z,537nm,1.3s
B08A Colville Reser 44.31 331 P **P** **18 51 56.8 -0.5**
AC05 El Transito 44.32 156 P **P** **18 51 57.7 +0.1**
HEBO Mount Hebo 44.55 325 P **P** **18 51 59.3 0.0**
D05A Enumclaw 44.84 328 P **P** **18 52 01.6 +0.2**
D05A IAmb IAmb 18 52 05.5
comp=Z,723nm,1.1s
F03A Seaside 44.88 326 P **P** **18 52 03.5 +1.8**
CO05 La Serena 44.93 158 P **P** **18 52 02.4 +0.1**
CO05 IAmb IAmb 18 52 07.7
comp=Z,935nm,1.9s
PNT Penticton 45.12 332 ⇓P **P** **18 52 04.3 +0.7**
E03A Lebam 45.26 326 P **P** **18 52 05.0 +0.3**
RADR Rader Ridge 45.31 326 P **P** **18 52 05.8 +0.6**
RADR IAmb IAmb 18 52 17.0
comp=Z,2μm,1.2s
GO04 Tololo Observa 45.32 158 P **P** **18 52 06.4 +0.7**
GO04 IAmb IAmb 18 52 10.4
comp=Z,592nm,1.2s
DRLN Deer Lake 45.37 29 P **P** **18 52 05.0 -0.6**
DRLN IAmb IAmb 18 52 18.3
comp=Z,1μm,1.1s
DRLN Deer Lake 45.37 29 ⇓P **P** **18 52 05.4 -0.2**
CO01 Juntas del Tor 45.41 157 P **P** **18 52 06.3 -0.1**
CO06 Fray Jorge 45.47 159 P **P** **18 52 06.7 +0.1**
CO06 IAmb IAmb 18 52 12.0
comp=Z,954nm,1.6s
EDM Edmonton 45.61 340 P **P** **18 52 07.5 0.0**
EDM Edmonton 45.61 340 P **P** **18 52 07.5 0.0**
EDM pmax pmax
comp=Z,2μm,1.1s
WISH Wishkah 45.73 327 P **P** **18 52 08.7 +0.2**
ARAG Araguaiana, MT 45.81 126 *e*P **P** **18 52 08.3 -1.2**
AQDB Aquidauana 45.83 134 P **P** **18 52 08.9 -0.7**
AQDB IAmb IAmb 18 52 14.6
comp=Z,1μm,1.4s
AQDB Aquidauana 45.83 134 *e*P **P** **18 52 08.7 -0.9**
SMTB Santa Maria do 45.94 115 *e*P **P** **18 52 10.1 -0.4**
NLWA Neilton Lookou 45.95 327 P **P** **18 52 11.2 +0.9**
NLWA IAMs_20 IAMs_20 19 14 52.6
comp=Z,73μm,18.0s
NLWA Neilton Lookou 45.95 327 ⇓P **P** **18 52 11.1 +0.8**
CO03 El Pedregal 45.96 158 P **P** **18 52 10.8 +0.3**
CO03 IAmb IAmb 18 52 15.2
comp=Z,687nm,1.2s
H03N2 Juan Fernandez 46.09 168 P **P** **18 52 13.3 +2.2**
baz=31,slow=72,SNR=9.6
H03N2 T T 19 42 33.8
baz=347,slow=76,SNR=6.6
H03N1 Juan Fernandez 46.09 168 P **P** **18 52 12.8 +1.7**
baz=31,slow=72,SNR=9.1
H03N1 T T 19 42 33.8
baz=347,slow=76,SNR=6.6
H03N3 Juan Fernandez 46.10 168 P **P** **18 52 13.3 +2.0**
baz=31,slow=72,SNR=6.2
H03N3 T T 19 42 34.0
baz=347,slow=76,SNR=8.3
CO02 Combarbal 46.18 159 P **P** **18 52 11.6 -0.7**
B04A Port Angeles 46.18 328 P **P** **18 52 12.8 +0.7**
B04A IAmb IAmb 18 52 16.4
comp=Z,901nm,1.1s
SCHQ Schefferville 46.19 18 P **P** **18 52 10.8 -1.2**
comp=Z,255nm,0.9s,baz=216,slow=6.2,SNR=55
SCHQ PcP **PcP** **18 53 49.6 +2.0**
comp=Z,310nm,0.8s,baz=234,slow=1.6,SNR=7.2
SCHQ LR LR 19 13 08.5
comp=Z,90μm,18.0s,baz=207,slow=38
comp=Z,255nm,0.9s
SCHQ Schefferville 46.19 18 P **P** **18 52 11.5 -0.5**
SCHQ Schefferville 46.19 18 ⇓P **P** **18 52 10.7 -1.3**
VA04 Juan Fernndez 46.30 168 P **P** **18 52 13.2 +0.1**
VA04 IAmb IAmb 18 52 17.9
comp=Z,780nm,1.4s
H03S3 Juan Fernandez 46.47 169 P **P** **18 52 16.6 +2.5**
baz=343,slow=6.8,SNR=13
H03S2 Juan Fernandez 46.47 169 P **P** **18 52 16.8 +2.7**
baz=343,slow=6.8,SNR=13
H03S1 Juan Fernandez 46.48 169 P **P** **18 52 16.6 +2.5**
baz=343,slow=6.8,SNR=9.2
PGC Sidney 46.53 329 P **P** **18 52 14.8 0.0**
PGC IAmb IAmb 18 52 18.9
comp=Z,765nm,1.2s
C03A Quillayute Air 46.67 327 P **P** **18 52 15.7 -0.1**
C2SB Chapadao do Su 46.82 130 *e*P **P** **18 52 18.0 +0.7**
ROSB Rosrio 46.84 105 *e*P **P** **18 52 17.9 +0.2**
FCC Fort Churchill 46.92 356 P **P** **18 52 16.7 -0.9**
FCC IAmb IAmb 18 52 30.8
comp=Z,669nm,1.1s
FCC Fort Churchill 46.92 356 P **P** **18 52 16.7 -0.9**
FCC pmax pmax
comp=Z,669nm,1.1s
CLRS Cowichan Lake 46.99 329 P **P** **18 52 18.0 -0.4**
VA06 Catapilco 47.31 160 P **P** **18 52 21.3 +0.3**
ZON Zonda 47.35 156 P **P** **18 52 21.6 +0.2**
ZON IAmb IAmb 18 52 27.3
comp=Z,1μm,1.4s
ZON Zonda 47.35 156 P **P** **18 52 21.7 +0.2**
ZON pmax pmax
comp=Z,1μm,1.4s
CFA Coronel Fontan 47.58 156 LR LR 19 09 52.8
comp=Z,28μm,21.0s,baz=346,slow=33
VA01 Torpederas 47.62 160 P **P** **18 52 23.7 +0.4**
VA01 IAmb IAmb 18 52 27.6
comp=Z,807nm,1.4s
VA03 San Esteban 47.75 159 P **P** **18 52 24.3 -0.2**
BRLDA Berland Lookou 47.76 338 P **P** **18 52 23.7 -0.7**
BRLDA IAmb IAmb 18 52 32.9
comp=Z,818nm,1.1s
OZB Mount Ozzard 47.78 328 P **P** **18 52 24.6 +0.1**
OZB IAmb IAmb 18 52 29.0
comp=Z,780nm,1.1s
ROC1 El Roble 47.78 160 P **P** **18 52 24.8 -0.2**
ROC1 IAmb IAmb 18 52 36.7
comp=Z,354nm,1.0s
MT02 Curacav 48.00 160 P **P** **18 52 26.3 0.0**
MT02 IAmb IAmb 18 52 31.8
comp=Z,1μm,1.7s
VA05 Santo Domingo 48.21 161 P **P** **18 52 28.3 +0.3**
VA05 IAmb IAmb 18 52 32.7
comp=Z,688nm,1.7s
MT05 Renca 48.26 160 P **P** **18 52 28.7 +0.3**
MT03 Universidad Ad 48.43 159 P **P** **18 52 30.2 +0.4**
MT03 IAmb IAmb 18 52 39.0
comp=Z,1μm,1.5s
MT01 Popeta 48.52 160 P **P** **18 52 29.8 -0.5**
MT09 Talagante 48.52 160 P **P** **18 52 30.3 -0.2**
MT09 IAmb IAmb 18 52 35.8

comp=Z,1µm,1.5s
BDFB Brasilia 48.83 123 P **P** **18 52 33.4 +0.2**
comp=Z,103nm,1.0s,baz=291,slow=9.4,SNR=20
BDFB PcP **PcP** **18 53 59.5 +1.6**
comp=Z,80nm,0.9s,baz=135,slow=1.4,SNR=1.8
BDFB S **S** **18 59 33.5 -3.0**
comp=Z,7.1nm,0.8s,baz=243,slow=24,SNR=1.5
BDFB PKPPKP **P'P'df** **19 23 28.6 -7.3**
comp=Z,2.5nm,0.5s,baz=82,slow=3.1,SNR=4.5
comp=Z,103nm,1.0s
BDFB Brasilia 48.83 123 P **P** **18 52 32.7 -0.5**
BDFB Brasilia 48.83 123 *e*P **P** **18 52 33.3 +0.1**
BO04 La Punta 48.84 160 P **P** **18 52 32.7 -0.2**
BO04 IAmb IAmb 18 52 37.3
comp=Z,636nm,1.4s
CPUP Villa Florida 48.85 141 P **P** **18 52 32.8 -0.2**
comp=Z,197nm,1.2s,baz=332,slow=8.3,SNR=58
CPUP S **S** **18 59 33.4 -2.7**
comp=Z,6.0nm,1.0s,baz=60,slow=11,SNR=0.9
CPUP LR LR 19 14 15.5
comp=Z,72µm,18.3s,baz=332,slow=37
CPUP PKPPKP **P'P'df** **19 23 30.0 -3.8**
comp=Z,5.4nm,1.0s,baz=137,slow=2.5,SNR=5.1
CPUP PKP2bc 19 23 58.4
comp=Z,5.2nm,1.0s,baz=140,slow=1.5,SNR=3.7
comp=Z,197nm,1.2s
CPUP Villa Florida 48.85 141 P **P** **18 52 32.1 -0.9**
CPUP IAmb IAmb 18 52 37.5
comp=Z,634nm,1.4s
CPUP Villa Florida 48.85 141 ⇓P **P** **18 52 31.8 -1.2**
CPUP Villa Florida 48.85 141 *e*P **P** **18 52 31.9 -1.2**
LMEL Las Melosas 48.85 159 P **P** **18 52 33.5 +0.3**
LMEL IAmb IAmb 18 52 38.2
comp=Z,525nm,1.2s
BO01 Tunca 49.05 160 P **P** **18 52 34.0 -0.4**
BO01 IAmb IAmb 18 52 39.6
comp=Z,1µm,1.6s
ITRB Iturama 49.25 129 *e*P **P** **18 52 35.7 -0.6**
WAPA Wapiti River 49.28 337 P **P** **18 52 35.2 -0.8**
WAPA IAmb IAmb 18 52 40.4
comp=Z,889nm,1.0s
GO05 Huala 49.35 162 P **P** **18 52 36.1 -0.7**
GO05 IAmb IAmb 18 52 41.6
comp=Z,1µm,1.8s
BO02 Sierra Bellavi 49.52 160 P **P** **18 52 37.4 -0.7**
BO02 IAmb IAmb 18 52 46.5
comp=Z,466nm,1.1s
PCMB Pacaembu 49.73 132 *e*P **P** **18 52 38.9 -0.9**
SDBA SAO DESIDERIO 49.88 118 *e*P **P** **18 52 40.2 -1.0**
IPMB Ipameri, GO 49.93 126 *e*P **P** **18 52 40.5 -1.0**
ML02 Panimavida 50.21 161 P **P** **18 52 42.8 -0.4**
ML02 IAmb IAmb 18 52 48.2
comp=Z,1µm,1.4s
BI05 Punta Hualpn 50.61 164 P **P** **18 52 46.2 0.0**
BI05 IAmb IAmb 18 52 51.4
comp=Z,830nm,1.6s
BBB Bella Bella 51.07 330 P **P** **18 52 50.8 +1.2**
comp=Z,399nm,1.1s,baz=143,slow=10,SNR=21
BBB S **S** **19 00 01.2 -5.3**
comp=Z,5.3nm,0.8s,baz=325,slow=16,SNR=0.5
BBB LR LR 19 18 27.4
comp=Z,53µm,19.6s,baz=121,slow=41
comp=Z,399nm,1.1s
BBB Bella Bella 51.07 330 P **P** **18 52 49.7 +0.2**
BBB IAmb IAmb 18 52 54.6
comp=Z,749nm,1.2s
BBB Bella Bella 51.07 330 ⇓P **P** **18 52 51.6 +2.1**
PTGB Pitanga 51.14 136 *e*P **P** **18 52 48.9 -1.7**
HILA High Level 51.16 341 P **P** **18 52 49.3 -0.9**
BB19B Bebedouro 51.43 129 *e*P **P** **18 52 52.4 -0.3**
JANB Januaria 51.63 120 *e*P **P** **18 52 53.6 -0.8**
ITQB Itaqui 51.73 144 P **P** **18 52 54.0 -0.8**
ITQB IAmb IAmb 18 53 17.4
comp=Z,1µm,1.2s
ITQB Itaqui 51.73 144 *e*P **P** **18 52 54.4 -0.3**
LC02 Puerto Saavedr 52.48 165 P **P** **18 52 59.6 -0.6**
LC02 IAmb IAmb 18 53 06.0
comp=Z,976nm,1.5s
HG4B Hotspring 52.68 329 P **P** **18 53 02.7 +1.1**
HG4B IAmb IAmb 18 53 06.1
comp=Z,592nm,1.1s
MC01 Montes Claros 52.74 122 *e*P **P** **18 53 02.0 -0.6**
ITAB Concordia 52.77 138 P **P** **18 53 01.6 -1.0**
ITAB Concordia 52.77 138 *e*P **P** **18 53 01.6 -1.0**
GRNB Grenville Isla 52.96 331 P **P** **18 53 04.6 +0.9**
GRNB IAmb IAmb 18 53 08.9
comp=Z,576nm,1.2s
RCLB Rio Claro- Sao 52.97 130 *e*P **P** **18 53 03.4 -0.8**
RUBB Prince Rupert 53.39 331 P **P** **18 53 07.9 +1.2**
LR04 Corral 53.49 165 P **P** **18 53 07.9 +0.2**
LR04 IAmb IAmb 18 53 13.0
comp=Z,1µm,1.5s
LR03 Panguipulli 53.54 164 P **P** **18 53 08.5 +0.5**
LR03 IAmb IAmb 18 53 13.2
comp=Z,746nm,1.4s
MOBC Moresby Island 53.54 329 P **P** **18 53 08.4 +0.4**
MOBC IAmb IAmb 18 53 13.7
comp=Z,1µm,1.3s
TIJ01 Guaruva-PR 53.66 134 *e*P **P** **18 53 08.8 -0.5**
FRB Frobisher Bay 53.70 11 P **P** **18 53 07.6 -1.3**
comp=Z,494nm,1.1s,baz=221,slow=10,SNR=26
FRB S **S** **19 00 36.5 -5.7**
comp=Z,15nm,0.9s,baz=24,slow=18,SNR=1.3
FRB LR LR 19 18 51.1
comp=Z,204µm,18.1s,baz=205,slow=39
comp=Z,494nm,1.1s
FRB Frobisher Bay 53.70 11 ⇑P **P** **18 53 07.2 -1.7**
GO06 Curarrehue 53.73 163 P **P** **18 53 09.4 -0.2**
GO06 IAmb IAmb 18 53 19.9
comp=Z,1µm,2.0s
VAO Valinhos 53.74 130 *e*P **P** **18 53 08.9 -0.9**
DIAM Diamantina, MG 53.75 123 *e*P **P** **18 53 09.8 -0.4**
YKA Yellowknife Ar 53.77 346 P **P** **18 53 08.6 -0.8**
comp=Z,693nm,1.0s,baz=144,slow=7.3,SNR=380
YKA PcP **PcP** **18 54 16.6 +1.3**
comp=Z,155nm,0.9s,baz=148,slow=3.7,SNR=7.4
YKA ScP **ScP** **18 58 17.7 +4.8**
comp=Z,5.7nm,1.0s,baz=150,slow=4.4,SNR=1.8
YKA S **S** **19 00 44.7 +1.4**
comp=Z,8.9nm,1.1s,baz=144,slow=12,SNR=3.4
YKA LR LR 19 18 45.2
comp=Z,78µm,21.6s,baz=142,slow=39
YKA PKPPKP P'P'df 19 23 20.5 -11
comp=Z,6.6nm,1.1s,baz=343,slow=2.9,SNR=4.8
YKA P4KPbc 19 30 31.7
comp=Z,6.1nm,1.0s,baz=153,slow=4.5,SNR=7.6
comp=Z,693nm,1.0s
YKA Yellowknife Ar 53.77 346 P **P** **18 53 08.8 -0.6**
DIB Dawson Inlet, 53.83 329 P **P** **18 53 10.8 +0.8**
DIB IAmb IAmb 18 53 15.6
comp=Z,973nm,1.1s
H02S1 DAWSON INLET T 53.83 329 P **P** **18 53 12.5 +2.6**
SNR=30
PET01 Itanhaem-SP 54.27 132 *e*P **P** **18 53 13.0 -0.6**
PTCN Pitcairn Islan 54.47 227 IAMs_20 IAMs_20 19 10 54.6
comp=Z,90µm,20.0s
FLDN Fort Liard 54.57 340 P **P** **18 53 15.5 +0.2**
baz=137,SNR=5.1
V35K Ketchikan 54.61 332 P **P** **18 53 17.2 +1.5**
baz=125,SNR=32
KOTAN Kotaneelee Air 54.69 339 P **P** **18 53 16.2 0.0**
baz=136,SNR=138
LL04 Puerto Octay 54.72 165 P **P** **18 53 15.3 -1.3**
LL04 IAmb IAmb 18 53 21.2
comp=Z,1µm,1.9s
LIRD Liard River Hi 54.91 338 P **P** **18 53 17.8 -0.1**
baz=134,SNR=172
LL05 Los Muermos 54.92 166 P **P** **18 53 18.4 +0.3**
LL05 IAmb IAmb 18 53 41.8
comp=Z,1µm,1.4s
LL03 Petrohue 54.94 165 P **P** **18 53 17.5 -0.7**
LL03 IAmb IAmb 18 53 41.2
comp=Z,558nm,1.4s
PARB Paraibuna 54.94 130 *e*P **P** **18 53 18.5 -0.1**
T35M Bob Quinn 54.99 334 P **P** **18 53 20.3 +1.9**
baz=128,SNR=51
TAOE Nuku Hiva Isla 55.00 250 *e*P **P** **18 53 17.9 -1.3**
comp=Z,742nm,1.1s
TAOE *e*S **S** **19 01 03.0 +1.6**
comp=Z,129µm,25.6s
TAOE *e*LR LR 19 08 58.0
comp=Z,201µm,27.1s
TAOE Nuku Hiva Isla 55.00 250 *e*T T 19 52 30.0
comp=Z,184nm,0.2s
TAOE Nuku Hiva Isla 55.00 250 P **P** **18 53 18.0 -1.2**
TAOE IAmb IAmb 18 53 21.0
comp=Z,500nm,1.2s
TAOE Nuku Hiva Isla 55.00 250 P **P** **18 53 20.8 +1.6**
TAOE Nuku Hiva Isla 55.00 250 ⇓P **P** **18 53 17.3 -2.0**
TAOE ⇑P **pP** **18 53 20.1 -2.0**
LPA La Plata 55.03 149 *i* P **P** **18 53 16.6 -2.4**
LPA sP **sP** **18 53 22.9 -0.1**
LPA PCP **PcP** **18 54 21.6 +1.1**
LPA PP **PP** **18 55 23.0 +0.6**
LPA pPP 18 55 40.7
LPA PPP PPP 18 56 32.5
LPA PKIKP **PKiKP** **19 00 54.6 +1.3**
LPA S **S** **19 01 01.5 +0.6**
LPA PS **PnS** **19 01 15.5 +4.2**
LPA SCS ScS 19 02 54.7 -13
LPA SKIKP 19 04 27.2
LPA PKIKS 19 04 35.3
LPA SS SS 19 05 07.9 +23
LPA SSS SSS 19 07 06.5
LPA SKIKS 19 08 04.4
PLCA Paso Flores 55.06 163 P **P** **18 53 18.9 -0.3**
comp=Z,138nm,0.9s,baz=337,slow=8.0,SNR=86
PLCA S **S** **19 00 57.3 -4.0**
comp=Z,3.2nm,0.9s,baz=200,slow=20,SNR=1.5
PLCA LR LR 19 13 03.3
comp=Z,31µm,18.6s,baz=342,slow=32
PLCA PKPPKP P'P'df 19 23 15.2 -8.3
comp=Z,4.6nm,1.1s,baz=163,slow=7.0,SNR=4.5
comp=Z,138nm,0.9s
PLCA Paso Flores 55.06 163 P **P** **18 53 18.4 -0.8**
PLCA IAmb IAmb 18 53 24.3
comp=Z,1µm,1.6s
PLCA Paso Flores 55.06 163 ⇑P **P** **18 53 18.1 -1.1**
PLCA Paso Flores 55.06 163 *e*P **P** **18 53 18.2 -0.9**
GDU01 Guandu, BA 55.11 116 *e*P **P** **18 53 19.2 -0.7**
CRAG Craig 55.40 331 P **P** **18 53 21.9 +0.6**
CRAG IAmb IAmb 18 53 26.9
comp=Z,978nm,1.2s
CRAG Craig 55.40 331 P **P** **18 53 22.8 +1.4**
baz=124,SNR=39
CRAG Craig 55.40 331 ⇑P **P** **18 53 22.6 +1.3**
RCBR Riachuelo 55.54 106 LR LR 19 18 59.3
comp=Z,123µm,19.4s,baz=85,slow=38
RCBR Riachuelo 55.54 106 P **P** **18 53 23.9 +0.8**
RCBR Riachuelo 55.54 106 ⇓P **P** **18 53 24.3 +1.2**
RCBR ⇓P **P** **18 53 24.3 +1.2**
RCBR ⇑P **sP** **18 53 27.7 +0.5**
RCBR Riachuelo 55.54 106 *e*P **P** **18 53 23.9 +0.8**
RCBR Riachuelo 55.54 106 P **P** **18 53 23.9 +0.8**
RCBR pmax pmax
comp=Z,2µm,1.2s
RCBR MLR MLR
comp=Z,109µm,19.0s
WRAK Wrangell Islan 55.58 332 P **P** **18 53 22.7 +0.1**
WRAK Wrangell Islan 55.58 332 P **P** **18 53 23.8 +1.1**
baz=125,SNR=13
TER01 Tubaro-SC 55.62 137 *e*P **P** **18 53 23.0 -0.3**
LL06 Loncomilla 55.66 166 P **P** **18 53 23.7 +0.4**
LL06 IAmb IAmb 18 53 27.8
comp=Z,935nm,1.4s
TRQA Tornquist 55.73 154 P **P** **18 53 22.7 -1.3**
TRQA IAmb IAmb 18 53 28.6
comp=Z,1µm,1.6s
TRQA Tornquist 55.73 154 *e*P **P** **18 53 23.2 -0.8**
TRQA Tornquist 55.73 154 P **P** **18 53 22.7 -1.3**
TRQA pmax pmax
comp=Z,1µm,1.7s
TRQA MLR MLR
comp=Z,42µm,21.0s
U33K Whale Pass 55.76 332 P **P** **18 53 25.2 +1.3**
baz=124,SNR=35
U33K S **S** **19 01 15.6 +5.5**
baz=124
DLBC Dease Lake 55.80 335 P **P** **18 53 25.6 +1.3**
comp=Z,811nm,1.1s,baz=132,slow=4.7,SNR=142
DLBC S **S** **19 01 03.9 -7.0**
comp=Z,4.8nm,0.9s,baz=129,slow=26,SNR=1.9
DLBC LR LR 19 20 35.5
comp=Z,79µm,21.2s,baz=117,slow=40
DLBC PKPPKP **P'P'df** **19 23 24.8 -3.9**
comp=Z,3.4nm,1.0s,baz=266,slow=8.5,SNR=2.3
comp=Z,811nm,1.1s
DLBC Dease Lake 55.80 335 P **P** **18 53 25.2 +0.8**
DLBC Dease Lake 55.80 335 P **P** **18 53 25.5 +1.1**
baz=129,SNR=371
DLBC S **S** **19 01 15.4 +4.5**
baz=129
CMC01 Camacan, BA 55.87 118 *e*P **P** **18 53 25.7 +0.4**
MAN01 Angra dos Reis 55.94 128 *e*P **P** **18 53 25.9 +0.1**
S34M Telegraph Cree 55.94 334 P **P** **18 53 26.4 +1.2**
baz=127,SNR=97
S34M S **S** **19 01 16.9 +4.4**
baz=127
SJMB Sao Joao De Ma 56.00 122 *e*P **P** **18 53 25.9 -0.4**
VAS01 Vassouras-RJ 56.02 127 *e*P **P** **18 53 26.4 +0.1**
T33K Petersburg 56.08 333 P **P** **18 53 27.5 +1.2**
baz=125,SNR=32
T33K S **S** **19 01 20.7 +6.3**
baz=125
LL01 San Ignacio de 56.10 165 P **P** **18 53 26.8 +0.3**
LL01 IAmb IAmb 18 53 31.4
comp=Z,515nm,1.5s
GUA01 Guaratinga, BA 56.17 119 *e*P **P** **18 53 28.0 +0.5**
LL07 Hotel Espejo d 56.28 166 P **P** **18 53 27.8 0.0**
WTLY Watson Lake, Y 56.40 337 P **P** **18 53 28.5 0.0**
WTLY IAmb IAmb 18 53 33.4
comp=Z,1µm,1.5s
WTLY Watson Lake, Y 56.40 337 P **P** **18 53 28.9 +0.4**
baz=131,SNR=16
WTLY S **S** **19 01 19.1 +0.5**
baz=131
GO07 Milladeo Hill, 56.50 167 P **P** **18 53 29.6 +0.2**
DUB01 Friburgo-RJ 56.75 126 *e*P **P** **18 53 31.8 +0.2**
R33M Jennings River 56.78 336 P **P** **18 53 32.3 +0.9**
baz=128,SNR=352
R33M S **S** **19 01 26.8 +2.8**
baz=128
WRGLY Wrigley 56.78 342 P **P** **18 53 30.9 -0.2**
baz=138,SNR=8.5
WRGLY S **S** **19 01 19.8 -3.7**
baz=138
RIB01 Linhares ES 56.95 122 *e*P **P** **18 53 33.3 +0.3**
LL02 Futaleuf 57.01 165 P **P** **18 53 32.4 -0.6**
LL02 IAmb IAmb 18 53 37.5
comp=Z,1µm,1.4s
Q32M Nakina River 57.05 335 P **P** **18 53 34.6 +1.3**
baz=127
Q32M S **S** **19 01 32.0 +4.3**
baz=127
TGTN Hyland Airport 57.15 339 P **P** **18 53 34.9 +1.1**
baz=132,SNR=199
TGTN S **S** **19 01 29.9 +1.3**
baz=132
CAM01 Campos-RJ 57.18 126 *e*P **P** **18 53 34.9 +0.3**
S32K Killisnoo 57.19 333 P **P** **18 53 34.9 +0.9**
baz=124,SNR=31
SIT Sitka 57.30 332 P **P** **18 53 35.4 +0.5**
SIT Sitka 57.30 332 P **P** **18 53 35.6 +0.7**
baz=122,SNR=12
SIT S **S** **19 01 36.2 +5.7**
baz=122
SIT Sitka 57.30 332 P **P** **18 53 35.4 +0.5**
SIT pmax pmax
comp=Z,202nm,1.1s
ALF01 Guarapari-ES 57.32 124 *e*P **P** **18 53 35.6 0.0**
IVI Ivigtut 57.40 22 P **P** **18 53 34.6 -0.9**
IVI Ivigtut 57.40 22 *i* P **P** **18 53 35.3 -0.2**
IVI IAmb IAmb 18 53 47.7
comp=Z,118nm,0.8s
JIS Juneau Island 57.55 333 P **P** **18 53 37.2 +0.6**
R32K Eaglecrest 57.61 333 P **P** **18 53 38.1 +1.0**
baz=124,SNR=26
R32K S **S** **19 01 38.4 +3.7**
baz=124
H07S1 FLORES T-PHASE 57.63 51 P **P** **18 53 38.8 +1.2**
H07S1 FLORES T-PHASE 57.63 51 *e*P **P** **18 53 40.4 +2.8**
comp=Z,523nm,2.1s
H07N1 FLORES T-PHASE 57.76 50 P **P** **18 53 38.8 +0.2**
SNR=22
H07N1 FLORES T-PHASE 57.76 50 *e*P **P** **18 53 38.5 0.0**
comp=Z,236nm,1.4s
BESE Bessie Mountai 57.93 334 P **P** **18 53 39.7 +0.3**
AY01 Puyuhuapi 57.97 166 P **P** **18 53 39.0 -0.7**
AY01 IAmb IAmb 18 53 45.4
comp=Z,403nm,1.1s
P32M Atlin 58.02 335 P **P** **18 53 40.8 +0.8**
baz=126,SNR=176
P32M S **S** **19 01 43.9 +3.8**
baz=126
P33M Teslin, Yukon 58.02 336 P **P** **18 53 40.3 +0.2**
P33M IAmb IAmb 18 53 45.0
comp=Z,618nm,1.3s
P33M IAMs_20 IAMs_20 19 22 35.5
comp=Z,76µm,20.0s
P33M Teslin, Yukon 58.02 336 P **P** **18 53 40.1 +0.1**
baz=127,SNR=201
P33M S **S** **19 01 43.4 +3.2**
baz=127
S31K Pelican 58.20 333 P **P** **18 53 42.1 +0.9**
baz=122,SNR=81
S31K S **S** **19 01 46.4 +4.1**
baz=122
R31K City Hall, Gus 58.22 333 P **P** **18 53 42.2 +0.9**
baz=123,SNR=5.9
R31K S **S** **19 01 47.1 +4.5**
baz=123
NUUK Nuuk 58.26 18 *i* P **P** **18 53 41.5 +0.1**
NUUK IAmb IAmb 18 53 55.1
comp=Z,1µm,1.0s
NUUK Nuuk 58.26 18 ⇓P **P** **18 53 41.1 -0.3**
NUUK ⇑P **pP** **18 53 41.7 -2.8**
NUUK ⇑P **sP** **18 53 46.6 +1.0**
NRS Narsarsuaq 58.40 23 P **P** **18 53 42.7 +0.2**
NRS Narsarsuaq 58.40 23 *i* P **P** **18 53 42.0 -0.5**
NRS IAmb IAmb 18 53 58.8
comp=Z,183nm,0.9s
NRS Narsarsuaq 58.40 23 ⇓P **P** **18 53 43.1 +0.6**
NRS ⇑P **pP** **18 53 43.9 -1.7**
NRS ⇑P **sP** **18 53 46.0 -0.7**
NRS Narsarsuaq 58.40 23 P **P** **18 53 42.7 +0.2**
NRS pmax pmax
comp=Z,211nm,1.0s
NRS MLR MLR
comp=Z,86µm,19.0s
SKAG Skagway 58.62 334 P **P** **18 53 44.5 +0.4**
SKAG IAmb IAmb 18 53 49.1
comp=Z,419nm,1.2s
SKAG Skagway 58.62 334 P **P** **18 53 44.7 +0.6**
baz=124,SNR=79
SKAG S **S** **19 01 53.9 +6.1**
baz=124
SKAG Skagway 58.62 334 ⇑P **P** **18 53 44.8 +0.6**
N32M Quiet Lake 58.69 337 P **P** **18 53 45.2 +0.5**
baz=127
N32M S **S** **19 01 50.8 +2.0**
baz=127
MMPY Sheldon Lake, 58.93 339 P **P** **18 53 46.7 +0.4**
baz=130,SNR=470
MMPY S **S** **19 01 53.2 +1.3**
baz=130
PLBC Pleasant Camp 59.06 334 P **P** **18 53 48.4 +1.2**
baz=123,SNR=44
PLBC S **S** **19 01 57.4 +3.9**
baz=123
WHY Whitehorse 59.12 336 P **P** **18 53 47.6 0.0**
WHY Whitehorse 59.12 336 P **P** **18 53 47.7 0.0**
baz=125,SNR=88
WHY S **S** **19 01 56.2 +1.8**
baz=125
WHY Whitehorse 59.12 336 ⇓P **P** **18 53 47.7 0.0**
WHY ⇓P **P** **18 53 47.8 0.0**
COYC Coyhaique 59.19 166 P **P** **18 53 47.6 -0.6**
COYC Coyhaique 59.19 166 ⇓P **P** **18 53 48.2 0.0**
CALA Caldeira 59.40 52 *e*P **P** **18 53 49.8 -0.2**
comp=Z,563nm,1.7s
PCED Cedros 59.41 52 *e*P **P** **18 53 51.6 +1.6**
comp=Z,616nm,1.5s
FARO Faro, Yukon 59.45 338 P **P** **18 53 49.7 -0.2**
FARO Faro, Yukon 59.45 338 P **P** **18 53 50.0 +0.1**
baz=127,SNR=126
FARO S **S** **19 01 59.7 +1.2**
baz=127
HOR Horta 59.45 52 *e*P **P** **18 53 49.0 -1.2**
comp=Z,500nm,2.0s
PCAN Candelaria 59.55 52 *e*P **P** **18 53 50.0 -1.0**
comp=Z,475nm,1.9s
PICO Pico 59.60 52 *e*P **P** **18 53 50.3 -1.1**
comp=Z,692nm,1.6s
O30N Mendenhall 59.67 335 P **P** **18 53 52.0 +0.5**
baz=124,SNR=316
O30N S **S** **19 02 06.9 +5.4**
baz=124
P30M Million Dollar 59.67 334 P **P** **18 53 52.6 +1.1**
baz=122,SNR=145
P30M S **S** **19 02 04.4 +2.9**
baz=122
PPNO Prainha do Nor 59.72 52 *e*P **P** **18 53 51.8 -0.4**
comp=Z,713nm,1.4s
P29M Windy Craggy 59.75 334 P **P** **18 53 52.1 +0.1**
P29M IAmb IAmb 18 53 56.5
comp=Z,812nm,1.1s
P29M Windy Craggy 59.75 334 P **P** **18 53 52.8 +0.8**
baz=121
P29M S **S** **19 02 08.5 +6.0**
baz=121
ROSA Rosais 59.78 52 P **P** **18 53 52.5 0.0**
ROSA IAmb IAmb 18 54 45.5
comp=Z,362nm,1.0s
ROSA Rosais 59.78 52 *e*P **P** **18 53 52.6 0.0**
comp=Z,320nm,1.2s
ROSA Rosais 59.78 52 ⇑P **P** **18 53 54.8 +2.2**
ROSA ⇑P **pP** **18 53 55.5 -0.3**
M31M Drury Creek, Y 59.82 337 P **P** **18 53 52.4 -0.1**
M31M IAMs_20 IAMs_20 19 24 22.2
comp=Z,68µm,19.0s
M31M Drury Creek, Y 59.82 337 P **P** **18 53 52.8 +0.3**
baz=126,SNR=148
M31M S **S** **19 02 04.2 +0.9**
baz=126
PID Ribeirinha 59.83 52 *e*P **P** **18 53 49.8 -3.1**
comp=Z,906nm,1.5s
PMAN Manadas 59.88 52 *e*P **P** **18 53 52.5 -0.8**
comp=Z,385nm,1.6s
N31M Braeburn, Yuko 59.95 336 P **P** **18 53 53.5 +0.2**
N31M IAmb IAmb 18 53 57.3
comp=Z,687nm,1.1s
N31M IAMs_20 IAMs_20 19 24 01.5
comp=Z,63µm,20.0s
N31M Braeburn, Yuko 59.95 336 P **P** **18 53 53.6 +0.3**
baz=124,SNR=190
N31M S **S** **19 02 07.5 +2.5**
baz=124
PGRA Graciosa 60.03 52 *e*P **P** **18 53 55.7 +1.4**
comp=Z,352nm,1.8s
HYT Haines Junctio 60.28 335 P **P** **18 53 56.5 +0.8**
HYT IAmb IAmb 18 54 00.4
comp=Z,430nm,1.2s
HYT Haines Junctio 60.28 335 P **P** **18 53 56.7 +1.0**
baz=122,SNR=171
HYT S **S** **19 02 13.5 +4.0**
baz=122
N30M Aishikik Lake 60.45 336 P **P** **18 53 57.8 +0.9**
baz=123
N30M S **S** **19 02 14.9 +3.3**
baz=123
O29M Mount Kennedy 60.46 334 P **P** **18 53 57.8 +0.8**
baz=121
O29M S **S** **19 02 15.2 +3.5**
baz=121
PNL Peninsula 60.49 333 P **P** **18 53 58.1 +1.0**
baz=120,SNR=49
PNL S **S** **19 02 16.2 +4.2**
baz=120
PSBA Serra de Santa 60.49 52 *e*P **P** **18 53 56.0 -1.5**
comp=Z,687nm,1.3s
ADH Angra Heroismo 60.55 52 *e*P **P** **18 53 55.3 -2.5**
comp=Z,291nm,1.7s
PAGU Agualva, Azore 60.60 52 *e*P **P** **18 53 59.0 +0.8**
comp=Z,464nm,1.6s
SFJD Kangerlussuaq 60.61 16 P **P** **18 53 57.1 -0.6**
comp=Z,198nm,1.1s,baz=218,slow=5.6,SNR=14
SFJD S **S** **19 02 06.0 -7.2**
comp=Z,5.7nm,1.0s,baz=209,slow=16,SNR=1.1
SFJD LR LR 19 21 41.4
comp=Z,40µm,18.9s,baz=216,slow=38
comp=Z,198nm,1.1s
SFJD Kangerlussuaq 60.61 16 P **P** **18 53 56.7 -1.0**
SFJD Kangerlussuaq 60.61 16 IAMs_20 IAMs_20 19 22 56.2
comp=Z,61µm,18.0s
SFJD Kangerlussuaq 60.61 16 *i* P **P** **18 53 55.6 -2.1**
SFJD IAmb IAmb 18 54 02.2
comp=Z,239nm,1.1s
SFJD Kangerlussuaq 60.61 16 ⇓P **P** **18 53 56.3 -1.4**

PSCM Serra do Cume 60.64 52 *e*P P 18 53 57.5 -1.0
comp=Z,419nm,1.6s
YUK6 Outpost Mounta 60.70 335 P P 18 53 59.7 +0.9
baz=121,SNR=94
YUK6 S S 19 02 20.7 +5.7
baz=121
BCPM Bancas Point 60.74 333 P P 18 53 59.6 +0.9
BCPM IAmb IAmb 18 54 03.2
comp=Z,437nm,1.1s
M30M Minto, Yukon 60.95 337 P P 18 54 00.0 -0.2
M30M IAmb IAmb 18 54 04.8
comp=Z,433nm,1.2s
M30M Minto, Yukon 60.95 337 P P 18 54 00.2 0.0
baz=124
M30M S S 19 02 17.8 -0.1
baz=124
YUK4 Talbot Arm 61.03 335 P P 18 54 01.9 +1.0
baz=122,SNR=90
PINM Pinnacle 61.08 333 P P 18 54 02.2 +1.0
baz=119,SNR=48
PINM S S 19 02 23.5 +3.9
baz=119
PCA Pinnacle 61.08 333 P P 18 54 02.1 +1.0
PCA IAmb IAmb 18 54 10.2
comp=Z,691nm,1.4s
MAYO Mayo, Yukon 61.20 338 P P 18 54 02.5 +0.7
MAYO Mayo, Yukon 61.20 338 P P 18 54 02.2 +0.4
baz=125,SNR=58
MAYO S S 19 02 21.5 +0.6
baz=125
O28M Mount Upton 61.38 334 P P 18 54 04.5 +1.0
baz=120,SNR=85
O28M S S 19 02 25.5 +1.6
baz=120
YUK8 Steele Glacier 61.46 335 P P 18 54 04.7 +0.7
baz=120,SNR=313
YUK8 S S 19 02 24.8 0.0
baz=120
DY2G Dye2 61.50 18 *i* P P 18 54 02.3 -1.8
DY2G IAmb IAmb 18 54 14.3
comp=Z,537nm,1.3s
M29M Somme Creek 61.53 336 P P 18 54 05.0 +0.8
baz=122,SNR=907
M29M S S 19 02 26.6 +1.2
baz=122
C36M Paulatuk 61.60 347 P P 18 54 02.8 -1.6
C36M IAMs_20 IAMs_20 19 22 15.1
comp=Z,89µm,22.0s
C36M Paulatuk 61.60 347 P P 18 54 03.2 -1.2
baz=140,SNR=84
C36M S S 19 02 23.6 -2.2
baz=140
PSET Sete Cidades 61.62 53 *e*P P 18 54 01.8 -3.3
comp=Z,1µm,1.6s
TABL Table Mountain 61.63 334 P P 18 54 05.5 +0.5
TABL IAmb IAmb 18 54 10.2
comp=Z,541nm,1.1s
TABL IAMs_20 IAMs_20 19 23 50.7
comp=Z,51µm,20.0s
PDA Ponta Delgada 61.65 54 *e*P P 18 54 03.9 -1.4
comp=Z,501nm,1.4s
L29M L29M 61.76 337 P P 18 54 05.9 +0.3
baz=123
L29M S S 19 02 27.0 -1.1
baz=123
CMLA Cha da Macela 61.76 54 IAMs_20 IAMs_20 19 18 50.6
comp=Z,65µm,19.0s
PCALD Caldeiras da R 61.80 53 *e*P P 18 54 05.0 -1.3
comp=Z,551nm,1.6s
YAH Yahtse 61.86 333 P P 18 54 07.8 +1.2
YAH IAmb IAmb 18 54 12.3
comp=Z,690nm,1.2s
YAH IAMs_20 IAMs_20 19 24 36.7
comp=Z,64µm,18.0s
MESA MESA 61.87 333 P P 18 54 08.1 +1.4
MESA IAmb IAmb 18 54 15.7
comp=Z,692nm,1.2s
MESA IAMs_20 IAMs_20 19 25 17.8
comp=Z,71µm,20.0s
MESA MESA 61.87 333 P P 18 54 08.0 +1.4
baz=117,SNR=42
MESA S S 19 02 33.4 +3.5
baz=117
PGRON Lagoa das Cont 61.88 54 *e*P P 18 54 03.4 -3.6
comp=Z,637nm,1.4s
K29M Barlow Dome 61.93 338 P P 18 54 06.6 -0.3
baz=124
K29M S S 19 02 28.4 -2.1
baz=124
YUK3 Moose Creek 61.99 335 P P 18 54 07.9 +0.4
baz=120,SNR=262
YUK3 S S 19 02 32.1 +0.6
baz=120
PSMN Pico do Norte, 62.04 54 *e*P P 18 54 07.4 -0.6
comp=Z,429nm,1.4s
BART Pico Bartolome 62.04 54 *e*P P 18 54 06.2 -1.9
comp=Z,734nm,1.1s
ILULI Ilulissat 62.10 14 P P 18 54 06.8 -1.0
ILULI IAMs_20 IAMs_20 19 20 34.6
comp=Z,67µm,21.0s
ILULI Ilulissat 62.10 14 *i* P P 18 54 05.8 -2.0
ILULI IAmb IAmb 18 54 18.2
comp=Z,262nm,1.1s
ILULI Ilulissat 62.10 14 P P 18 54 06.8 -1.0
ILULI pmax pmax
comp=Z,230nm,1.1s
ILULI MLR MLR
comp=Z,67µm,21.0s
BARN Barnard Glacie 62.15 334 P P 18 54 09.0 +0.5
BARN IAmb IAmb 18 54 56.9
comp=Z,353nm,1.2s
BARN IAMs_20 IAMs_20 19 24 46.4
comp=Z,64µm,20.0s
ISLE Juniper Island 62.23 333 P P 18 54 09.5 +0.5
ISLE IAmb IAmb 18 54 14.1
comp=Z,586nm,1.2s
ISLE IAMs_20 IAMs_20 19 24 48.5
comp=Z,41µm,18.0s
SNH Sunshine Point 62.26 333 P P 18 54 10.4 +1.3
WAX Waxell Ridge 62.39 333 P P 18 54 11.2 +1.2
WAX IAmb IAmb 18 54 15.4
comp=Z,585nm,1.2s
WAX IAMs_20 IAMs_20 19 24 05.6
comp=Z,63µm,22.0s
BGLC Bering Glacier 62.44 333 P P 18 54 12.1 +2.0
baz=116
BGLC S S 19 02 40.8 +4.3
baz=116
BVCY Beaver Creek 62.48 336 P P 18 54 11.0 +0.5
baz=120,SNR=154
BVCY S S 19 02 41.8 +4.7
baz=120
J29M Klondike Camp 62.53 338 P P 18 54 11.1 +0.3
J29M IAmb IAmb 18 54 14.5
comp=Z,446nm,1.1s
J29M IAMs_20 IAMs_20 19 24 51.5
comp=Z,42µm,21.0s
J29M Klondike Camp 62.53 338 P P 18 54 10.8 0.0
baz=123,SNR=22
J29M S S 19 02 36.7 -1.1
baz=123
SUCK Suckling Hills 62.64 332 P P 18 54 13.4 +1.9
SUCK IAmb IAmb 18 54 17.3
comp=Z,470nm,1.1s
SUCK IAMs_20 IAMs_20 19 25 26.7
comp=Z,67µm,19.0s
BERG Berg Lake 62.74 333 P P 18 54 13.6 +1.3
BERG IAmb IAmb 18 54 17.6
comp=Z,598nm,1.1s
DAWY Dawson 62.75 338 P P 18 54 11.6 -0.7
DAWY IAmb IAmb 18 54 15.4
comp=Z,259nm,1.1s
DAWY Dawson 62.75 338 P P 18 54 11.8 -0.5
baz=122,SNR=191
DAWY S S 19 02 41.5 +1.0
baz=122
DAWY Dawson 62.75 338 ||P P 18 54 11.7 -0.7
DAWY ||P P 18 54 11.7 -0.7
F31M Tsiigehtchic 62.81 342 P P 18 54 12.4 -0.2
baz=129,SNR=174
F31M S S 19 02 40.4 -0.7
baz=129
RES Resolute Bay 62.84 358 P P 18 54 11.8 -0.8
comp=Z,316nm,0.8s,baz=185,slow=9.7,SNR=210
RES S S 19 02 39.0 -2.2
comp=Z,14nm,1.0s,baz=327,slow=23,SNR=1.2
RES PKPPKP P'P'df 19 23 08.8 -8.3
comp=Z,1.5nm,0.8s,baz=170,slow=38,SNR=2.9
RES LR LR 19 23 09.8
comp=Z,73µm,19.9s,baz=170,slow=38
comp=Z,316nm,0.8s
RES Resolute Bay 62.84 358 P P 18 54 11.4 -1.2
RES IAmb IAmb 18 54 15.4
comp=Z,353nm,0.9s
M27K Edge Creek, AK 62.86 335 P P 18 54 13.4 +0.2
M27K IAmb IAmb 18 54 17.3
comp=Z,363nm,1.1s
M27K IAMs_20 IAMs_20 19 23 29.3
comp=Z,65µm,20.0s
M27K Edge Creek, AK 62.86 335 P P 18 54 13.8 +0.6
baz=118,SNR=211
M27K S S 19 02 45.6 +3.4
baz=118
KAIM Kayak Island 62.87 332 P P 18 54 14.8 +1.7
KAIM IAmb IAmb 18 54 18.6
comp=Z,827nm,1.2s
KAIM Kayak Island 62.87 332 P P 18 54 14.4 +1.3
baz=115,SNR=20
KAIM S S 19 02 46.9 +4.8
baz=115
MCARA McCarthy VSAT 62.89 334 P P 18 54 14.2 +1.1
MCARA IAMs_20 IAMs_20 19 26 42.8
comp=Z,72µm,19.0s
MCARA McCarthy VSAT 62.89 334 P P 18 54 14.3 +1.1
baz=117,SNR=276
MCARA S S 19 02 43.3 +1.0
baz=117
HMT Hamilton 62.97 333 P P 18 54 13.2 -0.6
HMT IAMs_20 IAMs_20 19 26 26.5
comp=Z,79µm,20.0s
VRDI Verde Repeater 63.00 334 P P 18 54 14.5 +0.3
VRDI IAmb IAmb 18 54 22.9
comp=Z,498nm,1.1s
VRDI IAMs_20 IAMs_20 19 26 46.9
comp=Z,55µm,19.0s
I29M Ogilvie Camp, 63.06 339 P P 18 54 13.9 -0.4
I29M IAmb IAmb 18 54 17.7
comp=Z,436nm,1.1s
I29M IAMs_20 IAMs_20 19 23 09.6
comp=Z,70µm,22.0s
I29M Ogilvie Camp, 63.06 339 P P 18 54 13.8 -0.4
baz=124,SNR=250
I29M S S 19 02 43.1 -1.3
baz=124
EPYK Eagle Plains 63.10 340 P P 18 54 14.4 -0.1
EPYK IAmb IAmb 18 54 19.8
comp=Z,485nm,1.2s
EPYK IAMs_20 IAMs_20 19 25 31.6
comp=Z,56µm,20.0s
EPYK Eagle Plains 63.10 340 P P 18 54 14.6 0.0
baz=126,SNR=188
EPYK S S 19 02 44.9 +0.1
baz=126
BCAR Beaver Creek A 63.17 336 P P 18 54 14.5 -0.6
RAGM Ragged Mountai 63.18 333 P P 18 54 15.5 +0.3
L27K Beaver Creek, 63.18 336 P P 18 54 15.5 +0.3
L27K IAmb IAmb 18 54 19.2
comp=Z,534nm,1.1s
L27K Beaver Creek, 63.18 336 P P 18 54 15.7 +0.5
baz=119
L27K S S 19 02 48.3 +2.3
baz=119
GLB Gilahina Butte 63.25 334 P P 18 54 16.2 +0.6
GLB IAmb IAmb 18 54 20.8
comp=Z,699nm,1.1s
GLB IAMs_20 IAMs_20 19 26 55.5
comp=Z,65µm,19.0s
G30M tAoh Zraii Nji 63.30 341 P P 18 54 15.6 -0.3
baz=126
G30M S S 19 02 47.1 -0.2
baz=126
INK Inuvik 63.30 343 P P 18 54 15.8 0.0
comp=Z,360nm,1.1s,baz=132,slow=7.8,SNR=265
INK S S 19 02 45.1 -2.1
comp=Z,12nm,1.1s,baz=138,slow=13,SNR=2.6
INK PKPPKP P'P'df 19 23 07.4 -9.2
comp=Z,4.7nm,0.9s,baz=109,slow=2.2,SNR=6.1
INK LR LR 19 24 19.7
comp=Z,69µm,22.0s,baz=120,slow=38
INK P4KPbc 19 31 14.1
comp=Z,13nm,1.1s,baz=138,slow=4.3,SNR=13
comp=Z,360nm,1.1s
INK Inuvik 63.30 343 P P 18 54 16.1 +0.3
INK IAmb IAmb 18 54 21.2
comp=Z,792nm,1.1s
INK Inuvik 63.30 343 P P 18 54 16.1 +0.3
baz=130,SNR=492
INK S S 19 02 44.2 -2.9
baz=130
INK Inuvik 63.30 343 ||P P 18 54 14.8 -0.9
INK ||P P 18 54 15.8 0.0
INK Inuvik 63.30 343 P P 18 54 16.1 +0.3
INK pmax pmax
comp=Z,792nm,1.2s
M26K Nabesna, AK 63.34 335 P P 18 54 16.6 +0.3
M26K IAmb IAmb 18 54 24.8
comp=Z,460nm,1.2s
M26K Nabesna, AK 63.34 335 P P 18 54 16.8 +0.5
baz=117
M26K S S 19 02 50.7 +2.7
baz=117
SACV Santiago Islan 63.35 79 P P 18 54 16.9 -0.1
BMRM Bremner River 63.39 333 P P 18 54 16.7 +0.1
BMRM IAmb IAmb 18 54 23.9
comp=Z,593nm,1.1s
BMRM Bremner River 63.39 333 P P 18 54 17.6 +1.0
baz=115
BMRM S S 19 02 52.1 +3.4
baz=115
NUUG Nuugaatsiaq 63.40 12 *i* P P 18 54 15.6 -0.8
NUUG IAmb IAmb 18 54 21.4
comp=Z,218nm,0.9s
Q23K Middleton Isla 63.56 331 P P 18 54 19.1 +1.5
baz=113
Q23K S S 19 02 57.2 +6.6
baz=113
N25K Chitina, Valde 63.66 334 P P 18 54 19.1 +0.6
N25K IAmb IAmb 18 54 23.6
comp=Z,735nm,1.1s
N25K Chitina, Valde 63.66 334 P P 18 54 19.4 +1.0
baz=116,SNR=260
N25K S S 19 02 54.6 +2.4
baz=116
EYAK Cordova Ski Ar 63.73 333 P P 18 54 19.4 +0.7
EYAK Cordova Ski Ar 63.73 333 P P 18 54 20.1 +1.4
baz=114,SNR=171
EYAK S S 19 02 55.9 +3.2
baz=114
L26K Log Cabin Wild 63.77 336 P P 18 54 19.5 +0.4
L26K IAmb IAmb 18 54 23.1
comp=Z,320nm,1.2s
L26K Log Cabin Wild 63.77 336 P P 18 54 19.5 +0.4
baz=117,SNR=128
L26K S S 19 02 55.1 +1.8
baz=117
EGAK Eagle 63.78 338 P P 18 54 18.4 -0.6
EGAK IAmb IAmb 18 54 22.8
comp=Z,550nm,1.1s
EGAK IAMs_20 IAMs_20 19 26 32.6
comp=Z,68µm,20.0s
EGAK Eagle 63.78 338 P P 18 54 18.7 -0.3
baz=120,SNR=356
EGAK S S 19 02 52.7 -0.5
baz=120
ANGG Ammassalik, Gr 63.83 21 P P 18 54 19.1 -0.2
ANGG IAmb IAmb 18 54 32.2
comp=Z,415nm,1.1s
ANGG Ammassalik, Gr 63.83 21 *i* P P 18 54 18.4 -0.9
ANGG IAmb IAmb 18 54 24.4
comp=Z,204nm,0.7s
ANGG Ammassalik, Gr 63.83 21 ||P P 18 54 19.2 0.0
ANGG ||P pP 18 54 19.4 -2.9
UPNV Upernavik 63.83 10 *i* P P 18 54 16.5 -2.7
UPNV IAmb IAmb 18 54 24.5
comp=Z,177nm,1.1s
MENT Mentasta 63.89 335 P P 18 54 19.9 +0.1
A36M Sachs Harbour 63.89 348 P P 18 54 18.6 -1.0
A36M IAmb IAmb 18 54 24.2
comp=Z,584nm,1.0s
A36M Sachs Harbour 63.89 348 P P 18 54 18.6 -1.0
baz=140,SNR=403
A36M S S 19 02 51.2 -3.2
baz=140
JCUZ Jacuzzi 63.90 286 P P 18 54 19.3 -1.4
JCUZ IAmb IAmb 18 54 24.3
comp=Z,476nm,0.8s
NPOC North of Pu'u 63.90 286 P P 18 54 19.6 -1.2
DIV Divide 63.98 333 P P 18 54 21.1 +0.6
PUH Pauahi 64.00 286 P P 18 54 20.5 -0.9
HIN Hinchinbrook I 64.01 332 P P 18 54 21.8 +1.1
HIN IAMs_20 IAMs_20 19 25 36.5
comp=Z,48µm,20.0s
BYL Byron's Ledge 64.04 286 P P 18 54 21.1 -0.6
HATHI Halema'uma'u T 64.04 286 P P 18 54 20.4 -1.3
KKO Keanakako'i 64.05 286 P P 18 54 20.4 -1.3
SBLHI Steaming Bluff 64.05 286 P P 18 54 20.5 -1.3
RSD Rainshed 64.06 286 P P 18 54 21.4 -0.5
RIM Rim 64.06 286 P P 18 54 20.7 -1.1
UWB Uwekahuna B 64.06 286 P P 18 54 22.2 +0.4
UWB IAmb IAmb 18 54 25.3
comp=Z,752nm,1.1s
OBL Observatory Le 64.06 286 P P 18 54 21.5 -0.3
UWE Uwekahuna 64.07 286 P P 18 54 21.6 -0.4
SDHHI Sand Hill 64.08 286 P P 18 54 20.7 -1.2
HLP Hilina Pali 64.09 286 P P 18 54 20.9 -1.1
VAH Vaihoa 64.13 247 *e*P P 18 54 21.7 -0.4
comp=Z,690nm,1.3s
VAH Vaihoa 64.13 247 *e*T T 20 04 12.6
comp=Z,6.3nm,0.2s
MLH Mauna Loa 64.16 286 P P 18 54 20.4 -2.2
KLU Klutina 64.19 333 P P 18 54 22.8 +0.9
KLU IAMs_20 IAMs_20 19 25 11.3
comp=Z,53µm,22.0s
KLU Klutina 64.19 333 P P 18 54 22.7 +0.8
baz=114,SNR=434
KLU S S 19 03 00.5 +1.8
baz=114
AIN Ainahou 64.23 286 P P 18 54 22.5 -0.6
HMH Humu'ula Sheep 64.24 286 P P 18 54 21.6 -1.6
HMH IAmb IAmb 18 54 40.0
comp=Z,560nm,1.1s
HARP HAARP 64.24 335 P P 18 54 22.8 +0.6
baz=115,SNR=110
HARP S S 19 03 00.2 +1.0
baz=115
P23K Montague Islan 64.27 332 P P 18 54 23.1 +0.7
baz=112,SNR=43
P23K S S 19 03 03.2 +3.7
baz=112
POHA Pohakuloa 64.27 286 P P 18 54 22.6 -0.8
POHA Pohakuloa 64.27 286 IAMs_20 IAMs_20 19 16 27.1
comp=Z,40µm,20.0s
POHA Pohakuloa 64.27 286 P P 18 54 24.6 +1.2
POHA Pohakuloa 64.27 286 ||P P 18 54 23.9 +0.5
MLOA Mauna Loa Obse 64.33 286 P P 18 54 23.4 -0.6
MLOA IAmb IAmb 18 54 28.3
comp=Z,554nm,1.1s
DOT Dot Lake 64.35 336 P P 18 54 23.2 +0.3
MWH Moku'aweowe 64.35 286 P P 18 54 22.8 -1.5
MWH IAmb IAmb 18 54 33.6
comp=Z,535nm,1.2s
I27K Kandik River 64.36 338 P P 18 54 23.3 +0.4
baz=120,SNR=266
I27K S S 19 02 59.9 -0.7
baz=120
KHU Kahuku 64.39 286 P P 18 54 23.2 -0.9
KHU IAmb IAmb 18 55 02.2
comp=Z,535nm,1.4s
KHU Kahuku 64.39 286 P P 18 54 23.2 -0.9
KHU pmax pmax
comp=Z,535nm,1.4s
HPAH Hawaii Prepara 64.41 287 P P 18 54 24.1 0.0
SCRK Sand Creek 64.47 336 P P 18 54 23.8 +0.1
SCRK IAmb IAmb 18 54 28.5
comp=Z,384nm,1.2s
SCRK Sand Creek 64.47 336 P P 18 54 23.9 +0.2
baz=117,SNR=259
SCRK S S 19 03 03.5 +1.4
baz=117
GO09 Cerro Castillo 64.55 169 P P 18 54 24.9 +0.7
GO09 IAmb IAmb 18 54 31.0
comp=Z,1µm,1.9s
J26L Joseph Creek 64.55 337 P P 18 54 24.6 +0.4
J26L IAMs_20 IAMs_20 19 25 34.8
comp=Z,55µm,21.0s
J26L Joseph Creek 64.55 337 P P 18 54 24.8 +0.6
baz=118
J26L S S 19 03 05.1 +2.1
baz=118
M24K Tolsona, Glenn 64.55 334 P P 18 54 24.6 +0.4
M24K IAMs_20 IAMs_20 19 27 46.2
comp=Z,73µm,20.0s
M24K Tolsona, Glenn 64.55 334 P P 18 54 25.3 +1.1
baz=114,SNR=84
M24K S S 19 03 05.0 +1.9
baz=114
HUH Hualalai 64.56 286 P P 18 54 25.2 -0.1
HUH IAmb IAmb 18 55 13.2
comp=Z,764nm,1.5s
MHA Mahukona 64.59 287 P P 18 54 26.5 +1.4
MHA Mahukona 64.59 287 P P 18 54 26.5 +1.4
PAX Paxson 64.62 335 P P 18 54 24.4 -0.3
PAX IAmb IAmb 18 54 28.2
comp=Z,320nm,1.2s
PAX Paxson 64.62 335 P P 18 54 24.8 +0.1
baz=115,SNR=145
PAX S S 19 03 04.5 +0.6
baz=115
PAX Paxson 64.62 335 P P 18 54 24.4 -0.3
PAX pmax pmax
comp=Z,321nm,1.2s
KHLU Kahalu`u 64.62 286 P P 18 54 24.9 -0.6
KHLU IAmb IAmb 18 54 44.7
comp=Z,367nm,1.1s
H27K Steamboat Moun 64.65 339 P P 18 54 25.3 +0.5
baz=120,SNR=974
H27K S S 19 03 02.8 -1.3
baz=120
RIDG Independent Ri 64.70 336 P P 18 54 25.3 +0.1
RIDG Independent Ri 64.70 336 P P 18 54 25.6 +0.4
baz=116,SNR=340
RIDG S S 19 03 05.9 +1.1
baz=116
I26K Coal Creek Min 64.77 338 P P 18 54 25.1 -0.4
I26K IAmb IAmb 18 54 30.0
comp=Z,828nm,1.2s
I26K Coal Creek Min 64.77 338 P P 18 54 25.6 +0.1
baz=118,SNR=468
I26K S S 19 03 05.0 -0.6
baz=118
HLK Haleakala 64.88 287 P P 18 54 25.9 -1.5
MG05 Puerto Natales 64.90 169 P P 18 54 26.6 +0.2
MG05 IAmb IAmb 18 54 32.1
comp=Z,1µm,1.8s
SCM Sheep Creek Mo 64.94 333 P P 18 54 27.0 +0.2
SCM IAmb IAmb 18 54 33.4
comp=Z,461nm,1.0s
SCM Sheep Creek Mo 64.94 333 P P 18 54 27.1 +0.2
baz=113,SNR=109
SCM S S 19 03 09.4 +1.5
baz=113
SCM Sheep Creek Mo 64.94 333 P P 18 54 27.0 +0.2
SCM pmax pmax
comp=Z,461nm,1.0s
G27K Doyon Strip 64.99 340 P P 18 54 27.2 +0.2
baz=121
G27K S S 19 03 09.7 +1.5
baz=121
PWL Port Wells 65.02 332 P P 18 54 28.2 +1.0
PWL IAmb IAmb 18 54 31.2
comp=Z,340nm,1.2s
PWL IAMs_20 IAMs_20 19 27 21.2
comp=Z,64µm,21.0s
PWL Port Wells 65.02 332 P P 18 54 27.2 -0.1
baz=112,SNR=20
PWL S S 19 03 09.1 +0.2
baz=112
KHLH Kahului Airpor 65.03 288 P P 18 54 27.3 -0.7
M23K Glacier View 65.10 333 P P 18 54 28.0 +0.2
baz=112,SNR=280
M23K S S 19 03 10.5 +0.7
baz=112
ICESG Greenland Ices 65.10 17 *i* P P 18 54 24.6 -3.4
ICESG IAmb IAmb 18 54 41.9
comp=Z,521nm,1.0s
K24K Donnelly Dome 65.10 336 P P 18 54 28.2 +0.5
baz=115,SNR=334
K24K S S 19 03 13.1 +3.3
baz=115
KULLO Kullorsuaq 65.13 9 *i* P P 18 54 26.0 -1.6

KULLO IAmb IAmb 18 54 43.0
comp=Z,551nm,1.5s
SEW Seward 65.27 331 P **P** **18 54 28.7 -0.1**
SEW IAmb IAmb 18 54 32.9
comp=Z,836nm,1.2s
SEW Seward 65.27 331 P **P** **18 54 29.3 +0.5**
baz=110,SNR=94
SEW S **S** **19 03 13.1 +1.4**
baz=110
KNK Knik Glacier 65.28 333 P **P** **18 54 29.2 +0.3**
KNK IAMs_20 IAMs_20 19 25 50.1
comp=Z,69µm,22.0s
KNK Knik Glacier 65.28 333 P **P** **18 54 29.4 +0.4**
baz=112,SNR=409
KNK S **S** **19 03 13.2 +1.2**
baz=112
SML Sawmill 65.37 333 P **P** **18 54 29.8 +0.2**
SML Sawmill 65.37 333 P **P** **18 54 29.8 +0.2**
baz=112,SNR=225
SML S **S** **19 03 14.1 +1.0**
baz=112
WAT6 Susitna Watana 65.41 334 P **P** **18 54 30.0 +0.1**
baz=113,SNR=458
WAT6 S **S** **19 03 14.0 +0.2**
baz=113
DHY Denali Highway 65.45 335 P **P** **18 54 30.1 -0.1**
DHY IAMs_20 IAMs_20 19 28 18.6
comp=Z,46µm,20.0s
DHY Denali Highway 65.45 335 P **P** **18 54 29.5 -0.7**
baz=113,SNR=58
DHY S **S** **19 03 14.7 +0.3**
baz=113
TULEG Thule 65.49 5 P **P** **18 54 29.2 -0.8**
TULEG IAmb IAmb 18 54 35.6
comp=Z,454nm,1.1s
TULEG Thule 65.49 5 *i* P **P** **18 54 29.5 -0.5**
TULEG IAmb IAmb 18 54 35.1
comp=Z,546nm,1.2s
MEH Mehetia 65.50 244 *e*P **P** **18 54 30.7 -0.4**
comp=Z,244nm,1.4s
O22K Cooper Landing 65.53 332 P **P** **18 54 32.1 +1.6**
O22K Cooper Landing 65.53 332 P **P** **18 54 30.7 +0.2**
baz=110,SNR=22
O22K S **S** **19 03 18.3 +3.4**
baz=110
GHO Glory Hole Cre 65.62 333 P **P** **18 54 31.3 +0.1**
GHO IAMs_20 IAMs_20 19 26 00.1
comp=Z,42µm,22.0s
PMR Palmer 65.65 333 P **P** **18 54 31.2 -0.1**
PMR Palmer 65.65 333 P **P** **18 54 31.5 +0.3**
baz=111,SNR=208
PMR S **S** **19 03 16.1 -0.3**
baz=111
PMR Palmer 65.65 333 P **P** **18 54 31.2 -0.1**
PMR pmax pmax
comp=Z,962nm,1.2s
E27K Coleen River 65.68 341 P **P** **18 54 31.9 +0.5**
baz=121
E27K S **S** **19 03 18.2 +1.5**
baz=121
RC01 Rabbit Creek A 65.74 332 P **P** **18 54 31.9 0.0**
RC01 IAMs_20 IAMs_20 19 28 05.3
comp=Z,62µm,21.0s
RC01 Rabbit Creek A 65.74 332 P **P** **18 54 32.2 +0.3**
baz=110,SNR=270
RC01 S **S** **19 03 17.6 0.0**
baz=110
PRP Porcupine Dome 65.75 338 P **P** **18 54 31.7 -0.3**
PRP IAmb IAmb 18 54 35.7
comp=Z,499nm,1.1s
PRP IAMs_20 IAMs_20 19 25 14.5
comp=Z,79µm,22.0s
PRP Porcupine Dome 65.75 338 P **P** **18 54 32.1 0.0**
baz=116,SNR=429
PRP S **S** **19 03 17.6 -0.3**
baz=116
BRSE Bradley Lake S 65.76 331 P **P** **18 54 32.2 +0.1**
baz=109,SNR=98
BRSE S **S** **19 03 19.2 +1.3**
baz=109
G26K Porcupine Rive 65.79 339 P **P** **18 54 32.4 +0.3**
baz=119
G26K S **S** **19 03 19.4 +1.5**
baz=119
HDA Harding Lake 65.82 336 P **P** **18 54 31.8 -0.6**
HDA IAMs_20 IAMs_20 19 27 51.9
comp=Z,50µm,20.0s
HDA Harding Lake 65.82 336 P **P** **18 54 32.2 -0.2**
baz=114,SNR=645
HDA S **S** **19 03 17.7 -0.8**
baz=114
HDA S **S** **19 03 17.7 -0.8**
baz=114
BRLK Bradley Lake 65.84 331 P **P** **18 54 33.2 +0.7**
WAT1 Susitna Watana 65.85 334 P **P** **18 54 32.5 -0.1**
baz=112
WAT1 S **S** **19 03 18.8 -0.2**
baz=112
CNPM China Poot 65.93 330 P **P** **18 54 33.8 +0.6**
CNPM IAMs_20 IAMs_20 19 27 05.3
comp=Z,50µm,21.0s
IL31 65.95 337 P **P** **18 54 32.7 -0.4**
ILAR Eielson Array 65.95 337 P **P** **18 54 32.8 -0.4**
comp=Z,942nm,1.1s,baz=123,slow=4.3,SNR=367
ILAR PP **PP** **18 56 57.1 -1.2**
comp=Z,87nm,1.2s,baz=114,slow=3.9,SNR=4.0
ILAR S **S** **19 03 17.7 -2.3**
comp=Z,2.6nm,1.1s,baz=245,slow=1.5,SNR=1.5
ILAR PKPPKP P'P'df 19 23 03.8 -8.6
comp=Z,2.3nm,0.9s,baz=307,slow=3.9,SNR=8.8
ILAR LR LR 19 26 51.6
comp=Z,56µm,19.4s,baz=99,slow=39
ILAR P4KPbc 19 31 26.7
comp=Z,0.6nm,0.8s,baz=113,slow=2.1,SNR=5.2
comp=Z,942nm,1.1s
FIS Fire Island 65.98 332 P **P** **18 54 34.4 +1.0**
FIS IAMs_20 IAMs_20 19 27 51.6
comp=Z,50µm,20.0s
FYU Fort Yukon 66.12 339 P **P** **18 54 34.1 -0.1**
FYU IAmb IAmb 18 54 42.7
comp=Z,618nm,1.2s
FYU IAMs_20 IAMs_20 19 28 55.1
comp=Z,62µm,20.0s
M22K Willow 66.15 333 P **P** **18 54 34.7 +0.2**
M22K IAMs_20 IAMs_20 19 27 05.3
comp=Z,42µm,21.0s
M22K Willow 66.15 333 P **P** **18 54 34.5 +0.1**
baz=110,SNR=66
M22K S **S** **19 03 22.3 -0.2**
baz=110
HOM Homer 66.17 330 P **P** **18 54 36.6 +2.0**
HOM Homer 66.17 330 P **P** **18 54 35.7 +1.1**
baz=108,SNR=10.0
HOM S **S** **19 03 25.0 +2.2**
baz=108
H25L Birch Creek 66.19 338 P **P** **18 54 35.4 +0.7**
baz=116
H25L S **S** **19 03 26.7 +3.9**
baz=116
RND Reindeer 66.20 335 P **P** **18 54 35.3 +0.4**
RND IAMs_20 IAMs_20 19 28 54.4
comp=Z,59µm,21.0s
RND Reindeer 66.20 335 P **P** **18 54 35.3 +0.4**
RND pmax pmax
comp=Z,1µm,1.0s
RND MLR MLR
comp=Z,59µm,21.0s
MG04 Isla Riesco 66.20 169 P **P** **18 54 36.1 +1.2**
Q20K Shuyak Island 66.22 329 P **P** **18 54 36.3 +1.2**
baz=107,SNR=19
Q20K S **S** **19 03 27.7 +4.2**
baz=107
CCB Clear Creek Bu 66.26 336 P **P** **18 54 34.4 -0.7**
CCB IAMs_20 IAMs_20 19 28 37.4
comp=Z,53µm,20.0s
F26K Sheenjek River 66.27 340 P **P** **18 54 36.1 +0.9**
baz=118
F26K S **S** **19 03 25.0 +1.1**
baz=118
CAPN Captain Cook N 66.29 332 P **P** **18 54 36.1 +0.8**
CAPN IAMs_20 IAMs_20 19 23 33.2
comp=Z,43µm,21.0s
CAPN Captain Cook N 66.29 332 P **P** **18 54 36.9 +1.6**
baz=109,SNR=8.1
CAPN S **S** **19 03 28.2 +4.0**
baz=109
BMAR Burnt Mountain 66.29 340 P **P** **18 54 35.6 +0.2**

OHAK Old Harbor 66.30 328 P **P** **18 54 36.6 +1.0**
OHAK Old Harbor 66.30 328 P **P** **18 54 36.5 +1.0**
baz=105,SNR=60
OHAK S **S** **19 03 28.6 +4.3**
baz=105
WRH Wood River Hil 66.30 336 P **P** **18 54 34.7 -0.7**
WRH IAmb IAmb 18 54 42.2
comp=Z,450nm,1.0s
WRH IAMs_20 IAMs_20 19 28 16.0
comp=Z,56µm,20.0s
POKR Poker Plat Res 66.31 337 P **P** **18 54 35.6 +0.1**
POKR IAmb IAmb 18 54 43.5
comp=Z,570nm,1.2s
POKR Poker Plat Res 66.31 337 P **P** **18 54 35.4 -0.1**
baz=114,SNR=136
POKR S **S** **19 03 24.5 +0.1**
baz=114
SUA Susitna One 66.33 332 P **P** **18 54 36.0 +0.1**
SUA IAMs_20 IAMs_20 19 28 44.8
comp=Z,55µm,21.0s
SUA Susitna One 66.33 332 P **P** **18 54 36.5 +0.6**
baz=110,SNR=83
SUA S **S** **19 03 25.2 +0.2**
baz=110
MCK McKinley 66.36 335 P **P** **18 54 35.6 -0.2**
MCK McKinley 66.36 335 P **P** **18 54 36.1 +0.3**
baz=112,SNR=571
MCK S **S** **19 03 25.9 +0.8**
baz=112
MCK McKinley 66.36 335 P **P** **18 54 35.6 -0.2**
MCK pmax pmax
comp=Z,1µm,1.2s
MCK MLR MLR
comp=Z,79µm,21.0s
COLA College 66.37 336 P **P** **18 54 35.4 -0.4**
COLA IAmb IAmb 18 54 40.2
comp=Z,483nm,0.9s
COLA College 66.37 336 IAMs_20 IAMs_20 19 26 54.4
comp=Z,51µm,19.0s
COLA College 66.37 336 P **P** **18 54 35.7 -0.2**
baz=114
COLA S **S** **19 03 24.9 -0.1**
baz=114
COLA College 66.37 336 P **P** **18 54 37.0 +1.2**
COLA College 66.37 336 ‖P **P** **18 54 35.6 -0.2**
COLA ‖P **P** **18 54 35.6 -0.2**
COLA College 66.37 336 ‖P **P** **18 54 36.2 +0.4**
TCOL CIGO, UAF Yank 66.37 336 P **P** **18 54 35.3 -0.6**
TCOL IAmb IAmb 18 54 40.2
comp=Z,527nm,1.0s
TCOL IAMs_20 IAMs_20 19 26 54.4
comp=Z,54µm,19.0s
TCOL CIGO, UAF Yank 66.37 336 P **P** **18 54 35.6 -0.2**
baz=114,SNR=125
TCOL S **S** **19 03 24.2 -0.9**
baz=114
CUT Chulitna 66.44 334 P **P** **18 54 36.1 -0.2**
CUT IAMs_20 IAMs_20 19 28 54.6
comp=Z,49µm,21.0s
CUT Chulitna 66.44 334 P **P** **18 54 36.5 +0.2**
baz=110,SNR=362
CUT S **S** **19 03 25.5 -0.5**
baz=110
OPA Opana 66.45 289 P **P** **18 54 36.6 -0.6**
OPA IAmb IAmb 18 54 40.9
comp=Z,567nm,1.1s
OPA Opana 66.45 289 P **P** **18 54 36.6 -0.6**
OPA pmax pmax
comp=Z,567nm,1.1s
HON Honolulu 66.47 288 P **P** **18 54 36.9 -0.4**
HON Honolulu 66.47 288 P **P** **18 54 36.9 -0.4**
HON pmax pmax
comp=Z,2µm,1.2s
KIP Kipapa 66.48 288 P **P** **18 54 36.7 -0.6**
KIP IAmb IAmb 18 54 41.4
comp=Z,708nm,1.2s
KIP Kipapa 66.48 288 P **P** **18 54 38.3 +1.0**
KIP Kipapa 66.48 288 *d* P **P** **18 54 38.1 +0.8**
KIP pmax pmax
comp=Z,757nm,1.3s
KIP MLR MLR
comp=Z,9µm,14.0s
TIAR Tiarei 66.51 245 *e*P **P** **18 54 38.0 +0.4**
comp=Z,89nm,1.2s
G25K Bearman Lake 66.52 339 P **P** **18 54 37.5 +0.8**
baz=116
G25K S **S** **19 03 28.5 +1.7**
baz=116
MDM Murphy Dome 66.55 336 P **P** **18 54 36.6 -0.5**
MDM IAmb IAmb 18 54 41.0
comp=Z,391nm,1.0s
MDM IAMs_20 IAMs_20 19 28 25.1
comp=Z,57µm,20.0s
GO10 Punta Arenas 66.59 168 P **P** **18 54 38.6 +1.3**
GO10 IAmb IAmb 18 54 49.4
comp=Z,432nm,1.1s
SII Sitkinak Islan 66.60 327 P **P** **18 54 38.4 +0.9**
SII IAMs_20 IAMs_20 19 25 11.6
comp=Z,40µm,21.0s
SII Sitkinak Islan 66.60 327 P **P** **18 54 38.7 +1.1**
baz=104,SNR=45
SII S **S** **19 03 32.9 +4.6**
baz=104
PPTF Pamatai, Papee 66.72 245 P **P** **18 54 39.2 +0.2**
PPTF IAmb IAmb 18 54 46.9
comp=Z,1µm,1.7s
PPTF IAMs_20 IAMs_20 19 15 09.2
comp=Z,50µm,20.0s
PPTF Pamatai, Papee 66.72 245 P **P** **18 54 40.7 +1.7**
PPTF Pamatai, Papee 66.72 245 ‖P **P** **18 54 39.6 +0.6**
PPTF ‖P **pP** **18 54 41.0 -0.9**
PPT Papeete 66.72 245 P **P** **18 54 40.6 +1.7**
comp=Z,147nm,1.1s,baz=83,slow=11,SNR=9.6
PPT LR LR 19 15 58.6
comp=Z,46µm,20.2s,baz=66,slow=29
comp=Z,147nm,1.1s
PPT2 Papeete2 66.73 245 *e*P **P** **18 54 39.7 +0.7**
comp=Z,296nm,1.4s
PPT2 Papeete2 66.73 245 *e*PP **PP** **18 57 06.8 +0.6**
comp=Z,7µm,33.8s
PPT2 *e*S **S** **19 03 32.6 +1.6**
comp=Z,73µm,25.2s
PPT2 Papeete2 66.73 245 *e*LR LR 19 14 31.5
comp=Z,233µm,26.8s
PPT2 *e*LR LR 19 14 38.0
comp=Z,123µm,42.8s
F25K Christian Rive 66.73 340 P **P** **18 54 39.2 +1.0**
baz=117
F25K S **S** **19 03 30.9 +1.4**
baz=117
BWN Browne 66.74 335 P **P** **18 54 37.9 -0.3**
BWN IAMs_20 IAMs_20 19 26 05.4
comp=Z,45µm,22.0s
NEA2 Nenana 66.74 336 P **P** **18 54 37.8 -0.5**
NEA2 IAmb IAmb 18 54 41.5
comp=Z,620nm,1.2s
NEA2 IAMs_20 IAMs_20 19 28 28.6
comp=Z,58µm,19.0s
NEA2 Nenana 66.74 336 P **P** **18 54 38.1 -0.1**
baz=112,SNR=498
NEA2 S **S** **19 03 29.4 -0.3**
baz=112
PAE Paea 66.76 245 *e*P **P** **18 54 38.5 -0.6**
comp=Z,170nm,1.3s
O20K Slope Mountain 66.77 331 P **P** **18 54 39.0 +0.4**
baz=107,SNR=103
O20K S **S** **19 03 31.1 +0.9**
baz=107
H24K Noodor Dome 66.77 337 P **P** **18 54 38.0 -0.5**
H24K IAmb IAmb 18 54 43.0
comp=Z,774nm,1.1s
H24K Noodor Dome 66.77 337 P **P** **18 54 38.9 +0.4**
baz=114
H24K S **S** **19 03 29.6 -0.5**
baz=114
TRF Thorofare Moun 66.82 335 P **P** **18 54 38.8 -0.1**
TRF IAMs_20 IAMs_20 19 29 00.7
comp=Z,53µm,19.0s
TRF Thorofare Moun 66.82 335 P **P** **18 54 39.2 +0.2**
baz=111,SNR=363
TRF S **S** **19 03 30.9 0.0**
baz=111
SPU Mount Spurr 66.83 332 P **P** **18 54 39.8 +0.8**
SKT Skwentna 66.85 333 P **P** **18 54 39.0 0.0**
SKT Skwentna 66.85 333 P **P** **18 54 39.4 +0.4**
baz=109,SNR=366
SKT S **S** **19 03 30.1 -1.0**

baz=109
N20K Mount Spurr 66.91 332 P **P** **18 54 39.7 +0.2**
baz=108,SNR=191
N20K S **S** **19 03 32.0 +0.1**
baz=108
SPCR Spurr Chakacha 66.91 332 P **P** **18 54 39.5 0.0**
baz=108,SNR=63
SPCR S **S** **19 03 31.3 -0.6**
baz=108
P19K Oil Pt 66.94 330 P **P** **18 54 40.3 +0.6**
P19K IAmb IAmb 18 54 44.3
comp=Z,564nm,0.8s
P19K Oil Pt 66.94 330 P **P** **18 54 39.9 +0.3**
baz=106
P19K S **S** **19 03 33.5 +1.3**
baz=106
Q19K Cape Douglas, 66.94 329 P **P** **18 54 40.4 +0.7**
Q19K IAMs_20 IAMs_20 19 27 42.3
comp=Z,37µm,21.0s
Q19K Cape Douglas, 66.94 329 P **P** **18 54 40.3 +0.7**
baz=106,SNR=46
Q19K S **S** **19 03 34.5 +2.2**
baz=106
RSO Redoubt South 66.94 331 P **P** **18 54 40.3 +0.4**
E25K Arctic Village 66.94 340 P **P** **18 54 40.4 +0.9**
baz=117,SNR=344
E25K S **S** **19 03 33.3 +1.2**
baz=117
G24K Hadweenzic Riv 66.98 338 P **P** **18 54 40.5 +0.7**
baz=115
G24K S **S** **19 03 33.7 +1.2**
baz=115
ILSW Iliamna Southw 66.99 331 P **P** **18 54 40.5 +0.4**
ILSW IAmb IAmb 18 54 43.9
comp=Z,1µm,1.3s
I23K Minto, Yukon-K 67.07 336 P **P** **18 54 40.1 -0.1**
I23K IAMs_20 IAMs_20 19 28 49.7
comp=Z,56µm,20.0s
I23K Minto, Yukon-K 67.07 336 P **P** **18 54 40.7 +0.4**
baz=112,SNR=504
I23K S **S** **19 03 32.7 -0.8**
baz=112
C27K Jago River 67.07 342 P **P** **18 54 40.9 +0.6**
baz=120
C27K S **S** **19 03 32.9 -0.6**
baz=120
KTH Kantishna Hill 67.12 335 P **P** **18 54 40.5 -0.3**
KTH IAmb IAmb 18 54 45.6
comp=Z,483nm,0.9s
KTH IAMs_20 IAMs_20 19 29 20.6
comp=Z,66µm,20.0s
CHIR Chirikof Islan 67.21 326 P **P** **18 54 43.0 +1.6**
CHIR Chirikof Islan 67.21 326 P **P** **18 54 42.5 +1.1**
baz=103,SNR=19
CHIR S **S** **19 03 40.1 +4.5**
baz=103
BPAW Bear Paw Mtn. 67.34 335 P **P** **18 54 41.4 -0.7**
BPAW IAMs_20 IAMs_20 19 26 37.9
comp=Z,62µm,21.0s
BPAW Bear Paw Mtn. 67.34 335 P **P** **18 54 42.1 +0.1**
baz=110,SNR=511
BPAW S **S** **19 03 36.0 -0.9**
baz=110
H23K Yukon River 67.40 337 P **P** **18 54 42.1 -0.3**
H23K IAmb IAmb 18 54 56.5
comp=Z,326nm,1.2s
H23K Yukon River 67.40 337 P **P** **18 54 42.6 +0.2**
baz=112
H23K S **S** **19 03 36.3 -1.2**
baz=112
PPLA Purkeypile 67.44 334 P **P** **18 54 42.4 -0.6**
PPLA IAmb IAmb 18 54 46.8
comp=Z,680nm,1.1s
PPLA Purkeypile 67.44 334 P **P** **18 54 42.7 -0.2**
baz=109,SNR=123
PPLA S **S** **19 03 37.1 -1.3**
baz=109
SUMG Summit 67.45 15 *i* P **P** **18 54 40.5 -2.5**
SUMG IAmb IAmb 18 54 56.1
comp=Z,426nm,1.0s
F24K Squaw Lake 67.47 339 P **P** **18 54 43.9 +1.0**
baz=115
F24K S **S** **19 03 39.8 +1.3**
baz=115
M20K Styx River 67.54 332 P **P** **18 54 43.3 -0.2**
M20K IAMs_20 IAMs_20 19 29 58.5
comp=Z,41µm,19.0s
M20K Styx River 67.54 332 P **P** **18 54 43.4 -0.1**
baz=107
M20K S **S** **19 03 38.8 -0.7**
baz=107
Q18K Katmai Hardscr 67.55 329 P **P** **18 54 44.2 +0.6**
baz=104,SNR=114
Q18K S **S** **19 03 40.6 +0.8**
baz=104
CAST Castle Rocks 67.56 334 P **P** **18 54 42.7 -0.8**
CAST IAmb IAmb 18 54 47.1
comp=Z,526nm,1.0s
CAST Castle Rocks 67.56 334 P **P** **18 54 43.2 -0.3**
baz=109,SNR=416
CAST S **S** **19 03 37.4 -2.3**
baz=109
MLY Manley 67.57 336 P **P** **18 54 43.2 -0.4**
MLY IAMs_20 IAMs_20 19 29 05.5
comp=Z,51µm,20.0s
MLY Manley 67.57 336 P **P** **18 54 43.6 +0.1**
baz=111,SNR=743
MLY S **S** **19 03 39.0 -0.7**
baz=111
C26K Camden Bay 67.58 342 P **P** **18 54 44.6 +1.2**
baz=118
C26K S **S** **19 03 40.8 +1.3**
baz=118
O19K Port Alsworth 67.61 331 P **P** **18 54 43.6 -0.2**
O19K IAMs_20 IAMs_20 19 29 47.8
comp=Z,39µm,19.0s
O19K Port Alsworth 67.61 331 P **P** **18 54 43.8 0.0**
baz=106,SNR=238
O19K S **S** **19 03 39.6 -0.6**
baz=106
D25K Kavik River 67.76 341 P **P** **18 54 45.6 +0.9**
baz=117
D25K S **S** **19 03 41.6 -0.2**
baz=117
CHUM Lake Minchumin 67.81 335 P **P** **18 54 44.4 -0.6**
baz=109,SNR=184
CHUM S **S** **19 03 40.5 -2.0**
baz=109
P18K Big Mountain, 67.85 330 P **P** **18 54 45.3 -0.1**
P18K IAmb IAmb 18 54 49.1
comp=Z,720nm,1.2s
P18K Big Mountain, 67.85 330 P **P** **18 54 45.4 -0.1**
baz=104,SNR=64
P18K S **S** **19 03 45.5 +2.3**
baz=104
N19K Bonanza Creek 67.86 331 P **P** **18 54 45.5 0.0**
N19K IAMs_20 IAMs_20 19 26 59.8
comp=Z,43µm,20.0s
N19K Bonanza Creek 67.86 331 P **P** **18 54 45.5 0.0**
baz=106
N19K S **S** **19 03 42.8 -0.7**
baz=106
Q17K Contact Creek 67.91 328 P **P** **18 54 46.4 +0.6**
baz=104,SNR=248
Q17K S **S** **19 03 43.9 -0.1**
baz=104
E24K Your Creek 67.91 340 P **P** **18 54 46.6 +1.0**
baz=114
E24K S **S** **19 03 44.7 +1.0**
baz=114
G23K Bananza Creek 67.92 338 P **P** **18 54 46.6 +0.9**
baz=112
G23K S **S** **19 03 44.7 +0.9**
baz=112
O18K Koktuh Hills 67.95 330 P **P** **18 54 45.9 -0.2**
O18K Koktuh Hills 67.95 330 P **P** **18 54 46.3 +0.2**
baz=105,SNR=200
O18K S **S** **19 03 45.6 +1.2**
baz=105
KEKH Kekaha 68.01 289 P **P** **18 54 46.5 -0.6**
R17K Ugashik Creek 68.02 328 P **P** **18 54 47.6 +1.1**
baz=103
R17K S **S** **19 03 47.6 +2.4**
baz=103
L20K Farewell, AK 68.05 333 P **P** **18 54 46.4 -0.2**
baz=107
L20K S **S** **19 03 44.9 -0.7**

baz=107
I21K Tanana 68.11 336 P **P** **18 54 46.3 -0.6**
I21K IAmb IAmb 18 54 51.0
comp=Z,585nm,1.1s
I21K IAMs_20 IAMs_20 19 27 59.0
comp=Z,55µm,20.0s
I21K Tanana 68.11 336 P **P** **18 54 46.8 -0.1**
baz=110
I21K S **S** **19 03 44.2 -1.9**
baz=110
M19K Big River Lodg 68.12 332 P **P** **18 54 46.6 -0.4**
M19K IAMs_20 IAMs_20 19 29 41.3
comp=Z,44µm,20.0s
M19K Big River Lodg 68.12 332 P **P** **18 54 47.4 +0.3**
baz=106,SNR=268
M19K S **S** **19 03 46.8 +0.5**
baz=106
H22K Ishtalitna Cre 68.12 337 P **P** **18 54 46.8 -0.2**
baz=111,SNR=296
H22K S **S** **19 03 45.3 -1.0**
baz=111
EUNU Eureka 68.16 0 P **P** **18 54 46.2 -0.8**
EUNU IAmb IAmb 18 54 53.4
comp=Z,356nm,1.0s
COLD Coldfoot 68.18 338 P **P** **18 54 48.3 +1.0**
COLD Coldfoot 68.18 338 P **P** **18 54 48.5 +1.2**
baz=112,SNR=686
COLD S **S** **19 03 47.7 +0.9**
baz=112
E23K Chandalar 68.29 339 P **P** **18 54 49.3 +1.1**
baz=113
E23K S **S** **19 03 49.8 +1.5**
baz=113
PMOZ Porto Moniz, M 68.29 59 *e*P **P** **18 54 50.3 +1.5**
comp=Z,332nm,1.6s
PMOZ *e*S **S** **19 03 53.5 +3.9**
PMOZ *e*LQ LQ 19 11 48.6
PMOZ *e*LR LR 19 15 36.1
comp=Z,32µm,18.0s
PMOZ Porto Moniz, M 68.29 59 P **P** **18 54 49.2 +0.4**
NEEM North Greenlan 68.32 8 *i* P **P** **18 54 48.2 -0.2**
NEEM IAmb IAmb 18 54 54.2
comp=Z,535nm,1.1s
Q16K King Salmon 68.39 329 P **P** **18 54 49.6 +0.9**
baz=103,SNR=163
Q16K S **S** **19 03 50.8 +1.3**
baz=103
K20K Telida 68.40 334 P **P** **18 54 48.2 -0.5**
K20K IAMs_20 IAMs_20 19 26 58.9
comp=Z,37µm,22.0s
K20K Telida 68.40 334 P **P** **18 54 48.6 -0.2**
baz=107
K20K S **S** **19 03 47.5 -2.1**
baz=107
P17K Kvichak River 68.40 329 P **P** **18 54 49.4 +0.6**
baz=103
P17K S **S** **19 03 49.9 +0.2**
baz=103
L19K White Mountain 68.41 333 P **P** **18 54 49.0 +0.1**
L19K IAmb IAmb 18 54 52.6
comp=Z,472nm,1.2s
L19K IAMs_20 IAMs_20 19 29 41.2
comp=Z,42µm,20.0s
L19K White Mountain 68.41 333 P **P** **18 54 48.7 -0.2**
baz=106
L19K S **S** **19 03 49.5 -0.3**
baz=106
N18K Kilae Creek 68.49 331 P **P** **18 54 49.2 -0.2**
N18K Kilae Creek 68.49 331 P **P** **18 54 49.3 -0.1**
baz=104
N18K S **S** **19 03 49.7 -1.1**
baz=104
TOLK Toolik Lake Re 68.51 340 P **P** **18 54 49.5 +0.1**
TOLK IAmb IAmb 18 54 53.4
comp=Z,356nm,1.2s
TOLK Toolik Lake Re 68.51 340 P **P** **18 54 50.1 +0.7**
baz=113,SNR=148
TOLK S **S** **19 03 52.6 +1.8**
baz=113
PMAR Madeira 68.53 59 *e*P **P** **18 54 49.7 -0.7**
comp=Z,295nm,1.8s
G22K Bettles 68.54 338 P **P** **18 54 50.3 +0.8**
baz=111
G22K S **S** **19 03 52.3 +1.2**
baz=111
H21K Melozitna Rive 68.60 336 P **P** **18 54 48.6 -1.3**
H21K Melozitna Rive 68.60 336 P **P** **18 54 49.8 -0.2**
baz=109
H21K S **S** **19 03 48.2 -3.6**
baz=109
XMAS Kiritimati 68.62 268 P **P** **18 54 50.5 -0.6**
XMAS Kiritimati 68.62 268 IAMs_20 IAMs_20 19 19 25.1
comp=Z,34µm,18.0s
R16K Pilot Point 68.63 327 P **P** **18 54 51.3 +1.0**
baz=102,SNR=5.9
R16K S **S** **19 03 56.9 +4.4**
baz=102
C24K Franklin Bluff 68.67 341 P **P** **18 54 51.1 +0.8**
baz=115
C24K S **S** **19 03 53.6 +1.1**
baz=115
J20K Nowinta River 68.67 335 P **P** **18 54 49.8 -0.6**
J20K IAmb IAmb 18 54 54.3
comp=Z,615nm,1.2s
J20K IAMs_20 IAMs_20 19 30 16.8
comp=Z,63µm,21.0s
J20K Nowinta River 68.67 335 P **P** **18 54 50.2 -0.3**
baz=107
J20K S **S** **19 03 50.1 -2.7**
baz=107
USHA Ushuaia 68.70 167 LR LR 19 20 38.5
comp=Z,56µm,18.1s,baz=330,slow=32
EFI East Falkland 68.72 160 P **P** **18 54 50.6 -0.1**
EFI IAmb IAmb 18 54 55.7
comp=Z,1µm,1.7s
EFI East Falkland 68.72 160 IAMs_20 IAMs_20 19 29 50.0
comp=Z,34µm,19.0s
EFI East Falkland 68.72 160 *d* iP **P** **18 54 50.2 -0.6**
EFI pmax pmax
comp=Z,607nm,1.6s
EFI MLR MLR
comp=Z,26µm,16.0s
CHGN Chignik 68.84 326 P **P** **18 54 51.9 +0.4**
CHGN Chignik 68.84 326 P **P** **18 54 52.3 +0.7**
baz=100,SNR=164
CHGN S **S** **19 03 53.9 -1.0**
baz=100
TBI Tubuai 68.85 239 *e*P **P** **18 54 52.0 -0.2**
comp=Z,562nm,1.3s
TBI Tubuai 68.85 239 *e*PP **PP** **18 57 24.9 +0.4**
comp=Z,27µm,30.8s
TBI *e*S **S** **19 03 57.3 +1.2**
comp=Z,208µm,23.5s
TBI *e*SS **SS** **19 08 24.4 +2.7**
comp=Z,105µm,36.8s
TBI *e*LR LR 19 15 34.5
comp=Z,2268µm,26.2s
TBI *e*LR LR 19 15 42.6
comp=Z,727µm,30.0s
TBI Tubuai 68.85 239 *e*T T 20 10 20.9
comp=Z,32nm,0.2s
O17K Koliganek Bris 68.86 330 P **P** **18 54 52.5 +0.8**
baz=103,SNR=349
O17K S **S** **19 03 56.7 +1.6**
baz=103
MG01 Puerto William 68.97 167 P **P** **18 54 52.9 +0.7**
F22K John River 68.99 338 P **P** **18 54 53.6 +1.2**
baz=110
F22K S **S** **19 03 58.2 +1.7**
baz=110
MACI Morro de la Ar 69.01 64 P **P** **18 54 54.4 +0.9**
D23K Nanushuk River 69.01 340 P **P** **18 54 53.7 +1.2**
baz=112
D23K S **S** **19 03 57.3 +0.7**
baz=112
PMPST Porto Santo, M 69.02 59 *e*P **P** **18 54 54.7 +1.5**
comp=Z,405nm,1.5s
IMAR Indian Mountai 69.07 337 P **P** **18 54 52.0 -0.9**
TTA Tatalina 69.12 333 P **P** **18 54 52.6 -0.8**
TTA IAmb IAmb 18 54 56.8
comp=Z,859nm,1.3s
TTA Tatalina 69.12 333 P **P** **18 54 53.0 -0.4**
baz=105,SNR=172
TTA S **S** **19 03 54.9 -3.4**
baz=105
TTA Tatalina 69.12 333 P **P** **18 54 52.6 -0.8**
TTA pmax pmax
comp=Z,859nm,1.3s
G21K Allakaket 69.15 337 P **P** **18 54 53.9 +0.5**
baz=109
G21K S **S** **19 03 57.9 -0.4**
baz=109
P16K Nushagak River 69.15 329 P **P** **18 54 54.1 +0.6**
baz=102,SNR=77
P16K S **S** **19 03 57.7 -0.8**
baz=102
CNBA Chernabura Isl 69.25 324 P **P** **18 54 54.9 +0.7**
CNBA IAmb IAmb 18 54 58.1
comp=Z,775nm,1.3s
CNBA IAMs_20 IAMs_20 19 27 20.3
comp=Z,39µm,22.0s
CHNA Chernabura Isl 69.25 324 P **P** **18 54 54.6 +0.5**
baz=99,SNR=26
CHNA S **S** **19 04 04.2 +4.3**
baz=99
O16K Kokwok River B 69.32 329 P **P** **18 54 54.7 +0.2**
baz=102
O16K S **S** **19 04 02.5 +2.0**
baz=102
C23K Itkillik River 69.32 341 P **P** **18 54 55.2 +0.8**
baz=113
C23K S **S** **19 04 00.8 +0.5**
baz=113
F21K Alatna River 69.37 338 P **P** **18 54 56.0 +1.2**
baz=109
F21K S **S** **19 04 02.5 +1.5**
baz=109
BORG Borgarnes 69.77 25 P **P** **18 54 59.4 +2.2**
comp=Z,45nm,1.0s,baz=221,slow=2.5,SNR=5.8
BORG LR LR 19 25 37.6
comp=Z,16µm,18.1s,baz=267,slow=36
comp=Z,45nm,1.0s
BORG Borgarnes 69.77 25 P **P** **18 54 57.6 +0.4**
MBO M'Bour 69.81 79 P **P** **18 54 59.2 +0.9**
MBO IAMs_20 IAMs_20 19 21 05.0
comp=Z,42µm,20.0s
N16K Nishlik Lake 69.83 330 P **P** **18 54 58.5 +0.8**
baz=102
N16K S **S** **19 04 08.1 +1.5**
baz=102
SDPT Sand Point 69.83 325 P **P** **18 54 58.2 +0.5**
SDPT Sand Point 69.83 325 P **P** **18 54 58.5 +0.7**
baz=98,SNR=54
SDPT S **S** **19 04 09.2 +2.5**
baz=98
GCSA Galena City Sc 69.97 335 P **P** **18 54 58.5 +0.1**
baz=105,SNR=36
GCSA S **S** **19 04 07.0 -0.9**
baz=105
BBTS Babate 70.18 79 PKPPKP 19 22 59.2
comp=Z,17nm,0.5s,baz=143,slow=23,SNR=1.5
BBTS LR LR 19 25 35.5
comp=Z,49µm,18.0s,baz=261,slow=36
S12K Black Hills 70.77 325 P **P** **18 55 04.0 +0.5**
baz=97,SNR=38
S12K S **S** **19 04 20.2 +2.4**
baz=97
SCO Scoresbysund 71.20 19 P **P** **18 55 05.9 +0.1**
SCO Scoresbysund 71.20 19 *i* P **P** **18 55 05.9 +0.1**
SCO Scoresbysund 71.20 19 P **P** **18 55 05.9 +0.1**
SCO pmax pmax
comp=Z,238nm,1.6s
SCO MLR MLR
comp=Z,158µm,18.0s
FALS False Pass 71.45 324 P **P** **18 55 08.1 +0.5**
FALS False Pass 71.45 324 P **P** **18 55 08.3 +0.7**
baz=96,SNR=35
FALS S **S** **19 04 23.7 -1.9**
baz=96
FALS False Pass 71.45 324 P **P** **18 55 08.4 +0.8**
A21K Barrow 71.72 342 P **P** **18 55 08.8 -0.2**
A21K IAmb IAmb 18 55 18.2
comp=Z,880nm,1.6s
A21K IAMs_20 IAMs_20 19 31 14.2
comp=Z,54µm,21.0s
A21K Barrow 71.72 342 P **P** **18 55 09.4 +0.5**
baz=107,SNR=12
A21K S **S** **19 04 29.0 +0.9**
baz=107
AKUT Akutan 72.76 323 P **P** **18 55 15.6 +0.2**
AKUT IAmb IAmb 18 55 19.2
comp=Z,747nm,1.1s
DBG Daneborg 72.88 15 *i* P **P** **18 55 14.5 -1.4**
UNV Unalaska Valle 73.18 323 P **P** **18 55 18.1 +0.1**
UNV Unalaska Valle 73.18 323 P **P** **18 55 18.6 +0.6**
baz=93,SNR=70
UNV S **S** **19 04 47.0 +1.6**
baz=93
UNV Unalaska Valle 73.18 323 P **P** **18 55 18.4 +0.4**
ANM Nome 73.52 334 P **P** **18 55 21.0 +1.2**
ANM IAmb IAmb 18 55 29.2
comp=Z,822nm,1.4s
ANM IAMs_20 IAMs_20 19 31 16.4
comp=Z,51µm,20.0s
ANM Nome 73.52 334 P **P** **18 55 20.9 +1.0**
baz=97,SNR=31
ANM S **SKiKP** **19 04 52.9 +2.8**
baz=97
ANM Nome 73.52 334 P **P** **18 55 21.0 +1.2**
ANM pmax pmax
comp=Z,822nm,1.4s
ANM MLR MLR
comp=Z,51µm,20.0s
DAG Danmarks Havn 73.98 13 *i* P **P** **18 55 21.4 -0.9**
DAG IAmb IAmb 18 55 34.4
comp=Z,144nm,1.0s
PMAFR Mafra 74.55 53 *e*P **P** **18 55 27.9 +1.5**
comp=Z,333nm,1.7s
NIKH Nikolski High 74.56 322 P **P** **18 55 25.9 -0.2**
NIKH IAmb IAmb 18 55 29.9
comp=Z,1µm,1.4s
NIKH Nikolski High 74.56 322 P **P** **18 55 26.5 +0.4**
baz=91,SNR=8.7
NIKH S **S** **19 05 02.8 +1.8**
baz=91
PMST Lisbon--Monsan 74.64 53 *e*P **P** **18 55 28.8 +1.9**
comp=Z,570nm,1.4s
LIS Lisbon 74.66 53 *e*P **P** **18 55 28.0 +1.0**
LIS *e*S **S** **19 05 04.4 +1.7**
LIS IAMs_20 IAMs_20 19 19 23.8
comp=Z,174µm,39.8s
LIS Lisbon 74.66 53 *e*P **P** **18 55 28.0 +1.0**
LIS *e*S **S** **19 05 04.4 +1.7**
TNA Tin City 74.70 335 P **P** **18 55 27.8 +1.1**
TNA Tin City 74.70 335 P **P** **18 55 28.3 +1.6**
baz=95,SNR=46
TNA S **S** **19 05 06.7 +4.6**
baz=95
PSBE So Bento 74.90 52 *e*P **P** **18 55 29.8 +1.4**
comp=Z,686nm,1.7s
PACT Alcochete 74.91 53 *e*P **P** **18 55 30.0 +1.6**
comp=Z,1µm,1.6s
PFVI Vila Bisbo 75.01 55 *e*P **P** **18 55 31.2 +2.1**
comp=Z,666nm,1.5s
PFVI Vila Bisbo 75.01 55 P **P** **18 55 29.4 +0.3**
PFVI IAmb IAmb 18 55 34.5
comp=Z,425nm,1.1s
PTEO Sao Teotonio 75.07 54 *e*P **P** **18 55 29.8 +0.4**
comp=Z,784nm,1.6s
PCAS Casmilo, Conde 75.10 52 *e*P **P** **18 55 30.3 +0.8**
comp=Z,1µm,1.5s
MORF Marmelete 75.14 54 *e*P **P** **18 55 30.7 +0.9**
MORF *e*S **S** **19 05 09.8 +1.5**
MORF IAMs_20 IAMs_20 19 19 24.8
comp=Z,189µm,40.2s
MORF Marmelete 75.14 54 *e*P **P** **18 55 31.4 +1.5**
comp=Z,724nm,1.4s
MORF Marmelete 75.14 54 *e*P **P** **18 55 30.7 +0.9**
MORF *e*S **S** **19 05 09.7 +1.5**
PNCL Nicolau / Gran 75.19 54 *e*P **P** **18 55 29.6 -0.4**
comp=Z,194nm,1.4s
PMTG Montargil 75.36 53 *e*P **P** **18 55 31.0 -0.1**
comp=Z,649nm,1.5s
PCAB Cabril 75.36 50 *e*P **P** **18 55 31.9 +0.8**
comp=Z,372nm,1.6s
SPIA Saint Paul Isl 75.41 326 P **P** **18 55 32.9 +2.1**
SPIA Saint Paul Isl 75.41 326 P **P** **18 55 32.6 +1.8**
baz=91,SNR=15
SPIA S **S** **19 05 14.1 +3.8**
baz=91
SPIA Saint Paul Isl 75.41 326 P **P** **18 55 33.0 +2.1**
MESJ Messejana 75.45 54 *e*P **P** **18 55 32.5 +0.9**
MESJ *e*S **S** **19 05 13.2 +1.6**
MESJ IAMs_20 IAMs_20 19 19 53.3
comp=Z,160µm,42.9s
MESJ Messejana 75.45 54 *e*P **P** **18 55 32.4 +0.9**
MESJ *e*S **S** **19 05 13.1 +1.6**
PVIS Viseu 75.52 51 *e*P **P** **18 55 32.1 +0.1**
comp=Z,479nm,1.9s
EVO Evora 75.56 53 P **P** **18 55 31.9 -0.3**
EVO S **S** **19 05 11.3 -1.5**
EVO Evora 75.56 53 *e*P **P** **18 55 33.3 +1.1**
comp=Z,360nm,1.8s
PCVE Castro Verde 75.61 54 *e*P **P** **18 55 34.0 +1.5**
comp=Z,341nm,1.7s
PVRL Vila Real 75.62 50 *e*P **P** **18 55 33.4 +0.8**
comp=Z,256nm,1.8s
JMIC Jan Mayen 75.67 19 *e* 18 51 16.7
JMIC *e*P **P** **18 55 33.3 +1.1**
JMIC IVmB_BB 18 55 41.3
comp=Z,7µm,3.8s
JMIC *e*S **S** **19 05 15.6 +2.8**
JMIC IVMs_BB IVMs_BB 19 22 35.2
comp=Z,53µm,33.3s
NOR Nord 75.70 8 *i* P **P** **18 55 31.6 -0.6**
NOR IAmb IAmb 18 55 44.1
comp=Z,211nm,1.3s
PBEJ Beja 75.71 54 *e*P **P** **18 55 34.4 +1.3**
comp=Z,318nm,1.8s
LEWI Lewis, Hebride 75.75 33 *e*P **P** **18 55 31.5 -1.4**
LEWI IAMs_20 IAMs_20 19 20 56.7
comp=Z,82µm,32.2s
MTE Manteigas 75.81 51 *e*P **P** **18 55 34.8 +1.1**
comp=Z,504nm,1.5s
MTE *e*S **S** **19 05 12.4 -3.2**
MTE Manteigas 75.81 51 *e*LQ LQ 19 15 46.7
MTE *e*LR LR 19 19 09.2
comp=Z,81µm,18.0s
MTE Manteigas 75.81 51 P **P** **18 55 33.2 -0.4**
MTE IAmb IAmb 18 55 38.2
comp=Z,320nm,1.0s
PESTR Estremoz 75.87 53 P **P** **18 55 33.7 -0.3**
PVAQ Vaqueiros 75.88 54 *e*P **P** **18 55 34.4 +0.4**
comp=Z,432nm,1.3s
PVAQ *e*S **S** **19 05 17.9 +1.6**
PVAQ Vaqueiros 75.88 54 *e*LQ LQ 19 15 45.8
PVAQ *e*LR LR 19 19 10.3
comp=Z,70µm,18.0s
PVAQ Vaqueiros 75.88 54 P **P** **18 55 34.2 +0.2**
PCBR Castelo Branco 75.89 52 *e*P **P** **18 55 33.3 -0.8**
comp=Z,588nm,1.7s
PMRV Marv??o 75.99 52 *e*P **P** **18 55 35.4 +0.7**
comp=Z,535nm,1.7s
PMRV *e*S **S** **19 05 17.4 -0.1**
PMRV Marv??o 75.99 52 *e*LQ LQ 19 15 59.1
PMRV *e*LR LR 19 18 55.5
comp=Z,40µm,24.0s
DSB Dublin 76.06 38 P **P** **18 55 34.7 -0.1**
DSB IAMs_20 IAMs_20 19 28 28.4
comp=Z,43µm,21.0s
MVO Moncorvo 76.15 50 *e*P **P** **18 55 36.8 +1.2**
comp=Z,408nm,1.2s
MVO *e*S **S** **19 05 19.0 -0.3**
MVO Moncorvo 76.15 50 *e*LQ LQ 19 15 52.3
MVO *e*LR LR 19 19 23.4
comp=Z,53µm,20.0s
CLGH Cloghs, Cushen 76.18 36 *e*P **P** **18 55 34.5 -0.9**
CLGH IAMs_20 IAMs_20 19 20 10.6
comp=Z,113µm,37.1s
GAMB Gambell 76.23 333 P **P** **18 55 37.1 +1.7**
GAMB IAmb IAmb 18 55 40.5
comp=Z,939nm,1.3s
GAMB IAMs_20 IAMs_20 19 32 44.0
comp=Z,33µm,20.0s
GAMB Gambell 76.23 333 P **P** **18 55 37.1 +1.7**
baz=91,SNR=25
GAMB S **S** **19 05 23.7 +4.6**
baz=91
PBRG Braganca 76.32 50 *e*P **P** **18 55 37.7 +1.2**
comp=Z,428nm,1.5s
PBAR Barrancos 76.35 53 *e*P **P** **18 55 37.9 +1.2**
comp=Z,391nm,1.9s
KPL Plockton 76.40 34 *e*P **P** **18 55 35.1 -1.4**
KPL IAmb IAmb 18 55 42.6
comp=Z,391nm,1.1s
KPL IAMs_20 IAMs_20 19 21 14.3
comp=Z,107µm,29.4s
AVE Averroes 76.47 58 P **P** **18 55 38.3 +0.8**
AVE S **S** **19 05 17.6 -5.4**
AVE Averroes 76.47 58 P **P** **18 55 38.3 +0.8**
H10N3 ASCENSION HYDR 76.50 101 P **P** **18 55 41.4 +3.8**
baz=270,slow=5.0,SNR=25
H10N2 ASCENSION HYDR 76.50 101 P **P** **18 55 41.8 +4.2**
baz=270,slow=5.0,SNR=27
H10N1 ASCENSION HYDR 76.52 101 P **P** **18 55 40.7 +3.0**
baz=270,slow=5.0,SNR=40
LAWE Loch Awe, Argy 76.56 35 *e*P **P** **18 55 37.3 -0.2**
LAWE IAmb IAmb 18 55 44.2
comp=Z,390nm,1.6s
LAWE IAMs_20 IAMs_20 19 20 59.4
comp=Z,105µm,31.9s
LINV Loch Inver, As 76.63 33 *e*P **P** **18 55 37.7 -0.2**
LINV IAMs_20 IAMs_20 19 21 07.0
comp=Z,82µm,31.9s
ASCN Ascension 76.65 101 P **P** **18 55 39.4 +0.6**
ASCN IAmb IAmb 18 55 52.6
comp=Z,706nm,0.9s
ARNO Arenosillo 76.69 54 P **P** **18 55 39.7 +1.1**
ARNO S **S** **19 05 26.4 +1.2**
GAL1 Galloway 77.00 36 *e*P **P** **18 55 39.3 -0.7**
GAL1 IAMs_20 IAMs_20 19 20 35.1
comp=Z,105µm,34.1s
RAR Rarotonga 77.00 245 P **P** **18 55 40.5 -0.1**
comp=Z,55nm,0.8s,baz=68,slow=6.6,SNR=8.6
RAR LR LR 19 21 53.3
comp=Z,28µm,18.2s,baz=74,slow=30
comp=Z,55nm,0.8s
RAR Rarotonga 77.00 245 P **P** **18 55 40.2 -0.4**
RAR IAmb IAmb 18 55 45.7
comp=Z,1µm,1.9s
RAR Rarotonga 77.00 245 IAMs_20 IAMs_20 19 21 59.6
comp=Z,31µm,19.0s
RAR Rarotonga 77.00 245 P **P** **18 55 42.1 +1.5**
MDO Dochfour 77.10 34 *e*P **P** **18 55 40.0 -0.6**
RSBS Rosebush, Pemb 77.10 39 *e*P **P** **18 55 40.5 -0.2**
RSBS IAmb IAmb 18 55 46.6
comp=Z,323nm,1.3s
RSBS IAMs_20 IAMs_20 19 20 14.8
comp=Z,135µm,40.5s
IOMK Kirk Michael 77.11 37 *e*P **P** **18 55 39.5 -1.1**
IOMK IAmb IAmb 18 55 46.9
comp=Z,617nm,1.0s
IOMK IAMs_20 IAMs_20 19 20 37.2
comp=Z,262µm,35.8s
SFS San Fernando 77.16 55 P **P** **18 55 41.9 +0.5**
SFS S **S** **19 05 32.0 +1.6**
SFS San Fernando 77.16 55 P **P** **18 55 41.8 +0.5**
SFS IAmb IAmb 18 55 48.1
comp=Z,913nm,1.3s
SFS San Fernando 77.16 55 P **P** **18 55 41.8 +0.5**
SFS pmax pmax
comp=Z,913nm,1.3s
SFS MLR MLR
comp=Z,60µm,21.0s
NEWG New Galloway 77.26 36 *e*P **P** **18 55 40.1 -1.4**
NEWG IAmb IAmb 18 55 47.6
comp=Z,336nm,1.2s
NEWG IAMs_20 IAMs_20 19 20 42.6
comp=Z,98µm,33.8s
INVG Invergeldie, C 77.31 35 *e*P **P** **18 55 41.3 -0.4**
INVG IAmb IAmb 18 55 47.6
comp=Z,240nm,1.1s
INVG IAMs_20 IAMs_20 19 21 21.1
comp=Z,110µm,32.7s
MLA1 Latheron 77.60 33 *e*P **P** **18 55 43.1 -0.2**
MCD Coleburn Disti 77.69 33 *e*P **P** **18 55 42.7 -1.2**
LLW Llanuwchllyn 77.72 38 *e*P **P** **18 55 43.7 -0.4**
EDI Edinburgh 77.81 35 *e*P **P** **18 55 43.1 -1.4**
EDI IAmb IAmb 18 55 50.6
comp=Z,302nm,1.2s
EDI IAMs_20 IAMs_20 19 21 34.6
comp=Z,100µm,31.3s
JOHN Johnston Islan 77.83 285 P **P** **18 55 45.4 +0.1**
JOHN Johnston Islan 77.83 285 P **P** **18 55 47.9 +2.6**
ESK Eskdalemuir 77.84 36 *e*P **P** **18 55 43.4 -1.4**
ESK IAmb IAmb 18 55 50.8
comp=Z,305nm,1.0s
ESK IAMs_20 IAMs_20 19 20 59.6
comp=Z,91µm,33.4s
ESK Eskdalemuir 77.84 36 P **P** **18 55 43.3 -1.4**

ESK IAmb IAmb 18 55 51.0
comp=Z,366nm,1.1s
ESK Eskdalemuir 77.84 36 IAMs_20 IAMs_20 19 31 07.8
comp=Z,39µm,18.0s
ESK Eskdalemuir 77.84 36 P **P** **18 55 43.3 -1.4**
ESK pmax pmax
comp=Z,366nm,1.2s
ESK MLR MLR
comp=Z,39µm,18.0s
EKA Eskdalemuir Ar 77.86 36 LR LR 19 28 47.5
comp=Z,16µm,19.0s,baz=272,slow=35
CEU Ceuta 77.89 56 P **P** **18 55 45.9 +0.6**
CEU S **S** **19 05 40.1 +1.8**
EBL Broad Law 77.90 35 *eP* **P** **18 55 43.9 -1.2**
ESY Stoneypath 78.14 35 *eP* **P** **18 55 45.2 -1.1**
MCH1 Michaelchurch 78.18 39 *eP* **P** **18 55 46.1 -0.6**
MCH1 IAmb IAmb 18 55 52.6
comp=Z,534nm,1.1s
MCH1 IAMs_20 IAMs_20 19 28 36.4
comp=Z,173µm,19.1s
ROSF Rostrenen 78.29 43 *eP* **P** **18 55 47.4 +0.1**
MONM Monmouth 78.31 39 *eP* **P** **18 55 47.0 -0.4**
MONM IAmb IAmb 18 55 53.5
comp=Z,465nm,1.2s
MONM IAMs_20 IAMs_20 19 28 40.1
comp=Z,89µm,18.5s
PAB San Pablo 78.32 52 P **P** **18 55 47.9 +0.1**
PAB IAmb IAmb 18 55 55.6
comp=Z,580nm,1.3s
PAB San Pablo 78.32 52 IAMs_20 IAMs_20 19 31 37.1
comp=Z,51µm,19.0s
PAB San Pablo 78.32 52 ⇑P **P** **18 55 49.1 +1.2**
OLDB Oldbury-Upon-S 78.48 39 *eP* **P** **18 55 48.3 0.0**
OLDB IAMs_20 IAMs_20 19 20 53.2
comp=Z,148µm,42.3s
EMAL Malaga-Limoner 78.55 55 P **P** **18 55 49.9 +0.8**
EMAL S **S** **19 05 46.1 +0.7**
STNC Stoke 78.58 38 *eP* **P** **18 55 49.1 +0.3**
STNC IAMs_20 IAMs_20 19 21 16.8
comp=Z,119µm,37.4s
EDMD Edmundbyers 78.58 36 *eP* **P** **18 55 48.5 -0.4**
EDMD IAmb IAmb 18 55 55.1
comp=Z,298nm,1.2s
EDMD IAMs_20 IAMs_20 19 21 19.9
comp=Z,93µm,32.3s
ESDC Sonseca Array 78.61 52 P **P** **18 55 49.4 0.0**
comp=Z,212nm,0.9s,baz=287,slow=5.1,SNR=199
ESDC S **S** **19 05 45.4 -0.7**
comp=Z,0.8nm,1.0s,baz=214,slow=36,SNR=1.3
ESDC PKKPbc **PKKPbc** **19 14 45.8 0.0**
comp=Z,3.3nm,0.8s,baz=70,slow=1.4,SNR=9.6
ESDC PKPPKP **P'P'df** **19 22 48.7 -2.4**
comp=Z,5.7nm,1.0s,baz=88,slow=0.7,SNR=6.8
ESDC LR LR 19 28 12.8
comp=Z,45µm,18.6s,baz=273,slow=34
comp=Z,212nm,0.9s
ESDC Sonseca Array 78.61 52 P **P** **18 55 49.2 -0.2**
ESDC IAmb IAmb 18 55 57.0
comp=Z,435nm,1.2s
ESBB Sonseca Array 78.61 52 P **P** **18 55 49.2 -0.2**
ESBB IAmb IAmb 18 55 57.0
comp=Z,369nm,1.1s
STRD Stroud 78.71 39 *eP* **P** **18 55 49.2 -0.4**
STRD IAmb IAmb 18 55 56.4
comp=Z,918nm,1.5s
STRD IAMs_20 IAMs_20 19 29 01.2
comp=Z,90µm,18.1s
PMSA Palmer Station 78.74 169 P **P** **18 55 50.6 +1.3**
comp=Z,61nm,0.8s,baz=95,slow=0.8,SNR=9.0
PMSA S **S** **19 05 46.9 +0.9**
comp=Z,8.8nm,0.8s,baz=134,slow=18,SNR=0.9
PMSA LR LR 19 24 30.6
comp=Z,12µm,18.1s,baz=332,slow=31
comp=Z,61nm,0.8s
PMSA Palmer Station 78.74 169 P **P** **18 55 48.6 -0.6**
PMSA Palmer Station 78.74 169 *eP* **P** **18 55 49.0 -0.3**
PVLZ Peæn de 78.84 56 P **P** **18 55 49.8 -0.8**
PVLZ S **S** **19 05 46.0 -2.5**
HPK Haverah Park 78.85 37 *eP* **P** **18 55 49.1 -1.2**
HPK IAmb IAmb 18 55 56.5
comp=Z,150nm,1.0s
HPK IAMs_20 IAMs_20 19 21 25.7
comp=Z,104µm,34.8s
MDT Midelt 78.87 59 LR LR 19 28 05.0
comp=Z,72µm,19.0s,baz=292,slow=34
JSA Saint Aubin 78.94 42 *eP* **P** **18 55 51.2 +0.3**
JSA IAmb IAmb 18 55 57.4
comp=Z,272nm,1.0s
JSA IAMs_20 IAMs_20 19 27 12.1
comp=Z,98µm,19.9s
SWN1 Swindon 78.96 39 *eP* **P** **18 55 51.2 +0.2**
SWN1 IAmb IAmb 18 55 57.4
comp=Z,981nm,1.2s
SWN1 IAMs_20 IAMs_20 19 21 30.1
comp=Z,90µm,29.4s
GSTR Great Sitkin T 78.99 321 P **P** **18 55 50.5 -0.7**
UCM Universidad Co 79.09 51 P **P** **18 55 52.0 0.0**
UCM S **S** **19 05 49.8 -1.4**
CWF Charnwood Fore 79.15 38 *eP* **P** **18 55 50.9 -1.1**
CWF IAMs_20 IAMs_20 19 21 31.9
comp=Z,132µm,38.8s
GDLE Glaisdale, N Y 79.28 36 *eP* **P** **18 55 52.7 0.0**
GDLE IAMs_20 IAMs_20 19 21 38.3
comp=Z,102µm,33.9s
WOL Wolverton 79.34 40 *eP* **P** **18 55 53.3 +0.2**
HOPE Hope Point 79.39 152 P **P** **18 55 53.3 +0.2**
HOPE IAmb IAmb 18 56 17.1
comp=Z,557nm,1.0s
HOPE Hope Point 79.39 152 P **P** **18 55 53.3 +0.2**
HOPE pmax pmax
comp=Z,557nm,1.0s
ADK Adak 79.39 321 P **P** **18 55 53.3 0.0**
ADK Adak 79.39 321 P **P** **18 55 54.1 +0.8**
ADK Adak 79.39 321 P **P** **18 55 53.3 0.0**
ADK pmax pmax
comp=Z,2µm,1.2s
ADK MLR MLR
comp=Z,16µm,21.0s
KIWB Kanaga Island 79.68 321 P **P** **18 55 55.8 +0.9**
WMELI Melilla 79.92 56 P **P** **18 55 55.1 -1.5**
WMELI S **S** **19 05 58.3 -1.7**
WACR West Acre 80.32 38 *eP* **P** **18 55 57.8 -0.6**
WACR IAmb IAmb 18 56 05.0
comp=Z,463nm,0.9s
WACR IAMs_20 IAMs_20 19 22 06.7
comp=Z,130µm,40.9s
CHAS Isla Isabel II 80.36 56 P **P** **18 55 56.9 -2.0**
CHAS S **S** **19 06 03.0 -1.6**
KBS Kingsbay 80.45 11 P **P** **18 56 00.2 +1.5**
KBS Kingsbay 80.45 11 *i* P **P** **18 55 59.8 +1.2**
KBS Kingsbay 80.45 11 *d iP* **P** **18 56 00.3 +1.7**
KBS pmax pmax
comp=Z,669nm,2.3s
KBS MLR MLR
comp=Z,48µm,17.0s
KBS Kingsbay 80.45 11 *eP* **P** **18 56 01.1 +2.5**
KBS IVmB_BB 18 56 04.7
comp=Z,12µm,7.7s
KBS *eS* **S** **19 06 07.1 +2.9**
KBS IVMs_BB IVMs_BB 19 27 18.0
comp=Z,21µm,30.2s
ELMS Elmsett, Ipswi 80.62 39 *eP* **P** **18 55 59.8 -0.2**
ELMS IAMs_20 IAMs_20 19 22 12.5
comp=Z,149µm,42.2s
ELSH Elham, Standar 80.83 40 *eP* **P** **18 56 01.5 +0.4**
ELSH IAMs_20 IAMs_20 19 22 18.5
comp=Z,131µm,41.7s
CART Cartagena 81.17 53 P **P** **18 56 03.0 -0.2**
CART S **S** **19 06 10.0 -3.0**
CART Cartagena 81.17 53 P **P** **18 56 03.2 0.0**
SMAI San Martin Ant 81.35 172 P **P** **18 56 03.5 +0.1**
SMAI IAmb IAmb 18 56 09.0
comp=Z,1µm,1.8s
SUE Sulen 81.42 29 *eP* **P** **18 56 05.4 +1.4**
SUE IVmB_BB 18 56 12.5
comp=Z,8µm,5.8s
SUE *eS* **S** **19 06 14.6 -0.1**
FOO Floro 81.47 29 *eP* **P** **18 56 05.2 +0.9**
FOO IVmB_BB 18 56 12.8
comp=Z,6µm,5.6s
FOO *eS* **S** **19 06 16.4 +1.2**
SPA0 Spitsbergen Ar 81.50 12 *eP* **P** **18 56 05.5 +1.2**
SPA0 IVmB_BB 18 56 09.1
comp=Z,11µm,6.4s
SPA0 *eS* **S** **19 06 17.9 +2.7**

SPITS Spitsbergen Ar 81.50 12 P **P** **18 56 05.2 +0.9**
comp=Z,70nm,0.8s,baz=186,slow=0.8,SNR=32
SPITS LR LR 19 35 22.4
comp=Z,66µm,18.0s,baz=264,slow=38
comp=Z,70nm,0.8s
SPB2 Spitsbergen Ar 81.51 12 P **P** **18 56 04.1 -0.2**
HSPB Hornsund (broa 81.68 13 *eP* **P** **18 56 07.3 +2.2**
ASK Askoy 81.72 30 *eP* **P** **18 56 06.8 +1.2**
ASK IVmB_BB 18 56 14.1
comp=Z,13µm,5.9s
ASK *e*PP **PP** **18 59 13.7 +1.4**
ASK *e*S **S** **19 06 20.3 +2.5**
BER Bergen 81.81 30 *eP* **P** **18 56 07.0 +0.9**
BER IVmB_BB 18 56 14.3
comp=Z,6µm,6.1s
BER *e*S **S** **19 06 20.4 +1.6**
AMKA Amchitka 81.94 321 P **P** **18 56 07.6 +0.6**
CLF Chambon-Foret 82.00 43 P **P** **18 56 06.6 -0.8**
CLF IAmb IAmb 18 56 14.6
comp=Z,851nm,1.1s
CLF IAMs_20 IAMs_20 19 28 11.8
comp=Z,43µm,20.0s
HYA Hoyanger 82.09 29 *eP* **P** **18 56 08.6 +1.1**
HYA IVmB_BB 18 56 15.9
comp=Z,5µm,6.0s
HYA *e*PP **PP** **18 59 17.9 +2.7**
HYA *e*S **S** **19 06 23.6 +2.0**
ODJA Bouhanifia 82.18 56 P **P** **18 56 12.0 +3.3**
AKN Aaknes 82.28 28 *eP* **P** **18 56 09.3 +0.7**
AKN IVmBBB 18 56 19.7
comp=Z,6µm,5.4s
AKN *e*PP **PP** **18 59 17.6 +0.7**
AKN *e*S **S** **19 06 25.1 +1.5**
MOL Molde 82.46 28 *eP* **P** **18 56 10.5 +1.0**
MOL IVmBBB 18 56 20.0
comp=Z,6µm,7.2s
BLS5 Blasjo 82.53 31 ⇓*iP* **P** **18 56 10.1 0.0**
BLS5 *e*S **S** **19 06 23.5 -2.8**
BLS5 IVMs_BB IVMs_BB 19 23 48.9
comp=Z,18µm,31.5s
TIC Toumodi 82.66 85 ⇑*iP* **P** **18 56 13.7 +2.2**
comp=Z,473nm,0.8s
LIC Lamto 82.73 85 ⇑*iP* **P** **18 56 14.1 +2.2**
comp=Z,860nm,0.7s
DBIC Dimbokro 82.81 85 P **P** **18 56 13.5 +1.2**
comp=Z,299nm,0.9s,baz=290,slow=4.3,SNR=155
DBIC S **S** **19 06 29.0 -1.7**
comp=Z,1.9nm,0.8s,baz=38,slow=20,SNR=1.0
DBIC PKPPKP **P'P'df** **19 22 43.3 +0.1**
comp=Z,4.3nm,1.0s,baz=144,slow=3.5,SNR=4.9
DBIC LR LR 19 30 46.4
comp=Z,27µm,20.8s,baz=294,slow=34
comp=Z,299nm,0.9s
DBIC Dimbokro 82.81 85 P **P** **18 56 12.9 +0.6**
DBIC Dimbokro 82.81 85 ⇓P **P** **18 56 13.8 +1.5**
SNF Seneffe 82.90 40 *dP* **P** **18 56 12.2 +0.2**
comp=Z,117nm,1.2s
KIC Kosan Boka 82.98 85 ⇑*iP* **P** **18 56 15.4 +2.2**
comp=Z,149nm,0.7s
SNART Snartemo 83.13 32 *eP* **P** **18 56 14.0 +0.9**
MIDW Midway 83.16 297 P **P** **18 56 13.4 -0.5**
MIDW Midway 83.16 297 P **P** **18 56 14.2 +0.4**
DOU Dourbes 83.17 40 *dP* **P** **18 56 12.8 -0.6**
comp=Z,158nm,1.1s
SKAR Skarslia 83.20 29 ⇓*iP* **P** **18 56 13.2 -0.3**
SKAR *e*S **S** **19 06 31.1 -2.1**
SKAR *e*SS **SS** **19 11 59.4 +2.4**
SKAR IVMs_BB IVMs_BB 19 24 09.4
comp=Z,17µm,39.4s
BMRD Maredsous 83.24 40 *dP* **P** **18 56 14.3 +0.5**
comp=Z,96nm,1.2s
BMRD *d*S **S** **19 06 32.2 -1.7**
DOMB Dombas 83.26 28 ⇓*iP* **P** **18 56 13.7 0.0**
DOMB *e*PP **PP** **18 59 27.7 +2.7**
DOMB *e*S **S** **19 06 31.4 -2.3**
DOMB *e*SS **SS** **19 11 59.5 +1.5**
DOMB IVMs_BB IVMs_BB 19 26 17.9
comp=Z,19µm,26.7s
BJO1 Bjornoya 83.29 15 ⇓*iP* **P** **18 56 15.0 +1.4**
BJO1 *e*SKSac **SKSac** **19 06 36.0 +1.0**
BJO1 IVMs_BB IVMs_BB 19 29 14.6
comp=Z,23µm,26.1s
BGES Gesves 83.43 40 *dP* **P** **18 56 14.2 -0.6**
comp=Z,204nm,1.2s
BGES *d*S **S** **19 06 29.5 -6.2**
TBLU Trondheim 83.53 27 *eP* **P** **18 56 16.5 +1.4**
TBLU *e*SKSac **S** **19 06 33.9 -2.3**
TBLU IVMs_BB IVMs_BB 19 24 07.9
comp=Z,22µm,46.2s
BCLA Clavier 83.56 40 *dP* **P** **18 56 14.7 -0.7**
comp=Z,173nm,1.1s
BCLA *d*S **S** **19 06 37.2 +0.2**
RCHB Rochefort 83.56 40 *dP* **P** **18 56 15.1 -0.4**
comp=Z,123nm,1.2s
RCHB *d*S **S** **19 06 30.9 -6.2**
LOF Lofoten 83.60 22 ⇓*iP* **P** **18 56 15.0 -0.3**
LOF *e*SKSac **S** **19 06 36.9 +0.1**
LOF *e*SS **SS** **19 12 05.2 +2.7**
LOF IVMs_BB IVMs_BB 19 24 55.3
comp=Z,34µm,39.6s
BSTI Sart Tilman 83.69 40 *dP* **P** **18 56 16.0 -0.2**
comp=Z,44nm,0.9s
BEBN Eben Emael 83.72 40 *dP* **P** **18 56 17.2 +0.9**
comp=Z,178nm,1.1s
HOMB Homborsund 83.81 32 ⇓*iP* **P** **18 56 15.8 -0.8**
HOMB IVmB_BB 18 56 25.2
comp=Z,7µm,5.5s
HOMB *e*SKSac **SKSac** **19 06 38.6 -0.4**
HOMB *e*SS **SS** **19 12 08.6 +2.5**
HOMB IVMs_BB IVMs_BB 19 25 10.2
comp=Z,19µm,30.7s
HOPEN Hopen 83.89 12 ⇓*iP* **P** **18 56 17.5 +0.8**
HOPEN *e*PP **PP** **18 59 30.3 +0.6**
HOPEN *e*SKSac **SKSac** **19 06 39.1 +0.2**
HOPEN *e*SS **SS** **19 12 12.9 +6.4**
HOPEN IVMs_BB IVMs_BB 19 36 45.1
comp=Z,37µm,17.5s
KONS Konsvik 83.89 23 *eP* **P** **18 56 17.9 +1.1**
STOK Stokkvaagen 83.89 23 *eP* **P** **18 56 17.9 +1.1**
NSS Namsos 83.95 25 ⇓*iP* **P** **18 56 17.2 +0.1**
NSS *e*PP **PP** **18 59 30.8 +0.4**
NSS *e*SKSac **S** **19 06 40.3 -0.1**
NSS *e*SS **SS** **19 12 11.4 +3.6**
NSS IVMs_BB IVMs_BB 19 24 42.5
comp=Z,31µm,42.3s
MEM Membach 83.96 40 *dP* **P** **18 56 17.5 0.0**
comp=Z,125nm,1.2s
MEM *d*S **S** **19 06 38.8 -2.4**
BHOU Houvegnez 84.01 40 *dP* **P** **18 56 17.3 -0.5**
comp=Z,143nm,1.2s
BHOU *d*S S 19 06 31.4 -10
SSB Saint Sauveur 84.02 45 P **P** **18 56 17.6 -0.4**
SSB Saint Sauveur 84.02 45 P **P** **18 56 17.6 -0.4**
SSB pmax pmax
comp=Z,133nm,1.1s
SSB MLR MLR
comp=Z,54µm,20.0s
BTNL Ternell 84.05 40 *d*S **S** **19 06 40.1 -1.9**
KONO Kongsberg 84.06 30 P **P** **18 56 16.8 -1.0**
KONO Kongsberg 84.06 30 ⇑P **P** **18 56 19.3 +1.5**
KONO Kongsberg 84.06 30 ⇓*iP* **P** **18 56 18.3 +0.5**
KONO *e*SKSac **SKSac** **19 06 40.6 0.0**
KONO *e*SS **SS** **19 12 10.6 +0.9**
KONO IVMs_BB IVMs_BB 19 26 06.0
comp=Z,16µm,26.8s
NC204 NORSAR Array S 84.23 29 P **P** **18 56 18.4 -0.3**
WLF Walferdange 84.24 41 P **P** **18 56 18.8 -0.2**
WLF IAmb IAmb 18 56 27.1
comp=Z,453nm,1.2s
WLF Walferdange 84.24 41 *dP* **P** **18 56 18.8 -0.2**
comp=Z,175nm,1.2s
WLF *d*S **S** **19 06 40.6 -3.4**
WLF Walferdange 84.24 41 P **P** **18 56 18.8 -0.2**
WLF pmax pmax
comp=Z,453nm,1.2s
WLF MLR MLR
comp=Z,76µm,21.0s
STEI Steigen 84.27 22 ⇓*iP* **P** **18 56 19.7 +1.0**
STEI *e*SKSac **S** **19 06 43.2 -0.3**
STEI *e*SS **SS** **19 12 15.8 +3.4**
STEI IVMs_BB IVMs_BB 19 25 14.7
comp=Z,34µm,40.5s
NBO00 NORSAR Array S 84.30 29 P **P** **18 56 18.0 -1.0**
NBO00 IAmb IAmb 18 56 27.2
comp=Z,271nm,1.2s
NAO01 NORSAR Array S 84.39 29 P **P** **18 56 19.5 0.0**
NAO01 IAmb IAmb 18 56 27.7
comp=Z,357nm,1.1s
FAUS Fauske 84.45 22 ⇓*iP* **P** **18 56 20.4 +0.7**
FAUS *e*SKSac **SKSac** **19 06 42.9 +0.1**
FAUS *e*SS **SS** **19 12 18.2 +3.1**
FAUS IVMs_BB IVMs_BB 19 24 57.7
comp=Z,29µm,43.2s
MOR8 Moi Rana 84.49 23 ⇓*iP* **P** **18 56 20.9 +1.0**
MOR8 *e*PP **PP** **18 59 35.0 +0.2**
MOR8 *e*SKSac **S** **19 06 45.2 -0.7**
MOR8 *e*SS **SS** **19 12 23.5 +7.6**
MOR8 IVmB_BB 19 25 31.1
comp=Z,13µm,38.6s
NB2 NORSAR Subarra 84.50 29 P **P** **18 56 20.8 +0.7**
comp=Z,5µm,5.0s,baz=284,slow=5.1
NB2 PKKP **PKKPbc** **19 14 30.3 -2.9**
comp=Z,17nm,1.2s,baz=95,slow=2.6
NOA NORSAR Array B 84.50 29 P **P** **18 56 20.1 0.0**
comp=Z,77nm,0.9s,baz=284,slow=4.9,SNR=69
NOA PKKPbc **PKKPbc** **19 14 32.1 -1.1**
comp=Z,2.3nm,0.9s,baz=92,slow=3.9,SNR=3.7
NOA PKPPKP P'P'df 19 22 29.2 -10
comp=Z,2.1nm,0.9s,baz=78,slow=1.9,SNR=3.4
NOA LR LR 19 33 08.0
comp=Z,30µm,19.1s,baz=285,slow=35
comp=Z,77nm,0.9s
BILL Bilibino 84.51 339 P **P** **18 56 20.0 +0.1**
BILL Bilibino 84.51 339 *c iP* **P** **18 56 20.8 +0.8**
BILL *i* 18 56 27.2
BILL *i* 18 59 33.4
BILL *i* S **S** **19 06 44.5 -1.5**
BILL *i* SS **SS** **19 12 11.9 -4.1**
BILL pmax pmax
comp=Z,12µm,3.2s
BILL pmax pmax
comp=Z,3µm,1.3s
NC303 NORSAR Array S 84.53 29 P **P** **18 56 21.6 +1.4**
NB201 NORSAR Array S 84.53 29 P **P** **18 56 21.2 +0.9**
NB201 IAmb IAmb 18 56 28.5
comp=Z,354nm,1.1s
OSL Oslo 84.54 30 ⇓*iP* **P** **18 56 20.7 +0.5**
OSL *e*PP **PP** **18 59 36.4 +1.0**
OSL *e*SKSac **S** **19 06 45.5 -0.9**
OSL *e*SS **SS** **19 12 16.4 -0.3**
OSL IVMs_BB IVMs_BB 19 24 50.4
comp=Z,19µm,30.4s
MUD Monsted U'grnd 84.57 34 *i* P **P** **18 56 19.4 -1.0**
MUD IAmb IAmb 18 56 29.5
comp=Z,338nm,1.4s
NC405 NORSAR Array S 84.72 29 P **P** **18 56 21.3 +0.1**
NC405 IAmb IAmb 18 56 29.2
comp=Z,315nm,1.1s
NC602 NORSAR Array S 84.73 29 P **P** **18 56 21.8 +0.6**
NC602 IAmb IAmb 18 56 29.5
comp=Z,349nm,1.1s
NC602 NORSAR Array S 84.73 29 ⇓*iP* **P** **18 56 21.6 +0.4**
NC602 *e*PP **PP** **18 59 37.0 +0.1**
NC602 *e*SKSac **SKSac** **19 06 45.4 +0.5**
NC602 *e*SS **SS** **19 12 20.5 +0.9**
NC602 IVMs_BB IVMs_BB 19 25 27.8
comp=Z,17µm,31.5s
SHEM Shemya Is, Ala 84.84 323 P **P** **18 56 23.1 +1.2**
comp=Z,967nm,1.2s,baz=32,slow=3.2,SNR=10.0
comp=Z,967nm,1.2s
SMY Shemya 84.84 323 P **P** **18 56 21.1 -0.8**
SMY Shemya 84.84 323 P **P** **18 56 21.1 -0.8**
SMY pmax pmax
comp=Z,4µm,1.7s
MAHO Mahon 84.84 50 P P 18 56 15.0 -7.2
MAHO S **S** **19 06 46.8 -3.5**
MAHO Mahon 84.84 50 P **P** **18 56 22.5 +0.3**
MAHO IAmb IAmb 18 56 26.4
comp=Z,227nm,1.0s
TRO Tromso 84.98 20 ⇓*iP* **P** **18 56 22.9 +0.7**
TRO *e*PP **PP** **18 59 39.6 +0.9**
TRO *e*SKSac **SKSac** **19 06 46.9 +0.8**
TRO IVMs_BB IVMs_BB 19 25 56.3
comp=Z,41µm,39.7s
ECH Echery 85.19 42 P **P** **18 56 22.7 -1.1**
ECH IAmb IAmb 18 56 30.9
comp=Z,430nm,1.1s
ECH Echery 85.19 42 P **P** **18 56 22.7 -1.1**
ECH pmax pmax
comp=Z,430nm,1.1s
ECH MLR MLR
comp=Z,64µm,20.0s
JETT Jettan, Norway 85.49 19 ⇓*iP* **P** **18 56 25.8 +0.9**
BNI Bardonecchia 85.55 45 P **P** **18 56 26.3 +0.5**
BNI Bardonecchia 85.55 45 P **P** **18 56 26.3 +0.5**
BNI pmax pmax
comp=Z,132nm,1.0s
BNI MLR MLR
comp=Z,63µm,20.0s
NIUE Niue 85.57 250 P **P** **18 56 26.3 +0.1**
NIUE Niue 85.57 250 P **P** **18 56 27.9 +1.7**
SENIN Lac Senin/Sane 85.69 44 P **P** **18 56 26.6 0.0**
HFS Hagfors 85.92 29 LR LR 19 33 48.1
comp=Z,25µm,20.0s,baz=294,slow=35
BFO Black Forest 85.93 42 P **P** **18 56 26.7 -0.8**
BFO IAmb IAmb 18 56 34.9
comp=Z,307nm,1.1s
BFO Black Forest 85.93 42 P **P** **18 56 26.7 -0.8**
BFO pmax pmax
comp=Z,307nm,1.1s
BFO MLR MLR
comp=Z,80µm,20.0s
AFI Afiamalu 86.08 255 P **P** **18 56 30.1 +1.1**
comp=Z,159nm,1.2s,baz=43,slow=2.1,SNR=7.6
AFI LR LR 19 27 31.5
comp=Z,29µm,18.9s,baz=76,slow=30
comp=Z,159nm,1.2s
AFI Afiamalu 86.08 255 P **P** **18 56 27.4 -1.5**
AFI IAmb IAmb 18 56 34.6
comp=Z,624nm,1.6s
AFI Afiamalu 86.08 255 IAMs_20 IAMs_20 19 27 10.8
comp=Z,30µm,20.0s
AFI Afiamalu 86.08 255 P **P** **18 56 30.4 +1.5**
HAMF Hammerfest 86.09 18 ⇓*iP* **P** **18 56 28.3 +0.5**
HAMF *e*PP **PP** **18 59 48.8 +1.1**
HAMF *e*SKSac **SKSac** **19 06 53.7 +0.6**
HAMF *e*SS **SS** **19 12 40.6 +1.6**
HAMF IVMs_BB IVMs_BB 19 27 43.5
comp=Z,43µm,33.1s
STU Stuttgart 86.39 41 P **P** **18 56 29.6 -0.1**
STU IAmb IAmb 18 56 34.1
comp=Z,283nm,1.0s
STU IAMs_20 IAMs_20 19 32 01.3
comp=Z,46µm,20.0s
STU Stuttgart 86.39 41 P **P** **18 56 29.6 -0.1**
STU pmax pmax
comp=Z,283nm,1.0s
STU MLR MLR
comp=Z,46µm,20.0s
SET Setif 86.46 54 P P 18 56 37.0 +6.5
LLD Lille Linde 86.51 34 *i* P **P** **18 56 29.6 -0.6**
COP Copenhagen 86.53 34 *i* P **P** **18 56 29.9 -0.3**
COP IAmb IAmb 18 56 37.5
comp=Z,553nm,1.0s
CKHR Kef el Ahmar 86.59 54 P **P** **18 56 33.3 +2.1**
TRIS Tristan da Cun 86.62 129 IAMs_20 IAMs_20 19 34 04.7
comp=Z,33µm,20.0s
KTK1 Kautokeino 86.63 20 ⇓*iP* **P** **18 56 30.3 -0.2**
KTK1 *e*PP **PP** **18 59 51.7 -0.5**
KTK1 *e*SKSac **SKSac** **19 06 56.4 -0.2**
KTK1 *e*SS **SS** **19 12 49.6 +2.5**
KTK1 IVMs_BB IVMs_BB 19 26 41.3
comp=Z,37µm,36.6s
SHEL Horse Pasture 86.75 107 P **P** **18 56 31.7 -0.4**
SHEL IAmb IAmb 18 56 49.1
comp=Z,314nm,1.1s
SHEL Horse Pasture 86.75 107 IAMs_20 IAMs_20 19 35 51.9
comp=Z,41µm,20.0s
SHEL Horse Pasture 86.75 107 P **P** **18 56 31.7 -0.4**
SHEL pmax pmax
comp=Z,315nm,1.1s
SHEL MLR MLR
comp=Z,41µm,20.0s
DFRA Djebel Bou Aff 86.76 53 P **P** **18 56 36.2 +4.2**
TUE Stuetta 87.04 43 P **P** **18 56 33.7 +0.4**
TUE IAmb IAmb 18 56 41.1
comp=Z,313nm,1.0s
ARA0 ARCESS Array S 87.13 19 ⇓*iP* **P** **18 56 33.6 +0.6**
ARA0 *e*PP **PP** **18 59 56.5 +0.3**

ARA0 eSKSac **SKSac** **19 07 00.3 +0.7**
ARA0 eSS **SS** **19 12 56.1 +1.7**
ARA0 IVMs_BB IVMs_BB 19 27 36.4
comp=Z,40µm,34.6s
ARCES ARCESS Array B 87.13 19 P **P** **18 56 33.9 +0.9**
comp=Z,40nm,0.9s,baz=286,slow=2.5,SNR=36
ARCES PP **PP** **18 59 54.2 -1.9**
comp=Z,44nm,1.1s,baz=309,slow=5.7,SNR=4.2
ARCES S **SKSac** **19 06 56.4 -3.3**
comp=Z,4.3nm,1.0s,baz=69,slow=29,SNR=1.6
ARCES PKKPbc **PKKPbc** **19 14 27.8 +0.6**
comp=Z,3.9nm,0.8s,baz=76,slow=3.8,SNR=4.2
ARCES LR LR 19 35 45.0
comp=Z,29µm,18.0s,baz=300,slow=36
comp=Z,40nm,0.9s
ARCES ARCESS Array B 87.13 19 P **P** **18 56 33.4 +0.4**
DAVA Damuels 87.19 42 *i* P **P** **18 56 34.0 +0.1**
comp=Z,273nm,0.9s,SNR=89
DAVA e**P** **PKKPbc** **19 14 28.2 +1.7**
comp=Z,16nm,1.1s
CTEI Djebel Teioual 87.28 54 P **P** **18 56 37.0 +2.4**
CASM Ain Smara 87.31 54 P **P** **18 56 37.8 +3.2**
DAVOX Davos/Dischmat 87.32 43 LR LR 19 32 44.7
comp=Z,46µm,18.8s,baz=292,slow=34
RGN Rugen 87.34 35 P **P** **18 56 35.8 +1.6**
GRA1 Grafenberg Arr 87.44 40 P **P** **18 56 35.0 +0.2**
GRA1 IAmb IAmb 18 56 42.7
comp=Z,584nm,1.3s
GRF Grafenberg Arr 87.44 40 P **P** **18 56 35.0 +0.2**
GRF pmax pmax
comp=Z,584nm,1.3s
GRF MLR MLR
comp=Z,83µm,21.0s
GRFO Grafenberg 87.44 40 P **P** **18 56 35.6 +0.8**
GRFO IAmb IAmb 18 56 42.6
comp=Z,537nm,1.3s
GRFO Grafenberg 87.44 40 P **P** **18 56 35.6 +0.8**
GRFO pmax pmax
comp=Z,537nm,1.3s
GRFO MLR MLR
comp=Z,82µm,20.0s
CKFL Kef-Lekhel 87.46 53 P **P** **18 56 37.0 +1.6**
KEV Kevo 87.50 18 P **P** **18 56 35.4 +0.7**
KEV IAMs_20 IAMs_20 19 35 10.0
comp=Z,37µm,22.0s
KEV Kevo 87.50 18 P **P** **18 56 35.4 +0.7**
KEV pmax pmax
comp=Z,116nm,1.0s
KEV MLR MLR
comp=Z,37µm,22.0s
FUORN Ofenpass-Fuorn 87.62 43 P **P** **18 56 35.9 -0.2**
MSSA Maissana 87.69 45 P **P** **18 56 35.9 -0.3**
MSSA IAmb IAmb 18 56 42.5
comp=Z,374nm,1.3s
RETA Reutte 87.72 42 *i* P **P** **18 56 36.5 +0.1**
comp=Z,138nm,0.9s,SNR=147
RETA e**PP** **PP** **19 00 02.8 +1.2**
comp=Z,3µm,5.7s
RETA e**P** **PKKPbc** **19 14 26.5 +1.4**
comp=Z,10nm,1.2s
FETA Feichten 87.82 42 *i* P **P** **18 56 37.1 +0.1**
comp=Z,108nm,0.9s,SNR=64
FETA e**PP** **PP** **19 00 02.8 +0.2**
comp=Z,2µm,5.5s
FETA e**S** **SKSac** **19 07 06.7 +1.6**
comp=Z,5µm,10.5s
FETA e**P** **PKKPbc** **19 14 24.3 -0.7**
comp=Z,23nm,1.1s
CMAH Djebel Manchou 87.96 53 P **P** **18 56 38.8 +1.1**
MOTA Moosalm 87.98 42 *i* P **P** **18 56 38.5 +0.8**
comp=Z,82nm,0.8s,SNR=64
MOTA e**S** S 19 07 09.3 -12
comp=Z,3µm,6.9s
MOTA e**P** **PKKPbc** **19 14 23.9 -0.7**
comp=Z,20nm,1.4s
VADS Vadso 88.03 18 ⇓ *i* P **P** **18 56 37.8 +0.6**
VADS e**PP** **PP** **19 00 04.0 +0.7**
VADS e**SKSac** **SKSac** **19 07 06.1 +1.1**
VADS e**SS** **SS** **19 13 07.5 +0.2**
VADS IVMs_BB IVMs_BB 19 29 11.3
comp=Z,40µm,33.7s
BSD Bornholm Skovb 88.05 34 e*P* **P** **18 56 36.9 -0.7**
BSD Bornholm Skovb 88.05 34 *i* P **P** **18 56 35.2 -2.4**
BSD IAmb IAmb 18 56 45.0
comp=Z,229nm,1.1s
NKC Novy Kostel 88.05 39 e*P* **P** **18 56 38.3 +0.5**
NKC e*x* x 19 00 18.9
NKC e*S*KS **SKSac** **19 07 06.1 +0.1**
NKC AMS AMS 19 25 40.0
comp=Z,104µm,34.8s
NKC Novy Kostel 88.05 39 e*P* **P** **18 56 38.3 +0.5**
NKC *e* 19 07 06.1
ABSA Djebel Ababsia 88.08 53 P **P** **18 56 40.3 +2.0**
SQTA Sankt Quirin 88.08 42 *i* P **P** **18 56 39.1 +0.9**
comp=Z,63nm,0.7s,SNR=61
SQTA e**S** **SKSac** **19 07 09.6 +3.0**
comp=Z,3µm,6.9s
SQTA e**P** **PKKPbc** **19 14 26.0 +1.7**
comp=Z,13nm,1.0s
CLL Collm 88.09 38 P **P** **18 56 37.7 -0.2**
CLL IAmb IAmb 18 56 45.5
comp=Z,246nm,1.1s
CLL Collm 88.09 38 e*P* **P** **18 56 38.0 +0.1**
comp=Z,155nm,0.9s
CLL *i* x x 18 56 42.3
CLL *i* Pmax 18 56 43.4
comp=Z,254nm,1.0s
CLL e*P*max 18 56 48.0
CLL e*P*P **PP** **19 00 04.0 -0.3**
CLL e*x* x 19 00 15.0
CLL e*x* x 19 00 26.0
CLL e*S*KSac **SKSac** **19 07 07.0 +0.9**
CLL e*S* **S** **19 07 23.0 +1.5**
comp=N,8µm,27.6s
CLL e*S* **S** **19 07 23.0 +1.5**
comp=E,37µm,24.1s
CLL e*S* **S** **19 07 23.0 +1.5**
comp=Z,11µm,22.6s
CLL e*S*P **SPn** **19 08 19.0 -2.7**
CLL e*P*PS PPS 19 08 58.0
CLL e*x* x 19 09 36.0
CLL e*S*S **SS** **19 13 12.0 +2.8**
CLL e*P*KKPbc **PKKPbc** **19 14 24.0 -0.2**
CLL e*S*SS SSS 19 16 54.0
CLL e*S*SSS 19 20 06.0
CLL e*P*KPPKPdP'P'df 19 22 22.0 -11
comp=Z,58nm,2.3s
CLL e*x* x 19 22 47.0
CLL Lm MLR 19 38 00.0
comp=N,29µm,19.3s
CLL Lm MLR 19 38 00.0
comp=E,38µm,18.0s
CLL Lm MLR 19 38 00.0
comp=Z,53µm,18.2s
CLL Lmax 19 38 00.0
CLL Collm 88.09 38 e*P* **P** **18 56 38.0 +0.1**
CLL *i* 18 56 42.3
CLL *e* 19 07 07.0
CLL e*S* **S** **19 07 23.0 +1.5**
CLL pmax pmax
comp=Z,254nm,1.0s
PRMA PARMA 88.12 45 P **P** **18 56 38.3 +0.1**
PRMA IAmb IAmb 18 57 21.4
comp=Z,382nm,1.3s
WATA Walderalm 88.30 42 *i* P **P** **18 56 39.9 +0.8**
comp=Z,52nm,0.9s,SNR=36
WATA e**PP** **PP** **19 00 06.1 -0.2**
comp=Z,2µm,6.7s
WATA e**S** **SKSac** **19 07 11.4 +3.5**
comp=Z,4µm,8.6s
WATA e**P** **PKKPbc** **19 14 25.4 +1.6**
comp=Z,22nm,1.3s
VLC Villacollemand 88.33 45 P **P** **18 56 38.9 -0.4**
VLC IAMs_20 IAMs_20 19 35 33.1
comp=Z,42µm,19.0s
WTTA Wattenberg 88.36 42 *i* P **P** **18 56 40.5 +1.0**
comp=Z,40nm,0.8s,SNR=38
WTTA e**P** **PKKPbc** **19 14 25.4 +1.7**
comp=Z,31nm,1.3s
ZCCA Zocca 88.69 45 P **P** **18 56 40.8 -0.1**
CTI Castel Tesino 88.69 43 P **P** **18 56 40.6 -0.4**
CTI IAmb IAmb 18 56 48.0
comp=Z,398nm,1.4s
CTI Castel Tesino 88.69 43 P **P** **18 56 40.6 -0.4**
CTI pmax pmax
comp=Z,398nm,1.4s
BRG Berggiesshubel 88.78 38 *i* P **P** **18 56 42.6 +1.4**
BRG Amp 18 56 44.3
comp=Z,58nm,1.0s
BRG *i* x x 18 56 46.8
BRG Amp 18 56 49.1
comp=Z,410nm,1.6s
BRG PP **PP** **19 00 13.6 +3.7**
BRG Amp 19 00 24.5
comp=Z,101nm,1.2s
BRG Berggiesshubel 88.78 38 SS SS 19 13 13.0 -6.3
BRG PKKP 19 14 21.3
BRG Amp 19 14 24.7
comp=Z,37nm,1.8s
BRG PKPPKP **P'P'df** **19 22 25.3 -6.7**
BRG Amp 19 22 29.5
comp=Z,24nm,1.6s
BRG Amp 19 35 03.0
comp=N,32nm,21.5s
BRG Amp 19 35 20.0
comp=Z,49nm,19.1s
BRG Amp 19 35 57.0
comp=E,36nm,19.3s
BRG Berggiesshubel 88.78 38 *i* P **P** **18 56 42.5 +1.4**
BRG *i* 18 56 46.7
BRG 19 00 13.5
BRG S **SKSac** **19 07 14.0 +3.7**
BRG SP **SPn** **19 08 25.0 -5.0**
BRG pmax pmax
comp=Z,59nm,1.0s
BRG pmax pmax
comp=Z,101nm,1.2s
BRG MLR MLR
comp=E,36µm,19.3s
BRG MLR MLR
comp=N,32µm,21.5s
BRG MLR MLR
comp=Z,49µm,19.1s
TEOL Teolo 88.89 44 P **P** **18 56 41.5 -0.3**
ABTA Abfaltersbach 89.07 42 *i* P **P** **18 56 43.6 +0.9**
comp=Z,70nm,0.9s,SNR=90
ABTA e*S* **SKSac** **19 07 12.7 +0.3**
comp=Z,6µm,9.4s
ABTA e*P* **PKKPbc** **19 14 20.4 -1.4**
comp=Z,17nm,1.1s
KHC Kasperske Hory 89.07 40 P **P** **18 56 42.4 -0.3**
KHC Kasperske Hory 89.07 40 e*P* **P** **18 56 43.0 +0.3**
KHC *ex* x 18 57 30.0
KHC *ex* x 19 00 26.5
KHC e*S*KS **SKSac** **19 07 13.4 +1.2**
KHC e*P*KKP **PKKPbc** **19 14 22.7 +0.9**
KHC e*P*KPPKP **P'P'df** **19 22 27.1 -4.4**
KHC AMS AMS 19 33 10.0
comp=Z,93µm,20.0s
KHC Kasperske Hory 89.07 40 e*P* **P** **18 56 43.0 +0.3**
KHC *e* 19 07 13.4
KHC MLR MLR
comp=Z,93µm,20.0s
OSSC Osservatorio P 89.09 46 P **P** **18 56 41.8 -1.1**
CIMO Cimolais 89.15 43 P **P** **18 56 42.7 -0.3**
CIMO IAmb IAmb 18 56 49.4
comp=Z,233nm,1.0s
GEC2 GERESS Array S 89.24 40 P **P** **18 56 43.5 0.0**
GEC2 IAmb IAmb 18 56 51.2
comp=Z,286nm,1.3s
GERES GERESS Array B 89.24 40 P **P** **18 56 42.7 -0.8**
comp=Z,38nm,0.8s,baz=318,slow=1.8,SNR=62
GERES PP **PP** **19 00 19.2 +5.5**
comp=Z,5.8nm,0.9s,baz=267,slow=5.5,SNR=4.0
GERES S **SKSac** **19 07 11.9 -1.4**
comp=Z,0.5nm,0.7s,baz=303,slow=27,SNR=1.1
GERES PKKPbc **PKKPbc** **19 14 22.7 +1.2**
comp=Z,2.4nm,0.8s,baz=132,slow=1.5,SNR=8.8
GERES PKPPKP **P'P'df** **19 22 26.3 -5.0**
comp=Z,3.2nm,0.9s,baz=98,slow=3.0,SNR=8.7
GERES LR LR 19 33 23.6
comp=Z,62µm,20.0s,baz=287,slow=33
comp=Z,38nm,0.8s
GERES GERESS Array B 89.24 40 P **P** **18 56 42.4 -1.1**
STAL STALIGIAL 89.34 43 P **P** **18 56 43.6 -0.4**
STAL IAmb IAmb 18 56 51.1
comp=Z,463nm,1.5s
RAF Rauma 89.35 27 e*P* **P** **18 56 43.7 +0.1**
CLUD Cludinico 89.40 43 P **P** **18 56 44.0 -0.2**
CLUD IAmb IAmb 18 56 52.0
comp=Z,318nm,1.1s
PRU Pruhonice 89.42 39 e*P* **P** **18 56 44.8 +0.6**
PRU *ex* x 19 00 19.5
PRU e*S*KS **SKSac** **19 07 08.7 -5.4**
PRU AMS AMS 19 26 20.0
comp=Z,104µm,34.7s
PRU Pruhonice 89.42 39 e*P* **P** **18 56 44.8 +0.6**
PRU *e* 19 00 19.5
PRU *e* 19 07 08.7
TAM Tamanrasset 89.43 67 P **P** **18 56 46.0 +1.0**
TAM IAmb IAmb 18 56 50.5
comp=Z,282nm,0.9s
TAM IAMs_20 IAMs_20 19 35 20.2
comp=Z,41µm,19.0s
TAM Tamanrasset 89.43 67 P **P** **18 56 46.1 +1.0**
TAM pmax pmax
comp=Z,282nm,0.9s
TAM MLR MLR
comp=Z,41µm,19.0s
KBA Koelnbreinsper 89.53 42 *i* P **P** **18 56 45.9 +0.9**
comp=Z,60nm,0.8s,SNR=62
BIOA Bad Ischl, Aus 89.54 41 *i* P **P** **18 56 45.9 +1.0**
comp=Z,38nm,0.9s,SNR=54
BIOA e**P** **PKKPbc** **19 14 21.7 +1.0**
comp=Z,13nm,1.7s
CKRC Cesky Krumlov 89.63 40 e*P* **P** **18 56 45.9 +0.7**
CKRC e*S*KS **SKSac** **19 07 08.2 -7.2**
KEST Kesra 89.68 54 P **P** **18 56 46.8 +1.0**
comp=Z,87nm,1.0s,baz=220,slow=2.4,SNR=24
KEST S **SKSac** **19 07 15.1 -1.4**
comp=Z,7.5nm,1.1s,baz=39,slow=18,SNR=1.7
KEST LR LR 19 35 08.8
comp=Z,14µm,18.3s,baz=238,slow=34
comp=Z,87nm,1.0s
KEST Kesra 89.68 54 P **P** **18 56 45.9 +0.1**
KEST IAmb IAmb 18 56 57.6
comp=Z,282nm,1.3s
LATE Laterza 89.73 47 P **P** **18 56 45.9 0.0**
LATE IAmb IAmb 18 56 53.2
comp=Z,378nm,1.4s
MYKA Terra Mystica 89.85 42 *i* P **P** **18 56 47.5 +1.1**
comp=Z,58nm,0.9s,SNR=45
MYKA e*P*P **PP** **19 00 18.2 -0.5**
comp=Z,3µm,6.0s
MYKA e*S* **SKSac** **19 07 13.2 -3.8**
comp=Z,1µm,5.8s
MYKA e*P* **PKKPbc** **19 14 19.0 -0.9**
comp=Z,9.7nm,1.1s
PRED Cave del Predi 89.86 42 P **P** **18 56 46.5 0.0**
MOA Molln 89.89 41 *i* P **P** **18 56 47.4 +0.9**
comp=Z,54nm,0.8s,SNR=28
GKP Gorka Klasztor 89.94 35 e*P* **P** **18 56 46.8 +0.3**
SABO M.te Sabotino 90.02 43 P **P** **18 56 48.1 +1.0**
SABO IAmb IAmb 18 56 55.0
comp=Z,618nm,1.6s
CADS Cadrg 90.03 43 *i* P **P** **18 56 46.0 -1.3**
CADS *i* SKSac **SKSac** **19 07 20.3 +2.3**
CADS e*P*'P'df **P'P'df** **19 22 24.5 -5.3**
MURB Monte Urbino 90.06 46 P **P** **18 56 47.0 -0.5**
CHVC Chvalec 90.15 38 e*S*KS **SKSac** **19 07 10.1 -8.3**
CHVC e*P*KKP 19 14 21.4
CHVC *ex* x 19 22 21.4
UPC Upice 90.15 38 e*P* **P** **18 56 48.7 +1.1**
UPC *ex* x 19 00 31.6
UPC e*S*KS **SKSac** **19 07 10.1 -8.3**
UPC AMS AMS 19 29 10.0
comp=Z,49µm,27.1s
UPC Upice 90.15 38 e*P* **P** **18 56 48.7 +1.1**
UPC *e* 19 07 10.1
TREC Trest 90.22 39 e*S*KS **SKSac** **19 07 15.7 -3.1**
TREC AMS AMS 19 34 10.0
comp=Z,68µm,19.8s
OSTC Ostas 90.25 38 e*P* **P** **18 56 49.3 +1.2**
OSTC *ex* x 19 00 29.0
OSTC e*S*KS **SKSac** **19 07 17.7 -1.3**
OSTC *ex* x 19 22 23.2
OSTC AMS AMS 19 26 50.0
comp=Z,120µm,47.0s
CESX Cesi 90.29 46 P **P** **18 56 48.1 -0.4**
DPC Dobruska-Polom 90.39 38 e*P* **P** **18 56 48.9 +1.1**
DPC *ex* x 19 00 30.2
DPC e*S*KS **SKSac** **19 07 15.4 -4.4**
DPC e*P*KKP **PKKPbc** **19 14 17.8 -0.8**
DPC *ex* x 19 22 21.3
DPC AMS AMS 19 27 00.0
comp=Z,88µm,37.2s
DPC Dobruska-Polom 90.39 38 e*P* **P** **18 56 49.9 +1.1**
DPC *e* 19 00 30.2
DPC *e* 19 07 15.4
OBKA Obir 90.48 42 ⇓ *i* P **P** **18 56 48.7 -0.7**
OBKA Obir 90.48 42 *i* P **P** **18 56 50.4 +1.0**
comp=Z,58nm,1.0s,SNR=47
FDMO Fiordimonte 90.52 46 P **P** **18 56 48.9 -0.7**
FDMO IAmb IAmb 19 00 20.8
comp=Z,152nm,0.6s
NRCA Norcia 90.60 46 P **P** **18 56 49.9 -0.1**
NRCA IAmb IAmb 19 00 17.2
comp=Z,490nm,1.2s
LJU Ljubljana 90.61 43 *i* P **P** **18 56 49.9 0.0**
LJU *e* 18 59 40.9
LJU e*PP* **PP** **19 00 31.0 +6.4**
LJU *e* 19 06 17.5
LJU *i* SKSac **SKSac** **19 07 24.0 +2.7**
LJU e*S*S **SS** **19 13 50.5 +4.4**
LJU *e* 19 14 14.3
LJU e*P*KKPdf **PKKPbc** **19 14 19.5 +1.7**
LJU *e* 19 20 37.7
APA Apatity 90.64 19 ⇓ *i* P **P** **18 56 47.8 -1.7**
APA *i* 19 00 22.0
APA *i* 19 07 15.0
APA *i* S **S** **19 07 39.0 -5.6**
APA pmax pmax
comp=Z,47nm,1.0s
CEY Cerknica 90.64 43 P **P** **18 56 50.1 +0.1**
SOKA Soboth 90.75 42 *i* P **P** **18 56 51.3 +0.7**
comp=Z,38nm,0.9s,SNR=65
SOKA e*S* **SKSac** **19 07 21.8 -0.4**
comp=Z,5µm,11.4s
SOKA e*P* **PKKPbc** **19 14 16.9 -0.7**
comp=Z,26nm,1.9s
KRLC Kraliky 90.76 38 e*P* **P** **18 56 51.0 +0.5**
KRLC *ex* x 19 00 38.1
KRLC e*S*KS **SKSac** **19 07 17.2 -4.8**
KRLC e*P*KKP **PKKPbc** **19 14 17.6 -0.1**
KRLC *ex* x 19 22 19.3
KRLC AMS AMS 19 37 10.0
comp=Z,41µm,19.7s
KRLC Kraliky 90.76 38 e*P* **P** **18 56 51.0 +0.5**
KRLC *e* 19 07 17.2
KRLC MLR MLR
comp=Z,41µm,19.7s
LVZ Lovozero 90.84 18 P **P** **18 56 50.7 +0.2**
LVZ Lovozero 90.84 18 ⇑ P **P** **18 56 51.2 +0.7**
KRUC Moravsky 90.86 39 e*P* **P** **18 56 50.8 -0.1**
KRUC e*S*KS **SKSac** **19 07 26.2 +3.7**
MEF Metsahovi 90.87 27 e*P* **P** **18 56 50.8 +0.1**
ARSA Arzberg 90.89 41 *i* P **P** **18 56 51.9 +0.7**
comp=Z,39nm,0.9s,SNR=30
ARSA e*S* **SKSac** **19 07 20.2 -2.7**
comp=Z,14µm,18.1s
ARSA e*P* **PKKPbc** **19 14 19.0 +1.7**
comp=Z,8.2nm,1.2s
CONA Conrad Observa 90.89 41 *i* P **P** **18 56 52.6 +1.3**
comp=Z,46nm,0.8s,SNR=60
CONA e*P* **PP** **19 00 30.3 +3.5**
comp=Z,3µm,7.6s
CONA e*S* **SKSac** **19 07 26.5 +3.6**
comp=Z,2µm,8.8s
CONA e*P* **PKKPbc** **19 14 18.5 +1.2**
comp=Z,7.5nm,1.1s
CAMP Campotosto 90.89 46 P **P** **18 56 51.4 0.0**
VRAC Vranov 90.90 39 ⇑ P **P** **18 56 52.4 +1.3**
VRAC Vranov 90.90 39 LR LR 19 34 29.5
comp=Z,55µm,19.8s,baz=278,slow=34
VRAC Vranov 90.90 39 e*P* **P** **18 56 51.1 0.0**
VRAC e*S*KS **SKSac** **19 07 26.2 +3.5**
VRAC Vranov 90.90 39 ⇑ P **P** **18 56 52.4 +1.3**
AQU L'Aquila 90.94 46 P **P** **18 56 51.5 0.0**
AQU L'Aquila 90.94 46 P **P** **18 56 51.5 0.0**
AQU pmax pmax
comp=Z,380nm,0.7s
AQU MLR MLR
comp=Z,65µm,21.0s
SLIT Slitere, Latvi 90.98 30 e*P* **P** **18 56 50.2 -1.0**
FINES FINESS Array B 91.05 26 P **P** **18 56 52.5 +0.9**
comp=Z,55nm,0.9s,baz=300,slow=3.8,SNR=40
FINES PKKPbc **PKKPbc** **19 14 17.1 -0.1**
comp=Z,2.2nm,0.7s,baz=40,slow=2.4,SNR=7.1
FINES LR LR 19 38 46.7
comp=Z,38µm,19.0s,baz=296,slow=36
comp=Z,55nm,0.9s
FINES FINESS Array B 91.05 26 P **P** **18 56 52.1 +0.6**
FINES FINESS Array B 91.05 26 P **P** **18 56 52.1 +0.6**
FIA1 FINESS Array S 91.06 26 P **P** **18 56 52.5 +1.0**
FIA1 IAmb IAmb 18 56 59.2
comp=Z,245nm,1.1s
KLNR Kaliningrad 91.10 33*c* *i* P **P** **18 56 54.3 +2.4**
KLNR pmax pmax
comp=Z,342nm,1.4s
RONA Rosalia, Austr 91.24 41 *i* P **P** **18 56 54.0 +1.1**
comp=Z,51nm,0.8s,SNR=73
RONA e*P* **PKKPbc** **19 14 17.8 +1.4**
comp=Z,12nm,1.2s
MTSE Matsula 91.26 29 e*P* **P** **18 56 52.9 +0.3**
BOJS Bojanci 91.26 43 ⇓ *i* P **P** **18 56 52.5 -0.4**
CRES Cresnjev 91.30 43 ⇓ *i* P **P** **18 56 52.9 -0.2**
MORC Moravsky Berou 91.32 38 ⇑ P **P** **18 56 54.6 +1.4**
MORC Moravsky Berou 91.32 38 P **P** **18 56 54.4 +1.2**
MORC Moravsky Berou 91.32 38 e*P* **P** **18 56 52.9 -0.2**
MORC e*S*KS **SKSac** **19 07 28.8 +3.6**
MORC Moravsky Berou 91.32 38 ⇑ P **P** **18 56 54.6 +1.4**
INTR Introdacqua 91.40 47 P **P** **18 56 53.6 -0.1**
SOP Sopron 91.41 41 P **P** **18 56 55.7 +2.2**
PBUR Paburge 91.45 32 e*P* **P** **18 56 52.1 -1.4**
ZST Bratislava 91.59 40 e*P* **P** **18 56 55.7 +1.4**
ZST Bratislava 91.59 40 e*P* **P** **18 56 55.7 +1.4**
ZST pmax pmax
comp=Z,784nm,1.3s
RAC Raciborz 91.61 38 e*P* **P** **18 56 55.0 +0.6**
RAC Raciborz 91.61 38 e*P* **P** **18 56 55.0 +0.6**
RAC *e* 19 07 26.2
RAC MLR MLR
comp=Z,53µm,19.6s
KOGS Kog 91.62 42 *i* P **P** **18 56 54.4 -0.2**
KOGS e*PP* **PP** **19 00 38.4 +5.9**
KOGS *e* 19 09 04.7
KOGS e*P*KKPdf **PKKPbc** **19 14 15.6 +0.3**
KOGS *e* 19 26 48.8
MAUC Maruska 91.64 39 e*P* **P** **18 56 56.2 +1.6**
MAUC e*S*KS **SKSac** **19 07 23.2 -3.8**
MAUC AMS AMS 19 37 20.0
comp=Z,109µm,18.8s
MODS Modra-Piesok 91.64 40 e*P* **P** **18 56 56.4 +1.8**
MODS e*PP* **PP** **19 00 35.7 +3.1**
MODS e*S* **SKSac** **19 07 27.7 +0.7**
MODS e*SS* **SS** **19 13 55.2 -5.6**
MODS e*L* L 19 28 04.8
MODS Modra-Piesok 91.64 40 e*P* **P** **18 56 56.4 +1.8**
MODS pmax pmax
comp=Z,763nm,1.5s
OKC Ostrava-Krasne 91.67 38 e*P* **P** **18 56 56.1 +1.4**
OKC *ex* x 19 00 38.7
OKC e*S*KS **SKSac** **19 07 25.2 -1.9**
OKC AMS AMS 19 44 50.0
comp=Z,49µm,15.8s
OKC Ostrava-Krasne 91.67 38 e*P* **P** **18 56 56.1 +1.4**
OKC *e* 19 00 38.7
OKC *e* 19 07 25.2
OKC MLR MLR
comp=Z,49µm,15.8s
SMOL Smolenice 91.68 40 e*P* **P** **18 56 57.7 +2.9**
SMOL pmax pmax
comp=Z,103nm,1.4s
SEY Seymchan 91.89 336 P **P** **18 56 56.6 +1.2**
comp=Z,291nm,1.1s,baz=102,slow=4.7,SNR=67
SEY S **SKSac** **19 07 31.9 +4.1**
comp=Z,1.1nm,0.6s,baz=336,slow=14,SNR=1.4
SEY PKKPbc **PKKPbc** **19 14 13.5 -1.6**
comp=Z,22nm,0.9s,baz=253,slow=1.4,SNR=14
SEY LR LR 19 44 57.4
comp=Z,32µm,18.9s,baz=45,slow=40
comp=Z,291nm,1.1s
SEY Seymchan 91.89 336*d* *i* P **P** **18 56 56.6 +1.2**
SEY pmax pmax

	comp=Z,647nm,1.3s									
BEHE	**Becsehely**	**91.95**	**42**		P	**P**	**18 56 58.1**	**+2.0**
FUTU	**Fugatoga**	**92.18**	**256**		P	**P**	**18 57 00.1**	**+2.4**
MPLH	**Magyarpolny**	**92.21**	**41**		P	**P**	**18 56 58.8**	**+1.6**
A050A	**Klekovaca**	**92.45**	**44**	⇓	*i*P	**P**	**18 56 59.4**	**+0.9**
SRO	**Srobarova**	**92.48**	**40**		*e*P	**P**	**18 57 00.3**	**+1.8**
SRO	**Srobarova**	**92.48**	**40**		*e*P	**P**	**18 57 00.3**	**+1.8**
SRO					pmax	pmax		
	comp=Z,113nm,1.0s							
OJC	**Ojcow**	**92.52**	**38**		P	**P**	**18 56 56.8**	**-1.8**
OJC					IAmb	IAmb	18 57 03.7	
	comp=Z,174nm,1.2s							
OJC	**Ojcow**	**92.52**	**38**		P	**P**	**18 56 56.8**	**-1.8**
OJC					pmax	pmax		
	comp=Z,174nm,1.2s							
A051A	**Mrakovica**	**92.53**	**43**	⇓	*i*P	**P**	**18 56 58.6**	**-0.3**
VYHS	**Vyhne**	**92.57**	**39**		*e*P	**P**	**18 57 00.5**	**+1.6**
VYHS					*e*PP	**PP**	**19 00 43.9**	**+3.9**
VYHS					*e*S	**SKSac**	**19 07 33.4**	**+1.2**
VYHS					*e*SS	**SS**	**19 14 16.0**	**+1.9**
VYHS					*e*L	L	19 28 30.4	
VYHS	**Vyhne**	**92.57**	**39**		*e*P	**P**	**18 57 00.5**	**+1.6**
VYHS					pmax	pmax		
	comp=Z,290nm,1.8s							
CSKK	**Cskako**	**92.61**	**41**		P	**P**	**18 57 00.3**	**+1.2**
PABE	**Paberze**	**92.71**	**32**		P	**P**	**18 56 59.0**	**-0.4**
PABE					IAmb	IAmb	18 57 06.6	
	comp=Z,259nm,1.1s							
PABE					IAMs_20	IAMs_20	19 37 52.9	
	comp=Z,35µm,22.0s							
PABE	**Paberze**	**92.71**	**32**		*e*P	**P**	**18 56 59.1**	**-0.2**
VSU	**Vasula**	**92.74**	**28**		*e*P	**P**	**18 56 58.1**	**-1.3**
VSU	**Vasula**	**92.74**	**28**	*d*	*i*P	**P**	**18 56 59.1**	**-0.3**
VSU					pmax	pmax		
	comp=Z,892nm,1.1s							
VSU					MLR	MLR		
	comp=Z,55µm,19.0s							
SGRT	**San Giovanni R**	**92.79**	**46**		P	**P**	**18 57 00.2**	**0.0**
BLY	**Banja Luka**	**92.80**	**43**	⇓	*i*P	**P**	**18 57 00.1**	**+0.1**
MGRS	**Mrkonjic Grad**	**92.85**	**44**		*e*P	**P**	**18 57 01.4**	**+1.1**
TIXI	**Tiksi**	**92.90**	**349**		P	**P**	**18 56 59.8**	**-0.1**
	comp=Z,570nm,1.0s,baz=269,slow=22,SNR=515							
TIXI					S	**SKSac**	**19 07 30.7**	**-2.4**
	comp=Z,2.3nm,0.9s,baz=90,slow=24,SNR=1.6							
TIXI					PKKPbc	**PKKPdf**	**19 14 11.3**	**+1.4**
	comp=Z,3.6nm,0.8s,baz=270,slow=24,SNR=5.6							
TIXI					PKPPKP	**P'P'df**	**19 22 18.2**	**-5.3**
	comp=Z,2.4nm,1.0s,baz=90,slow=23,SNR=4.3							
TIXI					LR	LR	19 45 34.4	
	comp=Z,23µm,18.3s,baz=270,slow=40							
	comp=Z,570nm,1.0s							
TIXI	**Tiksi**	**92.90**	**349**		P	**P**	**18 56 59.6**	**-0.2**
TIXI	**Tiksi**	**92.90**	**349**	⇓	P	**P**	**18 57 00.1**	**+0.2**
KOVH	**Kovagototos**	**92.95**	**42**		P	**P**	**18 57 01.9**	**+1.2**
BUD	**Budapest**	**93.05**	**40**		P	**P**	**18 57 02.2**	**+1.1**
VAE	**Valguarnera**	**93.13**	**51**		LR	LR	19 36 31.4	
	comp=Z,39µm,18.8s,baz=262,slow=34							
RAFF	**Raffo Rosso**	**93.17**	**51**		P	**P**	**18 57 02.5**	**+0.6**
MORH	**Mrgy, Hungar**	**93.26**	**42**	⇑	P	**P**	**18 57 03.0**	**+1.0**
MORH	**Mrgy, Hungar**	**93.26**	**42**		P	**P**	**18 57 03.1**	**+1.0**
CUC	**Castrocucco**	**93.40**	**48**		P	**P**	**18 57 03.0**	**0.0**
PSZ	**Piszkesteto**	**93.44**	**40**	⇓	P	**P**	**18 57 04.9**	**+1.9**
PSZ	**Piszkesteto**	**93.44**	**40**		P	**P**	**18 57 04.4**	**+1.4**
PSZ					IAmb	IAmb	18 57 11.6	
	comp=Z,260nm,1.1s							
PSZ	**Piszkesteto**	**93.44**	**40**		P	**P**	**18 57 04.9**	**+1.9**
PSZ	**Piszkesteto**	**93.44**	**40**	⇓	P	**P**	**18 57 04.9**	**+1.9**
PET	**Petropavlovsk**	**93.59**	**326**		P	**P**	**18 57 03.8**	**+0.4**
PET					IAmb	IAmb	18 57 10.7	
	comp=Z,176nm,1.2s							
PET	**Petropavlovsk**	**93.59**	**326**		P	**P**	**18 57 07.0**	**+3.6**
PET	**Petropavlovsk**	**93.59**	**326**		*e*P	**P**	**18 57 05.4**	**+2.0**
PET					*e*		19 00 51.4	
PET					*e*S	**S**	**19 08 12.0**	**+0.4**
PET					*e*PS	**PS**	**19 09 27.2**	**+0.7**
PET					*e*SS	**SS**	**19 14 31.0**	**+2.7**
PET					pmax	pmax		
	comp=Z,10µm,6.8s							
PET					pmax	pmax		
	comp=Z,169nm,1.4s							
PET					pmax	pmax		
	comp=Z,6µm,12.5s							
PET					pmax	pmax		
	comp=Z,6µm,14.3s							
KECS	**Kecovo**	**93.59**	**39**		*e*P	**P**	**18 57 05.6**	**+2.0**
KECS	**Kecovo**	**93.59**	**39**		*e*P	**P**	**18 57 05.6**	**+2.0**
KECS					pmax	pmax		
	comp=Z,64nm,1.0s							
FUNA	**Funafuti**	**93.61**	**262**		P	**P**	**18 57 03.1**	**-1.2**
FUNA					IAmb	IAmb	18 57 10.4	
	comp=Z,415nm,1.7s							
LKBA	**Tubou, Lakemba**	**93.61**	**252**		P	**P**	**18 57 07.3**	**+3.1**
STHS	**Stebnicka Huta**	**93.69**	**38**		*e*P	**P**	**18 57 05.2**	**+1.1**
STHS	**Stebnicka Huta**	**93.69**	**38**		*e*P	**P**	**18 57 05.2**	**+1.1**
STHS					pmax	pmax		
	comp=Z,38nm,1.1s							
PUL	**Pulkovo**	**93.70**	**26**	*ce*	P	**P**	**18 57 05.9**	**+2.1**
PUL					pmax	pmax		
	comp=Z,287nm,0.7s							
IZAR	**Zarasai**	**93.76**	**31**		*e*P	**P**	**18 57 05.9**	**+1.7**
ISAL	**Salakas**	**93.78**	**31**		*e*P	**P**	**18 57 05.9**	**+1.6**
STON	**Ston**	**93.79**	**45**	⇓	*i*P	**P**	**18 57 04.0**	**-0.6**
MATE	**Matera**	**93.83**	**47**	⇑	P	**P**	**18 57 05.6**	**+0.8**
IIGN	**Ignalina**	**93.94**	**31**		*e*P	**P**	**18 57 07.0**	**+2.0**
CEL	**Celeste**	**94.00**	**50**		P	**P**	**18 57 03.8**	**-2.0**
CEL					IAMs_20	IAMs_20	19 36 19.6	
	comp=Z,36µm,20.0s							
CRVS	**Cervenica-Dubn**	**94.03**	**38**		*e*L	L	19 29 35.0	
CRVS	**Cervenica-Dubn**	**94.03**	**38**		*e*P	**P**	**18 57 07.3**	**+1.7**
CRVS					pmax	pmax		
	comp=Z,197nm,1.2s							
CRVS	**Cervenica-Dubn**	**94.03**	**38**		*e*P	**P**	**18 57 07.3**	**+1.7**
CRVS	**Cervenica-Dubn**	**94.03**	**38**		*e*PP	**PP**	**19 00 52.0**	**+0.7**
CRVS	**Cervenica-Dubn**	**94.03**	**38**		*e*S	**SKSac**	**19 07 39.0**	**-1.2**
CRVS	**Cervenica-Dubn**	**94.03**	**38**		*e*SS	SS	19 14 33.8	-1.1
PEA0B	**Petropavlovsk-**	**94.07**	**326**		P	**P**	**18 57 05.9**	**+0.2**
PEA0B					IAmb	IAmb	18 57 25.5	
	comp=Z,363nm,1.2s							
PEA0B	**Petropavlovsk-**	**94.07**	**326**	*ce*	P	**P**	**18 57 07.9**	**+2.2**
PETK	**Petropavlovsk-**	**94.07**	**326**		P	**P**	**18 57 07.0**	**+1.3**
	comp=Z,94nm,1.1s,baz=83,slow=6.3,SNR=21							
PETK					PP	**PP**	**19 00 51.5**	**0.0**
	comp=Z,4.7nm,0.9s,baz=300,slow=19,SNR=2.7							
PETK					PKKPbc	**PKKPdf**	**19 14 07.6**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=212,slow=8.1,SNR=4.4							
	comp=Z,94nm,1.1s							
PETK	**Petropavlovsk-**	**94.07**	**326**		P	**P**	**18 57 07.0**	**+1.3**
ABAH	**Abaujker**	**94.13**	**39**		P	**P**	**18 57 07.8**	**+1.8**
MA2	**Magadan**	**94.31**	**334**		P	**P**	**18 57 07.8**	**+1.2**
	comp=Z,35nm,0.9s,baz=36,slow=6.0,SNR=7.6							
MA2					LR	LR	19 43 55.3	
	comp=Z,23µm,20.1s,baz=70,slow=38							
	comp=Z,35nm,0.9s							
MA2	**Magadan**	**94.31**	**334**		P	**P**	**18 57 07.7**	**+1.1**
MA2					IAmb	IAmb	18 57 15.6	
	comp=Z,257nm,1.4s							
MA2					IAMs_20	IAMs_20	19 45 13.0	
	comp=Z,34µm,22.0s							
MA2	**Magadan**	**94.31**	**334**		P	**P**	**18 57 07.8**	**+1.1**
MA2	**Magadan**	**94.31**	**334**	*d*	*i*P	**P**	**18 57 08.0**	**+1.3**
MA2					pmax	pmax		
	comp=Z,245nm,1.4s							
TAVE	**Taveuni**	**94.34**	**254**		P	**P**	**18 57 09.7**	**+2.1**
TIP	**Timpagrande**	**94.35**	**49**	⇓	P	**P**	**18 57 07.8**	**+0.4**
TIP	**Timpagrande**	**94.35**	**49**		P	**P**	**18 57 06.5**	**-0.8**
BRY	**Bratogost**	**94.36**	**45**		*e*P	**P**	**18 57 06.5**	**-0.9**
BRY	**Bratogost**	**94.36**	**45**		*e*P	**P**	**18 57 07.6**	**+0.2**
FRGS	**Fruska Gora**	**94.40**	**42**		P	**P**	**18 57 07.4**	**0.0**
NACGM	**Naroch**	**94.43**	**31**		*i*P	**P**	**18 57 08.6**	**+1.4**
	comp=Z,220nm,1.0s,baz=299							
TEKS	**Tekeris**	**94.44**	**43**		*e*P	**P**	**18 57 06.3**	**-1.3**
HCY	**Herceg Novi**	**94.48**	**45**		*e*P	**P**	**18 57 06.0**	**-1.8**
HCY	**Herceg Novi**	**94.48**	**45**		*e*P	**P**	**18 57 07.7**	**-0.1**
UPM	**Unac-Piva**	**94.50**	**44**		*e*P	**P**	**18 57 09.0**	**+0.9**
UPM	**Unac-Piva**	**94.50**	**44**		*e*P	**P**	**18 57 08.0**	**-0.1**
KOLS	**Kolonicke sedl**	**94.50**	**38**		*e*P	**P**	**18 57 09.6**	**+1.8**
KOLS	**Kolonicke sedl**	**94.50**	**38**		*e*P	**P**	**18 57 09.6**	**+1.8**
KOLS					pmax	pmax		
	comp=Z,92nm,1.4s							
AMBH	**Ambrzfalva**	**94.55**	**41**	⇑	P	**P**	**18 57 09.9**	**+1.9**
AMBH	**Ambrzfalva**	**94.55**	**41**		P	**P**	**18 57 09.9**	**+1.9**
BELA	**Belgrano 2**	**94.57**	**170**		P	**P**	**18 57 06.7**	**-0.7**
BELA					IAmb	IAmb	18 57 12.6	
	comp=Z,420nm,1.7s							
DGTI	**Dogotuki**	**94.60**	**254**		P	**P**	**18 57 09.4**	**+0.6**
BBLS	**Lazići**	**94.60**	**44**	⇓	*i*P	**P**	**18 57 08.8**	**+0.4**
UZH	**Uzhgorod**	**94.64**	**38**	⇓	*i*P	**P**	**18 57 09.8**	**+1.4**
UZH					*i*		18 57 13.0	
UZH					*i*		18 57 19.7	
UZH					*i*		19 01 02.0	
UZH					*i*		19 07 40.0	
UZH					*e*S	**S**	**19 08 19.5**	**-1.6**
UZH					*i*		19 09 39.0	
UZH					*e*		19 14 41.0	
UZH					*e*		19 18 20.0	
UZH					MLR	MLR		
	comp=N,4µm,18.0s							
UZH					MLR	MLR		
	comp=E,9µm,18.0s							
UZH					MLR	MLR		
	comp=Z,5µm,18.0s							
RUDO	**Rudo**	**94.67**	**44**		*e*P	**P**	**18 57 09.2**	**+0.5**
NKME	**Niksic**	**94.69**	**45**		*e*P	**P**	**18 57 08.9**	**+0.1**
CEME	**Cevo**	**94.74**	**45**		*e*P	**P**	**18 57 09.3**	**+0.2**
PLE	**Pljevlja**	**94.79**	**44**		*e*P	**P**	**18 57 09.5**	**+0.1**
BUM	**Brajici-Budva**	**94.81**	**45**		*e*P	**P**	**18 57 09.3**	**-0.1**
LTVH	**Ltavrtes, Hu**	**94.89**	**40**		P	**P**	**18 57 11.3**	**+1.7**
RAO	**Raoul Island**	**94.91**	**241**		LR	LR	19 28 48.0	
	comp=Z,20µm,19.9s,baz=100,slow=28							
RAO	**Raoul Island**	**94.91**	**241**		IAMs_20	IAMs_20	19 29 03.5	
	comp=Z,19µm,20.0s							
DIVS	**Divibare**	**94.91**	**43**		P	**P**	**18 57 10.0**	**+0.1**
DIVS	**Divibare**	**94.91**	**43**	⇓	*i*P	**P**	**18 57 10.0**	**+0.1**
TRPA	**Tarpa**	**94.99**	**39**	⇑	P	**P**	**18 57 11.2**	**+1.2**
TRPA	**Tarpa**	**94.99**	**39**		P	**P**	**18 57 11.2**	**+1.2**
PDG	**Podgorica**	**95.02**	**45**	⇓	P	**P**	**18 57 11.2**	**+0.9**
PDG	**Podgorica**	**95.02**	**45**		P	**P**	**18 57 10.4**	**+0.2**
TTG	**Podgorica**	**95.02**	**45**		*e*P	**P**	**18 57 10.7**	**+0.5**
KOME	**Kolasin**	**95.05**	**44**		*e*P	**P**	**18 57 10.4**	**-0.1**
DRME	**Dracevica, Mon**	**95.06**	**45**	⇓	*i*P	**P**	**18 57 10.3**	**-0.2**
DRME	**Dracevica, Mon**	**95.06**	**45**		*e*P	**P**	**18 57 10.8**	**+0.3**
TIM	**Timisoara**	**95.11**	**41**	⇓	P	**P**	**18 57 13.9**	**+3.3**
TIM	**Timisoara**	**95.11**	**41**	⇓	P	**P**	**18 57 13.9**	**+3.3**
ULC	**Ulcinj**	**95.18**	**45**		*e*P	**P**	**18 57 10.6**	**-0.5**
MNK	**Minsk**	**95.18**	**32**		*i*P	**P**	**18 57 10.2**	**-0.6**
	comp=E,130nm,29.1s							
MNK					*i*P	**P**	**18 57 10.2**	**-0.6**
	comp=N,402nm,14.5s							
MNK					*i*P	**P**	**18 57 10.2**	**-0.6**
	comp=Z,2µm,19.3s,baz=298							
MNK					*i*PP	**PP**	**19 00 59.5**	**-0.5**
MNK					*i*PPP	PPP	19 03 01.9	
MNK					*i*S	**SKSac**	**19 07 42.8**	**-3.3**
MNK					*i*SS	**SS**	**19 14 50.1**	**-0.8**
MNK					*i*SSS	SSS	19 18 29.7	
MNK					*i*LQ	LQ	19 31 01.8	
MNK					*i*LR	LR	19 34 45.5	
MNK					*i*LRM	MLR	19 39 31.3	
	comp=E,4µm,16.4s							
MNK					*i*LRM	MLR	19 39 34.8	
	comp=Z,35µm,19.0s							
MNK					*i*LRM	MLR	19 39 52.7	
	comp=N,14µm,18.6s							
MNK	**Minsk**	**95.18**	**32**		*i*P	**P**	**18 57 10.1**	**-0.6**
MNK					*i*		19 00 59.5	
MNK					*i*PPP	PPP	19 03 01.9	
MNK					*i*S	**SKSac**	**19 07 42.8**	**-3.3**
MNK					*i*SS	**SS**	**19 14 50.1**	**-0.8**
MNK					*i*SSS	SSS	19 18 29.6	
MNK					MLR	MLR		
	comp=E,4µm,16.0s							
MNK					MLR	MLR		
	comp=Z,35µm,19.0s							
MNK					MLR	MLR		
	comp=N,14µm,19.0s							
SIRR	**Siria**	**95.18**	**41**	⇑	P	**P**	**18 57 12.1**	**+1.1**
LVV	**L'vov**	**95.18**	**37**		*e*P	**P**	**18 57 12.2**	**+1.3**
LVV					*e*		19 01 04.4	
LVV					*e*		19 07 42.3	
LVV					*e*S	**S**	**19 08 24.2**	**-1.6**
LVV					*e*PS	**PS**	**19 09 51.5**	**+7.3**
LVV					*e*SS	**SS**	**19 15 00.9**	**+10**
LVV					*e*SSS	SSS	19 18 38.4	
LVV					pmax	pmax		
	comp=Z,300nm,1.6s							
LVV					MLR	MLR		
	comp=N,17µm,18.0s							
LVV					MLR	MLR		
	comp=E,19µm,18.0s							
LVV					MLR	MLR		
	comp=Z,22µm,18.0s							
IVA	**Berane**	**95.30**	**44**		*e*P	**P**	**18 57 12.0**	**+0.3**
BZS	**Buzias**	**95.41**	**41**	⇑	P	**P**	**18 57 13.5**	**+1.5**
BZS	**Buzias**	**95.41**	**41**	⇑	P	**P**	**18 57 13.5**	**+1.5**
PVY	**Plav**	**95.44**	**45**		*e*P	**P**	**18 57 12.5**	**+0.1**
DRGR		**95.64**	**40**	⇑	P	**P**	**18 57 14.4**	**+1.3**
DRGR		**95.64**	**40**	⇑	P	**P**	**18 57 14.4**	**+1.3**
SURR	**Surduc**	**95.68**	**41**	⇑	P	**P**	**18 57 13.6**	**+0.4**
BMR	**Baia Mare**	**95.76**	**39**	⇑	P	**P**	**18 57 15.6**	**+2.1**
BMR	**Baia Mare**	**95.76**	**39**	⇑	P	**P**	**18 57 15.6**	**+2.1**
MDVR	**Moldovita**	**95.80**	**42**	⇑	P	**P**	**18 57 14.8**	**+1.0**
TIR	**Tirane**	**95.83**	**46**		P	**P**	**18 57 11.8**	**-2.2**
TIR					IAMs_20	IAMs_20	19 44 19.6	
	comp=Z,31µm,19.0s							
TIR	**Tirane**	**95.83**	**46**		P	**P**	**18 57 11.8**	**-2.2**
TIR					pmax	pmax		
	comp=Z,124nm,1.3s							
TIR					MLR	MLR		
	comp=Z,31µm,19.0s							
SKR	**Severo-Kuril's**	**96.03**	**325**		*e*P	**P**	**18 57 15.3**	**+0.7**
SKR					*e*S	**SKSac**	**19 07 51.3**	**+0.6**
SKR					pmax	pmax		
	comp=Z,25nm,0.8s							
SKR					pmax	pmax		
	comp=Z,2µm,5.5s							
HERR	**Herculane**	**96.22**	**42**	⇑	P	**P**	**18 57 16.8**	**+1.2**
CJR	**Cluj-Napoca**	**96.23**	**40**	⇑	P	**P**	**18 57 17.6**	**+1.8**
CJR	**Cluj-Napoca**	**96.23**	**40**	⇑	P	**P**	**18 57 17.6**	**+1.8**
GZR	**Gura Zlata**	**96.25**	**41**	⇑	P	**P**	**18 57 17.0**	**+1.1**
GZR	**Gura Zlata**	**96.25**	**41**	⇑	P	**P**	**18 57 17.0**	**+1.1**
DJES	**Djerdap**	**96.37**	**42**	⇑	P	**P**	**18 57 18.1**	**+1.7**
DJES	**Djerdap**	**96.37**	**42**		P	**P**	**18 57 17.1**	**+0.7**
KEK	**Kerkira**	**96.38**	**47**		P	**P**	**18 57 16.6**	**+0.1**
KEK					IAmb	IAmb	18 57 24.5	
	comp=Z,102nm,1.0s							
MSVF	**Nonsavu**	**96.45**	**253**		P	**P**	**18 57 19.0**	**+1.7**
	comp=Z,16nm,1.0s,baz=112,slow=4.4,SNR=18							
MSVF					LR	LR	19 32 54.5	
	comp=Z,30µm,19.3s,baz=72,slow=30							
	comp=Z,16nm,1.0s							
MSVF	**Nonsavu**	**96.45**	**253**		P	**P**	**18 57 15.2**	**-2.1**
MSVF					IAmb	IAmb	18 57 22.9	
	comp=Z,320nm,1.9s							
MSVF	**Nonsavu**	**96.45**	**253**		IAMs_20	IAMs_20	19 32 35.0	
	comp=Z,32µm,20.0s							
MSVF	**Nonsavu**	**96.45**	**253**		P	**P**	**18 57 18.9**	**+1.7**
MSVF	**Nonsavu**	**96.45**	**253**		P	**P**	**18 57 19.0**	**+1.7**
ARCR	**ARCALIA**	**96.54**	**39**	⇑	P	**P**	**18 57 18.3**	**+1.2**
OHR	**Ohrid**	**96.57**	**46**		*i*P	**P**	**18 57 19.3**	**+1.8**
SKO	**Skopje**	**96.69**	**45**		*i*P	**P**	**18 57 19.3**	**+1.4**
KBN	**Korca**	**96.75**	**46**		P	**P**	**18 57 17.9**	**-0.4**
KBN	**Korca**	**96.75**	**46**		P	**P**	**18 57 17.9**	**-0.4**
KBN					pmax	pmax		
	comp=Z,100nm,1.1s							
KLMR	**Klimovskoe**	**96.81**	**23**	⇓	*i*P	**P**	**18 57 18.0**	**0.0**
KLMR					*e*P	**P**	**18 57 18.0**	**0.0**
KLMR					*e*P	**P**	**18 57 18.0**	**0.0**
KLMR					AMP		18 57 25.5	
	comp=Z,253nm,1.3s							
KLMR					PP	**PP**	**19 01 10.4**	**-2.0**
KLMR					S	**SKSac**	**19 07 56.1**	**+1.6**
KLMR					S	**SKSac**	**19 07 56.1**	**+1.6**
KLMR					LR	LR	19 28 54.7	
KLMR	**Klimovskoe**	**96.81**	**23**	*d*	*i*P	**P**	**18 57 17.9**	**0.0**
KLMR							19 01 10.4	
KLMR					S	**SKSac**	**19 07 56.0**	**+1.6**
KLMR					pmax	pmax		
	comp=Z,253nm,1.3s							
BUR08	**Bucovina Ar. S**	**96.82**	**38**		P	**P**	**18 57 19.2**	**+0.7**
BURAR	**Bucovina Array**	**96.84**	**38**	⇑	P	**P**	**18 57 19.8**	**+1.2**
BURAR	**Bucovina Array**	**96.84**	**38**		P	**P**	**18 57 19.1**	**+0.5**
BURAR	**Bucovina Array**	**96.84**	**38**	⇑	P	**P**	**18 57 19.8**	**+1.2**
LOT	**Lotru**	**96.86**	**41**	⇓	P	**P**	**18 57 19.1**	**+0.4**
FNA	**Florina**	**97.10**	**46**		P	Pdif	18 57 20.6	+0.7
FNA	**Florina**	**97.10**	**46**		P	Pdif	18 57 20.6	+0.6
FNA					pmax	pmax		
	comp=Z,24nm,1.1s							
EKNA	**AfricaArray -**	**97.13**	**84**	⇓	*i*P	Pdif	18 57 23.3	+2.7
STIP	**Stip**	**97.32**	**45**		*i*P	Pdif	18 57 22.2	+1.4
DRBR	**Darabani**	**97.42**	**38**		P	Pdif	18 57 21.5	+0.4
ARR	**Arges**	**97.45**	**41**		P	Pdif	18 57 22.7	+1.3
DOPR	**Dopca**	**97.67**	**40**		P	Pdif	18 57 23.5	+1.2
VTS	**Vitosha**	**97.67**	**44**	⇓	P	Pdif	18 57 23.6	+1.1
VTS	**Vitosha**	**97.67**	**44**		P	**P**	**18 57 22.5**	**-0.1**
VTS	**Vitosha**	**97.67**	**44**		*i*P	**P**	**18 57 22.4**	**-0.1**
VTS	**Vitosha**	**97.67**	**44**		*i*P	**P**	**18 57 22.4**	**-0.1**
VTS	**Vitosha**	**97.67**	**44**	⇓	P	Pdif	18 57 23.6	+1.0
VOIR		**97.68**	**40**	⇑	P	Pdif	18 57 23.4	+0.9
VOIR		**97.68**	**40**	⇑	P	Pdif	18 57 23.4	+0.9
AKASG	**Malin Array Be**	**97.74**	**34**		P	**P**	**18 57 22.3**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=297,slow=3.8,SNR=21							
AKASG					PP	**PP**	**19 01 16.3**	**-3.7**
	comp=Z,12nm,1.0s,baz=296,slow=6.3,SNR=4.4							
AKASG					S	**SKSac**	**19 07 58.4**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=229,slow=10,SNR=2.7							
AKASG					PKKPbc	**PKKPbc**	**19 13 59.2**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=89,slow=2.4,SNR=9.5							
AKASG					PKPPKP	P'P'df	19 22 06.4	-8.5
	comp=Z,0.5nm,0.6s,baz=60,slow=1.8,SNR=5.2							
AKASG					LR	LR	19 39 02.2	
	comp=Z,47µm,20.8s,baz=287,slow=34							
	comp=Z,6.9nm,0.7s							
AKASG	**Malin Array Be**	**97.74**	**34**		P	**P**	**18 57 21.8**	**-0.6**
AKBB	**Malin Array Si**	**97.74**	**34**		P	**P**	**18 57 21.0**	**-1.4**
AKBB					IAmb	IAmb	18 57 28.7	
	comp=Z,209nm,2.0s							
AKBB	**Malin Array Si**	**97.74**	**34**		P	**P**	**18 57 21.0**	**-1.4**
AKBB					pmax	pmax		
	comp=Z,209nm,2.0s							
VNA3	**Neumayer Olymp**	**97.75**	**161**		P	**P**	**18 57 20.7**	**-1.3**
VNA3	**Neumayer Olymp**	**97.75**	**161**		P'P'df	P'P'df	19 22 10.7	+1.0
VNA3	**Neumayer Olymp**	**97.75**	**161**		PKKP		19 13 57.7	
TARA	**Tarawa**	**97.75**	**273**		IAMs_20	IAMs_20	19 34 36.0	
	comp=Z,24µm,20.0s							
OZUR		**97.86**	**40**		P	Pdif	18 57 23.6	+0.4
KKB	**Krupnik**	**97.86**	**44**		*i*P	Pdif	18 57 23.4	+0.1
KKB	**Krupnik**	**97.86**	**44**		*i*P	Pdif	18 57 23.4	+0.1
HUMR	**Humele**	**98.03**	**41**		P	Pdif	18 57 25.0	+1.1
VNA1	**Neumayer--Stat**	**98.06**	**161**		P	**P**	**18 57 22.7**	**-0.5**
VNA1	**Neumayer--Stat**	**98.06**	**161**		P'P'df	P'P'df	19 22 09.7	+0.6
VNA1	**Neumayer--Stat**	**98.06**	**161**		PKKP		19 13 57.5	
TESR	**Tescani**	**98.21**	**39**		P	Pdif	18 57 24.8	+0.1
MLR	**Muntele Rosu**	**98.23**	**40**		P	Pdif	18 57 26.2	+1.2
MLR	**Muntele Rosu**	**98.23**	**40**		PKPPKP		19 22 04.4	
	comp=Z,1.5nm,0.8s,baz=162,slow=7.7,SNR=4.2							
MLR					LR	LR	19 40 21.7	
	comp=Z,43µm,19.3s,baz=298,slow=35							
MLR	**Muntele Rosu**	**98.23**	**40**		P	**P**	**18 57 24.7**	**-0.2**
MLR					IAmb	IAmb	18 57 32.6	
	comp=Z,178nm,1.2s							
MLR	**Muntele Rosu**	**98.23**	**40**		P	**P**	**18 57 24.7**	**-0.2**
MLR					pmax	pmax		
	comp=Z,178nm,1.2s							
MLR					MLR	MLR		
	comp=Z,55µm,21.0s							
COVR	**Voineasa-Covas**	**98.23**	**40**	⇑	P	Pdif	18 57 26.2	+1.4
PLVB	**Pleven**	**98.28**	**43**		P	Pdif	18 57 25.7	+0.7
PGB	**Panagyurishte**	**98.32**	**43**		*i*P	**P**	**18 57 25.2**	**-0.1**
PGB	**Panagyurishte**	**98.32**	**43**		*i*P	**P**	**18 57 25.2**	**-0.1**
VNA2	**

comp=E,19µm,18.0s
MILM MLR MLR
comp=Z,26µm,18.0s
SCTR Scanteiesti 99.43 39 ⇑P **Pdif 18 57 30.4 +0.3**
KDZ Kurdzhali 99.54 44 *i* P **Pdif 18 57 30.3 -0.5**
KDZ Kurdzhali 99.54 44 *i* P **Pdif 18 57 30.3 -0.5**
CFR Carcaliu 99.75 40 ⇑P **Pdif 18 57 31.5 0.0**
CFR Carcaliu 99.75 40 ⇑P **Pdif 18 57 31.5 0.0**
JMB Yambol 99.97 43 *i* P **Pdif 18 57 30.3 -2.3**
JMB Yambol 99.97 43 *i* P **Pdif 18 57 30.3 -2.3**
TLBR Topalu 99.98 40 ⇓P **Pdif 18 57 33.5 +0.9**
TPGR Topolog 100.07 40 ⇑P **Pdif 18 57 33.5 +0.4**
PRD Provadia 100.18 42 *i* P **Pdif 18 57 33.3 -0.2**
PRD Provadia 100.18 42 *i* P **Pdif 18 57 33.3 -0.2**
TIRR Tirgusor 100.25 40 ⇑P **Pdif 18 57 34.3 +0.5**
TIRR Tirgusor 100.25 40 ⇑P **Pdif 18 57 34.3 +0.5**
YAK Yakutsk 100.37 343 P **Pdif 18 57 34.8 +0.9**
comp=Z,41nm,0.9s,baz=279,slow=0.8,SNR=43
YAK PP **PP 19 01 39.3 -0.1**
comp=Z,64nm,1.1s,baz=127,slow=1.6,SNR=6.5
YAK S **SKSac 19 08 14.3 +2.0**
comp=Z,1.8nm,0.4s,baz=284,slow=3.3,SNR=1.2
YAK Yakutsk 100.37 343 *e*P **Pdif 18 57 33.1 -0.8**
YAK *e* 19 01 39.8
YAK *e* 19 08 17.5
YAK *e*SS SS 19 16 11.3 +8.2
YAK pmax pmax
comp=Z,136nm,1.0s
YAK pmax pmax
comp=E,35nm,1.1s
YAK pmax pmax
comp=N,44nm,1.3s
YAK pmax pmax
comp=Z,7µm,8.3s
YAK pmax pmax
comp=N,2µm,6.8s
YAK pmax pmax
comp=E,1µm,6.4s
YAK MLR MLR
comp=Z,75µm,20.0s
YAK MLR MLR
comp=N,56µm,23.0s
YAK MLR MLR
comp=E,33µm,25.0s
BKZ Black Stump Fm 100.99 232 P **Pdif 18 57 40.2 +3.0**
BFZ Birch Farm 101.34 231 IAMs_20 IAMs_20 19 35 27.0
comp=Z,30µm,19.0s
TROLL Troll, Antarti 101.68 162 P **Pdif 18 57 39.3 -0.3**
TROLL Troll, Antarti 101.68 162 P'P'df P'P'df 19 21 55.8 -6.7
TROLL Troll, Antarti 101.68 162 PKKP 19 13 47.7
LPSR Galich'ya Gora 101.73 29 *e*P **Pdif 18 57 40.9 +0.7**
LPSR *e* 19 08 14.1
LPSR pmax pmax
comp=Z,100nm,1.0s
LPSR pmax pmax
comp=Z,120nm,1.1s
LPSR MLR MLR
comp=Z,19µm,17.0s
SANT Santorini 101.79 49 IAMs_20 IAMs_20 19 44 39.6
comp=Z,26µm,19.0s
IDI Anoyia 101.80 50 P **Pdif 18 57 42.5 +1.4**
comp=Z,17nm,1.0s,baz=281,slow=9.5,SNR=2.9
MRZ Mangatainoka R 101.84 231 IAMs_20 IAMs_20 19 35 25.3
comp=Z,26µm,20.0s
QSPA South Pole Qui 101.88 180 P **Pdif 18 57 41.8 +1.2**
comp=Z,12nm,0.9s,baz=138,slow=1.8,SNR=42
QSPA PP **PP 19 01 53.7 +2.1**
comp=Z,6.5nm,1.0s,baz=139,slow=7.2,SNR=2.6
QSPA S **SKSac 19 08 13.4 -6.0**
comp=Z,3.1nm,1.0s,baz=153,slow=7.4,SNR=1.7
QSPA PKKPbc **PKKPbc 19 13 44.6 -4.4**
comp=Z,22nm,0.9s,baz=186,slow=0.2,SNR=15
HIZ Hauiti 102.19 233 IAMs_20 IAMs_20 19 36 34.7
comp=Z,31µm,19.0s
VORR Voronezh 102.44 30 *e*P **Pdif 18 57 44.2 +0.9**
VORR pmax pmax
comp=Z,50nm,0.4s
SNZO South Karori 102.56 230 IAMs_20 IAMs_20 19 32 33.3
comp=Z,31µm,22.0s
VSR Storozhevoye 102.69 31 *e*P **Pdif 18 57 44.2 -0.3**
VSR *e* 19 08 17.9
VSR pmax pmax
comp=Z,300nm,2.2s
VSR pmax pmax
comp=Z,60nm,1.4s
VSR MLR MLR
comp=Z,39µm,18.0s
OUZ Omahuta 102.88 236 IAMs_20 IAMs_20 19 37 06.1
comp=Z,33µm,19.0s
KARP Karpathos 103.38 49 IAMs_20 IAMs_20 19 45 37.4
comp=Z,27µm,20.0s
KHZ Kahutara 103.51 229 IAMs_20 IAMs_20 19 38 58.0
comp=Z,22µm,18.0s
KUR Kuril'sk 103.54 323 *d*P **Pdif 18 57 50.1 +1.7**
KUR *e* 19 02 10.2
KUR *e*PS **PS 19 11 16.0 +1.8**
KUR *e*SS SS 19 17 06.8 +19
KUR pmax pmax
comp=Z,4µm,9.1s
NNZ Nelson 103.55 230 IAMs_20 IAMs_20 19 37 05.0
comp=Z,22µm,19.0s
GVZ Greta Valley S 103.92 228 IAMs_20 IAMs_20 19 37 36.1
comp=Z,20µm,21.0s
THZ Tophouse 103.94 230 IAMs_20 IAMs_20 19 33 15.8
comp=Z,37µm,22.0s
VRH Novokhopyorsk 103.95 29 *e*P **Pdif 18 57 50.7 +0.6**
VRH *e* 19 08 22.6
VRH pmax pmax
comp=Z,50nm,1.0s
VRH pmax pmax
comp=Z,60nm,1.6s
VRH MLR MLR
comp=Z,30µm,19.0s
QRZ Quartz Range 104.17 231 IAMs_20 IAMs_20 19 36 40.8
comp=Z,21µm,20.0s
MQZ McQueen's Vall 104.24 228 IAMs_20 IAMs_20 19 37 22.5
comp=Z,27µm,20.0s
LTZ Lake Taylor 104.47 229 IAMs_20 IAMs_20 19 39 45.2
comp=Z,23µm,18.0s
UGL Uglegorsk 104.54 328 *e*P **Pdif 18 57 53.2 +0.5**
UGL *e* 19 02 16.3
UGL *e* 19 08 36.4
UGL *e*PS **PS 19 11 26.5 +2.0**
UGL *e*SS SS 19 17 14.2 +13
UGL pmax pmax
comp=Z,3µm,8.0s
UGL pmax pmax
comp=Z,6µm,10.0s
SBA Scott Base 104.59 192 IAMs_20 IAMs_20 19 37 37.6
comp=Z,17µm,19.0s
OXZ Oxford 104.67 228 IAMs_20 IAMs_20 19 39 56.4
comp=Z,18µm,19.0s
NVL N'lazarevskaya 104.70 160 *e*P **Pdif 18 57 50.8 -2.1**
DSZ Denniston Nort 104.76 230 IAMs_20 IAMs_20 19 33 51.5
comp=Z,25µm,22.0s
ISP Isparta 104.78 46 IAMs_20 IAMs_20 19 45 25.9
comp=Z,25µm,21.0s
INZ Inchbonnie 105.08 229 IAMs_20 IAMs_20 19 38 25.3
comp=Z,21µm,19.0s
ANTO Ankara 105.33 43 IAMs_20 IAMs_20 19 45 12.2
comp=Z,27µm,20.0s
ANTO Ankara 105.33 43 P **Pdif 18 57 56.6 0.0**
ANTO S **SKSac 19 08 38.9 +2.2**
RPZ Rata Peaks 105.40 228 IAMs_20 IAMs_20 19 40 26.7
comp=Z,26µm,18.0s
YSS Yuzh-Sakhalins 105.47 326 IAMs_20 IAMs_20 19 53 03.5
comp=Z,21µm,21.0s
YSS Yuzh-Sakhalins 105.47 326 *e*P **Pdif 18 57 55.8 -1.1**
YSS *e* 19 02 20.5
YSS *e*PPP PPP 19 04 43.8
YSS *e* 19 08 42.0
YSS *e* 19 09 13.5
YSS *e*S **Sdif 19 09 47.2 -5.4**
YSS *e*PS **PS 19 11 33.3 -1.0**
YSS *e*SS **SS 19 17 10.5 -3.9**
YSS pmax pmax
comp=Z,3µm,9.8s
YSS pmax pmax
comp=Z,50nm,1.2s
YSS pmax pmax
comp=Z,4µm,7.0s
YSS pmax pmax
comp=N,1µm,6.3s
YSS pmax pmax
comp=E,1µm,7.8s
ANN Anapa 105.57 37 *e*P **Pdif 18 57 57.3 -0.1**
ANN *e* 19 08 39.0
ANN *e*PS **PS 19 11 35.3 -0.1**
ANN *e*SS SS 19 17 20.9 +5.0
ANN *e*SSS SSS 19 21 29.9
ANN MLR MLR
comp=Z,69µm,17.0s
VNDA Vanda 105.70 192 Pdiff **Pdif 18 58 02.7 +5.5**
comp=Z,0.7nm,1.1s,baz=13,slow=4.5,SNR=2.4
VNDA PP **PKiKP 19 02 13.5 +3.5**
comp=Z,2.5nm,1.1s,baz=152,slow=3.9,SNR=3.9
VNDA PKKPbc **PKKPbc 19 13 34.4 -2.6**
comp=Z,4.1nm,0.9s,baz=285,slow=3.2,SNR=8.2
BRTR Keskin Array B 105.96 43 Pdiff **Pdif 18 57 60.0 +0.4**
comp=Z,2.1nm,0.9s,baz=273,slow=3.6,SNR=9.1
BRTR PP **PKiKP 19 02 13.2 +1.3**
comp=Z,7.7nm,1.0s,baz=254,slow=1.8,SNR=4.0
BRTR PKKPbc **PKKPbc 19 13 35.0 -0.3**
comp=Z,4.5nm,0.8s,baz=148,slow=4.5,SNR=10
BRTR PKPPKP **P'P'df 19 21 54.0 -5.7**
comp=Z,1.2nm,1.0s,baz=121,slow=0.7,SNR=6.5
GRNR Gornyy 106.19 332 ⇑*i*P **Pdif 18 57 59.7 -0.4**
GRNR *e* 19 02 27.4
GRNR pmax pmax
comp=E,4.0nm,1.1s
GRNR pmax pmax
comp=Z,4.0nm,1.2s
FOZ Fox Glacier 106.29 228 IAMs_20 IAMs_20 19 38 59.4
comp=Z,25µm,19.0s
ARU Arti 106.72 18 Pdiff **Pdif 18 58 02.8 +0.5**
comp=Z,4.9nm,0.9s,baz=249,slow=1.2,SNR=7.2
ARU PP **PP 19 02 22.2 -4.7**
comp=Z,19nm,0.9s,baz=350,slow=12,SNR=4.2
ARU PKKPbc **PKKPbc 19 13 32.8 -0.5**
comp=Z,2.2nm,0.5s,baz=135,slow=9.7,SNR=5.2
ARU PKPPKP **P'P'df 19 21 56.0 -1.5**
comp=Z,1.1nm,0.4s,baz=168,slow=1.8,SNR=6.7
ARU Arti 106.72 18 P **Pdif 18 57 55.2 -7.1**
ARU S **SKSac 19 08 35.0 -7.0**
ARU MLR MLR
comp=Z,44µm,18.0s
SOC Sochi 107.61 37 *e*P **Pdif 18 58 04.0 -2.6**
SOC *e* 19 02 32.0
SOC *e* 19 08 44.5
SOC *e*PS **PS 19 11 52.0 -4.6**
SOC *e*SSS SSS 19 21 45.1
WHZ Wether Hill Ro 107.62 226 IAMs_20 IAMs_20 19 36 27.5
comp=Z,25µm,21.0s
ZEA Zeya 107.74 338 *e*P **Pdif 18 58 08.3 +1.4**
ZEA *e* 19 02 37.1
ZEA pmax pmax
comp=N,400nm,6.1s
ZEA pmax pmax
comp=Z,900nm,15.4s
ZEA pmax pmax
comp=Z,20nm,1.5s
DZM Mont Dzumac 107.87 251 *e*P **Pdif 18 58 08.2 0.0**
DZM Mont Dzumac 107.87 251 *e*PP **PP 19 02 37.3 -0.1**
comp=Z,8µm,26.8s
DZM Mont Dzumac 107.87 251 *e*LR LR 19 33 47.9
comp=Z,63µm,28.6s
DZM Mont Dzumac 107.87 251 PP **PP 19 02 35.0 -2.4**
comp=Z,9.3nm,1.1s,baz=154,slow=17,SNR=3.2
BOD Bodaibo 108.02 347 *e*P **Pdif 18 58 07.5 -0.5**
BOD pmax pmax
comp=Z,54nm,1.5s
CSS Mathiatis 108.14 47 IAMs_20 IAMs_20 19 49 18.0
comp=Z,17µm,19.0s
ERM Erimo 108.18 322 IAMs_20 IAMs_20 19 53 39.3
comp=Z,17µm,20.0s
DCZ Deep Cove 108.19 226 IAMs_20 IAMs_20 19 37 50.5
comp=Z,26µm,21.0s
KIV Kislovodsk 109.08 35 P **Pdif 18 58 13.3 0.0**
KIV S **SKSac 19 08 53.3 +0.3**
KIV Kislovodsk 109.08 35 *e*P **Pdif 18 58 12.9 -0.3**
KIV *e* 19 02 43.9
KIV *e* 19 08 51.9
KIV *e*PS **PS 19 12 13.0 +1.2**
KIV *e*SS SS 19 18 07.1 +3.4
KIV pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 109.34 35 Pdiff **Pdif 18 58 16.2 +1.9**
comp=Z,2.2nm,0.9s,baz=86,slow=11,SNR=2.5
KBZ PKiKP **PKiKP 19 02 19.0 +1.2**
comp=Z,12nm,1.0s,baz=208,slow=4.8,SNR=4.8
KBZ PKKPbc **PKKPbc 19 13 24.1 -0.5**
comp=Z,9.2nm,0.9s,baz=149,slow=6.5,SNR=6.8
KLR Kul'dur 109.39 333 Pdiff **Pdif 18 58 17.7 +3.4**
comp=Z,3.1nm,1.0s,baz=85,slow=5.4,SNR=2.8
KLR PKiKP **PKiKP 19 02 20.5 +2.7**
comp=Z,6.2nm,1.0s,baz=50,slow=5.6,SNR=1.9
KLR PP PP 19 02 38.7 -8.0
comp=Z,22nm,1.1s,baz=1.3,slow=6.3,SNR=6.0
KLR PKKPbc **PKKPbc 19 13 22.1 -2.5**
comp=Z,3.9nm,0.9s,baz=272,slow=3.3,SNR=5.7
HEH HeiHe 110.44 336 Pdif **Pdif 18 58 20.1 +1.1**
HEH AMB AMB
comp=Z,7µm,9.0s
HEH LR LR
comp=Z,17µm,19.8s
HEH LR LR
comp=Z,33µm,22.8s
HEH LR LR
comp=Z,56µm,21.4s
MMAI Mount Meron Ar 110.60 48 PKiKP **PKiKP 19 02 21.3 +0.7**
comp=Z,1.2nm,0.2s,baz=140,slow=0.7,SNR=3.9
MMAI PP **PP 19 02 55.7 -0.5**
comp=Z,7.7nm,0.9s,baz=348,slow=6.5,SNR=2.5
PATS Pohnpei 110.65 282 IAMs_20 IAMs_20 19 39 40.1
comp=Z,27µm,20.0s
EIL Elat 111.90 51 PKiKP **PKiKP 19 02 24.1 +1.1**
comp=Z,17nm,1.0s,baz=358,slow=3.2,SNR=4.7
ASF Jabal al Asfar 112.11 48 PKKPbc PKKPbc 19 13 15.4 -0.1
comp=Z,3.0nm,0.9s,baz=341,slow=10,SNR=2.6
MAK Makhachkala 112.38 33 *de*P **Pdif 18 58 23.6 -4.2**
MAK *e* 19 09 02.7
MAK *e*PS **PS 19 12 46.3 +3.6**
MAK *e*SS SS 19 18 42.3 -5.2
MAK *e*SSS SSS 19 23 04.5
MAK pmax pmax
comp=Z,550nm,1.4s
HNR Honiara 112.48 265 IAMs_20 IAMs_20 19 41 54.1
comp=Z,16µm,18.0s
GNI Garni 112.68 37 PKiKP **PKiKP 19 02 26.8 +2.3**
comp=Z,16nm,0.9s,baz=28,slow=6.5,SNR=5.7
GNI PP **PP 19 03 12.6 +1.7**
comp=Z,14nm,0.8s,baz=47,slow=12,SNR=3.8
GNI Garni 112.68 37 IAMs_20 IAMs_20 19 56 22.3
comp=Z,20µm,21.0s
GNI Garni 112.68 37 P **Pdif 18 58 30.4 +1.0**
GNI S **SKSac 19 09 08.1 +0.1**
SUR Sutherland 112.84 120 PKiKP **PKiKP 19 02 26.0 +1.0**
comp=Z,27nm,0.9s,baz=239,slow=1.5,SNR=8.8
BRVK Borovoye 112.86 13 P **Pdif 18 58 29.5 -0.2**
BRVK S **SKSac 19 09 05.1 -2.8**
BVAR Borovoye Array 112.92 13 Pdiff **Pdif 18 58 36.2 +6.2**
comp=Z,3.0nm,0.8s,baz=356,slow=4.9,SNR=6.1
BVAR PKiKP **PKiKP 19 02 25.7 +1.3**
comp=Z,10nm,0.9s,baz=5.1,slow=1.5,SNR=7.2
BVAR PP **PP 19 03 10.0 -1.8**
comp=Z,25nm,0.9s,baz=336,slow=3.3,SNR=6.5
BVAR PKKPbc **PKKPbc 19 13 12.8 -0.4**
comp=Z,2.7nm,0.8s,baz=124,slow=2.1,SNR=5.8
BVAR PKPPKP **P'P'df 19 21 43.1 -2.4**
comp=Z,1.4nm,1.0s,baz=182,slow=10,SNR=4.1
USRK Ussuriysk Ar. 112.95 329 PKiKP **PKiKP 19 02 25.5 +0.8**
comp=Z,5.0nm,0.8s,baz=209,slow=2.6,SNR=5.8
USRK PP **PP 19 03 13.5 +1.1**
comp=Z,9.5nm,1.0s,baz=55,slow=1.0,SNR=2.1
MDJ Mudanjiang 113.81 331 IAMs_20 IAMs_20 19 55 29.5
comp=Z,21µm,22.0s
MDJ Mudanjiang 113.81 331 SS SS 19 19 06.3 +0.1
MDJ LR LR
comp=N,6µm,22.1s
MDJ LR LR
comp=E,30µm,23.0s
MDJ LR LR
comp=Z,37µm,24.0s
BNX BinXian 113.96 333 Pdif **Pdif 18 58 34.0 -0.8**
BNX AMB AMB
comp=Z,5µm,6.9s
BNX LR LR
comp=Z,16µm,28.7s
BNX LR LR
comp=Z,16µm,31.4s
BNX LR LR
comp=Z,19µm,30.4s
ZALV Zalesovo Beam 114.17 4 Pdiff **Pdif 18 58 42.3 +6.8**
comp=Z,11nm,1.0s,baz=350,slow=4.4,SNR=14
ZALV PKP PKPdf 19 02 26.8 +0.1
comp=Z,8.3nm,0.6s,baz=308,slow=1.5,SNR=10
ZALV PP **PP 19 03 17.2 -3.4**
comp=Z,24nm,0.9s,baz=354,slow=3.6,SNR=3.6
ZALV PKKPbc **PKKPbc 19 13 05.0 -4.0**
comp=Z,2.5nm,0.7s,baz=188,slow=3.0,SNR=4.7
MJAR Matsushiro Arr 114.53 320 PKP PKPdf 19 02 28.3 +0.3
comp=Z,1.1nm,0.3s,baz=123,slow=1.2,SNR=4.4
MJAR PP **PP 19 03 20.5 -3.5**
comp=Z,20nm,1.3s,baz=43,slow=4.8,SNR=5.3
MJAR PKKPbc **PKKPab 19 13 14.5 +0.3**
comp=Z,9.6nm,0.9s,baz=217,slow=3.9,SNR=8.9
MJAR SKKP 19 17 13.6
comp=Z,10nm,1.2s,baz=223,slow=4.9,SNR=5.7
MAJO Matsushiro 114.53 320 P PKPdf 19 02 29.2 +1.3
IRK Irkutsk 115.10 351 *e*P **Pdif 18 58 40.6 +0.9**
IRK *e* 19 03 25.1
IRK pmax pmax
comp=Z,56nm,3.8s
INU Inuyama 116.03 319 P **PKPdf 19 02 36.8 +6.0**
MOY Mondy 116.11 353 *e*P **Pdif 18 58 46.4 +2.1**
MOY *e* 19 02 30.7
MOY pmax pmax
comp=Z,34nm,3.2s
BRZS Berezniki 116.27 13 *e*PP **PP 19 03 35.6 +0.2**
baz=13
CN2 Changchun 116.35 333 Pdif **Pdif 18 58 45.5 +0.1**
CN2 PP **PP 19 03 41.5 +5.2**
CN2 S **Sdif 19 11 16.9 -6.7**
CN2 SS **SS 19 19 35.9 -3.5**
CN2 AMB AMB
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,13µm,25.0s
CN2 LR LR
comp=Z,30µm,25.0s
CN2 LR LR
comp=Z,35µm,26.0s
KURK Kurchatov 116.68 9 PKPdf **PKiKP 19 02 32.3 +0.7**
KURK Kurchatov 116.68 9 P **Pdif 18 58 46.4 -0.4**
KURK S **SKSac 19 09 24.0 +1.4**
KURK Kurchatov 116.68 9 PKIKP **PKiKP 19 02 32.3 +0.7**
KURK MLR MLR
comp=Z,57µm,18.0s
BOSA Boshof 116.71 116 PKP **PKiKP 19 02 33.1 +0.7**
comp=Z,76nm,0.9s,baz=264,slow=1.8,SNR=45
BOSA PKKPbc **PKKPbc 19 13 00.5 +0.9**
comp=Z,15nm,1.2s,baz=200,slow=4.3,SNR=4.9
BOSA Boshof 116.71 116 PKPdf **PKPdf 19 02 31.5 -0.9**
BOSA Boshof 116.71 116 *i* P **PKiKP 19 02 33.1 +0.7**
BOSA Boshof 116.71 116 *i* P **PKiKP 19 02 33.1 +0.7**
BOSA Boshof 116.71 116 PKIKP **PKPdf 19 02 31.5 -0.9**
KURBB Kurchatov Arra 116.76 9 Pdiff **Pdif 18 58 51.6 +4.6**
comp=Z,1.1nm,0.7s,baz=343,slow=5.0,SNR=5.8
KURBB PKP **PKiKP 19 02 32.5 +0.7**
comp=Z,23nm,1.0s,baz=343,slow=2.3,SNR=21
KURBB PP **PP 19 03 34.9 -3.8**
comp=Z,24nm,1.0s,baz=347,slow=5.8,SNR=5.9
KURBB PKKPbc **PKKPbc 19 12 57.5 -2.5**
comp=Z,7.2nm,0.9s,baz=181,slow=3.0,SNR=15
LBTB Lobatse 117.00 112 PKP **PKiKP 19 02 33.8 +0.8**
comp=Z,24nm,0.9s,baz=244,slow=3.4,SNR=18
LBTB Lobatse 117.00 112 PKPdf **PKPdf 19 02 31.0 -2.1**
LBTB Lobatse 117.00 112 *i* P **PKiKP 19 02 37.9 +4.8**
LBTB Lobatse 117.00 112 *i* P **PKiKP 19 02 37.9 +4.8**
ZAK Zakamensk 117.06 351 *e*PKIKP **PKiKP 19 02 33.6 +1.1**
ZAK pmax pmax
comp=Z,23nm,1.3s
HHU Hamhung 118.34 329 PKPbc **PKPdf 19 02 34.7 -0.4**
HHU PP **PP 19 03 54.0 +3.7**
HHU AmB
comp=Z,80nm,1.3s
HHU AMS AMS
comp=N,4µm,5.6s
HHU AMS AMS
comp=E,2µm,2.6s
HHU AMS AMS
comp=Z,6µm,8.9s
DGZ Jazzator, Alta 118.56 3 *i* PKIKP **PKPdf 19 02 35.5 0.0**
DGZ MLR MLR
comp=Z,51µm,22.0s
SNY Shenyang 118.75 333 ⇑PKP **PKiKP 19 02 36.4 +0.5**
SNY PP **PP 19 03 55.3 +2.3**
SNY SKS **SKSdf 19 09 38.0 -10**
SNY SS **SS 19 20 06.3 -4.3**
SNY AMB AMB
comp=Z,8µm,12.0s
SNY LR LR
comp=Z,50µm,24.3s
SNY LR LR
comp=Z,12µm,19.2s
SNY LR LR
comp=Z,75µm,24.9s
ULN Ulaanbaatar 118.82 348 IAMs_20 IAMs_20 20 03 08.5
comp=Z,24µm,19.0s
LSZ Lusaka 118.91 101 PKP **PKiKP 19 02 37.8 +0.8**
comp=Z,29nm,1.0s,baz=271,slow=0.4,SNR=30
LSZ Lusaka 118.91 101 *i* P **PKiKP 19 02 44.3 +7.2**
LSZ Lusaka 118.91 101 P **Pdif 18 59 02.5 +5.1**
LSZ S **SKSdf 19 09 46.2 -3.0**
LSZ Lusaka 118.91 101 *i* P **PKiKP 19 02 44.3 +7.2**
SONM Songino Array 118.98 348 Pdiff **Pdif 18 58 58.6 +1.3**
comp=Z,1.9nm,1.0s,baz=6.5,slow=4.4,SNR=8.5
SONM PKP **PKiKP 19 02 37.1 +0.7**
comp=Z,23nm,0.9s,baz=356,slow=0.5,SNR=32
SONM PP **PP 19 03 54.4 0.0**
comp=Z,26nm,1.0s,baz=7.3,slow=7.5,SNR=9.2
SONM PKKPbc **PKKPbc 19 12 50.1 -2.1**
comp=Z,11nm,0.9s,baz=199,slow=2.5,SNR=20
SONM SKKPbc SKKPbc 19 16 26.4 -12
comp=Z,3.0nm,1.0s,baz=211,slow=4.7,SNR=4.0
SONM Songino Array 118.98 348 PKPdf **PKPdf 19 02 36.2 -0.1**
SONM Songino Array 118.98 348 PKIKP **PKPdf 19 02 36.3 -0.1**
MBAR Mbarara 119.05 84 **PKiKP 19 02 37.8 +0.3**
MBAR Mbarara 119.05 84 P **Pdif 18 58 59.6 +1.3**
MBAR S **SKSdf 19 09 40.3 -9.5**
MBAR Mbarara 119.05 84 *e*P **Pdif 18 59 01.6 +3.4**
MBAR *e*S **SKSdf 19 09 49.5 -0.3**
MBAR Mbarara 119.05 84 PKIKP **PKiKP 19 02 37.8 +0.3**
MBAR MLR MLR
comp=Z,32µm,19.0s
RABL Rabaul 119.19 272 **PKPdf 19 02 37.3 -0.2**
RABL Rabaul 119.19 272 P **PKiKP 19 02 38.4 +0.9**
SUJ Sinuiju 119.69 331 PKPbc **PKPdf 19 02 37.6 -0.1**
SUJ PP **PP 19 04 04.7 +5.1**
SUJ AmB
comp=Z,75nm,1.1s
SUJ AMS AMS
comp=N,8µm,27.7s
SUJ AMS AMS
comp=E,786nm,2.7s
SUJ AMS AMS
comp=Z,910nm,3.1s
PYAG Pyongyang 119.89 329 PKPbc **PKPdf 19 02 37.5 -0.6**
PYAG PP **PP 19 04 05.3 +4.3**
PYAG AmB
comp=Z,21nm,0.5s
PYAG AMS AMS
comp=N,1µm,11.7s
PYAG AMS AMS
comp=E,2µm,19.6s
PYAG AMS AMS
comp=Z,383nm,3.3s
KS19 Wonju Array Si 119.96 327 **PKPdf 19 02 38.4 0.0**
KSRS Korea Array 119.97 327 PKP **PKiKP 19 02 39.1 +0.8**
comp=Z,34nm,0.9s,baz=15,slow=1.3,SNR=70
KSRS PKKPbc **PKKPbc 19 12 48.2 +0.1**
comp=Z,1.6nm,0.8s,baz=224,slow=3.5,SNR=5.7
KSRS SKKPbc SKKPbc 19 16 35.8 +1.1
comp=Z,2.5nm,0.9s,baz=224,slow=5.1,SNR=4.7
XLT XiLinHaoTe 119.98 339 ⇓*i*PKP **PKiKP 19 02 38.5 +0.1**
XLT PP **PP 19 03 59.8 -1.6**
XLT PKS **PKSdf 19 06 14.1 -0.9**
XLT SS SS 19 20 29.1 +2.7
XLT AMB AMB
comp=Z,5µm,11.9s
XLT LR LR
comp=Z,3µm,24.2s
XLT LR LR
comp=Z,28µm,22.3s
XLT LR LR
comp=Z,45µm,24.7s
KSAR Wonju Array Be 120.00 327 PKPdf **PKPdf 19 02 38.0 -0.4**

KSAR Wonju Array Be 120.00 327 PKIKP PKPdf 19 02 38.0 -0.4
INCN Inchon 120.63 328 IAMs_20 IAMs_20 20 03 22.6
comp=Z,19μm,21.0s
ZSN Zaisan 120.64 5 *e*PKP PKPdf 19 02 39.3 -0.1
baz=4.9
ZSN *e*PP PP 19 04 05.0 -0.6
baz=4.9
ZSN Zaisan 120.64 5 *e*PKIKP PKPdf 19 02 39.3 -0.1
ZSN *e* 19 04 05.0
HJU Haeju 120.68 329 PKPbc PKiKP 19 02 39.8 0.0
HJU PP PP 19 04 11.2 +4.7
HJU AMS AMS
comp=N,5μm,15.1s
HJU AMS AMS
comp=E,3μm,11.0s
HJU AMS AMS
comp=Z,3μm,9.8s
MUSN Musina, Limpop 120.87 109 *i* P PKiKP 19 02 42.1 +1.5
MUSN Musina, Limpop 120.87 109 *i* P PKiKP 19 02 42.1 +1.5
MAKZ Makanchi 120.97 7 PKPdf PKPdf 19 02 38.8 -1.2
MAKZ Makanchi 120.97 7 PKIKP PKPdf 19 02 38.8 -1.2
MAKZ MLR MLR
comp=Z,43μm,21.0s
GUMO Guam 121.00 294 PKP PKPdf 19 02 40.3 -0.6
comp=Z,63nm,0.9s,baz=152,slow=9.3,SNR=4.0
MK31 Makanchi Array 121.02 7 PKPdf 19 02 39.8 -0.4
MK31 Makanchi Array 121.02 7 *d i*PKIKP PKPdf 19 02 39.2 -1.0
MKAR Makanchi Array 121.02 7 PKP PKPdf 19 02 40.1 0.0
comp=Z,20nm,0.8s,baz=350,slow=1.9,SNR=24
MKAR PKKPbc **PKKPbc 19 12 43.1 -1.4**
comp=Z,4.1nm,0.8s,baz=128,slow=5.1,SNR=7.5
MKAR SKKPbc SKKPbc 19 16 26.9 -4.7
comp=Z,5.2nm,1.0s,baz=190,slow=5.3,SNR=3.6
MKAR Makanchi Array 121.02 7 PKPdf PKPdf 19 02 39.5 -0.7
TJN Taejon 121.06 326 P PKiKP 19 02 44.4 +3.8
BTLS Baital 121.24 14 *e*PKP PKiKP 19 02 40.9 +0.2
baz=14
BTLS *e*PP PP 19 04 10.0 +0.2
baz=14
BTLS Baital 121.24 14 *e*PKIKP PKiKP 19 02 40.9 +0.2
BTLS *e* 19 04 09.9
ARMA Armidale 121.31 242 P PKiKP 19 02 47.9 +6.5
MAW Mawson 121.32 168 PKP PKPdf 19 02 39.5 -0.4
comp=Z,58nm,0.9s,baz=260,slow=4.8,SNR=34
MAW PKKPbc **PKKPab 19 12 41.7 +0.2**
comp=Z,11nm,0.9s,baz=16,slow=7.3,SNR=8.7
MAW SKKPbc SKKPbc 19 16 33.3 -0.2
comp=Z,12nm,1.1s,baz=38,slow=7.8,SNR=3.0
MAW Mawson 121.32 168 PKPdf PKPdf 19 02 38.9 -1.0
JNU Nakatsue 121.33 321 PKPdf 19 02 39.9 -1.3
JNU Nakatsue 121.33 321 P PKiKP 19 02 45.7 +4.4
GEYT Alibeck 121.56 30 PKP PKPdf 19 02 41.5 +0.1
comp=Z,42nm,0.9s,baz=270,slow=3.9,SNR=25
GEYT PKKPbc **PKKPbc 19 12 42.1 0.0**
comp=Z,6.4nm,0.9s,baz=197,slow=3.1,SNR=5.7
GEYT SKKPbc SKKPbc 19 16 30.9 +1.2
comp=Z,3.1nm,0.9s,baz=218,slow=16,SNR=2.9
GEYT Alibeck 121.56 30 PKPdf PKiKP 19 02 41.8 +0.2
GYA0B ALIBECK ARRAY 121.56 30 PKPdf PKiKP 19 02 41.7 +0.1
AUPHS Peel High Scho 121.89 241 P PKiKP 19 02 45.9 +3.5
DL2 Dalian 121.98 332 Pdif Pdif 18 59 13.1 +2.5
DL2 PKP **pPKPdf 19 02 43.9 -1.6**
DL2 PP PP 19 04 15.6 +0.4
DL2 SS SS 19 20 57.8 +5.6
DL2 AMB AMB
comp=Z,4μm,8.8s
DL2 LR LR
comp=Z,19μm,23.7s
DL2 LR LR
comp=Z,20μm,22.7s
DL2 LR LR
comp=Z,37μm,25.5s
EIDS Eidsvold 122.06 248 P PKiKP 19 02 47.9 +5.1
KK31 Karatay Array 122.09 18 PKPdf PKPdf 19 02 42.1 -0.2
KK31 Karatay Array 122.09 18 PKIKP PKPdf 19 02 42.1 -0.2
KKAR Karatay Array 122.09 18 PKPdf PKPdf 19 02 41.7 -0.6
KKAR Karatay Array 122.09 18 PKPdf PKPdf 19 02 42.2 -0.1
KKAR Karatay Array 122.09 18 PKIKP PKPdf 19 02 41.7 -0.6
TDK Taldyqorghan 122.19 11 *e*PKP PKPdf 19 02 41.6 -0.8
baz=11
TDK *e*PP PP 19 04 17.2 +1.0
baz=11
TDK Taldyqorghan 122.19 11 *e*PKIKP PKPdf 19 02 41.6 -0.8
TDK *e* 19 04 17.2
MOPA Mopani 122.29 110 *i* P PKiKP 19 02 43.3 0.0
MOPA Mopani 122.29 110 *i* P PKiKP 19 02 43.3 0.0
POGA Pongola 122.45 115 PKPdf 19 02 43.0 -0.4
LODK Lodwar 122.51 78 P Pdif 18 59 16.7 +3.2
LODK Lodwar 122.51 78 *e*P Pdif 18 59 11.9 -1.6
CHM Chimkent 122.52 19 *e*PKP PKPdf 19 02 42.2 -1.0
baz=19
CHM *e*PP PP 19 04 17.1 -1.5
baz=19
CHM Chimkent 122.52 19 *e*PKIKP PKPdf 19 02 42.2 -1.0
CHM *e* 19 04 17.1
DZA Taraz 122.52 17 *e*PP PP 19 04 17.2 -1.4
baz=17
CNB Canberra Magne 122.65 236 P PKiKP 19 02 47.4 +3.6
JSU Suzuyama 122.68 320 PKPdf PKPdf 19 02 42.8 -1.0
JSU Suzuyama 122.68 320 P PKiKP 19 02 44.6 +0.6
IUG Iuzhnay 122.81 19 *e*PKP PKPdf 19 02 42.1 -1.7
baz=18
IUG *e*PP PP 19 04 19.2 -1.5
baz=18
IUG Iuzhnay 122.81 19 *e*PKIKP PKPdf 19 02 42.1 -1.7
IUG *e* 19 04 19.2
KUU Kurty 122.84 13 *e*PKP PKPdf 19 02 42.7 -1.0
baz=13
KUU *e*PP PP 19 04 19.6 -1.1
baz=13
KUU Kurty 122.84 13 *e*PKIKP PKPdf 19 02 42.7 -1.0
KUU *e* 19 04 19.6
MOO Moorlands 122.85 227 P PKiKP 19 02 48.4 +4.5
SGDS Sogindy 122.87 14 *e*PKP PKPdf 19 02 43.9 0.0
baz=14
SGDS *e*PP PP 19 04 18.1 -2.9
baz=14
SGDS Sogindy 122.87 14 *e*PKIKP PKPdf 19 02 43.8 0.0
SGDS *e* 19 04 18.0
CAN Canberra 122.94 236 PKPdf PKPdf 19 02 40.1 -4.0
CAN IAMs_20 IAMs_20 19 49 28.8
comp=Z,17μm,20.0s
CAN Canberra 122.94 236 P PKiKP 19 02 47.8 +3.4
CAN Canberra 122.94 236 PKIKP PKPdf 19 02 40.1 -4.0
CAN MLR MLR
comp=Z,17μm,20.0s
USP Ospenovka 123.02 14 P PKiKP 19 02 45.6 +1.3
SNR=41
RAYN Ar Rayn 123.15 52 PKPdf PKPdf 19 02 44.5 -0.4
RAYN Ar Rayn 123.15 52 P Pdif 18 59 16.9 +0.8
RAYN S **SKSdf 19 09 51.1 -5.8**
RAYN Ar Rayn 123.15 52 *i* PKPdf PKPdf 19 02 44.6 -0.3
SNR=30
RAYN Ar Rayn 123.15 52 PKIKP PKPdf 19 02 44.5 -0.4
RAYN MLR MLR
comp=Z,35μm,21.0s
BJI Beijing 123.32 337 Pdif Pdif 18 59 15.8 -0.7
BJI PKP **PKPdf 19 02 44.6 -0.1**
BJI PP PP 19 04 26.0 +2.0
BJI SS SS 19 21 07.4 -1.5
BJI AMB AMB
comp=Z,7μm,10.8s
BJI LR LR
comp=Z,10μm,32.8s
BJI LR LR
comp=Z,6μm,26.0s
BJI LR LR
comp=Z,9μm,29.0s
CHMS Chumysh 123.33 14 P PKiKP 19 02 46.0 +1.1
SNR=16
BJT Baijiatuau 123.34 337 PKPdf 19 02 44.2 -0.6
BJT Baijiatuau 123.34 337 P PKiKP 19 02 45.5 +0.5
BJT Baijiatuau 123.34 337 PKIKP PKPdf 19 02 44.2 -0.6
BJT MLR MLR
comp=Z,37μm,20.0s
EKS2 Erkin-Say 123.40 15 P PKiKP 19 02 46.8 +1.5
SNR=25
MANU Manus Island 123.43 275 P PKiKP 19 02 48.0 +2.1
TKM2 Tokmak 2 123.61 14 P PKPdf 19 02 45.6 +0.1
SNR=25
AAK Ala-Arcka 123.61 15 P PKiKP 19 02 47.0 +1.3
SNR=12
AAK Ala-Arcka 123.61 15 PKP PKiKP 19 02 46.6 +0.9
comp=Z,23nm,0.8s,baz=231,slow=1.0,SNR=14
AAK PKKPbc **PKKPbc 19 12 32.8 -1.8**
comp=Z,6.6nm,0.8s,baz=72,slow=20,SNR=5.1
AAK Ala-Arcka 123.61 15 *i* PKiKP PKiKP 19 02 45.9 +0.2
SNR=15
AAK Ala-Arcka 123.61 15 *d i*PKIKP PKPdf 19 02 45.5 +0.1
AAA Alma-Ata 123.62 12 *e*PKP PKPdf 19 02 44.5 -0.8
baz=12
AAA *e*PP PP 19 04 26.3 +0.3
baz=12
AAA Alma-Ata 123.62 12 *e*PKIKP PKPdf 19 02 44.5 -0.8
AAA *e* 19 04 26.2
AUDCS Dubbo College 123.69 239 P PKiKP 19 02 47.1 +1.3
MDOK Medeo 123.69 12 *e*PKP PKPdf 19 02 44.7 -0.9
baz=12
MDOK *e*PP PP 19 04 24.1 -2.5
baz=12
MDOK Medeo 123.69 12 *e*PKIKP PKPdf 19 02 44.7 -0.9
MDOK *e* 19 04 24.1
KBK Karagaybulak 123.70 14 P PKiKP 19 02 47.1 +1.2
SNR=17
KPKS Kokpek 123.72 11 *e*PKP PKPdf 19 02 44.7 -0.8
baz=11
KPKS *e*PP PP 19 04 29.9 +3.2
baz=11
KPKS Kokpek 123.72 11 *e*PKIKP PKPdf 19 02 44.7 -0.8
KPKS *e* 19 04 29.8
AML Almayashu 123.88 16 P PKiKP 19 02 48.1 +1.5
SNR=22
FURI Furi 123.91 71 *e*P Pdif 18 59 23.4 +3.4
FURI *e*S **SKSdf 19 10 04.9 +5.6**
FURI Furi 123.91 71 *e*P Pdif 18 59 26.4 +6.4
AAE Adis Abeba 123.94 71 *e*P Pdif 18 59 25.5 +5.4
AAE IAMs_20 IAMs_20 19 22 58.6
comp=N,137μm,41.5s
DESE Dese 123.97 68 *e*P Pdif 18 59 26.4 +6.2
UCH Uchtor 124.00 15 P PKiKP 19 02 48.4 +1.5
SNR=55
SATY Saty 124.06 11 *e*PKP PKPdf 19 02 45.6 -0.7
baz=11
SATY Saty 124.06 11 *e*PKIKP PKPdf 19 02 45.6 -0.7
UZB Uzynbulak 124.09 11 *e*PKP PKPdf 19 02 45.0 -1.3
baz=11
UZB Uzynbulak 124.09 11 *e*PKIKP PKPdf 19 02 45.0 -1.3
RMQ Roma 124.10 246 P PKiKP 19 02 47.7 +0.8
CASY Casey 124.13 189 IAMs_20 IAMs_20 19 51 02.8
comp=Z,18μm,18.0s
SHLS Shalkode 124.16 10 *e*PKP PKPdf 19 02 45.9 -0.5
baz=9.9
SHLS *e*PP PP 19 04 31.9 +2.2
baz=9.9
SHLS Shalkode 124.16 10 *e*PKIKP PKPdf 19 02 45.8 -0.6
SHLS *e* 19 04 31.8
HHC Hu-ho-hao-te 124.20 341 ⇓PKP PKiKP 19 02 47.6 +0.8
HHC PP PP 19 04 31.0 +0.9
HHC AMB AMB
comp=Z,11μm,10.9s
HHC LR LR
comp=Z,79μm,24.7s
HHC LR LR
comp=Z,36μm,22.5s
HHC LR LR
comp=Z,145μm,23.1s
DILA Dilla 124.37 74 *e*P Pdif 18 59 23.8 +1.9
ULHL Ulahol 124.39 13 P PKiKP 19 02 48.8 +1.5
SNR=12
WMQ Urumqi 124.44 3 PKP PKiKP 19 02 47.8 +0.6
WMQ SKS **SKSdf 19 09 59.0 +0.4**
WMQ SKKS **SKKSac 19 11 28.5 -2.6**
WMQ SS **SS 19 21 24.3 +1.6**
WMQ AMB AMB
comp=Z,5μm,5.3s
WMQ LR LR
comp=Z,56μm,21.3s
WMQ LR LR
comp=Z,42μm,23.3s
WMQ LR LR
comp=Z,68μm,25.3s
AULRC Lightning Ridg 124.56 242 P PKiKP 19 02 51.3 +3.7
ANKE Ethiopia-Afar 124.63 69 *e*P Pdif 18 59 28.6 +5.4
BTO Baotou 124.89 343 *e*PKP PKPdf 19 02 48.0 +0.1
BTO LR LR
comp=Z,122μm,23.0s
BTO LR LR
comp=Z,92μm,22.5s
PMG Port Moresby 124.96 267 PKP PKiKP 19 02 49.3 +0.5
comp=Z,29nm,1.1s,baz=30,slow=5.6,SNR=8.9
PMG Port Moresby 124.96 267 PKPdf PKPdf 19 02 46.8 -1.7
PMG Port Moresby 124.96 267 P PKiKP 19 02 50.3 +1.5
NRN Naryn 125.11 14 PKPdf PKPdf 19 02 46.6 -1.9
NRN Naryn 125.11 14 PKIKP PKPdf 19 02 46.7 -1.9
TOO Toolangi 125.29 232 PKPdf PKPdf 19 02 47.3 -1.3
TOO Toolangi 125.29 232 P PKiKP 19 02 49.8 +0.9
TOO Toolangi 125.29 232 PKIKP PKPdf 19 02 47.3 -1.3
KMBO Kilima Mbogo 125.51 83 PKP PKiKP 19 02 52.2 +2.0
comp=Z,22nm,1.0s,baz=39,slow=3.2,SNR=22
KMBO SKKPbc SKKPbc 19 16 20.1 +3.3
comp=Z,2.4nm,0.8s,baz=98,slow=12,SNR=1.8
KMBO Kilima Mbogo 125.51 83 PKPdf PKPdf 19 02 48.8 -1.1
KMBO Kilima Mbogo 125.51 83 IAMs_20 IAMs_20 20 05 47.5
comp=Z,22μm,18.0s
KMBO Kilima Mbogo 125.51 83 P Pdif 18 59 31.0 +4.0
KMBO Kilima Mbogo 125.51 83 *eP* Pdif 18 59 27.7 +0.7
KMBO Kilima Mbogo 125.51 83 *i* PKiKP PKiKP 19 02 51.3 +1.0
SNR=27
KMBO Kilima Mbogo 125.51 83 PKIKP PKPdf 19 02 48.8 -1.1
KMBO MLR MLR
comp=Z,22μm,18.0s
DRK Karamyk 125.79 18 PKPdf 19 02 50.0 +0.2
GEXS Deakin Univers 126.07 231 P PKiKP 19 02 54.7 +4.3
TV1H Townsville Har 126.07 255 P PKiKP 19 02 51.9 +1.0
HNS HongShan 126.18 337 ⇓Pdif Pdif 18 59 31.4 +2.1
HNS PKP PKiKP 19 02 50.9 +0.2
HNS PP PP 19 04 44.6 +1.4
HNS SKS **SKSdf 19 09 51.8 -10**
HNS S **Sdif 19 12 44.5 -1.3**
HNS AMB AMB
comp=Z,8μm,11.8s
HNS LR LR
comp=Z,17μm,24.9s
HNS LR LR
comp=Z,36μm,24.9s
HNS LR LR
comp=Z,49μm,25.0s
AUMAG Moama Anglican 126.19 234 P PKiKP 19 02 54.1 +3.4
TIA Tai'an 126.21 334 Pdif Pdif 18 59 29.6 +0.1
TIA PKP **PKPdf 19 02 50.4 0.0**
TIA PP PP 19 04 44.6 +1.0
TIA SKKS 19 11 41.3
TIA AMB AMB
comp=Z,8μm,9.8s
TIA LR LR
comp=Z,17μm,21.6s
TIA LR LR
comp=Z,9μm,15.7s
TIA LR LR
comp=Z,36μm,19.1s
CMSA Cobar Meteorol 126.25 240 P PKiKP 19 02 51.0 0.0
BRAT Ballarat 126.50 232 P PKiKP 19 02 52.7 +1.5
CTA Charters Tower 126.59 254 P PKiKP 19 02 51.8 -0.1
CTAO Charters Tower 126.59 254 PKPdf PKPdf 19 02 50.7 -0.8
CTAO Charters Tower 126.59 254 IAMs_20 IAMs_20 19 44 59.7
comp=Z,16μm,20.0s
CTAO Charters Tower 126.59 254 P PKiKP 19 02 51.8 -0.1
CTAO Charters Tower 126.59 254 PKIKP PKPdf 19 02 50.7 -0.8
CTAO MLR MLR
comp=Z,16μm,20.0s
TIY Taiyuan 126.74 339 PKP PKiKP 19 02 52.1 +0.2
TIY PP PP 19 04 46.3 -0.7
TIY AMB AMB
comp=Z,4μm,11.3s
TIY LR LR
comp=Z,43μm,22.0s
TIY LR LR
comp=Z,30μm,21.3s
TIY LR LR
comp=Z,60μm,26.8s
KSH Kashi 126.92 15 PKP PKiKP 19 02 53.4 +1.1
KSH sPKP 19 03 05.3
KSH LR LR
comp=Z,30μm,33.6s
KSH LR LR
comp=Z,25μm,30.1s
KSH LR LR
comp=Z,101μm,36.2s
JOW Kunigami 127.23 317 PKP PKiKP 19 02 53.3 +0.2
comp=Z,135nm,1.0s,baz=357,slow=3.9,SNR=7.8
JOW Kunigami 127.23 317 P PKiKP 19 02 54.7 +1.6
AUHPC Hawkesdale P12 127.59 231 P PKiKP 19 03 00.7 +7.3
QLP Quilpie 128.14 246 P PKiKP 19 02 55.0 +0.1
GTA Gaotai 128.30 351 ⇓PKP PKiKP 19 02 55.0 -0.1
GTA SKKS 19 11 56.3
GTA SS **SS 19 22 09.6 -1.6**
GTA AMB AMB
comp=Z,3μm,10.5s
GTA LR LR
comp=Z,27μm,24.4s
GTA LR LR
comp=Z,17μm,24.7s
GTA LR LR
comp=Z,58μm,24.7s
ARPS Mount Arapiles 128.32 232 P PKiKP 19 02 55.2 +0.3
MTSU Mount Surprise 128.40 256 P PKiKP 19 02 56.0 +0.4
SSE Sheshan 128.41 327 PKP PKiKP 19 02 55.8 +0.5
SSE PP PP 19 04 59.6 +1.3
SSE SS SS 19 22 08.4 -5.0
SSE AMB AMB
comp=Z,3μm,11.3s
SSE LR LR
comp=Z,7μm,23.4s
SSE LR LR
comp=Z,8μm,23.0s
NJ2 Nanjing 128.85 330 ⇓*i*PKP PKPdf 19 02 55.4 -0.1
NJ2 PP PP 19 05 01.1 0.0
NJ2 SS SS 19 22 24.1 +5.4
NJ2 AMB AMB
comp=Z,5μm,7.0s
NJ2 LR LR
comp=Z,15μm,23.7s
NJ2 LR LR
comp=Z,15μm,21.0s
NJ2 LR LR
comp=Z,24μm,23.2s
SHME Shamm 129.17 42 *i* PKiKP PKiKP 19 02 56.9 -0.1
SNR=8.2
COEN Coen 129.32 262 PKPdf PKPdf 19 02 56.8 0.0
COEN Coen 129.32 262 P PKiKP 19 02 58.0 +0.5
MZR Muzera 129.37 47 *i* PKiKP PKiKP 19 02 57.3 -0.2
SNR=32
AJN Ajban 129.41 44 *i* PKiKP PKiKP 19 02 57.2 -0.3
SNR=6.1
LYN LuoYang 129.54 337 ⇓*i*PKP PKiKP 19 02 57.3 -0.2
LYN PP PP 19 05 08.3 +2.9
LYN LR LR
comp=Z,38μm,25.2s
LYN LR LR
comp=Z,26μm,24.4s
LYN LR LR
comp=Z,59μm,25.8s
NAZ Nazwa, Dubai 129.58 43 *i* PKiKP PKPdf 19 02 57.5 +0.4
SNR=15
ASUD Al Ashush, Dub 129.60 44 *i* PKiKP PKiKP 19 02 57.9 0.0
SNR=20
STKA Stephens Creek 129.63 238 PKP PKPdf 19 02 57.0 0.0
comp=Z,95nm,0.9s,baz=79,slow=2.0,SNR=47
STKA SKKPbc SKKPbc 19 15 57.4 -6.0
comp=Z,18nm,1.1s,baz=304,slow=6.7,SNR=4.9
STKA Stephens Creek 129.63 238 PKPdf PKPdf 19 02 55.8 -1.2
STKA Stephens Creek 129.63 238 P PKPdf 19 02 57.2 +0.2
STKA Stephens Creek 129.63 238 PKIKP PKPdf 19 02 57.0 0.0
MSFE Esma-Masafi 129.66 42 *i* PKPdf PKPdf 19 02 56.9 -0.4
SNR=32
FAQ Al Faqa, Dubai 129.69 43 *i* PKPdf PKPdf 19 02 57.0 -0.3
SNR=6.3
MDH Madha 129.79 42 *i* PKPdf PKPdf 19 02 56.6 -0.9
SNR=6.1
UOSS Minazif 129.97 43 IAMs_20 IAMs_20 20 09 23.6
comp=Z,12μm,21.0s
UOSS Minazif 129.97 43 *i* PKPdf PKPdf 19 02 56.6 -1.3
SNR=8.8
HATD Hatta, Dubai 130.00 43 *i* PKPdf PKPdf 19 02 57.7 -0.2
SNR=14
ASHO Ashiyiah 130.05 43 *i* PKPdf PKPdf 19 02 57.5 -0.6
SNR=6.8
ALNE Al Ain 130.26 44 *i* PKiKP PKPdf 19 02 58.4 0.0
SNR=18
GENI Genyem 130.56 277 PKP PKPdf 19 02 58.9 -0.3
GENI PKP PKiKP 19 03 00.3 +0.2
GENI Genyem 130.56 277 P PKiKP 19 03 02.6 +2.5
LZH Lanzhou 130.77 346 ⇓PKP PKiKP 19 03 00.4 +0.2
LZH SKKS 19 12 06.0
LZH SS **SS 19 22 38.1 -3.7**
LZH AMB AMB
comp=Z,6μm,7.4s
LZH LR LR
comp=Z,44μm,22.3s
LZH LR LR
comp=Z,26μm,18.7s
LZH LR LR
comp=Z,66μm,24.2s
XAN Xi'an 131.27 340 PKP PKPdf 19 03 00.3 +0.2
XAN PP PP 19 05 20.5 +3.9
XAN SKKS 19 12 08.6
XAN SS **SS 19 22 49.4 +1.5**
XAN AMB AMB
comp=Z,6μm,12.4s
XAN LR LR
comp=Z,37μm,27.3s
XAN LR LR
comp=Z,44μm,27.3s
XAN LR LR
comp=Z,79μm,27.9s
HTT Hallett 131.48 236 P PKPdf 19 03 00.7 +0.2
NIL Nilore 131.59 20 PKPdf PKPdf 19 02 57.3 -3.4
NIL Nilore 131.59 20 PKIKP PKPdf 19 02 57.3 -3.4
NIL MLR MLR
comp=Z,30μm,22.0s
SMPI Sarmi 131.83 278 PKP PKPdf 19 02 59.1 -2.5
CRZF Crozet Islands 132.24 144 IAMs_20 IAMs_20 19 56 25.7
comp=Z,13μm,21.0s
WHN Wuhan 132.24 333 Pdif Pdif 19 00 03.0 +6.6
WHN Wuhan 132.24 333 ⇓PKP PKPdf 19 03 01.8 -0.2
WHN PP PP 19 05 25.3 +2.3
WHN PKS **PKSdf 19 06 33.9 -4.6**
WHN LR LR
comp=Z,65μm,17.2s
WHN LR LR
comp=Z,16μm,18.4s
WHN LR LR
comp=Z,123μm,27.1s
WHYH Whyalla 132.68 236 P PKiKP 19 03 04.8 +1.0
WSAR Wadi Sarin 132.75 42 PKP PKiKP 19 03 04.9 +0.7
comp=Z,66nm,1.2s,baz=237,slow=2.0,SNR=8.9
LCRK Leigh Creek 132.76 239 P PKiKP 19 03 03.8 -0.3
TATO Taipei 132.87 321 IAMs_20 IAMs_20 20 13 04.0
comp=Z,18μm,22.0s
BBOO Buckleboo 133.96 236 PKPdf PKPdf 19 03 04.1 -1.1
BBOO Buckleboo 133.96 236 P PKiKP 19 03 06.8 +0.4
SRPI Serui, Papua 134.19 279 PKP PKPdf 19 03 05.2 -0.9
ENH Enshi 134.49 338 PKPdf 19 03 06.1 -0.2
ENH IAMs_20 IAMs_20 20 15 31.1
comp=Z,21μm,21.0s
CNSH ChangSha 134.90 332 ⇑PKP PKPdf 19 03 05.5 -1.5
CNSH LR LR
comp=Z,13μm,25.5s
CNSH LR LR
comp=Z,24μm,25.8s
CNSH LR LR
comp=Z,23μm,24.7s
CD2 Chengdu 135.72 344 SS SS 19 23 27.6 -14
CD2 AMB AMB
comp=Z,5μm,10.4s
CD2 LR LR
comp=N,6μm,16.6s
CD2 LR LR
comp=E,7μm,23.5s
CD2 LR LR
comp=Z,42μm,26.5s
RKPI Ransiki, Papua 136.09 280 PKP PKPdf 19 03 10.2 +0.6
OPO Ambohidratompo 137.17 104 PKP PKiKP 19 03 13.4 -0.2
comp=Z,32nm,1.0s,baz=197,slow=3.0,SNR=11
WR0 Warramunga Arr 137.60 253 PKPpre 19 02 58.5
WB2 Warramunga Arr 137.78 253 PKPpre 19 02 60.0
WRAB Tennant Creek 137.78 253 PKPpre 19 03 01.5
WRAB Tennant Creek 137.78 253 IAMs_20 IAMs_20 19 51 26.9
comp=Z,18μm,21.0s
WRAB Tennant Creek 137.78 253 PKHKP PKPpre 19 03 01.5
WRAB MLR MLR
comp=Z,18μm,21.0s
AS31 Alice Springs 137.78 248 PKPpre 19 02 59.0
ASAR Alice Springs 137.79 248 PKhKP PKPpre 19 02 59.7
comp=Z,6.9nm,0.7s,baz=102,slow=3.5,SNR=33

ASAR PKP **PKiKP** **19 03 14.0 -0.5**
comp=Z,62nm,0.9s,baz=105,slow=2.1,SNR=26
ASAR PKKP **PKKPdf** **19 12 47.0 +1.1**
comp=Z,3.7nm,1.0s,baz=332,slow=1.1,SNR=2.6
ASAR SKKPbc SKKPbc 19 15 11.2 -22
comp=Z,8.8nm,1.0s,baz=273,slow=3.8,SNR=4.6
ASAR Alice Springs 137.79 248 PKPpre 19 02 59.6
ASAR Alice Springs 137.79 248 PKiKP **PKiKP** **19 03 14.0 -0.5**
WRA Warramunga Arr 137.79 253 PKhKP PKPpre 19 03 02.5
comp=Z,7.8nm,0.7s,baz=94,slow=3.0,SNR=27
WRA PKP **PKiKP** **19 03 14.0 -0.6**
comp=Z,102nm,1.0s,baz=91,slow=1.4,SNR=42
WRA PP **PP** **19 05 59.2 -0.7**
comp=Z,19nm,1.2s,baz=84,slow=7.0,SNR=9.7
WRA SKKPbc SKKPbc 19 15 13.9 -19
comp=Z,22nm,1.3s,baz=260,slow=5.7,SNR=5.5
WRA Warramunga Arr 137.79 253 PKPpre 19 03 00.3
FAKI Fak Fak 138.31 279 PKPdf **PKPdf** **19 03 07.8 -6.0**
FAKI IAMs_20 IAMs_20 19 57 31.4
comp=Z,14μm,20.0s
FAKI Fak Fak 138.31 279 PKP **PKPdf** **19 03 10.6 -3.2**
GULI GuiLin 138.54 333 PKP **PKPdf** **19 03 06.9 -7.0**
GULI PP **PP** **19 06 01.4 -1.4**
GULI SS SS 19 24 20.5 +4.9
GULI LR LR
comp=Z,22μm,23.0s
GULI LR LR
comp=Z,12μm,23.1s
GULI LR LR
comp=Z,30μm,24.8s
LSA Lhasa 138.63 360 IAMs_20 IAMs_20 20 14 19.1
comp=Z,16μm,21.0s
LSA Lhasa 138.63 360 *i* PKPdf **PKPdf** **19 03 08.9 -5.7**
SNR=20
SIJI Sorong 138.70 282 PKhKP PKPpre 19 03 03.1
comp=Z,9.5nm,1.1s,baz=104,slow=4.0,SNR=9.9
GYA Guiyang 138.97 339 Pdif **Pdif** **19 00 33.9 +7.3**
GYA ⇑PKP PKPdf 19 03 05.3 -10
GYA pPKP PKiKP 19 03 16.8 -0.2
GYA sPKP 19 03 21.8
GYA PP **PP** **19 06 07.8 +2.3**
GYA Guiyang 138.97 339 SS SS 19 24 25.9 +5.2
GYA Guiyang 138.97 339 LR LR
comp=N,22μm,29.9s
GYA Guiyang 138.97 339 LR LR
comp=E,61μm,29.9s
GYA Guiyang 138.97 339 LR LR
comp=E,33μm,28.5s
GYA Guiyang 138.97 339 AMB AMB
comp=Z,9μm,18.6s
HKPS Hong Kong Po S 139.21 326 IAMs_20 IAMs_20 20 16 53.4
comp=Z,17μm,20.0s
BHUJ Bhuj 139.21 31 *e*P **PKPdf** **19 03 12.2 -3.0**
BHUJ IAmb IAmb 19 03 20.8
comp=Z,208nm,1.1s
VLK Valmikinagar 140.37 10 *e*P **PKPdf** **19 03 11.7 -5.4**
PZH PanZhiHua 140.44 345 PKP PKPdf 19 03 08.8 -8.7
PZH sPKP 19 03 22.4
PZH PP **PP** **19 06 18.9 +4.6**
PZH PKS **PKSdf** **19 06 54.1 +0.3**
PZH PanZhiHua 140.44 345 SS SS 19 24 45.3 +7.6
PZH PanZhiHua 140.44 345 LR LR
comp=N,24μm,27.1s
PZH PanZhiHua 140.44 345 LR LR
comp=Z,38μm,33.5s
PZH PanZhiHua 140.44 345 LR LR
comp=E,18μm,28.2s
PZH PanZhiHua 140.44 345 AMB AMB
comp=Z,4μm,12.0s
DIBR DIBRUGARH 140.68 355 *e*P **PKPdf** **19 03 15.7 -2.0**
ZIRO ZIRO 140.70 356 *e*P **PKPdf** **19 03 15.2 -2.8**
ZIRO IAmb IAmb 19 03 25.0
comp=Z,171nm,1.2s
LKP Lekhapani 140.72 353 *e*P **PKPdf** **19 03 15.4 -2.3**
LKP IAmb IAmb 19 03 23.5
comp=Z,286nm,1.0s
JHNI Jhansi 140.87 18 *e*P **PKPdf** **19 03 12.6 -5.6**
GTK Tadong 140.92 4 *e*P **PKPdf** **19 03 15.7 -2.7**
GTK IAmb IAmb 19 03 25.9
comp=Z,207nm,1.1s
MTN Manton Dam 140.95 264 PKPpre 19 03 10.6
BNDI Bandanaira 140.97 278 PKP **PKPdf** **19 03 12.1 -6.5**
BNDI PKP PKiKP 19 03 12.7 -8.5
FORT Forrest 141.06 235 PKPpre 19 03 11.3
ITAN ITANAGAR 141.09 356 *e*P **PKPdf** **19 03 15.9 -2.6**
ITAN IAmb IAmb 19 03 24.7
comp=Z,350nm,1.2s
KMI Kunming 141.48 343 PKS 19 06 55.9
KMI Kunming 141.48 343 PKP **PKPdf** **19 03 19.9 +0.4**
KMI sPKP 19 03 24.4
KMI PP **PP** **19 06 25.3 +4.4**
KMI PKS **PKSdf** **19 06 55.9 +0.1**
KMI SS SS 19 24 48.6 -1.5
KMI AMB AMB
comp=Z,4μm,14.2s
KMI LR LR
comp=Z,19μm,25.7s
KMI LR LR
comp=Z,21μm,23.4s
KMI LR LR
comp=Z,43μm,31.4s
KMI Kunming 141.48 343 Pdif **Pdif** **19 00 45.3 +7.4**
KMI Kunming 141.48 343 PKHKP PKPpre 19 03 09.4
KMI Kunming 141.48 343 PKP **PKPdf** **19 03 19.9 +0.4**
KMI Kunming 141.48 343 PP PP 19 06 25.3 +4.4
TEZP TEZPUR 141.66 358 *e*P **PKPdf** **19 03 17.1 -2.4**
MOKO MOKOCHONG 141.85 355 *e*P **PKPdf** **19 03 18.2 -1.9**
MOKO IAmb IAmb 19 03 31.1
comp=Z,208nm,0.8s
TNTI Ternate 141.87 287 PKP **PKPdf** **19 03 16.6 -3.6**
GUWA GUWAHATI 142.12 359 *e*P **PKPdf** **19 03 18.0 -2.3**
GUWA IAmb IAmb 19 03 25.2
comp=Z,249nm,1.1s
LBMI Labuha 142.22 285 PKP **PKPdf** **19 03 17.0 -3.8**
AAI Ambon 142.42 280 PKP **PKPdf** **19 03 16.1 -5.1**
SGSI Sangihe 142.45 292 PKP **PKPdf** **19 03 19.2 -2.0**
KOHI KOHIMA 142.48 356 *e*P **PKPdf** **19 03 17.2 -4.0**
KOHI IAmb IAmb 19 03 29.1
comp=Z,414nm,1.3s
BHPL Bhopal 142.57 21 *e*P **PKPdf** **19 03 17.1 -4.2**
BHPL IAmb IAmb 19 03 30.1
comp=Z,198nm,1.1s
TNCH TengChong 142.58 349 PKP **PKPdf** **19 03 15.8 -5.6**
TNCH pPKP pPKPdf 19 03 23.8 -1.0
TNCH sPKP 19 03 26.3
TNCH PP **PP** **19 06 28.8 +1.4**
TNCH AMB AMB
comp=Z,5μm,10.2s
TNCH LR LR
comp=Z,12μm,23.1s
TNCH LR LR
comp=Z,14μm,22.6s
TNCH LR LR
comp=Z,44μm,26.8s
SHL Shillong 142.74 359 PKPpre 19 03 16.7
SHL Shillong 142.74 359 *e*P **PKPdf** **19 03 18.1 -3.6**
SHL IAmb IAmb 19 03 29.1
comp=Z,226nm,1.0s
SHL Shillong 142.74 359 PKHKP PKPpre 19 03 16.7
KNRA Kununurra 143.30 260 PKPpre 19 03 17.9
NLAI Namlea 143.36 281 PKP PKPbc 19 03 20.4 +0.5
MSEY Mahe Island 144.02 81 PKPdf PKPbc 19 03 22.1 +0.1
MSEY Mahe Island 144.02 81 IAMs_20 IAMs_20 20 12 12.1
comp=Z,16μm,20.0s
MSEY Mahe Island 144.02 81 *i* PKPdf PKPbc 19 03 22.3 +0.3
SNR=46
MSEY Mahe Island 144.02 81 PKIKP PKPbc 19 03 22.1 +0.1
MSEY MLR MLR
comp=Z,16μm,20.0s
SANI Sanana 144.09 283 PKP **PKPab** **19 03 21.1 -0.5**
BOK Bokaro 144.14 8 *e*P PKPbc 19 03 22.9 +1.0
BOK IAmb IAmb 19 03 30.6
comp=Z,813nm,1.3s
QIZ Qiongzhong 144.14 329 IAMs_20 IAMs_20 20 20 37.9
comp=Z,16μm,20.0s
QIZ Qiongzhong 144.14 329 PKP PKPbc 19 03 22.8 +0.8
QIZ PP **PP** **19 06 41.5 +4.4**
QIZ SS SS 19 25 26.3 +5.0
QIZ AMB AMB
comp=Z,8μm,12.2s
QIZ LR LR
comp=Z,10μm,24.8s
QIZ LR LR
comp=Z,18μm,24.7s
QIZ LR LR
comp=Z,15μm,20.0s
BLSP Bilaspur 145.03 15 *e*P **PKPbc** **19 03 25.2 +0.3**
NGP Nagpur 145.06 20 *e*P **PKPbc** **19 03 24.7 -0.2**
POO Poona 145.27 30 *e*P **PKPdf** **19 03 26.2 +0.1**
POO IAmb IAmb 19 03 33.7
comp=Z,2μm,1.1s
BRDH Bariadhala 145.62 359 PKPbc **PKPab** **19 03 28.2 +1.3**
comp=Z,870nm,0.8s,baz=67,slow=2.8,SNR=39
SAIH SAIHA 145.76 357 *e*P **PKPdf** **19 03 25.4 -1.6**
SAIH IAmb IAmb 19 03 35.1
comp=Z,4μm,1.4s
GTOI Gorontalo 145.98 289 PKP **PKPdf** **19 03 26.1 -1.3**
CRAI Chiangrai 146.79 344 **PKPdf** **19 03 28.9 +0.3**
LUWI Luwuk 146.81 287 **PKPdf** **19 03 29.0 +0.2**
LUWI Luwuk 146.81 287 PKP **PKPdf** **19 03 28.8 0.0**
MRSI Marisa 147.02 290 PKP **PKPdf** **19 03 28.2 -0.9**
SOEI Soe 147.40 270 PKPdf **PKPdf** **19 03 28.2 -1.7**
APSI Ampana 147.81 288 PKP **PKPdf** **19 03 31.8 +1.3**
GOA Goa 147.82 33 *e*P **PKPdf** **19 03 27.6 -2.7**
GOA IAmb IAmb 19 03 37.3
comp=Z,822nm,1.0s
TOLI2 Tolitoli 147.83 292 PKPdf **PKPdf** **19 03 28.3 -2.2**
MYLDM Lahad Datu 147.92 300 **PKPdf** **19 03 31.9 +1.2**
BATI Baumata 148.04 270 PKP **PKPdf** **19 03 32.2 +1.4**
NWAO Narrogin (SRO) 148.23 225 PKPbc **PKPbc** **19 03 33.4 -0.5**
comp=Z,195nm,0.8s,baz=348,slow=3.2,SNR=33
NWAO Narrogin (SRO) 148.23 225 PKPdf **PKPdf** **19 03 28.4 -2.2**
NWAO Narrogin (SRO) 148.23 225 **PKPdf** **19 03 28.2 -2.4**
NWAO Narrogin (SRO) 148.23 225 PKHKP PKPpre 19 03 28.4
HYBB Hyderabad (bro 148.31 23 *e*PKPdf **PKPdf** **19 03 31.0 -0.2**
HYBB IVMs_BB IVMs_BB 20 04 25.5
comp=Z,5μm,28.5s
HYB Hyderabad 148.31 23 *e*P **PKPdf** **19 03 30.1 -1.2**
HYB IAmb IAmb 19 03 39.9
comp=Z,679nm,1.1s
PHRA Phrae 148.47 343 **PKPdf** **19 03 32.0 +0.5**
CHTO Chiang Mai 148.51 346 PKPdf **PKPdf** **19 03 31.2 -0.3**
CHTO Chiang Mai 148.51 346 PKIKP **PKPdf** **19 03 31.2 -0.3**
CHTO MLR MLR
comp=Z,27μm,20.0s
CM31 Chiang Mai Arr 148.85 346 **PKPdf** **19 03 32.0 0.0**
CMAR Chiang Mai Arr 148.85 346 PKPbc **PKPbc** **19 03 36.6 +0.7**
comp=Z,182nm,1.1s,baz=314,slow=2.1,SNR=121
CMAR Chiang Mai Arr 148.85 346 PKPdf **PKPdf** **19 03 31.2 -0.9**
CMAR Chiang Mai Arr 148.85 346 PKIKP **PKPdf** **19 03 31.2 -0.9**
MPSI Mapaga 148.95 291 PKP **PKPdf** **19 03 32.4 +0.1**
H01W1 Cape Leeuwin H 149.01 219 PKPbc **PKPab** **19 03 38.9 -0.8**
baz=140,slow=3.8,SNR=5.7
H01W2 Cape Leeuwin H 149.02 219 PKPbc **PKPbc** **19 03 35.2 -0.4**
baz=140,slow=3.8,SNR=7.2
H01W3 Cape Leeuwin H 149.03 219 PKPbc **PKPbc** **19 03 36.0 +0.4**
baz=140,slow=3.8,SNR=5.0
MMRI Maumere 149.23 273 **PKPdf** **19 03 31.4 -1.3**
MMRI Maumere 149.23 273 PKP **PKPdf** **19 03 32.8 +0.1**
KKM Kota Kinabalu 149.33 304 **PKPdf** **19 03 33.7 +0.7**
KKM IAMs_20 IAMs_20 20 25 15.6
comp=Z,12μm,22.0s
VIS Vishakhapatnam 149.56 15 *e*P **PKPdf** **19 03 30.9 -2.2**
VIS IAmb IAmb 19 03 51.0
comp=Z,811nm,0.9s
SPMM Sapulut 149.88 302 P **PKPdf** **19 03 34.0 +0.1**
BNSI Bone 150.39 282 PKP **PKPdf** **19 03 34.8 +0.2**
BSSI Bau Bau, Buton 150.46 279 PKP **PKPdf** **19 03 34.6 -0.1**
SPSI Sidrap Palu 150.58 283 PKP **PKPdf** **19 03 34.9 0.0**
BKSI Bulukumba 150.62 280 PKP **PKPdf** **19 03 34.8 -0.1**
MBWA Marble Bar 151.13 248 PKPdf **PKPdf** **19 03 33.9 -1.6**
MBWA Marble Bar 151.13 248 IAMs_20 IAMs_20 20 06 06.4
comp=Z,14μm,19.0s
MBWA Marble Bar 151.13 248 P **PKPdf** **19 03 34.5 -1.0**
MORW Morawa 151.20 230 PKPdf **PKPdf** **19 03 34.1 -1.4**
ROCAM Rodrigues Isla 152.21 110 PKPdf **PKPdf** **19 03 36.6 -0.6**
ROCAM IAMs_20 IAMs_20 20 07 57.4
comp=Z,17μm,20.0s
BKB Balikpapan 152.34 291 **PKPdf** **19 03 39.2 +1.7**
BKB Balikpapan 152.34 291 PKP **PKPdf** **19 03 39.1 +1.5**
MDRS Chennai 152.93 24 *e*P **PKPdf** **19 03 33.6 -4.7**
MDRS IAmb IAmb 19 03 53.8
comp=Z,804nm,1.3s
MNCY Minicoy 153.06 43 *e*P **PKPbc** **19 03 43.2 -2.8**
MNCY IAmb IAmb 19 04 14.5
comp=Z,420nm,1.2s
MNCI Minicoy 153.06 43 **PKPbc** **19 03 42.9 -3.1**
PLAI Plampang 153.62 274 PKP **PKPdf** **19 03 38.7 -0.7**
MTKI Muara Teweh, K 154.03 293 PKP **PKPdf** **19 03 40.3 +0.3**
TWSI Taliwang, Sumb 154.48 275 PKP **PKPdf** **19 03 39.5 -1.1**
SBUM Sibu 154.64 303 P **PKPdf** **19 03 42.0 +1.1**
DGPR DIGLIPUR 155.00 356 *e*P **PKPdf** **19 03 36.0 -5.3**
DGPR IAmb IAmb 19 04 08.6
comp=Z,934nm,1.0s
BBKI Banjar Baru 155.07 288 PKP **PKPdf** **19 03 41.1 -0.4**
TRD Trivandrum 155.29 35 *e*P **PKPdf** **19 03 39.7 -2.0**
GIRL Giralia 155.53 241 **PKPdf** **19 03 40.8 -1.1**
GIRL PKPab **PKPab** **19 04 08.0 +0.3**
SRBI Singaraja 155.99 277 PKP **PKPdf** **19 03 41.7 -1.0**
DNP Denpasar 156.10 275 PKP **PKPdf** **19 03 44.2 +1.4**
IGBI Denpasar 156.18 275 PKP **PKPdf** **19 03 42.8 -0.1**
KSM Kuching 156.76 304 PKPdf **PKPdf** **19 03 42.9 -0.8**
KSM IAMs_20 IAMs_20 20 16 46.3
comp=Z,9μm,20.0s
KSM Kuching 156.76 304 P **PKPdf** **19 03 45.0 +1.3**
ABJI Asem Bagus 156.88 278 PKP **PKPdf** **19 03 43.2 -0.6**
JAGI Jajag, Banyuwa 157.09 276 PKPdf **PKPdf** **19 03 42.1 -2.1**
JAGI Jajag, Banyuwa 157.09 276 PKP **PKPdf** **19 03 43.0 -1.1**
PBKI Pangkalan Bun 157.69 293 PKP **PKPdf** **19 03 45.6 +0.7**
GMJI Gumukmas 157.74 277 PKP **PKPdf** **19 03 43.8 -1.1**
PALK Pallekele 158.30 29 PKP **PKPdf** **19 03 46.5 +0.8**
comp=Z,54nm,1.0s,baz=16,slow=3.2,SNR=12
PALK PKPab **PKPab** **19 04 20.9 +1.3**
comp=Z,56nm,0.9s,baz=55,slow=5.5,SNR=9.5
PALK Pallekele 158.30 29 P **PKPdf** **19 03 45.8 +0.1**
GRJI Gresik 158.37 281 PKP **PKPdf** **19 03 45.6 -0.1**
PWJI Pagerwojo 159.28 279 PKP **PKPdf** **19 03 46.6 -0.2**
NGJI Ngawi 159.46 281 PKP **PKPdf** **19 03 46.4 -0.6**
SMRI Semarang 160.36 283 PKP **PKPdf** **19 03 48.2 +0.2**
KULM Kulim 160.46 331 P **PKPdf** **19 03 48.0 -0.2**
UGM Wanagama 160.49 280 PKP **PKPdf** **19 03 47.6 -0.6**
YOGI Yogyakarta 160.69 280 PKP **PKPdf** **19 03 47.8 -0.6**
IPM Ipoh 160.97 328 P **PKPdf** **19 03 49.0 +0.3**
H08S1 Diego Carcia H 161.13 79 PKP **PKPdf** **19 03 49.5 +1.0**
H08S3 Diego Garcia H 161.14 79 PKP **PKPdf** **19 03 49.5 +1.0**
H08S2 Diego Garcia H 161.15 79 PKP **PKPdf** **19 03 49.5 +1.0**
MYKOM Kota Tinggi 161.42 316 P **PKPdf** **19 03 50.0 +0.8**
LHMI Lhok Sumawe 162.01 341 PKPdf **PKPdf** **19 03 48.2 -1.5**
LHMI Lhok Sumawe 162.01 341 PKP **PKPdf** **19 03 49.5 -0.3**
PPBI Pangkal Pinang 162.25 302 PKP **PKPdf** **19 03 49.0 -1.0**
JCJI Jatiwangi 162.25 286 PKP **PKPdf** **19 03 50.7 +0.7**
DSRI Dabo 162.47 309 PKP **PKPdf** **19 03 49.9 -0.4**
LEM Lembang 162.97 286 PKP **PKPdf** **19 03 51.7 +0.7**
comp=Z,106nm,1.0s,baz=143,slow=3.7,SNR=13
LEM Lembang 162.97 286 PKP **PKPdf** **19 03 50.7 -0.2**
MLSI Meulaboh, Aceh 163.09 342 PKP **PKPdf** **19 03 49.5 -1.4**
KCSI Kotacane, Aceh 163.30 336 PKP **PKPdf** **19 03 50.3 -0.8**
PSI Prapat 163.45 332 PKP **PKPdf** **19 03 51.7 +0.3**
comp=Z,164nm,0.9s,baz=238,slow=2.6,SNR=62
PSI PKPab **pPKPab** **19 04 43.8 -1.6**
comp=Z,166nm,1.1s,baz=301,slow=7.2,SNR=7.3
PSI PP **PP** **19 08 24.6 -1.4**
comp=Z,29nm,1.0s,baz=313,slow=4.3,SNR=4.8
PSI Prapat 163.45 332 PKIKP **PKPdf** **19 03 49.4 -2.0**
RPSI Rantau Prapat 163.55 331 PP 19 08 24.6 -1.8
RPSI Rantau Prapat 163.55 331 **PKPdf** **19 03 49.4 -1.9**
CBJI Cirebon 163.56 288 PKP **PKPdf** **19 03 50.3 -1.0**
JMBI JAMBI 163.93 309 PKP **PKPdf** **19 03 53.3 +1.7**
SBJI Serang 164.11 290 PKP **PKPdf** **19 03 51.5 -0.3**
BKNI Bangkinang 164.36 320 **PKPdf** **19 03 49.9 -2.1**
BKNI Bangkinang 164.36 320 PKP **PKPdf** **19 03 51.3 -0.7**
SBSI Sibolga 164.56 330 PKP **PKPdf** **19 03 51.1 -1.1**
BLSI Bandar Lampung 164.61 294 PKP **PKPdf** **19 03 50.9 -1.4**
KLI Kotabumi 164.73 296 PKP **PKPdf** **19 03 51.5 -0.8**
MNSI Mandailing Nat 164.84 326 PKP **PKPdf** **19 03 51.3 -1.2**
SNSI Sinabang, Aceh 164.86 340 PKP **PKPdf** **19 03 51.3 -1.2**
SDSI Sungai Dareh 165.05 316 PKP **PKPdf** **19 03 51.1 -1.5**
KASI Kota Agung 165.35 295 PKP **PKPdf** **19 03 51.1 -1.8**
GSI Gunungsitoli 165.39 334 PKP **PKPdf** **19 03 53.3 +0.4**
LWLI Liwa 165.50 297 PKP **PKPdf** **19 03 53.3 +0.1**
PDSI Padang 165.67 319 PKP **PKPdf** **19 03 53.1 -0.1**
MASI Maura Aman, Be 165.96 308 PKP **PKPdf** **19 03 53.1 -0.4**
KSI Kapahiang 166.00 305 PKP **PKPdf** **19 03 52.7 -0.8**
SISI Saibi 166.85 323 PKP **PKPdf** **19 03 53.7 -0.4**

*DNK **24** 18:50:09.6±1.9,54°.74N×10°.05E,h0km,ML2.5,*

ML2.3(UPP),Suspected explosion
*UPP **24** 18:50:10.2±2.3,54°.68N×10°.26E,h0km,ML2.3,Suspected explosion*
*BER **24** 18:50:11.7±1.6,54°.71N×10°.10E,h0km,ML1.7,ML2.3(UPP)*

ISC 24 18:50:09.1±1.2,**54°.63N**±0°.05×**10°.05E**±0°.04,**h10**km,**n53,**
σ1§06/76,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HLG	**Helgoland**	**1.34**	**252**	*i* P		**Pn**	**18 50 35.5**	**+1.6**
LLD	**Lille Linde**	**1.43**	**60**	*i* P		**Pn**	**18 50 35.8**	**+0.7**
LLD				*e*S		**Sg**	**18 50 55.2**	**0.0**
LLD				IAML			18 51 04.9	
	comp=Z,34nm,0.7s							
COP	**Copenhagen**	**1.73**	**51**	*e*P		**Pn**	**18 50 40.3**	**+1.1**
MUD	**Monsted U'grnd**	**1.90**	**345**	*i* P		**Pn**	**18 50 40.5**	**-1.1**
MUD				*i* S		**Sg**	**18 51 10.8**	**+0.7**
MUD				IAML			18 51 18.4	
	comp=Z,13nm,0.6s							
MUD	**Monsted U'grnd**	**1.90**	**345**	*e*P		**Pb**	**18 50 44.5**	**+0.7**
LUNU	**Lund**	**2.19**	**61**	P		**Pn**	**18 50 45.9**	**+0.3**
LUNU				P		**Pn**	**18 50 45.9**	**+0.3**
LUNU				S		**Sn**	**18 51 12.6**	**-0.2**
LUNU				S		**Sn**	**18 51 12.6**	**-0.2**
LUNU	**Lund**	**2.19**	**61**	P		**Pn**	**18 50 45.9**	**+0.3**
LUNU				S		**Sn**	**18 51 12.6**	**-0.2**
LUNU	**Lund**	**2.19**	**61**	P		**Pn**	**18 50 45.9**	**+0.3**
LUNU				S		**Sn**	**18 51 12.6**	**-0.2**
BJUU	**Bjuv**	**2.23**	**48**	P		**Pn**	**18 50 47.2**	**+1.1**
BJUU				P		**Pn**	**18 50 47.2**	**+1.1**
BJUU	**Bjuv**	**2.23**	**48**	P		**Pn**	**18 50 47.2**	**+1.1**
BJUU	**Bjuv**	**2.23**	**48**	P		**Pn**	**18 50 47.2**	**+1.1**
FABU	**Falkenberg**	**2.81**	**31**	P		**Pn**	**18 50 55.2**	**+1.1**
FABU				P		**Pn**	**18 50 55.2**	**+1.1**
FABU				S		**Sn**	**18 51 27.0**	**-1.1**
FABU				S		**Sn**	**18 51 27.0**	**-1.1**
FABU	**Falkenberg**	**2.81**	**31**	P		**Pn**	**18 50 55.2**	**+1.1**
FABU				S		**Sn**	**18 51 27.0**	**-1.1**
FABU	**Falkenberg**	**2.81**	**31**	P		**Pn**	**18 50 55.2**	**+1.1**
FABU				S		**Sn**	**18 51 27.0**	**-1.1**
DEL	**Delary**	**2.85**	**48**	P		**Pn**	**18 50 55.4**	**+0.8**
DEL	**Delary**	**2.85**	**48**	P		**Pn**	**18 50 55.4**	**+0.8**
BSD	**Bornholm Skovb**	**2.85**	**78**	*i* P		**Pn**	**18 50 54.0**	**-0.7**
ONAU	**Onsala**	**2.97**	**20**	P		**Pn**	**18 50 57.0**	**+0.8**
ONAU				P		**Pn**	**18 50 57.0**	**+0.8**
ONAU	**Onsala**	**2.97**	**20**	P		**Pn**	**18 50 57.0**	**+0.8**
ONAU	**Onsala**	**2.97**	**20**	P		**Pn**	**18 50 57.0**	**+0.8**
BORU	**Boraas**	**3.38**	**26**	P		**Pn**	**18 51 02.8**	**+0.9**
BORU				P		**Pn**	**18 51 02.8**	**+0.9**
BORU	**Boraas**	**3.38**	**26**	P		**Pn**	**18 51 02.8**	**+0.9**
BORU	**Boraas**	**3.38**	**26**	P		**Pn**	**18 51 02.8**	**+0.9**
GNOU	**Gnosjoe**	**3.38**	**36**	P		**Pn**	**18 51 03.5**	**+1.5**
GNOU				P		**Pn**	**18 51 03.5**	**+1.5**
GNOU	**Gnosjoe**	**3.38**	**36**	P		**Pn**	**18 51 03.5**	**+1.5**
GNOU	**Gnosjoe**	**3.38**	**36**	P		**Pn**	**18 51 03.5**	**+1.5**
TJOU	**Tjoern**	**3.52**	**14**	P		**Pn**	**18 51 04.8**	**+0.9**
TJOU				P		**Pn**	**18 51 04.8**	**+0.9**
TJOU	**Tjoern**	**3.52**	**14**	P		**Pn**	**18 51 04.8**	**+0.9**
TJOU	**Tjoern**	**3.52**	**14**	P		**Pn**	**18 51 04.8**	**+0.9**
VXJU	**Vaexsjoe**	**3.59**	**48**	P		**Pn**	**18 51 05.6**	**+0.8**
VXJU				P		**Pn**	**18 51 05.6**	**+0.8**
VXJU	**Vaexsjoe**	**3.59**	**48**	P		**Pn**	**18 51 05.6**	**+0.8**
VXJU	**Vaexsjoe**	**3.59**	**48**	P		**Pn**	**18 51 05.6**	**+0.8**
BLEU	**Blekinge**	**3.68**	**61**	P		**Pn**	**18 51 06.6**	**+0.5**
BLEU				P		**Pn**	**18 51 06.6**	**+0.5**
BLEU	**Blekinge**	**3.68**	**61**	P		**Pn**	**18 51 06.6**	**+0.5**
BLEU	**Blekinge**	**3.68**	**61**	P		**Pn**	**18 51 06.6**	**+0.5**
HOMB	**Homborsund**	**3.75**	**347**	*e*P		**Pn**	**18 51 07.5**	**+0.5**
HOMB	**Homborsund**	**3.75**	**347**	*e*P		**Pn**	**18 51 07.5**	**+0.5**
HOMB				*e*S		**Sn**	**18 51 50.1**	**-1.0**
HOMB				IAML			18 52 04.2	
	comp=Z,2.8nm,0.8s							
CLL	**Collm**	**3.77**	**151**	*e*Pn		**Pn**	**18 51 07.0**	**-0.3**
CLL				*e*Sn		**Sn**	**18 51 49.0**	**-2.7**
SNART	**Snartemo**	**4.04**	**338**	*e*P		**Pn**	**18 51 12.3**	**+1.3**
SNART	**Snartemo**	**4.04**	**338**	*e*P		**Pn**	**18 51 12.3**	**+1.3**
SNART				*e*S		**Sn**	**18 51 55.9**	**-2.4**
SNART				IAML			18 52 08.8	
	comp=Z,4.9nm,0.9s							
STRU	**Stroemstad**	**4.46**	**8**	*e*P		**Pn**	**18 51 17.4**	**+0.6**
STRU	**Stroemstad**	**4.46**	**8**	*e*P		**Pn**	**18 51 17.4**	**+0.6**
STRU				*e*S		**Sn**	**18 52 05.0**	**-3.6**
KONO	**Kongsberg**	**5.04**	**357**	*e*P		**Pn**	**18 51 24.4**	**-0.3**
BLS5	**Blasjo**	**5.19**	**339**	*e*P		**Pn**	**18 51 27.9**	**+1.1**
BLS5	**Blasjo**	**5.19**	**339**	*e*P		**Pn**	**18 51 27.9**	**+1.1**
KMY	**Karmoy**	**5.30**	**332**	*e*P		**Pn**	**18 51 28.7**	**+0.6**
KMY	**Karmoy**	**5.30**	**332**	*e*P		**Pn**	**18 51 28.7**	**+0.6**
NC602	**NORSAR Array S**	**6.18**	**7**	*e*P		**Pn**	**18 51 39.5**	**-0.8**
NC602	**NORSAR Array S**	**6.18**	**7**	*e*P		**Pn**	**18 51 39.5**	**-0.8**
NAO01	**NORSAR Array S**	**6.25**	**4**	*e*P		**Pn**	**18 51 41.0**	**-0.3**
NAO01	**NORSAR Array S**	**6.25**	**4**	*e*P		**Pn**	**18 51 41.0**	**-0.3**
EDMD	**Edmundbyers**	**6.96**	**277**	*e*P		**Pn**	**18 51 51.6**	**+0.4**
EDMD	**Edmundbyers**	**6.96**	**277**	*e*P		**Pn**	**18 51 51.6**	**+0.4**

*NCEDC **24** 18:52:45.6±1.7,40°.46N±0°.05×126°.0W±0°.1,h10km±8km,ML3.8/5,ML3.5/40(NEIC),Error ellipse: s-maj=12.1km s-min=7.3km az=75.0*

NEIC 24 18:52:43.9±1.6,**40°.43N**±0°.06×**126°.0W**±0°.1,**h11**km±12km,
1D,Error ellipse: s-maj=15.0km s-min=8.5km az=80.0,
Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.26**	**87**			Pn	18 53 07.4	0.0
KCTM						Sg	18 53 26.2	+0.9
KSMM	**Slide Mountain**	**1.40**	**99**			Pn	18 53 08.5	-1.0
KMPM	**Mount Pierce**	**1.42**	**90**			Pn	18 53 09.4	-0.3
JCC	**Jacoby Creek,**	**1.54**	**75**			Pn	18 53 10.1	-1.1
JCC	**Jacoby Creek,**	**1.54**	**75**	Pn		Pn	18 53 09.8	-1.4
JCC	**Jacoby Creek,**	**1.54**	**75**	IAML			18 53 19.9	
	comp=E,170nm,3.1s							
JCC				IAML			18 53 25.2	
	comp=N,167nm,4.2s							
KCRM	**Chalk Rock**	**1.65**	**89**			Pn	18 53 12.4	-0.5
KRPM	**Rodgers**	**1.66**	**63**			Pn	18 53 11.7	-1.3
KMRM	**Mail Ridge**	**1.75**	**96**			Pn	18 53 14.3	+0.1
KHMM	**Horse Mountain**	**1.77**	**75**			Pn	18 53 14.1	-0.5
KHMM	**Horse Mountain**	**1.77**	**75**	IAML			18 53 41.0	
	comp=E,228nm,1.6s							
KCPM	**Cahto Peak**	**1.98**	**111**			Pn	18 53 17.0	-0.5
KCPM	**Cahto Peak**	**1.98**	**111**	IAML			18 53 42.5	
	comp=N,446nm,0.3s							
KCPM				IAML			18 53 50.5	
	comp=E,341nm,0.6s							
KIPM	**Iron Peak**	**2.01**	**107**			Pn	18 53 18.0	+0.1
KOMM	**Orleans Mounta**	**2.10**	**65**			Pn	18 53 18.2	-0.9
KFPM	**Farley Peak**	**2.12**	**111**			Pn	18 53 19.1	-0.1
KHBM	**Hayfork Bally**	**2.12**	**83**			Pn	18 53 19.0	-0.4
GTC	**Three Chop Rid**	**2.13**	**118**			Pn	18 53 18.4	-0.9
GNAM	**Navarro Ridge**	**2.19**	**123**			Pn	18 53 18.6	-1.6
KBNM	**Bluenose Ridge**	**2.20**	**103**			Pn	18 53 20.6	+0.1
KBO	**Bosley Butte**	**2.22**	**36**			Pn	18 53 19.9	-0.8

HUMO					IAML			18 53 56.9	
	comp=N,72nm,2.7s								
HUMO	**Hull Mountain**	**3.15**	**45**	⇓P	Pn	Pn	18 53 33.7	+0.3	
DBO	**Dodson Butte**	**3.38**	**36**	Pn	Pn		18 53 37.0	+0.4	
DBO				IAML			18 54 04.7		
	comp=E,150nm,3.9s								
DBO				IAML			18 54 35.8		
	comp=N,155nm,4.6s								
ORV	**Oroville**	**3.55**	**103**	Pn	Pn		18 53 38.9	0.0	
ORV				IAML			18 54 15.8		
	comp=E,59nm,3.6s								
JSBM	**San Bruno Moun**	**3.91**	**133**		Pn		18 53 42.9	-1.0	
AFDM	**Forest Hills D**	**4.14**	**109**	Pn	Pn		18 53 48.6	+1.6	
AFDM				IAML			18 54 20.2		
	comp=N,35nm,4.6s								
AFDM				IAML			18 54 49.4		
	comp=E,53nm,4.3s								
K05A	**Summer Lake**	**4.45**	**57**	Pn	Pn		18 53 52.9	+1.4	
K05A				IAML			18 54 46.8		
	comp=E,99nm,4.1s								
AMC	**Almaden**	**4.59**	**134**		Pn		18 53 52.9	-0.3	
JRGM	**Rodeo Gulch Ro**	**4.62**	**136**		Pn		18 53 52.3	-1.2	
CMB	**Columbia Colle**	**4.96**	**117**	Pn	Pn		18 54 00.9	+2.6	
CMB				IAML			18 54 38.5		
	comp=E,33nm,4.5s								
CMB				IAML			18 55 22.8		
	comp=N,35nm,3.6s								
PINE	**Pine Mountain**	**5.04**	**46**	Pn	Pn		18 54 01.0	+1.5	
PINE				IAML			18 55 04.5		
	comp=N,73nm,4.8s								
H04A	**Detroit Lake**	**5.09**	**32**	Pn	Pn		18 54 00.8	+0.7	
SAO	**San Andreas Ge**	**5.10**	**134**	Pn	Pn		18 54 00.5	+0.4	
BCGM	**Cienega Road**	**5.19**	**134**		Pn		18 54 03.6	+2.1	
BJCM	**Johnson Can.**	**5.29**	**136**		Pn		18 54 01.4	-1.4	
HAST	**Hastings Reser**	**5.32**	**138**		Pn		18 54 01.8	-1.5	
BPOM	**Post Ranch**	**5.34**	**140**		Pn		18 54 02.8	-0.7	
PMPB	**Monarch Peak**	**5.85**	**134**	Pn	Pn		18 54 11.1	+0.4	
WVOR	**Wild Horse Val**	**5.87**	**68**	Pn	Pn		18 54 11.8	+0.8	
PPTM	**Peach Tree Val**	**5.97**	**135**		Pb		18 54 24.9	-3.1	
I07A	**Izee**	**6.04**	**51**	Pn	Pn		18 54 16.0	+2.8	
WMD		**6.45**	**115**		Pn		18 54 21.6	+2.9	
HAWA	**Hanford**	**7.59**	**36**	Pn	Pn		18 54 36.6	+2.2	
ISA	**Isabella, Lake**	**7.59**	**126**	Pn	Pn		18 54 36.9	+2.3	

*IDC **24** 18:52:59.0±4.1, 11°.49N×89°.24W, h0^{km}, mb4.0/4, mbtmp4.1/6, ML3.9/2, Error ellipse: s-maj=158.1km s-min=23.9km az=31.0*

*NEIC **24** 18:53:03.1±1.3, 12°.04N±0°.08×88°.90W±0°.07, h10^{km}±1^{km}, mb5.1/23, Md4.9(SNET), Error ellipse: s-maj=16.3km s-min=7.0km az=213.0*

*SNET **24** 18:53:12.7±3.9, 12°.82N×89°.05W, h10^{km}, ML4.9*

ISC 24 18:53:02.3±0.8, 12°.02N±0°.07×88°.96W±0°.07, h10^{km}, n92, σ1°.93/93, mb5.0/14, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**1.52**	**16**	*eP*	**Pn**	**18 53 29.5**	**-0.3**
COEB	**Comit de Eme**	**1.52**	**16**	*eP*	**Pn**	**18 53 29.5**	**-0.3**
PACA	**Pacayal**	**1.56**	**23**	*eP*	**Pn**	**18 53 30.8**	**+0.4**
PACA	**Pacayal**	**1.56**	**23**	*eP*	**Pn**	**18 53 30.8**	**+0.4**
LFRS	**El Faro**	**1.59**	**356**	*eP*	**Pn**	**18 53 29.9**	**-0.8**
LFRS	**El Faro**	**1.59**	**356**	*eP*	**Pn**	**18 53 29.9**	**-0.8**
LCND	**La Caada**	**1.65**	**39**	*eP*	**Pn**	**18 53 31.7**	**+0.3**
LCND	**La Caada**	**1.65**	**39**	*eP*	**Pn**	**18 53 31.7**	**+0.3**
CNCH	**Conchagua**	**1.66**	**41**	*eP*	**Pn**	**18 53 31.7**	**+0.1**
CNCH	**Conchagua**	**1.66**	**41**	*eP*	**Pn**	**18 53 31.7**	**+0.1**
SNET	**Serv Nac Est T**	**1.68**	**351**	Pn	**Pn**	**18 53 30.9**	**-1.0**
BOQS	**Boqueron**	**1.73**	**349**	*eP*	**Pn**	**18 53 31.9**	**-0.8**
BOQS	**Boqueron**	**1.73**	**349**	*eP*	**Pn**	**18 53 31.9**	**-0.8**
CAHU	**Cacacuatique**	**1.88**	**23**	*eP*	**Pn**	**18 53 35.7**	**+0.9**
CAHU	**Cacacuatique**	**1.88**	**23**	*eP*	**Pn**	**18 53 35.7**	**+0.9**
CEVE	**Cerro Verde**	**1.91**	**340**	*eP*	**Pn**	**18 53 34.3**	**-0.9**
CEVE	**Cerro Verde**	**1.91**	**340**	*eP*	**Pn**	**18 53 34.3**	**-0.9**
SBLS	**San Blas**	**1.92**	**340**	*eP*	**Pn**	**18 53 35.4**	**0.0**
SBLS	**San Blas**	**1.92**	**340**	*eP*	**Pn**	**18 53 35.4**	**0.0**
CRIN	**San Cristobal**	**1.98**	**70**		**Pn**	**18 53 35.3**	**-0.7**
NUBE	**Las Nubes**	**2.03**	**337**	*eP*	**Pn**	**18 53 36.1**	**-0.7**
NUBE	**Las Nubes**	**2.03**	**337**	*eP*	**Pn**	**18 53 36.1**	**-0.7**
CNGN	**Cerro Negro**	**2.26**	**78**	Pn	**Pn**	**18 53 39.4**	**-0.4**
CNGN	**Cerro Negro**	**2.26**	**78**	*eP*	**Pn**	**18 53 40.5**	**+0.7**
MTO3	**Montecristo**	**2.40**	**351**	Pn	**Pn**	**18 53 42.4**	**+0.5**
ESQI	**Esquipulas**	**2.55**	**352**	Pn	**Pn**	**18 53 44.8**	**+0.8**
ESQI	**Esquipulas**	**2.55**	**352**	*eP*	**Pn**	**18 53 44.7**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.60**	**39**		**Pn**	**18 53 44.5**	**-0.1**
MATN	**Matagalpa**	**3.09**	**73**	Pn	**Pn**	**18 53 50.4**	**-0.9**
BOAB	**BOACO BROADBAN**	**3.24**	**82**	Pn	**Pn**	**18 53 53.6**	**+0.3**
HZTE	**Horizontes, Gu**	**3.54**	**111**	Pn	**Pn**	**18 53 57.9**	**+0.4**
GB1A	**Boringuen Arri**	**3.69**	**109**	*eP*	**Pn**	**18 54 00.6**	**+1.1**
ACON	**Acoyapa**	**3.70**	**90**	Pn	**Pn**	**18 53 58.7**	**-0.9**
SAJU	**San Juanillo,**	**3.73**	**121**	*eP*	**Pn**	**18 53 58.3**	**-1.7**
GPS3	**Bodega del ICE**	**3.74**	**109**	*eP*	**Pn**	**18 54 00.5**	**+0.3**
GPS2	**Hotel Rincn d**	**3.75**	**109**	*eP*	**Pn**	**18 54 01.1**	**+0.7**
ORTG	**Ortega, Santa**	**3.81**	**115**	Pn	**Pn**	**18 54 00.9**	**-0.3**
GUAB	**Guayabo de Bag**	**3.88**	**109**	*eP*	**Pn**	**18 54 03.2**	**+1.0**
DUNO	**Dulce Nombre,**	**3.91**	**119**	Pn	**Pn**	**18 54 01.1**	**-1.4**
COLC	**Colonia**	**3.92**	**110**	*eP*	**Pn**	**18 54 03.2**	**+0.5**
VMAR	**Armenia, Volca**	**3.95**	**107**	*eP*	**Pn**	**18 54 03.8**	**+0.8**
CUI	**Cuipilapa**	**3.96**	**110**	*eP*	**Pn**	**18 54 04.2**	**+0.9**
POPE	**POPE, Guanacas**	**4.11**	**118**	*eP*	**Pn**	**18 54 04.8**	**-0.5**
JTS	**Las Juntas de**	**4.29**	**113**	Pn	**Pn**	**18 54 08.4**	**+0.7**
	7.7nm,0.3s,baz=177,slow=21,SNR=9.9						
JTS				Sn	**Sn**	**18 54 57.9**	**0.0**
	17nm,0.3s,baz=358,slow=16,SNR=7.3 18nm,0.4s						
JTS	**Las Juntas de**	**4.29**	**113**	Pn	**Pn**	**18 54 07.6**	**-0.1**
JTS	**Las Juntas de**	**4.29**	**113**	*eP*	**Pn**	**18 54 08.3**	**+0.6**
LAFE	**Finca La Fe, P**	**4.54**	**119**	*eP*	**Pn**	**18 54 09.7**	**-1.5**
JACO	**JACO, Garabito**	**4.83**	**119**	Pn	**Pn**	**18 54 16.6**	**+1.4**
OCM	**Ochomogo**	**5.34**	**113**	*eP*	**Pn**	**18 54 24.9**	**+2.6**
LCR2	**La Lucha 2**	**5.36**	**115**	*eP*	**Pn**	**18 54 23.6**	**+0.9**
RIMA	**Rio Macho**	**5.48**	**114**		**Pn**	**18 54 25.2**	**+0.9**
RIMA	**Rio Macho**	**5.48**	**114**	*eP*	**Pn**	**18 54 26.0**	**+1.7**
CDM	**Cerro de Muert**	**5.66**	**115**	*eP*	**Pn**	**18 54 27.8**	**+0.8**
CDM				*eS*	**Sn**	**18 55 28.9**	**-3.5**
BATAN	**Batan**	**5.80**	**109**	Pn	**Pn**	**18 54 29.9**	**+1.4**
PEZE	**Perez Zeledon,**	**5.81**	**116**	Pn	**Pn**	**18 54 29.1**	**+0.4**
PEZE	**Perez Zeledon,**	**5.81**	**116**	*eP*	**Pn**	**18 54 30.8**	**+2.0**
SRBA	**San Rafael, Bu**	**6.16**	**116**	Pn	**Pn**	**18 54 34.3**	**+0.8**
SRBA	**San Rafael, Bu**	**6.16**	**116**	*eP*	**Pn**	**18 54 34.8**	**+1.2**
BRU2	**Volcan**	**6.95**	**117**	Pn	**Pn**	**18 54 44.5**	**+0.1**
CMIG	**Matias Romero**	**7.64**	**312**	Pn	**Pn**	**18 54 54.2**	**+0.5**
	1.4nm,0.3s,baz=151,slow=11,SNR=1.6 5.9nm,0.5s						
451A	**Vernon**	**18.74**	**9**		**P**	**18 57 21.9**	**+0.5**
451A				IAmb	IAmb	18 57 25.9	
	comp=Z,158nm,1.6s						
833A	**Chaparral WMA,**	**18.93**	**330**	P	**P**	**18 57 23.9**	**+0.4**
346A	**Big Creek Wild**	**19.28**	**359**	P	**P**	**18 57 27.1**	**-0.2**
346A				IAmb	IAmb	18 57 34.5	
	comp=Z,245nm,1.6s						
HATO	**Hato, Curacao**	**19.55**	**87**	P	**P**	**18 57 28.9**	**-1.5**
HATO				IAmb	IAmb	18 57 41.0	
	comp=Z,70nm,0.9s						
435B	**Jarrell**	**20.31**	**338**	P	**P**	**18 57 37.4**	**-1.2**
Z47A	**Carrollton**	**21.09**	**2**	P	**P**	**18 57 48.3**	**+1.3**
GOGA	**Godfrey**	**21.87**	**12**	P	**P**	**18 57 55.7**	**+0.3**
TX31	**Lajitas Ar. Si**	**22.01**	**324**	P	**P**	**18 57 57.3**	**+0.3**
TX32	**Lajitas Array**	**22.01**	**324**	P	**P**	**18 57 57.6**	**+0.6**
TX32				IAmb	IAmb	18 58 18.6	
	comp=Z,135nm,1.9s						
TXAR	**Lajitas Array**	**22.01**	**324**	P	**P**	**18 57 57.4**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=142,slow=10,SNR=4.3 comp=Z,3.2nm,0.8s						
OXF	**Oxford**	**22.39**	**359**	P	**P**	**18 58 00.9**	**-0.1**
OXF				IAmb	IAmb	18 58 05.1	
	comp=Z,119nm,1.3s						
MIAR	**Mount Ida**	**22.81**	**350**	P	**P**	**18 58 05.5**	**0.0**
MIAR				IAmb	IAmb	18 58 21.8	
	comp=Z,89nm,1.5s						
JSC	**Jenkinsville**	**23.24**	**16**	P	**P**	**18 58 10.0**	**+0.1**
JSC				IAmb	IAmb	18 58 22.9	
	comp=Z,158nm,1.7s						
X34A	**Smith Ranch, M**	**23.88**	**342**	P	**P**	**18 58 16.4**	**+0.2**
FCAR	**Ozark Folk Cen**	**23.93**	**354**	P	**P**	**18 58 16.1**	**-0.6**
FCAR				IAmb	IAmb	18 58 35.7	
	comp=Z,69nm,1.5s						
FNO	**Franklin**	**24.37**	**343**	P	**P**	**18 58 20.4**	**-0.3**
OK025	**Westminster Rd**	**24.65**	**343**	P	**P**	**18 58 22.4**	**-0.9**
RLO	**Rose Lookout**	**24.65**	**348**	P	**P**	**18 58 23.6**	**+0.3**
RLO				IAmb	IAmb	18 58 40.6	
	comp=Z,48nm,1.4s						
T47A	**Sharon Grove**	**24.91**	**4**	P	**P**	**18 58 23.9**	**-1.7**
T47A				IAmb	IAmb	18 58 28.0	
	comp=Z,120nm,1.6s						
MGMO	**Mountain Grove**	**25.20**	**354**	P	**P**	**18 58 29.3**	**+1.1**
V58A	**Windy Hill, Pi**	**25.29**	**19**	P	**P**	**18 58 28.6**	**-0.4**
V58A				IAmb	IAmb	18 58 36.8	
	comp=Z,106nm,1.8s						
S39A	**Bolivar**	**25.86**	**352**	P	**P**	**18 58 32.9**	**-1.2**
S39A				IAmb	IAmb	18 58 34.8	
	comp=Z,41nm,1.2s						
CCM	**Cathedral Cave**	**26.00**	**356**	P	**P**	**18 58 33.1**	**-2.4**
CCM				IAmb	IAmb	18 59 06.7	
	comp=Z,71nm,1.4s						
PDAR	**Pinedale Array**	**35.47**	**333**	P	**P**	**19 00 01.7**	**+2.4**
	comp=Z,6.6nm,1.1s,baz=130,slow=9.6,SNR=2.3 comp=Z,6.6nm,1.1s						
REDW	**Red Top Meadow**	**36.52**	**333**	P	**P**	**19 00 08.5**	**+0.2**
NVAR	**Mina Array Bea**	**37.07**	**320**	P	**P**	**19 00 14.6**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=141,slow=7.8,SNR=2.1 comp=Z,1.5nm,0.9s						
BEKR	**Beckworth**	**39.21**	**321**	P	**P**	**19 00 30.5**	**-0.6**
HRY	**Holter Researc**	**39.61**	**335**	P	**P**	**19 00 34.1**	**0.0**
ILAR	**Eielson Array**	**65.82**	**337**	P	**P**	**19 03 47.1**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=179,slow=4.2,SNR=7.0 comp=Z,2.1nm,0.9s						
MSEY	**Mahe Island**	**144.09**	**81**	PKPdf	PKPbc	19 12 38.0	+0.4
CRAI	**Chiangrai**	**146.66**	**344**	PKPbc	**PKPdf**	**19 12 44.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**148.73**	**345**	PKPbc	**PKPdf**	**19 12 49.4**	**+2.2**
	comp=Z,2.5nm,0.9s,baz=355,slow=4.5,SNR=2.7						

*SOME **24** 18:54:27.6, 38°.95N×73°.72E, h5^{km}*

*KRNET **24** 18:54:29.3±0.1, 39°.17N×73°.87E, mb4.3*

*IDC **24** 18:54:33.6±2.0, 39°.25N×73°.04E, h0^{km}, mb4.0/6, mbtmp3.9/12, ML3.2/6, MS4.7/1, Error ellipse: s-maj=34.1km s-min=15.2km az=147.0*

*NNC **24** 18:54:36.1±1.9, 39°.35N×73°.48E, h0^{km}, mb4.5, mpv4.2, Error ellipse: s-maj=15.5km s-min=9.7km az=171.0*

*NEIC **24** 18:54:38.8±1.6, 39°.20N±0°.03×73°.31E±0°.09, h51^{km}±13^{km}, mb4.1/6, Error ellipse: s-maj=10.1km s-min=3.6km az=96.0*

ISC 24 18:54:33.2±1.4, 39°.15N±0°.04×73°.39E±0°.02, h7^{km}±9^{km}, n115, σ3°.08/158, mb4.1/9, 23C-20D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.28**	**285**	Pn	**Pn**	**18 54 53.8**	**-4.0**
OHH	**Osh**	**1.45**	**341**	⇓*i*P	**Pn**	**18 54 58.9**	**-1.1**
	baz=29						
OHH				⇓*i*S	**Sg**	**18 55 21.1**	**+1.2**
	baz=29						
BTK	**Batken**	**2.19**	**295**	⇑*i*P	**Pb**	**18 55 13.7**	**+0.5**
	baz=92						
BTK				⇑*i*S	**Sg**	**18 55 45.8**	**+2.3**
	baz=92						
BTK	**Batken**	**2.19**	**295**	Pn	**Pb**	**18 55 11.8**	**-1.4**
BTK				Sn	**Sg**	**18 55 41.5**	**-2.0**
ARLS	**Aral**	**2.80**	**14**	⇑*i*P	**Pn**	**18 55 16.2**	**-2.4**
	baz=7.0						
ARLS				⇑*i*S	**Sn**	**18 55 50.4**	**-2.3**
	baz=7.0						
TRKS	**Terek-Say**	**2.94**	**325**	⇓*i*P	**Pn**	**18 55 21.4**	**+0.9**
	baz=19						
TRKS				⇓*i*S	**Sb**	**18 55 59.4**	**-2.7**
	baz=19						
AML	**Almayashu**	**2.99**	**4**	P	**Pn**	**18 55 23.5**	**+2.1**
	SNR=152						
NRN	**Naryn**	**3.03**	**40**	⇓*e*P	Pn	18 55 16.9	-5.0
	baz=35						
NRN				⇓*i*S	**Sn**	**18 55 51.8**	**-6.8**
	baz=35						
NRN	**Naryn**	**3.03**	**40**	Pn	**Pn**	**18 55 25.1**	**+3.3**
NRN				Sn	**Sb**	**18 56 05.3**	**+0.3**
UCH	**Uchtor**	**3.19**	**15**	P	**Pn**	**18 55 27.4**	**+3.1**
	SNR=87						
UCH	**Uchtor**	**3.19**	**15**	⇑*i*P	**Pn**	**18 55 21.8**	**-2.4**
	baz=9.0						
UCH				⇑*i*S	**Sn**	**18 56 00.3**	**-2.4**
	baz=9.0						
EKS2	**Erkin-Say**	**3.52**	**5**	P	**Pn**	**18 55 31.0**	**+2.5**
	SNR=25						
EKS2	**Erkin-Say**	**3.52**	**5**	⇑*i*P	**Pn**	**18 55 27.2**	**-1.3**
	baz=59						
EKS2				⇑*i*S	**Sn**	**18 56 09.0**	**-1.4**
	baz=59						
AAK	**Ala-Archa**	**3.58**	**13**	P	**Pn**	**18 55 32.4**	**+3.0**
	SNR=52						
AAK	**Ala-Archa**	**3.58**	**13**	Pn	**Pn**	**18 55 32.5**	**+3.1**
	21nm,0.3s,baz=179,slow=7.1,SNR=203						
AAK				Sn	**Sb**	**18 56 19.3**	**-1.5**
	7.7nm,0.3s,baz=309,slow=22,SNR=7.2 72nm,0.4s						
AAK	**Ala-Archa**	**3.58**	**13**	⇓*i*P	**Pn**	**18 55 27.2**	**-2.2**
	baz=8.0						
AAK				⇓*i*S	**Sn**	**18 56 09.6**	**-2.4**
	baz=8.0						
AAK	**Ala-Archa**	**3.58**	**13**		**Pn**	**18 55 32.1**	**+2.7**
MRKS	**Merke**	**3.59**	**358**	*eP*	**Pb**	**18 55 36.6**	**-0.6**
	71nm,0.4s						
MRKS				*eS*	**Sg**	**18 56 25.3**	**-3.4**
	156nm,0.8s						
MRKS	**Merke**	**3.59**	**358**	Pg	**Pn**	**18 55 31.7**	**+2.3**
	38nm,0.3s						
MRKS				Lg	Lg	18 56 17.8	
	156nm,0.8s						
KBK	**Karagaybulak**	**3.70**	**18**	P	**Pn**	**18 55 34.4**	**+3.4**
	SNR=14						
KBK	**Karagaybulak**	**3.70**	**18**	⇑*i*P	**Pn**	**18 55 28.3**	**-2.6**
	baz=13						
KBK				⇑*i*S	**Sn**	**18 56 11.2**	**-3.6**
	baz=13						
FRU1	**Bishkek**	**3.77**	**14**	⇑*i*P	**Pn**	**18 55 29.8**	**-2.1**
	baz=9.0						
FRU1				⇑*i*S	**Sn**	**18 56 13.9**	**-2.7**
	baz=9.0						
ULHL	**Ulahol**	**3.78**	**34**	P	**Pb**	**18 55 41.1**	**+0.7**
	SNR=11						
TAS	**Tashkent**	**3.82**	**306**	Pn	**Pn**	**18 55 31.8**	**-0.6**
BOOM	**Boomskoye usch**	**3.86**	**29**		**Pn**	**18 55 35.4**	**+2.3**
IUG	**Iuzhnay**	**3.94**	**321**	*eP*	**Pg**	**18 55 47.9**	**-0.8**
	223nm,0.7s						
IUG				*eS*	**Sg**	**18 56 45.7**	**+6.0**
	247nm,0.5s						
IUG	**Iuzhnay**	**3.94**	**321**	Pg	**Pn**	**18 55 36.5**	**+2.3**
	89nm,0.5s						
IUG				Lg	Lg	18 56 25.2	
	251nm,0.8s						
CHMS	**Chumysh**	**3.98**	**15**	P	**Pn**	**18 55 38.1**	**+3.4**
	SNR=14						
CHMS	**Chumysh**	**3.98**	**15**	⇓*i*P	**Pn**	**18 55 32.3**	**-2.4**
	baz=10.0						
CHMS				⇓*i*S	**Sn**	**18 56 18.6**	**-3.0**
	baz=10.0						
CHMS	**Chumysh**	**3.98**	**15**	⇑Pn	**Pn**	**18 55 37.6**	**+2.9**
	38nm,0.5s						
CHMS				Pg	**Pb**	**18 55 44.7**	**+1.0**
	59nm,0.2s						
CHMS				⇓Lg	Lg	18 56 37.5	
	93nm,0.7s						
CHMS				Lg	Lg	18 56 39.3	
	654nm,0.7s						
DZA	**Taraz**	**4.05**	**338**	*eP*	**Pb**	**18 55 44.2**	**-0.7**
	113nm,0.5s						
DZA				*eS*	**Sb**	**18 56 37.3**	**+3.2**
	197nm,0.8s						
DZA	**Taraz**	**4.05**	**338**	Pg	**Pn**	**18 55 37.6**	**+1.9**
	140nm,0.4s						
DZA				Lg	Lg	18 56 27.0	
	165nm,0.5s						
TKM2	**Tokmak 2**	**4.12**	**23**	P	**Pn**	**18 55 40.3**	**+3.5**
	SNR=16						
TKM2	**Tokmak 2**	**4.12**	**23**	⇓*i*P	**Pn**	**18 55 34.0**	**-2.8**
	baz=19						
TKM2				⇓*i*S	**Sn**	**18 56 20.9**	**-4.4**
	baz=19						
TKM2	**Tokmak 2**	**4.12**	**23**	⇑Pn	**Pn**	**18 55 39.9**	**+3.1**
	9.9nm,0.5s						
TKM2				⇓Pg	**Pb**	**18 55 48.2**	**+2.1**
	35nm,0.8s						
TKM2				⇓Lg	Lg	18 56 42.8	
	102nm,0.9s						
USP	**Ospenovka**	**4.20**	**11**	P	**Pn**	**18 55 40.5**	**+2.8**
	SNR=32						
USP	**Ospenovka**	**4.20**	**11**	⇑*i*P	**Pn**	**18 55 35.8**	**-1.9**
	baz=6.0						
USP				⇑*i*S	**Sn**	**18 56 24.3**	**-2.7**
	baz=6.0						
TARG	**Taragay, Kyrgy**	**4.24**	**51**		**Pn**	**18 55 40.7**	**+2.1**
CHM	**Chimkent**	**4.28**	**319**	*eP*	**Pg**	**18 55 55.4**	**+0.2**
	196nm,0.5s						
CHM				*eS*	**Sg**	**18 56 56.8**	**+6.2**
	654nm,0.7s						
KST	**Kastek**	**4.35**	**26**	*eP*	**Pb**	**18 55 48.9**	**-1.2**
	19nm,0.3s						
KST				*eS*	**Sb**	**18 56 46.1**	**+3.4**
	77nm,0.9s						
KST	**Kastek**	**4.35**	**26**	Pg	**Pb**	**18 55 48.9**	**-1.2**
	19nm,0.3s						
KST				Lg	Lg	18 56 46.8	
	77nm,0.9s						
SGDS	**Sogindy**	**4.40**	**12**	*eP*	**Pb**	**18 55 50.1**	**-0.7**
	12nm,0.7s						
SGDS				*eS*	**Sb**	**18 56 48.4**	**+4.2**
	39nm,0.6s						
SGDS	**Sogindy**	**4.40**	**12**	Pg	**Pb**	**18 55 50.1**	**-0.7**
	12nm,0.7s						
SGDS				Lg	Lg	18 56 48.4	
	39nm,0.6s						
DGS	**Degeres**	**4.46**	**23**	*eP*	**Pb**	**18 55 52.6**	**+0.6**
	42nm,0.7s						
DGS				*eS*	**Sg**	**18 56 52.6**	**-4.0**
	71nm,0.8s						
DGS	**Degeres**	**4.46**	**23**	Pg	**Pb**	**18 55 52.6**	**+0.6**
	42nm,0.7s						
DGS				Lg	Lg	18 56 52.6	
	71nm,0.8s						
KK31	**Karatay Array**	**4.51**	**332**		**Pn**	**18 55 43.9**	**+1.9**
KK31	**Karatay Array**	**4.51**	**332**	⇑Pn	**Pn**	**18 55 43.9**	**+1.9**
	7.1nm,0.4s,baz=142,slow=12,SNR=204						
KK31				⇓Pg	**Pb**	**18 55 55.3**	**+2.6**
	21nm,0.5s,baz=141,slow=13,SNR=9.1						
KK31				⇑Sn	**Sn**	**18 56 37.5**	**+2.9**
	47nm,0.6s,baz=151,slow=27,SNR=9.8						
KK31				⇓Lg	Lg	18 56 55.1	
	24nm,0.5s						
KKAR	**Karatay Array**	**4.51**	**332**		**Pn**	**18 55 43.9**	**+2.0**
KKAR	**Karatay Array**	**4.51**	**332**		**Pn**	**18 55 43.4**	**+1.4**
MTBS	**Maitube**	**4.59**	**29**	*eP*	**Pb**	**18 55 54.4**	**+0.3**
	26nm,0.6s						
MTBS				*eS*	**Sb**	**18 56 55.7**	**+6.1**
	52nm,0.7s						
MTBS	**Maitube**	**4.59**	**29**	Pg	**Pb**	**18 55 54.4**	**+0.3**
	26nm,0.6s						
MTBS				Lg	Lg	18 56 55.7	
	52nm,0.7s						
TNSS	**Tian-Shan**	**4.72**	**34**	*eP*	**Pb**	**18 55 57.1**	**+0.6**
	27nm,0.5s						
TNSS				*eS*	**Sg**	**18 57 00.3**	**-4.5**
	35nm,0.6s						
TNSS	**Tian-Shan**	**4.72**	**34**	Pg	**Pb**	**18 55 57.1**	**+0.6**
	27nm,0.5s						
TNSS				Lg	Lg	18 57 00.3	
	35nm,0.6s						
AAA	**Alma-Ata**	**4.85**	**32**	*eP*	**Pb**	**18 56 00.4**	**+1.9**
	11nm,0.1s						
AAA				*eS*	**Sg**	**18 57 05.4**	**-3.5**
	148nm,0.8s						
KRBS	**Karabastau**	**4.86**	**20**	*eP*	**Pb**	**18 55 58.8**	**+0.2**
	14nm,0.4s						
KRBS				*eS*	**Sb**	**18 57 03.7**	**+6.5**
	45nm,0.7s						
KRBS	**Karabastau**	**4.86**	**20**	Pg	**Pb**	**18 55 58.8**	**+0.2**
	14nm,0.4s						
KRBS				Lg	Lg	18 57 03.7	
	45nm,0.7s						
MDOK	**Medeo**	**4.87**	**33**	*eP*	**Pb**	**18 55 59.0**	**+0.1**
	16nm,0.8s						
MDOK				*eS*	**Sb**	**18 57 03.5**	**+5.8**
	91nm,0.9s						
MDOK	**Medeo**	**4.87**	**33**	⇑Pn	**Pn**	**18 55 49.5**	**+2.5**
	6.5nm,0.6s						
MDOK				Pg	**Pb**	**18 55 59.0**	**+0.1**
	16nm,0.8s						
MDOK				⇑Pg	Pg	18 56 02.6	-3.8
	15nm,0.5s						
MDOK				Lg	Lg	18 57 03.5	
	91nm,0.9s						
MDOK				⇑Lg	Lg	18 57 05.9	
	130nm,0.9s						
KNDC	**Almaty**	**4.88**	**32**	⇓Pg	**Pb**	**18 56 01.2**	**+2.2**
	56nm,0.6s						
KNDC				⇓Lg	Lg	18 57 08.4	
	346nm,0.9s						
KOTS	**Kotyrbulak**	**4.95**	**33**	*eP*	**Pb**	**18 56 00.2**	**-0.2**
	22nm,0.6s						
KOTS				*eS*	**Sb**	**18 57 06.0**	**+5.9**
	122nm,0.8s

THW	**Thamme Wali**	**6.48**	**192**	P	**Pn**	**18 56 11.9**	**+2.8**
MK31	**Makanchi Array**	**10.04**	**38**		**Pn**	**18 56 59.0**	**+1.2**
MK31	**Makanchi Array**	**10.04**	**38**	Pn	**Pn**	**18 57 00.7**	**+2.9**
	3.5nm,0.9s,baz=2.5,slow=22,SNR=6.3						
MKAR	**Makanchi Array**	**10.04**	**38**	Pn	Pn	18 57 03.0	+5.2
	0.1nm,0.3s,baz=221,slow=13,SNR=5.4						
	1.5nm,1.0s						
HRA	**Herat**	**10.13**	**245**	Pn	**Pn**	**18 56 59.0**	**-0.2**
WMQ	**Urumqi**	**11.70**	**62**	*eP*	**Pn**	**18 57 23.3**	**+2.8**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GEYT	**Alibeck**	**12.03**	**269**	Pn	**Pn**	**18 57 22.6**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=116,slow=11,SNR=5.1						
GEYT				Sn	**Sn**	**18 59 37.0**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=88,slow=21,SNR=5.6						
	comp=Z,1.5nm,0.5s						
GEYT	**Alibeck**	**12.03**	**269**	Pn	**Pn**	**18 57 22.0**	**-3.0**
GYA0B	**ALIBECK ARRAY**	**12.03**	**269**	Pn	**Pn**	**18 57 21.6**	**-3.5**
KURBB	**Kurchatov Arra**	**12.03**	**16**	Pn	**Pn**	**18 57 24.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=5.8						
KURBB				Lg	Lg	19 00 51.7	
	baz=207,slow=28,SNR=5.0						
	comp=Z,0.2nm,0.2s						
AB31	**Akbulak array**	**13.95**	**321**	P	**Pn**	**18 57 48.4**	**-2.8**
	comp=Z,1.2nm,0.5s,baz=130,slow=13,SNR=42						
ABKAR	**Akbulak array**	**13.95**	**321**		**Pn**	**18 57 48.7**	**-2.5**
ABKAR	**Akbulak array**	**13.95**	**321**	Pn	**Pn**	**18 57 48.0**	**-3.2**
BVAR	**Borovoye Array**	**14.03**	**352**	Pn	**Pn**	**18 57 50.3**	**-2.0**
	baz=165,slow=14,SNR=11						
BVAR				LR	LR	19 03 35.8	
	comp=Z,3µm,19.4s,baz=86,slow=39						
	comp=Z,2.5nm,0.8s						
BRVK	**Borovoye**	**14.08**	**352**		**Pn**	**18 57 51.6**	**-1.3**
AKTO	**Aktyubinsk**	**15.66**	**321**	⇑P	**Pn**	**18 58 12.8**	**-1.5**
	comp=Z,5.2nm,1.0s						
ZAA0	**Zalesovo Array**	**16.73**	**24**		**Pn**	**18 58 25.5**	**-2.3**
ZAA0				IAmb	IAmb	18 58 46.3	
	comp=Z,11nm,1.0s						
ZALV	**Zalesovo Beam**	**16.73**	**24**	Pn	**Pn**	**18 58 28.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=211,slow=12,SNR=5.9						
	comp=Z,1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**16.73**	**24**	P	**Pn**	**18 58 28.5**	**+0.7**
GTA	**Gaotai**	**20.43**	**81**	*eP*	Pn	18 59 14.9	+1.6
GTA				pP	sP	18 59 22.5	+6.7
GTA				sP	pP	18 59 27.4	+13
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GNI	**Garni**	**22.05**	**282**	P	**P**	**18 59 30.3**	**+1.7**
	comp=Z,11nm,0.9s,baz=154,slow=24,SNR=4.4						
GNI	**Garni**	**22.05**	**282**	P	**P**	**18 59 29.8**	**+1.2**
GNI				IAmb	IAmb	18 59 34.6	
	comp=Z,27nm,1.2s						
ONI	**Oni**	**22.84**	**288**	P	**P**	**18 59 37.1**	**+0.2**
ONI				IAmb	IAmb	18 59 42.3	
	comp=Z,6.4nm,0.9s						
SONM	**Songino Array**	**25.31**	**59**	P	**P**	**19 00 03.1**	**+2.6**
	comp=Z,1.5nm,0.8s,baz=258,slow=12,SNR=2.3						
	comp=Z,1.5nm,0.8s						
BRTR	**Keskin Array B**	**30.54**	**284**	P	**P**	**19 00 47.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=92,slow=9.2,SNR=2.2						
	comp=Z,0.6nm,0.6s						
AKBB	**Malin Array Si**	**32.87**	**305**		**P**	**19 01 07.9**	**+0.4**
FINES	**FINESS Array B**	**36.41**	**323**	P	**P**	**19 01 37.3**	**-0.7**
	comp=Z,8.4nm,1.0s,baz=122,slow=6.9,SNR=5.6						
	comp=Z,8.4nm,1.0s						
NJ2	**Nanjing**	**37.33**	**87**	*eP*	**P**	**19 01 50.3**	**+4.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ARCES	**ARCESS Array B**	**39.47**	**336**	P	**P**	**19 02 02.5**	**-1.2**
	comp=Z,4.3nm,0.9s,baz=110,slow=7.8,SNR=3.6						
	comp=Z,4.3nm,0.9s						
NOA	**NORSAR Array B**	**43.45**	**321**	P	**P**	**19 02 34.8**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=94,slow=7.6,SNR=2.4						
	comp=Z,0.8nm,0.6s						
ESDC	**Sonseca Array**	**57.91**	**297**	P	**P**	**19 04 25.4**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=57,slow=6.6,SNR=1.2						
	comp=Z,0.7nm,0.7s						
VNDA	**Vanda**	**127.53**	**164**		**PKPdf**	**19 13 35.2**	**-2.4**
SBA	**Scott Base**	**128.62**	**164**		**PKPdf**	**19 13 37.5**	**-2.2**

ROM 24 18:55:04.2±0.1, 42.899N±0.002×13.150E±0.003, h9km, ML1.6/8, 10C-7D, Error ellipse: s-maj=0.2km s-min=0.1km az=134.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.03**	**65**	⇓P	Pg	18 55 06.0	-0.2
MC2				S	Sg	18 55 07.0	-0.6
T1245	**Castelsantange**	**0.05**	**146**	⇑P	Pg	18 55 06.4	+0.1
T1245				S	Sg	18 55 07.8	+0.1
T1245				AML	AML		
	comp=E,5085µm,0.2s						
T1245				AML	AML		
	comp=N,5370µm,1.6s						
T1245				AML	AML		
	comp=N,5415µm,1.6s						
T1245				AML	AML		
	comp=E,5090µm,0.2s						
T1245				AML	AML		
	comp=N,5370µm,1.6s						
T1245				AML	AML		
	comp=E,5085µm,0.2s						
T1245				AML	AML		
	comp=E,5005µm,0.2s						
NRCA	**Norcia**	**0.07**	**202**	⇑P	Pg	18 55 06.7	+0.3
NRCA				S	Sg	18 55 08.6	+0.6
NRCA				AML	AML		
	comp=E,2110µm,0.8s						
NRCA				AML	AML		
	comp=N,1835µm,0.5s						
NRCA				AML	AML		
	comp=E,2110µm,0.8s						
NRCA				AML	AML		
	comp=N,1750µm,0.4s						
NRCA				AML	AML		
	comp=E,2315µm,0.8s						
NRCA				AML	AML		
	comp=N,1331µm,0.1s						
NRCA				AML	AML		
	comp=E,1942µm,0.1s						
NRCA				AML	AML		
	comp=E,1767µm,0.1s						
T1216	**Preci, Frazion**	**0.10**	**265**	⇑P	Pg	18 55 07.0	+0.4
T1216				S	Sg	18 55 09.1	+0.7
T1216				AML	AML		
	comp=E,2065µm,0.3s						
T1216				AML	AML		
	comp=E,2060µm,0.3s						
T1216				AML	AML		
	comp=N,1125µm,0.2s						
T1256	**Bolognola (MC)**	**0.12**	**28**	⇑P	Pg	18 55 07.4	+0.3
T1256				S	Sg	18 55 09.9	+0.7
T1256				AML	AML		
	comp=E,622µm,0.4s						
T1256				AML	AML		
	comp=E,599µm,0.4s						
T1256				AML	AML		
	comp=N,412µm,0.6s						
T1256				AML	AML		
	comp=N,412µm,0.6s						
T1256				AML	AML		
	comp=N,468µm,1.3s						
T1256				AML	AML		
	comp=E,598µm,0.4s						
MMO1	**Montemonaco**	**0.13**	**90**	⇑P	Pg	18 55 07.6	+0.5
MMO1				S	Sg	18 55 10.1	+0.8
FDMO	**Fiordimonte**	**0.14**	**342**	⇓P	Pg	18 55 07.9	+0.5
FDMO				S	Sg	18 55 10.5	+0.8
T1219	**Muccia, Frazio**	**0.19**	**326**	P	Pg	18 55 08.5	+0.4
T1219				S	Sg	18 55 11.9	+1.1
T1219				AML	AML		
	comp=E,266µm,0.7s						
T1219				AML	AML		
	comp=N,351µm,0.5s						
T1219				AML	AML		
	comp=N,264µm,0.5s						
T1219				AML	AML		
	comp=E,266µm,0.7s						
T1219				AML	AML		
	comp=E,267µm,1.4s						
T1219				AML	AML		
	comp=N,264µm,0.5s						
T1219				AML	AML		
	comp=N,352µm,0.5s						
CSP1	**Cessapalombo**	**0.20**	**12**	P	Pg	18 55 08.7	+0.4
CSP1				S	Sg	18 55 12.3	+1.2
CSP1				AML	AML		
	comp=N,335µm,0.8s						
CSP1				AML	AML		
	comp=E,318µm,1.2s						
CSP1				AML	AML		
	comp=N,336µm,0.8s						
CSP1				AML	AML		
	comp=E,318µm,1.2s						
CSP1				AML	AML		
	comp=N,260µm,0.1s						
CESI	**CESI - Serrava**	**0.21**	**301**	⇓P	Pg	18 55 09.4	+0.9
CESI				S	Sg	18 55 13.1	+1.6
CESI				AML	AML		
	comp=E,134µm,1.5s						
CESI				AML	AML		
	comp=N,246µm,0.5s						
CESI				AML	AML		
	comp=N,235µm,0.8s						
CESI				AML	AML		
	comp=E,123µm,0.4s						
T1241	**Roccafluvione,**	**0.21**	**102**	⇓P	Pg	18 55 09.3	+0.8
T1241				S	Sg	18 55 13.0	+1.5
T1241				AML	AML		
	comp=E,185µm,1.3s						
T1241				AML	AML		
	comp=N,148µm,1.3s						
T1241				AML	AML		
	comp=E,115µm,0.2s						
T1241				AML	AML		
	comp=N,89µm,0.2s						
GUMA	**Gualdo di Mace**	**0.21**	**40**	⇑P	Pg	18 55 09.4	+0.8
GUMA				S	Sg	18 55 13.6	+2.0
GUMA				AML	AML		
	comp=E,509µm,1.6s						
GUMA				AML	AML		
	comp=N,504µm,1.3s						
GUMA				AML	AML		
	comp=E,404µm,0.6s						
GUMA				AML	AML		
	comp=N,486µm,1.4s						
GUMA				AML	AML		
	comp=N,476µm,0.2s						
GUMA				AML	AML		
	comp=N,542µm,1.8s						
T1215	**Vallo di Nera,**	**0.23**	**245**	⇑P	Pg	18 55 09.6	+0.7
T1215				S	Sg	18 55 13.4	+1.4
T1215				AML	AML		
	comp=E,170µm,0.4s						
T1215				AML	AML		
	comp=N,156µm,0.5s						
T1215				AML	AML		
	comp=N,97µm,0.3s						
T1218	**Civita (PG)**	**0.23**	**186**	⇓P	Pg	18 55 09.6	+0.7
T1218				AML	AML		
	comp=E,426µm,0.2s						
T1218				AML	AML		
	comp=N,674µm,0.2s						
T1218				AML	AML		
	comp=E,410µm,0.2s						
T1218				AML	AML		
	comp=N,685µm,0.2s						
T1243	**Rocca Santa Ma**	**0.30**	**133**	P	Pg	18 55 10.9	+0.7
SMA1	**SAN MARTINO**	**0.30**	**153**	⇓P	Pg	18 55 11.0	+0.8
SMA1				AML	AML		
	comp=E,110µm,1.5s						
SMA1				AML	AML		
	comp=N,126µm,0.4s						
LNSS	**Leonessa**	**0.31**	**195**	P	Pb	18 55 11.1	-0.8
SNTG	**Esanatoglia**	**0.39**	**337**	P	Pg	18 55 12.2	+0.4
SNTG				AML	AML		
	comp=E,103µm,0.6s						
SNTG				AML	AML		
	comp=N,100µm,0.2s						
ASSB	**Assisi San Ben**	**0.39**	**292**	P	Pg	18 55 12.5	+0.7
ASSB				AML	AML		
	comp=E,115µm,0.5s						
ASSB				AML	AML		
	comp=N,116µm,1.0s						
RM33	**Pellescritta (**	**0.39**	**173**	⇑P	Pg	18 55 12.4	+0.5
RM33				AML	AML		
	comp=E,91µm,1.0s						
RM33				AML	AML		
	comp=N,176µm,0.4s						
RM33				AML	AML		
	comp=N,176µm,0.4s						
RM33				AML	AML		
	comp=E,65µm,0.4s						
CAMP	**Campotosto**	**0.41**	**152**	P	Pg	18 55 12.7	+0.5
CAMP				AML	AML		
	comp=E,79µm,1.3s						
CAMP				AML	AML		
	comp=N,69µm,0.2s						
T1211	**Morro Reatino**	**0.42**	**211**	⇑P	Pb	18 55 13.3	-0.6
T1211				AML	AML		
	comp=E,240µm,1.5s						
T1211				AML	AML		
	comp=N,174µm,1.0s						
EL6	**Elcito**	**0.43**	**355**	⇑P	Pg	18 55 13.0	+0.4
EL6				AML	AML		
	comp=E,266µm,0.6s						
EL6				AML	AML		
	comp=N,312µm,0.4s						
TERO	**Teramo**	**0.43**	**129**	P	Pg	18 55 13.1	+0.5
TERO				AML	AML		
	comp=E,63µm,1.5s						
TERO				AML	AML		
	comp=N,73µm,0.1s						
CING	**Cingoli**	**0.48**	**4**	⇓P	Pb	18 55 14.2	-0.6
CING				AML	AML		
	comp=N,79µm,0.2s						
CING				AML	AML		
	comp=E,64µm,0.7s						
CESX	**Cesi**	**0.51**	**236**	S	Sb	18 55 23.0	+0.2

*SNET **24** 18:59:32.2±0.8, 12.06N×89.06W, h5km, ML4.3*
*NEIC **24** 18:59:34.1±2.7, 12.17N±0.07×88.99W±0.09, h10km±2km, Md4.3(SNET), Error ellipse: s-maj=17.5km s-min=7.9km az=239.0*

ISC 24 18:59:33.3±1.0, 12.10N±0.07×89.03W±0.08, h10km, n34, σ1§43/34, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.51**	**359**	*eP*	**Pn**	**18 59 60.0**	**-0.6**
PACA	**Pacayal**	**1.53**	**27**	*eP*	**Pb**	**19 00 01.1**	**-0.7**
PQSS	**Presa 15 de Se**	**1.58**	**17**	*eP*	**Pb**	**19 00 01.8**	**-0.9**
SNET	**Serv Nac Est T**	**1.59**	**353**	Pn	**Pn**	**18 59 59.9**	**-1.7**
JAYA	**Jayaque - finc**	**1.60**	**345**	*eP*	**Pn**	**19 00 00.9**	**-0.9**
LCND	**La Caada**	**1.64**	**43**	*eP*	**Pn**	**19 00 02.1**	**-0.1**
BOQS	**Boqueron**	**1.64**	**352**	*eP*	**Pn**	**19 00 02.1**	**-0.3**
CNCH	**Conchagua**	**1.65**	**45**	*eP*	**Pn**	**19 00 02.6**	**+0.1**
CEVE	**Cerro Verde**	**1.81**	**342**	*eP*	**Pn**	**19 00 04.4**	**-0.4**
NUBE	**Las Nubes**	**1.93**	**338**	*eP*	**Pn**	**19 00 05.4**	**-0.9**
CRIN	**San Cristobal**	**2.03**	**73**	Pn	**Pn**	**19 00 08.3**	**+0.7**
SLOZ	**Alcaldia de Sa**	**2.05**	**339**	*eP*	**Pn**	**19 00 07.5**	**-0.4**
MTO3	**Montecristo**	**2.31**	**352**	Pn	**Pn**	**19 00 11.4**	**-0.1**
MTO3				Sn	**Sn**	**19 00 39.8**	**-0.3**
MTO3	**Montecristo**	**2.31**	**352**	*eP*	**Pn**	**19 00 11.6**	**+0.1**
CNGN	**Cerro Negro**	**2.32**	**80**	Pn	**Pn**	**19 00 10.8**	**-0.7**
ESQI	**Esquipulas**	**2.46**	**353**	Pn	**Pn**	**19 00 13.6**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.59**	**41**	Pn	**Pn**	**19 00 15.7**	**+0.3**
MATN	**Matagalpa**	**3.15**	**74**	Pn	**Pn**	**19 00 21.9**	**-1.1**
BOAB	**BOACO BROADBAN**	**3.31**	**84**	Pn	**Pn**	**19 00 22.8**	**-2.4**
HZTE	**Horizontes, Gu**	**3.64**	**112**	Pn	**Pn**	**19 00 29.9**	**+0.2**
ACON	**Acoyapa**	**3.78**	**92**	Pn	**Pn**	**19 00 30.8**	**-0.8**
ORTG	**Ortega, Santa**	**3.91**	**116**	Pn	**Pn**	**19 00 31.7**	**-1.8**
JTS	**Las Juntas de**	**4.39**	**114**	Pn	**Pn**	**19 00 38.8**	**-1.3**
JACO	**JACO, Garabito**	**4.93**	**119**	Pn	**Pn**	**19 00 44.5**	**-3.0**
RIMA	**Rio Macho**	**5.58**	**114**	Pn	**Pn**	**19 00 57.2**	**+0.6**
SRBA	**San Rafael, Bu**	**6.26**	**117**	Pn	**Pn**	**19 01 06.5**	**+0.7**
BOSC	**San Juan Bosco**	**18.42**	**145**		**P**	**19 03 46.4**	**-2.7**
435B	**Jarrell**	**20.21**	**338**		Pn	19 04 09.8	-0.5
U59A	**Littleton**	**26.19**	**21**	P	**P**	**19 05 07.2**	**-0.8**
MEDO	**Medina**	**32.28**	**15**	P	**P**	**19 06 03.2**	**+1.1**
RWWY	**Rawlins**	**33.49**	**335**	P	**P**	**19 06 11.9**	**-1.2**
SADO	**Sadowa**	**33.64**	**13**	P	**P**	**19 06 14.2**	**+0.1**
DELO	**Deloro Mine**	**33.76**	**15**	P	**P**	**19 06 17.8**	**+2.7**
GO01	**Chusmiza**	**37.13**	**148**	P	**P**	**19 06 48.8**	**+3.9**

*IDC **24** 19:04:08.1±1.0, 12.06N×89.09W, h0km, mb3.9/9, mbtmp4.0/12, ML3.7/3, Error ellipse: s-maj=35.2km s-min=16.9km az=45.0*

*NEIC **24** 19:04:10.2±2.1, 12.12N±0.08×89.07W±0.04, h10km±2km, mb4.7/5, Md4.6(SNET), Error ellipse: s-maj=15.2km s-min=3.0km az=201.0*
*SNET **24** 19:04:10.1±0.6, 12.00N×89.06W, h10km, ML4.6*
*UCR **24** 19:04:10.8±1.3, 12.06N×89.08W, h9km±13km, MW4.0*
*INET **24** 19:04:11.5±0.5, 11.98N×89.04W, h11km±6km, MW3.8*

ISC 24 19:04:09.6±0.7, 12.08N±0.07×89.09W±0.07, h10km, n88, σ1§07/92, mb4.1/11, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.54**	**1**	*eP*	**Pn**	**19 04 38.2**	**+1.0**
LFRS	**El Faro**	**1.54**	**1**	*eP*	**Pn**	**19 04 38.2**	**+1.0**
VSM	**San Miguel**	**1.56**	**31**	*eP*	**Pn**	**19 04 38.6**	**+0.9**
VSM	**San Miguel**	**1.56**	**31**	*eP*	**Pn**	**19 04 38.6**	**+0.9**
PACA	**Pacayal**	**1.57**	**28**	*eP*	**Pn**	**19 04 39.0**	**+1.2**
PACA	**Pacayal**	**1.57**	**28**	*eP*	**Pn**	**19 04 39.0**	**+1.2**
SNET	**Serv Nac Est T**	**1.60**	**355**	Pn	**Pn**	**19 04 36.7**	**-1.4**
LFU	**La Fuente**	**1.66**	**359**	*eP*	**Pn**	**19 04 40.1**	**+1.2**
LFU	**La Fuente**	**1.66**	**359**	*eP*	**Pn**	**19 04 40.1**	**+1.2**
CNCH	**Conchagua**	**1.71**	**46**	*eP*	**Pn**	**19 04 40.5**	**+0.9**
CNCH	**Conchagua**	**1.71**	**46**	*eP*	**Pn**	**19 04 40.5**	**+0.9**
SBLS	**San Blas**	**1.82**	**344**	*eP*	**Pn**	**19 04 43.0**	**+1.7**
SBLS	**San Blas**	**1.82**	**344**	*eP*	**Pn**	**19 04 43.0**	**+1.7**
SNJE	**San Jose**	**1.85**	**344**	*eP*	**Pn**	**19 04 43.0**	**+1.4**
SNJE	**San Jose**	**1.85**	**344**	*eP*	**Pn**	**19 04 43.0**	**+1.4**
CAHU	**Cacacuatique**	**1.89**	**27**	*eP*	**Pn**	**19 04 43.8**	**+1.6**
CAHU	**Cacacuatique**	**1.89**	**27**	*eP*	**Pn**	**19 04 43.8**	**+1.6**
P5NO	**Presa 5 de nov**	**1.92**	**10**	*eP*	**Pn**	**19 04 43.8**	**+1.3**
CRIN	**San Cristobal**	**2.09**	**73**		**Pn**	**19 04 44.7**	**-0.1**
CRIN	**San Cristobal**	**2.09**	**73**	*eP*	**Pn**	**19 04 44.9**	**+0.1**
MTO3	**Montecristo**	**2.32**	**354**	Pn	**Pn**	**19 04 48.1**	**0.0**
CNGN	**Cerro Negro**	**2.38**	**80**		**Pn**	**19 04 48.1**	**-0.6**
ESQI	**Esquipulas**	**2.48**	**354**	Pn	**Pn**	**19 04 50.4**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.65**	**42**		**Pn**	**19 04 53.9**	**+1.4**
WILN	**Americas 2**	**2.84**	**88**	*eP*	**Pn**	**19 04 55.0**	**-0.1**
MATN	**Matagalpa**	**3.21**	**74**		**Pn**	**19 04 59.7**	**-0.5**
BOAB	**BOACO BROADBAN**	**3.37**	**83**		**Pn**	**19 05 01.8**	**-0.5**
CONN	**Concepcion**	**3.43**	**98**	*eP*	**Pn**	**19 05 02.4**	**-0.9**
HZTE	**Horizontes, Gu**	**3.69**	**111**		**Pn**	**19 05 07.3**	**+0.5**
GBS2	**Las Lilas**	**3.78**	**109**	*eP*	**Pn**	**19 05 09.3**	**+1.4**
GBS3	**Finca Las Img**	**3.79**	**110**	*eP*	**Pn**	**19 05 09.2**	**+1.0**
LAPC	**Finca la Perla**	**3.82**	**110**	*eP*	**Pn**	**19 05 09.2**	**+0.7**
BUEV	**Buena Vista**	**3.83**	**109**	*eP*	**Pn**	**19 05 09.8**	**+1.1**
GB1A	**Borinquen Arri**	**3.83**	**109**	*eP*	**Pn**	**19 05 10.2**	**+1.3**
ACON	**Acoyapa**	**3.83**	**91**		**Pn**	**19 05 08.2**	**-0.6**
ACON	**Acoyapa**	**3.83**	**91**	*eP*	**Pn**	**19 05 08.4**	**-0.4**
SAJU	**San Juanillo,**	**3.88**	**121**	*eP*	**Pn**	**19 05 08.9**	**-0.4**
GPS3	**Bodega del ICE**	**3.88**	**109**	*eP*	**Pn**	**19 05 10.6**	**+1.1**
GPS3				*eS*	**Sn**	**19 05 56.7**	**+1.5**
GPS1	**Guardaparques**	**3.89**	**109**	*eP*	**Pn**	**19 05 10.6**	**+1.0**
GPS2	**Hotel Rincn d**	**3.90**	**109**	*eP*	**Pn**	**19 05 10.4**	**+0.8**
ORTG	**Ortega, Santa**	**3.95**	**115**		**Pn**	**19 05 10.6**	**+0.1**
ORTG	**Ortega, Santa**	**3.95**	**115**	*eP*	**Pn**	**19 05 10.8**	**+0.4**
GUAB	**Guayabo de Bag**	**4.03**	**109**	*eP*	**Pn**	**19 05 12.6**	**+1.1**
DUNO	**Dulce Nombre,**	**4.05**	**119**	Pn	**Pn**	**19 05 11.8**	**0.0**
COLC	**Colonia**	**4.06**	**110**	*eP*	**Pn**	**19 05 13.3**	**+1.4**
NICO	**Nicoya**	**4.07**	**118**	*eP*	**Pn**	**19 05 12.2**	**+0.2**
HORNC	**Hornillas**	**4.07**	**109**	*eP*	**Pn**	**19 05 13.4**	**+1.3**
VMAR	**Armenia, Volca**	**4.09**	**108**	*eP*	**Pn**	**19 05 13.3**	**+1.0**
CUI	**Cuipilapa**	**4.10**	**110**	*eP*	**Pn**	**19 05 13.7**	**+1.2**
INDI	**Punta indio, G**	**4.16**	**122**	*eP*	**Pn**	**19 05 13.2**	**0.0**
ACAL	**Aguas Claras**	**4.23**	**109**	*eP*	**Pn**	**19 05 15.5**	**+1.2**
VERA	**Finca Concepci**	**4.32**	**106**	*eP*	**Pn**	**19 05 16.3**	**+0.9**
JTS	**Las Juntas de**	**4.43**	**113**	Pn	**Pn**	**19 05 18.1**	**+1.1**
	12nm,0.3s,baz=24,slow=14,SNR=36						
JTS				Sn	**Sn**	**19 06 07.5**	**-1.3**
	33nm,0.3s,baz=346,slow=19,SNR=9.2						
	30nm,0.4s						
JTS	**Las Juntas de**	**4.43**	**113**	*eP*	**Pn**	**19 05 18.2**	**+1.1**
CASO	**Castillo**	**4.58**	**110**	*eP*	**Pn**	**19 05 20.1**	**+1.1**
CEDE	**Laguna Cedeo**	**4.59**	**110**	*eP*	**Pn**	**19 05 20.7**	**+1.5**
VACR	**Volcan Arenal**	**4.62**	**110**	*eP*	**Pn**	**19 05 20.8**	**+1.2**
FORC	**Fortuna**	**4.62**	**110**	*eP*	**Pn**	**19 05 20.6**	**+1.0**
JACO	**JACO, Garabito**	**4.97**	**118**		**Pn**	**19 05 25.1**	**+0.7**
OCM	**Ochomogo**	**5.49**	**113**	*eP*	**Pn**	**19 05 33.3**	**+1.6**
LCR2	**La Lucha 2**	**5.51**	**114**	*eP*	**Pn**	**19 05 33.6**	**+1.6**
RIMA	**Rio Macho**	**5.63**	**114**		**Pn**	**19 05 34.6**	**+1.0**
CDM	**Cerro de Muert**	**5.80**	**115**	*eP*	**Pn**	**19 05 37.8**	**+1.6**
BATAN	**Batan**	**5.95**	**109**	Pn	**Pn**	**19 05 38.7**	**+0.9**
BATAN	**Batan**	**5.95**	**109**	*eP*	**Pn**	**19 05 39.5**	**+1.7**
PEZE	**Perez Zeledon,**	**5.96**	**116**	Pn	**Pn**	**19 05 39.7**	**+1.6**
SRBA	**San Rafael, Bu**	**6.30**	**116**		**Pn**	**19 05 44.2**	**+1.4**
SRBA	**San Rafael, Bu**	**6.30**	**116**	*eP*	**Pn**	**19 05 44.2**	**+1.4**
BRU2	**Volcan**	**7.09**	**117**		**Pn**	**19 05 52.9**	**-0.8**
CMIG	**Matias Romero**	**7.50**	**312**	Pn	**Pn**	**19 05 58.5**	**-0.7**
	1.0nm,0.3s,baz=98,slow=13,SNR=4.4						
CMIG				Sn	**Sn**	**19 07 23.1**	**-1.2**
	0.3nm,0.3s,baz=72,slow=20,SNR=1.4						
	2.1nm,0.3s						
SDV	**Santo Domingo**	**18.43**	**98**	P	**P**	**19 08 25.3**	**-0.3**
	0.7nm,0.3s,baz=278,slow=6.5,SNR=4.0						
	4.3nm,0.5s						
435B	**Jarrell**	**20.20**	**338**	P	**P**	**19 08 45.2**	**+0.5**
435B				IAmb	IAmb	19 08 55.3	
	comp=Z,43nm,0.7s						
TXAR	**Lajitas Array**	**21.88**	**324**	P	**P**	**19 09 04.8**	**+1.9**
	comp=Z,1.8nm,0.8s,baz=148,slow=10.0,SNR=14						
	comp=Z,1.8nm,0.8s						
FCAR	**Ozark Folk Cen**	**23.86**	**354**	P	**P**	**19 09 23.6**	**+0.3**
FCAR				IAmb	IAmb	19 09 34.3	
	comp=Z,11nm,0.8s						
TKL	**Tuckaleechee C**	**23.96**	**11**	P	**P**	**19 09 24.2**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=179,slow=11,SNR=5.1						
	comp=Z,3.2nm,0.7s						
PCRV	**Puerto La Cruz**	**24.07**	**92**	P	**P**	**19 09 26.1**	**+0.6**
	comp=Z,4.7nm,0.5s,baz=112,slow=10,SNR=1.3						
	comp=Z,4.7nm,0.5s						
V53A	**Saluda**	**24.16**	**13**	P	**P**	**19 09 27.6**	**+1.4**
FNO	**Franklin**	**24.27**	**343**	P

AKCZ	Akaroa Harbour	1.18	177	P		Pn	19 13 13.8	-0.6
DSZ	Denniston Nort	1.21	321	P		Pn	19 13 14.2	-0.7
MHCZ	Mount Hutt	1.25	227	P		Pn	19 13 14.8	-0.6
BSWZ	Blackbirch Sta	1.25	39	P		Pn	19 13 15.4	+0.1
MRNZ	Matariki Terra	1.29	358	P		Pn	19 13 15.5	-0.5
CMWZ	Cape Campbell	1.40	48	P		Pb	19 13 18.5	+0.4
WACZ	Wakanui South	1.44	210	P		Pn	19 13 17.2	-0.8
TUWZ	Tuamarina	1.51	34	P		Pn	19 13 19.4	+0.5
NNZ	Nelson	1.53	16	P		Pn	19 13 19.2	0.0
WVZ	Waitaha Valley	1.58	255	P		Pn	19 13 20.4	+0.5
RPZ	Rata Peaks	1.65	231	P		Pn	19 13 21.0	+0.1
RPZ	Rata Peaks	1.65	231	P		Pn	19 13 20.3	-0.6
TKNZ	Takaka Hill	1.66	3	P		Pn	19 13 21.4	+0.4
ARCZ	Arundel	1.74	223	P		Pn	19 13 21.4	-0.7
TCW	Tory Channel	1.83	37	P		Pn	19 13 23.5	+0.1
QRZ	Quartz Range	1.88	353	P		Pn	19 13 25.2	+1.2
QRZ	Quartz Range	1.88	353	P		Pn	19 13 24.2	+0.2
GCSZ	Gaunt Creek Bo	1.94	250	P		Pn	19 13 25.6	+0.8
DUWZ	D'Urville Isla	2.06	24	P		Pn	19 13 27.6	+1.2
PLWZ	Palliser	2.12	59	P		Pn	19 13 26.5	-0.9
TMZ	Timaru	2.15	217	P		Pn	19 13 27.1	-0.6
MSWZ	Moikau Station	2.21	56	P		Pn	19 13 27.8	-0.8
CAW	Cannon Point	2.30	47	P		Pn	19 13 29.4	-0.4
PAWZ	Paruwai Farm	2.34	57	P		Pn	19 13 29.2	-1.1
FOZ	Fox Glacier	2.36	248	P		Pn	19 13 31.4	+0.8
KIW	Kapiti Island	2.40	41	P		Pn	19 13 31.1	-0.1
MTW	Mount Morrison	2.52	53	P		Pn	19 13 31.6	-1.1
LBZ	Lake Benmore	2.56	228	P		Pn	19 13 33.1	-0.3
OGWZ	Otaki Gorge	2.56	44	P		Pn	19 13 33.0	-0.5
HOWZ	Holdsworth Sta	2.69	49	P		Pn	19 13 34.0	-1.2
ODZ	Otahua Downs	2.83	213	P		Pn	19 13 37.4	+0.3
ODZ	Otahua Downs	2.83	213	P		Pn	19 13 36.1	-1.0
MRZ	Mangatainoka R	2.89	46	P		Pn	19 13 36.9	-1.0
BFZ	Birch Farm	3.25	53	P		Pn	19 13 42.5	-0.4
WAZ	Wanganui	3.35	30	P		Pn	19 13 46.7	+2.4
NMEZ	Namu Road	3.37	14	P		Pn	19 13 48.0	+3.5
LREZ	Lake Rotokare	3.44	21	P		Pb	19 13 51.0	-2.1
DVHZ	Dannevirke	3.46	47	P		Pn	19 13 43.8	-2.0
NBEZ	Newall Road No	3.51	13	P		Pn	19 13 48.8	+2.4
KHEZ	Kahui Hut	3.51	15	P		Pn	19 13 50.2	+3.7
KHEZ	Kahui Hut	3.51	15	P		Pn	19 13 50.1	+3.6
NEZ	North Egmont	3.55	16	P		Pn	19 13 50.5	+3.5
HHSZ	Highcliff Hill	3.57	206	P		Pn	19 13 47.2	0.0
EAZ	Earnscleugh	3.59	224	P		Pn	19 13 47.5	0.0
PKE	Pukeiti	3.60	14	P		Pn	19 13 50.6	+2.8
PNHZ	Pukenui	3.76	44	P		Pb	19 13 56.2	-2.4
MHEZ	Mangahewa	3.79	18	P		Pn	19 13 51.2	+1.0
VRZ	Vera Road	3.85	23	P		Pn	19 13 53.4	+2.3
WNVZ	Wahianoa	3.96	33	P		Pn	19 13 53.7	+1.0
TUZ	Tuapeka	3.99	214	P		Pn	19 13 52.3	-0.6
WHVZ	Whangaehu Hut	4.00	32	P		Pn	19 13 54.4	+1.1
FWVZ	Far West T-bar	4.00	32	P		Pn	19 13 53.9	+0.4
BHHZ	Black Hill Sta	4.03	38	P		Pn	19 13 53.0	-0.6
NGZ	Ngauruhoe	4.09	32	P		Pn	19 13 55.6	+1.0
OTVZ	Oturere	4.13	32	P		Pn	19 13 55.5	+0.4
NNVZ	North Ngauruho	4.14	32	P		Pn	19 13 58.6	+3.5
ETVZ	East Tongariro	4.17	33	P		Pn	19 13 55.9	+0.2
KRVZ	Karewarewa	4.18	32	P		Pn	19 13 59.1	+3.4
TMVZ	Te Maari	4.18	32	P		Pn	19 13 56.1	+0.3
NTVZ	North Tongarir	4.19	32	P		Pn	19 13 56.2	+0.4
HIZ	Hauiti	4.45	21	P		Pn	19 14 02.2	+2.8
HIZ	Hauiti	4.45	21	P		Pn	19 14 00.4	+1.0
BKZ	Black Stump Fm	4.48	39	P		Pb	19 14 09.6	-1.3
SYZ	Scrubby Hill	4.66	213	P		Pn	19 14 02.5	+0.3
SYZ	Scrubby Hill	4.66	213	P		Pn	19 14 01.9	-0.2
TLZ	Tolley Road	4.82	26	P		Pn	19 14 06.3	+1.8
TOZ	Tahuroa Road	5.38	213	P		Pn	19 14 13.0	+1.2
APZ	The Paps	5.38	218	P		Pn	19 14 12.0	-0.2
URZ	Urewera	5.50	38	P		Pb	19 14 22.3	-5.8
AWAZ	Awhitu Peninsu	5.79	15	P		Pn	19 14 19.5	+1.8
MKAZ	Moumakai	5.86	19	P		Pn	19 14 19.7	+1.0
WIAZ	Waiheke Island	6.15	18	P		Pn	19 14 25.0	+2.2

*PRU **24** 19:15:20.9±0.0,42.°74N×14.°21E,h10km*
ROM 24 19:15:23.8±0.0,42°94′N±0°002′×13°079′E±0°003,
h10km,ML2.9/7,Error ellipse: s-maj=0.2km
s-min=0.1km az=66.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.03**	**310**	P	Pg	19 15 25.9	+0.1
FEMA				S	Sg	19 15 27.1	-0.1
T1216	**Preci, Frazion**	**0.07**	**220**	P	Pg	19 15 26.4	+0.5
T1216				S	Sg	19 15 28.2	+0.6
T1216				AML	AML		
	comp=E,55550μm,1.0s						
T1216				AML	AML		
	comp=N,39950μm,0.4s						
T1216				AML	AML		
	comp=E,55550μm,1.0s						
MC2	**Monte Cornacci**	**0.09**	**111**	P	Pg	19 15 26.6	+0.3
MC2				S	Sg	19 15 28.7	+0.5
FDMO	**Fiordimonte**	**0.09**	**4**	P	Pg	19 15 26.6	+0.3
FDMO				S	Sg	19 15 28.5	+0.4
NRCA	**Norcia**	**0.11**	**167**	P	Pg	19 15 27.0	+0.4
NRCA				S	Sg	19 15 29.3	+0.7
T1245	**Castelsantange**	**0.12**	**137**	P	Pg	19 15 27.2	+0.5
T1245				S	Sg	19 15 29.6	+0.8
T1219	**Muccia, Frazio**	**0.12**	**335**	P	Pg	19 15 27.1	+0.4
T1219				S	Sg	19 15 29.4	+0.6
T1256	**Bolognola (MC)**	**0.12**	**60**	P	Pg	19 15 27.1	+0.3
T1256				S	Sg	19 15 29.6	+0.6
T1256				AML	AML		
	comp=E,17550μm,1.3s						
T1256				AML	AML		
	comp=N,33350μm,0.3s						
T1256				AML	AML		
	comp=E,17550μm,1.3s						
T1256				AML	AML		
	comp=N,33350μm,0.3s						
T1256				AML	AML		
	comp=N,31750μm,0.3s						
T1256				AML	AML		
	comp=E,19000μm,0.3s						
CESI	**CESI - Serrava**	**0.14**	**296**	P	Pg	19 15 27.6	+0.6
CESI				S	Sg	19 15 30.5	+1.2
CSP1	**Cessapalombo**	**0.17**	**32**	P	Pg	19 15 28.0	+0.5
CSP1				S	Sg	19 15 31.1	+0.9
MMO1	**Montemonaco**	**0.19**	**104**	P	Pg	19 15 28.3	+0.5
MMO1				S	Sg	19 15 31.6	+1.1
T1215	**Vallo di Nera,**	**0.21**	**228**	P	Pg	19 15 28.9	+0.7
T1215				S	Sg	19 15 32.4	+1.3
T1215				AML	AML		
	comp=E,3465μm,0.4s						
T1215				AML	AML		
	comp=N,4320μm,0.4s						
T1215				AML	AML		
	comp=E,3490μm,0.3s						
T1215				AML	AML		
	comp=N,4400μm,0.4s						
T1215				AML	AML		
	comp=E,3490μm,0.4s						
GUMA	**Gualdo di Mace**	**0.22**	**58**	P	Pg	19 15 29.2	+0.8
SEF1	**Sefro**	**0.23**	**335**	P	Pg	19 15 28.9	+0.4
T1241	**Roccafluvione,**	**0.27**	**109**	P	Pg	19 15 29.7	+0.4
T1241				S	Sb	19 15 34.3	-1.2
T1218	**Civita (PG)**	**0.28**	**174**	P	Pg	19 15 29.9	+0.6
T1218				S	Sb	19 15 34.5	-1.2
T1218				AML	AML		
	comp=E,6115μm,0.8s						
T1218				AML	AML		
	comp=E,5785μm,0.8s						
T1218				AML	AML		
	comp=N,9885μm,0.2s						
T1218				AML	AML		
	comp=E,6120μm,0.8s						
T1218				AML	AML		
	comp=N,9755μm,0.2s						
T1218				AML	AML		
	comp=E,5790μm,0.8s						
T1218				AML	AML		
	comp=N,9895μm,0.2s						
ASSB	**Assisi San Ben**	**0.32**	**288**	P	Pg	19 15 30.5	+0.2
SNTG	**Esanatoglia**	**0.33**	**342**	P	Pg	19 15 31.0	+0.7
LNSS	**Leonessa**	**0.34**	**185**	P	Pg	19 15 31.1	+0.5
LNSS				S	Sb	19 15 36.7	-0.8
LNSS				AML	AML		
	comp=E,2100μm,0.2s						
LNSS				AML	AML		
	comp=N,3920μm,0.9s						
LNSS				AML	AML		
	comp=E,2105μm,0.2s						
LNSS				AML	AML		
	comp=N,2918μm,0.4s						
MNTP	**Montappone**	**0.34**	**56**	P	Pb	19 15 31.5	-0.5
SMA1	**SAN MARTINO**	**0.36**	**149**	P	Pg	19 15 31.4	+0.3
T1243	**Rocca Santa Ma**	**0.37**	**132**	P	Pg	19 15 31.4	+0.4
T1243				S	Sb	19 15 37.6	-0.7
EL6	**Elcito**	**0.39**	**2**	P	Pg	19 15 31.8	+0.4
ATCC	**AVT- Casa Cast**	**0.40**	**307**	P	Pg	19 15 32.1	+0.4
FOSV	**Fossato di Vic**	**0.42**	**327**	P	Pg	19 15 32.6	+0.5
FOSV				S	Sb	19 15 39.2	-0.6
ARRO	**Arrone**	**0.43**	**212**	P	Pg	19 15 32.7	+0.5
ARRO				S	Sb	19 15 39.3	-0.7
ARRO				AML	AML		
	comp=E,1735μm,0.2s						
ARRO				AML	AML		
	comp=N,1310μm,0.2s						
CING	**Cingoli**	**0.44**	**11**	P	Pg	19 15 32.6	+0.3
T1211	**Morro Reatino**	**0.44**	**202**	P	Pg	19 15 32.9	+0.5
T1211				S	Sb	19 15 40.1	-0.4
T1211				AML	AML		
	comp=E,1385μm,0.4s						
T1211				AML	AML		
	comp=N,2830μm,0.2s						
T1211				AML	AML		
	comp=N,2830μm,0.2s						
T1211				AML	AML		
	comp=E,1385μm,1.4s						
OFFI	**Offida**	**0.45**	**91**	P	Pb	19 15 33.3	-0.4
RM33	**Pellescritta (**	**0.45**	**167**	P	Pg	19 15 33.0	+0.6
RM33				S	Sb	19 15 39.8	-0.8
RM33				AML	AML		
	comp=E,1155μm,0.3s						
RM33				AML	AML		
	comp=N,1250μm,1.5s						
RM33				AML	AML		
	comp=N,1190μm,1.5s						
RM33				AML	AML		
	comp=N,1250μm,1.5s						
RM33				AML	AML		
	comp=E,1185μm,0.3s						
RM33				AML	AML		
	comp=E,1160μm,0.3s						
CAMP	**Campotosto**	**0.47**	**149**	P	Pg	19 15 33.1	+0.1
CESX	**Cesi**	**0.50**	**228**	P	Pg	19 15 33.6	+0.2
MMUR	**Monte Murano**	**0.50**	**353**	P	Pb	19 15 34.2	-0.6
MMUR				S	Sb	19 15 41.8	-0.3
MMUR				AML	AML		
	comp=E,2299μm,1.6s						
MMUR				AML	AML		
	comp=N,1841μm,1.7s						
TERO	**Teramo**	**0.50**	**130**	P	Pg	19 15 33.8	+0.3
TERO				S	Sb	19 15 41.7	-0.4
TERO				AML	AML		
	comp=E,1370μm,1.6s						
TERO				AML	AML		
	comp=N,2405μm,0.5s						
TERO				AML	AML		
	comp=N,2570μm,0.5s						
TERO				AML	AML		
	comp=E,1370μm,0.7s						
TERO				AML	AML		
	comp=E,1545μm,0.7s						
MURB	**Monte Urbino**	**0.52**	**308**	P	Pg	19 15 34.2	+0.4
T1247	**Pizzolo (AQ)**	**0.53**	**162**	P	Pg	19 15 34.3	+0.3
SSFR	**Montelago di S**	**0.54**	**336**	P	Pg	19 15 34.6	+0.4
ATFO	**Monte Foce - G**	**0.56**	**319**	P	Pg	19 15 34.9	+0.2
PP3	**Marolino**	**0.58**	**42**	P	Pg	19 15 35.5	+0.5
GIGS	**Gran Sasso**	**0.61**	**144**	P	Pg	19 15 35.4	-0.2
ATVO	**AVT- Monte Val**	**0.66**	**312**	P	Pg	19 15 36.4	-0.1
FIAM	**Fiamignano**	**0.68**	**178**	P	Pg	19 15 36.9	+0.1
ATPI	**Pietralunga -**	**0.71**	**316**	P	Pg	19 15 37.5	+0.1
FAGN	**Fagnano**	**0.77**	**151**	P	Pg	19 15 38.6	0.0
ABTA	**Abfaltersbach**	**3.83**	**354**	*i* Pn	Pn	19 16 24.8	+2.0
	comp=E,2.6nm,0.4s						
KBA	**Koelnbreinsper**	**4.14**	**3**	*i* Pn	Pn	19 16 29.1	+2.0
	comp=E,1.2nm,0.2s						
FETA	**Feichten**	**4.41**	**339**	*i* Pn	Pb	19 16 38.0	-3.3
	comp=E,1.1nm,0.4s						
SQTA	**Sankt Quirin**	**4.48**	**343**	*e*Pn	Pn	19 16 35.4	+3.6
	comp=E,1.8nm,0.3s						
SQTA				*e*Sn	Sn	19 17 29.3	+5.3
	comp=E,3.5nm,0.3s						
RETA	**Reutte**	**4.83**	**341**	*e*Pn	Pn	19 16 39.5	+2.9
	comp=E,0.8nm,0.2s						
KHC	**Kasperske Hory**	**6.20**	**3**	*e*PN	Pn	19 16 54.1	-1.2
KHC				*e*SN	Sn	19 18 05.0	-1.2

KRSC 24 19:16:37.1±1.9,54°87′N×165°60′E,h31km±12km,ML3.8,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.40**	**33**	*e*P	Pb	19 16 45.8	-0.2
BKI				*e*S	Sb	19 16 50.2	-1.8
KBTR	**Krutoberegovo**	**2.07**	**312**	*e*P	Pn	19 17 10.7	+1.0
KBG	**Krutoberegovo**	**2.15**	**311**	S	Sn	19 17 38.2	+1.8
SMKR	**Semkarok**	**2.90**	**308**	*e*P	Pn	19 17 24.4	+3.3
SMKR				*e*S	Sn	19 17 57.9	+3.0
TUMD	**Tumrok D**	**3.01**	**279**	P	Pb	19 17 26.5	-3.4
TUMD				*e*S	Sn	19 18 01.6	+4.0
BDR	**Baidarnaya**	**3.01**	**306**	*e*S	Sb	19 18 02.2	-4.1
BZWR	**Bezymyannyi-We**	**3.11**	**293**	P	Pb	19 17 28.8	-2.9
BZWR				S	Sb	19 18 05.2	-3.9
KLY	**Klyuchi**	**3.16**	**299**	*e*S	Sn	19 18 02.2	+1.0
TUMR	**Tumrok**	**3.16**	**280**	P	Pb	19 17 29.5	-3.0
KRSR	**Krestovskiy**	**3.16**	**297**	P	Pb	19 17 29.4	-3.1
KRSR				S	Sn	19 18 04.9	+3.4
KIRR	**Kirishev**	**3.19**	**292**	S	Sb	19 18 07.5	-3.9
KMNR	**Kamenistaya**	**3.19**	**288**	*e*P	Pb	19 17 30.0	-3.0
KPT	**Kopyto**	**3.25**	**292**	*e*P	Pb	19 17 30.8	-3.3
KPT				S	Sb	19 18 09.6	-3.7
SRDR	**Sredinnyy**	**3.64**	**296**	S	Sn	19 18 18.5	+5.4
NLC	**Nalytchevo**	**4.06**	**248**	*e*S	Sn	19 18 27.5	+4.1
SDLR	**Sedlovina**	**4.26**	**251**	*e*P	Pn	19 17 45.2	+5.3
SDLR				*e*S	Sn	19 18 32.9	+4.3
SMAR	**Somma**	**4.31**	**251**	*e*P	Pn	19 17 46.0	+5.3
SMAR				*e*S	Sn	19 18 35.1	+5.1
KRER	**Koryakskii**	**4.33**	**252**	*e*P	Pn	19 17 46.6	+5.8
KRER				*e*S	Sn	19 18 34.2	+3.9
KOK	**Koryaka**	**4.39**	**252**	P	Pn	19 17 47.4	+5.7
DALK	**Dalny**	**4.44**	**248**	*e*P	Pn	19 17 48.0	+5.8
DALK				S	Sn	19 18 36.5	+3.7
PET	**Petropavlovsk**	**4.50**	**249**	S	Sn	19 18 38.2	+4.0
RUS	**Russkaya**	**4.87**	**243**	*e*P	Pn	19 17 53.4	+5.3
RUS				S	Sn	19 18 45.9	+2.6
KRMR	**Karymshinskiy**	**4.87**	**248**	*e*P	Pn	19 17 54.4	+6.3
KRMR				*e*S	Sn	19 18 47.3	+4.0
MTVR	**Mutnovka**	**5.01**	**245**	*e*P	Pn	19 17 56.0	+5.8
MTVR				*e*S	Sn	19 18 50.7	+3.6
GRL	**Gorelyy**	**5.03**	**246**	*e*P	Pn	19 17 56.5	+6.0
GRL				S	Sn	19 18 51.9	+4.3
KDTR	**Khodutka, Kamc**	**5.45**	**239**	P	Pn	19 18 01.0	+5.0
KDTR				*e*S	Sn	19 18 59.0	+1.4

*IDC **24** 19:22:09.5±1.4,36.°16N×142.°40E,h0km,mb3.6/6,*
mbtmp3.7/8,ML3.7/2,Error ellipse: s-maj=35.0km
s-min=21.7km az=60.0
*JMA **24** 19:22:15.0±0.3,36.°1N±0.°6×14.°2E±.°,h63km±4km,*
MV3.5/33,FAR E OFF IBARAKI PREF
ISC 24 19:22:14.6±1.1,36°08′N±0°06′×141°95′E±0°08,h23km,n27,
σ1s01/24,mb3.6/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.96**	**247**	P	**Pn**	**19 22 33.0**	**+0.4**
JHYU	**Hitachinakayam**	**1.13**	**284**	P	**Pn**	**19 22 35.1**	**+0.2**
JHYU				*e*S	**Sn**	**19 22 50.4**	**+0.6**
JIHU	**Itakohorinouch**	**1.16**	**265**	*e*P	**Pb**	**19 22 36.0**	**+0.1**
JHO	**Hitachi**	**1.23**	**296**	P	**Pn**	**19 22 36.0**	**-0.4**
BSO1	**Boso 1**	**1.62**	**209**	P	**Pn**	**19 22 42.3**	**+1.0**
BSO3	**Boso 3**	**1.73**	**223**	P	**Pn**	**19 22 43.8**	**+0.8**
JMM	**Marumori**	**2.01**	**333**	P	**Pn**	**19 22 47.9**	**+0.8**
JAG	**Ashikaga**	**2.04**	**281**	P	**Pn**	**19 22 48.0**	**+0.4**
JFY	**Yanaizu**	**2.24**	**307**	*e*P	**Pn**	**19 22 51.1**	**+0.8**
JKT	**Katashina**	**2.28**	**288**	P	**Pn**	**19 22 52.0**	**+1.1**
JOD2	**Odawara 2**	**2.46**	**252**	P	**Pn**	**19 22 54.5**	**+1.1**
JRY	**Ryogami san**	**2.47**	**270**	P	**Pn**	**19 22 53.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.05**	**280**	Pn	**Pn**	**19 23 02.3**	**+0.9**
	1.0nm,0.3s,baz=89,slow=9.9,SNR=38						
MJAR				Sn	**Sb**	**19 23 43.8**	**-1.2**
	0.7nm,0.3s,baz=85,slow=14,SNR=5.3						
	9.4nm,0.7s						
JHJ	**Hachijo jima 2**	**3.45**	**212**	Pn	**Pn**	**19 23 08.0**	**+1.2**
	116nm,0.3s,baz=245,slow=23,SNR=7.4						
JHJ				Sn	**Sn**	**19 23 45.6**	**-1.3**
	32nm,0.3s,baz=249,slow=21,SNR=1.6						
	302nm,0.4s						
H11N2	**WAKE ISLAND Hy 27.30**	**120**		T	T	19 56 38.6	
	baz=312,slow=75,SNR=4.3						
H11N1	**WAKE ISLAND Hy 27.30**	**120**		T	T	19 56 37.3	
	baz=312,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy 27.31**	**120**		T	T	19 56 40.8	
	baz=312,slow=75,SNR=3.9						
H11S1	**WAKE ISLAND Hy 27.98**	**122**		T	T	19 57 30.3	
	baz=314,slow=75,SNR=6.5						
H11S3	**WAKE ISLAND Hy 27.98**	**122**		T	T	19 57 29.6	
	baz=314,slow=75,SNR=5.6						
H11S2	**WAKE ISLAND Hy 28.00**	**122**		T	T	19 57 26.7	
	baz=314,slow=75,SNR=5.1						
SONM	**Songino Array**	**28.68**	**305**	P	**P**	**19 28 10.4**	**+0.6**
	0.9nm,0.7s,baz=105,slow=10.0,SNR=5.8						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**42.88**	**313**	P	**P**	**19 30 10.8**	**-0.1**
	0.6nm,0.5s,baz=99,slow=7.6,SNR=1.6						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**44.99**	**303**	P	**P**	**19 30 29.0**	**+0.9**
	0.5nm,0.6s,baz=91,slow=10,SNR=7.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**46.93**	**309**	P	**P**	**19 30 44.1**	**+0.9**
	0.8nm,0.4s,baz=87,slow=8.1,SNR=5.9						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**56.18**	**189**	P	**P**	**19 31 52.0**	**-0.7**
	0.5nm,0.7s,baz=6.2,slow=7.4,SNR=4.5						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**59.90**	**189**	P	**P**	**19 32 18.9**	**+0.2**
	0.1nm,0.3s,baz=18,slow=12,SNR=1.7						
	0.1nm,0.3s						
LPAZ	**La Paz**	**146.79**	**61**	PKPbc	**PKPdf**	**19 41 51.7**	**-2.5**
	0.4nm,0.4s,baz=277,slow=11,SNR=2.0						

*NDI **24** 19:27:25.8±2.6,17.°25N×73.°84E,h10km,ML4.3*
ISC 24 19:27:25.8±1.1,17°28′N±0°05′×73°83′E±0°07,h17km,n11,
σ1s32/16,1C,Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAD	**Karad**	**0.34**	**86**	*i* P	**Pg**	**19 27 32.8**	**-0.1**
KAD				*i* S	**Sb**	**19 27 38.3**	**-0.2**
POO	**Poona**	**1.24**	**1**	*e*P	**Pg**	**19 27 50.0**	**+0.2**
POO				*e*S	**Sg**	**19 28 06.8**	**+0.8**
POO				IAML		19 28 08.6	
	comp=E,4μm,0.2s						
POO				IAML		19 28 08.6	
	comp=N,3μm,0.1s						
GOA	**Goa**	**1.78**	**180**	*e*P	**Pn**	**19 27 56.5**	**+0.6**
GOA				*e*S	**Sb**	**19 28 19.6**	**-0.6**
GOA				IAML		19 28 20.2	
	comp=E,4μm,0.4s						
GOA				IAML		19 28 20.9	
	comp=N,3μm,0.1s						
HYB	**Hyderabad**	**4.51**	**88**	*e*P	**Pn**	**19 28 33.7**	**+0.3**
HYB				*e*S	**Sn**	**19 29 26.8**	**+1.3**
HYB				IAML		19 29 48.6	
	comp=E,1μm,0.2s						
HYB				IAML		19 29 48.7	
	comp=N,5μm,0.3s						
PCHI	**Peechi**	**7.14**	**160**	*e*P	**Pn**	**19 29 11.4**	**+1.8**
PCHI				*e*S	**Sn**	**19 30 30.4**	**0.0**
JBP	**Jabalpur**	**8.22**	**44**	*e*P	**Pn**	**19 29 23.7**	**-0.6**
DANN	**Dangsing**	**14.31**	**38**	*e*P	**Pn**	**19 30 48.1**	**+0.1**
	comp=N,2.5nm,0.3s						
GKN	**Gorkha**	**14.59**	**41**	*e*P	**Pn**	**19 30 49.6**	**-2.2**
	comp=N,3.8nm,0.3s						
PKIN	**Phulchoki**	**14.79**	**44**	*e*P	**Pn**	**19 30 52.7**	**-1.9**
PKI	**Pulchoki**	**14.80**	**44**	*e*P	**Pn**	**19 30 52.8**	**-1.9**
	comp=N,2.5nm,0.3s						
KKN	**Kakani**	**14.86**	**43**	*e*P	**Pn**	**19 30 53.6**	**-1.9**

*WEL **24** 19:30:47.7±0.3,43.°5±2.°×17.°3E±.°,h5km,M3.9/33,*
ML4.2/19,MLv3.9/33,Error ellipse: s-maj=0.0km
s-min=0.0km az=116.3
*NOU **24** 19:30:49.7,42.°185×170.°88E,h86km,MLv4.6/8,Off W.*
Coast of S. Island, N.Z.
ISC 24 19:30:47.7±0.9,42°63′S±0°02′×172°70′E±0°03,h10km,n85,
σ1s49/84,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.35**	**244**	P	**Pg**	**19 30 54.7**	**0.0**
LTZ				S	**Sg**	**19 31 00.0**	**+0.6**
GVZ	**Greta Valley S**	**0.42**	**144**	P	**Pg**	**19 30 57.3**	**+1.4**
GVZ				S	**Sb**	**19 31 04.6**	**+0.9**
AMCZ	**Amberley**	**0.55**	**184**	P	**Pb**	**19 31 00.0**	**+0.6**
KHZ	**Kahutara**	**0.66**	**71**	P	**Pg**	**19 31 01.0**	**+0.5**
OXZ	**Oxford**	**0.85**	**215**	P	**Pg**	**19 31 04.7**	**+0.6**
THZ	**Tophouse**	**0.88**	**10**	P	**Pg**	**19 31 03.5**	**-1.1**
INZ	**Inchbonnie**	**0.93**	**264**	P	**Pg**	**19 31 04.9**	**-0.7**
MQZ	**McQueen's Vall**	**1.08**	**182**	P	**Pb**	**19 31 08.2**	**-0.3**
DSZ	**Denniston Nort**	**1.10**	**323**	P	**Pg**	**19 31 08.0**	**-0.9**
OKCZ	**Okains Bay**	**1.13**	**167**	P	**Pb**	**19 31 09.2**	**-0.1**
RACZ	**Rakaia**	**1.17**	**200**	P	**Pb**	**19 31 09.4**	**-0.7**
MHCZ	**Mount Hutt**	**1.23**	**222**	P	**Pn**	**19 31 10.2**	**-0.8**
MRNZ	**Matariki Terra**

NTVZ	North Tongarir	4.19	34	P	Pn	19 31 53.0	+1.2
MLZ	Mavora Lakes	4.29	229	P	Pn	19 31 52.9	-0.2
HIZ	Hauiti	4.43	22	P	Pn	19 31 56.9	+2.0
HIZ	Hauiti	4.43	22	P	Pn	19 31 56.3	+1.4
SYZ	Scrubby Hill	4.66	212	P	Pn	19 31 57.2	-0.9
SYZ	Scrubby Hill	4.66	212	P	Pn	19 31 57.2	-0.9
TLZ	Tolley Road	4.81	28	P	Pn	19 32 03.6	+3.3
TOZ	Tahuroa Road	5.34	25	P	Pn	19 32 09.6	+2.1
APZ	The Paps	5.38	217	P	Pn	19 32 06.7	-1.3
URZ	Urewera	5.51	39	P	Pb	19 32 19.0	-5.0
PYZ	Puysegur Point	5.58	229	P	Pn	19 32 01.9	-8.8
MKAZ	Moumakai	5.83	20	P	Pn	19 32 16.1	+1.9
RUGZ	Raukumara Rang	6.01	41	P	Pn	19 32 17.0	+0.2
WIAZ	Waiheke Island	6.12	19	P	Pn	19 32 21.5	+3.2

NEIC ***24*** *19:36:50.5±0.8, 16°.9S±0°.1×173°.96W±0°.06, h200km±15km, mb4.5/8, Error ellipse: s-maj=18.1km s-min=8.0km az=187.0*
IDC ***24*** *19:36:52.6±1.3, 16°.28S×174°.21W, h233km±19km, mb3.8/7, mbtmp4.4/9, Error ellipse: s-maj=31.6km s-min=18.1km az=164.0*

ISC 24 19:36:49.7±0.7, 16°.81S±0°.09×174°.00W±0°.09, h200km, n29, σ1§62/25, mb4.2/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.59**	**37**	P	**Pn**	**19 37 48.6**	**+2.0**
AFI	374nm,0.5s,baz=190,slow=1.4,SNR=57			S	**Sn**	**19 38 31.8**	**+0.6**
	435nm,0.4s,baz=60,slow=24,SNR=10						
AFI	**Afiamalu**	**3.59**	**37**	Pn	**Pn**	**19 37 48.1**	**+1.5**
AFI				Sn	**Sn**	**19 38 28.5**	**-2.7**
NIUE	**Niue**	**4.48**	**121**	Pn	**Pn**	**19 37 57.1**	**-0.4**
MSVF	**Nonsavu**	**7.65**	**262**	P	**Pn**	**19 38 39.8**	**+1.3**
	14nm,0.9s,baz=123,slow=13,SNR=11						
MSVF	**Nonsavu**	**7.65**	**262**	Pn	**Pn**	**19 38 39.6**	**+1.1**
MXZ	**Matakaoa Point**	**21.76**	**197**	P	**P**	**19 41 25.8**	**+0.4**
RTZ	**Ruatahuna**	**23.12**	**198**	P	**P**	**19 41 37.5**	**-0.6**
RTZ				IAmb	IAmb	19 42 15.1	
	comp=Z,14nm,1.1s						
BKZ	**Black Stump Fm**	**23.77**	**199**	P	**P**	**19 41 43.3**	**-0.7**
MRZ	**Mangatainoka R**	**25.42**	**199**	P	**P**	**19 41 57.7**	**-1.2**
MRZ				IAmb	IAmb	19 42 37.3	
	comp=Z,20nm,1.2s						
ARMA	**Armidale**	**34.13**	**240**	P	**P**	**19 43 15.8**	**-0.1**
ARMA				IAmb	IAmb	19 43 43.2	
	comp=Z,20nm,1.4s						
CTA	**Charters Tower**	**37.79**	**259**	P	**P**	**19 43 45.2**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=84,slow=6.9,SNR=4.2 comp=Z,1.5nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**39.89**	**331**	T	T	20 25 10.2	
	baz=146						
H11S3	**WAKE ISLAND Hy**	**39.90**	**331**	T	T	20 25 08.9	
	baz=146,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.91**	**331**	T	T	20 25 09.4	
	baz=146,slow=74						
STKA	**Stephens Creek**	**42.84**	**241**	P	**P**	**19 44 28.5**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=88,slow=9.0,SNR=16 comp=Z,4.2nm,0.6s						
STKA	**Stephens Creek**	**42.84**	**241**	P	**P**	**19 44 28.4**	**+0.2**
BBOO	**Buckleboo**	**47.62**	**241**	P	**P**	**19 45 06.0**	**+0.3**
BBOO				IAmb	IAmb	19 45 23.3	
	comp=Z,19nm,1.4s						
WRA	**Warramunga Arr**	**48.98**	**258**	P	**P**	**19 45 15.5**	**-0.9**
	comp=Z,2.3nm,0.4s,baz=93,slow=6.9,SNR=17 comp=Z,2.3nm,0.4s						
WRA	**Warramunga Arr**	**48.98**	**258**	P	**P**	**19 45 15.1**	**-1.2**
ASAR	**Alice Springs**	**49.14**	**253**	P	**P**	**19 45 17.1**	**-0.4**
	comp=Z,19nm,0.6s,baz=87,slow=8.6,SNR=113 comp=Z,19nm,0.6s						
ASAR	**Alice Springs**	**49.14**	**253**	P	**P**	**19 45 17.4**	**-0.2**
VNDA	**Vanda**	**61.92**	**186**	P	**P**	**19 46 50.2**	**+2.6**
	comp=Z,1.2nm,0.7s,baz=4.2,slow=7.0,SNR=9.9 comp=Z,1.2nm,0.7s						
VNDA	**Vanda**	**61.92**	**186**	P	**P**	**19 46 49.6**	**+2.0**
H03S2	**Juan Fernandez**	**84.90**	**124**	T	T	21 22 37.7	
	baz=250,slow=75,SNR=4.0						
H03S1	**Juan Fernandez**	**84.92**	**124**	T	T	21 22 42.3	
	baz=250,slow=75,SNR=3.2						
H03S3	**Juan Fernandez**	**84.92**	**124**	T	T	21 22 39.6	
	baz=250,slow=75,SNR=2.8						
MAW	**Mawson**	**86.28**	**199**	P	**P**	**19 49 10.9**	**+2.4**
	comp=Z,1.7nm,0.5s,baz=66,slow=9.4,SNR=3.0 comp=Z,1.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.51**	**288**	P	**P**	**19 49 37.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=97,slow=3.7,SNR=3.0 comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**118.63**	**322**	PKP	**PKPdf**	**19 55 09.9**	**-3.7**
	comp=Z,0.4nm,0.5s,baz=108,slow=3.2,SNR=1.6						

NEIC ***24*** *19:39:53.5±0.7, 5°.79S±0°.04×151°.9E±0°.2, h23km±9km, mb4.2/6, Error ellipse: s-maj=22.7km s-min=4.3km az=102.0*
IDC ***24*** *19:39:56.5±1.5, 5°.54S×151°.51E, h69km±14km, mb3.8/6, mbtmp4.1/7, Error ellipse: s-maj=45.2km s-min=12.9km az=122.0*

ISC 24 19:39:53.4±0.9, 5°.78S±0°.08×151°.9E±0°.1, h35km, n19, σ1§98/21, mb4.1/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.48**	**6**	P	**Pn**	**19 40 17.4**	**0.0**
KRVT	4µm,0.4s,baz=243,slow=0.6,SNR=445			S	**Sn**	**19 40 36.4**	**+0.8**
	4µm,0.3s,baz=285,slow=21,SNR=32						
RABL	**Rabaul**	**1.61**	**11**		**Pn**	**19 40 19.9**	**+0.6**
MANU	**Manus Island**	**5.83**	**309**	Pn	**Pn**	**19 41 20.2**	**+2.8**
PMG	**Port Moresby**	**5.89**	**232**	P	**Pn**	**19 41 19.4**	**+1.1**
	25nm,0.7s,baz=35,slow=8.6,SNR=11						
PMG				S	**Sn**	**19 42 20.0**	**-4.6**
	20nm,0.6s,baz=344,slow=12,SNR=2.3						
PMG	**Port Moresby**	**5.89**	**232**		**Pn**	**19 41 20.5**	**+2.3**
WB0	**Warramunga Arr**	**21.96**	**229**	P	**P**	**19 44 45.5**	**+1.2**
WB0				IAmb	IAmb	19 44 46.5	
	comp=Z,5.1nm,0.7s						
WR0	**Warramunga Arr**	**21.96**	**229**	P	**P**	**19 44 45.3**	**+1.0**
WR0				IAmb	IAmb	19 45 08.3	
	comp=Z,8.9nm,1.2s						
WB2	**Warramunga Arr**	**22.09**	**229**	P	**P**	**19 44 47.1**	**+1.3**
WB2				IAmb	IAmb	19 44 47.8	
	comp=Z,8.8nm,0.6s						
WRA	**Warramunga Arr**	**22.10**	**229**	P	**P**	**19 44 44.8**	**-1.0**
	comp=Z,5.6nm,0.6s,baz=52,slow=10.0,SNR=63 comp=Z,5.6nm,0.6s						
WRA	**Warramunga Arr**	**22.10**	**229**	P	**P**	**19 44 46.3**	**+0.5**
AS31	**Alice Springs**	**24.80**	**222**	P	**P**	**19 45 13.7**	**+1.4**
ASAR	**Alice Springs**	**24.80**	**222**	P	**P**	**19 45 12.4**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=58,slow=8.8,SNR=58 comp=Z,3.4nm,0.8s						
ASAR	**Alice Springs**	**24.80**	**222**	P	**P**	**19 45 13.3**	**+0.9**
SONM	**Songino Array**	**66.66**	**328**	P	**P**	**19 50 37.9**	**-2.9**
	comp=Z,0.8nm,0.6s,baz=151,slow=3.9,SNR=5.0 comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**71.89**	**178**	P	**P**	**19 51 13.6**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=319,slow=2.3,SNR=2.2 comp=Z,0.3nm,0.5s						
VNDA	**Vanda**	**71.89**	**178**	P	**P**	**19 51 14.2**	**+1.8**
SBA	**Scott Base**	**72.45**	**177**	P	**P**	**19 51 18.7**	**+2.9**
SBA				IAmb	IAmb	19 51 33.9	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**19 52 14.6**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=246,slow=5.5,SNR=18 comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**93.42**	**52**	P	**P**	**19 53 06.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=244,slow=5.2,SNR=8.2 comp=Z,1.0nm,0.7s						

IDC ***24*** *19:40:51.6±2.4, 33°.68S×177°.92W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=146.2km s-min=36.6km az=172.0*

ISC 24 19:40:57.0±2.4, 34°.S±1°.×178°.0W±0°.3, h34km, n9, σ0§61/10, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.45**	**284**	P	**P**	**19 47 42.2**	**+0.6**
	3.9nm,0.5s,baz=117,slow=9.3,SNR=10 3.9nm,0.5s						
ASAR	**Alice Springs**	**43.05**	**270**	P	**P**	**19 48 53.6**	**-0.1**
	1.1nm,0.6s,baz=110,slow=7.5,SNR=5.7 1.1nm,0.6s						
WRA	**Warramunga Arr**	**44.32**	**275**	P	**P**	**19 49 03.0**	**-0.9**
	2.3nm,0.4s,baz=116,slow=7.5,SNR=2.5 2.3nm,0.4s						
MKAR	**Makanchi Array**	**119.80**	**309**	PKP	**PKiKP**	**19 59 43.8**	**+0.4**
	0.3nm,0.7s,baz=126,slow=0.9,SNR=2.9						
BVAR	**Borovoye Array**	**128.65**	**314**	PKP	**PKiKP**	**20 00 00.9**	**+0.2**
	0.4nm,0.5s,baz=101,slow=3.0,SNR=3.7						
FINES	**FINESS Array B**	**149.11**	**338**	PKPbc	**PKPbc**	**20 00 38.6**	**+0.2**
	5.1nm,0.8s,baz=56,slow=3.7,SNR=16						
NOA	**NORSAR Array B**	**151.88**	**350**	PKPbc	**PKPbc**	**20 00 46.6**	**-1.0**
	0.9nm,0.8s,baz=16,slow=4.2,SNR=4.3						
AKASG	**Malin Array Be**	**153.77**	**319**	PKPbc	**PKiKP**	**20 00 52.3**	**+0.2**
	0.2nm,0.2s,baz=58,slow=2.3,SNR=1.4						
AKASG				PKPab	**PKPab**	**20 01 04.8**	**-0.2**
	0.2nm,0.2s,baz=53,slow=0.5,SNR=2.0						
BRTR	**Keskin Array B**	**153.99**	**293**	PKPbc	**PKiKP**	**20 00 53.3**	**+0.2**
	0.7nm,0.6s,baz=134,slow=3.7,SNR=4.9						

DJA ***24*** *19:42:44.7±1.2, 7°.S±2°.×12°.9E±°., h26km±13km, M4.6/14, mb4.7/9, mB5.5/1, MLv4.5/14, Mw(mB)5.0/1*
NEIC ***24*** *19:42:44.6±0.6, 7°.0S±0°.1×129°.20E±0°.09, h170km±16km, mb4.4/6, Error ellipse: s-maj=16.2km s-min=12.1km az=147.0*
IDC ***24*** *19:42:44.9±1.8, 7°.15S×129°.30E, h163km±16km, mb3.4/5, mbtmp4.2/10, Error ellipse: s-maj=26.6km s-min=16.8km az=75.0*

ISC 24 19:42:43.2±0.6, 7°.18S±0°.05×129°.24E±0°.05, h156km, n65, σ2§40/74, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.19**	**112**	Pn	**Pn**	**19 43 24.2**	**+3.3**
SAUI				Sn	**Sn**	**19 43 49.6**	**-0.5**
SAUI	**Saumlaki**	**2.19**	**112**	P	**Pn**	**19 43 21.9**	**+1.0**
SAUI				S	**Sn**	**19 43 52.5**	**+2.5**
SAUI	**Saumlaki**	**2.19**	**112**	P	**Pn**	**19 43 25.0**	**+4.1**
BNDI	**Bandanaira**	**2.72**	**14**	P	**Pn**	**19 43 28.4**	**+1.1**
BNDI	**Bandanaira**	**2.72**	**14**	P	**Pn**	**19 43 31.4**	**+4.1**
AAI	**Ambon**	**3.62**	**343**	P	**Pn**	**19 43 41.2**	**+2.5**
NLAI	**Namlea**	**4.45**	**331**	P	**Pn**	**19 43 50.8**	**+1.3**
NLAI				S	**Sn**	**19 44 45.4**	**+4.1**
FAKI	**Fak Fak**	**5.18**	**35**	Pn	**Pn**	**19 43 58.9**	**-0.2**
FAKI	**Fak Fak**	**5.18**	**35**	P	**Pn**	**19 43 59.0**	**-0.2**
	0.6nm5µm32nm,0.6s						
FAKI				S	**Sn**	**19 44 54.2**	**-4.3**
	0.6nm5µm32nm,0.6s						
FAKI	**Fak Fak**	**5.18**	**35**	P	**Pn**	**19 43 59.2**	**0.0**
SOEI	**Soe**	**5.55**	**242**		**Pn**	**19 44 06.0**	**+1.9**
SOEI	**Soe**	**5.55**	**242**	P	**Pn**	**19 44 06.5**	**+2.5**
	0.6nm149nm,0.6s						
SOEI	**Soe**	**5.55**	**242**	P	**Pn**	**19 44 06.8**	**+2.8**
MTN	**Manton Dam**	**5.93**	**162**	Pn	**Pn**	**19 44 10.8**	**+1.8**
SANI	**Sanana**	**6.04**	**327**	P	**Pn**	**19 44 13.6**	**+3.2**
	0.1nm10nm,1.4s						
BATI	**Baumata**	**6.28**	**241**	P	**Pn**	**19 44 15.8**	**+2.1**
	142nm,0.3s,baz=95,slow=3.3,SNR=86						
BATI				S	**Sn**	**19 45 20.2**	**-4.5**
	37nm,0.3s,baz=13,slow=6.4,SNR=2.2						
BATI	**Baumata**	**6.28**	**241**	P	**Pn**	**19 44 15.9**	**+2.2**
	0.7nm146nm,0.4s						
KDU	**Kakadu**	**6.33**	**150**	P	**Pn**	**19 44 16.6**	**+2.2**
SIJI	**Sorong**	**6.58**	**18**	P	**Pn**	**19 44 18.0**	**+0.3**
	3.8nm,0.3s,baz=44,slow=3.7,SNR=17						
SIJI				S	**Sn**	**19 45 26.8**	**-5.2**
	17nm,0.2s,baz=267,slow=24,SNR=10.0						
LBMI	**Labuha**	**6.72**	**345**	P	**Pn**	**19 44 22.3**	**+2.7**
	0.1nm28nm,0.8s						
MMRI	**Maumere**	**7.09**	**258**	Pn	**Pn**	**19 44 24.0**	**-0.5**
MMRI	**Maumere**	**7.09**	**258**	P	**Pn**	**19 44 26.3**	**+1.9**
MMRI	**Maumere**	**7.09**	**258**	P	**Pn**	**19 44 28.1**	**+3.7**
RKPI	**Ransiki, Papua**	**7.48**	**41**	P	**Pn**	**19 44 31.5**	**+1.9**
	1.2nm85nm,0.6s						
KNRA	**Kununurra**	**8.46**	**183**		**Pn**	**19 44 43.3**	**+0.6**
KNRA	**Kununurra**	**8.46**	**183**	P	**Pn**	**19 44 43.6**	**+0.9**
SRPI	**Serui, Papua**	**8.74**	**53**	P	**Pn**	**19 44 48.2**	**+1.7**
BSSI	**Bau Bau, Buton**	**8.75**	**276**	P	**Pn**	**19 44 48.2**	**+1.6**
	11nm,0.7s						
KAPI	**Kappang**	**9.68**	**282**	P	**Pn**	**19 45 01.1**	**+2.2**
	3.6nm,0.6s,baz=141,slow=5.5,SNR=3.7						
PLAI	**Plampang**	**11.47**	**261**	P	**Pn**	**19 45 21.7**	**-0.8**
WB0	**Warramunga Arr**	**13.48**	**159**	Pn	**Pn**	**19 45 47.5**	**-0.8**
WRAB	**Tennant Creek**	**13.62**	**159**	P	**P**	**19 45 53.3**	**-0.4**
WRA	**Warramunga Arr**	**13.62**	**159**	P	**Pn**	**19 45 51.1**	**+1.0**
	12nm,0.5s,baz=340,slow=12,SNR=4.9						
WRA				S	**Sn**	**19 48 13.9**	**-7.3**
	3.7nm,0.3s,baz=331,slow=23,SNR=9.7						
WB2	**Warramunga Arr**	**13.63**	**159**	P	**Pn**	**19 45 50.8**	**+0.6**
WR0	**Warramunga Arr**	**13.71**	**158**		**Pn**	**19 45 53.8**	**+2.6**
COEN	**Coen**	**15.26**	**117**	Pn	**Pn**	**19 46 10.4**	**-0.3**
COEN				IAmb	IAmb	19 46 17.8	
	comp=Z,23nm,1.4s						
COEN	**Coen**	**15.26**	**117**	P	**P**	**19 46 12.3**	**+0.3**
QIS	**Mount Isa**	**16.67**	**144**	P	**Pn**	**19 46 30.2**	**+2.4**
PSA00	**Pilbara Seismi**	**16.95**	**211**	P	**P**	**19 46 31.7**	**+1.2**
PSA00				IAmb	IAmb	19 46 52.7	
	comp=Z,16nm,1.1s						
PSA00	**Pilbara Seismi**	**16.95**	**211**	P	**Pn**	**19 46 32.5**	**+1.3**
AS31	**Alice Springs**	**17.00**	**165**	P	**Pn**	**19 46 33.7**	**+1.9**
AS31				IAmb	IAmb	19 46 34.2	
	comp=Z,6.3nm,0.6s						
ASAR	**Alice Springs**	**17.00**	**165**	P	**Pn**	**19 46 33.5**	**+1.7**
	comp=Z,8.1nm,0.3s,baz=344,slow=11,SNR=52						
ASAR				S	**S**	**19 49 37.6**	**-2.8**
	comp=Z,1.2nm,0.4s,baz=337,slow=19,SNR=6.9						
ASAR				ScP	**ScP**	**19 54 26.1**	**-2.7**
	comp=Z,0.5nm,0.5s,baz=1.2,slow=1.7,SNR=4.4						
ASAR	**Alice Springs**	**17.00**	**165**	P	**Pn**	**19 46 33.4**	**+1.6**
AS01	**Alice Springs**	**17.01**	**165**	P	**Pn**	**19 46 33.8**	**+1.9**
CTA	**Charters Tower**	**20.90**	**130**	P	**P**	**19 47 14.4**	**+0.9**
	comp=Z,8.3nm,0.6s						
OOD	**Oodnadatta**	**21.40**	**164**	P	**P**	**19 47 19.9**	**+1.2**
INKA	**Innaminka**	**23.18**	**153**	P	**P**	**19 47 38.2**	**+2.1**
MULG	**Mulgathing**	**23.43**	**169**	P	**P**	**19 47 39.7**	**+1.4**
FORT	**Forrest**	**23.51**	**183**	P	**P**	**19 47 40.1**	**+1.1**
FORT	**Forrest**	**23.51**	**183**	P	**P**	**19 47 40.3**	**+1.3**
QLP	**Quilpie**	**24.00**	**145**	P	**P**	**19 47 45.1**	**+1.5**
LCRK	**Leigh Creek**	**24.64**	**161**	P	**P**	**19 47 50.9**	**+1.6**
BBOO	**Buckleboo**	**26.28**	**167**	P	**P**	**19 48 04.8**	**+0.7**
BBOO				IAmb	IAmb	19 48 07.1	
	comp=Z,28nm,1.4s						
BBOO	**Buckleboo**	**26.28**	**167**	P	**P**	**19 48 05.0**	**+0.8**
STKA	**Stephens Creek**	**27.14**	**156**	P	**P**	**19 48 13.0**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=340,slow=8.9,SNR=6.5 comp=Z,2.0nm,0.6s						
STKA	**Stephens Creek**	**27.14**	**156**	P	**P**	**19 48 13.0**	**+1.1**
STKA	**Stephens Creek**	**27.14**	**156**	P	**P**	**19 48 13.2**	**+1.3**
HTT	**Hallett**	**27.62**	**162**	P	**P**	**19 48 17.9**	**+1.7**
ARPS	**Mount Arapiles**	**31.62**	**160**	P	**P**	**19 48 53.6**	**+2.2**
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**19 53 26.2**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=118,slow=8.1,SNR=2.5 comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**72.27**	**329**	P	**P**	**19 53 53.4**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=136,slow=5.1,SNR=1.7 comp=Z,0.5nm,0.7s						
VNDA	**Vanda**	**72.37**	**173**	P	**P**	**19 53 52.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=293,slow=11,SNR=3.5 comp=Z,0.6nm,0.7s						
MAW	**Mawson**	**74.51**	**201**	P	**P**	**19 54 05.4**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=113,slow=19,SNR=1.7 comp=Z,0.8nm,0.5s						
NB2	**NORSAR Subarra**	**109.59**	**333**	PKP	**PKiKP**	**20 00 48.3**	**-6.8**
	comp=Z,5.8nm,1.1s,baz=19,slow=4.1						
LPAZ	**La Paz**	**151.03**	**144**	PKPbc	**PKiKP**	**20 02 20.9**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=90,slow=4.0,SNR=2.5						

IDC ***24*** *19:47:13.4±1.8, 44°.43N×87°.52E, h0km, mb3.4/2, mbtmp3.4/5, ML2.8/3, Error ellipse: s-maj=56.1km s-min=18.9km az=40.0*
NNC ***24*** *19:47:18.2±3.8, 44°.19N×87°.00E, h12km±14km, mb3.7, mpv3.4, Error ellipse: s-maj=28.8km s-min=21.3km az=100.0*

ISC 24 19:47:15.1±1.5, 44°.01N±0°.08×87°.12E±0°.10, h10km, n14, σ1§00/18, 7C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.79**	**336**	Pg	**Pg**	**19 48 27.2**	**-0.5**
	26nm,0.9s						
ZSN				Lg	Lg	19 49 08.9	
	34nm,1.1s						
MK31	**Makanchi Array**	**4.40**	**311**	⇑Pn	**Pn**	**19 48 22.4**	**+0.5**
	0.5nm,0.3s,baz=128,slow=14,SNR=62						
MK31				⇑Pg	**Pb**	**19 48 32.1**	**-0.3**
	0.4nm,0.2s,baz=133,slow=14,SNR=9.2						
MK31				⇓Sn	**Sn**	**19 49 13.2**	**0.0**
	2.6nm,0.4s						
MK31				Lg	Lg	19 49 31.9	
	7.3nm,0.6s,baz=134,slow=29,SNR=4.8						
MKAR	**Makanchi Array**	**4.40**	**311**	Pn	**Pn**	**19 48 22.4**	**+0.5**
	0.9nm,0.3s,baz=122,slow=14,SNR=40						
MKAR				Sn	**Sn**	**19 49 13.3**	**+0.1**
	1.1nm,0.3s,baz=121,slow=25,SNR=3.8						
MKAR				Lg	Lg	19 49 32.5	
	1.9nm,0.3s,baz=121,slow=22,SNR=5.3 1.5nm,0.5s						
MAKZ	**Makanchi**	**4.58**	**310**	⇓Pn	**Pn**	**19 48 25.0**	**+0.6**
	2.4nm,0.4s						
MAKZ				⇑Pg	**Pb**	**19 48 37.4**	**+1.8**
	2.6nm,0.8s						
MAKZ				⇑Lg	Lg	19 49 37.9	
	18nm,1.1s						
DJR	**Jarkent**	**5.28**	**276**	Pg	**Pg**	**19 48 56.1**	**-0.1**
	4.3nm,0.3s						
DJR				Lg	Lg	19 49 58.3	
	14nm,0.5s						
PDGK	**Podgornoye**	**5.58**	**266**	Pg	**Pg**	**19 49 02.8**	**+1.0**
	1.9nm,0.5s						
PDGK				Lg	Lg	19 50 10.0	
	7.9nm,0.9s						
PDGK	**Podgornoye**	**5.58**	**266**	⇑Pn	**Pn**	**19 48 37.8**	**-0.4**
	1.5nm,0.5s						
PDGK				⇑Lg	Lg	19 50 09.1	
	20nm,0.8s						
KPKS	**Kokpek**	**6.14**	**268**	Pg	**Pg**	**19 49 11.4**	**-1.1**
	3.1nm,0.7s						
KPKS				Lg	Lg	19 50 24.1	
	13nm,0.7s						
SATY	**Saty**	**6.41**	**265**	Pg	**Pg**	**19 49 16.3**	**-1.5**
	4.9nm,0.5s						
SATY				Lg	Lg	19 50 32.6	
	14nm,0.7s						
KURBB	**Kurchatov Arra**	**8.82**	**322**	Pn	**Pn**	**19 49 20.9**	**-1.6**
	0.2nm,0.3s,baz=133,slow=13,SNR=12						
KURBB				Lg	Lg	19 51 44.0	
	0.1nm,0.3s,baz=128,slow=30,SNR=2.1 0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**8.82**	**322**	⇑Pn	**Pn**	**19 49 21.2**	**-1.3**
	1.0nm,0.4s						
KURBB				⇓Sn	**Sn**	**19 51 02.8**	**+0.9**
	2.9nm,0.5s						
KURBB				⇓Lg	Lg	19 51 52.2	
	13nm,0.7s						
ZALV	**Zalesovo Beam**	**10.06**	**352**	Pn	Pn	19 49 33.6	-6.0
	0.2nm,0.3s,baz=171,slow=10,SNR=1.7 0.5nm,0.4s						
ARU	**Arti**	**21.91**	**315**	P	**P**	**19 52 07.5**	**-0.8**
	0.8nm,0.3s,baz=102,slow=20,SNR=3.4 0.8nm,0.3s						
WRA	**Warramunga Arr**	**76.92**	**135**	P	**P**	**19 59 08.2**	**+0.5**
	0.3nm,0.8s,baz=336,slow=5.7,SNR=2.6 0.3nm,0.8s						

IDC ***24*** *19:58:44.1±1.5, 44°.10N×105°.82W, h0km, mbtmp3.5/2, ML3.1/2, Error ellipse: s-maj=34.6km s-min=9.8km az=147.0*
NEIC ***24*** *19:58:45.2±1.3, 43°.57N±0°.02×105°.25W±0°.08, h0km±2km, ML3.4/58, Error ellipse: s-maj=9.6km s-min=3.1km az=99.0*

ISC 24 19:58:44.0±1.1, 43°.57N±0°.05×105°.29W±0°.05, h0km, n53, σ1§66/52, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.06**	**58**	Pg	**Pg**	**19 59 04.8**	**+0.4**
K22A	**Casper**	**1.29**	**225**		**Pg**	**19 59 07.9**	**-0.7**
PHWY	**Pilot Hill**	**2.27**	**183**	Pn	**Pn**	**19 59 23.3**	**+0.3**
PHWY				IAML		19 59 58.2	
	201nm,0.4s						
RWWY	**Rawlins**	**2.35**	**218**		**Pn**	**19 59 24.9**	**+0.8**
RWWY				IAML		19 59 59.0	
	238nm,1.1s						
RWWY				IAML		20 00 02.8	
	186nm,0.8s						
N23A	**Red Feather La**	**2.71**	**191**	Pn	**Pn**	**19 59 30.9**	**+1.7**
N23A				IAML		20 00 11.7	
	comp=E,138nm,0.4s						
N23A				IAML		20 00 13.2	
	comp=N,168nm,0.5s						
LAO	**LASA Array**	**3.19**	**348**	Pn	**Pn**	**19 59 37.8**	**+2.3**
BW06	**Boulder Array**	**3.22**	**257**		**Pn**	**19 59 37.3**	**+1.2**
PD31	**Pinedale Array**	**3.22**	**257**		**Pn**	**19 59 37.2**	**+1.1**
PDAR	**Pinedale Array**	**3.22**	**257**	Pn	**Pn**	**19 59 36.6**	**+0.5**
	comp=N,1.8nm,0.3s,baz=74,slow=15,SNR=35						
PDAR				Lg	Lg	20 00 18.6	
	comp=N,13nm,0.3s,baz=66,slow=34,SNR=12 comp=N,2.4nm,0.3s						
PDAR	**Pinedale Array**	**3.22**	**257**	Pn	**Pn**	**19 59 37.4**	**+1.3**
RLMT	**Red Lodge**	**3.25**	**300**		**Pn**	**19

EGMT	**Eagleton**	**5.44**	**327**	Pn	**Pn**	**20 00 07.2**	**+0.7**
JLU	**Jordanelle**	**5.46**	**239**		**Pn**	**20 00 07.4**	**+0.6**
LRM	**Limekiln Ridge**	**5.58**	**296**		**Pn**	**20 00 09.8**	**+1.3**
HRY	**Holter Researc**	**5.59**	**306**		**Pn**	**20 00 09.6**	**+1.0**
PV07	**Paradox Valley**	**5.72**	**207**		**Pn**	**20 00 12.7**	**+2.3**
PV15	**Paradox Valley**	**5.75**	**206**		**Pn**	**20 00 13.4**	**+2.5**
P17A	**Butcher Ranch,**	**5.78**	**227**		**Pn**	**20 00 13.1**	**+1.8**
HVU	**Hansel Valley**	**5.80**	**255**	Pn	**Pn**	**20 00 12.8**	**+1.3**
PV11	**David Mesa, Pa**	**5.92**	**208**		**Pn**	**20 00 15.2**	**+2.0**
MPU	**Maple Canyon**	**5.92**	**235**		**Pn**	**20 00 14.6**	**+1.4**
SRU	**San Rafael Swe**	**5.94**	**223**		**Pn**	**20 00 14.5**	**+1.1**
PV13	**Radium Mtn., P**	**6.03**	**208**		**Pn**	**20 00 15.7**	**+1.1**
TMUT	**Trail Mountain**	**6.16**	**228**		**Pn**	**20 00 17.5**	**+1.0**
Q16A	**Castle Valley**	**6.42**	**226**		**Pn**	**20 00 21.5**	**+1.5**
DUG	**Dugway, Tooele**	**6.55**	**242**	Pn	**Pn**	**20 00 22.9**	**+1.2**
MSU	**Marysvale**	**7.25**	**228**		**Pn**	**20 00 32.9**	**+1.5**
ULM	**Lac du Bonnet**	**9.28**	**41**	Pn	**Pn**	**20 00 56.0**	**-3.0**
	comp=N,0.5nm,0.3s,baz=228,slow=13,SNR=2.2						
ULM				Lg	Lg	20 03 23.0	
	comp=N,0.3nm,0.3s,baz=276,slow=9.2,SNR=1.7 comp=N,2.2nm,0.4s						
TXAR	**Lajitas Array**	**14.27**	**174**	Pg	Pg	20 03 13.1	
	baz=356,slow=13,SNR=2.0						
TXAR				Lg	Lg	20 06 25.1	
	baz=352,slow=30,SNR=3.5						

IDC 24 20:09:55.4±0.9, 4°99S×151°47E, h113km±12km, mb3.1/3, mbtmp3.5/4, Error ellipse: s-maj=29.8km s-min=16.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.87**	**39**	P	Pn	20 10 15.8	+0.2
	135nm,0.4s,baz=228,slow=0.9,SNR=33						
KRVT				S	Sn	20 10 31.6	+0.6
	67nm,0.4s,baz=218,slow=21,SNR=5.9						
PMG	**Port Moresby**	**6.13**	**224**	P	Pn	20 11 24.9	+1.4
	4.7nm,0.4s,baz=66,slow=9.2,SNR=2.1						
PMG				S	Sn	20 12 33.6	+1.3
	13nm,0.5s,baz=290,slow=3.7,SNR=3.0						
WRA	**Warramunga Arr**	**22.34**	**227**	P	P	20 14 43.5	-0.6
	0.8nm,0.5s,baz=52,slow=9.8,SNR=13 0.8nm,0.5s						
ASAR	**Alice Springs**	**25.13**	**221**	P	P	20 15 09.8	-0.3
	0.5nm,0.6s,baz=54,slow=8.9,SNR=12 0.5nm,0.6s						
SONM	**Songino Array**	**65.79**	**328**	P	P	20 20 29.2	+0.6
	0.3nm,0.6s,baz=132,slow=6.0,SNR=1.8 0.3nm,0.6s						

*KRNET **24** 20:11:11.5±0.1, 40°.25N×71°.38E, h35km, mb3.4*
*ISU **24** 20:11:11, 40°.28N×71°.40E, h12km*
*NNC **24** 20:11:16.2±1.3, 40°.56N×71°.45E, h6km±4km, mb3.6, mpv3.3, Error ellipse: s-maj=10.4km s-min=5.0km az=1.0*
*SOME **24** 20:11:16.0, 40°.62N×71°.40E, h10km*

ISC 24 20:11:12.8±1.0, 40°.45N±0°.03×71°.44E±0°.02, h7km±9km, n57, σ1°51/92, 26C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRG	**Fergana**	**0.28**	**107**	P	**Pg**	**20 11 19.1**	**+0.8**
FRG				S	**Sg**	**20 11 24.3**	**+2.3**
MINT	**Mingtut**	**0.35**	**272**	P	**Pg**	**20 11 19.9**	**+0.1**
MINT				S	**Sg**	**20 11 25.8**	**+1.4**
BTK	**Batken**	**0.62**	**230**	⇓*i*P	Pg	20 11 22.0	-2.8
	baz=47						
BTK				⇓*i*S	**Sg**	**20 11 29.3**	**-3.5**
	baz=47						
BTK	**Batken**	**0.62**	**230**	P	Pg	20 11 21.5	-3.3
BTK				S	**Sg**	**20 11 29.3**	**-3.5**
TSTA	**Tashata**	**0.80**	**81**	P	**Pg**	**20 11 28.5**	**+0.2**
TSTA				S	**Sb**	**20 11 41.2**	**+1.0**
DRK	**Karamyk**	**1.01**	**164**	⇑*i*P	Pg	20 11 27.3	-5.0
	baz=57						
DRK				⇑*i*S	Sg	20 11 39.2	-6.2
	baz=57						
OHH	**Osh**	**1.03**	**86**	⇑*i*P	**Pg**	**20 11 31.6**	**-1.0**
	baz=75						
OHH				⇑*i*S	**Sb**	**20 11 46.8**	**0.0**
	baz=75						
OHH	**Osh**	**1.03**	**86**	P	**Pg**	**20 11 31.1**	**-1.5**
OHH				S	**Sg**	**20 11 46.6**	**+0.6**
TRKS	**Terek-Say**	**1.10**	**348**	⇑*i*P	**Pg**	**20 11 33.8**	**-0.1**
	baz=53						
TRKS				⇑*i*S	**Sn**	**20 11 50.3**	**-0.1**
	baz=53						
ARK	**Arkit**	**1.40**	**16**	⇑*i*P	**Pg**	**20 11 39.7**	**0.0**
	baz=16						
ARK				⇑*i*S	**Sg**	**20 12 00.0**	**+2.1**
	baz=16						
CHRV	**Charvak**	**1.63**	**317**	P	**Pb**	**20 11 43.4**	**0.0**
CHRV				S	**Sg**	**20 12 07.1**	**+1.7**
KUMR	**Kumaryk**	**1.83**	**296**	S	**Sg**	**20 12 12.7**	**+2.5**
NZBK	**Nazarbek**	**1.92**	**294**	S	**Sg**	**20 12 16.8**	**+2.2**
IUG	**luzhnay**	**2.00**	**328**	*e*P	**Pg**	**20 11 50.8**	**-0.4**
	53nm,0.1s						
IUG				*e*S	**Sg**	**20 12 15.9**	**-1.1**
	118nm,0.6s						
CHM	**Chimkent**	**2.32**	**324**	*e*P	**Pb**	**20 11 56.1**	**+1.1**
	45nm,0.3s						
CHM				*e*S	**Sg**	**20 12 25.2**	**-2.1**
	441nm,0.2s						
AML	**Almayashu**	**2.39**	**45**	P	**Pg**	**20 11 58.2**	**-0.4**
	SNR=25						
ARLS	**Aral**	**2.59**	**56**	⇑*i*P	**Pn**	**20 11 55.5**	**+0.1**
	baz=53						
ARLS				⇑*i*S	**Sn**	**20 12 27.0**	**-0.2**
	baz=53						
MRKS	**Merke**	**2.65**	**30**	*e*P	**Pg**	**20 12 03.7**	**0.0**
	32nm,0.4s						
MRKS				*e*S	**Sg**	**20 12 38.0**	**0.0**
	32nm,0.4s						
MRKS	**Merke**	**2.65**	**30**	Pg	**Pg**	**20 12 03.7**	**0.0**
	32nm,0.4s						
MRKS				Lg	Lg	20 12 38.0	
	32nm,0.4s						
KK31	**Karatay Array**	**2.74**	**346**	Pn	**Pb**	**20 11 59.6**	**-2.6**
	0.6nm,0.3s,baz=195,slow=30,SNR=29						
KK31				⇓Pg	**Pg**	**20 12 03.8**	**-1.4**
	3.2nm,0.3s,baz=162,slow=17,SNR=14						
KK31				⇓Lg	Lg	20 12 41.1	
	27nm,0.6s,baz=158,slow=30,SNR=14						
KKAR	**Karatay Array**	**2.74**	**346**	⇓*e*P	**Pn**	**20 11 57.9**	**+0.7**
	baz=47						
KKAR				⇓*i*S	**Sn**	**20 12 31.6**	**+1.0**
	baz=47						
EKS2	**Erkin-Say**	**2.82**	**38**	P	**Pg**	**20 12 06.2**	**-0.6**
	SNR=7.6						
EKS2	**Erkin-Say**	**2.82**	**38**	⇓*e*P	**Pn**	**20 11 58.9**	**+0.5**
	baz=36						
EKS2				⇓*e*S	**Sn**	**20 12 33.4**	**+0.7**
	baz=36						
UCH	**Uchtor**	**2.92**	**52**	P	**Pg**	**20 12 09.3**	**+0.5**
	SNR=14						
UCH	**Uchtor**	**2.92**	**52**	⇑*i*P	**Pn**	**20 12 00.0**	**-0.1**
	baz=49						
UCH				⇑*i*S	**Sn**	**20 12 35.7**	**+0.1**
	baz=49						
AAK	**Ala-Archa**	**3.17**	**45**	P	**Pg**	**20 12 12.8**	**-0.7**
	SNR=6.7						
AAK	**Ala-Archa**	**3.17**	**45**	⇓*i*P	**Pn**	**20 12 03.8**	**+0.6**
	baz=43						
AAK				⇓*i*S	**Sn**	**20 12 41.3**	**0.0**
	baz=43						
FRU1	**Bishkek**	**3.36**	**44**	⇑*i*P	**Pn**	**20 12 06.5**	**+0.7**
	baz=42						
FRU1				⇑*i*S	**Sn**	**20 12 46.3**	**+0.4**
	baz=42						
KBK	**Karagaybulak**	**3.43**	**49**	P	**Pg**	**20 12 17.8**	**-0.8**
	SNR=11						
KBK	**Karagaybulak**	**3.43**	**49**	⇓*i*P	**Pn**	**20 12 07.4**	**+0.5**
	baz=47						
KBK				⇓*i*S	**Sn**	**20 12 47.6**	**-0.3**
	baz=47						
CHMS	**Chumysh**	**3.55**	**43**	⇑*i*P	**Pn**	**20 12 09.0**	**+0.6**
	baz=41						
CHMS				⇑*i*S	**Sn**	**20 12 50.8**	**+0.1**
	baz=41						
CHMS	**Chumysh**	**3.55**	**43**	⇑Pg	**Pg**	**20 12 19.2**	**-1.7**
	2.7nm,0.3s						
CHMS				⇑Lg	Lg	20 13 07.8	
	9.4nm,0.6s						
NRN	**Naryn**	**3.59**	**73**	⇓*i*P	**Pn**	**20 12 08.1**	**-1.1**
	baz=70						
NRN				⇓*i*S	**Sn**	**20 12 49.5**	**-2.6**
	baz=70						
USP	**Ospenovka**	**3.62**	**38**	⇑*i*P	**Pn**	**20 12 10.2**	**+0.8**
	baz=37						
USP				⇑*i*S	**Sn**	**20 12 52.6**	**+0.1**
	baz=37						
SGDS	**Sogindy**	**3.83**	**37**	*e*P	**Pg**	**20 12 24.2**	**-1.9**
	4.4nm,0.4s						
SGDS				*e*S	**Sg**	**20 13 13.5**	**-2.2**
	6.4nm,0.3s						
SGDS	**Sogindy**	**3.83**	**37**	Pg	**Pg**	**20 12 24.2**	**-1.9**
	4.4nm,0.4s						
SGDS				Lg	Lg	20 13 13.5	
	6.4nm,0.3s						
TKM2	**Tokmak 2**	**3.97**	**50**	⇑*e*P	**Pn**	**20 12 14.6**	**+0.2**
	baz=48						
TKM2				⇑*i*S	**Sn**	**20 13 00.7**	**-0.6**
	baz=48						
TKM2	**Tokmak 2**	**3.97**	**50**	⇑Pn	**Pn**	**20 12 17.0**	**+2.6**
	1.8nm,0.5s						
TKM2				⇓Pg	**Pg**	**20 12 26.8**	**-2.1**
	2.9nm,0.3s						
TKM2				⇑Sn	**Sn**	**20 13 04.2**	**+2.9**
	6.1nm,0.5s						
TKM2				⇑Lg	Lg	20 13 20.8	
	8.6nm,0.6s						
KST	**Kastek**	**4.26**	**51**	*e*P	**Pg**	**20 12 34.1**	**-0.3**
	4.2nm,0.4s						
KST				*e*S	**Sg**	**20 13 29.7**	**0.0**
	8.8nm,0.7s						
DGS	**Degeres**	**4.27**	**48**	*e*P	**Pg**	**20 12 33.9**	**-0.7**
	6.4nm,0.6s						
DGS				*e*S	**Sg**	**20 13 29.7**	**-0.3**
	11nm,0.6s						
DGS	**Degeres**	**4.27**	**48**	Pg	**Pg**	**20 12 33.9**	**-0.7**
	6.4nm,0.6s						
DGS				Lg	Lg	20 13 29.7	
	11nm,0.6s						
KRBS	**Karabastau**	**4.52**	**43**	*e*P	**Pg**	**20 12 37.0**	**-2.5**
	4.3nm,0.4s						
KRBS				*e*S	**Sg**	**20 13 35.3**	**-2.7**
	5.7nm,0.4s						
KRBS	**Karabastau**	**4.52**	**43**	Pg	**Pg**	**20 12 37.0**	**-2.5**
	4.3nm,0.4s						
KRBS				Lg	Lg	20 13 35.3	
	5.7nm,0.4s						
MTBS	**Maitube**	**4.59**	**53**	*e*P	**Pg**	**20 12 39.8**	**-0.9**
	3.1nm,0.5s						
MTBS				*e*S	**Sg**	**20 13 39.5**	**-0.7**
	6.5nm,0.4s						
MTBS	**Maitube**	**4.59**	**53**	Pg	**Pg**	**20 12 39.8**	**-0.9**
	3.1nm,0.5s						
MTBS				Lg	Lg	20 13 39.5	
	6.5nm,0.4s						
TNSS	**Tian-Shan**	**4.86**	**56**	*e*P	**Pg**	**20 12 44.6**	**-1.4**
	4.3nm,0.5s						
TNSS				*e*S	**Sg**	**20 13 48.0**	**-1.0**
	5.0nm,0.8s						
TNSS	**Tian-Shan**	**4.86**	**56**	Pg	**Pg**	**20 12 44.6**	**-1.4**
	4.3nm,0.5s						
TNSS				Lg	Lg	20 13 48.0	
	5.0nm,0.8s						
BTLS	**Baital**	**4.97**	**22**	*e*P	**Pg**	**20 12 46.1**	**-2.0**
	2.2nm,0.6s						
BTLS				*e*S	**Sg**	**20 13 50.2**	**-2.2**
	4.9nm,0.6s						
BTLS	**Baital**	**4.97**	**22**	Pg	**Pg**	**20 12 46.1**	**-2.0**
	2.2nm,0.6s						
BTLS				Lg	Lg	20 13 50.2	
	4.9nm,0.6s						
MDOK	**Medeo**	**4.99**	**55**	*e*P	**Pg**	**20 12 46.6**	**-1.8**
	2.3nm,0.6s						
MDOK				*e*S	**Sg**	**20 13 51.3**	**-1.8**
	5.3nm,1.1s						
MDOK	**Medeo**	**4.99**	**55**	Pg	**Pg**	**20 12 46.6**	**-1.8**
	2.3nm,0.6s						
MDOK				Lg	Lg	20 13 51.3	
	5.3nm,1.1s						
MDOK				Lg	Lg	20 13 53.8	
	6.3nm,0.6s						
KOTS	**Kotyrbulak**	**5.07**	**55**	*e*P	**Pg**	**20 12 48.5**	**-1.4**
	2.3nm,0.4s						
KOTS				*e*S	**Sg**	**20 13 54.2**	**-1.3**
	7.3nm,0.6s						
KOTS	**Kotyrbulak**	**5.07**	**55**	Pg	**Pb**	**20 12 45.6**	**+3.7**
	2.5nm,0.7s						
KOTS				Lg	Lg	20 13 49.8	
	7.3nm,0.6s						
KTBS	**Karatobe**	**5.08**	**48**	*e*P	**Pg**	**20 12 48.8**	**-1.4**
	1.2nm,0.3s						
KTBS				*e*S	**Sg**	**20 13 54.7**	**-1.2**
	7.4nm,0.5s						
KTBS	**Karatobe**	**5.08**	**48**	Pg	**Pg**	**20 12 48.4**	**-1.7**
	1.2nm,0.3s						
KTBS				Lg	Lg	20 13 54.4	
	7.4nm,0.5s						
CHKK	**Chushkaly**	**5.34**	**49**	*e*P	**Pg**	**20 12 53.4**	**-1.7**
	1.1nm,0.1s						
CHKK				*e*S	**Sg**	**20 14 02.7**	**-1.6**
	3.6nm,0.1s						
AB31	**Akbulak array**	**11.99**	**321**	⇑Pn	**Pn**	**20 14 04.2**	**+0.2**
	0.3nm,0.4s,baz=127,slow=14,SNR=13						

MAN 24 20:22:08.5, 9°78N×126°13E, h23km, mb3.6, ML2.3, MS1.8, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.00**	**265**	⇑*i*P	Pb	20 22 13.2	+0.7
SCPH	**Surigao**	**0.63**	**270**	⇑*e*P	Pb	20 22 21.2	+0.3
SCPH				*e*S	Sn	20 22 32.5	+1.1
BUTP	**Butuan**	**0.95**	**212**	⇑*e*P	Pb	20 22 24.8	-1.6

*WEL **24** 20:39:38.9±0.3, 42°.5S×173°.4E±°, h5km, M3.2/33, ML3.4/18, MLv3.2/33, Error ellipse: s-maj=0.0km s-min=0.0km az=144.9*
*NOU **24** 20:39:38.7, 42°.08S×173°.69E, h0km, MLv3.7/8, South Island, New Zealand*

ISC 24 20:39:38.4±0.9, 41°98S±0°.03×173°70E±0°.03, h10km, n72, σ1°11/73, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.29**	**27**	P	**Pg**	**20 39 44.6**	**+0.4**
BSWZ				S	**Sg**	**20 39 49.3**	**+1.1**
CMWZ	**Cape Campbell**	**0.45**	**60**	P	**Pb**	**20 39 49.0**	**+0.6**
KHZ	**Kahutara**	**0.46**	**195**	P	**Pg**	**20 39 48.8**	**+1.5**
TUWZ	**Tuamarina**	**0.58**	**19**	P	**Pg**	**20 39 49.8**	**+0.3**
THZ	**Tophouse**	**0.63**	**290**	P	**Pg**	**20 39 50.7**	**+0.1**
NNZ	**Nelson**	**0.80**	**342**	P	**Pg**	**20 39 53.3**	**-0.4**
TCW	**Tory Channel**	**0.88**	**30**	P	**Pg**	**20 39 55.2**	**-0.2**
MRNZ	**Matariki Terra**	**0.91**	**309**	P	**Pb**	**20 39 55.8**	**-0.5**
SNZO	**South Karori**	**1.01**	**49**	P	**Pn**	**20 39 59.0**	**+0.5**
WEL	**Wellington**	**1.06**	**50**	P	**Pn**	**20 39 59.8**	**+0.5**
TKNZ	**Takaka Hill**	**1.09**	**329**	P	**Pg**	**20 39 58.8**	**-0.6**
GVZ	**Greta Valley S**	**1.11**	**206**	P	**Pg**	**20 40 00.7**	**+1.0**
DUWZ	**D'Urville Isla**	**1.19**	**8**	P	**Pb**	**20 40 00.2**	**-0.8**
PLWZ	**Palliser**	**1.23**	**71**	P	**Pn**	**20 40 01.4**	**-0.2**
MSWZ	**Moikau Station**	**1.29**	**65**	P	**Pn**	**20 40 02.3**	**-0.2**
LTZ	**Lake Taylor**	**1.33**	**232**	P	**Pn**	**20 40 03.5**	**+0.5**
CAW	**Cannon Point**	**1.34**	**50**	P	**Pn**	**20 40 03.6**	**+0.4**
PAWZ	**Paruwai Farm**	**1.42**	**66**	P	**Pn**	**20 40 03.9**	**-0.4**
AMCZ	**Amberley**	**1.43**	**212**	P	**Pn**	**20 40 04.8**	**+0.4**
DSZ	**Denniston Nort**	**1.43**	**279**	P	**Pg**	**20 40 05.6**	**-0.3**
KIW	**Kapiti Island**	**1.44**	**40**	P	**Pn**	**20 40 05.0**	**+0.4**
QRZ	**Quartz Range**	**1.45**	**322**	P	**Pb**	**20 40 04.8**	**-0.7**
QRZ	**Quartz Range**	**1.45**	**322**	P	**Pb**	**20 40 04.8**	**-0.7**
MTW	**Mount Morrison**	**1.58**	**59**	P	**Pn**	**20 40 06.0**	**-0.5**
TRWZ	**Traveller**	**1.60**	**69**	P	**Pn**	**20 40 06.0**	**-0.7**
OGWZ	**Otaki Gorge**	**1.60**	**44**	P	**Pn**	**20 40 07.2**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.74**	**52**	P	**Pn**	**20 40 08.3**	**-0.4**
OKCZ	**Okains Bay**	**1.81**	**195**	P	**Pn**	**20 40 09.4**	**-0.2**
OXZ	**Oxford**	**1.82**	**222**	P	**Pn**	**20 40 09.8**	**0.0**
INZ	**Inchbonnie**	**1.83**	**245**	P	**Pb**	**20 40 11.4**	**-0.5**
TMWZ	**Te Maipa**	**1.86**	**63**	P	**Pn**	**20 40 09.5**	**-0.8**
MQZ	**McQueen's Vall**	**1.89**	**204**	P	**Pn**	**20 40 09.8**	**-0.9**
MRZ	**Mangatainoka R**	**1.93**	**48**	P	**Pn**	**20 40 11.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.98**	**197**	P	**Pn**	**20 40 11.6**	**-0.5**
TIWZ	**Tintock**	**2.04**	**55**	P	**Pn**	**20 40 12.2**	**-0.6**
RACZ	**Rakaia**	**2.09**	**213**	P	**Pn**	**20 40 12.9**	**-0.5**
MHCZ	**Mount Hutt**	**2.21**	**225**	P	**Pn**	**20 40 13.7**	**-1.5**
POWZ	**Post Office Ro**	**2.22**	**45**	P	**Pn**	**20 40 15.1**	**-0.2**
PRWZ	**Pori Road**	**2.23**	**51**	P	**Pn**	**20 40 14.8**	**-0.5**
BFZ	**Birch Farm**	**2.31**	**57**	P	**Pn**	**20 40 17.1**	**+0.5**
BFZ	**Birch Farm**	**2.31**	**57**	P	**Pn**	**20 40 15.2**	**-1.4**
WACZ	**Wakanui South**	**2.39**	**214**	P	**Pn**	**20 40 17.3**	**-0.3**
WAZ	**Wanganui**	**2.42**	**24**	P	**Pb**	**20 40 23.1**	**+1.0**
WVZ	**Waitaha Valley**	**2.45**	**242**	P	**Pb**	**20 40 20.9**	**-1.6**
DVHZ	**Dannevirke**	**2.51**	**49**	P	**Pn**	**20 40 18.1**	**-1.1**
TSZ	**Takapari Road**	**2.57**	**43**	P	**Pn**	**20 40 19.6**	**-0.5**
LREZ	**Lake Rotokare**	**2.57**	**12**	P	**Pb**	**20 40 24.6**	**+0.1**
RPZ	**Rata Peaks**	**2.61**	**227**	P	**Pn**	**20 40 21.4**	**+0.8**
RPZ	**Rata Peaks**	**2.61**	**227**	P	**Pn**	**20 40 20.7**	**+0.1**
KHEZ	**Kahui Hut**	**2.69**	**5**	P	**Pb**	**20 40 25.8**	**-0.9**
ARCZ	**Arundel**	**2.70**	**222**	P	**Pn**	**20 40 22.0**	**+0.1**
NBEZ	**Newall Road No**	**2.71**	**3**	P	**Pb**	**20 40 25.4**	**-1.5**
NEZ	**North Egmont**	**2.72**	**7**	P	**Pb**	**20 40 26.6**	**-0.6**
PNHZ	**Pukenui**	**2.80**	**43**	P	**Pn**	**20 40 22.6**	**-0.7**
PRHZ	**Porangahau**	**2.80**	**53**	P	**Pn**	**20 40 21.6**	**-1.6**
GCSZ	**Gaunt Creek Bo**	**2.83**	**241**	P	**Pn**	**20 40 25.6**	**+2.0**
VRZ	**Vera Road**	**2.96**	**16**	P	**Pb**	**20 40 29.4**	**-1.8**
MOVZ	**Moawhango**	**3.00**	**32**	P	**Pb**	**20 40 32.1**	**0.0**
WNVZ	**Wahianoa**	**3.02**	**29**	P	**Pb**	**20 40 31.6**	**-0.6**
WHVZ	**Whangaehu Hut**	**3.05**	**29**	P	**Pb**	**20 40 31.3**	**-1.6**
FWVZ	**Far West T-bar**	**3.06**	**28**	P	**Pb**	**20 40 31.1**	**-2.0**
TMZ	**Timaru**	**3.11**	**218**	P	**Pn**	**20 40 27.5**	**0.0**
OTVZ	**Oturere**	**3.18**	**29**	P	**Pb**	**20 40 33.4**	**-1.8**
NNVZ	**North Ngauruho**	**3.19**	**28**	P	**Pb**	**20 40 33.8**	**-1.5**
KRVZ	**Karewarewa**	**3.24**	**28**	P	**Pb**	**20 40 35.4**	**-0.6**
TMVZ	**Te Maari**	**3.24**	**29**	P	**Pb**	**20 40 33.8**	**-2.2**
NTVZ	**North Tongarir**	**3.25**	**28**	P	**Pb**	**20 40 34.1**	**-2.1**
BKZ	**Black Stump Fm**	**3.52**	**38**	P	**Pn**	**20 40 36.1**	**+2.9**
HIZ	**Hauiti**	**3.57**	**15**	P	**Pn**	**20 40 37.4**	**+3.6**
HIZ	**Hauiti**	**3.57**	**15**	P	**Pn**	**20 40 36.0**	**+2.2**
ODZ	**Otahua Downs**	**3.79**	**215**	P	**Pn**	**20 40 36.9**	**+0.1**
ODZ	**Otahua Downs**	**3.79**	**215**	P	**Pn**	**20 40 36.1**	**-0.7**

*IDC **24** 20:46:04.7±3.4, 18°.87S×177°.93W, h602km±26km, mb2.7/4, mbtmp3.6/5, Error ellipse: s-maj=104.3km s-min=24.6km az=151.0*

ISC 24 20:46:05.1±2.1, 18°.6S±0°.6×178°.0W±0°.3, h600km, n6, σ0°66/6, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.83**	**282**	P	**P**	**20 47 30.2**	**+0.6**
	4.8nm,0.4s,baz=127,slow=18,SNR=6.1						
WRA	**Warramunga Arr**	**44.87**	**260**	P	**P**	**20 53 27.6**	**-0.2**
	0.4nm,0.3s,baz=97,slow=7.5,SNR=11 0.4nm,0.3s						
ASAR	**Alice Springs**	**44.97**	**255**	P	**P**	**20 53 28.2**	**-0.3**
	0.4nm,0.5s,baz=88,slow=8.7,SNR=5.8 0.4nm,0.5s						
TXAR	**Lajitas Array**	**86.04**	**57**	P	**P**	**20 57 44.2**	**+0.5**
	0.5nm,0.8s,baz=218,slow=7.5,SNR=5.0 0.5nm,0.8s						
ILAR	**Eielson Array**	**86.45**	**13**	P	**P**	**20 57 44.3**	**-0.4**
	0.4nm,1.0s,baz=229,slow=4.9,SNR=4.1 0.4nm,1.0s						
GERES	**GERESS Array B**	**148.35**	**345**	PKPbc	**PKPbc**	**21 04 44.3**	**-0.6**
	0.2nm,0.3s,baz=349,slow=1.0,SNR=1.9						

*IDC **24** 20:46:29.8±0.6, 44°.38S×38°.21E, h0km, mb4.1/13, mbtmp4.1/15, ML3.7/2, Error ellipse: s-maj=25.4km s-min=15.8km az=61.0*
*NEIC **24** 20:46:31.1±2.4, 44°.3S±0°.1×37°.9E±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=32.0km s-min=6.9km az=52.0*

ISC 24 20:46:31.1±0.5, 44°33S±0°09×38°0E±0°1, h10km, n36, σ1°20/34, mb4.3/15, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOE	**Somerset East**	**15.11**	**316**	Pn	**Pn**	**20 50 04.0**	**-0.7**
SOE				IAmb	IAmb	20 50 31.1	
	comp=Z,30nm,1.1s						
POGA	**Pongola**	**17.68**	**341**		**Pn**	**20 50 36.9**	**-0.6**
SUR	**Sutherland**	**17.95**	**306**	P	**P**	**20 50 42.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=280,slow=1.6,SNR=3.2 comp=Z,6.3nm,1.0s						
SUR	**Sutherland**	**17.95**	**306**		**Pn**	**20 50 40.7**	**-0.2**
SUR				IAmb	IAmb	20 51 14.6	
	comp=Z,25nm,1.2s						
BOSA	**Boshof**	**18.69**	**323**	P	**Pn**	**20 50 50.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=157,slow=8.6,SNR=7.8 comp=Z,9.5nm,0.9s						
BOSA	**Boshof**	**18.69**	**323**	P	**P**	**20 50 46.4**	**-3.2**
LBTB	**Lobatse**	**21.75**	**328**	P	**P**	**20 51 23.5**	**+0.7**
	comp=Z,29nm,1.0s,baz=152,slow=9.7,SNR=30 comp=Z,29nm,1.0s						
LBTB	**Lobatse**	**21.75**	**328**	P	**P**	**20 51 21.9**	**-0.9**
LBTB				IAmb	IAmb	20 51 25.9	
	comp=Z,31nm,0.9s						
MAW	**Mawson**	**26.79**	**159**	P	**P**	**20 52 10.1**	**-0.7**
	comp=Z,5.5nm,1.0s,baz=310,slow=9.1,SNR=5.3 comp=Z,5.5nm,1.0s						
MAW	**Mawson**	**26.79**	**159**	P	**P**	**20 52 12.1**	**+1.3**
OPO	**Ambohidratompo**	**26.82**	**20**	P	**P**	**20 52 13.3**	**+1.6**
	comp=Z,3.9nm,0.9s,baz=201,slow=11,SNR=3.0 comp=Z,3.9nm,0.9s						
LSZ	**Lusaka**	**30.13**	**341**	P

ASAR **Alice Springs** 43.51 259 P P 20 59 35.6 -0.1
0.4nm,1.0s,baz=88,slow=8.4,SNR=1.7
0.4nm,1.0s
WRA **Warramunga Arr** 43.81 265 P P 20 59 37.8 -0.4
0.2nm,0.3s,baz=102,slow=7.0,SNR=6.4
0.2nm,0.3s
BRTR **Keskin Array B** 148.02 309 PKPbc PKPbc 21 11 17.6 -0.4
0.5nm,0.7s,baz=59,slow=0.8,SNR=3.8

KRSC 24 20:55:30.2±0.6, 48°22N×157°35E, h6km±13km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	3.27	354	eS	Sn	20 57 04.3	+3.3
KDTR	Khodutka, Kamc	3.62	7	eP	Pn	20 56 29.8	+3.1
KDTR				eS	Sn	20 57 14.0	+4.2
RUS	Russkaya	4.28	10	eS	Sn	20 57 31.4	+5.4
MTVR	Mutnovka	4.30	7	eP	Pn	20 56 40.0	+3.8
MTVR				eS	Sn	20 57 31.3	+4.6
GRL	Gorelyy	4.36	6	eP	Pn	20 56 40.8	+3.8
SMAR	Somma	5.13	10	eP	Pn	20 56 51.6	+3.9
KOK	Koryaka	5.14	9	eP	Pn	20 56 52.5	+4.8
SDLR	Sedlovina	5.15	10	eP	Pn	20 56 51.7	+3.8

*NOU **24** 21:03:07.0, 43°.59S×173°.64E, h0km, MLv4.7/8, Off E. Coast of S. Island, N.Z.*
*IDC **24** 21:03:20.1±3.9, 42°.21S×173°.90E, h0km, mb3.6/2, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=77.4km s-min=50.4km az=114.0*
*WEL **24** 21:03:24.0±0.3, 42°.5S×17°.4E±°, h5km, M4.0/21, ML4.2/12, MLv4.0/21, Error ellipse: s-maj=0.0km s-min=0.0km az=123.4*
ISC 24 21:03:23.5±0.7, 42°.22S±0°.03×173°.62E±0°.04, h10km, n62, σ1§21/65, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.20	197	P	Pg	21 03 28.7	+0.9
KHZ	Kahutara	0.20	197	P	Pg	21 03 28.6	+0.8
KHZ				S	Sg	21 03 32.2	+1.5
BSWZ	Blackbirch Sta	0.54	21	P	Pg	21 03 34.7	+0.7
CMWZ	Cape Campbell	0.65	43	P	Pb	21 03 37.3	+0.4
THZ	Tophouse	0.70	310	P	Pg	21 03 37.6	+0.5
TUWZ	Tuamarina	0.83	17	P	Pb	21 03 40.1	+0.2
GVZ	Greta Valley S	0.86	210	P	Pb	21 03 41.7	+1.1
NNZ	Nelson	1.02	350	P	Pg	21 03 43.1	0.0
TCW	Tory Channel	1.12	26	P	Pb	21 03 44.9	-0.1
LTZ	Lake Taylor	1.14	240	P	Pb	21 03 45.4	0.0
AMCZ	Amberley	1.19	216	P	Pb	21 03 46.2	+0.1
SNZO	South Karori	1.22	42	P	Pn	21 03 46.8	+0.2
PLWZ	Palliser	1.38	62	P	Pn	21 03 49.2	-0.9
DSZ	Denniston Nort	1.43	289	P	Pg	21 03 51.2	+0.2
OKCZ	Okains Bay	1.56	195	P	Pn	21 03 50.5	-0.7
OKCZ				S	Sb	21 04 12.8	+0.6
OXZ	Oxford	1.60	226	P	Pn	21 03 51.1	-0.8
QRZ	Quartz Range	1.62	329	P	Pb	21 03 53.6	+0.2
MQZ	McQueen's Vall	1.65	205	P	Pn	21 03 51.1	-1.3
INZ	Inchbonnie	1.69	252	P	Pn	21 03 53.9	+0.9
AKCZ	Akaroa Harbour	1.73	197	P	Pn	21 03 52.8	-0.9
RACZ	Rakaia	1.86	215	P	Pn	21 03 54.3	-1.0
MHCZ	Mount Hutt	2.00	228	P	Pn	21 03 56.5	-0.9
WACZ	Wakanui South	2.16	217	P	Pn	21 03 58.5	-1.0
WVZ	Waitaha Valley	2.29	247	P	Pn	21 04 02.0	+0.7
RPZ	Rata Peaks	2.40	231	Pn	Pn	21 04 02.1	-0.8
	30nm,0.3s,baz=62,slow=3.4,SNR=76						
RPZ				Sn	Sn	21 04 31.4	-1.0
	20nm,0.3s,baz=324,slow=21,SNR=17 98nm,0.4s						
RPZ	Rata Peaks	2.40	231	P	Pn	21 04 02.3	-0.6
ARCZ	Arundel	2.49	225	P	Pn	21 04 03.2	-0.8
BFZ	Birch Farm	2.50	53	P	Pn	21 04 03.0	-1.2
GCSZ	Gaunt Creek Bo	2.66	245	P	Pn	21 04 07.1	+0.7
TMZ	Timaru	2.88	221	P	Pn	21 04 08.7	-0.8
KHEZ	Kahui Hut	2.94	6	P	Pb	21 04 14.9	-1.1
FOZ	Fox Glacier	3.09	244	P	Pn	21 04 13.0	+0.7
MHEZ	Mangahewa	3.19	10	P	Pg	21 04 23.7	-0.8
MOVZ	Moawhango	3.24	31	P	Pb	21 04 21.8	+0.6
DRZ	Dome Shelter	3.29	27	P	Pb	21 04 22.3	+0.1
TUVZ	Tukino	3.33	28	P	Pb	21 04 23.7	+1.0
NGZ	Ngauruhoe	3.39	27	P	Pb	21 04 24.6	+0.8
KAHZ	Kahuranaki	3.46	47	P	Pg	21 04 32.7	+3.0
ODZ	Otahua Downs	3.55	216	P	Pn	21 04 17.4	-1.3
KATZ	Kakaramea	3.61	27	P	Pb	21 04 28.6	+1.1
MCHZ	McNeill Hill	3.62	41	P	Pg	21 04 30.9	-2.1
RATZ	Rangitukua	3.73	27	P	Pb	21 04 30.4	+0.9
BKZ	Black Stump Fm	3.75	37	P	Pb	21 04 28.8	-1.1
HATZ	Hinemaiaia	3.82	30	P	Pb	21 04 32.3	+1.3
HIZ	Hauiti	3.82	15	P	Pn	21 04 26.4	+4.0
ARHZ	Aropaoanui	3.91	42	P	Pg	21 04 38.1	-0.3
NMHZ	Naumai	3.95	39	P	Pg	21 04 39.8	+0.7
MRHZ	Matea Rd	4.00	33	P	Pb	21 04 36.0	+2.0
MTHZ	Maungataniwha	4.17	37	P	Pb	21 04 38.6	+1.7
RAHZ	Arahi	4.23	40	P	Pg	21 04 43.1	-1.3
WKZ	Wanaka	4.24	231	P	Pn	21 04 27.3	-0.8
HHSZ	Highcliff Hill	4.26	210	P	Pn	21 04 27.3	-1.1
EAZ	Earnscleugh	4.34	225	P	Pn	21 04 28.5	-1.0
TUZ	Tuapeka	4.71	216	P	Pn	21 04 33.5	-1.0
URZ	Urewera	4.77	35	P	Pn	21 04 34.9	-0.6
SYZ	Scrubby Hill	5.38	215	P	Pn	21 04 43.0	-0.7
WHZ	Wether Hill Ro	5.49	226	P	Pn	21 04 43.8	-1.5
APZ	The Paps	6.12	219	P	Pn	21 04 52.6	-1.4
OUZ	Omahuta	6.99	360	P	Pn	21 05 09.0	+3.1
ASAR	Alice Springs	37.71	287	P	P	21 10 39.4	0.0
	0.3nm,0.7s,baz=128,slow=6.7,SNR=6.3 0.3nm,0.7s						
WRA	Warramunga Arr	39.83	292	P	P	21 10 56.6	-0.5
	1.3nm,0.7s,baz=129,slow=7.9,SNR=14 1.3nm,0.7s						
BRTR	Keskin Array B	149.87	279	PKPbc	PKPbc	21 23 12.2	-1.5
	0.5nm,0.8s,baz=108,slow=4.7,SNR=2.2						

*IDC **24** 21:05:08.5±1.6, 12°.29N×88°.88W, h0km, mb3.8/6, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=59.1km s-min=22.1km az=38.0*
*INET **24** 21:05:09.0±0.9, 11°.91N×89°.18W, h5km, MW3.8*
*NEIC **24** 21:05:10.9±1.4, 12°.17N±0°.03×89°.00W±0°.07, h10km±1km, mb4.2/28, Md4.2(SNET), Error ellipse: s-maj=11.6km s-min=5.6km az=255.0*
*GCG **24** 21:05:11.5±0.3, 11°.77N×89°.61W, h36km±999km, MD4.2*
*SNET **24** 21:05:11.7±1.2, 12°.04N×89°.15W, h37km, ML4.2*
*UCR **24** 21:05:13.1±2.3, 12°.12N×89°.05W, h37km±12km, MW3.5, mb4.2(NEIC)*
ISC 24 21:05:10.0±0.7, 12°.15N±0°.05×89°.04W±0°.04, h10km, n117, σ1§13/130, mb4.2/14, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJTE	Alcalda de S	1.46	1	eP	Pn	21 05 36.8	+0.3
SJTE	Alcalda de S	1.46	1	eP	Pn	21 05 36.8	+0.3
LFRS	El Faro	1.46	359	eP	Pn	21 05 37.0	+0.3
LFRS	El Faro	1.46	359	eP	Pn	21 05 37.0	+0.3
PACA	Pacayal	1.48	28	eP	Pb	21 05 38.4	+0.5
PACA	Pacayal	1.48	28	eP	Pb	21 05 38.4	+0.5
PACA	Pacayal	1.48	28	eP	Pb	21 05 38.4	+0.5
SNET	Serv Nac Est T	1.54	353	Pn	Pn	21 05 37.8	+0.2
JAVA	Jayaque - finc	1.55	345	eP	Pn	21 05 38.4	+0.6
JAYA	Jayaque - finc	1.55	345	eP	Pn	21 05 38.4	+0.6
PAVA	Las Pavas	1.56	4	eP	Pg	21 05 40.1	+0.1
PAVA	Las Pavas	1.56	4	eP	Pg	21 05 40.1	+0.1
SCLA	Alcaldia de Sa	1.57	11	eP	Pn	21 05 38.8	+0.7
SCLA	Alcaldia de Sa	1.57	11	eP	Pn	21 05 38.8	+0.7
LFU	La Fuente	1.59	357	eP	Pn	21 05 39.4	+1.1
LFU	La Fuente	1.59	357	eP	Pn	21 05 39.4	+1.1
BOQS	Boqueron	1.59	352	eP	Pn	21 05 39.4	+0.9
BOQS	Boqueron	1.59	352	eP	Pn	21 05 39.4	+0.9
LCND	La Caada	1.61	44	eP	Pb	21 05 39.6	-0.2
LCND	La Caada	1.61	44	eP	Pb	21 05 39.6	-0.2
CNCH	Conchagua	1.62	46	eP	Pn	21 05 39.5	+0.6
CNCH	Conchagua	1.62	46	eP	Pn	21 05 39.5	+0.6
RTR	El Retiro	1.83	341	eP	Pn	21 05 42.6	+0.8
RTR	El Retiro	1.83	341	eP	Pn	21 05 42.6	+0.8
PSNO	Presa 5 de nov	1.84	8	eP	Pn	21 05 43.2	+1.5
NUBE	Las Nubes	1.89	338	eP	Pn	21 05 42.5	0.0
NUBE	Las Nubes	1.89	338	eP	Pn	21 05 42.5	0.0
CRIN	San Cristobal	2.02	74	Pn	Pn	21 05 44.3	+0.1
CRIN	San Cristobal	2.02	74	eP	Pn	21 05 45.5	+1.2
CRIN				eS	Sg	21 06 13.8	-1.2
MTO3	Montecristo	2.26	352	Pn	Pn	21 05 48.2	+0.6
CNGN	Cerro Negro	2.31	81	Pn	Pn	21 05 48.0	-0.2
CNGN	Cerro Negro	2.31	81	eP	Pn	21 05 49.7	+1.4
CNGN				eS	Sb	21 06 19.7	-0.9
ESQI	Esquipulas	2.41	353	Pn	Pn	21 05 50.4	+0.7
ESQI	Esquipulas	2.41	353	eP	Pn	21 05 51.0	+1.3
MOMN	Momotombo	2.46	84	eP	Pn	21 05 49.7	-0.6
TGUH	Tegucigalpa,Un	2.56	42	Pn	Pn	21 05 52.3	+0.6
NBG	Las Nubes	2.74	332	eP	Pn	21 05 56.3	+2.0
HUEN		2.81	86	eP	Pn	21 05 55.4	+0.4
FUG	Fuego 3	2.88	323	eP	Pn	21 05 56.3	+0.1
FUG				eS	Sn	21 06 31.3	+0.2
MATN	Matagalpa	3.14	75	Pn	Pn	21 05 59.3	-0.3
BOAB	BOACO BROADBAN	3.31	85	Pn	Pn	21 06 01.7	-0.2
CONN	Concepcion	3.39	100	eP	Pn	21 06 02.6	-0.5
STG3	Santiaguito 3,	3.54	316	eP	Pn	21 06 06.1	+0.8
STG3				eS	Sn	21 06 45.6	-1.8
HZTE	Horizontes, Gu	3.67	113		Pn	21 06 07.8	+1.0
HZTE	Horizontes, Gu	3.67	113	eP	Pn	21 06 07.6	+0.7
HZTE				eS	Sn	21 06 50.9	+0.8
GBS3	Finca Las Img	3.77	111	eP	Pn	21 06 09.3	+1.0
LAPC	Finca la Perla	3.79	111	eP	Pn	21 06 09.4	+0.8
LAPC				eS	Sn	21 06 53.2	-0.1
BUEV	Buena Vista	3.81	110	eP	Pn	21 06 10.0	+1.2
GB1A	Borinquen Arri	3.81	110	eP	Pn	21 06 10.4	+1.5
VRLE	La Escondida,	3.85	110	eP	Pn	21 06 10.3	+0.9
GPS3	Bodega del ICE	3.86	111	eP	Pn	21 06 11.2	+1.6
GPS1	Guardaparques	3.87	110	eP	Pn	21 06 11.3	+1.6
GPS2	Hotel Rincn d	3.87	111	eP	Pn	21 06 13.1	+3.4
ORTG	Ortega, Santa	3.94	116	Pn	Pn	21 06 10.6	0.0
ORTG	Ortega, Santa	3.94	116	eP	Pn	21 06 10.7	0.0
LIM1	Limonal	3.98	111	eP	Pn	21 06 12.5	+1.3
MESS	Mesas	4.02	110	eP	Pn	21 06 13.2	+1.4
DUNO	Dulce Nombre,	4.04	120	Pn	Pn	21 06 11.0	-1.0
DUNO	Dulce Nombre,	4.04	120	eP	Pn	21 06 10.9	-1.0
HORNC	Hornillas	4.05	110	eP	Pn	21 06 13.7	+1.5
VMAR	Armenia, Volca	4.07	109	eP	Pn	21 06 13.6	+1.2
CUI	Cuipilapa	4.08	111	eP	Pn	21 06 13.7	+1.1
CUI				eS	Sn	21 06 59.0	-1.5
INDI	Punta indio, G	4.15	123	eP	Pn	21 06 12.9	-0.6
PTEN	Parque Tenorio	4.22	109	eP	Pn	21 06 17.1	+2.6
POPE	POPE, Guanacas	4.25	119	eP	Pn	21 06 14.8	0.0
JTS	Las Juntas de	4.42	114	Pn	Pn	21 06 17.8	+0.6
	2.9nm,0.3s,baz=347,slow=13,SNR=18						
JTS				Sn	Sn	21 07 07.3	-1.4
	8.9nm,0.3s,baz=346,slow=21,SNR=7.8 7.6nm,0.3s						
JTS	Las Juntas de	4.42	114		Pn	21 06 17.5	+0.4
JTS	Las Juntas de	4.42	114	eP	Pn	21 06 18.0	+0.9
LAFE	Finca La Fe, P	4.67	119	eP	Pn	21 06 20.2	-0.5
JACO	JACO, Garabito	4.96	119	Pn	Pn	21 06 25.1	+0.4
LCR2	La Lucha 2	5.49	115	eP	Pn	21 06 34.2	+2.0
RIMA	Rio Macho	5.61	114	Pn	Pn	21 06 34.2	+0.5
RIMA	Rio Macho	5.61	114	eP	Pn	21 06 36.8	+3.1
CDM	Cerro de Muert	5.79	116	eP	Pn	21 06 38.3	+1.8
PEZE	Perez Zeledon,	5.94	117	Pn	Pn	21 06 40.1	+1.9
PEZE	Perez Zeledon,	5.94	117	eP	Pn	21 06 40.3	+2.1
MRVA	Moravia de Chi	5.96	112	eP	Pn	21 06 42.4	+3.9
SRBA	San Rafael, Bu	6.29	117	Pn	Pn	21 06 44.2	+1.2
SRBA				Sn	Sn	21 07 55.3	+0.2
SRBA	San Rafael, Bu	6.29	117	eP	Pn	21 06 45.7	+2.6
CMIG	Matias Romero	7.49	312	Pn	Pn	21 06 59.6	+0.1
	0.8nm,0.3s,baz=123,slow=8.4,SNR=4.5						
CMIG				Sn	Sn	21 08 23.4	-1.1
	0.5nm,0.3s,baz=85,slow=23,SNR=4.2 1.6nm,0.3s						
TLIG	Tlapa	10.66	301		Pn	21 07 44.0	+0.9
HKT	Hockley	18.80	341	P	P	21 09 29.8	+0.1
344A	Westbrook Farm	19.27	356	P	P	21 09 35.9	+1.0
344A				IAmb	IAmb	21 09 45.3	
	comp=Z,11nm,0.7s						
342A	Flagon Creek P	19.37	352	P	P	21 09 36.1	+0.2
342A				IAmb	IAmb	21 09 39.2	
	comp=Z,13nm,0.7s						
352A	Blakely	19.61	11	P	P	21 09 38.4	-0.2
435B	Jarrell	20.16	338	P	P	21 09 44.2	-0.4
143A	Socs Landing,	20.57	354	P	P	21 09 49.8	+0.7
152A	Waverly Hall	20.80	10	P	P	21 09 52.8	+1.2
152A				IAmb	IAmb	21 09 56.0	
	comp=Z,16nm,1.4s						
BAUV	El Baul	20.89	97	P	P	21 09 52.6	0.0
BAUV				IAmb	IAmb	21 09 56.5	
	comp=Z,18nm,1.3s						
Z47A	Carrollton	20.97	2	P	P	21 09 53.8	+0.5
Z47A				IAmb	IAmb	21 10 04.0	
	comp=Z,11nm,0.7s						
WHTX	Lake Whitney,	21.21	340	P	P	21 09 55.4	-0.6
WHTX				IAmb	IAmb	21 10 14.0	
	comp=Z,13nm,0.8s						
HPIG		21.45	316	P	P	21 09 59.7	+0.9
Y49A	Blount Mountai	21.74	6	P	P	21 10 01.6	-0.1
Y49A				IAmb	IAmb	21 10 11.3	
	comp=Z,6.3nm,0.7s						
GOGA	Godfrey	21.77	13	P	P	21 10 01.4	-0.5
TXAR	Lajitas Array	21.86	324	P	P	21 10 03.8	+0.7
	comp=Z,1.8nm,0.7s,baz=149,slow=12,SNR=18 comp=Z,1.8nm,0.7s						
TXAR	Lajitas Array	21.86	324	P	P	21 10 03.0	-0.1
TX31	Lajitas Ar. Si	21.86	324	P	P	21 10 03.3	+0.2
TX31				IAmb	IAmb	21 10 04.8	
	comp=Z,12nm,1.0s						
TX32	Lajitas Array	21.86	324	P	P	21 10 02.8	-0.3
OXF	Oxford	22.26	359	P	P	21 10 07.6	+0.3
ABTX	Abilene, Hawle	22.58	336	P	P	21 10 10.7	-0.1
MIAR	Mount Ida	22.67	350	P	P	21 10 11.6	0.0
MIAR				IAmb	IAmb	21 10 13.3	
	comp=Z,8.3nm,0.8s						
FCAR	Ozark Folk Cen	23.80	354	P	P	21 10 22.7	-0.4
TKL	Tuckaleechee C	23.88	11	P	P	21 10 22.8	-1.1
	comp=Z,2.4nm,0.8s,baz=174,slow=12,SNR=3.7 comp=Z,2.4nm,0.8s						
TKL	Tuckaleechee C	23.88	11	P	P	21 10 23.2	-0.7
LCAR	Lake Charles	23.89	356	P	P	21 10 24.2	+0.3
LCAR				IAmb	IAmb	21 10 32.9	
	comp=Z,4.9nm,0.7s						
V53A	Saluda	24.08	12	P	P	21 10 26.9	+1.1
V53A				IAmb	IAmb	21 10 35.8	
	comp=Z,5.7nm,0.9s						
W57A	Gilead	24.33	18	P	P	21 10 28.7	+0.7
W57A				pP	pwP	21 10 37.2	+2.6
W57A				IAmb	IAmb	21 10 37.4	
	comp=Z,7.0nm,0.8s						
OK053	SW of W Deep R	24.77	345	P	P	21 10 30.5	-1.5
MGMO	Mountain Grove	25.07	354	P	P	21 10 34.8	+0.1
CCM	Cathedral Cave	25.87	356	P	P	21 10 40.7	-1.3
LPAZ	La Paz	35.02	143	P	P	21 12 03.0	-0.8
LPAZ				IAmb	IAmb	21 12 04.7	
	comp=Z,3.9nm,1.2s						
PDAR	Pinedale Array	35.32	333	P	P	21 12 06.1	+0.3
	comp=Z,0.3nm,0.8s,baz=141,slow=8.8,SNR=2.4						
PDAR				PcP	PcP	21 14 34.8	-1.3
	comp=Z,0.5nm,0.9s,baz=139,slow=5.6,SNR=3.0 comp=Z,0.3nm,0.8s						
NVAR	Mina Array Bea	36.92	320	P	P	21 12 20.3	+0.8
	comp=Z,1.9nm,0.9s,baz=140,slow=9.0,SNR=10						
NVAR				PcP	PcP	21 14 41.5	+0.6
	comp=Z,0.4nm,0.5s,baz=122,slow=3.4,SNR=2.6 comp=Z,1.9nm,0.9s						
YKA	Yellowknife Ar	53.50	346	P	P	21 14 28.7	-1.7
	comp=Z,2.5nm,0.9s,baz=144,slow=7.9,SNR=5.3 comp=Z,2.5nm,0.9s						
ILAR	Eielson Array	65.67	337	P	P	21 15 52.9	-1.5
	comp=Z,1.9nm,1.0s,baz=116,slow=4.1,SNR=12 comp=Z,1.9nm,1.0s						
PZH	PanZhiHua	140.17	345	PKP	PKPdf	21 24 38.9	-1.1
CMAR	Chiang Mai Arr	148.58	345	PKPbc	PKPdf	21 24 56.9	+2.3
	comp=Z,1.7nm,0.8s,baz=339,slow=2.9,SNR=12						

IDC 24 21:42:14.7±44.0, 44°.89N×148°.96E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=1011.0km s-min=59.9km az=155.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	29.25	291	P	P	21 48 17.9	-0.4
	0.6nm,0.8s,baz=84,slow=8.0,SNR=4.4 0.6nm,0.8s						
MKAR	Makanchi Array	45.21	297	P	P	21 50 33.5	+0.2
	0.7nm,0.6s,baz=77,slow=9.1,SNR=10 0.7nm,0.6s						
FINES	FINESS Array B	64.44	333	P	P	21 52 52.4	+0.1
	1.0nm,0.6s,baz=40,slow=7.3,SNR=4.2 1.0nm,0.6s						
NB2	NORSAR Subarra	69.00	339	P	P	21 53 22.0	+0.5
	comp=Z,0.5nm,0.5s,baz=30,slow=6.5						
NOA	NORSAR Array B	69.00	339	P	P	21 53 21.4	-0.1
	comp=Z,0.4nm,0.5s,baz=29,slow=6.4,SNR=6.0 comp=Z,0.4nm,0.5s						

*SNET **24** 21:44:54.5±0.8, 12°.10N×88°.65W, h10km, ML4.0*
*IDC **24** 21:44:54.5±1.6, 12°.49N×88°.40W, h0km, mb3.9/8, mbtmp3.9/9, ML3.1/1, Error ellipse: s-maj=53.6km s-min=27.6km az=47.0*
*INET **24** 21:44:54.2±0.6, 11°.96N×88°.77W, h15km±10km, MW4.2*
*NEIC **24** 21:44:57.3±1.5, 12°.42N±0°.02×88°.42W±0°.05, h10km±2km, mb4.4/36, Md4.0(SNET), Error ellipse: s-maj=9.0km s-min=3.7km az=261.0*
*UCR **24** 21:44:58.8±0.6, 12°.30N×88°.62W, h33km, mb4.4(NEIC)*
ISC 24 21:44:56.0±0.7, 12°.28N±0°.06×88°.56W±0°.05, h10km, n80, σ1§25/77, mb4.4/18, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	1.04	359	eP	Pg	21 45 16.9	+0.7
ALJI	Alcalda de J	1.04	359	eP	Pg	21 45 16.9	+0.7
PACA	Pacayal	1.21	11	eP	Pn	21 45 20.5	+1.4
COEB	Comit de Eme	1.21	1	eP	Pn	21 45 19.1	-0.1
COEB	Comit de Eme	1.21	1	eP	Pn	21 45 19.1	-0.1
LCND	La Caada	1.22	32	eP	Pn	21 45 19.6	+0.5
LCND	La Caada	1.22	32	eP	Pn	21 45 19.6	+0.5
PQSS	Presa 15 de Se	1.34	360	eP	Pn	21 45 21.2	+0.4
PQSS	Presa 15 de Se	1.34	360	eP	Pn	21 45 21.2	+0.4
COEG	Centro de Oper	1.37	347	eP	Pn	21 45 21.1	-0.3
COEG	Centro de Oper	1.37	347	eP	Pn	21 45 21.1	-0.3
SJTE	Alcalda de S	1.40	342	eP	Pn	21 45 21.8	0.0
SJTE	Alcalda de S	1.40	342	eP	Pn	21 45 21.8	0.0
PAVA	Las Pavas	1.48	346	eP	Pn	21 45 22.9	+0.1
PAVA	Las Pavas	1.48	346	eP	Pn	21 45 22.9	+0.1
CRIN	San Cristobal	1.53	74		Pn	21 45 23.2	-0.3
CRIN				Sn	Sn	21 45 38.8	-4.7
CRIN	San Cristobal	1.53	74	eP	Pn	21 45 24.2	+0.7
CRIN				eS	Sn	21 45 47.8	+4.2
SNET	Serv Nac Est T	1.55	335	Pn	Pn	21 45 23.2	-0.6
JAYA	Jayaque - finc	1.62	328	eP	Pn	21 45 24.4	-0.5
JAYA	Jayaque - finc	1.62	328	eP	Pn	21 45 24.4	-0.5
CNGN	Cerro Negro	1.83	83		Pn	21 45 27.0	-0.7
CNGN	Cerro Negro	1.83	83	eP	Pn	21 45 27.7	0.0
CNGN				eS	Sn	21 45 53.2	+2.3
MOMN	Momotombo	1.98	86	eP	Pn	21 45 29.1	-0.5
TGUH	Tegucigalpa,Un	2.17	35		Pn	21 45 30.4	-1.9
MTO3	Montecristo	2.25	340	Pn	Pn	21 45 34.2	+0.6
ESQI	Esquipulas	2.39	342	Pn	Pn	21 45 36.4	+1.0
MATN	Matagalpa	2.65	76		Pn	21 45 38.0	-0.9
MATN	Matagalpa	2.65	76	eP	Pn	21 45 39.4	+0.5
BOAB	BOACO BROADBAN	2.83	86		Pn	21 45 40.5	-0.9
CONN	Concepcion	2.96	104	eP	Pn	21 45 41.0	-2.1
ACON	Acoyapa	3.32	95	Pn	Pn	21 45 47.8	-0.3
ORTG	Ortega, Santa	3.59	122	Pn	Pn	21 45 52.1	+0.3
DUNO	Dulce Nombre,	3.72	126	Pn	Pn	21 45 54.2	+0.7
JTS	Las Juntas de	4.05	119	Pn	Pn	21 45 59.4	+1.3
	1.3nm,0.3s,baz=334,slow=14,SNR=7.5						
JTS				Sn	Sn	21 46 41.5	-4.2
	1.8nm,0.3s,baz=320,slow=21,SNR=2.0 4.3nm,0.3s						
JTS	Las Juntas de	4.05	119	Pn	Pn	21 45 59.8	+1.7
JACO	JACO, Garabito	4.63	124	Pn	Pn	21 46 05.5	-0.6
RIMA	Rio Macho	5.24	118		Pn	21 46 15.8	+1.1
PEZE	Perez Zeledon,	5.59	120		Pn	21 46 20.1	+0.7
SRBA	San Rafael, Bu	5.94	120	Pn	Pn	21 46 24.6	+0.4
BRU2	Volcan	6.73	120	Pn	Pn	21 46 36.5	+1.4
TLIG	Tlapa	11.01	300	Pn	Pn	21 47 35.2	+1.4
833A	Chaparral WMA,	18.90	329	P	P	21 49 17.0	+0.1
833A				IAmb	IAmb	21 49 18.7	
	comp=Z,23nm,0.8s						
352A	Blakely	19.40	9	P	P	21 49 21.8	-0.6
352A				IAmb	IAmb	21 49 25.7	
	comp=Z,32nm,1.1s						
NATX	Nacogdoches	20.19	345	P	P	21 49 31.3	+0.4
NATX				IAmb	IAmb	21 49 32.9	
	comp=Z,12nm,0.7s						
435B	Jarrell	20.22	337	P	P	21 49 31.0	-0.3
435B				IAmb	IAmb	21 49 32.5	
	comp=Z,16nm,0.9s						
JCT	Junction City	20.89	332	P	P	21 49 38.3	-0.4
JCT				IAmb	IAmb	21 49 39.8	
	comp=

BJI **24** *21:55:52.0± 0.0,0.24″.14N× 122″.38E, h15km, mb5.0/71, mB5.3/56, ML5.2/11, Ms5.2/87, Ms7 5.2/83*
MOS **24** *21:55:52.2± 1.1,0.24″.22N× 122″.46E, h28km, mb5.6/90, MS5.0/13, Error ellipse: s-maj=6.7km s-min=3.8km az=119.0*
IDC **24** *21:55:54.4± 1.8,0.24″.27N× 122″.53E, h33km± 12km, mb4.8/34, mbtmp5.0/37, ML4.6/2, MS4.9/50, Error ellipse: s-maj=12.1km s-min=9.4km az=71.0*
NEIC **24** *21:55:54.0± 1.6,24°.09N± 0°.06× 122°.43E± 0°.07, h24km± 3km, mb5.3/318, ML5.5(TAP), Error ellipse: s-maj=10.1km s-min=9.0km az=115.0*
NIED **24** *21:55:54.3, 24°.02N× 122°.45E, h24km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr6.23; Mθθ-6.57; Mφφ0.33; Mrθ4.69; Mθφ1.65; Mφr1.06; Fault plane solution: M0 8.18000×10^16 NP1: φs=299.00000°, δ30.00000°, λ117.00000°. NP2: φs=88.00000°, δ63.00000°, λ75.00000°.*
TAP **24** *21:55:54.3, 24°.08N× 122°.41E, h27km, ML5.5, D*
JMA **24** *21:55:54.3± 0.4, 24°.N± 2°.× 122°.5E± 0°.9, h24km± 3km, MD5.6/10, MV5.1/10, NW OFF ISHIGAKIJIMA IS*
JMA Felt II J1 at NW OFF ISHIGAKIJIMA IS .
ASIES **24** *21:55:56.5, 24°.13N× 122°.30E, h27km, MW5.1*
ISC 24 21:55:54.3± 0.4, 24°.04N± 0°.02× 122°.41E± 0°.02, h33km± 2km, h33km; pP-P, n1156, σ1s 35/1233, mb5.3/295, MS5.0/71, 141C-97D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.63**	**50**	*i* P			**Pb**	**21 56 06.3**	**-0.8**
JYNG				S			**Sb**	**21 56 14.8**	**-1.0**
JYNG	**Yonagunijimaku**	**0.63**	**50**	A			A	21 56 06.3	
	comp=E,1μm,1.0s,comp=E,625nm,1.6s								
EHP	**Heping Village**	**0.67**	**294**	*e*P			**Pn**	**21 56 07.8**	**+0.2**
	baz=290								
YOJ	**Yonaguni jima**	**0.69**	**52**				**Pn**	**21 56 07.2**	**-0.5**
YOJ				Sn			**Sb**	**21 56 16.4**	**-0.8**
YOJ	**Yonaguni jima**	**0.69**	**52**	⇓*i* P			**Pn**	**21 56 07.5**	**-0.2**
	baz=61								
YOJ				*i* S			**Sb**	**21 56 16.6**	**-0.6**
	baz=61								
YOJ	**Yonaguni jima**	**0.69**	**52**	P			**Pn**	**21 56 07.3**	**-0.5**
YOJ				*e*S			**Sb**	**21 56 16.5**	**-0.8**
YOJ	**Yonaguni jima**	**0.69**	**52**	A			A	21 56 07.3	
	comp=E,619nm,1.4s,comp=E,453nm,3.3s								
ENA	**Nanau**	**0.72**	**302**	P			**Pn**	**21 56 07.9**	**-0.4**
	baz=300								
ENA				S			**Sn**	**21 56 18.3**	**+0.1**
	baz=300								
ETL	**Fush Village**	**0.73**	**279**	P			**Pb**	**21 56 08.4**	**-0.3**
	baz=261								
ETL				*e*S			**Sn**	**21 56 19.7**	**+1.2**
	baz=261								
HWA	**Hwalien**	**0.74**	**265**	⇓P			**Pb**	**21 56 08.8**	**-0.1**
	baz=248								
TWD	**Chiawan**	**0.75**	**273**	P			**Pn**	**21 56 08.6**	**0.0**
	baz=270								
TWC	**Suao**	**0.77**	**318**	⇓*i* P			**Pn**	**21 56 08.3**	**-0.6**
	baz=316								
TWC				*i* S			**Sb**	**21 56 18.4**	**-1.0**
	baz=316								
TEYL	**Yanliau Villag**	**0.77**	**257**	⇓*e*P			**Pn**	**21 56 08.8**	**-0.1**
	baz=244								
TEYL				*e*S			**Sn**	**21 56 19.8**	**+0.5**
	baz=244								
ETM	**Tongmen**	**0.84**	**265**	⇓P			**Pn**	**21 56 09.7**	**-0.3**
	baz=252								
TEGC	**Jichi Village**	**0.86**	**248**	*e*P			**Pn**	**21 56 10.2**	**0.0**
	baz=245								
TEGC				*e*S			**Sn**	**21 56 21.9**	**+0.2**
	baz=245								
ETLH	**Xiulin Townshi**	**0.87**	**281**	P			**Pn**	**21 56 10.3**	**0.0**
	baz=278								
EGS		**0.91**	**331**	⇓*i* P			**Pb**	**21 56 11.5**	**-0.3**
	baz=317								
EGS				S			**Sb**	**21 56 23.3**	**-0.2**
	baz=317								
ESL	**Shilin**	**0.93**	**256**	⇓P			**Pn**	**21 56 10.4**	**-0.6**
	baz=242								
ILA	**Ilan**	**0.94**	**320**	⇓P			**Pb**	**21 56 12.1**	**-0.1**
	baz=310								
ILA				S			**Sb**	**21 56 25.1**	**+0.7**
	baz=310								
LATG	**Datong**	**0.95**	**301**	⇑*i* P			**Pb**	**21 56 12.0**	**-0.4**
	baz=299								
LATG				*i* S			**Sb**	**21 56 25.0**	**+0.3**
	baz=299								
TWE	**Neicheng**	**0.96**	**315**	⇓P			**Pb**	**21 56 12.0**	**-0.5**
	baz=313								
TWE				*i* S			**Sb**	**21 56 24.5**	**-0.4**
	baz=313								
NTC	**Toucheng**	**0.97**	**327**	P			**Pb**	**21 56 12.5**	**-0.2**
	baz=325								
NTC				S			**Sb**	**21 56 26.0**	**+0.9**
	baz=325								
EGFH	**Guangfu**	**0.98**	**248**	⇓*e*P			**Pn**	**21 56 11.6**	**-0.2**
	baz=245								
ENTT	**Nioudou**	**0.98**	**308**	⇑*i* P			**Pn**	**21 56 11.5**	**-0.3**
	baz=305								
ENTT				S			**Sb**	**21 56 24.8**	**-0.6**
	baz=305								
NNSB	**Datong**	**1.02**	**292**	⇑*i* P			**Pb**	**21 56 13.0**	**-0.6**
	baz=290								
NNSB				S			**Sn**	**21 56 25.4**	**-0.2**
	baz=290								
NNSH	**Datong**	**1.02**	**292**	⇑*i* P			**Pn**	**21 56 12.1**	**-0.4**
	baz=277								
NNS	**Nan Shan**	**1.03**	**293**	⇑*i* P			**Pn**	**21 56 12.2**	**-0.4**
	baz=290								
NNS				*e*S			**Sn**	**21 56 25.4**	**-0.6**
	baz=290								
TWB1	**Santiao Chiao**	**1.04**	**338**	P			**Pn**	**21 56 12.9**	**+0.3**
	baz=337								
FUSB	**Fushanzhiwuyua**	**1.04**	**314**	⇑*i* P			**Pb**	**21 56 13.7**	**-0.2**
	baz=311								
FUSB				*i* S			**Sb**	**21 56 27.0**	**-0.2**
	baz=311								
WHF	**Hehuan Shan**	**1.05**	**276**	⇑*i* P			**Pn**	**21 56 13.2**	**0.0**
	baz=273								
WHF				*e*S			**Sn**	**21 56 26.6**	**-0.4**
	baz=273								
HGSD	**Ruisui**	**1.06**	**239**	⇓*i* P			**Pn**	**21 56 12.7**	**-0.2**
	baz=237								
HGSD				*e*S			**Sn**	**21 56 25.2**	**-1.3**
	baz=237								
TIPB	**Shuangxi**	**1.07**	**330**	⇑*i* P			**Pb**	**21 56 13.6**	**-0.9**
	baz=328								
TIPB				*i* S			**Sb**	**21 56 27.8**	**-0.3**
	baz=328								
FUSS	**Fushou**	**1.09**	**281**	⇑P			**Pb**	**21 56 14.2**	**-0.6**
	baz=279								
NWLT	**Wulai**	**1.11**	**312**	⇑*i* P			**Pn**	**21 56 13.7**	**+0.1**
	baz=309								
NWLT				*i* S			**Sb**	**21 56 28.3**	**-0.9**
	baz=309								
CHGB	**Renai**	**1.13**	**271**	⇓P			**Pn**	**21 56 14.7**	**+0.5**
	baz=269								
CHGB				*e*S			**Sn**	**21 56 27.5**	**-1.2**
	baz=269								
EHY	**Hungye**	**1.13**	**242**	*e*P			**Pn**	**21 56 13.9**	**0.0**
	baz=240								
YHNB	**Yeheng**	**1.14**	**304**	⇑*i* P			**Pb**	**21 56 15.0**	**-0.5**
	baz=289								
YHNB				*e*S			**Sb**	**21 56 29.8**	**-0.2**
	baz=289								
ECBN	**Changbin**	**1.14**	**231**	⇓*i* P			**Pn**	**21 56 13.0**	**-1.0**
	baz=229								
ECBN				*e*S			**Sn**	**21 56 27.1**	**-1.4**
	baz=229								
TWT	**Tachien**	**1.15**	**281**	⇑P			**Pb**	**21 56 15.2**	**-0.6**
	baz=265								
TWT				*e*S			**Sn**	**21 56 29.0**	**0.0**
	baz=265								
NSK	**Sanguang**	**1.15**	**304**	⇑*i* P			**Pn**	**21 56 14.0**	**-0.3**
	baz=288								
SXI1	**Grass Mountain**	**1.16**	**335**	⇑*i* P			**Pn**	**21 56 14.7**	**+0.3**
	baz=348								
SXI1				*e*S			**Sb**	**21 56 29.7**	**-0.9**
	baz=348								
TDCB	**Techi**	**1.17**	**281**	⇑P			**Pb**	**21 56 15.4**	**-0.7**
	baz=265								
TDCB				*e*S			**Sn**	**21 56 29.0**	**-0.3**
	baz=265								
NWF	**Wu-fen Shan**	**1.18**	**331**	⇑*i* P			**Pn**	**21 56 15.1**	**+0.5**
	baz=329								
NWF				S			**Sb**	**21 56 30.7**	**-0.4**
	baz=329								
WFSB	**Wu-fen Shan**	**1.18**	**331**	⇑*i* P			**Pb**	**21 56 15.1**	**-1.0**
	baz=329								
WFSB				S			**Sb**	**21 56 30.7**	**-0.3**
	baz=329								
WUSB	**Renai**	**1.19**	**268**	⇓P			**Pn**	**21 56 15.4**	**+0.6**
	baz=266								
WUSB				*e*S			**Sn**	**21 56 29.8**	**-0.1**
	baz=266								
VWDT	**VWDT**	**1.20**	**256**	⇓P			**Pn**	**21 56 15.4**	**+0.6**
	baz=254								
VWDT				*e*S			**Sn**	**21 56 29.7**	**-0.2**
	baz=254								
TWA	**Mucha**	**1.20**	**321**	⇑P			**Pb**	**21 56 15.8**	**-0.8**
	baz=319								
TWA				*i* S			**Sb**	**21 56 32.7**	**+0.9**
	baz=319								
YULB	**Yu-li**	**1.21**	**238**	⇓P			**Pn**	**21 56 15.1**	**+0.1**
	baz=252								
YULB				*e*S			**Sn**	**21 56 29.6**	**-0.6**
	baz=252								
EYUL	**Yuli**	**1.22**	**236**	⇓P			**Pn**	**21 56 15.5**	**+0.4**
	baz=234								
EYUL				*e*S			**Sn**	**21 56 31.0**	**+0.5**
	baz=234								
NHDH	**Xindian Distri**	**1.22**	**319**	⇑*i* P			**Pb**	**21 56 16.6**	**-0.3**
	baz=317								
NHDH				*i* S			**Sb**	**21 56 33.4**	**+1.0**
	baz=317								
TWF1	**Yuli**	**1.23**	**236**	⇓*i* P			**Pn**	**21 56 15.4**	**+0.1**
	baz=222								
TWF1				S			**Sn**	**21 56 30.9**	**+0.1**
	baz=222								
IRIF	**Iriomote-Funau**	**1.24**	**76**	*i* P			**Pn**	**21 56 16.0**	**+0.6**
IRIF				S			**Sb**	**21 56 33.3**	**+0.5**
IRIF	**Iriomote-Funau**	**1.24**	**76**	A			A	21 56 16.0	
	comp=E,196nm,2.2s,comp=E,260nm,1.4s								
TNOU	**National Taiwa**	**1.25**	**332**	⇑*e*P			**Pn**	**21 56 15.7**	**+0.2**
	baz=330								
TNOU				*e*S			**Sb**	**21 56 31.9**	**-1.2**
	baz=330								
TATO	**Taipei**	**1.25**	**318**				**Pb**	**21 56 16.8**	**-0.7**
TATO						Sn	**Sb**	**21 56 34.2**	**+0.9**
TATO	**Taipei**	**1.25**	**318**	⇑*i* P			**Pb**	**21 56 16.9**	**-0.7**
	baz=315								
TATO				*i* S			**Sb**	**21 56 33.7**	**+0.4**
	baz=315								
NHY	**Taipei**	**1.26**	**322**	*e*P			**Pb**	**21 56 17.1**	**-0.4**
	baz=337								
NHY				S			**Sb**	**21 56 33.7**	**+0.3**
	baz=337								
HATJ	**Hateruma jima**	**1.27**	**89**	P			**Pb**	**21 56 16.7**	**-1.0**
HATJ				S			**Sb**	**21 56 33.7**	**-0.1**
HATJ	**Hateruma jima**	**1.27**	**89**	A			A	21 56 16.7	
	comp=E,317nm,2.7s,comp=E,215nm,2.7s								
TAP1	**Taipei**	**1.28**	**321**	*e*P			**Pb**	**21 56 17.9**	**0.0**
	baz=318								
TAP1				*e*S			**Sb**	**21 56 34.9**	**+0.9**
	baz=318								
TAP	**Taipei**	**1.29**	**320**	⇑P			**Pb**	**21 56 17.1**	**-1.0**
	baz=318								
TAP				*e*S			**Sb**	**21 56 35.3**	**+0.9**
	baz=318								
BACT	**New Taipei Cit**	**1.30**	**317**	*e*P			**Pb**	**21 56 17.6**	**-0.6**
	baz=315								
BACT				S			**Sb**	**21 56 34.9**	**+0.3**
	baz=315								
NFF	**Wufeng Townshi**	**1.32**	**297**	⇑*e*P			**Pn**	**21 56 16.9**	**+0.3**
	baz=294								
NFF				*e*S			**Sn**	**21 56 33.6**	**+0.6**
	baz=294								
FULB	**Fuli**	**1.33**	**231**	⇓P			**Pn**	**21 56 16.2**	**-0.4**
	baz=229								
WPL	**Puli Township**	**1.33**	**269**	*e*P			**Pb**	**21 56 17.6**	**-1.1**
	baz=267								
YM01	**YM01**	**1.34**	**325**	⇑*i* P			**Pn**	**21 56 17.4**	**+0.6**
	baz=338								
YM01				S			**Sb**	**21 56 35.5**	**-0.4**
	baz=338								
CHKT	**Chengkung**	**1.34**	**226**	⇓P			**Pn**	**21 56 16.2**	**-0.6**
	baz=224								
CHKT				*e*S			**Sn**	**21 56 31.9**	**-1.6**
	baz=224								
NWRT	**Kuosheng**	**1.34**	**330**	*e*P			**Pb**	**21 56 18.3**	**-0.7**
	baz=327								
DPDB	**Guoxing**	**1.36**	**270**	*e*P			**Pb**	**21 56 18.1**	**-1.2**
	baz=268								
SSLB	**Suanglung**	**1.36**	**260**	⇓*i* P			**Pn**	**21 56 17.7**	**+0.6**
	baz=258								
SSLB				*e*S			**Sn**	**21 56 33.5**	**-0.5**
	baz=258								
WHP	**Taichung City**	**1.36**	**280**	*e*P			**Pb**	**21 56 18.6**	**-0.7**
	baz=268								
YM08	**YM08**	**1.37**	**327**	⇑*i* P			**Pn**	**21 56 17.3**	**+0.2**
	baz=324								
YM08				*e*S			**Sb**	**21 56 35.3**	**-1.2**
	baz=324								
WCS	**Beigang Elemen**	**1.37**	**271**	*e*P			**Pn**	**21 56 17.8**	**+0.6**
	baz=269								
TWS1	**Kuangyinshan**	**1.39**	**320**	*e*P			**Pb**	**21 56 18.4**	**-1.3**
	baz=334								
NJD	**Zhudong**	**1.39**	**300**	*e*P			**Pb**	**21 56 19.3**	**-0.5**
	baz=298								
SMLT	**Sun Moon Lake**	**1.39**	**264**	⇓*i* P			**Pb**	**21 56 18.7**	**-1.2**
	baz=262								
SMLT				S			**Sn**	**21 56 35.6**	**+0.6**
	baz=262								
NTY	**Taoyuan**	**1.39**	**313**	*e*P			**Pb**	**21 56 19.0**	**-0.8**
	baz=327								
ANP	**Anpu**	**1.40**	**325**	*e*P			**Pn**	**21 56 17.8**	**+0.1**
	baz=322								
LIOB	**Emei**	**1.41**	**296**	⇑*i* P			**Pb**	**21 56 19.7**	**-0.4**
	baz=293								
LIOB				S			**Sb**	**21 56 37.8**	**0.0**
	baz=293								
NSTT	**Nanjuang**	**1.42**	**295**	⇑*i* P			**Pb**	**21 56 19.6**	**-0.6**
	baz=292								
NTST	**Danshui**	**1.42**	**322**	*e*P			**Pn**	**21 56 18.8**	**+0.9**
	baz=335								
NTST				*e*S			**Sb**	**21 56 38.7**	**+0.6**
	baz=335								
TYC	**Yuchr**	**1.43**	**265**	⇓*i* P			**Pb**	**21 56 19.1**	**-1.4**
	baz=263								
TWY	**Chenhua**	**1.44**	**329**	*e*P			**Pb**	**21 56 20.1**	**-0.5**
	baz=327								
TWY				*e*S			**Sb**	**21 56 39.9**	**+1.4**
	baz=327								
ECS	**Chishang**	**1.45**	**230**	⇓*e*P			**Pn**	**21 56 18.9**	**+0.7**
	baz=217								
ECS				S			**Sn**	**21 56 37.2**	**+1.2**
	baz=217								
YUS	**Yu-Shan**	**1.45**	**248**	⇓P			**Pn**	**21 56 19.4**	**+0.7**
	baz=235								
NCU	**National Centr**	**1.45**	**310**	⇑*e*P			**Pb**	**21 56 19.8**	**-1.0**
	baz=307								
NCU				*e*S			**Sb**	**21 56 39.5**	**+0.6**
	baz=307								
NCUH	**Zhongli**	**1.45**	**310**	*e*P			**Pb**	**21 56 19.7**	**-1.1**
	baz=307								
NSM	**Shimen**	**1.45**	**329**	*e*P			**Pn**	**21 56 18.6**	**+0.3**
	baz=326								
HSN1	**Hsinchu**	**1.47**	**300**	*e*P			**Pb**	**21 56 20.4**	**-0.7**
	baz=298								
WHYT	**Xinyi Township**	**1.47**	**257**	⇓P			**Pb**	**21 56 20.1**	**-1.1**
	baz=255								
JKRS	**Kuro-shima**	**1.47**	**82**	*i* P			**Pn**	**21 56 19.4**	**+0.9**
JKRS				*e*S			**Sb**	**21 56 39.6**	**+0.1**
JKRS	**Kuro-shima**	**1.47**	**82**	A			A	21 56 19.4	
	comp=E,318nm,2.0s,comp=E,290nm,2.1s								
EDH	**Donghe**	**1.47**	**224**	⇓*e*P			**Pn**	**21 56 18.2**	**-0.4**
	baz=213								
EDH				*e*S			**Sn**	**21 56 36.1**	**-0.6**
	baz=213								
SBCB	**Hsinchu**	**1.50**	**300**	⇑P			**Pb**	**21 56 20.8**	**-0.8**
	baz=298								
SBCB				*e*S			**Sb**	**21 56 40.4**	**0.0**
	baz=298								
HSN	**Hsinchu**	**1.52**	**300**	*e*P			**Pb**	**21 56 20.5**	**-1.4**
	baz=299								
TWQ1	**Liyutan**	**1.53**	**282**	⇑*e*P			**Pb**	**21 56 21.7**	**-0.4**
	baz=280								
ELDTW	**Lidau**	**1.54**	**237**	⇓*i* P			**Pn**	**21 56 19.4**	**-0.1**
	baz=235								
NJN	**Zhunan**	**1.55**	**295**	*e*P			**Pb**	**21 56 21.1**	**-1.2**
	baz=292								
NJN				*e*S			**Sn**	**21 56 39.1**	**+0.6**
	baz=292								
WJS	**Zhushan**	**1.56**	**262**	⇓*e*P			**Pb**	**21 56 22.0**	**-0.6**
	baz=261								
WJS				*e*S			**Sb**	**21 56 42.7**	**+0.8**
	baz=261								
NMLH	**Miaoli**	**1.56**	**289**	⇑*e*P			**Pb**	**21 56 22.3**	**-0.4**
	baz=286								
ALS	**Alishan**	**1.56**	**251**	⇓*i* P			**Pb**	**21 56 21.4**	**-1.5**
	baz=249								
ALS				S			**Sn**	**21 56 40.6**	**+1.1**
	baz=249								
WWF	**Wufeng**	**1.57**	**270**	⇑*e*P			**Pb**	**21 56 21.6**	**-1.1**
	baz=269								
WWF				*e*S			**Sb**	**21 56 42.0**	**-0.2**
	baz=269								
NHW	**Xinwu Township**	**1.57**	**308**	*e*P			**Pn**	**21 56 20.9**	**+1.0**
	baz=305								
WNT	**Mingjian**	**1.59**	**264**	*e*P			**Pb**	**21 56 22.7**	**-0.4**
	baz=263								
WNT				*e*S			**Sb**	**21 56 42.5**	**-0.4**
	baz=263								
TCU	**Taichung**	**1.59**	**274**	⇑*e*P			**Pb**	**21 56 22.6**	**-0.6**
	baz=272								
WNT1	**Nantou City**	**1.59**	**266**	*e*P			**Pb**	**21 56 22.6**	**-0.6**
	baz=264								
WNT1				*e*S			**Sb**	**21 56 43.1**	**+0.1**
	baz=264								
JIJ	**Ishigaki jima**	**1.61**	**78**	P			**Pn**	**21 56 20.5**	**0.0**
JIJ				S			**Sn**	**21 56 40.9**	**+0.7**
JIJ	**Ishigaki jima**	**1.61**	**78**	A			A	21 56 20.5	
	comp=E,41nm,1.4s,comp=E,82nm,1.7s								
PCYT	**Pengchaiyu**	**1.61**	**349**	⇓P			**Pn**	**21 56 21.0**	**+0.5**
	baz=348								
PCYT				*e*S			**Sn**	**21 56 41.1**	**+1.0**
	baz=348								
LDUT	**Ludao**	**1.61**	**213**	⇓*e*P			**Pn**	**21 56 20.0**	**-0.5**
	baz=211								
LONT	**Longtian**	**1.63**	**226**	⇓*e*P			**Pn**	**21 56 20.9**	**+0.1**
	baz=238								
WDJ	**Dajia District**	**1.65**	**281**	*e*P			**Pb**	**21 56 23.2**	**-0.9**
	baz=279								
CHN5	**Tsauling**	**1.65**	**255**	*e*P			**Pn**	**21 56 22.4**	**+1.3**
	baz=253								
WYL	**Yuanlin Townsh**	**1.68**	**268**	*e*P			**Pb**	**21 56 24.1**	**-0.6**
	baz=266								
WYL				*e*S			**Sb**	**21 56 45.6**	**+0.2**
	baz=266								
WCHH	**Zhanghua**	**1.70**	**272**	*e*P			**Pb**	**21 56 24.5**	**-0.5**
	baz=270								
TWGBT	**Beinan**	**1.73**	**225**	⇓*e*P			**Pn**	**21 56 21.9**	**-0.2**
	baz=236								
TWGBT				*e*S			**Sn**	**21 56 42.3**	**-0.7**
	baz=236								
TWG	**Pinlang**	**1.73**	**226**	⇓P			**Pn**	**21 56 22.0**	**-0.1**
	baz=236								
TWG				*e*S			**Sn**	**21 56 42.7**	**-0.4**
	baz=236								
TTN	**Taitung**	**1.73**	**222**	*e*P			**Pn**	**21 56 22.8**	**+0.7**
	baz=221								
WGK	**Gukeng**	**1.73**	**259**	*e*P			**Pb**	**21 56 24.2**	**-1.3**
	baz=257								
STYH	**Taoyuan**	**1.73**	**240**	⇓*i* P			**Pn**	**21 56 22.5**	**+0.3**
	baz=229								
STYH				*e*S			**Sn**	**21 56 43.8**	**+0.6**
	baz=229								
WDLH	**Douliu**	**1.75**	**259**	*e*P			**Pb**	**21 56 24.8**	**-1.1**
	baz=257								
STYT	**Tauyuan**	**1.75**	**240**	⇓*i* P			**Pn**	**21 56 23.7**	**+1.2**
	baz=229								
STYT				*e*S			**Sn**	**21 56 45.5**	**+1.8**
	baz=229								
TPUB	**Ta-pu**	**1.79**	**246**	⇓*i* P			**Pb**	**21 56 25.1**	**-1.5**
	baz=245								
TPUB				S			**Sn**	**21 56 46.6**	**+1.9**
	baz=245								
CHN4	**Tsaushan**	**1.80**	**248**	⇓P			**Pn**	**21 56 24.3**	**+1.1**
	baz=247								
JISG	**Ishigakijimahi**	**1.81**	**72**	*i* P			**Pn**	**21 56 23.5**	**+0.2**
JISG				S			**Sn**	**21 56 45.4**	**+0.2**
JISG	**Ishigakijimahi**	**1.81**	**72**	A			A	21 56 23.5	
	comp=E,59nm,0.6s,comp=E,78nm,1.9s								
WTP	**Ta-pu**	**1.83**	**245**	⇓*i* P			**Pb**	**21 56 25.6**	**-1.6**
	baz=244								
WTP				*e*S			**Sb**	**21 56 49.0**	**-0.8**
	baz=244								
CHN2	**Minshiung**	**1.85**	**254**	*e*P			**Pb**	**21 56 26.6**	**-0.9**
	baz=253								
CHN2				*e*S			**Sb**	**21 56 50.0**	**-0.2**
	baz=253								
WRL	**Guolierlin Hig**	**1.87**	**266**	*e*P			**Pn**	**21 56 25.7**	**+1.7**
	baz=265								
WRL				*e*S			**Sb**	**21 56 49.8**	**-1.0**
	baz=265								
WTK	**Tuku**	**1.89**	**260**	*e*P			**Pb**	**21 56 27.6**	**-0.6**
	baz=247								
CHY	**Chiayi**	**1.90**	**254**	*e*P			**Pb**	**21 56 27.5**	**-0.9**
	baz=252								
TWK	**Hsinying**	**1.93**	**247**	⇓*i* P			**Pb**	**21 56 27.1**	**-1.8**
	baz=246								
TWK				*i* S			**Sb**	**21 56 51.6**	**-0.9**
	baz=246								
CHN1	**Nanshi**	**1.93**	**244**	⇓*i* P			**Pb**	**21 56 27.3**	**-1.6**
	baz=243								
CHN1				*e*S			**Sb**	**21 56 51.1**	**-1.5**
	baz=243								
SLGT	**Liugui**	**1.93**	**238**	⇓*e*P			**Pn**	**21 56 26.4**	**+1.6**
	baz=227								
SGST	**Jiashian**	**1.93**	**241**	⇓P			**Pn**	**21 56 26.1**	**+1.1**
	baz=228								
SGST				*e*S			**Sb**	**21 56 51.2**	**-1.5**
	baz=228								
SNST	**Tainan City**	**1.94**	**245**	⇓*e*P			**Pb**	**21 56 29.0**	**0.0**
	baz=244								
WTCT	**Ta-ch'eng**	**1.96**	**265**	*e*P			**Pb**	**21 56 27.9**	**-1.4**
	baz=277								
WTCT				S			**Sb**	**21 56 52.2**	**-1.2**
	baz=277								
ECL	**Taimali**	**1.97**	**223**	⇓P			**Pn**	**21 56 24.8**	**-0.6**
	baz=233								
WMLT	**Mailiao**	**2.02**	**264**	*e*P			**Pb**	**21 56 29.3**	**-1.1**
	baz=262								
WSF	**Szhu**	**2.05**	**259**	*e*P			**Pb**	**21 56 29.1**	**-1.8**
	baz=258								
WSF				*e*S			**Sb**	**21 56 54.6**	**-1.3**
	baz=258								
WSL	**Shuilin Townsh**

baz=229
EAST Anshuo 2.19 221 ⇓*i*P **Pn 21 56 28.4 -0.1**
baz=220
TWM1 Shoushan 2.19 237 ⇓P **Pb 21 56 32.2 -1.2**
baz=235
TWM1 *e*S **Sb 21 57 01.2 +1.0**
baz=235
SGLT Jiouru 2.20 234 *e*P **Pb 21 56 31.4 -2.1**
baz=233
SCLT Jiali 2.21 247 *e*P **Pb 21 56 31.5 -2.1**
baz=247
SCLT *e*S **Sb 21 56 58.9 -1.8**
baz=247
TSPT Pingtung City 2.22 233 *e*P **Pb 21 56 32.8 -1.1**
baz=225
TAI1 Yung-k'ang 2.24 244 *e*P **Pb 21 56 32.2 -1.9**
baz=257
TAI1 *e*S **Sb 21 56 60.0 -1.5**
baz=257
TAI Tainan 2.29 243 *e*P **Pb 21 56 32.8 -2.2**
baz=242
TSCK Chigu Township 2.31 248 *e*P **Pn 21 56 31.1 +1.0**
baz=247
SCZT Fangliau 2.34 225 ⇓P **Pn 21 56 31.7 +1.1**
baz=217
SCZT *e*S **Sb 21 57 01.4 -3.0**
baz=217
SLIU Shizi 2.35 220 ⇓*e*P **Pn 21 56 30.9 +0.3**
baz=219
WSSB Gushan 2.42 235 *e*P **Pb 21 56 35.0 -2.2**
baz=235
KAU Kaohsiung 2.43 233 *e*P **Pb 21 56 37.1 -0.2**
baz=233
SMST Manzhou Townsh 2.48 216 ⇓*e*P **Pn 21 56 32.8 +0.3**
baz=215
TWP Hsiaoliuchiu 2.53 229 *e*P **Pn 21 56 35.8 +2.6**
baz=242
HEN Hengchun 2.55 218 *e*P **Pn 21 56 35.2 +1.8**
baz=217
TSEB Hengchuen, Pin 2.55 213 ⇑*e*P **Pn 21 56 30.5 -2.9**
baz=214
TWKBT Hengchun 2.56 216 ⇓*e*P **Pn 21 56 34.4 +0.9**
TWKBT *e*S **Sn 21 57 03.6 0.0**
baz=214
TWK1 Hengchun 2.56 216 *e*P **Pn 21 56 34.5 +0.9**
baz=215
JIRB Irabujima 2.63 72 A A 21 56 36.4
comp=E,64nm,3.8s,comp=E,62nm,4.2s
WDGT Dungji 2.64 253 *e*P **Pn 21 56 36.2 +1.6**
baz=252
PHUB P'eng-hu 2.66 259 *e*P **Pn 21 56 36.2 +1.3**
baz=273
PHUB *e*S **Sn 21 57 07.1 +1.2**
baz=273
PNG Penghu 2.66 260 ⇑*e*P **Pn 21 56 36.2 +1.3**
baz=259
PNG *e*S **Sn 21 57 07.4 +1.4**
baz=259
JIKM Ikemajima 2.73 71 A A 21 56 37.7
comp=E,63nm,2.2s,comp=E,79nm,3.2s
JMJ Miyako jima 2 2.74 73 ⇑P **Pn 21 56 38.2 +2.3**
baz=75
JMJ S **Sn 21 57 09.7 +1.8**
baz=75
JMJ2 Miyako jima3 2.75 75 A A 21 56 38.0
comp=E,91nm,4.1s,comp=E,71nm,2.7s
JOGS Gusukube 2.82 75 A A 21 56 39.0
comp=E,91nm,2.8s,comp=E,89nm,4.8s
VCHM Qimei 2.86 254 *e*P **Pn 21 56 39.5 +1.9**
baz=253
VWUC VWUC 2.86 290 ⇑*e*P **Pn 21 56 38.1 +0.4**
baz=288
MATB Ma-tsu 3.07 314 ⇑*e*P **Pn 21 56 40.8 +0.2**
baz=299
MSUT Lienchiang 3.10 314 ⇑*e*P **Pn 21 56 40.9 0.0**
baz=299
PTMZ Houxiangcun 3.16 289 ⇑*e*P **Pn 21 56 42.3 +0.5**
baz=287
LYJJ Jianjiangzhen 3.46 317 ⇑*e*P **Pn 21 56 46.2 +0.2**
baz=302
XPSS Dashiqiu 3.51 326 ⇑*e*P **Pn 21 56 47.2 +0.6**
baz=321
QZH Quanzhou 3.59 285 ⇑*i*Pn **Pn 21 56 48.1 +0.3**
QZH Sn **Sn 21 57 27.8 -1.3**
QZH smax smax
comp=N,3μm,0.9s
QZH smax smax
comp=E,2μm,0.8s
QZH LR LR
comp=E,13μm,14.9s
QZH LR LR
comp=Z,14μm,14.2s
KNM Kinmen 3.65 277 ⇑*e*P **Pn 21 56 50.9 +2.3**
baz=275
MHZQ Yeshan 3.69 304 ⇑*e*P **Pn 21 56 49.0 0.0**
baz=302
KNMB Chin-men Tao 3.70 277 ⇑*e*P **Pn 21 56 49.6 +0.4**
baz=276
AXDP Jialang 4.14 283 ⇑*e*P **Pn 21 56 56.0 +0.7**
baz=281
ZPLA Ao Xicun 4.27 269 *e*P **Pn 21 56 57.8 +0.8**
baz=268
JKE Kume jima 2 4.57 59 A A 21 57 03.9
comp=E,5.0nm,5.6s,comp=E,4.0nm,7.5s
DSXP Dongshan 4.58 267 *e*P **Pn 21 57 02.2 +0.9**
baz=266
CICP Calayan Island 4.83 191 ⇑*e*P **Pn 21 57 04.3 -0.5**
CICP *e*S **Sn 21 57 56.5 -3.2**
JAGN Aguni-jima 5.05 59 A A 21 57 10.7
comp=E,9.0nm,3.0s,comp=E,8.0nm,3.3s
JJT3 Tamagusuku3 5.30 66 A A 21 57 14.1
comp=E,35nm,2.8s,comp=E,35nm,3.8s
PACPP Pamplona Cagay 5.64 190 ⇓*e*P **Pn 21 57 16.4 +0.4**
PACPP *e*S **Sn 21 58 17.6 -2.1**
JIH Iheya 5.83 58 A A 21 57 21.6
comp=E,7.0nm,3.4s,comp=E,3.0nm,6.0s
JOW Kunigami 5.98 61 Pn **Pn 21 57 19.7 -0.9**
29nm,0.3s,baz=200,slow=10,SNR=48
JOW Sn **Sn 21 58 25.4 -2.7**
baz=17,slow=11
56nm,0.3s
JOW Kunigami 5.98 61 *e*P **Pn 21 57 19.8 -0.8**
baz=65
JOW Kunigami 5.98 61 A A 21 57 23.7
comp=E,4.0nm,5.3s,comp=E,4.0nm,3.9s
SSE Sheshan 7.11 351 Pn **Pn 21 57 36.0 -0.1**
SSE Sn **Sn 21 58 56.6 +0.8**
SSE smax smax
comp=N,330nm,1.2s
SSE smax smax
comp=E,510nm,1.0s
SSE LR LR
comp=N,6μm,16.8s
SSE LR LR
comp=E,3μm,16.7s
HKPS Hong Kong Po S 7.81 259 Pn **Pn 21 57 44.9 -0.9**
PCPH Palayan 8.53 189 ⇑*e*P **Pn 21 57 58.0 +2.4**
NJ2 Nanjing 8.58 339 *e*P **Pn 21 57 54.5 -1.7**
NJ2 S **Sn 21 59 29.6 -2.2**
NJ2 pmax pmax
comp=Z,37nm,0.7s
NJ2 smax smax
comp=N,1μm,0.9s
NJ2 smax smax
comp=E,1μm,1.2s
NJ2 LR LR
comp=N,15μm,12.3s
NJ2 LR LR
comp=E,10μm,8.1s
NJ2 LR LR
comp=Z,20μm,12.1s
CNSH ChangSha 9.47 298 ⇓P **Pn 21 58 07.3 -1.1**
CNSH S **Sn 21 59 52.3 -1.4**
CNSH smax smax
comp=N,2μm,1.7s
CNSH smax smax
comp=E,2μm,1.1s
WHN Wuhan 9.66 314 ⇓P **Pn 21 58 10.3 -0.8**
WHN S **Sn 21 59 54.0 -4.5**
WHN LR LR
comp=N,19μm,17.3s
WHN LR LR
comp=E,17μm,14.6s
WHN LR LR
comp=Z,20μm,16.6s
LQP Lukban 9.91 185 ⇓*e*P **Pn 21 58 13.7 -1.1**
JSU Suzuyama 10.29 42 **Pn 21 58 20.1 +0.4**

GULI GuiLin 11.03 279 *e*P **Pn 21 58 29.6 -0.2**
GULI LR LR
comp=N,3μm,10.3s
GULI LR LR
comp=E,7μm,13.0s
GULI LR LR
comp=Z,9μm,14.1s
JNU Nakatsue 11.71 38 Pn **Pn 21 58 40.0 +0.9**
JTU Tsushima 12.09 29 **Pn 21 58 45.4 +1.0**
QIZ Qiongzhong 12.71 249 P **Pn 21 58 51.9 -1.0**
QIZ S **Sn 22 01 14.3 +0.9**
QIZ LR LR
comp=N,4μm,16.7s
QIZ LR LR
comp=E,2μm,21.6s
QIZ LR LR
comp=Z,4μm,18.3s
TIA Tai'an 12.96 341 P **Pn 21 58 59.8 +3.6**
TIA pmax pmax
comp=Z,39nm,1.2s
TIA LR LR
comp=N,8μm,12.5s
TIA LR LR
comp=E,4μm,12.7s
TIA LR LR
comp=Z,14μm,14.2s
TJN Taejon 13.02 18 **Pn 21 58 57.2 +0.3**
TJN Taejon 13.02 18 P **Pn 21 58 57.2 +0.3**
ENH Enshi 13.07 301 Pn **Pn 21 58 58.8 +1.0**
LYN LuoYang 13.59 323 *e*P **Pn 21 59 08.8 +4.0**
LYN pmax pmax
comp=Z,90nm,0.9s
LYN LR LR
comp=N,10μm,16.1s
LYN LR LR
comp=Z,10μm,17.1s
INCN Inchon 13.88 14 Pn **Pn 21 59 09.3 +0.5**
INCN Inchon 13.88 14 P **Pn 21 59 09.3 +0.5**
JMN Monobe 13.92 44 Pn **Pn 21 59 06.5 -2.9**
KSAR Wonju Array Be 14.16 18 Pn **Pn 21 59 14.9 +2.4**
KSAR Wonju Array Be 14.16 18 P **Pn 21 59 14.9 +2.4**
KSRS Korea Array 14.18 18 Pn **Pn 21 59 14.8 +1.9**
4.0nm,0.3s,baz=198,slow=10,SNR=76
KSRS LR LR 22 05 11.4
comp=Z,5μm,19.2s,baz=205,slow=40
KS19 Wonju Array Si 14.21 18 P **P 21 59 19.7 -0.5**
HJU Haeju 14.24 11 P **Pn 21 59 16.4 +2.8**
HJU pP **P 21 59 20.8 +0.2**
HJU S **Sn 22 01 55.0 +4.5**
HJU AMS AMS
comp=N,3μm,2.8s
HJU AMS AMS
comp=E,6μm,6.2s
HJU AMS AMS
comp=Z,14μm,14.1s
TBP Tagbilaran 14.34 174 ⇓*i*P **Pn 21 59 16.6 +1.4**
JHS Saijyo 14.34 38 Pn **Pn 21 59 17.7 +2.6**
GYA Guiyang 14.45 283 ⇑P **Pn 21 59 17.8 +1.0**
GYA PP **PnPn 21 59 26.3 +1.5**
GYA S **Sn 22 01 59.3 +3.3**
GYA pmax pmax
comp=Z,71nm,1.0s
GYA pmax pmax
comp=Z,500nm,3.9s
GYA LR LR
comp=Z,4μm,13.4s
GYA LR LR
comp=Z,6μm,11.4s
GYA LR LR
comp=Z,8μm,14.2s
DL2 Dalian 14.84 358 P **Pn 21 59 23.6 +1.9**
DL2 S **Sn 22 02 04.8 -0.1**
DL2 pmax pmax
comp=Z,32nm,1.4s
DL2 pmax pmax
comp=Z,470nm,3.9s
DL2 LR LR
comp=Z,7μm,13.7s
DL2 LR LR
comp=Z,2μm,14.5s
DL2 LR LR
comp=Z,7μm,18.6s
HNS HongShan 14.86 335 ⇓P **Pn 21 59 23.6 +1.5**
HNS PP **PnPn 21 59 36.3 +6.0**
HNS S **Sn 22 02 10.8 +5.2**
HNS pmax pmax
comp=Z,53nm,1.6s
HNS pmax pmax
comp=Z,950nm,4.3s
HNS LR LR
comp=Z,10μm,13.9s
HNS LR LR
comp=Z,8μm,13.5s
HNS LR LR
comp=Z,13μm,14.6s
PYAG Pyongyang 15.23 10 P **P 21 59 29.6 -2.0**
PYAG pP **pP 21 59 33.4 -6.5**
PYAG S **Sn 22 02 17.9 +3.3**
PYAG AMS AMS
comp=N,2μm,4.8s
PYAG AMS AMS
comp=E,2μm,5.3s
PYAG AMS AMS
comp=Z,2μm,4.8s
DCPH Dipolog City 15.40 177 ⇓*e*P **P 21 59 34.6 +1.1**
XAN Xi'an 15.43 313 ⇑P **Pn 21 59 30.3 +0.7**
XAN pP P 21 59 35.4 +1.5
XAN SS **S 22 02 36.8 +2.0**
XAN pmax pmax
comp=Z,29nm,0.9s
XAN pmax pmax
comp=Z,940nm,5.4s
XAN LR LR
comp=Z,4μm,15.2s
XAN LR LR
comp=Z,4μm,15.9s
XAN LR LR
comp=Z,7μm,16.8s
TIY Taiyuan 16.08 330 ⇑P **P 21 59 41.1 0.0**
TIY pmax pmax
comp=Z,42nm,0.6s
TIY pmax pmax
comp=Z,860nm,4.3s
TIY LR LR
comp=Z,9μm,15.0s
TIY LR LR
comp=Z,4μm,14.4s
TIY LR LR
comp=Z,9μm,13.2s
SUJ Sinuiju 16.11 6 P **P 21 59 40.9 -0.4**
SUJ pP **Pn 21 59 43.5 +5.2**
SUJ S **Sn 22 02 41.3 +5.3**
SUJ AMS AMS
comp=N,2μm,1.9s
SUJ AMS AMS
comp=E,7μm,6.7s
SUJ AMS AMS
comp=Z,17μm,15.7s
HHU Hamhung 16.42 14 P **P 21 59 45.0 +0.3**
HHU sP **pP 21 59 52.0 -0.8**
HHU S **Sn 22 02 42.8 -0.6**
HHU AMS AMS
comp=N,636nm,1.8s
HHU AMS AMS
comp=E,607nm,1.7s
HHU AMS AMS
comp=Z,889nm,2.5s
BJT Baijiatuao 16.78 343 P **P 21 59 48.3 -0.4**
BJT Baijiatuao 16.78 343 P **P 21 59 48.3 -0.4**
BJT pmax pmax
comp=Z,82nm,1.2s
BJI Beijing 16.80 343 P **Pn 21 59 47.8 +0.8**
BJI pP **P 21 59 51.9 +3.0**
BJI sP **pP 21 59 56.0 -1.1**
BJI PP **sP 22 00 01.0 +0.6**
BJI S **Sn 22 02 53.3 +0.7**
BJI pmax pmax
comp=Z,41nm,1.5s
BJI pmax pmax
comp=Z,1μm,6.0s
BJI LR LR
comp=Z,6μm,12.0s
BJI LR LR
comp=Z,2μm,10.8s
BJI LR LR
comp=Z,7μm,13.3s

KCP Kidapawan 17.13 171 ⇑*e*P **P 21 59 55.3 +2.4**
DAV Davao City (W) 17.15 169 LR LR 22 06 21.8
comp=Z,3μm,21.1s,baz=4.0,slow=36
JGF Kuroka 17.32 45 **Pn 21 59 53.7 0.0**
JHJ Hachijo jima 2 17.72 55 P **Pn 21 59 58.1 -0.4**
comp=Z,13nm,0.3s,baz=234,slow=19,SNR=2.4
JHJ LR LR 22 06 19.2
comp=Z,2μm,21.4s,baz=268,slow=36
comp=Z,238nm,0.9s
SNY Shenyang 17.77 3 ⇑P **P 22 00 00.3 +0.7**
SNY pP **sP 22 00 09.9 -1.2**
SNY pmax pmax
comp=Z,600nm,0.9s
SNY pmax pmax
comp=Z,2μm,5.4s
SNY LR LR
comp=Z,6μm,12.2s
SNY LR LR
comp=Z,4μm,16.4s
SNY LR LR
comp=Z,9μm,13.4s
CD2 Chengdu 17.90 297 P **P 22 00 01.8 +0.5**
CD2 sP pP 22 00 06.3 -2.8
CD2 S **S 22 03 24.4 -0.9**
CD2 pmax pmax
comp=Z,130nm,0.7s
CD2 pmax pmax
comp=Z,610nm,6.6s
CD2 LR LR
comp=Z,6μm,4.8s
CD2 LR LR
comp=Z,5μm,4.9s
CD2 LR LR
comp=Z,6μm,14.2s
KMI Kunming 17.93 278 ⇑P **P 22 00 05.1 +3.3**
KMI sP sP 22 00 12.5 -0.8
KMI S **Sn 22 03 19.4 -1.2**
KMI pmax pmax
comp=Z,24nm,2.0s
KMI LR LR
comp=Z,2μm,12.5s
KMI LR LR
comp=Z,6μm,14.1s
KMI LR LR
comp=Z,6μm,14.2s
JCJ Chichijima 18.09 76 LR LR 22 06 25.0
comp=Z,2μm,19.6s,baz=280,slow=35
MAJO Matsushiro 18.44 44 P **P 22 00 06.9 -0.3**
MAJO Matsushiro 18.44 44 *i*P **P 22 00 06.2 -1.0**
MJB9 Matsu-Tunnel 18.44 44 P **Pn 22 00 07.3 -0.1**
MJAR Matsushiro Arr 18.44 44 P **P 22 00 04.3 -2.8**
comp=Z,6.6nm,0.8s,baz=241,slow=9.9,SNR=12
MJAR LR LR 22 07 48.5
comp=Z,3μm,20.7s,baz=224,slow=39
PZH PanZhiHua 18.85 282 P **Pn 22 00 14.4 +1.8**
PZH S **Sn 22 03 43.4 +0.6**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,480nm,3.5s
PZH LR LR
comp=Z,11μm,20.8s
PZH LR LR
comp=Z,9μm,19.0s
PZH LR LR
comp=Z,14μm,16.8s
KKM Kota Kinabalu 18.86 199 **Pn 22 00 12.5 -0.2**
MYLDM Lahad Datu 19.13 192 **Pn 22 00 17.4 +1.6**
BTO Baotou 19.52 331 *e*P **Pn 22 00 21.8 +1.3**
BTO S **Sn 22 04 01.4 +2.7**
BTO LR LR
comp=Z,33μm,14.4s
BTO LR LR
comp=Z,15μm,13.7s
MSHR Mys Shultsa 19.86 19 *ce*P **P 22 00 21.0 -1.6**
MSHR pmax pmax
comp=Z,110nm,1.0s
CN2 Changchun 19.87 6 P **P 22 00 21.8 -0.9**
CN2 sP sP 22 00 35.5 +1.3
CN2 S **S 22 03 56.6 -8.0**
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 pmax pmax
comp=Z,1μm,9.0s
CN2 LR LR
comp=Z,8μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,9μm,16.0s
LZH Lanzhou 20.02 311 ⇑*i*P **Pn 22 00 26.8 +0.3**
LZH pP pP 22 00 30.4 -2.1
LZH sP sP 22 00 33.4 -2.7
LZH PP **PnPn 22 00 41.6 +0.5**
LZH S **S 22 04 08.8 +0.7**
LZH sS sS 22 04 18.9 -1.9
LZH PcP **PcP 22 04 41.3 +1.4**
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,810nm,4.1s
LZH LR LR
comp=Z,4μm,11.7s
LZH LR LR
comp=Z,5μm,13.1s
LZH LR LR
comp=Z,7μm,16.1s
XLT XiLinHaoTe 20.48 347 ⇑*i*P **P 22 00 29.1 -0.3**
XLT pP Pn 22 00 32.5 +0.8
XLT sP pP 22 00 36.3 -1.4
XLT PP **PnPn 22 00 52.8 +5.5**
XLT S **S 22 04 17.6 +0.6**
XLT SS **SnSn 22 04 48.1 +11**
XLT pmax pmax
comp=Z,67nm,1.1s
XLT pmax pmax
comp=Z,1μm,11.4s
XLT LR LR
comp=Z,610nm,13.4s
XLT LR LR
comp=Z,3μm,17.1s
XLT LR LR
comp=Z,9μm,14.5s
CRAI Chiangrai 20.76 264 P Pn 22 00 34.4 -0.7
MDJ Mudanjiang 21.35 14 P **P 22 00 37.9 -0.8**
MDJ Mudanjiang 21.35 14 P **P 22 00 37.4 -1.3**
MDJ pmax pmax
comp=Z,13nm,1.5s
MDJ pmax pmax
comp=Z,430nm,3.8s
MDJ LR LR
comp=Z,4μm,15.6s
MDJ LR LR
comp=Z,4μm,13.2s
MDJ LR LR
comp=Z,7μm,13.2s
PHRA Phrae 21.39 259 P **P 22 00 40.3 +1.0**
PHRA IAmb IAmb 22 00 48.8
comp=Z,212nm,1.1s
USA0B Ussuriysk Arra 21.58 19 P **P 22 00 39.1 -2.0**
USA0B Ussuriysk Arra 21.58 19 P **P 22 00 39.2 -2.0**
USA0B pmax pmax
comp=Z,43nm,0.9s
USRK Ussuriysk Ar. 21.58 19 P **P 22 00 39.0 -2.2**
comp=Z,40nm,0.8s,baz=205,slow=9.8,SNR=54
USRK LR LR 22 09 43.5
comp=Z,4μm,18.0s,baz=197,slow=39
comp=Z,40nm,0.8s
TNCH TengChong 21.76 278 P **P 22 00 45.5 +2.0**
TNCH pP pP 22 00 47.3 -4.0
TNCH sP sP 22 00 51.1 -3.9
TNCH PP **PnPn 22 01 07.5 +2.5**
TNCH S **S 22 04 36.8 -5.8**
TNCH sS Sn 22 04 48.8 -4.0
TNCH pmax pmax
comp=Z,75nm,1.1s
TNCH pmax pmax
comp=Z,470nm,4.3s
TNCH LR LR
comp=Z,1μm,12.1s
TNCH LR LR
comp=Z,4μm,14.4s
TNCH LR LR
comp=Z,6μm,14.7s
BNX BinXian 22.02 9 ⇑P **P 22 00 45.4 -0.5**
BNX pP **sP 22 00 57.0 -0.5**

BNX sP **pwP** **22 01 01.3 +4.8**
BNX PP **PnPn** **22 01 11.8 +3.5**
BNX S **S** **22 04 46.8 -0.2**
BNX sS **pS** **22 04 57.6 -0.2**
BNX pmax pmax
comp=Z,14nm,0.8s
BNX pmax pmax
comp=Z,230nm,6.3s
BNX LR LR
comp=Z,5μm,15.9s
BNX LR LR
comp=Z,2μm,12.3s
BNX LR LR
comp=Z,6μm,15.6s
CHTO Chiang Mai 22.45 261 P **P** **22 00 51.1 +0.4**
CHTO Chiang Mai 22.45 261 P **P** **22 00 51.1 +0.4**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
CM31 Chiang Mai Arr 22.56 260 P **P** **22 00 53.3 +1.4**
CMAR Chiang Mai Arr 22.56 260 P **P** **22 00 53.9 +2.0**
comp=Z,5.2nm,0.8s,baz=63,slow=8.5,SNR=39
CMAR LR LR 22 10 42.9
comp=Z,1μm,21.6s,baz=85,slow=39
comp=Z,5.2nm,0.8s
CMAR Chiang Mai Arr 22.56 260 *i* P **P** **22 00 53.9 +2.0**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
TOLI2 Tolitoli 22.85 184 P **P** **22 00 54.5 -0.5**
TOLI2 IAmb IAmb 22 01 03.2
comp=Z,111nm,1.4s
JTM Tenmabayashi 22.87 39 P **P** **22 00 48.5 -6.5**
GTOI Gorontalo 23.27 178 P **P** **22 01 00.8 +1.6**
comp=Z,666nmcomp=Z,34nm,1.6s
MRSI Marisa 23.43 181 P **P** **22 01 05.7 +4.9**
comp=Z,1μmcomp=Z,65nm,1.6s
SBUM Sibu 23.62 206 P **P** **22 01 03.4 +0.7**
TNTI Ternate 23.62 168 P **P** **22 01 03.6 +1.0**
TNTI Ternate 23.62 168 P **P** **22 01 05.5 +2.8**
comp=Z,2μmcomp=Z,105nm,1.8s
GUMO Guam 23.63 112 P **P** **22 01 04.0 +1.3**
comp=Z,185nm,1.1s,baz=305,slow=0.4,SNR=5.6
GUMO LR LR 22 09 49.2
comp=Z,2μm,19.5s,baz=296,slow=35
comp=Z,185nm,1.1s
GUMO Guam 23.63 112 P **P** **22 01 02.4 -0.3**
GUMO Guam 23.63 112 P **P** **22 01 04.0 +1.3**
MPSI Mapaga 23.69 186 P **P** **22 01 05.5 +2.2**
comp=Z,842nmcomp=Z,32nm,1.3s
GTA Gaotai 24.49 314 ⇑P **P** **22 01 10.5 -0.2**
GTA pP pwP 22 01 23.0 -0.1
GTA PcP **PcP** **22 04 49.1 +0.4**
GTA S **S** **22 05 30.5 +1.5**
GTA ScP **ScP** **22 08 25.4 +0.3**
GTA PcS **PcS** **22 08 28.0 -0.8**
GTA ScS **ScS** **22 12 16.6 +3.7**
GTA pmax pmax
comp=Z,150nm,1.0s
GTA pmax pmax
comp=Z,350nm,5.8s
GTA LR LR
comp=Z,2μm,19.6s
GTA LR LR
comp=Z,3μm,16.7s
GTA LR LR
comp=Z,4μm,16.0s
APSI Ampana 24.81 182 P **P** **22 01 17.6 +4.0**
comp=Z,1μmcomp=Z,94nm,1.2s
ERM Erimo 24.87 39 P **P** **22 01 09.6 -4.3**
JEM Erimo 24.87 39 P **P** **22 01 09.5 -4.4**
LBMI Labuha 25.02 168 P **P** **22 01 17.8 +2.3**
comp=Z,4μmcomp=Z,292nm,1.2s
HIA Hailar 25.27 356 P **P** **22 01 16.8 -0.7**
HIA Hailar 25.27 356 P **P** **22 01 16.8 -0.7**
HIA pmax pmax
comp=Z,42nm,1.1s
KSM Kuching 25.31 209 P **P** **22 01 18.2 0.0**
BKB Balikpapan 25.71 193 P **P** **22 01 20.5 -1.3**
BKB Balikpapan 25.71 193 P **P** **22 01 22.1 +0.3**
comp=Z,2μmcomp=Z,52nm,1.8s
MTKI Muara Teweh, K 25.89 197 P **P** **22 01 25.1 +1.7**
comp=Z,62nm,1.0s
ASAJ Asahikawa 25.96 35 LR LR 22 11 35.6
comp=Z,2μm,20.4s,baz=246,slow=37
SANI Sanana 26.17 172 P **P** **22 01 27.0 +1.1**
comp=Z,958nmcomp=Z,50nm,1.3s
KLR Kul'dur 26.19 14 P **P** **22 01 23.4 -2.4**
comp=Z,8.2nm,0.8s,baz=180,slow=3.2,SNR=14
KLR PcP **PcP** **22 04 51.8 -0.4**
comp=Z,6.8nm,0.8s,baz=254,slow=4.4,SNR=5.4
KLR LR LR 22 12 47.7
comp=Z,4μm,18.8s,baz=197,slow=39
comp=Z,8.2nm,0.8s
KLR Kul'dur 26.19 14*ce*P **P** **22 01 22.8 -3.0**
KLR pmax pmax
comp=Z,17nm,1.3s
SIJI Sorong 26.21 160 P **P** **22 01 27.3 +1.0**
comp=Z,4.6nm,0.5s,baz=348,slow=12,SNR=7.3
SIJI LR LR 22 10 57.9
comp=Z,821nm,19.7s,baz=19,slow=34
comp=Z,4.6nm,0.5s
HEH HeiHe 26.45 7 *e*P **P** **22 01 25.0 -3.2**
HEH S **S** **22 06 08.5 +8.8**
HEH pmax pmax
comp=Z,31nm,0.8s
HEH pmax pmax
comp=Z,500nm,4.2s
HEH LR LR
comp=Z,4μm,15.1s
HEH LR LR
comp=Z,2μm,12.4s
HEH LR LR
comp=Z,7μm,15.0s
SRIT Nakonsritamara 26.68 239 P **P** **22 01 31.5 +1.0**
ULN Ulaanbaatar 26.73 337 P **P** **22 01 29.7 -1.2**
ULN Ulaanbaatar 26.73 337 P **P** **22 01 29.7 -1.2**
ULN pmax pmax
comp=Z,39nm,1.0s
SONM Songino Array 26.95 336 P **P** **22 01 31.8 -1.1**
comp=Z,74nm,1.1s,baz=153,slow=8.8,SNR=268
SONM PcP **PcP** **22 04 54.2 0.0**
comp=Z,7.6nm,1.0s,baz=145,slow=3.5,SNR=7.9
SONM ScP **ScP** **22 08 31.3 -0.7**
comp=Z,2.5nm,1.1s,baz=145,slow=3.5,SNR=5.0
SONM LR LR 22 13 48.8
comp=Z,5μm,18.1s,baz=160,slow=40
comp=Z,74nm,1.1s
SONM Songino Array 26.95 336 P **P** **22 01 31.8 -1.1**
SONM IAmb IAmb 22 01 33.3
comp=Z,116nm,1.2s
SONM Songino Array 26.95 336 P **P** **22 01 31.8 -1.1**
SONM pmax pmax
comp=Z,116nm,1.2s
NLAI Namlea 27.50 170 P **P** **22 01 41.2 +3.3**
comp=Z,4μmcomp=Z,40nm,0.9s
SHL Shillong 27.73 280 P **P** **22 01 40.1 0.0**
SHL IAmb IAmb 22 01 57.1
comp=Z,58nm,1.0s
SHL Shillong 27.73 280 P **P** **22 01 40.1 0.0**
SHL pmax pmax
comp=Z,58nm,1.0s
KULM Kulim 28.04 232 P **P** **22 01 43.0 +0.2**
YSS Yuzh-Sakhalins 28.07 30 P **P** **22 01 42.8 +0.1**
YSS IAmb IAmb 22 01 44.5
comp=Z,51nm,1.0s
YSS Yuzh-Sakhalins 28.07 30 *e*P **P** **22 01 43.1 +0.4**
YSS *e*S **S** **22 06 19.7 -5.6**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=N,1μm,15.0s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS MLR MLR
comp=E,2μm,18.0s
BRDH Bariadhala 28.26 274 P **P** **22 01 46.4 +1.7**
comp=E,60nm,0.3s,baz=59,slow=12,SNR=3.7
BRDH LR LR 22 13 06.4
comp=E,859nm,18.9s,baz=96,slow=36
comp=E,60nm,0.3s
BBKI Banjar Baru 28.31 196 P **P** **22 01 47.3 +2.1**
IPM Ipoh 28.34 230 P **P** **22 01 46.0 +0.5**
LSA Lhasa 28.40 288 P **P** **22 01 47.5 +1.1**
LSA Lhasa 28.40 288 P **P** **22 01 48.1 +1.7**
LSA Lhasa 28.40 288 P **P** **22 01 47.6 +1.1**
LSA pmax pmax
comp=Z,18nm,0.8s

FAKI Fak Fak 28.46 159 P **P** **22 01 45.5 -1.0**
FAKI Fak Fak 28.46 159 P **P** **22 01 50.9 +4.4**
comp=Z,24nm,0.9s
MYKOM Kota Tinggi 28.50 222 P **P** **22 01 46.6 -0.2**
KAPI Kappang 29.00 185 P **P** **22 01 51.5 +0.3**
comp=Z,3.3nm,0.3s,baz=20,slow=5.5,SNR=4.9
KAPI LR LR 22 13 22.7
comp=Z,879nm,21.1s,baz=360,slow=36
comp=Z,3.3nm,0.3s
KAPI Kappang 29.00 185 P **P** **22 01 50.7 -0.5**
ZEA Zeya 29.88 6 *e*P **P** **22 01 57.1 -1.6**
ZEA *e* 22 12 39.4
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.4s
ZEA MLR MLR
comp=E,500nm,12.0s
ZEA MLR MLR
comp=N,2μm,14.0s
ZEA MLR MLR
comp=Z,2μm,15.0s
ZAK Zakamensk 30.21 335 *e*P **P** **22 01 59.4 -2.4**
ZAK pmax pmax
comp=Z,17nm,1.2s
ZAK pmax pmax
comp=Z,14nm,1.1s
PSI Prapat 31.00 231 LR LR 22 15 32.7
comp=Z,1μm,18.6s,baz=26,slow=38
PSI Prapat 31.00 231 P **P** **22 02 10.0 +0.8**
PSI pmax pmax
comp=Z,36nm,1.5s
RPSI Rantau Prapat 31.07 230 P **P** **22 02 10.0 +0.3**
IRK Irkutsk 31.38 338 *e*P **P** **22 02 10.4 -1.7**
IRK pmax pmax
comp=Z,175nm,1.6s
BKNI Bangkinang 31.39 224 P **P** **22 02 13.2 +0.7**
BKNI IAmb IAmb 22 02 19.9
comp=Z,38nm,1.0s
MNSI Mandailing Nat 31.99 227 P **P** **22 02 19.5 +1.8**
comp=Z,24nm,0.8s
MOY Mondy 32.11 335 *e*P **P** **22 02 17.7 -0.9**
MOY pmax pmax
comp=Z,61nm,1.3s
MMRI Maumere 32.48 180 P **P** **22 02 22.4 +0.4**
MMRI IAmb IAmb 22 03 09.7
comp=Z,80nm,1.2s
MMRI Maumere 32.48 180 P P 22 02 26.8 +4.8
comp=Z,36nm,1.5s
JIRN Jiri 32.72 284 *e*P **P** **22 02 25.6 +1.0**
comp=Z,74nm,1.1s
KNGR Kungurtug, Tuv 32.79 330*d* *i*P **P** **22 02 23.6 -1.0**
GUN Gumba 32.99 285 *e*P **P** **22 02 27.9 +1.0**
comp=Z,79nm,0.9s
GSI Gunungsitoli 33.00 230 P **P** **22 02 28.9 +2.3**
comp=Z,17nm,1.1s
PKI Pulchoki 33.42 284 *e*P **P** **22 02 30.9 +0.3**
comp=Z,45nm,1.1s
PKIN Phulchoki 33.43 284 *e*P **P** **22 02 30.9 +0.3**
KKN Kakani 33.53 284 *e*P **P** **22 02 32.0 +0.6**
DMN Daman 33.69 284 *e*P **P** **22 02 33.5 +0.7**
comp=Z,59nm,1.0s
BATI Baumata 34.06 178 LR LR 22 17 48.1
comp=Z,626nm,19.7s,baz=336,slow=38
GKN Gorkha 34.09 285 *e*P **P** **22 02 36.5 +0.3**
WMQ Urumqi 34.57 313 ⇓P **P** **22 02 41.0 +1.0**
WMQ pP pP 22 02 47.6 -1.1
WMQ PP **PnPn** **22 03 53.5 -2.4**
WMQ PcP **PcP** **22 05 15.0 +0.7**
WMQ ScP **ScP** **22 08 57.6 +0.4**
WMQ pmax pmax
comp=Z,65nm,0.9s
WMQ pmax pmax
comp=Z,430nm,4.7s
WMQ LR LR
comp=Z,1μm,16.9s
WMQ LR LR
comp=Z,1μm,14.3s
WMQ LR LR
comp=Z,900nm,20.3s
DANN Dangsing 34.85 286 *e*P **P** **22 02 43.5 +0.6**
comp=Z,70nm,1.0s
DGZ Jazzator, Alta 37.39 322⇑ *i*P **P** **22 03 03.8 -0.5**
DGZ pmax pmax
comp=Z,43nm,1.2s
MTN Manton Dam 37.64 166 P **P** **22 03 05.7 -0.8**
MTN IAmb IAmb 22 03 07.2
comp=Z,34nm,1.0s
ZSN Zaisan 37.86 318 *e*P **P** **22 03 06.0 -2.1**
baz=316
ZSN Zaisan 37.86 318 *e*P **P** **22 03 06.0 -2.1**
YAK Yakutsk 38.29 6 P **P** **22 03 08.2 -3.2**
comp=Z,48nm,0.9s,baz=203,slow=2.1,SNR=28
YAK LR LR 22 20 37.9
comp=Z,2μm,19.8s,baz=238,slow=39
comp=Z,48nm,0.9s
YAK Yakutsk 38.29 6 P **P** **22 03 08.6 -2.9**
YAK IAmb IAmb 22 03 10.6
comp=Z,108nm,1.0s
YAK Yakutsk 38.29 6*c* *i*P **P** **22 03 08.4 -3.1**
YAK *e**PP **pP** **22 03 18.3 -2.4**
YAK *e* 22 05 25.4
YAK *e*S **S** **22 08 59.9 -3.4**
YAK *e*SS **SnSn** **22 11 43.1 -6.5**
YAK *e* 22 13 24.0
YAK pmax pmax
comp=Z,110nm,0.9s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,48nm,1.1s
YAK pmax pmax
comp=Z,354nm,4.2s
YAK pmax pmax
comp=E,347nm,4.5s
YAK pmax pmax
comp=N,262nm,3.9s
YAK smax smax
comp=E,489nm,4.3s
YAK smax smax
comp=N,458nm,3.3s
YAK MLR MLR
comp=Z,4μm,15.0s
YAK MLR MLR
comp=E,892nm,14.0s
YAK MLR MLR
comp=N,2μm,14.0s
MK31 Makanchi Array 39.22 316 P **P** **22 03 19.4 -0.2**
MK31 IAmb IAmb 22 03 20.7
comp=Z,89nm,0.9s
MK31 Makanchi Array 39.22 316⇑ *i*P **P** **22 03 19.5 -0.1**
MKAR Makanchi Array 39.22 316 P **P** **22 03 19.4 -0.2**
comp=Z,104nm,0.9s,baz=108,slow=9.1,SNR=530
MKAR PcP **PcP** **22 05 28.2 -0.1**
comp=Z,9.0nm,0.9s,baz=139,slow=1.7,SNR=3.9
MKAR ScP **ScP** **22 09 13.7 -0.7**
comp=Z,1.7nm,0.9s,baz=104,slow=3.6,SNR=6.0
MKAR LR LR 22 21 01.2
comp=Z,2μm,18.5s,baz=110,slow=38
comp=Z,104nm,0.9s
MAKZ Makanchi 39.43 315 P **P** **22 03 21.3 0.0**
MAKZ Makanchi 39.43 315 P **P** **22 03 21.3 0.0**
MAKZ pmax pmax
comp=Z,128nm,0.9s
KNRA Kununurra 39.96 170 P **P** **22 03 26.0 +0.1**
KNRA IAmb IAmb 22 03 44.4
comp=Z,50nm,1.2s
SHLS Shalkode 40.02 309⇑ *i*P **P** **22 03 24.5 -1.9**
comp=Z,52nm,0.9s,baz=308
SHLS Shalkode 40.02 309*c* *i*P **P** **22 03 24.5 -1.9**
SHLS pmax pmax
comp=Z,52nm,0.9s
KRVT Keravat (AS076 40.32 130 LR LR 22 16 51.0
comp=Z,932nm,21.7s,baz=94,slow=31
UZB Uzunbulak 40.33 309⇑ *i*P **P** **22 03 29.5 +0.5**
comp=Z,34nm,1.2s,baz=308
UZB Uzunbulak 40.33 309*c* *i*P **P** **22 03 29.4 +0.5**
UZB pmax pmax
comp=Z,34nm,1.2s
KPKS Kokpek 40.65 309⇑ *i*P **P** **22 03 32.0 +0.5**
comp=Z,48nm,0.9s,baz=308
KPKS Kokpek 40.65 309*c* *i*P **P** **22 03 32.0 +0.5**
KPKS pmax pmax
comp=Z,48nm,0.9s
SATY Saty 40.75 309⇑ *i*P **P** **22 03 33.1 +0.7**
comp=Z,48nm,0.9s,baz=308

SATY Saty 40.75 309*c* *i*P **P** **22 03 33.1 +0.7**
SATY pmax pmax
comp=Z,48nm,0.9s
ZHN Zhinishke 40.75 309 *e*P **P** **22 03 31.5 -1.0**
baz=308
ZHN Zhinishke 40.75 309 *e*P **P** **22 03 31.4 -1.0**
TARG Taragay, Kyrgy 40.90 307 IAmb IAmb 22 03 37.0
comp=Z,109nm,1.3s
ZAA0 Zalesovo Array 40.98 327 P **P** **22 03 32.5 -1.5**
ZAA0 IAmb IAmb 22 03 34.1
comp=Z,116nm,0.9s
ZALV Zalesovo Beam 40.98 327 P **P** **22 03 32.5 -1.5**
comp=Z,129nm,0.9s,baz=111,slow=8.1,SNR=229
ZALV PcP **PcP** **22 05 32.4 -1.2**
comp=Z,8.0nm,0.8s,baz=103,slow=4.6,SNR=3.7
ZALV ScP **ScP** **22 09 19.7 -1.3**
comp=Z,0.4nm,0.3s,baz=132,slow=2.1,SNR=1.6
ZALV LR LR 22 21 50.4
comp=Z,3μm,18.2s,baz=118,slow=38
comp=Z,129nm,0.9s
ZALV Zalesovo Beam 40.98 327 P **P** **22 03 32.2 -1.7**
PMG Port Moresby 41.10 141 LR LR 22 20 34.1
comp=Z,1μm,18.8s,baz=320,slow=36
PMG Port Moresby 41.10 141 P **P** **22 03 36.5 +1.1**
PMG Port Moresby 41.10 141*ce*P **P** **22 03 37.6 +2.2**
PMG pmax pmax
comp=Z,30nm,1.3s
TDK Taldyqorghan 41.23 312⇑ *i*P **P** **22 03 37.0 +0.7**
comp=Z,120nm,0.6s,baz=310
TDK Taldyqorghan 41.23 312*c* *i*P **P** **22 03 36.9 +0.7**
TDK pmax pmax
comp=Z,119nm,0.6s
HYBB Hyderabad (bro 41.42 269 *e*P **P** **22 03 39.0 +0.9**
H11S3 WAKE ISLAND Hy 41.50 89 T T 22 49 23.5
baz=284,slow=75,SNR=8.0
H11S1 WAKE ISLAND Hy 41.51 89 T T 22 49 23.5
baz=284,slow=75,SNR=7.6
H11S2 WAKE ISLAND Hy 41.52 89 T T 22 49 22.8
baz=284,slow=75,SNR=6.1
MDOK Medeo 41.74 309 *i* P **P** **22 03 41.2 +0.6**
baz=307
MDOK Medeo 41.74 309 *i* P **P** **22 03 41.2 +0.6**
TNSS Tian-Shan 41.79 308 *i* P **P** **22 03 42.2 +0.9**
baz=307
TNSS Tian-Shan 41.79 308 *i* P **P** **22 03 42.2 +0.9**
AAA Alma-Ata 41.85 309 *e*P **P** **22 03 40.5 -0.9**
baz=307
AAA Alma-Ata 41.85 309 *e*P **P** **22 03 40.5 -0.9**
KSH Kashi 41.92 303 P **P** **22 03 45.5 +3.4**
KSH S **S** **22 10 03.0 +4.6**
KSH pmax pmax
comp=Z,80nm,1.0s
KSH LR LR
comp=Z,830nm,16.2s
KSH LR LR
comp=Z,2μm,19.2s
KSH LR LR
comp=Z,2μm,16.0s
CHKK Chushkaly 41.94 310⇑ *e*P **P** **22 03 41.9 -0.2**
baz=308
CHKK Chushkaly 41.94 310⇑ *e*P **P** **22 03 41.8 -0.2**
ULHL Ulahol 42.14 307 P **P** **22 03 45.8 +1.8**
SNR=16
NRN Naryn 42.18 306 P **P** **22 03 45.4 +1.0**
NRN Naryn 42.18 306 P **P** **22 03 45.4 +1.0**
NRN pmax pmax
comp=Z,166nm,1.0s
KUU Kurty 42.40 309⇑ *i*P **P** **22 03 46.4 +0.5**
comp=Z,108nm,1.0s,baz=308
KUU Kurty 42.40 309*c* *i*P **P** **22 03 46.3 +0.5**
KUU pmax pmax
comp=Z,107nm,1.0s
TKM2 Tokmak 2 42.74 308 P **P** **22 03 50.0 +1.3**
SNR=130
COEN Coen 42.87 150 P **P** **22 03 50.3 +0.5**
KURK Kurchatov 42.92 320 P **P** **22 03 49.3 -0.6**
KURK Kurchatov 42.92 320*ce*P **P** **22 03 49.2 -0.6**
KURK pmax pmax
comp=Z,121nm,0.8s
KBK Karagaybulak 43.16 307 P **P** **22 03 53.6 +1.4**
SNR=42
CHMS Chumysh 43.36 308 P **P** **22 03 54.5 +0.9**
SNR=58
UCH Uchtor 43.41 307 P **P** **22 03 56.4 +1.9**
SNR=160
AAK Ala-Archa 43.49 307 P **P** **22 03 56.0 +1.3**
SNR=22
AAK Ala-Archa 43.49 307 LR LR 22 25 00.2
comp=Z,2μm,18.4s,baz=84,slow=40
AAK Ala-Archa 43.49 307 P **P** **22 03 55.6 +0.9**
AAK IAmb IAmb 22 03 57.1
comp=Z,46nm,0.9s
AAK Ala-Archa 43.49 307 *i* P **P** **22 03 55.5 +0.7**
SNR=24
AAK Ala-Archa 43.49 307*ce*P **P** **22 03 56.1 +1.3**
AAK pmax pmax
comp=Z,48nm,0.8s
SGDS Sogindy 43.53 308⇑ *i*P **P** **22 03 55.2 +0.2**
comp=Z,22nm,1.2s,baz=307
SGDS Sogindy 43.53 308*c* *i*P **P** **22 03 55.2 +0.2**
SGDS pmax pmax
comp=Z,22nm,1.2s
USP Ospenovka 43.59 308 P **P** **22 03 56.1 +0.6**
SNR=31
SEY Seymchan 43.73 19 P **P** **22 03 54.1 -2.1**
comp=Z,5.9nm,0.9s,baz=204,slow=11,SNR=3.7
SEY PcP **PcP** **22 05 42.7 +0.1**
comp=Z,7.9nm,0.7s,baz=226,slow=3.5,SNR=5.5
comp=Z,5.9nm,0.9s
SEY Seymchan 43.73 19*ce*P **P** **22 03 55.0 -1.2**
SEY pmax pmax
comp=Z,78nm,3.7s
NIL Nilore 43.77 294 P **P** **22 03 57.3 +0.3**
NIL IAmb IAmb 22 03 59.0
comp=Z,60nm,1.0s
NIL Nilore 43.77 294 P **P** **22 03 57.3 +0.3**
NIL pmax pmax
comp=Z,60nm,1.0s
AML Almayashu 43.99 306 P **P** **22 04 00.6 +1.5**
SNR=115
EKS2 Erkin-Say 44.01 307 P **P** **22 03 59.9 +1.0**
SNR=31
BTLS Baital 44.25 311⇑ *i*P **P** **22 04 00.8 +0.1**
comp=Z,28nm,0.8s,baz=310
BTLS Baital 44.25 311*c* *i*P **P** **22 04 00.8 +0.1**
BTLS pmax pmax
comp=Z,28nm,0.8s
MBWA Marble Bar 45.00 184 P **P** **22 04 07.7 +0.9**
WB0 Warramunga Arr 45.08 164 IAmb IAmb 22 04 17.9
comp=Z,111nm,1.9s
WRAB Tennant Creek 45.23 164 P **P** **22 04 09.8 +1.1**
WRAB IAmb IAmb 22 04 19.1
comp=Z,126nm,1.9s
WRAB Tennant Creek 45.23 164 P **P** **22 04 09.8 +1.1**
WRAB pmax pmax
comp=Z,126nm,2.0s
WRA Warramunga Arr 45.24 164 P **P** **22 04 09.8 +1.0**
comp=Z,8.4nm,0.9s,baz=346,slow=8.5,SNR=45
WRA S **S** **22 10 43.6 -3.2**
comp=Z,0.9nm,1.0s,baz=338,slow=13,SNR=4.5
comp=Z,8.4nm,0.9s
WRA Warramunga Arr 45.24 164 P **P** **22 04 09.4 +0.7**
WB2 Warramunga Arr 45.24 164 IAmb IAmb 22 04 27.7
comp=Z,29nm,1.0s
PSA00 Pilbara Seismi 45.41 183 P **P** **22 04 10.9 +0.9**
PSA00 IAmb IAmb 22 04 34.3
comp=Z,61nm,1.4s
POO Poona 45.41 273 *e*P P 22 04 05.0 -5.3
PCHI Peechi 45.78 261 *e*P **P** **22 04 14.8 +1.6**
DZA Taraz 45.83 307⇑ *i*P **P** **22 04 13.6 +0.2**
comp=Z,58nm,1.1s,baz=306
DZA Taraz 45.83 307*c* *i*P **P** **22 04 13.5 +0.2**
DZA pmax pmax
comp=Z,58nm,1.1s
BTK Batken 45.92 303 IAmb IAmb 22 04 16.4
comp=Z,76nm,1.2s
BRZS Berezniki 46.30 317⇑ *i*P **P** **22 04 16.0 -0.9**
comp=Z,40nm,1.0s,baz=316
BRZS Berezniki 46.30 317*c* *i*P **P** **22 04 16.0 -0.9**
BRZS pmax pmax
comp=Z,40nm,1.0s
KK31 Karatay Array 46.45 307 IAmb IAmb 22 04 20.2
comp=Z,55nm,1.1s
KKAR Karatay Array 46.45 307 P **P** **22 04 18.4 +0.2**
KKAR IAmb IAmb 22 04 20.2
comp=Z,55nm,1.1s

KKAR Karatay Array 46.45 307 P **P** **22 04 18.4 +0.2**
KKAR pmax pmax
comp=Z,55nm,1.1s
IUG luzhnay 46.70 306⇑ *i* P **P** **22 04 21.0 +0.8**
comp=Z,100nm,1.0s,baz=305
IUG luzhnay 46.70 306 *c i* P **P** **22 04 21.0 +0.8**
IUG pmax pmax
comp=Z,100nm,1.0s
CHM Chimkent 47.03 306⇑ *i* P **P** **22 04 23.5 +0.8**
comp=Z,67nm,0.7s,baz=305
CHM Chimkent 47.03 306 *c i* P **P** **22 04 23.5 +0.8**
CHM pmax pmax
comp=Z,67nm,0.7s
TAS Tashkent 47.17 305 P **P** **22 04 24.9 +1.1**
TAS Tashkent 47.17 305 P **P** **22 04 24.9 +1.1**
TAS pmax pmax
comp=Z,164nm,0.9s
KBL Kabul 47.24 296 P **P** **22 04 25.4 +0.7**
KBL Kabul 47.24 296 P **P** **22 04 25.4 +0.7**
KBL pmax pmax
comp=Z,128nm,1.1s
TIXI Tiksi 47.78 3 P **P** **22 04 24.8 -3.2**
comp=Z,19nm,0.9s,baz=89,slow=22,SNR=80
TIXI LR LR 22 27 09.6
comp=Z,5µm,18.5s,baz=1.0,slow=40
comp=Z,19nm,0.9s
TIXI Tiksi 47.78 3 P **P** **22 04 25.2 -2.8**
TIXI IAmb IAmb 22 04 26.4
comp=Z,21nm,0.9s
TIXI Tiksi 47.78 3 *ce* P **P** **22 04 25.4 -2.6**
TIXI pmax pmax
comp=Z,22nm,0.8s
BRVK Borovoye 48.57 321 P **P** **22 04 34.0 -0.4**
BRVK Borovoye 48.57 321 *ce* P **P** **22 04 33.8 -0.6**
BRVK pmax pmax
comp=Z,81nm,0.8s
AS31 Alice Springs 48.72 166 P **P** **22 04 36.6 +0.7**
ASAR Alice Springs 48.72 166 P **P** **22 04 37.1 +1.3**
comp=Z,4.7nm,0.9s,baz=344,slow=6.6,SNR=33
ASAR ScP **ScP** **22 09 53.0 -0.3**
comp=Z,1.1nm,0.8s,baz=359,slow=3.7,SNR=4.2
ASAR S **S** **22 11 38.9 +2.4**
comp=Z,0.1nm,0.4s,baz=349,slow=19,SNR=2.0
comp=Z,4.7nm,0.9s
ASAR Alice Springs 48.72 166 P **P** **22 04 36.7 +0.8**
HNR Honiara 49.51 128 LR LR 22 24 12.3
comp=Z,7µm,20.3s,baz=301,slow=34
CTA Charters Tower 49.63 150 LR LR 22 23 43.7
comp=Z,832nm,21.5s,baz=346,slow=34
CTAO Charters Tower 49.63 150 P **P** **22 04 44.2 +1.4**
CTAO IAmb IAmb 22 05 11.9
comp=Z,31nm,1.3s
CTAO Charters Tower 49.63 150 P **P** **22 04 44.3 +1.4**
CTAO pmax pmax
comp=Z,31nm,1.3s
NRIK Noril'sk 49.83 345 P **P** **22 04 41.1 -2.8**
comp=Z,12nm,0.9s,baz=124,slow=8.7,SNR=14
NRIK PcP **PcP** **22 06 03.4 -0.7**
comp=Z,18nm,0.9s,baz=98,slow=2.5,SNR=6.1
NRIK LR LR 22 27 55.7
comp=Z,3µm,18.4s,baz=104,slow=39
comp=Z,12nm,0.9s
NRIK Noril'sk 49.83 345 P **P** **22 04 41.5 -2.3**
NRIK IAmb IAmb 22 06 04.7
comp=Z,32nm,1.1s
NRIK Noril'sk 49.83 345 *ce* P **P** **22 04 41.6 -2.3**
BILL Bilibino 51.44 19 P **P** **22 04 54.9 -1.1**
BILL Bilibino 51.44 19 *i* P **P** **22 04 53.8 -2.2**
BILL *i* 22 06 10.2
BILL *i* 22 06 52.1
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,2µm,17.0s
HRA Herat 52.85 296 P **P** **22 05 07.1 -0.2**
HRA IAmb IAmb 22 05 09.5
comp=Z,46nm,1.4s
ABKAR Akbulak array 54.34 314 P **P** **22 05 17.4 -0.3**
ABKAR IAmb IAmb 22 05 18.9
comp=Z,54nm,0.9s
ABKAR Akbulak array 54.34 314 P **P** **22 05 17.6 -0.1**
FORT Forrest 54.78 174 P **P** **22 05 21.7 +0.7**
FORT IAmb IAmb 22 05 31.6
comp=Z,50nm,1.1s
SVE Sverdlovsk 54.82 324 *e* P **P** **22 05 20.2 -0.9**
SVE pmax pmax
comp=Z,60nm,1.1s
SVE MLR MLR
comp=Z,2µm,16.0s
GEYT Alibeck 55.84 301 P **P** **22 05 30.3 +1.5**
comp=Z,100nm,0.8s,baz=77,slow=3.1,SNR=187
GEYT ScP **ScP** **22 10 23.8 -0.4**
comp=Z,1.0nm,0.3s,baz=42,slow=4.5,SNR=3.8
GEYT LR LR 22 34 26.3
comp=Z,853nm,18.2s,baz=82,slow=41
comp=Z,100nm,0.8s
GEYT Alibeck 55.84 301 P **P** **22 05 29.9 +1.1**
GYA0B ALIBECK ARRAY 55.84 301 P **P** **22 05 30.2 +1.4**
ARU Arti 55.90 323 LR LR 22 32 00.2
comp=Z,605nm,18.3s,baz=76,slow=39
ARU Arti 55.90 323 P **P** **22 05 27.8 -1.0**
ARU IAmb IAmb 22 05 28.7
comp=Z,48nm,1.0s
ARU Arti 55.90 323 *c i* P **P** **22 05 27.5 -1.3**
ARU 22 06 24.8
ARU 22 07 32.8
ARU S **S** **22 13 15.8 +1.7**
ARU pmax pmax
comp=Z,53nm,1.0s
ARU MLR MLR
comp=Z,965nm,21.0s
EIDS Eidsvold 56.42 149 P **P** **22 05 33.7 +0.8**
EIDS IAmb IAmb 22 06 19.8
comp=Z,60nm,1.9s
NWAO Narrogin (SRO) 56.87 185 P **P** **22 05 36.8 +0.9**
NWAO IAmb IAmb 22 05 56.0
comp=Z,93nm,1.8s
NWAO Narrogin (SRO) 56.87 185 P **P** **22 05 36.6 +0.7**
NWAO IAmb IAmb 22 05 56.0
comp=Z,81nm,1.8s
NWAO Narrogin (SRO) 56.87 185 P **P** **22 05 36.8 +0.9**
NWAO pmax pmax
comp=Z,93nm,1.8s
SPIA Saint Paul Isl 57.89 36 P **P** **22 05 43.4 +0.6**
baz=265
WSAR Wadi Sarin 57.96 283 LR LR 22 33 04.2
comp=Z,740nm,20.1s,baz=52,slow=38
BBOO Buckleboo 58.01 166 P **P** **22 05 44.8 +0.8**
BBOO IAmb IAmb 22 05 53.9
comp=Z,38nm,1.1s
STKA Stephens Creek 58.55 161 P **P** **22 05 48.6 +0.8**
comp=Z,1.9nm,0.5s,baz=340,slow=9.7,SNR=6.5
comp=Z,1.9nm,0.5s
STKA Stephens Creek 58.55 161 P **P** **22 05 48.6 +0.8**
STKA Stephens Creek 58.55 161 P **P** **22 05 48.6 +0.8**
STKA pmax pmax
comp=Z,14nm,1.9s
HATD Hatta, Dubai 59.78 286 P **P** **22 05 58.1 +1.5**
ASHO Ashiyiah 59.88 286 P **P** **22 05 57.9 +0.5**
KOUNC Koumac, New Ca 60.22 134 P **P** **22 06 00.2 +0.7**
KOUNC IAmb IAmb 22 06 03.3
comp=Z,47nm,1.4s
FAQ Al Faqa, Dubai 60.27 286 *i* P **P** **22 06 00.5 +0.6**
SNR=6.8
ALNE Al Ain 60.31 285 *i* P **P** **22 06 01.0 +0.7**
SNR=9.8
ANM Nome 60.92 28 P **P** **22 06 03.9 +0.2**
baz=265
ARMA Armidale 60.97 151 P **P** **22 06 05.1 +0.5**
ARMA IAmb IAmb 22 06 07.4
comp=Z,49nm,1.5s
KIRV Kirov 60.98 325 LR LR 22 34 52.8
comp=Z,2µm,20.0s,baz=77,slow=38
KIRV Kirov 60.98 325 *ce* P **P** **22 06 03.2 -1.0**
BELG Belogornoye 62.15 318 LR LR 22 36 07.0
comp=Z,529nm,18.1s,baz=334,slow=39
BELG Belogornoye 62.15 318 *i* P **P** **22 06 10.0 -2.2**
BELG pmax pmax
comp=Z,14nm,1.0s
MZR Muzera 62.60 284 P **P** **22 06 15.9 +0.2**
DZM Mont Dzumac 62.72 133 *e* LR LR 22 24 54.7
comp=Z,2µm,24.3s
DZM Mont Dzumac 62.72 133 LR LR 22 28 58.3
comp=Z,721nm,21.7s,baz=302,slow=32
PRGR Permogore 62.89 329 *e* P **P** **22 06 15.1 -1.8**
PRGR *e* 22 06 52.2
comp=Z,33nm,0.6s
PRGR pmax pmax
MAK Makhachkala 63.27 307 *e* P P 22 06 12.5 -7.3
MAK *e* 22 08 33.5
MAK *e* S S 22 14 39.2 -10
MAK *e* SS **SS** **22 18 53.1 -2.8**
MAK *e* SSS SSS 22 21 46.7
MAK pmax pmax
comp=Z,273nm,1.0s
JOHN Johnston Islan 63.69 83 P **P** **22 06 23.9 +0.9**
N16K Nishlik Lake 63.91 33 P **P** **22 06 22.4 -1.5**
baz=273
CAN Canberra 64.19 156 P **P** **22 06 27.5 +1.6**
CAN Canberra 64.19 156 P **P** **22 06 27.5 +1.6**
CAN pmax pmax
comp=Z,141nm,1.9s
O16K Kokwok River B 64.30 34 P **P** **22 06 24.9 -1.4**
baz=274
P16K Nushagak River 64.40 34 P **P** **22 06 25.9 -1.1**
baz=274
GROC Groznyy 64.46 308 *e* P **P** **22 06 26.5 -1.2**
GROC pmax pmax
comp=Z,34nm,1.4s
A21K Barrow 64.55 21 P **P** **22 06 26.2 -1.6**
baz=270
O17K Koliganek Bris 64.80 33 P **P** **22 06 29.2 -0.3**
baz=275
TTA Tatalina 65.07 30 P **P** **22 06 33.7 +2.3**
TTA Tatalina 65.07 30 P **P** **22 06 31.2 -0.2**
baz=274
TTA Tatalina 65.07 30 P **P** **22 06 33.7 +2.3**
TTA pmax pmax
comp=Z,8.0nm,0.9s
Q16K King Salmon 65.12 35 P **P** **22 06 31.2 -0.5**
baz=276
P17K Kvichak River 65.18 34 P **P** **22 06 32.1 0.0**
baz=276
N18K Kilae Creek 65.31 32 P **P** **22 06 33.3 +0.4**
baz=275
Q17K Contact Creek 65.56 35 P **P** **22 06 34.1 -0.6**
baz=276
L19K White Mountain 65.67 31 IAmb IAmb 22 06 45.8
comp=Z,28nm,1.3s
L19K White Mountain 65.67 31 P **P** **22 06 35.8 +0.6**
baz=276
O18K Koktuh Hills 65.74 33 P **P** **22 06 35.2 -0.5**
baz=276
P18K Big Mountain, 65.78 34 P **P** **22 06 36.0 -0.1**
baz=276
J20K Nowinta River 65.80 28 IAmb IAmb 22 07 08.6
comp=Z,21nm,1.3s
J20K Nowinta River 65.80 28 P **P** **22 06 36.4 +0.4**
baz=275
GNI Garni 65.81 305 LR LR 22 39 58.8
comp=Z,424nm,19.1s,baz=342,slow=40
GNI Garni 65.81 305 P **P** **22 06 36.5 -0.2**
GNI Garni 65.81 305 P **P** **22 06 37.8 +1.1**
GNI Garni 65.81 305 *ce* P **P** **22 06 38.3 +1.6**
GNI pmax pmax
comp=Z,136nm,1.7s
F21K Alatna River 65.81 25 P **P** **22 06 36.6 +0.5**
baz=274
G21K Allakaket 65.86 26 P **P** **22 06 36.5 +0.1**
baz=275
KLMR Klimovskoe 65.88 328 *e* P **P** **22 06 34.3 -2.3**
KLMR AMP 22 06 36.2
comp=Z,37nm,1.1s
KLMR *e* PcP **PcP** **22 07 05.3 -2.0**
KLMR Klimovskoe 65.88 328 *e* P **P** **22 06 34.2 -2.3**
KLMR *e* 22 07 05.2
KLMR pmax pmax
comp=Z,37nm,1.1s
ZEI Tsey 65.91 308 *e* P **P** **22 06 34.4 -3.0**
ZEI pmax pmax
comp=Z,59nm,1.0s
K20K Telida 65.91 29 IAmb IAmb 22 07 09.1
comp=Z,22nm,1.1s
K20K Telida 65.91 29 P **P** **22 06 37.3 +0.5**
baz=276
M19K Big River Lodg 65.91 31 P **P** **22 06 38.6 +1.8**
M19K IAmb IAmb 22 06 42.6
comp=Z,45nm,1.8s
M19K Big River Lodg 65.91 31 P **P** **22 06 37.9 +1.1**
baz=276
VRH Novokhopyorsk 65.92 317 *e* P **P** **22 06 35.1 -1.9**
VRH pmax pmax
comp=Z,30nm,1.0s
N19K Bonanza Creek 65.99 32 P **P** **22 06 37.2 -0.2**
baz=276
NCK Nalchik 65.99 309 *i* P **P** **22 06 37.8 +0.1**
NCK pmax pmax
comp=Z,23nm,1.0s
L20K Farewell, AK 66.09 30 P **P** **22 06 38.1 +0.1**
baz=276
O19K Port Alsworth 66.14 33 P **P** **22 06 37.9 -0.3**
baz=277
H21K Melozitna Rive 66.22 27 P **P** **22 06 39.2 +0.4**
baz=276
ONI Oni 66.27 308 P **P** **22 06 40.1 +0.6**
ONI Oni 66.27 308 P **P** **22 06 40.1 +0.6**
ONI pmax pmax
comp=Z,85nm,1.1s
F22K John River 66.29 25 P **P** **22 06 39.2 +0.1**
baz=276
E22K Anaktuvuk Pass 66.37 24 P **P** **22 06 40.1 +0.4**
baz=276
KBZ Khabaz 66.44 309 P **P** **22 06 40.7 +0.2**
comp=Z,42nm,0.9s,baz=84,slow=5.7,SNR=47
KBZ LR LR 22 39 20.0
comp=Z,756nm,19.0s,baz=38,slow=39
comp=Z,42nm,0.9s
KBZ Khabaz 66.44 309 *ce* P **P** **22 06 40.7 +0.2**
KBZ pmax pmax
comp=Z,74nm,1.0s
M20K Styx River 66.51 31 P **P** **22 06 42.6 +1.9**
M20K IAmb IAmb 22 06 55.8
comp=Z,52nm,1.9s
M20K Styx River 66.51 31 P **P** **22 06 41.4 +0.7**
baz=277
KIV Kislovodsk 66.55 309⇑ P **P** **22 06 42.0 +0.7**
KIV Kislovodsk 66.55 309 P **P** **22 06 41.6 +0.3**
KIV Kislovodsk 66.55 309 *i* P **P** **22 06 41.6 +0.3**
SNR=27
KIV Kislovodsk 66.55 309 *e* P **P** **22 06 41.8 +0.5**
KIV *e* 22 09 08.5
KIV *e* S **S** **22 15 32.9 +2.7**
KIV *e* SS **SS** **22 19 50.9 +3.7**
KIV pmax pmax
comp=Z,100nm,1.0s
KIV pmax pmax
comp=Z,40nm,3.2s
KIV MLR MLR
comp=Z,559nm,17.0s
G22K Bettles 66.61 25 P **P** **22 06 41.2 0.0**
baz=276
SHA1 Shidzhatmaz 66.61 309 *i* P **P** **22 06 42.6 +0.7**
I21K Tanana 66.62 27 P **P** **22 06 41.7 +0.5**
baz=277
C23K Itkillik River 66.63 22 P **P** **22 06 41.5 +0.3**
baz=276
CHUM Lake Minchumin 66.63 29 P **P** **22 06 41.1 -0.3**
baz=277
NEY Neytrino 66.66 308 *i* P **P** **22 06 43.0 +0.8**
NEY pmax pmax
comp=Z,9.0nm,0.8s
D23K Nanushuk River 66.70 23 P **P** **22 06 41.7 0.0**
baz=276
H22K Ishtalitna Cre 66.78 26 P **P** **22 06 42.2 -0.2**
baz=277
CAST Castle Rocks 66.79 29 IAmb IAmb 22 06 44.9
comp=Z,22nm,1.4s
CAST Castle Rocks 66.79 29 P **P** **22 06 42.5 0.0**
baz=277
PPLA Purkeypile 66.81 30 P **P** **22 06 42.5 -0.2**
baz=278
KARS Kars 66.95 306 P **P** **22 06 44.9 +0.9**
KARS Kars 66.95 306 P **P** **22 06 44.9 +0.9**
KARS pmax pmax
comp=Z,268nm,1.0s
N20K Mount Spurr 67.04 32 P **P** **22 06 43.2 -0.9**
baz=278
COLD Coldfoot 67.08 25 P **P** **22 06 44.5 +0.3**
COLD Coldfoot 67.08 25 P **P** **22 06 43.8 -0.4**
baz=277
SPU Mount Spurr 67.11 32 P **P** **22 06 43.8 -0.7**
TOLK Toolik Lake Re 67.14 23 **PcP** **22 07 12.6 +0.1**
TOLK IAmb IAmb 22 07 13.8
comp=Z,26nm,1.1s
TOLK Toolik Lake Re 67.14 23 P **P** **22 06 44.2 -0.3**
baz=277
MLY Manley 67.16 27 P **P** **22 06 44.5 -0.3**
baz=278,SNR=7.3
BPAW Bear Paw Mtn. 67.18 28 P **P** **22 06 45.4 +0.5**
BPAW IAmb IAmb 22 07 15.1
comp=Z,62nm,2.0s
E23K Chandalar 67.20 24 P **P** **22 06 44.3 -0.7**
baz=278
G23K Bananza Creek 67.22 26 P **P** **22 06 44.8 -0.3**
baz=278
SKT Skwentna 67.25 31 P **P** **22 06 44.9 -0.4**
baz=278
C24K Franklin Bluff 67.30 22 P **P** **22 06 44.6 -0.9**
baz=278
VORR Voronezh 67.40 318 *e* P **P** **22 06 45.6 -0.8**
VORR pmax pmax
comp=Z,42nm,1.0s
LPSR Galich'ya Gora 67.40 319 *e* P **P** **22 06 44.8 -1.6**
LPSR pmax pmax
comp=Z,30nm,1.0s
GEVA Gevas 67.48 303 P **P** **22 06 48.2 +0.7**
VSR Storozhevoye 67.51 317 *e* P **P** **22 06 44.7 -2.4**
VSR pmax pmax
comp=Z,40nm,1.2s
H23K Yukon River 67.54 26 IAmb IAmb 22 06 48.8
comp=Z,14nm,0.8s
H23K Yukon River 67.54 26 P **P** **22 06 46.8 -0.3**
baz=279
TRF Thorofare Moun 67.59 29 P **P** **22 06 46.8 -0.8**
baz=279
MOS Moscow 67.60 322 *e* P **P** **22 06 45.5 -2.1**
MOS *e* 22 07 11.8
MOS *e* 22 09 17.7
MOS *e* S **S** **22 15 46.5 +4.3**
MOS pmax pmax
comp=Z,38nm,0.8s
MOS MLR MLR
comp=Z,800nm,17.0s
E24K Your Creek 67.61 24 P **P** **22 06 47.3 -0.3**
baz=279
APA Apatity 67.66 335⇓ *i* P **P** **22 06 45.1 -2.7**
APA pmax pmax
comp=Z,25nm,0.9s
APA MLR MLR
comp=Z,2µm,14.0s
SUA Susitna One 67.69 31 IAmb IAmb 22 07 16.2
comp=Z,20nm,1.0s
SUA Susitna One 67.69 31 P **P** **22 06 47.8 -0.5**
baz=279
I23K Minto, Yukon-K 67.72 27 IAmb IAmb 22 07 16.2
comp=Z,19nm,1.1s
I23K Minto, Yukon-K 67.72 27 P **P** **22 06 48.3 +0.1**
baz=279
CUT Chulitna 67.76 30 P **P** **22 06 47.8 -0.7**
baz=279
BRLK Bradley Lake 67.91 33 P **P** **22 06 50.3 +0.7**
BRLK IAmb IAmb 22 06 55.7
comp=Z,31nm,1.0s
F24K Squaw Lake 67.93 25 P **P** **22 06 49.3 -0.3**
baz=279
NEA2 Nenana 67.93 28 IAmb IAmb 22 06 51.6
comp=Z,15nm,0.8s
NEA2 Nenana 67.93 28 P **P** **22 06 49.2 -0.4**
baz=280,SNR=18
M22K Willow 67.94 31 P **P** **22 06 49.5 -0.1**
M22K IAmb IAmb 22 06 51.2
comp=Z,44nm,0.9s
M22K Willow 67.94 31 P **P** **22 06 49.4 -0.3**
baz=280,SNR=5.8
BRSE Bradley Lake S 67.99 33 P **P** **22 06 50.2 +0.2**
baz=280
MCK McKinley 68.14 29 P **P** **22 06 51.7 +0.8**
MCK IAmb IAmb 22 07 17.1
comp=Z,28nm,1.2s
MCK McKinley 68.14 29 P **P** **22 06 51.3 +0.3**
baz=280,SNR=7.3
MCK McKinley 68.14 29 P **P** **22 06 51.7 +0.8**
MCK pmax pmax
comp=Z,28nm,1.2s
D25K Kavik River 68.17 22 P **P** **22 06 50.9 -0.2**
baz=280
GURO Guroymak-BITLI 68.21 304 P **P** **22 06 52.9 +0.9**
H24K Noodor Dome 68.22 26 P **P** **22 06 51.3 -0.1**
baz=280
G24K Hadweenzic Riv 68.22 25 P **P** **22 06 51.8 +0.4**
baz=280
MDM Murphy Dome 68.22 27 IAmb IAmb 22 06 53.6
comp=Z,22nm,1.0s
RND Reindeer 68.23 29 IAmb IAmb 22 06 52.8
comp=Z,20nm,0.9s
OBN Obninsk 68.31 322 P **P** **22 06 51.2 -0.8**
OBN IAmb IAmb 22 06 53.1
comp=Z,79nm,1.7s
OBN Obninsk 68.31 322 *c i* P **P** **22 06 50.3 -1.7**
OBN *i* 22 07 01.3
OBN *i* 22 09 19.8
OBN pmax pmax
comp=Z,17nm,1.1s
OBN MLR MLR
comp=Z,1µm,19.0s
MSVF Nonsavu 68.33 122 LR LR 22 33 41.1
comp=Z,414nm,20.3s,baz=16,slow=33
MSVF Nonsavu 68.33 122 P **P** **22 06 53.1 +0.2**
MSVF IAmb IAmb 22 06 56.6
comp=Z,35nm,1.3s
MSVF Nonsavu 68.33 122 P **P** **22 06 53.1 +0.2**
MSVF pmax pmax
comp=Z,35nm,1.3s
WRH Wood River Hil 68.37 28 IAmb IAmb 22 07 19.1
comp=Z,19nm,1.0s
PMR Palmer 68.43 31 IAmb IAmb 22 07 14.7
comp=Z,29nm,1.5s
PMR Palmer 68.43 31 P **P** **22 06 52.0 -0.7**
baz=281
CCB Clear Creek Bu 68.46 28 P **P** **22 06 55.6 +2.8**
WAT1 Susitna Watana 68.47 30 P **P** **22 06 52.6 -0.4**
baz=281
POKR Poker Plat Res 68.53 27 IAmb IAmb 22 06 55.6
comp=Z,14nm,0.9s
POKR Poker Plat Res 68.53 27 P **P** **22 06 53.3 -0.1**
baz=281,SNR=7.3
SEW Seward 68.56 33 P **P** **22 06 53.6 0.0**
baz=281
C26K Camden Bay 68.56 22 P **P** **22 06 53.7 +0.3**
baz=281
VADS Vadso 68.65 338 *e* P **P** **22 06 52.9 -1.0**
E25K Arctic Village 68.68 24 P **P** **22 06 54.3 0.0**
baz=281
SOC Sochi 68.73 309 *e* P **P** **22 06 53.1 -1.8**
SOC *e* PPP PPP 22 11 02.2
SOC *e* S **S** **22 15 55.2 -0.9**
SOC *e* 22 20 26.2
SOC pmax pmax
comp=Z,48nm,0.9s
SOC MLR MLR
comp=Z,760nm,19.0s
G25K Bearman Lake 68.75 25 P **P** **22 06 54.4 -0.3**
F25K Christian Rive 68.76 24 P **P** **22 06 54.9 +0.1**
baz=281
SML Sawmill 68.77 31 P **P** **22 06 54.5 -0.4**
baz=281
KNK Knik Glacier 68.78 31 P **P** **22 06 55.5 +0.5**
KNK IAmb IAmb 22 07 20.9
comp=Z,28nm,1.2s
KNK Knik Glacier 68.78 31 P **P** **22 06 55.0 0.0**
baz=281,SNR=5.2
ILAR Eielson Array 68.82 27 P **P** **22 06 52.6 -2.5**
comp=Z,1.4nm,0.8s,baz=286,slow=5.1,SNR=15
comp=Z,1.4nm,0.8s
ILAR Eielson Array 68.82 27 P **P** **22 06 54.9 -0.3**
ILAR Eielson Array 68.82 27 P **P** **22 06 54.9 -0.3**
HDA Harding Lake 68.87 28 P **P** **22 06 54.3 -1.1**
HDA Harding Lake 68.87 28 P **P** **22 06 54.7 -0.8**
baz=281,SNR=7.5
WAT6 Susitna Watana 68.89 30 P **P** **22 06 55.4 -0.4**
baz=281,SNR=7.9
PWL Port Wells 68.95 32 IAmb IAmb 22 07 01.8
comp=Z,22nm,0.8s
PWL Port Wells 68.95 32 P **P** **22 06 55.3 -0.8**
baz=282
H25L Birch Creek 68.96 26 P **P** **22 06 55.6 -0.3**
baz=282
KOPT Kop Dagi 69.01 305 P **P** **22 06 57.8 +0.6**

C27K	Jago River	69.03	22	P		P		22 06 57.2	+0.8
	baz=282								
M23K	Glacier View	69.05	31	P		P		22 06 56.7	+0.1
	baz=282								
BMAR	Burnt Mountain	69.19	24	P		P		22 06 57.2	-0.3
SCM	Sheep Creek Mo	69.23	30	IAmb		IAmb		22 06 60.0	
	comp=Z,45nm,1.2s								
SCM	Sheep Creek Mo	69.23	30	P		P		22 06 57.3	-0.5
	baz=282								
PRP	Porcupine Dome	69.23	26	P		P		22 06 57.7	-0.1
	baz=282								
F26K	Sheenjek River	69.30	24	P		P		22 06 58.1	0.0
	baz=283								
KTUT	Trabzon	69.31	307	⇑P		P		22 06 58.6	0.0
RAYN	Ar Rayn	69.46	287	P		P		22 07 00.2	+0.3
RAYN				IAmb		IAmb		22 07 01.6	
	comp=Z,40nm,1.1s								
RAYN	Ar Rayn	69.46	287	*i* P		P		22 07 00.3	+0.4
	SNR=24								
RAYN	Ar Rayn	69.46	287	P		P		22 07 00.2	+0.3
RAYN				pmax		pmax			
	comp=Z,40nm,1.1s								
K24K	Donnelly Dome	69.50	28	P		P		22 06 58.8	-0.6
	baz=283,SNR=10								
KEV	Kevo	69.53	338	P		P		22 06 58.4	-1.0
KEV				IAmb		IAmb		22 06 59.4	
	comp=Z,29nm,0.9s								
KEV	Kevo	69.53	338	P		P		22 06 58.4	-1.0
KEV				pmax		pmax			
	comp=Z,29nm,0.9s								
G26K	Porcupine Rive	69.60	25	P		P		22 06 58.9	-1.0
	baz=283								
PAX	Paxson	69.82	29	P		P		22 07 01.0	-0.5
	baz=283								
SPB2	Spitsbergen Ar	69.86	348	IAmb		IAmb		22 07 21.7	
	comp=Z,35nm,1.0s								
SPA0	Spitsbergen Ar	69.86	348	*e*P		P		22 07 00.3	-1.0
SPA0				IAmb		IAmb		22 07 01.1	
	comp=Z,32nm,0.9s								
SPITS	Spitsbergen Ar	69.86	348	P		P		22 07 00.0	-1.4
	comp=Z,23nm,0.8s,baz=74,slow=9.1,SNR=9.9								
SPITS				LR		LR		22 41 58.5	
	comp=Z,2µm,18.1s,baz=350,slow=40								
	comp=Z,23nm,0.8s								
RIDG	Independent Ri	69.92	28	IAmb		IAmb		22 07 25.5	
	comp=Z,23nm,1.0s								
RIDG	Independent Ri	69.92	28	P		P		22 07 01.8	-0.2
	baz=284,SNR=5.1								
KLU	Klutina	69.96	31	P		P		22 07 02.6	+0.2
	baz=283								
ANN	Anapa	70.03	311	*e*P		P		22 07 02.2	-0.8
ANN				pmax		pmax			
	comp=Z,136nm,1.1s								
ARA0	ARCESS Array S	70.09	338	*e*P		P		22 07 02.1	-0.8
ARCES	ARCESS Array B	70.09	338	P		P		22 07 01.7	-1.2
	comp=Z,14nm,0.9s,baz=81,slow=7.5,SNR=16								
ARCES				LR		LR		22 41 12.9	
	comp=Z,629nm,20.6s,baz=45,slow=39								
	comp=Z,14nm,0.9s								
ARCES	ARCESS Array B	70.09	338	IAmb		IAmb		22 07 24.4	
	comp=Z,29nm,1.1s								
HARP	HAARP	70.10	30	P		P		22 07 03.5	+0.4
	baz=284								
DIV	Divide	70.11	31	P		P		22 07 04.0	+0.7
DIV				IAmb		IAmb		22 07 05.1	
	comp=Z,26nm,1.2s								
E27K	Coleen River	70.12	23	P		P		22 07 02.9	-0.2
	baz=285								
SCRK	Sand Creek	70.23	28	P		P		22 07 03.1	-0.9
SCRK	Sand Creek	70.23	28	P		P		22 07 02.7	-1.3
	baz=284,SNR=6.1								
I26K	Coal Creek Min	70.25	26	P		P		22 07 03.1	-0.8
I26K				IAmb		IAmb		22 07 27.0	
	comp=Z,15nm,0.9s								
I26K	Coal Creek Min	70.25	26	P		P		22 07 03.4	-0.5
	baz=284								
J26L	Joseph Creek	70.28	27	P		P		22 07 03.2	-1.1
J26L				IAmb		IAmb		22 07 05.3	
	comp=Z,15nm,0.9s								
J26L	Joseph Creek	70.28	27	P		P		22 07 03.1	-1.2
	baz=284								
G27K	Doyon Strip	70.45	25	P		P		22 07 04.8	-0.4
	baz=285								
HSPB	Hornsund (broa	70.46	347	*e*P		P		22 07 03.8	-1.2
HSPB				*e*L		L		22 42 51.4	
	comp=Z,3µm,18.5s								
N25K	Chitina, Valde	70.55	30	P		P		22 07 06.2	+0.2
	baz=284								
PUL	Pulkovo	70.58	328	*ce*P		P		22 07 07.0	+1.0
PUL				pmax		pmax			
	comp=Z,52nm,0.7s								
MENT	Mentasta	70.61	29	IAmb		IAmb		22 07 13.4	
	comp=Z,16nm,1.0s								
H27K	Steamboat Moun	70.66	25	P		P		22 07 06.4	-0.1
	baz=286								
BMRM	Bremner River	70.70	31	P		P		22 07 09.1	+2.2
BMRM				IAmb		IAmb		22 07 14.4	
	comp=Z,22nm,1.0s								
BMRM	Bremner River	70.70	31	P		P		22 07 07.1	+0.2
	baz=285								
L26K	Log Cabin Wild	70.75	29	P		P		22 07 08.0	+1.0
L26K	Log Cabin Wild	70.75	29	P		P		22 07 07.0	0.0
	baz=285								
I27K	Kandik River	70.79	26	P		P		22 07 07.3	0.0
	baz=286								
GLB	Gilahina Butte	70.95	30	P		P		22 07 08.8	+0.5
GLB				IAmb		IAmb		22 07 13.5	
	comp=Z,18nm,1.0s								
KTK1	Kautokeino	71.01	338	*e*P		P		22 07 07.5	-1.0
KTK1				IAmb		IAmb		22 07 09.5	
	comp=Z,32nm,1.2s								
M26K	Nabesna, AK	71.07	29	IAmb		IAmb		22 07 31.1	
	comp=Z,26nm,1.1s								
M26K	Nabesna, AK	71.07	29	P		P		22 07 09.0	-0.1
	baz=286								
MSEY	Mahe Island	71.08	256	P		P		22 07 09.8	-0.1
MSEY				IAmb		IAmb		22 07 15.5	
	comp=Z,20nm,1.2s								
MSEY	Mahe Island	71.08	256	P		P		22 07 09.8	-0.1
MSEY				pmax		pmax			
	comp=Z,20nm,1.3s								
EGAK	Eagle	71.20	27	P		P		22 07 09.6	-0.2
	baz=286,SNR=5.7								
MCARA	McCarthy VSAT	71.33	30	P		P		22 07 12.2	+1.5
MCARA				IAmb		IAmb		22 07 32.5	
	comp=Z,21nm,1.0s								
MCARA	McCarthy VSAT	71.33	30	P		P		22 07 10.2	-0.4
	baz=286								
L27K	Beaver Creek,	71.41	29	P		P		22 07 11.7	+0.7
	baz=286								
M27K	Edge Creek, AK	71.58	29	P		P		22 07 12.4	+0.1
	baz=286								
JETT	Jettan, Norway	71.79	339	*e*P		P		22 07 13.1	-0.1
JETT				IAmb		IAmb		22 07 13.2	
	comp=Z,48nm,1.0s								
TOKA	Tokat	71.90	307	IAmb		IAmb		22 07 16.2	
	comp=Z,60nm,1.0s								
BVCY	Beaver Creek	72.02	29	P		P		22 07 15.0	+0.3
	baz=287								
BARN	Barnard Glacie	72.06	31	P		P		22 07 16.4	+1.2
FIA1	FINESS Array S	72.13	330	P		P		22 07 15.3	0.0
FIA1				IAmb		IAmb		22 07 15.6	
	comp=Z,40nm,1.1s								
FINES	FINESS Array B	72.13	330	P		P		22 07 14.3	-1.0
	comp=Z,27nm,0.9s,baz=94,slow=6.3,SNR=34								
FINES				LR		LR		22 42 22.5	
	comp=Z,2µm,18.8s,baz=54,slow=39								
	comp=Z,27nm,0.9s								
FINES	FINESS Array B	72.13	330	*i* P		P		22 07 14.8	-0.6
FINES				pmax		pmax			
	comp=Z,27nm,0.9s								
DAWY	Dawson	72.15	27	P		P		22 07 14.8	-0.7
DAWY	Dawson	72.15	27	P		P		22 07 16.0	+0.5
	baz=288,SNR=8.4								
I29M	Ogilvie Camp,	72.18	26	P		P		22 07 16.1	+0.4
I29M				IAmb		IAmb		22 07 35.0	
	comp=Z,19nm,1.0s								
GAZ	Gaziantep	72.25	303	P		P		22 07 17.4	+0.7
SIM	Simferopol'	72.27	312	*e*P		P		22 07 17.4	+0.9
SIM				*e*S		S		22 16 32.9	-4.4
SIM				pmax		pmax			
	comp=Z,95nm,0.9s								
SIM				smax		smax			
	comp=E,149nm,20.1s								
YUK3	Moose Creek	72.39	30	P		P		22 07 17.3	0.0
	baz=288								
DIKM	Dikmen	72.41	308	⇑P		P		22 07 16.6	-0.9
EPYK	Eagle Plains	72.47	25	IAmb		IAmb		22 07 35.8	
	comp=Z,22nm,1.0s								
EPYK	Eagle Plains	72.47	25	P		P		22 07 17.8	+0.4
	baz=290,SNR=5.1								
VSU	Vasula	72.72	327	*i* P		P		22 07 18.3	-0.6
VSU				pmax		pmax			
	comp=Z,150nm,1.2s								
O28M	Mount Upton	72.83	31	P		P		22 07 19.9	-0.1
	baz=288								
YUK8	Steele Glacier	72.86	30	P		P		22 07 20.6	+0.5
	baz=289								
INK	Inuvik	72.93	22	P		P		22 07 18.4	-1.6
	comp=Z,12nm,0.9s,baz=299,slow=6.7,SNR=20								
	comp=Z,12nm,0.9s								
INK	Inuvik	72.93	22	IAmb		IAmb		22 07 21.4	
	comp=Z,21nm,1.1s								
INK	Inuvik	72.93	22	P		P		22 07 19.5	-0.5
	baz=292,SNR=15								
L29M	L29M	72.99	28	P		P		22 07 20.8	+0.2
	baz=289								
K29M	Barlow Dome	73.00	27	P		P		22 07 21.0	+0.3
	baz=290								
PINM	Pinnacle	73.02	31	P		P		22 07 20.4	-0.4
	baz=288								
M29M	Somme Creek	73.07	29	P		P		22 07 20.6	-0.5
	baz=289								
F31M	Tsiigehtchic	73.18	23	P		P		22 07 21.3	-0.2
	baz=292,SNR=14								
MEF	Metsahovi	73.30	329	*e*P		P		22 07 22.5	+0.2
MNK	Minsk	73.32	323	*i* LRM		MLR		22 44 23.8	
	comp=N,761nm,15.7s								
MNK	Minsk	73.32	323	*i* P		P		22 07 22.5	0.0
MNK				*i* *PP		pP		22 07 36.8	+4.8
MNK				*i* S		S		22 16 47.8	-1.1
MNK				pmax		pmax			
	comp=Z,46nm,1.1s								
MNK				pmax		pmax			
	comp=E,5.0nm,1.1s								
MNK				pmax		pmax			
	comp=N,42nm,1.0s								
MNK				MLR		MLR			
	comp=E,109nm,19.0s								
MNK				MLR		MLR			
	comp=Z,907nm,19.0s								
MNK				MLR		MLR			
	comp=N,761nm,16.0s								
MNK	Minsk	73.32	323	*i* P		P		22 07 22.6	0.0
	comp=Z,46nm,1.1s,baz=73								
MNK	Minsk	73.32	323	*i* P		P		22 07 22.6	0.0
	comp=N,42nm,1.0s								
MNK	Minsk	73.32	323	*i* P		P		22 07 22.6	0.0
	comp=E,5.0nm,1.1s								
MNK	Minsk	73.32	323	*i* pP		pP		22 07 36.9	+4.8
MNK	Minsk	73.32	323	*i* PP		PP		22 09 51.4	-14
MNK	Minsk	73.32	323	*i* PPP		PPP		22 11 34.9	
MNK	Minsk	73.32	323	*i* S		S		22 16 47.9	-1.1
MNK	Minsk	73.32	323	*i* SS		SS		22 21 44.0	+13
MNK	Minsk	73.32	323	*i* SSS		SSS		22 25 04.0	
MNK	Minsk	73.32	323	*i* LQ		LQ		22 34 41.7	
MNK	Minsk	73.32	323	*i* LR		LR		22 38 09.8	
MNK	Minsk	73.32	323	*i* LRM		MLR		22 42 08.4	
	comp=E,109nm,19.2s								
MNK	Minsk	73.32	323	*i* LRM		MLR		22 42 31.4	
	comp=Z,907nm,19.2s								
YUK4	Talbot Arm	73.35	30	P		P		22 07 22.3	-0.6
	baz=290								
ILGA	Ilgaz	73.69	308	P		P		22 07 26.1	+0.7
AKASG	Malin Array Be	73.72	319	P		P		22 07 23.6	-1.4
	comp=Z,9.5nm,0.8s,baz=59,slow=6.3,SNR=58								
AKASG				PP		PP		22 10 06.7	-2.6
	comp=Z,3.9nm,0.9s,baz=57,slow=8.4,SNR=4.6								
	comp=Z,9.5nm,0.8s								
AKASG	Malin Array Be	73.72	319	IAmb		IAmb		22 07 25.3	
	comp=Z,28nm,1.4s								
AKASG	Malin Array Be	73.72	319	*ce*P		P		22 07 23.6	-1.4
AKASG				pmax		pmax			
	comp=Z,15nm,0.9s								
AKBB	Malin Array Si	73.72	319	IAmb		IAmb		22 07 25.0	
	comp=Z,24nm,1.0s								
AKBB	Malin Array Si	73.72	319	*ce*P		P		22 07 23.4	-1.6
AKBB				pmax		pmax			
	comp=Z,30nm,1.1s								
M30M	Minto, Yukon	73.75	28	P		P		22 07 24.7	-0.3
	baz=291								
NACGM	Naroch	73.80	323	⇓*i* P		P		22 07 25.4	+0.1
	comp=Z,56nm,1.1s,baz=71								
IZAR	Zarasai	73.82	324	*e*P		P		22 07 24.6	-0.9
A36M	Sachs Harbour	73.92	17	P		P		22 07 25.1	-0.7
A36M	Sachs Harbour	73.92	17	P		P		22 07 24.7	-1.1
	baz=298,SNR=9.5								
ISAL	Salakas	73.94	324	*e*P		P		22 07 26.2	0.0
IIGN	Ignalina	73.97	324	*e*P		P		22 07 25.8	-0.5
N30M	Aishikik Lake	74.02	29	P		P		22 07 26.8	+0.2
	baz=291								
HYT	Haines Junctio	74.05	30	P		P		22 07 27.1	+0.1
	baz=291								
MTSE	Matsula	74.08	328	*e*P		P		22 07 26.6	-0.4
STEI	Steigen	74.15	338	*e*P		P		22 07 26.2	-0.9
STEI				IAmb		IAmb		22 07 27.4	
	comp=Z,37nm,0.9s								
BR131	Keskin Array S	74.16	307	⇓*i* P		P		22 07 27.8	-0.2
BRTR	Keskin Array B	74.16	307	P		P		22 07 27.9	-0.2
	comp=Z,62nm,0.9s,baz=104,slow=5.2,SNR=226								
BRTR				PP		PP		22 10 14.4	+0.9
	comp=Z,3.5nm,1.0s,baz=95,slow=9.1,SNR=5.2								
BRTR				LR		LR		22 42 45.3	
	comp=Z,477nm,18.1s,baz=352,slow=38								
	comp=Z,62nm,0.9s								
BRTR	Keskin Array B	74.16	307	*ce*P		P		22 07 27.8	-0.2
BRTR				pmax		pmax			
	comp=Z,63nm,0.9s								
FAUS	Fauske	74.37	337	*e*P		P		22 07 27.3	-1.1
FAUS				IAmb		IAmb		22 07 29.1	
	comp=Z,31nm,0.8s								
P29M	Windy Craggy	74.37	31	P		P		22 07 29.1	+0.5
P29M				IAmb		IAmb		22 07 56.2	
	comp=Z,61nm,1.7s								
P29M	Windy Craggy	74.37	31	P		P		22 07 28.9	+0.2
	baz=291								
AFI	Afiamalu	74.51	113	LR		LR		22 38 23.7	
	comp=Z,395nm,19.5s,baz=0.5,slow=34								
P30M	Million Dollar	74.56	31	P		P		22 07 29.5	-0.3
	baz=291								
N31M	Braeburn, Yuko	74.59	29	P		P		22 07 29.8	-0.1
	baz=292								
PURM	Purcari	74.63	314	⇓P		P		22 07 29.9	-0.4
O30N	Mendenhall	74.72	30	P		P		22 07 31.1	+0.4
	baz=292								
ANTO	Ankara	74.73	307	P		P		22 07 31.5	+0.3
ANTO	Ankara	74.73	307	P		P		22 07 31.5	+0.3
ANTO				pmax		pmax			
	comp=Z,103nm,1.0s								
MMAI	Mount Meron Ar	74.94	300	LR		LR		22 46 46.6	
	comp=Z,543nm,18.2s,baz=244,slow=41								
VSVD	Vaisvydziai	74.97	325	*e*P		P		22 07 31.7	-0.4
PLBC	Pleasant Camp	75.08	31	P		P		22 07 32.6	-0.2
	baz=292								
SORM	Soroca	75.08	316	⇓P		P		22 07 31.9	-1.0
PABE	Paberze	75.12	324	P		P		22 07 32.6	-0.5
PABE	Paberze	75.12	324	*e*P		P		22 07 32.2	-0.8
KIS	Kishinev	75.16	315	*e*P		P		22 07 32.0	-1.4
KIS				*e*L		L		22 41 17.0	
KIS				LRM		MLR		22 44 23.0	
	comp=Z,200nm,19.0s								
KIS	Kishinev	75.16	315	*e*P		P		22 07 32.0	-1.4
KIS				MLR		MLR			
	comp=Z,200nm,19.0s								
MILM	Milestii Mici	75.19	315	⇑*i* P		P		22 07 32.0	-1.6
	comp=Z,100nm,2.1s								
MILM				*e*S		S		22 17 07.0	-3.2
MILM				*e*L		L		22 39 30.0	
MILM				LRM		MLR		22 44 18.0	
	comp=Z,500nm,13.0s								
MILM	Milestii Mici	75.19	315	*c* *i*P		P		22 07 32.0	-1.6
MILM				*e*S		S		22 17 07.0	-3.2
MILM				pmax		pmax			
	comp=Z,100nm,2.1s								
MILM				MLR		MLR			
	comp=Z,500nm,13.0s								
MOR8	Moi Rana	75.19	336	*e*P		P		22 07 30.9	-2.4
WHY	Whitehorse	75.31	30	P		P		22 07 33.9	-0.4
	baz=293								
FARO	Faro, Yukon	75.37	28	P		P		22 07 34.3	-0.1
	baz=294								
GHAJ	Ghor Haditha	75.37	298	P		P		22 07 35.8	+0.8
C36M	Paulatuk	75.56	20	P		P		22 07 33.9	-1.4
	baz=300,SNR=11								
SKAG	Skagway	75.57	31	P		P		22 07 36.0	+0.4
SKAG	Skagway	75.57	31	P		P		22 07 35.4	-0.2
	baz=293								
LEOM	Leova	75.71	315	⇑P		P		22 07 36.4	-0.2
JURR	Jurilovca	75.87	313	⇓P		P		22 07 37.5	0.0
N32M	Quiet Lake	75.92	29	P		P		22 07 37.1	-0.5
	baz=294								
VASR	Vaslui	75.94	315	⇓P		P		22 07 37.5	-0.4
VLDR	Vladesti	76.03	314	⇓P		P		22 07 38.4	0.0
MMPY	Sheldon Lake,	76.09	27	P		P		22 07 38.0	-0.5
	baz=295								
TPGR	Topolog	76.14	313	⇓P		P		22 07 39.3	+0.1
CFR	Carcaliu	76.22	313	⇓P		P		22 07 39.1	-0.4
P32M	Atlin	76.28	31	P		P		22 07 39.1	-0.6
	baz=294								
TIRR	Tirgusor	76.28	313	⇓P		P		22 07 39.6	-0.3
TIRR	Tirgusor	76.28	313	IAmb		IAmb		22 07 40.7	
	comp=Z,53nm,1.0s								
R32K	Eaglecrest	76.43	32	P		P		22 07 40.3	-0.1
	baz=294								
P33M	Teslin, Yukon	76.43	30	P		P		22 07 40.7	+0.1
	baz=295								
TLBR	Topalu	76.50	313	⇑P		P		22 07 41.2	+0.1
SIT	Sitka	76.51	33	P		P		22 07 41.0	+0.1
SIT				IAmb		IAmb		22 07 42.8	
	comp=Z,54nm,1.0s								
SIT	Sitka	76.51	33	P		P		22 07 41.0	+0.1
SIT				pmax		pmax			
	comp=Z,54nm,1.0s								
HARR	Harsova	76.53	313	⇑P		P		22 07 41.9	+0.7
PANC	Panciu	76.63	314	⇓P		P		22 07 41.1	-0.8
TESR	Tescani	76.73	315	⇑P		P		22 07 42.0	-0.4
ODBI	Odobesti	76.73	314	⇓P		P		22 07 43.5	+1.1
NSS	Namsos	76.87	335	*e*P		P		22 07 41.0	-1.8
VRI	Vrincioaia	76.91	314	⇑P		P		22 07 42.5	-1.0
PLOR	Plostina	76.96	314	⇓P		P		22 07 43.9	+0.1
BISRR	Bisoca	77.03	314	⇑P		P		22 07 44.8	+0.5
LVV	L'vov	77.16	319	*e*P		P		22 07 44.1	-0.6
Q32M	Nakina River	77.21	31	P		P		22 07 44.8	-0.4
	baz=295								
BUR01	Bucovina Ar. S	77.24	317	⇑P		P		22 07 45.0	-0.5
COVR	Voineasa-Covas	77.26	315	⇑P		P		22 07 44.8	-0.6
NEHR	Nehoiu	77.35	314	⇓P		P		22 07 46.5	+0.5
PRD	Provadia	77.41	312	*i* P		P		22 07 46.5	+0.2
PRD	Provadia	77.41	312	*i* P		P		22 07 46.5	+0.2
OZUR		77.44	315	⇑P		P		22 07 46.6	+0.1
MLR	Muntele Rosu	77.56	314	⇓P		P		22 07 47.3	+0.1
MLR	Muntele Rosu	77.56	314	P		P		22 07 46.6	-0.6
MLR				IAmb		IAmb		22 07 48.3	
	comp=Z,25nm,1.0s								
MLR	Muntele Rosu	77.56	314	P		P		22 07 46.6	-0.6
MLR				pmax		pmax			
	comp=Z,25nm,1.0s								
R33M	Jennings River	77.63	30	P		P		22 07 47.4	0.0
	baz=296								
SECR		77.64	314	⇑P		P		22 07 48.6	+1.0
SULR		77.65	313	⇑P		P		22 07 48.7	+1.2
DOPR	Dopca	77.74	315	⇓P		P		22 07 47.9	-0.3
TGTN	Hyland Airport	77.84	28	P		P		22 07 48.1	-0.3
	baz=298								
RAZG	Razgrad	77.89	312	⇑P		P		22 07 48.9	-0.1
SGRR	Singureni	78.00	313	⇑P		P		22 07 50.4	+0.8
U33K	Whale Pass	78.01	34	P		P		22 07 49.6	+0.2
	baz=295								
VOIR		78.16	314	⇓P		P		22 07 50.3	-0.3
S34M	Telegraph Cree	78.21	32	P		P		22 07 51.0	+0.6
	baz=296								
HFS	Hagfors	78.24	331	LR		LR		22 45 43.9	
	comp=Z,2µm,20.4s,baz=48,slow=38								
JMB	Yambol	78.24	311	*i* P		P		22 07 50.7	-0.2
JMB	Yambol	78.24	311	*i* P		P		22 07 50.7	-0.2
WRAK	Wrangell Islan	78.27	33	P		P		22 07 51.2	+0.4
WRAK				IAmb		IAmb		22 07 51.9	
	comp=Z,36nm,1.1s								
WRAK	Wrangell Islan	78.27	33	P		P		22 07 51.4	+0.6
	baz=296								
CRAG	Craig	78.29	34	P		P		22 07 50.9	0.0
	baz=295								
MANT	Manisa	78.30	307	P		P		22 07 51.3	-0.3
MANT				IAmb		IAmb		22 07 52.4	
	comp=Z,80nm,1.3s								
SZH	Strazhica	78.39	312	*i* P		P		22 07 51.1	-0.6
SZH	Strazhica	78.39	312	*i* P		P		22 07 51.1	-0.6
ARR	Arges	78.46	315	⇑P		P		22 07 52.1	-0.1
DLBC	Dease Lake	78.50	31	P		P		22 07 52.0	-0.1
DLBC				IAmb		IAmb		22 07 53.6	
	comp=Z,26nm,1.1s								
DLBC	Dease Lake	78.50	31	P		P		22 07 52.2	+0.1
	baz=297								
COPA	Copaceanca	78.54	313	⇑P		P		22 07 52.2	-0.3
HUMR	Humele	78.55	314	⇑P		P		22 07 52.0	-0.6
KOLS	Kolonicke sedl	78.56	319	*e*P		P		22 07 52.6	0.0
KOLS	Kolonicke sedl	78.56	319	*e*P		P		22 07 52.6	0.0
KOLS				pmax		pmax			
	comp=Z,7.0nm,0.9s								
RES	Resolute Bay	78.62	9	P		P		22 07 51.8	-0.6
RES	Resolute Bay	78.62	9	P		P		22 07 51.8	-0.6
RES				pmax		pmax			
	comp=Z,11nm,1.1s								
NC405	NORSAR Array S	78.62	332	P		P		22 07 51.9	-0.9
NC405				IAmb		IAmb		22 07 53.3	
	comp=Z,46nm,0.9s								
UZH	Uzhgorod	78.66	318	*e*P		P		22 07 52.4	-0.7
UZH				*i*				22 07 56.5	
UZH				*i*				22 08 01.0	
UZH				*i*				22 08 07.7	
TRPA	Tarpa	78.71	318	P		P		22 07 52.3	-1.1
NC303	NORSAR Array S	78.72	333	P		P		22 07 51.9	-1.3
NC303				IAmb		IAmb		22 07 53.8	
	comp=Z,27nm,1.0s								
NB201	NORSAR Array S	78.83	332	P		P

NIE Niedzica 79.54 320 *e*P P **22 07 58.1 +0.1**
LIRD Liard River Hi 79.81 29 P P **22 07 58.7 -0.6**
baz=300
RZN Rozhen 79.82 311 *i* P P **22 07 59.6 -0.3**
RZN Rozhen 79.82 311 *i* P P **22 07 59.6 -0.3**
PGB Panagyurishte 79.86 312 *i* P P **22 07 59.5 -0.4**
PGB Panagyurishte 79.86 312 *i* P P **22 07 59.5 -0.4**
SURR Surduc 79.93 316 ⇓P P **22 08 00.1 0.0**
PUNG Punghina 80.00 314 ⇑P P **22 08 00.6 +0.1**
AKN Aaknes 80.00 335 *e*P P **22 08 00.1 -0.1**
HERR Herculane 80.09 315 ⇑P P **22 08 00.5 -0.6**
DJES Djerdap 80.1 314 P P **22 08 00.8 -0.3**
SKAR Skarsila 80.28 333 *e*P P **22 08 01.9 +0.1**
RUBB Prince Rupert 80.28 35 P P **22 08 01.8 0.0**
RUBB IAmb IAmb 22 08 02.5
comp=Z,37nm,0.9s
BZS Buzias 80.31 316 ⇑P P **22 08 01.2 -1.0**
KOTAN Kotaneelee Air 80.33 28 P P **22 08 00.7 -1.3**
baz=302
PSZ Piszkesteto 80.42 318 IAmb IAmb 22 08 03.9
comp=Z,32nm,1.3s
PSZ Piszkesteto 80.42 318 P P **22 08 02.6 -0.2**
VTS Vitosha 80.46 312 ⇑P P **22 08 03.6 +0.3**
VTS Vitosha 80.46 312 IAmb IAmb 22 08 06.5
comp=Z,45nm,1.2s
VTS Vitosha 80.46 312 *i* P P **22 08 03.3 0.0**
VTS Vitosha 80.46 312 *i* P P **22 08 03.3 0.0**
MMB Musomiste 80.54 311 *i* P P **22 08 02.8 -0.8**
MMB Musomiste 80.54 311 *i* P P **22 08 02.8 -0.8**
MDVR Moldovita 80.59 315 ⇑P P **22 08 03.4 -0.4**
RTZ Ruatahuna 80.59 140 P P **22 08 04.0 +0.3**
RTZ IAmb IAmb 22 10 04.3
comp=Z,28nm,1.4s
GRNB Grenville Isla 80.66 35 P P **22 08 03.5 -0.4**
GRNB IAmb IAmb 22 08 04.6
comp=Z,34nm,0.9s
VYHS Vyhne 80.81 319 *e*P P **22 08 04.8 0.0**
VYHS Vyhne 80.81 319 *e*P P **22 08 04.8 0.0**
VYHS pmax pmax
comp=Z,39nm,1.2s
KKB Krupnik 80.87 312 *i* P P **22 08 04.8 -0.5**
KKB Krupnik 80.87 312 *i* P P **22 08 04.8 -0.5**
MORC Moravsky Berou 81.01 321 ⇓P P **22 08 06.1 +0.3**
MORC Moravsky Berou 81.01 321 P P **22 08 05.6 -0.3**
MORC Moravsky Berou 81.01 321 *e*P P **22 08 05.5 -0.4**
MORC Moravsky Berou 81.01 321 P P **22 08 05.6 -0.3**
MORC pmax pmax
comp=Z,23nm,1.3s
KRLC Kraliky 81.31 321 *e*P P **22 08 06.1 -1.4**
KRLC Kraliky 81.31 321 *e*P P **22 08 06.1 -1.4**
SANT Santorini 81.38 306 ⇑P P **22 08 06.4 -1.8**
OSTC Ostas 81.41 322 *e*P P **22 08 07.5 -0.5**
DPC Dobruska-Polom 81.45 322 *e*P P **22 08 07.4 -0.8**
DPC Dobruska-Polom 81.45 322 *e*P P **22 08 07.4 -0.8**
UPC Upice 81.55 322 *e*P P **22 08 08.8 +0.1**
UPC Upice 81.55 322 *e*P P **22 08 08.8 +0.1**
STIP Stip 81.55 312 *i* P P **22 08 07.2 -1.7**
BLS5 Blasjo 81.74 332 *e*P P **22 08 09.4 -0.2**
VRAC Vranov 81.77 320 ⇓P P **22 08 10.2 +0.3**
VRAC Vranov 81.77 320 *e*P P **22 08 09.7 -0.2**
MODS Modra-Piesok 81.79 319 *e*P P **22 08 10.1 0.0**
MODS Modra-Piesok 81.79 319 *e*P P **22 08 10.1 0.0**
MODS pmax pmax
comp=Z,200nm,2.4s
MORH Mrgy, Hungar 81.93 317 ⇓P P **22 08 10.2 -0.6**
MORH Mrgy, Hungar 81.93 317 P P **22 08 10.0 -0.7**
SKO Skopje 81.94 312 *i* P P **22 08 10.7 -0.3**
KRUC Moravsky 82.00 320 *e*P P **22 08 10.8 -0.3**
MPLH Magyarpolny 82.18 318 P P **22 08 11.9 -0.1**
EGYH Egyhazaskeszo 82.19 319 P P **22 08 12.6 +0.5**
IDI Anoyia 82.24 305 IAmb IAmb 22 08 19.5
comp=Z,40nm,1.1s
KOVH Kovagotottos 82.32 317 P P **22 08 12.6 -0.3**
BRG Berggiesshubel 82.54 323 *e*P P **22 08 14.0 +0.1**
BRG Amp 22 08 16.5
comp=Z,12nm,1.1s
BRG Berggiesshubel 82.54 323 *e*P P **22 08 13.9 +0.1**
BRG pmax pmax
comp=Z,12nm,1.2s
SOP Sopron 82.54 319 P P **22 08 13.8 -0.1**
PRU Pruhonice 82.63 322 *e*P P **22 08 13.9 -0.5**
PRU Pruhonice 82.63 322 *e*P P **22 08 13.9 -0.5**
YKA Yellowknife Ar 82.66 23 P P **22 08 12.9 -1.3**
comp=Z,12nm,0.8s,baz=312,slow=5.0,SNR=31
comp=Z,12nm,0.8s
YKA Yellowknife Ar 82.66 23 P P **22 08 12.8 -1.5**
YKA Yellowknife Ar 82.66 23*ce*P P **22 08 13.3 -1.0**
YKA pmax pmax
comp=Z,13nm,0.8s
RONA Rosalia, Austr 82.69 319 *e*P P **22 08 14.7 -0.1**
comp=Z,19nm,2.1s
OHR Ohrid 82.75 312 *i* P P **22 08 14.2 -1.0**
CLL Collm 82.84 323 *e*P P **22 08 15.0 -0.4**
comp=Z,14nm,0.9s
CLL *e*PP PP **22 11 25.0 -0.4**
comp=Z,12nm,1.0s
CLL Lm MLR 22 49 00.0
comp=N,700nm,19.1s
CLL Lm MLR 22 49 00.0
comp=E,900nm,20.4s
CLL Collm 82.84 323 *e*P P **22 08 14.0 -1.4**
CLL *e* 22 11 25.0
CLL pmax pmax
comp=Z,14nm,0.9s
CLL pmax pmax
comp=Z,12nm,1.0s
CONA Conrad Observa 82.84 319 *i* P P **22 08 15.7 +0.1**
comp=Z,33nm,1.7s,SNR=14
KBN Korca 82.96 311 P P **22 08 15.5 -0.9**
KBN IAmb IAmb 22 08 16.2
comp=Z,45nm,1.2s
KBN Korca 82.96 311 P P **22 08 15.5 -0.9**
KBN pmax pmax
comp=Z,45nm,1.2s
BEHE Becsehely 82.97 318 P P **22 08 16.0 -0.2**
PDG Podgorica 83.21 313 ⇑P P **22 08 16.9 -0.6**
PDG Podgorica 83.21 313 P P **22 08 17.2 -0.3**
TIR Tirane 83.28 312 IAmb IAmb 22 08 19.7
comp=Z,35nm,1.0s
CKRC Cesky Krumlov 83.32 321 *e*P P **22 08 17.5 -0.5**
ARSA Arzberg 83.36 319 *i* P P **22 08 18.3 0.0**
comp=Z,19nm,1.8s,SNR=6.1
KHC Kasperske Hory 83.59 321 P P **22 08 19.1 -0.3**
KHC IAmb IAmb 22 08 20.6
comp=Z,19nm,1.2s
KHC Kasperske Hory 83.59 321 *e*P P **22 08 18.9 -0.5**
KHC Kasperske Hory 83.59 321 *e*P P **22 08 18.9 -0.5**
GEC2 GERESS Array S 83.66 321 IAmb IAmb 22 08 20.7
comp=Z,23nm,1.1s
GERES GERESS Array B 83.66 321 P P **22 08 18.9 -1.0**
comp=Z,6.8nm,0.9s,baz=60,slow=3.7,SNR=34
GERES PP PP **22 11 31.8 -0.5**
comp=Z,1.4nm,0.8s,baz=60,slow=8.0,SNR=4.4
comp=Z,6.8nm,0.9s
NKC Novy Kostel 83.68 323 *e*P P **22 08 19.5 -0.3**
NKC Novy Kostel 83.68 323 *e*P P **22 08 19.5 -0.3**
MOA Molln 83.82 320 *i* P P **22 08 20.9 +0.3**
comp=Z,26nm,1.0s,SNR=8.7
PERS Pernice 83.90 319 *i* P P **22 08 20.4 -0.7**
SOKA Soboth 83.93 319 *i* P P **22 08 20.8 -0.4**
comp=Z,17nm,1.0s,SNR=7.0
CRES Cresnjev 84.08 318 *i* P P **22 08 21.5 -0.4**
BIOA Bad Ischl, Aus 84.27 320 *i* P P **22 08 22.5 -0.4**
comp=Z,25nm,1.5s,SNR=7.4
OBKA Obir 84.30 319 *e*P P **22 08 22.4 -0.7**
comp=Z,16nm,1.1s
BOJS Bojanci 84.36 318 *i* P P **22 08 23.1 -0.2**
GRA1 Grafenberg Arr 84.64 323 P P **22 08 24.6 -0.1**
GRA1 IAmb IAmb 22 08 26.1
comp=Z,44nm,1.4s
GRF Grafenberg Arr 84.64 323 P P **22 08 24.6 -0.1**
GRF pmax pmax
comp=Z,44nm,1.4s
GRFO Grafenberg 84.64 323 P P **22 08 24.9 +0.2**
GRFO IAmb IAmb 22 08 26.0
comp=Z,40nm,1.4s
GRFO Grafenberg 84.64 323 P P **22 08 24.9 +0.2**
GRFO pmax pmax
comp=Z,40nm,1.4s
KBA Koelnbreinsper 84.75 320 *i* P P **22 08 24.4 -1.1**
comp=Z,16nm,1.0s,SNR=9.0
KBA *e*P PP **22 11 41.1 -0.2**
comp=Z,14nm,1.6s
MYKA Terra Mystica 84.79 319 *e*P P **22 08 24.8 -0.8**
comp=Z,9.9nm,1.0s
PRED Cave del Predi 84.93 319 P P **22 08 25.1 -1.2**
PRED IAmb IAmb 22 08 34.0
comp=Z,19nm,1.5s
SABO M.te Sabotino 85.14 319 IAmb IAmb 22 08 27.4
comp=Z,53nm,1.3s
WAPA Wapiti River 85.24 30 P P **22 08 27.2 -0.4**
CLUD Cludinico 85.33 319 IAmb IAmb 22 08 27.9
comp=Z,28nm,1.0s
ABTA Abfaltersbach 85.40 320 *i* P P **22 08 27.2 -1.5**
comp=Z,24nm,1.0s,SNR=8.2
STAL STALIGIAL 85.53 319 IAmb IAmb 22 08 29.0
comp=Z,40nm,1.2s
WATA Walderalm 85.65 320 *i* P P **22 08 29.4 -0.6**
comp=Z,24nm,1.2s,SNR=8.4
WTTA Wattenberg 85.66 320 *i* P P **22 08 29.2 -0.9**
comp=Z,33nm,1.0s,SNR=11
CIMO Cimolais 85.67 319 IAmb IAmb 22 08 29.0
comp=Z,19nm,1.3s
MOTA Moosalm 85.92 321 *e*P P **22 08 30.4 -1.0**
comp=Z,18nm,1.1s
MOTA *e*P PP **22 11 51.2 +0.4**
comp=Z,8.5nm,1.0s
SQTA Sankt Quirin 85.93 320 *i* P P **22 08 30.2 -1.2**
comp=Z,28nm,1.1s,SNR=8.3
LODK Lodwar 85.93 272 P P **22 08 32.5 +0.6**
LODK IAmb IAmb 22 08 34.8
comp=Z,25nm,1.2s
KMBO Kilima Mbogo 86.03 267 P P **22 08 33.8 +1.2**
comp=Z,13nm,1.1s,baz=45,slow=5.6,SNR=27
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 86.03 267 P P **22 08 32.3 -0.2**
KMBO IAmb IAmb 22 08 35.5
comp=Z,48nm,1.4s
KMBO Kilima Mbogo 86.03 267 *i* P P **22 08 33.8 +1.2**
SNR=19
KMBO Kilima Mbogo 86.03 267 *i* P P **22 08 34.2 +1.6**
KMBO pmax pmax
comp=Z,13nm,1.1s
RETA Reutte 86.05 321 *e*P P **22 08 31.1 -0.8**
comp=Z,6.2nm,1.1s
CTI Castel Tesino 86.28 319 IAmb IAmb 22 08 32.9
comp=Z,15nm,1.1s
FETA Feichten 86.31 320 *i* P P **22 08 32.4 -0.9**
comp=Z,19nm,1.1s,SNR=5.4
FETA *e*P PP **22 11 53.8 -0.2**
comp=Z,5.8nm,1.1s
TIP Timpagrande 86.38 311 ⇑P P **22 08 33.0 -0.6**
TIP Timpagrande 86.38 311 IAmb IAmb 22 08 34.8
comp=Z,41nm,1.3s
DAVA Damuels 86.66 321 *e*P P **22 08 34.4 -0.6**
comp=Z,10nm,1.1s
BRLDA Berland Lookou 86.76 31 P P **22 08 34.9 -0.4**
FUORN Ofenpass-Fuorn 86.80 320 IAmb IAmb 22 08 36.6
comp=Z,23nm,1.1s
BTNL Ternell 86.90 325 κP P **22 08 35.4 -0.5**
comp=Z,10nm,1.3s
INTR Introdacqua 86.91 315 P P **22 08 36.1 -0.1**
INTR IAmb IAmb 22 08 38.1
comp=Z,33nm,1.2s
DAVOX Davos/Dischmat 86.93 321 LR LR 22 52 00.6
comp=Z,941nm,18.7s,baz=360,slow=39
MEM Membach 86.95 325 *d*P P **22 08 35.8 -0.3**
comp=Z,6.0nm,1.0s
CAMP Campotosto 86.97 316 P P **22 08 36.5 0.0**
BFO Black Forest 86.98 322 P P **22 08 35.9 -0.5**
BFO IAmb IAmb 22 08 36.9
comp=Z,34nm,1.6s
BFO Black Forest 86.98 322 P P **22 08 35.9 -0.5**
BFO pmax pmax
comp=Z,34nm,1.6s
NRCA Norcia 87.01 316 P P **22 08 36.7 0.0**
AQU L'Aquila 87.07 315 P P **22 08 36.8 -0.1**
AQU L'Aquila 87.07 315 P P **22 08 36.8 -0.1**
AQU pmax pmax
comp=Z,97nm,1.3s
BHOU Houvegnez 87.10 325 *d*P P **22 08 36.1 -0.8**
comp=Z,8.5nm,1.3s
BORG Borgarnes 87.15 345 LR LR 22 52 03.5
comp=Z,863nm,18.6s,baz=338,slow=39
BSTI Sart Tilman 87.20 325 *d*P P **22 08 37.4 +0.1**
TUE Stuetta 87.41 320 P P **22 08 38.2 -0.5**
TUE IAmb IAmb 22 11 48.2
comp=Z,29nm,1.3s
WLF Walferdange 87.42 324 P P **22 08 38.4 0.0**
WLF Walferdange 87.42 324 κP P **22 08 38.7 +0.3**
comp=Z,23nm,1.2s
WLF Walferdange 87.42 324 P P **22 08 38.4 0.0**
WLF pmax pmax
comp=Z,64nm,1.2s
RCHB Rochefort 87.62 325 *d*P P **22 08 37.5 -1.9**
comp=Z,9.6nm,1.3s
ECH Echery 87.69 323 IAmb IAmb 22 08 39.5
comp=Z,30nm,1.5s
BMRD Maredsous 87.78 325 *d*P P **22 08 39.5 -0.5**
E03A Lebam 87.92 39 P P **22 08 41.5 +0.6**
DOU Dourbes 87.99 325 *d*P P **22 08 40.6 -0.4**
comp=Z,7.9nm,1.1s
RAR Rarotonga 88.03 114 LR LR 22 42 05.1
comp=Z,223nm,19.8s,baz=328,slow=32
EKA Eskdalemuir Ar 88.36 332 LR LR 22 53 05.6
comp=Z,1μm,18.6s,baz=32,slow=39
D05A Enumclaw 88.46 38 P P **22 08 43.7 +0.3**
LTY Liberty 89.16 37 P P **22 08 46.6 -0.2**
EDM Edmonton 89.17 30 P P **22 08 46.7 0.0**
EDM Edmonton 89.17 30 P P **22 08 46.7 0.0**
EDM pmax pmax
comp=Z,67nm,1.0s
BUCK Buck Mountain 89.56 41 P P **22 08 50.0 +1.3**
HOOD Mount Hood Mea 89.71 39 P P **22 08 50.0 +0.5**
BNI Bardonecchia 89.75 320 IAmb IAmb 22 08 49.6
comp=Z,35nm,1.4s
H04A Detroit Lake 89.76 40 P P **22 08 49.1 -0.5**
H04A IAmb IAmb 22 08 51.6
comp=Z,37nm,1.1s
C09A Chrisman Ranch 90.15 36 P P **22 08 51.4 0.0**
D08A Wollman Farm, 90.24 37 P P **22 08 52.1 +0.3**
HAWA Hanford 90.30 38 P P **22 08 52.5 +0.4**
F07A Phinny Hill Vi 90.37 38 P P **22 08 53.1 +0.7**
NEW Newport 90.48 35 P P **22 08 53.2 +0.3**
baz=308
E08A Dider Farm, El 90.50 37 P P **22 08 53.5 +0.5**
SSB Saint Sauveur 90.85 321 IAmb IAmb 22 08 55.2
comp=Z,24nm,1.1s
E09A Wood Farm, Sta 91.00 37 P P **22 08 55.9 +0.6**
PINE Pine Mountain 91.01 40 P P **22 08 56.5 +0.8**
YBH Yreka Blue Hor 91.10 43 P P **22 08 56.2 +0.2**
comp=Z,12nm,1.0s,baz=216,slow=1.5,SNR=8.6
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 91.10 43 IAmb IAmb 22 08 58.2
comp=Z,33nm,1.2s
G08A Pilot Rock 91.28 38 P P **22 08 56.9 +0.1**
G08A IAmb IAmb 22 08 58.5
comp=Z,21nm,1.1s
K05A Summer Lake 91.65 41 P P **22 08 59.8 +1.2**
I07A Izee 91.68 40 IAmb IAmb 22 09 00.6
comp=Z,32nm,1.2s
MBAR Mbarara 91.77 270 P P **22 09 00.4 +0.7**
MBAR IAmb IAmb 22 09 01.6
comp=Z,10nm,1.2s
MBAR Mbarara 91.77 270*ce*P P **22 09 01.1 +1.4**
MBAR pmax pmax
comp=Z,8.0nm,1.3s
F10A Beach Ranch, E 91.83 37 IAmb IAmb 22 09 02.4
comp=Z,16nm,1.0s
BMO Blue Mountains 92.47 38 IAmb IAmb 22 09 04.2
comp=Z,29nm,1.1s
MOD Modoc Plateau 92.48 42 P P **22 09 02.6 +0.1**
J08A Circle Bar Ran 92.71 40 P P **22 09 04.1 +0.6**
FFC Flin Flon 92.81 24 P P **22 09 02.8 -0.7**
FFC Flin Flon 92.81 24 P P **22 09 02.8 -0.7**
FFC pmax pmax
comp=Z,38nm,1.0s
MSO Missoula 93.06 35 IAmb IAmb 22 09 06.4
comp=Z,27nm,1.1s
MSO Missoula 93.06 35 P P **22 09 04.6 -0.3**
baz=310
PLID Pearl Lake 93.06 37 P P **22 09 05.8 +0.7**
PLID IAmb IAmb 22 09 08.7
comp=Z,12nm,0.8s
ORV Oroville 93.09 44 IAmb IAmb 22 09 05.7
comp=Z,12nm,1.2s
WVOR Wild Horse Val 93.17 40 P P **22 09 05.3 -0.2**
WVOR IAmb IAmb 22 09 07.3
comp=Z,30nm,1.2s
WVOR Wild Horse Val 93.17 40 P P **22 09 05.4 -0.2**
WVOR pmax pmax
comp=Z,30nm,1.2s
KEST Kesra 93.20 311 P P **22 09 05.2 -0.7**
comp=Z,20nm,0.9s,baz=314,slow=6.5,SNR=7.9
comp=Z,20nm,0.9s
BEKR Beckworth 93.63 43 P P **22 09 07.5 -0.4**
BEKR IAmb IAmb 22 09 08.7
comp=Z,11nm,1.0s
AFDM Forest Hills D 93.77 44 P P **22 09 07.8 -0.5**
AFDM IAmb IAmb 22 09 09.2
comp=Z,11nm,1.3s
MPK Martis Peak 94.17 44 P P **22 09 10.7 +0.2**
MPK IAmb IAmb 22 09 12.4
comp=Z,24nm,1.3s
HRY Holter Researc 94.22 34 P P **22 09 11.1 +0.7**
EMB Emerald Bay 94.31 44 P P **22 09 11.2 +0.1**
EMB IAmb IAmb 22 09 12.1
comp=Z,16nm,1.1s
PAHR Pah Rah Range 94.33 43 IAmb IAmb 22 09 12.1
comp=Z,14nm,1.1s
EGMT Eagleton 94.37 32 P P **22 09 10.3 -0.6**
EGMT IAmb IAmb 22 09 11.7
comp=Z,22nm,0.9s
EGMT Eagleton 94.37 32 P P **22 09 10.6 -0.4**
baz=314
VCNR Virginia City 94.41 43 P P **22 09 11.5 0.0**
VCNR IAmb IAmb 22 09 12.6
comp=Z,9.3nm,1.0s
LRM Limekiln Ridge 94.49 35 P P **22 09 11.7 0.0**
PNTR Pine Nut 94.56 44 P P **22 09 12.0 -0.2**
PNTR IAmb IAmb 22 09 13.4
comp=Z,11nm,1.0s
CMB Columbia Colle 94.67 45 P P **22 09 11.8 -0.7**
CMB IAmb IAmb 22 09 13.3
comp=Z,8.4nm,1.0s
CMB Columbia Colle 94.67 45 P P **22 09 11.8 -0.7**
CMB pmax pmax
comp=Z,8.0nm,1.0s
SAO San Andreas Ge 94.70 46 P P **22 09 12.0 -0.6**
SAO IAmb IAmb 22 11 28.5
comp=Z,42nm,1.6s
SAO San Andreas Ge 94.70 46 P P **22 09 12.0 -0.6**
SAO pmax pmax
comp=Z,42nm,1.6s
YERR Yerington 94.85 44 P P **22 09 13.9 +0.4**
YERR IAmb IAmb 22 09 14.6
comp=Z,22nm,1.4s
HLID Hailey 94.90 38 P P **22 09 13.8 +0.1**
HLID IAmb IAmb 22 09 15.6
comp=Z,19nm,1.1s
HLID Hailey 94.90 38 P P **22 09 14.3 +0.7**
baz=310
MCMT McKenzie Canyo 94.94 36 P P **22 09 14.1 +0.2**
WAKR Walker 95.00 44 P P **22 09 14.2 0.0**
WAKR IAmb IAmb 22 09 26.2
comp=Z,39nm,2.0s
BOZ Bozeman (W) 95.07 35 P P **22 09 13.0 -1.3**
BOZ IAmb IAmb 22 09 15.8
comp=Z,13nm,1.4s
BOZ Bozeman (W) 95.07 35 P P **22 09 13.0 -1.3**
BOZ pmax pmax
comp=Z,13nm,1.4s
BMN Battle Mountai 95.23 41 P P **22 09 15.4 +0.3**
BMN IAmb IAmb 22 09 16.9
comp=Z,21nm,1.4s
BMN Battle Mountai 95.23 41 P P **22 09 15.4 +0.3**
BMN pmax pmax
comp=Z,21nm,1.4s
PPT2 Papeete2 95.24 107 *e*LR LR 22 39 59.9
comp=Z,566nm,24.0s
PPT2 *e*LR LR 22 40 00.0
comp=Z,843nm,24.0s
RYN Ryan 95.51 43 P P **22 09 16.4 -0.1**
KVN Kaiserville 95.52 43 P P **22 09 16.9 +0.3**
KVN IAmb IAmb 22 09 17.7
comp=Z,16nm,1.2s
KVN Kaiserville 95.52 43 P P **22 09 16.9 +0.3**
KVN pmax pmax
comp=Z,16nm,1.2s
LHV Little Huntoon 95.75 44 P P **22 09 17.6 +0.3**
LHV IAmb IAmb 22 09 19.2
comp=Z,14nm,1.2s
NVAR Mina Array Bea 95.77 44 P P **22 09 17.7 0.0**
comp=Z,4.0nm,0.9s,baz=297,slow=4.7,SNR=7.6
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 95.77 44 P P **22 09 17.8 +0.1**
OMMB Old Mammoth Mi 95.81 45 P P **22 09 18.0 0.0**
YHL Hebgen Lake 95.81 35 P P **22 09 17.8 -0.1**
H17A Grant Village 96.44 35 P P **22 09 20.9 +0.2**
H17A IAmb IAmb 22 09 23.6
comp=Z,24nm,1.4s
FLWY Flagg Ranch 96.58 35 P P **22 09 21.0 -0.3**
FLWY IAmb IAmb 22 09 23.4
comp=Z,16nm,1.1s
DSP Deep Springs 96.61 44 P P **22 09 21.0 -0.3**
DGMT Dagmar 96.64 29 P P **22 09 21.0 -0.2**
DGMT Dagmar 96.64 29 P P **22 09 20.8 -0.4**
baz=318
TPH Tonopah 96.66 43 P P **22 09 21.6 -0.1**
TPH Tonopah 96.66 43 P P **22 09 21.6 -0.1**
TPH pmax pmax
comp=Z,40nm,1.0s
GMN Gold Mountain 97.10 44 P P **22 09 23.4 -0.5**
TBI Tubuai 97.59 112 *e*LR LR 22 41 04.0
comp=Z,5μm,23.0s
TBI *e*LR LR 22 41 04.6
comp=Z,1μm,26.0s
MPMC Manual Prospec 97.71 45 P P **22 09 25.5 -1.0**
baz=307
WCT Wildcat Mounta 97.81 44 P P **22 09 26.8 -0.1**
LRMC Laurel Mtn Rad 97.93 46 P P **22 09 27.2 -0.2**
baz=307
QSM Queen of Sheba 98.16 45 P Pdif 22 09 28.5 +0.1
QSM IAmb IAmb 22 09 29.4
comp=Z,7.4nm,1.1s
ULM Lac du Bonnet 98.63 24 P P **22 09 28.4 -1.7**
comp=Z,3.5nm,0.8s,baz=328,slow=5.3,SNR=3.2
comp=Z,3.5nm,0.8s
ESDC Sonseca Array 99.26 321 PP PP **22 13 32.3 -3.2**
comp=Z,1.7nm,1.0s,baz=56,slow=9.4,SNR=4.8
ESDC LR LR 22 59 46.4
comp=Z,680nm,18.4s,baz=4.0,slow=39
MVU Marysvale 99.44 40 P Pdif **22 09 33.9 -0.4**
LSZ Lusaka 99.85 258 LR LR 22 51 20.5
comp=Z,244nm,21.9s,baz=348,slow=33
CCM Cathedral Cave 110.61 28 P PKiKP **22 14 24.3 +0.4**
baz=327
LBNH Lisbon 110.79 11 P PKiKP **22 14 26.8 +2.7**
baz=346
TXAR Lajitas Array 110.87 42 PKiKP PKiKP **22 14 24.6 -0.1**
comp=Z,0.9nm,0.7s,baz=238,slow=1.1,SNR=9.1
JCT Junction City 112.34 39 P PKiKP **22 14 27.1 -0.4**
baz=318
MIAR Mount Ida 112.45 32 P PKiKP **22 14 27.6 +0.1**
baz=325
HRV Adam Dziewonsk 112.54 11 P PKiKP **22 14 27.7 +0.3**
baz=346
WVT Waverly 113.68 26 P PKiKP **22 14 28.7 -1.1**
baz=330
833A Chaparral WMA, 114.18 40 P PKiKP **22 14 30.0 -0.9**
baz=318
LRAL Lakeview Retre 116.69 27 P PKPdf **22 14 34.4 -1.2**
baz=330
DBIC Dimbokro 120.21 294 PKP PKPdf **22 14 42.1 -0.8**
comp=Z,6.8nm,0.8s,baz=354,slow=3.5,SNR=6.4
KIC Kosan Boka 120.28 293 ⇓*i*PKiKP PKPdf **22 14 42.6 -0.4**
comp=Z,4.2nm,0.4s
TIC Toumodi 120.36 294 ⇑*i*PKiKP PKPdf **22 14 42.4 -0.8**
comp=Z,4.7nm,0.3s
LIC Lamto 120.59 294 ⇑*i*PKiKP PKPdf **22 14 43.0 -0.6**
comp=Z,3.9nm,0.2s
TROLL Troll, Antarti 121.78 198 PKPdf PKiKP **22 14 44.8 +0.3**
BELA Belgrano 2 125.02 186 PKPdf PKPdf **22 14 49.9 -0.4**
VNA2 Neumayer--Watz 125.10 198 PKPdf PKiKP **22 14 51.0 +0.1**
baz=95,slow=1.6
VNA1 Neumayer--Stat 125.49 198 PKPdf PKiKP **22 14 51.7 +0.1**
VNA3 Neumayer Olymp 125.56 197 PKPdf PKPdf **22 14 51.5 +0.1**
SDV Santo Domingo 144.88 23 PKPdf PKPab **22 15 27.3 -0.9**
comp=Z,58nm,0.9s,baz=13,slow=2.6,SNR=40
SDV Santo Domingo 144.88 23 PKPdf PKPab **22 15 27.7 -0.5**
PCRV Puerto La Cruz 145.30 12 PKPbc PKPbc **22 15 28.6 -0.8**
comp=Z,7.3nm,0.4s,baz=353,slow=8.1,SNR=5.8
BAUV El Baul 145.66 19 PKPdf PKPdf **22 15 29.2 -1.1**
ROSC El Rosal 146.98 32 PKPbc PKPdf **22 15 32.9 -0.1**
comp=Z,24nm,0.9s,baz=31,slow=5.9,SNR=12
MDP Montagnes des 150.64 350 PKPbc PKPbc **22 15 42.5 -1.4**

comp=Z,19nm,0.9s,baz=308,slow=1.2,SNR=7.8
MCRA Macar, Loja 150.89 51 PKPbc 22 15 43.6 -1.0
RCBR Riachuelo 152.39 308 PKiK 22 15 48.5 +0.3
RCBR Riachuelo 152.39 308 PKIKP **PKiK 22 15 48.5 +0.3**
EFI East Falkland 152.41 179 PKiK 22 15 47.2 +0.2
EFI East Falkland 152.41 179 PKIKP **PKiK 22 15 47.2 +0.2**
BOAV Boa Vista 153.57 7 PKPab **PKPab 22 16 00.8 -2.0**
ATAH Atahualpa 153.91 53 PKPbc **PKiK 22 15 52.5 +0.6**
comp=Z,12nm,0.9s,baz=5.1,slow=5.0,SNR=8.4
ATAH PKPab **PKPab 22 16 04.7 -0.2**
comp=Z,8.6nm,0.8s,baz=289,slow=5.8,SNR=4.1
LPAZ La Paz 167.46 54 PKP **PKPdf 22 15 59.5 +0.9**
comp=Z,18nm,1.0s,baz=12,slow=3.0,SNR=36
LPAZ PKPab **PKPab 22 17 02.5 -1.5**
comp=Z,5.5nm,0.9s,baz=343,slow=5.9,SNR=4.1
BDFB Brasilia 167.72 311 PKP **PKPdf 22 15 57.9 -0.2**
comp=Z,12nm,1.0s,baz=24,slow=1.6,SNR=11
BDFB PKPab **PKPab 22 17 03.7 -0.9**
comp=Z,11nm,0.9s,baz=82,slow=3.5,SNR=11
BDFB Brasilia 167.72 311 PKPdf 22 15 58.4 +0.2
BDFB PKPab **PKPab 22 17 04.7 +0.1**
CFA Coronel Fontan 167.94 131 PKP **PKPdf 22 15 57.7 -0.1**
comp=Z,7.4nm,1.2s,baz=193,slow=3.2,SNR=6.1
SIV San Ignacio 171.35 23 PKP **PKPdf 22 16 00.2 -0.1**
comp=Z,15nm,0.9s,baz=32,slow=0.4,SNR=6.3
AQDB Aquidauana 176.04 333 PKPab 22 17 40.0 -1.0
CPUP Villa Florida 177.71 186 PKP **PKPdf 22 16 01.7 -0.2**
comp=Z,3.3nm,1.1s,baz=254,slow=3.1,SNR=4.6

*IDC **24** 22:03:34.5±6.8, 7˚.14N×73˚.60W, h125km±70km, mbtmp4.0/2, Error ellipse: s-maj=249.2km s-min=17.4km az=126.0*
*RSNC **24** 22:03:37.2±0.8, 6˚.86N×73˚.29W, h122km±3km, ML3.2*
ISC 24 22:03:36.6±1.0, 6˚89N±0˚03×73˚30W±0˚04, h120km±7km, n30, σ1°72/57, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.32**	**158**	⇓*i* P	**Pn**	**22 03 53.9**	**0.0**
BARC				*e*S	**Sn**	**22 04 07.4**	**+0.4**
BARC				IAML		22 04 08.5	
	comp=Z,1μm,0.2s						
BRRC	**Barranca, Sant**	**0.46**	**298**	⇓*i* P	**Pn**	**22 03 54.4**	**+0.1**
BRRC				*e*S	**Sn**	**22 04 08.5**	**+0.8**
BRRC				IAML		22 04 09.4	
	comp=Z,358nm,0.1s						
PAMC	**Pamplona, Colo**	**0.75**	**53**	*e*P	**Pn**	**22 03 57.1**	**+0.2**
PAMC				*e*S	**Sn**	**22 04 13.1**	**+1.0**
PAMC				IAML		22 04 16.1	
	comp=Z,439nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.20**	**253**	⇑*i* P	**Pn**	**22 03 59.3**	**-1.3**
PTBC				*e*S	**Sn**	**22 04 16.9**	**-2.0**
PTBC				IAML		22 04 21.7	
	comp=Z,355nm,0.1s						
TAMC	**Tame, Arauca**	**1.57**	**107**	⇓*i* P	**Pn**	**22 04 04.9**	**0.0**
TAMC				IAML		22 04 26.0	
	comp=Z,129nm,0.2s						
TAMC				*e*S	**Sn**	**22 04 27.1**	**+0.7**
ZARC	**Zaragoza, Cauc**	**1.65**	**291**	*e*P	**Pn**	**22 04 05.6**	**-0.3**
ZARC				*e*S	**Sn**	**22 04 29.7**	**+1.5**
ZARC				IAML		22 04 34.1	
	comp=Z,262nm,0.3s						
NORC	**Norcasia**	**2.04**	**230**	*e*P	**Pn**	**22 04 09.3**	**-1.4**
NORC				*e*S	**Sn**	**22 04 36.7**	**+0.1**
NORC				IAML		22 04 41.4	
	comp=Z,136nm,0.2s						
ROSC	**El Rosal**	**2.27**	**206**	P	**Pn**	**22 04 14.1**	**+0.2**
	comp=Z,88nm,0.3s,baz=102,slow=9.3,SNR=26						
ROSC				S	**Sn**	**22 04 43.8**	**+1.4**
	comp=Z,139nm,0.5s,baz=331,slow=23,SNR=11						
ROSC	**El Rosal**	**2.27**	**206**	*e*P	**Pn**	**22 04 14.3**	**+0.4**
ROSC				*e*S	**Sn**	**22 04 44.0**	**+1.6**
ROSC				IAML		22 04 50.6	
	comp=Z,97nm,0.6s						
CHIC	**Chingaza**	**2.29**	**191**	⇑*i* P	**Pn**	**22 04 13.7**	**-0.4**
CHIC				*e*S	**Sn**	**22 04 42.2**	**-0.6**
CHIC				IAML		22 04 48.2	
	comp=Z,89nm,0.2s						
UREC	**San Jos de Ur**	**2.37**	**291**	*e*P	**Pn**	**22 04 13.3**	**-1.4**
UREC				*e*S	**Sn**	**22 04 41.9**	**-2.2**
UREC				IAML		22 04 51.8	
	comp=Z,198nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.65**	**355**	*e*P	**Pn**	**22 04 20.1**	**+1.8**
LL1C				*e*S	**Sn**	**22 04 53.3**	**+2.9**
CBOC	**Ciudad Bolivar**	**2.88**	**249**	*e*P	**Pn**	**22 04 21.7**	**+0.2**
CBOC				*e*S	**Sn**	**22 04 56.6**	**+0.5**
CBOC				IAML		22 05 02.0	
	comp=Z,44nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.92**	**156**	*e*P	**Pn**	**22 04 20.0**	**-1.8**
PTGC				*e*S	**Sn**	**22 04 54.2**	**-2.5**
PTGC				IAML		22 04 56.7	
	comp=Z,129nm,0.2s						
ARGC	**Ariguani, Magd**	**3.09**	**343**	*e*P	**Pn**	**22 04 25.4**	**+1.2**
ARGC				*e*S	**Sn**	**22 05 02.0**	**+1.1**
ARGC				IAML		22 05 03.0	
	comp=Z,52nm,0.3s						
ANIL	**Santa Ana**	**3.17**	**221**	*e*P	**Pn**	**22 04 25.8**	**+0.4**
ANIL				*e*S	**Sn**	**22 05 05.5**	**+2.5**
ANIL				IAML		22 05 11.8	
	comp=Z,180nm,0.3s						
SDV	**Santo Domingo**	**3.31**	**53**	P	**Pn**	**22 04 26.4**	**-0.7**
	comp=Z,20nm,0.3s,baz=217,slow=5.1,SNR=16						
SDV				S	**Sn**	**22 05 02.0**	**-4.2**
	comp=Z,107nm,0.4s,baz=41,slow=19,SNR=23						
SJCC	**San Jacinto, C**	**3.52**	**328**	*e*P	**Pn**	**22 04 28.0**	**-1.8**
SJCC				*e*S	**Sn**	**22 05 07.8**	**-3.1**
SJCC				IAML		22 05 20.0	
	comp=Z,62nm,0.3s						
PRAC	**Prado**	**3.53**	**207**	*e*P	**Pn**	**22 04 29.4**	**-0.5**
PRAC				*e*S	**Sn**	**22 05 11.3**	**+0.1**
PRAC				IAML		22 05 17.8	
	comp=Z,81nm,0.3s						
ORTC	**Ortega, Tolima**	**3.54**	**213**	*e*P	**Pn**	**22 04 29.6**	**-0.5**
ORTC				*e*S	**Sn**	**22 05 12.6**	**+1.2**
ORTC				IAML		22 05 17.1	
	comp=Z,59nm,0.4s						
PLMC	**San Jos del P**	**3.56**	**237**	*e*P	**Pn**	**22 04 29.9**	**-0.4**
PLMC				*e*S	**Sn**	**22 05 07.5**	**-4.5**
PLMC				IAML		22 05 16.3	
	comp=Z,62nm,0.3s						
LCBC	**Los crdobas,**	**3.61**	**303**	*e*P	**Pn**	**22 04 30.9**	**-0.1**
LCBC				*e*S	**Sn**	**22 05 13.8**	**+0.7**
LCBC				IAML		22 05 16.7	
	comp=Z,49nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.12**	**6**	*e*P	**Pn**	**22 04 36.0**	**-2.0**
CRJC				*e*S	**Sn**	**22 05 23.6**	**-1.9**
YOTC	**Yotoco, Valle**	**4.18**	**227**	*e*P	**Pn**	**22 04 37.5**	**-1.3**
YOTC				*e*S	**Sn**	**22 05 30.6**	**+3.6**
MALC	**Bahia Malaga**	**4.93**	**235**	*e*P	**Pn**	**22 04 50.4**	**+1.8**
URIC	**Uribia, Colomb**	**4.95**	**15**	*e*P	**Pn**	**22 04 46.3**	**-2.7**
URIC				*e*S	**Sn**	**22 05 42.2**	**-3.1**
URIC				IAML		22 05 49.1	
	comp=Z,12nm,0.3s						
FLOC	**Florencia**	**5.77**	**204**	*e*P	**Pn**	**22 04 59.1**	**-0.9**
FLOC				*e*S	**Sn**	**22 06 05.2**	**+0.1**
FLOC				IAML		22 06 11.4	
	comp=Z,4.5nm,0.4s						
BBAC	**Balboa, Cauca**	**6.23**	**219**	*e*P	**Pn**	**22 05 05.9**	**-0.5**
BBAC				*e*S	**Sn**	**22 06 15.3**	**-1.2**
BBAC				IAML		22 06 18.5	
	comp=Z,3.4nm,0.3s						
ASAR	**Alice Springs**	**149.00**	**234**	PKPbc	**PKPdf**	**22 23 08.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=113,slow=3.9,SNR=6.9						
WRA	**Warramunga Arr**	**150.21**	**241**	PKPbc	**PKPdf**	**22 23 11.1**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=106,slow=2.9,SNR=18						

PRU 24 22:05:03.6±0.0, 50˚09N×18˚50E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.69**	**243**	*e*PG	Pb	22 05 18.1	-0.5
MORC				*e*SG	Sg	22 05 26.0	+0.2
KRLC	**Kraliky**	**1.11**	**270**	*e*PG	Pg	22 05 24.1	-0.7
KRLC				*e*SG	Sg	22 05 38.5	-0.6
DPC	**Dobruska-Polom**	**1.42**	**281**	*e*PG	Pn	22 05 30.2	-0.6
DPC				*e*SG	Sg	22 05 49.1	-0.2
OSTC	**Ostas**	**1.54**	**289**	*e*SG	Sg	22 05 51.7	-1.2

*IDC **24** 22:30:55.5±0.3, 55˚.20N×164˚.87E, h0km, mb5.1/34, mbtmp5.1/36, ML5.1/2, MS4.7/72, Error ellipse: s-maj=10.3km s-min=9.3km az=134.0*

*KRSC **24** 22:30:57.0±1.2, 55˚.11N×164˚.78E, h50km±20km, ML5.9*
*MOS **24** 22:30:59.4±0.8, 55˚.17N×164˚.76E, h37km, mb5.5/71, MS4.9/28, Error ellipse: s-maj=4.7km s-min=3.8km az=100.4*
*BJI **24** 22:31:00.5±0.0, 55˚.37N×164˚.37E, h34km, mb5.3/68, mB5.5/48, Ms5.5/76, Ms7 5.2/72*
*GCMT **24** 22:31:00.5±0.3, 55˚.12N±0˚.03×164˚.85E±0˚.03, h23km±1km, MW5.5/899, Moment Tensor Solution. s13,c15; s89,c124; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr-1.16±.20; Mθθ-0.84±.12; Mϕϕ2.00±.13; Mrθ-0.38±.20; Mθϕ0.45±.07; Mϕr0.95±.14; Best double couple: M=2.00400×10^17 NP1:ϕs162.00000°, δ66.00000°, λ-124.00000°. NP2:ϕs41.00000°, δ41.00000°, λ-38.00000°. Principal axes: T 2.3000, Plg15.0000°, Azm276.0000°; N -0.5890, Plg31.0000°, Azm177.0000°; P -1.7090, Plg55.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 22:31:01.5±1.5, 55˚.21N±0˚.05×164˚.75E±0˚.08, h35km±1km, mb5.5/821, Ms_20 4.9/143 Error ellipse: s-maj=10.1km s-min=5.2km az=44.0*
ISC 24 22:31:00.3±0.2, 55˚16N±0˚03×164˚84E±0˚02, h30km±1km, h30km:pP-P, n1915, σ1°38/1821, mb5.5/573, MS4.9/189, 51C-41D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.65**	**86**	*e*P	**Pb**	**22 31 10.7**	**-2.5**
BKI				*e*S	**Sb**	**22 31 20.2**	**-1.8**
BKI	**Bering**	**0.65**	**86**	PN	**Pb**	**22 31 10.7**	**-2.5**
BKI				S	**Sb**	**22 31 20.2**	**-1.8**
KBTR	**Krutoberegovo**	**1.55**	**313**	*e*P	**Pn**	**22 31 22.9**	**-2.9**
KBTR	**Krutoberegovo**	**1.55**	**313**	PN	**Pn**	**22 31 22.9**	**-2.9**
KBG	**Krutoberegovo**	**1.63**	**313**	*e*P	**Pn**	**22 31 24.1**	**-2.7**
KBG				*e*S	**Sn**	**22 31 44.9**	**-1.8**
KBG	**Krutoberegovo**	**1.63**	**313**	PN	**Pn**	**22 31 24.1**	**-2.7**
KBG				S	**Sn**	**22 31 44.9**	**-1.8**
MKZ	**Mys Kozlova**	**1.90**	**253**	*e*P	**Pn**	**22 31 29.1**	**-1.4**
MKZ	**Mys Kozlova**	**1.90**	**253**	PN	**Pn**	**22 31 29.1**	**-1.4**
SMKR	**Semkarok**	**2.37**	**308**	*e*P	**Pn**	**22 31 36.3**	**-0.8**
SMKR	**Semkarok**	**2.37**	**308**	PN	**Pn**	**22 31 36.3**	**-0.8**
ZLN	**Zelenaya**	**2.44**	**292**	*e*P	**Pn**	**22 31 37.8**	**-0.3**
ZLN	**Zelenaya**	**2.44**	**292**	PN	**Pn**	**22 31 37.8**	**-0.3**
BDR	**Baidarnaya**	**2.48**	**306**	*e*P	**Pn**	**22 31 38.2**	**-0.5**
BDR	**Baidarnaya**	**2.48**	**306**	PN	**Pn**	**22 31 38.2**	**-0.5**
CIRR	**Tsirk**	**2.51**	**294**	*e*P	**Pn**	**22 31 38.7**	**-0.3**
CIRR	**Tsirk**	**2.51**	**294**	PN	**Pn**	**22 31 38.7**	**-0.3**
LGNR	**Loginova**	**2.53**	**293**	*e*P	**Pn**	**22 31 39.5**	**+0.1**
LGNR	**Loginova**	**2.53**	**293**	PN	**Pn**	**22 31 39.5**	**+0.1**
TUMD	**Tumrok D**	**2.54**	**273**	*e*P	**Pn**	**22 31 39.0**	**-0.5**
TUMD				*e*S	**Sn**	**22 32 08.8**	**-0.6**
SRKR	**Sorokina**	**2.55**	**307**	*e*P	**Pn**	**22 31 38.9**	**-0.7**
SRKR	**Sorokina**	**2.55**	**307**	PN	**Pn**	**22 31 38.9**	**-0.7**
BZMR	**Bezymyannaya**	**2.59**	**289**	*e*P	**Pn**	**22 31 40.1**	**-0.1**
BZMR	**Bezymyannaya**	**2.59**	**289**	PN	**Pn**	**22 31 40.1**	**-0.1**
BZWR	**Bezymyannyi-We**	**2.59**	**290**	*e*P	**Pn**	**22 31 40.3**	**+0.1**
BZWR	**Bezymyannyi-We**	**2.59**	**290**	PN	**Pn**	**22 31 40.3**	**+0.1**
KLY	**Klyuchi**	**2.63**	**298**	*e*P	**Pn**	**22 31 39.1**	**-1.5**
KLY	**Klyuchi**	**2.63**	**298**	PN	**Pn**	**22 31 39.1**	**-1.5**
KRSR	**Krestovskiy**	**2.64**	**295**	*e*P	**Pn**	**22 31 39.8**	**-1.0**
KRSR	**Krestovskiy**	**2.64**	**295**	PN	**Pn**	**22 31 39.8**	**-1.0**
KIRR	**Kirishev**	**2.67**	**289**	*e*P	**Pn**	**22 31 41.3**	**0.0**
KIRR	**Kirishev**	**2.67**	**289**	PN	**Pn**	**22 31 41.3**	**0.0**
KMNR	**Kamenistaya**	**2.69**	**285**	*e*P	**Pn**	**22 31 41.9**	**+0.4**
KMNR	**Kamenistaya**	**2.69**	**285**	PN	**Pn**	**22 31 41.9**	**+0.4**
TUMR	**Tumrok**	**2.69**	**274**	*e*P	**Pn**	**22 31 41.6**	**+0.1**
TUMR	**Tumrok**	**2.69**	**274**	PN	**Pn**	**22 31 39.0**	**-2.5**
TUMR				S	**Sn**	**22 32 08.8**	**-4.3**
KPT	**Kopyto**	**2.74**	**289**	*e*P	**Pn**	**22 31 42.3**	**+0.1**
KPT	**Kopyto**	**2.74**	**289**	PN	**Pn**	**22 31 42.3**	**+0.1**
KOZ	**Kozyrevsk**	**2.95**	**290**	*e*P	**Pn**	**22 31 45.5**	**+0.4**
KOZ				*e*S	**Sn**	**22 32 21.9**	**+2.4**
KOZ	**Kozyrevsk**	**2.95**	**290**	PN	**Pn**	**22 31 45.5**	**+0.4**
KOZ				S	**Sn**	**22 32 21.9**	**+2.4**
SRDR	**Sredinnyy**	**3.12**	**294**	*e*P	**Pn**	**22 31 47.8**	**+0.5**
SRDR	**Sredinnyy**	**3.12**	**294**	PN	**Pn**	**22 31 47.8**	**+0.5**
ESO	**Esso**	**3.57**	**285**	*e*P	**Pn**	**22 31 53.5**	**0.0**
ESO				*e*S	**Sn**	**22 32 34.2**	**-0.4**
ESO	**Esso**	**3.57**	**285**	PN	**Pn**	**22 31 53.5**	**0.0**
ESO				S	**Sn**	**22 32 34.2**	**-0.4**
NLC	**Nalytchevo**	**3.79**	**241**	*e*P	**Pn**	**22 31 55.8**	**-0.8**
NLC				*e*S	**Sn**	**22 32 37.8**	**-2.3**
NLC	**Nalytchevo**	**3.79**	**241**	PN	**Pn**	**22 31 55.8**	**-0.8**
SDLR	**Sedlovina**	**3.97**	**244**	*e*P	**Pn**	**22 31 58.9**	**-0.2**
SDLR	**Sedlovina**	**3.97**	**244**	PN	**Pn**	**22 31 58.9**	**-0.2**
SMAR	**Somma**	**4.02**	**244**	*e*P	**Pn**	**22 31 59.8**	**-0.1**
SMAR				*e*S	**Sn**	**22 32 44.1**	**-2.0**
SMAR	**Somma**	**4.02**	**244**	PN	**Pn**	**22 31 59.8**	**-0.1**
KRER	**Koryakskii**	**4.03**	**245**	*e*P	**Pn**	**22 32 00.2**	**+0.2**
KRER				*e*S	**Sn**	**22 32 44.5**	**-1.7**
KRER	**Koryakskii**	**4.03**	**245**	PN	**Pn**	**22 32 00.2**	**+0.2**
UGLR	**Uglovaya**	**4.04**	**243**	*e*P	**Pn**	**22 32 00.2**	**+0.2**
UGLR				*e*S	**Sn**	**22 32 44.0**	**-2.3**
UGLR	**Uglovaya**	**4.04**	**243**	PN	**Pn**	**22 32 00.2**	**+0.2**
KOK	**Koryaka**	**4.09**	**245**	*e*P	**Pn**	**22 32 01.4**	**+0.6**
KOK				*e*S	**Sn**	**22 32 46.5**	**-1.1**
KOK	**Koryaka**	**4.09**	**245**	PN	**Pn**	**22 32 01.4**	**+0.6**
KOK				S	**Sn**	**22 32 46.5**	**-1.1**
DALK	**Dalny**	**4.17**	**242**	*e*P	**Pn**	**22 32 01.2**	**-0.5**
DALK				*e*S	**Sn**	**22 32 46.3**	**-3.0**
DALK	**Dalny**	**4.17**	**242**	PN	**Pn**	**22 32 01.2**	**-0.5**
PET	**Petropavlovsk**	**4.22**	**242**		**Pn**	**22 32 02.3**	**-0.2**
PET	**Petropavlovsk**	**4.22**	**242**	P	**Pn**	**22 32 02.6**	**+0.1**
PET	**Petropavlovsk**	**4.22**	**242**	*e*P	**Pn**	**22 32 02.3**	**-0.2**
PET				*e*S	**Sn**	**22 32 48.5**	**-2.2**
PET	**Petropavlovsk**	**4.22**	**242**	*ce*PN	**Pn**	**22 32 01.6**	**-0.9**
PET				pmax	pmax		
	comp=Z,2μm,1.3s						
GNL	**Ganaly**	**4.29**	**253**	*e*P	**Pn**	**22 32 04.2**	**+0.7**
GNL	**Ganaly**	**4.29**	**253**	PN	**Pn**	**22 32 04.2**	**+0.7**
KRMR	**Karymshinskiy**	**4.59**	**242**	*e*P	**Pn**	**22 32 07.7**	**+0.1**
KRMR				*e*S	**Sn**	**22 32 57.7**	**-2.2**
KRMR	**Karymshinskiy**	**4.59**	**242**	PN	**Pn**	**22 32 07.7**	**+0.1**
RUS	**Russkaya**	**4.64**	**236**	*e*P	**Pn**	**22 32 07.1**	**-1.1**
RUS				*e*S	**Sn**	**22 32 56.8**	**-4.1**
RUS	**Russkaya**	**4.64**	**236**	PN	**Pn**	**22 32 07.1**	**-1.1**
PEA0B	**Petropavlovsk-**	**4.67**	**247**	Pn	**Pn**	**22 32 08.9**	**+0.2**
PEA0B	**Petropavlovsk-**	**4.67**	**247**	*ce*PN	**Pn**	**22 32 09.2**	**+0.5**
PETK	**Petropavlovsk-**	**4.67**	**247**	Pn	**Pn**	**22 32 08.3**	**-0.4**
	comp=Z,203nm,0.3s,baz=74,slow=16,SNR=239						
PETK				Sn	**Sn**	**22 33 03.1**	**+1.3**
	comp=Z,47nm,0.3s,baz=55,slow=23,SNR=2.3						
PETK				LR	LR	22 34 15.2	
	comp=Z,11μm,18.1s,baz=67,slow=42						
	comp=Z,330nm,0.4s						
PETK	**Petropavlovsk-**	**4.67**	**247**	Pn	**Pn**	**22 32 08.6**	**-0.1**
MTVR	**Mutnovka**	**4.77**	**238**	*e*P	**Pn**	**22 32 10.0**	**-0.1**
MTVR				*e*S	**Sn**	**22 33 02.4**	**-2.0**
MTVR	**Mutnovka**	**4.77**	**238**	PN	**Pn**	**22 32 10.0**	**-0.1**
GRL	**Gorelyy**	**4.78**	**240**	*e*P	**Pn**	**22 32 10.5**	**+0.2**
GRL				*e*S	**Sn**	**22 33 03.4**	**-1.3**
GRL	**Gorelyy**	**4.78**	**240**	PN	**Pn**	**22 32 10.5**	**+0.2**
APC	**Apacha**	**5.05**	**247**	*e*P	**Pn**	**22 32 14.7**	**+0.9**
APC	**Apacha**	**5.05**	**247**	PN	**Pn**	**22 32 14.7**	**+0.9**
KDTR	**Khodutka, Kamc**	**5.25**	**233**	*e*P	**Pn**	**22 32 15.4**	**-1.2**
KDTR				*e*S	**Sn**	**22 33 11.1**	**-4.9**
KDTR	**Khodutka, Kamc**	**5.25**	**233**	PN	**Pn**	**22 32 15.4**	**-1.2**
TILK	**Tilichiki**	**5.34**	**7**	*e*P	**Pn**	**22 32 18.4**	**+0.6**
TILK	**Tilichiki**	**5.34**	**7**	PN	**Pn**	**22 32 18.4**	**+0.6**
SHEM	**Shemya Is, Ala**	**5.99**	**110**	Pn	**Pn**	**22 32 29.9**	**+3.2**
	comp=Z,54nm,0.3s,baz=35,slow=7.3,SNR=15						
SHEM				Sn	**Sn**	**22 33 27.3**	**-6.8**
	comp=Z,5.4nm,0.3s,baz=284,slow=18,SNR=2.3						
SMY	**Shemya**	**5.99**	**110**	Pn	**Pn**	**22 32 31.2**	**+4.5**
SMY	**Shemya**	**5.99**	**110**	PN	**Pn**	**22 32 31.2**	**+4.5**
PAU	**Pauzhetka**	**6.07**	**236**	*e*P	**Pn**	**22 32 27.5**	**-0.3**
PAU	**Pauzhetka**	**6.07**	**236**	PN	**Pn**	**22 32 27.5**	**-0.3**
SKR	**Severo-Kuril's**	**6.92**	**233**	*e*P	**Pn**	**22 32 38.3**	**-1.2**
SKR	**Severo-Kuril's**	**6.92**	**233**	*e*PN	**Pn**	**22 32 38.4**	**-1.1**
SKR				pmax	pmax		
	comp=Z,198nm,0.4s						
KMSK	**Kamenskaya**	**7.36**	**5**	*e*P	**Pn**	**22 32 46.2**	**+0.7**
KMSK	**Kamenskaya**	**7.36**	**5**	PN	**Pn**	**22 32 46.2**	**+0.7**
MA2	**Magadan**	**8.79**	**306**	Pn	**Pn**	**22 33 06.5**	**+1.4**
	comp=Z,2.9nm,0.3s,baz=127,slow=14,SNR=7.3						
MA2				LR	LR	22 36 29.9	
	comp=Z,6μm,21.6s,baz=109,slow=38						
	comp=Z,26nm,0.7s						
MA2	**Magadan**	**8.79**	**306**	Pn	**Pn**	**22 33 06.9**	**+1.8**
MA2	**Magadan**	**8.79**	**306**	P	**Pn**	**22 33 07.7**	**+2.6**
MA2	**Magadan**	**8.79**	**306**	*ce*PN	**Pn**	**22 33 06.6**	**+1.5**
MA2				pmax	pmax		
	comp=Z,170nm,1.7s						
SEY	**Seymchan**	**10.07**	**326**	Pn	**Pn**	**22 33 26.0**	**+3.4**
	comp=Z,0.4nm,0.3s,baz=125,slow=13,SNR=7.3						
SEY				LR	LR	22 37 03.7	
	comp=Z,4μm,18.5s,baz=120,slow=37						
SEY	**Seymchan**	**10.07**	**326**	*i* PN	**Pn**	**22 33 24.5**	**+1.9**
KIWB	**Kanaga Island**	**11.22**	**100**		Pn	**22 33 44.5**	**+6.0**
ADK	**Adak**	**11.47**	**99**	Pn	**Pn**	**22 33 45.2**	**+3.4**
ADK	**Adak**	**11.47**	**99**	P	Pn	22 33 48.6	+6.8
ADK	**Adak**	**11.47**	**99**	PN	**Pn**	**22 33 45.3**	**+3.4**
GSTR	**Great Sitkin T**	**11.75**	**97**		**Pn**	**22 33 50.3**	**+4.7**
OKH	**Okha**	**12.87**	**272**	*d i* PN	**P**	**22 34 10.4**	**-0.9**
OKH				*i* S	**Sn**	**22 36 27.7**	**+4.9**
OKH				pmax	pmax		
	comp=Z,700nm,12.4s						
OKH				smax	smax		
	comp=E,700nm,8.3s						
OKH				MLR	MLR		
	comp=Z,3μm,19.0s						
OKH				MLR	MLR		
	comp=E,6μm,16.0s						
OKH				MLR	MLR		
	comp=N,10μm,16.0s						
BILL	**Bilibino**	**12.94**	**2**	Pn	**Pn**	**22 34 03.3**	**+1.5**
BILL	**Bilibino**	**12.94**	**2**	*c i* PN	**Pn**	**22 34 03.1**	**+1.3**
BILL				pmax	pmax		
	comp=Z,45nm,1.3s						
BILL				MLR	MLR		
	comp=Z,3μm,14.0s						
TYV	**Tymovskoe**	**14.01**	**261**	*e*P	P	22 34 29.9	+5.9
TYV				pmax	pmax		
	comp=Z,46nm,1.3s						
TYV				pmax	pmax		
	comp=Z,1μm,4.3s						
GAMB	**Gambell**	**14.63**	**44**	Pn	**Pn**	**22 34 26.0**	**+1.1**
GAMB	**Gambell**	**14.63**	**44**	P	**Pn**	**22 34 25.4**	**+0.6**
	baz=245						
KUR	**Kuril'sk**	**14.69**	**234**	*e*P	**Pn**	**22 34 23.0**	**-2.7**
KUR				pmax	pmax		
	comp=Z,2μm,4.8s						
KUR				pmax	pmax		
	comp=Z,169nm,0.5s						
KUR				MLR	MLR		
	comp=Z,3μm,16.0s						
UGL	**Uglegorsk**	**15.22**	**256**	*e*P	**P**	**22 34 39.8**	**+2.4**
UGL				*e*S	**Sn**	**22 37 27.2**	**+7.1**
UGL				pmax	pmax		
	comp=Z,2μm,7.0s						
UGL				MLR	MLR		
	comp=E,13μm,13.0s						
UGL				MLR	MLR		
	comp=N,2μm,8.0s						
UGL				MLR	MLR		
	comp=Z,6μm,12.0s						
NIKH	**Nikolski High**	**15.57**	**87**	Pn	**Pn**	**22 34 39.2**	**+1.9**
NIKH				IAmb	IAmb	22 34 53.2	
	comp=Z,304nm,0.6s						
NIKH	**Nikolski High**	**15.57**	**87**	P	**Pn**	**22 34 38.0**	**+0.7**
	baz=289						
YSS	**Yuzh-Sakhalins**	**16.08**	**248**	Pn	**Pn**	**22 34 43.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**16.08**	**248**	P	**Pn**	**22 34 43.6**	**-0.3**
YSS	**Yuzh-Sakhalins**	**16.08**	**248**	*e*P	**Pn**	**22 34 42.2**	**-1.6**
YSS				*e*S	**Sn**	**22 37 39.1**	**-1.9**
YSS				pmax	pmax		
	comp=Z,80nm,0.7s						
YSS				pmax	pmax		
	comp=Z,900nm,12.0s						
YSS				MLR	MLR		
	comp=Z,6μm,14.0s						
YSS				MLR	MLR		
	comp=N,3μm,13.0s						
YSS				MLR	MLR		
	comp=E,5μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**16.53**	**236**	*d i* P	**Pn**	**22 34 45.3**	**-4.3**
YUK				*i* S	**Sn**	**22 37 48.7**	**-3.3**
YUK				pmax	pmax		
	comp=E,816nm,0.5s						
YUK				pmax	pmax		
	comp=Z,792nm,0.5s						
YUK				pmax	pmax		
	comp=N,262nm,0.6s						
UNV	**Unal

TEY *e* 22 39 27.4
O17K Koliganek Bris 20.77 62 P **P** **22 35 39.1 +0.7**
baz=274,SNR=16
R16K Pilot Point 20.79 68 P **P** **22 35 38.0 -0.5**
baz=280
KLR Kul'dur 20.99 267 P **P** **22 35 40.3 -0.6**
comp=Z,5.2nm,0.6s,baz=68,slow=9.6,SNR=20
KLR LR LR 22 43 59.9
comp=Z,3µm,20.8s,baz=64,slow=37
comp=Z,5.2nm,0.6s
KLR Kul'dur 20.99 267 *i* P **P** **22 35 40.6 -0.2**
KLR pmax pmax
comp=Z,89nm,1.2s
GCSA Galena City Sc 21.09 48 P **P** **22 35 42.5 +0.7**
baz=261,SNR=17
Q16K King Salmon 21.11 65 P **P** **22 35 42.9 +0.9**
baz=277,SNR=26
P17K Kvichak River 21.16 63 P **P** **22 35 43.6 +1.1**
baz=276,SNR=20
TTA Tatalina 21.28 53 P **P** **22 35 44.8 +0.8**
TTA Tatalina 21.28 53 P **P** **22 35 44.9 +0.9**
baz=267,SNR=15
TTA Tatalina 21.28 53 P **P** **22 35 44.8 +0.9**
TTA pmax pmax
comp=Z,153nm,1.1s
JTM Tenmabayashi 21.30 237 P **P** **22 35 44.1 -0.1**
JTM IAmb IAmb 22 36 02.5
comp=Z,250nm,1.2s
JTM Tenmabayashi 21.30 237 P **P** **22 35 43.5 -0.7**
N18K Kilae Creek 21.32 59 P **P** **22 35 45.3 +1.0**
N18K IAMs_20 IAMs_20 22 44 43.8
comp=Z,4µm,18.0s
N18K Kilae Creek 21.32 59 P **P** **22 35 45.5 +1.1**
baz=273
R17K Ugashik Creek 21.40 67 P **P** **22 35 45.6 +0.4**
baz=280
Q17K Contact Creek 21.57 66 P **P** **22 35 47.5 +0.5**
baz=279,SNR=10
O18K Koktuh Hills 21.72 61 P **P** **22 35 49.2 +0.6**
baz=275,SNR=8.1
ZEA Zeya 21.73 282 *eP* **P** **22 35 51.9 +3.2**
ZEA *e* 22 39 47.6
ZEA *e* 22 40 31.3
ZEA pmax pmax
comp=E,40nm,1.0s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA MLR MLR
comp=N,2µm,13.0s
ZEA MLR MLR
comp=E,600nm,13.0s
ZEA MLR MLR
comp=Z,2µm,13.0s
P18K Big Mountain, 21.75 62 P **P** **22 35 49.2 +0.2**
baz=276,SNR=10.0
L19K White Mountain 21.79 55 P **P** **22 35 50.3 +0.9**
L19K IAmb IAmb 22 36 02.3
comp=Z,238nm,1.3s
L19K White Mountain 21.79 55 P **P** **22 35 48.8 -0.6**
baz=270
Q18K Katmai Hardscr 21.96 64 P **P** **22 35 50.8 -0.5**
baz=278,SNR=8.5
N19K Bonanza Creek 22.01 59 IAMs_20 IAMs_20 22 45 13.8
comp=Z,4µm,18.0s
N19K Bonanza Creek 22.01 59 P **P** **22 35 50.3 -1.4**
baz=274,SNR=43
M19K Big River Lodg 22.01 56 IAmb IAmb 22 36 05.7
comp=Z,216nm,1.3s
M19K Big River Lodg 22.01 56 P **P** **22 35 50.9 -0.8**
baz=271,SNR=36
O19K Port Alsworth 22.13 60 P **P** **22 35 52.8 -0.1**
O19K Port Alsworth 22.13 60 P **P** **22 35 52.1 -0.9**
baz=275,SNR=7.2
K20K Telida 22.18 52 IAmb IAmb 22 36 05.8
comp=Z,194nm,1.1s
K20K IAMs_20 IAMs_20 22 44 53.1
comp=Z,3µm,18.0s
K20K Telida 22.18 52 P **P** **22 35 54.1 +0.5**
baz=268
J20K Nowinta River 22.20 50 IAmb IAmb 22 36 06.5
comp=Z,263nm,1.1s
J20K Nowinta River 22.20 50 P **P** **22 35 53.8 +0.1**
baz=266,SNR=123
CHIR Chirikof Islan 22.21 72 IAMs_20 IAMs_20 22 43 38.7
comp=Z,4µm,21.0s
CHIR Chirikof Islan 22.21 72 P **P** **22 35 54.0 +0.2**
baz=285
L20K Farewell, AK 22.25 54 P **P** **22 35 54.2 -0.1**
baz=270,SNR=18
TIXI Tiksi 22.50 331 P **P** **22 35 56.3 -0.5**
comp=Z,9.7nm,0.5s,baz=90,slow=20,SNR=35
TIXI LR LR 22 44 49.2
comp=Z,1µm,18.3s,baz=179,slow=37
comp=Z,9.7nm,0.5s
TIXI Tiksi 22.50 331 P **P** **22 35 56.6 -0.2**
TIXI Tiksi 22.50 331 *ce*P **P** **22 35 56.9 +0.1**
TIXI pmax pmax
comp=Z,99nm,2.5s
IMAR Indian Mountai 22.58 45 P **P** **22 35 57.6 -0.1**
IMAR **PcP** **22 39 50.2 +0.4**
M20K Styx River 22.61 56 P **P** **22 35 58.7 +0.5**
M20K IAmb IAmb 22 36 11.7
comp=Z,192nm,1.2s
M20K Styx River 22.61 56 P **P** **22 35 58.0 -0.1**
baz=272
Q19K Cape Douglas, 22.62 63 IAmb IAmb 22 36 04.7
comp=Z,188nm,1.1s
Q19K Cape Douglas, 22.62 63 P **P** **22 35 58.2 -0.1**
baz=279,SNR=5.6
P19K Oil Pt 22.73 61 P **P** **22 36 00.6 +1.1**
P19K IAmb IAmb 22 36 14.7
comp=Z,191nm,1.2s
P19K Oil Pt 22.73 61 P **P** **22 35 59.5 0.0**
baz=277
ILSW Iliamna Southw 22.74 61 IAmb IAmb 22 36 12.5
comp=Z,237nm,1.2s
G21K Allakaket 22.76 44 P **P** **22 35 59.9 +0.3**
baz=260
SII Sitkinak Islan 22.80 70 IAmb IAmb 22 36 11.4
comp=Z,176nm,1.0s
SII Sitkinak Islan 22.80 70 P **P** **22 35 59.2 -1.0**
baz=284
F21K Alatna River 22.90 42 P **P** **22 35 59.9 -1.2**
baz=259
H21K Melozitna Rive 22.92 46 IAmb IAmb 22 36 13.8
comp=Z,240nm,1.3s
H21K Melozitna Rive 22.92 46 P **P** **22 36 00.8 -0.5**
baz=263
CHUM Lake Minchumin 22.99 50 P **P** **22 36 02.3 +0.3**
baz=268,SNR=59
O20K Slope Mountain 22.99 60 P **P** **22 36 02.4 +0.2**
baz=277,SNR=6.6
HEH HeiHe 23.00 273 *eP* **P** **22 35 58.1 -4.2**
HEH pP **pP** **22 36 07.6 -1.2**
HEH S **S** **22 40 06.6 -3.9**
HEH sS **pS** **22 40 17.0 -0.7**
HEH pmax pmax
comp=Z,22nm,0.8s
HEH pmax pmax
comp=Z,330nm,4.8s
HEH LR LR
comp=Z,8µm,15.0s
HEH LR LR
comp=Z,5µm,14.3s
HEH LR LR
comp=Z,5µm,12.3s
PPLA Purkeypile 23.03 53 P **P** **22 36 02.8 +0.2**
baz=270,SNR=35
CAST Castle Rocks 23.08 52 IAmb IAmb 22 36 15.7
comp=Z,123nm,1.0s
CAST IAMs_20 IAMs_20 22 45 29.8
comp=Z,3µm,18.0s
CAST Castle Rocks 23.08 52 P **P** **22 36 03.3 +0.3**
baz=269,SNR=67
N20K Mount Spurr 23.09 57 P **P** **22 36 03.7 +0.6**
baz=274,SNR=23
SPCR Spurr Chakacha 23.09 57 P **P** **22 36 03.7 +0.6**
baz=274
A21K Barrow 23.09 31 P **P** **22 36 02.2 -0.7**
A21K IAmb IAmb 22 36 14.5
comp=Z,179nm,1.1s
A21K IAMs_20 IAMs_20 22 45 40.6
comp=Z,3µm,20.0s
A21K Barrow 23.09 31 P **P** **22 36 03.1 +0.1**
baz=246,SNR=11

OHAK Old Harbor 23.13 68 P **P** **22 36 03.1 -0.4**
OHAK IAmb IAmb 22 36 13.8
comp=Z,177nm,1.1s
OHAK Old Harbor 23.13 68 P **P** **22 36 03.3 -0.1**
baz=283
I21K Tanana 23.21 47 IAmb IAmb 22 36 25.9
comp=Z,300nm,1.9s
I21K IAMs_20 IAMs_20 22 45 41.0
comp=Z,5µm,18.0s
I21K Tanana 23.21 47 P **P** **22 36 03.3 -0.9**
baz=265
Q20K Shuyak Island 23.32 64 P **P** **22 36 04.1 -1.3**
baz=280
SKT Skwentna 23.36 55 P **P** **22 36 06.1 +0.3**
SKT IAmb IAmb 22 36 17.8
comp=Z,197nm,1.2s
SKT Skwentna 23.36 55 P **P** **22 36 05.9 +0.1**
baz=273,SNR=40
F22K John River 23.45 41 P **P** **22 36 06.4 -0.2**
baz=260
H22K Ishtalitna Cre 23.53 45 P **P** **22 36 07.9 +0.5**
baz=264,SNR=44
HOM Homer 23.53 61 P **P** **22 36 08.1 +0.7**
HOM Homer 23.53 61 P **P** **22 36 08.4 +1.0**
baz=278
BPAW Bear Paw Mtn. 23.58 50 IAmb IAmb 22 36 20.3
comp=Z,281nm,1.2s
BPAW Bear Paw Mtn. 23.58 50 P **P** **22 36 07.6 -0.3**
baz=269,SNR=36
KTH Kantishna Hill 23.60 51 IAMs_20 IAMs_20 22 45 47.6
comp=Z,3µm,18.0s
G22K Bettles 23.61 43 P **P** **22 36 07.5 -0.6**
baz=262
USA0B Ussuriysk Arra 23.69 256 P **P** **22 36 09.0 -0.1**
USA0B Ussuriysk Arra 23.69 256 P **P** **22 36 09.0 -0.1**
USA0B pmax pmax
comp=Z,29nm,1.1s
USRK Ussuriysk Ar. 23.69 256 P **P** **22 36 08.1 -0.9**
comp=Z,7.2nm,0.9s,baz=47,slow=12,SNR=12
USRK PcP **PcP** **22 39 51.6 -0.9**
comp=Z,8.7nm,0.9s,baz=6.2,slow=1.2,SNR=4.9
USRK ScP **ScP** **22 43 30.4 +2.2**
comp=Z,1.7nm,0.9s,baz=82,slow=2.0,SNR=4.3
USRK LR LR 22 45 51.3
comp=Z,3µm,18.6s,baz=48,slow=38
comp=Z,7.2nm,0.9s
E22K Anaktuvuk Pass 23.70 40 P **P** **22 36 08.8 -0.3**
baz=259
MLY Manley 23.73 48 IAmb IAmb 22 36 20.9
comp=Z,205nm,1.4s
MLY Manley 23.73 48 P **P** **22 36 08.3 -1.1**
baz=267,SNR=60
JMM Marumori 23.74 233 P **P** **22 36 10.1 +0.5**
JMM IAmb IAmb 22 36 29.6
comp=Z,289nm,1.1s
JMM Marumori 23.74 233 P **P** **22 36 10.4 +0.8**
CNPM China Poot 23.76 61 IAmb IAmb 22 36 22.7
comp=Z,149nm,1.1s
SUA Susitna One 23.77 56 IAmb IAmb 22 36 21.3
comp=Z,224nm,1.1s
SUA Susitna One 23.77 56 P **P** **22 36 09.1 -0.7**
baz=275,SNR=52
TRF Thorofare Moun 23.89 52 P **P** **22 36 10.9 -0.1**
baz=271,SNR=129
CUT Chulitna 23.93 54 P **P** **22 36 10.1 -1.1**
baz=273,SNR=44
M22K Willow 24.04 56 IAmb IAmb 22 36 17.6
comp=Z,173nm,0.9s
M22K Willow 24.04 56 P **P** **22 36 10.9 -1.3**
baz=275,SNR=28
COLD Coldfoot 24.16 42 IAmb IAmb 22 36 24.8
comp=Z,175nm,0.9s
COLD Coldfoot 24.16 42 P **P** **22 36 12.3 -1.0**
baz=262,SNR=50
G23K Bananza Creek 24.16 44 P **P** **22 36 12.2 -1.2**
baz=264
BWN Browne 24.25 50 IAMs_20 IAMs_20 22 46 35.7
comp=Z,3µm,18.0s
H23K Yukon River 24.28 46 IAmb IAmb 22 36 26.6
comp=Z,253nm,1.2s
H23K Yukon River 24.28 46 P **P** **22 36 13.5 -1.0**
baz=266,SNR=101
D23K Nanushuk River 24.28 38 P **P** **22 36 13.7 -0.7**
baz=258
RC01 Rabbit Creek A 24.29 57 P **P** **22 36 15.1 +0.5**
baz=277,SNR=6.9
I23K Minto, Yukon-K 24.32 47 IAMs_20 IAMs_20 22 46 16.4
comp=Z,5µm,19.0s
I23K Minto, Yukon-K 24.32 47 P **P** **22 36 13.4 -1.3**
baz=268,SNR=127
O22K Cooper Landing 24.37 59 IAmb IAmb 22 36 39.3
comp=Z,127nm,0.7s
O22K IAMs_20 IAMs_20 22 45 51.3
comp=Z,3µm,18.0s
O22K Cooper Landing 24.37 59 P **P** **22 36 13.8 -1.5**
baz=278,SNR=6.5
NEA2 Nenana 24.42 49 IAmb IAmb 22 36 21.3
comp=Z,120nm,0.9s
NEA2 IAMs_20 IAMs_20 22 46 46.3
comp=Z,5µm,18.0s
NEA2 Nenana 24.42 49 P **P** **22 36 14.9 -0.9**
baz=269,SNR=104
MCK McKinley 24.49 51 P **P** **22 36 14.0 -2.3**
baz=271,SNR=102
E23K Chandalar 24.50 40 P **P** **22 36 15.8 -0.7**
baz=261
C23K Itkillik River 24.50 36 P **P** **22 36 15.8 -0.6**
baz=256,SNR=73
PMR Palmer 24.53 56 P **P** **22 36 15.2 -1.5**
baz=276,SNR=5.7
RND Reindeer 24.53 52 IAmb IAmb 22 36 21.4
comp=Z,130nm,1.0s
SEW Seward 24.56 60 IAmb IAmb 22 36 34.4
comp=Z,93nm,0.8s
SEW Seward 24.56 60 P **P** **22 36 15.5 -1.4**
baz=279,SNR=9.2
GHO Glory Hole Cre 24.61 56 IAmb IAmb 22 36 29.9
comp=Z,108nm,0.9s
TOLK Toolik Lake Re 24.61 39 P **P** **22 36 16.9 -0.6**
TOLK Toolik Lake Re 24.61 39 P **P** **22 36 16.8 -0.7**
baz=260,SNR=67
WAT1 Susitna Watana 24.70 53 P **P** **22 36 16.6 -1.7**
baz=274
MDJ Mudanjiang 24.78 260 P **P** **22 36 18.6 -0.5**
MDJ pP sP 22 36 29.9 +0.6
MDJ sP pwP 22 36 32.0 -1.1
MDJ S **S** **22 40 32.3 -7.0**
MDJ pmax pmax
comp=Z,31nm,1.5s
MDJ pmax pmax
comp=Z,380nm,5.3s
MDJ LR LR
comp=Z,5µm,18.1s
MDJ LR LR
comp=Z,4µm,18.3s
MDJ LR LR
comp=Z,7µm,12.7s
MDJ Mudanjiang 24.78 260 P **P** **22 36 18.4 -0.7**
MDM Murphy Dome 24.79 48 IAmb IAmb 22 36 31.9
comp=Z,268nm,1.5s
MDM IAMs_20 IAMs_20 22 46 47.9
comp=Z,4µm,18.0s
JSD Sado 24.80 237 P **P** **22 36 19.8 +0.5**
JSD IAmb IAmb 22 36 22.3
comp=Z,170nm,1.0s
JSD Sado 24.80 237 P **P** **22 36 20.0 +0.6**
WRH Wood River Hil 24.85 49 IAMs_20 IAMs_20 22 47 09.5
comp=Z,4µm,18.0s
KNK Knik Glacier 24.87 56 P **P** **22 36 18.2 -1.6**
baz=277,SNR=58
SML Sawmill 24.88 55 P **P** **22 36 19.5 -0.5**
baz=276,SNR=60
E24K Your Creek 24.92 40 P **P** **22 36 19.2 -1.1**
baz=262
TCOL CIGO, UAF Yank 24.95 48 IAmb IAmb 22 36 31.6
comp=Z,146nm,0.9s
TCOL IAMs_20 IAMs_20 22 46 53.1
comp=Z,5µm,18.0s
TCOL CIGO, UAF Yank 24.95 48 P **P** **22 36 19.0 -1.5**
baz=270,SNR=41
COLA College 24.95 48 P **P** **22 36 20.2 -0.2**
COLA IAmb IAmb 22 36 31.6
comp=Z,145nm,0.9s
COLA College 24.95 48 IAMs_20 IAMs_20 22 46 53.1
comp=Z,4µm,18.0s
COLA College 24.95 48 P **P** **22 36 18.5 -1.9**
baz=270
COLA College 24.95 48‖ *eP* **P** **22 36 20.0 -0.4**

H24K Noodor Dome 24.96 46 IAmb IAmb 22 36 33.4
comp=Z,292nm,1.8s
H24K IAMs_20 IAMs_20 22 46 37.2
comp=Z,3µm,18.0s
H24K Noodor Dome 24.96 46 P **P** **22 36 20.9 +0.2**
baz=268
CCB Clear Creek Bu 24.97 49 IAMs_20 IAMs_20 22 47 02.7
comp=Z,4µm,18.0s
PWL Port Wells 25.00 58 IAMs_20 IAMs_20 22 46 37.8
comp=Z,4µm,18.0s
PWL Port Wells 25.00 58 P **P** **22 36 19.5 -1.5**
baz=278,SNR=31
F24K Squaw Lake 25.08 42 P **P** **22 36 21.3 -0.5**
baz=264
WAT6 Susitna Watana 25.09 54 P **P** **22 36 20.7 -1.3**
baz=275,SNR=45
C24K Franklin Bluff 25.12 37 P **P** **22 36 20.7 -1.3**
baz=259
POKR Poker Plat Res 25.13 48 P **P** **22 36 22.1 0.0**
POKR IAmb IAmb 22 36 34.8
comp=Z,150nm,1.1s
POKR Poker Plat Res 25.13 48 P **P** **22 36 20.6 -1.5**
baz=270,SNR=23
G24K Hadweenzic Riv 25.17 44 P **P** **22 36 21.9 -0.6**
baz=266,SNR=83
M23K Glacier View 25.17 55 P **P** **22 36 21.8 -0.8**
baz=277,SNR=54
DHY Denali Highway 25.22 52 IAmb IAmb 22 36 35.4
comp=Z,236nm,1.2s
DHY Denali Highway 25.22 52 P **P** **22 36 21.1 -2.0**
baz=274,SNR=75
HDA Harding Lake 25.34 49 IAmb IAmb 22 36 35.3
comp=Z,83nm,0.8s
HDA IAMs_20 IAMs_20 22 47 32.7
comp=Z,5µm,18.0s
HDA Harding Lake 25.34 49 P **P** **22 36 22.9 -1.2**
baz=272,SNR=67
BNX BinXian 25.35 264 ⇑P **P** **22 36 24.3 0.0**
BNX pP **pwP** **22 36 35.6 -2.6**
BNX sP sP 22 36 41.1 +6.7
BNX PP **PnPn** **22 37 02.8 +3.3**
BNX S **S** **22 40 47.3 -1.1**
BNX pmax pmax
comp=Z,10.0nm,0.7s
BNX pmax pmax
comp=Z,280nm,4.3s
BNX LR LR
comp=Z,2µm,11.9s
BNX LR LR
comp=Z,5µm,12.9s
BNX LR LR
comp=Z,3µm,12.7s
SCM Sheep Creek Mo 25.36 55 P **P** **22 36 23.2 -1.1**
baz=277,SNR=59
IL31 25.36 48 IAmb IAmb 22 36 30.0
comp=Z,172nm,1.0s
ILAR Eielson Array 25.36 48 P **P** **22 36 23.3 -0.9**
comp=Z,46nm,0.7s,baz=260,slow=8.8,SNR=259
ILAR PcP **PcP** **22 39 54.4 -1.5**
comp=Z,1.6nm,0.6s,baz=277,slow=3.3,SNR=6.1
ILAR LR LR 22 47 17.1
comp=Z,4µm,18.2s,baz=261,slow=39
comp=Z,46nm,0.7s
P23K Montague Islan 25.59 59 P **P** **22 36 25.1 -1.3**
baz=281
G25K Bearman Lake 25.72 44 P **P** **22 36 26.3 -1.2**
baz=268
H25L Birch Creek 25.82 45 P **P** **22 36 27.6 -0.7**
baz=269
D25K Kavik River 25.86 38 P **P** **22 36 28.2 -0.6**
baz=262
M24K Tolsona, Glenn 25.86 54 P **P** **22 36 29.0 +0.1**
baz=277,SNR=65
K24K Donnelly Dome 25.89 51 P **P** **22 36 28.2 -0.8**
baz=274,SNR=20
PRP Porcupine Dome 25.93 47 IAmb IAmb 22 36 40.7
comp=Z,134nm,0.9s
PRP IAMs_20 IAMs_20 22 47 16.0
comp=Z,4µm,19.0s
PRP Porcupine Dome 25.93 47 P **P** **22 36 28.4 -1.1**
baz=271,SNR=112
F25K Christian Rive 25.95 42 P **P** **22 36 28.5 -1.1**
baz=266
HIN Hinchinbrook I 25.96 58 P **P** **22 36 29.1 -0.7**
E25K Arctic Village 26.02 41 P **P** **22 36 28.9 -1.3**
baz=265,SNR=38
MJB9 Matsu-Tunnel 26.02 235 P **P** **22 36 32.1 +1.6**
MJB9 IAmb IAmb 22 36 51.3
comp=Z,149nm,0.9s
MAJO Matsushiro 26.02 235 P **P** **22 36 31.4 +1.0**
MAJO IAmb IAmb 22 36 50.3
comp=Z,147nm,0.8s
MAJO Matsushiro 26.02 235 P **P** **22 36 31.5 +1.0**
MAJO Matsushiro 26.02 235‖ *iP* **P** **22 36 30.4 -0.1**
MAJO pmax pmax
comp=Z,90nm,1.1s
MJAR Matsushiro Arr 26.02 235 P **P** **22 36 30.9 +0.4**
comp=Z,59nm,1.0s,baz=23,slow=8.5,SNR=60
MJAR PcP **PcP** **22 39 57.5 -0.3**
comp=Z,1.5nm,0.6s,baz=48,slow=1.8,SNR=4.3
MJAR LR LR 22 49 02.0
comp=Z,1µm,18.2s,baz=38,slow=42
comp=Z,59nm,1.0s
FYU Fort Yukon 26.06 44 P **P** **22 36 30.6 +0.1**
FYU IAmb IAmb 22 36 42.0
comp=Z,179nm,1.3s
KLU Klutina 26.07 56 P **P** **22 36 30.5 -0.2**
KLU IAmb IAmb 22 36 40.4
comp=Z,103nm,0.9s
KLU IAMs_20 IAMs_20 22 47 14.9
comp=Z,3µm,18.0s
KLU Klutina 26.07 56 P **P** **22 36 29.2 -1.5**
baz=279,SNR=43
PAX Paxson 26.09 52 P **P** **22 36 30.8 -0.2**
PAX IAmb IAmb 22 36 47.1
comp=Z,114nm,1.2s
PAX Paxson 26.09 52 P **P** **22 36 30.0 -1.0**
baz=276,SNR=48
PAX Paxson 26.09 52 P **P** **22 36 30.8 -0.2**
PAX pmax pmax
comp=Z,114nm,1.2s
DIV Divide 26.19 57 IAmb IAmb 22 36 43.2
comp=Z,194nm,1.1s
Q23K Middleton Isla 26.23 61 P **P** **22 36 33.7 +1.6**
Q23K Middleton Isla 26.23 61 P **P** **22 36 31.1 -1.0**
baz=282
HARP HAARP 26.30 54 P **P** **22 36 31.7 -1.1**
baz=277,SNR=22
EYAK Cordova Ski Ar 26.30 58 IAmb IAmb 22 36 46.4
comp=Z,108nm,0.9s
EYAK Cordova Ski Ar 26.30 58 P **P** **22 36 32.0 -0.7**
baz=281
RIDG Independent Ri 26.30 51 IAmb IAmb 22 36 42.8
comp=Z,131nm,1.2s
RIDG IAMs_20 IAMs_20 22 47 32.1
comp=Z,3µm,18.0s
RIDG Independent Ri 26.30 51 P **P** **22 36 31.4 -1.4**
baz=275,SNR=47
C26K Camden Bay 26.45 37 P **P** **22 36 32.1 -1.9**
baz=262
F26K Sheenjek River 26.52 42 P **P** **22 36 34.3 -0.5**
baz=267,SNR=17
G26K Porcupine Rive 26.64 43 P **P** **22 36 35.6 -0.2**
baz=269
DOT Dot Lake 26.66 51 IAmb IAmb 22 36 46.0
comp=Z,155nm,1.4s
SCRK Sand Creek 26.66 50 P **P** **22 36 35.0 -1.2**
SCRK IAmb IAmb 22 36 46.1
comp=Z,137nm,1.1s
SCRK IAMs_20 IAMs_20 22 47 59.5
comp=Z,3µm,19.0s
SCRK Sand Creek 26.66 50 P **P** **22 36 34.6 -1.5**
baz=275,SNR=82
N25K Chitina, Valde 26.67 55 IAmb IAmb 22 36 47.5
comp=Z,120nm,0.9s
N25K Chitina, Valde 26.67 55 P **P** **22 36 35.5 -0.7**
baz=279,SNR=30
BMRM Bremner River 26.78 57 IAmb IAmb 22 36 48.4
comp=Z,161nm,0.9s
BMRM Bremner River 26.78 57 P **P** **22 36 36.1 -1.1**
baz=280
J26L Joseph Creek 26.80 49 P **P** **22 36 36.5 -0.8**
J26L IAMs_20 IAMs_20 22 47 51.1
comp=Z,3µm,20.0s
J26L Joseph Creek 26.80 49 P **P** **22 36 35.7 -1.7**
baz=274,SNR=12
C27K Jago River 26.83 37 P **P** **22 36 36.5 -1.0**
baz=264

MENT Mentasta 26.89 52 IAmb IAmb 22 36 52.6
comp=Z,99nm,1.0s
I26K Coal Creek Min 26.93 47 P P 22 36 37.2 -1.2
I26K IAMs_20 IAMs_20 22 48 04.4
comp=Z,3µm,18.0s
I26K Coal Creek Min 26.93 47 P P 22 36 37.3 -1.1
baz=273
L26K Log Cabin Wild 27.05 52 IAMs_20 IAMs_20 22 47 55.7
comp=Z,4µm,18.0s
L26K Log Cabin Wild 27.05 52 P P 22 36 38.2 -1.3
baz=277,SNR=24
HMT Hamilton 27.07 58 P P 22 36 39.6 -0.1
HMT IAmb IAmb 22 36 51.1
comp=Z,74nm,0.9s
HMT IAMs_20 IAMs_20 22 48 14.5
comp=Z,3µm,19.0s
GLB Gilahina Butte 27.07 56 IAMs_20 IAMs_20 22 47 13.6
comp=Z,2µm,18.0s
KAIM Kayak Island 27.08 59 P P 22 36 40.6 +0.8
KAIM Kayak Island 27.08 59 P P 22 36 38.2 -1.6
baz=283,SNR=5.1
JGF Kuroka 27.19 235 P P 22 36 41.0 0.0
JGF IAmb IAmb 22 36 59.3
comp=Z,82nm,1.0s
JGF Kuroka 27.19 235 P P 22 36 41.9 +0.9
VRDI Verde Repeater 27.28 56 IAmb IAmb 22 36 53.0
comp=Z,99nm,1.1s
VRDI IAMs_20 IAMs_20 22 47 11.1
comp=Z,2µm,19.0s
M26K Nabesna, AK 27.30 53 IAmb IAmb 22 37 01.7
comp=Z,115nm,1.1s
M26K IAMs_20 IAMs_20 22 48 44.4
comp=Z,3µm,18.0s
M26K Nabesna, AK 27.30 53 P P 22 36 41.0 -0.7
baz=279
BERG Berg Lake 27.33 58 P P 22 36 43.1 +1.1
BERG IAmb IAmb 22 36 56.3
comp=Z,231nm,1.5s
BERG IAMs_20 IAMs_20 22 48 07.4
comp=Z,3µm,18.0s
SUCK Suckling Hills 27.36 58 P P 22 36 44.3 +2.0
SUCK IAmb IAmb 22 36 55.5
comp=Z,159nm,1.2s
SUCK IAMs_20 IAMs_20 22 48 23.3
comp=Z,3µm,19.0s
MCARA McCarthy VSAT 27.46 56 IAmb IAmb 22 37 11.5
comp=Z,90nm,1.0s
MCARA IAMs_20 IAMs_20 22 47 16.7
comp=Z,3µm,20.0s
MCARA McCarthy VSAT 27.46 56 P P 22 36 41.9 -1.3
baz=281,SNR=10
G27K Doyon Strip 27.48 44 P P 22 36 41.9 -1.5
baz=272
E27K Coleen River 27.50 41 P P 22 36 42.2 -1.4
baz=269
I27K Kandik River 27.55 46 P P 22 36 43.0 -1.0
baz=274,SNR=7.5
INU Inuyama 27.55 236 P P 22 36 43.7 -0.5
H27K Steamboat Moun 27.55 45 P P 22 36 42.9 -1.1
baz=273
CN2 Changchun 27.63 262 P P 22 36 43.8 -1.0
CN2 S S 22 41 20.0 -4.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,3µm,12.0s
CN2 LR LR
comp=Z,4µm,12.0s
CN2 LR LR
comp=Z,5µm,12.0s
BOD Bodaibo 27.65 297 eP P 22 36 43.7 -1.2
BOD pmax pmax
comp=Z,82nm,1.6s
WAX Waxell Ridge 27.73 57 IAmb IAmb 22 36 58.2
comp=Z,206nm,1.5s
L27K Beaver Creek, 27.73 52 IAMs_20 IAMs_20 22 48 25.7
comp=Z,4µm,18.0s
L27K Beaver Creek, 27.73 52 P P 22 36 45.3 -0.4
baz=278
BCAR Beaver Creek A 27.75 52 P P 22 36 45.9 +0.1
SNH Sunshine Point 27.80 58 P P 22 36 47.0 +0.7
SNH IAMs_20 IAMs_20 22 48 39.7
comp=Z,4µm,20.0s
EGAK Eagle 27.81 48 IAmb IAmb 22 36 56.3
comp=Z,100nm,0.8s
EGAK IAMs_20 IAMs_20 22 48 40.9
comp=Z,4µm,18.0s
EGAK Eagle 27.81 48 P P 22 36 44.5 -1.8
baz=276,SNR=76
M27K Edge Creek, AK 27.82 53 IAmb IAmb 22 37 00.2
comp=Z,114nm,1.0s
M27K IAMs_20 IAMs_20 22 49 09.2
comp=Z,2µm,18.0s
M27K Edge Creek, AK 27.82 53 P P 22 36 44.9 -1.7
baz=280
HIA Hailar 27.85 277 P P 22 36 48.0 +1.2
HIA Hailar 27.85 277 IAMs_20 IAMs_20 22 48 52.2
comp=Z,3µm,19.0s
HIA Hailar 27.85 277 P P 22 36 48.0 +1.2
HIA pmax pmax
comp=Z,20nm,0.8s
HIA MLR MLR
comp=Z,3µm,19.0s
ISLE Juniper Island 27.94 57 IAmb IAmb 22 36 59.7
comp=Z,266nm,1.6s
ISLE IAMs_20 IAMs_20 22 48 26.6
comp=Z,3µm,18.0s
JHJ Hachijo jima 2 28.16 229 LR LR 22 48 36.3
comp=Z,304nm,21.7s,baz=88,slow=38
BARN Barnard Glacie 28.17 56 IAMs_20 IAMs_20 22 47 41.5
comp=Z,3µm,21.0s
MESA MESA 28.23 58 P P 22 36 51.2 +1.0
MESA IAmb IAmb 22 37 02.1
comp=Z,101nm,0.8s
MESA IAMs_20 IAMs_20 22 49 03.2
comp=Z,4µm,18.0s
MESA MESA 28.23 58 P P 22 36 48.6 -1.7
baz=284
BVCY Beaver Creek 28.27 53 P P 22 36 49.7 -0.8
baz=280,SNR=47
YAH Yahtse 28.28 57 IAmb IAmb 22 37 02.6
comp=Z,109nm,0.9s
TABL Table Mountain 28.55 57 IAmb IAmb 22 37 04.7
comp=Z,97nm,1.0s
TABL IAMs_20 IAMs_20 22 49 11.8
comp=Z,4µm,18.0s
YUK3 Moose Creek 28.58 54 P P 22 36 52.5 -1.0
baz=282,SNR=32
DAWY Dawson 28.66 49 P P 22 36 53.5 -0.5
baz=279,SNR=28
O28M Mount Upton 28.93 56 P P 22 36 56.0 -0.6
baz=284
I29M Ogilvie Camp, 28.95 46 IAMs_20 IAMs_20 22 49 09.8
comp=Z,3µm,18.0s
I29M Ogilvie Camp, 28.95 46 P P 22 36 55.5 -0.9
baz=277,SNR=25
YUK8 Steele Glacier 29.01 55 P P 22 36 56.7 -0.6
baz=283,SNR=11
PCA Pinnacle 29.07 58 IAmb IAmb 22 37 09.7
comp=Z,203nm,1.2s
PINM Pinnacle 29.07 58 P P 22 36 56.7 -1.0
baz=285,SNR=19
J29M Klondike Camp 29.11 48 IAMs_20 IAMs_20 22 49 32.2
comp=Z,3µm,18.0s
M29M Somme Creek 29.36 52 P P 22 36 59.6 -0.7
baz=282
L29M L29M 29.38 51 P P 22 36 59.9 -0.5
baz=281
BCPM Bancas Point 29.41 58 IAmb IAmb 22 37 11.9
comp=Z,124nm,0.8s
BCPM IAMs_20 IAMs_20 22 49 51.3
comp=Z,4µm,18.0s
EPYK Eagle Plains 29.48 44 IAmb IAmb 22 37 13.4
comp=Z,89nm,1.1s
EPYK IAMs_20 IAMs_20 22 49 38.7
comp=Z,2µm,19.0s
EPYK Eagle Plains 29.48 44 P P 22 36 59.8 -1.4
baz=277,SNR=30
K29M Barlow Dome 29.51 49 P P 22 36 60.0 -1.6
baz=280
YUK4 Talbot Arm 29.52 55 P P 22 37 01.4 -0.4
baz=284,SNR=16
PNL Peninsula 29.60 58 P P 22 37 00.5 -1.7
baz=286
G30M tAoh Zraii Nji 29.61 43 P P 22 37 00.9 -1.4
baz=276
YUK6 Outpost Mounta 29.76 55 P P 22 37 02.9 -1.0
baz=285,SNR=12

O29M Mount Kennedy 29.82 57 P P 22 37 02.9 -1.5
baz=286
SNY Shenyang 29.94 261 ⇑P P 22 37 05.5 +0.1
SNY pP sP 22 37 15.4 -0.1
SNY pmax pmax
comp=Z,26nm,0.7s
SNY pmax pmax
comp=Z,510nm,4.4s
SNY LR LR
comp=Z,7µm,17.9s
SNY LR LR
comp=Z,4µm,17.4s
SNY LR LR
comp=Z,7µm,13.6s
M30M Minto, Yukon 30.09 52 IAMs_20 IAMs_20 22 49 30.2
comp=Z,2µm,20.0s
M30M Minto, Yukon 30.09 52 P P 22 37 06.8 +0.2
baz=283
HYT Haines Junctio 30.19 55 IAmb IAmb 22 37 19.6
comp=Z,104nm,1.0s
HYT Haines Junctio 30.19 55 P P 22 37 06.3 -1.3
baz=286,SNR=35
N30M Aishihik Lake 30.22 54 P P 22 37 06.5 -1.3
baz=285
MAYO Mayo, Yukon 30.27 50 P P 22 37 08.3 +0.1
MAYO IAmb IAmb 22 37 38.8
comp=Z,70nm,0.8s
MAYO Mayo, Yukon 30.27 50 P P 22 37 07.1 -1.1
baz=282
P29M Windy Craggy 30.42 58 IAmb IAmb 22 37 21.4
comp=Z,46nm,0.7s
P29M Windy Craggy 30.42 58 P P 22 37 08.3 -1.2
baz=287
INK Inuvik 30.50 40 LR LR 22 49 51.0
comp=Z,1µm,19.9s,baz=240,slow=37
INK Inuvik 30.50 40 IAmb IAmb 22 37 22.8
comp=Z,236nm,1.9s
INK Inuvik 30.50 40 P P 22 37 09.3 -0.8
baz=276,SNR=18
F31M Tsiigehtchic 30.52 42 P P 22 37 08.6 -1.6
baz=277
KS19 Wonju Array Si 30.56 250 P P 22 37 11.0 0.0
KS19 IAmb IAmb 22 37 13.9
comp=Z,115nm,1.2s
KSRS Korea Array 30.57 250 P P 22 37 12.6 +1.7
comp=Z,47nm,1.0s,baz=41,slow=8.9,SNR=65
KSRS PcP PcP 22 40 10.2 +1.2
comp=Z,6.8nm,1.0s,baz=7.9,slow=1.5,SNR=5.6
KSRS ScP ScP 22 43 52.0 +3.1
comp=Z,0.7nm,0.6s,baz=54,slow=4.8,SNR=2.8
KSRS LR LR 22 48 07.0
comp=Z,952nm,21.9s,baz=50,slow=34
comp=Z,47nm,1.0s
KSAR Wonju Array Be 30.59 250 P P 22 37 11.4 +0.2
KSAR PcP 22 40 10.1 +1.0
KSAR Wonju Array Be 30.59 250 P P 22 37 11.4 +0.2
KSAR 22 40 10.1
P30M Million Dollar 30.65 57 P P 22 37 10.5 -1.0
baz=287
N31M Braeburn, Yuko 30.82 54 P P 22 37 12.6 -0.4
baz=286
O30N Mendenhall 30.88 55 P P 22 37 12.5 -1.1
baz=287,SNR=21
PLBC Pleasant Camp 31.14 58 P P 22 37 16.1 +0.3
baz=288
INCN Inchon 31.24 252 P P 22 37 17.4 +0.4
INCN IAmb IAmb 22 37 29.6
comp=Z,70nm,1.2s
INCN Inchon 31.24 252 P P 22 37 17.4 +0.4
INCN pmax pmax
comp=Z,70nm,1.3s
INCN MLR MLR
comp=Z,1µm,20.0s
M31M Drury Creek, Y 31.27 52 IAmb IAmb 22 37 29.3
comp=Z,94nm,0.9s
M31M IAMs_20 IAMs_20 22 50 44.3
comp=Z,2µm,19.0s
M31M Drury Creek, Y 31.27 52 P P 22 37 16.9 -0.1
baz=285,SNR=36
WHY Whitehorse 31.48 55 IAmb IAmb 22 37 31.4
comp=Z,120nm,1.1s
WHY Whitehorse 31.48 55 P P 22 37 17.6 -1.4
baz=288,SNR=36
SKAG Skagway 31.64 57 P P 22 37 21.6 +1.4
SKAG IAmb IAmb 22 37 32.7
comp=Z,115nm,1.2s
SKAG Skagway 31.64 57 P P 22 37 20.8 +0.7
baz=289
TJN Taejon 31.66 249 P P 22 37 19.2 -1.4
TJN Taejon 31.66 249 P P 22 37 22.5 +1.8
TJN Taejon 31.66 249 ceP P 22 37 22.4 +1.8
S31K Pelican 31.70 60 P P 22 37 19.9 -0.9
baz=291
FARO Faro, Yukon 31.73 52 IAmb IAmb 22 37 33.0
comp=Z,52nm,1.0s
FARO Faro, Yukon 31.73 52 P P 22 37 20.3 -0.7
baz=286,SNR=23
N32M Quiet Lake 32.17 54 P P 22 37 24.2 -0.7
baz=288
BESE Bessie Mountai 32.17 59 P P 22 37 26.2 +1.3
JNU Nakatsue 32.35 241 P P 22 37 27.9 +1.1
JNU Nakatsue 32.35 241 P P 22 37 27.3 +0.6
P32M Atlin 32.37 57 P P 22 37 26.2 -0.5
baz=290,SNR=7.1
R32K Eaglecrest 32.44 59 P P 22 37 26.3 -1.0
baz=291,SNR=8.6
SIT Sitka 32.49 62 P P 22 37 29.1 +1.4
SIT IAmb IAmb 22 37 41.4
comp=Z,114nm,1.2s
SIT Sitka 32.49 62 P P 22 37 29.1 +1.4
SIT pmax pmax
comp=Z,114nm,1.2s
JCJ Chichijima 32.53 220 LR LR 22 49 03.0
comp=Z,311nm,20.5s,baz=284,slow=33
MMPY Sheldon Lake, 32.55 51 P P 22 37 28.3 0.0
baz=287,SNR=49
P33M Teslin, Yukon 32.59 55 IAmb IAmb 22 37 41.0
comp=Z,121nm,1.3s
P33M Teslin, Yukon 32.59 55 P P 22 37 27.7 -1.0
baz=290,SNR=38
S32K Killisnoo 32.71 61 P P 22 37 28.7 -0.9
baz=292
A36M Sachs Harbour 32.90 33 IAmb IAmb 22 37 42.4
comp=Z,75nm,0.8s
A36M Sachs Harbour 32.90 33 P P 22 37 29.8 -1.3
baz=277,SNR=34
Q32M Nakina River 33.29 57 P P 22 37 33.6 -1.3
baz=292
C36M Paulatuk 33.73 37 P P 22 37 37.1 -1.2
baz=282,SNR=60
R33M Jennings River 33.75 56 P P 22 37 39.0 +0.1
baz=292
JSU Suzuyama 33.86 240 P P 22 37 40.1 +0.2
JSU IAmb IAmb 22 37 42.4
comp=Z,84nm,1.2s
JSU Suzuyama 33.86 240 P P 22 37 41.2 +1.3
TGTN Hyland Airport 34.24 52 P P 22 37 42.0 -0.9
baz=290,SNR=23
S34M Telegraph Cree 34.24 59 P P 22 37 43.1 +0.1
baz=294,SNR=15
WRAK Wrangell Islan 34.25 61 P P 22 37 44.4 +1.4
WRAK IAmb IAmb 22 38 01.0
comp=Z,61nm,1.1s
WRAK Wrangell Islan 34.25 61 P P 22 37 43.8 +0.7
baz=295
WTLY Watson Lake, Y 34.51 54 P P 22 37 46.5 +1.3
DLBC Dease Lake 34.57 57 LR LR 22 52 13.9
comp=Z,2µm,19.7s,baz=302,slow=37
DLBC Dease Lake 34.57 57 IAmb IAmb 22 37 59.1
comp=Z,75nm,0.9s
DLBC Dease Lake 34.57 57 P P 22 37 46.7 +0.8
baz=294,SNR=23
IRK Irkutsk 34.99 291 eP P 22 37 52.2 +2.7
IRK pmax pmax
comp=Z,148nm,1.5s
T35M Bob Quinn 35.06 60 P P 22 37 50.8 +0.7
baz=295,SNR=16
V35K Ketchikan 35.10 63 P P 22 37 49.8 -0.6
baz=297
BJT Baijiatuau 35.35 265 P P 22 37 52.8 +0.1
BJT Baijiatuau 35.35 265 IAMs_20 IAMs_20 22 53 29.3
comp=Z,2µm,19.0s
BJT Baijiatuau 35.35 265 P P 22 37 52.8 +0.1
BJT pmax pmax
comp=Z,8.0nm,0.9s
BJT MLR MLR
comp=Z,2µm,19.0s

H11N2 WAKE ISLAND Hy 35.41 177 T T 23 15 35.1
baz=359,slow=76,SNR=375
H11N3 WAKE ISLAND Hy 35.42 177 T T 23 15 53.9
baz=359,slow=76,SNR=428
H11N1 WAKE ISLAND Hy 35.42 177 T T 23 15 46.6
baz=359,slow=76,SNR=276
WRGLY Wrigley 35.73 47 P P 22 37 55.0 -0.7
baz=291,SNR=6.2
ULN Ulaanbaatar 35.76 283 P P 22 37 57.1 +0.8
ULN Ulaanbaatar 35.76 283 IAMs_20 IAMs_20 22 53 36.0
comp=Z,3µm,20.0s
ULN Ulaanbaatar 35.76 283 P P 22 37 57.1 +0.8
ULN pmax pmax
comp=Z,16nm,0.8s
ULN MLR MLR
comp=Z,2µm,20.0s
ULN Ulaanbaatar 35.76 283 P P 22 37 56.6 +0.3
ULN pP sP 22 38 05.9 -0.6
ULN sP pwP 22 38 10.2 -0.5
WAKE Wake Island 35.84 177 P P 22 37 57.6 +0.5
NRIK Noril'sk 35.86 324 P P 22 37 56.2 -0.5
comp=Z,6.8nm,0.6s,baz=162,slow=3.7,SNR=2.6
NRIK LR LR 22 53 38.2
comp=Z,1µm,19.5s,baz=70,slow=38
comp=Z,6.8nm,0.6s
NRIK Noril'sk 35.86 324 P P 22 37 56.9 +0.2
NRIK IAmb IAmb 22 38 11.1
comp=Z,77nm,1.4s
LIRD Liard River Hi 36.04 54 P P 22 37 58.1 -0.3
baz=294,SNR=41
SONM Songino Array 36.14 283 P P 22 37 59.3 -0.3
comp=Z,20nm,0.7s,baz=62,slow=7.6,SNR=114
SONM PcP PcP 22 40 25.0 +0.3
comp=Z,12nm,0.8s,baz=59,slow=2.3,SNR=6.7
SONM LR LR 22 53 59.4
comp=Z,3µm,18.5s,baz=52,slow=38
comp=Z,20nm,0.7s
SONM Songino Array 36.14 283 P P 22 37 59.9 +0.3
SONM IAmb IAmb 22 38 12.6
comp=Z,34nm,0.8s
ZAK Zakamensk 36.47 289 eP P 22 38 01.9 -0.4
ZAK pmax pmax
comp=Z,13nm,1.0s
H11S1 WAKE ISLAND Hy 36.62 177 T T 23 17 31.1
baz=359,slow=76,SNR=56
H11S3 WAKE ISLAND Hy 36.63 177 T T 23 17 21.2
baz=359,slow=76,SNR=24
H11S2 WAKE ISLAND Hy 36.63 177 T T 23 17 25.4
baz=359,slow=76,SNR=77
GRNB Grenville Isla 36.65 64 P P 22 38 04.6 +0.9
GRNB IAmb IAmb 22 38 17.6
comp=Z,49nm,0.8s
KOTAN Kotaneelee Air 36.68 52 P P 22 38 01.7 -2.2
baz=295,SNR=24
MOY Mondy 37.03 292 eP P 22 38 10.0 +2.9
MOY pmax pmax
comp=Z,93nm,2.1s
TIA Tai'an 37.44 260 ⇓P P 22 38 10.0 -0.6
TIA S S 22 43 51.8 -5.1
TIA pmax pmax
comp=Z,24nm,1.0s
TIA LR LR
comp=Z,2µm,18.6s
TIA LR LR
comp=Z,2µm,19.6s
TIA LR LR
comp=Z,3µm,13.7s
HHC Hu-ho-hao-te 37.45 270 eP P 22 38 10.8 +0.1
HHC pmax pmax
comp=Z,22nm,1.0s
HHC LR LR
comp=Z,6µm,13.1s
HHC LR LR
comp=Z,5µm,13.3s
HHC LR LR
comp=Z,5µm,13.9s
HNS HongShan 37.98 263 ⇑P P 22 38 16.3 +1.3
HNS pP pwP 22 38 27.8 -1.5
HNS PcP PcP 22 40 31.3 +1.1
HNS S S 22 44 07.8 +2.9
HNS pmax pmax
comp=Z,28nm,1.4s
HNS LR LR
comp=Z,2µm,19.0s
HNS LR LR
comp=Z,5µm,17.8s
HNS LR LR
comp=Z,3µm,14.1s
BBB Bella Bella 38.45 66 LR LR 22 53 31.0
comp=Z,2µm,18.7s,baz=310,slow=35
BTO Baotou 38.49 271 eP P 22 38 20.3 +0.8
BTO LR LR
comp=Z,19µm,17.0s
BTO LR LR
comp=Z,13µm,16.8s
JOW Kunigami 38.78 238 P P 22 38 21.7 -0.2
JOW IAmb IAmb 22 38 24.1
comp=Z,102nm,1.0s
JOW Kunigami 38.78 238 P P 22 38 22.7 +0.8
TIY Taiyuan 39.06 266 P P 22 38 29.8 +5.6
TIY S S 22 44 25.1 +3.6
TIY pmax pmax
comp=Z,370nm,5.9s
TIY LR LR
comp=N,3µm,19.2s
TIY LR LR
comp=E,2µm,17.2s
TIY LR LR
comp=Z,2µm,20.6s
EUNU Eureka 39.25 15 P P 22 38 25.5 +0.2
EUNU IAmb IAmb 22 38 36.8
comp=Z,69nm,0.9s
KNGR Kungurtug, Tuv 39.45 292 iP P 22 38 27.6 +0.1
KNGR pmax pmax
comp=Z,43nm,1.3s
NJ2 Nanjing 39.55 254⇓iP P 22 38 28.6 +0.4
NJ2 pP pwP 22 38 40.9 -1.7
NJ2 PcP PcP 22 40 35.9 +0.7
NJ2 S S 22 44 33.3 +4.6
NJ2 pmax pmax
comp=Z,95nm,1.0s
NJ2 pmax pmax
comp=Z,310nm,5.7s
NJ2 LR LR
comp=Z,2µm,16.6s
NJ2 LR LR
comp=Z,2µm,15.2s
NJ2 LR LR
comp=Z,990nm,12.8s
YKA Yellowknife Ar 39.73 46 P P 22 38 29.4 -0.1
comp=Z,16nm,0.8s,baz=298,slow=8.2,SNR=40
YKA PcP PcP 22 40 35.1 -0.2
comp=Z,4.8nm,0.9s,baz=293,slow=3.2,SNR=4.4
comp=Z,16nm,0.8s
YKA Yellowknife Ar 39.73 46 P P 22 38 29.2 -0.3
YKA Yellowknife Ar 39.73 46 P P 22 38 29.2 -0.3
RES Resolute Bay 40.33 24 P P 22 38 34.0 -0.3
RES Resolute Bay 40.33 24 P P 22 38 34.0 -0.3
RES pmax pmax
comp=Z,55nm,1.0s
ALE Alert 40.48 9 P P 22 38 35.0 -0.4
ALE pP sP 22 38 45.7 -0.3
HILA High Level 40.60 52 P P 22 38 37.8 +1.0
LYN LuoYang 41.27 262⇑iP P 22 38 43.9 +1.4
LYN pP pwP 22 38 55.3 -1.6
LYN sP sP 22 39 00.6 +7.8
LYN S S 22 44 59.9 +5.4
LYN pmax pmax
comp=Z,50nm,1.2s
LYN pmax pmax
comp=Z,270nm,6.1s
LYN LR LR
comp=Z,2µm,21.4s
LYN LR LR
comp=Z,2µm,22.4s
LYN LR LR
comp=Z,3µm,14.5s
WAPA Wapiti River 41.32 57 P P 22 38 43.2 +0.4
WAPA IAmb IAmb 22 38 54.8
comp=Z,178nm,1.8s
WHN Wuhan 43.19 257 ⇓P P 22 38 58.3 +0.2
WHN S S 22 45 27.0 +4.3
WHN pmax pmax
comp=Z,260nm,1.2s
WHN LR LR
comp=Z,3µm,12.2s

WHN LR LR
comp=Z,5µm,11.2s
WHN LR LR
comp=Z,5µm,13.5s
NOR Nord 43.47 0 *i* P **P** **22 38 58.5 -1.3**
NOR IAmb IAmb 22 39 10.5
comp=Z,30nm,1.4s
XAN Xi'an 43.67 265 ⇓P **P** **22 39 02.3 +0.2**
XAN pP sP 22 39 12.8 +0.4
XAN PcP **PcP** **22 40 49.5 +0.7**
XAN pmax pmax
comp=Z,32nm,1.3s
XAN LR LR
comp=Z,4µm,18.7s
XAN LR LR
comp=Z,4µm,18.4s
XAN LR LR
comp=Z,2µm,17.1s
XAN Xi'an 43.67 265 P **P** **22 39 01.7 -0.3**
XAN pP **sP** **22 39 12.3 -0.1**
ZAA0 Zalesovo Array 44.00 303 P **P** **22 39 05.1 +0.7**
ZALV Zalesovo Beam 44.00 303 P **P** **22 39 03.9 -0.6**
comp=Z,2.4nm,0.4s,baz=41,slow=7.9,SNR=11
ZALV PcP **PcP** **22 40 49.9 +0.3**
comp=Z,16nm,0.9s,baz=31,slow=4.3,SNR=8.6
ZALV LR LR 22 58 54.6
comp=Z,945nm,18.1s,baz=10,slow=38
comp=Z,2.4nm,0.4s
ZALV Zalesovo Beam 44.00 303 P **P** **22 39 04.6 +0.2**
TULEG Thule 44.23 16 P **P** **22 39 05.9 -0.1**
TULEG Thule 44.23 16 *i* P **P** **22 39 07.9 +1.9**
TULEG IAmb IAmb 22 39 16.3
comp=Z,28nm,0.8s
GUMO Guam 44.30 208 LR LR 22 58 13.0
comp=Z,257nm,18.3s,baz=72,slow=37
D05A Enumclaw 44.59 68 P **P** **22 39 10.4 +1.2**
D05A IAmb IAmb 22 39 28.0
comp=Z,171nm,1.6s
LZH Lanzhou 45.12 271 *e*P **P** **22 39 15.4 +1.6**
LZH pP pwP 22 39 26.1 -2.0
LZH sP sP 22 39 30.8 +6.6
LZH PP **PP** **22 40 54.9 -4.4**
LZH S **S** **22 45 54.3 +3.2**
LZH sS sS 22 46 09.3 +6.3
LZH SS **ScS** **22 49 04.4 -4.0**
LZH pmax pmax
comp=Z,110nm,1.1s
LZH pmax pmax
comp=Z,450nm,4.1s
LZH LR LR
comp=Z,5µm,16.0s
LZH LR LR
comp=Z,4µm,14.9s
LZH LR LR
comp=Z,2µm,17.7s
GTA Gaotai 45.12 278 ⇓P **P** **22 39 14.6 +0.8**
GTA pP pwP 22 39 26.0 -2.3
GTA sP sP 22 39 32.3 +8.3
GTA S **S** **22 45 52.9 +1.8**
GTA sS sS 22 46 09.6 +6.5
GTA pmax pmax
comp=Z,70nm,0.9s
GTA pmax pmax
comp=Z,290nm,5.1s
GTA LR LR
comp=Z,3µm,15.3s
GTA LR LR
comp=Z,3µm,14.9s
GTA LR LR
comp=Z,4µm,15.3s
DGZ Jazzator, Alta 45.24 297 ⇓*i* P **P** **22 39 14.9 +0.3**
DGZ pmax pmax
comp=Z,22nm,0.7s
LTY Liberty 45.24 68 P **P** **22 39 14.1 -0.5**
LTY IAmb IAmb 22 39 27.4
comp=Z,96nm,1.8s
EDM Edmonton 45.29 57 P **P** **22 39 15.0 +0.2**
EDM Edmonton 45.29 57 P **P** **22 39 15.0 +0.2**
EDM pmax pmax
comp=Z,197nm,0.9s
SPA0 Spitsbergen Ar 45.53 351 *e*P **P** **22 39 16.3 -0.1**
SPA0 IAmb IAmb 22 39 28.0
comp=Z,84nm,0.9s
SPITS Spitsbergen Ar 45.53 351 P **P** **22 39 16.3 -0.1**
SPITS pmax pmax
comp=Z,123nm,1.2s
SPB2 Spitsbergen Ar 45.53 351 P **P** **22 39 15.6 -0.8**
SPB2 IAmb IAmb 22 39 35.1
comp=Z,80nm,1.1s
NEEM North Greenlan 45.78 10 *i* P **P** **22 39 16.5 -2.2**
NEEM IAmb IAmb 22 39 29.1
comp=Z,34nm,0.9s
CNSH ChangSha 45.79 256 ⇑P **P** **22 39 18.8 -0.2**
CNSH S **S** **22 45 59.6 -1.0**
CNSH pmax pmax
comp=Z,73nm,1.0s
CNSH LR LR
comp=Z,2µm,12.7s
CNSH LR LR
comp=Z,2µm,12.1s
CNSH LR LR
comp=Z,2µm,13.2s
HOOD Mount Hood Mea 45.95 70 P **P** **22 39 20.5 +0.3**
ENH Enshi 46.13 261 P **P** **22 39 21.6 0.0**
ENH IAmb IAmb 23 01 07.5
comp=Z,2µm,19.0s
ENH Enshi 46.13 261 P **P** **22 39 22.1 +0.4**
ENH Enshi 46.13 261 P **P** **22 39 22.0 +0.3**
ENH pP **sP** **22 39 32.6 +0.6**
HUH Hualalai 46.17 124 P **P** **22 39 21.5 -0.9**
POHA Pohakuloa 46.26 124 P **P** **22 39 23.6 +0.6**
D08A Wollman Farm, 46.30 67 P **P** **22 39 22.8 0.0**
HAWA Hanford 46.40 68 P **P** **22 39 24.2 +0.7**
NEW Newport 46.47 64 LR LR 22 57 28.0
comp=Z,687nm,19.1s,baz=306,slow=34
NEW Newport 46.47 64 P **P** **22 39 22.5 -1.6**
baz=309,SNR=9.7
F07A Phinny Hill Vi 46.51 69 P **P** **22 39 25.2 +0.8**
F07A IAmb IAmb 22 39 44.4
comp=Z,33nm,0.8s
E08A Dider Farm, El 46.59 67 P **P** **22 39 25.2 +0.2**
HUMO Hull Mountain 47.01 74 P **P** **22 39 29.0 +0.6**
HUMO IAmb IAmb 22 39 45.6
comp=Z,105nm,1.9s
E09A Wood Farm, Sta 47.05 67 IAmb IAmb 22 39 57.2
comp=Z,48nm,1.0s
PINE Pine Mountain 47.33 71 P **P** **22 39 31.2 +0.1**
PINE IAmb IAmb 22 39 44.5
comp=Z,63nm,1.4s
KULLO Kullorsuaq 47.54 14 *i* P **P** **22 39 30.7 -1.3**
KULLO IAmb IAmb 22 39 43.1
comp=Z,55nm,0.7s
WALA Waterton Lakes 47.60 62 pP pP 22 39 44.3 +3.7
YBH Yreka Blue Hor 47.73 75 LR LR 22 57 41.2
comp=Z,930nm,19.4s,baz=314,slow=34
YBH Yreka Blue Hor 47.73 75 P **P** **22 39 35.2 +1.1**
YBH **pwP** **22 39 46.2 -2.2**
KHMM Horse Mountain 47.74 76 P **P** **22 39 35.5 +1.1**
F10A Beach Ranch, E 47.89 67 pP pP 22 39 47.0 +4.2
I07A Izee 47.92 70 P **P** **22 39 35.8 +0.2**
I07A **pwP** **22 39 47.6 -2.2**
ZSN Zaisan 47.99 296 *e*P **P** **22 39 35.4 -0.6**
baz=296
ZSN Zaisan 47.99 296 *e*P **P** **22 39 35.3 -0.6**
K05A Summer Lake 48.07 72 IAmb IAmb 22 39 39.4
comp=Z,101nm,1.5s
KMRM Mail Ridge 48.20 77 P **P** **22 39 37.7 -0.1**
KMRM IAmb IAmb 22 39 51.1
comp=Z,30nm,0.8s
DAG Danmarks Havn 48.31 1 *i* P P 22 39 34.1 -4.0
WMQ Urumqi 48.89 291 ⇓P **P** **22 39 44.3 +1.3**
WMQ pP pwP 22 39 54.9 -2.8
WMQ PcP **PcP** **22 41 06.4 -0.6**
WMQ S **S** **22 46 46.6 +2.1**
WMQ sS sS 22 46 57.9 +1.3
WMQ pmax pmax
comp=Z,73nm,1.1s
WMQ pmax pmax
comp=Z,410nm,4.9s
WMQ LR LR
comp=Z,4µm,16.5s
WMQ LR LR
comp=Z,2µm,17.7s
WMQ LR LR
comp=Z,2µm,22.3s

WMQ Urumqi 48.89 291 P **P** **22 39 44.0 +1.0**
WMQ pP **pwP** **22 39 54.8 -2.9**
CD2 Chengdu 48.92 266 P **P** **22 39 41.0 -2.4**
MOD Modoc Plateau 48.94 73 P **P** **22 39 44.0 +0.4**
J08A Circle Bar Ran 48.96 70 P **P** **22 39 43.9 +0.3**
KURK Kurchatov 48.98 303 P **P** **22 39 43.1 -0.5**
KURK Kurchatov 48.98 303 IAMs_20 IAMs_20 22 59 22.2
comp=Z,1µm,20.0s
KURK Kurchatov 48.98 303 P **P** **22 39 43.4 -0.2**
KURK P **P** **22 39 43.4 -0.2**
KURK S **S** **22 46 45.1 -0.4**
KURK S **S** **22 46 45.1 -0.4**
KURK Kurchatov 48.98 303 *i* P **P** **22 39 43.3 -0.2**
KURK pmax pmax
comp=Z,95nm,1.1s
KURK Kurchatov 48.98 303 P **P** **22 39 43.3 -0.2**
KURK pP **sP** **22 39 54.0 +0.2**
KURK sP **pwP** **22 39 57.8 -0.4**
MSO Missoula 49.04 64 IAmb IAmb 22 39 56.8
comp=Z,122nm,1.8s
MSO Missoula 49.04 64 P **P** **22 39 42.4 -1.8**
baz=312,SNR=20
KURBB Kurchatov Arra 49.09 303 LR LR 23 02 38.3
comp=Z,1µm,19.1s,baz=21,slow=39
FFC Flin Flon 49.56 50 P **P** **22 39 47.7 -0.2**
FFC IAmb IAmb 22 39 59.4
comp=Z,51nm,1.1s
FFC Flin Flon 49.56 50 P **P** **22 39 47.7 -0.2**
FFC pmax pmax
comp=Z,51nm,1.1s
FFC Flin Flon 49.56 50 P **P** **22 39 47.7 -0.2**
FFC pP **sP** **22 39 58.2 -0.3**
MK31 Makanchi Array 49.74 297 IAmb IAmb 22 40 00.5
comp=Z,45nm,1.1s
MK31 Makanchi Array 49.74 297 *i* P **P** **22 39 48.8 -0.7**
MKAR Makanchi Array 49.74 297 P **P** **22 39 48.9 -0.6**
comp=Z,14nm,0.7s,baz=54,slow=7.2,SNR=137
MKAR LR LR 23 02 13.4
comp=Z,2µm,19.3s,baz=40,slow=38
MKAR PKPPKP **P'P'df** **23 10 42.6 -6.0**
comp=Z,0.9nm,1.1s,baz=253,slow=3.9,SNR=3.7
comp=Z,14nm,0.7s
MAKZ Makanchi 49.89 297 P **P** **22 39 50.0 -0.6**
MAKZ IAmb IAmb 22 40 01.6
comp=Z,101nm,1.2s
MAKZ IAMs_20 IAMs_20 23 01 33.7
comp=Z,2µm,20.0s
MAKZ Makanchi 49.89 297 P **P** **22 39 50.0 -0.6**
MAKZ pmax pmax
comp=Z,101nm,1.3s
MAKZ MLR MLR
comp=Z,2µm,20.0s
MAKZ Makanchi 49.89 297 P **P** **22 39 49.9 -0.6**
MAKZ pP **sP** **22 40 00.4 -0.5**
EGMT Eagleton 50.37 60 pP **pP** **22 40 05.2 +3.4**
EGMT IAmb IAmb 22 40 05.7
comp=Z,51nm,0.8s
EGMT Eagleton 50.37 60 P **P** **22 39 52.2 -2.0**
baz=312,SNR=10
GYA Guiyang 50.64 260 ⇑P **P** **22 39 57.1 +0.5**
GYA pP pwP 22 40 09.1 -1.9
GYA PcP **PcP** **22 41 13.6 -0.1**
GYA S **S** **22 47 08.3 -1.1**
GYA pmax pmax
comp=Z,130nm,1.0s
GYA pmax pmax
comp=Z,690nm,3.5s
GYA LR LR
comp=Z,2µm,16.5s
GYA LR LR
comp=Z,2µm,19.0s
GYA LR LR
comp=Z,2µm,22.0s
DBG Daneborg 50.77 2 *i* P **P** **22 39 54.5 -2.3**
MPK Martis Peak 50.89 75 pP **pP** **22 40 10.7 +4.6**
MPK IAmb IAmb 22 40 12.4
comp=Z,131nm,1.4s
PAHR Pah Rah Range 50.96 74 pP pP 22 40 10.0 +3.6
HLID Hailey 50.99 67 P **P** **22 39 57.5 -1.6**
baz=313,SNR=12
BOZ Bozeman (W) 51.06 64 IAmb IAmb 22 40 11.6
comp=Z,33nm,0.8s
BOZ Bozeman (W) 51.06 64 P **P** **22 39 57.9 -1.6**
baz=313,SNR=10
EMB Emerald Bay 51.07 75 P **P** **22 40 00.4 +0.6**
BVAR Borovoye Array 51.26 309 LR LR 23 04 30.8
comp=Z,2µm,18.6s,baz=39,slow=39
PNTR Pine Nut 51.27 75 IAmb IAmb 22 40 14.2
comp=Z,46nm,0.7s
BRVK Borovoye 51.28 310 P **P** **22 40 01.2 +0.3**
BRVK IAmb IAmb 22 40 14.5
comp=Z,81nm,1.1s
BRVK Borovoye 51.28 310 IAMs_20 IAMs_20 23 04 25.9
comp=Z,2µm,18.0s
BRVK Borovoye 51.28 310 P **P** **22 40 01.3 +0.3**
BRVK S **S** **22 47 17.4 0.0**
BRVK Borovoye 51.28 310 *ce* P **P** **22 40 01.0 +0.1**
BRVK pmax pmax
comp=Z,56nm,1.1s
BRVK Borovoye 51.28 310 P **P** **22 40 01.1 +0.1**
BRVK pP **sP** **22 40 11.5 +0.3**
SUMG Summit 51.53 9 *i* P **P** **22 40 01.1 -1.9**
SUMG IAmb IAmb 22 40 14.9
comp=Z,24nm,0.9s
WAKR Walker 51.77 75 IAmb IAmb 22 40 18.0
comp=Z,43nm,0.9s
YHL Hebgen Lake 51.80 64 IAmb IAmb 22 40 17.6
comp=Z,36nm,0.8s
YHB Horse Butte 51.86 64 IAmb IAmb 22 40 17.9
comp=Z,45nm,0.8s
SAO San Andreas Ge 51.88 78 P **P** **22 40 06.2 +0.6**
SAO San Andreas Ge 51.88 78 P **P** **22 40 06.2 +0.6**
SAO pmax pmax
comp=Z,15nm,1.0s
YMR Madison River 52.04 64 IAmb IAmb 22 40 19.9
comp=Z,56nm,0.8s
ARA0 ARCESS Array S 52.15 343 *e*P **P** **22 40 06.5 -0.7**
ARA0 IAmb IAmb 22 40 10.9
comp=Z,82nm,1.6s
ARCES ARCESS Array B 52.15 343 P **P** **22 40 06.1 -1.1**
comp=Z,6.2nm,0.7s,baz=30,slow=9.8,SNR=14
ARCES LR LR 23 06 35.3
comp=Z,735nm,18.4s,baz=34,slow=41
comp=Z,6.2nm,0.7s
ARCES ARCESS Array B 52.15 343 P **P** **22 40 06.6 -0.6**
ARCES IAmb IAmb 22 40 17.9
comp=Z,86nm,1.6s
YNR Norris Junctio 52.15 64 IAmb IAmb 22 40 21.3
comp=Z,46nm,1.1s
YUF Upper Falls 52.24 64 IAmb IAmb 22 40 21.0
comp=Z,37nm,0.9s
BBGB Big Mountain B 52.25 78 P **P** **22 40 09.8 +1.3**
BBGB IAmb IAmb 22 40 21.6
comp=Z,39nm,0.9s
BRZS Berezniki 52.30 305 *e*P **P** **22 40 07.4 -1.3**
comp=Z,30nm,1.3s,baz=305
BRZS Berezniki 52.30 305 *e*P **P** **22 40 07.3 -1.3**
BRZS pmax pmax
comp=Z,30nm,1.3s
APA Apatity 52.37 339 ⇓*i* P P 22 40 16.3 +7.5
APA pmax pmax
comp=Z,10.0nm,1.1s
APA MLR MLR
comp=Z,900nm,15.0s
LKWY Lake 52.40 64 P **P** **22 40 11.4 +1.7**
LKWY IAmb IAmb 22 40 23.8
comp=Z,41nm,0.8s
LKWY Lake 52.40 64 P **P** **22 40 11.4 +1.7**
LKWY pmax pmax
comp=Z,41nm,0.9s
YMP Mirror Lake Pl 52.40 64 P **P** **22 40 10.4 +0.6**
YMP IAmb IAmb 22 40 22.9
comp=Z,57nm,0.9s
H17A Grant Village 52.43 64 P **P** **22 40 11.3 +1.4**
H17A IAmb IAmb 22 40 23.6
comp=Z,46nm,0.8s
H17A Grant Village 52.43 64 P **P** **22 40 08.4 -1.6**
baz=314,SNR=18
NVAR Mina Array Bea 52.45 75 P **P** **22 40 10.6 +0.5**
comp=Z,11nm,0.8s,baz=305,slow=7.5,SNR=35
NVAR LR LR 23 00 45.0
comp=Z,726nm,18.2s,baz=305,slow=34
comp=Z,11nm,0.8s
LHV Little Huntoon 52.47 75 P **P** **22 40 11.4 +1.5**
LHV IAmb IAmb 22 40 24.1
comp=Z,122nm,1.6s

ELK Elko 52.50 71 LR LR 23 01 39.8
comp=Z,881nm,19.7s,baz=326,slow=35
ELK Elko 52.50 71 P **P** **22 40 10.9 +0.4**
ELK Elko 52.50 71 P **P** **22 40 10.9 +0.4**
ELK pmax pmax
comp=Z,12nm,0.9s
FLWY Flagg Ranch 52.58 65 IAmb IAmb 22 40 24.1
comp=Z,74nm,0.8s
IMW Indian Meadow 52.58 65 IAmb IAmb 22 40 23.9
comp=Z,37nm,0.8s
RLMT Red Lodge 52.59 63 P **P** **22 40 08.5 -2.6**
baz=314,SNR=14
SVE Sverdlovsk 52.65 318 *ce* P **P** **22 40 11.9 +0.9**
SVE *e*S **S** **22 47 41.6 +5.5**
SVE pmax pmax
comp=Z,144nm,1.9s
SVE MLR MLR
comp=Z,2µm,16.0s
DGMT Dagmar 52.78 57 P **P** **22 40 12.2 -0.1**
baz=314
DGMT Dagmar 52.78 57 P **P** **22 40 09.9 -2.3**
baz=314,SNR=11
Q09A Carvers 52.79 74 P **P** **22 40 13.9 +1.3**
Q09A IAmb IAmb 22 40 25.7
comp=Z,56nm,0.9s
JETT Jettan, Norway 52.93 345 *e*P **P** **22 40 12.6 -0.4**
JETT IAmb IAmb 22 40 13.1
comp=Z,90nm,1.4s
TDK Taldyqorghan 52.95 297 *e*P **P** **22 40 12.8 -0.7**
baz=298
TDK Taldyqorghan 52.95 297 *e*P **P** **22 40 12.7 -0.7**
LOHW Long Hollow 52.96 65 IAmb IAmb 22 40 26.5
comp=Z,30nm,0.8s
SNOW Snow King Moun 52.98 65 P **P** **22 40 14.8 +0.8**
KTK1 Kautokeino 52.99 344 *e*P **P** **22 40 12.7 -0.7**
KTK1 IAmb IAmb 22 40 17.1
comp=Z,26nm,0.9s
REDW Red Top Meadow 53.00 65 P **P** **22 40 15.0 +0.8**
LAO LASA Array 53.04 59 P **P** **22 40 14.6 +0.4**
LAO LASA Array 53.04 59 P **P** **22 40 13.8 -0.4**
baz=314
LAO LASA Array 53.04 59 P **P** **22 40 12.1 -2.1**
baz=314,SNR=23
TPH Tonopah 53.30 74 P **P** **22 40 17.0 +0.6**
TPH Tonopah 53.30 74 P **P** **22 40 17.0 +0.6**
TPH pmax pmax
comp=Z,268nm,0.9s
DSP Deep Springs 53.40 75 P **P** **22 40 17.9 +1.2**
DSP **pwP** **22 40 29.7 -1.3**
PZH PanZhiHua 53.40 264 P **P** **22 40 17.8 +0.7**
PZH S **S** **22 47 48.3 +1.0**
PZH pmax pmax
comp=Z,60nm,1.4s
PZH pmax pmax
comp=Z,420nm,5.0s
PZH LR LR
comp=Z,1µm,13.5s
PZH LR LR
comp=Z,660nm,13.5s
PZH LR LR
comp=Z,2µm,14.3s
TIN Tinemaha, Big 53.48 76 P **P** **22 40 15.9 -1.7**
baz=316
MZP Montezuma Peak 53.48 75 P **P** **22 40 18.3 +0.5**
BGU Big Grassy Mou 53.56 69 pP pP 22 40 30.1 +4.3
SPUT South Promonto 53.60 68 P **P** **22 40 19.3 +0.8**
SPUT pP **pwP** **22 40 30.2 -2.6**
LCH Last Change Ra 53.67 75 IAmb IAmb 22 40 32.1
comp=Z,34nm,0.9s
SHLS Shalkode 53.70 295 *e*P **P** **22 40 17.1 -2.0**
baz=295
SHLS Shalkode 53.70 295 *e*P **P** **22 40 17.1 -2.0**
ARU Arti 53.73 319 LR LR 23 04 19.9
comp=Z,866nm,18.8s,baz=38,slow=37
ARU Arti 53.73 319 P **P** **22 40 18.2 -0.8**
ARU IAMs_20 IAMs_20 23 05 02.5
comp=Z,951nm,21.0s
ARU Arti 53.73 319 *d* P **P** **22 40 19.0 +0.1**
ARU *PP **sP** **22 40 29.8 +0.5**
ARU **22 41 29.6**
ARU **22 42 20.7**
ARU PPP PPP 22 43 28.6
ARU S **S** **22 47 52.4 +1.6**
ARU **22 49 57.3**
ARU SS **SS** **22 51 34.0 +3.1**
ARU SSS SSS 22 53 25.5
ARU pmax pmax
comp=Z,71nm,1.1s
ARU MLR MLR
comp=Z,1µm,19.0s
ARU Arti 53.73 319 P **P** **22 40 19.1 +0.1**
ARU pP **sP** **22 40 29.6 +0.3**
SMMC Simmler 53.74 79 P **P** **22 40 18.6 -0.9**
baz=317
ARXS Arharly 53.80 297 *e*P **P** **22 40 19.4 -0.4**
GMN Gold Mountain 53.84 75 pP pP 22 40 32.8 +4.8
HWUT Hardware Ranch 53.86 67 pP pP 22 40 32.9 +4.9
VES Vestal, Richgr 53.87 78 P **P** **22 40 19.1 -1.2**
baz=317,SNR=12
KPKS Kokpek 53.88 296 *e*P **P** **22 40 19.5 -0.9**
comp=Z,6.2nm,0.5s,baz=296
KPKS Kokpek 53.88 296 *e*P **P** **22 40 19.5 -0.9**
KPKS pmax pmax
comp=Z,6.0nm,0.5s
KMI Kunming 53.90 263 ⇓P **P** **22 40 21.8 +0.9**
KMI pP pwP 22 40 33.1 -2.3
KMI sP sP 22 40 38.3 +6.9
KMI S **S** **22 47 51.8 -2.5**
KMI SS **SKiKP** **22 51 30.8 -0.7**
KMI pmax pmax
comp=Z,84nm,1.4s
KMI pmax pmax
comp=Z,390nm,7.0s
KMI LR LR
comp=Z,3µm,20.2s
KMI LR LR
comp=Z,2µm,21.8s
KMI LR LR
comp=Z,1µm,18.2s
KMI Kunming 53.90 263 P **P** **22 40 21.6 +0.7**
KMI pP **pwP** **22 40 32.7 -2.6**
UZB Uzynbulak 53.93 295 *e*P **P** **22 40 19.6 -1.3**
baz=296
UZB Uzynbulak 53.93 295 *e*P **P** **22 40 19.6 -1.3**
GRAC Grapevine Rang 54.00 75 P **P** **22 40 22.7 +1.4**
GRAC pP **pwP** **22 40 33.7 -1.9**
GRAC IAmb IAmb 22 40 34.7
comp=Z,50nm,1.1s
GRAC Grapevine Rang 54.00 75 P **P** **22 40 20.9 -0.4**
baz=316
CWC Cottonwood Cre 54.00 76 P **P** **22 40 20.6 -0.9**
baz=316
R11A Troy Canyon, C 54.01 73 pP pP 22 40 32.6 +3.4
R11A Troy Canyon, C 54.01 73 P **P** **22 40 20.7 -0.8**
baz=316,SNR=23
TARA Tarawa 54.04 170 P **P** **22 40 21.9 +0.3**
BW06 Boulder Array 54.09 65 pP **pP** **22 40 34.0 +4.3**
BW06 IAmb IAmb 22 40 34.5
comp=Z,45nm,0.9s
BW06 Boulder Array 54.09 65 P **P** **22 40 21.1 -1.1**
baz=315,SNR=47
PD31 Pinedale Array 54.09 65 pP **pP** **22 40 33.7 +4.0**
PD31 IAmb IAmb 22 40 34.5
comp=Z,40nm,0.9s
PDAR Pinedale Array 54.09 65 P **P** **22 40 22.4 +0.2**
comp=Z,14nm,0.8s,baz=318,slow=2.4,SNR=80
comp=Z,14nm,0.8s
PDAR Pinedale Array 54.09 65 pP pP 22 40 33.9 +4.1
PRGR Permogore 54.14 329 *e*P **P** **22 40 21.7 -0.2**
PRGR pmax pmax
comp=Z,34nm,0.9s
PKM Mcpherson Peak 54.15 79 P **P** **22 40 21.0 -1.7**
baz=317
DUG Dugway, Tooele 54.20 69 pP pP 22 40 34.5 +4.1
DUG Dugway, Tooele 54.20 69 P **P** **22 40 22.0 -0.9**
baz=316,SNR=30
SPR3 Spring Creek 3 54.23 71 **sP** **22 40 36.6 +2.8**
SPR3 IAmb IAmb 22 40 37.4
comp=Z,69nm,0.8s
TCUT Toone Canyon 54.29 68 IAmb IAmb 22 40 39.4
comp=Z,128nm,1.8s
SATY Saty 54.31 296 *e*P **P** **22 40 22.9 -0.8**
comp=Z,33nm,2.0s,baz=296
SATY Saty 54.31 296 *e*P **P** **22 40 22.8 -0.8**
SATY pmax pmax

comp=Z,33nm,2.0s
BCW Bitter Crk WRg 54.34 79 P P 22 40 24.8 +0.9
BCW IAmb IAmb 22 40 37.6
comp=Z,48nm,1.1s
ISA Isabella, Lake 54.34 77 P P 22 40 23.1 -0.7
baz=317,SNR=10
S11A Rachel 54.43 74 IAmb IAmb 22 40 37.6
comp=Z,67nm,0.8s
FRB Frobisher Bay 54.46 26 LR LR 23 09 09.9
comp=Z,305nm,18.7s,baz=332,slow=42
CHKK Chushkaly 54.48 297 *eP* **P 22 40 22.2 -2.5**
baz=297
CHKK Chushkaly 54.48 297 *eP* **P 22 40 22.2 -2.5**
ARVC Arvin 54.53 78 P P 22 40 24.1 -1.0
baz=317
WCT Wildcat Mounta 54.55 75 IAmb IAmb 22 40 38.2
comp=Z,32nm,0.8s
MPMC Manual Prospec 54.61 76 P P 22 40 24.6 -1.3
baz=317,SNR=19
TPNV Topopah Spring 54.65 75 P P 22 40 24.2 -2.0
baz=316,SNR=50
FURC Furnace Creek, 54.66 75 P P 22 40 25.8 -0.2
baz=317,SNR=27
ICESG Greenland Ices 54.77 10 *i* P **P 22 40 25.3 -1.5**
ICESG IAmb IAmb 22 40 37.8
comp=Z,108nm,1.2s
QIZ Qiongzhong 54.77 252 P P 22 40 27.0 0.0
QIZ S **S 22 48 05.8 +0.1**
QIZ LR LR
comp=Z,880nm,15.0s
QIZ LR LR
comp=Z,1µm,13.6s
QIZ LR LR
comp=Z,1µm,12.6s
PSUT Pine Spring 54.82 72 IAmb IAmb 22 40 41.0
comp=Z,49nm,1.1s
LRMC Laurel Mtn Rad 54.92 77 P P 22 40 27.1 -1.0
baz=317,SNR=19
MDOK Medeo 54.94 297 *eP* **P 22 40 27.4 -0.9**
baz=297
MDOK Medeo 54.94 297 *eP* **P 22 40 27.3 -0.9**
MPU Maple Canyon 54.96 69 IAmb IAmb 22 40 41.8
comp=Z,30nm,0.8s
OSI Osito Audit: C 54.97 78 P P 22 40 27.9 -0.5
baz=317
CCAC Calif City Air 54.97 77 P P 22 40 28.9 +0.5
CCAC pP **pwP 22 40 40.4 -2.2**
GWY Greenwater Val 54.97 75 IAmb IAmb 22 40 41.3
comp=Z,59nm,0.8s
AAA Alma-Ata 54.98 297 *eP* **P 22 40 27.3 -1.1**
baz=297
AAA Alma-Ata 54.98 297 *eP* **P 22 40 27.2 -1.1**
PRN Pahroc Range 54.98 73 P **P 22 40 29.4 +0.9**
QSM Queen of Sheba 55.02 76 pP **pP 22 40 41.2 +4.9**
QSM IAmb IAmb 22 40 41.5
comp=Z,50nm,0.9s
TNSS Tian-Shan 55.08 297 *eP* **P 22 40 27.8 -1.8**
baz=297
TNSS Tian-Shan 55.08 297 *eP* **P 22 40 27.7 -1.8**
BTLS Baital 55.11 300 *eP* **P 22 40 28.1 -1.2**
comp=Z,25nm,1.5s,baz=300
BTLS Baital 55.11 300 *eP* **P 22 40 28.0 -1.2**
BTLS pmax pmax
comp=Z,25nm,1.5s
EDW2 Edwards Air Fo 55.18 78 P P 22 40 29.6 -0.3
baz=317,SNR=13
SFJD Kangerlussuaq 55.30 16 LR LR 23 06 41.0
comp=Z,710nm,18.8s,baz=332,slow=39
SFJD Kangerlussuaq 55.30 16 P **P 22 40 29.2 -1.0**
SFJD pP **sP 22 40 40.0 -0.9**
SFJD IAmb IAmb 22 40 40.6
comp=Z,68nm,1.2s
KIRV Kirov 55.35 325 LR LR 23 05 46.7
comp=Z,1µm,20.4s,baz=35,slow=38
KIRV Kirov 55.35 325 *ce*P **P 22 40 31.1 +0.5**
ULM Lac du Bonnet 55.36 50 P **P 22 40 30.8 -0.1**
comp=Z,41nm,0.9s,baz=315,slow=7.1,SNR=19
ULM LR LR 23 04 52.4
comp=Z,1µm,19.0s,baz=320,slow=37
comp=Z,41nm,0.9s
ULM Lac du Bonnet 55.36 50 pP **pP 22 40 42.1 +3.6**
ULM IAmb IAmb 22 40 42.6
comp=Z,59nm,0.8s
SHOC Shoshone, Teco 55.40 75 P **P 22 40 30.7 -0.7**
baz=317,SNR=9.3
MDND Maddock 55.40 55 pP pP 22 40 42.9 +4.1
MDND Maddock 55.40 55 P **P 22 40 31.7 +0.4**
baz=316
MDND Maddock 55.40 55 P **P 22 40 29.7 -1.5**
baz=316,SNR=14
DECC Green Verdugo 55.45 78 P P 22 40 31.2 -0.7
baz=318
SNCC San Nicolas Is 55.52 80 P **P 22 40 29.7 -2.6**
baz=318
TCRU Three Creeks R 55.53 70 P **P 22 40 33.4 +0.7**
TCRU pP **pwP 22 40 45.2 -1.8**
TCRU IAmb IAmb 22 40 48.8
comp=Z,55nm,1.0s
GSC Goldstone, Bar 55.54 76 pP **pP 22 40 44.9 +4.8**
GSC IAmb IAmb 22 40 45.9
comp=Z,63nm,0.9s
GSC Goldstone, Bar 55.54 76 P **P 22 40 31.1 -1.4**
baz=317,SNR=22
SHPR Sheep Range 55.57 74 P **P 22 40 33.7 +0.9**
SHPR pP **pwP 22 40 45.2 -1.9**
TARG Taragay, Kyrgy 55.58 295 P **P 22 40 33.5 +0.3**
TARG **pwP 22 40 45.0 -3.0**
TARG IAmb IAmb 22 40 46.6
comp=Z,57nm,1.4s
PASC Pasadena Art C 55.59 78 pP **pP 22 40 44.8 +4.3**
PASC IAmb IAmb 22 40 45.3
comp=Z,39nm,0.9s
RDMU Red Mountain 55.66 67 sP 22 40 46.0 +2.0
FAUS Fauske 55.67 346 *eP* **P 22 40 32.0 -0.9**
FAUS IAmb IAmb 22 40 36.7
comp=Z,38nm,1.0s
TMUT Trail Mountain 55.70 69 IAmb IAmb 22 40 47.3
comp=Z,53nm,0.8s
MVU Marysvale 55.74 70 pP pP 22 40 46.6 +4.9
K22A Casper 55.74 63 pP **pP 22 40 45.6 +4.0**
K22A IAmb IAmb 22 40 46.8
comp=Z,51nm,1.0s
K22A Casper 55.74 63 P **P 22 40 34.1 +0.1**
baz=316
K22A Casper 55.74 63 P **P 22 40 32.3 -1.7**
baz=316,SNR=7.1
CCUT Cedar City 55.80 72 pP **pP 22 40 47.1 +4.9**
CCUT IAmb IAmb 22 40 47.6
comp=Z,37nm,0.8s
E28A Huff 55.80 56 pP pP 22 40 46.0 +4.2
E28A Huff 55.80 56 P **P 22 40 34.5 +0.3**
baz=316
P17A Butcher Ranch, 55.83 69 pP **pP 22 40 46.8 +4.6**
P17A IAmb IAmb 22 40 47.5
comp=Z,34nm,0.8s
BFSC Mount Baldy Ra 55.84 78 P **P 22 40 33.5 -1.2**
baz=318,SNR=7.9
TKM2 Tokmak 2 55.85 297 P **P 22 40 34.9 +0.1**
SNR=17
FMP Fort Macarthur 55.87 79 P **P 22 40 33.6 -1.2**
baz=318
WTNK Soaring Height 55.88 74 pP **pP 22 40 47.3 +4.7**
WTNK IAmb IAmb 22 40 48.1
comp=Z,14nm,1.0s
BIPH Bislig 55.91 228‖ *eP* **P 22 40 34.7 -0.5**
SZCU Shurtz Canyon 55.92 72 P **P 22 40 36.3 +0.9**
SZCU pP **pwP 22 40 47.2 -2.5**
TUQ Turquoise Moun 55.93 76 P **P 22 40 34.3 -1.1**
baz=317,SNR=7.8
RSSD Black Hills 55.94 60 P **P 22 40 35.6 +0.1**
RSSD pP **pwP 22 40 47.1 -2.7**
RSSD IAmb IAmb 22 40 47.5
comp=Z,57nm,0.8s
RSSD Black Hills 55.94 60 P **P 22 40 35.5 +0.1**
baz=316
RSSD Black Hills 55.94 60 P **P 22 40 34.2 -1.2**
baz=316
RSSD Black Hills 55.94 60 P **P 22 40 35.5 +0.1**
RSSD pP **sP 22 40 46.5 +0.5**
RSSD sP **pwP 22 40 51.4 +1.5**
SGDS Sogindy 55.96 298‖ *iP* **P 22 40 34.9 -0.6**
comp=Z,21nm,1.4s,baz=299
SGDS *eS* **S 22 48 20.9 -0.4**
comp=Z,32nm,3.5s,baz=299
SGDS Sogindy 55.96 298 *diP* **P 22 40 34.8 -0.6**
SGDS *eS* **S 22 48 20.8 -0.5**

SGDS pmax pmax
comp=Z,21nm,1.4s
SGDS smax smax
comp=E,32nm,3.5s
P18A Preston Nutter 55.98 68 IAmb IAmb 22 40 48.9
comp=Z,36nm,0.9s
Q16A Castle Valley 56.00 69 sP 22 40 48.6 +2.1
Q16A IAmb IAmb 22 40 49.0
comp=Z,52nm,0.8s
CIS Catalina Islan 56.03 79 P **P 22 40 34.3 -1.7**
baz=318
RWWY Rawlins 56.08 64 IAmb IAmb 22 40 47.6
comp=Z,45nm,0.8s
MTPU Mount Pierson 56.09 71 sP 22 40 49.7 +2.4
HEC Hector,Ludlow 56.15 76 P **P 22 40 36.1 -0.8**
baz=318,SNR=17
USP Ospenovka 56.16 298 P **P 22 40 37.2 +0.4**
SNR=36
SRU San Rafael Swe 56.20 69 sP 22 40 50.2 +2.3
CHMS Chumysh 56.23 298 P **P 22 40 37.7 +0.4**
SNR=16
LCMT Little Creek M 56.26 72 sP 22 40 50.6 +2.3
LCMT IAmb IAmb 22 40 51.0
comp=Z,43nm,0.9s
V12A Nelson 56.31 75 P **P 22 40 39.0 +0.9**
V12A pP **pwP 22 40 50.8 -1.6**
V12A IAmb IAmb 22 40 51.2
comp=Z,36nm,0.9s
KBK Karagaybulak 56.38 298 P **P 22 40 38.9 +0.4**
SNR=17
TNCH TengChong 56.38 266 P **P 22 40 40.1 +1.3**
TNCH pP pwP 22 40 50.8 -2.4
TNCH sP sP 22 40 54.4 +5.1
TNCH PP **PP 22 42 46.8 +2.6**
TNCH S **S 22 48 33.3 +5.9**
TNCH sS sS 22 48 43.3 +3.4
TNCH pmax pmax
comp=Z,68nm,0.9s
TNCH pmax pmax
comp=Z,400nm,4.3s
TNCH LR LR
comp=Z,1µm,16.8s
TNCH LR LR
comp=Z,1µm,16.4s
TNCH LR LR
comp=Z,1µm,21.3s
ELS Elsinore Mount 56.40 78 pP pP 22 40 50.1 +3.8
DY2G Dye2 56.44 14 *i* P **P 22 40 36.2 -2.4**
DY2G IAmb IAmb 22 40 49.3
comp=Z,101nm,1.1s
PKCU Pink Cliffs 56.45 71 P **P 22 40 40.2 +0.9**
PKCU IAmb IAmb 22 40 52.8
comp=Z,55nm,0.9s
KNB Kanab 56.49 72 sP 22 40 52.4 +2.4
KNB IAmb IAmb 22 40 52.7
comp=Z,39nm,0.9s
KLMR Klimovskoe 56.51 331 *eP* **P 22 40 37.7 -1.3**
KLMR AMP 22 40 45.4
comp=Z,52nm,1.2s
KLMR LQ LQ 23 01 12.3
KLMR LQ LQ 23 01 12.3
KLMR LR LR 23 02 23.4
KLMR AMP 23 09 46.7
comp=Z,793nm,13.4s
KLMR Klimovskoe 56.51 331 *eP* **P 22 40 37.7 -1.3**
KLMR pmax pmax
comp=Z,52nm,1.2s
KLMR MLR MLR
comp=Z,793nm,13.0s
GMRC Granite Mounta 56.55 76 P **P 22 40 39.2 -0.7**
baz=318,SNR=23
MURC Murrieta 56.57 78 P **P 22 40 40.4 +0.6**
baz=318,SNR=9.2
AAK Ala-Archa 56.62 298 P **P 22 40 40.1 -0.1**
SNR=19
AAK Ala-Archa 56.62 298 LR LR 23 05 51.8
comp=Z,1µm,18.6s,baz=21,slow=37
AAK Ala-Archa 56.62 298 P **P 22 40 40.4 +0.2**
AAK Ala-Archa 56.62 298 IAMs_20 IAMs_20 23 04 22.6
comp=Z,1µm,20.0s
AAK Ala-Archa 56.62 298 P **P 22 40 40.7 +0.5**
AAK Ala-Archa 56.62 298 *i* P **P 22 40 41.0 +0.7**
SNR=20
AAK Ala-Archa 56.62 298 *ce*P **P 22 40 40.6 +0.3**
AAK pmax pmax
comp=Z,80nm,1.7s
AAK Ala-Archa 56.62 298 P **P 22 40 40.6 +0.3**
AAK pP **sP 22 40 51.1 +0.4**
O20A White River Ci 56.67 66 P **P 22 40 39.7 -1.0**
baz=317,SNR=32
NRN Naryn 56.72 296 P **P 22 40 41.5 +0.3**
NRN pP **sP 22 40 52.2 +0.6**
AGMN Agassiz Nation 56.79 52 pP **pP 22 40 52.0 +3.2**
AGMN IAmb IAmb 22 40 52.8
comp=Z,74nm,1.1s
AGMN Agassiz Nation 56.79 52 P **P 22 40 41.2 0.0**
baz=318
AGMN Agassiz Nation 56.79 52 P **P 22 40 39.8 -1.4**
baz=318,SNR=22
UCH Uchtor 56.91 298 P **P 22 40 43.0 +0.3**
SNR=12
MOR8 Moi Rana 56.93 346 *eP* **P 22 40 39.9 -2.0**
MOR8 IAmb IAmb 22 40 50.7
comp=Z,24nm,0.9s
BELC Belle Mtn. Jos 56.94 77 P **P 22 40 41.6 -1.0**
baz=318
EKS2 Erkin-Say 56.97 298 P **P 22 40 43.2 +0.5**
SNR=22
PFO Pinyon Flats O 56.97 77 LR LR 23 01 24.5
comp=Z,739nm,21.6s,baz=296,slow=32
PFO Pinyon Flats O 56.97 77 P **P 22 40 42.9 +0.1**
PFO pP **sP 22 40 54.2 +0.8**
PFO Pinyon Flats O 56.97 77 P **P 22 40 42.4 -0.4**
baz=318,SNR=6.4
PFO Pinyon Flats O 56.97 77 P **P 22 40 42.5 -0.4**
PFO pP **sP 22 40 53.4 -0.1**
TPFO Pinon Flats 56.98 77 P **P 22 40 43.1 +0.2**
baz=318,SNR=6.1
PMD Palm Desert 56.99 77 pP **pP 22 40 54.8 +4.3**
PMD IAmb IAmb 22 40 55.0
comp=Z,26nm,0.9s
LSA Lhasa 57.05 276 P **P 22 40 44.4 +0.6**
LSA **pwP 22 40 55.9 -2.7**
LSA Lhasa 57.05 276 P **P 22 40 44.9 +1.1**
LSA Lhasa 57.05 276 P **P 22 40 44.4 +0.6**
LSA *SP **pwP 22 40 55.9 -2.7**
LSA Lhasa 57.05 276 P **P 22 40 45.1 +1.3**
LSA pP **pwP 22 40 55.7 -2.9**
D32A Dogwood Acres, 57.12 54 pP **pP 22 40 54.6 +3.5**
D32A IAmb IAmb 22 40 55.1
comp=Z,62nm,0.8s
D32B Dogwood Acres, 57.12 54 P **P 22 40 43.2 -0.3**
baz=318
ZIRO ZIRO 57.14 272 *eP* **P 22 40 45.0 +0.8**
109C Camp Elliot, M 57.15 78 pP pP 22 40 55.7 +4.2
109C Camp Elliot, M 57.15 78 P **P 22 40 42.9 -1.0**
baz=318
DAV Davao City (W) 57.24 228 P **P 22 40 45.4 +0.7**
comp=Z,116nm,0.4s,baz=96,slow=6.7,SNR=5.1
PHWY Pilot Hill 57.27 64 IAmb IAmb 22 40 56.9
comp=Z,73nm,1.9s
IRM Iron Mountain 57.30 76 P **P 22 40 44.3 -0.7**
baz=318,SNR=20
W13A Hualapai Mount 57.31 74 pP pP 22 40 57.2 +4.3
N23A Red Feather La 57.32 64 pP **pP 22 40 57.8 +4.9**
N23A IAmb IAmb 22 40 58.5
comp=Z,60nm,0.9s
N23A Red Feather La 57.32 64 P **P 22 40 43.9 -1.4**
baz=317,SNR=27
AML Almayashu 57.39 298 P **P 22 40 46.7 +0.6**
SNR=14
PV23 Carpenter Ridg 57.49 68 IAmb IAmb 22 40 59.3
comp=Z,58nm,1.0s
BC3 Big Chuckawall 57.50 77 P **P 22 40 46.2 -0.4**
baz=318
KCP Kidapawan 57.50 229⇑ *iP* **P 22 40 48.5 +1.9**
ITAN ITANAGAR 57.51 272 *eP* **P 22 40 47.9 +1.3**
ITAN IAmb IAmb 22 40 59.4
comp=Z,198nm,1.1s
MONP2 Monument Peak 57.53 78 P **P 22 40 44.9 -1.9**
baz=318
PV10 Paradox Valley 57.53 68 P **P 22 40 47.7 +0.9**
PV10 pP **pwP 22 40 58.8 -2.4**
PV10 IAmb IAmb 22 40 59.9
comp=Z,54nm,0.9s

BAR Barrett 57.55 78 P **P 22 40 47.4 +0.7**
BAR pP **pwP 22 40 58.5 -2.5**
PV11 David Mesa, Pa 57.68 68 P **P 22 40 48.3 +0.5**
PV11 pP **pwP 22 41 00.4 -1.8**
MOKO MOKOCHONG 57.68 270 *eP* **P 22 40 49.0 +1.1**
MOKO IAmb IAmb 22 40 50.6
comp=Z,126nm,1.2s
PV07 Paradox Valley 57.70 68 IAmb IAmb 22 41 00.6
comp=Z,51nm,0.8s
B35A Bob, Littlefor 57.70 51 pP **pP 22 40 58.4 +3.1**
B35A IAmb IAmb 22 40 59.1
comp=Z,30nm,0.7s
B35A Bob, Littlefor 57.70 51 P **P 22 40 47.5 -0.1**
baz=318
PDMCI Parker Dam,Lak 57.75 75 P **P 22 40 46.4 -1.7**
baz=318
CBX Cerro Bola 57.82 79 P **P 22 40 49.5 +0.7**
CBX pP **pwP 22 41 00.9 -2.2**
SWSC Sam W. Stewart 57.84 77 P **P 22 40 47.1 -1.6**
baz=318
PV15 Paradox Valley 57.86 68 pP **pP 22 41 00.9 +4.1**
PV15 IAmb IAmb 22 41 01.6
comp=Z,59nm,0.8s
IKP In-Ko-Pah, Jac 57.88 78 P **P 22 40 47.7 -1.5**
baz=318
RMX La Rumorosa 57.94 78 P **P 22 40 51.5 +1.8**
BLYC Blythe 57.95 76 pP **pP 22 41 02.2 +5.0**
BLYC IAmb IAmb 22 41 02.4
comp=Z,110nm,1.6s
DZA Taraz 58.02 300 *eP* **P 22 40 48.6 -1.4**
baz=300
DZA Taraz 58.02 300 *eP* **P 22 40 48.6 -1.4**
SMCO Snowmass 58.04 66 IAmb IAmb 22 41 03.8
comp=Z,36nm,0.9s
SMCO IAMs_20 IAMs_20 23 03 56.2
comp=Z,1µm,20.0s
KSH Kashi 58.14 294 P **P 22 40 54.3 +3.3**
KSH pP pwP 22 41 05.1 -0.7
KSH S **S 22 48 57.9 +7.7**
KSH pmax pmax
comp=Z,48nm,1.7s
KSH LR LR
comp=Z,2µm,20.0s
KSH LR LR
comp=Z,3µm,17.1s
KSH LR LR
comp=Z,1µm,19.9s
SUSD Miller 58.20 57 IAmb IAmb 22 41 03.1
comp=Z,51nm,0.9s
SUSD Miller 58.20 57 P **P 22 40 51.3 +0.2**
baz=318
SUSD Miller 58.20 57 P **P 22 40 48.6 -2.5**
baz=318
ISCO Idaho Springs 58.29 65 IAmb IAmb 22 41 05.5
comp=Z,49nm,0.8s
ISCO Idaho Springs 58.29 65 P **P 22 40 53.1 +0.9**
baz=318
ISCO Idaho Springs 58.29 65 P **P 22 40 50.4 -1.8**
baz=318,SNR=7.8
GLA Glamis 58.30 77 IAmb IAmb 22 41 04.9
comp=Z,43nm,0.9s
GLA Glamis 58.30 77 P **P 22 40 50.7 -1.3**
baz=318,SNR=5.9
KOHI KOHIMA 58.38 270 *eP* **P 22 40 53.6 +0.8**
KOHI IAmb IAmb 22 40 57.1
comp=Z,60nm,0.7s
WUAZ Wupatki 58.38 72 P **P 22 40 53.1 +0.4**
WUAZ pP **pwP 22 41 04.3 -2.8**
WUAZ IAmb IAmb 22 41 05.9
comp=Z,27nm,0.8s
WUAZ Wupatki 58.38 72 P **P 22 40 51.3 -1.4**
baz=318,SNR=16
BRIGG Briggsdale 58.38 63 P **P 22 40 53.5 +0.8**
BRIGG pP **pwP 22 41 05.1 -1.9**
BRIGG IAmb IAmb 22 41 05.7
comp=Z,56nm,0.9s
F33A 5 Mile Ranch, 58.42 54 pP **pP 22 41 03.3 +3.0**
F33A IAmb IAmb 22 41 04.4
comp=Z,56nm,1.1s
F33A 5 Mile Ranch, 58.42 54 P **P 22 40 52.6 -0.1**
baz=318
TEZP TEZPUR 58.44 272 *eP* **P 22 40 53.1 +0.1**
ESJX Sierra Juarez 58.45 78 P **P 22 40 52.7 -0.6**
ABKAR Akbulak array 58.53 312 pP pP 22 41 04.7 +3.9
ABKAR Akbulak array 58.53 312 pP pP 22 41 04.4 +3.6
MVCO Mesa Verde 58.68 69 IAmb IAmb 22 41 07.5
comp=Z,27nm,0.9s
MVCO Mesa Verde 58.68 69 P **P 22 40 52.6 -2.4**
baz=318,SNR=11
MANU Manus Island 58.80 201 P **P 22 40 56.0 +0.4**
MANU IAmb IAmb 22 40 56.7
comp=Z,54nm,1.1s
MANU Manus Island 58.80 201 P **P 22 40 55.8 +0.2**
NSS Namsos 58.83 347 *eP* **P 22 40 54.4 -0.8**
EYMN Ely 59.00 50 P **P 22 40 56.3 -0.4**
baz=320
EYMN Ely 59.00 50 P **P 22 40 54.8 -1.9**
baz=320,SNR=8.8
CRAI Chiangrai 59.08 261 IAmb IAmb 22 40 59.9
comp=Z,56nm,1.1s
Q24A Divide 59.15 65 IAmb IAmb 22 41 21.6
comp=Z,43nm,1.4s
Q24A Divide 59.15 65 P **P 22 40 57.2 -1.0**
baz=318,SNR=6.5
S22A 4UR Ranch, Cre 59.17 67 IAmb IAmb 22 41 11.7
comp=Z,31nm,0.8s
S22A 4UR Ranch, Cre 59.17 67 P **P 22 40 57.5 -0.9**
baz=318,SNR=28
IUG Iuzhnay 59.22 300‖ *iP* **P 22 40 58.6 +0.1**
comp=Z,71nm,1.6s,baz=300
IUG *eS* **S 22 49 06.5 +2.4**
comp=Z,186nm,3.7s,baz=300
IUG Iuzhnay 59.22 300 *diP* **P 22 40 58.5 +0.1**
IUG *eS* **S 22 49 06.4 +2.4**
IUG pmax pmax
comp=Z,71nm,1.6s
IUG smax smax
comp=N,186nm,3.7s
FINES FINESS Array B 59.28 338 P **P 22 40 57.7 -0.6**
comp=N,9.4nm,0.8s,baz=23,slow=8.7,SNR=19
FINES LR LR 23 09 39.4
comp=N,488nm,19.8s,baz=30,slow=39
comp=N,9.4nm,0.8s
FINES FINESS Array B 59.28 338 P **P 22 40 58.0 -0.3**
FINES FINESS Array B 59.28 338 *i* P **P 22 40 57.7 -0.6**
FINES pmax pmax
comp=Z,10.0nm,0.8s
OGNE Ogallala 59.28 62 P **P 22 40 59.6 +0.8**
OGNE Ogallala 59.28 62 P **P 22 40 57.6 -1.2**
baz=318
CHM Chimkent 59.30 301‖ *eP* **P 22 40 58.7 -0.2**
baz=301
CHM *eS* **S 22 49 02.8 -2.2**
baz=301
CHM Chimkent 59.30 301 *deP* **P 22 40 58.6 -0.2**
CHM *eS* **S 22 49 02.7 -2.2**
GUWA GUWAHATI 59.40 273 *eP* **P 22 40 59.4 -0.3**
GUWA IAmb IAmb 22 41 00.7
comp=Z,60nm,1.0s
W18A Petrified Fore 59.57 71 P **P 22 41 01.9 +0.8**
W18A IAmb IAmb 22 41 14.1
comp=Z,28nm,0.9s
W18A Petrified Fore 59.57 71 P **P 22 40 59.4 -1.7**
baz=319
K31A O'Neill 59.65 58 P **P 22 41 01.9 +0.6**
K31A IAmb IAmb 22 41 13.0
comp=Z,56nm,1.1s
F36A Milaca 59.67 52 pP pP 22 41 11.9 +2.9
F36A Milaca 59.67 52 P **P 22 41 00.5 -0.8**
baz=320
SHL Shillong 59.77 272 pP pP 22 41 12.9 +2.8
SHL Shillong 59.77 272 P **P 22 41 02.1 -0.4**
SNR=49
SHL Shillong 59.77 272 *eP* **P 22 41 02.1 -0.4**
ECSD EROS Data Cent 59.85 56 pP **pP 22 41 13.4 +3.1**
ECSD IAmb IAmb 22 41 14.0
comp=Z,44nm,1.1s
ECSD EROS Data Cent 59.85 56 P **P 22 41 01.9 -0.7**
baz=319
ECSD EROS Data Cent 59.85 56 P **P 22 41 02.1 -0.5**
baz=319,SNR=16
SDCO Great Sand Dun 59.87 66 pP pP 22 41 15.1 +4.3
SDCO Great Sand Dun 59.87 66 P **P 22 41 03.1 -0.1**
baz=319
SDCO Great Sand Dun 59.87 66 P **P 22 41 01.7 -1.6**
baz=319,SNR=21

X18A **Snowflake** 59.89 72 IAmb IAmb 22 41 16.5
comp=Z,43nm,0.8s
E38A **The Farm, Brul** 59.99 51 pP pP 22 41 14.0 +2.7
E38A **The Farm, Brul** 59.99 51 P **P** **22 41 02.7 -0.8**
baz=320
RABL **Rabaul** 60.07 195 P **P** **22 41 04.4 +0.1**
RABL **Rabaul** 60.07 195 P **P** **22 41 05.0 +0.6**
MND **Mandalay** 60.10 266 P **P** **22 41 04.7 +0.1**
PIX **Pinacate** 60.18 77 P **P** **22 41 05.8 +0.8**
TAS **Tashkent** 60.20 300 P **P** **22 41 05.2 +0.6**
TAS **sP** **22 41 16.6 +1.1**
TAS **Tashkent** 60.20 300 P **P** **22 41 05.6 +0.6**
TAS *SP **sP** **22 41 16.6 +1.1**
KRVT **Keravat (AS076** 60.20 195 P **P** **22 41 05.2 -0.1**
comp=Z,148nm,1.0s,baz=295,slow=4.3,SNR=18
comp=Z,148nm,1.0s
UBPT **Khong Chiam** 60.22 253 P **P** **22 41 05.0 -0.4**
UBPT IAmb IAmb 22 41 07.4
comp=Z,49nm,1.0s
UBPT **Khong Chiam** 60.22 253 P **P** **22 41 07.1 +1.7**
214A **Organ Pipe Nat** 60.25 76 pP **pP** **22 41 17.5 +4.3**
214A IAmb IAmb 22 41 18.4
comp=Z,25nm,0.9s
214A **Organ Pipe Nat** 60.25 76 P **P** **22 41 05.0 -0.5**
baz=319
GTK **Tadong** 60.31 276 eP **P** **22 41 06.7 +0.6**
GTK IAmb IAmb 22 41 18.3
comp=Z,40nm,1.0s
DRK **Karamyk** 60.32 297 IAmb IAmb 22 41 17.1
comp=Z,66nm,1.1s
BTK **Batken** 60.39 298 pP pP 22 41 17.4 +3.4
KSCO **Kaye Shedlock'** 60.42 64 pP pP 22 41 18.6 +4.2
KSCO **Kaye Shedlock'** 60.42 64 P **P** **22 41 06.1 -0.6**
baz=319
SPMN **Marine on St.** 60.49 52 pP **pP** **22 41 17.5 +2.9**
SPMN IAmb IAmb 22 41 18.5
comp=Z,68nm,1.2s
SPMN **Marine on St.** 60.49 52 P **P** **22 41 06.8 -0.2**
baz=320
SPMN **Marine on St.** 60.49 52 P **P** **22 41 06.0 -1.0**
baz=320,SNR=14
RAF **Rauma** 60.53 340 eP **P** **22 41 07.4 +0.4**
PHRA **Phrae** 60.54 260 P **P** **22 41 08.1 +0.5**
PHRA pP **pwP** **22 41 19.3 -2.8**
MEF **Metsahovi** 60.74 339 eP **P** **22 41 09.4 +1.0**
TAPN **Taplejung** 60.79 277 eP **P** **22 41 09.8 +0.2**
BGNE **Belgrade** 60.86 59 pP pP 22 41 21.6 +4.3
BGNE **Belgrade** 60.86 59 P **P** **22 41 08.9 -0.7**
baz=320
BGNE **Belgrade** 60.86 59 P **P** **22 41 09.6 0.0**
baz=320,SNR=7.3
BELG **Belogornoye** 60.90 321 LR LR 23 10 08.7
comp=Z,1μm,18.5s,baz=43,slow=39
BELG **Belogornoye** 60.90 321 d iP **P** **22 41 09.4 -0.2**
BELG pmax pmax
comp=Z,24nm,1.1s
T25A **Trinidad** 60.90 66 IAmb IAmb 22 41 22.8
comp=Z,25nm,0.9s
T25A **Trinidad** 60.90 66 P **P** **22 41 09.5 -0.6**
baz=319,SNR=10
CHTO **Chiang Mai** 61.02 261 P **P** **22 41 11.6 +0.7**
CHTO IAMs_20 IAMs_20 23 08 39.1
comp=Z,971nm,19.0s
CHTO **Chiang Mai** 61.02 261 P **P** **22 41 11.6 +0.7**
CHTO pmax pmax
comp=Z,66nm,0.9s
CHTO MLR MLR
comp=Z,1μm,19.0s
GENI **Genyem** 61.04 208 P **P** **22 41 10.7 -0.3**
comp=Z,6μmcomp=Z,90nm,1.0s
GENI **Genyem** 61.04 208 P **P** **22 41 12.0 +1.0**
IVI **Ivigtut** 61.08 18 i P P 22 41 05.3 -5.4
IVI IAmb IAmb 22 41 21.1
comp=Z,20nm,0.9s
TUC **Tucson** 61.10 74 P **P** **22 41 12.0 +0.6**
TUC **Tucson** 61.10 74 P **P** **22 41 11.0 -0.4**
baz=320
TUC **Tucson** 61.10 74 P **P** **22 41 12.0 +0.6**
TUC pmax pmax
comp=Z,12nm,1.0s
TUC **Tucson** 61.10 74 P **P** **22 41 11.9 +0.5**
TUC pP **pwP** **22 41 23.2 -2.5**
TUC sP sP 22 41 28.0 +6.0
I37B **Waseca** 61.14 54 P **P** **22 41 11.3 -0.1**
baz=320
L34A **Svendsen Farm,** 61.30 57 P **P** **22 41 11.8 -0.7**
baz=320
CM31 **Chiang Mai Arr** 61.30 261 P **P** **22 41 13.9 +1.1**
CM31 IAmb IAmb 22 41 15.0
comp=Z,44nm,0.8s
CMAR **Chiang Mai Arr** 61.30 261 P **P** **22 41 13.8 +1.0**
comp=Z,28nm,0.7s,baz=22,slow=7.3,SNR=150
CMAR LR LR 23 10 26.6
comp=Z,1μm,18.2s,baz=25,slow=39
CMAR PKP2bc 23 10 37.0
comp=Z,0.5nm,0.3s,baz=235,slow=3.0,SNR=5.5
comp=Z,28nm,0.7s
CMAR **Chiang Mai Arr** 61.30 261 i P **P** **22 41 13.8 +1.0**
CMAR pmax pmax
comp=Z,30nm,0.7s
DLV **T Lat** 61.34 248 P **P** **22 41 14.7 +1.4**
ODAN **Odare** 61.35 276 eP **P** **22 41 13.7 +0.4**
MOS **Moscow** 61.37 329 eP **P** **22 41 11.9 -0.8**
MOS *e* 22 41 53.7
MOS *e* 22 43 28.1
MOS *e*S **S** **22 49 31.0 0.0**
MOS pmax pmax
comp=Z,43nm,1.0s
JIRN **Jiri** 61.42 278 eP **P** **22 41 14.0 0.0**
COWI **Conover** 61.45 50 IAmb IAmb 22 41 24.5
comp=Z,51nm,1.3s
COWI **Conover** 61.45 50 P **P** **22 41 12.8 -0.7**
baz=321
ANMO **Albuquerque** 61.47 69 c iP **P** **22 41 15.1 +1.1**
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO **Albuquerque** 61.47 69 P **P** **22 41 14.6 +0.5**
ANMO pP **pwP** **22 41 25.8 -2.6**
ANMO sP sP 22 41 30.8 +6.1
SAIH **SAIHA** 61.52 269 eP **P** **22 41 14.7 +0.3**
SAIH IAmb IAmb 22 41 26.3
comp=Z,103nm,0.8s
NRS **Narsarsuaq** 61.58 16 i P P 22 41 10.2 -3.9
NRS IAmb IAmb 22 41 24.5
comp=Z,18nm,0.7s
DOMB **Dombas** 61.59 347 eP **P** **22 41 13.7 -0.5**
AKN **Aaknes** 61.71 348 eP **P** **22 41 14.9 0.0**
AKN IAmb IAmb 22 41 15.5
comp=Z,86nm,1.5s
N33A **J Bar K, Exete** 61.71 59 P **P** **22 41 15.2 -0.1**
N33A IAmb IAmb 22 41 26.6
comp=Z,54nm,0.8s
RAMN **Ramite** 61.73 277 eP **P** **22 41 15.9 0.0**
comp=Z,115nm,0.5s
LENM **Lemitar** 61.78 70 P **P** **22 41 17.8 +1.7**
SBM **South Baldy** 61.81 70 P **P** **22 41 18.7 +2.2**
VSU **Vasula** 61.82 337 eP **P** **22 41 16.3 +0.6**
KKN **Kakani** 61.84 279 eP **P** **22 41 16.8 +0.2**
DUN6 **Lazy B Ranch** 61.85 73 IAmb IAmb 22 41 29.6
comp=Z,61nm,1.0s
Y22D **IRIS PASSCAL I** 61.88 70 P **P** **22 41 16.5 -0.2**
baz=320
Y22F **Passcal Instru** 61.88 70 P **P** **22 41 16.1 -0.6**
baz=320
PKIN **Phulchoki** 61.93 279 eP **P** **22 41 17.3 0.0**
comp=Z,74nm,0.5s
Y22A **Socorro** 61.96 70 P **P** **22 41 18.6 +1.3**
baz=320
BNM **Barren Site** 61.98 70 P **P** **22 41 18.2 +0.7**
GKN **Gorkha** 62.04 279 eP **P** **22 41 17.8 -0.1**
comp=Z,324nm,1.3s
CBKS **Cedar Bluff** 62.04 62 P **P** **22 41 17.1 -0.5**
baz=320
CBKS **Cedar Bluff** 62.04 62 P **P** **22 41 16.0 -1.6**
baz=320,SNR=6.8
CRNM **Carthage** 62.07 70 P **P** **22 41 18.9 +0.8**
MYLDM **Lahad Datu** 62.09 235 P **P** **22 41 19.2 +1.2**
NC204 **NORSAR Array S** 62.11 346 IAmb IAmb 22 41 28.2
comp=Z,42nm,0.8s
NC405 **NORSAR Array S** 62.13 346 P **P** **22 41 17.6 -0.2**
NC405 IAmb IAmb 22 41 21.1
comp=Z,53nm,1.1s
F42A **Maple Grove Fa** 62.15 49 IAmb IAmb 22 41 29.6
comp=Z,76nm,1.3s
E43A **Lone Tree Farm** 62.16 48 IAmb IAmb 22 41 29.2
comp=Z,28nm,1.1s
E43A **Lone Tree Farm** 62.16 48 P **P** **22 41 17.4 -0.8**
baz=322
TNTI **Ternate** 62.20 223 P **P** **22 41 18.2 -0.6**
TNTI **Ternate** 62.20 223 P **P** **22 41 19.8 +1.0**
comp=Z,62nm,1.1s
TNTI **Ternate** 62.20 223 P **P** **22 41 19.2 +0.4**
OBN **Obninsk** 62.22 329 LR LR 23 10 07.9
comp=Z,136nm,18.8s,baz=17,slow=38
OBN **Obninsk** 62.22 329 P **P** **22 41 18.7 +0.3**
OBN IAmb IAmb 22 41 31.0
comp=Z,70nm,1.3s
OBN **Obninsk** 62.22 329 i P **P** **22 41 17.8 -0.6**
OBN *i* 22 41 28.6
OBN *i* 22 41 56.1
OBN pmax pmax
comp=Z,31nm,1.0s
OBN MLR MLR
comp=Z,716nm,16.0s
MTSE **Matsula** 62.24 338 eP **P** **22 41 19.1 +0.6**
SIJI **Sorong** 62.24 219 LR LR 23 02 58.0
comp=Z,227nm,20.6s,baz=26,slow=31
DANN **Dangsing** 62.27 280 eP **P** **22 41 19.8 +0.2**
NB2 **NORSAR Subarra** 62.27 346 P **P** **22 41 17.9 -0.9**
baz=18,slow=6.9
NB2 **NORSAR Subarra** 62.27 346 P **P** **22 41 17.9 -0.9**
comp=Z,16nm,0.8s,baz=18,slow=6.9
NOA **NORSAR Array B** 62.27 346 P **P** **22 41 18.1 -0.7**
comp=Z,6.2nm,0.7s,baz=17,slow=6.9,SNR=31
comp=Z,6.2nm,0.7s
SIMJ **Simiganj** 62.36 298 P **P** **22 41 19.3 -0.5**
SIMJ pP **sP** **22 41 30.1 -0.3**
SIMJ sP **pwP** **22 41 34.9 +0.3**
KKM **Kota Kinabalu** 62.42 237 P **P** **22 41 21.0 +0.5**
KKM **Kota Kinabalu** 62.42 237 P **P** **22 41 22.2 +1.7**
SCHQ **Schefferville** 62.48 31 P **P** **22 41 19.3 -0.9**
comp=Z,26nm,1.1s,baz=346,slow=3.0,SNR=15
SCHQ LR LR 23 12 37.4
comp=Z,635nm,18.5s,baz=338,slow=40
comp=Z,26nm,1.1s
SCHQ **Schefferville** 62.48 31 P **P** **22 41 19.6 -0.6**
K38A **Parkersburg** 62.49 54 IAmb IAmb 22 41 33.9
comp=Z,30nm,0.8s
NAO01 **NORSAR Array S** 62.51 346 P **P** **22 41 20.8 +0.5**
I40A **Norwalk** 62.51 52 IAmb IAmb 22 41 32.3
comp=Z,37nm,0.7s
I40A **Norwalk** 62.51 52 P **P** **22 41 19.9 -0.7**
baz=321
NC602 **NORSAR Array S** 62.52 346 eP **P** **22 41 19.8 -0.6**
121A **Cookes Peak, D** 62.58 72 P **P** **22 41 20.5 -1.0**
baz=320
319A **Douglas** 62.64 74 P **P** **22 41 22.6 +0.7**
319A IAmb IAmb 22 41 35.5
comp=Z,38nm,1.0s
SCIA **State Center** 62.85 55 P **P** **22 41 22.8 -0.2**
baz=321
SCIA **State Center** 62.85 55 P **P** **22 41 22.0 -0.9**
baz=321,SNR=8.4
R32A **Long Quarter,** 62.86 61 P **P** **22 41 22.3 -0.7**
R32A IAmb IAmb 22 41 34.0
comp=Z,76nm,1.6s
VLK **Valmikinagar** 63.00 280 eP **P** **22 41 23.3 -0.8**
SKAR **Skarslia** 63.01 347 eP **P** **22 41 23.4 -0.4**
I42A **Draeger Farm,** 63.28 51 IAmb IAmb 22 41 36.8
comp=Z,28nm,1.1s
I42A **Draeger Farm,** 63.28 51 P **P** **22 41 24.9 -0.8**
baz=322
E46A **Sault Ste Mari** 63.30 46 IAmb IAmb 22 41 29.2
comp=Z,30nm,1.1s
NAYO **Nakonayok** 63.30 256 P **P** **22 41 27.7 +1.5**
H43A **Windswept, Lux** 63.33 50 IAmb IAmb 22 41 37.6
comp=Z,40nm,0.8s
PTH **Pithoragarh** 63.34 284 eP **P** **22 41 25.6 -0.9**
KSU1 **Kansas State U** 63.38 59 P **P** **22 41 25.5 -1.0**
baz=321
KSU1 **Kansas State U** 63.38 59 P **P** **22 41 25.5 -1.0**
baz=321,SNR=5.3
LGTI **Lohaghat** 63.40 284 eP **P** **22 41 26.9 +0.2**
LBMI **Labuha** 63.44 223 P P 22 41 34.2 +7.2
JFWS **Jewell Farm** 63.44 53 IAmb IAmb 22 41 37.4
comp=Z,48nm,1.3s
JFWS **Jewell Farm** 63.44 53 P **P** **22 41 25.4 -1.4**
baz=322
HSIG 63.52 77 P **P** **22 41 27.8 +0.3**
ASK **Askoy** 63.57 349 eP **P** **22 41 27.6 +0.2**
LPSR **Galich'ya Gora** 63.66 327 eP **P** **22 41 27.2 -0.8**
LPSR pmax pmax
comp=Z,50nm,0.9s
LPSR MLR MLR
comp=Z,500nm,16.0s
L40A **Anamosa** 63.66 54 IAmb IAmb 22 41 39.5
comp=Z,36nm,0.8s
L40A **Anamosa** 63.66 54 P **P** **22 41 27.1 -1.2**
baz=322
G45A **Suttons Bay** 63.79 48 P **P** **22 41 28.3 -0.8**
baz=323
G45A P **P** **22 41 28.3 -0.8**
baz=323
FAKI **Fak Fak** 63.80 217 P **P** **22 41 29.4 0.0**
comp=Z,1μmcomp=Z,99nm,1.6s
FAKI **Fak Fak** 63.80 217 P **P** **22 41 30.0 +0.6**
SMLA **Simla** 63.81 287 eP **P** **22 41 28.8 -0.6**
SMLA IAmb IAmb 22 41 40.5
comp=Z,176nm,1.2s
KONO **Kongsberg** 63.84 346 eP **P** **22 41 29.2 0.0**
VRH **Novokhopyorsk** 63.94 324 eP **P** **22 41 28.6 -1.3**
VRH pmax pmax
comp=Z,40nm,0.7s
VRH MLR MLR
comp=Z,1μm,17.0s
DDI **Dehra Dun** 63.94 286 eP **P** **22 41 29.6 -0.8**
NIL **Nilore** 63.99 292 P **P** **22 41 30.6 -0.1**
NIL pP **sP** **22 41 41.3 +0.1**
NIL **Nilore** 63.99 292 IAMs_20 IAMs_20 23 11 42.8
comp=Z,893nm,19.0s
NIL **Nilore** 63.99 292 P **P** **22 41 30.5 -0.1**
NIL **Nilore** 63.99 292 P **P** **22 41 30.6 -0.1**
NIL *PP **sP** **22 41 41.3 +0.1**
NIL MLR MLR
comp=Z,900nm,19.0s
NIL **Nilore** 63.99 292 P **P** **22 41 30.5 -0.2**
NIL pP **sP** **22 41 41.9 +0.7**
NIL sP **pwP** **22 41 47.0 +1.4**
BHK **Bhakra** 64.00 288 eP **P** **22 41 30.5 -0.2**
AMTX **Amarillo** 64.05 66 P **P** **22 41 31.1 0.0**
AMTX pP **sP** **22 41 41.6 -0.2**
AMTX **Amarillo** 64.05 66 P **P** **22 41 31.0 -0.1**
baz=321
AMTX **Amarillo** 64.05 66 P **P** **22 41 30.8 -0.2**
baz=321
GTOI **Gorontalo** 64.11 228 P **P** **22 41 32.2 +0.7**
comp=Z,286nmcomp=Z,21nm,1.4s
MSTX **Muleshoe** 64.18 67 IAmb IAmb 22 41 44.0
comp=Z,27nm,0.8s
MSTX **Muleshoe** 64.18 67 P **P** **22 41 31.8 -0.2**
baz=321
MSTX **Muleshoe** 64.18 67 P **P** **22 41 31.1 -0.9**
baz=321,SNR=8.9
OK035 **E0210 Rd and N** 64.18 63 P **P** **22 41 32.1 +0.3**
OK035 pP **sP** **22 41 42.1 -0.4**
OK035 IAmb IAmb 22 41 42.8
comp=Z,32nm,0.8s
U32A **Winter Ranch,** 64.28 63 IAmb IAmb 22 41 44.1
comp=Z,34nm,0.8s
U32A **Winter Ranch,** 64.28 63 P **P** **22 41 31.4 -1.1**
baz=321
ELIS **Ellis County** 64.31 63 IAmb IAmb 22 41 44.2
comp=Z,23nm,0.7s
KAN01 **Argonia South** 64.32 62 IAmb IAmb 22 41 43.4
comp=Z,38nm,0.8s
OK038 **West end E0370** 64.34 63 IAmb IAmb 22 41 44.5
comp=Z,47nm,0.8s
I45A **Fountain** 64.34 49 P **P** **22 41 32.1 -0.5**
OK032 **Salt Plains WL** 64.36 62 P **P** **22 41 31.9 -1.0**
VORR **Voronezh** 64.36 326 eP **P** **22 41 32.0 -0.7**
VORR pmax pmax
comp=Z,40nm,0.4s
IZAR **Zarasai** 64.39 335 eP **P** **22 41 33.5 +0.7**
KAN17 **Caldwell West** 64.40 62 P **P** **22 41 32.2 -1.0**
KAN17 pP **sP** **22 41 43.4 -0.5**
KAN17 IAmb IAmb 22 41 43.9
comp=Z,30nm,0.8s
GLMI **Grayling** 64.40 48 pP pP 22 41 43.5 +2.7
GLMI **Grayling** 64.40 48 P **P** **22 41 31.2 -1.9**
baz=324
L42A **Oliver, Polo** 64.42 53 IAmb IAmb 22 41 44.2
comp=Z,53nm,1.1s
L42A **Oliver, Polo** 64.42 53 P **P** **22 41 31.9 -1.3**
baz=322
BLS5 **Blasjo** 64.46 348 eP **P** **22 41 33.4 +0.1**
K43A **Burlington** 64.47 51 P **P** **22 41 33.9 +0.3**
K43A IAmb IAmb 22 41 44.3
comp=Z,52nm,1.1s
P38A **Dawn** 64.48 57 P **P** **22 41 33.1 -0.5**
P38A pP **sP** **22 41 44.6 +0.3**
P38A **Dawn** 64.48 57 P **P** **22 41 33.0 -0.7**
baz=322
HNR **Honiara** 64.48 185 LR LR 23 07 11.2
comp=Z,14μm,19.2s,baz=344,slow=34
KAN13 **South Haven SW** 64.57 61 pP **pP** **22 41 44.2 +2.2**
KAN13 IAmb IAmb 22 41 44.9
comp=Z,32nm,0.7s
BOK **Bokaro** 64.58 275 eP **P** **22 41 34.7 +0.2**
ISAL **Salakas** 64.59 335 eP **P** **22 41 38.0 +4.0**
TOLI2 **Tolitoli** 64.65 230 P **P** **22 41 35.0 -0.1**
TOLI2 **Tolitoli** 64.65 230 P **P** **22 41 35.3 +0.3**
CROK **Carrier** 64.70 62 IAmb IAmb 22 41 46.2
comp=Z,26nm,0.8s
MRSI **Marisa** 64.71 229 P **P** **22 41 35.5 +0.1**
comp=Z,1μmcomp=Z,129nm,1.2s
VSVD **Vaisvydziai** 64.72 337 eP **P** **22 41 35.9 +0.9**
IIGN **Ignalina** 64.76 335 eP **P** **22 41 36.0 +0.7**
VSR **Storozhevoye** 64.77 326 eP **P** **22 41 34.1 -1.3**
VSR pmax pmax
comp=Z,40nm,1.0s
VSR MLR MLR
comp=Z,960nm,15.0s
N41A **Harden Midland** 64.90 54 P **P** **22 41 35.6 -0.8**
baz=322
CLNB **Carlsbad** 64.90 69 P **P** **22 41 36.7 0.0**
CLNB pP **sP** **22 41 48.0 +0.7**
CSTR **Hydro, Custer** 65.01 63 IAmb IAmb 22 41 48.8
comp=Z,4.4nm,0.7s
NACGM **Naroch** 65.03 335 ‖ eP **P** **22 41 37.5 +0.5**
comp=Z,48nm,1.0s,baz=25
L44A **Lake County Fo** 65.08 52 IAmb IAmb 22 41 41.5
comp=Z,64nm,1.0s
L44A **Lake County Fo** 65.08 52 P **P** **22 41 35.8 -1.8**
baz=323
MNK **Minsk** 65.12 334 i P **P** **22 41 35.2 -2.4**
comp=E,4.0nm,1.5s
MNK *i* P **P** **22 41 35.2 -2.4**
comp=N,51nm,1.0s
MNK *i* P **P** **22 41 35.2 -2.4**
comp=Z,33nm,0.9s,baz=26
MNK *i* PP **PP** **22 43 58.3 -2.1**
MNK *i* PPP PPP 22 45 26.0
MNK *i* S S 22 50 11.0 -6.9
MNK *i* SS SS 22 53 35.1 -54
MNK *i* SSS SSS 22 57 26.4
MNK *i* LQ LQ 23 05 22.4
MNK *i* LR LR 23 08 13.5
MNK *i* LRM MLR 23 11 51.4
comp=E,105nm,16.3s
MNK *i* LRM MLR 23 12 25.3
comp=Z,695nm,15.2s
MNK *i* LRM MLR 23 12 57.2
comp=N,2μm,21.9s
MNK **Minsk** 65.12 334 eP **P** **22 41 35.2 -2.4**
T35A **Sooner Cattle** 65.13 61 P **P** **22 41 37.0 -1.0**
PABE **Paberze** 65.15 337 P **P** **22 41 37.6 -0.1**
PABE **Paberze** 65.15 337 eP **P** **22 41 37.3 -0.5**
P40A **Paris** 65.26 56 P **P** **22 41 38.0 -0.7**
baz=322
OK050 **Pawnee Station** 65.30 62 P **P** **22 41 40.1 +1.0**
OK050 pP **sP** **22 41 49.1 -0.6**
SANI **Sanana** 65.32 224 P **P** **22 41 38.8 -0.5**
comp=N,2μmcomp=N,129nm,1.1s
SANI **Sanana** 65.32 224 P **P** **22 41 39.1 -0.2**
OK046 **Pawnee Station** 65.33 61 P **P** **22 41 39.1 -0.1**
KBL **Kabul** 65.52 296 P **P** **22 41 39.3 -1.4**
KBL pP **sP** **22 41 50.7 -0.6**
KBL **Kabul** 65.52 296 P **P** **22 41 39.6 -1.2**
SNR=56
KBL S **S** **22 50 20.6 -3.1**
OK029 **Liberty Lake** 65.52 62 pP **pP** **22 41 51.3 +3.0**
OK029 IAmb IAmb 22 41 51.8
comp=Z,33nm,0.7s
BCOK **Bluff Creek, N** 65.55 62 P **P** **22 41 40.1 -0.6**
BCOK IAmb IAmb 22 41 52.0
comp=Z,23nm,0.7s
J47A **Sunmer** 65.59 49 IAmb IAmb 22 41 45.2
comp=Z,68nm,1.1s
J47A pP pP 22 41 51.7 +3.1
J47A **Sunmer** 65.59 49 P **P** **22 41 40.1 -0.8**
baz=324
J47A P **P** **22 41 40.1 -0.8**
baz=324
M44A **Midewin, Midew** 65.65 52 IAmb IAmb 22 41 52.0
comp=Z,48nm,0.8s
WMOK **Wichita Mounta** 65.67 64 P **P** **22 41 41.5 -0.1**
WMOK **Wichita Mounta** 65.67 64 P **P** **22 41 41.4 -0.1**
baz=321
WMOK **Wichita Mounta** 65.67 64 P **P** **22 41 40.1 -1.5**
baz=321,SNR=34
WMOK **Wichita Mounta** 65.67 64 P **P** **22 41 41.5 -0.1**
WMOK pmax pmax
comp=Z,57nm,0.8s
OK031 **S. Brethren Rd** 65.71 62 IAmb IAmb 22 41 52.9
comp=Z,31nm,0.8s
MPSI **Mapaga** 65.73 231 P **P** **22 41 42.2 +0.2**
comp=Z,1μmcomp=Z,82nm,1.3s
HDIL **Hopedale** 65.74 54 P **P** **22 41 41.0 -0.8**
baz=323
HDIL **Hopedale** 65.74 54 P **P** **22 41 40.3 -1.5**
baz=323,SNR=18
OK025 **Westminster Rd** 65.75 62 P **P** **22 41 41.4 -0.6**
OK025 IAmb IAmb 22 41 53.3
comp=Z,36nm,0.7s
OK030 **Cody Creek RV** 65.76 62 IAmb IAmb 22 41 53.2
comp=Z,29nm,0.9s
I49A **Point Hope** 65.88 47 P **P** **22 41 42.8 +0.2**
FABU **Falkenberg** 65.92 344 i P **P** **22 41 41.6 -1.2**
L46A **Eue Claire** 65.93 51 P **P** **22 41 42.5 -0.5**
L46A IAmb IAmb 22 41 53.9
comp=Z,89nm,1.3s
AAI **Ambon** 65.97 221 P **P** **22 41 44.8 +1.3**
comp=Z,2μmcomp=Z,202nm,1.2s
DEOK **Depew** 65.97 62 IAmb IAmb 22 41 54.6
comp=Z,32nm,0.8s
FNO **Franklin** 65.97 63 IAmb IAmb 22 41 55.1
comp=Z,41nm,0.8s
PMG **Port Moresby** 66.01 199 P **P** **22 41 44.1 +0.3**
comp=Z,45nm,0.7s,baz=6.7,slow=6.3,SNR=20
comp=Z,45nm,0.7s
PMG **Port Moresby** 66.01 199 P **P** **22 41 44.0 +0.3**
PMG **Port Moresby** 66.01 199 P **P** **22 41 44.3 +0.5**
PMG **Port Moresby** 66.01 199 ce eP **P** **22 41 44.2 +0.5**
PMG pmax pmax
comp=Z,110nm,1.3s
PMG **Port Moresby** 66.01 199 P **P** **22 41 43.9 +0.2**
APSI **Ampana** 66.08 228 P **P** **22 41 44.0 -0.3**
comp=Z,1μmcomp=Z,142nm,1.2s
BNDI **Bandanaira** 66.12 219 P **P** **22 41 45.1 +0.6**
comp=Z,11μmcomp=Z,136nm,1.4s
BNDI **Bandanaira** 66.12 219 P **P** **22 41 45.0 +0.6**
R40A **Maddies Statio** 66.13 57 P **P** **22 41 43.6 -0.8**
baz=322
DEL **Delary** 66.24 343 i P **P** **22 41 43.6 -1.2**
X34A **Smith Ranch, M** 66.26 63 P **P** **22 41 45.4 +0.1**
X34A IAmb IAmb 22 41 57.6
comp=Z,30nm,0.9s
TUL1 **Leonard** 66.27 61 IAmb IAmb 22 41 56.6
comp=Z,33nm,0.7s
TUL1 **Leonard** 66.27 61 P **P** **22 41 44.7 -0.7**
baz=322
TUL1 **Leonard** 66.27 61 P **P** **22 41 43.0 -2.3**
baz=322,SNR=5.5
O44A **Mansfield** 66.44 53 IAmb IAmb 22 41 57.2
comp=Z,42nm,0.7s
O44A **Mansfield** 66.44 53 P **P** **22 41 45.4 -1.0**
baz=323
RLO **Rose Lookout** 66.46 60 P **P** **22 41 45.8 -0.8**
RLO IAmb IAmb 22 41 57.4
comp=Z,16nm,0.7s
RLO pP **sP** **22 41 57.0 -0.3**
KUDL **Kundal** 66.49 286 eP **P** **22 41 46.1 -0.6**
U38A **Gravette** 66.56 60 P **P** **22 41 45.9 -1.3**
baz=322
BJUU **Bjuv** 66.76 343 i P **P** **22 41 47.4 -0.7**
L48A **N Adams** 66.81 49 IAmb IAmb 22 41 59.8
comp=Z,77nm,1.1s

L48A **N Adams** **66.81** **49** P **P** **22 41 47.8 -0.9**
baz=324
L48A P **P** **22 41 47.8 -0.9**
baz=324
CCM **Cathedral Cave** **66.81** **56** P **P** **22 41 47.8 -0.9**
CCM pP **sP** **22 41 58.8 -0.6**
CCM IAmb IAmb 22 42 00.3
comp=Z,47nm,0.8s
CCM **Cathedral Cave** **66.81** **56** P **P** **22 41 47.9 -0.8**
baz=323
CCM **Cathedral Cave** **66.81** **56** P **P** **22 41 45.9 -2.9**
baz=323
CCM **Cathedral Cave** **66.81** **56** P **P** **22 41 47.8 -0.9**
CCM pP **sP** **22 41 59.1 -0.3**
SLM **Saint Louis** **66.83** **55** pP pP 22 41 59.6 +3.0
SLM **Saint Louis** **66.83** **55** P **P** **22 41 48.3 -0.6**
baz=323
AAM **Ann Arbor** **66.85** **49** pP **pP** **22 42 00.0 +3.3**
AAM IAmb IAmb 22 42 00.8
comp=Z,60nm,1.0s
AAM **Ann Arbor** **66.85** **49** P **P** **22 41 48.3 -0.6**
baz=325
AAM **Ann Arbor** **66.85** **49** P **P** **22 41 47.1 -1.9**
baz=325
ABTX **Abilene, Hawle** **66.87** **66** pP **pP** **22 42 00.5 +3.5**
ABTX IAmb IAmb 22 42 01.2
comp=Z,52nm,0.8s
ABTX **Abilene, Hawle** **66.87** **66** P **P** **22 41 49.2 -0.1**
baz=322
ABTX **Abilene, Hawle** **66.87** **66** P **P** **22 41 47.8 -1.4**
baz=322,SNR=13
SFIN **Lafayette** **66.89** **52** pP **pP** **22 41 60.0 +3.0**
SFIN IAmb IAmb 22 42 02.2
comp=Z,26nm,0.9s
SFIN **Lafayette** **66.89** **52** P **P** **22 41 47.4 -1.8**
baz=324
HHAR **Hobbs** **66.91** **59** pP **pP** **22 41 59.7 +2.5**
HHAR IAmb IAmb 22 42 00.1
comp=Z,34nm,0.7s
HHAR **Hobbs** **66.91** **59** P **P** **22 41 47.9 -1.5**
baz=322
K50A **Casco** **66.91** **48** P **P** **22 41 49.9 +0.6**
K50A IAmb IAmb 22 42 00.2
comp=Z,38nm,1.0s
KHET **Khetri** **66.92** **286** *eP* **P** **22 41 48.8 -0.9**
MGMO **Mountain Grove** **67.03** **58** IAmb IAmb 22 42 00.8
comp=Z,43nm,0.7s
LOOK **Love County** **67.08** **63** IAmb IAmb 22 42 02.4
comp=Z,50nm,0.8s
N47A **Urbana** **67.11** **51** pP **pP** **22 42 00.8 +2.4**
N47A IAmb IAmb 22 42 01.4
comp=Z,39nm,1.0s
LUNU **Lund** **67.12** **343** *i* P **P** **22 41 49.2 -1.1**
Q44A **Meyer Farm, Va** **67.19** **54** pP **pP** **22 42 02.1 +3.2**
Q44A IAmb IAmb 22 42 02.2
comp=Z,41nm,0.9s
Q44A **Meyer Farm, Va** **67.19** **54** P **P** **22 41 49.5 -1.6**
baz=323
FVM **French Village** **67.26** **56** P **P** **22 41 51.0 -0.6**
baz=323
TX31 **Lajitas Ar. Si** **67.29** **71** P **P** **22 41 52.3 +0.3**
baz=322
TX32 **Lajitas Array** **67.29** **71** IAmb IAmb 22 42 04.6
comp=Z,40nm,0.7s
TXAR **Lajitas Array** **67.29** **71** P **P** **22 41 52.4 +0.3**
comp=Z,18nm,0.7s,baz=299,slow=4.3,SNR=224
TXAR PKPPKP **P'P'df** **23 10 17.6 -2.9**
comp=Z,1.7nm,1.1s,baz=142,slow=4.6,SNR=4.2
TXAR LR LR 23 10 47.8
comp=Z,736nm,18.4s,baz=335,slow=36
comp=Z,18nm,0.7s
BWNR **Bhubaneshwar** **67.36** **273** *eP* **P** **22 41 52.7 +0.3**
JHNI **Jhansi** **67.44** **282** *eP* **P** **22 41 51.3 -1.6**
P46A **Rosedale** **67.45** **53** P **P** **22 41 51.9 -0.9**
baz=324
SBUM **Sibu** **67.49** **239** P **P** **22 41 54.4 +1.1**
SBUM IAmb IAmb 22 42 15.2
comp=Z,60nm,1.3s
DELO **Deloro Mine** **67.52** **43** IAmb IAmb 22 42 03.3
comp=Z,84nm,1.5s
Z35A **Perchaven, San** **67.56** **64** IAmb IAmb 22 42 04.8
comp=Z,41nm,0.8s
LPIG **La Paz** **67.69** **80** LR LR 23 08 04.4
comp=Z,266nm,20.6s,baz=282,slow=33
T42A **Van Buren** **67.70** **57** IAmb IAmb 22 42 05.2
comp=Z,28nm,0.8s
T42A **Van Buren** **67.70** **57** P **P** **22 41 53.0 -1.4**
baz=323
N49A **Columbus Grove** **67.75** **50** IAmb IAmb 22 42 05.5
comp=Z,37nm,0.9s
N49A pP pP 22 42 05.7 +3.3
OLIL **Olney** **67.75** **54** pP **pP** **22 42 05.8 +3.3**
OLIL IAmb IAmb 22 42 05.8
comp=Z,45nm,0.9s
OLIL **Olney** **67.75** **54** P **P** **22 41 54.0 -0.6**
baz=324
FW02 **City of Haslet** **67.81** **64** IAmb IAmb 22 42 06.6
comp=Z,38nm,0.8s
M50A **Fremont** **67.85** **49** P **P** **22 41 54.9 -0.4**
M50A IAmb IAmb 22 41 59.6
comp=Z,32nm,0.9s
O48B **Farmland** **67.86** **51** P **P** **22 41 53.5 -1.9**
baz=325
O48B **Farmland** **67.86** **51** P **P** **22 41 52.9 -2.4**
baz=325,SNR=15
BLSP **Bilaspur** **68.02** **277** *eP* **P** **22 41 55.7 -0.9**
HPIG **68.07** **74** P **P** **22 41 58.0 +0.8**
BLO **Bloomington** **68.12** **53** IAmb IAmb 22 42 08.3
comp=Z,47nm,1.1s
J54A **Appleton** **68.15** **45** P **P** **22 41 56.0 -1.1**
baz=327
J54A P **P** **22 41 56.0 -1.1**
baz=327
CGM3 **Cape Girardeau** **68.17** **56** IAmb IAmb 22 42 08.3
comp=Z,30nm,1.2s
AKASG **Malin Array Be** **68.20** **331** P **P** **22 41 56.5 -0.9**
comp=Z,5.3nm,0.6s,baz=29,slow=6.7,SNR=30
AKASG PKPPKP **P'P'df** **23 10 17.6 -3.8**
comp=Z,0.6nm,0.7s,baz=180,slow=0.2,SNR=4.6
AKASG LR LR 23 13 57.3
comp=Z,640nm,19.6s,baz=36,slow=38
comp=Z,5.3nm,0.6s
AKASG **Malin Array Be** **68.20** **331** P **P** **22 41 57.7 +0.4**
AKBB **Malin Array Si** **68.20** **331** P **P** **22 41 56.8 -0.5**
AKBB **Malin Array Si** **68.20** **331** P **P** **22 41 56.8 -0.5**
AKBB pmax pmax
comp=Z,30nm,1.2s
MNTQ **Montreal, Queb** **68.22** **40** IAmb IAmb 22 42 07.6
comp=Z,68nm,1.4s
PBMO **Poplar Bluff** **68.22** **57** P **P** **22 41 57.5 -0.2**
PBMO IAmb IAmb 22 42 09.0
comp=Z,47nm,0.8s
GEYT **Alibeck** **68.24** **305** P **P** **22 41 57.8 0.0**
comp=Z,32nm,0.8s,baz=352,slow=3.1,SNR=66
GEYT LR LR 23 14 02.0
comp=Z,2μm,18.1s,baz=43,slow=38
comp=Z,32nm,0.8s
GEYT **Alibeck** **68.24** **305** IAmb IAmb 22 42 12.4
comp=Z,64nm,1.0s
GYA0B **ALIBECK ARRAY** **68.24** **305** IAmb IAmb 22 42 12.4
comp=Z,57nm,0.9s
PECO **Prince Edward** **68.25** **43** IAmb IAmb 22 42 01.0
comp=Z,44nm,1.0s
O49A **Covington** **68.28** **50** IAmb IAmb 22 42 08.8
comp=Z,50nm,1.1s
O49A **Covington** **68.28** **50** P **P** **22 41 56.9 -1.1**
baz=325
O49A P **P** **22 41 56.9 -1.1**
baz=325
P48A **Milroy** **68.39** **52** IAmb IAmb 22 42 09.1
comp=Z,46nm,0.7s
P48A **Milroy** **68.39** **52** P **P** **22 41 57.2 -1.5**
baz=325
P48A P **P** **22 41 57.2 -1.5**
baz=325
LCAR **Lake Charles** **68.44** **58** P **P** **22 41 57.4 -1.6**
baz=323
BMNY **Brushton-Moira** **68.45** **41** P **P** **22 41 57.0 -1.9**
baz=328
SURA **Surathani** **68.46** **255** P **P** **22 42 00.6 +1.3**
MIAR **Mount Ida** **68.46** **60** IAmb IAmb 22 42 10.8
comp=Z,46nm,0.8s
MIAR **Mount Ida** **68.46** **60** P **P** **22 41 58.7 -0.5**
baz=323
MIAR **Mount Ida** **68.46** **60** P **P** **22 41 57.9 -1.3**
baz=323,SNR=19
JCT **Junction City** **68.47** **68** IAmb IAmb 22 42 11.2
comp=Z,51nm,0.8s
JCT **Junction City** **68.47** **68** P **P** **22 41 58.8 -0.6**
baz=322
JCT **Junction City** **68.47** **68** P **P** **22 41 57.6 -1.8**
baz=322,SNR=14
J55A **Hilton** **68.48** **44** P **P** **22 41 58.5 -0.7**
J55A IAmb IAmb 22 42 10.1
comp=Z,39nm,0.8s
BKB **Balikpapan** **68.50** **233** P **P** **22 42 00.5 +0.9**
BKB **Balikpapan** **68.50** **233** P **P** **22 42 01.1 +1.5**
comp=Z,2μmcomp=Z,227nm,1.1s
BKB **Balikpapan** **68.50** **233** P **P** **22 42 01.1 +1.5**
WHAR **Wooly Hollow** **68.51** **59** IAmb IAmb 22 42 11.1
comp=Z,48nm,0.8s
WHTX **Lake Whitney,** **68.51** **65** P **P** **22 41 59.1 -0.4**
WHTX IAmb IAmb 22 42 11.1
comp=Z,27nm,0.7s
WHTX **Lake Whitney,** **68.51** **65** P **P** **22 41 58.0 -1.6**
baz=322
N51A **Ashland** **68.54** **49** P **P** **22 41 58.2 -1.4**
baz=326
N51A P **P** **22 41 58.2 -1.4**
baz=326
ERPA **Erie** **68.56** **46** P **P** **22 41 58.2 -1.5**
baz=326
LONY **Lake Ozonia** **68.61** **41** IAmb IAmb 22 41 59.1
comp=Z,55nm,1.6s
LONY **Lake Ozonia** **68.61** **41** P **P** **22 41 57.3 -2.7**
baz=326
PARMO **Parma** **68.64** **56** pP pP 22 42 11.4 +3.4
P49A **Miami Univ. Ec** **68.64** **51** pP **pP** **22 42 10.6 +2.5**
P49A IAmb IAmb 22 42 11.4
comp=Z,74nm,1.1s
P49A **Miami Univ. Ec** **68.64** **51** P **P** **22 41 58.9 -1.4**
baz=325
P49A **Miami Univ. Ec** **68.64** **51** P **P** **22 41 57.4 -2.8**
baz=325,SNR=16
GKP **Gorka Klasztor** **68.67** **340** *eP* **P** **22 42 00.5 +0.4**
E62A **Clayton Lake** **68.72** **37** pP pP 22 42 11.1 +2.7
E62A **Clayton Lake** **68.72** **37** P **P** **22 41 59.6 -1.1**
baz=330
E62A P **P** **22 41 59.6 -1.1**
baz=330
MAK **Makhachkala** **68.73** **316** *eP* **P** **22 42 02.1 +1.4**
MAK *eS* **S** **22 51 03.2 +1.5**
MAK pmax pmax
comp=Z,447nm,1.5s
MAK MLR MLR
comp=Z,876nm,17.0s
Z38A **Mt. Pleasant** **68.77** **62** P **P** **22 42 00.5 -0.7**
Z38A IAmb IAmb 22 42 12.6
comp=Z,30nm,0.8s
AJM **Ajmer** **68.81** **286** *eP* **P** **22 42 01.5 0.0**
M53A **WI Miller and** **68.83** **47** P **P** **22 41 59.3 -2.1**
baz=326,SNR=9.8
ACSO **Alum Creek Sta** **68.84** **49** pP **pP** **22 42 12.0 +2.8**
ACSO IAmb IAmb 22 42 13.1
comp=Z,75nm,1.2s
ACSO **Alum Creek Sta** **68.84** **49** P **P** **22 42 00.7 -0.7**
baz=325
ACSO **Alum Creek Sta** **68.84** **49** P **P** **22 41 59.0 -2.5**
baz=325,SNR=10
ALLY **Alegheny Colle** **68.88** **47** P **P** **22 42 00.7 -1.0**
baz=326
T45B **Paducah** **68.88** **55** P **P** **22 42 01.5 -0.2**
baz=324
WVNY **West Valley, N** **68.89** **45** P **P** **22 42 00.9 -0.9**
baz=327
SRIT **Nakonsritamara** **68.94** **254** P **P** **22 42 02.7 +0.3**
SRIT IAmb IAmb 22 42 04.5
comp=Z,59nm,1.2s
SRIT **Nakonsritamara** **68.94** **254** P **P** **22 42 03.6 +1.2**
DGPR **DIGLIPUR** **68.95** **263** *eP* **P** **22 42 02.3 -0.1**
HICK **Hickman** **68.98** **56** pP pP 22 42 14.3 +4.1
WCI **Wyandotte Cave** **68.99** **53** P **P** **22 42 01.7 -0.8**
WCI IAmb IAmb 22 42 13.5
comp=Z,44nm,1.1s
WCI **Wyandotte Cave** **68.99** **53** P **P** **22 42 01.5 -1.0**
baz=325
WCI **Wyandotte Cave** **68.99** **53** P **P** **22 42 00.1 -2.3**
baz=325
WCI **Wyandotte Cave** **68.99** **53** P **P** **22 42 01.7 -0.8**
WCI pmax pmax
comp=Z,44nm,1.1s
WCI **Wyandotte Cave** **68.99** **53** P **P** **22 42 01.4 -1.0**
WCI pP **sP** **22 42 12.9 -0.3**
J57A **Williamstown** **69.08** **43** IAmb IAmb 22 42 06.3
comp=Z,39nm,1.2s
HRA **Herat** **69.09** **300** P **P** **22 42 03.5 +0.1**
HRA IAmb IAmb 22 42 17.3
comp=Z,55nm,1.1s
HBAR **Harrisburg** **69.09** **58** P **P** **22 42 03.6 +0.5**
HBAR IAmb IAmb 22 42 15.4
comp=Z,71nm,1.0s
MTKI **Muara Teweh, K** **69.15** **235** P **P** **22 42 04.9 +1.2**
comp=Z,46nm,1.2s
GLAT **Glass** **69.18** **56** P **P** **22 42 03.8 +0.2**
PQI **Presque Isle** **69.19** **36** IAmb IAmb 22 42 06.6
comp=Z,60nm,1.3s
E63A **Oxbow** **69.27** **36** P **P** **22 42 02.7 -1.3**
baz=331
E63A P **P** **22 42 02.7 -1.3**
baz=331
KSM **Kuching** **69.28** **241** P **P** **22 42 05.6 +1.1**
N53A **Lisbon** **69.29** **48** IAmb IAmb 22 42 15.2
comp=Z,36nm,0.7s
N53A **Lisbon** **69.29** **48** P **P** **22 42 03.2 -1.0**
baz=326
N53A P **P** **22 42 03.2 -1.0**
baz=326
BATG **Bathurst New B** **69.31** **34** P **P** **22 42 04.0 -0.3**
UTMT **University of** **69.32** **56** P **P** **22 42 05.0 +0.5**
WLAR **White Oak Lake** **69.38** **61** pP pP 22 42 16.2 +3.5
435B **Jarrell** **69.40** **66** IAmb IAmb 22 42 17.6
comp=Z,41nm,1.1s
435B IAMs_20 IAMs_20 23 11 50.8
comp=Z,987nm,20.0s
435B **Jarrell** **69.40** **66** P **P** **22 42 03.9 -1.1**
baz=323
J58A **Remsen** **69.40** **42** IAmb IAmb 22 42 14.9
comp=Z,61nm,1.4s
J58A **Remsen** **69.40** **42** P **P** **22 42 03.5 -1.5**
baz=328
J58A P **P** **22 42 03.5 -1.5**
baz=328
O52A **Adamsville** **69.43** **49** P **P** **22 42 03.9 -1.2**
O52A pP **sP** **22 42 15.6 -0.3**
O52A **Adamsville** **69.43** **49** P **P** **22 42 04.2 -0.9**
baz=326
O52A P **P** **22 42 04.2 -0.9**
baz=326
HALT **Halls** **69.44** **57** P **P** **22 42 05.3 +0.1**
ESK **Eskdalemuir** **69.45** **353** P **P** **22 42 05.2 +0.2**
ESK **Eskdalemuir** **69.45** **353** P **P** **22 42 05.2 +0.2**
ESK pmax pmax
comp=Z,182nm,2.0s
ESK **Eskdalemuir** **69.45** **353** P **P** **22 42 04.4 -0.6**
ESK pP **sP** **22 42 15.2 -0.6**
K57A **Scipio Center** **69.45** **44** IAmb IAmb 22 42 15.2
comp=Z,76nm,1.4s
K57A **Scipio Center** **69.45** **44** P **P** **22 42 03.8 -1.5**
baz=328
R49A **Shelbyville** **69.45** **52** pP **pP** **22 42 16.0 +2.9**
R49A IAmb IAmb 22 42 16.6
comp=Z,52nm,1.1s
L56A **Greenwood** **69.53** **45** P **P** **22 42 04.5 -1.3**
baz=327
L56A P **P** **22 42 04.5 -1.3**
baz=327
SKLT **Songkhla** **69.56** **252** P **P** **22 42 07.9 +1.7**
G62A **West of Eustis** **69.58** **38** pP **pP** **22 42 17.2 +3.4**
G62A IAmb IAmb 22 42 17.3
comp=Z,86nm,1.4s
G62A **West of Eustis** **69.58** **38** P **P** **22 42 05.5 -0.5**
baz=330
G62A P **P** **22 42 05.5 -0.5**
baz=330
O53A **New Philadelph** **69.59** **48** IAmb IAmb 22 42 17.4
comp=Z,43nm,0.8s
O53A **New Philadelph** **69.59** **48** P **P** **22 42 04.5 -1.7**
baz=326,SNR=11
M55A **Ridgway** **69.60** **46** IAmb IAmb 22 42 09.6
comp=Z,49nm,0.9s
M55A pP pP 22 42 16.6 +2.6
M55A **Ridgway** **69.60** **46** P **P** **22 42 05.0 -1.2**
baz=327
M55A P **P** **22 42 05.0 -1.2**
baz=327
J59A **Piesco** **69.62** **42** P **P** **22 42 04.5 -1.8**
baz=328
J59A P **P** **22 42 04.5 -1.8**
baz=328
T47A **Sharon Grove** **69.62** **54** IAmb IAmb 22 42 18.6
comp=Z,68nm,0.9s
T47A **Sharon Grove** **69.62** **54** P **P** **22 42 05.9 -0.5**
baz=325
SPSI **Sidrap Palu** **69.63** **229** P **P** **22 42 06.5 -0.1**
comp=Z,811nmcomp=Z,64nm,1.4s
F63A **Nahmakanta, Br** **69.67** **37** pP pP 22 42 17.5 +3.2
Q51A **Peebles** **69.67** **50** IAmb IAmb 22 42 17.7
comp=Z,29nm,0.8s
Q51A **Peebles** **69.67** **50** P **P** **22 42 05.5 -1.2**
baz=326
Q51A P **P** **22 42 05.5 -1.2**
baz=326
P52A **Corning** **69.70** **49** pP **pP** **22 42 17.2 +2.6**
P52A IAmb IAmb 22 42 17.3
comp=Z,105nm,1.5s
P52A **Corning** **69.70** **49** P **P** **22 42 04.6 -2.3**
baz=326,SNR=9.3
KVAR **Kislovodsk Arr** **69.76** **319** LR LR 23 14 32.2
comp=Z,584nm,18.1s,baz=274,slow=38
KIV **Kislovodsk** **69.76** **319** ⇑P **P** **22 42 07.8 +0.5**
KIV **Kislovodsk** **69.76** **319** P **P** **22 42 06.6 -0.7**
KIV IAmb IAmb 22 42 32.6
comp=Z,36nm,1.0s
KIV IAMs_20 IAMs_20 23 16 01.7
comp=Z,874nm,19.0s
KIV **Kislovodsk** **69.76** **319** P P 22 42 03.6 -3.7
KIV **Kislovodsk** **69.76** **319** P **P** **22 42 07.0 -0.2**
KIV **Kislovodsk** **69.76** **319** *eP* **P** **22 42 07.8 +0.5**
KIV *e* 22 44 42.5
KIV *eS* **S** **22 51 15.0 +0.9**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,539nm,17.0s
KIV **Kislovodsk** **69.76** **319** P **P** **22 42 07.5 +0.2**
KIV pP **sP** **22 42 18.4 +0.6**
F64A **Sherman** **69.78** **37** IAmb IAmb 22 42 10.6
comp=Z,38nm,0.9s
F64A **Sherman** **69.78** **37** P **P** **22 42 06.2 -1.0**
baz=331
F64A P **P** **22 42 06.2 -1.0**
baz=331
BHPL **Bhopal** **69.81** **282** *eP* **P** **22 42 05.8 -1.9**
BHPL IAML 22 42 07.2
comp=Z,130nm,1.1s
NCK **Nalchik** **69.81** **318** ⇑*iP* **P** **22 42 08.3 +0.8**
NCK pmax pmax
comp=Z,32nm,0.9s
R50A **Paris** **69.84** **52** pP **pP** **22 42 18.7 +3.2**
R50A IAmb IAmb 22 42 19.0
comp=Z,36nm,0.8s
R50A **Paris** **69.84** **52** P **P** **22 42 07.1 -0.6**
baz=325
R50A P **P** **22 42 07.1 -0.6**
baz=325
CCAR **Cane Creek** **69.86** **60** P **P** **22 42 08.1 +0.2**
BNSI **Bone** **69.88** **228** P **P** **22 42 08.4 +0.3**
comp=Z,444nmcomp=Z,33nm,1.2s
KBZ **Khabaz** **69.88** **319** P **P** **22 42 08.3 +0.5**
comp=Z,36nm,0.9s,baz=85,slow=2.9,SNR=31
KBZ LR LR 23 17 03.6
comp=Z,1μm,19.6s,baz=22,slow=40
comp=Z,36nm,0.9s
KBZ **Khabaz** **69.88** **319** *ceP* **P** **22 42 08.5 +0.7**
KBZ pmax pmax
comp=Z,46nm,1.0s
PSDB **Penn State Uni** **69.89** **46** P **P** **22 42 06.8 -1.2**
baz=327
UPAO **U. Pittsburgh** **69.90** **47** P **P** **22 42 07.2 -0.8**
baz=327
H62A **Milan** **69.91** **39** pP **pP** **22 42 18.9 +3.1**
H62A IAmb IAmb 22 42 19.1
comp=Z,100nm,1.4s
H62A **Milan** **69.91** **39** P **P** **22 42 07.3 -0.7**
baz=330
H62A P **P** **22 42 07.3 -0.7**
baz=330
LBNH **Lisbon** **69.92** **40** IAmb IAmb 22 42 12.4
comp=Z,49nm,1.3s
LBNH pP pP 22 42 18.5 +2.6
LBNH **Lisbon** **69.92** **40** P **P** **22 42 06.0 -2.1**
baz=329
SHA1 **Shidzhatmaz** **69.96** **319** *i* P **P** **22 42 08.7 +0.1**
PKME **Peaks-Kenny Pk** **69.98** **38** P **P** **22 42 07.5 -1.0**
baz=330
WVT **Waverly** **69.98** **55** P **P** **22 42 08.4 -0.2**
WVT pP **sP** **22 42 19.4 +0.1**
WVT IAmb IAmb 22 42 20.4
comp=Z,55nm,0.8s
WVT **Waverly** **69.98** **55** P **P** **22 42 08.4 -0.2**
baz=324
WVT **Waverly** **69.98** **55** P **P** **22 42 07.9 -0.7**
baz=324
WVT **Waverly** **69.98** **55** P **P** **22 42 08.4 -0.2**
WVT *PP **sP** **22 42 19.4 +0.1**
WVT **Waverly** **69.98** **55** P **P** **22 42 08.4 -0.2**
WVT pP **sP** **22 42 19.0 -0.3**
BINY **Binghamton** **70.11** **44** IAmb IAmb 22 42 19.6
comp=Z,106nm,1.6s
BINY **Binghamton** **70.11** **44** P **P** **22 42 08.1 -1.2**
baz=328
W45A **Hickory Valley** **70.12** **57** pP pP 22 42 21.6 +4.3
W45A **Hickory Valley** **70.12** **57** P **P** **22 42 09.7 +0.2**
baz=324
NATX **Nacogdoches** **70.13** **63** P **P** **22 42 09.9 +0.3**
NATX **Nacogdoches** **70.13** **63** P **P** **22 42 08.8 -0.8**
baz=323
P53A **Whipple** **70.14** **49** pP **pP** **22 42 19.8 +2.5**
P53A IAmb IAmb 22 42 20.4
comp=Z,55nm,1.2s
P53A **Whipple** **70.14** **49** P **P** **22 42 08.6 -0.9**
baz=326
P53A P **P** **22 42 08.6 -0.9**
baz=326
Q52A **Bidwell** **70.20** **50** pP **pP** **22 42 20.6 +2.9**
Q52A IAmb IAmb 22 42 20.6
comp=Z,41nm,0.9s
Q52A **Bidwell** **70.20** **50** P **P** **22 42 08.8 -1.1**
baz=326
Q52A P **P** **22 42 08.8 -1.1**
baz=326
ZEI **Tsey** **70.30** **318** *eP* **P** **22 42 08.1 -2.6**
ZEI pmax pmax
comp=Z,29nm,1.0s
LVV **L'vov** **70.37** **334** *eP* **P** **22 42 10.1 -0.7**
M57A **Sunshine Farm,** **70.38** **45** P **P** **22 42 09.4 -1.6**
baz=328
M57A P **P** **22 42 09.4 -1.6**
baz=328
833A **Chaparral WMA,** **70.39** **69** IAmb IAmb 22 42 23.7
comp=Z,31nm,0.8s
833A **Chaparral WMA,** **70.39** **69** P **P** **22 42 11.6 +0.5**
baz=323
833A **Chaparral WMA,** **70.39** **69** P **P** **22 42 10.4 -0.8**
baz=323,SNR=6.6
I62A **Tamworth** **70.45** **40** P **P** **22 42 12.2 +0.8**
J61A **Chester** **70.46** **41** pP **pP** **22 42 22.1 +2.9**
J61A IAmb IAmb 22 42 22.1
comp=Z,78nm,1.5s
WVL **Waterville** **70.46** **38** IAmb IAmb 22 42 11.7
comp=Z,48nm,1.3s
L59A **Walton** **70.49** **43** IAmb IAmb 22 42 22.0
comp=Z,90nm,1.4s
L59A **Walton** **70.49** **43** P **P** **22 42 09.6 -2.1**
baz=328
L59A P **P** **22 42 09.6 -2.1**
baz=328
OXF **Oxford** **70.54** **57** P **P** **22 42 11.7 -0.3**
baz=324
OXF **Oxford** **70.54** **57** P **P** **22 42 10.2 -1.8**
baz=324
NGP **Nagpur** **70.54** **279** *eP* **P** **22 42 10.9 -1.3**
I63A **Otisfield** **70.57** **39** IAmb IAmb 22 42 23.6
comp=Z,58nm,1.1s
I63A **Otisfield** **70.57** **39** P **P** **22 42 11.8 -0.2**
baz=330
I63A P **P** **22 42 11.8 -0.2**
baz=330
KAPI **Kappang** **70.58** **228** P **P** **22 42 12.4 0.0**

KAPI IAmb IAmb 22 42 14.2
comp=Z,95nm,1.4s
KAPI Kappang 70.58 228 P **P** **22 42 12.8 +0.5**
KAPI Kappang 70.58 228 P **P** **22 42 12.9 +0.5**
KAPI Kappang 70.58 228 P **P** **22 42 12.4 0.0**
KAPI pmax pmax
comp=Z,95nm,1.5s
KAPI Kappang 70.58 228 P **P** **22 42 12.9 +0.5**
KAPI sP **pwP** **22 42 28.0 +0.7**
U49A Red Boiling Sp 70.63 54 IAmb IAmb 22 42 23.9
comp=Z,36nm,1.0s
U49A Red Boiling Sp 70.63 54 P **P** **22 42 11.7 -0.8**
baz=325
G65A Princeton 70.63 36 IAmb IAmb 22 42 23.4
comp=Z,98nm,1.4s
G65A Princeton 70.63 36 P **P** **22 42 11.6 -0.8**
baz=331
G65A P **P** **22 42 11.6 -0.8**
baz=331
T50A Nancy 70.64 53 IAmb IAmb 22 42 24.0
comp=Z,37nm,0.9s
T50A Nancy 70.64 53 P **P** **22 42 11.9 -0.7**
baz=325
T50A P **P** **22 42 11.9 -0.7**
baz=325
MCWV Mont Chateau 70.66 48 pP **pP** **22 42 23.4 +2.9**
MCWV IAmb IAmb 22 42 23.9
comp=Z,74nm,1.2s
MCWV Mont Chateau 70.66 48 P **P** **22 42 11.8 -0.9**
baz=327
MCWV Mont Chateau 70.66 48 P **P** **22 42 11.2 -1.5**
baz=327,SNR=13
SSPA Standing Stone 70.66 46 P **P** **22 42 11.5 -1.2**
SSPA pP **sP** **22 42 22.5 -0.9**
SSPA IAmb IAmb 22 42 23.4
comp=Z,27nm,0.8s
SSPA Standing Stone 70.66 46 P **P** **22 42 11.5 -1.2**
baz=327
SSPA Standing Stone 70.66 46 P **P** **22 42 10.1 -2.5**
baz=327
SSPA Standing Stone 70.66 46 P **P** **22 42 11.5 -1.2**
SSPA pP **sP** **22 42 22.4 -1.0**
BKSI Bulukumba 70.69 228 P **P** **22 42 12.9 -0.2**
comp=Z,751nmcomp=Z,64nm,1.0s
S51A Beattyville 70.70 51 pP pP 22 42 24.1 +3.3
S51A Beattyville 70.70 51 P **P** **22 42 12.0 -1.0**
baz=326
S51A P **P** **22 42 12.0 -1.0**
baz=326
CLTN Cedars of Leba 70.72 54 pP **pP** **22 42 24.3 +3.4**
CLTN IAmb IAmb 22 42 25.2
comp=Z,65nm,0.9s
KSPA Keystone Colle 70.74 44 IAmb IAmb 22 42 23.4
comp=Z,69nm,1.5s
V48A Smith Brothers 70.77 55 pP **pP** **22 42 24.2 +3.0**
V48A IAmb IAmb 22 42 25.5
comp=Z,58nm,0.8s
V48A Smith Brothers 70.77 55 P **P** **22 42 13.0 -0.5**
baz=325
SORM Soroca 70.77 331 ⇑P **P** **22 42 12.7 -0.5**
PLAL Pickwick Lake 70.80 56 pP pP 22 42 24.8 +3.4
Q54A Coxs Mills 70.80 49 pP **pP** **22 42 24.4 +3.0**
Q54A IAmb IAmb 22 42 25.3
comp=Z,69nm,1.3s
Q54A Coxs Mills 70.80 49 P **P** **22 42 12.7 -0.9**
baz=327
Q54A P **P** **22 42 12.7 -0.9**
baz=327
735A Kenedy 70.81 67 P **P** **22 42 14.5 +0.7**
735A IAmb IAmb 22 42 34.9
comp=Z,25nm,0.8s
VIS Vishakhapatnam 70.82 274 *eP* **P** **22 42 13.5 -0.4**
VIS IAmb IAmb 22 42 25.7
comp=Z,70nm,1.1s
R53A Hurricane 70.86 50 P **P** **22 42 13.3 -0.6**
baz=326
R53A P **P** **22 42 13.3 -0.6**
baz=326
ANN Anapa 70.92 323 *eP* P 22 42 25.0 +11
ANN pmax pmax
comp=Z,88nm,1.2s
ANN MLR MLR
comp=Z,1µm,14.0s
GGN Saint George 70.95 36 IAmb IAmb 22 42 25.2
comp=Z,98nm,1.4s
N58A Sunbury 70.97 45 IAmb IAmb 22 42 25.0
comp=Z,83nm,1.4s
N58A Sunbury 70.97 45 P **P** **22 42 12.8 -1.7**
baz=328
N58A P **P** **22 42 12.8 -1.7**
baz=328
HKT Hockley 70.97 65 P **P** **22 42 14.9 +0.3**
HKT pP **pwP** **22 42 26.4 -2.6**
HKT Hockley 70.97 65 P **P** **22 42 14.2 -0.4**
baz=323
HKT Hockley 70.97 65 P **P** **22 42 14.4 -0.2**
HKT pP **sP** **22 42 25.6 +0.2**
LMN Caledonia Moun 70.97 34 P **P** **22 42 14.8 +0.3**
LMN IAmb IAmb 22 42 15.4
comp=Z,94nm,1.6s
Y45A Yeager Farm, C 70.99 58 pP pP 22 42 26.6 +4.0
Y45A Yeager Farm, C 70.99 58 P **P** **22 42 14.8 0.0**
baz=324
OJC Ojcow 71.00 337 P **P** **22 42 12.7 -1.9**
OJC pP **sP** **22 42 24.5 -0.7**
OJC IAmb IAmb 22 42 25.1
comp=Z,35nm,1.0s
OJC Ojcow 71.00 337 P **P** **22 42 12.7 -1.9**
OJC *PP **sP** **22 42 24.5 -0.7**
143A Socs Landing, 71.02 60 pP **pP** **22 42 26.8 +4.0**
143A IAmb IAmb 22 42 27.6
comp=Z,61nm,0.9s
143A Socs Landing, 71.02 60 P **P** **22 42 14.6 -0.3**
baz=324
EMMW East Machias 71.10 37 P **P** **22 42 14.8 -0.4**
EMMW IAmb IAmb 22 42 19.3
comp=Z,52nm,1.2s
KULM Kulim 71.11 251 IAMs_20 IAMs_20 23 14 50.1
comp=Z,501nm,20.0s
SOC Sochi 71.17 321 *eP* **P** **22 42 13.9 -1.8**
SOC *e*PP **sP** **22 42 25.7 -0.5**
SOC *e*PPP PPP 22 46 34.0
SOC *e*S **S** **22 51 28.8 -1.5**
SOC *e*SS **SS** **22 56 03.8 +0.7**
SOC pmax pmax
comp=Z,21nm,0.8s
SOC MLR MLR
comp=Z,848nm,18.0s
L61B Northampton 71.18 41 P **P** **22 42 14.1 -1.7**
baz=329
COEN Coen 71.25 202 P **P** **22 42 16.7 +0.3**
BSSI Bau Bau, Buton 71.28 227 P **P** **22 42 16.6 0.0**
comp=Z,2µmcomp=Z,191nm,1.1s
CLL Collm 71.34 342 *i* P **P** **22 42 15.8 -0.8**
comp=Z,19nm,1.3s
CLL *i* x x 22 42 19.7
comp=Z,18nm,1.1s
CLL *i* pP **sP** **22 42 27.1 -0.4**
comp=Z,42nm,1.6s
CLL *i* x x 22 42 41.7
CLL LmH 23 13 00.0
comp=N,600nm,19.5s
CLL LmH 23 13 00.0
comp=E,700nm,19.6s
CLL Collm 71.34 342 *i* P **P** **22 42 15.8 -0.8**
CLL pmax pmax
comp=Z,19nm,1.3s
BBKI Banjar Baru 71.39 234 P **P** **22 42 17.4 +0.1**
comp=Z,157nm,1.3s
STHS Stebnicka Huta 71.42 336 *eP* **P** **22 42 17.3 +0.1**
STHS Stebnicka Huta 71.42 336 *eP* **P** **22 42 17.3 +0.1**
STHS pmax pmax
comp=Z,12nm,0.8s
OSTC Ostas 71.44 339 *eP* **P** **22 42 17.5 +0.2**
OSTC *ex* x 22 42 27.8
OSTC AMS AMS 23 16 10.0
comp=Z,600nm,15.5s
Q56A Snyder Ridge, 71.46 48 pP **pP** **22 42 28.5 +3.1**
Q56A IAmb IAmb 22 42 28.6
comp=Z,60nm,1.4s
PAGS Pennsylvania G 71.48 45 pP **pP** **22 42 27.9 +2.5**
PAGS IAmb IAmb 22 42 28.1
comp=Z,62nm,1.1s
UPC Upice 71.53 340 *eP* **P** **22 42 18.1 +0.3**
UPC *ex* x 22 42 28.4
UPC AMS AMS 23 16 10.0
comp=Z,700nm,17.2s
UPC Upice 71.53 340 *eP* **P** **22 42 18.1 +0.3**
UPC *e* 22 42 28.4
UPC MLR MLR
comp=Z,700nm,17.2s
HRV Adam Dziewonsk 71.55 40 P **P** **22 42 17.5 -0.5**
HRV pP **sP** **22 42 28.4 -0.3**
HRV IAmb IAmb 22 42 28.9
comp=Z,64nm,1.4s
HRV Adam Dziewonsk 71.55 40 P **P** **22 42 16.0 -2.1**
baz=330
IPM Ipoh 71.58 251 IAmb IAmb 22 42 19.7
comp=Z,40nm,1.0s
IPM Ipoh 71.58 251 P **P** **22 42 18.6 +0.1**
S54A Dingess, Beckl 71.58 50 pP pP 22 42 28.9 +2.8
S54A Dingess, Beckl 71.58 50 P **P** **22 42 17.7 -0.6**
baz=327
S54A P **P** **22 42 17.7 -0.6**
baz=327
P57A Homestead Farm 71.58 47 P **P** **22 42 17.3 -1.0**
baz=328
P57A P **P** **22 42 17.3 -1.0**
baz=328
BRG Berggiesshubel 71.58 341 *eP* **P** **22 42 17.6 -0.5**
BRG Amp 22 42 22.3
comp=Z,8.7nm,1.0s
BRG *ex* x 22 42 28.5
BRG Amp 22 42 30.7
comp=Z,18nm,1.1s
BRG Amp 22 49 49.0
comp=Z,1.4nm,15.3s
BRG Amp 22 50 02.0
comp=N,0.6nm,13.7s
BRG Amp 22 50 10.0
comp=E,0.5nm,14.7s
BRG Berggiesshubel 71.58 341 *eP* **P** **22 42 17.6 -0.5**
BRG *e* 22 42 28.5
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG MLR MLR
comp=Z,1µm,15.3s
BRG MLR MLR
comp=N,625nm,13.7s
BRG MLR MLR
comp=E,527nm,14.7s
AFI Afiamalu 71.59 156 LR LR 23 09 26.9
comp=E,328nm,21.4s,baz=330,slow=32
DPC Dobruska-Polom 71.62 339 *eP* **P** **22 42 18.6 +0.2**
DPC *ex* x 22 42 22.3
DPC *ep*P **sP** **22 42 29.4 +0.4**
DPC AMS AMS 23 16 20.0
comp=E,500nm,15.8s
DPC Dobruska-Polom 71.62 339 *eP* **P** **22 42 18.6 +0.2**
DPC *e* 22 42 29.4
DPC MLR MLR
comp=Z,500nm,15.8s
TZTN Tazewell 71.62 52 IAmb IAmb 22 42 30.1
comp=Z,138nm,1.8s
TZTN Tazewell 71.62 52 P **P** **22 42 18.1 -0.5**
baz=326
TZTN Tazewell 71.62 52 P **P** **22 42 17.6 -0.9**
baz=326,SNR=6.8
KOLS Kolonicke sedl 71.63 335 *eP* **P** **22 42 18.8 +0.4**
KOLS Kolonicke sedl 71.63 335 *eP* **P** **22 42 18.8 +0.4**
441A DeRidder 71.69 63 P **P** **22 42 19.8 +0.7**
441A IAmb IAmb 22 42 31.7
comp=Z,50nm,0.8s
R55A Marlinton 71.69 49 IAmb IAmb 22 42 30.3
comp=Z,104nm,1.6s
R55A Marlinton 71.69 49 P **P** **22 42 18.4 -0.6**
baz=327
R55A P **P** **22 42 18.4 -0.6**
baz=327
TRNY Table Rock, Ra 71.70 43 pP 22 42 29.2 +2.5
LUPA Lehigh Univers 71.71 44 IAmb IAmb 22 42 22.5
comp=Z,36nm,1.0s
X48A Hartselle 71.72 56 IAmb IAmb 22 42 30.9
comp=Z,42nm,0.9s
X48A Hartselle 71.72 56 P **P** **22 42 18.0 -1.1**
baz=325
OKC Ostrava-Krasne 71.72 338 *eP* **P** **22 42 19.3 +0.4**
OKC *ex* x 22 42 29.8
OKC AMS AMS 23 16 00.0
comp=Z,600nm,12.3s
OKC Ostrava-Krasne 71.72 338 *eP* **P** **22 42 19.3 +0.4**
OKC *e* 22 42 29.8
OKC MLR MLR
comp=Z,600nm,12.3s
WES Weston 71.74 40 IAmb IAmb 22 42 28.9
comp=Z,65nm,1.3s
MILM Milestii Mici 71.75 330 ⇓P **P** **22 42 19.0 -0.1**
MILM Milestii Mici 71.75 330 ⇓*iP* **P** **22 42 18.0 -1.1**
MILM comp=Z,40nm,1.0s LQM 23 12 40.0
MILM comp=Z,1µm,16.0s LRM MLR 23 16 43.0
comp=Z,800nm,13.0s
MILM Milestii Mici 71.75 330*d iP* **P** **22 42 18.0 -1.1**
MILM *e* 22 42 28.0
MILM pmax pmax
comp=Z,40nm,1.0s
MILM MLR MLR
comp=Z,800nm,13.0s
KRLC Kraliky 71.78 339 *eP* **P** **22 42 19.6 +0.2**
KRLC *ex* x 22 42 23.4
KRLC *ep*P **sP** **22 42 30.1 +0.1**
KRLC AMS AMS 23 18 00.0
comp=Z,500nm,12.6s
KRLC Kraliky 71.78 339 *eP* **P** **22 42 19.6 +0.2**
KRLC *e* 22 42 30.1
KRLC MLR MLR
comp=Z,500nm,12.6s
PURM Purcari 71.79 329 ⇑P **P** **22 42 18.7 -0.7**
VBMS Vicksburg 71.85 60 P **P** **22 42 20.3 +0.3**
VBMS **pwP** **22 42 32.0 -2.4**
VBMS IAmb IAmb 22 42 32.1
comp=Z,69nm,0.9s
CRVS Cervenica-Dubn 71.85 336 *eP* **P** **22 42 20.2 +0.4**
CRVS Cervenica-Dubn 71.85 336 *eP* **P** **22 42 20.2 +0.4**
V51A Loudon 71.87 53 IAmb IAmb 22 42 31.4
comp=Z,35nm,0.8s
V51A Loudon 71.87 53 P **P** **22 42 19.5 -0.6**
baz=326
SIM Simferopol' 71.89 326 *eP* **P** **22 42 19.9 -0.1**
SIM pmax pmax
comp=Z,40nm,1.0s
SIM MLR MLR
comp=Z,607nm,17.8s
UZH Uzhgorod 71.90 335 *eP* **P** **22 42 19.4 -0.6**
UZH *e* 22 42 31.7
UZH *e* 22 42 43.4
UZH *e*S **S** **22 51 33.5 -5.1**
UZH MLR MLR
comp=N,190nm,16.0s
UZH MLR MLR
comp=E,170nm,16.0s
UZH MLR MLR
comp=Z,100nm,16.0s
MORC Moravsky Berou 71.91 338 ⇑P **P** **22 42 20.3 +0.1**
MORC Moravsky Berou 71.91 338 *eP* **P** **22 42 20.2 +0.1**
W50A Signal Mountai 71.92 54 IAmb IAmb 22 42 31.8
comp=Z,59nm,0.8s
W50A Signal Mountai 71.92 54 P **P** **22 42 19.7 -0.7**
baz=326
PAL Palisades 71.94 43 IAmb IAmb 22 42 30.7
comp=Z,92nm,1.4s
PAL Palisades 71.94 43 P **P** **22 42 19.2 -1.2**
baz=329
PAL Palisades 71.94 43 P **P** **22 42 18.6 -1.8**
baz=329,SNR=6.8
BRNJ Basking Ridge 71.96 44 P **P** **22 42 19.4 -1.1**
BRNJ IAmb IAmb 22 42 20.4
comp=Z,87nm,1.8s
WSPT Westport, CT 72.03 42 P **P** **22 42 19.4 -1.5**
AKL Akola 72.05 280 *eP* **P** **22 42 21.1 -0.2**
BRYW Bryant College 72.07 41 IAmb IAmb 22 42 31.7
comp=Z,56nm,1.3s
CPCT Cooper Cave 72.08 53 IAmb IAmb 22 42 32.6
comp=Z,36nm,0.9s
BURAR Bucovina Array 72.10 333 ⇓P **P** **22 42 21.4 0.0**
SDMD Soldier's Deli 72.13 46 P **P** **22 42 20.5 -1.0**
baz=328
TUPA Temple Univers 72.16 44 P **P** **22 42 20.5 -1.2**
baz=329
PANJ Princeton 72.17 44 P **P** **22 42 20.3 -1.5**
baz=329
V52A Sevierville 72.18 53 P **P** **22 42 21.3 -0.6**
baz=326
GNI Garni 72.22 316 LR LR 23 17 56.4
comp=Z,2µm,19.1s,baz=28,slow=39
GNI Garni 72.22 316 P **P** **22 42 23.4 +1.1**
GNI Garni 72.22 316 P **P** **22 42 23.7 +1.4**
GNI Garni 72.22 316 P **P** **22 42 23.6 +1.4**
GNI Garni 72.22 316*ceP* **P** **22 42 23.9 +1.6**
GNI pmax pmax
comp=Z,63nm,1.3s
146A Union 72.23 58 pP pP 22 42 34.0 +4.0
146A Union 72.23 58 P **P** **22 42 22.5 +0.2**
baz=325
PBKI Pangkalan Bun 72.23 237 P **P** **22 42 23.5 +1.1**
comp=Z,7µmcomp=Z,184nm,1.2s
MAUC Maruska 72.24 338 *eP* **P** **22 42 22.6 +0.5**
MAUC *ex* x 22 42 28.2
MAUC *ex* x 22 42 33.7
MAUC AMS AMS 23 19 50.0
comp=Z,1µm,16.8s
Z47A Carrollton 72.25 57 pP pP 22 42 33.2 +3.0
Z47A Carrollton 72.25 57 P **P** **22 42 21.7 -0.6**
baz=325
TKL Tuckaleechee C 72.25 53 LR LR 23 15 58.0
comp=Z,1µm,18.1s,baz=332,slow=37
TKL Tuckaleechee C 72.25 53 pP pP 22 42 33.1 +3.0
TKL Tuckaleechee C 72.25 53 P **P** **22 42 21.7 -0.7**
baz=326
DGTI Dogotuki 72.30 165 P **P** **22 42 23.7 +1.1**
TRPA Tarpa 72.31 335 ⇓P **P** **22 42 23.2 +0.7**
TRPA Tarpa 72.31 335 P **P** **22 42 22.3 -0.2**
L64A Middleborough 72.31 40 IAmb IAmb 22 42 26.6
comp=Z,58nm,1.1s
PRU Pruhonice 72.31 340 *eP* **P** **22 42 22.1 -0.4**
PRU *ex* x 22 42 26.5
PRU *ep*P **sP** **22 42 33.0 -0.1**
PRU AMS AMS 23 17 20.0
comp=Z,600nm,16.8s
PRU Pruhonice 72.31 340 *eP* **P** **22 42 22.1 -0.4**
PRU *e* 22 42 33.0
PRU MLR MLR
comp=Z,600nm,16.8s
M63A Gales Ferry 72.32 41 IAmb IAmb 22 42 33.8
comp=Z,96nm,1.4s
FPAL Fort Paine 72.32 55 pP pP 22 42 33.9 +3.2
MYKOM Kota Tinggi 72.33 247 IAmb IAmb 22 42 25.2
comp=Z,50nm,1.2s
MYKOM IAMs_20 IAMs_20 23 20 20.7
comp=Z,586nm,19.0s
344A Westbrook Farm 72.36 60 IAmb IAmb 22 42 35.6
comp=Z,50nm,0.8s
GBN Guysborough 72.41 32 P **P** **22 42 25.1 +2.0**
U54A Nelsons Funny 72.42 51 IAmb IAmb 22 42 34.9
comp=Z,43nm,0.6s
U54A Nelsons Funny 72.42 51 P **P** **22 42 22.8 -0.6**
baz=327
U54A P **P** **22 42 22.8 -0.6**
baz=327
BLA Blacksburg 72.46 50 IAmb IAmb 22 42 34.7
comp=Z,35nm,0.9s
BLA Blacksburg 72.46 50 P **P** **22 42 23.1 -0.6**
baz=327
BLA Blacksburg 72.46 50 P **P** **22 42 22.4 -1.3**
baz=327,SNR=9.6
KARS Kars 72.46 317 P **P** **22 42 24.2 +0.5**
KARS Kars 72.46 317 P **P** **22 42 24.2 +0.5**
KARS pmax pmax
comp=Z,128nm,1.2s
NKC Novy Kostel 72.47 342 *eP* **P** **22 42 23.0 -0.4**
NKC *ep*P **sP** **22 42 33.7 -0.7**
NKC AMS AMS 23 17 50.0
comp=Z,900nm,16.1s
NKC Novy Kostel 72.47 342 *eP* **P** **22 42 23.0 -0.4**
NKC *e* 22 42 33.7
NKC MLR MLR
comp=Z,900nm,16.1s
ABAH Abaujker 72.47 335 P **P** **22 42 23.7 +0.3**
Y49A Blount Mountai 72.50 56 P **P** **22 42 23.0 -0.9**
baz=326
VRAC Vranov 72.55 339 ⇑P **P** **22 42 24.9 +0.9**
VRAC Vranov 72.55 339 LR LR 23 17 51.2
comp=Z,522nm,19.9s,baz=28,slow=39
VRAC Vranov 72.55 339 *eP* **P** **22 42 24.3 +0.4**
S57A Dark Hollow, R 72.63 48 pP **pP** **22 42 35.5 +3.1**
S57A IAmb IAmb 22 42 36.0
comp=Z,129nm,1.4s
S57A Dark Hollow, R 72.63 48 P **P** **22 42 23.8 -0.8**
baz=328
S57A P **P** **22 42 23.8 -0.8**
baz=328
W52A Murphy 72.65 53 pP **pP** **22 42 35.9 +3.3**
W52A IAmb IAmb 22 42 36.2
comp=Z,37nm,0.8s
W52A Murphy 72.65 53 P **P** **22 42 24.1 -0.7**
baz=326
X51A Calhoun 72.65 54 IAmb IAmb 22 42 36.7
comp=Z,61nm,0.9s
V53A Saluda 72.68 52 pP pP 22 42 36.1 +3.3
V53A Saluda 72.68 52 P **P** **22 42 24.2 -0.8**
baz=326
V53A P **P** **22 42 24.2 -0.8**
baz=326
TESR Tescani 72.73 331 ⇑P **P** **22 42 24.9 -0.1**
TAVE Taveuni 72.75 165 P **P** **22 42 26.9 +1.6**
TREC Trest 72.79 340 *eP* **P** **22 42 25.5 +0.1**
TREC *ep*P **sP** **22 42 36.4 +0.4**
TREC AMS AMS 23 17 30.0
comp=Z,600nm,16.8s
TREC Trest 72.79 340 *eP* **P** **22 42 25.5 +0.1**
TREC *e* 22 42 36.4
TREC MLR MLR
comp=Z,600nm,16.8s
MMRI Maumere 72.81 224 P **P** **22 42 26.3 +0.5**
comp=Z,5µmcomp=Z,71nm,1.2s
MMRI Maumere 72.81 224 P **P** **22 42 27.0 +1.2**
comp=Z,86nm,1.5s
ARCR ARCALIA 72.82 333 ⇓P **P** **22 42 26.3 +0.7**
KRUC Moravsky 72.83 339 *eP* **P** **22 42 25.9 +0.3**
VYHS Vyhne 72.84 337 *eP* **P** **22 42 26.3 +0.6**
VYHS Vyhne 72.84 337 *eP* **P** **22 42 26.3 +0.6**
VYHS pmax pmax
comp=Z,28nm,1.4s
KDU Kakadu 72.88 213 P **P** **22 42 26.3 +0.1**
LRAL Lakeview Retre 72.90 57 P **P** **22 42 25.2 -1.1**
baz=325
LRAL Lakeview Retre 72.90 57 P **P** **22 42 25.3 -1.0**
baz=325,SNR=29
R58B Mineral 72.92 47 P **P** **22 42 25.8 -0.5**
baz=328
R58B P **P** **22 42 25.8 -0.5**
baz=328
CBN Corbin Frederi 72.92 47 pP **pP** **22 42 37.4 +3.3**
CBN IAmb IAmb 22 42 37.5
comp=Z,40nm,1.1s
CBN Corbin Frederi 72.92 47 P **P** **22 42 24.8 -1.5**
baz=328
GHRR 72.93 330 ⇑P **P** **22 42 26.4 +0.2**
SOEI Soe 73.03 222 IAmb IAmb 22 42 49.9
comp=Z,88nm,1.3s
SOEI Soe 73.03 222 P **P** **22 42 27.0 -0.2**
346A Big Creek Wild 73.04 59 P **P** **22 42 27.7 +0.6**
MEM Membach 73.13 346 *dP* **P** **22 42 26.2 -1.1**
comp=Z,26nm,0.9s
SMOL Smolenice 73.13 338 *eP* **P** **22 42 28.7 +1.3**
SMOL pmax pmax
comp=Z,15nm,1.1s
PSZ Piszkesteto 73.14 336 P **P** **22 42 27.1 -0.4**
T57A Hurt 73.14 49 IAmb IAmb 22 42 38.6
comp=Z,25nm,0.6s
T57A Hurt 73.14 49 P **P** **22 42 26.6 -1.0**
baz=328
T57A P **P** **22 42 26.6 -1.0**
baz=328
BG3 Lake Jocassee 73.19 53 IAmb IAmb 22 42 39.5
comp=Z,48nm,0.7s
CASEE Lake Jocassee 73.19 53 P **P** **22 42 27.7 -0.3**
baz=326
LHMI Lhok Sumawe 73.19 255 P **P** **22 42 28.1 0.0**
LHMI Lhok Sumawe 73.19 255 P **P** **22 42 29.4 +1.3**
U56A King 73.20 50 P **P** **22 42 27.4 -0.6**
baz=327
U56A P **P** **22 42 27.4 -0.6**
baz=327
GRA1 Grafenberg Arr 73.21 342 P **P** **22 42 28.7 +0.9**
GRF Grafenberg Arr 73.21 342 P **P** **22 42 28.7 +0.9**

GRF pmax pmax
comp=Z,33nm,1.0s
GRFO Grafenberg 73.21 342 P P 22 42 28.8 +1.0
GRFO Grafenberg 73.21 342 P P 22 42 28.8 +1.0
GRFO pmax pmax
comp=Z,30nm,1.0s
V55A Taylorsville 73.24 51 IAmb IAmb 22 42 39.6
comp=Z,26nm,0.7s
V55A Taylorsville 73.24 51 P P 22 42 27.6 -0.7
baz=327
V55A P **P 22 42 27.6 -0.7**
baz=327
MODS Modra-Piesok 73.29 338 *e*P **P 22 42 29.7 +1.3**
MODS Modra-Piesok 73.29 338 *e*P **P 22 42 29.7 +1.3**
IZVR Izvoarele 73.30 330 ⇓P **P 22 42 28.5 +0.1**
VRI Vrincioaia 73.30 331 ⇑P **P 22 42 28.5 +0.1**
KHC Kasperske Hory 73.32 341 *e*P **P 22 42 28.7 +0.2**
KHC *ex* x 22 42 32.7
KHC *ep*P **sP 22 42 39.1 0.0**
KHC AMS AMS 23 18 00.0
comp=Z,800nm,14.1s
KHC Kasperske Hory 73.32 341 *e*P **P 22 42 28.7 +0.2**
KHC *e* 22 42 39.1
KHC MLR MLR
comp=Z,800nm,14.1s
PLOR Plostina 73.33 331 ⇑P **P 22 42 28.8 +0.2**
OZUR 73.35 332 ⇑P **P 22 42 29.5 +0.7**
MTN Manton Dam 73.46 214 P **P 22 42 29.9 +0.3**
COVR Voineasa-Covas 73.46 331 ⇓P **P 22 42 28.9 -0.5**
MSVF Nonsavu 73.47 167 P **P 22 42 30.0 +0.3**
comp=Z,26nm,1.1s,baz=91,slow=2.4,SNR=9.2
comp=Z,26nm,1.1s
MSVF Nonsavu 73.47 167 P **P 22 42 30.7 +1.1**
MSVF IAmb IAmb 22 42 32.1
comp=Z,60nm,1.4s
MSVF Nonsavu 73.47 167 P **P 22 42 31.3 +1.6**
MSVF Nonsavu 73.47 167 P **P 22 42 30.0 +0.3**
CKRC Cesky Krumlov 73.48 340 *e*P **P 22 42 29.4 0.0**
CKRC *ex* x 22 42 33.0
CKRC *ex* x 22 42 39.6
ZST Bratislava 73.50 338 *e*P **P 22 42 30.5 +1.0**
ZST Bratislava 73.50 338 *e*P **P 22 42 30.5 +1.0**
ZST pmax pmax
comp=Z,62nm,1.0s
DRGR 73.51 334 ⇑P **P 22 42 29.9 +0.1**
CFR Carcaliu 73.53 330 ⇑P **P 22 42 29.9 +0.1**
Z51A Franklin 73.53 55 P **P 22 42 29.1 -0.9**
baz=326
GEC2 GERESS Array S 73.57 341 P **P 22 42 30.2 +0.2**
GERES GERESS Array B 73.57 341 P **P 22 42 30.1 0.0**
comp=Z,5.8nm,0.8s,baz=39,slow=5.1,SNR=26
GERES LR LR 23 18 27.1
comp=Z,567nm,18.2s,baz=32,slow=39
comp=Z,5.8nm,0.8s
GERES GERESS Array B 73.57 341 pP pP 22 42 40.9 +3.1
DOPR Dopca 73.57 332 ⇓P **P 22 42 30.6 +0.6**
BISRR Bisoca 73.59 331 ⇑P **P 22 42 30.5 +0.2**
Y52A Lilburn 73.60 54 IAmb IAmb 22 42 42.0
comp=Z,42nm,0.8s
Y52A Lilburn 73.60 54 P **P 22 42 29.7 -0.7**
baz=326
Y52A P **P 22 42 29.7 -0.7**
baz=326
TPGR Topolog 73.74 329 ⇓P **P 22 42 31.2 +0.2**
KMSC Kings Mountain 73.78 51 IAmb IAmb 22 42 42.6
comp=Z,42nm,0.6s
KMSC Kings Mountain 73.78 51 P **P 22 42 30.7 -0.7**
baz=327
KMSC Kings Mountain 73.78 51 P **P 22 42 29.3 -2.2**
baz=327,SNR=17
HYB Hyderabad 73.79 277 *e*P **P 22 42 31.2 -0.5**
HYB IAmb IAmb 22 42 42.6
comp=Z,66nm,1.2s
PAULI Pauline 73.83 52 P **P 22 42 31.2 -0.5**
baz=327
MLR Muntele Rosu 73.86 331 ⇑P **P 22 42 31.6 -0.3**
MLR Muntele Rosu 73.86 331 LR LR 23 17 36.8
comp=Z,857nm,18.7s,baz=42,slow=38
T59A Double "B" Far 73.89 48 pP **pP 22 42 42.7 +2.8**
T59A IAmb IAmb 22 42 43.4
comp=Z,68nm,1.3s
T59A Double "B" Far 73.89 48 P **P 22 42 31.4 -0.6**
baz=328
T59A P **P 22 42 31.4 -0.6**
baz=328
KOPT Kop Dagi 73.98 319 P **P 22 42 33.9 +1.0**
KOPT IAmb IAmb 22 42 47.0
comp=Z,56nm,0.9s
CONA Conrad Observa 74.02 339 *i* P **P 22 42 33.6 +0.9**
comp=Z,16nm,1.3s,SNR=9.5
HARR Harsova 74.03 330 ⇑P **P 22 42 32.7 0.0**
CSKK Cskako 74.03 337 P **P 22 42 33.6 +0.9**
ISR Istrita 74.04 331 ⇑P **P 22 42 33.7 +0.9**
T60A Surry 74.09 47 P **P 22 42 32.4 -0.8**
baz=328
T60A P **P 22 42 32.4 -0.8**
baz=328
TIRR Tirgusor 74.10 329 ⇑P **P 22 42 33.2 +0.1**
TIRR Tirgusor 74.10 329 IAmb IAmb 22 42 46.3
comp=Z,90nm,1.3s
SOP Sopron 74.10 338 P **P 22 42 33.7 +0.6**
PSI Prapat 74.12 251 P **P 22 42 33.8 +0.1**
250A Grady 74.12 57 pP pP 22 42 44.0 +2.8
250A Grady 74.12 57 P **P 22 42 32.9 -0.5**
baz=326
LATR Latur 74.12 279 *e*P **P 22 42 33.0 -0.6**
HODGE Hodges 74.12 53 IAmb IAmb 22 42 44.9
comp=Z,42nm,0.7s
HODGE Hodges 74.12 53 P **P 22 42 32.7 -0.7**
baz=327
RONA Rosalia, Austr 74.14 338 *e*P **P 22 42 34.7 +1.3**
comp=Z,17nm,1.1s
VOIR 74.16 332 ⇑P **P 22 42 34.2 +0.7**
EGYH Egyhazaskeszo 74.19 338 P **P 22 42 34.5 +0.9**
RPSI Rantau Prapat 74.20 251 IAMs_20 IAMs_20 23 19 23.2
comp=Z,623nm,19.0s
V58A Windy Hill, Pi 74.22 49 pP pP 22 42 44.7 +3.0
V58A Windy Hill, Pi 74.22 49 P **P 22 42 33.3 -0.6**
baz=328
V58A P **P 22 42 33.3 -0.6**
baz=328
GOGA Godfrey 74.25 54 pP pP 22 42 45.0 +2.9
GOGA Godfrey 74.25 54 P **P 22 42 32.9 -1.3**
baz=327
GOGA Godfrey 74.25 54 P **P 22 42 33.5 -0.7**
baz=327,SNR=12
SIRR Siria 74.26 334 ⇑P **P 22 42 34.7 +0.6**
152A Waverly Hall 74.28 55 pP **pP 22 42 45.0 +2.8**
152A IAmb IAmb 22 42 46.0
comp=Z,50nm,0.8s
152A Waverly Hall 74.28 55 P **P 22 42 33.6 -0.8**
baz=326
U59A Littleton 74.31 48 pP **pP 22 42 45.0 +2.7**
U59A IAmb IAmb 22 42 46.0
comp=Z,118nm,1.6s
U59A Littleton 74.31 48 P **P 22 42 33.8 -0.7**
baz=328
U59A P **P 22 42 33.8 -0.7**
baz=328
ARR Arges 74.33 332 ⇑P **P 22 42 35.4 +0.8**
W57A Gilead 74.37 50 IAmb IAmb 22 42 46.1
comp=Z,46nm,0.6s
W57A Gilead 74.37 50 P **P 22 42 34.0 -0.8**
baz=328
W57A P **P 22 42 34.0 -0.8**
baz=328
MPLH Magyarpolny 74.38 337 P **P 22 42 36.2 +1.5**
BRAL Brewton 74.40 58 P **P 22 42 35.5 +0.4**
BRAL Brewton 74.40 58 P **P 22 42 33.8 -1.3**
baz=326
MOA Molln 74.41 340 *e*P **P 22 42 35.5 +0.6**
comp=Z,14nm,1.0s
DIKM Dikmen 74.44 323 ⇑P **P 22 42 35.8 +0.6**
LOT Lotru 74.49 333 ⇑P **P 22 42 35.6 0.0**
JSC Jenkinsville 74.54 52 pP pP 22 42 46.3 +2.6
JSC Jenkinsville 74.54 52 P **P 22 42 35.0 -0.8**
baz=327
BIRD Birdtown, Kers 74.59 51 IAmb IAmb 22 42 47.4
comp=Z,26nm,0.7s
BIRD Birdtown, Kers 74.59 51 P **P 22 42 35.6 -0.5**
baz=327
ICOR Ion Corvin 74.59 329 ⇓P **P 22 42 35.8 -0.1**
SURR Surduc 74.63 334 ⇑P **P 22 42 36.2 0.0**
GURO Guroymak-BITLI 74.66 317 P **P 22 42 37.1 +0.4**
BIOA Bad Ischl, Aus 74.69 340 *e*P **P 22 42 37.1 +0.6**
comp=Z,11nm,1.4s
ARSA Arzberg 74.73 339 *e*P **P 22 42 37.3 +0.6**
comp=Z,12nm,1.1s
GZR Gura Zlata 74.80 333 ⇓P **P 22 42 37.3 0.0**
PLAI Plampang 74.84 229 P **P 22 42 36.0 -1.7**
comp=Z,1µmcomp=Z,87nm,1.1s
PLAI Plampang 74.84 229 P **P 22 42 36.3 -1.4**
BZS Buzias 74.88 334 ⇓P **P 22 42 37.6 0.0**
BFO Black Forest 75.00 344 P **P 22 42 38.3 0.0**
BFO Black Forest 75.00 344 P **P 22 42 38.3 0.0**
BFO pmax pmax
comp=Z,13nm,0.9s
MORH Mrgy, Hungar 75.03 336 ⇑P **P 22 42 38.7 +0.2**
MORH Mrgy, Hungar 75.03 336 P **P 22 42 38.0 -0.5**
BKNI Bangkinang 75.05 248 P **P 22 42 39.4 +0.5**
BKNI Bangkinang 75.05 248 P **P 22 42 40.7 +1.7**
comp=Z,194nm,0.9s
MTSU Mount Surprise 75.06 200 P **P 22 42 39.2 +0.3**
154A Montrose 75.08 54 P **P 22 42 38.3 -0.7**
baz=327
HAW Hawthorne Fire 75.15 53 P **P 22 42 38.9 -0.5**
baz=327
Y57A Sumter 75.15 51 IAmb IAmb 22 42 50.6
comp=Z,35nm,0.7s
X58A Rowland 75.16 50 P **P 22 42 39.0 -0.4**
baz=328
X58A P **P 22 42 39.0 -0.4**
baz=328
352A Blakely 75.17 56 P **P 22 42 38.9 -0.7**
baz=326
TOKA Tokat 75.19 322 P **P 22 42 40.0 +0.5**
TOKA pP **pwP 22 42 51.4 -3.2**
CNNC Cliffs of the 75.22 49 P **P 22 42 39.3 -0.4**
baz=328
CNNC Cliffs of the 75.22 49 P **P 22 42 39.3 -0.4**
baz=328
KOVH Kovagotottos 75.28 337 P **P 22 42 39.1 -0.8**
ECH Echery 75.30 345 P **P 22 42 39.7 -0.3**
ECH Echery 75.30 345 P **P 22 42 39.7 -0.3**
ECH pmax pmax
comp=Z,37nm,1.6s
COPA Copaceanca 75.31 331 ⇑P **P 22 42 40.1 0.0**
KBA Koelnbreinsper 75.33 340 *i* P **P 22 42 41.5 +1.1**
comp=Z,26nm,1.0s,SNR=18
HERR Herculane 75.37 333 ⇑P **P 22 42 40.3 -0.2**
SOKA Soboth 75.38 339 *e*P **P 22 42 41.5 +0.9**
comp=Z,30nm,1.4s
PERS Pernice 75.40 339 *e*P **P 22 42 40.8 +0.1**
KOUNC Koumac, New Ca 75.41 181 P **P 22 42 41.6 +0.8**
KOUNC IAmb IAmb 22 42 43.3
comp=Z,98nm,1.3s
KOUNC Koumac, New Ca 75.41 181 P **P 22 42 42.5 +1.8**
RETA Reutte 75.42 342 *e*P **P 22 42 41.0 +0.2**
comp=Z,13nm,0.8s
WATA Walderalm 75.42 342 *e*P **P 22 42 41.3 +0.4**
comp=Z,34nm,1.3s
WTTA Wattenberg 75.47 342 *i* P **P 22 42 41.8 +0.6**
comp=Z,36nm,1.5s,SNR=12
451A Vernon 75.49 57 P **P 22 42 41.8 +0.4**
MOTA Moosalm 75.49 342 *e*P **P 22 42 41.5 +0.1**
comp=Z,20nm,0.8s
ILGA Ilgaz 75.50 324 P **P 22 42 42.4 +0.8**
POO Poona 75.56 282 *e*P **P 22 42 41.3 -0.7**
SQTA Sankt Quirin 75.59 342 *i* P **P 22 42 42.4 +0.5**
comp=Z,24nm,0.8s,SNR=9.4
MDVR Moldovita 75.64 334 ⇑P **P 22 42 41.6 -0.5**
OBKA Obir 75.64 339 *i* P **P 22 42 43.2 +1.1**
comp=Z,55nm,0.9s,SNR=15
LIFNC LIFOU 75.66 178 P **P 22 42 43.3 +1.1**
LIFNC IAmb IAmb 22 42 46.3
comp=Z,88nm,1.0s
MYKA Terra Mystica 75.70 340 *e*P **P 22 42 43.6 +1.1**
comp=Z,15nm,0.7s
TV1H Townsville Har 75.70 198 P **P 22 42 43.1 +0.6**
ABTA Abfaltersbach 75.81 341 *i* P **P 22 42 43.8 +0.7**
comp=Z,23nm,0.9s,SNR=10.0
TIGA Tifton 75.83 55 P **P 22 42 43.1 -0.3**
baz=327
TIGA Tifton 75.83 55 P **P 22 42 42.8 -0.6**
baz=327,SNR=14
Y59A Loris 75.84 50 P **P 22 42 42.7 -0.6**
baz=328
Y59A P **P 22 42 42.7 -0.6**
baz=328
FETA Feichten 75.87 342 *e*P **P 22 42 44.0 +0.5**
comp=Z,30nm,1.0s
SDSI Sungai Dareh 75.90 247 P **P 22 42 43.8 0.0**
comp=Z,741nmcomp=Z,19nm,1.2s
255A Hazlehurst 75.95 54 P **P 22 42 43.9 0.0**
baz=327
NHSC New Hope 76.01 52 P **P 22 42 44.2 -0.1**
baz=328
NHSC New Hope 76.01 52 P **P 22 42 43.6 -0.7**
baz=328,SNR=6.9
CLUD Cludinico 76.02 340 P **P 22 42 44.5 +0.3**
GSI Gunungsitoli 76.10 252 P **P 22 42 44.9 -0.1**
comp=Z,76nm,1.6s
GSI Gunungsitoli 76.10 252 P **P 22 42 45.5 +0.5**
ROBS Robic 76.10 340 *i* P **P 22 42 43.3 -1.3**
CSU Charleston Sou 76.16 52 P **P 22 42 45.4 +0.3**
PLVB Pleven 76.17 331 ⇑P **P 22 42 45.4 +0.3**
STAL STALIGIAL 76.24 340 P **P 22 42 45.5 +0.1**
CIMO Cimolais 76.24 341 P **P 22 42 45.2 -0.2**
CIMO IAmb IAmb 22 43 00.0
comp=Z,33nm,1.7s
DAVOX Davos/Dischmat 76.25 343 LR LR 23 21 04.1
comp=Z,498nm,18.3s,baz=23,slow=40
FUORN Ofenpass-Fuorn 76.34 342 IAmb IAmb 22 43 02.1
comp=Z,83nm,1.9s
KAD Karad 76.35 281 *e*P **P 22 42 45.8 -0.7**
257A Skidaway Islan 76.58 53 P **P 22 42 46.6 -0.9**
257A **PcP 22 42 59.3 +0.3**
SMRI Semarang 76.60 236 P **P 22 42 47.4 -0.4**
SMRI Semarang 76.60 236 P **P 22 42 48.3 +0.5**
comp=Z,68nm,1.4s
CTA Charters Tower 76.61 198 P **P 22 42 47.3 -0.4**
comp=Z,50nm,1.0s,baz=10,slow=6.3,SNR=51
CTA LR LR 23 15 39.5
comp=Z,130nm,18.7s,baz=32,slow=35
comp=Z,50nm,1.0s
CTA Charters Tower 76.61 198 P **P 22 42 47.7 +0.1**
CTAO Charters Tower 76.61 198 P **P 22 42 47.6 0.0**
CTAO IAmb IAmb 22 42 48.9
comp=Z,94nm,1.1s
CTAO Charters Tower 76.61 198 P **P 22 42 47.7 +0.1**
CTAO Charters Tower 76.61 198 P **P 22 42 47.6 0.0**
CTAO pmax pmax
comp=Z,94nm,1.2s
CTI Castel Tesino 76.64 341 P **P 22 42 47.2 -0.6**
CTI Castel Tesino 76.64 341 P **P 22 42 47.2 -0.6**
CTI pmax pmax
comp=Z,27nm,1.0s
BR131 Keskin Array S 76.71 323 P **P 22 42 48.1 -0.2**
BR131 PcP **sP 22 42 58.9 0.0**
BR131 Keskin Array S 76.71 323 P **P 22 42 48.1 -0.3**
BR131 22 42 58.9
BRTR Keskin Array B 76.71 323 P **P 22 42 48.2 -0.2**
comp=Z,11nm,0.8s,baz=56,slow=4.2,SNR=54
BRTR LR LR 23 21 38.8
comp=Z,468nm,18.6s,baz=46,slow=40
comp=Z,11nm,0.8s
BRTR Keskin Array B 76.71 323 PcP **PcP 22 42 59.5 -0.2**
BNN Bunyan 76.72 321 pP 22 42 58.8 +2.7
PWJI Pagerwojo 76.81 234 P **P 22 42 47.6 -1.3**
ANTO Ankara 76.87 324 ⇓P **P 22 42 49.9 +0.7**
ANTO Ankara 76.87 324 P **P 22 42 49.5 +0.3**
ANTO PcP **PcP 22 43 00.5 +0.3**
ANTO IAmb IAmb 22 43 02.2
comp=Z,32nm,0.9s
ANTO Ankara 76.87 324 P **P 22 42 49.5 +0.3**
ANTO 22 43 00.5
KNRA Kununurra 76.89 216 P **P 22 42 49.4 +0.1**
DZM Mont Dzumac 76.93 178 *e*P **P 22 42 49.8 +0.3**
comp=Z,142nm,1.4s
DZM Mont Dzumac 76.93 178 P **P 22 42 50.4 +0.9**
comp=Z,29nm,1.0s,baz=14,slow=8.9,SNR=11
DZM LR LR 23 18 41.7
comp=Z,418nm,18.0s,baz=38,slow=37
comp=Z,29nm,1.0s
DZM Mont Dzumac 76.93 178 P **P 22 42 50.4 +0.9**
DZM IAmb IAmb 22 42 52.3
comp=Z,70nm,1.2s
DZM Mont Dzumac 76.93 178 P **P 22 42 51.6 +2.1**
SENIN Lac Senin/Sane 77.08 344 P **P 22 42 50.7 +0.3**
SENIN IAmb IAmb 22 42 56.0
comp=Z,74nm,1.2s
ONTNC Ouen Toro 77.17 178 IAmb IAmb 22 42 53.5
comp=Z,104nm,1.4s
ONTNC Ouen Toro 77.17 178 P **P 22 42 52.6 +1.9**
VTS Vitosha 77.26 332 ⇑P **P 22 42 51.5 0.0**
OUENC Ouen Island, N 77.28 178 P **P 22 42 52.4 +1.0**
OUENC IAmb IAmb 22 42 54.2
comp=Z,52nm,1.2s
OUENC Ouen Island, N 77.28 178 P **P 22 42 53.4 +2.1**
UGM Wanagama 77.31 236 P **P 22 42 50.5 -1.3**
comp=Z,190nm,1.7s
UGM Wanagama 77.31 236 P **P 22 42 50.8 -1.0**
MASI Maura Aman, Be 77.34 245 P **P 22 42 52.0 0.0**
comp=Z,51nm,1.5s
SISI Saibi 77.48 249 P **P 22 42 52.7 0.0**
comp=Z,108nm,1.4s
BORA Eskisehir 77.63 326 P **P 22 42 53.7 +0.3**
GAZ Gaziantep 77.71 320 IAmb IAmb 22 43 07.7
comp=Z,51nm,1.1s
PRMA PARMA 78.13 342 P **P 22 42 56.7 +0.7**
PRMA IAmb IAmb 22 43 09.3
comp=Z,91nm,1.2s
SKO Skopje 78.34 333 *i* P **P 22 42 58.0 +0.8**
STIP Stip 78.40 332 *i* P **P 22 42 56.8 -0.8**
ZCCA Zocca 78.41 341 P **P 22 42 58.1 +0.4**
ZCCA IAmb IAmb 22 43 11.9
comp=Z,63nm,0.8s
QIS Mount Isa 78.43 204 P **P 22 42 57.4 -0.4**
PDG Podgorica 78.46 335 ⇓P **P 22 42 57.6 -0.2**
TAOE Nuku Hiva Isla 78.47 124 *e*LR LR 23 07 26.6
comp=Z,605nm,27.9s
BANOM Banah 78.94 300 P **P 22 43 00.5 -0.3**
BANOM Banah 78.94 300 P **P 22 43 00.4 -0.5**
WR0 Warramunga Arr 79.15 209 IAmb IAmb 22 43 02.8
comp=Z,80nm,1.1s
OSSC Osservatorio P 79.16 341 P **P 22 43 01.8 0.0**
OSSC IAmb IAmb 22 43 14.2
comp=Z,42nm,1.0s
MURB Monte Urbino 79.16 340 P **P 22 43 01.9 +0.1**
WRAB Tennant Creek 79.18 209 P **P 22 43 01.9 0.0**
WRAB Tennant Creek 79.18 209 P **P 22 43 01.9 0.0**
WRAB pmax pmax
comp=Z,118nm,1.0s
WRA Warramunga Arr 79.19 209 P **P 22 43 01.5 -0.5**
comp=Z,64nm,0.9s,baz=22,slow=5.9,SNR=145
comp=Z,64nm,0.9s
WRA Warramunga Arr 79.19 209 P **P 22 43 01.6 -0.4**
WRA Warramunga Arr 79.19 209 *i* P **P 22 43 01.2 -0.8**
WRA pmax pmax
comp=Z,65nm,0.9s
FDMO Fiordimonte 79.26 339 IAmb IAmb 22 43 21.2
comp=Z,79nm,1.2s
OHR Ohrid 79.31 333 *i* P **P 22 43 03.0 +0.3**
FNA Florina 79.47 333 P **P 22 43 03.7 +0.2**
FNA Florina 79.47 333 P **P 22 43 03.7 +0.2**
FNA pmax pmax
comp=Z,10.0nm,1.3s
DWPF Disney Wildern 79.64 55 P **P 22 43 04.2 -0.4**
baz=328
CAMP Campotosto 79.68 339 P **P 22 43 05.6 +0.9**
CAMP IAmb IAmb 22 43 18.5
comp=Z,44nm,0.9s
KBN Korca 79.77 333 P **P 22 43 05.7 +0.5**
KBN Korca 79.77 333 P **P 22 43 05.7 +0.5**
KBN pmax pmax
comp=Z,9.0nm,0.8s
CESX Cesi 79.78 340 P **P 22 43 05.6 +0.5**
UOSS Minazif 79.80 299 P **P 22 43 03.3 -2.2**
UOSS Minazif 79.80 299 P **P 22 43 04.5 -1.0**
LATE Laterza 79.93 340 P **P 22 43 05.2 -0.7**
LATE IAmb IAmb 22 43 21.3
comp=Z,74nm,1.1s
HATD Hatta, Dubai 79.94 299 P **P 22 43 04.7 -1.5**
HATD Hatta, Dubai 79.94 299 *i* P **P 22 43 06.0 -0.3**
SNR=6.4
WSAR Wadi Sarin 79.98 296 LR LR 23 21 45.6
comp=Z,784nm,19.9s,baz=60,slow=38
NAZ Nazwa, Dubai 80.04 300 P **P 22 43 05.9 -0.8**
INTR Introdacqua 80.08 338 P **P 22 43 06.6 -0.2**
ASHO Ashiyiah 80.09 299 P **P 22 43 06.4 -0.8**
KOD Kodaikanal 80.18 274 *e*P **P 22 43 07.5 -0.5**
FAQ Al Faqa, Dubai 80.27 299 P **P 22 43 06.8 -1.2**
FAQ Al Faqa, Dubai 80.27 299 P **P 22 43 07.0 -1.0**
SMDO Samad 80.43 297 P **P 22 43 08.6 -0.4**
PCHI Peechi 80.58 275⇓*e*P **P 22 43 09.2 -0.7**
PALK Pallekele 80.72 269 LR LR 23 23 44.3
comp=Z,263nm,18.5s,baz=130,slow=39
PALK Pallekele 80.72 269 P **P 22 43 10.2 -0.4**
ALNE Al Ain 80.77 299 P **P 22 43 10.0 -0.7**
ALNE Al Ain 80.77 299 *i* P **P 22 43 10.0 -0.7**
SNR=6.8
KEK Kerkira 80.88 333 P **P 22 43 10.9 -0.2**
JMDO Jabal Madar 80.97 296 P **P 22 43 11.5 -0.4**
SNR=6.8
ARQ Araqi 80.98 298 P **P 22 43 11.2 -0.7**
SNR=5.6
060A Indiantown 81.05 55 P **P 22 43 12.2 +0.1**
EIDS Eidsvold 81.07 193 P **P 22 43 12.5 +0.6**
EIDS Eidsvold 81.07 193 P **P 22 43 12.7 +0.7**
CSS Mathiatis 81.09 321 P **P 22 43 12.5 +0.1**
CSS **sP 22 43 22.8 -0.1**
ARG Arkhangelos 81.72 326 P **P 22 43 15.0 -0.6**
ARG pP **pwP 22 43 27.6 -2.7**
ARG IAmb IAmb 22 43 27.9
comp=Z,64nm,1.1s
ARG Arkhangelos 81.72 326 P **P 22 43 15.0 -0.6**
ARG *PP **pwP 22 43 27.6 -2.7**
RAR Rarotonga 81.84 147 LR LR 23 09 30.4
comp=Z,159nm,21.9s,baz=338,slow=28
CMIG Matias Romero 81.88 72 LR LR 23 19 48.7
comp=Z,120nm,18.4s,baz=326,slow=36
MMAI Mount Meron Ar 82.08 319 LR LR 23 25 08.6
comp=Z,638nm,18.2s,baz=262,slow=40
PPT Papeete 82.10 137 LR LR 23 16 27.2
comp=Z,236nm,18.3s,baz=348,slow=33
PPT2 Papeete2 82.12 137 *e*LR LR 23 09 07.7
comp=Z,533nm,24.5s
PPT2 *e*LR LR 23 09 08.6
comp=Z,704nm,24.0s
PPTF Pamatai, Papee 82.13 137 P **P 22 43 18.5 +0.6**
TIP Timpagrande 82.14 335 P **P 22 43 17.9 0.0**
MHTO MHTO 82.18 295 P **P 22 43 17.9 -0.3**
SNR=12
ASF Jabal al Asfar 82.25 318 LR LR 23 25 59.3
comp=Z,590nm,18.6s,baz=37,slow=40
SANT Santorini 82.41 328 IAMs_20 IAMs_20 23 17 55.5
comp=Z,384nm,20.0s
RMQ Roma 82.48 194 P **P 22 43 20.2 +0.8**
SMRA Abu-Samra 82.61 303 P **P 22 43 19.2 -1.2**
KARP Karpathos 82.64 326 IAmb IAmb 22 43 31.6
comp=Z,37nm,0.9s
ITM Ithomi 82.69 331 P **P 22 43 20.0 -0.7**
MZR Muzera 82.78 300 P **P 22 43 20.5 -0.8**
MZR Muzera 82.78 300 *i* P **P 22 43 21.2 -0.1**
SNR=7.7
AS01 Alice Springs 82.84 208 P **P 22 43 22.2 +0.8**
ASAR Alice Springs 82.85 208 P **P 22 43 21.9 +0.5**
comp=Z,73nm,0.9s,baz=15,slow=4.9,SNR=343
ASAR LR LR 23 21 10.3
comp=Z,154nm,18.8s,baz=4.5,slow=36
comp=Z,73nm,0.9s
ASAR Alice Springs 82.85 208 P **P 22 43 22.0 +0.5**
BBSR BB Station 83.04 40 P **P 22 43 21.9 -0.6**
BBSR IAmb IAmb 22 43 26.6
comp=Z,55nm,1.1s
PBRG Braganca 83.14 354 *e*PcP **PcP 22 43 33.7 +6.2**
QLP Quilpie 83.31 198 P **P 22 43 24.2 +0.5**
IDI Anoyia 83.59 328 LR LR 23 24 50.1
comp=Z,330nm,18.4s,baz=26,slow=39
PVRL Vila Real 83.72 354 *e*P **P 22 43 27.1 +1.1**
comp=Z,90nm,2.0s
PVRL *ep*P **sP 22 43 37.0 +0.3**
MVO Moncorvo 83.79 354 *e*LR LR 22 54 16.6
comp=Z,587nm,22.0s
CCIG Comitan 84.03 70 P **P 22 43 28.5 +0.5**
CCIG IAmb IAmb 22 43 42.3
comp=Z,70nm,1.5s
PVIS Viseu 84.29 354 *e*P **P 22 43 26.9 -2.0**
comp=Z,143nm,1.7s
PVIS Viseu 84.29 354 *e*PcP **PcP 22 43 33.3 +0.7**
PVIS *ep*P **sP 22 43 39.8 +0.2**
VAE Valguarnera 84.31 337 LR LR 23 26 34.1
comp=Z,340nm,19.2s,baz=356,slow=40
MTE Manteigas 84.59 354 *e*P **P 22 43 30.8 +0.4**
comp=Z,105nm,2.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MTE	Manteigas	84.59	354	ePcP	PcP	22 43 34.3	+0.4
MTE				epP	sP	22 43 41.7	+0.6
MTE	Manteigas	84.59	354	eLR	LR	23 00 27.8	
	comp=Z,819nm,18.0s						
PCAS	Casmilo, Conde	84.98	355	eP	P	22 43 32.8	+0.5
	comp=Z,164nm,2.0s						
PCAS	Casmilo, Conde	84.98	355	ePcP	PcP	22 43 36.3	+0.7
PCAS				epP	sP	22 43 43.6	+0.6
ESBB	Sonseca Array	85.05	351	P	P	22 43 32.4	-0.3
ESBB				IAmb	IAmb	22 43 37.5	
	comp=Z,21nm,0.9s						
ESDC	Sonseca Array	85.05	351	P	P	22 43 32.8	0.0
	comp=Z,12nm,0.8s,baz=358,slow=5.2,SNR=52						
	comp=Z,12nm,0.8s						
INKA	Innaminka	85.12	201	P	P	22 43 33.8	+1.0
PCBR	Castelo Branco	85.14	354	eP	P	22 43 33.2	+0.1
	comp=Z,58nm,1.7s						
PCBR	Castelo Branco	85.14	354	ePcP	PcP	22 43 36.4	+0.1
PCBR				epP	sP	22 43 44.1	+0.3
MBWA	Marble Bar	85.17	222	P	P	22 43 32.9	-0.4
MBWA	Marble Bar	85.17	222	P	P	22 43 33.0	-0.3
MBWA	Marble Bar	85.17	222	P	P	22 43 33.1	-0.2
PAB	San Pablo	85.21	352	P	P	22 43 33.7	+0.1
PAB				IAmb	IAmb	22 43 54.4	
	comp=Z,25nm,1.1s						
PAB	San Pablo	85.21	352	P	P	22 43 33.7	+0.1
PAB				pmax	pmax		
	comp=Z,25nm,1.1s						
EIL	Elat	85.23	318	LR	LR	23 25 46.7	
	comp=Z,555nm,20.1s,baz=34,slow=39						
RAO	Raoul Island	85.37	165	LR	LR	23 17 10.6	
	comp=Z,326nm,19.1s,baz=322,slow=32						
PSA00	Pilbara Seismi	85.50	221	P	P	22 43 34.5	-0.4
PSA00	Pilbara Seismi	85.50	221	P	P	22 43 34.5	-0.4
PSA00	Pilbara Seismi	85.50	221	P	P	22 43 34.7	-0.2
PMRV	Marv??o	85.54	354	eP	P	22 43 36.3	+1.1
	comp=Z,47nm,2.1s						
PMRV	Marv??o	85.54	354	ePcP	PcP	22 43 40.4	+2.3
PMRV				epP	sP	22 43 45.7	-0.2
PMRV	Marv??o	85.54	354	eLR	LR	23 00 13.5	
	comp=Z,605nm,18.0s						
WRKA	Warakurna	85.78	213	P	P	22 43 36.3	0.0
PMTG	Montargil	85.95	355	eP	P	22 43 37.3	+0.2
	comp=Z,73nm,1.6s						
PMTG	Montargil	85.95	355	ePcP	PcP	22 43 40.8	+0.9
PMTG				epP	sP	22 43 47.7	-0.1
ARMA	Armidale	85.98	191	P	P	22 43 38.3	+1.1
ARMA				IAmb	IAmb	22 43 38.9	
	comp=Z,30nm,1.1s						
ARMA	Armidale	85.98	191	P	P	22 43 38.9	+1.6
PESTR	Estremoz	86.11	354	eP	P	22 43 38.3	+0.3
	comp=Z,34nm,1.3s						
PESTR	Estremoz	86.11	354	ePcP	PcP	22 43 41.9	+1.3
PESTR				epP	sP	22 43 48.9	+0.2
RAYN	Ar Rayn	86.16	307	P	P	22 43 37.7	-0.8
RAYN				IAmb	IAmb	22 43 49.6	
	comp=Z,38nm,0.9s						
RAYN	Ar Rayn	86.16	307	P	P	22 43 38.0	-0.5
RAYN	Ar Rayn	86.16	307	i P	P	22 43 37.8	-0.8
	SNR=32						
RAYN	Ar Rayn	86.16	307	P	P	22 43 37.7	-0.8
RAYN				pmax	pmax		
	comp=Z,38nm,0.9s						
RAYN				MLR	MLR		
	comp=Z,1µm,19.0s						
OOD	Oodnadatta	86.32	206	P	P	22 43 39.0	+0.2
EVO	Evora	86.47	354	eP	P	22 43 40.2	+0.5
	comp=Z,49nm,2.2s						
EVO	Evora	86.47	354	ePcP	PcP	22 43 43.6	+1.4
EVO				epP	sP	22 43 50.8	+0.4
AUPHS	Peel High Scho	86.75	192	P	P	22 43 41.9	+1.0
PBAR	Barrancos	86.77	354	eP	P	22 43 40.7	-0.5
	comp=Z,36nm,1.7s						
PBAR	Barrancos	86.77	354	ePcP	PcP	22 43 45.8	+2.3
PBAR				epP	sP	22 43 52.3	+0.4
PNCL	Nicolau / Gran	86.92	355	eP	P	22 43 41.5	-0.4
	comp=Z,45nm,1.7s						
KEST	Kesra	87.06	340	LR	LR	23 25 21.7	
	comp=Z,178nm,21.5s,baz=334,slow=38						
PCVE	Castro Verde	87.37	354	eP	P	22 43 43.8	-0.3
	comp=Z,27nm,1.6s						
PCVE	Castro Verde	87.37	354	ePcP	PcP	22 43 49.0	+2.8
PCVE				epP	sP	22 43 54.9	+0.1
TBI	Tubuai	87.39	139	eLR	LR	23 11 34.2	
	comp=Z,6µm,27.5s						
TBI				eLR	LR	23 11 34.2	
	comp=Z,2µm,28.5s						
PVAQ	Vaqueiros	87.58	354	eLR	LR	23 00 26.0	
	comp=Z,413nm,16.0s						
CMSA	Cobar Meteorol	87.90	196	P	P	22 43 47.6	+1.2
AUDCS	Dubbo College	88.15	194	P	P	22 43 49.0	+1.4
LCRK	Leigh Creek	88.28	203	P	P	22 43 48.9	+0.7
STKA	Stephens Creek	88.96	200	P	P	22 43 51.5	+0.1
	comp=Z,13nm,0.8s,baz=350,slow=7.1,SNR=19						
STKA				LR	LR	23 28 06.9	
	comp=Z,183nm,18.2s,baz=6.7,slow=39						
	comp=Z,13nm,0.8s						
STKA	Stephens Creek	88.96	200	P	P	22 43 51.6	+0.2
STKA	Stephens Creek	88.96	200	P	P	22 43 51.9	+0.5
MULG	Mulgathing	89.11	206	P	P	22 43 52.9	+0.8
OUZ	Omahuta	90.33	173	P	P	22 43 58.7	+1.0
MEEK	Meekatharra	90.56	220	P	P	22 43 58.2	-0.9
HTT	Hallett	91.00	201	P	P	22 44 01.6	+0.6
BBOO	Buckleboo	91.04	204	IAmb	IAmb	22 44 02.2	
	comp=Z,42nm,1.3s						
BBOO	Buckleboo	91.04	204	P	P	22 44 01.2	+0.1
FORT	Forrest	91.23	211	P	P	22 44 02.1	+0.1
JTS	Las Juntas de	92.85	68	LR	LR	23 27 59.9	
	comp=Z,279nm,20.2s,baz=30,slow=37						
KMBL	Kambalda	93.72	216	P	P	22 44 13.4	-0.2
MORW	Morawa	93.72	221	P	P	22 44 12.6	-1.0
MORW				IAmb	IAmb	22 44 13.7	
	comp=Z,27nm,1.0s						
MORW	Morawa	93.72	221	P	P	22 44 13.3	-0.3
KLBR	Kellerberrin	95.36	219	P	P	22 44 20.7	-0.4
BCIP	Isla Barro Col	96.47	64	IAMs_20	IAMs_20	23 35 02.1	
	comp=Z,446nm,19.0s						
TDBA	Terre de Bas,	99.10	45	IAMs_20	IAMs_20	23 34 21.5	
	comp=Z,566nm,21.0s						
KMBO	Kilima Mbogo	111.46	302	IAMs_20	IAMs_20	23 41 32.0	
	comp=Z,404nm,20.0s						
MBAR	Mbarara	114.07	308	IAMs_20	IAMs_20	23 40 47.7	
	comp=Z,357nm,20.0s						
DBIC	Dimbokro	117.80	348	PKP	PKPdf	22 49 42.0	-1.6
	comp=Z,3.9nm,0.8s,baz=0.0,slow=5.1,SNR=4.3						
LPAZ	La Paz	124.07	68	PKP	PKPdf	22 49 54.6	-1.7
	comp=Z,1.6nm,0.8s,baz=2.5,slow=7.0,SNR=5.9						
VILB	Vilhena	125.29	58	PKPdf	PKPdf	22 49 58.1	+0.1
PTLB	Pontes e Lacer	127.95	58	PKPdf	PKPdf	22 50 02.7	-0.2
VNDA	Vanda	132.43	181	PKP	PKPdf	22 50 08.7	-1.0
	comp=Z,3.1nm,0.8s,baz=315,slow=4.4,SNR=20						
VNDA	Vanda	132.43	181	PKPdf	PKPdf	22 50 10.0	+0.4
SBA	Scott Base	132.76	179	PKPdf	PKPdf	22 50 10.8	+0.6
SBA	Scott Base	132.76	179	PKIKP	PKPdf	22 50 10.8	+0.6
BDFB	Brasilia	133.15	46	PKP	PKPdf	22 50 12.7	-0.3
	comp=Z,3.6nm,0.8s,baz=22,slow=5.5,SNR=4.7						
BDFB	Brasilia	133.15	46	PKPdf	PKPdf	22 50 13.2	+0.3
BDFB				pPKPdf	sPKPdf	22 50 24.7	+0.7
CO01	Juntas del Tor	133.89	80		PKPdf	22 50 15.2	+1.1
VA03	San Esteban	135.70	83		PKPdf	22 50 18.2	+0.9
BO02	Sierra Bellavi	137.05	85		PKPdf	22 50 19.6	-0.1
BO02				pPKPdf	sPKPdf	22 50 32.1	+1.6
CPUP	Villa Florida	137.99	64	PKP	PKPdf	22 50 21.4	-0.2
	comp=Z,2.4nm,0.8s,baz=16,slow=5.0,SNR=5.2						
BOSA	Boshof	140.74	296	PKhKP	PKPpre	22 50 21.6	
	comp=Z,4.0nm,0.9s,baz=352,slow=7.1,SNR=3.8						
BOSA				PKP	PKPdf	22 50 27.7	+1.0
	comp=Z,5.3nm,0.9s,baz=34,slow=3.7,SNR=7.1						
LL02	Futaleuf	142.10	96	PKPdf	PKPdf	22 50 28.7	+0.3
MAW	Mawson	143.32	219	PKP	PKPbc	22 50 27.8	+0.8
	comp=Z,19nm,0.9s,baz=51,slow=4.4,SNR=19						
TRQA	Tornquist	144.37	81	PKPdf	PKPab	22 50 30.4	-0.4
TRQA				pPKPdf	sPKPdf	22 50 41.7	-1.8
SUR	Sutherland	146.04	297		PKPdf	22 50 36.6	+0.7
SUR				pPKPdf	sPKPab	22 50 48.3	0.0
SUR	Sutherland	146.04	297	P	PKPbc	22 50 37.9	+1.0
GO09	Cerro Castillo	146.37	108		PKPdf	22 50 36.7	+1.1
MG05	Puerto Natales	146.48	108	PKPdf	PKPdf	22 50 36.3	+0.6
MG05				pPKPdf	sPKPab	22 50 47.5	-1.6
NVL	N'lazarevskaya	160.41	207	ePKP2	PKPab	22 51 34.2	-2.1
NVL				pmax	pmax		
	comp=Z,43nm,1.3s						
TROLL	Troll, Antarti	161.50	197	PKPab	PKPab	22 51 40.4	-0.9
TROLL	Troll, Antarti	161.50	197	PKPdf	PKPdf	22 50 55.6	-0.8
TROLL	Troll, Antarti	161.50	197	PP	PP	22 55 25.6	+0.3
VNA3	Neumayer Olymp	163.68	186	PKPdf	PKPdf	22 50 57.3	-1.1
VNA3	Neumayer Olymp	163.68	186	PKiKP	PKPab	22 51 49.2	-1.5
VNA2	Neumayer--Watz	163.81	189	PKPab	PKPab	22 51 50.2	-1.1
	baz=172,slow=3.7						
VNA2	Neumayer--Watz	163.81	189	PKPdf	PKPdf	22 50 57.9	-0.6
VNA1	Neumayer--Stat	164.16	188	PKPab	PKPab	22 51 51.2	-1.5
VNA1	Neumayer--Stat	164.16	188	PKPdf	PKPdf	22 50 59.6	+0.8

IDC 24 22:32:08.8±3.5, 14°.59S×166°.47E, h0km, mb3.9/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=70.5km s-min=34.2km az=79.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.44	180	Pn	Pn	22 33 57.3	-1.4
	1.2nm,0.3s,baz=44,slow=18,SNR=14						
DZM				Sn	Sn	22 35 26.1	+2.2
	0.2nm,0.3s,baz=343,slow=22,SNR=1.9						
	3.1nm,0.3s						
STKA	Stephens Creek	28.50	229	P	P	22 38 06.9	+1.0
	2.0nm,0.8s,baz=52,slow=10,SNR=3.1						
	2.0nm,0.8s						
WRA	Warramunga Arr	31.11	256	P	P	22 38 28.8	-0.5
	0.3nm,0.9s,baz=85,slow=9.1,SNR=1.3						
	0.3nm,0.9s						
ASAR	Alice Springs	32.00	249	P	P	22 38 36.8	-0.3
	0.4nm,0.5s,baz=74,slow=9.3,SNR=5.1						
	0.4nm,0.5s						
MKAR	Makanchi Array	96.57	317	P	P	22 45 40.7	+0.1
	1.1nm,1.0s,baz=89,slow=4.9,SNR=1.6						
	1.1nm,1.0s						

JMA 24 22:35:49.4±0.1, 35°.4N±0°.5×133°.9E±0°.3, h4km±1km, MV0.4/10, EASTERN TOTTORI PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKR	Kurayoshi	0.05	283	i P	Pg	22 35 50.6	0.0
JAD	Aida	0.49	151	eS	Sg	22 36 05.2	+0.1

TAP 24 22:44:14.9, 24°.07N×122°.68E, h44km, ML3.5, D
JMA 24 22:44:15.6±0.2, 24°N±3°×122°.6E±0°.9, h46km±3km, MV2.7/8, NW OFF ISHIGAKIJIMA IS
ISC 24 22:44:13.8±1.1, 23°.98N±0°.02×122°.62E±0°.02, h11km±9km, n94, σ1.53/147, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.55	32	P	Pg	22 44 25.2	+0.6
JYNG				S	Sg	22 44 32.1	+0.2
YOJ	Yonaguni jima	0.60	36	P	Pg	22 44 26.1	+0.7
	baz=36						
YOJ				S	Sg	22 44 33.9	+0.6
	baz=36						
YOJ	Yonaguni jima	0.60	36	P	Pg	22 44 25.9	+0.5
YOJ				S	Sg	22 44 33.4	+0.1
ENA	Nanau	0.92	299	i P	Pg	22 44 31.9	+0.3
	baz=293						
ENA				i S	Sg	22 44 44.6	+1.0
	baz=293						
ETL	Fush Village	0.93	281	P	Pg	22 44 32.2	+0.4
	baz=263						
ETL				S	Sg	22 44 46.5	+2.6
	baz=263						
TEYL	Yanliau Villag	0.94	263	P	Pg	22 44 33.1	+1.1
	baz=250						
TEYL				S	Sg	22 44 46.7	+2.3
	baz=250						
TWC	Suao	0.94	312	⇓ iP	Pg	22 44 31.8	-0.3
	baz=306						
TWC				i S	Sg	22 44 44.0	-0.4
	baz=306						
TWD	Chiawan	0.94	276	i P	Pg	22 44 32.3	+0.3
	baz=270						
TWD				i S	Sg	22 44 45.2	+0.9
	baz=270						
NDS	Dongshan	1.05	308	P	Pg	22 44 33.3	-0.8
	baz=303						
NDS				S	Sg	22 44 48.2	+0.4
	baz=303						
EGS		1.07	324	P	Pg	22 44 34.1	-0.3
	baz=327						
ETLH	Xiulin Townshi	1.07	282	P	Pg	22 44 34.2	-0.2
	baz=277						
ETLH				S	Sg	22 44 49.7	+1.3
	baz=277						
IRIF	Iriomote-Funau	1.07	70	P	Pg	22 44 34.7	+0.3
IRIF				S	Sg	22 44 48.3	0.0
HATJ	Hateruma jima	1.08	86	P	Pg	22 44 35.2	+0.5
HATJ				eS	Sg	22 44 49.8	+1.1
ILA	Ilan	1.12	315	P	Pg	22 44 35.2	-0.1
	baz=310						
ILA				S	Sg	22 44 50.4	+0.5
	baz=310						
EGFH	Guangfu	1.14	254	S	Sg	22 44 51.3	+0.8
	baz=250						
TWE	Neicheng	1.14	310	i P	Pg	22 44 35.4	-0.4
	baz=306						
TWE				i S	Sg	22 44 51.8	+1.1
	baz=306						
LATG	Datong	1.14	299	P	Pg	22 44 35.4	-0.5
	baz=282						
LATG				eS	Sg	22 44 51.1	+0.3
	baz=282						
ENTT	Nioudou	1.17	304	i P	Pg	22 44 34.9	-1.4
	baz=300						
ENTT				S	Sg	22 44 50.1	-1.4
	baz=300						
TWB1	Santiao Chiao	1.18	331	i P	Pg	22 44 34.7	-1.8
	baz=327						
TWB1				i S	Sg	22 44 50.2	-1.6
	baz=327						
HGSD	Ruisui	1.20	246	P	Pg	22 44 36.3	-0.6
	baz=243						
HGSD				S	Sg	22 44 52.0	-0.6
	baz=243						
NNSB	Datong	1.22	292	P	Pg	22 44 35.0	-2.3
	baz=287						
NNSB				S	Sg	22 44 51.9	-1.2
	baz=287						
FUSB	Fushanzhiwuyua	1.22	310	P	Pg	22 44 36.4	-0.9
	baz=305						
FUSB				S	Sg	22 44 53.7	+0.4
	baz=305						
TIPB	Shuangxi	1.23	324	i P	Pg	22 44 35.7	-1.8
	baz=330						
TIPB				S	Sg	22 44 52.1	-1.3
	baz=330						
NNS	Nan Shan	1.23	292	i P	Pg	22 44 35.8	-1.7
	baz=287						
NNS				i S	Sg	22 44 51.7	-1.9
	baz=287						
WHF	Hehuan Shan	1.25	278	P	Pg	22 44 37.2	-0.7
	baz=273						
WHF				S	Sg	22 44 53.9	-0.4
	baz=273						
EHY	Hungye	1.28	249	P	Pg	22 44 37.5	-0.9
	baz=245						
EHY				i S	Sg	22 44 53.5	-1.6
	baz=245						
FUSS	Fushou	1.29	282	P	Pg	22 44 37.0	-1.6
	baz=278						
FUSS				eS	Sg	22 44 54.7	-0.8
	baz=278						
JKRS	Kuro-shima	1.29	78	P	Pg	22 44 38.3	-0.3
JKRS				eS	Sg	22 44 55.6	+0.2
NWLT	Wulai	1.29	308	i P	Pg	22 44 36.8	-1.9
	baz=314						
NWLT				S	Sg	22 44 55.0	-0.6
	baz=314						
SXI1	Grass Mountain	1.30	329	P	Pg	22 44 36.8	-2.1
	baz=335						
SXI1				S	Sg	22 44 53.1	-2.7
	baz=335						
CHGB	Renai	1.33	274	P	Pg	22 44 38.3	-1.0
	baz=269						
CHGB				S	Sg	22 44 55.3	-1.3
	baz=269						
YHNB	Yeheng	1.33	301	P	Pg	22 44 38.3	-1.1
	baz=297						
YHNB				eS	Sg	22 44 55.5	-1.1
	baz=297						
NWF	Wu-fen Shan	1.33	325	i P	Pg	22 44 37.2	-2.2
	baz=321						
NWF				i S	Sg	22 44 55.3	-1.4
	baz=321						
NSK	Sanguang	1.35	301	i P	Pg	22 44 37.3	-2.4
	baz=297						
NSK				S	Sg	22 44 55.2	-2.0
	baz=297						
YULB	Yu-li	1.35	245	P	Pg	22 44 38.8	-1.0
	baz=233						
YULB				S	Sg	22 44 55.1	-2.2
	baz=233						
TWT	Tachien	1.35	282	P	Pg	22 44 39.2	-0.6
	baz=266						
TWT				S	Sg	22 44 55.9	-1.5
	baz=266						
EYUL	Yuli	1.35	243	eP	Pg	22 44 38.8	-1.0
	baz=239						
EYUL				eS	Sg	22 44 56.1	-1.3
	baz=239						
TDCB	Techi	1.37	282	eP	Pg	22 44 38.7	-1.4
	baz=266						
TDCB				eS	Sg	22 44 56.4	-1.4
	baz=266						
TWA	Mucha	1.38	317	i P	Pg	22 44 39.0	-1.2
	baz=313						
TWA				i S	Sg	22 44 54.7	-3.5
	baz=313						
VWDT	VWDT	1.38	261	P	Pn	22 44 39.4	+0.5
	baz=257						
VWDT				S	Sg	22 44 57.1	-1.0
	baz=257						
WUSB	Renai	1.38	271	P	Pg	22 44 39.3	-1.0
	baz=267						
WUSB				S	Sg	22 44 57.4	-0.8
	baz=267						
NHDH	Xindian Distri	1.40	315	eP	Pn	22 44 39.3	+0.1
	baz=324						
NHDH				eS	Sg	22 44 57.3	-1.6
	baz=324						
JIJ	Ishigaki jima	1.44	74	P	Pn	22 44 39.4	-0.4
JIJ				S	Sg	22 44 57.2	-2.9
FULB	Fuli	1.45	238	eP	Pn	22 44 39.3	-0.6
	baz=225						
FULB				eS	Sg	22 44 58.1	-2.3
	baz=225						
CHKT	Chengkung	1.45	233	eP	Pn	22 44 40.9	+1.0
	baz=221						
CHKT				S	Sg	22 44 56.9	-3.6
	baz=221						
YM01	YM01	1.51	321	P	Pn	22 44 39.7	-1.1
	baz=316						
NFF	Wufeng Townshi	1.52	296	P	Pn	22 44 40.3	-0.6
	baz=292						
NFF				eS	Sg	22 44 59.9	-2.9
	baz=292						
SSLB	Suanglung	1.54	263	P	Pn	22 44 41.3	+0.1
	baz=259						
SSLB				S	Sn	22 45 01.9	+0.7
	baz=259						
WHP	Taichung City	1.56	281	eP	Pn	22 44 43.4	+1.9
	baz=268						
ANP	Anpu	1.57	320	eP	Pn	22 44 40.0	-1.6
	baz=316						
WCS	Beigang Elemen	1.57	273	eP	Pn	22 44 42.3	+0.8
	baz=269						
WCS				eS	Sn	22 44 59.4	-2.4
	baz=269						
EDH	Donghe	1.57	231	eP	Pn	22 44 40.3	-1.3
	baz=222						
EDH				S	Sn	22 44 59.9	-2.1
	baz=222						
SMLT	Sun Moon Lake	1.58	267	P	Pn	22 44 42.3	+0.5
	baz=263						
SMLT				eS	Sn	22 45 02.5	+0.2
	baz=263						
YUS	Yu-Shan	1.61	253	P	Pn	22 44 43.3	+0.8
	baz=249						
YUS				S	Sn	22 45 02.9	-0.6
	baz=249						
LIOB	Emei	1.61	295	P	Pn	22 44 43.0	+0.8
	baz=291						
LIOB				eS	Sn	22 45 04.0	+1.1
	baz=291						
NSTT	Nanjuang	1.62	294	P	Pn	22 44 43.0	+0.8
	baz=290						
NSTT				eS	Sn	22 45 02.3	-0.7
	baz=290						
TYC	Yuchr	1.62	268	P	Pn	22 44 42.7	+0.4
	baz=264						
WHYT	Xinyi Township	1.65	260	eP	Pn	22 44 43.7	+1.0
	baz=247						
WHYT				eS	Sn	22 45 04.1	+0.3
	baz=247						
JISG	Ishigakijimahi	1.65	68	P	Pn	22 44 42.0	-0.7
JISG				eS	Sn	22 45 01.4	-2.5
ELDTW	Lidau	1.67	242	P	Pn	22 44 42.4	-0.6
	baz=239						
ELDTW				S	Sn	22 45 03.2	-1.3
	baz=239						
ALS	Alishan	1.73	255	P	Pn	22 44 45.3	+1.3
	baz=251						
ALS				eS	Sn	22 45 07.1	+0.8
	baz=251						
LONT	Longtian	1.74	232	eS	Sn	22 45 05.8	-0.3
	baz=224						
WJS	Zhushan	1.74	265	eP	Pn	22 44 45.9	+1.9
	baz=262						
WJS				eS	Sn	22 45 09.3	+3.2
	baz=262						
NSY	Sanyi	1.76	285	eP	Pn	22 44 46.0	+1.8
	baz=281						
NSY				eS	Sn	22 45 07.7	+1.1
	baz=281						
WNT	Mingjian	1.78	267	P	Pn	22 44 46.5	+2.1
	baz=264						
WNT				eS	Sn	22 45 07.1	+0.1
	baz=264						
CHN5	Tsauling	1.82	258	eP	Pn	22 44 47.1	+2.0
	baz=247						
CHN5				eS	Sn	22 45 10.6	+2.3
	baz=247						
TWGBT	Beinan	1.83	231	P	Pn	22 44 45.8	+0.6
	baz=221						
TWGBT				eS	Sn	22 45 07.4	-0.9
	baz=221						
TWG	Pinlang	1.83	231	eP	Pn	22 44 45.0	-0.2
	baz=221						
TWG				eS	Sn	22 45 07.1	-1.3
	baz=221						
STYH	Taoyuan	1.88	245	eP	Pn	22 44 46.3	+0.5
	baz=236						
STYH				eS	Sn	22 45 09.8	+0.3
	baz=236						
WCKO	Fanlu	1.93	254	eS	Sn	22 45 10.9	+0.1
	baz=251						
WDLH	Douliu	1.93	262	eP	Pn	22 44 48.5	+2.0
	baz=259						
TPUB	Ta-pu	1.95	250	eP	Pn	22 44 48.4	+1.6
	baz=255						
TPUB				eS	Sn	22 45 13.4	+2.1
	baz=255						
CHN4	Tsaushan	1.96	252	P	Pn	22 44 48.5	+1.5
	baz=249						
CHN4				eS	Sn	22 45 13.9	+2.2
	baz=249						
WTP	Ta-pu	1.98	249	P	Pn	22 44 49.7	+2.3
	baz=246						
WTP				eS	Sn	22 45 15.2	+3.0
	baz=246						
WRL	Guolierlin Hig	2.06	268	eP	Pn	22 44 48.5	+0.3
	baz=277						
WRL				eS	Sn	22 45 14.9	+1.0
	baz=277						
ECL	Taimali	2.06	228	eS	Sn	22 45 13.0	-1.0
	baz=236						
CHY	Chiayi	2.07	257	eP	Pn	22 44 50.4	+2.0
	baz=254						
SGST	Jiashian	2.08	245	eP	Pn	22 44 51.1	+2.6
	baz=235						
SGST				eS	Sn	22 45 16.6	+2.1
	baz=235						
CHN1	Nanshi	2.08	248	P	Pn	22 44 51.1	+2.5
	baz=245						
CHN1				eS	Sn	22 45 17.4	+2.9
	baz=245						
TWK	Hsinying	2.08	251	P	Pn	22 44 51.1	+2.4
	baz=247						
TWK				S	Sn	22 45 17.4	+2.8
	baz=247						

LYUB	**Lan-yu**	**2.19**	**206**	*eP*	Pn	22 44 48.5	-1.5
	baz=214							
TSMG	**Majia**	**2.22**	**236**	*eP*	**Pn**	**22 44 50.9**	**+0.4**
	baz=226							
SCST	**Cishan**	**2.24**	**241**	*eP*	**Pn**	**22 44 54.4**	**+3.7**
	baz=229							
SCST				*eS*	**Sn**	**22 45 23.6**	**+5.1**
	baz=229							
WSL	**Shuilin Townsh**	**2.24**	**259**	*eP*	**Pn**	**22 44 51.9**	**+1.1**
	baz=256							
WSL				*eS*	**Sn**	**22 45 19.3**	**+0.8**
	baz=256							
EAST	**Anshuo**	**2.28**	**226**	*eP*	**Pn**	**22 44 51.8**	**+0.4**
	baz=231							
EAST				*eS*	**Sn**	**22 45 20.2**	**+0.7**
	baz=231							
MASBT	**Mashibuluo**	**2.28**	**234**	*eP*	**Pn**	**22 44 51.9**	**+0.5**
	baz=228							
MASBT				*eS*	**Sn**	**22 45 19.1**	**-0.4**
	baz=228							
TAWH	**Dawu Township**	**2.28**	**225**	*eP*	Pn	22 44 51.0	-0.4
	baz=230							
TAWH				*eS*	**Sn**	**22 45 17.1**	**-2.4**
	baz=230							
SLIU	**Shizi**	**2.43**	**224**	*eP*	Pn	22 44 52.9	-0.5
	baz=215							
SCZT	**Fangliau**	**2.44**	**229**	*eP*	**Pn**	**22 44 53.7**	**+0.1**
	baz=222							
TSCK	**Chigu Township**	**2.47**	**251**	*eP*	**Pn**	**22 44 54.8**	**+0.8**
	baz=249							
SMST	**Manzhou Townsh**	**2.55**	**221**	*eP*	**Pn**	**22 44 56.2**	**+1.1**
	baz=219							
PHUB	**P'eng-hu**	**2.83**	**261**	*eP*	Pn	22 44 58.8	-0.2
	baz=272							
VWUC	**VWUC**	**3.06**	**290**	*eP*	Pn	22 45 01.6	-0.6
	baz=287							
PTMZ	**Houxiangcun**	**3.36**	**289**	*eP*	Pn	22 45 05.1	-1.1
	baz=286							

KRSC 24 22:49:58.2±1.3, 55.06N×164.85E, h47km±24km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.66**	**77**	*eP*	Pn	22 50 12.2	+0.9
BKI				*eS*	Sn	22 50 21.8	+1.1
KBTR	**Krutoberegovo**	**1.63**	**316**	*eP*	Pn	22 50 24.6	+0.1
KBTR				*eS*	Sn	22 50 43.6	-0.7
KBG	**Krutoberegovo**	**1.71**	**316**	P	Pn	22 50 26.9	+1.4
MKZ	**Mys Kozlova**	**1.88**	**256**	*eP*	Pn	22 50 30.6	+2.8
MKZ				*eS*	Sn	22 50 52.5	+2.3
SMKR	**Semkarok**	**2.45**	**310**	*eP*	Pn	22 50 37.6	+1.9
SMKR				*eS*	Sn	22 51 07.0	+2.6
BDR	**Baidarnaya**	**2.56**	**308**	*eP*	Pn	22 50 39.9	+2.7
BDR				*eS*	Sn	22 51 11.3	+4.2
TUMD	**Tumrok D**	**2.56**	**275**	*eP*	Pn	22 50 40.5	+3.3
TUMD				*eS*	Sn	22 51 10.4	+3.2
SRKR	**Sorokina**	**2.62**	**309**	*eP*	Pn	22 50 40.8	+2.7
SRKR				*eS*	Sn	22 51 13.6	+4.9
BZMR	**Bezymyannaya**	**2.63**	**291**	*eP*	Pn	22 50 42.3	+3.9
BZWR	**Bezymyannyi-We**	**2.64**	**292**	*eP*	Pn	22 50 42.0	+3.5
KLY	**Klyuchi**	**2.69**	**300**	S	Sn	22 51 12.2	+1.9
KRSR	**Krestovskiy**	**2.69**	**297**	*eP*	Pn	22 50 42.9	+3.8
TUMR	**Tumrok**	**2.71**	**277**	*eP*	Pn	22 50 43.0	+3.6
TUMR				*eS*	Sn	22 51 15.7	+4.8
KIRR	**Kirishev**	**2.72**	**291**	*eP*	Pn	22 50 43.1	+3.6
KMNR	**Kamenistaya**	**2.72**	**287**	*eP*	Pn	22 50 43.4	+3.9
KMNR				*eS*	Sn	22 51 16.2	+4.9
KPT	**Kopyto**	**2.79**	**291**	*eP*	Pn	22 50 44.3	+3.9
SRDR	**Sredinnyy**	**3.17**	**296**	P	Pn	22 50 49.9	+4.3
SDLR	**Sedlovina**	**3.94**	**246**	*eP*	Pn	22 51 00.7	+4.5
SDLR				*eS*	Sn	22 51 44.9	+3.8
SMAR	**Somma**	**3.98**	**246**	*eP*	Pn	22 51 01.6	+4.7
SMAR				S	Sn	22 51 45.7	+3.2
KRER	**Koryakskii**	**3.99**	**246**	*eP*	Pn	22 51 01.8	+4.8
KRER				*eS*	Sn	22 51 46.1	+3.5
UGLR	**Uglovaya**	**4.00**	**245**	P	Pn	22 51 02.0	+4.9
KOK	**Koryaka**	**4.06**	**247**	*eP*	Pn	22 51 02.7	+4.9
GNL	**Ganaly**	**4.26**	**254**	*eP*	Pn	22 51 05.8	+5.1
RUS	**Russkaya**	**4.59**	**238**	*eP*	Pn	22 51 08.6	+3.6
RUS				*eS*	Sn	22 51 57.8	+0.8
MTVR	**Mutnovka**	**4.72**	**240**	*eP*	Pn	22 51 11.3	+4.3
MTVR				*eS*	Sn	22 52 02.9	+2.4
GRL	**Gorelyy**	**4.74**	**241**	*eP*	Pn	22 51 11.9	+4.7
KDTR	**Khodutka, Kamc**	**5.19**	**234**	P	Pn	22 51 16.6	+3.3
KDTR				*eS*	Sn	22 52 13.1	+1.2

*YARS **24** 22:50:44.7±0.0, 72.42N×124.30E, h10km*
*NEIC **24** 22:50:45.6±1.1, 72.8N±0.1×124.7E±0.3, h10km±2km, mb4.0/10, Error ellipse: s-maj=20.7km s-min=11.4km az=28.0*
*IDC **24** 22:50:45.5±0.8, 72.42N×124.23E, h0km, mb3.7/10, mbtmp3.8/11, ML4.1/1, Error ellipse: s-maj=22.6km s-min=10.9km az=11.0*
ISC 24 22:50:45.5±0.6, 72.64N±0.07×124.24E±0.06, h10km, n32, σ2s38/39, mb3.9/16, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**1.74**	**123**	Pg	**Pn**	**22 51 15.4**	**-0.3**
	5μm,0.3s,baz=270,slow=20,SNR=88						
TIXI				Lg	Lg	22 51 37.1	
	17μm,0.3s,baz=90,slow=21,SNR=54						
TIXI	**Tiksi**	**1.74**	**123**	Pn	**Pn**	**22 51 15.1**	**-0.6**
TIXI				Sn	**Sn**	**22 51 37.4**	**-0.5**
TIXI	**Tiksi**	**1.74**	**123**	*ePg*	**Pn**	**22 51 14.4**	**-1.3**
	413nm,0.3s						
TIXI				*eSg*	**Sn**	**22 51 36.0**	**-1.9**
	1.1nm,0.8s						
BTGS	**Batagay**	**6.13**	**140**	*ePn*	**Pn**	**22 52 13.1**	**-2.9**
BTGS				*ePg*	**Pb**	**22 52 32.5**	**+0.4**
	3.0nm,0.5s						
BTGS				*eSn*	**Sn**	**22 53 20.4**	**-5.6**
BTGS				*eSg*	**Sb**	**22 53 50.5**	**+5.1**
	35nm,0.7s						
SVZ	**Severnaya Zeml**	**8.54**	**331**	*eP*	**Pn**	**22 52 49.6**	**+0.6**
SVZ				*eS*	**Sn**	**22 54 20.9**	**-4.3**
YAK	**Yakutsk**	**10.85**	**166**	Sn	**Sn**	**22 55 16.8**	**-5.2**
	0.2nm,0.3s,baz=116,slow=0.6,SNR=2.3						
YAK				Lg	Lg	22 56 25.1	
	0.1nm,0.3s,baz=162,slow=20,SNR=1.4						
YAK	**Yakutsk**	**10.85**	**166**	Pn	**Pn**	**22 53 21.3**	**+0.7**
NRIK	**Noril'sk**	**12.25**	**272**	Pn	**Pn**	**22 53 40.2**	**+0.4**
	1.0nm,0.3s,baz=54,slow=11,SNR=6.1						
NRIK				Sn	**Sn**	**22 55 52.4**	**-3.8**
	0.5nm,0.3s,baz=5.3,slow=5.4,SNR=1.7						
NRIK				Lg	Lg	22 57 16.9	
	0.3nm,0.3s,baz=198,slow=19,SNR=1.7						
	3.3nm,0.4s						
NRIK	**Noril'sk**	**12.25**	**272**	Pn	**Pn**	**22 53 40.8**	**+1.0**
ZAA0	**Zalesovo Array**	**24.98**	**243**	P	**P**	**22 56 10.8**	**+2.0**
ZAA0				IAmb	IAmb	22 56 11.1	
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**24.98**	**243**	P	**P**	**22 56 10.3**	**+1.5**
	comp=Z,2.7nm,0.6s,baz=25,slow=8.3,SNR=8.7						
	comp=Z,2.7nm,0.6s						
ZALV	**Zalesovo Beam**	**24.98**	**243**	P	**P**	**22 56 10.8**	**+2.0**
SONM	**Songino Array**	**26.18**	**208**	P	**P**	**22 56 21.1**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=11,slow=9.6,SNR=4.2						
	comp=Z,0.5nm,0.6s						
SONM	**Songino Array**	**26.18**	**208**	P	**P**	**22 56 22.4**	**+2.5**
TOLK	**Toolik Lake Re**	**26.51**	**55**	P	**P**	**22 56 21.7**	**-0.9**
TOLK				IAmb	IAmb	22 56 43.2	
	comp=Z,4.1nm,1.4s						
KURBB	**Kurchatov Arra**	**29.67**	**247**	P	**P**	**22 56 51.5**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=30,slow=8.6,SNR=7.6						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**29.87**	**258**	P	**P**	**22 56 53.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=34,slow=6.2,SNR=2.2						
	comp=Z,0.4nm,0.5s						
CCB	**Clear Creek Bu**	**30.05**	**59**	P	**P**	**22 56 52.6**	**-1.6**
CCB				IAmb	IAmb	22 57 10.3	
	comp=Z,6.0nm,1.5s						
IL31		**30.19**	**58**	P	**P**	**22 56 54.3**	**-1.0**
IL31				IAmb	IAmb	22 57 22.5	
	comp=Z,3.1nm,1.4s						
ILAR	**Eielson Array**	**30.19**	**58**	P	**P**	**22 56 59.8**	**+4.4**
	comp=Z,0.3nm,0.6s,baz=322,slow=8.9,SNR=7.4						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**30.19**	**58**	P	**P**	**22 56 53.4**	**-2.0**
N18K	**Kilae Creek**	**31.09**	**70**	P	**P**	**22 57 01.8**	**-1.7**
MK31	**Makanchi Array**	**32.17**	**240**	P	**P**	**22 57 14.6**	**+1.5**
MKAR	**Makanchi Array**	**32.17**	**240**	P	**P**	**22 57 14.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=37,slow=7.6,SNR=9.5						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**32.17**	**240**	P	**P**	**22 57 14.3**	**+1.3**
MAKZ	**Makanchi**	**32.24**	**240**	P	**P**	**22 57 14.8**	**+1.2**
MAKZ				IAmb	IAmb	22 57 21.2	
	comp=Z,2.6nm,1.4s						
ABKAR	**Akbulak array**	**36.30**	**266**	P	**P**	**22 57 50.2**	**+1.5**
ABKAR				IAmb	IAmb	22 57 50.7	
	comp=Z,1.8nm,0.6s						
P29M	**Windy Craggy**	**36.84**	**57**	P	**P**	**22 57 51.5**	**-1.8**
NOA	**NORSAR Array B**	**39.09**	**315**	P	**P**	**22 58 13.3**	**+1.0**
	comp=Z,1.8nm,1.1s,baz=25,slow=8.4,SNR=2.7						
	comp=Z,1.8nm,1.1s						
GEYT	**Alibeck**	**47.16**	**260**	P	**P**	**22 59 18.0**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=350,slow=7.3,SNR=4.4						
	comp=Z,1.9nm,0.6s						
TXAR	**Lajitas Array**	**73.19**	**43**	P	**P**	**23 02 18.9**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=27,slow=3.0,SNR=3.4						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**92.60**	**170**	P	**P**	**23 03 55.3**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=356,slow=5.8,SNR=2.2						
	comp=Z,0.3nm,0.7s						

*IDC **24** 22:56:49.0±1.3, 26.68N×126.33E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=41.0km s-min=22.4km az=35.0*
*JMA **24** 22:56:50.1±0.2, 26.7N±0.9×126.3E±0.7, h31km±2km, MV3.1/9, NW OFF OKINAWAJIMA IS*
ISC 24 22:56:51.6±1.8, 26.71N±0.08×126.40E±0.06, h20km±6km, n13, σ0s51/21, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.51**	**138**	*i* P	**Pb**	**22 57 01.2**	**-0.8**
JKE				S	**Sb**	**22 57 09.1**	**+0.2**
JAGN	**Aguni-jima**	**0.76**	**99**	P	**Pb**	**22 57 05.8**	**-0.3**
JAGN				S	**Sg**	**22 57 16.9**	**+0.2**
JJT3	**Tamagusuku3**	**1.36**	**114**	P	**Pb**	**22 57 16.7**	**+0.3**
JJT3				*eS*	**Sb**	**22 57 34.1**	**+0.8**
JIH	**Iheya**	**1.43**	**76**	*eP*	**Pn**	**22 57 16.5**	**0.0**
JIH				*eS*	**Sb**	**22 57 35.4**	**-0.2**
JNTH	**Nagotoyohara**	**1.46**	**97**	P	**Pn**	**22 57 16.3**	**-0.6**
JNTH				S	**Sn**	**22 57 35.3**	**-0.1**
JOW	**Kunigami**	**1.68**	**85**	Pn	**Pn**	**22 57 20.4**	**+0.5**
	13nm,0.3s,baz=252,slow=20,SNR=12						
JOW				Sn	**Sn**	**22 57 41.3**	**+0.5**
	20nm,0.3s,baz=116,slow=26,SNR=8.9						
JOW	**Kunigami**	**1.68**	**85**	*eP*	**Pn**	**22 57 19.5**	**-0.4**
JOW				*eS*	**Sn**	**22 57 40.3**	**-0.5**
JYRO	**Yoronjima**	**1.85**	**80**	*eP*	**Pn**	**22 57 21.8**	**-0.6**
JYRO				*eS*	**Sn**	**22 57 44.8**	**-0.5**
SONM	**Songino Array**	**26.28**	**329**	P	**P**	**23 02 26.6**	**+0.8**
	1.9nm,0.9s,baz=147,slow=8.4,SNR=10						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**40.00**	**312**	P	**P**	**23 04 24.7**	**-0.4**
	0.4nm,0.7s,baz=108,slow=9.3,SNR=4.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**43.38**	**317**	P	**P**	**23 04 52.5**	**-0.2**
	0.9nm,0.7s,baz=109,slow=8.4,SNR=5.5						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**47.01**	**170**	P	**P**	**23 05 22.1**	**+0.4**
	0.3nm,0.7s,baz=352,slow=8.7,SNR=2.8						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**48.83**	**318**	P	**P**	**23 05 35.8**	**+0.2**
	0.6nm,0.6s,baz=92,slow=10,SNR=1.4						
	0.6nm,0.6s						

IDC 24 22:57:15.2±3.1, 26.35N×125.80E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=187.0km s-min=28.1km az=65.0, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.30**	**330**	P	P	23 02 52.5	-0.1
	2.9nm,1.0s,baz=139,slow=7.7,SNR=9.2						
	2.9nm,1.0s						
MKAR	**Makanchi Array**	**39.83**	**312**	P	P	23 04 50.2	-0.1
	1.1nm,1.0s,baz=98,slow=9.3,SNR=5.2						
	1.1nm,1.0s						
KURBB	**Kurchatov Arra**	**43.26**	**317**	P	P	23 05 17.8	-0.6
	1.8nm,1.0s,baz=105,slow=7.9,SNR=7.1						
	1.8nm,1.0s						
WRA	**Warramunga Arr**	**46.76**	**169**	P	P	23 05 46.3	-0.1
	0.4nm,0.7s,baz=351,slow=8.5,SNR=2.5						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**48.73**	**319**	P	P	23 06 01.9	+0.5
	0.8nm,0.7s,baz=89,slow=9.1,SNR=3.6						
	0.8nm,0.7s						

*KRSC **24** 23:02:53.7±1.1, 55.10N×164.89E, h47km±23km, ML4.9*
*IDC **24** 23:02:53.1±0.5, 55.25N×164.83E, h0km, mb4.2/27, mbtmp4.2/29, ML4.4/2, Error ellipse: s-maj=16.5km s-min=11.0km az=154.0*
*MOS **24** 23:02:56.9±0.9, 55.13N×164.74E, h43km, mb4.7/28, Error ellipse: s-maj=5.9km s-min=5.4km az=50.5*
*NEIC **24** 23:02:58.7±2.0, 55.2N±0.1×164.8E±0.1, h38km±6km, mb4.5/131, Error ellipse: s-maj=18.7km s-min=10.6km az=159.0*
ISC 24 23:02:56.4±0.4, 55.16N±0.04×164.90E±0.03, h25km±2km, h25km:pP-P, n317, σ1s35/370, mb4.5/122, 12C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.61**	**85**	*eP*	**Pb**	**23 03 07.9**	**-0.6**
BKI				*eS*	**Sn**	**23 03 17.3**	**-1.2**
BKI	**Bering**	**0.61**	**85**	PN	**Pb**	**23 03 07.9**	**-0.6**
BKI				S	**Sn**	**23 03 17.3**	**-1.2**
KBTR	**Krutoberegovo**	**1.58**	**313**	*eP*	**Pn**	**23 03 20.0**	**-2.8**
KBTR				*eS*	**Sn**	**23 03 38.7**	**-3.7**
KBTR	**Krutoberegovo**	**1.58**	**313**	PN	**Pn**	**23 03 20.0**	**-2.8**
KBTR				S	**Sn**	**23 03 38.7**	**-3.7**
KBG	**Krutoberegovo**	**1.66**	**312**	*eP*	**Pn**	**23 03 21.4**	**-2.4**
KBG				*eS*	**Sn**	**23 03 41.8**	**-2.5**
KBG	**Krutoberegovo**	**1.66**	**312**	PN	**Pn**	**23 03 21.4**	**-2.4**
KBG				S	**Sn**	**23 03 41.8**	**-2.5**
MKZ	**Mys Kozlova**	**1.93**	**253**	*eP*	**Pn**	**23 03 26.0**	**-1.6**
MKZ				*eS*	**Sn**	**23 03 49.1**	**-1.9**
MKZ	**Mys Kozlova**	**1.93**	**253**	PN	**Pn**	**23 03 26.0**	**-1.6**
MKZ				S	**Sn**	**23 03 49.1**	**-1.9**
SMKR	**Semkarok**	**2.41**	**308**	*eP*	**Pn**	**23 03 33.4**	**-0.8**
SMKR				*eS*	**Sn**	**23 04 03.7**	**+0.9**
SMKR	**Semkarok**	**2.41**	**308**	PN	**Pn**	**23 03 33.4**	**-0.8**
SMKR				S	**Sn**	**23 04 03.7**	**+0.9**
ZLN	**Zelenaya**	**2.48**	**292**	*eP*	**Pn**	**23 03 35.3**	**+0.1**
ZLN	**Zelenaya**	**2.48**	**292**	PN	**Pn**	**23 03 35.3**	**+0.1**
BDR	**Baidarnaya**	**2.52**	**306**	*eP*	**Pn**	**23 03 35.4**	**-0.3**
BDR				*eS*	**Sn**	**23 04 06.6**	**+1.0**
BDR	**Baidarnaya**	**2.52**	**306**	PN	**Pn**	**23 03 35.4**	**-0.3**
BDR				S	**Sn**	**23 04 06.6**	**+1.0**
CIRR	**Tsirk**	**2.54**	**294**	*eP*	**Pn**	**23 03 36.0**	**-0.1**
CIRR	**Tsirk**	**2.54**	**294**	PN	**Pn**	**23 03 36.0**	**-0.1**
SRKR	**Sorokina**	**2.58**	**307**	*eP*	**Pn**	**23 03 36.3**	**-0.3**
SRKR				*eS*	**Sn**	**23 04 08.0**	**+0.8**
SRKR	**Sorokina**	**2.58**	**307**	PN	**Pn**	**23 03 36.3**	**-0.3**
SRKR				S	**Sn**	**23 04 08.0**	**+0.8**
TUMD	**Tumrok D**	**2.58**	**273**	*eP*	**Pn**	**23 03 36.3**	**-0.3**
TUMD				*eS*	**Sn**	**23 04 06.0**	**-1.2**
BZMR	**Bezymyannaya**	**2.63**	**289**	*eP*	**Pn**	**23 03 37.5**	**+0.2**
BZMR	**Bezymyannaya**	**2.63**	**289**	PN	**Pn**	**23 03 37.5**	**+0.2**
BZWR	**Bezymyannyi-We**	**2.63**	**290**	*eP*	**Pn**	**23 03 38.1**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.63**	**290**	PN	**Pn**	**23 03 38.1**	**+0.7**
KLY	**Klyuchi**	**2.67**	**297**	*eP*	**Pn**	**23 03 36.3**	**-1.4**
KLY	**Klyuchi**	**2.67**	**297**	PN	**Pn**	**23 03 36.3**	**-1.4**
KRSR	**Krstovskiy**	**2.67**	**295**	*eP*	**Pn**	**23 03 37.1**	**-0.8**
KRSR	**Krestovskiy**	**2.67**	**295**	PN	**Pn**	**23 03 37.1**	**-0.8**
KIRR	**Kirishev**	**2.71**	**289**	*eP*	**Pn**	**23 03 39.2**	**+0.8**
KIRR				*eS*	**Sn**	**23 04 11.7**	**+1.2**
KIRR	**Kirishev**	**2.71**	**289**	PN	**Pn**	**23 03 39.2**	**+0.8**
KIRR				S	**Sn**	**23 04 11.7**	**+1.2**
KMNR	**Kamenistaya**	**2.72**	**285**	*eP*	**Pn**	**23 03 39.4**	**+0.8**
KMNR				*eS*	**Sn**	**23 04 12.1**	**+1.4**
KMNR	**Kamenistaya**	**2.72**	**285**	PN	**Pn**	**23 03 39.4**	**+0.8**
KMNR				S	**Sn**	**23 04 12.1**	**+1.4**
TUMR	**Tumrok**	**2.73**	**275**	*eP*	**Pn**	**23 03 38.5**	**-0.2**
TUMR				*eS*	**Sn**	**23 04 11.9**	**+1.0**
TUMR	**Tumrok**	**2.73**	**275**	PN	**Pn**	**23 03 36.3**	**-2.4**
TUMR				S	**Sn**	**23 04 06.0**	**-4.9**
KPT	**Kopyto**	**2.78**	**289**	*eP*	**Pn**	**23 03 40.0**	**+0.7**
KPT				*eS*	**Sn**	**23 04 13.2**	**+1.1**
KPT	**Kopyto**	**2.78**	**289**	PN	**Pn**	**23 03 40.0**	**+0.7**
KPT				S	**Sn**	**23 04 13.2**	**+1.1**
KOZ	**Kozyrevsk**	**2.99**	**290**	*eP*	**Pn**	**23 03 43.7**	**+1.5**
KOZ	**Kozyrevsk**	**2.99**	**290**	PN	**Pn**	**23 03 43.7**	**+1.5**
SRDR	**Sredinnyy**	**3.15**	**294**	*eP*	**Pn**	**23 03 45.5**	**+1.1**
SRDR				*eS*	**Sn**	**23 04 22.8**	**+1.5**
SRDR	**Sredinnyy**	**3.15**	**294**	PN	**Pn**	**23 03 45.5**	**+1.1**
SRDR				S	**Sn**	**23 04 22.8**	**+1.5**
ESO	**Esso**	**3.61**	**285**	*eP*	**Pn**	**23 03 51.1**	**+0.5**
ESO	**Esso**	**3.61**	**285**	PN	**Pn**	**23 03 51.1**	**+0.5**
NLC	**Nalytchevo**	**3.83**	**241**	*eP*	**Pn**	**23 03 52.4**	**-1.2**
NLC				*eS*	**Sn**	**23 04 34.7**	**-3.0**
NLC	**Nalytchevo**	**3.83**	**241**	PN	**Pn**	**23 03 52.4**	**-1.2**
NLC				S	**Sn**	**23 04 34.7**	**-3.0**
SDLR	**Sedlovina**	**4.00**	**244**	*eP*	**Pn**	**23 03 55.7**	**-0.5**
SDLR	**Sedlovina**	**4.00**	**244**	PN	**Pn**	**23 03 55.7**	**-0.5**
SMAR	**Somma**	**4.05**	**245**	*eP*	**Pn**	**23 03 57.2**	**+0.2**
SMAR				*eS*	**Sn**	**23 04 42.3**	**-1.4**
SMAR	**Somma**	**4.05**	**245**	PN	**Pn**	**23 03 57.2**	**+0.2**
SMAR				S	**Sn**	**23 04 42.3**	**-1.4**
KRER	**Koryakskii**	**4.06**	**245**	*eP*	**Pn**	**23 03 57.4**	**+0.4**
KRER				*eS*	**Sn**	**23 04 43.4**	**-0.4**
KRER	**Koryakskii**	**4.06**	**245**	PN	**Pn**	**23 03 57.4**	**+0.4**
KRER				S	**Sn**	**23 04 43.4**	**-0.4**
UGLR	**Uglovaya**	**4.07**	**244**	*eP*	**Pn**	**23 03 57.4**	**+0.3**
UGLR	**Uglovaya**	**4.07**	**244**	PN	**Pn**	**23 03 57.4**	**+0.3**
KOK	**Koryaka**	**4.13**	**246**	*eP*	**Pn**	**23 03 58.1**	**+0.3**
KOK	**Koryaka**	**4.13**	**246**	PN	**Pn**	**23 03 58.1**	**+0.3**
DALK	**Dalny**	**4.20**	**242**	*eP*	**Pn**	**23 03 58.4**	**-0.4**
DALK	**Dalny**	**4.20**	**242**	PN	**Pn**	**23 03 58.4**	**-0.4**
PET	**Petropavlovsk**	**4.26**	**242**	Pn	**Pn**	**23 03 59.2**	**-0.2**
PET	**Petropavlovsk**	**4.26**	**242**	*e*PN	**Pn**	**23 03 59.1**	**-0.4**
PET	**Petropavlovsk**	**4.26**	**242**	*e*PN	**Pn**	**23 03 59.3**	**-0.2**
PET				*eS*	**Sn**	**23 04 45.7**	**-2.6**
PET				pmax	pmax		
	comp=Z,238nm,0.6s						
PET				smax	smax		
	comp=N,550nm,0.7s						
PET				smax	smax		
	comp=E,321nm,0.6s						
GNL	**Ganaly**	**4.32**	**253**	*eP*	**Pn**	**23 04 01.0**	**+0.5**
GNL	**Ganaly**	**4.32**	**253**	PN	**Pn**	**23 04 01.0**	**+0.5**
KRMR	**Karymshinskiy**	**4.63**	**243**	*eP*	**Pn**	**23 04 04.8**	**+0.2**
KRMR				*eS*	**Sn**	**23 04 55.8**	**-1.7**
KRMR	**Karymshinskiy**	**4.63**	**243**	PN	**Pn**	**23 04 04.8**	**+0.2**
KRMR				S	**Sn**	**23 04 55.8**	**-1.7**
RUS	**Russkaya**	**4.67**	**237**	*eP*	**Pn**	**23 04 04.3**	**-0.9**
RUS	**Russkaya**	**4.67**	**237**	PN	**Pn**	**23 04 04.3**	**-0.9**
PEA0B	**Petropavlovsk-**	**4.71**	**247**	Pn	**Pn**	**23 04 06.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**4.71**	**247**	*i* PN	**Pn**	**23 04 06.3**	**+0.5**
PETK	**Petropavlovsk-**	**4.71**	**247**	Pn	**Pn**	**23 04 05.3**	**-0.4**
	comp=E,20nm,0.3s,baz=82,slow=13,SNR=64						
PETK				Sn	**Sn**	**23 05 00.2**	**+0.7**
	comp=E,3.5nm,0.3s,baz=84,slow=19,SNR=5.4						
	comp=E,39nm,0.5s						
MTVR	**Mutnovka**	**4.80**	**239**	*eP*	**Pn**	**23 04 06.8**	**-0.3**
MTVR	**Mutnovka**	**4.80**	**239**	PN	**Pn**	**23 04 06.8**	**-0.3**
GRL	**Gorelyy**	**4.81**	**240**	*eP*	**Pn**	**23 04 07.6**	**+0.3**
GRL	**Gorelyy**	**4.81**	**240**	PN	**Pn**	**23 04 07.6**	**+0.3**
APC	**Apacha**	**5.08**	**247**	*eP*	**Pn**	**23 04 11.4**	**+0.5**
APC	**Apacha**	**5.08**	**247**	PN	**Pn**	**23 04 11.4**	**+0.5**
KDTR	**Khodutka, Kamc**	**5.28**	**233**	*eP*	**Pn**	**23 04 12.4**	**-1.1**
KDTR	**Khodutka, Kamc**	**5.28**	**233**	PN	**Pn**	**23 04 12.4**	**-1.1**
PAU	**Pauzhetka**	**6.10**	**236**	*eP*	**Pn**	**23 04 24.4**	**-0.4**
PAU	**Pauzhetka**	**6.10**	**236**	PN	**Pn**	**23 04 24.4**	**-0.4**
SKR	**Severo-Kuril's**	**6.95**	**233**	*eP*	**Pn**	**23 04 36.7**	**+0.3**
SKR	**Severo-Kuril's**	**6.95**	**233**	*e*PN	**Pn**	**23 04 36.8**	**+0.3**
SKR				pmax	pmax		
	comp=Z,43nm,0.4s						
MA2	**Magadan**	**8.82**	**306**	*i* PN	**Pn**	**23 05 00.3**	**-1.8**
SEY	**Seymchan

comp=Z,19nm,1.1s
RND Reindeer 24.50 52 P **P** **23 08 13.6 +0.2**
RND IAmb IAmb 23 08 18.1
comp=Z,10nm,1.0s
RND Reindeer 24.50 52 P **P** **23 08 13.6 +0.2**
RND pmax pmax
comp=Z,10.0nm,1.0s
SEW Seward 24.53 60 P **P** **23 08 13.5 0.0**
SEW IAmb IAmb 23 08 29.4
comp=Z,24nm,1.2s
GHO Glory Hole Cre 24.58 56 P **P** **23 08 14.2 +0.1**
GHO IAmb IAmb 23 08 19.8
comp=Z,16nm,1.1s
TOLK Toolik Lake Re 24.59 39 P **P** **23 08 14.1 +0.1**
TOLK IAmb IAmb 23 08 19.2
comp=Z,9.5nm,0.8s
MDM Murphy Dome 24.76 48 P **P** **23 08 16.2 +0.6**
WRH Wood River Hil 24.82 49 P **P** **23 08 16.6 +0.5**
WRH IAmb IAmb 23 08 21.2
comp=Z,17nm,0.9s
KNK Knik Glacier 24.84 56 P **P** **23 08 16.8 +0.5**
KNK IAmb IAmb 23 08 27.4
comp=Z,15nm,0.9s
SML Sawmill 24.85 55 P **P** **23 08 16.2 -0.3**
H24K Noodor Dome 24.93 46 P **P** **23 08 17.9 +0.7**
CCB Clear Creek Bu 24.94 49 P **P** **23 08 17.6 +0.4**
CCB IAmb IAmb 23 08 23.0
comp=Z,20nm,1.2s
PWL Port Wells 24.97 58 P **P** **23 08 17.6 +0.1**
DHY Denali Highway 25.19 52 P **P** **23 08 19.8 +0.2**
DHY IAmb IAmb 23 08 24.8
comp=Z,11nm,1.0s
HDA Harding Lake 25.32 49 P **P** **23 08 20.6 0.0**
SCM Sheep Creek Mo 25.32 55 P **P** **23 08 21.6 +0.8**
SCM Sheep Creek Mo 25.32 55 P **P** **23 08 21.6 +0.8**
SCM pmax pmax
comp=Z,19nm,0.8s
IL31 25.34 48 P **P** **23 08 21.1 +0.4**
IL31 IAmb IAmb 23 08 26.2
comp=Z,11nm,1.1s
ILAR Eielson Array 25.34 48 P **P** **23 08 20.6 -0.2**
comp=Z,4.0nm,0.8s,baz=259,slow=8.7,SNR=43
comp=Z,4.0nm,0.8s
ILAR Eielson Array 25.34 48 P **P** **23 08 21.0 +0.2**
M24K Tolsona, Glenn 25.83 54 P **P** **23 08 26.3 +0.9**
FYU Fort Yukon 26.03 44 P **P** **23 08 28.6 +1.5**
FYU IAmb IAmb 23 08 44.4
comp=Z,14nm,1.4s
KLU Klutina 26.03 56 P **P** **23 08 31.5 +4.2**
MJAR Matsushiro Arr 26.05 235 P **P** **23 08 28.6 +1.0**
comp=Z,4.2nm,0.8s,baz=27,slow=9.7,SNR=9.0
comp=Z,4.2nm,0.8s
PAX Paxson 26.06 52 P **P** **23 08 30.8 +3.3**
PAX Paxson 26.06 52 P **P** **23 08 30.8 +3.3**
PAX pmax pmax
comp=Z,4.0nm,0.8s
RIDG Independent Ri 26.27 51 P **P** **23 08 29.0 -0.4**
BMAR Burnt Mountain 26.32 42 P **P** **23 08 30.7 +1.0**
DOT Dot Lake 26.63 51 P **P** **23 08 31.8 -0.7**
SCRK Sand Creek 26.64 50 P **P** **23 08 32.7 +0.1**
N25K Chitina, Valde 26.64 55 **P** **23 08 33.8 +1.0**
N25K IAmb IAmb 23 08 44.4
comp=Z,8.9nm,1.0s
BMRM Bremner River 26.75 57 P **P** **23 08 35.9 +2.2**
BMRM IAmb IAmb 23 08 48.1
comp=Z,16nm,1.0s
J26L Joseph Creek 26.78 49 P **P** **23 08 34.0 +0.1**
JGF Kuroka 27.22 235 P **P** **23 08 39.0 +0.9**
JGF IAmb IAmb 23 09 05.1
comp=Z,13nm,1.1s
MCARA McCarthy VSAT 27.43 56 P **P** **23 08 42.5 +2.8**
MCARA IAmb IAmb 23 09 10.5
comp=Z,17nm,1.3s
L27K Beaver Creek, 27.70 52 P **P** **23 08 43.3 +1.2**
L27K IAmb IAmb 23 08 47.9
comp=Z,8.8nm,0.9s
BCAR Beaver Creek A 27.72 52 P **P** **23 08 43.1 +0.8**
EGAK Eagle 27.79 48 P **P** **23 08 42.6 -0.3**
M27K Edge Creek, AK 27.79 53 P **P** **23 08 44.5 +1.4**
M27K IAmb IAmb 23 08 49.2
comp=Z,24nm,1.4s
BARN Barnard Glacie 28.14 56 P **P** **23 08 47.6 +1.4**
BARN IAmb IAmb 23 09 06.7
comp=Z,12nm,1.3s
M30M Minto, Yukon 30.06 52 P **P** **23 09 04.8 +1.7**
HYT Haines Junctio 30.16 55 P **P** **23 09 05.3 +1.2**
HYT IAmb IAmb 23 09 12.3
comp=Z,13nm,1.5s
INK Inuvik 30.48 40 P **P** **23 09 07.0 +0.3**
comp=Z,1.4nm,0.5s,baz=279,slow=7.5,SNR=8.4
comp=Z,1.4nm,0.5s
INK Inuvik 30.48 40 P **P** **23 09 07.0 +0.3**
KSRS Korea Array 30.60 250 P **P** **23 09 09.6 +1.6**
comp=Z,3.6nm,0.8s,baz=38,slow=9.7,SNR=8.4
comp=Z,3.6nm,0.8s
WHY Whitehorse 31.45 55 P **P** **23 09 17.5 +2.0**
P33M Teslin, Yukon 32.56 55 P **P** **23 09 26.4 +1.2**
P33M IAmb IAmb 23 09 37.7
comp=Z,13nm,1.4s
A36M Sachs Harbour 32.88 33 P **P** **23 09 27.4 -0.3**
A36M IAmb IAmb 23 09 39.5
comp=Z,4.8nm,0.8s
C36M Paulatuk 33.71 37 P **P** **23 09 35.6 +0.6**
C36M IAmb IAmb 23 09 46.1
comp=Z,5.7nm,0.8s
H11N2 WAKE ISLAND Hy 35.40 177 T T 23 47 47.8
baz=359,slow=76,SNR=40
H11N3 WAKE ISLAND Hy 35.41 177 T T 23 47 52.1
baz=359,slow=76,SNR=30
H11N1 WAKE ISLAND Hy 35.42 177 T T 23 47 50.8
baz=359,slow=76,SNR=37
SONM Songino Array 36.18 283 P **P** **23 09 56.8 +0.1**
comp=Z,3.9nm,0.7s,baz=59,slow=8.1,SNR=23
SONM PcP **PcP** **23 12 22.2 +0.5**
comp=Z,0.8nm,0.6s,baz=91,slow=1.6,SNR=4.2
comp=Z,3.9nm,0.7s
SONM Songino Array 36.18 283 P **P** **23 09 57.9 +1.2**
H11S1 WAKE ISLAND Hy 36.61 177 T T 23 49 20.9
baz=359,slow=74
H11S3 WAKE ISLAND Hy 36.62 177 T T 23 49 24.0
baz=359
H11S2 WAKE ISLAND Hy 36.63 177 T T 23 49 26.4
baz=359,slow=74
HHC Hu-ho-hao-te 37.48 270 *e*P **P** **23 10 09.0 +1.2**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,400nm,4.5s
EUNU Eureka 39.24 15 P **P** **23 10 22.8 +0.7**
NJ2 Nanjing 39.58 254 *e*P **P** **23 10 25.0 -0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
YKA Yellowknife Ar 39.71 46 P **P** **23 10 26.2 +0.2**
comp=Z,1.1nm,0.6s,baz=297,slow=8.3,SNR=3.9
comp=Z,1.1nm,0.6s
YKA Yellowknife Ar 39.71 46*c*e**P** **P** **23 10 27.5 +1.4**
YKA pmax pmax
comp=Z,2.0nm,0.9s
LYN LuoYang 41.31 262 *i*/P **P** **23 10 41.3 +1.6**
ZALV Zalesovo Beam 44.03 303 P **P** **23 11 01.2 -0.3**
comp=Z,0.6nm,0.4s,baz=43,slow=8.7,SNR=2.3
ZALV PcP **PcP** **23 12 46.9 +0.3**
comp=Z,1.0nm,0.4s,baz=64,slow=3.4,SNR=5.9
comp=Z,0.6nm,0.4s
LZH Lanzhou 45.16 271 *e*P **P** **23 11 12.6 +1.7**
LZH pP pwP 23 11 23.9 -0.1
LZH sP sP 23 11 27.8 +8.5
LZH pmax pmax
comp=Z,23nm,1.1s
GTA Gaotai 45.16 278 ⇑P **P** **23 11 12.3 +1.4**
GTA pP pwP 23 11 22.9 -1.0
GTA sP sP 23 11 28.3 +9.0
GTA pmax pmax
comp=Z,9.0nm,0.7s
DGZ Jazzator, Alta 45.28 297 *i* P **P** **23 11 12.3 +0.6**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
WMQ Urumqi 48.93 291 *e*P **P** **23 11 41.4 +1.3**
WMQ pP pwP 23 11 51.8 -1.5
WMQ sP sP 23 11 54.1 +5.6
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ LR LR
comp=N,460nm,15.1s
WMQ LR LR
comp=E,350nm,16.9s
WMQ LR LR
comp=Z,210nm,18.5s
KURK Kurchatov 49.02 303 P **P** **23 11 40.5 -0.2**
KURK Kurchatov 49.02 303*ce*P **P** **23 11 40.7 +0.1**
KURK pmax pmax
comp=Z,17nm,1.3s
MK31 Makanchi Array 49.78 297 P **P** **23 11 46.1 -0.4**
MK31 IAmb IAmb 23 11 46.8
comp=Z,3.9nm,0.8s
MK31 Makanchi Array 49.78 297 *i* P **P** **23 11 46.2 -0.4**
MKAR Makanchi Array 49.78 297 P **P** **23 11 45.9 -0.6**
comp=Z,4.6nm,0.7s,baz=56,slow=7.4,SNR=42
comp=Z,4.6nm,0.7s
MKAR Makanchi Array 49.78 297 P **P** **23 11 45.8 -0.8**
MKAR Makanchi Array 49.78 297 *i* P **P** **23 11 46.0 -0.6**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 49.93 297 P **P** **23 11 47.2 -0.5**
MAKZ IAmb IAmb 23 11 47.8
comp=Z,5.5nm,0.9s
MAKZ Makanchi 49.93 297 P **P** **23 11 47.2 -0.5**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
GYA Guiyang 50.68 260 ⇑P **P** **23 11 54.6 +0.9**
GYA pmax pmax
comp=Z,9.0nm,1.1s
MCMT McKenzie Canyo 50.92 65 P **P** **23 11 55.5 0.0**
BRVK Borovoye 51.32 310 P **P** **23 11 58.3 +0.3**
BRVK Borovoye 51.32 310*ce*P **P** **23 11 58.7 +0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
WAKR Walker 51.74 75 P **P** **23 12 02.1 +0.5**
WAKR IAmb IAmb 23 12 12.2
comp=Z,13nm,1.5s
ARCES ARCESS Array B 52.17 343 P **P** **23 12 03.8 -0.4**
comp=Z,2.7nm,0.8s,baz=34,slow=9.8,SNR=3.7
comp=Z,2.7nm,0.8s
NVAR Mina Array Bea 52.42 75 P **P** **23 12 08.4 +1.7**
comp=Z,0.8nm,0.7s,baz=298,slow=6.5,SNR=6.4
comp=Z,0.8nm,0.7s
HVU Hansel Valley 53.06 68 P **P** **23 12 12.8 +1.5**
HVU Hansel Valley 53.06 68 P **P** **23 12 12.8 +1.5**
HVU pmax pmax
comp=Z,1.0nm,0.7s
PZH PanZhiHua 53.44 265 P **P** **23 12 14.9 +0.7**
PZH pmax pmax
comp=Z,10.0nm,1.0s
LCH Last Change Ra 53.64 75 P **P** **23 12 17.2 +1.6**
ARU Arti 53.76 319 P **P** **23 12 16.0 0.0**
ARU IAmb IAmb 23 12 17.0
comp=Z,5.8nm,0.8s
ARU Arti 53.76 319*c i*P **P** **23 12 16.0 0.0**
ARU *e*PP **sP** **23 12 26.5 +2.0**
ARU 23 13 19.0
ARU 23 14 19.8
ARU PPP PPP 23 15 28.5
ARU S **S** **23 19 50.5 +2.1**
ARU SS **SS** **23 23 29.1 +0.6**
ARU pmax pmax
comp=Z,7.0nm,0.8s
GMN Gold Mountain 53.80 75 P **P** **23 12 18.9 +2.0**
GMN IAmb IAmb 23 12 30.2
comp=Z,2.9nm,0.8s
KMI Kunming 53.94 263 ⇑P **P** **23 12 19.1 +1.1**
KMI pmax pmax
comp=Z,12nm,1.0s
R11A Troy Canyon, C 53.97 73 P **P** **23 12 19.6 +1.5**
PDAR Pinedale Array 54.06 65 P **P** **23 12 19.8 +1.0**
comp=Z,1.1nm,0.8s,baz=334,slow=2.7,SNR=11
comp=Z,1.1nm,0.8s
PRGR Permogore 54.16 329 *e*P **P** **23 12 16.1 -2.8**
PRGR *e* 23 13 21.0
PRGR pmax pmax
comp=Z,2.0nm,0.8s
DUG Dugway, Tooele 54.16 69 P **P** **23 12 21.0 +1.6**
DUG Dugway, Tooele 54.16 69 P **P** **23 12 21.0 +1.6**
DUG pmax pmax
comp=Z,3.0nm,0.9s
SPR3 Spring Creek 3 54.20 72 P **P** **23 12 22.6 +2.8**
SPR3 IAmb IAmb 23 12 35.1
comp=Z,5.1nm,0.8s
WCT Wildcat Mounta 54.52 75 P **P** **23 12 23.6 +1.6**
TPNV Topopah Spring 54.61 75 P **P** **23 12 24.5 +1.7**
TPNV IAmb IAmb 23 12 29.9
comp=Z,7.3nm,1.3s
TPNV Topopah Spring 54.61 75 P **P** **23 12 24.5 +1.7**
TPNV pmax pmax
comp=Z,7.0nm,1.3s
PSUT Pine Spring 54.79 72 P **P** **23 12 25.8 +1.7**
PSUT IAmb IAmb 23 12 43.3
comp=Z,3.0nm,0.7s
MPU Maple Canyon 54.92 69 P **P** **23 12 27.1 +2.1**
MPU IAmb IAmb 23 12 38.0
comp=Z,3.0nm,0.8s
GWY Greenwater Val 54.93 76 P **P** **23 12 26.8 +1.7**
GWY IAmb IAmb 23 12 31.8
comp=Z,4.4nm,0.9s
PRN Pahroc Range 54.95 73 P **P** **23 12 27.5 +2.4**
PRN IAmb IAmb 23 12 38.0
comp=Z,6.1nm,0.8s
QSM Queen of Sheba 54.98 76 P **P** **23 12 27.3 +2.0**
QSM IAmb IAmb 23 12 44.9
comp=Z,4.6nm,0.9s
ULM Lac du Bonnet 55.33 50 P **P** **23 12 28.1 +0.5**
comp=Z,1.4nm,0.5s,baz=329,slow=5.9,SNR=1.9
comp=Z,1.4nm,0.5s
KIRV Kirov 55.37 325*ce*P **P** **23 12 28.8 +1.2**
GSC Goldstone, Bar 55.50 76 P **P** **23 12 30.9 +1.8**
GSC IAmb IAmb 23 12 42.6
comp=Z,4.0nm,0.9s
GSC Goldstone, Bar 55.50 76 P **P** **23 12 30.9 +1.8**
GSC pmax pmax
comp=Z,4.0nm,1.0s
MVU Marysvale 55.70 70 P **P** **23 12 32.6 +1.9**
MSU Marysvale 55.71 70 P **P** **23 12 33.2 +2.5**
MSU Marysvale 55.71 70 P **P** **23 12 33.2 +2.5**
CCUT Cedar City 55.77 72 IAmb IAmb 23 12 44.3
comp=Z,3.1nm,0.7s
P17A Butcher Ranch, 55.79 69 P **P** **23 12 33.0 +1.7**
P17A IAmb IAmb 23 12 45.7
comp=Z,2.7nm,0.7s
MTPU Mount Pierson 56.05 71 P **P** **23 12 35.7 +2.3**
MTPU IAmb IAmb 23 12 40.6
comp=Z,6.5nm,1.4s
SRU San Rafael Swe 56.17 69 P **P** **23 12 35.7 +1.8**
SRU San Rafael Swe 56.17 69 P **P** **23 12 35.7 +1.8**
SRU pmax pmax
comp=Z,9.0nm,0.7s
KLMR Klimovskoe 56.54 331 *e*P **P** **23 12 34.7 -1.3**
KLMR AMP 23 12 45.2
comp=Z,18nm,1.8s
KLMR Klimovskoe 56.54 331 *e*P **P** **23 12 34.6 -1.4**
KLMR pmax pmax
comp=Z,18nm,1.8s
AAK Ala-Archa 56.66 298*ce*P **P** **23 12 38.3 +1.0**
AAK pmax pmax
comp=Z,7.0nm,0.8s
PV13 Radium Mtn., P 57.77 68 P **P** **23 12 46.9 +1.5**
PV13 IAmb IAmb 23 12 58.2
comp=Z,4.2nm,0.7s
KSH Kashi 58.18 294 P **P** **23 12 51.8 +3.7**
KSH pP pwP 23 13 02.4 +1.4
KSH pmax pmax
comp=Z,9.0nm,1.3s
KK31 Karatay Array 58.30 301 P **P** **23 12 48.4 -0.4**
KK31 Karatay Array 58.30 301 P **P** **23 12 48.4 -0.4**
KK31 pmax pmax
comp=Z,13nm,1.3s
KKAR Karatay Array 58.30 301 P **P** **23 12 48.3 -0.5**
KKAR Karatay Array 58.30 301 P **P** **23 12 48.3 -0.5**
KKAR pmax pmax
comp=Z,13nm,1.3s
ABKAR Akbulak array 58.56 312 P **P** **23 12 50.4 -0.1**
ABKAR IAmb IAmb 23 12 51.4
comp=Z,8.6nm,1.4s
FINES FINESS Array B 59.29 338 P **P** **23 12 54.8 -0.5**
comp=Z,3.2nm,0.8s,baz=2.7,slow=8.9,SNR=4.0
comp=Z,3.2nm,0.8s
BTK Batken 60.42 298 P **P** **23 13 03.6 +0.1**
BTK Batken 60.42 298 P **P** **23 13 03.6 +0.1**
BTK pmax pmax
comp=Z,8.0nm,0.8s
TAPN Taplejung 60.83 277 *e*P **P** **23 13 06.9 +0.2**
comp=Z,12nm,0.6s
CHTO Chiang Mai 61.05 261 P **P** **23 13 08.4 +0.4**
CHTO Chiang Mai 61.05 261 P **P** **23 13 08.4 +0.4**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 61.34 261 P **P** **23 13 11.3 +1.4**
comp=Z,3.9nm,0.7s,baz=23,slow=6.9,SNR=30
comp=Z,3.9nm,0.7s
CMAR Chiang Mai Arr 61.34 261 P **P** **23 13 10.8 +0.9**
JIRN Jiri 61.46 278 *e*P **P** **23 13 11.0 -0.1**
RAMN Ramite 61.77 277 *e*P **P** **23 13 13.0 0.0**
comp=Z,34nm,0.7s
PKIN Phulchoki 61.97 279 *e*P **P** **23 13 14.3 -0.1**
comp=Z,14nm,0.7s
GKN Gorkha 62.08 279 *e*P **P** **23 13 15.0 0.0**
comp=Z,15nm,0.7s
OBN Obninsk 62.24 329 *i* P **P** **23 13 14.9 -0.5**
OBN *i* 23 13 51.4
OBN pmax pmax
comp=Z,5.0nm,1.0s
NB2 NORSAR Subarra 62.29 346 P **P** **23 13 15.2 -0.5**
comp=Z,0.8nm,0.6s,baz=18,slow=6.9
NOA NORSAR Array B 62.29 346 P **P** **23 13 14.3 -1.5**
comp=Z,1.3nm,0.7s,baz=17,slow=6.8,SNR=6.9
comp=Z,1.3nm,0.7s
DANN Dangsing 62.31 280 *e*P **P** **23 13 16.9 +0.2**
comp=Z,32nm,0.7s
VORR Voronezh 64.39 326 *e*P **P** **23 13 33.2 +3.5**
VORR pmax pmax
comp=Z,20nm,0.5s
KBL Kabul 65.55 296 P **P** **23 13 36.5 -1.3**
KBL Kabul 65.55 296 P **P** **23 13 36.6 -1.3**
KBL pmax pmax
comp=Z,14nm,1.5s
WMOK Wichita Mounta 65.64 64 P **P** **23 13 39.3 +1.1**
WMOK IAmb IAmb 23 13 50.3
comp=Z,4.1nm,0.7s
WMOK Wichita Mounta 65.64 64 P **P** **23 13 39.3 +1.1**
WMOK pmax pmax
comp=Z,4.0nm,0.7s
R40A Maddies Statio 66.10 57 P **P** **23 13 41.4 +0.3**
R40A pP **sP** **23 13 51.4 +1.7**
MGMO Mountain Grove 67.00 58 P **P** **23 13 46.5 -0.3**
MGMO pP **sP** **23 13 57.3 +1.7**
MGMO IAmb IAmb 23 13 57.6
comp=Z,5.0nm,0.8s
FVM French Village 67.23 56 P **P** **23 13 49.7 +1.4**
FVM pP **pwP** **23 13 59.5 -1.8**
FVM French Village 67.23 56 P **P** **23 13 49.7 +1.4**
FVM *PP **pwP** **23 13 59.5 -1.8**
FVM pmax pmax
comp=Z,8.0nm,0.6s
TX31 Lajitas Ar. Si 67.25 71 P **P** **23 13 49.8 +1.1**
TX31 pP **pwP** **23 14 00.4 -1.2**
TX32 Lajitas Array 67.25 71 P **P** **23 14 00.1 +1.5**
TX32 pP **pwP** **23 14 00.3 -1.3**
TX32 IAmb IAmb 23 14 01.7
comp=Z,2.7nm,0.7s
TXAR Lajitas Array 67.25 71 P **P** **23 13 49.7 +1.0**
comp=Z,2.0nm,0.7s,baz=299,slow=4.0,SNR=26
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 67.25 71 P **P** **23 13 50.1 +1.4**
TXAR pP **pwP** **23 14 00.1 -1.5**
P46A Rosedale 67.42 53 P **P** **23 13 50.4 +1.0**
P46A pP **sP** **23 13 59.5 +1.3**
AKASG Malin Array Be 68.23 331 P **P** **23 13 53.1 -1.2**
comp=Z,0.4nm,0.4s,baz=29,slow=6.1,SNR=4.4
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 68.23 331*ce*P **P** **23 13 53.0 -1.3**
GEYT Alibeck 68.27 305 P **P** **23 13 55.2 +0.4**
comp=Z,3.8nm,0.7s,baz=357,slow=3.0,SNR=9.5
comp=Z,3.8nm,0.7s
GEYT Alibeck 68.27 305 P **P** **23 13 55.1 +0.2**
GEYT IAmb IAmb 23 13 56.2
comp=Z,5.0nm,0.8s
GYA0B ALIBECK ARRAY 68.27 305 P **P** **23 13 55.2 +0.4**
GYA0B IAmb IAmb 23 13 59.2
comp=Z,5.1nm,0.8s
L56A Greenwood 69.51 45 P **P** **23 14 02.4 -0.1**
L56A pP **sP** **23 14 12.6 +1.2**
O53A New Philadelph 69.56 48 P **P** **23 14 03.0 +0.2**
O53A pP **sP** **23 14 13.0 +1.4**
KBZ Khabaz 69.90 319 P **P** **23 14 05.6 +0.8**
comp=Z,5.4nm,0.9s,baz=0.0,slow=4.0,SNR=5.4
comp=Z,5.4nm,0.9s
KBZ Khabaz 69.90 319*ce*P **P** **23 14 03.1 -1.7**
KBZ pmax pmax
comp=Z,7.0nm,1.1s
WVT Waverly 69.95 55 P **P** **23 14 06.1 +0.8**
WVT **pwP** **23 14 16.3 -2.0**
WVT IAmb IAmb 23 14 17.1
comp=Z,3.7nm,0.6s
WVT Waverly 69.95 55 P **P** **23 14 06.1 +0.8**
WVT *PP **pwP** **23 14 16.3 -2.0**
WVT pmax pmax
comp=Z,4.0nm,0.6s
M57A Sunshine Farm, 70.36 45 P **P** **23 14 07.3 -0.3**
M57A pP **sP** **23 14 17.6 +1.2**
L59A Walton 70.47 43 P **P** **23 14 07.7 -0.7**
L59A pP **sP** **23 14 18.2 +1.0**
CLL Collm 71.35 342 *e*P **P** **23 14 13.0 -0.5**
CLL Collm 71.35 342 *e*P **P** **23 14 13.0 -0.5**
SWET Sewanee 71.59 55 P **P** **23 14 15.3 0.0**
SWET pP **sP** **23 14 26.2 +2.2**
TZTN Tazewell 71.59 52 P **P** **23 14 15.6 +0.3**
TZTN pP **pwP** **23 14 26.4 -2.0**
Z47A Carrollton 72.22 57 P **P** **23 14 19.7 +0.7**
Z47A pP **sP** **23 14 29.7 +1.9**
Y49A Blount Mountai 72.47 56 P **P** **23 14 20.8 +0.3**
Y49A pP **sP** **23 14 30.9 +1.6**
Y49A IAmb IAmb 23 14 31.2
comp=Z,4.8nm,0.7s
LRAL Lakeview Retre 72.87 57 P **P** **23 14 22.5 -0.4**
LRAL pP **sP** **23 14 33.4 +1.7**
LRAL IAmb IAmb 23 14 34.2
comp=Z,4.8nm,0.7s
V55A Taylorsville 73.22 51 P **P** **23 14 25.6 +0.6**
V55A pP **sP** **23 14 35.8 +2.1**
V55A IAmb IAmb 23 14 36.4
comp=Z,3.9nm,0.6s
MTN Manton Dam 73.48 214 P **P** **23 14 27.2 +0.7**
GERES GERESS Array B 73.59 341 P **P** **23 14 27.1 +0.1**
comp=Z,0.6nm,0.7s,baz=53,slow=7.2,SNR=5.4
comp=Z,0.6nm,0.7s
GERES GERESS Array B 73.59 341 P **P** **23 14 27.6 +0.5**
GERES pP **pwP** **23 14 38.2 -1.9**
KBA Koelnbreinsper 75.35 340 *e*P **P** **23 14 38.9 +1.5**
comp=Z,2.1nm,0.8s
OBKA Obir 75.66 339 *e*P **P** **23 14 40.9 +1.9**
comp=Z,2.7nm,0.7s
ABTA Abfaltersbach 75.83 341 *e*P **P** **23 14 40.0 -0.1**
comp=Z,1.5nm,0.7s
FETA Feichten 75.89 342 *e*P **P** **23 14 41.2 +0.7**
comp=Z,1.7nm,0.8s
CTA Charters Tower 76.62 198 P **P** **23 14 44.8 +0.3**
comp=Z,1.0nm,0.3s,baz=360,slow=10,SNR=4.3
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 76.74 323 P **P** **23 14 45.6 +0.3**
comp=Z,1.4nm,0.8s,baz=55,slow=3.9,SNR=9.2
comp=Z,1.4nm,0.8s
BRTR Keskin Array B 76.74 323 P **P** **23 14 45.9 +0.5**
BRTR pP **PcP** **23 14 57.0 +0.4**
WB0 Warramunga Arr 79.03 209 P **P** **23 14 58.1 +0.1**
WB0 IAmb IAmb 23 14 59.0
comp=Z,5.9nm,0.8s
WR0 Warramunga Arr 79.17 209 P **P** **23 14 59.2 +0.5**
WR0 IAmb IAmb 23 15 01.0
comp=Z,4.7nm,0.9s
WB2 Warramunga Arr 79.21 209 P **P** **23 14 59.4 +0.4**
WRA Warramunga Arr 79.21 209 P **P** **23 14 59.0 0.0**
comp=Z,4.7nm,0.8s,baz=22,slow=6.0,SNR=32
comp=Z,4.7nm,0.8s
WRA Warramunga Arr 79.21 209 P **P** **23 14 58.9 0.0**
WRA Warramunga Arr 79.21 209 *i* P **P** **23 14 59.2 +0.2**
WRA pmax pmax
comp=Z,5.0nm,0.8s
FNA Florina 79.49 333 P **P** **23 15 02.4 +1.9**
FNA Florina 79.49 333 P **P** **23 15 02.4 +1.9**
FNA pmax pmax
comp=Z,2.0nm,1.2s
AS31 Alice Springs 82.87 208 P **P** **23 15 18.7 +0.3**
ASAR Alice Springs 82.87 208 P **P** **23 15 19.1 +0.6**
comp=Z,6.0nm,0.8s,baz=14,slow=5.2,SNR=44
comp=Z,6.0nm,0.8s
ESDC Sonseca Array 85.06 351 P **P** **23 15 30.1 +0.4**
comp=Z,1.8nm,0.8s,baz=1.2,slow=5.2,SNR=8.4

comp=Z,1.8nm,0.8s

*NEIC **24** 23:11:46.6±0.9, 15°.37S±0'.09×174°.7W±0'.1, h56km±7km, mb4.5/9, Error ellipse: s-maj=15.1km s-min=13.2km az=95.0*

*IDC **24** 23:11:48.0±4.1, 14°.70S×174°.75W, h98km±56km, mb3.8/2, mbtmp4.2/3, Error ellipse: s-maj=251.9km s-min=44.8km az=159.0*

ISC 24 23:11:43.1±0.7, **15°.32S**±0'.09×**174°.77W**±0'.08, **h35**km, **n16**, σ**2s 03**/20, **mb4.3/7, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.22**	**65**	P		**Pn**	**23 12 33.6**	**+2.3**
	134nm,0.5s,baz=142,slow=0.3,SNR=46							
AFI				S		**Sn**	**23 13 05.3**	**-3.2**
	189nm,0.5s,baz=69,slow=22,SNR=8.5							
AFI	**Afiamalu**	**3.22**	**65**	Pn		**Pn**	**23 12 33.9**	**+2.6**
AFI				Sn		**Sn**	**23 13 06.8**	**-1.7**
NIUE	**Niue**	**5.95**	**130**	Pn		**Pn**	**23 13 11.6**	**+2.8**
NIUE				Sn		**Sn**	**23 14 12.5**	**-3.3**
BFZ	**Birch Farm**	**26.46**	**195**			**P**	**23 17 17.4**	**+0.6**
BFZ				IAmb		IAmb	23 17 20.3	
	comp=Z,56nm,1.3s							
BBOO	**Buckleboo**	**47.71**	**239**	P		**P**	**23 20 16.1**	**-0.7**
WB0	**Warramunga Arr**	**48.53**	**257**	P		**P**	**23 20 23.4**	**+0.1**
WB0				IAmb		IAmb	23 20 39.0	
	comp=Z,10nm,1.4s							
WB2	**Warramunga Arr**	**48.56**	**257**	P		**P**	**23 20 23.9**	**+0.4**
WB2				IAmb		IAmb	23 20 57.5	
	comp=Z,4.3nm,1.2s							
WRA	**Warramunga Arr**	**48.58**	**257**	P		**P**	**23 20 22.8**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=91,slow=7.1,SNR=12							
	comp=Z,0.7nm,0.8s							
WRA	**Warramunga Arr**	**48.58**	**257**	P		**P**	**23 20 24.0**	**+0.4**
AS31	**Alice Springs**	**48.88**	**252**	P		**P**	**23 20 27.0**	**+1.1**
AS31				IAmb		IAmb	23 20 27.2	
	comp=Z,1.5nm,0.5s							
ASAR	**Alice Springs**	**48.88**	**252**	P		**P**	**23 20 25.9**	**0.0**
	comp=Z,4.3nm,0.4s,baz=87,slow=8.0,SNR=66							
ASAR				PcP		**PcP**	**23 21 47.3**	**-2.8**
	comp=Z,0.5nm,0.8s,baz=93,slow=4.6,SNR=2.2							
	comp=Z,4.3nm,0.4s							
ASAR	**Alice Springs**	**48.88**	**252**	P		**P**	**23 20 26.6**	**+0.7**
VNDA	**Vanda**	**63.33**	**186**	P		**P**	**23 22 08.8**	**+0.6**
J20K	**Nowinta River**	**80.82**	**9**	P		**P**	**23 23 54.2**	**+1.4**
J20K				IAmb		IAmb	23 23 56.4	
	comp=Z,1.5nm,0.6s							
SCIA	**State Center**	**93.95**	**48**	P		**P**	**23 24 58.2**	**+0.8**
BRTR	**Keskin Array B**	**145.25**	**320**	PKP		**PKPbc**	**23 31 13.8**	**-3.6**
	comp=Z,0.2nm,0.5s,baz=24,slow=3.9,SNR=2.1							

*IDC **24** 23:22:33.3±0.9, 12°.13N×88°.87W, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=39.6km s-min=17.4km az=55.0*

*NEIC **24** 23:22:36.0±2.0, 12°.12N±0'.07×89°.05W±0'.07, h10km±1km, mb4.6/124, Md4.3(SNET), Error ellipse: s-maj=14.7km s-min=8.8km az=225.0*

*INET **24** 23:22:36.0±0.8, 11°.99N×89°.11W, h5km, MW4.2*

*SNET **24** 23:22:36.0±1.9, 12°.09N×89°.08W, h10km, ML4.3*

*UCR **24** 23:22:37.3±1.5, 12°.03N×89°.21W, h33km±13km, MW3.9, mb4.6(NEIC)*

*GCG **24** 23:22:39.6±0.6, 11°.94N×89°.58W, h36km±999km, MD4.0*

ISC 24 23:22:35.3±1.8, **12°.07N**±0°.05×**89°.11W**±0°.05, **h13**km±10km, **n209**, σ**1s 06**/210, **mb4.6**/61, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ALJI	**Alcalda de J**	**1.35**	**23**	*eP*		**Pg**	**23 23 00.6**	**-0.8**
ALJI	**Alcalda de J**	**1.35**	**23**	*eP*		**Pg**	**23 23 00.6**	**-0.8**
SJTE	**Alcalda de S**	**1.54**	**4**	*eP*		**Pn**	**23 23 02.8**	**+0.3**
SJTE	**Alcalda de S**	**1.54**	**4**	*eP*		**Pn**	**23 23 02.8**	**+0.3**
LFRS	**El Faro**	**1.54**	**2**	*eP*		**Pn**	**23 23 02.9**	**+0.2**
LFRS	**El Faro**	**1.54**	**2**	*eP*		**Pn**	**23 23 02.9**	**+0.2**
PACA	**Pacayal**	**1.59**	**29**	*eP*		**Pb**	**23 23 04.2**	**-0.4**
PACA				*eS*		**Sg**	**23 23 26.1**	**-0.4**
PACA	**Pacayal**	**1.59**	**29**	*eP*		**Pb**	**23 23 04.2**	**-0.4**
PACA				*eS*		**Sg**	**23 23 26.1**	**-0.4**
SNET	**Serv Nac Est T**	**1.61**	**356**			**Pn**	**23 23 03.2**	**-0.4**
PAVA	**Las Pavas**	**1.64**	**6**	*eP*		**Pn**	**23 23 04.7**	**+0.7**
PAVA	**Las Pavas**	**1.64**	**6**	*eP*		**Pn**	**23 23 04.7**	**+0.7**
BOQS	**Boqueron**	**1.66**	**354**	*eP*		**Pb**	**23 23 05.9**	**-0.1**
BOQS	**Boqueron**	**1.66**	**354**	*eP*		**Pb**	**23 23 05.9**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.66**	**13**	*eP*		**Pn**	**23 23 05.0**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.66**	**13**	*eP*		**Pn**	**23 23 05.0**	**+0.7**
CNCH	**Conchagua**	**1.73**	**46**	*eP*		**Pn**	**23 23 05.9**	**+0.7**
CNCH	**Conchagua**	**1.73**	**46**	*eP*		**Pn**	**23 23 05.9**	**+0.7**
CEVE	**Cerro Verde**	**1.82**	**344**	*eP*		**Pn**	**23 23 07.2**	**+0.6**
CEVE	**Cerro Verde**	**1.82**	**344**	*eP*		**Pn**	**23 23 07.2**	**+0.6**
SBLS	**San Blas**	**1.83**	**344**	*eP*		**Pn**	**23 23 07.1**	**+0.4**
SBLS	**San Blas**	**1.83**	**344**	*eP*		**Pn**	**23 23 07.1**	**+0.4**
NUBE	**Las Nubes**	**1.93**	**340**	*eP*		**Pn**	**23 23 08.2**	**+0.1**
NUBE				*eS*		**Sn**	**23 23 31.2**	**-1.2**
NUBE	**Las Nubes**	**1.93**	**340**	*eP*		**Pn**	**23 23 08.2**	**+0.1**
NUBE				*eS*		**Sn**	**23 23 31.2**	**-1.2**
P5NO	**Presa 5 de nov**	**1.93**	**10**	*eP*		**Pn**	**23 23 08.9**	**+1.0**
SLOZ	**Alcaldia de Sa**	**2.05**	**341**	*eP*		**Pn**	**23 23 10.4**	**+0.8**
SLOZ				*eS*		**Sn**	**23 23 35.9**	**+0.7**
CRIN	**San Cristobal**	**2.11**	**73**			**Pn**	**23 23 10.4**	**0.0**
CRIN	**San Cristobal**	**2.11**	**73**	*eP*		**Pn**	**23 23 11.0**	**+0.6**
MTO3	**Montecristo**	**2.33**	**354**	Pn		**Pn**	**23 23 14.1**	**+0.5**
MTO3	**Montecristo**	**2.33**	**354**	*eP*		**Pn**	**23 23 14.9**	**+1.3**
MTO3				*eS*		**Sn**	**23 23 43.5**	**+1.3**
MTO3	**Montecristo**	**2.33**	**354**	*eP*		**Pn**	**23 23 14.9**	**+1.3**
MTO3				*eS*		**Sn**	**23 23 43.5**	**+1.3**
CNGN	**Cerro Negro**	**2.40**	**79**			**Pn**	**23 23 13.7**	**-0.7**
ESQI	**Esquipulas**	**2.48**	**355**			**Pn**	**23 23 16.4**	**+0.8**
ESQI	**Esquipulas**	**2.48**	**355**	*eS*		**Sn**	**23 23 47.5**	**+1.6**
MOMN	**Momotombo**	**2.53**	**82**	*eP*		**Pn**	**23 23 15.9**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.67**	**42**			**Pn**	**23 23 18.9**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.67**	**42**	*eP*		**Pn**	**23 23 19.6**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.67**	**42**	*eP*		**Pn**	**23 23 19.6**	**+1.4**
NBG	**Las Nubes**	**2.78**	**334**	*eP*		**Pn**	**23 23 21.9**	**+2.1**
NBG				*eS*		**Sn**	**23 23 52.0**	**-1.3**
MGAN	**Managua**	**2.80**	**88**	*eP*		**Pn**	**23 23 20.4**	**+0.5**
WILN	**Americas 2**	**2.86**	**88**	*eP*		**Pn**	**23 23 21.0**	**+0.3**
HUEN		**2.88**	**84**	*eP*		**Pn**	**23 23 21.3**	**+0.3**
FUG	**Fuego 3**	**2.90**	**325**	*eP*		**Pn**	**23 23 22.4**	**+1.0**
FUG				*eS*		**Sn**	**23 23 55.9**	**-0.4**
MRL	**Marmol**	**3.04**	**349**	*eP*		**Pb**	**23 23 30.4**	**+0.9**
MATN	**Matagalpa**	**3.23**	**74**			**Pn**	**23 23 24.6**	**-1.3**
MATN	**Matagalpa**	**3.23**	**74**	*eP*		**Pn**	**23 23 25.6**	**-0.2**
BOAB	**BOACO BROADBAN**	**3.39**	**83**				**23 23 27.4**	**-0.5**
CONN	**Concepcion**	**3.45**	**98**	*eP*		**Pn**	**23 23 28.5**	**-0.3**
STG3	**Santiaguito 3,**	**3.55**	**318**	*eP*		**Pn**	**23 23 31.0**	**+0.6**
STG3				*eS*		**Sn**	**23 24 10.4**	**-2.0**
GBS2	**Las Lilas**	**3.79**	**109**	*eP*		**Pn**	**23 23 35.2**	**+1.7**
GBS3	**Finca Las Img**	**3.81**	**109**	*eP*		**Pn**	**23 23 35.2**	**+1.5**
LAPC	**Finca la Perla**	**3.83**	**109**	*eP*		**Pn**	**23 23 35.4**	**+1.3**
BUEV	**Buena Vista**	**3.84**	**109**	*eP*		**Pn**	**23 23 36.0**	**+1.7**
GB1A	**Borinquen Arri**	**3.84**	**109**	*eP*		**Pn**	**23 23 35.7**	**+1.4**
ACON	**Acoyapa**	**3.85**	**91**	Pn		**Pn**	**23 23 34.1**	**-0.3**
BUAI	**Buenos Aires**	**3.89**	**107**	*eP*		**Pn**	**23 23 37.8**	**+2.9**
GPS3	**Bodega del ICE**	**3.90**	**109**	*eP*		**Pn**	**23 23 36.6**	**+1.6**
GPS1	**Guardaparques**	**3.91**	**109**	*eP*		**Pn**	**23 23 36.2**	**+1.1**
GPS2	**Hotel Rincn d**	**3.91**	**109**	*eP*		**Pn**	**23 23 36.6**	**+1.4**
ORTG	**Ortega, Santa**	**3.96**	**115**	Pn		**Pn**	**23 23 36.5**	**+0.5**
ORTG	**Ortega, Santa**	**3.96**	**115**	*eP*		**Pn**	**23 23 36.8**	**+0.8**
GUAB	**Guayabo de Bag**	**4.04**	**109**	*eP*		**Pn**	**23 23 38.7**	**+1.8**
MESS	**Mesas**	**4.06**	**109**	*eP*		**Pn**	**23 23 39.0**	**+1.8**
MESS				*eS*		**Sn**	**23 24 27.0**	**+2.2**
DUNO	**Dulce Nombre,**	**4.06**	**119**	Pn		**Pn**	**23 23 37.7**	**+0.4**
HORNC	**Hornillas**	**4.08**	**109**	*eP*		**Pn**	**23 23 39.5**	**+1.9**
CUI	**Cuipilapa**	**4.12**	**110**	*eP*		**Pn**	**23 23 39.8**	**+1.8**
CUI				*eS*		**Sn**	**23 24 25.5**	**-0.6**
INDI	**Punta indio, G**	**4.17**	**121**	*eP*		**Pn**	**23 23 38.9**	**+0.3**
ACAL	**Aguas Claras**	**4.24**	**109**	*eP*		**Pn**	**23 23 41.5**	**+1.7**
POPE	**POPE, Guanacas**	**4.27**	**117**	*eP*		**Pn**	**23 23 40.9**	**+0.8**
JTS	**Las Juntas de**	**4.45**	**113**	Pn		**Pn**	**23 23 43.9**	**+1.3**
	10nm,0.3s,baz=27,slow=12,SNR=26							
JTS						Sn	**23 24 33.8**	**-0.4**
	16nm,0.3s,baz=240,slow=23,SNR=8.6							
JTS	**Las Juntas de**	**4.45**	**113**	*eP*		**Pn**	**23 23 43.8**	**+1.3**
CASO	**Castillo**	**4.59**	**110**	*eP*		**Pn**	**23 23 46.2**	**+1.6**
CEDE	**Laguna Cedeo**	**4.60**	**110**	*eP*		**Pn**	**23 23 46.5**	**+1.8**
FORC	**Fortuna**	**4.64**	**110**	*eP*		**Pn**	**23 23 46.9**	**+1.7**
COVE	**Coope Vega, Sa**	**4.81**	**106**	Pn		**Pn**	**23 23 48.4**	**+0.9**
JACO	**JACO, Garabito**	**4.98**	**118**			**Pn**	**23 23 51.9**	**+2.0**
CCIG	**Comitan**	**5.11**	**325**	Pn		**Pn**	**23 23 52.4**	**+0.5**
RIMA	**Rio Macho**	**5.64**	**113**			**Pn**	**23 24 00.4**	**+1.3**
RIMA	**Rio Macho**	**5.64**	**113**	*eP*		**Pn**	**23 24 01.0**	**+1.9**
CDM	**Cerro de Muert**	**5.82**	**115**	*eP*		**Pn**	**23 24 04.5**	**+2.7**
BATAN	**Batan**	**5.96**	**109**	Pn		**Pn**	**23 24 04.8**	**+1.5**
PEZE	**Perez Zeledon,**	**5.97**	**116**			**Pn**	**23 24 04.9**	**+1.4**
SRBA	**San Rafael, Bu**	**6.32**	**116**	Pn		**Pn**	**23 24 10.0**	**+1.6**
SRBA	**San Rafael, Bu**	**6.32**	**116**	*eP*		**Pn**	**23 24 10.4**	**+2.1**
TEIG	**Tepich**	**8.15**	**6**	Pn		**Pn**	**23 24 36.3**	**+2.9**
BCIP	**Isla Barro Col**	**9.56**	**107**	Pn		**Pn**	**23 24 53.3**	**+0.5**
TLIG	**Tlapa**	**10.65**	**302**	Pn		**Pn**	**23 25 10.3**	**+2.5**
TULM	**Tulcn-Chalpat**	**15.92**	**134**	Pn		**Pn**	**23 26 20.3**	**+0.6**
PULU	**Pululahua**	**15.94**	**138**	Pn		**Pn**	**23 26 20.2**	**+0.3**
IMBA	**Imbabura, San**	**15.96**	**136**	Pn		**Pn**	**23 26 21.4**	**+1.2**
ROSC	**El Rosal**	**16.29**	**115**	Pn		**Pn**	**23 26 25.2**	**+0.8**
SLOR	**San Lorenzo -**	**16.52**	**140**	Pn		**Pn**	**23 26 27.2**	**-0.2**
COHC	**Cochancay**	**17.45**	**145**	P		**Pn**	**23 26 40.3**	**+1.7**
BOSC	**San Juan Bosco**	**18.44**	**144**	P		**P**	**23 26 52.0**	**+1.0**
SDV	**Santo Domingo**	**18.44**	**98**	P		**Pn**	**23 26 51.0**	**-0.1**
451A	**Vernon**	**18.72**	**9**	P		**Pn**	**23 26 55.0**	**+0.9**
451A				IAmb		IAmb	23 26 57.4	
	comp=Z,52nm,1.1s							
833A	**Chaparral WMA,**	**18.81**	**331**	P		**P**	**23 26 55.4**	**+0.6**
HKT	**Hockley**	**18.86**	**342**	P		**P**	**23 26 55.0**	**-0.1**
441A	**DeRidder**	**18.97**	**349**	P		**P**	**23 26 57.4**	**+0.9**
441A				IAmb		IAmb	23 27 15.0	
	comp=Z,30nm,0.9s							
344A	**Westbrook Farm**	**19.35**	**356**	P		**P**	**23 27 01.6**	**+1.0**
344A				IAmb		IAmb	23 27 04.1	
	comp=Z,23nm,0.9s							
342A	**Flagon Creek P**	**19.44**	**352**	P		**Pn**	**23 27 03.1**	**+0.3**
342A				IAmb		IAmb	23 27 12.3	
	comp=Z,19nm,0.8s							
352A	**Blakely**	**19.70**	**11**	P		**P**	**23 27 04.6**	**+0.2**
TIGA	**Tifton**	**19.94**	**14**	P		**P**	**23 27 08.1**	**+1.0**
250A	**Grady**	**19.98**	**7**	P		**P**	**23 27 08.2**	**+0.6**
250A				IAmb		IAmb	23 27 10.8	
	comp=Z,38nm,1.5s							
VBMS	**Vicksburg**	**20.09**	**357**	P		**P**	**23 27 10.1**	**+1.3**
435B	**Jarrell**	**20.21**	**338**	P		**P**	**23 27 09.9**	**-0.1**
NATX	**Nacogdoches**	**20.25**	**346**	P		**P**	**23 27 10.7**	**+0.2**
NATX				IAmb		IAmb	23 27 20.2	
	comp=Z,24nm,0.7s							
146A	**Union**	**20.47**	**0**	P		**P**	**23 27 14.1**	**+1.3**
146A				IAmb		IAmb	23 27 15.3	
	comp=Z,31nm,0.8s							
143A	**Socs Landing,**	**20.64**	**355**	P		**P**	**23 27 15.5**	**+0.8**
255A	**Hazlehurst**	**20.68**	**16**	P		**P**	**23 27 14.7**	**-0.4**
255A				IAmb		IAmb	23 27 17.2	
	comp=Z,31nm,1.1s							
JCT	**Junction City**	**20.83**	**333**	P		**P**	**23 27 17.3**	**+0.5**
152A	**Waverly Hall**	**20.89**	**10**	P		**P**	**23 27 18.5**	**+1.1**
BAUV	**El Baul**	**20.95**	**97**	P		**P**	**23 27 17.4**	**-0.8**
BAUV				IAmb		IAmb	23 27 22.7	
	comp=Z,42nm,1.4s							
LRAL	**Lakeview Retre**	**20.96**	**5**			**P**	**23 27 17.7**	**-0.4**
Z47A	**Carrollton**	**21.05**	**2**	P		**P**	**23 27 19.8**	**+0.7**
154A	**Montrose**	**21.18**	**14**	P		**P**	**23 27 20.2**	**-0.2**
154A				IAmb		IAmb	23 27 23.3	
	comp=Z,33nm,0.9s							
WHTX	**Lake Whitney,**	**21.26**	**340**	IAmb		IAmb	23 27 30.4	
	comp=Z,22nm,0.7s							
Z51A	**Franklin**	**21.45**	**9**	P		**P**	**23 27 23.4**	**-0.1**
WLAR	**White Oak Lake**	**21.83**	**351**	P		**P**	**23 27 28.0**	**+0.5**
WLAR				IAmb		IAmb	23 27 43.3	
	comp=Z,18nm,0.9s							
Y49A	**Blount Mountai**	**21.83**	**6**	P		**P**	**23 27 27.6**	**+0.1**
Y49A				IAmb		IAmb	23 27 36.6	
	comp=Z,14nm,0.6s							
TX31	**Lajitas Ar. Si**	**21.88**	**324**	P		**P**	**23 27 29.2**	**+0.9**
TX32	**Lajitas Array**	**21.88**	**324**	P		**P**	**23 27 28.7**	**+0.5**
TXAR	**Lajitas Array**	**21.88**	**324**	P		**P**	**23 27 29.4**	**+1.2**
	comp=Z,3.0nm,0.9s,baz=144,slow=11,SNR=9.8							
TXAR				PcP		**PcP**	**23 31 27.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=178,slow=2.7,SNR=4.0							
	comp=Z,3.0nm,0.9s							
TXAR	**Lajitas Array**	**21.88**	**324**	P		**P**	**23 27 28.4**	**+0.2**
Y52A	**Lilburn**	**22.18**	**11**	P		**P**	**23 27 31.0**	**-0.3**
Y52A				IAmb		IAmb	23 27 32.9	
	comp=Z,20nm,1.1s							
OXF	**Oxford**	**22.34**	**359**	P		**P**	**23 27 33.1**	**+0.1**
OXF				IAmb		IAmb	23 27 35.2	
	comp=Z,23nm,0.8s							
Z35A	**Perchaven, San**	**22.44**	**342**	P		**P**	**23 27 33.4**	**-0.7**
Z35A				IAmb		IAmb	23 27 44.2	
	comp=Z,16nm,0.8s							
NHSC	**New Hope**	**22.48**	**20**	P		**P**	**23 27 36.0**	**+1.6**
ABTX	**Abilene, Hawle**	**22.63**	**336**	P		**P**	**23 27 36.3**	**+0.2**
MIAR	**Mount Ida**	**22.74**	**350**	P		**P**	**23 27 37.1**	**-0.2**
MIAR				IAmb		IAmb	23 27 47.4	
	comp=Z,16nm,0.8s							
UALR	**University of**	**22.79**	**353**	P		**P**	**23 27 37.4**	**-0.4**
UALR				IAmb		IAmb	23 27 40.8	
	comp=Z,16nm,0.8s							
W45A	**Hickory Valley**	**22.98**	**360**	P		**P**	**23 27 39.8**	**0.0**
W45A				IAmb		IAmb	23 27 41.3	
	comp=Z,19nm,0.8s							
JSC	**Jenkinsville**	**23.24**	**17**	P		**P**	**23 27 42.6**	**+0.3**
JSC				IAmb		IAmb	23 27 43.5	
	comp=Z,12nm,0.8s							
Y57A	**Sumter**	**23.25**	**19**	P		**P**	**23 27 42.9**	**+0.4**
W50A	**Signal Mountai**	**23.28**	**8**	P		**P**	**23 27 43.5**	**+0.6**
WHAR	**Wooly Hollow**	**23.30**	**353**	IAmb		IAmb	23 27 45.1	
	comp=Z,13nm,1.0s							
Y58A	**Scranton**	**23.38**	**20**	P		**P**	**23 27 44.3**	**+0.5**
X34A	**Smith Ranch, M**	**23.79**	**342**	P		**P**	**23 27 48.6**	**+0.8**
X34A				IAmb		IAmb	23 27 49.5	
	comp=Z,30nm,1.2s							
BIRD	**Birdtown, Kers**	**23.81**	**18**	IAmb		IAmb	23 27 49.9	
	comp=Z,18nm,1.2s							
FCAR	**Ozark Folk Cen**	**23.87**	**354**	IAmb		IAmb	23 27 58.3	
	comp=Z,17nm,0.8s							
LCAR	**Lake Charles**	**23.96**	**356**	IAmb		IAmb	23 27 50.3	
	comp=Z,13nm,0.8s							
TKL	**Tuckaleechee C**	**23.98**	**11**	P		**P**	**23 27 49.1**	**-0.5**
	comp=Z,11nm,0.9s,baz=181,slow=12,SNR=14							
	comp=Z,11nm,0.9s							
TKL	**Tuckaleechee C**	**23.98**	**11**	IAmb		IAmb	23 27 58.7	
	comp=Z,6nm,0.8s							
WVT	**Waverly**	**23.98**	**3**	P		**P**	**23 27 50.2**	**+0.6**
KMSC	**Kings Mountain**	**24.03**	**16**	IAmb		IAmb	23 27 51.6	
	comp=Z,12nm,1.0s							
V53A	**Saluda**	**24.18**	**13**	IAmb		IAmb	23 28 01.6	
	comp=Z,13nm,0.8s							
V52A	**Sevierville**	**24.19**	**11**	P		**P**	**23 27 51.1**	**-0.5**
W57A	**Gilead**	**24.42**	**18**	IAmb		IAmb	23 27 55.5	
	comp=Z,22nm,1.1s							
TUL1	**Leonard**	**24.49**	**347**	P		**P**	**23 27 54.1**	**-0.2**
TUL1				IAmb		IAmb	23 27 54.6	
	comp=Z,8.1nm,0.8s							
OK025	**Westminster Rd**	**24.56**	**344**	P		**P**	**23 27 54.0**	**-1.1**
OK025				IAmb		IAmb	23 27 55.3	
	comp=Z,16nm,0.8s							
BCOK	**Bluff Creek, N**	**24.71**	**343**	P		**P**	**23 27 55.4**	**-0.9**
BCOK				IAmb		IAmb	23 28 04.9	
	comp=Z,11nm,0.8s							
V55A	**Taylorsville**	**24.73**	**15**	IAmb		IAmb	23 27 58.6	
	comp=Z,7.7nm,0.8s							
OK030	**Cody Creek RV**	**24.75**	**345**	P		**P**	**23 27 55.3**	**-1.3**
OK030				IAmb		IAmb	23 27 57.2	
	comp=Z,22nm,1.1s							
OK031	**S. Brethren Rd**	**24.78**	**345**	P		**P**	**23 27 55.4**	**-1.6**
OK029	**Liberty Lake**	**24.80**	**344**	P		**P**	**23 27 55.8**	**-1.3**
OK029				IAmb		IAmb	23 27 56.8	
	comp=Z,15nm,0.8s							
OK034	**N. Norfolk Rd.**	**24.80**	**345**	P		**P**	**23 27 55.9**	**-1.3**
OK052	**Battle Ridge R**	**24.81**	**345**	P		**P**	**23 27 56.1**	**-1.2**
OK053	**SW of W Deep R**	**24.83**	**345**	P		**P**	**23 27 55.6**	**-1.8**
T47A	**Sharon Grove**	**24.88**	**4**	P		**P**	**23 27 57.3**	**-0.6**
TZTN	**Tazewell**	**24.88**	**11**	P		**P**	**23 27 58.5**	**+0.7**
TZTN				IAmb		IAmb	23 28 05.5	
	comp=Z,11nm,1.2s							
OK033	**Mehan**	**24.89**	**345**	P		**P**	**23 27 57.3**	**-0.7**
OK033				IAmb		IAmb	23 27 57.5	
	comp=Z,11nm,0.8s							
QUOK	**Quay**	**24.96**	**345**	P		**P**	**23 27 57.4**	**-1.2**
QUOK				IAmb		IAmb	23 28 06.5	
	comp=Z,23nm,0.9s							
CSTR	**Hydro, Custer**	**25.02**	**341**	P		**P**	**23 27 58.0**	**-1.2**
CSTR				IAmb		IAmb	23 27 59.1	
	comp=Z,3.3nm,1.4s							
CGM3	**Cape Girardeau**	**25.12**	**359**	IAmb		IAmb	23 28 15.1	
	comp=Z,5.1nm,0.8s							
OK044	**Pawnee Station**	**25.17**	**345**	P		**P**	**23 27 59.2**	**-1.3**
OK044				IAmb		IAmb	23 28 00.1	
	comp=Z,10nm,0.7s							
U54A	**Nelsons Funny**	**25.21**	**14**	P		**P**	**23 28 00.6**	**-0.4**
OK046	**Pawnee Station**	**25.22**	**345**	P		**P**	**23 27 59.9**	**-1.0**
OK046				IAmb		IAmb	23 28 08.4	
	comp=Z,10nm,0.9s							
OK050	**Pawnee Station**	**25.24**	**345**	P		**P**	**23 28 00.5**	**-0.6**
OK050				IAmb		IAmb	23 28 00.7	
	comp=Z,14nm,0.9s							
OK048	**Pawnee Station**	**25.25**	**345**	P		**P**	**23 27 59.9**	**-1.3**
OK048				IAmb		IAmb	23 28 00.8	
	comp=Z,10nm,0.8s							
OK045	**Pawnee Station**	**25.27**	**345**	P		**P**	**23 28 00.7**	**-0.7**
OK045				IAmb		IAmb	23 28 01.5	
	comp=Z,19nm,1.4s							
OK051	**E0350 and S346**	**25.31**	**345**	P		**P**	**23 28 01.4**	**-0.3**
OK051				IAmb		IAmb	23 28 03.2	
	comp=Z,14nm,1.0s							
U56A	**King**	**25.42**	**17**	P		**P**	**23 28 04.5**	**+1.7**
U56A				IAmb		IAmb	23 28 06.0	
	comp=Z,12nm,0.9s							
S44A	**Carbondale**	**25.52**	**360**	P		**P**	**23 28 04.1**	**+0.5**
S44A				IAmb		IAmb	23 28 05.8	
	comp=Z,10nm,0.8s							
CZSB	**Cruzeiro do Su**	**25.55**	**140**	P		**P**	**23 28 05.3**	**+1.1**
CZSB				IAmb		IAmb	23 28 18.6	
	comp=Z,12nm,0.6s							
ELIS	**Ellis County**	**25.64**	**340**	P		**P**	**23 28 04.9**	**+0.1**
ELIS				IAmb		IAmb	23 28 14.1	
	comp=Z,19nm,0.9s							
BLOK	**Blackwell**	**25.64**	**345**	IAmb		IAmb	23 28 12.7	
	comp=Z,15nm,0.8s							
S39A	**Bolivar**	**25.79**	**352**	IAmb		IAmb	23 28 08.1	
	comp=Z,11nm,1.3s							
OK038	**West end E0370**	**25.81**	**342**	P		**P**	**23 28 05.8**	**-0.5**
OK038				IAmb		IAmb	23 28 06.9	
	comp=Z,14nm,0.9s							
CCM	**Cathedral Cave**	**25.95**	**356**	P		**P**	**23 28 06.6**	**-1.0**
CCM				IAmb		IAmb	23 28 34.7	
	comp=Z,11nm,0.8s							
KAN13	**South Haven SW**	**25.95**	**345**	P		**P**	**23 28 06.4**	**-1.2**
KAN17	**Caldwell West**	**26.05**	**344**	P		**P**	**23 28 07.7**	**-0.9**
KAN17				IAmb		IAmb	23 28 16.4	
	comp=Z,16nm,0.9s							
KAN05	**Bluff City Nor**	**26.14**	**344**	P		**P**	**23 28 09.2**	**-0.2**
WCI	**Wyandotte Cave**	**26.17**	**5**	P		**P**	**23 28 08.7**	**-0.9**
WCI				IAmb		IAmb	23 28 09.0	
	comp=Z,8.1nm,0.7s							
R32A	**Long Quarter,**	**27.61**	**344**	P		**P**	**23 28 21.7**	**-0

ZAA0	**Zalesovo Array**	**40.93 323**	P	**P**	**23 38 06.1**	**-0.9**
ZAA0			IAmb	IAmb	23 38 07.2	
	comp=Z,4.1nm,1.1s					
ZALV	**Zalesovo Beam**	**40.93 323**	P	**P**	**23 38 05.3**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=126,slow=7.4,SNR=6.3					
	comp=Z,1.9nm,0.8s					
ZALV	**Zalesovo Beam**	**40.93 323**	P	**P**	**23 38 05.9**	**-1.1**
KURK	**Kurchatov**	**43.39 317**		**P**	**23 38 26.2**	**-0.8**
KURK			IAmb	IAmb	23 38 27.5	
	comp=Z,7.2nm,1.1s					
KURBB	**Kurchatov Arra**	**43.42 317**	P	**P**	**23 38 26.6**	**-0.7**
	comp=Z,3.4nm,1.0s,baz=107,slow=8.2,SNR=14					
	comp=Z,3.4nm,1.0s					
WB0	**Warramunga Arr**	**46.77 170**	P	P	23 38 58.6	+4.3
WB0			IAmb	IAmb	23 39 37.9	
	comp=Z,5.1nm,1.4s					
WRA	**Warramunga Arr**	**46.94 170**	P	**P**	**23 38 56.9**	**+1.3**
	comp=Z,0.4nm,1.0s,baz=350,slow=8.4,SNR=1.9					
	comp=Z,0.4nm,1.0s					
WRA	**Warramunga Arr**	**46.94 170**		P	23 39 01.2	+5.7
WB2	**Warramunga Arr**	**46.94 170**	P	P	23 39 01.9	+6.3
WB2			IAmb	IAmb	23 39 42.4	
	comp=Z,4.1nm,1.1s					
BRVK	**Borovoye**	**48.94 318**		**P**	**23 39 10.6**	**-0.2**
KBL	**Kabul**	**49.42 294**	P	**P**	**23 39 15.2**	**+0.1**
ASAR	**Alice Springs**	**50.53 171**	P	**P**	**23 39 25.0**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=355,slow=9.3,SNR=1.9					
	comp=Z,0.4nm,0.8s					

*IDC **24** 23:33:55.3±2.2,36°.96N×141°.88E,h0km,mb3.4/4, mbtmp3.3/5, ML2.2/1, Error ellipse: s-maj=45.3km s-min=30.6km az=64.0*
*JMA **24** 23:33:56.6±0.2,37°.2N±0°.4×141°.5E±0°.9,h31km±1km, MV3.5/38, E OFF FUKUSHIMA PREF*
ISC 24 23:33:59.3±1.3,37°.25N±0°.05×141°.43E±0°.10,h35km,n19, σ2s14/17,mb3.1/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**285**	*i* P	**Pn**	**23 34 07.3**	**-2.0**
JFK				S	**Sn**	**23 34 14.9**	**-1.4**
JMST	**Minamisoumatoc**	**0.64**	**318**	*i* P	**Pn**	**23 34 10.2**	**-1.6**
JMST				S	**Sn**	**23 34 20.0**	**-0.8**
JFFD	**Fukushimafurud**	**0.71**	**257**	*i* P	**Pn**	**23 34 11.2**	**-1.6**
JFFD				S	**Sn**	**23 34 21.9**	**-0.7**
JMM	**Marumori**	**0.80**	**321**	P	**Pn**	**23 34 12.7**	**-1.3**
JMM				S	**Sn**	**23 34 24.2**	**-0.5**
JHO	**Hitachi**	**0.94**	**227**	P	**Pn**	**23 34 13.8**	**-2.2**
JHO				S	**Sn**	**23 34 26.5**	**-1.6**
JIO	**Ouri**	**1.21**	**357**	*i* P	**Pn**	**23 34 18.1**	**-1.6**
JIO				S	**Sn**	**23 34 34.4**	**-0.4**
JOU	**Okura**	**1.27**	**332**	P	**Pn**	**23 34 20.5**	**-0.1**
MJAR	**Matsushiro Arr**	**2.67**	**256**	Pn	**Pn**	**23 34 42.9**	**+3.1**
	0.3nm,0.3s,baz=85,slow=16,SNR=5.2						
MJAR				Sn	Sn	23 35 22.5	+11
	0.5nm,0.3s,baz=84,slow=25,SNR=4.9						
	2.3nm,0.3s						
SONM	**Songino Array**	**27.67**	**304**	P	**P**	**23 39 49.2**	**+5.2**
	0.4nm,0.8s,baz=96,slow=10,SNR=2.5						
	0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	00 09 14.9	
	baz=314,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	00 09 16.0	
	baz=314,slow=75,SNR=97						
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	00 09 17.0	
	baz=314,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	00 10 06.8	
	baz=316,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	00 10 09.0	
	baz=316,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	00 10 08.0	
	baz=316,slow=76,SNR=33						
WMQ	**Urumqi**	**40.75**	**297**	*eP*	**P**	**23 41 35.3**	**-1.6**
MKAR	**Makanchi Array**	**44.01**	**302**	P	P	23 42 08.2	+4.9
	0.3nm,0.8s,baz=91,slow=6.2,SNR=2.8						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**45.88**	**308**	P	P	23 42 22.2	+4.2
	0.8nm,0.7s,baz=85,slow=9.2,SNR=5.3						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**23 43 43.6**	**+0.2**
	0.1nm,0.5s,baz=7.4,slow=7.6,SNR=1.4						
	0.1nm,0.5s						

WEL 24 23:35:42.9±0.3,42°S±3°×17°4E±°,h7km±2km,M2.9/22, ML3.2/18,MLv2.9/22,Error ellipse: s-maj=0.0km s-min=0.0km az=133.8,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.19**	**31**	P	Pg	23 35 47.9	+1.2
CMWZ				S	Sg	23 35 51.8	+2.5
BSWZ	**Blackbirch Sta**	**0.25**	**321**	P	Pg	23 35 48.2	+0.3
BSWZ				S	Sg	23 35 52.0	+0.9
TUWZ	**Tuamarina**	**0.49**	**348**	P	Pg	23 35 53.0	+0.6
TUWZ				S	Sg	23 35 59.9	+1.1
KHZ	**Kahutara**	**0.65**	**218**	P	Pb	23 35 56.0	-0.5
TCW	**Tory Channel**	**0.71**	**12**	P	Pg	23 35 56.9	+0.2
WEL	**Wellington**	**0.81**	**40**	P	Pb	23 35 59.7	+0.4
WEL	**Wellington**	**0.81**	**40**	S	Sn	23 36 13.2	+0.2
NNZ	**Nelson**	**0.87**	**322**	P	Pg	23 35 59.4	-0.2
THZ	**Tophouse**	**0.89**	**279**	P	Pg	23 35 59.9	-0.1
THZ	**Tophouse**	**0.89**	**279**	S	Sg	23 36 12.1	+0.4
PLWZ	**Palliser**	**0.94**	**69**	P	Pg	23 36 01.2	+0.2
MSWZ	**Moikau Station**	**1.00**	**61**	P	Pg	23 36 02.3	+0.2
CAW	**Cannon Point**	**1.09**	**43**	P	Pg	23 36 03.8	0.0
DUWZ	**D'Urville Isla**	**1.11**	**354**	P	Pg	23 36 03.8	-0.5
MRNZ	**Matariki Terra**	**1.12**	**297**	P	Pg	23 36 04.3	0.0
PAWZ	**Paruwai Farm**	**1.14**	**63**	P	Pg	23 36 03.9	-0.8
TKNZ	**Takaka Hill**	**1.22**	**316**	P	Pg	23 36 05.6	-0.7
KIW	**Kapiti Island**	**1.22**	**31**	P	Pb	23 36 06.1	-0.2
MTW	**Mount Morrison**	**1.30**	**55**	P	Pn	23 36 06.2	-1.4
TRWZ	**Traveller**	**1.31**	**67**	P	Pn	23 36 05.7	-1.9
TRWZ	**Traveller**	**1.31**	**67**	P	Pn	23 36 06.0	-1.5
GVZ	**Greta Valley S**	**1.31**	**216**	P	Pn	23 36 06.5	-1.2
OGWZ	**Otaki Gorge**	**1.36**	**37**	P	Pn	23 36 07.6	-0.7
HOWZ	**Holdsworth Sta**	**1.48**	**47**	P	Pn	23 36 08.8	-1.1
TMWZ	**Te Maipa**	**1.58**	**60**	P	Pn	23 36 09.9	-1.4
QRZ	**Quartz Range**	**1.59**	**312**	P	Pb	23 36 12.1	-0.5
LTZ	**Lake Taylor**	**1.60**	**236**	P	Pn	23 36 10.7	-0.9
AMCZ	**Amberley**	**1.65**	**219**	P	Pn	23 36 12.5	+0.3
MRZ	**Mangatainoka R**	**1.68**	**43**	P	Pn	23 36 11.5	-1.2
DSZ	**Denniston Nort**	**1.71**	**275**	P	Pb	23 36 14.0	-0.7
OKCZ	**Okains Bay**	**1.96**	**202**	P	Pn	23 36 14.4	-2.2
PRWZ	**Pori Road**	**1.96**	**47**	P	Pb	23 36 19.5	+0.5
POWZ	**Post Office Ro**	**1.98**	**41**	P	Pn	23 36 16.0	-0.8
BFZ	**Birch Farm**	**2.04**	**54**	P	Pg	23 36 21.8	-0.2
MQZ	**McQueen's Vall**	**2.08**	**210**	P	Pn	23 36 15.3	-2.9
INZ	**Inchbonnie**	**2.12**	**247**	P	Pn	23 36 18.5	-0.2
DVHZ	**Dannevirke**	**2.25**	**45**	P	Pg	23 36 25.5	-0.5
VRZ	**Vera Road**	**2.83**	**11**	P	Pb	23 36 32.0	-1.7
BHHZ	**Black Hill Sta**	**2.85**	**33**	P	Pb	23 36 34.5	+0.5
RPZ	**Rata Peaks**	**2.87**	**230**	P	Pn	23 36 27.3	-1.7
OTVZ	**Oturere**	**3.00**	**24**	P	Pb	23 36 36.8	+0.1
TMVZ	**Te Maari**	**3.05**	**24**	P	Pb	23 36 36.4	-1.2
NTVZ	**North Tongarir**	**3.06**	**24**	P	Pb	23 36 37.5	-0.2
TMZ	**Timaru**	**3.34**	**221**	P	Pn	23 36 33.7	-1.9
HIZ	**Hauiti**	**3.44**	**10**	P	Pb	23 36 40.9	-3.3
ODZ	**Otahua Downs**	**4.01**	**217**	P	Pn	23 36 42.0	-2.7

WEL 24 23:36:19.1±0.3,42°S±3°×17°4E±°,h8km±3km,M3.3/24, ML3.5/18,MLv3.3/24,Error ellipse: s-maj=0.0km s-min=0.0km az=139.3,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.20**	**36**	P	Pg	23 36 24.3	+1.2
CMWZ				S	Sg	23 36 28.4	+2.5
BSWZ	**Blackbirch Sta**	**0.24**	**325**	P	Pg	23 36 24.4	+0.6
BSWZ				S	Sg	23 36 28.2	+1.1
TUWZ	**Tuamarina**	**0.49**	**350**	P	Pb	23 36 29.2	-0.6
TUWZ				S	Sb	23 36 36.3	-0.8
KHZ	**Kahutara**	**0.64**	**217**	P	Pg	23 36 31.9	+0.5
TCW	**Tory Channel**	**0.72**	**13**	P	Pg	23 36 33.1	+0.2
WEL	**Wellington**	**0.82**	**41**	P	Pb	23 36 35.7	+0.1
NNZ	**Nelson**	**0.86**	**323**	P	Pg	23 36 35.5	-0.1
THZ	**Tophouse**	**0.88**	**279**	P	Pg	23 36 36.2	+0.3
PLWZ	**Palliser**	**0.96**	**70**	P	Pg	23 36 37.3	-0.2
MSWZ	**Moikau Station**	**1.02**	**61**	P	Pg	23 36 38.7	+0.1
MRNZ	**Matariki Terra**	**1.10**	**297**	P	Pb	23 36 40.5	+0.1
CAW	**Cannon Point**	**1.10**	**44**	P	Pg	23 36 40.0	-0.2
DUWZ	**D'Urville Isla**	**1.11**	**355**	P	Pg	23 36 39.9	-0.5
PAWZ	**Paruwai Farm**	**1.15**	**63**	P	Pg	23 36 40.2	-1.0
TKNZ	**Takaka Hill**	**1.20**	**316**	P	Pb	23 36 41.6	-0.5
KIW	**Kapiti Island**	**1.23**	**32**	P	Pb	23 36 42.5	0.0
GVZ	**Greta Valley S**	**1.30**	**215**	P	Pn	23 36 42.7	-0.9
MTW	**Mount Morrison**	**1.32**	**56**	P	Pn	23 36 42.1	-1.7
OGWZ	**Otaki Gorge**	**1.38**	**38**	P	Pn	23 36 43.8	-0.8
QRZ	**Quartz Range**	**1.58**	**313**	P	Pb	23 36 48.6	+0.1
LTZ	**Lake Taylor**	**1.59**	**236**	P	Pn	23 36 47.0	-0.5
DSZ	**Denniston Nort**	**1.69**	**275**	P	Pb	23 36 49.9	-0.6
MRZ	**Mangatainoka R**	**1.69**	**43**	P	Pn	23 36 47.9	-1.1
OKCZ	**Okains Bay**	**1.96**	**202**	P	Pn	23 36 50.4	-2.2

WEL 24 23:40:35.0±0.5,42°S±3°×17°4E±°,h11km±3km,M3.4/29, ML3.8/12,MLv3.4/29,Error ellipse: s-maj=0.0km s-min=0.0km az=119.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**237**	P	Pb	23 40 40.3	-0.7
KHZ				S	Sg	23 40 44.9	+2.1
BSWZ	**Blackbirch Sta**	**0.58**	**6**	P	Pg	23 40 46.5	+0.2
BSWZ				S	Sb	23 40 55.5	0.0
CMWZ	**Cape Campbell**	**0.63**	**30**	P	Pb	23 40 48.7	+0.7
THZ	**Tophouse**	**0.85**	**309**	P	Pb	23 40 51.6	-0.1
GVZ	**Greta Valley S**	**0.87**	**220**	P	Pg	23 40 51.8	0.0
GVZ				S	Sn	23 41 04.9	-1.0
TUWZ	**Tuamarina**	**0.88**	**8**	P	Pb	23 40 52.0	-0.1
TUWZ				S	Sb	23 41 04.7	+0.9
NNZ	**Nelson**	**1.12**	**344**	P	Pb	23 40 55.8	-0.5
TCW	**Tory Channel**	**1.15**	**19**	P	Pb	23 40 55.3	-1.4
MRNZ	**Matariki Terra**	**1.18**	**319**	P	Pn	23 40 57.5	0.0
AMCZ	**Amberley**	**1.22**	**223**	P	Pn	23 40 56.6	-1.3
LTZ	**Lake Taylor**	**1.22**	**246**	P	Pn	23 40 57.1	-0.9
WEL	**Wellington**	**1.25**	**36**	P	Pn	23 40 56.8	-1.6
PLWZ	**Palliser**	**1.31**	**57**	P	Pn	23 40 56.9	-2.4
MSWZ	**Moikau Station**	**1.40**	**52**	P	Pn	23 40 58.0	-2.4
TKNZ	**Takaka Hill**	**1.41**	**334**	P	Pn	23 41 00.6	+0.1
DUWZ	**D'Urville Isla**	**1.50**	**4**	P	Pn	23 41 01.4	-0.4
OKCZ	**Okains Bay**	**1.52**	**200**	P	Pn	23 41 00.3	-1.9
CAW	**Cannon Point**	**1.52**	**39**	P	Pn	23 41 00.2	-1.9
PAWZ	**Paruwai Farm**	**1.53**	**54**	P	Pn	23 40 59.5	-2.7
DSZ	**Denniston Nort**	**1.58**	**290**	P	Pb	23 41 04.4	+0.2
MQZ	**McQueen's Vall**	**1.64**	**210**	P	Pn	23 41 01.0	-2.6
OXZ	**Oxford**	**1.65**	**231**	P	Pn	23 41 01.9	-1.9
TRWZ	**Traveller**	**1.68**	**58**	P	Pn	23 41 01.6	-2.7
AKCZ	**Akaroa Harbour**	**1.70**	**202**	P	Pn	23 41 02.3	-2.2
MTW	**Mount Morrison**	**1.71**	**49**	P	Pn	23 41 02.3	-2.4
QRZ	**Quartz Range**	**1.75**	**327**	P	Pb	23 41 06.2	-0.8
INZ	**Inchbonnie**	**1.79**	**255**	P	Pn	23 41 05.1	-0.6
OGWZ	**Otaki Gorge**	**1.81**	**35**	P	Pn	23 41 04.0	-1.9
RACZ	**Rakaia**	**1.87**	**220**	P	Pn	23 41 04.7	-2.2
TMWZ	**Te Maipa**	**1.97**	**54**	P	Pn	23 41 05.8	-2.5
MHCZ	**Mount Hutt**	**2.05**	**232**	P	Pn	23 41 07.3	-2.1
MRZ	**Mangatainoka R**	**2.12**	**40**	P	Pn	23 41 07.8	-2.5
WACZ	**Wakanui South**	**2.18**	**220**	P	Pn	23 41 09.1	-2.0
WVZ	**Waitaha Valley**	**2.38**	**250**	P	Pn	23 41 13.4	-0.5
BFZ	**Birch Farm**	**2.45**	**50**	P	Pn	23 41 11.7	-3.2
RPZ	**Rata Peaks**	**2.46**	**234**	P	Pn	23 41 13.1	-1.9
ARCZ	**Arundel**	**2.53**	**228**	P	Pn	23 41 13.9	-2.0
GCSZ	**Gaunt Creek Bo**	**2.75**	**247**	P	Pn	23 41 18.6	-0.3
TSZ	**Takapari Road**	**2.77**	**37**	P	Pn	23 41 17.1	-2.2
TMZ	**Timaru**	**2.91**	**223**	P	Pn	23 41 19.3	-1.9
FOZ	**Fox Glacier**	**3.17**	**246**	P	Pn	23 41 24.2	-0.5
VRZ	**Vera Road**	**3.25**	**13**	P	Pn	23 41 26.3	+0.4
LBZ	**Lake Benmore**	**3.36**	**230**	P	Pn	23 41 26.0	-1.4
ODZ	**Otahua Downs**	**3.57**	**219**	P	Pn	23 41 28.0	-2.3
HIZ	**Hauiti**	**3.87**	**12**	P	Pn	23 41 34.7	+0.4
HHSZ	**Highcliff Hill**	**4.26**	**212**	P	Pn	23 41 37.4	-2.3
TUZ	**Tuapeka**	**4.72**	**218**	P	Pn	23 41 44.0	-2.1
SYZ	**Scrubby Hill**	**5.39**	**217**	P	Pn	23 41 53.8	-1.5

*ROM **24** 23:41:39.2±0.1,42°.985N±0°.003×13°.165E±0°.004, h7km, ML2.3/5, Error ellipse: s-maj=0.3km s-min=0.2km az=52.0*
*VIE **24** 23:41:41.4±1.6,43°.01N×13°.60E,h8km,mb2.8/6,ml2.4/6, Error ellipse: s-maj=14.4km s-min=10.2km az=117.0 136 km SE of San Marino*
ISC 24 23:41:39.7±0.9,43°.00N±0°.02×13°.17E±0°.02,h4km±7km, n30,σ1s23/48,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1256	**Bolognola (MC)**	**0.04**	**78**	P	**Pg**	**23 41 40.3**	**-0.6**
T1256				S	**Sg**	**23 41 42.2**	**+0.5**
FDMO	**Fiordimonte**	**0.07**	**304**	P	**Pg**	**23 41 41.3**	**+0.1**
FDMO				S	**Sg**	**23 41 42.7**	**+0.4**
MC2	**Monte Cornacci**	**0.09**	**169**	P	**Pg**	**23 41 41.4**	**-0.2**
MC2				S	**Sg**	**23 41 43.1**	**+0.3**
FEMA	**Monte Fema**	**0.09**	**248**	P	**Pg**	**23 41 41.8**	**+0.1**
FEMA				S	**Sg**	**23 41 43.8**	**+0.8**
FEMA				AML	AML		
	comp=E,17100μm,0.3s						
FEMA				AML	AML		
	comp=N,16300μm,0.4s						
CSP1	**Cessapalombo**	**0.10**	**16**	P	**Pg**	**23 41 42.2**	**+0.4**
CSP1				S	**Sg**	**23 41 44.3**	**+1.1**
T1219	**Muccia, Frazio**	**0.13**	**297**	P	**Pg**	**23 41 42.6**	**+0.2**
T1219				S	**Sg**	**23 41 45.1**	**+1.0**
T1219				AML	AML		
	comp=E,4200μm,0.3s						
T1219				AML	AML		
	comp=E,4135μm,0.3s						
T1219				AML	AML		
	comp=N,5155μm,0.5s						
T1219				AML	AML		
	comp=N,5065μm,0.5s						
GUMA	**Gualdo di Mace**	**0.14**	**62**	P	**Pg**	**23 41 43.1**	**+0.7**
GUMA				S	**Sg**	**23 41 45.5**	**+1.2**
T1245	**Castelsantange**	**0.14**	**174**	P	**Pg**	**23 41 42.4**	**-0.1**
T1245				S	**Sg**	**23 41 45.0**	**+0.6**
MMO1	**Montemonaco**	**0.15**	**130**	P	**Pg**	**23 41 42.8**	**+0.1**
MMO1				S	**Sg**	**23 41 45.6**	**+0.9**
T1216	**Preci, Frazion**	**0.15**	**226**	P	**Pg**	**23 41 42.8**	**0.0**
T1216				S	**Sg**	**23 41 45.3**	**+0.6**
NRCA	**Norcia**	**0.17**	**193**	P	**Pg**	**23 41 43.1**	**+0.1**
NRCA				S	**Sg**	**23 41 45.6**	**+0.3**
CESI	**CESI - Serrava**	**0.19**	**272**	P	**Pg**	**23 41 43.8**	**+0.3**
CESI				S	**Sg**	**23 41 47.2**	**+1.2**
CESI				AML	AML		
	comp=E,5780μm,0.6s						
CESI				AML	AML		
	comp=N,5690μm,0.4s						
T1241	**Roccafluvione,**	**0.24**	**126**	P	**Pg**	**23 41 44.1**	**-0.3**
T1241				S	**Sg**	**23 41 48.5**	**+1.0**
MNTP	**Montappone**	**0.26**	**57**	P	**Pb**	**23 41 45.8**	**-1.3**
T1215	**Vallo di Nera,**	**0.29**	**229**	P	**Pg**	**23 41 45.7**	**+0.3**
T1215				S	**Sg**	**23 41 50.0**	**+0.8**
SNTG	**Esanatoglia**	**0.31**	**327**	P	**Pg**	**23 41 45.8**	**+0.2**
SNTG				S	**Sb**	**23 41 51.7**	**-1.6**
SNTG				AML	AML		
	comp=E,532μm,0.3s						
SNTG				AML	AML		
	comp=E,557μm,0.6s						
SNTG				AML	AML		
	comp=N,502μm,1.3s						
SNTG				AML	AML		
	comp=E,532μm,0.3s						
SNTG				AML	AML		
	comp=N,554μm,1.0s						
SNTG				AML	AML		
	comp=E,532μm,0.3s						
SNTG				AML	AML		
	comp=N,553μm,1.1s						
ARVD	**Arcevia**	**0.53**	**342**	P	**Pg**	**23 41 50.0**	**+0.2**
ARVD				S	**Sb**	**23 41 59.1**	**-0.5**
MURB	**Monte Urbino**	**0.54**	**300**	P	**Pg**	**23 41 50.1**	**0.0**
MURB				S	**Sb**	**23 41 59.3**	**-0.7**
ATVO	**AVT- Monte Val**	**0.68**	**305**	P	**Pg**	**23 41 52.5**	**-0.2**
PIEI	**Pieia**	**0.71**	**320**	P	**Pg**	**23 41 53.4**	**0.0**
NARO	**Abbazia di Nar**	**0.75**	**325**	P	**Pg**	**23 41 53.8**	**-0.3**
FSSB	**Fossombrone**	**0.75**	**338**	P	**Pg**	**23 41 54.2**	**+0.1**
BADI	**Badiali**	**0.85**	**308**	P	**Pg**	**23 41 56.0**	**0.0**
CAFI	**Castiglion Fio**	**0.94**	**291**	P	**Pb**	**23 41 57.7**	**-1.0**
CAFI				AML	AML		
	comp=E,103μm,1.5s						
CAFI				AML	AML		
	comp=E,121μm,1.4s						
CAFI				AML	AML		
	comp=N,152μm,0.7s						
CAFI				AML	AML		
	comp=N,150μm,0.7s						
CPGN	**Carpegna, Ital**	**1.01**	**323**	P	**Pg**	**23 41 59.0**	**-0.2**
CRE	**Caprese Michel**	**1.08**	**305**	P	**Pg**	**23 41 59.4**	**-1.1**
CRE				AML	AML		
	comp=E,72μm,1.4s						
CRE				AML	AML		
	comp=N,90μm,0.8s						
ABTA	**Abfaltersbach**	**3.78**	**353**	*e*Pn	**Pn**	**23 42 40.0**	**+1.1**
	comp=N,1.5nm,0.4s						
KBA	**Koelnbreinsper**	**4.08**	**2**	*e*Pn	**Pn**	**23 42 44.8**	**+1.7**
	comp=N,0.5nm,0.3s						
KBA				*e*Sn	**Sn**	**23 43 32.6**	**+1.2**
	comp=N,1.6nm,0.5s						
FETA	**Feichten**	**4.38**	**338**	*e*Pn	Pn	23 42 51.6	+4.4
	comp=N,0.7nm,0.4s						
SQTA	**Sankt Quirin**	**4.45**	**343**	*e*Pn	**Pn**	**23 42 50.5**	**+2.4**
	comp=N,0.8nm,0.3s						
SQTA				*e*Sn	**Sb**	**23 43 46.3**	**-6.1**
	comp=N,0.8nm,0.3s						

*ISK **24** 23:42:42.9,38°.54N×43°.91E,h5km,ML3.6/18*
*NSSP **24** 23:42:42.8,38°.37N×44°.00E,h5km,Ms3.5*
*AZER **24** 23:42:43.0±0.0,38°.67N×43°.82E,h2km, Error ellipse: s-maj=0.3km s-min=0.1km az=4.0*
*DDA **24** 23:42:44.7±0.0,38°.54N×43°.83E,h5km,2km,MW3.7*
*TEH **24** 23:42:45.0,38°.53N×43°.78E,h11km,ML3.3*
ISC 24 23:42:45.1±1.1,38°.56N±0°.02×43°.74E±0°.02,h1km±10km, n84,σ1s70/113,4C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.22**	**63**	P	**Pg**	**23 42 48.1**	**-1.4**
OZAP				S	**Sg**	**23 42 51.5**	**-0.8**
OZAP				*i* AML	AML	23 42 55.0	
	comp=N,1μm,0.7s						
OZAP				*i* AML	AML	23 42 58.0	
	comp=E,1μm,0.8s						
VANB	**Van**	**0.28**	**277**	PG	**Pg**	**23 42 51.5**	**+1.0**
VANB	**Van**	**0.28**	**277**	*e*Pg	**Pg**	**23 42 51.0**	**+0.5**
ERCV	**ERCIS-VAN**	**0.56**	**326**	PG	**Pb**	**23 42 57.1**	**-0.8**
ERCV				SG	**Sb**	**23 43 06.6**	**+0.2**
ERCV	**ERCIS-VAN**	**0.56**	**326**	*e*Pg	**Pb**	**23 42 57.0**	**-0.8**
CLDR	**Caldiran**	**0.60**	**13**	PG	**Pg**	**23 42 54.9**	**-1.7**
CLDR				SG	**Sb**	**23 43 05.1**	**-2.5**
CLDR	**Caldiran**	**0.60**	**13**	*e*Pg	**Pg**	**23 42 54.5**	**-2.1**
AKDM	**Akdamar-Van**	**0.64**	**249**	PG	**Pb**	**23 42 58.5**	**-0.8**
AKDM				SG	**Sn**	**23 43 10.6**	**-1.9**
AKDM	**Akdamar-Van**	**0.64**	**249**	*e*Pg	**Pb**	**23 42 58.4**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.83**	**288**	*e*Pn	**Pn**	**23 43 02.2**	**-2.0**
ADCV	**BITLIS_Adilcev**	**0.83**	**288**	P	**Pn**	**23 43 02.2**	**-2.0**
ADCV				S	**Sn**	**23 43 15.5**	**-1.8**
ADCV				*i* AML	AML	23 43 22.0	
	comp=N,669nm,0.5s						
ADCV				*i* AML	AML	23 43 22.0	
	comp=E,699nm,0.7s						
YOVA	**Hakkari_Yksek**	**1.06**	**156**	*e*Pn	**Pg**	**23 43 04.7**	**-0.8**
YOVA	**Hakkari_Yksek**	**1.06**	**156**	P	**Pg**	**23 43 04.7**	**-0.8**
YOVA				S	**Sg**	**23 43 21.9**	**+2.6**
YOVA				*i* AML	AML	23 43 27.0	
	comp=N,433nm,0.5s						
YOVA				*i* AML	AML	23 43 27.0	
	comp=E,443nm,1.0s						
MLAZ	**Malazgirt-MUS**	**1.10**	**302**	PN	**Pn**	**23 43 06.9**	**-0.9**
MLAZ	**Malazgirt-MUS**	**1.10**	**302**	*e*Pn	**Pn**	**23 43 07.3**	**-0.5**
PERV	**Siirt/Pervari-**	**1.13**	**237**	P	**Pg**	**23 43 07.0**	**+0.2**
PERV				*i* AML	AML	23 43 32.0	
	comp=N,1μm,0.5s						
PERV				*i* AML	AML	23 43 38.0	
	comp=E,1μm,0.6s						
AGRB	**Hanur-Agry**	**1.17**	**330**	PN	**Pn**	**23 43 08.2**	**-0.7**
AGRB	**Hanur-Agry**	**1.17**	**330**	*e*Pn	**Pn**	**23 43 08.2**	**-0.7**
BLIS	**Bitlis-Merkez**	**1.29**	**264**	P	**Pg**	**23 43 09.3**	**-0.5**
BLIS				*i* AML	AML	23 43 42.0	
	comp=E,232nm,0.6s						
KOTA	**Agri, Merkez-K**	**1.31**	**342**	P	**Pn**	**23 43 10.9**	**+0.2**
KOTA				*i* AML	AML	23 43 36.0	
	comp=N,265nm,1.0s						
KOTA				*i* AML	AML	23 43 36.0	
	comp=E,363nm,1.0s						
CUKT	**Cukurca**	**1.31**	**185**	PN	**Pn**	**23 43 08.4**	**-2.4**
CUKT	**Cukurca**	**1.31**	**185**	*e

BNGB	**Bingl**	**2.43**	**281**	PN	**Pb**	**23 43 27.2**	**-2.6**
BINT	**Bingol**	**2.56**	**278**	*e*Pn	**Pn**	**23 43 27.1**	**-0.9**
IBST	**Bostanabad**	**2.63**	**108**	*e*Pn	**Pn**	**23 43 29.2**	**+0.3**
IBST				*e*		23 43 32.0	
	comp=Z,755nm,0.4s						
HANI	**Diyarbakir_Han**	**2.63**	**268**	P	**Pb**	**23 43 32.3**	**-0.8**
HANI				*i* AML	AML	23 44 25.0	
	comp=Z,52nm,0.7s						
HANI				*i* AML	AML	23 44 32.0	
	comp=Z,48nm,0.9s						
YEDI	**Yedisu-Bingol**	**2.64**	**290**	PN	**Pb**	**23 43 30.2**	**-3.2**
GDB	**GEDABAY**	**2.66**	**35**	P	**Pn**	**23 43 29.8**	**+0.5**
	SNR=7.0						
GDB				S	**Sb**	**23 44 04.1**	**-2.7**
QZX	**Qazax, Azerbai**	**2.79**	**26**	P	**Pn**	**23 43 30.7**	**-0.3**
QZX				S	**Sn**	**23 44 06.5**	**+1.2**
KRIK	**Erzurum-spir**	**2.81**	**310**	P	**Pg**	**23 43 38.1**	**-1.0**
MAZI	**Mazidag**	**2.83**	**248**	PN	**Pn**	**23 43 32.6**	**+1.1**
AKH	**Akhalkalaki**	**2.85**	**356**	PN	**Pn**	**23 43 31.6**	**-0.4**
GANJ	**Ganja**	**2.88**	**43**	P	**Pn**	**23 43 32.7**	**+0.4**
	SNR=11						
GANJ				S	**Sb**	**23 44 10.6**	**-2.5**
DYBB	**Diyarbakir**	**2.90**	**259**	PN	**Pn**	**23 43 33.9**	**+1.4**
QRD	**Qoradiz**	**2.93**	**71**	P	**Pn**	**23 43 32.9**	**+0.1**
	SNR=10.0						
QRD				S	**Sn**	**23 44 10.3**	**+1.7**
AGDM	**Agdam**	**3.03**	**58**	P	**Pn**	**23 43 33.9**	**-0.4**
	SNR=7.2						
AGDM				S	**Sn**	**23 44 13.4**	**+2.1**
EPOS	**Posof**	**3.04**	**345**	P	**Pg**	**23 43 42.1**	**-1.3**
IHSH	**Hashtrud**	**3.05**	**113**	*e*Pn	**Pn**	**23 43 35.1**	**+0.3**
IHSH				*e*		23 43 50.0	
	comp=Z,577nm,0.5s						
ISRB	**Sarab**	**3.18**	**102**	*e*Pn	**Pn**	**23 43 37.1**	**+0.6**
ISRB				*e*		23 43 53.8	
	comp=Z,944nm,0.4s						
BLQ	**Beylaqan**	**3.19**	**67**	P	**Pn**	**23 43 36.9**	**+0.5**
BLQ				S	**Sn**	**23 44 16.6**	**+1.6**
BAYT	**Aydıntepe-Bayb**	**3.33**	**304**	PN	**Pn**	**23 43 39.8**	**+1.2**
ZRD	**Zardab**	**3.50**	**59**	P	**Pn**	**23 43 42.3**	**+1.6**
ZRD				S	**Sn**	**23 44 23.3**	**+0.6**
YRD	**Yardimli**	**3.54**	**83**	P	**Pn**	**23 43 42.6**	**+1.2**
	SNR=30						
YRD				S	**Sn**	**23 44 26.7**	**+2.8**
LRK	**Lerik**	**3.60**	**87**	P	**Pn**	**23 43 43.2**	**+0.9**
	SNR=9.9						
LRK				S	**Sn**	**23 44 26.2**	**+0.7**
SEKA	**Sheki**	**3.75**	**44**	P	**Pn**	**23 43 44.0**	**-0.2**
SEKA				S	**Sn**	**23 44 29.6**	**+0.5**
QBL	**Gabala**	**3.95**	**52**	P	**Pn**	**23 43 48.4**	**+1.4**
QBL				S	**Sn**	**23 44 34.2**	**+0.2**
ASTR	**Astara**	**3.96**	**88**	P	**Pn**	**23 43 48.1**	**+1.1**
	SNR=5.3						
ASTR				S	**Sn**	**23 44 36.1**	**+2.1**
GAS1	**Astara - Iran**	**4.00**	**91**	*e*Pn	**Pn**	**23 43 48.4**	**+0.8**
JIR1	**Jirandeh**	**5.15**	**109**	*e*Pn	**Pn**	**23 44 04.1**	**+0.5**
IDOB	**Doab**	**5.96**	**142**	*e*Pn	**Pn**	**23 44 17.7**	**+3.0**
IKFM	**Kafar-mosalman**	**6.02**	**145**	*e*Pn	**Pn**	**23 44 16.3**	**+0.9**

KRSC 24 23:50:31.6±1.6, 55.04N×164.85E, h41km±27km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.67**	**75**	*e*P	Pn	23 50 45.7	+1.1
BKI				*e*S	Sn	23 50 54.9	+0.9
KBTR	**Krutoberegovo**	**1.64**	**316**	*e*P	Pn	23 50 58.0	0.0
KBTR				*e*S	Sn	23 51 16.7	-1.2
KBG	**Krutoberegovo**	**1.72**	**316**	*e*S	Sn	23 51 21.9	+2.1
MKZ	**Mys Kozlova**	**1.87**	**256**	*e*P	Pn	23 51 04.0	+3.0
SMKR	**Semkarok**	**2.46**	**310**	*e*P	Pn	23 51 11.4	+2.2
SMKR				*e*S	Sn	23 51 41.3	+3.3
TUMD	**Tumrok D**	**2.56**	**276**	*e*P	Pn	23 51 14.2	+3.6
BDR	**Baidarnaya**	**2.56**	**308**	*e*P	Pn	23 51 13.6	+2.9
SRKR	**Sorokina**	**2.63**	**310**	*e*P	Pn	23 51 14.3	+2.7
SRKR				*e*S	Sn	23 51 47.6	+5.3
TUMR	**Tumrok**	**2.71**	**277**	*e*P	Pn	23 51 16.8	+4.1
KMNR	**Kamenistaya**	**2.73**	**287**	*e*P	Pn	23 51 17.3	+4.3
KPT	**Kopyto**	**2.79**	**291**	*e*P	Pn	23 51 17.8	+4.0
SRDR	**Sredinnyy**	**3.17**	**296**	*e*P	Pn	23 51 23.8	+4.7
SRDR				*e*S	Sn	23 52 03.9	+8.2
NLC	**Nalytchevo**	**3.74**	**242**	*e*S	Sn	23 52 13.5	+4.0
SDLR	**Sedlovina**	**3.92**	**246**	*e*P	Pn	23 51 34.6	+5.2
SMAR	**Somma**	**3.97**	**246**	*e*P	Pn	23 51 35.0	+4.8
KRER	**Koryakskii**	**3.98**	**247**	*e*P	Pn	23 51 35.5	+5.2
UGLR	**Uglovaya**	**3.99**	**245**	*e*P	Pn	23 51 33.6	+3.3
KOK	**Koryaka**	**4.05**	**247**	*e*P	Pn	23 51 36.0	+4.9
GNI	**Ganaly**	**4.26**	**254**	*e*P	Pn	23 51 39.3	+5.3
RUS	**Russkaya**	**4.58**	**238**	*e*P	Pn	23 51 42.1	+3.9
RUS				*e*S	Sn	23 52 32.6	+2.5
MTVR	**Mutnovka**	**4.71**	**240**	*e*P	Pn	23 51 45.6	+5.4
MTVR				*e*S	Sn	23 52 37.2	+3.6
KDTR	**Khodutka, Kamc**	**5.18**	**234**	*e*P	Pn	23 51 50.8	+4.3
KDTR				*e*S	Sn	23 52 45.9	+1.0

*IDC **24** 23:54:00.8±0.7, 55.16N×164.81E, h0km, mb3.7/11, mbtmp3.7/12, ML3.1/1, MS3.6/3, Error ellipse: s-maj=33.9km s-min=14.6km az=153.0*
*KRSC **24** 23:54:01.8±1.5, 55.08N×164.79E, h49km±24km, ML4.5*
*MOS **24** 23:54:03.6±1.0, 55.12N×164.85E, h37km, mb4.1/1, Error ellipse: s-maj=8.3km s-min=6.8km az=152.4*
ISC 24 23:54:05.4±0.6, 55.11N±0.04×164.90E±0.03, h35km, n84, σ1°59/107, mb3.6/11, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.62**	**81**	*e*P	**Pn**	**23 54 15.5**	**-2.2**
BKI				*e*S	**Sn**	**23 54 25.4**	**-1.0**
BKI	**Bering**	**0.62**	**81**	PN	**Pn**	**23 54 15.5**	**-2.2**
BKI				S	**Sn**	**23 54 25.4**	**-1.0**
KBTR	**Krutoberegovo**	**1.61**	**314**	*e*P	**Pn**	**23 54 27.6**	**-3.8**
KBTR				*e*S	**Sn**	**23 54 47.3**	**-3.6**
KBTR	**Krutoberegovo**	**1.61**	**314**	PN	**Pn**	**23 54 27.6**	**-3.8**
KBTR				S	**Sn**	**23 54 47.3**	**-3.6**
KBG	**Krutoberegovo**	**1.69**	**314**	*e*S	**Sn**	**23 54 49.4**	**-3.4**
MKZ	**Mys Kozlova**	**1.92**	**254**	*e*P	**Pn**	**23 54 33.4**	**-2.1**
MKZ	**Mys Kozlova**	**1.92**	**254**	PN	**Pn**	**23 54 33.4**	**-2.1**
SMKR	**Semkarok**	**2.43**	**309**	*e*P	**Pn**	**23 54 40.7**	**-2.0**
SMKR				*e*S	**Sn**	**23 55 11.2**	**-0.1**
SMKR	**Semkarok**	**2.43**	**309**	PN	**Pn**	**23 54 40.7**	**-2.0**
SMKR				S	**Sn**	**23 55 11.2**	**-0.1**
BDR	**Baidarnaya**	**2.54**	**307**	*e*P	**Pn**	**23 54 42.8**	**-1.4**
BDR	**Baidarnaya**	**2.54**	**307**	PN	**Pn**	**23 54 42.8**	**-1.4**
TUMD	**Tumrok D**	**2.58**	**274**	*e*P	**Pn**	**23 54 42.5**	**-1.2**
TUMD				*e*S	**Sn**	**23 55 12.5**	**-2.4**
SRKR	**Sorokina**	**2.61**	**308**	*e*P	**Pn**	**23 54 43.6**	**-1.5**
SRKR				*e*S	**Sn**	**23 55 14.7**	**-0.9**
SRKR	**Sorokina**	**2.61**	**308**	PN	**Pn**	**23 54 43.6**	**-1.5**
SRKR				S	**Sn**	**23 55 14.7**	**-0.9**
BZMR	**Bezymyannaya**	**2.64**	**290**	*e*P	**Pn**	**23 54 45.0**	**-0.6**
BZMR	**Bezymyannaya**	**2.64**	**290**	PN	**Pn**	**23 54 45.0**	**-0.6**
BZWR	**Bezymyannyi-We**	**2.65**	**291**	*e*P	**Pn**	**23 54 45.0**	**-0.7**
BZWR	**Bezymyannyi-We**	**2.65**	**291**	PN	**Pn**	**23 54 45.0**	**-0.7**
KLY	**Klyuchi**	**2.69**	**298**	*e*P	**Pn**	**23 54 44.5**	**-1.6**
KLY				*e*S	**Sn**	**23 55 15.9**	**-1.5**
KLY	**Klyuchi**	**2.69**	**298**	PN	**Pn**	**23 54 44.5**	**-1.6**
KLY				S	**Sn**	**23 55 15.9**	**-1.5**
KRSR	**Krestovskiy**	**2.69**	**296**	*e*P	**Pn**	**23 54 45.1**	**-1.2**
KRSR				*e*S	**Sn**	**23 55 18.0**	**+0.2**
KRSR	**Krestovskiy**	**2.69**	**296**	PN	**Pn**	**23 54 45.1**	**-1.2**
KRSR				S	**Sn**	**23 55 18.0**	**+0.2**
KIRR	**Kirishev**	**2.73**	**290**	*e*P	**Pn**	**23 54 46.3**	**-0.5**
KIRR				*e*S	**Sn**	**23 55 19.7**	**+1.1**
KIRR	**Kirishev**	**2.73**	**290**	PN	**Pn**	**23 54 46.3**	**-0.5**
KIRR				S	**Sn**	**23 55 19.7**	**+1.1**
TUMR	**Tumrok**	**2.73**	**276**	*e*P	**Pn**	**23 54 46.1**	**-0.7**
TUMR				*e*S	**Sn**	**23 55 17.9**	**-0.8**
TUMR	**Tumrok**	**2.73**	**276**	PN	**Pn**	**23 54 43.5**	**-3.3**
KMNR	**Kamenistaya**	**2.74**	**286**	*e*P	**Pn**	**23 54 46.5**	**-0.4**
KMNR				*e*S	**Sn**	**23 55 19.9**	**+1.2**
KMNR	**Kamenistaya**	**2.74**	**286**	PN	**Pn**	**23 54 46.5**	**-0.4**
KMNR				S	**Sn**	**23 55 19.9**	**+1.2**
KPT	**Kopyto**	**2.79**	**290**	*e*P	**Pn**	**23 54 46.6**	**-1.1**
KPT	**Kopyto**	**2.79**	**290**	PN	**Pn**	**23 54 46.6**	**-1.1**
SRDR	**Sredinnyy**	**3.17**	**295**	*e*P	**Pn**	**23 54 52.2**	**-0.6**
SRDR	**Sredinnyy**	**3.17**	**295**	PN	**Pn**	**23 54 52.2**	**-0.6**
ESO	**Esso**	**3.62**	**286**	*e*P	**Pn**	**23 54 58.6**	**-0.3**
ESO				*e*S	**Sn**	**23 55 39.6**	**-0.8**
ESO	**Esso**	**3.62**	**286**	PN	**Pn**	**23 54 58.6**	**-0.3**
ESO				S	**Sn**	**23 55 39.6**	**-0.8**
NLC	**Nalytchevo**	**3.80**	**242**	*e*P	**Pn**	**23 55 00.7**	**-0.7**
NLC	**Nalytchevo**	**3.80**	**242**	PN	**Pn**	**23 55 00.7**	**-0.7**
SDLR	**Sedlovina**	**3.98**	**245**	*e*P	**Pn**	**23 55 03.8**	**-0.2**
SDLR				*e*S	**Sn**	**23 55 48.1**	**-1.4**
SDLR	**Sedlovina**	**3.98**	**245**	PN	**Pn**	**23 55 03.8**	**-0.2**
SDLR				S	**Sn**	**23 55 48.1**	**-1.4**
SMAR	**Somma**	**4.03**	**245**	*e*P	**Pn**	**23 55 04.6**	**-0.2**
SMAR				*e*S	**Sn**	**23 55 48.8**	**-2.1**
SMAR	**Somma**	**4.03**	**245**	PN	**Pn**	**23 55 04.6**	**-0.2**
KRER	**Koryakskii**	**4.04**	**246**	*e*P	**Pn**	**23 55 04.8**	**-0.1**
KRER				*e*S	**Sn**	**23 55 49.5**	**-1.5**
KRER	**Koryakskii**	**4.04**	**246**	PN	**Pn**	**23 55 04.8**	**-0.1**
KRER				S	**Sn**	**23 55 49.5**	**-1.5**
UGLR	**Uglovaya**	**4.05**	**244**	*e*P	**Pn**	**23 55 05.0**	**+0.1**
UGLR	**Uglovaya**	**4.05**	**244**	PN	**Pn**	**23 55 05.0**	**+0.1**
KOK	**Koryaka**	**4.11**	**246**	*e*P	**Pn**	**23 55 05.6**	**-0.1**
KOK	**Koryaka**	**4.11**	**246**	PN	**Pn**	**23 55 05.6**	**-0.1**
DALK	**Dalny**	**4.18**	**243**	*e*P	**Pn**	**23 55 05.9**	**-0.7**
DALK				*e*S	**Sn**	**23 55 51.6**	**-2.5**
DALK	**Dalny**	**4.18**	**243**	PN	**Pn**	**23 55 05.9**	**-0.7**
PET	**Petropavlovsk**	**4.23**	**243**	*e*P	**Pn**	**23 55 07.7**	**+0.4**
PET	**Petropavlovsk**	**4.23**	**243**	*e*PN	**Pn**	**23 55 05.9**	**-1.4**
GNL	**Ganaly**	**4.31**	**254**	*e*P	**Pn**	**23 55 08.6**	**+0.1**
GNL	**Ganaly**	**4.31**	**254**	PN	**Pn**	**23 55 08.6**	**+0.1**
KRMR	**Karymshinskiy**	**4.60**	**243**	*e*P	**Pn**	**23 55 12.2**	**-0.2**
KRMR				*e*S	**Sn**	**23 56 02.0**	**-2.6**
KRMR	**Karymshinskiy**	**4.60**	**243**	PN	**Pn**	**23 55 12.2**	**-0.2**
RUS	**Russkaya**	**4.64**	**237**	*e*P	**Pn**	**23 55 11.6**	**-1.4**
RUS				*e*S	**Sn**	**23 56 00.8**	**-4.7**
RUS	**Russkaya**	**4.64**	**237**	PN	**Pn**	**23 55 11.6**	**-1.4**
PETK	**Petropavlovsk-**	**4.69**	**248**	Pn	**Pn**	**23 55 13.0**	**-0.6**
	4.0nm,0.3s,baz=75,slow=16,SNR=29						
PETK				Sn	**Sn**	**23 56 07.5**	**+0.7**
	4.3nm,0.3s,baz=83,slow=24,SNR=4.3 6.8nm,0.5s						
MTVR	**Mutnovka**	**4.77**	**239**	*e*P	**Pn**	**23 55 14.3**	**-0.6**
MTVR				*e*S	**Sn**	**23 56 05.7**	**-3.3**
MTVR	**Mutnovka**	**4.77**	**239**	PN	**Pn**	**23 55 14.3**	**-0.6**
GRL	**Gorelyy**	**4.79**	**240**	*e*P	**Pn**	**23 55 15.4**	**+0.3**
GRL	**Gorelyy**	**4.79**	**240**	PN	**Pn**	**23 55 15.4**	**+0.3**
APC	**Apacha**	**5.06**	**248**	*e*P	**Pn**	**23 55 19.5**	**+0.8**
APC	**Apacha**	**5.06**	**248**	PN	**Pn**	**23 55 19.5**	**+0.8**
KDTR	**Khodutka, Kamc**	**5.25**	**234**	*e*P	**Pn**	**23 55 19.7**	**-1.6**
KDTR				*e*S	**Sn**	**23 56 15.4**	**-5.1**
KDTR	**Khodutka, Kamc**	**5.25**	**234**	PN	**Pn**	**23 55 19.7**	**-1.6**
ASAJ	**Asahikawa**	**18.08**	**242**	LR	LR	00 04 45.9	
	comp=Z,111nm,19.0s,baz=28,slow=36						
ILAR	**Eielson Array**	**25.37**	**48**	P	**P**	**23 59 28.2**	**-0.6**
	1.3nm,0.6s,baz=251,slow=7.7,SNR=25 1.3nm,0.6s						
INK	**Inuvik**	**30.52**	**40**	P	**P**	**00 00 15.7**	**+1.0**
	0.8nm,0.7s,baz=311,slow=9.5,SNR=4.2 0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.35**	**177**	T	T	00 38 44.2	
	baz=359,slow=76,SNR=176						
H11N3	**WAKE ISLAND Hy**	**35.37**	**177**	T	T	00 38 47.6	
	baz=359,slow=76,SNR=115						
H11N1	**WAKE ISLAND Hy**	**35.37**	**177**	T	T	00 38 44.7	
	baz=359,slow=76,SNR=126						
SONM	**Songino Array**	**36.19**	**283**	P	**P**	**00 01 03.9**	**-0.6**
	0.4nm,0.7s,baz=45,slow=8.4,SNR=4.1 0.4nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**36.56**	**177**	T	T	00 40 21.2	
	baz=359,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**36.58**	**177**	T	T	00 40 27.8	
	baz=359,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**36.58**	**177**	T	T	00 40 22.3	
	baz=359,slow=76,SNR=5.3						
YKA	**Yellowknife Ar**	**39.74**	**46**	P	**P**	**00 01 34.5**	**+0.4**
	0.3nm,0.5s,baz=297,slow=8.3,SNR=1.4 0.3nm,0.5s						
MKAR	**Makanchi Array**	**49.80**	**297**	P	**P**	**00 02 53.7**	**-0.7**
	0.3nm,0.7s,baz=56,slow=7.4,SNR=3.9						
MKAR				LR	LR	00 25 27.3	
	comp=Z,72nm,18.3s,baz=24,slow=38 0.3nm,0.7s						
NVAR	**Mina Array Bea**	**52.43**	**75**	P	**P**	**00 03 15.6**	**+1.2**
	0.2nm,0.4s,baz=306,slow=7.7,SNR=2.3 0.2nm,0.4s						
PDAR	**Pinedale Array**	**54.08**	**65**	P	**P**	**00 03 28.1**	**+1.5**
	0.1nm,0.4s,baz=339,slow=6.8,SNR=1.7 0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**61.33**	**261**	P	**P**	**00 04 19.3**	**+1.9**
	0.9nm,0.3s,baz=27,slow=6.1,SNR=1.4 0.9nm,0.3s						
TXAR	**Lajitas Array**	**67.27**	**71**	P	**P**	**00 04 57.2**	**+0.8**
	0.5nm,0.6s,baz=298,slow=3.8,SNR=7.5 0.5nm,0.6s						
LPIG	**La Paz**	**67.66**	**80**	LR	LR	00 31 28.1	
	comp=Z,53nm,19.1s,baz=22,slow=33						
WRA	**Warramunga Arr**	**79.17**	**209**	P	**P**	**00 06 06.5**	**+0.1**
	1.4nm,0.8s,baz=20,slow=5.9,SNR=9.3 1.4nm,0.8s						
ASAR	**Alice Springs**	**82.82**	**208**	P	**P**	**00 06 26.9**	**+1.1**
	2.2nm,0.9s,baz=16,slow=5.9,SNR=18 2.2nm,0.9s						

*ISK **25** 00:03:21.9, 38.51N×43.92E, h5km, ML2.8/17*
*DDA **25** 00:03:24.9±0.0, 38.58N×43.84E, h7km±5km, ML2.4*
ISC 25 00:03:24.2±1.1, 38.54N±0.04×43.89E±0.04, h11km±8km, n25, σ1°22/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.15**	**33**	P	**Pg**	**00 03 27.6**	**-0.1**
OZAP				S	**Sg**	**00 03 31.0**	**+0.7**
OZAP				*i* AML	AML	00 03 33.0	
	comp=N,2μm,0.7s						
OZAP				*i* AML	AML	00 03 35.0	
	comp=E,1μm,0.5s						
VANB	**Van**	**0.40**	**278**	PG	**Pg**	**00 03 30.5**	**-1.6**
CLDR	**Caldiran**	**0.60**	**2**	PG	**Pg**	**00 03 34.1**	**-1.9**
CLDR				SG	**Sb**	**00 03 45.2**	**-0.4**
ERCV	**ERCIS-VAN**	**0.65**	**318**	PG	**Pg**	**00 03 36.2**	**-0.6**
ERCV				SG	**Sb**	**00 03 46.8**	**+0.1**
AKDM	**Akdamar-Van**	**0.74**	**254**	PG	**Pg**	**00 03 37.7**	**-0.9**
AKDM				SG	**Sb**	**00 03 49.5**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.95**	**287**	P	**Pg**	**00 03 41.8**	**-0.8**
ADCV				S	**Sn**	**00 03 56.1**	**-1.2**
ADCV				*i* AML	AML	00 03 58.0	
	comp=N,130nm,0.5s						
ADCV				*i* AML	AML	00 04 01.0	
	comp=E,117nm,0.6s						
YOVA	**Hakkari_Yksek**	**1.00**	**161**	P	**Pn**	**00 03 43.9**	**-0.5**
YOVA				S	**Sn**	**00 04 01.5**	**+2.9**
YOVA				*i* AML	AML	00 04 04.0	
	comp=N,81nm,0.4s						
YOVA				*i* AML	AML	00 04 07.0	
	comp=E,96nm,1.1s						
MLAZ	**Malazgirt-MUS**	**1.21**	**300**	PN	**Pn**	**00 03 46.7**	**-0.5**
AGRB	**Hanur-Agry**	**1.25**	**326**	PN	**Pg**	**00 03 46.9**	**-1.3**
CUKT	**Cukurca**	**1.31**	**190**	PN	**Pn**	**00 03 47.7**	**-0.8**
IGDI	**IGDIR**	**1.34**	**6**	P	**Pg**	**00 03 49.0**	**-0.9**
IGDI				*i* AML	AML	00 04 15.0	
	comp=N,113nm,0.8s						
IGDI				*i* AML	AML	00 04 15.0	
	comp=E,118nm,0.5s						
KOTA	**Agri, Merkez-K**	**1.37**	**337**	P	**Pg**	**00 03 49.7**	**-0.8**
BLIS	**Bitlis-Merkez**	**1.40**	**265**	P	**Pn**	**00 03 49.5**	**-0.4**
GURO	**Guroymak-BITLI**	**1.46**	**271**	PN	**Pn**	**00 03 50.2**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.47**	**11**	PN	**Pb**	**00 03 51.2**	**-0.4**
EATA	**Eleskirt**	**1.71**	**321**	P	**Pg**	**00 03 55.8**	**-1.3**
EATA				S	**Sg**	**00 04 22.7**	**+3.5**
EATA				*i* AML	AML	00 04 23.0	
	comp=E,46nm,0.6s						
GNI	**Garni**	**1.74**	**22**	PN	**Pb**	**00 03 55.1**	**-1.1**
VRTB	**Varto-Mus**	**2.00**	**289**	PN	**Pn**	**00 03 58.6**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**2.15**	**313**	PN	**Pn**	**00 04 00.7**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.15**	**260**	PN	**Pn**	**00 04 00.6**	**+0.5**
KARS	**Kars**	**2.18**	**344**	PN	**Pn**	**00 04 00.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.34**	**330**	PN	**Pn**	**00 04 03.6**	**+0.7**
BNGB	**Bingl**	**2.55**	**281**	PN	**Pn**	**00 04 06.3**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.76**	**290**	PN	**Pn**	**00 04 09.4**	**+0.9**
MAZI	**Mazidag**	**2.92**	**249**	PN	**Pn**	**00 04 11.6**	**+0.8**

*IDC **25** 00:09:23.0±0.5, 37.18N×141.28E, h0km, mb4.3/24, mbtmp4.2/27, ML3.3/3, MS3.3/4, Error ellipse: s-maj=16.1km s-min=12.6km az=98.0*
*NEIC **25** 00:09:24.4±2.0, 37.20N±0.04×141.40E±0.06, h4km±4km, mb4.5/72, Mwr4.0/14, Error ellipse: s-maj=8.7km s-min=2.4km az=54.0*
*MOS **25** 00:09:24.8±1.2, 37.28N×141.42E, h22km, mb4.8/29, Error ellipse: s-maj=9.8km s-min=5.6km az=97.2*
*NEIC **25** 00:09:24.4, 37.20N×141.40E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.04; $M_{\theta\theta}$=0.27; $M_{\phi\phi}$=0.77; $M_{r\theta}$=0.33; $M_{\theta\phi}$=0.65; $M_{r\phi}$=0.31; Fault plane solution: M_0=1.22000×10^{15} NP1:ϕ_s=219.69000°, δ=55.96000°, λ=-83.87000°. NP2:ϕ_s=28.83000°, δ=34.52000°, λ=-98.99000°. Principal axes: T 1.2977, Plg11.0000°, Azm305.0000°; N -0.1663, Plg5.0000°, Azm36.0000°; P -1.1314, Plg78.0000°, Azm151.0000°;*
*JMA **25** 00:09:25.3±0.2, 37.22N±0.3×141.14E±0.9, h26km±1km, MD4.4/38, MV4.2/38, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **25** 00:09:25.3, 37.24N×141.42E, h26km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.07; $M_{\theta\theta}$=0.30; $M_{\phi\phi}$=0.77; $M_{r\theta}$=0.94; $M_{\theta\phi}$=0.91; $M_{r\phi}$=0.96; Fault plane solution: M_0=1.85000×10^{15} NP1:ϕ_s=29.00000°, δ=22.00000°, λ=-104.00000°. NP2:ϕ_s=224.00000°, δ=68.00000°, λ=-84.00000°.*
ISC 25 00:09:24.8±0.7, 37.23N±0.03×141.51E±0.04, h11km±3km, n247, σ1°83/249, mb4.5/85, MS3.8/6, 12C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**285**	P	**Pg**	**00 09 34.4**	**-0.7**
JFK				S	**Sg**	**00 09 40.9**	**-1.2**
JFK	**Kawauchi**	**0.53**	**285**	A	A	00 09 34.4	
	comp=E,13nm,5.3s,comp=E,9.0nm,1.5s						
JMST	**Minamisoumatoc**	**0.70**	**315**	P	**Pg**	**00 09 37.5**	**-0.8**
JMST				S	**Sg**	**00 09 47.1**	**-0.5**
JMST	**Minamisoumatoc**	**0.70**	**315**	A	A	00 09 37.5	
	comp=E,14nm,0.9s,comp=E,16nm,0.6s						
JFFD	**Fukushimafurud**	**0.77**	**260**	P	**Pg**	**00 09 38.6**	**-1.1**
JFFD				S	**Sg**	**00 09 47.9**	**-1.9**
JFFD	**Fukushimafurud**	**0.77**	**260**	A	A	00 09 38.6	
	comp=E,9.0nm,0.5s,comp=E,19nm,1.7s						
JMM	**Marumori**	**0.85**	**318**		**Pg**	**00 09 40.3**	**-1.1**
JMM					**Sg**	**00 09 51.0**	**-1.4**
JMM	**Marumori**	**0.85**	**318**	P	**Pg**	**00 09 40.2**	**-1.1**
JMM				S	**Sg**	**00 09 51.4**	**-1.0**
JMM	**Marumori**	**0.85**	**318**	A	A	00 09 40.2	
	comp=E,9.0nm,3.6s,comp=E,7.0nm,1.3s						
JHO	**Hitachi**	**0.98**	**231**	P	**Pg**	**00 09 41.5**	**-2.2**
JIO	**Ouri**	**1.23**	**354**	P	**Pn**	**00 09 46.5**	**-1.4**
JIO				S	**Sb**	**00 10 02.5**	**-1.3**
JIO	**Ouri**	**1.23**	**354**	A	A	00 09 46.5	
	comp=E,7.0nm,4.1s,comp=E,5.0nm,4.6s						
JYAR	**Yonezawaarcadi**	**1.28**	**302**	A	A	00 09 46.8	
	comp=E,22nm,1.0s,comp=E,27nm,1.3s						
JSB	**Shiboa**	**1.30**	**259**	P	**Pn**	**00 09 48.0**	**-0.9**
JSB				S	**Sb**	**00 10 04.6**	**-1.4**
JSB	**Shiboa**	**1.30**	**259**	A	A	00 09 48.0	
	comp=E,20nm,1.1s,comp=E,22nm,2.3s						
JOU	**Okura**	**1.31**	**330**	P	**Pn**	**00 09 48.3**	**-0.9**
JOU				S	**Sb**	**00 10 05.0**	**-1.4**
JOU	**Okura**	**1.31**	**330**	A	A	00 09 48.3	
	comp=E,13nm,0.7s,comp=E,18nm,0.8s						
JOFO	**Osakifurukawao**	**1.45**	**341**	A	A	00 09 49.9	
	comp=E,64nm,1.0s,comp=E,67nm,1.5s						
JFY	**Yanaizu**	**1.45**	**277**	A	A	00 09 49.3	
	comp=E,6.0nm,6.4s,comp=E,7.0nm,2.5s						
JYT	**Yasato**	**1.

XLT LR LR
comp=N,19nm,13.7s
XLT LR LR
comp=E,330nm,15.6s
XLT LR LR
comp=Z,280nm,17.2s
HNS HongShan 21.30 279 ⇓P **P 00 14 08.3 -3.1**
HNS pP **pP 00 14 12.9 -1.6**
HNS sP **sP 00 14 15.3 -0.7**
HNS PP **PnPn 00 14 34.1 +3.1**
HNS *e*S **S 00 18 03.4 -4.4**
HNS pmax pmax
comp=Z,8.0nm,0.9s
HNS LR LR
comp=N,380nm,15.4s
HNS LR LR
comp=Z,250nm,12.4s
MA2 Magadan 23.14 12 P **P 00 14 32.2 +1.4**
comp=Z,17nm,0.7s,baz=203,slow=9.7,SNR=5.5
comp=Z,17nm,0.7s
MA2 Magadan 23.14 12 P **P 00 14 31.9 +1.2**
MA2 Magadan 23.14 12 P **P 00 14 32.0 +1.2**
MA2 pmax pmax
comp=Z,19nm,0.7s
HHC Hu-ho-hao-te 23.48 288 *e*P **P 00 14 34.3 -0.3**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,180nm,6.1s
LYN LuoYang 23.64 272 *e*P **P 00 14 41.3 +5.3**
LYN pmax pmax
comp=Z,10.0nm,0.6s
LYN LR LR
comp=E,290nm,17.5s
LYN LR LR
comp=Z,230nm,18.0s
YAK Yakutsk 25.89 347 P **P 00 14 57.2 +0.8**
comp=Z,14nm,0.6s,baz=62,slow=0.9,SNR=4.2
YAK LR LR 00 25 16.5
comp=Z,122nm,18.7s,baz=292,slow=37
comp=Z,14nm,0.6s
YAK Yakutsk 25.89 347 *e*P **P 00 14 55.9 -0.5**
YAK *e**PP **sP 00 15 02.0 +0.9**
YAK *e* 00 18 32.7
YAK *e*S **S 00 19 23.6 -2.3**
YAK *e*SS **SnSn 00 20 25.9 +3.8**
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK smax smax
comp=E,128nm,2.6s
YAK smax smax
comp=N,616nm,4.0s
YAK MLR MLR
comp=Z,208nm,11.0s
YAK MLR MLR
comp=N,97nm,12.0s
YAK MLR MLR
comp=E,72nm,13.0s
SEY Seymchan 26.58 11 P **P 00 15 03.8 +1.2**
comp=E,4.4nm,0.5s,baz=180,slow=16,SNR=4.4
comp=E,4.4nm,0.5s
SEY Seymchan 26.58 11 *ce*P **P 00 15 04.0 +1.4**
SEY pmax pmax
comp=Z,65nm,2.5s
BOD Bodaibo 27.40 328 *e*P **P 00 15 08.6 -1.5**
BOD pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 27.74 304 P **P 00 15 11.8 -1.6**
comp=Z,3.5nm,0.8s,baz=104,slow=8.7,SNR=27
comp=Z,3.5nm,0.8s
SONM Songino Array 27.74 304 P **P 00 15 12.8 -0.5**
SONM Songino Array 27.74 304 P **P 00 15 12.9 -0.5**
SONM pmax pmax
comp=Z,4.0nm,0.9s
H11N2 WAKE ISLAND Hy 28.18 121 T T 00 44 44.5
baz=314,slow=75,SNR=287
H11N1 WAKE ISLAND Hy 28.19 121 T T 00 44 44.4
baz=314,slow=75,SNR=410
H11N3 WAKE ISLAND Hy 28.20 121 T T 00 44 45.0
baz=314,slow=75,SNR=659
H11S1 WAKE ISLAND Hy 28.90 123 T T 00 45 41.2
baz=316,slow=76,SNR=391
H11S3 WAKE ISLAND Hy 28.90 123 T T 00 45 38.0
baz=316,slow=76,SNR=308
H11S2 WAKE ISLAND Hy 28.92 123 T T 00 45 38.6
baz=316,slow=76,SNR=224
TIXI Tiksi 35.10 353 P **P 00 16 16.4 -1.2**
comp=Z,2.5nm,0.7s,baz=270,slow=24,SNR=2.4
comp=Z,2.5nm,0.7s
TIXI Tiksi 35.10 353 *ce*P **P 00 16 18.6 +1.0**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
PZH PanZhiHua 35.20 264 P **P 00 16 21.9 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,6.7s
DGZ Jazzator, Alta 40.34 306 *i* P **P 00 17 02.0 -0.4**
DGZ pmax pmax
comp=Z,16nm,0.8s
WMQ Urumqi 40.82 297 *e*P **P 00 17 04.0 -2.3**
WMQ pP sP 00 17 12.6 +1.4
WMQ pmax pmax
comp=Z,9.0nm,0.7s
ZAA0 Zalesovo Array 41.84 312 P **P 00 17 14.6 +0.2**
ZAA0 IAmb IAmb 00 17 14.9
comp=Z,7.5nm,0.8s
ZALV Zalesovo Beam 41.84 312 P **P 00 17 13.7 -0.7**
comp=Z,6.6nm,0.8s,baz=88,slow=7.1,SNR=18
comp=Z,6.6nm,0.8s
ZALV Zalesovo Beam 41.84 312 P **P 00 17 14.5 0.0**
ZALV Zalesovo Beam 41.84 312 *i* P **P 00 17 13.6 -0.9**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
NRIK Noril'sk 43.12 335 P **P 00 17 26.1 +1.4**
NRIK Noril'sk 43.12 335 P **P 00 17 26.1 +1.4**
NRIK pmax pmax
comp=Z,3.0nm,1.1s
MK31 Makanchi Array 44.08 302 P **P 00 17 31.8 -1.0**
MK31 Makanchi Array 44.08 302 ⇑ *i* P **P 00 17 31.6 -1.2**
MKAR Makanchi Array 44.08 302 P **P 00 17 31.2 -1.6**
comp=Z,3.9nm,0.7s,baz=90,slow=9.7,SNR=36
comp=Z,3.9nm,0.7s
MKAR Makanchi Array 44.08 302 **P 00 17 31.8 -1.0**
MKAR Makanchi Array 44.08 302 *i* P **P 00 17 32.0 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 44.29 302 **P 00 17 33.5 -0.9**
MAKZ IAmb IAmb 00 17 34.5
comp=Z,5.7nm,0.8s
MAKZ Makanchi 44.29 302 P **P 00 17 33.5 -0.9**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 45.87 308 **P 00 17 45.7 -1.2**
KURK Kurchatov 45.87 308 *ce*P **P 00 17 46.5 -0.4**
KURK pmax pmax
comp=Z,25nm,1.7s
Q19K Cape Douglas, 46.28 41 P **P 00 17 51.4 +1.2**
IMAR Indian Mountai 46.44 31 P **P 00 17 53.1 +1.9**
KAPI Kappang 46.67 211 P **P 00 17 52.1 -1.4**
KAPI Kappang 46.67 211 P **P 00 17 52.1 -1.4**
KAPI pmax pmax
comp=Z,7.0nm,0.7s
PPLA Purkeypile 46.96 35 P **P 00 17 57.7 +2.2**
PPLA IAmb IAmb 00 18 17.0
comp=Z,7.2nm,1.1s
CAST Castle Rocks 47.02 34 P **P 00 17 56.2 +0.5**
KTH Kantishna Hill 47.54 34 P **P 00 18 02.1 +2.2**
TRF Thorofare Moun 47.82 34 P **P 00 18 04.6 +2.3**
TRF IAmb IAmb 00 18 07.3
comp=Z,5.5nm,1.1s
H23K Yukon River 48.16 31 P **P 00 18 07.4 +2.8**
H23K IAmb IAmb 00 18 17.4
comp=Z,4.1nm,0.9s
TOLK Toolik Lake Re 48.26 27 P **P 00 18 07.2 +1.8**
TOLK IAmb IAmb 00 18 12.7
comp=Z,4.3nm,1.0s
TARG Taragay, Kyrgy 48.38 296 P **P 00 18 06.2 -1.0**
TARG IAmb IAmb 00 18 16.4
comp=Z,4.7nm,0.8s
TARG Taragay, Kyrgy 48.38 296 P **P 00 18 06.2 -1.0**
TARG pmax pmax
comp=Z,5.0nm,0.8s
MDM Murphy Dome 48.71 32 P **P 00 18 11.1 +2.3**
MDM IAmb IAmb 00 18 16.8
comp=Z,8.2nm,1.2s
WRH Wood River Hil 48.78 33 P **P 00 18 11.7 +2.3**
WRH IAmb IAmb 00 18 21.0
comp=Z,2.9nm,0.8s
CCB Clear Creek Bu 48.90 33 P **P 00 18 12.9 +2.7**
POKR Poker Plat Res 49.04 32 P **P 00 18 12.7 +1.3**
HDA Harding Lake 49.27 33 P **P 00 18 14.7 +1.5**
IL31 49.28 32 P **P 00 18 14.3 +1.1**
IL31 IAmb IAmb 00 18 19.6
comp=Z,5.2nm,1.1s
ILAR Eielson Array 49.28 32 P **P 00 18 14.1 +0.9**
comp=Z,2.2nm,0.8s,baz=268,slow=6.4,SNR=24
comp=Z,2.2nm,0.8s
ILAR Eielson Array 49.28 32 P **P 00 18 14.4 +1.2**
ILAR Eielson Array 49.28 32 P **P 00 18 14.5 +1.2**
FYU Fort Yukon 49.90 30 P **P 00 18 18.7 +0.9**
FYU IAmb IAmb 00 18 33.4
comp=Z,9.8nm,1.1s
BMAR Burnt Mountain 50.12 29 P **P 00 18 21.5 +1.9**
EYAK Cordova Ski Ar 50.15 38 P **P 00 18 21.3 +1.4**
EYAK IAmb IAmb 00 18 39.1
comp=Z,10nm,1.0s
RIDG Independent Ri 50.24 34 P P 00 18 26.8 +6.2
KSH Kashi 50.40 294 P **P 00 18 25.6 +3.4**
BRVK Borovoye 50.55 312 *ce*P **P 00 18 24.3 +1.3**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
DOT Dot Lake 50.60 34 P **P 00 18 23.8 +0.5**
SCRK Sand Creek 50.60 33 P **P 00 18 24.4 +1.0**
BERG Berg Lake 51.17 38 P **P 00 18 26.0 -1.7**
L27K Beaver Creek, 51.67 34 P **P 00 18 33.6 +2.2**
L27K IAmb IAmb 00 18 44.0
comp=Z,4.5nm,1.0s
BCAR Beaver Creek A 51.69 34 P **P 00 18 33.6 +2.1**
EGAK Eagle 51.73 32 P **P 00 18 33.4 +1.7**
BARN Barnard Glacie 52.06 37 P **P 00 18 34.4 0.0**
BARN IAmb IAmb 00 18 43.4
comp=Z,5.7nm,1.2s
DAWY Dawson 52.59 33 P **P 00 18 40.8 +2.6**
I29M Ogilvie Camp, 52.84 31 P **P 00 18 42.1 +2.1**
I29M IAmb IAmb 00 18 47.2
comp=Z,9.2nm,1.0s
KK31 Karatay Array 53.09 300 P **P 00 18 42.1 -0.1**
KK31 Karatay Array 53.09 300 P **P 00 18 42.1 -0.1**
KK31 pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 53.09 300 P **P 00 18 41.3 -0.9**
KKAR Karatay Array 53.09 300 P **P 00 18 42.3 +0.1**
KKAR IAmb IAmb 00 18 59.6
comp=Z,2.7nm,0.9s
KKAR Karatay Array 53.09 300 P **P 00 18 41.3 -0.9**
KKAR pmax pmax
comp=Z,3.0nm,1.0s
EPYK Eagle Plains 53.31 30 P **P 00 18 45.8 +2.3**
DRK Karamyk 53.44 295 P **P 00 18 44.0 -1.1**
DRK IAmb IAmb 00 18 50.6
comp=Z,3.9nm,0.6s
KNRA Kununurra 53.98 195 P **P 00 18 48.4 -0.4**
INK Inuvik 54.17 27 P **P 00 18 50.0 +0.4**
comp=Z,1.4nm,0.8s,baz=310,slow=6.4,SNR=6.7
comp=Z,1.4nm,0.8s
INK Inuvik 54.17 27 P **P 00 18 51.0 +1.4**
INK Inuvik 54.17 27 P **P 00 18 51.0 +1.4**
INK pmax pmax
comp=Z,3.0nm,0.9s
N31M Braeburn, Yuko 54.75 36 P **P 00 18 55.3 +1.2**
N31M IAmb IAmb 00 19 05.9
comp=Z,4.3nm,1.1s
WHY Whitehorse 55.38 36 P **P 00 19 01.3 +2.6**
A36M Sachs Harbour 56.05 22 P **P 00 19 05.4 +2.3**
A36M IAmb IAmb 00 19 17.0
comp=Z,4.8nm,1.1s
ARU Arti 56.26 318 P **P 00 19 04.2 -0.8**
ARU Arti 56.26 318 *c* iP **P 00 19 04.1 -0.8**
ARU 00 21 08.3
ARU S **S 00 26 53.6 -0.8**
ARU SS **SS 00 30 31.9 -8.6**
ARU pmax pmax
comp=Z,10.0nm,1.0s
WB0 Warramunga Arr 57.09 188 P **P 00 19 10.4 -0.7**
WB0 IAmb IAmb 00 19 11.0
comp=Z,4.8nm,0.8s
C36M Paulatuk 57.22 25 P **P 00 19 12.8 +1.4**
C36M IAmb IAmb 00 19 17.9
comp=Z,2.9nm,0.7s
WR0 Warramunga Arr 57.26 188 P **P 00 19 12.0 -0.4**
WR0 IAmb IAmb 00 19 12.3
comp=Z,4.7nm,0.9s
WB2 Warramunga Arr 57.27 188 P **P 00 19 11.6 -0.8**
WB2 IAmb IAmb 00 19 12.3
comp=Z,4.3nm,0.8s
WRA Warramunga Arr 57.27 188 P **P 00 19 11.2 -1.2**
comp=Z,2.6nm,0.7s,baz=5.5,slow=7.3,SNR=34
comp=Z,2.6nm,0.7s
WRA Warramunga Arr 57.27 188 P **P 00 19 11.7 -0.7**
WRA Warramunga Arr 57.27 188 P **P 00 19 11.7 -0.7**
ABKAR Akbulak array 57.87 310 P **P 00 19 16.1 -0.3**
EUNU Eureka 59.98 9 P **P 00 19 31.0 +0.3**
EUNU IAmb IAmb 00 19 32.8
comp=Z,2.4nm,0.8s
KIRV Kirov 60.14 323 *ce*P **P 00 19 31.7 -0.2**
PRGR Permogore 60.64 327 *e*P **P 00 19 33.9 -1.5**
PRGR pmax pmax
comp=Z,6.0nm,0.8s
ASAR Alice Springs 61.00 188 P **P 00 19 37.5 -0.7**
comp=Z,1.7nm,0.8s,baz=8.7,slow=6.1,SNR=17
comp=Z,1.7nm,0.8s
ASAR Alice Springs 61.00 188 P **P 00 19 37.9 -0.3**
ASAR Alice Springs 61.00 188 P **P 00 19 37.9 -0.3**
LVZ Lovozero 61.96 336 P **P 00 19 44.2 -0.1**
LVZ Lovozero 61.96 336 P **P 00 19 44.2 -0.1**
LVZ pmax pmax
comp=Z,25nm,1.1s
DZM Mont Dzumac 63.50 154 P **P 00 19 55.1 +0.1**
YKA Yellowknife Ar 63.60 30 P **P 00 19 56.0 +0.8**
comp=Z,0.9nm,0.7s,baz=298,slow=5.8,SNR=2.9
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 63.60 30 P **P 00 19 56.0 +0.8**
KLMR Klimovskoe 63.63 328 *e*P P 00 19 50.2 -5.2
KLMR AMP 00 19 55.6
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 63.63 328 *e*P P 00 19 50.2 -5.2
KLMR pmax pmax
comp=Z,10.0nm,0.8s
GEYT Alibeck 63.81 299 P **P 00 19 56.4 -0.7**
comp=Z,3.3nm,0.8s,baz=8.5,slow=3.0,SNR=6.0
comp=Z,3.3nm,0.8s
GEYT Alibeck 63.81 299 P **P 00 19 56.0 -1.0**
GEYT IAmb IAmb 00 19 57.5
comp=Z,3.3nm,0.8s
ARCES ARCESS Array B 63.84 339 P **P 00 19 56.0 -0.7**
comp=Z,2.4nm,0.8s,baz=54,slow=8.2,SNR=5.9
comp=Z,2.4nm,0.8s
ARCES ARCESS Array B 63.84 339 P **P 00 19 56.7 0.0**
ARCES IAmb IAmb 00 19 57.9
comp=Z,4.2nm,1.0s
ARCES ARCESS Array B 63.84 339 P **P 00 19 56.7 0.0**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 67.98 323 *de*P **P 00 20 23.3 -0.3**
OBN *e* 00 20 50.5
OBN *e* 00 22 52.1
OBN *e*S **PnS 00 29 47.8 +3.1**
OBN pmax pmax
comp=Z,4.0nm,0.4s
OBN MLR MLR
comp=Z,37nm,15.0s
VORR Voronezh 68.56 319 *e*P **P 00 20 27.2 -0.1**
VORR pmax pmax
comp=Z,20nm,0.4s
FIA1 FINESS Array S 68.67 332 P **P 00 20 27.8 0.0**
FINES FINESS Array B 68.67 332 P **P 00 20 27.5 -0.3**
comp=Z,7.4nm,0.7s,baz=64,slow=8.7,SNR=17
comp=Z,7.4nm,0.7s
FINES FINESS Array B 68.67 332 P **P 00 20 27.7 -0.1**
FINES FINESS Array B 68.67 332 P **P 00 20 27.7 -0.1**
STKA Stephens Creek 68.75 180 P **P 00 20 28.3 -0.2**
comp=Z,1.8nm,0.5s,baz=340,slow=3.5,SNR=4.8
comp=Z,1.8nm,0.5s
STKA Stephens Creek 68.75 180 P **P 00 20 28.4 -0.1**
STKA Stephens Creek 68.75 180 P **P 00 20 28.4 -0.1**
STKA pmax pmax
comp=Z,1.0nm,0.9s
FORT Forrest 68.82 192 P **P 00 20 28.4 -0.5**
KBZ Khabaz 70.83 311 P **P 00 20 41.4 0.0**
comp=Z,3.9nm,0.9s,baz=55,slow=7.2,SNR=5.0
comp=Z,3.9nm,0.9s
KBZ Khabaz 70.83 311 *ce*P **P 00 20 41.2 -0.2**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 70.83 311 *e*P **P 00 20 42.5 +0.9**
KIV pmax pmax
comp=Z,10.0nm,1.0s
MNK Minsk 72.37 326 *i* P **P 00 20 51.2 +0.7**
comp=E,3.0nm,1.0s
MNK *i* P **P 00 20 51.2 +0.7**
comp=N,23nm,0.8s
MNK *i* P **P 00 20 51.2 +0.7**
comp=Z,13nm,0.9s,baz=230
MNK *i* PcP **PcP 00 21 08.2 -0.2**
MNK *i* PP **PP 00 23 29.9 -0.9**
MNK *i* PPP PPP 00 25 13.8
MNK *i* S **S 00 30 12.7 -1.0**
MNK *i* ScS **ScS 00 30 56.1 -0.9**
MNK *i* SS **SS 00 34 50.8 -0.2**
MNK *i* SSS SSS 00 38 10.6
MNK *i* LQ LQ 00 47 35.8
MNK *i* LR LR 00 52 40.0
MNK *i* LRM MLR 00 54 31.4
comp=N,1μm,20.0s
MNK *i* LRM MLR 00 54 47.6
comp=Z,65nm,21.9s
MNK *i* LRM MLR 00 54 57.2
comp=E,8.0nm,20.0s
MNK Minsk 72.37 326 *i* P **P 00 20 51.2 +0.7**
MNK *i* 00 21 08.1
MNK *i* 00 23 29.8
MNK *i* PPP PPP 00 25 13.7
MNK *i* S **S 00 30 12.7 -1.0**
MNK *i* 00 30 56.0
MNK *i* SS **SS 00 34 50.7 -0.2**
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,23nm,0.8s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=Z,65nm,22.0s
MNK MLR MLR
comp=E,8.0nm,20.0s
NACGM Naroch 72.60 327 *e*P **P 00 20 49.9 -2.0**
comp=Z,18nm,1.1s,baz=49
NC405 NORSAR Array S 73.82 337 P **P 00 20 59.5 +0.5**
NC405 IAmb IAmb 00 21 16.4
comp=Z,9.0nm,1.1s
LRM Limekiln Ridge 73.95 44 P **P 00 21 01.9 +1.6**
NC204 NORSAR Array S 73.99 338 P **P 00 21 00.6 +0.6**
NB201 NORSAR Array S 74.00 337 P **P 00 21 00.6 +0.6**
NB2 NORSAR Subarra 74.03 337 P **P 00 20 59.9 -0.4**
comp=Z,2.7nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 74.03 337 P **P 00 21 00.1 -0.2**
comp=Z,2.4nm,0.7s,baz=39,slow=5.9,SNR=14
comp=Z,2.4nm,0.7s
NBO00 NORSAR Array S 74.17 337 P **P 00 21 01.3 +0.2**
AKASG Malin Array Be 74.19 322 P **P 00 21 00.8 -0.5**
comp=Z,1.9nm,0.5s,baz=44,slow=5.5,SNR=16
comp=Z,1.9nm,0.5s
AKBB Malin Array Si 74.19 322 *ce*P **P 00 21 00.4 -0.9**
AKBB pmax pmax
comp=Z,7.0nm,1.1s
NAO01 NORSAR Array S 74.29 337 P **P 00 21 02.1 +0.4**
NVAR Mina Array Bea 74.81 53 P **P 00 21 07.3 +1.9**
comp=Z,1.4nm,0.7s,baz=291,slow=5.7,SNR=11
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 74.81 53 P **P 00 21 07.4 +2.0**
DUG Dugway, Tooele 77.17 49 P **P 00 21 20.3 +1.5**
DUG IAmb IAmb 00 21 26.0
comp=Z,3.1nm,0.9s
DUG Dugway, Tooele 77.17 49 P **P 00 21 20.3 +1.5**
DUG pmax pmax
comp=Z,3.0nm,1.0s
GWY Greenwater Val 77.18 54 P **P 00 21 19.8 +0.8**
GWY IAmb IAmb 00 21 25.7
comp=Z,5.7nm,1.1s
PDAR Pinedale Array 77.47 46 P **P 00 21 21.4 +0.8**
comp=Z,0.7nm,0.6s,baz=262,slow=2.2,SNR=7.0
comp=Z,0.7nm,0.6s
BUR08 Bucovina Ar. S 78.19 322 P **P 00 21 24.7 +0.4**
BUR08 IAmb IAmb 00 21 30.3
comp=Z,3.3nm,1.1s
BURAR Bucovina Array 78.20 322 P **P 00 21 24.5 +0.2**
BURAR IAmb IAmb 00 21 30.1
comp=Z,3.1nm,0.9s
MSU Marysvale 78.59 50 P **P 00 21 29.1 +2.2**
MSU Marysvale 78.59 50 P **P 00 21 29.1 +2.2**
KOLS Kolonicke sedl 78.71 324 *e*P **P 00 21 27.6 +0.6**
KOLS Kolonicke sedl 78.71 324 *e*P **P 00 21 27.6 +0.6**
BRTR Keskin Array B 78.78 312 P **P 00 21 27.3 -0.4**
comp=Z,0.6nm,0.7s,baz=98,slow=7.6,SNR=4.1
comp=Z,0.6nm,0.7s
BRTR Keskin Array B 78.78 312 P **P 00 21 28.2 +0.5**
RDMU Red Mountain 78.86 47 P **P 00 21 29.3 +1.0**
RDMU IAmb IAmb 00 21 35.4
comp=Z,5.3nm,1.2s
P17A Butcher Ranch, 78.86 49 P **P 00 21 29.2 +0.9**
P17A IAmb IAmb 00 21 40.2
comp=Z,4.1nm,1.2s
VYHS Vyhne 80.61 325 *e*P **P 00 21 38.4 +1.1**
VYHS Vyhne 80.61 325 *e*P **P 00 21 38.4 +1.1**
PV13 Radium Mtn., P 80.86 49 P **P 00 21 40.7 +1.6**
PV13 IAmb IAmb 00 21 47.5
comp=Z,4.5nm,1.2s
CLL Collm 80.96 330 *i* P **P 00 21 39.1 0.0**
CLL *i* Pmax 00 21 43.5
comp=Z,8.0nm,1.2s
CLL *ex* x 00 21 59.0
CLL Collm 80.96 330 *i* P **P 00 21 39.1 0.0**
CLL pmax pmax
comp=Z,8.0nm,1.2s
PRU Pruhonice 81.35 329 *e*P **P 00 21 42.8 +1.6**
MODS Modra-Piesok 81.39 326 *e*P **P 00 21 42.6 +1.1**
MODS Modra-Piesok 81.39 326 *e*P **P 00 21 42.6 +1.1**
CONA Conrad Observa 82.36 327 *e*P **P 00 21 47.8 +1.1**
comp=Z,5.2nm,1.2s
KHC Kasperske Hory 82.42 328 *e*P **P 00 21 47.4 +0.5**
GERES GERESS Array B 82.58 328 P **P 00 21 47.6 -0.2**
comp=Z,0.4nm,0.5s,baz=301,slow=2.1,SNR=2.6
comp=Z,0.4nm,0.5s
SOKA Soboth 83.67 326 *e*P **P 00 21 56.5 +2.9**
ECSD EROS Data Cent 83.71 38 P **P 00 21 54.7 +1.0**
ECSD IAmb IAmb 00 21 59.7
comp=Z,2.8nm,0.8s
OBKA Obir 84.02 326 *i* P **P 00 21 57.0 +1.7**
comp=Z,2.0nm,0.7s
KBA Koelnbreinsper 84.10 327 *i* P **P 00 21 58.0 +2.2**
comp=Z,1.0nm,0.6s
ANMO Albuquerque 84.40 50 *ce*P **P 00 22 00.4 +2.8**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
FUORN Ofenpass-Fuorn 85.77 329 P **P 00 22 05.5 +1.1**
FUORN IAmb IAmb 00 22 09.7
comp=Z,4.6nm,0.9s
TX31 Lajitas Ar. Si 89.94 52 P **P 00 22 24.8 +0.4**
TX31 IAmb IAmb 00 22 30.7
comp=Z,4.9nm,1.1s
TX32 Lajitas Array 89.94 52 P **P 00 22 24.7 +0.2**
TXAR Lajitas Array 89.94 52 P **P 00 22 25.4 +0.9**
comp=Z,0.9nm,0.7s,baz=296,slow=2.9,SNR=12
comp=Z,0.9nm,0.7s
LPAZ La Paz 146.53 59 PKPbc **PKPbc 00 29 07.9 +0.5**
comp=Z,2.5nm,0.8s,baz=337,slow=2.5,SNR=7.7
H03N2 Juan Fernandez 146.97 96 T T 03 13 19.1
baz=291,slow=76,SNR=35
H03N3 Juan Fernandez 146.98 96 T T 03 13 19.2
baz=291,slow=76,SNR=41
H03N1 Juan Fernandez 146.98 96 T T 03 13 21.2
baz=291,slow=76,SNR=44

*BJI **25** 00:19:58.8± 0.0, 37.40N× 141.36E, h5km, mb4.4/37, mB4.8/20, Ms4.2/11, Ms7 3.8/11*
*IDC **25** 00:19:59.1± 0.4, 37.25N× 141.34E, h0km, mb4.4/31, mbtmp4.4/36, ML3.6/4, MS3.6/7, Error ellipse: s-maj=14.7km s-min=9.6km az=93.0*

MOS ***25*** *00:19:59.0±1.1, 37.°25N×141.°41E, h10km, mb5.0/34, Error ellipse: s-maj=8.6km s-min=5.3km az=110.0*
NIED ***25*** *00:20:00.9, 37.°24N×141.°48E, h30km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.73; Mθθ0.52; Mφφ 1.22; Mrθ 1.28; Mθφ 1.34; Mφr 1.03; Fault plane solution: M₀2.59000×10¹⁵ NP1:φ₀24.00000°, δ27.00000°, λ-112.00000°. NP2:φ₀228.00000°, δ65.00000°, λ-79.00000°.*
JMA ***25*** *00:20:00.9±0.2, 37.°2N±0.°4×14.°1E±.°, h30km±1km, MD4.6/39, MV4.8/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
NEIC ***25*** *00:20:02.1±1.7, 37.°29N±0.°04×141.°41E±0.°06, h14km±4km, mb4.7/127, Error ellipse: s-maj=7.0km s-min=5.2km az=54.0*
ISC 25 00:20:01.7±0.6, 37.°26N±0.°03×141.°39E±0.°04, h16km±3km, n376, σ1$42/349, mb4.7/127, **MS3.9**/13, **24C-9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.42**	**285**	P		**Pb**		**00 20 10.8**	**0.0**
JFK				S		**Sb**		**00 20 18.0**	**+1.0**
JFK	**Kawauchi**	**0.42**	**285**	A		A		00 20 10.8	
	comp=E,24nm,0.6s,comp=E,32nm,0.9s								
JMST	**Minamisoumatoc**	**0.61**	**320**	P		**Pb**		**00 20 13.8**	**-0.2**
JMST				S		**Sb**		**00 20 23.3**	**+0.9**
JMST	**Minamisoumatoc**	**0.61**	**320**	A		A		00 20 13.8	
	comp=E,54nm,0.4s,comp=E,61nm,0.3s								
JFFD	**Fukushimafurud**	**0.68**	**256**	P		**Pb**		**00 20 15.0**	**-0.2**
JFFD				S		**Sb**		**00 20 25.1**	**+0.8**
JFFD	**Fukushimafurud**	**0.68**	**256**	A		A		00 20 15.0	
	comp=E,31nm,0.4s,comp=E,50nm,1.6s								
JMM	**Marumori**	**0.77**	**322**			**Pg**		**00 20 16.1**	**-0.6**
JMM						**Sb**		**00 20 27.1**	**+0.1**
JMM	**Marumori**	**0.77**	**322**	P		**Pb**		**00 20 16.6**	**-0.1**
JMM	**Marumori**	**0.77**	**322**	P		**Pg**		**00 20 16.2**	**-0.5**
JMM				S		**Sb**		**00 20 27.5**	**+0.5**
JMM	**Marumori**	**0.77**	**322**	A		A		00 20 16.2	
	comp=E,13nm,0.6s,comp=E,13nm,0.6s								
JHO	**Hitachi**	**0.92**	**226**	⇓P		**Pb**		**00 20 17.5**	**-1.8**
JHO				⇓S		**Sb**		**00 20 30.8**	**-0.4**
JIKH	**Ishinomakikobu**	**1.05**	**3**	A		A		00 20 20.0	
	comp=E,11nm,0.6s								
JHYU	**Hitachinakayam**	**1.12**	**215**	A		A		00 20 21.2	
	comp=E,14nm,1.3s,comp=E,9.0nm,1.5s								
JYAR	**Yonezawaarcadi**	**1.18**	**304**	A		A		00 20 22.8	
	comp=E,58nm,0.8s,comp=E,47nm,1.3s								
JIO	**Ouri**	**1.20**	**359**	P		**Pn**		**00 20 22.1**	**-1.7**
JIO				S		**Sb**		**00 20 37.6**	**-1.7**
JIO	**Ouri**	**1.20**	**359**	A		A		00 20 22.1	
	comp=E,8.0nm,1.1s								
JSB	**Shiboa**	**1.21**	**257**	P		**Pg**		**00 20 24.4**	**-0.6**
JSB				S		**Sg**		**00 20 41.3**	**+0.6**
JSB	**Shiboa**	**1.21**	**257**	A		A		00 20 24.4	
	comp=E,36nm,1.2s,comp=E,48nm,0.9s								
JOU	**Okura**	**1.25**	**333**	P		**Pn**		**00 20 24.2**	**-0.3**
JOU				S		**Sg**		**00 20 41.8**	**-0.2**
JOU	**Okura**	**1.25**	**333**	A		A		00 20 24.2	
	comp=E,30nm,0.4s,comp=E,40nm,0.8s								
JFY	**Yanaizu**	**1.35**	**277**	A		A		00 20 25.4	
	comp=E,11nm,0.8s,comp=E,10.0nm,0.7s								
JOFO	**Osakifurukawao**	**1.39**	**345**	A		A		00 20 25.5	
	comp=E,112nm,1.1s,comp=E,105nm,1.2s								
JYT	**Yasato**	**1.40**	**223**	A		A		00 20 25.6	
	comp=E,12nm,0.4s,comp=E,9.0nm,0.3s								
JYS	**Shirataka**	**1.42**	**313**	A		A		00 20 26.3	
	comp=E,29nm,0.7s,comp=E,22nm,1.8s								
JIHU	**Itakohorinouch**	**1.46**	**208**	A		A		00 20 26.2	
	comp=N,28nm,1.8s								
CHOJ	**Chosi**	**1.61**	**195**	A		A		00 20 28.1	
	comp=E,9.0nm,2.2s,comp=E,10.0nm,1.1s								
JMK	**Ichinoseki**	**1.70**	**356**	A		A		00 20 29.8	
	comp=E,14nm,2.1s,comp=E,4.0nm,0.8s								
JNS	**Sasagawa**	**1.74**	**289**	A		A		00 20 31.1	
	comp=E,7.0nm,1.4s,comp=E,4.0nm,1.1s								
JAG	**Ashikaga**	**1.76**	**242**	A		A		00 20 31.1	
	comp=E,3.0nm,1.0s								
JYK	**Kaneyama**	**1.84**	**334**	A		A		00 20 32.3	
	comp=E,7.0nm,1.3s,comp=E,8.0nm,2.1s								
JUON	**Uonuma**	**1.86**	**269**	A		A		00 20 32.8	
	comp=E,5.0nm,0.8s,comp=E,7.0nm,1.5s								
JYA	**Atsumi**	**1.88**	**316**	A		A		00 20 33.0	
	comp=E,15nm,1.1s,comp=E,25nm,1.3s								
JYYZ	**Yamagatayuza**	**2.10**	**327**	A		A		00 20 36.0	
	comp=E,15nm,5.2s,comp=E,12nm,1.1s								
JIZZ	**Izumozaki**	**2.15**	**278**	A		A		00 20 37.0	
	comp=E,25nm,4.7s,comp=E,22nm,0.9s								
JOM	**Ohasama**	**2.21**	**358**	A		A		00 20 37.2	
	comp=E,7.0nm,2.6s,comp=E,4.0nm,1.0s								
JRG	**Rokugo**	**2.22**	**345**	A		A		00 20 37.4	
	comp=E,6.0nm,0.9s,comp=E,13nm,2.2s								
JGK	**Kuni**	**2.31**	**253**	A		A		00 20 39.1	
	comp=E,6.0nm,0.8s,comp=E,8.0nm,3.8s								
JYW	**Yuwa**	**2.46**	**338**	A		A		00 20 41.0	
	comp=E,17nm,0.8s,comp=E,15nm,1.6s								
JSZI	**Iwateshizukuis**	**2.50**	**352**	A		A		00 20 41.4	
	comp=E,15nm,1.6s,comp=E,10.0nm,1.9s								
JJN	**Nakama**	**2.58**	**268**	A		A		00 20 43.1	
	comp=E,7.0nm,1.8s,comp=E,6.0nm,2.0s								
JSD	**Sado**	**2.60**	**288**			**Pn**		**00 20 43.1**	**0.0**
JSD	**Sado**	**2.60**	**288**	P		**Pn**		**00 20 44.1**	**+1.0**
MJAR	**Matsushiro Arr**	**2.64**	**255**	Pn		**Pn**		**00 20 44.3**	**+0.6**
	6.8nm,0.3s,baz=84,slow=16,SNR=115								
MJAR				Sn		**Sb**		**00 21 19.4**	**-1.6**
	8.1nm,0.3s,baz=92,slow=28,SNR=2.3								
	38nm,0.4s								
MAJO	**Matsushiro**	**2.65**	**255**	Pn		**Pn**		**00 20 45.1**	**+1.4**
MAJO	**Matsushiro**	**2.65**	**255**	P		**Pn**		**00 20 45.6**	**+1.8**
MAJO	**Matsushiro**	**2.65**	**255**	*d*P		**Pn**		**00 20 46.0**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.65**	**255**			**Pn**		**00 20 46.0**	**+2.2**
JKEN	**Kujiedanarisaw**	**2.96**	**5**	A		A		00 20 47.6	
	comp=E,8.0nm,2.1s								
JTM	**Tenmabayashi**	**3.53**	**356**	Pn		**Pn**		**00 20 56.1**	**+0.2**
JTM	**Tenmabayashi**	**3.53**	**356**	P		**Pn**		**00 20 56.5**	**+0.6**
JGF	**Kuroka**	**3.64**	**244**	Pn		**Pn**		**00 20 58.5**	**+1.0**
JGF	**Kuroka**	**3.64**	**244**	P		**Pn**		**00 20 59.5**	**+2.0**
INU	**Inuyama**	**4.01**	**243**	Pn		**Pn**		**00 21 04.0**	**+1.5**
INU	**Inuyama**	**4.01**	**243**	P		**Pn**		**00 21 04.7**	**+2.2**
JHJ2	**Mitsune**	**4.33**	**198**	Pn		**Pn**		**00 21 06.5**	**-0.4**
JHJ2	**Mitsune**	**4.33**	**198**	P		**Pn**		**00 21 08.0**	**+1.1**
JHJ	**Hachijo jima 2**	**4.33**	**198**	Pn		**Pn**		**00 21 05.5**	**-1.4**
	68nm,0.3s,baz=255,slow=13,SNR=7.2								
JHJ				Sn		**Sn**		**00 21 57.7**	**+0.6**
	28nm,0.3s,baz=97,slow=23,SNR=1.4								
JHJ				LR		LR		00 22 54.2	
	comp=Z,279nm,20.4s,baz=310,slow=41								
	124nm,0.3s								
ERM	**Erimo**	**4.95**	**16**			**Pn**		**00 21 14.3**	**-1.0**
ERM	**Erimo**	**4.95**	**16**	P		**Pn**		**00 21 15.0**	**-0.3**
ERM	**Erimo**	**4.95**	**16**	*i*P		**Pn**		**00 21 14.6**	**-0.7**
JEM	**Erimo**	**4.95**	**16**	P		**Pn**		**00 21 15.0**	**-0.3**
ASAJ	**Asahikawa**	**6.91**	**7**	P		**Pn**		**00 21 42.0**	**-0.4**
JKA	**Kamikawa-asahi**	**6.91**	**7**	Pn		**Pn**		**00 21 42.0**	**-0.4**
JHS	**Saijyo**	**7.06**	**254**	Pn		**Pn**		**00 21 46.5**	**+2.0**
JHS	**Saijyo**	**7.06**	**254**	P		**Pn**		**00 21 47.9**	**+3.5**
JMN	**Monobe**	**7.06**	**242**	Pn		**Pn**		**00 21 45.9**	**+1.5**
JMN	**Monobe**	**7.06**	**242**	P		**Pn**		**00 21 46.0**	**+1.5**
TEY	**Ternei**	**8.57**	**337**	*e*P		Pn		00 22 15.0	+10
JNU	**Nakatsue**	**9.54**	**247**	Pn		**Pn**		**00 22 20.9**	**+2.5**
YSS	**Yuzh-Sakhalins**	**9.74**	**6**	Pn		**Pn**		**00 22 20.9**	**-0.2**
YSS	**Yuzh-Sakhalins**	**9.74**	**6**	*e*P		**Pn**		**00 22 21.5**	**+0.4**
YSS					pmax	pmax			
	comp=Z,40nm,1.1s								
YSS					MLR	MLR			
	comp=Z,400nm,18.0s								
USA0B	**Ussuriysk Arra**	**9.94**	**317**	Pn		**Pn**		**00 22 26.4**	**+2.5**
USA0B	**Ussuriysk Arra**	**9.94**	**317**	P		**Pn**		**00 22 26.4**	**+2.5**
USRK	**Ussuriysk Ar.**	**9.94**	**317**	Pn		**Pn**		**00 22 28.1**	**+4.2**
	comp=Z,1.4nm,0.3s,baz=135,slow=12,SNR=21								
USRK					LR	LR		00 26 00.4	
	comp=Z,286nm,20.2s,baz=118,slow=36								
JCJ	**Chichijima**	**10.15**	**176**	Pn		**Pn**		**00 22 26.9**	**0.0**
	comp=Z,77nm,0.4s,baz=321,slow=4.7,SNR=4.0								
JCJ	**Chichijima**	**10.15**	**176**	P		**Pn**		**00 22 29.3**	**+2.4**
KSRS	**Korea Array**	**10.72**	**275**	Pn		**Pn**		**00 22 37.2**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=96,slow=14,SNR=7.5								
KSRS					LR	LR		00 26 52.7	
	comp=Z,132nm,18.1s,baz=75,slow=39								
MDJ	**Mudanjiang**	**11.55**	**313**	Pn		**Pn**		**00 22 45.9**	**0.0**
CN2	**Changchun**	**13.76**	**303**	P		**P**		**00 23 24.8**	**+0.2**
CN2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
KLR	**Kul'dur**	**13.86**	**333**	Pn		**Pn**		**00 23 16.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=101,slow=4.7,SNR=2.6								
KLR					LR	LR		00 28 33.4	
	comp=Z,149nm,19.2s,baz=133,slow=37								
	comp=Z,0.7nm,0.4s								
KLR	**Kul'dur**	**13.86**	**333**	*i* P		**Pn**		**00 23 15.6**	**-1.8**
GRNR	**Gornyy**	**13.97**	**347**	⇓*i*P		Pn		00 23 08.8	-10
GRNR					pmax	pmax			
	comp=Z,4.0nm,0.5s								
GRNR					MLR	MLR			
	comp=N,310nm,19.0s								
GRNR					MLR	MLR			
	comp=E,160nm,19.0s								
GRNR					MLR	MLR			
	comp=Z,340nm,17.0s								
ZEA	**Zeya**	**19.17**	**334**	*e*P		**P**		**00 24 23.3**	**-1.1**
ZEA					pmax	pmax			
	comp=N,10.0nm,0.4s								
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.9s								
ZEA					MLR	MLR			
	comp=Z,200nm,17.0s								
NJ2	**Nanjing**	**19.23**	**261**	*e*P		**Pn**		**00 24 26.5**	**+0.3**
NJ2					pmax	pmax			
	comp=Z,15nm,1.1s								
PETK	**Petropavlovsk-**	**19.51**	**30**	P		**Pn**		**00 24 29.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=2.8								
	comp=Z,9.4nm,1.0s								
BJT	**Baijiatuau**	**19.87**	**286**	P		**P**		**00 24 32.7**	**+0.5**
BJT	**Baijiatuau**	**19.87**	**286**	P		**P**		**00 24 32.7**	**+0.5**
BJT					pmax	pmax			
	comp=Z,6.0nm,0.7s								
XLT	**XiLinHaoTe**	**20.29**	**297**	⇓*i*P		**P**		**00 24 34.8**	**-2.0**
XLT					pP	Pn		00 24 38.8	0.0
XLT					sP	pP		00 24 41.6	+0.4
XLT					sS	Sn		00 28 26.0	-0.9
XLT					pmax	pmax			
	comp=Z,12nm,1.1s								
XLT					pmax	pmax			
	comp=Z,150nm,3.9s								
XLT					LR	LR			
	comp=Z,330nm,12.9s								
XLT					LR	LR			
	comp=Z,180nm,11.9s								
HNS	**HongShan**	**21.20**	**279**	⇑P		**P**		**00 24 45.3**	**-1.2**
HNS					S	**S**		**00 28 36.0**	**-5.6**
HNS					pmax	pmax			
	comp=Z,10.0nm,0.9s								
HNS					LR	LR			
	comp=Z,230nm,15.3s								
HNS					LR	LR			
	comp=Z,370nm,13.5s								
HNS					LR	LR			
	comp=Z,240nm,12.7s								
MA2	**Magadan**	**23.14**	**12**	P		**P**		**00 25 05.9**	**-1.1**
	comp=Z,16nm,0.9s,baz=156,slow=21,SNR=2.0								
	comp=Z,16nm,0.9s								
HHC	**Hu-ho-hao-te**	**23.38**	**288**	*e*P		**P**		**00 25 10.3**	**+0.5**
HHC					pmax	pmax			
	comp=Z,31nm,0.6s								
HHC					pmax	pmax			
	comp=Z,170nm,7.5s								
YAK	**Yakutsk**	**25.85**	**347**	P		**P**		**00 25 31.5**	**-0.7**
	comp=Z,6.9nm,0.3s,baz=297,slow=1.6,SNR=6.2								
	comp=Z,6.9nm,0.3s								
YAK	**Yakutsk**	**25.85**	**347**	P		**P**		**00 25 31.6**	**-0.6**
YAK	**Yakutsk**	**25.85**	**347**	*e*P		**P**		**00 25 31.7**	**-0.5**
YAK				*e*'PP		**pP**		**00 25 36.7**	**-0.2**
YAK				*e*S		**S**		**00 29 57.9**	**-3.1**
YAK				*e*SSS		SSS		00 31 04.9	
YAK					pmax	pmax			
	comp=Z,33nm,0.9s								
YAK					pmax	pmax			
	comp=E,2.0nm,0.9s								
YAK					pmax	pmax			
	comp=N,11nm,1.0s								
YAK					smax	smax			
	comp=E,181nm,2.8s								
YAK					smax	smax			
	comp=N,76nm,2.4s								
YAK					MLR	MLR			
	comp=Z,248nm,13.0s								
YAK					MLR	MLR			
	comp=N,191nm,10.0s								
YAK					MLR	MLR			
	comp=E,31nm,12.0s								
XAN	**Xi'an**	**26.50**	**273**	P		**P**		**00 25 43.6**	**+5.1**
XAN					pmax	pmax			
	comp=Z,7.0nm,1.1s								
SEY	**Seymchan**	**26.58**	**11**	P		**P**		**00 25 40.2**	**+1.4**
	comp=E,3.9nm,0.7s,baz=184,slow=11,SNR=4.5								
	comp=E,3.9nm,0.7s								
SONM	**Songino Array**	**27.64**	**304**	P		**P**		**00 25 46.6**	**-2.1**
	comp=E,7.7nm,1.1s,baz=107,slow=7.1,SNR=24								
	comp=E,7.7nm,1.1s								
SONM	**Songino Array**	**27.64**	**304**	P		**P**		**00 25 48.4**	**-0.3**
SONM	**Songino Array**	**27.64**	**304**	P		**P**		**00 25 48.4**	**-0.3**
SONM					pmax	pmax			
	comp=Z,7.0nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.28**	**121**	T		T		00 55 24.0	
	baz=314,slow=75,SNR=268								
H11N1	**WAKE ISLAND Hy**	**28.29**	**121**	T		T		00 55 26.6	
	baz=314,slow=75,SNR=335								
H11N3	**WAKE ISLAND Hy**	**28.30**	**121**	T		T		00 55 25.3	
	baz=314,slow=75,SNR=335								
H11S1	**WAKE ISLAND Hy**	**29.00**	**123**	T		T		00 56 09.6	
	baz=316,slow=76,SNR=201								
H11S3	**WAKE ISLAND Hy**	**29.00**	**123**	T		T		00 56 17.4	
	baz=316,slow=76,SNR=160								
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T		T		00 56 15.6	
	baz=316,slow=76,SNR=119								
BILL	**Bilibino**	**33.82**	**17**	⇓*e*P		**P**		**00 26 45.7**	**+2.9**
BILL				*e*				00 27 59.9	
BILL				*e*S		**S**		**00 32 09.7**	**+3.9**
BILL					pmax	pmax			
	comp=Z,5.0nm,1.3s								
BILL					MLR	MLR			
	comp=Z,84nm,16.0s								
TIXI	**Tiksi**	**35.07**	**353**	P		**P**		**00 26 52.5**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=270,slow=22,SNR=5.5								
	comp=Z,2.4nm,0.7s								
TIXI	**Tiksi**	**35.07**	**353**	P		**P**		**00 26 52.8**	**-0.7**
TIXI	**Tiksi**	**35.07**	**353**	*i* P		**P**		**00 26 55.0**	**+1.5**
PZH	**PanZhiHua**	**35.10**	**264**	P		**P**		**00 26 54.3**	**-0.2**
PZH				S		**S**		**00 32 25.9**	**-0.9**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.7s								
PZH					pmax	pmax			
	comp=Z,70nm,4.5s								
PZH					LR	LR			
	comp=Z,350nm,16.7s								
PZH					LR	LR			
	comp=Z,300nm,15.3s								
PZH					LR	LR			
	comp=Z,320nm,14.9s								
MYLDM	**Lahad Datu**	**38.17**	**219**	P		**P**		**00 27 21.8**	**+1.2**
TNCH	**TengChong**	**38.36**	**264**	P		**P**		**00 27 22.9**	**+0.6**
TNCH					pmax	pmax			
	comp=Z,39nm,0.6s								
SIJI	**Sorong**	**39.08**	**196**	P		**P**		**00 27 27.4**	**-0.8**
	comp=Z,4.2nm,0.3s,baz=333,slow=20,SNR=3.6								
	comp=Z,4.2nm,0.3s								
CRAI	**Chiangrai**	**39.41**	**256**	P		**P**		**00 27 31.8**	**+0.8**
DGZ	**Jazzator, Alta**	**40.24**	**306**	⇑*i*P		**P**		**00 27 38.6**	**+0.8**
DGZ					pmax	pmax			
	comp=Z,15nm,1.3s								
TOLI2	**Tolitoli**	**40.68**	**213**	P		**P**		**00 27 41.1**	**-0.4**
WMQ	**Urumqi**	**40.72**	**297**	*e*P		**P**		**00 27 44.1**	**+2.4**
WMQ					LR	LR			
	comp=Z,200nm,17.7s								
WMQ					LR	LR			
	comp=Z,140nm,21.5s								
CMAR	**Chiang Mai Arr**	**41.53**	**255**	P		**P**		**00 27 48.1**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=45,slow=9.0,SNR=2.0								
	comp=Z,1.3nm,0.3s								
ZAA0	**Zalesovo Array**	**41.75**	**312**	P		**P**		**00 27 48.9**	**-1.0**
ZAA0					IAmb	IAmb		00 27 50.9	
	comp=Z,11nm,0.8s								
ZALV	**Zalesovo Beam**	**41.75**	**312**	P		**P**		**00 27 49.9**	**0.0**
	comp=Z,8.2nm,0.6s,baz=93,slow=7.4,SNR=27								
	comp=Z,8.2nm,0.6s								
ZALV	**Zalesovo Beam**	**41.75**	**312**	P		**P**		**00 27 49.4**	**-0.5**
LSA	**Lhasa**	**42.17**	**275**	P		**P**		**00 27 53.2**	**-1.0**
LSA	**Lhasa**	**42.17**	**275**	P		**P**		**00 27 53.2**	**-1.0**
LSA					pmax	pmax			
	comp=Z,9.0nm,1.3s								
NRIK	**Noril'sk**	**43.05**	**335**	P		**P**		**00 27 59.7**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=113,slow=3.7,SNR=1.9								
	comp=Z,1.9nm,0.5s								
MK31	**Makanchi Array**	**43.98**	**302**	P		**P**		**00 28 07.8**	**-0.3**
MK31	**Makanchi Array**	**43.98**	**302**	⇑*i*P		**P**		**00 28 07.6**	**-0.6**
MKAR	**Makanchi Array**	**43.98**	**302**	P		**P**		**00 28 08.2**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=87,slow=9.1,SNR=42								
	comp=Z,5.9nm,0.8s								
MKAR	**Makanchi Array**	**43.98**	**302**	*i* P		**P**		**00 28 08.1**	**-0.1**
MKAR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
MAKZ	**Makanchi**	**44.19**	**302**	P		**P**		**00 28 09.5**	**-0.3**
MAKZ					IAmb	IAmb		00 28 15.7	
	comp=Z,7.1nm,0.8s								
MAKZ	**Makanchi**	**44.19**	**302**	P		**P**		**00 28 09.5**	**-0.3**
MAKZ					pmax	pmax			
	comp=Z,7.0nm,0.9s								
O18K	**Koktuh Hills**	**45.52**	**39**	P		**P**		**00 28 20.0**	**-0.2**
O18K					IAmb	IAmb		00 28 48.4	
	comp=Z,14nm,1.1s								
KSM	**Kuching**	**45.69**	**226**	P		**P**		**00 28 22.0**	**-0.1**
KURK	**Kurchatov**	**45.78**	**308**	P		**P**		**00 28 21.8**	**-0.6**
KURK	**Kurchatov**	**45.78**	**308**	⇓*i*P		**P**		**00 28 22.5**	**+0.2**
KURK					pmax	pmax			
	comp=Z,19nm,0.9s								
TAPN	**Taplejung**	**45.90**	**274**	*e*P		**P**		**00 28 28.7**	**+4.7**
	comp=Z,6.7nm,0.5s								
A21K	**Barrow**	**46.26**	**23**	P		**P**		**00 28 26.4**	**+0.5**
Q19K	**Cape Douglas,**	**46.33**	**41**	P		**P**		**00 28 25.5**	**-1.1**
ODAN	**Odare**	**46.38**	**273**	*e*P		**P**		**00 28 29.2**	**+1.5**
IMAR	**Indian Mountai**	**46.47**	**31**	P		**P**		**00 28 28.1**	**+0.5**
KAPI	**Kappang**	**46.64**	**210**	P		**P**		**00 28 30.2**	**+0.7**
	comp=Z,19nm,0.8s,baz=326,slow=3.9,SNR=10								
	comp=Z,19nm,0.8s								
KAPI	**Kappang**	**46.64**	**210**	P		**P**		**00 28 29.6**	**+0.1**
KAPI	**Kappang**	**46.64**	**210**	P		**P**		**00 28 29.6**	**+0.1**
KAPI					pmax	pmax			
	comp=Z,21nm,0.9s								
H21K	**Melozitna Rive**	**46.83**	**31**	P		**P**		**00 28 30.9**	**+0.5**
H21K					IAmb	IAmb		00 28 37.0	
	comp=Z,8.0nm,1.1s								
RAMN	**Ramite**	**46.97**	**274**	*e*P		**P**		**00 28 32.5**	**+0.2**
	comp=Z,33nm,0.9s								
JIRN	**Jiri**	**46.98**	**275**	*e*P		**P**		**00 28 33.6**	**+1.1**
PPLA	**Purkeypile**	**47.00**	**35**	P		**P**		**00 28 33.2**	**+1.2**
PPLA					IAmb	IAmb		00 28 55.3	
	comp=Z,18nm,1.4s								
SRIT	**Nakonsritamara**	**47.32**	**244**	P		**P**		**00 28 35.3**	**+0.4**
PKIN	**Phulchoki**	**47.64**	**275**	*e*P		**P**		**00 28 38.2**	**+0.6**
	comp=Z,5.1nm,0.4s								
MLY	**Manley**	**47.67**	**32**	P		**P**		**00 28 37.4**	**+0.4**
MLY					IAmb	IAmb		00 28 44.3	
	comp=Z,3.9nm,0.8s								
GKN	**Gorkha**	**48.06**	**276**	*e*P		**P**		**00 28 41.1**	**+0.4**
H23K	**Yukon River**	**48.19**	**31**	P		**P**		**00 28 41.3**	**+0.3**
I23K	**Minto, Yukon-K**	**48.26**	**32**	P		**P**		**00 28 41.7**	**+0.2**
I23K					IAmb	IAmb		00 28 50.8	
	comp=Z,8.7nm,1.3s								
TOLK	**Toolik Lake Re**	**48.28**	**27**	P		**P**		**00 28 42.1**	**+0.3**
TOLK					IAmb	IAmb		00 28 49.0	
	comp=Z,7.7nm,0.9s								
GHO	**Glory Hole Cre**	**48.55**	**37**	P		**P**		**00 28 43.2**	**-0.7**
DANN	**Dangsing**	**48.60**	**277**	*e*P		**P**		**00 28 45.1**	**+0.1**
	comp=Z,50nm,0.7s								
MDM	**Murphy Dome**	**48.74**	**32**	P		**P**		**00 28 46.1**	**+0.9**
MDM					IAmb	IAmb		00 28 53.0	
	comp=Z,21nm,1.4s								
POKR	**Poker Plat Res**	**49.07**	**32**	P		**P**		**00 28 49.6**	**+1.8**
IPM	**Ipoh**	**49.24**	**238**	P		**P**		**00 28 48.6**	**-1.1**
IPM					IAmb	IAmb		00 28 51.6	
	comp=Z,5.9nm,0.6s								
SCM	**Sheep Creek Mo**	**49.30**	**36**	P		**P**		**00 28 49.6**	**0.0**
SCM					IAmb	IAmb		00 28 56.2	
	comp=Z,15nm,0.9s								
SCM	**Sheep Creek Mo**	**49.30**	**36**	P		**P**		**00 28 49.7**	**0.0**
SCM					pmax	pmax			
	comp=Z,15nm,0.9s								
HDA	**Harding Lake**	**49.31**	**33**	P		**P**		**00 28 49.4**	**-0.2**
HDA					IAmb	IAmb		00 28 56.0	
	comp=Z,8.4nm,1.0s								
IL31		**49.32**	**

comp=Z,5.8nm,0.6s
NIL Nilore 54.52 288 P **P** **00 29 30.0 +1.0**
NIL pmax pmax
comp=Z,6.0nm,0.6s
SVE Sverdlovsk 54.97 318 *eP* **P** **00 29 32.4 +0.6**
SVE pmax pmax
comp=Z,17nm,1.1s
A36M Sachs Harbour 56.06 22 P **P** **00 29 40.4 +1.0**
A36M IAmb IAmb 00 29 47.0
comp=Z,11nm,0.8s
ARU Arti 56.18 318 LR LR 00 56 16.6
comp=Z,91nm,18.3s,baz=151,slow=39
ARU Arti 56.18 318 P **P** **00 29 39.9 -0.6**
ARU IAmb IAmb 00 29 46.1
comp=Z,18nm,1.1s
ARU Arti 56.18 318*c iP* **P** **00 29 40.2 -0.3**
ARU 00 30 37.2
ARU 00 31 45.9
ARU S **S** **00 37 30.6 +1.6**
ARU SS **SS** **00 41 15.9 +1.0**
ARU pmax pmax
comp=Z,9.0nm,0.8s
P33M Teslin, Yukon 56.53 37 P **P** **00 29 44.6 +1.5**
P33M IAmb IAmb 00 29 50.6
comp=Z,9.1nm,1.0s
WB0 Warramunga Arr 57.10 188 P **P** **00 29 46.5 -0.9**
WB0 IAmb IAmb 00 29 55.3
comp=Z,6.3nm,0.6s
CTA Charters Tower 57.22 175 P **P** **00 29 47.4 -0.8**
comp=Z,2.1nm,0.7s,baz=347,slow=7.8,SNR=5.3
comp=Z,2.1nm,0.7s
C36M Paulatuk 57.24 25 IAmb IAmb 00 29 54.4
comp=Z,7.3nm,0.9s
WR0 Warramunga Arr 57.27 188 IAmb IAmb 00 29 56.9
comp=Z,5.7nm,0.6s
WB2 Warramunga Arr 57.28 188 P **P** **00 29 47.8 -0.9**
WB2 IAmb IAmb 00 29 56.9
comp=Z,6.3nm,0.7s
WRA Warramunga Arr 57.28 188 P **P** **00 29 47.4 -1.2**
comp=Z,3.7nm,0.6s,baz=6.0,slow=7.3,SNR=62
comp=Z,3.7nm,0.6s
KBL Kabul 57.31 291 P **P** **00 29 50.2 +1.0**
KBL Kabul 57.31 291 P **P** **00 29 50.2 +1.0**
KBL pmax pmax
comp=Z,5.0nm,1.1s
ABKAR Akbulak array 57.78 310 IAmb IAmb 00 29 57.9
comp=Z,4.5nm,0.6s
EUNU Eureka 59.97 9 IAmb IAmb 00 30 08.2
comp=Z,4.3nm,0.8s
KIRV Kirov 60.06 323‖ *eP* **P** **00 30 08.0 +0.4**
PRGR Permogore 60.57 327 *eP* **P** **00 30 08.1 -2.9**
PRGR pmax pmax
comp=Z,8.0nm,1.1s
AS31 Alice Springs 61.00 188 P **P** **00 30 14.1 -0.3**
ASAR Alice Springs 61.01 188 P **P** **00 30 13.8 -0.6**
comp=Z,2.4nm,0.7s,baz=11,slow=6.8,SNR=22
comp=Z,2.4nm,0.7s
ASAR Alice Springs 61.01 188 P **P** **00 30 13.6 -0.8**
KLMR Klimovskoe 63.56 328 *eP* **P** **00 30 30.3 -0.8**
KLMR AMP 00 30 36.8
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 63.56 328 *eP* **P** **00 30 30.3 -0.8**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
DZM Mont Dzumac 63.56 154 P **P** **00 30 32.3 +0.6**
comp=Z,5.0nm,0.8s,baz=109,slow=22,SNR=3.9
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 63.63 30 P **P** **00 30 31.8 +0.3**
comp=Z,1.0nm,0.7s,baz=302,slow=6.8,SNR=5.5
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 63.63 30 *i* P **P** **00 30 31.0 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.6s
GEYT Alibeck 63.71 299 P **P** **00 30 32.9 +0.3**
comp=Z,2.7nm,0.7s,baz=90,slow=1.5,SNR=5.2
comp=Z,2.7nm,0.7s
GEYT Alibeck 63.71 299 P **P** **00 30 32.5 0.0**
GEYT IAmb IAmb 00 30 39.2
comp=Z,6.7nm,1.0s
GYA0B ALIBECK ARRAY 63.71 299 P **P** **00 30 33.1 +0.5**
GYA0B IAmb IAmb 00 30 42.4
comp=Z,6.6nm,0.8s
ARA0 ARCESS Array S 63.78 339 *eP* **P** **00 30 32.6 +0.1**
ARCES ARCESS Array B 63.78 339 P **P** **00 30 32.0 -0.5**
comp=Z,0.9nm,0.4s,baz=59,slow=7.5,SNR=11
comp=Z,0.9nm,0.4s
ARCES ARCESS Array B 63.78 339 P **P** **00 30 32.4 -0.1**
ARCES ARCESS Array B 63.78 339 P **P** **00 30 32.4 -0.1**
ARCES pmax pmax
comp=Z,28nm,1.5s
KTK1 Kautokeino 64.74 339 *eP* **P** **00 30 39.4 +0.7**
KTK1 IAmb IAmb 00 30 41.8
comp=Z,286nm,2.6s
WAPA Wapiti River 65.20 39 P **P** **00 30 43.1 +1.0**
MOS Moscow 67.06 323 *eP* **P** **00 30 58.4 +4.5**
VRH Novokhopyorsk 67.40 318 *eP* **P** **00 30 55.8 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
STEI Steigen 67.65 341 *eP* **P** **00 30 58.0 +0.6**
OBN Obninsk 67.90 323*ceP* **P** **00 30 59.3 +0.1**
OBN *e* 00 31 27.0
OBN *e* 00 33 29.6
OBN *eS* **PnS** **00 40 30.1 +10**
OBN pmax pmax
comp=Z,15nm,0.8s
OBN MLR MLR
comp=Z,56nm,16.0s
FAUS Fauske 68.03 340 *eP* **P** **00 31 00.5 +0.7**
FAUS IAmb IAmb 00 31 03.6
comp=Z,20nm,1.3s
LPSR Galich'ya Gora 68.12 320 *eP* **P** **00 30 59.9 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VORR Voronezh 68.48 319 *eP* **P** **00 31 04.1 +1.2**
VORR pmax pmax
comp=Z,10.0nm,0.3s
FINES FINESS Array B 68.61 332 P **P** **00 31 03.9 +0.4**
comp=Z,5.0nm,0.7s,baz=37,slow=9.8,SNR=12
comp=Z,5.0nm,0.7s
FINES FINESS Array B 68.61 332 P **P** **00 31 03.3 -0.2**
VSR Storozhevoye 68.75 319 *eP* **P** **00 31 04.4 -0.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
STKA Stephens Creek 68.78 180 P **P** **00 31 04.1 -0.7**
comp=Z,3.4nm,0.7s,baz=340,slow=7.9,SNR=6.9
comp=Z,3.4nm,0.7s
MOR8 Moi Rana 69.15 340 *eP* **P** **00 31 06.4 -0.5**
MOR8 IAmb IAmb 00 31 09.9
comp=Z,83nm,1.8s
KBZ Khabaz 70.74 311 P **P** **00 31 16.1 -0.9**
comp=Z,2.3nm,0.8s,baz=14,slow=6.5,SNR=5.0
comp=Z,2.3nm,0.8s
KIV Kislovodsk 70.74 311 P **P** **00 31 18.1 +0.9**
KIV Kislovodsk 70.74 311 *eP* **P** **00 31 17.5 +0.3**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,36nm,17.0s
MNK Minsk 72.30 326 *i* P **P** **00 31 27.2 +1.0**
comp=E,2.0nm,1.1s
MNK *i* P **P** **00 31 27.2 +1.0**
comp=N,29nm,0.9s
MNK *i* P **P** **00 31 27.2 +1.0**
comp=Z,12nm,0.8s,baz=230
MNK *i* PcP **PcP** **00 31 43.7 -0.5**
MNK *i* PP **PP** **00 34 05.2 -1.1**
MNK *i* PPP PPP 00 35 49.1
MNK *i* S **S** **00 40 47.9 -0.6**
MNK *i* SS **SS** **00 45 25.8 +0.3**
MNK *i* SSS SSS 00 48 43.0
MNK *i* LQ LQ 00 59 09.1
MNK *i* LR LR 01 03 39.3
MNK *i* LRM MLR 01 05 18.4
comp=E,4.0nm,12.8s
MNK *i* LRM MLR 01 05 35.1
comp=N,204nm,14.1s
MNK *i* LRM MLR 01 05 42.6
comp=Z,57nm,16.0s
MNK Minsk 72.30 326 *i* P **P** **00 31 27.2 +1.0**
MNK *i* 00 31 43.6
MNK *i* 00 34 05.2
MNK *i* PPP PPP 00 35 49.0
MNK *i* S **S** **00 40 47.9 -0.6**
MNK *i* 00 41 31.4
MNK *i* SS **SS** **00 45 25.8 +0.3**
MNK *i* SSS SSS 00 48 43.0
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,29nm,0.9s
MNK MLR MLR
comp=E,4.0nm,13.0s
MNK MLR MLR
comp=N,204nm,14.0s
MNK MLR MLR
comp=Z,57nm,16.0s
NACGM Naroch 72.53 327 *eP* **P** **00 31 28.3 +0.8**
comp=Z,17nm,0.8s,baz=49
SOC Sochi 72.73 312 *eP* **P** **00 31 26.2 -2.8**
SOC *e* 00 34 08.9
SOC *e*PPP PPP 00 35 50.0
SOC *eS* **S** **00 40 49.6 -4.2**
SOC *eSS* **SS** **00 45 31.1 -1.6**
SOC MLR MLR
comp=Z,47nm,20.0s
ANN Anapa 73.36 314 *eP* P 00 31 27.8 -4.9
ANN *e**PP pP 00 31 31.3 -6.5
ANN *e*PPP PPP 00 35 57.9
ANN *eS* **S** **00 40 53.2 -7.7**
ANN pmax pmax
comp=Z,12nm,1.0s
NB2 NORSAR Subarra 73.97 337 P **P** **00 31 36.2 +0.1**
baz=40,slow=6.2
NB2 NORSAR Subarra 73.97 337 P **P** **00 31 36.2 +0.1**
comp=Z,4.7nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 73.97 337 P **P** **00 31 36.7 +0.7**
comp=Z,2.9nm,0.8s,baz=39,slow=5.9,SNR=11
comp=Z,2.9nm,0.8s
AKASG Malin Array Be 74.11 322 P **P** **00 31 36.7 -0.2**
comp=Z,3.6nm,0.6s,baz=46,slow=6.1,SNR=20
comp=Z,3.6nm,0.6s
AKBB Malin Array Si 74.11 322 P **P** **00 31 37.4 +0.5**
AKBB Malin Array Si 74.11 322 P **P** **00 31 37.4 +0.5**
AKBB pmax pmax
comp=Z,13nm,0.7s
GURO Guroymak-BITLI 74.19 306 P **P** **00 31 39.2 +1.3**
GURO IAmb IAmb 00 31 44.5
comp=Z,3.5nm,0.6s
KVN Kaiserville 74.64 53 P **P** **00 31 41.6 +1.0**
KVN Kaiserville 74.64 53 P **P** **00 31 41.6 +1.0**
KVN pmax pmax
comp=Z,3.0nm,0.8s
LHV Little Huntoon 74.85 53 IAmb IAmb 00 31 49.2
comp=Z,8.2nm,0.9s
NVAR Mina Array Bea 74.87 53 P **P** **00 31 42.6 +0.6**
comp=Z,1.5nm,0.8s,baz=289,slow=5.6,SNR=12
comp=Z,1.5nm,0.8s
H17A Grant Village 75.93 45 P **P** **00 31 49.2 +1.3**
H17A IAmb IAmb 00 31 57.1
comp=Z,8.3nm,0.9s
IMW Indian Meadow 76.03 45 P **P** **00 31 49.0 +0.3**
IMW IAmb IAmb 00 31 56.2
comp=Z,4.7nm,0.7s
FXWY Fox Creek 76.14 45 P **P** **00 31 50.2 +1.0**
FXWY IAmb IAmb 00 31 56.7
comp=Z,5.8nm,1.1s
GMN Gold Mountain 76.20 54 P **P** **00 31 49.6 0.0**
SORM Soroca 76.20 321⇑P **P** **00 31 49.3 +0.2**
SORM Soroca 76.20 321⇑P **P** **00 31 49.3 +0.2**
DGMT Dagmar 76.68 39 P **P** **00 31 53.5 +1.6**
SPR3 Spring Creek 3 77.03 51 P **P** **00 31 54.9 +0.5**
SPR3 IAmb IAmb 00 32 02.0
comp=Z,5.8nm,1.5s
LVV L'vov 77.19 324 *eP* P 00 32 00.2 +5.6
DUG Dugway, Tooele 77.23 49 P **P** **00 31 55.6 +0.3**
DUG IAmb IAmb 00 32 02.3
comp=Z,3.2nm,0.7s
DUG Dugway, Tooele 77.23 49 P **P** **00 31 55.6 +0.3**
DUG pmax pmax
comp=Z,3.0nm,0.7s
GWY Greenwater Val 77.25 54 P **P** **00 31 55.8 +0.4**
QSM Queen of Sheba 77.25 55 P **P** **00 31 55.5 +0.3**
QSM IAmb IAmb 00 32 02.1
comp=Z,5.0nm,0.9s
PDAR Pinedale Array 77.53 45 P **P** **00 31 56.9 -0.1**
comp=Z,0.9nm,0.6s,baz=248,slow=2.1,SNR=11
comp=Z,0.9nm,0.6s
PSUT Pine Spring 77.61 51 P **P** **00 31 58.0 +0.5**
GIRR Girov 77.93 321 P **P** **00 31 59.8 +0.9**
BUR08 Bucovina Ar. S 78.11 322 P **P** **00 32 00.8 +0.8**
BURAR Bucovina Array 78.12 322⇑P **P** **00 32 01.0 +1.0**
BURAR Bucovina Array 78.12 322⇑P **P** **00 32 01.0 +1.0**
TESR Tescani 78.15 320⇑P **P** **00 32 00.9 +0.9**
TPGR Topolog 78.33 318⇑P **P** **00 32 01.5 +0.4**
VRI Vrincioaia 78.54 320⇑P **P** **00 32 04.2 +1.9**
VRI Vrincioaia 78.54 320⇑P **P** **00 32 04.2 +1.9**
PLOR Plostina 78.59 320⇑P **P** **00 32 03.8 +1.2**
PLOR Plostina 78.59 320⇑P **P** **00 32 03.8 +1.2**
KOLS Kolonicke sedl 78.63 324 *eP* P 00 32 08.6 +5.9
KOLS Kolonicke sedl 78.63 324 *eP* P 00 32 08.6 +5.9
BR131 Keskin Array S 78.69 311 P **P** **00 32 03.4 +0.1**
BR131 IAmb IAmb 00 32 09.5
comp=Z,9.2nm,1.2s
BR131 Keskin Array S 78.69 311 P **P** **00 32 03.4 +0.1**
BR131 pmax pmax
comp=Z,9.0nm,1.3s
BRTR Keskin Array B 78.69 311 P **P** **00 32 03.9 +0.5**
comp=Z,0.7nm,0.6s,baz=82,slow=3.7,SNR=4.5
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 78.69 311 *i* P **P** **00 32 04.4 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
TLBR Topalu 78.73 318 P **P** **00 32 04.0 +0.7**
OJC Ojcow 78.84 326 P **P** **00 32 05.5 +1.7**
OJC IAmb IAmb 00 32 07.6
comp=Z,8.0nm,0.8s
OJC Ojcow 78.84 326 P **P** **00 32 05.5 +1.7**
OJC pmax pmax
comp=Z,8.0nm,0.8s
OZUR 78.87 320⇑P **P** **00 32 05.9 +1.8**
RDMU Red Mountain 78.92 47 P **P** **00 32 04.7 -0.1**
RDMU IAmb IAmb 00 32 11.7
comp=Z,8.5nm,1.0s
P17A Butcher Ranch, 78.92 49 P **P** **00 32 05.1 +0.4**
P17A IAmb IAmb 00 32 11.5
comp=Z,10nm,1.4s
MTPU Mount Pierson 78.95 51 P **P** **00 32 06.4 +1.3**
Q16A Castle Valley 79.01 49 P **P** **00 32 05.3 +0.1**
Q16A IAmb IAmb 00 32 38.2
comp=Z,8.8nm,1.4s
TRPA Tarpa 79.07 323⇑P **P** **00 32 06.2 +1.1**
ICOR Ion Corvin 79.15 318 P **P** **00 32 06.8 +1.2**
MLR Muntele Rosu 79.20 320 LR LR 01 08 55.2
comp=Z,76nm,20.5s,baz=28,slow=37
SRU San Rafael Swe 79.28 49 IAmb IAmb 00 32 13.4
comp=Z,4.2nm,0.7s
ULM Lac du Bonnet 79.33 33 P **P** **00 32 06.5 0.0**
comp=Z,4.8nm,1.0s,baz=349,slow=5.2,SNR=2.1
comp=Z,4.8nm,1.0s
U15A North Rim 79.89 52 P **P** **00 32 11.0 +0.8**
MORC Moravsky Berou 80.16 327⇑P **P** **00 32 11.7 +0.6**
MORC Moravsky Berou 80.16 327⇑P **P** **00 32 11.7 +0.6**
DPC Dobruska-Polom 80.26 328 *eP* **P** **00 32 12.9 +1.3**
DPC *ep*P **sP** **00 32 17.7 -0.9**
DPC Dobruska-Polom 80.26 328 *eP* **P** **00 32 12.9 +1.3**
DPC *e**PP **sP** **00 32 17.7 -0.9**
KRLC Kraliky 80.27 327 *eP* **P** **00 32 12.7 +1.1**
KRLC *ep*P **sP** **00 32 17.4 -1.3**
KRLC Kraliky 80.27 327 *eP* **P** **00 32 12.7 +1.1**
KRLC *e**PP **sP** **00 32 17.4 -1.3**
BORA Eskisehir 80.47 313 P **P** **00 32 13.4 +0.4**
VYHS Vyhne 80.53 325 *eP* P 00 32 19.5 +6.5
VYHS Vyhne 80.53 325 *eP* P 00 32 19.5 +6.5
PV23 Carpenter Ridg 80.61 49 P **P** **00 32 14.2 +0.1**
PV23 IAmb IAmb 00 32 23.1
comp=Z,5.9nm,0.7s
PV10 Paradox Valley 80.64 49 P **P** **00 32 14.3 +0.2**
PV11 David Mesa, Pa 80.79 49 P **P** **00 32 15.6 +0.7**
PV11 IAmb IAmb 00 32 23.1
comp=Z,8.0nm,0.6s
GZR Gura Zlata 80.88 321⇑P **P** **00 32 15.9 +0.9**
GZR Gura Zlata 80.88 321⇑P **P** **00 32 15.9 +0.9**
CLL Collm 80.89 330 P **P** **00 32 14.9 0.0**
CLL IAmb IAmb 00 32 20.9
comp=Z,6.6nm,0.8s
CLL Collm 80.89 330 *i* P **P** **00 32 15.5 +0.6**
CLL *i* Pmax 00 32 19.8
comp=Z,8.0nm,1.0s
CLL *ex* x 00 32 34.0
CLL Collm 80.89 330 *i* P **P** **00 32 15.5 +0.6**
CLL pmax pmax
comp=Z,8.0nm,1.0s
PV13 Radium Mtn., P 80.92 49 IAmb IAmb 00 32 23.9
comp=Z,6.1nm,0.9s
SURR Surduc 80.95 322⇑P **P** **00 32 16.5 +1.2**
PRU Pruhonice 81.28 328 *eP* **P** **00 32 17.8 +0.8**
PRU *ep*P **PcP** **00 32 22.6 -0.6**
PRU Pruhonice 81.28 328 *eP* **P** **00 32 17.8 +0.8**
PRU *e**PP **PcP** **00 32 22.6 -0.6**
BZS Buzias 81.29 322 P **P** **00 32 17.8 +0.6**
BZS Buzias 81.29 322 P **P** **00 32 17.8 +0.6**
MODS Modra-Piesok 81.32 326 *eP* P 00 32 23.9 +6.6
MODS Modra-Piesok 81.32 326 *eP* P 00 32 23.9 +6.6
MDVR Moldovita 81.84 321‖P **P** **00 32 21.3 +1.1**
CKRC Cesky Krumlov 82.27 328 *eP* **P** **00 32 22.8 +0.5**
KHC Kasperske Hory 82.34 328 P **P** **00 32 23.1 +0.4**
KHC IAmb IAmb 00 32 29.1
comp=Z,3.6nm,0.8s
KHC Kasperske Hory 82.34 328 *eP* **P** **00 32 23.6 +0.9**
KHC *ep*P **sP** **00 32 28.6 -1.1**
KHC Kasperske Hory 82.34 328 *eP* **P** **00 32 23.6 +0.9**
KHC *e**PP **sP** **00 32 28.6 -1.1**
GEC2 GERESS Array S 82.51 328 P **P** **00 32 22.9 -0.7**
GEC2 IAmb IAmb 00 32 42.6
comp=Z,7.0nm,1.4s
GERES GERESS Array B 82.51 328 P **P** **00 32 22.8 -0.9**
comp=Z,0.8nm,0.5s,baz=38,slow=6.5,SNR=8.0
comp=Z,0.8nm,0.5s
GERES GERESS Array B 82.51 328 P **P** **00 32 23.9 +0.2**
GERES GERESS Array B 82.51 328 P **P** **00 32 23.9 +0.2**
VTS Vitosha 82.60 319⇑P **P** **00 32 25.9 +1.6**
VTS Vitosha 82.60 319 P **P** **00 32 25.4 +1.1**
VTS IAmb IAmb 00 32 31.0
comp=Z,4.5nm,0.9s
VTS Vitosha 82.60 319⇑P **P** **00 32 25.9 +1.6**
ECSD EROS Data Cent 83.75 38 P **P** **00 32 30.5 +0.4**
ECSD IAmb IAmb 00 32 36.4
comp=Z,4.3nm,1.1s
KBA Koelnbreinsper 84.03 327 *eP* **P** **00 32 31.0 -0.6**
comp=Z,2.3nm,0.7s
T25A Trinidad 84.20 47 IAmb IAmb 00 32 39.6
comp=Z,5.3nm,0.8s
ABTA Abfaltersbach 84.64 327 *eP* **P** **00 32 33.6 -1.0**
comp=Z,0.7nm,0.4s
RETA Reutte 84.80 329 *eP* **P** **00 32 34.5 -0.8**
comp=Z,1.5nm,0.5s
FETA Feichten 85.18 329 *eP* **P** **00 32 40.7 +3.3**
comp=Z,1.0nm,0.7s
KARP Karpathos 85.30 312 P **P** **00 32 38.2 +0.1**
KBN Korca 85.31 319 P **P** **00 32 38.8 +0.8**
KBN Korca 85.31 319 P **P** **00 32 38.8 +0.8**
KBN pmax pmax
comp=Z,16nm,1.2s
E43A Lone Tree Farm 86.10 31 P **P** **00 32 41.6 -0.1**
E43A IAmb IAmb 00 32 47.7
comp=Z,7.4nm,0.8s
IDI Anoyia 86.82 313 P **P** **00 32 46.4 +0.8**
ITM Ithomi 87.17 316 P **P** **00 32 47.4 +0.1**
E46A Sault Ste Mari 87.19 30 P **P** **00 32 48.0 +0.8**
I42A Draeger Farm, 87.25 34 P **P** **00 32 47.5 0.0**
TX31 Lajitas Ar. Si 90.00 52 IAmb IAmb 00 33 07.3
comp=Z,5.7nm,0.7s
TXAR Lajitas Array 90.00 52 P **P** **00 33 01.2 +0.3**
comp=Z,1.0nm,0.6s,baz=304,slow=3.4,SNR=18
comp=Z,1.0nm,0.6s
HHAR Hobbs 90.67 42 IAmb IAmb 00 33 09.7
comp=Z,3.1nm,0.8s
LMN Caledonia Moun 93.97 18 P **P** **00 33 18.6 -0.2**
M57A Sunshine Farm, 94.21 28 P **P** **00 33 21.1 +1.1**
NVL N'lazarevskaya 137.49 202 *e*PKIKP **PKPdf** **00 39 19.2 -4.3**
NVL pmax pmax
comp=Z,9.0nm,0.7s
TROLL Troll, Antarti 139.44 198 PKPdf **PKPdf** **00 39 27.6 +0.3**
VNA2 Neumayer--Watz 142.53 196 PKPdf **PKPdf** **00 39 29.1 -3.6**
baz=99,slow=1.3
VNA3 Neumayer Olymp 142.78 195 PKPdf **PKPdf** **00 39 29.4 -3.8**
LPAZ La Paz 146.60 59 PKPbc **PKPbc** **00 39 43.5 -0.2**
comp=Z,3.1nm,0.5s,baz=331,slow=4.1,SNR=21
H03N2 Juan Fernandez 147.08 96 T T 03 23 59.2
baz=291,slow=76,SNR=22
H03N3 Juan Fernandez 147.08 96 T T 03 24 02.0
baz=291,slow=76,SNR=21
H03N1 Juan Fernandez 147.09 96 T T 03 24 00.0
baz=291,slow=76,SNR=25

NEIC ***25*** *00:28:46.8±2.8, 29°.44S±0°.06×179°.1W±0°.1, h174km±9km, mb4.2/6, Error ellipse: s-maj=20.0km s-min=3.6km az=113.0*
IDC ***25*** *00:29:02.5±1.7, 30°.24S×179°.26W, h336km±12km, mb3.4/3, mbtmp4.4/5, Error ellipse: s-maj=45.3km s-min=19.2km az=156.0*
ISC 25 00:29:01.6±0.7, 30°.43S±0°.07×178°.8W±0°.1, h350km, n61, σ1§59/64, mb3.7/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.37**	**33**	P	**Pn**	**00 29 49.7**	**+0.6**
RAO	**Raoul Island**	**1.38**	**32**	P	**Pn**	**00 29 49.7**	**+0.6**
	596nm,0.2s,baz=76,slow=12,SNR=6.6						
RAO				S	S	00 30 16.2	-11
	829nm,0.2s,baz=91,slow=18,SNR=6.2						
RAO	**Raoul Island**	**1.38**	**32**		Pn	00 29 13.6	-36
RIZ	**Raoul Island**	**1.38**	**32**	P	**Pn**	**00 29 49.5**	**+0.3**
MXZ	**Matakaoa Point**	**7.52**	**198**	P	**Pn**	**00 30 51.1**	**+1.1**
MXZ				S	S	**00 32 15.5**	**-2.6**
GRZ	**Great Barrier**	**7.56**	**218**	P	**Pn**	**00 30 53.5**	**+3.1**
WMGZ	**Waiomatatini S**	**7.74**	**197**	P	**Pn**	**00 30 52.7**	**+0.2**
KUZ	**Kuaotunu**	**7.80**	**215**	P	**Pn**	**00 30 57.0**	**+3.7**
HAZ	**Te Kaha**	**7.85**	**200**	P	**Pn**	**00 30 55.1**	**+1.3**
HAZ				S	S	**00 32 24.4**	**-0.9**
PKGZ	**Pakihiroa**	**7.89**	**199**	P	**Pn**	**00 30 55.9**	**+1.5**
WCZ	**Waipu Caves**	**7.97**	**225**	P	**Pn**	**00 30 59.2**	**+3.9**
PUZ	**Puketiti**	**8.02**	**197**	P	**Pn**	**00 30 55.6**	**-0.1**
PUZ				S	S	**00 32 27.2**	**-1.7**
RUGZ	**Raukumara Rang**	**8.08**	**200**	P	**Pn**	**00 30 57.8**	**+1.2**
TWGZ	**Tauwhareparae**	**8.19**	**198**	P	**P**	**00 31 02.9**	**+2.1**
TWGZ				S	S	**00 32 33.8**	**+1.1**
OPRZ	**Ohinepanea**	**8.35**	**206**	P	**P**	**00 31 04.4**	**+1.8**
MKAZ	**Moumakai**	**8.36**	**216**	P	**P**	**00 31 04.2**	**+1.5**
CNGZ	**Carnagh Statio**	**8.42**	**196**	P	**Pn**	**00 31 01.6**	**+1.0**
MWZ	**Matawai**	**8.46**	**200**	P	**Pn**	**00 31 01.2**	**+0.1**
URZ	**Urewera**	**8.53**	**202**	P	**Pn**	**00 31 02.2**	**+0.4**
RAGZ	**Rawiri**	**8.64**	**200**	P	**P**	**00 31 07.0**	**+1.1**
RIGZ	**Rimuhau**	**8.74**	**198**	P	**Pn**	**00 31 05.1**	**+0.6**
RTZ	**Ruatahuna**	**8.89**	**202**	Pn	**Pn**	**00 31 04.7**	**-1.6**
GRRZ	**Galatos Road**	**8.97**	**207**	P	**P**	**00 31 11.8**	**+2.4**
MHGZ	**Mahia Peninsul**	**9.12**	**197**	P	**Pn**	**00 31 11.0**	**+2.1**
RAHZ	**Arahi**	**9.13**	**201**	P	**P**	**00 31 12.0**	**+0.7**
MTHZ	**Maungataniwha**	**9.15**	**202**	P	**P**	**00 31 12.4**	**+1.0**
WHHZ	**Waihua**	**9.24**	**200**	P	**P**	**00 31 13.3**	**+0.9**
MRHZ	**Matea Rd**	**9.28**	**204**	P	**Pn**	**00 31 11.3**	**+0.4**
NMHZ	**Naumai**	**9.38**	**202**	P	**P**	**00 31 14.5**	**+0.3**
ARHZ	**Aropaoanui**	**9.48**	**200**	P	**Pn**	**00 31 13.7**	**+0.6**
BKZ	**Black Stump Fm**	**9.55**	**203**		**Pn**	**00 31 13.7**	**-0.4**
NTVZ	**North Tongarir**	**9.78**	**206**	P	**P**	**00 31 18.9**	**+0.3**
KAHZ	**Kahuranaki**	**10.00**	**200**	P	**Pn**	**00 31 18.9**	**-0.6**
BFZ	**Birch Farm**	**11.01**	**200**		**Pn**	**00 31 28.3**	**-3.1**
MRZ	**Mangatainoka R**	**11.20**	**203**	Pn	**Pn**	**00 31 30.9**	**-2.7**
MSWZ	**Moikau Station**	**11.99**	**202**	Pn	**P**	**00 31 42.3**	**-0.6**
PLWZ	**Palliser**	**12.12**	**202**	P	Pn	00 31 50.9	+6.3
TUWZ	**Tuamarina**	**12.46**	**206**		**P**	**00 31 46.4**	**-1.8**
TKNZ	**Takaka Hill**	**12.53**	**210**	Pn	**P**	**00 31 48.9**	**0.0**
MSVF	**Nonsavu**	**12.96**	**346**	P	**P**	**00 31 51.4**	**-2.7**
	27nm,0.8s,baz=191,slow=6.5,SNR=29						
OUENC	**Ouen Island, N**	**15.15**	**298**				
OUENC				P	Pn	00 32 01.3	-17
DZM	**Mont Dzumac**	**15.65**	**299**	P	**Pn**	**00 32 23.6**	**-2.6**
	8.5nm,0.6s,baz=149,slow=21,SNR=16						
AFI	**Afiamalu**	**17.66**	**23**	P	**P**	**00 32 46.5**	**+1.4**
	14nm,0.6s,baz=21,slow=21,SNR=1.5						
CTA	**Charters Tower**	**33.15**	**280**	P	**P**	**00 35 06.3**	**-0.3**
	1.2nm,0.5s,baz=105,slow=6.5,SNR=4.1						
	1.2nm,0.5s						
BBOO	**Buckleboo**	**38.33**	**254**	P	**P**	**00 35 49.9**	**0.0**
ASAR	**Alice Springs**	**42.45**	**267**	P	**P**	**00 36 22.1**	**-1.5**
	0.8nm,0.4s,baz=104,slow=7.6,SNR=10.0						
	0.8nm,0.4s						
WR0	**Warramunga Arr**	**43.26**	**273**	P	**P**	**00 36 28.9**	**-1.1**
WR0					IAmb	IAmb	00 36 29.1
	comp=Z,1.8nm,0.7s						

WB2	**Warramunga Arr**	**43.43**	**273**	P	**P**	**00 36 29.7**	**-1.6**
WB2				IAmb	IAmb	00 36 30.7	
	comp=Z,4.5nm,0.6s						
WRA	**Warramunga Arr**	**43.44**	**273**	P	**P**	**00 36 29.3**	**-2.1**
	comp=Z,3.0nm,0.6s,baz=114,slow=6.5,SNR=52						
WRA				ScP	**ScP**	**00 41 32.7**	**+2.7**
	comp=Z,0.5nm,0.9s,baz=112,slow=3.7,SNR=2.4						
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**43.44**	**273**	P	**P**	**00 36 29.7**	**-1.8**
WB0	**Warramunga Arr**	**43.46**	**273**	P	**P**	**00 36 29.9**	**-1.7**
WB0				IAmb	IAmb	00 36 30.9	
	comp=Z,3.9nm,0.6s						
QSPA	**South Pole Qui**	**59.68**	**180**	P	P	00 38 37.6	+7.7
QSPA				IAmb	IAmb	00 39 12.0	
	comp=Z,4.7nm,1.1s						
MKAR	**Makanchi Array**	**117.28**	**310**	PKP	**PKiKP**	**00 47 05.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=228,slow=4.1,SNR=6.3						
ARCES	**ARCESS Array B**	**138.47**	**347**	PKhKP	PKPpre	00 47 38.3	
	comp=Z,0.9nm,0.6s,baz=86,slow=2.2,SNR=7.9						
ARCES				PKP	**PKiKP**	**00 47 48.4**	**+1.2**
	comp=Z,3.8nm,1.0s,baz=62,slow=2.5,SNR=6.0						
KBZ	**Khabaz**	**144.58**	**304**	PKP	**PKPdf**	**00 47 57.8**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=129,slow=5.4,SNR=4.9						
FINES	**FINESS Array B**	**144.94**	**339**	PKP	**PKPdf**	**00 47 57.6**	**+1.0**
	comp=Z,9.1nm,0.4s,baz=51,slow=4.2,SNR=118						
NB2	**NORSAR Subarra**	**148.67**	**351**	PKP	**PKiKP**	**00 48 08.8**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.67**	**351**	PKPbc	**PKiKP**	**00 48 08.9**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=17,slow=4.2,SNR=12						
AKASG	**Malin Array Be**	**150.92**	**322**	PKPbc	**PKiKP**	**00 48 14.1**	**+0.9**
	comp=Z,4.0nm,0.6s,baz=51,slow=3.0,SNR=16						
AKASG				PKPab	**PKPab**	**00 48 21.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=45,slow=3.5,SNR=5.2						
BRTR	**Keskin Array B**	**152.03**	**298**	PKPbc	**PKiKP**	**00 48 16.8**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=135,slow=4.2,SNR=9.2						
BRTR				PKPab	**PKPab**	**00 48 26.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=98,slow=4.8,SNR=3.6						
GERES	**GERESS Array B**	**159.30**	**336**	PKPab	**PKPab**	**00 48 58.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=46,slow=4.2,SNR=1.8						

ROM 25 00:29:41.5±0.0, 42.732N±0.002×13.265E±0.002, h11km, ML1.9/6, 8C-4D, Error ellipse: s-maj=0.2km s-min=0.1km az=198.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.11**	**153**	⇑P	Pg	00 29 45.0	+0.5
SMA1				S	Sg	00 29 47.1	+0.4
SMA1				AML	AML		
	comp=E,632μm,0.4s						
SMA1				AML	AML		
	comp=N,839μm,0.2s						
T1218	**Civita (PG)**	**0.13**	**241**	⇓P	Pg	00 29 45.2	+0.5
T1218				S	Sg	00 29 47.7	+0.7
T1218				AML	AML		
	comp=N,560μm,0.2s						
T1218				AML	AML		
	comp=N,585μm,0.2s						
T1218				AML	AML		
	comp=E,430μm,0.2s						
T1218				AML	AML		
	comp=E,464μm,0.2s						
T1245	**Castelsantange**	**0.14**	**336**	P	Pg	00 29 45.4	+0.5
T1245				S	Sg	00 29 48.0	+0.6
T1245				AML	AML		
	comp=E,931μm,0.6s						
T1245				AML	AML		
	comp=N,1525μm,0.2s						
T1245				AML	AML		
	comp=N,1530μm,0.2s						
T1245				AML	AML		
	comp=N,1590μm,0.2s						
T1245				AML	AML		
	comp=E,897μm,0.5s						
T1243	**Rocca Santa Ma**	**0.14**	**105**	P	Pg	00 29 45.3	+0.4
T1243				S	Sg	00 29 48.1	+0.8
NRCA	**Norcia**	**0.15**	**312**	P	Pg	00 29 45.5	+0.4
NRCA				S	Sg	00 29 48.1	+0.5
NRCA				AML	AML		
	comp=E,629μm,1.1s						
NRCA				AML	AML		
	comp=N,1114μm,0.7s						
NRCA				AML	AML		
	comp=E,630μm,1.1s						
NRCA				AML	AML		
	comp=N,1112μm,0.7s						
NRCA				AML	AML		
	comp=N,1195μm,0.1s						
NRCA				AML	AML		
	comp=E,708μm,0.1s						
MMO1	**Montemonaco**	**0.17**	**15**	P	Pg	00 29 45.8	+0.4
MMO1				S	Sg	00 29 49.3	+1.1
T1241	**Roccafluvione,**	**0.17**	**45**	P	Pg	00 29 45.7	+0.3
T1241				S	Sg	00 29 49.1	+0.9
MC2	**Monte Cornacci**	**0.19**	**343**	P	Pg	00 29 46.3	+0.6
MC2				S	Sg	00 29 49.7	+1.0
LNSS	**Leonessa**	**0.21**	**232**	⇑P	Pb	00 29 46.8	-0.6
LNSS				S	Sg	00 29 50.1	+1.0
LNSS				AML	AML		
	comp=N,376μm,1.2s						
LNSS				AML	AML		
	comp=E,120μm,0.2s						
RM33	**Pellescritta (**	**0.23**	**189**	⇑P	Pg	00 29 46.8	+0.5
RM33				AML	AML		
	comp=E,238μm,0.4s						
RM33				AML	AML		
	comp=N,213μm,0.3s						
T1216	**Preci, Frazion**	**0.24**	**311**	P	Pg	00 29 47.1	+0.5
T1216				S	Sg	00 29 50.8	+0.8
TERO	**Teramo**	**0.27**	**114**	⇑P	Pg	00 29 47.4	+0.3
TERO				S	Sb	00 29 52.0	-1.1
T1256	**Bolognola (MC)**	**0.28**	**354**	S	Sg	00 29 50.0	-1.1
T1215	**Vallo di Nera,**	**0.30**	**284**	⇑P	Pg	00 29 48.0	+0.4
FDMO	**Fiordimonte**	**0.33**	**337**	P	Pg	00 29 48.0	-0.2
GUMA	**Gualdo di Mace**	**0.33**	**9**	⇑P	Pb	00 29 49.0	-0.5
GIGS	**Gran Sasso**	**0.36**	**141**	⇓P	Pg	00 29 48.7	0.0
CSP1	**Cessapalombo**	**0.36**	**353**	⇓P	Pg	00 29 49.2	+0.5
T1211	**Morro Reatino**	**0.36**	**237**	⇑P	Pg	00 29 49.2	+0.5
T1219	**Muccia, Frazio**	**0.38**	**330**	⇓P	Pg	00 29 49.2	+0.3
ARRO	**Arrone**	**0.40**	**248**	⇑P	Pb	00 29 50.0	-0.5
FIAM	**Fiamignano**	**0.48**	**193**	S	Sg	00 29 58.0	+0.8

*IDC **25** 00:47:55.8±1.3, 55.09N×164.84E, h0km, mb3.3/4, mbtmp3.2/5, ML2.5/1, Error ellipse: s-maj=86.9km s-min=22.4km az=146.0*
*KRSC **25** 00:47:56.4±1.0, 55.07N×164.78E, h45km±23km, ML3.7*
ISC 25 00:47:57.6±3.9, 55.13N±0.05×164.79E±0.06, h14km±27km, n27, σ1°66/37, mb3.3/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.68**	**83**	*eP*	**Pb**	**00 48 10.4**	**-0.7**
BKI				*eS*	**Sb**	**00 48 20.4**	**0.0**
KBTR	**Krutoberegovo**	**1.56**	**315**	*eP*	**Pn**	**00 48 22.6**	**-2.2**
KBTR				*eS*	**Sn**	**00 48 41.4**	**-3.3**
KBG	**Krutoberegovo**	**1.64**	**315**	*eS*	**Sn**	**00 48 44.4**	**-2.2**
MKZ	**Mys Kozlova**	**1.86**	**253**	*eP*	**Pn**	**00 48 28.0**	**-0.9**
MKZ				*eS*	**Sn**	**00 48 49.1**	**-3.0**
SMKR	**Semkarok**	**2.38**	**309**	P	**Pn**	**00 48 35.9**	**-0.2**
SMKR				*eS*	**Sn**	**00 49 04.7**	**-0.3**
TUMD	**Tumrok D**	**2.52**	**274**	*eP*	**Pn**	**00 48 38.3**	**+0.3**
TUMD				*eS*	**Sn**	**00 49 07.1**	**-1.4**
SRKR	**Sorokina**	**2.55**	**308**	P	**Pn**	**00 48 39.2**	**+0.7**
SRKR				*eS*	**Sn**	**00 49 10.7**	**+1.3**
TUMR	**Tumrok**	**2.67**	**275**	P	**Pn**	**00 48 40.9**	**+0.8**
TUMR				*eS*	**Sn**	**00 49 12.6**	**+0.3**
KMNR	**Kamenistaya**	**2.67**	**286**	*eP*	**Pn**	**00 48 41.2**	**+1.0**
KMNR				*eS*	**Sn**	**00 49 13.3**	**+1.0**
KPT	**Kopyto**	**2.73**	**290**	P	**Pn**	**00 48 41.6**	**+0.6**
SRDR	**Sredinnyy**	**3.11**	**295**	P	**Pn**	**00 48 48.0**	**+1.9**
SDLR	**Sedlovina**	**3.93**	**244**	*eP*	**Pn**	**00 48 58.1**	**+0.6**
SDLR				*eS*	**Sn**	**00 49 41.7**	**-1.7**
SMAR	**Somma**	**3.98**	**245**	*eP*	**Pn**	**00 48 59.2**	**+0.9**
KRER	**Koryakskii**	**3.99**	**245**	P	**Pn**	**00 48 59.5**	**+1.1**
KRER				*eS*	**Sn**	**00 49 42.6**	**-2.4**
KOK	**Koryaka**	**4.05**	**246**	*eP*	**Pn**	**00 48 59.9**	**+0.7**
GNL	**Ganaly**	**4.25**	**253**	*eP*	**Pn**	**00 49 03.4**	**+1.5**
RUS	**Russkaya**	**4.60**	**237**	*eP*	**Pn**	**00 49 06.5**	**0.0**
RUS				*eS*	**Sn**	**00 49 56.8**	**-2.8**
PETK	**Petropavlovsk-**	**4.64**	**247**	Pn	**Pn**	**00 49 07.8**	**+0.7**
	1.1nm,0.3s,baz=72,slow=16,SNR=16						
PETK				Sn	**Sn**	**00 50 03.6**	**+3.0**
	0.9nm,0.3s,baz=6.3,slow=30,SNR=5.3						
	1.1nm,0.3s						
MTVR	**Mutnovka**	**4.73**	**239**	*eP*	**Pn**	**00 49 09.1**	**+0.7**
MTVR				*eS*	**Sn**	**00 49 59.9**	**-3.2**
GRL	**Gorelyy**	**4.74**	**240**	*eP*	**Pn**	**00 49 09.4**	**+0.8**
ILAR	**Eielson Array**	**25.41**	**48**	P	**P**	**00 53 23.3**	**-0.8**
	0.2nm,0.6s,baz=256,slow=8.4,SNR=5.3						
	0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**35.37**	**177**	T	T	01 32 47.8	
	baz=359,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.38**	**177**	T	T	01 32 52.6	
	baz=359,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.39**	**177**	T	T	01 32 55.4	
	baz=359,slow=76						
TXAR	**Lajitas Array**	**67.33**	**71**	P	**P**	**00 58 54.1**	**+2.2**
	0.2nm,0.8s,baz=304,slow=6.4,SNR=1.6						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**79.15**	**209**	P	**P**	**01 00 01.2**	**-0.3**
	0.2nm,0.6s,baz=22,slow=5.6,SNR=2.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**82.81**	**208**	P	**P**	**01 00 21.6**	**+0.6**
	0.3nm,0.6s,baz=4.1,slow=5.2,SNR=2.0						
	0.3nm,0.6s						

*IDC **25** 00:59:50.3±0.7, 55.23N×164.78E, h0km, mb3.7/13, mbtmp3.8/14, ML3.2/1, MS3.1/2, Error ellipse: s-maj=24.7km s-min=14.9km az=153.0*
*KRSC **25** 00:59:51.9±1.6, 55.08N×164.80E, h49km±24km, ML4.5*
*MOS **25** 00:59:53.9±0.7, 55.12N×164.85E, h41km, mb4.5/1, Error ellipse: s-maj=7.2km s-min=6.6km az=4.1*
*NEIC **25** 00:59:56.1±1.1, 55.1N±0.2×164.8E±0.2, h36km±11km, mb4.2/24, Error ellipse: s-maj=30.4km s-min=1.8km az=155.0*
ISC 25 00:59:52.8±3.2, 55.14N±0.04×164.80E±0.04, h17km±21km, n132, σ1°40/159, mb4.1/24, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.68**	**84**	*eP*	**Pb**	**01 00 05.9**	**-0.2**
BKI				*eS*	**Sb**	**01 00 15.6**	**+0.5**
BKI	**Bering**	**0.68**	**84**	PN	**Pb**	**01 00 05.9**	**-0.2**
BKI				S	**Sb**	**01 00 15.6**	**+0.5**
KBTR	**Krutoberegovo**	**1.55**	**314**	*eP*	**Pn**	**01 00 18.0**	**-1.5**
KBTR				*eS*	**Sn**	**01 00 37.0**	**-2.2**
KBTR	**Krutoberegovo**	**1.55**	**314**	PN	**Pn**	**01 00 18.0**	**-1.5**
KBTR				S	**Sn**	**01 00 37.0**	**-2.2**
KBG	**Krutoberegovo**	**1.63**	**314**	*eP*	**Pn**	**01 00 19.2**	**-1.4**
KBG				*eS*	**Sn**	**01 00 40.0**	**-1.1**
KBG	**Krutoberegovo**	**1.63**	**314**	PN	**Pn**	**01 00 19.2**	**-1.4**
KBG				S	**Sn**	**01 00 40.0**	**-1.1**
MKZ	**Mys Kozlova**	**1.87**	**253**	*eP*	**Pn**	**01 00 23.7**	**-0.2**
MKZ	**Mys Kozlova**	**1.87**	**253**	PN	**Pn**	**01 00 23.7**	**-0.2**
SMKR	**Semkarok**	**2.37**	**309**	*eP*	**Pn**	**01 00 31.2**	**+0.3**
SMKR				*eS*	**Sn**	**01 01 01.6**	**+2.1**
SMKR	**Semkarok**	**2.37**	**309**	PN	**Pn**	**01 00 31.2**	**+0.3**
SMKR				S	**Sn**	**01 01 01.6**	**+2.1**
ZLN	**Zelenaya**	**2.43**	**293**	*eP*	**Pn**	**01 00 33.5**	**+1.7**
ZLN				*eS*	**Sb**	**01 01 04.6**	**-1.1**
ZLN	**Zelenaya**	**2.43**	**293**	PN	**Pn**	**01 00 33.5**	**+1.7**
ZLN				S	**Sb**	**01 01 04.6**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**2.46**	**291**	*eP*	**Pn**	**01 00 33.8**	**+1.6**
BZGR				*eS*	**Sn**	**01 01 04.7**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**2.46**	**291**	PN	**Pn**	**01 00 33.8**	**+1.6**
BZGR				S	**Sn**	**01 01 04.7**	**+2.8**
BDR	**Baidarnaya**	**2.48**	**307**	*eP*	**Pn**	**01 00 33.3**	**+0.9**
BDR	**Baidarnaya**	**2.48**	**307**	PN	**Pn**	**01 00 33.3**	**+0.9**
LGNR	**Loginova**	**2.51**	**294**	*eP*	**Pn**	**01 00 34.7**	**+1.6**
LGNR	**Loginova**	**2.51**	**294**	PN	**Pn**	**01 00 34.7**	**+1.6**
TUMD	**Tumrok D**	**2.52**	**273**	*eP*	**Pn**	**01 00 34.0**	**+1.0**
TUMD				*eS*	**Sn**	**01 01 04.0**	**+0.7**
SRKR	**Sorokina**	**2.54**	**308**	*eP*	**Pn**	**01 00 33.6**	**+0.3**
SRKR	**Sorokina**	**2.54**	**308**	PN	**Pn**	**01 00 33.6**	**+0.3**
BZMR	**Bezymyannaya**	**2.57**	**290**	*eP*	**Pn**	**01 00 35.3**	**+1.5**
BZMR	**Bezymyannaya**	**2.57**	**290**	PN	**Pn**	**01 00 35.3**	**+1.5**
BZWR	**Bezymyannyi-We**	**2.58**	**290**	*eP*	**Pn**	**01 00 35.4**	**+1.6**
BZWR	**Bezymyannyi-We**	**2.58**	**290**	PN	**Pn**	**01 00 35.4**	**+1.6**
KLY	**Klyuchi**	**2.62**	**298**	*eP*	**Pn**	**01 00 34.4**	**+0.1**
KLY				*eS*	**Sn**	**01 01 06.0**	**+0.4**
KLY	**Klyuchi**	**2.62**	**298**	PN	**Pn**	**01 00 34.4**	**+0.1**
KLY				S	**Sn**	**01 01 06.0**	**+0.4**
KRSR	**Krestovskiy**	**2.63**	**296**	*eP*	**Pn**	**01 00 35.2**	**+0.7**
KRSR	**Krestovskiy**	**2.63**	**296**	PN	**Pn**	**01 00 35.2**	**+0.7**
KIRR	**Kirishev**	**2.66**	**290**	*eP*	**Pn**	**01 00 36.5**	**+1.6**
KIRR	**Kirishev**	**2.66**	**290**	PN	**Pn**	**01 00 36.5**	**+1.6**
TUMR	**Tumrok**	**2.67**	**275**	*eP*	**Pn**	**01 00 36.4**	**+1.4**
TUMR				*eS*	**Sn**	**01 01 07.9**	**+0.9**
TUMR	**Tumrok**	**2.67**	**275**	PN	**Pn**	**01 00 34.0**	**-1.0**
TUMR				S	**Sn**	**01 01 04.0**	**-3.0**
KMNR	**Kamenistaya**	**2.67**	**285**	*eP*	**Pn**	**01 00 36.9**	**+1.9**
KMNR	**Kamenistaya**	**2.67**	**285**	PN	**Pn**	**01 00 36.9**	**+1.9**
KPT	**Kopyto**	**2.73**	**289**	*eP*	**Pn**	**01 00 37.3**	**+1.5**
KPT	**Kopyto**	**2.73**	**289**	PN	**Pn**	**01 00 37.3**	**+1.5**
KOZ	**Kozyrevsk**	**2.94**	**290**	*eP*	**Pn**	**01 00 41.0**	**+2.3**
KOZ	**Kozyrevsk**	**2.94**	**290**	PN	**Pn**	**01 00 41.0**	**+2.3**
SRDR	**Sredinnyy**	**3.10**	**294**	*eP*	**Pn**	**01 00 42.3**	**+1.3**
SRDR	**Sredinnyy**	**3.10**	**294**	PN	**Pn**	**01 00 42.3**	**+1.3**
ESO	**Esso**	**3.55**	**285**	*eP*	**Pn**	**01 00 48.2**	**+1.1**
ESO	**Esso**	**3.55**	**285**	PN	**Pn**	**01 00 48.2**	**+1.1**
NLC	**Nalytchevo**	**3.77**	**241**	*eP*	**Pn**	**01 00 51.0**	**+1.1**
NLC	**Nalytchevo**	**3.77**	**241**	PN	**Pn**	**01 00 51.0**	**+1.1**
SDLR	**Sedlovina**	**3.94**	**244**	*eP*	**Pn**	**01 00 53.9**	**+1.4**
SDLR				*eS*	**Sn**	**01 01 38.1**	**-0.3**
SDLR	**Sedlovina**	**3.94**	**244**	PN	**Pn**	**01 00 53.9**	**+1.4**
SDLR				S	**Sn**	**01 01 38.1**	**-0.3**
SMAR	**Somma**	**3.99**	**244**	*eP*	**Pn**	**01 00 54.8**	**+1.5**
SMAR				*eS*	**Sn**	**01 01 39.3**	**-0.5**
SMAR	**Somma**	**3.99**	**244**	PN	**Pn**	**01 00 54.8**	**+1.5**
SMAR				S	**Sn**	**01 01 39.3**	**-0.5**
KRER	**Koryakskii**	**4.00**	**245**	*eP*	**Pn**	**01 00 55.2**	**+1.8**
KRER				*eS*	**Sn**	**01 01 40.9**	**+1.0**
KRER	**Koryakskii**	**4.00**	**245**	PN	**Pn**	**01 00 55.2**	**+1.8**
KRER				S	**Sn**	**01 01 40.9**	**+1.0**
UGLR	**Uglovaya**	**4.01**	**244**	*eP*	**Pn**	**01 00 55.0**	**+1.6**
UGLR				*eS*	**Sn**	**01 01 40.5**	**+0.5**
UGLR	**Uglovaya**	**4.01**	**244**	PN	**Pn**	**01 00 55.0**	**+1.6**
UGLR				S	**Sn**	**01 01 40.5**	**+0.5**
KOK	**Koryaka**	**4.06**	**245**	*eP*	**Pn**	**01 00 55.8**	**+1.6**
KOK	**Koryaka**	**4.06**	**245**	PN	**Pn**	**01 00 55.8**	**+1.6**
DALK	**Dalny**	**4.14**	**242**	*eP*	**Pn**	**01 00 56.1**	**+1.0**
DALK				*eS*	**Sn**	**01 01 41.0**	**-2.0**
DALK	**Dalny**	**4.14**	**242**	PN	**Pn**	**01 00 56.1**	**+1.0**
PET	**Petropavlovsk**	**4.20**	**242**	Pn	**Pn**	**01 00 57.3**	**+1.5**
PET				Sn	**Sn**	**01 01 43.3**	**-1.2**
PET	**Petropavlovsk**	**4.20**	**242**	*eP*	**Pn**	**01 00 57.3**	**+1.5**
PET				*eS*	**Sn**	**01 01 43.2**	**-1.2**
PET	**Petropavlovsk**	**4.20**	**242**	*ePN*	**Pn**	**01 00 57.7**	**+1.8**
GNL	**Ganaly**	**4.26**	**253**	*eP*	**Pn**	**01 00 59.1**	**+2.2**
GNL	**Ganaly**	**4.26**	**253**	PN	**Pn**	**01 00 59.1**	**+2.2**
KRMR	**Karymshinskiy**	**4.57**	**242**	*eP*	**Pn**	**01 01 02.6**	**+1.6**
KRMR				*eS*	**Sn**	**01 01 52.8**	**-0.8**
KRMR	**Karymshinskiy**	**4.57**	**242**	PN	**Pn**	**01 01 02.6**	**+1.6**
RUS	**Russkaya**	**4.61**	**237**	*eP*	**Pn**	**01 01 02.1**	**+0.5**
RUS				*eS*	**Sn**	**01 01 51.5**	**-3.1**
RUS	**Russkaya**	**4.61**	**237**	PN	**Pn**	**01 01 02.1**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.65**	**247**	Pn	**Pn**	**01 01 04.1**	**+2.0**
PEA0B				Sn	**Sn**	**01 01 57.6**	**+2.0**
PETK	**Petropavlovsk-**	**4.65**	**247**	Pn	**Pn**	**01 01 02.9**	**+0.8**
	5.1nm,0.3s,baz=72,slow=16,SNR=54						
PETK				Sn	**Sn**	**01 01 57.6**	**+2.0**
	4.8nm,0.3s,baz=48,slow=17,SNR=7.1						
	6.7nm,0.4s						
PETK	**Petropavlovsk-**	**4.65**	**247**	Pn	**Pn**	**01 01 03.4**	**+1.3**
PETK				Sn	**Sn**	**01 01 57.4**	**+1.8**
MTVR	**Mutnovka**	**4.74**	**239**	*eP*	**Pn**	**01 01 04.8**	**+1.3**
MTVR				*eS*	**Sn**	**01 01 55.4**	**-2.7**
MTVR	**Mutnovka**	**4.74**	**239**	PN	**Pn**	**01 01 04.8**	**+1.3**
GRL	**Gorelyy**	**4.75**	**240**	*eP*	**Pn**	**01 01 05.2**	**+1.5**
GRL	**Gorelyy**	**4.75**	**240**	PN	**Pn**	**01 01 05.2**	**+1.5**
APC	**Apacha**	**5.02**	**247**	*eP*	**Pn**	**01 01 07.7**	**+0.5**
APC	**Apacha**	**5.02**	**247**	PN	**Pn**	**01 01 07.7**	**+0.5**
KDTR	**Khodutka, Kamc**	**5.22**	**233**	*eP*	**Pn**	**01 01 09.9**	**0.0**
KDTR				*eS*	**Sn**	**01 02 05.7**	**-4.0**
KDTR	**Khodutka, Kamc**	**5.22**	**233**	PN	**Pn**	**01 01 09.9**	**0.0**
MA2	**Magadan**	**8.78**	**306**	LR	LR	01 05 25.7	
	comp=Z,79nm,18.4s,baz=100,slow=38						
ERM	**Erimo**	**19.32**	**236**		**P**	**01 04 14.5**	**-2.3**
ERM	**Erimo**	**19.32**	**236**	P	**P**	**01 04 14.5**	**-2.3**
ERM				pmax	pmax		
	comp=Z,47nm,1.2s						
N18K	**Kilae Creek**	**21.35**	**59**	P	**P**	**01 04 40.0**	**+1.2**
N18K				IAmb	IAmb	01 05 12.4	
	comp=Z,15nm,1.4s						
TIXI	**Tiksi**	**22.50**	**331**	P	**P**	**01 04 52.0**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=90,slow=23,SNR=1.7						
	comp=Z,0.6nm,0.3s						
TIXI	**Tiksi**	**22.50**	**331**	P	**P**	**01 04 52.0**	**+1.0**
IMAR	**Indian Mountai**	**22.61**	**45**	P	**P**	**01 04 52.7**	**+0.5**
OHAK	**Old Harbor**	**23.16**	**68**	P	**P**	**01 04 56.6**	**-1.3**
USRK	**Ussuriysk Ar.**	**23.66**	**256**	LR	LR	01 15 29.3	
	comp=Z,48nm,18.4s,baz=159,slow=40						
BWN	**Browne**	**24.28**	**50**	P	**P**	**01 05 11.2**	**+2.5**
H23K	**Yukon River**	**24.30**	**46**	P	**P**	**01 05 09.9**	**+0.9**
I23K	**Minto, Yukon-K**	**24.34**	**47**	P	**P**	**01 05 10.4**	**+1.1**
I23K				IAmb	IAmb	01 05 11.4	
	comp=Z,10nm,1.4s						
NEA2	**Nenana**	**24.45**	**49**	P	**P**	**01 05 11.2**	**+0.9**
TOLK	**Toolik Lake Re**	**24.64**	**39**	P	**P**	**01 05 12.3**	**+0.2**
TOLK				IAmb	IAmb	01 05 23.5	
	comp=Z,11nm,1.5s						
MDM	**Murphy Dome**	**24.82**	**48**	P	**P**	**01 05 14.0**	**+0.4**
MDM				IAmb	IAmb	01 05 45.7	
	comp=Z,5.3nm,1.2s						
WRH	**Wood River Hil**	**24.88**	**49**	P	**P**	**01 05 15.5**	**+1.4**
WRH				IAmb	IAmb	01 05 48.4	
	comp=Z,4.6nm,1.1s						
H24K	**Noodor Dome**	**24.99**	**46**	P	**P**	**01 05 15.7**	**+0.5**
H24K				IAmb	IAmb	01 05 48.3	
	comp=Z,8.2nm,1.4s						
CCB	**Clear Creek Bu**	**25.00**	**49**	P	**P**	**01 05 17.0**	**+1.9**
IL31		**25.39**	**48**	P	**P**	**01 05 19.5**	**+0.8**
IL31				IAmb	IAmb	01 05 31.4	
	comp=Z,4.3nm,1.1s						
ILAR	**Eielson Array**	**25.39**	**48**	P	**P**	**01 05 18.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=262,slow=8.6,SNR=17						
	comp=Z,1.3nm,0.7s						
ILAR	**Eielson Array**	**25.39**	**48**	P	**P**	**01 05 19.6**	**+0.9**
ILAR	**Eielson Array**	**25.39**	**48**	P	**P**	**01 05 19.0**	**+0.2**
M24K	**Tolsona, Glenn**	**25.89**	**54**	P	**P**	**01 05 24.4**	**+1.0**
PRP	**Porcupine Dome**	**25.96**	**47**	P	**P**	**01 05 24.6**	**+0.5**
BMAR	**Burnt Mountain**	**26.37**	**42**	P	**P**	**01 05 28.9**	**+1.2**
SCRK	**Sand Creek**	**26.69**	**50**	P	**P**	**01 05 30.3**	**-0.4**
L27K	**Beaver Creek,**	**27.76**	**52**	P	**P**	**01 05 41.3**	**+1.1**
BCAR	**Beaver Creek A**	**27.78**	**52**	P	**P**	**01 05 41.5**	**+1.2**
EGAK	**Eagle**	**27.84**	**48**	P	**P**	**01 05 40.5**	**-0.3**
EGAK				IAmb	IAmb	01 06 08.9	
	comp=Z,8.7nm,1.5s						
M27K	**Edge Creek, AK**	**27.85**	**53**	P	**P**	**01 05 42.3**	**+1.2**
M27K				IAmb	IAmb	01 05 46.7	
	comp=Z,8.5nm,1.4s						
JHJ2	**Mitsune**	**28.12**	**229**	P	**P**	**01 05 43.9**	**+0.3**
INK	**Inuvik**	**30.53**	**40**	P	**P**	**01 06 04.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=287,slow=7.3,SNR=8.1						
	comp=Z,0.8nm,0.5s						
INK	**Inuvik**	**30.53**	**40**	P	**P**	**01 06 05.5**	**+0.9**
INK				IAmb	IAmb	01 06 08.4	
	comp=Z,8.3nm,1.5s						
C36M	**Paulatuk**	**33.76**	**37**	P	**P**	**01 06 33.2**	**+0.4**
C36M				IAmb	IAmb	01 07 17.6	
	comp=Z,4.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**35.39**	**177**	T	T	01 44 31.5	
	baz=359,slow=76,SNR=55						
H11N3	**WAKE ISLAND Hy**	**35.40**	**177**	T	T	01 44 44.1	
	baz=359,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy**	**35.41**	**177**	T	T	01 44 31.5	
	baz=359,slow=76,SNR=46						
SONM	**Songino Array**	**36.13**	**283**	P	**P**	**01 06 53.0**

MKZ				*e*S	Sn	01 21 12.1	+3.4
SMKR	**Semkarok**	**2.39**	**311**	*e*P	Pn	01 20 57.0	+1.9
SMKR				*e*S	Sn	01 21 26.5	+3.3
TUMD	**Tumrok D**	**2.49**	**275**	*e*P	Pn	01 21 00.0	+3.6
TUMD				*e*S	Sn	01 21 29.0	+3.4
BDR	**Baidarnaya**	**2.50**	**309**	*e*P	Pn	01 21 00.1	+3.6
SRKR	**Sorokina**	**2.57**	**310**	*e*P	Pn	01 21 01.1	+3.6
BZMR	**Bezymyannaya**	**2.57**	**292**	P	Pn	01 21 00.9	+3.3
BZMR				S	Sn	01 21 32.6	+5.0
KLY	**Klyuchi**	**2.63**	**300**	*e*P	Pn	01 21 00.6	+2.4
KRSR	**Krestovskiy**	**2.63**	**298**	P	Pn	01 21 02.8	+4.4
TUMR	**Tumrok**	**2.64**	**277**	*e*P	Pn	01 21 02.8	+4.3
TUMR				*e*S	Sn	01 21 32.3	+2.9
KMNR	**Kamenistaya**	**2.66**	**287**	*e*P	Pn	01 21 03.1	+4.4
KPT	**Kopyto**	**2.72**	**291**	*e*P	Pn	01 21 03.2	+3.6
SRDR	**Sredinnyy**	**3.11**	**296**	*e*P	Pn	01 21 09.0	+4.1
NLC	**Nalytchevo**	**3.69**	**241**	*e*S	Sn	01 21 57.8	+2.8
SDLR	**Sedlovina**	**3.87**	**245**	*e*P	Pn	01 21 20.5	+5.1
SDLR				*e*S	Sn	01 22 03.3	+3.6
SMAR	**Somma**	**3.92**	**245**	*e*P	Pn	01 21 20.8	+4.6
KRER	**Koryakskii**	**3.93**	**246**	*e*P	Pn	01 21 21.4	+5.1
KRER				*e*S	Sn	01 22 06.6	+5.4
UGLR	**Uglovaya**	**3.94**	**244**	*e*P	Pn	01 21 21.4	+5.1
KOK	**Koryaka**	**4.00**	**246**	*e*P	Pn	01 21 21.8	+4.7
GNL	**Ganaly**	**4.20**	**254**	*e*P	Pn	01 21 25.1	+5.2
KRMR	**Karymshinskiy**	**4.50**	**243**	*e*P	Pn	01 21 27.8	+4.0
KRMR				*e*S	Sn	01 22 19.0	+4.2
RUS	**Russkaya**	**4.53**	**237**	*e*P	Pn	01 21 27.8	+3.5
RUS				*e*S	Sn	01 22 17.1	+1.4
MTVR	**Mutnovka**	**4.67**	**239**	*e*P	Pn	01 21 30.6	+4.3
MTVR				*e*S	Sn	01 22 21.4	+2.2
GRL	**Gorelyy**	**4.68**	**240**	*e*P	Pn	01 21 31.1	+4.6
KDTR	**Khodutka, Kamc**	**5.14**	**233**	*e*P	Pn	01 21 36.3	+3.6
KDTR				*e*S	Sn	01 22 31.5	+0.9

*SKO **25** 01:25:35.6, 40°.99N×22°.73E, h15km*
*SOF **25** 01:25:36.6, 40°.99N×22°.72E, h15km, MD3.8*
*ISK **25** 01:25:36.7, 40°.98N×22°.73E, h14km, ML3.6/26*
*BEO **25** 01:25:37.5±0.4, 40°.96N×22°.75E, h11km±3km, ML3.2/14*
*THE **25** 01:25:37.5, 40°.97N×22°.75E, h6km, ML3.4/14, Error ellipse: s-maj=0.8km s-min=0.3km az=353.0*
*ATH **25** 01:25:37.6, 40°.98N×22°.74E, h7km±1km, ML3.3/11, Error ellipse: s-maj=1.6km s-min=0.7km az=357.0*

ISC 25 01:25:37.4±0.8, 40°.98N±0°.02×22°.74E±0°.01, h11km±6km, n174, σ1§13/225, 15C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNT	**Kendrikon**	**0.21**	**34**	PG	**Pg**	**01 25 41.8**	**-0.1**
KNT	**Kendrikon**	**0.21**	**34**	P	**Pg**	**01 25 41.8**	**-0.1**
KNT				S	**Sg**	**01 25 45.0**	**0.0**
	38µm,0.1s						
KNT	**Kendrikon**	**0.21**	**34**	*i* Pg	**Pg**	**01 25 41.8**	**-0.1**
KNT				*i* Sg	**Sg**	**01 25 45.0**	**0.0**
KNT	**Kendrikon**	**0.21**	**34**	P	**Pg**	**01 25 41.8**	**-0.1**
KNT				S	**Sg**	**01 25 45.0**	**0.0**
GRG	**Griva**	**0.26**	**264**	PG	**Pg**	**01 25 42.8**	**+0.1**
GRG				SG	**Sg**	**01 25 46.2**	**0.0**
GRG	**Griva**	**0.26**	**264**	P	**Pg**	**01 25 42.6**	**-0.1**
GRG				S	**Sg**	**01 25 46.7**	**+0.5**
	14µm,0.3s						
GRG	**Griva**	**0.26**	**264**	*i* Pg	**Pg**	**01 25 42.6**	**-0.1**
GRG				*i* Sg	**Sg**	**01 25 46.8**	**+0.5**
GRG	**Griva**	**0.26**	**264**	P	**Pg**	**01 25 42.6**	**-0.1**
GRG				S	**Sg**	**01 25 46.6**	**+0.3**
GRG				AML	AML	01 25 47.1	
	comp=E,34147µm,0.3s						
GRG				AML	AML	01 25 48.5	
	comp=N,23088µm,0.3s						
VAY	**Valandovo**	**0.36**	**339**	*i* Pg	**Pg**	**01 25 44.9**	**+0.4**
VAY				*i* Sg	**Sg**	**01 25 50.2**	**+0.8**
VAY				*e*Lg	Lg	01 25 50.2	
	comp=E,7µm,0.2s						
VAY				*e*Lg	Lg	01 25 50.3	
	comp=N,12µm,0.2s						
THE	**Thessaloniki**	**0.39**	**154**	P	**Pg**	**01 25 44.9**	**-0.2**
THE				S	**Sg**	**01 25 49.9**	**-0.4**
	comp=N,9µm,0.2s						
THE	**Thessaloniki**	**0.39**	**154**	*i* Pg	**Pg**	**01 25 44.9**	**-0.2**
THE				*i* Sg	**Sg**	**01 25 50.0**	**-0.4**
THE	**Thessaloniki**	**0.39**	**154**	P	**Pg**	**01 25 44.9**	**-0.2**
THE				S	**Sg**	**01 25 49.8**	**-0.4**
THE				AML	AML	01 25 50.5	
	comp=E,17439µm,0.2s						
THE				AML	AML	01 25 52.0	
	comp=N,17746µm,0.2s						
HORT	**Hortiatis**	**0.47**	**145**	PG	**Pg**	**01 25 46.8**	**+0.1**
HORT				SG	**Sg**	**01 25 53.3**	**+0.4**
HORT	**Hortiatis**	**0.47**	**145**	P	**Pg**	**01 25 46.3**	**-0.3**
HORT				S	**Sg**	**01 25 52.8**	**-0.1**
	comp=N,5µm,0.2s						
HORT	**Hortiatis**	**0.47**	**145**	P	**Pg**	**01 25 46.7**	**+0.1**
HORT				S	**Sg**	**01 25 52.5**	**-0.4**
HORT				AML	AML	01 25 54.4	
	comp=N,9603µm,0.2s						
HORT				AML	AML	01 25 54.9	
	comp=E,11608µm,0.2s						
SOH	**Sokhos**	**0.49**	**109**	P	**Pg**	**01 25 47.2**	**+0.2**
SOH				S	**Sg**	**01 25 53.6**	**+0.1**
	comp=E,8µm,0.3s						
SOH	**Sokhos**	**0.49**	**109**	*i* Pg	**Pg**	**01 25 47.3**	**+0.2**
SOH				*i* Sg	**Sg**	**01 25 54.1**	**+0.5**
SOH	**Sokhos**	**0.49**	**109**	P	**Pg**	**01 25 47.3**	**+0.2**
SOH				S	**Sg**	**01 25 53.7**	**+0.1**
SOH				AML	AML	01 25 54.6	
	comp=N,20342µm,0.4s						
SOH				AML	AML	01 25 57.1	
	comp=E,18042µm,0.2s						
SRS	**Serrai**	**0.66**	**78**	P	**Pg**	**01 25 50.1**	**0.0**
SRS				S	**Sb**	**01 25 59.5**	**-0.6**
	comp=E,2µm,0.2s						
SRS	**Serrai**	**0.66**	**78**	*e*Pg	**Pg**	**01 25 49.9**	**-0.2**
SRS				*e*Sg	**Sb**	**01 25 59.4**	**-0.6**
SRS	**Serrai**	**0.66**	**78**	*i* Pg	**Pg**	**01 25 50.1**	**0.0**
SRS				*i* Sg	**Sb**	**01 25 59.6**	**-0.4**
SRS	**Serrai**	**0.66**	**78**	P	**Pg**	**01 25 50.1**	**0.0**
SRS				AML	AML	01 26 01.5	
	comp=E,5517µm,0.3s						
SRS				AML	AML	01 26 03.2	
	comp=N,3125µm,0.3s						
KTI	**Kastanea**	**0.76**	**219**	P	**Pg**	**01 25 51.5**	**-0.5**
STIP	**Stip**	**0.82**	**330**	*i* Pg	**Pg**	**01 25 52.3**	**-0.9**
STIP				*i* Sg	**Sg**	**01 26 03.2**	**-0.8**
STIP				*e*Lg	Lg	01 26 04.8	
	comp=E,750nm,0.4s						
STIP				*e*Lg	Lg	01 26 05.1	
	comp=N,1µm,0.3s						
KKB	**Krupnik**	**0.92**	**16**	*i* P	**Pb**	**01 25 54.6**	**-0.7**
NVR	**Nevrokopi**	**0.92**	**66**	P	**Pb**	**01 25 55.0**	**-0.4**
NVR				S	**Sg**	**01 26 07.8**	**+0.6**
	comp=N,2µm,0.2s						
NVR	**Nevrokopi**	**0.92**	**66**	P	**Pb**	**01 25 55.0**	**-0.4**
NVR				S	**Sg**	**01 26 07.6**	**+0.4**
NVR				AML	AML	01 26 09.5	
	comp=E,4066µm,0.2s						
NVR				AML	AML	01 26 09.6	
	comp=N,2895µm,0.2s						
MMB	**Musomiste**	**0.96**	**51**	*i* P	**Pb**	**01 25 55.6**	**-0.4**
KOKK	**Kokkinochori,**	**0.97**	**99**	P	**Pb**	**01 25 55.3**	**-0.9**
KOKK				S	**Sn**	**01 26 09.5**	**-1.2**
	comp=N,1µm,0.5s						
KOKK	**Kokkinochori,**	**0.97**	**99**	P	**Pb**	**01 25 55.6**	**-0.6**
KZN	**Kozani**	**1.00**	**228**	P	**Pb**	**01 25 55.4**	**-1.3**
KZN				S	**Sn**	**01 26 10.8**	**-0.7**
	comp=N,945nm,0.7s						
KZN	**Kozani**	**1.00**	**228**	P	**Pb**	**01 25 55.9**	**-0.9**
KZN				S	**Sg**	**01 26 09.9**	**+0.2**
KZN				AML	AML	01 26 16.6	
	comp=E,2423µm,0.4s						
KZN				AML	AML	01 26 18.1	
	comp=N,1274µm,1.0s						
FNA	**Florina**	**1.05**	**259**	PG	**Pb**	**01 25 56.9**	**-0.7**
FNA	**Florina**	**1.05**	**259**	P	**Pb**	**01 25 56.7**	**-0.9**
FNA	**Florina**	**1.05**	**259**	*e*Pg	**Pb**	**01 25 56.8**	**-0.9**
FNA				*e*Sg	**Sg**	**01 26 11.9**	**+0.6**
FNA	**Florina**	**1.05**	**259**	*i* Pg	**Pb**	**01 25 56.8**	**-0.9**
FNA	**Florina**	**1.05**	**259**	P	**Pb**	**01 25 56.8**	**-0.9**
FNA				AML	AML	01 26 18.0	
	comp=E,1162µm,0.3s						
FNA				AML	AML	01 26 20.7	
	comp=N,1264µm,0.3s						
OUR	**Ouranopolis**	**1.15**	**124**	PN	**Pn**	**01 25 59.1**	**-0.2**
OUR				SN	**Sn**	**01 26 14.5**	**-0.5**
OUR	**Ouranopolis**	**1.15**	**124**	P	**Pb**	**01 25 58.9**	**-0.2**
OUR				S	**Sn**	**01 26 15.2**	**+0.2**
	comp=N,4µm,0.5s						
OUR	**Ouranopolis**	**1.15**	**124**	P	**Pb**	**01 25 59.0**	**-0.2**
OUR				S	**Sn**	**01 26 15.1**	**+0.1**
OUR				AML	AML	01 26 17.9	
	comp=E,7457µm,0.5s						
OUR				AML	AML	01 26 18.0	
	comp=N,7267µm,0.5s						
KVLA	**Kavala**	**1.25**	**92**	P	**Pb**	**01 26 00.6**	**-0.3**
PAIG	**Paliouri**	**1.28**	**145**	P	**Pn**	**01 26 00.2**	**-0.9**
PAIG				S	**Sg**	**01 26 18.5**	**+0.1**
	comp=N,2µm,0.5s						
PAIG	**Paliouri**	**1.28**	**145**	P	**Pn**	**01 26 00.4**	**-0.7**
PAIG				AML	AML	01 26 20.9	
	comp=N,3329µm,0.6s						
PAIG				AML	AML	01 26 22.4	
	comp=E,2743µm,0.4s						
LRSO	**Larissa Observ**	**1.34**	**192**	P	**Pb**	**01 26 02.1**	**-0.3**
LRSO	**Larissa Observ**	**1.34**	**192**	P	**Pn**	**01 26 01.9**	**-0.1**
KAVA	**Kavala**	**1.34**	**89**	P	**Pn**	**01 26 01.8**	**-0.2**
KAVA				S	**Sb**	**01 26 20.0**	**+0.3**
	comp=E,3µm,0.4s						
KAVA	**Kavala**	**1.34**	**89**	P	**Pb**	**01 26 02.3**	**-0.3**
SKO	**Skopje**	**1.39**	**316**	*e*Pg	**Pn**	**01 26 02.3**	**-0.4**
SKO				*e*Sg	**Sg**	**01 26 22.1**	**0.0**
SKO	**Skopje**	**1.39**	**316**	*i* Pg	**Pn**	**01 26 02.6**	**-0.1**
SKO				*i* Sg	**Sb**	**01 26 21.3**	**+0.3**
SKO				*e*Lg	Lg	01 26 25.0	
	comp=E,23nm,0.6s						
SKO				*e*Lg	Lg	01 26 26.8	
	comp=N,22nm,0.5s						
NEST	**Nestorio**	**1.41**	**247**	P	**Pb**	**01 26 03.4**	**-0.3**
NEST	**Nestorio**	**1.41**	**247**	P	**Pb**	**01 26 03.2**	**-0.4**
PENT	**Pentalofos**	**1.45**	**238**	P	**Pb**	**01 26 04.0**	**-0.5**
KPRO	**Kipourio**	**1.47**	**226**	P	**Pb**	**01 26 04.7**	**0.0**
OHR	**Ohrid**	**1.47**	**276**	*e*Pg	**Pb**	**01 26 04.9**	**+0.1**
OHR				*e*Sg	**Sg**	**01 26 25.7**	**+0.9**
OHR	**Ohrid**	**1.47**	**276**	*i* Pn	**Pb**	**01 26 05.0**	**+0.1**
OHR				*i* Sn	**Sg**	**01 26 24.8**	**0.0**
OHR				*e*Lg	Lg	01 26 29.2	
	comp=E,126nm,0.6s						
OHR				*e*Lg	Lg	01 26 29.6	
	comp=N,277nm,0.8s						
THL	**Klokotos Trika**	**1.52**	**202**	P	**Pn**	**01 26 04.2**	**-0.2**
THL				S	**Sb**	**01 26 25.3**	**+0.4**
	comp=N,522nm,0.7s						
THL	**Klokotos Trika**	**1.52**	**202**	P	**Pn**	**01 26 04.3**	**-0.2**
THL				AML	AML	01 26 31.8	
	comp=N,798µm,0.7s						
THL				AML	AML	01 26 32.2	
	comp=E,1284µm,0.7s						
BOSS	**Bosilegrad**	**1.52**	**353**	*e*Pg	**Pg**	**01 26 06.3**	**-0.3**
THAS	**Thassos island**	**1.55**	**103**	P	**Pn**	**01 26 04.2**	**-0.6**
THAS				S	**Sg**	**01 26 26.5**	**-0.7**
	comp=E,1µm,0.3s						
THAS	**Thassos island**	**1.55**	**103**	P	**Pn**	**01 26 04.3**	**-0.6**
RZN	**Rozhen**	**1.65**	**64**	*i* P	**Pn**	**01 26 06.9**	**+0.5**
XOR	**Xorichti**	**1.65**	**168**	P	**Pn**	**01 26 05.8**	**-0.5**
VTS	**Vitosha**	**1.67**	**13**	⇑P	**Pb**	**01 26 07.6**	**-0.8**
VTS				⇓S	**Sn**	**01 26 28.0**	**-0.3**
VTS	**Vitosha**	**1.67**	**13**	*e*Pn	**Pb**	**01 26 07.5**	**-0.8**
VTS				*e*Sn	**Sn**	**01 26 28.5**	**+0.2**
VTS	**Vitosha**	**1.67**	**13**	*i* Pn	**Pn**	**01 26 06.8**	**+0.1**
VTS	**Vitosha**	**1.67**	**13**	*i* P	**Pn**	**01 26 06.6**	**-0.2**
NEO	**Neokhori**	**1.72**	**167**	P	**Pn**	**01 26 06.8**	**-0.4**
NEO	**Neokhori**	**1.72**	**167**	P	**Pn**	**01 26 06.8**	**-0.4**
LSK	**Leskovik**	**1.83**	**244**	P	**Pn**	**01 26 09.6**	**+0.8**
PLD	**Plovdiv**	**1.85**	**52**	PN	**Pn**	**01 26 09.9**	**+0.9**
PLD	**Plovdiv**	**1.85**	**52**	*e*Pn	**Pb**	**01 26 10.1**	**-1.1**
PLD				*e*Sn	**Sb**	**01 26 33.4**	**-1.0**
PLD	**Plovdiv**	**1.85**	**52**	*i* P	**Pb**	**01 26 10.2**	**-1.0**
BARS	**Barje**	**1.96**	**340**	*e*Pn	**Pn**	**01 26 10.4**	**-0.1**
BARS	**Barje**	**1.96**	**340**	*i* Pn	**Pn**	**01 26 10.4**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.02**	**194**	P	**Pn**	**01 26 11.7**	**+0.3**
ALNA	**Alonissos**	**2.03**	**154**	P	**Pn**	**01 26 11.0**	**-0.5**
RDO	**Rodhopi**	**2.12**	**85**	PN	**Pn**	**01 26 12.8**	**+0.1**
RDO	**Rodhopi**	**2.12**	**85**	P	**Pn**	**01 26 12.6**	**-0.2**
KDZ	**Kurdzhali**	**2.12**	**71**	PN	**Pn**	**01 26 12.2**	**-0.6**
KDZ	**Kurdzhali**	**2.12**	**71**	*i* P	**Pn**	**01 26 12.2**	**-0.6**
SMTH	**Samothraki Isl**	**2.18**	**103**	P	**Pn**	**01 26 13.1**	**-0.5**
EVR	**Evrytania**	**2.19**	**199**	P	**Pn**	**01 26 14.2**	**+0.5**
EVR	**Evrytania**	**2.19**	**199**	P	**Pn**	**01 26 14.0**	**+0.3**
TIR	**Tirane**	**2.20**	**280**	⇑P	**Pb**	**01 26 16.6**	**-0.6**
ZAPS	**Zavoj**	**2.29**	**358**	*e*Pn	**Pn**	**01 26 16.4**	**+1.3**
ZAPS				*e*Sn	**Sb**	**01 26 45.2**	**-1.8**
DIM	**Dimitrovgrad**	**2.35**	**62**	*i* P	**Pn**	**01 26 17.0**	**+1.1**
ANX	**Ano Chora**	**2.47**	**195**	P	**Pn**	**01 26 18.1**	**+0.5**
ANX				S	**Sn**	**01 26 48.8**	**+1.0**
GADA	**Gvkgeada**	**2.53**	**107**	PN	**Pn**	**01 26 18.5**	**+0.1**
SELS	**Selova**	**2.54**	**332**	*e*Pn	**Pn**	**01 26 18.1**	**-0.4**
KYMI	**Kymi, Euboea I**	**2.57**	**156**	P	**Pn**	**01 26 18.8**	**-0.1**
ENEZ	**Enez**	**2.60**	**94**	PN	**Pn**	**01 26 19.9**	**+0.6**
SERG	**Sergoula**	**2.62**	**192**	P	**Pn**	**01 26 19.8**	**+0.1**
BOZC	**Bozcaada**	**2.77**	**113**	PN	**Pn**	**01 26 22.3**	**+0.6**
ZAGS	**Zajecar**	**2.85**	**353**	*e*Pn	**Pn**	**01 26 22.9**	**+0.1**
ZAGS				*e*Sn	**Sn**	**01 26 58.0**	**+0.9**
ERIK	**Erikli-Kesan**	**2.88**	**95**	PN	**Pn**	**01 26 23.6**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.90**	**100**	PN	**Pn**	**01 26 23.9**	**+0.5**
DRME	**Dracevica, Mon**	**2.92**	**295**	*e*Pn	**Pn**	**01 26 25.4**	**+1.6**
UKOP	**Uzunkopru-Edir**	**2.95**	**86**	PN	**Pn**	**01 26 24.3**	**+0.2**
EZN	**Ezine**	**2.97**	**112**	PN	**Pn**	**01 26 24.7**	**+0.3**
SIGR	**SIGRI**	**2.97**	**126**	PN	**Pn**	**01 26 25.0**	**+0.5**
SJES	**Sjenica**	**3.07**	**319**	*e*Pn	**Pn**	**01 26 26.3**	**+0.4**
SJES				*e*Sn	**Sn**	**01 27 03.4**	**+0.8**
LPK	**Lapseki**	**3.12**	**100**	PN	**Pn**	**01 26 27.0**	**+0.6**
EDRB	**Edirne**	**3.13**	**73**	PN	**Pn**	**01 26 26.8**	**+0.2**
EDRB	**Edirne**	**3.13**	**73**	P	**Pn**	**01 26 26.6**	**0.0**
IVAS	**Ivanjica**	**3.22**	**324**	*e*Pn	**Pn**	**01 26 27.5**	**-0.5**
JMB	**Yambol**	**3.24**	**61**	*i* P	**Pn**	**01 26 28.6**	**+0.5**
GRUS	**Gruza**	**3.27**	**333**	*e*Pn	**Pn**	**01 26 28.1**	**-0.4**
GRUS				*e*Sn	**Sn**	**01 27 07.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**3.38**	**94**	PN	**Pn**	**01 26 30.5**	**+0.4**
SVIS	**Svilajnac**	**3.47**	**342**	*e*Pn	**Pn**	**01 26 30.5**	**-0.7**
SVIS	**Svilajnac**	**3.47**	**342**	*e*Pn	**Pn**	**01 26 32.4**	**+1.2**
HCY	**Herceg Novi**	**3.50**	**296**	*e*Pn	**Pn**	**01 26 35.1**	**+3.4**
KUBS	**Kucevo**	**3.52**	**347**	*e*Pn	**Pn**	**01 26 30.9**	**-1.0**
KRBG	**Karabiga-Canak**	**3.52**	**98**	PN	**Pn**	**01 26 32.8**	**+0.9**
UPM	**Unac-Piva**	**3.61**	**309**	*e*Pn	**Pn**	**01 26 36.0**	**+2.6**
RUDO	**Rudo**	**3.63**	**318**	*e*Pn	**Pn**	**01 26 33.3**	**-0.2**
CHOS	**Chios island**	**3.64**	**134**	PN	**Pn**	**01 26 34.4**	**+0.7**
TRUS	**Trudelj**	**3.67**	**333**	*e*Pn	**Pn**	**01 26 33.6**	**-0.4**
TRUS				*e*Sn	**Sn**	**01 27 18.3**	**+1.1**
BRY	**Bratogost**	**3.67**	**303**	*e*Pn	**Pn**	**01 26 36.3**	**+2.1**
SRE	**Strehaia**	**3.69**	**5**	⇓P	**Pn**	**01 26 36.8**	**+2.5**
MRMT	**Marmara Adasi**	**3.71**	**94**	PN	**Pn**	**01 26 35.3**	**+0.7**
TREB	**Trebinje**	**3.71**	**299**	*e*Pn	**Pn**	**01 26 35.4**	**+0.8**
DIVS	**Divibare**	**3.72**	**328**	*e*Pn	**Pn**	**01 26 34.3**	**-0.5**
DIVS	**Divibare**	**3.72**	**328**	*e*Pn	**Pn**	**01 26 34.5**	**-0.3**
CRLT	**Corlu**	**3.78**	**86**	PN	**Pn**	**01 26 36.5**	**+0.9**
BBLS	**Lazići**	**3.79**	**321**	*e*Pn	**Pn**	**01 26 36.6**	**+0.8**
ITM	**Ithomi**	**3.85**	**190**	PN	**Pn**	**01 26 37.3**	**+0.7**
MDVR	**Moldovita**	**3.87**	**349**	⇑P	**Pn**	**01 26 36.4**	**-0.5**
HERR	**Herculane**	**3.90**	**357**	⇑P	**Pn**	**01 26 36.8**	**-0.4**
HUMR	**Humele**	**3.91**	**24**	⇓P	**Pn**	**01 26 39.2**	**+1.9**
EDC	**Edincik**	**3.95**	**98**	PN	**Pn**	**01 26 38.8**	**+0.9**
URLA	**Izmir**	**3.96**	**130**	PN	**Pn**	**01 26 38.2**	**+0.1**
SGRR	**Singureni**	**4.02**	**35**	⇑P	**Pn**	**01 26 42.4**	**+3.5**
SLVT	**Silivri**	**4.14**	**85**	PN	**Pn**	**01 26 41.6**	**+1.1**
HAPS	**Han Pijesak,BI**	**4.18**	**319**	*e*Pn	**Pn**	**01 26 41.9**	**+0.8**
STON	**Ston**	**4.21**	**298**	*e*Pn	**Pb**	**01 26 48.2**	**-3.1**
CTYL	**Yalikoy Yolu**	**4.21**	**82**	PN	**Pn**	**01 26 42.9**	**+1.4**
TEKS	**Tekeris**	**4.28**	**328**	*e*Pn	**Pn**	**01 26 41.3**	**-1.1**
CTKS	**Kestanelik-??a**	**4.36**	**85**	PN	**Pn**	**01 26 44.9**	**+1.3**
APE	**Apeiranthos**	**4.47**	**150**	PN	**Pn**	**01 26 45.9**	**+0.8**
LOT	**Lotru**	**4.53**	**9**	⇓P	**Pn**	**01 26 46.9**	**+1.0**
FRGS	**Fruska Gora**	**4.69**	**334**	*e*Pn	**Pn**	**01 26 47.5**	**-0.5**
FRGS	**Fruska Gora**	**4.69**	**334**	*e*Pn	**Pn**	**01 26 47.6**	**-0.5**
BZS	**Buzias**	**4.70**	**350**	⇓P	**Pn**	**01 26 47.7**	**-0.5**
VOIR		**4.76**	**20**	⇑P	**Pn**	**01 26 50.1**	**+1.0**
ICOR	**Ion Corvin**	**4.88**	**48**	P	**Pn**	**01 26 52.8**	**+2.2**
ISR	**Istrita**	**4.98**	**33**	⇑P	**Pn**	**01 26 54.5**	**+2.4**
HARR	**Harsova**	**5.32**	**44**	⇑P	**Pn**	**01 27 01.2**	**+4.5**
SIRR	**Siria**	**5.34**	**352**	⇑P	**Pn**	**01 26 56.3**	**-0.7**
MGRS	**Mrkonjic Grad**	**5.40**	**311**	*e*Pn	**Pn**	**01 26 59.2**	**+1.4**
BISRR	**Bisoca**	**5.40**	**31**	⇓P	**Pn**	**01 27 01.9**	**+4.0**
BLY	**Banja Luka**	**5.55**	**315**	*e*Pn	**Pn**	**01 27 00.4**	**+0.5**
OZUR		**5.57**	**22**	⇑P	**Pn**	**01 27 03.5**	**+3.4**
PLOR	**Plostina**	**5.64**	**29**	⇑P	**Pn**	**01 27 03.4**	**+2.3**
VRI	**Vrincioaia**	**5.68**	**29**	⇑P	**Pn**	**01 27 04.2**	**+2.6**
ODBI	**Odobesti**	**5.72**	**32**	⇑P	**Pn**	**01 27 06.1**	**+3.9**
A050A	**Klekovaca**	**5.75**	**309**	*e*Pn	**Pn**	**01 27 03.5**	**+0.8**
CFR	**Carcaliu**	**5.76**	**42**	⇓P	**Pn**	**01 27 05.8**	**+3.1**
A051A	**Mrakovica**	**5.87**	**315**	*e*Pn	**Pn**	**01 27 05.4**	**+1.0**
MORH	**Mrgy, Hungar**	**6.01**	**332**	⇑P	**Pn**	**01 27 06.4**	**+0.2**
MORH	**Mrgy, Hungar**	**6.01**	**332**	P	**Pn**	**01 27 05.9**	**-0.3**
MORH				S	**Sn**	**01 28 15.0**	**0.0**
KOVH	**Kovagotottos**	**6.11**	**328**	P	**Pn**	**01 27 08.3**	**+0.7**
KOVH				S	**Sn**	**01 28 15.3**	**-2.2**
TESR	**Tescani**	**6.21**	**26**	⇑P	**Pn**	**01 27 12.8**	**+3.9**
BSZH	**Besenyszg**	**6.56**	**345**	P	**Pn**	**01 27 16.9**	**+3.2**
BUD	**Budapest**	**7.02**	**339**	P	**Pn**	**01 27 18.3**	**-1.7**
MPLH	**Magyarpolny**	**7.23**	**331**	P	**Pn**	**01 27 23.8**	**+0.9**
MPLH				S	**Sn**	**01 28 44.3**	**-0.6**
CEY	**Cerknica**	**7.70**	**311**	*e*Pn	**Pn**	**01 27 29.4**	**0.0**
SOKA	**Soboth**	**7.96**	**318**	*e*Pn	**Pn**	**01 27 34.1**	**+1.0**
	comp=E,1.2nm,0.4s						
VYHS	**Vyhne**	**8.01**	**341**	*e*PN	**Pn**	**01 27 36.1**	**+2.5**
OBKA	**Obir**	**8.10**	**316**	*e*Pn	**Pn**	**01 27 35.7**	**+0.8**
OBKA	**Obir**	**8.10**	**316**	*e*Pn	**Pn**	**01 27 36.7**	**+1.7**
	comp=E,1.1nm,0.3s						
ARSA	**Arzberg**	**8.13**	**323**	*e*Pn	**Pn**	**01 27 37.2**	**+1.8**
	comp=E,0.9nm,0.3s						
MODS	**Modra-Piesok**	**8.35**	**334**	*e*PN	**Pn**	**01 27 40.2**	**+1.9**
MODS				*e*SN	**Sn**	**01 29 12.2**	**-0.3**
CONA	**Conrad Observa**	**8.51**	**327**	*e*Pn	**Pn**	**01 27 42.1**	**+1.6**
	comp=E,0.9nm,0.4s						
KBA	**Koelnbreinsper**	**9.10**	**315**	*e*Pn	**Pn**	**01 27 51.0**	**+2.2**
	comp=E,0.6nm,0.3s						

*IDC **25** 01:29:29.0±3.0, 37°.57N×142°.06E, h0km, mb3.2/2, mbtmp3.1/3, ML2.2/1, Error ellipse: s-maj=68.4km s-min=38.1km az=58.0*
*JMA **25** 01:29:34.5±0.2, 37°.2N±0°.3×141°.3E±1°.0, h23km±1km, MV2.6/33, E OFF FUKUSHIMA PREF*

ISC 25 01:29:33.5±1.6, 37°.18N±0°.05×141°.36E±0°.1, h10km, n9, σ0§44/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.35**	**303**	*e*P	**Pb**	**01 29 41.7**	**-0.2**
JFFD	**Fukushimafurud**	**0.55**	**261**	P	**Pb**	**01 29 45.4**	**+0.1**
JMST	**Minamisoumatoc**	**0.62**	**333**	*e*S	**Sb**	**01 29 55.2**	**+0.1**
JMM	**Marumori**	**0.78**	**332**	*e*P	**Pb**	**01 29 48.7**	**-0.4**
JMM				*e*S	**Sb**	**01 29 59.9**	**+0.1**
JHO	**Hitachi**	**0.78**	**224**	*e*P	**Pb**	**01 29 48.9**	**-0.4**

H01W2	**Cape Leeuwin H**	**44.86**	**111**	T	T	03 00 43.8		
	baz=261,slow=75,SNR=35							
H01W3	**Cape Leeuwin H**	**44.86**	**111**	T	T	03 00 44.1		
	baz=261,slow=75,SNR=35							
H01W1	**Cape Leeuwin H**	**44.88**	**111**	T	T	03 00 45.2		
	baz=261,slow=75,SNR=46							
WSAR	**Wadi Sarin**	**52.16**	**357**	LR	LR	02 30 48.3		
	comp=Z,48nm,21.3s,baz=186,slow=30							
RAYN	**Ar Rayn**	**54.50**	**342**	P	**P**	**02 14 17.6**	**-1.2**	
RAYN				IAmb	IAmb	02 14 22.5		
	comp=Z,11nm,1.4s							
BRDH	**Bariadhala**	**59.33**	**33**	LR	LR	02 39 50.1		
	comp=Z,48nm,18.1s,baz=284,slow=35							
CMAR	**Chiang Mai Arr**	**59.78**	**42**	P	**P**	**02 14 57.3**	**+1.1**	
	comp=Z,3.4nm,0.3s,baz=234,slow=7.1,SNR=8.8							
	comp=Z,3.4nm,0.3s							
CMAR	**Chiang Mai Arr**	**59.78**	**42**	P	**P**	**02 14 56.4**	**+0.2**	
CHTO	**Chiang Mai**	**60.05**	**42**	P	**P**	**02 14 57.2**	**-0.9**	
CHTO				IAmb	IAmb	02 15 35.8		
	comp=Z,11nm,1.4s							
KAPI	**Kappang**	**60.27**	**78**	P	**P**	**02 14 59.1**	**-0.7**	
QSPA	**South Pole Qui**	**60.99**	**180**	P	**P**	**02 15 03.8**	**-0.3**	
	comp=Z,3.3nm,0.8s,baz=248,slow=1.4,SNR=9.8							
QSPA				LR	LR	02 39 07.8		
	comp=Z,78nm,18.5s,baz=260,slow=34							
	comp=Z,3.3nm,0.8s							
QSPA	**South Pole Qui**	**60.99**	**180**	P	**P**	**02 15 04.6**	**+0.5**	
SHL	**Shillong**	**61.91**	**32**	P	**P**	**02 15 11.3**	**+0.4**	
EIL	**Elat**	**63.62**	**335**	LR	LR	02 39 38.9		
	comp=Z,78nm,19.5s,baz=268,slow=33							
VNDA	**Vanda**	**64.03**	**166**	P	**P**	**02 15 24.6**	**+0.5**	
	comp=Z,2.4nm,1.0s,baz=267,slow=7.7,SNR=14							
VNDA				LR	LR	02 41 19.1		
	comp=Z,126nm,18.2s,baz=255,slow=34							
	comp=Z,2.4nm,1.0s							
VNDA	**Vanda**	**64.03**	**166**	P	**P**	**02 15 24.1**	**0.0**	
VNDA				IAmb	IAmb	02 15 34.0		
	comp=Z,5.4nm,1.3s							
ASAR	**Alice Springs**	**64.46**	**104**	P	**P**	**02 15 27.8**	**0.0**	
	comp=Z,3.1nm,0.7s,baz=242,slow=6.3,SNR=36							
ASAR				LR	LR	02 40 24.5		
	comp=Z,41nm,20.0s,baz=180,slow=33							
	comp=Z,3.1nm,0.7s							
AS31	**Alice Springs**	**64.46**	**104**	P	**P**	**02 15 27.5**	**-0.3**	
WRA	**Warramunga Arr**	**66.28**	**100**	P	**P**	**02 15 40.0**	**+0.3**	
	comp=Z,3.4nm,0.9s,baz=246,slow=5.7,SNR=31							
WRA				LR	LR	02 40 50.6		
	comp=Z,78nm,19.5s,baz=266,slow=33							
	comp=Z,3.4nm,0.9s							
WRA	**Warramunga Arr**	**66.28**	**100**	P	**P**	**02 15 38.5**	**-1.1**	
WB2	**Warramunga Arr**	**66.29**	**100**	P	**P**	**02 15 39.4**	**-0.3**	
WB2				IAmb	IAmb	02 15 41.0		
	comp=Z,6.5nm,1.1s							
WRAB	**Tennant Creek**	**66.30**	**100**	P	**P**	**02 15 40.3**	**+0.5**	
MMAI	**Mount Meron Ar**	**66.48**	**337**	LR	LR	02 41 45.1		
	comp=Z,65nm,19.8s,baz=102,slow=33							
GEYT	**Alibeck**	**66.81**	**357**	LR	LR	02 42 21.1		
	comp=Z,44nm,20.5s,baz=164,slow=34							
STKA	**Stephens Creek**	**67.78**	**115**	P	**P**	**02 15 48.5**	**-0.5**	
	comp=Z,2.2nm,0.8s,baz=243,slow=6.8,SNR=3.6							
STKA				LR	LR	02 38 57.5		
	comp=Z,44nm,21.6s,baz=209,slow=30							
	comp=Z,2.2nm,0.8s							
GURO	**Guroymak-BITLI**	**69.69**	**344**	P	**P**	**02 16 01.2**	**+0.5**	
GURO				IAmb	IAmb	02 16 05.0		
	comp=Z,3.3nm,0.9s							
KK31	**Karatay Array**	**72.43**	**7**	P	**P**	**02 16 18.1**	**+1.0**	
KK31				IAmb	IAmb	02 16 34.7		
	comp=Z,4.4nm,1.4s							
KKAR	**Karatay Array**	**72.43**	**7**	P	**P**	**02 16 18.1**	**+1.1**	
AAK	**Ala-Archa**	**72.50**	**10**	LR	LR	02 44 23.4		
	comp=Z,32nm,20.0s,baz=192,slow=33							
AAK	**Ala-Archa**	**72.50**	**10**	P	**P**	**02 16 19.6**	**+1.9**	
AAK				IAmb	IAmb	02 16 22.1		
	comp=Z,3.2nm,0.8s							
DBIC	**Dimbokro**	**72.70**	**288**	P	**P**	**02 16 20.1**	**+0.8**	
	comp=Z,5.0nm,0.9s,baz=137,slow=7.5,SNR=4.6							
DBIC				LR	LR	02 48 10.8		
	comp=Z,56nm,18.1s,baz=148,slow=36							
	comp=Z,5.0nm,0.9s							
TOKA	**Tokat**	**72.83**	**340**	P	**P**	**02 16 20.7**	**+1.1**	
TOKA				IAmb	IAmb	02 16 25.4		
	comp=Z,4.1nm,1.1s							
BR131	**Keskin Array S**	**73.16**	**338**	P	**P**	**02 16 22.1**	**+0.4**	
BR131				IAmb	IAmb	02 16 25.1		
	comp=Z,2.7nm,0.9s							
BRTR	**Keskin Array B**	**73.16**	**338**	P	**P**	**02 16 21.8**	**+0.1**	
	comp=Z,1.6nm,0.8s,baz=163,slow=8.4,SNR=11							
	comp=Z,1.6nm,0.8s							
BRTR	**Keskin Array B**	**73.16**	**338**	P	**P**	**02 16 21.3**	**-0.4**	
CTA	**Charters Tower**	**76.37**	**106**	LR	LR	02 46 45.2		
	comp=Z,40nm,19.2s,baz=264,slow=33							
MKAR	**Makanchi Array**	**77.99**	**15**	P	**P**	**02 16 49.7**	**+0.7**	
	comp=Z,1.2nm,0.7s,baz=193,slow=3.7,SNR=13							
	comp=Z,1.2nm,0.7s							
MKAR	**Makanchi Array**	**77.99**	**15**	P	**P**	**02 16 49.4**	**+0.3**	
ABKAR	**Akbulak array**	**78.08**	**359**	P	**P**	**02 16 49.2**	**-0.2**	
CFR	**Carcaliu**	**79.86**	**337**	⇑P	**P**	**02 16 59.4**	**+0.1**	
MLR	**Muntele Rosu**	**80.90**	**336**	⇑P	**P**	**02 17 04.8**	**-0.3**	
MLR	**Muntele Rosu**	**80.90**	**336**	LR	LR	02 53 19.9		
	comp=Z,36nm,18.2s,baz=216,slow=36							
VRI	**Vrincioaia**	**80.95**	**336**	⇑P	**P**	**02 17 04.7**	**-0.4**	
PLOR	**Plostina**	**80.96**	**336**	⇓P	**P**	**02 17 05.5**	**+0.3**	
VOIR		**81.18**	**335**	⇓P	**P**	**02 17 05.0**	**-1.5**	
BVAR	**Borovoye Array**	**82.24**	**6**	LR	LR	02 51 23.4		
	comp=Z,53nm,21.3s,baz=197,slow=34							
BZS	**Buzias**	**82.64**	**333**	⇑P	**P**	**02 17 12.7**	**-1.3**	
BUR01	**Bucovina Ar. S**	**82.98**	**336**	⇑P	**P**	**02 17 16.4**	**+0.4**	
BURAR	**Bucovina Array**	**82.98**	**336**	P	**P**	**02 17 15.5**	**-0.4**	
AKASG	**Malin Array Be**	**84.38**	**340**	P	**P**	**02 17 21.7**	**-1.2**	
	comp=Z,1.2nm,0.5s,baz=155,slow=4.2,SNR=5.3							
	comp=Z,1.2nm,0.5s							
ZAA0	**Zalesovo Array**	**85.27**	**14**	P	**P**	**02 17 28.9**	**+1.6**	
ZAA0				IAmb	IAmb	02 17 40.2		
	comp=Z,4.3nm,1.1s							
ZALV	**Zalesovo Beam**	**85.27**	**14**	P	**P**	**02 17 28.9**	**+1.6**	
	comp=Z,2.4nm,0.8s,baz=229,slow=1.4,SNR=5.8							
	comp=Z,2.4nm,0.8s							
ZALV	**Zalesovo Beam**	**85.27**	**14**	P	**P**	**02 17 29.1**	**+1.9**	
OBN	**Obninsk**	**86.55**	**346**	LR	LR	02 56 34.0		
	comp=Z,9.3nm,18.6s,baz=342,slow=36							
SONM	**Songino Array**	**86.76**	**29**	P	**P**	**02 17 34.4**	**-0.5**	
	comp=Z,0.3nm,0.3s,baz=174,slow=5.8,SNR=3.5							
	comp=Z,0.3nm,0.3s							
ULN	**Ulaanbaatar**	**87.06**	**29**	P	**P**	**02 17 36.5**	**0.0**	
ULN				IAmb	IAmb	02 18 08.7		
	comp=Z,6.0nm,1.4s							
VRAC	**Vranov**	**87.63**	**333**	LR	LR	02 57 15.7		
	comp=Z,19nm,19.0s,baz=204,slow=36							
MDT	**Midelt**	**87.65**	**310**	LR	LR	02 57 07.5		
	comp=Z,68nm,18.4s,baz=136,slow=36							
ESDC	**Sonseca Array**	**91.38**	**316**	P	**P**	**02 17 58.1**	**+1.2**	
	comp=Z,1.5nm,1.0s,baz=101,slow=2.2,SNR=5.0							
	comp=Z,1.5nm,1.0s							
HNR	**Honiara**	**93.05**	**102**	LR	LR	02 55 35.7		
	comp=Z,367nm,20.4s,baz=154,slow=33							
NOA	**NORSAR Array B**	**98.60**	**338**	LR	LR	03 04 14.8		
	comp=Z,20nm,18.1s,baz=285,slow=36							
T57A	**Hurt**	**146.10**	**294**	PKPbc	**PKPab**	**02 24 32.1**	**+0.3**	
YKA	**Yellowknife Ar**	**146.55**	**356**	PKPbc	**PKPdf**	**02 24 29.5**	**-0.7**	
	comp=Z,1.8nm,0.8s,baz=346,slow=2.7,SNR=6.0							
Q54A	**Coxs Mills**	**147.22**	**298**	PKPbc	**PKPbc**	**02 24 34.5**	**+0.2**	
PAULI	**Pauline**	**148.21**	**290**	PKPbc	**PKPbc**	**02 24 36.7**	**-0.5**	
P51A	**Williamsport**	**148.88**	**299**	PKPbc	**PKPbc**	**02 24 38.6**	**-0.1**	
W52A	**Murphy**	**149.94**	**290**	PKPbc	**PKPbc**	**02 24 40.6**	**-1.0**	
ULM	**Lac du Bonnet**	**152.70**	**327**	PKPbc	**PKPbc**	**02 24 45.3**	**-2.2**	
	comp=Z,3.6nm,0.7s,baz=30,slow=4.3,SNR=5.6							
PDAR	**Pinedale Array**	**164.50**	**334**	PKP	**PKPdf**	**02 24 55.6**	**+0.6**	
	comp=Z,1.1nm,0.9s,baz=147,slow=3.0,SNR=5.7							
TXAR	**Lajitas Array**	**166.73**	**274**	PKP	**PKPdf**	**02 24 56.9**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=151,slow=2.9,SNR=5.2							
NVAR	**Mina Array Bea**	**170.75**	**357**	PKP	**PKPdf**	**02 24 59.9**	**+0.3**	
	comp=Z,0.6nm,0.8s,baz=191,slow=3.4,SNR=2.5							

WEL 25 02:19:13.4±0.3,42°S±3°×17°4E±°, h10km±3km, M3.1/24, ML3.7/21, MLv3.1/24, Error ellipse: s-maj=0.0km s-min=0.0km az=138.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**299**	P	Pg	02 19 16.8	+1.2
CMWZ				S	Sg	02 19 19.6	+2.3
BSWZ	**Blackbirch Sta**	**0.32**	**282**	P	Pg	02 19 20.1	+0.3
TUWZ	**Tuamarina**	**0.44**	**323**	P	Pb	02 19 22.6	-0.6
TUWZ				S	Sg	02 19 28.3	+0.5
TCW	**Tory Channel**	**0.57**	**359**	P	Pg	02 19 25.0	+0.5
TCW				S	Sb	02 19 33.5	-0.2
TCW	**Tory Channel**	**0.57**	**359**	S	Sb	02 19 33.8	+0.2
WEL	**Wellington**	**0.61**	**36**	P	Pb	02 19 26.5	+0.3
WEL	**Wellington**	**0.61**	**36**	S	Sn	02 19 38.7	+0.6
PLWZ	**Palliser**	**0.75**	**74**	P	Pb	02 19 28.9	+0.3
MSWZ	**Moikau Station**	**0.81**	**63**	P	Pb	02 19 29.9	+0.4
KHZ	**Kahutara**	**0.85**	**221**	P	Pb	02 19 30.0	-0.2
KHZ	**Kahutara**	**0.85**	**221**	S	Sb	02 19 42.7	+1.1
NNZ	**Nelson**	**0.89**	**309**	P	Pg	02 19 30.4	-0.1
CAW	**Cannon Point**	**0.89**	**41**	P	Pb	02 19 31.3	+0.3
PAWZ	**Paruwai Farm**	**0.94**	**65**	P	Pg	02 19 31.6	+0.1
DUWZ	**D'Urville Isla**	**1.02**	**344**	P	Pg	02 19 32.9	-0.1
KIW	**Kapiti Island**	**1.03**	**27**	P	Pb	02 19 33.4	0.0
THZ	**Tophouse**	**1.04**	**271**	P	Pg	02 19 33.4	0.0
MTW	**Mount Morrison**	**1.10**	**56**	P	Pb	02 19 33.8	-0.8
TRWZ	**Traveller**	**1.11**	**70**	P	Pb	02 19 33.6	-1.2
OGWZ	**Otaki Gorge**	**1.17**	**35**	P	Pb	02 19 35.5	-0.2
MRNZ	**Matariki Terra**	**1.21**	**288**	P	Pn	02 19 36.0	-0.4
TKNZ	**Takaka Hill**	**1.25**	**306**	P	Pn	02 19 36.6	-0.4
HOWZ	**Holdsworth Sta**	**1.28**	**47**	P	Pg	02 19 38.1	+0.1
TMWZ	**Te Maipa**	**1.38**	**61**	P	Pn	02 19 37.6	-1.1
MRZ	**Mangatainoka R**	**1.48**	**41**	P	Pn	02 19 39.4	-0.8
TIWZ	**Tintock**	**1.57**	**51**	P	Pn	02 19 40.6	-0.7
QRZ	**Quartz Range**	**1.64**	**305**	P	Pn	02 19 42.9	+0.7
PRWZ	**Pori Road**	**1.76**	**47**	P	Pn	02 19 43.0	-1.0
POWZ	**Post Office Ro**	**1.78**	**39**	P	Pn	02 19 43.9	-0.3
BFZ	**Birch Farm**	**1.84**	**54**	P	Pn	02 19 44.2	-0.9
DVHZ	**Dannevirke**	**2.05**	**44**	P	Pg	02 19 52.2	-0.5
WAZ	**Wanganui**	**2.09**	**15**	P	Pb	02 19 51.9	+0.5
TSZ	**Takapari Road**	**2.14**	**37**	P	Pb	02 19 51.4	-0.8
PRHZ	**Porangahau**	**2.33**	**50**	P	Pn	02 19 52.5	+0.7
PNHZ	**Pukenui**	**2.36**	**38**	P	Pn	02 19 51.3	-1.6
KHEZ	**Kahui Hut**	**2.49**	**355**	P	Pb	02 19 58.9	+0.6
PKE	**Pukeiti**	**2.59**	**355**	P	Pb	02 19 57.8	-2.3
MOVZ	**Moawhango**	**2.62**	**26**	P	Pb	02 20 00.2	-0.3
WNVZ	**Wahianoa**	**2.65**	**23**	P	Pb	02 20 01.3	+0.3
BHHZ	**Black Hill Sta**	**2.66**	**31**	P	Pb	02 20 01.2	+0.1
VRZ	**Vera Road**	**2.68**	**8**	P	Pb	02 19 59.5	-1.9
WHVZ	**Whangaehu Hut**	**2.68**	**22**	P	Pn	02 19 58.7	+1.9
FWVZ	**Far West T-bar**	**2.70**	**21**	P	Pb	02 20 03.0	+1.1
OTVZ	**Oturere**	**2.82**	**22**	P	Pn	02 19 59.3	+0.6
NNVZ	**North Ngauruho**	**2.83**	**21**	P	Pb	02 20 03.0	-1.2
ETVZ	**East Tongariro**	**2.85**	**23**	P	Pb	02 20 03.8	-0.8
TMVZ	**Te Maari**	**2.87**	**22**	P	Pn	02 19 59.5	+0.1
TMVZ				P	Pb	02 20 04.2	-0.7
KRVZ	**Karewarewa**	**2.87**	**21**	P	Pb	02 20 05.7	+0.9
NTVZ	**North Tongarir**	**2.88**	**22**	P	Pn	02 19 59.6	+0.2
KATZ	**Kakaramea**	**3.00**	**21**	P	Pb	02 20 07.5	+0.5
HIZ	**Hauiti**	**3.29**	**8**	P	Pn	02 20 08.3	+3.3

WEL 25 02:19:49.1±0.3,42°S±3°×17°4E±°, h10km±3km, M3.5/26, ML3.7/20, MLv3.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=139.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.07**	**306**	P	Pg	02 19 52.6	+1.3
CMWZ				S	Sg	02 19 55.5	+2.5
BSWZ	**Blackbirch Sta**	**0.32**	**284**	P	Pg	02 19 55.7	+0.2
BSWZ				S	Sb	02 20 01.1	-1.1
TUWZ	**Tuamarina**	**0.45**	**324**	P	Pg	02 19 58.4	+0.6
TUWZ				S	Sb	02 20 04.8	-1.0
TCW	**Tory Channel**	**0.58**	**359**	P	Pg	02 20 00.6	+0.3
WEL	**Wellington**	**0.62**	**35**	P	Pb	02 20 01.9	-0.1
PLWZ	**Palliser**	**0.75**	**73**	P	Pb	02 20 04.6	+0.3
MSWZ	**Moikau Station**	**0.81**	**63**	P	Pb	02 20 05.7	+0.4
KHZ	**Kahutara**	**0.84**	**222**	P	Pb	02 20 05.7	-0.1
NNZ	**Nelson**	**0.90**	**310**	P	Pg	02 20 06.5	+0.1
CAW	**Cannon Point**	**0.90**	**41**	P	Pb	02 20 06.7	0.0
PAWZ	**Paruwai Farm**	**0.94**	**65**	P	Pg	02 20 07.2	-0.1
DUWZ	**D'Urville Isla**	**1.03**	**344**	P	Pg	02 20 08.9	+0.1
THZ	**Tophouse**	**1.04**	**271**	P	Pg	02 20 09.0	-0.1
KIW	**Kapiti Island**	**1.04**	**27**	P	Pb	02 20 09.3	+0.1
MTW	**Mount Morrison**	**1.11**	**55**	P	Pb	02 20 09.5	-0.8
TRWZ	**Traveller**	**1.12**	**70**	P	Pb	02 20 09.2	-1.3
OGWZ	**Otaki Gorge**	**1.18**	**34**	P	Pb	02 20 11.3	-0.2
MRNZ	**Matariki Terra**	**1.22**	**288**	P	Pn	02 20 11.9	-0.3
TKNZ	**Takaka Hill**	**1.26**	**307**	P	Pn	02 20 12.3	-0.4
MRZ	**Mangatainoka R**	**1.49**	**41**	P	Pn	02 20 14.9	-1.0
GVZ	**Greta Valley S**	**1.50**	**218**	P	Pn	02 20 15.0	-1.1
QRZ	**Quartz Range**	**1.64**	**305**	P	Pb	02 20 18.7	-0.7
PRWZ	**Pori Road**	**1.77**	**46**	P	Pn	02 20 18.5	-1.2
POWZ	**Post Office Ro**	**1.79**	**39**	P	Pn	02 20 19.5	-0.5
LTZ	**Lake Taylor**	**1.80**	**236**	P	Pn	02 20 19.2	-1.0
DSZ	**Denniston Nort**	**1.86**	**271**	P	Pn	02 20 22.1	+1.0

*IDC **25** 02:26:46.6±2.4, 35°.04N×6°.39E, h0km, mb3.3/5, mbtmp3.4/7, ML3.0/2, MS2.8/3, Error ellipse: s-maj=50.9km s-min=25.4km az=177.0*
*CRAAG **25** 02:26:49.1, 34°.77N×6°.30E, Ml3.6*
*LDG **25** 02:26:51.6±0.2, 34°.84N×6°.19E, h10km, Ml3.4/12, Error ellipse: s-maj=4.4km s-min=2.8km az=149.0*
*CNRM **25** 02:26:55.1, 35°.02N×5°.48E, h0km*
*MDD **25** 02:26:57.4±0.9, 35°.07N×5°.86E, h144km±78km, Mb3.4/18, Error ellipse: s-maj=12.9km s-min=4.2km az=145.0*
ISC 25 02:26:47.9±1.1, 34°.89N±0°.07×6°.18E±0°.06, h10km, n49, σ2°65/71, mb3.4/5, 14C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**1.18**	**9**	P	**Pn**	**02 27 12.8**	**+2.2**
CKHR	**Kef el Ahmar**	**1.25**	**334**	P	**Pn**	**02 27 14.6**	**+3.1**
CASM	**Ain Smara**	**1.39**	**10**	P	**Pb**	**02 27 15.4**	**+1.5**
SET	**Setif**	**1.45**	**334**	P	**Pg**	**02 27 19.0**	**+3.3**
CKFL	**Kef-Lekhel**	**1.57**	**16**	P	**Pn**	**02 27 18.2**	**+2.3**
DFRA	**Djebel Bou Aff**	**1.67**	**352**	P	**Pn**	**02 27 14.6**	**-2.6**
CMAH	**Djebel Manchou**	**2.00**	**30**	P	**Pn**	**02 27 23.0**	**+1.2**
KEST	**Kesra**	**2.72**	**71**	Pn	**Pn**	**02 27 32.1**	**+0.4**
	1.9nm,0.3s,baz=119,slow=5.8,SNR=72						
KEST				Sn	**Sn**	**02 28 02.2**	**-2.5**
	9.0nm,0.3s,baz=188,slow=19,SNR=7.0						
ETOS	**Mallorca**	**5.55**	**332**	Pn	**Pn**	**02 28 13.4**	**+2.9**
ETOS				⇑iVmb_V		02 28 17.2	
	210nm,SNR=0.5						
ETOS				Sn	**Sn**	**02 29 12.2**	**-2.3**
CART	**Cartagena**	**6.39**	**297**	P	**Pn**	**02 28 19.7**	**-2.4**
EMUR	**La Murta**	**6.67**	**298**	Pn	**Pn**	**02 28 27.2**	**+1.3**
EMUR				⇑iVmb_V		02 28 30.5	
	122nm,SNR=0.9						
EMUR				Sn	**Sn**	**02 29 38.2**	**-3.9**
FIGM	**Figuig**	**6.80**	**248**	P	**Pn**	**02 28 28.2**	**+0.4**
FIGM				S	**Sn**	**02 29 43.0**	**-2.3**
EZAR	**Zarzadilla de**	**7.01**	**297**	Pn	**Pn**	**02 28 31.1**	**+0.4**
EZAR				⇑iVmb_V		02 28 33.1	
	183nm,SNR=1.0						
EZAR				Sn	**Sn**	**02 29 48.0**	**-2.5**
TAF	**Taforalt**	**7.07**	**272**	P	**Pn**	**02 28 32.8**	**+1.3**
ENIJ	**Nijar**	**7.11**	**289**	Pn	**Pn**	**02 28 34.0**	**+2.0**
ENIJ				⇑iVmb_V		02 28 35.1	
	128nm,SNR=0.7						
ENIJ				Sn	**Sn**	**02 29 49.6**	**-3.3**
JBK	**JBK**	**7.23**	**268**	P	**Pn**	**02 28 35.4**	**+1.6**
ETOB	**Tobarra**	**7.24**	**303**	Pn	**Pn**	**02 28 36.3**	**+2.5**
ETOB				⇑iVmb_V		02 28 38.7	
	106nm,SNR=0.6						
ETOB				Sn	**Sn**	**02 29 54.8**	**-1.4**
ECHE	**Chera**	**7.38**	**312**	Pn	**Pn**	**02 28 37.1**	**+1.4**
ECHE				⇑iVmb_V		02 28 39.2	
	94nm,SNR=0.4						
ECHE				Sn	**Sn**	**02 29 56.3**	**-3.1**
EMOS	**Mosqueruela**	**7.59**	**318**	Pn	**Pn**	**02 28 42.3**	**+3.6**
EMOS				⇑iVmb_V		02 28 44.2	
	175nm,SNR=0.6						
EMOS				Sn	**Sn**	**02 30 02.6**	**-2.3**
EPOB	**Poblet**	**7.60**	**330**	Pn	**Pn**	**02 28 41.3**	**+2.6**
EPOB				⇑iVmb_V		02 28 43.3	
	128nm,SNR=1.2						
EPOB				Sn	**Sn**	**02 30 01.0**	**-3.9**
ERTA	**Horta de San J**	**7.61**	**324**	Pn	**Pn**	**02 28 41.5**	**+2.7**
ERTA				⇑iVmb_V		02 28 44.0	
	97nm,SNR=0.9						
ERTA				Sn	**Sn**	**02 30 01.8**	**-3.4**
EBER	**Berja**	**7.63**	**288**	Pn	**Pn**	**02 28 41.0**	**+1.8**
EBER				⇑iVmb_V		02 28 43.1	
	149nm,SNR=0.7						
EBER				Sn	**Sn**	**02 30 03.1**	**-2.7**
EMIR	**Miracle**	**7.90**	**334**	⇑iVmb_V		02 28 48.4	
	312nm,SNR=1.2						
EMIR				Sn	**Sn**	**02 30 09.6**	**-2.8**
PGF	**Pioggiola**	**7.95**	**15**	*e*Pn	**Pn**	**02 28 45.0**	**+1.4**
PGF				*e*Sn	**Sn**	**02 30 10.8**	**-2.9**
	2.1nm,0.3s						
EJON	**La Jonquera**	**7.97**	**342**	Pn	**Pn**	**02 28 45.4**	**+1.7**
EJON				⇑iVmb_V		02 28 46.7	
	164nm,SNR=0.6						
EJON				Sn	**Sn**	**02 30 12.4**	**-1.5**
EQES	**Quesada**	**8.01**	**294**	Pn	**Pn**	**02 28 47.2**	**+2.9**
EQES				⇑iVmb_V		02 28 51.9	
	178nm,SNR=1.3						
EQES				Sn	**Sn**	**02 30 10.9**	**-4.2**
ELGU	**Los Guajares,**	**8.20**	**287**	Pn	**Pn**	**02 28 48.0**	**+1.0**
ELGU				⇑iVmb_V		02 28 50.6	
	95nm,SNR=0.9						
ELGU				Sn	**Sn**	**02 30 14.5**	**-5.2**
PALE	**Palemas**	**8.30**	**275**	P	**Pn**	**02 28 52.4**	**+4.0**
LMR	**La Mourre**	**8.43**	**2**	*e*Pn	**Pn**	**02 28 51.5**	**+1.5**
LMR				*e*Sn	**Sn**	**02 30 21.8**	**-3.5**
	5.8nm,0.3s						
MTLF	**Montolieu**	**8.98**	**341**	*e*Pn	**Pn**	**02 28 59.6**	**+2.0**
MTLF				*e*Sn	**Sn**	**02 30 35.4**	**-3.3**
	1.0nm,0.2s						
SBF	**Sospel**	**9.01**	**6**	*e*Pn	**Pn**	**02 28 59.9**	**+1.9**
SMRF	**Simiane la Rot**	**9.08**	**357**	*e*Pn	**Pn**	**02 29 00.8**	**+1.8**
SMRF				*e*Sn	**Sn**	**02 30 37.9**	**-3.4**
	1.4nm,0.3s						
MDT	**Midelt**	**9.21**	**260**	Pn	**Pn**	**02 29 03.0**	**+2.2**
	0.2nm,0.3s,baz=87,slow=16,SNR=13						
	1.8nm,0.6s						
EPF	**Esparros**	**9.31**	**333**	*e*Pn	**Pn**	**02 29 05.4**	**+3.3**
EPF				*e*Sn	**Sn**	**02 30 43.3**	**-3.6**
	2.5nm,0.4s						
MD31	**MD31**	**9.32**	**261**	P	**Pn**	**02 29 03.5**	**+1.2**
LASF	**Ste Croix**	**9.34**	**350**	*e*Pn	**Pn**	**02 29 04.4**	**+1.8**
LASF				*e*Sn	**Sn**	**02 30 44.1**	**-3.6**
	3.2nm,0.3s						
ESDC	**Sonseca Array**	**9.38**	**304**	Pn	**Pn**	**02 29 05.3**	**+2.2**
	baz=117,slow=14,SNR=1.6						
	0.5nm,0.8s						
ETSF	**Etsaut**	**9.56**	**329**	*e*Pn	**Pn**	**02 29 07.6**	**+2.0**
ETSF				*e*Sn	**Sn**	**02 30 49.4**	**-3.7**
	1.9nm,0.4s						
ORIF	**Oris-en-Rattie**	**10.02**	**359**	*e*Pn	**Pn**	**02 29 14.0**	**+2.2**
SJPF	**Ste Jean**	**10.02**	**327**	*e*Pn	**Pn**	**02 29 14.0**	**+2.1**
SJPF				*e*Sn	**Sn**	**02 31 00.4**	**-4.0**
	1.4nm,0.4s						
CAF	**Calviac**	**10.50**	**344**	*e*Pn	**Pn**	**02 29 20.3**	**+1.8**
CAF				*e*Sn	**Sn**	**02 31 12.0**	**-4.2**
	0.8nm,0.3s						
LFF	**La Frestale**	**10.87**	**339**	*e*Pn	**Pn**	**02 29 25.5**	**+2.1**
GERES	**GERESS Array B**	**15.01**	**20**	Pn	**Pn**	**02 30 22.1**	**+2.0**
	0.2nm,0.3s,baz=212,slow=10,SNR=3.1						
GERES				LR	LR	02 36 10.7	
	comp=Z,42nm,21.8s,

0.4nm,0.6s,baz=205,slow=4.0,SNR=2.1
0.4nm,0.6s
HFS Hagfors 142.61 349 PKhKP PKPpre 02 57 58.1
1.3nm,0.3s,baz=36,slow=2.1,SNR=22
AKASG Malin Array Be 145.08 327 PKP **PKPdf 02 58 06.0 -1.7**
0.7nm,0.5s,baz=44,slow=3.8,SNR=6.0
MMAI Mount Meron Ar 147.85 294 PKPbc **PKPbc 02 58 16.0 -0.7**
0.9nm,0.5s,baz=63,slow=7.0,SNR=2.2

---

*IDC **25** 02:40:15.2ₛ0.8, 12°.27N×88°.90W, h0ᵏᵐ, mb4.1/12, mbtmp4.2/14, ML3.7/2, MS3.5/20, Error ellipse: s-maj=30.2km s-min=15.0km az=48.0*
*NEIC **25** 02:40:17.6ₛ1.8, 12°.16N±0°.06×89°.01W±0°.07, h10ᵏᵐ±1ᵏᵐ, mb4.7/155, Md4.7(SNET), Error ellipse: s-maj=13.0km s-min=7.6km az=226.0*
*SNET **25** 02:40:17.2ₛ1.6, 11°.99N×89°.17W, h35ᵏᵐ, ML4.7*
*INET **25** 02:40:19.6ₛ0.8, 12°.14N×89°.06W, h15ᵏᵐ, MW4.2*
*UCR **25** 02:40:20.3ₛ2.7, 12°.20N×89°.06W, h36ᵏᵐ±15ᵏᵐ, mb4.7(NEIC)*
*GCG **25** 02:40:20.4ₛ0.6, 12°.41N×89°.53W, h182ᵏᵐ±22ᵏᵐ, MD4.2*
ISC 25 02:40:18.3ₛ2.3, 12°.13N±0°.05×89°.11W±0°.05, h24ᵏᵐ±17ᵏᵐ, n406, σ1§08/354, mb4.6/77, MS3.6/19, 4C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**1.30**	**24**	*eP*	**Pn**	**02 40 41.2**	**+0.2**
ALJI	**Alcalda de J**	**1.30**	**24**	*eP*	**Pn**	**02 40 41.2**	**+0.2**
COEB	**Comit de Eme**	**1.47**	**22**	*eP*	**Pn**	**02 40 43.6**	**+0.1**
COEB	**Comit de Eme**	**1.47**	**22**	*eP*	**Pn**	**02 40 43.6**	**+0.1**
SJTE	**Alcalda de S**	**1.48**	**4**	*eP*	**Pn**	**02 40 43.4**	**-0.2**
SJTE	**Alcalda de S**	**1.48**	**4**	*eP*	**Pn**	**02 40 43.4**	**-0.2**
LFRS	**El Faro**	**1.48**	**2**	*eP*	**Pn**	**02 40 43.6**	**-0.1**
LFRS	**El Faro**	**1.48**	**2**	*eP*	**Pn**	**02 40 43.6**	**-0.1**
COEG	**Centro de Oper**	**1.50**	**8**	*eP*	**Pn**	**02 40 43.5**	**-0.3**
COEG	**Centro de Oper**	**1.50**	**8**	*eP*	**Pn**	**02 40 43.5**	**-0.3**
PACA	**Pacayal**	**1.53**	**30**	*eP*	**Pn**	**02 40 45.0**	**+0.6**
PACA	**Pacayal**	**1.53**	**30**	*eP*	**Pn**	**02 40 45.0**	**+0.6**
PACA	**Pacayal**	**1.53**	**30**	*eP*	**Pn**	**02 40 45.0**	**+0.6**
JAYA	**Jayaque - finc**	**1.55**	**348**	*eP*	**Pn**	**02 40 44.3**	**-0.3**
JAYA	**Jayaque - finc**	**1.55**	**348**	*eP*	**Pn**	**02 40 44.3**	**-0.3**
SNET	**Serv Nac Est T**	**1.55**	**355**		**Pn**	**02 40 44.6**	**-0.1**
SNET					Sn	**Sn**	**02 41 04.2**	**+0.2**
SNET	**Serv Nac Est T**	**1.55**	**355**	*eP*	**Pn**	**02 40 44.5**	**-0.1**
SNET	**Serv Nac Est T**	**1.55**	**355**	*eP*	**Pn**	**02 40 44.5**	**-0.1**
SNET	**Serv Nac Est T**	**1.55**	**355**	*eP*	**Pn**	**02 40 44.7**	**+0.1**
UEES	**Universidad Ev**	**1.58**	**355**	*eP*	**Pn**	**02 40 44.8**	**-0.2**
UEES	**Universidad Ev**	**1.58**	**355**	*eP*	**Pn**	**02 40 44.8**	**-0.2**
LBRS	**Las Brisas**	**1.60**	**2**	*eP*	**Pn**	**02 40 45.8**	**+0.5**
LBRS	**Las Brisas**	**1.60**	**2**	*eP*	**Pn**	**02 40 45.8**	**+0.5**
BOQS	**Boqueron**	**1.60**	**354**	*eP*	**Pn**	**02 40 45.7**	**+0.3**
BOQS	**Boqueron**	**1.60**	**354**	*eP*	**Pn**	**02 40 45.7**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.60**	**13**	*eP*	**Pn**	**02 40 45.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.60**	**13**	*eP*	**Pn**	**02 40 45.6**	**+0.4**
LFU	**La Fuente**	**1.61**	**360**	*eP*	**Pn**	**02 40 45.6**	**+0.3**
LFU	**La Fuente**	**1.61**	**360**	*eP*	**Pn**	**02 40 45.6**	**+0.3**
LCND	**La Caada**	**1.67**	**45**	*eP*	**Pn**	**02 40 46.2**	**+0.2**
LCND	**La Caada**	**1.67**	**45**	*eP*	**Pn**	**02 40 46.2**	**+0.2**
CNCH	**Conchagua**	**1.68**	**47**	*eP*	**Pn**	**02 40 46.7**	**+0.3**
CNCH	**Conchagua**	**1.68**	**47**	*eP*	**Pn**	**02 40 46.7**	**+0.3**
CEDA	**San Andres**	**1.69**	**350**	*eP*	**Pn**	**02 40 46.5**	**+0.1**
CEDA				*eS*	**Sn**	**02 41 06.7**	**-0.5**
CEDA	**San Andres**	**1.69**	**350**	*eP*	**Pn**	**02 40 46.5**	**+0.1**
CEDA				*eS*	**Sn**	**02 41 06.7**	**-0.5**
CEVE	**Cerro Verde**	**1.76**	**343**	*eP*	**Pn**	**02 40 47.8**	**+0.2**
CEVE	**Cerro Verde**	**1.76**	**343**	*eP*	**Pn**	**02 40 47.8**	**+0.2**
SBLS	**San Blas**	**1.77**	**343**	*eP*	**Pn**	**02 40 47.6**	**-0.2**
SBLS	**San Blas**	**1.77**	**343**	*eP*	**Pn**	**02 40 47.6**	**-0.2**
SNJE	**San Jose**	**1.79**	**344**	*eP*	**Pn**	**02 40 47.8**	**-0.2**
SNJE	**San Jose**	**1.79**	**344**	*eP*	**Pn**	**02 40 47.8**	**-0.2**
RTR	**El Retiro**	**1.83**	**343**	*eP*	**Pn**	**02 40 48.9**	**+0.3**
RTR	**El Retiro**	**1.83**	**343**	*eP*	**Pn**	**02 40 48.9**	**+0.3**
P5NO	**Presa 5 de nov**	**1.88**	**10**	*eP*	**Pn**	**02 40 49.6**	**+0.6**
NUBE	**Las Nubes**	**1.88**	**340**	*eP*	**Pn**	**02 40 48.8**	**-0.3**
NUBE				*eS*	**Sn**	**02 41 11.0**	**-1.2**
NUBE	**Las Nubes**	**1.88**	**340**	*eP*	**Pn**	**02 40 48.8**	**-0.3**
NUBE				*eS*	**Sn**	**02 41 11.0**	**-1.2**
SLOZ	**Alcaldia de Sa**	**2.00**	**341**	*eP*	**Pn**	**02 40 50.7**	**0.0**
CRIN	**San Cristobal**	**2.09**	**74**		**Pn**	**02 40 52.2**	**+0.4**
CRIN	**San Cristobal**	**2.09**	**74**	*eP*	**Pn**	**02 40 52.3**	**+0.4**
CRIN				*eS*	**Sb**	**02 41 21.7**	**+0.6**
MTO3	**Montecristo**	**2.27**	**354**		**Pn**	**02 40 55.5**	**+0.9**
MTO3	**Montecristo**	**2.27**	**354**	*eP*	**Pn**	**02 40 55.5**	**+0.9**
MTO3	**Montecristo**	**2.27**	**354**	*eP*	**Pn**	**02 40 55.5**	**+0.9**
MTO3	**Montecristo**	**2.27**	**354**	*eP*	**Pn**	**02 40 55.5**	**+0.9**
CNGN	**Cerro Negro**	**2.38**	**81**		**Pn**	**02 40 55.0**	**-0.9**
ESQI	**Esquipulas**	**2.43**	**355**		**Pn**	**02 40 57.4**	**+0.7**
ESQI	**Esquipulas**	**2.43**	**355**	*eP*	**Pn**	**02 40 57.9**	**+1.3**
ESQI				*eS*	**Sn**	**02 41 26.6**	**+1.0**
MOMN	**Momotombo**	**2.52**	**83**	*eP*	**Pn**	**02 40 57.5**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.62**	**43**		**Pn**	**02 41 00.0**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.62**	**43**	*eP*	**Pn**	**02 41 00.4**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.62**	**43**	*eP*	**Pn**	**02 41 00.4**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.62**	**43**	*eP*	**Pn**	**02 41 00.7**	**+1.4**
PCG	**Pacaya**	**2.68**	**327**	*eP*	**Pn**	**02 41 01.5**	**+1.2**
PCG				*eS*	**Sn**	**02 41 34.3**	**+2.1**
NBG	**Las Nubes**	**2.73**	**334**	*eP*	**Pn**	**02 41 02.9**	**+2.0**
NBG				*eS*	**Sn**	**02 41 35.4**	**+2.2**
MGAN	**Managua**	**2.79**	**89**	*eP*	**Pn**	**02 41 01.6**	**0.0**
WILN	**Americas 2**	**2.85**	**89**	*eP*	**Pn**	**02 41 02.6**	**+0.3**
FUG	**Fuego 3**	**2.86**	**324**	*eP*	**Pn**	**02 41 02.4**	**-0.2**
FUG				*eS*	**Sn**	**02 41 36.9**	**+0.5**
HUEN		**2.87**	**86**	*eP*	**Pn**	**02 41 02.7**	**0.0**
MRL	**Marmol**	**2.99**	**349**	*eP*	**Pn**	**02 41 06.7**	**+2.2**
MRL				*eS*	**Sn**	**02 41 42.9**	**+3.3**
MATN	**Matagalpa**	**3.20**	**75**		**Pn**	**02 41 06.0**	**-1.3**
MATN	**Matagalpa**	**3.20**	**75**	*eP*	**Pn**	**02 41 06.0**	**-1.3**
BOAB	**BOACO BROADBAN**	**3.38**	**84**	Pn	**Pn**	**02 41 09.0**	**-0.5**
RTAL	**Retalhuleu**	**3.47**	**314**	Pn	**Pn**	**02 41 13.2**	**+2.3**
STG3	**Santiaguito 3,**	**3.51**	**317**	*eP*	**Pn**	**02 41 11.4**	**-0.3**
STG3				*eS*	**Sn**	**02 41 50.6**	**-2.0**
GBS3	**Finca Las Img**	**3.82**	**110**	*eP*	**Pn**	**02 41 17.5**	**+1.8**
LAPC	**Finca la Perla**	**3.85**	**110**	*eP*	**Pn**	**02 41 17.6**	**+1.5**
LAPC				*eS*	**Sn**	**02 42 00.7**	**+0.1**
ACON	**Acoyapa**	**3.85**	**92**	Pn	**Pn**	**02 41 15.6**	**-0.5**
ACON	**Acoyapa**	**3.85**	**92**	*eP*	**Pn**	**02 41 15.5**	**-0.6**
BUEV	**Buena Vista**	**3.86**	**110**	*eP*	**Pn**	**02 41 18.2**	**+1.8**
GB1A	**Borinquen Arri**	**3.86**	**109**	*eP*	**Pn**	**02 41 18.2**	**+1.9**
SAJU	**San Juanillo,**	**3.91**	**121**	*eP*	**Pn**	**02 41 17.1**	**+0.2**
SAJU				*eS*	**Sn**	**02 41 58.0**	**-4.1**
GPS2	**Hotel Rincn d**	**3.92**	**110**	*eP*	**Pn**	**02 41 19.4**	**+2.2**
HUEH	**Huehuetenango**	**3.93**	**324**		**Pn**	**02 41 18.3**	**+0.8**
ORTG	**Ortega, Santa**	**3.98**	**116**	Pn	**Pn**	**02 41 18.0**	**0.0**
ORTG	**Ortega, Santa**	**3.98**	**116**	‖ *iP*	**Pn**	**02 41 19.0**	**+1.0**
ORTG				*eS*	**Sn**	**02 42 02.9**	**-1.2**
ORTG	**Ortega, Santa**	**3.98**	**116**	*eP*	**Pn**	**02 41 18.8**	**+0.7**
MESS	**Mesas**	**4.08**	**109**	*eP*	**Pn**	**02 41 21.6**	**+2.4**
DUNO	**Dulce Nombre,**	**4.09**	**120**		**Pn**	**02 41 19.0**	**-0.4**
DUNO	**Dulce Nombre,**	**4.09**	**120**	‖ *eP*	**Pn**	**02 41 20.0**	**+0.7**
DUNO	**Dulce Nombre,**	**4.09**	**120**	*eP*	**Pn**	**02 41 20.1**	**+0.7**
HORNC	**Hornillas**	**4.10**	**110**	*eP*	**Pn**	**02 41 21.6**	**+2.0**
NICO	**Nicoya**	**4.10**	**119**	*eP*	**Pn**	**02 41 21.4**	**+1.8**
CUI	**Cuipilapa**	**4.13**	**110**	*eP*	**Pn**	**02 41 22.0**	**+2.0**
INDI	**Punta indio, G**	**4.19**	**122**	‖ *iP*	**Pn**	**02 41 21.3**	**+0.5**
ACAL	**Aguas Claras**	**4.26**	**110**	*eP*	**Pn**	**02 41 23.8**	**+2.0**
POPE	**POPE, Guanacas**	**4.29**	**118**	*eP*	**Pn**	**02 41 22.9**	**+0.7**
POPE				*eS*	**Sn**	**02 42 12.5**	**+0.9**
VERA	**Finca Concepci**	**4.34**	**107**	*eP*	**Pn**	**02 41 24.5**	**+1.6**
JTS	**Las Juntas de**	**4.46**	**114**	Pn	**Pn**	**02 41 26.3**	**+1.7**
	25nm,0.3s,baz=26,slow=13,SNR=50						
JTS					Sn	**Sn**	**02 42 15.7**	**-0.2**
	12nm,0.3s,baz=332,slow=22,SNR=7.0						
JTS	**Las Juntas de**	**4.46**	**114**		**Pn**	**02 41 25.1**	**+0.5**
JTS	**Las Juntas de**	**4.46**	**114**	‖ *eP*	**Pn**	**02 41 26.1**	**+1.5**
JTS	**Las Juntas de**	**4.46**	**114**	*eP*	**Pn**	**02 41 25.8**	**+1.2**
CASO	**Castillo**	**4.61**	**111**	*eP*	**Pn**	**02 41 28.2**	**+1.7**
CEDE	**Laguna Cedeo**	**4.62**	**110**	*eP*	**Pn**	**02 41 28.7**	**+2.0**
FORC	**Fortuna**	**4.65**	**110**	*eP*	**Pn**	**02 41 28.9**	**+1.7**
ESPN	**Las Esperanzas**	**4.70**	**89**		**Pn**	**02 41 27.9**	**+0.1**
ESPN	**Las Esperanzas**	**4.70**	**89**	*eP*	**Pn**	**02 41 26.2**	**-1.5**
LAFE	**Finca La Fe, P**	**4.72**	**119**	*eP*	**Pn**	**02 41 28.6**	**+0.5**
LAFE	**Finca La Fe, P**	**4.72**	**119**	*eP*	**Pn**	**02 41 28.5**	**+0.4**
COVE	**Coope Vega, Sa**	**4.82**	**106**	*eP*	**Pn**	**02 41 30.6**	**+1.2**
JACO	**JACO, Garabito**	**5.01**	**119**		**Pn**	**02 41 32.7**	**+0.6**
JACO	**JACO, Garabito**	**5.01**	**119**	*eP*	**Pn**	**02 41 33.4**	**+1.4**
CCIG	**Comitan**	**5.07**	**325**		**Pn**	**02 41 33.9**	**+0.8**
HDC	**Heredia**	**5.34**	**113**	*eP*	**Pn**	**02 41 40.8**	**+4.1**
OCM	**Ochomogo**	**5.52**	**113**	*eP*	**Pn**	**02 41 41.0**	**+1.8**
LCR2	**La Lucha 2**	**5.54**	**115**	*eP*	**Pn**	**02 41 41.5**	**+2.0**
HAYA	**Volcan Irazu**	**5.59**	**112**	*eP*	**Pn**	**02 41 42.9**	**+2.4**
RAFA	**San Farael, Vo**	**5.63**	**112**	*eP*	**Pn**	**02 41 43.7**	**+2.8**
RIMA	**Rio Macho**	**5.66**	**114**		**Pn**	**02 41 41.5**	**+0.3**
RIMA	**Rio Macho**	**5.66**	**114**	*eP*	**Pn**	**02 41 43.1**	**+2.0**
CDM	**Cerro de Muert**	**5.84**	**115**	*eP*	**Pn**	**02 41 46.1**	**+2.2**
BATAN	**Batan**	**5.97**	**109**	*eP*	**Pn**	**02 41 47.1**	**+1.7**
PEZE	**Perez Zeledon,**	**5.99**	**117**		**Pn**	**02 41 46.7**	**+1.0**
PEZE	**Perez Zeledon,**	**5.99**	**117**	*eP*	**Pn**	**02 41 47.8**	**+2.1**
MRVA	**Moravia de Chi**	**6.01**	**112**	*eP*	**Pn**	**02 41 48.4**	**+2.4**
SRBA	**San Rafael, Bu**	**6.34**	**116**	Pn	**Pn**	**02 41 52.0**	**+1.5**
SRBA	**San Rafael, Bu**	**6.34**	**116**	*eP*	**Pn**	**02 41 52.4**	**+1.9**
CMIG	**Matias Romero**	**7.46**	**312**	Pn	**Pn**	**02 42 05.0**	**-0.7**
	3.0nm,0.3s,baz=143,slow=9.1,SNR=40						
CMIG					Sn	**Sn**	**02 43 26.5**	**-3.1**
	0.7nm,0.3s,baz=270,slow=20,SNR=1.7						
	6.6nm,0.3s						
TEIG	**Tepich**	**8.09**	**6**		Pn	**Pn**	**02 42 14.9**	**+0.5**
TLIG	**Tlapa**	**10.62**	**302**		Pn	**Pn**	**02 42 50.3**	**+1.0**
SOR	**Soroa**	**12.09**	**28**		Pn	**Pn**	**02 43 07.6**	**-1.6**
PULU	**Pululahua**	**15.98**	**138**		Pn	**Pn**	**02 44 00.2**	**-1.9**
ROSC	**El Rosal**	**16.31**	**115**		Pn	**P**	**02 44 10.2**	**+1.0**
	1.2nm,0.3s,baz=37,slow=6.5,SNR=6.7						
ROSC	**El Rosal**	**16.31**	**115**		Pn	**Pn**	**02 44 03.9**	**-2.5**
SLOR	**San Lorenzo -**	**16.56**	**140**		Pn	**Pn**	**02 44 08.0**	**-1.6**
ZAIG	**Zacatecas**	**16.63**	**311**		Pn	**Pn**	**02 44 08.6**	**-1.6**
COHC	**Cochancay**	**17.50**	**145**		Pn	**Pn**	**02 44 19.0**	**-1.9**
SDV	**Santo Domingo**	**18.44**	**98**		P	**P**	**02 44 31.3**	**-1.3**
	0.9nm,0.3s,baz=240,slow=3.9,SNR=4.9						
SDV					LR	LR	02 53 29.0	
	comp=Z,66nm,19.3s,baz=298,slow=44						
	3.8nm,0.5s						
SDV	**Santo Domingo**	**18.44**	**98**		Pn	**P**	**02 44 29.3**	**-3.3**
SDV	**Santo Domingo**	**18.44**	**98**	*eP*		**P**	**02 44 32.6**	**0.0**
833A	**Chaparral WMA,**	**18.76**	**331**		P	**P**	**02 44 35.7**	**-0.1**
833A	**Chaparral WMA,**	**18.76**	**331**		P	**Pn**	**02 44 36.2**	**-0.2**
	baz=147							
HKT	**Hockley**	**18.80**	**342**		P	**Pn**	**02 44 37.1**	**+0.4**
BRAL	**Brewton**	**19.04**	**5**		P	**P**	**02 44 37.3**	**-1.5**
BRAL					IAmb	IAmb	02 44 43.1	
	comp=Z,36nm,1.0s						
BRAL	**Brewton**	**19.04**	**5**		P	**Pn**	**02 44 39.6**	**-0.1**
	baz=186							
344A	**Westbrook Farm**	**19.29**	**356**		P	**Pn**	**02 44 42.8**	**+0.1**
344A					IAmb	IAmb	02 44 51.7	
	comp=Z,32nm,0.9s						
342A	**Flagon Creek P**	**19.38**	**352**		IAmb	IAmb	02 44 47.4	
	comp=Z,67nm,1.4s						
352A	**Blakely**	**19.64**	**11**		P	**Pn**	**02 44 46.5**	**-0.3**
TIGA	**Tifton**	**19.88**	**14**		P	**Pn**	**02 44 50.1**	**+0.4**
	baz=196,SNR=14							
250A	**Grady**	**19.93**	**7**		P	**P**	**02 44 48.9**	**+0.5**
250A					IAmb	IAmb	02 44 53.3	
	comp=Z,66nm,1.4s						
VBMS	**Vicksburg**	**20.04**	**357**		P	**Pn**	**02 44 50.9**	**-0.6**
VBMS	**Vicksburg**	**20.04**	**357**		P	**Pn**	**02 44 51.7**	**+0.2**
	baz=176							
435B	**Jarrell**	**20.15**	**338**		P	**P**	**02 44 51.1**	**+0.2**
	baz=155							
NATX	**Nacogdoches**	**20.20**	**346**		IAmb	IAmb	02 44 54.7	
	comp=Z,71nm,1.5s						
NATX	**Nacogdoches**	**20.20**	**346**		P	Pn	02 44 52.4	-1.0
	baz=164							
143A	**Socs Landing,**	**20.59**	**354**		IAmb	IAmb	02 45 10.4	
	comp=Z,18nm,0.8s						
255A	**Hazlehurst**	**20.63**	**16**		IAmb	IAmb	02 45 00.2	
	comp=Z,67nm,1.3s						
JCT	**Junction City**	**20.78**	**333**		P	**P**	**02 44 57.2**	**-0.6**
JCT	**Junction City**	**20.78**	**333**		P	**P**	**02 44 57.9**	**+0.1**
	baz=149,SNR=11							
152A	**Waverly Hall**	**20.84**	**10**		IAmb	IAmb	02 45 02.6	
	comp=Z,21nm,1.1s						
LRAL	**Lakeview Retre**	**20.90**	**5**		P	**P**	**02 44 59.2**	**+0.2**
LRAL					IAmb	IAmb	02 45 03.2	
	comp=Z,28nm,1.1s						
LRAL	**Lakeview Retre**	**20.90**	**5**		P	Pn	02 45 00.6	-1.0
	baz=186,SNR=11							
BAUV	**El Baul**	**20.95**	**97**		P	**P**	**02 44 59.4**	**-0.3**
BAUV					IAmb	IAmb	02 45 05.7	
	comp=Z,24nm,0.7s						
WHTX	**Lake Whitney,**	**21.21**	**340**		IAmb	IAmb	02 45 04.3	
	comp=Z,32nm,0.9s						
WHTX	**Lake Whitney,**	**21.21**	**340**		P	**P**	**02 45 02.5**	**+0.1**
	baz=157,SNR=12							
Z51A	**Franklin**	**21.39**	**9**		IAmb	IAmb	02 45 09.2	
	comp=Z,22nm,0.8s						
HPIG		**21.42**	**316**		P	**P**	**02 45 06.0**	**+1.1**
Y49A	**Blount Mountai**	**21.77**	**6**		IAmb	IAmb	02 45 10.4	
	comp=Z,17nm,0.7s						
WLAR	**White Oak Lake**	**21.77**	**351**		IAmb	IAmb	02 45 17.6	
	comp=Z,20nm,0.9s						
GOGA	**Godfrey**	**21.80**	**13**		P	**P**	**02 45 08.7**	**-0.1**
GOGA					IAmb	IAmb	02 45 10.8	
	comp=Z,11nm,0.7s						
GOGA	**Godfrey**	**21.80**	**13**		P	**P**	**02 45 09.3**	**+0.6**
	baz=195,SNR=14							
TXAR	**Lajitas Array**	**21.83**	**324**		P	**P**	**02 45 10.3**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=144,slow=12,SNR=20							
TXAR					PcP	**PcP**	**02 49 10.6**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=184,slow=5.4,SNR=3.5							
	comp=Z,2.2nm,0.6s							
ATAH	**Atahualpa**	**21.90**	**150**		LR	LR	02 52 45.6	
	comp=Z,100nm,19.3s,baz=325,slow=34							
Y52A	**Lilburn**	**22.12**	**11**		IAmb	IAmb	02 45 15.2	
	comp=Z,38nm,1.3s							
OXF	**Oxford**	**22.28**	**359**		P	**P**	**02 45 15.1**	**+1.2**
	baz=179							
NHSC	**New Hope**	**22.42**	**20**		P	**P**	**02 45 17.5**	**+2.1**
	baz=203,SNR=6.8							
ABTX	**Abilene, Hawle**	**22.58**	**336**		P	**P**	**02 45 16.4**	**-0.7**
	baz=152,SNR=5.8							
MIAR	**Mount Ida**	**22.68**	**350**		P	**P**	**02 45 18.3**	**+0.2**
MIAR					IAmb	IAmb	02 45 22.2	
	comp=Z,25nm,0.8s						
MIAR	**Mount Ida**	**22.68**	**350**		P	**P**	**02 45 19.6**	**+1.5**
	baz=168,SNR=20							
UALR	**University of**	**22.73**	**353**		IAmb	IAmb	02 45 23.8	
	comp=Z,32nm,0.9s						
HODGE	**Hodges**	**22.87**	**15**		IAmb	IAmb	02 45 22.8	
	comp=Z,22nm,0.9s						
LOOK	**Love County**	**22.98**	**343**		IAmb	IAmb	02 45 24.3	
	comp=Z,20nm,1.1s						
X37A	**Clayton**	**23.07**	**347**		IAmb	IAmb	02 45 33.8	
	comp=Z,33nm,1.4s						
SWET	**Sewanee**	**23.16**	**7**		P	**P**	**02 45 22.8**	**-0.4**
JSC	**Jenkinsville**	**23.18**	**17**		IAmb	IAmb	02 45 26.9	
	comp=Z,33nm,1.1s						
WHAR	**Wooly Hollow**	**23.24**	**353**		P	**P**	**02 45 24.0**	**+0.1**
WHAR					IAmb	IAmb	02 45 28.5	
	comp=Z,22nm,1.0s						
Y58A	**Scranton**	**23.32**	**20**		P	**P**	**02 45 24.9**	**+0.1**
LPIG	**La Paz**	**23.37**	**304**		LR	LR	02 54 55.8	
	comp=Z,54nm,19.8s,baz=128,slow=38							
BG3	**Lake Jocassee**	**23.44**	**13**		IAmb	IAmb	02 45 28.9	
	comp=Z,30nm,1.3s						
PAULI	**Pauline**	**23.54**	**15**		IAmb	IAmb	02 45 29.4	
	comp=Z,15nm,0.8s						
X34A	**Smith Ranch, M**	**23.74**	**342**		IAmb	IAmb	02 45 31.4	
	comp=Z,15nm,0.8s						
GNAR	**Gosnell**	**23.75**	**358**		P	**P**	**02 45 29.8**	**+0.9**
LCAR	**Lake Charles**	**23.91**	**356**		IAmb	IAmb	02 45 33.2	
	comp=Z,21nm,1.1s						
TKL	**Tuckaleechee C**	**23.92**	**11**		P	**P**	**02 45 30.2**	**-0.2**
	comp=Z,17nm,0.8s,baz=183,slow=12,SNR=21							
TKL					LR	LR	02 54 30.3	
	comp=Z,136nm,20.3s,baz=194,slow=36							
	comp=Z,17nm,0.8s							
TKL	**Tuckaleechee C**	**23.92**	**11**		IAmb	IAmb	02 45 32.7	
	comp=Z,16nm,0.8s						
WVT	**Waverly**	**23.92**	**3**		P	**P**	**02 45 30.8**	**+0.3**
WVT	**Waverly**	**23.92**	**3**		P	**P**	**02 45 31.1**	**+0.6**
	baz=183							
KMSC	**Kings Mountain**	**23.97**	**16**		IAmb	IAmb	02 45 33.1	
	comp=Z,18nm,0.8s						
KMSC	**Kings Mountain**	**23.97**	**16**		P	**P**	**02 45 31.5**	**+0.5**
	baz=199,SNR=13							
CLTN	**Cedars of Leba**	**23.99**	**6**		IAmb	IAmb	02 45 42.0	
	comp=Z,10nm,0.7s						
PCRV	**Puerto La Cruz**	**24.08**	**92**		P	**P**	**02 45 32.9**	**+0.6**
	comp=Z,15nm,0.8s,baz=218,slow=6.6,SNR=5.9							
	comp=Z,15nm,0.8s							
STVI	**Saint Thomas**	**24.09**	**72**		P	**P**	**02 45 31.7**	**-0.6**
V53A	**Saluda**	**24.12**	**13**		IAmb	IAmb	02 45 35.0	
	comp=Z,20nm,0.9s						
V52A	**Sevierville**	**24.13**	**11**		IAmb	IAmb	02 45 34.3	
	comp=Z,13nm,0.9s						
WMOK	**Wichita Mounta**	**24.16**	**340**		IAmb	IAmb	02 45 34.5	
	comp=Z,16nm,1.3s						
WMOK	**Wichita Mounta**	**24.16**	**340**		P	**P**	**02 45 33.2**	**+0.4**
	baz=156,SNR=5.5							
W57A	**Gilead**	**24.36**	**18**		P	**P**	**02 45 34.6**	**0.0**
TUL1	**Leonard**	**24.44**	**347**		IAmb	IAmb	02 45 44.6	
	comp=Z,13nm,1.1s						
TUL1	**Leonard**	**24.44**	**347**		P	**P**	**02 45 35.1**	**-0.2**
	baz=164							
U49A	**Red Boiling Sp**	**24.46**	**6**		IAmb	IAmb	02 45 37.2	
	comp=Z,28nm,1.4s						
OK025	**Westminster Rd**	**24.51**	**344**		IAmb	IAmb	02 45 45.0	
	comp=Z,21nm,1.1s						
BCOK	**Bluff Creek, N**	**24.66**	**343**		IAmb	IAmb	02 45 39.4	
	comp=Z,16nm,0.8s						
V55A	**Taylorsville**	**24.67**	**15**		IAmb	IAmb	02 45 41.0	
	comp=Z,18nm,1.1s						
OK053	**SW of W Deep R**	**24.77**	**345**			**P**	**02 45 37.8**	**-0.6**
OK053					IAmb	IAmb	02 45 47.3	
	comp=Z,24nm,0.9s						
TZTN	**Tazewell**	**24.82**	**11**		IAmb	IAmb	02 45 41.9	
	comp=Z,12nm,1.0s						
TZTN	**Tazewell**	**24.82**	**11**		P	**P**	**02 45 39.2**	**+0.5**
	baz=193							
QUOK	**Quay**	**24.90**	**345**		IAmb	IAmb	02 45 48.4	
	comp=Z,19nm,1.0s						
MSTX	**Muleshoe**	**25.06**	**332**		IAmb	IAmb	02 45 44.1	
	comp=Z,9.3nm,0.8s						
MSTX	**Muleshoe**	**25.06**	**332**		P	**P**	**02 45 41.0**	**-0.1**
	baz=147							
SGCB	**Sto Gabriel d**	**25.07**	**117**	*eP*		**P**	**02 45 41.7**	**+0.5**
OK044	**Pawnee Station**	**25.11**	**345**		IAmb	IAmb	02 45 51.2	
	comp=Z,12nm,0.6s						
CNNC	**Cliffs of the**	**25.15**	**22**		P	**P**	**02 45 41.2**	**-0.5**
	baz=206							
U54A	**Nelsons Funny**	**25.16**	**14**

TPNV **Topopah Spring** 34.70 320 P P 02 47 07.9 +1.3
baz=128
LRMC **Laurel Mtn Rad** 34.76 317 P P 02 47 07.9 +0.9
baz=125
DUG **Dugway, Tooele** 34.91 327 P P 02 47 09.5 +1.2
baz=136
MPMC **Manual Prospec** 34.96 318 P P 02 47 10.3 +1.4
baz=126
LPAZ **La Paz** 35.04 143 P P 02 47 10.3 +0.1
comp=Z,2.4nm,1.0s,baz=325,slow=10,SNR=4.9
comp=Z,2.4nm,1.0s
LPAZ **La Paz** 35.04 143 P P 02 47 09.8 -0.4
LBNH **Lisbon** 35.24 22 P P 02 47 10.9 0.0
baz=210
BW06 **Boulder Array** 35.31 334 P P 02 47 12.4 +0.5
baz=144
PD31 **Pinedale Array** 35.31 334 P P 02 47 13.4 +1.5
PDAR **Pinedale Array** 35.31 334 P P 02 47 11.8 0.0
comp=Z,0.4nm,0.5s,baz=133,slow=11,SNR=9.4
PDAR PcP PcP 02 49 42.3 +0.2
comp=Z,0.2nm,0.5s,baz=138,slow=4.4,SNR=3.1
comp=Z,0.4nm,0.5s
ARVC **Arvin** 35.34 315 P P 02 47 12.5 +0.5
baz=123
BCW **Bitter Crk WRg** 35.64 315 P P 02 47 13.0 -1.7
BCW IAmb IAmb 02 47 15.7
comp=Z,19nm,1.2s
EYMN **Ely** 35.76 357 P P 02 47 15.5 +0.2
baz=176
VES **Vestal, Richgr** 35.91 316 P P 02 47 18.0 +1.2
baz=124
REDW **Red Top Meadow** 36.36 333 IAmb IAmb 02 47 25.0
comp=Z,7.8nm,0.6s
SNOW **Snow King Moun** 36.39 333 IAmb IAmb 02 47 25.7
comp=Z,8.7nm,0.6s
AGMN **Agassiz Nation** 36.49 352 P P 02 47 21.6 -0.1
AGMN IAmb IAmb 02 47 30.4
comp=Z,4.8nm,0.7s
AGMN **Agassiz Nation** 36.49 352 P P 02 47 20.8 -0.8
baz=169
MDND **Maddock** 36.68 348 P P 02 47 23.0 -0.2
baz=162
MDP **Montagnes des** 36.69 98 LR LR 03 04 39.3
comp=Z,46nm,19.1s,baz=264,slow=40
NVAR **Mina Array Bea** 36.90 320 P P 02 47 27.8 +2.3
comp=Z,1.3nm,0.6s,baz=136,slow=8.7,SNR=13
NVAR PcP PcP 02 49 48.2 +1.3
comp=Z,2.0nm,0.7s,baz=134,slow=4.0,SNR=12
comp=Z,1.3nm,0.6s
ITTB **Itaituba** 37.00 114 eP P 02 47 25.6 -0.8
LAO **LASA Array** 37.36 340 P P 02 47 30.8 +1.7
baz=152
VILB **Vilhena** 37.99 130 P P 02 47 34.2 -0.6
VILB IAmb IAmb 02 47 35.6
comp=Z,15nm,0.8s
VILB **Vilhena** 37.99 130 eP P 02 47 35.1 +0.3
DGMT **Dagmar** 38.35 344 P P 02 47 38.1 +0.7
baz=156
ULM **Lac du Bonnet** 38.41 353 P P 02 47 36.6 -1.3
comp=Z,2.8nm,0.5s,baz=171,slow=8.5,SNR=6.6
ULM LR LR 03 04 54.7
comp=Z,85nm,18.8s,baz=152,slow=39
comp=Z,2.8nm,0.5s
NPGB **Novo Progresso** 38.59 118 eP P 02 47 38.7 -1.1
EGMT **Eagleton** 39.73 338 P P 02 47 49.6 +0.6
baz=147
PTLB **Pontes e Lacer** 40.38 132 eP P 02 47 54.3 -0.4
BBSD **Serra de San D** 40.51 135 eP P 02 47 55.3 -0.5
NEW **Newport** 42.93 333 P P 02 48 16.5 +1.2
baz=138
SALV **Santo Antonio** 43.23 129 eP P 02 48 17.5 -0.5
AC02 **Maricunga** 43.32 154 P P 02 48 19.9 +0.7
RPN **Rapa Nui** 43.69 206 LR LR 03 01 35.2
comp=Z,84nm,21.9s,baz=81,slow=29
MURT **Porto Murtinho** 45.64 137 eP P 02 48 36.3 -1.0
SCHQ **Schefferville** 46.06 18 P P 02 48 38.2 -1.9
comp=Z,5.2nm,0.7s,baz=231,slow=7.4,SNR=5.4
SCHQ LR LR 03 06 45.7
comp=Z,36nm,19.2s,baz=258,slow=35
comp=Z,5.2nm,0.7s
AQDB **Aquidauana** 46.15 134 P P 02 48 41.4 +0.1
AQDB IAmb IAmb 02 48 41.7
comp=Z,13nm,1.4s
AQDB **Aquidauana** 46.15 134 eP P 02 48 40.8 -0.4
SMTB **Santa Maria do** 46.24 115 eP P 02 48 42.3 +0.2
ZON **Zonda** 47.64 156 P P 02 48 53.6 +0.8
CPUP **Villa Florida** 49.16 141 P P 02 49 03.7 -0.8
comp=Z,1.2nm,0.6s,baz=344,slow=11,SNR=4.0
comp=Z,1.2nm,0.6s
YKA **Yellowknife Ar** 53.51 346 P P 02 49 35.5 -1.1
comp=Z,3.7nm,0.9s,baz=145,slow=7.4,SNR=6.7
comp=Z,3.7nm,0.9s
FRB **Frobisher Bay** 53.54 11 LR LR 03 11 59.7
comp=Z,72nm,18.4s,baz=196,slow=36
RCBR **Riachuelo** 55.82 106 LR LR 03 16 10.6
comp=Z,50nm,19.4s,baz=130,slow=39
S31K **Pelican** 57.91 333 P P 02 50 09.3 +1.0
baz=122
MMPY **Sheldon Lake,** 58.65 339 P P 02 50 14.4 +0.9
baz=130
P29M **Windy Craggy** 59.45 334 P P 02 50 20.9 +1.7
baz=122
YUK8 **Steele Glacier** 61.17 335 P P 02 50 32.6 +1.5
baz=120
M29M **Somme Creek** 61.24 336 P P 02 50 32.1 +0.7
baz=122
C36M **Paulatuk** 61.34 347 P P 02 50 32.0 +0.2
baz=140
DAWY **Dawson** 62.47 338 P P 02 50 39.8 +0.3
baz=122
F31M **Tsiigehtchic** 62.54 342 P P 02 50 40.4 +0.6
baz=129
RES **Resolute Bay** 62.62 358 LR LR 03 19 12.6
comp=Z,30nm,18.9s,baz=346,slow=37
EPYK **Eagle Plains** 62.82 340 P P 02 50 41.5 -0.3
baz=126
BCAR **Beaver Creek A** 62.88 336 P P 02 50 42.8 +0.5
INK **Inuvik** 63.03 343 LR LR 03 20 37.0
comp=Z,50nm,18.8s,baz=139,slow=38
INK **Inuvik** 63.03 343 P P 02 50 43.1 0.0
baz=130
N25K **Chitina, Valde** 63.37 334 P P 02 50 45.0 -0.6
baz=116
J26L **Joseph Creek** 64.26 337 P P 02 50 51.5 +0.1
baz=118
H27K **Steamboat Moun** 64.37 339 P P 02 50 52.0 -0.1
baz=121
I26K **Coal Creek Min** 64.49 338 P P 02 50 52.9 +0.1
baz=119
G27K **Doyon Strip** 64.71 340 P P 02 50 54.6 +0.3
baz=121
WAT6 **Susitna Watana** 65.12 334 P P 02 50 57.4 +0.2
baz=113
E27K **Coleen River** 65.40 341 P P 02 50 59.5 +0.8
baz=121
RC01 **Rabbit Creek A** 65.45 332 P P 02 50 58.9 -0.2
baz=110
PRP **Porcupine Dome** 65.47 338 P P 02 50 59.5 +0.1
baz=116
G26K **Porcupine Rive** 65.51 339 P P 02 51 00.1 +0.7
baz=119
HDA **Harding Lake** 65.54 336 P P 02 50 59.3 -0.3
baz=114
IL31 65.66 337 P P 02 51 00.8 +0.4
IL31 IAmb IAmb 02 51 01.3
comp=Z,6.6nm,1.2s
ILAR **Eielson Array** 65.66 337 P P 02 50 59.8 -0.7
comp=Z,2.5nm,1.1s,baz=132,slow=4.1,SNR=13
ILAR LR LR 03 25 27.1
comp=Z,42nm,18.6s,baz=90,slow=41
comp=Z,2.5nm,1.1s
ILAR **Eielson Array** 65.66 337 P P 02 51 01.1 +0.6
OHAK **Old Harbor** 65.99 328 P P 02 51 02.4 -0.2
baz=105
BMAR **Burnt Mountain** 66.01 340 P P 02 51 03.5 +0.8
MCK **McKinley** 66.07 335 P P 02 51 03.1 0.0
baz=112
G25K **Bearman Lake** 66.23 339 P P 02 51 04.9 +0.8
baz=116
SII **Sitkinak Islan** 66.30 327 P P 02 51 04.4 -0.3
baz=104
F25K **Christian Rive** 66.45 340 P P 02 51 05.1 -0.5
baz=117
NEA2 **Nenana** 66.45 336 P P 02 51 05.2 -0.3
baz=112
H24K **Noodor Dome** 66.49 337 P P 02 51 06.0 +0.2
baz=114
TRF **Thorofare Moun** 66.53 335 P P 02 51 06.6 +0.4
baz=111
E25K **Arctic Village** 66.67 340 P P 02 51 07.9 +1.0
baz=117
G24K **Hadweenzic Riv** 66.70 338 P P 02 51 07.8 +0.8
baz=115
I23K **Minto, Yukon-K** 66.78 336 P P 02 51 07.9 +0.3
baz=112
C27K **Jago River** 66.80 342 P P 02 51 08.2 +0.5
baz=120
MLY **Manley** 67.28 336 P P 02 51 11.8 +1.0
baz=111
O19K **Port Alsworth** 67.31 331 P P 02 51 11.3 +0.3
baz=106
D25K **Kavik River** 67.48 341 P P 02 51 12.5 +0.5
baz=117
CHUM **Lake Minchumin** 67.52 335 P P 02 51 12.7 +0.4
baz=109
P18K **Big Mountain,** 67.55 330 P P 02 51 12.9 +0.3
baz=104
G23K **Bananza Creek** 67.63 338 P P 02 51 14.3 +1.2
baz=112
L20K **Farewell, AK** 67.76 333 P P 02 51 13.6 -0.3
baz=107
COLD **Coldfoot** 67.89 338 P P 02 51 15.7 +1.0
baz=112
E23K **Chandalar** 68.01 339 P P 02 51 16.0 +0.5
baz=113
N18K **Kilae Creek** 68.19 331 P P 02 51 16.8 +0.2
baz=104
TOLK **Toolik Lake Re** 68.23 340 P P 02 51 16.9 +0.1
baz=114
J20K **Nowinta River** 68.38 335 P P 02 51 17.1 -0.6
baz=107
C24K **Franklin Bluff** 68.39 341 P P 02 51 18.2 +0.6
baz=115
O17K **Koliganek Bris** 68.56 330 P P 02 51 19.4 +0.5
baz=103
F22K **John River** 68.71 338 P P 02 51 20.7 +1.0
baz=110
D23K **Nanushuk River** 68.73 340 P P 02 51 20.6 +0.8
baz=112
E22K **Anaktuvuk Pass** 68.80 339 P P 02 51 20.8 +0.4
baz=111
G21K **Allakaket** 68.86 337 P P 02 51 20.9 +0.2
baz=109
O16K **Kokwok River B** 69.02 329 P P 02 51 20.8 -1.0
baz=102
C23K **Itkillik River** 69.05 341 P P 02 51 22.3 +0.5
baz=113
F21K **Alatna River** 69.08 338 P P 02 51 23.5 +1.4
baz=109
N16K **Nishlik Lake** 69.53 330 P P 02 51 24.8 -0.2
baz=102
ESDC **Sonseca Array** 78.66 52 P P 02 52 17.4 -1.3
comp=Z,1.3nm,1.1s,baz=279,slow=5.0,SNR=4.3
ESDC LR LR 03 24 01.7
comp=Z,30nm,18.4s,baz=282,slow=34
comp=Z,1.3nm,1.1s
SPITS **Spitsbergen Ar** 81.34 12 LR LR 03 30 25.5
comp=Z,20nm,19.5s,baz=258,slow=37
NOA **NORSAR Array B** 84.43 29 LR LR 03 26 40.1
comp=Z,2nm,21.9s,baz=255,slow=33
DAVOX **Davos/Dischmat** 87.32 43 LR LR 03 26 50.5
comp=Z,30nm,19.4s,baz=81,slow=32
VRAC **Vranov** 90.88 39 LR LR 03 33 58.0
comp=Z,20nm,18.6s,baz=252,slow=36
MA2 **Magadan** 94.02 334 LR LR 03 42 26.5
comp=Z,46nm,18.2s,baz=127,slow=40
AKASG **Malin Array Be** 97.70 34 LR LR 03 38 09.8
comp=Z,21nm,18.4s,baz=335,slow=36
WRA **Warramunga Arr** 137.63 254 PKP PKPdf 02 59 41.3 0.0
comp=Z,1.2nm,1.0s,baz=88,slow=1.2,SNR=8.9
ASAR **Alice Springs** 137.65 248 PKP PKPdf 02 59 41.4 +0.1
comp=Z,0.5nm,0.8s,baz=142,slow=1.7,SNR=5.3
PZH **PanZhiHua** 140.18 345 PKP PKPdf 02 59 46.8 +0.8
MND **Mandalay** 145.68 351 PKPdf 02 59 54.5 -1.2
CRAI **Chiangrai** 146.52 344 PKPbc PKPdf 02 59 57.8 +0.6
CMAR **Chiang Mai Arr** 148.59 345 PKPbc PKPbc 03 00 04.8 +0.6
comp=Z,4.1nm,0.7s,baz=340,slow=3.3,SNR=16
CMAR **Chiang Mai Arr** 148.59 345 PKPbc PKPbc 03 00 04.7 +0.4

IDC ***25*** *02:52:59.1±0.8, 44.°70N×79.°59E, h0km, mb3.8/6, mbtmp3.7/13, ML3.2/7, MS2.4/1, Error ellipse: s-maj=13.5km s-min=8.6km az=131.0*
NNC ***25*** *02:53:00.3±0.5, 44.°79N×79.°56E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=3.8km s-min=2.9km az=67.0*
SOME ***25*** *02:53:01.2, 44.°73N×79.°53E, h5km, MS2.9*
ISC 25 02:53:00.7±1.1, 44.°78N±0.°02×79.°50E±0.°02, h5km±7km, n73, σ1$46/122, mb4.0/7, 28C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
DJR	**Jarkent**	**0.50**	**155**	*eP*	**Pg**	**02 53 10.3**	**+0.1**
DJR	2μm,0.2s			*eS*	**Sg**	**02 53 16.7**	**0.0**
	727nm,0.3s						
DJR	**Jarkent**	**0.50**	**155**	P	**Pg**	**02 53 10.3**	**+0.1**
DJR	2μm,0.2s			S	**Sg**	**02 53 16.7**	**0.0**
	727nm,0.3s						
TDK	**Taldyqorghan**	**0.81**	**286**	*eP*	**Pb**	**02 53 17.2**	**0.0**
TDK	373nm,0.3s			*eS*	**Sb**	**02 53 27.9**	**-0.6**
	5μm,0.3s						
TDK	**Taldyqorghan**	**0.81**	**286**	P	**Pb**	**02 53 17.1**	**-0.2**
TDK	373nm,0.3s			S	**Sg**	**02 53 27.7**	**+1.0**
	5μm,0.3s						
KPKS	**Kokpek**	**1.44**	**204**	*eP*	**Pg**	**02 53 28.4**	**+0.1**
KPKS	274nm,0.1s			*eS*	**Sg**	**02 53 47.2**	**+0.2**
	4μm,0.4s						
KPKS	**Kokpek**	**1.44**	**204**	P	**Pn**	**02 53 27.7**	**+0.1**
KPKS	570nm,0.2s			S	**Sg**	**02 53 46.0**	**-1.0**
	3μm,0.5s						
PDGK	**Podgornoye**	**1.45**	**180**	P	**Pn**	**02 53 27.4**	**-0.4**
PDGK	69nm,0.2s			S	**Sg**	**02 53 46.6**	**-0.8**
	308nm,0.5s						
PDGK	**Podgornoye**	**1.45**	**180**	⇓P	**Pn**	**02 53 27.2**	**-0.5**
PDGK	96nm,0.5s			⇑S	**Sg**	**02 53 46.8**	**-0.6**
	1μm,0.9s						
KTMS	**Ketmen**	**1.47**	**155**	*eP*	**Pn**	**02 53 27.9**	**-0.1**
KTMS	127nm,0.2s			*eS*	**Sg**	**02 53 46.3**	**-1.6**
	1μm,0.4s						
KTMS	**Ketmen**	**1.47**	**155**	P	**Pn**	**02 53 27.9**	**-0.1**
KTMS	127nm,0.2s			S	**Sg**	**02 53 46.3**	**-1.6**
	1μm,0.4s						
KURS	**Kuram**	**1.61**	**217**	*eP*	**Pg**	**02 53 31.5**	**-0.1**
KURS	70nm,0.3s			*eS*	**Sg**	**02 53 52.5**	**0.0**
	1μm,0.5s						
KURS	**Kuram**	**1.61**	**217**	P	**Pg**	**02 53 32.1**	**+0.5**
KURS	127nm,0.3s			S	**Sg**	**02 53 53.5**	**+1.1**
	828nm,0.3s						
SHLS	**Shalkode**	**1.62**	**181**	*eP*	**Pg**	**02 53 31.6**	**-0.3**
SHLS	207nm,0.2s			*eS*	**Sg**	**02 53 52.7**	**-0.2**
	1μm,0.6s						
SHLS	**Shalkode**	**1.62**	**181**	P	**Pg**	**02 53 31.6**	**-0.3**
SHLS	207nm,0.2s			S	**Sg**	**02 53 52.7**	**-0.2**
	1μm,0.6s						
UZB	**Uzynbulak**	**1.67**	**192**	*eP*	**Pb**	**02 53 31.9**	**-0.1**
UZB	64nm,0.2s			*eS*	**Sn**	**02 53 53.3**	**+0.7**
	2μm,0.2s						
UZB	**Uzynbulak**	**1.67**	**192**	P	**Pb**	**02 53 31.9**	**-0.1**
UZB	64nm,0.2s			S	**Sn**	**02 53 53.3**	**+0.7**
	2μm,0.2s						
ZHN	**Zhinishke**	**1.79**	**206**	*eP*	**Pg**	**02 53 34.5**	**-0.4**
ZHN	250nm,0.2s			*eS*	**Sb**	**02 53 57.2**	**+0.5**
	5μm,0.2s						
ZHN	**Zhinishke**	**1.79**	**206**	P	**Pb**	**02 53 34.3**	**+0.3**
ZHN	250nm,0.2s			S	**Sb**	**02 53 57.3**	**+0.6**
	5μm,0.2s						
SATY	**Saty**	**1.90**	**205**	*eP*	**Pb**	**02 53 36.0**	**+0.1**
	196nm,0.2s						
SATY	2μm,0.2s			*eS*	**Sb**	**02 54 00.5**	**+0.6**
SATY	**Saty**	**1.90**	**205**	P	**Pg**	**02 53 36.6**	**-0.5**
	196nm,0.2s						
SATY	2μm,0.2s			S	**Sg**	**02 54 01.3**	**-0.3**
CHKK	**Chushkaly**	**2.03**	**244**	*eP*	**Pb**	**02 53 38.7**	**+0.6**
	52nm,0.3s						
CHKK	865nm,0.2s			*eS*	**Sb**	**02 54 05.0**	**+1.4**
CHKK	**Chushkaly**	**2.03**	**244**	P	**Pb**	**02 53 38.1**	**0.0**
	52nm,0.3s						
CHKK	865nm,0.2s			S	**Sb**	**02 54 03.9**	**+0.3**
MDOK	**Medeo**	**2.40**	**228**	*eP*	**Pb**	**02 53 45.2**	**+0.7**
	63nm,0.7s						
MDOK	473nm,0.6s			*eS*	**Sb**	**02 54 15.9**	**+1.5**
MDOK	**Medeo**	**2.40**	**228**	⇑Pn	**Pn**	**02 53 42.0**	**+1.2**
	128nm,0.7s						
MDOK	100nm,0.4s			Pg	**Pb**	**02 53 45.1**	**+0.7**
MDOK	541nm,0.8s			⇓Sn	**Sb**	**02 54 13.9**	**-0.5**
MDOK	473nm,0.6s			Lg	Lg	02 54 16.0	
KNDC	**Almaty**	**2.41**	**230**	⇑Pn	**Pn**	**02 53 41.7**	**+0.9**
	235nm,0.7s						
KNDC	2μm,0.8s			⇑Lg	Lg	02 54 17.5	
AAA	**Alma-Ata**	**2.44**	**231**	*eP*	**Pg**	**02 53 46.4**	**-1.1**
	139nm,0.3s						
AAA	841nm,0.2s			*eS*	**Sb**	**02 54 17.6**	**+2.1**
TNSS	**Tian-Shan**	**2.54**	**227**	*eP*	**Pb**	**02 53 47.7**	**+0.7**
	34nm,0.1s						
TNSS	205nm,0.4s			*eS*	**Sb**	**02 54 20.1**	**+1.4**
TNSS	**Tian-Shan**	**2.54**	**227**	Pg	**Pb**	**02 53 47.7**	**+0.7**
	48nm,0.2s						
TNSS	205nm,0.4s			Lg	Lg	02 54 20.4	
MAKZ	**Makanchi**	**2.67**	**40**	⇑Pn	**Pn**	**02 53 44.2**	**-0.2**
	2.5nm,0.3s						
MAKZ	116nm,0.4s			⇑Lg	Lg	02 54 21.8	
MTBS	**Maitube**	**2.77**	**234**	*eP*	**Pg**	**02 53 52.3**	**-1.4**
	30nm,0.1s						
MTBS	1μm,0.2s			*eS*	**Sg**	**02 54 27.7**	**-1.8**
MTBS	**Maitube**	**2.77**	**234**	Pg	**Pb**	**02 53 51.4**	**+0.7**
	30nm,0.1s						
MTBS	1μm,0.2s			Lg	Lg	02 54 26.5	
MK31	**Makanchi Array**	**2.80**	**43**	⇑Pn	**Pn**	**02 53 45.0**	**-1.3**
	2.1nm,0.1s,baz=213,slow=15,SNR=555						
MK31	113nm,0.5s,baz=217,slow=26,SNR=16			⇓Lg	Lg	02 54 26.2	
MKAR	**Makanchi Array**	**2.80**	**43**	Pn	**Pn**	**02 53 47.4**	**+1.2**
	10nm,0.3s,baz=217,slow=16,SNR=176						
MKAR	55nm,0.3s,baz=218,slow=26,SNR=23			Sn	**Sn**	**02 54 20.8**	**+0.4**
	15nm,0.4s						
KST	**Kastek**	**3.09**	**237**	*eP*	**Pg**	**02 53 58.6**	**-1.3**
	59nm,0.3s						
KST	239nm,0.5s			*eS*	**Sg**	**02 54 38.8**	**-1.2**
KST	**Kastek**	**3.09**	**237**	Pg	**Pb**	**02 53 57.0**	**+0.7**
	59nm,0.3s						
TKM2	**Tokmak 2**	**3.38**	**238**	P	**Pn**	**02 53 55.6**	**+1.3**
	SNR=8.8						
TKM2	**Tokmak 2**	**3.38**	**238**	⇑Pn	**Pn**	**02 53 55.6**	**+1.3**
	5.5nm,0.6s						
TKM2	26nm,0.6s			⇑Pg	**Pb**	**02 54 03.2**	**+2.0**
TKM2	108nm,0.6s			⇓Lg	Lg	02 54 49.0	
ULHL	**Ulahol**	**3.47**	**224**	P	**Pb**	**02 54 04.5**	**+1.8**
	SNR=6.2						
SGDS	**Sogindy**	**3.75**	**251**	*eP*	**Pg**	**02 54 10.2**	**-2.3**
	14nm,0.5s						
SGDS	101nm,0.6s			*eS*	**Sg**	**02 54 59.3**	**-1.9**
SGDS	**Sogindy**	**3.75**	**251**	Pg	**Pb**	**02 54 09.9**	**+2.4**
	14nm,0.5s						
CHMS	**Chumysh**	**3.87**	**244**	⇑Pg	**Pb**	**02 54 10.3**	**+0.9**
	17nm,0.5s						
CHMS	30nm,0.4s			⇑Sn	**Sn**	**02 54 47.3**	**+0.6**
CHMS	105nm,0.8s			⇑Lg	Lg	02 55 04.5	
BTLS	**Baital**	**3.88**	**276**	*eP*	**Pg**	**02 54 13.0**	**-2.1**
	18nm,0.6s						
BTLS	34nm,0.9s			*eS*	**Sg**	**02 55 04.2**	**-1.2**
BTLS	**Baital**	**3.88**	**276**	Pg	**Pg**	**02 54 14.4**	**-0.7**
	23nm,0.5s						
USP	**Ospenovka**	**3.91**	**249**	P	**Pn**	**02 54 02.8**	**+1.3**
	SNR=6.1						
KBK	**Karagaybulak**	**3.92**	**239**	P	**Pn**	**02 54 03.9**	**+2.1**
	SNR=24						
AAK	**Ala-Archa**	**4.21**	**241**	P	**Pn**	**02 54 07.7**	**+1.9**
	SNR=9.1						
AAK	**Ala-Archa**	**4.21**	**241**	Pn	**Pn**	**02 54 07.6**	**+1.9**
	2.7nm,0.3s,baz=106,slow=7.8,SNR=29						
AAK	6.7nm,0.3s,baz=155,slow=23,SNR=11			Lg	Lg	02 55 11.6	
AAK	comp=Z,53nm,21.9s,baz=68,slow=43			LR	LR	02 55 59.5	
	7.7nm,0.4s						
UCH	**Uchtor**	**4.44**	**237**	P	**Pn**	**02 54 11.7**	**+2.6**
	SNR=5.5						
ZSN	**Zaisan**	**4.59**	**53**	*eP*	**Pb**	**02 54 22.0**	**+0.4**
	5.3nm,0.2s						
ZSN	50nm,0.6s			*eS*	**Sb**	**02 55 19.7**	**+2.5**
ZSN	**Zaisan**	**4.59**	**53**	Pg	**Pb**	**02 54 23.6**	**+2.0**
	5.8nm,0.3s						
EKS2	**Erkin-Say**	**4.66**	**245**	P	**Pn**	**02 54 13.6**	**+1.8**
	SNR=20						
AML	**Almayashu**	**4.99**	**240**	P	**Pn**	**02 54 19.2**	**+2.6**
	SNR=16						
KURBB	**Kurchatov Arra**	**5.88**	**354**	Pn	**Pn**	**02 54 29.1**	**+0.6**
	0.2nm,0.3s,baz=183,slow=11,SNR=12						
KURBB	1.4nm,0.3s,baz=60,slow=13,SNR=4.9			Sn	**Sn**	**02 55 34.8**	**-1.4**
KURBB	2.7nm,0.3s,baz=178,slow=30,SNR=8.4			Lg	Lg	02 56 07.2	
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**5.88**	**354**	⇑Pn	**Pn**	**02 54 27.9**	**-0.5**
	2.3nm,0.5s						
KURBB	20nm,0.5s			⇓Pg	**Pb**	**02 54 46.2**	**+2.5**
KURBB	178nm,0.6s			⇓Lg	Lg	02 56 04.7	
WMQ	**Urumqi**	**5.96**	**96**	*ePn*	**Pn**	**02 54 30.8**	**+1.2**
WMQ				Sn	**Sn**	**02 55 37.8**	**-0.5**
WMQ	comp=N,56nm,1.1s			smax	smax		
WMQ	comp=E,58nm,1.3s			smax	smax		
KURK	**Kurchatov**	**5.97**	**355**	⇑Pn	**Pn**	**02 54 28.5**	**-1.1**
	comp=E,3.2nm,0.9s						
KURK	comp=E,8.1nm,0.4s			⇑Pg	**Pb**	**02 54 47.2**	**+2.1**
KURK	comp=E,77nm,0.7s			⇓Lg	Lg	02 56 06.4	
OTUK	**Ortayu**	**6.03**	**308**	⇑Pn	**Pn**	**02 54 30.8**	**+0.2**
	comp=E,2.4nm,0.5s						
OTUK	comp=E,6.2nm,0.3s			⇑Sn	**Sn**	**02 55 40.7**	**+0.7**
OTUK	comp=E,102nm,0.6s			⇑Lg	Lg	02 56 10.4	
KK31	**Karatay Array**	**6.70**	**259**	⇑Pn	**Pn**	**02 54 40.2**	**+0.5**
	comp=E,0.4nm,0.2s,baz=74,slow=13,SNR=33						
KK31	comp=E,16nm,0.4s,baz=71,slow=30,SNR=8.8			⇑Lg	Lg	02 56 34.2	
ZALV	**Zalesovo Beam**	**9.80**	**19**	Pn	**Pn**	**02 55 22.6**	**+0.4**
	comp=E,0.9nm,0.3s,baz=214,slow=16,SNR=8.8						
ZALV	comp=E,1.1nm,0.3s,baz=195,slow=22,SNR=3.0			Sn	**Sn**	**02 57 06.5**	**-6.1**
ZALV	comp=E,1.3nm,0.3s,baz=189,slow=26,SNR=5.5			Lg	Lg	02 58 13.6	
	comp=E,2.4nm,0.3s						
BVA0	**Borovoye Array**	**10.19**	**327**	⇑Pg	**Pn**	**02 55 27.2**	**-0.4**
	comp=E,1.4nm,0.5s						
BVA0	comp=E,4.2nm,0.6s			⇑Sn	**Sn**	**02 57 22.1**	**0.0**
BVA0				⇑Lg	Lg	02 58 22.1	

	comp=E,83nm,1.4s							
BVAR	**Borovoye Array**	**10.19**	**327**	Pn		**Pn**	02 55 27.3	**-0.2**
	comp=E,0.1nm,0.3s,baz=132,slow=12,SNR=8.1							
BVAR				Sn		**Sn**	**02 57 16.5**	**-5.6**
	comp=E,0.2nm,0.3s,baz=121,slow=28,SNR=5.4							
BVAR				Lg		Lg	02 58 18.7	
	comp=E,0.2nm,0.3s,baz=129,slow=21,SNR=5.2							
	comp=E,1.1nm,0.3s							
BRVK	**Borovoye**	**10.26**	**327**	⇓Pg		**Pn**	**02 55 26.6**	**-1.9**
	comp=E,1.8nm,0.5s							
BRVK				⇑Sn		**Sn**	**02 57 23.4**	**-0.3**
	comp=E,5.8nm,0.5s							
BRVK				⇑Lg		Lg	02 58 24.4	
	comp=E,88nm,1.1s							
AB31	**Akbulak array**	**14.06**	**295**	⇑Pn		**Pn**	**02 56 19.4**	**-1.0**
	comp=E,2.8nm,0.7s,baz=111,slow=8.9,SNR=43							
AB31				⇑Lg		Lg	03 00 26.5	
	comp=E,18nm,1.3s							
AKTO	**Aktyubinsk**	**15.53**	**299**	⇑Pn		**Pn**	**02 56 39.5**	**-0.7**
	comp=E,1.1nm,0.7s							
AKTO				⇓Lg		Lg	03 01 12.8	
	comp=E,6.1nm,1.0s							
ARU	**Arti**	**17.59**	**319**	P		**P**	**02 57 08.0**	**+0.5**
	baz=102,slow=20,SNR=1.7							
	comp=E,1.6nm,0.3s							
SONM	**Songino Array**	**18.79**	**71**	P		**P**	**02 57 20.1**	**-0.8**
	comp=E,0.2nm,0.3s,baz=270,slow=11,SNR=4.4							
	comp=E,0.4nm,0.5s							
BRTR	**Keskin Array B**	**33.97**	**278**	P		**P**	**02 59 45.5**	**+0.3**
	comp=E,0.7nm,0.6s,baz=92,slow=8.0,SNR=6.6							
	comp=E,0.7nm,0.6s							
MNK	**Minsk**	**34.09**	**305**	*i* P		**P**	**02 59 49.3**	**+3.4**
	comp=E,2.0nm,0.7s							
MNK				*i* P		**P**	**02 59 49.3**	**+3.4**
	comp=N,27nm,0.8s							
MNK				*i* P		**P**	**02 59 49.3**	**+3.4**
	comp=Z,6.0nm,0.8s,baz=265							
MNK				*i* PP		**PnPn**	**03 00 57.9**	**-1.1**
MNK				*i* PPP		PPP	03 01 09.3	
MNK				*i* S		**S**	**03 05 13.2**	**+1.3**
MNK				*i* SS		**SnSn**	**03 07 18.5**	**-0.1**
MNK				*i* SSS		SSS	03 07 34.2	
MNK				*i* LR		LR	03 12 51.6	
MNK				*i* LRM		MLR	03 14 54.9	
	comp=E,6.0nm,20.6s							
MNK				*i* LRM		MLR	03 14 54.9	
	comp=Z,76nm,22.6s							
MNK				*i* LRM		MLR	03 15 16.6	
	comp=N,226nm,17.4s							
ESDC	**Sonseca Array**	**59.40**	**297**	P		**P**	**03 03 03.4**	**-0.7**
	comp=N,1.9nm,1.3s,baz=58,slow=6.9,SNR=2.1							
	comp=N,1.9nm,1.3s							
INK	**Inuvik**	**64.55**	**13**	P		**P**	**03 03 37.8**	**-0.3**
	comp=N,1.3nm,0.8s,baz=318,slow=4.6,SNR=5.6							
	comp=N,1.3nm,0.8s							
ILAR	**Eielson Array**	**64.93**	**20**	P		**P**	**03 03 39.7**	**-1.0**
	comp=N,0.8nm,0.8s,baz=320,slow=4.9,SNR=12							
	comp=N,0.8nm,0.8s							
WRA	**Warramunga Arr**	**81.50**	**129**	P		**P**	**03 05 17.6**	**-1.5**
	comp=N,0.4nm,0.5s,baz=335,slow=5.2,SNR=6.4							
	comp=N,0.4nm,0.5s							
ASAR	**Alice Springs**	**84.27**	**131**	P		**P**	**03 05 32.0**	**-1.4**
	comp=N,0.4nm,0.7s,baz=323,slow=4.0,SNR=4.1							
	comp=N,0.4nm,0.7s							

*ARE **25** 02:53:41±1.5, 16°.75S±0°.05×72°.89W±0°.06, h49km±10km, Error ellipse: s-maj=10.7km s-min=3.4km az=130.0*
*NEIC **25** 02:53:42.8±1.2, 16°.81S±0°.09×72°.7W±0°.1, h80km±44km, ML4.2(ARE), Error ellipse: s-maj=20.3km s-min=11.3km az=68.0*

ISC 25 02:53:40.9±1.2, 16°.86S±0°.07×72°.80W±0°.09, h33km, n38, σ1§57/42, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**2.79**	**123**	*eP*	**Pb**	**02 54 29.6**	**-0.5**
PB12	**IPOC Station P**	**2.93**	**127**	Pn	**Pn**	**02 54 24.3**	**-1.0**
PB12	**IPOC Station P**	**2.93**	**127**	⇓*iP*	**Pn**	**02 54 26.9**	**+1.6**
PB12				IAML		02 55 20.4	
	comp=E,178nm,0.5s						
PB18	**Visviri**	**3.26**	**103**		**Pn**	**02 54 29.6**	**-0.6**
PB18	**Visviri**	**3.26**	**103**	*eP*	**Pb**	**02 54 36.5**	**-1.9**
PB16	**IPOC Station P**	**3.47**	**115**		**Pn**	**02 54 33.5**	**+0.3**
PB16	**IPOC Station P**	**3.47**	**115**	*eP*	**Pn**	**02 54 35.9**	**+2.7**
PB16				*eS*	**Sn**	**02 55 14.0**	**+0.6**
PB16				IAML		02 55 38.3	
	comp=E,110nm,0.4s						
PSGC	**Pisagua**	**3.73**	**137**	*i* P	**Pn**	**02 54 37.9**	**+1.6**
PSGC				*eS*	**Sn**	**02 55 18.8**	**-0.3**
PSGC				IAML		02 55 24.9	
	comp=N,55nm,0.2s						
PSGCX	**Pisagua**	**3.73**	**137**		**Pn**	**02 54 37.6**	**+1.3**
MNMC	**Minye Minye**	**3.80**	**127**		**Pn**	**02 54 38.4**	**+1.0**
MNMC	**Minye Minye**	**3.80**	**127**	*eP*	**Pn**	**02 54 39.3**	**+1.9**
MNMC				*eS*	**Sn**	**02 55 23.1**	**+2.0**
PB11	**IPOC Station P**	**4.16**	**134**	Pn	**Pn**	**02 54 44.0**	**+1.8**
PB11	**IPOC Station P**	**4.16**	**134**	*eP*	**Pn**	**02 54 43.9**	**+1.7**
TA02	**Huaiquique**	**4.24**	**144**	Pn	**Pn**	**02 54 44.6**	**+1.5**
HMBC	**Humberstone**	**4.38**	**141**	*i* P	**Pn**	**02 54 47.3**	**+2.0**
HMBC				*eS*	**Sn**	**02 55 34.2**	**-1.1**
GO01	**Chusmiza**	**4.42**	**130**		**Pn**	**02 54 47.6**	**+1.5**
GO01	**Chusmiza**	**4.42**	**130**	*eP*	**Pn**	**02 54 48.5**	**+2.3**
TA01	**Diego Aracena**	**4.45**	**146**		**Pn**	**02 54 47.4**	**+1.4**
TA01	**Diego Aracena**	**4.45**	**146**	*eP*	**Pn**	**02 54 47.9**	**+1.8**
LPAZ	**La Paz**	**4.52**	**83**		**Pn**	**02 54 50.5**	**+2.9**
PATCX	**Punta Patache**	**4.67**	**148**	Pn	**Pn**	**02 54 50.4**	**+1.2**
PATCX	**Punta Patache**	**4.67**	**148**	*eP*	**Pn**	**02 54 51.1**	**+1.8**
PB08	**IPOC Station P**	**4.76**	**134**		**Pn**	**02 54 52.0**	**+1.3**
PB08	**IPOC Station P**	**4.76**	**134**	*eP*	**Pn**	**02 54 52.8**	**+2.0**
PB01	**IPOC Station P**	**5.21**	**143**		**Pn**	**02 54 57.4**	**+0.7**
PB01	**IPOC Station P**	**5.21**	**143**	*eP*	**Pn**	**02 54 58.3**	**+1.7**
PB02	**IPOC Station P**	**5.22**	**149**		**Pn**	**02 54 58.2**	**+1.4**
PB07	**IPOC Station P**	**5.57**	**151**		**Pn**	**02 55 02.6**	**+1.0**
PB03	**IPOC Station P**	**5.91**	**151**		**Pn**	**02 55 07.5**	**+1.2**
PB09	**IPOC Station P**	**5.95**	**146**		**Pn**	**02 55 07.5**	**+0.6**
PB04	**IPOC Station P**	**5.99**	**156**	Pn	**Pn**	**02 55 08.6**	**+1.1**
NNA	**Nana**	**6.23**	**321**	Pn	**Pn**	**02 55 12.2**	**+1.6**
LVC	**Limon Verde**	**6.79**	**148**	Pn	**Pn**	**02 55 18.0**	**-0.6**
AF01	**San Pedro de A**	**7.46**	**145**	Pn	**Pn**	**02 55 30.0**	**+2.3**
GO02	**Mina Guanaco**	**8.79**	**161**	Pn	**Pn**	**02 55 46.0**	**+0.1**
CZSB	**Cruzeiro do Su**	**9.08**	**1**	Pn	**Pn**	**02 55 47.8**	**-1.9**
ETMB	**Extrema**	**9.49**	**43**	Pn	**Pn**	**02 55 55.0**	**-0.4**
BOSC	**San Juan Bosco**	**14.73**	**337**	Pn	**Pn**	**02 57 06.1**	**-1.0**

WEL 25 03:03:42.9±0.3, 42°S±3°×17°4E±°, h5km, M2.2/11, ML2.4/14, MLv2.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=139.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.15**	**201**	P	Pg	03 03 46.4	+0.3
CMWZ				S	Sg	03 03 49.0	+1.0
TUWZ	**Tuamarina**	**0.31**	**304**	P	Pg	03 03 49.8	+0.8
BSWZ	**Blackbirch Sta**	**0.33**	**251**	P	Pg	03 03 49.6	+0.3
TCW	**Tory Channel**	**0.40**	**359**	P	Pg	03 03 51.2	+0.6
WEL	**Wellington**	**0.48**	**48**	P	Pg	03 03 53.0	+0.8
PLWZ	**Palliser**	**0.73**	**87**	P	Pg	03 03 57.4	+0.6
MSWZ	**Moikau Station**	**0.75**	**76**	P	Pg	03 03 57.7	+0.4
CAW	**Cannon Point**	**0.77**	**50**	P	Pg	03 03 57.8	+0.1
NNZ	**Nelson**	**0.79**	**299**	P	Pg	03 03 58.2	+0.1
DUWZ	**D'Urville Isla**	**0.85**	**341**	P	Pg	03 03 59.4	+0.1
KIW	**Kapiti Island**	**0.88**	**32**	P	Pg	03 03 59.8	-0.1
MTW	**Mount Morrison**	**1.02**	**64**	P	Pg	03 04 02.5	0.0
OGWZ	**Otaki Gorge**	**1.03**	**40**	P	Pg	03 04 02.6	-0.1
THZ	**Tophouse**	**1.05**	**261**	P	Pg	03 04 01.5	-1.6
TKNZ	**Takaka Hill**	**1.15**	**299**	P	Pg	03 04 04.4	-0.7
MRNZ	**Matariki Terra**	**1.17**	**280**	P	Pg	03 04 05.4	0.0
TMWZ	**Te Maipa**	**1.30**	**68**	P	Pn	03 04 06.4	-1.4
MRZ	**Mangatainoka R**	**1.36**	**46**	P	Pn	03 04 07.6	-0.9
QRZ	**Quartz Range**	**1.54**	**300**	P	Pb	03 04 11.6	-0.3

*NOU **25** 03:04:19.9, 41°.84S×174°.52E, h15km, MLv3.7/7, Cook Strait, New Zealand*
*WEL **25** 03:04:20.7±0.3, 42°S±3°×17°4E±°, h13km±2km, M3.3/37, ML3.5/25, MLv3.3/37, Error ellipse: s-maj=0.0km s-min=0.0km az=140.4*

ISC 25 03:04:20.9±1.0, 41°.73S±0°.03×174°.37E±0°.03, h20km±6km, n70, σ0§94/73, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**262**	P	**Pg**	**03 04 25.1**	**+0.1**
CMWZ				S	**Sg**	**03 04 28.9**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.37**	**273**	P	**Pg**	**03 04 28.3**	**-0.4**
BSWZ				S	**Sg**	**03 04 34.2**	**+0.2**
TUWZ	**Tuamarina**	**0.44**	**314**	P	**Pg**	**03 04 29.2**	**-0.8**
TUWZ				S	**Sg**	**03 04 35.1**	**-1.0**
SNZO	**South Karori**	**0.49**	**31**	P	**Pg**	**03 04 31.0**	**+0.1**
TCW	**Tory Channel**	**0.53**	**353**	P	**Pg**	**03 04 30.7**	**-0.8**
TCW				S	**Sg**	**03 04 37.4**	**-1.3**
WEL	**Wellington**	**0.54**	**34**	P	**Pg**	**03 04 31.9**	**+0.1**
PLWZ	**Palliser**	**0.69**	**76**	P	**Pg**	**03 04 35.4**	**+1.0**
MSWZ	**Moikau Station**	**0.74**	**65**	P	**Pg**	**03 04 36.3**	**+0.9**
CAW	**Cannon Point**	**0.82**	**40**	P	**Pb**	**03 04 36.7**	**+0.2**
PAWZ	**Paruwai Farm**	**0.87**	**67**	P	**Pb**	**03 04 37.9**	**+0.6**
NNZ	**Nelson**	**0.90**	**305**	P	**Pb**	**03 04 37.3**	**-0.6**
KHZ	**Kahutara**	**0.92**	**222**	P	**Pb**	**03 04 38.8**	**+0.7**
KHZ	**Kahutara**	**0.92**	**222**	P	**Pb**	**03 04 38.7**	**+0.7**
KIW	**Kapiti Island**	**0.96**	**25**	P	**Pb**	**03 04 38.8**	**-0.1**
DUWZ	**D'Urville Isla**	**0.99**	**340**	P	**Pb**	**03 04 38.8**	**-0.5**
MTW	**Mount Morrison**	**1.03**	**56**	P	**Pb**	**03 04 40.0**	**0.0**
TRWZ	**Traveller**	**1.05**	**72**	P	**Pb**	**03 04 40.1**	**-0.2**
THZ	**Tophouse**	**1.09**	**268**	P	**Pb**	**03 04 41.0**	**-0.2**
OGWZ	**Otaki Gorge**	**1.10**	**34**	P	**Pb**	**03 04 41.2**	**0.0**
HOWZ	**Holdsworth Sta**	**1.20**	**46**	P	**Pn**	**03 04 42.7**	**0.0**
MRNZ	**Matariki Terra**	**1.25**	**285**	P	**Pn**	**03 04 43.7**	**+0.4**
TKNZ	**Takaka Hill**	**1.27**	**303**	P	**Pn**	**03 04 43.6**	**+0.1**
TMWZ	**Te Maipa**	**1.31**	**62**	P	**Pn**	**03 04 43.6**	**-0.4**
MRZ	**Mangatainoka R**	**1.41**	**41**	P	**Pn**	**03 04 45.3**	**-0.1**
GVZ	**Greta Valley S**	**1.58**	**218**	P	**Pn**	**03 04 47.5**	**-0.2**
CPWZ	**Castlepoint**	**1.61**	**60**	P	**Pn**	**03 04 47.7**	**-0.4**
QRZ	**Quartz Range**	**1.66**	**303**	P	**Pn**	**03 04 49.9**	**+1.1**
QRZ	**Quartz Range**	**1.66**	**303**	P	**Pn**	**03 04 50.0**	**+1.1**
PRWZ	**Pori Road**	**1.69**	**46**	P	**Pn**	**03 04 48.9**	**-0.4**
POWZ	**Post Office Ro**	**1.71**	**39**	P	**Pn**	**03 04 49.7**	**+0.2**
BFZ	**Birch Farm**	**1.77**	**54**	P	**Pn**	**03 04 49.5**	**-0.8**
BFZ	**Birch Farm**	**1.77**	**54**	P	**Pn**	**03 04 49.2**	**-1.1**
LTZ	**Lake Taylor**	**1.87**	**235**	P	**Pn**	**03 04 51.7**	**-0.1**
DSZ	**Denniston Nort**	**1.92**	**269**	P	**Pn**	**03 04 53.2**	**+0.7**
AMCZ	**Amberley**	**1.92**	**221**	P	**Pg**	**03 04 58.3**	**+0.4**
DVHZ	**Dannevirke**	**1.98**	**44**	P	**Pn**	**03 04 52.3**	**-0.9**
WAZ	**Wanganui**	**2.03**	**14**	P	**Pb**	**03 04 57.5**	**+0.4**
OKCZ	**Okains Bay**	**2.21**	**205**	P	**Pn**	**03 04 55.4**	**-1.0**
PNHZ	**Pukenui**	**2.29**	**38**	P	**Pn**	**03 04 57.0**	**-0.6**
MQZ	**McQueen's Vall**	**2.34**	**212**	P	**Pn**	**03 04 56.5**	**-1.7**
OXZ	**Oxford**	**2.34**	**226**	P	**Pb**	**03 05 03.8**	**+1.4**
INZ	**Inchbonnie**	**2.38**	**244**	P	**Pn**	**03 04 59.0**	**+0.1**
AKCZ	**Akaroa Harbour**	**2.39**	**206**	P	**Pn**	**03 04 57.8**	**-1.1**
KHEZ	**Kahui Hut**	**2.45**	**354**	P	**Pb**	**03 05 04.3**	**-0.1**
NBEZ	**Newall Road No**	**2.49**	**351**	P	**Pb**	**03 05 03.7**	**-1.2**
MOWZ	**Moawhango**	**2.55**	**25**	P	**Pb**	**03 05 05.8**	**-0.2**
PKE	**Pukeiti**	**2.55**	**353**	P	**Pb**	**03 05 06.0**	**-0.1**
RACZ	**Rakaia**	**2.58**	**219**	P	**Pn**	**03 05 00.3**	**-1.2**
WNVZ	**Wahianoa**	**2.58**	**22**	P	**Pb**	**03 05 06.4**	**-0.2**
BHHZ	**Black Hill Sta**	**2.59**	**31**	P	**Pn**	**03 05 02.8**	**+1.1**
WHVZ	**Whangaehu Hut**	**2.62**	**21**	P	**Pb**	**03 05 07.0**	**-0.3**
VRZ	**Vera Road**	**2.62**	**7**	P	**Pn**	**03 05 05.2**	**+3.1**
FWVZ	**Far West T-bar**	**2.64**	**20**	P	**Pb**	**03 05 07.6**	**+0.1**
SNVZ	**South Ngauruho**	**2.72**	**21**	P	**Pb**	**03 05 09.0**	**0.0**
OTVZ	**Oturere**	**2.75**	**22**	P	**Pb**	**03 05 08.3**	**-1.2**
NNVZ	**North Ngauruho**	**2.77**	**21**	P	**Pb**	**03 05 10.0**	**+0.2**
KWHZ	**Kaweka Forest**	**2.79**	**35**	P	**Pn**	**03 05 03.9**	**-0.6**
ETVZ	**East Tongariro**	**2.79**	**22**	P	**Pb**	**03 05 09.0**	**-1.1**
TMVZ	**Te Maari**	**2.81**	**22**	P	**Pb**	**03 05 09.9**	**-0.5**
KRVZ	**Karewarewa**	**2.81**	**21**	P	**Pb**	**03 05 10.5**	**0.0**
NTVZ	**North Tongarir**	**2.82**	**21**	P	**Pb**	**03 05 09.8**	**-0.8**
KATZ	**Kakaramea**	**2.94**	**21**	P	**Pb**	**03 05 11.6**	**-1.1**
WVZ	**Waitaha Valley**	**3.00**	**242**	P	**Pn**	**03 05 07.8**	**+0.5**
RPZ	**Rata Peaks**	**3.14**	**230**	P	**Pn**	**03 05 08.7**	**-0.6**
HIZ	**Hauiti**	**3.24**	**7**	P	**Pn**	**03 05 12.9**	**+2.3**
HIZ	**Hauiti**	**3.24**	**7**	P	**Pn**	**03 05 13.5**	**+2.9**
TMZ	**Timaru**	**3.62**	**222**	P	**Pn**	**03 05 14.8**	**-1.0**
ODZ	**Otahua Downs**	**4.28**	**218**	P	**Pn**	**03 05 23.9**	**-0.9**
ODZ	**Otahua Downs**	**4.28**	**218**	P	**Pn**	**03 05 23.4**	**-1.4**
PKGZ	**Pakihiroa**	**4.79**	**38**	P	Pn	03 05 37.1	+5.2

*KRSC **25** 03:09:13.0±0.7, 54°.92N×160°.74E, h120km±9km, ML4.1*
*IDC **25** 03:09:13.9±2.0, 55°.24N×160°.20E, h110km±20km, mb3.5/14, mbtmp3.8/15, Error ellipse: s-maj=23.7km s-min=13.2km az=153.0*
*MOS **25** 03:09:13.6±0.7, 54°.99N×160°.58E, h124km, mb3.7/5, Error ellipse: s-maj=14.1km s-min=4.4km az=75.8*

ISC 25 03:09:14.5±0.6, 54°.95N±0°.03×160°.69E±0°.04, h117km±5km, n104, σ1§16/131, mb3.7/16, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMD	**Tumrok D**	**0.30**	**327**	*eP*	**Pn**	**03 09 30.2**	**-0.9**
TUMD				*eS*	**Sn**	**03 09 43.4**	**-0.3**
TUMR	**Tumrok**	**0.45**	**317**	*eP*	**Pn**	**03 09 31.9**	**-0.1**
TUMR				*eS*	**Sn**	**03 09 45.4**	**+0.2**
TUMR	**Tumrok**	**0.45**	**317**	PN	**Pn**	**03 09 31.9**	**-0.1**
TUMR				S	**Sn**	**03 09 45.4**	**+0.2**
MKZ	**Mys Kozlova**	**0.72**	**123**	*eP*	**Pn**	**03 09 33.6**	**-0.1**
MKZ				*eS*	**Sn**	**03 09 48.3**	**+0.2**
MKZ	**Mys Kozlova**	**0.72**	**123**	PN	**Pn**	**03 09 33.6**	**-0.1**
MKZ				S	**Sn**	**03 09 48.3**	**+0.2**
KMNR	**Kamenistaya**	**0.84**	**343**	*eP*	**Pn**	**03 09 34.9**	**0.0**
KMNR	**Kamenistaya**	**0.84**	**343**	PN	**Pn**	**03 09 34.9**	**0.0**
BZGR	**Bezymyannyi-Gr**	**0.99**	**0**	*eP*	**Pn**	**03 09 36.1**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**0.99**	**0**	PN	**Pn**	**03 09 36.1**	**-0.2**
BZMR	**Bezymyannaya**	**0.99**	**354**	*eP*	**Pn**	**03 09 36.1**	**-0.2**
BZMR	**Bezymyannaya**	**0.99**	**354**	PN	**Pn**	**03 09 36.1**	**-0.2**
BZWR	**Bezymyannyi-We**	**1.02**	**354**	*eP*	**Pn**	**03 09 36.5**	**-0.1**
BZWR	**Bezymyannyi-We**	**1.02**	**354**	PN	**Pn**	**03 09 36.5**	**-0.1**
KIRR	**Kirishev**	**1.02**	**349**	*eP*	**Pn**	**03 09 36.3**	**-0.3**
KIRR				*eS*	**Sn**	**03 09 53.0**	**-0.4**
KIRR	**Kirishev**	**1.02**	**349**	PN	**Pn**	**03 09 36.3**	**-0.3**
KIRR				S	**Sn**	**03 09 53.0**	**-0.4**
KPT	**Kopyto**	**1.05**	**346**	*eP*	**Pn**	**03 09 36.5**	**-0.3**
KPT	**Kopyto**	**1.05**	**346**	PN	**Pn**	**03 09 36.5**	**-0.3**
ZLN	**Zelenaya**	**1.07**	**4**	*eP*	**Pn**	**03 09 37.3**	**+0.3**
ZLN	**Zelenaya**	**1.07**	**4**	PN	**Pn**	**03 09 37.3**	**+0.3**
LGNR	**Loginova**	**1.13**	**0**	*eP*	**Pn**	**03 09 38.2**	**+0.3**
LGNR	**Loginova**	**1.13**	**0**	PN	**Pn**	**03 09 38.2**	**+0.3**
CIRR	**Tsirk**	**1.17**	**2**	*eP*	**Pn**	**03 09 38.7**	**+0.6**
CIRR	**Tsirk**	**1.17**	**2**	PN	**Pn**	**03 09 38.7**	**+0.6**
KOZ	**Kozyrevsk**	**1.20**	**338**	*eP*	**Pn**	**03 09 38.2**	**-0.1**
KOZ	**Kozyrevsk**	**1.20**	**338**	PN	**Pn**	**03 09 38.2**	**-0.1**
KRSR	**Krestovskiy**	**1.27**	**357**	*eP*	**Pn**	**03 09 38.7**	**-0.5**
KRSR	**Krestovskiy**	**1.27**	**357**	PN	**Pn**	**03 09 38.7**	**-0.5**
KLY	**Klyuchi**	**1.36**	**359**	*eP*	**Pn**	**03 09 40.3**	**+0.2**
KLY	**Klyuchi**	**1.36**	**359**	PN	**Pn**	**03 09 40.3**	**+0.2**
SRDR	**Sredinnyy**	**1.47**	**339**	*eP*	**Pn**	**03 09 41.1**	**-0.3**
SRDR	**Sredinnyy**	**1.47**	**339**	PN	**Pn**	**03 09 41.1**	**-0.3**
BDR	**Baidarnaya**	**1.65**	**10**	*eP*	**Pn**	**03 09 44.1**	**+0.6**
BDR				*eS*	**Sn**	**03 10 06.9**	**+1.3**
BDR	**Baidarnaya**	**1.65**	**10**	PN	**Pn**	**03 09 44.1**	**+0.6**
BDR				S	**Sn**	**03 10 06.9**	**+1.3**
SMKR	**Semkarok**	**1.69**	**15**	*eP*	**Pn**	**03 09 44.3**	**+0.3**
SMKR				*eS*	**Sn**	**03 10 07.5**	**+0.9**
SMKR	**Semkarok**	**1.69**	**15**	PN	**Pn**	**03 09 44.3**	**+0.3**
SMKR				S	**Sn**	**03 10 07.5**	**+0.9**
SRKR	**Sorokina**	**1.73**	**9**	*eP*	**Pn**	**03 09 44.9**	**+0.4**
SRKR				*eS*	**Sn**	**03 10 09.0**	**+1.7**
SRKR	**Sorokina**	**1.73**	**9**	PN	**Pn**	**03 09 44.9**	**+0.4**
SRKR				S	**Sn**	**03 10 09.0**	**+1.7**
KBG	**Krutoberegovo**	**1.74**	**40**	*eP*	**Pn**	**03 09 45.6**	**+1.1**
KBG				*eS*	**Sn**	**03 10 09.7**	**+2.3**
KBG	**Krutoberegovo**	**1.74**	**40**	PN	**Pn**	**03 09 45.6**	**+1.1**
KBG				S	**Sn**	**03 10 09.7**	**+2.3**
KBTR	**Krutoberegovo**	**1.75**	**43**	*eP*	**Pn**	**03 09 45.2**	**+0.6**
KBTR				*eS*	**Sn**	**03 10 08.6**	**+1.0**
KBTR	**Krutoberegovo**	**1.75**	**43**	PN	**Pn**	**03 09 45.2**	**+0.6**
KBTR				S	**Sn**	**03 10 08.6**	**+1.0**
NLC	**Nalytchevo**	**1.95**	**204**	*eP*	**Pn**	**03 09 47.0**	**-0.1**
NLC				*eS*	**Sn**	**03 10 12.1**	**0.0**
NLC	**Nalytchevo**	**1.95**	**204**	PN	**Pn**	**03 09 47.0**	**-0.1**
NLC				S	**Sn**	**03 10 12.1**	**0.0**
SDLR	**Sedlovina**	**1.98**	**213**	*eP*	**Pn**	**03 09 47.7**	**0.0**
SDLR	**Sedlovina**	**1.98**	**213**	PN	**Pn**	**03 09 47.7**	**0.0**
KRER	**Koryakskii**	**2.01**	**215**	*eP*	**Pn**	**03 09 48.8**	**+0.7**
KRER	**Koryakskii**	**2.01**	**215**	PN	**Pn**	**03 09 48.8**	**+0.7**
SMAR	**Somma**	**2.02**	**214**	*eP*	**Pn**	**03 09 48.2**	**-0.1**
SMAR	**Somma**	**2.02**	**214**	PN	**Pn**	**03 09 48.2**	**-0.1**
GNL	**Ganaly**	**2.04**	**233**	*eP*	**Pn**	**03 09 48.4**	**0.0**
GNL	**Ganaly**	**2.04**	**233**	PN	**Pn**	**03 09 48.4**	**0.0**
KOK	**Koryaka**	**2.06**	**217**	*eP*	**Pn**	**03 09 48.9**	**+0.3**
KOK	**Koryaka**	**2.06**	**217**	PN	**Pn**	**03 09 48.9**	**+0.3**
UGLR	**Uglovaya**	**2.06**	**213**	*eP*	**Pn**	**03 09 49.3**	**+0.6**
UGLR	**Uglovaya**	**2.06**	**213**	PN	**Pn**	**03 09 49.3**	**+0.6**
DALK	**Dalny**	**2.24**	**211**	*eP*	**Pn**	**03 09 50.7**	**0.0**
DALK				*eS*	**Sn**	**03 10 18.8**	**+0.3**
DALK	**Dalny**	**2.24**	**211**	PN	**Pn**	**03 09 50.7**	**0.0**
DALK				S	**Sn**	**03 10 18.8**	**+0.3**
PET	**Petropavlovsk**	**2.27**	**213**	*eP*	**Pn**	**03 09 51.7**	**+0.5**
PET				*eS*	**Sn**	**03 10 20.1**	**+0.7**
PET	**Petropavlovsk**	**2.27**	**213**	*e*PN	**Pn**	**03 09 51.6**	**+0.4**
PET				*eS*	**Sn**	**03 10 19.7**	**+0.3**
PET				pmax	pmax		
	comp=Z,304nm,0.6s						
PET				smax	smax		
	comp=E,588nm,0.5s						
PET				smax	smax		
	comp=N,505nm,0.6s						
PEA0B	**Petropavlovsk-**	**2.55**	**225***c*	*i*PN	**Pn**	**03 09 54.8**	**0.0**
PETK	**Petropavlovsk-**	**2.55**	**225**	P	**Pn**	**03 09 54.2**	**-0.6**
	comp=N,15nm,0.5s,baz=68,slow=14,SNR=82						
PETK				S	**Sn**	**03 10 32.4**	**+6.6**
	comp=N,7.9nm,0.4s,baz=91,slow=5.9,SNR=5.7						
KRMR	**Karymshinskiy**	**2.61**	**216**	*eP*	**Pn**	**03 09 55.5**	**0.0**
KRMR	**Karymshinskiy**	**2.61**	**216**	PN	**Pn**	**03 09 55.5**	**0.0**
RUS	**Russkaya**	**2.83**	**208**	*eP*	**Pn**	**03 09 57.5**	**-1.0**
RUS				*eS*	**Sn**	**03 10 30.1**	**-2.2**
RUS	**Russkaya**	**2.83**	**208**	PN	**Pn**	**03 09 57.5**	**-1.0**
RUS				S	**Sn**	**03 10 30.1**	**-2.2**
GRL	**Gorelyy**	**2.86**	**214**	*eP*	**Pn**	**03 09 59.2**	**+0.2**
GRL	**Gorelyy**	**2.86**	**214**	PN	**Pn**	**03 09 59.2**	**+0.2**
MTVR	**Mutnovka**	**2.89**	**212**	*eP*	**Pn**	**03 09 59.4**	**+0.1**
MTVR	**Mutnovka**	**2.89**	**212**	PN	**Pn**	**03 09 59.4**	**+0.1**
APC	**Apacha**	**2.91**	**227**	*eP*	**Pn**	**03 10 00.2**	**+0.7**
APC	**Apacha**	**2.91**	**227**	PN	**Pn**	**03 10 00.2**	**+0.7**
BKI	**Bering**	**3.05**	**83**	*e*S	**Sn**	**03 10 34.6**	**-2.7**
KDTR	**Khodutka, Kamc**	**3.52**	**207**	*eP*	**Pn**	**03 10

H10S2	**ASCENSION HYDR** baz=237,slow=74,SNR=73	**9.53**	**162**	T	T	03 27 39.3		
LIC	**Lamto** 15nm,0.2s	**13.90**	**64**	⇑*iP*	**Pn**	**03 18 32.2**	**-0.1**	
TIC	**Toumodi** 28nm,0.3s	**14.09**	**63**	*eP*	**Pn**	**03 18 34.3**	**-0.6**	
KIC	**Kosan Boka** 26nm,0.3s	**14.22**	**64**	⇑*iP*	**Pn**	**03 18 35.7**	**-0.9**	
DBIC	**Dimbokro** 3.5nm,0.3s,baz=257,slow=15,SNR=43	**14.25**	**63**	Pn	**Pn**	**03 18 35.0**	**-2.0**	
DBIC	1.5nm,0.3s,baz=157,slow=20,SNR=4.2			Sn	Sn	03 21 02.6	-13	
DBIC	comp=Z,87nm,18.4s,baz=242,slow=36 12nm,0.4s			LR	LR	03 23 40.6		
BBTS	**Babate** 4.1nm,0.3s,baz=336,slow=9.2,SNR=6.5	**14.43**	**4**	Pn	**Pn**	**03 18 38.3**	**-1.2**	
BBTS	5.3nm,0.3s,baz=330,slow=22,SNR=8.0			Sn	Sn	03 21 08.0	-12	
BBTS	comp=Z,111nm,19.3s,baz=212,slow=35 15nm,0.4s			LR	LR	03 23 38.6		
BDFB	**Brasilia** 2.4nm,0.8s,baz=139,slow=11,SNR=2.8 2.4nm,0.8s	**33.90**	**241**	P	**P**	**03 21 58.0**	**-0.5**	
MDT	**Midelt** comp=Z,52nm,21.0s,baz=204,slow=35	**34.70**	**19**	LR	LR	03 35 33.5		
KEST	**Kesra** comp=Z,69nm,19.1s,baz=220,slow=38	**43.36**	**32**	LR	LR	03 42 46.6		
SIV	**San Ignacio** 1.7nm,0.9s,baz=39,slow=13,SNR=2.2 1.7nm,0.9s	**45.81**	**247**	P	**P**	**03 23 36.8**	**-0.7**	
LSZ	**Lusaka** comp=Z,61nm,19.8s,baz=102,slow=31	**47.75**	**111**	LR	LR	03 40 04.1		
LBTB	**Lobatse** comp=Z,23nm,18.2s,baz=14,slow=33	**48.68**	**124**	LR	LR	03 41 41.9		
LPAZ	**La Paz** 1.1nm,0.9s,baz=56,slow=7.3,SNR=3.5 1.1nm,0.9s	**52.45**	**249**	P	**P**	**03 24 29.2**	**+0.2**	
IDI	**Anoyia** comp=Z,16nm,18.9s,baz=253,slow=37	**52.77**	**44**	LR	LR	03 47 53.8		
SQTA	**Sankt Quirin** 1.8nm,0.5s	**53.17**	**24**	*eP*	**P**	**03 24 34.6**	**+1.4**	
ABTA	**Abfaltersbach** 0.9nm,0.5s	**53.34**	**25**	*eP*	**P**	**03 24 36.3**	**+1.8**	
GERES	**GERESS Array B** 0.9nm,0.7s,baz=212,slow=9.1,SNR=6.7 0.9nm,0.7s	**55.48**	**25**	P	**P**	**03 24 49.8**	**-0.3**	
ROSC	**El Rosal** comp=Z,57nm,19.0s,baz=250,slow=33	**56.84**	**276**	LR	LR	03 46 41.7		
CFA	**Coronel Fontan** comp=Z,29nm,18.1s,baz=96,slow=36	**57.35**	**232**	LR	LR	03 49 23.0		
MLR	**Muntele Rosu** comp=Z,36nm,19.6s,baz=228,slow=37	**59.20**	**34**	LR	LR	03 51 52.7		
BRTR	**Keskin Array B** 1.4nm,0.8s,baz=250,slow=7.3,SNR=9.9 1.4nm,0.8s	**61.00**	**43**	P	**P**	**03 25 30.2**	**+1.3**	
AKASG	**Malin Array Be** 0.4nm,0.5s,baz=234,slow=1.5,SNR=6.9	**64.06**	**31**	P	**P**	**03 25 48.7**	**-0.2**	
AKASG	comp=Z,18nm,18.0s,baz=334,slow=39 0.4nm,0.5s			LR	LR	03 56 37.9		
FINES	**FINESS Array B** 1.2nm,0.6s,baz=224,slow=7.7,SNR=7.4 1.2nm,0.6s	**69.50**	**21**	P	**P**	**03 26 24.3**	**+0.9**	
TXAR	**Lajitas Array** 0.7nm,0.8s,baz=117,slow=7.3,SNR=5.8 0.7nm,0.8s	**86.49**	**299**	P	**P**	**03 27 58.9**	**+0.3**	
ASAR	**Alice Springs** 0.2nm,0.5s,baz=216,slow=2.2,SNR=4.5	**143.80**	**132**	PKhKP	PKPpre	03 34 48.4		
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=236,slow=2.5,SNR=12	**146.21**	**127**	PKPbc	**PKPbc**	**03 34 56.0**	**-0.5**	

*NNC **25** 03:20:34.7±0.9, 44.75N×79.64E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=11.9km s-min=5.1km az=107.0*
*SOME **25** 03:20:35.4, 44.73N×79.52E, h10km*
ISC 25 03:20:35.2±1.3, 44.75N±0.04×79.54E±0.04, h6km±11km, n18, σ0.42/34, 5C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent** 13nm,0.1s	**0.45**	**157**	*eP*		**Pg**	**03 20 44.1**	**+0.1**
DJR	13nm,0.2s			*eS*		**Sg**	**03 20 50.5**	**+0.6**
DJR	**Jarkent** 13nm,0.1s	**0.45**	**157**	P		**Pg**	**03 20 44.1**	**+0.1**
DJR	8.7nm,0.2s			S		**Sg**	**03 20 50.5**	**+0.6**
TDK	**Taldyqorghan** 32nm,0.2s	**0.85**	**288**	*eP*		**Pg**	**03 20 51.3**	**-0.2**
TDK	41nm,0.2s			*eS*		**Sg**	**03 21 02.6**	**+0.1**
PDGK	**Podgornoye** 0.5nm,0.2s	**1.42**	**182**	P		**Pn**	**03 21 01.5**	**-0.3**
PDGK	2.3nm,0.3s			S		**Sg**	**03 21 20.5**	**-0.4**
PDGK	**Podgornoye** 5.2nm,1.2s	**1.42**	**182**	⇓P		**Pn**	**03 21 01.0**	**-0.8**
PDGK	2.2nm,0.3s			⇑S		**Sb**	**03 21 20.1**	**-0.6**
KPKS	**Kokpek** 3.5nm,0.2s	**1.42**	**206**	*eP*		**Pb**	**03 21 02.1**	**-0.2**
KPKS	9.0nm,0.2s			*eS*		**Sn**	**03 21 21.3**	**+0.4**
KPKS	**Kokpek** 3.5nm,0.2s	**1.42**	**206**	P		**Pb**	**03 21 02.1**	**-0.2**
KPKS	9.0nm,0.2s			S		**Sn**	**03 21 21.3**	**+0.4**
SHLS	**Shalkode** 1.5nm,0.3s	**1.59**	**182**	*eP*		**Pb**	**03 21 05.0**	**-0.2**
SHLS	6.6nm,0.4s			*eS*		**Sg**	**03 21 26.1**	**-0.3**
SHLS	**Shalkode** 2.7nm,0.2s	**1.59**	**182**	P		**Pn**	**03 21 04.4**	**+0.3**
SHLS	3.4nm,0.0s			S		**Sb**	**03 21 25.2**	**-0.4**
KURS	**Kuram** 1.9nm,0.6s	**1.60**	**219**	*eP*		**Pb**	**03 21 05.0**	**-0.3**
KURS	10nm,0.4s			*eS*		**Sb**	**03 21 26.1**	**+0.3**
UZB	**Uzynbulak** 0.5nm,0.1s	**1.65**	**193**	*eP*		**Pb**	**03 21 05.6**	**-0.4**
UZB	5.1nm,0.2s			*eS*		**Sb**	**03 21 27.4**	**+0.2**
UZB	**Uzynbulak** 0.5nm,0.1s	**1.65**	**193**	P		**Pb**	**03 21 05.6**	**-0.4**
UZB	5.1nm,0.2s			S		**Sb**	**03 21 27.4**	**+0.2**
ZHN	**Zhinishke** 5.9nm,0.2s	**1.77**	**207**	*eP*		**Pb**	**03 21 08.2**	**0.0**
ZHN	30nm,0.2s			*eS*		**Sg**	**03 21 31.8**	**-0.3**
SATY	**Saty** 1.3nm,0.2s	**1.88**	**206**	*eP*		**Pb**	**03 21 09.7**	**-0.3**
SATY	20nm,0.3s			*eS*		**Sb**	**03 21 34.3**	**+0.5**
SATY	**Saty** 1.6nm,0.1s	**1.88**	**206**	P		**Pb**	**03 21 10.3**	**+0.2**
SATY	8.3nm,0.1s			S		**Sg**	**03 21 35.3**	**-0.2**
CHKK	**Chushkaly** 2.0nm,0.1s	**2.04**	**245**	*eP*		**Pb**	**03 21 12.6**	**-0.2**
CHKK	6.7nm,0.3s			*eS*		**Sb**	**03 21 39.4**	**+1.0**
MAKZ	**Makanchi** 0.3nm,0.5s	**2.67**	**39**	⇑Pn		**Pn**	**03 21 18.3**	**-0.6**
MAKZ	0.7nm,0.7s			⇑Lg		Lg	03 21 55.4	
MK31	**Makanchi Array** baz=199,slow=38,SNR=3.6	**2.81**	**42**	⇑Pn		**Pn**	**03 21 21.0**	**+0.2**
MK31	0.3nm,0.3s,baz=215,slow=24,SNR=5.6			⇑Lg		Lg	03 21 59.2	

*NNC **25** 03:22:37.0±1.7, 44.38N×80.41E, h0km, mb2.7, mpv2.7, Error ellipse: s-maj=25.6km s-min=8.2km az=134.0*
*SOME **25** 03:22:37.6, 44.75N×79.53E, h10km*
ISC 25 03:22:36.0±1.4, 44.85N±0.04×79.61E±0.05, h12km±12km, n15, σ0.48/30, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent** 6.0nm,0.0s	**0.53**	**166**	*eP*		**Pg**	**03 22 46.5**	**+0.1**
DJR	9.2nm,0.1s			*eS*		**Sg**	**03 22 53.1**	**-0.3**
DJR	**Jarkent** 6.0nm,0.0s	**0.53**	**166**	P		**Pg**	**03 22 46.5**	**+0.1**
DJR	9.2nm,0.1s			S		**Sg**	**03 22 53.1**	**-0.3**
TDK	**Taldyqorghan** 20nm,0.1s	**0.87**	**281**	*eP*		**Pb**	**03 22 53.5**	**+0.5**
TDK	32nm,0.4s			*eS*		**Sb**	**03 23 05.1**	**+0.4**
BLB	**Baldybastay** 7.7nm,0.2s	**1.11**	**228**	*eP*		**Pb**	**03 22 56.7**	**-0.4**
BLB	13nm,0.2s			*eS*		**Sb**	**03 23 10.3**	**-1.2**
ARXS	**Arharly** 1.7nm,0.4s	**1.43**	**244**	*eP*		**Pn**	**03 23 02.2**	**+0.4**
ARXS	8.7nm,0.4s			*eS*		**Sn**	**03 23 19.9**	**-0.5**
KPKS	**Kokpek** 3.1nm,0.1s	**1.53**	**206**	*eP*		**Pb**	**03 23 04.4**	**0.0**
KPKS	15nm,0.1s			*eS*		**Sb**	**03 23 23.6**	**-0.2**
KPKS	**Kokpek** 3.1nm,0.2s	**1.53**	**206**	P		**Pb**	**03 23 03.9**	**-0.5**
KPKS	11nm,0.3s			S		**Sn**	**03 23 22.9**	**-0.3**
SHLS	**Shalkode** 1.6nm,0.2s	**1.69**	**184**	*eP*		**Pb**	**03 23 07.6**	**+0.5**
SHLS	2.6nm,0.2s			*eS*		**Sb**	**03 23 28.9**	**+0.5**
KURS	**Kuram** 1.6nm,0.4s	**1.71**	**218**	*eP*		**Pb**	**03 23 07.2**	**-0.2**
KURS	4.5nm,0.9s			*eS*		**Sb**	**03 23 28.4**	**-0.4**
UZB	**Uzynbulak** 0.9nm,0.2s	**1.75**	**194**	*eP*		**Pb**	**03 23 08.4**	**+0.3**
UZB	2.4nm,0.2s			*eS*		**Sb**	**03 23 30.6**	**+0.5**
UZB	**Uzynbulak** 1.1nm,0.1s	**1.75**	**194**	P		**Pb**	**03 23 08.0**	**-0.1**
UZB	1.5nm,0.1s			S		**Sb**	**03 23 29.9**	**-0.2**
SATY	**Saty** 2.6nm,0.2s	**1.99**	**206**	*eP*		**Pb**	**03 23 12.3**	**+0.1**
SATY	9.3nm,0.1s			*eS*		**Sb**	**03 23 37.2**	**+0.3**
SATY	**Saty** 2.6nm,0.2s	**1.99**	**206**	P		**Pb**	**03 23 12.3**	**+0.1**
SATY	9.3nm,0.1s			S		**Sb**	**03 23 37.2**	**+0.3**
MAKZ	**Makanchi** 1.7nm,1.2s	**2.56**	**39**	⇓Pn		**Pb**	**03 23 21.6**	**-0.3**
MAKZ	0.4nm,0.8s			⇑Sn		**Sb**	**03 23 53.9**	**+0.5**
MK31	**Makanchi Array** 0.1nm,0.2s	**2.70**	**43**	⇑Pn		**Pb**	**03 23 23.2**	**-1.0**
MK31	0.2nm,0.1s,baz=216,slow=24,SNR=4.8			⇑Sn		**Sb**	**03 23 57.9**	**+0.6**

MAN 25 03:28:48.3, 6.00N×126.01E, h122km, mb4.0, ML2.8, MS2.4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.36**	**318**	⇓*eP*		Pn	03 29 15.2	+0.9
KCP				*i* S		Sn	03 29 35.1	+1.0
BIPH	**Bislig**	**2.20**	**9**	⇓*iP*		Pn	03 29 38.5	+14
BIPH				*i* S		Sn	03 29 55.2	+3.2

IDC 25 03:29:32.0±6.1, 31.41S×178.88W, h0km, mb3.7/2, mbtmp3.7/2, MS3.0/1, Error ellipse: s-maj=249.8km s-min=55.1km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks** comp=Z,65nm,19.7s,baz=232,slow=38	**14.63**	**210**	LR	LR		03 38 48.4	
ASAR	**Alice Springs** 0.4nm,0.5s,baz=108,slow=7.7,SNR=10 0.4nm,0.5s	**42.31**	**268**	P	P		03 37 27.4	-0.3
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=114,slow=7.8,SNR=22 0.7nm,0.5s	**43.39**	**274**	P	P		03 37 36.7	+0.1
FINES	**FINESS Array B** 2.6nm,0.9s,baz=74,slow=6.4,SNR=8.6	**145.82**	**339**	PKPbc	PKPdf		03 49 11.5	-0.4

*IDC **25** 03:30:40.9±4.2, 48.45N×154.33E, h70km±34km, mb3.5/12, mbtmp3.8/13, ML2.7/1, MS2.9/1, Error ellipse: s-maj=47.1km s-min=18.8km az=159.0*
ISC 25 03:30:38.5±1.6, 48.4N±0.3×154.4E±0.2, h51km, n22, σ0.92/13, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 1.4nm,0.3s,baz=182,slow=12,SNR=30	**5.21**	**23**	P		**Pn**	**03 31 54.9**	**+1.0**
PETK	comp=Z,124nm,18.4s,baz=84,slow=42 3.9nm,0.4s			LR	LR		03 34 19.2	
KSRS	**Korea Array** 1.6nm,0.7s,baz=46,slow=9.5,SNR=4.8 1.6nm,0.7s	**22.11**	**250**	P		**P**	**03 35 30.5**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=345,slow=76,SNR=34	**30.29**	**156**	T	T		04 08 15.1	
H11N1	**WAKE ISLAND Hy** baz=345,slow=76,SNR=57	**30.31**	**156**	T	T		04 08 15.6	
H11N3	**WAKE ISLAND Hy** baz=345,slow=76,SNR=22	**30.31**	**156**	T	T		04 08 15.8	
H11S1	**WAKE ISLAND Hy** baz=345,slow=76,SNR=233	**31.41**	**157**	T	T		04 09 43.3	
H11S3	**WAKE ISLAND Hy** baz=345,slow=76,SNR=230	**31.42**	**157**	T	T		04 09 44.0	
H11S2	**WAKE ISLAND Hy** baz=345,slow=76,SNR=196	**31.43**	**157**	T	T		04 09 43.0	
ILAR	**Eielson Array** 0.9nm,1.1s,baz=265,slow=11,SNR=4.6 0.9nm,1.1s	**34.77**	**40**	P	**P**		**03 37 22.9**	**-0.7**
INK	**Inuvik** 0.6nm,0.5s,baz=308,slow=5.1,SNR=5.3 0.6nm,0.5s	**39.85**	**34**	P	**P**		**03 38 07.1**	**+0.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=71,slow=11,SNR=2.4 0.1nm,0.3s	**46.98**	**297**	P	**P**		**03 39 05.6**	**+1.4**
KURBB	**Kurchatov Arra** 2.6nm,0.2s,baz=73,slow=9.1,SNR=2.7 2.6nm,0.2s	**47.29**	**303**	P	**P**		**03 39 06.1**	**-0.4**
RES	**Resolute Bay** 1.0nm,0.4s,baz=315,slow=10.0,SNR=4.2 1.0nm,0.4s	**49.05**	**19**	P	**P**		**03 39 20.2**	**+0.5**
BVAR	**Borovoye Array** 1.7nm,0.4s,baz=47,slow=8.3,SNR=11 1.7nm,0.4s	**50.51**	**309**	P	**P**		**03 39 30.6**	**-0.6**
FINES	**FINESS Array B** 3.1nm,1.0s,baz=31,slow=8.9,SNR=8.2 3.1nm,1.0s	**62.95**	**335**	P	**P**		**03 40 57.9**	**-1.3**
NOA	**NORSAR Array B** 0.6nm,0.8s,baz=28,slow=6.5,SNR=2.5 0.6nm,0.8s	**66.99**	**342**	P	**P**		**03 41 24.6**	**-0.9**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=317,slow=5.2,SNR=2.6 0.3nm,0.6s	**75.97**	**62**	P	**P**		**03 42 20.0**	**-0.2**
GERES	**GERESS Array B** 0.4nm,0.5s,baz=35,slow=4.9,SNR=3.6 0.4nm,0.5s	**77.39**	**335**	P	**P**		**03 42 27.1**	**-0.7**
BRTR	**Keskin Array B** 0.7nm,0.6s,baz=70,slow=1.1,SNR=5.4 0.7nm,0.6s	**77.80**	**317**	P	**P**		**03 42 30.4**	**0.0**
H03N2	**Juan Fernandez** baz=309,slow=77,SNR=22	**137.90**	**89**	T	T		06 23 12.6	
H03N1	**Juan Fernandez** baz=309,slow=77,SNR=18	**137.91**	**89**	T	T		06 23 12.6	
H03N3	**Juan Fernandez** baz=309,slow=77,SNR=21	**137.91**	**89**	T	T		06 23 13.2	

*IDC **25** 03:36:13.4±1.4, 37.12N×141.31E, h0km, mb3.7/5, mbtmp3.7/6, ML2.6/1, Error ellipse: s-maj=31.0km s-min=29.2km az=108.0*
*JMA **25** 03:36:15.3±0.2, 37.2N±0.3×141.4E±0.9, h28km±1km, MV3.5/30, E OFF FUKUSHIMA PREF*
*NIED **25** 03:36:15.3, 37.15N×141.39E, h28km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr-2.52; Mθθ 1.29; Mφφ 1.23; Mrθ-0.18; Mθφ 2.27; Mφr-0.04; Fault plane solution: M0 3.03000×10^14 NP1: φs222.00000°, δ44.00000°, λ-95.00000°. NP2: φs49.00000°, δ47.00000°, λ-85.00000°.*

ISC 25 03:36:15.4±2.3, 37.14N±0.05×141.36E±0.09, h15km±13km, n17, σ0.71/17, mb3.6/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**300**	*iP*		**Pg**	**03 36 24.6**	**+0.2**
JFK				S		**Sb**	**03 36 31.3**	**-0.3**
JFFD	**Fukushimafurud**	**0.64**	**266**	⇓*iP*		**Pb**	**03 36 28.1**	**-0.2**
JFFD				⇓S		**Sb**	**03 36 37.5**	**+0.3**
JMST	**Minamisoumatoc**	**0.70**	**327**	*i* P		**Pb**	**03 36 28.7**	**-0.6**
JMST				S		**Sb**	**03 36 38.5**	**-0.2**
JHO	**Hitachi**	**0.83**	**231**	⇓*iP*		**Pb**	**03 36 30.4**	**-1.0**
JHO				⇓S		**Sb**	**03 36 42.2**	**-0.2**
JMM	**Marumori**	**0.86**	**328**	*i* P		**Pb**	**03 36 31.3**	**-0.6**
JMM				S		**Sb**	**03 36 43.0**	**-0.3**
MJAR	**Matsushiro Arr** 1.2nm,0.3s,baz=72,slow=9.7,SNR=37	**2.60**	**258**	Pn		**Pn**	**03 36 57.8**	**+0.8**
MJAR	1.1nm,0.3s,baz=79,slow=27,SNR=4.8 6.5nm,0.3s			Sn		**Sb**	**03 37 34.1**	**+0.6**
SONM	**Songino Array** 0.4nm,0.6s,baz=88,slow=7.9,SNR=3.7 0.4nm,0.6s	**27.69**	**304**	P		**P**	**03 42 02.5**	**-0.5**
H11N2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=127	**28.24**	**121**	T	T		04 11 37.5	
H11N1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=142	**28.24**	**121**	T	T		04 11 38.3	
H11N3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=106	**28.25**	**121**	T	T		04 11 38.9	
H11S1	**WAKE ISLAND Hy** baz=316,slow=74,SNR=18	**28.95**	**123**	T	T		04 12 31.1	
H11S3	**WAKE ISLAND Hy** baz=316,slow=74,SNR=15	**28.95**	**123**	T	T		04 12 30.5	
H11S2	**WAKE ISLAND Hy** baz=316	**28.97**	**123**	T	T		04 12 31.9	
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=88,slow=7.8,SNR=3.3 0.3nm,0.7s	**44.03**	**302**	P	**P**		**03 44 21.2**	**-1.2**
KURBB	**Kurchatov Arra** 1.5nm,0.2s,baz=82,slow=7.6,SNR=1.5 1.5nm,0.2s	**45.91**	**308**	P	**P**		**03 44 37.6**	**+0.4**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=272,slow=5.9,SNR=5.2 0.8nm,0.7s	**49.43**	**32**	P	**P**		**03 45 05.5**	**+1.2**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=4.2,slow=7.3,SNR=6.2 0.4nm,0.7s	**57.16**	**188**	P	**P**		**03 46 01.4**	**-0.3**

*NEIC **25** 04:02:23.1±2.6, 50.98N±0.07×130.4W±0.1, h10km±2km, mb4.0/77, Mwr4.5(OTT), Error ellipse: s-maj=15.3km s-min=9.7km az=241.0*
*IDC **25** 04:02:26.2±1.3, 51.11N×130.13W, h0km, mb3.6/3, mbtmp3.7/11, ML3.1/5, MS3.5/10, Error ellipse: s-maj=17.9km s-min=12.1km az=77.0*
*PGC **25** 04:02:26.4±0.9, 50.98N×130.21W, h10km, MLSn3.8/30, Mw4.5, 194km Wsw of Bella Bella, Bc Vancouver Island, Canada Region*
*NEIC **25** 04:02:30, 50.98N×130.21W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr-0.24; Mθθ-0.19; Mφφ 0.24; Mrθ 0.23; Mθφ-0.51; Mφr 0.18; Fault plane solution: M0 6.50000×10^15 NP1: φs187.00000°, δ69.00000°, λ-25.00000°. NP2: φs286.00000°, δ67.00000°, λ-157.00000°. Principal axes: T 0.6455, Plg1.0000°, Azm237.0000°; N 0.0020, Plg58.0000°, Azm329.0000°; P -0.6476, Plg32.0000°, Azm146.0000°;*
ISC 25 04:02:23.5±0.7, 51.01N±0.06×130.38W±0.06, h10km, n178, σ1.972/155, mb3.8/7, MS3.5/4, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HG4B	**Hotspring**	**1.38**	**339**	Pn		**Pn**	**04 02 46.5**	**-2.4**
HG4B	**Hotspring**	**1.38**	**339**	P		**Pg**	**04 02 50.8**	**+0.7**
HOLB	**Holberg**	**1.47**	**104**	P		**Pn**	**04 02 49.1**	**-1.0**
BNB	**Barry Inlet**	**1.79**	**332**	Pn		**Pg**	**04 02 56.5**	**-1.3**
BBB	**Bella Bella** 25nm,0.3s,baz=225,slow=7.4,SNR=28	**1.84**	**49**	Pn		**Pn**	**04 02 54.8**	**-0.4**
BBB	146nm,0.3s,baz=236,slow=15,SNR=6.0			Sn		**Sn**	**04 03 17.3**	**-1.0**
BBB	**Bella Bella**	**1.84**	**49**	Pn		**Pn**	**04 02 54.7**	**-0.4**
BBB				Sn		**Sn**	**04 03 16.4**	**-2.0**
PHC	**Port Hardy**	**1.89**	**98**	Pn		**Pn**	**04 02 55.2**	**-0.6**
PHC				Sn		**Sn**	**04 03 16.9**	**-2.8**
PACB	**Port Alice, BC**	**1.92**	**106**	Pn		**Pn**	**04 02 55.4**	**-0.8**
MAYB	**Maynard**	**2.12**	**105**	Pn		**Pn**	**04 02 58.8**	**-0.4**
HG1B	**Mitchell Dam**	**2.21**	**331**	Pn		**Pb**	**04 03 02.9**	**-0.7**
BNKB	**Banks Island**	**2.34**	**7**	Pn		**Pb**	**04 03 04.6**	**-1.3**
MOBC	**Moresby Island**	**2.35**	**336**	Pn		**Pn**	**04 03 02.5**	**+0.2**
EDB	**Eliza Dome**	**2.37**	**117**	Pn		**Pn**	**04 03 01.9**	**-0.5**
DIB	**Dawson Inlet,**	**2.55**	**330**	Pn		**Pn**	**04 03 05.3**	**+0.4**
HWKB	**Hawksbury Isla**	**2.70**	**16**	Pn		**Pn**	**04 03 06.9**	**-0.2**
GRNB	**Grenville Isla**	**2.85**	**5**			**Pn**	**04 03 09.8**	**+0.7**
GRNB	**Grenville Isla**	**2.85**	**5**	Pn		**Pn**	**04 03 08.4**	**-0.7**
ETB	**Estevan Point**	**2.96**	**122**	Pn		**Pn**	**04 03 10.2**	**-0.3**
GDR	**Gold River**	**3.04**	**112**	Pn		**Pn**	**04 03 10.7**	**-0.9**
MBLB	**Minette Bay Lo**	**3.21**	**19**	Pn		**Pn**	**04 03 13.8**	**-0.2**
SPLB	**Strathcona Par**	**3.22**	**109**	Pn		**Pn**	**04 03 14.2**	**+0.1**
KITB	**Kitimat**	**3.25**	**18**	Pn		**Pn**	**04 03 14.2**	**-0.3**
RUBB	**Prince Rupert**	**3.32**	**1**			**Pn**	**04 03 15.5**	**0.0**
RUBB	**Prince Rupert**	**3.32**	**1**	Pn		**Pn**	**04 03 15.6**	**+0.1**
OZB	**Mount Ozzard**	**3.76**	**121**	Pn		**Pn**	**04 03 22.4**	**+0.8**
OZB	**Mount Ozzard**	**3.76**	**121**	Pn		**Pn**	**04 03 22.2**	**+0.6**
B927	**Port Alberni**	**4.00**	**114**	Pn		**Pn**	**04 03 25.3**	**+0.4**
TXB	**Texada**	**4.02**	**107**	Pn		**Pn**	**04 03 25.4**	**+0.3**
B928	**Bamfield**	**4.03**	**121**	Pn		**Pn**	**04 03 26.2**	**+1.1**
GHNB	**Nanoose**	**4.30**	**111**	Pn		**Pn**	**04 03 30.1**	**+1.2**
SHB	**Sechelt**	**4.40**	**106**	Pn		**Pn**	**04 03 31.0**	**+0.6**
NLLB	**Nanaimo Lost L**	**4.48**	**111**	Pn		**Pn**	**04 03 31.0**	**-0.4**
CLRS	**Cowichan Lake**	**4.59**	**116**	Pn		**Pn**	**04 03 30.1**	**-2.8**
CLRS	**Cowichan Lake**	**4.59**	**116**	Pn		**Pn**	**04 03 33.4**	**+0.5**
WPB	**Watts Point**	**4.79**	**104**	Pn		**Pn**	**04 03 36.0**	**+0.4**
BIB	**Bowen Island**	**4.81**	**107**	Pn		**Pn**	**04 03 36.5**	**+0.5**
GOBB	**Galiano Island**	**4.88**	**112**	Pn		**Pn**	**04 03 37.7**	**+0.8**
SYMB	**Survey Mountai**	**4.92**	**117**	Pn		**Pn**	**04 03 38.6**	**+1.1**
FSB	**Fort Saint Jam**	**5.05**	**44**	Pn		**Pn**	**04 03 40.6**	**+1.3**
FSJB	**Fort St James**	**5.06**	**45**	Pn		**Pn**	**04 03 40.6**	**+1.2**
B010	**North Saanich**	**5.06**	**115**	Pn		**Pn**	**04 03 40.6**	**+1.2**
B009	**North Saanich**	**5.07**	**115**	Pn		**Pn**	**04 03 40.5**	**+1.0**
PGC	**Sidney**	**5.07**	**115**	Pn		**Pn**	**04 03 37.9**	**-1.5**
PGC	**Sidney**	**5.07**	**115**	Pn		**Pn**	**04 03 40.3**	**+0.9**
B011	**North Saanich**	**5.07**	**115**	Pn		**Pn**	**04 03 40.9**	**+1.4**
OBC	**Olympics--Boni**	**5.07**	**124**	Pn		**Pn**	**04 03 40.4**	**+0.9**
STW	**Striped Peak**	**5.22**	**121**	Pn		**Pn**	**04 03 42.7**	**+1.2**
VGZ	**Gonzales**	**5.26**	**117**	Pn		**Pn**	**04 03 43.0**	**+0.8**
HNBB	**Haney**	**5.30**	**106**	Pn		**Pn**	**04 03 43.6**	**+0.8**
OSD	**Olympics--Snow**	**5.40**	**124**	Pn		**Pn**	**04 03 45.0**	**+0.7**
WRAK	**Wrangell Islan**	**5.54**	**349**	Pn		**Pn**	**04 03 45.1**	**-0.9**
NLWA	**Neilton Lookou**	**5.59**	**128**	Pn		**Pn**	**04 03 46.9**	**+0.1**
WISH	**Wishkah**	**5.83**	**129**	Pn		**Pn**	**04 03 52.1**	**+2.1**
HDW	**Hoodsport**	**5.85**	**122**	Pn		**Pn**	**04 03 52.4**	**+2.1**
MBW	**Mount Baker**	**5.91**	**109**	Pn		**Pn**	**04 03 52.7**	**+1.4**
CMW	**Cultus Mountai**	**5.95**	**113**	Pn		**Pn**	**04 03 53.8**	**+2.1**
JCW	**Jim Creek**	**6.17**	**114**	Pn		**Pn**	**04 03 56.2**	**+1.5**
RPW	**Rockport**	**6.29**	**111**	Pn		**Pn**	**04 03 57.9**	**+1.5**
E03A	**Lebam**	**6.34**	**132**	Pn		**Pn**	**04 03 56.4**	**-0.6**
E03A	**Lebam**	**6.34**	**132**	Pn		**Pn**	**04 03 59.0**	**+2.0**
C05A	**Tolt Reservoir**	**6.57**	**117**	Pn		**Pn**	**04 04 02.1**	**+2.0**
D05A	**Enumclaw**	**6.70**	**122**	Pn		**Pn**	**04 04 04.6**	**+2.7**
LTY	**Liberty**	**7.39**	**117**			**Pn**

2.1nm,0.8s
F10A **Beach Ranch, E** 10.07 115 Pn Pn 04 04 49.1 +0.9
YBH **Yreka Blue Hor** 10.68 147 Pn Pn 04 05 02.4 +5.9
0.1nm,0.3s,baz=306,slow=12,SNR=4.7
5.8nm,1.0s
MFID **Camas Ranch** 12.46 122 Pn Pn 04 05 20.3 -0.6
PLTX **Planet X, Gerl** 12.79 139 Pn Pn 04 05 25.6 +0.2
HLID **Hailey** 13.13 118 Pn Pn 04 05 31.6 +1.4
EGMT **Eagleton** 13.72 95 Pn Pn 04 05 36.6 -1.5
BMN **Battle Mountai** 13.99 134 Pn 04 05 40.0 -1.8
SEW **Seward** 14.07 318 Pn Pn 04 05 43.5 +0.8
YHL **Hebgen Lake** 14.25 108 Pn Pn 04 05 45.0 -0.4
YKA **Yellowknife Ar** 14.34 31 Pn Pn 04 05 45.8 -0.6
0.2nm,0.3s,baz=225,slow=13,SNR=6.0
YKA LR LR 04 11 44.5
comp=Z,232nm,18.4s,baz=274,slow=39
1.8nm,0.7s
KNK **Knik Glacier** 14.43 323 Pn Pn 04 05 46.0 -1.6
YMR **Madison River** 14.47 108 Pn Pn 04 05 48.9 +0.4
SML **Sawmill** 14.63 325 Pn Pn 04 05 47.2 -3.2
ELK **Elko** 14.68 128 LR LR 04 11 46.9
comp=Z,155nm,19.9s,baz=328,slow=38
ELK **Elko** 14.68 128 Pn Pn 04 05 52.3 +0.9
KVN **Kaiserville** 14.75 139 Pn Pn 04 05 51.0 -1.3
CMB **Columbia Colle** 14.78 148 Pn Pn 04 05 51.4 -1.1
PMR **Palmer** 14.79 323 Pn Pn 04 05 49.9 -2.6
EGAK **Eagle** 14.91 342 Pn Pn 04 05 52.5 -1.6
IMW **Indian Meadow** 14.92 111 Pn Pn 04 05 52.7 -2.0
YMP **Mirror Lake Pl** 14.92 107 Pn Pn 04 05 50.8 -3.9
RYN **Ryan** 14.94 141 Pn Pn 04 05 55.0 +0.2
FXWY **Fox Creek** 15.02 112 Pn Pn 04 05 54.4 -1.6
MOOW **Moose Ponds** 15.12 111 Pn Pn 04 05 55.0 -2.3
DHY **Denali Highway** 15.16 329 Pn Pn 04 05 56.2 -1.4
NVAR **Mina Array Bea** 15.20 141 Pn P 04 06 02.9 -0.5
2.0nm,1.0s,baz=320,slow=12,SNR=9.4
NVAR **Mina Array Bea** 15.20 141 Pn Pn 04 05 56.8 -1.5
HVU **Hansel Valley** 15.22 121 Pn Pn 04 05 58.5 0.0
HVU IAmb IAmb 04 06 04.1
comp=Z,9.8nm,1.3s
NV11 **Mina Array Sit** 15.25 141 Pn Pn 04 05 58.7 -0.3
NV11 IAmb IAmb 04 06 18.8
comp=Z,10nm,1.4s
LHV **Little Huntoon** 15.27 142 P P 04 06 08.8 +4.8
LHV IAmb IAmb 04 06 31.0
comp=Z,14nm,1.3s
SUA **Susitna One** 15.35 321 Pn Pn 04 05 59.0 -1.1
AHID **Auburn Hatcher** 15.51 115 IAmb IAmb 04 06 17.8
comp=Z,13nm,1.2s
ILSW **Iliamna Southw** 15.64 314 Pn Pn 04 06 02.8 -1.1
ILSW IAmb IAmb 04 06 12.4
comp=Z,24nm,1.2s
OMMB **Old Mammoth Mi** 15.64 144 IAmb IAmb 04 06 30.2
comp=Z,7.2nm,1.2s
BGU **Big Grassy Mou** 15.68 123 Pn Pn 04 06 03.5 -1.1
SPU **Mount Spurr** 15.73 319 Pn Pn 04 06 03.3 -1.7
I26K **Coal Creek Min** 15.79 340 IAmb IAmb 04 06 22.5
comp=Z,12nm,1.3s
BBGB **Big Mountain B** 15.90 152 Pn Pn 04 06 06.9 -0.5
MCK **McKinley** 16.12 329 IAmb IAmb 04 06 23.6
comp=Z,14nm,1.1s
ILAR **Eielson Array** 16.27 334 Pn P 04 06 14.6 -0.3
baz=147,slow=10.0,SNR=8.5
ILAR LR LR 04 11 32.3
comp=Z,109nm,19.5s,baz=132,slow=34
comp=Z,0.5nm,0.9s
DUG **Dugway, Tooele** 16.32 125 Pn Pn 04 06 11.7 -1.2
DUG IAmb IAmb 04 06 20.5
comp=Z,10nm,1.1s
BW06 **Boulder Array** 16.40 112 IAmb IAmb 04 06 19.2
comp=Z,9.8nm,0.9s
PD31 **Pinedale Array** 16.40 112 Pn Pn 04 06 12.9 -1.0
PD31 IAmb IAmb 04 06 19.2
comp=Z,8.9nm,0.9s
PDAR **Pinedale Array** 16.40 112 Pn P 04 06 18.6 +1.8
comp=Z,6.6nm,0.8s,baz=312,slow=12,SNR=37
PDAR LR LR 04 12 38.3
comp=Z,170nm,19.2s,baz=305,slow=38
LCH **Last Change Ra** 16.49 142 P 04 06 16.7 -0.9
PRP **Porcupine Dome** 16.51 337 IAmb IAmb 04 06 24.4
comp=Z,9.1nm,1.2s
M20K **Styx River** 16.53 320 IAmb IAmb 04 06 27.9
comp=Z,11nm,0.9s
N19K **Bonanza Creek** 16.60 316 IAmb IAmb 04 06 22.9
comp=Z,14nm,1.0s
KTH **Kantishna Hill** 16.66 327 Pn Pn 04 06 14.6 -2.4
GRAC **Grapevine Rang** 16.81 141 IAmb IAmb 04 06 25.0
comp=Z,8.0nm,1.1s
S11A **Rachel** 16.93 136 Pn Pn 04 06 18.8 -1.7
S11A IAmb IAmb 04 06 41.9
comp=Z,18nm,1.1s
CAST **Castle Rocks** 16.99 325 Pn Pn 04 06 20.5 -0.5
CAST IAmb IAmb 04 06 32.0
comp=Z,12nm,1.0s
WCT **Wildcat Mounta** 17.28 140 IAmb IAmb 04 06 30.8
comp=Z,15nm,1.4s
TPNV **Topopah Spring** 17.30 139 IAmb IAmb 04 06 44.0
comp=Z,15nm,1.2s
INK **Inuvik** 17.42 356 P P 04 06 27.9 +0.4
baz=160,slow=12,SNR=3.9
comp=Z,2.1nm,1.1s
PRN **Pahroc Range** 17.43 135 Pn Pn 04 06 24.6 -2.2
PRN IAmb IAmb 04 06 34.0
comp=Z,7.2nm,0.9s
MLY **Manley** 17.59 331 IAmb IAmb 04 06 39.9
comp=Z,11nm,1.1s
P17A **Butcher Ranch,** 17.94 122 Pn Pn 04 06 30.4 -2.7
I21K **Tanana** 18.07 330 P P 04 06 38.2 +3.4
I21K IAmb IAmb 04 06 44.3
comp=Z,17nm,0.9s
CCUT **Cedar City** 18.09 132 P 04 06 38.6 +3.2
P18A **Preston Nutter** 18.10 121 P P 04 06 39.3 +3.7
P18A IAmb IAmb 04 06 40.2
comp=Z,13nm,1.4s
SHPR **Sheep Range** 18.14 137 Pn Pn 04 06 32.8 -2.8
J20K **Nowinta River** 18.18 326 P P 04 06 39.1 +3.1
J20K IAmb IAmb 04 06 39.4
comp=Z,14nm,1.1s
SZCU **Shurtz Canyon** 18.18 131 P P 04 06 40.4 +3.9
K22A **Casper** 18.27 108 P P 04 06 40.2 +2.9
K22A IAmb IAmb 04 06 47.0
comp=Z,11nm,1.1s
SRU **San Rafael Swe** 18.32 123 P P 04 06 41.9 +4.0
SRU IAmb IAmb 04 06 44.9
comp=Z,9.2nm,1.1s
GSC **Goldstone, Bar** 18.51 143 P Pn 04 06 40.1 +0.1
LCMT **Little Creek M** 18.58 132 P P 04 06 39.9 -0.8
H21K **Melozitna Rive** 18.65 330 IAmb IAmb 04 06 50.7
comp=Z,13nm,1.1s
PKCU **Pink Cliffs** 18.68 130 IAmb IAmb 04 07 01.4
comp=Z,10nm,1.3s
O20A **White River Ci** 18.85 117 P Pn 04 06 47.8 +3.5
O20A IAmb IAmb 04 06 48.4
comp=Z,7.7nm,0.9s
IMAR **Indian Mountai** 19.16 330 P Pn 04 06 51.1 +3.5
U15A **North Rim** 19.50 131 P 04 06 51.3 +0.3
U15A IAmb IAmb 04 06 56.8
comp=Z,6.9nm,1.2s
PV23 **Carpenter Ridg** 19.61 122 P P 04 06 48.7 -3.4
PV23 IAmb IAmb 04 07 06.1
comp=Z,7.5nm,0.9s
PV14 **Lion Creek, Pa** 19.66 122 P P 04 06 51.2 -1.5
PV14 IAmb IAmb 04 06 56.4
comp=Z,6.1nm,0.8s
PV11 **David Mesa, Pa** 19.80 122 P P 04 06 51.0 -3.1
PV11 IAmb IAmb 04 07 01.1
comp=Z,8.4nm,1.1s
PV13 **Radium Mtn., P** 19.93 122 P P 04 06 53.2 -2.3
PV13 IAmb IAmb 04 07 02.5
comp=Z,10nm,1.2s
E28A **Huff** 19.98 91 P P 04 06 54.4 -1.4
SMCO **Snowmass** 20.22 117 P P 04 06 56.2 -2.8
WUAZ **Wupatki** 20.67 131 P Pn 04 07 07.4 +1.5
WUAZ IAmb IAmb 04 07 08.1
comp=Z,8.1nm,0.9s
BLYC **Blythe** 20.77 140 P P 04 07 02.8 -1.7
MVCO **Mesa Verde** 20.80 123 P P 04 07 06.0 +0.9
MVCO IAmb IAmb 04 07 11.6
comp=Z,8.0nm,1.1s
A36M **Sachs Harbour** 21.18 4 P P 04 07 08.8 +0.2
A36M IAmb IAmb 04 07 40.0
comp=Z,4.6nm,1.0s
S22A **4UR Ranch, Cre** 21.31 119 P P 04 07 08.8 -1.9
S22A IAmb IAmb 04 07 14.4
comp=Z,3.1nm,0.8s
ULM **Lac du Bonnet** 21.79 78 P P 04 07 16.2 +0.9
comp=Z,2.3nm,0.6s,baz=203,slow=6.6,SNR=3.4
ULM LR LR 04 17 05.7
comp=Z,96nm,18.3s,baz=310,slow=41
comp=Z,2.3nm,0.6s
W18A **Petrified Fore** 21.79 129 P P 04 07 15.0 -0.6
W18A IAmb IAmb 04 07 25.6
comp=Z,8.0nm,0.9s
SDCO **Great Sand Dun** 22.05 117 P P 04 07 17.6 -1.0
X18A **Snowflake** 22.15 130 P P 04 07 19.3 -0.3
X18A IAmb IAmb 04 07 27.0
comp=Z,8.1nm,1.2s
KSCO **Kaye Shedlock'** 22.84 111 P P 04 07 27.5 +0.7
BNM **Barren Site** 24.12 125 P P 04 07 40.3 +0.7
121A **Cookes Peak, D** 24.83 129 P P 04 07 45.2 -0.8
TXAR **Lajitas Array** 29.47 127 P P 04 08 31.1 +3.5
comp=Z,0.6nm,0.8s,baz=308,slow=6.2,SNR=3.9
TXAR LR LR 04 21 03.6
comp=Z,112nm,18.8s,baz=321,slow=38
comp=Z,0.6nm,0.8s
SADO **Sadowa** 34.33 80 LR LR 04 23 45.5
comp=Z,178nm,18.8s,baz=330,slow=38
TKL **Tuckaleechee C** 36.55 96 LR LR 04 25 27.5
comp=Z,102nm,21.1s,baz=328,slow=38
H11N2 **WAKE ISLAND Hy** 57.80 262 T T 05 14 48.8
baz=41,slow=76,SNR=134
H11N3 **WAKE ISLAND Hy** 57.80 262 T T 05 14 55.3
baz=41,slow=76,SNR=176
H11N1 **WAKE ISLAND Hy** 57.82 262 T T 05 14 51.1
baz=41,slow=76,SNR=114
H11S1 **WAKE ISLAND Hy** 58.84 261 T T 05 16 10.0
baz=40,slow=76,SNR=10
H11S2 **WAKE ISLAND Hy** 58.85 261 T T 05 16 11.9
baz=40,slow=76,SNR=10
H11S3 **WAKE ISLAND Hy** 58.86 261 T T 05 16 12.5
baz=40,slow=76,SNR=6.7
MKAR **Makanchi Array** 78.59 338 P P 04 14 29.7 +4.7
comp=Z,0.3nm,0.7s,baz=20,slow=3.9,SNR=3.5
comp=Z,0.3nm,0.7s

*KRSC **25** 04:06:49.9±1.4,55.08N×164.76E,h49km±22km,ML5.5*
*BJI **25** 04:06:51.8±0.0,55.32N×164.71E,h30km,mb4.9/58,*
mB5.1/40,Ms5.0/54,Ms7 4.7/54
*GCMT **25** 04:06:52.4±0.3,55.17N±0.02×165.00E±0.03,h16km±1km,*
MW5.0/91,Moment Tensor Solution. s29,c33; s91,c123;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.19±.20;
Mθθ-2.44±.14; Mφφ3.64±.16; Mrθ2.15±.58; Mθφ1.35±.11;
Mrφ0.67±.38; Best double couple: M04.14800×10^16
NP1:φs232.00000°,δ76.00000°,λ-36.00000°. NP2:
φs332.00000°,δ56.00000°,λ-162.00000°. Principal axes:
T 4.1790, Plg13.0000°, Azm286.0000°; N -0.0530,
Plg52.0000°, Azm33.0000°; P -4.1160, Plg35.0000°,
Azm186.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*MOS **25** 04:06:52.3±1.0,55.15N×164.77E,h37km,mb5.2/54,*
MS4.4/17 Error ellipse: s-maj=4.9km s-min=3.9km
az=101.3
*NEIC **25** 04:06:54.4±1.4,55.15N±0.09×164.7E±0.1,h35km±4km,*
mb5.1/435,Error ellipse: s-maj=13.0km s-min=9.3km
az=163.0
*IDC **25** 04:06:54.4±0.4,55.23N×164.77E,h34km±2km,mb4.5/35,*
mbtmp4.7/39,ML4.9/4,MS4.2/63,Error ellipse:
s-maj=10.8km s-min=7.7km az=155.0

ISC 25 04:06:53.1±0.2,55.10N±0.03×164.84E±0.03,h29km±1km,
h29km:pP-P,n1038,σ1.21/936,mb5.1/317,MS4.4/97,
35C-12D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.66**	**81**	*eP*		**Pn**	**Pn**	**04 07 04.1**	**-2.4**
BKI				*eS*		**Sb**	**Sb**	**04 07 13.6**	**-1.4**
BKI	**Bering**	**0.66**	**81**	PN		**Pn**	**Pn**	**04 07 04.1**	**-2.4**
BKI				S		**Sb**	**Sb**	**04 07 13.6**	**-1.4**
KBTR	**Krutoberegovo**	**1.59**	**315**	*eP*		**Pn**	**Pn**	**04 07 16.0**	**-3.4**
KBTR				*eS*		**Sn**	**Sn**	**04 07 34.2**	**-4.7**
KBTR	**Krutoberegovo**	**1.59**	**315**	PN		**Pn**	**Pn**	**04 07 16.0**	**-3.4**
KBTR				S		**Sn**	**Sn**	**04 07 34.2**	**-4.7**
KBG	**Krutoberegovo**	**1.67**	**315**	*eP*		**Pn**	**Pn**	**04 07 17.2**	**-3.2**
KBG				*eS*		**Sn**	**Sn**	**04 07 36.2**	**-4.6**
KBG	**Krutoberegovo**	**1.67**	**315**	PN		**Pn**	**Pn**	**04 07 17.2**	**-3.2**
KBG				S		**Sn**	**Sn**	**04 07 36.2**	**-4.6**
SMKR	**Semkarok**	**2.41**	**309**	*eP*		**Pn**	**Pn**	**04 07 29.3**	**-1.4**
SMKR				*eS*		**Sn**	**Sn**	**04 07 57.9**	**-1.3**
SMKR	**Semkarok**	**2.41**	**309**	PN		**Pn**	**Pn**	**04 07 29.3**	**-1.4**
SMKR				S		**Sn**	**Sn**	**04 07 57.9**	**-1.3**
ZLN	**Zelenaya**	**2.47**	**293**	*eP*		**Pn**	**Pn**	**04 07 31.4**	**-0.1**
ZLN	**Zelenaya**	**2.47**	**293**	PN		**Pn**	**Pn**	**04 07 31.4**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.50**	**291**	*eP*		**Pn**	**Pn**	**04 07 31.8**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.50**	**291**	PN		**Pn**	**Pn**	**04 07 31.8**	**-0.1**
BDR	**Baidarnaya**	**2.52**	**307**	*eP*		**Pn**	**Pn**	**04 07 31.3**	**-0.9**
BDR				*eS*		**Sn**	**Sn**	**04 08 00.7**	**-1.2**
BDR	**Baidarnaya**	**2.52**	**307**	PN		**Pn**	**Pn**	**04 07 31.3**	**-0.9**
BDR				S		**Sn**	**Sn**	**04 08 00.7**	**-1.2**
CIRR	**Tsirk**	**2.53**	**295**	*eP*		**Pn**	**Pn**	**04 07 32.0**	**-0.4**
CIRR	**Tsirk**	**2.53**	**295**	PN		**Pn**	**Pn**	**04 07 32.0**	**-0.4**
TUMD	**Tumrok D**	**2.55**	**274**	*eP*		**Pn**	**Pn**	**04 07 31.8**	**-0.7**
TUMD				*eS*		**Sn**	**Sn**	**04 08 01.6**	**-0.9**
LGNR	**Loginova**	**2.55**	**294**	*eP*		**Pn**	**Pn**	**04 07 32.2**	**-0.6**
LGNR	**Loginova**	**2.55**	**294**	PN		**Pn**	**Pn**	**04 07 32.2**	**-0.6**
SRKR	**Sorokina**	**2.59**	**308**	*eP*		**Pn**	**Pn**	**04 07 32.0**	**-1.1**
SRKR	**Sorokina**	**2.59**	**308**	PN		**Pn**	**Pn**	**04 07 32.0**	**-1.1**
BZMR	**Bezymyannaya**	**2.61**	**290**	*eP*		**Pn**	**Pn**	**04 07 33.0**	**-0.4**
BZMR	**Bezymyannaya**	**2.61**	**290**	PN		**Pn**	**Pn**	**04 07 33.0**	**-0.4**
BZWR	**Bezymyannyi-We**	**2.61**	**291**	*eP*		**Pn**	**Pn**	**04 07 33.3**	**-0.2**
BZWR	**Bezymyannyi-We**	**2.61**	**291**	PN		**Pn**	**Pn**	**04 07 33.3**	**-0.2**
KLY	**Klyuchi**	**2.66**	**299**	*eP*		**Pn**	**Pn**	**04 07 31.9**	**-2.1**
KLY				*eS*		**Sn**	**Sn**	**04 08 03.4**	**-1.8**
KLY	**Klyuchi**	**2.66**	**299**	PN		**Pn**	**Pn**	**04 07 31.9**	**-2.1**
KLY				S		**Sn**	**Sn**	**04 08 03.4**	**-1.8**
KRSR	**Krestovskiy**	**2.67**	**297**	*eP*		**Pn**	**Pn**	**04 07 33.3**	**-0.9**
KRSR	**Krestovskiy**	**2.67**	**297**	PN		**Pn**	**Pn**	**04 07 33.3**	**-0.9**
KIRR	**Kirishev**	**2.69**	**290**	*eP*		**Pn**	**Pn**	**04 07 34.6**	**0.0**
KIRR	**Kirishev**	**2.69**	**290**	PN		**Pn**	**Pn**	**04 07 34.6**	**0.0**
TUMR	**Tumrok**	**2.69**	**276**	*eP*		**Pn**	**Pn**	**04 07 34.2**	**-0.4**
TUMR				*eS*		**Sn**	**Sn**	**04 08 05.4**	**-0.9**
TUMR	**Tumrok**	**2.69**	**276**	PN		**Pn**	**Pn**	**04 07 31.8**	**-2.8**
TUMR				S		**Sn**	**Sn**	**04 08 01.6**	**-4.7**
KMNR	**Kamenistaya**	**2.70**	**286**	*eP*		**Pn**	**Pn**	**04 07 34.7**	**0.0**
KMNR	**Kamenistaya**	**2.70**	**286**	PN		**Pn**	**Pn**	**04 07 34.7**	**0.0**
KPT	**Kopyto**	**2.76**	**290**	*eP*		**Pn**	**Pn**	**04 07 35.3**	**-0.2**
KPT	**Kopyto**	**2.76**	**290**	PN		**Pn**	**Pn**	**04 07 35.3**	**-0.2**
KOZ	**Kozyrevsk**	**2.98**	**291**	*eP*		**Pn**	**Pn**	**04 07 38.5**	**+0.1**
KOZ	**Kozyrevsk**	**2.98**	**291**	PN		**Pn**	**Pn**	**04 07 38.5**	**+0.1**
SRDR	**Sredinnyy**	**3.14**	**295**	*eP*		**Pn**	**Pn**	**04 07 40.5**	**-0.2**
SRDR	**Sredinnyy**	**3.14**	**295**	PN		**Pn**	**Pn**	**04 07 40.5**	**-0.2**
SPN	**Mys Shipunski**	**3.47**	**237**	*eP*		**Pn**	**Pn**	**04 07 43.8**	**-1.4**
SPN				*eS*		**Sn**	**Sn**	**04 08 22.0**	**-3.3**
SPN	**Mys Shipunski**	**3.47**	**237**	PN		**Pn**	**Pn**	**04 07 43.8**	**-1.4**
ESO	**Esso**	**3.58**	**286**	*eP*		**Pn**	**Pn**	**04 07 46.0**	**-0.7**
ESO				*eS*		**Sn**	**Sn**	**04 08 27.8**	**-0.3**
ESO	**Esso**	**3.58**	**286**	PN		**Pn**	**Pn**	**04 07 46.0**	**-0.7**
ESO				S		**Sn**	**Sn**	**04 08 27.8**	**-0.3**
NLC	**Nalytchevo**	**3.76**	**241**	*eP*		**Pn**	**Pn**	**04 07 48.4**	**-0.8**
NLC				*eS*		**Sn**	**Sn**	**04 08 29.5**	**-2.9**
NLC	**Nalytchevo**	**3.76**	**241**	PN		**Pn**	**Pn**	**04 07 48.4**	**-0.8**
SDLR	**Sedlovina**	**3.94**	**245**	*eP*		**Pn**	**Pn**	**04 07 51.6**	**-0.2**
SDLR				*eS*		**Sn**	**Sn**	**04 08 36.0**	**-1.1**
SDLR	**Sedlovina**	**3.94**	**245**	PN		**Pn**	**Pn**	**04 07 51.6**	**-0.2**
SDLR				S		**Sn**	**Sn**	**04 08 36.0**	**-1.1**
SMAR	**Somma**	**4.00**	**245**	*eP*		**Pn**	**Pn**	**04 07 52.6**	**0.0**
SMAR				*eS*		**Sn**	**Sn**	**04 08 36.5**	**-2.0**
SMAR	**Somma**	**4.00**	**245**	PN		**Pn**	**Pn**	**04 07 52.6**	**0.0**
KRER	**Koryakskii**	**4.00**	**246**	*eP*		**Pn**	**Pn**	**04 07 52.8**	**+0.2**
KRER				*eS*		**Sn**	**Sn**	**04 08 37.3**	**-1.3**
KRER	**Koryakskii**	**4.00**	**246**	PN		**Pn**	**Pn**	**04 07 52.8**	**+0.2**
UGLR	**Uglovaya**	**4.01**	**244**	*eP*		**Pn**	**Pn**	**04 07 52.9**	**+0.2**
UGLR				*eS*		**Sn**	**Sn**	**04 08 36.7**	**-2.0**
UGLR	**Uglovaya**	**4.01**	**244**	PN		**Pn**	**Pn**	**04 07 52.9**	**+0.2**
KOK	**Koryaka**	**4.07**	**246**	*eP*		**Pn**	**Pn**	**04 07 53.9**	**+0.5**
KOK				*eS*		**Sn**	**Sn**	**04 08 38.4**	**-1.7**
KOK	**Koryaka**	**4.07**	**246**	PN		**Pn**	**Pn**	**04 07 53.9**	**+0.5**
DALK	**Dalny**	**4.14**	**242**	*eP*		**Pn**	**Pn**	**04 07 54.3**	**0.0**
DALK				*eS*		**Sn**	**Sn**	**04 08 39.1**	**-2.6**
DALK	**Dalny**	**4.14**	**242**	PN		**Pn**	**Pn**	**04 07 54.3**	**0.0**
PET	**Petropavlovsk**	**4.20**	**243**			**Pn**	**Pn**	**04 07 55.0**	**-0.1**
PET	**Petropavlovsk**	**4.20**	**243**	P		**Pn**	**Pn**	**04 07 55.7**	**+0.6**
PET	**Petropavlovsk**	**4.20**	**243**	*eP*		**Pn**	**Pn**	**04 07 54.9**	**-0.1**
PET				*eS*		**Sn**	**Sn**	**04 08 41.3**	**-1.8**
PET	**Petropavlovsk**	**4.20**	**243**	*e*PN		**Pn**	**Pn**	**04 07 55.1**	**0.0**
PET				pmax		pmax			
comp=Z,556nm,0.8s									
PET				MLR		MLR			
comp=Z,3μm,13.0s									
PET				MLR		MLR			
comp=Z,5μm,14.0s									
GNL	**Ganaly**	**4.27**	**254**	*e*P		**Pn**	**Pn**	**04 07 56.9**	**+0.7**
GNL	**Ganaly**	**4.27**	**254**	PN		**Pn**	**Pn**	**04 07 56.9**	**+0.7**
KRMR	**Karymshinskiy**	**4.57**	**243**	*e*P		**Pn**	**Pn**	**04 08 00.5**	**+0.3**
KRMR				*e*S		**Sn**	**Sn**	**04 08 50.8**	**-1.4**
KRMR	**Karymshinskiy**	**4.57**	**243**	PN		**Pn**	**Pn**	**04 08 00.5**	**+0.3**
RUS	**Russkaya**	**4.61**	**237**	*e*P		**Pn**	**Pn**	**04 07 59.9**	**-0.8**
RUS				*e*S		**Sn**	**Sn**	**04 08 50.3**	**-2.9**
RUS	**Russkaya**	**4.61**	**237**	PN		**Pn**	**Pn**	**04 07 59.9**	**-0.8**
PEA0B	**Petropavlovsk-**	**4.65**	**247**			**Pn**	**Pn**	**04 08 01.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.65**	**247**	*ce*PN		**Pn**	**Pn**	**04 08 02.1**	**+0.7**
PETK	**Petropavlovsk-**	**4.65**	**247**	Pn		**Pn**	**Pn**	**04 08 01.4**	**0.0**
comp=Z,58nm,0.3s,baz=77,slow=15,SNR=179									
PETK				Sn		**Sn**	**Sn**	**04 08 55.2**	**+0.9**
comp=Z,30nm,0.3s,baz=80,slow=40,SNR=7.3									
PETK				LR		LR		04 10 08.3	
comp=Z,3μm,18.4s,baz=68,slow=42									
comp=Z,70nm,0.4s									
PETK	**Petropavlovsk-**	**4.65**	**247**			**Pn**	**Pn**	**04 08 01.6**	**+0.3**
MTVR	**Mutnovka**	**4.74**	**239**	*e*P		**Pn**	**Pn**	**04 08 02.5**	**-0.2**
MTVR				*e*S		**Sn**	**Sn**	**04 08 53.6**	**-3.0**
MTVR	**Mutnovka**	**4.74**	**239**	PN		**Pn**	**Pn**	**04 08 02.5**	**-0.2**
GRL	**Gorelyy**	**4.75**	**240**	*e*P		**Pn**	**Pn**	**04 08 03.3**	**+0.4**
GRL				*e*S		**Sn**	**Sn**	**04 08 55.6**	**-1.4**
GRL	**Gorelyy**	**4.75**	**240**	PN		**Pn**	**Pn**	**04 08 03.3**	**+0.4**
PALN	**Palana**	**4.80**	**328**	*e*P		**Pn**	**Pn**	**04 08 03.4**	**+0.1**
PALN	**Palana**	**4.80**	**328**	PN		**Pn**	**Pn**	**04 08 03.4**	**+0.1**
APC	**Apacha**	**5.03**	**247**	*e*P		**Pn**	**Pn**	**04 08 07.4**	**+0.9**
APC				*e*S		**Sn**	**Sn**	**04 09 04.2**	**+0.7**
APC	**Apacha**	**5.03**	**247**	PN		**Pn**	**Pn**	**04 08 07.4**	**+0.9**
APC				S		**Sn**	**Sn**	**04 09 04.2**	**+0.7**
KDTR	**Khodutka, Kamc**	**5.21**	**234**	*e*P		**Pn**	**Pn**	**04 08 08.1**	**-1.0**
KDTR				*e*S		**Sn**	**Sn**	**04 09 03.9**	**-4.2**
KDTR	**Khodutka, Kamc**	**5.21**	**234**	PN		**Pn**	**Pn**	**04 08 08.1**	**-1.0**
TILK	**Tilichiki**	**5.41**	**7**	*e*P		**Pn**	**Pn**	**04 08 11.2**	**-0.5**
TILK	**Tilichiki**	**5.41**	**7**	PN		**Pn**	**Pn**	**04 08 11.2**	**-0.5**
SHEM	**Shemya Is, Ala**	**5.97**	**110**	Pn		**Pn**	**Pn**	**04 08 19.7**	**+0.2**
comp=Z,10nm,0.3s,baz=292,slow=18,SNR=1.8									
SHEM				Sn		**Sn**	**Sn**	**04 09 25.2**	**-1.5**
comp=Z,10nm,0.3s,baz=270,slow=19,SNR=2.9									
comp=Z,63nm,0.8s									
SMY	**Shemya**	**5.97**	**110**	Pn		**Pn**	**Pn**	**04 08 21.3**	**+1.9**
SMY	**Shemya**	**5.97**	**110**	PN		**Pn**	**Pn**	**04 08 21.3**	**+1.9**
PAU	**Pauzhetka**	**6.03**	**236**	*e*P		**Pn**	**Pn**	**04 08 20.3**	**0.0**
PAU	**Pauzhetka**	**6.03**	**236**	PN		**Pn**	**Pn**	**04 08 20.3**	**0.0**
SKR	**Severo-Kuril's**	**6.88**	**234**	*e*P		**Pn**	**Pn**	**04 08 31.0**	**-1.0**
SKR				*e*S		**Sn**	**Sn**	**04 09 45.9**	**-3.3**
SKR	**Severo-Kuril's**	**6.88**	**234**	*e*PN		**Pn**	**Pn**	**04 08 32.1**	**+0.1**
SKR				pmax		pmax			
comp=Z,333nm,0.9s									
KMSK	**Kamenskaya**	**7.42**	**5**	*e*P		**Pn**	**Pn**	**04 08 39.6**	**+0.3**
KMSK	**Kamenskaya**	**7.42**	**5**	PN		**Pn**	**Pn**	**04 08 39.6**	**+0.3**
MA2	**Magadan**	**8.82**	**306**	Pn		**Pn**	**Pn**	**04 09 00.4**	**+1.8**
comp=Z,1.2nm,0.3s,baz=108,slow=9.0,SNR=3.5									
comp=Z,12nm,0.8s									
MA2	**Magadan**	**8.82**	**306**	*i* Pn		**Pn**	**Pn**	**04 09 00.1**	**+1.5**
SEY	**Seymchan**	**10.12**	**326**	Pn		**Pn**	**Pn**	**04 09 17.2**	**+0.8**
comp=Z,0.2nm,0.3s,baz=37,slow=20,SNR=2.0									
SEY	**Seymchan**	**10.12**	**326**	*i* PN		**Pn**	**Pn**	**04 09 15.4**	**-0.9**
OKH	**Okha**	**12.87**	**272**	*de*PN		**Pn**	**Pn**	04 09 46.4	-7.5
OKH				MLR		MLR			
comp=E,2μm,18.0s									
OKH				MLR		MLR			
comp=N,3μm,18.0s									
OKH				MLR		MLR			
comp=Z,1μm,17.0s									
BILL	**Bilibino**	**13.00**	**2**	Pn		**Pn**	**Pn**	**04 09 55.8**	**+0.1**
BILL	**Bilibino**	**13.00**	**2⇑**	*e*PN		**Pn**	**Pn**	**04 09 56.5**	**+0.9**
BILL				pmax		pmax			
comp=Z,37nm,2.5s									
BILL				MLR		MLR			
comp=Z,790nm,15.0s									
TYV	**Tymovskoe**	**14.00**	**262**	*e*P		P	P	04 10 27.9	+11
TYV				pmax		pmax			
comp=Z,38nm,1.0s									
TYV				pmax		pmax			
comp=Z,300nm,2.6s									
KUR	**Kuril'sk**	**14.65**	**235**	*i* P		**Pn**	**Pn**	**04 10 16.8**	**-1.4**
NIKH	**Nikolski High**	**15.57**	**87**	P		**Pn**	**Pn**	**04 10 30.7**	**+0.4**
baz=289									
YSS	**Yuzh-Sakhalins**	**16.05**	**249**	Pn		**Pn**	**Pn**	**04 10 34.6**	**-2.0**
YSS				IAmb		IAmb	IAmb	04 10 53.0	
comp=Z,167nm,1.3s									
YSS	**Yuzh-Sakhalins**	**16.05**	**249**	P		P	**Pn**	**04 10 38.9**	**-0.8**
comp=Z,104nm,1.1s									
YSS	**Yuzh-Sakhalins**	**16.05**	**249**	*e*P		**Pn**	**Pn**	**04 10 36.7**	**+0.1**
YSS				pmax		pmax			
comp=Z,90nm,1.3s									

baz=274
KLR Kul'dur 20.99 268 P P 04 11 33.7 -0.2
comp=N,1,9nm,0.5s,baz=59,slow=11,SNR=5.9
KLR LR LR 04 20 02.7
comp=N,804nm,20.3s,baz=64,slow=38
comp=N,1,9nm,0.5s
KLR Kul'dur 20.99 268 *i* P **P 04 11 32.9 -1.0**
KLR pmax pmax
comp=Z,23nm,1.1s
Q16K King Salmon 21.13 64 P P 04 11 35.1 -0.2
baz=277,SNR=8.8
P17K Kvichak River 21.19 63 P P 04 11 35.5 -0.4
baz=276,SNR=7.9
JTM Tenmabayashi 21.27 238 P P 04 11 36.9 +0.1
JTM IAmb IAmb 04 11 50.5
comp=Z,56nm,0.7s
TTA Tatalina 21.32 53 P P 04 11 36.9 -0.5
TTA Tatalina 21.32 53 P P 04 11 36.8 -0.5
baz=267,SNR=10.0
TTA Tatalina 21.32 53 P P 04 11 36.9 -0.5
TTA pmax pmax
comp=Z,44nm,1.2s
N18K Kilae Creek 21.36 59 P P 04 11 38.2 +0.4
N18K IAmb IAmb 04 11 52.8
comp=Z,53nm,0.7s
N18K Kilae Creek 21.36 59 P P 04 11 38.3 +0.6
baz=273
R17K Ugashik Creek 21.43 67 P P 04 11 38.9 +0.4
baz=280
Q17K Contact Creek 21.59 65 P P 04 11 40.5 +0.2
baz=279
ZEA Zeya 21.74 282 *e*P **P 04 11 43.6 +1.7**
ZEA *e* 04 15 48.2
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=E,600nm,11.0s
ZEA MLR MLR
comp=Z,700nm,15.0s
O18K Koktuh Hills 21.75 61 P P 04 11 42.1 +0.2
O18K Koktuh Hills 21.75 61 P P 04 11 42.1 +0.2
baz=275
P18K Big Mountain, 21.78 62 P P 04 11 42.5 +0.2
P18K Big Mountain, 21.78 62 P P 04 11 42.3 0.0
baz=276
L19K White Mountain 21.83 55 P P 04 11 42.6 -0.2
baz=270
Q18K Katmai Hardscr 21.99 64 P P 04 11 45.1 +0.5
baz=278
N19K Bonanza Creek 22.04 58 P P 04 11 45.8 +0.7
baz=273,SNR=8.9
M19K Big River Lodg 22.05 55 P P 04 11 44.7 -0.4
baz=271
O19K Port Alsworth 22.16 60 P P 04 11 46.2 -0.2
O19K Port Alsworth 22.16 60 P P 04 11 46.4 0.0
baz=275
K20K Telida 22.22 52 P P 04 11 46.5 -0.5
baz=268
J20K Nowinta River 22.24 49 IAmb IAmb 04 12 00.2
comp=Z,54nm,0.8s
J20K Nowinta River 22.24 49 P P 04 11 47.2 0.0
baz=265
L20K Farewell, AK 22.29 54 P P 04 11 48.1 +0.4
baz=270
TIXI Tiksi 22.55 331 LR LR 04 20 33.2
comp=Z,318nm,18.9s,baz=294,slow=36
TIXI Tiksi 22.55 331 P **P 04 11 50.0 -0.4**
TIXI IAmb IAmb 04 12 03.9
comp=Z,161nm,1.7s
TIXI Tiksi 22.55 331 *i* P **P 04 11 49.7 -0.7**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
M20K Styx River 22.64 55 P P 04 11 51.7 +0.1
baz=272
Q19K Cape Douglas, 22.65 63 P P 04 11 51.9 +0.3
baz=279
P19K Oil Pt 22.77 61 P P 04 11 52.5 -0.4
baz=277
ILSW Iliamna Southw 22.77 60 IAmb IAmb 04 12 05.7
comp=Z,195nm,1.9s
G21K Allakaket 22.80 43 P P 04 11 53.0 -0.2
baz=260
SII Sitkinak Islan 22.82 69 P P 04 11 52.8 -0.7
baz=284
F21K Alatna River 22.94 42 P P 04 11 54.4 -0.2
baz=259
H21K Melozitna Rive 22.96 46 P P 04 11 54.6 -0.2
baz=263
HEH HeiHe 23.00 273 *e*P **P 04 11 51.4 -3.9**
HEH pmax pmax
comp=Z,12nm,0.9s
HEH LR LR
comp=Z,2μm,13.6s
HEH LR LR
comp=Z,2μm,15.0s
HEH LR LR
comp=Z,2μm,12.3s
O20K Slope Mountain 23.02 60 P P 04 11 56.0 +0.4
baz=277
CHUM Lake Minchumin 23.03 50 P P 04 11 55.8 +0.4
baz=268,SNR=15
PPLA Purkeypile 23.07 53 P P 04 11 56.7 +0.7
PPLA Purkeypile 23.07 53 P P 04 11 55.3 -0.7
baz=270,SNR=9.4
CAST Castle Rocks 23.12 52 P P 04 11 56.4 0.0
CAST Castle Rocks 23.12 52 P P 04 11 55.5 -0.9
baz=269,SNR=23
N20K Mount Spurr 23.12 57 P P 04 11 56.1 -0.4
baz=274
A21K Barrow 23.14 31 P P 04 11 57.5 +0.9
A21K IAmb IAmb 04 12 00.4
comp=Z,59nm,0.9s
A21K Barrow 23.14 31 P P 04 11 56.4 -0.1
baz=246
OHAK Old Harbor 23.15 67 P P 04 11 56.4 -0.4
OHAK IAmb IAmb 04 12 06.5
comp=Z,55nm,0.9s
OHAK Old Harbor 23.15 67 P P 04 11 56.6 -0.2
baz=283
I21K Tanana 23.25 47 P P 04 11 57.3 -0.5
baz=265
Q20K Shuyak Island 23.35 64 P P 04 11 57.5 -1.2
baz=280
SKT Skwentna 23.39 55 IAmb IAmb 04 12 14.1
comp=Z,64nm,1.2s
SKT Skwentna 23.39 55 P P 04 11 58.3 -0.9
baz=273,SNR=10.0
F22K John River 23.49 41 P P 04 11 59.8 -0.3
baz=260
H22K Ishtalitna Cre 23.57 45 P P 04 12 00.7 -0.2
baz=264,SNR=20
BPAW Bear Paw Mtn. 23.62 50 P P 04 12 01.2 -0.1
BPAW IAmb IAmb 04 12 12.5
comp=Z,200nm,1.9s
BPAW Bear Paw Mtn. 23.62 50 P P 04 12 00.8 -0.5
baz=269,SNR=15
G22K Bettles 23.65 43 P P 04 12 01.1 -0.5
baz=262
USRK Ussuriysk Ar. 23.68 256 LR LR 04 21 43.9
comp=Z,990nm,18.6s,baz=49,slow=38
E22K Anaktuvuk Pass 23.75 40 P P 04 12 02.2 -0.4
baz=259
MLY Manley 23.77 47 P P 04 12 03.0 +0.3
baz=267,SNR=10
CNPM China Poot 23.79 61 IAmb IAmb 04 12 10.6
comp=Z,56nm,1.0s
SUA Susitna One 23.80 56 IAmb IAmb 04 12 04.3
comp=Z,52nm,0.9s
SUA Susitna One 23.80 56 P P 04 12 02.6 -0.6
baz=275,SNR=23
TRF Thorofare Moun 23.92 51 P P 04 12 03.5 -0.9
baz=271,SNR=47
BRLK Bradley Lake 23.93 61 P P 04 12 03.5 -0.8
BRLK IAmb IAmb 04 12 17.9
comp=Z,31nm,0.7s
CUT Chulitna 23.96 54 P P 04 12 04.1 -0.5
baz=273,SNR=9.8
BRSE Bradley Lake S 24.00 61 P P 04 12 03.9 -1.1
baz=279
M22K Willow 24.08 56 IAmb IAmb 04 12 20.8
comp=Z,63nm,0.9s
M22K Willow 24.08 56 P P 04 12 05.6 0.0
baz=275
COLD Coldfoot 24.20 42 P P 04 12 06.7 -0.1
baz=262,SNR=21
G23K Bananza Creek 24.21 43 P P 04 12 06.7 -0.2
baz=264

H23K Yukon River 24.32 46 IAmb IAmb 04 12 20.5
comp=Z,80nm,1.2s
H23K Yukon River 24.32 46 P P 04 12 07.2 -0.7
baz=266
RC01 Rabbit Creek A 24.32 57 P P 04 12 07.3 -0.6
baz=276
D23K Nanushuk River 24.33 38 P P 04 12 08.1 +0.2
baz=258
I23K Minto, Yukon-K 24.36 47 P P 04 12 08.1 -0.1
baz=268,SNR=27
O22K Cooper Landing 24.40 59 P P 04 12 07.8 -0.8
baz=278
NEA2 Nenana 24.46 49 IAmb IAmb 04 12 21.3
comp=Z,40nm,0.9s
NEA2 Nenana 24.46 49 P P 04 12 08.6 -0.6
baz=269,SNR=38
MCK McKinley 24.52 51 P P 04 12 09.1 -0.7
MCK IAmb IAmb 04 12 14.5
comp=Z,74nm,1.1s
MCK McKinley 24.52 51 P P 04 12 09.5 -0.3
baz=271,SNR=33
MCK McKinley 24.52 51 P P 04 12 09.1 -0.7
MCK pmax pmax
comp=Z,74nm,1.1s
E23K Chandalar 24.55 40 P P 04 12 09.2 -0.8
baz=261
C23K Killik River 24.55 36 P P 04 12 10.2 +0.3
baz=256
PMR Palmer 24.56 56 P P 04 12 09.9 -0.1
baz=276
RND Reindeer 24.57 52 IAmb IAmb 04 12 21.8
comp=Z,41nm,1.0s
SEW Seward 24.59 60 P P 04 12 09.4 -0.9
SEW IAmb IAmb 04 12 20.6
comp=Z,32nm,0.7s
SEW Seward 24.59 60 P P 04 12 09.5 -0.8
baz=279
GHO Glory Hole Cre 24.64 55 IAmb IAmb 04 12 22.9
comp=Z,30nm,0.8s
TOLK Toolik Lake Re 24.66 39 P P 04 12 10.3 -0.7
TOLK IAmb IAmb 04 12 15.0
comp=Z,64nm,1.0s
TOLK Toolik Lake Re 24.66 39 P P 04 12 10.2 -0.8
baz=260,SNR=41
WAT1 Susitna Watana 24.73 53 P P 04 12 10.4 -1.2
baz=274
MDJ Mudanjiang 24.77 260 P P 04 12 11.8 -0.3
MDJ pP sP 04 12 21.1 -0.8
MDJ sP pwP 04 12 25.3 0.0
MDJ S **S 04 16 29.3 -3.0**
MDJ sS sS 04 16 43.9 +0.3
MDJ PcS **PcS 04 19 29.8 +1.9**
MDJ ScS **ScS 04 23 15.3 +3.0**
MDJ pmax pmax
comp=Z,13nm,1.6s
MDJ pmax pmax
comp=Z,190nm,5.4s
MDJ LR LR
comp=Z,810nm,12.5s
MDJ LR LR
comp=Z,1μm,12.7s
MDJ LR LR
comp=Z,2μm,12.5s
JSD Sado 24.77 237 P P 04 12 12.5 +0.4
MDM Murphy Dome 24.83 48 IAmb IAmb 04 12 25.0
comp=Z,81nm,1.4s
WRH Wood River Hil 24.89 49 IAmb IAmb 04 12 17.6
comp=Z,93nm,1.1s
KNK Knik Glacier 24.90 56 P P 04 12 12.1 -1.1
baz=277,SNR=20
SML Sawmill 24.92 55 P P 04 12 12.6 -0.8
baz=276,SNR=22
E24K Your Creek 24.97 40 P P 04 12 13.3 -0.5
baz=262
TCOL CIGO, UAF Yank 24.99 48 IAmb IAmb 04 12 24.3
comp=Z,41nm,0.7s
TCOL CIGO, UAF Yank 24.99 48 P P 04 12 13.8 0.0
baz=270,SNR=17
COLA College 24.99 48 P P 04 12 13.4 -0.5
COLA IAmb IAmb 04 12 24.3
comp=Z,42nm,0.7s
COLA College 24.99 48 P P 04 12 14.1 +0.2
baz=270
COLA College 24.99 48 P P 04 12 13.6 -0.3
comp=Z,61nm,1.0s
COLA College 24.99 48 *i* P **P 04 12 13.6 -0.3**
COLA pmax pmax
comp=Z,46nm,1.0s
H24K Noodor Dome 25.00 46 P P 04 12 13.4 -0.7
baz=268
CCB Clear Creek Bu 25.01 49 IAmb IAmb 04 12 19.3
comp=Z,111nm,1.2s
PWL Port Wells 25.03 58 P P 04 12 13.2 -1.2
baz=278,SNR=23
WAT6 Susitna Watana 25.12 53 P P 04 12 14.8 -0.6
baz=275,SNR=14
F24K Squaw Lake 25.13 42 P P 04 12 14.5 -0.7
baz=264
POKR Poker Plat Res 25.17 47 P P 04 12 14.7 -0.9
baz=270,SNR=16
C24K Franklin Bluff 25.17 36 P P 04 12 14.9 -0.6
baz=258,SNR=40
M23K Glacier View 25.21 55 P P 04 12 15.2 -0.7
baz=276,SNR=21
G24K Hadweenzic Riv 25.21 44 P P 04 12 15.3 -0.7
baz=266
DHY Denali Highway 25.25 52 IAmb IAmb 04 12 21.2
comp=Z,56nm,1.2s
DHY Denali Highway 25.25 52 P P 04 12 15.2 -1.3
baz=274,SNR=28
BNX BinXian 25.34 264 ⇑P **P 04 12 16.6 -0.7**
BNX pmax pmax
comp=Z,6.0nm,1.0s
BNX pmax pmax
comp=Z,230nm,4.7s
HDA Harding Lake 25.38 49 P P 04 12 16.4 -1.1
baz=272,SNR=23
SCM Sheep Creek Mo 25.39 55 P P 04 12 16.7 -1.0
baz=277,SNR=24
IL31 25.40 48 IAmb IAmb 04 12 30.4
comp=Z,53nm,1.0s
ILAR Eielson Array 25.40 48 P P 04 12 16.9 -0.7
comp=Z,20nm,0.7s,baz=258,slow=7.5,SNR=247
ILAR LR LR 04 23 10.2
comp=Z,1μm,18.1s,baz=263,slow=38
comp=Z,20nm,0.7s
ILAR Eielson Array 25.40 48 P P 04 12 17.0 -0.7
G25K Bearman Lake 25.76 44 P P 04 12 21.1 +0.2
baz=267
M24K Tolsona, Glenn 25.90 54 P P 04 12 21.9 -0.4
baz=277,SNR=20
D25K Kavik River 25.91 38 P P 04 12 21.1 -1.2
baz=262
K24K Donnelly Dome 25.92 50 P P 04 12 21.6 -0.8
baz=274,SNR=11
PRP Porcupine Dome 25.97 46 IAmb IAmb 04 12 33.9
comp=Z,44nm,0.8s
PRP Porcupine Dome 25.97 46 P P 04 12 22.2 -0.8
baz=270,SNR=35
MJB9 Matsu-Tunnel 25.99 235 P P 04 12 23.4 +0.2
MJB9 IAmb IAmb 04 12 42.8
comp=Z,61nm,0.8s
MAJO Matsushiro 25.99 235 P P 04 12 23.4 +0.2
MAJO Matsushiro 25.99 235 P P 04 12 24.3 +1.0
comp=Z,116nm,0.9s
MAJO Matsushiro 25.99 235 *i* P **P 04 12 24.2 +1.0**
MAJO pmax pmax
comp=Z,47nm,1.2s
MJAR Matsushiro Arr 25.99 235 P P 04 12 24.4 +1.2
comp=Z,19nm,1.0s,baz=23,slow=8.3,SNR=23
MJAR LR LR 04 24 54.5
comp=Z,367nm,18.1s,baz=37,slow=42
comp=Z,19nm,1.0s
F25K Christian Rive 25.99 42 P P 04 12 22.4 -0.7
baz=266,SNR=9.1
E25K Arctic Village 26.06 41 P P 04 12 22.9 -0.8
baz=265,SNR=13
KLU Klutina 26.10 56 IAmb IAmb 04 12 40.7
comp=Z,32nm,0.8s
KLU Klutina 26.10 56 P P 04 12 23.2 -0.9
baz=278,SNR=12
FYU Fort Yukon 26.10 44 IAmb IAmb 04 12 38.6
comp=Z,117nm,1.5s
PAX Paxson 26.13 52 P P 04 12 21.8 -2.6
baz=276,SNR=23
DIV Divide 26.23 56 IAmb IAmb 04 12 35.9
comp=Z,42nm,0.9s

EYAK Cordova Ski Ar 26.34 58 P P 04 12 25.5 -0.6
baz=280
HARP HAARP 26.34 54 P P 04 12 26.2 +0.1
baz=277,SNR=12
RIDG Independent Ri 26.34 50 P P 04 12 25.2 -1.0
baz=275,SNR=12
BMAR Burnt Mountain 26.39 42 P P 04 12 26.6 0.0
C26K Camden Bay 26.50 37 P P 04 12 26.9 -0.6
baz=262
F26K Sheenjek River 26.57 42 P P 04 12 28.6 +0.3
baz=267
G26K Porcupine Rive 26.68 43 P P 04 12 29.3 +0.1
baz=269
DOT Dot Lake 26.70 51 IAmb IAmb 04 12 39.2
comp=Z,95nm,1.6s
SCRK Sand Creek 26.70 50 IAmb IAmb 04 12 39.3
comp=Z,37nm,1.0s
SCRK Sand Creek 26.70 50 P P 04 12 28.1 -1.4
baz=275,SNR=22
N25K Chitina, Valde 26.71 55 IAmb IAmb 04 12 40.6
comp=Z,31nm,0.9s
N25K Chitina, Valde 26.71 55 P P 04 12 28.9 -0.7
baz=279,SNR=12
BMRM Bremner River 26.81 57 IAmb IAmb 04 12 41.5
comp=Z,55nm,0.9s
BMRM Bremner River 26.81 57 P P 04 12 29.8 -0.8
baz=280
J26L Joseph Creek 26.84 49 P P 04 12 29.4 -1.4
baz=274
C27K Jago River 26.88 37 P P 04 12 29.9 -1.1
baz=264
RAGM Ragged Mountai 26.89 58 IAmb IAmb 04 12 46.1
comp=Z,37nm,0.8s
L26K Log Cabin Wild 27.09 52 P P 04 12 31.9 -1.0
baz=277
KAIM Kayak Island 27.11 59 P P 04 12 32.6 -0.6
baz=283
JGF Kuroka 27.15 235 P P 04 12 34.1 +0.4
JGF IAmb IAmb 04 12 52.0
comp=Z,36nm,0.8s
JGF Kuroka 27.15 235 P P 04 12 34.9 +1.1
comp=Z,52nm,1.0s
VRDI Verde Repeater 27.32 56 IAmb IAmb 04 12 46.2
comp=Z,37nm,1.0s
M26K Nabesna, AK 27.33 53 IAmb IAmb 04 12 47.0
comp=Z,84nm,1.7s
M26K Nabesna, AK 27.33 53 P P 04 12 34.6 -0.6
baz=279
BERG Berg Lake 27.36 58 P P 04 12 35.5 +0.2
MCARA McCarthy VSAT 27.49 55 P P 04 12 36.7 +0.1
baz=281
G27K Doyon Strip 27.53 44 P P 04 12 36.5 -0.4
baz=271
E27K Coleen River 27.55 41 P P 04 12 37.1 +0.1
baz=269
I27K Kandik River 27.59 46 P P 04 12 36.9 -0.6
baz=274
H27K Steamboat Moun 27.60 45 P P 04 12 36.8 -0.7
baz=273
CN2 Changchun 27.62 262 P P 04 12 42.0 +4.2
CN2 S **S 04 17 18.5 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,700nm,12.0s
CN2 LR LR
comp=Z,700nm,12.0s
CN2 LR LR
comp=Z,1μm,12.0s
BOD Bodaibo 27.68 297 *e*P **P 04 12 36.5 -1.7**
BOD pmax pmax
comp=Z,32nm,1.5s
L27K Beaver Creek, 27.77 52 IAmb IAmb 04 12 50.6
comp=Z,56nm,1.1s
L27K Beaver Creek, 27.77 52 P P 04 12 38.5 -0.6
baz=278,SNR=34
EGAK Eagle 27.85 48 IAmb IAmb 04 12 49.4
comp=Z,27nm,0.8s
EGAK Eagle 27.85 48 P P 04 12 38.0 -1.7
baz=276,SNR=20
M27K Edge Creek, AK 27.86 53 IAmb IAmb 04 12 55.0
comp=Z,36nm,0.9s
M27K Edge Creek, AK 27.86 53 P P 04 12 39.4 -0.6
baz=280
ISLE Juniper Island 27.98 57 IAmb IAmb 04 12 56.0
comp=Z,37nm,1.0s
JHJ Hachijo jima 2 28.12 229 LR LR 04 24 18.4
comp=Z,98nm,20.7s,baz=62,slow=37
BARN Barnard Glacie 28.20 56 P P 04 12 43.4 +0.3
BVCY Beaver Creek 28.31 53 P P 04 12 43.8 -0.1
baz=280,SNR=18
YAH Yahtse 28.32 57 IAmb IAmb 04 12 55.7
comp=Z,50nm,1.0s
TABL Table Mountain 28.59 57 IAmb IAmb 04 12 57.8
comp=Z,39nm,1.0s
YUK3 Moose Creek 28.62 54 P P 04 12 46.5 -0.3
baz=282,SNR=10
DAWY Dawson 28.70 49 P P 04 12 46.7 -0.6
baz=278,SNR=14
O28M Mount Upton 28.97 56 P P 04 12 49.0 -1.0
baz=284
I29M Ogilvie Camp, 28.99 46 P P 04 12 49.5 -0.3
baz=277,SNR=11
YUK8 Steele Glacier 29.05 55 P P 04 12 50.5 -0.2
baz=283
PCA Pinnacle 29.10 57 IAmb IAmb 04 12 59.6
comp=Z,73nm,1.1s
PINM Pinnacle 29.10 57 P P 04 12 50.1 -0.8
baz=285
J29M Klondike Camp 29.15 48 P P 04 12 50.9 -0.5
baz=279
M29M Somme Creek 29.40 52 P P 04 12 53.4 -0.3
baz=282
L29M L29M 29.42 51 P P 04 12 53.3 -0.4
baz=281
EPYK Eagle Plains 29.52 44 P P 04 12 55.1 +0.5
baz=276
K29M Barlow Dome 29.55 49 P P 04 12 54.8 -0.2
baz=280,SNR=7.4
YUK4 Talbot Arm 29.56 55 P P 04 12 55.4 +0.2
baz=284,SNR=6.5
PNL Peninsula 29.63 58 P P 04 12 55.4 -0.2
baz=286
G30M tAoh Zraii Nji 29.66 43 P P 04 12 55.4 -0.3
baz=276
YUK6 Outpost Mounta 29.79 55 P P 04 12 56.8 -0.5
baz=285
O29M Mount Kennedy 29.86 57 P P 04 12 57.5 -0.3
baz=286
M30M Minto, Yukon 30.13 52 P P 04 12 59.6 -0.4
baz=283
HYT Haines Junctio 30.23 55 IAmb IAmb 04 13 12.7
comp=Z,33nm,0.9s
HYT Haines Junctio 30.23 55 P P 04 13 00.5 -0.5
baz=286,SNR=13
N30M Aishikik Lake 30.26 54 P P 04 13 00.9 -0.3
baz=285
P29M Windy Craggy 30.45 58 P P 04 13 02.4 -0.5
baz=287
KSRS Korea Array 30.54 250 P P 04 13 05.8 +2.1
comp=Z,16nm,1.0s,baz=43,slow=9.1,SNR=29
KSRS pP **pwP 04 13 16.1 -1.0**
comp=Z,16nm,0.8s,baz=40,slow=9.0,SNR=13
KSRS LR LR 04 23 48.4
comp=Z,296nm,21.9s,baz=45,slow=33
comp=Z,16nm,1.0s
INK Inuvik 30.55 40 P P 04 13 03.7 +0.2
comp=Z,7.2nm,0.5s,baz=289,slow=7.1,SNR=62
INK LR LR 04 26 34.1
comp=Z,327nm,18.2s,baz=250,slow=39
comp=Z,7.2nm,0.5s
INK Inuvik 30.55 40 P P 04 13 03.4 -0.1
INK IAmb IAmb 04 13 15.8
comp=Z,52nm,1.6s
INK Inuvik 30.55 40 P P 04 13 02.9 -0.6
baz=276,SNR=8.4
INK Inuvik 30.55 40 P P 04 13 03.4 -0.1
INK pmax pmax
comp=Z,52nm,1.6s
F31M Tsiigehtchic 30.57 42 P P 04 13 03.2 -0.5
baz=277
KSAR Wonju Array Be 30.57 250 P P 04 13 04.0 -0.1
KSAR Wonju Array Be 30.57 250 P P 04 13 04.0 -0.1
P30M Million Dollar 30.68 57 P P 04 13 04.3 -0.7
baz=287
N31M Braeburn, Yuko 30.86 54 P P 04 13 06.7 +0.2
baz=286
O30N Mendenhall 30.91 55 P P 04 13 07.1 +0.2

baz=286
PLBC Pleasant Camp 31.17 58 P **P** 04 13 09.7 +0.6
baz=288
M31M Drury Creek, Y 31.31 52 IAmb IAmb 04 13 22.4
comp=Z,33nm,0.9s
M31M Drury Creek, Y 31.31 52 P **P** 04 13 10.5 +0.1
baz=285,SNR=13
WHY Whitehorse 31.51 55 IAmb IAmb 04 13 24.5
comp=Z,30nm,0.9s
WHY Whitehorse 31.51 55 P **P** 04 13 12.4 +0.1
baz=287,SNR=11
SKAG Skagway 31.67 57 IAmb IAmb 04 13 25.9
comp=Z,28nm,1.0s
SKAG Skagway 31.67 57 P **P** 04 13 13.7 +0.2
baz=289
FARO Faro, Yukon 31.77 52 P **P** 04 13 14.9 +0.4
baz=286,SNR=8.3
N32M Quiet Lake 32.20 54 P **P** 04 13 18.4 +0.1
baz=288
P32M Atlin 32.41 56 P **P** 04 13 20.2 +0.2
baz=290
R32K Eaglecrest 32.47 59 P **P** 04 13 21.2 +0.6
baz=291,SNR=7.3
JCJ Chichijima 32.48 220 LR LR 04 24 19.6
comp=Z,182nm,20.0s,baz=113,slow=32
JIS Juneau Island 32.54 59 P **P** 04 13 21.7 +0.5
MMPY Sheldon Lake, 32.59 50 P **P** 04 13 21.9 +0.2
baz=287,SNR=16
P33M Teslin, Yukon 32.62 55 IAmb IAmb 04 13 34.2
comp=Z,29nm,1.2s
P33M Teslin, Yukon 32.62 55 P **P** 04 13 21.9 -0.1
baz=289,SNR=9.7
S32K Killisnoo 32.74 60 P **P** 04 13 23.1 +0.2
baz=292
XLT XiLinHaoTe 32.93 271 *e*P **P** 04 13 23.8 -1.0
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,100nm,5.8s
XLT LR LR
comp=Z,1μm,14.8s
XLT LR LR
comp=Z,1μm,13.4s
A36M Sachs Harbour 32.95 32 IAmb IAmb 04 13 38.2
comp=Z,34nm,0.8s
A36M Sachs Harbour 32.95 32 P **P** 04 13 24.5 -0.1
baz=277,SNR=19
Q32M Nakina River 33.32 57 P **P** 04 13 28.7 +0.5
baz=292
C36M Paulatuk 33.78 37 P **P** 04 13 31.6 -0.3
baz=282,SNR=17
R33M Jennings River 33.79 56 P **P** 04 13 32.1 -0.1
baz=292
U33K Whale Pass 34.02 62 P **P** 04 13 34.1 0.0
baz=295
TGTN Hyland Airport 34.27 52 P **P** 04 13 36.2 -0.1
baz=290,SNR=12
S34M Telegraph Cree 34.28 58 P **P** 04 13 35.9 -0.4
baz=294
WRAK Wrangell Islan 34.28 61 P **P** 04 13 35.8 -0.6
baz=295
WTLY Watson Lake, Y 34.54 54 IAmb IAmb 04 13 50.6
comp=Z,45nm,1.2s
WTLY Watson Lake, Y 34.54 54 P **P** 04 13 38.6 -0.1
baz=292,SNR=15
DLBC Dease Lake 34.60 57 LR LR 04 28 48.2
comp=Z,548nm,18.9s,baz=300,slow=38
DLBC Dease Lake 34.60 57 P **P** 04 13 40.6 +1.3
DLBC IAmb IAmb 04 13 52.2
comp=Z,29nm,0.8s
DLBC Dease Lake 34.60 57 P **P** 04 13 39.5 +0.3
baz=294,SNR=11
T35M Bob Quinn 35.09 60 P **P** 04 13 44.0 +0.6
baz=295,SNR=9.9
H11N2 WAKE ISLAND Hy 35.35 177 T T 04 51 40.7
baz=358,slow=76,SNR=196
H11N3 WAKE ISLAND Hy 35.36 177 T T 04 51 45.2
baz=358,slow=76,SNR=138
H11N1 WAKE ISLAND Hy 35.36 177 T T 04 51 45.4
baz=358,slow=76,SNR=128
ULN Ulaanbaatar 35.77 283 P **P** 04 13 50.9 +1.4
ULN pP **sP** 04 13 59.4 +0.2
NRIK Noril'sk 35.91 324 P **P** 04 13 48.9 -1.3
comp=Z,2.2nm,0.4s,baz=148,slow=3.3,SNR=2.5
NRIK LR LR 04 28 09.6
comp=Z,283nm,20.4s,baz=73,slow=36
comp=Z,2.2nm,0.4s
NRIK Noril'sk 35.91 324 P **P** 04 13 50.9 +0.7
NRIK Noril'sk 35.91 324 *ce*P **P** 04 13 51.1 +0.9
NRIK pmax pmax
comp=Z,49nm,1.4s
LIRD Liard River Hi 36.08 54 P **P** 04 13 52.3 +0.5
baz=294,SNR=6.8
SONM Songino Array 36.16 283 P **P** 04 13 52.2 -0.6
comp=Z,5.9nm,0.6s,baz=63,slow=7.9,SNR=29
SONM PcP **PcP** 04 16 18.7 +0.9
comp=Z,2.5nm,0.8s,baz=80,slow=2.6,SNR=3.5
SONM LR LR 04 30 01.1
comp=Z,935nm,18.2s,baz=38,slow=38
comp=Z,5.9nm,0.6s
SONM Songino Array 36.16 283 P **P** 04 13 52.6 -0.1
ZAK Zakamensk 36.49 289 *e*P **P** 04 13 55.3 -0.3
ZAK pmax pmax
comp=Z,15nm,1.1s
H11S1 WAKE ISLAND Hy 36.56 177 T T 04 52 59.5
baz=359,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 36.57 177 T T 04 53 03.2
baz=359,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 36.57 177 T T 04 53 01.0
baz=359,slow=76,SNR=22
KOTAN Kotaneelee Air 36.72 52 P **P** 04 13 58.0 +0.8
baz=295,SNR=6.9
MOY Mondy 37.05 292 *e*P P 04 14 10.7 +10
MOY pmax pmax
comp=Z,54nm,1.7s
HHC Hu-ho-hao-te 37.45 270 *e*P **P** 04 14 02.9 -0.9
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=Z,2μm,12.8s
HHC LR LR
comp=Z,2μm,12.8s
HHC LR LR
comp=Z,1μm,16.3s
HNS HongShan 37.97 263 ⇑P **P** 04 14 09.3 +1.3
HNS S **S** 04 19 56.5 -1.5
HNS pmax pmax
comp=Z,9.0nm,1.1s
HNS LR LR
comp=Z,740nm,18.8s
HNS LR LR
comp=Z,1μm,18.8s
HNS LR LR
comp=Z,1μm,14.3s
BBB Bella Bella 38.48 66 LR LR 04 29 33.3
comp=Z,551nm,18.1s,baz=305,slow=35
BTO Baotou 38.49 271 *e*P P 04 14 05.8 -6.8
BTO S **S** 04 19 57.8 -8.3
BTO LR LR
comp=N,6μm,16.9s
BTO LR LR
comp=E,3μm,16.9s
EUNU Eureka 39.31 15 P **P** 04 14 19.4 +0.5
NJ2 Nanjing 39.53 254 *e*P **P** 04 14 21.9 +0.7
NJ2 sP **sP** 04 14 32.5 +1.3
NJ2 pmax pmax
comp=E,16nm,0.5s
NJ2 LR LR
comp=E,550nm,14.7s
NJ2 LR LR
comp=E,670nm,17.1s
NJ2 LR LR
comp=E,580nm,19.9s
YKA Yellowknife Ar 39.77 46 P **P** 04 14 22.9 -0.1
comp=E,4.2nm,0.6s,baz=297,slow=8.3,SNR=17
YKA pP **sP** 04 14 33.3 +0.5
comp=E,9.3nm,0.7s,baz=298,slow=8.3,SNR=13
comp=E,4.2nm,0.6s
YKA Yellowknife Ar 39.77 46 *i*P **P** 04 14 22.8 -0.1
YKA pmax pmax
comp=Z,6.0nm,0.7s
RES Resolute Bay 40.38 24 P **P** 04 14 27.4 -0.4
comp=Z,11nm,0.9s,baz=312,slow=7.9,SNR=11
RES pP **sP** 04 14 37.7 0.0
comp=Z,9.2nm,0.8s,baz=310,slow=8.9,SNR=8.7
RES LR LR 04 32 55.1
comp=Z,61nm,20.4s,baz=7.0,slow=39
comp=Z,11nm,0.9s
RES Resolute Bay 40.38 24 P **P** 04 14 28.8 +1.0
ALE Alert 40.54 9 P **P** 04 14 28.6 -0.5
WHN Wuhan 43.17 257 ⇑P **P** 04 14 51.8 +0.7
WHN LR LR
comp=Z,1μm,14.5s
XAN Xi'an 43.66 265 P **P** 04 14 56.3 +1.2
XAN pP pwP 04 15 06.8 -2.5
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN LR LR
comp=Z,1μm,18.4s
XAN LR LR
comp=Z,1μm,18.7s
XAN LR LR
comp=Z,640nm,18.7s
ZAA0 Zalesovo Array 44.03 303 P **P** 04 14 58.2 +0.5
ZALV Zalesovo Beam 44.03 303 P **P** 04 14 56.1 -1.6
comp=Z,0.6nm,0.3s,baz=45,slow=14,SNR=2.2
ZALV PcP **PcP** 04 16 43.6 +0.9
comp=Z,3.2nm,0.8s,baz=36,slow=6.0,SNR=5.0
ZALV LR LR 04 34 47.2
comp=Z,206nm,19.1s,baz=31,slow=38
comp=Z,0.6nm,0.3s
ZALV Zalesovo Beam 44.03 303 P **P** 04 14 58.2 +0.5
GUMO Guam 44.25 208 LR LR 04 34 14.6
comp=Z,76nm,18.2s,baz=64,slow=37
TULEG Thule 44.29 16 P **P** 04 14 59.8 +0.2
TULEG IAmb IAmb 04 15 18.3
comp=Z,53nm,2.0s
TULEG Thule 44.29 16 *i*P **P** 04 14 59.0 -0.5
TULEG IAmb IAmb 04 15 11.2
comp=Z,5.0nm,0.7s
LZH Lanzhou 45.12 271 *e*P **P** 04 15 08.4 +1.5
LZH pP pwP 04 15 19.4 -1.6
LZH sP sP 04 15 23.1 +6.5
LZH pmax pmax
comp=Z,38nm,1.2s
LZH LR LR
comp=Z,1μm,14.8s
LZH LR LR
comp=Z,1μm,15.5s
LZH LR LR
comp=Z,1μm,15.8s
GTA Gaotai 45.13 278 ⇓P **P** 04 15 07.9 +1.0
GTA pP pwP 04 15 19.1 -1.9
GTA sP sP 04 15 23.1 +6.4
GTA S **S** 04 21 45.3 +0.9
GTA pmax pmax
comp=Z,18nm,1.0s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=Z,780nm,15.3s
GTA LR LR
comp=Z,890nm,15.3s
GTA LR LR
comp=Z,1μm,15.6s
DGZ Jazzator, Alta 45.27 297 *i*P **P** 04 15 07.2 -0.7
DGZ pmax pmax
comp=Z,17nm,1.1s
B08A Colville Reser 45.29 66 P **P** 04 15 08.2 +0.3
NEEM North Greenlan 45.84 10 *i*P **P** 04 15 11.4 -0.8
NEEM IAmb IAmb 04 15 22.7
comp=Z,7.9nm,1.0s
ENH Enshi 46.12 261 P **P** 04 15 14.9 +0.3
ENH pP **pwP** 04 15 26.2 -1.9
C09A Chrisman Ranch 46.19 65 IAmb IAmb 04 15 26.6
comp=Z,12nm,0.8s
HAWA Hanford 46.42 68 P **P** 04 15 17.3 +0.5
NEW Newport 46.49 64 LR LR 04 35 54.7
comp=Z,235nm,18.6s,baz=302,slow=37
NEW Newport 46.49 64 P **P** 04 15 17.5 +0.1
NEW Newport 46.49 64 P **P** 04 15 17.2 -0.3
baz=309
NEW Newport 46.49 64 P **P** 04 15 17.5 +0.1
NEW pmax pmax
comp=Z,11nm,0.9s
E09A Wood Farm, Sta 47.08 67 IAmb IAmb 04 15 27.9
comp=Z,19nm,1.0s
KULLO Kullorsuaq 47.60 14 *i*P **P** 04 15 24.3 -1.3
KULLO IAmb IAmb 04 15 35.8
comp=Z,14nm,0.8s
YBH Yreka Blue Hor 47.75 75 LR LR 04 33 44.0
comp=Z,301nm,19.4s,baz=310,slow=34
ZSN Zaisan 48.01 296 *e*P **P** 04 15 27.9 -1.3
baz=296
ZSN Zaisan 48.01 296 *e*P **P** 04 15 27.9 -1.3
DAG Danmarks Havn 48.38 1 *i*P **P** 04 15 31.5 -0.1
BMO Blue Mountains 48.61 68 IAmb IAmb 04 15 52.8
comp=Z,17nm,1.2s
WMQ Urumqi 48.91 291 *e*P **P** 04 15 36.8 +0.5
WMQ pP pwP 04 15 48.1 -2.2
WMQ S **S** 04 22 40.9 +2.9
WMQ pmax pmax
comp=Z,37nm,0.9s
WMQ pmax pmax
comp=Z,280nm,3.9s
WMQ LR LR
comp=Z,1μm,20.1s
WMQ LR LR
comp=Z,550nm,17.7s
WMQ LR LR
comp=Z,480nm,23.7s
WMQ Urumqi 48.91 291 P **P** 04 15 37.0 +0.7
WMQ pP **pwP** 04 15 48.0 -2.3
MOD Modoc Plateau 48.96 73 IAmb IAmb 04 15 49.1
comp=Z,18nm,0.8s
KURK Kurchatov 49.02 303 P **P** 04 15 36.1 -0.7
KURK Kurchatov 49.02 303 P **P** 04 15 35.5 -1.4
KURK Kurchatov 49.02 303 P **P** 04 15 36.0 -0.9
KURK pP **sP** 04 15 47.2 +0.6
MSO Missoula 49.07 64 P **P** 04 15 36.9 -0.6
baz=311,SNR=6.9
KURBB Kurchatov Arra 49.12 303 P **P** 04 15 37.1 -0.5
comp=Z,16nm,0.6s,baz=55,slow=8.0,SNR=104
KURBB LR LR 04 38 31.3
comp=Z,382nm,18.6s,baz=133,slow=39
comp=Z,16nm,0.6s
WVOR Wild Horse Val 49.51 71 IAmb IAmb 04 15 46.0
comp=Z,30nm,1.6s
FFC Flin Flon 49.60 50 P **P** 04 15 41.5 +0.2
FFC IAmb IAmb 04 15 52.5
comp=Z,16nm,0.9s
FFC Flin Flon 49.60 50 P **P** 04 15 41.5 +0.2
FFC pmax pmax
comp=Z,16nm,0.9s
FFC Flin Flon 49.60 50 P **P** 04 15 40.3 -1.0
FFC pP **sP** 04 15 51.6 +0.5
FFC sP **pwP** 04 15 56.4 +1.4
MK31 Makanchi Array 49.77 297 P **P** 04 15 41.8 -1.0
MK31 IAmb IAmb 04 15 55.0
comp=Z,15nm,0.9s
MK31 Makanchi Array 49.77 297 ⇑*i*P **P** 04 15 41.5 -1.2
MKAR Makanchi Array 49.77 297 P **P** 04 15 41.9 -0.9
comp=Z,5.1nm,0.7s,baz=59,slow=7.2,SNR=48
MKAR LR LR 04 38 06.2
comp=Z,503nm,19.8s,baz=82,slow=38
comp=Z,5.1nm,0.7s
MKAR Makanchi Array 49.77 297 P **P** 04 15 41.5 -1.2
MKAR Makanchi Array 49.77 297 P **P** 04 15 41.5 -1.2
MAKZ Makanchi 49.92 297 P **P** 04 15 42.9 -1.0
MAKZ IAmb IAmb 04 15 55.3
comp=Z,48nm,1.5s
MAKZ Makanchi 49.92 297 P **P** 04 15 42.5 -1.4
MAKZ Makanchi 49.92 297 P **P** 04 15 42.7 -1.2
MAKZ pP **sP** 04 15 53.9 +0.2
EGMT Eagleton 50.40 60 IAmb IAmb 04 15 60.0
comp=Z,17nm,0.8s
EGMT Eagleton 50.40 60 P **P** 04 15 47.0 -0.6
baz=312
GYA Guiyang 50.63 260 ⇑P **P** 04 15 51.0 +1.4
GYA sP pwP 04 16 02.1 -0.9
GYA pmax pmax
comp=Z,33nm,1.0s
GYA LR LR
comp=Z,520nm,18.7s
GYA LR LR
comp=Z,330nm,13.4s
GYA LR LR
comp=Z,750nm,17.4s
DBG Daneborg 50.83 2 *i*P **P** 04 15 49.4 -0.9
DBG IAmb IAmb 04 15 54.2
comp=Z,3.4nm,0.8s
HLID Hailey 51.02 67 P **P** 04 15 51.8 -0.5
baz=313,SNR=7.4
BOZ Bozeman (W) 51.09 64 P **P** 04 15 52.6 -0.2
baz=313
PNTR Pine Nut 51.29 75 IAmb IAmb 04 16 06.3
comp=Z,22nm,0.8s
BVA0 Borovoye Array 51.30 309 P **P** 04 15 53.8 -0.3
BVAR Borovoye Array 51.30 309 LR LR 04 40 24.0
comp=Z,696nm,18.1s,baz=43,slow=39
BRVK Borovoye 51.32 310 P **P** 04 15 54.0 -0.3
BRVK Borovoye 51.32 310 *ce*P **P** 04 15 53.4 -0.9
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 51.32 310 P **P** 04 15 54.1 -0.3
BRVK pP **sP** 04 16 05.1 +1.0
BRVK sP **pwP** 04 16 09.8 +1.5
SUMG Summit 51.59 9 *i*P **P** 04 15 55.7 -0.8
SUMG IAmb IAmb 04 16 10.0
comp=Z,8.1nm,0.6s
YHL Hebgen Lake 51.83 64 IAmb IAmb 04 16 11.7
comp=Z,1.9nm,0.8s
YHB Horse Butte 51.89 64 IAmb IAmb 04 16 14.4
comp=Z,21nm,0.7s
YMR Madison River 52.06 64 IAmb IAmb 04 16 13.6
comp=Z,26nm,0.8s
YNR Norris Junctio 52.18 64 IAmb IAmb 04 16 13.7
comp=Z,41nm,1.6s
ARCES ARCESS Array B 52.21 343 P **P** 04 15 58.8 -2.0
comp=Z,5.3nm,0.8s,baz=23,slow=9.7,SNR=11
comp=Z,5.3nm,0.8s
BRZS Berezniki 52.34 305 *e*P **P** 04 16 00.2 -1.8
baz=305
BRZS Berezniki 52.34 305 *e*P **P** 04 16 00.1 -1.8
YMP Mirror Lake Pl 52.43 64 IAmb IAmb 04 16 15.9
comp=Z,19nm,0.8s
H17A Grant Village 52.45 64 IAmb IAmb 04 16 19.3
comp=Z,16nm,0.7s
H17A Grant Village 52.45 64 P **P** 04 16 04.3 +1.1
baz=314,SNR=10
NVAR Mina Array Bea 52.47 75 P **P** 04 16 04.1 +0.8
comp=Z,5.2nm,0.7s,baz=300,slow=7.3,SNR=42
comp=Z,5.2nm,0.7s
NVAR Mina Array Bea 52.47 75 P **P** 04 16 03.8 +0.4
LHV Little Huntoon 52.49 75 IAmb IAmb 04 16 17.2
comp=Z,49nm,1.7s
ELK Elko 52.52 70 P **P** 04 16 04.9 +1.2
comp=Z,3.9nm,0.9s,baz=303,slow=9.0,SNR=15
ELK LR LR 04 37 33.1
comp=Z,270nm,20.4s,baz=325,slow=35
comp=Z,3.9nm,0.9s
FLWY Flagg Ranch 52.61 65 IAmb IAmb 04 16 24.5
comp=Z,26nm,1.0s
IMW Indian Meadow 52.61 65 IAmb IAmb 04 16 19.9
comp=Z,14nm,0.7s
RLMT Red Lodge 52.62 63 P **P** 04 16 04.5 +0.1
baz=314,SNR=18
SVE Sverdlovsk 52.69 318 *e*P **P** 04 16 05.7 +1.3
SVE pmax pmax
comp=Z,69nm,1.4s
MLAC Mammoth, Mammo 52.74 76 P **P** 04 16 06.0 +0.6
baz=316
Q09A Carvers 52.81 74 IAmb IAmb 04 16 12.0
comp=Z,21nm,0.8s
MOOW Moose Ponds 52.81 65 P **P** 04 16 06.6 +0.8
DGMT Dagmar 52.82 57 IAmb IAmb 04 16 17.1
comp=Z,28nm,0.8s
DGMT Dagmar 52.82 57 P **P** 04 16 06.1 +0.5
baz=314
DGMT Dagmar 52.82 57 P **P** 04 16 05.8 +0.2
baz=314
LOHW Long Hollow 52.98 65 IAmb IAmb 04 16 19.6
comp=Z,12nm,0.7s
LAO LASA Array 53.07 59 P **P** 04 16 07.9 +0.5
baz=314
LAO LASA Array 53.07 59 P **P** 04 16 08.2 +0.8
baz=314,SNR=16
PZH PanZhiHua 53.40 265 P **P** 04 16 10.8 +0.6
PZH sP **pwP** 04 16 22.0 -2.5
PZH S **S** 04 23 42.6 +2.2
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,140nm,3.7s
PZH LR LR
comp=Z,1μm,20.4s
PZH LR LR
comp=Z,1μm,18.6s
PZH LR LR
comp=Z,1μm,14.8s
TIN Tinemaha, Big 53.49 76 P **P** 04 16 11.8 +1.1
baz=316
PDGK Podgornoye 53.59 295 P **P** 04 16 10.4 -1.0
SPUT South Promonto 53.63 68 IAmb IAmb 04 16 24.2
comp=Z,47nm,2.0s
SHLS Shalkode 53.72 295 *e*P **P** 04 16 09.7 -2.8
baz=295
SHLS Shalkode 53.72 295 *e*P **P** 04 16 09.6 -2.8
SMMC Simmler 53.75 79 P **P** 04 16 13.3 +0.7
baz=317
ARU Arti 53.77 319 LR LR 04 41 53.2
comp=Z,366nm,18.8s,baz=36,slow=39
ARU Arti 53.77 319 P **P** 04 16 12.4 -0.1
ARU Arti 53.77 319 *d i*P **P** 04 16 12.3 -0.1
ARU *PP **sP** 04 16 22.4 +0.1
ARU 04 17 18.9
ARU 04 18 10.0
ARU S **S** 04 23 47.2 +2.6
ARU SS **SS** 04 27 27.2 +2.4
ARU pmax pmax
comp=Z,19nm,0.8s
ARU MLR MLR
comp=Z,347nm,17.0s
ARU Arti 53.77 319 P **P** 04 16 12.3 -0.1
ARU pP **sP** 04 16 22.7 +0.5
ARXS Arharly 53.82 297 *e*P **P** 04 16 12.6 -0.5
HWUT Hardware Ranch 53.89 67 IAmb IAmb 04 16 26.2
comp=Z,11nm,0.8s
VES Vestal, Richgr 53.89 77 P **P** 04 16 13.9 +0.4
baz=316
KMI Kunming 53.89 263 ⇑P **P** 04 16 15.3 +1.4
KMI pP pP 04 16 22.0 +1.0
KMI sP pwP 04 16 26.3 -2.0
KMI S **S** 04 23 48.8 +1.4
KMI pmax pmax
comp=Z,25nm,1.2s
KMI LR LR
comp=Z,1μm,17.9s
KMI LR LR
comp=Z,540nm,18.3s
KMI LR LR
comp=Z,440nm,18.9s
KPKS Kokpek 53.91 296 *e*P **P** 04 16 12.3 -1.4
baz=296
KPKS Kokpek 53.91 296 *e*P **P** 04 16 12.3 -1.4
GRAC Grapevine Rang 54.01 75 IAmb IAmb 04 16 33.6
comp=Z,43nm,1.5s
GRAC Grapevine Rang 54.01 75 P **P** 04 16 15.1 +0.6
baz=316,SNR=9.3
CWC Cottonwood Cre 54.02 76 P **P** 04 16 15.1 +0.5
baz=316
R11A Troy Canyon, C 54.03 73 IAmb IAmb 04 16 33.9
comp=Z,30nm,1.8s
R11A Troy Canyon, C 54.03 73 P **P** 04 16 15.6 +0.8
baz=316,SNR=11
BW06 Boulder Array 54.12 65 IAmb IAmb 04 16 21.3
comp=Z,13nm,0.9s
BW06 Boulder Array 54.12 65 P **P** 04 16 16.0 +0.6
baz=315,SNR=21
PDAR Pinedale Array 54.12 65 P **P** 04 16 16.0 +0.6
comp=Z,8.3nm,0.8s,baz=327,slow=3.3,SNR=41
comp=Z,8.3nm,0.8s
PDAR Pinedale Array 54.12 65 P **P** 04 16 15.8 +0.4
PRGR Permogore 54.19 329 *e*P **P** 04 16 14.9 -0.4
PRGR pmax pmax
comp=Z,17nm,0.7s
DUG Dugway, Tooele 54.22 69 IAmb IAmb 04 16 22.5
comp=Z,11nm,0.8s
DUG Dugway, Tooele 54.22 69 P **P** 04 16 17.1 +1.1
baz=316,SNR=15
SPR3 Spring Creek 3 54.25 71 IAmb IAmb 04 16 36.6
comp=Z,41nm,1.1s
SATY Saty 54.34 296 *e*P **P** 04 16 15.4 -1.5
baz=296
SATY Saty 54.34 296 *e*P **P** 04 16 15.4 -1.5
ISA Isabella, Lake 54.36 77 P **P** 04 16 16.8 -0.3
baz=317,SNR=5.2
CTU Camp Tracy 54.44 68 IAmb IAmb 04 16 36.0
comp=Z,18nm,1.0s

FRB	**Frobisher Bay**	**54.51**	**26**	LR	LR	04 41 10.5			
	comp=Z,106nm,21.3s,baz=1.0,slow=38								
MPMC	**Manual Prospec**	**54.62**	**76**	P	**P**	**04 16 19.9**	**+0.8**		
	baz=317,SNR=9.1								
TPNV	**Topopah Spring**	**54.67**	**75**	P	**P**	**04 16 20.0**	**+0.6**		
TPNV				IAmb	IAmb	04 16 38.7			
	comp=Z,21nm,0.8s								
TPNV	**Topopah Spring**	**54.67**	**75**	P	**P**	**04 16 20.5**	**+1.1**		
	baz=316,SNR=13								
TPNV	**Topopah Spring**	**54.67**	**75**	P	**P**	**04 16 20.0**	**+0.6**		
TPNV				pmax	pmax				
	comp=Z,21nm,0.9s								
FURC	**Furnace Creek,**	**54.67**	**75**	P	**P**	**04 16 20.6**	**+1.5**		
	baz=317,SNR=17								
ICESG	**Greenland Ices**	**54.83**	**10**	*i* P	**P**	**04 16 19.5**	**-0.8**		
PSUT	**Pine Spring**	**54.84**	**71**	IAmb	IAmb	04 16 40.0			
	comp=Z,19nm,0.7s								
LRMC	**Laurel Mtn Rad**	**54.93**	**77**	P	**P**	**04 16 21.7**	**+0.4**		
	baz=317,SNR=8.2								
MDOK	**Medeo**	**54.97**	**297**	*e*P	**P**	**04 16 18.6**	**-2.9**		
	baz=297								
MDOK	**Medeo**	**54.97**	**297**	*e*P	**P**	**04 16 18.5**	**-2.9**		
MPU	**Maple Canyon**	**54.98**	**69**	IAmb	IAmb	04 16 34.4			
	comp=Z,12nm,0.7s								
GWY	**Greenwater Val**	**54.99**	**75**	IAmb	IAmb	04 16 27.6			
	comp=Z,23nm,0.9s								
QSM	**Queen of Sheba**	**55.04**	**76**	IAmb	IAmb	04 16 36.0			
	comp=Z,16nm,0.7s								
BTLS	**Baital**	**55.14**	**300**	*e*P	**P**	**04 16 21.0**	**-1.6**		
	baz=300								
BTLS	**Baital**	**55.14**	**300**	*e*P	**P**	**04 16 20.9**	**-1.6**		
EDW2	**Edwards Air Fo**	**55.19**	**77**	P	**P**	**04 16 23.1**	**0.0**		
	baz=317,SNR=7.3								
SFJD	**Kangerlussuaq**	**55.35**	**16**	LR	LR	04 42 34.4			
	comp=Z,205nm,19.0s,baz=340,slow=39								
KIRV	**Kirov**	**55.40**	**325**	LR	LR	04 41 49.1			
	comp=Z,321nm,18.6s,baz=37,slow=38								
KIRV	**Kirov**	**55.40**	**325**	*c*eP	**P**	**04 16 24.1**	**0.0**		
ULM	**Lac du Bonnet**	**55.40**	**50**	P	**P**	**04 16 24.6**	**+0.4**		
	comp=Z,8.0nm,0.7s,baz=327,slow=9.5,SNR=7.3								
ULM				LR	LR	04 41 03.9			
	comp=Z,320nm,18.3s,baz=326,slow=37								
	comp=Z,8.0nm,0.7s								
ULM	**Lac du Bonnet**	**55.40**	**50**	P	**P**	**04 16 24.0**	**-0.3**		
ULM				IAmb	IAmb	04 16 35.7			
	comp=Z,26nm,1.0s								
ULM	**Lac du Bonnet**	**55.40**	**50**	P	**P**	**04 16 24.0**	**-0.3**		
ULM				pmax	pmax				
	comp=Z,26nm,1.0s								
SHOC	**Shoshone, Teco**	**55.41**	**75**	P	**P**	**04 16 25.8**	**+1.2**		
	baz=317,SNR=6.1								
MDND	**Maddock**	**55.44**	**54**	P	**P**	**04 16 25.2**	**+0.7**		
	baz=316								
MDND	**Maddock**	**55.44**	**54**	P	**P**	**04 16 25.4**	**+0.8**		
	baz=316								
DECC	**Green Verdugo**	**55.46**	**78**	P	**P**	**04 16 26.0**	**+1.0**		
	baz=317								
GSC	**Goldstone, Bar**	**55.55**	**76**	IAmb	IAmb	04 16 40.6			
	comp=Z,15nm,0.8s								
GSC	**Goldstone, Bar**	**55.55**	**76**	P	**P**	**04 16 26.5**	**+0.8**		
	baz=317,SNR=10								
TCRU	**Three Creeks R**	**55.55**	**70**	IAmb	IAmb	04 16 40.1			
	comp=Z,18nm,0.8s								
RDMU	**Red Mountain**	**55.68**	**67**	IAmb	IAmb	04 16 42.2			
	comp=Z,21nm,0.8s								
TMUT	**Trail Mountain**	**55.73**	**69**	IAmb	IAmb	04 16 40.0			
	comp=Z,20nm,0.7s								
K22A	**Casper**	**55.77**	**63**	P	**P**	**04 16 27.7**	**+0.4**		
K22A				IAmb	IAmb	04 16 39.2			
	comp=Z,31nm,1.4s								
K22A	**Casper**	**55.77**	**63**	P	**P**	**04 16 27.9**	**+0.6**		
	baz=316								
K22A	**Casper**	**55.77**	**63**	P	**P**	**04 16 26.9**	**-0.4**		
	baz=316								
CCUT	**Cedar City**	**55.82**	**72**	IAmb	IAmb	04 16 40.7			
	comp=Z,14nm,0.8s								
E28A	**Huff**	**55.84**	**56**	P	**P**	**04 16 27.7**	**+0.2**		
	baz=316								
P17A	**Butcher Ranch,**	**55.85**	**69**	IAmb	IAmb	04 16 41.7			
	comp=Z,26nm,1.3s								
BFSC	**Mount Baldy Ra**	**55.85**	**78**	P	**P**	**04 16 27.9**	**0.0**		
	baz=318								
WTNK	**Soaring Height**	**55.90**	**74**	IAmb	IAmb	04 16 47.2			
	comp=Z,6.2nm,1.3s								
SZCU	**Shurtz Canyon**	**55.94**	**72**	IAmb	IAmb	04 16 37.6			
	comp=Z,24nm,1.1s								
TUQ	**Turquoise Moun**	**55.95**	**76**	P	**P**	**04 16 29.2**	**+0.6**		
	baz=317,SNR=9.9								
RSSD	**Black Hills**	**55.97**	**60**	P	**P**	**04 16 29.3**	**+0.5**		
RSSD				IAmb	IAmb	04 16 40.6			
	comp=Z,17nm,0.8s								
RSSD	**Black Hills**	**55.97**	**60**	P	**P**	**04 16 28.9**	**+0.2**		
	baz=316								
RSSD	**Black Hills**	**55.97**	**60**	P	**P**	**04 16 28.5**	**-0.3**		
	baz=316								
RSSD	**Black Hills**	**55.97**	**60**	P	**P**	**04 16 29.3**	**+0.5**		
RSSD				pmax	pmax				
	comp=Z,17nm,0.8s								
RSSD	**Black Hills**	**55.97**	**60**	P	**P**	**04 16 29.1**	**+0.3**		
RSSD				pP	**sP**	**04 16 39.8**	**+1.1**		
P18A	**Preston Nutter**	**56.00**	**68**	IAmb	IAmb	04 16 43.4			
	comp=Z,15nm,0.7s								
BOOM	**Boomskoye usch**	**56.02**	**297**	P	**P**	**04 16 28.9**	**-0.2**		
BOOM				IAmb	IAmb	04 16 41.8			
	comp=Z,41nm,1.2s								
BOOM	**Boomskoye usch**	**56.02**	**297**	P	**P**	**04 16 28.9**	**-0.2**		
BOOM				pmax	pmax				
	comp=Z,41nm,1.3s								
Q16A	**Castle Valley**	**56.02**	**69**	IAmb	IAmb	04 16 42.5			
	comp=Z,17nm,0.7s								
HEC	**Hector,Ludlow**	**56.16**	**76**	P	**P**	**04 16 30.7**	**+0.6**		
	baz=317								
LCMT	**Little Creek M**	**56.28**	**72**	IAmb	IAmb	04 16 44.1			
	comp=Z,14nm,0.9s								
V12A	**Nelson**	**56.33**	**75**	IAmb	IAmb	04 16 44.3			
	comp=Z,14nm,1.0s								
TNCH	**TengChong**	**56.38**	**266**	P	**P**	**04 16 32.1**	**+0.3**		
TNCH				sP	pwP	04 16 44.8	-1.4		
TNCH				S	**S**	**04 24 16.5**	**-4.1**		
TNCH				pmax	pmax				
	comp=Z,65nm,0.7s								
TNCH				pmax	pmax				
	comp=Z,130nm,2.8s								
TNCH				LR	LR				
	comp=Z,490nm,17.2s								
TNCH				LR	LR				
	comp=Z,620nm,17.8s								
TNCH				LR	LR				
	comp=Z,370nm,20.5s								
PKCU	**Pink Cliffs**	**56.47**	**71**	IAmb	IAmb	04 16 47.8			
	comp=Z,14nm,0.8s								
DY2G	**Dye2**	**56.50**	**14**	*i* P	**P**	**04 16 30.7**	**-1.5**		
DY2G				IAmb	IAmb	04 16 41.1			
	comp=Z,6.4nm,0.8s								
KNB	**Kanab**	**56.51**	**72**	IAmb	IAmb	04 16 51.8			
	comp=Z,21nm,1.2s								
KLMR	**Klimovskoe**	**56.57**	**331**	*e*P	**P**	**04 16 31.7**	**-0.7**		
KLMR				AMP		04 16 44.8			
	comp=Z,20nm,1.0s								
KLMR				LR	LR	04 37 54.6			
KLMR				AMP		04 45 47.7			
	comp=Z,273nm,12.6s								
KLMR	**Klimovskoe**	**56.57**	**331**	*e*P	**P**	**04 16 31.6**	**-0.8**		
KLMR				pmax	pmax				
	comp=Z,20nm,1.0s								
KLMR				MLR	MLR				
	comp=Z,273nm,13.0s								
GMRC	**Granite Mounta**	**56.57**	**76**	P	**P**	**04 16 33.5**	**+0.4**		
	baz=318,SNR=8.2								
MURC	**Murrieta**	**56.58**	**78**	P	**P**	**04 16 33.2**	**+0.1**		
	baz=318								
AAK	**Ala-Archa**	**56.65**	**298**	P	**P**	**04 16 33.8**	**+0.3**		
	comp=Z,9.1nm,0.7s,baz=108,slow=3.4,SNR=8.5								
AAK				LR	LR	04 41 44.6			
	comp=Z,326nm,18.0s,baz=34,slow=37								
	comp=Z,9.1nm,0.7s								
AAK	**Ala-Archa**	**56.65**	**298**	P	**P**	**04 16 33.7**	**+0.3**		
AAK	**Ala-Archa**	**56.65**	**298**	*c*eP	**P**	**04 16 33.3**	**-0.2**		
AAK				pmax	pmax				
	comp=Z,12nm,0.9s								
AAK	**Ala-Archa**	**56.65**	**298**	P	**P**	**04 16 33.8**	**+0.3**		
AAK				pP	**sP**	**04 16 44.2**	**+0.8**		
O20A	**White River Ci**	**56.70**	**66**	P	**P**	**04 16 34.1**	**+0.1**		
	baz=317,SNR=24								
AGMN	**Agassiz Nation**	**56.83**	**52**	IAmb	IAmb	04 16 45.9			
	comp=Z,16nm,1.0s								
AGMN	**Agassiz Nation**	**56.83**	**52**	P	**P**	**04 16 34.5**	**0.0**		
	baz=318								
AGMN	**Agassiz Nation**	**56.83**	**52**	P	**P**	**04 16 34.7**	**+0.2**		
	baz=318								
BELC	**Belle Mtn. Jos**	**56.96**	**77**	P	**P**	**04 16 36.0**	**+0.2**		
	baz=318,SNR=5.7								
PFO	**Pinyon Flats O**	**56.99**	**77**	P	**P**	**04 16 35.9**	**-0.1**		
	baz=318								
PFO	**Pinyon Flats O**	**56.99**	**77**	P	**P**	**04 16 36.1**	**+0.1**		
PFO				pP	**sP**	**04 16 47.3**	**+1.4**		
PFO				sP	**pwP**	**04 16 51.9**	**+1.6**		
TPFO	**Pinon Flats**	**56.99**	**77**	P	**P**	**04 16 36.2**	**+0.1**		
	baz=318								
PMD	**Palm Desert**	**57.01**	**77**	IAmb	IAmb	04 16 49.8			
	comp=Z,6.8nm,0.8s								
LSA	**Lhasa**	**57.05**	**276**	P	**P**	**04 16 37.1**	**+0.2**		
LSA	**Lhasa**	**57.05**	**276**	P	**P**	**04 16 37.1**	**+0.2**		
LSA				pmax	pmax				
	comp=Z,68nm,1.4s								
U15A	**North Rim**	**57.23**	**72**	IAmb	IAmb	04 16 57.0			
	comp=Z,22nm,1.4s								
IRM	**Iron Mountain**	**57.32**	**76**	P	**P**	**04 16 38.6**	**+0.3**		
	baz=318,SNR=6.1								
N23A	**Red Feather La**	**57.34**	**64**	IAmb	IAmb	04 16 45.3			
	comp=Z,22nm,0.9s								
N23A	**Red Feather La**	**57.34**	**64**	P	**P**	**04 16 38.8**	**+0.2**		
	baz=317,SNR=22								
B35A	**Bob, Littlefor**	**57.74**	**51**	IAmb	IAmb	04 16 52.5			
	comp=Z,11nm,0.6s								
B35A	**Bob, Littlefor**	**57.74**	**51**	P	**P**	**04 16 40.8**	**-0.1**		
	baz=318								
PDMCI	**Parker Dam,Lak**	**57.77**	**75**	P	**P**	**04 16 41.5**	**+0.1**		
	baz=318								
PV15	**Paradox Valley**	**57.88**	**68**	IAmb	IAmb	04 16 48.5			
	comp=Z,20nm,1.0s								
BLYC	**Blythe**	**57.97**	**76**	IAmb	IAmb	04 17 01.5			
	comp=Z,27nm,1.4s								
SMCO	**Snowmass**	**58.06**	**66**	IAmb	IAmb	04 16 50.1			
	comp=Z,12nm,0.9s								
KSH	**Kashi**	**58.16**	**294**	P	P	04 16 48.1	+3.9		
KSH				pP	pwP	04 16 58.4	+0.1		
KSH				pmax	pmax				
	comp=Z,52nm,1.6s								
KSH				LR	LR				
	comp=Z,480nm,15.9s								
KSH				LR	LR				
	comp=Z,1μm,17.6s								
KSH				LR	LR				
	comp=Z,620nm,15.8s								
KK31	**Karatay Array**	**58.30**	**301**	P	**P**	**04 16 45.4**	**+0.4**		
KK31	**Karatay Array**	**58.30**	**301**	P	**P**	**04 16 45.4**	**+0.4**		
KK31				pmax	pmax				
	comp=Z,110nm,1.7s								
KKAR	**Karatay Array**	**58.30**	**301**	P	**P**	**04 16 45.1**	**+0.1**		
KKAR	**Karatay Array**	**58.30**	**301**	P	**P**	**04 16 45.1**	**+0.1**		
GLA	**Glamis**	**58.32**	**77**	IAmb	IAmb	04 16 54.8			
	comp=Z,12nm,0.8s								
GLA	**Glamis**	**58.32**	**77**	P	**P**	**04 16 45.1**	**-0.2**		
	baz=318								
ISCO	**Idaho Springs**	**58.32**	**65**	IAmb	IAmb	04 16 58.6			
	comp=Z,11nm,0.8s								
ISCO	**Idaho Springs**	**58.32**	**65**	P	**P**	**04 16 44.9**	**-0.6**		
	baz=318								
WUAZ	**Wupatki**	**58.40**	**72**	P	**P**	**04 16 46.3**	**+0.3**		
	baz=318								
F33A	**5 Mile Ranch,**	**58.45**	**54**	IAmb	IAmb	04 16 57.5			
	comp=Z,15nm,1.1s								
AKTO	**Aktyubinsk**	**58.48**	**314**	P	**P**	**04 16 45.7**	**-0.4**		
AB31	**Akbulak array**	**58.57**	**312**	*i* P	**P**	**04 16 46.6**	**-0.1**		
ABKAR	**Akbulak array**	**58.57**	**312**	P	**P**	**04 16 46.6**	**-0.1**		
MVCO	**Mesa Verde**	**58.70**	**69**	IAmb	IAmb	04 17 02.8			
	comp=Z,9.9nm,0.9s								
MVCO	**Mesa Verde**	**58.70**	**69**	P	**P**	**04 16 48.9**	**+0.8**		
	baz=318								
EYMN	**Ely**	**59.04**	**50**	IAmb	IAmb	04 17 00.6			
	comp=Z,17nm,0.7s								
EYMN	**Ely**	**59.04**	**50**	P	**P**	**04 16 49.7**	**-0.3**		
	baz=320								
EYMN	**Ely**	**59.04**	**50**	P	**P**	**04 16 50.2**	**+0.1**		
	baz=320								
CRAI	**Chiangrai**	**59.07**	**261**	P	**P**	**04 16 50.6**	**0.0**		
CRAI				IAmb	IAmb	04 17 05.1			
	comp=Z,30nm,1.3s								
S22A	**4UR Ranch, Cre**	**59.20**	**67**	IAmb	IAmb	04 17 04.8			
	comp=Z,9.1nm,0.8s								
S22A	**4UR Ranch, Cre**	**59.20**	**67**	P	**P**	**04 16 52.2**	**+0.6**		
	baz=318,SNR=15								
IUG	**luzhnay**	**59.25**	**300**	*e*P	**P**	**04 16 49.2**	**-2.5**		
	baz=300								
IUG	**luzhnay**	**59.25**	**300**	*e*P	**P**	**04 16 49.1**	**-2.5**		
FINES	**FINESS Array B**	**59.33**	**338**	P	**P**	**04 16 51.4**	**-0.5**		
	comp=Z,6.4nm,0.9s,baz=30,slow=8.5,SNR=8.2								
FINES				pP	**sP**	**04 17 00.6**	**-1.3**		
	comp=Z,7.6nm,0.8s,baz=31,slow=8.9,SNR=6.4								
	comp=Z,6.4nm,0.9s								
SHL	**Shillong**	**59.77**	**272**	P	**P**	**04 16 55.2**	**-0.4**		
SHL	**Shillong**	**59.77**	**272**	P	**P**	**04 16 55.2**	**-0.4**		
SHL				pmax	pmax				
	comp=Z,176nm,1.9s								
ECSD	**EROS Data Cent**	**59.88**	**56**	P	**P**	**04 16 55.9**	**0.0**		
	baz=319								
ECSD	**EROS Data Cent**	**59.88**	**56**	P	**P**	**04 16 56.2**	**+0.3**		
	baz=319								
SDCO	**Great Sand Dun**	**59.90**	**66**	P	**P**	**04 16 56.8**	**+0.4**		
SDCO	**Great Sand Dun**	**59.90**	**66**	P	**P**	**04 16 56.2**	**-0.3**		
	baz=319								
SDCO	**Great Sand Dun**	**59.90**	**66**	P	**P**	**04 16 56.6**	**+0.1**		
	baz=319								
X18A	**Snowflake**	**59.91**	**72**	IAmb	IAmb	04 17 09.6			
	comp=Z,12nm,0.8s								
MND	**Mandalay**	**60.10**	**266**	P	**P**	**04 16 58.5**	**+0.9**		
	comp=Z,16nm,1.4s								
KRVT	**Keravat (AS076**	**60.15**	**195**	LR	LR	04 36 47.6			
	comp=Z,66nm,21.6s,baz=166,slow=30								
214A	**Organ Pipe Nat**	**60.26**	**76**	P	**P**	**04 16 59.4**	**+0.7**		
	baz=319								
DRK	**Karamyk**	**60.35**	**297**	P	**P**	**04 16 59.3**	**-0.3**		
BORG	**Borgarnes**	**60.39**	**3**	LR	LR	04 45 12.0			
	comp=Z,62nm,18.2s,baz=346,slow=38								
KSCO	**Kaye Shedlock'**	**60.45**	**63**	P	**P**	**04 16 59.8**	**-0.2**		
	baz=319								
SPMN	**Marine on St.**	**60.52**	**52**	IAmb	IAmb	04 17 11.6			
	comp=Z,38nm,1.4s								
SPMN	**Marine on St.**	**60.52**	**52**	P	**P**	**04 17 00.4**	**+0.1**		
	baz=320								
SPMN	**Marine on St.**	**60.52**	**52**	P	**P**	**04 17 00.2**	**-0.1**		
	baz=320								
BGNE	**Belgrade**	**60.89**	**59**	P	**P**	**04 17 02.3**	**-0.5**		
	baz=319								
T25A	**Trinidad**	**60.93**	**66**	P	**P**	**04 17 03.9**	**+0.5**		
	baz=319								
BELG	**Belogornoye**	**60.95**	**321**	LR	LR	04 46 43.2			
	comp=Z,423nm,18.1s,baz=74,slow=39								
BELG	**Belogornoye**	**60.95**	**321**	*i* P	**P**	**04 17 02.9**	**-0.1**		
BELG				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CHTO	**Chiang Mai**	**61.01**	**261**	P	**P**	**04 17 04.5**	**+0.6**		
CHTO				IAmb	IAmb	04 17 16.7			
	comp=Z,22nm,0.9s								
CHTO	**Chiang Mai**	**61.01**	**261**	P	**P**	**04 17 04.5**	**+0.6**		
CHTO				pmax	pmax				
	comp=Z,22nm,0.9s								
TUC	**Tucson**	**61.12**	**74**	P	**P**	**04 17 05.6**	**+1.0**		
TUC	**Tucson**	**61.12**	**74**	P	**P**	**04 17 05.5**	**+0.9**		
	baz=319								
TUC	**Tucson**	**61.12**	**74**	P	**P**	**04 17 05.6**	**+1.0**		
TUC				pmax	pmax				
	comp=Z,6.0nm,1.1s								
I37B	**Waseca**	**61.18**	**54**	P	**P**	**04 17 04.9**	**+0.2**		
	baz=320								
CMAR	**Chiang Mai Arr**	**61.29**	**261**	P	**P**	**04 17 07.2**	**+1.4**		
	comp=Z,7.9nm,0.7s,baz=20,slow=7.4,SNR=36								
CMAR				pP	**pwP**	**04 17 17.4**	**-2.9**		
	comp=Z,12nm,0.8s,baz=22,slow=6.8,SNR=9.0								
CMAR				LR	LR	04 46 19.3			
	comp=Z,331nm,18.2s,baz=35,slow=39								
	comp=Z,7.9nm,0.7s								
CMAR	**Chiang Mai Arr**	**61.29**	**261**	P	**P**	**04 17 06.4**	**+0.6**		
CMAR	**Chiang Mai Arr**	**61.29**	**261**	P	**P**	**04 17 06.4**	**+0.6**		
GUN	**Gumba**	**61.41**	**278**	*e*P	**P**	**04 17 07.5**	**+0.5**		
	comp=Z,30nm,0.5s								
MOS	**Moscow**	**61.42**	**329**	*e*P	**P**	**04 17 08.1**	**+1.9**		
JIRN	**Jiri**	**61.43**	**278**	*e*P	**P**	**04 17 07.5**	**+0.4**		
COWI	**Conover**	**61.49**	**50**	IAmb	IAmb	04 17 17.6			
	comp=Z,15nm,1.1s								
ANMO	**Albuquerque**	**61.49**	**69**	*i* P	**P**	**04 17 06.0**	**-1.2**		
ANMO				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ANMO	**Albuquerque**	**61.49**	**69**	P	**P**	**04 17 07.7**	**+0.5**		
ANMO				pP	**sP**	**04 17 17.6**	**+0.4**		
ANMO				sP	**pwP**	**04 17 22.3**	**+0.6**		
G40A	**Rib Lake**	**61.66**	**51**	IAmb	IAmb	04 17 13.4			
	comp=Z,17nm,1.4s								
RAMN	**Ramite**	**61.74**	**277**	*e*P	**P**	**04 17 08.8**	**-0.2**		
	comp=Z,47nm,0.5s								
KKN	**Kakani**	**61.85**	**279**	*e*P	**P**	**04 17 10.0**	**+0.3**		
Y22F	**Passcal Instru**	**61.90**	**70**	P	**P**	**04 17 10.5**	**+0.6**		
	baz=320								
PKI	**Pulchoki**	**61.94**	**279**	*e*P	**P**	**04 17 10.5**	**0.0**		
PKIN	**Phulchoki**	**61.94**	**279**	*e*P	**P**	**04 17 10.4**	**0.0**		
	comp=Z,16nm,0.5s								
Y22A	**Socorro**	**61.98**	**70**	P	**P**	**04 17 11.7**	**+1.2**		
	baz=320								
GKN	**Gorkha**	**62.05**	**279**	*e*P	**P**	**04 17 11.4**	**+0.4**		
	comp=Z,10nm,0.3s								
MYLDM	**Lahad Datu**	**62.06**	**235**	P	**P**	**04 17 12.2**	**+1.3**		
CBKS	**Cedar Bluff**	**62.07**	**62**	P	**P**	**04 17 10.8**	**-0.1**		
CBKS	**Cedar Bluff**	**62.07**	**62**	P	**P**	**04 17 10.7**	**-0.1**		
	baz=320,SNR=5.2								
CBKS	**Cedar Bluff**	**62.07**	**62**	P	**P**	**04 17 10.8**	**-0.1**		
CBKS				pmax	pmax				
	comp=Z,26nm,0.7s								
DMN	**Daman**	**62.08**	**279**	*e*P	**P**	**04 17 11.5**	**+0.1**		
	comp=Z,3.3nm,0.2s								
BRDH	**Bariadhala**	**62.15**	**270**	LR	LR	04 45 28.3			
	comp=Z,302nm,19.0s,baz=54,slow=37								
SIJI	**Sorong**	**62.19**	**219**	P	**P**	**04 17 12.8**	**+0.9**		
	comp=Z,77nm,1.0s,baz=11,slow=7.6,SNR=41								
SIJI				LR	LR	04 39 22.4			
	comp=Z,59nm,21.9s,baz=46,slow=31								
	comp=Z,77nm,1.0s								
OBN	**Obninsk**	**62.27**	**329**	P	**P**	**04 17 13.1**	**+1.3**		
OBN	**Obninsk**	**62.27**	**329**	*c*eP	**P**	**04 17 10.1**	**-1.7**		
OBN				*e*		04 17 49.9			
OBN				*e*		04 19 35.6			
OBN				*e*S	**S**	**04 25 38.8**	**+3.3**		
OBN				pmax	pmax				
	comp=Z,10.0nm,1.0s								
OBN				MLR	MLR				
	comp=Z,224nm,16.0s								
DANN	**Dangsing**	**62.28**	**280**	*e*P	**P**	**04 17 12.9**	**+0.2**		
	comp=Z,59nm,0.7s								
NB2	**NORSAR Subarra**	**62.33**	**346**	P	**P**	**04 17 12.0**	**-0.3**		
	comp=Z,2.4nm,0.7s,baz=17,slow=6.9								
NOA	**NORSAR Array B**	**62.33**	**346**	P	**P**	**04 17 11.7**	**-0.6**		
	comp=Z,3.1nm,0.7s,baz=18,slow=6.8,SNR=16								
NOA				pP	**sP**	**04 17 22.2**	**-0.2**		
	comp=Z,4.8nm,0.6s,baz=17,slow=6.8,SNR=9.3								
NOA				LR	LR	04 45 53.7			
	comp=Z,86nm,20.2s,baz=15,slow=38								
	comp=Z,3.1nm,0.7s								
SIMJ	**Simiganj**	**62.39**	**298**	P	**P**	**04 17 12.4**	**-0.7**		
SIMJ				pP	**sP**	**04 17 23.3**	**+0.2**		
SCHQ	**Schefferville**	**62.53**	**31**	P	**P**	**04 17 12.9**	**-0.8**		
	comp=Z,5.8nm,0.6s,baz=316,slow=6.7,SNR=8.9								
SCHQ				LR	LR	04 48 31.0			
	comp=Z,157nm,19.0s,baz=344,slow=40								
	comp=Z,5.8nm,0.6s								
121A	**Cookes Peak, D**	**62.60**	**72**	P	**P**	**04 17 15.3**	**+0.6**		
	baz=320								
HFS	**Hagfors**	**62.83**	**344**	LR	LR	04 44 23.1			
	comp=Z,115nm,22.0s,baz=31,slow=36								
SCIA	**State Center**	**62.89**	**55**	P	**P**	**04 17 16.8**	**+0.6**		
	baz=321								
KSU1	**Kansas State U**	**63.42**	**59**	P	**P**	**04 17 19.0**	**-0.7**		
	baz=321								
LPSR	**Galich'ya Gora**	**63.71**	**327**	*e*P	**P**	**04 17 19.9**	**-1.6**		
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
FAKI	**Fak Fak**	**63.75**	**217**	P	**P**	**04 17 21.9**	**-0.3**		
FAKI	**Fak Fak**	**63.75**	**217**	P	**P**	**04 17 22.3**	**+0.1**		
	comp=Z,25nm,1.3s								
VRH	**Novokhopyorsk**	**63.99**	**324**	*e*P	**P**	**04 17 21.2**	**-2.1**		
VRH				pmax	pmax				
	comp=Z,10.0nm,0.8s								
NIL	**Nilore**	**64.02**	**292**	P	**P**	**04 17 23.6**	**-0.2**		
NIL	**Nilore**	**64.02**	**292**	P	**P**	**04 17 23.7**	**-0.2**		
NIL				pmax	pmax				
	comp=Z,77nm,1.0s								
NIL	**Nilore**	**64.02**	**292**	P	**P**	**04 17 24.1**	**+0.3**		
NIL				pP	**sP**	**04 17 34.9**	**+1.1**		
AMTX	**Amarillo**	**64.08**	**66**	P	**P**	**04 17 24.2**	**-0.1**		
	baz=321								
MSTX	**Muleshoe**	**64.20**	**67**	P	**P**	**04 17 25.6**	**+0.4**		
	baz=321								
VORR	**Voronezh**	**64.42**	**326**	*e*P	P	04 17 29.8	+3.7		
VORR				pmax	pmax				
	comp=Z,70nm,0.5s								
HNR	**Honiara**	**64.42**	**185**	LR	LR	04 42 33.8			
	comp=Z,4μm,19.4s,baz=13,slow=33								
TOLI2	**Tolitoli**	**64.61**	**230**	P	**P**	**04 17 28.0**	**+0.2**		
TOLI2	**Tolitoli**	**64.61**	**230**	P	**P**	**04 17 28.3**	**+0.5**		
	comp=Z,34nm,1.1s								
VSR	**Storozhevoye**	**64.82**	**326**	*e*P	**P**	**04 17 26.5**	**-2.3**		
VSR		

comp=Z,24nm,0.9s
PMG Port Moresby 65.96 199 P **P** **04 17 36.4 -0.1**
PMG pmax pmax
comp=Z,25nm,1.0s
R40A Maddies Statio 66.17 57 P **P** **04 17 36.8 -0.9**
baz=322
TUL1 Leonard 66.30 61 IAmb IAmb 04 17 49.7
comp=Z,14nm,0.7s
TUL1 Leonard 66.30 61 P **P** **04 17 38.0 -0.7**
baz=322
P43A Skaggs, Pawnee 66.40 54 IAmb IAmb 04 17 50.5
comp=Z,16nm,0.7s
O44A Mansfield 66.48 53 P **P** **04 17 38.7 -1.0**
baz=323
CCM Cathedral Cave 66.85 56 P **P** **04 17 41.7 -0.3**
CCM IAmb IAmb 04 17 52.9
comp=Z,14nm,0.9s
CCM Cathedral Cave 66.85 56 P **P** **04 17 41.3 -0.7**
baz=323
CCM Cathedral Cave 66.85 56 P **P** **04 17 41.7 -0.3**
CCM pmax pmax
comp=Z,14nm,1.0s
CCM Cathedral Cave 66.85 56 P **P** **04 17 41.5 -0.5**
CCM pP **sP** **04 17 52.1 +0.1**
L48A N Adams 66.85 49 IAmb IAmb 04 17 52.9
comp=Z,38nm,1.4s
AAM Ann Arbor 66.89 49 P **P** **04 17 41.7 -0.6**
baz=325
ABTX Abilene, Hawle 66.89 66 IAmb IAmb 04 17 54.3
comp=Z,14nm,0.8s
ABTX Abilene, Hawle 66.89 66 P **P** **04 17 42.5 0.0**
baz=322
ABTX Abilene, Hawle 66.89 66 P **P** **04 17 42.7 +0.2**
baz=322,SNR=11
SFIN Lafayette 66.92 52 P **P** **04 17 42.0 -0.5**
baz=324
HHAR Hobbs 66.94 59 IAmb IAmb 04 17 53.2
comp=Z,12nm,0.7s
HHAR Hobbs 66.94 59 P **P** **04 17 41.4 -1.2**
baz=322
MGMO Mountain Grove 67.07 58 IAmb IAmb 04 17 53.9
comp=Z,16nm,0.7s
FVM French Village 67.29 56 P **P** **04 17 44.8 -0.1**
baz=323
TX31 Lajitas Ar. Si 67.31 71 P **P** **04 17 45.6 +0.4**
baz=322
TX32 Lajitas Array 67.31 71 IAmb IAmb 04 17 58.6
comp=Z,13nm,0.8s
TXAR Lajitas Array 67.31 71 P **P** **04 17 45.7 +0.4**
comp=Z,8.4nm,0.7s,baz=303,slow=4.4,SNR=48
TXAR pP **sP** **04 17 56.2 +0.9**
comp=Z,11nm,0.6s,baz=308,slow=4.4,SNR=17
TXAR LR LR 04 46 50.4
comp=Z,184nm,18.6s,baz=334,slow=36
comp=Z,8.4nm,0.7s
TXAR Lajitas Array 67.31 71 P **P** **04 17 45.0 -0.3**
TXAR Lajitas Array 67.31 71 P **P** **04 17 45.0 -0.3**
SBUM Sibu 67.46 239 P **P** **04 17 46.9 +0.8**
Z35A Perchaven, San 67.58 64 IAmb IAmb 04 17 57.8
comp=Z,14nm,0.7s
LPIG La Paz 67.70 80 LR LR 04 43 58.4
comp=Z,64nm,21.0s,baz=310,slow=33
O48B Farmland 67.90 51 P **P** **04 17 48.1 -0.5**
baz=324
S44A Carbondale 68.08 55 P **P** **04 17 49.3 -0.6**
baz=324
FCAR Ozark Folk Cen 68.14 58 IAmb IAmb 04 18 01.2
comp=Z,20nm,0.7s
AKASG Malin Array Be 68.26 331 P **P** **04 17 50.1 -0.6**
comp=Z,3.5nm,0.7s,baz=30,slow=6.7,SNR=8.6
AKASG pP **sP** **04 17 60.0 -1.0**
comp=Z,3.1nm,0.6s,baz=28,slow=6.4,SNR=9.1
comp=Z,3.5nm,0.7s
AKBB Malin Array Si 68.26 331 P **P** **04 17 51.5 +0.7**
AKBB IAmb IAmb 04 18 03.7
comp=Z,53nm,1.8s
AKBB Malin Array Si 68.26 331 P **P** **04 17 51.5 +0.7**
AKBB pmax pmax
comp=Z,53nm,1.8s
GEYT Alibeck 68.27 305 P **P** **04 17 51.4 +0.2**
comp=Z,8.7nm,0.8s,baz=20,slow=4.7,SNR=12
GEYT pP **sP** **04 18 01.2 +0.1**
comp=Z,21nm,1.1s,baz=316,slow=4.1,SNR=7.2
GEYT LR LR 04 49 55.4
comp=Z,494nm,18.6s,baz=45,slow=38
comp=Z,8.7nm,0.8s
GEYT Alibeck 68.27 305 IAmb IAmb 04 18 02.4
comp=Z,23nm,1.1s
GYA0B ALIBECK ARRAY 68.27 305 IAmb IAmb 04 18 02.4
comp=Z,18nm,0.9s
AK05 Malin Array Si 68.34 331 P **P** **04 17 50.6 -0.6**
P48A Milroy 68.42 52 IAmb IAmb 04 18 02.6
comp=Z,14nm,0.6s
JCT Junction City 68.49 67 P **P** **04 17 53.1 +0.5**
JCT IAmb IAmb 04 18 06.5
comp=Z,14nm,0.8s
JCT Junction City 68.49 67 P **P** **04 17 52.4 -0.2**
baz=322
JCT Junction City 68.49 67 P **P** **04 17 52.1 -0.5**
baz=322
JCT Junction City 68.49 67 P **P** **04 17 53.1 +0.5**
JCT pmax pmax
comp=Z,14nm,0.9s
MIAR Mount Ida 68.49 60 IAmb IAmb 04 18 04.0
comp=Z,14nm,0.7s
MIAR Mount Ida 68.49 60 P **P** **04 17 52.4 -0.1**
baz=323
MIAR Mount Ida 68.49 60 P **P** **04 17 52.3 -0.2**
baz=323,SNR=9.1
WHTX Lake Whitney, 68.53 65 IAmb IAmb 04 18 04.2
comp=Z,9.7nm,0.7s
WHTX Lake Whitney, 68.53 65 P **P** **04 17 52.2 -0.5**
baz=322
WHAR Wooly Hollow 68.54 59 IAmb IAmb 04 18 04.8
comp=Z,15nm,0.7s
ERPA Erie 68.60 46 P **P** **04 17 52.6 -0.4**
baz=326
USIN University of 68.61 54 P **P** **04 17 52.1 -1.0**
LONY Lake Ozonia 68.65 41 P **P** **04 17 52.3 -1.0**
baz=328
P49A Miami Univ. Ec 68.68 51 P **P** **04 17 52.7 -0.8**
baz=325
E62A Clayton Lake 68.77 37 P **P** **04 17 53.6 -0.4**
E62A IAmb IAmb 04 18 04.1
comp=Z,23nm,0.8s
MAK Makhachkala 68.78 316 *e*P **P** **04 17 52.1 -2.0**
MAK *e* 04 20 23.9
MAK *e*S **S** **04 26 53.1 -2.3**
MAK MLR MLR
comp=Z,414nm,14.0s
M53A WI Miller and 68.87 47 IAmb IAmb 04 18 05.3
comp=Z,24nm,0.8s
M53A WI Miller and 68.87 47 P **P** **04 17 54.4 -0.4**
baz=326
ACSO Alum Creek Sta 68.88 49 IAmb IAmb 04 18 05.7
comp=Z,18nm,1.1s
ACSO Alum Creek Sta 68.88 49 P **P** **04 17 54.2 -0.6**
baz=325
WVNY West Valley, N 68.93 45 IAmb IAmb 04 18 04.8
comp=Z,17nm,0.8s
WCI Wyandotte Cave 69.03 53 P **P** **04 17 55.9 +0.2**
WCI IAmb IAmb 04 18 05.9
comp=Z,12nm,0.8s
WCI Wyandotte Cave 69.03 53 P **P** **04 17 55.2 -0.5**
baz=325
WCI Wyandotte Cave 69.03 53 P **P** **04 17 55.9 +0.2**
WCI pmax pmax
comp=Z,12nm,0.9s
WCI Wyandotte Cave 69.03 53 P **P** **04 17 54.9 -0.8**
WCI pP **sP** **04 18 05.3 -0.5**
HRA Herat 69.12 300 P **P** **04 17 56.6 0.0**
HRA IAmb IAmb 04 18 09.8
comp=Z,23nm,1.1s
N53A Lisbon 69.33 48 IAmb IAmb 04 18 08.3
comp=Z,40nm,1.5s
WLAR White Oak Lake 69.41 61 IAmb IAmb 04 18 10.3
comp=Z,16nm,0.8s
435B Jarrell 69.42 66 IAmb IAmb 04 18 12.9
comp=Z,9.6nm,0.8s
435B Jarrell 69.42 66 P **P** **04 17 58.1 -0.2**
baz=323
O52A Adamsville 69.47 49 P **P** **04 17 57.6 -0.9**
baz=326
O52A P **P** **04 17 57.6 -0.9**
baz=326
HALT Halls 69.47 57 P **P** **04 17 59.6 +1.1**
ESK Eskdalemuir 69.51 353 P **P** **04 17 58.1 -0.3**
ESK pP **sP** **04 18 07.8 -0.8**
ESK sP **pwP** **04 18 12.0 -0.7**
L56A Greenwood 69.58 45 P **P** **04 17 58.0 -1.1**
baz=327
L56A P **P** **04 17 58.0 -1.1**
baz=327
O53A New Philadelph 69.63 48 P **P** **04 17 58.6 -0.9**
baz=326
M55A Ridgway 69.64 46 IAmb IAmb 04 18 09.4
comp=Z,17nm,0.8s
Q51A Peebles 69.71 50 IAmb IAmb 04 18 10.8
comp=Z,40nm,1.6s
Q51A Peebles 69.71 50 P **P** **04 17 59.5 -0.4**
baz=326
Q51A P **P** **04 17 59.5 -0.4**
baz=326
P52A Corning 69.74 49 IAmb IAmb 04 18 11.5
comp=Z,17nm,1.0s
P52A Corning 69.74 49 P **P** **04 17 59.0 -1.1**
baz=326
KIV Kislovodsk 69.81 319 *e*P **P** **04 17 58.1 -2.5**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,192nm,17.0s
F64A Sherman 69.83 37 P **P** **04 18 00.0 -0.6**
F64A IAmb IAmb 04 18 10.4
comp=Z,15nm,0.8s
F64A Sherman 69.83 37 P **P** **04 17 59.8 -0.8**
baz=331
F64A P **P** **04 17 59.8 -0.8**
baz=331
R50A Paris 69.88 52 P **P** **04 18 01.0 0.0**
R50A IAmb IAmb 04 18 12.1
comp=Z,25nm,1.4s
CCAR Cane Creek 69.89 59 IAmb IAmb 04 18 13.1
comp=Z,23nm,0.9s
KBZ Khabaz 69.92 319 P **P** **04 18 01.6 +0.5**
comp=Z,13nm,0.9s,baz=12,slow=1.9,SNR=10
comp=Z,13nm,0.9s
KBZ Khabaz 69.92 319 *ce*P **P** **04 18 01.8 +0.7**
KBZ pmax pmax
comp=Z,13nm,0.9s
UPAO U. Pittsburgh 69.94 47 P **P** **04 18 01.3 -0.1**
baz=327
LBNH Lisbon 69.97 40 P **P** **04 18 00.7 -0.8**
baz=329
WVT Waverly 70.02 55 P **P** **04 18 01.8 -0.1**
WVT IAmb IAmb 04 18 13.5
comp=Z,19nm,0.7s
WVT Waverly 70.02 55 P **P** **04 18 01.7 -0.1**
baz=324
WVT Waverly 70.02 55 P **P** **04 18 01.7 -0.1**
baz=324
WVT Waverly 70.02 55 P **P** **04 18 01.8 -0.1**
WVT pmax pmax
comp=Z,19nm,0.7s
WVT Waverly 70.02 55 P **P** **04 18 01.6 -0.3**
WVT pP **sP** **04 18 11.6 -0.3**
WVT sP **pwP** **04 18 15.0 -1.3**
PKME Peaks-Kenny Pk 70.03 38 P **P** **04 18 00.9 -0.9**
baz=330
NATX Nacogdoches 70.16 63 P **P** **04 18 02.7 -0.1**
baz=323
ZEI Tsey 70.34 318 *e*P **P** **04 18 03.3 -0.7**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
833A Chaparral WMA, 70.41 69 P **P** **04 18 05.1 +0.7**
baz=323
KAPI Kappang 70.54 228 P **P** **04 18 06.1 +0.9**
comp=Z,3.5nm,0.4s,baz=25,slow=5.2,SNR=5.3
comp=Z,3.5nm,0.4s
KAPI Kappang 70.54 228 P **P** **04 18 05.9 +0.7**
KAPI IAmb IAmb 04 18 09.1
comp=Z,23nm,1.3s
OXF Oxford 70.57 57 P **P** **04 18 05.7 +0.5**
baz=324
T50A Nancy 70.68 53 IAmb IAmb 04 18 17.1
comp=Z,12nm,0.8s
MCWV Mont Chateau 70.70 48 P **P** **04 18 06.0 -0.1**
baz=327
SSPA Standing Stone 70.70 46 P **P** **04 18 05.3 -0.7**
SSPA IAmb IAmb 04 18 15.8
comp=Z,26nm,1.4s
SSPA Standing Stone 70.70 46 P **P** **04 18 05.4 -0.7**
baz=327
SSPA Standing Stone 70.70 46 P **P** **04 18 05.5 -0.5**
SSPA pP **sP** **04 18 15.4 -0.7**
V48A Smith Brothers 70.81 55 P **P** **04 18 06.4 -0.4**
baz=325
SORM Soroca 70.83 331 ⇓P **P** **04 18 06.1 -0.5**
SORM Soroca 70.83 331 ⇓P **P** **04 18 06.1 -0.5**
Q54A Coxs Mills 70.84 49 IAmb IAmb 04 18 17.7
comp=Z,9.7nm,0.6s
R53A Hurricane 70.90 50 IAmb IAmb 04 18 17.6
comp=Z,20nm,0.8s
ANN Anapa 70.96 323 *e*P P 04 18 01.8 -5.7
ANN *e**PP pP 04 18 11.6 -3.2
ANN *e* 04 20 40.6
ANN *e*PPP PPP 04 22 27.0
ANN *e*S **S** **04 27 12.2 -8.8**
ANN *e*SS **SS** **04 31 49.1 -3.9**
ANN pmax pmax
comp=Z,37nm,1.4s
HKT Hockley 71.00 65 P **P** **04 18 08.4 +0.6**
HKT IAmb IAmb 04 18 09.8
comp=Z,23nm,1.8s
HKT Hockley 71.00 65 P **P** **04 18 08.4 +0.6**
HKT pmax pmax
comp=Z,23nm,1.8s
N58A Sunbury 71.01 45 IAmb IAmb 04 18 17.4
comp=Z,14nm,0.7s
143A Socs Landing, 71.05 60 IAmb IAmb 04 18 13.5
comp=Z,30nm,1.2s
OJC Ojcow 71.06 337 *e*P P 04 18 15.8 +7.8
OJC Ojcow 71.06 337 P **P** **04 18 06.6 -1.4**
OJC IAmb IAmb 04 18 18.3
comp=Z,11nm,0.8s
OJC Ojcow 71.06 337 P **P** **04 18 06.6 -1.4**
OJC pmax pmax
comp=Z,11nm,0.8s
KULM Kulim 71.08 251 P **P** **04 18 08.0 -0.6**
KULM IAmb IAmb 04 18 22.3
comp=Z,52nm,1.8s
COEN Coen 71.19 202 P **P** **04 18 08.7 -0.4**
COEN IAmb IAmb 04 18 10.6
comp=Z,26nm,0.9s
COEN Coen 71.19 202 P **P** **04 18 09.5 +0.4**
comp=Z,33nm,1.2s
KSP Ksiaz 71.21 340 *e*P P 04 18 19.3 +10
SOC Sochi 71.22 321 *e*P **P** **04 18 08.9 -0.2**
SOC *e* 04 20 43.5
SOC *e*PPP PPP 04 22 26.3
SOC *e*S **S** **04 27 25.4 +1.3**
SOC *e*SS **SS** **04 32 04.8 +7.7**
SOC MLR MLR
comp=Z,275nm,18.0s
L61B Northampton 71.22 41 P **P** **04 18 08.4 -0.7**
baz=329
CLL Collm 71.39 342 *e*P **P** **04 18 09.0 -1.0**
comp=Z,6.0nm,1.0s
CLL *i* pP **sP** **04 18 20.9 +0.7**
CLL *i* sP **pwP** **04 18 26.0 +1.8**
CLL *e*PP **PP** **04 20 48.0 +0.2**
CLL *e*S **S** **04 27 29.0 +3.1**
CLL *e*SS **SS** **04 32 06.0 +6.7**
CLL *e*(SSS) 04 35 48.0
CLL LmH 04 49 00.0
comp=N,200nm,21.8s
CLL LmH 04 49 00.0
comp=E,200nm,20.0s
CLL Collm 71.39 342 *e*P **P** **04 18 09.0 -1.0**
CLL *i* 04 18 20.9
CLL *e*S **S** **04 27 29.0 +3.1**
CLL pmax pmax
comp=Z,6.0nm,1.0s
OSTC Ostas 71.50 339 *e*P P 04 18 15.9 +5.2
IPM Ipoh 71.56 251 P **P** **04 18 11.4 -0.1**
IPM IAmb IAmb 04 18 12.6
comp=Z,16nm,1.1s
BRG Berggiesshubel 71.64 341 *e*P **P** **04 18 11.9 +0.3**
BRG Amp 04 18 23.9
comp=Z,3.8nm,0.8s
BRG Amp 04 52 35.0
comp=E,0.2nm,15.2s
BRG Amp 04 52 37.0
comp=Z,0.2nm,16.0s
BRG Amp 04 52 41.0
comp=N,0.3nm,14.1s
BRG Berggiesshubel 71.64 341 *e*P **P** **04 18 11.8 +0.3**
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG MLR MLR
comp=E,196nm,15.2s
BRG MLR MLR
comp=Z,248nm,16.0s
BRG MLR MLR
comp=N,257nm,14.1s
TZTN Tazewell 71.66 52 IAmb IAmb 04 18 23.2
comp=Z,44nm,1.5s
TZTN Tazewell 71.66 52 P **P** **04 18 11.6 -0.2**
baz=326
DPC Dobruska-Polom 71.67 339 *e*P **P** **04 18 12.4 +0.6**
DPC *ex* x 04 18 15.9
DPC AMS AMS 04 52 20.0
comp=Z,200nm,14.5s
DPC Dobruska-Polom 71.67 339 *e*P **P** **04 18 12.4 +0.6**
DPC MLR MLR
comp=Z,200nm,14.5s
KOLS Kolonicke sedl 71.68 335 *e*P **P** **04 18 11.9 +0.1**
KOLS *e* 04 18 22.1
KOLS Kolonicke sedl 71.68 335 *e*P **P** **04 18 12.0 +0.1**
KOLS *e* 04 18 22.1
NIE Niedzica 71.69 336 *e*P P 04 18 24.1 +12
KIS Kishinev 71.73 330 *e*P **P** **04 18 08.0 -4.1**
KIS *e*L L 04 48 20.0
KIS LQM 04 49 42.0
comp=Z,200nm,16.0s
KIS LRM MLR 04 52 33.0
comp=Z,200nm,14.5s
KIS Kishinev 71.73 330 *e*P **P** **04 18 08.0 -4.1**
KIS *e* 04 18 21.0
KIS MLR MLR
comp=Z,200nm,14.5s
X48A Hartselle 71.75 56 P **P** **04 18 11.8 -0.7**
baz=325
MILM Milestii Mici 71.80 330 *e*P P 04 18 20.0 +7.5
comp=Z,150nm,2.6s
MILM Milestii Mici 71.80 330 *e*P P 04 18 20.0 +7.5
MILM pmax pmax
comp=Z,150nm,2.6s
MILM MLR MLR
comp=Z,300nm,13.0s
KRLC Kraliky 71.84 339 *e*P **P** **04 18 13.0 +0.2**
KRLC *ex* x 04 18 16.9
KRLC AMS AMS 04 52 50.0
comp=Z,200nm,17.3s
KRLC Kraliky 71.84 339 *e*P **P** **04 18 13.0 +0.2**
KRLC MLR MLR
comp=Z,200nm,17.3s
V51A Loudon 71.90 53 IAmb IAmb 04 18 24.5
comp=Z,12nm,0.7s
V51A Loudon 71.90 53 P **P** **04 18 12.8 -0.5**
baz=326
W50A Signal Mountai 71.95 54 IAmb IAmb 04 18 24.9
comp=Z,17nm,0.7s
UZH Uzhgorod 71.96 335 *e*P **P** **04 18 14.6 +1.2**
UZH *e* 04 18 39.4
MORC Moravsky Berou 71.97 338 P **P** **04 18 13.3 -0.3**
MORC Moravsky Berou 71.97 338 P **P** **04 18 13.0 -0.6**
MORC Moravsky Berou 71.97 338 *e*P **P** **04 18 12.3 -1.3**
MORC Moravsky Berou 71.97 338 P **P** **04 18 13.0 -0.6**
MORC pmax pmax
comp=Z,8.0nm,0.9s
PAL Palisades 71.99 43 P **P** **04 18 12.9 -0.8**
baz=329
BUR08 Bucovina Ar. S 72.13 333 P **P** **04 18 15.4 +0.8**
BURAR Bucovina Array 72.16 333 ⇑P **P** **04 18 14.8 0.0**
BURAR Bucovina Array 72.16 333 P **P** **04 18 15.9 +1.1**
BURAR Bucovina Array 72.16 333 ⇑P **P** **04 18 14.8 0.0**
V52A Sevierville 72.22 53 IAmb IAmb 04 18 26.5
comp=Z,45nm,1.8s
GNI Garni 72.26 316 LR LR 04 53 49.5
comp=Z,433nm,19.2s,baz=28,slow=39
GNI Garni 72.26 316 P **P** **04 18 16.5 +0.9**
GNI Garni 72.26 316 P **P** **04 18 16.5 +0.9**
GNI pmax pmax
comp=Z,53nm,1.3s
Z47A Carrollton 72.28 57 P **P** **04 18 15.1 -0.6**
baz=325
TKL Tuckaleechee C 72.29 53 LR LR 04 51 32.3
comp=Z,286nm,19.6s,baz=332,slow=37
MYKOM Kota Tinggi 72.30 247 P **P** **04 18 15.8 -0.1**
MYKOM IAmb IAmb 04 18 18.1
comp=Z,28nm,1.4s
FPAL Fort Paine 72.36 55 IAmb IAmb 04 18 27.7
comp=Z,28nm,0.8s
TRPA Tarpa 72.36 335 ⇑P **P** **04 18 15.6 -0.3**
PRU Pruhonice 72.37 340 *e*P **P** **04 18 16.6 +0.7**
PRU AMS AMS 04 54 30.0
comp=Z,300nm,15.9s
PRU Pruhonice 72.37 340 *e*P **P** **04 18 16.6 +0.7**
PRU MLR MLR
comp=Z,300nm,15.9s
U54A Nelsons Funny 72.45 51 IAmb IAmb 04 18 28.3
comp=Z,19nm,0.7s
U54A Nelsons Funny 72.45 51 P **P** **04 18 15.8 -0.9**
baz=327
U54A P **P** **04 18 15.8 -0.9**
baz=327
BLA Blacksburg 72.50 49 P **P** **04 18 16.6 -0.3**
baz=327
Y49A Blount Mountai 72.54 56 P **P** **04 18 16.7 -0.5**
Y49A IAmb IAmb 04 18 28.2
comp=Z,23nm,0.7s
Y49A Blount Mountai 72.54 56 P **P** **04 18 16.4 -0.8**
baz=325
VRAC Vranov 72.61 339 LR LR 04 54 45.4
comp=Z,160nm,18.1s,baz=28,slow=40
VRAC Vranov 72.61 339 *e*P **P** **04 18 17.0 -0.4**
KDU Kakadu 72.83 213 P **P** **04 18 19.1 +0.2**
comp=Z,44nm,1.0s
KRUC Moravsky 72.88 339 *e*P **P** **04 18 18.9 -0.1**
VYHS Vyhne 72.90 337 *e*P **P** **04 18 20.5 +1.4**
VYHS *e* 04 18 29.7
VYHS Vyhne 72.90 337 *e*P **P** **04 18 20.5 +1.4**
VYHS *e* 04 18 29.7
LRAL Lakeview Retre 72.93 57 P **P** **04 18 18.6 -0.9**
baz=325
LRAL Lakeview Retre 72.93 57 P **P** **04 18 18.6 -0.9**
baz=325,SNR=7.7
T57A Hurt 73.18 49 IAmb IAmb 04 18 31.8
comp=Z,9.7nm,0.7s
BG3 Lake Jocassee 73.22 53 IAmb IAmb 04 18 32.6
comp=Z,18nm,0.6s
V55A Taylorsville 73.28 51 IAmb IAmb 04 18 32.7
comp=Z,11nm,0.6s
MODS Modra-Piesok 73.35 338 *e* P 04 18 33.7 +12
MODS Modra-Piesok 73.35 338 *e*P P 04 18 33.7 +12
VRI Vrincioaia 73.35 331 ⇑P **P** **04 18 22.6 +0.8**
VRI Vrincioaia 73.35 331 ⇑P **P** **04 18 22.6 +0.8**
KHC Kasperske Hory 73.38 341 P **P** **04 18 21.9 0.0**
KHC Kasperske Hory 73.38 341 *e*P **P** **04 18 22.3 +0.4**
KHC *e*pP **sP** **04 18 32.0 -0.2**
KHC AMS AMS 04 55 20.0
comp=Z,300nm,16.3s
KHC Kasperske Hory 73.38 341 *e*P **P** **04 18 22.3 +0.4**
KHC *e* 04 18 32.0
KHC MLR MLR
comp=Z,300nm,16.3s
PLOR Plostina 73.39 331 ⇑P **P** **04 18 21.8 -0.3**
PLOR Plostina 73.39 331 ⇑P **P** **04 18 21.8 -0.3**
MTN Manton Dam 73.41 214 P **P** **04 18 22.4 0.0**
MTN Manton Dam 73.41 214 P **P** **04 18 22.7 +0.4**
comp=Z,58nm,1.0s
MSVF Nonsavu 73.41 167 P **P** **04 18 23.9 +1.5**
MSVF IAmb IAmb 04 18 25.2
comp=Z,37nm,1.6s
MSVF Nonsavu 73.41 167 P **P** **04 18 23.9 +1.5**
MSVF pmax pmax
comp=Z,37nm,1.6s
COVR Voineasa-Covas 73.52 331 ⇑P **P** **04 18 24.3 +1.4**
CKRC Cesky Krumlov 73.53 340 *e*P **P** **04 18 23.3 +0.5**
CKRC AMS AMS 04 56 40.0
comp=Z,200nm,15.0s
CFR Carcaliu 73.58 330 ⇑P **P** **04 18 23.1 0.0**
CFR Carcaliu 73.58 330 ⇑P **P** **04 18 23.1 0.0**
GERES GERESS Array B 73.63 341 P **P** **04 18 23.4 0.0**
GERES comp=Z,2.1nm,0.8s,baz=45,slow=4.2,SNR=5.6 pP **sP** **04 18 34.0 +0.3**
comp=Z,2.7nm,0.7s,baz=34,slow=5.0,SNR=9.3

GERES				LR	LR	04 54 29.0			
	comp=Z,171nm,18.3s,baz=50,slow=39								
	comp=Z,2.1nm,0.8s								
DOPR	**Dopca**	**73.63**	**332**	⇓P	**P**	**04 18 23.4**	**0.0**		
Y52A	**Lilburn**	**73.64**	**54**	IAmb	IAmb	04 18 35.1			
	comp=Z,54nm,1.6s								
TPGR	**Topolog**	**73.79**	**329**	⇓P	**P**	**04 18 24.9**	**+0.5**		
HYBB	**Hyderabad (bro**	**73.80**	**277**	*eP*	**P**	**04 18 25.3**	**+0.5**		
KMSC	**Kings Mountain**	**73.82**	**51**	IAmb	IAmb	04 18 35.7			
	comp=Z,15nm,0.6s								
KMSC	**Kings Mountain**	**73.82**	**51**	P	**P**	**04 18 24.0**	**-0.8**		
	baz=327								
MLR	**Muntele Rosu**	**73.91**	**331**	⇑P	**P**	**04 18 26.9**	**+1.6**		
MLR	**Muntele Rosu**	**73.91**	**331**	IAmb	IAmb	04 18 40.2			
	comp=Z,35nm,1.6s								
MLR	**Muntele Rosu**	**73.91**	**331**	⇑P	**P**	**04 18 26.9**	**+1.6**		
KOPT	**Kop Dagi**	**74.03**	**319**	P	**P**	**04 18 27.2**	**+1.0**		
KOPT				IAmb	IAmb	04 18 44.5			
	comp=Z,17nm,0.9s								
CONA	**Conrad Observa**	**74.07**	**339**	*eP*	**P**	**04 18 27.3**	**+1.2**		
	comp=Z,1.6nm,0.8s								
ISR	**Istrita**	**74.09**	**331**	⇓P	**P**	**04 18 28.2**	**+2.0**		
ISR	**Istrita**	**74.09**	**331**	⇓P	**P**	**04 18 28.2**	**+2.0**		
PSI	**Prapat**	**74.10**	**251**	P	**P**	**04 18 27.2**	**+0.5**		
	comp=Z,3.6nm,0.7s,baz=337,slow=4.9,SNR=6.9								
	comp=Z,3.6nm,0.7s								
PSI	**Prapat**	**74.10**	**251**	P	**P**	**04 18 27.2**	**+0.5**		
	comp=Z,16nm,0.8s								
250A	**Grady**	**74.15**	**57**	IAmb	IAmb	04 18 37.9			
	comp=Z,21nm,0.7s								
HODGE	**Hodges**	**74.16**	**52**	P	**P**	**04 18 26.2**	**-0.6**		
	baz=327								
RPSI	**Rantau Prapat**	**74.19**	**251**	P	**P**	**04 18 27.2**	**+0.1**		
VOIR		**74.21**	**332**	⇓P	**P**	**04 18 28.1**	**+1.2**		
VOIR		**74.21**	**332**	⇓P	**P**	**04 18 28.1**	**+1.2**		
GOGA	**Godfrey**	**74.29**	**54**	P	**P**	**04 18 27.3**	**-0.1**		
	baz=326								
152A	**Waverly Hall**	**74.32**	**55**	P	**P**	**04 18 26.9**	**-0.8**		
	baz=326								
SIRR	**Siria**	**74.32**	**334**	⇑P	**P**	**04 18 28.2**	**+0.8**		
TSCT	**Constanta Port**	**74.35**	**329**	⇑P	**P**	**04 18 29.7**	**+2.1**		
U59A	**Littleton**	**74.36**	**48**	IAmb	IAmb	04 18 39.2			
	comp=Z,48nm,1.6s								
W57A	**Gilead**	**74.41**	**50**	IAmb	IAmb	04 18 39.2			
	comp=Z,18nm,0.6s								
BRAL	**Brewton**	**74.44**	**58**	P	**P**	**04 18 29.0**	**+0.7**		
	baz=326								
MOA	**Molln**	**74.47**	**340**	*eP*	**P**	**04 18 29.3**	**+1.0**		
	comp=Z,1.4nm,0.6s								
ICOR	**Ion Corvin**	**74.64**	**329**	⇑P	**P**	**04 18 29.5**	**+0.1**		
GURO	**Guroymak-BITLI**	**74.70**	**317**	P	**P**	**04 18 30.6**	**+0.6**		
ARSA	**Arzberg**	**74.79**	**339**	*eP*	**P**	**04 18 31.4**	**+1.2**		
	comp=Z,2.5nm,0.7s								
GZR	**Gura Zlata**	**74.85**	**333**	⇑P	**P**	**04 18 30.7**	**+0.1**		
GZR	**Gura Zlata**	**74.85**	**333**	⇑P	**P**	**04 18 30.7**	**+0.1**		
MTSU	**Mount Surprise**	**75.01**	**200**	P	**P**	**04 18 32.6**	**+1.0**		
	comp=Z,8.0nm,1.1s								
CNNC	**Cliffs of the**	**75.26**	**49**	P	**P**	**04 18 33.3**	**+0.2**		
	baz=328								
KBA	**Koelnbreinsper**	**75.39**	**340**	*eP*	**P**	**04 18 34.9**	**+1.1**		
	comp=Z,5.0nm,0.9s								
WTTA	**Wattenberg**	**75.53**	**342**	*eP*	**P**	**04 18 35.5**	**+0.9**		
	comp=Z,2.5nm,0.7s								
ILGA	**Ilgaz**	**75.55**	**324**	P	**P**	**04 18 35.0**	**+0.1**		
ILGA				IAmb	IAmb	04 18 50.5			
	comp=Z,27nm,0.8s								
MOTA	**Moosalm**	**75.55**	**342**	*eP*	**P**	**04 18 35.6**	**+0.9**		
	comp=Z,3.3nm,0.8s								
SQTA	**Sankt Quirin**	**75.65**	**342**	*eP*	**P**	**04 18 36.2**	**+1.0**		
	comp=Z,2.2nm,0.6s								
OBKA	**Obir**	**75.70**	**339**	*eP*	**P**	**04 18 36.7**	**+1.1**		
	comp=Z,7.7nm,0.7s								
ABTA	**Abfaltersbach**	**75.87**	**341**	*eP*	**P**	**04 18 37.5**	**+1.1**		
	comp=Z,3.0nm,0.8s								
TIGA	**Tifton**	**75.87**	**55**	P	**P**	**04 18 36.4**	**-0.2**		
	baz=327								
FETA	**Feichten**	**75.93**	**342**	*eP*	**P**	**04 18 37.9**	**+1.0**		
	comp=Z,1.1nm,0.6s								
NHSC	**New Hope**	**76.05**	**52**	P	**P**	**04 18 36.9**	**-0.7**		
	baz=328								
MARD	**Mardin**	**76.27**	**317**	P	**P**	**04 18 39.0**	**+0.1**		
MARD				IAmb	IAmb	04 18 52.5			
	comp=Z,15nm,0.8s								
DAVOX	**Davos/Dischmat**	**76.31**	**343**	LR	LR	04 55 57.3			
	comp=Z,189nm,19.9s,baz=85,slow=39								
CTA	**Charters Tower**	**76.55**	**198**	LR	LR	04 51 23.3			
	comp=Z,30nm,18.7s,baz=79,slow=35								
CTA	**Charters Tower**	**76.55**	**198**	P	**P**	**04 18 40.9**	**+0.6**		
	comp=Z,30nm,1.1s								
CTAO	**Charters Tower**	**76.55**	**198**	P	**P**	**04 18 40.6**	**+0.2**		
CTAO				IAmb	IAmb	04 18 41.7			
	comp=Z,27nm,1.1s								
CTAO	**Charters Tower**	**76.55**	**198**	P	**P**	**04 18 41.0**	**+0.6**		
	comp=Z,26nm,1.1s								
CTAO	**Charters Tower**	**76.55**	**198**	P	**P**	**04 18 40.6**	**+0.2**		
CTAO				pmax	pmax				
	comp=Z,27nm,1.1s								
BR131	**Keskin Array S**	**76.76**	**323**	IAmb	IAmb	04 18 55.4			
	comp=Z,29nm,1.6s								
BRTR	**Keskin Array B**	**76.76**	**323**	P	**P**	**04 18 41.9**	**+0.2**		
	comp=Z,3.2nm,0.8s,baz=57,slow=3.6,SNR=22								
	comp=Z,3.2nm,0.8s								
KNRA	**Kununurra**	**76.84**	**216**	P	**P**	**04 18 42.6**	**+0.5**		
	comp=Z,36nm,1.1s								
DZM	**Mont Dzumac**	**76.87**	**178**	*e*LR	LR	04 42 30.7			
	comp=Z,118nm,23.4s								
DZM	**Mont Dzumac**	**76.87**	**178**	LR	LR	04 54 07.7			
	comp=Z,117nm,18.1s,baz=34,slow=37								
ANTO	**Ankara**	**76.92**	**324**	P	**P**	**04 18 42.5**	**-0.1**		
ANTO				IAmb	IAmb	04 18 54.5			
	comp=Z,12nm,0.8s								
ANTO	**Ankara**	**76.92**	**324**	P	**P**	**04 18 42.5**	**-0.1**		
ANTO				pmax	pmax				
	comp=Z,12nm,0.9s								
VTS	**Vitosha**	**77.31**	**332**	⇑P	**P**	**04 18 48.0**	**+3.2**		
VTS	**Vitosha**	**77.31**	**332**	⇑P	**P**	**04 18 48.0**	**+3.2**		
RDO	**Rodhopi**	**78.03**	**330**	IAmb	IAmb	04 19 02.7			
	comp=Z,43nm,1.6s								
QIS	**Mount Isa**	**78.38**	**204**	P	**P**	**04 18 50.5**	**-0.1**		
	comp=Z,19nm,1.3s								
TAOE	**Nuku Hiva Isla**	**78.44**	**124**	*e*LR	LR	04 43 14.8			
	comp=Z,188nm,27.6s								
PDG	**Podgorica**	**78.51**	**335**	⇓P	**P**	**04 18 54.8**	**+3.5**		
WB2	**Warramunga Arr**	**79.14**	**209**	P	**P**	**04 18 54.8**	**0.0**		
WB2				IAmb	IAmb	04 18 56.0			
	comp=Z,33nm,0.9s								
WRA	**Warramunga Arr**	**79.14**	**209**	P	**P**	**04 18 54.8**	**0.0**		
	comp=Z,22nm,0.9s,baz=22,slow=5.9,SNR=107								
WRA				pP	**sP**	**04 19 06.0**	**+1.1**		
	comp=Z,8.0nm,0.8s,baz=23,slow=6.0,SNR=6.7								
WRA				LR	LR	04 55 22.0			
	comp=Z,41nm,19.0s,baz=56,slow=37								
	comp=Z,22nm,0.9s								
WRA	**Warramunga Arr**	**79.14**	**209**	P	**P**	**04 18 54.3**	**-0.5**		
WRA	**Warramunga Arr**	**79.14**	**209**	*i* P	**P**	**04 18 54.7**	**-0.1**		
WRA				pmax	pmax				
	comp=Z,22nm,0.9s								
WSAR	**Wadi Sarin**	**80.01**	**296**	LR	LR	04 57 38.3			
	comp=Z,227nm,19.6s,baz=67,slow=38								
PALK	**Pallekele**	**80.72**	**269**	LR	LR	04 59 55.8			
	comp=Z,96nm,18.9s,baz=138,slow=39								
EIDS	**Eidsvold**	**81.01**	**193**	P	**P**	**04 19 05.2**	**+0.4**		
EIDS				IAmb	IAmb	04 19 06.7			
	comp=Z,41nm,1.6s								
CMIG	**Matias Romero**	**81.90**	**72**	LR	LR	04 55 19.6			
	comp=Z,58nm,19.5s,baz=316,slow=36								
PPT	**Papeete**	**82.06**	**137**	LR	LR	04 51 42.1			
	comp=Z,116nm,18.3s,baz=310,slow=33								
PPT2	**Papeete2**	**82.08**	**137**	*e*LR	LR	04 44 56.4			
	comp=Z,185nm,24.5s								
PPT2				*e*LR	LR	04 44 56.4			
	comp=Z,172nm,26.0s								
MMAI	**Mount Meron Ar**	**82.12**	**319**	LR	LR	05 01 01.8			
	comp=Z,158nm,18.1s,baz=274,slow=40								
RMQ	**Roma**	**82.42**	**194**	P	**P**	**04 19 13.4**	**+1.2**		
	comp=Z,11nm,1.6s								
AS31	**Alice Springs**	**82.80**	**208**	P	**P**	**04 19 15.0**	**+0.8**		
ASAR	**Alice Springs**	**82.80**	**208**	P	**P**	**04 19 15.3**	**+1.0**		
	comp=Z,29nm,0.9s,baz=18,slow=5.1,SNR=124								
ASAR				LR	LR	04 57 10.5			
	comp=Z,39nm,18.9s,baz=345,slow=36								
	comp=Z,29nm,0.9s								
QLP	**Quilpie**	**83.25**	**198**	P	**P**	**04 19 17.4**	**+0.9**		
	comp=Z,43nm,1.3s								
IDI	**Anoyia**	**83.64**	**328**	LR	LR	05 00 43.5			
	comp=Z,86nm,19.3s,baz=24,slow=39								
INKA	**Innaminka**	**85.06**	**201**	P	**P**	**04 19 27.1**	**+1.5**		
	comp=Z,41nm,1.4s								
ESBB	**Sonseca Array**	**85.11**	**351**	IAmb	IAmb	04 19 40.7			
	comp=Z,18nm,1.1s								
ESDC	**Sonseca Array**	**85.11**	**351**	P	**P**	**04 19 26.2**	**+0.1**		
	comp=Z,4.6nm,0.9s,baz=359,slow=5.0,SNR=16								
ESDC				pP	**sP**	**04 19 36.4**	**+0.2**		
	comp=Z,7.3nm,0.8s,baz=2.8,slow=3.8,SNR=14								
	comp=Z,4.6nm,0.9s								
ESDC	**Sonseca Array**	**85.11**	**351**	IAmb	IAmb	04 19 39.3			
	comp=Z,21nm,1.4s								
MBWA	**Marble Bar**	**85.13**	**222**	P	**P**	**04 19 26.1**	**-0.1**		
MBWA	**Marble Bar**	**85.13**	**222**	P	**P**	**04 19 25.9**	**-0.2**		
	comp=Z,15nm,1.1s								
EIL	**Elat**	**85.28**	**318**	LR	LR	05 01 39.5			
	comp=Z,188nm,19.2s,baz=52,slow=39								
PSA00	**Pilbara Seismi**	**85.46**	**221**	IAmb	IAmb	04 19 28.5			
	comp=Z,21nm,1.0s								
PSA00	**Pilbara Seismi**	**85.46**	**221**	P	**P**	**04 19 27.7**	**-0.1**		
	comp=Z,21nm,1.1s								
WRKA	**Warakurna**	**85.73**	**213**	P	**P**	**04 19 29.3**	**+0.2**		
	comp=Z,25nm,1.2s								
RAYN	**Ar Rayn**	**86.19**	**307**	P	**P**	**04 19 31.2**	**-0.6**		
RAYN				IAmb	IAmb	04 19 42.6			
	comp=Z,10nm,0.9s								
RAYN	**Ar Rayn**	**86.19**	**307**	P	**P**	**04 19 31.2**	**-0.6**		
RAYN				pmax	pmax				
	comp=Z,10.0nm,0.9s								
OOD	**Oodnadatta**	**86.27**	**206**	P	**P**	**04 19 32.2**	**+0.6**		
	comp=Z,17nm,1.0s								
TBI	**Tubuai**	**87.34**	**139**	*e*LR	LR	04 47 22.4			
	comp=Z,2μm,44.0s								
TBI				*e*LR	LR	04 47 22.5			
	comp=Z,3μm,28.8s								
STKA	**Stephens Creek**	**88.90**	**200**	P	**P**	**04 19 45.0**	**+0.8**		
	comp=Z,3.4nm,0.7s,baz=20,slow=7.2,SNR=6.6								
STKA				LR	LR	05 02 38.9			
	comp=Z,37nm,18.3s,baz=24,slow=38								
	comp=Z,3.4nm,0.7s								
STKA	**Stephens Creek**	**88.90**	**200**	P	**P**	**04 19 45.1**	**+0.9**		
STKA	**Stephens Creek**	**88.90**	**200**	P	**P**	**04 19 45.0**	**+0.8**		
FORT	**Forrest**	**91.17**	**211**	P	**P**	**04 19 54.8**	**-0.1**		
JTS	**Las Juntas de**	**92.88**	**68**	LR	LR	05 05 23.6			
	comp=Z,41nm,18.3s,baz=32,slow=38								
SJG	**San Juan**	**95.23**	**48**	LR	LR	05 05 52.2			
	comp=Z,142nm,19.7s,baz=320,slow=37								
VNDA	**Vanda**	**132.37**	**181**	PKP	**PKiKP**	**04 26 03.1**	**-0.5**		
	comp=Z,0.9nm,0.9s,baz=313,slow=7.1,SNR=5.4								
VNDA				pPKP	**sPKPdf**	**04 26 13.2**	**+0.4**		
	comp=Z,1.1nm,0.9s,baz=321,slow=5.1,SNR=4.0								
MAW	**Mawson**	**143.28**	**219**	PKP	**PKPdf**	**04 26 21.3**	**-1.5**		
	comp=Z,5.7nm,1.0s,baz=98,slow=3.6,SNR=8.2								
MAW	**Mawson**	**143.28**	**219**	PKPdf	**PKPdf**	**04 26 23.1**	**+0.3**		
TRQA	**Tornquist**	**144.38**	**81**		**PKPdf**	**04 26 24.4**	**-1.3**		
TRQA	**Tornquist**	**144.38**	**81**	PKIKP	**PKPdf**	**04 26 24.5**	**-1.3**		
SUR	**Sutherland**	**146.07**	**297**	PKPbc	**PKiKP**	**04 26 30.7**	**-2.6**		

IDC 25 04:09:14.0±2.0, 3.77°N×122.94°E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=294.2km s-min=24.9km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.10**	**155**	P	P	04 14 49.8	+0.1
	1.0nm,0.4s,baz=335,slow=9.6,SNR=29						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**29.29**	**159**	P	P	04 15 18.2	-0.1
	0.4nm,0.5s,baz=332,slow=7.3,SNR=8.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**55.41**	**327**	P	P	04 18 50.2	-0.1
	1.5nm,1.0s,baz=119,slow=6.3,SNR=4.2						
	1.5nm,1.0s						

*RSPR **25** 04:12:33.9, 18°.23N×67°.21W, h31km, MD2.8/14*
*NEIC **25** 04:12:33.5±1.4, 18°.22N±0°.05×67°.21W±0°.07, h28km±3km, Error ellipse: s-maj=10.7km s-min=7.2km az=66.0*
*OSPL **25** 04:12:34.3±1.1, 18°.23N×67°.08W, h29km±9km, ML2.2*
ISC 25 04:12:33.7±1.0, 18°.24N±0°.03×67°.20W±0°.03, h28km±6km, n51, σ0s44/51, 13C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRSN	**Puerto Rico Se**	**0.06**	**108**		**Pb**	**04 12 37.9**	**-0.7**
PRSN				IAML		04 12 43.7	
	comp=E,777nm,0.1s						
PRSN				IAML		04 12 43.9	
	comp=N,698nm,0.2s						
LSP	**Las Mesas**	**0.12**	**118**	*i*eP	**Pb**	**04 12 39.1**	**+0.1**
LSP	**Las Mesas**	**0.12**	**118**	*e*S	**Sb**	**04 12 43.1**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.24**	**159**	*i*eP	**Pb**	**04 12 39.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.24**	**159**	*e*S	**Sb**	**04 12 45.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.24**	**159**		**Pb**	**04 12 39.9**	**-0.3**
CRPR					**Sb**	**04 12 45.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.24**	**159**	IAML		04 12 46.4	
	comp=E,95nm,0.1s						
CRPR				IAML		04 12 46.4	
	comp=N,161nm,0.2s						
CRPR	**Cabo Rojo, PR**	**0.24**	**159**	*i* P	**Pb**	**04 12 40.0**	**-0.3**
CRPR				*e*S	**Sb**	**04 12 44.7**	**0.0**
CRPR				IAML		04 12 46.2	
	comp=Z,180nm,0.2s						
AGPR	**Aguadilla, PR**	**0.25**	**20**	*i*eP	**Pb**	**04 12 40.1**	**-0.2**
AGPR	**Aguadilla, PR**	**0.25**	**20**	*e*S	**Sb**	**04 12 45.1**	**+0.3**
AGPR	**Aguadilla, PR**	**0.25**	**20**	IAML		04 12 45.3	
	comp=N,458nm,1.2s						
AGPR	**Aguadilla, PR**	**0.25**	**20**		**Pb**	**04 12 40.1**	**-0.2**
AGPR					**Sb**	**04 12 45.1**	**+0.3**
AGPR	**Aguadilla, PR**	**0.25**	**20**	*i* P	**Pb**	**04 12 40.1**	**-0.2**
AGPR				*e*S	**Sb**	**04 12 45.1**	**+0.3**
AGPR				IAML		04 12 46.3	
	comp=Z,272nm,0.2s						
IDE	**Isla Desecheo**	**0.30**	**300**	*i*eP	**Pb**	**04 12 40.7**	**-0.3**
IDE	**Isla Desecheo**	**0.30**	**300**	*e*S	**Sb**	**04 12 46.0**	**0.0**
MLPR	**Magueyes Islan**	**0.30**	**151**	*i*eP	**Pb**	**04 12 40.6**	**-0.4**
MLPR	**Magueyes Islan**	**0.30**	**151**	*e*S	**Sb**	**04 12 45.9**	**-0.1**
MLPR	**Magueyes Islan**	**0.30**	**151**		**Pb**	**04 12 40.6**	**-0.4**
MLPR					**Sb**	**04 12 45.9**	**-0.1**
MLPR	**Magueyes Islan**	**0.30**	**151**	IAML		04 12 46.1	
	comp=E,228nm,0.3s						
MLPR				IAML		04 12 46.7	
	comp=N,233nm,0.2s						
AOPR	**Arecibo Observ**	**0.44**	**75**	*i*eP	**Pb**	**04 12 42.7**	**-0.4**
AOPR	**Arecibo Observ**	**0.44**	**75**	*e*S	**Sb**	**04 12 49.2**	**-0.2**
AOPR	**Arecibo Observ**	**0.44**	**75**		**Pb**	**04 12 42.7**	**-0.4**
AOPR					**Sb**	**04 12 49.2**	**-0.2**
AOPR	**Arecibo Observ**	**0.44**	**75**	IAML		04 12 49.4	
	comp=E,1μm,0.2s						
AOPR				IAML		04 12 49.7	
	comp=N,518nm,0.4s						
UUPR	**Utuado, UPR, P**	**0.46**	**88**		**Pb**	**04 12 42.9**	**-0.5**
CELP	**Cerrillos**	**0.61**	**105**	*i*eP	**Pb**	**04 12 45.8**	**-0.1**
CELP	**Cerrillos**	**0.61**	**105**	*e*S	**Sb**	**04 12 54.4**	**+0.2**
CELP	**Cerrillos**	**0.61**	**105**		**Pb**	**04 12 45.8**	**-0.1**
CELP					**Sb**	**04 12 54.4**	**+0.2**
EMPR	**Esperanza - Ma**	**0.68**	**69**	*i*eP	**Pb**	**04 12 46.6**	**-0.4**
EMPR	**Esperanza - Ma**	**0.68**	**69**		**Pb**	**04 12 46.6**	**-0.4**
EMPR	**Esperanza - Ma**	**0.68**	**69**	IAML		04 12 58.9	
	comp=E,213nm,0.3s						
EMPR				IAML		04 13 04.3	
	comp=N,203nm,0.9s						
SJG	**San Juan**	**1.00**	**97**	Pn	**Pn**	**04 12 50.9**	**-0.9**
SJG				IAML		04 13 07.5	
	comp=N,85nm,0.2s						
SJG				IAML		04 13 07.6	
	comp=N,61nm,0.4s						
GCPR	**Guaynabo City**	**1.06**	**86**	*i*eP	**Pn**	**04 12 52.7**	**0.0**
GCPR	**Guaynabo City**	**1.06**	**86**		**Pn**	**04 12 52.7**	**0.0**
GCPR	**Guaynabo City**	**1.06**	**86**	IAML		04 13 08.2	
	comp=E,59nm,0.2s						
GCPR				IAML		04 13 09.0	
	comp=N,53nm,0.3s						
IGPR	**InterUniversit**	**1.07**	**104**	*i*eP	**Pn**	**04 12 53.1**	**+0.3**
IGPR	**InterUniversit**	**1.07**	**104**		**Pn**	**04 12 53.1**	**+0.3**
PCDR	**Punta Cana, DR**	**1.16**	**284**	*i* P	**Pb**	**04 12 54.9**	**-0.2**
PCDR				*e*S	**Sb**	**04 13 09.6**	**-0.1**
PCDR				IAML		04 13 18.5	
	comp=Z,154nm,1.4s						
CBYP	**Canovanas**	**1.28**	**88**	*i*eP	**Pn**	**04 12 56.0**	**+0.3**
CBYP	**Canovanas**	**1.28**	**88**		**Pn**	**04 12 56.0**	**+0.3**
HUMP	**Col San Antoni**	**1.29**	**94**	*i*eP	**Pn**	**04 12 55.9**	**+0.1**
HUMP	**Col San Antoni**	**1.29**	**94**		**Pn**	**04 12 55.9**	**+0.1**
HUMP	**Col San Antoni**	**1.29**	**94**	IAML		04 13 14.9	
	comp=N,64nm,0.7s						
HUMP				IAML		04 13 15.0	
	comp=E,43nm,0.2s						
MTP	**Monte Pirata**	**1.57**	**95**	*i*eP	**Pn**	**04 13 00.8**	**+1.1**
MTP	**Monte Pirata**	**1.57**	**95**		**Pn**	**04 13 00.8**	**+1.1**
MTP	**Monte Pirata**	**1.57**	**95**	IAML		04 13 24.1	
	comp=N,28nm,0.2s						
CUPR	**Culebra, Puert**	**1.82**	**87**	*i*eP	**Pn**	**04 13 04.1**	**+0.9**
CUPR	**Culebra, Puert**	**1.82**	**87**		**Pn**	**04 13 04.1**	**+0.9**
SJVI	**Gifft Hill Sch**	**2.31**	**87**	*i*eP	**Pn**	**04 13 10.2**	**+0.4**
SJVI	**Gifft Hill Sch**	**2.31**	**87**	*e*S	**Sn**	**04 13 37.0**	**-0.3**
SJVI	**Gifft Hill Sch**	**2.31**	**87**		**Pn**	**04 13 10.2**	**+0.4**
SJVI					**Sn**	**04 13 37.0**	**-0.3**
SJVI	**Gifft Hill Sch**	**2.31**	**87**	IAML		04 13 54.2	
	comp=N,26nm,2.6s						
SJVI				IAML		04 14 39.9	
	comp=E,30nm,2.5s						

WEL 25 05:00:43.6±0.3, 42°S±2°×176°4E±°, h7km±3km, M3.6/13, ML3.9/13, MLv3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=118.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.14**	**201**	P	Pg	05 00 47.2	+0.6
KHZ				S	Sg	05 00 50.0	+1.3
BSWZ	**Blackbirch Sta**	**0.60**	**19**	P	Pg	05 00 55.2	0.0
CMWZ	**Cape Campbell**	**0.70**	**40**	P	Pb	05 00 57.9	-0.1
THZ	**Tophouse**	**0.74**	**314**	P	Pg	05 00 58.1	+0.3
THZ				S	Sb	05 01 09.0	-0.1
GVZ	**Greta Valley S**	**0.81**	**212**	P	Pb	05 00 59.7	-0.2
TUWZ	**Tuamarina**	**0.89**	**16**	P	Pg	05 01 00.4	-0.2
NNZ	**Nelson**	**1.08**	**351**	P	Pg	05 01 03.7	-0.5
MRNZ	**Matariki Terra**	**1.09**	**324**	P	Pb	05 01 04.6	0.0
LTZ	**Lake Taylor**	**1.11**	**243**	P	Pg	05 01 04.1	-0.8
LTZ				S	Sb	05 01 20.0	+0.3
AMCZ	**Amberley**	**1.14**	**218**	P	Pg	05 01 04.3	-1.2
TCW	**Tory Channel**	**1.18**	**25**	P	Pg	05 01 04.8	-1.4
WEL	**Wellington**	**1.32**	**41**	P	Pn	05 01 06.8	-1.6
TKNZ	**Takaka Hill**	**1.34**	**338**	P	Pn	05 01 08.6	-0.1
PLWZ	**Palliser**	**1.42**	**60**	P	Pn	05 01 07.0	-2.8
DSZ	**Denniston Nort**	**1.45**	**291**	P	Pn	05 01 10.2	0.0
DUWZ	**D'Urville Isla**	**1.50**	**9**	P	Pn	05 01 10.0	-0.8
OKCZ	**Okains Bay**	**1.50**	**195**	P	Pn	05 01 08.4	-2.4
MSWZ	**Moikau Station**	**1.50**	**55**	P	Pn	05 01 08.3	-2.6
OXZ	**Oxford**	**1.56**	**227**	P	Pn	05 01 09.2	-2.5
MQZ	**McQueen's Vall**	**1.59**	**206**	P	Pn	05 01 08.9	-3.2
CAW	**Cannon Point**	**1.60**	**43**	P	Pn	05 01 10.2	-2.1
PAWZ	**Paruwai Farm**	**1.63**	**57**	P	Pn	05 01 09.9	-2.8
INZ	**Inchbonnie**	**1.66**	**254**	P	Pn	05 01 12.1	-1.0
QRZ	**Quartz Range**	**1.67**	**331**	P	Pn	05 01 13.8	+0.7
AKCZ	**Akaroa Harbour**	**1.67**	**198**	P	Pn	05 01 10.5	-2.7
KIW	**Kapiti Island**	**1.72**	**35**	P	Pn	05 01 12.3	-1.6
TRWZ	**Traveller**	**1.79**	**61**	P	Pn	05 01 12.0	-2.8
RACZ	**Rakaia**	**1.80**	**216**	P	Pn	05 01 12.3	-2.7
OGWZ	**Otaki Gorge**	**1.87**	**39**	P	Pn	05 01 14.0	-2.0
HOWZ	**Holdsworth Sta**	**1.99**	**47**	P	Pb	05 01 20.6	+0.5
WACZ	**Wakanui South**	**2.11**	**217**	P	Pn	05 01 16.8	-2.4
MRZ	**Mangatainoka R**	**2.19**	**43**	P	Pn	05 01 17.8	-2.6
WVZ	**Waitaha Valley**	**2.26**	**249**	P	Pn	05 01 20.4	-1.0
RPZ	**Rata Peaks**	**2.36**	**232**	P	Pn	05 01 20.6	-2.2
ARCZ

MBWA						IAmb	IAmb	05 15 10.3	
	comp=Z,13nm,1.3s								
MORW	**Morawa**	**65.41**	**246**		P	**P**		**05 14 58.7**	**-0.7**
MORW						IAmb	IAmb	05 15 17.7	
	comp=Z,12nm,1.2s								
SHEM	**Shemya Is, Ala**	**71.23**	**352**		LR	LR		05 39 38.4	
	comp=Z,122nm,21.9s,baz=180,slow=30								
QSPA	**South Pole Qui**	**72.18**	**180**		LR	LR		05 42 58.7	
	comp=Z,34nm,20.2s,baz=245,slow=32								
QSPA	**South Pole Qui**	**72.18**	**180**		P	**P**		**05 15 42.1**	**+1.0**
QSPA						IAmb	IAmb	05 15 43.6	
	comp=Z,8.2nm,1.2s								
JOW	**Kunigami**	**72.44**	**307**		LR	LR		05 41 12.0	
	comp=Z,41nm,20.2s,baz=328,slow=31								
NVAR	**Mina Array Bea**	**75.76**	**41**		P	**P**		**05 16 03.7**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=225,slow=9.2,SNR=12								
	comp=Z,2.2nm,0.8s								
KSRS	**Korea Array**	**78.34**	**316**		P	**P**		**05 16 18.7**	**+1.9**
	comp=Z,1.9nm,0.8s,baz=111,slow=6.9,SNR=5.8								
	comp=Z,1.9nm,0.8s								
BELA	**Belgrano 2**	**81.47**	**172**		P	**P**		**05 16 33.3**	**+0.1**
TXAR	**Lajitas Array**	**81.49**	**56**		P	**P**		**05 16 36.0**	**+1.8**
	comp=Z,1.3nm,1.1s,baz=225,slow=5.1,SNR=5.4								
	comp=Z,1.3nm,1.1s								
WAX	**Waxell Ridge**	**81.71**	**14**		P	**P**		**05 16 33.6**	**-1.0**
BMRM	**Bremner River**	**81.76**	**13**		P	**P**		**05 16 34.3**	**-0.6**
BMRM						IAmb	IAmb	05 16 38.6	
	comp=Z,11nm,1.0s								
IMW	**Indian Meadow**	**83.44**	**40**		P	**P**		**05 16 42.9**	**-1.4**
IMW						IAmb	IAmb	05 16 47.2	
	comp=Z,8.4nm,1.2s								
PDAR	**Pinedale Array**	**83.70**	**41**		P	**P**		**05 16 46.2**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=242,slow=3.2,SNR=6.3								
	comp=Z,1.0nm,0.8s								
LKWY	**Lake**	**84.12**	**40**		P	**P**		**05 16 44.2**	**-3.6**
WRH	**Wood River Hil**	**84.26**	**10**		P	**P**		**05 16 47.4**	**-0.3**
CCB	**Clear Creek Bu**	**84.47**	**11**		P	**P**		**05 16 48.7**	**0.0**
AY01	**Puyuhuapi**	**84.67**	**135**		P	**P**		**05 16 49.7**	**-0.6**
AY01						IAmb	IAmb	05 17 07.6	
	comp=Z,9.9nm,1.4s								
TCOL	**CIGO, UAF Yank**	**84.67**	**10**		P	**P**		**05 16 49.6**	**-0.1**
COLA	**College**	**84.67**	**10**			**P**		**05 16 49.7**	**+0.1**
MDM	**Murphy Dome**	**84.68**	**10**		P	**P**		**05 16 49.3**	**-0.6**
MDM						IAmb	IAmb	05 16 51.8	
	comp=Z,12nm,1.3s								
IL31		**84.75**	**11**		P	**P**		**05 16 48.4**	**-1.6**
IL31						IAmb	IAmb	05 16 52.1	
	comp=Z,5.2nm,1.1s								
ILAR	**Eielson Array**	**84.75**	**11**		P	**P**		**05 16 50.2**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=225,slow=6.4,SNR=20								
	comp=Z,1.2nm,0.8s								
ILAR	**Eielson Array**	**84.75**	**11**		P	**P**		**05 16 48.3**	**-1.8**
IMAR	**Indian Mountai**	**84.83**	**8**			**P**		**05 16 51.0**	**+0.5**
POKR	**Poker Plat Res**	**84.97**	**10**		P	**P**		**05 16 51.1**	**-0.1**
POKR						IAmb	IAmb	05 16 52.1	
	comp=Z,8.6nm,1.0s								
J26L	**Joseph Creek**	**85.13**	**12**		P	**P**		**05 16 49.5**	**-2.7**
J26L						IAmb	IAmb	05 16 54.6	
	comp=Z,8.2nm,1.1s								
H23K	**Yukon River**	**85.27**	**9**		P	**P**		**05 16 52.4**	**-0.4**
YAK	**Yakutsk**	**91.61**	**337**		LR	LR		05 54 52.0	
	comp=Z,15nm,20.2s,baz=92,slow=33								
CMAR	**Chiang Mai Arr**	**93.96**	**288**		P	**P**		**05 17 36.8**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=76,slow=2.1,SNR=4.9								
	comp=Z,1.0nm,0.3s								
BVAR	**Borovoye Array**	**120.19**	**321**		PKP		**PKiKP**	**05 23 08.1**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=82,slow=2.2,SNR=8.0								
ARCES	**ARCESS Array B**	**127.13**	**352**		PKP		**PKPdf**	**05 23 20.3**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=57,slow=4.5,SNR=4.8								
KMBO	**Kilima Mbogo**	**144.93**	**241**		PKP		**PKPdf**	**05 23 56.5**	**+1.5**
	comp=Z,5.0nm,0.9s,baz=76,slow=2.4,SNR=10								
OSTC	**Ostas**	**146.61**	**350**		*e*PKP		**PKiKP**	**05 24 00.3**	**-0.5**
DPC	**Dobruska-Polom**	**146.79**	**349**		*e*PKP		**PKiKP**	**05 24 00.4**	**-0.9**
MAUC	**Maruska**	**147.44**	**347**		*e*PKP		**PKPab**	**05 24 02.1**	**-0.2**
MLR	**Muntele Rosu**	**148.36**	**335**		PKPbc		**PKPbc**	**05 24 03.2**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=81,slow=4.9,SNR=3.7								
KHC	**Kasperske Hory**	**148.40**	**352**		*e*PKP		**PKiKP**	**05 24 04.1**	**-0.5**
BRTR	**Keskin Array B**	**148.44**	**319**		PKPbc		**PKiKP**	**05 24 05.0**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=129,slow=3.3,SNR=8.9								
GERES	**GERESS Array B**	**148.66**	**352**		PKPbc		**PKiKP**	**05 24 05.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=35,slow=3.3,SNR=11								
CONA	**Conrad Observa**	**149.21**	**349**		*i* P		**PKiKP**	**05 24 07.0**	**+0.7**
	comp=Z,8.5nm,1.2s,SNR=4.4								
RONA	**Rosalia, Austr**	**149.34**	**348**		*e*P		**PKiKP**	**05 24 07.2**	**+0.6**
	comp=Z,6.5nm,1.0s								
ARSA	**Arzberg**	**149.92**	**349**		*e*P		**PKiKP**	**05 24 08.1**	**+0.4**
	comp=Z,3.9nm,1.1s								
RETA	**Reutte**	**150.33**	**355**		*e*P		**PKiKP**	**05 24 09.1**	**+0.4**
	comp=Z,12nm,1.4s								
WATA	**Walderalm**	**150.40**	**354**		*e*P		**PKiKP**	**05 24 09.8**	**+0.9**
	comp=Z,7.8nm,1.0s								
MOTA	**Moosalm**	**150.44**	**355**		*e*P		**PKiKP**	**05 24 09.7**	**+0.7**
	comp=Z,8.6nm,1.0s								
WTTA	**Wattenberg**	**150.47**	**354**		*i* P		**PKiKP**	**05 24 09.7**	**+0.6**
	comp=Z,9.5nm,0.8s,SNR=4.4								
SQTA	**Sankt Quirin**	**150.55**	**354**		*e*P		**PKiKP**	**05 24 09.9**	**+0.7**
	comp=Z,5.7nm,0.7s								
SOKA	**Soboth**	**150.56**	**349**		*e*P		**PKiKP**	**05 24 09.5**	**+0.3**
	comp=Z,5.8nm,1.0s								
FETA	**Feichten**	**150.79**	**355**		*e*P		**PKiKP**	**05 24 10.7**	**+1.0**
	comp=Z,7.4nm,1.1s								
ABTA	**Abfaltersbach**	**150.88**	**353**		*i* P		**PKiKP**	**05 24 10.2**	**+0.3**
	comp=Z,6.7nm,0.7s,SNR=6.0								
DAVOX	**Davos/Dischmat**	**151.09**	**356**		PKPbc		**PKiKP**	**05 24 11.5**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=142,slow=5.8,SNR=5.7								
ESDC	**Sonseca Array**	**156.20**	**22**		PKPab		**PKPab**	**05 24 40.5**	**+1.4**
	comp=Z,1.6nm,1.1s,baz=337,slow=5.6,SNR=3.4								

*ATH **25** 05:10:52.6,37.31N×20.48E,h12km±2km, ML2.5/3, Error ellipse: s-maj=4.3km s-min=2.1km az=55.0*
*THE **25** 05:10:54.0,37.36N×20.54E,h0km±5km, ML2.7/4, Error ellipse: s-maj=6.1km s-min=1.2km az=216.0*

ISC 25 05:10:52.7±2.3, 37.32N±0.08×20.48E±0.08, h15km±10km, n22, σ0.59/33, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.48**	**36**	P		**Pg**	**05 11 02.1**	**-0.2**
LTHK				S		**Sg**	**05 11 07.7**	**-1.1**
	1μm,0.2s							
LTHK	**Lithakia**	**0.48**	**36**	P		**Pg**	**05 11 02.2**	**-0.2**
LTHK				S		**Sg**	**05 11 08.1**	**-0.7**
LTHK				AML		AML	05 11 10.5	
	comp=E,1862μm,0.1s							
LTHK				AML		AML	05 11 14.9	
	comp=N,2600μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.80**	**6**	P		**Pb**	**05 11 07.9**	**-0.3**
PSDA				S		**Sg**	**05 11 19.9**	**+1.2**
	comp=N,268nm,0.2s							
PSDA	**Pessada-Kefalo**	**0.80**	**6**	P		**Pb**	**05 11 08.5**	**+0.2**
PSDA				S		**Sg**	**05 11 19.5**	**+0.7**
VLS	**Valsamata**	**0.86**	**6**	P		**Pb**	**05 11 08.7**	**-0.6**
VLS	**Valsamata**	**0.86**	**6**	P		**Pb**	**05 11 08.3**	**-1.1**
VLS				S		**Sb**	**05 11 20.4**	**-0.3**
VLS				AML		AML	05 11 23.6	
	comp=N,275μm,0.2s							
VLS				AML		AML	05 11 24.8	
	comp=E,358μm,0.2s							
KEF3	**Kipouria, Keph**	**0.89**	**353**	P		**Pb**	**05 11 09.7**	**-0.1**
KEF3				S		**Sn**	**05 11 22.7**	**-0.5**
	comp=E,820nm,0.4s							
KEF3	**Kipouria, Keph**	**0.89**	**353**	P		**Pb**	**05 11 09.6**	**-0.1**
KEF3				S		**Sg**	**05 11 22.5**	**+0.9**
DMLN	**Damoulianata-K**	**0.92**	**355**	P		**Pb**	**05 11 10.9**	**+0.5**
KEF4	**Livadi, Kephal**	**0.94**	**357**	P		**Pb**	**05 11 11.1**	**+0.4**
KEF4				S		**Sn**	**05 11 24.5**	**+0.1**
	comp=E,1μm,0.3s							
KEF4	**Livadi, Kephal**	**0.94**	**357**	P		**Pb**	**05 11 10.5**	**-0.1**
KEF4				S		**Sn**	**05 11 24.0**	**-0.4**
RLS	**Riolos of Patr**	**1.07**	**46**	P		**Pn**	**05 11 13.4**	**+0.2**
RLS	**Riolos of Patr**	**1.07**	**46**	P		**Pb**	**05 11 12.7**	**-0.2**
PYL	**PYLOS**	**1.09**	**112**	P		**Pn**	**05 11 13.2**	**-0.3**
FSK	**Fiskardo**	**1.14**	**3**	P		**Pn**	**05 11 13.4**	**-0.6**
FSK				S		**Sn**	**05 11 29.1**	**-0.3**
ITM	**Ithomi**	**1.16**	**96**	P		**Pb**	**05 11 14.8**	**+0.3**
EVGI	**Lefkada island**	**1.31**	**6**	P		**Pn**	**05 11 16.3**	**-0.1**
LKD2	**Lefkada island**	**1.47**	**5**	P		**Pb**	**05 11 20.1**	**+0.3**
LAKA	**Lakka**	**1.50**	**52**	P		**Pb**	**05 11 20.9**	**+0.6**
TSLK	**Tsoukalades, L**	**1.51**	**5**	P		**Pb**	**05 11 20.0**	**-0.4**
TSLK				S		**Sb**	**05 11 40.5**	**+1.2**
TSLK				AML		AML	05 11 49.2	
	comp=N,294μm,1.2s							
TSLK				AML		AML	05 11 51.4	
	comp=E,239μm,0.7s							
EFP	**Efpalio**	**1.58**	**45**	P		**Pb**	**05 11 22.1**	**+0.5**
ANX	**Ano Chora**	**1.71**	**41**	P		**Pb**	**05 11 24.2**	**+0.4**

*IDC **25** 05:12:53.0±1.1,23.01N×125.17E,h0km,mb3.8/6, mbtmp3.8/7,ML4.1/1,MS3.1/8,Error ellipse: s-maj=45.8km s-min=19.3km az=69.0*
*JMA **25** 05:12:56.8±0.3,23.1N±1.1×125.0E±0.7,h63km,MV3.9/14, FAR S OFF ISHIGAKIJIMA*
*NIED **25** 05:12:56.8,23.06N×125.02E,h63km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.58; Mθθ1.56; Mφφ0.02; Mrθ0.75; Mθφ-0.21; Mφr-0.23; Fault plane solution: M0 1.77000×10^15 NP1:φ94.00000°, δ32.00000°,λ-97.00000°. NP2:φ282.00000°,δ58.00000°, λ-86.00000°.*

ISC 25 05:12:53.5±2.2, 23.09N±0.08×125.09E±0.05, h4km±13km, n27, σ1.9/20/29, mb3.8/6, MS3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**1.51**	**319**	P		**Pg**	**05 13 22.3**	**-0.2**
JKRS				*e*S		**Sn**	**05 13 40.8**	**-0.7**
HATJ	**Hateruma jima**	**1.52**	**310**	P		**Pb**	**05 13 21.6**	**-0.7**
HATJ				*e*S		**Sn**	**05 13 40.2**	**-1.4**
JIJ	**Ishigaki jima**	**1.54**	**326**	P		**Pb**	**05 13 22.3**	**-0.2**
JIJ				S		**Sn**	**05 13 40.7**	**-1.3**
JTJ	**Tarama**	**1.58**	**347**	P		**Pb**	**05 13 23.6**	**+0.2**
JTJ				*e*S		**Sn**	**05 13 43.4**	**+0.2**
JISG	**Ishigakijimahi**	**1.65**	**335**	P		**Pb**	**05 13 24.2**	**-0.3**
JISG				*e*S		**Sn**	**05 13 44.3**	**-0.6**
JMJ2	**Miyako jima3**	**1.66**	**8**	P		**Pb**	**05 13 24.4**	**-0.2**
JIRB	**Irabujima**	**1.73**	**3**	P		**Pb**	**05 13 25.6**	**-0.2**
JIRB				*e*S		**Sn**	**05 13 46.9**	**0.0**
IRIF	**Iriomote-Funau**	**1.76**	**315**	P		**Pb**	**05 13 25.4**	**-0.8**
IRIF				*e*S		**Sn**	**05 13 46.3**	**-1.2**
JIKM	**Ikemajima**	**1.83**	**5**	P		**Pb**	**05 13 27.0**	**-0.5**
YOJ	**Yonaguni jima**	**2.34**	**306**	P		**Pn**	**05 13 33.2**	**+0.5**
YOJ				*e*S		**Sn**	**05 13 59.6**	**-2.3**
JYNG	**Yonagunijimaku**	**2.38**	**305**	P		**Pn**	**05 13 33.7**	**+0.4**
JYNG				S		**Sn**	**05 14 00.9**	**-2.1**
JKE	**Kume jima 2**	**3.57**	**25**	P		**Pn**	**05 13 49.8**	**+0.1**
JOW	**Kunigami**	**4.72**	**37**	Pn		**Pn**	**05 14 05.8**	**+0.4**
	17nm,0.3s,baz=197,slow=13,SNR=24							
JOW				Sn		**Sn**	**05 14 57.1**	**-3.5**
	7.2nm,0.3s,baz=117,slow=28,SNR=5.8							
	40nm,0.3s							
KSRS	**Korea Array**	**14.52**	**9**	LR		LR	05 21 42.9	
	comp=Z,36nm,20.2s,baz=175,slow=36							
DAV	**Davao City (W)**	**15.94**	**178**	LR		LR	05 24 30.9	
	comp=Z,26nm,18.1s,baz=352,slow=44							
JCJ	**Chichijima**	**15.99**	**72**	LR		LR	05 22 00.6	
	comp=Z,44nm,20.7s,baz=124,slow=34							
MJAR	**Matsushiro Arr**	**17.56**	**37**	LR		LR	05 23 12.8	
	comp=Z,48nm,19.3s,baz=240,slow=35							
KLR	**Kul'dur**	**26.61**	**10**	LR		LR	05 28 22.6	
	comp=Z,41nm,20.8s,baz=284,slow=35							
LEM	**Lembang**	**34.29**	**212**	LR		LR	05 33 29.8	
	comp=Z,122nm,21.4s,baz=240,slow=36							
MKAR	**Makanchi Array**	**41.62**	**315**	P		**P**	**05 20 44.5**	**+1.8**
	0.6nm,0.6s,baz=101,slow=9.7,SNR=6.6							
	0.6nm,0.6s							
ZALV	**Zalesovo Beam**	**43.13**	**326**	P		**P**	**05 20 55.2**	**+0.4**
	1.2nm,0.4s,baz=106,slow=11,SNR=4.3							
	1.2nm,0.4s							
WRA	**Warramunga Arr**	**43.71**	**167**	P		**P**	**05 20 59.0**	**-1.0**
	1.7nm,0.8s,baz=348,slow=9.0,SNR=14							
	1.7nm,0.8s							
AAK	**Ala-Archa**	**46.01**	**308**	LR		LR	05 40 37.3	
	comp=Z,35nm,20.9s,baz=52,slow=36							
ASAR	**Alice Springs**	**47.26**	**169**	P		**P**	**05 21 27.8**	**-0.2**
	0.3nm,0.6s,baz=353,slow=13,SNR=8.0							
	0.3nm,0.6s							
BVAR	**Borovoye Array**	**50.79**	**320**	P		**P**	**05 21 56.2**	**+1.4**
	0.8nm,0.6s,baz=88,slow=7.6,SNR=4.4							
	0.8nm,0.6s							
AKASG	**Malin Array Be**	**76.05**	**319**	P		**P**	**05 24 42.1**	**+0.1**
	0.2nm,0.3s,baz=64,slow=5.8,SNR=4.3							
	0.2nm,0.3s							
RPZ	**Rata Peaks**	**78.72**	**148**	LR		LR	05 59 34.7	
	comp=Z,21nm,18.6s,baz=190,slow=36							

PGC 25 05:31:25.7,54.36N×117.28W,h3km,ML3.5/17,172km Nne of Jasper, Alberta Alberta, Canada Induced., Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRLDA	**Berland Lookou**	**0.27**	**195**	P		Pg	05 31 30.8	-0.1
BRLDA				S		Sg	05 31 35.2	+0.6
SWHSA	**Sweathouse Loo**	**0.63**	**29**	P		Pg	05 31 37.3	-0.4
SWHSA				S		Sg	05 31 45.8	-0.1
BDMTA	**Bald Mountain**	**1.05**	**296**	P		Pg	05 31 45.1	-0.8
BDMTA				S		Sg	05 31 59.0	-0.6
STPRA	**Salt Prairie L**	**1.55**	**32**	P		Pn	05 31 53.5	-0.8
STPRA				S		Sn	05 32 14.0	-0.9
WTMTA	**White Mountain**	**1.75**	**321**	P		Pn	05 31 57.0	-0.1
WTMTA				S		Sn	05 32 19.5	-0.4
MNB	**Mounoet Dainar**	**2.26**	**197**	Pn		Pn	05 32 04.4	+0.2
MNB				Sn		Sn	05 32 32.5	-0.1
NBC4	**NorthernBC 4**	**2.36**	**306**	P		Pn	05 32 05.1	-0.3
NBC4				Sn		Sn	05 32 34.2	-0.6
NBC4				Sg		Sb	05 32 37.7	-0.7
EDM	**Edmonton**	**2.59**	**114**	Pn		Pn	05 32 07.5	-1.1
EDM				Sn		Sn	05 32 39.0	-1.6
EDM				Sg		Sb	05 32 44.7	-0.5
BLBC	**Blue River**	**2.60**	**208**	Pn		Pn	05 32 08.6	-0.3
BLBC				Pg		Pb	05 32 11.8	-1.3
SLEB	**Sale Mountain**	**3.24**	**190**	Pn		Pn	05 32 17.7	+0.2
SLEB				Pg		Pb	05 32 24.1	+0.3
SLEB				Sg		Sb	05 33 03.5	-0.2
FSJB	**Fort St James**	**4.10**	**274**	Sn		Sn	05 33 15.7	-2.0
FSJB				Sg		Sb	05 33 32.5	+4.2
FSB	**Fort Saint Jam**	**4.12**	**275**	Sg		Sb	05 33 33.0	+4.1
NBC5	**NorthernBC 5**	**4.39**	**318**	Pn		Pn	05 32 32.7	-0.6
NBC5				Sn		Sn	05 33 21.8	-3.1
NBC6	**NorthernBC 6**	**4.80**	**334**	Pn		Pn	05 32 37.2	-1.5
NBC6				Sn		Sn	05 33 31.2	-3.6
NBC6				Sg		Sb	05 33 53.0	+4.6
PNT	**Penticton**	**5.25**	**197**	Sn		Sn	05 33 42.5	-3.6
PNT				Sg		Sb	05 34 06.4	+5.0
HSPGA	**Hill Springs,**	**5.49**	**154**	Pn		Pn	05 32 48.3	0.0
HSPGA				Sn		Sn	05 33 47.2	-4.7
FNBB	**Fort Nelson**	**5.54**	**328**	Pn		Pn	05 32 48.0	-0.9
FNBB				Sn		Sn	05 33 47.6	-5.4
WALA	**Waterton Lakes**	**5.70**	**157**	Pn		Pn	05 32 50.7	-0.6
WALA				Sn		Sn	05 33 51.7	-5.6
NBC2	**NorthernBC 2**	**6.13**	**335**	Pn		Pn	05 32 55.5	-1.6
NBC2				Sn		Sn	05 34 00.2	-7.5
B08A	**Colville Reser**	**6.14**	**193**	Sn		Sn	05 34 05.2	-2.8
MKRVA	**Milk River, Al**	**6.24**	**145**	Sn		Sn	05 34 04.1	-6.4
FLDN	**Fort Liard**	**6.78**	**333**	Sn		Sn	05 34 18.0	-5.6
LIRD	**Liard River Hi**	**7.00**	**320**	Sn		Sn	05 34 21.8	-7.1

*DJA **25** 05:31:52.7±0.2,6.S±5.×10.7E±.,h247km±2km, M4.7/29, mB5.2/18, mb4.8/29, MLv4.9/22, Mw(mB)4.6/18, MwMwp5.4/1, Mwp5.6/1*
*IDC **25** 05:31:53.1±0.5,5.90S×107.16E,h242km±4km, mb3.8/16, mbtmp4.5/18, Error ellipse: s-maj=14.3km s-min=9.7km az=66.0*
*NEIC **25** 05:31:54.0±2.1,5.97S±0.08×107.18E±0.08, h248km±6km, mb4.3/29, Error ellipse: s-maj=13.2km s-min=9.3km az=46.0*

ISC 25 05:31:53.3±0.4, 6.04S±0.06×107.12E±0.05, h250km, n125, σ1.9/41/138, mb4.2/32, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNG	**Tangerang**	**0.49**	**255**	P		Pn	05 32 31.7	+5.6
LEM	**Lembang**	**0.92**	**148**	P		**Pn**	**05 32 28.1**	**0.0**
	258nm,0.6s,baz=353,slow=4.4,SNR=37							
LEM				S		**S**	**05 32 55.1**	**-0.4**
	515nm,0.8s,baz=341,slow=22,SNR=11							
SBJI	**Serang**	**0.99**	**265**	P		**Pn**	**05 32 28.7**	**+0.5**
SKJI	**Sukabumi**	**1.11**	**210**	P		**Pn**	**05 32 28.5**	**-0.5**
SKJI				S		**S**	**05 32 55.7**	**-1.4**
JCJI	**Jatiwangi**	**1.23**	**111**	P		**Pn**	**05 32 30.0**	**+0.3**
JCJI				S		**S**	**05 32 59.2**	**+1.0**
BBJI	**Bungbulang**	**1.51**	**160**	P		**Pn**	**05 32 30.5**	**-1.2**
KASI	**Kota Agung**	**2.66**	**281**	P		**Pn**	**05 32 43.3**	**+1.1**
KASI				S		**S**	**05 33 19.1**	**-1.7**
LWLI	**Liwa**	**3.21**	**288**	P		**Pn**	**05 32 49.9**	**+1.7**
LWLI				S		**S**	**05 33 32.1**	**+0.4**
SMRI	**Semarang**	**3.45**	**107**	Pn		**Pn**	**05 32 51.1**	**+0.3**
SMRI	**Semarang**	**3.45**	**107**	P		**Pn**	**05 32 51.4**	**+0.7**
SMRI	**Semarang**	**3.45**	**107**	P		**Pn**	**05 32 51.3**	**+0.6**
YOGI	**Yogyakarta**	**3.61**	**119**	P		**Pn**	**05 32 51.5**	**-1.1**
UGM	**Wanagama**	**3.85**	**119**			**Pn**	**05 32 54.1**	**-1.3**
UGM	**Wanagama**	**3.85**	**119**	P		**Pn**	**05 32 53.6**	**-1.8**
UGM	**Wanagama**	**3.85**	**119**	P		**Pn**	**05 32 54.4**	**-1.0**
PMBI	**Palembang**	**3.88**	**323**	P		**Pn**	**05 32 58.2**	**+2.5**
PPBI	**Pangkal Pinang**	**3.98**	**346**	P		**Pn**	**05 32 56.0**	**-0.9**
LHSI	**Lahat**	**4.21**	**301**	P		**Pn**	**05 32 59.2**	**-0.3**
MNAI	**Manna**	**4.47**	**292**			**Pn**	**05 33 03.4**	**+0.7**
MNAI	**Manna**	**4.47**	**292**	P		**Pn**	**05 33 03.9**	**+1.2**
MNAI				S		**S**	**05 33 55.2**	**-2.8**
MNAI	**Manna**	**4.47**	**292**	P		**Pn**	**05 33 04.2**	**+1.5**
NGJI	**Ngawi**	**4.51**	**107**	P		**Pn**	**05 33 04.4**	**+1.3**
XMI	**Christmas Isla**	**4.60**	**198**	P		**Pn**	**05 33 02.5**	**-1.8**
TBJI	**Tambak Boyo**	**4.76**	**100**	P		**Pn**	**05 33 07.0**	**+0.8**
PWJI	**Pagerwojo**	**5.05**	**113**	P		**Pn**	**05 33 08.5**	**-1.2**
	0.7nm3μm177nm,0.7s							
KSI	**Kapahiang**	**5.10**	**298**	P		**Pn**	**05 33 10.0**	**-0.4**
GRJI	**Gresik**	**5.39**	**100**	P		**Pn**	**05 33 14.5**	**+0.6**
	2.1nm5μm594nm,0.8s							
MASI	**Maura Aman, Be**	**5.65**	**300**	P		**Pn**	**05 33 18.9**	**+1.7**
	0.9nm3μm216nm,1.1s							
DSRI	**Dabo**	**6.08**	**335**	P		**Pn**	**05 33 23.6**	**+1.1**
GMJI	**Gumukmas**	**6.65**	**110**	P		**Pn**	**05 33 28.8**	**-0.8**
	0.2nm2μm55nm,0.8s							
KMMI	**Kalianget**	**6.88**	**99**	P		**Pn**	**05 33 33.5**	**+1.1**
	0.5nm3μm144nm,0.9s							
ABJI	**Asem Bagus**	**7.27**	**104**	P		**Pn**	**05 33 38.6**	**+1.2**
	1.1nm3μm353nm,0.8s							
JAGI	**Jajag, Banyuwa**	**7.38**	**109**	Pn		**Pn**	**05 33 36.6**	**-2.2**
JAGI	**Jajag, Banyuwa**	**7.38**	**109**	P		**Pn**	**05 33 36.6**	**-2.2**
	0.6nm3μm148nm,0.7s							
JAGI	**Jajag, Banyuwa**	**7.38**	**109**	P		**Pn**	**05 33 37.1**	**-1.7**
SDSI	**Sungai Dareh**	**7.62**	**312**	P		**Pn**	**05 33 42.0**	**+0.2**
	0.6nm5μm73nm,0.7s							
PPSI	**Pulau Pagai**	**7.80**	**294**	P		**Pn**	**05 33 43.9**	**-0.2**
	2.1nm8μm547nm,0.6s							
SRBI	**Singaraja**	**8.28**	**105**	P		**Pn**	**05 33 49.2**	**-1.0**
	2μm97nm,0.5s							
PDSI	**Padang**	**8.37**	**307**	P		**Pn**	**05 33 50.6**	**-0.8**
MYKOM	**Kota Tinggi**	**8.44**	**337**	Pn		**Pn**	**05 33 52.8**	**+0.6**
BKNI	**Bangkinang**	**8.77**	**316**			**Pn**	**05 33 56.4**	**0.0**
BKNI	**Bangkinang**	**8.77**	**316**	P		**Pn**	**05 33 57.2**	**+0.8**
	2μm161nm,0.6s							
BKNI	**Bangkinang**	**8.77**	**316**	P		**Pn**	**05 33 57.4**	**+1.0**
SISI	**Saibi**	**9.28**	**300**	P		**Pn**	**05 34 01.6**	**-1.3**
	4μm211nm,1.0s							
TWSI	**Taliwang, Sumb**	**10.04**	**106**	P		**Pn**	**05 34 09.2**	**-3.3**
	1μm37nm,0.5s							
MNSI	**Mandailing Nat**	**10.14**	**312**	P		**Pn**	**05 34 12.4**	**-1.3**
	3μm229nm,0.7s							
PBSI	**Pulau Batu**	**10.64**	**304**	P		**Pn**	**05 34 18.0**	**-2.0**
	250nm,1.2s							
PLAI

comp=Z,2.8nm,0.7s
XLT XiLinHaoTe 50.37 8 || *i*P P 05 40 26.3 +1.1
XLT pmax pmax
comp=Z,17nm,1.0s
XLT pmax pmax
comp=Z,110nm,5.3s
WMQ Urumqi 52.65 342 *e*P P 05 40 44.0 +2.0
SONM Songino Array 53.65 359 P P 05 40 50.3 +1.0
comp=Z,4.0nm,0.6s,baz=168,slow=7.5,SNR=25
SONM PcP **PcP** 05 41 51.8 -0.4
comp=Z,0.6nm,0.5s,baz=178,slow=4.0,SNR=5.0
SONM ScP **ScP** 05 45 24.0 -2.0
comp=Z,0.3nm,0.4s,baz=203,slow=3.0,SNR=4.5
comp=Z,4.0nm,0.6s
SONM Songino Array 53.65 359 P P 05 40 50.2 +1.0
USRK Ussuriysk Ar. 54.81 22 P P 05 40 57.5 -0.1
comp=Z,4.4nm,0.5s,baz=208,slow=7.8,SNR=10
comp=Z,4.4nm,0.5s
MK31 Makanchi Array 57.03 340 P P 05 41 11.9 -1.4
MKAR Makanchi Array 57.03 340 P P 05 41 12.2 -1.1
comp=Z,0.8nm,0.5s,baz=150,slow=8.2,SNR=7.7
comp=Z,0.8nm,0.5s
HEH HeiHe 58.76 15 *e*P P 05 41 24.6 -0.5
HEH pmax pmax
comp=Z,18nm,0.5s
DZM Mont Dzumac 59.35 112 P P 05 41 30.6 +0.7
DZM IAmb IAmb 05 41 31.6
comp=Z,5.3nm,0.8s
OUENC Ouen Island, N 59.76 112 P P 05 41 33.5 +1.0
OUENC IAmb IAmb 05 41 47.6
comp=Z,11nm,1.0s
VOI Vohitsoka 60.27 248 P P 05 41 38.3 +2.1
VOI IAmb IAmb 05 41 45.6
comp=Z,18nm,1.5s
KURK Kurchatov 61.65 340 P P 05 41 43.5 -1.1
WHZ Wether Hill Ro 65.58 138 P P 05 42 09.7 -0.8
MAW Mawson 68.31 197 P P 05 42 30.0 +2.9
comp=Z,2.6nm,0.7s,baz=63,slow=6.5,SNR=8.0
comp=Z,2.6nm,0.7s
MAW Mawson 68.31 197 P P 05 42 28.8 +1.6
ABKAR Akbulak array 68.66 329 P P 05 42 28.3 -1.3
RTZ Ruatahuna 70.53 129 P P 05 42 41.0 -0.4
PEA0B Petropavlovsk- 72.70 29 P P 05 42 53.2 -0.7
PETK Petropavlovsk- 72.70 29 P P 05 42 52.0 -1.9
comp=Z,2.8nm,0.6s,baz=224,slow=7.4,SNR=4.1
comp=Z,2.8nm,0.6s
VNDA Vanda 76.88 169 P P 05 43 19.0 +1.6
comp=Z,2.6nm,0.5s,baz=314,slow=6.4,SNR=45
comp=Z,2.6nm,0.5s
VNDA Vanda 76.88 169 P P 05 43 19.0 +1.6
VNDA IAmb IAmb 05 43 19.7
comp=Z,11nm,1.4s
SBA Scott Base 77.95 169 P P 05 43 24.5 +1.2
SBA IAmb IAmb 05 43 26.7
comp=Z,3.5nm,0.8s
LBTB Lobatse 79.81 246 P P 05 43 35.8 +1.3
LBTB IAmb IAmb 05 43 36.8
comp=Z,4.2nm,0.8s
BOSA Boshof 80.01 242 P P 05 43 36.8 +1.2
comp=Z,2.8nm,0.9s,baz=108,slow=3.4,SNR=4.0
comp=Z,2.8nm,0.9s
BRTR Keskin Array B 81.28 312 P P 05 43 40.6 -1.5
comp=Z,0.6nm,0.7s,baz=92,slow=7.2,SNR=2.8
comp=Z,0.6nm,0.7s
AKASG Malin Array Be 87.03 321 P P 05 44 09.0 -1.5
comp=Z,0.3nm,0.5s,baz=86,slow=5.0,SNR=5.5
comp=Z,0.3nm,0.5s
TXAR Lajitas Array 142.84 48 PKP **PKPdf** 05 50 55.4 -2.4
comp=Z,0.3nm,0.5s,baz=213,slow=1.9,SNR=3.9
CPUP Villa Florida 144.46 204 PKP **PKPdf** 05 51 01.3 +0.7
comp=Z,5.9nm,0.7s,baz=172,slow=2.2,SNR=17
BDFB Brasilia 147.28 229 PKPbc **PKiKP** 05 51 09.8 -0.7
comp=Z,5.0nm,0.5s,baz=139,slow=4.0,SNR=11
TKL Tuckaleechee C 148.87 17 PKPbc **PKPbc** 05 51 11.2 -0.8
comp=Z,6.4nm,0.8s,baz=137,slow=3.7,SNR=9.5
LPAZ La Paz 157.32 192 PKPab **PKPab** 05 51 55.5 +2.2
comp=Z,1.1nm,0.6s,baz=170,slow=1.8,SNR=3.0

*SNET **25** 05:41:39.6±3.5, 11°.98N×88°.47W, h10km, ML4.1, ML3.8*
*INET **25** 05:41:41.6±0.8, 11°.98N×88°.51W, h15km±15km, MW4.1*
*IDC **25** 05:41:42.2±1.5, 12°.87N×87°.82W, h0km, mb4.0/5, mbtmp4.0/7, ML3.6/2, MS3.1/5, Error ellipse: s-maj=49.7km s-min=25.6km az=43.0*
*NEIC **25** 05:41:43.9±1.9, 12°.35N±0°.07×88°.25W±0°.06, h10km±2km, mb4.4/26, Md4.1(SNET), Error ellipse: s-maj=14.8km s-min=3.1km az=221.0*
*UCR **25** 05:41:43.9±1.5, 12°.23N×88°.44W, h20km±11km, ML3.6, mb4.4(NEIC)*
ISC 25 05:41:43.0±0.6, 12°.31N±0°.04×88°.36W±0°.04, h10km, n117, σ1°33/120, mb4.3/14, MS3.2/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.03**	**348**	*e*S		**Sb**		**05 42 17.2**	**+0.7**
ALJI	**Alcalda de J**	**1.03**	**348**	*e*S		**Sb**		**05 42 17.2**	**+0.7**
CNCH	**Conchagua**	**1.08**	**28**	*e*P		**Pn**		**05 42 05.7**	**+1.3**
CNCH	**Conchagua**	**1.08**	**28**	*e*P		**Pn**		**05 42 05.7**	**+1.3**
LCND	**La Caada**	**1.09**	**25**	*e*P		**Pn**		**05 42 05.2**	**+0.8**
LCND	**La Caada**	**1.09**	**25**	*e*P		**Pn**		**05 42 05.2**	**+0.8**
PACA	**Pacayal**	**1.15**	**2**	*e*P		**Pn**		**05 42 06.8**	**+1.4**
PACA	**Pacayal**	**1.15**	**2**	*e*P		**Pn**		**05 42 06.8**	**+1.4**
PACA	**Pacayal**	**1.15**	**2**	*e*P		**Pn**		**05 42 06.4**	**+1.1**
COEB	**Comit de Eme**	**1.19**	**352**	*e*P		**Pg**		**05 42 06.4**	**+0.4**
COEB	**Comit de Eme**	**1.19**	**352**	*e*P		**Pg**		**05 42 06.4**	**+0.4**
PQSS	**Presa 15 de Se**	**1.32**	**351**	*e*P		**Pg**		**05 42 08.6**	**+0.2**
PQSS	**Presa 15 de Se**	**1.32**	**351**	*e*P		**Pg**		**05 42 08.6**	**+0.2**
CRIN	**San Cristobal**	**1.33**	**73**			**Pn**		**05 42 08.4**	**+0.6**
CRIN	**San Cristobal**	**1.33**	**73**	*e*P		**Pn**		**05 42 08.1**	**+0.3**
CRIN				*e*S		**Sg**		**05 42 27.9**	**+1.9**
COEG	**Centro de Oper**	**1.40**	**339**	*e*P		**Pn**		**05 42 08.8**	**+0.1**
COEG	**Centro de Oper**	**1.40**	**339**	*e*P		**Pn**		**05 42 08.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.43**	**345**	*e*P		**Pb**		**05 42 10.0**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.43**	**345**	*e*P		**Pb**		**05 42 10.0**	**+0.2**
SJTE	**Alcalda de S**	**1.44**	**334**	*e*P		**Pn**		**05 42 09.1**	**-0.2**
SJTE	**Alcalda de S**	**1.44**	**334**	*e*P		**Pn**		**05 42 09.1**	**-0.2**
LFRS	**El Faro**	**1.47**	**332**	*e*P		**Pn**		**05 42 09.7**	**-0.1**
LFRS	**El Faro**	**1.47**	**332**	*e*P		**Pn**		**05 42 09.7**	**-0.1**
SNET	**Serv Nac Est T**	**1.61**	**328**	Pn		**Pn**		**05 42 11.8**	**+0.1**
CNGN	**Cerro Negro**	**1.63**	**83**			**Pn**		**05 42 10.8**	**-1.0**
JAYA	**Jayaque - finc**	**1.71**	**321**	*e*P		**Pn**		**05 42 13.1**	**+0.1**
JAYA				IAML				05 42 43.3	
comp=Z,849nm,0.2s									
JAYA	**Jayaque - finc**	**1.71**	**321**	*e*P		**Pn**		**05 42 13.1**	**+0.1**
JAYA				IAML				05 42 43.3	
comp=Z,849nm,0.2s									
P5NO	**Presa 5 de nov**	**1.71**	**347**	*e*P		**Pb**		**05 42 14.2**	**-0.4**
P5NO				*e*S		**Sg**		**05 42 37.7**	**-0.3**
MOMN	**Momotombo**	**1.78**	**87**	*e*P		**Pn**		**05 42 12.8**	**-1.0**
CEDA	**San Andres**	**1.79**	**326**	*e*P		**Pn**		**05 42 14.0**	**-0.1**
CEDA				*e*S		**Sn**		**05 42 37.0**	**0.0**
CEDA	**San Andres**	**1.79**	**326**	*e*P		**Pn**		**05 42 14.0**	**-0.1**
CEDA				*e*S		**Sn**		**05 42 37.0**	**0.0**
RTR	**El Retiro**	**2.02**	**322**	*e*P		**Pn**		**05 42 17.7**	**+0.4**
RTR	**El Retiro**	**2.02**	**322**	*e*P		**Pn**		**05 42 17.7**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.03**	**31**			**Pn**		**05 42 17.9**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.03**	**31**	*e*P		**Pb**		**05 42 19.4**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.03**	**31**	*e*P		**Pb**		**05 42 19.4**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.03**	**31**	*e*P		**Pb**		**05 42 19.3**	**-0.8**
NUBE	**Las Nubes**	**2.10**	**319**	*e*P		**Pn**		**05 42 18.3**	**-0.2**
NUBE				*e*S		**Sn**		**05 42 44.3**	**-0.5**
NUBE	**Las Nubes**	**2.10**	**319**	*e*P		**Pn**		**05 42 18.3**	**-0.2**
NUBE				*e*S		**Sn**		**05 42 44.3**	**-0.5**
WILN	**Americas 2**	**2.12**	**94**	*e*P		**Pn**		**05 42 18.1**	**-0.5**
SLOZ	**Alcaldia de Sa**	**2.20**	**321**	*e*P		**Pn**		**05 42 20.2**	**+0.5**
MTO3	**Montecristo**	**2.29**	**335**			**Pn**		**05 42 21.6**	**+0.5**
MTO3	**Montecristo**	**2.29**	**335**	*e*P		**Pn**		**05 42 22.2**	**+1.0**
MTO3	**Montecristo**	**2.29**	**335**	*e*P		**Pn**		**05 42 22.2**	**+1.0**
MTO3	**Montecristo**	**2.29**	**335**	*e*P		**Pn**		**05 42 22.3**	**+1.1**
ESQI	**Esquipulas**	**2.43**	**337**			**Pn**		**05 42 24.4**	**+1.5**
MATN	**Matagalpa**	**2.45**	**75**			**Pn**		**05 42 22.8**	**-0.4**
MATN	**Matagalpa**	**2.45**	**75**	*e*P		**Pn**		**05 42 21.7**	**-1.5**
ACON	**Acoyapa**	**3.13**	**96**	Pn		**Pn**		**05 42 31.1**	**-1.3**
ORTG	**Ortega, Santa**	**3.44**	**124**	Pn		**Pn**		**05 42 35.1**	**-1.7**
ORTG	**Ortega, Santa**	**3.44**	**124**	*e*P		**Pn**		**05 42 40.3**	**+3.5**
DUNO	**Dulce Nombre,**	**3.58**	**128**			**Pn**		**05 42 37.0**	**-1.6**
DUNO	**Dulce Nombre,**	**3.58**	**128**	*e*P		**Pn**		**05 42 37.6**	**-1.1**
NICO	**Nicoya**	**3.58**	**127**	*e*P		**Pn**		**05 42 40.6**	**+1.9**
POPE	**POPE, Guanacas**	**3.77**	**126**	*e*P		**Pn**		**05 42 39.8**	**-1.4**
JTS	**Las Juntas de**	**3.90**	**121**	Pn		**Pn**		**05 42 43.2**	**+0.1**
comp=Z,2.6nm,0.3s,baz=9.7,slow=22,SNR=14									
JTS				Sn		**Sn**		**05 43 25.1**	**-3.8**
comp=Z,5.4nm,0.3s,baz=38,slow=18,SNR=4.2									
JTS				LR		LR		05 44 01.7	
comp=Z,63nm,19.4s,baz=7.5,slow=37									
comp=Z,6.4nm,0.4s									
JTS	**Las Juntas de**	**3.90**	**121**			**Pn**		**05 42 42.8**	**-0.3**
JTS	**Las Juntas de**	**3.90**	**121**	*e*P		**Pn**		**05 42 43.7**	**+0.6**
ESPN	**Las Esperanzas**	**3.96**	**91**			**Pn**		**05 42 42.5**	**-1.5**
ESPN	**Las Esperanzas**	**3.96**	**91**	*e*P		**Pn**		**05 42 47.9**	**+4.0**
LAFE	**Finca La Fe, P**	**4.20**	**126**	*e*P		**Pn**		**05 42 45.8**	**-1.4**
JACO	**JACO, Garabito**	**4.48**	**126**	Pn		**Pn**		**05 42 51.2**	**+0.1**
JACO	**JACO, Garabito**	**4.48**	**126**	*e*P		**Pn**		**05 42 54.1**	**+3.0**
OCM	**Ochomogo**	**4.94**	**119**	*e*P		**Pn**		**05 42 59.0**	**+1.5**
LCR2	**La Lucha 2**	**4.98**	**120**	*e*P		**Pn**		**05 43 00.4**	**+2.3**
HAYA	**Volcan Irazu**	**5.00**	**117**	*e*P		**Pn**		**05 43 02.2**	**+3.6**
RAFA	**San Farael, Vo**	**5.04**	**117**	*e*P		**Pn**		**05 43 02.7**	**+3.7**
RIMA	**Rio Macho**	**5.08**	**119**			**Pn**		**05 43 00.0**	**+0.5**
VTCV	**VTCV, Calle Va**	**5.10**	**117**	*e*P		**Pn**		**05 43 03.3**	**+3.5**
CDM	**Cerro de Muert**	**5.28**	**121**	*e*P		**Pn**		**05 43 02.9**	**+0.5**
MRVA	**Moravia de Chi**	**5.42**	**117**	*e*P		**Pn**		**05 43 06.1**	**+2.0**
PEZE	**Perez Zeledon,**	**5.44**	**122**			**Pn**		**05 43 04.3**	**0.0**
PEZE	**Perez Zeledon,**	**5.44**	**122**	*e*P		**Pn**		**05 43 04.5**	**+0.2**
SRBA	**San Rafael, Bu**	**5.78**	**121**	Pn		**Pn**		**05 43 09.3**	**+0.2**
CMIG	**Matias Romero**	**7.90**	**308**	Pn		**Pn**		**05 43 39.5**	**+1.4**
comp=Z,1.1nm,0.3s,baz=149,slow=8.2,SNR=24									
comp=Z,2.1nm,0.3s									
TLIG	**Tlapa**	**11.16**	**299**	Pn		**Pn**		**05 44 25.0**	**+2.1**
SLOR	**San Lorenzo -**	**16.24**	**142**	Pn		**Pn**		**05 45 33.1**	**+1.2**
ZAIG	**Zacatecas**	**17.07**	**309**	P		**P**		**05 45 45.8**	**+1.8**
HKT	**Hockley**	**18.87**	**340**			**P**		**05 46 03.3**	**-0.1**
833A	**Chaparral WMA,**	**18.98**	**329**	P		**P**		**05 46 05.4**	**+0.7**
833A				IAmb		IAmb		05 46 06.4	
comp=Z,30nm,0.7s									
352A	**Blakely**	**19.34**	**9**	P		**P**		**05 46 07.5**	**-1.1**
352A				IAmb		IAmb		05 46 11.6	
comp=Z,22nm,0.8s									
VBMS	**Vicksburg**	**19.91**	**355**	P		**P**		**05 46 15.1**	**+0.2**
NATX	**Nacogdoches**	**20.21**	**344**	P		**P**		**05 46 19.3**	**+1.2**
NATX				IAmb		IAmb		05 46 20.2	
comp=Z,10.0nm,0.8s									
435B	**Jarrell**	**20.27**	**337**	P		**P**		**05 46 18.1**	**-0.7**
435B				IAmb		IAmb		05 46 19.5	
comp=Z,17nm,1.1s									
237A	**Washetta, Mont**	**20.76**	**342**	P		**P**		**05 46 24.9**	**+0.7**
JCT	**Junction City**	**20.96**	**331**	P		**P**		**05 46 26.2**	**-0.1**
JCT				IAmb		IAmb		05 46 26.9	
comp=Z,19nm,1.3s									
GOGA	**Godfrey**	**21.47**	**11**	P		**P**		**05 46 32.5**	**+0.8**
GOGA				IAmb		IAmb		05 46 35.4	
comp=Z,18nm,1.4s									
Y49A	**Blount Mountai**	**21.52**	**4**	P		**P**		**05 46 32.7**	**+0.3**
ATAH	**Atahualpa**	**21.71**	**152**	LR		LR		05 54 10.6	
comp=Z,58nm,20.2s,baz=357,slow=34									
TXAR	**Lajitas Array**	**22.13**	**322**	P		**P**		**05 46 39.7**	**+0.6**
comp=Z,3.0nm,0.7s,baz=146,slow=11,SNR=21									
comp=Z,3.0nm,0.7s									
TXAR	**Lajitas Array**	**22.13**	**322**	P		**P**		**05 46 38.8**	**-0.2**
TX31	**Lajitas Ar. Si**	**22.13**	**322**	P		**P**		**05 46 39.0**	**-0.1**
TX31				IAmb		IAmb		05 46 41.4	
comp=Z,10nm,0.8s									
TX32	**Lajitas Array**	**22.13**	**322**	P		**P**		**05 46 39.2**	**+0.1**
HODGE	**Hodges**	**22.52**	**13**	P		**P**		**05 46 42.8**	**-0.2**
HODGE				IAmb		IAmb		05 46 44.7	
comp=Z,7.3nm,0.6s									
MIAR	**Mount Ida**	**22.64**	**349**	P		**P**		**05 46 44.1**	**-0.2**
MIAR				IAmb		IAmb		05 46 46.9	
comp=Z,16nm,1.3s									
ABTX	**Abilene, Hawle**	**22.71**	**335**	P		**P**		**05 46 44.5**	**-0.7**
ABTX				IAmb		IAmb		05 46 54.1	
comp=Z,7.1nm,0.7s									
X37A	**Clayton**	**23.07**	**345**			**P**		**05 46 49.0**	**+0.1**
X37A				IAmb		IAmb		05 47 15.4	
comp=Z,25nm,1.4s									
PAULI	**Pauline**	**23.18**	**14**	P		**P**		**05 46 49.7**	**-0.2**
PAULI				IAmb		IAmb		05 46 52.5	
comp=Z,18nm,1.3s									
TKL	**Tuckaleechee C**	**23.61**	**9**	P		**P**		**05 46 52.9**	**-1.3**
comp=Z,10.0nm,1.2s,baz=193,slow=11,SNR=7.1									
TKL	**Tuckaleechee C**	**23.61**	**9**	P		**P**		**05 46 53.3**	**-0.9**
TKL				IAmb		IAmb		05 46 56.0	
comp=Z,10nm,1.1s									
LPIG	**La Paz**	**23.88**	**302**	LR		LR		05 56 18.9	
comp=Z,71nm,19.8s,baz=10.0,slow=36									
W57A	**Gilead**	**23.97**	**17**	P		**P**		**05 46 56.9**	**-0.7**
W57A				IAmb		IAmb		05 47 00.5	
comp=Z,6.0nm,1.0s									
FNO	**Franklin**	**24.27**	**342**			**P**		**05 46 59.9**	**-0.6**
OK030	**Cody Creek RV**	**24.71**	**343**	P		**P**		**05 47 02.8**	**-1.7**
Q54A	**Coxs Mills**	**27.39**	**13**	P		**P**		**05 47 27.7**	**-1.0**
S22A	**4UR Ranch, Cre**	**30.24**	**330**	P		**P**		**05 47 55.1**	**+0.7**
ETMB	**Extrema**	**31.10**	**134**	P		**P**		**05 48 02.4**	**+0.5**
ETMB				IAmb		IAmb		05 48 03.6	
comp=Z,9.0nm,0.7s									
SADO	**Sadowa**	**33.29**	**12**	LR		LR		06 00 48.0	
comp=Z,47nm,18.4s,baz=175,slow=35									
NVAR	**Mina Array Bea**	**37.23**	**320**	P		**P**		**05 48 56.0**	**+0.9**
comp=Z,0.4nm,0.7s,baz=118,slow=9.3,SNR=3.1									
NVAR				PcP		**PcP**		**05 51 15.1**	**+0.2**
comp=Z,0.3nm,0.6s,baz=70,slow=3.0,SNR=3.8									
comp=Z,0.4nm,0.7s									
ULM	**Lac du Bonnet**	**38.33**	**352**	P		**P**		**05 49 01.4**	**-2.5**
comp=Z,5.0nm,0.5s,baz=166,slow=9.1,SNR=8.4									
comp=Z,5.0nm,0.5s									
SCHQ	**Schefferville**	**45.67**	**17**	P		P		05 49 58.9	-5.0
comp=Z,6.1nm,0.9s,baz=223,slow=5.5,SNR=6.3									
comp=Z,6.1nm,0.9s									
ILAR	**Eielson Array**	**65.79**	**336**	P		**P**		**05 52 25.5**	**-2.7**
comp=Z,0.9nm,1.0s,baz=108,slow=3.9,SNR=4.4									
comp=Z,0.9nm,1.0s									
VRAC	**Vranov**	**90.28**	**39**	LR		LR		06 31 43.8	
comp=Z,16nm,18.6s,baz=265,slow=34									
KSH	**Kashi**	**126.41**	**15**	PKP		**PKiKP**		**06 00 50.3**	**+3.0**
WRA	**Warramunga Arr**	**138.38**	**254**	PKP		**PKPdf**		**06 01 10.9**	**+1.2**
comp=Z,0.5nm,0.9s,baz=92,slow=2.8,SNR=3.7									
PZH	**PanZhiHua**	**140.19**	**346**	PKP		**PKPdf**		**06 01 11.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**148.59**	**347**	PKPbc		**PKPbc**		**06 01 30.1**	**-1.2**
comp=Z,1.3nm,0.3s,baz=336,slow=2.0,SNR=5.7									

*IDC **25** 06:12:11.6±0.9, 37°.12N×141°.36E, h0km, mb3.9/11, mbtmp3.8/12, ML2.7/1, MS3.3/11, Error ellipse: s-maj=24.4km s-min=19.9km az=169.0*
*NIED **25** 06:12:13.2, 37°.17N×141°.45E, h28km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}=8.44; $M_{\theta\theta}$=3.43; $M_{\phi\phi}$=5.00; $M_{r\theta}$=-0.73; $M_{r\phi}$=3.92; $M_{\theta\phi}$=2.09; Fault plane solution: M_0=8.60000×10¹⁴ NP1:ϕ_s=51.00000°, δ=42.00000°, λ=-73.00000°. NP2:ϕ_s=208.00000°, δ=50.00000°, λ=-105.00000°.*
*JMA **25** 06:12:13.2±0.2, 37°.2N±0°.5×14°.1E±°, h28km±1km, MV3.8/34, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF
ISC 25 06:12:16.4±0.8, 37°.19N±0°.05×141°.25E±0°.06, h33km, n43, σ1°52/31, mb3.8/11, MS3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.35**	**300**	P		**Pb**		**06 12 23.0**	**-1.8**
JFK				*e*S		**Sb**		**06 12 30.4**	**-0.1**
JFFD	**Fukushimafurud**	**0.56**	**260**	S		**Sb**		**06 12 36.6**	**+0.7**
JMST	**Minamisoumatoc**	**0.61**	**331**	P		**Pn**		**06 12 26.7**	**-1.9**
JMM	**Marumori**	**0.77**	**332**	P		**Pn**		**06 12 29.5**	**-1.3**
JMM	**Marumori**	**0.77**	**332**	S		**Sn**		**06 12 41.4**	**+0.1**
JHO	**Hitachi**	**0.80**	**224**	P		**Pn**		**06 12 28.8**	**-2.5**
JHO				*e*S		**Sn**		**06 12 41.0**	**-1.0**
JSB	**Shiboa**	**1.09**	**259**	P		**Pb**		**06 12 36.0**	**-0.7**
JIO	**Ouri**	**1.26**	**3**	*e*P		**Pn**		**06 12 35.9**	**-1.8**
JIO				*e*S		**Sn**		**06 12 52.5**	**-1.1**
JSD	**Sado**	**2.52**	**290**	P		**Pn**		**06 12 55.9**	**+0.9**
MJAR	**Matsushiro Arr**	**2.52**	**256**	Pn		**Pn**		**06 12 56.3**	**+1.2**
MJAR	1.5nm,0.3s,baz=304,slow=25,SNR=54			Sn		**Sb**		**06 13 31.5**	**-0.2**
comp=Z,3.0nm,0.3s,baz=78,slow=29,SNR=3.0									
MJAR	1.1nm,0.3s,baz=76,slow=47			LR		LR		06 14 13.2	
comp=Z,244nm,18.2s,baz=76,slow=47									
9.5nm,0.3s									
MAJO	**Matsushiro**	**2.53**	**256**	P		**Pn**		**06 12 56.9**	**+1.8**
JGF	**Kuroka**	**3.52**	**244**	P		**Pn**		**06 13 10.8**	**+2.0**
JTM	**Tenmabayashi**	**3.59**	**358**	P		**Pn**		**06 13 10.1**	**+0.4**
ERM	**Erimo**	**5.04**	**16**	P		**Pn**		**06 13 31.8**	**+2.3**
JEM	**Erimo**	**5.04**	**16**	P		**Pn**		**06 13 32.1**	**+2.6**
USRK	**Ussuriysk Ar.**	**9.92**	**318**	LR		LR		06 18 11.2	
comp=Z,150nm,19.8s,baz=143,slow=36									
KSRS	**Korea Array**	**10.62**	**275**	LR		LR		06 18 45.3	
comp=Z,76nm,19.3s,baz=75,slow=37									
KLR	**Kulʾdur**	**13.87**	**333**	LR		LR		06 20 45.7	
comp=Z,97nm,18.8s,baz=106,slow=37									
SONM	**Songino Array**	**27.59**	**304**	P		**P**		**06 18 01.4**	**+0.8**
1.1nm,0.8s,baz=114,slow=9.5,SNR=5.9									
1.1nm,0.8s									
H11N2	**WAKE ISLAND Hy**	**28.34**	**121**	T		T		06 47 32.8	
baz=314,slow=75,SNR=809									
H11N1	**WAKE ISLAND Hy**	**28.35**	**121**	T		T		06 47 33.7	
baz=314,slow=75,SNR=897									
H11N3	**WAKE ISLAND Hy**	**28.36**	**121**	T		T		06 47 34.4	
baz=314,slow=75,SNR=1004									
H11S1	**WAKE ISLAND Hy**	**29.05**	**123**	T		T		06 48 22.7	
baz=316,slow=76,SNR=195									
H11S3	**WAKE ISLAND Hy**	**29.05**	**123**	T		T		06 48 24.7	
baz=316,slow=76,SNR=151									
H11S2	**WAKE ISLAND Hy**	**29.07**	**123**	T		T		06 48 26.3	
baz=316,slow=76,SNR=107									
TIXI	**Tiksi**	**35.12**	**353**	LR		LR		06 33 50.8	
comp=Z,34nm,18.3s,baz=209,slow=37									
CMAR	**Chiang Mai Arr**	**41.41**	**255**	LR		LR		06 39 24.8	
comp=Z,12nm,21.5s,baz=235,slow=39									
ZALV	**Zalesovo Beam**	**41.71**	**312**	P		**P**		**06 20 03.7**	**+1.8**
0.6nm,0.3s,baz=90,slow=5.8,SNR=1.4									
0.6nm,0.3s									
MKAR	**Makanchi Array**	**43.93**	**302**	P		**P**		**06 20 21.2**	**+1.3**
1.6nm,0.9s,baz=92,slow=9.7,SNR=6.2									
1.6nm,0.9s									
KURBB	**Kurchatov Arra**	**45.80**	**308**	P		**P**		**06 20 35.3**	**+0.5**
1.8nm,0.6s,baz=84,slow=8.4,SNR=13									
1.8nm,0.6s									
ILAR	**Eielson Array**	**49.43**	**32**	P		**P**		**06 21 03.3**	**+0.6**
1.3nm,0.7s,baz=264,slow=6.2,SNR=14									
1.3nm,0.7s									
INK	**Inuvik**	**54.30**	**27**	P		**P**		**06 21 38.2**	**-0.7**
1.3nm,0.9s,baz=326,slow=5.9,SNR=2.2									
1.3nm,0.9s									
ARU	**Arti**	**56.16**	**318**	LR		LR		06 47 38.2	
comp=Z,36nm,20.5s,baz=243,slow=38									
WRA	**Warramunga Arr**	**57.20**	**188**	P		**P**		**06 21 59.4**	**-0.8**
0.6nm,0.8s,baz=5.3,slow=7.5,SNR=12									
0.6nm,0.8s									
ARCES	**ARCESS Array B**	**63.80**	**339**	P		**P**		**06 22 44.2**	**-0.5**
3.1nm,0.9s,baz=66,slow=9.0,SNR=1.8									
3.1nm,0.9s									
FINES	**FINESS Array B**	**68.61**	**332**	LR		LR		06 54 17.4	
comp=Z,25nm,18.1s,baz=334,slow=37									
NOA	**NORSAR Array B**	**73.99**	**337**	LR		LR		06 59 44.7	
comp=Z,16nm,18.3s,baz=235,slow=38									
AKASG	**Malin Array Be**	**74.09**	**322**	P		**P**		**06 23 49.4**	**+0.4**
0.5nm,0.4s,baz=45,slow=6.2,SNR=6.7									
0.5nm,0.4s									
NVAR	**Mina Array Bea**	**75.00**	**53**	P		**P**		**06 23 56.9**	**+2.1**
0.3nm,0.6s,baz=305,slow=6.4,SNR=2.5									
0.3nm,0.6s									
PDAR	**Pinedale Array**	**77.65**	**45**	P		**P**		**06 24 10.3**	**+0.6**
0.3nm,0.6s,baz=318,slow=2.0,SNR=3.9									
0.3nm,0.6s									
MLR	**Muntele Rosu**	**79.18**	**320**	LR		LR		07 02 30.2	
comp=Z,39nm,19.3s,baz=56,slow=38									
EIL	**

	comp=Z,0.3nm,0.7s								
AKASG	**Malin Array Be**	**147.47**	**328**	PKPbc	**PKPbc**	**06 36 59.8**	**-1.0**		
	comp=Z,0.5nm,0.3s,baz=43,slow=4.1,SNR=8.9								

INET ***25*** *06:25:04.8±0.6, 11°.88N×86°.39W, h170km±4km, MW3.0*
IDC ***25*** *06:25:05.9±1.6, 11°.64N×86°.59W, h164km±28km, mb2.7/2, mbtmp3.3/4, Error ellipse: s-maj=163.1km s-min=30.2km az=40.0*
UCR ***25*** *06:25:06.3±2.2, 11°.86N×86°.55W, h136km±10km, MW3.8*
ISC 25 06:25:05.5±0.9, 11°.86N±0°.08×86°.47W±0°.09, h160km±7km, n51, σ1ᵍ41/65, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGAN	**Managua**	**0.36**	**38**	*eP*	**Pn**	**06 25 27.7**	**+0.2**
MGAN				*eP*	**Pn**	**06 25 27.8**	**+0.2**
WILN	**Americas 2**	**0.41**	**43**	*eP*	**Pn**	**06 25 27.8**	**+0.1**
MOMN	**Momotombo**	**0.55**	**353**	*eP*	**Pn**	**06 25 28.3**	**0.0**
CNGN	**Cerro Negro**	**0.67**	**341**	*eP*	**Pn**	**06 25 29.2**	**+0.1**
BRAN	**Las Pilas**	**0.86**	**8**	*eP*	**Pn**	**06 25 27.8**	**-2.4**
CONN	**Concepcion**	**0.88**	**109**	*eP*	**Pn**	**06 25 30.4**	**0.0**
CRIN	**San Cristobal**	**1.01**	**326**	*eP*	**Pn**	**06 25 32.0**	**+0.6**
CRIN	**San Cristobal**	**1.01**	**326**	*eP*	**Pn**	**06 25 32.0**	**+0.6**
CRIN				*eS*	**Sn**	**06 25 53.6**	**+2.3**
ACON	**Acoyapa**	**1.28**	**85**	*eP*	**Pn**	**06 25 32.9**	**-0.8**
GBS2	**Las Lilas**	**1.43**	**135**	*eP*	**Pn**	**06 25 35.4**	**+0.2**
GBS2				*eS*	**Sn**	**06 25 56.8**	**-1.2**
GBS3	**Finca Las Img**	**1.46**	**137**	*eP*	**Pn**	**06 25 35.6**	**0.0**
GBS3				*eS*	**Sn**	**06 25 57.7**	**-1.0**
GB1A	**Borinquen Arri**	**1.48**	**134**	*eP*	**Pn**	**06 25 38.0**	**+2.3**
GB1A				*eS*	**Sn**	**06 25 58.7**	**-0.3**
BUEV	**Buena Vista**	**1.48**	**135**	*eP*	**Pn**	**06 25 36.3**	**+0.4**
BUEV				*eS*	**Sn**	**06 25 58.6**	**-0.5**
LAPC	**Finca la Perla**	**1.49**	**137**	⇓*iP*	**Pn**	**06 25 35.7**	**-0.1**
LAPC				*eS*	**Sn**	**06 25 57.6**	**-1.5**
VRLE	**La Escondida,**	**1.52**	**134**	*eP*	**Pn**	**06 25 37.0**	**+0.8**
VRLE				*eS*	**Sn**	**06 25 59.7**	**-0.1**
GPS1	**Guardaparques**	**1.54**	**134**	*eS*	**Sn**	**06 25 59.6**	**-0.6**
GPS3	**Bodega del ICE**	**1.54**	**135**	*eP*	**Pn**	**06 25 39.2**	**+2.7**
GPS3				*eS*	**Sn**	**06 25 59.5**	**-0.7**
GPS2	**Hotel Rincn d**	**1.56**	**135**	*eP*	**Pn**	**06 25 36.9**	**+0.4**
GPS2				*eS*	**Sn**	**06 25 59.9**	**-0.5**
LIM1	**Limonal**	**1.66**	**134**	*eP*	**Pn**	**06 25 38.0**	**+0.3**
LIM1				*eS*	**Sn**	**06 26 01.8**	**-0.6**
MESS	**Mesas**	**1.68**	**131**	*eP*	**Pn**	**06 25 38.2**	**+0.4**
CUI	**Cuipilapa**	**1.75**	**133**	*eP*	**Pn**	**06 25 38.9**	**+0.3**
CUI				*eS*	**Sn**	**06 26 04.1**	**0.0**
ORTG	**Ortega, Santa**	**1.79**	**146**	*eP*	**Pn**	**06 25 39.6**	**+0.5**
ACAL	**Aguas Claras**	**1.86**	**131**	*eP*	**Pn**	**06 25 40.8**	**+0.9**
ACAL				*eS*	**Sn**	**06 26 06.6**	**+0.3**
VERA	**Finca Concepci**	**1.86**	**122**	*eP*	**Pn**	**06 25 39.2**	**-0.6**
SAJU	**San Juanillo,**	**1.93**	**157**	*eP*	**Pn**	**06 25 41.0**	**+0.5**
CNCH	**Conchagua**	**1.94**	**317**	*eP*	**Pn**	**06 25 41.5**	**+0.9**
CNCH	**Conchagua**	**1.94**	**317**	*eP*	**Pn**	**06 25 41.5**	**+0.9**
NICO	**Nicoya**	**1.99**	**149**	*eP*	**Pn**	**06 25 42.7**	**+1.5**
LCND	**La Caada**	**2.00**	**316**	*eP*	**Pn**	**06 25 42.1**	**+0.9**
LCND	**La Caada**	**2.00**	**316**	*eP*	**Pn**	**06 25 42.1**	**+0.9**
DUNO	**Dulce Nombre,**	**2.01**	**151**	*eP*	**Pn**	**06 25 42.0**	**+0.5**
POPE	**POPE, Guanacas**	**2.14**	**146**	*eP*	**Pn**	**06 25 43.5**	**+0.6**
JTS	**Las Juntas de**	**2.16**	**136**	P	**Pn**	**06 25 43.0**	**-0.1**
	15nm,0.3s,baz=12,slow=18,SNR=33						
JTS				S	**Sn**	**06 26 06.8**	**-5.4**
	48nm,0.3s,baz=17,slow=19,SNR=8.7						
INDI	**Punta indio, G**	**2.20**	**154**	*eP*	**Pn**	**06 25 44.0**	**+0.4**
CASO	**Castillo**	**2.22**	**130**	*eP*	**Pn**	**06 25 40.9**	**-3.0**
CASO				*eS*	**Sn**	**06 26 12.3**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.32**	**340**	*eP*	**Pn**	**06 25 46.3**	**+1.2**
ALJI	**Alcalda de J**	**2.51**	**306**	*eP*	**Pn**	**06 25 43.7**	**-3.6**
ALJI	**Alcalda de J**	**2.51**	**306**	*eP*	**Pn**	**06 25 43.7**	**-3.6**
LAFE	**Finca La Fe, P**	**2.55**	**143**	*eP*	**Pn**	**06 25 47.9**	**+0.1**
JACO	**JACO, Garabito**	**2.82**	**141**	*eP*	**Pn**	**06 25 51.5**	**+0.4**
RIFO	**Rio Frio, Sara**	**2.94**	**121**	*eP*	**Pn**	**06 25 51.8**	**-0.7**
LCR2	**La Lucha 2**	**3.21**	**131**	*eP*	**Pn**	**06 25 56.0**	**-0.1**
RAFA	**San Farael, Vo**	**3.23**	**126**	*eP*	Pn	06 26 02.4	+5.9
CDM	**Cerro de Muert**	**3.51**	**130**	*eP*	**Pn**	**06 26 01.4**	**+1.2**
MRVA	**Moravia de Chi**	**3.61**	**124**	*eP*	**Pn**	**06 26 03.1**	**+2.1**
PEZE	**Perez Zeledon,**	**3.69**	**132**	*eP*	**Pn**	**06 26 03.8**	**+1.6**
CMIG	**Matias Romero**	**9.66**	**304**	P	**Pn**	**06 27 21.6**	**+0.7**
	1.2nm,0.3s,baz=158,slow=8.8,SNR=6.4						
TXAR	**Lajitas Array**	**23.64**	**320**	P	**P**	**06 30 03.8**	**+1.4**
	0.4nm,0.7s,baz=141,slow=12,SNR=4.5						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**38.77**	**319**	P	**P**	**06 32 15.0**	**+0.2**
	0.1nm,0.5s,baz=108,slow=8.9,SNR=2.4						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**139.93**	**247**	PKP	**PKPdf**	**06 44 14.3**	**-1.3**
	0.3nm,0.7s,baz=91,slow=2.4,SNR=5.7						
WRA	**Warramunga Arr**	**140.02**	**253**	PKP	**PKPdf**	**06 44 15.3**	**-0.4**
	0.4nm,0.6s,baz=90,slow=2.0,SNR=9.9						

IDC 25 06:47:20.0±50.0, 18°.44S×176°.03W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=937.1km s-min=175.8km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.37**	**242**	P	P	06 55 00.1	+0.2
	0.6nm,0.4s,baz=104,slow=8.3,SNR=1.8						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**46.76**	**260**	P	P	06 55 51.5	0.0
	0.2nm,0.3s,baz=97,slow=7.5,SNR=10						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.83**	**255**	P	P	06 55 51.6	-0.4
	1.6nm,0.6s,baz=90,slow=8.3,SNR=27						
	1.6nm,0.6s						

WEL 25 07:17:28.9±0.3, 43°S±3°×17°3E±°, h5km, M3.4/35, ML3.8/14, MLv3.4/35, Error ellipse: s-maj=0.0km s-min=0.0km az=127.4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.13**	**47**	P	Pg	07 17 31.2	-0.5
GVZ	**Greta Valley S**	**0.54**	**211**	P	Pg	07 17 39.8	+0.5
GVZ				S	Sb	07 17 48.1	-0.8
THZ	**Tophouse**	**0.83**	**333**	P	Pg	07 17 44.8	-0.1
BSWZ	**Blackbirch Sta**	**0.86**	**24**	P	Pg	07 17 45.6	0.0
AMCZ	**Amberley**	**0.87**	**219**	P	Pg	07 17 45.8	+0.2
AMCZ				S	Sb	07 17 58.8	+0.3
LTZ	**Lake Taylor**	**0.88**	**251**	P	Pg	07 17 45.9	0.0
CMWZ	**Cape Campbell**	**0.97**	**39**	P	Pb	07 17 48.5	+0.3
TUWZ	**Tuamarina**	**1.15**	**21**	P	Pg	07 17 50.7	-0.2
MRNZ	**Matariki Terra**	**1.21**	**336**	P	Pg	07 17 51.8	-0.3
OKCZ	**Okains Bay**	**1.24**	**192**	P	Pg	07 17 50.6	-2.2
NNZ	**Nelson**	**1.29**	**359**	P	Pn	07 17 53.3	-0.3
OXZ	**Oxford**	**1.30**	**230**	P	Pn	07 17 51.7	-2.0
MQZ	**McQueen's Vall**	**1.32**	**204**	P	Pn	07 17 50.9	-3.1
AKCZ	**Akaroa Harbour**	**1.41**	**195**	P	Pn	07 17 52.6	-2.7
DSZ	**Denniston Nort**	**1.41**	**302**	P	Pn	07 17 55.0	-0.4
TCW	**Tory Channel**	**1.45**	**27**	P	Pn	07 17 54.5	-1.3
INZ	**Inchbonnie**	**1.47**	**261**	P	Pn	07 17 55.5	-0.5
TKNZ	**Takaka Hill**	**1.51**	**347**	P	Pn	07 17 56.6	-0.1
RACZ	**Rakaia**	**1.53**	**217**	P	Pn	07 17 54.3	-2.6
PLWZ	**Palliser**	**1.67**	**56**	P	Pn	07 17 56.3	-2.5
MHCZ	**Mount Hutt**	**1.69**	**232**	P	Pn	07 17 57.0	-2.2
DUWZ	**D'Urville Isla**	**1.75**	**13**	P	Pn	07 18 00.3	+0.4
MSWZ	**Moikau Station**	**1.75**	**52**	P	Pn	07 17 57.6	-2.5
QRZ	**Quartz Range**	**1.80**	**338**	P	Pn	07 18 01.2	+0.5
WACZ	**Wakanui South**	**1.84**	**218**	P	Pn	07 17 58.6	-2.6
CAW	**Cannon Point**	**1.87**	**42**	P	Pn	07 17 59.6	-2.0
PAWZ	**Paruwai Farm**	**1.88**	**54**	P	Pn	07 17 59.1	-2.7
KIW	**Kapiti Island**	**1.99**	**35**	P	Pn	07 18 02.0	-1.3
TRWZ	**Traveller**	**2.03**	**58**	P	Pn	07 18 00.9	-2.9
WVZ	**Waitaha Valley**	**2.04**	**253**	P	Pn	07 18 03.4	-0.6
RPZ	**Rata Peaks**	**2.10**	**234**	P	Pn	07 18 02.7	-2.1
OGWZ	**Otaki Gorge**	**2.15**	**39**	P	Pn	07 18 03.6	-1.8
ARCZ	**Arundel**	**2.17**	**228**	P	Pn	07 18 03.5	-2.3
TMWZ	**Te Maipa**	**2.33**	**54**	P	Pn	07 18 04.8	-3.1
GCSZ	**Gaunt Creek Bo**	**2.40**	**249**	P	Pn	07 18 09.1	+0.2
MRZ	**Mangatainoka R**	**2.46**	**42**	P	Pn	07 18 07.4	-2.3
TMZ	**Timaru**	**2.56**	**222**	P	Pn	07 18 08.9	-2.3
BFZ	**Birch Farm**	**2.80**	**50**	P	Pn	07 18 11.2	-3.2
FOZ	**Fox Glacier**	**2.83**	**248**	P	Pn	07 18 14.9	+0.2
WAZ	**Wanganui**	**3.00**	**24**	P	Pn	07 18 18.1	+1.0
LBZ	**Lake Benmore**	**3.00**	**230**	P	Pn	07 18 15.9	-1.3
ODZ	**Otahua Downs**	**3.23**	**217**	P	Pn	07 18 17.5	-2.7
KHEZ	**Kahui Hut**	**3.24**	**8**	P	Pn	07 18 23.1	+2.6
NBEZ	**Newall Road No**	**3.25**	**6**	P	Pn	07 18 22.3	+1.7
PKE	**Pukeiti**	**3.34**	**8**	P	Pn	07 18 23.3	+1.5
MTVZ	**Mangateitei**	**3.49**	**27**	P	Pn	07 18 23.2	-0.7
VRZ	**Vera Road**	**3.53**	**17**	P	Pn	07 18 22.1	-2.4
BHHZ	**Black Hill Sta**	**3.62**	**35**	P	Pn	07 18 29.5	+3.8
NGZ	**Ngauruhoe**	**3.72**	**27**	P	Pn	07 18 27.8	+0.6
NNVZ	**North Ngauruho**	**3.77**	**27**	P	Pn	07 18 29.4	+1.6
KRVZ	**Karewarewa**	**3.81**	**27**	P	Pn	07 18 25.9	-2.4
HIZ	**Hauiti**	**4.14**	**16**	P	Pn	07 18 33.4	+0.6
TOZ	**Tahuroa Road**	**5.03**	**19**	P	Pn	07 18 44.2	-0.8
AWAZ	**Awhitu Peninsu**	**5.52**	**10**	P	Pn	07 18 52.0	+0.3
MKAZ	**Moumakai**	**5.56**	**15**	P	Pn	07 18 51.5	-0.8
ETAZ	**East Tamaki Re**	**5.67**	**12**	P	Pn	07 18 53.8	0.0
MBAZ	**Motutapu North**	**5.84**	**12**	P	Pn	07 18 55.4	-0.9

BJI ***25*** *07:26:20.7±0.0, 54°.60N×160°.66E, h99km, mb5.1/62, mB5.0/41*
KRSC ***25*** *07:26:21.8±0.5, 54°.30N×160°.94E, h92km±11km, ML6.0*
MOS ***25*** *07:26:23.6±1.4, 54°.44N×160°.44E, h109km, mb5.0/30, MS4.3/11, Error ellipse: s-maj=6.2km s-min=3.1km az=84.5*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
GCMT ***25*** *07:26:23.9±0.1, 54°.35N±0°.01×160°.95E±0°.02, h100km±1km, MW5.2/140, Moment Tensor Solution. s118,c181; s140,c226; Duration: 1ᵍ0 Moment tensor: Scale 10¹⁶Nm; Mrr4.43±.16; Mθθ-1.91±.21; Mϕϕ-2.52±.20; Mrθ-3.36±.12; Mrϕ3.95±.18; Mθϕ-6.04±.10; Best double couple: M₀8.43500×10¹⁶ NP1:ϕ₁177.00000°, δ71.00000°, λ125.00000°. NP2:ϕ₂292.00000°, δ40.00000°, λ31.00000°. Principal axes: T 9.9660, Plg51.0000°, Azm128.0000°; N -3.0610, Plg33.0000°, Azm344.0000°; P -6.9050, Plg18.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***25*** *07:26:23.9±1.6, 54°.46N±0°.07×160°.6E±0°.1, h88km±6km, mb5.6/141 Error ellipse: s-maj=11.2km s-min=9.1km az=149.0*
IDC ***25*** *07:26:24.3±0.4, 54°.55N×160°.30E, h91km±2km, mb4.7/38, mbtmp5.0/42, MS4.0/76, Error ellipse: s-maj=9.4km s-min=6.7km az=161.0*
ISC 25 07:26:23.8±0.2, 54°.42N±0°.02×160°.60E±0°.02, h93km±1km, h93km:pP-P, n1370, σ1ᵍ35/1579, mb5.3/238, 54C-37D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.67**	**78**	*eP*	**Pn**	**07 26 38.6**	**-1.7**
MKZ	**Mys Kozlova**	**0.67**	**78**	PN	**Pn**	**07 26 38.6**	**-1.7**
TUMD	**Tumrok D**	**0.80**	**352**	*eP*	**Pn**	**07 26 41.7**	**+0.2**
TUMD				*eS*	**Sn**	**07 26 55.0**	**+0.2**
TUMR	**Tumrok**	**0.91**	**343**	*eP*	**Pn**	**07 26 43.8**	**+1.0**
TUMR	**Tumrok**	**0.91**	**343**	PN	**Pn**	**07 26 43.8**	**+1.0**
KMNR	**Kamenistaya**	**1.36**	**351**	*eP*	**Pn**	**07 26 49.5**	**+1.5**
KMNR	**Kamenistaya**	**1.36**	**351**	PN	**Pn**	**07 26 49.5**	**+1.5**
SPN	**Mys Shipunski**	**1.37**	**195**	*eP*	**Pn**	**07 26 46.8**	**-1.2**
SPN				*eS*	**Sn**	**07 27 03.9**	**-2.4**
SPN	**Mys Shipunski**	**1.37**	**195**	PN	**Pn**	**07 26 46.8**	**-1.2**
SPN				S	**Sn**	**07 27 03.9**	**-2.4**
NLC	**Nalytchevo**	**1.46**	**211**	*eP*	**Pn**	**07 26 49.1**	**0.0**
NLC				*eS*	**Sn**	**07 27 08.0**	**-0.2**
NLC	**Nalytchevo**	**1.46**	**211**	PN	**Pn**	**07 26 49.1**	**0.0**
NLC				S	**Sn**	**07 27 08.0**	**-0.2**
BZMR	**Bezymyannaya**	**1.52**	**358**	*eP*	**Pn**	**07 26 51.5**	**+1.4**
BZMR	**Bezymyannaya**	**1.52**	**358**	PN	**Pn**	**07 26 51.5**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**1.53**	**2**	*eP*	**Pn**	**07 26 51.3**	**+1.2**
BZGR				*eS*	**Sn**	**07 27 13.0**	**+3.0**
BZGR	**Bezymyannyi-Gr**	**1.53**	**2**	PN	**Pn**	**07 26 51.3**	**+1.2**
BZGR				S	**Sn**	**07 27 13.0**	**+3.0**
SDLR	**Sedlovina**	**1.53**	**222**	*eP*	**Pn**	**07 26 50.8**	**+0.6**
SDLR				*eS*	**Sn**	**07 27 11.6**	**+1.5**
SDLR	**Sedlovina**	**1.53**	**222**	PN	**Pn**	**07 26 50.8**	**+0.6**
SDLR				S	**Sn**	**07 27 11.6**	**+1.5**
KIRR	**Kirishev**	**1.54**	**355**	*eP*	**Pn**	**07 26 51.9**	**+1.5**
KIRR	**Kirishev**	**1.54**	**355**	PN	**Pn**	**07 26 51.9**	**+1.5**
BZWR	**Bezymyannyi-We**	**1.55**	**358**	*eP*	**Pn**	**07 26 51.9**	**+1.4**
BZWR	**Bezymyannyi-We**	**1.55**	**358**	PN	**Pn**	**07 26 51.9**	**+1.4**
KPT	**Kopyto**	**1.57**	**352**	*eP*	**Pn**	**07 26 52.0**	**+1.4**
KPT	**Kopyto**	**1.57**	**352**	PN	**Pn**	**07 26 52.0**	**+1.4**
KRER	**Koryakskii**	**1.57**	**225**	*eP*	**Pn**	**07 26 51.4**	**+0.7**
KRER	**Koryakskii**	**1.57**	**225**	PN	**Pn**	**07 26 51.4**	**+0.7**
SMAR	**Somma**	**1.57**	**223**	*eP*	**Pn**	**07 26 51.5**	**+0.7**
SMAR	**Somma**	**1.57**	**223**	PN	**Pn**	**07 26 51.5**	**+0.7**
ZLN	**Zelenaya**	**1.61**	**4**	*eP*	**Pn**	**07 26 52.7**	**+1.6**
ZLN	**Zelenaya**	**1.61**	**4**	PN	**Pn**	**07 26 52.7**	**+1.6**
UGLR	**Uglovaya**	**1.61**	**222**	*eP*	**Pn**	**07 26 51.9**	**+0.8**
UGLR	**Uglovaya**	**1.61**	**222**	PN	**Pn**	**07 26 51.9**	**+0.8**
KOK	**Koryaka**	**1.62**	**227**	*eP*	**Pn**	**07 26 52.0**	**+0.7**
KOK	**Koryaka**	**1.62**	**227**	PN	**Pn**	**07 26 52.0**	**+0.7**
LGNR	**Loginova**	**1.67**	**2**	*eP*	**Pn**	**07 26 54.0**	**+1.9**
LGNR	**Loginova**	**1.67**	**2**	PN	**Pn**	**07 26 54.0**	**+1.9**
KOZ	**Kozyrevsk**	**1.69**	**346**	*eP*	**Pn**	**07 26 53.6**	**+1.4**
KOZ				*eS*	**Sn**	**07 27 16.7**	**+3.0**
KOZ	**Kozyrevsk**	**1.69**	**346**	PN	**Pn**	**07 26 53.6**	**+1.4**
KOZ				S	**Sn**	**07 27 16.7**	**+3.0**
CIRR	**Tsirk**	**1.70**	**3**	*eP*	**Pn**	**07 26 54.0**	**+1.6**
CIRR	**Tsirk**	**1.70**	**3**	PN	**Pn**	**07 26 54.0**	**+1.6**
GNL	**Ganaly**	**1.73**	**246**	*eP*	**Pn**	**07 26 54.5**	**+1.8**
GNL	**Ganaly**	**1.73**	**246**	PN	**Pn**	**07 26 54.5**	**+1.8**
DALK	**Dalny**	**1.77**	**219**	*eP*	**Pn**	**07 26 53.7**	**+0.6**
DALK				*eS*	**Sn**	**07 27 15.8**	**+0.4**
DALK	**Dalny**	**1.77**	**219**	PN	**Pn**	**07 26 53.7**	**+0.6**
DALK				S	**Sn**	**07 27 15.8**	**+0.4**
KRSR	**Krestovskiy**	**1.80**	**359**	*eP*	**Pn**	**07 26 54.7**	**+1.1**
KRSR	**Krestovskiy**	**1.80**	**359**	PN	**Pn**	**07 26 54.7**	**+1.1**
PET	**Petropavlovsk**	**1.81**	**220**		**Pn**	**07 26 54.4**	**+0.8**
PET	**Petropavlovsk**	**1.81**	**220**	P	**Pn**	**07 26 54.5**	**+0.8**
PET	**Petropavlovsk**	**1.81**	**220**	*eP*	**Pn**	**07 26 54.3**	**+0.6**
PET	**Petropavlovsk**	**1.81**	**220**	⇓*iP*	**Pn**	**07 26 54.4**	**+0.8**
PET				*eS*	**Sn**	**07 27 16.9**	**+0.5**
PET				pmax	pmax		
	comp=Z,23μm,0.6s						
PET				smax	smax		
	comp=N,47μm,0.6s						
PET				smax	smax		
	comp=E,98μm,0.5s						
ESO	**Esso**	**1.86**	**325**	*eP*	**Pn**	**07 26 56.1**	**+1.8**
ESO	**Esso**	**1.86**	**325**	PN	**Pn**	**07 26 56.1**	**+1.8**
KLY	**Klyuchi**	**1.90**	**1**	*eP*	**Pn**	**07 26 56.2**	**+1.5**
KLY	**Klyuchi**	**1.90**	**1**	PN	**Pn**	**07 26 56.2**	**+1.5**
SRDR	**Sredinnyy**	**1.97**	**345**	*eP*	**Pn**	**07 26 56.8**	**+1.1**
SRDR	**Sredinnyy**	**1.97**	**345**	PN	**Pn**	**07 26 56.8**	**+1.1**
I44RU	**PETROPAVLOVSK-**	**2.16**	**234**	P	**Pn**	**07 26 59.5**	**+1.3**
	baz=68,slow=18,SNR=4.8						
PEA0B	**Petropavlovsk-**	**2.17**	**234**	Pn	**Pn**	**07 26 59.0**	**+0.7**
PEA0B	**Petropavlovsk-**	**2.17**	**234**	*d* iPN	**Pn**	**07 26 59.4**	**+1.1**
PETK	**Petropavlovsk-**	**2.17**	**234**	P	**Pn**	**07 26 58.7**	**+0.4**
	comp=E,4μm,0.7s,baz=77,slow=14,SNR=2122						
PETK				LR	LR	07 28 07.6	
	comp=E,6μm,19.5s,baz=132,slow=49						
KRMR	**Karymshinskiy**	**2.17**	**224**	*eP*	**Pn**	**07 26 59.1**	**+0.8**
KRMR				*eS*	**Sn**	**07 27 27.1**	**+2.5**
KRMR	**Karymshinskiy**	**2.17**	**224**	PN	**Pn**	**07 26 59.1**	**+0.8**
KRMR				S	**Sn**	**07 27 27.1**	**+2.5**
BDR	**Baidarnaya**	**2.18**	**9**	*eP*	**Pn**	**07 27 00.2**	**+1.7**
BDR	**Baidarnaya**	**2.18**	**9**	PN	**Pn**	**07 27 00.2**	**+1.7**
KBTR	**Krutoberegovo**	**2.20**	**34**	*eP*	**Pn**	**07 26 58.4**	**-0.2**
KBTR	**Krutoberegovo**	**2.20**	**34**	PN	**Pn**	**07 26 58.4**	**-0.2**
KBG	**Krutoberegovo**	**2.20**	**32**	*eP*	**Pn**	**07 26 58.3**	**-0.3**
KBG				*eS*	**Sn**	**07 27 26.6**	**+1.3**
KBG	**Krutoberegovo**	**2.20**	**32**	PN	**Pn**	**07 26 58.3**	**-0.3**
KBG				S	**Sn**	**07 27 26.6**	**+1.3**
SMKR	**Semkarok**	**2.22**	**12**	*eP*	**Pn**	**07 27 00.3**	**+1.2**
SMKR	**Semkarok**	**2.22**	**12**	PN	**Pn**	**07 27 00.3**	**+1.2**
SRKR	**Sorokina**	**2.26**	**8**	*eP*	**Pn**	**07 27 01.2**	**+1.6**
SRKR	**Sorokina**	**2.26**	**8**	PN	**Pn**	**07 27 01.2**	**+1.6**
RUS	**Russkaya**	**2.35**	**213**	*eP*	**Pn**	**07 27 00.4**	**-0.3**
RUS	**Russkaya**	**2.35**	**213**	PN	**Pn**	**07 27 00.4**	**-0.3**
GRL	**Gorelyy**	**2.40**	**220**	*eP*	**Pn**	**07 27 02.6**	**+1.1**
GRL	**Gorelyy**	**2.40**	**220**	PN	**Pn**	**07 27 02.6**	**+1.1**
MTVR	**Mutnovka**	**2.42**	**218**	*eP*	**Pn**	**07 27 02.6**	**+0.8**
MTVR	**Mutnovka**	**2.42**	**218**	PN	**Pn**	**07 27 02.6**	**+0.8**
APC	**Apacha**	**2.54**	**235**	*eP*	**Pn**	**07 27 05.0**	**+1.9**
APC				*eS*	**Sn**	**07 27 37.0**	**+3.7**
APC	**Apacha**	**2.54**	**235**	PN	**Pn**	**07 27 05.0**	**+1.9**
APC				S	**Sn**	**07 27 37.0**	**+3.7**
KDTR	**Khodutka, Kamc**	**3.02**	**211**	*eP*	**Pn**	**07 27 09.4**	**-0.3**
KDTR				*eS*	**Sn**	**07 27 42.3**	**-2.7**
KDTR	**Khodutka, Kamc**	**3.02**	**211**	PN	**Pn**	**07 27 09.4**	**-0.3**
KDTR				S	**Sn**	**07 27 42.3**	**-2.7**
BKI	**Bering**	**3.21**	**74**	*eP*	**Pn**	**07 27 10.3**	**-1.8**
BKI				*eS*	**Sn**	**07 27 43.3**	**-6.0**
BKI	**Bering**	**3.21**	**74**	PN	**Pn**	**07 27 10.3**	**-1.8**
PAU	**Pauzhetka**	**3.74**	**219**	*eP*	**Pn**	**07 27 20.4**	**+1.1**
PAU	**Pauzhetka**	**3.74**	**219**	PN	**Pn**	**07 27 20.4**	**+1.1**
SKR	**Severo-Kuril's**	**4.63**	**218**	*eP*	**Pn**	**07 27 31.4**	**0.0**
SKR				*eS*	**Sn**	**07 28 23.0**	**-1.0**
SKR	**Severo-Kuril's**	**4.63**	**218**	PN	**Pn**	**07 27 31.4**	**0.0**
SKR				S	**Sn**	**07 28 23.0**	**-1.0**
PALN	**Palana**	**4.70**	**356**	*eP*	**Pn**	**07 27 33.8**	**+1.6**
PALN	**Palana**	**4.70**	**356**	PN	**Pn**	**07 27 33.8**	**+1.6**
MA2	**Magadan**	**7.45**	**318**	P	**Pn**	**07 28 12.5**	**+2.9**
	comp=E,1μm,0.9s,baz=131,slow=9.6,SNR=171						
MA2	**Magadan**	**7.45**	**318**	Pn	**Pn**	**07 28 11.8**	**+2.1**
MA2	**Magadan**	**7.45**	**318**	P	**Pn**	**07 28 12.7**	**+3.1**
MA2	**Magadan**	**7.45**	**318**	*d* iPN	**Pn**	**07 28 12.3**	**+2.7**
MA2				pmax	pmax		
	comp=Z,1μm,1.0s						
SHEM	**Shemya Is, Ala**	**8.21**	**96**	P	**Pn**	**07 28 18.7**	**-1.3**
	comp=E,296nm,0.4s,baz=54,slow=2.7,SNR=17						
SHEM				S	**Sn**	**07 29 43.7**	**-7.3**
	comp=Z,225nm,0.5s,baz=162,slow=21,SNR=9.8						
SHEM				LR	LR	07 31 24.3	
	comp=Z,1μm,21.8s,baz=293,slow=36						
SMY	**Shemya**	**8.21**	**96**	Pn	**Pn**	**07 28 18.5**	**-1.6**
SMY	**Shemya**	**8.21**	**96**	PN	**Pn**	**07 28 18.5**	**-1.6**
SEY	**Seymchan**	**9.54**	**337**	P	**Pn**	**07 28 36.7**	**-1.3**
	comp=Z,13nm,0.9s,baz=134,slow=13,SNR=11						
SEY	**Seymchan**	**9.54**	**337**	⇑*iPN*	**Pn**	**07 28 41.2**	**+3.1**
SEY				pmax	pmax		
	comp=Z,105nm,2.5s						
OKH	**Okha**	**10.44**	**272**	*de*PN	**Pn**	07 28 55.0	+4.6
OKH				*eS*	**Sn**	**07 30 42.4**	**-2.9**
OKH				pmax	pmax		
	comp=Z,400nm,8.7s						
OKH				smax	smax		
	comp=N,400n

UNV	Unalaska Valle	19.19	78	P		P		07 30 40.0	+0.1
UNV	Unalaska Valle	19.19	78	P		P		07 30 39.8	-0.1
	baz=285,SNR=11								
UNV	Unalaska Valle	19.19	78	P		Pn		07 30 42.0	+0.2
ZEA	Zeya	19.48	282	*e*P		P		07 30 43.5	+0.4
ZEA				*e*S		S		07 34 07.0	-11
ZEA				pmax	pmax				
	comp=E,20nm,0.6s								
ZEA				pmax	pmax				
	comp=N,20nm,0.8s								
ZEA				pmax	pmax				
	comp=Z,50nm,0.9s								
ZEA				pmax	pmax				
	comp=Z,200nm,4.5s								
ZEA				smax	smax				
	comp=N,400nm,4.2s								
ZEA				smax	smax				
	comp=E,400nm,5.7s								
AKUT	Akutan	19.54	77	P		P		07 30 43.9	+0.3
ANM	Nome	19.77	46	P		P		07 30 46.5	+0.4
ANM	Nome	19.77	46	P		P		07 30 46.0	-0.2
	baz=255								
ANM	Nome	19.77	46	P		P		07 30 46.5	+0.4
HEH	HeiHe	20.59	272	*e*P		P		07 30 53.5	-1.5
HEH				S		S		07 34 36.5	-3.3
HEH				sS		sS		07 35 05.5	-4.1
HEH				SS		SnSn		07 35 13.3	+6.9
HEH				pmax	pmax				
	comp=E,91nm,0.7s								
HEH				pmax	pmax				
	comp=E,280nm,3.7s								
FALS	False Pass	20.69	74	P		P		07 30 56.3	+0.2
FALS	False Pass	20.69	74	P		P		07 30 55.7	-0.4
	baz=284								
FALS	False Pass	20.69	74	P		Pn		07 30 58.7	-0.6
USRK	Ussuriysk Ar.	21.13	253	P		P		07 30 59.5	-1.4
	comp=E,15nm,0.5s,baz=56,slow=9.2,SNR=33								
USRK				LR		LR		07 39 16.7	
	comp=E,649nm,21.7s,baz=55,slow=37								
	comp=E,15nm,0.5s								
S12K	Black Hills	21.26	71	P		P		07 31 02.1	-0.2
	baz=282,SNR=5.8								
JMM	Marumori	21.38	227	P		P		07 31 03.8	+0.2
JMM	Marumori	21.38	227	P		P		07 31 04.6	+0.9
TIXI	Tiksi	22.01	334	P		P		07 31 09.6	-0.5
	comp=E,22nm,0.6s,baz=90,slow=24,SNR=64								
TIXI				LR		LR		07 40 45.6	
	comp=E,696nm,20.4s,baz=48,slow=40								
	comp=E,22nm,0.6s								
TIXI	Tiksi	22.01	334	P		P		07 31 09.4	-0.6
TIXI	Tiksi	22.01	334	*c i*P		P		07 31 10.1	0.0
TIXI				pmax	pmax				
	comp=Z,26nm,0.7s								
SDPT	Sand Point	22.22	72	P		P		07 31 11.6	-0.7
	baz=284								
MDJ	Mudanjiang	22.22	257	P		P		07 31 10.8	-1.7
MDJ	Mudanjiang	22.22	257	P		P		07 31 11.3	-1.3
MDJ				pP		pP		07 31 29.5	-1.5
MDJ				sP		sP		07 31 39.3	-3.3
MDJ				S		S		07 35 11.3	+0.2
MDJ				sS		sS		07 35 40.3	-2.0
MDJ				ScP		ScP		07 38 31.3	-2.6
MDJ				ScS		ScS		07 42 17.8	-1.0
MDJ				pmax	pmax				
	comp=Z,41nm,0.8s								
MDJ				pmax	pmax				
	comp=Z,330nm,5.0s								
MDJ				LR		LR			
	comp=Z,550nm,12.6s								
MDJ				LR		LR			
	comp=Z,810nm,17.0s								
MDJ				LR		LR			
	comp=Z,1μm,21.4s								
MDJ	Mudanjiang	22.22	257	P		P		07 31 13.6	+1.0
JSD	Sado	22.37	232	P		P		07 31 14.5	+0.3
N16K	Nishlik Lake	22.39	58	P		P		07 31 13.6	-0.6
	baz=273,SNR=32								
O16K	Kokwok River B	22.79	60	P		P		07 31 18.2	-0.1
	baz=275,SNR=14								
BNX	BinXian	22.82	261	⇓P		P		07 31 16.8	-1.9
BNX				pP		pP		07 31 35.5	-1.9
BNX				S		S		07 35 19.0	-1.7
BNX				sS		sS		07 35 54.3	+0.2
BNX				pmax	pmax				
	comp=Z,150nm,0.9s								
BNX				pmax	pmax				
	comp=Z,140nm,3.6s								
BNX				LR		LR			
	comp=Z,420nm,13.6s								
BNX				LR		LR			
	comp=Z,270nm,13.6s								
BNX				LR		LR			
	comp=Z,480nm,19.4s								
CHNA	Chernabura Isl	22.84	73	P		P		07 31 17.3	-1.5
	baz=286								
CNBA	Chernabura Isl	22.84	73	P		P		07 31 17.7	-1.1
P16K	Nushagak River	22.90	62	P		P		07 31 18.7	-0.6
	baz=277,SNR=9.4								
CHGN	Chignik	23.13	69	P		P		07 31 21.0	-0.6
CHGN	Chignik	23.13	69	P		P		07 31 20.0	-1.6
	baz=283								
O17K	Koliganek Bris	23.28	60	P		P		07 31 22.6	-0.4
	baz=276								
R16K	Pilot Point	23.33	65	P		P		07 31 21.9	-1.5
	baz=280								
GCSA	Galena City Sc	23.40	47	P		P		07 31 23.4	-0.6
	baz=264,SNR=40								
MJB9	Matsu-Tunnel	23.62	230	P		P		07 31 26.7	+0.3
MAJO	Matsushiro	23.62	230	P		P		07 31 26.1	-0.2
MAJO	Matsushiro	23.62	230	P		P		07 31 27.0	+0.7
MAJO	Matsushiro	23.62	230	*d i*P		P		07 31 26.6	+0.3
MAJO				pmax	pmax				
	comp=Z,389nm,0.8s								
MJAR	Matsushiro Arr	23.62	230	P		P		07 31 26.6	+0.3
	comp=Z,118nm,0.7s,baz=20,slow=10,SNR=181								
MJAR				LR		LR		07 40 45.2	
	comp=Z,673nm,21.7s,baz=42,slow=36								
	comp=Z,118nm,0.7s								
Q16K	King Salmon	23.63	62	P		P		07 31 25.9	-0.2
	baz=278,SNR=17								
P17K	Kvichak River	23.67	61	P		P		07 31 26.6	+0.1
	baz=277								
TTA	Tatalina	23.67	52	P		P		07 31 27.7	+1.1
TTA	Tatalina	23.67	52	P		P		07 31 26.8	+0.2
	baz=269,SNR=95								
TTA	Tatalina	23.67	52	P		P		07 31 27.7	+1.1
N18K	Kilae Creek	23.80	57	P		P		07 31 28.3	+0.6
N18K	Kilae Creek	23.80	57	P		P		07 31 28.9	+1.2
	baz=274,SNR=31								
R17K	Ugashik Creek	23.95	65	P		P		07 31 29.6	+0.6
	baz=281,SNR=33								
Q17K	Contact Creek	24.10	63	P		P		07 31 30.7	+0.2
	baz=280,SNR=37								
L19K	White Mountain	24.21	53	P		P		07 31 31.5	+0.1
	baz=272								
O18K	Koktuh Hills	24.22	59	P		P		07 31 32.3	+0.8
O18K	Koktuh Hills	24.22	59	P		P		07 31 32.5	+1.1
	baz=277,SNR=33								
P18K	Big Mountain,	24.26	60	P		P		07 31 32.3	+0.4
P18K	Big Mountain,	24.26	60	P		P		07 31 32.9	+1.0
	baz=278,SNR=18								
M19K	Big River Lodg	24.44	54	P		P		07 31 34.3	+0.8
	baz=273								
N19K	Bonanza Creek	24.48	57	P		P		07 31 34.3	+0.4
N19K	Bonanza Creek	24.48	57	P		P		07 31 35.1	+1.2
	baz=275,SNR=29								
Q18K	Katmai Hardscr	24.49	62	P		P		07 31 34.5	+0.5
	baz=280,SNR=50								
J20K	Nowinta River	24.54	48	P		P		07 31 35.3	+1.0
J20K	Nowinta River	24.54	48	P		P		07 31 35.1	+0.8
	baz=268								
K20K	Telida	24.56	50	P		P		07 31 35.4	+0.9
	baz=270,SNR=74								
O19K	Port Alsworth	24.62	58	P		P		07 31 35.9	+0.8
O19K	Port Alsworth	24.62	58	P		P		07 31 35.8	+0.8
	baz=277,SNR=39								
L20K	Farewell, AK	24.66	53	P		P		07 31 35.9	+0.4
	baz=272								
CHIR	Chirikof Islan	24.77	69	P		P		07 31 36.1	-0.3
	baz=285								
JGF	Kuroka	24.79	230	P		P		07 31 36.7	-0.2
JGF	Kuroka	24.79	230	P		P		07 31 37.8	+0.9
IMAR	Indian Mountai	24.83	44	P		P		07 31 36.7	-0.3
G21K	Allakaket	24.98	43	P		P		07 31 39.0	+0.6
	baz=264								
A21K	Barrow	24.99	31	P		P		07 31 39.4	+1.1
	baz=250,SNR=7.6								
M20K	Styx River	25.04	54	P		P		07 31 40.0	+1.0
	baz=274								
F21K	Alatna River	25.08	41	P		P		07 31 39.5	+0.3
	baz=262								
CN2	Changchun	25.09	260	P		P		07 31 38.8	-0.7
CN2				pP		pP		07 31 59.5	-0.9
CN2				S		S		07 35 52.5	-4.6
CN2				pmax	pmax				
	comp=Z,40nm,0.5s								
Q19K	Cape Douglas,	25.14	61	P		P		07 31 40.5	+0.6
Q19K	Cape Douglas,	25.14	61	P		P		07 31 41.1	+1.2
	baz=280,SNR=24								
INU	Inuyama	25.15	230	P		P		07 31 40.0	-0.2
H21K	Melozitna Rive	25.19	45	P		P		07 31 40.6	+0.4
	baz=266								
ILSW	Iliamna Southw	25.23	58	P		P		07 31 41.1	+0.3
P19K	Oil Pt	25.23	59	P		P		07 31 41.3	+0.6
	baz=279								
CHUM	Lake Minchumin	25.34	49	P		P		07 31 42.8	+1.2
	baz=270,SNR=48								
SII	Sitkinak Islan	25.36	67	P		P		07 31 41.9	+0.1
	baz=284,SNR=7.7								
RSO	Redoubt South	25.36	57	P		P		07 31 42.7	+0.6
PPLA	Purkeypile	25.42	52	P		P		07 31 43.5	+0.9
PPLA	Purkeypile	25.42	52	P		P		07 31 43.4	+0.9
	baz=273,SNR=38								
CAST	Castle Rocks	25.45	50	P		P		07 31 43.1	+0.5
	baz=272,SNR=65								
O20K	Slope Mountain	25.48	58	P		P		07 31 43.6	+0.7
	baz=278								
I21K	Tanana	25.51	46	P		P		07 31 43.8	+0.8
	baz=268								
N20K	Mount Spurr	25.54	55	P		P		07 31 44.7	+1.2
	baz=276,SNR=39								
SPCR	Spurr Chakacha	25.54	55	P		P		07 31 45.0	+1.4
	baz=276,SNR=20								
SPU	Mount Spurr	25.62	56	P		P		07 31 44.9	+0.7
F22K	John River	25.62	41	P		P		07 31 44.1	0.0
	baz=263,SNR=50								
OHAK	Old Harbor	25.67	65	P		P		07 31 43.3	-1.3
OHAK				IAmb		IAmb		07 31 47.4	
	comp=Z,105nm,0.8s								
OHAK	Old Harbor	25.67	65	P		P		07 31 43.8	-0.8
	baz=284,SNR=14								
SKT	Skwentna	25.79	54	P		P		07 31 45.6	-0.1
SKT	Skwentna	25.79	54	P		P		07 31 46.5	+0.8
	baz=275,SNR=24								
H22K	Ishtalitna Cre	25.79	45	P		P		07 31 46.2	+0.5
	baz=267,SNR=140								
BOD	Bodaibo	25.79	297	*e*P		P		07 31 46.4	+0.7
BOD				pmax	pmax				
	comp=Z,137nm,1.3s								
G22K	Bettles	25.81	42	P		P		07 31 45.8	0.0
	baz=265								
E22K	Anaktuvuk Pass	25.84	39	P		P		07 31 46.4	+0.2
	baz=262								
Q20K	Shuyak Island	25.84	61	P		P		07 31 45.8	-0.4
	baz=281,SNR=13								
BPAW	Bear Paw Mtn.	25.93	49	P		P		07 31 47.6	+0.7
	baz=271								
KTH	Kantishna Hill	25.97	50	P		P		07 31 47.8	+0.5
KTH				IAmb		IAmb		07 32 09.4	
	comp=Z,149nm,1.2s								
MLY	Manley	26.03	47	P		P		07 31 48.3	+0.4
MLY	Manley	26.03	47	P		P		07 31 48.7	+0.8
	baz=269,SNR=46								
HOM	Homer	26.03	59	P		P		07 31 47.7	-0.2
	baz=280								
CAPN	Captain Cook N	26.10	56	P		P		07 31 49.2	+0.8
	baz=278								
SUA	Susitna One	26.21	55	P		P		07 31 49.5	-0.1
SUA				IAmb		IAmb		07 32 11.4	
	comp=Z,142nm,1.2s								
SUA	Susitna One	26.21	55	P		P		07 31 49.9	+0.2
	baz=277,SNR=23								
CNPM	China Poot	26.26	59	P		P		07 31 49.2	-0.7
CNPM				IAmb		IAmb		07 32 11.8	
	comp=Z,322nm,1.4s								
TRF	Thorofare Moun	26.26	50	P		P		07 31 50.3	+0.2
TRF				IAmb		IAmb		07 31 55.7	
	comp=Z,147nm,1.0s								
TRF	Thorofare Moun	26.26	50	P		P		07 31 50.6	+0.5
	baz=273,SNR=44								
CUT	Chulitna	26.34	53	P		P		07 31 50.6	0.0
CUT				IAmb		IAmb		07 31 51.8	
	comp=Z,225nm,0.9s								
CUT	Chulitna	26.34	53	P		P		07 31 50.8	+0.2
	baz=275,SNR=41								
COLD	Coldfoot	26.35	42	P		P		07 31 50.6	-0.1
COLD	Coldfoot	26.35	42	P		P		07 31 51.1	+0.5
	baz=265,SNR=66								
D23K	Nanushuk River	26.37	38	P		P		07 31 51.6	+0.7
	baz=261,SNR=33								
G23K	Bananza Creek	26.38	43	P		P		07 31 51.2	+0.2
	baz=267								
BRSE	Bradley Lake S	26.47	59	P		P		07 31 51.2	-0.7
	baz=280,SNR=12								
M22K	Willow	26.48	54	P		P		07 31 51.2	-0.7
M22K	Willow	26.48	54	P		P		07 31 51.8	0.0
	baz=277,SNR=10								
C23K	Itkillik River	26.54	36	P		P		07 31 52.9	+0.5
	baz=260,SNR=63								
H23K	Yukon River	26.54	45	P		P		07 31 53.5	+1.0
	baz=269,SNR=148								
I23K	Minto, Yukon-K	26.61	46	P		P		07 31 54.5	+1.4
	baz=270,SNR=64								
E23K	Chandalar	26.65	40	P		P		07 31 54.1	+0.6
	baz=264								
TOLK	Toolik Lake Re	26.73	38	P		P		07 31 54.3	+0.2
	baz=263,SNR=52								
RC01	Rabbit Creek A	26.74	55	P		P		07 31 53.5	-0.8
	baz=278,SNR=11								
NEA2	Nenana	26.75	48	P		P		07 31 54.8	+0.5
	baz=272,SNR=62								
O22K	Cooper Landing	26.84	57	P		P		07 31 54.5	-0.6
	baz=279,SNR=8.5								
MCK	McKinley	26.85	49	P		P		07 31 55.5	+0.3
	baz=274,SNR=42								
PMR	Palmer	26.96	54	P		P		07 31 55.8	-0.4
	baz=278,SNR=27								
SEW	Seward	27.04	58	P		P		07 31 56.6	-0.3
	baz=280,SNR=21								
E24K	Your Creek	27.07	40	P		P		07 31 57.6	+0.4
	baz=265,SNR=76								
WAT1	Susitna Watana	27.09	51	P		P		07 31 57.2	-0.3
	baz=276								
C24K	Franklin Bluff	27.18	36	P		P		07 31 57.6	-0.4
	baz=262								
H24K	Noodor Dome	27.23	45	P		P		07 31 59.4	+0.7
	baz=270								
TCOL	CIGO, UAF Yank	27.26	47	P		P		07 31 59.6	+0.8
	baz=272,SNR=35								
JHS	Saijyo	27.26	236	P		P		07 32 00.5	+1.3
COLA	College	27.26	47	P		P		07 31 59.0	+0.2
COLA				IAmb		IAmb		07 32 03.8	
	comp=Z,126nm,0.8s								
COLA	College	27.26	47	P		P		07 31 59.5	+0.7
	baz=272								
COLA	College	27.26	47	*c i*P		P		07 31 59.4	+0.6
COLA				pmax	pmax				
	comp=Z,126nm,0.9s								
F24K	Squaw Lake	27.26	41	P		P		07 31 59.4	+0.4
	baz=267,SNR=48								
KNK	Knik Glacier	27.31	54	P		P		07 31 59.2	-0.2
KNK				IAmb		IAmb		07 32 01.3	
	comp=Z,365nm,1.2s								
KNK	Knik Glacier	27.31	54	P		P		07 31 59.7	+0.4
	baz=278,SNR=86								
SML	Sawmill	27.31	54	P		P		07 31 59.6	+0.2
	baz=278,SNR=67								
G24K	Hadweenzic Riv	27.39	43	P		P		07 32 00.8	+0.8
	baz=269								
SNY	Shenyang	27.39	258	⇑P		P		07 31 52.5	-7.8
SNY				S		S		07 36 27.0	-6.5
SNY				pmax	pmax				
	comp=Z,41nm,1.2s								
SNY				LR		LR			
	comp=N,570nm,10.7s								
SNY				LR		LR			
	comp=E,480nm,14.7s								
SNY				LR		LR			
	comp=Z,900nm,12.6s								
POKR	Poker Plat Res	27.43	46	P		P		07 32 00.5	+0.1
POKR	Poker Plat Res	27.43	46	P		P		07 32 01.3	+0.9
	baz=272,SNR=32								
PWL	Port Wells	27.45	56	P		P		07 32 00.3	-0.3
	baz=280,SNR=62								
WAT6	Susitna Watana	27.49	52	P		P		07 32 00.5	-0.7
	baz=277,SNR=36								
DHY	Denali Highway	27.60	51	P		P		07 32 01.9	-0.2
	baz=276,SNR=53								
M23K	Glacier View	27.60	54	P		P		07 32 02.1	+0.2
	baz=278,SNR=37								
HDA	Harding Lake	27.67	48	P		P		07 32 02.3	-0.3
	baz=274,SNR=81								
IL31		27.68	47	P		P		07 32 02.5	0.0
IL31				IAmb		IAmb		07 32 07.5	
	comp=Z,169nm,0.8s								
ILAR	Eielson Array	27.68	47	P		P		07 32 02.5	-0.1
	comp=Z,117nm,0.8s,baz=266,slow=8.0,SNR=537								
ILAR				ScP		ScP		07 38 47.8	-1.2
	comp=Z,3.5nm,1.1s,baz=283,slow=3.0,SNR=7.7								
ILAR				LR		LR		07 43 24.3	
	comp=Z,302nm,20.7s,baz=254,slow=37								
SCM	Sheep Creek Mo	27.78	53	P		P		07 32 04.0	+0.3
	baz=279,SNR=40								
JMN	Monobe	27.93	233	P		P		07 32 05.8	+0.6
JMN				IAmb		IAmb		07 32 08.1	
	comp=Z,259nm,1.3s								
G25K	Bearman Lake	27.94	43	P		P		07 32 05.6	+0.7
	baz=270								
D25K	Kavik River	27.95	37	P		P		07 32 04.8	-0.2
	baz=265								
KS19	Wonju Array Si	28.01	246	P		P		07 32 05.9	+0.1
KSRS	Korea Array	28.01	246	P		P		07 32 05.0	-0.8
	comp=Z,27nm,0.9s,baz=44,slow=8.8,SNR=56								
KSRS				PcP		PcP		07 35 20.2	+2.0
	comp=Z,5.1nm,0.8s,baz=31,slow=2.1,SNR=7.8								
KSRS				pPcP				07 35 43.7	
	comp=Z,7.3nm,0.7s,baz=1.2,slow=2.3,SNR=10								
KSRS				LR		LR		07 43 12.3	
	comp=Z,286nm,18.9s,baz=45,slow=36								
	comp=Z,27nm,0.9s								
H25L	Birch Creek	28.06	44	P		P		07 32 06.4	+0.5
	baz=271								
P23K	Montague Islan	28.07	57	P		P		07 32 06.7	+0.5
	baz=282,SNR=9.2								
F25K	Christian Rive	28.13	41	P		P		07 32 07.3	+0.7
	baz=269								
E25K	Arctic Village	28.17	40	P		P		07 32 07.9	+0.9
	baz=268,SNR=68								
PRP	Porcupine Dome	28.21	45	P		P		07 32 08.4	+0.9
	baz=273,SNR=330								
K24K	Donnelly Dome	28.24	49	P		P		07 32 07.6	-0.1
	baz=276,SNR=52								
M24K	Tolsona, Glenn	28.28	53	P		P		07 32 08.6	+0.6
	baz=279,SNR=25								
FYU	Fort Yukon	28.29	43	P		P		07 32 08.6	+0.6
FYU				IAmb		IAmb		07 32 13.4	
	comp=Z,126nm,0.9s								
HIN	Hinchinbrook I	28.43	56	P		P		07 32 09.4	+0.1
PAX	Paxson	28.48	51	P		P		07 32 09.7	-0.1
PAX	Paxson	28.48	51	P		P		07 32 09.9	0.0
	baz=278,SNR=38								
PAX	Paxson	28.48	51	P		P		07 32 09.7	-0.1
PAX				pmax	pmax				
	comp=Z,39nm,0.8s								
KLU	Klutina	28.50	54	P		P		07 32 09.7	-0.4
KLU	Klutina	28.50	54	P		P		07 32 10.5	+0.5
	baz=280,SNR=28								
C26K	Camden Bay	28.51	36	P		P		07 32 10.1	+0.2
	baz=265								
BMAR	Burnt Mountain	28.53	41	P		P		07 32 10.3	0.0
DIV	Divide	28.64	55	P		P		07 32 11.1	-0.1
DIV				IAmb		IAmb		07 32 12.8	
	comp=Z,103nm,1.0s								
RIDG	Independent Ri	28.66	49	P		P		07 32 10.5	-0.9
RIDG				IAmb		IAmb		07 32 15.8	
	comp=Z,121nm,1.1s								
RIDG	Independent Ri	28.66	49	P		P		07 32 10.5	-0.9
	baz=277,SNR=39								
F26K	Sheenjek River	28.70	41	P		P		07 32 12.6	+0.9
	baz=270,SNR=40								
HARP	HAARP	28.70	52	P		P		07 32 12.6	+0.8
	baz=279,SNR=13								
Q23K	Middleton Isla	28.72	58	P		P		07 32 12.3	+0.5
	baz=284								
EYAK	Cordova Ski Ar	28.76	56	P		P		07 32 12.0	-0.3
EYAK	Cordova Ski Ar	28.76	56	P		P		07 32 12.8	+0.6
	baz=282,SNR=8.7								
G26K	Porcupine Rive	28.85	42	P		P		07 32 13.9	+0.9
	baz=272								
C27K	Jago River	28.90	37	P		P		07 32 14.1	+0.6
	baz=267								
SCRK	Sand Creek	29.01	48	P		P		07 32 13.7	-0.8
SCRK				IAmb		IAmb		07 32 18.9	
	comp=Z,171nm,0.9s								
SCRK	Sand Creek	29.01	48	P		P		07 32 14.0	-0.5
	baz=277,SNR=252								
DOT	Dot Lake	29.02	49	P		P		07 32 13.2	-1.3
N25K	Chitina, Valde	29.10	53	P		P		07 32 15.5	+0.2
	baz=281,SNR=30								
TJN	Taejon	29.11	245	P		P		07 32 16.9	+1.3
TJN	Taejon	29.11	245	*c i*P		P		07 32 16.3	+0.7
J26L	Joseph Creek	29.13	47	P		P		07 32 14.9	-0.7
J26L	Joseph Creek	29.13	47	P		P		07 32 15.1	-0.5
	baz=277,SNR=24								
I26K	Coal Creek Min	29.22	46	P		P		07 32 15.3	-1.0
	baz=276								
BMRM	Bremner River	29.23	55	P		P		07 32 16.6	+0.2
BMRM				IAmb		IAmb		07 32 18.2	
	comp=Z,133nm,0.9s								
BMRM	Bremner River	29.23	55	P		P		07 32 16.8	+0.3
	baz=282								
RAGM	Ragged Mountai	29.32	56	P		P		07 32 19.8	+2.6
RAGM				IAmb		IAmb		07 32 24.4	
	comp=Z,103nm,0.8s								
L26K	Log Cabin Wild	29.43	50	P		P		07 32 18.4	+0.3
	baz=279,SNR=23								
GLB	Gilahina Butte	29.50	54	P		P		07 32 19.1	+0.2
GLB				IAmb		IAmb		07 32 20.9	
	comp=Z,159nm,1.5s								
KAIM	Kayak Island	29.55	57	P		P		07 32 19.8	+0.5
KAIM				IAmb		IAmb		07 32 21.6	
	comp=Z,188nm,0.9s								
KAIM	Kayak Island	29.55	57	P		P		07 32 19.9	+0.6
	baz=284,SNR=9.5								
E27K	Coleen River	29.66	40	P		P		07 32 20.9	+0.8
	baz=272,SNR=26								
M26K	Nabesna, AK	29.69	52	P		P		07 32 22.0	+1.4
	baz=281								
G27K	Doyon Strip	29.70	43	P		P		07 32 21.6	+1.0
	baz=274								
VRDI	Verde Repeater	29.72	54	P		P		07 32 21.3	+0.4
H27K	Steamboat Moun	29.80	44	P		P		07 32 22.8	+1.3
	baz=275								
I27K	Kandik River	29.82	45	P		P		07 32 21.4	-0.3
	baz=276								
JNU	Nakatsue	29.86	237	P		P		07

baz=281,SNR=67
YUK3 Moose Creek 30.99 52 P P 07 32 32.8 +0.6
baz=284
TABL Table Mountain 31.00 55 P P
TABL IAmb IAmb 07 32 34.4
comp=Z,118nm,0.9s
I29M Ogilvie Camp, 31.23 45 P P 07 32 34.4 +0.4
I29M IAmb IAmb 07 32 39.5
comp=Z,151nm,1.0s
I29M Ogilvie Camp, 31.23 45 P P 07 32 34.7 +0.7
baz=279,SNR=118
O28M Mount Upton 31.37 54 P P 07 32 36.5 +0.9
baz=285
JSU Suzuyama 31.39 235 P P 07 32 36.4 +0.6
JSU Suzuyama 31.39 235 P P 07 32 36.7 +0.9
J29M Klondike Camp 31.42 47 P P 07 32 35.8 0.0
baz=281,SNR=9.7
YUK8 Steele Glacier 31.44 53 P P 07 32 36.7 +0.6
baz=285,SNR=15
PINM Pinnacle 31.52 55 P P 07 32 37.4 +0.7
baz=286,SNR=20
EPYK Eagle Plains 31.71 43 P P 07 32 39.0 +0.8
baz=279,SNR=47
L29M L29M 31.74 49 P P 07 32 40.0 +1.5
baz=283
M29M Somme Creek 31.75 51 P P 07 32 40.0 +1.3
baz=284
G30M tAoh Zraii Nji 31.81 42 P P 07 32 39.5 +0.3
baz=278
K29M Barlow Dome 31.84 48 P P 07 32 40.1 +0.6
baz=282,SNR=40
YUK4 Talbot Arm 31.94 53 P P 07 32 41.2 +0.7
baz=285,SNR=16
PNL Peninsula 32.06 56 P P 07 32 41.7 +0.3
baz=288,SNR=9.3
YUK6 Outpost Mounta 32.18 53 P P 07 32 43.4 +0.7
baz=286,SNR=15
O29M Mount Kennedy 32.27 55 P P 07 32 44.2 +0.9
baz=287,SNR=14
M30M Minto, Yukon 32.46 50 P P 07 32 46.2 +1.3
baz=285,SNR=35
MAYO Mayo, Yukon 32.61 48 P P 07 32 46.8 +0.7
baz=284
HYT Haines Junctio 32.62 53 P P 07 32 47.8 +1.4
baz=287,SNR=62
N30M Aishikik Lake 32.63 52 P P 07 32 47.2 +0.8
baz=286
INK Inuvik 32.64 39 P P 07 32 47.1 +0.9
comp=Z,30nm,0.8s,baz=281,slow=9.3,SNR=64
INK LR LR 07 46 10.9
comp=Z,145nm,20.5s,baz=296,slow=36
comp=Z,30nm,0.8s
INK Inuvik 32.64 39 P P 07 32 47.1 +0.9
baz=279,SNR=40
F31M Tsiigehtchic 32.70 41 P P 07 32 47.5 +0.7
baz=280,SNR=62
BJI Beijing 32.82 263 P P 07 32 49.0 +0.9
BJI PcP PcP 07 35 34.5 +3.6
BJI pmax pmax
comp=Z,13nm,0.9s
BJI LR LR
comp=Z,460nm,17.3s
BJI LR LR
comp=Z,390nm,18.5s
BJI LR LR
comp=Z,450nm,20.2s
BJT Baijiatuau 32.84 263 P P 07 32 48.8 +0.5
BJT Baijiatuau 32.84 263 P P 07 32 49.5 +1.2
BJT Baijiatuau 32.84 263 P P 07 32 48.8 +0.5
BJT pmax pmax
comp=Z,10.0nm,0.8s
P29M Windy Craggy 32.88 55 P P 07 32 49.6 +1.1
baz=289
P30M Million Dollar 33.09 54 P P 07 32 51.7 +1.3
baz=288
N31M Braeburn, Yuko 33.23 52 P P 07 32 52.9 +1.4
baz=287,SNR=13
O30N Mendenhall 33.30 53 P P 07 32 53.6 +1.4
baz=288,SNR=30
ULN Ulaanbaatar 33.52 281 P P 07 32 54.5 +0.2
ULN pP pP 07 33 16.8 +1.1
ULN ScP ScP 07 39 11.2 +2.4
PLBC Pleasant Camp 33.59 55 P P 07 32 56.2 +1.5
baz=290,SNR=6.9
M31M Drury Creek, Y 33.64 50 P P 07 32 56.9 +1.8
baz=287,SNR=50
WHY Whitehorse 33.90 53 P P 07 32 59.3 +1.8
baz=289,SNR=58
SONM Songino Array 33.91 282 P P 07 32 56.6 -1.2
comp=Z,2.8nm,0.7s,baz=63,slow=8.5,SNR=16
SONM pP pP 07 33 19.2 +0.1
comp=Z,12nm,0.7s,baz=57,slow=8.0,SNR=21
SONM PcP PcP 07 35 35.1 +1.0
comp=Z,14nm,0.7s,baz=103,slow=2.1,SNR=13
SONM pPcP 07 35 58.2
comp=Z,23nm,0.8s,baz=71,slow=1.4,SNR=13
SONM ScP ScP 07 39 11.7 +1.6
comp=Z,12nm,0.8s,baz=84,slow=1.1,SNR=20
SONM LR LR 07 47 51.1
comp=Z,280nm,19.4s,baz=32,slow=38
comp=Z,2.8nm,0.7s
SKAG Skagway 34.09 55 P P 07 33 00.3 +1.3
SKAG IAmb IAmb 07 33 02.3
comp=Z,125nm,1.0s
SKAG Skagway 34.09 55 P P 07 33 00.8 +1.8
baz=290,SNR=37
FARO Faro, Yukon 34.10 50 P P 07 33 00.6 +1.5
baz=288,SNR=56
S31K Pelican 34.19 58 P P 07 33 01.2 +1.4
baz=292,SNR=6.6
R31K City Hall, Gus 34.27 57 P P 07 33 02.3 +1.8
baz=292
ZAK Zakamensk 34.37 287 *eP* P 07 33 01.5 -0.2
ZAK pmax pmax
comp=Z,9.0nm,1.1s
N32M Quiet Lake 34.57 52 P P 07 33 04.3 +1.1
baz=289
BESE Bessie Mountai 34.64 56 P P 07 33 04.8 +1.1
BESE IAmb IAmb 07 33 06.8
comp=Z,114nm,1.0s
P32M Atlin 34.81 54 P P 07 33 07.0 +1.7
baz=291
A36M Sachs Harbour 34.83 32 P P 07 33 06.0 +0.7
baz=280,SNR=39
TIA Tai'an 34.89 257 ⇑P P 07 33 04.5 -1.6
TIA pmax pmax
comp=Z,32nm,0.9s
TIA LR LR
comp=Z,450nm,16.2s
TIA LR LR
comp=Z,310nm,17.2s
TIA LR LR
comp=Z,550nm,18.1s
MMPY Sheldon Lake, 34.90 49 P P 07 33 07.9 +1.8
baz=289,SNR=72
R32K Eaglecrest 34.91 57 P P 07 33 07.8 +1.6
baz=292,SNR=22
H11N2 WAKE ISLAND Hy 34.96 170 T T 08 10 21.8
baz=355,slow=76,SNR=7653
H11N3 WAKE ISLAND Hy 34.98 170 T T 08 10 21.2
baz=355,slow=76,SNR=8027
H11N1 WAKE ISLAND Hy 34.98 170 T T 08 10 21.2
baz=355,slow=76,SNR=9451
HHC Hu-ho-hao-te 34.98 268 *eP* P 07 33 08.3 +1.3
HHC PP PP 07 34 27.8 -0.1
HHC S S 07 38 32.8 +0.8
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,150nm,6.5s
HHC LR LR
comp=Z,540nm,11.6s
HHC LR LR
comp=Z,580nm,11.4s
HHC LR LR
comp=Z,500nm,11.4s
SIT Sitka 34.99 59 P P 07 33 08.6 +1.8
baz=294,SNR=8.0
NRIK Noril'sk 35.01 324 P P 07 33 05.3 -1.4
comp=Z,1.2nm,0.3s,baz=101,slow=6.4,SNR=1.8
NRIK PcP PcP 07 35 37.1 +0.5
comp=Z,15nm,0.8s,baz=91,slow=3.5,SNR=5.5
NRIK ScP ScP 07 39 15.1 +1.6
comp=Z,5.1nm,0.7s,baz=34,slow=5.4,SNR=4.0
NRIK LR LR 07 48 17.2
comp=Z,588nm,18.8s,baz=80,slow=38
comp=Z,1.2nm,0.3s
NRIK Noril'sk 35.01 324 P P 07 33 10.0 +3.3
NRIK pP pP 07 33 28.7 +0.4
NRIK IAmb IAmb 07 33 30.2
comp=Z,79nm,1.4s
P33M Teslin, Yukon 35.01 53 P P 07 33 07.5 +0.4
P33M Teslin, Yukon 35.01 53 P P 07 33 08.7 +1.6
baz=291,SNR=12
S32K Killisnoo 35.20 58 P P 07 33 10.1 +1.6
baz=294,SNR=7.9
HNS HongShan 35.44 260 ⇑P P 07 33 09.8 -1.0
HNS pP pP 07 33 31.3 -1.0
HNS sP sP 07 33 43.8 +0.8
HNS PP PP 07 34 34.5 +1.6
HNS PcP PcP 07 35 40.0 +1.6
HNS *eS* S 07 38 43.3 +4.5
HNS ScS ScS 07 43 21.3 +1.1
HNS pmax pmax
comp=Z,23nm,1.1s
HNS LR LR
comp=Z,400nm,19.6s
HNS LR LR
comp=Z,360nm,21.2s
HNS LR LR
comp=Z,470nm,21.4s
Q32M Nakina River 35.74 55 P P 07 33 15.2 +1.8
baz=293
C36M Paulatuk 35.79 36 P P 07 33 13.8 +0.3
C36M IAmb IAmb 07 33 44.4
comp=Z,71nm,0.8s
C36M Paulatuk 35.79 36 P P 07 33 14.1 +0.6
baz=285,SNR=47
BTO Baotou 36.04 269 *eP* P 07 33 15.0 -1.1
BTO S S 07 38 38.8 -9.3
BTO SS SnSn 07 41 18.3 -3.7
BTO LR LR
comp=Z,2µm,14.6s
BTO LR LR
comp=Z,2µm,15.7s
H11S1 WAKE ISLAND Hy 36.15 170 T T 08 11 50.9
baz=352,SNR=66
H11S3 WAKE ISLAND Hy 36.16 170 T T 08 11 50.3
baz=352,slow=74,SNR=162
H11S2 WAKE ISLAND Hy 36.17 170 T T 08 11 49.9
baz=352,slow=74,SNR=71
R33M Jennings River 36.19 54 P P 07 33 19.4 +2.3
baz=293,SNR=31
T33K Petersburg 36.28 58 P P 07 33 19.7 +2.0
baz=295
JOW Kunigami 36.33 234 LR LR 07 47 44.8
comp=Z,213nm,21.1s,baz=167,slow=35
JOW Kunigami 36.33 234 P P 07 33 18.9 +0.3
JOW Kunigami 36.33 234 P P 07 33 19.0 +0.4
U33K Whale Pass 36.49 60 P P 07 33 21.8 +2.2
baz=296
TGTN Hyland Airport 36.60 50 P P 07 33 22.1 +1.6
baz=292,SNR=40
S34M Telegraph Cree 36.71 56 P P 07 33 23.3 +1.9
baz=295,SNR=11
WRAK Wrangell Islan 36.75 59 P P 07 33 23.0 +1.3
WRAK IAmb IAmb 07 33 25.4
comp=Z,104nm,1.4s
WRAK Wrangell Islan 36.75 59 P P 07 33 23.9 +2.1
baz=296,SNR=6.6
CRAG Craig 36.78 61 P P 07 33 23.4 +1.4
baz=297
WTLY Watson Lake, Y 36.91 52 P P 07 33 24.1 +0.9
WTLY IAmb IAmb 07 33 25.9
comp=Z,181nm,1.8s
WTLY Watson Lake, Y 36.91 52 P P 07 33 24.7 +1.5
baz=294,SNR=25
NJ2 Nanjing 36.98 250 ⇓*iP* P 07 33 25.0 +1.0
NJ2 pmax pmax
comp=Z,63nm,0.8s
DLBC Dease Lake 37.02 55 P P 07 33 26.6 +2.4
comp=Z,34nm,1.0s,baz=296,slow=8.6,SNR=42
DLBC pP pP 07 33 46.1 +0.5
comp=Z,32nm,0.8s,baz=287,slow=10.0,SNR=8.4
DLBC LR LR 07 48 34.8
comp=Z,403nm,21.7s,baz=294,slow=36
comp=Z,34nm,1.0s
DLBC Dease Lake 37.02 55 P P 07 33 26.3 +2.1
baz=295,SNR=19
KNGR Kungurtug, Tuv 37.44 291 ⇓*eP* P 07 33 28.0 +0.1
KNGR pmax pmax
comp=Z,5.0nm,0.9s
T35M Bob Quinn 37.54 57 P P 07 33 31.5 +3.0
baz=296,SNR=25
V35K Ketchikan 37.61 60 P P 07 33 30.8 +1.7
baz=298
WRGLY Wrigley 38.02 45 P P 07 33 34.0 +1.5
baz=293
DIB Dawson Inlet, 38.19 64 P P 07 33 33.6 -0.3
DIB IAmb IAmb 07 33 37.5
comp=Z,78nm,1.3s
LIRD Liard River Hi 38.45 52 P P 07 33 37.9 +1.8
baz=296,SNR=34
LYN LuoYang 38.73 259 ⇓*iP* P 07 33 37.5 -1.2
LYN S S 07 39 23.5 -5.4
LYN pmax pmax
comp=Z,20nm,1.0s
LYN pmax pmax
comp=Z,150nm,4.0s
LYN LR LR
comp=Z,430nm,17.4s
LYN LR LR
comp=Z,480nm,18.2s
RUBB Prince Rupert 38.78 61 P P 07 33 40.0 +1.1
RUBB IAmb IAmb 07 33 42.2
comp=Z,114nm,1.5s
KOTAN Kotaneelee Air 39.06 50 P P 07 33 43.1 +1.9
baz=296,SNR=26
FLDN Fort Liard 39.27 50 P P 07 33 45.2 +2.3
baz=296,SNR=6.0
EUNU Eureka 40.59 14 P P 07 33 54.2 +0.5
WHN Wuhan 40.63 253 ⇑P P 07 33 52.8 -1.6
BBB Bella Bella 40.99 63 P P 07 33 58.8 +1.6
comp=Z,64nm,1.1s,baz=313,slow=10,SNR=3.7
BBB LR LR 07 48 51.8
comp=Z,191nm,20.7s,baz=318,slow=33
comp=Z,64nm,1.1s
XAN Xi'an 41.15 262 P P 07 33 56.8 -2.0
XAN pP pP 07 34 18.3 -2.4
XAN PcP PcP 07 35 56.8 +0.5
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN LR LR
comp=Z,420nm,18.4s
XAN LR LR
comp=Z,420nm,18.1s
XAN LR LR
comp=Z,550nm,16.8s
ALE Alert 41.56 8 P P 07 34 01.6 +0.1
ALE pP pP 07 34 22.9 -0.7
RES Resolute Bay 41.98 23 P P 07 34 06.0 +1.0
comp=Z,38nm,0.8s,baz=297,slow=8.5,SNR=27
comp=Z,38nm,0.8s
RES Resolute Bay 41.98 23 P P 07 34 05.8 +0.8
RES Resolute Bay 41.98 23 P P 07 34 05.8 +0.8
RES pmax pmax
comp=Z,44nm,0.9s
YKA Yellowknife Ar 41.99 44 P P 07 34 06.0 +0.8
comp=Z,79nm,0.8s,baz=298,slow=8.5,SNR=52
YKA pP pP 07 34 27.4 +0.3
comp=Z,22nm,0.7s,baz=298,slow=7.6,SNR=4.1
YKA PcP PcP 07 35 59.1 +0.6
comp=Z,9.8nm,0.8s,baz=306,slow=3.6,SNR=5.1
YKA ScP ScP 07 39 41.3 +1.1
comp=Z,3.8nm,0.9s,baz=282,slow=3.8,SNR=4.2
comp=Z,79nm,0.8s
YKA Yellowknife Ar 41.99 44 P P 07 34 05.6 +0.4
ZAA0 Zalesovo Array 42.32 302 P P 07 34 05.4 -2.7
ZAA0 pP pP 07 34 28.7 -1.4
ZALV Zalesovo Beam 42.32 302 P P 07 34 05.5 -2.5
comp=Z,3.9nm,0.8s,baz=49,slow=8.5,SNR=8.4
ZALV pP pP 07 34 30.1 0.0
comp=Z,26nm,1.0s,baz=64,slow=6.8,SNR=13
ZALV LR LR 07 53 00.4
comp=Z,499nm,18.2s,baz=20,slow=38
comp=Z,3.9nm,0.8s
ZALV Zalesovo Beam 42.32 302 P P 07 34 05.4 -2.7
ZALV pP pP 07 34 29.4 -0.7
LZH Lanzhou 42.66 269 *eP* P 07 34 10.5 -0.7
LZH pP pP 07 34 32.8 -0.4
LZH sP sP 07 34 42.0 -1.9
LZH PcP PcP 07 36 03.0 +1.5
LZH ScS ScS 07 44 02.8 -0.1
LZH pmax pmax
comp=Z,38nm,1.0s
LZH LR LR
comp=Z,450nm,12.4s
LZH LR LR
comp=Z,350nm,12.9s
LZH LR LR
comp=Z,580nm,13.6s
GTA Gaotai 42.77 275 ⇓P P 07 34 11.0 -1.0
GTA pP pP 07 34 35.5 +1.4
GTA sP sP 07 34 44.5 -0.3
GTA ScS ScS 07 44 03.0 -0.4
GTA pmax pmax
comp=Z,23nm,1.0s
GTA pmax pmax
comp=Z,98nm,6.9s
GTA LR LR
comp=Z,270nm,18.2s
GTA LR LR
comp=Z,420nm,20.4s
GTA LR LR
comp=Z,400nm,20.4s
HILA High Level 42.98 50 P P 07 34 14.3 +1.0
HILA pP pP 07 34 34.5 -0.7
DGZ Jazzator, Alta 43.37 295 *de*P P 07 34 15.5 -1.2
DGZ pmax pmax
comp=Z,8.0nm,0.7s
ENH Enshi 43.58 258 P P 07 34 16.7 -1.9
ENH pP pP 07 34 40.2 -0.4
WAPA Wapiti River 43.77 55 P P 07 34 20.1 +0.4
WAPA IAmb IAmb 07 34 23.0
comp=Z,160nm,1.6s
NOR Nord 44.21 359 *i* P P 07 34 21.9 -1.0
NOR IAmb IAmb 07 34 34.0
comp=Z,1.9nm,0.8s
BRLDA Berland Lookou 45.28 55 P P 07 34 32.4 +0.6
KIP Kipapa 45.31 120 P P 07 34 31.9 -0.3
KIP Kipapa 45.31 120 P P 07 34 34.4 +2.1
KIP Kipapa 45.31 120 P P 07 34 32.0 -0.3
KIP Kipapa 45.31 120 P P 07 34 33.9 +1.6
KIP sP sP 07 35 08.8 +4.9
TULEG Thule 45.59 14 *i* P P 07 34 32.6 -1.3
TULEG IAmb IAmb 07 34 37.0
comp=Z,20nm,0.8s
SPA0 Spitsbergen Ar 45.88 350 *eP* P 07 34 36.1 0.0
SPITS Spitsbergen Ar 45.88 350 P P 07 34 35.2 -1.0
comp=Z,11nm,0.5s,baz=65,slow=6.6,SNR=43
SPITS LR LR 07 55 40.2
comp=Z,127nm,18.1s,baz=348,slow=38
comp=Z,11nm,0.5s
SPITS Spitsbergen Ar 45.88 350 P P 07 34 35.2 -1.0
SPITS pmax pmax
comp=Z,58nm,0.9s
SPB2 Spitsbergen Ar 45.88 350 P P 07 34 35.7 -0.4
ZSN Zaisan 46.08 294 *eP* P 07 34 36.1 -2.1
baz=294
ZSN Zaisan 46.08 294 *eP* P 07 34 36.0 -2.1
CD2 Chengdu 46.41 263 P P 07 34 40.0 -0.9
CD2 PP PP 07 36 28.8 -2.3
CD2 S S 07 41 18.8 -2.8
CD2 sS sS 07 41 56.5 -3.1
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,100nm,4.7s
CD2 LR LR
comp=Z,390nm,21.6s
WMQ Urumqi 46.83 288 *eP* P 07 34 43.5 -0.6
WMQ pP pP 07 35 07.8 +1.2
WMQ sP sP 07 35 18.5 +1.3
WMQ PcS PcS 07 40 11.5 +0.9
WMQ S S 07 41 32.8 +5.5
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,520nm,20.5s
WMQ LR LR
comp=Z,350nm,21.7s
WMQ LR LR
comp=Z,520nm,22.7s
WMQ Urumqi 46.83 288 P P 07 34 43.6 -0.5
WMQ pP pP 07 35 07.3 +0.7
NEEM North Greenlan 46.92 9 *i* P P 07 34 44.0 -0.6
NEEM IAmb IAmb 07 34 48.3
comp=Z,48nm,0.8s
KURK Kurchatov 47.30 301 P P 07 34 45.0 -2.5
KURK Kurchatov 47.30 301 *d* P P 07 34 45.2 -2.3
KURK pmax pmax
comp=Z,14nm,0.8s
KURK Kurchatov 47.30 301 P P 07 34 45.3 -2.2
KURK pP pP 07 35 09.7 -0.2
KURBB Kurchatov Arra 47.40 301 LR LR 07 56 02.4
comp=Z,417nm,19.4s,baz=167,slow=38
KURBB Kurchatov Arra 47.40 301 P P 07 34 45.8 -2.5
EDM Edmonton 47.73 54 P P 07 34 51.7 +0.8
EDM Edmonton 47.73 54 P P 07 34 51.7 +0.8
EDM pmax pmax
comp=Z,186nm,0.8s
MK31 Makanchi Array 47.86 295 P P 07 34 49.4 -2.6
MK31 IAmb IAmb 07 35 15.3
comp=Z,128nm,1.6s
MK31 Makanchi Array 47.86 295 P P 07 34 49.4 -2.6
MK31 pmax pmax
comp=Z,129nm,1.6s
MKAR Makanchi Array 47.86 295 P P 07 34 49.8 -2.2
comp=Z,5.0nm,0.6s,baz=56,slow=7.6,SNR=43
MKAR pP pP 07 35 13.8 -0.7
comp=Z,22nm,0.7s,baz=56,slow=7.4,SNR=18
MKAR S S 07 41 37.4 -4.5
comp=Z,0.6nm,0.9s,baz=50,slow=21,SNR=1.8
MKAR LR LR 07 56 05.9
comp=Z,275nm,20.0s,baz=59,slow=37
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 47.86 295 P P 07 34 49.4 -2.6
MKAR Makanchi Array 47.86 295 *i* P P 07 34 49.7 -2.3
MKAR pmax pmax
comp=Z,5.0nm,0.6s
POHA Pohakuloa 47.97 119 P P 07 34 54.2 +0.8
POHA Pohakuloa 47.97 119 P P 07 34 55.4 +2.0
comp=Z,463nm,1.0s
POHA Pohakuloa 47.97 119 P P 07 34 54.9 +1.6
POHA ScP ScP 07 40 08.0 +2.2
MAKZ Makanchi 48.02 295 P P 07 34 50.6 -2.6
MAKZ pP pP 07 35 15.2 -0.5
GYA Guiyang 48.09 257 *eP* P 07 34 55.0 +0.9
GYA LR LR
comp=Z,650nm,14.4s
GYA LR LR
comp=Z,660nm,15.8s
GYA LR LR
comp=Z,810nm,16.9s
MLH Mauna Loa 48.26 119 P P 07 34 55.8 +0.1
RSD Rainshed 48.35 118 P P 07 34 57.0 +0.8
KULLO Kullorsuaq 48.83 13 *i* P P 07 34 58.5 -0.4
KULLO IAmb IAmb 07 34 59.3
comp=Z,89nm,0.5s
NEW Newport 48.99 61 P P 07 35 01.4 +0.7
comp=Z,33nm,0.9s,baz=315,slow=7.4,SNR=51
NEW PcP PcP 07 36 24.6 +1.4
comp=Z,22nm,0.8s,baz=280,slow=4.7,SNR=5.4
NEW LR LR 07 53 56.2
comp=Z,172nm,21.7s,baz=301,slow=34
comp=Z,33nm,0.9s
NEW Newport 48.99 61 P P 07 35 01.4 +0.7
baz=310,SNR=27
DAG Danmarks Havn 49.08 360 *i* P P 07 34 59.4 -1.4
DAG IAmb IAmb 07 35 05.9
comp=Z,10nm,0.8s
E09A Wood Farm, Sta 49.59 64 P P 07 35 05.2 0.0
BVA0 Borovoye Array 49.81 308 P P 07 35 04.2 -2.6
BVAR Borovoye Array 49.81 308 LR LR 07 58 28.6
comp=Z,382nm,18.7s,baz=41,slow=39
BRVK Borovoye 49.84 308 *d* P P 07 35 05.0 -1.9
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 49.84 308 P P 07 35 05.1 -1.9
BRVK pP pP 07 35 29.2 -0.3
BRVK ScP ScP 07 40 13.2 +0.2
WALA Waterton Lakes 50.10 59 P P 07 35 10.0 +0.8
YBH Yreka Blue Hor 50.30 71 P P 07 35 12.6 +1.9
comp=Z,66nm,1.0s,baz=344,slow=3.6,SNR=56
YBH PcP PcP 07 36 28.3 +0.1
comp=Z,7.7nm,0.8s,baz=180,slow=2.5,SNR=1.8
YBH LR LR 07 52 28.1
comp=Z,154nm,21.7s,baz=314,slow=31
comp=Z,66nm,1.0s

UPNV	**Upernavik**	**50.57**	**13**	*i* P		**P**	**07 35 11.2**	**-1.0**
UPNV				IAmb		IAmb	07 35 15.2	
	comp=Z,46nm,0.8s							
BRZS	**Berezniki**	**50.70**	**304**	*e*P		**P**	**07 35 10.8**	**-2.7**
	baz=303							
BRZS				*i* pP		**pP**	**07 35 35.5**	**-0.8**
	baz=303							
BRZS	**Berezniki**	**50.70**	**304**	*e*P		**P**	**07 35 10.8**	**-2.7**
BRZS				*i* *PP		**pP**	**07 35 35.4**	**-0.8**
PZH	**PanZhiHua**	**50.88**	**261**	P		**P**	**07 35 14.8**	**-0.5**
PZH				ScS		ScS	07 44 53.8	-3.1
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,160nm,4.1s							
PZH				LR		LR		
	comp=Z,530nm,16.7s							
PZH				LR		LR		
	comp=Z,770nm,17.5s							
PZH				LR		LR		
	comp=Z,1µm,17.5s							
TDK	**Taldyqorghan**	**51.09**	**295**	*e*P		**P**	**07 35 13.8**	**-2.8**
	baz=295							
TDK				*i* pP		**pP**	**07 35 39.2**	**+0.1**
	baz=295							
TDK	**Taldyqorghan**	**51.09**	**295**	*e*P		**P**	**07 35 13.7**	**-2.8**
TDK				*i* *PP		**pP**	**07 35 39.2**	**+0.1**
KMI	**Kunming**	**51.36**	**259**	⇑P		**P**	**07 35 18.0**	**-1.0**
KMI				pmax		pmax		
	comp=Z,14nm,1.0s							
KMI				LR		LR		
	comp=Z,280nm,16.2s							
KMI				LR		LR		
	comp=Z,240nm,20.3s							
KMI				LR		LR		
	comp=Z,500nm,22.9s							
MOD	**Modoc Plateau**	**51.51**	**69**	P		**P**	**07 35 21.0**	**+1.1**
DBG	**Daneborg**	**51.56**	**0**	*i* P		**P**	**07 35 18.4**	**-1.2**
DBG				IAmb		IAmb	07 35 22.2	
	comp=Z,4.8nm,0.9s							
MSO	**Missoula**	**51.56**	**61**	P		**P**	**07 35 21.2**	**+1.0**
	baz=312,SNR=46							
LVZ	**Lovozero**	**51.59**	**337⇓**	*e*P		**P**	**07 35 19.3**	**-0.7**
LVZ				pmax		pmax		
	comp=Z,61nm,2.2s							
SHLS	**Shalkode**	**51.76**	**293**	*e*P		**P**	**07 35 17.8**	**-3.9**
	baz=293							
SHLS				*e*pP		**pP**	**07 35 43.5**	**-1.1**
	baz=293							
SHLS	**Shalkode**	**51.76**	**293**	*e*P		**P**	**07 35 17.8**	**-3.9**
SHLS				*e**PP		**pP**	**07 35 43.4**	**-1.1**
FFC	**Flin Flon**	**51.89**	**47**	P		**P**	**07 35 22.8**	**+0.5**
FFC				pP		**pP**	**07 35 44.5**	**-0.4**
FFC				ScP		**ScP**	**07 40 23.0**	**+1.2**
KPKS	**Kokpek**	**51.97**	**294**	*e*P		**P**	**07 35 20.6**	**-2.6**
	baz=294							
KPKS				*i* pP		**pP**	**07 35 46.3**	**+0.3**
	baz=294							
KPKS	**Kokpek**	**51.97**	**294**	*e*P		**P**	**07 35 20.6**	**-2.6**
KPKS				*i* *PP		**pP**	**07 35 46.2**	**+0.3**
UZB	**Uzynbulak**	**52.01**	**293**	*e*P		**P**	**07 35 20.8**	**-2.8**
	baz=293							
UZB				*i* pP		**pP**	**07 35 46.5**	**+0.2**
	baz=293							
UZB	**Uzynbulak**	**52.01**	**293**	*e*P		**P**	**07 35 20.7**	**-2.8**
UZB				*i* *PP		**pP**	**07 35 46.4**	**+0.2**
ARA0	**ARCESS Array S**	**52.12**	**342**	*e*P		**P**	**07 35 22.5**	**-1.4**
ARA0				IAmb		IAmb	07 35 25.3	
	comp=Z,10nm,1.1s							
ARCES	**ARCESS Array B**	**52.12**	**342**	P		**P**	**07 35 22.2**	**-1.6**
	comp=Z,3.6nm,0.6s,baz=37,slow=7.8,SNR=22							
ARCES				PcP		**PcP**	**07 36 32.9**	**-1.5**
	comp=Z,7.3nm,0.7s,baz=24,slow=5.4,SNR=4.5							
ARCES				ScP		**ScP**	**07 40 23.1**	**+0.5**
	comp=Z,8.9nm,1.0s,baz=36,slow=6.4,SNR=5.5							
ARCES				LR		LR	08 01 28.1	
	comp=Z,68nm,18.5s,baz=30,slow=40							
	comp=Z,3.6nm,0.6s							
APA	**Apatity**	**52.14**	**337⇓**	*i* P		**P**	**07 35 23.5**	**-0.5**
APA				*i* *PP		**pP**	**07 35 44.8**	**-1.9**
APA				*i* S		**S**	**07 42 36.0**	**-4.7**
APA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
APA				MLR		MLR		
	comp=Z,700nm,18.0s							
ZHN	**Zhinishke**	**52.31**	**294**	*e*P		**P**	**07 35 22.7**	**-3.1**
	baz=294							
ZHN				*e*pP		**pP**	**07 35 48.8**	**+0.3**
	baz=294							
ZHN	**Zhinishke**	**52.31**	**294**	*e*P		**P**	**07 35 22.6**	**-3.1**
ZHN				*e**PP		**pP**	**07 35 48.8**	**+0.3**
SATY	**Saty**	**52.40**	**294**	*e*P		**P**	**07 35 23.8**	**-2.7**
	baz=294							
SATY				*e*pP		**pP**	**07 35 49.5**	**+0.4**
	baz=294							
SATY	**Saty**	**52.40**	**294**	*e*P		**P**	**07 35 23.7**	**-2.7**
SATY				*e**PP		**pP**	**07 35 49.5**	**+0.4**
SUMG	**Summit**	**52.60**	**7**	*i* P		**P**	**07 35 26.8**	**-1.0**
SUMG				IAmb		IAmb	07 35 31.7	
	comp=Z,54nm,0.8s							
ARU	**Arti**	**52.63**	**317**	LR		LR	08 00 39.3	
	comp=Z,487nm,18.4s,baz=48,slow=39							
ARU	**Arti**	**52.63**	**317**	P		**P**	**07 35 25.6**	**-2.2**
ARU						**pP**	**07 35 49.4**	**-1.1**
ARU	**Arti**	**52.63**	**317**	*d* *iP		**P**	**07 35 25.9**	**-1.9**
ARU				*PP		**pP**	**07 35 50.0**	**-0.5**
ARU							07 36 35.0	
ARU							07 37 24.9	
ARU				S		**S**	**07 42 46.1**	**-1.5**
ARU				SS		**SS**	**07 46 22.6**	**-3.7**
ARU				pmax		pmax		
	comp=Z,13nm,0.9s							
ARU				MLR		MLR		
	comp=Z,420nm,17.0s							
ARU	**Arti**	**52.63**	**317**	P		**P**	**07 35 26.4**	**-1.4**
ARU				pP		**pP**	**07 35 49.9**	**-0.5**
EGMT	**Eagleton**	**52.85**	**57**	P		**P**	**07 35 30.4**	**+0.8**
	baz=313,SNR=22							
BEKR	**Beckworth**	**52.87**	**71**	P		**P**	**07 35 30.9**	**+0.8**
KUU	**Kurty**	**52.92**	**296**	*e*P		**P**	**07 35 27.1**	**-3.1**
	baz=296							
KUU				*e*pP		**pP**	**07 35 51.5**	**-1.5**
	baz=296							
KUU	**Kurty**	**52.92**	**296**	*e*P		**P**	**07 35 27.1**	**-3.1**
KUU				*e**PP		**pP**	**07 35 51.4**	**-1.5**
KTK1	**Kautokeino**	**52.98**	**342**	*e*P		**P**	**07 35 29.1**	**-1.1**
KTK1				IAmb		IAmb	07 35 36.1	
	comp=Z,155nm,2.1s							
JETT	**Jettan, Norway**	**52.99**	**344**	*e*P		**P**	**07 35 29.8**	**-0.5**
JETT				IAmb		IAmb	07 35 32.6	
	comp=Z,20nm,0.6s							
MDOK	**Medeo**	**53.05**	**295**	*e*P		**P**	**07 35 28.4**	**-2.9**
	baz=294							
MDOK				*i* pP		**pP**	**07 35 54.2**	**+0.2**
	baz=294							
MDOK	**Medeo**	**53.05**	**295**	*e*P		**P**	**07 35 28.4**	**-2.9**
MDOK				*i* *PP		**pP**	**07 35 54.2**	**+0.2**
BTLS	**Baital**	**53.33**	**298**	*e*P		**P**	**07 35 30.3**	**-2.8**
	baz=298							
BTLS				*i* pP		**pP**	**07 35 55.5**	**-0.5**
	baz=298							
BTLS	**Baital**	**53.33**	**298**	*e*P		**P**	**07 35 30.3**	**-2.8**
BTLS				*i* *PP		**pP**	**07 35 55.4**	**-0.5**
PRGR	**Permogore**	**53.48**	**327**	*e*P		**P**	**07 35 31.5**	**-2.4**
PRGR				*e**PP		**pP**	**07 35 56.6**	**0.0**
PRGR				*e*			07 36 38.5	
PRGR				pmax		pmax		
	comp=Z,6.0nm,0.6s							
HLID	**Hailey**	**53.53**	**64**	P		**P**	**07 35 35.6**	**+0.8**
	baz=314,SNR=32							
BOZ	**Bozeman (W)**	**53.57**	**61**	P		**P**	**07 35 36.3**	**+1.3**
	baz=314,SNR=33							
TNCH	**TengChong**	**53.87**	**263**	P		**P**	**07 35 38.5**	**+1.0**
TNCH				pP		pP	07 35 57.3	-3.1
TNCH				pmax		pmax		
	comp=Z,110nm,1.5s							
TKM2	**Tokmak 2**	**53.99**	**295**	P		pP	07 36 01.3	+0.3
	SNR=11							
ULHL	**Ulahol**	**54.11**	**294**	P		pP	07 36 02.7	+0.7
	SNR=8.8							
SGDS	**Sogindy**	**54.13**	**296**	*e*P		**P**	**07 35 36.5**	**-2.5**
	baz=296							
SGDS				*i* pP		**pP**	**07 36 02.2**	**+0.3**
	baz=296							
SGDS	**Sogindy**	**54.13**	**296**	*e*P		**P**	**07 35 36.5**	**-2.5**
SGDS				*i* *PP		**pP**	**07 36 02.2**	**+0.3**
USP	**Ospenovka**	**54.32**	**296**	P		pP	07 36 03.9	+0.6
	SNR=15							
CHMS	**Chumysh**	**54.38**	**296**	P		pP	07 36 04.1	+0.4
	SNR=9.6							
KIRV	**Kirov**	**54.51**	**323**	LR		LR	08 01 30.6	
	comp=Z,247nm,19.8s,baz=32,slow=39							
KIRV	**Kirov**	**54.51**	**323⇓**	*e*P		**P**	**07 35 40.8**	**-0.6**
KBK	**Karagaybulak**	**54.51**	**295**	P		pP	07 36 05.5	+0.6
	SNR=9.7							
ILULI	**Ilulissat**	**54.52**	**13**	*i* P		**P**	**07 35 40.2**	**-1.2**
ILULI				IAmb		IAmb	07 35 41.0	
	comp=Z,42nm,0.6s							
JMIC	**Jan Mayen**	**54.65**	**356**	LR		LR	07 58 34.7	
	comp=Z,69nm,19.7s,baz=88,slow=35							
AAK	**Ala-Archa**	**54.77**	**296**	P		**P**	**07 35 41.6**	**-2.1**
	SNR=5.8							
AAK	**Ala-Archa**	**54.77**	**296**	LR		LR	08 00 24.1	
	comp=Z,347nm,20.6s,baz=38,slow=37							
AAK	**Ala-Archa**	**54.77**	**296**	*ce*P		**P**	**07 35 42.1**	**-1.7**
AAK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
AAK	**Ala-Archa**	**54.77**	**296**	P		**P**	**07 35 42.0**	**-1.7**
AAK				pP		**pP**	**07 36 07.1**	**+0.4**
H17A	**Grant Village**	**54.95**	**61**	P		**P**	**07 35 48.0**	**+2.8**
	baz=315,SNR=22							
NVAR	**Mina Array Bea**	**55.02**	**71**	P		**P**	**07 35 47.8**	**+2.0**
	comp=Z,125nm,0.7s,baz=297,slow=7.4,SNR=689							
LHV	**Little Huntoon**	**55.03**	**72**	P		**P**	**07 35 47.6**	**+2.1**
UCH	**Uchtor**	**55.04**	**295**	P		pP	07 36 09.2	+0.1
	SNR=10							
ELK	**Elko**	**55.06**	**67**	P		**P**	**07 35 48.0**	**+2.0**
	comp=Z,83nm,0.8s,baz=311,slow=7.0,SNR=318							
ELK				LR		LR	07 55 44.7	
	comp=Z,91nm,21.4s,baz=306,slow=32							
	comp=Z,83nm,0.8s							
RLMT	**Red Lodge**	**55.10**	**60**	P		**P**	**07 35 47.6**	**+1.4**
	baz=315,SNR=132							
EKS2	**Erkiay**	**55.13**	**296**	P		**P**	**07 35 48.5**	**+2.2**
	SNR=5.7							
OMMB	**Old Mammoth Mi**	**55.21**	**72**	P		**P**	**07 35 48.6**	**+1.3**
OMMB				IAmb		IAmb	07 35 50.6	
	comp=Z,63nm,0.9s							
DGMT	**Dagmar**	**55.22**	**54**	P		**P**	**07 35 47.2**	**+0.4**
	baz=315							
DGMT	**Dagmar**	**55.22**	**54**	P		**P**	**07 35 47.5**	**+0.7**
	baz=315,SNR=9.1							
STEI	**Steigen**	**55.28**	**345**	*e*P		**P**	**07 35 47.1**	**+0.3**
MLAC	**Mammoth, Mammo**	**55.29**	**72**	P		**P**	**07 35 50.5**	**+2.8**
	baz=316,SNR=13							
Q09A	**Carvers**	**55.35**	**70**	P		**P**	**07 35 50.3**	**+2.2**
LAO	**LASA Array**	**55.51**	**57**	P		**P**	**07 35 50.3**	**+1.3**
	baz=315							
LAO	**LASA Array**	**55.51**	**57**	P		**P**	**07 35 50.5**	**+1.6**
	baz=315,SNR=40							
AML	**Almayashu**	**55.54**	**296**	P		pP	07 36 13.4	+0.8
	SNR=7.3							
FAUS	**Fauske**	**55.78**	**345**	*e*P		**P**	**07 35 50.0**	**-0.5**
AHID	**Auburn Hatcher**	**55.82**	**63**	P		**P**	**07 35 52.8**	**+1.4**
AHID				IAmb		IAmb	07 35 54.2	
	comp=Z,75nm,0.9s							
ICESG	**Greenland Ices**	**55.91**	**9**	*i* P		**P**	**07 35 51.3**	**-0.5**
ICESG				IAmb		IAmb	07 35 55.1	
	comp=Z,76nm,0.7s							
VOG	**Valley Oaks Go**	**55.92**	**74**	P		**P**	**07 35 53.4**	**+1.5**
	baz=316,SNR=8.3							
KLMR	**Klimovskoe**	**55.95**	**330**	*e*P		**P**	**07 35 49.7**	**-2.1**
KLMR				LR		LR	07 55 02.8	
KLMR				AMP			08 03 26.2	
	comp=Z,322nm,15.2s							
KLMR	**Klimovskoe**	**55.95**	**330**	*e*P		**P**	**07 35 49.6**	**-2.2**
KLMR				MLR		MLR		
	comp=Z,322nm,15.0s							
TIN	**Tinemaha, Big**	**56.04**	**72**	P		**P**	**07 35 55.1**	**+2.2**
	baz=316,SNR=30							
MZP	**Montezuma Peak**	**56.05**	**71**	P		**P**	**07 35 54.1**	**+1.0**
MZP				IAmb		IAmb	07 35 56.0	
	comp=Z,41nm,0.9s							
FRB	**Frobisher Bay**	**56.17**	**24**	LR		LR	08 02 44.8	
	comp=Z,93nm,19.1s,baz=356,slow=39							
KSH	**Kashi**	**56.18**	**292**	P		**P**	**07 35 55.8**	**+1.9**
KSH				pP		pP	07 36 18.3	+1.4
KSH				sP		sP	07 36 28.8	+1.5
KSH				PcP		**PcP**	**07 36 52.8**	**+2.2**
KSH				ScS		ScS	07 45 36.8	+2.8
KSH				LR		LR		
	comp=Z,260nm,24.4s							
KSH				LR		LR		
	comp=Z,280nm,20.6s							
KSH				LR		LR		
	comp=Z,340nm,25.7s							
SMMC	**Simmler**	**56.30**	**75**	P		**P**	**07 35 56.8**	**+2.1**
	baz=316,SNR=34							
VES	**Vestal, Richgr**	**56.43**	**74**	P		**P**	**07 35 56.8**	**+1.3**
	baz=316,SNR=55							
KK31	**Karatay Array**	**56.51**	**299**	P		**P**	**07 35 53.4**	**-2.7**
KK31				IAmb		IAmb	07 36 20.1	
	comp=Z,42nm,1.0s							
KK31	**Karatay Array**	**56.51**	**299**	*i* P		**P**	**07 35 53.3**	**-2.7**
KKAR	**Karatay Array**	**56.51**	**299**	P		**P**	**07 35 53.5**	**-2.6**
KKAR	**Karatay Array**	**56.51**	**299**	P		**P**	**07 35 53.8**	**-2.3**
KKAR				IAmb		IAmb	07 36 20.1	
	comp=Z,42nm,1.0s							
KKAR	**Karatay Array**	**56.51**	**299**	P		**P**	**07 35 53.8**	**-2.3**
KKAR				pmax		pmax		
	comp=Z,42nm,1.0s							
GRAC	**Grapevine Rang**	**56.56**	**72**	P		**P**	**07 35 58.9**	**+2.4**
	baz=316,SNR=56							
CWC	**Cottonwood Cre**	**56.56**	**73**	P		**P**	**07 35 58.5**	**+1.8**
	baz=316							
R11A	**Troy Canyon, C**	**56.57**	**69**	P		**P**	**07 35 58.4**	**+1.6**
	baz=316,SNR=83							
BW06	**Boulder Array**	**56.62**	**62**	P		**P**	**07 35 58.6**	**+1.5**
	baz=316,SNR=118							
PDAR	**Pinedale Array**	**56.62**	**62**	P		**P**	**07 35 58.5**	**+1.4**
	comp=Z,61nm,0.8s,baz=324,slow=2.7,SNR=472							
PDAR				LR		LR	08 00 38.3	
	comp=Z,57nm,21.9s,baz=332,slow=36							
	comp=Z,61nm,0.8s							
SFJD	**Kangerlussuaq**	**56.65**	**14**	LR		LR	08 03 07.4	
	comp=Z,153nm,18.9s,baz=342,slow=39							
SFJD	**Kangerlussuaq**	**56.65**	**14**	*i* P		**P**	**07 35 55.8**	**-0.8**
SFJD				IAmb		IAmb	07 35 59.2	
	comp=Z,29nm,0.7s							
SFJD	**Kangerlussuaq**	**56.65**	**14**	P		**P**	**07 35 56.1**	**-0.5**
NONG	**Nongkai**	**56.69**	**254**	P		**P**	**07 35 58.8**	**+1.2**
PKM	**Mcpherson Peak**	**56.71**	**75**	P		**P**	**07 35 59.6**	**+1.8**
	baz=317,SNR=34							
DUG	**Dugway, Tooele**	**56.75**	**66**	P		**P**	**07 35 59.8**	**+1.8**
	baz=316,SNR=128							
ISA	**Isabella, Lake**	**56.90**	**74**	P		**P**	**07 36 00.0**	**+1.0**
	baz=317,SNR=70							
SBC	**Santa Barbara**	**57.09**	**76**	P		**P**	**07 36 02.2**	**+2.0**
	baz=317,SNR=6.3							
ARVC	**Arvin**	**57.09**	**74**	P		**P**	**07 36 01.1**	**+0.8**
	baz=317,SNR=13							
AKTO	**Aktyubinsk**	**57.15**	**312**	P		**P**	**07 35 58.5**	**-2.0**
AB31	**Akbulak array**	**57.17**	**310**	*i* P		**P**	**07 35 58.5**	**-2.1**
ABKAR	**Akbulak array**	**57.17**	**310**	P		**P**	**07 35 58.1**	**-2.4**
MPMC	**Manual Prospec**	**57.17**	**73**	P		**P**	**07 36 02.7**	**+1.7**
	baz=317,SNR=109							
TPNV	**Topopah Spring**	**57.21**	**71**	P		**P**	**07 36 03.2**	**+1.9**
	baz=316,SNR=105							
FURC	**Furnace Creek,**	**57.22**	**72**	P		**P**	**07 36 03.0**	**+1.9**
	baz=317,SNR=181							
SHL	**Shillong**	**57.33**	**269**	P		**P**	**07 36 00.4**	**-1.8**
SHL	**Shillong**	**57.33**	**269**	P		**P**	**07 36 00.4**	**-1.8**
SHL				pmax		pmax		
	comp=Z,18nm,1.0s							
IUG	**luzhnay**	**57.44**	**298**	*e*P		**P**	**07 36 00.1**	**-2.6**
	baz=298							
IUG				*i* pP		**pP**	**07 36 26.1**	**+0.2**
	baz=298							
IUG	**luzhnay**	**57.44**	**298**	*e*P		**P**	**07 36 00.1**	**-2.6**
IUG				*i* *PP		**pP**	**07 36 26.0**	**+0.2**
SCZ2	**Santa Cruz Isl**	**57.46**	**76**	P		**P**	**07 36 04.1**	**+1.3**
	baz=317,SNR=5.8							
LRMC	**Laurel Mtn Rad**	**57.48**	**73**	P		**P**	**07 36 04.7**	**+1.5**
	baz=317,SNR=115							
MPU	**Maple Canyon**	**57.51**	**65**	P		**P**	**07 36 04.6**	**+1.2**
OSI	**Osito Audit: C**	**57.52**	**75**	P		**P**	**07 36 05.2**	**+1.9**
	baz=317,SNR=20							
PRN	**Pahroc Range**	**57.54**	**70**	P		**P**	**07 36 05.1**	**+1.5**
UBPT	**Khong Chiam**	**57.66**	**250**	P		**P**	**07 36 05.6**	**+1.2**
ULM	**Lac du Bonnet**	**57.70**	**48**	P		**P**	**07 36 05.1**	**+0.8**
	comp=Z,50nm,0.9s,baz=314,slow=6.9,SNR=30							
ULM				LR		LR	08 02 37.6	
	comp=Z,186nm,19.1s,baz=319,slow=38							
	comp=Z,50nm,0.9s							
ULM	**Lac du Bonnet**	**57.70**	**48**	P		**P**	**07 36 04.7**	**+0.4**
ULM	**Lac du Bonnet**	**57.70**	**48**	P		**P**	**07 36 04.7**	**+0.4**
ULM				pmax		pmax		
	comp=Z,144nm,1.4s							
DY2G	**Dye2**	**57.73**	**12**	*i* P		**P**	**07 36 02.7**	**-1.8**
DY2G				IAmb		IAmb	07 36 07.6	
	comp=Z,38nm,0.8s							
EDW2	**Edwards Air Fo**	**57.74**	**74**	P		**P**	**07 36 06.4**	**+1.5**
	baz=317,SNR=114							
MDND	**Maddock**	**57.81**	**52**	P		**P**	**07 36 06.6**	**+1.5**
	baz=317							
MDND	**Maddock**	**57.81**	**52**	P		**P**	**07 36 06.9**	**+1.8**
	baz=317,SNR=25							
SHOC	**Shoshone, Teco**	**57.96**	**72**	P		**P**	**07 36 08.2**	**+1.8**
	baz=317,SNR=49							
DECC	**Green Verdugo**	**58.01**	**75**	P		**P**	**07 36 08.4**	**+1.7**
	baz=317,SNR=35							
SNCC	**San Nicolas Is**	**58.07**	**76**	P		**P**	**07 36 08.6**	**+1.4**
	baz=318							
GSC	**Goldstone, Bar**	**58.10**	**73**	P		**P**	**07 36 09.2**	**+1.8**
	baz=317,SNR=113							
SHPR	**Sheep Range**	**58.14**	**71**	P		**P**	**07 36 08.3**	**+0.5**
SHPR				IAmb		IAmb	07 36 10.9	
	comp=Z,56nm,1.4s							
E28A	**Huff**	**58.23**	**53**	P		**P**	**07 36 09.3**	**+1.2**
	baz=317							
K22A	**Casper**	**58.25**	**60**	P		**P**	**07 36 09.4**	**+0.9**
	baz=317							
K22A	**Casper**	**58.25**	**60**	P		**P**	**07 36 09.7**	**+1.2**
	baz=317,SNR=27							
MSU	**Marysvale**	**58.30**	**67**	P		**P**	**07 36 10.7**	**+1.7**
MSU	**Marysvale**	**58.30**	**67**	P		**P**	**07 36 10.7**	**+1.7**
RRX	**Edison Barstow**	**58.30**	**73**	P		**P**	**07 36 10.8**	**+2.0**
	baz=317,SNR=9.6							
P17A	**Butcher Ranch,**	**58.37**	**65**	P		**P**	**07 36 10.8**	**+1.4**
BFSC	**Mount Baldy Ra**	**58.40**	**74**	P		**P**	**07 36 10.9**	**+1.3**
	baz=317,SNR=43							
TAPN	**Taplejung**	**58.42**	**274**	*e*P		**P**	**07 36 08.5**	**-1.5**
FMP	**Fort Macarthur**	**58.42**	**75**	P		**P**	**07 36 11.0**	**+1.4**
	baz=318							
RSSD	**Black Hills**	**58.42**	**57**	P		**P**	**07 36 10.7**	**+0.9**
RSSD	**Black Hills**	**58.42**	**57**	P		**P**	**07 36 11.0**	**+1.3**
	baz=317							
RSSD	**Black Hills**	**58.42**	**57**	P		**P**	**07 36 11.0**	**+1.3**
	baz=317							
RSSD	**Black Hills**	**58.42**	**57**	P		**P**	**07 36 10.7**	**+0.9**
RSSD	**Black Hills**	**58.42**	**57**	P		**P**	**07 36 10.9**	**+1.2**
RSSD				pP		**pP**	**07 36 32.7**	**-0.1**
WTNK	**Soaring Height**	**58.45**	**71**	P		**P**	**07 36 11.0**	**+1.2**
WTNK				IAmb		IAmb	07 36 13.0	
	comp=Z,44nm,1.3s							
TUQ	**Turquoise Moun**	**58.49**	**72**	P		**P**	**07 36 11.7**	**+1.5**
	baz=317,SNR=70							
CIS	**Catalina Islan**	**58.59**	**75**	P		**P**	**07 36 11.9**	**+1.2**
	baz=318,SNR=9.2							
HEC	**Hector,Ludlow**	**58.71**	**73**	P		**P**	**07 36 13.0**	**+1.4**
	baz=317,SNR=76							
CMAR	**Chiang Mai Arr**	**58.76**	**258**	P		**P**	**07 36 11.9**	**-0.2**
	comp=Z,7.1nm,0.8s,baz=21,slow=6.8,SNR=34							
CMAR				ScP		**ScP**	**07 40 55.1**	**+2.6**
	comp=Z,2.6nm,0.5s,baz=17,slow=4.5,SNR=11							
	comp=Z,7.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**58.76**	**258**	P		**P**	**07 36 12.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**58.76**	**258**	*i* P		**P**	**07 36 13.0**	**+0.9**
CMAR				pmax		pmax		
	comp=Z,8.0nm,0.8s							
BBRC	**Big Bear Solar**	**58.80**	**74**	P		**P**	**07 36 13.9**	**+1.4**
	baz=318,SNR=26							
SCI2	**San Clemente I**	**58.82**	**76**	P		**P**	**07 36 13.7**	**+1.3**
	baz=318							
KRVT	**Keravat (AS076**	**58.95**	**190**	LR		LR	08 00 48.3	
	comp=Z,32nm,18.4s,baz=126,slow=35							
ODAN	**Odare**	**58.97**	**274**	*e*P		**P**	**07 36 12.7**	**-1.1**
FINES	**FINESS Array B**	**59.02**	**336**	P		**P**	**07 36 12.2**	**-1.0**
	comp=Z,8.8nm,0.6s,baz=36,slow=7.6,SNR=32							
FINES				pP		**pP**	**07 36 36.7**	**+0.3**
	comp=Z,27nm,0.7s,baz=31,slow=8.9,SNR=10							
FINES				LR		LR	08 05 24.3	
	comp=Z,113nm,20.4s,baz=32,slow=40							
	comp=Z,8.8nm,0.6s							
KNB	**Kanab**	**59.05**	**69**	P		**P**	**07 36 15.6**	**+1.5**
KNB	**Kanab**	**59.05**	**69**	P		**P**	**07 36 15.6**	**+1.5**
KNB				pmax		pmax		
	comp=Z,109nm,1.1s							
GUN	**Gumba**	**59.06**	**276**	*e*P		**P**	**07 36 12.6**	**-1.9**
JIRN	**Jiri**	**59.07**	**275**	*e*P		**P**	**07 36 12.6**	**-2.0**
GMRC	**Granite Mounta**	**59.12**	**72**	P		**P**	**07 36 16.2**	**+1.6**
	baz=318,SNR=118							
MURC	**Murrieta**	**59.13**	**74**	P		**P**	**07 36 15.9**	**+1.4**
	baz=318,SNR=75							
AGMN	**Agassiz Nation**	**59.16**	**49**	P		**P**	**07 36 14.9**	**+0.4**
	baz=319							
AGMN	**Agassiz Nation**	**59.16**	**49**	P		**P**	**07 36 15.1**	**+0.6**
	baz=319,SNR=35							
O20A	**White River Ci**	**59.21**	**63**	P		**P**	**07 36 16.1**	**+0.9**
O20A	**White River Ci**	**59.21**	**63**	P		**P**	**07 36 16.4**	**+1.3**
	baz=317,SNR=80							
RAMN	**Ramite**	**59.37**	**274**	*e*P		**P**	**07 36 14.5**	**-2

SWSC Sam W. Stewart 60.40 74 P **P** 07 36 24.5 +1.4
baz=318,SNR=19
IKP In-Ko-Pah, Jac 60.44 74 P **P** 07 36 24.9 +1.3
baz=318,SNR=33
KOLN Koldanda 60.49 277 *e*P **P** 07 36 22.0 -2.1
MEF Metsahovi 60.50 337 *e*P **P** 07 36 21.6 -1.8
MEF *e*pP **pP** 07 36 46.5 -0.1
SIMJ Simiganj 60.52 296 P **P** 07 36 21.7 -2.4
SIMJ pP **pP** 07 36 46.3 -1.0
SIMJ ScP **ScP** 07 40 59.9 -0.4
SMCO Snowmass 60.57 63 P **P** 07 36 26.0 +1.2
PYUN Piuthan 60.60 278 *e*P **P** 07 36 22.7 -2.1
comp=Z,86nm,1.0s
SUSD Miller 60.64 54 P **P** 07 36 25.4 +0.7
baz=319
SUSD Miller 60.64 54 P **P** 07 36 25.0 +0.3
baz=319
MOS Moscow 60.71 327 *e*P P 07 36 32.3 +7.4
MOS pmax pmax
comp=Z,62nm,0.8s
ISCO Idaho Springs 60.81 62 P **P** 07 36 28.6 +2.2
baz=318
ISCO Idaho Springs 60.81 62 P **P** 07 36 28.2 +1.9
baz=318,SNR=23
F33A 5 Mile Ranch, 60.82 51 P **P** 07 36 26.4 +0.5
F33A IAmb IAmb 07 36 27.8
comp=Z,83nm,0.9s
F33A 5 Mile Ranch, 60.82 51 P **P** 07 36 26.6 +0.7
baz=319
GLA Glamis 60.86 73 P **P** 07 36 28.1 +1.7
baz=318,SNR=36
WUAZ Wupatki 60.94 69 P **P** 07 36 28.4 +1.4
WUAZ Wupatki 60.94 69 P **P** 07 36 29.2 +2.1
baz=318,SNR=83
BORG Borgarnes 61.16 1 LR LR 08 01 44.3
comp=Z,58nm,21.2s,baz=347,slow=35
MVCO Mesa Verde 61.23 66 P **P** 07 36 30.5 +1.5
baz=318,SNR=67
EYMN Ely 61.32 47 P **P** 07 36 29.7 +0.4
baz=321
EYMN Ely 61.32 47 P **P** 07 36 29.6 +0.4
baz=321,SNR=19
VSU Vasula 61.48 334 *e*P **P** 07 36 27.0 -3.1
VSU *e*pP **pP** 07 36 53.5 +0.2
OBN Obninsk 61.56 327 LR LR 08 06 23.4
comp=Z,70nm,19.2s,baz=13,slow=39
OBN Obninsk 61.56 327‖ *e*P **P** 07 36 29.6 -1.1
OBN *e**PP **pP** 07 36 54.0 +0.1
OBN *e* 07 38 53.0
OBN pmax pmax
comp=Z,12nm,0.5s
113A Mohawk Valley, 61.67 73 P **P** 07 36 32.9 +1.2
113A IAmb IAmb 07 36 34.3
comp=Z,50nm,0.9s
Q24A Divide 61.68 62 P **P** 07 36 33.4 +1.3
baz=319,SNR=30
S22A 4UR Ranch, Cre 61.71 64 P **P** 07 36 34.2 +1.8
baz=319,SNR=105
OGNE Ogallala 61.77 59 P **P** 07 36 34.1 +1.5
baz=319
OGNE Ogallala 61.77 59 P **P** 07 36 34.0 +1.5
baz=319,SNR=7.5
FAKI Fak Fak 61.80 213 P **P** 07 36 33.3 +0.6
comp=Z,798nmcomp=Z,80nm,0.8s
FAKI Fak Fak 61.80 213 P **P** 07 36 33.5 +0.8
comp=Z,80nm,0.8s
MTSE Matsula 61.97 336 *e*P **P** 07 36 32.4 -1.0
MTSE IVmB_BB 07 36 57.6
comp=Z,2µm,0.7s
F36A Milaca 62.05 50 P **P** 07 36 34.3 +0.2
baz=321
K31A O'Neill 62.11 55 P **P** 07 36 35.4 +0.8
baz=320
W18A Petrified Fore 62.13 68 P **P** 07 36 36.5 +1.4
baz=319,SNR=26
NC204 NORSAR Array S 62.20 344 P **P** 07 36 34.2 -0.8
NC204 IAmb IAmb 07 36 40.4
comp=Z,102nm,1.1s
ECSD EROS Data Cent 62.27 53 P **P** 07 36 36.0 +0.4
ECSD IAmb IAmb 07 36 37.4
comp=Z,128nm,1.4s
ECSD EROS Data Cent 62.27 53 P **P** 07 36 36.1 +0.4
baz=320
ECSD EROS Data Cent 62.27 53 P **P** 07 36 36.2 +0.6
baz=320,SNR=44
E38A The Farm, Brul 62.34 48 P **P** 07 36 36.4 +0.3
baz=321
NB2 NORSAR Subarra 62.35 344 P **P** 07 36 34.7 -1.3
baz=20,slow=6.9
NB2 NORSAR Subarra 62.35 344 P **P** 07 36 34.7 -1.3
comp=Z,7nm,1.1s,baz=20,slow=6.9
NOA NORSAR Array B 62.35 344 P **P** 07 36 35.0 -1.0
comp=Z,2.9nm,0.4s,baz=18,slow=6.9,SNR=30
NOA pP **pP** 07 36 57.9 -1.4
comp=Z,8.9nm,0.6s,baz=20,slow=6.8,SNR=5.6
NOA PcP **PcP** 07 37 14.9 +0.2
comp=Z,2.4nm,0.8s,baz=17,slow=1.9,SNR=6.6
NOA LR LR 08 08 17.6
comp=Z,32nm,18.1s,baz=30,slow=40
comp=Z,2.9nm,0.4s
SDCO Great Sand Dun 62.41 63 P **P** 07 36 38.6 +1.6
baz=319
SDCO Great Sand Dun 62.41 63 P **P** 07 36 38.7 +1.6
baz=319,SNR=94
MRSI Marisa 62.41 225 P **P** 07 36 38.9 +2.0
comp=Z,86nm,1.0s
IVI Ivigtut 62.48 15 P **P** 07 36 36.7 0.0
IVI IAmb IAmb 07 36 41.2
comp=Z,75nm,0.8s
IVI Ivigtut 62.48 15 *i* P **P** 07 36 36.3 -0.4
IVI IAmb IAmb 07 36 40.8
comp=Z,52nm,0.8s
IVI Ivigtut 62.48 15 P **P** 07 36 36.2 -0.5
IVI pP **pP** 07 36 58.0 -2.1
NC602 NORSAR Array S 62.59 343 *e*P **P** 07 36 36.6 -0.8
HFS Hagfors 62.78 342 LR LR 08 10 04.7
comp=Z,60nm,18.3s,baz=30,slow=42
214A Organ Pipe Nat 62.81 73 P **P** 07 36 41.1 +1.6
baz=319,SNR=28
SPMN Marine on St. 62.86 50 P **P** 07 36 40.1 +0.6
baz=321
SPMN Marine on St. 62.86 50 P **P** 07 36 40.1 +0.6
baz=321,SNR=20
LPSR Galich'ya Gora 62.88 324 *e*P **P** 07 36 39.9 +0.4
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NRS Narsarsuaq 62.93 14 *i* P **P** 07 36 39.0 -0.7
NRS IAmb IAmb 07 36 42.8
comp=Z,31nm,0.7s
KSCO Kaye Shedlock' 62.93 60 P **P** 07 36 41.7 +1.4
baz=320
KSCO Kaye Shedlock' 62.93 60 P **P** 07 36 41.3 +1.0
baz=320,SNR=15
VRH Novokhopyorsk 63.05 322 *e*P **P** 07 36 40.3 -0.4
VRH pmax pmax
comp=Z,60nm,1.6s
SKAR Skarslia 63.15 345 *e*P **P** 07 36 40.9 -0.4
D41A Chassel 63.25 46 P **P** 07 36 42.5 +0.4
baz=322
SLIT Slitere, Latvi 63.31 336 IVmB_BB 07 36 48.9
comp=Z,3µm,1.0s
BGNE Belgrade 63.33 56 P **P** 07 36 43.5 +0.7
baz=320
BGNE Belgrade 63.33 56 P **P** 07 36 43.1 +0.4
baz=320,SNR=24
T25A Trinidad 63.44 63 P **P** 07 36 45.1 +1.4
baz=320,SNR=39
I37B Waseca 63.53 51 P **P** 07 36 44.9 +0.9
baz=321
TUC Tucson 63.67 71 P **P** 07 36 46.6 +1.4
baz=320
TUC Tucson 63.67 71 P **P** 07 36 46.5 +1.4
L34A Svendsen Farm, 63.74 54 P **P** 07 36 45.7 +0.3
baz=321
COWI Conover 63.77 47 P **P** 07 36 45.6 0.0
baz=322
APSI Ampana 63.79 224 P **P** 07 36 47.4 +1.4
comp=Z,974nmcomp=Z,116nm,0.7s
VSR Storozhevoye 63.95 323 *e*P **P** 07 36 44.8 -1.8
VSR *e**PP **pP** 07 37 08.2 -1.9
VSR pmax pmax
comp=Z,6.0nm,0.5s
G40A Rib Lake 63.97 48 P **P** 07 36 47.0 +0.1
baz=322
ANMO Albuquerque 64.02 66‖ *e*P **P** 07 36 45.9 -1.7
ANMO pmax pmax
comp=Z,73nm,1.0s
ANMO Albuquerque 64.02 66 P **P** 07 36 48.9 +1.3
ANMO pP **pP** 07 37 12.1 +1.1
BNDI Bandanaira 64.06 214 P **P** 07 36 49.7 +2.0
N33B J Bar K, Exete 64.18 56 P **P** 07 36 48.1 -0.2
baz=321
SCHQ Schefferville 64.33 28 P **P** 07 36 49.0 -0.1
comp=Z,31nm,0.8s,baz=336,slow=5.5,SNR=24
SCHQ pP **pP** 07 37 11.8 -0.8
comp=Z,21nm,0.8s,baz=340,slow=6.9,SNR=4.8
SCHQ LR LR 08 07 54.3
comp=Z,101nm,19.7s,baz=40,slow=39
comp=Z,31nm,0.8s
DUN6 Lazy B Ranch 64.41 69 P **P** 07 36 51.6 +1.5
DUN6 IAmb IAmb 07 36 53.1
comp=Z,168nm,0.9s
Y22D IRIS PASSCAL I 64.43 67 P **P** 07 36 52.7 +2.5
baz=320
Y22D IRIS PASSCAL I 64.43 67 P **P** 07 36 52.9 +2.6
baz=320,SNR=23
Y22F Passcal Instru 64.43 67 P **P** 07 36 52.5 +2.3
baz=320,SNR=24
E43A Lone Tree Farm 64.45 45 P **P** 07 36 50.1 +0.1
E43A IAmb IAmb 07 36 50.9
comp=Z,69nm,1.4s
E43A Lone Tree Farm 64.45 45 P **P** 07 36 49.7 -0.3
baz=323
F42A Maple Grove Fa 64.47 46 P **P** 07 36 50.8 +0.7
baz=323
Y22A Socorro 64.51 67 P **P** 07 36 53.0 +2.2
baz=320
CBKS Cedar Bluff 64.54 59 P **P** 07 36 51.3 +0.6
baz=320
CBKS Cedar Bluff 64.54 59 P **P** 07 36 50.9 +0.2
baz=320,SNR=12
PMG Port Moresby 64.59 195 P **P** 07 36 52.1 +1.0
PMG Port Moresby 64.59 195 P **P** 07 36 52.0 +0.9
NACGM Naroch 64.61 333 *e*P **P** 07 36 50.0 -0.9
comp=Z,21nm,1.0s,baz=28
MNK Minsk 64.67 332 *i* P **P** 07 36 50.0 -1.3
comp=E,2.0nm,0.9s
MNK *i* P **P** 07 36 50.0 -1.3
comp=N,48nm,0.9s
MNK *i* P **P** 07 36 50.0 -1.3
comp=Z,13nm,0.7s,baz=208
MNK *i* pP **pP** 07 37 17.1 +2.4
MNK *i* PP **PP** 07 39 13.2 -0.6
MNK *i* PPP PPP 07 40 46.2
MNK *i* S **S** 07 45 21.5 -2.1
MNK *i* sS **sS** 07 46 08.7 +5.2
MNK *i* SS **SS** 07 49 35.2 +0.3
MNK *i* SSS SSS 07 52 40.6
MNK *i* LRM MLR 08 07 46.9
comp=N,279nm,15.4s
MNK *i* LRM MLR 08 08 16.6
comp=E,37nm,14.8s
MNK *i* LRM MLR 08 08 19.2
comp=Z,161nm,16.8s
MNK Minsk 64.67 332 *i* P **P** 07 36 49.9 -1.3
MNK *i* *PP **pP** 07 37 17.0 +2.4
MNK *i* 07 37 22.7
MNK *i* 07 39 13.2
MNK *i* PPP PPP 07 40 46.1
MNK *i* S **S** 07 45 21.4 -2.1
MNK *i* 07 46 33.7
MNK *i* SS **SS** 07 49 35.1 +0.3
MNK pmax pmax
comp=N,48nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,279nm,15.0s
MNK MLR MLR
comp=E,37nm,15.0s
MNK MLR MLR
comp=Z,161nm,17.0s
PABE Paberze 64.81 334 *e*P **P** 07 36 51.4 -0.7
I40A Norwalk 64.88 49 P **P** 07 36 53.2 +0.4
baz=322
K38A Parkersburg 64.89 51 P **P** 07 36 53.1 +0.2
baz=322
N35A Tabor 64.95 54 P **P** 07 36 54.3 +1.0
baz=321
121A Cookes Peak, D 65.14 69 P **P** 07 36 56.8 +2.0
baz=320
121A Cookes Peak, D 65.14 69 P **P** 07 36 57.0 +2.1
baz=320,SNR=38
SCIA State Center 65.27 52 P **P** 07 36 56.0 +0.7
baz=322
SCIA State Center 65.27 52 P **P** 07 36 56.2 +0.8
baz=322,SNR=22
R32A Long Quarter, 65.35 58 P **P** 07 36 55.9 -0.1
baz=321
E46A Sault Ste Mari 65.56 44 P **P** 07 36 56.4 -0.7
baz=325
I42A Draeger Farm, 65.62 48 P **P** 07 36 57.6 0.0
baz=323
H43A Windswept, Lux 65.65 47 P **P** 07 36 57.8 0.0
baz=324
JFWS Jewell Farm 65.82 50 P **P** 07 36 58.2 -0.6
baz=323
JFWS Jewell Farm 65.82 50 P **P** 07 36 58.2 -0.6
baz=323,SNR=5.6
KSU1 Kansas State U 65.86 56 P **P** 07 36 58.8 -0.4
baz=322
KSU1 Kansas State U 65.86 56 P **P** 07 36 58.5 -0.7
baz=322,SNR=7.9
L40A Anamosa 66.06 51 P **P** 07 36 59.7 -0.7
baz=323
N38A Joes South For 66.14 53 P **P** 07 37 01.1 +0.1
baz=322
KIDD KIDD Seismic O 66.42 68 P **P** 07 37 04.4 +1.4
baz=321
AMTX Amarillo 66.58 63 P **P** 07 37 04.8 +0.8
baz=321
AMTX Amarillo 66.58 63 P **P** 07 37 04.7 +0.7
baz=321
GEYT Ailbeck 66.62 303 P **P** 07 37 02.8 -1.3
comp=Z,4.3nm,0.6s,baz=336,slow=3.3,SNR=8.3
GEYT pP **pP** 07 37 26.6 -1.2
comp=Z,25nm,0.9s,baz=17,slow=6.2,SNR=8.6
GEYT LR LR 08 08 50.1
comp=Z,319nm,18.3s,baz=38,slow=38
comp=Z,4.3nm,0.6s
I45A Fountain 66.66 46 P **P** 07 37 04.5 +0.3
baz=324
I45A P **P** 07 37 04.5 +0.3
baz=324
GLMI Grayling 66.69 45 P **P** 07 37 04.3 -0.1
baz=325
GLMI Grayling 66.69 45 P **P** 07 37 04.4 -0.1
baz=325,SNR=7.7
MSTX Muleshoe 66.72 64 P **P** 07 37 05.3 +0.4
MSTX Muleshoe 66.72 64 P **P** 07 37 05.7 +0.8
baz=321
MSTX Muleshoe 66.72 64 P **P** 07 37 05.6 +0.7
baz=321,SNR=65
U32A Winter Ranch, 66.79 60 P **P** 07 37 05.2 0.0
baz=321
KSM Kuching 66.80 237 P **P** 07 37 07.1 +1.7
comp=Z,74nm,1.0s
L42A Oliver, Polo 66.80 50 P **P** 07 37 04.1 -1.0
baz=323
K43A Burlington 66.83 48 P **P** 07 37 04.9 -0.5
baz=324
P38A Dawn 66.92 54 P **P** 07 37 05.8 -0.1
baz=322
SKLT Songkhla 67.00 249 P **P** 07 37 08.0 +1.3
BSD Bornholm Skovb 67.24 339 *e*P **P** 07 37 04.9 -2.8
BSD Bornholm Skovb 67.24 339 *i* P **P** 07 37 07.0 -0.7
BSD IAmb IAmb 07 37 09.9
comp=Z,8.5nm,0.8s
N41A Harden Midland 67.30 51 P **P** 07 37 08.7 +0.4
N41A Harden Midland 67.30 51 P **P** 07 37 08.4 0.0
baz=323
L44A Lake County Fo 67.44 49 P **P** 07 37 09.1 -0.1
L44A IAmb IAmb 07 37 10.0
comp=Z,72nm,0.8s
L44A Lake County Fo 67.44 49 P **P** 07 37 09.1 -0.1
baz=324
L44A Lake County Fo 67.44 49 P **P** 07 37 08.9 -0.3
baz=324,SNR=5.5
MCD Coleburn Disti 67.59 351 *e*P **P** 07 37 09.7 -0.2
T35B Sooner Cattle 67.61 58 P **P** 07 37 10.2 -0.2
baz=322
AKASG Malin Array Be 67.63 329 P **P** 07 37 08.9 -1.3
comp=Z,1.9nm,0.3s,baz=28,slow=7.0,SNR=20
AKASG pP **pP** 07 37 33.3 -0.6
comp=Z,22nm,0.8s,baz=30,slow=6.5,SNR=8.9
AKASG PKPPKP **P'P'df** 08 05 31.9 -2.8
comp=Z,0.6nm,0.6s,baz=240,slow=2.4,SNR=6.3
AKASG LR LR 08 10 43.9
comp=Z,268nm,18.4s,baz=20,slow=39
comp=Z,1.9nm,0.3s
AKASG Malin Array Be 67.63 329 *i* P **P** 07 37 09.3 -0.9
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 67.63 329 *ce*P **P** 07 37 09.4 -0.8
AKBB pmax pmax
comp=Z,12nm,1.0s
P40A Paris 67.69 53 P **P** 07 37 11.2 +0.4
baz=323
J47A Sunmer 67.90 46 P **P** 07 37 12.4 +0.3
baz=325
J47A P **P** 07 37 12.4 +0.3
baz=325
M44A Midewin, Midew 68.02 49 P **P** 07 37 12.7 -0.2
baz=324
HDIL Hopedale 68.13 50 P **P** 07 37 13.8 +0.2
HDIL Hopedale 68.13 50 P **P** 07 37 13.6 +0.1
baz=324
HDIL Hopedale 68.13 50 P **P** 07 37 13.3 -0.3
baz=324,SNR=31
WMOK Wichita Mounta 68.19 61 P **P** 07 37 14.4 +0.4
WMOK IAmb IAmb 07 37 15.9
comp=Z,125nm,1.0s
WMOK Wichita Mounta 68.19 61 P **P** 07 37 14.9 +0.9
baz=322
WMOK Wichita Mounta 68.19 61 P **P** 07 37 14.7 +0.7
baz=322,SNR=79
WMOK Wichita Mounta 68.19 61 P **P** 07 37 14.4 +0.4
WMOK pmax pmax
comp=Z,125nm,1.0s
S39A Bolivar 68.55 55 P **P** 07 37 15.9 -0.4
baz=323
R40A Maddies Statio 68.58 54 P **P** 07 37 16.5 +0.1
baz=323
KVAR Kislovodsk Arr 68.67 317 LR LR 08 09 28.6
comp=Z,409nm,21.8s,slow=38
KIV Kislovodsk 68.68 317 *e*P **P** 07 37 17.3 +0.3
KIV *e* 07 37 41.6
KIV *e*S **S** 07 46 11.6 -0.9
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,143nm,17.0s
NCK Nalchik 68.69 316‖ *e*P **P** 07 37 15.6 -1.4
NCK pmax pmax
comp=Z,46nm,0.4s
TUL1 Leonard 68.76 58 P **P** 07 37 17.7 +0.2
baz=323
TUL1 Leonard 68.76 58 P **P** 07 37 17.8 +0.2
baz=323,SNR=42
P43A Skaggs, Pawnee 68.77 51 P **P** 07 37 17.5 -0.1
baz=324
KBZ Khabaz 68.78 316 P **P** 07 37 16.6 -0.9
comp=Z,6.7nm,0.8s,baz=354,slow=9.2,SNR=5.6
KBZ pP **pP** 07 37 40.8 -0.4
comp=Z,40nm,1.0s,baz=58,slow=14,SNR=11
KBZ LR LR 08 11 15.7
comp=Z,245nm,19.6s,baz=24,slow=39
comp=Z,6.7nm,0.8s
INVG Invergeldie, C 68.80 351 *e*P **P** 07 37 17.0 -0.4
INVG IAmb IAmb 07 37 17.6
comp=Z,12nm,0.7s
O44A Mansfield 68.83 50 P **P** 07 37 17.8 -0.1
O44A Mansfield 68.83 50 P **P** 07 37 17.7 -0.2
baz=324
SADO Sadowa 68.92 41 P **P** 07 37 17.4 -1.0
comp=Z,14nm,1.0s,baz=324,slow=3.4,SNR=7.2
SADO LR LR 08 11 56.2
comp=Z,47nm,19.3s,baz=358,slow=40
comp=Z,14nm,1.0s
IPM Ipoh 69.02 247 P **P** 07 37 20.0 +0.6
U38A Gravette 69.03 57 P **P** 07 37 19.2 -0.1
baz=323
LAWE Loch Awe, Argy 69.09 352 *e*P **P** 07 37 18.8 -0.4
LAWE IAmb IAmb 07 37 20.0
comp=Z,16nm,0.7s
L48A N Adams 69.12 46 P **P** 07 37 19.8 0.0
L48A IAmb IAmb 07 37 20.9
comp=Z,102nm,0.8s
L48A N Adams 69.12 46 P **P** 07 37 19.7 0.0
baz=326
L48A P **P** 07 37 19.7 0.0
baz=326
AAM Ann Arbor 69.16 46 P **P** 07 37 20.3 +0.4
baz=326
AAM Ann Arbor 69.16 46 P **P** 07 37 19.9 0.0
baz=326,SNR=9.9
ESY Stoneypath 69.17 350 *e*P **P** 07 37 19.2 -0.5
K50A Casco 69.19 45 P **P** 07 37 20.4 +0.3
baz=326
K50A P **P** 07 37 20.4 +0.3
baz=326
CCM Cathedral Cave 69.25 53 P **P** 07 37 20.2 -0.3
baz=324
CCM Cathedral Cave 69.25 53 P **P** 07 37 20.6 0.0
baz=324
CCM Cathedral Cave 69.25 53 P **P** 07 37 20.4 -0.1
CCM pP **PcP** 07 37 43.3 -0.3
SLM Saint Louis 69.25 52 P **P** 07 37 20.9 +0.4
baz=324
NEY Neytrino 69.25 316‖ *e*P **P** 07 37 20.1 -0.6
NEY pmax pmax
comp=Z,2.0nm,1.0s
SFIN Lafayette 69.25 49 P **P** 07 37 20.2 -0.3
baz=325
SFIN Lafayette 69.25 49 P **P** 07 37 20.3 -0.3
baz=325,SNR=9.2
HHAR Hobbs 69.38 56 P **P** 07 37 21.2 -0.2
HHAR IAmb IAmb 07 37 22.3
comp=Z,151nm,1.2s
HHAR Hobbs 69.38 56 P **P** 07 37 21.2 -0.2
baz=323
ABTX Abilene, Hawle 69.40 63 P **P** 07 37 22.0 +0.5
baz=322
ABTX Abilene, Hawle 69.40 63 P **P** 07 37 22.1 +0.5
baz=322,SNR=33
N47A Urbana 69.46 48 P **P** 07 37 21.1 -0.7
baz=325
N47A P **P** 07 37 21.1 -0.7
baz=325
Q44A Meyer Farm, Va 69.59 51 P **P** 07 37 22.4 -0.2
baz=324
FVM French Village 69.69 53 P **P** 07 37 23.3 +0.1
baz=324
COEN Coen 69.70 198 P **P** 07 37 24.4 +1.0
ESK Eskdalemuir 69.82 350 *e*P **P** 07 37 23.6 -0.2
ESK IAmb IAmb 07 37 29.3
comp=Z,33nm,1.2s
ESK Eskdalemuir 69.82 350 P **P** 07 37 23.7 -0.1
ESK pP **PcP** 07 37 44.9 -0.8
P46A Rosedale 69.83 50 P **P** 07 37 23.9 -0.1
baz=325
TX31 Lajitas Ar. Si 69.85 68 P **P** 07 37 25.9 +1.4
baz=322
TXAR Lajitas Array 69.85 68 P **P** 07 37 25.8 +1.3
comp=Z,100nm,0.8s,baz=298,slow=4.4,SNR=577
TXAR LR LR 08 04 49.1
comp=Z,77nm,21.5s,baz=325,slow=33
LVV L'vov 69.92 332 *e*P **P** 07 37 22.0 -2.5
LVV *e**PP **pP** 07 37 48.7 +0.5
LVV *e*S **S** 07 46 27.0 +0.3
LVV pmax pmax
comp=Z,30nm,1.4s
ANN Anapa 69.99 321 *e*P **P** 07 37 21.3 -3.6
ANN *e**PP **pP** 07 37 47.8 -1.0
ANN *e* 07 39 57.3
ANN *e*S **S** 07 46 21.9 -5.7
ANN pmax pmax
comp=Z,119nm,1.1s
X37A Clayton 70.02 58 P **P** 07 37 25.5 +0.2
baz=323
Z35A Perchaven, San 70.07 61 P **P** 07 37 26.0 +0.3
baz=323
N49A Columbus Grove 70.07 47 P **P** 07 37 25.3 -0.2
baz=326
N49A P **P** 07 37 25.3 -0.2
baz=326
NEWG New Galloway 70.12 351 *e*P **P** 07 37 25.1 -0.4
NEWG IAmb IAmb 07 37 30.2
comp=Z,53nm,1.5s

OLIL Olney 70.15 51 P P 07 37 26.3 +0.3
baz=325
SOC Sochi 70.16 318 eP P 07 37 24.0 -2.0
SOC e 07 40 01.3
SOC ePPP PPP 07 41 46.3
SOC eS S 07 46 26.1 -3.5
SOC eSS SS 07 50 58.5 -1.6
SOC eSSS SSS 07 54 12.6
SORM Soroca 70.17 328 ⇑P P 07 37 25.8 -0.2
SORM Soroca 70.17 328 ⇑P P 07 37 25.8 -0.2
O48B Farmland 70.20 48 P P 07 37 25.5 -0.8
baz=326
O48B Farmland 70.20 48 P P 07 37 25.9 -0.4
baz=326,SNR=29
LPIG La Paz 70.25 76 P P 07 37 28.6 +1.8
comp=Z,57nm,0.8s,baz=355,slow=1.0,SNR=15
comp=Z,57nm,0.8s
CLGH Cloghs, Cushen 70.31 352 eP P 07 37 26.4 -0.3
J54A Appleton 70.37 42 P P 07 37 26.6 -0.7
baz=328
J54A P P 07 37 26.6 -0.7
baz=328
S44A Carbondale 70.46 52 P P 07 37 28.0 0.0
baz=324
FCAR Ozark Folk Cen 70.57 55 P P 07 37 28.8 +0.2
FCAR IAmb IAmb 07 37 29.6
comp=Z,78nm,0.9s
BMNY Brushton-Moira 70.59 38 P P 07 37 28.0 -0.6
baz=330
O49A Covington 70.61 47 P P 07 37 27.6 -1.3
baz=326
O49A P P 07 37 27.6 -1.3
baz=326
HPIG 70.63 71 P P 07 37 30.8 +1.4
HPIG IAmb IAmb 07 37 31.8
comp=Z,227nm,1.9s
J55A Hilton 70.70 41 P P 07 37 28.5 -0.8
baz=328
J55A P P 07 37 28.5 -0.8
baz=328
M52A Chesterland 70.74 45 P P 07 37 29.5 -0.2
baz=327
M52A P P 07 37 29.5 -0.2
baz=327
P48A Milroy 70.74 49 P P 07 37 29.1 -0.5
baz=326
P48A P P 07 37 29.1 -0.5
baz=326
LONY Lake Ozonia 70.75 38 P P 07 37 28.4 -1.2
baz=330,SNR=13
E62A Clayton Lake 70.75 34 P P 07 37 29.8 +0.2
baz=332
E62A P P 07 37 29.8 +0.2
baz=332
SLBS Sierra La Lagu 70.78 76 P P 07 37 31.8 +1.6
ERPA Erie 70.81 43 P P 07 37 29.5 -0.5
baz=328
ERPA Erie 70.81 43 P P 07 37 29.9 -0.1
baz=328,SNR=9.8
FUTU Fugatoga 70.81 158 P P 07 37 31.6 +1.4
N51A Ashland 70.84 46 P P 07 37 30.0 -0.2
baz=327
N51A P P 07 37 30.0 -0.2
baz=327
LCAR Lake Charles 70.89 55 P P 07 37 30.1 -0.5
baz=324
WCNY West Carthage 70.90 39 P P 07 37 29.6 -1.0
baz=329
MIAR Mount Ida 70.94 57 P P 07 37 31.4 +0.4
MIAR IAmb IAmb 07 37 32.6
comp=Z,97nm,1.1s
MIAR Mount Ida 70.94 57 P P 07 37 31.3 +0.4
baz=324
MIAR Mount Ida 70.94 57 P P 07 37 31.2 +0.2
baz=324,SNR=49
MIAR Mount Ida 70.94 57 P P 07 37 31.4 +0.4
MIAR pmax pmax
comp=Z,97nm,1.2s
KDU Kakadu 70.98 209 P P 07 37 32.0 +0.8
GNI Garni 70.99 313 LR LR 08 14 29.5
comp=Z,272nm,18.2s,baz=48,slow=41
GNI Garni 70.99 313⇓ eP P 07 37 30.3 -1.1
GNI pmax pmax
comp=Z,35nm,1.2s
P49A Miami Univ. Ec 70.99 48 P P 07 37 30.9 -0.3
baz=326
P49A Miami Univ. Ec 70.99 48 P P 07 37 31.0 -0.2
baz=326,SNR=21
HPK Haverah Park 70.99 349 eP P 07 37 30.8 -0.1
HPK IAmb IAmb 07 37 31.5
comp=Z,34nm,0.9s
JCT Junction City 71.01 64 P P 07 37 32.3 +0.8
baz=323
JCT Junction City 71.01 64 P P 07 37 32.1 +0.6
baz=323,SNR=75
WHTX Lake Whitney, 71.03 62 P P 07 37 31.9 +0.4
baz=323
WHTX Lake Whitney, 71.03 62 P P 07 37 32.1 +0.6
baz=323,SNR=26
STHS Stebnicka Huta 71.04 333 eP P 07 37 31.3 0.0
STHS epP pP 07 37 56.3 +1.2
STHS Stebnicka Huta 71.04 333 eP P 07 37 31.3 0.0
STHS pmax pmax
comp=Z,13nm,0.9s
J56A Wolcott 71.05 41 P P 07 37 30.6 -0.8
baz=329
J56A P P 07 37 30.6 -0.8
baz=329
M53A Wi Miller and 71.11 44 P P 07 37 31.7 -0.1
baz=327,SNR=15
MILM Milestii Mici 71.11 327 eP P 07 37 30.6 -1.1
comp=Z,6.0nm,0.2s
MILM Milestii Mici 71.11 327 ePcP PcP 07 37 55.0 +3.7
MILM LRM MLR 08 11 46.0
comp=Z,250nm,18.0s
MILM Milestii Mici 71.11 327 eP P 07 37 30.6 -1.1
MILM MLR MLR
comp=Z,250nm,18.0s
WVNY West Valley, N 71.12 42 P P 07 37 31.7 -0.2
baz=328
GMM Mts of Mourne 71.14 352 eP P 07 37 31.3 -0.5
ALLY Alegheny Colle 71.14 44 P P 07 37 32.0 -0.1
baz=328
ACSO Alum Creek Sta 71.16 46 P P 07 37 32.3 +0.2
ACSO IAmb IAmb 07 37 33.3
comp=Z,87nm,0.9s
ACSO Alum Creek Sta 71.16 46 P P 07 37 32.1 0.0
baz=327
ACSO Alum Creek Sta 71.16 46 P P 07 37 32.1 0.0
baz=327,SNR=25
KOLS Kolonicke sedl 71.21 332 eP P 07 37 33.0 +0.7
KOLS epP pP 07 37 57.7 +1.4
KOLS Kolonicke sedl 71.21 332 eP P 07 37 33.0 +0.7
KOLS pmax pmax
comp=Z,12nm,0.7s
CLL Collm 71.22 339 eP P 07 37 32.0 -0.3
comp=Z,15nm,1.3s
CLL i Pmax 07 37 35.6
comp=Z,30nm,1.0s
CLL ePcP PcP 07 37 51.0 -0.8
CLL i pP PcP 07 37 53.8 +2.0
comp=Z,39nm,1.1s
CLL eSP sP 07 38 05.0 -1.4
CLL eS S 07 46 36.0 -5.7
CLL ePS PnS 07 47 17.0 -5.3
CLL e(SS) 07 51 48.0
CLL eSSS SSS 07 54 54.0
CLL e(SSSS) 07 55 48.0
CLL Collm 71.22 339 eP P 07 37 32.0 -0.3
CLL i *PP PcP 07 37 53.8 +2.0
CLL eS S 07 46 36.0 -5.7
CLL pmax pmax
comp=Z,30nm,1.0s
OSTC Ostas 71.22 337 eP P 07 37 36.8 +4.4
OSTC epP pP 07 37 55.6 -0.7
F62A Pittston Farm, 71.24 35 P P 07 37 32.8 +0.2
baz=332
F62A P P 07 37 32.8 +0.2
baz=332
J57A Williamstown 71.27 40 P P 07 37 32.3 -0.4
baz=329
J57A P P 07 37 32.3 -0.4
baz=329
Z38A Mt. Pleasant 71.27 59 P P 07 37 33.3 +0.4
baz=323
E63A Oxbow 71.29 33 P P 07 37 32.4 -0.4
baz=332
E63A P P 07 37 32.4 -0.4
baz=332
T45B Paducah 71.30 52 P P 07 37 33.6 +0.5
baz=325
UPC Upice 71.32 337 eP P 07 37 34.8 +1.9
UPC Upice 71.32 337 eP P 07 37 34.8 +1.9
WCI Wyandotte Cave 71.37 50 P P 07 37 33.4 0.0
baz=326
WCI Wyandotte Cave 71.37 50 P P 07 37 33.7 +0.2
baz=326
WCI Wyandotte Cave 71.37 50 P P 07 37 33.3 -0.2
WCI pP pP 07 37 55.9 -1.4
DPC Dobruska-Polom 71.39 337 eP P 07 37 34.1 +0.6
DPC epP pP 07 37 56.7 -0.6
DPC Dobruska-Polom 71.39 337 eP P 07 37 34.1 +0.6
DPC e*PP pP 07 37 56.7 -0.6
BRG Berggiesshubel 71.43 338 eP P 07 37 32.0 -1.6
BRG Amp 07 37 34.5
comp=Z,2.1nm,0.6s
BRG ex x 07 37 37.7
BRG Amp 07 37 40.6
comp=Z,14nm,1.2s
BRG ex x 07 37 55.3
BRG Amp 07 37 59.5
comp=Z,24nm,1.3s
BRG Amp 08 15 36.0
comp=Z,0.2nm,14.3s
BRG Berggiesshubel 71.43 338 eP P 07 37 32.0 -1.6
BRG e 07 37 55.3
BRG pmax pmax
comp=Z,2.0nm,0.6s
NCB Newcomb 71.44 39 P P 07 37 33.3 -0.5
baz=330
UZH Uzhgorod 71.48 332 eP P 07 37 36.3 +2.4
UZH e 07 37 53.5
MTN Manton Dam 71.52 210 P P 07 37 35.1 +0.7
MTN IAmb IAmb 07 37 58.0
comp=Z,60nm,0.9s
MTN Manton Dam 71.52 210 P P 07 37 35.6 +1.2
KRLC Kraliky 71.54 336 eP P 07 37 34.6 +0.2
KRLC epP pP 07 37 57.7 -0.6
KRLC AMS AMS 08 13 30.0
comp=Z,200nm,18.0s
KRLC Kraliky 71.54 336 eP P 07 37 34.6 +0.2
KRLC e*PP pP 07 37 57.7 -0.6
KRLC MLR MLR
comp=Z,200nm,18.0s
BUR08 Bucovina Ar. S 71.56 330 P P 07 37 34.2 -0.3
PSI Prapat 71.56 248 P P 07 37 35.4 +0.4
N53A Lisbon 71.57 45 P P 07 37 34.8 +0.1
baz=327
N53A P P 07 37 34.8 +0.1
baz=327
J58A Remsen 71.57 40 P P 07 37 34.1 -0.5
baz=329
J58A P P 07 37 34.1 -0.5
baz=329
BURAR Bucovina Array 71.58 330 ⇑P P 07 37 34.7 0.0
BURAR Bucovina Array 71.58 330 P P 07 37 34.4 -0.3
BURAR Bucovina Array 71.58 330 ⇑P P 07 37 34.7 0.0
MORC Moravsky Berou 71.64 336 ⇑P P 07 37 35.1 +0.1
MORC Moravsky Berou 71.64 336 eP P 07 37 34.8 -0.2
MORC Moravsky Berou 71.64 336 ⇑P P 07 37 35.1 +0.1
G62A West of Eustis 71.65 35 P P 07 37 35.5 +0.5
baz=332
G62A P P 07 37 35.5 +0.5
baz=332
K57A Scipio Center 71.65 41 P P 07 37 33.9 -1.2
baz=329
VT1 Waterbury 71.65 37 P P 07 37 34.9 -0.2
baz=330
F63A Nahmakanta, Br 71.70 34 P P 07 37 35.5 +0.2
baz=332
F63A P P 07 37 35.5 +0.2
baz=332
O52A Adamsville 71.74 46 P P 07 37 35.4 -0.2
baz=327
O52A P P 07 37 35.4 -0.2
baz=327
P51A Williamsport 71.75 47 P P 07 37 35.3 -0.5
baz=327
P51A P P 07 37 35.3 -0.5
baz=327
L56A Greenwood 71.76 42 P P 07 37 35.3 -0.5
baz=329
L56A P P 07 37 35.3 -0.5
baz=329
J59A Piesco 71.77 39 P P 07 37 35.1 -0.8
baz=330
J59A P P 07 37 35.1 -0.8
baz=330
F64A Sherman 71.80 34 P P 07 37 35.9 0.0
baz=332
F64A P P 07 37 35.9 0.0
baz=332
R49A Shelbyville 71.82 49 P P 07 37 36.5 +0.3
baz=326
R49A P P 07 37 36.5 +0.3
baz=326
237A Washetta, Mont 71.86 60 P P 07 37 36.5 0.0
baz=323
O53A New Philadelph 71.88 45 P P 07 37 36.2 -0.3
baz=327,SNR=15
MCVT Middlebury Col 71.90 38 P P 07 37 36.3 -0.3
baz=330
435B Jarrell 71.93 62 P P 07 37 37.4 +0.5
baz=323
435B Jarrell 71.93 62 P P 07 37 37.7 +0.8
baz=323
MAUC Maruska 71.95 335 eP P 07 37 38.9 +2.1
PPBI Pangkal Pinang 72.00 239 P P 07 37 41.7 +4.2
AFI Afiamalu 72.00 152 LR LR 08 03 10.2
comp=Z,87nm,21.9s,baz=328,slow=31
H62A Milan 72.00 36 P P 07 37 37.6 +0.4
baz=331
H62A P P 07 37 37.6 +0.4
baz=331
Q51A Peebles 72.00 47 P P 07 37 37.0 -0.3
baz=327
Q51A P P 07 37 37.0 -0.3
baz=327
P52A Corning 72.02 46 P P 07 37 37.0 -0.3
baz=327,SNR=12
LBNH Lisbon 72.03 37 P P 07 37 37.7 +0.4
baz=331
LBNH Lisbon 72.03 37 P P 07 37 38.0 +0.7
baz=331,SNR=16
PKME Peaks-Kenny Pk 72.03 35 P P 07 37 37.7 +0.4
baz=332
PKME Peaks-Kenny Pk 72.03 35 P P 07 37 37.6 +0.4
baz=332,SNR=8.6
T47A Sharon Grove 72.03 51 P P 07 37 38.0 +0.6
baz=326
PRU Pruhonice 72.13 338 eP P 07 37 40.2 +2.4
PRU epP pP 07 38 02.8 +1.1
PRU AMS AMS 08 14 00.0
comp=Z,200nm,20.1s
PRU Pruhonice 72.13 338 eP P 07 37 40.2 +2.4
PRU e*PP pP 07 38 02.8 +1.1
PRU MLR MLR
comp=Z,200nm,20.1s
TESR Tescani 72.14 329 ⇑P P 07 37 38.2 +0.3
PSDB Penn State Uni 72.14 43 P P 07 37 37.2 -0.9
baz=328
GOPC GO Pecny, Ondr 72.15 338 eP P 07 37 40.2 +2.2
GOPC GO Pecny, Ondr 72.15 338 eP P 07 37 40.2 +2.2
UPAO U. Pittsburgh 72.18 44 P P 07 37 38.3 0.0
baz=328
R50A Paris 72.20 48 P P 07 37 38.5 +0.1
baz=326
R50A P P 07 37 38.5 +0.1
baz=326
FOEL Foel Wylfa 72.22 350 eP P 07 37 36.8 -1.5
VRAC Vranov 72.30 336 ⇑P P 07 37 40.1 +1.2
VRAC Vranov 72.30 336 LR LR 08 13 42.1
comp=Z,115nm,19.9s,baz=26,slow=39
VRAC Vranov 72.30 336 eP P 07 37 39.2 +0.3
VRAC Vranov 72.30 336 ⇑P P 07 37 40.1 +1.2
BINY Binghamton 72.31 41 P P 07 37 38.4 -0.7
baz=329
BINY Binghamton 72.31 41 P P 07 37 38.6 -0.5
baz=329,SNR=9.3
HNH Hanover 72.36 37 P P 07 37 39.6 +0.3
baz=331
WVT Waverly 72.40 52 P P 07 37 40.2 +0.5
baz=325
WVT Waverly 72.40 52 P P 07 37 40.2 +0.5
baz=325
P53A Whipple 72.45 46 P P 07 37 39.8 -0.1
baz=327
P53A P P 07 37 39.8 -0.1
baz=327
HCNY Howe Caverns 72.47 39 P P 07 37 39.3 -0.7
baz=330
VYHS Vyhne 72.51 334 eP P 07 37 40.6 +0.5
VYHS epP pP 07 38 03.7 -0.5
VYHS Vyhne 72.51 334 eP P 07 37 40.6 +0.5
VYHS pmax pmax
comp=Z,7.0nm,1.0s
Q52A Bidwell 72.52 47 P P 07 37 40.2 -0.1
Q52A IAmb IAmb 07 37 41.1
comp=Z,113nm,1.4s
Q52A Bidwell 72.52 47 P P 07 37 39.7 -0.7
baz=327
Q52A P P 07 37 39.7 -0.7
baz=327
PLAI Plampang 72.55 225 P P 07 37 42.2 +1.5
comp=Z,997nmcomp=Z,72nm,0.8s
PLAI Plampang 72.55 225 P P 07 37 42.2 +1.5
comp=Z,72nm,0.8s
I62A Tamworth 72.55 37 P P 07 37 40.9 +0.5
I62A Tamworth 72.55 37 P P 07 37 40.4 0.0
baz=331
I62A P P 07 37 40.4 0.0
baz=331
W45A Hickory Valley 72.56 54 P P 07 37 41.3 +0.7
baz=325
KRUC Moravsky 72.58 336 eP P 07 37 40.0 -0.5
KMMI Kalianget 72.58 229 P P 07 37 43.8 +2.9
comp=Z,104nm,0.8s
J61A Chester 72.58 38 P P 07 37 41.1 +0.4
baz=331
J61A P P 07 37 41.1 +0.4
baz=331
M57A Sunshine Farm, 72.61 42 P P 07 37 40.4 -0.4
baz=329
M57A P P 07 37 40.4 -0.4
baz=329
NATX Nacogdoches 72.64 60 P P 07 37 42.0 +0.9
baz=324
NATX Nacogdoches 72.64 60 P P 07 37 41.9 +0.8
baz=324,SNR=18
G65A Princeton 72.65 33 P P 07 37 41.3 +0.4
baz=333
G65A P P 07 37 41.3 +0.4
baz=333
I63A Otisfield 72.66 36 P P 07 37 41.7 +0.7
baz=332
I63A P P 07 37 41.7 +0.7
baz=332
L59A Walton 72.67 40 P P 07 37 40.2 -1.0
baz=330
L59A P P 07 37 40.2 -1.0
baz=330
VRI Vrincioaia 72.70 328 ⇑P P 07 37 41.9 +0.6
VRI Vrincioaia 72.70 328 ⇑P P 07 37 41.9 +0.6
PLOR Plostina 72.73 328 ⇑P P 07 37 42.1 +0.6
PLOR Plostina 72.73 328 ⇑P P 07 37 42.1 +0.6
FFD Franklin Falls 72.79 37 P P 07 37 41.1 -0.8
baz=331
CFR Carcaliu 72.87 327 ⇑P P 07 37 42.1 -0.2
CFR Carcaliu 72.87 327 ⇑P P 07 37 42.1 -0.2
COVR Voineasa-Covas 72.88 328 ⇑P P 07 37 43.3 +1.0
SSPA Standing Stone 72.91 43 P P 07 37 42.0 -0.6
baz=329
SSPA Standing Stone 72.91 43 P P 07 37 42.4 -0.2
baz=329
833A Chaparral WMA, 72.93 65 P P 07 37 44.0 +1.0
baz=323
833A Chaparral WMA, 72.93 65 P P 07 37 44.0 +1.0
baz=323,SNR=13
KSPA Keystone Colle 72.94 41 P P 07 37 42.0 -0.8
baz=330
MCWV Mont Chateau 72.95 45 P P 07 37 43.2 +0.4
baz=328
MCWV Mont Chateau 72.95 45 P P 07 37 43.2 +0.4
baz=328,SNR=11
OXF Oxford 72.98 54 P P 07 37 43.4 +0.3
baz=325
OXF Oxford 72.98 54 P P 07 37 43.5 +0.3
baz=325
MODS Modra-Piesok 73.01 335 eP P 07 37 44.8 +1.7
MODS epP pP 07 38 08.6 +1.6
MODS Modra-Piesok 73.01 335 eP P 07 37 44.8 +1.7
MODS pmax pmax
comp=Z,23nm,1.1s
DOPR Dopca 73.01 329 ⇑P P 07 37 43.5 +0.4
U49A Red Boiling Sp 73.02 51 P P 07 37 43.3 0.0
baz=326
T50A Nancy 73.02 50 P P 07 37 43.4 +0.1
baz=326
T50A P P 07 37 43.4 +0.1
baz=326
S51A Beattyville 73.05 48 P P 07 37 43.6 +0.1
baz=327
S51A P P 07 37 43.6 +0.1
baz=327
TPGR Topolog 73.07 327 ⇑P P 07 37 43.5 0.0
Q54A Coxs Mills 73.11 46 P P 07 37 43.3 -0.5
baz=328
Q54A P P 07 37 43.3 -0.5
baz=328
EMMW East Machias 73.12 34 P P 07 37 44.1 +0.4
EMMW IAmb IAmb 07 37 45.0
comp=Z,56nm,0.9s
EMMW East Machias 73.12 34 P P 07 37 43.9 +0.2
baz=333
KHC Kasperske Hory 73.15 338 eP P 07 37 44.5 +0.5
KHC epP pP 07 38 07.3 -0.6
KHC Kasperske Hory 73.15 338 eP P 07 37 44.5 +0.5
KHC e*PP pP 07 38 07.3 -0.6
V48A Smith Brothers 73.18 52 P P 07 37 44.7 +0.4
baz=326
R53A Hurricane 73.18 47 P P 07 37 44.6 +0.4
baz=327
R53A P P 07 37 44.6 +0.4
baz=327
N58A Sunbury 73.19 42 P P 07 37 44.0 -0.2
N58A IAmb IAmb 07 37 48.2
comp=Z,45nm,0.8s
N58A Sunbury 73.19 42 P P 07 37 43.5 -0.8
baz=329
N58A P P 07 37 43.5 -0.8
baz=329
MEM Membach 73.20 343 dP P 07 37 43.9 -0.2
comp=Z,35nm,1.0s
BTNL Ternell 73.20 343 dP P 07 37 46.0 +1.8
comp=Z,23nm,1.0s
MLR Muntele Rosu 73.27 329 ⇑P P 07 37 45.2 +0.4
MLR Muntele Rosu 73.27 329 LR LR 08 14 31.3
comp=Z,306nm,18.3s,baz=32,slow=40
MLR Muntele Rosu 73.27 329 ⇑P P 07 37 45.2 +0.4
CKRC Cesky Krumlov 73.28 337 AMS AMS 08 14 50.0
comp=Z,200nm,15.8s
L61B Northampton 73.32 38 P P 07 37 44.7 -0.2
baz=331
L61B Northampton 73.32 38 P P 07 37 44.7 -0.2
baz=331,SNR=5.1
SDSI Sungai Dareh 73.36 244 P P 07 37 46.7 +1.2
comp=Z,1μmcomp=Z,17nm,1.2s
NPNY Mohonk Preserv 73.39 40 P P 07 37 44.6 -0.7
baz=330
GERES GERESS Array B 73.40 338 P P 07 37 45.5 +0.1
comp=Z,3.4nm,0.8s,baz=44,slow=7.9,SNR=12
GERES pP pP 07 38 09.1 -0.3
comp=Z,4.7nm,0.7s,baz=40,slow=4.4,SNR=6.0
GERES LR LR 08 14 46.5
comp=Z,96nm,20.1s,baz=52,slow=40
comp=Z,3.4nm,0.8s
MSVF Nonsavu 73.40 163 LR LR 08 08 07.3
comp=Z,54nm,18.4s,baz=1.4,slow=34
MSVF Nonsavu 73.40 163 P P 07 37 47.5 +1.8
MSVF Nonsavu 73.40 163 P P 07 37 48.4 +2.8
MSVF Nonsavu 73.40 163 P P 07 37 47.5 +1.8
MSVF pmax pmax
comp=Z,66nm,1.6s
BUD Budapest 73.40 334 P P 07 37 46.7 +1.3
UNH University of 73.40 37 P P 07 37 45.4 0.0
baz=332
TIRR Tirgusor 73.42 326 ⇑P P 07 37 45.5 0.0
TIRR Tirgusor 73.42 326 ⇑P P 07 37 45.5 0.0
ISR Istrita 73.42 328 ⇑P P 07 37 45.2 -0.4

ISR **Istrita** 73.42 328 ⇑P P 07 37 45.2 -0.4
Y45A **Yeager Farm, C** 73.45 55 P P 07 37 46.7 +0.9
baz=325
143A **Socs Landing,** 73.50 57 P P 07 37 47.1 +1.0
baz=325
HKT **Hockley** 73.50 62 P P 07 37 46.7 +0.6
baz=324
BCLA **Clavier** 73.50 344 *d*P P 07 37 46.2 +0.3
GSI **Gunungsitoli** 73.54 248 P P 07 37 47.0 +0.4
comp=Z,2µmcomp=Z,64nm,0.8s
GSI **Gunungsitoli** 73.54 248 P P 07 37 48.3 +1.7
BGES **Gesves** 73.57 344 *d*P P 07 37 46.3 0.0
comp=Z,9.1nm,1.1s
VOIR 73.59 329 ⇑P P 07 37 46.8 +0.1
VOIR 73.59 329 ⇑P P 07 37 46.8 +0.1
MTSU **Mount Surprise** 73.59 196 P P 07 37 47.5 +0.8
HRV **Adam Dziewonsk** 73.67 37 P P 07 37 47.1 +0.1
baz=331
HRV **Adam Dziewonsk** 73.67 37 P P 07 37 47.3 +0.2
baz=331
HRV **Adam Dziewonsk** 73.67 37 ⇑P P 07 37 47.6 +0.6
BMRD **Maredsous** 73.70 344 *d*P P 07 37 47.3 +0.3
comp=Z,11nm,1.0s
CSKK **Cskako** 73.71 334 P P 07 37 47.8 +0.6
BRNY **Black Rk. Fore** 73.73 40 P P 07 37 46.7 -0.7
baz=330
Q56A **Snyder Ridge,** 73.74 45 P P 07 37 47.4 -0.1
baz=328
Q56A P P 07 37 47.4 -0.1
baz=328
CONA **Conrad Observa** 73.77 336 *e*P P 07 37 48.6 +1.0
comp=Z,9.6nm,1.0s
ARR **Arges** 73.78 329 ⇑P P 07 37 47.0 -0.7
ODNJ **Ogdensburg** 73.79 40 P P 07 37 46.6 -1.2
baz=330
SIRR **Siria** 73.82 332 ⇑P P 07 37 47.9 +0.1
P57A **Homestead Farm** 73.84 43 P P 07 37 48.0 -0.1
baz=329
P57A P P 07 37 48.0 -0.1
baz=329
PDSI **Padang** 73.85 245 P P 07 37 51.6 +3.2
RONA **Rosalia, Austr** 73.88 336 *e*P P 07 37 49.5 +1.3
comp=Z,4.4nm,0.7s
S54A **Dingess, Beckl** 73.90 47 P P 07 37 49.0 +0.5
S54A IAmb IAmb 07 37 49.7
comp=Z,43nm,0.8s
S54A **Dingess, Beckl** 73.90 47 P P 07 37 48.6 0.0
baz=328
S54A P P 07 37 48.6 0.0
baz=328
DOU **Dourbes** 73.93 344 *d*P P 07 37 48.5 +0.1
comp=Z,14nm,1.2s
TZTN **Tazewell** 73.99 49 P P 07 37 49.4 +0.4
baz=327
TZTN **Tazewell** 73.99 49 P P 07 37 49.2 +0.2
baz=327,SNR=14
R55A **Marlinton** 74.00 46 P P 07 37 49.3 +0.2
baz=328
R55A P P 07 37 49.3 +0.2
baz=328
MPLH **Magyarpolny** 74.07 335 P P 07 37 51.6 +2.4
342B **Flagon Creek P** 74.12 58 P P 07 37 51.1 +1.3
baz=325
PAL **Palisades** 74.12 40 P P 07 37 49.4 -0.3
baz=330
PAL **Palisades** 74.12 40 P P 07 37 49.5 -0.1
baz=330,SNR=11
X48A **Hartselle** 74.14 53 P P 07 37 49.8 -0.2
baz=326
BRNJ **Basking Ridge** 74.16 40 P P 07 37 49.5 -0.4
baz=330
SURR **Surduc** 74.16 331 ⇓P P 07 37 50.3 +0.5
441A **DeRidder** 74.19 59 P P 07 37 52.0 +1.7
baz=324
MOA **Molln** 74.21 337 *e*P P 07 37 52.2 +2.0
comp=Z,9.3nm,1.2s
V51A **Loudon** 74.25 50 P P 07 37 50.8 +0.3
baz=327
FOR **Fordham** 74.25 40 P P 07 37 50.2 -0.3
baz=330
GZR **Gura Zlata** 74.30 331 ⇓P P 07 37 51.1 +0.3
GZR **Gura Zlata** 74.30 331 ⇓P P 07 37 51.1 +0.3
W50A **Signal Mountai** 74.32 51 P P 07 37 51.2 +0.2
baz=326
VBMS **Vicksburg** 74.32 56 P P 07 37 51.2 +0.3
baz=325
VBMS **Vicksburg** 74.32 56 P P 07 37 51.6 +0.7
baz=325,SNR=12
TUPA **Temple Univers** 74.36 41 P P 07 37 50.6 -0.5
baz=330
PANJ **Princeton** 74.37 41 P P 07 37 50.8 -0.3
baz=330
SDMD **Soldier's Deli** 74.37 43 P P 07 37 50.7 -0.4
baz=329
PWJI **Pagerwojo** 74.41 231 P P 07 37 51.4 -0.2
comp=Z,2µmcomp=Z,114nm,1.1s
BZS **Buzias** 74.42 331 ⇑P P 07 37 52.0 +0.6
BZS **Buzias** 74.42 331 ⇑P P 07 37 52.0 +0.6
L64A **Middleborough** 74.43 37 P P 07 37 51.8 +0.4
baz=332
L64A P P 07 37 51.8 +0.4
baz=332
M63A **Gales Ferry** 74.46 38 P P 07 37 50.9 -0.7
baz=331
M63A P P 07 37 50.9 -0.7
baz=331
PSUB **Penn St. - Bra** 74.47 41 P P 07 37 51.1 -0.6
baz=330
V52A **Sevierville** 74.55 49 P P 07 37 52.6 +0.3
baz=327
ILGA **Ilgaz** 74.60 321 P P 07 37 53.0 +0.2
ILGA IAmb IAmb 07 38 08.2
comp=Z,54nm,0.8s
TKL **Tuckaleechee C** 74.63 50 P P 07 37 52.8 0.0
comp=Z,18nm,0.9s,baz=238,slow=3.0,SNR=22
TKL LR LR 08 12 01.7
comp=Z,172nm,19.8s,baz=334,slow=37
comp=Z,18nm,0.9s
TKL **Tuckaleechee C** 74.63 50 P P 07 37 52.9 +0.2
baz=327
MORH **Mrgy, Hungar** 74.67 334 ⇑P P 07 37 53.5 +0.7
MORH **Mrgy, Hungar** 74.67 334 P P 07 37 56.7 +3.9
146A **Union** 74.69 55 P P 07 37 54.3 +1.2
baz=326
Z47A **Carrollton** 74.69 54 P P 07 37 53.2 +0.1
baz=326
KOUNC **Koumac, New Ca** 74.73 176 P P 07 37 55.6 +2.4
U54A **Nelsons Funny** 74.76 48 P P 07 37 53.7 +0.1
baz=328
U54A P P 07 37 53.7 +0.1
baz=328
BLA **Blacksburg** 74.78 46 P P 07 37 53.2 -0.4
baz=328
BLA **Blacksburg** 74.78 46 P P 07 37 53.5 -0.2
baz=328,SNR=14
344A **Westbrook Farm** 74.84 57 P P 07 37 55.2 +1.2
baz=325
KNRA **Kununurra** 74.91 212 P P 07 37 54.6 +0.3
KNRA **Kununurra** 74.91 212 P P 07 37 55.4 +1.0
S57A **Dark Hollow, R** 74.92 45 P P 07 37 54.8 +0.4
baz=329
S57A P P 07 37 54.8 +0.4
baz=329
Y49A **Blount Mountai** 74.93 53 P P 07 37 54.4 -0.1
baz=326
KOVH **Kovagotottos** 74.93 334 P P 07 37 58.7 +4.4
W52A **Murphy** 75.03 50 P P 07 37 55.1 0.0
baz=327
V53A **Saluda** 75.04 49 P P 07 37 55.3 +0.1
baz=327
V53A P P 07 37 55.3 +0.1
baz=327
MARD **Mardin** 75.05 314 P P 07 37 55.2 -0.1
X51A **Calhoun** 75.05 51 P P 07 37 55.5 +0.4
baz=327
X51A P P 07 37 55.5 +0.4
baz=327
SOKA **Soboth** 75.14 336 *e*P P 07 37 56.2 +0.7
comp=Z,6.6nm,1.1s
KBA **Koelnbreinsper** 75.14 338 *e*P P 07 37 57.0 +1.3
comp=Z,48nm,1.0s
MDVR **Moldovita** 75.16 331 ⇓P P 07 37 56.8 +1.1
CBN **Corbin Frederi** 75.19 44 P P 07 37 56.5 +0.6
baz=329
CBN **Corbin Frederi** 75.19 44 P P 07 37 56.1 +0.2
baz=329,SNR=8.8
R58B **Mineral** 75.19 44 P P 07 37 56.1 +0.2
baz=329
R58B P P 07 37 56.1 +0.2
baz=329
CTA **Charters Tower** 75.22 194 LR LR 08 05 49.1
comp=Z,39nm,21.6s,baz=62,slow=31
CTA **Charters Tower** 75.22 194 P P 07 37 56.8 +0.7
CTAO **Charters Tower** 75.22 194 P P 07 37 56.0 -0.1
CTAO **Charters Tower** 75.22 194 P P 07 37 56.8 +0.7
CTAO **Charters Tower** 75.22 194 P P 07 37 56.0 -0.1
CTAO pmax pmax
comp=Z,47nm,1.1s
ECH **Echery** 75.31 342 P P 07 37 56.5 0.0
ECH **Echery** 75.31 342 P P 07 37 56.5 0.0
ECH pmax pmax
comp=Z,21nm,1.1s
RETA **Reutte** 75.31 339 *e*P P 07 37 58.6 +2.1
comp=Z,8.6nm,0.8s
LRAL **Lakeview Retre** 75.33 53 P P 07 37 56.4 -0.4
baz=326
LRAL **Lakeview Retre** 75.33 53 P P 07 37 56.6 -0.2
baz=326,SNR=31
WTTA **Wattenberg** 75.34 339 *e*P P 07 37 57.8 +0.9
comp=Z,12nm,1.1s
MOTA **Moosalm** 75.38 339 *e*P P 07 37 58.2 +1.2
comp=Z,6.2nm,0.7s
OBKA **Obir** 75.41 337 *e*P P 07 37 57.6 +0.5
comp=Z,33nm,1.7s
T57A **Hurt** 75.45 46 P P 07 37 57.4 0.0
T57A **Hurt** 75.45 46 P P 07 37 57.2 -0.2
baz=329
T57A P P 07 37 57.2 -0.2
baz=329
SQTA **Sankt Quirin** 75.47 339 *e*P P 07 37 58.7 +1.2
comp=Z,22nm,1.1s
MYKA **Terra Mystica** 75.50 337 *e*P P 07 37 59.9 +2.2
comp=Z,7.4nm,0.9s
346A **Big Creek Wild** 75.51 56 P P 07 37 58.3 +0.5
346A IAmb IAmb 07 38 00.2
comp=Z,99nm,0.9s
346A **Big Creek Wild** 75.51 56 P P 07 37 58.3 +0.5
baz=326
U56A **King** 75.53 47 P P 07 37 58.1 +0.2
baz=328
U56A P P 07 37 58.1 +0.2
baz=328
CASEE **Lake Jocassee** 75.56 49 P P 07 37 58.2 +0.1
baz=327
V55A **Taylorsville** 75.59 48 P P 07 37 58.2 0.0
baz=328
V55A P P 07 37 58.2 0.0
baz=328
ABTA **Abfaltersbach** 75.64 338 *e*P P 07 37 59.1 +0.6
comp=Z,25nm,1.0s
BNN **Bunyan** 75.71 319 P P 07 37 58.2 -0.8
BNN IAmb IAmb 07 38 24.9
comp=Z,74nm,0.9s
FETA **Feichten** 75.76 339 *e*P P 07 38 00.1 +0.9
comp=Z,7.9nm,1.1s
BR131 **Keskin Array S** 75.79 321 P P 07 37 59.2 -0.2
BR131 **Keskin Array S** 75.79 321⇑*e*P P 07 37 58.3 -1.2
BRTR **Keskin Array B** 75.79 321 P P 07 37 58.8 -0.8
comp=Z,4.1nm,0.8s,baz=59,slow=3.7,SNR=15
BRTR pP pP 07 38 22.1 -1.4
comp=Z,9.4nm,0.9s,baz=38,slow=4.9,SNR=8.1
BRTR LR LR 08 14 06.4
comp=Z,89nm,21.4s,baz=26,slow=38
comp=Z,4.1nm,0.8s
BRTR **Keskin Array B** 75.79 321 P P 07 37 59.1 -0.4
Z51A **Franklin** 75.95 52 P P 07 37 60.0 -0.4
baz=327
Y52A **Lilburn** 76.00 51 P P 07 38 00.4 -0.2
Y52A **Lilburn** 76.00 51 P P 07 38 00.8 +0.1
baz=327
Y52A P P 07 38 00.8 +0.1
baz=327
KMSC **Kings Mountain** 76.14 48 P P 07 38 01.2 -0.2
baz=328
KMSC **Kings Mountain** 76.14 48 P P 07 38 01.4 +0.1
baz=328,SNR=20
DAVOX **Davos/Dischmat** 76.17 340 LR LR 08 19 43.8
comp=Z,43nm,18.3s,baz=82,slow=42
T59A **Double "B" Far** 76.17 44 P P 07 38 01.6 +0.1
baz=329
T59A P P 07 38 01.6 +0.1
baz=329
PAULI **Pauline** 76.20 49 P P 07 38 01.8 +0.1
baz=328
DIVS **Divibare** 76.27 332 P P 07 38 02.1 0.0
S61A **Accomac** 76.32 43 P P 07 38 02.9 +0.6
S61A **Accomac** 76.32 43 P P 07 38 03.0 +0.7
baz=330
S61A P P 07 38 03.0 +0.7
baz=330
DZM **Mont Dzumac** 76.34 174 *e*P P 07 38 03.9 +1.4
comp=Z,190nm,1.3s
DZM *e*pP pP 07 38 25.0 -1.4
comp=Z,84nm,1.3s
DZM **Mont Dzumac** 76.34 174 *e*LR LR 08 01 43.0
comp=Z,392nm,34.5s
DZM **Mont Dzumac** 76.34 174 LR LR 08 04 11.1
comp=Z,118nm,20.4s,baz=20,slow=30
DZM **Mont Dzumac** 76.34 174 P P 07 38 04.4 +1.9
DZM IAmb IAmb 07 38 06.0
comp=Z,74nm,1.1s
DZM **Mont Dzumac** 76.34 174 P P 07 38 04.6 +2.1
YATNC **Mamie plateau,** 76.35 174 P P 07 38 04.6 +2.1
T60A **Surry** 76.36 44 P P 07 38 02.4 -0.2
baz=330
T60A P P 07 38 02.4 -0.2
baz=330
HODGE **Hodges** 76.50 49 P P 07 38 03.1 -0.3
baz=328
V58A **Windy Hill, Pi** 76.53 46 P P 07 38 03.7 +0.2
baz=329
V58A P P 07 38 03.7 +0.2
baz=329
250A **Grady** 76.55 53 P P 07 38 03.4 -0.3
baz=327
ONTNC **Ouen Toro** 76.58 174 P P 07 38 05.0 +1.3
ONTNC IAmb IAmb 07 38 07.0
comp=Z,68nm,1.1s
ONTNC **Ouen Toro** 76.58 174 P P 07 38 05.8 +2.1
U59A **Littleton** 76.61 45 P P 07 38 04.4 +0.4
baz=329
U59A P P 07 38 04.4 +0.4
baz=329
GOGA **Godfrey** 76.65 51 P P 07 38 03.8 -0.5
baz=327
GOGA **Godfrey** 76.65 51 P P 07 38 04.5 +0.2
baz=327,SNR=10
152A **Waverly Hall** 76.70 52 P P 07 38 04.2 -0.3
baz=327
VTS **Vitosha** 76.70 329 ⇑P P 07 38 05.2 +0.6
VTS **Vitosha** 76.70 329 ⇑P P 07 38 05.2 +0.6
W57A **Gilead** 76.70 47 P P 07 38 04.5 0.0
baz=329
W57A P P 07 38 04.5 0.0
baz=329
OUENC **Ouen Island, N** 76.71 174 P P 07 38 06.8 +2.3
OUENC **Ouen Island, N** 76.71 174 P P 07 38 07.4 +2.9
QIS **Mount Isa** 76.82 200 P P 07 38 06.1 +0.9
BRAL **Brewton** 76.86 55 P P 07 38 06.5 +1.0
baz=326
JSC **Jenkinsville** 76.89 49 P P 07 38 04.9 -0.7
baz=328
BIRD **Birdtown, Kers** 76.94 48 P P 07 38 05.9 +0.1
baz=328
WB0 **Warramunga Arr** 77.23 205 P P 07 38 08.0 +0.5
WRAB **Tennant Creek** 77.40 205 P P 07 38 08.9 +0.5
WRAB **Tennant Creek** 77.40 205*c* *i*P P 07 38 09.0 +0.5
WRAB pmax pmax
comp=Z,44nm,1.1s
WRA **Warramunga Arr** 77.41 205 P P 07 38 09.1 +0.6
comp=Z,21nm,0.9s,baz=18,slow=6.0,SNR=131
WRA pP pP 07 38 31.4 -1.1
comp=Z,29nm,0.7s,baz=19,slow=5.9,SNR=14
comp=Z,21nm,0.9s
WRA **Warramunga Arr** 77.41 205 P P 07 38 08.4 -0.1
WRA **Warramunga Arr** 77.41 205 P P 07 38 08.4 -0.1
WRA pmax pmax
comp=Z,3.0nm,1.0s
WB1 **Warramunga Ar.** 77.43 205 P P 07 38 08.8 +0.2
comp=Z,68nm,0.7s
154A **Montrose** 77.48 51 P P 07 38 09.2 +0.3
baz=328
X58A **Rowland** 77.50 47 P P 07 38 09.2 +0.3
baz=329
X58A P P 07 38 09.2 +0.3
baz=329
Y57A **Sumter** 77.50 48 P P 07 38 09.2 +0.2
baz=329
Y57A P P 07 38 09.2 +0.2
baz=329
HAW **Hawthorne Fire** 77.52 49 P P 07 38 09.5 +0.3
baz=328
CNNC **Cliffs of the** 77.52 46 P P 07 38 09.9 +0.8
baz=329
CNNC **Cliffs of the** 77.52 46 P P 07 38 09.6 +0.5
baz=329,SNR=11
V61A **Roper** 77.59 44 P P 07 38 10.1 +0.6
baz=330
V61A P P 07 38 10.1 +0.6
baz=330
352A **Blakely** 77.59 53 P P 07 38 09.8 +0.2
baz=327
Y58A **Scranton** 77.91 48 P P 07 38 11.8 +0.5
baz=329
Y58A P P 07 38 11.8 +0.5
baz=329
451A **Vernon** 77.93 54 P P 07 38 12.3 +0.8
baz=327
PDG **Podgorica** 78.02 332 ⇑P P 07 38 12.7 +1.0
WSAR **Wadi Sarin** 78.06 293 LR LR 08 16 46.8
comp=Z,159nm,20.2s,baz=84,slow=39
Y59A **Loris** 78.18 47 P P 07 38 13.3 +0.6
baz=329
Y59A P P 07 38 13.3 +0.6
baz=329
PCHI **Peechi** 78.18 272 *e*P P 07 38 11.9 -1.2
PCHI *e*S SKiKP 07 47 02.7 -12
PALK **Pallekele** 78.25 266 ⇑P P 07 38 12.6 -0.8
TIGA **Tifton** 78.25 52 P P 07 38 13.7 +0.5
baz=328
TIGA **Tifton** 78.25 52 P P 07 38 14.1 +0.9
baz=328,SNR=38
255A **Hazlehurst** 78.34 51 P P 07 38 14.6 +0.9
baz=328
NHSC **New Hope** 78.37 48 P P 07 38 13.9 +0.1
NHSC IAmb IAmb 07 38 15.5
comp=Z,131nm,0.9s
NHSC **New Hope** 78.37 48 P P 07 38 14.8 +0.9
baz=329
NHSC **New Hope** 78.37 48 P P 07 38 14.7 +0.8
baz=329,SNR=17
Y60A **Bolivia** 78.44 47 P P 07 38 14.8 +0.5
Y60A **Bolivia** 78.44 47 P P 07 38 12.9 -1.3
baz=330
Y60A P P 07 38 12.9 -1.3
baz=330
257A **Skidaway Islan** 78.95 50 P P 07 38 17.8 +0.7
baz=329
NRCA **Norcia** 79.21 336 P P 07 38 19.0 +0.6
NRCA IAmb IAmb 07 38 25.5
comp=Z,98nm,1.5s
456A **Hilliard** 79.57 51 P P 07 38 22.1 +1.6
baz=328
EIDS **Eidsvold** 79.88 189 P P 07 38 23.3 +1.4
TAOE **Nuku Hiva Isla** 80.14 120 *e*LR LR 08 03 30.2
comp=Z,454nm,28.7s
656A **Willston** 80.48 52 P P 07 38 26.9 +1.5
baz=328
MMAI **Mount Meron Ar** 80.97 316 LR LR 08 19 10.4
comp=Z,46nm,18.7s,baz=221,slow=39
AS01 **Alice Springs** 81.08 205 P P 07 38 29.5 +1.1
comp=Z,37nm,0.9s
ASF **Jabal al Asfar** 81.09 314 LR LR 08 19 45.0
comp=Z,150nm,20.7s,baz=88,slow=40
ASAR **Alice Springs** 81.09 205 P P 07 38 29.6 +1.1
comp=Z,22nm,0.8s,baz=12,slow=5.0,SNR=197
ASAR pP pP 07 38 52.0 -0.7
comp=Z,12nm,0.6s,baz=17,slow=4.7,SNR=5.2
ASAR PKPPKP P'P'df 08 05 07.0 +0.2
comp=Z,1.1nm,1.1s,baz=174,slow=3.4,SNR=4.7
ASAR LR LR 08 18 22.5
comp=Z,14nm,18.3s,baz=350,slow=38
comp=Z,22nm,0.8s
RMQ **Roma** 81.22 191 P P 07 38 30.8 +1.8
QLP **Quilpie** 81.89 195 P P 07 38 34.1 +1.5
DWPF **Disney Wildern** 82.05 52 P P 07 38 35.1 +1.4
baz=329
DWPF **Disney Wildern** 82.05 52 P P 07 38 33.8 +0.1
baz=329
RAR **Rarotonga** 82.64 143 LR LR 08 06 06.7
comp=Z,99nm,21.4s,baz=347,slow=29
IDI **Anoyia** 82.85 325 LR LR 08 19 24.7
comp=Z,60nm,20.9s,baz=31,slow=38
MBWA **Marble Bar** 83.03 218 P P 07 38 41.7 +3.1
PPT **Papeete** 83.32 133 P P 07 38 41.3 +1.1
comp=Z,51nm,0.7s,baz=80,slow=19,SNR=3.9
PPT LR LR 08 06 22.6
comp=Z,116nm,21.5s,baz=316,slow=29
comp=Z,51nm,0.7s
PPT2 **Papeete2** 83.34 133 *e*LR LR 08 04 50.6
comp=Z,860nm,31.5s
PPT2 *e*LR LR 08 05 00.1
comp=Z,391nm,29.0s
PBRG **Braganca** 83.54 351 *e*P P 07 38 42.5 +1.2
comp=Z,43nm,2.0s
INKA **Innaminka** 83.60 198 P P 07 38 43.9 +2.5
WRKA **Warakurna** 83.88 209 P P 07 38 43.6 +0.6
VAE **Valguarnera** 83.95 334 LR LR 08 21 24.5
comp=Z,75nm,18.1s,baz=132,slow=39
EIL **Elat** 84.08 315 LR LR 08 21 40.0
comp=Z,144nm,20.4s,baz=54,slow=40
PVRL **Vila Real** 84.15 351 *e*P P 07 38 45.7 +1.3
comp=Z,87nm,1.3s
MVO **Moncorvo** 84.20 351 *e*P P 07 38 45.7 +1.0
comp=Z,56nm,1.7s
CMIG **Matias Romero** 84.44 68 LR LR 08 14 18.2
comp=Z,61nm,21.8s,baz=324,slow=34
RAYN **Ar Rayn** 84.58 303 ⇑P P 07 38 45.9 -0.9
OOD **Oodnadatta** 84.65 202 P P 07 38 48.3 +1.6
PVIS **Viseu** 84.72 351 *e*P P 07 38 48.0 +0.7
comp=Z,71nm,1.6s
ARMA **Armidale** 84.84 188 P P 07 38 49.8 +2.0
MTE **Manteigas** 85.01 351 *e*P P 07 38 49.7 +1.0
comp=Z,61nm,1.3s
COI **Coimbra** 85.27 352 *e*P P 07 38 50.7 +0.8
ESDC **Sonseca Array** 85.34 348 P P 07 38 51.2 +0.8
comp=Z,26nm,1.0s,baz=1.5,slow=5.1,SNR=58
ESDC pP pP 07 39 13.4 -1.6
comp=Z,9.1nm,0.8s,baz=1.2,slow=4.9,SNR=4.7
ESDC PKKPbc PKKPbc 07 56 53.4 +1.5
comp=Z,1.2nm,0.9s,baz=166,slow=1.2,SNR=4.3
comp=Z,26nm,1.0s
PCAS **Casmilo, Conde** 85.44 352 *e*P P 07 38 51.9 +1.1
comp=Z,102nm,1.4s
PCBR **Castelo Branco** 85.56 351 *e*P P 07 38 51.8 +0.4
comp=Z,46nm,1.4s
PMRV **Marv??o** 85.95 351 *e*P P 07 38 53.6 +0.2
comp=Z,48nm,1.6s
PMTG **Montargil** 86.39 351 *e*P P 07 38 56.3 +0.8
comp=Z,47nm,2.5s
PESTR **Estremoz** 86.53 351 *e*P P 07 38 56.4 +0.2
comp=Z,26nm,0.8s
CMSA **Cobar Meteorol** 86.57 193 P P 07 38 58.0 +1.9
comp=Z,32nm,1.2s
LCRK **Leigh Creek** 86.70 199 P P 07 38 58.6 +1.8
KEST **Kesra** 86.86 337 P P 07 38 57.8 -0.1
comp=Z,6.3nm,0.7s,baz=316,slow=6.5,SNR=6.5
KEST LR LR 08 22 01.9
comp=Z,107nm,21.7s,baz=320,slow=38
comp=Z,6.3nm,0.7s
EVO **Evora** 86.90 351 *e*P P 07 38 58.7 +0.7
comp=Z,48nm,1.6s
AUDCS **Dubbo College** 86.91 190 P P 07 38 59.2 +1.4
PBAR **Barrancos** 87.16 350 *e*P P 07 38 59.9 +0.6
comp=Z,28nm,1.3s
PBEJ **Beja** 87.39 351 *e*P P 07 39 00.6 +0.2
comp=Z,58nm,1.8s
MULG **Mulgathing** 87.41 203 P P 07 39 01.0 +0.7
STKA **Stephens Creek** 87.50 196 P P 07 39 01.5 +0.9
comp=Z,16nm,0.8s,baz=343,slow=6.7,SNR=34
STKA LR LR 08 14 48.2
comp=Z,28nm,21.9s,baz=22,slow=33
comp=Z,16nm,0.8s
STKA **Stephens Creek** 87.50 196 P P 07 39 01.6 +0.9
MEEK **Meekatharra** 88.45 217 P P 07 39 05.4 +0.1
TBI **Tubuai** 88.51 135 *e*LR LR 08 07 29.5
comp=Z,1µm,27.2s
TBI *e*LR LR 08 07 29.6
comp=Z,4µm,25.5s
FORT **Forrest** 89.38 208 P P 07 39 11.3 +1.8
HTT **Hallett** 89.47 198 P P 07 39 10.9 +0.9

MORW	Morawa	91.59	218	P	P	07 39 19.9	0.0
MDT	Midelt	92.19	348	LR	LR	08 27 24.0	
	comp=Z,21nm,18.3s,baz=18,slow=40						
BKZ	Black Stump Fm	94.21	168	P	P	07 39 33.6	+1.8
JTS	Las Juntas de	95.39	64	LR	LR	08 26 11.7	
	comp=Z,35nm,18.9s,baz=28,slow=38						
QRZ	Quartz Range	95.42	171	P	P	07 39 39.2	+2.0
ATD	Arta Tunnel	96.06	299	LR	LR	08 27 55.6	
	comp=Z,213nm,21.4s,baz=41,slow=38						
SJG	San Juan	97.48	44	LR	LR	08 25 12.3	
	comp=Z,45nm,21.8s,baz=301,slow=36						
RPZ	Rata Peaks	98.17	172	LR	LR	08 17 46.0	
	comp=Z,100nm,21.1s,baz=223,slow=31						
LPAZ	La Paz	126.61	64	PKP	PKPdf	07 45 17.1	+0.2
	comp=Z,5.1nm,0.8s,baz=21,slow=6.0,SNR=19						
LPAZ				pPKP	pPKPdf	07 45 41.3	-1.2
	comp=Z,3.7nm,0.8s,baz=353,slow=6.1,SNR=2.7						
VNDA	Vanda	131.68	180	PKP	PKiKP	07 45 25.2	+0.3
	comp=Z,4.6nm,0.7s,baz=324,slow=3.9,SNR=33						
VNDA				pPKP	pPKPdf	07 45 49.1	-0.4
	comp=Z,4.8nm,0.7s,baz=324,slow=3.5,SNR=7.4						
VNDA				SKPbc	SKPab	07 48 42.0	+0.3
	comp=Z,14nm,1.0s,baz=329,slow=3.5,SNR=22						
BDFB	Brasilia	135.37	41	PKhKP	PKPpre	07 45 26.4	
	comp=Z,1.9nm,0.6s,baz=219,slow=5.2,SNR=4.0						
BDFB				PKP	PKPdf	07 45 33.5	+0.7
	comp=Z,5.5nm,0.8s,baz=208,slow=1.4,SNR=9.0						
BDFB				pPKP	pPKPdf	07 45 57.6	-0.9
	comp=Z,2.9nm,0.6s,baz=94,slow=2.8,SNR=3.1						
BOSA	Boshof	138.77	290	PKP	PKiKP	07 45 41.0	-0.1
	comp=Z,4.5nm,0.6s,baz=95,slow=1.4,SNR=9.1						
BOSA				pPKP	pPKPdf	07 46 04.5	0.0
	comp=Z,12nm,0.6s,baz=33,slow=2.3,SNR=8.1						
BOSA	Boshof	138.77	290	PKIKP	PKiKP	07 45 41.0	-0.1
CPUP	Villa Florida	140.50	60	PKhKP	PKPpre	07 45 33.8	
	comp=Z,1.2nm,0.6s,baz=19,slow=6.2,SNR=4.4						
CPUP				PKP	PKPdf	07 45 41.6	-0.3
	comp=Z,3.7nm,0.8s,baz=319,slow=2.5,SNR=9.4						
MAW	Mawson	141.23	217	PKhKP	PKPpre	07 45 38.6	
	comp=Z,3.3nm,0.8s,baz=346,slow=3.2,SNR=3.5						
TROLL	Troll, Antarti	160.01	200	PKPab	PKPab	07 46 50.8	-0.1
SNAA	Sanae	161.26	196	PKPab	PKPab	07 46 55.5	-0.7
VNA3	Neumayer Olymp	162.58	191	PKPab	PKPab	07 47 00.6	-1.4
VNA2	Neumayer--Watz	162.61	193	PKPab	PKPab	07 47 01.1	-0.9
	baz=165,slow=3.8						
VNA1	Neumayer--Stat	162.97	193	PKPab	PKPab	07 47 00.8	-2.8

WEL 25 07:27:24.3±0.8, 41°S±4°×17°7E±°, h20km±4km, M3.5/46, ML3.9/24, MLv3.5/46, Error ellipse: s-maj=0.0km s-min=0.0km az=116.6, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWZ	Angora Road	0.27	298	P	Pb	07 27 30.7	+0.1
ANWZ				S	Sb	07 27 35.8	+0.9
PRHZ	Porangahau	0.34	340	P	Pb	07 27 31.9	+0.3
PRHZ				S	Sn	07 27 39.2	-1.3
BFZ	Birch Farm	0.42	257	P	Pn	07 27 34.3	-0.9
BFZ				S	Sn	07 27 41.9	-0.6
CPWZ	Castlepoint	0.55	234	P	Pn	07 27 37.2	+0.2
CPWZ				S	Sn	07 27 47.0	+1.4
DVHZ	Dannevirke	0.56	301	P	Pb	07 27 36.0	+0.6
DVHZ				S	Sn	07 27 45.3	-0.5
PXZ	Pawanui	0.56	6	P	Pn	07 27 36.4	-0.7
PXZ				S	Sn	07 27 45.8	0.0
WPHZ	Waipukurau	0.59	333	P	Pb	07 27 36.6	+0.7
PRWZ	Pori Road	0.62	273	P	Pn	07 27 37.7	-0.3
TIWZ	Tintock	0.71	254	P	Pn	07 27 39.0	-0.3
KAHZ	Kahuranaki	0.80	5	P	Pn	07 27 40.0	-0.4
POWZ	Post Office Ro	0.80	284	P	Pn	07 27 40.2	-0.3
PNHZ	Pukenui	0.81	326	P	Pb	07 27 40.2	+0.4
PNHZ				S	Sn	07 27 52.2	+0.1
TSZ	Takapari Road	0.82	310	P	Pb	07 27 40.4	+0.4
TMWZ	Te Maipa	0.86	232	P	Pb	07 27 40.7	+0.2
MRZ	Mangatainoka R	0.93	265	P	Pb	07 27 41.6	-0.1
MTW	Mount Morrison	1.13	239	P	Pn	07 27 44.2	-0.8
MCHZ	McNeill Hill	1.14	356	P	Pn	07 27 45.2	+0.1
TRWZ	Traveller	1.16	226	P	Pn	07 27 44.4	-1.0
OHWZ	Ohakea	1.19	288	P	Pb	07 27 46.8	+0.6
KWHZ	Kaweka Forest	1.20	346	P	Pb	07 27 46.3	0.0
BHHZ	Black Hill Sta	1.23	333	P	Pn	07 27 46.2	-0.2
OGWZ	Otaki Gorge	1.25	259	P	Pn	07 27 46.2	-0.5
PAWZ	Paruwai Farm	1.30	232	P	Pn	07 27 46.5	-0.9
ARHZ	Aropaoanui	1.33	7	P	Pn	07 27 47.5	-0.3
CAW	Cannon Point	1.41	248	P	Pn	07 27 48.1	-0.7
MOVZ	Moawhango	1.42	326	P	Pb	07 27 49.7	-0.5
MSWZ	Moikau Station	1.43	234	P	Pn	07 27 47.9	-1.2
BKZ	Black Stump Fm	1.44	351	P	Pn	07 27 49.1	-0.2
KIW	Kapiti Island	1.46	259	P	Pn	07 27 49.1	-0.4
NMHZ	Naumai	1.49	0	P	Pn	07 27 50.0	0.0
PLWZ	Palliser	1.52	229	P	Pn	07 27 49.0	-1.3
WNVZ	Wahianoa	1.56	324	P	Pb	07 27 52.6	0.0
MTVZ	Mangateitei	1.57	319	P	Pb	07 27 53.3	+0.6
TUVZ	Tukino	1.58	335	P	Pb	07 27 53.4	+0.4
WHVZ	Whangaehu Hut	1.60	324	P	Pb	07 27 53.5	+0.3
WAZ	Wanganui	1.61	300	P	Pb	07 27 53.2	-0.2
FWVZ	Far West T-bar	1.64	324	P	Pb	07 27 54.1	+0.1
SNVZ	South Ngauruho	1.66	327	P	Pb	07 27 54.4	+0.2
OTVZ	Oturere	1.67	328	P	Pb	07 27 53.6	-0.8
ETVZ	East Tongariro	1.67	330	P	Pb	07 27 54.2	-0.2
MHGZ	Mahia Peninsul	1.67	31	P	Pn	07 27 51.6	-0.8
NGZ	Ngauruhoe	1.68	327	P	Pb	07 27 54.1	-0.5
TMVZ	Te Maari	1.69	330	P	Pb	07 27 54.2	-0.5
KNZ	Kokohu	1.71	24	P	Pn	07 27 51.9	-1.0
PKVZ	Pokaka	1.71	319	P	Pb	07 27 55.6	+0.6
NNVZ	North Ngauruho	1.71	328	P	Pb	07 27 54.6	-0.6
NTVZ	North Tongarir	1.72	330	P	Pb	07 27 55.5	+0.3
KRVZ	Karewarewa	1.73	329	P	Pb	07 27 55.7	+0.2
MTHZ	Maungataniwha	1.73	1	P	Pn	07 27 52.7	-0.6
MRHZ	Matea Rd	1.77	351	P	Pn	07 27 54.3	+0.4
KATZ	Kakaramea	1.82	332	P	Pb	07 27 57.4	+0.4
TWVZ	Taurewa	1.84	325	P	Pb	07 27 56.1	-1.2
RATZ	Rangitukua	1.89	335	P	Pb	07 27 58.8	+0.7
TCW	Tory Channel	2.00	251	P	Pn	07 27 56.2	-0.8
RIGZ	Rimuhau	2.02	22	P	Pn	07 27 56.2	-1.1
ALRZ	Allen Road	2.05	350	P	Pn	07 27 58.3	+0.6
PRRZ	Plateau Road	2.11	351	P	Pn	07 27 58.6	+0.1
VRZ	Vera Road	2.14	312	P	Pb	07 28 02.2	-0.2
DUWZ	D'Urville Isla	2.19	263	P	Pb	07 28 03.1	-0.1
TKGZ	Te Karaka	2.30	21	P	Pn	07 28 00.7	-0.3
TUWZ	Tuamarina	2.31	248	P	Pn	07 28 00.1	-1.2
URZ	Urewera	2.34	6	P	Pn	07 28 00.8	-0.8
TARZ	Mount Tarawera	2.36	355	P	Pn	07 28 02.1	+0.1
DREZ	Durham Road	2.43	304	P	Pb	07 28 09.3	+1.9
NEZ	North Egmont	2.45	302	P	Pb	07 28 05.9	-1.9
TLZ	Tolley Road	2.46	336	P	Pb	07 28 06.4	-1.4
KHEZ	Kahui Hut	2.49	300	P	Pb	07 28 10.2	+1.8
NMEZ	Namu Road	2.53	297	P	Pb	07 28 11.0	+2.1
HIZ	Hauiti	2.56	324	P	Pb	07 28 09.3	-0.1
PKE	Pukeiti	2.57	302	P	Pb	07 28 10.9	+1.2
NBEZ	Newall Road No	2.60	299	P	Pb	07 28 11.6	+1.3
NNZ	Nelson	2.66	255	P	Pn	07 28 05.7	-0.3
MRNZ	Matariki Terra	3.16	254	P	Pn	07 28 12.2	-0.7
QRZ	Quartz Range	3.25	264	P	Pn	07 28 13.6	-0.4
AKCZ	Akaroa Harbour	4.37	220	P	Pn	07 28 26.8	-2.7
MQZ	McQueen's Vall	4.38	223	P	Pn	07 28 26.7	-2.9
WACZ	Wakanui South	4.97	226	P	Pn	07 28 35.1	-2.7
TMZ	Timaru	5.71	227	P	Pn	07 28 45.5	-2.5
CTZ	Chatham Island	5.82	125	P	Pn	07 28 49.7	+0.3

*IDC **25** 07:35:44.6±0.6, 37°.19N×141°.57E, h0km, mb4.0/17, mbtmp3.9/20, ML3.3/3, MS3.3/2, Error ellipse: s-maj=17.4km s-min=15.0km az=86.0*

*MOS **25** 07:35:45.3±1.2, 37°.26N×141°.77E, h24km, mb4.7/8, Error ellipse: s-maj=10.9km s-min=6.8km az=88.1*

*JMA **25** 07:35:47.2±0.2, 37°.2N±0°.4×14°.2E±°, h35km±1km, MD4.2/40, MV4.2/40, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

*NEIC **25** 07:35:49.0±1.1, 37°.25N±0°.06×141°.62E±0°.09, h31km±6km, mb4.2/10, Error ellipse: s-maj=10.2km s-min=9.0km az=95.0*

ISC 25 07:35:45.5±1.6, 37°.22N±0°.04×141°.65E±0°.05, h8km±9km, n113, σ1‡52/106, mb4.1/26, MS3.7/3, 4C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.64**	**283**	P	**Pg**	**07 35 57.9**	**+0.1**
JFK				S	**Sg**	**07 36 05.4**	**-0.7**
JFK	**Kawauchi**	**0.64**	**283**	A	A	07 35 57.9	
	comp=E,8.0nm,0.7s,comp=E,13nm,0.4s						
JMST	**Minamisoumatoc**	**0.79**	**310**	P	**Pg**	**07 36 00.6**	**-0.1**
JMST				S	**Sg**	**07 36 10.1**	**-0.8**
JMST	**Minamisoumatoc**	**0.79**	**310**	A	A	07 36 00.6	
	comp=E,9.0nm,0.4s,comp=E,18nm,0.3s						
JFFD	**Fukushimafurud**	**0.88**	**262**	P	**Pb**	**07 36 01.6**	**-1.4**
JMM	**Marumori**	**0.94**	**313**		**Pb**	**07 36 02.9**	**-1.0**
JMM	**Marumori**	**0.94**	**313**	P	**Pb**	**07 36 02.9**	**-1.0**
JMM	**Marumori**	**0.94**	**313**	P	**Pb**	**07 36 02.9**	**-1.0**
JMM				*e*S	**Sb**	**07 36 14.2**	**-2.3**
JMM	**Marumori**	**0.94**	**313**	A	A	07 36 02.9	
	comp=E,5.0nm,1.1s,comp=E,5.0nm,1.1s						
JHO	**Hitachi**	**1.06**	**235**	P	**Pb**	**07 36 04.3**	**-1.7**
JIO	**Ouri**	**1.25**	**349**	P	**Pn**	**07 36 08.2**	**-1.1**
JIO				S	**Sb**	**07 36 24.0**	**-1.5**
JYAR	**Yonezawaarcadi**	**1.38**	**300**	A	A	07 36 09.4	
	comp=E,19nm,1.2s,comp=E,21nm,1.4s						
JOU	**Okura**	**1.38**	**326**	P	**Pn**	**07 36 10.7**	**-0.4**
JOU				S	**Sn**	**07 36 28.1**	**-1.4**
JOU	**Okura**	**1.38**	**326**	A	A	07 36 10.7	
	comp=E,13nm,0.5s,comp=E,19nm,1.7s						
JSB	**Shiboa**	**1.41**	**260**	P	**Pn**	**07 36 11.0**	**-0.4**
JSB	**Shiboa**	**1.41**	**260**	A	A	07 36 11.0	
	comp=E,13nm,1.0s,comp=E,16nm,3.0s						
JOFO	**Osakifurukawao**	**1.50**	**337**	A	A	07 36 11.9	
	comp=E,29nm,1.5s,comp=E,54nm,1.6s						
JYT	**Yasato**	**1.54**	**230**	A	A	07 36 11.9	
	comp=E,8.0nm,0.4s,comp=E,6.0nm,0.4s						
JFY	**Yanaizu**	**1.56**	**277**	S	**Sn**	**07 36 31.8**	**-2.2**
JFY	**Yanaizu**	**1.56**	**277**	A	A	07 36 31.8	
	comp=E,5.0nm,2.9s,comp=E,4.0nm,2.0s						
JYS	**Shirataka**	**1.60**	**309**	A	A	07 36 12.9	
	comp=E,11nm,0.7s,comp=E,12nm,1.1s						
JMK	**Ichinoseki**	**1.76**	**349**	A	A	07 36 16.1	
	comp=E,8.0nm,0.9s,comp=E,4.0nm,0.7s						
JYA	**Atsumi**	**2.05**	**312**	A	A	07 36 19.5	
	comp=E,6.0nm,1.9s,comp=E,6.0nm,1.5s						
JRG	**Rokugo**	**2.31**	**340**	A	A	07 36 23.8	
	comp=E,4.0nm,1.1s,comp=E,5.0nm,1.5s						
JSD	**Sado**	**2.81**	**288**	Pn	**Pn**	**07 36 29.9**	**-0.8**
JSD	**Sado**	**2.81**	**288**	P	**Pn**	**07 36 30.8**	**+0.1**
MJA0	**Matsu Arr-Jizo**	**2.81**	**257**	*e*P	**Pn**	**07 36 31.4**	**+0.7**
MJA0				pmax	pmax		
	comp=Z,12nm,0.3s						
MJAR	**Matsushiro Arr**	**2.84**	**257**	Pn	**Pn**	**07 36 31.3**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=87,slow=15,SNR=21						
MJAR				Sn	**Sn**	**07 37 06.9**	**+1.3**
	comp=Z,2.1nm,0.3s,baz=87,slow=24,SNR=2.7						
	comp=Z,16nm,0.7s						
MAJO	**Matsushiro**	**2.84**	**257**		**Pn**	**07 36 31.6**	**+0.4**
MAJO	**Matsushiro**	**2.84**	**257**	P	**Pn**	**07 36 32.0**	**+0.9**
MAJO	**Matsushiro**	**2.84**	**257**	*e*P	**Pn**	**07 36 31.7**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.85**	**257**		**Pn**	**07 36 32.7**	**+1.5**
JTM	**Tenmabayashi**	**3.59**	**353**		**Pn**	**07 36 42.2**	**+0.8**
JTM	**Tenmabayashi**	**3.59**	**353**	P	**Pn**	**07 36 42.5**	**+1.2**
JGF	**Kuroka**	**3.82**	**246**		**Pn**	**07 36 45.4**	**+0.8**
JGF	**Kuroka**	**3.82**	**246**	P	**Pn**	**07 36 47.6**	**+3.0**
INU	**Inuyama**	**4.18**	**245**		**Pn**	**07 36 50.5**	**+1.0**
INU	**Inuyama**	**4.18**	**245**	P	**Pn**	**07 36 51.1**	**+1.5**
JHJ2	**Mitsune**	**4.37**	**201**	Pn	**Pn**	**07 36 53.2**	**+1.1**
JHJ	**Hachijo jima 2**	**4.37**	**201**	Pn	**Pn**	**07 36 52.8**	**+0.7**
	comp=Z,21nm,0.3s,baz=66,slow=19,SNR=1.8						
JHJ				Sn	**Sn**	**07 37 40.9**	**-2.3**
	comp=Z,23nm,0.3s,baz=343,slow=19,SNR=2.1						
	comp=Z,55nm,0.3s						
ERM	**Erimo**	**4.92**	**13**	Pn	**Pn**	**07 37 00.1**	**+0.4**
ERM	**Erimo**	**4.92**	**13**	P	**Pn**	**07 37 02.8**	**+3.1**
ERM	**Erimo**	**4.92**	**13**	P	**Pn**	**07 37 00.1**	**+0.4**
JEM	**Erimo**	**4.93**	**13**	P	**Pn**	**07 37 03.2**	**+3.5**
NMR	**Nemuro--Hokkai**	**6.88**	**26**	*e*P	**Pn**	**07 37 25.7**	**-0.9**
NMR				*e*S	**Sn**	**07 38 40.5**	**-4.5**
ASAJ	**Asahikawa**	**6.92**	**6**	P	**Pn**	**07 37 25.7**	**-1.5**
JKA	**Kamikawa-asahi**	**6.92**	**6**	Pn	**Pn**	**07 37 25.7**	**-1.5**
JHS	**Saijyo**	**7.26**	**255**	Pn	**Pn**	**07 37 32.9**	**+1.1**
JHS	**Saijyo**	**7.26**	**255**	P	**Pn**	**07 37 34.4**	**+2.6**
	comp=Z,104nm,0.8s						
RUSJ	**Misakicho**	**7.40**	**21**	*e*P	**Pn**	**07 37 34.6**	**+1.0**
RUSJ				*e*S	**Sn**	**07 38 57.2**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**7.52**	**24**	*e*P	**Pn**	**07 37 34.2**	**-1.1**
YUK				*e*S	**Sn**	**07 38 56.2**	**-4.5**
YUK				pmax	pmax		
	comp=Z,83nm,0.7s						
YUK				pmax	pmax		
	comp=E,49nm,0.6s						
YUK				pmax	pmax		
	comp=N,65nm,0.3s						
KUR	**Kuril'sk**	**9.27**	**28**	P	**Pn**	**07 37 56.8**	**-2.5**
KUR				*e*S	**Sn**	**07 39 41.0**	**-2.7**
YSS	**Yuzh-Sakhalins**	**9.76**	**4**	*e*P	**Pn**	**07 38 07.2**	**+1.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
USA0B	**Ussuriysk Arra**	**10.11**	**317**	Pn	**Pn**	**07 38 11.8**	**+0.9**
USA0B	**Ussuriysk Arra**	**10.11**	**317**	P	**Pn**	**07 38 11.8**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.11**	**317**	Pn	Pn	07 38 16.0	+5.1
	comp=Z,0.5nm,0.3s,baz=134,slow=12,SNR=3.7						
KSRS	**Korea Array**	**10.94**	**275**	Pn	Pn	07 38 29.4	+7.2
	comp=Z,0.2nm,0.3s,baz=84,slow=12,SNR=3.3						
KLR	**Kul'dur**	**13.99**	**332**	Pn	**Pn**	**07 39 05.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=34,slow=7.3,SNR=1.4						
	comp=Z,1.4nm,0.8s						
ZEA	**Zeya**	**19.29**	**333**	*e*P	**Pn**	**07 40 18.3**	**+6.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2	**Nanjing**	**19.44**	**261**	*e*P	**P**	**07 40 10.5**	**-1.8**
NJ2				pmax	pmax		
	comp=Z,23nm,0.7s						
GUMO	**Guam**	**23.71**	**172**	LR	LR	07 50 58.7	
	comp=Z,41nm,21.0s,baz=72,slow=39						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**07 41 35.6**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=102,slow=9.7,SNR=3.7						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**07 41 34.1**	**-1.3**
SONM				IAmb	IAmb	07 41 43.1	
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**07 41 34.1**	**-1.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TNCH	**TengChong**	**38.56**	**264**	*e*P	**P**	**07 43 07.8**	**-1.2**
TNCH				pP	pP	07 43 11.0	-0.5
TNCH				S	**S**	**07 49 03.5**	**-1.9**
TNCH				pmax	pmax		
	comp=Z,110nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,160nm,3.4s						
TNCH				LR	LR		
	comp=N,1μm,16.0s						
TNCH				LR	LR		
	comp=E,2μm,24.3s						
TNCH				LR	LR		
	comp=Z,310nm,21.4s						
DGZ	**Jazzator, Alta**	**40.44**	**306**	*e*P	**P**	**07 43 25.1**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZALV	**Zalesovo Beam**	**41.93**	**312**	P	**P**	**07 43 36.7**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=87,slow=7.6,SNR=5.5						
	comp=Z,1.5nm,0.5s						
ZALV	**Zalesovo Beam**	**41.93**	**312**	*e*P	**P**	**07 43 36.4**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**44.18**	**302**	P	**P**	**07 43 54.1**	**-0.6**
MK31				IAmb	IAmb	07 44 01.6	
	comp=Z,3.1nm,0.9s						
MK31	**Makanchi Array**	**44.18**	**302**	*e*P	**P**	**07 43 55.9**	**+1.2**
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**07 43 54.7**	**0.0**
	comp=Z,1.5nm,0.8s,baz=92,slow=9.8,SNR=7.3						
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**07 43 54.3**	**-0.4**
MKAR	**Makanchi Array**	**44.18**	**302**	*e*P	**P**	**07 43 54.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**45.97**	**308**	P	**P**	**07 44 08.0**	**-0.8**
KURK				IAmb	IAmb	07 44 16.3	
	comp=Z,12nm,0.9s						
KURK	**Kurchatov**	**45.97**	**308**	*d* P	**P**	**07 44 08.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,13nm,0.9s						
KURBB	**Kurchatov Arra**	**46.03**	**308**	P	**P**	**07 44 09.2**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=84,slow=8.4,SNR=15						
	comp=Z,1.9nm,0.5s						
KAPI	**Kappang**	**46.72**	**211**	LR	LR	08 05 28.9	
	comp=Z,71nm,18.2s,baz=8.0,slow=38						
ILAR	**Eielson Array**	**49.23**	**32**	P	**P**	**07 44 34.4**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=264,slow=6.6,SNR=8.6						
	comp=Z,1.2nm,0.9s						
KSH	**Kashi**	**50.50**	**294**	P	**P**	**07 44 46.0**	**+1.8**
BVAR	**Borovoye Array**	**50.59**	**312**	P	**P**	**07 44 43.2**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=92,slow=7.3,SNR=3.9						
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**56.34**	**319***c*	*i* P	P	07 45 32.9	+6.3
ARU						07 47 37.1	
ARU				S	S	07 53 32.3	+15
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**57.06**	**198**	P	**P**	**07 45 30.6**	**-1.5**
WB0	**Warramunga Arr**	**57.09**	**188**	P	**P**	**07 45 31.5**	**-0.8**
WB0				IAmb	IAmb	07 45 54.5	
	comp=Z,7.1nm,1.3s						
WRAB	**Tennant Creek**	**57.26**	**188**	*e*P	**P**	**07 45 32.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,20nm,3.8s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**07 45 33.2**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=5.3,slow=7.1,SNR=25						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**07 45 32.9**	**-0.7**
WRA	**Warramunga Arr**	**57.27**	**188**	*e*P	**P**	**07 45 32.8**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ABKAR	**Akbulak array**	**57.96**	**310**	P	**P**	**07 45 38.4**	**+0.2**
KIRV	**Kirov**	**60.21**	**323**	*e*P	**P**	**07 45 53.9**	**+0.3**
AS31	**Alice Springs**	**61.00**	**188**	P	**P**	**07 45 59.0**	**-0.4**
AS31				IAmb	IAmb	07 46 33.9	
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**61.00**	**188**	P	**P**	**07 45 59.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=12,slow=6.7,SNR=8.3						
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**61.00**	**188**	P	**P**	**07 45 59.4**	**+0.1**
ARCES	**ARCESS Array B**	**63.89**	**339**	P	**P**	**07 46 18.0**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=44,slow=3.7,SNR=4.5						
	comp=Z,1.1nm,0.7s						
ARCES	**ARCESS Array B**	**63.89**	**339**	P	**P**	**07 46 18.2**	**+0.1**
ARCES	**ARCESS Array B**	**63.89**	**339**	*e*P	**P**	**07 46 17.4**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GEYT	**Alibeck**	**63.91**	**299**	P	**P**	**07 46 19.3**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=22,slow=8.0,SNR=1.8						
	comp=Z,0.6nm,0.4s						
FINES	**FINESS Array B**	**68.73**	**332**	P	**P**	**07 46 50.0**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=61,slow=14,SNR=1.5						
	comp=Z,1.2nm,0.7s						
STKA	**Stephens Creek**	**68.74**	**180**	P	**P**	**07 46 50.0**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=331,slow=13,SNR=3.0						
	comp=Z,1.7nm,0.8s						
STKA	**Stephens Creek**	**68.74**	**180**	P	**P**	**07 46 49.9**	**+0.3**
STKA				IAmb	IAmb	07 47 07.7	
	comp=Z,1.4nm,1.4s						
STKA	**Stephens Creek**	**68.74**	**180**	P	**P**	**07 46 49.9**	**+0.3**
STKA				pmax	pmax		
	comp=Z,1.0nm,1.4s						
FORT	**Forrest**	**68.83**	**193**	P	**P**	**07 46 50.4**	**+0.2**
KBZ	**Khabaz**	**70.92**	**311**	P	**P**	**07 47 05.2**	**+2.1**
	comp=Z,2.0nm,0.8s,baz=29,slow=10,SNR=2.5						
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**74.08**	**337**	P	P	07 47 28.8	+7.1
	comp=Z,0.8nm,0.5s,baz=39,slow=6.2						
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**07 47 22.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=44,slow=6.1,SNR=4.4						
	comp=Z,0.4nm,0.4s						
AKBB	**Malin Array Si**	**74.26**	**322**	*e*P	**P**	**07 47 22.3**	**-0.6**
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NVAR	**M

JOB	**Onbets**	**2.88**	**240**	*eP*	Pn	07 45 33.9	+0.9
JOB				*eS*	Sn	07 46 08.8	+0.1
JKK2	**Kamakawa 2**	**3.27**	**263**	*eP*	Pn	07 45 38.4	+0.6
JCH	**Churui**	**3.33**	**239**	*eP*	Pn	07 45 39.0	+0.4
JCH				*eS*	Sn	07 46 17.6	-1.2
JNBK	**Urakawa-nobuka**	**3.89**	**239**	*eP*	Pn	07 45 45.5	-0.3
JNBK				*eS*	Sn	07 46 30.9	-0.8
JWK2	**Keihoku**	**3.91**	**286**	*eP*	Pn	07 45 46.3	+0.3

*IDC **25** 07:48:08.0±0.8, 28°.35S×62°.77E, h0km, mb4.2/11, mbtmp4.2/11, MS3.8/5, Error ellipse: s-maj=32.7km s-min=19.7km az=79.0*
*NEIC **25** 07:48:10.2±1.7, 28°.2S±0°.1×62°.4E±0°.1, h10km±1km, mb4.6/18, Error ellipse: s-maj=22.6km s-min=18.0km az=58.0*

ISC 25 07:48:09.5±0.5, 28°.29S±0°.10×62°.4E±0°.1, h10km, n36, σ1s04/32, mb4.4/19, MS3.9/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOI	**Vohitsoka**	**15.47**	**291**	Pn	**Pn**	**07 51 46.3**	**-1.6**
SOE	**Somerset East**	**31.92**	**253**	P	**P**	**07 54 35.1**	**-0.3**
BOSA	**Boshof**	**32.56**	**260**	P	P	07 54 48.9	+7.8
	3.2nm,0.9s,baz=117,slow=6.8,SNR=3.6						
BOSA	**Boshof**	**32.56**	**260**	P	**P**	**07 54 42.1**	**+1.0**
BOSA				IAmb	IAmb	07 54 51.3	
	comp=Z,10nm,1.4s						
KIBK	**Kibwezi**	**34.71**	**314**	P	**P**	**07 54 59.4**	**-0.5**
KIBK				IAmb	IAmb	07 55 13.8	
	comp=Z,5.4nm,1.3s						
SUR	**Sutherland**	**35.95**	**253**	P	**P**	**07 55 10.4**	**-0.1**
SUR				IAmb	IAmb	07 55 17.8	
	comp=Z,22nm,1.4s						
KMBO	**Kilima Mbogo**	**36.14**	**314**	LR	LR	08 07 12.1	
	comp=Z,66nm,20.6s,baz=90,slow=31						
MAW	**Mawson**	**39.34**	**180**	P	**P**	**07 55 39.1**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=6.0,slow=9.5,SNR=6.3						
MAW				LR	LR	08 08 54.5	
	comp=Z,72nm,18.5s,baz=356,slow=32						
	comp=Z,3.0nm,0.8s						
MAW	**Mawson**	**39.34**	**180**	P	**P**	**07 55 39.4**	**+0.9**
NWAO	**Narrogin (SRO)**	**47.00**	**110**	P	**P**	**07 56 42.1**	**+1.1**
NWAO				IAmb	IAmb	07 56 44.8	
	comp=Z,23nm,1.2s						
CMAR	**Chiang Mai Arr**	**58.40**	**42**	P	**P**	**07 58 05.1**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=233,slow=7.8,SNR=4.2						
	comp=Z,2.6nm,0.3s						
QSPA	**South Pole Qui**	**61.87**	**180**	P	**P**	**07 58 27.7**	**-1.0**
	comp=Z,5.2nm,1.0s,baz=222,slow=0.8,SNR=8.3						
	comp=Z,5.2nm,1.0s						
QSPA	**South Pole Qui**	**61.87**	**180**	P	**P**	**07 58 28.0**	**-0.8**
QSPA				IAmb	IAmb	07 58 31.0	
	comp=Z,6.5nm,1.1s						
ASAR	**Alice Springs**	**63.62**	**104**	P	**P**	**07 58 38.8**	**-2.2**
	comp=Z,1.6nm,0.6s,baz=244,slow=6.3,SNR=9.5						
	comp=Z,1.6nm,0.6s						
BELA	**Belgrano 2**	**64.02**	**193**	P	**P**	**07 58 43.3**	**+0.5**
BELA				IAmb	IAmb	07 58 52.3	
	comp=Z,6.6nm,1.4s						
VNDA	**Vanda**	**64.63**	**166**	LR	LR	08 24 38.0	
	comp=Z,79nm,18.2s,baz=312,slow=34						
VNDA	**Vanda**	**64.63**	**166**	P	**P**	**07 58 48.0**	**+1.3**
VNDA				IAmb	IAmb	07 58 49.3	
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**65.37**	**100**	P	**P**	**07 58 50.0**	**-2.5**
	comp=Z,1.5nm,0.6s,baz=248,slow=5.9,SNR=8.0						
	comp=Z,1.5nm,0.6s						
WRA	**Warramunga Arr**	**65.37**	**100**	P	**P**	**07 58 51.0**	**-1.5**
WB2	**Warramunga Arr**	**65.38**	**100**	P	**P**	**07 58 51.8**	**-0.8**
WB2				IAmb	IAmb	07 59 16.8	
	comp=Z,10nm,1.4s						
SBA	**Scott Base**	**65.53**	**167**	P	**P**	**07 58 52.5**	**0.0**
KK31	**Karatay Array**	**71.43**	**6**	P	**P**	**07 59 30.0**	**+0.2**
KK31				IAmb	IAmb	07 59 39.1	
	comp=Z,2.9nm,0.9s						
KKAR	**Karatay Array**	**71.43**	**6**	P	**P**	**07 59 30.4**	**+0.6**
KKAR				IAmb	IAmb	07 59 39.1	
	comp=Z,2.9nm,0.9s						
IDI	**Anoyia**	**72.46**	**329**	P	**P**	**07 59 36.5**	**+0.3**
BRTR	**Keskin Array B**	**72.76**	**337**	P	**P**	**07 59 39.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=169,slow=7.2,SNR=3.6						
	comp=Z,0.3nm,0.3s						
KBZ	**Khabaz**	**73.86**	**345**	P	**P**	**07 59 46.2**	**+2.1**
	comp=Z,2.4nm,1.0s,baz=173,slow=16,SNR=1.3						
KBZ				LR	LR	08 29 47.0	
	comp=Z,70nm,21.6s,baz=78,slow=34						
	comp=Z,2.4nm,1.0s						
ABKAR	**Akbulak array**	**77.22**	**358**	P	**P**	**08 00 03.4**	**0.0**
KURBB	**Kurchatov Arra**	**79.85**	**10**	P	**P**	**08 00 17.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=207,slow=6.5,SNR=4.8						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**83.93**	**340**	P	**P**	**08 00 40.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=146,slow=3.3,SNR=4.2						
	comp=Z,0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**84.17**	**13**	P	**P**	**08 00 40.1**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=207,slow=3.0,SNR=5.4						
	comp=Z,1.1nm,0.3s						
SONM	**Songino Array**	**85.47**	**28**	P	**P**	**08 00 47.1**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=212,slow=5.3,SNR=5.4						
	comp=Z,2.1nm,1.0s						
HFS	**Hagfors**	**96.70**	**338**	LR	LR	08 45 43.0	
	comp=Z,76nm,18.6s,baz=55,slow=36						
SSPA	**Standing Stone**	**145.28**	**301**	PKPbc	**PKPbc**	**08 07 46.4**	**-0.8**
WVNY	**West Valley, N**	**145.51**	**305**	PKPdf	**PKPdf**	**08 07 47.5**	**-0.4**
WHY	**Whitehorse**	**145.59**	**15**	PKPdf	**PKPdf**	**08 07 47.3**	**-0.3**
YKA	**Yellowknife Ar**	**145.73**	**358**	PKPbc	**PKPdf**	**08 07 47.5**	**0.0**
	comp=Z,2.4nm,0.7s,baz=345,slow=3.5,SNR=5.4						

*MAN **25** 07:48:25.5, 13°.36N×120°.34E, h9km, mb4.6, ML3.4, MS3.3*
*IDC **25** 07:48:27.1±3.8, 13°.46N×120°.58E, h33km±29km, mb4.2/22, mbtmp4.4/22, MS3.8/14, Error ellipse: s-maj=22.8km s-min=10.3km az=65.0*
*NEIC **25** 07:48:34.1±1.6, 13°.4N±0°.1×120°.3E±0°.1, h90km±8km, mb4.5/30, Error ellipse: s-maj=21.7km s-min=14.2km az=68.0*

ISC 25 07:48:24.5±0.4, 13°.33N±0°.04×120°.32E±0°.04, h10km, n99, σ2s22/103, mb4.5/38, MS4.0/20, 6C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.41**	**350**	⇓*iP*	**Pg**	**07 48 33.2**	**+0.7**
LUBP				*iS*	**Sg**	**07 48 38.4**	**+0.4**
TGY	**Tagaytay City**	**0.98**	**38**	⇓*eP*	**Pn**	**07 48 45.3**	**+0.9**
TGY				*i S*	**Sn**	**07 49 04.2**	**+5.9**
GQP	**Guinayangan**	**2.15**	**74**	⇑*iP*	**Pg**	**07 49 07.7**	**+2.0**
GQP				*i S*	**Sg**	**07 49 32.6**	**-0.9**
PCPH	**Palayan**	**2.34**	**19**	⇑*eP*	**Pn**	**07 49 04.1**	**+1.0**
PCPH				*eS*	**Sn**	**07 49 33.9**	**+1.9**
RCP	**Roxas**	**2.95**	**126**	⇑*eP*	**Pn**	**07 49 14.1**	**+2.5**
RCP				*eS*	**Sg**	**07 49 58.1**	**-1.4**
JAP	**San Jose, Anti**	**3.02**	**148**	⇑*eP*	**Pn**	**07 49 14.8**	**+2.4**
LLP	**Lapu-Lapu**	**4.66**	**130**	⇓*eP*	Pn	07 49 40.3	+5.3
LLP				*eS*	**Sb**	**07 50 46.6**	**+4.0**
TABP	**Talibon, Bohol**	**5.08**	**129**	⇑*eP*	**Pn**	**07 49 44.0**	**+3.3**
MYLDM	**Lahad Datu**	**8.29**	**193**	Pn	**Pn**	**07 50 29.1**	**+4.1**
QIZ	**Qiongzhong**	**11.55**	**301**	P	Pn	07 51 21.0	+11
QIZ				S	**Sn**	**07 53 22.3**	**+3.6**
QIZ				LR	LR		
	comp=N,650nm,13.9s						
QIZ				LR	LR		
	comp=E,700nm,18.0s						
QIZ				LR	LR		
	comp=Z,870nm,18.3s						
JOW	**Kunigami**	**15.36**	**28**	LR	LR	07 57 44.2	
	comp=Z,145nm,21.6s,baz=174,slow=37						
SSE	**Sheshan**	**17.70**	**2**	P	**Pn**	**07 52 31.5**	**+0.3**
SSE				S	**Sn**	**07 55 49.8**	**+1.3**
SSE				pmax	pmax		
	comp=Z,13nm,0.8s						
SSE				pmax	pmax		
	comp=Z,130nm,9.6s						
SSE				LR	LR		
	comp=N,160nm,17.5s						
SSE				LR	LR		
	comp=E,150nm,17.4s						
WHN	**Wuhan**	**18.00**	**343**	⇑P	**Pn**	**07 52 35.5**	**+0.6**
WHN				S	**Sn**	**07 55 57.3**	**+1.6**
WHN				LR	LR		
	comp=N,830nm,5.5s						
WHN				LR	LR		
	comp=E,750nm,5.2s						
WHN				LR	LR		
	comp=Z,1μm,20.7s						
NJ2	**Nanjing**	**18.68**	**356**	*eP*	**P**	**07 52 43.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PHRA	**Phrae**	**19.98**	**288**	P	**P**	**07 52 58.9**	**+1.6**
FAKI	**Fak Fak**	**20.02**	**143**		**P**	**07 52 59.4**	**+1.7**
FAKI				IAmb	IAmb	07 53 02.8	
	comp=Z,33nm,1.0s						
CRAI	**Chiangrai**	**20.28**	**292**	P	**P**	**07 53 02.0**	**+1.4**
CRAI				IAmb	IAmb	07 53 03.8	
	comp=Z,18nm,1.1s						
IPM	**Ipoh**	**20.97**	**247**	P	**P**	**07 53 09.6**	**+1.5**
IPM				IAmb	IAmb	07 53 35.6	
	comp=Z,21nm,1.2s						
KULM	**Kulim**	**20.97**	**249**	P	**P**	**07 53 09.7**	**+1.7**
KULM				IAmb	IAmb	07 53 11.4	
	comp=Z,29nm,1.4s						
CM31	**Chiang Mai Arr**	**21.17**	**287**	P	**P**	**07 53 12.0**	**+1.8**
CM31				IAmb	IAmb	07 53 13.3	
	comp=Z,32nm,1.0s						
CMAR	**Chiang Mai Arr**	**21.17**	**287**	P	**P**	**07 53 12.2**	**+1.9**
	comp=Z,10nm,0.7s,baz=97,slow=9.0,SNR=59						
	comp=Z,10nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.17**	**287**	P	**P**	**07 53 11.4**	**+1.2**
CHTO	**Chiang Mai**	**21.24**	**288**	P	**P**	**07 53 11.6**	**+0.6**
PZH	**PanZhiHua**	**21.80**	**310**	P	**P**	**07 53 18.3**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PZH				pmax	pmax		
	comp=Z,140nm,4.8s						
LYN	**LuoYang**	**22.30**	**343**	*eP*	**P**	**07 53 24.0**	**+1.9**
LYN				S	**S**	**07 57 20.0**	**-7.4**
LYN				LR	LR		
	comp=N,430nm,17.7s						
LYN				LR	LR		
	comp=Z,480nm,18.1s						
XAN	**Xi'an**	**23.07**	**335**	P	**P**	**07 53 36.0**	**+5.6**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PSI	**Prapat**	**23.60**	**246**	P	**P**	**07 53 37.6**	**+1.6**
	comp=Z,6.8nm,0.8s,baz=57,slow=8.2,SNR=8.8						
	comp=Z,6.8nm,0.8s						
TNCH	**TengChong**	**23.61**	**303**	P	**P**	**07 53 36.8**	**+0.8**
TNCH				pmax	pmax		
	comp=Z,62nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,230nm,4.2s						
BATI	**Baumata**	**23.62**	**172**	P	**P**	**07 53 36.5**	**+0.6**
	comp=Z,22nm,0.3s,baz=268,slow=1.9,SNR=10						
	comp=Z,22nm,0.3s						
RPSI	**Rantau Prapat**	**23.64**	**245**	P	**P**	**07 53 36.8**	**+0.5**
RPSI	**Rantau Prapat**	**23.64**	**245**	P	**P**	**07 53 37.6**	**+1.3**
LEM	**Lembang**	**23.67**	**213**	LR	LR	08 04 17.2	
	comp=Z,141nm,20.6s,baz=338,slow=40						
GUMO	**Guam**	**23.88**	**87**	LR	LR	08 01 03.3	
	comp=Z,194nm,21.9s,baz=237,slow=32						
HNS	**HongShan**	**24.49**	**349**	*eP*	**P**	**07 53 42.0**	**-1.9**
HNS				*eS*	S	07 57 51.8	-12
HNS				LR	LR		
	comp=N,270nm,14.5s						
HNS				LR	LR		
	comp=E,410nm,17.3s						
HNS				LR	LR		
	comp=Z,410nm,16.3s						
JCJ	**Chichijima**	**24.61**	**53**	LR	LR	08 04 01.8	
	comp=Z,182nm,18.6s,baz=306,slow=38						
TIY	**Taiyuan**	**25.28**	**345**	*eP*	**P**	**07 53 57.5**	**+6.3**
BJI	**Beijing**	**26.86**	**353**	P	**P**	**07 54 06.3**	**+1.0**
BJI				pP	pwP	07 54 20.0	+10
BJI				PP	**PnPn**	**07 54 54.0**	**+6.9**
BJI				PcP	**PcP**	**07 57 27.5**	**-0.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LZH	**Lanzhou**	**27.07**	**330**	*eP*	**P**	**07 54 08.0**	**+0.4**
LZH				pP	pwP	07 54 20.8	+8.6
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				LR	LR		
	comp=N,380nm,14.9s						
LZH				LR	LR		
	comp=E,560nm,14.4s						
LZH				LR	LR		
	comp=Z,650nm,16.3s						
MTN	**Manton Dam**	**28.13**	**157**	P	**P**	**07 54 17.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**28.47**	**346**	*eP*	**P**	**07 54 23.5**	**+3.6**
HHC				pmax	pmax		
	comp=Z,290nm,5.5s						
HHC				LR	LR		
	comp=N,620nm,17.1s						
HHC				LR	LR		
	comp=E,360nm,14.8s						
HHC				LR	LR		
	comp=Z,630nm,14.4s						
BTO	**Baotou**	**28.63**	**344**	*eP*	P	07 54 31.0	+10
BTO				S	S	07 59 24.5	+14
BTO				LR	LR		
	comp=N,980nm,17.7s						
BTO				LR	LR		
	comp=E,1μm,11.4s						
MBWA	**Marble Bar**	**34.28**	**181**	P	**P**	**07 55 12.7**	**+1.7**
RAMN	**Ramite**	**34.31**	**298**	*eP*	**P**	**07 55 11.9**	**+0.2**
PSA00	**Pilbara Seismi**	**34.69**	**181**	P	**P**	**07 55 17.4**	**+2.8**
JIRN	**Jiri**	**34.87**	**299**	*eP*	**P**	**07 55 16.2**	**-0.4**
	comp=E,22nm,0.7s						
GUN	**Gumba**	**35.20**	**300**	*eP*	**P**	**07 55 19.5**	**0.0**
PKI	**Pulchoki**	**35.50**	**299**	*eP*	**P**	**07 55 21.5**	**-0.6**
PKIN	**Phulchoki**	**35.52**	**299**	*eP*	**P**	**07 55 21.5**	**-0.6**
	comp=E,13nm,0.5s						
DMN	**Daman**	**35.77**	**299**	*eP*	**P**	**07 55 23.8**	**-0.5**
WRAB	**Tennant Creek**	**35.82**	**157**	P	**P**	**07 55 23.8**	**-0.6**
WRA	**Warramunga Arr**	**35.83**	**157**	P	**P**	**07 55 24.3**	**-0.2**
	comp=E,18nm,0.8s,baz=332,slow=9.8,SNR=124						
WRA				S	**S**		
	comp=E,2.3nm,1.1s,baz=333,slow=16,SNR=6.7						
WRA				LR	LR	08 12 00.6	
	comp=E,70nm,20.9s,baz=340,slow=39						
	comp=E,18nm,0.8s						
WRA	**Warramunga Arr**	**35.83**	**157**	P	**P**	**07 55 23.3**	**-1.2**
KRVT	**Keravat (AS076**	**36.03**	**117**	LR	LR	08 10 52.9	
	comp=E,97nm,18.1s,baz=100,slow=38						
SONM	**Songino Array**	**36.31**	**344**	P	**P**	**07 55 27.9**	**-0.6**
	comp=E,7.0nm,0.7s,baz=167,slow=9.4,SNR=18						
SONM				LR	LR	08 11 40.9	
	comp=E,230nm,18.5s,baz=180,slow=38						
	comp=E,7.0nm,0.7s						
SONM	**Songino Array**	**36.31**	**344**	P	**P**	**07 55 27.6**	**-0.8**
SONM				IAmb	IAmb	07 55 30.4	
	comp=Z,5.8nm,0.8s						
KLR	**Kul'dur**	**37.02**	**12**	P	**P**	**07 55 32.7**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=243,slow=6.0,SNR=6.9						
	comp=Z,2.7nm,0.8s						
DANN	**Dangsing**	**37.12**	**300**	*eP*	**P**	**07 55 35.4**	**-0.5**
HEH	**HeiHe**	**37.28**	**8**	*eP*	**P**	**07 55 33.8**	**-2.7**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PYUN	**Piuthan**	**37.71**	**299**	*eP*	**P**	**07 55 40.1**	**-0.7**
	comp=Z,44nm,1.0s						
AS31	**Alice Springs**	**39.09**	**160**	P	**P**	**07 55 52.0**	**-0.2**
ASAR	**Alice Springs**	**39.10**	**160**	P	**P**	**07 55 52.2**	**+0.1**
	comp=Z,12nm,0.6s,baz=340,slow=7.2,SNR=221						
ASAR				S	**S**	**08 01 48.9**	**-3.0**
	comp=Z,0.4nm,1.0s,baz=340,slow=11,SNR=4.2						
	comp=Z,12nm,0.6s						
WMQ	**Urumqi**	**41.28**	**324**	*eP*	**P**	**07 56 12.5**	**+2.3**
WMQ				S	S	08 02 11.5	-13
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				LR	LR		
	comp=N,600nm,18.3s						
WMQ				LR	LR		
	comp=E,310nm,16.5s						
WMQ				LR	LR		
	comp=Z,210nm,20.9s						
CTA	**Charters Tower**	**41.88**	**142**	P	**P**	**07 56 13.6**	**-1.7**
	comp=Z,2.4nm,0.5s,baz=343,slow=9.5,SNR=6.1						
	comp=Z,2.4nm,0.5s						
CTAO	**Charters Tower**	**41.88**	**142**	P	**P**	**07 56 15.5**	**+0.3**
HNR	**Honiara**	**45.38**	**118**	LR	LR	08 13 15.9	
	comp=Z,1μm,21.8s,baz=292,slow=33						
NWAO	**Narrogin (SRO)**	**46.09**	**184**	P	**P**	**07 56 49.7**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=191,slow=10,SNR=1.4						
	comp=Z,3.3nm,0.6s						
MK31	**Makanchi Array**	**46.11**	**324**	P	**P**	**07 56 50.1**	**+1.1**
MK31				IAmb	IAmb	07 57 07.4	
	comp=Z,4.4nm,0.9s						
MKAR	**Makanchi Array**	**46.11**	**324**	P	**P**	**07 56 49.1**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=125,slow=8.5,SNR=15						
MKAR				PcP	**PcP**	**07 58 24.3**	**-0.8**
	comp=Z,2.5nm,1.0s,baz=103,slow=3.9,SNR=4.3						
MKAR				ScP	**ScP**	**08 02 15.4**	**-3.2**
	comp=Z,0.7nm,0.8s,baz=130,slow=3.6,SNR=4.5						
MKAR				LR	LR	08 17 38.1	
	comp=Z,285nm,18.1s,baz=100,slow=38						
	comp=Z,1.5nm,0.6s						
NRN	**Naryn**	**47.57**	**315**	P	**P**	**07 57 00.7**	**-0.2**
NRN				IAmb	IAmb	07 57 27.0	
	comp=Z,7.1nm,1.1s						
EIDS	**Eidsvold**	**48.77**	**142**	P	**P**	**07 57 09.3**	**-0.5**
EIDS				IAmb	IAmb	07 57 10.3	
	comp=Z,6.2nm,0.9s						
AAK	**Ala-Archa**	**49.07**	**316**	P	**P**	**07 57 12.9**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=151,slow=13,SNR=2.6						
AAK				LR	LR	08 19 07.5	
	comp=Z,225nm,21.0s,baz=76,slow=37						
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**49.22**	**333**	LR	LR	08 19 04.9	
	comp=Z,132nm,18.7s,baz=52,slow=37						
STKA	**Stephens Creek**	**49.36**	**156**	P	**P**	**07 57 12.9**	**-1.4**
	comp=Z,4.9nm,0.8s,baz=339,slow=8.5,SNR=11						
	comp=Z,4.9nm,0.8s						
STKA	**Stephens Creek**	**49.36**	**156**	P	**P**	**07 57 13.3**	**-1.0**
KURBB	**Kurchatov Arra**	**50.29**	**327**	P	**P**	**07 57 20.0**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=130,slow=7.9,SNR=22						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**50.29**	**327**	P	**P**	**07 57 21.3**	**+0.2**
KK31	**Karatay Array**	**51.97**	**315**	P	**P**	**07 57 33.8**	**-0.2**
KK31				IAmb	IAmb	07 57 39.6	
	comp=Z,3.2nm,0.8s						
KKAR	**Karatay Array**	**51.97**	**315**	P	**P**	**07 57 33.5**	**-0.5**
BVAR	**Borovoye Array**	**55.87**	**326**	P	**P**	**07 58 01.3**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=117,slow=9.4,SNR=9.7						
BVAR				PcP	**PcP**	**07 58 59.8**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=104,slow=3.0,SNR=4.0						
BVAR				LR	LR	08 23 37.2	
	comp=Z,110nm,20.8s,baz=115,slow=38						
	comp=Z,2.3nm,0.7s						
BRVK	**Borovoye**	**55.94**	**326**	P	**P**	**07 58 03.1**	**+0.3**
DZM	**Mont Dzumac**	**57.30**	**127**	P	**P**	**07 58 10.6**	**-2.4**
	comp=Z,3.6nm,0.7s,baz=295,slow=14,SNR=7.3						
	comp=Z,3.6nm,0.7s						
NRIK	**Noril'sk**	**59.69**	**347**	P	**P**	**07 58 26.8**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=151,slow=11,SNR=4.5						
	comp=Z,1.4nm,0.3s						
GEYT	**Alibeck**	**60.05**	**306**	P	**P**	**07 58 32.6**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=194,slow=5.5,SNR=3.8						
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**60.77**	**319**	P	**P**	**07 58 36.3**	**-0.3**
AFI	**Afiamalu**	**72.49**	**109**	LR	LR	08 31 36.6	
	comp=Z,21nm,18.0s,baz=286,slow=36						
CAST	**Castle Rocks**	**77.12**	**27**	P	**P**	**08 00 16.3**	**-1.7**
CAST				IAmb	IAmb	08 00 25.0	
	comp=Z,6.4nm,1.0s						
MLY	**Manley**	**77.58**	**26**	P	**P**	**08 00 18.7**	**-1.9**
MLY				IAmb	IAmb	08 00 28.1	
	comp=Z,6.1nm,1.2s						
TOLK	**Toolik Lake Re**	**77.73**	**22**	P	**P**	**08 00 20.3**	**-1.2**
TRF	**Thorofare Moun**	**77.92**	**27**	P	**P**	**08 00 20.9**	**-1.8**
TRF				IAmb	IAmb	08 00 33.9	
	comp=Z,14nm,1.4s						
MCK	**McKinley**	**78.49**	**27**	P	**P**	**08 00 23.2**	**-2.5**
MCK				IAmb	IAmb	08 00 35.9	
	comp=Z,6.4nm,1.0s						
ILAR	**Eielson Array**	**79.24**	**26**	P	**P**	**08 00 27.6**	**-2.2**
	comp=Z,0.4nm,0.9s,baz=240,slow=4.7,SNR=5.0						
	comp=Z,0.4nm,0.9s						
ARCES	**ARCESS Array B**	**79.30**	**339**	P	**P**	**08 00 28.3**	**-1.7**
	comp=Z,1.9nm,0.6s,baz=81,slow=6.8,SNR=14						
	comp=Z,1.9nm,0.6s						
FINES	**FINESS Array B**	**80.43**	**331**	P	**P**	**08 00 34.9**	**-1.4**
	comp=Z,2.2nm,0.8s,baz=46,slow=5.5,SNR=4.8						
	comp=Z,2.2nm,0.8s						
KMBO	**Kilima Mbogo**	**83.51**	**267**	LR	LR	08 34 17.7	
	comp=Z,89nm,20.7s,baz=72,slow=33						
NB2	**NORSAR Subarra**	**87.42**	**333**	P	**P**	**08 01 09.7**	**-2.3**
	comp=Z,1.5nm,0.8s,baz=66,slow=4.8						
NOA	**NORSAR Array B**	**87.42**	**333**	P	**P**	**08 01 09.5**	**-2.6**
	comp=Z,2.1nm,0.8s,baz=69,slow=4.4,SNR=6.0						
	comp=Z,2.1nm,0.8s						
VNDA	**Vanda**	**93.73**	**172**	P	**P**	**08 01 40.2**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=305,slow=7.4,SNR=4.4						
	comp=Z,0.8nm,0.8s						
VNDA	**Vanda**	**93.73**	**172**	P	**P**	**08 01 39.9**	**-1.1**
VNDA				IAmb	IAmb	08 01 41.0	
	comp=Z,2.3nm,1.1s						
BORG	**Borgarnes**	**96.92**	**344**	LR	LR	08 50 09.5	
	comp=Z,42nm,19.0s,baz=7.6,slow=38						

*IDC **25** 07:57:24.0±0.7, 37°.06N×141°.35E, h0km, mb3.8/13, mbtmp3.9/15, ML3.6/2, MS3.2/4, Error ellipse: s-maj=20.6km s-min=17.3km az=105.0*
*NIED **25** 07:57:24.9, 37°.14N×141°.48E, h26km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.10; Mθθ0.50; Mϕϕ0.60; Mrθ-0.04; Mθϕ0.60; Mrϕ0.28; Fault plane solution: M0 1.16000×10^15 NP1:ϕs54.00000°, δ42.00000°, λ-73.00000°. NP2:ϕs211.00000°, δ51.00000°, λ-105.00000°.*
*JMA **25** 07:57:24.9±0.2, 37°.1N±0°.4×141°.5E±1°.0, h26km±1km, MD4.0/38, MV4.0/38, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NEIC **25** 07:57:26.7±2.0, 37°.17N±0°.07×141°.5E±0°.1, h23km±8km, mb4.3/5, Error ellipse: s-maj=13.1km s-min=9.1km az=109.0*

**ISC 25 07:57:28.2±

JHS	**Saijyo**	**7.02 255**		**Pn**	**07 59 11.4**	**+2.8**
JHS	**Saijyo**	**7.02 255**	P	**Pn**	**07 59 10.8**	**+2.1**
JKA	**Kamikawa-asahi**	**7.03 7**	Pn	**Pn**	**07 59 07.6**	**-1.1**
ASAJ	**Asahikawa**	**7.03 7**	LR	LR	08 01 59.7	
	comp=Z,105nm,18.9s,baz=338,slow=39					
JNU	**Nakatsue**	**9.48 248**	Pn	**Pn**	**07 59 44.1**	**+1.7**
USRK	**Ussuriysk Ar.**	**10.02 318**	Pn	Pn	07 59 53.2	+3.6
	0.9nm,0.3s,baz=119,slow=15,SNR=2.5					
USRK			LR	LR	08 03 23.1	
	comp=Z,205nm,18.9s,baz=169,slow=36					
KSRS	**Korea Array**	**10.72 276**	LR	LR	08 03 56.7	
	comp=Z,94nm,20.2s,baz=180,slow=37					
SEY	**Seymchan**	**26.69 11**	P	**P**	**08 03 05.9**	**+2.0**
	0.6nm,0.3s,baz=210,slow=20,SNR=1.2					
	0.6nm,0.3s					
SONM	**Songino Array**	**27.70 304**	P	**P**	**08 03 14.5**	**+1.2**
	0.9nm,0.5s,baz=97,slow=8.6,SNR=4.4					
	0.9nm,0.5s					
H11N2	**WAKE ISLAND Hy**	**28.23 121**	T	T	08 32 46.2	
	baz=314,slow=75,SNR=31					
H11N1	**WAKE ISLAND Hy**	**28.24 121**	T	T	08 32 46.7	
	baz=314,slow=75,SNR=30					
H11N3	**WAKE ISLAND Hy**	**28.25 121**	T	T	08 32 47.7	
	baz=314,slow=75,SNR=33					
H11S1	**WAKE ISLAND Hy**	**28.95 123**	T	T	08 33 38.5	
	baz=316,slow=76,SNR=30					
H11S3	**WAKE ISLAND Hy**	**28.95 123**	T	T	08 33 39.0	
	baz=316,slow=76,SNR=21					
H11S2	**WAKE ISLAND Hy**	**28.96 123**	T	T	08 33 40.1	
	baz=316,slow=76,SNR=20					
MK31	**Makanchi Array**	**44.03 302**	P	**P**	**08 05 32.8**	**+0.2**
MK31			IAmb	IAmb	08 05 51.4	
	comp=Z,1.5nm,1.0s					
MKAR	**Makanchi Array**	**44.03 302**	P	**P**	**08 05 33.6**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=82,slow=9.3,SNR=6.0					
	comp=Z,0.7nm,0.7s					
MKAR	**Makanchi Array**	**44.03 302**	P	**P**	**08 05 33.5**	**+0.9**
N18K	**Kilae Creek**	**45.29 38**	P	**P**	**08 05 40.0**	**-2.5**
KURK	**Kurchatov**	**45.84 308**	P	**P**	**08 05 46.6**	**-0.2**
KURK			IAmb	IAmb	08 06 02.5	
	comp=Z,6.3nm,0.9s					
KURBB	**Kurchatov Arra**	**45.91 308**	P	**P**	**08 05 48.0**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=83,slow=8.2,SNR=8.6					
	comp=Z,2.2nm,0.9s					
ILAR	**Eielson Array**	**49.42 32**	P	**P**	**08 06 15.8**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=268,slow=6.1,SNR=19					
	comp=Z,1.1nm,0.6s					
WB2	**Warramunga Arr**	**57.16 188**	P	**P**	**08 07 11.3**	**-0.4**
WB2			IAmb	IAmb	08 07 52.2	
	comp=Z,6.7nm,1.5s					
WRA	**Warramunga Arr**	**57.16 188**	P	**P**	**08 07 11.6**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=5.9,slow=7.3,SNR=17					
	comp=Z,0.5nm,0.4s					
WRA	**Warramunga Arr**	**57.16 188**	P	**P**	**08 07 11.8**	**0.0**
ASAR	**Alice Springs**	**60.89 188**	P	**P**	**08 07 38.0**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=12,slow=9.9,SNR=4.1					
	comp=Z,0.4nm,0.8s					
DZM	**Mont Dzumac**	**63.46 154**	LR	LR	08 33 11.5	
	comp=Z,34nm,20.0s,baz=26,slow=34					
ARCES	**ARCESS Array B**	**63.88 339**	P	**P**	**08 07 58.1**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=49,slow=8.2,SNR=8.3					
	comp=Z,1.5nm,0.6s					
FINES	**FINESS Array B**	**68.70 332**	P	**P**	**08 08 29.5**	**+1.5**
	comp=Z,3.5nm,0.9s,baz=96,slow=8.5,SNR=2.3					
	comp=Z,3.5nm,0.9s					
AKASG	**Malin Array Be**	**74.19 322**	P	**P**	**08 09 01.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=45,slow=6.2,SNR=6.6					
	comp=Z,1.2nm,0.5s					
NVAR	**Mina Array Bea**	**74.95 53**	P	P	08 09 08.4	+2.1
	comp=Z,0.3nm,0.6s,baz=316,slow=3.8,SNR=2.9					
	comp=Z,0.3nm,0.6s					
PDAR	**Pinedale Array**	**77.61 45**	P	**P**	**08 09 22.8**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=336,slow=2.0,SNR=2.8					
	comp=Z,0.3nm,0.6s					
TXAR	**Lajitas Array**	**90.08 52**	P	**P**	**08 10 26.6**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=319,slow=2.5,SNR=2.5					
	comp=Z,0.2nm,0.6s					
LPAZ	**La Paz**	**146.67 59**	PKPbc	**PKiKP**	**08 17 08.9**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=24,slow=5.9,SNR=5.5					

DJA 25 08:01:35.1±1.1, 0°S±2°×12°3E±1°2, h10km, M2.9/6, MLv2.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.82**	**354**	P	Pn	08 01 54.0	+1.2
GTOI				S	Sn	08 02 07.2	+2.2
GTOI	**Gorontalo**	**0.82**	**354**	P	Pn	08 01 53.9	+1.1
GTOI				S	Sn	08 02 07.6	+2.6
LUWI	**Luwuk**	**0.90**	**201**	P	Pg	08 01 52.4	-0.1
LUWI				S	Sb	08 02 05.1	+0.1
LUWI	**Luwuk**	**0.90**	**201**	P	Pg	08 01 52.3	-0.2
LUWI				S	Sb	08 02 05.0	0.0
MRSI	**Marisa**	**1.33**	**300**	P	Pn	08 01 58.4	-1.3
MRSI	**Marisa**	**1.33**	**300**	P	Pn	08 01 58.6	-1.1
MRSI				S	Sb	08 02 15.8	-1.4
APSI	**Ampana**	**1.61**	**244**	P	Pn	08 02 03.7	+0.1
APSI	**Ampana**	**1.61**	**244**	P	Pn	08 02 04.1	+0.5
APSI				S	Sg	08 02 27.5	+0.6
MPSI	**Mapaga**	**3.23**	**279**	P	Pn	08 02 26.4	+0.4
MPSI	**Mapaga**	**3.23**	**279**	P	Pn	08 02 26.2	+0.2

KRSC 25 08:10:04.9±1.7, 55°.03N×164°.80E, h48km±24km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.70**	**75**	*e*P	Pn	08 10 18.8	+0.4
BKI				*e*S	Sn	08 10 28.5	+0.3
KBTR	**Krutoberegovo**	**1.63**	**317**	*e*P	Pn	08 10 31.3	+0.2
KBTR				*e*S	Sn	08 10 50.5	-0.4
KBG	**Krutoberegovo**	**1.71**	**317**	S	Sn	08 10 53.0	+0.2
MKZ	**Mys Kozlova**	**1.84**	**256**	*e*P	Pn	08 10 36.8	+2.9
MKZ				*e*S	Sn	08 10 58.6	+2.7
SMKR	**Semkarok**	**2.44**	**311**	*e*P	Pn	08 10 44.4	+2.1
SMKR				*e*S	Sn	08 11 14.6	+3.7
TUMD	**Tumrok D**	**2.53**	**276**	*e*P	Pn	08 10 46.9	+3.4
TUMD				*e*S	Sn	08 11 17.6	+4.5
SRKR	**Sorokina**	**2.62**	**310**	*e*P	Pn	08 10 47.7	+3.0
KLY	**Klyuchi**	**2.68**	**300**	*e*S	Sn	08 11 19.4	+2.8
KRSR	**Krestovskiy**	**2.68**	**298**	*e*S	Sn	08 11 21.3	+4.5
TUMR	**Tumrok**	**2.68**	**277**	*e*P	Pn	08 10 49.4	+3.8
TUMR				*e*S	Sn	08 11 21.7	+4.8
KMNR	**Kamenistaya**	**2.70**	**288**	*e*P	Pn	08 10 49.7	+3.8
KMNR				S	Sn	08 11 22.8	+5.4
KPT	**Kopyto**	**2.77**	**292**	*e*P	Pn	08 10 50.3	+3.5
KPT				*e*S	Sn	08 11 24.4	+5.4
KOZ	**Kozyrevsk**	**2.98**	**292**	*e*P	Pn	08 10 54.4	+4.8
SRDR	**Sredinnyy**	**3.15**	**296**	*e*P	Pn	08 10 56.5	+4.5
SPN	**Mys Shipunski**	**3.41**	**237**	*e*S	Sn	08 11 36.6	+1.9
NLC	**Nalychevo**	**3.71**	**242**	*e*S	Sn	08 11 44.6	+2.6
SDLR	**Sedlovina**	**3.89**	**246**	*e*P	Pn	08 11 07.5	+5.3
SDLR				*e*S	Sn	08 11 49.1	+2.4
SMAR	**Somma**	**3.94**	**246**	*e*P	Pn	08 11 07.8	+4.8
KRER	**Koryakskii**	**3.95**	**247**	*e*P	Pn	08 11 08.5	+5.4
KRER				*e*S	Sn	08 11 52.6	+4.3
UGLR	**Uglovaya**	**3.96**	**245**	*e*P	Pn	08 11 08.3	+5.2
UGLR				*e*S	Sn	08 11 52.8	+4.5
KOK	**Koryaka**	**4.02**	**247**	*e*P	Pn	08 11 09.0	+5.1
DALK	**Dalny**	**4.09**	**243**	*e*P	Pn	08 11 09.6	+4.9
DALK				*e*S	Sn	08 11 54.1	+2.9
GNL	**Ganaly**	**4.23**	**254**	*e*P	Pn	08 11 12.1	+5.3
KRMR	**Karymshinskiy**	**4.51**	**244**	*e*P	Pn	08 11 15.9	+5.3
KRMR				*e*S	Sn	08 12 05.3	+3.6
RUS	**Russkaya**	**4.55**	**238**	*e*P	Pn	08 11 15.3	+4.3
RUS				*e*S	Sn	08 12 04.6	+2.0
MTVR	**Mutnovka**	**4.68**	**240**	*e*P	Pn	08 11 17.8	+4.8
MTVR				*e*S	Sn	08 12 08.5	+2.4
GRL	**Gorelyy**	**4.70**	**241**	*e*S	Sn	08 12 10.1	+3.7
KDTR	**Khodutka, Kamc**	**5.15**	**234**	*e*P	Pn	08 11 22.9	+3.6
KDTR				S	Sn	08 12 18.1	+0.7

*BJI **25** 08:22:46.3±0.0, 44°.85N×142°.08E, h25km, mb4.5/40, mB4.9/26, ML4.4/1, Ms4.5/36, Ms7 4.4/36*
*MOS **25** 08:22:46.7±1.3, 44°.95N×141°.79E, h18km, mb4.9/40, Error ellipse: s-maj=7.5km s-min=5.3km az=106.8*
*JMA **25** 08:22:49.3±0.2, 44°.8N±0°.4×141°.9E±0°.9, h27km±1km, MD4.6/20, MW4.6/20, SOYA REGION*
JMA Felt IV J1 at SOYA REGION .
*NIED **25** 08:22:49.3, 44°.84N×141°.85E, h27km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm;*
Mrr6.88; Mθθ0.51; Mφφ-7.39; Mrθ-0.17; Mrφ0.96; Mθφ-2.03;
Fault plane solution: M0 7.48000×10¹⁵ NP1:
φs349.00000°, δ37.00000°, λ84.00000°. NP2:
φs177.00000°, δ53.00000°, λ94.00000°.
*NEIC **25** 08:22:49.6±1.5, 44°.93N±0°.05×141°.93E±0°.09, h27km±4km, mb4.7/59 Error ellipse: s-maj=9.7km s-min=6.5km az=79.0*
*SKHL **25** 08:22:49.1±0.2, 44°.80N×141°.70E, h36km±4km, mb5.4/3, Ms4.3/10, msh4.3/10*
*IDC **25** 08:22:52.9±2.2, 45°.00N×141°.73E, h56km±19km, mb4.1/25, mbtmp4.3/31, ML3.3/5, MS3.8/39, Error ellipse: s-maj=13.0km s-min=11.3km az=119.0*
ISC 25 08:22:48.9±0.4, 44°.90N±0°.02×141°.85E±0°.02, h22km±3km, h23km: pP-P, n309, σ1§58/320, mb4.7/80, MS3.9/41, 10C-23D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.42**	**5**	*e*P	**Pn**	**08 22 59.5**	**-0.1**
JWK2				*e*S	**Sn**	**08 23 07.3**	**+0.6**
JWK2	**Keihoku**	**0.42**	**5**	A	A	08 22 59.5	
	comp=E,40nm,1.4s,comp=E,48nm,2.0s						
JRR	**Rishiri**	**0.45**	**303**	⇓*i*P	**Pb**	**08 22 58.6**	**+0.5**
JRR				⇓*e*S	**Sn**	**08 23 06.7**	**-0.7**
JRR	**Rishiri**	**0.45**	**303**	A	A	08 22 58.6	
	comp=E,124nm,2.2s,comp=E,130nm,1.8s						
JSS	**Shosan**	**0.50**	**179**	*i*P	**Pb**	**08 22 58.8**	**-0.1**
JSS				*e*S	**Sb**	**08 23 06.2**	**+0.5**
JSS	**Shosan**	**0.50**	**179**	A	A	08 22 58.8	
	comp=E,209nm,0.6s,comp=E,82nm,0.5s						
JSE	**Soyaes**	**0.53**	**83**	⇓*i*P	**Pb**	**08 22 59.6**	**+0.1**
JSE				⇓S	**Sn**	**08 23 08.2**	**-1.0**
JSE	**Soyaes**	**0.53**	**83**	A	A	08 22 59.6	
	comp=E,85nm,0.9s,comp=E,52nm,1.1s						
JYG	**Yagishiri**	**0.56**	**213**	⇓*i*P	**Pb**	**08 22 58.7**	**-1.2**
JYG				⇓*e*S	**Sb**	**08 23 05.7**	**-1.7**
JYG	**Yagishiri**	**0.56**	**213**	A	A	08 22 58.7	
	comp=E,69nm,0.2s,comp=E,88nm,0.2s						
JRBN	**Rebuntou**	**0.76**	**314**	⇓*i*P	**Pb**	**08 23 02.8**	**-0.6**
JRBN				⇓S	**Sb**	**08 23 13.4**	**-0.1**
JRBN	**Rebuntou**	**0.76**	**314**	A	A	08 23 02.8	
	comp=E,14nm,0.7s,comp=E,18nm,1.7s						
ASAJ	**Asahikawa**	**0.95**	**145**	*i*P	**Pb**	**08 23 05.5**	**-1.1**
ASAJ				S	**Sb**	**08 23 18.7**	**+0.1**
ASAJ	**Asahikawa**	**0.95**	**145**	A	A	08 23 05.5	
	comp=E,18nm,2.7s,comp=E,17nm,1.9s						
ASAJ	**Asahikawa**	**0.95**	**145**	PN	**Pb**	**08 23 05.5**	**-1.1**
JKA	**Kamikawa-asahi**	**0.95**	**145**	Pn	**Pb**	**08 23 05.5**	**-1.1**
JKA	**Kamikawa-asahi**	**0.95**	**145**	*e*P	**Pb**	**08 23 05.5**	**-1.1**
JHR	**Hokuryu**	**1.16**	**184**	*i*P	**Pn**	**08 23 09.0**	**-0.7**
JHR				S	**Sn**	**08 23 21.6**	**-3.2**
JHR	**Hokuryu**	**1.16**	**184**	A	A	08 23 09.0	
	comp=E,47nm,0.6s,comp=E,39nm,0.6s						
JKK2	**Kamakawa 2**	**1.21**	**147**	*i*P	**Pn**	**08 23 10.0**	**-0.4**
JKK2				S	**Sn**	**08 23 25.4**	**-0.8**
JKK2	**Kamakawa 2**	**1.21**	**147**	A	A	08 23 10.0	
	comp=E,14nm,1.1s,comp=E,18nm,2.2s						
JMP	**Maruseppu**	**1.40**	**129**	A	A	08 23 12.9	
	comp=E,21nm,1.2s,comp=E,20nm,0.4s						
JAB	**Ashibetsu**	**1.42**	**169**	A	A	08 23 12.9	
	comp=E,21nm,1.6s,comp=E,19nm,1.1s						
JISS	**Ishikarishitsu**	**1.65**	**191**	A	A	08 23 16.4	
	comp=E,44nm,1.5s,comp=E,38nm,1.3s						
JTKR	**Abashiri--Toko**	**1.74**	**121**	A	A	08 23 18.1	
	comp=E,8.0nm,1.9s,comp=E,9.0nm,2.0s						
JFR	**Furan**	**1.81**	**162**	A	A	08 23 18.8	
	comp=E,6.0nm,4.1s,comp=E,5.0nm,2.5s						
JSK	**Shakotan**	**1.83**	**213**	A	A	08 23 19.2	
	comp=E,12nm,6.2s,comp=E,9.0nm,2.8s						
JEW	**Emwo**	**2.07**	**188**	A	A	08 23 22.5	
	comp=E,13nm,3.6s,comp=E,11nm,4.5s						
JAR	**Ashorobuto**	**2.12**	**138**	A	A	08 23 23.3	
	comp=E,10.0nm,1.6s,comp=E,8.0nm,1.3s						
JBT2	**Biratori 2**	**2.15**	**170**	A	A	08 23 23.6	
	comp=E,6.0nm,4.1s,comp=E,6.0nm,7.4s						
YSS	**Yuzh-Sakhalins**	**2.15**	**17**	Pn	**Pn**	**08 23 23.9**	**+0.5**
YSS	**Yuzh-Sakhalins**	**2.15**	**17**	*e*Pg	**Pb**	**08 23 26.8**	**-0.4**
YSS				AMB	AMB	08 23 33.8	
	250nm,0.7s						
YSS				*e*Sg	**Sb**	**08 23 55.6**	**+2.2**
YSS				A	A	08 24 02.3	
	1μm,0.7s						
YSS				A	A	08 24 02.3	
	1μm,0.7s						
YSS				AMS	AMS	08 24 25.0	
	5μm,14.0s						
YSS				AMS	AMS	08 24 25.0	
	8μm,14.0s						
YSS	**Yuzh-Sakhalins**	**2.15**	**17**	*e*P	**Pn**	**08 23 24.8**	**+1.4**
YSS				AMB	AMB	08 23 27.8	
	190nm,0.3s						
YSS				AMB	AMB	08 23 32.6	
	1μm,3.0s						
YSS				*e*S	**Sb**	**08 23 51.4**	**-2.0**
YSS				A	A	08 24 13.0	
	990nm,0.5s						
YSS				A	A	08 24 13.0	
	460nm,0.5s						
YSS				AMS	AMS	08 24 25.0	
	5μm,14.0s						
YSS				AMS	AMS	08 24 25.0	
	8μm,14.0s						
YSS	**Yuzh-Sakhalins**	**2.15**	**17**	*e*PN	**Pn**	**08 23 24.8**	**+1.4**
YSS				*e*S	**Sn**	**08 23 51.1**	**+1.7**
YSS				pmax	pmax		
	comp=Z,1μm,3.0s						
YSS				pmax	pmax		
	comp=E,600nm,3.2s						
YSS				pmax	pmax		
	comp=Z,250nm,0.7s						
YSS				smax	smax		
	comp=E,970nm,0.7s						
YSS				MLR	MLR		
	comp=Z,8μm,14.0s						
YSS				MLR	MLR		
	comp=N,5μm,11.0s						
KHLM	**Kholmsk**	**2.17**	**4**	*e*P	**Pn**	**08 23 23.7**	**+0.2**
KHLM				*e*P	**Pb**	**08 23 25.8**	**-1.5**
KHLM				*e*Pg		08 23 29.2	
KHLM				AMB	AMB	08 23 34.8	
	comp=N,600nm,0.4s						
JIAM	**Iburiatsuma**	**2.27**	**179**	A	A	08 23 25.4	
	comp=N,13nm,1.1s,comp=N,15nm,1.3s						
JOB	**Onbets**	**2.46**	**143**	A	A	08 23 28.1	
	comp=N,8.0nm,2.4s,comp=N,8.0nm,1.4s						
JNB	**Noboribetsu**	**2.50**	**194**	A	A	08 23 28.6	
	comp=N,3.0nm,4.9s,comp=N,3.0nm,8.4s						
JSHD	**Hidakashinhida**	**2.52**	**169**	A	A	08 23 29.0	
	comp=N,13nm,5.2s,comp=N,9.0nm,1.7s						
JNSB	**Nemuroshibetsu**	**2.53**	**115**	A	A	08 23 29.5	
	comp=N,14nm,3.8s,comp=N,28nm,4.7s						
JCH	**Churui**	**2.53**	**154**	A	A	08 23 29.1	
	comp=N,4.0nm,1.8s,comp=N,4.0nm,2.0s						
JRA	**Rausu**	**2.54**	**111**	A	A	08 23 29.7	
	comp=N,6.0nm,6.5s,comp=N,5.0nm,5.8s						
RUSJ	**Misakicho**	**2.56**	**107**	*e*PN	**Pb**	**08 23 37.7**	**+3.6**
JSH	**Shimam**	**2.60**	**211**	A	A	08 23 30.2	
	comp=N,4.0nm,1.2s,comp=N,3.0nm,1.3s						
JAK	**Akkeshi**	**2.80**	**132**	A	A	08 23 33.2	
	comp=N,9.0nm,2.7s,comp=N,15nm,2.2s						
JHST	**Hiyamasetana**	**2.85**	**211**	A	A	08 23 33.9	
	comp=N,12nm,1.9s,comp=N,7.0nm,2.8s						
AKK	**Akkeshi**	**2.87**	**130**	*e*P	**Pn**	**08 23 35.0**	**+1.8**
AKK				*e*S	**Sn**	**08 24 08.2**	**+1.3**
AKK				A	A	08 24 11.7	
	comp=N,4μm,0.6s						
AKK				A	A	08 24 11.7	
	comp=N,5μm,0.6s						
AKK	**Akkeshi**	**2.87**	**130**	*e*P	**Pn**	**08 23 33.2**	**0.0**
AKK				AMB	AMB	08 23 42.1	
	comp=N,330nm,0.5s						
AKK				*e*S	**Sn**	**08 24 07.6**	**+0.7**
AKK				A	A	08 24 25.5	
	comp=N,890nm,0.7s						
AKK				A	A	08 24 25.5	
	comp=N,1μm,0.7s						
JYM2	**Yakumo 2**	**2.98**	**202**	A	A	08 23 35.5	
	comp=N,3.0nm,9.9s,comp=N,3.0nm,3.9s						
JKHN	**Kushirohamanak**	**3.00**	**126**	A	A	08 23 36.2	
	comp=N,8.0nm,2.0s,comp=N,9.0nm,2.3s						
YUK	**Yuzh-Kuril'sk**	**3.00**	**105**	*e*P	**Pn**	**08 23 36.0**	**+0.9**
YUK				AMB	AMB	08 23 41.7	
	comp=N,413nm,0.3s						
YUK				*e*S	**Sn**	**08 24 10.6**	**+0.3**
YUK				A	A	08 24 12.6	
	comp=N,4μm,0.8s						
YUK				A	A	08 24 12.6	
	comp=N,4μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**3.00**	**105**	*e*P	**Pn**	**08 23 35.9**	**+0.9**
YUK				AMB	AMB	08 23 41.6	
	comp=N,450nm,0.4s						
YUK				AMB	AMB	08 23 41.6	
	comp=N,430nm,0.4s						
YUK				AMB	AMB	08 23 41.6	
	comp=N,410nm,0.4s						
YUK				*e*S	**Sn**	**08 24 10.9**	**+0.6**
YUK				A	A	08 24 13.0	
	comp=N,2μm,0.5s						
YUK				A	A	08 24 13.0	
	comp=N,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.00**	**105**	*e*PN	**Pn**	**08 23 35.9**	**+0.9**
YUK				*e*S	**Sn**	**08 24 10.6**	**+0.3**
YUK				pmax	pmax		
	comp=Z,413nm,0.3s						
YUK				pmax	pmax		
	comp=N,448nm,0.5s						
YUK				pmax	pmax		
	comp=E,429nm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
ERM	**Erimo**	**3.03**	**161**	Pn	**Pn**	**08 23 38.5**	**+3.0**
ERM	**Erimo**	**3.03**	**161**	⇑*e*PN	**Pn**	**08 23 38.9**	**+3.4**
NMR	**Nemuro--Hokkai**	**3.18**	**117**	*e*P	**Pn**	**08 23 40.3**	**+2.8**
NMR				AMB	AMB	08 23 47.5	
	comp=E,130nm,0.6s						
NMR				*e*S	**Sn**	**08 24 17.1**	**+2.3**
NMR				A	A	08 24 29.4	
	comp=E,540nm,0.7s						
NMR				A	A	08 24 29.4	
	comp=E,700nm,0.7s						
NMR	**Nemuro--Hokkai**	**3.18**	**117**	*e*P	**Pn**	**08 23 39.5**	**+1.9**
NMR				AMB	AMB	08 23 48.0	
	comp=E,40nm,0.4s						
NMR				*e*S	**Sn**	**08 24 15.8**	**+1.0**
NMR				A	A	08 24 32.3	
	comp=E,240nm,0.3s						
NMR				A	A	08 24 32.3	
	comp=E,510nm,0.3s						
TEY	**Ternei**	**3.72**	**274**	*e*P	**Pn**	**08 23 43.6**	**-1.4**
TEY				AMB	AMB	08 23 46.0	
	comp=E,40nm,0.3s						
TEY				*e*S	**Sn**	**08 24 24.0**	**-4.1**
TEY				AMS	AMS	08 25 22.0	
	comp=E,840nm,12.0s						
TEY				AMS	AMS	08 25 22.0	
	comp=E,1μm,12.0s						
TEY				AMS	AMS	08 25 22.0	
	comp=E,2μm,12.0s						
TEY	**Ternei**	**3.72**	**274**	*e*PN	**Pn**	**08 23 44.7**	**-0.3**
JTM	**Tenmabayashi**	**4.15**	**188**	Pn	**Pn**	**08 23 51.4**	**+0.7**
UGL	**Uglegorsk**	**4.19**	**2**	*e*P	**Pn**	**08 23 51.3**	**0.0**
UGL				*e*Pg	Pb	08 24 08.7	+6.9
UGL				AMB	AMB	08 24 15.9	
	comp=E,155nm,0.8s						
UGL				*e*S	**Sn**	**08 24 38.3**	**-1.2**
UGL				A	A	08 25 46.9	
	comp=E,300nm,0.8s						
UGL				A	A	08 25 46.9	
	comp=E,200nm,0.8s						
UGL				AMS	AMS	08 26 00.1	
	comp=E,4μm,15.0s						
UGL	**Uglegorsk**	**4.19**	**2**	*e*P	**Pn**	**08 23 52.3**	**+1.0**
UGL				AMB	AMB	08 23 53.3	
	comp=E,30nm,0.4s						
UGL				AMB	AMB	08 23 57.3	
	comp=E,1μm,4.2s						
UGL				*e*S	**Sn**	**08 24 40.1**	**+0.6**
UGL				A	A	08 24 48.8	
	comp=E,150nm,0.7s						
UGL				A	A	08 24 48.8	
	comp=E,50nm,0.7s						
UGL				AMS	AMS	08 26 06.0	
	comp=E,4μm,14.0s						
UGL				AMS	AMS	08 26 06.0	
	comp=E,3μm,14.0s						
UGL				AMS	AMS	08 26 06.0	
	comp=E,4μm,14.0s						
UGL	**Uglegorsk**	**4.19**	**2**	*e*PN	Pn	08 23 42.8	-8.5
UGL				S	**Sn**	**08 24 38.3**	**-1.2**
UGL				pmax	pmax		
	comp=Z,1μm,4.2s						
UGL				pmax	pmax		
	comp=Z,138nm,0.9s						
UGL				MLR	MLR		
	comp=Z,3μm,6.9s						
UGL				MLR	MLR		
	comp=N,3μm,10.0s						
UGL				MLR	MLR		
	comp=E,2μm,6.1s						
KUR	**Kuril'sk**	**4.28**	**83**	*e*P	**Pn**	**08 23 53.7**	**+1.1**
KUR				AMB	AMB	08 23 57.2	
	comp=E,500nm,3.0s						
KUR				AMB	AMB	08 23 58.7	
	comp=E,69nm,0.6s						
KUR				*e*S	**Sn**	**08 24 41.8**	**0.0**
KUR				A	A	08 24 48.4	
	comp=E,191nm,0.6s						
KUR				A	A	08 24 48.4	
	comp=E,141nm,0.6s						
KUR	**Kuril'sk**	**4.28**	**83**	*e*P	**Pn**	**08 23 54.0**	**+1.4**
KUR				AMB	AMB	08 23 58.7	
	comp=E,70nm,0.4s						
KUR				*e*S	**Sn**	**08 24 42.1**	**+0.3**
KUR				A	A	08 24 48.3	
	comp=E,190nm,0.4s						
KUR				A	A	08 24 48.3	
	comp=E,140nm,0.4s						
KUR				AMS	AMS	08 25 54.0	
	comp=E,3μm,11.0s						
KUR	**Kuril'sk**	**4.28**	**83**	*e*PN	**Pn**	**08 23 53.6**	**+1.0**
KUR				pmax	pmax		
	comp=Z,69nm,0.6s						
KUR				MLR	MLR		
	comp=Z,3μm,11.0s				

comp=N,4.0nm,0.5s
GRNR pmax pmax
comp=E,6.0nm,0.5s
GRNR pmax pmax
comp=Z,2.0nm,0.3s
GRNR smax smax
comp=N,10.0nm,0.7s
GRNR MLR MLR
comp=E,890nm,13.0s
GRNR MLR MLR
comp=N,640nm,11.0s
GRNR MLR MLR
comp=Z,1µm,13.0s
GRTR Gornotajezhnoj 7.05 264 *e*P **Pn 08 24 30.9 +0.2**
GRTR AMB AMB 08 24 36.2
comp=Z,10.0nm,0.5s
JMM Marumori 7.07 187 Pn 08 24 31.9 +1.0
USRK Ussuriysk Ar. 7.08 268 P **Pn 08 24 32.3 +1.3**
comp=Z,0.6nm,0.3s,baz=78,slow=17,SNR=4.4
USRK S **Sn 08 25 58.1 +7.3**
comp=Z,3.4nm,0.5s,baz=84,slow=26,SNR=1.3
USRK LR LR 08 26 51.2
comp=Z,141nm,18.6s,baz=86,slow=34
comp=Z,2.7nm,0.4s
USRK Ussuriysk Ar. 7.08 268 Pn **Pn 08 24 31.2 +0.2**
USA0B Ussuriysk Arra 7.08 268 Pn **Pn 08 24 31.2 +0.2**
USA0B Ussuriysk Arra 7.08 268⇓ *e*PN **Pn 08 24 32.4 +1.4**
JSD Sado 7.36 203 Pn **Pn 08 24 36.4 +1.5**
KLR Kul'dur 8.14 306 P **Pn 08 24 47.4 +1.8**
comp=Z,1.7nm,0.3s,baz=334,slow=20,SNR=9.7
KLR LR LR 08 28 09.9
comp=Z,809nm,20.1s,baz=126,slow=40
comp=Z,3.6nm,0.3s
OKH Okha 8.69 4 *e*P **Pn 08 24 56.6 +3.5**
OKH AMB AMB 08 24 58.5
comp=Z,120nm,0.5s
OKH AMS AMS 08 29 26.0
comp=Z,2µm,16.0s
OKH AMS AMS 08 29 26.0
comp=Z,2µm,16.0s
MDJ Mudanjiang 8.73 272 Pn **Pn 08 24 54.1 +0.4**
MDJ Mudanjiang 8.73 272 P **Pn 08 24 54.3 +0.6**
MDJ sP 08 25 03.8
MDJ S **Sn 08 26 35.3 +4.0**
MDJ sS 08 26 44.8
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,180nm,4.0s
MDJ LR LR
comp=Z,740nm,11.3s
MDJ LR LR
comp=Z,1µm,13.9s
MDJ LR LR
comp=Z,2µm,13.7s
MJB9 Matsu-Tunnel 8.79 200 Pn **Pn 08 24 55.8 +1.3**
MAJO Matsushiro 8.79 200 Pn **Pn 08 24 55.5 +1.0**
MAJO Matsushiro 8.79 200⇓ *e*PN **Pn 08 24 56.7 +2.1**
MJAR Matsushiro Arr 8.79 200 P **Pn 08 24 57.9 +3.3**
comp=Z,0.2nm,0.3s,baz=5.1,slow=15,SNR=11
MJAR LR LR 08 28 27.0
comp=Z,637nm,19.3s,baz=4.0,slow=38
comp=Z,7.3nm,0.7s
BNX BinXian 10.21 280⇓P Pn 08 25 18.8 +4.8
BNX pmax pmax
comp=Z,16nm,1.3s
BNX pmax pmax
comp=Z,110nm,3.7s
SKR Severo-Kuril's 11.20 54 *e*P **Pn 08 25 28.8 +1.3**
SKR AMB AMB 08 25 29.2
comp=Z,10.0nm,0.2s
SKR AMS AMS 08 29 27.0
comp=Z,700nm,17.0s
CN2 Changchun 11.79 270 P **Pn 08 25 39.3 +3.6**
CN2 S **Sn 08 27 52.8 +6.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,600nm,12.0s
CN2 LR LR
comp=Z,2µm,12.0s
CN2 LR LR
comp=Z,2µm,13.0s
KSRS Korea Array 12.85 239 P **Pn 08 25 53.8 +3.7**
comp=Z,0.2nm,0.3s,baz=52,slow=13,SNR=5.4
KSRS LR LR 08 30 02.5
comp=Z,465nm,19.3s,baz=50,slow=33
comp=Z,1.8nm,0.8s
BMKR Bomnak 12.90 324 *e*P **Pn 08 25 51.2 +0.5**
BMKR AMB AMB 08 25 52.6
ZEA Zeya 12.98 318 *e*P **Pn 08 25 51.7 0.0**
ZEA Zeya 12.98 318 *e*P **Pn 08 25 51.7 0.0**
ZEA AMB AMB 08 25 52.9
ZEA AMS AMS 08 31 19.0
comp=Z,900nm,16.0s
ZEA AMS AMS 08 31 19.0
comp=Z,900nm,16.0s
ZEA AMS AMS 08 31 19.0
comp=Z,1µm,16.0s
ZEA Zeya 12.98 318 *e*PN **P 08 25 57.5 -4.6**
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.5s
ZEA MLR MLR
comp=N,600nm,16.0s
ZEA MLR MLR
comp=E,600nm,16.0s
ZEA MLR MLR
comp=Z,800nm,15.0s
PETK Petropavlovsk- 13.24 46 P **Pn 08 25 57.6 +2.3**
comp=Z,0.3nm,0.3s,baz=218,slow=8.4,SNR=3.2
PETK LR LR 08 31 17.4
comp=Z,609nm,18.2s,baz=234,slow=38
comp=Z,1.6nm,0.7s
JNU Nakatsue 14.51 220 LR LR 08 31 31.6
comp=Z,184nm,18.0s,baz=41,slow=36
MA2 Magadan 15.66 17 LR LR 08 33 13.2
comp=Z,359nm,18.6s,baz=197,slow=40
MA2 Magadan 15.66 17 *e*P **Pn 08 26 29.4 +1.5**
MA2 Magadan 15.66 17⇑ *e*P **Pn 08 26 29.4 +1.5**
MA2 pmax pmax
comp=Z,109nm,2.5s
XLT XiLinHaoTe 18.42 276⇓ *i*P **Pn 08 27 07.0 +4.3**
XLT pP sP 08 27 11.0 -0.6
XLT sP pP 08 27 13.5 +4.8
XLT pmax pmax
comp=Z,15nm,0.6s
XLT pmax pmax
comp=Z,280nm,4.4s
XLT LR LR
comp=Z,1µm,13.6s
XLT LR LR
comp=Z,1µm,13.3s
YAK Yakutsk 18.57 342 P **Pn 08 27 05.1 +0.8**
comp=Z,13nm,0.4s,baz=151,slow=0.9,SNR=7.6
YAK LR LR 08 35 41.4
comp=Z,189nm,18.5s,baz=127,slow=42
YAK Yakutsk 18.57 342 P **Pn 08 27 04.4 +0.1**
YAK IAmb IAmb 08 27 09.5
comp=Z,37nm,0.6s
YAK Yakutsk 18.57 342 *e*P **Pn 08 27 05.7 +1.4**
YAK Yakutsk 18.57 342 *e*P **Pn 08 27 05.7 +1.4**
YAK *e*S **S 08 30 35.8 +1.6**
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK smax smax
comp=N,674nm,12.6s
YAK smax smax
comp=E,74nm,12.5s
YAK MLR MLR
comp=Z,293nm,16.0s
YAK MLR MLR
comp=E,238nm,18.0s
YAK MLR MLR
comp=N,188nm,15.0s
SEY Seymchan 19.06 15 P **Pn 08 27 11.9 +1.7**
comp=N,13nm,0.9s,baz=198,slow=13,SNR=21
SEY Seymchan 19.06 15 *e*P **Pn 08 27 11.6 +1.4**
SEY Seymchan 19.06 15⇓ *e*P **Pn 08 27 11.6 +1.4**
SEY pmax pmax
comp=Z,31nm,1.3s
BJI Beijing 19.51 265 P **P 08 27 14.0 -0.5**
BJI sP **sP 08 27 23.5 -0.1**
BJI sS **Sn 08 30 58.5 +4.4**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI pmax pmax
comp=Z,110nm,5.3s
BJI LR LR
comp=Z,640nm,11.3s
BJI LR LR
comp=Z,1µm,12.7s
BJI LR LR
comp=Z,2µm,13.2s
BJT Baijiatuau 19.53 265 P **P 08 27 14.4 -0.3**
BJT Baijiatuau 19.53 265 P **P 08 27 14.4 -0.3**
BJT pmax pmax
comp=Z,14nm,0.9s
BOD Bodaibo 21.48 317 *e*P **P 08 27 35.8 +0.2**
BOD Bodaibo 21.48 317 *e*P **P 08 27 35.8 +0.2**
BOD pmax pmax
comp=Z,36nm,1.3s
HNS HongShan 21.70 259⇓P **P 08 27 37.3 -0.8**
HNS sP **sP 08 27 48.0 +0.8**
HNS SS **SnSn 08 32 10.3 +8.6**
HNS pmax pmax
comp=Z,7.0nm,0.9s
HNS LR LR
comp=Z,440nm,14.3s
HNS LR LR
comp=Z,510nm,14.7s
HNS LR LR
comp=Z,460nm,12.4s
NJ2 Nanjing 22.01 242 *e*P **P 08 27 43.5 +2.0**
NJ2 pmax pmax
comp=Z,16nm,0.7s
NJ2 LR LR
comp=Z,630nm,17.1s
NJ2 LR LR
comp=Z,460nm,15.2s
NJ2 LR LR
comp=Z,650nm,13.3s
HHC Hu-ho-hao-te 22.49 270 *e*P **P 08 27 49.8 +3.0**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,100nm,5.3s
HHC LR LR
comp=Z,840nm,11.7s
HHC LR LR
comp=Z,2µm,13.0s
HHC LR LR
comp=Z,3µm,12.4s
SHEM Shemya Is, Ala 22.49 58 LR LR 08 35 31.5
comp=Z,166nm,21.3s,baz=294,slow=34
SONM Songino Array 24.51 290 P **P 08 28 05.4 -1.1**
comp=Z,3.3nm,0.8s,baz=78,slow=8.2,SNR=17
SONM PcP **PcP 08 31 43.5 -1.0**
comp=Z,0.6nm,0.7s,baz=101,slow=1.5,SNR=2.8
comp=Z,3.3nm,0.8s
SONM Songino Array 24.51 290 P **P 08 28 05.9 -0.7**
WHN Wuhan 25.89 246⇑P **P 08 28 14.5 -4.5**
ZAK Zakamensk 26.34 296 *e*P **P 08 28 21.0 -2.1**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TIXI Tiksi 27.55 351 P **P 08 28 32.2 -1.4**
comp=Z,2.7nm,0.7s,baz=271,slow=20,SNR=8.8
comp=Z,2.7nm,0.7s
TIXI Tiksi 27.55 351 P **P 08 28 33.2 -0.4**
TIXI Tiksi 27.55 351 *e*P **P 08 28 33.8 +0.2**
TIXI Tiksi 27.55 351⇓ *i*P **P 08 28 33.7 +0.2**
TIXI pmax pmax
comp=Z,28nm,3.6s
GTA Gaotai 31.37 275 *e*P **P 08 29 10.3 +2.3**
GTA pP sP 08 29 18.8 +1.3
GTA sP pP 08 29 23.5 +8.8
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,94nm,7.3s
GTA LR LR
comp=Z,440nm,13.5s
GTA LR LR
comp=Z,670nm,13.1s
GTA LR LR
comp=Z,740nm,13.5s
PZH PanZhiHua 36.93 254 P **P 08 29 55.5 -0.8**
PZH S **S 08 35 43.5 +3.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,280nm,4.9s
PZH LR LR
comp=Z,590nm,15.5s
PZH LR LR
comp=Z,300nm,13.3s
PZH LR LR
comp=Z,670nm,14.7s
ZALV Zalesovo Beam 37.25 305 P **P 08 29 57.6 -0.9**
comp=Z,2.1nm,0.6s,baz=73,slow=9.7,SNR=6.9
ZALV PcP **PcP 08 32 17.8 +0.1**
comp=Z,4.2nm,0.6s,baz=79,slow=8.0,SNR=9.2
comp=Z,2.1nm,0.6s
ZALV Zalesovo Beam 37.25 305 *i*P **P 08 29 59.0 +0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
WMQ Urumqi 38.13 288 *e*P **P 08 30 08.3 +2.1**
WMQ pP pP 08 30 14.0 +1.0
WMQ sP sP 08 30 18.8 +3.1
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=Z,410nm,14.7s
WMQ LR LR
comp=Z,1µm,15.7s
WMQ LR LR
comp=Z,370nm,16.5s
IMAR Indian Mountai 39.87 35 P **P 08 30 19.4 -1.0**
TNCH TengChong 40.09 255 P **P 08 30 25.5 +2.6**
TNCH pP pP 08 30 30.5 +0.8
TNCH sP sP 08 30 33.3 +0.8
DAV Davao City (W) 40.25 205 LR LR 08 48 36.6
comp=Z,60nm,18.1s,baz=39,slow=38
MK31 Makanchi Array 40.66 295 P **P 08 30 27.7 +0.5**
MK31 Makanchi Array 40.66 295 *de*P **P 08 30 27.9 +0.7**
MKAR Makanchi Array 40.66 295 P **P 08 30 26.8 -0.5**
comp=Z,4.0nm,0.7s,baz=77,slow=8.6,SNR=9.9
MKAR PcP **PcP 08 32 27.1 -1.6**
comp=Z,1.2nm,0.8s,baz=36,slow=2.7,SNR=4.3
MKAR LR LR 08 47 37.1
comp=Z,82nm,20.3s,baz=90,slow=37
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 40.66 295 P **P 08 30 27.1 -0.1**
MKAR Makanchi Array 40.66 295 *e*P **P 08 30 27.3 +0.1**
MKAR Makanchi Array 40.66 295 *i*P **P 08 30 27.3 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 41.71 301 *e*P **P 08 30 36.1 +0.4**
KURK Kurchatov 41.71 301⇓ *e*P **P 08 30 36.1 +0.4**
KURK pmax pmax
comp=Z,15nm,2.2s
NEA2 Nenana 41.92 37 P **P 08 30 36.9 -0.5**
CRAI Chiangrai 42.11 248 P **P 08 30 39.5 +0.1**
CRAI IAmb IAmb 08 30 49.7
comp=Z,8.4nm,0.8s
TCOL CIGO, UAF Yank 42.40 37 P **P 08 30 40.4 -0.8**
TCOL IAmb IAmb 08 30 41.7
comp=Z,10nm,1.1s
COLA College 42.41 37 P **P 08 30 40.4 -0.9**
COLA IAmb IAmb 08 30 41.7
comp=Z,11nm,1.1s
COLA College 42.41 37⇑ *e*P **P 08 30 40.7 -0.5**
COLA pmax pmax
comp=Z,9.0nm,1.0s
IL31 42.83 37 P **P 08 30 43.8 -0.8**
ILAR Eielson Array 42.83 37 P **P 08 30 43.7 -1.0**
comp=Z,3.3nm,0.8s,baz=282,slow=7.8,SNR=35
ILAR PcP **PcP 08 32 33.8 -1.6**
comp=Z,0.9nm,0.9s,baz=297,slow=4.0,SNR=3.4
ILAR LR LR 08 50 36.5
comp=Z,169nm,18.8s,baz=246,slow=39
comp=Z,3.3nm,0.8s
PHRA Phrae 43.44 246 P **P 08 30 50.8 +0.7**
CHTO Chiang Mai 44.06 248 P **P 08 30 55.6 +0.5**
CHTO IAmb IAmb 08 31 05.2
comp=Z,15nm,0.8s
CHTO Chiang Mai 44.06 248 P **P 08 30 55.6 +0.5**
CHTO pmax pmax
comp=Z,15nm,0.9s
SCRK Sand Creek 44.21 37 P **P 08 30 54.6 -1.3**
CMAR Chiang Mai Arr 44.31 248 P **P 08 30 57.3 +0.1**
comp=Z,1.4nm,0.3s,baz=35,slow=7.8,SNR=8.0
CMAR LR LR 08 50 48.3
comp=Z,92nm,18.1s,baz=45,slow=38
comp=Z,1.4nm,0.3s
CMAR Chiang Mai Arr 44.31 248 *i*P **P 08 30 58.5 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SHL Shillong 44.37 261 P **P 08 30 57.7 0.0**
SHL IAmb IAmb 08 31 10.4
comp=Z,15nm,0.9s
SHL Shillong 44.37 261 P **P 08 30 57.7 0.0**
SHL pmax pmax
comp=Z,15nm,0.9s
BVAR Borovoye Array 45.80 307 LR LR 08 51 18.6
comp=Z,77nm,19.8s,baz=68,slow=37
BRVK Borovoye 45.85 307 *e*P **P 08 31 08.1 -0.9**
BRVK Borovoye 45.85 307 *c i*P **P 08 31 08.1 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BOOM Boomskoye usch 46.53 291 P **P 08 31 15.8 +1.1**
BOOM Boomskoye usch 46.53 291 P **P 08 31 15.8 +1.1**
BOOM pmax pmax
comp=Z,23nm,0.9s
NRN Naryn 46.97 290 P **P 08 31 19.2 +0.9**
NRN IAmb IAmb 08 31 42.4
comp=Z,7.4nm,1.1s
NRN Naryn 46.97 290 P **P 08 31 19.2 +0.9**
NRN pmax pmax
comp=Z,7.0nm,1.1s
AAK Ala-Archa 47.41 292 P **P 08 31 21.7 +0.1**
comp=Z,4.4nm,0.8s,baz=74,slow=6.0,SNR=6.9
AAK LR LR 08 50 25.5
comp=Z,61nm,21.4s,baz=79,slow=35
comp=Z,4.4nm,0.8s
AAK Ala-Archa 47.41 292 P **P 08 31 22.1 +0.5**
AAK IAmb IAmb 08 31 23.1
comp=Z,14nm,1.4s
AAK Ala-Archa 47.41 292 *e*P **P 08 31 22.4 +0.8**
AAK Ala-Archa 47.41 292 *e*P **P 08 31 22.4 +0.8**
AAK Ala-Archa 47.41 292⇓ *i*P **P 08 31 22.4 +0.8**
AAK pmax pmax
comp=Z,12nm,1.7s
FAKI Fak Fak 48.37 193 P **P 08 31 28.2 -0.7**
KK31 Karatay Array 49.79 295 P **P 08 31 39.8 +0.1**
KK31 Karatay Array 49.79 295 P **P 08 31 39.8 +0.1**
KK31 pmax pmax
comp=Z,14nm,0.8s
KKAR Karatay Array 49.79 295 P **P 08 31 39.8 +0.1**
KKAR Karatay Array 49.79 295 P **P 08 31 39.8 +0.1**
KKAR pmax pmax
comp=Z,14nm,0.8s
ARU Arti 50.87 315 LR LR 08 55 29.4
comp=Z,100nm,19.2s,baz=128,slow=39
ARU Arti 50.87 315 *e*P **P 08 31 46.8 -0.8**
ARU Arti 50.87 315 *c i*P **P 08 31 46.8 -0.8**
ARU 08 33 01.7
ARU S **S 08 39 04.7 +2.4**
ARU SS **SS 08 42 41.3 +4.8**
ARU pmax pmax
comp=Z,20nm,1.6s
ARU MLR MLR
comp=Z,144nm,14.0s
BTK Batken 51.08 291 P **P 08 31 49.5 -0.1**
BTK IAmb IAmb 08 31 50.9
comp=Z,8.2nm,0.8s
BTK Batken 51.08 291 P **P 08 31 49.5 -0.1**
BTK pmax pmax
comp=Z,8.0nm,0.8s
KSM Kuching 51.42 222 P **P 08 31 51.5 -0.7**
KSM IAmb IAmb 08 32 03.6
comp=Z,16nm,0.9s
DLBC Dease Lake 52.38 42 LR LR 08 54 58.9
comp=Z,76nm,18.5s,baz=250,slow=37
NIL Nilore 52.82 283 P **P 08 32 03.3 +0.8**
NIL IAmb IAmb 08 32 13.2
comp=Z,15nm,0.9s
NIL Nilore 52.82 283 P **P 08 32 03.3 +0.8**
NIL pmax pmax
comp=Z,15nm,1.0s
SPITS Spitsbergen Ar 52.90 348 LR LR 08 57 08.7
comp=Z,104nm,19.0s,baz=2.0,slow=39
ABKAR Akbulak array 53.34 306 P **P 08 32 05.6 -0.5**
ABKAR IAmb IAmb 08 32 07.0
comp=Z,10nm,0.9s
KULM Kulim 53.34 235 P **P 08 32 07.0 +0.5**
KIRV Kirov 54.31 320⇓ *e*P **P 08 32 12.1 -0.9**
PRGR Permogore 54.46 324 *e*P **P 08 32 12.3 -1.8**
PSI Prapat 56.36 235 P **P 08 32 28.9 +0.4**
comp=Z,4.4nm,0.6s,baz=8.1,slow=14,SNR=5.0
PSI LR LR 08 58 24.5
comp=Z,68nm,18.2s,baz=82,slow=38
comp=Z,4.4nm,0.6s
RPSI Rantau Prapat 56.44 235 P **P 08 32 28.9 -0.1**
ARCES ARCESS Array B 56.80 338 P **P 08 32 29.9 -0.9**
comp=Z,5.1nm,1.0s,baz=38,slow=6.1,SNR=6.2
ARCES LR LR 09 02 28.6
comp=Z,75nm,19.7s,baz=108,slow=42
comp=Z,5.1nm,1.0s
YKA Yellowknife Ar 56.93 33 P **P 08 32 30.8 -1.0**
comp=Z,3.0nm,0.8s,baz=299,slow=6.7,SNR=5.8
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 57.38 325 *e*P **P 08 32 32.9 -2.1**
KLMR AMP 08 32 46.7
comp=Z,23nm,2.1s
KLMR Klimovskoe 57.38 325 *e*P **P 08 32 32.8 -2.2**
KLMR pmax pmax
comp=Z,23nm,2.1s
BELG Belogornoye 58.41 314 LR LR 09 01 20.1
comp=Z,89nm,20.8s,baz=30,slow=40
BELG Belogornoye 58.41 314 *de*P **P 08 32 41.6 -0.7**
BELG pmax pmax
comp=Z,3.0nm,1.0s
WAPA Wapiti River 59.12 41 P **P 08 32 47.3 -0.1**
HRA Herat 59.90 290 P **P 08 32 53.6 +0.4**
HRA IAmb IAmb 08 32 54.2
comp=Z,4.5nm,0.7s
GEYT Alibeck 60.53 295 P **P 08 32 57.0 -0.3**
comp=Z,9.5nm,0.8s,baz=31,slow=4.2,SNR=14
GEYT LR LR 09 01 43.9
comp=Z,195nm,18.8s,baz=70,slow=39
comp=Z,9.5nm,0.8s
GEYT Alibeck 60.53 295 P **P 08 32 57.4 +0.1**
GEYT IAmb IAmb 08 32 58.6
comp=Z,11nm,0.9s
GYA0B ALIBECK ARRAY 60.53 295 P **P 08 32 56.9 -0.4**
GYA0B IAmb IAmb 08 33 10.5
comp=Z,12nm,0.9s
BRLDA Berland Lookou 60.64 42 P **P 08 32 57.4 -0.4**
BRLDA IAmb IAmb 08 32 59.3
comp=Z,9.2nm,0.8s
KNRA Kunumurra 61.45 194 P **P 08 33 03.3 -0.1**
FINES FINESS Array B 62.07 331 P **P 08 33 05.6 -1.6**
comp=Z,5.5nm,0.7s,baz=53,slow=8.3,SNR=23
FINES PcP **PcP 08 33 46.6 -0.8**
comp=Z,3.7nm,0.8s,baz=57,slow=5.3,SNR=4.7
FINES LR LR 09 02 38.0
comp=Z,164nm,18.2s,baz=50,slow=38
comp=Z,5.5nm,0.7s
FINES FINESS Array B 62.07 331 *i*P **P 08 33 06.0 -1.2**
FINES pmax pmax
comp=Z,6.0nm,0.6s
VRH Novokhopyorsk 62.08 316 *e*P **P 08 33 04.8 -2.7**
VRH pmax pmax
comp=Z,10.0nm,1.2s
OBN Obninsk 62.09 321 *e*P **P 08 33 06.0 -1.4**
OBN Obninsk 62.09 321⇓ *e*P **P 08 33 06.0 -1.4**
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,207nm,15.0s
LPSR Galich'ya Gora 62.58 318 *e*P **P 08 33 08.5 -2.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 62.83 0 *i*P **P 08 33 10.9 -1.7**
VSR Storozhevoye 63.34 317 *e*P **P 08 33 12.1 -3.7**
VSR pmax pmax
comp=Z,7.0nm,0.6s
NEW Newport 64.38 47 LR LR 09 00 26.5
comp=Z,38nm,20.9s,baz=302,slow=35
PALK Pallekele 64.61 254 LR LR 09 04 22.5
comp=Z,39nm,18.5s,baz=88,slow=39

WB0	**Warramunga Arr**	**64.71**	**188**	P	**P**	**08 33 24.2**	**-0.9**
WB0				IAmb	IAmb	08 33 25.3		
	comp=Z,9.5nm,0.9s							
WRAB	**Tennant Creek**	**64.88**	**188**	*ce*P	**P**	**08 33 25.3**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,10.0nm,1.1s							
WRA	**Warramunga Arr**	**64.89**	**188**	P	**P**	**08 33 25.4**	**-0.9**
	comp=Z,5.2nm,0.8s,baz=3.9,slow=6.8,SNR=58							
WRA				LR	LR	09 02 20.2		
	comp=Z,44nm,19.1s,baz=80,slow=36							
	comp=Z,5.2nm,0.8s							
WRA	**Warramunga Arr**	**64.89**	**188**	P	**P**	**08 33 25.4**	**-0.9**
KIV	**Kislovodsk**	**66.12**	**309**	*e*P	**P**	**08 33 35.1**	**+0.8**
KIV	**Kislovodsk**	**66.12**	**309**	*e*P	**P**	**08 33 35.0**	**+0.8**
KIV	**Kislovodsk**	**66.12**	**309**	*e*P	**P**	**08 33 35.0**	**+0.8**
KIV				pmax	pmax			
	comp=Z,15nm,1.0s							
KIV				MLR	MLR			
	comp=Z,191nm,17.0s							
KBZ	**Khabaz**	**66.15**	**308**	P	**P**	**08 33 33.6**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=198,slow=5.1,SNR=3.6							
	comp=Z,2.5nm,0.7s							
KBZ	**Khabaz**	**66.15**	**308**	*e*P	**P**	**08 33 34.9**	**+0.6**
KBZ	**Khabaz**	**66.15**	**308**	*e*P	**P**	**08 33 34.9**	**+0.6**
KBZ	**Khabaz**	**66.15**	**308**⇓	*e*P	**P**	**08 33 34.9**	**+0.6**
KBZ				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MNK	**Minsk**	**66.23**	**324**	*i* P	**P**	**08 33 34.8**	**+0.1**
	comp=E,2.0nm,0.6s							
MNK				*i* P	**P**	**08 33 34.8**	**+0.1**
	comp=N,17nm,0.8s							
MNK				*i* P	**P**	**08 33 34.8**	**+0.1**
	comp=Z,6.0nm,0.7s,baz=225							
MNK				*i* PcP	**PcP**	**08 34 04.5**	**-0.2**
MNK				*i* PP	**PP**	**08 36 00.7**	**+0.6**
MNK				*i* PPP	PPP	08 37 35.2		
MNK				*i* S	**S**	**08 42 22.8**	**+0.6**
MNK				*i* SS	**SS**	**08 46 41.2**	**+3.9**
MNK				*i* SSS	SSS	08 49 50.1		
MNK				*i* LQ	LQ	08 58 55.2		
MNK				*i* LR	LR	09 03 27.6		
MNK				*i* LRM	MLR	09 05 05.6		
	comp=Z,122nm,15.5s							
MNK				*i* LRM	MLR	09 05 16.5		
	comp=N,370nm,16.8s							
MNK				*i* LRM	MLR	09 05 19.7		
	comp=E,23nm,14.8s							
MNK	**Minsk**	**66.23**	**324**	*i* P	**P**	**08 33 34.7**	**+0.1**
MNK				*i*		08 34 04.4		
MNK				*i*		08 36 00.6		
MNK				*i* PPP	PPP	08 37 35.2		
MNK				*i* S	**S**	**08 42 22.7**	**+0.6**
MNK				*i*		08 43 30.0		
MNK				*i* SS	**SS**	**08 46 41.2**	**+3.9**
MNK				pmax	pmax			
	comp=E,2.0nm,0.6s							
MNK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MNK				pmax	pmax			
	comp=N,17nm,0.8s							
MNK				MLR	MLR			
	comp=Z,122nm,15.0s							
MNK				MLR	MLR			
	comp=N,370nm,17.0s							
MNK				MLR	MLR			
	comp=E,23nm,15.0s							
ICESG	**Greenland Ices**	**66.33**	**1**	*i* P	**P**	**08 33 34.0**	**-1.5**
NACGM	**Naroch**	**66.40**	**325**	*e*P	**P**	**08 33 35.5**	**-0.3**
	comp=Z,14nm,0.8s							
NEY	**Neytrino**	**66.55**	**308**⇑	*e*P	**P**	**08 33 39.5**	**+2.3**
NEY				pmax	pmax			
	comp=Z,2.0nm,0.9s							
HFS	**Hagfors**	**67.09**	**335**	LR	LR	09 05 55.7		
	comp=Z,126nm,18.9s,baz=49,slow=39							
NB2	**NORSAR Subarra**	**67.09**	**336**	P	**P**	**08 33 38.9**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**67.09**	**336**	P	**P**	**08 33 38.5**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=36,slow=6.3,SNR=8.6							
NOA				LR	LR	09 06 35.9		
	comp=Z,86nm,18.9s,baz=35,slow=39							
	comp=Z,2.2nm,0.7s							
GNI	**Garni**	**67.39**	**305**	LR	LR	09 06 26.2		
	comp=Z,88nm,18.1s,baz=59,slow=39							
AKASG	**Malin Array Be**	**68.34**	**321**	P	**P**	**08 33 46.2**	**-1.9**
	comp=Z,3.7nm,0.6s,baz=43,slow=6.6,SNR=22							
AKASG				PcP	**PcP**	**08 34 11.5**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=41,slow=6.1,SNR=1.1							
AKASG				LR	LR	09 04 38.4		
	comp=Z,62nm,19.4s,baz=19,slow=37							
	comp=Z,3.7nm,0.6s							
AKASG	**Malin Array Be**	**68.34**	**321**	*i* P	**P**	**08 33 46.9**	**-1.2**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AKBB	**Malin Array Si**	**68.34**	**321**⇑	*i* P	**P**	**08 33 46.5**	**-1.6**
AKBB				pmax	pmax			
	comp=Z,6.0nm,0.7s							
ANN	**Anapa**	**68.41**	**312**	*e*P	**P**	**08 33 46.2**	**-2.4**
ANN				*e**PP	**pP**	**08 33 52.2**	**-3.6**
ANN				*e*		08 34 09.3		
ANN				*e*S	**S**	**08 42 46.6**	**-2.0**
ANN				pmax	pmax			
	comp=Z,106nm,1.3s							
AS31	**Alice Springs**	**68.61**	**188**	P	**P**	**08 33 50.1**	**+0.1**
ASAR	**Alice Springs**	**68.61**	**188**	P	**P**	**08 33 50.5**	**+0.5**
	comp=Z,7.3nm,0.8s,baz=8.6,slow=5.6,SNR=84							
	comp=Z,7.3nm,0.8s							
ASAR	**Alice Springs**	**68.61**	**188**	P	**P**	**08 33 50.1**	**+0.1**
ASAR	**Alice Springs**	**68.61**	**188**	P	**P**	**08 33 50.1**	**+0.1**
MBWA	**Marble Bar**	**68.77**	**202**	P	**P**	**08 33 50.8**	**-0.2**
PSA00	**Pilbara Seismi**	**69.13**	**202**	P	**P**	**08 33 52.9**	**-0.3**
CMB	**Columbia Colle**	**69.16**	**57**	P	**P**	**08 33 53.6**	**+0.1**
CMB				IAmb	IAmb	08 33 55.4		
	comp=Z,4.8nm,1.1s							
CMB	**Columbia Colle**	**69.16**	**57**	P	**P**	**08 33 53.6**	**+0.1**
CMB				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KLNR	**Kaliningrad**	**69.19**	**328**⇓	*e*P	**P**	**08 33 52.9**	**-0.4**
KLNR				pmax	pmax			
	comp=Z,87nm,0.9s							
YERR	**Yerington**	**69.21**	**55**	P	**P**	**08 33 52.8**	**-1.2**
YERR				IAmb	IAmb	08 34 11.8		
	comp=Z,8.3nm,1.2s							
KVN	**Kaiserville**	**69.83**	**55**	P	**P**	**08 33 57.8**	**0.0**
KVN				IAmb	IAmb	08 34 14.0		
	comp=Z,6.7nm,0.9s							
KVN	**Kaiserville**	**69.83**	**55**	P	**P**	**08 33 57.8**	**0.0**
KVN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
GURO	**Guroymak-BITLI**	**70.03**	**305**	P	**P**	**08 33 59.5**	**+0.5**
NVAR	**Mina Array Bea**	**70.13**	**55**	P	**P**	**08 34 00.9**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=291,slow=6.2,SNR=18							
	comp=Z,2.2nm,0.8s							
DZM	**Mont Dzumac**	**70.33**	**156**	LR	LR	09 06 40.5		
	comp=Z,44nm,18.2s,baz=22,slow=37							
MSVF	**Nonsavu**	**70.51**	**143**	LR	LR	09 03 27.3		
	comp=Z,57nm,18.5s,baz=354,slow=34							
MOOW	**Moose Ponds**	**70.69**	**47**	P	**P**	**08 34 02.7**	**-0.4**
MARD	**Mardin**	**71.59**	**304**	P	**P**	**08 34 09.0**	**+0.5**
PD31	**Pinedale Array**	**72.00**	**47**	P	**P**	**08 34 10.6**	**-0.4**
PDAR	**Pinedale Array**	**72.00**	**47**	P	**P**	**08 34 11.2**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=314,slow=1.4,SNR=19							
	comp=Z,3.0nm,0.9s							
PDAR	**Pinedale Array**	**72.00**	**47**	P	**P**	**08 34 10.4**	**-0.5**
DUG	**Dugway, Tooele**	**72.05**	**51**	P	**P**	**08 34 11.7**	**+0.5**
DUG				IAmb	IAmb	08 34 13.2		
	comp=Z,10nm,1.4s							
DUG	**Dugway, Tooele**	**72.05**	**51**	P	**P**	**08 34 11.7**	**+0.5**
DUG				pmax	pmax			
	comp=Z,10.0nm,1.4s							
TPNV	**Topopah Spring**	**72.33**	**55**	P	**P**	**08 34 13.5**	**+0.5**
TPNV				IAmb	IAmb	08 34 30.8		
	comp=Z,5.8nm,0.8s							
TPNV	**Topopah Spring**	**72.33**	**55**	P	**P**	**08 34 13.5**	**+0.5**
TPNV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BUR08	**Bucovina Ar. S**	**72.38**	**321**	P	**P**	**08 34 12.3**	**-0.7**
ULM	**Lac du Bonnet**	**72.80**	**35**	P	**P**	**08 34 14.6**	**-0.7**
	comp=Z,9.8nm,0.9s,baz=314,slow=8.2,SNR=9.2							
	comp=Z,9.8nm,0.9s							
MPU	**Maple Canyon**	**72.83**	**50**	P	**P**	**08 34 15.6**	**-0.3**
SHPR	**Sheep Range**	**73.27**	**55**	P	**P**	**08 34 18.2**	**-0.3**
RDMU	**Red Mountain**	**73.55**	**49**	P	**P**	**08 34 20.8**	**+0.6**
RDMU				IAmb	IAmb	08 34 22.0		
	comp=Z,8.2nm,0.9s							
MLR	**Muntele Rosu**	**73.64**	**319**	LR	LR	09 09 44.7		
	comp=Z,122nm,18.2s,baz=52,slow=38							
BR131	**Keskin Array S**	**73.95**	**310**	P	**P**	**08 34 21.9**	**-0.5**
BR131				IAmb	IAmb	08 34 32.6		
	comp=Z,5.2nm,0.9s							
BR131	**Keskin Array S**	**73.95**	**310**⇓	*i* P	**P**	**08 34 22.5**	**+0.1**
BRTR	**Keskin Array B**	**73.95**	**310**	P	**P**	**08 34 22.1**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=75,slow=3.7,SNR=12							
BRTR				LR	LR	09 10 57.7		
	comp=Z,64nm,19.2s,baz=44,slow=39							
	comp=Z,2.1nm,0.8s							
BRTR	**Keskin Array B**	**73.95**	**310**	*i* P	**P**	**08 34 22.6**	**+0.1**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
DPC	**Dobruska-Polom**	**74.00**	**327**	*e*P	**P**	**08 34 22.4**	**-0.1**
DPC	**Dobruska-Polom**	**74.00**	**327**	*e*P	**P**	**08 34 22.4**	**-0.1**
KRLC	**Kraliky**	**74.05**	**327**	*e*P	**P**	**08 34 22.4**	**-0.3**
KRLC				*e*pP	**sP**	**08 34 31.8**	**-0.8**
KRLC	**Kraliky**	**74.05**	**327**	*e*P	**P**	**08 34 22.4**	**-0.3**
KRLC				*e*		08 34 31.8		
CLL	**Collm**	**74.47**	**330**	*i* P	**P**	**08 34 23.8**	**-1.3**
	comp=Z,7.0nm,0.8s							
CLL				*e*pP	**pP**	**08 34 34.0**	**+1.7**
CLL				*i* PcP	**PcP**	**08 34 39.3**	**-0.3**
CLL				*e*PP	**PP**	**08 37 09.0**	**-1.9**
CLL				Lm	MLR	09 09 00.0		
	comp=Z,200nm,18.3s							
CLL	**Collm**	**74.47**	**330**	*i* P	**P**	**08 34 23.8**	**-1.3**
CLL				*e**PP	**pP**	**08 34 34.0**	**+1.7**
CLL				pmax	pmax			
	comp=Z,7.0nm,0.8s							
VRAC	**Vranov**	**74.73**	**326**	LR	LR	09 10 05.1		
	comp=Z,62nm,18.3s,baz=41,slow=38							
PRU	**Pruhonice**	**74.98**	**328**	*e*P	**P**	**08 34 27.8**	**-0.2**
PRU				*e*pP	**sP**	**08 34 37.4**	**-0.5**
PRU	**Pruhonice**	**74.98**	**328**	*e*P	**P**	**08 34 27.8**	**-0.2**
PRU				*e*		08 34 37.4		
U15A	**North Rim**	**74.98**	**53**	P	**P**	**08 34 27.8**	**-0.9**
U15A				IAmb	IAmb	08 34 47.0		
	comp=Z,7.4nm,1.1s							
B35A	**Bob, Littlefor**	**75.16**	**35**	P	**P**	**08 34 28.1**	**-1.0**
KHC	**Kasperske Hory**	**76.04**	**328**	P	**P**	**08 34 34.0**	**-0.1**
KHC				IAmb	IAmb	08 34 34.5		
	comp=Z,4.0nm,0.8s							
KHC	**Kasperske Hory**	**76.04**	**328**	*e*P	**P**	**08 34 33.9**	**-0.3**
KHC				*e*pP	**pP**	**08 34 42.9**	**+1.4**
KHC	**Kasperske Hory**	**76.04**	**328**	P	**P**	**08 34 34.1**	**-0.1**
KHC				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GERES	**GERESS Array B**	**76.23**	**328**	P	**P**	**08 34 34.1**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=43,slow=5.9,SNR=4.6							
	comp=Z,0.7nm,0.6s							
EYMN	**Ely**	**76.38**	**34**	P	**P**	**08 34 35.3**	**-0.9**
EYMN				IAmb	IAmb	08 34 36.4		
	comp=Z,12nm,0.9s							
STKA	**Stephens Creek**	**76.41**	**180**	P	**P**	**08 34 36.8**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=7.5,slow=4.5,SNR=4.8							
STKA				LR	LR	09 09 17.1		
	comp=Z,34nm,19.8s,baz=23,slow=36							
	comp=Z,1.4nm,0.6s							
MORW	**Morawa**	**77.28**	**203**	P	**P**	**08 34 41.2**	**0.0**
RAYN	**Ar Rayn**	**78.05**	**291**	P	**P**	**08 34 45.6**	**-0.4**
RAYN				IAmb	IAmb	08 34 47.1		
	comp=Z,8.6nm,0.9s							
RAYN	**Ar Rayn**	**78.05**	**291**	P	**P**	**08 34 45.6**	**-0.4**
RAYN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
DAVOX	**Davos/Dischmat**	**79.38**	**329**	LR	LR	09 13 37.6		
	comp=Z,132nm,18.6s,baz=81,slow=38							
EIL	**Elat**	**80.41**	**302**	LR	LR	09 12 10.3		
	comp=Z,55nm,19.6s,baz=40,slow=37							
R40A	**Maddies Statio**	**83.90**	**40**	P	**P**	**08 35 15.6**	**-1.2**
R40A				IAmb	IAmb	08 35 16.9		
	comp=Z,3.2nm,0.6s							
TUL1	**Leonard**	**84.15**	**44**	P	**P**	**08 35 18.0**	**-0.2**
TUL1				IAmb	IAmb	08 35 19.2		
	comp=Z,6.7nm,0.8s							
TXAR	**Lajitas Array**	**85.09**	**53**	P	**P**	**08 35 23.5**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=288,slow=3.8,SNR=20							
	comp=Z,2.7nm,0.8s							
ESDC	**Sonseca Array**	**90.37**	**334**	P	**P**	**08 35 47.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=11,slow=4.3,SNR=5.2							
ESDC				LR	LR	09 20 48.8		
	comp=Z,57nm,18.5s,baz=5.0,slow=38							
	comp=Z,0.9nm,0.8s							
VNDA	**Vanda**	**122.77**	**175**	PKP	**PKPdf**	**08 41 41.1**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=328,slow=3.2,SNR=7.4							
MAW	**Mawson**	**126.70**	**208**	PKP	**PKiKP**	**08 41 49.6**	**0.0**
	comp=Z,2.3nm,0.8s,baz=349,slow=5.2,SNR=5.6							
NVL	**N'lazarevskaya**	**144.60**	**206**	*e*PKIKP	**PKPab**	**08 42 19.1**	**-1.7**
PTLB	**Pontes e Lacer**	**145.71**	**38**	PKPdf	**PKPdf**	**08 42 25.8**	**+0.1**
TROLL	**Troll, Antarti**	**146.73**	**202**	PKPdf	**PKPbc**	**08 42 27.7**	**-0.1**
BELA	**Belgrano 2**	**146.88**	**181**	PKPdf	**PKPdf**	**08 42 26.1**	**+0.2**
BDFB	**Brasilia**	**149.67**	**19**	PKPbc	**PKPbc**	**08 42 35.4**	**-1.7**
	comp=Z,2.7nm,0.8s,baz=341,slow=4.1,SNR=4.1							
VNA2	**Neumayer--Watz**	**149.90**	**200**	PKPdf	**PKPbc**	**08 42 35.5**	**-0.4**
	baz=111,slow=2.4							
VNA3	**Neumayer Olymp**	**150.19**	**198**	PKPdf	**PKPbc**	**08 42 35.9**	**-0.7**
VNA1	**Neumayer--Stat**	**150.30**	**200**	PKPdf	**PKPbc**	**08 42 35.8**	**-1.0**
CPUP	**Villa Florida**	**155.90**	**46**	PKPab	**PKPab**	**08 43 07.7**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=27,slow=2.3,SNR=7.3							

NNC ***25*** *08:23:00.1±2.3, 41.37N×83.81E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=17.2km s-min=12.0km az=140.0*
SOME ***25*** *08:23:01.6, 41.28N×83.68E, h10km*
ISC 25 08:22:59.5±2.6, 41.2N±0.1×83.62E±0.0, h10km, n28, σ1°45/41, 12C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.64**	**303**	*e*P	**Pb**	**08 24 03.4**	**-0.6**
	9.3nm,0.2s						
SHLS				*e*S	**Sb**	**08 24 47.8**	**-0.4**
	91nm,0.4s						
PDGK	**Podgornoye**	**3.71**	**306**	⇓Pn	**Pn**	**08 23 58.5**	**+1.5**
	4.7nm,0.7s						
PDGK				⇓Pg	**Pg**	**08 24 09.8**	**-0.8**
	14nm,0.6s						
PDGK				⇑Lg	Lg	08 24 56.1	
	44nm,0.5s						
UZB	**Uzynbulak**	**3.91**	**301**	*e*P	**Pg**	**08 24 14.2**	**-0.3**
	9.4nm,0.3s						
UZB				*e*S	**Sg**	**08 25 06.9**	**+1.7**
	62nm,0.5s						
UZB	**Uzynbulak**	**3.91**	**301**	Pg	**Pg**	**08 24 14.2**	**-0.3**
	9.4nm,0.5s						
UZB				Lg	Lg	08 25 06.9	
	62nm,0.5s						
DJR	**Jarkent**	**4.19**	**319**	*e*P	**Pg**	**08 24 19.0**	**-0.7**
	7.7nm,0.5s						
DJR				*e*S	**Sg**	**08 25 15.3**	**+1.3**
	31nm,0.6s						
DJR	**Jarkent**	**4.19**	**319**	Pg	**Pg**	**08 24 18.8**	**-0.9**
	7.7nm,0.6s						
DJR				Lg	Lg	08 25 15.3	
	31nm,0.6s						
ZHN	**Zhinishke**	**4.31**	**298**	*e*P	**Pg**	**08 24 20.9**	**-1.1**
	11nm,0.3s						
ZHN				*e*S	**Sg**	**08 25 17.8**	**-0.1**
	40nm,0.3s						
ZHN	**Zhinishke**	**4.31**	**298**	Pg	**Pg**	**08 24 20.9**	**-1.1**
	11nm,0.3s						
ZHN				Lg	Lg	08 25 17.8	
	40nm,0.3s						
BLB	**Baldybastay**	**4.75**	**309**	*e*P	**Pg**	**08 24 28.7**	**-1.8**
	33nm,0.4s						
BLB				*e*S	**Sg**	**08 25 31.8**	**-0.2**
	24nm,0.5s						
BLB	**Baldybastay**	**4.75**	**309**	Pg	**Pg**	**08 24 28.7**	**-1.8**
	33nm,0.4s						
BLB				Lg	Lg	08 25 31.8	
	24nm,0.5s						
ARXS	**Arharly**	**5.20**	**307**	*e*P	**Pg**	**08 24 36.9**	**-2.2**
	10nm,0.8s						
ARXS				*e*S	**Sg**	**08 25 45.4**	**-1.1**
	24nm,0.4s						
ARXS	**Arharly**	**5.20**	**307**	Pg	**Pg**	**08 24 36.9**	**-2.2**
	10nm,0.8s						
ARXS				Lg	Lg	08 25 45.4	
	24nm,0.4s						
KOTS	**Kotyrbulak**	**5.23**	**295**	*e*P	**Pg**	**08 24 38.2**	**-1.4**
	7.8nm,0.4s						
KOTS				*e*S	**Sg**	**08 25 47.8**	**+0.5**
	42nm,1.3s						
KOTS	**Kotyrbulak**	**5.23**	**295**	Pg	**Pg**	**08 24 36.2**	**-3.4**
	7.8nm,0.4s						
KOTS				Lg	Lg	08 25 44.1	
	26nm,0.6s						
MDOK	**Medeo**	**5.25**	**294**	⇑Pn	**Pn**	**08 24 16.8**	**-1.3**
	5.7nm,1.0s						
MDOK				⇑Lg	Lg	08 25 46.8	
	32nm,0.9s						
TNSS	**Tian-Shan**	**5.28**	**292**	*e*P	**Pg**	**08 24 38.8**	**-1.8**
	6.4nm,0.6s						
TNSS				*e*S	**Sg**	**08 25 48.3**	**-0.7**
	6.8nm,0.7s						
TNSS	**Tian-Shan**	**5.28**	**292**	Pg	**Pg**	**08 24 38.8**	**-1.8**
	6.4nm,0.6s						
TNSS				Lg	Lg	08 25 48.3	
	6.8nm,0.7s						
IZV	**Izvestkoviy**	**5.51**	**291**	*e*P	**Pg**	**08 24 45.0**	**0.0**
	4.7nm,0.5s						
IZV				*e*S	**Sg**	**08 25 59.2**	**+2.8**
	30nm,0.5s						
IZV	**Izvestkoviy**	**5.51**	**291**	Pg	**Pg**	**08 24 45.0**	**0.0**
	4.7nm,0.5s						
IZV				Lg	Lg	08 25 59.2	
	30nm,0.5s						
CHKK	**Chushkaly**	**5.55**	**300**	*e*P	**Pg**	**08 24 44.8**	**-1.1**
	3.7nm,0.4s						
CHKK				*e*S	**Sg**	**08 25 59.6**	**+1.8**
	22nm,0.3s						
CHKK	**Chushkaly**	**5.55**	**300**	Pg	**Pg**	**08 24 44.7**	**-1.1**
	3.7nm,0.4s						
CHKK				Lg	Lg	08 25 59.6	
	22nm,0.3s						
MK31	**Makanchi Array**	**5.64**	**351**	⇑Pn	**Pn**	**08 24 24.7**	**+1.2**
	0.4nm,0.5s,baz=174,slow=14,SNR=10.0						
MK31				⇑Sn	**Sn**	**08 25 28.6**	**+0.3**
	2.4nm,0.5s						
MK31				⇓Lg	Lg	08 25 57.8	
	28nm,0.7s,baz=165,slow=27,SNR=4.0						
MAKZ	**Makanchi**	**5.70**	**349**	⇑Pn	**Pn**	**08 24 25.7**	**+1.5**
	3.7nm,1.4s						
MAKZ				⇑Sn	**Sn**	**08 25 28.7**	**-0.9**
	7.0nm,0.6s						
MAKZ				⇓Lg	Lg	08 25 58.8	
	27nm,1.2s						
DGS	**Degeres**	**6.16**	**292**	*e*P	**Pg**	**08 24 57.2**	**-0.3**
	4.7nm,0.5s						
DGS				*e*S	**Sg**	**08 26 20.1**	**+2.9**
	12nm,0.7s						
DGS	**Degeres**	**6.16**	**292**	Pg	**Pg**	**08 24 57.2**	**-0.3**
	4.7nm,0.5s						
DGS				Lg	Lg	08 26 20.1	
	12nm,0.7s						
TKM2	**Tokmak 2**	**6.20**	**288**	⇑Pn	**Pn**	**08 24 32.1**	**+0.7**
	1.6nm,0.5s						
TKM2				⇑Sn	**Sn**	**08 25 42.9**	**+0.6**
	6.5nm,0.6s						
TKM2				⇑Lg	Lg	08 26 17.5	
	16nm,1.2s						
KURBB	**Kurchatov Arra**	**10.03**	**341**	⇑Lg	Lg	08 28 17.2	
	17nm,0.8s						
KURK	**Kurchatov**	**10.10**	**342**	⇑Lg	Lg	08 28 19.0	
	9.0nm,0.8s						

IDC ***25*** *08:26:33.6±5.0, 18.95S×177.66W, h487km±35km, mb2.8/4, mbtmp3.7/5, Error ellipse: s-maj=108.8km s-min=25.2km az=145.0*
ISC 25 08:26:34.8±1.4, 18.7S±0.4×177.8W±0.2, h500km, n8, σ0°78/11, mb3.1/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.07**	**283**	P	**P**	**08 27 54.6**	**+0.7**
	31nm,0.8s,baz=127,slow=4.0,SNR=56						
MSVF				S	**S**	**08 28 57.7**	**-0.6**
	3.4nm,0.8s,baz=273,slow=23,SNR=0.7						
WRA	**Warramunga Arr**	**45.07**	**260**	P	**P**	**08 34 05.9**	**+0.1**
	0.3nm,0.6s,baz=96,slow=7.7,SNR=5.6						
WRA				PcP	**PcP**	**08 35 35.1**	**-1.1**
	0.5nm,1.1s,baz=96,slow=6.6,SNR=2.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**45.14**	**255**	P	**P**	**08 34 07.3**	**+0.9**
	1.4nm,0.7s,baz=89,slow=8.3,SNR=4.4						
ASAR				PcP	**PcP**	**08 35 35.4**	**-1.1**
	0.3nm,0.7s,baz=96,slow=4.7,SNR=1.7						
	1.4nm,0.7s						
NVAR	**Mina Array Bea**	**79.60**	**43**	P	**P**	**08 37 50.3**	**+0.3**
	0.1nm,0.3s,baz=232,slow=6.8,SNR=1.7						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**86.54**	**13**	P	**P**	**08 38 23.8**	**0.0**
	0.3nm,0.5s,baz=209,slow=4.6,SNR=5.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**110.11**	**314**	PKiKP	**PKiKP**	**08 44 08.7**	**-0.6**
	0.3nm,0.6s,baz=72,slow=4.7,SNR=1.9						
BRTR	**Keskin Array B**	**145.76**	**314**	PKPbc	**PKPab**	**08 45 19.1**	**-0.4**
	0.4nm,0.6s,baz=116,slow=3.0,SNR=2.4						
GERES	**GERESS Array B**	**148.54**	**345**	PKPbc	**PKiKP**	**08 45 26.6**	**+0.5**
	1.4nm,0.7s,baz=29,slow=2.2,SNR=6.8						

IDC ***25*** *08:28:58.1±0.7, 37.17N×141.26E, h0km, mb3.9/18, mbtmp3.9/18, ML2.3/1, MS3.2/1, Error ellipse: s-maj=18.5km s-min=18.1km az=30.0*
JMA ***25*** *08:29:00.1±0.2, 37.2N±0.3×141.1E±, h22km±1km, MV3.8/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED ***25*** *08:29:00.1, 37.21N×141.33E, h22km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.25; $M_{\theta\theta}$1.49; $M_{\phi\phi}$3.76; $M_{r\theta}$-0.84; $M_{r\phi}$2.28; $M_{\theta\phi}$0.25; Fault plane solution: $M_0

baz=316,slow=76,SNR=68
H11S3 WAKE ISLAND Hy 29.04 123 T T 09 05 18.9
baz=316,slow=76,SNR=50
H11S2 WAKE ISLAND Hy 29.06 123 T T 09 05 21.6
baz=316,slow=76,SNR=37
ZAA0 Zalesovo Array 41.71 312 P **P** **08 36 50.3 +1.8**
ZAA0 IAmb IAmb 08 37 33.1
comp=Z,7.0nm,1.1s
ZALV Zalesovo Beam 41.71 312 P **P** **08 36 48.5 -0.1**
comp=Z,0.8nm,0.4s,baz=79,slow=7.5,SNR=1.8
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 41.71 312 P **P** **08 36 48.8 +0.2**
MK31 Makanchi Array 43.94 302 P **P** **08 37 06.9 +0.2**
MK31 IAmb IAmb 08 37 11.8
comp=Z,2.7nm,1.2s
MKAR Makanchi Array 43.94 302 P **P** **08 37 06.4 -0.3**
comp=Z,0.9nm,0.7s,baz=92,slow=8.2,SNR=7.1
comp=Z,0.9nm,0.7s
MKAR Makanchi Array 43.94 302 P **P** **08 37 07.2 +0.5**
KURK Kurchatov 45.74 308 P **P** **08 37 20.7 -0.2**
KURBB Kurchatov Arra 45.81 308 P **P** **08 37 21.6 +0.1**
comp=Z,1.6nm,0.6s,baz=83,slow=8.1,SNR=18
comp=Z,1.6nm,0.6s
ILAR Eielson Array 49.36 32 P **P** **08 37 49.5 +0.6**
comp=Z,1.1nm,0.8s,baz=267,slow=6.8,SNR=13
comp=Z,1.1nm,0.8s
BVAR Borovoye Array 50.37 312 P **P** **08 37 56.8 0.0**
comp=Z,0.5nm,0.5s,baz=55,slow=12,SNR=2.3
comp=Z,0.5nm,0.5s
INK Inuvik 54.24 27 P **P** **08 38 26.2 +1.0**
comp=Z,0.9nm,0.5s,baz=285,slow=4.9,SNR=4.9
comp=Z,0.9nm,0.5s
ARU Arti 56.15 318 P **P** **08 38 38.9 -0.3**
comp=Z,4.2nm,0.2s,baz=23,slow=7.7,SNR=1.2
WRA Warramunga Arr 57.25 188 P **P** **08 38 46.5 -0.9**
comp=Z,0.8nm,0.7s,baz=6.1,slow=7.5,SNR=12
WRA PcP **PcP** **08 39 41.0 -0.6**
comp=Z,0.5nm,0.7s,baz=2.4,slow=4.2,SNR=2.8
comp=Z,0.8nm,0.7s
WRA Warramunga Arr 57.25 188 P **P** **08 38 46.5 -0.9**
ASAR Alice Springs 60.98 188 P **P** **08 39 12.3 -0.9**
comp=Z,0.4nm,0.8s,baz=12,slow=7.0,SNR=3.8
comp=Z,0.4nm,0.8s
ARCES ARCESS Array B 63.77 339 P **P** **08 39 31.5 +0.1**
comp=Z,3.5nm,0.9s,baz=64,slow=9.1,SNR=4.5
comp=Z,3.5nm,0.9s
FINES FINESS Array B 68.59 332 P **P** **08 40 02.6 +0.2**
comp=Z,6.2nm,1.1s,baz=59,slow=11,SNR=4.3
comp=Z,6.2nm,1.1s
NOA NORSAR Array B 73.96 337 P **P** **08 40 34.4 -0.6**
comp=Z,1.2nm,0.8s,baz=47,slow=26,SNR=2.4
comp=Z,1.2nm,0.8s
AKASG Malin Array Be 74.08 322 P **P** **08 40 35.0 -0.8**
comp=Z,0.4nm,0.4s,baz=46,slow=6.6,SNR=4.6
comp=Z,0.4nm,0.4s
NVAR Mina Array Bea 74.93 53 P **P** **08 40 42.3 +1.1**
comp=Z,0.7nm,0.8s,baz=302,slow=5.2,SNR=4.4
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 77.58 45 P **P** **08 40 56.9 +0.6**
comp=Z,0.3nm,0.6s,baz=291,slow=2.8,SNR=5.0
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 78.65 311 P **P** **08 41 03.0 +0.9**
comp=Z,0.5nm,0.6s,baz=31,slow=3.4,SNR=2.6
comp=Z,0.5nm,0.6s
GERES GERESS Array B 82.49 328 P **P** **08 41 21.3 -1.2**
comp=Z,0.3nm,0.4s,baz=46,slow=2.8,SNR=1.7
comp=Z,0.3nm,0.4s
TXAR Lajitas Array 90.06 52 P **P** **08 42 00.5 +0.5**
comp=Z,0.4nm,0.7s,baz=297,slow=0.8,SNR=2.8
comp=Z,0.4nm,0.7s
LPAZ La Paz 146.66 59 PKPbc **PKPab** **08 48 43.2 -0.7**
comp=Z,0.7nm,0.6s,baz=46,slow=3.7,SNR=2.4
H03N2 Juan Fernandez 147.13 96 T T 11 33 02.8
baz=291,slow=76,SNR=10
H03N3 Juan Fernandez 147.14 96 T T 11 33 02.4
baz=291,slow=76,SNR=13
H01N1 Juan Fernandez 147.14 96 T T 11 33 04.2
baz=291,slow=76,SNR=13

WEL 25 08:59:16.0,42°S±9°×17°4E±1°0, h8km±13km, M2.4/7, ML2.5/8, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=130.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.05**	**175**	P	Pg	08 59 18.2	+0.6
BSWZ	**Blackbirch Sta**	**0.25**	**267**	P	Pg	08 59 21.7	+0.8
TCW	**Tory Channel**	**0.49**	**6**	P	Pb	08 59 26.7	-0.2
KHZ	**Kahutara**	**0.87**	**215**	P	Pb	08 59 33.5	+0.1
CAW	**Cannon Point**	**0.88**	**48**	P	Pb	08 59 33.8	+0.3
KIW	**Kapiti Island**	**0.99**	**32**	P	Pb	08 59 35.9	+0.4
MTW	**Mount Morrison**	**1.11**	**61**	P	Pg	08 59 37.3	-0.1
MRNZ	**Matariki Terra**	**1.13**	**285**	P	Pn	08 59 38.5	+0.3
OGWZ	**Otaki Gorge**	**1.14**	**40**	P	Pn	08 59 38.5	+0.2
QRZ	**Quartz Range**	**1.54**	**304**	P	Pg	08 59 45.5	0.0

*NOU **25** 09:00:14.7, 42°46S×174°03E, h8km, MLv3.8/7, Off E. Coast of S. Island, N.Z.*
*WEL **25** 09:00:16.1±0.4, 42°S±4°×17°4E±°, h12km±4km, M3.1/23, ML3.3/14, MLv3.1/23, Error ellipse: s-maj=0.0km s-min=0.0km az=127.3*
ISC 25 09:00:15.8±1.2, 42°37S±0°04×173°98E±0°05, h21km, n50, σ0.96/53, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.33**	**262**	P	**Pb**	**09 00 22.7**	**-0.2**
KHZ	**Kahutara**	**0.33**	**262**	P	**Pb**	**09 00 22.7**	**-0.2**
KHZ				S	**Sb**	**09 00 27.1**	**-0.6**
CMWZ	**Cape Campbell**	**0.65**	**16**	P	**Pb**	**09 00 29.4**	**+1.0**
CMWZ				P	**Pn**	**09 00 29.5**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.66**	**353**	P	**Pb**	**09 00 27.4**	**-1.2**
BSWZ				S	**Sb**	**09 00 36.2**	**-1.2**
GVZ	**Greta Valley S**	**0.92**	**229**	P	**Pn**	**09 00 34.6**	**+1.2**
TUWZ	**Tuamarina**	**0.94**	**358**	P	**Pb**	**09 00 32.8**	**-0.5**
THZ	**Tophouse**	**1.01**	**307**	P	**Pb**	**09 00 33.2**	**-1.3**
TCW	**Tory Channel**	**1.18**	**1**	P	**Pn**	**09 00 36.8**	**-0.2**
SNZO	**South Karori**	**1.19**	**27**	P	**Pn**	**09 00 37.5**	**+0.4**
WEL	**Wellington**	**1.23**	**29**	P	**Pn**	**09 00 38.2**	**+0.5**
NNZ	**Nelson**	**1.24**	**338**	P	**Pn**	**09 00 37.4**	**-0.4**
PLWZ	**Palliser**	**1.24**	**50**	P	**Pn**	**09 00 38.2**	**+0.3**
LTZ	**Lake Taylor**	**1.33**	**251**	P	**Pn**	**09 00 39.8**	**+0.7**
MRNZ	**Matariki Terra**	**1.33**	**316**	P	**Pn**	**09 00 39.4**	**+0.3**
MSWZ	**Moikau Station**	**1.34**	**45**	P	**Pn**	**09 00 39.5**	**+0.2**
PAWZ	**Paruwai Farm**	**1.46**	**48**	P	**Pn**	**09 00 41.0**	**+0.1**
CAW	**Cannon Point**	**1.50**	**33**	P	**Pn**	**09 00 41.7**	**+0.3**
OKCZ	**Okains Bay**	**1.51**	**206**	P	**Pn**	**09 00 42.7**	**+1.1**
TKNZ	**Takaka Hill**	**1.54**	**330**	P	**Pn**	**09 00 42.5**	**+0.5**
DUWZ	**D'Urville Isla**	**1.57**	**358**	P	**Pn**	**09 00 43.0**	**+0.6**
MQZ	**McQueen's Vall**	**1.65**	**216**	P	**Pn**	**09 00 43.7**	**+0.2**
KIW	**Kapiti Island**	**1.66**	**25**	P	**Pn**	**09 00 44.0**	**+0.4**
MTW	**Mount Morrison**	**1.66**	**44**	P	**Pn**	**09 00 43.5**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.69**	**207**	P	**Pn**	**09 00 44.9**	**+0.8**
OXZ	**Oxford**	**1.72**	**236**	P	**Pn**	**09 00 44.6**	**+0.1**
DSZ	**Denniston Nort**	**1.74**	**290**	P	**Pn**	**09 00 45.9**	**+1.2**
OGWZ	**Otaki Gorge**	**1.79**	**30**	P	**Pn**	**09 00 45.5**	**+0.1**
QRZ	**Quartz Range**	**1.89**	**324**	P	**Pn**	**09 00 48.0**	**+1.2**
QRZ	**Quartz Range**	**1.89**	**324**	P	**Pn**	**09 00 48.0**	**+1.2**
TMWZ	**Te Maipa**	**1.91**	**49**	P	**Pn**	**09 00 46.9**	**-0.2**
INZ	**Inchbonnie**	**1.91**	**258**	P	**Pn**	**09 00 48.1**	**+1.1**
RACZ	**Rakaia**	**1.91**	**224**	P	**Pn**	**09 00 47.4**	**+0.3**
MHCZ	**Mount Hutt**	**2.12**	**236**	P	**Pn**	**09 00 49.9**	**0.0**
WACZ	**Wakanui South**	**2.22**	**224**	P	**Pn**	**09 00 51.2**	**-0.1**
RPZ	**Rata Peaks**	**2.53**	**237**	P	**Pn**	**09 00 55.9**	**+0.2**
RPZ	**Rata Peaks**	**2.53**	**237**	P	**Pn**	**09 00 55.8**	**+0.2**
ARCZ	**Arundel**	**2.59**	**232**	P	**Pn**	**09 00 56.7**	**+0.3**
WAZ	**Wanganui**	**2.72**	**17**	P	**Pn**	**09 01 00.2**	**+2.0**
TMZ	**Timaru**	**2.96**	**226**	P	**Pn**	**09 01 02.2**	**+0.7**
KHEZ	**Kahui Hut**	**3.07**	**0**	P	**Pn**	**09 01 06.0**	**+2.9**
MOVZ	**Moawhango**	**3.25**	**25**	P	**Pb**	**09 01 13.0**	**+0.2**
VRZ	**Vera Road**	**3.30**	**11**	P	**Pn**	**09 01 07.9**	**+1.7**
NNVZ	**North Ngauruho**	**3.46**	**22**	P	**Pn**	**09 01 10.8**	**+2.2**
TWVZ	**Taurewa**	**3.48**	**19**	P	**Pn**	**09 01 09.0**	**+0.3**
ODZ	**Otahua Downs**	**3.60**	**221**	P	**Pn**	**09 01 10.2**	**-0.1**
ODZ	**Otahua Downs**	**3.60**	**221**	P	**Pn**	**09 01 10.9**	**+0.5**
HIZ	**Hauiti**	**3.91**	**10**	P	**Pn**	**09 01 16.0**	**+1.4**
HIZ	**Hauiti**	**3.91**	**10**	P	**Pn**	**09 01 16.6**	**+2.1**
HRRZ	**Handcock Road**	**4.35**	**25**	P	**Pn**	**09 01 19.7**	**-0.9**
EAZ	**Earnscleugh**	**4.43**	**228**	P	**Pn**	**09 01 22.1**	**+0.4**

NNC 25 09:09:55.9±2.5, 53°57N×90°38E, h0km, mb3.7, mpv3.4, 7C-7D, Error ellipse: s-maj=18.6km s-min=13.3km az=58.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.32**	**279**	⇑Pg	Pb	09 10 55.7	+0.2
ZAA0	2.1nm,0.8s			⇑Lg	Lg	09 11 42.1	
KURK	26nm,1.1s **Kurchatov**	**7.78**	**253**	⇑Pn	Pn	09 11 50.0	-0.1
KURK	2.3nm,0.7s			⇑Sn	Sn	09 13 20.1	+1.3
KURK	12nm,0.9s			⇓Lg	Lg	09 14 05.6	
KURBB	34nm,1.0s **Kurchatov Arra**	**7.87**	**253**	⇓Pn	Pn	09 11 51.9	+0.5
KURBB	4.6nm,0.7s			⇓Sn	Sn	09 13 22.3	+1.1
KURBB	41nm,1.4s			⇑Lg	Lg	09 14 08.3	
MK31	78nm,1.1s **Makanchi Array**	**8.53**	**221**	⇓Pn	Pn	09 12 01.9	+1.3
MK31	1.1nm,0.8s,baz=39,slow=12,SNR=11			⇓Sn	Sn	09 13 40.1	+2.6
MK31	3.8nm,0.8s			⇑Lg	Lg	09 14 27.3	
MAKZ	14nm,1.0s,baz=38,slow=21,SNR=3.7 **Makanchi**	**8.65**	**222**	⇓Pn	Pn	09 12 02.2	+0.1
MAKZ	2.4nm,1.1s			⇑Sn	Sn	09 13 38.1	-2.2
MAKZ	8.9nm,1.1s			⇓Lg	Lg	09 14 33.7	
	11nm,1.2s						

*IDC **25** 09:11:41.1±2.7, 17°15S×179°00W, h561km±18km, mb3.4/3, mbtmp4.3/4, Error ellipse: s-maj=48.8km s-min=29.7km az=53.0*
ISC 25 09:11:38.5±2.5, 17°4S±0°3×178°6W±0°4, h550km, n25, σ3.07/15, mb4.3/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.24**	**264**	P	**P**	**09 12 56.3**	**+1.1**
RAO	54nm,0.7s,baz=276,slow=6.8,SNR=6.8 **Raoul Island**	**11.78**	**177**	P	P	09 14 20.6	+5.9
CAW	485nm,0.3s,baz=223,slow=20,SNR=4.5 **Cannon Point**	**24.22**	**192**	P	P	09 16 31.4	+19
PAWZ	**Paruwai Farm**	**24.42**	**191**	P	P	09 16 30.7	+17
WEL	**Wellington**	**24.45**	**192**	P	P	09 16 24.4	+10
TCW	**Tory Channel**	**24.48**	**193**	P	P	09 16 26.5	+12
MSWZ	**Moikau Station**	**24.49**	**191**	P	P	09 16 27.8	+13
QRZ	**Quartz Range**	**24.55**	**196**	P	P	09 16 37.7	+23
TKNZ	**Takaka Hill**	**24.63**	**196**	P	P	09 16 32.2	+16
NNZ	**Nelson**	**24.70**	**195**	P	P	09 16 27.2	+11
TUWZ	**Tuamarina**	**24.77**	**194**	P	**P**	**09 16 22.7**	**+5.7**
MRNZ	**Matariki Terra**	**25.02**	**196**	P	P	09 16 29.1	+10
THZ	**Tophouse**	**25.33**	**195**	P	**P**	**09 16 22.9**	**+0.9**
DSZ	**Denniston Nort**	**25.60**	**197**	P	P	09 16 35.9	+11
GVZ	**Greta Valley S**	**26.44**	**194**	P	P	09 16 24.3	-7.5
OXZ	**Oxford**	**27.02**	**195**	P	**P**	**09 16 34.2**	**-2.6**
MQZ	**McQueen's Vall**	**27.23**	**194**	P	**P**	**09 16 33.5**	**-5.1**
AKCZ	**Akaroa Harbour**	**27.32**	**194**	P	**P**	**09 16 34.8**	**-4.7**
MHCZ	**Mount Hutt**	**27.33**	**196**	P	**P**	**09 16 39.5**	**-0.1**
RPZ	**Rata Peaks**	**27.63**	**196**	P	**P**	**09 16 45.5**	**+3.3**
	5.6nm,0.3s,baz=50,slow=5.9,SNR=7.7 5.6nm,0.3s						
RPZ	**Rata Peaks**	**27.63**	**196**	P	**P**	**09 16 45.6**	**+3.3**
WACZ	**Wakanui South**	**27.64**	**195**	P	**P**	**09 16 41.5**	**-0.8**
WRA	**Warramunga Arr**	**44.57**	**259**	P	**P**	**09 19 01.1**	**-1.1**
WRA	0.5nm,0.5s,baz=97,slow=7.0,SNR=22			PcP	**PcP**	**09 20 33.2**	**-0.2**
	0.2nm,0.5s,baz=89,slow=3.5,SNR=1.7 0.5nm,0.5s						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**09 19 03.0**	**-0.7**
ASAR	6.0nm,0.6s,baz=88,slow=8.2,SNR=110			PcP	**PcP**	**09 20 34.0**	**-0.1**
	0.4nm,0.6s,baz=99,slow=4.1,SNR=3.0 6.0nm,0.6s						
BRTR	**Keskin Array B**	**144.34**	**315**	PKP	**PKPdf**	**09 30 12.8**	**+0.1**
	1.3nm,0.9s,baz=87,slow=3.0,SNR=4.6						

IDC 25 09:17:55.9±2.3, 6°64S×129°91E, h0km, mb3.3/1, mbtmp3.3/3, ML3.6/3, MS2.5/1, Error ellipse: s-maj=53.8km s-min=33.2km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.12**	**240**	Pn	Pn	09 19 42.6	+1.1
BATI	4.2nm,0.3s,baz=292,slow=4.1,SNR=1.8			Sn	Sn	09 20 50.6	-13
KAPI	4.2nm,0.3s,baz=126,slow=9.0,SNR=1.4 **Kappang**	**10.23**	**279**	LR	LR	09 24 40.3	
WRA	comp=Z,26nm,19.3s,baz=88,slow=40 **Warramunga Arr**	**13.90**	**162**	Pn	Pn	09 21 13.4	-1.0
WRA	0.2nm,0.3s,baz=340,slow=13,SNR=13			Sn	Sn	09 23 34.9	-15
ASAR	0.3nm,0.3s,baz=332,slow=22,SNR=8.6 0.6nm,0.5s **Alice Springs**	**17.36**	**168**	P	Pn	09 22 00.1	+0.2
ASAR	0.1nm,0.3s,baz=347,slow=12,SNR=6.6			S	Sn	09 24 56.4	-17
MKAR	0.3nm,0.6s,baz=346,slow=25,SNR=4.4 0.2nm,0.5s **Makanchi Array**	**67.88**	**327**	P	P	09 28 56.2	-0.1
	0.1nm,0.3s,baz=120,slow=8.7,SNR=1.6 0.1nm,0.3s						

*IDC **25** 09:22:18.1±7.2, 22°49S×179°45E, h609km±65km, mb3.1/6, mbtmp4.0/7, Error ellipse: s-maj=183.5km s-min=18.4km az=155.0*
ISC 25 09:22:17.1±1.5, 22°6S±0°3×179°5E±0°2, h600km, n7, σ1.81/7, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.08**	**344**	P	**P**	**09 23 50.6**	**-0.2**
CTA	3.2nm,0.5s,baz=209,slow=8.9,SNR=7.4 **Charters Tower**	**31.07**	**268**	P	**P**	**09 27 49.3**	**+1.1**
	5.7nm,0.5s,baz=91,slow=9.7,SNR=21 5.7nm,0.5s						
ASAR	**Alice Springs**	**41.84**	**259**	P	**P**	**09 29 15.3**	**-1.0**
	2.1nm,0.8s,baz=95,slow=7.9,SNR=19 2.1nm,0.8s						
WRA	**Warramunga Arr**	**42.09**	**265**	P	**P**	**09 29 17.8**	**-0.5**
	3.4nm,0.6s,baz=96,slow=8.3,SNR=84 3.4nm,0.6s						
NVAR	**Mina Array Bea**	**84.14**	**44**	P	**P**	**09 33 47.3**	**+0.8**
	0.1nm,0.3s,baz=238,slow=8.4,SNR=2.1 0.1nm,0.3s						
TXAR	**Lajitas Array**	**90.13**	**58**	P	**P**	**09 34 15.1**	**+0.4**
	0.3nm,0.6s,baz=223,slow=6.1,SNR=3.7 0.3nm,0.6s						
PDAR	**Pinedale Array**	**92.08**	**44**	P	**P**	**09 34 22.4**	**-1.2**
	0.2nm,0.6s,baz=233,slow=4.7,SNR=1.7 0.2nm,0.6s						

*EAF **25** 09:24:07.8±1.9, 25°94S×29°30E, h10km, MD4.1*
*BUL **25** 09:24:08.9±1.7, 25°97S×29°25E, h10km, MD4.5*
*IDC **25** 09:24:24.0±5.7, 26°18S×28°50E, h0km, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=43.7km s-min=25.3km az=72.0*
ISC 25 09:24:06.3±1.0, 25°93S±0°05×29°22E±0°06, h3km, n12, σ1.96/19, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**3.12**	**40**	*i* Pg	**Pg**	**09 25 01.4**	**-1.0**
MOPA				*i* S	**Sn**	**09 25 32.3**	**-1.9**
MOPA	**Mopani**	**3.12**	**40**	*i* Pg	**Pg**	**09 25 01.4**	**-1.0**
MOPA				*i* S	**Sn**	**09 25 32.3**	**-1.9**
LBTB	**Lobatse**	**3.40**	**285**	Pn	**Pg**	**09 25 11.2**	**-0.2**
LBTB	0.3nm,0.3s,baz=109,slow=16,SNR=2.3 1.1nm,0.3s,baz=8.7,slow=15,SNR=15 1.3nm,0.4s			Lg	Lg	09 25 54.8	
LBTB	**Lobatse**	**3.40**	**285**	*i* Pg	**Pg**	**09 25 11.0**	**-0.4**
LBTB				*i* Sg	**Sg**	**09 25 55.0**	**-0.5**
LBTB	**Lobatse**	**3.40**	**285**	*i* Pg	**Pg**	**09 25 11.0**	**-0.4**
LBTB				*i* Sg	**Sg**	**09 25 55.0**	**-0.5**
MUSN	**Musina, Limpop**	**3.67**	**9**	*i* P	**Pn**	**09 25 06.5**	**+2.5**
MUSN				*i* Sg	**Sg**	**09 26 04.2**	**-0.2**
BOSA	**Boshof**	**4.42**	**232**	*i* P	**Pn**	**09 25 24.5**	**-0.2**
	0.1nm,0.3s,baz=38,slow=19,SNR=1.1			Pg	**Pg**	**09 25 32.5**	**+1.4**
BOSA	0.1nm,0.3s,baz=45,slow=19,SNR=2.4			Lg	Lg	09 26 23.6	
BOSA	0.3nm,0.3s,baz=324,slow=20,SNR=6.4 1.7nm,0.9s **Boshof**	**4.42**	**232**	*i* P	**Pn**	**09 25 16.4**	**+2.0**
BOSA				*i* Sg	**Sg**	**09 26 25.9**	**-2.5**
BOSA	**Boshof**	**4.42**	**232**	*i* P	**Pn**	**09 25 16.4**	**+2.0**
BOSA				*i* Sg	**Sg**	**09 26 25.9**	**-2.5**
I47ZA	**BOSHOF INFRASO**	**4.44**	**232**	I	I	09 49 50.0	
I35NA	baz=55,slow=324,SNR=0.7 **TSUMEB INFRASO**	**12.67**	**300**	I	I	10 40 40.0	
	baz=126,slow=313,SNR=1.6						

NNC 25 09:37:14.3±1.2, 53°30N×85°11E, h0km, mb3.6, mpv2.7, 7C-4D, Error ellipse: s-maj=14.5km s-min=3.6km az=95.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.67**	**345**	⇓P	Pg	09 37 27.1	-0.1
ZAA0	0.5nm,0.2s			⇑S	Sg	09 37 36.9	+1.1
KURK	5.5nm,0.6s **Kurchatov**	**4.77**	**240**	⇑Sn	Sn	09 39 23.2	-0.2
KURK	3.0nm,0.8s			⇑Lg	Lg	09 39 46.9	
KURBB	3.1nm,0.7s **Kurchatov Arra**	**4.87**	**239**	⇑Pn	Pn	09 38 29.1	+0.3
KURBB	1.3nm,0.3s			⇑Sn	Sn	09 39 27.1	+1.3
KURBB	5.9nm,0.6s			⇓Lg	Lg	09 39 49.2	
MK31	9.4nm,0.7s **Makanchi Array**	**6.76**	**197**	Pn	Pn	09 38 56.5	+1.7
MK31	baz=27,slow=14,SNR=4.4			⇑Lg	Lg	09 40 50.0	
MAKZ	0.8nm,0.6s,baz=33,slow=31,SNR=3.7 **Makanchi**	**6.81**	**198**	⇓Pn	Pn	09 38 56.5	+1.1
MAKZ	1.7nm,1.1s			⇓Sn	Sn	09 40 15.6	+2.0
MAKZ	1.0nm,0.8s			⇑Lg	Lg	09 40 51.4	
	4.6nm,1.4s						

*NIED **25** 09:38:15.8, 27°00N×130°28E, h49km, MW3.5, Moment Tensor Solution. s2 Moment tensor: Scale 10^14 Nm; Mrr-1.47; Mθθ 0.47; Mφφ 1.00; Mrθ 0.15; Mrφ 0.95; Mθφ -0.73; Fault plane solution: M0 1.77000×10^14 NP1: φs237.00000°, δ40.00000°, λ-58.00000°. NP2: φs18.00000°, δ57.00000°, λ-114.00000°.*
JMA 25 09:38:15.8±0.1, 27°0N±0°5×130°3E±0°6, h49km, MV3.5/19, NEAR MINAMI-DAITOJIMA IS, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.34**	**348**	S	Sn	09 38 56.9	+2.1
JKDJ	**Kitadaitoujima**	**1.39**	**139**	P	Pn	09 38 39.0	+0.2
JKDJ				*e*S	Sn	09 38 56.7	+0.8
JTK	**Tokunoshima**	**1.42**	**304**	P	Pn	09 38 39.9	+0.7
JTK				S	Sn	09 38 57.2	+0.4
JMZ	**Minamidaito 2**	**1.45**	**144**	P	Pn	09 38 40.2	+0.7
JMZ				*e*S	Sn	09 38 57.5	+0.2
JAM	**Amami Oshima**	**1.53**	**337**	P	Pn	09 38 41.3	+0.6
JAM				*e*S	Sn	09 38 58.9	-0.5
JOKE	**Okinoerabujima**	**1.57**	**284**	P	Pn	09 38 42.1	+0.9
JOKE				S	Sn	09 39 00.9	+0.5
JAMN	**Amaminishikomi**	**1.58**	**322**	P	Pn	09 38 42.0	+0.6
JAMN				S	Sn	09 39 00.2	-0.5
JYRO	**Yoronjima**	**1.64**	**271**	P	Pn	09 38 42.8	+0.7
JYRO				S	Sn	09 39 01.7	-0.3
JOW	**Kunigami**	**1.80**	**265**	P	Pn	09 38 45.4	+1.0
JOW				S	Sn	09 39 06.9	+0.8
JIH	**Iheya**	**2.07**	**272**	P	Pn	09 38 49.3	+1.3
JIH				S	Sn	09 39 13.0	+0.4
JNTH	**Nagotoyohara**	**2.08**	**257**	P	Pn	09 38 49.0	+0.8
JNTH				S	Sn	09 39 12.0	-0.9
JJT3	**Tamagusuku3**	**2.39**	**250**	P	Pn	09 38 53.9	+1.4
JJT3				*e*S	Sn	09 39 20.7	+0.1
JAGN	**Aguni-jima**	**2.75**	**262**	S	Sn	09 39 29.6	+0.2
JKE	**Kume jima 2**	**3.20**	**259**	P	Pn	09 39 04.9	+1.3
JKE				S	Sn	09 39 41.2	+0.7

*JMA **25** 09:53:57.9±0.3, 36°N±1°×12°9E±°, h6km, MV2.5/6, S KOREAN PENINSULA REG*
*KMA **25** 09:53:58.5±0.2, 35°76N×129°18E, h12km±1km, Error ellipse: s-maj=1.8km s-min=1.0km az=3.0*
ISC 25 09:53:56.3±4.8, 35°59N±0°08×128°5E±0°3, h10km, n4, σ0.32/7, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.35**	**59**	P	**Pg**	**09 54 03.4**	**+0.1**
JTU	SNR=296 **Tsushima**	**1.28**	**146**	*e*P	**Pg**	**09 54 21.0**	**+0.1**
JTU				*e*S	**Sn**	**09 54 37.4**	**0.0**
JTSM	**Tsushimamitsus**	**1.44**	**150**	P	**Pg**	**09 54 24.0**	**+0.2**
JTSM				*e*S	**Sg**	**09 54 42.7**	**+0.3**
JII	**Iki**	**2.05**	**151**	*e*P	**Pb**	**09 54 33.4**	**-0.1**
JII				*e*S	**Sb**	**09 54 58.6**	**-0.5**

*UCR **25** 10:08:56.7±1.1, 10°37N×86°52W, h5km, MW4.4, mb4.5(NEIC)*
*IDC **25** 10:08:58.6±1.5, 10°59N×86°19W, h0km, mb3.8/4, mbtmp3.8/5, ML3.3/1, MS3.3/4, Error ellipse: s-maj=53.4km s-min=16.7km az=27.0*
*INET **25** 10:08:59.7±0.9, 10°35N×86°34W, h10km±56km, MW3.9*
*NEIC **25** 10:09:00.1±1.2, 10°46N±0°08×86°32W±0°06, h16km±7km, mb4.5/65, Error ellipse: s-maj=13.1km s-min=6.2km az=212.0*
ISC 25 10:08:59.2±1.8, 10°42N±0°05×86°34W±0°06, h16km±11km, n139, σ0.82/142, mb4.4/36, MS3.4/3, 14C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.71**	**119**	*e*P	**Pb**	**10 09 13.1**	**-0.3**
ORTG	**Ortega, Santa**	**0.87**	**94**		**Pb**	**10 09 16.2**	**0.0**
ORTG				Sg	**Sg**	**10 09 27.5**	**-0.2**
ORTG	**Ortega, Santa**	**0.87**	**94**	*e*P	**Pb**	**10 09 16.1**	**0.0**
ORTG	**Ortega, Santa**	**0.87**	**94**	*e*P	**Pb**	**10 09 16.1**	**0.0**
DUNO	**Dulce Nombre,**	**0.90**	**112**	Pg	**Pb**	**10 09 16.2**	**-0.4**
DUNO	**Dulce Nombre,**	**0.90**	**112**	*e*P	**Pb**	**10 09 16.1**	**-0.4**
NICO	**Nicoya**	**0.93**	**108**	*e*P	**Pb**	**10 09 17.6**	**+0.6**
GBS3	**Finca Las Img**	**0.94**

JTS	**Las Juntas de**	**1.37**	**95**	Pn	**Pn**	**10 09 23.5**	**-0.3**
JTS				Sn	**Sb**	**10 09 41.5**	**-0.5**
JTS	**Las Juntas de**	**1.37**	**95**	*eP*	**Pn**	**10 09 23.7**	**-0.2**
JTS	**Las Juntas de**	**1.37**	**95**	*eP*	**Pn**	**10 09 23.3**	**-0.6**
VERA	**Finca Concepci**	**1.51**	**73**	*eP*	**Pb**	**10 09 26.2**	**-0.7**
LAFE	**Finca La Fe, P**	**1.54**	**113**	*eP*	**Pn**	**10 09 24.6**	**-1.5**
LAFE	**Finca La Fe, P**	**1.54**	**113**	*eP*	**Pn**	**10 09 24.7**	**-1.3**
CASO	**Castillo**	**1.58**	**89**‖	*eP*	**Pn**	**10 09 27.3**	**+0.5**
CEDE	**Laguna Cedeo**	**1.61**	**88**‖	*eP*	**Pb**	**10 09 28.2**	**-0.5**
FORC	**Fortuna**	**1.65**	**88**	*eP*	**Pb**	**10 09 28.9**	**-0.4**
JACO	**JACO, Garabito**	**1.82**	**114**		**Pn**	**10 09 30.3**	**+0.3**
JACO	**JACO, Garabito**	**1.82**	**114**	*eP*	**Pn**	**10 09 30.7**	**+0.8**
JACO	**JACO, Garabito**	**1.82**	**114**	*eP*	**Pn**	**10 09 31.5**	**+1.6**
ACON	**Acoyapa**	**1.92**	**37**		**Pn**	**10 09 31.7**	**+0.3**
ACON	**Acoyapa**	**1.92**	**37**	*eP*	**Pn**	**10 09 31.5**	**+0.2**
ACON	**Acoyapa**	**1.92**	**37**	*eP*	**Pn**	**10 09 31.7**	**+0.3**
COVE	**Coope Vega, Sa**	**1.93**	**81**	Pn	**Pn**	**10 09 31.4**	**-0.1**
MOMN	**Momotombo**	**1.98**	**354**	*eP*	**Pn**	**10 09 32.5**	**+0.2**
CNGN	**Cerro Negro**	**2.10**	**350**	Pn	**Pn**	**10 09 33.5**	**-0.3**
CNGN	**Cerro Negro**	**2.10**	**350**	*eP*	**Pn**	**10 09 34.1**	**+0.3**
HDC	**Heredia**	**2.23**	**101**	Pn	**Pn**	**10 09 35.0**	**-0.7**
HDC3	**Heredia 3**	**2.24**	**101**	*eP*	**Pn**	**10 09 36.5**	**+0.7**
CRIN	**San Cristobal**	**2.37**	**343**	Pn	**Pn**	**10 09 37.3**	**-0.3**
RIMA	**Rio Macho**	**2.53**	**105**	Pn	**Pn**	**10 09 41.2**	**+1.3**
MATN	**Matagalpa**	**2.53**	**9**		**Pn**	**10 09 39.5**	**-0.3**
MATN	**Matagalpa**	**2.53**	**9**	*eP*	**Pn**	**10 09 39.3**	**-0.5**
CVTR	**Volcan Turrial**	**2.57**	**99**	Pn	**Pn**	**10 09 39.8**	**-0.9**
ESPN	**Las Esperanzas**	**2.67**	**48**	Pn	**Pn**	**10 09 42.0**	**+0.3**
ESPN	**Las Esperanzas**	**2.67**	**48**	*eP*	**Pn**	**10 09 42.2**	**+0.6**
ESPN	**Las Esperanzas**	**2.67**	**48**	*eP*	**Pn**	**10 09 42.2**	**+0.6**
PEZE	**Perez Zeledon,**	**2.82**	**111**	Pn	**Pn**	**10 09 45.7**	**+1.9**
BATAN	**Batan**	**2.94**	**96**	Pn	**Pn**	**10 09 45.3**	**0.0**
TGH	**Tegucigalpa,Un**	**3.73**	**346**	Pn	**Pn**	**10 09 54.1**	**-2.3**
BRU2	**Volcan**	**3.95**	**114**	Pn	**Pn**	**10 09 58.5**	**-0.9**
CMIG	**Matias Romero**	**10.62**	**310**	Pn	**Pn**	**10 11 31.8**	**+0.9**
	0.2nm,0.3s,baz=141,slow=14,SNR=5.3 1.1nm,0.4s						
ATAH	**Atahualpa**	**19.15**	**155**	LR	LR	10 19 47.5	
	comp=Z,73nm,19.2s,baz=357,slow=34						
GOGA	**Godfrey**	**23.03**	**6**	P	**P**	**10 14 04.6**	**+0.7**
Y49A	**Blount Mountai**	**23.33**	**360**	P	**P**	**10 14 07.2**	**+0.3**
Y52A	**Lilburn**	**23.43**	**5**	P	**P**	**10 14 06.2**	**-1.6**
Y52A				IAmb	IAmb	10 14 09.3	
	comp=Z,10.0nm,0.9s						
JCT	**Junction City**	**23.56**	**330**	P	**P**	**10 14 09.4**	**+0.1**
WHTX	**Lake Whitney,**	**23.80**	**336**	P	**P**	**10 14 12.4**	**+1.0**
HODGE	**Hodges**	**23.99**	**8**	P	**P**	**10 14 13.3**	**+0.1**
HODGE				IAmb	IAmb	10 14 14.0	
	comp=Z,9.2nm,0.7s						
FPAL	**Fort Paine**	**24.02**	**1**	P	**P**	**10 14 13.2**	**-0.4**
FPAL				IAmb	IAmb	10 14 51.1	
	comp=Z,13nm,1.5s						
X51A	**Calhoun**	**24.07**	**3**	P	**P**	**10 14 11.7**	**-2.4**
JSC	**Jenkinsville**	**24.20**	**10**	P	**P**	**10 14 15.9**	**+0.7**
JSC				IAmb	IAmb	10 14 16.4	
	comp=Z,12nm,0.8s						
PLAL	**Pickwick Lake**	**24.50**	**357**	P	**P**	**10 14 16.4**	**-1.6**
GDHS	**Morne Mazeau,**	**24.60**	**74**	P	**P**	**10 14 17.5**	**-1.6**
PAULI	**Pauline**	**24.64**	**9**	P	**P**	**10 14 19.2**	**0.0**
PAULI				IAmb	IAmb	10 14 20.1	
	comp=Z,13nm,0.9s						
BG3	**Lake Jocassee**	**24.66**	**7**	P	**P**	**10 14 18.9**	**-0.5**
BG3				IAmb	IAmb	10 14 20.4	
	comp=Z,10nm,0.8s						
W52A	**Murphy**	**24.66**	**5**	P	**P**	**10 14 19.1**	**-0.3**
W52A				IAmb	IAmb	10 14 20.6	
	comp=Z,8.2nm,0.8s						
W50A	**Signal Mountai**	**24.68**	**2**	P	**P**	**10 14 18.9**	**-0.7**
W50A				IAmb	IAmb	10 14 21.2	
	comp=Z,9.7nm,1.2s						
SWET	**Sewanee**	**24.69**	**1**	P	**P**	**10 14 18.8**	**-0.9**
SWET				IAmb	IAmb	10 14 21.2	
	comp=Z,12nm,1.1s						
BIRD	**Birdtown, Kers**	**24.70**	**12**	P	**P**	**10 14 19.5**	**-0.3**
BIRD				IAmb	IAmb	10 14 20.8	
	comp=Z,11nm,0.9s						
TXAR	**Lajitas Array**	**24.83**	**322**	P	**P**	**10 14 22.6**	**+1.6**
	comp=Z,2.2nm,0.7s,baz=136,slow=9.9,SNR=16						
TXAR				PcP	**PcP**	**10 17 59.2**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=140,slow=4.7,SNR=3.7 comp=Z,2.2nm,0.7s						
TXAR	**Lajitas Array**	**24.83**	**322**	P	**P**	**10 14 21.6**	**+0.5**
TX31	**Lajitas Ar. Si**	**24.83**	**322**	P	**P**	**10 14 21.8**	**+0.7**
TX31				IAmb	IAmb	10 14 35.2	
	comp=Z,11nm,0.8s						
TX32	**Lajitas Array**	**24.83**	**322**	P	**P**	**10 14 21.5**	**+0.4**
MIAR	**Mount Ida**	**24.91**	**346**	P	**P**	**10 14 21.6**	**0.0**
CPCT	**Cooper Cave**	**24.97**	**4**	P	**P**	**10 14 22.2**	**0.0**
CPCT				IAmb	IAmb	10 14 23.3	
	comp=Z,6.4nm,0.8s						
KMSC	**Kings Mountain**	**25.03**	**10**	P	**P**	**10 14 22.5**	**-0.2**
KMSC				IAmb	IAmb	10 14 23.5	
	comp=Z,8.0nm,0.8s						
TKL	**Tuckaleechee C**	**25.23**	**5**	P	**P**	**10 14 24.5**	**0.0**
	comp=Z,4.5nm,0.9s,baz=187,slow=5.8,SNR=5.7 comp=Z,4.5nm,0.9s						
TKL	**Tuckaleechee C**	**25.23**	**5**	P	**P**	**10 14 24.6**	**+0.1**
TKL				IAmb	IAmb	10 14 25.1	
	comp=Z,6.5nm,0.9s						
W57A	**Gilead**	**25.29**	**12**	P	**P**	**10 14 24.4**	**-0.6**
W57A				IAmb	IAmb	10 14 27.1	
	comp=Z,8.0nm,0.9s						
V51A	**Loudon**	**25.33**	**4**	P	**P**	**10 14 25.5**	**+0.1**
V51A				IAmb	IAmb	10 14 26.3	
	comp=Z,6.5nm,0.8s						
V53A	**Saluda**	**25.34**	**7**	P	**P**	**10 14 25.5**	**-0.1**
V53A				IAmb	IAmb	10 14 33.0	
	comp=Z,19nm,1.4s						
WHAR	**Wooly Hollow**	**25.34**	**349**	P	**P**	**10 14 24.9**	**-0.7**
V52A	**Sevierville**	**25.43**	**5**	P	**P**	**10 14 26.4**	**+0.1**
V52A				IAmb	IAmb	10 14 31.6	
	comp=Z,12nm,1.4s						
X37A	**Clayton**	**25.43**	**342**	P	**P**	**10 14 26.4**	**0.0**
X37A				IAmb	IAmb	10 15 08.1	
	comp=Z,8.9nm,1.4s						
V55A	**Taylorsville**	**25.74**	**10**	P	**P**	**10 14 28.2**	**-0.9**
U54A	**Nelsons Funny**	**26.30**	**8**	P	**P**	**10 14 34.3**	**-0.1**
U54A				IAmb	IAmb	10 14 43.6	
	comp=Z,7.1nm,0.8s						
S51A	**Beattyville**	**27.21**	**5**	P	**P**	**10 14 41.5**	**-1.0**
S51A				IAmb	IAmb	10 14 43.4	
	comp=Z,6.9nm,0.8s						
T57A	**Hurt**	**27.23**	**12**	P	**P**	**10 14 42.7**	**+0.1**
T57A				IAmb	IAmb	10 15 25.5	
	comp=Z,18nm,1.4s						
S54A	**Dingess, Beckl**	**27.63**	**9**	P	**P**	**10 14 45.7**	**-0.6**
S54A				IAmb	IAmb	10 15 20.6	
	comp=Z,17nm,1.4s						
R49A	**Shelbyville**	**27.77**	**2**	P	**P**	**10 14 47.3**	**-0.1**
R53A	**Hurricane**	**28.07**	**7**	P	**P**	**10 14 49.9**	**-0.3**
R53A				IAmb	IAmb	10 14 51.0	
	comp=Z,8.1nm,0.8s						
R55A	**Marlinton**	**28.30**	**10**	P	**P**	**10 14 51.5**	**-0.7**
R55A				IAmb	IAmb	10 14 53.1	
	comp=Z,6.8nm,0.8s						
Q51A	**Peebles**	**28.61**	**5**	P	**P**	**10 14 54.4**	**-0.5**
Q52A	**Bidwell**	**28.65**	**7**	P	**P**	**10 14 54.9**	**-0.4**
Q54A	**Coxs Mills**	**28.87**	**9**	P	**P**	**10 14 57.4**	**+0.2**
Q54A				IAmb	IAmb	10 14 57.6	
	comp=Z,7.2nm,0.8s						
Q56A	**Snyder Ridge,**	**29.21**	**11**	P	**P**	**10 15 00.5**	**+0.2**
Q56A				IAmb	IAmb	10 15 01.4	
	comp=Z,8.2nm,0.8s						
P53A	**Whipple**	**29.28**	**8**	P	**P**	**10 15 01.3**	**+0.4**
P52A	**Corning**	**29.33**	**7**	P	**P**	**10 15 00.8**	**-0.6**
ACSO	**Alum Creek Sta**	**29.84**	**5**	P	**P**	**10 15 05.3**	**-0.5**
O52A	**Adamsville**	**29.84**	**7**	P	**P**	**10 15 05.6**	**-0.3**
O53A	**New Philadelph**	**30.05**	**8**	P	**P**	**10 15 07.5**	**-0.2**
N49A	**Columbus Grove**	**30.44**	**3**	P	**P**	**10 15 10.5**	**-0.6**
N53A	**Lisbon**	**30.65**	**8**	P	**P**	**10 15 12.6**	**-0.5**
N53A				IAmb	IAmb	10 15 38.5	
	comp=Z,12nm,1.3s						
SSPA	**Standing Stone**	**31.01**	**13**	P	**P**	**10 15 16.0**	**-0.2**
SSPA				IAmb	IAmb	10 15 16.5	
	comp=Z,5.3nm,0.8s						
M53A	**Wl Miller and**	**31.30**	**8**	P	**P**	**10 15 18.2**	**-0.5**
N58A	**Sunbury**	**31.47**	**14**	P	**P**	**10 15 20.6**	**+0.4**
N58A				IAmb	IAmb	10 15 53.5	
	comp=Z,6.9nm,1.1s						
M57A	**Sunshine Farm,**	**31.85**	**13**	P	**P**	**10 15 23.8**	**+0.3**
M57A				IAmb	IAmb	10 15 24.4	
	comp=Z,6.3nm,0.7s						
L59A	**Walton**	**33.16**	**15**	P	**P**	**10 15 35.4**	**+0.3**

SIV	**San Ignacio**	**36.26**	**136**	LR	LR	10 31 02.3		
	comp=Z,55nm,19.0s,baz=308,slow=36							
G62A	**West of Eustis**	**37.24**	**19**	P	**P**	**10 16 10.2**	**0.0**	
PKME	**Peaks-Kenny Pk**	**37.68**	**20**	P	**P**	**10 16 13.6**	**-0.3**	
SNCC	**San Nicolas Is**	**38.00**	**312**	P	**P**	**10 16 14.6**	**-2.2**	
E28A	**Huff**	**38.04**	**344**	P	**P**	**10 16 16.2**	**-0.7**	
E28A				IAmb	IAmb	10 16 24.3		
	comp=Z,13nm,1.4s							
PDAR	**Pinedale Array**	**38.06**	**332**	P	**P**	**10 16 17.2**	**-0.2**	
	comp=Z,0.2nm,0.4s,baz=127,slow=10,SNR=2.2 comp=Z,0.2nm,0.4s							
PDAR	**Pinedale Array**	**38.06**	**332**	P	**P**	**10 16 15.7**	**-1.8**	
HWUT	**Hardware Ranch**	**38.16**	**329**	P	**P**	**10 16 18.5**	**+0.3**	
E62A	**Clayton Lake**	**38.81**	**19**	P	**P**	**10 16 22.9**	**-0.5**	
E62A				IAmb	IAmb	10 16 44.8		
	comp=Z,17nm,1.5s							
REDW	**Red Top Meadow**	**39.13**	**331**	P	**P**	**10 16 24.3**	**-2.0**	
LMN	**Caledonia Moun**	**39.82**	**24**	P	**P**	**10 16 31.4**	**-0.5**	
NVAR	**Mina Array Bea**	**39.94**	**320**	P	**P**	**10 16 35.9**	**+2.7**	
	comp=Z,1.3nm,0.8s,baz=133,slow=8.0,SNR=9.6							
NVAR				PcP	**PcP**	**10 18 40.8**	**+2.2**	
	comp=Z,1.3nm,0.7s,baz=137,slow=4.0,SNR=9.5 comp=Z,1.3nm,0.8s							
BEKR	**Beckworth**	**42.07**	**320**	P	**P**	**10 16 51.7**	**+0.9**	
WVOR	**Wild Horse Val**	**42.57**	**324**	P	**P**	**10 16 55.0**	**+0.3**	
RPN	**Rapa Nui**	**43.48**	**210**	LR	LR	10 31 37.1		
	comp=Z,27nm,18.4s,baz=318,slow=31							
FRB	**Frobisher Bay**	**54.72**	**10**	LR	LR	10 42 38.3		
	comp=Z,40nm,18.3s,baz=266,slow=37							
ASAR	**Alice Springs**	**139.48**	**246**	PKP	**PKPdf**	**10 28 27.6**	**+0.6**	
	comp=Z,0.3nm,0.7s,baz=116,slow=2.2,SNR=4.1							
WRA	**Warramunga Arr**	**139.71**	**251**	PKP	**PKPdf**	**10 28 27.0**	**-0.4**	
	comp=Z,0.3nm,0.7s,baz=90,slow=1.6,SNR=2.7							
CMAR	**Chiang Mai Arr**	**150.84**	**350**	PKPbc	**PKiKP**	**10 28 53.0**	**+0.2**	
	comp=Z,0.6nm,0.3s,baz=343,slow=2.8,SNR=6.5							

*IDC **25** 10:25:37.8±4.7,30.°38N×141.°62E, h0km, mb3.6/6, mbtmp3.6/9, ML3.3/3, Error ellipse: s-maj=190.8km s-min=17.9km az=71.0*
*JMA **25** 10:25:38.6±0.2,30.°6N±0.°9×14.°2E±.°, h112km, MV3.4/11, NEAR TORISHIMA IS*
ISC 25 10:25:40.8±1.1,**30.°63N**±0.°06×**142.°1E**±0.°2,**h35**km,**n17,**
σ2§**12**/25,**mb3.7/6,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.12**	**323**	*eP*		**Pn**		**10 26 25.8**	**-1.7**
JHJ2				*eS*		**Sn**		**10 27 01.5**	**-2.0**
JHJ	**Hachijo jima 2**	**3.15**	**323**	Pn		**Pn**		**10 26 27.5**	**-0.3**
	7.0nm,0.3s,baz=212,slow=19,SNR=1.2								
JHJ				Sn		**Sn**		**10 27 02.0**	**-2.1**
	7.1nm,0.3s,baz=256,slow=21,SNR=1.9 52nm,0.6s								
CBIJ	**Chichi jima**	**3.52**	**178**	*eP*		**Pn**		**10 26 32.5**	**-0.5**
CBIJ				*eS*		**Sn**		**10 27 14.1**	**+0.6**
JCJ	**Chichijima**	**3.52**	**178**	Pn		**Pn**		**10 26 31.4**	**-1.7**
	9.6nm,0.3s,baz=274,slow=19,SNR=1.6								
JCJ				Sn		**Sn**		**10 27 09.7**	**-3.8**
	9.6nm,0.3s,baz=278,slow=18,SNR=1.8 62nm,0.7s								
JMKN	**Mikurajimanish**	**3.86**	**328**	*eS*		**Sn**		**10 27 18.2**	**-3.7**
BSO1	**Boso 1**	**4.11**	**348**	*eP*		**Pn**		**10 26 40.2**	**-0.5**
BSO1				*eS*		**Sn**		**10 27 26.6**	**-0.7**
BSO3	**Boso 3**	**4.36**	**343**	S		**Sn**		**10 27 32.4**	**-1.2**
BSO4	**Boso 4**	**4.58**	**342**	*eP*		**Pn**		**10 26 49.0**	**+1.5**
BSO4				*eS*		**Sn**		**10 27 39.0**	**-0.4**
JRY	**Ryogami san**	**5.99**	**335**	*eP*		**Pn**		**10 27 07.7**	**+0.8**
JRY				S		**Sn**		**10 28 14.7**	**+0.5**
MJAR	**Matsushiro Arr**	**6.71**	**332**	Pn		**Pn**		**10 27 18.3**	**+1.5**
	0.3nm,0.3s,baz=160,slow=11,SNR=16								
MJAR				Sn		**Sn**		**10 28 30.3**	**-1.8**
	baz=81,slow=5.5,SNR=1.7 2.6nm,0.6s								
JMK	**Ichinoseki**	**8.33**	**356**	S		**Sn**		**10 29 06.0**	**-5.9**
SONM	**Songino Array**	**32.17**	**312**	P		**P**		**10 32 06.8**	**+1.6**
	0.3nm,0.4s,baz=118,slow=8.1,SNR=3.2 0.3nm,0.4s								
ZALV	**Zalesovo Beam**	**46.79**	**317**	P		**P**		**10 34 09.0**	**+2.3**
	0.4nm,0.3s,baz=106,slow=11,SNR=1.8 0.4nm,0.3s								
MKAR	**Makanchi Array**	**48.20**	**307**	P		**P**		**10 34 18.9**	**+1.1**
	0.6nm,0.6s,baz=89,slow=9.3,SNR=6.6 0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**50.54**	**312**	P		**P**		**10 34 36.1**	**+0.5**
	0.3nm,0.3s,baz=91,slow=7.7,SNR=2.2 0.3nm,0.3s								
WRA	**Warramunga Arr**	**50.83**	**189**	P		**P**		**10 34 37.1**	**-0.9**
	0.4nm,0.6s,baz=6.9,slow=7.8,SNR=11 0.4nm,0.6s								
ASAR	**Alice Springs**	**54.55**	**189**	P		**P**		**10 35 06.0**	**+0.5**
	0.2nm,0.6s,baz=0.6,slow=5.7,SNR=2.4 0.2nm,0.6s								

*IDC **25** 10:29:06.3±8.3,26.°48S×29.°05E, h0km, mbtmp2.7/1, ML2.2/1, Error ellipse: s-maj=72.5km s-min=56.8km az=146.0*
*EAF **25** 10:29:06.0±1.0,26.°36S×29.°33E, h10km, MD4.6*
*BUL **25** 10:29:07.2±1.3,26.°40S×29.°26E, h10km, MD5.2*
ISC 25 10:29:04.5±1.3,**26.°43S**±0.°07×**29.°35E**±0.°07,**h10**km,**n11,**
σ1§**52**/18,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.44**	**33**	*i*	P	**Pn**		**10 29 57.8**	**-0.5**
MOPA				*i*	S	**Sn**		**10 30 37.8**	**-1.4**
MOPA	**Mopani**	**3.44**	**33**	*i*	P	**Pn**		**10 29 57.8**	**-0.5**
MOPA				*i*	S	**Sn**		**10 30 37.8**	**-1.4**
LBTB	**Lobatse**	**3.66**	**292**	*i*	P	**Pn**		**10 30 01.8**	**+0.4**
LBTB				*i*	S	**Sn**		**10 30 42.8**	**-1.9**
LBTB	**Lobatse**	**3.66**	**292**	*i*	P	**Pn**		**10 30 01.8**	**+0.4**
LBTB				*i*	S	**Sn**		**10 30 42.8**	**-1.9**
MUSN	**Musina, Limpop**	**4.15**	**7**	*i*	P	**Pn**		**10 30 10.1**	**+2.1**
MUSN				*i*	S	**Sn**		**10 30 56.2**	**-0.5**
MUSN	**Musina, Limpop**	**4.15**	**7**	*i*	P	**Pn**		**10 30 10.1**	**+2.1**
MUSN				*i*	S	**Sn**		**10 30 56.2**	**-0.5**
BOSA	**Boshof**	**4.24**	**238**	Pn		**Pn**		**10 30 08.2**	**-1.1**
	0.1nm,0.3s,baz=54,slow=14,SNR=1.7								
BOSA				Pg		**Pb**		**10 30 19.9**	**+0.6**
	0.6nm,0.3s,baz=59,slow=15,SNR=20								
BOSA				Lg		Lg		10 31 12.3	
	0.7nm,0.3s,baz=150,slow=22,SNR=7.5 2.4nm,1.0s								
BOSA	**Boshof**	**4.24**	**238**	*i*	P	**Pn**		**10 30 11.2**	**+2.0**
BOSA				*i*	S	**Sn**		**10 30 57.4**	**-1.5**
BOSA	**Boshof**	**4.24**	**238**	*i*	P	**Pn**		**10 30 11.2**	**+2.0**
BOSA				*i*	S	**Sn**		**10 30 57.4**	**-1.5**
I47ZA	**BOSHOF INFRASO**	**4.25**	**238**	I				10 55 46.3	
	0.1nm,3.1s,baz=59,slow=344,SNR=2.3								
I35NA	**TSUMEB INFRASO**	**13.02**	**301**	I				11 50 35.0	
	0.1nm,1.1s,baz=128,slow=312,SNR=18								

*IDC **25** 10:31:11.6±1.7,37.°04N×141.°61E, h0km, mb3.6/5, mbtmp3.5/8, ML2.9/3, MS2.8/2, Error ellipse: s-maj=37.7km s-min=19.8km az=67.0*
*JMA **25** 10:31:14.8±0.2,37.°1N±0.°4×141.°4E±1.°0, h38km±1km, MV3.5/32, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **25** 10:31:14.8, 37.°10N×141.°42E, h38km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.48; $M_{\theta\theta}$=0.99; $M_{\phi\phi}$=1.49; $M_{r\theta}$=1.42; $M_{\theta\phi}$=1.60; $M_{\phi r}$=0.57; Fault plane solution: $M_0$3.08000×10^{14} NP1:ϕ_s17.00000°, δ45.00000°, λ=-128.00000°. NP2:ϕ_s245.00000°, δ56.00000°, λ=-58.00000°.*
ISC 25 10:31:12.3±2.5,**37.°04N**±0.°05×**141.°55E**±0.°10,**h5**km±14km,
n20,σ1§**22**/19,**mb3.6/5,1D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.62**	**301**	*i*	P	**Pg**		**10 31 25.2**	**+0.9**
JFK					S	**Sg**		**10 31 32.6**	**+0.1**
JFFD	**Fukushimafurud**	**0.79**	**274**	*i*	P	**Pg**		**10 31 27.9**	**+0.5**
JFFD					S	**Sg**		**10 31 37.4**	**-0.3**
JMST	**Minamisoumatoc**	**0.86**	**323**	*i*	P	**Pg**		**10 31 28.9**	**+0.1**
JMST					S	**Sg**		**10 31 39.0**	**-0.9**
JHO	**Hitachi**	**0.89**	**241**	‖	P	**Pb**		**10 31 29.7**	**-0.6**
JMM	**Marumori**	**1.02**	**324**		P	**Pb**		**10 31 31.3**	**-1.0**
JMM				*eS*		**Sb**		**10 31 43.4**	**-2.5**
MJAR	**Matsushiro Arr**	**2.72**	**260**	Pn		**Pn**		**10 31 57.4**	**+0.7**
	0.8nm,0.3s,baz=82,slow=24,SNR=37								
MJAR				Sn		**Sb**		**10 32 33.4**	**-1.8**
	0.8nm,0.3s,baz=270,slow=37,SNR=2.5								
MJAR				LR		LR		10 33 10.2	
	comp=Z,62nm,20.2s,baz=158,slow=43 6.0nm,0.5s								
JHJ	**Hachijo jima 2**	**4.17**	**201**	Pn		**Pn**		**10 32 14.9**	**-1.6**
	10nm,0.3s,baz=124,slow=16,SNR=1.2								
JHJ				Sn		**Sn**		**10 33 05.9**	**+0.3**
	9.3nm,0.3s,baz=59,slow=14,SNR=1.6 24nm,0.3s								
USRK	**Ussuriysk Ar.**	**10.19**	**318**	Pn		**Pn**		**10 33 41.4**	**+2.4**
	0.1nm,0.3s,baz=119,slow=15,SNR=1.3 0.3nm,0.5s								
SONM	**Songino Array**	**27.87**	**304**	P		**P**		**10 37 02.5**	**-0.3**
	0.5nm,0.5s,baz=95,slow=9.3,SNR=3.4 0.5nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**28.06**	**121**	T		T		11 06 40.3	
	baz=314,slow=75,SNR=50								
H11N1	**WAKE ISLAND Hy**	**28.07**	**121**	T		T		11 06 38.8	
	baz=314,slow=75,SNR=75								
H11N3	**WAKE ISLAND Hy**	**28.08**	**121**	T		T		11 06 41.2	
	baz=314,slow=75,SNR=69								
H11S1	**WAKE ISLAND Hy**	**28.78**	**123**	T		T		11 07 23.9	
	baz=316,slow=76,SNR=22								
H11S3	**WAKE ISLAND Hy**	**28.78**	**123**	T		T		11 07 20.0	
	baz=316,slow=76,SNR=23								
H11S2	**WAKE ISLAND Hy**	**28.79**	**123**	T		T		11 07 26.3	
	baz=316,slow=76,SNR=17								
ZALV	**Zalesovo Beam**	**41.99**	**312**	P		**P**		**10 39 04.2**	**+0.1**
	0.4nm,0.3s,baz=94,slow=5.8,SNR=2.2 0.4nm,0.3s								
MKAR	**Makanchi Array**	**44.20**	**302**	P		**P**		**10 39 22.1**	**0.0**
	0.6nm,0.6s,baz=86,slow=9.4,SNR=5.9 0.6nm,0.6s								
WRA	**Warramunga Arr**	**57.08**	**188**	P		**P**		**10 40 59.9**	**+0.3**
	0.3nm,0.5s,baz=5.7,slow=7.3,SNR=18 0.3nm,0.5s								
ASAR	**Alice Springs**	**60.81**	**188**	P		**P**		**10 41 25.9**	**+0.6**
	0.2nm,0.6s,baz=19,slow=8.3,SNR=5.3 0.2nm,0.6s								
MLR	**Muntele Rosu**	**79.45**	**320**	LR		LR		11 24 23.4	
	comp=Z,16nm,19.1s,baz=254,slow=40								

*NOU **25** 10:40:07.1,42.°53S×173.°91E, h5km, MLv3.9/7, South Island, New Zealand*
*WEL **25** 10:40:09.7±0.5,42.°3S±3.°×17.°4E±.°, h9km±3km, M3.3/24, ML3.6/12, MLv3.3/24, Error ellipse: s-maj=0.0km s-min=0.0km az=126.6*
ISC 25 10:40:07.9±1.3,**42.°45S**±0.°04×**173.°87E**±0.°05,**h13**km±11km,
n58,σ1§**09**/59,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**277**	P		**Pg**		**10 40 13.4**	**+0.3**
KHZ	**Kahutara**	**0.25**	**277**	P		**Pg**		**10 40 13.4**	**+0.3**
KHZ				S		**Sg**		**10 40 16.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.73**	**0**	P		**Pg**		**10 40 22.1**	**0.0**
CMWZ	**Cape Campbell**	**0.74**	**20**	P		**Pb**		**10 40 24.5**	**+1.8**
GVZ	**Greta Valley S**	**0.81**	**229**	P		**Pb**		**10 40 25.5**	**+1.6**
THZ	**Tophouse**	**0.99**	**313**	P		**Pg**		**10 40 25.9**	**-1.1**
TUWZ	**Tuamarina**	**1.02**	**3**	P		**Pg**		**10 40 27.3**	**-0.2**
AMCZ	**Amberley**	**1.16**	**230**	P		**Pb**		**10 40 30.6**	**+0.8**
LTZ	**Lake Taylor**	**1.23**	**254**	P		**Pg**		**10 40 30.8**	**-0.8**
TCW	**Tory Channel**	**1.27**	**14**	P		**Pn**		**10 40 30.9**	**-0.5**
NNZ	**Nelson**	**1.28**	**343**	P		**Pb**		**10 40 30.8**	**-1.1**
SNZO	**South Karori**	**1.29**	**29**	P		**Pn**		**10 40 31.6**	**-0.1**

MA2				Lg	Lg	10 43 06.6		
	11nm,0.3s,baz=181,slow=23,SNR=15							
	9.9nm,0.9s							
MA2	**Magadan**	**3.69**	**288**	*e*Pg	**Pb**	**10 42 19.2**	**+0.8**	
MA2				*e*		10 42 22.7		
MA2				Pgmax		10 42 24.2		
	10.0nm,0.3s							
MA2				*e*Sg	**Sg**	**10 43 08.0**	**-3.6**	
MA2				Sgmax		10 43 13.2		
	140nm,0.6s							
MA2				Sgmax		10 43 13.2		
	20nm,0.3s							
TUMD	**Tumrok D**	**3.71**	**155**	*e*P	**Pn**	**10 42 12.9**	**+2.4**	
OMS	**Omsukchan**	**4.04**	**347**	*e*	**Pg**	**10 42 32.3**	**+1.8**	
OMS				*e*Sg	**Sg**	**10 43 21.1**	**-1.7**	
OMS				Sgmax		10 43 32.5		
	150nm,0.6s							
GNL	**Ganaly**	**4.91**	**178**	*e*P	**Pn**	**10 42 29.1**	**+2.1**	
SEY	**Seymchan**	**5.07**	**331**	Pn	**Pn**	**10 42 28.6**	**-0.4**	
	0.2nm,0.3s,baz=180,slow=20,SNR=1.5							
SEY				Pg	**Pb**	**10 42 41.9**	**+0.2**	
	0.2nm,0.3s,baz=163,slow=19,SNR=1.8							
SEY				Lg	Lg	10 43 51.9		
	2.0nm,0.3s,baz=197,slow=19,SNR=2.1							
	1.0nm,0.3s							
SEY	**Seymchan**	**5.07**	**331**	*e*P	**Pn**	**10 42 32.6**	**+3.6**	
SEY				*e*Pg	**Pg**	**10 42 49.8**	**-0.2**	
SEY				*e*Sg	**Sg**	**10 43 55.6**	**+0.1**	
SEY				Sgmax		10 44 07.7		
	50nm,0.6s							
SEY				Sgmax		10 44 07.7		
	20nm,0.3s							
PETK	**Petropavlovsk-**	**5.50**	**180**	Pn	**Pn**	**10 42 36.6**	**+1.6**	
	8.7nm,1.2s,baz=43,slow=13,SNR=7.8							
SUUS	**Susuman**	**6.27**	**316**	*e*	**Pn**	**10 42 43.5**	**-2.1**	
SUUS				*e*		10 42 49.5		
SUUS				*e*Sg	**Sg**	**10 44 33.3**	**-0.9**	
SUUS				Sgmax		10 44 47.0		
	40nm,0.8s							
ILAR	**Eielson Array**	**26.23**	**53**	P	**P**	**10 46 47.9**	**+0.1**	
	0.7nm,0.9s,baz=287,slow=7.2,SNR=3.0							
	0.7nm,0.9s							
KSRS	**Korea Array**	**28.64**	**235**	P	**P**	**10 47 10.2**	**+0.7**	
	0.9nm,0.6s,baz=26,slow=8.1,SNR=3.0							
	0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**43.98**	**296**	P	**P**	**10 49 21.5**	**+1.4**	
	0.5nm,0.5s,baz=58,slow=8.9,SNR=2.6							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**44.78**	**289**	P	**P**	**10 49 27.3**	**+0.8**	
	0.1nm,0.4s,baz=54,slow=7.3,SNR=2.1							
	0.1nm,0.4s							
YBH	**Yreka Blue Hor**	**50.54**	**72**	LR	LR	11 08 59.4		
	comp=Z,28nm,20.5s,baz=308,slow=33							
PDAR	**Pinedale Array**	**56.10**	**62**	P	**P**	**10 50 50.7**	**-1.8**	
	0.1nm,0.4s,baz=330,slow=5.2,SNR=1.4							
	0.1nm,0.4s							
WRA	**Warramunga Arr**	**80.59**	**202**	P	**P**	**10 53 24.5**	**-0.9**	
	0.2nm,0.6s,baz=12,slow=5.6,SNR=5.5							
	0.2nm,0.6s							
ASAR	**Alice Springs**	**84.30**	**202**	P	**P**	**10 53 45.7**	**+0.9**	
	0.3nm,0.8s,baz=12,slow=4.8,SNR=5.7							
	0.3nm,0.8s							
QSPA	**South Pole Qui**	**148.35**	**180**	PKPbc	**PKPbc**	**11 00 58.6**	**+0.6**	
	0.4nm,0.7s,baz=40,slow=0.2,SNR=7.1							

IDC 25 10:49:18.5±7.4,61°.19S×154°.35E,h0km,mb3.4/2, mbtmp3.3/3,ML3.0/1,MS3.0/2,Error ellipse: s-maj=513.5km s-min=39.4km az=75.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.59**	**174**	Pn	Pn	10 53 12.1	0.0
	0.1nm,0.3s,baz=337,slow=11,SNR=6.2						
VNDA				LR	LR	10 58 28.4	
	comp=Z,48nm,21.2s,baz=347,slow=33						
	0.4nm,0.6s						
MAW	**Mawson**	**36.56**	**220**	LR	LR	11 10 54.0	
	comp=Z,23nm,20.4s,baz=64,slow=35						
H01W1	**Cape Leeuwin H**	**36.64**	**297**	T	T	11 35 15.1	
	baz=147,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**36.65**	**297**	T	T	11 35 18.6	
	baz=147,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**36.66**	**297**	T	T	11 35 16.4	
	baz=147,slow=75,SNR=15						
ASAR	**Alice Springs**	**40.06**	**330**	P	P	10 56 54.0	-1.2
	0.3nm,0.8s,baz=171,slow=8.0,SNR=2.1						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**43.54**	**332**	P	P	10 57 24.5	+0.8
	0.6nm,0.9s,baz=164,slow=7.2,SNR=5.7						
	0.6nm,0.9s						

IDC 25 10:52:40.6±2.1,16°.60S×175°.84W,h371km±18km, mb2.9/3,mbtmp3.7/5,Error ellipse: s-maj=115.1km s-min=17.8km az=150.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.75**	**56**	P	Pn	10 53 60.0	+1.2
	15nm,0.5s,baz=260,slow=13,SNR=3.1						
AFI				S	S	10 55 01.1	-0.8
	12nm,0.8s,baz=288,slow=20,SNR=1.5						
MSVF	**Nonsavu**	**5.95**	**258**	P	Pn	10 54 12.6	+0.9
	7.3nm,0.7s,baz=94,slow=13,SNR=11						
WRA	**Warramunga Arr**	**47.29**	**258**	P	P	11 00 37.9	-0.8
	0.3nm,0.6s,baz=92,slow=7.3,SNR=9.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**47.51**	**253**	P	P	11 00 40.2	-0.1
	0.7nm,0.4s,baz=87,slow=8.1,SNR=25						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**84.09**	**12**	P	P	11 04 30.8	+0.6
	0.2nm,0.5s,baz=212,slow=5.7,SNR=6.7						
	0.2nm,0.5s						

ROM 25 10:57:56.7±0.1,42°.846N±0°.003×13°.078E±0°.004, h11km,ML1.6/12,5C-2D,Error ellipse: s-maj=0.3km s-min=0.3km az=78.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.03**	**115**	⇓P	Pg	10 57 59.1	+0.3
NRCA				S	Sg	10 58 00.3	+0.1
NRCA				AML	AML		
	comp=E,1445μm,0.1s						
NRCA				AML	AML		
	comp=N,3830μm,0.1s						
NRCA				AML	AML		
	comp=E,1665μm,0.1s						
NRCA				AML	AML		
	comp=E,1445μm,0.1s						
NRCA				AML	AML		
	comp=N,3825μm,0.1s						
NRCA				AML	AML		
	comp=N,4235μm,0.1s						
T1216	**Preci, Frazion**	**0.06**	**316**	⇓P	Pg	10 57 59.4	+0.4
T1216				S	Sg	10 58 01.0	+0.3
T1216				AML	AML		
	comp=E,903μm,0.3s						
T1216				AML	AML		
	comp=N,820μm,0.3s						
T1216				AML	AML		
	comp=E,903μm,0.3s						
T1245	**Castelsantange**	**0.08**	**82**	P	Pg	10 57 59.7	+0.4
T1245				S	Sg	10 58 01.5	+0.2
T1245				AML	AML		
	comp=E,763μm,0.3s						
T1245				AML	AML		
	comp=N,1052μm,0.6s						
T1245				AML	AML		
	comp=N,1003μm,0.1s						
T1245				AML	AML		
	comp=E,763μm,0.3s						
T1245				AML	AML		
	comp=E,752μm,0.3s						
T1245				AML	AML		
	comp=N,1052μm,0.6s						
MC2	**Monte Cornacci**	**0.11**	**51**	P	Pg	10 57 59.5	-0.2
MC2				S	Sg	10 58 02.2	+0.3
T1215	**Vallo di Nera,**	**0.16**	**254**	P	Pg	10 58 01.0	+0.7
T1215				S	Sg	10 58 03.8	+0.9
T1218	**Civita (PG)**	**0.18**	**171**	⇑P	Pg	10 58 01.2	+0.6
T1218				S	Sg	10 58 04.2	+0.9
T1218				AML	AML		
	comp=E,288μm,0.7s						
T1218				AML	AML		
	comp=N,237μm,0.2s						
T1218				AML	AML		
	comp=E,246μm,0.1s						
T1218				AML	AML		
	comp=N,234μm,0.4s						
MMO1	**Montemonaco**	**0.19**	**74**	P	Pg	10 58 01.4	+0.6
MMO1				S	Sg	10 58 04.4	+0.7
FDMO	**Fiordimonte**	**0.19**	**2**	P	Pg	10 58 01.4	+0.5
FDMO				S	Sg	10 58 04.7	+1.1
FDMO				AML	AML		
	comp=N,204μm,0.1s						
FDMO				AML	AML		
	comp=N,204μm,0.1s						
FDMO				AML	AML		
	comp=E,207μm,0.1s						
T1256	**Bolognola (MC)**	**0.19**	**34**	P	Pg	10 58 01.5	+0.5
T1256				S	Sg	10 58 04.8	+0.9
T1256				AML	AML		
	comp=N,120μm,0.1s						
T1256				AML	AML		
	comp=E,130μm,0.4s						
CESI	**CESI - Serrava**	**0.20**	**321**	⇑P	Pg	10 58 01.4	+0.3
CESI				S	Sg	10 58 04.8	+0.8
CESI				AML	AML		
	comp=E,120μm,0.4s						
CESI				AML	AML		
	comp=N,219μm,0.5s						
T1219	**Muccia, Frazio**	**0.22**	**346**	⇑P	Pg	10 58 01.8	+0.5
T1219				S	Sg	10 58 05.4	+1.0
T1219				AML	AML		
	comp=E,144μm,0.3s						
T1219				AML	AML		
	comp=N,176μm,0.1s						
T1219				AML	AML		
	comp=E,144μm,0.3s						
T1219				AML	AML		
	comp=N,176μm,0.1s						
LNSS	**Leonessa**	**0.24**	**187**	⇑P	Pg	10 58 02.5	+0.7
LNSS				S	Sg	10 58 06.3	+1.1
LNSS				AML	AML		
	comp=E,53μm,1.4s						
LNSS				AML	AML		
	comp=N,117μm,0.4s						
T1241	**Roccafluvione,**	**0.26**	**88**	P	Pg	10 58 02.6	+0.6
T1241				S	Sb	10 58 06.8	-1.1
CSP1	**Cessapalombo**	**0.26**	**21**	P	Pg	10 58 02.6	+0.5
CSP1				S	Sb	10 58 07.0	-1.1
CSP1				AML	AML		
	comp=N,344μm,0.4s						
CSP1				AML	AML		
	comp=E,295μm,0.2s						
GUMA	**Gualdo di Mace**	**0.29**	**41**	⇑P	Pb	10 58 03.4	-0.5
GUMA				S	Sb	10 58 08.3	-0.4
GUMA				AML	AML		
	comp=E,182μm,0.7s						
GUMA				AML	AML		
	comp=N,147μm,0.6s						
T1243	**Rocca Santa Ma**	**0.31**	**119**	P	Pg	10 58 02.5	-0.5
T1243				S	Sg	10 58 08.2	+1.1
RM33	**Pellescritta (**	**0.35**	**163**	P	Pg	10 58 04.3	+0.6
RM33				S	Sb	10 58 09.9	-0.6
T1211	**Morro Reatino**	**0.35**	**208**	P	Pb	10 58 04.4	-0.6
T1211				AML	AML		
	comp=N,88μm,1.5s						
T1211				AML	AML		
	comp=E,77μm,1.5s						
SNTG	**Esanatoglia**	**0.42**	**346**	P	Pg	10 58 05.3	+0.3
SNTG				S	Sb	10 58 11.8	-0.8
EL6	**Elcito**	**0.48**	**2**	P	Pg	10 58 06.5	+0.3

HEL 25 11:00:04.2±0.0,67°.64N×21°.02E,h0km,ML1.2, ML0.8(UPP),Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.41**	**321**	*i* P	Pg	11 00 11.5	-0.6
KUA				*i* S	Sg	11 00 17.1	-0.3
MASU	**Masugnsbyn**	**0.42**	**115**	*i* P	Pg	11 00 11.6	-0.6
DUNU	**Dundret**	**0.55**	**199**	*i* P	Pg	11 00 14.2	-0.4
LANU	**Lannavaara**	**0.55**	**41**	*e*P	Pg	11 00 14.1	-0.6
LANU				*e*S	Sg	11 00 21.9	-0.1
RATU	**Laukkuluspa**	**0.57**	**290**	*i* P	Pg	11 00 14.5	-0.7
KOVU	**Salmi**	**0.67**	**332**	*i* P	Pg	11 00 16.4	-0.7
NIKU	**Nikkaluokta**	**0.79**	**288**	*i* P	Pg	11 00 18.3	-1.0
SALU	**Saltoluokta**	**1.00**	**256**	*e*P	Pg	11 00 22.1	-1.2
ERTU	**Ertsjaerv**	**1.18**	**157**	*e*P	Pg	11 00 25.3	-1.5
	baz=339						
ERTU				*e*SB	Sg	11 00 41.8	-0.2
KLF	**Kolari**	**1.21**	**108**	*e*PB	Pg	11 00 26.1	-1.2
	baz=303						
HEF	**Hetta**	**1.26**	**51**	*e*P	Pg	11 00 26.6	-1.8
HEF				MSG		11 00 42.8	
	comp=Z,0.6nm,0.2s						
HEF				*e*SB	Sg	11 00 43.9	-0.7
HEF	**Hetta**	**1.26**	**51**	*e*P	Pg	11 00 26.7	-1.6
KIF	**Kilpisjarvi**	**1.38**	**357**	*e*P	Pg	11 00 29.4	-1.1
	baz=171						
KIF				MSG		11 00 44.9	
	comp=Z,5.2nm,0.2s						
KIF				*e*SB	Sg	11 00 48.5	+0.1
KIF	**Kilpisjarvi**	**1.38**	**357**	*e*P	Pg	11 00 29.2	-1.3
HARU	**Harads**	**1.48**	**181**	*e*P	Pn	11 00 30.8	-1.3
KTK1	**Kautokeino**	**1.61**	**30**	*e*PN	Pn	11 00 33.5	-0.3
KTK1				*e*SN	Sg	11 00 56.6	+0.8
TOF	**Tornio**	**2.04**	**139**	*e*PG	Pn	11 00 40.6	+0.9
	baz=314						
TOF				MSG		11 01 05.6	
	comp=Z,1.1nm,0.2s						
TOF				*e*SG	Sb	11 01 08.0	+0.2
RNF	**Rovaniemi**	**2.21**	**116**	*e*PB	Pn	11 00 43.0	+0.9
	baz=303						
RNF				*e*SG	Sb	11 01 12.1	-0.6

KRSZO 25 11:00:19.5±1.2,48°.55N×20°.79E,h6km±11km,ML1.5/3, Error ellipse: s-maj=17.5km s-min=4.1km az=149.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KECS	**Kecovo**	**0.21**	**252**	Pg	Pg	11 00 23.4	-0.2
	comp=Z,0.9nm,SNR=11						
KECS				Lg	Lg	11 00 28.0	
KECS	**Kecovo**	**0.21**	**252**	*e*PG	Pg	11 00 23.4	-0.2
KECS				*e*SG	Sg	11 00 27.9	+1.5
CRVS	**Cervenica-Dubn**	**0.57**	**51**	Pg	Pg	11 00 30.3	-0.2
	SNR=1.6						
CRVS				Lg	Lg	11 00 38.4	
CRVS	**Cervenica-Dubn**	**0.57**	**51**	*e*PG	Pg	11 00 30.2	-0.3
CRVS				*e*SG	Sg	11 00 38.2	+0.2
PSZ	**Piszkesteto**	**0.87**	**224**	Pg	Pn	11 00 37.8	-0.4
	SNR=1.8						
PSZ				Lg	Lg	11 00 49.7	
PSZ	**Piszkesteto**	**0.87**	**224**	P	Pn	11 00 37.8	-0.4
PSZ				S	Sb	11 00 49.7	+0.9
KOLS	**Kolonicke sedl**	**1.06**	**68**	Lg	Lg	11 00 55.9	
KOLS	**Kolonicke sedl**	**1.06**	**68**	*e*SG	Sn	11 00 55.8	0.0
VYHS	**Vyhne**	**1.30**	**268**	Sn	Sn	11 01 01.8	+0.1

UPP 25 11:00:47.7±0.0,67°.63N×21°.01E,h0km,ML2.2, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.41**	**322**	P	Pg	11 00 55.7	+0.1
KUA				S	Sg	11 01 01.6	+0.6
MASU	**Masugnsbyn**	**0.42**	**114**	P	Pg	11 00 55.8	+0.2
DUNU	**Dundret**	**0.54**	**199**	P	Pg	11 00 57.9	-0.1
LANU	**Lannavaara**	**0.56**	**41**	P	Pg	11 00 58.2	-0.3
RATU	**Laukkuluspa**	**0.58**	**290**	P	Pg	11 00 58.6	-0.1
KOVU	**Salmi**	**0.68**	**332**	P	Pg	11 01 00.7	0.0
NIKU	**Nikkaluokta**	**0.79**	**288**	P	Pg	11 01 02.6	-0.2
SALU	**Saltoluokta**	**1.00**	**257**	P	Pg	11 01 06.3	-0.5
PAJU	**Pajala**	**1.02**	**126**	P	Pg	11 01 06.8	-0.3
ERTU	**Ertsjaerv**	**1.18**	**156**	P	Pg	11 01 09.7	-0.5
HARU	**Harads**	**1.47**	**181**	P	Pn	11 01 14.9	-0.5

*WEL **25** 11:01:44.0,31°.96S×178°.68W,h10km,M5.5/54,mB5.9/54, ML5.9/54,MLv5.8/54,Mw(mB)5.5/54*
*NEIC **25** 11:01:44.2±1.6,31°.96S±0°.07×178°.7W±0°.1,h10km±1km, mb5.1/62,Error ellipse: s-maj=19.4km s-min=10.5km az=108.0*
*MOS **25** 11:01:46.9±1.0,32°.05S×178°.74W,h43km,mb5.2/12, Error ellipse: s-maj=13.5km s-min=10.6km az=70.1*
*IDC **25** 11:01:52.9±2.3,31°.73S×178°.69W,h82km±20km,mb4.5/11, mbtmp4.8/15,MS3.6/35,Error ellipse: s-maj=16.0km s-min=14.1km az=106.0*
*NOU **25** 11:02:01.1,32°.98S×178°.66W,h149km,mb5.0/36,South of Kermadec Islands*

ISC 25 11:01:48.2±0.3,32°.03S±0°.05×178°.59W±0°.06,h45km, n465,σ2ᵠ01/413,mb5.1/53,MS3.7/36,9C-9D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.82**	**12**	P	**Pn**	**11 02 31.3**	**+0.6**
GLKZ				S	**Sn**	**11 03 02.4**	**-1.1**
RAO	**Raoul Island**	**2.83**	**12**	P	**Pn**	**11 02 30.9**	**+0.1**
	1μm,0.2s,baz=113,slow=7.5,SNR=21						
RAO				S	**Sn**	**11 03 04.6**	**+0.9**
	2μm,0.3s,baz=53,slow=22,SNR=3.3						
RAO				LR	LR	11 03 20.4	
	comp=Z,834nm,19.9s,baz=152,slow=34						
RAO	**Raoul Island**	**2.83**	**12**		**Pn**	**11 02 29.4**	**-1.5**
RIZ	**Raoul Island**	**2.83**	**12**	P	**Pn**	**11 02 32.0**	**+1.1**
MXZ	**Matakaoa Point**	**6.08**	**204**	Pn	**Pn**	**11 03 14.7**	**-0.8**
MXZ	**Matakaoa Point**	**6.08**	**204**	P	**Pn**	**11 03 16.4**	**+0.9**
MXZ	**Matakaoa Point**	**6.08**	**204**	P	**Pn**	**11 03 16.2**	**+0.7**
WMGZ	**Waiomatatini S**	**6.28**	**202**	P	**Pn**	**11 03 20.2**	**+2.0**
HAZ	**Te Kaha**	**6.45**	**207**	P	**Pn**	**11 03 22.3**	**+1.9**
PKGZ	**Pakihiroa**	**6.46**	**204**	P	**Pn**	**11 03 21.3**	**+0.6**
GRZ	**Great Barrier**	**6.49**	**228**	P	Pn	11 03 26.5	+5.4
WSRZ	**White Island S**	**6.49**	**211**	P	**Pn**	**11 03 22.4**	**+1.2**
WIZ	**White Island**	**6.49**	**211**	P	**Pn**	**11 03 22.6**	**+1.4**
PUZ	**Puketiti**	**6.56**	**202**	P	**Pn**	**11 03 22.9**	**+0.8**
KUZ	**Kuaotunu**	**6.65**	**223**	P	Pn	11 03 28.6	+5.3
KUZ	**Kuaotunu**	**6.65**	**223**	P	Pn	11 03 28.2	+4.8
RUGZ	**Raukumara Rang**	**6.67**	**206**	P	**Pn**	**11 03 24.7**	**+1.0**
TWGZ	**Tauwhareparae**	**6.75**	**204**	P	**Pn**	**11 03 25.8**	**+1.1**
MYRZ	**Mayor Island**	**6.75**	**218**	P	Pn	11 03 30.0	+5.3
WHRZ	**Whale Island**	**6.86**	**211**	P	**Pn**	**11 03 30.1**	**+3.9**
CNGZ	**Carnagh Statio**	**6.95**	**201**	P	**Pn**	**11 03 28.0**	**+0.5**
TKGZ	**Te Karaka**	**7.03**	**204**	P	**Pn**	**11 03 29.1**	**+0.7**
WIAZ	**Waiheke Island**	**7.04**	**226**	P	Pn	11 03 34.4	+5.8
OPRZ	**Ohinepanea**	**7.04**	**213**	P	**Pn**	**11 03 31.2**	**+2.5**
MWZ	**Matawai**	**7.05**	**206**	P	**Pn**	**11 03 29.0**	**+0.2**
TGRZ	**Tauranga**	**7.09**	**215**	P	**Pn**	**11 03 33.2**	**+3.9**
MARZ	**Manawahe**	**7.10**	**212**	P	**Pn**	**11 03 32.3**	**+2.7**
ABAZ	**Army Bay**	**7.10**	**228**	P	Pn	11 03 35.2	+5.7
URZ	**Urewera**	**7.14**	**208**	P	**Pn**	**11 03 31.1**	**+1.0**
URZ	**Urewera**	**7.14**	**208**	P	**Pn**	**11 03 30.5**	**+0.4**
MBAZ	**Motutapu North**	**7.17**	**227**	P	Pn	11 03 36.6	+6.2
EDRZ	**Edgecumbe**	**7.17**	**211**	P	**Pn**	**11 03 32.9**	**+2.3**
MKAZ	**Moumakai**	**7.23**	**224**	P	Pn	11 03 36.0	+4.8
RAGZ	**Rawiri**	**7.23**	**206**	P	**Pn**	**11 03 32.3**	**+0.9**
LIRZ	**Lichensteins R**	**7.25**	**213**	P	**Pn**	**11 03 34.0**	**+2.4**
OUZ	**Omahuta**	**7.26**	**242**	P	Pn	11 03 37.6	+6.0
ETAZ	**East Tamaki Re**	**7.27**	**226**	P	Pn	11 03 38.3	+6.5
RIGZ	**Rimuhau**	**7.30**	**203**	P	**Pn**	**11 03 32.1**	**-0.1**
MKRZ	**Makatiti**	**7.32**	**212**	P	**Pn**	**11 03 35.5**	**+2.9**
KARZ	**Kaharoa**	**7.33**	**214**	P	**Pn**	**11 03 36.1**	**+3.5**
OMRZ	**Omania**	**7.34**	**213**	P	**Pn**	**11 03 35.2**	**+2.5**
KMRZ	**Kaimai**	**7.34**	**216**	P	**Pn**	**11 03 31.6**	**-1.2**
TARZ	**Mount Tarawera**	**7.38**	**212**	P	**Pn**	**11 03 36.1**	**+2.6**
NGRZ	**Ngongotaha**	**7.42**	**214**	P	**Pn**	**11 03 38.5**	**+4.6**
RRRZ	**Republican Roa**	**7.46**	**211**	P	**Pn**	**11 03 35.5**	**+1.4**
HLRZ	**Highlands Stat**	**7.46**	**212**	P	**Pn**	**11 03 36.7**	**+2.2**
MUGZ	**Murupara**	**7.47**	**209**	P	**Pn**	**11 03 34.0**	**-0.6**
TOZ	**Tahuroa Road**	**7.48**	**219**	P	**Pn**	**11 03 38.4**	**+3.7**
RTZ	**Ruatahuna**	**7.50**	**208**	Pn	**Pn**	**11 03 34.9**	**-0.2**
RTZ	**Ruatahuna**	**7.50**	**208**	P	**Pn**	**11 03 35.4**	**+0.3**
SNGZ	**Shannon Statio**	**7.51**	**205**	P	**Pn**	**11 03 34.9**	**-0.3**
HSRZ	**Hossack Road**	**7.56**	**213**	P	**Pn**	**11 03 38.8**	**+2.9**
HRRZ	**Handcock Road**	**7.61**	**212**	P	**Pn**	**11 03 38.7**	**+2.3**
KNZ	**Kokohu**	**7.61**	**203**	P	**Pn**	**11 03 35.1**	**-1.4**
PRRZ	**Plateau Road**	**7.65**	**211**	P	**Pn**	**11 03 38.1**	**+1.1**
GRRZ	**Galatos Road**	**7.66**	**213**	P	**Pn**	**11 03 39.7**	**+2.6**
MHGZ	**Mahia Peninsul**	**7.66**	**201**	P	**Pn**	**11 03 36.0**	**-1.2**
ALRZ	**Allen Road**	**7.72**	**211**	P	**Pn**	**11 03 38.9**	**+0.9**
RAHZ	**Arahi**	**7.72**	**206**	P	**Pn**	**11 03 37.1**	**-0.9**
MTHZ	**Maungataniwha**	**7.76**	**207**	P	**Pn**	**11 03 39.2**	**+0.6**
WPRZ	**Whakapapatarin**	**7.77**	**212**	P	**Pn**	**11 03 40.5**	**+1.8**
WHHZ	**Waihua**	**7.81**	**205**	P	**Pn**	**11 03 39.5**	**+0.2**
MRHZ	**Matea Rd**	**7.92**	**210**	P	**Pn**	**11 03 40.8**	**-0.2**
NMHZ	**Parumai T-bar**	**7.99**	**207**	P	**Pn**	**11 03 41.9**	**-0.2**
ARHZ	**Aropaoanui**	**8.06**	**205**	P	**Pn**	**11 03 41.7**	**-1.0**
BKZ	**Black Stump Fm**	**8.17**	**208**	Pn	**Pn**	**11 03 43.2**	**-1.0**
BKZ	**Black Stump Fm**	**8.17**	**208**	P	**Pn**	**11 03 44.8**	**+0.6**
BKZ	**Black Stump Fm**	**8.17**	**208**	P	**Pn**	**11 03 44.0**	**-0.2**
MCHZ	**McNeill Hill**	**8.33**	**206**	P	**Pn**	**11 03 45.9**	**-0.4**
KATZ	**Kakaramea**	**8.35**	**212**	P	**Pn**	**11 03 50.1**	**+3.4**
CKHZ	**Cape Kidnapper**	**8.39**	**204**	P	**Pn**	**11 03 45.1**	**-2.0**
HIZ	**Hauiti**	**8.40**	**218**	P	**Pn**	**11 03 51.1**	**+3.8**
NTVZ	**North Tongarir**	**8.46**	**212**	P	**Pn**	**11 03 50.5**	**+2.2**
KRVZ	**Karewarewa**	**8.47**	**212**	P	**Pn**	**11 03 51.7**	**+3.3**
ETVZ	**East Tongariro**	**8.47**	**212**	P	**Pn**	**11 03 49.6**	**+1.2**
NNVZ	**North Ngauruho**	**8.51**	**212**	P	**Pn**	**11 03 50.3**	**+1.3**
OTVZ	**Oturere**	**8.52**	**212**	P	**Pn**	**11 03 51.4**	**+2.4**
TWVZ	**Taurewa**	**8.55**	**213**	P	**Pn**	**11 03 51.8**	**+2.4**
SNVZ	**South Ngauruho**	**8.55**	**212**	P	**Pn**	**11 03 52.4**	**+3.0**
NGZ	**Ngauruhoe**	**8.56**	**212**	P	**Pn**	**11 03 51.1**	**+1.5**
FWVZ	**Far West T-bar**	**8.64**	**212**	P	**Pn**	**11 03 53.2**	**+2.4**
WHVZ	**Whangaehu Hut**	**8.65**	**212**	P	**Pn**	**11 03 53.2**	**+2.2**
DRZ	**Dome Shelter**	**8.65**	**212**	P	**Pn**	**11 03 54.6**	**+3.5**
MOVZ	**Moawhango**	**8.68**	**210**	P	**Pn**	**11 03 51.4**	**+0.2**
MOVZ				S	**Sn**	**11 05 24.9**	**-2.9**
WNVZ	**Wahianoa**	**8.68**	**211**	P	**Pn**	**11 03 52.2**	**+0.9**
WNVZ				S	**Sn**	**

WVZ	Waitaha Valley	13.89	214	P		Pn		11 04 60.0	-2.3
WACZ	Wakanui South	14.07	210	P		Pn		11 05 00.3	-4.4
RPZ	Rata Peaks	14.23	212	P		Pn		11 05 01.9	-5.0
	19nm,0.4s,baz=59,slow=4.1,SNR=28								
RPZ				S		Sn		11 07 30.5	-13
	60nm,0.6s,baz=17,slow=14,SNR=15								
RPZ	Rata Peaks	14.23	212	P		Pn		11 05 01.6	-5.4
RPZ	Rata Peaks	14.23	212	P		Pn		11 05 01.8	-5.1
ARCZ	Arundel	14.36	211	P		Pn		11 05 01.1	-7.6
MSVF	Nonsavu	14.56	347	P		Pn		11 05 12.2	+0.8
	58nm,1.0s,baz=151,slow=12,SNR=42								
MSVF				LR		LR		11 09 47.7	
	comp=Z,487nm,20.0s,baz=186,slow=33								
MSVF	Nonsavu	14.56	347			Pn		11 05 13.3	+1.8
MSVF	Nonsavu	14.56	347	P		Pn		11 05 13.3	+1.8
FOZ	Fox Glacier	14.68	215	P		Pn		11 05 09.9	-2.9
TMZ	Timaru	14.78	211	P		Pn		11 05 07.8	-6.5
NIUE	Niue	15.07	33	P		Pn		11 05 13.6	-4.6
	baz=15,SNR=4.6								
NIUE	Niue	15.07	33	Pn		Pn		11 05 15.5	-2.7
NIUE				IAmb		IAmb		11 05 19.9	
	comp=Z,220nm,1.2s								
LBZ	Lake Benmore	15.15	212	P		Pn		11 05 13.9	-5.1
ODZ	Otahua Downs	15.47	210	P		Pn		11 05 18.6	-4.6
ODZ	Otahua Downs	15.47	210	P		Pn		11 05 16.9	-6.3
JCZ	Jackson Bay	15.58	216	P		Pn		11 05 22.3	-2.5
JCZ	Jackson Bay	15.58	216	P		Pn		11 05 21.3	-3.5
WKZ	Wanaka	16.02	214	P		Pn		11 05 24.8	-5.5
HHSZ	Highcliff Hill	16.17	208	P		Pn		11 05 29.1	-3.0
EAZ	Earnscleugh	16.20	212	P		Pn		11 05 30.1	-2.4
DZM	Mont Dzumac	16.60	303	eLR		LR		11 09 22.2	
	comp=Z,745nm,26.2s								
DZM	Mont Dzumac	16.60	303	P		P		11 05 41.2	+1.4
	comp=Z,5.3nm,0.8s,baz=91,slow=17,SNR=4.7								
DZM	Mont Dzumac	16.60	303	P		P		11 05 52.7	+13
MLZ	Mavora Lakes	16.85	214	P		Pn		11 05 38.2	-2.6
SYZ	Scrubby Hill	17.29	210	P		Pn		11 05 42.7	-3.5
SYZ	Scrubby Hill	17.29	210	P		Pn		11 05 44.3	-1.9
WHZ	Wether Hill Ro	17.32	213	P		Pn		11 05 42.3	-4.3
AFI	Afiamalu	19.08	21	P		P		11 06 04.5	-2.7
	comp=Z,20nm,0.7s,baz=238,slow=3.8,SNR=4.4								
AFI				LR		LR		11 12 16.3	
	comp=Z,183nm,21.7s,baz=195,slow=33								
AFI	Afiamalu	19.08	21	P		P		11 06 03.8	-3.3
KOUNC	Koumac, New Ca	19.12	303	P		P		11 06 05.5	-1.9
RAR	Rarotonga	19.94	62	P		Pn		11 06 19.3	+0.9
	comp=Z,24nm,0.9s,baz=240,slow=22,SNR=2.2								
RAR				LR		LR		11 12 13.0	
	comp=Z,52nm,20.4s,baz=227,slow=31								
RAR	Rarotonga	19.94	62	P		Pn		11 06 27.0	+8.6
ARMA	Armidale	25.49	266	P		P		11 07 13.2	+0.8
	baz=26,SNR=4.5								
ARMA	Armidale	25.49	266	P		P		11 07 09.8	-2.6
ARMA				IAmb		IAmb		11 07 17.9	
	comp=Z,62nm,1.9s								
ARMA	Armidale	25.49	266	P		P		11 07 15.9	+3.5
CNB	Canberra Magne	26.81	254	P		P		11 07 28.1	+3.8
CAN	Canberra	27.11	254	P		P		11 07 24.9	-2.1
CAN				IAmb		IAmb		11 07 59.4	
	comp=Z,64nm,1.6s								
CAN	Canberra	27.11	254	P		P		11 07 24.9	-2.1
CAN				pmax		pmax			
	comp=Z,64nm,1.6s								
TBI	Tubuai	27.14	79	eLR		LR		11 14 20.7	
	comp=Z,1μm,28.5s								
TBI				eLR		LR		11 14 20.7	
	comp=Z,4μm,26.2s								
TBI	Tubuai	27.14	79	eT		T		11 35 38.9	
	comp=Z,43nm,0.3s								
EIDS	Eidsvold	27.36	276	P		P		11 07 30.5	+1.3
	baz=28,SNR=4.2								
EIDS	Eidsvold	27.36	276	P		P		11 07 26.8	-2.4
EIDS	Eidsvold	27.36	276	P		P		11 07 32.3	+3.1
MCQ	Macquarie Isla	27.55	209	P		P		11 07 28.5	-2.1
MCQ	Macquarie Isla	27.55	209	P		P		11 07 28.5	-2.1
MCQ				pmax		pmax			
	comp=Z,336nm,1.6s								
RMQ	Roma	28.95	273	P		P		11 07 44.6	+1.2
	baz=29,SNR=6.3								
RMQ	Roma	28.95	273	P		P		11 07 46.1	+2.7
PAE	Paea	29.84	68	eT		T		11 39 01.6	
	comp=Z,18nm,0.3s								
PPT2	Papeete2	29.88	68	eLR		LR		11 15 36.7	
PPT2									
	comp=Z,271nm,30.5s			eLR		LR		11 15 37.2	
	comp=Z,234nm,25.8s								
PPT2	Papeete2	29.88	68	eT		T		11 39 09.6	
	comp=Z,17nm,0.4s								
TOO	Toolangi	29.89	249	P		P		11 07 52.8	+1.1
	baz=30,SNR=4.6								
TOO	Toolangi	29.89	249	P		P		11 07 54.2	+2.6
HNR	Honiara	30.02	314	LR		LR		11 18 50.6	
	comp=Z,995nm,18.8s,baz=152,slow=34								
CMSA	Cobar Meteorol	30.29	261	P		P		11 07 57.0	+1.8
	baz=30,SNR=43								
CMSA	Cobar Meteorol	30.29	261	P		P		11 07 57.6	+2.4
VAH	Vaihoa	32.76	67	eT		T		11 42 21.4	
	comp=Z,50nm,0.2s								
QLP	Quilpie	32.76	270	P		P		11 08 18.2	+1.3
	baz=33,SNR=14								
QLP	Quilpie	32.76	270	P		P		11 08 18.4	+1.4
ARPS	Mount Arapiles	32.83	251	P		P		11 08 19.7	+2.3
	baz=33,SNR=6.1								
ARPS	Mount Arapiles	32.83	251	P		P		11 08 19.5	+2.0
TV1H	Townsville Har	33.55	284	P		P		11 08 26.1	+2.2
CTA	Charters Tower	33.61	282	LR		LR		11 20 04.4	
	comp=Z,114nm,19.9s,baz=82,slow=33								
CTA	Charters Tower	33.61	282	P		P		11 08 25.9	+1.5
STKA	Stephens Creek	33.66	259	P		P		11 08 26.6	+1.8
	comp=Z,9.6nm,0.8s,baz=94,slow=11,SNR=15								
STKA				LR		LR		11 20 31.7	
	comp=Z,87nm,20.4s,baz=36,slow=33								
	comp=Z,9.6nm,0.8s								
STKA	Stephens Creek	33.66	259	P		P		11 08 26.8	+2.0
	baz=34,SNR=13								
STKA	Stephens Creek	33.66	259	P		P		11 08 24.1	-0.6
STKA	Stephens Creek	33.66	259	P		P		11 08 25.7	+1.0
STKA	Stephens Creek	33.66	259	I/P		P		11 08 26.3	+1.6
INKA	Innaminka	35.37	266	P		P		11 08 41.3	+1.7
HTT	Hallett	35.59	256	P		P		11 08 43.1	+1.6
	baz=36,SNR=11								
HTT	Hallett	35.59	256	P		P		11 08 42.9	+1.4
WHYH	Whyalla	36.78	256	P		P		11 08 52.8	+1.3
LCRK	Leigh Creek	36.79	261	P		P		11 08 53.0	+1.3
BBOO	Buckleboo	38.07	256	P		P		11 09 02.7	+0.2
	baz=38,SNR=52								
BBOO	Buckleboo	38.07	256	P		P		11 09 02.4	-0.1
BBOO				IAmb		IAmb		11 09 03.7	
	comp=Z,24nm,0.5s								
BBOO	Buckleboo	38.07	256	P		P		11 09 02.7	+0.2
PMG	Port Moresby	38.88	298	LR		LR		11 23 13.6	
	comp=Z,59nm,21.1s,baz=98,slow=33								
PMG	Port Moresby	38.88	298	I/P		P		11 09 10.0	+0.5
PMG				pmax		pmax			
	comp=Z,18nm,0.9s								
QIS	Mount Isa	38.97	277	P		P		11 09 11.3	+1.2
	baz=39,SNR=5.3								
QIS	Mount Isa	38.97	277	P		P		11 09 11.4	+1.2
KRVT	Keravat (AS076	38.98	309	P		P		11 09 10.3	+0.1
	comp=Z,52nm,0.5s,baz=306,slow=1.7,SNR=7.7								
	comp=Z,52nm,0.5s								
COEN	Coen	39.27	288	P		P		11 09 14.1	+1.3
	baz=39,SNR=72								
COEN	Coen	39.27	288	P		P		11 09 12.5	-0.3
COEN				IAmb		IAmb		11 09 15.5	
	comp=Z,40nm,1.0s								
COEN	Coen	39.27	288	P		P		11 09 14.0	+1.3
OOD	Oodnadatta	39.64	264	P		P		11 09 17.2	+1.5
MULG	Mulgathing	40.31	260	P		P		11 09 21.5	+0.2
TAOE	Nuku Hiva Isla	42.42	66	eLR		LR		11 21 24.8	
	comp=Z,155nm,26.6s								
AS01	Alice Springs	42.51	269	P		P		11 09 39.2	-0.2
	baz=43,SNR=77								
AS31	Alice Springs	42.55	269	P		P		11 09 39.4	-0.3
ASAR	Alice Springs	42.55	269	P		P		11 09 39.5	-0.2
	comp=Z,33nm,0.6s,baz=104,slow=7.4,SNR=457								
ASAR				S		S		11 15 53.4	-5.9
	comp=Z,2.0nm,1.1s,baz=111,slow=15,SNR=8.5								
ASAR				PKiKP		PKiKP		11 18 34.7	-1.7
	comp=Z,0.2nm,0.3s,baz=111,slow=1.6,SNR=6.7								
ASAR				LR		LR		11 27 15.2	
	comp=Z,40nm,19.2s,baz=121,slow=36								
	comp=Z,33nm,0.6s								
ASAR	Alice Springs	42.55	269	P		P		11 09 39.6	-0.1
ASAR	Alice Springs	42.55	269	P		P		11 09 39.7	-0.1

WR0	Warramunga Arr	43.51	274	P		P		11 09 47.0	-0.5
WB2	Warramunga Arr	43.68	274	P		P		11 09 48.1	-0.7
WRAB	Tennant Creek	43.68	274	P		P		11 09 48.5	-0.4
WRAB				IAmb		IAmb		11 09 49.6	
	comp=Z,60nm,0.8s								
WRAB	Tennant Creek	43.68	274	c I/P		P		11 09 48.3	-0.6
WRAB				pmax		pmax			
	comp=Z,104nm,1.3s								
WRA	Warramunga Arr	43.69	274	P		P		11 09 48.5	-0.4
	comp=Z,44nm,0.3s,baz=113,slow=7.9,SNR=1818								
WRA				S		S		11 16 09.9	-6.0
	comp=Z,1.4nm,0.7s,baz=111,slow=14,SNR=5.9								
WRA				PKiKP		PKiKP		11 18 35.8	-1.7
	comp=Z,0.3nm,0.3s,baz=91,slow=0.3,SNR=18								
WRA				LR		LR		11 26 00.7	
	comp=Z,107nm,21.3s,baz=92,slow=33								
WRA	Warramunga Arr	43.69	274	P		P		11 09 48.0	-0.9
WB0	Warramunga Arr	43.72	274	P		P		11 09 48.9	-0.3
FORT	Forrest	45.17	257	P		P		11 10 00.6	0.0
	baz=45,SNR=7.1								
FORT	Forrest	45.17	257	P		P		11 09 59.3	-1.3
FORT	Forrest	45.17	257	P		P		11 10 00.2	-0.4
VNDA	Vanda	46.43	186	P		P		11 10 13.8	+3.9
	comp=Z,1.6nm,0.7s,baz=16,slow=6.4,SNR=15								
VNDA				LR		LR		11 26 19.3	
	comp=Z,49nm,21.3s,baz=28,slow=31								
	comp=Z,1.6nm,0.7s								
VNDA	Vanda	46.43	186	P		P		11 10 11.5	+1.6
WRKA	Warakurna	46.80	264	P		P		11 10 12.5	-1.1
	baz=47,SNR=97								
KDU	Kakadu	48.73	282	P		P		11 10 27.6	-0.9
	baz=49,SNR=51								
MTN	Manton Dam	49.77	281	P		P		11 10 36.1	-0.4
	baz=50,SNR=27								
MTN	Manton Dam	49.77	281	P		P		11 10 35.9	-0.6
KMBL	Kambalda	50.08	254	P		P		11 10 37.9	-0.9
	baz=50,SNR=5.0								
KNRA	Kununurra	50.35	276	P		P		11 10 40.7	-0.2
	baz=50,SNR=22								
KNRA	Kununurra	50.35	276	P		P		11 10 40.0	-0.9
KNRA				IAmb		IAmb		11 10 41.7	
	comp=Z,30nm,0.8s								
KLBR	Kellerberrin	53.36	252	P		P		11 11 01.9	-1.3
	baz=54,SNR=10								
NWAO	Narrogin (SRO)	53.37	251	LR		LR		11 32 25.3	
	comp=Z,48nm,18.9s,baz=145,slow=34								
CASY	Casey	53.47	208	P		P		11 11 03.2	-0.3
CASY				IAmb		IAmb		11 12 11.1	
	comp=Z,23nm,1.0s								
MEEK	Meekatharra	54.35	258	P		P		11 11 09.6	-0.9
	baz=54,SNR=11								
FAKI	Fak Fak	54.45	292	P		P		11 11 09.8	-1.6
FAKI				IAmb		IAmb		11 11 12.2	
	comp=Z,21nm,1.3s								
FAKI	Fak Fak	54.45	292	P		P		11 11 12.1	+0.7
	comp=Z,14nm,1.2s								
PSA00	Pilbara Seismi	55.30	265	P		P		11 11 16.2	-1.2
PSA00				IAmb		IAmb		11 11 16.6	
	comp=Z,12nm,0.9s								
MBWA	Marble Bar	55.57	265	P		P		11 11 18.3	-1.1
MBWA				IAmb		IAmb		11 11 19.2	
	comp=Z,29nm,1.2s								
MORW	Morawa	55.60	255	P		P		11 11 18.6	-0.9
	baz=56,SNR=6.0								
MORW	Morawa	55.60	255	P		P		11 11 18.7	-0.9
MORW				IAmb		IAmb		11 11 19.5	
	comp=Z,20nm,1.0s								
SIJI	Sorong	56.48	293	LR		LR		11 33 28.7	
	comp=Z,24nm,20.4s,baz=184,slow=34								
BATI	Baumata	57.38	279	LR				11 35 42.8	
	comp=Z,12nm,19.1s,baz=130,slow=36								
QSPA	South Pole Qui	58.09	180	P		P		11 11 40.0	+3.3
	comp=Z,51nm,1.0s,baz=9.5,slow=0.8,SNR=92								
QSPA				LR		LR		11 32 05.3	
	comp=Z,62nm,21.6s,baz=34,slow=31								
	comp=Z,51nm,1.0s								
QSPA	South Pole Qui	58.09	180	P		P		11 11 36.8	+0.1
QSPA				IAmb		IAmb		11 11 45.4	
	comp=Z,40nm,0.8s								
RPN	Rapa Nui	59.50	105	LR		LR		11 31 34.0	
	comp=Z,33nm,20.4s,baz=243,slow=30								
SANI	Sanana	59.97	288	P		P		11 11 50.9	+0.6
	comp=Z,749nmcomp=Z,19nm,1.2s								
TWSI	Taliwang, Sumb	63.85	276	P		P		11 12 16.1	-0.3
	comp=Z,25nm,0.9s								
GMJI	Gumukmas	67.00	275	P		P		11 12 36.1	-0.7
	comp=Z,30nm,1.1s								
SMAI	San Martin Ant	68.11	158	P		P		11 12 45.1	+2.2
BELA	Belgrano 2	68.24	172	P		P		11 12 44.9	+1.2
BELA				IAmb		IAmb		11 12 46.0	
	comp=Z,13nm,0.8s								
MAW	Mawson	70.61	201	P		P		11 13 00.0	+1.6
	comp=Z,10nm,1.0s,baz=122,slow=7.4,SNR=13								
MAW				LR		LR		11 42 15.6	
	comp=Z,74nm,20.7s,baz=113,slow=34								
	comp=Z,10nm,1.0s								
MAW	Mawson	70.61	201	P		P		11 12 57.9	-0.5
	baz=71,SNR=11								
MAW	Mawson	70.61	201	P		P		11 12 59.9	+1.5
PMSA	Palmer Station	70.99	156	P		P		11 13 02.0	+1.3
PBKI	Pangkalan Bun	71.43	279	P		P		11 13 01.0	-3.2
	comp=Z,456μmcomp=Z,81nm,1.3s								
SBUM	Sibu	73.80	283	P		P		11 13 17.6	-0.7
TROLL	Troll, Antarti	76.25	180	P		P		11 13 33.0	+1.4
VNA3	Neumayer Olymp	76.72	176	P		P		11 13 35.3	+1.1
VNA2	Neumayer--Watz	77.14	177	P		P		11 13 37.9	+1.4
	baz=173,slow=4.7								
VNA1	Neumayer--Stat	77.38	177	P		P		11 13 39.1	+1.2
LL02	Futaleuf	79.57	135	P		P		11 13 51.3	+0.8
LL02				IAmb		IAmb		11 13 54.0	
	comp=Z,9.6nm,0.8s								
H03S2	Juan Fernandez	79.98	124	T		T		12 42 30.3	
	baz=236,slow=74,SNR=299								
H03S1	Juan Fernandez	80.00	124	T		T		12 42 35.2	
	baz=236,slow=74,SNR=239								
H03S3	Juan Fernandez	80.00	124	T		T		12 42 30.4	
	baz=236,slow=74,SNR=346								
H03N3	Juan Fernandez	80.19	123	T		T		12 42 44.8	
	baz=241,slow=72,SNR=247								
H03N2	Juan Fernandez	80.19	123	T		T		12 42 48.6	
	baz=241,slow=72,SNR=222								
H03N1	Juan Fernandez	80.20	123	T		T		12 42 43.9	
	baz=241,slow=72,SNR=593								
LL04	Puerto Octay	80.50	132	P		P		11 13 55.5	0.0
JTM	Tenmabayashi	81.48	330	P		P		11 14 02.0	+1.6
PLCA	Paso Flores	81.76	133	P		P		11 14 03.8	+1.4
	comp=Z,8.8nm,0.9s,baz=230,slow=5.9,SNR=19								
PLCA				LR		LR		11 41 27.8	
	comp=Z,38nm,20.4s,baz=211,slow=29								
	comp=Z,8.8nm,0.9s								
PLCA	Paso Flores	81.76	133	P		P		11 14 05.1	+2.7
PLCA	Paso Flores	81.76	133	P		P		11 14 05.1	+2.7
GO06	Curarrehue	81.85	132	P		P		11 14 04.0	+1.1
MNSI	Mandailing Nat	83.49	275	P		P		11 14 17.4	+5.8
ASAJ	Asahikawa	83.66	333	LR		LR		11 49 04.5	
	comp=Z,19nm,18.2s,baz=160,slow=34								
SHEM	Shemya Is, Ala	84.64	356	LR		LR		11 47 52.0	
	comp=Z,42nm,21.2s,baz=294,slow=33								
PSI	Prapat	85.11	276	LR		LR		11 53 55.2	
	comp=Z,59nm,18.5s,baz=150,slow=37								
KSRS	Korea Array	85.27	320	P		P		11 14 20.0	0.0
	comp=Z,2.7nm,1.0s,baz=141,slow=6.0,SNR=6.0								
	comp=Z,2.7nm,1.0s								
KSAR	Wonju Array Be	85.28	320	P		P		11 14 19.9	-0.2
KSAR	Wonju Array Be	85.28	320	P		P		11 14 19.9	-0.2
MT01	Popeta	85.29	127	P		P		11 14 21.6	+1.1
MT01				IAmb		IAmb		11 14 23.4	
	comp=Z,18nm,0.9s								
GSI	Gunungsitoli	85.46	274	P		P		11 14 20.2	-1.4
MT09	Talagante	85.52	127	P		P		11 14 22.5	+0.7
MT09				IAmb		IAmb		11 14 24.5	
	comp=Z,12nm,1.1s								
MT02	Curacav	85.72	127	P		P		11 14 24.1	+1.5
MT02				IAmb		IAmb		11 14 26.3	
	comp=Z,18nm,1.4s								
LPIG	La Paz	85.82	58	LR		LR		11 47 28.6	
	comp=Z,30nm,18.7s,baz=244,slow=32								
MT05	Renca	85.91	127	P		P		11 14 24.6	+0.9
PKM	Mcpherson Peak	86.47	45	P		P		11 14 28.2	+1.8
	baz=227								
CO02	Combarbal	87.01	125	P		P		11 14 30.5	+1.3
CO02				IAmb		IAmb		11 14 32.1	
	comp=Z,16nm,0.9s								
MURC	Murrieta	87.21	47	P		P		11 14 31.7	+2.0
	baz=228								
MONP2	Monument Peak	87.22	48	P		P		11 14 31.9	+1.8
	baz=229								
ARVC	Arvin	87.23	45	P		P		11 14 31.9	+2.2
	baz=227								
IKP	In-Ko-Pah, Jac	87.26	49	P		P		11 14 32.6	+2.5
	baz=229								
PETK	Petropavlovsk-	87.26	346	P		P		11 14 29.5	0.0
	comp=Z,2.7nm,0.8s,baz=126,slow=7.3,SNR=6.2								
PETK				LR		LR		11 47 22.5	
	comp=Z,29nm,21.1s,baz=144,slow=31								
	comp=Z,2.7nm,0.8s								
BFSC	Mount Baldy Ra	87.34	46	P		P		11 14 32.9	+2.4
	baz=228								
CO03	El Pedregal	87.44	125	P		P		11 14 32.5	+1.3
CO03				IAmb		IAmb		11 14 34.0	
	comp=Z,14nm,1.1s								
VES	Vestal, Richgr	87.56	44	P		P		11 14 32.8	+1.5
	baz=227								
EDW2	Edwards Air Fo	87.57	46	P		P		11 14 33.5	+2.1
	baz=228								
SWSC	Sam W. Stewart	87.65	48	P		P		11 14 34.1	+2.3
	baz=229								
TPFO	Pinon Flats	87.67	48	P		P		11 14 34.1	+2.0
	baz=229								
PFO	Pinyon Flats O	87.67	48	LR		LR		11 53 26.1	
	comp=Z,36nm,18.0s,baz=264,slow=35								
PFO	Pinyon Flats O	87.67	48	P		P		11 14 33.8	+1.7
	baz=229								
PMD	Palm Desert	87.75	48	P		P		11 14 32.8	+0.5
PMD				IAmb		IAmb		11 14 35.5	
	comp=Z,9.8nm,1.2s								
ISA	Isabella, Lake	87.80	45	P		P		11 14 33.2	+0.6
ISA				IAmb		IAmb		11 14 35.6	
	comp=Z,9.9nm,1.0s								
ISA	Isabella, Lake	87.80	45	P		P		11 14 34.1	+1.5
	baz=227,SNR=8.0								
ISA	Isabella, Lake	87.80	45	P		P		11 14 33.2	+0.6
ISA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
LRMC	Laurel Mtn Rad	88.16	46	P		P		11 14 35.8	+1.4
	baz=228,SNR=8.4								
BELC	Belle Mtn. Jos	88.22	48	P		P		11 14 36.2	+1.5
	baz=229,SNR=7.3								
CMB	Columbia Colle	88.30	42	P		P		11 14 35.4	+0.5
CMB				IAmb		IAmb		11 14 37.2	
	comp=Z,5.1nm,0.9s								
CMB	Columbia Colle	88.30	42	P		P		11 14 35.4	+0.5
CMB				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BC3	Big Chuckawall	88.33	48	P		P		11 14 36.8	+1.6
	baz=229,SNR=5.8								
GLA	Glamis	88.34	49	P		P		11 14 37.5	+2.3
	baz=230								
S12K	Black Hills	88.52	9	P		P		11 14 37.8	+2.5
	baz=194								
HEC	Hector,Ludlow	88.55	47	P		P		11 14 38.3	+2.1
	baz=229								
CWC	Cottonwood Cre	88.56	45	P		P		11 14 38.4	+2.1
	baz=228								
GSC	Goldstone, Bar	88.57	46	P		P		11 14 37.0	+0.7
GSC				IAmb		IAmb		11 14 39.3	
	comp=Z,15nm,1.2s								
GSC	Goldstone, Bar	88.57	46	P		P		11 14 38.2	+1.9
	baz=228,SNR=5.2								
GSC	Goldstone, Bar	88.57	46	P		P		11 14 37.0	+0.7
GSC				pmax		pmax			
	comp=Z,15nm,1.3s								
MPMC	Manual Prospec	88.66	45	P		P		11 14 38.6	+1.8
	baz=228,SNR=6.4								
CFA	Coronel Fontan	88.67	127	LR		LR		11 45 34.3	
	comp=Z,30nm,19.9s,baz=173,slow=30								
IRM	Iron Mountain	88.86	48	P		P		11 14 39.2	+1.7
	baz=229,SNR=10								
GMRC	Granite Mounta	88.94	47	P		P		11 14 40.6	+2.5
	baz=229								
TUQ	Turquoise Moun	89.20	47	P		P		11 14 41.7	+2.4
	baz=229								
GWY	Greenwater Val	89.24	46	P		P		11 14 39.6	+0.1
SHOC	Shoshone, Teco	89.29	46	P		P		11 14 41.5	+1.9
	baz=229								
PDMCI	Parker Dam,Lak	89.58	48	P		P		11 14 43.4	+2.5
	baz=230								
YERR	Yerington	89.61	42	P		P		11 14 41.4	+0.2
YERR				IAmb		IAmb		11 14 43.5	
	comp=Z,8.8nm,1.2s								
YBH	Yreka Blue Hor	89.62	38	LR		LR		11 44 38.9	
	comp=Z,51nm,21.2s,baz=275,slow=29								
WCT	Wildcat Mounta	89.67	45	P		P		11 14 42.6	+1.2
WCT				IAmb		IAmb		11 14 45.0	
	comp=Z,16nm,1.8s								
NVAR	Mina Array Bea	89.77	43	P		P		11 14 42.7	+0.7

comp=Z,30nm,0.7s
HHC pmax pmax
comp=Z,180nm,7.7s
TNCH TengChong 97.28 295 P Pdif 11 15 19.0 +2.1
TNCH pP PcP 11 15 22.0 +5.1
TNCH pmax pmax
comp=Z,37nm,0.6s
TNCH pmax pmax
comp=Z,120nm,3.8s
TNA Tin City 97.62 4 P Pdif 11 15 20.3 +3.2
baz=189
PDAR Pinedale Array 97.66 44 LR LR 11 50 43.1
comp=Z,42nm,21.6s,baz=278,slow=30
COLA College 99.53 13 *eP* **Pdif 11 15 26.1 +0.5**
COLA pmax pmax
comp=Z,18nm,2.3s
ILAR Eielson Array 99.62 13 LR LR 12 02 42.6
comp=Z,31nm,18.1s,baz=216,slow=37
WMQ Urumqi 113.83 308 *eP* **PKiKP 11 20 24.0 +2.2**
DGZ Jazzator, Alta 116.09 314 *i* PKIKP **PKPdf 11 20 24.8 -1.3**
MK31 Makanchi Array 118.43 310 *i* PKIKP **PKPdf 11 20 29.4 -1.1**
MKAR Makanchi Array 118.43 310 PKP **PKPdf 11 20 29.1 -1.4**
comp=Z,1.2nm,0.6s,baz=119,slow=1.0,SNR=11
MKAR PKKPbc **PKKPab 11 30 50.3 +1.2**
comp=Z,0.4nm,0.7s,baz=284,slow=4.9,SNR=3.5
ZALV Zalesovo Beam 118.91 318 PKP **PKPdf 11 20 29.3 -1.9**
comp=Z,0.8nm,0.5s,baz=177,slow=2.7,SNR=4.2
NRIK Noril'sk 120.91 336 *i* PKIKP **PKPdf 11 20 32.5 -2.1**
KURK Kurchatov 121.80 313 *di* PKIKP **PKPdf 11 20 35.4 -1.4**
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURBB Kurchatov Arra 121.84 313 PKP **PKPdf 11 20 35.6 -1.3**
comp=Z,3.3nm,0.6s,baz=104,slow=2.0,SNR=29
AAK Ala-Archa 122.59 303 *i* PKIKP **PKPdf 11 20 38.9 +0.1**
KKAR Karatay Array 125.54 303 PKPdf **PKiKP 11 20 44.6 -0.1**
KKAR Karatay Array 125.54 303 PKIKP **PKiKP 11 20 44.6 -0.1**
LSZ Lusaka 126.42 213 PKP **PKiKP 11 20 48.1 +0.7**
comp=Z,3.7nm,0.3s,baz=66,slow=0.3,SNR=11
TSUM Tsumeb 126.75 199 PKP **PKiKP 11 20 48.4 +0.4**
comp=Z,1.3nm,0.3s,baz=196,slow=6.4,SNR=3.6
BVAR Borovoye Array 127.21 315 PKP **PKPdf 11 20 46.5 -0.7**
comp=Z,4.0nm,0.4s,baz=136,slow=2.2,SNR=20
BRVK Borovoye 127.28 315 *e* PKIKP **PKPdf 11 20 46.9 -0.4**
BRVK Borovoye 127.28 315 *e* PKIKP **PKPdf 11 20 45.8 -1.4**
SPITS Spitsbergen Ar 133.29 356 PKP **PKPdf 11 20 57.1 -0.9**
comp=Z,62nm,1.4s,baz=57,slow=5.3,SNR=2.0
ARU Arti 134.01 320 PKP **PKPdf 11 20 59.2 -0.7**
comp=Z,3.9nm,0.3s,baz=108,slow=3.8,SNR=4.8
ARU Arti 134.01 320 *i* PKIKP **PKPdf 11 20 59.8 -0.1**
ARCES ARCESS Array B 140.07 347 PKhKP PKPpre 11 21 03.5
comp=Z,3.3nm,0.8s,baz=46,slow=3.5,SNR=6.6
ARCES PKP **PKPdf 11 21 10.4 -0.3**
comp=Z,3.1nm,0.5s,baz=6.6,slow=1.5,SNR=14
ARCES ARCESS Array B 140.07 347 PKPdf **PKiKP 11 21 12.7 -0.5**
ARCES ARCESS Array B 140.07 347 PKIKP **PKiKP 11 21 12.7 -0.5**
KLMR Klimovskoe 141.94 331 *e* PKPdf **PKPdf 11 21 11.5 -2.9**
KLMR AMP 11 21 13.9
comp=Z,18nm,1.5s
KLMR Klimovskoe 141.94 331 *e* PKIKP **PKPdf 11 21 11.4 -2.9**
KLMR pmax pmax
comp=Z,18nm,1.5s
KONS Konsvik 144.79 352 *e* **PKPab 11 21 17.7 -0.5**
VRH Novokhopyorsk 144.86 315 *e* PKIKP **PKPab 11 21 18.2 -0.7**
VRH pmax pmax
comp=Z,5.0nm,0.4s
MOR8 Moi Rana 144.93 351 *e* **PKPab 11 21 17.2 -1.6**
STOK Stokkvaagen 144.96 352 *e* **PKPab 11 21 18.5 -0.3**
MOS Moscow 145.37 324 *e* PKP2 **PKPbc 11 21 18.5 -1.9**
KBZ Khabaz 145.57 302 PKPbc **PKPdf 11 21 20.7 -0.5**
comp=Z,8.8nm,0.9s,baz=148,slow=3.9,SNR=8.3
KBZ Khabaz 145.57 302 *e* PKIKP **PKPdf 11 21 20.1 -1.1**
KIV Kislovodsk 145.70 302 *i* PKP2 **PKiKP 11 21 25.7 0.0**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,33nm,25.0s
LPSR Galich'ya Gora 146.01 318 *e* PKIKP **PKPdf 11 21 20.7 -1.0**
LPSR pmax pmax
comp=Z,40nm,1.2s
VORR Voronezh 146.20 317 *e* PKP2 **PKPdf 11 21 21.9 -0.1**
VORR pmax pmax
comp=Z,90nm,0.4s
OBN Obninsk 146.20 324 PKPbc **PKPdf 11 21 21.5 -0.3**
comp=Z,4.0nm,0.4s,baz=181,slow=14,SNR=4.3
OBN Obninsk 146.20 324 *e* PKP2 **PKPdf 11 21 21.6 -0.3**
OBN *e* 11 24 46.5
OBN pmax pmax
comp=Z,45nm,1.5s
OBN MLR MLR
comp=Z,24nm,15.0s
VSR Storozhevoye 146.38 316 *e* PKIKP **PKPdf 11 21 21.6 -0.8**
VSR pmax pmax
comp=Z,20nm,0.6s
FIA1 FINESS Array S 146.49 339 PKPdf **PKPdf 11 21 22.5 +0.3**
FINES FINESS Array B 146.49 339 PKPbc **PKPdf 11 21 22.4 +0.2**
comp=Z,14nm,0.4s,baz=49,slow=4.5,SNR=130
NSS Namsos 146.82 352 *e* **PKPbc 11 21 23.7 -0.9**
MEF Metsahovi 147.96 338 *eP* **PKPbc 11 21 26.8 -1.0**
RAF Rauma 148.08 341 *eP* **PKPbc 11 21 27.2 -0.9**
VSU Vasula 148.49 335 *eP* **PKPbc 11 21 28.4 -0.9**
VSU Vasula 148.49 335 *e* PKP2 **PKPbc 11 21 28.6 -0.6**
DOMB Dombas 149.57 353 *eP* **PKPbc 11 21 31.5 -0.5**
DOMB IAmb IAmb 11 21 34.2
comp=Z,44nm,1.4s
NC303 NORSAR Array S 150.08 350 PKPbc **PKPbc 11 21 32.8 -0.4**
NC405 NORSAR Array S 150.13 350 PKPbc **PKPbc 11 21 32.8 -0.5**
NB2 NORSAR Subarra 150.28 350 PKP **PKPbc 11 21 33.2 -0.5**
comp=Z,9nm,0.4s,baz=14,slow=2.5
NOA NORSAR Array B 150.28 350 PKPbc **PKPbc 11 21 33.0 -0.7**
comp=Z,3.8nm,0.4s,baz=15,slow=4.1,SNR=21
NOA NORSAR Array B 150.28 350 PKIKP **PKPbc 11 21 33.0 -0.7**
FOO Floro 150.33 356 *eP* **PKPbc 11 21 33.2 -0.4**
NBO00 NORSAR Array S 150.34 351 PKPbc **PKPbc 11 21 33.2 -0.7**
NC602 NORSAR Array S 150.52 350 *eP* **PKPbc 11 21 33.3 -0.9**
MNK Minsk 150.72 328 *i* PKP **PKPbc 11 21 32.4 -2.4**
comp=E,4.0nm,0.9s
MNK *i* PKP **PKPbc 11 21 32.4 -2.4**
comp=N,27nm,0.7s
MNK *i* PKP **PKPbc 11 21 32.4 -2.4**
comp=Z,12nm,0.7s,baz=231
MNK *i* PKiKP **PKPab 11 21 39.3 -2.7**
MNK *i* PP **PP 11 25 15.0 +3.1**
MNK *i* PPP PPP 11 28 37.5
MNK *i* SKS **SKSdf 11 28 40.3 +7.3**
MNK *i* SS SS 11 44 44.4 +16
MNK *i* SSS SSS 11 50 18.3
MNK Minsk 150.72 328 *i* PKIKP **PKPbc 11 21 32.4 -2.4**
MNK *i* 11 21 39.3
MNK *i* 11 25 15.0
MNK *i* PPP PPP 11 28 37.4
MNK *i* 11 28 40.3
MNK *i* SSS SSS 11 50 18.3
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=N,27nm,0.7s
HFS Hagfors 150.73 347 PKPbc **PKPbc 11 21 33.4 -1.3**
comp=N,7.7nm,0.4s,baz=134,slow=6.4,SNR=51
NACGM Naroch 150.94 329 *i* PKiKP **PKPbc 11 21 34.6 -0.7**
comp=Z,63nm,1.1s,baz=48
SKAR Skarslia 150.98 353 *eP* **PKPbc 11 21 35.6 +0.3**
SKAR IAmb IAmb 11 21 36.4
comp=Z,19nm,0.8s
PABE Paberze 151.68 333 PKPbc **PKPbc 11 21 37.0 0.0**
PABE Paberze 151.68 333 *eP* **PKPbc 11 21 36.7 -0.3**
KONO Kongsberg 151.84 351 PKPbc **PKiKP 11 21 37.7 +0.1**
KONO Kongsberg 151.84 351 PKIKP **PKiKP 11 21 37.7 +0.1**
ODD1 Odda 151.90 354 *eP* **PKPbc 11 21 37.4 -0.1**
AKASG Malin Array Be 152.26 320 PKPbc **PKPbc 11 21 37.7 -0.8**
comp=Z,1.5nm,0.4s,baz=59,slow=2.8,SNR=20
AKBB Malin Array Si 152.26 320 PKPbc **PKPbc 11 21 37.8 -0.7**
AKBB Malin Array Si 152.26 320 PKIKP **PKPbc 11 21 37.8 -0.7**
BLS5 Blasjo 152.39 354 *eP* **PKiKP 11 21 39.1 +0.3**
KMY Karmoy 152.69 356 *eP* **PKPbc 11 21 39.2 0.0**
BR131 Keskin Array S 152.89 296 PKPbc **PKPbc 11 21 39.3 -1.2**
BR131 Keskin Array S 152.89 296 PKIKP **PKPbc 11 21 39.3 -1.2**
BRTR Keskin Array B 152.89 296 PKPbc **PKPbc 11 21 39.2 -1.2**
comp=Z,1.7nm,0.4s,baz=147,slow=2.5,SNR=15
BRTR Keskin Array B 152.89 296 PKPbc **PKPbc 11 21 39.5 -1.0**
HOMB Homborsund 153.32 352 *eP* **PKPbc 11 21 40.5 -0.1**
LIC Lamto 153.63 165 *i* PKIKP **PKiKP 11 21 43.5 +0.7**
comp=Z,40nm,0.6s
KIC Kosan Boka 153.82 166 *i* PKIKP **PKiKP 11 21 43.9 +0.7**
comp=Z,5.1nm,0.3s
TIC Toumodi 154.04 165 *e* PKIKP **PKiKP 11 21 44.0 +0.3**
comp=Z,23nm,0.8s
DBIC Dimbokro 154.10 166 PKPbc **PKiKP 11 21 44.5 +0.8**
comp=Z,8.8nm,0.8s,baz=112,slow=1.5,SNR=7.0
CLL Collm 158.93 339 *e* PKPab **PKPab 11 22 16.0 -1.0**
CLL Collm 158.93 339 *e* PKP2 **PKPab 11 22 16.0 -1.0**
ESDC Sonseca Array 171.21 28 PKP **PKPdf 11 21 52.2 +0.6**
comp=Z,1.9nm,1.0s,baz=354,slow=3.0,SNR=6.8

*IDC **25** 11:10:26.6±2.3, 37.°17N×141.°59E, h0km, mb3.4/3, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=44.4km s-min=36.5km az=49.0*
*JMA **25** 11:10:29.0±0.2, 37.°1N±0.°3×141.°4E±0.°8, h27km±1km, MV3.4/40, E OFF FUKUSHIMA PREF*
ISC 25 11:10:27.6±2.0, 37.°13N±0.°06×141.°47E±0.°08, h8km±11km, n13, σ0°62/20, mb3.4/3, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**297**	*i* P		**Pg**		**11 10 38.5**	**+0.6**
JFK						eS	**Sg**	**11 10 45.4**	**+0.6**
JFFD	**Fukushimafurud**	**0.73**	**267**	*i* P		**Pg**		**11 10 41.7**	**+0.2**
JFFD						S	**Sg**	**11 10 50.9**	**-0.2**
JMST	**Minamisoumatoc**	**0.75**	**322**	*i* P		**Pb**		**11 10 42.7**	**-0.3**
JMST						S	**Sb**	**11 10 52.8**	**-0.7**
JHO	**Hitachi**	**0.89**	**235**	*i* P		**Pg**		**11 10 44.0**	**-0.7**
JMM	**Marumori**	**0.91**	**324**	*i* P		**Pb**		**11 10 45.4**	**-0.3**
JMM						S	**Sg**	**11 10 57.2**	**+0.2**
JSB	**Shiboa**	**1.25**	**263**	P		**Pn**		**11 10 51.1**	**-0.3**
JIO	**Ouri**	**1.33**	**356**	P		**Pb**		**11 10 52.3**	**-0.5**
JIO						eS	**Sb**	**11 11 08.6**	**-1.3**
JOU	**Okura**	**1.39**	**333**	*i* P		**Pb**		**11 10 53.6**	**-0.2**
JFY	**Yanaizu**	**1.43**	**282**	*i* P		**Pn**		**11 10 53.8**	**-0.2**
JFY						S	**Sn**	**11 11 12.5**	**-0.5**
MJAR	**Matsushiro Arr**	**2.68**	**258**	Pn		**Pn**		**11 11 11.6**	**+0.6**
	1.0nm,0.3s,baz=83,slow=16,SNR=47								
MJAR						Sn	**Sb**	**11 11 48.3**	**-0.5**
	0.7nm,0.3s,baz=185,slow=22,SNR=7.1								
	4.5nm,0.3s								
MKAR	**Makanchi Array**	**44.11**	**302**	P		**P**		**11 18 36.5**	**+0.2**
	0.4nm,0.7s,baz=80,slow=9.5,SNR=3.0								
	0.4nm,0.7s								
KURBB	**Kurchatov Arra**	**45.98**	**308**	P		**P**		**11 18 51.9**	**+0.8**
	0.3nm,0.3s,baz=79,slow=7.3,SNR=2.8								
	0.3nm,0.3s								
WRA	**Warramunga Arr**	**57.16**	**188**	P		**P**		**11 20 15.6**	**+0.6**
	0.3nm,0.8s,baz=5.0,slow=7.5,SNR=2.4								
	0.3nm,0.8s								

*IDC **25** 11:13:02.6±1.2, 37.°30N×141.°59E, h0km, mb3.6/6, mbtmp3.6/8, ML2.8/2, MS2.5/1, Error ellipse: s-maj=26.5km s-min=23.2km az=61.0*
*JMA **25** 11:13:06.3±0.2, 37.°2N±0.°3×141.°3E±0.°8, h23km±1km, MV3.8/33, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **25** 11:13:06.3, 37.°23N×141.°29E, h23km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=3.20; Mθθ1.36; Mφφ 1.84; Mrθ 1.49; Mθφ 1.50; Mφr 1.05; Fault plane solution: M₀3.65000×10¹⁴ NP1:φs34.00000°, δ31.00000°, λ,-101.00000°. NP2:φs227.00000°, δ60.00000°, λ,-83.00000°.*
ISC 25 11:13:04.1±2.3, 37.°18N±0.°05×141.°43E±0.°09, h7km±12km, n26, σ1°37/25, mb3.6/6, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**292**	*i* P		**Pg**		**11 13 13.7**	**+0.2**
JFK						S	**Sg**	**11 13 19.2**	**-0.5**
JMST	**Minamisoumatoc**	**0.69**	**321**	*i* P		**Pg**		**11 13 17.7**	**+0.2**
JMST						S	**Sb**	**11 13 26.4**	**-1.9**
JFFD	**Fukushimafurud**	**0.70**	**263**	*i* P		**Pg**		**11 13 17.8**	**+0.1**
JFFD						S	**Sg**	**11 13 26.0**	**-0.8**
JMM	**Marumori**	**0.85**	**323**	*i* P		**Pg**		**11 13 20.4**	**0.0**
JMM						S	**Sg**	**11 13 31.1**	**-0.4**
JHO	**Hitachi**	**0.90**	**231**	P		**Pg**		**11 13 21.2**	**-0.2**
JHO						eS	**Sg**	**11 13 32.2**	**-0.8**
JSB	**Shiboa**	**1.23**	**260**	P		**Pb**		**11 13 27.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.66**	**257**	Pn		**Pn**		**11 13 48.2**	**+0.8**
	0.9nm,0.3s,baz=83,slow=25,SNR=14								
MJAR						Sn	**Sb**	**11 14 23.3**	**-1.8**
	1.7nm,0.3s,baz=83,slow=16,SNR=6.2								
	5.2nm,0.4s								
MJAR	**Matsushiro Arr**	**2.66**	**257**	P		**Pn**		**11 13 48.3**	**+0.8**
MAJO	**Matsushiro**	**2.67**	**257**	*e* P		**Pn**		**11 13 48.7**	**+1.2**
MAJO	**Matsushiro**	**2.67**	**257**	pmax		pmax			
	comp=Z,70nm,0.6s								
MAJO	**Matsushiro**	**2.67**	**257**	P		**Pn**		**11 13 48.8**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.67**	**257**	P		**Pn**		**11 13 49.9**	**+2.3**
USRK	**Ussuriysk Ar.**	**10.02**	**317**	Pn		**Pn**		**11 15 30.9**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=142,slow=14,SNR=2.2								
KSRS	**Korea Array**	**10.77**	**276**	Pn		**Pn**		**11 15 41.8**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=85,slow=15,SNR=1.7								
KSRS						LR	LR	11 20 09.1	
	comp=Z,21nm,18.8s,baz=65,slow=39								
	comp=Z,0.5nm,0.6s								
SONM	**Songino Array**	**27.71**	**304**	P		**P**		**11 18 53.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=104,slow=8.9,SNR=3.7								
	comp=Z,0.5nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T		T		11 48 31.5	
	baz=314,slow=76,SNR=60								
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T		T		11 48 36.8	
	baz=314,slow=76,SNR=54								
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T		T		11 48 32.9	
	baz=314,slow=76,SNR=60								
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T		T		11 49 29.6	
	baz=316,slow=76,SNR=26								
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T		T		11 49 29.8	
	baz=316,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T		T		11 49 24.3	
	baz=316,slow=76,SNR=15								
MKAR	**Makanchi Array**	**44.05**	**302**	P		**P**		**11 21 11.7**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=77,slow=6.4,SNR=2.1								
	comp=Z,0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**45.92**	**308**	P		**P**		**11 21 26.6**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=83,slow=8.2,SNR=4.4								
	comp=Z,1.3nm,0.4s								
ILAR	**Eielson Array**	**49.36**	**32**	P		**P**		**11 21 52.0**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=272,slow=6.2,SNR=3.1								
	comp=Z,0.4nm,0.8s								
WRA	**Warramunga Arr**	**57.21**	**188**	P		**P**		**11 22 52.3**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=5.0,slow=7.3,SNR=22								
	comp=Z,0.6nm,0.5s								
ASAR	**Alice Springs**	**60.94**	**188**	P		**P**		**11 23 18.6**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=13,slow=9.0,SNR=5.1								
	comp=Z,0.5nm,0.9s								

*IDC **25** 11:17:04.9±0.8, 12.°99N×93.°01E, h0km, mb4.1/19, mbtmp4.1/21, ML4.2/2, MS3.4/16, Error ellipse: s-maj=23.5km s-min=15.6km az=43.0*
*NDI **25** 11:17:07.3±2.0, 13.°00N×92.°97E, h10km, ML4.6, mb4.6(NEIC)*
*NEIC **25** 11:17:10.7±1.8, 13.°14N±0.°09×93.°06E±0.°09, h33km±5km, mb4.6/64, Error ellipse: s-maj=12.9km s-min=12.4km az=224.0*
ISC 25 11:17:07.8±1.0, 13.°13N±0.°06×93.°03E±0.°06, h17km±6km, n128, σ0°88/115, mb4.5/44, MS3.4/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.11**	**298**	*eP*		**Pg**		**11 17 11.6**	**+0.2**
DGPR						eS	**Sg**	**11 17 13.4**	**-0.4**
DGPR						IAML		11 17 14.3	
	comp=N,201μm,0.5s								
DGPR						IAML		11 17 14.6	
	comp=E,152μm,0.5s								
CM31	**Chiang Mai Arr**	**7.78**	**46**			**Pn**		**11 19 01.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**7.78**	**46**	Pn		**Pn**		**11 19 02.5**	**+2.2**
	comp=E,1.4nm,0.3s,baz=237,slow=15,SNR=36								
CMAR						Sn	**Sn**	**11 20 28.2**	**+0.1**
	comp=E,1.1nm,0.3s,baz=238,slow=28,SNR=4.4								
CMAR						LR	LR	11 22 56.0	
	comp=E,189nm,19.1s,baz=230,slow=44								
	comp=E,6.8nm,0.7s								
CMAR	**Chiang Mai Arr**	**7.78**	**46**	Pn		**Pn**		**11 18 59.4**	**-0.9**
CHTO	**Chiang Mai**	**8.02**	**44**			**Pn**		**11 19 04.0**	**+0.4**
PHRA	**Phrae**	**8.75**	**51**			**Pn**		**11 19 14.1**	**+0.5**
SAIH	**SAIHA**	**9.31**	**360**	*eP*		**Pn**		**11 19 22.5**	**+1.0**
SAIH				*eS*		**Sn**		**11 21 03.3**	**-2.8**
MND	**Mandalay**	**9.32**	**18**	Pn		**Pn**		**11 19 21.9**	**+0.5**
VIS	**Vishakhapatnam**	**10.41**	**297**	*eP*		**Pn**		**11 19 36.0**	**-0.4**
VIS				*eS*		Sn		11 21 23.1	-10
VIS				IAML				11 21 28.1	
	comp=N,142nm,0.5s								
VIS				IAML				11 21 28.1	
	comp=E,118nm,0.3s								
SHL	**Shillong**	**12.42**	**355**	Pn		**Pn**		**11 20 03.2**	**-0.9**
SHL	**Shillong**	**12.42**	**355**	*eP*		**Pn**		**11 20 04.3**	**+0.2**
SHL				*eS*		Sn		11 22 14.3	-8.1
BOK	**Bokaro**	**12.59**	**328**	*eP*		**Pn**		**11 20 05.5**	**-0.7**
BOK				*eS*		Sn		11 22 18.5	-7.6
BOK				*eS*		Sn		11 22 18.6	-7.6
PALK	**Pallekele**	**13.45**	**246**	Pn		**Pn**		**11 20 17.7**	**-0.4**
	comp=E,0.8nm,0.3s,baz=222,slow=24,SNR=1.3								
PALK						Sn	Sn	11 22 37.7	-10
	comp=E,2.8nm,0.3s,baz=78,slow=20,SNR=6.4								
PALK						LR	LR	11 25 11.3	
	comp=E,75nm,20.5s,baz=172,slow=36								
	comp=E,2.2nm,0.3s								
PALK	**Pallekele**	**13.45**	**246**	Pn		**Pn**		**11 20 18.3**	**+0.2**
ODAN	**Odare**	**14.65**	**340**	*eP*		**Pn**		**11 20 34.5**	**-0.2**
RAMN	**Ramite**	**15.02**	**337**	*eP*		**Pn**		**11 20 39.0**	**-0.6**
	comp=E,84nm,0.4s								
JIRN	**Jiri**	**15.81**	**337**	*eP*		**Pn**		**11 20 49.6**	**-0.5**
	comp=E,53nm,0.4s								
PKI	**Pulchoki**	**16.04**	**335**	*eP*		**Pn**		**11 20 52.5**	**-0.6**
	comp=E,34nm,0.3s								
PKIN	**Phulchoki**	**16.05**	**335**	*eP*		**Pn**		**11 20 52.1**	**-1.0**
DMN	**Daman**	**16.20**	**334**	*eP*		**Pn**		**11 20 54.1**	**-1.0**
	comp=E,68nm,0.5s								
KKN	**Kakani**	**16.29**	**335**	*eP*		**Pn**		**11 20 55.3**	**-0.8**
PCHI	**Peechi**	**16.53**	**263**	*eS*		Sn		11 23 47.2	-15
LSA	**Lhasa**	**16.59**	**354**			**Pn**		**11 21 00.7**	**+0.6**
GKN	**Gorkha**	**16.75**	**333**	*eP*		**Pn**		**11 21 01.7**	**-0.2**
	comp=E,46nm,0.3s								
KOLN	**Koldanda**	**17.03**	**330**	*eP*		**Pn**		**11 21 04.9**	**-0.6**
DANN	**Dangsing**	**17.44**	**332**	*eP*		**Pn**		**11 21 10.6**	**-0.1**
	comp=E,35nm,0.4s								
PYUN	**Piuthan**	**17.60**	**329**	*eP*		**Pn**		**11 21 12.7**	**+0.1**
BHPL	**Bhopal**	**17.90**	**306**	*eP*		**Pn**		**11 21 17.8**	**+1.6**
PMBI	**Palembang**	**19.75**	**143**	P		**P**		**11 21 36.3**	**-0.8**
ENH	**Enshi**	**22.86**	**39**	P		**P**		**11 22 09.8**	**-0.7**
ENH				IAmb		IAmb		11 22 23.6	
	comp=Z,20nm,0.9s								
KKM	**Kota Kinabalu**	**23.90**	**105**	P		**P**		**11 22 19.9**	**-1.2**
KKM				IAmb		IAmb		11 22 42.4	
	comp=Z,16nm,1.3s								
NIL	**Nilore**	**27.23**	**322**	P		**P**		**11 22 49.8**	**-1.4**
NIL				IAmb		IAmb		11 22 53.3	
	comp=Z,13nm,0.7s								
KBL	**Kabul**	**30.45**	**319**	P		**P**		**11 23 20.8**	**+0.9**
KBL				IAmb		IAmb		11 23 21.6	
	comp=Z,5.4nm,0.8s								
TARG	**Taragay, Kyrgy**	**31.43**	**338**	P		**P**		**11 23 28.4**	**-0.4**
NRN	**Naryn**	**31.88**	**335**	P		**P**		**11 23 33.2**	**+0.7**
DAV	**Davao City (W)**	**32.58**	**97**	LR		LR		11 37 38.8	
	comp=Z,24nm,19.5s,baz=106,slow=38								
AAK	**Ala-Archa**	**33.50**	**335**	P		**P**		**11 23 48.0**	**+1.4**
	comp=Z,2.9nm,0.8s,baz=122,slow=14,SNR=3.7								
AAK				LR		LR		11 40 56.6	
	comp=Z,45nm,19.8s,baz=152,slow=43								
	comp=Z,2.9nm,0.8s								
AAK	**Ala-Archa**	**33.50**	**335**	P		**P**		**11 23 47.4**	**+0.8**
AAK				IAmb		IAmb		11 23 50.0	
	comp=Z,4.7nm,0.9s								
MK31	**Makanchi Array**	**34.76**	**347**	P		**P**		**11 23 57.1**	**-0.2**
MKAR	**Makanchi Array**	**34.76**	**347**	P		**P**		**11 23 58.2**	**+0.9**
	comp=Z,2.0nm,0.4s,baz=164,slow=8.3,SNR=26								
MKAR						LR	LR	11 41 13.3	
	comp=Z,35nm,19.1s,baz=129,slow=42								
	comp=Z,2.0nm,0.4s								
MKAR	**Makanchi Array**	**34.76**	**347**	P		**P**		**11 23 57.9**	**+0.6**
MAKZ	**Makanchi**	**34.84**	**347**	P		**P**		**11 23 58.8**	**+0.8**
KK31	**Karatay Array**	**35.63**	**331**	P		**P**		**11 24 04.2**	**-0.7**
KK31				IAmb		IAmb		11 24 07.6	
	comp=Z,5.7nm,1.2s								
KKAR	**Karatay Array**	**35.63**	**331**	P		**P**		**11 24 04.0**	**-0.9**
JOW	**Kunigami**	**35.68**	**62**	LR		LR		11 40 15.0	
	comp=Z,72nm,18.9s,baz=117,slow=39								
SONM	**Songino Array**	**36.36**	**15**	P		**P**		**11 24 12.2**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=200,slow=7.7,SNR=11								
	comp=Z,2.1nm,0.6s								
SONM	**Songino Array**	**36.36**	**15**	P		**P**		**11 24 10.7**	**-0.5**
KURBB	**Kurchatov Arra**	**39.22**	**345**	P		**P**		**11 24 35.7**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=162,slow=7.8,SNR=26								
	comp=Z,3.5nm,0.7s								
KSAR	**Wonju Array Be**	**39.38**	**46**	P		**P**		**11 24 36.4**	**-0.3**
KSRS	**Korea Array**	**39.42**	**46**	P		**P**		**11 24 37.1**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=247,slow=9.0,SNR=7.8								
KSRS						LR	LR	11 42 53.4	
	comp=Z,44nm,18.2s,baz=140,slow=39								
	comp=Z,2.7nm,0.9s								
GEYT	**Alibeck**	**39.66**	**315**	P		**P**		**11 24 41.0**	**+1.9**
	comp=Z,8.1nm,0.7s,baz=151,slow=9.5,SNR=9.7								
	comp=Z,8.1nm,0.7s								
GEYT	**Alibeck**	**39.66**	**315**	P		**P**		**11 24 38.8**	**-0.2**
GEYT				IAmb		IAmb		11 24 41.9	
	comp=Z,8.0nm,0.8s								
GYA0B	**ALIBECK ARRAY**	**39.66**	**315**	P		**P**		**11 24 39.0**	**0.0**
GYA0B				IAmb		IAmb		11 24 41.8	
	comp=Z,8.9nm,0.7s								
ZAA0	**Zalesovo Array**	**41.24**	**353**	P		**P**		**11 24 52.2**	**+0.4**
ZALV	**Zalesovo Beam**	**41.24**	**353**	P		**P**		**11 24 52.4**	**+0.6**
	comp=Z,2.8n

MLR	**Muntele Rosu**	**64.71**	**314**	P	**P**	**11 27 46.9**	**+1.5**
	comp=Z,2.3nm,0.5s,baz=199,slow=3.6,SNR=4.1						
	comp=Z,2.3nm,0.5s						
IDI	**Anoyia**	**64.75**	**303**	LR	LR	12 00 06.8	
	comp=Z,17nm,20.8s,baz=94,slow=40						
BURAR	**Bucovina Array**	**65.48**	**316**	P	**P**	**11 27 49.7**	**-0.6**
BUR08	**Bucovina Ar. S**	**65.49**	**317**	P	**P**	**11 27 50.2**	**-0.2**
BUR08				IAmb	IAmb	11 28 07.1	
	comp=Z,6.1nm,1.4s						
FINES	**FINESS Array B**	**67.59**	**331**	P	**P**	**11 28 03.5**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=96,slow=10,SNR=4.6						
	comp=Z,2.3nm,0.6s						
ARCES	**ARCESS Array B**	**69.99**	**340**	P	**P**	**11 28 19.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=102,slow=5.3,SNR=5.3						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**69.99**	**340**	P	**P**	**11 28 17.1**	**-1.1**
ARCES				IAmb	IAmb	11 28 29.2	
	comp=Z,10nm,1.2s						
LSZ	**Lusaka**	**70.09**	**248**	LR	LR	11 56 20.8	
	comp=Z,50nm,19.6s,baz=136,slow=34						
MORC	**Moravsky Berou**	**70.73**	**318**	P	**P**	**11 28 22.7**	**-0.5**
MORC				IAmb	IAmb	11 28 24.8	
	comp=Z,4.0nm,0.8s						
GEC2	**GERESS Array S**	**73.23**	**317**	P	**P**	**11 28 37.8**	**-0.4**
GEC2				IAmb	IAmb	11 28 39.5	
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**73.23**	**317**	P	**P**	**11 28 38.4**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=93,slow=6.7,SNR=13						
	comp=Z,1.8nm,0.6s						
GERES	**GERESS Array B**	**73.23**	**317**	P	**P**	**11 28 38.7**	**+0.5**
CIMO	**Cimolais**	**74.16**	**315**	P	**P**	**11 28 43.5**	**-0.1**
CIMO				IAmb	IAmb	11 29 11.8	
	comp=Z,3.8nm,1.0s						
NOA	**NORSAR Array B**	**74.66**	**330**	P	**P**	**11 28 46.2**	**0.0**
	comp=Z,0.8nm,0.6s,baz=100,slow=7.8,SNR=1.3						
	comp=Z,0.8nm,0.6s						
NAO01	**NORSAR Array S**	**74.81**	**330**	P	**P**	**11 28 46.1**	**-1.0**
SENIN	**Lac Senin/Sane**	**77.70**	**315**	P	**P**	**11 29 03.1**	**-1.0**
SUR	**Sutherland**	**82.45**	**234**	LR	LR	12 01 08.4	
	comp=Z,57nm,18.1s,baz=143,slow=32						
EKA	**Eskdalemuir Ar**	**82.81**	**325**	P	**P**	**11 29 31.1**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=75,slow=6.3,SNR=4.7						
	comp=Z,1.6nm,0.8s						
IMAR	**Indian Mountai**	**87.21**	**22**	P	**P**	**11 29 54.1**	**+1.0**
TOLK	**Toolik Lake Re**	**87.38**	**19**	P	**P**	**11 29 55.1**	**+1.2**
TOLK				IAmb	IAmb	11 30 06.7	
	comp=Z,11nm,1.4s						
H21K	**Melozitna Rive**	**87.70**	**22**	P	**P**	**11 29 57.2**	**+1.7**
H21K				IAmb	IAmb	11 29 57.8	
	comp=Z,3.5nm,1.1s						
CAST	**Castle Rocks**	**89.02**	**24**	P	**P**	**11 30 02.6**	**+0.9**
CAST				IAmb	IAmb	11 30 06.5	
	comp=Z,5.0nm,0.9s						
PPLA	**Purkeypile**	**89.22**	**25**	P	**P**	**11 30 04.3**	**+1.5**
M20K	**Styx River**	**89.30**	**26**	P	**P**	**11 30 05.2**	**+2.1**
BMAR	**Burnt Mountain**	**89.61**	**19**	P	**P**	**11 30 04.8**	**+0.3**
TRF	**Thorofare Moun**	**89.71**	**24**	P	**P**	**11 30 06.2**	**+1.0**
TRF				IAmb	IAmb	11 30 17.7	
	comp=Z,9.8nm,1.4s						
MDM	**Murphy Dome**	**89.72**	**22**	P	**P**	**11 30 05.9**	**+0.9**
MDM				IAmb	IAmb	11 30 13.1	
	comp=Z,7.8nm,1.4s						
SKT	**Skwentna**	**89.92**	**25**	P	**P**	**11 30 06.4**	**+0.4**
MCK	**McKinley**	**90.09**	**23**	P	**P**	**11 30 07.9**	**+1.2**
MCK				IAmb	IAmb	11 30 18.4	
	comp=Z,10nm,1.4s						
IL31		**90.31**	**22**	P	**P**	**11 30 08.3**	**+0.6**
IL31				IAmb	IAmb	11 30 18.8	
	comp=Z,5.5nm,1.5s						
ILAR	**Eielson Array**	**90.31**	**22**	P	**P**	**11 30 07.3**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=292,slow=4.7,SNR=11						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**90.31**	**22**	P	**P**	**11 30 07.6**	**-0.1**
PRP	**Porcupine Dome**	**90.38**	**21**	P	**P**	**11 30 08.3**	**+0.1**
PRP				IAmb	IAmb	11 30 22.8	
	comp=Z,8.2nm,1.4s						
HDA	**Harding Lake**	**90.48**	**22**	P	**P**	**11 30 08.3**	**-0.2**
HDA				IAmb	IAmb	11 30 18.2	
	comp=Z,3.9nm,1.2s						
SUA	**Susitna One**	**90.50**	**26**	P	**P**	**11 30 09.2**	**+0.4**
ODZ	**Otahua Downs**	**90.63**	**136**	P	**P**	**11 30 09.5**	**0.0**
DHY	**Denali Highway**	**91.04**	**23**	P	**P**	**11 30 10.6**	**-0.7**
BRLK	**Bradley Lake**	**91.27**	**27**	P	**P**	**11 30 12.9**	**+0.6**
I26K	**Coal Creek Min**	**91.32**	**20**	P	**P**	**11 30 13.0**	**+0.7**
A36M	**Sachs Harbour**	**91.34**	**11**	P	**P**	**11 30 13.2**	**+0.9**
SCRK	**Sand Creek**	**91.80**	**22**	P	**P**	**11 30 15.8**	**+0.9**
SCRK				IAmb	IAmb	11 30 19.6	
	comp=Z,2.2nm,1.0s						
PWL	**Port Wells**	**91.82**	**25**	P	**P**	**11 30 16.2**	**+1.4**
M26K	**Nabesna, AK**	**93.09**	**23**	P	**P**	**11 30 22.5**	**+1.8**
M26K				IAmb	IAmb	11 30 30.5	
	comp=Z,6.4nm,1.4s						
BCAR	**Beaver Creek A**	**93.14**	**22**	P	**P**	**11 30 22.7**	**+1.8**
C36M	**Paulatuk**	**93.71**	**12**	P	**P**	**11 30 23.6**	**+0.3**
C36M				IAmb	IAmb	11 30 51.7	
	comp=Z,5.4nm,1.2s						

*NOU **25** 11:28:40.1,40˚.80S×177˚.13E,h0km,MLv4.0/7,Off E. Coast of N. Island, N.Z.*
*WEL **25** 11:28:43.0±0.8,41˚.5±4˚×17˚.7E±˚,h24km±5km,M3.8/61, ML4.1/30,MLv3.8/61,Error ellipse: s-maj=0.0km s-min=0.0km az=121.1*

ISC 25 11:28:39.8±1.6,40˚.95S±0˚.04×177˚.03E±0˚.05,h16km±11km, n117,σ1§09/124,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPWZ	**Castlepoint**	**0.63**	**274**	P	**Pb**	**11 28 54.4**	**+2.0**
CPWZ				S	**Sb**	**11 29 03.3**	**+2.3**
ANWZ	**Angora Road**	**0.65**	**319**	P	**Pg**	**11 28 53.1**	**+0.6**
ANWZ				S	**Sg**	**11 29 00.6**	**-0.5**
BFZ	**Birch Farm**	**0.65**	**294**	P	**Pg**	**11 28 53.2**	**+0.6**
BFZ	**Birch Farm**	**0.65**	**294**	P	**Pg**	**11 28 53.2**	**+0.6**
BFZ				S	**Sg**	**11 29 01.4**	**+0.1**
PRHZ	**Porangahau**	**0.75**	**336**	P	**Pg**	**11 28 55.4**	**+1.0**
PRHZ				S	**Sg**	**11 29 04.3**	**0.0**
TMWZ	**Te Maipa**	**0.88**	**259**	P	**Pb**	**11 28 57.9**	**+1.2**
TIWZ	**Tintock**	**0.89**	**281**	P	**Pg**	**11 28 57.3**	**+0.3**
PRWZ	**Pori Road**	**0.90**	**296**	P	**Pg**	**11 28 57.2**	**0.0**
DVHZ	**Dannevirke**	**0.93**	**314**	P	**Pg**	**11 28 57.2**	**-0.6**
DVHZ				S	**Sg**	**11 29 07.6**	**-2.4**
PXZ	**Pawanui**	**0.93**	**352**	P	**Pg**	**11 28 58.6**	**+0.8**
WPHZ	**Waipukurau**	**0.99**	**333**	P	**Pg**	**11 28 58.9**	**-0.1**
TRWZ	**Traveller**	**1.11**	**246**	P	**Pg**	**11 29 01.5**	**+0.3**
POWZ	**Post Office Ro**	**1.11**	**300**	P	**Pg**	**11 29 00.3**	**-1.0**
MRZ	**Mangatainoka R**	**1.14**	**284**	P	**Pb**	**11 29 00.5**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.15**	**272**	P	**Pb**	**11 29 01.1**	**-0.3**
KAHZ	**Kahuranaki**	**1.16**	**354**	P	**Pb**	**11 29 02.0**	**+0.4**
MTW	**Mount Morrison**	**1.18**	**259**	P	**Pb**	**11 29 01.8**	**0.0**
TSZ	**Takapari Road**	**1.21**	**317**	P	**Pb**	**11 29 01.6**	**-0.8**
TSZ				S	**Sb**	**11 29 14.7**	**-3.0**
PNHZ	**Pukenui**	**1.22**	**328**	P	**Pb**	**11 29 02.0**	**-0.5**
PNHZ				S	**Sb**	**11 29 15.1**	**-2.8**
PAWZ	**Paruwai Farm**	**1.28**	**250**	P	**Pn**	**11 29 03.5**	**+0.4**
CKHZ	**Cape Kidnapper**	**1.29**	**2**	P	**Pn**	**11 29 04.0**	**+0.8**
OGWZ	**Otaki Gorge**	**1.42**	**275**	P	**Pn**	**11 29 04.7**	**-0.2**
PLWZ	**Palliser**	**1.47**	**245**	P	**Pn**	**11 29 05.9**	**+0.1**
CAW	**Cannon Point**	**1.49**	**263**	P	**Pn**	**11 29 06.0**	**0.0**
OHWZ	**Ohakea**	**1.50**	**299**	P	**Pn**	**11 29 07.0**	**+0.9**
MCHZ	**McNeill Hill**	**1.53**	**350**	P	**Pn**	**11 29 07.2**	**+0.8**
KWHZ	**Kaweka Forest**	**1.60**	**343**	P	**Pn**	**11 29 08.2**	**+0.7**
KIW	**Kapiti Island**	**1.61**	**273**	P	**Pn**	**11 29 07.8**	**+0.2**
BHHZ	**Black Hill Sta**	**1.64**	**333**	P	**Pn**	**11 29 08.1**	**+0.1**
ARHZ	**Aropaoanui**	**1.69**	**359**	P	**Pn**	**11 29 09.4**	**+0.8**
MOVZ	**Moawhango**	**1.83**	**327**	P	**Pn**	**11 29 11.1**	**+0.5**
BKZ	**Black Stump Fm**	**1.83**	**347**	P	**Pn**	**11 29 11.0**	**+0.3**
BKZ	**Black Stump Fm**	**1.83**	**347**	P	**Pn**	**11 29 11.1**	**+0.4**
NMHZ	**Naumai**	**1.86**	**355**	P	**Pn**	**11 29 12.0**	**+0.9**
WHHZ	**Waihua**	**1.88**	**5**	P	**Pn**	**11 29 12.3**	**+1.0**
MHGZ	**Mahia Peninsul**	**1.92**	**21**	P	**Pn**	**11 29 12.7**	**+0.9**
WNVZ	**Wahianoa**	**1.96**	**325**	P	**Pn**	**11 29 13.6**	**+1.0**
WAZ	**Wanganui**	**1.97**	**307**	P	**Pn**	**11 29 13.8**	**+1.3**
TUVZ	**Tukino**	**1.99**	**327**	P	**Pn**	**11 29 13.8**	**+0.9**
KNZ	**Kokohu**	**1.99**	**15**	P	**Pn**	**11 29 12.7**	**-0.1**
WHVZ	**Whangaehu Hut**	**2.00**	**326**	P	**Pn**	**11 29 14.1**	**+1.0**
DRZ	**Dome Shelter**	**2.02**	**326**	P	**Pb**	**11 29 17.8**	**+1.5**
RAHZ	**Arahi**	**2.03**	**1**	P	**Pn**	**11 29 14.1**	**+0.7**
FWVZ	**Far West T-bar**	**2.04**	**326**	P	**Pn**	**11 29 15.0**	**+1.3**
SNVZ	**South Ngauruho**	**2.06**	**328**	P	**Pn**	**11 29 15.1**	**+1.2**
OTVZ	**Oturere**	**2.07**	**329**	P	**Pn**	**11 29 15.3**	**+1.2**
ETVZ	**East Tongariro**	**2.08**	**330**	P	**Pn**	**11 29 15.3**	**+1.2**
NGZ	**Ngauruhoe**	**2.09**	**328**	P	**Pn**	**11 29 15.4**	**+1.1**
TCW	**Tory Channel**	**2.10**	**262**	P	**Pn**	**11 29 14.3**	**0.0**
TMVZ	**Te Maari**	**2.10**	**331**	P	**Pn**	**11 29 15.6**	**+1.2**
MTHZ	**Maungataniwha**	**2.10**	**356**	P	**Pn**	**11 29 15.0**	**+0.6**
PKVZ	**Pokaka**	**2.10**	**322**	P	**Pn**	**11 29 15.9**	**+1.5**
NNVZ	**North Ngauruho**	**2.12**	**329**	P	**Pn**	**11 29 15.7**	**+1.0**
NTVZ	**North Tongarir**	**2.12**	**330**	P	**Pn**	**11 29 16.2**	**+1.4**
MRHZ	**Matea Rd**	**2.17**	**347**	P	**Pn**	**11 29 16.3**	**+1.0**
SNGZ	**Shannon Statio**	**2.18**	**6**	P	**Pn**	**11 29 16.2**	**+0.8**
KATZ	**Kakaramea**	**2.23**	**332**	P	**Pg**	**11 29 23.3**	**+0.8**
TWVZ	**Taurewa**	**2.24**	**326**	P	**Pn**	**11 29 17.3**	**+1.0**
RATZ	**Rangitukua**	**2.30**	**335**	P	**Pn**	**11 29 18.3**	**+1.2**
RIGZ	**Rimuhau**	**2.31**	**14**	P	**Pn**	**11 29 17.8**	**+0.6**
DUWZ	**D'Urville Isla**	**2.36**	**273**	P	**Pn**	**11 29 18.6**	**+0.6**
TUWZ	**Tuamarina**	**2.38**	**257**	P	**Pn**	**11 29 17.6**	**-0.6**
WHTZ	**Whakaora**	**2.43**	**340**	P	**Pb**	**11 29 22.8**	**-0.4**
ALRZ	**Allen Road**	**2.44**	**347**	P	**Pn**	**11 29 19.8**	**+0.8**
MUGZ	**Murupara**	**2.48**	**355**	P	**Pn**	**11 29 20.2**	**+0.6**
PRRZ	**Plateau Road**	**2.50**	**348**	P	**Pn**	**11 29 20.4**	**+0.6**
LREZ	**Lake Rotokare**	**2.50**	**306**	P	**Pn**	**11 29 21.8**	**+1.9**
WPRZ	**Whakapapatarin**	**2.52**	**344**	P	**Pn**	**11 29 20.5**	**+0.4**
VRZ	**Vera Road**	**2.52**	**316**	P	**Pn**	**11 29 21.2**	**+1.1**
CNGZ	**Carnagh Statio**	**2.63**	**21**	P	**Pn**	**11 29 22.6**	**+1.0**
RRRZ	**Republican Roa**	**2.64**	**351**	P	**Pn**	**11 29 22.2**	**+0.4**
MWZ	**Matawai**	**2.64**	**9**	P	**Pn**	**11 29 22.0**	**+0.2**
URZ	**Urewera**	**2.69**	**1**	P	**Pn**	**11 29 22.4**	**0.0**
URZ	**Urewera**	**2.69**	**1**	P	**Pn**	**11 29 22.5**	**+0.1**
HSRZ	**Hossack Road**	**2.71**	**347**	P	**Pn**	**11 29 23.2**	**+0.6**
TARZ	**Mount Tarawera**	**2.74**	**351**	P	**Pn**	**11 29 23.9**	**+0.7**
NNZ	**Nelson**	**2.77**	**263**	P	**Pn**	**11 29 23.9**	**+0.4**
NEZ	**North Egmont**	**2.81**	**306**	P	**Pn**	**11 29 26.3**	**+2.1**
KHEZ	**Kahui Hut**	**2.84**	**305**	P	**Pn**	**11 29 26.9**	**+2.3**
KHEZ	**Kahui Hut**	**2.84**	**305**	P	**Pn**	**11 29 27.9**	**+3.3**
TLZ	**Tolley Road**	**2.86**	**336**	P	**Pn**	**11 29 25.0**	**+0.2**
TWGZ	**Tauwhareparae**	**2.87**	**15**	P	**Pn**	**11 29 25.5**	**+0.6**
OMRZ	**Omania**	**2.89**	**350**	P	**Pn**	**11 29 25.7**	**+0.5**
PKE	**Pukeiti**	**2.92**	**306**	P	**Pn**	**11 29 28.1**	**+2.4**
NBEZ	**Newall Road No**	**2.95**	**304**	P	**Pn**	**11 29 29.1**	**+3.1**
HIZ	**Hauiti**	**2.96**	**325**	P	**Pn**	**11 29 26.6**	**+0.5**
HIZ	**Hauiti**	**2.96**	**325**	P	**Pn**	**11 29 26.6**	**+0.5**
LIRZ	**Lichensteins R**	**2.99**	**350**	P	**Pn**	**11 29 29.7**	**+3.1**
RUGZ	**Raukumara Rang**	**3.02**	**10**	P	**Pn**	**11 29 27.8**	**+0.6**
PUZ	**Puketiti**	**3.03**	**19**	P	**Pn**	**11 29 27.3**	**+0.2**
TKNZ	**Takaka Hill**	**3.08**	**267**	P	**Pn**	**11 29 28.4**	**+0.6**
PKGZ	**Pakihiroa**	**3.17**	**15**	P	**Pn**	**11 29 29.1**	**+0.1**
HAZ	**Te Kaha**	**3.24**	**11**	P	**Pn**	**11 29 30.7**	**+0.7**
MRNZ	**Matariki Terra**	**3.26**	**261**	P	**Pn**	**11 29 31.0**	**+0.8**
WMGZ	**Waiomatatini S**	**3.31**	**19**	P	**Pn**	**11 29 31.0**	**+0.1**
QRZ	**Quartz Range**	**3.42**	**271**	P	**Pn**	**11 29 32.8**	**+0.4**
TOZ	**Tahuroa Road**	**3.43**	**339**	P	**Pn**	**11 29 32.5**	**-0.1**
LTZ	**Lake Taylor**	**4.00**	**241**	P	**Pn**	**11 29 40.3**	**+0.1**
MKAZ	**Moumakai**	**4.11**	**339**	P	**Pn**	**11 29 42.8**	**+0.9**
MQZ	**McQueen's Vall**	**4.25**	**228**	P	**Pn**	**11 29 43.9**	**0.0**
AWAZ	**Awhitu Peninsu**	**4.30**	**334**	P	**Pn**	**11 29 45.7**	**+1.1**
ETAZ	**East Tamaki Re**	**4.32**	**337**	P	**Pn**	**11 29 45.3**	**+0.5**
KUZ	**Kuaotunu**	**4.32**	**346**	P	**Pn**	**11 29 45.2**	**+0.3**
KUZ	**Kuaotunu**	**4.32**	**346**	P	**Pn**	**11 29 45.3**	**+0.4**
OXZ	**Oxford**	**4.41**	**236**	P	**Pn**	**11 29 45.5**	**-0.5**
WIAZ	**Waiheke Island**	**4.41**	**340**	P	**Pn**	**11 29 46.9**	**+0.9**
WTAZ	**Waiatarua**	**4.45**	**334**	P	**Pn**	**11 29 47.8**	**+1.2**
MBAZ	**Motutapu North**	**4.50**	**338**	P	**Pn**	**11 29 48.1**	**+0.9**
RVAZ	**Riverhead Bore**	**4.59**	**335**	P	**Pn**	**11 29 49.7**	**+1.1**
ABAZ	**Army Bay**	**4.67**	**338**	P	**Pn**	**11 29 50.7**	**+1.1**
RPZ	**Rata Peaks**	**5.22**	**236**	P	**Pn**	**11 29 56.7**	**-0.5**
ARCZ	**Arundel**	**5.26**	**233**	P	**Pn**	**11 29 58.8**	**+0.9**
WCZ	**Waipu Caves**	**5.43**	**336**	P	**Pn**	**11 29 58.8**	**-1.3**
TMZ	**Timaru**	**5.61**	**230**	P	**Pn**	**11 30 02.3**	**-0.3**
ODZ	**Otahua Downs**	**6.22**	**227**	P	**Pn**	**11 30 11.1**	**+0.2**
OUZ	**Omahuta**	**6.33**	**334**	P	**Pn**	**11 30 13.2**	**+0.7**
OUZ	**Omahuta**	**6.33**	**334**	P	**Pn**	**11 30 13.4**	**+1.0**

*NEIC **25** 11:41:04.1±1.4,13˚.16N±0˚.09×145˚.66E±0˚.08,h10km±1km, mb4.3/17,Error ellipse: s-maj=15.4km s-min=12.5km az=161.0*
*IDC **25** 11:41:08.8±2.5,12˚.97N×145˚.17E,h41km±20km,mb3.6/5, mbtmp3.8/5,Error ellipse: s-maj=47.0km s-min=17.6km az=93.0*

ISC 25 11:41:07.5±0.7,13˚.0N±0˚.1×145˚.6E±0˚.1,h43km,n30, σ1§18/31,mb4.2/14,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.87**	**309**	P	**Pn**	**11 41 22.4**	**-0.9**
GUMO	2µm,0.3s,baz=343,slow=22,SNR=317						
	comp=Z,0.3nm,1.4s,baz=24,slow=20,SNR=12			S	**Sn**	**11 41 33.0**	**-1.8**
PATS	**Pohnpei**	**13.98**	**115**	Pn	**Pn**	**11 44 21.3**	**-1.8**
MAJO	**Matsushiro**	**24.32**	**345**	P	**P**	**11 46 20.1**	**-1.1**
MAJO				IAmb	IAmb	11 46 29.9	
	comp=Z,15nm,1.4s						
MJB9	**Matsu-Tunnel**	**24.32**	**345**	P	**P**	**11 46 21.1**	**-0.1**
MJB9				IAmb	IAmb	11 46 30.8	
	comp=Z,16nm,1.5s						
WB0	**Warramunga Arr**	**34.41**	**199**	P	**P**	**11 47 50.6**	**-0.3**
WB0				IAmb	IAmb	11 48 13.5	
	comp=Z,5.1nm,1.4s						
WRAB	**Tennant Creek**	**34.58**	**199**	P	**P**	**11 47 52.2**	**-0.2**
WRAB				IAmb	IAmb	11 48 03.5	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**34.58**	**199**	P	**P**	**11 47 51.9**	**-0.6**
WB2				IAmb	IAmb	11 48 03.4	
	comp=Z,8.3nm,1.5s						
WRA	**Warramunga Arr**	**34.59**	**199**	P	**P**	**11 47 52.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=20,slow=9.6,SNR=12						
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**34.59**	**199**	P	**P**	**11 47 52.8**	**+0.3**
AS31	**Alice Springs**	**38.22**	**197**	P	**P**	**11 48 24.3**	**+0.9**
ASAR	**Alice Springs**	**38.22**	**197**	P	**P**	**11 48 23.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=23,slow=11,SNR=20						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**38.22**	**197**	P	**P**	**11 48 23.9**	**+0.4**
MK31	**Makanchi Array**	**62.35**	**316**	P	**P**	**11 51 26.3**	**+0.5**
MKAR	**Makanchi Array**	**62.35**	**316**	P	**P**	**11 51 25.6**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=96,slow=8.8,SNR=5.1						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**62.35**	**316**	P	**P**	**11 51 26.5**	**+0.7**
RC01	**Rabbit Creek A**	**66.53**	**29**	P	**P**	**11 51 53.0**	**+0.2**
TRF	**Thorofare Moun**	**66.97**	**26**	P	**P**	**11 51 57.6**	**+1.9**
TRF				IAmb	IAmb	11 51 59.4	
	comp=Z,7.1nm,1.4s						
PWL	**Port Wells**	**67.12**	**29**	P	**P**	**11 51 56.7**	**+0.1**
H24K	**Noodor Dome**	**68.66**	**24**	P	**P**	**11 52 05.8**	**-0.4**
IL31		**68.77**	**25**	P	**P**	**11 52 09.4**	**+2.6**
ILAR	**Eielson Array**	**68.77**	**25**	P	**P**	**11 52 09.8**	**+2.9**
	comp=Z,0.5nm,0.4s,baz=249,slow=5.7,SNR=21						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**68.77**	**25**	P	**P**	**11 52 08.0**	**+1.1**
TOLK	**Toolik Lake Re**	**68.88**	**21**	P	**P**	**11 52 08.9**	**+1.4**
TOLK				IAmb	IAmb	11 52 21.3	
	comp=Z,2.6nm,1.1s						
J26L	**Joseph Creek**	**70.10**	**26**	P	**P**	**11 52 15.5**	**+0.3**
J26L				IAmb	IAmb	11 52 22.9	
	comp=Z,1.2nm,0.8s						
BMAR	**Burnt Mountain**	**70.34**	**23**	P	**P**	**11 52 15.0**	**-1.5**
BARN	**Barnard Glacie**	**70.35**	**30**	P	**P**	**11 52 16.8**	**-0.1**
EGAK	**Eagle**	**71.17**	**26**	P	**P**	**11 52 21.6**	**+0.1**
EGAK				IAmb	IAmb	11 52 34.3	
	comp=Z,2.4nm,1.1s						
ABKAR	**Akbulak array**	**77.40**	**318**	P	**P**	**11 52 59.1**	**+1.0**
FINES	**FINESS Array B**	**91.94**	**335**	P	**P**	**11 54 12.2**	**+0.9**
	2µm,0.3s,baz=76,slow=5.9,SNR=6.2						
	comp=Z,3.6nm,1.1s						
DBIC	**Dimbokro**	**144.69**	**302**	PKP	**PKPdf**	**12 00 41.8**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=77,slow=3.7,SNR=4.2						

*MAN **25** 12:01:50.4,6˚.97N×127˚.03E,h6km,mb4.6,ML3.4,MS3.3*
*IDC **25** 12:01:55.2±4.8,7˚.09N×126˚.95E,h62km±44km,mb3.2/5, mbtmp3.5/5,Error ellipse: s-maj=49.1km s-min=18.3km az=64.0*

ISC 25 12:01:57.0±2.1,6˚.84N±0˚.07×126˚.7E±0˚.2,h82km±19km, n15,σ1§79/22,mb3.3/5,4C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.10**	**282**	P	**Pn**	**12 02 17.4**	**0.0**
	574nm,0.4s,baz=37,slow=3.1,SNR=12						
DAV				S	**Sn**	**12 02 35.3**	**+2.6**
	202nm,0.3s,baz=62,slow=18,SNR=3.8						
BIPH	**Bislig**	**1.37**	**347**	*i*P	Pn	12 02 14.4	-6.4
BIPH				*e*S	Sn	12 02 29.8	-8.9
KCP	**Kidapawan**	**1.57**	**276**	*i*P	**Pn**	**12 02 23.6**	**+0.2**
KCP				*i* S	**Sn**	**12 02 40.7**	**-2.7**
GSPH	**General Santos**	**1.86**	**247**	*e*P	**Pn**	**12 02 26.8**	**-0.5**
GSPH				*i* S	**Sn**	**12 02 46.7**	**-3.6**
BUKP	**Musuan**	**1.90**	**303**	*e*P	**Pn**	**12 02 27.2**	**-0.5**
CTBH	**Cotabato--PC H**	**2.43**	**279**	*i*P	**Pn**	**12 02 35.5**	**+0.8**
CTBH				*i* S	**Sn**	**12 03 04.7**	**+1.0**
CGP	**Cagayan de Oro**	**2.53**	**310**	*e*P	**Pn**	**12 02 35.7**	**-0.4**
CGP				*e*S	**Sn**	**12 03 09.2**	**+3.2**
SCPH	**Surigao**	**3.15**	**338**	*e*P	**Pn**	**12 02 43.8**	**-0.7**
GHBP	**Garcia Hernand**	**3.62**	**320**	*e*P	**Pn**	**12 02 49.8**	**-1.1**
GHBP				*e*S	**Sn**	**12 03 34.0**	**+1.6**
TABP	**Talibon, Bohol**	**3.97**	**325**	*e*P	**Pn**	**12 02 53.8**	**-1.8**
TABP				*i* S	**Sn**	**12 03 39.3**	**-1.8**
WRA	**Warramunga Arr**	**27.66**	**164**	P	**P**	**12 07 38.9**	**+1.5**
	0.2nm,0.3s,baz=350,slow=10,SNR=23						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**31.13**	**167**	P	**P**	**12 08 09.3**	**+1.1**
	0.2nm,0.5s,baz=340,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**12 11 03.4**	**+1.6**
	0.3nm,0.5s,baz=346,slow=2.6,SNR=6.5						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**55.00**	**324**	P	**P**	**12 11 19.6**	**-0.5**
	0.4nm,0.4s,baz=126,slow=5.8,SNR=6.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**59.12**	**326**	P	**P**	**12 11 48.3**	**-0.7**
	0.2nm,0.3s,baz=125,slow=6.4,SNR=2.1						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**82.34**	**26**	P	**P**	**12 14 08.7**	**-1.0**
	0.2nm,0.5s,baz=260,slow=5.6,SNR=7.0						
	0.2nm,0.5s						

*IDC **25** 12:11:45.4±3.3,20˚.97S×178˚.93W,h611km±27km,mb3.0/8, mbtmp3.9/9,Error ellipse: s-maj=84.9km s-min=16.5km az=152.0*

ISC 25 12:11:46.3±1.3,20˚.8S±0˚.4×179˚.0W±0˚.2,h619km,n14, σ1§00/15,mb3.5/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.10**	**317**	P	**P**	**12 13 13.6**	**-0.5**
	0.3nm,0.4s,baz=143,slow=4.3,SNR=20						
CTA	**Charters Tower**	**32.51**	**265**	P	**P**	**12 17 28.7**	**+0.2**
	2.8nm,1.0s,baz=79,slow=14,SNR=1.5						
	2.8nm,1.0s						
ASAR	**Alice Springs**	**43.52**	**257

H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	12 49 26.6			
	baz=313,slow=75,SNR=357								
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	12 50 16.5			
	baz=315,slow=76,SNR=135								
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	12 50 18.2			
	baz=315,slow=76,SNR=114								
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	12 50 16.7			
	baz=315,slow=76,SNR=65								
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**12 21 55.4**	**-0.7**		
	1.1nm,0.6s,baz=93,slow=6.4,SNR=3.9								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**12 22 13.5**	**-0.5**		
	1.1nm,0.7s,baz=99,slow=9.2,SNR=8.8								
	1.1nm,0.7s								
ILAR	**Eielson Array**	**49.55**	**32**	P	**P**	**12 22 56.5**	**0.0**		
	0.5nm,0.6s,baz=266,slow=6.2,SNR=11								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**57.03**	**188**	P	**P**	**12 23 51.2**	**-0.8**		
	0.9nm,0.6s,baz=4.7,slow=7.5,SNR=22								
	0.9nm,0.6s								
ASAR	**Alice Springs**	**60.76**	**188**	P	**P**	**12 24 17.7**	**-0.2**		
	0.6nm,0.7s,baz=9.4,slow=6.0,SNR=8.0								
	0.6nm,0.7s								
TXAR	**Lajitas Array**	**90.19**	**52**	P	**P**	**12 27 07.5**	**+0.6**		
	0.3nm,0.6s,baz=270,slow=1.8,SNR=2.5								
	0.3nm,0.6s								
LPAZ	**La Paz**	**146.76**	**60**	PKPbc	**PKPbc**	**12 33 49.3**	**-0.1**		
	1.4nm,0.8s,baz=22,slow=5.6,SNR=4.6								
H03N2	**Juan Fernandez**	**147.09**	**96**	T	T	15 18 06.8			
	baz=291,slow=76,SNR=27								
H03N3	**Juan Fernandez**	**147.10**	**96**	T	T	15 18 11.6			
	baz=291,slow=76,SNR=34								
H03N1	**Juan Fernandez**	**147.11**	**96**	T	T	15 18 10.1			
	baz=291,slow=76,SNR=39								

*WEL **25** 12:36:00.42˝48S×173˝28E,h7km,ML4.0,Mw3.9, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; Mrr6.72; Mθθ-0.60; Mφφ-6.12; Mrθ4.12; Mθφ-5.08; Mφr1.19; Fault plane solution: Mo9.21000×10^{14} NP1: φs186.00000°,δ40.00000°,λ51.00000°. NP2:φs53.00000°, δ60.00000°,λ118.00000°. Principal axes: T -97.6900, Plg63.0000°, Azm11.0000°; N 11.1100, Plg24.0000°, Azm218.0000°; P 86.5800, Plg11.0000°, Azm123.0000°;*

*IDC **25** 12:36:36.2±1.7,42˝29S×173˝21E,h0km,mb3.9/3, mbtmp4.0/4,ML4.3/1,MS3.1/3 Error ellipse: s-maj=43.5km s-min=28.7km az=65.0*

*WEL **25** 12:36:38.7±0.3,42˝5S×17˝3E±˚,h5km,M4.0/36, ML4.4/16,MLv4.0/36,Error ellipse: s-maj=0.0km s-min=0.0km az=124.1*

*NOU **25** 12:36:38.1,42˝60S×173˝32E,h7km,MLv4.6/12,South Island, New Zealand*

ISC 25 12:36:37.8±0.7,42˝55S±0˝03×173˝29E±0˝03,h10km,n148, σ1s26/150,mb3.6/3,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.22**	**54**	P	**Pg**	**12 36 43.7**	**+1.4**
KHZ	**Kahutara**	**0.22**	**54**	P	**Pg**	**12 36 43.8**	**+1.4**
KHZ				S	**Sg**	**12 36 48.1**	**+2.6**
GVZ	**Greta Valley S**	**0.46**	**204**	P	**Pn**	**12 36 49.7**	**-0.7**
GVZ				S	**Sb**	**12 36 58.2**	**+3.3**
AMCZ	**Amberley**	**0.79**	**217**	P	**Pn**	**12 36 55.6**	**+0.7**
LTZ	**Lake Taylor**	**0.79**	**252**	P	**Pg**	**12 36 53.2**	**+0.3**
THZ	**Tophouse**	**0.84**	**340**	P	**Pg**	**12 36 52.8**	**-1.1**
THZ				S	**Sg**	**12 37 02.1**	**-2.6**
BSWZ	**Blackbirch Sta**	**0.94**	**28**	P	**Pb**	**12 36 55.8**	**-0.2**
CMWZ	**Cape Campbell**	**1.05**	**41**	P	**Pn**	**12 36 59.3**	**+0.8**
OKCZ	**Okains Bay**	**1.19**	**188**	P	**Pn**	**12 37 01.4**	**+0.9**
OXZ	**Oxford**	**1.21**	**229**	P	**Pn**	**12 37 00.7**	**0.0**
MRNZ	**Matariki Terra**	**1.22**	**341**	P	**Pn**	**12 36 59.6**	**-1.2**
TUWZ	**Tuamarina**	**1.22**	**24**	P	**Pn**	**12 37 00.7**	**-0.1**
MQZ	**McQueen's Vall**	**1.25**	**202**	P	**Pg**	**12 37 01.1**	**-0.7**
NNZ	**Nelson**	**1.33**	**3**	P	**Pn**	**12 37 01.6**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.35**	**192**	P	**Pg**	**12 37 03.2**	**-0.6**
DSZ	**Denniston Nort**	**1.37**	**305**	P	**Pn**	**12 37 02.7**	**-0.2**
INZ	**Inchbonnie**	**1.38**	**262**	P	**Pn**	**12 37 03.1**	**+0.1**
RACZ	**Rakaia**	**1.45**	**215**	P	**Pb**	**12 37 04.1**	**-0.8**
TCW	**Tory Channel**	**1.52**	**29**	P	**Pn**	**12 37 05.0**	**0.0**
TKNZ	**Takaka Hill**	**1.53**	**351**	P	**Pn**	**12 37 05.1**	**-0.1**
MHCZ	**Mount Hutt**	**1.60**	**232**	P	**Pn**	**12 37 06.1**	**-0.1**
SNZO	**South Karori**	**1.62**	**41**	P	**Pn**	**12 37 06.4**	**0.0**
WEL	**Wellington**	**1.68**	**42**	P	**Pb**	**12 37 07.2**	**-1.4**
WACZ	**Wakanui South**	**1.75**	**217**	P	**Pn**	**12 37 08.3**	**+0.1**
PLWZ	**Palliser**	**1.76**	**57**	P	**Pn**	**12 37 07.8**	**-0.5**
DUWZ	**D'Urville Isla**	**1.81**	**15**	P	**Pn**	**12 37 09.5**	**+0.5**
QRZ	**Quartz Range**	**1.81**	**341**	P	**Pn**	**12 37 10.1**	**+1.1**
QRZ	**Quartz Range**	**1.81**	**341**	P	**Pn**	**12 37 09.4**	**+0.3**
MSWZ	**Moikau Station**	**1.84**	**53**	P	**Pn**	**12 37 09.2**	**-0.3**
WVZ	**Waitaha Valley**	**1.95**	**253**	P	**Pn**	**12 37 11.6**	**+0.7**
CAW	**Cannon Point**	**1.96**	**43**	P	**Pn**	**12 37 10.8**	**-0.2**
PAWZ	**Paruwai Farm**	**1.97**	**55**	P	**Pn**	**12 37 10.1**	**-1.1**
RPZ	**Rata Peaks**	**2.01**	**234**	Pn	**Pn**	**12 37 11.8**	**+0.1**
	91nm,0.3s,baz=87,slow=2.7,SNR=357						
RPZ				Sn	**Sn**	**12 37 36.7**	**-0.3**
	88nm,0.3s,baz=333,slow=23,SNR=24						
RPZ				LR	LR	12 38 17.4	
	comp=Z,284nm,19.7s,baz=23,slow=48						
	283nm,0.4s						
RPZ	**Rata Peaks**	**2.01**	**234**	P	**Pn**	**12 37 12.0**	**+0.2**
RPZ	**Rata Peaks**	**2.01**	**234**	P	**Pn**	**12 37 11.9**	**+0.1**
KIW	**Kapiti Island**	**2.07**	**36**	P	**Pn**	**12 37 12.7**	**+0.1**
ARCZ	**Arundel**	**2.09**	**227**	P	**Pn**	**12 37 12.8**	**0.0**
TRWZ	**Traveller**	**2.12**	**58**	P	**Pn**	**12 37 12.5**	**-0.8**
MTW	**Mount Morrison**	**2.16**	**51**	P	**Pn**	**12 37 13.0**	**-0.8**
OGWZ	**Otaki Gorge**	**2.23**	**40**	P	**Pn**	**12 37 14.5**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.31**	**250**	P	**Pn**	**12 37 16.8**	**+1.0**
TMWZ	**Te Maipa**	**2.42**	**54**	P	**Pn**	**12 37 16.4**	**-1.0**
TMZ	**Timaru**	**2.48**	**221**	P	**Pn**	**12 37 18.4**	**+0.2**
MRZ	**Mangatainoka R**	**2.55**	**43**	P	**Pn**	**12 37 18.4**	**-0.7**
CPWZ	**Castlepoint**	**2.72**	**54**	P	**Pn**	**12 37 20.9**	**-0.6**
FOZ	**Fox Glacier**	**2.73**	**248**	P	**Pn**	**12 37 23.2**	**+1.6**
OHWZ	**Ohakea**	**2.79**	**34**	P	**Pn**	**12 37 23.3**	**+0.8**
PRWZ	**Pori Road**	**2.83**	**48**	P	**Pn**	**12 37 23.9**	**-1.1**
POWZ	**Post Office Ro**	**2.84**	**42**	P	**Pn**	**12 37 22.5**	**-0.7**
BFZ	**Birch Farm**	**2.89**	**51**	P	**Pn**	**12 37 22.2**	**-1.6**
LBZ	**Lake Benmore**	**2.92**	**230**	P	**Pn**	**12 37 24.4**	**+0.2**
WAZ	**Wanganui**	**3.07**	**25**	P	**Pn**	**12 37 27.8**	**+1.5**
DVHZ	**Dannevirke**	**3.12**	**45**	P	**Pn**	**12 37 25.3**	**-1.6**
ODZ	**Otahua Downs**	**3.15**	**217**	P	**Pn**	**12 37 27.3**	**-0.1**
ODZ	**Otahua Downs**	**3.15**	**217**	P	**Pn**	**12 37 27.1**	**-0.2**
NMEZ	**Namu Road**	**3.16**	**8**	P	**Pn**	**12 37 29.9**	**+2.3**
ANWZ	**Angora Road**	**3.17**	**50**	P	**Pn**	**12 37 26.0**	**-1.6**
LREZ	**Lake Rotokare**	**3.20**	**16**	P	**Pn**	**12 37 30.3**	**+2.3**
TSZ	**Takapari Road**	**3.20**	**40**	P	**Pn**	**12 37 27.0**	**-1.1**
KHEZ	**Kahui Hut**	**3.29**	**10**	P	**Pn**	**12 37 31.8**	**+2.3**
KHEZ	**Kahui Hut**	**3.29**	**10**	P	**Pn**	**12 37 31.4**	**+1.9**
NBEZ	**Newall Road No**	**3.31**	**8**	P	**Pn**	**12 37 31.4**	**+1.9**
NEZ	**North Egmont**	**3.33**	**11**	P	**Pn**	**12 37 31.7**	**+1.8**
PKE	**Pukeiti**	**3.39**	**9**	P	**Pn**	**12 37 32.6**	**+1.9**
PNHZ	**Pukenui**	**3.42**	**41**	P	**Pn**	**12 37 29.8**	**-1.4**
DREZ	**Durham Road**	**3.42**	**12**	P	**Pn**	**12 37 33.3**	**+2.1**
WPHZ	**Waipukurau**	**3.43**	**45**	P	**Pn**	**12 37 29.7**	**-1.6**
MHEZ	**Mangahewa**	**3.55**	**13**	P	**Pn**	**12 37 34.9**	**+1.9**
VRZ	**Vera Road**	**3.59**	**18**	P	**Pn**	**12 37 34.9**	**+1.4**
PKVZ	**Pokaka**	**3.61**	**26**	P	**Pn**	**12 37 34.8**	**+1.1**
JCZ	**Jackson Bay**	**3.63**	**244**	P	**Pn**	**12 37 34.8**	**+0.8**
JCZ	**Jackson Bay**	**3.63**	**244**	P	**Pn**	**12 37 34.9**	**+0.9**
MOVZ	**Moawhango**	**3.65**	**32**	P	**Pn**	**12 37 33.9**	**-0.5**
WNVZ	**Wahianoa**	**3.66**	**29**	P	**Pn**	**12 37 35.1**	**+0.6**
PXZ	**Pawanui**	**3.68**	**48**	P	**Pn**	**12 37 32.5**	**-2.2**
DRZ	**Dome Shelter**	**3.69**	**29**	P	**Pn**	**12 37 36.2**	**+1.0**
WHVZ	**Whangaehu Hut**	**3.70**	**29**	P	**Pn**	**12 37 36.1**	**+1.0**
BHHZ	**Black Hill Sta**	**3.70**	**35**	P	**Pn**	**12 37 34.7**	**-0.4**
FWVZ	**Far West T-bar**	**3.71**	**28**	P	**Pn**	**12 37 36.5**	**+1.2**
NGZ	**Ngauruhoe**	**3.79**	**28**	P	**Pn**	**12 37 37.0**	**+0.6**
OTVZ	**Oturere**	**3.83**	**29**	P	**Pn**	**12 37 36.7**	**-0.2**
TWVZ	**Taurewa**	**3.83**	**26**	P	**Pn**	**12 37 37.4**	**+0.5**
NNVZ	**North Ngauruho**	**3.84**	**28**	P	**Pn**	**12 37 37.5**	**+0.4**
WKZ	**Wanaka**	**3.85**	**232**	P	**Pn**	**12 37 36.6**	**-0.4**
KAHZ	**Kahuranaki**	**3.86**	**46**	P	**Pn**	**12 37 34.9**	**-2.2**
HHSZ	**Highcliff Hill**	**3.86**	**209**	P	**Pn**	**12 37 37.4**	**+0.2**
ETVZ	**East Tongariro**	**3.87**	**29**	P	**Pn**	**12 37 37.9**	**+0.5**
TMVZ	**Te Maari**	**3.88**	**29**	P	**Pn**	**12 37 38.1**	**+0.5**
KWHZ	**Kaweka Forest**	**3.92**	**38**	P	**Pn**	**12 37 36.9**	**-1.1**
EAZ	**Earnscleugh**	**3.94**	**226**	P	**Pn**	**12 37 37.7**	**-0.5**
MCHZ	**McNeill Hill**	**4.03**	**41**	P	**Pn**	**12 37 37.8**	**-1.7**
RATZ	**Rangitukua**	**4.13**	**28**	P	**Pn**	**12 37 41.8**	**+0.9**
BKZ	**Black Stump Fm**	**4.16**	**37**	P	**Pn**	**12 37 40.0**	**-1.3**
HIZ	**Hauiti**	**4.20**	**17**	P	**Pn**	**12 37 43.5**	**+1.6**
HIZ	**Hauiti**	**4.20**	**17**	P	**Pn**	**12 37 43.0**	**+1.2**
TUZ	**Tuapeka**	**4.30**	**216**	P	**Pn**	**12 37 43.6**	**+0.4**
ARHZ	**Aropaoanui**	**4.32**	**42**	P	**Pn**	**12 37 42.3**	**-1.1**
NMHZ	**Naumai**	**4.36**	**39**	P	**Pn**	**12 37 43.2**	**-0.9**
MRHZ	**Matea Rd**	**4.40**	**34**	P	**Pn**	**12 37 42.9**	**-1.8**
TLZ	**Tolley Road**	**4.55**	**23**	P	**Pn**	**12 37 46.7**	**+0.1**
MTHZ	**Maungataniwha**	**4.57**	**37**	P	**Pn**	**12 37 46.1**	**-0.9**
WPRZ	**Whakapapatarin**	**4.58**	**29**	P	**Pn**	**12 37 47.7**	**+0.6**
RAHZ	**Arahi**	**4.63**	**40**	P	**Pn**	**12 37 48.2**	**+0.4**
MLZ	**Mavora Lakes**	**4.68**	**231**	P	**Pn**	**12 37 48.5**	**0.0**
PRRZ	**Plateau Road**	**4.68**	**31**	P	**Pn**	**12 37 47.0**	**-1.5**
KNZ	**Kokohu**	**4.84**	**45**	P	**Pn**	**12 37 48.8**	**-1.9**
MUGZ	**Murupara**	**4.85**	**34**	P	**Pn**	**12 37 48.5**	**-2.3**
SNGZ	**Shannon Statio**	**4.86**	**41**	P	**Pn**	**12 37 48.2**	**-2.7**
MHGZ	**Mahia Peninsul**	**4.87**	**47**	P	**Pn**	**12 37 49.4**	**-1.7**
SYZ	**Scrubby Hill**	**4.97**	**215**	P	**Pn**	**12 37 52.8**	**+0.4**
SYZ	**Scrubby Hill**	**4.97**	**215**	P	**Pn**	**12 37 52.9**	**+0.5**
WHZ	**Wether Hill Ro**	**5.09**	**227**	P	**Pn**	**12 37 53.1**	**-1.0**
TOZ	**Tahuroa Road**	**5.10**	**20**	P	**Pn**	**12 37 54.5**	**+0.3**
KMRZ	**Kaimai**	**5.12**	**24**	P	**Pn**	**12 37 57.6**	**+3.1**
RIGZ	**Rimuhau**	**5.13**	**43**	P	**Pn**	**12 37 52.3**	**-2.3**
URZ	**Urewera**	**5.18**	**35**	P	**Pn**	**12 37 52.5**	**-2.8**
TGRZ	**Tauranga**	**5.32**	**26**	P	**Pn**	**12 37 56.7**	**-0.5**
TKGZ	**Te Karaka**	**5.38**	**42**	P	**Pn**	**12 37 56.9**	**-1.1**
AWAZ	**Awhitu Peninsu**	**5.57**	**11**	P	**Pn**	**12 38 01.7**	**+1.0**
MKAZ	**Moumakai**	**5.62**	**15**	P	**Pn**	**12 38 01.8**	**+0.4**
TWGZ	**Tauwhareparae**	**5.64**	**41**	P	**Pn**	**12 38 00.9**	**-0.9**
RUGZ	**Raukumara Rang**	**5.67**	**38**	P	**Pn**	**12 38 02.2**	**0.0**
WTAZ	**Waiatarua**	**5.69**	**10**	P	**Pn**	**12 38 03.7**	**+1.3**
APZ	**The Paps**	**5.71**	**220**	P	**Pn**	**12 38 02.9**	**+0.3**
ETAZ	**East Tamaki Re**	**5.73**	**13**	P	**Pn**	**12 38 03.7**	**+0.9**
EPAZ	**Eden Park BICE**	**5.77**	**12**	P	**Pn**	**12 38 04.9**	**+1.5**
RVAZ	**Riverhead Bore**	**5.85**	**10**	P	**Pn**	**12 38 05.7**	**+1.1**
PUZ	**Puketiti**	**5.86**	**42**	P	**Pn**	**12 38 02.9**	**-1.8**
HAZ	**Te Kaha**	**5.89**	**37**	P	**Pn**	**12 38 03.5**	**-1.6**
MBAZ	**Motutapu North**	**5.90**	**13**	P	**Pn**	**12 38 06.1**	**+0.9**
WIAZ	**Waiheke Island**	**5.92**	**14**	P	**Pn**	**12 38 06.1**	**+0.7**
PKGZ	**Pakihiroa**	**5.92**	**40**	P	**Pn**	**12 38 03.8**	**-1.7**
ABAZ	**Army Bay**	**6.06**	**12**	P	**Pn**	**12 38 08.6**	**+1.2**
KUZ	**Kuaotunu**	**6.09**	**19**	P	**Pn**	**12 38 08.3**	**+0.5**
KUZ	**Kuaotunu**	**6.09**	**19**	P	**Pn**	**12 38 07.4**	**-0.4**
WMGZ	**Waiomatatini S**	**6.14**	**41**	P	**Pn**	**12 38 07.4**	**-1.1**
GRZ	**Great Barrier**	**6.51**	**16**	P	**Pn**	**12 38 15.4**	**+1.9**
WCZ	**Waipu Caves**	**6.65**	**7**	P	**Pn**	**12 38 17.0**	**+1.5**
OUZ	**Omahuta**	**7.32**	**2**	P	**Pn**	**12 38 26.0**	**+1.3**
	26nm,1.8s						
OUZ	**Omahuta**	**7.32**	**2**	P	**Pn**	**12 38 26.1**	**+1.4**
CTZ	**Chatham Island**	**7.47**	**103**	P	**Pn**	**12 38 27.3**	**+0.5**
DZM	**Mont Dzumac**	**21.21**	**342**	LR	LR	12 48 02.8	
	comp=Z,35nm,18.2s,baz=34,slow=33						
ASAR	**Alice Springs**	**37.57**	**287**	P	**P**	**12 43 51.6**	**-0.8**
	0.7nm,0.6s,baz=133,slow=7.3,SNR=18						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**39.73**	**292**	P	**P**	**12 44 09.5**	**-1.1**
	0.8nm,0.6s,baz=132,slow=8.0,SNR=15						
	0.8nm,0.6s						
QSPA	**South Pole Qui**	**47.58**	**180**	P	**P**	**12 45 16.1**	**+2.8**
	3.2nm,1.0s,baz=319,slow=0.4,SNR=10						
	3.2nm,1.0s						
KAPI	**Kappang**	**60.27**	**293**	LR	LR	13 14 02.6	
	comp=Z,40nm,20.8s,baz=337,slow=37						
ARCES	**ARCESS Array B**	**148.28**	**339**	PKPbc	**PKPbc**	**12 56 20.9**	**-1.9**
	0.9nm,0.7s,baz=65,slow=3.2,SNR=3.9						
BRTR	**Keskin Array B**	**149.68**	**278**	PKPbc	**PKPbc**	**12 56 25.9**	**-1.6**
	0.6nm,0.7s,baz=90,slow=4.3,SNR=2.4						

*IDC **25** 12:36:53.2±4.7,23˚94N×108˚63W,h0km,mb3.7/2, mbtmp3.4/5,ML3.5/3,MS2.9/2,Error ellipse: s-maj=75.8km s-min=19.7km az=149.0*

*MEX **25** 12:37:01.1±0.4,24˚68N×109˚11W,h5km±10km,MD4.1*

ISC 25 12:36:58.4±1.6,24˚63N±0˝04×109˚14W±0˝05,h1km±12km, n16,σ2s11/23,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.97**	**5**	*i* P	**Pg**	**12 37 16.6**	**-0.4**
TSIG				*i* S	**Sg**	**12 37 28.9**	**-0.6**
LPIG	**La Paz**	**1.19**	**244**	Pn	**Pn**	**12 37 21.1**	**-1.0**
	9.0nm,0.3s,baz=37,slow=4.4,SNR=11						
LPIG				Sn	**Sb**	**12 37 36.4**	**-1.2**
	29nm,0.3s,baz=310,slow=4.4,SNR=8.2						
LPIG				LR	LR	12 38 00.1	
	comp=Z,218nm,18.1s,baz=88,slow=43						
LPIG	**La Paz**	**1.19**	**244**	*eP*	**Pn**	**12 37 20.7**	**-1.4**
LPIG				*eS*	**Sb**	**12 37 34.5**	**-3.2**
SLBS	**Sierra La Lagu**	**1.20**	**218**	*eP*	**Pg**	**12 37 21.6**	**+0.3**
SLBS				*eS*	**Sb**	**12 37 36.8**	**-1.1**
SSIG	**Sanalona**	**1.82**	**84**	*eP*	**Pn**	**12 37 29.0**	**-1.9**
SSIG				*eS*	**Sn**	**12 37 51.4**	**-3.3**
CSIG	**Choix**	**2.30**	**17**	*eP*	**Pn**	**12 37 36.3**	**-1.0**
CSIG				*eS*	**Sn**	**12 38 02.9**	**-3.4**
MAIG	**Mazatlaan**	**2.87**	**120**	*eP*	**Pn**	**12 37 45.9**	**+0.7**
PDIG	**Papasquiaro**	**3.42**	**82**	*eP*	**Pn**	**12 37 53.1**	**0.0**
PDIG				*eS*	**Sn**	**12 38 31.9**	**-2.4**
HPIG		**3.88**	**53**	*eP*	**Pn**	**12 37 60.0**	**+0.6**
HPIG				*eS*	**Sn**	**12 38 43.8**	**-1.9**
TXAR	**Lajitas Array**	**6.76**	**45**	Pn	**Pn**	**12 38 38.5**	**-0.3**
	0.1nm,0.3s,baz=225,slow=11,SNR=2.1						
TXAR				Sn	**Sn**	**12 39 54.4**	**-2.2**
	0.1nm,0.3s,baz=212,slow=22,SNR=1.3						
TXAR				Lg	Lg	12 40 31.7	
	0.4nm,0.3s,baz=213,slow=30,SNR=5.7						
	0.2nm,0.5s						
CMIG	**Matias Romero**	**15.28**	**117**	LR	LR	12 46 00.2	
	comp=Z,42nm,19.4s,baz=336,slow=38						
NVAR	**Mina Array Bea**	**15.81**	**333**	Pn	**P**	**12 40 49.3**	**+2.9**
	0.1nm,0.3s,baz=165,slow=12,SNR=8.0						
	0.9nm,0.8s						
PDAR	**Pinedale Array**	**18.09**	**359**	P	**P**	**12 41 14.2**	**+2.6**
	0.1nm,0.3s,baz=178,slow=8.9,SNR=4.9						
	0.8nm,0.9s						
NEW	**Newport**	**24.42**	**347**	P	**P**	**12 42 20.7**	**+2.3**
	1.8nm,0.6s,baz=135,slow=7.1,SNR=3.6						
	1.8nm,0.6s						
TKL	**Tuckaleechee C**	**24.46**	**57**	LR	LR	12 53 18.2	
	comp=Z,34nm,19.0s,baz=302,slow=40						
ILAR	**Eielson Array**	**46.93**	**339**	P	**P**	**12 45 32.8**	**+2.5**
	0.7nm,1.1s,baz=154,slow=7.0,SNR=5.8						
	0.7nm,1.1s						

*BJI **25** 12:47:12.3±0.0,32˚28N×141˚64E,h14km,mb4.6/56, mB4.7/32,Ms4.4/39,Ms7 4.1/37*

*JMA **25** 12:47:12.4±0.4,32˚N±1˚×14˚2E±˚,h0km,MV4.6/32, MW4.7/32,E OFF HACHIJOJIMA ISLAND*

*NIED **25** 12:47:12.4,32˚48N×141˚67E,h0km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; Mrr-1.72; Mθθ4.84; Mφφ-3.12; Mrθ-0.76; Mθφ0.05; Mφr8.45; Fault plane solution: Mo8.59000×10^{15} NP1: φs251.00000°,δ14.00000°,λ177.00000°. NP2: φs344.00000°,δ89.00000°,λ76.00000°.*

*MOS **25** 12:47:14.7±1.1,32˚36N×141˚32E,h12km,mb5.0/54 Error ellipse: s-maj=9.2km s-min=4.7km az=118.6*

*IDC **25** 12:47:14.9±0.5,32˚36N×141˚29E,h0km,mb4.4/23, mbtmp4.4/27,ML3.7/4,MS3.7/52,Error ellipse: s-maj=15.2km s-min=11.3km az=75.0*

*NEIC **25** 12:47:16.4±2.0,32˚40N±0˝06×141˚38E±0˝08,h10km±1km, mb4.7/132,Error ellipse: s-maj=11.8km s-min=10.1km az=57.0*

ISC 25 12:47:15.5±0.3,32˚38N±0˝04×141˚41E±0˝04,h10km,n386, σ1s50/362,mb4.8/135,MS3.9/65,30C-13D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.40**	**274**	*eP*	**Pg**	**12 47 42.5**	**+0.2**
JHCJ	**Hachijojimakas**	**1.53**	**297**	P	**Pn**	**12 47 43.2**	**+0.4**
JHCJ				*eS*	**Sg**	**12 48 05.4**	**+0.8**
JHJ2	**Mitsune**	**1.53**	**299**		**Pn**	**12 47 43.2**	**+0.3**
JHJ2	**Mitsune**	**1.53**	**299**	P	**Pn**	**12 47 43.4**	**+0.5**
JHJ	**Hachijo jima 2**	**1.56**	**299**	Pn	**Pn**	**12 47 43.0**	**-0.3**
	157nm,0.3s,baz=91,slow=22,SNR=49						
JHJ				Sn	**Sg**	**12 48 05.3**	**-0.4**
	326nm,0.3s,baz=129,slow=23,SNR=9.6						
JHJ				LR	LR	12 48 23.3	
	comp=Z,4μm,20.3s,baz=86,slow=47						
JMKN	**Mikurajimanish**	**2.15**	**315**	*eP*	**Pn**	**12 47 51.2**	**-0.2**
JMYK	**Miyake Tsubota**	**2.29**	**317**	*eS*	**Sb**	**12 48 25.0**	**-0.3**
BSO1	**Boso 1**	**2.29**	**351**	*eP*	**Pn**	**12 47 52.4**	**-0.5**
BSO3	**Boso 3**	**2.53**	**343**	*eS*	**Sn**	**12 48 28.4**	**+1.3**
JOD2	**Odawara 2**	**3.46**	**327**	*eP*	**Pn**	**12 48 09.4**	**-0.1**
JFNN	**Fujinakano**	**3.61**	**322**	*eP*	**Pn**	**12 48 12.9**	**+1.4**
JFNN				*eS*	**Sn**	**12 48 57.4**	**+3.3**
JRY	**Ryogami san**	**4.18**	**331**	*eP*	**Pn**	**12 48 19.8**	**+0.4**
JRY				*eS*	**Sn**	**12 49 09.0**	**+0.7**
JAG	**Ashikaga**	**4.35**	**339**	*eS*	**Sn**	**12 49 12.0**	**-0.4**
JIE	**Ise**	**4.42**	**298**	*eP*	**Pn**	**12 48 24.4**	**+1.7**
JGF	**Kuroka**	**4.65**	**315**	Pn	**Pn**	**12 48 26.8**	**+0.9**
INU	**Inuyama**	**4.70**	**310**	Pn	**Pn**	**12 48 27.1**	**+0.5**
INU	**Inuyama**	**4.70**	**310**	P	**Pn**	**12 48 29.1**	**+2.5**
MJAR	**Matsushiro Arr**	**4.92**	**328**	Pn	**Pn**	**12 48 30.0**	**+0.4**
	0.6nm,0.3s,baz=154,slow=11,SNR=32						
MJAR				Sn	**Sn**	**12 49 28.9**	**+2.3**
	0.6nm,0.3s,baz=307,slow=28,SNR=5.0						
MJAR				LR	LR	12 50 40.5	
	comp=Z,331nm,21.8s,baz=108,slow=42						
	9.5nm,0.5s						
MAJO	**Matsushiro**	**4.92**	**328**		**Pn**	**12 48 30.5**	**+0.9**
MAJO	**Matsushiro**	**4.92**	**328**	P	**Pn**	**12 48 32.1**	**+2.5**
MAJO	**Matsushiro**	**4.92**	**328**	*ceP*	**Pn**	**12 48 31.3**	**+1.7**
MAT	**Matsushiro**	**4.92**	**328**	*eP*	**Pn**	**12 48 29.9**	**+0.3**
MAT				*eS*	**Sn**	**12 49 28.4**	**+1.7**
MJB9	**Matsu-Tunnel**	**4.93**	**328**		**Pn**	**12 48 31.4**	**+1.7**
JYTA	**Yamagatataniai**	**5.04**	**311**	*eP*	**Pn**	**12 48 33.5**	**+2.4**
JWY	**Kouya**	**5.21**	**292**	*eP*	**Pn**	**12 48 36.0**	**+2.5**
CBIJ	**Chichi jima**	**5.31**	**173**	*eS*	**Sn**	**12 49 33.4**	**-2.8**
JCJ	**Chichijima**	**5.31**	**173**	Pn	**Pn**	**12 48 36.5**	**+1.6**
	14nm,0.3s,baz=350,slow=23,SNR=9.4						
JCJ				Sn	**Sn**	**12 49 33.9**	**-2.3**
	31nm,0.3s,baz=279,slow=23,SNR=5.7						
JCJ				LR	LR	12 50 45.1	
	comp=Z,921nm,19.3s,baz=54,slow=40						
	80nm,0.6s						
JCJ	**Chichijima**	**5.31**	**173**	Pn	**Pn**	**12 48 36.8**	**+1.9**
JMM	**Marumori**	**5.50**	**355**		**Pn**	**12 48 37.0**	**-0.4**
JNS	**Sasagawa**	**5.69**	**343**	*eP*	**Pn**	**12 48 41.4**	**+1.3**
JHH2	**Haha

XLT S **S** **12 56 28.5 -1.1**
XLT pmax pmax
comp=Z,17nm,1.0s
XLT pmax pmax
comp=Z,150nm,3.6s
XLT LR LR
comp=Z,410nm,17.0s
XLT LR LR
comp=Z,270nm,19.8s
WHN Wuhan 23.14 273 ⇓P **P** **12 52 23.3 +1.4**
HIA Hailar 23.39 322 P **P** **12 52 23.7 -0.7**
HIA Hailar 23.39 322 P **P** **12 52 23.7 -0.7**
HIA pmax pmax
comp=Z,11nm,0.8s
ZEA Zeya 23.64 339 *e*P **P** **12 52 28.3 +1.6**
ZEA *e*S **S** **12 56 36.8 -4.3**
ZEA pmax pmax
comp=N,200nm,0.9s
ZEA pmax pmax
comp=Z,300nm,0.8s
ZEA pmax pmax
comp=E,90nm,0.6s
ZEA pmax pmax
comp=N,200nm,0.8s
ZEA pmax pmax
comp=Z,390nm,0.8s
ZEA smax smax
comp=E,200nm,5.6s
ZEA MLR MLR
comp=Z,100nm,16.0s
PETK Petropavlovsk- 23.81 25 LR LR 13 01 45.5
comp=Z,75nm,21.0s,baz=214,slow=36
HHC Hu-ho-hao-te 25.31 298 *e*P **P** **12 52 43.8 +1.4**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,230nm,7.7s
HHC LR LR
comp=Z,380nm,18.3s
HHC LR LR
comp=Z,580nm,17.3s
HHC LR LR
comp=Z,850nm,18.0s
H11N2 WAKE ISLAND Hy 26.05 113 T T 13 20 02.7
baz=305,slow=74,SNR=22
H11N1 WAKE ISLAND Hy 26.06 113 T T 13 20 00.8
baz=305,slow=74,SNR=23
H11N3 WAKE ISLAND Hy 26.07 113 T T 13 20 06.8
baz=305,slow=74,SNR=22
BTO Baotou 26.43 297 *e*P **P** **12 52 51.0 -1.6**
BTO S **S** **12 57 24.5 -1.8**
BTO LR LR
comp=Z,1μm,14.7s
BTO LR LR
comp=Z,2μm,21.8s
H11S3 WAKE ISLAND Hy 26.60 115 T T 13 20 42.8
baz=306,slow=75,SNR=9.0
H11S1 WAKE ISLAND Hy 26.60 115 T T 13 20 43.5
baz=306,slow=75,SNR=9.4
H11S2 WAKE ISLAND Hy 26.62 115 T T 13 20 46.9
baz=306,slow=75,SNR=7.7
XAN Xi'an 27.18 282 ⇑P **P** **12 52 59.3 0.0**
XAN pP pwP 12 53 09.0 +2.6
XAN pmax pmax
comp=Z,15nm,1.1s
XAN LR LR
comp=Z,350nm,17.8s
XAN LR LR
comp=Z,290nm,19.0s
XAN LR LR
comp=Z,310nm,16.2s
MA2 Magadan 27.91 10 LR LR 13 07 13.8
comp=Z,72nm,18.3s,baz=134,slow=43
DAV Davao City (W) 29.18 214 LR LR 13 03 41.1
comp=Z,126nm,21.3s,baz=88,slow=34
ULN Ulaanbaatar 30.19 311 P **P** **12 53 25.9 -0.2**
ULN lAmb lAmb 12 53 30.3
comp=Z,15nm,1.1s
ULN Ulaanbaatar 30.19 311 P **P** **12 53 25.9 -0.2**
ULN pmax pmax
comp=Z,15nm,1.1s
SONM Songino Array 30.60 311 P **P** **12 53 31.5 +1.8**
comp=Z,6.0nm,0.7s,baz=116,slow=7.3,SNR=44
SONM LR LR 13 06 21.3
comp=Z,400nm,18.6s,baz=156,slow=38
comp=Z,6.0nm,0.7s
SONM Songino Array 30.60 311 P **P** **12 53 29.8 +0.1**
SONM lAmb lAmb 12 53 34.0
comp=Z,8.8nm,0.8s
SONM Songino Array 30.60 311 P **P** **12 53 29.8 +0.1**
SONM pmax pmax
comp=Z,9.0nm,0.8s
YAK Yakutsk 30.61 349 P **P** **12 53 30.2 +0.8**
comp=Z,4.8nm,0.6s,baz=127,slow=3.3,SNR=5.8
YAK LR LR 13 07 05.5
comp=Z,105nm,18.2s,baz=83,slow=39
comp=Z,4.8nm,0.6s
YAK Yakutsk 30.61 349 P **P** **12 53 30.2 +0.8**
YAK lAmb lAmb 12 53 30.9
comp=Z,17nm,0.9s
YAK Yakutsk 30.61 349 *e*P **P** **12 53 30.0 +0.6**
YAK *e**PP **pwP** **12 53 39.7 +3.7**
YAK *e* 12 56 33.3
YAK *e*S **S** **12 58 30.3 -1.0**
YAK *e*SS **ScP** **13 00 10.3 +0.1**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,15nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK smax smax
comp=N,71nm,2.8s
YAK smax smax
comp=E,141nm,3.9s
SHEM Shemya Is, Ala 31.11 39 LR LR 13 03 00.3
comp=E,134nm,22.0s,baz=292,slow=30
SMY Shemya 31.11 39 P **P** **12 53 33.6 -0.3**
SMY Shemya 31.11 39 P **P** **12 53 33.6 -0.3**
SMY pmax pmax
comp=Z,363nm,1.4s
LZH Lanzhou 31.15 287 *e*P **P** **12 53 35.0 +0.2**
LZH pP sP 12 53 39.8 +2.5
LZH sP pwP 12 53 42.0 +0.1
LZH pmax pmax
comp=Z,9.0nm,0.9s
LZH LR LR
comp=Z,210nm,13.1s
LZH LR LR
comp=Z,410nm,15.3s
LZH LR LR
comp=Z,490nm,17.2s
SEY Seymchan 31.36 10 P **P** **12 53 37.4 +1.4**
comp=Z,2.9nm,0.8s,baz=159,slow=8.0,SNR=3.8
comp=Z,2.9nm,0.8s
BOD Bodaibo 31.55 332 *e*P **P** **12 53 37.6 -0.1**
BOD pmax pmax
comp=Z,24nm,1.1s
ZAK Zakamensk 33.33 314 *e*P **P** **12 53 55.6 +2.0**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
KWAJ Kwajalein Atol 33.76 128 P **P** **12 53 56.9 -0.6**
KWAJ Kwajalein Atol 33.76 128 P **P** **12 53 56.9 -0.6**
KWAJ pmax pmax
comp=Z,280nm,1.2s
GTA Gaotai 34.19 294 *e*P **P** **12 54 00.5 -0.7**
GTA pP pwP 12 54 06.8 -1.6
GTA sP sP 12 54 11.8 +8.0
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,75nm,5.8s
GTA LR LR
comp=Z,130nm,13.8s
GTA LR LR
comp=Z,300nm,15.6s
GTA LR LR
comp=Z,270nm,14.5s
SIJI Sorong 34.44 198 P **P** **12 54 02.1 -1.3**
comp=Z,6.8nm,0.8s,baz=347,slow=12,SNR=4.4
SIJI LR LR 13 05 50.6
comp=Z,166nm,20.2s,baz=33,slow=32
comp=Z,6.8nm,0.8s
KMI Kunming 34.53 268 ⇑P **P** **12 54 04.8 +0.4**
KMI pP sP 12 54 09.0 +2.0
KMI pmax pmax
comp=Z,10.0nm,1.5s
KMI LR LR
comp=Z,180nm,14.1s
KMI LR LR
comp=Z,230nm,18.3s
KMI LR LR
comp=Z,230nm,16.9s
PZH PanZhiHua 34.90 271 P **P** **12 54 06.5 -1.0**
PZH S **S** **12 59 33.0 -6.0**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.5s
PZH LR LR
comp=Z,430nm,19.6s
PZH LR LR
comp=Z,460nm,17.4s
PZH LR LR
comp=Z,660nm,19.4s
TNCH TengChong 38.13 270 P **P** **12 54 35.8 +0.6**
TNCH pP sP 12 54 40.0 +2.2
TNCH pmax pmax
comp=Z,14nm,0.6s
TNCH pmax pmax
comp=Z,110nm,4.2s
PHRA Phrae 39.43 260 P **P** **12 54 45.1 -0.8**
TIXI Tiksi 39.90 354 LR LR 13 13 15.0
comp=Z,65nm,18.7s,baz=181,slow=39
TIXI Tiksi 39.90 354 P **P** **12 54 49.0 -0.2**
TIXI Tiksi 39.90 354 ⇓*i*P **P** **12 54 49.8 +0.6**
TIXI pmax pmax
comp=Z,14nm,2.4s
CHTO Chiang Mai 40.35 261 P **P** **12 54 53.2 -0.4**
CHTO Chiang Mai 40.35 261 P **P** **12 54 53.2 -0.4**
CHTO pmax pmax
comp=Z,7.0nm,1.2s
CMAR Chiang Mai Arr 40.52 261 P **P** **12 54 54.0 -1.1**
comp=Z,0.7nm,0.4s,baz=42,slow=7.1,SNR=6.7
CMAR PcP **PcP** **12 56 58.9 +1.4**
comp=Z,0.7nm,0.3s,baz=71,slow=1.5,SNR=7.5
CMAR LR LR 13 11 24.3
comp=Z,99nm,21.7s,baz=70,slow=36
comp=Z,0.7nm,0.4s
CMAR Chiang Mai Arr 40.52 261 *i*P **P** **12 54 55.2 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
LSA Lhasa 42.83 280 P **P** **12 55 15.3 +1.0**
LSA Lhasa 42.83 280 P **P** **12 55 15.4 +1.0**
LSA pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 43.10 301 *e*P **P** **12 55 17.5 +1.6**
WMQ pP pwP 12 55 22.3 -0.8
WMQ sP sP 12 55 26.5 +8.0
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ LR LR
comp=Z,170nm,10.5s
WMQ LR LR
comp=Z,170nm,14.1s
WMQ LR LR
comp=Z,150nm,17.5s
DGZ Jazzator, Alta 43.25 310*d* *i*P **P** **12 55 18.8 +1.7**
DGZ pmax pmax
comp=Z,14nm,1.0s
SHL Shillong 43.55 274 P **P** **12 55 19.0 -0.9**
SHL lAmb lAmb 12 55 19.9
comp=Z,5.9nm,0.6s
SHL Shillong 43.55 274 P **P** **12 55 19.0 -0.9**
SHL pmax pmax
comp=Z,6.0nm,0.6s
BRDH Bariadhala 44.84 271 LR LR 13 17 13.5
comp=Z,244nm,18.1s,baz=78,slow=40
SOEI Soe 44.99 204 P **P** **12 55 30.2 -1.1**
ZAA0 Zalesovo Array 45.15 316 P **P** **12 55 32.3 +0.2**
ZAA0 lAmb lAmb 12 55 42.9
comp=Z,13nm,1.3s
ZALV Zalesovo Beam 45.15 316 P **P** **12 55 32.5 +0.5**
comp=Z,1.8nm,0.7s,baz=102,slow=6.7,SNR=10
ZALV PcP **PcP** **12 57 12.8 +0.5**
comp=Z,5.6nm,0.8s,baz=100,slow=3.3,SNR=10
ZALV LR LR 13 15 07.6
comp=Z,93nm,18.4s,baz=54,slow=37
comp=Z,1.8nm,0.7s
ZALV Zalesovo Beam 45.15 316 P **P** **12 55 32.1 0.0**
HNR Honiara 45.19 154 LR LR 13 13 38.1
comp=Z,2μm,20.1s,baz=317,slow=35
BATI Baumata 45.62 205 LR LR 13 12 49.4
comp=Z,136nm,21.0s,baz=1.5,slow=34
TAPN Taplejung 46.44 278 *e*P **P** **12 55 42.9 -0.2**
comp=Z,11nm,0.5s
MK31 Makanchi Array 46.72 306 P **P** **12 55 45.3 +0.7**
MK31 lAmb lAmb 12 55 47.5
comp=Z,10nm,0.8s
MK31 Makanchi Array 46.72 306*c* *e*P **P** **12 55 45.1 +0.5**
MKAR Makanchi Array 46.72 306 P **P** **12 55 45.2 +0.6**
comp=Z,8.6nm,0.6s,baz=90,slow=9.3,SNR=75
MKAR PcP **PcP** **12 57 18.8 +0.7**
comp=Z,2.9nm,0.7s,baz=82,slow=5.9,SNR=3.3
MKAR LR LR 13 16 04.2
comp=Z,171nm,19.5s,baz=124,slow=37
comp=Z,8.6nm,0.6s
MAKZ Makanchi 46.93 306 P **P** **12 55 47.0 +0.7**
MAKZ lAmb lAmb 12 55 48.7
comp=Z,10.0nm,0.9s
MAKZ Makanchi 46.93 306 P **P** **12 55 47.0 +0.7**
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
RAMN Ramite 47.51 278 *e*P **P** **12 55 51.3 0.0**
comp=Z,71nm,0.9s
NRIK Noril'sk 47.52 337 P **P** **12 55 50.3 -0.2**
comp=Z,8.4nm,0.9s,baz=108,slow=6.7,SNR=6.2
NRIK LR LR 13 17 04.2
comp=Z,92nm,19.2s,baz=156,slow=38
comp=Z,8.4nm,0.9s
NRIK Noril'sk 47.52 337 P **P** **12 55 50.6 +0.1**
NRIK lAmb lAmb 12 55 52.1
comp=Z,14nm,1.2s
NRIK Noril'sk 47.52 337 ⇓*e*P **P** **12 55 50.5 +0.1**
NRIK pmax pmax
comp=Z,14nm,1.2s
JIRN Jiri 47.61 279 *e*P **P** **12 55 52.5 +0.2**
comp=Z,87nm,0.8s
GUN Gumba 47.78 280 *e*P **P** **12 55 53.8 +0.2**
comp=Z,62nm,0.8s
PKI Pulchoki 48.29 280 *e*P **P** **12 55 56.9 -0.6**
comp=Z,35nm,0.9s
PKIN Phulchoki 48.30 280 *e*P **P** **12 55 57.0 -0.5**
comp=Z,32nm,0.9s
DMN Daman 48.53 280 *e*P **P** **12 55 59.2 -0.1**
GKN Gorkha 48.79 280 *e*P **P** **12 56 00.9 -0.2**
comp=Z,55nm,0.9s
KURK Kurchatov 48.90 311 P **P** **12 56 01.7 +0.3**
KURK lAmb lAmb 12 56 05.5
comp=Z,9.8nm,0.8s
KURK Kurchatov 48.90 311 ⇓*e*P **P** **12 56 02.1 +0.7**
KURK pmax pmax
comp=Z,17nm,1.3s
KURBB Kurchatov Arra 48.96 311 LR LR 13 17 30.5
comp=Z,380nm,18.7s,baz=240,slow=37
DANN Dangsing 49.40 281 *e*P **P** **12 56 06.2 +0.2**
comp=Z,86nm,0.9s
PYUN Piuthan 50.12 281 *e*P **P** **12 56 11.7 +0.3**
comp=Z,55nm,0.7s
TARG Taragay, Kyrgy 50.58 300 P **P** **12 56 13.9 -1.0**
TARG lAmb lAmb 12 56 27.5
comp=Z,9.9nm,1.1s
TARG Taragay, Kyrgy 50.58 300 P **P** **12 56 13.9 -1.0**
TARG pmax pmax
comp=Z,10.0nm,1.1s
BPAW Bear Paw Mtn. 51.65 31 P **P** **12 56 21.9 -0.3**
BPAW lAmb lAmb 12 56 27.7
comp=Z,17nm,1.0s
BOOM Boomskoye usch 51.79 301 P **P** **12 56 23.5 -0.2**
BOOM Boomskoye usch 51.79 301 P **P** **12 56 23.5 -0.2**
BOOM pmax pmax
comp=Z,6.0nm,1.2s
NRN Naryn 51.97 300 P **P** **12 56 24.4 -0.8**
NRN Naryn 51.97 300 P **P** **12 56 24.5 -0.8**
NRN pmax pmax
comp=Z,4.0nm,1.1s
WB0 Warramunga Arr 52.29 188 P **P** **12 56 27.9 +0.6**
CTA Charters Tower 52.38 174 LR LR 13 17 59.4
comp=Z,57nm,21.6s,baz=308,slow=35
KSH Kashi 52.42 297 P **P** **12 56 32.0 +3.6**
KSH sP pwP 12 56 39.5 +3.9
KSH pmax pmax
comp=Z,10.0nm,1.1s
WRAB Tennant Creek 52.46 188 P **P** **12 56 28.9 +0.4**
WRAB lAmb lAmb 12 56 30.1
comp=Z,14nm,0.9s
WRAB Tennant Creek 52.46 188*c* *i*P **P** **12 56 29.1 +0.6**
WRAB pmax pmax
comp=Z,15nm,0.9s
WR0 Warramunga Arr 52.46 188 P **P** **12 56 29.2 +0.6**
WR0 lAmb lAmb 12 56 30.1
comp=Z,14nm,0.9s
WB2 Warramunga Arr 52.47 188 P **P** **12 56 28.9 +0.3**
WB2 lAmb lAmb 12 56 30.2
comp=Z,13nm,0.8s
WRA Warramunga Arr 52.47 188 P **P** **12 56 28.1 -0.5**
comp=Z,11nm,0.8s,baz=7.1,slow=7.8,SNR=59
WRA LR LR 13 17 12.6
comp=Z,60nm,22.0s,baz=22,slow=34
comp=Z,11nm,0.8s
WRA Warramunga Arr 52.47 188 P **P** **12 56 28.8 +0.2**
WRA Warramunga Arr 52.47 188 P **P** **12 56 28.8 +0.2**
WRA pmax pmax
comp=Z,1.0nm,0.9s
NEA2 Nenana 52.51 31 P **P** **12 56 30.9 +2.4**
NEA2 lAmb lAmb 12 56 35.4
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 52.63 25 P **P** **12 56 30.5 +1.1**
TOLK lAmb lAmb 12 56 48.2
comp=Z,12nm,1.4s
AAK Ala-Archa 52.81 302 LR LR 13 22 25.9
comp=Z,109nm,18.7s,baz=87,slow=40
AAK Ala-Archa 52.81 302*c* *e*P **P** **12 56 32.7 +1.5**
AAK pmax pmax
comp=Z,4.0nm,0.9s
MDM Murphy Dome 52.89 30 P **P** **12 56 31.6 +0.3**
MDM lAmb lAmb 12 56 38.6
comp=Z,9.3nm,0.9s
IL31 53.46 30 P **P** **12 56 34.7 -0.7**
IL31 lAmb lAmb 12 56 41.1
comp=Z,9.4nm,1.1s
ILAR Eielson Array 53.46 30 P **P** **12 56 36.0 +0.5**
comp=Z,3.3nm,0.9s,baz=268,slow=6.6,SNR=13
ILAR LR LR 13 22 41.7
comp=Z,22nm,19.4s,baz=26,slow=40
comp=Z,3.3nm,0.9s
ILAR Eielson Array 53.46 30 P **P** **12 56 34.7 -0.8**
BVAR Borovoye Array 53.77 315 LR LR 13 20 34.1
comp=Z,108nm,18.4s,baz=80,slow=37
BRVK Borovoye 53.83 315 P **P** **12 56 38.5 +0.1**
BRVK lAmb lAmb 12 56 42.3
comp=Z,5.9nm,0.9s
BRVK Borovoye 53.83 315*c* *e*P **P** **12 56 38.8 +0.4**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
SCRK Sand Creek 54.73 31 P **P** **12 56 46.1 +1.2**
SCRK lAmb lAmb 12 56 51.5
comp=Z,9.3nm,1.2s
MCARA McCarthy VSAT 55.34 35 P **P** **12 56 47.8 -1.4**
KK31 Karatay Array 55.55 303 P **P** **12 56 51.9 +0.8**
KK31 lAmb lAmb 12 56 53.8
comp=Z,9.3nm,0.9s
KK31 Karatay Array 55.55 303 *i*P **P** **12 56 51.7 +0.6**
KKAR Karatay Array 55.55 303 P **P** **12 56 52.1 +1.0**
KKAR lAmb lAmb 12 56 53.8
comp=Z,9.3nm,0.9s
KKAR Karatay Array 55.55 303 P **P** **12 56 52.1 +1.0**
KKAR pmax pmax
comp=Z,9.0nm,1.0s
DRK Karamyk 55.55 298 P **P** **12 56 51.5 +0.1**
DRK lAmb lAmb 12 57 08.3
comp=Z,10nm,1.1s
BCAR Beaver Creek A 55.77 32 P **P** **12 56 51.1 -1.3**
MESA MESA 55.99 36 P **P** **12 56 53.1 -1.0**
BTK Batken 56.12 299 P **P** **12 56 55.5 +0.2**
BTK lAmb lAmb 12 57 06.5
comp=Z,6.2nm,1.0s
BTK Batken 56.12 299 P **P** **12 56 55.5 +0.2**
BTK pmax pmax
comp=Z,6.0nm,1.0s
NIL Nilore 56.19 291 P **P** **12 56 55.2 -0.6**
NIL Nilore 56.19 291 P **P** **12 56 55.2 -0.6**
NIL pmax pmax
comp=Z,14nm,0.9s
AS31 Alice Springs 56.19 188 P **P** **12 56 55.7 0.0**
ASAR Alice Springs 56.19 188 P **P** **12 56 56.9 +1.1**
comp=Z,2.8nm,0.8s,baz=15,slow=13,SNR=36
ASAR LR LR 13 19 16.1
comp=Z,56nm,21.2s,baz=8.0,slow=34
comp=Z,2.8nm,0.8s
ASAR Alice Springs 56.19 188 P **P** **12 56 54.3 -1.5**
M30M Minto, Yukon 58.11 33 P **P** **12 57 10.5 +1.6**
M30M lAmb lAmb 12 57 16.4
comp=Z,7.7nm,1.3s
INK Inuvik 58.54 26 P **P** **12 57 13.2 +1.4**
comp=Z,1.9nm,0.6s,baz=300,slow=5.9,SNR=13
INK LR LR 13 26 32.9
comp=Z,12nm,19.1s,baz=248,slow=40
comp=Z,1.9nm,0.6s
INK Inuvik 58.54 26 P **P** **12 57 13.1 +1.4**
INK lAmb lAmb 12 57 25.2
comp=Z,4.5nm,0.8s
SVE Sverdlovsk 58.68 321 *e*P **P** **12 57 13.8 +0.9**
SVE pmax pmax
comp=Z,19nm,1.0s
N31M Braeburn, Yuko 58.77 34 lAmb lAmb 12 57 23.5
comp=Z,8.8nm,0.8s
KBL Kabul 59.18 294 P **P** **12 57 16.5 -0.5**
KBL lAmb lAmb 12 57 27.0
comp=Z,6.3nm,0.9s
KBL Kabul 59.18 294 P **P** **12 57 16.5 -0.5**
KBL pmax pmax
comp=Z,6.0nm,1.0s
DZM Mont Dzumac 59.20 153 *e*LR LR 13 14 43.0
comp=Z,106nm,21.1s
DZM Mont Dzumac 59.20 153 LR LR 13 22 50.3
comp=Z,106nm,19.4s,baz=24,slow=36
M31M Drury Creek, Y 59.28 33 lAmb lAmb 12 57 21.3
comp=Z,6.6nm,0.9s
WHY Whitehorse 59.37 35 P **P** **12 57 17.5 -0.3**
WHY lAmb lAmb 12 57 32.5
comp=Z,5.2nm,0.9s
FARO Faro, Yukon 59.75 33 P **P** **12 57 20.8 +0.5**
FARO lAmb lAmb 12 57 34.2
comp=Z,5.4nm,0.9s
ARU Arti 59.89 320 P **P** **12 57 20.8 -0.5**
ARU Arti 59.89 320*c* *i*P **P** **12 57 21.7 +0.4**
ARU S **S** **13 05 35.4 +2.4**
ARU SS **SS** **13 09 27.6 -1.1**
ARU pmax pmax
comp=Z,22nm,0.9s
A36M Sachs Harbour 60.58 21 P **P** **12 57 26.5 +0.7**
A36M lAmb lAmb 12 57 43.4
comp=Z,7.8nm,0.9s
MSVF Nonsavu 60.94 139 LR LR 13 22 13.7
comp=Z,38nm,18.2s,baz=326,slow=34
AB31 Akbulak array 60.99 312 *i*P **P** **12 57 29.2 +0.2**
ABKAR Akbulak array 60.99 312 P **P** **12 57 29.2 +0.2**
ABKAR lAmb lAmb 12 57 29.9
comp=Z,4.0nm,0.8s
PALK Pallekele 61.47 260 LR LR 13 25 37.3
comp=Z,44nm,19.8s,baz=186,slow=38
C36M Paulatuk 61.66 24 P **P** **12 57 33.5 +0.4**
C36M lAmb lAmb 12 57 45.6
comp=Z,13nm,1.3s
STKA Stephens Creek 63.91 180 P **P** **12 57 49.0 +0.5**
comp=Z,4.1nm,1.1s,baz=308,slow=7.4,SNR=3.5
STKA LR LR 13 24 41.6
comp=Z,56nm,21.1s,baz=26,slow=35
comp=Z,4.1nm,1.1s
STKA Stephens Creek 63.91 180 *i*P **P** **12 57 49.5 +1.0**
KIRV Kirov 63.99 324*c* *i*P **P** **12 57 49.4 +0.6**
FORT Forrest 64.08 193 P **P** **12 57 49.2 -0.4**
AFI Afiamalu 64.21 128 LR LR 13 19 35.1
comp=Z,63nm,21.6s,baz=300,slow=30
HRA Herat 64.46 296 P **P** **12 57 53.7 +1.1**
HRA lAmb lAmb 12 57 56.7
comp=Z,4.8nm,0.8s
PRGR Permogore 64.69 328 *e*P **P** **12 57 53.6 +0.3**
PRGR pmax pmax
comp=Z,17nm,0.9s
EUNU Eureka 64.78 8 lAmb lAmb 12 57 55.7
comp=Z,5.2nm,0.9s
SPITS Spitsbergen Ar 65.08 349 LR LR 13 26 59.5
comp=Z,54nm,21.8s,baz=2.0,slow=37
GEYT Alibeck 66.15 301 P **P** **12 58 04.3 +1.0**
comp=Z,3.8nm,0.8s,baz=64,slow=6.8,SNR=4.1
GEYT LR LR 13 28 58.6
comp=Z,79nm,19.3s,baz=108,slow=38

comp=Z,3.8nm,0.8s
RES Resolute Bay 67.10 14 P **P** **12 58 09.7 +1.0**
RES IAmb IAmb 12 58 28.8
comp=Z,9.7nm,1.1s
RES Resolute Bay 67.10 14 P **P** **12 58 09.7 +1.0**
RES pmax pmax
comp=Z,10.0nm,1.2s
BELG Belogornoye 67.24 318*c iP* **P** **12 58 10.2 +0.3**
BELG pmax pmax
comp=Z,5.0nm,1.0s
KLMR Klimovskoe 67.70 329 *eP* **P** **12 58 11.5 -1.2**
KLMR AMP 12 58 13.6
comp=Z,15nm,0.9s
KLMR Klimovskoe 67.70 329 *eP* **P** **12 58 11.5 -1.2**
KLMR pmax pmax
comp=Z,15nm,0.9s
YKA Yellowknife Ar 67.84 29 P **P** **12 58 14.3 +0.7**
comp=Z,1.9nm,0.8s,baz=289,slow=6.6,SNR=4.1
YKA LR LR 13 30 54.0
comp=Z,1μm,19.7s,baz=129,slow=38
comp=Z,1.9nm,0.8s
ARCES ARCESS Array B 68.35 340 LR LR 13 32 53.3
comp=Z,76nm,18.9s,baz=81,slow=40
OBN Obninsk 71.84 324⇓ *eP* **P** **12 58 39.1 +0.9**
OBN *e* 13 01 14.9
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,102nm,16.0s
AKT Akhty 71.89 308 *eP* **P** **12 58 40.2 +1.2**
AKT *e* 12 58 58.4
AKT pmax pmax
comp=Z,34nm,0.8s
WSAR Wadi Sarin 72.13 287 LR LR 13 34 04.0
comp=Z,63nm,18.8s,baz=99,slow=39
FINES FINESS Array B 72.94 333 P **P** **12 58 45.3 +0.6**
comp=Z,6.0nm,0.7s,baz=95,slow=4.4,SNR=12
FINES LR LR 13 33 34.4
comp=Z,54nm,18.7s,baz=31,slow=38
comp=Z,6.0nm,0.7s
FINES FINESS Array B 72.94 333 P **P** **12 58 44.6 -0.1**
FINES FINESS Array B 72.94 333 *i* P **P** **12 58 45.2 +0.5**
FINES pmax pmax
comp=Z,6.0nm,0.7s
YBH Yreka Blue Hor 73.22 51 LR LR 13 23 12.3
comp=Z,99nm,21.9s,baz=300,slow=29
NEW Newport 73.49 43 P **P** **12 58 48.7 +0.4**
NEW IAmb IAmb 12 59 04.2
comp=Z,9.4nm,1.2s
NEW Newport 73.49 43 P **P** **12 58 48.7 +0.4**
NEW pmax pmax
comp=Z,9.0nm,1.3s
KBZ Khabaz 73.96 312 P **P** **12 58 52.0 +0.9**
comp=Z,25nm,0.8s,baz=85,slow=2.8,SNR=36
KBZ LR LR 13 34 01.8
comp=Z,74nm,19.9s,baz=65,slow=38
KBZ Khabaz 73.96 312*c iP* **P** **12 58 52.4 +1.3**
KBZ pmax pmax
comp=Z,33nm,0.9s
KIV Kislovodsk 73.98 312 P **P** **12 58 51.8 +0.5**
KIV Kislovodsk 73.98 312 *eP* **P** **12 58 52.7 +1.3**
KIV pmax pmax
comp=Z,36nm,1.1s
ONI Oni 74.17 311 P **P** **12 58 53.6 +1.2**
ONI IAmb IAmb 12 58 55.3
comp=Z,17nm,1.2s
ONI Oni 74.17 311 P **P** **12 58 53.6 +1.2**
ONI pmax pmax
comp=Z,17nm,1.2s
NEY Neytrino 74.31 311⇓ *eP* **P** **12 58 54.8 +1.4**
NEY pmax pmax
comp=Z,3.0nm,1.0s
VSU Vasula 74.47 330*de*P **P** **12 58 54.5 +0.7**
VSU pmax pmax
comp=Z,103nm,1.5s
GNI Garni 74.52 308 LR LR 13 34 21.9
comp=Z,96nm,19.4s,baz=58,slow=38
GNI Garni 74.52 308 P **P** **12 58 55.5 +0.8**
GNI Garni 74.52 308*ce*P **P** **12 58 56.7 +2.1**
GNI pmax pmax
comp=Z,22nm,1.0s
F10A Beach Ranch, E 74.59 45 P **P** **12 58 55.0 +0.1**
BMO Blue Mountains 75.11 46 P **P** **12 59 00.5 +2.6**
BMO Blue Mountains 75.11 46 P **P** **12 59 00.5 +2.6**
BMO pmax pmax
comp=Z,5.0nm,1.2s
J08A Circle Bar Ran 75.15 48 P **P** **12 58 57.6 -0.6**
J08A IAmb IAmb 12 59 01.9
comp=Z,4.9nm,0.8s
WVOR Wild Horse Val 75.52 49 P **P** **12 59 02.3 +2.0**
WVOR IAmb IAmb 12 59 11.3
comp=Z,14nm,1.4s
WVOR Wild Horse Val 75.52 49 P **P** **12 59 02.3 +2.0**
WVOR pmax pmax
comp=Z,14nm,1.4s
BEKR Beckworth 75.69 52 P **P** **12 59 02.9 +1.4**
SOC Sochi 76.03 313 *eP* **P** **12 59 02.1 -0.9**
SOC *e* 13 01 51.3
SOC *e*PPP PPP 13 03 39.4
SOC *e*S **S** **13 08 46.9 +0.6**
SOC *e*SS **SS** **13 13 39.9 +1.6**
SOC MLR MLR
comp=Z,50nm,16.0s
MSO Missoula 76.08 43 P **P** **12 59 02.7 -0.7**
MNK Minsk 76.35 327 *i* P P 12 58 57.6 -7.1
comp=E,4.0nm,0.8s
MNK *i* P P 12 58 57.6 -7.1
comp=N,33nm,0.9s
MNK *i* P P 12 58 57.6 -7.1
comp=Z,9.0nm,0.7s,baz=233
MNK *i* PcP sP 12 59 09.1 +1.7
MNK *i* PP **PP** **13 01 48.9 -6.7**
MNK *i* PPP PPP 13 03 35.5
MNK *i* S **S** **13 08 42.0 -7.5**
MNK *i* SS **SS** **13 13 38.8 -3.9**
MNK *i* SSS SSS 13 17 02.0
MNK *i* LR LR 13 32 32.4
MNK *i* LRM MLR 13 35 12.9
comp=E,26nm,20.6s
MNK *i* LRM MLR 13 35 23.9
comp=N,135nm,18.1s
MNK *i* LRM MLR 13 35 27.1
comp=Z,131nm,19.4s
MNK Minsk 76.35 327 *i* P P 12 58 57.5 -7.2
MNK *i* S **S** **13 08 42.0 -7.5**
MNK *i* 13 09 13.0
MNK *i* SS **SS** **13 13 38.7 -3.9**
MNK *i* SSS SSS 13 17 02.0
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=N,33nm,0.9s
MNK MLR MLR
comp=E,26nm,21.0s
MNK MLR MLR
comp=N,135nm,18.0s
MNK MLR MLR
comp=Z,131nm,19.0s
CMB Columbia Colle 76.60 53 P **P** **12 59 05.4 -1.1**
CMB Columbia Colle 76.60 53 P **P** **12 59 05.4 -1.1**
CMB pmax pmax
comp=Z,4.0nm,1.0s
NACGM Naroch 76.62 327 *eP* **P** **12 59 07.2 +1.1**
comp=Z,21nm,0.9s,baz=52
MFID Camas Ranch 76.77 47 P **P** **12 59 06.9 -0.5**
MFID IAmb IAmb 12 59 10.6
comp=Z,4.4nm,0.7s
ANN Anapa 76.78 315 *eP* **P** **12 59 04.7 -2.5**
ANN *e**PP **pP** **12 59 07.8 -1.4**
ANN *e*S **S** **13 08 51.9 -2.5**
ANN pmax pmax
comp=Z,81nm,1.3s
NVAR Mina Array Bea 77.80 52 P **P** **12 59 15.7 +2.3**
comp=Z,2.7nm,0.7s,baz=286,slow=5.4,SNR=25
comp=Z,2.7nm,0.7s
AKASG Malin Array Be 77.99 323 P **P** **12 59 14.2 +0.3**
comp=Z,4.9nm,0.6s,baz=48,slow=6.2,SNR=28
comp=Z,4.9nm,0.6s
AKASG Malin Array Be 77.99 323 IAmb IAmb 12 59 15.7
comp=Z,9.1nm,1.4s
AKASG Malin Array Be 77.99 323 *i* P **P** **12 59 14.1 +0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 77.99 323 *i* P **P** **12 59 14.2 +0.3**
AKBB pmax pmax
comp=Z,21nm,1.5s
RTZ Ruatahuna 78.00 152 P **P** **12 59 13.3 -0.7**
BOZ Bozeman (W) 78.10 43 P **P** **12 59 13.1 -1.8**
BOZ Bozeman (W) 78.10 43 P **P** **12 59 13.1 -1.8**
BOZ pmax pmax
comp=Z,15nm,1.1s
HFS Hagfors 78.33 336 LR LR 13 35 27.3
comp=Z,53nm,20.8s,baz=64,slow=37
NC204 NORSAR Array S 78.44 338 P **P** **12 59 17.3 +0.9**
NB2 NORSAR Subarra 78.47 338 P **P** **12 59 16.8 +0.3**
comp=Z,8.8nm,0.8s,baz=41,slow=5.6
NOA NORSAR Array B 78.47 338 P **P** **12 59 16.8 +0.3**
comp=Z,6.4nm,0.8s,baz=41,slow=5.5,SNR=16
NOA LR LR 13 36 59.4
comp=Z,62nm,21.0s,baz=35,slow=38
comp=Z,6.4nm,0.8s
ELK Elko 78.57 49 LR LR 13 27 07.3
comp=Z,68nm,21.8s,baz=316,slow=30
ELK Elko 78.57 49 P **P** **12 59 18.5 +0.8**
ELK Elko 78.57 49 P **P** **12 59 18.5 +0.8**
ELK pmax pmax
comp=Z,5.0nm,1.2s
NBO00 NORSAR Array S 78.62 338 P **P** **12 59 18.2 +0.9**
NAO01 NORSAR Array S 78.73 338 P **P** **12 59 18.5 +0.7**
NAO01 IAmb IAmb 12 59 22.0
comp=Z,14nm,1.1s
HVU Hansel Valley 79.55 47 P **P** **12 59 25.4 +2.4**
HVU Hansel Valley 79.55 47 P **P** **12 59 25.4 +2.4**
HVU pmax pmax
comp=Z,3.0nm,0.8s
FXWY Fox Creek 79.56 45 P **P** **12 59 23.8 +0.7**
R11A Troy Canyon, C 79.65 51 P **P** **12 59 25.9 +2.3**
KLNR Kaliningrad 79.72 330⇑ *eP* **P** **12 59 25.4 +2.1**
KLNR pmax pmax
comp=Z,196nm,1.4s
BGU Big Grassy Mou 79.87 48 P **P** **12 59 26.4 +1.7**
TPNV Topopah Spring 79.97 53 IAmb IAmb 12 59 31.0
comp=Z,7.3nm,0.8s
GWY Greenwater Val 80.10 53 P **P** **12 59 27.0 +1.0**
GWY IAmb IAmb 12 59 28.9
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 80.42 48 P **P** **12 59 29.3 +1.6**
DUG IAmb IAmb 12 59 33.8
comp=Z,7.4nm,1.1s
DUG Dugway, Tooele 80.42 48 P **P** **12 59 29.3 +1.6**
DUG pmax pmax
comp=Z,7.0nm,1.1s
RPZ Rata Peaks 80.43 159 LR LR 13 36 56.2
comp=Z,40nm,18.3s,baz=265,slow=37
PDAR Pinedale Array 80.94 45 P **P** **12 59 32.1 +1.6**
comp=Z,0.9nm,0.8s,baz=316,slow=3.9,SNR=6.5
comp=Z,0.9nm,0.8s
SHPR Sheep Range 80.94 53 P **P** **12 59 32.6 +2.1**
GAZ Gaziantep 81.09 308 P **P** **12 59 31.9 +0.7**
ILGA Ilgaz 81.13 313 P **P** **12 59 31.8 +0.2**
MPU Maple Canyon 81.27 48 P **P** **12 59 32.5 +0.3**
TCRU Three Creeks R 81.55 50 P **P** **12 59 35.6 +1.7**
TCRU IAmb IAmb 13 00 06.5
comp=Z,6.1nm,1.2s
TESR Tescani 81.91 321⇑ P **P** **12 59 36.2 +0.9**
BR131 Keskin Array S 81.95 312 P **P** **12 59 36.1 +0.3**
BR131 Keskin Array S 81.95 312 *d* P **P** **12 59 37.0 +1.2**
BRTR Keskin Array B 81.95 312 P **P** **12 59 36.8 +1.0**
comp=Z,1.1nm,0.8s,baz=108,slow=4.1,SNR=53
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 81.95 312 P **P** **12 59 36.3 +0.5**
BUR08 Bucovina Ar. S 81.96 322 P **P** **12 59 35.9 +0.3**
BUR08 IAmb IAmb 12 59 37.7
comp=Z,8.6nm,1.0s
BURAR Bucovina Array 81.97 322⇑ P **P** **12 59 36.9 +1.3**
BURAR Bucovina Array 81.97 322 P **P** **12 59 36.1 +0.4**
BURAR IAmb IAmb 12 59 38.1
comp=Z,8.4nm,1.0s
TPGR Topolog 81.98 319⇑ P **P** **12 59 36.5 +0.8**
P17A Butcher Ranch, 82.14 48 IAmb IAmb 12 59 52.2
comp=Z,12nm,1.2s
Q16A Castle Valley 82.19 49 IAmb IAmb 13 00 05.5
comp=Z,7.3nm,1.3s
KNB Kanab 82.21 51 IAmb IAmb 12 59 51.3
comp=Z,5.5nm,0.9s
RDMU Red Mountain 82.22 47 IAmb IAmb 12 59 56.8
comp=Z,5.5nm,1.0s
VRI Vrincioaia 82.28 320⇑ P **P** **12 59 39.3 +2.1**
PLOR Plostina 82.33 320⇑ P **P** **12 59 38.3 +0.8**
ANTO Ankara 82.39 313 P **P** **12 59 38.0 0.0**
ANTO Ankara 82.39 313 P **P** **12 59 38.0 0.0**
ANTO pmax pmax
comp=Z,18nm,0.7s
RAYN Ar Rayn 82.44 293 P **P** **12 59 38.5 0.0**
RAYN Ar Rayn 82.44 293 P **P** **12 59 38.5 0.0**
RAYN pmax pmax
comp=Z,13nm,0.8s
SRU San Rafael Swe 82.49 48 IAmb IAmb 12 59 52.1
comp=Z,5.7nm,0.8s
PPT Papeete 82.58 116 LR LR 13 31 18.2
comp=Z,47nm,21.4s,baz=314,slow=32
PPT2 Papete2 82.59 116 *e*LR LR 13 25 33.9
comp=Z,70nm,24.0s
PPT2 *e*LR LR 13 25 34.8
comp=Z,82nm,31.0s
KOLS Kolonicke sedl 82.59 324 *eP* **P** **12 59 39.6 +0.8**
KOLS Kolonicke sedl 82.59 324 *eP* **P** **12 59 39.6 +0.8**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
OZUR 82.64 321⇑ P **P** **12 59 40.6 +1.4**
STHS Stebnicka Huta 82.77 325 *eP* **P** **12 59 40.9 +1.2**
STHS Stebnicka Huta 82.77 325 *eP* **P** **12 59 40.9 +1.2**
STHS pmax pmax
comp=Z,7.0nm,0.9s
UZH Uzhgorod 82.78 324 *eP* **P** **12 59 37.3 -2.4**
UZH *e* 12 59 44.4
OJC Ojcow 82.90 327 *eP* **P** **12 59 38.0 -2.4**
DOPR Dopca 82.93 321⇑ P **P** **12 59 42.3 +1.6**
MLR Muntele Rosu 82.94 320⇑ P **P** **12 59 41.9 +1.1**
TRPA Tarpa 82.99 324⇑ P **P** **12 59 42.3 +1.5**
MDUB Mudurnu 83.02 314 P **P** **12 59 41.5 +0.2**
NIE Niedzica 83.22 326 *eP* **P** **12 59 43.5 +1.5**
VOIR 83.46 321⇑ P **P** **12 59 44.0 +0.6**
ARR Arges 83.73 321⇑ P **P** **12 59 46.5 +1.6**
BORA Eskisehir 83.83 314 P **P** **12 59 45.2 -0.2**
PV23 Carpenter Ridg 83.83 48 P **P** **12 59 46.3 +0.5**
PV10 Paradox Valley 83.86 48 P **P** **12 59 45.2 -0.7**
PV11 David Mesa, Pa 84.01 48 IAmb IAmb 13 00 01.8
comp=Z,6.3nm,0.8s
WUAZ Wupatki 84.03 52 P **P** **12 59 47.9 +1.2**
WUAZ IAmb IAmb 12 59 53.1
comp=Z,5.3nm,1.1s
KSP Ksiaz 84.06 329 *eP* **P** **12 59 47.4 +1.1**
PV13 Radium Mtn., P 84.12 48 IAmb IAmb 12 59 57.7
comp=Z,6.1nm,1.0s
N23A Red Feather La 84.22 45 IAmb IAmb 13 00 11.7
comp=Z,7.1nm,1.1s
MORC Moravsky Berou 84.25 327⇑ P **P** **12 59 48.3 +0.9**
MORC Moravsky Berou 84.25 327 P **P** **12 59 47.3 -0.1**
MORC IAmb IAmb 12 59 49.5
comp=Z,11nm,1.3s
MORC Moravsky Berou 84.25 327 *eP* **P** **12 59 48.1 +0.7**
MORC Moravsky Berou 84.25 327 P **P** **12 59 47.3 -0.1**
MORC pmax pmax
comp=Z,11nm,1.3s
KRLC Kraliky 84.39 328 *eP* **P** **12 59 48.9 +0.8**
KRLC Kraliky 84.39 328 *eP* **P** **12 59 48.9 +0.8**
DPC Dobruska-Polom 84.40 328 *eP* **P** **12 59 49.4 +1.3**
DPC Dobruska-Polom 84.40 328 *eP* **P** **12 59 49.4 +1.3**
PSZ Piszkesteto 84.44 325 P **P** **12 59 49.1 +0.7**
PSZ Piszkesteto 84.44 325 P **P** **12 59 49.1 +0.7**
PSZ pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 84.55 326 *eP* **P** **12 59 50.2 +1.3**
VYHS Vyhne 84.55 326 *eP* **P** **12 59 50.2 +1.3**
VYHS pmax pmax
comp=Z,17nm,1.2s
VRAC Vranov 85.02 327 LR LR 13 41 10.4
comp=Z,53nm,18.3s,baz=37,slow=38
VRAC Vranov 85.02 327 *eP* **P** **12 59 52.4 +1.2**
BRG Berggiesshubel 85.05 330 *i* P **P** **12 59 51.9 +0.6**
BRG Amp 12 59 53.0
comp=Z,7.1nm,0.8s
BRG Berggiesshubel 85.05 330 *i* P **P** **12 59 51.9 +0.6**
BRG pmax pmax
comp=Z,7.0nm,0.8s
TAOE Nuku Hiva Isla 85.06 104 *e*LR LR 13 26 44.0
comp=Z,111nm,23.4s
CLL Collm 85.13 330 *i* P **P** **12 59 52.0 +0.3**
comp=Z,17nm,0.9s
CLL *ep*P **PcP** **12 59 56.0 +1.1**
CLL *ex* x 13 00 01.0
CLL Collm 85.13 330 *i* P **P** **12 59 52.0 +0.3**
CLL *e* 12 59 56.0
CLL pmax pmax
comp=Z,17nm,0.9s
SMOL Smolenice 85.20 326 *eP* **P** **12 59 53.8 +1.6**
SMOL pmax pmax
comp=Z,9.0nm,1.1s
KRUC Moravsky 85.29 327 *eP* **P** **12 59 53.5 +0.9**
MODS Modra-Piesok 85.38 326 *eP* **P** **12 59 54.3 +1.3**
MODS Modra-Piesok 85.38 326 *eP* **P** **12 59 54.3 +1.3**
MODS pmax pmax
comp=Z,20nm,1.0s
PRU Pruhonice 85.45 329 *eP* **P** **12 59 54.1 +0.8**
PRU Pruhonice 85.45 329 *eP* **P** **12 59 54.1 +0.8**
TBI Tubuai 86.16 121 *e*LR LR 13 27 13.5
comp=Z,2μm,34.5s
TBI *e*LR LR 13 27 14.0
comp=Z,1μm,36.8s
KHC Kasperske Hory 86.50 329 *eP* **P** **12 59 59.9 +1.3**
GERES GERESS Array B 86.66 328 P **P** **13 00 00.1 +0.6**
comp=Z,0.3nm,0.5s,baz=31,slow=5.4,SNR=3.5
comp=Z,0.3nm,0.5s
ECSD EROS Data Cent 87.57 38 P **P** **13 00 04.2 +0.3**
ECSD IAmb IAmb 13 00 05.8
comp=Z,7.1nm,1.1s
ANMO Albuquerque 87.59 50*de*P **P** **13 00 06.8 +2.4**
ANMO pmax pmax
comp=Z,2.0nm,1.3s
FUORN Ofenpass-Fuorn 89.86 329 IAmb IAmb 13 00 16.5
comp=Z,6.6nm,0.8s
DAVOX Davos/Dischmat 89.91 329 LR LR 13 46 13.5
comp=Z,63nm,18.6s,baz=84,slow=39
LPIG La Paz 91.49 60 LR LR 13 32 30.5
comp=Z,40nm,21.1s,baz=248,slow=30
TX31 Lajitas Ar. Si 92.95 52 P **P** **13 00 30.9 +1.4**
TX32 Lajitas Array 92.95 52 P **P** **13 00 31.0 +1.5**
TX32 IAmb IAmb 13 00 34.7
comp=Z,3.2nm,1.0s
TXAR Lajitas Array 92.95 52 P **P** **13 00 31.5 +2.1**
comp=Z,3.2nm,1.0s,baz=308,slow=3.6,SNR=11
TXAR LR LR 13 36 26.5
comp=Z,55nm,20.2s,baz=302,slow=32
comp=Z,3.2nm,1.0s
TXAR Lajitas Array 92.95 52 P **P** **13 00 30.6 +1.1**
TXAR Lajitas Array 92.95 52 P **P** **13 00 30.6 +1.1**
SADO Sadowa 94.81 28 LR LR 13 45 37.6
comp=Z,15nm,21.2s,baz=168,slow=37
P52A Corning 97.76 32 P **P** **13 00 49.7 -1.3**
LPAZ La Paz 148.81 66 PKPbc **PKiKP** **13 07 06.1 0.0**
comp=Z,4.3nm,0.7s,baz=335,slow=2.9,SNR=18
PLCA Paso Flores 153.12 117 PKPbc **PKiKP** **13 07 14.6 +1.0**
comp=Z,1.3nm,0.7s,baz=251,slow=3.6,SNR=6.0
CPUP Villa Florida 162.59 75 PKP **PKPdf** **13 07 19.8 +1.8**
comp=Z,2.1nm,0.3s,baz=54,slow=2.4,SNR=4.1

BEO ***25*** *13:00:52.6±0.5, 42.°58N×24.°16E, h0km, ML1.7/6, Mining explosion.*
ISC 25 13:00:52.3±1.3, 42.°58N±0.°10×24.°16E±0.°07, h0km, n5, σ0s56/10, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.62**	**140**	*ei*Pg	**Pg**	**13 01 04.3**	**+0.1**
PLD				*e*Sg	**Sg**	**13 01 12.1**	**-0.2**
VTS	**Vitosha**	**0.69**	**273**	*ei*Pg	**Pg**	**13 01 04.5**	**-1.0**
VTS				*e*Sg	**Sg**	**13 01 15.1**	**+0.7**
ZAPS	**Zavoj**	**1.32**	**302**	*ei*Pg	**Pg**	**13 01 17.6**	**0.0**
ZAPS				*e*Sg	**Sg**	**13 01 35.3**	**+0.6**
BARS	**Barje**	**1.75**	**279**	*ei*Pg	**Pn**	**13 01 24.1**	**+0.2**
BARS				*e*Sg	**Sb**	**13 01 48.1**	**+0.4**
ZAGS	**Zajecar**	**1.87**	**312**	*ei*Pg	**Pn**	**13 01 25.3**	**-0.3**
ZAGS				*e*Sg	**Sb**	**13 01 51.2**	**-0.1**

SKO 25 13:01:07.5, 41.°69N×22.°38E, h3km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.14**	**272**	*i* Pg	Pg	13 01 09.4	-1.0
STIP				*e*Sg	Sg	13 01 11.6	-0.7
VAY	**Valandovo**	**0.40**	**159**	*i* Pg	Pg	13 01 14.9	-0.2
VAY				*e*Sg	Sg	13 01 20.5	+0.3
VAY				*e*Lg	Lg	13 01 20.7	
VAY	comp=E,46nm,0.6s			*e*Lg	Lg	13 01 21.0	
KNT	comp=N,21nm,0.6s **Kendrikon**	**0.66**	**143**	*i* Pg	Pg	13 01 19.2	-0.9

WEL 25 13:19:15.6, 42.°5S±7.°×17.°3E±1.°1, h27km±15km, M2.6/5, ML2.9/12, MLv2.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=71.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.23**	**74**	P	Pb	13 19 22.1	+0.2
GVZ	**Greta Valley S**	**0.51**	**197**	P	Pn	13 19 27.7	+0.6
THZ	**Tophouse**	**0.76**	**341**	P	Pn	13 19 30.7	+0.1
LTZ	**Lake Taylor**	**0.77**	**247**	P	Pn	13 19 31.0	+0.2
BSWZ	**Blackbirch Sta**	**0.90**	**32**	P	Pb	13 19 34.0	+1.3
MRNZ	**Matariki Terra**	**1.14**	**342**	P	Pb	13 19 37.7	+1.0
OXZ	**Oxford**	**1.22**	**226**	P	Pb	13 19 38.2	+0.1
DSZ	**Denniston Nort**	**1.29**	**304**	P	Pb	13 19 40.3	+0.9
MQZ	**McQueen's Vall**	**1.30**	**199**	P	Pb	13 19 38.8	-0.6
MHCZ	**Mount Hutt**	**1.61**	**229**	P	Pn	13 19 42.6	+0.2
WACZ	**Wakanui South**	**1.78**	**215**	P	Pn	13 19 45.7	+1.1
PAWZ	**Paruwai Farm**	**1.97**	**57**	P	Pb	13 19 49.2	-1.6
RPZ	**Rata Peaks**	**2.02**	**232**	P	Pn	13 19 49.4	+1.5
ARCZ	**Arundel**	**2.10**	**225**	P	Pn	13 19 50.3	+1.2
KNZ	**Kokohu**	**4.83**	**46**	P	Pb	13 20 35.1	-4.4
URZ	**Urewera**	**5.15**	**36**	P	Pn	13 20 33.4	+2.4

IDC ***25*** *13:19:53.4±1.1, 37.°18N×141.°65E, h0km, mb3.6/6, mbtmp3.5/8, ML2.8/2, MS2.7/4, Error ellipse: s-maj=24.7km s-min=22.8km az=68.0*
NIED ***25*** *13:19:57.2, 37.°18N×141.°32E, h25km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.37; $M_{\theta\theta}$0.99; $M_{\phi\phi}$2.38; $M_{r\theta}$0.41; $M_{\theta\phi}$1.62; $M_{\phi r}$0.67; Fault plane solution: $M_0$3.50000×10^{14} NP1:ϕ_s34.00000°, δ39.00000°, λ-89.00000°. NP2:ϕ_s213.00000°, δ51.00000°, λ-91.00000°.*
JMA ***25*** *13:19:57.2±0.1, 37.°2N±0.°3×141.°3E±0.°8, h25km±1km, MV3.7/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF.
ISC 25 13:19:54.7±2.0, 37.°15N±0.°05×141.°48E±0.°08, h6km±11km, n24, σ0s99/23, mb3.6/6, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.53**	**295**	*i* P	**Pg**	**13 20 05.3**	**+0.3**
JFK				S	**Sg**	**13 20 11.2**	**-0.8**
JFFD	**Fukushimafurud**	**0.74**	**266**	*i* P	**Pg**	**13 20 09.0**	**+0.1**
JFFD				S	**Sg**	**13 20 17.5**	**-1.0**
JMST	**Minamisoumatoc**	**0.75**	**321**	*i* P	**Pg**	**13 20 09.4**	**+0.3**
JMST				S	**Sg**	**13 20 18.8**	**0.0**
JMM	**Marumori**	**0.91**	**323**	*i* P	**Pg**	**13 20 12.2**	**+0.1**
JMM				S	**Sg**	**13 20 23.3**	**-0.5**
JHO	**Hitachi**	**0.91**	**234**⇓	*i*P	**Pg**	**13 20 11.8**	**-0.3**
JSB	**Shiboa**	**1.26**	**262**	P	**Pn**	**13 20 18.7**	**-0.3**
JSB				S	**Sb**	**13 20 34.3**	**-1.3**
JIO	**Ouri**	**1.31**	**355**	S	**Sg**	**13 20 36.4**	**-0.4**
JOU	**Okura**	**1.38**	**332**	*i* P	**Pg**	**13 20 20.9**	**-0.3**
JOU				S	**Sn**	**13 20 38.3**	**-1.0**
MJAR	**Matsushiro Arr**	**2.69**	**258**	Pn	**Pn**	**13 20 39.2**	**+0.5**
MJAR	0.6nm,0.3s,baz=86,slow=27,SNR=32			Sn	**Sb**	**13 21 15.8**	**-0.9**
MJAR	3.3nm,0.3s,baz=355,slow=12,SNR=2.9			LR	LR	13 21 55.7	
KSRS	comp=Z,55nm,21.7s,baz=68,slow=43 **Korea Array**	**10.81**	**276**	Pn	**Pn**	**13 22 33.1**	**+3.1**
KSRS	6.6nm,0.4s 0.2nm,0.3s,baz=96,slow=17,SNR=1.6			LR	LR	13 26 36.3	
	comp=Z,17nm,21.7s,baz=75,slow=37						

0.4nm,0.3s
KLR Kul'dur 13.99 333 LR LR 13 28 05.4
comp=Z,43nm,19.2s,baz=104,slow=35
SONM Songino Array 27.77 304 P **P** **13 25 45.0 +0.6**
0.5nm,0.5s,baz=107,slow=9.5,SNR=3.2
0.5nm,0.5s
H11N2 WAKE ISLAND Hy 28.16 121 T T 13 55 23.7
baz=314,slow=75,SNR=112
H11N1 WAKE ISLAND Hy 28.16 121 T T 13 55 22.9
baz=314,slow=75,SNR=123
H11N3 WAKE ISLAND Hy 28.18 121 T T 13 55 26.8
baz=314,slow=75,SNR=114
H11S1 WAKE ISLAND Hy 28.87 123 T T 13 56 18.4
baz=314,slow=75,SNR=25
H11S3 WAKE ISLAND Hy 28.87 123 T T 13 56 49.8
baz=314,slow=75,SNR=29
H11S2 WAKE ISLAND Hy 28.89 123 T T 13 56 22.3
baz=314,slow=75,SNR=22
ZALV Zalesovo Beam 41.88 312 P **P** **13 27 44.7 -0.9**
0.8nm,0.6s,baz=79,slow=7.8,SNR=1.9
0.8nm,0.6s
MKAR Makanchi Array 44.11 302 P **P** **13 28 03.9 +0.1**
0.4nm,0.7s,baz=79,slow=7.7,SNR=4.9
0.4nm,0.7s
ILAR Eielson Array 49.37 32 P **P** **13 28 43.7 -1.0**
0.6nm,0.7s,baz=266,slow=6.4,SNR=7.1
0.6nm,0.7s
WRA Warramunga Arr 57.18 188 P **P** **13 29 42.0 -0.6**
0.5nm,0.5s,baz=4.8,slow=7.3,SNR=14
0.5nm,0.5s
ASAR Alice Springs 60.91 188 P **P** **13 30 08.9 +0.5**
0.3nm,0.8s,baz=16,slow=11,SNR=5.9
0.3nm,0.8s
KVAR Kislovodsk Arr 70.87 311 LR LR 14 05 54.2
comp=Z,27nm,18.2s,baz=62,slow=39

WEL 25 13:24:30.8±0.4,**42°S**±2″×**17°4E**±″,**h9**km±3km,**M3.6**/35,
ML4.0/12,**MLv3.6**/35,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=121.2,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.10**	**233**	P	Pg	13 24 33.9	+0.7
KHZ				S	Sg	13 24 36.3	+1.4
BSWZ	**Blackbirch Sta**	**0.67**	**15**	P	Pg	13 24 43.8	+0.1
CMWZ	**Cape Campbell**	**0.74**	**35**	P	Pb	13 24 46.0	0.0
GVZ	**Greta Valley S**	**0.76**	**216**	P	Pb	13 24 46.1	-0.1
GVZ				S	Sb	13 24 57.9	+1.3
THZ	**Tophouse**	**0.81**	**317**	P	Pb	13 24 46.9	-0.3
TUWZ	**Tuamarina**	**0.95**	**14**	P	Pg	13 24 49.0	-0.2
TUWZ				S	Sb	13 25 03.2	+0.9
AMCZ	**Amberley**	**1.10**	**221**	P	Pg	13 24 51.1	-0.8
LTZ	**Lake Taylor**	**1.10**	**247**	P	Pg	13 24 51.4	-0.6
NNZ	**Nelson**	**1.16**	**350**	P	Pb	13 24 52.4	-0.7
MRNZ	**Matariki Terra**	**1.17**	**325**	P	Pg	13 24 53.2	-0.8
TCW	**Tory Channel**	**1.24**	**23**	P	Pn	13 24 52.6	-1.8
WEL	**Wellington**	**1.36**	**38**	P	Pn	13 24 54.0	-2.0
TKNZ	**Takaka Hill**	**1.42**	**339**	P	Pn	13 24 56.9	0.0
OKCZ	**Okains Bay**	**1.43**	**197**	P	Pn	13 24 54.8	-2.3
PLWZ	**Palliser**	**1.44**	**57**	P	Pn	13 24 54.1	-3.0
DSZ	**Denniston Nort**	**1.50**	**294**	P	Pn	13 24 57.9	-0.1
MSWZ	**Moikau Station**	**1.52**	**52**	P	Pn	13 24 55.5	-2.8
OXZ	**Oxford**	**1.53**	**230**	P	Pn	13 24 56.0	-2.3
MQZ	**McQueen's Vall**	**1.53**	**208**	P	Pn	13 24 55.4	-3.0
DUWZ	**D'Urville Isla**	**1.57**	**8**	P	Pn	13 24 58.3	-0.6
AKCZ	**Akaroa Harbour**	**1.60**	**199**	P	Pn	13 24 56.8	-2.6
CAW	**Cannon Point**	**1.64**	**41**	P	Pn	13 24 57.6	-2.4
PAWZ	**Paruwai Farm**	**1.65**	**54**	P	Pn	13 24 57.0	-3.1
INZ	**Inchbonnie**	**1.67**	**257**	P	Pn	13 24 59.3	-0.9
QRZ	**Quartz Range**	**1.75**	**331**	P	Pn	13 25 01.9	+0.5
RACZ	**Rakaia**	**1.76**	**218**	P	Pn	13 24 59.1	-2.4
KIW	**Kapiti Island**	**1.77**	**33**	P	Pn	13 24 59.9	-1.8
TRWZ	**Traveller**	**1.80**	**59**	P	Pn	13 24 58.8	-3.4
MTW	**Mount Morrison**	**1.84**	**50**	P	Pn	13 24 59.5	-3.1
OGWZ	**Otaki Gorge**	**1.92**	**37**	P	Pn	13 25 01.4	-2.3
MHCZ	**Mount Hutt**	**1.92**	**232**	P	Pn	13 25 01.5	-2.4
HOWZ	**Holdsworth Sta**	**2.02**	**44**	P	Pn	13 25 01.7	-3.5
WACZ	**Wakanui South**	**2.06**	**219**	P	Pn	13 25 03.2	-2.4
TMWZ	**Te Maipa**	**2.10**	**54**	P	Pn	13 25 02.7	-3.5
MRZ	**Mangatainoka R**	**2.23**	**41**	P	Pn	13 25 05.0	-3.0
WVZ	**Waitaha Valley**	**2.26**	**251**	P	Pn	13 25 07.8	-0.6
RPZ	**Rata Peaks**	**2.33**	**234**	P	Pn	13 25 07.3	-2.1
ARCZ	**Arundel**	**2.40**	**228**	P	Pn	13 25 08.1	-2.3
PRWZ	**Pori Road**	**2.51**	**45**	P	Pn	13 25 08.5	-3.4
BFZ	**Birch Farm**	**2.57**	**50**	P	Pn	13 25 09.1	-3.7
GCSZ	**Gaunt Creek Bo**	**2.62**	**247**	P	Pn	13 25 13.0	-0.4
TMZ	**Timaru**	**2.79**	**223**	P	Pn	13 25 13.5	-2.3
WAZ	**Wanganui**	**2.79**	**22**	P	Pn	13 25 15.8	0.0
DVHZ	**Dannevirke**	**2.80**	**44**	P	Pn	13 25 12.1	-3.8
TSZ	**Takapari Road**	**2.89**	**38**	P	Pn	13 25 13.7	-3.4
LREZ	**Lake Rotokare**	**2.95**	**11**	P	Pn	13 25 20.0	+2.1
FOZ	**Fox Glacier**	**3.04**	**246**	P	Pn	13 25 19.1	-0.1
KHEZ	**Kahui Hut**	**3.07**	**5**	P	Pn	13 25 22.2	+2.5
NBEZ	**Newall Road No**	**3.09**	**3**	P	Pn	13 25 21.3	+1.5
NEZ	**North Egmont**	**3.10**	**7**	P	Pb	13 25 25.3	-1.0
PNHZ	**Pukenui**	**3.11**	**39**	P	Pn	13 25 16.8	-3.4
WPHZ	**Waipukurau**	**3.12**	**44**	P	Pn	13 25 22.2	+2.0
PKE	**Pukeiti**	**3.17**	**5**	P	Pn	13 25 22.7	+1.7
LBZ	**Lake Benmore**	**3.23**	**230**	P	Pn	13 25 19.9	-1.9
VRZ	**Vera Road**	**3.34**	**15**	P	Pn	13 25 23.3	+0.1
MOVZ	**Moawhango**	**3.35**	**29**	P	Pn	13 25 23.6	+0.1
WNVZ	**Wahianoa**	**3.37**	**27**	P	Pn	13 25 23.3	-0.6
BHHZ	**Black Hill Sta**	**3.40**	**33**	P	Pn	13 25 22.0	-2.2
ODZ	**Otahua Downs**	**3.45**	**218**	P	Pn	13 25 22.2	-2.6
KAHZ	**Kahuranaki**	**3.54**	**45**	P	Pn	13 25 23.7	-2.4
OTVZ	**Oturere**	**3.54**	**26**	P	Pn	13 25 27.6	+1.4
NNVZ	**North Ngauruho**	**3.56**	**26**	P	Pn	13 25 25.3	-1.0
KWHZ	**Kaweka Forest**	**3.61**	**37**	P	Pn	13 25 30.2	+3.2
MCHZ	**McNeill Hill**	**3.72**	**39**	P	Pn	13 25 27.9	-0.6
BKZ	**Black Stump Fm**	**3.85**	**35**	P	Pn	13 25 29.9	-0.5
HIZ	**Hauiti**	**3.95**	**14**	P	Pn	13 25 31.7	+0.1
HHSZ	**Highcliff Hill**	**4.15**	**211**	P	Pn	13 25 31.8	-2.7
WKZ	**Wanaka**	**4.17**	**232**	P	Pn	13 25 32.3	-2.4
EAZ	**Earnscleugh**	**4.25**	**226**	P	Pn	13 25 33.5	-2.3
MTHZ	**Maungataniwha**	**4.26**	**36**	P	Pn	13 25 37.3	+1.2
TLZ	**Tolley Road**	**4.28**	**20**	P	Pn	13 25 35.5	-0.7
SNGZ	**Shannon Statio**	**4.55**	**39**	P	Pn	13 25 38.7	-1.2
TUZ	**Tuapeka**	**4.61**	**217**	P	Pn	13 25 38.4	-2.3
TOZ	**Tahuroa Road**	**4.84**	**18**	P	Pn	13 25 42.6	-1.2
URZ	**Urewera**	**4.88**	**34**	P	Pn	13 25 42.4	-2.0
MWZ	**Matawai**	**5.00**	**38**	P	Pn	13 25 43.1	-3.0
MLZ	**Mavora Lakes**	**5.00**	**231**	P	Pn	13 25 43.1	-3.0
SYZ	**Scrubby Hill**	**5.28**	**216**	P	Pn	13 25 47.8	-2.1
AWAZ	**Awhitu Peninsu**	**5.34**	**9**	P	Pn	13 25 50.7	-0.1
MKAZ	**Moumakai**	**5.38**	**13**	P	Pn	13 25 50.2	-1.1
ETAZ	**East Tamaki Re**	**5.49**	**11**	P	Pn	13 25 52.3	-0.5
RVAZ	**Riverhead Bore**	**5.63**	**8**	P	Pn	13 25 54.6	-0.1
MBAZ	**Motutapu North**	**5.67**	**10**	P	Pn	13 25 55.4	+0.2
WIAZ	**Waiheke Island**	**5.68**	**12**	P	Pn	13 25 55.3	-0.1

*AUST **25** 13:27:40.5±0.7,33.91S×139.31E,h0km,Error ellipse:*
s-maj=7.9km s-min=6.2km az=94.0
*IDC **25** 13:27:48.0±7.9,33.20S×139.15E,h0km,mbtmp2.7/3,*
ML2.7/3,Error ellipse: s-maj=91.7km s-min=30.7km
az=16.0
ISC 25 13:27:39.7±0.8,**33°83S**±0.04×**139°30E**±0.04,**h10**km,**n14,**
σ2.30/24,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**0.51**	**321**	P	**Pb**	**13 27 51.2**	**+0.4**
HTT				S	**Sb**	**13 27 57.8**	**-0.4**
	baz=0.6						
AUMAR	**Marden Senior**	**1.19**	**207**	P	**Pb**	**13 28 01.5**	**-0.9**
	baz=1.1						
AUMAR				S	**Sg**	**13 28 18.0**	**-0.2**
	baz=1.1						
STKA	**Stephens Creek**	**2.74**	**45**	Pn	**Pb**	**13 28 28.6**	**-0.3**
	0.8nm,0.3s,baz=242,slow=16,SNR=13						
STKA				Sn	**Sb**	**13 29 02.8**	**+0.3**
	3.1nm,0.3s,baz=270,slow=13,SNR=6.1						
	3.0nm,0.3s						
STKA	**Stephens Creek**	**2.74**	**45**	P	**Pb**	**13 28 27.8**	**-1.0**
	baz=2.8,SNR=10						
STKA				S	**Sb**	**13 29 03.0**	**+0.4**
	baz=2.8,SNR=5.7						
BBOO	**Buckleboo**	**2.90**	**290**	P	**Pn**	**13 28 28.4**	**+2.4**
	baz=2.9,SNR=11						
BBOO				S	**Sb**	**13 29 05.8**	**-1.3**
	baz=2.9						
LCRK	**Leigh Creek**	**3.50**	**344**	P	**Pn**	**13 28 37.8**	**+3.6**
	baz=3.6,SNR=7.1						
ARPS	**Mount Arapiles**	**3.59**	**145**	P	**Pn**	**13 28 36.0**	**+0.5**
	baz=3.5						
ARPS				S	**Sn**	**13 29 17.2**	**-0.8**
	baz=3.5						
MULG	**Mulgathing**	**5.68**	**307**	P	**Pn**	**13 29 07.1**	**+2.9**
	baz=5.7						
CMSA	**Cobar Meteorol**	**5.85**	**69**	P	**Pn**	**13 29 07.6**	**+1.1**
	baz=5.9						
CMSA				S	**Sn**	**13 30 11.8**	**-1.9**
	baz=5.9						
INKA	**Innaminka**	**6.19**	**12**	P	**Pn**	**13 29 13.7**	**+2.5**
	baz=6.3						
TOO	**Toolangi**	**6.27**	**128**	P	**Pn**	**13 29 13.6**	**+1.3**
	baz=6.2						
OOD	**Oodnadatta**	**6.77**	**332**	P	**Pn**	**13 29 22.3**	**+3.1**
	baz=6.9						
OOD				S	**Sn**	**13 30 37.8**	**+1.5**
	baz=6.9						
ASAR	**Alice Springs**	**11.18**	**334**	Pn	**Pn**	**13 30 21.4**	**+1.8**
	0.1nm,0.3s,baz=173,slow=9.6,SNR=6.8						
ASAR				Sn	**Sn**	**13 32 20.9**	**-3.8**
	0.1nm,0.3s,baz=153,slow=22,SNR=5.2						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**14.52**	**341**	Pn	**Pn**	**13 31 06.1**	**+0.8**
	baz=161,slow=13,SNR=1.3						
WRA				Sn	**Sn**	**13 33 40.5**	**-6.0**
	baz=165,slow=24,SNR=2.1						
	0.1nm,0.4s						

*VAO **25** 13:43:42.2±0.8,22.40S×67.81W,h228km±15km,mb4.0*
*GUC **25** 13:43:43.9±0.8,22.27S×67.60W,h213km±9km,ML4.0*
*NEIC **25** 13:43:43.4±1.4,22.30S±0.07×67.6W±0.1,h208km±7km,*
mb4.2/5,ML4.0(GUC),Error ellipse: s-maj=14.7km
s-min=9.6km az=70.0
*IDC **25** 13:43:45.2±2.7,22.06S×66.97W,h179km±27km,mb3.7/3,*
mbtmp4.0/7,Error ellipse: s-maj=25.1km s-min=22.5km
az=33.0
*SCB **25** 13:43:45.1±0.8,22.29S×67.34W,h178km±6km,ML3.8/5,*
Error ellipse: s-maj=3.3km s-min=2.1km az=0.0
ISC 25 13:43:42.9±0.7,**22°24S**±0.04×**67°36W**±0.04,**h185**km±7km,
n70,σ1.60/96,mb4.1/4,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.03**	**227**		**Pn**	**13 44 12.9**	**+1.1**
LVC	**Limon Verde**	**1.48**	**255**		**Pn**	**13 44 16.0**	**+0.4**
LVC	**Limon Verde**	**1.48**	**255**	P	**Pn**	**13 44 15.9**	**+0.4**
LVC	**Limon Verde**	**1.48**	**255**	*eP*	**Pn**	**13 44 16.1**	**+0.6**
LVC				*eS*	**Sn**	**13 44 40.3**	**-0.4**
PB09	**IPOC Station P**	**1.80**	**284**		**Pn**	**13 44 19.1**	**+0.7**
PB09	**IPOC Station P**	**1.80**	**284**	*eP*	**Pn**	**13 44 19.4**	**+0.9**
MOCB	**Mochara**	**1.88**	**59**	P	**Pn**	**13 44 20.0**	**+0.4**
MOCB				S	**Sn**	**13 44 44.7**	**-3.2**
MOCB				IAML		13 44 47.8	
	201nm,0.3s						
PB06	**IPOC Station P**	**2.10**	**257**	*eP*	**Pn**	**13 44 21.6**	**0.0**
PB06				*i* S	**Sn**	**13 44 50.8**	**-0.8**
PB06				IAML		13 44 56.0	
	comp=N,271nm,0.3s						
PB06	**IPOC Station P**	**2.10**	**257**	P	**Pn**	**13 44 21.9**	**+0.3**
PB06				S	**Sn**	**13 44 48.4**	**-3.1**
PB06				IAML		13 44 53.7	
	comp=N,241nm,0.2s						
PB15	**IPOC Station P**	**2.17**	**243**	*eP*	**Pn**	**13 44 22.4**	**-0.1**
PB15				*i* S	**Sn**	**13 44 53.0**	**-0.1**
PB15	**IPOC Station P**	**2.17**	**243**	P	**Pn**	**13 44 22.8**	**+0.4**
PB03	**IPOC Station P**	**2.23**	**275**	*eP*	**Pn**	**13 44 23.0**	**0.0**
PB03				*i* S	**Sn**	**13 44 53.1**	**-1.0**
PB03				IAML		13 44 54.5	
	comp=E,748nm,0.2s						
PB01	**IPOC Station P**	**2.31**	**301**	*eP*	**Pn**	**13 44 24.2**	**+0.3**
PB01				*i* S	**Sn**	**13 44 55.5**	**-0.2**
PB07	**IPOC Station P**	**2.40**	**282**	*eP*	**Pn**	**13 44 25.0**	**+0.1**
PB07				*i* S	**Sn**	**13 44 56.1**	**-1.5**
PB07				IAML		13 44 57.6	
	comp=N,379nm,0.4s						
PB02	**IPOC Station P**	**2.53**	**291**	*eP*	**Pn**	**13 44 26.4**	**+0.1**
PB02				*i* S	**Sn**	**13 44 58.6**	**-1.5**
PB02				IAML		13 45 04.3	
	comp=N,390nm,0.2s						
PB02	**IPOC Station P**	**2.53**	**291**	P	**Pn**	**13 44 26.8**	**+0.4**
PB02				S	**Sn**	**13 44 57.3**	**-2.8**
PB02				IAML		13 45 01.1	
	comp=N,272nm,0.2s						
AOVT	**TarijaAeAd**	**2.56**	**75**	P	**Pn**	**13 44 26.8**	**-0.1**
PB04	**IPOC Station P**	**2.58**	**267**	*eP*	**Pn**	**13 44 26.8**	**-0.2**
PB04				*i* S	**Sn**	**13 44 59.4**	**-2.0**
PB04				IAML		13 45 01.7	
	comp=N,507nm,0.2s						
PB04	**IPOC Station P**	**2.58**	**267**	P	**Pn**	**13 44 27.2**	**+0.1**
PB04				S	**Sn**	**13 44 58.2**	**-3.2**
PB04				IAML		13 45 01.9	
	comp=N,406nm,0.2s						
PB08	**IPOC Station P**	**2.68**	**321**	*eP*	**Pn**	**13 44 29.9**	**+1.5**
PB08				*i* S	**Sn**	**13 45 04.2**	**+0.5**
PB08				IAML		13 45 08.0	
	comp=N,187nm,0.1s						
PATCX	**Punta Patache**	**2.96**	**298**	Pn	**Pn**	**13 44 31.3**	**-0.1**
PATCX	**Punta Patache**	**2.96**	**298**	*eP*	**Pn**	**13 44 31.2**	**-0.3**
PATCX				*i* S	**Sn**	**13 45 07.1**	**-2.2**
PATCX				IAML		13 45 09.5	
	comp=N,374nm,0.3s						
HMBC	**Humberstone**	**3.06**	**309**	*eP*	**Pn**	**13 44 32.4**	**-0.3**
HMBC				*i* S	**Sn**	**13 45 09.5**	**-2.0**
GO01	**Chusmiza**	**3.08**	**326**		**Pn**	**13 44 34.4**	**+1.1**
GO01	**Chusmiza**	**3.08**	**326**	*eP*	**Pn**	**13 44 34.4**	**+1.1**
GO01				*i* S	**Sn**	**13 45 13.6**	**+1.1**
GO01	**Chusmiza**	**3.08**	**326**	P	**Pn**	**13 44 34.2**	**+0.9**
GO01				S	**Sn**	**13 45 09.8**	**-2.8**
GO01				IAML		13 45 17.2	
	comp=N,478nm,0.1s						
TA01	**Diego Aracena**	**3.11**	**302**		**Pn**	**13 44 32.8**	**-0.4**
TA01	**Diego Aracena**	**3.11**	**302**	*eP*	**Pn**	**13 44 32.7**	**-0.4**
TA01				*i* S	**Sn**	**13 45 09.8**	**-2.6**
TA01				IAML		13 45 11.7	
	comp=E,411nm,0.3s						
TA01	**Diego Aracena**	**3.11**	**302**	P	**Pn**	**13 44 33.2**	**0.0**
PB10	**IPOC Station P**	**3.21**	**246**	*eP*	**Pn**	**13 44 33.8**	**-0.5**
PB10				*i* S	**Sn**	**13 45 11.4**	**-3.1**
PB10				IAML		13 45 14.5	
	comp=E,182nm,0.4s						
TA02	**Huaiquique**	**3.25**	**307**	P	**Pn**	**13 44 34.5**	**-0.3**
PB11	**IPOC Station P**	**3.27**	**319**	*eP*	**Pn**	**13 44 35.1**	**-0.2**
PB11				*i* S	**Sn**	**13 45 14.7**	**-1.5**
GO02	**Mina Guanaco**	**3.55**	**215**	Pn	**Pn**	**13 44 39.3**	**+0.4**
GO02	**Mina Guanaco**	**3.55**	**215**	*eP*	**Pn**	**13 44 39.0**	**+0.1**
GO02				*i* S	**Sn**	**13 45 20.9**	**-1.7**
GO02	**Mina Guanaco**	**3.55**	**215**	P	**Pn**	**13 44 38.6**	**-0.3**
PSGC	**Pisagua**	**3.69**	**315**	*eP*	**Pn**	**13 44 39.3**	**-1.1**
PSGC				*i* S	**Sn**	**13 45 22.2**	**-3.1**
PSGCX	**Pisagua**	**3.69**	**315**		**Pn**	**13 44 39.1**	**-1.3**
MNMC	**Minye Minye**	**3.74**	**326**		**Pn**	**13 44 41.6**	**+0.5**
MNMC	**Minye Minye**	**3.74**	**326**	*eP*	**Pn**	**13 44 41.7**	**+0.5**
MNMC				*i* S	**Sn**	**13 45 25.4**	**-1.3**
SOET	**ToroToro**	**4.36**	**20**	P	**Pn**	**13 44 49.3**	**+0.2**
SOET				S	**Sn**	**13 45 36.9**	**-4.1**
PB12	**IPOC Station P**	**4.56**	**322**	*eP*	**Pn**	**13 44 50.0**	**-1.4**
PB12				*i* S	**Sn**	**13 45 41.0**	**-4.2**
AC01	**Pan de Azucar**	**4.88**	**217**		**Pn**	**13 44 55.0**	**-0.5**
SOEJ	**Jacaque**	**5.30**	**351**	P	**Pn**	**13 45 02.7**	**+1.3**
BBOE	**La Paz, Chanca**	**5.43**	**354**	P	**Pn**	**13 45 04.0**	**+0.8**
BBOD	**La Paz, Gloria**	**5.70**	**348**	P	**Pn**	**13 45 07.5**	**+0.9**
LPAZ	**La Paz**	**5.97**	**353**	P	**Pn**	**13 45 11.3**	**+1.1**
	comp=E,4.0nm,0.3s,baz=167,slow=5.6,SNR=24						
LPAZ				S	**Sn**	**13 46 18.8**	**-0.1**
	comp=E,1.7nm,0.6s,baz=305,slow=23,SNR=1.7						
LPAZ	**La Paz**	**5.97**	**353**	Pn	**Pn**	**13 45 12.3**	**+2.1**
LPAZ	**La Paz**	**5.97**	**353**	P	**Pn**	**13 45 11.5**	**+1.3**
LPAZ	**La Paz**	**5.97**	**353**	*eP*	**Pn**	**13 45 12.0**	**+1.8**
AC05	**El Transito**	**7.07**	**201**	Pn	**Pn**	**13 45 22.7**	**-1.4**
SIV	**San Ignacio**	**8.60**	**45**	P	**Pn**	**13 45 41.6**	**-2.6**
	comp=E,8.2nm,0.4s,baz=226,slow=9.1,SNR=25						
SIV				S	Sn	13 47 11.7	-8.9
	comp=E,5.7nm,0.6s,baz=305,slow=23,SNR=9.0						
PDRB	**Porto dos Gac**	**14.66**	**46**	*eP*	**Pn**	**13 47 04.2**	**+2.5**
ITAB	**Concordia**	**14.70**	**113**	P	**Pn**	**13 47 04.2**	**+2.1**
ITAB	**Concordia**	**14.70**	**113**	*eP*	**Pn**	**13 47 04.2**	**+2.1**
ITRB	**Iturama**	**16.08**	**84**	*eP*	**Pn**	**13 47 20.9**	**+1.9**
TRQA	**Tornquist**	**16.43**	**165**	P	**P**	**13 47 22.2**	**-0.2**
TRQA				IAmb	IAmb	13 47 38.2	
	comp=Z,10.0nm,1.4s						
SNDB	**Serra Nova Dou**	**18.42**	**59**	*eP*	**P**	**13 47 44.4**	**-0.1**
IPMB	**Ipameri, GO**	**18.47**	**80**	*eP*	**P**	**13 47 45.7**	**+0.7**
PLCA	**Paso Flores**	**18.63**	**188**	P	**Pn**	**13 47 51.4**	**+2.2**
	comp=Z,0.7nm,0.9s,baz=350,slow=16,SNR=3.1						
BDFB	**Brasilia**	**19.43**	**74**	P	**P**	**13 47 55.1**	**-0.4**
	comp=Z,5.6nm,0.6s,baz=233,slow=9.6,SNR=8.3						
BDFB	**Brasilia**	**19.43**	**74**	P	**P**	**13 47 55.4**	**-0.1**
BDFB				IAmb	IAmb	13 47 56.4	
	comp=Z,6.5nm,0.6s						
BDFB	**Brasilia**	**19.43**	**74**	*eP*	**P**	**13 47 55.6**	**+0.1**
ITTB	**Itaituba**	**21.04**	**34**	*eP*	**P**	**13 48 12.2**	**-0.3**
JANB	**Januaria**	**22.96**	**76**	*eP*	**P**	**13 48 30.6**	**-0.8**
PRPB	**Parauapebas**	**23.29**	**49**	*eP*	**P**	**13 48 33.6**	**-0.8**
QSPA	**South Pole Qui**	**67.95**	**180**	P	**P**	**13 54 17.9**	**-3.7**
QSPA				IAmb	IAmb	13 54 42.3	
	comp=Z,6.5nm,1.5s						
PDAR	**Pinedale Array**	**75.47**	**329**	P	**P**	**13 55 09.7**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=125,slow=4.5,SNR=1.4						
	comp=Z,0.2nm,0.3s						
VNDA	**Vanda**	**76.37**	**190**	P	**P**	**13 55 08.0**	**-3.1**
BOSA	**Boshof**	**81.83**	**117**	P	**P**	**13 55 43.3**	**+1.4**
	comp=Z,2.0nm,0.6s,baz=249,slow=4.7,SNR=3.6						
	comp=Z,2.0nm,0.6s						
LBTB	**Lobatse**	**83.40**	**114**	P	**P**	**13 55 51.9**	**+1.9**
	comp=Z,3.3nm,0.9s,baz=247,slow=7.7,SNR=2.4						
	comp=Z,3.3nm,0.9s						

WEL 25 14:00:47.0±0.9,**41°S**±5′×**17°7E**±″,**h17**km±4km,**M3.5**/60,
ML3.9/27,**MLv3.5**/60,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=123.5,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.29**	**299**	P	Pb	14 00 53.9	+0.2
ANWZ				S	Sb	14 00 58.2	0.0
PRHZ	**Porangahau**	**0.36**	**339**	P	Pb	14 00 55.0	+0.1
PRHZ				S	Sb	14 01 00.8	+0.5
BFZ	**Birch Farm**	**0.43**	**259**	P	Pn	14 00 57.4	-1.0
BFZ				S	Sn	14 01 04.7	-1.3
CPWZ	**Castlepoint**	**0.55**	**236**	P	Pn	14 01 00.2	+0.1
DVHZ	**Dannevirke**	**0.57**	**302**	P	Pb	14 00 59.1	+0.5
DVHZ				S	Sn	14 01 08.0	-1.4
PXZ	**Pawanui**	**0.57**	**4**	P	Pb	14 00 59.4	+0.9
PXZ				S	Sn	14 01 09.1	-0.3
WPHZ	**Waipukurau**	**0.60**	**332**	P	Pb	14 00 59.7	+0.6
PRWZ	**Pori Road**	**0.64**	**274**	P	Pn	14 01 00.8	-0.5
TIWZ	**Tintock**	**0.72**	**256**	P	Pn	14 01 02.0	-0.4
KAHZ	**Kahuranaki**	**0.81**	**4**	P	Pg	14 01 03.0	+0.2
POWZ	**Post Office Ro**	**0.82**	**284**	P	Pn	14 01 03.4	-0.4
PNHZ	**Pukenui**	**0.83**	**326**	P	Pg	14 01 03.2	+0.1
TSZ	**Takapari Road**	**0.84**	**310**	P	Pg	14 01 03.4	0.0
TMWZ	**Te Maipa**	**0.86**	**234**	P	Pn	14 01 03.8	+0.1
MRZ	**Mangatainoka R**	**0.94**	**266**	P	Pb	14 01 04.6	-0.1
CKHZ	**Cape Kidnapper**	**0.96**	**13**	P	Pg	14 01 05.5	-0.2
HOWZ	**Holdsworth Sta**	**1.02**	**253**	P	Pn	14 01 05.9	-0.3
MTW	**Mount Morrison**	**1.13**	**240**	P	Pn	14 01 07.2	-0.9
MCHZ	**McNeill Hill**	**1.16**	**356**	P	Pn	14 01 08.3	-0.2
TRWZ	**Traveller**	**1.16**	**226**	P	Pn	14 01 07.6	-0.9
OHWZ	**Ohakea**	**1.20**	**289**	P	Pg	14 01 09.8	-0.4
KWHZ	**Kaweka Forest**	**1.21**	**346**	P	Pn	14 01 09.1	-0.1
BHHZ	**Black Hill Sta**	**1.25**	**333**	P	Pn	14 01 09.4	-0.3
OGWZ	**Otaki Gorge**	**1.26**	**260**	P	Pn	14 01 09.2	-0.6
ARHZ	**Aropaoanui**	**1.34**	**6**	P	Pn	14 01 10.5	-0.5
CAW	**Cannon Point**	**1.41**	**248**	P	Pn	14 01 11.1	-0.8
MSWZ	**Moikau Station**	**1.43**	**235**	P	Pn	14 01 10.4	-1.8
MOVZ	**Moawhango**	**1.44**	**326**	P	Pn	14 01 12.9	+0.5
BKZ	**Black Stump Fm**	**1.45**	**350**	P	Pn	14 01 12.2	-0.3
KIW	**Kapiti Island**	**1.46**	**259**	P	Pn	14 01 12.2	-0.4
NMHZ	**Naumai**	**1.50**	**0**	P	Pn

CO06	**Fray Jorge**	**1.18**	**13**	Pn		**Pn**	**14 15 20.7**	**-1.1**
CO06	**Fray Jorge**	**1.18**	**13**	*e*P		**Pn**	**14 15 19.1**	**-2.7**
CO06				*i* S		**Sn**	**14 15 38.4**	**+1.2**
CO06	**Fray Jorge**	**1.18**	**13**⇑	*e*P		**Pn**	**14 15 19.1**	**-2.7**
CO06				*i* S		**Sb**	**14 15 34.2**	**-3.0**
CO06	**Fray Jorge**	**1.18**	**13**	*e*P		**Pb**	**14 15 24.2**	**+1.9**
CO06				*i* S		**Sn**	**14 15 38.4**	**+1.2**
VA01	**Torpederas**	**1.22**	**168**			**Pn**	**14 15 20.6**	**-1.7**
VA01	**Torpederas**	**1.22**	**168**	*i* S		**Sb**	**14 15 37.4**	**-0.9**
VA01	**Torpederas**	**1.22**	**168**	*e*P		**Pn**	**14 15 19.3**	**-2.9**
VA01				IAML			14 15 39.4	
	comp=E,570nm,0.1s							
VA01	**Torpederas**	**1.22**	**168**	*e*P		**Pb**	**14 15 24.0**	**+1.0**
VA01				*i* S		**Sb**	**14 15 37.3**	**-0.9**
ROCH	**El Roble**	**1.39**	**146**	*e*P		**Pn**	**14 15 22.7**	**-2.2**
ROCH				*i* S		**Sn**	**14 15 43.1**	**+0.5**
ROCH				*i* S			14 15 43.5	
ROCH				IAML			14 15 49.0	
	comp=N,2μm,0.3s							
ROCH				IAML			14 15 49.0	
	comp=N,2μm,0.5s							
ROCH	**El Roble**	**1.39**	**146**	*e*P		**Pn**	**14 15 22.7**	**-2.2**
ROCH				*e*P			14 15 22.9	
ROCH				*e*S		**Sn**	**14 15 40.9**	**-1.7**
ROCH				IAML			14 15 42.2	
	comp=N,427nm,0.3s							
ROCH	**El Roble**	**1.39**	**146**	*e*P		**Pb**	**14 15 26.8**	**+0.8**
ROCH				*e*P		**Pb**	**14 15 26.8**	**+0.8**
ROCH				*e*S		**Sn**	**14 15 44.3**	**+1.7**
ROCH				*i* S			14 15 44.3	
ROCH				IAML			14 15 49.0	
	comp=N,2μm,0.6s							
ROCH				IAML			14 15 49.0	
	comp=N,2μm,0.3s							
ROC1	**El Roble**	**1.39**	**146**			**Pn**	**14 15 22.8**	**-2.1**
CO03	**El Pedregal**	**1.46**	**48**	*i* S		**Sn**	**14 15 43.3**	**-0.9**
CO03				IAML			14 15 50.8	
	comp=E,929nm,0.2s							
CO03	**El Pedregal**	**1.46**	**48**⇓	*i*P		**Pn**	**14 15 24.2**	**-1.5**
CO03				*e*S		**Sn**	**14 15 43.1**	**-1.1**
CO03	**El Pedregal**	**1.46**	**48**	*e*P		**Pb**	**14 15 28.3**	**+1.2**
CO03				*i* S		**Sb**	**14 15 46.7**	**+1.5**
CO03				IAML			14 15 50.9	
	comp=E,960nm,0.4s							
VA03	**San Esteban**	**1.50**	**129**	*i* S		**Sn**	**14 15 44.8**	**-0.5**
VA03				IAML			14 15 54.8	
	comp=E,2μm,0.5s							
VA03	**San Esteban**	**1.50**	**129**⇓	*e*P		**Pn**	**14 15 24.4**	**-1.9**
VA03				*e*S		**Sn**	**14 15 44.7**	**-0.6**
VA03				IAML			14 15 46.0	
	comp=E,563nm,0.2s							
VA03				IAML			14 15 46.7	
	comp=N,471nm,0.5s							
VA03	**San Esteban**	**1.50**	**129**	*e*P		**Pn**	**14 15 28.3**	**+1.9**
VA03				*i* S		**Sn**	**14 15 46.9**	**+1.6**
VA03				IAML			14 15 53.4	
	comp=E,2μm,0.3s							
MT02	**Curacav**	**1.58**	**155**			**Pn**	**14 15 25.3**	**-2.0**
MT02	**Curacav**	**1.58**	**155**	*i* S		**Sn**	**14 15 44.6**	**-2.5**
MT02	**Curacav**	**1.58**	**155**	*e*P		**Pn**	**14 15 25.2**	**-2.0**
MT02				*e*S		**Sn**	**14 15 45.4**	**-1.7**
MT02	**Curacav**	**1.58**	**155**	*e*P		**Pn**	**14 15 29.2**	**+1.9**
MT02				*i* S		**Sn**	**14 15 48.9**	**+1.8**
PEL	**Peldehue**	**1.69**	**141**	*i* S		**Sn**	**14 15 52.3**	**+2.5**
PEL				IAML			14 15 58.5	
	comp=N,756nm,0.4s							
PEL	**Peldehue**	**1.69**	**141**	*e*P		**Pn**	**14 15 27.4**	**-1.4**
PEL				*e*S		**Sn**	**14 15 49.9**	**+0.1**
PEL				IAML			14 15 50.5	
	comp=E,257nm,0.7s							
PEL	**Peldehue**	**1.69**	**141**	*e*P		**Pb**	**14 15 31.6**	**+0.6**
PEL				*i* S		**Sn**	**14 15 52.2**	**+2.4**
PEL				IAML			14 15 58.3	
	comp=N,759nm,0.1s							
VA05	**Santo Domingo**	**1.84**	**171**	*i* S		**Sn**	**14 15 53.3**	**-0.2**
VA05				IAML			14 16 07.1	
	comp=E,1μm,0.4s							
VA05	**Santo Domingo**	**1.84**	**171**	*e*P		**Pn**	**14 15 31.1**	**+0.2**
VA05	**Santo Domingo**	**1.84**	**171**	*e*P		Pb	14 15 42.2	+8.6
VA05				*i* S		**Sb**	**14 16 00.3**	**+4.0**
VA05				IAML			14 16 07.2	
	comp=E,1μm,0.2s							
MT05	**Renca**	**1.86**	**147**			**Pn**	**14 15 29.9**	**-1.4**
MT05	**Renca**	**1.86**	**147**	*e*P		**Pn**	**14 15 30.2**	**-1.0**
MT05				IAML			14 16 04.2	
	comp=E,2μm,0.2s							
MT05	**Renca**	**1.86**	**147**	*e*P		**Pn**	**14 15 30.0**	**-1.2**
GO04	**Tololo Observa**	**1.92**	**31**	Pn		**Pn**	**14 15 31.7**	**-0.5**
GO04	**Tololo Observa**	**1.92**	**31**	*e*P		**Pn**	**14 15 30.2**	**-2.0**
GO04				*i* S		**Sb**	**14 15 59.2**	**+0.5**
GO04	**Tololo Observa**	**1.92**	**31**	*e*P		**Pn**	**14 15 30.1**	**-2.1**
GO04				*i* S		**Sb**	**14 15 59.3**	**+0.5**
GO04	**Tololo Observa**	**1.92**	**31**	*e*P		**Pb**	**14 15 36.1**	**+1.0**
GO04				*i* S		**Sb**	**14 16 01.6**	**+2.8**
CO05	**La Serena**	**2.00**	**18**	*e*P		**Pn**	**14 15 32.8**	**-0.3**
CO05				*i* S		**Sn**	**14 15 58.6**	**+1.3**
CO05				IAML			14 16 11.6	
	comp=E,580nm,0.4s							
FCH	**Farellones**	**2.04**	**137**	*e*P		**Pb**	**14 15 37.3**	**0.0**
FCH				*i* S		**Sb**	**14 16 03.1**	**+0.7**
FCH				IAML			14 16 05.5	
	comp=E,334nm,0.2s							
MT03	**Universidad Ad**	**2.05**	**144**			**Pn**	**14 15 33.6**	**-0.3**
MT03	**Universidad Ad**	**2.05**	**144**	*i* S		**Sb**	**14 16 02.5**	**0.0**
MT03				IAML			14 16 07.9	
	comp=E,940nm,0.2s							
MT09	**Talagante**	**2.10**	**158**	*i* S		**Sn**	**14 16 00.7**	**+0.5**
MT09				IAML			14 16 12.0	
	comp=N,1μm,0.9s							
MT09	**Talagante**	**2.10**	**158**	*e*P		**Pn**	**14 15 33.2**	**-1.5**
MT09	**Talagante**	**2.10**	**158**	IAML			14 16 12.1	
	comp=N,501nm,0.5s							
MT01	**Popeta**	**2.11**	**164**	*e*P		**Pn**	**14 15 34.5**	**-0.2**
MT01	**Popeta**	**2.11**	**164**	*e*P		**Pn**	**14 15 32.3**	**-2.3**
MT01				*i* S		**Sn**	**14 15 55.2**	**-5.0**
MT01				IAML			14 16 02.5	
	comp=E,189nm,0.1s							
MT01	**Popeta**	**2.11**	**164**	*e*P		**Pn**	**14 15 35.9**	**+1.2**
BO04	**La Punta**	**2.43**	**153**			**Pn**	**14 15 38.8**	**-0.3**
BO04	**La Punta**	**2.43**	**153**	*i* S		**Sn**	**14 16 09.2**	**+1.1**
BO04				IAML			14 16 23.9	
	comp=N,288nm,0.6s							
CO01	**Juntas del Tor**	**2.44**	**41**	*e*P		**Pn**	**14 15 38.6**	**-0.7**
CO01				*i* S		**Sn**	**14 16 04.8**	**-3.7**
CO01	**Juntas del Tor**	**2.44**	**41**	*e*P		**Pb**	**14 15 44.9**	**+1.0**
CO01				*i* S		**Sn**	**14 16 11.7**	**+3.2**
CO01				IAML			14 16 19.3	
	comp=E,222nm,0.4s							
LMEL	**Las Melosas**	**2.49**	**144**			**Pn**	**14 15 39.1**	**-0.9**
LMEL	**Las Melosas**	**2.49**	**144**	*i* S		**Sn**	**14 16 13.1**	**+3.3**
LMEL	**Las Melosas**	**2.49**	**144**	*e*P		**Pn**	**14 15 39.2**	**-0.8**
LMEL				IAML			14 16 07.2	
	comp=N,108nm,0.3s							
LMEL	**Las Melosas**	**2.49**	**144**	*e*P		**Pn**	**14 15 43.2**	**+3.2**
LMEL				*i* S		**Sn**	**14 16 13.6**	**+3.9**
LMEL				IAML			14 16 23.7	
	comp=N,330nm,0.6s							
BO01	**Tunca**	**2.66**	**165**			**Pn**	**14 15 42.9**	**+0.8**
BO01	**Tunca**	**2.66**	**165**	*e*P		**Pn**	**14 15 43.6**	**+1.5**
LCO	**Las Campanas**	**3.01**	**21**			**Pn**	**14 15 49.2**	**+2.1**
BO02	**Sierra Bellavi**	**3.11**	**162**			**Pn**	**14 15 48.0**	**-0.5**
BO02	**Sierra Bellavi**	**3.11**	**162**	*e*P		**Pn**	**14 15 47.1**	**-1.3**
GO05	**Huala**	**3.17**	**180**	IAML			14 16 53.7	
	comp=E,71nm,0.7s							
AC04	**Llanos de Chal**	**3.69**	**12**			**Pn**	**14 15 55.5**	**-0.9**
PLCA	**Paso Flores**	**8.96**	**173**	Pn		**Pn**	**14 17 08.6**	**-0.1**
TRQA	**Tornquist**	**10.27**	**130**	Pn		**Pn**	**14 17 26.2**	**-0.4**
SNAA	**Sanae**	**53.56**	**158**	P		**P**	**14 24 19.2**	**-0.3**
SNAA				IAmb		IAmb	14 24 20.4	
	comp=E,5.0nm,1.4s							
QSPA	**South Pole Qui**	**58.40**	**180**	P		**P**	**14 24 54.1**	**-0.1**
QSPA				IAmb		IAmb	14 25 29.2	
	comp=E,5.2nm,1.5s							

*IDC **25** 14:18:58.0±0.5,39˚.13N×73˚.94E,h0km,mb4.6/36, mbtmp4.6/42,ML4.1/6,Error ellipse: s-maj=10.5km s-min=8.7km az=146.0*
*MOS **25** 14:18:59.1±1.2,39˚.08N×73˚.98E,h15km,mb5.2/54, MS5.5/5,Error ellipse: s-maj=4.5km s-min=3.1km az=85.8*
*NEIC **25** 14:18:59.8±2.0,39˚.19N±0˚.07×73˚.92E±0˚.06,h10km±1km, mb5.2/86,Mww5.2,Error ellipse: s-maj=12.3km s-min=7.3km az=354.0*
*BJI **25** 14:19:00.3±0.0,39˚.26N×74˚.04E,h8km,mb4.8/50, mB5.1/33,ML4.9/6,Ms5.1/10,Ms7 4.7/10*
*KRNET **25** 14:19:00.2±0.1,39˚.30N×73˚.98E,mb5.7*
*SOME **25** 14:19:01.1,39˚.45N×73˚.90E,h0km,MS5.0*
*NNC **25** 14:19:04.0±1.2,39˚.45N×74˚.03E,h0km,mb5.7,mpv5.5, Error ellipse: s-maj=9.8km s-min=5.5km az=176.0*
*NEIC **25** 14:19:04,39˚.13N×73˚.86E,h22km,Moment Tensor Solution. Duration:8s0 Moment tensor: Scale 1016Nm; Mrr-0.29; Mθθ-4.09; Mφφ4.38; Mrθ 0.91; Mθφ-3.61; Mφr4.20; Fault plane solution: M07.04000×1016 NP1: φs293.00000°,δ53.00000°,λ178.00000°. NP2: φs24.00000°,δ89.00000°,λ37.00000°. Principal axes: T 7.4954, Plg26.0000°, Azm255.0000°; N -1.0275, Plg53.0000°, Azm25.0000°; P -6.4679, Plg24.0000°, Azm152.0000°;*

ISC 25 14:18:59.5±0.3,39˚.10N±0˚.03×73˚.93E±0˚.02,h10km,n664, σ1s92/726,mb5.0/142,MS5.5/5,67C-65D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op	ISC			
KSH	**Kashi**	**1.64**	**75**	Pg	Pn		14 19 21.8	-6.7
KSH				Sg	Sn		14 19 38.8	-11
KSH				smax	smax			
	comp=N,12μm,0.9s							
KSH				smax	smax			
	comp=E,24μm,1.0s							
OHH	**Osh**	**1.68**	**329**	⇑*i*P		**Pn**	**14 19 29.0**	**0.0**
	baz=23							
OHH				⇑*i*S		**Sn**	**14 19 48.9**	**-1.7**
	baz=23							
OHH	**Osh**	**1.68**	**329**	*i* PN		**Pn**	**14 19 29.0**	**0.0**
OHH				*i* S		**Sn**	**14 19 48.9**	**-1.7**
DRK	**Karamyk**	**1.70**	**284**			**Pn**	**14 19 28.8**	**-0.7**
BTK	**Batken**	**2.59**	**293**	PN		**Pb**	**14 19 46.1**	**0.0**
ARLS	**Aral**	**2.78**	**6**	⇑*i*P		**Pn**	**14 19 44.5**	**+0.3**
	baz=6.0							
ARLS				⇑*i*S		**Sn**	**14 20 16.6**	**-1.3**
	baz=6.0							
ARLS	**Aral**	**2.78**	**6**	*i* PN		**Pn**	**14 19 45.2**	**+1.0**
ARLS				*i* S		**Sn**	**14 20 16.3**	**-1.6**
NRN	**Naryn**	**2.82**	**34**	⇑*i*P		**Pn**	**14 19 45.1**	**+0.2**
	baz=35							
NRN				⇑*i*S		**Sn**	**14 20 17.7**	**-1.4**
	baz=35							
NRN	**Naryn**	**2.82**	**34**			**Pn**	**14 19 45.5**	**+0.6**
NRN	**Naryn**	**2.82**	**34**	PN		**Pn**	**14 19 45.5**	**+0.6**
AML	**Almayashu**	**3.04**	**357**	P		**Pn**	**14 19 49.7**	**+1.7**
	SNR=326							
UCH	**Uchtor**	**3.16**	**8**	P		**Pn**	**14 19 51.8**	**+2.1**
	SNR=2169							
UCH	**Uchtor**	**3.16**	**8**	⇓*i*P		**Pn**	**14 19 49.8**	**+0.1**
	baz=8.0							
UCH				⇓*i*S		**Sn**	**14 20 25.9**	**-1.8**
	baz=8.0							
UCH	**Uchtor**	**3.16**	**8**	*i* PN		**Pn**	**14 19 50.7**	**+1.0**
UCH				*i* S		**Sn**	**14 20 25.9**	**-1.8**
TRKS	**Terek-Say**	**3.23**	**320**	⇑*e*P		**Pn**	**14 19 51.0**	**+0.5**
	baz=16							
TRKS				⇑*i*S		**Sn**	**14 20 28.3**	**-0.8**
	baz=16							
TRKS	**Terek-Say**	**3.23**	**320**	*i* PN		**Pn**	**14 19 51.0**	**+0.5**
AAK	**Ala-Archa**	**3.56**	**7**	P		**Pn**	**14 19 57.8**	**+2.8**
	SNR=145							
AAK	**Ala-Archa**	**3.56**	**7**	Pn		**Pn**	**14 19 57.3**	**+2.3**
	99nm,0.3s,baz=168,slow=7.7,SNR=379							
AAK				Lg		Lg	14 20 48.9	
	153nm,0.3s,baz=334,slow=11,SNR=14							
	390nm,0.4s							
AAK	**Ala-Archa**	**3.56**	**7**	⇓*e*P		**Pn**	**14 19 56.1**	**+1.1**
	baz=6.0							
AAK				⇓*e*S		**Sn**	**14 20 35.6**	**-1.6**
	baz=6.0							
AAK	**Ala-Archa**	**3.56**	**7**			**Pn**	**14 19 56.0**	**+1.0**
AAK	**Ala-Archa**	**3.56**	**7**	*d* PN		**Pn**	**14 19 57.6**	**+2.6**
EKS2	**Erkin-Say**	**3.56**	**358**	P		**Pn**	**14 19 57.4**	**+2.5**
	SNR=195							
EKS2	**Erkin-Say**	**3.56**	**358**	⇓*e*P		**Pn**	**14 19 56.1**	**+1.1**
	baz=57							
EKS2				⇓*i*S		**Sn**	**14 20 35.6**	**-1.6**
	baz=57							
EKS2	**Erkin-Say**	**3.56**	**358**	*i* PN		**Pn**	**14 19 56.1**	**+1.1**
EKS2				*i* S		**Sn**	**14 20 35.6**	**-1.6**
ULHL	**Ulahol**	**3.60**	**28**	P		**Pn**	**14 19 58.2**	**+2.6**
	SNR=19							
ULHL	**Ulahol**	**3.60**	**28**	⇑*i*P		**Pn**	**14 19 57.1**	**+1.5**
	baz=30							
ULHL				⇑*i*S		**Sn**	**14 20 37.6**	**-0.7**
	baz=30							
ULHL	**Ulahol**	**3.60**	**28**	*i* PN		**Pn**	**14 19 57.1**	**+1.5**
ULHL				*i* S		**Sn**	**14 20 37.6**	**-0.7**
KBK	**Karagaybulak**	**3.64**	**12**	P		**Pn**	**14 19 59.0**	**+3.0**
	SNR=19							
KBK	**Karagaybulak**	**3.64**	**12**	⇑*e*P		**Pn**	**14 19 57.2**	**+1.1**
	baz=12							
KBK				⇑*i*S		**Sn**	**14 20 38.0**	**-1.1**
	baz=12							
KBK	**Karagaybulak**	**3.64**	**12**	*i* PN		**Pn**	**14 19 57.2**	**+1.1**
KBK				*i* S		**Sn**	**14 20 37.4**	**-1.7**
MRKS	**Merke**	**3.68**	**352**	*e*P		**Pb**	**14 20 03.7**	**-1.0**
	1μm,0.4s							
MRKS				*e*S		**Sb**	**14 20 48.6**	**-0.9**
	3μm,0.9s							
MRKS	**Merke**	**3.68**	**352**	Pg		**Pb**	**14 20 03.7**	**-1.0**
	1μm,0.4s							
BOOM	**Boomskoye usch**	**3.71**	**24**	⇓*i*P		**Pn**	**14 19 57.7**	**+0.6**
	baz=24							
BOOM				⇓*e*S		**Sn**	**14 20 39.6**	**-1.4**
	baz=24							
BOOM	**Boomskoye usch**	**3.71**	**24**			**Pn**	**14 19 58.9**	**+1.8**
BOOM	**Boomskoye usch**	**3.71**	**24**	PN		**Pn**	**14 19 58.9**	**+1.8**
FRU1	**Bishkek**	**3.75**	**8**	⇑*e*P		**Pn**	**14 19 58.1**	**+0.7**
	baz=8.0							
FRU1				⇑*i*S		**Sn**	**14 20 40.3**	**-1.3**
	baz=8.0							
FRU1	**Bishkek**	**3.75**	**8**	*i* PN		**Pn**	**14 19 59.1**	**+1.6**
FRU1				*i* S		**Sn**	**14 20 40.8**	**-0.8**
CHMS	**Chumysh**	**3.94**	**9**	P		**Pn**	**14 20 03.4**	**+3.2**
	SNR=29							
CHMS	**Chumysh**	**3.94**	**9**	⇑*e*P		**Pn**	**14 20 01.3**	**+1.1**
	baz=9.0							
CHMS				⇑*e*S		**Sn**	**14 20 44.8**	**-1.7**
	baz=9.0							
CHMS	**Chumysh**	**3.94**	**9**	⇑Pn		**Pn**	**14 20 02.6**	**+2.4**
	2μm,1.4s							
CHMS				⇑Lg		Lg	14 20 57.7	
	4μm,1.1s							
CHMS	**Chumysh**	**3.94**	**9**	*i* PN		**Pn**	**14 20 01.3**	**+1.1**
CHMS				*i* S		**Sn**	**14 20 44.8**	**-1.7**
TKM2	**Tokmak 2**	**4.02**	**18**	P		**Pn**	**14 20 04.6**	**+3.2**
	SNR=42							
TKM2	**Tokmak 2**	**4.02**	**18**	⇑*e*P		**Pn**	**14 20 02.6**	**+1.2**
	baz=18							
TKM2				⇑*i*S		**Sn**	**14 20 47.0**	**-1.6**
	baz=18							
TKM2	**Tokmak 2**	**4.02**	**18**	⇓Pn		**Pn**	**14 20 03.0**	**+1.7**
	169nm,0.7s							
TKM2				⇓Pg		**Pb**	**14 20 09.8**	**-0.8**
	1μm,1.1s							
TKM2				⇓Lg		Lg	14 21 02.1	
	4μm,1.4s							
TKM2	**Tokmak 2**	**4.02**	**18**	*i* PN		**Pn**	**14 20 03.0**	**+1.7**
TKM2				pmax	pmax			
	comp=Z,169nm,0.6s							
USP	**Ospenovka**	**4.19**	**6**	P		**Pn**	**14 20 06.5**	**+3.0**
	SNR=97							
USP	**Ospenovka**	**4.19**	**6**	⇓*e*P		**Pn**	**14 20 04.6**	**+1.1**
	baz=5.0							
USP				⇓*i*S		**Sn**	**14 20 51.0**	**-1.5**
	baz=5.0							
TAS	**Tashkent**	**4.19**	**304**	⇓*e*P		**Pn**	**14 20 05.3**	**+1.8**
	baz=1.0							
TAS				⇓*e*S		**Sn**	**14 20 54.2**	**+1.7**
	baz=1.0							
TAS	**Tashkent**	**4.19**	**304**	PN		**Pn**	**14 20 06.4**	**+2.9**
IUG	**luzhnay**	**4.25**	**317**	*e*P		**Pb**	**14 20 16.5**	**+2.1**
	comp=Z,12μm,0.9s							
IUG				*e*S		**Sb**	**14 21 10.4**	**+4.5**
	comp=Z,6μm,1.7s							
IUG	**luzhnay**	**4.25**	**317**	*e*P		**Pn**	**14 20 07.4**	**+2.9**
	baz=313							
IUG				*e*S		**Sn**	**14 20 58.3**	**+4.1**
	baz=313							
IUG	**luzhnay**	**4.25**	**317**	Pg		**Pb**	**14 20 16.5**	**+2.1**
	comp=Z,12μm,0.9s							
IUG				Lg		Lg	14 21 10.4	
	comp=Z,7μm,0.9s							
IUG	**luzhnay**	**4.25**	**317**	*e*PN		**Pn**	**14 20 07.3**	**+2.9**
IUG				*e*S		**Sn**	**14 20 58.3**	**+4.1**
DZA	**Taraz**	**4.27**	**333**	*e*P		**Pb**	**14 20 14.2**	**-0.5**
	comp=Z,2μm,0.7s							
DZA				*e*S		**Sb**	**14 21 07.0**	**+0.6**
	comp=Z,7μm,0.8s							
DZA	**Taraz**	**4.27**	**333**	*e*P		**Pn**	**14 20 07.1**	**+2.4**
	baz=330							
DZA				*e*S		**Sn**	**14 20 57.9**	**+3.4**
	baz=330							
DZA	**Taraz**	**4.27**	**333**	*e*PN		**Pn**	**14 20 07.0**	**+2.4**
DZA				*e*S		**Sn**	**14 20 57.9**	**+3.4**
DGS	**Degeres**	**4.37**	**18**	*e*P		**Pb**	**14 20 18.0**	**+1.6**
	comp=Z,827nm,0.6s							
DGS				*e*S		**Sb**	**14 21 13.5**	**+4.3**
	comp=Z,2μm,0.8s							
DGS	**Degeres**	**4.37**	**18**	Pg		**Pb**	**14 20 17.7**	**+1.3**
	comp=Z,827nm,0.5s							
DGS				Lg		Lg	14 21 12.9	
	comp=Z,2μm,0.8s							
SGDS	**Sogindy**	**4.38**	**7**	*e*P		**Pb**	**14 20 17.3**	**+0.6**
	comp=Z,545nm,0.7s							
SGDS				*e*S		**Sb**	**14 21 11.8**	**+2.2**
	comp=Z,3μm,1.2s							
SGDS	**Sogindy**	**4.38**	**7**	*e*Pn		**Pn**	**14 20 07.3**	**+1.1**
	baz=5.6							
SGDS				*e*Lg		Lg	14 21 14.2	
	baz=5.6							
SGDS	**Sogindy**	**4.38**	**7**	Pg		**Pb**	**14 20 17.5**	**+0.9**
	comp=Z,508nm,1.0s							
SGDS				Lg		Lg	14 21 11.8	
	comp=Z,3μm,1.2s							
SGDS	**Sogindy**	**4.38**	**7**	*e*PN		**Pn**	**14 20 07.3**	**+1.1**
TNSS	**Tian-Shan**	**4.55**	**29**	*e*Pn		**Pn**	**14 20 09.9**	**+1.1**
	baz=30							
TNSS				*e*Lg		Lg	14 21 19.9	
	baz=30							
TNSS	**Tian-Shan**	**4.55**	**29**	*e*PN		**Pn**	**14 20 09.9**	**+1.1**
CHM	**Chimkent**	**4.60**	**316**	*e*P		**Pb**	**14 20 22.3**	**+2.0**
	comp=Z,1μm,0.4s							
CHM				*e*S		**Sb**	**14 21 20.9**	**+5.1**
	comp=Z,8μm,1.7s							
CHM	**Chimkent**	**4.60**	**316**	*e*Pn		**Pn**	**14 20 12.2**	**+3.1**
	baz=312							
CHM				*e*Lg		Lg	14 21 23.9	
	baz=312							
CHM	**Chimkent**	**4.60**	**316**	*e*PN		**Pn**	**14 20 12.2**	**+3.1**
ANVS	**Anan'yevo**	**4.64**	**36**	PN		**Pn**	**14 20 12.0**	**+2.1**
AAA	**Alma-Ata**	**4.68**	**28**	*e*P		**Pb**	**14 20 23.9**	**+2.1**
	comp=Z,935nm,0.6s							
AAA				*e*S		**Sb**	**14 21 23.1**	**+4.8**
	comp=Z,4μm,1.1s							
AAA	**Alma-Ata**	**4.68**	**28**	*e*Pn		**Pn**	**14 20 12.9**	**+2.6**
	baz=28							
AAA				*e*Lg		Lg	14 21 25.2	
	baz=28							
AAA	**Alma-Ata**	**4.68**	**28**	Pg		**Pb**	**14 20 23.9**	**+2.1**
	comp=Z,935nm,0.6s							
AAA				Lg		Lg	14 21 23.1	
	comp=Z,4μm,1.1s							
AAA	**Alma-Ata**	**4.68**	**28**	*e*PN		**Pn**	**14 20 12.9**	**+2.6**
MDOK	**Medeo**	**4.69**	**29**	*e*P		**Pb**	**14 20 23.3**	**+1.3**
	comp=Z,400nm,0.7s							
MDOK				*e*S		**Sb**	**14 21 21.9**	**+3.3**
	comp=Z,2μm,1.2s							
MDOK	**Medeo**	**4.69**	**29**	*e*Pn		**Pn**	**14 20 13.1**	**+2.5**
	baz=30							
MDOK				*e*Pg		**Pb**	**14 20 23.0**	**+1.0**
	baz=30							
MDOK				*e*Lg		Lg	14 21 23.4	
	baz=30							
MDOK	**Medeo**	**4.69**	**29**	⇑Pn		**Pn**	**14 20 13.1**	**+2.5**
	comp=Z,130nm,1.0s							
MDOK				⇑Pg		**Pb**	**14 20 22.4**	**+0.4**
	comp=Z,1μm,0.8s							
MDOK				Pg		Pg	14 20 23.3	-6.1
	comp=Z,400nm,0.7s							
MDOK				⇑Lg		Lg	14 21 20.7	
	comp=Z,5μm,1.2s							
MDOK				Lg		Lg	14 21 21.9	
	comp=Z,2μm,1.2s							
MDOK	**Medeo**	**4.69**	**29**	*e*PN		**Pn**	**14 20 13.0**	**+2.5**
MDOK				*e*			14 20 22.9	
KNDC	**Almaty**	**4.71**	**28**	⇑Pg		**Pb**	**14 20 23.5**	**+1.2**
	comp=Z,2μm,0.7s							
KNDC				⇓Lg		Lg	14 21 23.0	
	comp=Z,17μm,1.2s							
KNDC	**Almaty**	**4.71**	**28**	PN		**Pb**	**14 20 23.4**	**+1.2**
KNDC							14 21 23.0	
KK31	**Karatay Array**	**4.76**	**328**			**Pn**	**14 20 12.6**	**+1.2**
KK31	**Karatay Array**	**4.76**	**328**	Pn		**Pn**	**14 20 13.8**	**+2.4**
	comp=Z,68nm,0.3s,baz=134,slow=13,SNR=2683							
KK31				⇓Pg		**Pb**	**14 20 24.9**	**+1.9**
	comp=Z,1μm,0.8s,baz=147,slow=15,SNR=15							
KK31				⇑Sn		**Sn**	**14 21 09.7**	**+3.0**
	comp=Z,1μ

CHKK e 14 20 33.6
ZHN Zhinishke 5.30 38 ePn **Pn 14 20 22.1 +3.2**
baz=40
ZHN ePg **Pb 14 20 34.2 +1.9**
baz=40
ZHN eLg Lg 14 21 40.3
baz=40
ZHN Zhinishke 5.30 38 ePN **Pn 14 20 22.0 +3.2**
ZHN e 14 20 34.2
CHCP Chirah Chowk 5.46 186 P Pb 14 20 27.9 -7.0
CEP Cherat 5.51 198 P Pb 14 20 29.5 -6.4
CEP S **Sb 14 21 36.0 -6.1**
UZB Uzynbulak 5.58 42 ePn **Pn 14 20 24.1 +1.3**
baz=43
UZB ePg **Pb 14 20 39.0 +1.9**
baz=43
UZB eLg Lg 14 21 49.2
baz=43
UZB Uzynbulak 5.58 42 ePN **Pn 14 20 24.0 +1.3**
UZB e 14 20 38.9
KPKS Kokpek 5.64 38 eP **Pb 14 20 41.3 +3.2**
comp=Z,289nm,0.8s
KPKS eS **Sg 14 21 53.8 -6.9**
comp=Z,1μm,0.8s
KPKS Kokpek 5.64 38 ePn **Pn 14 20 24.5 +1.0**
comp=Z,27nm,0.6s,baz=39
KPKS ePg **Pb 14 20 39.9 +1.7**
baz=39
KPKS eLg Lg 14 21 52.3
baz=39
KPKS Kokpek 5.64 38 Pg **Pb 14 20 39.6 +1.5**
comp=Z,289nm,0.8s
KPKS Lg Lg 14 21 50.6
comp=Z,1μm,1.1s
KPKS Kokpek 5.64 38 ePN **Pn 14 20 24.5 +1.0**
KPKS e 14 20 39.8
KPKS pmax pmax
comp=Z,27nm,0.6s
SHLS Shalkode 5.82 44 eP **Pg 14 20 50.9 -0.1**
comp=Z,554nm,0.9s
SHLS eS **Sg 14 22 09.9 +3.6**
comp=Z,904nm,1.4s
SHLS Shalkode 5.82 44 ePn Pn 14 20 31.1 +5.1
baz=48
SHLS ePg **Pg 14 20 48.8 -2.2**
baz=48
SHLS eLg Lg 14 22 05.6
baz=48
SHLS Shalkode 5.82 44 Pg **Pg 14 20 47.9 -3.0**
comp=Z,554nm,0.9s
SHLS Lg Lg 14 22 04.8
comp=Z,904nm,1.4s
SHLS Shalkode 5.82 44 ePN Pn 14 20 31.1 +5.1
SHLS e 14 20 48.7
ARXS Arharly 5.88 28 eP **Pb 14 20 45.4 +3.1**
comp=Z,631nm,0.6s
ARXS eS **Sb 14 22 00.4 +7.7**
comp=Z,650nm,1.4s
ARXS Arharly 5.88 28 ePN **Pn 14 20 28.0 +1.2**
BTLS Baital 5.94 1 eP **Pb 14 20 47.5 +4.4**
comp=Z,300nm,0.8s
BTLS eS Sb 14 22 03.6 +9.3
comp=Z,828nm,2.3s
BTLS Baital 5.94 1 ePn **Pn 14 20 27.9 +0.3**
baz=360
BTLS ePg **Pb 14 20 46.4 +3.3**
baz=360
BTLS eLg Lg 14 22 03.5
baz=360
BTLS Baital 5.94 1 ePN **Pn 14 20 27.8 +0.3**
BTLS e 14 20 46.3
PDGK Podgornoye 5.95 43 Pg **Pb 14 20 45.8 +2.4**
comp=Z,215nm,0.5s
PDGK Lg Lg 14 22 01.1
comp=Z,535nm,0.9s
PDGK Podgornoye 5.95 43 ⇑Pn **Pn 14 20 28.9 +1.1**
comp=Z,129nm,0.7s
PDGK ⇓Pg **Pb 14 20 44.9 +1.5**
comp=Z,635nm,0.9s
PDGK ⇑Lg Lg 14 22 00.7
comp=Z,2μm,1.1s
PDGK Podgornoye 5.95 43 PN **Pn 14 20 28.9 +1.1**
PDGK 14 20 44.8
PDGK 14 22 00.7
KBL Kabul 6.00 222 Pn **Pn 14 20 32.5 +3.9**
KBL Kabul 6.00 222 P Pb 14 20 37.0 -7.4
SNR=149
KBL Kabul 6.00 222 PN **Pn 14 20 32.5 +3.9**
THW Thamme Wali 6.54 196 P Pn 14 20 41.0 +5.2
TDK Taldyqorghan 6.77 28 ePn **Pn 14 20 38.9 -0.1**
baz=28
TDK ePg **Pb 14 20 58.7 +1.4**
baz=28
TDK eLg Lg 14 22 28.3
baz=28
TDK Taldyqorghan 6.77 28 Pg Pb 14 21 03.4 +6.1
comp=Z,1μm,0.6s
TDK Taldyqorghan 6.77 28 ePN **Pn 14 20 38.8 -0.1**
TDK e 14 20 58.6
SARP Sargodha 7.23 189 P Pn 14 20 49.9 +4.6
OTUK Ortayu 9.21 353 ⇑Pn **Pn 14 21 11.6 -0.9**
comp=Z,146nm,1.1s
OTUK ⇓Lg Lg 14 23 41.6
comp=Z,2μm,1.4s
OTUK Ortayu 9.21 353 P **Pn 14 21 11.5 -0.9**
MAKZ Makanchi 9.70 35 Pn **Pn 14 21 19.2 +0.1**
MAKZ Makanchi 9.70 35 ⇑Pn **Pn 14 21 21.8 +2.7**
comp=Z,27nm,0.9s
MAKZ ⇓Pg 14 21 58.4
comp=Z,41nm,0.9s
MAKZ ⇓Lg Lg 14 24 00.3
comp=Z,78nm,0.8s
MAKZ Makanchi 9.70 35 P **Pn 14 21 19.2 +0.1**
MK31 Makanchi Array 9.83 36 **Pn 14 21 22.5 +1.6**
MK31 Makanchi Array 9.83 36 Pn **Pn 14 21 21.9 +1.0**
comp=Z,34nm,0.9s,baz=220,slow=13,SNR=158
MK31 ⇓Pg 14 21 54.6
comp=Z,117nm,1.1s,baz=215,slow=13,SNR=4.1
MK31 ⇑Lg Lg 14 24 05.3
comp=Z,235nm,1.2s,baz=220,slow=26,SNR=3.6
MK31 Makanchi Array 9.83 36*c i*P **Pn 14 21 22.8 +1.9**
MKAR Makanchi Array 9.83 36 Pn **Pn 14 21 22.6 +1.7**
comp=Z,0.8nm,0.3s,baz=223,slow=13,SNR=31
MKAR Lg Lg 14 24 06.8
comp=Z,1.3nm,0.3s,baz=210,slow=25,SNR=2.2
comp=Z,12nm,1.0s
HRA Herat 10.49 247 Pn **Pn 14 21 32.4 +2.2**
BRZS Berezniki 10.92 356 ePn **Pn 14 21 34.6 -1.2**
baz=355
BRZS eLg Lg 14 24 42.7
baz=355
BRZS Berezniki 10.92 356 eP **Pn 14 21 34.5 -1.2**
WMQ Urumqi 11.35 61 eP **Pn 14 21 41.8 0.0**
WMQ pP 14 21 49.0
WMQ sP 14 21 51.5
WMQ S **Sn 14 23 50.3 +1.6**
WMQ pmax pmax
comp=Z,39nm,0.9s
WMQ pmax pmax
comp=Z,330nm,4.7s
WMQ LR LR
comp=Z,4μm,13.3s
WMQ LR LR
comp=Z,3μm,10.3s
WMQ LR LR
comp=Z,6μm,17.5s
ZSN Zaisan 11.53 40 ePn **Pn 14 21 44.5 +0.3**
baz=41
ZSN eLg Lg 14 24 56.6
baz=41
ZSN Zaisan 11.53 40 eP **Pn 14 21 44.5 +0.3**
KURBB Kurchatov Arra 11.97 14 Pn **Pn 14 21 49.2 -0.9**
comp=Z,0.2nm,0.3s,baz=204,slow=12,SNR=16
KURBB Sn **Sn 14 24 01.8 -1.9**
comp=Z,0.2nm,0.3s,baz=191,slow=28,SNR=4.7
KURBB Lg Lg 14 25 14.5
comp=Z,0.6nm,0.3s,baz=203,slow=30,SNR=11
comp=Z,1.6nm,0.5s
KURBB Kurchatov Arra 11.97 14 ⇑Pn **Pn 14 21 50.8 +0.7**
comp=Z,22nm,0.7s
KURBB ⇑Lg Lg 14 25 12.8
comp=Z,906nm,1.2s
KURK Kurchatov 12.08 14 Pn **Pn 14 21 50.8 -0.7**
KURK Kurchatov 12.08 14 ⇑Pn **Pn 14 21 50.0 -1.6**
comp=Z,19nm,0.9s
KURK ⇑Lg Lg 14 25 14.1
comp=Z,457nm,1.0s
KURK Kurchatov 12.08 14⇑ePn **Pn 14 21 52.3 +0.7**
KURK pmax pmax
comp=Z,15nm,1.3s
GEYT Alibeck 12.44 270 Pn **Pn 14 21 56.1 -0.6**
comp=Z,4.8nm,0.3s,baz=98,slow=9.2,SNR=36
GEYT Sn **Sn 14 24 13.1 -2.3**
comp=Z,5.4nm,0.3s,baz=82,slow=21,SNR=2.5
comp=Z,12nm,0.4s
GEYT Alibeck 12.44 270 **Pn 14 21 55.1 -1.6**
GYA0B ALIBECK ARRAY 12.44 270 **Pn 14 21 55.7 -1.0**
PYUN Piuthan 13.31 143 eP **Pn 14 22 06.6 -2.1**
comp=Z,172nm,0.6s
PYUN eS **Sn 14 24 33.7 -3.1**
DANN Dangsing 13.47 140 eP **Pn 14 22 08.8 -2.2**
comp=Z,68nm,0.5s
KOLN Koldanda 13.87 142 eP **Pn 14 22 14.5 -1.9**
BVA0 Borovoye Array 14.14 351 ⇑Pn **Pn 14 22 20.1 +0.3**
comp=Z,234nm,1.0s
BVA0 Borovoye Array 14.14 351 P **Pn 14 22 17.0 -2.8**
BVAR Borovoye Array 14.14 351 Pn **Pn 14 22 17.8 -2.0**
comp=Z,0.5nm,0.3s,baz=164,slow=12,SNR=103
BVAR Lg Lg 14 26 27.7
comp=Z,0.5nm,0.3s,baz=158,slow=28,SNR=5.6
comp=Z,51nm,0.8s
BRVK Borovoye 14.19 351 Pn **Pn 14 22 17.7 -2.7**
BRVK Borovoye 14.19 351 ⇑Pn **Pn 14 22 20.8 +0.5**
comp=Z,345nm,1.1s
BRVK Borovoye 14.19 351*d i*P **Pn 14 22 17.8 -2.6**
GKN Gorkha 14.20 138 eP **Pn 14 22 18.7 -2.2**
comp=Z,30nm,0.6s
AB31 Akbulak array 14.25 320 Pn **Pn 14 22 23.2 +1.9**
comp=Z,258nm,1.3s,baz=132,slow=16,SNR=451
AB31 Akbulak array 14.25 320 *i* P **Pn 14 22 19.2 -2.1**
ABKAR Akbulak array 14.25 320 **Pn 14 22 18.9 -2.4**
ABKAR Akbulak array 14.25 320 **Pn 14 22 18.6 -2.7**
DGZ Jazzator, Alta 14.31 38⇓eP **Pn 14 22 23.9 +1.7**
KKN Kakani 14.71 137 eP **Pn 14 22 25.1 -2.8**
comp=Z,11nm,0.6s
DMN Daman 14.77 138 eP **Pn 14 22 25.9 -2.8**
GUN Guma 14.95 135 eP **Pn 14 22 29.1 -2.1**
comp=Z,47nm,0.5s
PKIN Phulchoki 14.95 137 eP **Pn 14 22 28.8 -2.3**
comp=Z,148nm,0.5s
PKI Pulchoki 14.96 137 eP **Pn 14 22 28.9 -2.4**
comp=Z,60nm,0.5s
JIRN Jiri 15.31 135 eP **Pn 14 22 33.3 -2.8**
comp=Z,58nm,0.4s
AKTO Aktyubinsk 15.97 320 ⇓Pn **P 14 22 46.6 -1.1**
comp=Z,122nm,1.1s
RAMN Ramite 16.09 135 eP **Pn 14 22 43.0 -3.1**
comp=Z,63nm,0.5s
TAPN Taplejung 16.41 131 eP **Pn 14 22 48.0 -2.3**
ODAN Odare 16.60 133 eP **Pn 14 22 50.1 -2.5**
ZAA0 Zalesovo Array 16.61 23 P **Pn 14 22 49.5 -2.7**
ZALV Zalesovo Beam 16.61 23 Pn **Pn 14 22 50.2 -2.0**
comp=Z,1.6nm,0.3s,baz=206,slow=11,SNR=30
comp=Z,8.5nm,0.5s
ZALV Zalesovo Beam 16.61 23 Pn **Pn 14 22 50.5 -1.7**
ZALV Zalesovo Beam 16.61 23 *i* P **Pn 14 22 52.9 +0.7**
ZALV pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 17.00 118 P **P 14 22 58.8 -1.0**
LSA Lhasa 17.00 118 P **P 14 23 02.0 +2.3**
LSA Lhasa 17.00 118 P **P 14 22 58.8 -1.0**
LSA pmax pmax
comp=Z,52nm,1.6s
NGCH Negor - Chabah 17.43 222 P **P 14 23 06.1 +2.0**
LKRN Lenkeran, Azer 19.57 277 P **Pn 14 23 32.1 +3.4**
SVE Sverdlovsk 19.78 338*ce*P **P 14 23 30.2 +0.5**
SVE *eS* **Sn 14 27 15.5 +2.2**
SVE pmax pmax
comp=Z,240nm,1.3s
GTA Gaotai 20.03 81 ⇑P **Pn 14 23 34.3 -0.1**
GTA pP sP 14 23 40.3 +1.7
GTA sP pP 14 23 43.0 +6.3
GTA S **Sn 14 27 22.8 +3.0**
GTA pmax pmax
comp=Z,30nm,0.7s
GTA pmax pmax
comp=Z,610nm,4.7s
ARU Arti 20.10 335 P **P 14 23 32.8 -0.3**
comp=Z,37nm,0.7s,baz=155,slow=6.2,SNR=46
comp=Z,37nm,0.7s
ARU Arti 20.10 335 P **P 14 23 32.1 -1.0**
ARU IAmb IAmb 14 23 42.0
comp=Z,260nm,1.2s
ARU Arti 20.10 335*c i*P Pn 14 23 35.1 +0.1
ARU 14 23 52.0
ARU PPP PPP 14 24 00.0
ARU S Sn 14 27 23.7 +2.7
ARU SS **SnSn 14 27 42.8 +7.4**
ARU SSS SSS 14 27 57.2
ARU pmax pmax
comp=Z,126nm,1.1s
AKT Akhty 20.11 285 eP Pn 14 23 35.4 +0.1
AKT *e* 14 23 52.5
AKT *eS* **S 14 27 21.0 +1.7**
AKT *eSS* **SnSn 14 27 41.3 +5.5**
AKT pmax pmax
comp=Z,49nm,0.6s
KNGR Kungurtug, Tuv 20.20 48⇓eP **P 14 23 35.0 +0.6**
SHL Shillong 20.25 126 P Pn 14 23 35.2 -2.0
SHL IAmb IAmb 14 23 41.8
comp=Z,61nm,0.7s
SHL Shillong 20.25 126 P Pn 14 23 37.1 -0.1
SNR=35
SHL Shillong 20.25 126 P Pn 14 23 35.2 -2.0
SHL pmax pmax
comp=Z,61nm,0.7s
MAK Makhachkala 20.27 289 eP **P 14 23 31.7 -3.4**
MAK *eS* **S 14 27 18.8 -3.6**
MAK pmax pmax
comp=Z,231nm,1.1s
MASF Masafi 20.28 233 P Pn 14 23 39.1 +1.7
WSAR Wadi Sarin 20.48 224 P Pn 14 23 38.2 -1.4
comp=Z,91nm,1.0s,baz=62,slow=11,SNR=23
comp=Z,91nm,1.0s
SEKA Sheki 20.52 284 P Pn 14 23 40.8 +0.7
UOSS Minazif 20.56 232 P **P 14 23 37.2 -1.2**
UOSS IAmb IAmb 14 23 52.0
comp=Z,75nm,1.1s
MNGR Mingechevir, A 20.63 283 P Pn 14 23 42.9 +1.6
HATD Hatta, Dubai 20.70 232 P Pn 14 23 42.6 +0.4
WBK Wadi Bani Khal 20.81 222 P Pn 14 23 42.7 -0.8
ASHO Ashiyiah 20.84 232 P Pn 14 23 43.6 -0.3
SNR=14
SMDO Samad 20.94 225 P Pn 14 23 44.8 -0.3
SNR=7.1
GANJ Ganja 21.22 283 P **P 14 23 48.5 +3.1**
JMDO Garni Madar 21.46 224 P **P 14 23 50.8 +2.6**
SNR=13
ALNE Al Ain 21.50 231 P **P 14 23 52.5 +4.0**
SNR=5.7
GROC Groznyy 21.53 290 eP **P 14 23 50.6 +1.9**
GROC *e* 14 24 11.6
GROC *eS* **S 14 27 50.5 +3.2**
GROC pmax pmax
comp=Z,132nm,0.5s
ARQ Araqi 21.59 228 P **P 14 23 54.1 +4.7**
BSY Bisya 21.66 226 P **P 14 23 53.2 +2.9**
HYBB Hyderabad (bro 21.97 168 eP **P 14 23 56.3 +2.6**
NAX Nakhchivan 22.02 279 P **P 14 23 57.6 +3.4**
GNI Garni 22.47 282 P **P 14 23 59.7 +0.7**
comp=Z,48nm,1.0s,baz=143,slow=2.7,SNR=22
comp=Z,48nm,1.0s
GNI Garni 22.47 282 P **P 14 24 01.1 +2.1**
GNI Garni 22.47 282*c i*P **P 14 24 01.4 +2.4**
GNI pmax pmax
comp=Z,302nm,1.3s
BELG Belogornoye 22.51 315 P **P 14 23 58.2 -0.9**
comp=Z,147nm,0.9s,baz=344,slow=2.1,SNR=20
comp=Z,147nm,0.9s
BELG Belogornoye 22.51 315*d i*P **P 14 23 58.8 -0.3**
BELG pmax pmax
comp=Z,57nm,1.0s
MOY Mondy 22.64 47 eP **P 14 24 01.4 +0.8**
MOY pmax pmax
comp=Z,65nm,2.6s
MHTO MHTO 22.67 222 P **P 14 24 05.7 +4.6**
SNR=7.4
ZEI Tsey 22.92 289 eP **P 14 24 02.6 -1.2**
ZEI pmax pmax
comp=Z,28nm,0.7s
NCK Nalchik 23.14 291⇓*i*P **P 14 24 06.3 +0.4**
NCK pmax pmax
comp=Z,106nm,0.9s
ONI Oni 23.26 288 P **P 14 24 07.4 +0.3**
ONI Oni 23.26 288 P **P 14 24 07.4 +0.3**
ONI pmax pmax
comp=Z,187nm,1.0s
ZAK Zakamensk 23.55 52 eP **P 14 24 11.0 +1.0**
ZAK pmax pmax
comp=Z,26nm,1.0s
KBZ Khabaz 23.65 291 P **P 14 24 10.3 -0.6**
comp=Z,16nm,0.9s,baz=120,slow=8.2,SNR=20
comp=Z,16nm,0.9s
KBZ Khabaz 23.65 291*d i*P **P 14 24 10.9 0.0**
KBZ pmax pmax
comp=Z,22nm,0.9s
NEY Neytrino 23.78 290⇓eP **P 14 24 14.2 +1.8**
NEY pmax pmax
comp=Z,11nm,0.7s
KIV Kislovodsk 23.81 292 ⇑P **P 14 24 13.4 +0.9**
KIV Kislovodsk 23.81 292 P **P 14 24 12.4 -0.2**
KIV Kislovodsk 23.81 292 eP **P 14 24 13.2 +0.6**
KIV *eS* **S 14 28 29.7 +1.5**
KIV pmax pmax
comp=Z,53nm,1.1s
LZH Lanzhou 23.84 88 eP **P 14 24 14.8 +1.7**
LZH pP sP 14 24 17.5 -1.6
LZH sP pP 14 24 20.3 +3.0
LZH PP **PnPn 14 24 46.0 +5.2**
LZH S **S 14 28 30.3 +1.3**
LZH sS sS 14 28 38.0 +1.9
LZH SS **SnSn 14 29 15.3 +7.7**
LZH pmax pmax
comp=Z,51nm,1.1s
GEVA Gevas 24.05 278 P **P 14 24 16.9 +1.8**
GEVA IAmb IAmb 14 24 27.8
comp=Z,79nm,1.2s
IRK Irkutsk 24.73 48 eP **P 14 24 26.6 +5.7**
IRK pmax pmax
comp=Z,67nm,2.0s
SONM Songino Array 24.98 59 P **P 14 24 23.8 +0.5**
comp=Z,3.4nm,0.8s,baz=261,slow=9.9,SNR=24
comp=Z,3.4nm,0.8s
SONM Songino Array 24.98 59 P **P 14 24 24.0 +0.7**
TNCH TengChong 25.02 117 P **P 14 24 26.5 +2.6**
TNCH pP sP 14 24 29.0 -1.2
TNCH sP pP 14 24 30.8 +2.4
TNCH S **S 14 28 48.3 +0.2**
TNCH sS sS 14 29 01.0 +5.7
TNCH pmax pmax
comp=Z,120nm,1.1s
TNCH pmax pmax
comp=Z,120nm,3.4s
KIRV Kirov 25.06 329 P **P 14 24 24.4 +0.7**
comp=Z,42nm,0.8s,baz=105,slow=1.6,SNR=10
comp=Z,42nm,0.8s
KIRV Kirov 25.06 329*d i*P **P 14 24 24.1 +0.4**
VRH Novokhopyorsk 25.52 309 eP **P 14 24 29.0 +1.0**
VRH pmax pmax
comp=Z,40nm,0.6s
CD2 Chengdu 25.68 99 P **P 14 24 30.3 +0.6**
CD2 pmax pmax
comp=Z,60nm,1.1s
SOC Sochi 25.96 291 eP **P 14 24 31.3 -0.8**
SOC *e* 14 25 09.8
SOC *eS* **S 14 29 02.2 -0.2**
SOC *eS* S 14 29 03.1 +0.7
SOC pmax pmax
comp=Z,31nm,1.0s
MARD Mardin 26.03 277 P **P 14 24 34.7 +1.7**
MARD IAmb IAmb 14 24 42.3
comp=Z,74nm,1.2s
PZH PanZhiHua 26.43 110 P **P 14 24 42.0 +5.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,180nm,3.5s
VSR Storozhevoye 27.08 308 eP **P 14 24 41.9 -0.2**
VSR pmax pmax
comp=Z,60nm,1.9s
VORR Voronezh 27.16 309 P **P 14 24 42.7 -0.1**
VORR pmax pmax
comp=Z,40nm,1.6s
LPSR Galich'ya Gora 27.56 311 eP **P 14 24 46.7 +0.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
ANN Anapa 27.57 294 eP **P 14 24 41.3 -5.3**
ANN *e**PP **pP 14 24 45.4 -5.6**
ANN *eS* **S 14 29 20.7 -7.1**
ANN pmax pmax
comp=Z,103nm,1.4s
BTO Baotou 27.63 75 eP **P 14 24 45.5 -1.8**
KMI Kunming 27.96 111 ⇑P **P 14 24 52.3 +1.8**
KMI pmax pmax
comp=Z,13nm,1.5s
XAN Xi'an 28.44 89 P **P 14 24 55.8 +1.3**
XAN pP sP 14 24 59.5 -1.2
XAN pmax pmax
comp=Z,4.0nm,0.8s
PRGR Permogore 28.48 332 eP **P 14 24 53.9 -0.6**
PRGR pmax pmax
comp=Z,17nm,0.9s
RAYN Ar Rayn 28.67 246 P **P 14 24 57.7 +1.0**
RAYN IAmb IAmb 14 25 00.2
comp=Z,63nm,1.1s
RAYN Ar Rayn 28.67 246 P **P 14 24 57.7 +1.0**
RAYN pmax pmax
comp=Z,63nm,1.1s
HHC Hu-ho-hao-te 28.75 74 eP **P 14 24 59.5 +2.2**
HHC pmax pmax
comp=Z,29nm,0.8s
HHC pmax pmax
comp=Z,250nm,6.6s
MOS Moscow 29.23 317 eP **P 14 25 00.6 -0.7**
MOS *e* 14 25 55.4
MOS *ePPP* PPP 14 26 06.3
MOS pmax pmax
comp=Z,42nm,0.6s
CRAI Chiangrai 29.52 122 P **P 14 25 05.0 +0.8**
CRAI IAmb IAmb 14 25 15.7
comp=Z,44nm,1.6s
OBN Obninsk 29.61 315 P **P 14 25 04.9 +0.3**
comp=Z,4.8nm,0.4s,baz=142,slow=22,SNR=4.4
comp=Z,4.8nm,0.4s
OBN Obninsk 29.61 315⇓eP **P 14 25 04.5 -0.1**
OBN pmax pmax
comp=Z,33nm,1.3s
OBN MLR MLR
comp=Z,18μm,20.0s
CM31 Chiang Mai Arr 29.89 126 P **P 14 25 08.4 +1.0**
CMAR Chiang Mai Arr 29.89 126 P **P 14 25 07.0 -0.4**
comp=Z,1.3nm,0.3s,baz=313,slow=8.5,SNR=1.9
comp=Z,1.3nm,0.3s
CMAR Chiang Mai Arr 29.89 126 P **P 14 25 08.0 +0.5**
CMAR Chiang Mai Arr 29.89 126 P **P 14 25 08.0 +0.5**
SIM Simferopol' 29.93 294 eP **P 14 25 09.5 +1.9**
SIM pmax pmax
comp=Z,77nm,0.7s
GYA Guiyang 30.10 105 ⇑P P 14 25 14.5 +5.1
GYA pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 30.46 327 eP **P 14 25 10.1 -2.0**
KLMR AMP 14 25 20.2
comp=Z,57nm,1.4s
KLMR Klimovskoe 30.46 327 eP **P 14 25 10.0 -2.0**
KLMR pmax pmax
comp=Z,57nm,1.4s
ILGA Ilgaz 30.65 287 P **P 14 25 14.0 -0.2**
BR131 Keskin Array S 30.95 284 P **P 14 25 16.2 -0.6**
BR131 IAmb IAmb 14 25 28.3
comp=Z,34nm,0.9s
BR131 Keskin Array S 30.95 284*c i*P **P 14 25 18.5 +1.7**
BRTR Keskin Array B 30.95 284 P **P 14 25 17.3 +0.4**
comp=Z,6.9nm,0.6s,baz=93,slow=6.7,SNR=46
comp=Z,6.9nm,0.6s
BRTR Keskin Array B 30.95 284 P **P 14 25 13.7 -3.2**
BRTR Keskin Array B 30.95 284 *i* P **P 14 25 18.6 +1.7**
BRTR pmax pmax
comp=Z,6.0nm,0.6s
LYN LuoYang 31.02 86 eP **P 14 25 19.3 +2.0**
LYN pmax pmax
comp=Z,10.0nm,0.5s
NRIK Noril'sk 31.17 9 P **P 14 25 17.2 -1.1**
comp=Z,3.0nm,0.5s,baz=208,slow=4.3,SNR=2.5
comp=Z,3.0nm,0.5s
NRIK Noril'sk 31.17 9 P **P 14 25 16.7 -1.5**

NRIK IAmb IAmb 14 25 24.4
comp=Z,22nm,1.1s
NRIK Noril'sk 31.17 9 *ce*P **P 14 25 18.7 +0.4**
ANTO Ankara 31.56 285 P **P 14 25 21.5 -0.7**
ANTO IAmb IAmb 14 25 34.6
comp=Z,32nm,1.1s
ANTO Ankara 31.56 285 P **P 14 25 21.5 -0.7**
ANTO pmax pmax
comp=Z,32nm,1.1s
BOD Bodaibo 31.87 41 *e*P **P 14 25 24.2 -0.3**
BOD pmax pmax
comp=Z,24nm,1.3s
MDUB Mudurnu 32.63 286 P **P 14 25 31.8 +0.2**
AKASG Malin Array Be 33.23 305 P **P 14 25 36.1 -0.5**
comp=Z,0.8nm,0.3s,baz=79,slow=7.3,SNR=13
AKASG PP **PP 14 26 52.7 +1.1**
comp=Z,6.2nm,0.7s,baz=96,slow=14,SNR=4.4
comp=Z,0.8nm,0.3s
AKASG Malin Array Be 33.23 305 P **P 14 25 35.5 -1.0**
AKASG Malin Array Be 33.23 305 *i*P **P 14 25 38.5 +1.9**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKBB Malin Array Si 33.23 305 ⇑*e*P **P 14 25 36.3 -0.3**
EIL Elat 33.30 266 P **P 14 25 38.2 +0.8**
comp=Z,10nm,1.0s,baz=156,slow=4.8,SNR=4.6
comp=Z,10nm,1.0s
BORA Eskisehir 33.32 285 P **P 14 25 35.9 -1.7**
BORA IAmb IAmb 14 25 48.7
comp=Z,25nm,1.0s
MILM Milestii Mici 33.52 298 ⇓P **P 14 25 41.4 +2.4**
MILM Milestii Mici 33.52 298 *e*P **P 14 25 39.0 -0.1**
MILM Milestii Mici 33.52 298 *e*P **P 14 25 39.0 -0.1**
MILM *e* 14 25 46.0
SORM Soroca 33.78 301 ⇑P **P 14 25 41.9 +0.5**
TPGR Topolog 33.97 295 ⇓P **P 14 25 44.1 +1.0**
TIRR Tirgusor 34.02 294 ⇓P **P 14 25 44.7 +1.2**
WHN Wuhan 34.03 92 ⇑P **P 14 25 47.5 +3.8**
CFR Carcaliu 34.13 295 ⇓P **P 14 25 45.9 +1.5**
SCTR Scanteiesti 34.18 296 ⇓P **P 14 25 46.4 +1.6**
TLBR Topalu 34.27 294 ⇑P **P 14 25 47.0 +1.4**
MNK Minsk 34.39 312 *i*P **P 14 25 45.4 -1.2**
comp=E,5.0nm,0.9s
MNK *i*P **P 14 25 45.4 -1.2**
comp=N,25nm,0.7s
MNK *i*P **P 14 25 45.4 -1.2**
comp=Z,18nm,0.8s,baz=277
MNK *i*PP **PnPn 14 26 60.0 -1.1**
MNK *i*PPP PPP 14 27 11.7
MNK *i*S **S 14 31 13.9 -0.3**
MNK *i*SS **SnSn 14 33 24.8 +0.9**
MNK *i*SSS SSS 14 33 40.7
MNK *i*LR LR 14 38 56.9
MNK *i*LRM MLR 14 40 48.6
comp=Z,4μm,12.2s
MNK *i*LRM MLR 14 40 52.5
comp=N,3μm,13.4s
MNK *i*LRM MLR 14 40 55.7
comp=E,394nm,12.1s
MNK Minsk 34.39 312 *i*P **P 14 25 45.4 -1.2**
MNK *i* 14 26 59.9
MNK *i* 14 28 21.0
MNK *i*S **S 14 31 13.8 -0.3**
MNK *i*SS **SnSn 14 33 24.8 +0.9**
MNK *i* 14 36 08.7
MNK pmax pmax
comp=N,25nm,0.7s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,18nm,0.8s
MNK MLR MLR
comp=Z,4μm,12.0s
MNK MLR MLR
comp=N,3μm,13.0s
AKAS Kas 34.95 280 P **P 14 25 50.1 -1.7**
AKAS IAmb IAmb 14 26 00.6
comp=Z,34nm,0.8s
TESR Tescani 35.03 298 ⇓P **P 14 25 53.5 +1.3**
VRI Vrincioaia 35.04 297 ⇓P **P 14 25 54.6 +2.3**
NACGM Naroch 35.08 313 ⇓*i*P **P 14 25 53.1 +0.6**
MANT Manisa 35.09 284 **P 14 25 53.1 0.0**
MANT IAmb IAmb 14 26 04.1
comp=Z,33nm,1.1s
PLOR Plostina 35.10 297 ⇓P **P 14 25 55.1 +2.2**
COVR Voineasa-Covas 35.41 297 ⇓P **P 14 25 57.5 +2.0**
ISAL Salakas 35.53 314 *e*P **P 14 25 59.8 +3.4**
MLR Muntele Rosu 35.63 296 ⇓P **P 14 26 00.2 +2.6**
MLR Muntele Rosu 35.63 296 P **P 14 25 57.4 -0.1**
MLR Muntele Rosu 35.63 296 P **P 14 25 57.4 -0.1**
MLR pmax pmax
comp=Z,61nm,0.9s
VSU Vasula 35.68 319 *e*P **P 14 25 57.6 0.0**
VSU Vasula 35.68 319 *ce*P **P 14 25 57.3 -0.3**
VSU pmax pmax
comp=Z,93nm,1.1s
BURAR Bucovina Array 35.91 300 ⇑P **P 14 26 01.5 +1.6**
BURAR Bucovina Array 35.91 300 P **P 14 26 00.5 +0.5**
BUR08 Bucovina Ar. S 35.92 300 P **P 14 25 59.5 -0.5**
DOPR Dopca 35.96 297 ⇓P **P 14 26 02.3 +2.1**
LVZ Lovozero 35.97 336 ⇑*e*P **P 14 26 00.5 +0.4**
LVZ pmax pmax
comp=Z,70nm,1.0s
APA Apatity 36.20 335 ⇓*i*P **P 14 25 59.5 -2.5**
APA *i* 14 27 21.9
APA *i* 14 28 22.0
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,10μm,13.0s
VOIR 36.26 296 ⇓P **P 14 26 04.3 +1.3**
ARR Arges 36.56 296 ⇓P **P 14 26 07.4 +2.0**
FIA1 FINESS Array S 36.70 323 P **P 14 26 06.0 -0.3**
FIA1 IAmb IAmb 14 26 13.5
comp=Z,22nm,0.9s
FINES FINESS Array B 36.70 323 P **P 14 26 06.2 -0.1**
comp=Z,6.9nm,0.4s,baz=114,slow=10.0,SNR=78
comp=Z,6.9nm,0.4s
FINES FINESS Array B 36.70 323 P **P 14 26 06.0 -0.3**
FINES FINESS Array B 36.70 323 *i*P **P 14 26 06.1 -0.3**
FINES pmax pmax
comp=Z,7.0nm,0.4s
PABE Paberze 36.74 313 *e*P **P 14 26 06.7 0.0**
NJ2 Nanjing 36.91 87 *e*P **P 14 26 09.3 +0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KARP Karpathos 37.05 280 P **P 14 26 09.8 +0.2**
LOT Lotru 37.15 296 ⇓P **P 14 26 12.3 +1.7**
MEF Metsahovi 37.22 321 *e*P **P 14 26 13.3 +2.6**
MTSE Matsula 37.23 319 *e*P **P 14 26 10.8 0.0**
TRPA Tarpa 37.66 301 ⇓P **P 14 26 16.4 +1.7**
TRPA Tarpa 37.66 301 P **P 14 26 15.6 +1.0**
KOLS Kolonicke sedl 37.77 302 *e*PP PP 14 27 42.6 +0.9
KOLS Kolonicke sedl 37.77 302 *e*P P 14 26 22.3 +6.7
KOLS *e* 14 27 42.6
KOLS Kolonicke sedl 37.77 302 *e*P P 14 26 22.3 +6.7
UZH Uzhgorod 37.78 302 *e*P **P 14 26 14.4 -1.3**
UZH *i* 14 26 21.3
UZH *i* 14 28 04.4
UZH *i*S **S 14 32 01.5 -4.7**
UZH MLR MLR
comp=N,2μm,11.0s
UZH MLR MLR
comp=E,3μm,11.0s
UZH MLR MLR
comp=Z,2μm,11.0s
GZR Gura Zlata 37.85 297 ⇓P **P 14 26 17.8 +1.4**
VTS Vitosha 38.04 292 ⇑P **P 14 26 19.9 +1.8**
VTS Vitosha 38.04 292 P **P 14 26 17.5 -0.7**
VTS Vitosha 38.04 292 P **P 14 26 17.5 -0.7**
VTS pmax pmax
comp=Z,10.0nm,0.7s
SANT Santorini 38.07 282 ⇓P **P 14 26 19.0 +0.7**
SANT Santorini 38.07 282 P **P 14 26 17.4 -0.9**
SANT IAmb IAmb 14 26 20.6
comp=Z,38nm,1.2s
HERR Herculane 38.19 296 ⇓P **P 14 26 20.0 +0.8**
SURR Surduc 38.25 297 ⇑P **P 14 26 22.3 +2.6**
CRVS Cervenica-Dubn 38.30 302 *e*P P 14 26 25.1 +5.0
CRVS *e*PP **PP 14 27 45.0 -2.5**
CRVS Cervenica-Dubn 38.30 302 *e*P P 14 26 25.1 +5.0
CRVS *e* 14 27 45.0
STHS Stebnicka Huta 38.40 303 *e*P **P 14 26 23.5 +2.6**
STHS Stebnicka Huta 38.40 303 *e*P **P 14 26 23.5 +2.6**

SIRR Siria 38.49 298 ⇓P **P 14 26 24.1 +2.3**
ABAH Abaujker 38.51 301 P P 14 26 26.9 +5.1
ZEA Zeya 38.61 50 *e*P **P 14 26 25.3 +2.7**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
BZS Buzias 38.62 297 ⇓P **P 14 26 24.8 +2.0**
MDVR Moldovita 38.70 296 ⇓P **P 14 26 24.9 +1.4**
VADS Vadso 38.76 337 *e*P **P 14 26 24.6 +1.0**
VADS IAmb IAmb 14 26 29.8
comp=Z,44nm,1.1s
HEH HeiHe 38.84 55 *e*P **P 14 26 24.8 +0.2**
HEH pmax pmax
comp=Z,28nm,1.1s
HEH pmax pmax
comp=Z,280nm,4.9s
IDI Anoyia 38.88 280 ⇑P **P 14 26 26.2 +1.1**
IDI Anoyia 38.88 280 P **P 14 26 25.5 +0.4**
comp=Z,20nm,1.3s,baz=26,slow=12,SNR=10
comp=Z,20nm,1.3s
BNX BinXian 39.40 62 ⇑P P 14 26 39.0 +10
BNX pmax pmax
comp=Z,5.0nm,0.9s
BNX pmax pmax
comp=Z,170nm,6.0s
PSZ Piszkesteto 39.45 301 P **P 14 26 33.2 +3.4**
ARA0 ARCESS Array S 39.68 336 *e*P **P 14 26 31.9 +0.5**
ARA0 IAmb IAmb 14 26 33.1
comp=Z,44nm,1.2s
ARCES ARCESS Array B 39.68 336 P **P 14 26 30.7 -0.7**
comp=Z,7.4nm,0.6s,baz=115,slow=8.2,SNR=44
comp=Z,7.4nm,0.6s
ARCES ARCESS Array B 39.68 336 P **P 14 26 30.7 -0.7**
ARCES IAmb IAmb 14 26 39.0
comp=Z,39nm,1.0s
ARCES ARCESS Array B 39.68 336 P **P 14 26 30.7 -0.7**
ARCES pmax pmax
comp=Z,39nm,1.0s
FNA Florina 39.83 290 P **P 14 26 32.6 -0.4**
FNA Florina 39.83 290 P **P 14 26 32.6 -0.4**
FNA pmax pmax
comp=Z,7.0nm,0.7s
DIVS Divibare 40.04 295 P **P 14 26 34.3 -0.5**
VYHS Vyhne 40.08 302 *e*P **P 14 26 37.0 +2.1**
VYHS *e*PP **PP 14 28 06.3 -0.6**
KTK1 Kautokeino 40.23 334 *e*P **P 14 26 35.8 -0.1**
KTK1 IAmb IAmb 14 26 42.8
comp=Z,22nm,0.9s
YAK Yakutsk 40.50 37 P **P 14 26 38.8 +0.6**
comp=Z,13nm,0.5s,baz=280,slow=0.4,SNR=12
comp=Z,13nm,0.5s
YAK Yakutsk 40.50 37 *e*P **P 14 26 37.5 -0.7**
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=E,14nm,1.4s
MORH Mrgy, Hungar 40.56 299 ⇓P **P 14 26 40.2 +1.3**
MORH Mrgy, Hungar 40.56 299 P **P 14 26 39.9 +1.0**
CSKK Cskako 40.63 300 P **P 14 26 41.1 +1.6**
HAMF Hammerfest 40.70 337 *e*P **P 14 26 41.2 +1.4**
MORC Moravsky Berou 40.76 304 ⇑P **P 14 26 41.2 +0.6**
MORC Moravsky Berou 40.76 304 *e*P **P 14 26 41.3 +0.7**
PDG Podgorica 40.95 293 ⇓P **P 14 26 43.4 +1.3**
KOVH Kovagotottos 40.96 299 P **P 14 26 43.1 +0.8**
MODS Modra-Piesok 41.12 302 *e*P **P 14 26 47.8 +4.2**
MODS *e*PP **PP 14 28 18.4 +0.1**
MODS Modra-Piesok 41.12 302 *e*P **P 14 26 47.8 +4.2**
MODS *e* 14 28 18.4
MPLH Magyarpolny 41.14 300 P **P 14 26 45.7 +1.9**
KRLC Kraliky 41.21 305 *e*P **P 14 26 45.4 +1.1**
KRLC *ex* x 14 26 52.1
KRLC Kraliky 41.21 305 *e*P **P 14 26 45.4 +1.1**
KRLC *e* 14 26 52.1
JETT Jettan, Norway 41.36 335 *e*P **P 14 26 46.1 +0.8**
JETT IAmb IAmb 14 26 52.6
comp=Z,26nm,0.6s
VRAC Vranov 41.43 304 *e*P **P 14 26 47.5 +1.4**
KULM Kulim 41.44 137 P **P 14 26 45.6 -0.9**
DPC Dobruska-Polom 41.47 305 *e*P **P 14 26 47.7 +1.3**
DPC *ex* x 14 26 54.1
DPC Dobruska-Polom 41.47 305 *e*P **P 14 26 47.7 +1.3**
DPC *e* 14 26 54.1
OSTC Ostas 41.51 306 *e*P P 14 26 51.7 +5.0
KRUC Moravsky 41.60 303 *e*P **P 14 26 48.6 +1.2**
UPC Upice 41.65 305 *e*P **P 14 26 52.0 +4.2**
UPC Upice 41.65 305 *e*P **P 14 26 52.0 +4.2**
SOP Sopron 41.71 301 P **P 14 26 48.6 +0.2**
KLR Kul'dur 41.76 56 P **P 14 26 48.5 -0.2**
comp=Z,1.6nm,0.5s,baz=268,slow=9.9,SNR=9.5
comp=Z,1.6nm,0.5s
KLR Kul'dur 41.76 56 ⇓*i*P **P 14 26 50.2 +1.5**
KLR pmax pmax
comp=Z,7.0nm,0.8s
KSAR Wonju Array Be 41.87 75 P **P 14 26 51.4 +1.6**
KSAR Wonju Array Be 41.87 75 P **P 14 26 51.4 +1.6**
TRO Tromso 41.88 335 *e*P **P 14 26 50.8 +1.4**
TRO IAmb IAmb 14 26 54.5
comp=Z,30nm,1.0s
RONA Rosalia, Austr 41.88 301 *e*P **P 14 26 51.3 +1.4**
comp=Z,4.6nm,0.7s
KSRS Korea Array 41.89 75 P **P 14 26 49.4 -0.6**
comp=Z,1.7nm,0.8s,baz=287,slow=7.4,SNR=4.6
comp=Z,1.7nm,0.8s
CONA Conrad Observa 42.13 302 *e*P **P 14 26 53.4 +1.5**
comp=Z,17nm,1.3s
ARSA Arzberg 42.48 301 *e*P **P 14 26 54.3 -0.5**
comp=Z,6.3nm,1.1s
TIXI Tiksi 42.49 23 P **P 14 26 53.4 -1.0**
comp=Z,4.5nm,0.5s,baz=88,slow=24,SNR=25
comp=Z,4.5nm,0.5s
TIXI Tiksi 42.49 23 P **P 14 26 53.4 -1.0**
TIXI Tiksi 42.49 23 P **P 14 26 53.4 -1.0**
TIXI pmax pmax
comp=Z,22nm,0.8s
GOPC GO Pecny, Ondr 42.51 305 *e*P P 14 27 02.0 +7.1
FAUS Fauske 42.62 331 *e*P **P 14 26 55.7 +0.2**
FAUS IAmb IAmb 14 27 01.8
comp=Z,80nm,1.4s
PRU Pruhonice 42.65 305 *e*P **P 14 27 00.4 +4.4**
PRU Pruhonice 42.65 305 *e*P **P 14 27 00.4 +4.4**
MOR8 Moi Rana 42.74 329 *e*P **P 14 26 57.7 +1.1**
STEI Steigen 42.75 332 *e*P **P 14 26 56.6 +0.1**
BRG Berggiesshubel 42.90 306 *e*P **P 14 26 59.3 +1.2**
BRG Amp 14 27 03.6
comp=Z,11nm,1.1s
BRG *i*x x 14 27 06.5
BRG Amp 14 27 07.3
comp=Z,22nm,1.0s
BRG PP **PcP 14 28 47.3 -1.4**
BRG Amp 14 29 01.2
comp=Z,28nm,1.5s
BRG Berggiesshubel 42.90 306 *e*P **P 14 26 59.2 +1.2**
BRG *i* 14 27 06.4
BRG 14 28 47.2
BRG pmax pmax
comp=Z,11nm,1.1s
USA0B Ussuriysk Arra 42.91 64 ⇑*e*P **P 14 26 57.6 -0.6**
USRK Ussuriysk Ar. 42.91 64 P **P 14 26 57.7 -0.5**
comp=Z,0.9nm,0.5s,baz=259,slow=8.8,SNR=1.2
comp=Z,0.9nm,0.5s
SOKA Soboth 42.92 300 *e*P **P 14 26 59.4 +1.0**
comp=Z,17nm,1.7s
CKRC Cesky Krumlov 42.99 303 *e*P **P 14 27 01.7 +2.8**
CKRC *ex* x 14 27 07.8
MOA Molln 43.20 302 *e*P **P 14 27 01.3 +0.7**
comp=Z,3.1nm,0.5s
OBKA Obir 43.28 300 *e*P **P 14 27 03.9 +2.5**
comp=Z,14nm,1.3s
GSI Gunungsitoli 43.38 144 P **P 14 27 02.2 -0.1**
GSI IAmb IAmb 14 27 11.8
comp=Z,23nm,0.7s
GERES GERESS Array B 43.38 303 P **P 14 27 02.3 +0.2**
comp=Z,7.0nm,0.9s,baz=69,slow=7.6,SNR=20
comp=Z,7.0nm,0.9s
GERES GERESS Array B 43.38 303 P **P 14 27 01.9 -0.2**
GERES GERESS Array B 43.38 303 P **P 14 27 01.9 -0.2**
KHC Kasperske Hory 43.41 304 *e*P **P 14 27 03.0 +0.7**
KHC Kasperske Hory 43.41 304 *c i*P **P 14 27 03.4 +1.1**
KHC pmax pmax
comp=Z,42nm,1.1s
CLL Collm 43.42 307 *e*P **P 14 27 03.0 +0.7**
comp=Z,26nm,1.7s
CLL *i*sP **pP 14 27 06.3 -0.5**
comp=Z,9.0nm,0.8s
CLL *i*x x 14 27 09.8
comp=Z,18nm,0.9s
CLL *i*x x 14 27 15.5
CLL *e*PP **PP 14 28 44.0 +1.0**
CLL *ex* x 14 28 58.0
CLL *ex* x 14 29 06.0
CLL *e*PPP PPP 14 29 16.0
CLL *e*PPPP 14 29 29.0
CLL Collm 43.42 307 *e*P **P 14 27 03.0 +0.7**
CLL *i* 14 27 06.3
CLL *i* 14 27 09.8
CLL pmax pmax
comp=Z,26nm,1.7s
NC405 NORSAR Array S 43.51 321 P **P 14 27 02.1 -0.8**
NC602 NORSAR Array S 43.59 321 P **P 14 27 02.5 -1.0**
NC602 IAmb IAmb 14 27 18.5
comp=Z,101nm,1.2s
BIOA Bad Ischl, Aus 43.65 302 *e*P **P 14 27 08.2 +4.1**
comp=Z,11nm,1.1s
NC303 NORSAR Array S 43.68 322 *e*P **P 14 27 05.3 +1.0**
NC303 IAmb IAmb 14 27 11.9
comp=Z,40nm,0.8s
NB201 NORSAR Array S 43.72 321 P **P 14 27 03.3 -1.2**
NB2 NORSAR Subarra 43.76 321 P **P 14 27 04.6 -0.3**
baz=91,slow=8.6
NB2 NORSAR Subarra 43.76 321 P **P 14 27 04.6 -0.3**
comp=Z,32nm,0.9s,baz=91,slow=8.6
NOA NORSAR Array B 43.76 321 P **P 14 27 04.1 -0.7**
comp=Z,11nm,0.8s,baz=91,slow=7.9,SNR=16
NOA PP **PcP 14 28 53.0 +1.5**
comp=Z,2.9nm,0.7s,baz=100,slow=10,SNR=3.5
comp=Z,11nm,0.8s
MYKA Terra Mystica 43.87 300 *e*P **P 14 27 09.9 +3.9**
comp=Z,7.2nm,1.0s
NAO01 NORSAR Array S 43.91 321 P **P 14 27 05.5 -0.6**
NBO00 NORSAR Array S 43.97 321 P **P 14 27 04.4 -2.2**
KBA Koelnbreinsper 43.97 301 *e*P **P 14 27 07.5 +0.6**
comp=Z,7.0nm,1.1s
NC204 NORSAR Array S 43.98 322 P **P 14 27 05.3 -1.3**
KONO Kongsberg 44.58 319 P **P 14 27 09.8 -1.6**
KONO IAmb IAmb 14 27 26.0
comp=Z,44nm,1.1s
KONO Kongsberg 44.58 319 P **P 14 27 09.8 -1.6**
KONO pmax pmax
comp=Z,44nm,1.1s
KONO Kongsberg 44.58 319 *e*P **P 14 27 12.9 +1.5**
ABTA Abfaltersbach 44.60 301 *e*P **P 14 27 15.2 +3.3**
comp=Z,8.1nm,0.9s
CEL Celeste 44.63 288 P **P 14 27 10.3 -1.9**
CEL IAmb IAmb 14 27 21.4
comp=Z,52nm,0.9s
DOMB Dombas 44.79 323 *e*P **P 14 27 13.9 +0.8**
WTTA Wattenberg 45.06 302 *e*P **P 14 27 18.1 +2.4**
comp=Z,11nm,0.7s
WATA Walderalm 45.09 302 *e*P **P 14 27 16.6 +0.7**
comp=Z,11nm,0.6s
SKAR Skarsila 45.19 321 *e*P **P 14 27 17.6 +1.3**
SQTA Sankt Quirin 45.36 302 *e*P **P 14 27 21.1 +3.1**
comp=Z,15nm,1.2s
MOTA Moosalm 45.40 302 *e*P **P 14 27 20.1 +1.8**
comp=Z,3.6nm,0.6s
RETA Reutte 45.59 302 *e*P **P 14 27 21.6 +1.9**
comp=Z,14nm,1.2s
FETA Feichten 45.72 301 *e*P **P 14 27 23.4 +2.5**
comp=Z,8.4nm,1.0s
FUORN Ofenpass-Fuorn 46.13 301 P **P 14 27 22.7 -1.6**
DAVA Damuels 46.22 302 *e*P **P 14 27 27.9 +3.0**
comp=Z,22nm,1.1s
SENIN Lac Senin/Sane 48.17 301 P **P 14 27 40.1 0.0**
YSS Yuzh-Sakhalins 49.45 57 *e*P **P 14 27 47.8 -1.8**
YSS pmax pmax
comp=Z,20nm,1.0s
MAJO Matsushiro 49.88 72 ⇑*e*P **P 14 27 53.9 +0.8**
MAJO pmax pmax
comp=Z,11nm,1.0s
MJAR Matsushiro Arr 49.88 72 P **P 14 27 54.3 +1.1**
comp=Z,3.0nm,0.7s,baz=295,slow=8.7,SNR=4.8
comp=Z,3.1nm,0.7s
KKM Kota Kinabalu 50.34 120 P **P 14 27 56.7 -0.2**
KKM IAmb IAmb 14 28 04.3
comp=Z,24nm,0.9s
KEST Kesra 50.44 288 P **P 14 27 57.8 +0.3**
comp=Z,8.1nm,0.8s,baz=232,slow=3.7,SNR=5.3
comp=Z,8.1nm,0.8s
SEY Seymchan 50.97 35 ⇑*e*P **P 14 28 02.0 +1.1**
SEY pmax pmax
comp=Z,30nm,2.0s
KMBO Kilima Mbogo 52.29 229 P **P 14 28 11.6 0.0**
comp=Z,1.6nm,0.5s,baz=38,slow=11,SNR=5.8
comp=Z,1.6nm,0.5s
MYLDM Lahad Datu 52.52 118 P **P 14 28 14.1 +0.9**
BILL Bilibino 55.25 27 ⇑*e*P **P 14 28 32.9 +0.5**
BILL *e* 14 29 34.6
BILL *e* 14 30 40.3
BILL *e*S S 14 36 05.6 -10
BILL pmax pmax
comp=Z,23nm,1.1s
BILL MLR MLR
comp=Z,4μm,17.0s
MBAR Mbarara 55.90 236 P **P 14 28 37.8 -0.1**
MBAR Mbarara 55.90 236 ⇑*e*P **P 14 28 39.7 +1.8**
MBAR pmax pmax
comp=Z,16nm,1.4s
PETK Petropavlovsk- 56.49 46 P **P 14 28 40.9 -0.7**
comp=Z,6.3nm,1.0s,baz=252,slow=1.4,SNR=2.1
comp=Z,6.3nm,1.0s
ESDC Sonseca Array 58.31 298 P **P 14 28 54.3 -0.3**
comp=Z,3.9nm,0.8s,baz=56,slow=7.1,SNR=16
comp=Z,3.9nm,0.8s
EUNU Eureka 60.59 356 P **P 14 29 10.2 +0.5**
EUNU IAmb IAmb 14 29 21.7
comp=Z,20nm,1.4s
TULEG Thule 62.26 351 P **P 14 29 20.4 -0.5**
TULEG IAmb IAmb 14 29 35.5
comp=Z,40nm,1.5s
C23K Itkillik River 66.62 15 P **P 14 29 49.3 -0.3**
baz=324
C24K Franklin Bluff 67.10 15 P **P 14 29 51.9 -0.8**
baz=325
D23K Nanushuk River 67.31 16 P **P 14 29 52.5 -1.5**
baz=324
C26K Camden Bay 67.66 14 P **P 14 29 54.8 -1.4**
baz=328
E22K Anaktuvuk Pass 67.73 17 P **P 14 29 55.2 -1.6**
baz=323
TOLK Toolik Lake Re 67.81 16 P **P 14 29 56.5 -0.7**
TOLK Toolik Lake Re 67.81 16 P **P 14 29 55.6 -1.7**
baz=325
D25K Kavik River 67.89 14 P **P 14 29 56.5 -1.3**
baz=327
F21K Alatna River 68.07 18 P **P 14 29 56.5 -2.3**
baz=322,SNR=12
C27K Jago River 68.13 13 P **P 14 29 57.3 -1.9**
baz=329
F22K John River 68.15 17 P **P 14 29 58.3 -1.1**
baz=323
E23K Chandalar 68.28 16 P **P 14 29 59.1 -1.2**
baz=325
A36M Sachs Harbour 68.39 6 P **P 14 30 00.3 -0.4**
A36M Sachs Harbour 68.39 6 P **P 14 29 59.5 -1.3**
baz=344
E24K Your Creek 68.51 16 P **P 14 30 00.1 -1.6**
baz=326
G21K Allakaket 68.62 18 P **P 14 30 00.3 -2.0**
baz=322,SNR=5.1
G22K Bettles 68.78 18 P **P 14 30 01.3 -2.0**
baz=324
COLD Coldfoot 68.83 17 P **P 14 30 02.6 -1.0**
COLD Coldfoot 68.83 17 P **P 14 30 02.9 -0.7**
baz=324,SNR=21
IMAR Indian Mountai 68.98 19 P **P 14 30 03.5 -1.1**
E25K Arctic Village 69.07 15 P **P 14 30 03.5 -1.6**
baz=328
F24K Squaw Lake 69.10 16 P **P 14 30 03.6 -1.7**
baz=326
GCSA Galena City Sc 69.12 21 P **P 14 30 04.3 -1.1**
baz=320
G23K Bananza Creek 69.29 17 P **P 14 30 05.5 -1.0**
baz=325
H21K Melozitna Rive 69.48 19 P **P 14 30 07.3 -0.4**
baz=323
F25K Christian Rive 69.50 15 P **P 14 30 06.8 -1.1**
baz=328
H22K Ishtalitna Cre 69.64 18 P **P 14 30 07.9 -0.8**
baz=324
F26K Sheenjek River 69.71 15 P **P 14 30 08.0 -1.1**
baz=329
E27K Coleen River 69.76 13 P **P 14 30 08.5 -0.9**

baz=331
BMAR **Burnt Mountain** 69.86 15 P P 14 30 10.1 +0.1
G24K **Hadweenzic Riv** 69.87 16 P P 14 30 08.7 -1.3
baz=327
I21K **Tanana** 70.07 19 P P 14 30 11.0 -0.3
baz=324
H23K **Yukon River** 70.13 18 P P 14 30 10.4 -1.3
H23K IAmb IAmb 14 30 19.3
comp=Z,23nm,1.0s
H23K **Yukon River** 70.13 18 P P 14 30 10.5 -1.3
baz=325
J20K **Nowinta River** 70.31 20 P P 14 30 11.5 -1.3
baz=322,SNR=5.7
G26K **Porcupine Rive** 70.43 15 P P 14 30 12.1 -1.3
baz=330
MLY **Manley** 70.50 18 P P 14 30 12.7 -1.3
baz=325
H24K **Noodor Dome** 70.51 17 P P 14 30 12.4 -1.6
baz=327
I23K **Minto, Yukon-K** 70.74 18 P P 14 30 14.8 -0.6
baz=326,SNR=6.2
TTA **Tatalina** 70.77 22 P P 14 30 15.0 -0.7
baz=321
INK **Inuvik** 70.95 10 P P 14 30 16.1 -0.5
INK IAmb IAmb 14 30 27.6
comp=Z,15nm,0.9s
INK **Inuvik** 70.95 10 P P 14 30 16.0 -0.5
baz=338
INK **Inuvik** 70.95 10 P P 14 30 16.1 -0.5
INK pmax pmax
comp=Z,15nm,0.9s
G27K **Doyon Strip** 70.97 14 P P 14 30 16.0 -0.8
baz=331
K20K **Telida** 70.98 21 P P 14 30 15.3 -1.6
baz=322
CHUM **Lake Minchumin** 71.03 20 P P 14 30 15.4 -1.8
baz=324
C36M **Paulatuk** 71.05 7 P P 14 30 16.0 -1.2
C36M **Paulatuk** 71.05 7 P P 14 30 15.9 -1.3
baz=345
POKR **Poker Plat Res** 71.22 17 P P 14 30 17.2 -1.1
baz=327
NEA2 **Nenana** 71.27 18 P P 14 30 16.8 -1.8
baz=326,SNR=8.0
PRP **Porcupine Dome** 71.30 16 P P 14 30 17.3 -1.6
baz=329
TCOL **CIGO, UAF Yank** 71.32 17 P P 14 30 17.7 -1.2
baz=327,SNR=5.5
COLA **College** 71.32 17 P P 14 30 17.8 -1.1
baz=327
COLA **College** 71.32 17 ||e P P 14 30 19.1 +0.2
COLA pmax pmax
comp=Z,36nm,0.9s
CAST **Castle Rocks** 71.47 20 P P 14 30 19.0 -0.9
CAST IAmb IAmb 14 30 26.5
comp=Z,16nm,0.8s
CAST **Castle Rocks** 71.47 20 P P 14 30 18.6 -1.2
baz=324
H27K **Steamboat Moun** 71.50 14 P P 14 30 19.1 -1.0
baz=332
IL31 71.63 17 P P 14 30 19.8 -0.9
IL31 IAmb IAmb 14 30 27.0
comp=Z,16nm,0.8s
ILAR **Eielson Array** 71.63 17 P P 14 30 19.1 -1.7
comp=Z,3.1nm,0.8s,baz=316,slow=5.0,SNR=18
comp=Z,3.1nm,0.8s
L19K **White Mountain** 71.69 22 P P 14 30 20.0 -1.2
baz=322
F31M **Tsiigehtchic** 71.72 11 P P 14 30 19.8 -1.4
baz=338
L20K **Farewell, AK** 71.73 21 P P 14 30 19.9 -1.6
baz=323
G30M **tAoh Zraii Nji** 71.77 12 P P 14 30 20.0 -1.6
baz=336
TRF **Thorofare Moun** 71.91 19 P P 14 30 20.9 -1.8
baz=325
HDA **Harding Lake** 71.92 17 P P 14 30 22.8 +0.2
HDA **Harding Lake** 71.92 17 P P 14 30 21.1 -1.5
baz=328,SNR=5.2
I26K **Coal Creek Min** 71.99 15 P P 14 30 21.6 -1.3
baz=330
MCK **McKinley** 72.02 19 P P 14 30 21.5 -1.7
baz=326
I27K **Kandik River** 72.04 15 P P 14 30 21.9 -1.4
baz=332
M19K **Big River Lodg** 72.04 22 P P 14 30 21.9 -1.4
baz=322
EPYK **Eagle Plains** 72.24 12 P P 14 30 22.9 -1.6
baz=335
M20K **Styx River** 72.42 21 P P 14 30 24.4 -1.3
baz=323
J26L **Joseph Creek** 72.60 16 P P 14 30 25.6 -1.1
J26L IAmb IAmb 14 30 33.0
comp=Z,16nm,0.7s
J26L **Joseph Creek** 72.60 16 P P 14 30 25.3 -1.5
baz=330
O16K **Kokwok River B** 72.71 25 P P 14 30 25.6 -1.7
baz=320
K24K **Donnelly Dome** 72.71 17 P P 14 30 26.3 -1.1
baz=329,SNR=6.7
SKT **Skwentna** 72.79 21 P P 14 30 26.0 -1.8
baz=325
EGAK **Eagle** 72.86 15 P P 14 30 26.7 -1.5
baz=332
WAT1 **Susitna Watana** 72.87 19 P P 14 30 26.9 -1.4
baz=327
DHY **Denali Highway** 72.95 18 P P 14 30 28.4 -0.5
DHY IAmb IAmb 14 30 36.1
comp=Z,15nm,0.8s
DHY **Denali Highway** 72.95 18 P P 14 30 26.9 -2.0
baz=328,SNR=5.2
SCRK **Sand Creek** 72.97 16 P P 14 30 26.9 -2.1
baz=330,SNR=16
RIDG **Independent Ri** 72.98 17 P P 14 30 27.8 -1.2
baz=329
P16K **Nushagak River** 73.18 25 P P 14 30 28.9 -1.1
baz=320
N20K **Mount Spurr** 73.23 21 P P 14 30 29.1 -1.4
baz=324
SPCR **Spurr Chakacha** 73.23 21 P P 14 30 29.5 -1.0
baz=324
WAT6 **Susitna Watana** 73.28 19 P P 14 30 29.8 -1.1
baz=327
M22K **Willow** 73.36 20 P P 14 30 30.0 -1.0
baz=326
SUA **Susitna One** 73.43 21 P P 14 30 30.5 -1.2
baz=325
PAX **Paxson** 73.50 18 P P 14 30 30.3 -1.8
PAX IAmb IAmb 14 30 38.1
comp=Z,17nm,0.9s
PAX **Paxson** 73.50 18 P P 14 30 31.2 -0.9
baz=329,SNR=13
PAX **Paxson** 73.50 18 P P 14 30 30.3 -1.8
PAX pmax pmax
comp=Z,17nm,0.9s
P17K **Kvichak River** 73.55 24 P P 14 30 31.7 -0.5
baz=321
J29M **Klondike Camp** 73.72 14 P P 14 30 32.3 -1.0
baz=334
PMR **Palmer** 73.75 20 P P 14 30 32.9 -0.6
baz=326
P18K **Big Mountain,** 73.78 24 P P 14 30 32.1 -1.6
baz=322
SML **Sawmill** 73.78 19 P P 14 30 32.6 -1.1
baz=327
DAWY **Dawson** 73.85 15 P P 14 30 32.1 -2.0
DAWY IAmb IAmb 14 30 40.8
comp=Z,19nm,1.1s
DAWY **Dawson** 73.85 15 P P 14 30 32.6 -1.4
baz=334,SNR=17
Q16K **King Salmon** 73.89 25 P P 14 30 32.9 -1.4
baz=321
L26K **Log Cabin Wild** 73.94 17 P P 14 30 32.9 -1.6
baz=331
M23K **Glacier View** 73.95 19 P P 14 30 33.8 -0.9
baz=328,SNR=7.3
RC01 **Rabbit Creek A** 74.01 20 P P 14 30 33.9 -1.1
baz=326
SCM **Sheep Creek Mo** 74.02 19 P P 14 30 33.8 -1.3
baz=328,SNR=6.3
HARP **HAARP** 74.07 18 P P 14 30 34.5 -0.8
baz=329,SNR=8.5
M24K **Tolsona, Glenn** 74.07 18 P P 14 30 34.2 -1.2
M24K **Tolsona, Glenn** 74.07 18 P P 14 30 34.0 -1.4
baz=329,SNR=6.8
KNK **Knik Glacier** 74.08 20 P P 14 30 35.0 -0.4
baz=327
L27K **Beaver Creek,** 74.24 16 P P 14 30 35.7 -0.7
baz=332,SNR=5.8
BCAR **Beaver Creek A** 74.25 16 P P 14 30 35.7 -0.7
K29M **Barlow Dome** 74.41 14 P P 14 30 36.3 -1.1
baz=335
R16K **Pilot Point** 74.45 26 P P 14 30 36.2 -1.4
baz=321
O22K **Cooper Landing** 74.52 21 P P 14 30 36.5 -1.4
baz=326
M26K **Nabesna, AK** 74.57 17 P P 14 30 37.2 -1.1
baz=331
KLU **Klutina** 74.66 19 P P 14 30 37.3 -1.6
baz=329
KNRA **Kununurra** 74.75 125 P P 14 30 39.1 -0.7
KNRA IAmb IAmb 14 30 53.0
comp=Z,17nm,0.9s
R17K **Ugashik Creek** 74.79 25 P P 14 30 39.0 -0.6
baz=322
N25K **Chitina, Valde** 74.89 18 P P 14 30 39.5 -0.7
N25K IAmb IAmb 14 30 53.2
comp=Z,18nm,1.1s
N25K **Chitina, Valde** 74.89 18 P P 14 30 38.5 -1.7
baz=330
SEW **Seward** 74.91 21 P P 14 30 38.7 -1.5
baz=326
L29M **L29M** 74.96 14 P P 14 30 39.8 -0.7
baz=335
BVCY **Beaver Creek** 75.02 16 P P 14 30 40.0 -0.9
baz=333
BMRM **Bremner River** 75.44 18 P P 14 30 42.0 -1.3
baz=330
MCARA **McCarthy VSAT** 75.45 17 P P 14 30 43.7 +0.3
MCARA IAmb IAmb 14 30 55.5
comp=Z,14nm,0.8s
MCARA **McCarthy VSAT** 75.45 17 P P 14 30 42.9 -0.4
baz=331
M29M **Somme Creek** 75.50 15 P P 14 30 42.1 -1.6
baz=335
EYAK **Cordova Ski Ar** 75.52 19 P P 14 30 42.6 -1.1
baz=329
YUK3 **Moose Creek** 75.68 16 P P 14 30 43.8 -1.1
baz=333,SNR=7.5
M30M **Minto, Yukon** 75.70 14 P P 14 30 47.1 +2.3
M30M **Minto, Yukon** 75.70 14 P P 14 30 43.9 -0.9
baz=336
CHNA **Chernabura Isl** 75.84 29 P P 14 30 44.4 -1.2
baz=320
OHAK **Old Harbor** 76.14 24 P P 14 30 47.3 0.0
OHAK **Old Harbor** 76.14 24 P P 14 30 47.0 -0.3
baz=324
YUK8 **Steele Glacier** 76.27 16 P P 14 30 47.1 -1.3
baz=334
YUK4 **Talbot Arm** 76.45 15 P P 14 30 47.5 -1.8
baz=335
M31M **Drury Creek, Y** 76.49 13 P P 14 30 47.6 -1.7
baz=338
MMPY **Sheldon Lake,** 76.62 12 P P 14 30 48.6 -1.5
baz=340
O28M **Mount Upton** 76.64 16 P P 14 30 48.0 -2.4
baz=333
FARO **Faro, Yukon** 76.64 13 P P 14 30 49.4 -0.8
FARO **Faro, Yukon** 76.64 13 P P 14 30 48.7 -1.5
baz=339
N30M **Aishikik Lake** 76.66 15 P P 14 30 49.1 -1.3
baz=336
MESA **MESA** 76.77 18 P P 14 30 50.1 -0.9
baz=332
N31M **Braeburn, Yuko** 76.89 14 P P 14 30 51.8 +0.2
N31M IAmb IAmb 14 30 58.8
comp=Z,13nm,0.8s
N31M **Braeburn, Yuko** 76.89 14 P P 14 30 50.8 -0.8
baz=337
WRGLY **Wrigley** 77.07 8 P P 14 30 51.6 -0.8
baz=346
DBIC **Dimbokro** 77.13 268 P P 14 30 53.9 +0.3
comp=Z,6.0nm,0.6s,baz=34,slow=5.1,SNR=13
comp=Z,6.0nm,0.6s
HYT **Haines Junctio** 77.16 15 P P 14 30 53.1 -0.1
HYT IAmb IAmb 14 31 00.8
comp=Z,26nm,0.8s
HYT **Haines Junctio** 77.16 15 P P 14 30 51.9 -1.3
baz=336,SNR=7.3
KIC **Kosan Boka** 77.23 268 ||e P P 14 30 54.5 +0.3
comp=Z,18nm,0.4s
TIC **Toumodi** 77.27 268 ||e P P 14 30 54.6 +0.2
comp=Z,17nm,0.3s
O29M **Mount Kennedy** 77.41 16 P P 14 30 54.0 -0.7
baz=335
O30N **Mendenhall** 77.49 15 P P 14 30 54.3 -0.7
baz=337,SNR=5.6
LIC **Lamto** 77.54 268 ||e P P 14 30 56.2 +0.3
comp=Z,36nm,0.8s
WHY **Whitehorse** 77.83 14 P P 14 30 56.3 -0.6
baz=338
P30M **Million Dollar** 77.91 15 P P 14 30 56.5 -0.8
baz=336
TGTN **Hyland Airport** 78.11 11 P P 14 30 57.3 -1.1
baz=343
LBTB **Lobatse** 78.16 224 P P 14 30 59.9 +0.8
LBTB IAmb IAmb 14 31 08.8
comp=Z,17nm,0.8s
LBTB **Lobatse** 78.16 224 P P 14 30 59.9 +0.8
LBTB pmax pmax
comp=Z,17nm,0.8s
P29M **Windy Craggy** 78.20 16 P P 14 30 58.0 -0.9
baz=335
YKA **Yellowknife Ar** 78.52 4 P P 14 31 00.2 -0.3
comp=Z,5.6nm,1.0s,baz=342,slow=5.3,SNR=5.8
comp=Z,5.6nm,1.0s
P33M **Teslin, Yukon** 78.62 13 P P 14 31 00.5 -0.8
baz=339
PLBC **Pleasant Camp** 78.65 15 P P 14 31 00.9 -0.4
baz=336
SKAG **Skagway** 78.85 15 P P 14 31 01.8 -0.6
baz=337
R33M **Jennings River** 79.72 13 P P 14 31 06.8 -0.6
baz=341
KOTAN **Kotaneelee Air** 80.02 9 P P 14 31 08.1 -0.7
baz=346
SCHQ **Schefferville** 80.58 338 P P 14 31 12.2 +0.2
comp=Z,3.7nm,0.7s,baz=330,slow=4.8,SNR=3.5
comp=Z,3.7nm,0.7s
SCHQ **Schefferville** 80.58 338 P P 14 31 11.4 -0.5
SCHQ IAmb IAmb 14 34 11.6
comp=Z,78nm,1.9s
DLBC **Dease Lake** 80.78 12 P P 14 31 12.5 -0.5
baz=341
S32K **Killisnoo** 80.85 15 P P 14 31 12.7 -0.6
baz=338
S34M **Telegraph Cree** 81.09 13 P P 14 31 13.8 -0.8
baz=341
BOSA **Boshof** 81.23 222 P P 14 31 16.3 +0.6
comp=Z,9.2nm,1.0s,baz=22,slow=5.6,SNR=9.7
comp=Z,9.2nm,1.0s
BOSA **Boshof** 81.23 222 P P 14 31 15.1 -0.6
BOSA IAmb IAmb 14 31 18.5
comp=Z,17nm,1.1s
BOSA **Boshof** 81.23 222 P P 14 31 15.1 -0.6
BOSA pmax pmax
comp=Z,17nm,1.2s
WB0 **Warramunga Arr** 81.37 124 P P 14 31 16.2 -0.3
WRA **Warramunga Arr** 81.46 124 P P 14 31 17.3 +0.2
comp=Z,2.7nm,0.6s,baz=325,slow=5.1,SNR=24
comp=Z,2.7nm,0.6s
WRA **Warramunga Arr** 81.46 124 P P 14 31 16.5 -0.5
WRAB **Tennant Creek** 81.46 124 ||e P P 14 31 17.3 +0.3
WRAB pmax pmax
comp=Z,18nm,1.0s
WB2 **Warramunga Arr** 81.47 124 P P 14 31 16.8 -0.3
WB2 IAmb IAmb 14 31 29.9
comp=Z,21nm,1.1s
WR0 **Warramunga Arr** 81.60 124 P P 14 31 17.4 -0.4
T35M **Bob Quinn** 82.13 13 P P 14 31 19.2 -0.9
baz=341
COEN **Coen** 83.27 114 P P 14 31 25.9 -0.7
COEN IAmb IAmb 14 31 39.3
comp=Z,14nm,0.9s
AS31 **Alice Springs** 83.90 127 P P 14 31 29.0 -0.7
ASAR **Alice Springs** 83.90 127 P P 14 31 29.8 +0.1
comp=Z,1.6nm,0.6s,baz=314,slow=5.0,SNR=25
comp=Z,1.6nm,0.6s
LONY **Lake Ozonia** 91.96 338 P P 14 32 05.6 -2.7
baz=24
EYMN **Ely** 92.37 350 P P 14 32 08.1 -2.1
baz=11
ECSD **EROS Data Cent** 97.11 353 P P 14 32 30.1 -1.8
baz=7.4
PDAR **Pinedale Array** 98.45 3 P Pdif 14 32 38.9 +0.6
comp=Z,0.1nm,0.4s,baz=337,slow=2.1,SNR=1.9
comp=Z,0.1nm,0.4s
VNDA **Vanda** 127.37 164 PKP PKPdf 14 38 02.6 -0.5
comp=Z,0.4nm,0.9s,baz=352,slow=9.1,SNR=2.4
SIV **San Ignacio** 134.52 287 PKP PKPdf 14 38 18.1 -0.4
comp=Z,0.4nm,0.3s,baz=252,slow=16,SNR=1.8
LPAZ **La Paz** 139.86 294 PKP PKiKP 14 38 30.1 -1.4
comp=Z,0.9nm,0.6s,baz=323,slow=5.2,SNR=3.7
CFA **Coronel Fontan** 148.42 272 PKPbc PKPbc 14 38 44.6 -1.8
comp=Z,4.2nm,0.6s,baz=111,slow=1.5,SNR=5.0
PLCA **Paso Flores** 152.82 255 PKPbc PKiKP 14 38 57.1 +0.3
comp=Z,3.8nm,1.1s,baz=25,slow=1.0,SNR=6.3

---

*IDC **25** 14:21:59.8±1.7,41°.31S×174°.32E,h0km,mb4.3/4, mbtmp4.4/5,ML4.4/1,MS2.9/1,Error ellipse: s-maj=44.9km s-min=26.5km az=64.0*

*NEIC **25** 14:22:00.5,41°.57S×174°.57E,h20km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.95; $M_{\theta\theta}$-1.55; $M_{\phi\phi}$-0.40; $M_{r\theta}$1.36; $M_{\theta\phi}$-0.81; $M_{r\phi}$0.47; Fault plane solution: M_o2.43000×10^{15} NP1:ϕ_s237.76000°, δ27.13000°, λ81.38000°. NP2:ϕ_s67.43000°, δ63.20000°, λ94.39000°. Principal axes: T 2.4285, Plg71.0000°, Azm347.0000°; N 0.0021, Plg4.0000°, Azm245.0000°; P -2.4306, Plg18.0000°, Azm154.0000°;*

*WEL **25** 14:22:00,41°.46S×174°.47E,h28km,ML4.6,Mw4.2, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}1.57; $M_{\theta\theta}$0.67; $M_{\phi\phi}$-2.24; $M_{r\theta}$-0.89; $M_{\theta\phi}$-1.14; $M_{r\phi}$0.61; Fault plane solution: M_o2.52000×10^{15} NP1: ϕ_s231.00000°,δ52.00000°,λ141.00000°. NP2: ϕ_s348.00000°,δ60.00000°,λ45.00000°. Principal axes: T 239.6500, Plg52.0000°, Azm204.0000°; N 25.6300, Plg37.0000°, Azm14.0000°; P -265.2800, Plg5.0000°, Azm108.0000°;*

*NOU **25** 14:22:01.7,41°.69S×174°.67E,h12km,MLv4.9/16,Cook Strait, New Zealand*

*WEL **25** 14:22:02.9±0.2,41°.5±3°.×17°.4E±°,h12km,M4.7/53, ML4.8/22,MLv4.7/53,Error ellipse: s-maj=0.0km s-min=0.0km az=153.0*

*NEIC **25** 14:22:03.2±1.6,41°.50S±0°.03×174°.50E±0°.03,h28km±5km, mb4.5/15,Mwr4.2/33,Error ellipse: s-maj=5.6km s-min=1.1km az=141.0*

ISC 25 14:22:00.9±0.5,41°.63S±0°.03×174°.54E±0°.02,h10km,n216, σ1§37/223,mb4.5/14,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CMWZ	Cape Campbell	0.27	243			Pn	14 22 11.3	+0.2
CMWZ	Cape Campbell	0.27	243	P		Pn	14 22 11.8	+0.7
SNZO	South Karori	0.34	21	P	g	Pb	14 22 09.8	+0.7
SNZO				S	g	Sb	14 22 14.2	-0.3
SNZO	South Karori	0.34	21	P		Pb	14 22 09.6	+0.6
WEL	Wellington	0.38	27	P		Pb	14 22 10.7	+0.9
WEL				S		Sb	14 22 15.6	-0.1
TCW	Tory Channel	0.46	334			Pb	14 22 10.8	-0.3
TCW	Tory Channel	0.46	334	P		Pb	14 22 10.9	-0.3
TCW				S		Sg	14 22 15.6	-0.4
TUWZ	Tuamarina	0.49	293			Pb	14 22 11.9	+0.3
TUWZ	Tuamarina	0.49	293	P		Pb	14 22 11.9	+0.3
BSWZ	Blackbirch Sta	0.51	260			Pn	14 22 13.9	-0.3
BSWZ	Blackbirch Sta	0.51	260	P		Pn	14 22 14.1	-0.1
BSWZ				S		Sb	14 22 21.5	+2.1
PLWZ	Palliser	0.54	84			Pn	14 22 15.6	+0.9
PLWZ	Palliser	0.54	84	P		Pn	14 22 15.6	+0.9
MSWZ	Moikau Station	0.57	69			Pn	14 22 15.4	+0.2
MSWZ	Moikau Station	0.57	69	P		Pn	14 22 15.6	+0.4
CAW	Cannon Point	0.65	38	P		Pb	14 22 15.2	+0.8
PAWZ	Paruwai Farm	0.71	70	P		Pn	14 22 17.9	+0.9
KIW	Kapiti Island	0.81	20	P		Pb	14 22 17.2	+0.1
MTW	Mount Morrison	0.86	57	P		Pn	14 22 19.7	+0.6
TRWZ	Traveller	0.89	76	P		Pn	14 22 20.4	+0.9
OGWZ	Otaki Gorge	0.94	31	P		Pb	14 22 19.6	+0.3
DUWZ	D'Urville Isla	0.95	330	P		Pb	14 22 19.2	-0.2
NNZ	Nelson	0.96	295			Pn	14 22 20.3	-0.2
NNZ	Nelson	0.96	295	P		Pn	14 22 20.0	-0.5
HOWZ	Holdsworth Sta	1.03	46	P		Pb	14 22 21.8	+0.9
KHZ	Kahutara	1.09	223			Pn	14 22 23.9	+1.7
KHZ	Kahutara	1.09	223	P		Pn	14 22 24.2	+2.0
KHZ	Kahutara	1.09	223	P		Pn	14 22 24.2	+2.0
TMWZ	Te Maipa	1.14	63	P		Pb	14 22 23.3	+0.6
THZ	Tophouse	1.23	263			Pg	14 22 25.5	+0.9
THZ	Tophouse	1.23	263	P		Pg	14 22 24.9	+0.3
MRZ	Mangatainoka R	1.24	39	Pn		Pn	14 22 24.6	+0.3
MRZ	Mangatainoka R	1.24	39	P		Pn	14 22 24.8	+0.4
TIWZ	Tintock	1.32	51	P		Pn	14 22 25.6	+0.1
TKNZ	Takaka Hill	1.33	296			Pb	14 22 25.8	-0.2
TKNZ	Takaka Hill	1.33	296	P		Pb	14 22 25.7	-0.3
MRNZ	Matariki Terra	1.36	279			Pb	14 22 26.4	-0.1
MRNZ	Matariki Terra	1.36	279	P		Pg	14 22 26.6	-0.4
CPWZ	Castlepoint	1.44	61	P		Pn	14 22 27.5	+0.4
PRWZ	Pori Road	1.52	46	P		Pn	14 22 28.4	+0.2
OHWZ	Ohakea	1.54	23	P		Pb	14 22 29.8	+0.4
POWZ	Post Office Ro	1.54	37	P		Pn	14 22 28.6	+0.1
BFZ	Birch Farm	1.60	54	Pn		Pn	14 22 28.7	-0.5
BFZ	Birch Farm	1.60	54	P		Pn	14 22 28.9	-0.3
BFZ	Birch Farm	1.60	54	P		Pn	14 22 28.9	-0.3
QRZ	Quartz Range	1.71	297			Pb	14 22 31.9	-0.6
QRZ	Quartz Range	1.71	297	P		Pb	14 22 32.5	0.0
QRZ	Quartz Range	1.71	297	P		Pb	14 22 31.9	-0.6
GVZ	Greta Valley S	1.75	219			Pb	14 22 32.8	-0.3
GVZ	Greta Valley S	1.75	219	P		Pb	14 22 32.9	-0.2
GVZ				P		Pb	14 22 32.9	-0.2
DVHZ	Dannevirke	1.81	43	P		Pn	14 22 31.7	-0.5
ANWZ	Angora Road	1.87	52	P		Pn	14 22 32.4	-0.6
WAZ	Wanganui	1.90	10	P		Pb	14 22 35.1	-0.6
TSZ	Takapari Road	1.90	35	P		Pn	14 22 33.4	-0.1
LTZ	Lake Taylor	2.04	235	Pn		Pn	14 22 36.6	+1.2
LTZ	Lake Taylor	2.04	235	P		Pn	14 22 36.8	+1.4
LTZ				P		Pn	14 22 36.8	+1.4
DSZ	Denniston Nort	2.05	266	Pn		Pb	14 22 37.1	-1.2
DSZ	Denniston Nort	2.05	266	P		Pb	14 22 37.0	-1.4
AMCZ	Amberley	2.09	221			Pn	14 22 37.1	+1.1
AMCZ	Amberley	2.09	221	P		Pn	14 22 37.1	+1.1
PRHZ	Porangahau	2.09	50	P		Pn	14 22 35.2	-0.8
PNHZ	Pukenui	2.12	37	P		Pn	14 22 36.1	-0.4
WPHZ	Waipukurau	2.12	43	P		Pn	14 22 36.0	-0.5
LREZ	Lake Rotokare	2.17	357	P		Pb	14 22 39.4	-0.8
NMEZ	Namu Road	2.27	347	P		Pb	14 22 41.0	-0.9
MTVZ	Mangateitei	2.35	18	P		Pn	14 22 41.3	+1.7
KHEZ	Kahui Hut	2.36	350	P		Pb	14 22 43.1	-0.5
KHEZ	Kahui Hut	2.36	350	P		Pb	14 22 42.2	-1.5
OKCZ	Okains Bay	2.36	207	P		Pn	14 22 40.7	+0.9
PXZ	Pawanui	2.38	49	P		Pn	14 22 38.7	-1.2
NEZ	North Egmont	2.38	352	P		Pb	14 22 42.8	-1.1
MOVZ	Moawhango	2.40	23	P		Pn	14 22 40.9	+0.5
NBEZ	Newall Road No	2.41	347	P		Pn	14 22 42.1	+1.7
PKVZ	Pokaka	2.41	15	P		Pn	14 22 42.0	+1.5
BHHZ	Black Hill Sta	2.43	29	P		Pn	14 22 40.8	0.0
WNVZ	Wahianoa	2.43	20	P		Pn	14 22 42.0	+1.1
DREZ	Durham Road	2.45	354	P		Pb	14 22 43.7	-1.3
TRVZ	Turoa	2.45	19	P		Pb	14 22 44.4	-0.7
PKE	Pukeiti	2.46	350	P		Pn	14 22 43.3	+2.1
WHVZ	Whangaehu Hut	2.47	19	P		Pn	14 22 42.7	+1.2
DRZ	Dome Shelter	2.47	19	P		Pb	14 22 45.5	-0.2
FWVZ	Far West T-bar	2.49	18	P		Pn	14 22 43.3	+1.5
MQZ	McQueen's Vall	2.50	213	Pn		Pn	14 22 41.0	-0.6
MQZ	McQueen's Vall	2.50	213	P		Pn	14 22 41.7	0.0
TUVZ	Tukino	2.50	20	P		Pn	14 22 43.5	+1.6
VRZ	Vera Road	2.50	4	P		Pn	14 22 43.5	+1.8
OXZ	Oxford	2.51	227			Pn	14 22 40.9	-0.9
OXZ	Oxford	2.51	227	P		Pn	14 22 42.1	+0.3
AKCZ	Akaroa Harbour	2.55	208	P		Pn	14 22 42.9	+0.6
KAHZ	Kahuranaki	2.55	45	P		Pn	14 22 41.3	-1.1
INZ	Inchbonnie	2.55	243			Pn	14 22 41.0	-1.3
INZ	Inchbonnie	2.55	243	P		Pn	14 22 43.6	+1.3
MHEZ	Mangahewa	2.55	356	P		Pb	14 22 46.1	-0.7
SNVZ	South Ngauruho	2.58	19	P		Pb	14 22 45.6	-1.8
NGZ	Ngauruhoe	2.58	19	P		Pn	14 22 44.3	+1.4
OTVZ	Oturere	2.60	20	P		Pn	14 22 44.5	+1.3
NNVZ	North Ngauruho	2.62	19	P		Pn	14 22 44.8	+1.3
KWHZ	Kaweka Forest	2.62	34	P		Pn	14 22 42.7	-0.7
TWVZ	Taurewa	2.64	15	P		Pn	14 22 45.0	+1.3
ETVZ	East Tongariro	2.64	20	P		Pn	14 22 45.1	+1.4
TMVZ	Te Maari	2.66	20	P		Pn	14 22 45.2	+1.2
KRVZ	Karewarewa	2.66	19	P		Pn	14 22 45.5	+1.5
NTVZ	North Tongarir	2.67	19	P		Pb	14 22 47.5	-1.4
MCHZ	McNeill Hill	2.73	38	P		Pn	14 22 44.0	-0.8
RACZ	Rakaia	2.75	219	P		Pn	14 22 45.1	+0.1

CKHZ	Cape Kidnapper	2.75	45	P		Pn	14 22 43.8	-1.3	
KATZ	Kakaramea	2.79	19	P		Pb	14 22 49.8	-1.2	
BKZ	Black Stump Fm	2.87	32	P		Pn	14 22 46.8	0.0	
BKZ	Black Stump Fm	2.87	32	P		Pn	14 22 46.2	-0.7	
MHCZ	Mount Hutt	2.91	228	P		Pn	14 22 47.3	0.0	
RATZ	Rangitukua	2.91	19	P		Pb	14 22 52.2	-0.8	
ARHZ	Aropaoanui	3.01	39	P		Pn	14 22 47.7	-1.0	
WACZ	Wakanui South	3.05	220	P		Pn	14 22 49.4	+0.1	
NMHZ	Naumai	3.06	35	P		Pn	14 22 49.2	-0.2	
HIZ	Hauiti	3.12	5	P		Pn	14 22 52.8	+2.6	
HIZ	Hauiti	3.12	5	P		Pn	14 22 52.2	+2.1	
MRHZ	Matea Rd	3.14	28	P		Pn	14 22 49.5	-0.9	
WVZ	Waitaha Valley	3.17	242	P		Pn	14 22 51.7	+0.9	
WHHZ	Waihua	3.27	40	P		Pn	14 22 51.4	-0.9	
MTHZ	Maungatapiri Swa	3.28	33	P		Pn	14 22 53.5	+1.1	
RPZ	Rata Peaks	3.31	230	Pn		Pn	14 22 52.9	+0.1	
	35nm,0.3s,baz=222,slow=0.5,SNR=162								
RPZ				Sn		Sn	14 23 30.6	-1.6	
	53nm,0.3s,baz=277,slow=21,SNR=12								
RPZ				LR		LR	14 24 03.2		
	comp=Z,194nm,21.3s,baz=52,slow=36 89nm,0.3s								
RPZ	Rata Peaks	3.31	230			Pn	14 22 53.4	+0.6	
RPZ	Rata Peaks	3.31	230	P		Pn	14 22 53.5	+0.6	
RPZ	Rata Peaks	3.31	230	P		Pn	14 22 52.8	+0.1	
RAHZ	Arahi	3.33	37	P		Pn	14 22 51.9	-1.3	
WPRZ	Whakapapatarin	3.34	22	P		Pn	14 22 53.6	+0.4	
ALRZ	Allen Road	3.36	25	P		Pn	14 22 53.5	+0.1	
TLZ	Tolley Road	3.38	13	P		Pn	14 22 55.6	+1.8	
ARCZ	Arundel	3.39	226	P		Pn	14 22 54.1	+0.1	
PRRZ	Plateau Road	3.43	25	P		Pn	14 22 54.3	-0.1	
RTZ	Ruatahuna	3.54	33	Pn		Pn	14 22 54.6	-1.4	
GCSZ	Gaunt Creek Bo	3.55	240	P		Pn	14 22 57.0	+1.0	
SNGZ	Shannon Statio	3.56	38	P		Pn	14 22 54.6	-1.6	
MHGZ	Mahia Peninsul	3.56	47	P		Pn	14 22 54.4	-1.9	
MUGZ	Murupara	3.58	29	P		Pn	14 22 56.9	+0.4	
RRRZ	Republican Roa	3.62	25	P		Pn	14 22 56.4	-0.6	
TMZ	Timaru	3.78	222	P		Pn	14 22 59.2	-0.1	
OMRZ	Omania	3.79	22	P		Pb	14 23 06.6	-1.2	
RIGZ	Rimuhau	3.82	41	P		Pn	14 22 57.9	-1.9	
URZ	Urewera	3.90	31	P		Pn	14 23 00.8	-0.1	
URZ	Urewera	3.90	31	P		Pn	14 22 59.3	-1.6	
KMRZ	Kaimai	3.93	16	P		Pn	14 23 03.3	+2.0	
TOZ	Tahuroa Road	3.96	11	P		Pn	14 23 02.6	+0.9	
FOZ	Fox Glacier	3.98	240	P		Pn	14 23 02.5	+0.6	
OPRZ	Ohinepanea	4.08	23	P		Pn	14 23 04.7	+1.3	
TGRZ	Tauranga	4.11	19	P		Pn	14 23 04.6	+0.8	
CNGZ	Carnagh Statio	4.21	43	P		Pn	14 23 03.4	-1.8	
LBZ	Lake Benmore	4.22	228	Pn		Pn	14 23 05.3	0.0	
LBZ	Lake Benmore	4.22	228	P		Pn	14 23 05.5	+0.2	
TWGZ	Tauwhareparae	4.34	39	P		Pn	14 23 05.1	-1.9	
RUGZ	Raukumara Rang	4.38	34	P		Pn	14 23 06.7	-0.9	
ODZ	Otahua Downs	4.44	218	P		Pn	14 23 08.1	-0.3	
ODZ	Otahua Downs	4.44	218	P		Pn	14 23 08.2	-0.1	
MKAZ	Moumakai	4.54	6	P		Pn	14 23 10.7	+1.0	
AWAZ	Awhitu Peninsu	4.56	1	P		Pn	14 23 11.9	+2.0	
HAZ	Te Kaha	4.60	34	P		Pn	14 23 09.3	-1.3	
ETAZ	East Tamaki Re	4.67	4	P		Pn	14 23 13.4	+1.8	
WTAZ	Waiatarua	4.69	0	P		Pn	14 23 14.1	+2.4	
EPAZ	Eden Park BICE	4.75	2	P		Pn	14 23 15.5	+3.0	
HBAZ	Herne Bay Bore	4.77	2	P		Pn	14 23 16.3	+3.5	
WIAZ	Waiheke Island	4.85	6	P		Pn	14 23 15.7	+1.8	
RVAZ	Riverhead Bore	4.85	0	P		Pn	14 23 16.1	+2.2	
MBAZ	Motutapu North	4.86	3	P		Pn	14 23 16.2	+2.2	
JCZ	Jackson Bay	4.89	238	P		Pn	14 23 14.5	0.0	
JCZ	Jackson Bay	4.89	238	P		Pn	14 23 14.2	-0.3	
KUZ	Kuaotunu	4.96	11	P		Pn	14 23 17.9	+2.5	
KUZ	Kuaotunu	4.96	11	P		Pn	14 23 16.3	+0.9	
MXZ	Matakaoa Point	4.99	37	P		Pn	14 23 14.5	-1.4	
ABAZ	Army Bay	5.02	3	P		Pn	14 23 18.4	+2.1	
HHSZ	Highcliff Hill	5.13	213	P		Pn	14 23 17.7	0.0	
WKZ	Wanaka	5.15	230	P		Pn	14 23 17.5	-0.6	
EAZ	Earnscleugh	5.24	225	P		Pn	14 23 19.4	0.0	
TUZ	Tuapeka	5.60	218	P		Pn	14 23 24.4	+0.2	
WCZ	Waipu Caves	5.68	358	P		Pn	14 23 27.6	+2.2	
MLZ	Mavora Lakes	5.98	229	Pn		Pn	14 23 28.5	-1.0	
MLZ	Mavora Lakes	5.98	229	P		Pn	14 23 29.3	-0.3	
SYZ	Scrubby Hill	6.26	217	P		Pn	14 23 33.8	+0.5	
SYZ	Scrubby Hill	6.26	217	P		Pn	14 23 33.9	+0.5	
WHZ	Wether Hill Ro	6.40	226	Pn		Pn	14 23 34.4	-0.8	
WHZ	Wether Hill Ro	6.40	226	P		Pn	14 23 34.5	-0.8	
OUZ	Omahuta	6.44	353	Pn		Pn	14 23 37.1	+1.3	
OUZ	Omahuta	6.44	353	P		Pn	14 23 37.2	+1.4	
OUZ	Omahuta	6.44	353	P		Pn	14 23 37.4	+1.6	
DCZ	Deep Cove	6.60	232	P		Pn	14 23 37.9	0.0	
CTZ	Chatham Island	6.85	111	P		Pn	14 23 41.6	+0.2	
CTZ	Chatham Island	6.85	111	P		Pn	14 23 41.8	+0.4	
APZ	The Paps	7.01	220	P		Pn	14 23 44.0	+0.3	
KOUNC	Koumac, New Ca	22.74	334	P		P	14 27 03.2	+0.1	
MSVF	Nonsavu	24.00	8	P		P	14 27 13.7	-2.2	
MSVF				IAmb		IAmb	14 27 24.4		
	comp=Z,22nm,1.5s								
BBOO	Bucklebon	31.67	273	P		P	14 28 21.4	-3.0	
AS31	Alice Springs	38.21	285	P		P	14 29 17.7	-3.3	
ASAR	Alice Springs	38.21	285	P		P	14 29 19.5	-1.5	
	comp=Z,2.5nm,0.5s,baz=126,slow=6.9,SNR=109								
	comp=Z,2.5nm,0.5s								
ASAR	Alice Springs	38.21	285	P		P	14 29 17.9	-3.0	
FORT	Forrest	38.62	271	P		P	14 29 22.8	-1.5	
FORT				IAmb		IAmb	14 29 43.0		
	comp=Z,13nm,0.8s								
WR0	Warramunga Arr	40.11	290	P		P	14 29 35.3	-1.6	
WR0				IAmb		IAmb	14 30 12.3		
	comp=Z,10nm,1.5s								
WB2	Warramunga Arr	40.26	290	P		P	14 29 36.1	-2.0	
WB2				IAmb		IAmb	14 29 37.3		
	comp=Z,8.6nm,0.6s								
WRA	Warramunga Arr	40.26	290	P		P	14 29 36.6	-1.5	
	comp=Z,6.2nm,0.6s,baz=127,slow=8.1,SNR=142								
	comp=Z,6.2nm,0.6s								
WRA	Warramunga Arr	40.26	290	P		P	14 29 35.0	-3.2	
WB0	Warramunga Arr	40.34	290	P		P	14 29 36.7	-2.1	
WB0				IAmb		IAmb	14 29 37.9		
	comp=Z,6.5nm,0.6s								
KNRA	Kununurra	47.05	289	P		P	14 30 32.6	-0.2	
MTN	Manton Dam	47.36	294	P		P	14 30 33.7	-1.5	
MTN				IAmb		IAmb	14 31 02.6		
	comp=Z,5.6nm,0.8s								
MORW	Morawa	48.49	265	P		P	14 30 43.6	-0.3	
QSPA	South Pole Qui	48.50	180	P		P	14 30 47.1	+3.4	
	comp=Z,3.4nm,1.0s,baz=15,slow=0.9,SNR=17								
	comp=Z,3.4nm,1.0s								
QSPA	South Pole Qui	48.50	180	P		P	14 30 46.3	+2.6	
QSPA				IAmb		IAmb	14 30 48.2		
	comp=Z,5.4nm,1.1s								
BELA	Belgrano 2	59.44	173	P		P	14 32 04.0	+0.8	
BELA				IAmb		IAmb	14 32 05.7		
	comp=Z,2.6nm,0.7s								
MAW	Mawson	59.66	204	P		P	14 32 06.7	+1.9	
	comp=Z,2.1nm,0.9s,baz=121,slow=5.9,SNR=2.6								
	comp=Z,2.1nm,0.9s								
TROLL	Troll, Antarti	66.53	183	P		P	14 32 51.3	+0.7	
SNAA	Sanae	67.00	181	P		P	14 32 55.1	+1.7	
SNAA	Sanae	67.00	181	P		P	14 32 54.4	+0.9	
SNAA				IAmb		IAmb	14 33 08.7		
	comp=Z,4.4nm,1.3s								
VNA3	Neumayer Olymp	67.40	179	P		P	14 32 57.7	+1.8	
VNA3				S		S	14 41 43.6	-7.6	
VNA2	Neumayer--Watz	67.75	179	P		P	14 32 59.8	+1.6	
	baz=167,slow=5.5								
VNA2	Neumayer--Watz	67.75	179	PP		PP	14 35 26.5	-0.4	
	baz=29,slow=3.3								
PZH	PanZhiHua	95.45	301	P		P	14 35 29.5	+3.5	
PZH				pmax		pmax			
	comp=Z,160nm,2.2s								
HHC	Hu-ho-hao-te	99.95	317	eP		Pdif	14 35 46.5	+0.7	
HHC				pmax		pmax			
	comp=Z,28nm,0.8s								
HHC				pmax		pmax			
	comp=Z,44μm,7.6s								
ARCES	ARCESS Array B	147.73	340	PKPbc		PKPdf	14 41 43.5	+1.8	
	comp=Z,20nm,1.1s,baz=44,slow=2.7,SNR=6.3								
BRTR	Keskin Array B	150.46	279	PKPbc		PKPbc	14 41 50.6	-2.0	
	comp=Z,1.7nm,0.8s,baz=90,slow=2.9,SNR=1.7								

ROM 25 14:23:37.5±0.1, 42.790N±0.004×13.132E±0.006, h10km, ML1.8/11, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=306.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	Norcia	0.05	344	⇓P	Pg	14 23 39.9	+0.3
NRCA				S	Sg	14 23 41.1	0.0
NRCA				AML	AML		
	comp=N,5510μm,0.1s						
NRCA				AML	AML		
	comp=E,3515μm,0.2s						
NRCA				AML	AML		
	comp=N,4980μm,0.1s						
NRCA				AML	AML		
	comp=E,3815μm,0.2s						
NRCA				AML	AML		
	comp=E,3510μm,0.2s						
T1245	Castelsantange	0.08	32	P	Pg	14 23 40.4	+0.3
T1245				S	Sg	14 23 42.0	+0.2
T1245				AML	AML		
	comp=E,1685μm,0.2s						
T1245				AML	AML		
	comp=N,1245μm,0.4s						
T1245				AML	AML		
	comp=E,1655μm,0.2s						
T1245				AML	AML		
	comp=N,1325μm,0.2s						
T1245				AML	AML		
	comp=N,1250μm,0.4s						
T1245				AML	AML		
	comp=N,1245μm,0.4s						
T1245				AML	AML		
	comp=N,1330μm,0.2s						
MC2	Monte Cornacci	0.13	19	P	Pg	14 23 41.3	+0.5
MC2				S	Sg	14 23 43.9	+0.8
T1216	Preci, Frazion	0.13	321	P	Pg	14 23 41.2	+0.6
T1216				S	Sg	14 23 43.6	+0.8
T1216				AML	AML		
	comp=E,260μm,1.2s						
T1216				AML	AML		
	comp=N,376μm,1.5s						
MMO1	Montemonaco	0.18	53	P	Pg	14 23 41.4	-0.1
MMO1				S	Sg	14 23 45.1	+1.0
T1215	Vallo di Nera,	0.19	274	P	Pg	14 23 42.3	+0.7
T1215				S	Sg	14 23 45.4	+0.9
LNSS	Leonessa	0.20	200	P	Pb	14 23 42.5	-0.7
LNSS				S	Sg	14 23 46.2	+1.5
LNSS				AML	AML		
	comp=N,648μm,0.1s						
LNSS				AML	AML		
	comp=E,328μm,0.2s						
T1256	Bolognola (MC)	0.23	18	AML	AML		
	comp=N,166μm,0.3s						
T1256				AML	AML		
	comp=E,120μm,0.3s						
T1256				AML	AML		
	comp=N,166μm,0.3s						
T1256				AML	AML		
	comp=E,119μm,0.3s						
T1241	Roccafluvione,	0.23	73	P	Pg	14 23 42.9	+0.6
T1241				S	Sg	14 23 46.6	+1.2
T1241				AML	AML		
	comp=E,157μm,0.1s						
T1241				AML	AML		
	comp=N,140μm,0.8s						
T1241				AML	AML		
	comp=E,157μm,0.1s						
FDMO	Fiordimonte	0.25	352	AML	AML		
	comp=N,590μm,0.4s						
FDMO				AML	AML		
	comp=E,706μm,0.7s						
T1243	Rocca Santa Ma	0.25	112	P	Pg	14 23 43.2	+0.6
T1243				S	Sg	14 23 47.4	+1.2
T1219	Muccia, Frazio	0.28	341	AML	AML		
	comp=N,295μm,0.2s						
T1219				AML	AML		
	comp=N,326μm,0.2s						
T1219				AML	AML		
	comp=E,324μm,0.3s						
T1219				AML	AML		
	comp=E,320μm,0.3s						
T1219				AML	AML		
	comp=N,326μm,0.2s						
T1219				AML	AML		
	comp=E,324μm,0.3s						
T1219				AML	AML		
	comp=N,296μm,0.2s						
RM33	Pellescritta (	0.29	168	P	Pg	14 23 43.9	+0.6
RM33				S	Sb	14 23 48.5	-1.1
RM33				AML	AML		
	comp=E,73μm,1.4s						
RM33				AML	AML		
	comp=N,95μm,1.2s						
CSP1	Cessapalombo	0.31	10	P	Pg	14 23 44.2	+0.5
CSP1				S	Sb	14 23 49.3	-1.0
GUMA	Gualdo di Mace	0.31	29	P	Pb	14 23 44.6	-0.5
GUMA				S	Sb	14 23 49.9	-0.4
GUMA				AML	AML		
	comp=E,219μm,1.4s						
GUMA				AML	AML		
	comp=N,232μm,0.3s						
T1211	Morro Reatino	0.33	219	P	Pg	14 23 44.6	+0.5
T1211				S	Sb	14 23 50.0	-0.8
ARRO	Arrone	0.34	232	⇑P	Pb	14 23 45.2	-0.5
TERO	Teramo	0.39	115	P	Pg	14 23 45.6	+0.5
ASSB	Assisi San Ben	0.43	306	P	Pg	14 23 44.8	-1.1
ASSB				AML	AML		
	comp=E,42μm,1.4s						
ASSB				AML	AML		
	comp=N,45μm,1.1s						

*MOS **25** 14:24:27.8±1.1, 39.°01N×73.°97E, h14km, mb6.5/69, MS6.6/69, Error ellipse: s-maj=4.2km s-min=2.9km az=95.2*

MOS Felt (II-III) at Almaty, Taraz, Shimkent.

*IDC **25** 14:24:27.9±0.3, 39.°19N×73.°99E, h0km, mb5.4/47, mbtmp5.5/53, ML4.9/6, MS6.4/89, Error ellipse: s-maj=8.1km s-min=7.7km az=115.0*

*NEIC **25** 14:24:29.8, 39.°27N×74.°01E, h17km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.22; Mθθ=4.42; Mφφ4.64; Mrθ=-0.32; Mθφ=-5.96; Mφr0.63; Fault plane solution: M₀7.53000×10¹⁸ NP1:φs288.50000°, δ86.43000°, λ176.30000°. NP2:φs18.73000°, δ86.31000°, λ3.58000°. Principal axes: T 7.6647, Plg5.0000°, Azm244.0000°; N -0.2834, Plg85.0000°, Azm65.0000°; P -7.3813, Plg0.0000°, Azm334.0000°;*

*NEIC **25** 14:24:30.7±1.8, 39.°27N±0.°05×73.°98E±0.°07, h17km±1km, mb6.4/223, Ms_20 6.7/462, Mwb6.5/51, Mwc6.6/121, Mww6.6 Error ellipse: s-maj=9.8km s-min=8.1km az=141.0*

*BJI **25** 14:24:30.2±0.0, 39.°20N×74.°10E, h10km, mb5.8/71, mB6.5/63, ML6.4/6, Ms6.8/71, Ms7 6.8/75*

*SOME **25** 14:24:31.7, 39.°25N×74.°27E, h5km, MS6.8*

*NNC **25** 14:24:31.6±1.6, 39.°28N×73.°92E, h0km, mb6.8, mpv6.5, Error ellipse: s-maj=14.4km s-min=9.9km az=161.0*

*KRNET **25** 14:24:31.5±0.1, 39.°23N×73.°73E, mb6.8*

*GCMT **25** 14:24:37.7±0.0, 39.°27N×74.°14E, h19km, MW6.6/176, Moment Tensor Solution. s166,c416; s176,c758; Duration: 5s1 Moment tensor: Scale 10¹⁹Nm; Mrr=0.05±.00; Mθθ-0.68±.01; Mφφ0.72±.01; Mrθ-0.12±.01; Mθφ-0.86±.00; Mφr-0.20±.01; Best double couple: M₀1.13500×10¹⁹ NP1:φs19.00000°, δ87.00000°, λ-12.00000°. NP2:φs110.00000°, δ78.00000°, λ-177.00000°. Principal axes: T 1.1470, Plg6.0000°, Azm65.0000°; N -0.0240, Plg78.0000°, Azm185.0000°; P -1.1230, Plg11.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **25** 14:24:39, 39.°67N×74.°01E, h12km, Moment Tensor Solution. Duration: 20s0 Moment tensor: Scale 10¹⁸Nm; Mrr-1.03; Mθθ-4.43; Mφφ5.46; Mrθ0.58; Mθφ-6.64; Mφr-2.61; Fault plane solution: M₀8.75000×10¹⁸ NP1: φs107.00000°, δ76.00000°, λ174.00000°. NP2: φs199.00000°, δ84.00000°, λ14.00000°. Principal axes: T 9.4384, Plg14.0000°, Azm64.0000°; N -1.6073, Plg75.0000°, Azm220.0000°; P -7.8310, Plg6.0000°, Azm332.0000°;*

*NEIC **25** 14:24:49.3, 39.°70N×73.°56E, h17km, Moment Tensor Solution. Duration: 11s2 Moment tensor: Scale 10¹⁹Nm; Mrr-0.05; Mθθ-0.54; Mφφ0.59; Mrθ-0.38; Mθφ-0.69; Mφr-0.39; Fault plane solution: M₀1.04000×10¹⁹ NP1: φs112.68000°, δ62.70000°, λ-169.64000°. NP2: φs17.89000°, δ80.80000°, λ-27.69000°. Principal axes: T 0.9639, Plg12.0000°, Azm68.0000°; N 0.1517, Plg61.0000°, Azm181.0000°; P -1.1156, Plg26.0000°, Azm332.0000°;*

ISC 25 14:24:30.4±0.2, 39.°20N±0.°02×74.°08E±0.°02, h12km±1km, h12km:pP-P, n2276, σ2s20/2732, mb6.4/402, MS6.7/404, 203C-190D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	1.50	77	Pg	Pn	14 24 50.3	-6.9
KSH				Sg	Sn	14 25 06.9	-10
KSH				smax	smax		
	comp=N,626μm,0.6s						
KSH				smax	smax		
	comp=E,730μm,1.4s						
OHH	Osh	1.65	323	⇓*i*P	Pn	14 24 58.3	-0.9
	baz=31						
OHH				⇓*i*S	Sn	14 25 18.0	-2.4
	baz=31						
OHH	Osh	1.65	323	*i* PN	Pn	14 24 57.9	-1.3
OHH				*i* S	Sb	14 25 22.1	+0.6
DRK	Karamyk	1.79	280	⇑*i*P	Pn	14 24 58.9	-2.4
	baz=80						
DRK				⇑*e*S	Sn	14 25 19.0	-5.0
	baz=80						
DRK	Karamyk	1.79	280	Pn	Pn	14 24 58.7	-2.5
BTK	Batken	2.66	290	Pn	Pn	14 25 15.1	+2.1
BTK	Batken	2.66	290	PN	Pn	14 25 15.1	+2.1
ARLS	Aral	2.66	4	⇓*e*P	Pn	14 25 14.9	+1.7
	baz=10.0						
ARLS				⇓*i*S	Sn	14 25 46.9	+1.5
	baz=10.0						
ARLS	Aral	2.66	4	*i* PN	Pn	14 25 15.2	+2.0
ARLS				*i* S	Sb	14 25 51.8	+1.1
NRN	Naryn	2.67	33	⇑*e*P	Pb	14 25 16.7	-1.6
	baz=37						
NRN				⇑*i*S	Sb	14 25 49.5	-1.6
	baz=37						
NRN	Naryn	2.67	33	Pn	Pn	14 25 15.8	+2.3
NRN	Naryn	2.67	33	PN	Pn	14 25 15.8	+2.3
AML	Almayashu	2.94	354	P	Pb	14 25 21.0	-1.9
	SNR=83						
AML	Almayashu	2.94	354	*i* PN	Pn	14 25 19.0	+1.8
AML				*i* S	Sb	14 25 58.3	-0.6
UCH	Uchtor	3.04	6	P	Pn	14 25 20.7	+2.1
	SNR=192						
UCH	Uchtor	3.04	6	⇓*e*P	Pn	14 25 20.7	+2.1
	baz=11						
UCH				⇓*e*S	Sn	14 25 56.5	+1.3
	baz=11						
UCH	Uchtor	3.04	6	*i* PN	Pn	14 25 21.1	+2.5
UCH				*i* S	Sb	14 26 02.3	+0.5
TRKS	Terek-Say	3.23	317	⇑*i*P	Pn	14 25 19.2	-1.8
	baz=20						
TRKS				⇑*i*S	Sn	14 25 54.2	-5.2
	baz=20						
TRKS	Terek-Say	3.23	317	*i* PN	Pn	14 25 19.0	-2.0
TRKS				*i* S	Sn	14 25 58.6	-0.8
AAK	Ala-Archa	3.44	5	P	Pn	14 25 26.8	+2.8
	SNR=104						
AAK	Ala-Archa	3.44	5	Pn	Pn	14 25 26.6	+2.7
	570nm,0.3s,baz=161,slow=7.1,SNR=96						
AAK				Lg	Lg	14 26 19.1	
	820nm,0.3s,baz=31,slow=19,SNR=2.0						
AAK				LR	LR	14 26 54.1	
	comp=Z,228μm,18.7s,baz=0.5,slow=42 4μm,0.6s						
AAK	Ala-Archa	3.44	5	⇑*e*P	Pn	14 25 26.1	+2.1
	baz=9.0						
AAK				⇑*e*S	Sn	14 26 05.8	+1.0
	baz=9.0						
AAK	Ala-Archa	3.44	5	Pn	Pn	14 25 26.0	+2.1
AAK	Ala-Archa	3.44	5	P	Pn	14 25 26.7	+2.8
AAK				S	Sb	14 26 12.6	-0.6
AAK	Ala-Archa	3.44	5	*i* Pb	Pb	14 25 27.9	-3.5
	SNR=127						
AAK	Ala-Archa	3.44	5	⇓P	Pn	14 25 26.9	+2.8
AAK	Ala-Archa	3.44	5	*d* iPN	Pn	14 25 26.2	+2.2
ULHL	Ulahol	3.46	28	P	Pn	14 25 27.7	+3.5
	SNR=18						
ULHL	Ulahol	3.46	28	⇑*e*P	Pn	14 25 27.5	+3.3
	baz=32						
ULHL				⇑*i*S	Sn	14 26 08.7	+3.6
	baz=32						
ULHL	Ulahol	3.46	28	*i* PN	Pn	14 25 27.3	+3.1
ULHL				*i* S	Sb	14 26 13.1	-0.5
EKS2	Erkin-Say	3.46	356	P	Pb	14 25 28.1	-3.6
	SNR=61						
EKS2	Erkin-Say	3.46	356	⇓*i*P	Pn	14 25 25.7	+1.5
	baz=1.0						
EKS2				⇓*i*S	Sn	14 26 05.2	+0.1
	baz=1.0						
EKS2	Erkin-Say	3.46	356	*i* PN	Pn	14 25 26.0	+1.8
EKS2				*i* S	Sb	14 26 10.7	-3.0
KBK	Karagaybulak	3.51	11	P	Pn	14 25 27.8	+2.9
	SNR=32						
KBK	Karagaybulak	3.51	11	⇑*e*P	Pn	14 25 27.3	+2.4
	baz=15						
KBK				⇑*i*S	Sn	14 26 07.9	+1.5
	baz=15						
KBK	Karagaybulak	3.51	11	*i* PN	Pn	14 25 27.5	+2.6
KBK				*i* S	Sb	14 26 13.9	-1.3
BOOM	Boomskoye usch	3.57	23	Pn	Pn	14 25 26.6	+0.8
BOOM	Boomskoye usch	3.57	23	PN	Pn	14 25 26.6	+0.8
MRKS	Merke	3.59	350	*e*P	Pg	14 25 39.0	-0.2
	19μm,0.8s						
MRKS				*e*S	Sg	14 26 26.9	+1.1
	93μm,0.9s						
MRKS	Merke	3.59	350	Pg	Pg	14 25 39.0	-0.2
	19μm,0.8s						
MRKS				Lg	Lg	14 26 26.9	
	93μm,0.9s						
FRU1	Bishkek	3.63	6	⇓*e*P	Pn	14 25 28.8	+2.4
	baz=10.0						
FRU1				⇓*e*S	Sn	14 26 10.7	+1.6
	baz=10.0						
FRU1	Bishkek	3.63	6	*i* PN	Pn	14 25 29.0	+2.6
FRU1				*i* S	Sb	14 26 16.4	-2.0
TARG	Taragay, Kyrgy	3.80	47	Pn	Pn	14 25 32.7	+3.6
TARG	Taragay, Kyrgy	3.80	47	PN	Pn	14 25 32.7	+3.6
CHMS	Chumysh	3.83	7	P	Pn	14 25 31.9	+2.8
	SNR=38						
CHMS	Chumysh	3.83	7	⇓*e*P	Pn	14 25 31.4	+2.3
	baz=11						
CHMS				⇓*e*S	Sn	14 26 15.1	+1.1
	baz=11						
CHMS	Chumysh	3.83	7	⇑Pn	Pn	14 25 30.9	+1.9
	4μm,0.8s						
CHMS				⇓Pg	Pg	14 25 41.4	-2.3
	16μm,1.2s						
CHMS				⇓Lg	Lg	14 26 27.6	
	10μm,0.9s						
TKM2	Tokmak 2

	49µm,0.7s									
DZA					*e*S		**Sg**	**14 26 47.7**	**+1.6**	
	98µm,1.0s									
DZA	**Taraz**	**4.23**	**331**	⇓	*i*Pn		**Pn**	**14 25 36.1**	**+1.4**	
	baz=333									
DZA					*i* Pg		**Pb**	**14 25 45.1**	**+0.5**	
	baz=333									
DZA	**Taraz**	**4.23**	**331**		*d i*PN		**Pn**	**14 25 36.0**	**+1.4**	
DZA					*i*			14 25 45.1		
DGS	**Degeres**	**4.23**	**17**		*e*P		**Pg**	**14 25 48.5**	**-3.0**	
	4µm,0.8s									
DGS					*e*S		**Sg**	**14 26 43.3**	**-3.0**	
	47µm,1.0s									
DGS	**Degeres**	**4.23**	**17**		Pg		**Pg**	**14 25 51.9**	**+0.4**	
	30µm,1.0s									
DGS					Lg		Lg	14 26 49.1		
	47µm,1.0s									
IUG	**luzhnay**	**4.25**	**315**		*e*P		**Pg**	**14 25 53.1**	**+1.2**	
	186µm,0.8s									
IUG					*e*S		**Sg**	**14 26 51.1**	**+4.2**	
	111µm,1.3s									
IUG	**luzhnay**	**4.25**	**315**	⇓	*i*Pn		**Pn**	**14 25 37.3**	**+2.2**	
	baz=316									
IUG					*i* Pg		**Pb**	**14 25 45.5**	**+0.4**	
	baz=316									
IUG	**luzhnay**	**4.25**	**315**		*d i*PN		**Pn**	**14 25 37.2**	**+2.2**	
IUG					*i*			14 25 45.5		
SGDS	**Sogindy**	**4.26**	**5**		*e*P		**Pg**	**14 25 51.3**	**-0.7**	
	11µm,0.8s									
SGDS					*e*S		**Sg**	**14 26 48.0**	**+0.7**	
	66µm,1.5s									
SGDS	**Sogindy**	**4.26**	**5**		*i* Pn		**Pn**	**14 25 37.3**	**+2.2**	
	baz=5.9									
SGDS					*i* Pg		**Pb**	**14 25 47.0**	**+1.7**	
	baz=5.9									
SGDS					*e*Sn		**Sn**	**14 26 25.7**	**+0.9**	
	baz=5.9									
SGDS					*e*Lg		Lg	14 26 46.3		
	baz=5.9									
SGDS	**Sogindy**	**4.26**	**5**		Pg		**Pg**	**14 25 52.6**	**+0.6**	
	11µm,0.8s									
SGDS					Lg		Lg	14 26 50.1		
	66µm,1.5s									
SGDS	**Sogindy**	**4.26**	**5**		*i* PN		**Pn**	**14 25 37.3**	**+2.2**	
SGDS					*i*			14 25 46.9		
MTBS	**Maitube**	**4.30**	**24**		*e*P		**Pg**	**14 25 50.4**	**-2.4**	
	11µm,0.7s									
MTBS					*e*S		**Sg**	**14 26 46.4**	**-2.2**	
	25µm,1.8s									
MTBS	**Maitube**	**4.30**	**24**		Pg		**Pg**	**14 25 50.4**	**-2.4**	
	11µm,0.7s									
MTBS					Lg		Lg	14 26 46.4		
	25µm,1.8s									
TNSS	**Tian-Shan**	**4.40**	**29**		*e*P		**Pg**	**14 25 52.2**	**-2.5**	
	11µm,0.6s									
TNSS					*e*S		**Sg**	**14 26 50.8**	**-0.9**	
	14µm,1.7s									
TNSS	**Tian-Shan**	**4.40**	**29**		*i* Pn		**Pn**	**14 25 39.6**	**+2.2**	
	baz=28									
TNSS					*e*Pg		**Pb**	**14 25 50.0**	**+2.2**	
	baz=28									
TNSS					*e*Lg		Lg	14 26 51.4		
	baz=28									
TNSS	**Tian-Shan**	**4.40**	**29**		Pg		**Pg**	**14 25 52.2**	**-2.5**	
	11µm,0.6s									
TNSS					Lg		Lg	14 26 50.8		
	14µm,1.7s									
TNSS	**Tian-Shan**	**4.40**	**29**		*i* PN		**Pn**	**14 25 39.5**	**+2.2**	
TNSS					*e*			14 25 50.0		
ANVS	**Anan'yevo**	**4.49**	**36**		PN		**Pn**	**14 25 41.7**	**+3.3**	
AAA	**Alma-Ata**	**4.54**	**27**		*e*P		**Pg**	**14 25 54.6**	**-2.6**	
	16µm,0.7s									
AAA					*e*S		**Sg**	**14 26 54.9**	**-1.2**	
	54µm,1.3s									
AAA	**Alma-Ata**	**4.54**	**27**		*e*Pn		**Pn**	**14 25 41.7**	**+2.7**	
	baz=27									
AAA					*i* Pg		**Pb**	**14 25 52.4**	**+2.4**	
	baz=27									
AAA					*e*Lg		Lg	14 26 55.2		
	baz=27									
AAA	**Alma-Ata**	**4.54**	**27**		Pg		**Pg**	**14 25 54.6**	**-2.6**	
	16µm,0.7s									
AAA					Lg		Lg	14 26 54.9		
	54µm,1.3s									
AAA	**Alma-Ata**	**4.54**	**27**		*e*PN		**Pn**	**14 25 41.6**	**+2.7**	
AAA					*i*			14 25 52.3		
MDOK	**Medeo**	**4.55**	**29**		*e*P		**Pg**	**14 25 54.8**	**-2.7**	
	7µm,0.9s									
MDOK					*e*S		**Sg**	**14 26 54.9**	**-1.5**	
	67µm,1.6s									
MDOK	**Medeo**	**4.55**	**29**		*e*Pn		**Pn**	**14 25 42.0**	**+2.8**	
	baz=28									
MDOK					*i* Pg		**Pb**	**14 25 52.5**	**+2.4**	
	baz=28									
MDOK					*e*Lg		Lg	14 26 55.2		
	baz=28									
MDOK	**Medeo**	**4.55**	**29**	⇓	Pn		**Pn**	**14 25 42.7**	**+3.6**	
	757nm,0.6s									
MDOK				⇑	Pg		**Pb**	**14 25 53.0**	**+2.9**	
	9µm,0.6s									
MDOK					Pg		**Pg**	**14 25 54.8**	**-2.7**	
	7µm,0.9s									
MDOK					Lg		Lg	14 26 54.9		
	67µm,1.6s									
MDOK	**Medeo**	**4.55**	**29**		*e*PN		**Pn**	**14 25 41.9**	**+2.8**	
MDOK					*i*			14 25 52.5		
KNDC	**Almaty**	**4.56**	**28**	⇑	Pn		**Pn**	**14 25 43.2**	**+3.9**	
	4µm,1.2s									
KNDC				⇑	Pg		**Pg**	**14 25 54.6**	**-3.2**	
	8µm,0.6s									
KNDC				⇑	Lg		Lg	14 26 56.1		
	7µm,0.6s									
KNDC	**Almaty**	**4.56**	**28**		PN		**Pn**	**14 25 43.1**	**+3.9**	
KNDC								14 25 54.5		
CHM	**Chimkent**	**4.61**	**314**		*e*P		**Pg**	**14 25 58.3**	**-0.3**	
	22µm,0.6s									
CHM					*e*S		**Sg**	**14 27 00.1**	**+1.9**	
	86µm,0.7s									
CHM	**Chimkent**	**4.61**	**314**	⇓	*i*Pn		**Pn**	**14 25 42.0**	**+2.1**	
	baz=315									
CHM					*e*Pg		**Pb**	**14 25 52.2**	**+1.1**	
	baz=315									
CHM	**Chimkent**	**4.61**	**314**		*d i*PN		**Pn**	**14 25 41.9**	**+2.1**	
CHM					*e*			14 25 52.2		
KK31	**Karatay Array**	**4.73**	**327**		Pn		**Pn**	**14 25 41.9**	**+0.4**	
KK31	**Karatay Array**	**4.73**	**327**	⇓	*i*Pn		**Pn**	**14 25 42.7**	**+1.2**	
	6µm,0.8s,baz=130,slow=12,SNR=1200									
KK31				⇓	Pg		**Pb**	**14 25 51.1**	**-2.2**	
	24µm,1.0s,baz=37,slow=48,SNR=21									
KK31				⇓	Lg		Lg	14 26 57.4		
	36µm,0.9s,baz=192,slow=39,SNR=3.8									
KK31	**Karatay Array**	**4.73**	**327**		PN		**Pn**	**14 25 41.9**	**+0.4**	
KKAR	**Karatay Array**	**4.73**	**327**	⇑	*i*P		**Pn**	**14 25 41.3**	**-0.2**	
	baz=29									
KKAR				⇑	*i*S		**Sn**	**14 26 32.5**	**-3.8**	
	baz=29									
KKAR	**Karatay Array**	**4.73**	**327**		Pn		**Pn**	**14 25 42.6**	**+1.0**	
KKAR	**Karatay Array**	**4.73**	**327**		Pn		**Pn**	**14 25 42.4**	**+0.8**	
KKAR	**Karatay Array**	**4.73**	**327**	⇓	P		**Pn**	**14 25 42.9**	**+1.4**	
KKAR	**Karatay Array**	**4.73**	**327**		PN		**Pn**	**14 25 42.6**	**+1.0**	
KUU	**Kurty**	**4.98**	**19**		*e*P		**Pg**	**14 26 03.3**	**-2.5**	
	7µm,1.0s									
KUU					*e*S		**Sg**	**14 27 08.6**	**-1.7**	
	46µm,1.8s									
KUU	**Kurty**	**4.98**	**19**		*e*Pn		**Pn**	**14 25 48.3**	**+3.4**	
	baz=19									
KUU					*e*Pg		**Pb**	**14 26 00.7**	**+3.2**	
	baz=19									
KUU					*e*Lg		Lg	14 27 10.6		
	baz=19									
KUU	**Kurty**	**4.98**	**19**		Pg		**Pg**	**14 26 03.3**	**-2.5**	
	7µm,1.0s									
KUU					Lg		Lg	14 27 08.6		
	46µm,1.8s									
KUU	**Kurty**	**4.98**	**19**		*e*PN		**Pn**	**14 25 48.3**	**+3.4**	
KUU					*e*			14 26 00.6		
SATY	**Saty**	**5.05**	**39**		*e*P		**Pg**	**14 26 04.0**	**-3.1**	
	8µm,1.0s									
SATY					*e*S		**Sg**	**14 27 09.6**	**-2.9**	
	31µm,1.7s									
SATY	**Saty**	**5.05**	**39**		*i* Pn		**Pn**	**14 25 48.4**	**+2.4**	
	baz=39									
SATY					*e*Pg		**Pb**	**14 26 01.1**	**+2.4**	
	baz=39									
SATY	**Saty**	**5.05**	**39**		Pg		**Pg**	**14 26 04.0**	**-3.1**	
	8µm,1.0s									
SATY					Lg		Lg	14 27 09.6		
	31µm,1.7s									
SATY	**Saty**	**5.05**	**39**		*i* PN		**Pn**	**14 25 48.4**	**+2.4**	
SATY					*e*			14 26 01.1		
CHKK	**Chushkaly**	**5.13**	**24**		*e*P		**Pg**	**14 26 05.3**	**-3.4**	
	4µm,0.7s									
CHKK					*e*S		**Sg**	**14 27 12.3**	**-2.9**	
	13µm,0.9s									
CHKK	**Chushkaly**	**5.13**	**24**		*e*Pn		**Pn**	**14 25 50.4**	**+3.4**	
	baz=24									
CHKK					*i* Pg		**Pb**	**14 26 03.5**	**+3.5**	
	baz=24									
CHKK	**Chushkaly**	**5.13**	**24**		Pg		**Pg**	**14 26 05.3**	**-3.4**	
	4µm,0.7s									
CHKK					Lg		Lg	14 27 12.3		
	13µm,0.9s									
CHKK	**Chushkaly**	**5.13**	**24**		*e*PN		**Pn**	**14 25 50.4**	**+3.4**	
CHKK					*i*			14 26 03.5		
ZHN	**Zhinishke**	**5.15**	**38**		*e*P		**Pg**	**14 26 05.0**	**-4.0**	
	480nm,0.3s									
ZHN					*e*S		**Sg**	**14 27 11.2**	**-4.4**	
	27µm,1.2s									
ZHN	**Zhinishke**	**5.15**	**38**		*e*Pn		**Pn**	**14 25 50.7**	**+3.3**	
	baz=38									
ZHN					*e*Pg		**Pb**	**14 26 03.9**	**+3.5**	
	baz=38									
ZHN	**Zhinishke**	**5.15**	**38**		Pg		**Pg**	**14 26 05.0**	**-4.0**	
	480nm,0.3s									
ZHN					Lg		Lg	14 27 11.2		
	27µm,1.2s									
ZHN	**Zhinishke**	**5.15**	**38**		*e*PN		**Pn**	**14 25 50.6**	**+3.3**	
ZHN					*e*			14 26 03.8		
KURS	**Kuram**	**5.27**	**34**		*e*P		**Pg**	**14 26 07.2**	**-4.2**	
	6µm,0.8s									
KURS					*e*S		**Sg**	**14 27 15.6**	**-4.0**	
	37µm,2.4s									
UZB	**Uzynbulak**	**5.43**	**42**		*e*P		**Pg**	**14 26 09.9**	**-4.4**	
	5µm,0.9s									
UZB					*e*S		**Sg**	**14 27 19.7**	**-4.9**	
	34µm,1.8s									
UZB	**Uzynbulak**	**5.43**	**42**		*e*Pn		**Pn**	**14 25 53.4**	**+2.2**	
	baz=41									
UZB					*e*Pg		**Pb**	**14 26 08.6**	**+3.5**	
	baz=41									
UZB	**Uzynbulak**	**5.43**	**42**		Pg		**Pg**	**14 26 09.9**	**-4.4**	
	5µm,0.9s									
UZB					Lg		Lg	14 27 19.7		
	34µm,1.8s									
UZB	**Uzynbulak**	**5.43**	**42**		*e*PN		**Pn**	**14 25 53.3**	**+2.2**	
UZB					*e*			14 26 08.6		
KPKS	**Kokpek**	**5.49**	**38**		*e*P		**Pg**	**14 26 11.2**	**-4.3**	
	7µm,1.4s									
KPKS					*e*S		**Sg**	**14 27 22.8**	**-3.8**	
	20µm,0.6s									
KPKS	**Kokpek**	**5.49**	**38**		*e*Pn		**Pn**	**14 25 54.4**	**+2.4**	
	baz=37									
KPKS					*i* Pg		**Pb**	**14 26 09.2**	**+3.0**	
	baz=37									
KPKS	**Kokpek**	**5.49**	**38**		Pg		**Pg**	**14 26 11.2**	**-4.3**	
	7µm,1.4s									
KPKS					Lg		Lg	14 27 22.8		
	20µm,0.6s									
KPKS	**Kokpek**	**5.49**	**38**		*e*PN		**Pn**	**14 25 54.4**	**+2.4**	
KPKS					*i*			14 26 09.2		
CHCP	**Chirah Chowk**	**5.57**	**187**		P		Pn	14 25 57.9	+4.8	
NIL	**Nilore**	**5.58**	**187**		Pn		**Pn**	**14 25 57.0**	**+3.8**	
NIL	**Nilore**	**5.58**	**187**		P		**Pn**	**14 25 56.8**	**+3.5**	
NIL	**Nilore**	**5.58**	**187**	⇓	P		**Pn**	**14 25 57.5**	**+4.3**	
NIL	**Nilore**	**5.58**	**187**		PN		**Pn**	**14 25 57.0**	**+3.8**	
CEP	**Cherat**	**5.65**	**199**		P		Pn	14 26 00.6	+6.4	
SHLS	**Shalkode**	**5.67**	**44**		*e*P		**Pg**	**14 26 18.5**	**-0.4**	
	8µm,1.1s									
SHLS					*e*S		**Sg**	**14 27 34.4**	**+2.2**	
	18µm,1.6s									
SHLS	**Shalkode**	**5.67**	**44**		*e*Pn		Pn	14 26 00.5	+6.1	
	baz=46									
SHLS					*i* Pg		**Pg**	**14 26 17.4**	**-1.4**	
	baz=46									
SHLS	**Shalkode**	**5.67**	**44**		Pg		**Pg**	**14 26 18.5**	**-0.4**	
	8µm,1.1s									
SHLS					Lg		Lg	14 27 34.4		
	18µm,1.6s									
SHLS	**Shalkode**	**5.67**	**44**		*e*PN		Pn	14 26 00.5	+6.1	
SHLS					*i*			14 26 17.3		
ARXS	**Arharly**	**5.74**	**28**		*e*P		**Pg**	**14 26 17.1**	**-3.1**	
	13µm,0.8s									
ARXS					*e*S		**Sg**	**14 27 32.8**	**-1.7**	
	9µm,1.1s									
ARXS	**Arharly**	**5.74**	**28**		Pg		**Pg**	**14 26 17.1**	**-3.1**	
	13µm,0.8s									
ARXS					Lg		Lg	14 27 32.8		
	9µm,1.1s									
ARXS	**Arharly**	**5.74**	**28**		*e*PN		**Pn**	**14 26 00.0**	**+4.6**	
PDGK	**Podgornoye**	**5.80**	**43**		Pg		**Pg**	**14 26 17.2**	**-4.1**	
	3µm,1.3s									
PDGK					Lg		Lg	14 27 32.3		
	13µm,1.7s									
PDGK	**Podgornoye**	**5.80**	**43**	⇑	Pn		**Pn**	**14 25 58.8**	**+2.5**	
	995nm,1.1s									
PDGK				⇓	Pg		**Pg**	**14 26 17.1**	**-4.3**	
	5µm,0.8s									
PDGK				⇓	Lg		Lg	14 27 35.8		
	13µm,1.0s									
PDGK	**Podgornoye**	**5.80**	**43**		PN		**Pn**	**14 25 58.7**	**+2.5**	
PDGK								14 26 14.9		
BTLS	**Baital**	**5.83**	**360**		*e*Pn		**Pn**	**14 25 58.7**	**+2.1**	
	baz=0.2									
BTLS					*i* Pg		**Pb**	**14 26 15.7**	**+3.8**	
	baz=0.2									
BTLS	**Baital**	**5.83**	**360**		*e*PN		**Pn**	**14 25 58.7**	**+2.1**	
BTLS					*i*			14 26 15.7		
KBL	**Kabul**	**6.16**	**222**		Pn		**Pn**	**14 26 04.5**	**+3.2**	
KBL	**Kabul**	**6.16**	**222**		P		**Pn**	**14 26 05.5**	**+4.2**	
	SNR=68									
KBL					P		**Pn**	**14 26 05.5**	**+4.2**	
	SNR=68									
KBL					S		**Sn**	**14 27 11.2**	**-0.6**	
KBL					S		**Sn**	**14 27 11.2**	**-0.6**	
KBL	**Kabul**	**6.16**	**222**		PN		**Pn**	**14 26 04.5**	**+3.2**	
JMU	**Jammu**	**6.51**	**174**		*e*P		**Pn**	**14 26 09.0**	**+3.1**	
TDK	**Taldyqorghan**	**6.63**	**28**		*e*P		**Pg**	**14 26 32.9**	**-4.3**	
	10µm,0.8s									
TDK					*e*S		**Sg**	**14 27 59.2**	**-3.8**	
	43µm,1.4s									
TDK	**Taldyqorghan**	**6.63**	**28**		*e*Pn		**Pn**	**14 26 10.1**	**+2.5**	
	baz=28									
TDK					*e*Pg		Pb	14 26 30.4	+4.9	
	baz=28									
TDK	**Taldyqorghan**	**6.63**	**28**		Pg		**Pg**	**14 26 32.9**	**-4.3**	
	10µm,0.8s									
TDK					Lg		Lg	14 27 59.2		
	43µm,1.4s									
TDK	**Taldyqorghan**	**6.63**	**28**		*e*PN		**Pn**	**14 26 10.0**	**+2.5**	
TDK					*e*			14 26 30.4		
DJR	**Jarkent**	**6.67**	**38**		*e*P		Pg	14 26 33.2	-4.8	
	4µm,1.4s									
DJR					*e*S		**Sg**	**14 28 00.8**	**-3.6**	
	17µm,2.4s									
DJR	**Jarkent**	**6.67**	**38**		Pg		Pg	14 26 33.3	-4.8	
	4µm,1.4s									
DJR					Lg		Lg	14 28 00.8		
	17µm,2.4s									
THW	**Thamme Wali**	**6.67**	**197**		P		**Pn**	**14 26 12.2**	**+4.0**	
BHK	**Bhakra**	**8.00**	**165**		*e*P		**Pn**	**14 26 28.2**	**+1.8**	
OTUK	**Ortayu**	**9.12**	**353**	⇓	Pn		**Pn**	**14 26 42.9**	**+1.2**	
	3µm,1.3s									
OTUK				⇑	Lg		Lg	14 29 16.6		
	10µm,1.4s									
OTUK	**Ortayu**	**9.12**	**353**		P		**Pn**	**14 26 41.9**	**+0.1**	
DDI	**Dehra Dun**	**9.44**	**159**		*e*P		**Pn**	**14 26 47.9**	**+1.6**	
DDI						IAmb	IAmb	14 27 07.4		
	comp=Z,6µm,0.5s									
DDI					*e*S		**Sn**	**14 28 33.3**	**+0.9**	
MAKZ	**Makanchi**	**9.55**	**35**		Pn		**Pn**	**14 26 50.8**	**+3.2**	
MAKZ	**Makanchi**	**9.55**	**35**	⇓	Lg		Lg	14 29 34.1		
	comp=Z,2µm,1.2s									
MAKZ	**Makanchi**	**9.55**	**35**	⇑	P		**Pn**	**14 26 51.6**	**+4.0**	
MAKZ	**Makanchi**	**9.55**	**35**		P		**Pn**	**14 26 50.8**	**+3.2**	
MK31	**Makanchi Array**	**9.68**	**36**		Pn		**Pn**	**14 26 52.8**	**+3.4**	
MK31	**Makanchi Array**	**9.68**	**36**	⇑	Pn		**Pn**	**14 26 52.4**	**+3.0**	
	comp=Z,398nm,0.8s,baz=212,slow=14,SNR=22									
MK31				⇑	Pg			14 27 28.1		
	comp=Z,4µm,1.4s,baz=222,slow=12,SNR=4.4									
MK31				⇓	Lg		Lg	14 29 37.0		
	comp=Z,7µm,1.3s,baz=226,slow=30,SNR=4.6									
MK31	**Makanchi Array**	**9.68**	**36**	*c*	*e*P		**Pn**	**14 26 52.7**	**+3.4**	
MKAR	**Makanchi Array**	**9.68**	**36**		Pn		**Pn**	**14 26 52.1**	**+2.8**	
	comp=Z,9.6nm,0.3s,baz=207,slow=12,SNR=23									
MKAR					Lg		Lg	14 29 36.6		
	comp=Z,15nm,0.3s,baz=220,slow=26,SNR=1.3									
MKAR					LR		LR	14 31 05.0		
	comp=Z,243µm,21.7s,baz=232,slow=41									
MKAR					P3KP			15 04 17.9		
	comp=Z,5.3nm,1.2s,baz=272,slow=3.2,SNR=5.5									
	comp=Z,188nm,0.9s									
MKAR	**Makanchi Array**	**9.68**	**36**		Pn		**Pn**	**14 26 53.0**	**+3.6**	
HRA	**Herat**	**10.63**	**247**		Pn		**Pn**	**14 27 01.5**	**-1.2**	
MERT	**Meerut**	**10.65**	**162**		*e*P		**Pn**	**14 27 04.1**	**+1.4**	
BHGR	**Bahadurgarh**	**10.76**	**166**		*e*P		**Pn**	**14 27 06.7**	**+2.6**	
NDI	**New Delhi**	**10.81**	**165**		*e*P		**Pn**	**14 27 05.5**	**+0.6**	
NDI					*e*P		**Pn**	**14 27 06.4**	**+1.5**	
BRZS	**Berezniki**	**10.82**	**355**		*e*Pn		**Pn**	**14 27 04.1**	**-1.0**	
	baz=356									
BRZS	**Berezniki**	**10.82**	**355**		*e*P		**Pn**	**14 27 04.0**	**-1.0**	
ASOR	**Ausora**	**10.86**	**163**		*e*P		**Pn**	**14 27 05.9**	**+0.3**	
ASOR					*e*P		**Pn**	**14 27 07.0**	**+1.4**	
PTH	**Pithoragarh**	**10.88**	**150**		*e*P		**Pn**	**14 27 07.6**	**+1.5**	
BISR	**Bishrakh**	**10.97**	**164**		*e*P		**Pn**	**14 27 08.6**	**+1.6**	
BISR					*e*P		**Pn**	**14 27 08.6**	**+1.6**	
BISR					*e*S		**Sn**	**14 29 12.5**	**+2.9**	
LGTI	**Lohaghat**	**10.98**	**151**		*e*P		**Pn**	**14 27 07.7**	**+0.5**	
LGTI					*e*S		**Sn**	**14 29 08.7**	**-1.3**	
AYAN	**Aya Nagar**	**10.99**	**166**		*e*P		**Pn**	**14 27 09.1**	**+1.8**	
AYAN					*e*P		**Pn**	**14 27 10.2**	**+2.9**	
WMQ	**Urumqi**	**11.20**	**61**		P		**Pn**	**14 27 11.5**	**+1.3**	
WMQ					PP		**PnPn**	**14 27 19.3**	**+1.3**	
WMQ					S		**Sn**	**14 29 11.3**	**-4.1**	
WMQ					pmax	pmax				
	comp=Z,570nm,0.9s									
WMQ					pmax	pmax				
	comp=Z,17µm,3.9s									
WMQ					smax	smax				
	comp=N,5µm,1.7s									
WMQ					smax	smax				
	comp=E,7µm,1.6s									
WMQ					LR	LR				
	comp=N,237µm,10.9s									
WMQ					LR	LR				
	comp=E,232µm,17.1s									
WMQ					LR	LR				
	comp=Z,203µm,23.1s									
WMQ	**Urumqi**	**11.20**	**61**		P		**Pn**	**14 27 11.6**	**+1.3**	
WMQ					PP		**PnPn**	**14 27 19.2**	**+1.3**	
WMQ					S		**Sn**	**14 29 11.3**	**-4.1**	
WMQ					pmax	pmax				
	comp=Z,570nm,0.9s									
WMQ					pmax	pmax				
	comp=Z,17µm,3.9s									
WMQ					LR	LR				
	comp=Z,237µm,10.9s									
WMQ					LR	LR				
	comp=Z,232µm,17.1s									
WMQ					LR	LR				
	comp=Z,203µm,23.1s									
SONA	**Sohna**	**11.21**	**166**		*e*P		**Pn**	**14 27 10.7**	**+0.4**	
KUDL	**Kundal**	**11.21**	**169**		*e*P		**Pn**	**14 27 11.7**	**+1.3**	
ZSN	**Zaisan**	**11.38**	**40**		*e*Pn		**Pn**	**14 27 15.6**	**+3.0**	
	baz=40									
ZSN	**Zaisan**	**11.38**	**40**		*e*P		**Pn**	**14 27 15.6**	**+3.0**	
KURBB	**Kurchatov Arra**	**11.84**	**14**		Pn		**Pn**	**14 27 19.0**	**0.0**	
	comp=Z,1.6nm,0.3s,baz=202,slow=12,SNR=6.9									
KURBB					Lg		Lg	14 30 45.4		
	comp=Z,5.9nm,0.3s,baz=205,slow=31,SNR=5.3									
KURBB					LR		LR	14 31 57.5		
	comp=Z,139µm,21.4s,baz=214,slow=38									
	comp=Z,11nm,0.5s									
KURBB	**Kurchatov Arra**	**11.84**	**14**	⇑	Pn		**Pn**	**14 27 20.2**	**+1.3**	
	comp=Z,835nm,1.1s									
KURBB				⇑	Lg		Lg	14 30 48.4		
	comp=Z,11µm,1.4s									
KURK	**Kurchatov**	**11.95**	**14**		P		Pn	14 27 26.0	+5.7	
KURK					S		**Sn**	**14 29 37.4**	**+3.9**	
KURK	**Kurchatov**	**11.95**	**14**	⇑	Pn		**Pn**	**14 27 23.2**	**+2.8**	
	comp=Z,564nm,1.2s									
KURK				⇑	Lg		Lg	14 30 48.0		
	comp=Z,15µm,1.2s									
KURK	**Kurchatov**	**11.95**	**14**	⇑	*e*P		**Pn**	**14 27 22.6**	**+2.2**	
JASL	**Jaisalmer**	**12.53**	**193**		*e*P		**Pn**	**14 27 27.8**	**-0.7**	
JASL					*e*P		**Pn**	**14 27 28.3**	**-0.2**	
GEYT	**Alibeck**	**12.56**	**269**		Pn		**Pn**	**14 27 26.2**	**-2.7**	
	comp=Z,18nm,0.3s,baz=98,slow=8.0,SNR=35									
GEYT					Sn		**Sn**	**14 29 56.1**	**+7.5**	
	comp=Z,70nm,0.3s,baz=84,slow=15,SNR=5.0									
GEYT					LR		LR	14 32 59.6		
	comp=Z,111µm,21.2s,baz=72,slow=41									
	comp=Z,82nm,0.5

GTK	Tadong	16.95	130	eP		Pn	14 28 25.5	-1.9
LSA	Lhasa	16.95	119			Pn	14 28 27.7	-0.1
LSA	Lhasa	16.95	119	P		Pn	14 28 28.3	+0.5
LSA				S		Sn	14 31 34.1	-2.2
LSA				pmax	pmax			
	comp=Z,71nm,1.1s							
LSA				LR	LR			
	comp=Z,633µm,22.1s							
LSA				LR	LR			
	comp=Z,108µm,14.7s							
LSA	Lhasa	16.95	119	P		Pn	14 28 27.7	-0.1
LSA				pmax	pmax			
	comp=Z,617nm,1.1s							
NGCH	Negor - Chabah	17.59	222	P		Pn	14 28 34.7	-0.5
	SNR=166							
NGCH				S		Sn	14 31 51.6	+0.5
BOK	Bokaro	18.34	143	eP		Pn	14 28 43.2	-1.3
BOK				IAmb	IAmb		14 28 57.3	
	comp=Z,10µm,1.8s							
BLSP	Bilaspur	18.36	156	eP		Pn	14 28 43.5	-1.3
NGP	Nagpur	18.50	165	eP		P	14 28 43.4	-3.0
AKL	Akola	18.61	171	eP		P	14 28 46.1	-1.5
DHUB	DHUBRI	18.74	130	eP		P	14 28 47.5	-1.4
DHUB				IAmb	IAmb		14 29 03.7	
	comp=Z,2µm,0.9s							
JASK	Jask - Hormozg	19.03	230	P		P	14 28 50.6	-1.6
	SNR=44							
JASK				S		Sn	14 32 21.1	-4.9
JHSG	JHARSUGUGA	19.27	152	eP		Pn	14 28 56.7	+0.9
GUWA	GUWAHATI	19.66	126	eP		P	14 28 59.2	+0.2
GUWA				IAmb	IAmb		14 29 15.1	
	comp=Z,2µm,1.1s							
SVE	Sverdlovsk	19.73	338	ceP		P	14 28 58.6	-1.0
SVE				eS		Sn	14 32 43.1	+0.8
SVE				pmax	pmax			
	comp=Z,4µm,1.4s							
SVE				MLR	MLR			
	comp=N,91µm,8.0s							
SVE				MLR	MLR			
	comp=Z,143µm,9.0s							
SVE				MLR	MLR			
	comp=E,154µm,9.0s							
GTA	Gaotai	19.90	81	⇑P		Pn	14 29 03.8	+0.4
GTA				pP		pP	14 29 07.4	+0.9
GTA				sP		sP	14 29 11.5	+2.9
GTA				PP		P	14 29 26.7	+25
GTA				S		Sn	14 32 49.6	+2.5
GTA				sS		sS	14 32 56.1	+3.0
GTA				pmax	pmax			
	comp=E,850nm,1.3s							
GTA				pmax	pmax			
	comp=E,34µm,5.8s							
GTA				LR	LR			
	comp=E,317µm,14.9s							
GTA				LR	LR			
	comp=E,173µm,15.6s							
GTA				LR	LR			
	comp=E,285µm,16.0s							
BANOM	Banah	19.95	234	P		P	14 28 59.9	-2.4
	SNR=42							
BANOM				P		P	14 28 59.9	-2.4
	SNR=42							
BANOM				S		S	14 32 41.8	-4.7
BANOM				S		S	14 32 41.8	-4.7
BANOM	Banah	19.95	234	iP		P	14 28 59.9	-2.4
	SNR=14							
SHME	Shamm	19.96	234	P		P	14 29 00.8	-1.6
	SNR=25							
SHME				P		P	14 29 00.8	-1.6
	SNR=25							
SHME				S		S	14 32 39.9	-6.7
SHME				S		S	14 32 39.9	-6.7
SHME	Shamm	19.96	234	iP		P	14 28 59.6	-2.7
	SNR=14							
KNGR	Kungurtug, Tuv	20.05	48	ciP		Pn	14 29 04.8	-0.3
KNGR				pmax	pmax			
	comp=Z,991nm,1.0s							
ARU	Arti	20.05	334	P		P	14 29 02.4	-0.7
	comp=Z,215nm,0.7s,baz=165,slow=7.3,SNR=21							
ARU				LR	LR		14 37 39.2	
	comp=Z,143µm,19.1s,baz=136,slow=40							
	comp=Z,215nm,0.7s							
ARU	Arti	20.05	334			P	14 29 01.4	-1.7
ARU				IAmb	IAmb		14 29 13.9	
	comp=Z,3µm,1.0s							
ARU	Arti	20.05	334	⇓P		P	14 29 02.9	-0.3
ARU	Arti	20.05	334	diP		P	14 29 01.1	-2.1
ARU				PPP	PPP		14 29 24.4	
ARU				S		S	14 32 48.9	+0.8
ARU				SSS	SSS		14 33 14.2	
ARU				pmax	pmax			
	comp=Z,225nm,1.0s							
ARU				MLR	MLR			
	comp=Z,172µm,18.0s							
TEZP	TEZPUR	20.07	123	eP		P	14 29 03.0	-0.5
TEZP				IAmb	IAmb		14 29 20.6	
	comp=Z,3µm,1.2s							
TEZP				eS		S	14 32 48.0	-0.8
ZIRO	ZIRO	20.16	119	eP		P	14 29 05.0	+0.3
ZIRO				IAmb	IAmb		14 29 13.9	
	comp=Z,1µm,1.0s							
AKT	Akhty	20.19	285	eP		P	14 29 04.6	-0.3
AKT				e			14 29 20.2	
AKT				eS		Sn	14 32 53.6	-0.3
AKT				eSS		SnSn	14 33 10.7	+2.5
AKT				pmax	pmax			
	comp=Z,1µm,1.0s							
SHL	Shillong	20.23	127			P	14 29 02.7	-2.7
SHL				IAmb	IAmb		14 29 15.9	
	comp=Z,3µm,1.2s							
SHL	Shillong	20.23	127	P		P	14 29 03.9	-1.5
	SNR=291							
SHL	Shillong	20.23	127	P		P	14 29 02.7	-2.7
SHL				pmax	pmax			
	comp=Z,3µm,1.2s							
ITAN	ITANAGAR	20.32	120	eP		Pn	14 29 07.5	-0.9
ITAN				eS		S	14 32 55.4	+1.4
MAK	Makhachkala	20.34	289	diP		P	14 29 05.6	-0.8
MAK				eS		S	14 32 55.2	+1.1
MAK				pmax	pmax			
	comp=Z,30µm,3.2s							
MAK				pmax	pmax			
	comp=Z,5µm,1.6s							
MDH	Madha	20.40	232	P		P	14 29 04.0	-3.1
	SNR=34							
MDH				P		P	14 29 04.0	-3.1
	SNR=34							
MDH				S		S	14 32 48.9	-6.5
MDH				S		S	14 32 48.9	-6.5
MDH	Madha	20.40	232	iP		P	14 29 04.9	-2.3
	SNR=16							
MASF	Masafi	20.43	233	P		P	14 29 05.1	-2.5
	SNR=42							
MASF				S		S	14 32 51.2	-5.0
MSFE	Esma-Masafi	20.44	233	iP		P	14 29 07.0	-0.6
	SNR=27							
UMQ	Umm Al-Quwin	20.63	234	P		P	14 29 09.2	-0.5
	SNR=17							
UMQ				P		P	14 29 09.2	-0.5
	SNR=17							
UMQ				S		S	14 32 59.9	-0.1
UMQ				S		S	14 32 59.9	-0.1
UMQ	Umm Al-Quwin	20.63	234	iP		P	14 29 09.1	-0.5
	SNR=19							
WSAR	Wadi Sarin	20.63	224	P		P	14 29 08.9	-0.8
	comp=Z,716nm,1.1s,baz=63,slow=8.1,SNR=111							
	comp=Z,716nm,1.1s							
BIDO	Bidbid	20.68	226	P		P	14 29 08.6	-1.6
	SNR=48							
BIDO				S		S	14 32 58.1	-3.0
UOSS	Minazif	20.72	232			P	14 29 07.0	-3.6
UOSS				IAmb	IAmb		14 29 25.9	
	comp=Z,2µm,1.4s							
UOSS	Minazif	20.72	232	P		P	14 29 08.3	-2.3
UOSS				P		P	14 29 08.3	-2.3
UOSS				S		S	14 32 58.4	-3.3
UOSS				S		S	14 32 58.4	-3.3
UOSS	Minazif	20.72	232	iP		P	14 29 07.8	-2.8
	SNR=21							
UOSS	Minazif	20.72	232	⇑P		P	14 29 07.3	-3.3
HATD	Hatta, Dubai	20.85	232	P		P	14 29 09.1	-2.9
	SNR=63							
HATD				P		P	14 29 09.1	-2.9
	SNR=63							
HATD				S		S	14 32 59.3	-5.1
HATD				S		S	14 32 59.3	-5.1
HATD	Hatta, Dubai	20.85	232	iP		P	14 29 09.9	-2.2
	SNR=33							
DIBR	DIBRUGARH	20.92	118	eP		Pn	14 29 14.5	-0.8
DIBR				IAmb	IAmb		14 29 25.8	
	comp=Z,3µm,1.0s							
JORH	JORHAT	20.94	120	eP		P	14 29 13.9	+0.9
WBK	Wadi Bani Khal	20.96	222	P		P	14 29 13.3	0.0
	SNR=96							
WBK				P		P	14 29 13.3	0.0
	SNR=96							
WBK				P		P	14 29 13.3	0.0
	SNR=96							
WBK				S		S	14 33 05.1	-1.6
WBK				S		S	14 33 05.1	-1.6
WBK				S		S	14 33 05.1	-1.6
ASHO	Ashiyiah	21.00	232	P		P	14 29 12.6	-1.0
	SNR=88							
ASHO				P		P	14 29 12.6	-1.0
	SNR=88							
ASHO				S		S	14 33 03.2	-4.2
ASHO				S		S	14 33 03.2	-4.2
ASHO	Ashiyiah	21.00	232	iP		P	14 29 11.5	-2.2
	SNR=65							
NAZ	Nazwa, Dubai	21.02	233	P		P	14 29 12.3	-1.5
	SNR=60							
NAZ				P		P	14 29 12.3	-1.5
	SNR=60							
NAZ				S		S	14 33 04.6	-3.1
NAZ				S		S	14 33 04.6	-3.1
NAZ	Nazwa, Dubai	21.02	233	iP		P	14 29 11.6	-2.3
	SNR=18							
SMDO	Samad	21.09	225	P		P	14 29 14.0	-0.8
	SNR=86							
SMDO				P		P	14 29 14.0	-0.8
	SNR=86							
SMDO				S		S	14 33 05.3	-4.1
SMDO				S		S	14 33 05.3	-4.1
HOQ	Hoqain	21.09	227	P		P	14 29 12.8	-1.9
	SNR=63							
HOQ				P		P	14 29 12.8	-1.9
	SNR=63							
HOQ				S		S	14 33 07.2	-2.0
HOQ				S		S	14 33 07.2	-2.0
FAQ	Al Faqa, Dubai	21.24	233	P		P	14 29 14.6	-1.7
	SNR=68							
FAQ				P		P	14 29 14.6	-1.7
	SNR=68							
FAQ				S		S	14 33 08.3	-3.8
FAQ				S		S	14 33 08.3	-3.8
FAQ	Al Faqa, Dubai	21.24	233	iP		P	14 29 15.5	-0.8
	SNR=90							
SILR	SILCHAR	21.36	127	eP		P	14 29 18.9	+1.3
SILR				IAmb	IAmb		14 29 30.9	
	comp=Z,15µm,1.5s							
SILR				eS		S	14 33 16.4	+1.9
BWNR	Bhubaneshwar	21.38	148	eP		P	14 29 19.0	+1.2
MOKO	MOKOCHONG	21.40	121	eP		P	14 29 18.4	+0.3
MOKO				IAmb	IAmb		14 29 30.7	
	comp=Z,7µm,1.0s							
RAGD	RAYAGADA	21.48	155	eP		P	14 29 19.8	+0.9
ASUD	Al Ashush, Dub	21.49	233	P		P	14 29 17.9	-1.0
	SNR=27							
ASUD				P		P	14 29 17.9	-1.0
	SNR=27							
ASUD				S		S	14 33 12.5	-4.6
ASUD				S		S	14 33 12.5	-4.6
ASUD	Al Ashush, Dub	21.49	233	iP		P	14 29 19.5	+0.6
	SNR=16							
KOHI	KOHIMA	21.54	123	eP		P	14 29 18.8	-0.7
KOHI				IAmb	IAmb		14 29 30.7	
	comp=Z,9µm,1.2s							
KOHI				eS		S	14 33 20.6	+2.4
GROC	Groznyy	21.60	290	eP		P	14 29 20.6	+0.6
GROC				e			14 29 39.6	
GROC				eS		Sn	14 33 24.5	-3.2
JMDO	Jabal Madar	21.62	224	P		P	14 29 20.2	-0.2
	SNR=124							
JMDO				P		P	14 29 20.2	-0.2
	SNR=124							
JMDO				S		S	14 33 18.6	-1.1
JMDO				S		S	14 33 18.6	-1.1
ALNE	Al Ain	21.65	231	P		P	14 29 19.1	-1.6
	SNR=57							
ALNE				P		P	14 29 19.1	-1.6
	SNR=57							
ALNE				S		S	14 33 18.4	-1.9
ALNE				S		S	14 33 18.4	-1.9
ALNE	Al Ain	21.65	231	iP		P	14 29 20.6	0.0
	SNR=40							
LKP	Lekhapani	21.65	117	eP		P	14 29 20.4	-0.3
LKP				IAmb	IAmb		14 29 34.9	
	comp=Z,2µm,0.8s							
LKP				eS		S	14 33 17.9	-2.4
ARQ	Araqi	21.74	228	P		P	14 29 20.8	-0.8
	SNR=94							
ARQ				P		P	14 29 20.8	-0.8
	SNR=94							
ARQ				S		S	14 33 21.6	-0.4
ARQ				S		S	14 33 21.6	-0.4
AJN	Ajban	21.75	233	P		P	14 29 20.0	-1.7
	SNR=27							
AJN				P		P	14 29 20.0	-1.7
	SNR=27							
AJN				S		S	14 33 20.9	-1.2
AJN				S		S	14 33 20.9	-1.2
AJN	Ajban	21.75	233	iP		P	14 29 20.3	-1.4
	SNR=11							
BSY	Bisya	21.82	226	P		P	14 29 22.1	-0.3
	SNR=102							
BSY				P		P	14 29 22.1	-0.3
	SNR=102							
BSY				P		P	14 29 22.1	-0.3
	SNR=102							
BSY				S		S	14 33 20.9	-2.6
BSY				S		S	14 33 20.9	-2.6
BSY				S		S	14 33 20.9	-2.6
KAD	Karad	21.82	180	eP		P	14 29 23.1	+0.6
IMP	Imphal	22.05	125	eP		P	14 29 25.8	+0.7
IMP				IAmb	IAmb		14 29 36.4	
	comp=Z,3µm,1.0s							
IMP				eS		S	14 33 25.8	-2.3
HYBB	Hyderabad (bro	22.05	169	eP		P	14 29 24.0	-1.0
HYBB				eS		S	14 33 23.4	-4.7
HYBB				IVMs_BB	IVMs_BB		14 38 06.5	
	comp=Z,90µm,11.0s							
BRDH	Bariadhala	22.26	133	P		P	14 29 28.4	+1.2
	comp=Z,328nm,0.5s,baz=340,slow=3.4,SNR=64							
BRDH				LR	LR		14 39 43.8	
	comp=Z,134µm,20.9s,baz=330,slow=41							
	comp=Z,328nm,0.5s							
MOY	Mondy	22.48	48	eP		P	14 29 29.8	+0.3
MOY				pmax	pmax			
	comp=Z,2µm,2.4s							
BELG	Belogornoye	22.52	315	P		P	14 29 27.8	-1.9
	comp=Z,1µm,0.9s,baz=5.5,slow=1.8,SNR=35							
BELG				LR	LR		14 39 38.6	
	comp=Z,149µm,18.5s,baz=109,slow=40							
	comp=Z,1µm,0.9s							
BELG	Belogornoye	22.52	315	diP		P	14 29 28.1	-1.6
BELG				pmax	pmax			
	comp=Z,1µm,1.1s							
BELG				MLR	MLR			
	comp=Z,15µm,11.0s							
GNI	Garni	22.56	282	P		P	14 29 28.8	-1.6
	comp=Z,108nm,0.7s,baz=356,slow=0.8,SNR=26							
GNI				LR	LR		14 41 00.4	
	comp=Z,22µm,20.4s,baz=106,slow=44							
	comp=Z,108nm,0.7s							
GNI	Garni	22.56	282	P		P	14 29 30.4	0.0
GNI	Garni	22.56	282	P		P	14 29 31.2	+0.7
GNI				P		P	14 29 31.2	+0.7
GNI				S		S	14 33 41.5	+3.9
GNI				S		S	14 33 41.5	+3.9
GNI	Garni	22.56	282	P		P	14 29 30.9	+0.4
GNI	Garni	22.56	282	⇑P		P	14 29 30.9	+0.4
GNI	Garni	22.56	282	ciP		P	14 29 31.0	+0.5
GNI				pmax	pmax			
	comp=Z,1µm,1.3s							
GNI				MLR	MLR			
	comp=Z,47µm,11.0s							
MHTO	MHTO	22.82	222	P		P	14 29 32.7	-0.5
	SNR=129							
MHTO				P		P	14 29 32.7	-0.5
	SNR=129							
MHTO				P		P	14 29 32.7	-0.5
	SNR=129							
MHTO				S		S	14 33 43.2	+1.0
MHTO				S		S	14 33 43.2	+1.0
MHTO				S		S	14 33 43.2	+1.0
JRN	Qarnain Island	22.85	238	P		P	14 29 30.5	-2.9
JRN				P		P	14 29 30.5	-2.9
JRN				S		S	14 33 41.4	-1.4
JRN				S		S	14 33 41.4	-1.4
ZEI	Tsey	22.99	289	eP		P	14 29 33.2	-1.9
ZEI				pmax	pmax			
	comp=Z,1µm,1.3s							
UMZA	Um Al Zommool	23.02	230	P		P	14 29 32.8	-2.4
UMZA				P		P	14 29 32.8	-2.4
UMZA				S		S	14 33 43.7	-1.9
UMZA				S		S	14 33 43.7	-1.9
MZWR	Madinat Zayed	23.02	234	P		P	14 29 31.9	-3.4
MZWR				P		P	14 29 31.9	-3.4
MZWR				P		P	14 29 31.9	-3.4
MZWR				S		S	14 33 43.9	-1.8
MZWR				S		S	14 33 43.9	-1.8
MZWR				S		S	14 33 43.9	-1.8
SAIH	SAIHA	23.19	130	eP		P	14 29 37.7	+0.6
SAIH				IAmb	IAmb		14 29 55.3	
	comp=Z,4µm,1.2s							
NCK	Nalchik	23.21	291	deP		P	14 29 36.0	-1.1
NCK				pmax	pmax			
	comp=Z,461nm,0.8s							
NCK				MLR	MLR			
	comp=Z,66µm,9.0s							
VJD	Vijayawada	23.32	164	eP		P	14 29 40.9	+2.6
ONI	Oni	23.33	288	P		P	14 29 37.5	-0.8
ONI	Oni	23.33	288	P		P	14 29 37.6	-0.8
ONI				pmax	pmax			
	comp=Z,5µm,1.0s							
ZAK	Zakamensk	23.39	52	eP		P	14 29 39.4	+0.4
ZAK				pmax	pmax			
	comp=Z,609nm,1.6s							
SHMA	Al-Shehemyia	23.52	242	P		P	14 29 38.8	-1.4
SHMA				S		S	14 33 51.0	-2.8
GHWR	Ruwais	23.52	236	P		P	14 29 37.4	-2.9
GHWR				P		P	14 29 37.4	-2.9
GHWR				P		P	14 29 37.4	-2.9
GHWR				S		S	14 33 51.5	-2.4
GHWR				S		S	14 33 51.5	-2.4
GHWR				S		S	14 33 51.5	-2.4
KBZ	Khabaz	23.72	291	P		P	14 29 39.6	-2.4
	comp=Z,75nm,0.9s,baz=73,slow=3.0,SNR=12							
KBZ				LR	LR		14 41 18.4	
	comp=Z,48µm,19.0s,baz=94,slow=43							
	comp=Z,75nm,0.9s							
KBZ	Khabaz	23.72	291	ciP		P	14 29 39.8	-2.2
KBZ				pmax	pmax			
	comp=Z,2µm,1.1s							
KBZ				MLR	MLR			
	comp=Z,41µm,10.0s							
LZH	Lanzhou	23.73	88	⇑iP		P	14 29 44.0	+1.6
LZH				pP	pP		14 29 47.8	+0.5
LZH				sP	sP		14 29 49.5	+0.1
LZH				PP			14 30 18.5	
LZH				S		S	14 33 50.3	-7.2
LZH				sS	pS		14 34 00.0	-2.9
LZH				SS	Sn		14 34 44.5	+26
LZH				pmax	pmax			
	comp=Z,2µm,1.1s							
LZH				pmax	pmax			
	comp=Z,17µm,4.6s							
LZH				LR	LR			
	comp=N,1097µm,17.5s							
LZH				LR	LR			
	comp=E,339µm,17.5s							
LZH				LR	LR			
	comp=Z,325µm,19.2s							
LZH	Lanzhou	23.73	88	⇑iP		P	14 29 44.1	+1.6
LZH				sP	sP		14 29 49.5	+0.1
LZH				PP		PnPn	14 30 18.4	+8.6
LZH				S		S	14 33 50.3	-7.2
LZH				sS	pS		14 34 00.0	-2.9
LZH				SS		SnSn	14 34 44.4	+9.2
LZH				pmax	pmax			
	comp=Z,2µm,1.1s							
LZH				pmax	pmax			
	comp=Z,17µm,4.6s							
LZH				LR	LR			
	comp=Z,339µm,17.5s							
LZH				LR	LR			
	comp=Z,325µm,19.2s							
SAKB	Bahrain	23.73	243	P		P	14 29 41.6	-0.7
SAKB				S		S	14 33 56.3	-1.0
KARS	Kars	23.76	283	P		P	14 29 42.1	-0.6
KARS	Kars	23.76	283	P		P	14 29 42.1	-0.6
MZR	Muzera	23.83	233	P		P	14 29 40.1	-3.2
	SNR=28							
MZR				S		S	14 33 58.7	-0.2
MZR	Muzera	23.83	233	iP		P	14 29 41.5	-1.7
	SNR=14							
NEY	Neytrino	23.85	290	diP		P	14 29 43.7	+0.1
NEY				pmax	pmax			
	comp=Z,859nm,1.6s							
NEY				MLR	MLR			
	comp=Z,16µm,14.0s							
KVAR	Kislovodsk Arr	23.87	292	LR	LR		14 39 38.5	
	comp=Z,127µm,18.7s,baz=160,slow=38							
KIV	Kislovodsk	23.87	292	P		P	14 29 42.0	-1.7
KIV				IAmb	IAmb		14 30 06.3	
	comp=Z,1µm,1.0s							
KIV	Kislovodsk	23.87	292	P		P	14 29 43.2	-0.5
KIV				P		P	14 29 43.2	-0.5
KIV				S		S	14 34 00.9	+1.4
KIV				S		S	14 34 00.9	+1.4
KIV	Kislovodsk	23.87	292	iP		P	14 29 41.7	-2.0
	SNR=65							
KIV	Kislovodsk	23.87	292	⇑P		P	14 29 42.0	-1.7
KIV	Kislovodsk	23.87	292	eP		P	14 29 41.1	-2.6
KIV				eS		S	14 33 58.5	-1.0
KIV				pmax	pmax			
	comp=Z,431nm,4.6s							
KIV				pmax	pmax			
	comp=Z,860nm,1.0s							
KIV				MLR	MLR			
	comp=Z,33µm,14.0s							
DQM	DQM	23.92	221	P		P	14 29 43.3	-0.9
	SNR=37							
DQM				P		P	14 29 43.3	-0.9
	SNR=37							
DQM				S		S	14 34 00.2	-0.2
DQM				S		S	14 34 00.2	-0.2
GEVA	Gevas	24.15	278	P		P	14 29 46.2	-0.2
SLWR	Sila	24.22	238	P		P	14 29 45.4	-1.5
SLWR				P		P	14 29 45.4	-1.5
SLWR				P		P	14 29 45.4	-1.5
SLWR				S		S	14 34 01.6	-3.4
SLWR				S		S	14 34 01.6	-3.4
SLWR				S		S	14 34 01.6	-3.4
SMRA	Abu-Samra	24.34	241	P		P	14 29 47.1	-0.9
SMRA				S		S	14 34 07.0	+0.1
IRK	Irkutsk	24.58	48	eP		P	14 29 50.1	+0.1
IRK				pmax	pmax			
	comp=Z,2µm,1.7s							
SONM	Songino Array	24.83	59	P		P	14 29 52.0	-0.4
	comp=Z,60nm,0.8s,baz=264,slow=9.8,SNR=75							
	comp=Z,60nm,0.8s							
SONM	Songino Array	24.83	59	P		P	14 29 51.8	-0.7
I34MN	SONGINO INFRAS	24.83	59	I		I	16 49 00.0	
	baz=255,slow=321,SNR=0.7							
GURO	Guroymak-BITLI	24.89	279	P		P	14 29 52.8	-0.3
TNCH	TengChong	24.97	117	⇓P		P	14 29 54.3	+0.3
TNCH				pP	pP		14 29 58.0	-0.9
TNCH				sP	sP		14 30 00.5	-0.5
TNCH				PP		PnPn	14 30 31.3	+4.3
TNCH				S		S	14 34 13.3	-4.2
TNCH				sS	sS		14 34 26.0	+0.3
TNCH				pmax	pmax			
	comp=Z,420nm,0.9s							
TNCH				pmax	pmax			
	comp=Z,10µm,3.0s							
TNCH				LR	LR			
	comp=N,220µm,22.9s							
TNCH				LR	LR			
	comp=E,144µm,22.5s							
TNCH				LR	LR			
	comp=Z,159µm,17.2s							
TNCH	TengChong	24.97	117	⇓P		P	14 29 54.2	+0.3
TNCH				pP	pP		14 29 58.0	-0.9

TNCH sP sP 14 30 00.5 -0.5
TNCH PP **PnPn** **14 30 31.2 +4.3**
TNCH S **S** **14 34 13.3 -4.2**
TNCH sS sS 14 34 26.1 +0.4
TNCH pmax pmax
comp=Z,420nm,0.9s
TNCH pmax pmax
comp=Z,10μm,3.0s
TNCH LR LR
comp=Z,220μm,22.9s
TNCH LR LR
comp=Z,144μm,22.5s
TNCH LR LR
comp=Z,159μm,17.2s
KIRV Kirov 25.02 329 P **P** **14 29 53.2 -0.7**
comp=Z,389nm,0.6s,baz=122,slow=4.1,SNR=38
KIRV LR LR 14 40 37.7
comp=Z,262μm,18.9s,baz=126,slow=39
comp=Z,389nm,0.6s
KIRV Kirov 25.02 329*ce*P **P** **14 29 53.1 -0.8**
ULN Ulaanbaatar 25.27 59 IAMs_20 IAMs_20 14 41 10.2
comp=Z,196μm,21.0s
MND Mandalay 25.45 126 P **P** **14 29 58.7 +0.6**
VRH Novokhopyorsk 25.54 309 *e*P **P** **14 29 57.5 -1.2**
VRH *e* 14 30 02.0
VRH *e*S **S** **14 34 21.9 -4.0**
VRH pmax pmax
comp=Z,760nm,0.9s
VRH smax smax
comp=N,13μm,9.4s
VRH MLR MLR
comp=Z,211μm,14.0s
CD2 Chengdu 25.58 100 P **P** **14 30 00.0 +0.7**
CD2 S **S** **14 34 26.0 -1.0**
CD2 pmax pmax
comp=Z,860nm,1.0s
CD2 pmax pmax
comp=Z,13μm,6.3s
CD2 LR LR
comp=N,217μm,17.1s
CD2 LR LR
comp=E,126μm,13.3s
CD2 LR LR
comp=Z,143μm,14.2s
CD2 Chengdu 25.58 100 P **P** **14 30 00.1 +0.7**
CD2 S **S** **14 34 26.0 -1.0**
CD2 pmax pmax
comp=Z,860nm,1.0s
CD2 pmax pmax
comp=Z,13μm,6.3s
CD2 LR LR
comp=Z,217μm,17.1s
CD2 LR LR
comp=Z,126μm,13.3s
CD2 LR LR
comp=Z,143μm,14.2s
KOPT Kop Dagi 25.80 283 P **P** **14 30 02.1 +0.6**
KOPT IAmb IAmb 14 30 17.7
comp=Z,2μm,1.1s
SOC Sochi 26.03 291*c* *i*P **P** **14 30 01.8 -1.4**
SOC *e*PPP PPP 14 30 44.3
SOC *e*S **S** **14 34 34.5 +0.7**
SOC *e*SS 14 35 30.4
SOC *e*SSS SSS 14 35 50.1
SOC pmax pmax
comp=Z,1μm,1.3s
SOC MLR MLR
comp=Z,45μm,19.0s
MARD Mardin 26.13 276 P **P** **14 30 03.7 -0.7**
MNGI Mangalore 26.17 178 *e*P **P** **14 30 07.7 +3.1**
KTUT Trabzon 26.21 285 ⇑P **P** **14 30 06.5 +1.6**
PZH PanZhiHua 26.36 110 P **P** **14 30 07.0 +0.5**
PZH pP **pP** **14 30 11.3 -0.1**
PZH S **S** **14 34 42.0 +2.6**
PZH PcS **PcS** **14 37 12.3 -1.3**
PZH PanZhiHua 26.36 110 ScS ScS 14 41 00.5 -1.6
PZH pmax pmax
comp=Z,440nm,1.4s
PZH pmax pmax
comp=Z,11μm,8.6s
PZH LR LR
comp=N,343μm,22.0s
PZH LR LR
comp=E,224μm,21.8s
PZH LR LR
comp=Z,187μm,20.2s
PZH PanZhiHua 26.36 110 P **P** **14 30 06.9 +0.5**
PZH pP **pP** **14 30 11.3 -0.1**
PZH S **S** **14 34 42.1 +2.6**
PZH PcS **PcS** **14 37 12.2 -1.3**
PZH ScS **ScS** **14 41 00.5 -1.6**
PZH pmax pmax
comp=Z,440nm,1.4s
PZH pmax pmax
comp=Z,11μm,8.6s
PZH LR LR
comp=Z,224μm,21.8s
PZH LR LR
comp=Z,187μm,20.2s
DOK Doka 26.83 226 P **P** **14 30 09.7 -0.9**
SNR=63
DOK P **P** **14 30 09.7 -0.9**
SNR=63
DOK P **P** **14 30 09.7 -0.9**
SNR=63
DOK S **S** **14 34 48.1 +1.5**
DOK S **S** **14 34 48.1 +1.5**
DOK S **S** **14 34 48.1 +1.5**
VSR Storozhevoye 27.11 308 *e*P **P** **14 30 11.3 -1.5**
VSR *e* 14 30 15.1
VSR *e*S **S** **14 34 48.6 -2.0**
VSR pmax pmax
comp=Z,840nm,1.0s
VSR smax smax
comp=N,24μm,11.1s
VSR MLR MLR
comp=Z,163μm,14.0s
DMTO DMTO 27.11 223 P **P** **14 30 11.2 -1.9**
SNR=18
DMTO P **P** **14 30 11.2 -1.9**
SNR=18
DMTO P **P** **14 30 11.2 -1.9**
SNR=18
DMTO S **S** **14 34 49.0 -2.2**
DMTO S **S** **14 34 49.0 -2.2**
DMTO S **S** **14 34 49.0 -2.2**
VORR Voronezh 27.18 309 *e*P **P** **14 30 17.4 +3.9**
VORR S **S** **14 34 47.7 -4.1**
VORR pmax pmax
comp=Z,3μm,2.8s
VORR MLR MLR
comp=Z,174μm,17.0s
BTO Baotou 27.49 75 *e*P **P** **14 30 16.0 -0.6**
BTO *S* **S** **14 34 59.1 +1.9**
LPSR Galich'ya Gora 27.58 311 *e*P **P** **14 30 15.0 -2.1**
LPSR *e* 14 30 20.9
LPSR *e*S **S** **14 34 53.3 -4.7**
LPSR pmax pmax
comp=Z,1μm,1.4s
LPSR smax smax
comp=N,17μm,10.9s
LPSR MLR MLR
comp=Z,70μm,12.0s
ANN Anapa 27.64 294 *e*P **P** **14 30 15.2 -2.4**
ANN *e**PP **pP** **14 30 18.4 -4.2**
ANN *e*PPP PPP 14 31 10.8
ANN *e*S **S** **14 34 57.8 -1.2**
ANN *e*SSS SSS 14 36 18.5
ANN pmax pmax
comp=Z,195nm,1.2s
ANN MLR MLR
comp=N,52μm,15.0s
ANN MLR MLR
comp=Z,64μm,12.0s
ANN MLR MLR
comp=E,39μm,13.0s
SALM Salem 27.69 171 *e*P **P** **14 30 19.3 +1.0**
RBK Rabkut 27.69 224 P **P** **14 30 16.7 -1.6**
SNR=26
RBK P **P** **14 30 16.7 -1.6**
SNR=26
RBK S **S** **14 35 02.3 +1.9**
RBK S **S** **14 35 02.3 +1.9**
KMI Kunming 27.89 112 ⇓P **P** **14 30 20.8 +0.3**
KMI sP sP 14 30 26.8 -0.7
KMI S **S** **14 35 01.5 -2.4**
KMI sS sS 14 35 14.3 +2.1
KMI pmax pmax
comp=Z,320nm,1.5s
KMI pmax pmax
comp=Z,6μm,3.6s
KMI LR LR
comp=N,229μm,16.5s
KMI LR LR
comp=E,230μm,17.6s
KMI LR LR
comp=Z,191μm,14.1s
KMI Kunming 27.89 112 ⇓P **P** **14 30 20.7 +0.3**
KMI sP sP 14 30 26.7 -0.8
KMI S **S** **14 35 01.5 -2.4**
KMI sS sS 14 35 14.2 +2.0
KMI pmax pmax
comp=Z,320nm,1.5s
KMI pmax pmax
comp=Z,6μm,3.6s
KMI LR LR
comp=Z,229μm,16.5s
KMI LR LR
comp=Z,191μm,14.1s
ABTO Aybut 28.31 226 P **P** **14 30 22.3 -1.6**
SNR=72
ABTO P **P** **14 30 22.3 -1.6**
SNR=72
ABTO P **P** **14 30 22.3 -1.6**
SNR=72
ABTO S **S** **14 35 13.4 +3.3**
ABTO S **S** **14 35 13.4 +3.3**
ABTO S **S** **14 35 13.4 +3.3**
XAN Xi'an 28.32 90 ⇑P **P** **14 30 24.8 +0.7**
XAN pP pP 14 30 29.3 +0.3
XAN sP sP 14 30 32.3 +1.2
XAN S **S** **14 35 12.3 +2.0**
XAN pmax pmax
comp=Z,130nm,1.4s
XAN pmax pmax
comp=Z,7μm,7.8s
XAN LR LR
comp=N,815μm,18.1s
XAN LR LR
comp=E,529μm,18.4s
XAN LR LR
comp=Z,241μm,19.7s
XAN Xi'an 28.32 90 ⇑P **P** **14 30 24.7 +0.7**
XAN pP pP 14 30 29.3 +0.3
XAN sP sP 14 30 32.2 +1.1
XAN S **S** **14 35 12.3 +2.0**
XAN pmax pmax
comp=Z,130nm,1.4s
XAN pmax pmax
comp=Z,7μm,7.8s
XAN LR LR
comp=Z,241μm,19.7s
PRGR Permogore 28.44 331 *e*P **P** **14 30 22.8 -1.8**
PRGR *e* 14 31 10.3
PRGR pmax pmax
comp=Z,185nm,0.8s
HHC Hu-ho-hao-te 28.61 75 *e*P **P** **14 30 27.0 +0.4**
HHC PP **PnPn** **14 31 19.5 +3.1**
HHC S **S** **14 35 13.5 -1.3**
HHC SS **SnSn** **14 36 41.9 +7.5**
HHC pmax pmax
comp=Z,26nm,0.5s
HHC pmax pmax
comp=Z,7μm,8.2s
HHC LR LR
comp=Z,183μm,14.6s
PCHI Peechi 28.63 175 *e*P **P** **14 30 27.0 +0.3**
PCHI *e*S **S** **14 35 17.2 +2.2**
RAYN Ar Rayn 28.82 246 P **P** **14 30 27.2 -1.2**
RAYN IAmb IAmb 14 30 41.8
comp=Z,992nm,1.1s
RAYN Ar Rayn 28.82 246 P **P** **14 30 28.0 -0.4**
RAYN S **S** **14 35 20.4 +2.3**
RAYN Ar Rayn 28.82 246 *i* P **P** **14 30 28.1 -0.3**
SNR=87
RAYN Ar Rayn 28.82 246 ⇑P P 14 30 19.2 -9.3
RAYN Ar Rayn 28.82 246 P **P** **14 30 27.3 -1.2**
RAYN pmax pmax
comp=Z,992nm,1.1s
GAZ Gaziantep 28.92 278 P **P** **14 30 29.1 -0.2**
GAZ IAmb IAmb 14 30 43.8
comp=Z,1μm,1.4s
GAZ Gaziantep 28.92 278 ⇑P **P** **14 30 29.7 +0.3**
KOD Kodaikanal 29.01 173 *e*P **P** **14 30 31.0 +0.6**
MOS Moscow 29.23 317 *e*P **P** **14 30 30.3 -1.4**
MOS *e* 14 31 27.4
MOS *e*PPP PPP 14 31 35.0
MOS *e* 14 33 33.0
MOS *e*S **S** **14 35 23.0 -1.0**
MOS *e*SS **SnSn** **14 36 56.6 +7.7**
MOS pmax pmax
comp=Z,3μm,1.9s
MOS pmax pmax
comp=Z,939nm,1.2s
MOS MLR MLR
comp=Z,107μm,16.0s
MOS MLR MLR
comp=E,92μm,19.0s
CRAI Chiangrai 29.48 122 P **P** **14 30 33.6 -0.7**
DIKM Dikmen 29.48 287 ⇑P **P** **14 30 34.1 0.0**
BNN Bunyan 29.56 282 P **P** **14 30 33.7 -1.3**
CHTO Chiang Mai 29.60 126 P **P** **14 30 32.4 -2.9**
CHTO Chiang Mai 29.60 126 P **P** **14 30 32.4 -2.9**
CHTO pmax pmax
comp=Z,247nm,1.1s
CHTO MLR MLR
comp=Z,66μm,20.0s
OBN Obninsk 29.61 315 ⇓P **P** **14 30 35.0 -0.2**
OBN Obninsk 29.61 315 P **P** **14 30 34.5 -0.6**
comp=Z,28nm,0.7s,baz=100,slow=4.0,SNR=15
OBN LR LR 14 43 27.9
comp=Z,28μm,18.6s,baz=96,slow=38
comp=Z,28nm,0.7s
OBN Obninsk 29.61 315 P **P** **14 30 34.0 -1.1**
OBN IAMs_20 IAMs_20 14 43 16.5
comp=Z,135μm,18.0s
OBN Obninsk 29.61 315 ⇓P **P** **14 30 34.5 -0.6**
OBN Obninsk 29.61 315*d* *i*P **P** **14 30 34.4 -0.7**
OBN *e* 14 31 31.5
OBN *i*S **S** **14 35 24.6 -5.3**
OBN *i*SS **SnSn** **14 37 02.4 +4.2**
OBN pmax pmax
comp=Z,254nm,1.3s
OBN MLR MLR
comp=Z,94μm,17.0s
CM31 Chiang Mai Arr 29.86 127 P **P** **14 30 37.1 -0.6**
CM31 IAmb IAmb 14 31 30.8
comp=Z,982nm,1.6s
CMAR Chiang Mai Arr 29.86 127 P **P** **14 30 36.8 -0.9**
comp=Z,24nm,1.1s,baz=314,slow=8.9,SNR=25
CMAR LR LR 14 45 33.6
comp=Z,34μm,19.3s,baz=310,slow=42
CMAR P3KPbc 15 02 41.9
comp=Z,1.7nm,0.6s,baz=154,slow=3.0,SNR=13
comp=Z,24nm,1.1s
CMAR Chiang Mai Arr 29.86 127 P **P** **14 30 35.9 -1.8**
TIY Taiyuan 29.93 81 ⇑P **P** **14 30 39.8 +1.6**
TIY S **S** **14 35 37.4 +2.0**
TIY pmax pmax
comp=Z,67nm,0.8s
TIY pmax pmax
comp=Z,3μm,4.5s
TIY LR LR
comp=Z,139μm,19.2s
TIY LR LR
comp=Z,244μm,23.4s
SIM Simferopol' 29.98 294 *e*P **P** **14 30 38.6 0.0**
SIM *e*S **S** **14 35 35.9 -0.1**
SIM SS **SnSn** **14 37 13.9 +6.4**
SIM pmax pmax
comp=Z,2μm,1.0s
SIM MLR MLR
comp=Z,27μm,16.0s
GYA Guiyang 30.02 105 ⇑*i*P **P** **14 30 40.5 +1.2**
GYA sP sP 14 30 51.0 +4.7
GYA PP **PP** **14 31 45.0 -1.9**
GYA S **S** **14 35 38.0 +0.9**
GYA SS **ScP** **14 37 23.3 +0.2**
GYA pmax pmax
comp=Z,100nm,1.3s
GYA pmax pmax
comp=Z,6μm,7.3s
GYA LR LR
comp=N,92μm,20.0s
GYA LR LR
comp=E,140μm,15.1s
GYA LR LR
comp=Z,201μm,17.3s
GYA Guiyang 30.02 105 ⇑*i*P **P** **14 30 40.4 +1.2**
GYA sP sP 14 30 51.0 +4.7
GYA S **S** **14 35 38.1 +0.9**
GYA pmax pmax
comp=Z,100nm,1.3s
GYA pmax pmax
comp=Z,6μm,7.3s
GYA LR LR
comp=Z,92μm,20.0s
GYA LR LR
comp=Z,140μm,15.1s
GYA LR LR
comp=Z,201μm,17.3s
ENH Enshi 30.28 96 P **P** **14 30 39.8 -1.6**
ENH IAMs_20 IAMs_20 14 44 04.0
comp=Z,158μm,21.0s
ENH Enshi 30.28 96 P **P** **14 30 43.4 +2.1**
BZK Bozkurt 30.37 288 P **P** **14 30 39.4 -2.6**
BZK Bozkurt 30.37 288 ⇑P **P** **14 30 39.9 -2.0**
KLMR Klimovskoe 30.44 327 *e*P **P** **14 30 41.5 -0.9**
KLMR *e*P **P** **14 30 41.5 -0.9**
KLMR *e*P **P** **14 30 41.5 -0.9**
KLMR AMP 14 30 58.5
comp=Z,1μm,1.4s
KLMR S **S** **14 35 47.7 +5.0**
KLMR S **S** **14 35 47.7 +5.0**
KLMR Klimovskoe 30.44 327 *e*P **P** **14 30 41.4 -0.9**
KLMR S **S** **14 35 47.7 +5.0**
KLMR pmax pmax
comp=Z,1μm,1.4s
PHRA Phrae 30.64 125 P **P** **14 30 43.2 -1.4**
ILGA Ilgaz 30.73 287 P **P** **14 30 45.0 -0.4**
HWQ Hawqa 30.79 273 *e*P **P** **14 30 45.7 -0.2**
MNCI Minicoy 30.80 182 ⇓P **P** **14 30 47.0 +1.0**
DGPR DIGLIPUR 30.82 142 *e*P **P** **14 30 47.6 +1.5**
DGPR IAmb IAmb 14 31 09.0
comp=Z,339nm,0.9s
ASF Jabal al Asfar 30.84 268 P **P** **14 30 46.5 +0.2**
comp=Z,25nm,0.8s,baz=92,slow=3.0,SNR=18
comp=Z,25nm,0.8s
LYN LuoYang 30.90 86 ⇑*i*P **P** **14 30 49.0 +2.2**
LYN pP pP 14 30 51.8 0.0
LYN sP sP 14 30 56.2 +2.4
LYN S **S** **14 35 55.1 +4.5**
LYN sS sS 14 36 04.5 +5.7
LYN pmax pmax
comp=Z,70nm,0.9s
LYN pmax pmax
comp=Z,6μm,7.5s
LYN LR LR
comp=Z,144μm,17.9s
LYN LR LR
comp=Z,143μm,17.3s
BR131 Keskin Array S 31.04 284 P **P** **14 30 47.0 -1.2**
BR131 Keskin Array S 31.04 284*c* *i*P **P** **14 30 47.8 -0.3**
BRTR Keskin Array B 31.04 284 P **P** **14 30 48.0 -0.2**
comp=Z,59nm,0.8s,baz=82,slow=7.0,SNR=80
BRTR LR LR 14 45 06.8
comp=Z,52μm,21.0s,baz=91,slow=40
comp=Z,59nm,0.8s
BRTR Keskin Array B 31.04 284 P **P** **14 30 46.3 -1.8**
BRTR Keskin Array B 31.04 284 P **P** **14 30 46.3 -1.8**
NRIK Noril'sk 31.05 9 P **P** **14 30 46.9 -0.8**
comp=Z,56nm,1.0s,baz=203,slow=6.1,SNR=12
NRIK LR LR 14 43 13.5
comp=Z,142μm,21.3s,baz=198,slow=36
comp=Z,56nm,1.0s
NRIK Noril'sk 31.05 9 P **P** **14 30 46.2 -1.5**
NRIK IAmb IAmb 14 31 12.7
comp=Z,408nm,1.1s
NRIK Noril'sk 31.05 9*d* *i*P **P** **14 30 46.6 -1.1**
NRIK pmax pmax
comp=Z,392nm,1.2s
NRIK MLR MLR
comp=Z,96μm,11.0s
BHL Bhannes 31.15 272 *e*P **P** **14 30 48.9 -0.2**
XLT XiLinHaoTe 31.53 68 *i*P **P** **14 30 53.5 +1.2**
XLT pP sP 14 30 58.5 -0.9
XLT S **S** **14 35 57.3 -3.2**
XLT sS sS 14 36 08.3 -0.4
XLT pmax pmax
comp=Z,3μm,6.1s
XLT LR LR
comp=N,36μm,21.6s
XLT LR LR
comp=E,108μm,20.0s
XLT LR LR
comp=Z,204μm,21.5s
XLT XiLinHaoTe 31.53 68 *i*P **P** **14 30 53.6 +1.2**
XLT pP sP 14 30 58.5 -0.9
XLT S **S** **14 35 57.3 -3.2**
XLT sS sS 14 36 08.3 -0.4
XLT pmax pmax
comp=Z,3μm,6.1s
XLT LR LR
comp=Z,36μm,21.6s
XLT LR LR
comp=Z,108μm,20.0s
XLT LR LR
comp=Z,204μm,21.5s
ANTO Ankara 31.64 285 ⇑P **P** **14 30 54.7 +1.3**
ANTO Ankara 31.64 285 P **P** **14 30 52.8 -0.6**
ANTO Ankara 31.64 285 P **P** **14 30 53.6 +0.2**
ANTO P **P** **14 30 53.6 +0.2**
ANTO S **S** **14 36 03.5 +1.2**
ANTO S **S** **14 36 03.5 +1.2**
ANTO Ankara 31.64 285 P **P** **14 30 52.8 -0.6**
ANTO pmax pmax
comp=Z,4μm,1.6s
ANTO MLR MLR
comp=Z,26μm,20.0s
MMAI Mount Meron Ar 31.67 271 P **P** **14 30 53.6 0.0**
comp=Z,8.8nm,0.4s,baz=66,slow=8.3,SNR=19
MMAI LR LR 14 46 34.7
comp=Z,35μm,19.4s,baz=305,slow=42
comp=Z,8.8nm,0.4s
BOD Bodaibo 31.72 41 *e*P **P** **14 30 53.1 -0.6**
BOD pmax pmax
comp=Z,558nm,1.4s
HNS HongShan 31.75 80 ⇑P **P** **14 30 56.0 +1.8**
HNS PP **PP** **14 32 03.7 -2.1**
HNS S **S** **14 36 03.5 -0.3**
HNS pmax pmax
comp=Z,73nm,1.1s
HNS pmax pmax
comp=Z,4μm,5.5s
HNS LR LR
comp=Z,109μm,15.9s
HNS LR LR
comp=Z,190μm,21.2s
BJT Baijiatuau 32.22 75 IAMs_20 IAMs_20 14 46 13.4
comp=Z,152μm,18.0s
BJT Baijiatuau 32.22 75 P **P** **14 30 59.6 +1.3**
BJI Beijing 32.22 75 P **P** **14 30 58.8 +0.5**
BJI sP **sP** **14 31 05.9 +0.5**
BJI S **S** **14 36 08.5 -2.6**
BJI PcS **PcS** **14 37 32.2 +0.8**
BJI pmax pmax
comp=Z,95nm,0.8s
BJI pmax pmax
comp=Z,2μm,4.4s
BJI LR LR
comp=Z,110μm,20.6s
BJI LR LR
comp=Z,197μm,15.4s
GHAJ Ghor Haditha 32.23 268 P **P** **14 30 56.5 -1.9**
PALK Pallekele 32.35 168 P **P** **14 30 59.8 +0.2**
comp=Z,70nm,0.9s,baz=82,slow=9.7,SNR=22
PALK LR LR 14 44 53.1
comp=Z,145μm,18.4s,baz=94,slow=38
comp=Z,70nm,0.9s
PALK Pallekele 32.35 168 P **P** **14 31 00.4 +0.8**
PALK IAmb IAmb 14 31 21.5
comp=Z,379nm,1.1s
PALK Pallekele 32.35 168 P **P** **14 31 01.1 +1.5**
PALK P **P** **14 31 01.1 +1.5**
PALK S **S** **14 36 14.9 +1.4**

PALK S **S** **14 36 14.9 +1.4**
PALK Pallekele 32.35 168 P **P** **14 31 00.4 +0.8**
PALK pmax pmax
comp=Z,379nm,1.2s
PALK MLR MLR
comp=Z,240µm,18.0s
KDZE Karadeniz Ereo 32.37 288 ⇓P **P** **14 30 59.3 -0.3**
CSS Mathiatis 32.59 275 P **P** **14 30 59.1 -2.5**
MDUB Mudurnu 32.71 286 P **P** **14 31 01.2 -1.5**
MDUB Mudurnu 32.71 286 ⇑P **P** **14 31 01.7 -1.0**
NONG Nongkai 32.85 122 P **P** **14 31 04.9 +0.9**
PURM Purcari 32.86 297 ⇑P **P** **14 31 04.2 +0.4**
AKASG Malin Array Be 33.27 305 P **P** **14 31 06.0 -1.4**
comp=Z,27nm,0.6s,baz=78,slow=7.1,SNR=51
AKASG PP **PP** **14 32 22.4 0.0**
comp=Z,127nm,0.9s,baz=86,slow=12,SNR=4.7
AKASG PcP **PcP** **14 33 50.4 +1.0**
comp=Z,26nm,0.5s,baz=70,slow=3.5,SNR=4.3
AKASG LR LR 14 47 14.6
comp=Z,102µm,19.0s,baz=90,slow=41
comp=Z,27nm,0.6s
AKASG Malin Array Be 33.27 305 P **P** **14 31 05.2 -2.1**
AKBB Malin Array Si 33.27 305 P **P** **14 31 05.0 -2.3**
AKBB Malin Array Si 33.27 305*c* *i*P **P** **14 31 06.1 -1.2**
AKBB pmax pmax
comp=Z,406nm,0.8s
AKBB MLR MLR
comp=Z,106µm,15.0s
BORA Eskisehir 33.40 285 P **P** **14 31 07.6 -1.1**
EIL Elat 33.42 266 P **P** **14 31 07.6 -1.3**
comp=Z,49nm,0.9s,baz=44,slow=2.0,SNR=19
EIL LR LR 14 47 31.2
comp=Z,74µm,19.2s,baz=74,slow=42
comp=Z,49nm,0.9s
GULI GuiLin 33.45 104 ⇑P **P** **14 31 07.0 -2.2**
GULI sP **pP** **14 31 11.0 -3.2**
GULI PP **PnPn** **14 32 16.5 -3.6**
GULI S **S** **14 36 28.3 -2.2**
GULI pmax pmax
comp=Z,350nm,1.2s
GULI LR LR
comp=N,181µm,16.8s
GULI LR LR
comp=E,216µm,17.4s
GULI LR LR
comp=Z,181µm,17.4s
GULI GuiLin 33.45 104 ⇑P **P** **14 31 06.9 -2.2**
GULI S **S** **14 36 28.2 -2.2**
GULI pmax pmax
comp=Z,350nm,1.2s
GULI LR LR
comp=Z,181µm,16.8s
GULI LR LR
comp=Z,181µm,17.4s
KIS Kishinev 33.56 298 *e*P **P** **14 31 08.0 -1.9**
KIS Kishinev 33.56 298 *e*PP PP 14 32 15.0 -11
KIS *e*S **S** **14 36 24.0 -7.8**
KIS *e*SS SS 14 38 35.0 -21
KIS *e*L L 14 45 23.0
KIS LRM MLR 14 48 41.0
comp=Z,18µm,15.5s
KIS Kishinev 33.56 298 *e*P **P** **14 31 08.0 -1.9**
KIS *e* 14 31 15.0
KIS *e* 14 32 15.0
KIS *e*S **S** **14 36 24.0 -7.8**
KIS *e* 14 36 32.0
KIS *e*SS SS 14 38 35.0 -21
KIS MLR MLR
comp=Z,18µm,15.5s
KIS MLR MLR
comp=E,18µm,13.0s
MILM Milestii Mici 33.57 298 *e*P **P** **14 31 08.0 -2.0**
MILM Milestii Mici 33.57 298 *e*PP PP 14 32 17.0 -8.8
MILM *e*S **S** **14 36 24.0 -7.9**
MILM *e*L L 14 42 18.0
MILM LQM 14 46 49.0
comp=E,30µm,19.0s
MILM LRM MLR 14 50 12.0
comp=E,47µm,11.0s
MILM Milestii Mici 33.57 298 *e*P **P** **14 31 08.0 -2.0**
MILM *e* 14 32 17.0
MILM *e*S **S** **14 36 24.0 -7.9**
JURR Jurilovca 33.71 294 ⇑P **P** **14 31 11.3 +0.1**
HIA Hailar 33.76 57 P **P** **14 31 13.7 +2.0**
SORM Soroca 33.82 300 ⇓P **P** **14 31 11.1 -1.1**
ISP Isparta 33.87 282 P **P** **14 31 11.8 -1.0**
ISP Isparta 33.87 282 P **P** **14 31 11.9 -1.0**
ISP pmax pmax
comp=Z,2µm,1.7s
ISP MLR MLR
comp=Z,31µm,21.0s
WHN Wuhan 33.93 92 ⇑P **P** **14 31 14.0 +0.8**
WHN S S 14 36 23.8 -14
WHN LR LR
comp=N,175µm,13.7s
WHN LR LR
comp=E,339µm,15.0s
WHN LR LR
comp=Z,306µm,16.8s
WHN LR LR
comp=Z,306µm,16.8s
WHN Wuhan 33.93 92 ⇑P **P** **14 31 14.1 +0.8**
TSCT Constanta Port 33.94 293 ⇑P **P** **14 31 14.9 +1.6**
TIA Tai'an 33.95 81 ⇑P **P** **14 31 14.8 +1.3**
TIA S **S** **14 36 41.6 +3.4**
TIA pmax pmax
comp=Z,200nm,1.0s
TIA pmax pmax
comp=Z,5µm,10.3s
TIA LR LR
comp=Z,113µm,17.2s
TIA LR LR
comp=Z,164µm,17.7s
EFOR EFORIE 33.97 293 ⇑P **P** **14 31 14.2 +0.7**
TPGR Topolog 34.03 295 ⇓P **P** **14 31 14.2 +0.1**
MANR Mangalia 34.04 293 ⇓P **P** **14 31 14.2 +0.1**
TIRR Tirgusor 34.08 294 ⇓P **P** **14 31 14.7 +0.2**
TIRR Tirgusor 34.08 294 ⇓P **P** **14 31 14.7 +0.2**
TIRR Tirgusor 34.08 294 P **P** **14 31 13.3 -1.2**
TIRR Tirgusor 34.08 294 P **P** **14 31 13.3 -1.2**
TIRR pmax pmax
comp=Z,2µm,1.4s
TIRR MLR MLR
comp=Z,45µm,21.0s
GIUM Giurgiulesti 34.10 296 ⇓P **P** **14 31 15.6 +0.9**
MFTR Murfatlar 34.11 293 ⇓P **P** **14 31 16.7 +1.9**
VLDR Vladesti 34.16 296 ⇓P **P** **14 31 15.7 +0.6**
CFR Carcaliu 34.19 295 ⇑P **P** **14 31 14.9 -0.5**
TATR Tatarca 34.20 296 ⇑P **P** **14 31 16.4 +0.8**
PUL Pulkovo 34.21 322*ce*P **P** **14 31 15.9 +0.5**
PUL pmax pmax
comp=Z,970nm,1.7s
PUL MLR MLR
comp=Z,106µm,10.0s
SCTR Scanteiesti 34.23 296 ⇓P **P** **14 31 16.5 +0.7**
VASR Vaslui 34.29 298 ⇓P **P** **14 31 17.3 +1.0**
VARL Varlezi 34.31 297 ⇓P **P** **14 31 17.6 +1.1**
TLBR Topalu 34.33 294 ⇓P **P** **14 31 17.4 +0.8**
SCHL Schela 34.37 296 ⇓P **P** **14 31 18.3 +1.3**
HARR Harsova 34.39 294 ⇑P **P** **14 31 18.4 +1.2**
SLCR Slobozia Conac 34.40 296 ⇑P **P** **14 31 18.6 +1.4**
MNK Minsk 34.40 312 *i* P **P** **14 31 17.9 +0.7**
comp=E,98nm,1.1s
MNK *i* P **P** **14 31 17.9 +0.7**
comp=N,158nm,0.9s
MNK *i* P **P** **14 31 17.9 +0.7**
comp=Z,550nm,0.9s,baz=277
MNK *i* PP **PP** **14 32 32.8 -2.2**
MNK *i* PPP PPP 14 32 44.7
MNK *i* S **S** **14 36 47.0 +2.3**
MNK *i* SS **SnSn** **14 38 58.7 +4.1**
MNK *i* SSS SSS 14 39 14.7
MNK *i* LQ LQ 14 42 44.5
MNK *i* LR LR 14 44 34.8
MNK *i* LRM MLR 14 46 39.2
comp=E,13µm,19.1s
MNK *i* LRM MLR 14 46 39.2
comp=N,27µm,17.9s
MNK *i* LRM MLR 14 46 39.2
comp=Z,97µm,18.5s
MNK Minsk 34.40 312 *i* P **P** **14 31 17.9 +0.7**
MNK *i* 14 32 32.8
MNK *i* PPP PPP 14 32 44.6
MNK *i* 14 33 52.9

MNK *i* S **S** **14 36 47.0 +2.3**
MNK *i* SS **SnSn** **14 38 58.7 +4.1**
MNK *i* SSS SSS 14 39 14.6
MNK *i* 14 41 40.9
MNK pmax pmax
comp=Z,550nm,0.9s
MNK pmax pmax
comp=E,98nm,1.1s
MNK pmax pmax
comp=N,158nm,0.9s
MNK MLR MLR
comp=Z,97µm,19.0s
MNK MLR MLR
comp=N,27µm,18.0s
MNK MLR MLR
comp=E,13µm,19.0s
BIR Birlad 34.43 297 ⇓P **P** **14 31 18.7 +1.1**
TUDR 34.47 296 ⇓P **P** **14 31 19.3 +1.5**
NAYO Nakonayok 34.48 128 P **P** **14 31 19.2 +1.0**
ICOR Ion Corvin 34.56 293 ⇑P **P** **14 31 19.0 +0.4**
ELL Elmali 34.65 280 P **P** **14 31 18.3 -1.4**
ELL Elmali 34.65 280 P **P** **14 31 18.3 -1.4**
ELL pmax pmax
comp=Z,4µm,1.6s
PANC Panciu 34.80 297 ⇓P **P** **14 31 21.7 +1.0**
AMRR Amara 34.82 294 ⇓P **P** **14 31 22.0 +1.1**
ODBI Odobesti 34.88 296 ⇓P **P** **14 31 22.0 +0.6**
GRER 34.98 296 ⇑P **P** **14 31 23.5 +1.2**
PRD Provadia 34.99 292 *i* P **P** **14 31 22.5 +0.1**
PRD Provadia 34.99 292 *i* P **P** **14 31 22.5 +0.1**
AKAS Kas 35.04 279 P **P** **14 31 19.9 -3.2**
TESR Tescani 35.08 298 ⇓P **P** **14 31 23.2 0.0**
NACGM Naroch 35.09 312 ⇓*i*P **P** **14 31 21.8 -1.3**
comp=Z,855nm,0.9s,baz=96
VRI Vrincioaia 35.10 297 ⇓P **P** **14 31 24.0 +0.7**
BISRR Bisoca 35.14 296 ⇓P **P** **14 31 25.3 +1.5**
PLOR Plostina 35.15 297 ⇑P **P** **14 31 24.4 +0.6**
LEHL Lehliu 35.21 294 ⇓P **P** **14 31 25.1 +0.9**
ISR Istrita 35.31 295 ⇓P **P** **14 31 26.7 +1.5**
NEHR Nehoiu 35.45 296 ⇑P **P** **14 31 28.0 +1.7**
IIGN Ignalina 35.46 313 *e*P **P** **14 31 26.4 +0.1**
COVR Voineasa-Covas 35.46 297 ⇑P **P** **14 31 27.4 +0.9**
IZAR Zarasai 35.49 314 *e*P **P** **14 31 26.8 +0.2**
ISAL Salakas 35.54 313 *e*P **P** **14 31 27.5 +0.6**
RAZG Razgrad 35.57 293 ⇑P **P** **14 31 28.3 +0.9**
SULR 35.58 295 ⇑P **P** **14 31 28.7 +1.3**
SECR 35.66 295 ⇓P **P** **14 31 29.3 +1.2**
VSU Vasula 35.68 318 *e*P **P** **14 31 28.5 +0.4**
VSU Vasula 35.68 318*d* *i*P **P** **14 31 27.6 -0.5**
VSU pmax pmax
comp=Z,2µm,1.1s
VSU MLR MLR
comp=Z,232µm,15.0s
MLR Muntele Rosu 35.69 296 ⇓P **P** **14 31 30.1 +1.5**
MLR Muntele Rosu 35.69 296 LR LR 14 48 27.0
comp=Z,44µm,21.5s,baz=80,slow=40
MLR Muntele Rosu 35.69 296 P **P** **14 31 27.9 -0.6**
MLR Muntele Rosu 35.69 296 P **P** **14 31 27.9 -0.6**
MLR pmax pmax
comp=Z,2µm,1.2s
MLR MLR MLR
comp=Z,50µm,20.0s
JMB Yambol 35.71 291 *i* P **P** **14 31 29.0 +0.4**
JMB Yambol 35.71 291 *i* P **P** **14 31 29.0 +0.4**
OZUR 35.72 297 ⇑P **P** **14 31 29.6 +0.8**
LVZ Lovozero 35.92 336 P **P** **14 31 29.1 -1.1**
LVZ IAmb IAmb 14 31 38.2
comp=Z,653nm,0.9s
LVZ Lovozero 35.92 336*c* *i*P **P** **14 31 29.0 -1.1**
LVZ pmax pmax
comp=Z,196nm,0.7s
LVZ MLR MLR
comp=Z,101µm,10.0s
BURAR Bucovina Array 35.96 300 ⇓P **P** **14 31 31.5 +0.7**
BURAR Bucovina Array 35.96 300 P **P** **14 31 29.5 -1.3**
BUR08 Bucovina Ar. S 35.97 300 P **P** **14 31 29.8 -1.1**
BUR08 IAmb IAmb 14 31 48.1
comp=Z,577nm,1.4s
DOPR Dopca 36.01 297 ⇓P **P** **14 31 31.9 +0.8**
SZH Strazhica 36.03 292 *i* P **P** **14 31 31.1 -0.3**
SZH Strazhica 36.03 292 *i* P **P** **14 31 31.1 -0.3**
APA Apatity 36.15 335 ⇓*i*P **P** **14 31 30.9 -1.1**
APA *i* S **S** **14 37 10.0 -1.2**
APA *i* SS **SS** **14 39 38.0 -11**
APA pmax pmax
comp=Z,137nm,0.9s
APA MLR MLR
comp=Z,171µm,10.0s
ARG Arkhangelos 36.18 280 P **P** **14 31 31.0 -1.7**
ARG Arkhangelos 36.18 280 P **P** **14 31 31.0 -1.7**
ARG pmax pmax
comp=Z,3µm,1.6s
VOIR 36.32 296 ⇑P **P** **14 31 34.8 +0.9**
MTUR Matau 36.34 296 ⇑P **P** **14 31 35.7 +1.7**
UBPT Khong Chiam 36.40 122 P **P** **14 31 33.5 -1.1**
UBPT IAmb IAmb 14 31 45.1
comp=Z,1µm,1.6s
UBPT Khong Chiam 36.40 122 P **P** **14 31 35.3 +0.6**
STFAR Stefanesti-Arg 36.46 295 ⇓P **P** **14 31 36.7 +1.7**
HUMR Humele 36.50 295 ⇑P **P** **14 31 36.3 +0.9**
TGMR Targu Mures 36.54 298 ⇓P **P** **14 31 37.2 +1.5**
DL2 Dalian 36.59 75 ⇑*i*P **P** **14 31 37.5 +1.4**
DL2 PP **PnPn** **14 32 56.8 -2.2**
DL2 S **S** **14 37 22.8 +4.3**
DL2 SS **SS** **14 40 06.8 +8.5**
DL2 pmax pmax
comp=Z,230nm,1.0s
DL2 pmax pmax
comp=Z,4µm,5.9s
DL2 LR LR
comp=N,272µm,21.6s
DL2 LR LR
comp=E,115µm,22.4s
DL2 LR LR
comp=Z,244µm,18.1s
DL2 Dalian 36.59 75 ⇑*i*P **P** **14 31 37.6 +1.4**
DL2 S **S** **14 37 22.8 +4.3**
DL2 pmax pmax
comp=Z,230nm,1.0s
DL2 pmax pmax
comp=Z,4µm,5.9s
DL2 LR LR
comp=Z,115µm,22.4s
DL2 LR LR
comp=Z,244µm,18.1s
ARCR ARCALIA 36.59 299 ⇓P **P** **14 31 37.0 +0.9**
LVV L'vov 36.60 304 *e*P **P** **14 31 35.0 -1.1**
LVV *e* 14 32 59.7
LVV *e*PPP PPP 14 33 16.8
LVV *e*S **S** **14 37 17.6 -0.9**
LVV pmax pmax
comp=Z,2µm,1.2s
LVV MLR MLR
comp=E,102µm,15.0s
LVV MLR MLR
comp=N,42µm,13.0s
LVV MLR MLR
comp=Z,83µm,15.0s
ARR Arges 36.62 296 ⇑P **P** **14 31 37.8 +1.4**
FIA1 FINESS Array S 36.69 323 P **P** **14 31 35.0 -1.6**
FIA1 IAmb IAmb 14 32 51.8
comp=Z,731nm,1.1s
FINES FINESS Array B 36.69 323 P **P** **14 31 35.6 -1.0**
comp=Z,44nm,0.4s,baz=114,slow=8.3,SNR=112
FINES LR LR 14 47 53.5
comp=Z,116µm,20.1s,baz=106,slow=38
comp=Z,44nm,0.4s
FINES FINESS Array B 36.69 323 P **P** **14 31 34.8 -1.8**
KDZ Kurdzhali 36.73 290 *i* P **P** **14 31 37.5 +0.1**
KDZ Kurdzhali 36.73 290 *i* P **P** **14 31 37.5 +0.1**
PABE Paberze 36.75 313 P **P** **14 31 35.2 -2.1**
PABE IAmb IAmb 14 31 44.1
comp=Z,901nm,1.0s
PABE IAMs_20 IAMs_20 14 47 43.3
comp=Z,141µm,20.0s
PABE Paberze 36.75 313 *e*P **P** **14 31 37.6 +0.3**
RDO Rodhopi 36.76 289 P **P** **14 31 36.3 -1.3**
RDO IAmb IAmb 14 31 50.8
comp=Z,1µm,1.6s
NJ2 Nanjing 36.79 87 ⇑*i*P **P** **14 31 39.5 +1.6**
NJ2 sP **pP** **14 31 43.8 +0.8**
NJ2 S **S** **14 37 24.0 +2.2**
NJ2 sS **sS** **14 37 29.2 -0.9**
NJ2 SS **SnSn** **14 39 56.2 +3.2**

NJ2 ScS **ScS** **14 41 53.6 +0.1**
NJ2 pmax pmax
comp=Z,110nm,0.9s
NJ2 pmax pmax
comp=Z,4µm,6.2s
NJ2 LR LR
comp=Z,164µm,19.0s
NJ2 LR LR
comp=Z,176µm,15.9s
VSVD Vaisvydziai 36.82 314 *e*P **P** **14 31 37.5 -0.3**
QIZ Qiongzhong 36.83 113 P **P** **14 31 35.9 -2.4**
QIZ IAmb IAmb 14 31 50.8
comp=Z,646nm,1.5s
QIZ Qiongzhong 36.83 113 P **P** **14 31 39.8 +1.4**
QIZ PP **PnPn** **14 33 01.3 -0.9**
QIZ S **S** **14 37 22.5 0.0**
QIZ SS **SS** **14 40 05.0 +1.4**
QIZ pmax pmax
comp=Z,140nm,1.2s
QIZ pmax pmax
comp=Z,3µm,4.1s
QIZ LR LR
comp=N,180µm,17.8s
QIZ LR LR
comp=E,178µm,18.5s
QIZ LR LR
comp=Z,221µm,18.4s
QIZ Qiongzhong 36.83 113 P **P** **14 31 39.7 +1.4**
QIZ PP **PnPn** **14 33 01.3 -0.9**
QIZ S **S** **14 37 22.5 0.0**
QIZ pmax pmax
comp=Z,140nm,1.2s
QIZ pmax pmax
comp=Z,3µm,4.1s
QIZ LR LR
comp=Z,180µm,17.8s
QIZ LR LR
comp=Z,221µm,18.4s
QIZ Qiongzhong 36.83 113 P **P** **14 31 40.8 +2.4**
VLAD Vladila 37.00 294 ⇓P **P** **14 31 41.1 +1.5**
BMR Baia Mare 37.11 300 ⇑P **P** **14 31 40.7 +0.2**
KARP Karpathos 37.14 279 P **P** **14 31 39.1 -1.8**
CJR Cluj-Napoca 37.15 298 ⇑P **P** **14 31 41.9 +1.0**
LOT Lotru 37.21 296 ⇓P **P** **14 31 42.2 +0.7**
MEF Metsahovi 37.21 321 *e*P **P** **14 31 41.5 +0.4**
MTSE Matsula 37.23 318 *e*P **P** **14 31 41.7 +0.4**
SNY Shenyang 37.31 70 ⇑P **P** **14 31 42.5 +0.3**
SNY PP PnPn 14 33 21.0 +13
SNY S **S** **14 37 34.5 +5.1**
SNY SS **SnSn** **14 39 51.5 -14**
SNY pmax pmax
comp=Z,110nm,1.0s
SNY LR LR
comp=N,188µm,12.3s
SNY LR LR
comp=E,91µm,12.8s
SNY LR LR
comp=Z,252µm,17.3s
SNY Shenyang 37.31 70 ⇑P **P** **14 31 42.6 +0.3**
SNY S **S** **14 37 34.5 +5.1**
SNY pmax pmax
comp=Z,110nm,1.0s
SNY LR LR
comp=Z,91µm,12.8s
PGB Panagyurishte 37.45 292 *i* P **P** **14 31 43.8 +0.3**
PGB Panagyurishte 37.45 292 *i* P **P** **14 31 43.8 +0.3**
MESR Meseseni 37.54 299 ⇑P **P** **14 31 45.5 +1.4**
MCO Taipa Grande 37.65 105 P **P** **14 31 50.0 +4.7**
SURA Surathani 37.65 136 P **P** **14 31 47.7 +2.4**
TRPA Tarpa 37.71 301 ⇓P **P** **14 31 45.9 +0.4**
TRPA Tarpa 37.71 301 P **P** **14 31 45.6 0.0**
DEV Deva 37.74 297 ⇑P **P** **14 31 46.8 +1.0**
DRGR 37.75 299 ⇑P **P** **14 31 45.9 -0.1**
KOLS Kolonicke sedl 37.81 302 *e*P **P** **14 31 46.6 +0.2**
KOLS *e*PP **PP** **14 33 16.3 +3.7**
KOLS Kolonicke sedl 37.81 302 *e*P **P** **14 31 46.6 +0.2**
KOLS pmax pmax
comp=Z,204nm,0.8s
UZH Uzhgorod 37.82 302 *e*P **P** **14 31 43.6 -2.9**
UZH *i* 14 31 46.0
UZH *i* 14 31 50.5
UZH *e* 14 33 18.6
UZH *e*S **S** **14 37 30.5 -6.5**
UZH *i* 14 37 40.0
UZH *i* 14 40 16.0
UZH MLR MLR
comp=N,16µm,13.0s
UZH MLR MLR
comp=E,14µm,13.0s
UZH MLR MLR
comp=Z,10µm,13.0s
APE Apeiranthos 37.88 283 ⇓P **P** **14 31 47.8 +0.6**
SLIT Sltere, Latvi 37.88 317 *e*P **P** **14 31 46.9 0.0**
GZR Gura Zlata 37.91 296 ⇓P **P** **14 31 48.4 +1.0**
PBUR Paburge 37.94 314 *e*P **P** **14 31 47.6 +0.2**
MMB Musomiste 37.98 290 *i* P **P** **14 31 48.1 +0.1**
MMB Musomiste 37.98 290 *i* P **P** **14 31 48.1 +0.1**
PUNG Punghina 37.99 295 ⇑P **P** **14 31 49.5 +1.5**
HKPS Hong Kong Po S 38.00 104 P **P** **14 31 47.3 -0.9**
HKPS IAmb IAmb 14 32 00.8
comp=Z,569nm,1.1s
HKPS Hong Kong Po S 38.00 104 IAMs_20 IAMs_20 14 48 34.3
comp=Z,97µm,20.0s
HKPS Hong Kong Po S 38.00 104 P **P** **14 31 50.2 +1.9**
VTS Vitosha 38.10 292 ⇓P **P** **14 31 50.0 +0.8**
VTS Vitosha 38.10 292 P **P** **14 31 47.8 -1.4**
VTS IAmb IAmb 14 32 03.0
comp=Z,1µm,1.7s
VTS Vitosha 38.10 292 *i* P **P** **14 31 48.9 -0.3**
VTS Vitosha 38.10 292 *i* P **P** **14 31 48.9 -0.3**
VTS Vitosha 38.10 292 ⇑P **P** **14 31 49.2 0.0**
VTS Vitosha 38.10 292 P **P** **14 31 47.8 -1.4**
VTS pmax pmax
comp=Z,1µm,1.7s
SRIT Nakonsritamara 38.11 136 P **P** **14 31 50.6 +1.4**
SANT Santorini 38.16 281 ⇑P **P** **14 31 50.0 +0.4**
SANT Santorini 38.16 281 P **P** **14 31 47.4 -2.2**
DJES Djerdap 38.21 295 ⇓P **P** **14 31 51.0 +1.1**
DJES Djerdap 38.21 295 P **P** **14 31 47.4 -2.4**
LTVH Ltavrtes, Hu 38.22 300 ⇓P **P** **14 31 51.1 +1.3**
LTVH Ltavrtes, Hu 38.22 300 P **P** **14 31 50.8 +0.9**
CN2 Changchun 38.24 66 P **P** **14 31 50.5 +0.4**
CN2 pP pP 14 31 55.0 -0.2
CN2 PP **PnPn** **14 33 21.3 +2.3**
CN2 S **S** **14 37 42.5 -1.1**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,2µm,5.0s
CN2 LR LR
comp=N,121µm,14.0s
CN2 LR LR
comp=E,139µm,14.0s
CN2 LR LR
comp=Z,180µm,15.0s
CN2 Changchun 38.24 66 P **P** **14 31 50.6 +0.4**
CN2 pP pP 14 31 55.1 -0.1
CN2 PP **PnPn** **14 33 21.3 +2.3**
CN2 S **S** **14 37 42.4 -1.1**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,2µm,5.0s
CN2 LR LR
comp=Z,121µm,14.0s
CN2 LR LR
comp=Z,180µm,15.0s
HERR Herculane 38.24 296 ⇓P **P** **14 31 51.3 +1.2**
SURR Surduc 38.30 297 ⇓P **P** **14 31 52.1 +1.5**
BORR Bors 38.34 299 ⇓P **P** **14 31 52.2 +1.4**
CRVS Cervenica-Dubn 38.34 302 *e*P **P** **14 31 50.7 -0.2**
CRVS *e*PP **PnPn** **14 33 21.1 +0.9**
CRVS *e*S **S** **14 37 41.3 -3.7**
CRVS *e*SS **SS** **14 40 24.7 -8.7**
CRVS *e*L L 14 48 24.8
CRVS Cervenica-Dubn 38.34 302 *e*P **P** **14 31 50.7 -0.2**
CRVS *e* 14 33 21.1
CRVS *e*S **S** **14 37 41.3 -3.7**
CRVS *e*SS **SS** **14 40 24.7 -8.7**
CRVS MLR MLR
comp=Z,66µm,23.5s
KKB Krupnik 38.38 291 *i* P **P** **14 31 51.1 -0.3**
KKB Krupnik 38.38 291 *i* P **P** **14 31 51.1 -0.3**

SUJ	Sinuiju	38.40	72	P	P	14 31 51.7	+0.2		
SUJ				pP	pP	14 31 54.9	-1.7		
SUJ				S	S	14 37 46.2	+0.2		
SUJ				AmB					
	comp=Z,3μm,2.6s								
SUJ				AMS	AMS				
	comp=N,37μm,10.9s								
SUJ				AMS	AMS				
	comp=E,20μm,5.9s								
SUJ				AMS	AMS				
	comp=Z,19μm,5.6s								
STHS	Stebnicka Huta	38.44	303	eP	P	14 31 50.0	-1.7		
STHS				ePP	PP	14 33 21.1	+1.6		
STHS	Stebnicka Huta	38.44	303	eP	P	14 31 50.0	-1.7		
STHS				pmax	pmax				
	comp=Z,72nm,0.8s								
ZEA	Zeya	38.46	50	eP	P	14 31 52.9	+1.1		
ZEA				eS	S	14 37 52.3	+5.7		
ZEA				pmax	pmax				
	comp=N,80nm,0.9s								
ZEA				pmax	pmax				
	comp=E,140nm,0.9s								
ZEA				pmax	pmax				
	comp=Z,170nm,0.9s								
ZEA				pmax	pmax				
	comp=Z,2μm,10.2s								
ZEA				pmax	pmax				
	comp=E,3μm,8.7s								
ZEA				smax	smax				
	comp=E,6μm,17.7s								
ZEA				smax	smax				
	comp=N,6μm,14.7s								
ZEA				MLR	MLR				
	comp=N,53μm,15.0s								
ZEA				MLR	MLR				
	comp=Z,72μm,15.0s								
KAAM	Kaadhehdhoo	38.54	182	IAMs_20	IAMs_20	14 46 57.5			
	comp=Z,103μm,18.0s								
SIRR	Siria	38.54	298	⇓P	P	14 31 53.6	+1.0		
ABAH	Abaujker	38.55	301	P	P	14 31 52.4	-0.3		
BEL	Belsk	38.56	307	⇓P	P	14 31 56.1	+3.4		
RAF	Rauma	38.63	322	eP	P	14 31 53.6	+0.5		
BZS	Buzias	38.67	297	⇑P	P	14 31 53.7	0.0		
HEH	HeiHe	38.69	55	eP	P	14 31 53.5	-0.3		
HEH				pP	pP	14 31 57.3	-1.6		
HEH				PP	PnPn	14 33 31.3	+7.0		
HEH				S	S	14 37 51.5	+1.3		
HEH				sS	sS	14 38 00.5	+2.0		
HEH				SS	SnSn	14 40 32.5	-5.8		
HEH				pmax	pmax				
	comp=Z,800nm,0.8s								
HEH				pmax	pmax				
	comp=Z,5μm,6.4s								
HEH				LR	LR				
	comp=N,163μm,17.5s								
HEH				LR	LR				
	comp=E,127μm,14.2s								
HEH				LR	LR				
	comp=Z,147μm,24.2s								
HEH	HeiHe	38.69	55	eP	P	14 31 53.4	-0.3		
HEH				pP	pP	14 31 57.2	-1.6		
HEH				PP	PnPn	14 33 31.3	+7.0		
HEH				S	S	14 37 51.4	+1.3		
HEH				sS	sS	14 38 00.6	+2.0		
HEH				SS	SnSn	14 40 32.6	-5.8		
HEH				pmax	pmax				
	comp=Z,800nm,0.8s								
HEH				pmax	pmax				
	comp=Z,5μm,6.4s								
HEH				LR	LR				
	comp=Z,127μm,14.2s								
HEH				LR	LR				
	comp=Z,147μm,24.2s								
VADS	Vadso	38.70	337	eP	P	14 31 53.5	-0.1		
VADS				IVmBBB		14 32 05.2			
	comp=Z,5μm,1.7s								
VADS				ePP	PnPn	14 33 23.1	-1.0		
VADS				eS	S	14 37 51.9	+2.1		
MDVR	Moldovita	38.75	296	⇓P	P	14 31 54.5	0.0		
KLNR	Kaliningrad	38.87	312	deP	P	14 31 55.1	-0.1		
KLNR				pmax	pmax				
	comp=Z,2μm,1.6s								
KLNR				MLR	MLR				
	comp=Z,132μm,19.0s								
VAY	Valandovo	38.89	290	⇑iP	P	14 31 55.1	-0.4		
VAY				eS	S	14 37 59.2	+5.8		
IDI	Anoyia	38.97	280	⇓P	P	14 31 57.1	+0.8		
IDI	Anoyia	38.97	280	LR	LR	14 52 25.8			
	comp=Z,18μm,20.1s,baz=80,slow=43								
IDI	Anoyia	38.97	280	P	P	14 31 53.7	-2.7		
IDI				IAmb	IAmb	14 32 11.2			
	comp=Z,2μm,1.9s								
IDI	Anoyia	38.97	280	⇑P	P	14 31 54.6	-1.8		
SSE	Sheshan	39.00	87	P	P	14 31 57.8	+1.2		
SSE				S	S	14 37 49.3	-5.9		
SSE				SS	SnSn	14 40 42.7	-3.7		
SSE				pmax	pmax				
	comp=Z,140nm,0.9s								
SSE				pmax	pmax				
	comp=Z,2μm,4.2s								
SSE				LR	LR				
	comp=Z,151μm,18.2s								
SSE				LR	LR				
	comp=Z,44μm,17.8s								
SSE				LR	LR				
	comp=Z,54μm,16.9s								
STIP	Stip	39.08	291	⇓iP	P	14 31 55.7	-1.4		
AMBH	Ambrzfalva	39.17	298	⇑P	P	14 31 59.0	+1.2		
AMBH	Ambrzfalva	39.17	298	P	P	14 31 59.2	+1.4		
KEV	Kevo	39.25	336	P	P	14 31 57.1	-1.1		
KEV	Kevo	39.25	336	⇑P	P	14 31 57.3	-0.9		
KEV	Kevo	39.25	336	P	P	14 31 57.1	-1.1		
KEV				pmax	pmax				
	comp=Z,520nm,1.3s								
KEV				MLR	MLR				
	comp=Z,128μm,18.0s								
KEV	Kevo	39.25	336	eP	P	14 31 59.3	+1.1		
BNX	BinXian	39.25	63	⇑P	P	14 31 59.5	+0.9		
BNX				pP	pP	14 32 00.0	-3.7		
BNX				sP	sP	14 32 02.3	-3.4		
BNX				PP	PP	14 33 13.5	-15		
BNX				S	S	14 38 03.8	+5.0		
BNX				sS	sS	14 38 08.8	+1.6		
BNX				pmax	pmax				
	comp=Z,52nm,1.1s								
BNX				pmax	pmax				
	comp=Z,3μm,6.4s								
BNX				LR	LR				
	comp=N,194μm,15.7s								
BNX				LR	LR				
	comp=E,100μm,17.9s								
BNX				LR	LR				
	comp=Z,156μm,19.0s								
BNX	BinXian	39.25	63	⇑P	P	14 31 59.4	+0.9		
BNX				S	S	14 38 03.7	+5.0		
BNX				sS	sS	14 38 08.7	+1.6		
BNX				pmax	pmax				
	comp=Z,52nm,1.1s								
BNX				pmax	pmax				
	comp=Z,3μm,6.4s								
BNX				LR	LR				
	comp=Z,100μm,17.9s								
BNX				LR	LR				
	comp=Z,156μm,19.0s								
OJC	Ojcow	39.30	305	P	P	14 31 55.1	-3.8		
OJC				IAmb	IAmb	14 32 22.7			
	comp=Z,784nm,1.2s								
OJC	Ojcow	39.30	305	⇑P	P	14 31 54.8	-4.1		
OJC	Ojcow	39.30	305	P	P	14 31 55.1	-3.8		
OJC				pmax	pmax				
	comp=Z,784nm,1.2s								
BSZH	Besenyszg	39.33	300	P	P	14 32 06.0	+6.8		
PSZ	Piszkesteto	39.49	301	⇑P	P	14 32 00.4	-0.3		
PSZ	Piszkesteto	39.49	301	P	P	14 31 59.2	-1.4		
PSZ	Piszkesteto	39.49	301	P	P	14 32 00.2	-0.5		
PSZ	Piszkesteto	39.49	301	P	P	14 31 59.3	-1.4		
PSZ				pmax	pmax				
	comp=Z,695nm,1.6s								
PSZ				MLR	MLR				
	comp=Z,47μm,21.0s								
SKO	Skopje	39.55	291	iP	P	14 32 00.9	-0.2		
SKO				eS	S	14 38 12.3	+9.0		
ARA0	ARCESS Array S	39.63	336	eP	P	14 32 02.2	+0.7		
ARA0				IVmB_BB		14 32 13.1			
	comp=Z,8μm,1.9s								
ARA0				ePP	PP	14 33 33.3	+1.0		
ARA0				eScP	ScP	14 37 55.8	-0.8		
ARCES	ARCESS Array B	39.63	336	P	P	14 32 00.3	-1.2		
	comp=Z,109nm,0.7s,baz=108,slow=7.8,SNR=90								
ARCES				LR	LR	14 49 17.2			
	comp=Z,68μm,20.8s,baz=110,slow=38								
	comp=Z,109nm,0.7s								
ARCES	ARCESS Array B	39.63	336	P	P	14 31 59.5	-2.0		
ARCES				IAmb	IAmb	14 32 14.8			
	comp=Z,1μm,1.4s								
PYAG	Pyongyang	39.64	73	P	P	14 32 02.5	+0.7		
PYAG				sP	sP	14 32 10.0	+1.1		
PYAG				S	S	14 38 05.0	+0.3		
PYAG				AmB					
	comp=Z,2μm,2.5s								
PYAG				AMS	AMS				
	comp=N,119μm,13.4s								
PYAG				AMS	AMS				
	comp=E,141μm,15.9s								
PYAG				AMS	AMS				
	comp=Z,138μm,15.6s								
LHMI	Lhok Sumawe	39.65	143	P	P	14 32 04.0	+1.9		
SKLT	Songkhla	39.85	136	P	P	14 32 05.3	+1.5		
FNA	Florina	39.90	290	P	P	14 32 02.3	-1.8		
FNA	Florina	39.90	290	⇑P	P	14 32 03.0	-1.1		
FNA	Florina	39.90	290	P	P	14 32 02.3	-1.8		
FNA				pmax	pmax				
	comp=Z,840nm,1.9s								
HJU	Haeju	39.92	75	P	P	14 32 03.5	-0.6		
HJU				pP	pP	14 32 07.8	-1.5		
HJU				S	S	14 38 09.8	+1.0		
HJU				AmB					
	comp=Z,3μm,2.7s								
HJU				AMS	AMS				
	comp=N,195μm,22.1s								
HJU				AMS	AMS				
	comp=E,151μm,17.1s								
HJU				AMS	AMS				
	comp=Z,79μm,8.9s								
QZH	Quanzhou	39.92	97	⇑iP	P	14 32 06.3	+1.9		
QZH				PP	PnPn	14 33 47.5	+8.2		
QZH				S	S	14 38 13.5	+4.3		
QZH				SS	SS	14 41 04.3	-1.4		
QZH				pmax	pmax				
	comp=Z,4μm,7.3s								
QZH				pmax	pmax				
	comp=Z,130nm,1.3s								
QZH				LR	LR				
	comp=N,236μm,19.4s								
QZH				LR	LR				
	comp=E,125μm,20.4s								
QZH				LR	LR				
	comp=Z,104μm,16.6s								
QZH	Quanzhou	39.92	97	⇑iP	P	14 32 06.2	+1.9		
QZH				S	S	14 38 13.4	+4.3		
QZH				SS	SS	14 41 04.3	-1.4		
QZH				pmax	pmax				
	comp=Z,130nm,1.3s								
QZH				pmax	pmax				
	comp=Z,4μm,7.3s								
QZH				LR	LR				
	comp=Z,125μm,20.4s								
QZH				LR	LR				
	comp=Z,104μm,16.6s								
FRGS	Fruska Gora	40.01	297	⇑iP	P	14 32 04.6	-0.3		
DIVS	Divibare	40.10	295	P	P	14 32 04.0	-1.8		
DIVS				IAmb	IAmb	14 32 19.9			
	comp=Z,1μm,1.3s								
DIVS	Divibare	40.10	295	⇑iP	P	14 32 05.3	-0.4		
DIVS	Divibare	40.10	295	⇑P	P	14 32 05.3	-0.4		
VYHS	Vyhne	40.12	302	eP	P	14 32 05.2	-0.6		
VYHS				ePP	PP	14 33 41.6	+3.7		
VYHS				eS	S	14 38 10.8	-0.9		
VYHS				eSS	SS	14 41 05.5	-3.5		
VYHS				eL	L	14 49 18.1			
VYHS	Vyhne	40.12	302	eP	P	14 32 05.2	-0.6		
VYHS				pmax	pmax				
	comp=Z,2μm,2.1s								
BUD	Budapest	40.14	300	P	P	14 32 06.4	+0.5		
KTK1	Kautokeino	40.18	334	eP	P	14 32 06.7	+0.7		
KTK1				IVmB_BB		14 32 17.2			
	comp=Z,5μm,1.8s								
KTK1				ePP	PP	14 33 39.1	+0.9		
KTK1				eScP	ScP	14 38 00.1	+1.3		
OHR	Ohrid	40.23	290	iP	P	14 32 07.0	+0.1		
TEKS	Tekeris	40.33	296	⇑iP	P	14 32 06.6	-1.0		
YAK	Yakutsk	40.35	37	P	P	14 32 06.3	-1.1		
	comp=Z,86nm,0.8s,baz=18,slow=0.2,SNR=32								
YAK				LR	LR	14 48 53.6			
	comp=Z,88μm,18.5s,baz=266,slow=36								
	comp=Z,86nm,0.8s								
YAK	Yakutsk	40.35	37	P	P	14 32 05.6	-1.9		
YAK				IAmb	IAmb	14 32 20.7			
	comp=Z,525nm,0.9s								
YAK				IAMs_20	IAMs_20	14 49 39.9			
	comp=Z,86μm,21.0s								
YAK	Yakutsk	40.35	37	⇓P	P	14 32 05.7	-1.7		
YAK				⇑S	S	14 38 25.4	+11		
YAK	Yakutsk	40.35	37	eP	P	14 32 05.9	-1.5		
YAK				e*PP	sP	14 32 16.7	+2.1		
YAK				eS	S	14 38 06.8	-8.0		
YAK				e		14 42 18.8			
YAK				pmax	pmax				
	comp=Z,301nm,1.0s								
YAK				pmax	pmax				
	comp=E,173nm,1.1s								
YAK				pmax	pmax				
	comp=N,56nm,1.1s								
YAK				smax	smax				
	comp=N,10μm,14.4s								
YAK				smax	smax				
	comp=E,7μm,11.9s								
YAK				MLR	MLR				
	comp=Z,105μm,15.0s								
YAK				MLR	MLR				
	comp=E,62μm,12.0s								
YAK				MLR	MLR				
	comp=N,27μm,12.0s								
OKC	Ostrava-Krasne	40.40	304	eP	P	14 32 07.7	-0.3		
OKC				ePP	PP	14 33 48.7	+7.9		
OKC				AMS	AMS	14 51 20.0			
	comp=N,48μm,16.2s								
OKC	Ostrava-Krasne	40.40	304	eP	P	14 32 07.7	-0.3		
OKC				e		14 33 48.7			
OKC				MLR	MLR				
	comp=Z,48μm,16.2s								
IVA	Berane	40.45	293	eP	P	14 32 08.4	-0.2		
PVY	Plav	40.47	293	eP	P	14 32 08.4	-0.4		
BBLS	Lazići	40.56	295	eP	P	14 32 09.1	-0.5		
SRO	Srobarova	40.56	301	eP	P	14 32 09.9	+0.5		
SRO	Srobarova	40.56	301	eP	P	14 32 09.9	+0.5		
SRO				pmax	pmax				
	comp=Z,2μm,2.1s								
ITM	Ithomi	40.57	284	P	P	14 32 06.4	-3.3		
ITM				IAmb	IAmb	14 32 20.8			
	comp=Z,757nm,1.2s								
ITM	Ithomi	40.57	284	⇑P	P	14 32 06.9	-2.8		
MORH	Mrgy, Hungar	40.61	299	⇑P	P	14 32 09.5	-0.4		
MORH	Mrgy, Hungar	40.61	299	P	P	14 32 09.2	-0.7		
RUDO	Rudo	40.64	294	eP	P	14 32 09.4	-0.8		
HAMF	Hammerfest	40.65	337	eP	P	14 32 12.0	+2.1		
HAMF				IVmBBB		14 32 22.0			
	comp=Z,7μm,1.4s								
HAMF				ePP	PP	14 33 43.3	0.0		
HAMF				eS	S	14 38 17.4	-1.7		
GKP	Gorka Klasztor	40.66	309	eP	P	14 32 13.7	+3.5		
MAUC	Maruska	40.66	303	eP	P	14 32 09.7	-0.6		
MAUC				AMS	AMS	14 52 40.0			
	comp=Z,134μm,11.2s								
CSKK	Cskako	40.67	300	P	P	14 32 10.1	-0.2		
HHU	Hamhung	40.69	71	P	P	14 32 09.8	-0.7		
HHU				pP	pP	14 32 14.1	-1.5		
HHU				S	S	14 38 21.5	+1.1		
HHU				AmB					
	comp=Z,2μm,1.7s								
HHU				AMS	AMS				
	comp=N,60μm,11.6s								
HHU				AMS	AMS				
	comp=E,50μm,9.6s								
HHU				AMS	AMS				
	comp=Z,45μm,8.7s								
PLE	Pljevlja	40.70	294	eP	P	14 32 10.2	-0.5		
KOME	Kolasin	40.72	293	eP	P	14 32 10.5	-0.4		
INCN	Inchon	40.78	75	P	P	14 32 11.3	-0.1		
INCN	Inchon	40.78	75	P	P	14 32 12.1	+0.8		
INCN				P	P	14 32 12.1	+0.8		
INCN				P	P	14 32 12.1	+0.8		
INCN				S	S	14 38 23.8	+1.9		
INCN				S	S	14 38 23.8	+1.9		
INCN				S	S	14 38 23.8	+1.9		
INCN	Inchon	40.78	75	P	P	14 32 12.0	+0.6		
INCN	Inchon	40.78	75	⇑P	P	14 32 12.1	+0.8		
INCN	Inchon	40.78	75	P	P	14 32 11.3	-0.1		
INCN				pmax	pmax				
	comp=Z,315nm,1.0s								
INCN				MLR	MLR				
	comp=Z,121μm,19.0s								
MORC	Moravsky Berou	40.79	304	⇓P	P	14 32 12.6	+1.2		
MORC	Moravsky Berou	40.79	304	P	P	14 32 09.4	-2.0		
MORC	Moravsky Berou	40.79	304	eP	P	14 32 10.4	-1.0		
MORC	Moravsky Berou	40.79	304	P	P	14 32 09.4	-2.0		
MORC				pmax	pmax				
	comp=Z,539nm,1.4s								
DLV	T Lat	40.82	122	P	P	14 32 13.9	+1.8		
DLV	T Lat	40.82	122	⇓P	P	14 32 13.2	+1.1		
HAPS	Han Pijesak,BI	40.83	295	⇑iP	P	14 32 11.3	-0.5		
TIR	Tirane	40.85	291	⇑P	P	14 32 13.4	+1.5		
TIR	Tirane	40.85	291	P	P	14 32 08.8	-3.0		
TIR	Tirane	40.85	291	⇓P	P	14 32 14.6	+2.7		
TIR	Tirane	40.85	291	P	P	14 32 08.9	-3.0		
TIR				pmax	pmax				
	comp=Z,235nm,1.0s								
TIR				MLR	MLR				
	comp=Z,22μm,22.0s								
MDJ	Mudanjiang	40.99	64	P	P	14 32 11.5	-1.5		
MDJ	Mudanjiang	40.99	64	P	P	14 32 11.5	-1.5		
MDJ				pP	pP	14 32 15.3	-2.8		
MDJ				sP	sP	14 32 18.0	-2.1		
MDJ				ScP	ScP	14 38 02.8	+0.4		
MDJ				S	S	14 38 20.5	-4.3		
MDJ				sS	pS	14 38 28.0	-2.7		
MDJ				SS	SS	14 41 21.8	-4.7		
MDJ				pmax	pmax				
	comp=Z,110nm,2.4s								
MDJ				pmax	pmax				
	comp=Z,2μm,4.7s								
MDJ				LR	LR				
	comp=N,238μm,14.9s								
MDJ				LR	LR				
	comp=E,157μm,15.9s								
MDJ				LR	LR				
	comp=Z,242μm,19.7s								
MDJ	Mudanjiang	40.99	64	P	P	14 32 13.7	+0.7		
TIH	Tihany	41.00	300	P	P	14 32 15.3	+2.3		
KOVH	Kovagotottos	41.01	298	P	P	14 32 12.4	-0.7		
PDG	Podgorica	41.01	293	⇓P	P	14 32 13.0	-0.1		
PDG	Podgorica	41.01	293	P	P	14 32 12.1	-1.0		
PDG				IAmb	IAmb	14 32 30.5			
	comp=Z,532nm,0.8s								
PDG	Podgorica	41.01	293	⇑P	P	14 32 12.6	-0.6		
TTG	Podgorica	41.01	293	eP	P	14 32 13.2	0.0		
SMOL	Smolenice	41.04	302	eP	P	14 32 14.2	+0.8		
SMOL				pmax	pmax				
	comp=Z,643nm,2.1s								
UPM	Unac-Piva	41.07	294	eP	P	14 32 13.6	-0.3		
UPM	Unac-Piva	41.07	294	eP	P	14 32 13.5	-0.3		
DRME	Dracevica, Mon	41.12	292	eP	P	14 32 12.1	-2.0		
DRME	Dracevica, Mon	41.12	292	eP	P	14 32 13.3	-0.8		
ULC	Ulcinj	41.14	292	eP	P	14 32 13.6	-0.7		
NKME	Niksic	41.14	293	eP	P	14 32 13.7	-0.6		
MODS	Modra-Piesok	41.16	302	eP	P	14 32 14.7	+0.3		
MODS				ePP	PnPn	14 33 59.1	+5.4		
MODS				ePP	PP	14 33 59.5	+10		
MODS				eS	S	14 38 25.3	-2.0		
MODS				eSS	SS	14 41 26.1	-3.7		
MODS	Modra-Piesok	41.16	302	eP	P	14 32 14.7	+0.3		
MODS				pmax	pmax				
	comp=Z,3μm,2.2s								
MPLH	Magyarpolny	41.19	300	P	P	14 32 14.0	-0.6		
CEME	Cevo	41.22	293	eP	P	14 32 14.3	-0.7		
KRLC	Kraliky	41.24	305	eP	P	14 32 14.3	-0.8		
KRLC				AMS	AMS	14 52 00.0			
	comp=Z,58μm,20.8s								
KRLC	Kraliky	41.24	305	eP	P	14 32 14.3	-0.8		
KRLC				MLR	MLR				
	comp=Z,58μm,20.8s								
EGYH	Egyhazaskeszo	41.28	301	P	P	14 32 15.0	-0.4		
BUM	Brajici-Budva	41.30	293	eP	P	14 32 14.9	-0.8		
ZST	Bratislava	41.30	302	ePP	PP	14 34 00.2	+9.5		
ZST	Bratislava	41.30	302	eP	P	14 32 16.4	+0.9		
ZST				pmax	pmax				
	comp=Z,4μm,2.4s								
ZST	Bratislava	41.30	302	eP	P	14 32 16.4	+0.9		
JETT	Jettan, Norway	41.31	335	eP	P	14 32 15.5	+0.1		
JETT				IVmB_BB		14 32 26.9			
	comp=Z,8μm,1.8s								
JETT				ePP	PP	14 33 51.4	+0.8		
JETT				eS	S	14 38 30.9	+1.9		
KEK	Kerkira	41.36	289	P	P	14 32 13.6	-2.5		
KEK				IAmb	IAmb	14 32 27.4			
	comp=Z,2μm,2.0s								
KEK	Kerkira	41.36	289	⇑P	P	14 32 14.0	-2.1		
VLO	Vlora	41.36	290	P	P	14 32 14.4	-1.7		
VLO	Vlora	41.36	290	P	P	14 32 14.4	-1.7		
VLO				pmax	pmax				
	comp=Z,1μm,0.8s								
BRY	Bratogost	41.40	294	eP	P	14 32 16.2	-0.4		
BRY	Bratogost	41.40	294	eP	P	14 32 16.0	-0.6		
KULM	Kulim	41.44	138	P	P	14 32 15.0	-2.0		
KULM	Kulim	41.44	138	P	P	14 32 20.0	+3.0		
KULM	Kulim	41.44	138	⇓P	P	14 32 15.9	-1.1		
DESE	Dese	41.45	237	eP	P	14 32 19.1	+1.7		
KSP	Ksiaz	41.46	306	⇑P	P	14 32 15.9	-0.9		
VRAC	Vranov	41.47	304	⇓P	P	14 32 17.3	+0.4		
VRAC	Vranov	41.47	304	LR	LR	14 50 52.3			
	comp=Z,34μm,21.2s,baz=82,slow=38								
VRAC	Vranov	41.47	304	eP	P	14 32 16.2	-0.7		
DPC	Dobruska-Polom	41.50	305	eP	P	14 32 17.2	0.0		
DPC				AMS	AMS	14 51 50.0			
	comp=Z,62μm,12.8s								
DPC	Dobruska-Polom	41.50	305	eP	P	14 32 17.2	0.0		
DPC				MLR	MLR				
	comp=Z,62μm,12.8s								
KCSI	Kotacane, Aceh	41.53	143	P	P	14 32 17.7	0.0		
	comp=Z,3μmcomp=Z,95nm,1.1s								
OSTC	Ostas	41.54	305	eP	P	14 32 17.4	-0.1		
OSTC				AMS	AMS	14 51 40.0			
	comp=Z,83μm,20.8s								
HCY	Herceg Novi	41.55	293	eP	P	14 32 16.4	-1.2		
HCY	Herceg Novi	41.55	293	eP	P	14 32 17.3	-0.3		
TREB	Trebinje	41.58	293	eP	P	14 32 17.5	-0.4		
KLR	Kul'dur	41.60	57	P	P	14 32 18.1	+0.1		
	comp=Z,10nm,0.4s,baz=280,slow=8.5,SNR=34								
KLR				LR	LR	14 51 14.3			
	comp=Z,114μm,21.8s,baz=273,slow=39								
	comp=Z,10nm,0.4s								
KLR	Kul'dur	41.60	57	diP	P	14 32 17.1	-0.9		
KLR				pmax	pmax				
	comp=Z,156nm,1.7s								
KLR				MLR	MLR				
	comp=Z,113μm,19.0s								
KRUC	Moravsky	41.63	303	eP	P	14 32 17.9	-0.3		
CHVC	Chvalec	41.64	306	AMS	AMS	14 51 40.0			
	comp=Z,84μm,20.5s								
UPC	Upice	41.67	305	eP	P	14 32 18.4	-0.2		
UPC				epP	pP	14 32 23.0	-0.7		
UPC				AMS	AMS	14 51 50.0			
	comp=Z,87μm,21.1s								
UPC	Upice	41.67	305	eP	P	14 32 18.4	-0.2		
UPC				e		14 32 23.0			
UPC				MLR	MLR				
	comp=Z,87μm,21.1s								
KS19	Wonju Array Si	41.70	75	P	P	14 32 18.4	-0.6		
TJN	Taejon	41.70	77	P	P	14 32 18.5	-0.4		
TJN				IAmb	IAmb	14 32 30.2			
	comp=Z,2μm,1.3s								
TJN	Taejon

TRO IVmBBB 14 32 35.2
comp=Z,5μm,1.8s
TRO *e*PP **PP** **14 33 57.0 +1.0**
TRO *e*S **S** **14 38 39.5 +3.0**
BEHE Becsehely 41.83 299 P **P** **14 32 20.1 +0.2**
SNSI Sinabang, Aceh 41.86 145 P **P** **14 32 20.7 +0.3**
comp=Z,17μmcomp=Z,16μmcomp=Z,508nm,2.0s
BLY Banja Luka 41.92 297⇑ *i*P **P** **14 32 20.1 -0.5**
BLY Banja Luka 41.92 297⇑P **P** **14 32 20.3 -0.3**
BSD Bornholm Skovb 41.92 312 *e*P **P** **14 32 20.0 -0.5**
BSD Bornholm Skovb 41.92 312 *i* P **P** **14 32 19.9 -0.5**
BSD IAmb IAmb 14 32 34.4
comp=Z,157nm,0.7s
BSD Bornholm Skovb 41.92 312⇑P **P** **14 32 18.2 -2.2**
RONA Rosalia, Austr 41.92 301 *i* P **P** **14 32 20.5 -0.2**
comp=Z,400nm,1.7s,SNR=34
STON Ston 42.01 294⇑ *i*P **P** **14 32 19.2 -2.1**
A051A Mrakovica 42.05 297 *e*P **P** **14 32 21.0 -0.8**
MGRS Mrkonjic Grad 42.06 296 *e*P **P** **14 32 22.0 +0.2**
SRKY Kupres RS 42.09 296 *e*P **P** **14 32 21.9 -0.2**
TATO Taipei 42.14 95 P **P** **14 32 25.6 +3.0**
CONA Conrad Observa 42.17 302 *i* P **P** **14 32 22.4 -0.3**
comp=Z,26nm,0.7s,SNR=74
TREC Trest 42.19 304 *e*P **P** **14 32 23.4 +0.6**
TREC AMS AMS 14 53 40.0
comp=Z,54μm,17.1s
TREC Trest 42.19 304 *e*P **P** **14 32 23.4 +0.6**
TREC MLR MLR
comp=Z,54μm,17.1s
KOGS Kog 42.19 299 *i* P **P** **14 32 22.0 -0.8**
KOGS *i* 14 32 28.1
KOGS *i* 14 32 33.2
SCTE Santa Cesarea 42.23 290 P **P** **14 32 21.9 -1.3**
SCTE IAmb IAmb 14 32 34.1
comp=Z,2μm,1.8s
IPM Ipoh 42.32 138 P **P** **14 32 21.9 -2.3**
IPM Ipoh 42.32 138 P **P** **14 32 26.0 +1.8**
IPM Ipoh 42.32 138 P **P** **14 32 25.6 +1.4**
IPM Ipoh 42.32 138 ‖P **P** **14 32 22.9 -1.3**
TIXI Tiksi 42.35 23 P **P** **14 32 22.4 -1.4**
comp=Z,42nm,0.6s,baz=91,slow=23,SNR=101
TIXI LR LR 14 51 03.3
comp=Z,97μm,18.5s,baz=270,slow=38
comp=Z,42nm,0.6s
TIXI Tiksi 42.35 23 P **P** **14 32 21.0 -2.7**
TIXI Tiksi 42.35 23 ‖P **P** **14 32 22.3 -1.4**
TIXI Tiksi 42.35 23*d* *i*P **P** **14 32 22.1 -1.7**
TIXI pmax pmax
comp=Z,172nm,1.7s
TIXI MLR MLR
comp=Z,88μm,13.0s
A050A Klekovaca 42.43 296⇑ *i*P **P** **14 32 24.4 -0.5**
DEL Delary 42.44 314 *i* P **P** **14 32 23.0 -1.7**
HFS Hagfors 42.51 320 LR LR 14 51 14.8
comp=Z,120μm,19.3s,baz=92,slow=38
ARSA Arzberg 42.52 301 *i* P **P** **14 32 24.0 -1.5**
comp=Z,156nm,1.4s,SNR=26
ANKE Ethiopia-Afar 42.53 235 *e*P **P** **14 32 27.2 +0.9**
GOPC GO Pecny, Ondr 42.54 305 *e*P **P** **14 32 26.3 +0.7**
GOPC AMS AMS 14 52 30.0
comp=Z,65μm,12.5s
GOPC GO Pecny, Ondr 42.54 305 *e*P **P** **14 32 26.3 +0.7**
GOPC MLR MLR
comp=Z,65μm,12.5s
FAUS Fauske 42.59 331 *e*P **P** **14 32 26.4 +0.6**
FAUS IVmBBB 14 32 38.6
comp=Z,6μm,0.9s
FAUS *e*PP **PP** **14 34 05.5 +1.3**
FAUS *e*S **S** **14 38 48.4 +0.7**
PVCC Panska Ves 42.59 306 *e*P **P** **14 32 26.6 +0.6**
PVCC AMS AMS 14 52 10.0
comp=Z,78μm,16.3s
PVCC Panska Ves 42.59 306 *e*P **P** **14 32 26.6 +0.6**
PVCC MLR MLR
comp=Z,78μm,16.3s
PRU Pruhonice 42.68 305 *e*P **P** **14 32 26.6 -0.2**
PRU *e*pP **pP** **14 32 31.1 -0.8**
PRU *e*PP **PcP** **14 34 15.1 -3.3**
PRU *e*S **S** **14 38 48.3 -1.4**
PRU AMS AMS 14 52 30.0
comp=Z,72μm,13.9s
PRU Pruhonice 42.68 305 *e*P **P** **14 32 26.6 -0.2**
PRU *e* 14 32 31.1
PRU *e* 14 34 15.1
PRU *e*S **S** **14 38 48.3 -1.4**
PRU MLR MLR
comp=Z,72μm,13.9s
MOR8 Moi Rana 42.71 329 *e*P **P** **14 32 26.1 -0.7**
MOR8 IVmB_BB 14 32 38.0
comp=Z,8μm,1.7s
MOR8 *e*PP **PP** **14 34 04.5 -1.1**
MOR8 *e*S **S** **14 38 48.8 -1.0**
STEI Steigen 42.71 332 *e*P **P** **14 32 28.5 +1.8**
STEI IVmBBB 14 32 38.2
comp=Z,6μm,1.7s
STEI *e*PP **PP** **14 34 05.6 +0.1**
STEI *e*S **S** **14 38 51.4 +1.8**
PSI Prapat 42.71 142 P **P** **14 32 27.4 -0.1**
comp=Z,40nm,0.7s,baz=327,slow=7.7,SNR=28
PSI LR LR 14 52 43.2
comp=Z,39μm,21.7s,baz=294,slow=40
comp=Z,40nm,0.7s
PSI Prapat 42.71 142 P **P** **14 32 27.8 +0.3**
LUNU Lund 42.73 313 *i* P **P** **14 32 25.0 -2.0**
USA0B Ussuriysk Arra 42.76 64 P **P** **14 32 26.0 -1.4**
USA0B Ussuriysk Arra 42.76 64*d* *i*P **P** **14 32 25.6 -1.8**
USRK Ussuriysk Ar. 42.76 64 P **P** **14 32 26.9 -0.5**
comp=Z,19nm,0.7s,baz=269,slow=7.6,SNR=23
USRK LR LR 14 52 23.9
comp=Z,166μm,20.2s,baz=273,slow=39
comp=Z,19nm,0.7s
USRK Ussuriysk Ar. 42.76 64 P **P** **14 32 26.1 -1.3**
USRK Ussuriysk Ar. 42.76 64 P **P** **14 32 27.0 -0.5**
RPSI Rantau Prapat 42.80 142 P **P** **14 32 26.8 -1.3**
CRES Cresnjev 42.87 299⇑ *i*P **P** **14 32 27.5 -0.8**
RGN Rugen 42.88 312 IAMs_20 IAMs_20 14 51 45.2
comp=Z,104μm,19.0s
BRG Berggiesshubel 42.93 306 Amp 14 34 20.9
comp=Z,821nm,1.5s
BRG Berggiesshubel 42.93 306 S **S** **14 38 55.0 +1.7**
BRG Berggiesshubel 42.93 306⇑ *i*P **P** **14 32 28.3 -0.4**
BRG *i* 14 32 33.0
BRG 14 34 17.4
BRG S **S** **14 38 55.0 +1.7**
BRG pmax pmax
comp=Z,82nm,1.2s
BRG pmax pmax
comp=E,67μm,21.5s
BRG MLR MLR
comp=N,82μm,13.7s
BRG MLR MLR
comp=Z,107μm,21.8s
BRG Berggiesshubel 42.93 306⇑ *i*P **P** **14 32 28.3 -0.4**
BRG Berggiesshubel 42.93 306 Amp 14 32 31.0
comp=Z,82nm,1.2s
BRG Berggiesshubel 42.93 306 *i* x x 14 32 33.0
BRG Berggiesshubel 42.93 306 Amp 14 32 36.6
comp=Z,744nm,1.4s
BRG Berggiesshubel 42.93 306 *ex* x 14 33 21.8
BRG Berggiesshubel 42.93 306 Amp 14 33 26.9
comp=Z,313nm,1.1s
BRG Berggiesshubel 42.93 306 PP PP 14 34 17.5 +9.3
SOKA Soboth 42.97 300 *i* P **P** **14 32 28.5 -0.7**
comp=Z,482nm,1.5s,SNR=77
HOPEN Hopen 42.99 345 *e*P **P** **14 32 29.2 +0.3**
CKRC Cesky Krumlov 43.03 303 *e*P **P** **14 32 29.8 +0.2**
CKRC AMS AMS 14 54 10.0
comp=Z,67μm,14.0s
MOA Molln 43.24 302 *i* P **P** **14 32 28.9 -2.4**
comp=Z,296nm,1.4s,SNR=44
COP Copenhagen 43.29 313 *i* P **P** **14 32 30.9 -0.6**
COP IAmb IAmb 14 32 38.0
comp=Z,433nm,0.9s
OBKA Obir 43.33 300⇑ *i*P **P** **14 32 31.5 -0.7**
OBKA Obir 43.33 300 *i* P **P** **14 32 31.4 -0.7**
comp=Z,87nm,1.4s,SNR=29
MATE Matera 43.34 291⇑P **P** **14 32 33.1 +0.9**
LOF Lofoten 43.38 332 *e*P **P** **14 32 33.2 +1.1**
LOF IVmBBB 14 32 38.8
comp=Z,4μm,2.0s
LOF *e*S **S** **14 38 59.2 -0.1**
LOF IVMs_BB IVMs_BB 14 51 34.5
comp=Z,71μm,8.0s
GSI Gunungsitoli 43.40 145 P **P** **14 32 32.1 -0.7**
GSI IAmb IAmb 14 33 11.8
comp=Z,2μm,1.7s
GSI IAMs_20 IAMs_20 14 52 21.6
comp=Z,64μm,19.0s
GSI Gunungsitoli 43.40 145 P **P** **14 32 33.6 +0.7**
comp=Z,22μmcomp=Z,17μmcomp=Z,415nm,1.3s
GSI Gunungsitoli 43.40 145 P **P** **14 32 34.5 +1.6**
GEC2 GERESS Array S 43.42 303 P **P** **14 32 31.5 -1.4**
GEC2 IAmb IAmb 14 32 52.5
comp=Z,706nm,1.2s
GERES GERESS Array B 43.42 303 P **P** **14 32 31.1 -1.7**
comp=Z,19nm,0.6s,baz=151,slow=3.0,SNR=35
GERES LR LR 14 52 35.0
comp=Z,37μm,18.1s,baz=83,slow=39
comp=Z,19nm,0.6s
GERES GERESS Array B 43.42 303 P **P** **14 32 31.5 -1.4**
GERES GERESS Array B 43.42 303 P **P** **14 32 31.5 -1.4**
LLD Lille Linde 43.45 313 *i* P **P** **14 32 33.5 +0.7**
LLD IAmb IAmb 14 32 39.4
comp=Z,245nm,0.9s
KHC Kasperske Hory 43.45 304 P **P** **14 32 31.8 -1.3**
KHC IAmb IAmb 14 32 46.1
comp=Z,2μm,1.9s
KHC Kasperske Hory 43.45 304 *e*P **P** **14 32 32.6 -0.4**
KHC *e*PP **PcP** **14 34 17.5 -3.6**
KHC *ex* x 14 34 28.0
KHC *e*S **S** **14 39 03.1 +2.1**
KHC AMS AMS 14 51 40.0
comp=Z,66μm,25.4s
KHC Kasperske Hory 43.45 304 *e*P **P** **14 32 32.6 -0.4**
KHC *e* 14 34 28.0
KHC *e*S **S** **14 39 03.1 +2.1**
KHC MLR MLR
comp=Z,66μm,25.4s
LJU Ljubljana 43.45 299 *e*P **P** **14 32 32.7 -0.4**
LJU *i* 14 32 38.6
LJU *i* 14 32 44.2
LJU *e*PP **PcP** **14 34 23.9 +2.8**
LJU *e*S **S** **14 38 59.1 -2.0**
LJU *e*SS **SS** **14 42 18.3 +3.4**
CLL Collm 43.45 307 P **P** **14 32 31.3 -1.6**
CLL IAmb IAmb 14 32 39.5
comp=Z,748nm,1.5s
CLL Collm 43.45 307 LmV 14 54 00.0
comp=Z,120μm,18.6s
CLL Collm 43.45 307 *e*P **P** **14 32 32.0 -0.9**
CLL *e* 14 34 19.0
CLL *e*S **S** **14 39 03.0 +2.1**
CLL pmax pmax
comp=Z,754nm,1.5s
CLL MLR MLR
comp=Z,120μm,18.6s
CLL Collm 43.45 307 *e*P **P** **14 32 32.0 -0.9**
comp=Z,113nm,1.4s
CLL Collm 43.45 307 *i* pP pP 14 32 36.8 -1.3
comp=Z,754nm,1.5s
CLL Collm 43.45 307 *i* x x 14 32 44.4
CLL Collm 43.45 307 *e*Pmax 14 32 51.0
CLL Collm 43.45 307 *e*PP PP 14 34 19.0 +5.2
CLL Collm 43.45 307 *ex* x 14 34 30.0
CLL Collm 43.45 307 *e*PPP PPP 14 34 44.0
CLL Collm 43.45 307 *e*PPPP 14 35 01.0
CLL Collm 43.45 307 *e*S **S** **14 39 03.0 +2.1**
comp=E,21μm,36.5s
CLL Collm 43.45 307 *e*S **S** **14 39 03.0 +2.1**
comp=N,8μm,28.3s
CLL Collm 43.45 307 *e*S **S** **14 39 03.0 +2.1**
comp=Z,13μm,39.7s
CLL Collm 43.45 307 *e*SS SS 14 42 15.0 +0.3
CLL Collm 43.45 307 *e*SSS SSS 14 42 54.0
CLL Collm 43.45 307 Lmax 14 54 00.0
BJO1 Bjornoya 43.45 341 *e*P **P** **14 32 33.7 +1.1**
BJO1 IVmB_BB 14 32 40.1
comp=Z,5μm,1.4s
BJO1 *e*S **S** **14 39 03.4 +3.1**
BJO1 IVMs_BB IVMs_BB 14 52 36.8
comp=Z,31μm,9.9s
NC405 NORSAR Array S 43.50 321 P **P** **14 32 31.7 -1.5**
NSS Namsos 43.55 326 *e*P **P** **14 32 34.0 +0.5**
NSS *e*S **S** **14 39 04.2 +2.3**
NSS IVMs_BB IVMs_BB 14 51 25.0
comp=Z,72nm,8.2s
AAE Adis Abeba 43.58 236 *e*P **P** **14 32 36.1 +1.4**
AAE Adis Abeba 43.58 236 *e*P **P** **14 32 35.4 +0.7**
AAE *e*S S 14 39 17.2 +13
NC602 NORSAR Array S 43.58 321 P **P** **14 32 32.2 -1.7**
NC602 IAmb IAmb 14 32 39.9
comp=Z,999nm,1.1s
NC602 NORSAR Array S 43.58 321 *e*P **P** **14 32 34.1 +0.2**
NC602 IVmB_BB 14 32 40.9
comp=Z,6μm,2.3s
NC602 *e*S **S** **14 39 03.2 +0.6**
NC602 *e*SS **SS** **14 42 20.4 +3.4**
NC602 IVMs_BB IVMs_BB 14 51 36.5
comp=Z,73μm,8.9s
CEY Cerknica 43.59 299⇑ *i*P **P** **14 32 33.2 -1.0**
JRMM Jerantut 43.59 137 P **P** **14 32 35.0 +0.6**
NC303 NORSAR Array S 43.67 321 P **P** **14 32 33.0 -1.6**
NC303 IAmb IAmb 14 32 48.7
comp=Z,543nm,0.8s
BIOA Bad Ischl, Aus 43.69 302 *i* P **P** **14 32 34.4 -0.5**
comp=Z,222nm,1.2s,SNR=25
NB201 NORSAR Array S 43.70 321 P **P** **14 32 33.2 -1.7**
NB201 IAmb IAmb 14 32 41.0
comp=Z,1μm,1.2s
SGRT San Giovanni R 43.71 293 P **P** **14 32 33.2 -2.1**
FURI Furi 43.73 236 *e*P **P** **14 32 38.0 +2.0**
FURI Furi 43.73 236 *e*P **P** **14 32 37.0 +1.0**
NB2 NORSAR Subarra 43.74 321 P **P** **14 32 34.2 -1.0**
comp=Z,146nm,0.8s,baz=90,slow=8.6
NB2 PP **PcP** **14 34 26.0 +4.1**
comp=Z,1μm,2.0s,baz=112,slow=11
NOA NORSAR Array B 43.74 321 P **P** **14 32 33.7 -1.6**
comp=Z,85nm,0.8s,baz=91,slow=7.9,SNR=116
NOA LR LR 14 51 52.5
comp=Z,106μm,19.4s,baz=95,slow=38
comp=Z,85nm,0.8s
NAO01 NORSAR Array S 43.90 321 P **P** **14 32 34.7 -1.8**
NAO01 IAmb IAmb 14 32 42.3
comp=Z,1μm,1.1s
MYKA Terra Mystica 43.91 300 *i* P **P** **14 32 36.5 -0.4**
comp=Z,439nm,1.7s,SNR=21
JTU Tsushima 43.93 78 P **P** **14 32 36.2 -0.8**
JTU Tsushima 43.93 78 P **P** **14 32 38.5 +1.5**
JTU Tsushima 43.93 78 P **P** **14 32 37.8 +0.8**
CADS Cadrg 43.94 300 *i* P **P** **14 32 35.8 -1.2**
CADS *i* 14 32 41.9
CADS *i* 14 32 47.2
CADS *e*S **S** **14 39 06.1 -2.2**
CADS *i* SS **SS** **14 42 28.5 +3.9**
NBO00 NORSAR Array S 43.96 321 P **P** **14 32 35.2 -1.7**
NBO00 IAmb IAmb 14 32 42.9
comp=Z,956nm,1.1s
NC204 NORSAR Array S 43.96 322 P **P** **14 32 35.0 -2.1**
NC204 IAmb IAmb 14 32 43.1
comp=Z,748nm,0.9s
NKC Novy Kostel 43.97 306 *e*P **P** **14 32 37.7 +0.5**
NKC AMS AMS 14 53 00.0
comp=Z,98μm,18.7s
NKC Novy Kostel 43.97 306 *e*P **P** **14 32 37.7 +0.5**
NKC MLR MLR
comp=Z,98μm,18.7s
OSL Oslo 44.00 320 *e*P **P** **14 32 37.1 -0.1**
OSL *e*S **S** **14 39 09.9 +1.3**
PRED Cave del Predi 44.01 300 P **P** **14 32 36.1 -1.5**
KBA Koelnbreinsper 44.01 301 *i* P **P** **14 32 36.6 -1.2**
comp=Z,0.1nm,0.1s,SNR=31
SABO M.te Sabotino 44.09 299 P **P** **14 32 36.1 -2.1**
SABO IAmb IAmb 14 32 51.6
comp=Z,5μm,1.8s
JFU Fukue jima 2 44.19 81 P **P** **14 32 40.1 +1.0**
CUC Castrocucco 44.19 290 P **P** **14 32 38.1 -1.0**
TBLU Trondheim 44.23 324 *e*P **P** **14 32 38.3 -0.8**
TBLU *e*S **S** **14 39 16.3 +4.3**
TBLU *e*SS **SS** **14 42 31.7 +2.0**
TBLU IVMs_BB IVMs_BB 14 51 40.3
comp=Z,47μm,8.2s
GRNR Gornyy 44.33 54‖ *i*P **P** **14 32 39.7 -0.4**
GRNR *e* 14 34 25.9
GRNR *e*S **S** **14 39 14.0 +0.2**
GRNR *e*SS **SS** **14 42 22.2 -10**
GRNR pmax pmax
comp=E,6.0nm,0.9s
GRNR smax smax
comp=E,3.0nm,0.9s
GRNR MLR MLR
comp=N,88μm,16.0s
GRNR MLR MLR
comp=E,66μm,16.0s
GRNR MLR MLR
comp=Z,82μm,12.0s
OVD Ostervraa, Den 44.40 316 *i* P **P** **14 32 37.5 -3.0**
CLUD Cludinico 44.47 300 P **P** **14 32 39.2 -2.0**
KONO Kongsberg 44.58 319 P **P** **14 32 40.0 -1.9**
KONO IAmb IAmb 14 32 48.0
comp=Z,406nm,1.0s
KONO Kongsberg 44.58 319 IAMs_20 IAMs_20 14 51 57.0
comp=Z,102μm,20.0s
KONO Kongsberg 44.58 319*d* *i*P **P** **14 32 41.3 -0.6**
KONO pmax pmax
comp=Z,206nm,1.7s
KONO MLR MLR
comp=Z,68μm,12.0s
KONO Kongsberg 44.58 319‖ *i*P **P** **14 32 42.3 +0.5**
KONO IVmB_BB 14 32 54.1
comp=Z,7μm,3.9s
KONO *e*PP **PP** **14 34 26.9 +1.2**
KONO *e*S **S** **14 39 16.9 -0.1**
KONO IVMs_BB IVMs_BB 14 52 19.5
comp=Z,58μm,10.4s
STAL STALIGIAL 44.63 300 P **P** **14 32 41.3 -1.2**
STAL IAmb IAmb 14 32 54.3
comp=Z,622nm,1.5s
ABTA Abfaltersbach 44.64 301 *i* P **P** **14 32 40.9 -1.8**
comp=Z,159nm,1.4s,SNR=19
CEL Celeste 44.71 288 P **P** **14 32 42.6 -0.7**
PAOL Paolisi 44.77 292 P **P** **14 32 42.1 -1.7**
PAOL IAmb IAmb 14 32 56.6
comp=Z,2μm,1.7s
DOMB Dombas 44.77 323 *e*P **P** **14 32 43.1 -0.3**
DOMB IVmBBB 14 32 54.6
comp=Z,6μm,2.1s
DOMB *e*S **S** **14 39 21.4 +1.4**
DOMB *e*ScS **ScS** **14 42 40.5 0.0**
MNSI Mandailing Nat 44.77 142 P **P** **14 32 44.7 +0.8**
comp=Z,14μmcomp=Z,11μmcomp=Z,658nm,1.0s
CIMO Cimolais 44.80 300 P **P** **14 32 42.6 -1.2**
CIMO IAmb IAmb 14 33 00.9
comp=Z,225nm,0.9s
GRA1 Grafenberg Arr 44.85 305 IAMs_20 IAMs_20 14 53 54.6
comp=Z,84μm,19.0s
GRFO Grafenberg 44.85 305 IAMs_20 IAMs_20 14 53 53.7
comp=Z,85μm,19.0s
PBSI Pulau Batu 44.92 145 P **P** **14 32 45.4 +0.3**
comp=Z,24μmcomp=Z,26μmcomp=Z,734nm,1.0s
MUD Monsted U'grnd 45.04 315 *i* P **P** **14 32 44.2 -1.4**
MUD IAmb IAmb 14 32 54.1
comp=Z,81nm,1.0s
WTTA Wattenberg 45.11 302 *i* P **P** **14 32 45.2 -1.3**
comp=Z,407nm,1.5s,SNR=26
WATA Walderalm 45.13 302 *i* P **P** **14 32 45.3 -1.3**
comp=Z,332nm,1.6s,SNR=34
JMJ Miyako jima 2 45.17 93 P **P** **14 32 47.5 +0.5**
SKAR Skarslia 45.17 321 *e*P **P** **14 32 46.6 -0.1**
SKAR *e*S **S** **14 39 26.4 +0.5**
SKAR *e*ScS **ScS** **14 42 39.1 -4.0**
SKAR IVMs_BB IVMs_BB 14 52 23.7
comp=Z,64μm,21.7s
HOMB Homborsund 45.23 317 *i* P **P** **14 32 45.0 -2.1**
HOMB Homborsund 45.23 317 *e*P **P** **14 32 47.0 -0.1**
HOMB *e*S **S** **14 39 28.1 +1.6**
CICP Calayan Island 45.31 102‖ *e*P **P** **14 32 51.4 +3.2**
CTI Castel Tesino 45.39 300 P **P** **14 32 47.4 -1.3**
CTI Castel Tesino 45.39 300 P **P** **14 32 47.4 -1.3**
CTI pmax pmax
comp=Z,243nm,1.1s
SQTA Sankt Quirin 45.40 302 *i* P **P** **14 32 47.1 -1.6**
comp=Z,239nm,1.3s,SNR=28
MOTA Moosalm 45.44 302 *i* P **P** **14 32 47.6 -1.5**
comp=Z,244nm,1.5s,SNR=24
SPB2 Spitsbergen Ar 45.44 346 P **P** **14 32 47.3 -1.2**
SPB2 IAmb IAmb 14 33 15.2
comp=Z,540nm,1.1s
SPA0 Spitsbergen Ar 45.44 346 *e*P **P** **14 32 48.9 +0.3**
SPITS Spitsbergen Ar 45.44 346 LR LR 14 55 59.2
comp=Z,71μm,18.4s,baz=60,slow=42
SPITS Spitsbergen Ar 45.44 346 P **P** **14 32 47.5 -1.1**
SPITS pmax pmax
comp=Z,840nm,1.3s
MOL Molde 45.47 323 *e*P **P** **14 32 48.9 0.0**
MOL IVmB_BB 14 32 55.9
comp=Z,5μm,2.7s
MOL IVmBBB 14 33 02.6
comp=Z,3μm,4.3s
MOL *e*S **S** **14 39 31.8 +1.8**
MOL IVMs_BB IVMs_BB 14 52 34.7
comp=Z,70μm,22.0s
JNU Nakatsue 45.62 79 LR LR 14 52 52.0
comp=Z,91μm,20.7s,baz=296,slow=37
JNU Nakatsue 45.62 79 P **P** **14 32 50.8 +0.2**
JNU Nakatsue 45.62 79 P **P** **14 32 51.8 +1.2**
JNU Nakatsue 45.62 79 P **P** **14 32 51.0 +0.4**
RETA Reutte 45.63 302 *i* P **P** **14 32 49.9 -0.7**
comp=Z,418nm,1.5s,SNR=46
PACPP Pamplona Cagay 45.70 103‖ *e*P **P** **14 32 53.6 +2.4**
AKN Aaknes 45.74 323 *e*P **P** **14 32 51.0 -0.1**
FETA Feichten 45.77 301 *i* P **P** **14 32 50.0 -1.7**
comp=Z,141nm,1.4s,SNR=34
DILA Dilla 45.86 234 *e*P **P** **14 32 53.0 +0.3**
BKNI Bangkinang 45.89 141 P **P** **14 32 53.1 +0.3**
comp=Z,13μmcomp=Z,12μmcomp=Z,825nm,0.9s
BKNI Bangkinang 45.89 141 P **P** **14 32 53.2 +0.4**
SNART Snartemo 45.91 318 *e*P **P** **14 32 52.4 0.0**
JSU Suzuyama 45.99 81 P **P** **14 32 52.7 -0.8**
JSU IAmb IAmb 14 33 06.9
comp=Z,558nm,1.4s
JSU Suzuyama 45.99 81 P **P** **14 32 54.4 +0.9**
JSU Suzuyama 45.99 81 P **P** **14 32 54.2 +0.8**
VAE Valguarnera 46.08 288 LR LR 14 55 27.4
comp=Z,9μm,19.3s,baz=144,slow=40
MYKOM Kota Tinggi 46.08 136 IAMs_20 IAMs_20 14 54 15.6
comp=Z,61μm,22.0s
MYKOM Kota Tinggi 46.08 136 P **P** **14 32 55.0 +0.7**
FUORN Ofenpass-Fuorn 46.18 301 P **P** **14 32 53.9 -1.1**
FUORN IAmb IAmb 14 33 07.0
comp=Z,1μm,1.9s
HYA Hoyanger 46.18 322 *e*P **P** **14 32 54.5 0.0**
BLS5 Blasjo 46.19 319 *e*P **P** **14 32 54.8 +0.1**
BLS5 IVmB_BB 14 33 07.8
comp=Z,8μm,3.1s
BLS5 *e*S **S** **14 39 41.3 +0.8**
BLS5 IVMs_BB IVMs_BB 14 52 54.2
comp=Z,47μm,22.9s
RAFF Raffo Rosso 46.21 287 P **P** **14 32 54.3 -0.9**
LATE Laterza 46.25 295 P **P** **14 32 53.2 -2.2**
DAVA Damuels 46.26 302 *i* P **P** **14 32 54.2 -1.4**
comp=Z,142nm,1.3s,SNR=38
DAVOX Davos/Dischmat 46.39 301 LR LR 14 54 00.9
comp=Z,42μm,18.7s,baz=71,slow=38
SISI Saibi 46.41 144 P **P** **14 32 57.1 +0.2**
comp=Z,14μmcomp=Z,11μmcomp=Z,444nm,1.0s
JOW Kunigami 46.47 88 LR LR 14 55 39.1
comp=Z,147μm,18.5s,baz=295,slow=40
JOW Kunigami 46.47 88 P **P** **14 32 58.2 +0.9**
JOW Kunigami 46.47 88 P **P** **14 32 58.1 +0.9**
KBS Kingsbay 46.54 346 P **P** **14 32 57.0 -0.2**
KBS IAmb IAmb 14 33 23.3
comp=Z,497nm,1.0s
KBS Kingsbay 46.54 346 IAMs_20 IAMs_20 14 55 15.6
comp=Z,71μm,19.0s
KBS Kingsbay 46.54 346 *i* P **P** **14 32 57.2 +0.1**
KBS Kingsbay 46.54 346*d* *i*P **P** **14 32 57.4 +0.2**
KBS pmax pmax
comp=Z,239nm,1.7s
KBS MLR MLR
comp=Z,69μm,18.0s
KBS Kingsbay 46.54 346 *e*P **P** **14 32 57.5 +0.4**
KBS IVmB_BB 14 33 22.6
comp=Z,4μm,1.1s
KBS *e*S **S** **14 39 48.6 +3.6**
KBS IVMs_BB IVMs_BB 14 55 06.0
comp=Z,29μm,17.8s
JHS Saijyo 46.56 76 P **P** **14 32 56.2 -1.8**
JHS IAmb IAmb 14 33 09.3
comp=Z,1μm,1.9s
JHS Saijyo 46.56 76 P **P** **14 32 58.0 0.0**
JHS Saijyo 46.56 76 P **P** **14 32 57.4 -0.6**
BER Bergen 46.66 320 *e*P **P** **14 32 58.4 +0.1**
BER *e*S **S** **14 39 50.7 +3.7**

PDSI Padang 46.69 142 P **P** 14 32 58.5 -0.6
comp=Z,14µmcomp=Z,14µmcomp=Z,812nm,1.0s
FOO Floro 46.70 322 *e*P **P** 14 32 58.9 +0.4
FOO *e*S **S** 14 39 48.6 +1.0
ASK Askoy 46.72 321 *e*P **P** 14 32 58.5 -0.3
ASK *e*S **S** 14 39 47.8 -0.1
SUE Sulen 46.88 321 *e*P **P** 14 33 01.3 +1.3
SUE *e*S **S** 14 39 52.3 +2.2
MSEY Mahe Island 46.92 206 P **P** 14 32 58.6 -2.3
MSEY Mahe Island 46.92 206 IAMs_20 IAMs_20 14 50 19.9
comp=Z,62µm,22.0s
MSEY Mahe Island 46.92 206 P **P** 14 33 04.1 +3.3
MSEY P **P** 14 33 04.1 +3.3
MSEY S **S** 14 39 48.8 -3.0
MSEY S **S** 14 39 48.8 -3.0
MSEY Mahe Island 46.92 206 P **P** 14 32 58.6 -2.3
MSEY pmax pmax
comp=Z,125nm,1.2s
BFO Black Forest 47.01 304 P **P** 14 32 59.3 -2.0
BFO IAmb IAmb 14 33 20.3
comp=Z,308nm,1.2s
BFO Black Forest 47.01 304 P **P** 14 32 59.3 -2.0
BFO pmax pmax
comp=Z,308nm,1.2s
BFO MLR MLR
comp=Z,41µm,20.0s
SDSI Sungai Dareh 47.17 141 P **P** 14 33 02.8 0.0
comp=Z,9µmcomp=Z,4µmcomp=Z,154nm,1.2s
PCPH Palayan 47.28 106⇓ *e*P **P** 14 33 04.1 +0.4
MSSA Maissana 47.32 298 P **P** 14 33 03.4 -0.4
MSSA IAmb IAmb 14 33 20.1
comp=Z,340nm,0.9s
PALP Palanan 47.35 104⇓ *e*P P 14 32 53.6 -11
JMN Monobe 47.65 77 P **P** 14 33 07.6 +1.1
JMN Monobe 47.65 77 P **P** 14 33 06.5 0.0
LUBP Lubang 47.83 109⇑ *e*P **P** 14 33 09.5 +1.6
BTNL Ternell 47.85 307 *d*P **P** 14 33 07.5 -0.3
comp=Z,176nm,1.1s
MEM Membach 47.92 307 *d*P **P** 14 33 07.7 -0.6
comp=Z,154nm,1.0s
BHOU Houvegnez 47.99 307 *d*P **P** 14 33 08.7 -0.2
comp=Z,109nm,1.1s
WLF Walferdange 48.07 306 IAMs_20 IAMs_20 14 55 27.6
comp=Z,80µm,20.0s
WLF Walferdange 48.07 306 *d*P **P** 14 33 09.5 0.0
comp=Z,286nm,1.2s
BEBN Eben Emael 48.08 308 *d*P **P** 14 33 09.7 +0.2
TGY Tagaytay City 48.10 108⇑ *e*P **P** 14 33 09.9 -0.2
PPSI Pulau Pagai 48.10 144 P **P** 14 33 10.5 +0.5
comp=Z,15µmcomp=Z,28µmcomp=Z,2µm,1.5s
JWT Wachi 48.16 74 P **P** 14 33 10.6 +0.2
TYV Tymovskoe 48.18 52 *e*P **P** 14 33 11.8 +1.5
TYV *e*S **S** 14 40 16.2 +7.2
TYV pmax pmax
comp=Z,2µm,5.0s
TYV pmax pmax
comp=Z,75nm,1.5s
TYV smax smax
comp=N,7µm,8.8s
TYV smax smax
comp=E,7µm,8.8s
TYV MLR MLR
comp=Z,100µm,14.0s
BSTI Sart Tilman 48.20 307 *d*P **P** 14 33 10.3 -0.2
comp=Z,26nm,1.1s
SENIN Lac Senin/Sane 48.22 301 P **P** 14 33 09.8 -1.1
UGL Uglegorsk 48.26 55 *e*P **P** 14 33 11.8 +0.9
UGL *e*S **S** 14 40 15.9 +5.8
UGL pmax pmax
comp=Z,400nm,1.2s
UGL pmax pmax
comp=Z,2µm,5.8s
UGL smax smax
comp=N,12µm,14.0s
UGL smax smax
comp=E,6µm,14.0s
UGL MLR MLR
comp=E,97µm,18.0s
UGL MLR MLR
comp=N,66µm,11.0s
UGL MLR MLR
comp=Z,83µm,19.0s
DSRI Dabo 48.38 137 P **P** 14 33 12.9 +0.7
comp=Z,11µmcomp=Z,12µmcomp=Z,504nm,1.2s
BCLA Clavier 48.41 307 *d*P **P** 14 33 10.9 -1.2
comp=Z,86nm,1.3s
BCLA *d*PcP **PcP** 14 34 33.1 -5.2
RCHB Rochefort 48.52 307 *d*P **P** 14 33 12.3 -0.6
comp=Z,102nm,0.9s
BGES Gesves 48.55 307 *d*P **P** 14 33 12.0 -1.1
comp=Z,101nm,1.3s
BMRD Maredsous 48.77 307 *d*P **P** 14 33 14.6 -0.3
comp=Z,188nm,1.3s
DOU Dourbes 48.93 307 *d*P **P** 14 33 15.1 -1.0
SNF Seneffe 49.02 307 *d*P **P** 14 33 16.3 -0.4
comp=Z,187nm,1.2s
SNF *d*PcP **PcP** 14 34 38.9 -1.6
BNI Bardonecchia 49.02 300 P **P** 14 33 14.9 -2.2
BNI IAmb IAmb 14 33 33.8
comp=Z,606nm,1.1s
BNI Bardonecchia 49.02 300 P **P** 14 33 14.9 -2.2
BNI pmax pmax
comp=Z,607nm,1.1s
BNI MLR MLR
comp=Z,35µm,20.0s
JSD Sado 49.20 70 P **P** 14 33 18.1 -0.2
JSD Sado 49.20 70 P **P** 14 33 17.8 -0.6
YSS Yuzh-Sakhalins 49.30 57 P **P** 14 33 17.8 -1.1
YSS IAmb IAmb 14 33 34.3
comp=Z,667nm,1.3s
YSS Yuzh-Sakhalins 49.30 57 P **P** 14 33 19.6 +0.7
YSS Yuzh-Sakhalins 49.30 57 *c e*P **P** 14 33 20.8 +1.9
YSS *e**PP **sP** 14 33 31.4 +5.3
YSS *e* 14 35 17.4
YSS *e*S **S** 14 40 23.4 -1.4
YSS pmax pmax
comp=Z,3µm,6.8s
YSS pmax pmax
comp=Z,150nm,1.1s
YSS smax smax
comp=N,9µm,12.1s
YSS MLR MLR
comp=Z,85µm,20.0s
INU Inuyama 49.34 74 P **P** 14 33 19.1 -0.4
INU IAMs_20 IAMs_20 14 56 41.4
comp=Z,76µm,20.0s
INU Inuyama 49.34 74 P **P** 14 33 20.0 +0.5
MASI Maura Aman, Be 49.48 142 P **P** 14 33 20.9 +0.2
JGF Kuroka 49.49 73 P **P** 14 33 20.7 0.0
JGF Kuroka 49.49 73 P **P** 14 33 20.9 +0.2
JGF Kuroka 49.49 73 P **P** 14 33 20.8 +0.2
JGF Kuroka 49.49 73 ⇑P **P** 14 33 20.9 +0.2
JIE Ise 49.51 75 P **P** 14 33 21.0 +0.2
JEW Eniwo 49.73 63 P **P** 14 33 22.4 +0.1
MAJO Matsushiro 49.74 72 P **P** 14 33 21.3 -1.2
MAJO Matsushiro 49.74 72 IAMs_20 IAMs_20 14 55 55.5
comp=Z,62µm,18.0s
MAJO Matsushiro 49.74 72 P **P** 14 33 22.3 -0.2
MAJO Matsushiro 49.74 72 ⇑P **P** 14 33 22.2 -0.4
MAJO Matsushiro 49.74 72 *c i*P **P** 14 33 22.3 -0.2
MAJO pmax pmax
comp=Z,313nm,1.4s
MAJO MLR MLR
comp=Z,59µm,16.0s
MAT Matsushiro 49.74 72 P **P** 14 33 21.7 -0.8
MJAR Matsushiro Arr 49.74 72 P **P** 14 33 22.3 -0.3
comp=Z,61nm,0.8s,baz=294,slow=9.1,SNR=70
MJAR LR LR 14 56 07.1
comp=Z,64µm,18.4s,baz=296,slow=38
comp=Z,61nm,0.8s
LRW Lerwick 49.91 321 *e*P **P** 14 33 22.9 -0.5
LRW Lerwick 49.91 321 ⇓P **P** 14 33 23.8 +0.5
KSM Kuching 50.01 130 P **P** 14 33 24.0 -0.7
KSM IAmb IAmb 14 33 36.7
comp=Z,967nm,1.4s
KSM Kuching 50.01 130 P **P** 14 33 26.6 +1.9
KSM Kuching 50.01 130 ⇓P **P** 14 33 24.7 0.0
LODK Lodwar 50.02 235 P **P** 14 33 24.6 -0.3
LODK IAmb IAmb 14 33 49.5
comp=Z,450nm,1.4s
LODK Lodwar 50.02 235 P **P** 14 33 25.0 +0.1
SNR=102
LODK Lodwar 50.02 235 *e*P **P** 14 33 24.6 -0.3
LODK Lodwar 50.02 235 *e*P **P** 14 33 23.5 -1.4
ASAJ Asahikawa 50.09 61 LR LR 14 56 01.7
comp=Z,112µm,19.8s,baz=290,slow=38
ASAJ Asahikawa 50.09 61 P **P** 14 33 24.9 -0.1
ASAJ Asahikawa 50.09 61 P **P** 14 33 25.1 +0.1
ASAJ pmax pmax
comp=Z,311nm,1.0s
JKA Kamikawa-asahi 50.09 61 P **P** 14 33 25.1 +0.1
JKA IAmb IAmb 14 34 08.4
comp=Z,311nm,1.0s
JTM Tenmabayashi 50.19 65 P **P** 14 33 25.6 -0.3
JTM IAmb IAmb 14 33 38.9
comp=Z,621nm,1.1s
JTM Tenmabayashi 50.19 65 P **P** 14 33 25.3 -0.5
JTM Tenmabayashi 50.19 65 P **P** 14 33 25.4 -0.4
JTM Tenmabayashi 50.19 65 ⇑P **P** 14 33 25.5 -0.3
RUSF Rustrel 50.19 299 ⇓P P 14 33 30.9 +5.1
KKM Kota Kinabalu 50.30 120 P **P** 14 33 27.9 +0.9
KKM IAMs_20 IAMs_20 14 58 57.6
comp=Z,66µm,21.0s
KKM Kota Kinabalu 50.30 120 P **P** 14 33 28.8 +1.8
KKM Kota Kinabalu 50.30 120 ⇓P **P** 14 33 27.6 +0.6
SSB Saint Sauveur 50.38 301 ⇑P **P** 14 33 26.3 -1.0
SBUM Sibu 50.41 127 ⇓P **P** 14 33 28.2 +0.4
KEST Kesra 50.52 288 P **P** 14 33 26.5 -1.9
comp=Z,48nm,0.8s,baz=19,slow=3.3,SNR=27
KEST LR LR 15 00 32.9
comp=Z,17µm,18.7s,baz=20,slow=43
comp=Z,48nm,0.8s
KEST Kesra 50.52 288 P **P** 14 33 28.0 -0.5
PMBI Palembang 50.56 139 IAMs_20 IAMs_20 14 55 20.7
comp=Z,77µm,22.0s
PMBI Palembang 50.56 139 P **P** 14 33 29.6 +0.8
ELMS Elmsett, Ipswi 50.59 310 *e*P **P** 14 33 28.7 +0.1
WACR West Acre 50.63 311 *e*P **P** 14 33 29.0 0.0
WACR IAmb IAmb 14 33 35.4
comp=Z,1µm,0.8s
JMP Maruseppu 50.64 61 P **P** 14 33 28.7 -0.5
MA2 Magadan 50.73 40 LR LR 14 55 58.2
comp=Z,51µm,18.8s,baz=280,slow=37
MA2 Magadan 50.73 40 P **P** 14 33 29.6 0.0
MA2 Magadan 50.73 40 P **P** 14 33 30.8 +1.1
MA2 Magadan 50.73 40 ⇑P **P** 14 33 31.0 +1.3
MA2 Magadan 50.73 40 *d i*P **P** 14 33 31.5 +1.8
MA2 pmax pmax
comp=Z,432nm,2.5s
MA2 MLR MLR
comp=Z,92µm,14.0s
ELSH Elham, Standar 50.76 309 *e*P **P** 14 33 30.3 +0.3
SEY Seymchan 50.81 35 LR LR 14 54 36.2
comp=Z,97µm,20.6s,baz=278,slow=36
SEY Seymchan 50.81 35⇑ *e*P **P** 14 33 31.5 +1.3
SEY pmax pmax
comp=Z,198nm,2.5s
SEY MLR MLR
comp=Z,49µm,10.0s
MNAI Manna 50.89 142 P **P** 14 33 30.7 -0.6
MNAI IAmb IAmb 14 34 02.7
comp=Z,669nm,0.9s
MNAI Manna 50.89 142 P **P** 14 33 31.8 +0.5
JOD2 Odawara 2 50.92 73 P **P** 14 33 31.1 -0.4
CLF Chambon-Foret 50.99 305 IAMs_20 IAMs_20 14 57 51.2
comp=Z,66µm,20.0s
CLF Chambon-Foret 50.99 305 ⇓P **P** 14 33 31.0 -0.8
RCP Roxas 51.08 109⇓ *e*P P 14 33 38.6 +5.7
JMM Marumori 51.11 69 P **P** 14 33 32.3 -0.5
JMM IAmb IAmb 14 33 45.9
comp=Z,533nm,1.0s
JMM Marumori 51.11 69 P **P** 14 33 32.7 -0.1
JMM Marumori 51.11 69 ⇑P **P** 14 33 33.0 +0.2
JMIC Jan Mayen 51.12 335 *e*P **P** 14 33 33.9 +1.4
ERM Erimo 51.21 63 P **P** 14 33 34.7 +1.3
ERM Erimo 51.21 63 ⇑P P 14 33 39.2 +5.8
JEM Erimo 51.21 63 P **P** 14 33 34.7 +1.3
HMNX Herstmonceux 51.33 309 *e*P **P** 14 33 34.2 0.0
JYT Yasato 51.34 71 P **P** 14 33 33.4 -1.1
MLA1 Latheron 51.40 319 *e*P **P** 14 33 33.6 -1.1
MCD Coleburn Disti 51.52 318 *e*P **P** 14 33 34.6 -1.0
EDMD Edmundbyers 51.54 314 *e*P **P** 14 33 34.5 -1.3
EDMD IAmb IAmb 14 33 41.6
comp=Z,401nm,0.9s
CMAH Djebel Manchou 51.57 289 P P 14 33 41.7 +5.4
HPK Haverah Park 51.59 313 *e*P **P** 14 33 35.6 -0.5
HPK IAmb IAmb 14 33 42.1
comp=Z,478nm,0.9s
NOR Nord 51.60 349 *i*P **P** 14 33 34.8 -1.1
NOR IAmb IAmb 14 33 46.1
comp=Z,47nm,0.8s
NOR Nord 51.60 349 ⇑P **P** 14 33 35.1 -0.8
ESY Stoneypath 51.61 316 *e*P **P** 14 33 34.8 -1.5
BIGH Upper Bighouse 51.63 319 *e*P **P** 14 33 35.4 -1.0
EDU Dundee 51.66 317 *e*P **P** 14 33 35.9 -0.8
ABSA Djebel Ababsia 51.67 289 P P 14 33 42.7 +5.5
EBL Broad Law 51.88 316 *e*P **P** 14 33 37.9 -0.4
EDI Edinburgh 51.92 316 *e*P **P** 14 33 37.8 -0.7
EDI IAmb IAmb 14 33 44.4
comp=Z,318nm,0.8s
EKA Eskdalemuir Ar 52.07 315 LR LR 14 57 59.8
comp=Z,64µm,18.1s,baz=80,slow=39
ESK Eskdalemuir 52.10 315 *e*P **P** 14 33 38.5 -1.4
ESK IAmb IAmb 14 33 47.1
comp=Z,360nm,1.0s
ESK Eskdalemuir 52.10 315 P **P** 14 33 38.0 -1.9
ESK IAmb IAmb 14 33 47.4
comp=Z,342nm,0.9s
ESK Eskdalemuir 52.10 315 IAMs_20 IAMs_20 14 57 38.0
comp=Z,70µm,21.0s
ESK Eskdalemuir 52.10 315 ⇓P **P** 14 33 38.8 -1.1
ESK Eskdalemuir 52.10 315 P **P** 14 33 38.0 -1.9
ESK pmax pmax
comp=Z,342nm,1.0s
ESK MLR MLR
comp=Z,70µm,21.0s
CKFL Kef-Lekhel 52.17 289 P P 14 33 47.0 +6.1
STNC Stoke 52.17 312 *e*P **P** 14 33 40.1 -0.4
STNC IAmb IAmb 14 33 46.6
comp=Z,538nm,1.2s
INVG Invergeldie, C 52.24 317 *e*P **P** 14 33 40.0 -1.0
INVG IAmb IAmb 14 33 48.8
comp=Z,202nm,1.0s
KESW Keswick, Cumbr 52.25 314 *e*P **P** 14 33 39.6 -1.4
KESW IAmb IAmb 14 33 49.1
comp=Z,1µm,1.3s
YUK Yuzh-Kuril'sk 52.32 60 *e*P **P** 14 33 42.0 +0.3
YUK *e* 14 34 54.1
YUK *e* 14 35 40.8
YUK *e*PPP PPP 14 36 43.3
YUK *e*S **S** 14 41 08.4 +1.6
YUK *e*SS **SS** 14 44 47.7 +3.6
YUK *e*SSS SSS 14 46 30.6
YUK pmax pmax
comp=Z,2µm,1.1s
YUK pmax pmax
comp=E,1µm,1.1s
YUK pmax pmax
comp=Z,2µm,1.1s
YUK pmax pmax
comp=N,796nm,1.2s
YUK MLR MLR
comp=E,102µm,18.0s
YUK MLR MLR
comp=Z,82µm,18.0s
YUK MLR MLR
comp=N,74µm,15.0s
JHJ Hachijo jima 2 52.37 75 LR LR 14 58 39.6
comp=N,80µm,18.3s,baz=300,slow=39
LINV Loch Inver, As 52.38 319 *e*P **P** 14 33 40.6 -1.3
LINV IAmb IAmb 14 33 48.1
comp=Z,342nm,0.9s
CASM Ain Smara 52.40 289 P **P** 14 33 46.8 +4.3
SWN1 Swindon 52.41 310 *e*P **P** 14 33 42.0 -0.4
SWN1 IAmb IAmb 14 33 48.2
comp=Z,1µm,1.4s
KMBO Kilima Mbogo 52.44 229 P **P** 14 33 42.4 -0.9
comp=Z,16nm,0.9s,baz=36,slow=11,SNR=27
KMBO LR LR 14 57 52.8
comp=Z,22µm,18.5s,baz=40,slow=38
comp=Z,16nm,0.9s
KMBO Kilima Mbogo 52.44 229 P **P** 14 33 42.0 -1.2
KMBO Kilima Mbogo 52.44 229 *e*P **P** 14 33 43.3 +0.1
KMBO IAmb IAmb 14 34 23.2
comp=Z,93nm,1.2s
KMBO Kilima Mbogo 52.44 229 P **P** 14 33 42.6 -0.7
KMBO S **S** 14 41 10.9 +1.3
KMBO Kilima Mbogo 52.44 229 *e*P **P** 14 33 42.4 -0.9
KMBO Kilima Mbogo 52.44 229 *i*P **P** 14 33 42.8 -0.5
SNR=71
EAB Aberfoyle 52.47 316 *e*P **P** 14 33 41.6 -1.1
MYLDM Lahad Datu 52.47 118 P **P** 14 33 43.5 +0.2
MYLDM IAMs_20 IAMs_20 15 00 10.8
comp=Z,65µm,18.0s
MYLDM Lahad Datu 52.47 118 ⇓P **P** 14 33 44.8 +1.6
MAHO Mahon 52.52 295 P **P** 14 33 45.3 +2.0
MAHO S **S** 14 41 06.4 -3.2
CTEI Djebel Teioual 52.54 289 P P 14 33 49.0 +5.3
STRD Stroud 52.55 311 *e*P **P** 14 33 43.0 -0.3
STRD IAmb IAmb 14 33 48.8
comp=Z,435nm,0.9s
NEWG New Galloway 52.72 315 *e*P **P** 14 33 43.5 -1.0
NEWG IAmb IAmb 14 33 50.6
comp=Z,483nm,0.9s
DFRA Djebel Bou Aff 52.73 290 P P 14 33 50.4 +5.3
HLM1 Long Mynd 52.74 312 *e*P **P** 14 33 44.3 -0.4
HLM1 IAmb IAmb 14 33 51.1
comp=Z,237nm,1.1s
LLP Lapu-Lapu 52.80 109⇑ *e*P **P** 14 33 46.6 +0.9
LLP *e*S **S** 14 41 19.9 +5.9
FOEL Foel Wylfa 52.81 312 *e*P **P** 14 33 43.5 -1.8
OLDB Oldbury-Upon-S 52.81 310 *e*P **P** 14 33 44.5 -0.8
DAG Danmarks Havn 52.84 343 *i*P **P** 14 33 44.4 -0.7
DAG IAmb IAmb 14 33 53.3
comp=Z,182nm,0.7s
KPL Plockton 52.84 318 *e*P **P** 14 33 44.2 -1.1
KPL IAmb IAmb 14 33 54.6
comp=Z,171nm,0.7s
MONM Monmouth 52.91 311 *e*P **P** 14 33 44.8 -1.1
MONM IAmb IAmb 14 33 51.5
comp=Z,612nm,1.1s
KIBK Kibwezi 52.97 227 P **P** 14 33 45.9 -1.0
KIBK Kibwezi 52.97 227 P **P** 14 33 46.1 -0.9
SNR=50
MCH1 Michaelchurch 52.97 311 *e*P **P** 14 33 45.2 -1.3
MCH1 IAmb IAmb 14 33 52.2
comp=Z,1µm,0.9s
MCH1 Michaelchurch 52.97 311 ⇑P **P** 14 33 44.8 -1.7
LAWE Loch Awe, Argy 53.02 317 *e*P **P** 14 33 45.6 -1.1
LAWE IAmb IAmb 14 33 52.7
comp=Z,370nm,1.0s
GAL1 Galloway 53.06 315 *e*P **P** 14 33 45.9 -1.1
GAL1 IAmb IAmb 14 33 53.0
comp=Z,263nm,0.8s
TBP Tagbilaran 53.14 110⇑ *i*P **P** 14 33 48.6 +0.5
IOMK Kirk Michael 53.16 314 *e*P **P** 14 33 46.7 -1.1
IOMK IAmb IAmb 14 33 54.0
comp=Z,915nm,0.9s
CKHR Kef el Ahmar 53.22 290 P **P** 14 33 51.1 +2.4
TABP Talibon, Bohol 53.22 109⇓ *e*P **P** 14 33 49.8 +1.1
KUR Kuril'sk 53.22 58 *e*P **P** 14 33 47.3 -1.1
KUR *e* 14 34 51.3
KUR *e* 14 35 49.3
KUR *e*S **S** 14 41 20.0 +1.0
KUR pmax pmax
comp=Z,4µm,18.1s
KUR pmax pmax
comp=Z,568nm,1.2s
KUR pmax pmax
comp=N,249nm,1.3s
KUR MLR MLR
comp=Z,97µm,19.0s
KUR MLR MLR
comp=N,51µm,16.0s
SET Setif 53.22 290 P **P** 14 33 51.0 +2.3
LEWI Lewis, Hebride 53.23 319 *e*P **P** 14 33 46.8 -1.5
LEWI IAmb IAmb 14 33 53.5
comp=Z,236nm,0.9s
LSIP Lazi, Siquijor 53.35 110⇓ *e*P **P** 14 33 48.3 -1.3
JSA Saint Aubin 53.40 307 *e*P **P** 14 33 48.9 -0.7
JSA Saint Aubin 53.40 307 ⇓P **P** 14 33 50.6 +1.0
DCPH Dipolog City 53.51 111⇓ *i*P **P** 14 33 54.6 +3.7
GHBP Garcia Hernand 53.52 109⇑ *e*P **P** 14 33 53.5 +2.5
CLGH Cloghs, Cushen 53.76 315 *e*P **P** 14 33 51.2 -1.0
DBG Daneborg 53.85 340 *i*P **P** 14 33 52.4 -0.1
DBG IAmb IAmb 14 34 03.2
comp=Z,41nm,0.8s
DBG Daneborg 53.85 340 ⇑P **P** 14 33 52.8 +0.2
GMM Mts of Mourne 53.94 314 *e*P **P** 14 33 52.7 -0.8
RSBS Rosebush, Pemb 54.00 311 *e*P **P** 14 33 53.0 -1.1
RSBS IAmb IAmb 14 34 00.3
comp=Z,426nm,1.1s
DYA Yadsworthy 54.04 309 *e*P **P** 14 33 53.5 -0.8
HTL Hartland 54.18 310 *e*P **P** 14 33 55.2 -0.1
DSB Dublin 54.51 313 IAMs_20 IAMs_20 14 58 54.7
comp=Z,45µm,19.0s
CGP Cagayan de Oro 54.58 110⇓ *e*P **P** 14 34 01.8 +3.2
BILL Bilibino 55.10 27 P **P** 14 34 01.1 -0.7
BILL IAMs_20 IAMs_20 14 56 17.9
comp=Z,59µm,19.0s
BILL Bilibino 55.10 27 *c i*P **P** 14 34 01.1 -0.7
BILL *e* 14 36 08.8
BILL *e*PPP PPP 14 37 13.9
BILL *i*S **S** 14 41 49.2 +5.3
BILL pmax pmax
comp=Z,97nm,1.3s
BILL MLR MLR
comp=Z,49µm,17.0s
BUKP Musuan 55.23 110⇑ *e*P **P** 14 34 05.1 +1.6
LEM Lembang 55.34 138 LR LR 15 02 34.3
comp=Z,33µm,18.6s,baz=324,slow=41
COCO West Island 55.36 153 IAMs_20 IAMs_20 14 57 19.7
comp=Z,48µm,20.0s
SCO Scoresbysund 55.56 336 *i*P **P** 14 34 01.4 -3.7
KCP Kidapawan 55.84 111⇑ *e*P **P** 14 34 09.0 +1.1
BBJI Bungbulang 55.90 139 P **P** 14 34 09.9 +1.7
BIPH Bislig 55.98 109⇑ *i*P **P** 14 34 07.6 -1.1
MBAR Mbarara 56.05 236 LR LR 15 01 04.2
comp=Z,29µm,19.0s,baz=26,slow=39
MBAR Mbarara 56.05 236 P **P** 14 34 07.4 -2.1
MBAR IAmb IAmb 14 34 32.7
comp=Z,749nm,1.5s
MBAR Mbarara 56.05 236 P **P** 14 34 08.7 -0.7
MBAR P **P** 14 34 08.7 -0.7
MBAR S **S** 14 41 58.2 +0.2
MBAR S **S** 14 41 58.2 +0.2
MBAR Mbarara 56.05 236 ⇑P **P** 14 34 08.4 -1.1
MBAR Mbarara 56.05 236 *c i*P **P** 14 34 08.5 -1.0
MBAR pmax pmax
comp=Z,592nm,1.5s
MBAR MLR MLR
comp=Z,19µm,13.0s
DAV Davao City (W) 56.15 111 LR LR 15 01 34.3
comp=Z,118µm,19.5s,baz=354,slow=40
DAV Davao City (W) 56.15 111 P **P** 14 34 12.3 +2.3
ECHA Ech Chlef 56.18 292 P P 14 34 18.0 +8.1
BKB Balikpapan 56.22 125 IAMs_20 IAMs_20 15 02 55.3
comp=Z,41µm,20.0s
BKB Balikpapan 56.22 125 P **P** 14 34 11.8 +1.3
PEA0B Petropavlovsk- 56.34 46 *c e*P **P** 14 34 12.0 +1.1
PETK Petropavlovsk- 56.34 46 P **P** 14 34 11.6 +0.7
comp=Z,37nm,1.0s,baz=331,slow=1.6,SNR=10
PETK LR LR 15 01 40.4
comp=Z,44µm,18.5s,baz=292,slow=40
comp=Z,37nm,1.0s
SKR Severo-Kuril's 56.35 49 *e*P **P** 14 34 10.3 -0.6
SKR pmax pmax
comp=Z,1µm,14.0s
GSPH General Santos 56.37 112⇑ *e*P **P** 14 34 14.8 +3.1
PET Petropavlovsk 56.90 46 P **P** 14 34 12.6 -2.3
PET IAMs_20 IAMs_20 15 01 47.5
comp=Z,48µm,19.0s
PET Petropavlovsk 56.90 46 P **P** 14 34 14.6 -0.3
PET Petropavlovsk 56.90 46 ⇑P **P** 14 34 14.6 -0.3
PET Petropavlovsk 56.90 46 *e*P **P** 14 34 14.1 -0.8
PET *e* 14 36 29.3
PET *e*PPP PPP 14 37 47.3
PET *e*S **S** 14 42 02.8 -5.4
PET *e*SS **SS** 14 45 49.5 -6.4
PET pmax pmax
comp=Z,3µm,11.1s
PET pmax pmax
comp=Z,215nm,1.1s
PET pmax pmax
comp=Z,4µm,13.8s
PET pmax pmax
comp=Z,4µm,19.3s
PET smax smax
comp=N,7µm,22.9s
PET smax smax
comp=N,4µm,18.6s
PET MLR MLR
comp=Z,65µm,20.0s

PET MLR MLR
comp=Z,53µm,18.0s
TOLI2 Tolitoli 56.99 120 P **P** **14 34 18.0 +2.0**
SBV Sambava 57.03 208 *e*P **P** **14 34 20.8 +4.7**
JCJ Chichijima 57.08 80 LR LR 14 58 52.5
comp=Z,51µm,22.0s,baz=310,slow=36
CART Cartagena 57.23 294 P **P** **14 34 16.8 -0.6**
CART S **S** **14 42 09.9 -3.0**
XMI Christmas Isla 57.49 142 P **P** **14 34 21.8 +2.3**
BORG Borgarnes 57.50 330 LR LR 14 59 09.0
comp=Z,63µm,18.4s,baz=68,slow=36
ESBB Sonseca Array 58.36 298 P **P** **14 34 24.2 -1.2**
ESDC Sonseca Array 58.36 298 P **P** **14 34 24.2 -1.2**
comp=Z,25nm,0.7s,baz=56,slow=6.9,SNR=95
ESDC LR LR 15 02 37.0
comp=Z,8µm,19.0s,baz=56,slow=39
ESDC PKPPKP **P'P'df** **15 04 08.1 -2.1**
comp=Z,1.9nm,1.0s,baz=256,slow=3.1,SNR=4.9
comp=Z,25nm,0.7s
ESDC Sonseca Array 58.36 298 P **P** **14 34 23.8 -1.6**
PAB San Pablo 58.68 298 P **P** **14 34 25.9 -1.9**
PAB IAmb IAmb 14 34 40.1
comp=Z,1µm,1.8s
PAB San Pablo 58.68 298 ⇓P **P** **14 34 26.8 -0.9**
PAB San Pablo 58.68 298 P **P** **14 34 25.9 -1.9**
PAB pmax pmax
comp=Z,1µm,1.8s
PAB MLR MLR
comp=Z,16µm,21.0s
NEEM North Greenlan 58.91 348 *i* P **P** **14 34 29.1 +0.1**
NEEM IAmb IAmb 14 34 41.5
comp=Z,266nm,0.7s
PBRG Braganca 59.28 301 *e*P **P** **14 34 30.5 -1.3**
comp=Z,634nm,1.6s
PBRG *e*pP **pP** **14 34 37.5 +0.4**
PBRG Braganca 59.28 301 *e*PP **PP** **14 36 47.9 +5.4**
SUMG Summit 59.30 341 *i* P **P** **14 34 31.0 -0.8**
SUMG IAmb IAmb 14 34 40.7
comp=Z,146nm,0.9s
WMELI Melilla 59.67 293 P **P** **14 34 33.9 -0.6**
WMELI S **S** **14 42 41.4 -3.4**
TAM Tamanrasset 59.69 276 P **P** **14 34 32.9 -2.1**
TAM IAmb IAmb 14 34 48.0
comp=Z,847nm,1.6s
TAM Tamanrasset 59.69 276 ⇑P **P** **14 34 34.0 -1.0**
TAM Tamanrasset 59.69 276 P **P** **14 34 32.9 -2.1**
TAM pmax pmax
comp=Z,847nm,1.6s
TAM MLR MLR
comp=Z,8µm,22.0s
MVO Moncorvo 59.77 300 *e*P **P** **14 34 34.6 -0.6**
comp=Z,755nm,1.6s
MVO *e*pP **pP** **14 34 40.6 +0.1**
MVO Moncorvo 59.77 300 *e*PP **PP** **14 36 46.9 +0.1**
MVO *e*S **S** **14 42 45.0 -1.1**
MVO *e*LQ LQ 14 49 33.2
MVO *e*LR LR 14 53 41.3
comp=Z,15µm,18.0s
LUWI Luwuk 59.91 120 P **P** **14 34 38.2 +1.9**
EMAL Malaga-Limoner 60.03 295 P **P** **14 34 36.3 -0.7**
EMAL *S* **S** **14 42 43.6 -5.9**
PVRL Vila Real 60.18 301 *e*P **P** **14 34 37.4 -0.6**
comp=Z,451nm,1.5s
PVRL *e*pP **pP** **14 34 42.1 -1.1**
PCAB Cabril 60.18 301 *e*P **P** **14 34 37.8 -0.2**
comp=Z,1µm,1.5s
PCAB *e*pP **pP** **14 34 42.6 -0.7**
PGAV Gavieira, Arco 60.23 302 *e*S **S** **14 42 50.9 -1.1**
PGAV *e*LQ LQ 14 49 36.3
PGAV *e*LR LR 14 53 44.3
comp=Z,14µm,18.0s
JAGI Jajag, Banyuwa 60.26 133 P **P** **14 34 36.0 -2.7**
JAGI IAmb IAmb 14 34 48.0
comp=Z,692nm,1.6s
JAGI Jajag, Banyuwa 60.26 133 P **P** **14 34 40.4 +1.7**
MTE Manteigas 60.47 300 *e*P **P** **14 34 39.5 -0.5**
comp=Z,993nm,1.6s
MTE *e*pP **pP** **14 34 45.7 +0.4**
MTE Manteigas 60.47 300 *e*PP **PP** **14 36 50.4 -2.6**
MTE *e*S **S** **14 42 55.6 +0.5**
MTE *e*LQ LQ 14 49 47.7
MTE *e*LR LR 14 54 00.7
comp=Z,13µm,20.0s
MTE Manteigas 60.47 300 P **P** **14 34 38.4 -1.6**
EUNU Eureka 60.49 356 P **P** **14 34 37.8 -1.7**
EUNU Eureka 60.49 356 ⇓P **P** **14 34 39.5 0.0**
PVIS Viseu 60.56 300 *e*P **P** **14 34 40.3 -0.3**
comp=Z,886nm,1.6s
PVIS *e*pP **pP** **14 34 45.2 -0.7**
PCBR Castelo Branco 60.69 299 *e*P **P** **14 34 41.5 +0.1**
comp=Z,463nm,1.6s
PCBR *e*pP **pP** **14 34 46.4 -0.3**
PVLZ Peæn de 60.71 293 P **P** **14 34 40.0 -1.6**
PVLZ S **S** **14 42 54.9 -3.2**
PMRV Marv??o 60.82 299 *e*P **P** **14 34 42.1 -0.3**
comp=Z,816nm,1.4s
PMRV *e*pP **pP** **14 34 47.8 +0.1**
PMRV *e*S **S** **14 43 01.3 +1.7**
PMRV *e*LQ LQ 14 50 00.8
PMRV *e*LR LR 14 52 27.9
comp=Z,13µm,20.0s
PTO Porto 60.83 301 *e*P **P** **14 34 44.7 +2.3**
comp=Z,584nm,1.6s
PTO *e*pP **pP** **14 34 47.1 -0.5**
KAPI Kappang 60.91 125 LR LR 15 03 37.6
comp=Z,35µm,21.9s,baz=308,slow=38
KAPI Kappang 60.91 125 P **P** **14 34 43.9 +0.7**
CEU Ceuta 61.12 294 P **P** **14 34 40.9 -3.4**
CEU *S* **S** **14 42 57.2 -6.1**
PBAR Barrancos 61.18 297 *e*P **P** **14 34 44.2 -0.6**
comp=Z,1µm,2.1s
PBAR *e*pP **pP** **14 34 50.0 -0.1**
PBAR Barrancos 61.18 297 *e*PP PP 14 37 14.8 +16
PESTR Estremoz 61.23 298 *e*P **P** **14 34 41.5 -3.6**
comp=Z,496nm,1.7s
PESTR *e*pP **pP** **14 34 50.5 +0.1**
PESTR Estremoz 61.23 298 ⇓P **P** **14 34 48.6 +3.5**
PCAS Casmilo, Conde 61.28 300 *e*P **P** **14 34 46.4 +1.0**
comp=Z,815nm,1.6s
PCAS *e*pP **pP** **14 34 50.4 -0.3**
SFS San Fernando 61.43 295 P **P** **14 34 44.6 -1.9**
SFS *S* **S** **14 43 07.9 +0.6**
SFS San Fernando 61.43 295 IAMs_20 IAMs_20 15 06 10.7
comp=Z,34µm,18.0s
ARNO Arenosillo 61.49 296 P **P** **14 34 48.4 +1.5**
ARNO *S* **S** **14 43 08.1 +0.1**
PMTG Montargil 61.56 299 *e*P **P** **14 34 46.4 -1.0**
comp=Z,445nm,1.5s
PMTG *e*pP **pP** **14 34 52.3 -0.3**
ICESG Greenland Ices 61.62 338 *i* P **P** **14 34 47.7 0.0**
ICESG IAmb IAmb 14 35 01.1
comp=Z,200nm,0.7s
ICESG Greenland Ices 61.62 338 ⇑P **P** **14 34 47.2 -0.5**
EVO Evora 61.68 298 P **P** **14 34 49.6 +1.4**
EVO *S* **S** **14 43 09.9 -0.5**
EVO Evora 61.68 298 *e*P **P** **14 34 47.1 -1.1**
comp=Z,546nm,2.0s
EVO *e*pP **pP** **14 34 53.9 +0.5**
EVO Evora 61.68 298 *e*PP PP 14 37 13.7 +10
PSBE So Bento 61.74 299 *e*P **P** **14 34 49.6 +1.0**
comp=Z,1µm,2.2s
PSBE *e*pP **pP** **14 34 54.3 +0.4**
PSBE So Bento 61.74 299 *e*PP PP 14 37 13.9 +10
TNTI Ternate 61.78 115 P **P** **14 34 48.6 -0.5**
TNTI Ternate 61.78 115 P **P** **14 34 50.6 +1.5**
PBEJ Beja 61.82 297 *e*P **P** **14 34 48.8 -0.4**
comp=Z,651nm,1.6s
PBEJ *e*pP **pP** **14 34 55.0 +0.6**
PBEJ Beja 61.82 297 *e*PP PP 14 37 15.7 +11
KULLO Kullorsuaq 62.01 347 *i* P **P** **14 34 49.4 -0.4**
KULLO IAmb IAmb 14 35 08.5
comp=Z,133nm,0.7s
PVAQ Vaqueiros 62.02 297 *e*P **P** **14 34 49.6 -0.9**
comp=Z,966nm,1.5s
PVAQ *e*pP **pP** **14 34 56.3 +0.5**
PVAQ Vaqueiros 62.02 297 *e*PP PP 14 37 19.8 +13
PVAQ *e*S **S** **14 43 10.2 -4.6**
PVAQ *e*LQ LQ 14 50 04.0
PVAQ *e*LR LR 14 55 42.7
comp=Z,13µm,20.0s
PVAQ Vaqueiros 62.02 297 P **P** **14 34 49.4 -1.1**
PVAQ IAmb IAmb 14 35 03.9
comp=Z,443nm,1.4s
PVAQ Vaqueiros 62.02 297 ⇓P **P** **14 34 50.5 0.0**

MDT Midelt 62.10 291 LR LR 15 06 08.4
comp=Z,5µm,21.0s,baz=62,slow=40
PACT Alcochete 62.12 299 *e*P **P** **14 34 51.3 +0.2**
comp=Z,2µm,1.5s
PACT *e*pP **pP** **14 34 56.0 -0.4**
PACT Alcochete 62.12 299 *e*PP PP 14 37 16.4 +8.9
PCVE Castro Verde 62.13 297 *e*P **P** **14 34 50.3 -0.9**
comp=Z,358nm,1.5s
PCVE *e*pP **pP** **14 34 56.4 -0.1**
MESJ Messejana 62.16 297 *e*P **P** **14 34 50.9 -0.5**
MESJ *e*PP **PP** **14 37 07.4 -0.5**
MESJ *e*S **S** **14 43 16.4 -0.2**
MESJ IAMs_20 IAMs_20 14 53 50.7
comp=N,73µm,47.6s
MESJ Messejana 62.16 297 *e*P **P** **14 34 50.6 -0.8**
comp=N,563nm,2.3s
MESJ *e*pP **pP** **14 34 56.7 0.0**
MESJ Messejana 62.16 297 *e*PP **PP** **14 37 12.1 +4.2**
MESJ Messejana 62.16 297 ⇓P **P** **14 34 51.0 -0.5**
MESJ Messejana 62.16 297 *e*P **P** **14 34 50.8 -0.5**
MESJ *e* 14 37 07.3
MESJ *e*S **S** **14 43 16.3 -0.2**
TULEG Thule 62.17 351 P **P** **14 34 49.4 -1.5**
TULEG IAmb IAmb 14 35 01.6
comp=Z,683nm,1.4s
TULEG Thule 62.17 351 *i* P **P** **14 34 51.1 +0.2**
TULEG IAmb IAmb 14 35 04.4
comp=Z,68nm,0.8s
TULEG Thule 62.17 351 ⇑P **P** **14 34 49.6 -1.3**
PNCL Nicolau / Gran 62.24 298 *e*P **P** **14 34 52.1 +0.2**
comp=Z,556nm,1.7s
PNCL *e*pP **pP** **14 34 57.5 +0.3**
PNCL Nicolau / Gran 62.24 298 *e*PP PP 14 37 17.6 +9.0
PMAFR Mafra 62.34 299 *e*P **P** **14 34 52.7 +0.1**
comp=Z,1µm,1.6s
PMAFR *e*pP **pP** **14 34 58.7 +0.8**
LIS Lisbon 62.36 299 *e*P **P** **14 34 52.2 -0.6**
LIS *e*S **S** **14 43 18.9 -0.2**
LIS IAMs_20 IAMs_20 14 55 31.7
comp=N,91µm,50.5s
LIS Lisbon 62.36 299 *e*P **P** **14 34 52.1 -0.6**
LIS *e*S **S** **14 43 18.8 -0.2**
PMST Lisbon--Monsan 62.38 299 *e*P **P** **14 34 53.4 +0.6**
comp=N,1µm,1.3s
PMST *e*pP **sP** **14 34 59.1 -1.0**
PMST Lisbon--Monsan 62.38 299 *e*PP **PP** **14 37 15.2 +5.4**
PTEO Sao Teotonio 62.65 297 *e*P **P** **14 34 55.4 +0.7**
comp=N,854nm,2.1s
PTEO *e*pP **pP** **14 35 00.6 +0.6**
PLAI Plampang 62.67 130 P **P** **14 34 55.6 +0.6**
MORF Marmelete 62.72 297 *e*P **P** **14 34 54.6 -0.7**
MORF *e*S **S** **14 43 23.8 +0.1**
MORF IAMs_20 IAMs_20 14 53 39.0
comp=N,92µm,56.8s
MORF Marmelete 62.72 297 *e*P **P** **14 34 55.8 +0.6**
comp=N,360nm,1.9s
MORF *e*pP **pP** **14 35 00.9 +0.4**
MORF Marmelete 62.72 297 ⇑P P 14 35 00.8 +5.5
MORF Marmelete 62.72 297 *e*P **P** **14 34 54.5 -0.7**
MORF *e*S **S** **14 43 23.8 +0.1**
OPO Ambohidratompo 62.74 209 LR LR 14 59 48.1
comp=N,26µm,21.5s,baz=176,slow=34
SANI Sanana 62.83 118 P **P** **14 34 56.6 +0.5**
PFVI Vila Bisbo 62.93 297 *e*P **P** **14 34 56.2 -0.3**
comp=N,596nm,1.6s
PFVI *e*pP **pP** **14 35 02.2 +0.4**
ANGG Ammassalik, Gr 63.04 334 *i* P **P** **14 34 57.0 +0.3**
ANGG IAmb IAmb 14 35 07.2
comp=Z,106nm,0.8s
UPNV Upernavik 63.16 345 *i* P **P** **14 34 56.8 -0.7**
UPNV IAmb IAmb 14 35 15.5
comp=Z,92nm,0.8s
AVE Averroes 63.88 293 P **P** **14 35 05.3 +2.4**
AVE *S* **S** **14 43 36.0 -2.2**
AVE Averroes 63.88 293 P **P** **14 35 01.6 -1.3**
AVE IAmb IAmb 14 35 26.5
comp=Z,321nm,0.8s
A21K Barrow 64.06 16 P **P** **14 35 03.0 -0.5**
A21K IAMs_20 IAMs_20 15 03 15.7
comp=Z,47µm,21.0s
A21K Barrow 64.06 16 P **P** **14 35 01.9 -1.5**
baz=318,SNR=9.2
A21K *S* **S** **14 43 42.4 +3.1**
baz=318
ILULI Ilulissat 64.64 341 *i* P **P** **14 35 06.3 -1.0**
ILULI IAmb IAmb 14 35 20.9
comp=Z,245nm,0.7s
RDOG Red Dog Mine 64.90 20 P **P** **14 35 06.8 -2.2**
baz=314
GAMB Gambell 65.02 27 P **P** **14 35 07.2 -2.6**
baz=309
GAMB *S* **S** **14 43 56.6 +5.4**
baz=309
TNA Tin City 65.12 24 P **P** **14 35 10.1 -0.4**
TNA IAmb IAmb 14 35 34.9
comp=Z,420nm,1.1s
TNA Tin City 65.12 24 P **P** **14 35 07.3 -3.2**
baz=311
TNA *S* **S** **14 43 59.1 +6.6**
baz=311
TNA Tin City 65.12 24 ⇑P **P** **14 35 11.3 +0.8**
DY2G Dye2 65.23 338 *i* P **P** **14 35 11.4 -0.1**
DY2G IAmb IAmb 14 35 22.5
comp=Z,117nm,0.7s
ZOMB Zomba 65.24 222 ⇑P **P** **14 35 10.2 -1.8**
MMRI Maumere 65.26 126 P **P** **14 35 11.0 -1.1**
MMRI IAmb IAmb 14 35 38.3
comp=Z,490nm,1.3s
MMRI Maumere 65.26 126 P **P** **14 35 12.4 +0.4**
SHEM Shemya Is, Ala 65.32 41 LR LR 15 04 50.2
comp=Z,35µm,20.8s,baz=300,slow=37
SIJI Sorong 65.70 113 LR LR 15 04 32.1
comp=Z,16µm,20.8s,baz=322,slow=37
VOI Vohitsoka 65.94 208 P **P** **14 35 14.7 -1.6**
VOI IAmb IAmb 14 36 18.6
comp=Z,755nm,1.7s
VOI Vohitsoka 65.94 208 *e*P **P** **14 35 16.9 +0.6**
VOI Vohitsoka 65.94 208 P **P** **14 35 16.0 -0.3**
SFJD Kangerlussuaq 66.11 339 P **P** **14 35 14.8 -2.0**
SFJD IAmb IAmb 14 35 27.5
comp=Z,354nm,1.2s
SFJD Kangerlussuaq 66.11 339 *i* P **P** **14 35 16.0 -0.8**
SFJD IAmb IAmb 14 35 31.5
comp=Z,78nm,0.7s
SFJD Kangerlussuaq 66.11 339 ⇑P **P** **14 35 15.4 -1.4**
SFJD Kangerlussuaq 66.11 339 P **P** **14 35 14.8 -2.0**
SFJD pmax pmax
comp=Z,354nm,1.3s
SFJD MLR MLR
comp=Z,21µm,19.0s
RES Resolute Bay 66.16 357 P **P** **14 35 15.8 -1.3**
comp=Z,11nm,0.8s,baz=29,slow=10
RES LR LR 15 06 33.8
comp=Z,30µm,19.8s,baz=0.5,slow=38
comp=Z,11nm,0.8s
RES Resolute Bay 66.16 357 P **P** **14 35 16.0 -1.0**
RES Resolute Bay 66.16 357 ⇑P **P** **14 35 16.0 -1.0**
RES Resolute Bay 66.16 357 P **P** **14 35 16.0 -1.0**
RES pmax pmax
comp=Z,158nm,1.4s
C23K Itkillik River 66.49 15 P **P** **14 35 16.9 -2.3**
baz=324
C23K *S* **S** **14 44 11.4 +2.3**
baz=324
ANM Nome 66.59 24 IAMs_20 IAMs_20 15 04 32.0
comp=Z,44µm,20.0s
ANM Nome 66.59 24 P **P** **14 35 17.2 -2.8**
baz=313
ANM *S* **S** **14 44 16.1 +5.5**
baz=313
GUMO Guam 66.70 91 LR LR 15 08 02.0
comp=Z,27µm,18.1s,baz=310,slow=39
GUMO Guam 66.70 91 IAMs_20 IAMs_20 15 04 46.1
comp=Z,30µm,20.0s
GUMO Guam 66.70 91 P **P** **14 35 24.5 +3.1**
C24K Franklin Bluff 66.97 15 P **P** **14 35 19.7 -2.6**
baz=325
C24K *S* **S** **14 44 19.5 +4.6**
baz=325
D23K Nanushuk River 67.18 16 P **P** **14 35 22.4 -1.3**
baz=324
D23K *S* **S** **14 44 21.9 +4.4**
baz=324
BNDI Bandanaira 67.31 117 P **P** **14 35 27.5 +2.3**
BATI Baumata 67.36 126 LR LR 15 09 01.7

comp=Z,24µm,21.6s,baz=314,slow=40
SOEI Soe 67.40 125 P **P** **14 35 24.9 -1.0**
SOEI Soe 67.40 125 P **P** **14 35 27.5 +1.6**
C26K Camden Bay 67.53 14 P **P** **14 35 24.8 -1.0**
baz=328,SNR=53
C26K *S* **S** **14 44 26.3 +4.6**
baz=328
E22K Anaktuvuk Pass 67.60 17 P **P** **14 35 23.4 -3.0**
baz=323
E22K *S* **S** **14 44 24.5 +1.9**
baz=323
TOLK Toolik Lake Re 67.68 16 P **P** **14 35 26.2 -0.7**
TOLK IAmb IAmb 14 35 42.7
comp=Z,250nm,0.8s
TOLK IAMs_20 IAMs_20 15 09 39.2
comp=Z,39µm,18.0s
TOLK Toolik Lake Re 67.68 16 P **P** **14 35 24.7 -2.2**
baz=325,SNR=65
TOLK *S* **S** **14 44 27.6 +3.9**
baz=325
D25K Kavik River 67.76 14 P **P** **14 35 25.6 -1.8**
baz=327
D25K *S* **S** **14 44 29.1 +4.6**
baz=327
FAKI Fak Fak 67.83 114 P **P** **14 35 28.1 -0.5**
FAKI IAmb IAmb 14 35 47.6
comp=Z,424nm,1.2s
FAKI Fak Fak 67.83 114 P **P** **14 35 29.9 +1.3**
EKNA AfricaArray - 67.87 257 ⇑P **P** **14 35 28.9 0.0**
F21K Alatna River 67.93 18 P **P** **14 35 27.5 -1.0**
baz=322
F21K *S* **S** **14 44 30.6 +4.0**
baz=322
C27K Jago River 68.00 13 P **P** **14 35 27.2 -1.7**
baz=329
C27K *S* **S** **14 44 32.1 +4.7**
baz=329
F22K John River 68.02 17 P **P** **14 35 28.0 -1.0**
baz=323
F22K *S* **S** **14 44 31.1 +3.5**
baz=323
E23K Chandalar 68.15 16 P **P** **14 35 28.6 -1.3**
baz=325
E23K *S* **S** **14 44 33.0 +3.7**
baz=325
A36M Sachs Harbour 68.27 6 P **P** **14 35 29.3 -1.2**
A36M IAMs_20 IAMs_20 15 07 05.6
comp=Z,42µm,21.0s
A36M Sachs Harbour 68.27 6 P **P** **14 35 29.2 -1.2**
baz=344,SNR=153
A36M *S* **S** **14 44 35.9 +5.5**
baz=344
E24K Your Creek 68.38 16 P **P** **14 35 30.0 -1.2**
baz=326,SNR=66
E24K *S* **S** **14 44 36.2 +4.3**
baz=326
NUUK Nuuk 68.47 338 *i* P **P** **14 35 33.5 +1.7**
NUUK IAmb IAmb 14 35 42.2
comp=Z,50nm,1.0s
NUUK Nuuk 68.47 338 ⇓P P 14 35 36.8 +4.9
G21K Allakaket 68.49 19 P **P** **14 35 30.4 -1.6**
baz=322,SNR=49
G21K *S* **S** **14 44 37.0 +3.7**
baz=322
NRS Narsarsuaq 68.59 333 IAMs_20 IAMs_20 15 06 55.5
comp=Z,30µm,19.0s
NRS Narsarsuaq 68.59 333 *i* P **P** **14 35 32.6 0.0**
NRS IAmb IAmb 14 35 43.1
comp=Z,128nm,0.9s
NRS Narsarsuaq 68.59 333 ⇓P **P** **14 35 32.1 -0.5**
G22K Bettles 68.64 18 P **P** **14 35 31.1 -1.8**
baz=324
G22K *S* **S** **14 44 38.3 +3.3**
baz=324
COLD Coldfoot 68.70 17 P **P** **14 35 32.2 -1.0**
COLD IAmb IAmb 14 35 50.5
comp=Z,420nm,1.0s
COLD Coldfoot 68.70 17 P **P** **14 35 31.6 -1.7**
baz=324,SNR=161
COLD *S* **S** **14 44 40.0 +4.4**
baz=324
AMKA Amchitka 68.74 40 P **P** **14 35 33.5 -0.2**
IMAR Indian Mountai 68.84 19 P **P** **14 35 32.6 -1.5**
E25K Arctic Village 68.94 15 P **P** **14 35 33.3 -1.5**
baz=328,SNR=51
E25K *S* **S** **14 44 43.3 +4.7**
baz=328
F24K Squaw Lake 68.97 16 P **P** **14 35 32.1 -2.9**
baz=326
F24K *S* **S** **14 44 43.2 +4.2**
baz=326
GCSA Galena City Sc 68.98 21 P **P** **14 35 32.2 -2.8**
baz=320,SNR=49
GCSA *S* **S** **14 44 45.1 +6.1**
baz=320
LSZ Lusaka 69.08 228 LR LR 15 07 25.2
comp=Z,25µm,21.4s,baz=44,slow=37
LSZ Lusaka 69.08 228 *e*P **P** **14 35 36.2 -0.2**
LSZ IAmb IAmb 14 35 55.4
comp=Z,2µm,1.1s
LSZ Lusaka 69.08 228 *i* P **P** **14 35 37.0 +0.7**
LSZ Lusaka 69.08 228 *i* P **P** **14 35 37.0 +0.7**
G23K Bananza Creek 69.16 17 P **P** **14 35 34.4 -1.8**
baz=325,SNR=56
G23K *S* **S** **14 44 45.5 +4.2**
baz=325
H21K Melozitna Rive 69.34 19 IAMs_20 IAMs_20 15 07 06.4
comp=Z,48µm,20.0s
H21K Melozitna Rive 69.34 19 P **P** **14 35 34.9 -2.4**
baz=323
H21K *S* **S** **14 44 47.0 +3.6**
baz=323
F25K Christian Rive 69.37 15 P **P** **14 35 35.1 -2.4**
baz=328
F25K *S* **S** **14 44 50.0 +6.2**
baz=328
H22K Ishtalitna Cre 69.50 18 P **P** **14 35 36.6 -1.7**
baz=324,SNR=51
H22K *S* **S** **14 44 49.8 +4.4**
baz=324
IVI Ivigtut 69.50 334 *i* P **P** **14 35 38.3 0.0**
IVI IAmb IAmb 14 35 45.3
comp=Z,53nm,0.7s
F26K Sheenjek River 69.58 15 P **P** **14 35 37.3 -1.4**
baz=329
F26K *S* **S** **14 44 51.3 +5.1**
baz=329
E27K Coleen River 69.64 13 P **P** **14 35 38.3 -0.8**
baz=331
E27K *S* **S** **14 44 52.0 +5.1**
baz=331
BMAR Burnt Mountain 69.73 15 P **P** **14 35 39.0 -0.7**
G24K Hadweenzic Riv 69.74 16 P **P** **14 35 38.7 -1.0**
baz=327
G24K *S* **S** **14 44 53.3 +5.3**
baz=327
I21K Tanana 69.93 19 IAMs_20 IAMs_20 15 07 23.0
comp=Z,47µm,21.0s
I21K Tanana 69.93 19 P **P** **14 35 38.7 -2.2**
baz=324,SNR=34
I21K *S* **S** **14 44 52.8 +2.5**
baz=324
G25K Bearman Lake 69.98 16 P **P** **14 35 39.5 -1.6**
baz=328
G25K *S* **S** **14 44 57.0 +6.2**
baz=328
H23K Yukon River 70.00 18 IAMs_20 IAMs_20 15 09 58.7
comp=Z,44µm,20.0s
H23K Yukon River 70.00 18 P **P** **14 35 39.7 -1.6**
baz=325,SNR=114
H23K *S* **S** **14 44 56.0 +4.9**
baz=325
J20K Nowinta River 70.17 20 IAMs_20 IAMs_20 15 10 36.3
comp=Z,37µm,19.0s
J20K Nowinta River 70.17 20 P **P** **14 35 40.2 -2.1**
baz=322,SNR=60
J20K *S* **S** **14 44 59.3 +6.1**
baz=322
PMPST Porto Santo, M 70.29 297 *e*P **P** **14 35 43.9 +0.3**
comp=Z,1µm,1.9s
PMPST *e*pP **pP** **14 35 49.1 +0.1**
G26K Porcupine Rive 70.30 15 P **P** **14 35 42.1 -1.0**
baz=330
G26K *S* **S** **14 44 59.6 +5.1**
baz=330
PMPS Porto Santo 70.30 297 *e*P **P** **14 35 43.9 +0.2**
comp=Z,1µm,1.9s

PMPS epP pP 14 35 49.0 0.0
FYU Fort Yukon 70.33 16 IAms_20 IAms_20 15 07 30.4
comp=Z,46µm,20.0s
MLY Manley 70.36 19 P P 14 35 42.0 -1.7
baz=324,SNR=56
MLY S S 14 44 59.7 +4.2
baz=324
H24K Noodor Dome 70.37 17 P P 14 35 41.7 -1.9
baz=327
H24K S S 14 44 59.4 +3.8
baz=327
ADK Adak 70.41 38 IAms_20 IAms_20 15 04 55.7
comp=Z,48µm,21.0s
H25L Birch Creek 70.46 16 P P 14 35 42.2 -1.9
baz=328
H25L S S 14 45 03.2 +6.7
baz=328
I23K Minto, Yukon-K 70.60 18 IAms_20 IAms_20 15 07 38.6
comp=Z,47µm,20.0s
I23K Minto, Yukon-K 70.60 18 P P 14 35 43.1 -1.8
baz=326,SNR=96
I23K S S 14 45 02.6 +4.5
baz=326
TTA Tatalina 70.63 22 P P 14 35 43.4 -1.9
baz=321,SNR=28
TTA S S 14 45 03.5 +4.8
baz=321
TTA Tatalina 70.63 22 ⇑P P 14 35 44.8 -0.5
SAUI Saumlaki 70.75 118 P P 14 35 48.8 +2.2
INK Inuvik 70.83 11 S S 14 45 02.2 +1.6
comp=Z,8.7nm,1.1s,baz=270,slow=26,SNR=9.0
INK LR LR 15 09 55.9
comp=Z,32µm,21.3s,baz=328,slow=38
INK Inuvik 70.83 11 P P 14 35 45.0 -1.3
INK IAmb IAmb 14 36 00.3
comp=Z,591nm,1.1s
INK Inuvik 70.83 11 P P 14 35 44.8 -1.4
baz=338,SNR=123
INK S S 14 45 05.3 +4.7
baz=338
INK Inuvik 70.83 11 ⇓P P 14 35 45.1 -1.1
INK Inuvik 70.83 11 P P 14 35 45.0 -1.3
INK pmax pmax
comp=Z,591nm,1.2s
G27K Doyon Strip 70.84 14 P P 14 35 44.7 -1.7
baz=331
G27K S S 14 45 05.4 +4.5
baz=331
K20K Telida 70.84 21 IAms_20 IAms_20 15 10 08.6
comp=Z,40µm,21.0s
K20K Telida 70.84 21 P P 14 35 44.8 -1.7
baz=322
K20K S S 14 45 05.5 +4.5
baz=322
PMAR Madeira 70.89 297 *e*P P 14 35 47.8 +0.3
comp=Z,2µm,1.5s
PMAR *ep*P *p*P 14 35 53.5 +0.6
CHUM Lake Minchumin 70.89 20 P P 14 35 45.5 -1.3
baz=324,SNR=32
CHUM S S 14 45 06.5 +5.0
baz=324
FUL Funchal 70.92 297 *e*P P 14 35 49.0 +1.5
comp=Z,861nm,1.8s
FUL *ep*P *p*P 14 35 53.1 +0.3
C36M Paulatuk 70.94 7 P P 14 35 45.0 -1.9
C36M Paulatuk 70.94 7 P P 14 35 45.0 -1.9
baz=345,SNR=95
C36M S S 14 45 01.7 -0.1
baz=345
PMOZ Porto Moniz, M 71.03 297 *e*P P 14 35 49.7 +1.4
comp=Z,626nm,1.1s
PMOZ *ep*P *s*P 14 35 55.5 -0.1
PMOZ *e*S S 14 45 06.9 +2.5
PMOZ Porto Moniz, M 71.03 297 *e*LQ LQ 14 55 24.4
PMOZ *e*LR LR 14 59 10.4
comp=Z,7µm,18.0s
BPAW Bear Paw Mtn. 71.06 19 IAms_20 IAms_20 15 08 06.8
comp=Z,44µm,19.0s
BPAW Bear Paw Mtn. 71.06 19 P P 14 35 46.0 -1.9
baz=324,SNR=12
BPAW S S 14 45 05.8 +2.2
baz=324
POKR Poker Plat Res 71.08 17 P P 14 35 46.8 -1.1
baz=327,SNR=69
POKR S S 14 45 05.9 +2.1
baz=327
NEA2 Nenana 71.13 18 IAms_20 IAms_20 15 07 30.7
comp=Z,38µm,21.0s
NEA2 Nenana 71.13 18 P P 14 35 46.8 -1.5
baz=326,SNR=73
NEA2 S S 14 45 06.9 +2.6
baz=326
PRP Porcupine Dome 71.17 16 P P 14 35 47.0 -1.6
baz=328,SNR=50
PRP S S 14 45 10.3 +5.3
baz=328
TCOL CIGO, UAF Yank 71.19 18 P P 14 35 47.1 -1.4
baz=327,SNR=57
TCOL S S 14 45 08.3 +3.4
baz=327
COLA College 71.19 18 P P 14 35 48.0 -0.6
COLA IAmb IAmb 14 36 01.7
comp=Z,434nm,0.9s
COLA College 71.19 18 P P 14 35 46.9 -1.6
baz=327
COLA S S 14 45 08.3 +3.4
baz=327
COLA College 71.19 18 P P 14 35 48.1 -0.4
COLA College 71.19 18 ⇓P P 14 35 47.3 -1.3
COLA College 71.19 18*d* *i*P P 14 35 47.2 -1.3
COLA pmax pmax
comp=Z,405nm,0.9s
COLA MLR MLR
comp=Z,53µm,19.0s
CAST Castle Rocks 71.33 20 IAms_20 IAms_20 15 06 22.0
comp=Z,41µm,21.0s
CAST Castle Rocks 71.33 20 P P 14 35 48.1 -1.4
baz=324,SNR=147
CAST S S 14 45 09.6 +2.8
baz=324
H27K Steamboat Moun 71.37 14 P P 14 35 48.3 -1.5
baz=332
H27K S S 14 45 10.1 +3.0
baz=332
BWN Browne 71.39 19 IAms_20 IAms_20 15 12 22.4
comp=Z,39µm,18.0s
IL31 71.50 17 P P 14 35 48.5 -1.9
IL31 IAmb IAmb 14 36 03.4
comp=Z,315nm,1.1s
ILAR Eielson Array 71.50 17 P P 14 35 48.5 -2.0
comp=Z,28nm,0.9s,baz=331,slow=4.0,SNR=75
ILAR LR LR 15 10 34.2
comp=Z,49µm,19.2s,baz=308,slow=39
comp=Z,28nm,0.9s
KTH Kantishna Hill 71.53 20 IAms_20 IAms_20 15 11 10.1
comp=Z,31µm,18.0s
L19K White Mountain 71.55 22 IAms_20 IAms_20 15 08 18.9
comp=Z,46µm,19.0s
L19K White Mountain 71.55 22 P P 14 35 49.8 -1.0
baz=322
L19K S S 14 45 14.9 +5.6
baz=322
L20K Farewell, AK 71.59 21 P P 14 35 49.5 -1.6
baz=323
L20K S S 14 45 15.1 +5.3
baz=323
F31M Tsiigehtchic 71.60 11 P P 14 35 49.8 -1.2
baz=338,SNR=90
F31M S S 14 45 13.3 +3.7
baz=338
G30M tAoh Zraii Nji 71.64 12 P P 14 35 49.7 -1.7
baz=336,SNR=115
G30M S S 14 45 10.6 +0.4
baz=336
N16K Nishlik Lake 71.67 25 P P 14 35 50.8 -0.8
baz=319
N16K S S 14 45 16.7 +6.0
baz=319
PPLA Purkeypile 71.72 20 P P 14 35 50.4 -1.7
baz=324,SNR=42
PPLA S S 14 45 14.8 +3.3
baz=324
TRF Thorofare Moun 71.77 19 IAms_20 IAms_20 15 05 50.7
comp=Z,40µm,22.0s
TRF Thorofare Moun 71.77 19 P P 14 35 50.2 -2.2
baz=325,SNR=6.9
TRF S S 14 45 14.4 +2.2
baz=325

HDA Harding Lake 71.79 17 P P 14 35 50.2 -2.0
baz=326,SNR=55
HDA S S 14 45 12.7 +0.7
baz=328
HDA S S 14 45 12.7 +0.7
baz=328
I26K Coal Creek Min 71.86 16 P P 14 35 51.2 -1.4
baz=330
I26K S S 14 45 15.9 +3.3
baz=330
MCK McKinley 71.88 19 IAms_20 IAms_20 15 08 45.5
comp=Z,51µm,22.0s
MCK McKinley 71.88 19 P P 14 35 51.5 -1.3
baz=326,SNR=36
MCK S S 14 45 14.3 +1.2
baz=326
M19K Big River Lodg 71.90 22 IAms_20 IAms_20 15 06 01.9
comp=Z,43µm,21.0s
M19K Big River Lodg 71.90 22 P P 14 35 50.1 -2.9
baz=322
M19K S S 14 45 18.1 +4.7
baz=322
I27K Kandik River 71.91 15 P P 14 35 50.2 -2.8
baz=332
I27K S S 14 45 14.1 +0.7
baz=332
GIRL Giralia 72.08 141 P P 14 35 54.1 -0.4
GIRL Giralia 72.08 141 P P 14 35 56.8 +2.4
GIRL Giralia 72.08 141 ⇑P P 14 35 56.2 +1.8
EPYK Eagle Plains 72.12 13 IAms_20 IAms_20 15 10 31.4
comp=Z,23µm,18.0s
EPYK Eagle Plains 72.12 13 P P 14 35 52.2 -1.9
baz=335,SNR=50
EPYK S S 14 45 19.2 +3.5
baz=335
RND Reindeer 72.17 19 P P 14 35 53.0 -1.7
RND IAMs_20 IAMs_20 15 05 30.2
comp=Z,44µm,21.0s
RND Reindeer 72.17 19 P P 14 35 53.0 -1.7
RND pmax pmax
comp=Z,175nm,1.1s
M20K Styx River 72.28 21 P P 14 35 53.6 -1.7
baz=323
M20K S S 14 45 22.1 +4.3
baz=323
N18K Kilae Creek 72.42 23 IAms_20 IAms_20 15 07 37.0
comp=Z,40µm,20.0s
N18K Kilo Creek 72.42 23 P P 14 35 54.1 -1.9
baz=322
N18K S S 14 45 24.1 +4.7
baz=322
J26L Joseph Creek 72.47 16 P P 14 35 54.6 -1.8
baz=330
J26L S S 14 45 22.1 +2.2
baz=330
O16K Kokwok River B 72.57 25 P P 14 35 54.9 -2.0
baz=320
O16K S SKiKP 14 45 28.2 -3.0
baz=320
K24K Donnelly Dome 72.58 17 P P 14 35 54.4 -2.6
baz=329,SNR=83
K24K S S 14 45 21.3 +0.2
baz=329
CUT Chulitna 72.64 20 IAms_20 IAms_20 15 11 41.6
comp=Z,34µm,20.0s
CUT Chulitna 72.64 20 P P 14 35 55.6 -1.8
baz=325,SNR=27
CUT S S 14 45 21.4 -0.3
baz=325
SKT Skwentna 72.65 21 P P 14 35 55.6 -1.8
SKT IAmb IAmb 14 36 09.9
comp=Z,655nm,1.1s
SKT IAMs_20 IAMs_20 15 08 34.9
comp=Z,47µm,20.0s
SKT Skwentna 72.65 21 P P 14 35 55.0 -2.4
baz=324,SNR=90
SKT S S 14 45 22.1 +0.2
baz=324
EGAK Eagle 72.73 15 P P 14 35 56.7 -1.1
EGAK Eagle 72.73 15 P P 14 35 56.3 -1.5
baz=332,SNR=57
EGAK S S 14 45 22.6 -0.1
baz=332
WAT1 Susitna Watana 72.73 19 P P 14 35 55.2 -2.7
baz=327
WAT1 S S 14 45 21.9 -1.0
baz=327
N19K Bonanza Creek 72.74 23 IAMs_20 IAMs_20 15 07 06.4
comp=Z,44µm,19.0s
N19K Bonanza Creek 72.74 23 P P 14 35 54.9 -3.2
baz=322
N19K S S 14 45 25.6 +2.4
baz=322
O17K Koliganek Bris 72.75 24 P P 14 35 55.5 -2.5
baz=321
O17K S SKiKP 14 45 28.5 -2.8
baz=321
I29M Ogilvie Camp, 72.75 14 IAMs_20 IAMs_20 15 07 36.3
comp=Z,28µm,20.0s
I29M Ogilvie Camp, 72.75 14 P P 14 35 56.1 -1.9
baz=334,SNR=35
I29M S S 14 45 25.2 +2.2
baz=334
DHY Denali Highway 72.82 18 IAMs_20 IAMs_20 15 11 52.2
comp=Z,41µm,19.0s
DHY Denali Highway 72.82 18 P P 14 35 56.7 -1.9
baz=328,SNR=49
DHY S S 14 45 22.8 -1.3
baz=328
SCRK Sand Creek 72.83 17 IAMs_20 IAMs_20 15 07 42.6
comp=Z,37µm,20.0s
SCRK Sand Creek 72.83 17 P P 14 35 56.5 -2.2
baz=330,SNR=81
SCRK S S 14 45 26.8 +2.6
baz=330
RIDG Independent Ri 72.85 17 P P 14 35 56.8 -1.8
baz=329,SNR=34
RIDG S S 14 45 26.9 +2.7
baz=329
P16K Nushagak River 73.03 25 P P 14 35 58.5 -1.2
baz=320,SNR=16
SPCR Spur Chakacha 73.09 21 P P 14 35 58.0 -2.2
baz=324,SNR=14
SPCR S S 14 45 28.4 +1.3
baz=324
N20K Mount Spurr 73.09 21 P P 14 35 57.8 -2.4
baz=324,SNR=16
N20K S S 14 45 27.7 +0.6
baz=324
DOT Dot Lake 73.10 17 P P 14 35 58.7 -1.4
WAT6 Susitna Watana 73.15 19 P P 14 35 58.0 -2.6
baz=327,SNR=28
WAT6 S S 14 45 29.0 +1.2
baz=327
SPU Mount Spurr 73.15 21 P P 14 35 59.1 -1.4
FRB Frobisher Bay 73.19 344 P P 14 35 59.2 -1.3
comp=Z,34nm,0.9s,baz=54,slow=6.9,SNR=8.4
FRB LR LR 15 12 41.6
comp=Z,26µm,18.4s,baz=16,slow=40
comp=Z,34nm,0.9s
FRB Frobisher Bay 73.19 344 ⇓P P 14 36 00.2 -0.3
M22K Willow 73.22 20 IAMs_20 IAMs_20 15 07 31.9
comp=Z,39µm,22.0s
M22K Willow 73.22 20 P P 14 35 58.8 -1.9
baz=326,SNR=29
M22K S S 14 45 28.0 -0.2
baz=326
O18K Koktuh Hills 73.28 24 P P 14 35 59.5 -1.7
baz=322
O18K S SKiKP 14 45 33.1 +0.9
baz=322
O19K Port Alsworth 73.28 23 IAMs_20 IAMs_20 15 11 11.8
comp=Z,42µm,18.0s
O19K Port Alsworth 73.28 23 P P 14 35 59.4 -1.8
baz=323,SNR=18
O19K S SKiKP 14 45 32.4 +0.2
baz=323
SUA Susitna One 73.29 21 P P 14 35 59.2 -2.1
baz=325,SNR=20
SUA S S 14 45 30.6 +1.2
baz=325
GENI Genyem 73.36 108 P P 14 36 04.2 +1.9
PAX Paxson 73.37 18 P P 14 35 59.4 -2.3
baz=329,SNR=137
PAX S S 14 45 30.7 +0.5
baz=329
P17K Kvichak River 73.41 24 P P 14 36 00.9 -1.0
baz=321,SNR=30

P17K S SKiKP 14 45 35.3 +2.9
baz=321
BART Pico Bartolome 73.43 305 *e*P P 14 36 07.9 +5.3
comp=Z,906nm,1.5s
PGRON Lagoa das Cont 73.57 305 *e*P P 14 36 12.1 +8.8
comp=Z,738nm,2.1s
J29M Klondike Camp 73.59 14 P P 14 36 01.5 -1.6
baz=334,SNR=48
J29M S S 14 45 35.9 +3.3
baz=334
PMR Palmer 73.62 20 P P 14 36 00.8 -2.3
baz=326,SNR=52
PMR S S 14 45 35.4 +2.6
baz=326
PCALD Caldeiras da R 73.62 305 *e*P P 14 36 10.0 +6.4
comp=Z,710nm,2.3s
P18K Big Mountain, 73.64 24 IAMs_20 IAMs_20 15 11 48.3
comp=Z,41µm,20.0s
P18K Big Mountain, 73.64 24 P P 14 36 02.0 -1.4
baz=322,SNR=17
P18K S S 14 45 39.2 +5.9
baz=322
SML Sawmill 73.65 19 IAMs_20 IAMs_20 15 09 19.2
comp=Z,47µm,21.0s
SML Sawmill 73.65 19 P P 14 36 01.3 -2.1
baz=327,SNR=86
SML S S 14 45 35.6 +2.3
baz=327
MBWA Marble Bar 73.68 136 P P 14 36 03.3 -0.7
MBWA Marble Bar 73.68 136 IAMs_20 IAMs_20 15 08 31.1
comp=Z,37µm,22.0s
MBWA Marble Bar 73.68 136 P P 14 36 06.8 +2.9
MBWA P P 14 36 06.8 +2.9
MBWA S S 14 45 35.0 +0.5
MBWA S S 14 45 35.0 +0.5
MBWA Marble Bar 73.68 136 P P 14 36 05.1 +1.2
MBWA Marble Bar 73.68 136 ⇓P P 14 36 04.6 +0.7
UNV Unalaska Valle 73.68 33 P P 14 36 01.5 -2.1
baz=315
UNV S S 14 45 36.3 +2.6
baz=315
UNV Unalaska Valle 73.68 33 P P 14 36 05.2 +1.6
DAWY Dawson 73.72 15 P P 14 36 02.0 -1.7
DAWY IAmb IAmb 14 36 20.3
comp=Z,235nm,0.9s
DAWY Dawson 73.72 15 P P 14 36 01.2 -2.5
baz=334,SNR=86
DAWY S S 14 45 34.5 +0.5
baz=334
DAWY Dawson 73.72 15 ⇓P P 14 36 02.1 -1.7
CAPN Captain Cook N 73.75 21 P P 14 36 02.2 -1.7
baz=325
CAPN S S 14 45 36.9 +2.7
baz=325
Q16K King Salmon 73.75 25 P P 14 36 02.5 -1.4
baz=321,SNR=21
Q16K S S 14 45 39.8 +5.5
baz=321
PSET Sete Cidades 73.75 306 *e*P P 14 36 10.0 +5.6
comp=Z,1µm,2.0s
PDA Ponta Delgada 73.77 306 *e*P P 14 36 10.5 +6.1
comp=Z,1µm,1.9s
L26K Log Cabin Wild 73.81 17 IAMs_20 IAMs_20 15 10 47.3
comp=Z,38µm,19.0s
L26K Log Cabin Wild 73.81 17 P P 14 36 03.5 -0.7
baz=331,SNR=55
L26K S S 14 45 36.5 +1.5
baz=331
M23K Glacier View 73.81 19 P P 14 36 02.5 -1.8
baz=328,SNR=57
M23K S S 14 45 35.5 +0.4
baz=328
PSMN Pico do Norte, 73.83 305 *e*P P 14 36 09.6 +4.8
comp=Z,880nm,1.8s
MUSN Musina, Limpop 73.84 222 *e*P P 14 36 05.5 +0.6
MUSN IAmb IAmb 14 36 16.6
comp=Z,1µm,2.4s
MUSN Musina, Limpop 73.84 222 *i*P P 14 36 04.2 -0.7
MUSN Musina, Limpop 73.84 222 *i*P P 14 36 04.2 -0.7
RC01 Rabbit Creek A 73.87 20 P P 14 36 03.8 -0.9
RC01 IAmb IAmb 14 36 16.8
comp=Z,459nm,1.1s
RC01 IAMs_20 IAMs_20 15 07 43.2
comp=Z,29µm,21.0s
RC01 Rabbit Creek A 73.87 20 P P 14 36 02.6 -2.0
baz=326,SNR=33
RC01 S S 14 45 35.5 -0.3
baz=326
PSMA Santa Maria 73.88 305 *e*P P 14 36 09.8 +4.7
comp=Z,1µm,1.9s
SCM Sheep Creek Mo 73.88 19 P P 14 36 03.4 -1.4
baz=328,SNR=42
SCM S S 14 45 39.1 +3.1
baz=328
O20K Slope Mountain 73.88 22 P P 14 36 01.4 -3.4
baz=324
O20K S S 14 45 36.6 +0.6
baz=324
HARP HAARP 73.93 18 P P 14 36 03.2 -1.8
baz=329,SNR=73
HARP S S 14 45 40.5 +4.0
baz=329
M24K Tolsona, Glenn 73.94 18 IAMs_20 IAMs_20 15 09 49.8
comp=Z,48µm,22.0s
M24K Tolsona, Glenn 73.94 18 P P 14 36 03.8 -1.3
baz=329,SNR=54
M24K S S 14 45 38.7 +2.1
baz=329
KNK Knik Glacier 73.94 20 P P 14 36 03.7 -1.4
baz=327,SNR=48
KNK S S 14 45 39.1 +2.5
baz=327
P19K Oil Pt 74.05 23 IAMs_20 IAMs_20 15 11 08.0
comp=Z,43µm,19.0s
P19K Oil Pt 74.05 23 P P 14 36 03.5 -2.2
baz=324
P19K S S 14 45 40.1 +2.3
baz=324
MOPA Mopani 74.07 220 *e*P P 14 36 05.7 -0.5
MOPA IAmb IAmb 14 36 19.1
comp=Z,182nm,1.2s
MOPA Mopani 74.07 220 *i*P P 14 36 05.3 -0.9
MOPA Mopani 74.07 220 *i*P P 14 36 05.3 -0.9
PSA00 Pilbara Seismi 74.08 136 P P 14 36 05.9 -0.4
PSA00 Pilbara Seismi 74.08 136 P P 14 36 07.1 +0.8
PSCM Serra do Cume 74.10 307 *e*P P 14 36 11.6 +5.2
comp=Z,1µm,1.9s
PAGU Aguada, Azore 74.10 307 *e*P P 14 36 12.0 +5.6
comp=Z,1µm,1.9s
S12K Black Hills 74.10 29 S S 14 45 42.0 +3.4
baz=318
L27K Beaver Creek, 74.11 16 P P 14 36 04.8 -1.3
baz=332
L27K S S 14 45 40.4 +2.0
baz=332
BCAR Beaver Creek A 74.11 16 P P 14 36 04.5 -1.6
MTN Manton Dam 74.16 122 P P 14 36 07.7 +0.8
MTN Manton Dam 74.16 122 ⇓P P 14 36 09.3 +2.5
PSBA Serra de Santa 74.19 307 *e*P P 14 36 12.3 +5.4
comp=Z,1µm,1.8s
ADH Angra Heroismo 74.20 307 *e*P P 14 36 12.0 +5.1
comp=Z,1µm,1.7s
FALS False Pass 74.20 30 P P 14 36 03.9 -2.7
baz=317
FALS S S 14 45 42.2 +2.6
baz=317
FALS False Pass 74.20 30 P P 14 36 08.4 +1.8
K29M Barlow Dome 74.28 14 P P 14 36 04.5 -2.6
baz=335
K29M S S 14 45 40.6 +0.2
baz=335
Q18K Katmai Hardscr 74.30 24 P P 14 36 05.5 -1.8
baz=322
Q18K S S 14 45 45.0 +4.1
baz=322
R16K Pilot Point 74.30 26 P P 14 36 07.2 0.0
baz=321
Q17K Contact Creek 74.32 25 P P 14 36 06.4 -1.0
baz=322,SNR=13
Q17K S S 14 45 45.4 +4.2
baz=322
O22K Cooper Landing 74.38 21 P P 14 36 07.1 -0.5
baz=326,SNR=7.8
O22K S S 14 45 42.1 +0.6
baz=326
PGRA Graciosa 74.43 308 *e*P P 14 36 13.7 +5.4
comp=Z,2µm,1.8s

M26K Nabesna, AK 74.43 17 IAMs_20 IAMs_20 15 10 01.8
comp=Z,41µm,19.0s
M26K Nabesna, AK 74.43 17 P **P** **14 36 06.6 -1.4**
baz=331
M26K S **S** **14 45 41.6 -0.5**
baz=331
PWL Port Wells 74.44 20 P **P** **14 36 06.9 -1.1**
baz=327,SNR=24
PWL S **S** **14 45 42.8 +0.6**
baz=327
SRBC Serra Branca 74.46 308 *e*P P 14 36 14.7 +6.2
comp=Z,2µm,1.6s
Q19K Cape Douglas, 74.51 23 IAMs_20 IAMs_20 15 08 09.1
comp=Z,48µm,21.0s
Q19K Cape Douglas, 74.51 23 P **P** **14 36 07.2 -1.2**
baz=324
HOM Homer 74.52 22 IAMs_20 IAMs_20 15 10 44.3
comp=Z,38µm,19.0s
HOM Homer 74.52 22 P **P** **14 36 06.4 -2.0**
baz=325
KLU Klutina 74.53 19 IAMs_20 IAMs_20 15 08 52.4
comp=Z,41µm,22.0s
KLU Klutina 74.53 19 P **P** **14 36 07.9 -0.7**
baz=329,SNR=40
KLU S **S** **14 45 44.3 +1.1**
baz=329
BRLK Bradley Lake 74.65 22 P **P** **14 36 07.7 -1.5**
BRLK IAMs_20 IAMs_20 15 08 43.9
comp=Z,36µm,20.0s
R17K Ugashik Creek 74.65 25 P **P** **14 36 07.2 -2.0**
baz=322
R17K S **S** **14 45 48.0 +3.4**
baz=322
BRSE Bradley Lake S 74.71 22 P **P** **14 36 08.0 -1.5**
baz=326
BRSE S **S** **14 45 45.0 -0.2**
baz=326
KNRA Kununurra 74.72 125 P **P** **14 36 10.0 -0.2**
KNRA IAmb IAmb 14 36 21.5
comp=Z,664nm,1.4s
KNRA Kununurra 74.72 125 P **P** **14 36 09.9 -0.2**
M27K Edge Creek, AK 74.72 16 P **P** **14 36 09.1 -0.6**
M27K IAmb IAmb 14 36 24.1
comp=Z,364nm,1.1s
M27K IAMs_20 IAMs_20 15 08 39.4
comp=Z,34µm,22.0s
M27K Edge Creek, AK 74.72 16 P **P** **14 36 06.3 -3.4**
baz=332
M27K S **S** **14 45 45.8 +0.2**
baz=332
PMAN Manadas 74.74 307 *e*P P 14 36 15.8 +5.7
comp=Z,1µm,1.9s
CNPM China Poot 74.74 22 IAMs_20 IAMs_20 15 11 01.3
comp=Z,42µm,19.0s
N25K Chitina, Valde 74.75 18 P **P** **14 36 09.4 -0.4**
N25K IAmb IAmb 14 36 35.0
comp=Z,718nm,1.5s
N25K Chitina, Valde 74.75 18 P **P** **14 36 09.5 -0.3**
baz=330,SNR=55
N25K S **S** **14 45 48.1 +2.3**
baz=330
SEW Seward 74.77 21 P **P** **14 36 07.8 -2.0**
baz=326,SNR=6.6
SEW S **S** **14 45 46.8 +1.1**
baz=326
ROSA Rosais 74.78 308 *e*P P 14 36 16.1 +5.8
comp=Z,954nm,2.0s
MAYO Mayo, Yukon 74.80 13 P **P** **14 36 08.7 -1.3**
baz=336,SNR=12
MAYO S **S** **14 45 47.6 +1.5**
baz=336
L29M L29M 74.83 15 P **P** **14 36 06.6 -3.7**
baz=335
L29M S **S** **14 45 47.1 +0.6**
baz=335
PID Ribeirinha 74.88 307 *e*P P 14 36 17.1 +6.2
comp=Z,1µm,1.6s
BVCY Beaver Creek 74.89 16 P **P** **14 36 08.9 -1.7**
baz=333,SNR=32
BVCY S **S** **14 45 49.6 +2.4**
baz=333
KDU Kakadu 74.93 121 P **P** **14 36 10.9 -0.5**
KDU Kakadu 74.93 121 ⇓P **P** **14 36 11.1 -0.3**
PPNO Prainha do Nor 74.95 307 *e*P P 14 36 17.8 +6.4
comp=Z,976nm,1.9s
SDPT Sand Point 74.97 29 P **P** **14 36 08.9 -2.1**
baz=319
SDPT S **S** **14 45 50.6 +2.5**
baz=319
CHGN Chignik 74.99 27 P **P** **14 36 10.1 -1.1**
baz=320
CHGN S **S** **14 45 50.4 +2.0**
baz=320
PICO Pico 75.03 308 *e*P P 14 36 18.5 +6.7
comp=Z,1µm,1.8s
GLB Gilahina Butte 75.08 18 IAMs_20 IAMs_20 15 08 08.1
comp=Z,38µm,22.0s
PCAN Candelaria 75.09 308 *e*P P 14 36 17.8 +5.7
comp=Z,874nm,1.7s
PCED Cedros 75.12 308 *e*P P 14 36 18.5 +6.2
comp=Z,1µm,2.0s
HOR Horta 75.14 308 *e*P P 14 36 18.5 +6.1
comp=Z,1µm,1.7s
Q20K Shuyak Island 75.15 23 P **P** **14 36 11.0 -1.1**
baz=324
Q20K S **S** **14 45 53.0 +2.9**
baz=324
CALA Caldeira 75.15 308 *e*P P 14 36 18.8 +6.2
comp=Z,1µm,1.9s
BMRM Bremner River 75.30 18 P **P** **14 36 11.1 -1.9**
baz=330
BMRM S **S** **14 45 54.9 +3.0**
baz=330
HIN Hinchinbrook I 75.32 20 IAMs_20 IAMs_20 15 09 59.4
comp=Z,38µm,21.0s
MCARA McCarthy VSAT 75.32 17 IAMs_20 IAMs_20 15 12 45.3
comp=Z,37µm,20.0s
MCARA McCarthy VSAT 75.32 17 P **P** **14 36 11.0 -2.1**
baz=331,SNR=8.7
MCARA S **S** **14 45 55.3 +3.4**
baz=331
VRDI Verde Repeater 75.36 18 IAMs_20 IAMs_20 15 10 58.2
comp=Z,37µm,20.0s
M29M Somme Creek 75.36 15 P **P** **14 36 10.0 -3.4**
baz=334
M29M S **S** **14 45 54.9 +2.2**
baz=334
EYAK Cordova Ski Ar 75.38 19 P **P** **14 36 10.9 -2.4**
baz=329,SNR=26
EYAK S **S** **14 45 55.7 +3.2**
baz=329
P23K Montague Islan 75.42 20 P **P** **14 36 11.2 -2.4**
baz=328
P23K S **S** **14 45 56.0 +2.9**
baz=328
YUK3 Moose Creek 75.55 16 P **P** **14 36 14.1 -0.5**
baz=333,SNR=69
YUK3 S **S** **14 45 57.7 +2.8**
baz=333
M30M Minto, Yukon 75.57 14 P **P** **14 36 13.1 -1.4**
M30M IAMs_20 IAMs_20 15 10 23.7
comp=Z,41µm,21.0s
M30M Minto, Yukon 75.57 14 P **P** **14 36 13.3 -1.2**
baz=336
M30M S **S** **14 45 56.4 +1.6**
baz=336
CHNA Chernabura Isl 75.69 29 P **P** **14 36 14.4 -0.8**
baz=320
CHNA S **S** **14 45 59.4 +3.3**
baz=320
CNBA Chernabura Isl 75.70 29 IAMs_20 IAMs_20 15 09 33.8
comp=Z,43µm,20.0s
H07N1 FLORES T-PHASE 75.92 310 *e*P P 14 36 23.3 +6.4
comp=Z,260nm,1.7s
BARN Barnard Glacie 75.92 17 P **P** **14 36 16.5 -0.3**
BARN IAmb IAmb 14 36 30.9
comp=Z,304nm,1.2s
OHAK Old Harbor 76.00 24 P **P** **14 36 14.5 -2.4**
baz=324,SNR=10
OHAK S **S** **14 46 03.6 +4.2**
baz=324
CNG Changalane 76.00 218 *e*P **P** **14 36 16.9 -0.3**
CNG IAmb IAmb 14 36 28.6
comp=Z,930nm,3.4s
BERG Berg Lake 76.03 18 IAMs_20 IAMs_20 15 13 31.0
comp=Z,35µm,20.0s
YUK8 Steele Glacier 76.14 16 P **P** **14 36 14.5 -3.6**
baz=334,SNR=35
YUK8 S **S** **14 46 06.9 +5.3**
baz=334
H07S1 FLORES T-PHASE 76.17 310 *e*P P 14 36 23.4 +5.1
comp=Z,719nm,1.8s
Q23K Middleton Isla 76.19 20 P **P** **14 36 14.8 -3.1**
baz=329
LEPH Lephalale, Lim 76.20 223 *e*P **P** **14 36 17.0 -1.6**
LEPH IAmb IAmb 14 36 31.6
comp=Z,635nm,1.6s
SII Sitkinak Islan 76.24 25 P **P** **14 36 15.6 -2.8**
baz=324
SII S **S** **14 46 06.5 +4.2**
baz=324
KAIM Kayak Island 76.25 19 P **P** **14 36 17.9 -0.5**
KAIM IAmb IAmb 14 36 43.0
comp=Z,360nm,1.1s
KAIM Kayak Island 76.25 19 P **P** **14 36 16.7 -1.7**
baz=330,SNR=8.8
KAIM S **S** **14 46 07.2 +4.9**
baz=330
MMAL MMAL 76.27 219 *e*P **P** **14 36 18.6 -0.4**
MMAL IAmb IAmb 14 36 31.8
comp=Z,319nm,1.4s
YUK4 Talbot Arm 76.32 16 P **P** **14 36 18.3 -0.7**
baz=334,SNR=62
CHIR Chirikof Islan 76.34 26 P **P** **14 36 17.3 -1.6**
baz=322
M31M Drury Creek, Y 76.36 13 P **P** **14 36 18.2 -0.7**
M31M IAmb IAmb 14 36 31.9
comp=Z,345nm,1.1s
M31M Drury Creek, Y 76.36 13 P **P** **14 36 18.4 -0.7**
baz=338,SNR=80
M31M S **S** **14 46 06.6 +3.2**
baz=338
BGLC Bering Glacier 76.36 18 P **P** **14 36 16.9 -2.0**
baz=331
MMPY Sheldon Lake, 76.49 12 P **P** **14 36 18.4 -1.4**
baz=340,SNR=51
MMPY S **S** **14 46 08.8 +3.9**
baz=340
O28M Mount Upton 76.50 17 P **P** **14 36 19.4 -0.8**
baz=333
O28M S **S** **14 46 06.8 +1.2**
baz=333
FARO Faro, Yukon 76.52 13 P **P** **14 36 19.2 -0.7**
baz=338,SNR=60
FARO S **S** **14 46 06.5 +1.3**
baz=338
N30M Aishikik Lake 76.53 15 P **P** **14 36 18.4 -1.6**
baz=336
N30M S **S** **14 46 06.9 +1.5**
baz=336
MESA MESA 76.63 18 IAMs_20 IAMs_20 15 11 47.0
comp=Z,44µm,21.0s
MESA MESA 76.63 18 P **P** **14 36 18.8 -1.9**
baz=332,SNR=9.3
MESA S **S** **14 46 10.0 +3.2**
baz=332
AIS Amsterdam Isla 76.69 177 IAMs_20 IAMs_20 15 06 32.3
comp=Z,24µm,21.0s
YUK6 Outpost Mounta 76.74 16 P **P** **14 36 18.7 -2.8**
baz=335,SNR=33
YUK6 S **S** **14 46 10.6 +2.5**
baz=335
N31M Braeburn, Yuko 76.76 14 P **P** **14 36 19.2 -2.1**
baz=337,SNR=83
N31M S **S** **14 46 09.3 +1.4**
baz=337
CRLN Carolina, Mapu 76.81 220 *e*P **P** **14 36 20.9 -1.3**
CRLN IAmb IAmb 14 36 34.2
comp=Z,606nm,2.2s
WRGLY Wrigley 76.95 8 P **P** **14 36 20.2 -2.1**
baz=346,SNR=33
WRGLY S **S** **14 46 12.9 +3.2**
baz=346
HYT Haines Junctio 77.03 15 P **P** **14 36 21.4 -1.5**
HYT IAmb IAmb 14 36 40.2
comp=Z,556nm,1.0s
HYT Haines Junctio 77.03 15 P **P** **14 36 20.3 -2.6**
baz=335,SNR=83
HYT S **S** **14 46 11.9 +0.9**
baz=335
PCA Pinnacle 77.09 17 P **P** **14 36 21.8 -1.4**
PCA IAmb IAmb 14 36 39.9
comp=Z,355nm,1.0s
PINM Pinnacle 77.10 17 P **P** **14 36 20.3 -2.9**
baz=333,SNR=12
POGA Pongola 77.12 218 P **P** **14 36 23.8 +0.2**
POGA Pongola 77.12 218 *e*P **P** **14 36 23.7 +0.2**
POGA IAmb IAmb 14 36 36.7
comp=Z,150nm,0.9s
DBIC Dimbokro 77.24 268 P **P** **14 36 23.2 -1.5**
comp=Z,69nm,0.6s,baz=51,slow=7.0,SNR=74
DBIC LR LR 15 14 50.3
comp=Z,7µm,18.3s,baz=39,slow=39
comp=Z,69nm,0.6s
DBIC Dimbokro 77.24 268 P **P** **14 36 22.9 -1.8**
DBIC Dimbokro 77.24 268 *e*P **P** **14 36 24.0 -0.7**
DBIC IAmb IAmb 14 36 36.3
comp=Z,2µm,1.2s
DBIC Dimbokro 77.24 268 ⇑P **P** **14 36 22.8 -1.9**
O29M Mount Kennedy 77.28 16 P **P** **14 36 21.7 -2.6**
baz=335
GAMM Gam 77.30 230 *i* P **P** **14 36 25.6 +0.7**
GAMM *i* S **pP** **14 36 33.2 +3.0**
KIC Kosan Boka 77.35 268 ⇓*e*P **P** **14 36 23.5 -1.8**
comp=Z,181nm,0.5s
O30N Mendenhall 77.36 15 P **P** **14 36 24.1 -0.6**
baz=336,SNR=58
BCPM Bancas Point 77.36 17 IAMs_20 IAMs_20 15 15 10.3
comp=Z,29µm,21.0s
TIC Toumodi 77.39 268 ⇓*e*P **P** **14 36 23.6 -1.9**
comp=Z,165nm,0.6s
SLR Silverton 77.48 221 *e*P **P** **14 36 25.4 -0.4**
SLR IAmb IAmb 14 36 39.2
comp=Z,1µm,2.0s
N32M Quiet Lake 77.57 13 P **P** **14 36 25.0 -0.9**
baz=339
MEEK Meekatharra 77.59 140 P **P** **14 36 27.2 +0.9**
LIC Lamto 77.65 268 ⇓*e*P **P** **14 36 24.9 -2.1**
comp=Z,389nm,0.6s
PNL Peninsula 77.67 17 P **P** **14 36 25.1 -1.3**
baz=334,SNR=8.4
WHY Whitehorse 77.70 14 P **P** **14 36 25.2 -1.5**
WHY Whitehorse 77.70 14 P **P** **14 36 25.3 -1.3**
baz=337,SNR=34
P30M Million Dollar 77.78 15 P **P** **14 36 25.7 -1.4**
baz=336,SNR=14
TGTN Hyland Airport 77.98 11 P **P** **14 36 28.1 -0.1**
baz=342,SNR=82
P29M Windy Craggy 78.07 16 P **P** **14 36 28.3 -0.3**
P29M IAMs_20 IAMs_20 15 12 24.9
comp=Z,35µm,18.0s
P29M Windy Craggy 78.07 16 P **P** **14 36 28.5 -0.1**
baz=335
LBTB Lobatse 78.31 224 LR LR 15 11 54.7
comp=Z,16µm,20.4s,baz=38,slow=36
LBTB Lobatse 78.31 224 P **P** **14 36 30.2 -0.2**
LBTB IAmb IAmb 14 36 44.4
comp=Z,584nm,1.2s
LBTB Lobatse 78.31 224 *e*P **P** **14 36 30.6 +0.2**
LBTB IAmb IAmb 14 36 43.0
comp=Z,2µm,1.9s
LBTB Lobatse 78.31 224 *i* P **P** **14 36 30.1 -0.3**
LBTB Lobatse 78.31 224 *i* P **P** **14 36 30.1 -0.3**
LBTB Lobatse 78.31 224 P **P** **14 36 30.3 -0.2**
LBTB pmax pmax
comp=Z,584nm,1.3s
NWCL Newcastle 78.32 219 *e*P **P** **14 36 30.0 -0.4**
NWCL IAmb IAmb 14 36 42.5
comp=Z,470nm,1.6s
MORW Morawa 78.38 143 P **P** **14 36 30.4 -0.2**
MORW IAmb IAmb 14 36 55.1
comp=Z,244nm,0.9s
MORW Morawa 78.38 143 P **P** **14 36 31.4 +0.8**
MANU Manus Island 78.41 102 P **P** **14 36 33.0 +1.8**
YKA Yellowknife Ar 78.41 4 P **P** **14 36 29.4 -1.0**
comp=Z,44nm,0.7s,baz=344,slow=5.4,SNR=34
YKA LR LR 15 13 14.5
comp=Z,30µm,20.5s,baz=346,slow=37
comp=Z,44nm,0.7s
YKA Yellowknife Ar 78.41 4 P **P** **14 36 29.0 -1.4**
YKA Yellowknife Ar 78.41 4 *i* P **P** **14 36 29.3 -1.0**
YKA pmax pmax
comp=Z,43nm,0.7s
WDLM Western Deep L 78.49 222 *e*P **P** **14 36 32.6 +1.1**
WDLM IAmb IAmb 14 36 48.8
comp=Z,126nm,1.1s
TSUM Tsumeb 78.49 234 LR LR 15 14 14.4
comp=Z,22µm,20.0s,baz=44,slow=38
TSUM Tsumeb 78.49 234 P **P** **14 36 31.5 0.0**
TSUM IAmb IAmb 14 36 44.6
comp=Z,818nm,1.2s
TSUM Tsumeb 78.49 234 IAMs_20 IAMs_20 15 13 53.1
comp=Z,24µm,21.0s
TSUM Tsumeb 78.49 234 *e*P **P** **14 36 32.1 +0.6**
P33M Teslin, Yukon 78.50 13 P **P** **14 36 29.9 -1.1**
P33M IAmb IAmb 14 36 47.2
comp=Z,361nm,1.2s
P33M IAMs_20 IAMs_20 15 12 08.1
comp=Z,25µm,22.0s
P33M Teslin, Yukon 78.50 13 P **P** **14 36 29.2 -1.8**
baz=339,SNR=122
PLBC Pleasant Camp 78.51 15 P **P** **14 36 29.7 -1.3**
baz=336,SNR=40
SKAG Skagway 78.72 15 P **P** **14 36 32.0 -0.1**
SKAG IAmb IAmb 14 36 49.2
comp=Z,354nm,1.0s
SKAG Skagway 78.72 15 P **P** **14 36 29.7 -2.4**
baz=337,SNR=55
P32M Atlin 78.91 14 P **P** **14 36 30.7 -2.6**
baz=338,SNR=23
PRYS Parys 78.93 221 *e*P **P** **14 36 31.4 -2.4**
PRYS IAmb IAmb 14 36 46.5
comp=Z,613nm,1.6s
WTLY Watson Lake, Y 79.26 11 P **P** **14 36 32.2 -2.9**
baz=342,SNR=38
R33M Jennings River 79.59 13 P P 14 36 32.1 -5.0
baz=340,SNR=52
R31K City Hall, Gus 79.60 15 P **P** **14 36 35.7 -1.3**
baz=337
Q32M Nakina River 79.77 14 P **P** **14 36 35.8 -2.4**
baz=340
SNKL Senekal, Frees 79.82 220 *e*P **P** **14 36 38.3 -0.4**
SNKL IAmb IAmb 14 36 51.8
comp=Z,604nm,1.4s
FLDN Fort Liard 79.86 9 P **P** **14 36 39.7 +1.3**
baz=346,SNR=16
KOTAN Kotaneelee Air 79.90 9 P **P** **14 36 36.5 -2.1**
baz=346,SNR=30
S31K Pelican 79.92 16 P **P** **14 36 37.0 -1.7**
baz=337,SNR=8.1
R32K Eaglecrest 79.98 15 P **P** **14 36 37.0 -2.1**
baz=338,SNR=13
BLDU Ballidu 79.99 144 P **P** **14 36 38.7 -0.7**
WAKE Wake Island 80.00 73 P **P** **14 36 40.8 +1.0**
HOCHN Hochfeld 80.04 232 *i* P **P** **14 36 40.4 +0.3**
HOCHN *i* S **pP** **14 36 47.6 +2.2**
SWZ Schweizer 80.19 223 *e*P **P** **14 36 40.6 -0.1**
SWZ IAmb IAmb 14 36 52.8
comp=Z,2µm,1.9s
LIRD Liard River Hi 80.33 10 P **P** **14 36 39.2 -1.8**
baz=344,SNR=56
SCHQ Schefferville 80.53 338 P **P** **14 36 41.2 -0.9**
comp=Z,35nm,0.8s,baz=36,slow=5.0,SNR=20
SCHQ LR LR 15 12 23.7
comp=Z,34µm,21.9s,baz=10,slow=36
comp=Z,35nm,0.8s
DLBC Dease Lake 80.66 13 LR LR 15 15 32.2
comp=Z,40µm,21.9s,baz=320,slow=38
DLBC Dease Lake 80.66 13 P **P** **14 36 42.4 -0.4**
DLBC Dease Lake 80.66 13 P **P** **14 36 39.8 -3.0**
baz=341,SNR=48
S32K Killisnoo 80.72 15 P **P** **14 36 39.8 -3.2**
baz=338,SNR=11
MUN Mundaring 80.92 145 P **P** **14 36 47.0 +2.7**
SIT Sitka 80.94 16 P **P** **14 36 42.2 -2.1**
baz=337,SNR=9.9
S34M Telegraph Cree 80.96 13 P **P** **14 36 41.8 -2.5**
baz=340,SNR=87
KSTD Kokstad 81.00 218 *e*P **P** **14 36 45.5 +0.6**
KSTD IAmb IAmb 14 36 57.5
comp=Z,624nm,1.8s
PATS Pohnpei 81.26 88 IAMs_20 IAMs_20 15 15 09.9
comp=Z,23µm,20.0s
PATS Pohnpei 81.26 88 P **P** **14 36 48.1 +1.5**
KLBR Kellerberrin 81.30 143 P **P** **14 36 46.1 -0.2**
WB0 Warramunga Arr 81.33 124 P **P** **14 36 46.0 -0.8**
WB0 IAmb IAmb 14 36 58.6
comp=Z,996nm,1.7s
BBTS Babate 81.35 282 LR LR 15 20 10.3
comp=Z,17µm,18.0s,baz=58,slow=41
BOSA Boshof 81.38 222 P **P** **14 36 45.2 -1.8**
comp=Z,44nm,1.0s,baz=34,slow=4.9,SNR=24
BOSA LR LR 15 14 01.6
comp=Z,16µm,20.0s,baz=40,slow=37
comp=Z,44nm,1.0s
BOSA Boshof 81.38 222 P **P** **14 36 46.2 -0.7**
BOSA IAmb IAmb 14 37 00.5
comp=Z,1µm,1.9s
BOSA Boshof 81.38 222 *e*P **P** **14 36 46.7 -0.3**
BOSA IAmb IAmb 14 36 59.6
comp=Z,1µm,2.0s
BOSA Boshof 81.38 222 *i* P **P** **14 36 48.0 +1.0**
BOSA Boshof 81.38 222 *i* P **P** **14 36 48.0 +1.0**
BOSA Boshof 81.38 222 P **P** **14 36 46.3 -0.7**
BOSA pmax pmax
comp=Z,1µm,2.0s
WP01 e3381 81.42 234 *i* P **P** **14 36 48.8 +1.4**
WP01 *i* S **pP** **14 36 54.8 +2.0**
WRA Warramunga Arr 81.42 124 P **P** **14 36 46.5 -0.8**
comp=Z,61nm,0.9s,baz=325,slow=4.9,SNR=120
WRA PKKPbc **PKKPbc** **14 55 22.5 +1.7**
comp=Z,6.4nm,0.8s,baz=139,slow=2.1,SNR=13
WRA PKPPKP **P'P'df** **15 03 24.0 +1.2**
comp=Z,7.5nm,1.1s,baz=155,slow=1.5,SNR=5.6
WRA LR LR 15 16 44.4
comp=Z,15µm,21.6s,baz=314,slow=38
comp=Z,61nm,0.9s
WRA Warramunga Arr 81.42 124 P **P** **14 36 45.8 -1.5**
WRAB Tennant Creek 81.42 124 P **P** **14 36 47.1 -0.2**
WRAB Tennant Creek 81.42 124 *d* *i* P **P** **14 36 46.3 -1.0**
WRAB pmax pmax
comp=Z,604nm,1.7s
WRAB MLR MLR
comp=Z,16µm,21.0s
WB2 Warramunga Arr 81.43 124 P **P** **14 36 46.3 -1.1**
WB2 IAmb IAmb 14 36 59.3
comp=Z,913nm,1.6s
WRKA Warakurna 81.54 132 P **P** **14 36 48.2 +0.4**
WR0 Warramunga Arr 81.57 124 P **P** **14 36 46.6 -1.4**
T33K Petersburg 81.65 15 P **P** **14 36 47.9 -0.1**
baz=339
FCC Fort Churchill 81.89 354 P **P** **14 36 48.3 -0.9**
FCC IAmb IAmb 14 37 04.2
comp=Z,301nm,1.2s
FCC Fort Churchill 81.89 354 P **P** **14 36 48.3 -0.9**
FCC pmax pmax
comp=Z,301nm,1.2s
T35M Bob Quinn 82.00 13 P **P** **14 36 47.0 -2.9**
baz=341,SNR=42
WRAK Wrangell Islan 82.14 14 IAMs_20 IAMs_20 15 14 03.7
comp=Z,34µm,21.0s
WRAK Wrangell Islan 82.14 14 P **P** **14 36 47.3 -3.2**
baz=340,SNR=31
NWAO Narrogin (SRO) 82.18 145 P **P** **14 36 50.6 -0.4**
comp=Z,30nm,1.0s,baz=169,slow=3.2,SNR=8.6
NWAO LR LR 15 13 51.9
comp=Z,16µm,21.3s,baz=196,slow=36
comp=Z,30nm,1.0s
NWAO Narrogin (SRO) 82.18 145 P **P** **14 36 50.0 -1.0**
NWAO Narrogin (SRO) 82.18 145 IAMs_20 IAMs_20 15 10 56.2
comp=Z,26µm,22.0s
NWAO Narrogin (SRO) 82.18 145 P **P** **14 36 55.3 +4.4**
NWAO P **P** **14 36 55.3 +4.4**
NWAO S **S** **14 47 03.0 -2.6**
NWAO S **S** **14 47 03.0 -2.6**
NWAO Narrogin (SRO) 82.18 145 P **P** **14 36 53.6 +2.6**
NWAO Narrogin (SRO) 82.18 145 P **P** **14 36 53.4 +2.4**
U33K Whale Pass 82.27 15 P P 14 36 42.8 -8.5
baz=339,SNR=9.2
HVD Gariep Dam 82.86 221 *e*P **P** **14 36 55.0 +0.2**
HVD IAmb IAmb 14 37 07.8
comp=Z,943nm,1.8s
CRAG Craig 82.88 15 P **P** **14 36 52.7 -1.7**
baz=339,SNR=9.8
CRAG Craig 82.88 15 ⇑P **P** **14 36 59.1 +4.6**
PMG Port Moresby 83.06 108 P **P** **14 36 54.4 -1.6**
PMG IAmb IAmb 14 37 09.8
comp=Z,200nm,0.9s
PMG Port Moresby 83.06 108 P **P** **14 36 58.0 +2.0**
PMG Port Moresby 83.06 108 P **P** **14 36 57.8 +1.8**
PMG Port Moresby 83.06 108 P **P** **14 36 54.4 -1.6**

PMG pmax pmax
comp=Z,200nm,1.0s
KMBL Kambalda 83.09 140 P P 14 36 55.8 0.0
COEN Coen 83.21 114 P P 14 36 56.8 0.0
COEN IAmb IAmb 14 37 10.1
comp=Z,554nm,1.1s
COEN Coen 83.21 114 P P 14 36 57.6 +0.9
COEN Coen 83.21 114 ⇑P P 14 36 56.6 -0.1
V35K Ketchikan 83.31 14 P P 14 36 55.3 -1.3
baz=340,SNR=5.8
UPI Upington 83.32 225 *e*P P 14 36 58.0 +0.9
UPI IAmb IAmb 14 37 10.0
comp=Z,498nm,1.3s
KRVT Keravat (AS076 83.41 101 LR LR 15 12 59.9
comp=Z,16μm,21.6s,baz=91,slow=35
RABL Rabaul 83.44 101 P P 14 37 00.1 +2.1
RABL Rabaul 83.44 101 ⇑P P 14 36 58.8 +0.8
RKGY Rocky Gully 83.48 146 P P 14 37 00.4 +2.7
PKA Prieska 83.54 223 *e*P P 14 36 58.7 +0.5
PKA IAmb IAmb 14 37 15.9
comp=Z,57nm,1.2s
KEIM Keimoes 83.75 225 *e*P P 14 36 59.0 -0.3
KEIM IAmb IAmb 14 37 12.0
comp=Z,667nm,1.2s
AS31 Alice Springs 83.87 127 P P 14 36 59.2 -0.8
ASAR Alice Springs 83.87 127 P P 14 36 58.6 -1.4
comp=Z,39nm,0.9s,baz=312,slow=4.7,SNR=99
ASAR S S 14 47 22.2 -1.1
comp=Z,3.8nm,1.1s,baz=317,slow=6.3,SNR=4.4
ASAR PKKPbc PKKPbc 14 55 15.2 -0.2
comp=Z,2.6nm,0.8s,baz=119,slow=2.3,SNR=7.4
ASAR PKPPKP P'P'df 15 03 17.3 -0.7
comp=Z,1.8nm,1.1s,baz=180,slow=1.6,SNR=4.4
ASAR LR LR 15 18 13.2
comp=Z,19μm,20.7s,baz=325,slow=38
comp=Z,39nm,0.9s
ASAR Alice Springs 83.87 127 P P 14 36 59.3 -0.7
ASAR Alice Springs 83.87 127 P P 14 36 59.3 -0.7
AS01 Alice Springs 83.90 127 P P 14 36 59.7 -0.4
AUGR Augrabies 84.01 225 *e*P P 14 37 00.9 +0.3
AUGR IAmb IAmb 14 37 13.2
comp=Z,5μm,2.8s
SOE Somerset East 84.53 219 *e*P P 14 37 04.2 +1.0
SOE IAmb IAmb 14 37 15.8
comp=Z,573nm,1.5s
GRHM Grahamstown, E 84.59 218 *e*P P 14 37 03.7 +0.3
GRHM IAmb IAmb 14 37 16.0
comp=Z,393nm,1.2s
GRHM Grahamstown, E 84.59 218 ⇓P P 14 37 03.5 +0.1
GRAF Camdeboo Natio 84.72 220 *e*P P 14 37 02.8 -1.3
GRAF IAmb IAmb 14 37 16.8
comp=Z,575nm,1.5s
BFON Badsfontein, M 84.74 221 *e*P P 14 37 04.5 +0.2
BFON IAmb IAmb 14 37 17.4
comp=Z,1μm,1.4s
GRNB Grenville Isla 85.03 14 P P 14 37 05.1 -0.4
BRAK Brakfontein 85.13 222 *e*P P 14 37 06.1 -0.1
BRAK IAmb IAmb 14 37 18.9
comp=Z,4μm,3.1s
ICQ Pointe Anglais 85.29 336 ⇑P P 14 37 06.4 -0.5
WAPA Wapiti River 85.29 8 P P 14 37 06.0 -0.8
WAPA IAmb IAmb 14 37 20.7
comp=Z,305nm,1.1s
QIS Mount Isa 85.31 121 P P 14 37 07.1 -0.2
ROOI Rooidraai Farm 85.36 221 *e*P P 14 37 07.6 +0.2
ROOI IAmb IAmb 14 37 21.3
comp=Z,4μm,2.7s
FORT Forrest 85.83 136 P P 14 37 09.6 -0.1
FORT Forrest 85.83 136 P P 14 37 09.8 +0.2
FORT Forrest 85.83 136 ⇑P P 14 37 09.2 -0.5
FORT ⇑P pP 14 37 14.3 -0.9
FORT ⇓sP sP 14 37 19.4 +2.5
GRAN Grantham 85.92 222 *e*P P 14 37 10.9 +0.8
GRAN IAmb IAmb 14 37 24.9
comp=Z,141nm,1.2s
FRAZ Fraserburg 86.03 223 *e*P P 14 37 10.1 -0.6
FRAZ IAmb IAmb 14 37 23.6
comp=Z,2μm,2.2s
BUFB Buffelsbos 86.09 219 *e*P P 14 37 11.7 +0.9
BUFB IAmb IAmb 14 37 24.4
comp=Z,691nm,1.6s
KROM Kromhout 86.15 219 *e*P P 14 37 10.9 -0.2
KROM IAmb IAmb 14 37 24.9
comp=Z,552nm,1.5s
ROSN Rosenhof 86.16 219 *e*P P 14 37 11.7 +0.6
ROSN IAmb IAmb 14 37 23.9
comp=Z,1μm,2.2s
FFC Flin Flon 86.38 358 P P 14 37 11.4 -0.8
FFC IAmb IAmb 14 37 28.8
comp=Z,296nm,1.1s
FFC Flin Flon 86.38 358 IAMs_20 IAMs_20 15 20 07.0
comp=Z,34μm,20.0s
FFC Flin Flon 86.38 358 ⇑P P 14 37 11.1 -1.1
FFC Flin Flon 86.38 358 P P 14 37 11.4 -0.8
FFC pmax pmax
comp=Z,296nm,1.1s
FFC MLR MLR
comp=Z,34μm,20.0s
KOMG Komaggas 86.53 227 *e*P P 14 37 14.0 +0.8
KOMG IAmb IAmb 14 37 25.6
comp=Z,29μm,1.6s
MERW Merweville 86.55 222 *e*P P 14 37 14.1 +0.8
MERW IAmb IAmb 14 37 26.3
comp=Z,1μm,1.7s
CVNA Calvinia 86.56 224 *e*P P 14 37 14.3 +1.0
CVNA IAmb IAmb 14 37 26.3
comp=Z,1μm,1.4s
SUR Sutherland 86.69 223 LR LR 15 18 36.7
comp=Z,16μm,18.4s,baz=38,slow=38
SUR Sutherland 86.69 223 P P 14 37 14.2 +0.1
SUR Sutherland 86.69 223 IAMs_20 IAMs_20 15 20 45.2
comp=Z,22μm,20.0s
SUR Sutherland 86.69 223 P P 14 37 14.3 +0.2
SUR P P 14 37 14.3 +0.2
SUR S S 14 47 42.9 -8.4
SUR S S 14 47 42.9 -8.4
SUR Sutherland 86.69 223 ⇑P P 14 37 14.2 +0.1
GBN Guysborough 86.80 330 P P 14 37 13.7 -0.7
GBN IAmb IAmb 14 37 26.5
comp=Z,701nm,1.6s
MTSU Mount Surprise 86.85 116 P P 14 37 15.7 +0.7
BATG Bathurst New B 86.85 334 P P 14 37 14.3 -0.4
BATG IAmb IAmb 14 37 27.0
comp=Z,322nm,1.0s
BBB Bella Bella 86.95 13 LR LR 15 20 06.8
comp=Z,13μm,20.3s,baz=332,slow=38
OOD Oodnadatta 87.98 129 P P 14 37 19.7 -0.5
PQI Presque Isle 88.03 335 P P 14 37 20.3 -0.1
PQI IAmb IAmb 14 37 32.4
comp=Z,167nm,1.0s
PQI IAMs_20 IAMs_20 15 17 18.7
comp=Z,33μm,20.0s
PAF Port-aux-Franc 88.24 183 IAMs_20 IAMs_20 15 12 04.0
comp=Z,19μm,20.0s
CER Ceres 88.26 223 *e*P P 14 37 22.7 +1.3
CER IAmb IAmb 14 37 35.0
comp=Z,521nm,1.2s
E63A Oxbow 88.38 335 P P 14 37 21.7 -0.3
baz=28
E63A P P 14 37 21.7 -0.3
baz=28
E62A Clayton Lake 88.56 336 P P 14 37 22.2 -0.7
baz=27
E62A P P 14 37 22.2 -0.7
baz=27
E62A S S 14 47 56.4 -12
baz=27
E62A S S 14 47 56.4 -12
baz=27
MULG Mulgathing 88.83 131 P P 14 37 23.9 -0.3
F64A Sherman 88.85 335 P P 14 37 23.9 -0.4
baz=28
F64A P P 14 37 23.9 -0.4
baz=28
ELIM Elim 88.97 222 *e*P P 14 37 25.1 +0.3
ELIM IAmb IAmb 14 37 37.7
comp=Z,1μm,1.2s
G65A Princeton 89.17 334 P P 14 37 25.6 -0.1
baz=29
G65A P P 14 37 25.6 -0.1
baz=29
G65A S SKSac 14 48 00.0 +4.7
baz=29
G65A S SKSac 14 48 00.0 +4.7
baz=29

F63A Nahmakanta, Br 89.24 335 P P 14 37 25.7 -0.4
baz=28
F63A P P 14 37 25.7 -0.4
baz=28
F63A S SKSac 14 48 00.3 +4.5
baz=28
F63A S SKSac 14 48 00.3 +4.5
baz=28
KAPO Kapuskasing 89.33 345 ⇓P P 14 37 26.1 -0.3
TV1H Townsville Har 89.33 116 P P 14 37 28.1 +1.4
F62A Pittston Farm, 89.35 336 P P 14 37 26.2 -0.4
baz=27
F62A P P 14 37 26.2 -0.4
baz=27
LLLB Lillooet 89.47 10 P P 14 37 27.3 +0.2
LLLB IAmb IAmb 14 37 47.0
comp=Z,218nm,1.0s
CTA Charters Tower 89.51 117 LR LR 15 22 16.6
comp=Z,8μm,19.7s,baz=292,slow=39
CTA Charters Tower 89.51 117 P P 14 37 27.7 +0.1
EMMW East Machias 89.57 334 IAMs_20 IAMs_20 15 24 11.4
comp=Z,22μm,18.0s
PKME Peaks-Kenny Pk 89.69 335 P P 14 37 28.4 +0.2
PKME IAmb IAmb 14 37 40.5
comp=Z,246nm,1.2s
PKME IAMs_20 IAMs_20 15 18 27.6
comp=Z,31μm,20.0s
PKME Peaks-Kenny Pk 89.69 335 P P 14 37 28.0 -0.2
baz=28
PKME Peaks-Kenny Pk 89.69 335 P P 14 37 24.8 -3.4
baz=28,SNR=24
G62A West of Eustis 90.13 336 P P 14 37 30.1 -0.1
baz=27
G62A P P 14 37 30.1 -0.1
baz=27
WVL Waterville 90.43 335 IAMs_20 IAMs_20 15 18 50.3
comp=Z,30μm,20.0s
ULM Lac du Bonnet 90.48 354 P P 14 37 30.8 -1.0
comp=Z,26nm,1.1s,baz=350,slow=6.6,SNR=14
ULM PKKPbc PKKPbc 14 55 07.2 +8.3
comp=Z,6.6nm,1.1s,baz=100,slow=1.8,SNR=3.2
ULM LR LR 15 21 30.7
comp=Z,32μm,20.1s,baz=354,slow=38
comp=Z,26nm,1.1s
ULM Lac du Bonnet 90.48 354 ⇓P P 14 37 30.6 -1.2
H62A Milan 90.91 336 P P 14 37 34.1 +0.2
baz=26
H62A P P 14 37 34.1 +0.2
baz=26
PNT Penticton 91.03 9 ⇑P P 14 37 33.7 -0.7
INKA Innaminka 91.08 126 P P 14 37 34.9 +0.2
I63A Otisfield 91.19 335 P P 14 37 35.3 +0.1
baz=27
I63A P P 14 37 35.3 +0.1
baz=27
LCRK Leigh Creek 91.42 129 P P 14 37 36.7 +0.5
LBNH Lisbon 91.45 336 IAMs_20 IAMs_20 15 18 28.1
comp=Z,24μm,20.0s
LBNH Lisbon 91.45 336 P P 14 37 36.6 +0.2
baz=26
LBNH Lisbon 91.45 336 P P 14 37 35.3 -1.1
baz=26,SNR=11
LBNH S S 14 48 35.5 0.0
baz=26
I62A Tamworth 91.59 336 P P 14 37 37.9 +0.9
baz=26
I62A P P 14 37 37.9 +0.9
baz=26
VT1 Waterbury 91.62 337 P P 14 37 37.9 +0.7
baz=25
BMNY Brushton-Moira 91.68 338 P P 14 37 37.3 -0.1
baz=24
BMNY S S 14 48 38.4 +0.8
baz=24
WALA Waterton Lakes 91.83 5 P P 14 37 37.3 -0.9
WALA IAmb IAmb 14 37 57.2
comp=Z,191nm,1.0s
WALA Waterton Lakes 91.83 5 ⇓P P 14 37 37.6 -0.7
BBOO Buckleboo 91.84 132 P P 14 37 37.4 -0.7
BBOO IAmb IAmb 14 37 52.7
comp=Z,138nm,0.9s
BBOO Buckleboo 91.84 132 P P 14 37 37.7 -0.5
LONY Lake Ozonia 91.90 338 IAMs_20 IAMs_20 15 19 07.0
comp=Z,21μm,22.0s
LONY Lake Ozonia 91.90 338 P P 14 37 37.3 -1.2
baz=24,SNR=24
LONY S S 14 48 39.8 +0.2
baz=24
MCVT Middlebury Col 92.04 337 P P 14 37 38.7 -0.4
baz=25
HNH Hanover 92.04 336 IAMs_20 IAMs_20 15 18 35.8
comp=Z,24μm,21.0s
HNH Hanover 92.04 336 P P 14 37 39.0 -0.1
baz=26
FFD Franklin Falls 92.06 336 IAMs_20 IAMs_20 15 19 27.2
comp=Z,28μm,19.0s
UNH University of 92.14 335 P P 14 37 38.4 -1.1
baz=26
B35A Bob, Littlefor 92.14 352 P P 14 37 38.0 -1.6
baz=9.5
B35A S S 14 48 39.7 -1.9
baz=9.5
EYMN Ely 92.28 350 IAMs_20 IAMs_20 15 23 03.9
comp=Z,31μm,20.0s
EYMN Ely 92.28 350 P P 14 37 38.5 -1.7
baz=11
EYMN S S 14 48 38.5 -4.4
baz=11
EYMN Ely 92.28 350 P P 14 37 38.8 -1.4
baz=11
EYMN S S 14 48 38.5 -4.4
baz=11
NEW Newport 92.34 7 P P 14 37 39.7 -0.8
comp=Z,52nm,1.2s,baz=342,slow=5.2,SNR=14
NEW LR LR 15 21 19.5
comp=Z,22μm,21.8s,baz=354,slow=37
comp=Z,52nm,1.2s
NEW Newport 92.34 7 P P 14 37 40.0 -0.5
baz=351,SNR=34
NEW S S 14 48 38.1 -5.5
baz=351
NCB Newcomb 92.39 338 P P 14 37 40.1 -0.7
baz=24
AGMN Agassiz Nation 92.42 353 IAMs_20 IAMs_20 15 23 50.8
comp=Z,22μm,19.0s
AGMN Agassiz Nation 92.42 353 P P 14 37 39.6 -1.2
baz=7.8
AGMN S S 14 48 38.4 -5.7
baz=7.8
AGMN Agassiz Nation 92.42 353 P P 14 37 37.3 -3.5
baz=7.8
AGMN S S 14 48 40.6 -3.5
baz=7.8
J61A Chester 92.45 336 P P 14 37 40.6 -0.4
baz=25
J61A P P 14 37 40.6 -0.4
baz=25
QLP Quilpie 92.52 123 P P 14 37 41.5 +0.1
QLP Quilpie 92.52 123 ⇓P P 14 37 42.1 +0.6
QLP ⇑P PcP 14 37 44.0 +1.9
QLP ⇓p pP 14 37 45.8 -1.2
QLP ⇓sP sP 14 37 51.7 +2.7
E46A Sault Ste Mari 92.64 345 P P 14 37 41.1 -0.7
baz=17
DGMT Dagmar 92.69 359 IAMs_20 IAMs_20 15 22 11.0
comp=Z,34μm,22.0s
DGMT Dagmar 92.69 359 P P 14 37 42.1 0.0
baz=1.4
DGMT Dagmar 92.69 359 P P 14 37 40.5 -1.6
baz=1.4,SNR=13
DGMT S S 14 48 41.9 -4.8
baz=1.4
HNR Haniara 92.71 100 LR LR 15 18 38.5
comp=Z,152μm,21.7s,baz=304,slow=35
WCNY West Carthage 92.80 339 P P 14 37 41.8 -0.8
baz=23
WHYH Whyalla 92.88 131 P P 14 37 43.2 +0.3
HRV Adam Dziewonsk 92.89 335 IAMs_20 IAMs_20 15 20 22.3
comp=Z,17μm,20.0s
HRV Adam Dziewonsk 92.89 335 P P 14 37 42.5 -0.6
baz=26
HRV Adam Dziewonsk 92.89 335 P P 14 37 42.4 -0.6
baz=26
HRV S S 14 48 45.9 -2.6
baz=26
BCX Boston College 92.92 335 IAMs_20 IAMs_20 15 18 56.0
comp=Z,19μm,20.0s

WES Weston 92.92 335 IAMs_20 IAMs_20 15 20 21.2
comp=Z,24μm,22.0s
J59A Piesco 92.94 338 P P 14 37 42.5 -0.9
baz=24
J59A P P 14 37 42.5 -0.9
baz=24
SADO Sadowa 92.99 341 P P 14 37 43.6 +0.1
comp=Z,18nm,0.9s,baz=71,slow=2.3,SNR=4.4
SADO LR LR 15 24 22.0
comp=Z,26μm,18.0s,baz=6.0,slow=39
comp=Z,18nm,0.9s
SADO Sadowa 92.99 341 ⇓P P 14 37 48.6 +5.1
EGMT Eagleton 93.08 3 IAMs_20 IAMs_20 15 24 31.5
comp=Z,27μm,18.0s
EGMT Eagleton 93.08 3 P P 14 37 41.5 -2.5
baz=357,SNR=33
EGMT S S 14 48 47.4 -2.8
baz=357
E43A Lone Tree Farm 93.13 347 P P 14 37 42.9 -1.2
baz=15
MDND Maddock 93.14 356 P P 14 37 44.6 +0.4
baz=4.9
MDND Maddock 93.14 356 P P 14 37 42.7 -1.4
baz=4.9
MDND S S 14 48 46.9 -3.7
baz=4.9
J58A Remsen 93.26 338 P P 14 37 44.4 -0.4
baz=23
J58A P P 14 37 44.4 -0.4
baz=23
L61B Northampton 93.30 336 IAMs_20 IAMs_20 15 20 31.1
comp=Z,24μm,19.0s
L61B Northampton 93.30 336 P P 14 37 43.4 -1.6
baz=25
L61B S S 14 48 50.0 -2.1
baz=25
QUA2 Belchertown 93.35 336 IAMs_20 IAMs_20 15 20 03.5
comp=Z,24μm,19.0s
BRYW Bryant College 93.41 335 IAMs_20 IAMs_20 15 20 37.1
comp=Z,26μm,22.0s
J57A Williamstown 93.42 339 P P 14 37 46.0 +0.5
baz=23
J57A P P 14 37 46.0 +0.5
baz=23
HCNY Howe Caverns 93.61 337 P P 14 37 44.2 -2.1
baz=24
E38A The Farm, Brul 93.61 350 S S 14 48 49.8 -4.9
baz=11
COWI Conover 93.75 348 P P 14 37 45.1 -1.9
baz=13
COWI S S 14 48 53.4 -2.7
baz=13
J56A Wolcott 93.78 339 P P 14 37 46.7 -0.5
baz=22
J56A P P 14 37 46.7 -0.5
baz=22
HAWA Hanford 93.92 9 IAMs_20 IAMs_20 15 21 27.7
comp=Z,30μm,22.0s
HAWA Hanford 93.92 9 ⇓P P 14 37 51.5 +3.7
HTT Hallett 93.96 131 P P 14 37 49.7 +1.7
HTT Hallett 93.96 131 ⇓P P 14 37 48.1 +0.1
MSO Missoula 94.05 6 P P 14 37 49.5 +1.0
baz=354,SNR=12
MSO S S 14 48 57.8 -1.0
baz=354
J55A Hilton 94.05 340 P P 14 37 47.8 -0.6
baz=22
J55A P P 14 37 47.8 -0.6
baz=22
GLMI Grayling 94.18 345 IAMs_20 IAMs_20 15 24 22.1
comp=Z,21μm,20.0s
GLMI Grayling 94.18 345 P P 14 37 46.6 -2.4
baz=16
K57A Scipio Center 94.19 339 P P 14 37 48.3 -0.8
baz=22
L59A Walton 94.26 338 P P 14 37 49.2 -0.2
baz=24
L59A P P 14 37 49.2 -0.2
baz=24
NPNY Mohonk Preserv 94.39 337 P P 14 37 50.3 +0.3
baz=24
YLE Yale 94.41 336 IAMs_20 IAMs_20 15 21 09.2
comp=Z,20μm,19.0s
STKA Stephens Creek 94.48 128 P P 14 37 49.3 -1.0
comp=Z,5.4nm,0.6s,baz=313,slow=7.8,SNR=9.8
STKA PKKPbc PKKPdf 14 54 54.2 +5.0
comp=Z,4.5nm,0.9s,baz=110,slow=9.5,SNR=5.5
STKA LR LR 15 24 58.9
comp=Z,30μm,19.6s,baz=310,slow=38
comp=Z,5.4nm,0.6s
STKA Stephens Creek 94.48 128 P P 14 37 49.9 -0.4
STKA Stephens Creek 94.48 128 P P 14 37 52.2 +1.9
LAO LASA Array 94.49 0 P P 14 37 50.8 +0.3
baz=360
LAO LASA Array 94.49 0 P P 14 37 48.3 -2.1
baz=360,SNR=26
LAO S S 14 49 02.8 +0.2
baz=360
BINY Binghamton 94.53 338 IAMs_20 IAMs_20 15 23 52.5
comp=Z,19μm,21.0s
BINY Binghamton 94.53 338 P P 14 37 49.6 -1.0
baz=23
BINY Binghamton 94.53 338 P P 14 37 48.6 -2.0
baz=23,SNR=15
BINY S S 14 49 03.1 +0.1
baz=23
F36A Milaca 94.59 351 P P 14 37 49.7 -1.1
baz=9.6
F36A S S 14 49 00.5 -2.8
baz=9.6
F10A Beach Ranch, E 94.60 8 ⇓P P 14 37 50.6 -0.4
F10A ⇓P pP 14 37 54.7 -1.8
F10A ⇓sP sP 14 37 55.7 -2.7
RK1H Rockhampton Ha 94.64 116 P P 14 37 51.9 +0.7
WSPT Westport, CT 94.67 336 IAMs_20 IAMs_20 15 21 19.2
comp=Z,22μm,21.0s
G40A Rib Lake 94.73 349 P P 14 37 50.8 -0.7
G40A IAmb IAmb 14 38 08.5
comp=Z,99nm,0.9s
G40A Rib Lake 94.73 349 P P 14 37 50.4 -1.1
baz=12
F33A 5 Mile Ranch, 94.90 353 P P 14 37 51.4 -0.8
baz=7.5
PAL Palisades 95.00 336 IAMs_20 IAMs_20 15 24 40.0
comp=Z,16μm,19.0s
PAL Palisades 95.00 336 P P 14 37 51.3 -1.4
baz=24
L56A Greenwood 95.03 339 P P 14 37 52.3 -0.7
L56A IAmb IAmb 14 38 03.0
comp=Z,176nm,1.2s
L56A Greenwood 95.03 339 P P 14 37 52.1 -0.9
baz=22
L56A P P 14 37 52.1 -0.9
baz=22
WVNY West Valley, N 95.06 340 P P 14 37 53.5 +0.4
baz=21
H43A Windswept, Lux 95.11 347 S S 14 49 06.9 -1.0
baz=14
SPMN Marine on St. 95.13 351 P P 14 37 53.5 +0.2
baz=10
SPMN Marine on St. 95.13 351 P P 14 37 52.0 -1.3
baz=10
SPMN S S 14 49 05.7 -2.3
baz=10
COR Corvallis 95.13 12 IAMs_20 IAMs_20 15 24 21.0
comp=Z,23μm,22.0s
BOZ Bozeman (W) 95.42 4 IAMs_20 IAMs_20 15 24 33.4
comp=Z,27μm,19.0s
BOZ Bozeman (W) 95.42 4 P P 14 37 53.8 -1.0
baz=356,SNR=28
BOZ S S 14 49 07.1 -3.9
baz=356
RMQ Roma 95.47 120 P P 14 37 56.4 +1.4
PLID Pearl Lake 95.60 7 IAMs_20 IAMs_20 15 22 25.2
comp=Z,28μm,22.0s
M57A Sunshine Farm, 95.65 339 P P 14 37 55.0 -0.8
baz=22
M57A P P 14 37 55.0 -0.8
baz=22
ERPA Erie 95.69 341 IAMs_20 IAMs_20 15 21 54.2
comp=Z,27μm,20.0s
ERPA Erie 95.69 341 P P 14 37 56.3 +0.3
baz=20
ERPA S S 14 49 09.9 -3.2
baz=20
J47A Sunmer 95.74 345 S S 14 49 15.6 +2.2
baz=16
J47A S S 14 49 15.6 +2.2

baz=16
I42A Draeger Farm, 95.87 348 P **P** 14 37 56.9 +0.2
baz=13
I42A S **S** 14 49 10.7 -3.8
baz=13
M55A Ridgway 95.98 340 P **P** 14 37 56.2 -1.1
baz=21
M55A P **P** 14 37 56.2 -1.1
baz=21
N58A Sunbury 96.00 338 P **P** 14 37 56.8 -0.5
baz=22
N58A P **P** 14 37 56.8 -0.5
baz=22
RLMT Red Lodge 96.00 2 P **P** 14 37 57.5 -0.1
baz=357,SNR=76
RLMT S **S** 14 49 11.2 -4.9
baz=357
I40A Norwalk 96.14 349 P **P** 14 37 58.2 +0.3
baz=12
EIDS Eidsvold 96.33 118 P **P** 14 37 58.2 -0.7
EIDS IAmb IAmb 14 38 15.1
comp=Z,217nm,1.6s
EIDS Eidsvold 96.33 118 P **P** 14 37 59.9 +1.0
EIDS Eidsvold 96.33 118 ⇓P **P** 14 37 59.3 +0.3
EIDS ⇓P **sP** 14 38 06.0 -0.5
AAM Ann Arbor 96.39 344 IAMs_20 IAMs_20 15 23 15.7
comp=Z,24µm,22.0s
AAM Ann Arbor 96.39 344 P **P** 14 38 00.5 +1.4
baz=17
AAM S **S** 14 49 15.2 -3.8
baz=17
I37B Waseca 96.39 351 P **P** 14 37 58.9 -0.2
baz=9.8
SUSD Miller 96.50 355 P **P** 14 37 59.5 -0.1
baz=5.5
M53A WI Miller and 96.50 341 IAMs_20 IAMs_20 15 22 18.6
comp=Z,28µm,20.0s
M53A WI Miller and 96.50 341 P **P** 14 37 58.1 -1.5
baz=19
SSPA Standing Stone 96.52 339 P **P** 14 37 58.2 -1.4
SSPA Standing Stone 96.52 339 IAMs_20 IAMs_20 15 23 58.1
comp=Z,19µm,21.0s
SSPA Standing Stone 96.52 339 P **P** 14 37 58.3 -1.4
baz=22
SSPA Standing Stone 96.52 339 P **P** 14 37 58.6 -1.1
baz=22
SSPA S **S** 14 49 18.8 -1.4
baz=22
SSPA Standing Stone 96.52 339 ⇑P **P** 14 37 59.7 -0.1
H17A Grant Village 96.68 3 P **P** 14 38 00.6 -0.1
baz=356,SNR=22
H17A S **S** 14 49 26.2 +4.1
baz=356
CMSA Cobar Meteorol 96.80 125 P **P** 14 38 02.8 +1.9
AULRC Lightning Ridg 96.88 122 P **P** 14 38 03.1 +1.8
L48A N Adams 96.90 344 P **P** 14 38 01.0 -0.5
baz=17
L48A P **P** 14 38 01.0 -0.5
baz=17
K43A Burlington 96.92 347 P **P** 14 38 00.4 -1.1
baz=14
ECSD EROS Data Cent 97.01 353 P **P** 14 38 01.1 -0.8
baz=7.3
ECSD EROS Data Cent 97.01 353 P **P** 14 38 01.1 -0.8
baz=7.3,SNR=34
ECSD S **S** 14 49 21.0 -3.5
baz=7.3
JFWS Jewell Farm 97.03 348 IAMs_20 IAMs_20 15 25 55.6
comp=Z,28µm,22.0s
JFWS Jewell Farm 97.03 348 P **P** 14 38 01.6 -0.4
baz=12
JFWS S **S** 14 49 21.1 -3.5
baz=12
JFWS Jewell Farm 97.03 348 P **P** 14 37 59.2 -2.9
baz=12
JFWS S **S** 14 49 20.8 -3.8
baz=12
RSSD Black Hills 97.04 359 P **P** 14 38 02.1 -0.2
baz=1.5
RSSD S **S** 14 49 22.2 -2.9
baz=1.5
RSSD Black Hills 97.04 359 P **P** 14 38 00.3 -2.0
baz=1.5
RSSD S **S** 14 49 22.6 -2.5
baz=1.5
RSSD Black Hills 97.04 359 ⇓P Pdif 14 38 03.5 +1.1
HUMO Hull Mountain 97.11 13 IAMs_20 IAMs_20 15 21 24.5
comp=Z,22µm,21.0s
IMW Indian Meadow 97.16 4 IAMs_20 IAMs_20 15 30 19.3
comp=Z,19µm,20.0s
HLID Hailey 97.26 6 IAMs_20 IAMs_20 15 22 19.0
comp=Z,28µm,22.0s
HLID Hailey 97.26 6 P **P** 14 38 03.2 0.0
baz=353
HLID S **S** 14 49 21.3 -5.5
baz=353
MFID Camas Ranch 97.27 7 IAMs_20 IAMs_20 15 25 05.5
comp=Z,24µm,20.0s
MOOW Moose Ponds 97.31 4 IAMs_20 IAMs_20 15 26 25.4
comp=Z,25µm,21.0s
SDMD Soldier's Deli 97.35 338 P **P** 14 38 02.8 -0.7
baz=22
L44A Lake County Fo 97.36 347 IAMs_20 IAMs_20 15 24 38.3
comp=Z,25µm,21.0s
L44A Lake County Fo 97.36 347 P **P** 14 38 03.4 -0.1
baz=14
L44A S **S** 14 49 26.3 -1.1
baz=14
FXWY Fox Creek 97.41 4 IAMs_20 IAMs_20 15 23 15.9
comp=Z,23µm,20.0s
N51A Ashland 97.41 342 P **P** 14 38 02.9 -0.8
baz=18
N51A P **P** 14 38 02.9 -0.8
baz=18
LOHW Long Hollow 97.45 3 IAMs_20 IAMs_20 15 26 30.2
comp=Z,27µm,19.0s
SNOW Snow King Moun 97.60 4 IAMs_20 IAMs_20 15 23 01.0
comp=Z,24µm,22.0s
O54A Avella 97.61 341 P Pdif 14 38 05.0 +0.3
baz=20
O54A P Pdif 14 38 05.0 +0.3
baz=20
P57A Homestead Farm 97.62 339 P **P** 14 38 03.7 -1.0
baz=22
P57A P **P** 14 38 03.7 -1.0
baz=22
K38A Parkersburg 97.66 350 P **P** 14 38 04.0 -0.8
baz=10
REDW Red Top Meadow 97.69 4 IAMs_20 IAMs_20 15 23 26.5
comp=Z,27µm,21.0s
HQIL Hanson Quary C 97.72 346 IAMs_20 IAMs_20 15 25 34.7
comp=Z,26µm,20.0s
O53A New Philadelph 97.76 341 P **P** 14 38 03.8 -1.6
baz=19
O53A S **S** 14 49 28.9 -2.0
baz=19
N49A Columbus Grove 97.82 344 P **P** 14 38 03.2 -2.4
baz=17
N49A P **P** 14 38 03.2 -2.4
baz=17
L42A Oliver, Polo 97.83 348 P **P** 14 38 04.0 -1.6
baz=13
WVOR Wild Horse Val 97.92 9 IAMs_20 IAMs_20 15 23 34.8
comp=Z,24µm,21.0s
WVOR Wild Horse Val 97.92 9 ⇑P Pdif 14 38 08.3 +2.0
MCWV Mont Chateau 97.96 340 IAMs_20 IAMs_20 15 28 17.3
comp=Z,25µm,19.0s
MCWV Mont Chateau 97.96 340 P **P** 14 38 06.3 0.0
baz=20
MCWV S **S** 14 49 28.3 -4.4
baz=20
MCWV Mont Chateau 97.96 340 P **P** 14 38 02.2 -4.1
baz=20
MCWV S **S** 14 49 30.6 -2.1
baz=20
ARPS Mount Arapiles 98.00 131 P Pdif 14 38 08.6 +2.4
YBH Yreka Blue Hor 98.01 13 LR LR 15 26 11.3
comp=Z,16µm,21.3s,baz=336,slow=38
L40A Anamosa 98.02 349 P **P** 14 38 04.1 -2.3
baz=12
O52A Adamsville 98.04 342 P **P** 14 38 06.5 -0.2
baz=19
O52A P **P** 14 38 06.5 -0.2
baz=19
N47A Urbana 98.19 345 P **P** 14 38 06.4 -0.8
baz=16
N47A P **P** 14 38 06.4 -0.8
baz=16

ACSO Alum Creek Sta 98.21 342 IAMs_20 IAMs_20 15 24 13.6
comp=Z,17µm,21.0s
ACSO Alum Creek Sta 98.21 342 P **P** 14 38 07.0 -0.3
baz=18
ACSO Alum Creek Sta 98.21 342 P **P** 14 38 05.6 -1.7
baz=18
ACSO S **S** 14 49 27.9 -6.8
baz=18
AHID Auburn Hatcher 98.28 4 IAMs_20 IAMs_20 15 26 48.9
comp=Z,22µm,20.0s
BW06 Boulder Array 98.34 3 P **P** 14 38 03.9 -4.4
baz=357
BW06 S **S** 14 49 31.4 -4.9
baz=357
PD31 Pinedale Array 98.34 3 ⇑P Pdif 14 38 10.7 +2.4
PD31 ⇑sP pP 14 38 13.2 -0.5
PDAR Pinedale Array 98.34 3 P **P** 14 38 08.1 -0.1
comp=Z,2.2nm,0.9s,baz=26,slow=3.8,SNR=12
PDAR PKKPbc **PKKPdf** 14 54 40.5 +0.8
comp=Z,1.1nm,0.8s,baz=118,slow=4.7,SNR=5.0
PDAR PKPPKP **P'P'df** 15 03 01.0 +0.7
comp=Z,0.8nm,0.8s,baz=131,slow=4.1,SNR=5.0
PDAR LR LR 15 27 28.1
comp=Z,32µm,18.6s,baz=354,slow=38
comp=Z,2.2nm,0.9s
Q56A Snyder Ridge, 98.36 339 P **P** 14 38 06.6 -1.5
baz=21
Q56A P **P** 14 38 06.6 -1.5
baz=21
SCIA State Center 98.44 350 P **P** 14 38 06.6 -1.8
baz=9.9
SCIA S **S** 14 49 33.4 -3.3
baz=9.9
K22A Casper 98.52 0 P **P** 14 38 04.7 -4.3
baz=360
K22A S **S** 14 49 34.5 -3.2
baz=360
P53A Whipple 98.53 341 P **P** 14 38 08.2 -0.6
baz=19
P53A P **P** 14 38 08.2 -0.6
baz=19
P52A Corning 98.57 342 IAMs_20 IAMs_20 15 27 00.3
comp=Z,24µm,21.0s
P52A Corning 98.57 342 P P 14 38 03.4 -5.6
baz=18
P52A S **S** 14 49 34.0 -3.8
baz=18
CBN Corbin Frederi 98.62 338 IAMs_20 IAMs_20 15 22 37.9
comp=Z,22µm,20.0s
CBN Corbin Frederi 98.62 338 P **P** 14 38 04.8 -4.4
baz=22
JCC Jacoby Creek, 98.66 14 IAMs_20 IAMs_20 15 25 11.5
comp=Z,18µm,20.0s
O48B Farmland 98.67 344 P **P** 14 38 08.1 -1.3
baz=16
O48B S **S** 14 49 33.2 -5.4
baz=16
O48B Farmland 98.67 344 P **P** 14 38 06.1 -3.3
baz=16
O48B S **S** 14 49 34.8 -3.9
baz=16
JOHN Johnston Islan 98.67 60 IAMs_20 IAMs_20 15 22 33.4
comp=Z,19µm,22.0s
Q54A Coxs Mills 98.86 340 P **P** 14 38 07.8 -2.5
baz=19
Q54A P **P** 14 38 07.8 -2.5
baz=19
SFIN Lafayette 98.95 346 S **S** 14 49 36.3 -4.7
baz=15
SFIN Lafayette 98.95 346 P **P** 14 38 06.6 -4.1
baz=15
SFIN S **S** 14 49 36.0 -4.9
baz=15
AUWSH Wavell State H 98.97 118 P Pdif 14 38 12.8 +2.0
R58B Mineral 99.00 338 P **P** 14 38 10.7 -0.2
baz=22
R58B P **P** 14 38 10.7 -0.2
baz=22
HDIL Hopedale 99.18 347 P **Pdif** 14 38 08.4 -3.3
baz=13
Q52A Bidwell 99.24 342 P **Pdif** 14 38 11.3 -0.8
baz=18
Q52A P **Pdif** 14 38 11.3 -0.8
baz=18
Q52A S **S** 14 49 43.4 0.0
baz=18
Q52A S **S** 14 49 43.4 0.0
baz=18
AUMAG Moama Anglican 99.27 129 P **Pdif** 14 38 13.0 +1.1
P49A Miami Univ. Ec 99.27 344 IAMs_20 IAMs_20 15 25 57.9
comp=Z,24µm,21.0s
P49A Miami Univ. Ec 99.27 344 P **Pdif** 14 38 09.4 -2.7
baz=16
P49A S **S** 14 49 39.2 -4.5
baz=16
HWUT Hardware Ranch 99.40 4 IAMs_20 IAMs_20 15 28 36.8
comp=Z,22µm,20.0s
BGNE Belgrade 99.45 354 P **Pdif** 14 38 10.5 -2.4
baz=6.1
BGNE S **S** 14 49 39.6 -5.6
baz=6.1
BRAT Ballarat 99.75 131 P **Pdif** 14 38 16.8 +2.8
ARMA Armidale 99.93 121 P **Pdif** 14 38 17.2 +2.0
ELK Elko 99.98 7 P **Pdif** 14 38 16.3 +0.7
comp=Z,4.1nm,1.1s,baz=102,slow=8.7,SNR=6.3
S54A Dingess, Beckl 100.10 340 P **Pdif** 14 38 15.9 0.0
baz=19
S54A P **Pdif** 14 38 15.9 0.0
baz=19
P43A Skaggs, Pawnee 100.11 347 P **Pdif** 14 38 15.9 0.0
baz=13
OGNE Ogallala 100.15 357 P **Pdif** 14 38 16.2 +0.1
baz=3.1
OGNE Ogallala 100.15 357 P **Pdif** 14 38 12.9 -3.2
baz=3.1
N23A Red Feather La 100.28 0 P **Pdif** 14 38 12.5 -4.5
baz=0.0
T57A Hurt 100.29 339 P **Pdif** 14 38 16.4 -0.3
baz=21
T57A P **Pdif** 14 38 16.4 -0.3
baz=21
BLA Blacksburg 100.41 340 P **Pdif** 14 38 14.5 -2.8
baz=20
BRIGG Briggsdale 100.58 359 IAMs_20 IAMs_20 15 25 58.7
comp=Z,26µm,21.0s
HOPS Hopland Field 100.61 14 IAMs_20 IAMs_20 15 23 57.0
comp=Z,20µm,20.0s
P40A Paris 100.62 349 P **Pdif** 14 38 18.0 -0.1
baz=11
DUG Dugway, Tooele 100.73 5 IAMs_20 IAMs_20 15 24 16.8
comp=Z,26µm,22.0s
DUG Dugway, Tooele 100.73 5 P **Pdif** 14 38 16.9 -1.9
baz=355
S51A Beattyville 100.82 342 P **Pdif** 14 38 18.7 -0.4
baz=17
S51A P **Pdif** 14 38 18.7 -0.4
baz=17
WCI Wyandotte Cave 100.86 344 IAMs_20 IAMs_20 15 25 55.0
comp=Z,20µm,20.0s
WCI Wyandotte Cave 100.86 344 P **Pdif** 14 38 17.9 -1.3
baz=15
O20A White River Ci 101.01 2 P **Pdif** 14 38 16.1 -4.0
baz=358
CAN Canberra 101.37 126 IAMs_20 IAMs_20 15 27 35.8
comp=Z,27µm,20.0s
ISCO Idaho Springs 101.37 360 P **Pdif** 14 38 19.8 -2.1
baz=0.3
MCCM Marconi Confer 101.47 14 IAMs_20 IAMs_20 15 24 16.7
comp=Z,19µm,21.0s
CNNC Cliffs of the 101.52 337 IAMs_20 IAMs_20 15 26 50.7
comp=Z,23µm,22.0s
KSU1 Kansas State U 101.61 353 IAMs_20 IAMs_20 15 27 51.8
comp=Z,23µm,21.0s
KSU1 Kansas State U 101.61 353 P **Pdif** 14 38 22.6 +0.1
baz=7.4
TZTN Tazewell 101.85 342 IAMs_20 IAMs_20 15 28 06.1
comp=Z,24µm,22.0s
TZTN Tazewell 101.85 342 P **Pdif** 14 38 19.1 -4.6
baz=18
NVAR Mina Array Bea 101.91 10 P **Pdif** 14 38 25.1 +0.9
comp=Z,2.7nm,0.8s,baz=18,slow=3.2,SNR=6.6
NVAR PKiKP **PKiKP** 14 42 48.1 +1.2
comp=Z,5.8nm,0.9s,baz=336,slow=4.5,SNR=3.6
NVAR PKKPbc **PKKPdf** 14 54 32.5 -0.8
comp=Z,2.0nm,0.8s,baz=177,slow=5.6,SNR=3.7
CCM Cathedral Cave 101.94 348 IAMs_20 IAMs_20 15 29 30.5
comp=Z,16µm,20.0s
CCM Cathedral Cave 101.94 348 P **Pdif** 14 38 22.7 -1.4
baz=12
CCM Cathedral Cave 101.94 348 ⇑P **Pdif** 14 38 29.0 +4.9
CMB Columbia Colle 102.00 12 IAMs_20 IAMs_20 15 29 28.6
comp=Z,19µm,19.0s
KSCO Kaye Shedlock' 102.10 357 P **Pdif** 14 38 21.7 -3.2
baz=2.6
CBKS Cedar Bluff 102.15 355 P **Pdif** 14 38 23.4 -1.6
baz=4.9
Q24A Divide 102.20 359 P **Pdif** 14 38 21.8 -3.8
baz=0.7
R11A Troy Canyon, C 102.31 8 P **Pdif** 14 38 25.8 -0.2
baz=352
KIP Kipapa 102.49 49 IAMs_20 IAMs_20 15 23 24.0
comp=Z,21µm,20.0s
KMSC Kings Mountain 102.61 340 P **Pdif** 14 38 23.3 -3.8
baz=19
TKL Tuckaleechee C 102.75 342 P **Pdif** 14 38 27.5 -0.2
comp=Z,7.0nm,1.1s,baz=42,slow=2.8,SNR=3.6
SAO San Andreas Ge 103.06 13 IAMs_20 IAMs_20 15 22 56.9
comp=Z,17µm,22.0s
WVT Waverly 103.20 345 IAMs_20 IAMs_20 15 29 02.9
comp=Z,22µm,22.0s
WVT Waverly 103.20 345 P **Pdif** 14 38 28.9 -0.7
baz=14
WVT Waverly 103.20 345 P **Pdif** 14 38 24.0 -5.7
baz=14
WVT Waverly 103.20 345 ⇓P **Pdif** 14 38 32.2 +2.6
TIN Tinemaha, Big 103.27 10 P **Pdif** 14 38 24.5 -5.6
baz=350
S22A 4UR Ranch, Cre 103.42 1 P **Pdif** 14 38 26.0 -5.0
baz=359
SDCO Great Sand Dun 103.42 360 P **Pdif** 14 38 27.6 -3.4
baz=0.4
GRAC Grapevine Rang 103.44 9 P **Pdif** 14 38 26.1 -4.7
baz=351
TPNV Topopah Spring 103.62 8 IAMs_20 IAMs_20 15 32 23.6
comp=Z,22µm,20.0s
TPNV Topopah Spring 103.62 8 P **Pdif** 14 38 26.2 -5.6
baz=352
T25A Trinidad 104.02 359 P **Pdif** 14 38 31.0 -2.6
baz=1.2
FURC Furnace Creek, 104.03 9 P **Pdif** 14 38 30.4 -2.9
baz=351
OK032 Salt Plains WL 104.03 354 IAMs_20 IAMs_20 15 33 33.1
comp=Z,24µm,18.0s
OK035 E0210 Rd and N 104.17 354 IAMs_20 IAMs_20 15 33 10.7
comp=Z,21µm,20.0s
NHSC New Hope 104.19 338 IAMs_20 IAMs_20 15 32 24.3
comp=Z,20µm,19.0s
MPMC Manual Prospec 104.35 10 P **Pdif** 14 38 33.8 -1.3
baz=351
PLAL Pickwick Lake 104.36 345 IAMs_20 IAMs_20 15 30 11.6
comp=Z,24µm,21.0s
OK038 West end E0370 104.40 354 IAMs_20 IAMs_20 15 33 16.8
comp=Z,21µm,20.0s
TUL1 Leonard 104.67 352 IAMs_20 IAMs_20 15 29 01.1
comp=Z,25µm,20.0s
TUL1 Leonard 104.67 352 P **Pdif** 14 38 31.5 -4.7
baz=8.1
GOGA Godfrey 104.81 341 P **Pdif** 14 38 27.9 -8.9
baz=18
OK025 Westminster Rd 105.16 353 IAMs_20 IAMs_20 15 29 48.0
comp=Z,22µm,20.0s
TAU Tasmania Unive 105.22 133 IAMs_20 IAMs_20 15 24 21.1
comp=Z,25µm,21.0s
DZM Mont Dzumac 105.36 106 *e*P **Pdif** 14 38 39.2 -0.3
DZM Mont Dzumac 105.36 106 *e*PP **PP** 14 42 59.7 -1.7
comp=Z,788nm,26.3s
DZM Mont Dzumac 105.36 106 *e*LR LR 15 13 20.1
comp=Z,31µm,24.6s
WUAZ Wupatki 105.48 5 IAMs_20 IAMs_20 15 30 26.6
comp=Z,23µm,21.0s
MIAR Mount Ida 105.73 349 IAMs_20 IAMs_20 15 31 51.9
comp=Z,25µm,21.0s
PASC Pasadena Art C 106.11 11 IAMs_20 IAMs_20 15 31 00.6
comp=Z,24µm,21.0s
WMOK Wichita Mounta 106.13 354 IAMs_20 IAMs_20 15 32 26.6
comp=Z,22µm,21.0s
WMOK Wichita Mounta 106.13 354 P **PKiKP** 14 42 49.3 -5.2
baz=5.8
AMTX Amarillo 106.18 356 IAMs_20 IAMs_20 15 34 22.9
comp=Z,17µm,18.0s
MAW Mawson 106.82 184 PP PP 14 43 01.9 -9.3
comp=Z,2.6nm,0.7s,baz=85,slow=2.5,SNR=6.9
PFO Pinyon Flats O 106.89 9 IAMs_20 IAMs_20 15 31 29.3
comp=Z,20µm,19.0s
109C Camp Elliot, M 107.52 10 IAMs_20 IAMs_20 15 31 54.9
comp=Z,18µm,21.0s
TUC Tucson 108.70 4 IAMs_20 IAMs_20 15 30 41.0
comp=Z,22µm,21.0s
CASY Casey 108.84 165 IAMs_20 IAMs_20 15 21 25.9
comp=Z,18µm,21.0s
DWPF Disney Wildern 109.24 337 IAMs_20 IAMs_20 15 29 51.0
comp=Z,21µm,20.0s
TRIS Tristan da Cun 109.80 238 IAMs_20 IAMs_20 15 28 23.5
comp=Z,17µm,20.0s
435B Jarrell 109.94 352 IAMs_20 IAMs_20 15 37 21.5
comp=Z,22µm,19.0s
JCT Junction City 110.44 354 IAMs_20 IAMs_20 15 34 28.7
comp=Z,17µm,19.0s
GDSD La Dsirade Is 110.68 314 IAMs_20 IAMs_20 15 28 02.7
comp=Z,17µm,20.0s
GRTK Grand Turk 111.39 325 IAMs_20 IAMs_20 15 33 59.6
comp=Z,19µm,20.0s
MSVF Nonsavu 111.68 96 IAMs_20 IAMs_20 15 27 45.7
comp=Z,15µm,22.0s
TXAR Lajitas Array 111.78 358 Pdiff **Pdif** 14 39 10.6 +2.5
comp=Z,0.9nm,0.8s,baz=270,slow=0.6,SNR=4.3
TXAR PP **PP** 14 43 47.6 +1.2
comp=Z,11nm,1.1s,baz=23,slow=4.1,SNR=5.4
TXAR PKKPbc **PKKPbc** 14 53 59.5 +1.9
comp=Z,2.1nm,0.9s,baz=183,slow=4.5,SNR=5.2
TXAR PKPPKP **P'P'df** 15 02 34.5 +0.6
comp=Z,0.3nm,0.4s,baz=178,slow=3.8,SNR=4.2
KVTX Kingsville 113.17 352 IAMs_20 IAMs_20 15 41 54.1
comp=Z,18µm,18.0s
SDDR Presa de Saban 113.67 324 IAMs_20 IAMs_20 15 39 53.0
comp=Z,19µm,19.0s
GTBY Guantanamo Bay 114.49 328 IAMs_20 IAMs_20 15 35 40.6
comp=Z,19µm,21.0s
MTDJ Mount Denham 117.00 330 IAMs_20 IAMs_20 15 36 17.9
comp=Z,12µm,21.0s
SLBS Sierra La Lagu 117.33 4 IAMs_20 IAMs_20 15 38 01.3
comp=Z,17µm,19.0s
OUZ Omahuta 117.82 114 IAMs_20 IAMs_20 15 38 16.5
comp=Z,15µm,20.0s
NVL N'lazarevskaya 118.30 199 *e*PKIKP **PKPdf** 14 43 14.7 -1.6
NVL *e* 14 44 33.3
NVL *e* 14 50 24.1
NVL *e*SS SS 15 00 55.9 +7.5
NVL MLR MLR
comp=Z,8µm,17.0s
HATO Hato, Curacao 118.36 318 IAMs_20 IAMs_20 15 36 18.9
comp=Z,14µm,21.0s
TEIG Tepich 118.62 341 IAMs_20 IAMs_20 15 40 00.2
comp=Z,13µm,20.0s
WHZ Wether Hill Ro 119.16 127 IAMs_20 IAMs_20 15 33 40.7
comp=Z,15µm,21.0s
FOZ Fox Glacier 119.25 124 IAMs_20 IAMs_20 15 40 29.2
comp=Z,15µm,19.0s
WKZ Wanaka 119.34 126 IAMs_20 IAMs_20 15 37 16.5
comp=Z,17µm,21.0s
DSZ Denniston Nort 119.72 121 IAMs_20 IAMs_20 15 34 41.8
comp=Z,17µm,20.0s
QRZ Quartz Range 119.78 120 IAMs_20 IAMs_20 15 35 51.4
comp=Z,17µm,21.0s
LBZ Lake Benmore 119.88 125 IAMs_20 IAMs_20 15 37 59.8
comp=Z,14µm,21.0s
INZ Inchbonnie 119.93 123 IAMs_20 IAMs_20 15 32 49.4
comp=Z,22µm,22.0s
RPZ Rata Peaks 120.13 124 IAMs_20 IAMs_20 15 41 18.6
comp=Z,13µm,19.0s
SDBA SAO DESIDERIO 120.14 279 *e*P **PKiKP** 14 43 22.2 +0.5
HIZ Hauiti 120.29 117 IAMs_20 IAMs_20 15 37 06.0
comp=Z,19µm,22.0s
THZ Tophouse 120.46 121 IAMs_20 IAMs_20 15 33 49.4
comp=Z,18µm,22.0s
ODZ Otahua Downs 120.47 125 IAMs_20 IAMs_20 15 36 53.4
comp=Z,14µm,20.0s
NNZ Nelson 120.53 120 IAMs_20 IAMs_20 15 35 52.2
comp=Z,14µm,20.0s
OXZ Oxford 120.59 123 IAMs_20 IAMs_20 15 40 00.9
comp=Z,14µm,21.0s
RIB01 Linhares ES 120.72 269 *e*P **PKiKP** 14 43 23.0 +0.4
SJMB Sao Joao De Ma 120.99 270 *e*P **PKiKP** 14 43 24.2 +1.0
GVZ Greta Valley S 121.09 122 IAMs_20 IAMs_20 15 34 20.9
comp=Z,21µm,22.0s
MQZ McQueen's Vall 121.17 123 IAMs_20 IAMs_20 15 33 19.0

	comp=Z,16μm,22.0s						
KHZ	**Kahutara**	**121.18 121**	IAMs_20	IAMs_20	15 35 12.3		
	comp=Z,18μm,20.0s						
BOAV	**Boa Vista**	**121.26 304**	PKPdf	**PKPdf**	**14 43 23.2**	**-0.6**	
BOAV	**Boa Vista**	**121.26 304**	*eP*	**PKiKP**	**14 43 24.6**	**+0.7**	
JANB	**Januaria**	**121.29 276**	*eP*	**PKiKP**	**14 43 24.0**	**+0.1**	
UNM	**Universidad Na**	**121.43 353**	IAMs_20	IAMs_20	15 43 06.9		
	comp=Z,13μm,20.0s						
TROLL	**Troll, Antarti**	**121.46 200**	PKPdf	**PKiKP**	**14 43 22.9**	**+0.2**	
BKZ	**Black Stump Fm**	**121.73 117**	IAMs_20	IAMs_20	15 37 36.0		
	comp=Z,16μm,22.0s						
MRZ	**Mangatainoka R**	**121.77 119**	IAMs_20	IAMs_20	15 37 26.0		
	comp=Z,20μm,21.0s						
RTZ	**Ruatahuna**	**121.82 116**	IAMs_20	IAMs_20	15 37 49.4		
	comp=Z,13μm,22.0s						
MC01	**Montes Claros**	**121.98 274**	*eP*	**PKiKP**	**14 43 25.4**	**+0.2**	
SDV	**Santo Domingo**	**122.01 318**	PKP	**PKPdf**	**14 43 25.1**	**-0.4**	
	comp=Z,12nm,0.8s,baz=324,slow=2.8,SNR=8.1						
SDV	**Santo Domingo**	**122.01 318**	*eP*	**PKiKP**	**14 43 25.6**	**0.0**	
BFZ	**Birch Farm**	**122.23 118**	IAMs_20	IAMs_20	15 37 41.3		
	comp=Z,16μm,20.0s						
MXZ	**Matakaoa Point**	**122.27 114**	IAMs_20	IAMs_20	15 38 45.4		
	comp=Z,20μm,22.0s						
DIAM	**Diamantina, MG**	**122.69 272**	*eP*	**PKiKP**	**14 43 27.0**	**+0.3**	
SNAA	**Sanae**	**122.79 202**	PKPdf	**PKPdf**	**14 43 25.0**	**0.0**	
SNAA	**Sanae**	**122.79 202**		**PKiKP**	**14 43 25.4**	**+0.2**	
SNAA	**Sanae**	**122.79 202**	*eP*	**PKiKP**	**14 43 26.9**	**+1.7**	
SNAA	**Sanae**	**122.79 202**	PKIKP	**PKiKP**	**14 43 25.4**	**+0.2**	
ITTB	**Itaituba**	**122.93 294**	*eP*	**PKiKP**	**14 43 27.4**	**+0.2**	
CMIG	**Matias Romero**	**123.06 347**	PKP	**PKiKP**	**14 43 27.6**	**+0.2**	
	comp=Z,6.1nm,0.8s,baz=312,slow=2.8,SNR=4.7						
VNA2	**Neumayer--Watz**	**123.82 203**	PKPdf	**PKPdf**	**14 43 26.8**	**-0.1**	
	baz=29,slow=3.3						
VNA1	**Neumayer--Stat**	**123.99 203**	PKPdf	**PKPdf**	**14 43 26.3**	**-0.9**	
BDFB	**Brasilia**	**124.50 278**	PKP	**PKiKP**	**14 43 30.6**	**+0.4**	
	comp=Z,4.9nm,0.7s,baz=325,slow=3.9,SNR=3.7						
BDFB			PP	**PP**	**14 45 17.7**	**+1.3**	
	comp=Z,35nm,1.1s,baz=34,slow=9.8,SNR=3.7						
BDFB	**Brasilia**	**124.50 278**	*eP*	**PKiKP**	**14 43 30.2**	**-0.1**	
NPGB	**Novo Progresso**	**124.51 292**	*eP*	**PKPdf**	**14 43 29.8**	**-0.2**	
VNA3	**Neumayer Olymp**	**124.63 203**	PKPdf	**PKPdf**	**14 43 28.2**	**-0.3**	
SNDB	**Serra Nova Dou**	**124.74 284**	*eP*	**PKiKP**	**14 43 31.0**	**+0.3**	
IMAA	**Manacapuru-AM**	**125.50 299**	*eP*	**PKPdf**	**14 43 30.4**	**-1.5**	
IPMB	**Ipameri, GO**	**126.03 276**	*eP*	**PKPdf**	**14 43 32.6**	**-0.2**	
BCIP	**Isla Barro Col**	**126.11 327**	PKPdf	**PKPdf**	**14 43 31.3**	**-1.8**	
BCIP	**Isla Barro Col**	**126.11 327**	PKIKP	**PKPdf**	**14 43 31.3**	**-1.8**	
PARB	**Paraibuna**	**127.00 269**	*eP*	**PKiKP**	**14 43 35.2**	**+0.1**	
HDC	**Heredia**	**127.01 333**	IAMs_20	IAMs_20	15 39 20.0		
	comp=Z,16μm,22.0s						
JTS	**Las Juntas de**	**127.03 334**	IAMs_20	IAMs_20	15 45 02.1		
	comp=Z,14μm,20.0s						
SGCB	**São Gabriel d**	**127.31 308**	*eP*	**PKPdf**	**14 43 34.6**	**-0.8**	
ROSC	**El Rosal**	**127.35 319**	PKP	**PKiKP**	**14 43 37.1**	**+0.6**	
	comp=Z,42nm,0.6s,baz=106,slow=2.2,SNR=13						
CLDB	**Colider**	**127.39 288**	*eP*	**PKPdf**	**14 43 35.0**	**-0.5**	
VNDA	**Vanda**	**127.44 164**	PKP	**PKPdf**	**14 43 33.6**	**-0.1**	
	comp=Z,6.7nm,1.1s,baz=284,slow=4.5,SNR=15						
VNDA	**Vanda**	**127.44 164**	PKPdf	**PKPdf**	**14 43 33.0**	**-0.7**	
VNDA	**Vanda**	**127.44 164**	PKIKP	**PKPdf**	**14 43 33.0**	**-0.7**	
ARAG	**Araguaiana, MT**	**127.45 281**	*eP*	**PKPdf**	**14 43 35.6**	**+0.1**	
RCLB	**Rio Claro- Sao**	**127.99 271**	*eP*	**PKiKP**	**14 43 38.0**	**+0.9**	
BB19B	**Bebedouro**	**128.02 273**	*eP*	**PKiKP**	**14 43 37.2**	**+0.1**	
TEFE	**Tefe**	**128.39 303**	*eP*	**PKPdf**	**14 43 37.4**	**-0.1**	
SBA	**Scott Base**	**128.53 164**	IAMs_20	IAMs_20	15 36 23.3		
	comp=Z,10μm,19.0s						
PDRB	**Porto dos Gac**	**128.56 288**	*eP*	**PKiKP**	**14 43 38.4**	**0.0**	
ITRB	**Iturama**	**128.68 276**	*eP*	**PKiKP**	**14 43 38.5**	**+0.1**	
PET01	**Itanhaem-SP**	**128.78 269**	*eP*	**PKiKP**	**14 43 38.3**	**-0.2**	
QSPA	**South Pole Qui**	**128.99 180**	PKP	**PKPdf**	**14 43 36.6**	**-0.4**	
	comp=Z,11nm,1.0s,baz=184,slow=0.7,SNR=22						
QSPA	**South Pole Qui**	**128.99 180**		**PKPdf**	**14 43 37.2**	**+0.2**	
QSPA	**South Pole Qui**	**128.99 180**	IAMs_20	IAMs_20	15 35 52.9		
	comp=Z,14μm,21.0s						
C2SB	**Chapadao do Su**	**130.05 278**	*eP*	**PKPdf**	**14 43 40.2**	**-0.1**	
PCMB	**Pacaembu**	**130.44 274**	*eP*	**PKPdf**	**14 43 41.0**	**0.0**	
SALV	**Santo Antonio**	**130.52 283**	*eP*	**PKPdf**	**14 43 41.6**	**+0.3**	
RAR	**Rarotonga**	**130.85 85**	IAMs_20	IAMs_20	15 41 40.2		
	comp=Z,12μm,20.0s						
VILB	**Vilhena**	**131.99 290**	*eP*	**PKPdf**	**14 43 44.2**	**+0.1**	
HOPE	**Hope Point**	**132.06 228**	IAMs_20	IAMs_20	15 43 01.3		
	comp=Z,11μm,20.0s						
TBTG	**Tabatinga, AM**	**132.26 308**	*eP*	**PKPdf**	**14 43 44.2**	**-0.5**	
PTGB	**Pitanga**	**132.73 271**	*eP*	**PKPdf**	**14 43 45.9**	**+0.4**	
PTLB	**Pontes e Lacer**	**132.82 287**	*eP*	**PKiKP**	**14 43 46.2**	**-0.5**	
PANT	**Pantanal (Braz**	**133.08 281**	*eP*	**PKPdf**	**14 43 46.2**	**+0.2**	
AQDB	**Aquidauana**	**133.24 278**	*eP*	**PKPdf**	**14 43 46.2**	**-0.1**	
ITAB	**Concordia**	**134.04 268**	*eP*	**PKiKP**	**14 43 48.8**	**-0.2**	
ETMB	**Extrema**	**134.08 299**	*eP*	**PKPdf**	**14 43 48.4**	**+0.3**	
SIV	**San Ignacio**	**134.60 288**	PKP	**PKPdf**	**14 43 47.9**	**-1.2**	
	comp=Z,5.1nm,0.8s,baz=88,slow=5.4,SNR=16						
SIV			PP	**PP**	**14 46 22.8**	**+0.7**	
	comp=Z,8.2nm,0.8s,baz=76,slow=3.5,SNR=3.1						
BBRB	**Robore, Bolivi**	**135.07 284**	*eP*	**PKPdf**	**14 43 49.2**	**-0.6**	
PPT2	**Papeete2**	**136.49 73**	*e*SS	SS	15 04 36.7	+0.2	
	comp=Z,38μm,41.5s						
PPT2	**Papeete2**	**136.49 73**	*e*LR	LR	15 27 44.0		
	comp=Z,34μm,27.5s						
PPT2			*e*LR	LR	15 27 44.4		
	comp=Z,49μm,26.8s						
CZSB	**Cruzeiro do Su**	**136.74 308**	*eP*	**PKPdf**	**14 43 53.8**	**+0.7**	
TAOE	**Nuku Hiva Isla**	**136.98 55**	*e*PP	**PP**	**14 46 35.3**	**-1.4**	
	comp=Z,3μm,26.7s						
TAOE	**Nuku Hiva Isla**	**136.98 55**	*e*LR	LR	15 27 56.3		
	comp=Z,25μm,25.0s						
UNIS	**Unistalda (Bra**	**137.20 268**	*eP*	**PKPdf**	**14 43 54.4**	**+0.9**	
AZCA	**Azaras, Argent**	**137.44 270**	*eP*	**PKPdf**	**14 43 53.0**	**-1.0**	
CPUP	**Villa Florida**	**137.64 273**	PKhKP	PKPpre	14 43 45.4		
	comp=Z,4.1nm,1.0s,baz=38,slow=5.1,SNR=4.9						
CPUP			PKP	**PKPdf**	**14 43 52.0**	**-2.3**	
	comp=Z,16nm,1.0s,baz=70,slow=4.3,SNR=9.3						
CPUP			PP	**PP**	**14 46 46.0**	**+4.8**	
	comp=Z,67nm,1.1s,baz=68,slow=5.8,SNR=8.3						
RODS	**Rosario do Sul**	**137.87 266**	*eP*	**PKiKP**	**14 43 56.4**	**-0.3**	
ITQB	**Itaqui**	**138.68 268**	*eP*	**PKPdf**	**14 43 56.8**	**+0.6**	
ATAH	**Atahualpa**	**139.59 315**	PKP	**PKPdf**	**14 43 59.4**	**+0.5**	
	comp=Z,14nm,0.8s,baz=44,slow=1.4,SNR=7.1						
LPAZ	**La Paz**	**139.92 294**	PKP	**PKPdf**	**14 43 58.4**	**-1.2**	
	comp=Z,11nm,0.8s,baz=29,slow=7.1,SNR=12						
TBI	**Tubuai**	**139.97 80**	*e*PP	**PP**	**14 46 54.2**	**-1.5**	
	comp=Z,13μm,31.2s						
TBI	**Tubuai**	**139.97 80**	*e*LR	LR	15 29 20.7		
	comp=Z,129μm,31.2s						
TBI			*e*LR	LR	15 29 20.9		
	comp=Z,332μm,24.0s						
NNA	**Nana**	**142.59 308**	PKP	**PKPdf**	**14 44 03.9**	**+0.1**	
	comp=Z,11nm,0.3s,baz=15,slow=5.1,SNR=5.4						
PB11	**IPOC Station P**	**143.28 291**	PKPdf	PKPab	14 44 01.2	+0.4	
PSGCX	**Pisagua**	**143.51 292**	PKPdf	PKPbc	14 44 03.1	+0.5	
PB01	**IPOC Station P**	**143.96 289**	PKPdf	PKPbc	14 44 03.7	-0.2	
SMAI	**San Martin Ant**	**144.14 204**	PKPdf	**PKPab**	**14 44 02.4**	**0.0**	
PATCX	**Punta Patache**	**144.31 290**	PKPdf	**PKPdf**	**14 44 06.3**	**-0.4**	
PB02	**IPOC Station P**	**144.43 289**		PKPbc	14 44 05.3	-0.1	
LVC	**Limon Verde**	**144.48 287**	*eP*	**PKPab**	**14 44 05.6**	**0.0**	
PB07	**IPOC Station P**	**144.67 289**		**PKPab**	**14 44 06.1**	**0.0**	
PMSA	**Palmer Station**	**144.76 210**	PKP	**PKPab**	**14 44 04.5**	**-0.3**	
	comp=Z,128nm,0.9s,baz=124,slow=3.3,SNR=14						
PMSA	**Palmer Station**	**144.76 210**		PKPbc	14 44 05.0	0.0	
PMSA	**Palmer Station**	**144.76 210**	IAMs_20	IAMs_20	15 50 24.4		
	comp=Z,12μm,22.0s						
PMSA	**Palmer Station**	**144.76 210**	*eP*	**PKPdf**	**14 44 05.6**	**-0.3**	
PB03	**IPOC Station P**	**144.77 288**		**PKPab**	**14 44 06.1**	**-0.4**	
EFI	**East Falkland**	**144.81 233**	PKPdf	**PKPab**	**14 44 05.0**	**-0.4**	
EFI	**East Falkland**	**144.81 233**	PKIKP	**PKPab**	**14 44 05.0**	**-0.4**	
EFI			MLR	MLR			
	comp=Z,8μm,21.0s						
TRQA	**Tornquist**	**145.90 258**	PKPdf	**PKPdf**	**14 44 09.0**	**+0.2**	
TRQA			IAMs_20	IAMs_20	15 48 15.1		
	comp=Z,12μm,22.0s						
TRQA	**Tornquist**	**145.90 258**	PKP2	**PKPdf**	**14 44 09.0**	**+0.2**	
TRQA			MLR	MLR			
	comp=Z,12μm,22.0s						
GO02	**Mina Guanaco**	**146.45 284**	*eP*	**PKPbc**	**14 44 11.4**	**-0.5**	
GO03	**Copiap**	**148.23 280**	PKPbc	**PKPbc**	**14 44 15.7**	**-0.7**	
GO03	**Copiap**	**148.23 280**	*eP*	**PKPdf**	**14 44 12.8**	**-0.3**	
CFA	**Coronel Fontan**	**148.53 272**	PKPbc	**PKPbc**	**14 44 15.7**	**-1.4**	
	comp=Z,17nm,0.6s,baz=64,slow=2.3,SNR=20						
CFA			PP	**PP**	**14 47 54.6**	**+7.5**	
	comp=Z,132nm,1.2s,baz=88,slow=7.5,SNR=6.5						
AC05	**El Transito**	**148.87 278**	PKPbc	**PKPbc**	**14 44 18.3**	**+0.1**	
CO01	**Juntas del Tor**	**149.26 276**	PKPbc	**PKPbc**	**14 44 19.6**	**+0.3**	
LCO	**Las Campanas**	**149.28 279**	PKPbc	**PKPbc**	**14 44 18.9**	**-0.4**	
LCO	**Las Campanas**	**149.28 279**	PKP2	**PKPbc**	**14 44 18.9**	**-0.4**	
LCO			MLR	MLR			
	comp=Z,7μm,22.0s						
GO04	**Tololo Observa**	**149.90 277**	⇑*i*P	**PKPbc**	**14 44 19.8**	**-1.0**	
USHA	**Ushuaia**	**150.48 226**	PKPbc	**PKPbc**	**14 44 20.9**	**-0.1**	
	comp=Z,21nm,0.8s,baz=244,slow=1.2,SNR=2.0						
MT03	**Universidad Ad**	**151.04 270**	*eP*	**PKPbc**	**14 44 22.4**	**-0.8**	
MT05	**Renca**	**151.18 271**	*eP*	**PKPbc**	**14 44 23.1**	**-0.4**	
ROCH	**El Roble**	**151.23 272**	*eP*	**PKPbc**	**14 44 23.0**	**-0.8**	
MT02	**Curacav**	**151.44 271**	*eP*	**PKPbc**	**14 44 22.4**	**-1.6**	
MT09	**Talagante**	**151.51 270**	*eP*	**PKPdf**	**14 44 20.3**	**+2.1**	
BO02	**Sierra Bellavi**	**151.70 268**	PKPbc	**PKPbc**	**14 44 24.5**	**-0.2**	
MT01	**Popeta**	**151.75 270**	*eP*	**PKPbc**	**14 44 23.4**	**-1.3**	
PLCA	**Paso Flores**	**152.96 255**	PKPbc	**PKPbc**	**14 44 27.1**	**-0.2**	
	comp=Z,43nm,1.1s,baz=88,slow=2.0,SNR=9.3						
PLCA	**Paso Flores**	**152.96 255**	*eP*	**PKPdf**	**14 44 20.5**	**+0.5**	
COYC	**Coyhaique**	**154.34 245**	IAMs_20	IAMs_20	15 48 38.1		
	comp=Z,8μm,22.0s						

ROM 25 14:30:31.8±0.1, 43.011N±0.003×13.131E±0.004, h8km, ML1.8/15, 11C-6D, Error ellipse: s-maj=0.3km s-min=0.1km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.04**	**309**	P		Pg		14 30 33.2	-0.3
FDMO				S		Sg		14 30 34.6	-0.2
FDMO				AML		AML			
	comp=E,1965μm,0.2s								
FDMO				AML		AML			
	comp=N,2915μm,0.4s								
T1256	**Bolognola (MC)**	**0.07**	**94**	⇑P		Pg		14 30 34.0	0.0
T1256				S		Sg		14 30 35.6	+0.1
T1256				AML		AML			
	comp=E,970μm,0.4s								
T1256				AML		AML			
	comp=N,926μm,0.8s								
T1256				AML		AML			
	comp=N,874μm,0.8s								
T1256				AML		AML			
	comp=E,885μm,0.7s								
T1256				AML		AML			
	comp=E,973μm,0.4s								
FEMA	**Monte Fema**	**0.08**	**231**	P		Pg		14 30 34.4	+0.3
FEMA				S		Sg		14 30 36.2	+0.6
FEMA				AML		AML			
	comp=E,1415μm,1.1s								
FEMA				AML		AML			
	comp=N,1465μm,0.1s								
FEMA				AML		AML			
	comp=N,1712μm,1.4s								
FEMA				AML		AML			
	comp=E,1410μm,1.1s								
CSP1	**Cessapalombo**	**0.10**	**34**	⇑P		Pg		14 30 34.5	+0.2
CSP1				S		Sg		14 30 36.3	+0.3
CSP1				AML		AML			
	comp=E,976μm,0.4s								
CSP1				AML		AML			
	comp=E,979μm,0.4s								
CSP1				AML		AML			
	comp=N,1375μm,1.3s								
CSP1				AML		AML			
	comp=E,978μm,0.4s								
T1219	**Muccia, Frazio**	**0.10**	**296**	⇓P		Pg		14 30 34.7	+0.4
T1219				S		Sg		14 30 36.6	+0.6
T1219				AML		AML			
	comp=E,928μm,0.3s								
T1219				AML		AML			
	comp=E,1033μm,0.3s								
T1219				AML		AML			
	comp=E,930μm,0.3s								
T1219				AML		AML			
	comp=N,1825μm,0.2s								
T1219				AML		AML			
	comp=N,1915μm,0.2s								
T1219				AML		AML			
	comp=E,1034μm,0.3s								
MC2	**Monte Cornacci**	**0.11**	**156**	⇓P		Pg		14 30 34.8	+0.3
MC2				S		Sg		14 30 37.0	+0.6
T1216	**Preci, Frazion**	**0.15**	**215**	P		Pg		14 30 35.6	+0.6
T1216				S		Sg		14 30 38.3	+1.2
T1216				AML		AML			
	comp=E,699μm,0.4s								
T1216				AML		AML			
	comp=N,706μm,0.3s								
T1216				AML		AML			
	comp=N,707μm,0.3s								
T1216				AML		AML			
	comp=E,699μm,0.4s								
GUMA	**Gualdo di Mace**	**0.16**	**71**	⇑P		Pg		14 30 36.0	+0.9
GUMA				S		Sg		14 30 39.3	+1.8
GUMA				AML		AML			
	comp=E,1310μm,0.5s								
GUMA				AML		AML			
	comp=N,1265μm,0.5s								
GUMA				AML		AML			
	comp=E,951μm,0.8s								
GUMA				AML		AML			
	comp=N,1440μm,0.5s								
T1245	**Castelsantange**	**0.16**	**165**	P		Pg		14 30 35.9	+0.7
T1245				S		Sg		14 30 38.8	+1.1
T1245				AML		AML			
	comp=E,582μm,0.5s								
T1245				AML		AML			
	comp=N,1475μm,0.3s								
T1245				AML		AML			
	comp=E,690μm,0.5s								
T1245				AML		AML			
	comp=N,1500μm,0.3s								
CESI	**CESI - Serrava**	**0.17**	**268**	⇑P		Pg		14 30 36.1	+0.7
CESI				S		Sg		14 30 39.1	+1.4
CESI				AML		AML			
	comp=E,524μm,0.2s								
CESI				AML		AML			
	comp=N,618μm,0.2s								
NRCA	**Norcia**	**0.18**	**184**	⇑P		Pg		14 30 36.0	+0.5
NRCA				AML		AML			
	comp=E,1045μm,0.2s								
NRCA				AML		AML			
	comp=N,668μm,1.1s								
NRCA				AML		AML			
	comp=E,1180μm,0.2s								
NRCA				AML		AML			
	comp=N,706μm,1.3s								
MMO1	**Montemonaco**	**0.18**	**128**	⇑P		Pg		14 30 36.1	+0.5
MMO1				S		Sg		14 30 39.3	+1.1
T1241	**Roccafluvione,**	**0.27**	**125**	⇑P		Pg		14 30 37.8	+0.7
T1241				S		Sb		14 30 42.7	-0.9
T1241				AML		AML			
	comp=N,131μm,0.7s								
T1241				AML		AML			
	comp=E,118μm,1.5s								
SNTG	**Esanatoglia**	**0.28**	**330**	⇓P		Pg		14 30 38.1	+0.6
SNTG				S		Sb		14 30 43.6	-0.4
SNTG				AML		AML			
	comp=N,102μm,0.1s								
SNTG				AML		AML			
	comp=E,73μm,1.4s								
T1215	**Vallo di Nera,**	**0.28**	**223**	⇑P		Pg		14 30 38.1	+0.7
T1215				S		Sb		14 30 42.9	-1.1
T1215				AML		AML			
	comp=N,138μm,0.3s								
T1215				AML		AML			
	comp=E,95μm,0.4s								
EL6	**Elcito**	**0.32**	**356**	⇓P		Pg		14 30 38.6	+0.5
EL6				S		Sb		14 30 44.2	-1.0
EL6				AML		AML			
	comp=E,276μm,0.3s								
EL6				AML		AML			
	comp=N,225μm,0.3s								
T1218	**Civita (PG)**	**0.34**	**182**	⇓P		Pg		14 30 39.1	+0.6
T1218				S		Sb		14 30 44.8	-0.9
T1218				AML		AML			
	comp=E,165μm,1.2s								
T1218				AML		AML			
	comp=N,153μm,1.4s								
ASSB	**Assisi San Ben**	**0.35**	**275**	⇑P		Pg		14 30 39.2	+0.5
ASSB				S		Sb		14 30 45.0	-0.9
ASSB				AML		AML			
	comp=N,262μm,0.9s								
ASSB				AML		AML			
	comp=E,334μm,0.5s								
T1243	**Rocca Santa Ma**	**0.39**	**143**	P		Pb		14 30 40.3	-0.7
T1243				S		Sb		14 30 46.5	-0.7
ATCC	**AVT- Casa Cast**	**0.40**	**296**	⇑P		Pg		14 30 40.2	+0.6
ATCC				S		Sb		14 30 47.1	-0.3
ATCC				AML		AML			
	comp=N,145μm,0.2s								
ATCC				AML		AML			
	comp=E,290μm,0.6s								
RM33	**Pellescritta (**	**0.51**	**173**	P		Pg		14 30 41.9	+0.3
RM33				S		Sb		14 30 50.1	-0.3
RM33				AML		AML			
	comp=E,125μm,0.7s								
RM33				AML		AML			
	comp=N,116μm,0.3s								
ARVD	**Arcevia**	**0.51**	**344**	⇓P		Pg		14 30 42.1	+0.5
ARVD				S		Sb		14 30 50.5	0.0
ARVD				AML		AML			
	comp=N,54μm,0.1s								
ARVD				AML		AML			
	comp=E,62μm,1.1s								
CAMP	**Campotosto**	**0.52**	**157**	P		Pg		14 30 42.0	+0.1
CAMP				S		Sb		14 30 50.2	-0.6
CAMP				AML		AML			
	comp=E,164μm,0.2s								
CAMP				AML		AML			
	comp=N,61μm,0.2s								
TERO	**Teramo**	**0.52**	**138**	P		Pg		14 30 41.9	+0.1
TERO				S		Sb		14 30 50.8	0.0
TERO				AML		AML			
	comp=E,102μm,0.3s								
TERO				AML		AML			
	comp=N,115μm,0.2s								
MPAG	**Monte Paganucc**	**0.68**	**336**	⇑P		Pb		14 30 45.4	-0.5

JMA 25 14:30:55.8±0.0, 35.4N±0.1×133.90E±0.08, h10km, MV0.3/13, EASTERN TOTTORI PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.07**	**289**	*e*S		Sg		14 30 59.3	-0.1
JAD	**Aida**	**0.47**	**152**	P		Pg		14 31 04.9	-0.1
JAD				S		Sg		14 31 11.2	+0.1

KRNET 25 14:32:08.0±0.1, 39.21N×73.89E, mb5.2, 8C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.56**	**327**	⇑*e*P		Pn		14 32 37.4	+0.2
	baz=27								
OHH				⇑*e*S		Sg		14 32 58.8	+0.5
	baz=27								
ARLS	**Aral**	**2.67**	**7**	⇓*e*P		Pn		14 32 54.1	+1.7
	baz=7.0								
ARLS				⇓*e*S		Sb		14 33 28.0	-2.1
	baz=7.0								
NRN	**Naryn**	**2.74**	**35**	⇑*e*P		Pn		14 32 55.0	+1.4
	baz=35								
NRN				⇑*e*S		Sn		14 33 29.2	+1.6
	baz=35								
UCH	**Uchtor**	**3.05**	**9**	⇑*e*P		Pn		14 32 59.6	+1.7
	baz=9.0								
UCH				⇑*e*S		Sn		14 33 37.4	+2.0
	baz=9.0								
TRKS	**Terek-Say**	**3.13**	**319**	⇓*e*P		Pn		14 32 59.6	+0.8
	baz=18								
TRKS				⇓*e*S		Sn		14 33 37.4	+0.5
	baz=18								
AAK	**Ala-Archa**	**3.45**	**7**	⇑*e*P		Pn		14 33 05.0	+1.8
	baz=7.0								
AAK				⇑*e*S		Sn		14 33 46.9	+2.0
	baz=7.0								
TAS	**Tashkent**	**4.10**	**302**	⇓*e*P		Pn		14 33 13.7	+1.7
	baz=2.0								
TAS				⇓*e*S		Sn		14 34 01.8	+1.1
	baz=2.0								

*VIE **25** 14:36:53.8±0.2, 46.31N×13.57E, h7km, ml1.6/2, Error ellipse: s-maj=2.3km s-min=1.5km az=92.0 3 km SSE of Bovec*

LJU 25 14:36:53.5, 46.31N×13.59E, h7km, ML1.6, 4D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.08**	**222**	⇓*i*Pg		Pg		14 36 55.6	+0.1
ROBS				*i* Sg		Sg		14 36 57.1	+0.3
ROBS				IAML				14 36 57.2	
	comp=Z,167nm,0.1s								
CADS	**Cadrg**	**0.13**	**127**	*i* Pg		Pg		14 36 56.3	+0.1
CADS				*i* Sg		Sg		14 36 58.5	+0.4
CADS				IAML				14 36 58.5	
	comp=Z,168nm,0.1s								
DRE	**Drenchia**	**0.14**	**164**	⇓*e*Pg		Pg		14 36 56.5	+0.1
DRE				*e*Sg		Sg		14 36 58.8	+0.4
PRED	**Cave del Predi**	**0.14**	**353**	⇓*e*Pg		Pg		14 36 56.3	-0.1
LSR	**Lussari**	**0.18**	**346**	⇓*e*Pg		Pg		14 36 57.2	+0.1
LSR				*e*Sg		Sg		14 37 00.2	+0.6
VINO	**Villanova**	**0.22**	**257**	*e*Pg		Pg		14 36 57.9	0.0
VINO				*e*Sg		Sg		14 37 01.5	+0.7
COLI	**Coloredo**	**0.23**	**220**	*e*Pg		Pg		14 36 58.3	+0.4
ACOM	**Acomizza,

*NNC **25** 14:40:11.2±3.5,39.60N×73.79E,h0km,mb5.2,mpv4.8,*
Error ellipse: s-maj=29.9km s-min=17.6km az=6.0
ISC 25 14:40:01.3±0.6,39.16N±0.05×73.98E±0.04,h10km,n82,
σ1§74/97,mb4.2/21,11C-13D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.59**	**76**	Pg		Pn	14 40 24.0	-5.6
KSH				Sg		Sn	14 40 41.5	-8.8
KSH				smax		smax		
	comp=N,3μm,0.8s							
KSH				smax		smax		
	comp=E,2μm,1.3s							
OHH	**Osh**	**1.64**	**326**	⇑*iP*		**Pn**	**14 40 30.6**	**+0.3**
	baz=24							
OHH				⇑*iS*		**Sn**	**14 40 49.2**	**-2.4**
	baz=24							
DRK	**Karamyk**	**1.72**	**281**	Pn		**Pb**	**14 40 33.1**	**-0.1**
BTK	**Batken**	**2.60**	**291**	Pn		**Pn**	**14 40 44.3**	**+0.7**
NRN	**Naryn**	**2.75**	**34**	⇓*eP*		**Pn**	**14 40 48.1**	**+2.3**
	baz=38							
NRN				⇓*iS*		**Sn**	**14 41 20.1**	**+0.9**
	baz=38							
NRN	**Naryn**	**2.75**	**34**	Pn		**Pn**	**14 40 45.4**	**-0.3**
UCH	**Uchtor**	**3.09**	**7**	⇓*eP*		**Pn**	**14 40 52.4**	**+1.8**
	baz=10.0							
UCH				⇓*iS*		**Sn**	**14 41 27.1**	**-0.7**
	baz=10.0							
TRKS	**Terek-Say**	**3.21**	**318**	⇓*eP*		**Pn**	**14 40 52.5**	**+0.5**
	baz=16							
TRKS				⇓*iS*		**Sn**	**14 41 28.2**	**-2.1**
	baz=16							
AAK	**Ala-Archa**	**3.49**	**6**	Pn		**Pb**	**14 40 60.0**	**-3.4**
	comp=E,68nm,0.4s,baz=190,slow=6.6,SNR=14							
AAK				Lg		Lg	14 41 52.2	
	comp=E,32nm,0.3s,baz=19,slow=12,SNR=13							
AAK	**Ala-Archa**	**3.49**	**6**	⇓*iP*		**Pn**	**14 40 57.8**	**+1.9**
	baz=8.0							
AAK				⇓*iS*		**Sn**	**14 41 36.3**	**-1.1**
	baz=8.0							
AAK	**Ala-Archa**	**3.49**	**6**	Pn		**Pn**	**14 40 56.4**	**+0.5**
KBK	**Karagaybulak**	**3.57**	**12**	⇑*eP*		**Pn**	**14 40 58.9**	**+2.0**
	baz=14							
KBK				⇑*eS*		**Sn**	**14 41 38.4**	**-0.8**
	baz=14							
MRKS	**Merke**	**3.62**	**351**	*eP*		**Pb**	**14 41 05.0**	**-0.6**
	comp=E,451nm,0.5s							
MRKS				*eS*		**Sb**	**14 41 48.8**	**-0.8**
	comp=E,1μm,0.9s							
BOOM	**Boomskoye usch**	**3.64**	**24**	⇓*iP*		**Pn**	**14 41 00.4**	**+2.5**
	baz=26							
BOOM				⇓*iS*		**Sn**	**14 41 41.3**	**+0.2**
	baz=26							
BOOM	**Boomskoye usch**	**3.64**	**24**			**Pn**	**14 40 58.4**	**+0.5**
FRU1	**Bishkek**	**3.68**	**8**	⇑*iP*		**Pn**	**14 41 00.3**	**+2.0**
	baz=9.0							
FRU1				⇑*iS*		**Sn**	**14 41 41.2**	**-0.6**
	baz=9.0							
CHMS	**Chumysh**	**3.88**	**8**	⇓Pn		**Pn**	**14 41 04.8**	**+3.8**
	comp=E,144nm,0.7s							
CHMS				⇑Lg		Lg	14 41 58.8	
	comp=E,1μm,1.1s							
TKM2	**Tokmak 2**	**3.95**	**18**	⇑Pn		**Pb**	**14 41 08.1**	**-3.1**
	comp=E,393nm,1.4s							
TKM2				⇑Lg		Lg	14 42 05.0	
	comp=E,603nm,1.4s							
KST	**Kastek**	**4.16**	**21**	*eP*		**Pb**	**14 41 17.6**	**+2.9**
	comp=E,273nm,0.7s							
KST				*eS*		**Sg**	**14 42 11.7**	**-3.1**
	comp=E,929nm,1.0s							
TAS	**Tashkent**	**4.18**	**303**	⇓*iP*		**Pn**	**14 41 07.1**	**+1.9**
	baz=1.0							
TAS				⇓*iS*		**Sn**	**14 41 53.8**	**-0.4**
	baz=1.0							
DZA	**Taraz**	**4.23**	**333**	*eP*		**Pb**	**14 41 15.4**	**-0.4**
	comp=E,607nm,0.6s							
DZA				*eS*		**Sb**	**14 42 07.0**	**0.0**
	comp=E,840nm,0.5s							
IUG	**Iuzhnay**	**4.23**	**316**	*eP*		**Pb**	**14 41 16.9**	**+1.0**
	comp=E,932nm,0.8s							
IUG				*eS*		**Sb**	**14 42 09.2**	**+2.2**
	comp=E,1μm,1.4s							
DGS	**Degeres**	**4.29**	**18**	*eP*		**Pb**	**14 41 19.8**	**+2.8**
	comp=E,339nm,0.6s							
DGS				*eS*		**Sb**	**14 42 13.7**	**+4.8**
	comp=E,350nm,0.8s							
SGDS	**Sogindy**	**4.31**	**6**	*eP*		**Pb**	**14 41 18.3**	**+1.0**
	comp=E,112nm,1.2s							
SGDS				*eS*		**Sb**	**14 42 14.4**	**+5.0**
	comp=E,254nm,1.0s							
TNSS	**Tian-Shan**	**4.47**	**29**	*eP*		**Pb**	**14 41 22.9**	**+2.6**
	comp=E,78nm,0.6s							
TNSS				*eS*		**Sg**	**14 42 20.1**	**-5.0**
	comp=E,153nm,1.6s							
CHM	**Chimkent**	**4.58**	**315**	*eP*		**Pb**	**14 41 21.3**	**-0.5**
	comp=E,364nm,0.4s							
CHM				*eS*		**Sb**	**14 42 16.5**	**-0.5**
	comp=E,1μm,0.5s							
MDOK	**Medeo**	**4.62**	**29**	Pn		**Pb**	**14 41 19.9**	**-2.6**
	comp=E,356nm,0.9s							
MDOK				Lg		Lg	14 42 27.2	
	comp=E,555nm,1.1s							
KK31	**Karatay Array**	**4.73**	**328**			**Pn**	**14 41 14.2**	**+1.5**
KK31	**Karatay Array**	**4.73**	**328**	Pn		**Pn**	**14 41 16.1**	**+3.4**
	comp=E,29nm,0.4s,baz=130,slow=12,SNR=24							
KK31				Pg		**Pb**	**14 41 26.8**	**+2.5**
	comp=E,187nm,0.7s,baz=145,slow=16,SNR=7.9							
KK31				⇑Sn		**Sn**	**14 42 10.7**	**+3.1**
	comp=E,150nm,0.7s,baz=143,slow=31,SNR=4.5							
KK31				⇑Lg		Lg	14 42 28.4	
	comp=E,202nm,0.7s							
KKAR	**Karatay Array**	**4.73**	**328**			**Pn**	**14 41 14.5**	**+1.8**
KKAR	**Karatay Array**	**4.73**	**328**			**Pn**	**14 41 13.6**	**+0.9**
NIL	**Nilore**	**5.53**	**186**	Pn		Pn	14 41 29.2	+5.4
KBL	**Kabul**	**6.08**	**222**	Pn		Pn	14 41 37.1	+5.7
MKAR	**Makanchi Array**	**9.76**	**36**	Pn		**Pn**	**14 42 23.8**	**+2.1**
	comp=E,0.1nm,0.3s,baz=205,slow=12,SNR=2.1							
MKAR				Lg		Lg	14 45 08.7	
	comp=E,0.2nm,0.3s,baz=219,slow=28,SNR=2.5							
	comp=E,28nm,1.2s							
HRA	**Herat**	**10.55**	**247**	Pn		**Pn**	**14 42 34.3**	**+1.6**
WMQ	**Urumqi**	**11.29**	**61**	*eP*		**Pn**	**14 42 42.3**	**-0.4**
WMQ				pmax		pmax		
	comp=Z,640nm,2.1s							
WMQ				smax		smax		
	comp=N,720nm,1.9s							
WMQ				smax		smax		
	comp=E,530nm,1.7s							
KURBB	**Kurchatov Arra**	**11.90**	**14**	Pn		**Pn**	**14 42 51.6**	**+0.6**
	baz=203,slow=12,SNR=1.6							
KURBB				Lg		Lg	14 46 18.3	
	comp=E,0.2nm,0.3s,baz=202,slow=27,SNR=7.2							
	comp=E,12nm,1.2s							
GEYT	**Alibeck**	**12.48**	**269**	Pn		**Pn**	**14 42 57.4**	**-1.7**
	comp=E,1.1nm,0.3s,baz=105,slow=11,SNR=5.8							
	comp=E,5.5nm,0.5s							
GYA0B	**ALIBECK ARRAY**	**12.48**	**269**	Pn		**Pn**	**14 42 59.2**	**+0.1**
BVAR	**Borovoye Array**	**14.08**	**351**	Pn		**Pn**	**14 43 19.7**	**-1.1**
	comp=E,0.1nm,0.3s,baz=156,slow=10,SNR=7.4							
BVAR				Lg		Lg	14 47 32.1	
	comp=E,0.1nm,0.3s,baz=151,slow=22,SNR=6.0							
	comp=E,4.9nm,0.6s							
BRVK	**Borovoye**	**14.13**	**351**	Pn		**Pn**	**14 43 21.8**	**+0.4**
ABKAR	**Akbulak array**	**14.23**	**320**	Pn		**Pn**	**14 43 21.9**	**-0.9**
ABKAR	**Akbulak array**	**14.23**	**320**	Pn		**Pn**	**14 43 21.6**	**-1.1**
ZAA0	**Zalesovo Array**	**16.53**	**23**	P		**Pn**	**14 43 53.5**	**+0.4**
ZALV	**Zalesovo Beam**	**16.53**	**23**	Pn		**Pn**	**14 43 52.0**	**-1.1**
	comp=E,0.5nm,0.3s,baz=214,slow=11,SNR=5.2							
	comp=E,8.3nm,0.8s							
ZALV	**Zalesovo Beam**	**16.53**	**23**			**Pn**	**14 43 53.7**	**+0.6**
ARU	**Arti**	**20.06**	**334**	P		**P**	**14 44 35.0**	**+0.5**
	comp=E,9.6nm,0.7s,baz=140,slow=14,SNR=1.8							
	comp=E,9.6nm,0.7s							
ARU	**Arti**	**20.06**	**334**			**P**	**14 44 35.6**	**+1.1**
ARU				IAmb		IAmb	14 44 41.0	
	comp=Z,498nm,1.8s							
WSAR	**Wadi Sarin**	**20.55**	**224**	P		**P**	**14 44 38.5**	**-1.5**
	comp=Z,9.4nm,0.8s,baz=71,slow=9.0,SNR=4.7							
	comp=Z,9.4nm,0.8s							
UOSS	**Minazif**	**20.63**	**232**	P		Pn	14 44 43.7	+0.5
GNI	**Garni**	**22.49**	**282**	P		**P**	**14 45 00.6**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=249,slow=20,SNR=1.7							
	comp=Z,4.1nm,0.6s							
GNI	**Garni**	**22.49**	**282**	P		**P**	**14 45 02.7**	**+1.7**
GNI				IAmb		IAmb	14 45 13.9	
	comp=Z,75nm,1.4s							
BELG	**Belogornoye**	**22.49**	**315**	P		**P**	**14 45 01.4**	**+0.7**
	comp=Z,59nm,1.1s,baz=15,slow=2.4,SNR=4.2							
	comp=Z,59nm,1.1s							
ONI	**Oni**	**23.27**	**288**	P		**P**	**14 45 11.7**	**+2.6**
ONI				IAmb		IAmb	14 45 32.1	
	comp=Z,62nm,1.4s							
SONM	**Songino Array**	**24.91**	**59**	P		**P**	**14 45 23.9**	**-0.7**
	comp=Z,4.9nm,1.1s,baz=263,slow=8.8,SNR=1.6							
	comp=Z,4.9nm,1.1s							
RAYN	**Ar Rayn**	**28.73**	**246**	P		**P**	**14 46 00.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**29.90**	**127**	P		**P**	**14 46 09.0**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=305,slow=6.5,SNR=1.7							
	comp=Z,0.4nm,0.3s							
BRTR	**Keskin Array B**	**30.98**	**284**	P		**P**	**14 46 19.2**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=89,slow=7.4,SNR=5.3							
	comp=Z,1.8nm,0.6s							
BRTR	**Keskin Array B**	**30.98**	**284**	P		**P**	**14 46 20.5**	**+1.6**
AKASG	**Malin Array Be**	**33.23**	**305**	P		**P**	**14 46 38.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=79,slow=7.3,SNR=2.9							
	comp=Z,0.6nm,0.5s							
MLR	**Muntele Rosu**	**35.63**	**296**	P		**P**	**14 46 59.9**	**+0.5**
FIA1	**FINESS Array S**	**36.67**	**323**	P		**P**	**14 47 09.5**	**+1.6**
FIA1				IAmb		IAmb	14 47 27.4	
	comp=Z,19nm,1.1s							
FINES	**FINESS Array B**	**36.67**	**323**	P		**P**	**14 47 08.1**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=114,slow=8.7,SNR=14							
	comp=Z,1.9nm,0.4s							
FINES	**FINESS Array B**	**36.67**	**323**	P		**P**	**14 47 08.8**	**+0.9**
ARCES	**ARCESS Array B**	**39.64**	**336**	P		**P**	**14 47 33.0**	**+0.2**
	comp=Z,6.0nm,0.6s,baz=122,slow=3.6,SNR=6.9							
	comp=Z,6.0nm,0.6s							
KSAR	**Wonju Array Be**	**41.82**	**75**	P		**P**	**14 47 51.4**	**+0.2**
TIXI	**Tiksi**	**42.42**	**23**	P		**P**	**14 47 55.0**	**-0.7**
	comp=Z,28nm,1.3s,baz=90,slow=24,SNR=13							
	comp=Z,28nm,1.3s							
TIXI	**Tiksi**	**42.42**	**23**	P		**P**	**14 47 55.7**	**+0.1**
GERES	**GERESS Array B**	**43.38**	**303**	P		**P**	**14 48 03.8**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=69,slow=5.6,SNR=2.6							
	comp=Z,1.1nm,0.6s							
NOA	**NORSAR Array B**	**43.73**	**321**	P		**P**	**14 48 05.7**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=108,slow=7.6,SNR=1.6							
	comp=Z,1.5nm,0.7s							
ESDC	**Sonseca Array**	**58.31**	**298**	P		**P**	**14 49 56.0**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=53,slow=7.1,SNR=4.3							
	comp=Z,0.7nm,0.7s							
TOLK	**Toolik Lake Re**	**67.74**	**16**	P		**P**	**14 50 58.4**	**-0.3**
TOLK				IAmb		IAmb	14 51 18.7	
	comp=Z,42nm,1.9s							
A36M	**Sachs Harbour**	**68.32**	**6**	P		**P**	**14 51 03.0**	**+0.9**
BMAR	**Burnt Mountain**	**69.79**	**15**	P		**P**	**14 51 11.6**	**+0.2**
INK	**Inuvik**	**70.88**	**10**	P		**P**	**14 51 17.8**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=335,slow=6.2,SNR=1.8							
	comp=Z,1.4nm,0.9s							
ILAR	**Eielson Array**	**71.56**	**17**	P		**P**	**14 51 21.4**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=312,slow=4.7,SNR=8.5							
	comp=Z,1.5nm,0.9s							
ILAR	**Eielson Array**	**71.56**	**17**	P		**P**	**14 51 22.4**	**+0.2**
BCAR	**Beaver Creek A**	**74.18**	**16**	P		**P**	**14 51 38.1**	**+0.3**
HYT	**Haines Junctio**	**77.09**	**15**	P		**P**	**14 51 55.9**	**+1.3**
HYT				IAmb		IAmb	14 51 59.9	
	comp=Z,19nm,1.7s							
DBIC	**Dimbokro**	**77.17**	**268**	P		**P**	**14 51 54.8**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=351,slow=4.1,SNR=2.4							
	comp=Z,3.3nm,0.8s							
WRA	**Warramunga Arr**	**81.46**	**124**	P		**P**	**14 52 17.0**	**-1.9**
	comp=Z,1.2nm,0.5s,baz=319,slow=5.1,SNR=5.0							
	comp=Z,1.2nm,0.5s							
ASAR	**Alice Springs**	**83.91**	**127**	P		**P**	**14 52 31.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=313,slow=5.0,SNR=4.1							
	comp=Z,0.5nm,0.6s							

*JMA **25** 14:41:39.5±0.2,30.6N±0.9×141.2E±°,h49km,MV4.1/23,*
NEAR TORISHIMA IS
*IDC **25** 14:41:39.9±2.6,30.40N×141.60E,h0km,mb3.9/4,*
mbtmp3.8/7,ML3.3/3,Error ellipse: s-maj=80.3km
s-min=17.0km az=72.0
ISC 25 14:41:42.1±1.2,30.60N±0.06×142.2E±0.2,h35km,n16,
σ1§72/23,mb3.9/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.23**	**322**	*eP*		**Pn**	**14 42 29.9**	**-0.4**
JHJ2				*eS*		**Sn**	**14 43 06.5**	**-1.0**
JHJ	**Hachijo jima 2**	**3.25**	**321**	Pn		**Pn**	**14 42 28.0**	**-2.7**
	2.3nm,0.3s,baz=53,slow=20,SNR=1.3							
JHJ				Sn		**Sn**	**14 43 07.0**	**-1.1**
	14nm,0.3s,baz=56,slow=22,SNR=1.6							
	62nm,0.7s							
JCJ	**Chichijima**	**3.49**	**180**	Pn		**Pn**	**14 42 34.1**	**+0.2**
	17nm,0.3s,baz=272,slow=18,SNR=5.2							
JCJ				Sn		**Sn**	**14 43 13.4**	**-0.6**
	11nm,0.3s,baz=272,slow=22,SNR=2.2							
	34nm,0.3s							
BSO1	**Boso 1**	**4.17**	**346**	*eP*		**Pn**	**14 42 43.3**	**+0.5**
BSO1				*eS*		**Sn**	**14 43 29.5**	**-0.6**
BSO3	**Boso 3**	**4.43**	**342**	*eS*		**Sn**	**14 43 37.4**	**+0.6**
JOD2	**Odawara 2**	**5.34**	**331**	*eP*		**Pn**	**14 43 00.5**	**+1.1**
JHU	**Hanno**	**5.79**	**336**	*eP*		**Pn**	**14 43 05.8**	**+0.4**
JYT	**Yasato**	**5.86**	**344**	*eP*		**Pn**	**14 43 07.1**	**+0.6**
JRY	**Ryogami san**	**6.07**	**334**	*eS*		**Sn**	**14 44 17.4**	**-0.2**
JHO	**Hitachi**	**6.15**	**348**	*eP*		**Pn**	**14 43 09.8**	**-0.7**
JHO				*eS*		**Sn**	**14 44 14.3**	**-5.3**
JAG	**Ashikaga**	**6.25**	**339**	*eP*		**Pn**	**14 43 11.9**	**+0.1**
JAG				*eS*		**Sn**	**14 44 19.8**	**-2.3**
MJAR	**Matsushiro Arr**	**6.80**	**332**	Pn		**Pn**	**14 43 20.4**	**+0.9**
	0.3nm,0.3s,baz=162,slow=11,SNR=21							
MJAR				Sn		**Sn**	**14 44 37.8**	**+2.2**
	0.2nm,0.3s,baz=165,slow=32,SNR=4.2							
	1.8nm,0.4s							
SONM	**Songino Array**	**32.29**	**312**	P		**P**	**14 48 09.4**	**+1.7**
	1.1nm,0.7s,baz=112,slow=7.8,SNR=4.3							
	1.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**40.94**	**263**	P		**P**	**14 49 20.1**	**-1.5**
	0.4nm,0.3s,baz=57,slow=6.1,SNR=2.0							
	0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**50.66**	**312**	P		**P**	**14 50 39.0**	**+1.3**
	0.5nm,0.4s,baz=94,slow=9.9,SNR=2.1							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**50.82**	**190**	P		**P**	**14 50 39.4**	**+0.2**
	1.3nm,0.5s,baz=6.4,slow=7.7,SNR=7.7							
	1.3nm,0.5s							

*SOME **25** 14:45:10.1,37.33N×73.67E,h10km,MS5.3*
*KRNET **25** 14:45:45.3±0.1,39.16N×73.84E,mb4.3*
ISC 25 14:45:38.4±3.1,38.8N±0.2×73.81E±0.06,h10km,n14,
σ3§18/23,12C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.92**	**336**	⇑*iP*		**Pn**	**14 46 13.7**	**+2.4**
	baz=29							
OHH				⇑*iS*		**Sn**	**14 46 34.4**	**-1.2**
	baz=29							
ARLS	**Aral**	**3.12**	**7**	⇑*eP*		**Pn**	**14 46 29.5**	**+1.7**
	baz=8.0							
ARLS				⇑*iS*		**Sn**	**14 47 01.5**	**-3.6**
	baz=8.0							
NRN	**Naryn**	**3.15**	**32**	⇑*iP*		**Pn**	**14 46 30.4**	**+2.0**
	baz=35							
NRN				⇑*iS*		**Sn**	**14 47 03.3**	**-2.9**
	baz=35							
TRKS	**Terek-Say**	**3.44**	**324**	⇓*eP*		**Pn**	**14 46 34.5**	**+2.3**
	baz=19							
TRKS				⇓*iS*		**Sn**	**14 47 10.4**	**-2.6**
	baz=19							
UCH	**Uchtor**	**3.50**	**9**	⇓*iP*		**Pn**	**14 46 35.1**	**+1.8**
	baz=9.0							
UCH				⇓*iS*		**Sn**	**14 47 11.3**	**-3.7**
	baz=9.0							
EKS2	**Erkin-Say**	**3.89**	**360**	⇑*iP*		**Pn**	**14 46 40.2**	**+1.8**
	baz=59							
EKS2				⇑*iS*		**Sn**	**14 47 20.4**	**-3.8**
	baz=59							
AAK	**Ala-Archa**	**3.90**	**7**	⇑*iP*		**Pn**	**14 46 40.4**	**+1.8**
	baz=8.0							
AAK				⇑*iS*		**Sn**	**14 47 20.7**	**-3.8**
	baz=8.0							
KBK	**Karagaybulak**	**3.98**	**12**	⇑*eP*		**Pn**	**14 46 41.5**	**+1.8**
	baz=13							
KBK				⇑*eS*		**Sn**	**14 47 22.7**	**-3.8**
	baz=13							
MRKS	**Merke**	**4.00**	**354**	*eP*		**Pb**	**14 46 51.0**	**+2.0**
	75nm,0.7s							
MRKS				*eS*		Sg	14 48 03.6	+17
	139nm,2.1s							
IUG	**Iuzhnay**	**4.44**	**321**	*eP*		**Pb**	**14 46 54.3**	**-2.2**
	81nm,0.7s							
IUG				*eS*		Sg	14 48 09.2	+8.3
	417nm,2.0s							
KST	**Kastek**	**4.57**	**20**	*eP*		**Pb**	**14 47 01.7**	**+2.9**
	52nm,0.7s							
KST				*eS*		Sg	14 48 22.2	+17
	97nm,0.6s							
DGS	**Degeres**	**4.71**	**18**	*eP*		**Pg**	**14 47 05.3**	**-3.3**
	35nm,0.7s							
DGS				*eS*		Sg	14 48 28.3	+19
	292nm,0.7s							
CHM	**Chimkent**	**4.78**	**319**	*eP*		**Pb**	**14 46 59.9**	**-2.4**
	126nm,0.1s							
CHM				*eS*		**Sg**	**14 48 18.8**	**+6.9**
	216nm,0.4s							
TNSS	**Tian-Shan**	**4.88**	**28**	*eP*		**Pb**	**14 47 06.0**	**+1.8**
	34nm,0.6s							
TNSS				*eS*		Sg	14 48 29.5	+14
	94nm,0.9s							

*IDC **25** 14:46:23.9±2.0,7.08S×129.04E,h163km±68km,mb3.6/1,*
mbtmp4.0/5,Error ellipse: s-maj=61.6km s-min=14.7km
az=128.0
*NEIC **25** 14:46:23.8±2.1,7.02S±0.06×129.15E±0.09,h176km±10km,*
mb4.4/7,Error ellipse: s-maj=13.7km s-min=8.0km
az=63.0
ISC 25 14:46:22.5±0.7,7.14S±0.06×129.10E±0.07,h156km,n31,
σ1§87/34,mb4.5/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.34**	**111**	Pn		**Pn**	**14 47 04.6**	**+2.7**
SAUI	**Saumlaki**	**2.34**	**111**	P		**Pn**	**14 47 05.2**	**+3.2**
FAKI	**Fak Fak**	**5.23**	**37**	Pn		**Pn**	**14 47 39.3**	**+0.2**
FAKI	**Fak Fak**	**5.23**	**37**	P		**Pn**	**14 47 39.7**	**+0.5**
SOEI	**Soe**	**5.45**	**241**	Pn		**Pn**	**14 47 44.5**	**+2.5**
SOEI	**Soe**	**5.45**	**241**	P		**Pn**	**14 47 45.2**	**+3.1**
MTN	**Manton Dam**	**6.01**	**161**			**Pn**	**14 47 50.5**	**+1.0**
MTN	**Manton Dam**	**6.01**	**161**	P		**Pn**	**14 47 50.5**	**+1.0**
BATI	**Baumata**	**6.18**	**240**	P		**Pn**	**14 47 53.2**	**+1.4**
	22nm,0.4s,baz=132,slow=2.1,SNR=12							
BATI				S		**Sn**	**14 49 02.3**	**+0.6**
	65nm,0.7s,baz=84,slow=22,SNR=11							
KDU	**Kakadu**	**6.44**	**149**	P		**Pn**	**14 47 55.7**	**+0.6**
SIJI	**Sorong**	**6.59**	**19**	P		**Pn**	**14 47 59.9**	**+2.7**
	1.8nm,0.5s,baz=234,slow=20,SNR=1.8							
SIJI				S		**Sn**	**14 49 11.1**	**-0.4**
	2.5nm,0.3s,baz=236,slow=23,SNR=2.5							
KNRA	**Kununurra**	**8.50**	**182**	Pn		**Pn**	**14 48 22.3**	**-0.3**
PLAI	**Plampang**	**11.34**	**261**	P		**Pn**	**14 49 00.5**	**+0.3**
WB0	**Warramunga Arr**	**13.57**	**158**	Pn		**Pn**	**14 49 28.6**	**-0.2**
WRA	**Warramunga Arr**	**13.71**	**159**	P		**Pn**	**14 49 32.0**	**+1.4**
	2.4nm,0.9s,baz=349,slow=12,SNR=8.1							
WRA				S		Sn	14 51 53.5	-9.1
	1.0nm,0.4s,baz=340,slow=19,SNR=6.4							
WRA	**Warramunga Arr**	**13.71**	**159**	Pn		**Pn**	**14 49 31.7**	**+1.1**
WB2	**Warramunga Arr**	**13.71**	**159**	Pn		**Pn**	**14 49 30.9**	**+0.3**
WR0	**Warramunga Arr**	**13.80**	**158**	Pn		**Pn**	**14 49 32.5**	**+0.8**
COEN	**Coen**	**15.40**	**117**			**P**	**14 49 53.2**	**+0.3**
COEN				IAmb		IAmb	14 50 24.3	
	comp=Z,16nm,1.4s							
COEN	**Coen**	**15.40**	**117**	P		**P**	**14 49 53.5**	**+0.6**
QIS	**Mount Isa**	**16.78**	**144**	P		**Pn**	**14 50 10.0**	**+1.5**
AS31	**Alice Springs**	**17.07**	**165**	P		**Pn**	**14 50 12.7**	**+0.7**
ASAR	**Alice Springs**	**17.07**	**165**	P		**Pn**	**14 50 13.3**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=345,slow=10,SNR=29							
ASAR				S		**S**	**14 53 15.2**	**-6.2**
	comp=Z,0.4nm,0.7s,baz=346,slow=25,SNR=3.7							
ASAR	**Alice Springs**	**17.07**	**165**	P		**P**	**14 50 11.7**	**+0.4**
FORT	**Forrest**	**23.54**	**182**	P		**P**	**14 51 19.9**	**+1.2**
FORT				IAmb		IAmb	14 51 56.4	
	comp=Z,20nm,1.1s							
STKA	**Stephens Creek**	**27.24**	**156**	P		**P**	**14 51 53.5**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=336,slow=10.0,SNR=2.0							
	comp=Z,1.8nm,0.8s							
STKA	**Stephens Creek**	**27.24**	**156**	P		**P**	**14 51 51.6**	**-0.5**
STKA				IAmb		IAmb	14 52 01.1	
	comp=Z,1.9nm,1.4s							
KS19	**Wonju Array Si**	**44.42**	**359**	P		**P**	**14 54 16.7**	**-1.1**
KS19				IAmb		IAmb	14 54 50.2	
	comp=Z,13nm,1.2s							
BFZ	**Birch Farm**	**53.60**	**136**	P		**P**	**14 55 27.2**	**-

TKM2				⇑*i*S		Sn	14 48 58.8	0.0	
	baz=17								
KST	**Kastek**	**4.15**	**16**	*e*P	Pn		14 48 01.8	-13	
	106nm,2.6s								
KST				*e*S	**Sb**		**14 49 17.1**	**+2.5**	
	274nm,0.7s								
USP	**Ospenovka**	**4.20**	**1**	P	**Pb**		**14 48 26.3**	**+1.0**	
	SNR=5.4								
DGS	**Degeres**	**4.30**	**13**	*e*P	Pn		14 48 05.7	-11	
	24nm,0.8s								
DGS				*e*S	**Sb**		**14 49 23.9**	**+4.9**	
	260nm,0.7s								
TNSS	**Tian-Shan**	**4.41**	**25**	*e*P	Pn		14 48 06.7	-12	
	18nm,0.1s								
TNSS				*e*S	**Sb**		**14 49 25.7**	**+3.3**	
	112nm,0.5s								
KK31	**Karatay Array**	**5.00**	**325**	Pn	**Pn**		**14 48 27.2**	**+0.9**	
KKAR	**Karatay Array**	**5.00**	**325**	Pn	**Pn**		**14 48 27.0**	**+0.7**	
NIL	**Nilore**	**5.48**	**190**		**Pn**		**14 48 34.5**	**+1.5**	
JMU	**Jammu**	**6.34**	**176**	*e*S	**Sn**		**14 50 03.1**	**+5.8**	
JMU	**Jammu**	**6.34**	**176**	*e*P	**Pn**		**14 48 45.4**	**+0.6**	
MAKZ	**Makanchi**	**9.52**	**33**	Pn	**Pn**		**14 49 27.8**	**-0.5**	
MK31	**Makanchi Array**	**9.64**	**34**	Pn	**Pn**		**14 49 30.8**	**+0.8**	
MKAR	**Makanchi Array**	**9.64**	**34**	Pn	**Pn**		**14 49 29.7**	**-0.3**	
	0.4nm,0.3s,baz=215,slow=14,SNR=5.2								
	3.5nm,0.8s								
LGTI	**Lohaghat**	**10.73**	**152**	*e*P	**Pn**		**14 49 45.0**	**+0.1**	
HRA	**Herat**	**10.82**	**248**		**Pn**		**14 49 48.6**	**+2.2**	
WMQ	**Urumqi**	**11.04**	**60**	*e*P	**Pn**		**14 49 51.5**	**+2.3**	
KURBB	**Kurchatov Arra**	**11.92**	**13**	Pn	**Pn**		**14 49 59.9**	**-1.2**	
	baz=203,slow=11,SNR=2.2								
KURBB				Lg	Lg		14 53 25.2		
	0.1nm,0.3s,baz=194,slow=30,SNR=7.3								
	3.4nm,1.1s								
GEYT	**Alibeck**	**12.82**	**270**	Pn	**Pn**		**14 50 15.6**	**+2.1**	
	0.5nm,0.3s,baz=98,slow=10,SNR=1.9								
	2.3nm,0.5s								
PYUN	**Piuthan**	**13.05**	**144**	*e*P	**Pn**		**14 50 14.3**	**-2.6**	
DANN	**Dangsing**	**13.21**	**141**	*e*P	**Pn**		**14 50 18.5**	**-0.6**	
	15nm,0.5s								
GKN	**Gorkha**	**13.93**	**139**	*e*P	**Pn**		**14 50 27.9**	**-0.9**	
BVAR	**Borovoye Array**	**14.24**	**350**	Pn	**Pn**		**14 50 30.8**	**-2.1**	
	0.1nm,0.3s,baz=159,slow=14,SNR=5.6								
	9.0nm,0.7s								
BRVK	**Borovoye**	**14.29**	**350**	Pn	**Pn**		**14 50 33.6**	**+0.2**	
ABKAR	**Akbulak array**	**14.53**	**319**		**Pn**		**14 50 35.3**	**-1.5**	
ABKAR	**Akbulak array**	**14.53**	**319**		**Pn**		**14 50 35.2**	**-1.5**	
GUN	**Gumba**	**14.65**	**136**	*e*P	**Pn**		**14 50 39.3**	**+0.4**	
PKIN	**Phulchoki**	**14.66**	**138**	*e*P	**Pn**		**14 50 38.0**	**-1.0**	
	12nm,0.5s								
PKI	**Pulchoki**	**14.68**	**138**	*e*P	**Pn**		**14 50 38.2**	**-1.0**	
JIRN	**Jiri**	**15.02**	**136**	*e*P	**Pn**		**14 50 43.1**	**-0.8**	
	23nm,0.6s								
RAMN	**Ramite**	**15.80**	**136**	*e*P	**Pn**		**14 50 51.0**	**-3.1**	
ZAA0	**Zalesovo Array**	**16.50**	**22**		**P**		**14 51 04.2**	**-1.0**	
ZALV	**Zalesovo Beam**	**16.50**	**22**	Pn	**Pn**		**14 50 59.7**	**-2.9**	
	0.5nm,0.3s,baz=208,slow=11,SNR=4.5								
	7.7nm,0.7s								
ZALV	**Zalesovo Beam**	**16.50**	**22**		**P**		**14 51 04.4**	**-0.8**	
ARU	**Arti**	**20.30**	**334**	P	**P**		**14 51 46.7**	**-0.3**	
	6.3nm,0.7s,baz=201,slow=23,SNR=2.5								
	6.3nm,0.7s								
ARU	**Arti**	**20.30**	**334**	P	**P**		**14 51 47.6**	**+0.6**	
ARU				IAmb	IAmb		14 52 30.1		
	comp=Z,45nm,1.5s								
WSAR	**Wadi Sarin**	**20.72**	**225**	P	**P**		**14 51 52.6**	**+0.9**	
	comp=Z,8.5nm,0.9s,baz=18,slow=11,SNR=4.5								
	comp=Z,8.5nm,0.9s								
BELG	**Belogornoye**	**22.80**	**315**	P	**P**		**14 52 14.2**	**+0.3**	
	comp=Z,18nm,0.8s,baz=35,slow=4.5,SNR=4.2								
	comp=Z,18nm,0.8s								
GNI	**Garni**	**22.84**	**282**	P	**P**		**14 52 15.6**	**+1.0**	
	comp=Z,7.2nm,0.6s,baz=334,slow=10,SNR=4.2								
	comp=Z,7.2nm,0.6s								
GNI	**Garni**	**22.84**	**282**	P	**P**		**14 52 15.7**	**+1.0**	
ONI	**Oni**	**23.62**	**289**	P	**P**		**14 52 24.5**	**+2.0**	
ONI				IAmb	IAmb		14 52 27.3		
	comp=Z,37nm,1.0s								
KBZ	**Khabaz**	**24.02**	**291**	P	**P**		**14 52 26.8**	**+0.7**	
	comp=Z,3.7nm,1.0s,baz=205,slow=13,SNR=2.1								
	comp=Z,3.7nm,1.0s								
SONM	**Songino Array**	**24.67**	**59**	P	**P**		**14 52 32.1**	**-0.2**	
	comp=Z,0.9nm,0.6s,baz=267,slow=9.6,SNR=5.5								
	comp=Z,0.9nm,0.6s								
RAYN	**Ar Rayn**	**29.00**	**246**	P	**P**		**14 53 12.0**	**+0.7**	
RAYN				IAmb	IAmb		14 53 15.0		
	comp=Z,7.3nm,1.1s								
CMAR	**Chiang Mai Arr**	**29.57**	**127**	P	**P**		**14 53 16.7**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=308,slow=10,SNR=1.3								
	comp=Z,0.2nm,0.3s								
BR131	**Keskin Array S**	**31.33**	**284**	P	**P**		**14 53 31.6**	**-0.3**	
BR131				IAmb	IAmb		14 53 50.4		
	comp=Z,2.1nm,0.8s								
BRTR	**Keskin Array B**	**31.33**	**284**	P	**P**		**14 53 31.6**	**-0.3**	
	comp=Z,2.7nm,0.8s,baz=89,slow=8.4,SNR=10.0								
	comp=Z,2.7nm,0.8s								
BRTR	**Keskin Array B**	**31.33**	**284**	P	**P**		**14 53 32.4**	**+0.5**	
AKASG	**Malin Array Be**	**33.56**	**305**	P	**P**		**14 53 51.4**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=80,slow=7.3,SNR=6.6								
	comp=Z,0.2nm,0.3s								
FIA1	**FINESS Array S**	**36.96**	**323**	P	**P**		**14 54 19.9**	**-0.3**	
FINES	**FINESS Array B**	**36.96**	**323**	P	**P**		**14 54 18.6**	**-1.6**	
	comp=Z,1.8nm,0.5s,baz=114,slow=10,SNR=9.1								
	comp=Z,1.8nm,0.5s								
FINES	**FINESS Array B**	**36.96**	**323**	P	**P**		**14 54 21.2**	**+1.0**	
ARCES	**ARCESS Array B**	**39.87**	**336**	P	**P**		**14 54 43.5**	**-1.2**	
	comp=Z,2.6nm,0.8s,baz=98,slow=1.8,SNR=4.1								
	comp=Z,2.6nm,0.8s								
KLR	**Kul'dur**	**41.46**	**56**	P	**P**		**14 54 56.7**	**-1.3**	
	comp=Z,1.2nm,0.6s,baz=238,slow=19,SNR=2.6								
	comp=Z,1.2nm,0.6s								
TIXI	**Tiksi**	**42.38**	**22**	P	**P**		**14 55 06.1**	**+0.8**	
GERES	**GERESS Array B**	**43.72**	**304**	P	**P**		**14 55 17.1**	**+0.6**	
	comp=Z,1.1nm,0.8s,baz=68,slow=4.7,SNR=4.4								
	comp=Z,1.1nm,0.8s								
NC405	**NORSAR Array S**	**43.78**	**321**	P	**P**		**14 55 17.4**	**+0.7**	
NB2	**NORSAR Subarra**	**44.02**	**321**	P	**P**		**14 55 19.2**	**+0.5**	
	comp=Z,1.3nm,0.5s,baz=91,slow=8.6								
NOA	**NORSAR Array B**	**44.02**	**321**	P	**P**		**14 55 16.9**	**-1.8**	
	comp=Z,2.2nm,0.7s,baz=91,slow=7.8,SNR=6.8								
	comp=Z,2.2nm,0.7s								
ESDC	**Sonseca Array**	**58.66**	**298**	P	**P**		**14 57 07.2**	**-1.5**	
	comp=Z,1.8nm,0.8s,baz=56,slow=6.7,SNR=9.1								
	comp=Z,1.8nm,0.8s								
TOLK	**Toolik Lake Re**	**67.74**	**16**	P	**P**		**14 58 08.3**	**-0.3**	
TOLK				IAmb	IAmb		14 58 27.1		
	comp=Z,7.3nm,1.2s								
IMAR	**Indian Mountai**	**68.89**	**19**	P	**P**		**14 58 16.1**	**+0.4**	
BMAR	**Burnt Mountain**	**69.80**	**15**	P	**P**		**14 58 21.3**	**-0.1**	
INK	**Inuvik**	**70.92**	**11**	P	**P**		**14 58 26.1**	**-2.0**	
	comp=Z,2.4nm,0.9s,baz=331,slow=9.3,SNR=3.3								
	comp=Z,2.4nm,0.9s								
ILAR	**Eielson Array**	**71.56**	**17**	P	**P**		**14 58 29.9**	**-2.2**	
	comp=Z,1.0nm,0.7s,baz=328,slow=4.2,SNR=6.9								
	comp=Z,1.0nm,0.7s								
ILAR	**Eielson Array**	**71.56**	**17**	P	**P**		**14 58 32.0**	**0.0**	
BCAR	**Beaver Creek A**	**74.18**	**16**	P	**P**		**14 58 47.8**	**+0.1**	
WRA	**Warramunga Arr**	**81.13**	**125**	P	**P**		**14 59 26.3**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=325,slow=4.9,SNR=7.5								
	comp=Z,0.6nm,0.6s								
WB2	**Warramunga Arr**	**81.13**	**125**	P	**P**		**14 59 26.5**	**-0.5**	
ASAR	**Alice Springs**	**83.58**	**127**	P	**P**		**14 59 38.5**	**-1.3**	
	comp=Z,0.5nm,0.7s,baz=304,slow=4.7,SNR=6.4								
	comp=Z,0.5nm,0.7s								

*IDC **25** 14:48:52.1±1.6,39.˚06N×74.˚18E,h0km,mb3.6/5, mbtmp3.7/8,ML3.0/3,Error ellipse: s-maj=47.3km s-min=21.5km az=68.0*
*KRNET **25** 14:48:58.5±0.1,39.˚35N×73.˚72E,mb4.3*
ISC 25 14:48:53.4±1.2,39.˚20N±0.˚08×73.˚99E±0.˚06,h10km,n13, σ1§37/18,mb3.6/5,10C,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OHH	**Osh**	**1.62**	**325**	⇑*e*P			**Pg**	**14 49 24.6**	**+0.1**
	baz=29								
OHH				⇑*i*S			**Sb**	**14 49 43.6**	**-0.4**
	baz=29								
ARLS	**Aral**	**2.67**		5⇑*e*P			**Pg**	**14 49 43.1**	**-1.5**
	baz=10.0								
ARLS				⇑*i*S			**Sb**	**14 50 15.9**	**+1.5**
	baz=10.0								
NRN	**Naryn**	**2.71**		34⇑*e*P			**Pg**	**14 49 45.4**	**+0.1**
	baz=39								
NRN				⇑*i*S			**Sg**	**14 50 19.3**	**-1.2**
	baz=39								
UCH	**Uchtor**	**3.05**		7⇑*i*P			**Pb**	**14 49 49.0**	**+0.9**
	baz=12								
UCH				⇑*i*S			**Sb**	**14 50 25.6**	**0.0**
	baz=12								
TRKS	**Terek-Say**	**3.19**	**318**	⇑*i*P			**Pb**	**14 49 47.7**	**-2.6**
	baz=18								
TRKS				⇑*i*S			**Sn**	**14 50 23.8**	**+1.8**
	baz=18								
AAK	**Ala-Archa**	**3.46**	**6**	Pn			**Pb**	**14 49 52.4**	**-2.4**
	13nm,0.3s,baz=174,slow=9.1,SNR=1.3								
	34nm,0.4s								
BVAR	**Borovoye Array**	**14.05**	**351**	Pn			**Pn**	**14 52 13.6**	**+1.2**
	baz=133,slow=11,SNR=1.6								
	1.7nm,0.7s								
ZALV	**Zalesovo Beam**	**16.49**	**23**	Pn			**Pn**	**14 52 44.4**	**-0.3**
	0.2nm,0.3s,baz=207,slow=11,SNR=1.7								
	1.2nm,0.6s								
SONM	**Songino Array**	**24.88**	**59**	P			**P**	**14 54 16.7**	**+0.4**
	0.7nm,0.8s,baz=271,slow=9.7,SNR=1.7								
	0.7nm,0.8s								
FINES	**FINESS Array B**	**36.65**	**323**	P			**P**	**14 56 01.3**	**+1.5**
	1.5nm,0.8s,baz=116,slow=8.2,SNR=1.6								
	1.5nm,0.8s								
ILAR	**Eielson Array**	**71.52**	**17**	P			**P**	**15 00 14.0**	**0.0**
	0.4nm,0.8s,baz=313,slow=5.1,SNR=4.2								
	0.4nm,0.8s								
WRA	**Warramunga Arr**	**81.47**	**124**	P			**P**	**15 01 10.0**	**-1.0**
	0.4nm,0.6s,baz=326,slow=5.0,SNR=6.9								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**83.92**	**127**	P			**P**	**15 01 23.8**	**+0.1**
	0.3nm,0.7s,baz=323,slow=5.5,SNR=1.8								
	0.3nm,0.7s								

*IDC **25** 14:51:52.1±0.9,39.˚11N×74.˚06E,h0km,mb3.9/10, mbtmp3.9/14,ML3.2/4,Error ellipse: s-maj=20.1km s-min=14.8km az=92.0*
*KRNET **25** 14:51:56.9±0.1,39.˚34N×73.˚83E,mb4.4*
*SOME **25** 14:51:56.5,39.˚40N×74.˚18E,h10km*
*NNC **25** 14:52:02.3±3.0,39.˚57N×74.˚01E,h0km,mb4.8,mpv4.4, Error ellipse: s-maj=23.6km s-min=13.8km az=175.0*
ISC 25 14:51:54.2±0.8,39.˚32N±0.˚05×74.˚17E±0.˚04,h10km,n49, σ1§53/68,mb3.9/8,18C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OHH	**Osh**	**1.60**	**319**	⇑*i*P			**Pb**	**14 52 23.9**	**-0.1**
	baz=26								
OHH				⇑*i*S			**Sn**	**14 52 43.5**	**0.0**
	baz=26								
NRN	**Naryn**	**2.53**		33⇑*e*P			**Pg**	**14 52 42.8**	**0.0**
	baz=37								
NRN				⇑*i*S			**Sg**	**14 53 16.3**	**+0.7**
	baz=37								
ARLS	**Aral**	**2.54**		3⇑*e*P			**Pg**	**14 52 41.3**	**-1.6**
	baz=8.0								
ARLS				⇑*i*S			**Sg**	**14 53 13.7**	**-2.2**
	baz=8.0								
AML	**Almayashu**	**2.83**	**353**	P			**Pg**	**14 52 47.1**	**-1.4**
	SNR=7.6								
UCH	**Uchtor**	**2.92**	**5**	P			**Pb**	**14 52 46.5**	**-0.1**
	SNR=8.1								
UCH	**Uchtor**	**2.92**		5⇑*e*P			**Pb**	**14 52 46.7**	**+0.1**
	baz=10.0								
UCH				⇑*i*S			**Sb**	**14 53 23.2**	**+0.7**
	baz=10.0								
TRKS	**Terek-Say**	**3.19**	**315**	⇑*e*P			**Pn**	**14 52 46.7**	**+2.1**
	baz=17								
TRKS				⇑*i*S			**Sn**	**14 53 23.2**	**+0.3**
	baz=17								
ULHL	**Ulahol**	**3.32**	**28**	⇓*e*P			**Pb**	**14 52 53.6**	**+0.3**
	baz=31								
ULHL				⇓*i*S			**Sb**	**14 53 35.1**	**+1.3**
	baz=31								
AAK	**Ala-Archa**	**3.32**	**4**	Pn			**Pb**	**14 52 52.2**	**-1.2**
	6.1nm,0.3s,baz=64,slow=1.0,SNR=6.6								
AAK				Lg			Lg	14 53 43.4	
	8.5nm,0.3s,baz=283,slow=18,SNR=6.9								
	28nm,0.5s								
AAK	**Ala-Archa**	**3.32**		4⇑*e*P			**Pb**	**14 52 52.4**	**-0.9**
	baz=8.0								
AAK				⇑*i*S			**Sb**	**14 53 32.8**	**-1.1**
	baz=8.0								
EKS2	**Erkin-Say**	**3.35**	**355**	P			**Pb**	**14 52 52.9**	**-0.8**
	SNR=17								
EKS2	**Erkin-Say**	**3.35**	**355**	⇓*e*P			**Pb**	**14 52 51.9**	**-1.9**
	baz=59								
EKS2				⇓*i*S			**Sb**	**14 53 32.2**	**-2.4**
	baz=59								
KBK	**Karagaybulak**	**3.39**	**10**	P			**Pb**	**14 52 53.2**	**-1.2**
	SNR=7.1								
KBK	**Karagaybulak**	**3.39**	**10**	⇑*e*P			**Pb**	**14 52 53.5**	**-0.9**
	baz=14								
KBK				⇑*i*S			**Sb**	**14 53 34.8**	**-0.9**
	baz=14								
MRKS	**Merke**	**3.50**	**349**	*e*P			**Pg**	**14 52 59.1**	**-2.1**
	104nm,0.5s								
MRKS				*e*S			**Sg**	**14 53 44.0**	**-2.4**
	84nm,0.4s								
MRKS	**Merke**	**3.50**	**349**	Pg			**Pg**	**14 52 58.9**	**-2.2**
	104nm,0.5s								
MRKS				Lg			Lg	14 53 44.0	
	84nm,0.4s								
CHMS	**Chumysh**	**3.70**	**7**	⇑Pn			**Pb**	**14 52 57.4**	**-2.3**
	66nm,1.2s								
CHMS				⇑Lg			Lg	14 53 54.1	
	183nm,1.1s								
TKM2	**Tokmak 2**	**3.76**	**16**	⇓Pg			**Pg**	**14 53 08.6**	**+2.4**
	95nm,0.9s								
TKM2				⇓Lg			Lg	14 53 56.0	
	136nm,0.8s								
USP	**Ospenovka**	**3.95**	**4**	P			**Pb**	**14 53 01.3**	**-2.7**
	SNR=5.6								
KST	**Kastek**	**3.96**	**19**	*e*P			**Pg**	**14 53 09.7**	**-0.3**
	44nm,0.8s								
KST				*e*S			**Sg**	**14 54 02.7**	**+1.4**
	193nm,0.9s								
KST	**Kastek**	**3.96**	**19**	Pg			**Pg**	**14 53 09.8**	**-0.2**
	49nm,0.5s								
KST				Lg			Lg	14 54 02.7	
	137nm,0.7s								
DGS	**Degeres**	**4.10**	**17**	*e*P			**Pg**	**14 53 12.2**	**-0.6**
	59nm,0.7s								
DGS				*e*S			**Sg**	**14 54 06.7**	**+0.9**
	98nm,0.6s								
SGDS	**Sogindy**	**4.14**	**5**	*e*P			**Pg**	**14 53 12.3**	**-1.2**
	43nm,0.8s								
SGDS				*e*S			**Sg**	**14 54 07.2**	**0.0**
	79nm,1.4s								
DZA	**Taraz**	**4.16**	**330**	*e*P			**Pg**	**14 53 13.0**	**-0.9**
	51nm,0.3s								
DZA				*e*S			**Sg**	**14 54 08.0**	**+0.2**
	108nm,0.9s								
IUG	**Iuzhnay**	**4.22**	**313**	*e*P			**Pg**	**14 53 14.7**	**-0.4**
	256nm,0.7s								
IUG				*e*S			**Sg**	**14 54 11.1**	**+1.3**
	236nm,1.2s								
IUG	**Iuzhnay**	**4.22**	**313**	Pg			**Pg**	**14 53 14.7**	**-0.4**
	256nm,0.7s								
IUG				Lg			Lg	14 54 11.1	
	236nm,1.2s								
TNSS	**Tian-Shan**	**4.27**	**29**	*e*P			**Pg**	**14 53 15.2**	**-0.8**
	78nm,0.5s								
TNSS				*e*S			**Sg**	**14 54 11.7**	**+0.5**
	40nm,0.6s								
TNSS	**Tian-Shan**	**4.27**	**29**	Pg			**Pg**	**14 53 14.7**	**-1.2**
	78nm,0.5s								
TNSS				Lg			Lg	14 54 11.6	
	40nm,0.6s								
MDOK	**Medeo**	**4.41**	**29**	*e*P			**Pg**	**14 53 17.3**	**-1.4**
	65nm,1.0s								
MDOK				*e*S			**Sg**	**14 54 15.9**	**+0.1**
	133nm,0.8s								
MDOK	**Medeo**	**4.41**	**29**	Pn			**Pb**	**14 53 12.2**	**+0.3**
	81nm,0.9s								
MDOK				Lg			Lg	14 54 20.3	
	111nm,1.0s								
KK31	**Karatay Array**	**4.68**	**325**	Pn			**Pn**	**14 53 08.8**	**+3.9**
	32nm,0.8s,baz=171,slow=16,SNR=9.4								
KK31				⇑Sn			**Sn**	**14 54 04.7**	**+5.5**
	18nm,0.5s								
KK31				⇑Lg			Lg	14 54 21.4	
	28nm,0.6s,baz=146,slow=27,SNR=4.3								
KUU	**Kurty**	**4.85**	**19**	*e*P			**Pg**	**14 53 26.1**	**-1.0**
	12nm,0.6s								
KUU				*e*S			**Sg**	**14 54 30.6**	**+0.7**
	100nm,0.8s								
SATY	**Saty**	**4.92**	**39**	*e*P			**Pg**	**14 53 26.6**	**-1.8**
	60nm,1.3s								
SATY				*e*S			**Sg**	**14 54 31.7**	**-0.4**
	128nm,1.3s								
CHKK	**Chushkaly**	**5.00**	**24**	*e*P			**Pg**	**14 53 28.2**	**-1.7**
	19nm,0.6s								
CHKK				*e*S			**Sg**	**14 54 34.7**	**0.0**
	75nm,0.6s								
CHKK	**Chushkaly**	**5.00**	**24**	Pg			**Pg**	**14 53 28.2**	**-1.7**
	19nm,0.6s								
CHKK				Lg			Lg	14 54 34.7	
	75nm,0.6s								
MKAR	**Makanchi Array**	**9.54**	**36**	Pn			Pn	14 54 16.5	+4.9
	0.1nm,0.3s,baz=228,slow=15,SNR=2.1								
	1.4nm,0.7s								
KURBB	**Kurchatov Arra**	**11.71**	**14**	Lg			Lg	14 58 14.2	
	0.2nm,0.3s,baz=207,slow=25,SNR=4.7								
BVAR	**Borovoye Array**	**13.95**	**351**	Pn			**Pn**	**14 55 12.9**	**+1.1**
	0.1nm,0.3s,baz=154,slow=13,SNR=4.9								
	1.9nm,0.5s								
ZALV	**Zalesovo Beam**	**16.33**	**23**	Pn			**P**	**14 55 44.9**	**-1.5**
	0.3nm,0.3s,baz=216,slow=11,SNR=7.3								
	4.1nm,0.6s								
ARU	**Arti**	**19.98**	**334**	P			**Pn**	**14 56 27.5**	**-0.7**
	5.4nm,0.7s,baz=177,slow=5.9,SNR=6.2								
	5.4nm,0.7s								
WSAR	**Wadi Sarin**	**20.77**	**224**	P			**P**	**14 56 32.8**	**-2.5**
	6.1nm,0.7s,baz=72,slow=7.6,SNR=7.9								
	6.1nm,0.7s								
SONM	**Songino Array**	**24.71**	**59**	P			**P**	**14 57 17.7**	**+2.1**
	0.7nm,0.8s,baz=262,slow=10.0,SNR=3.5								
	0.7nm,0.8s								
BRTR	**Keskin Array B**	**31.08**	**284**	P			**P**	**14 58 13.6**	**+1.0**
	0.6nm,0.6s,baz=106,slow=13,SNR=4.3								
	0.6nm,0.6s								
FINES	**FINESS Array B**	**36.64**	**323**	P			**P**	**14 59 00.8**	**+0.4**
	1.3nm,0.7s,baz=111,slow=8.4,SNR=5.0								
	1.3nm,0.7s								
ARCES	**ARCESS Array B**	**39.56**	**336**	P			**P**	**14 59 24.1**	**-0.9**
	3.3nm,0.9s,baz=98,slow=7.5,SNR=5.2								
	3.3nm,0.9s								
NOA	**NORSAR Array B**	**43.70**	**321**	P			**P**	**14 59 58.5**	**-0.6**
	1.4nm,0.7s,baz=90,slow=8.1,SNR=3.8								
	1.4nm,0.7s								
ILAR	**Eielson Array**	**71.37**	**17**	P			**P**	**15 03 13.6**	**-0.3**
	0.8nm,0.8s,baz=316,slow=5.8,SNR=9.2								
	0.8nm,0.8s								
WRA	**Warramunga Arr**	**81.43**	**124**	P			**P**	**15 04 10.5**	**-1.0**
	0.6nm,0.6s,baz=322,slow=5.0,SNR=7.9								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**83.89**	**127**	P			**P**	**15 04 23.6**	**-0.7**
	0.5nm,0.7s,baz=306,slow=4.7,SNR=5.6								
	0.5nm,0.7s								

*NEIC **25** 14:55:38.7±2.0,21.˚68N±0.˚02×141.˚9E±0.˚4,h10km±2km, mb4.6/12,Error ellipse: s-maj=61.7km s-min=3.9km az=91.0*
*IDC **25** 14:55:56.1±5.3,22.˚12N×142.˚75E,h214km±50km,mb3.5/8, mbtmp4.1/9,Error ellipse: s-maj=36.6km s-min=12.6km az=82.0*
ISC 25 14:55:54.2±0.8,22.˚06N±0.˚10×142.˚9E±0.˚2,h200km,n26, σ1§08/24,mb4.1/13,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JCJ	**Chichijima**	**5.05**	**353**		Pn		Pn	14 57 02.6	-6.6
MJAR	**Matsushiro Arr**	**14.99**	**345**		P		**P**	**14 59 17.6**	**+0.7**
	1.1nm,0.3s,baz=168,slow=11,SNR=7.6								
MAJO	**Matsushiro**	**14.99**	**345**		P		**P**	**14 59 17.7**	**+0.8**
MAJO					IAmb		IAmb	14 59 20.4	
	comp=Z,15nm,1.1s								
MJB9	**Matsu-Tunnel**	**15.00**	**345**		P		**P**	**14 59 17.4**	**+0.5**
KSRS	**Korea Array**	**20.05**	**323**		P		**P**	**15 00 11.7**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=146,slow=8.8,SNR=2.3								
MTN	**Manton Dam**	**36.55**	**199**		P		**P**	**15 02 41.6**	**+0.8**
MTN					IAmb		IAmb	15 02 46.0	
	comp=Z,18nm,1.5s								
SONM	**Songino Array**	**38.88**	**320**		P		**P**	**15 03 00.9**	**+0.6**
SONM					IAmb		IAmb	15 03 22.7	
	comp=Z,12nm,1.4s								
SONM	**Songino Array**	**38.88**	**320**		P3KPbc			15 03 00.9	
	comp=Z,3.2nm,0.8s,baz=107,slow=3.3,SNR=9.5								
KNRA	**Kununurra**	**39.97**	**201**		P		**P**	**15 03 10.

74nm,0.4s
IUG **luzhnay** **4.34** **319** *e*P **Pb** **14 58 48.8** **-0.8**
35nm,0.8s
IUG *e*S **Sb** **14 59 43.1** **+1.1**
70nm,1.0s
DZA **Taraz** **4.40** **335** *e*P **Pb** **14 58 50.4** **-0.3**
94nm,0.0s
DZA *e*S **Sb** **14 59 45.6** **+1.8**
74nm,0.4s
DGS **Degeres** **4.56** **18** *e*P **Pb** **14 58 52.9** **-0.6**
12nm,0.4s
DGS *e*S **Sb** **14 59 50.3** **+1.8**
27nm,0.6s
SGDS **Sogindy** **4.57** **7** *e*P **Pb** **14 58 52.8** **-0.8**
12nm,0.6s
SGDS *e*S **Sb** **14 59 50.0** **+1.3**
21nm,1.0s
TNSS **Tian-Shan** **4.74** **29** *e*P **Pb** **14 58 56.2** **-0.5**
21nm,0.4s
TNSS *e*S **Sb** **14 59 56.2** **+2.3**
13nm,1.3s
MDOK **Medeo** **4.89** **29** *e*P **Pb** **14 58 56.4** **-2.6**
30nm,1.2s
MDOK *e*S **Sb** **14 59 56.3** **-1.6**
194nm,5.4s

---

*IDC **25** 15:03:35.6±1.9,39.°13N×73.°75E,h0km,mb3.7/3,*
mbtmp3.6/6,ML2.7/3,Error ellipse: s-maj=36.5km
s-min=29.5km az=63.0
*SOME **25** 15:03:35.7,39.°28N×73.°92E,h5km*
*KRNET **25** 15:03:36.7±0.1,39.°24N×73.°84E,mb3.9*
*NNC **25** 15:03:43.4±2.5,39.°53N×73.°92E,h0km,mb4.4,mpv4.0,*
Error ellipse: s-maj=19.5km s-min=12.2km az=176.0
ISC 25 15:03:36.5±1.2,39.°03N±0.°07×73.°79E±0.°04,h10km,n33,
σ1§70/50,mb3.8/3,15C-9D,Tajikistan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
OHH	**Osh**	**1.68**	**333**	⇓*i*P		**Pn**	**15 04 05.2**	**-0.9**
	baz=28							
OHH				⇓*i*S		**Sn**	15 04 26.3	-1.5
	baz=28							
BTK	**Batken**	**2.52**	**295**	⇑*i*P		**Pb**	**15 04 20.3**	**-1.6**
	baz=90							
BTK				⇑*i*S		**Sb**	**15 04 52.3**	**-0.6**
	baz=90							
ARLS	**Aral**	**2.86**	**8**	⇑*i*P		**Pn**	**15 04 22.5**	**+0.1**
	baz=8.0							
ARLS				⇑*i*S		**Sn**	**15 04 56.0**	**-1.0**
	baz=8.0							
NRN	**Naryn**	**2.94**	**34**	⇓*i*P		**Pn**	**15 04 23.8**	**+0.2**
	baz=36							
NRN				⇓*i*S		**Sn**	**15 04 57.9**	**-1.3**
	baz=36							
TRKS	**Terek-Say**	**3.22**	**322**	⇑*i*P		**Pn**	**15 04 27.9**	**+0.6**
	baz=18							
TRKS				⇑*i*S		**Sn**	**15 05 05.0**	**-0.8**
	baz=18							
UCH	**Uchtor**	**3.24**	**10**	⇑*i*P		**Pn**	**15 04 28.4**	**+0.5**
	baz=9.0							
UCH				⇑*i*S		**Sn**	**15 05 06.1**	**-0.7**
	baz=9.0							
EKS2	**Erkin-Say**	**3.63**	**360**	⇑*i*P		**Pn**	**15 04 33.3**	**+0.4**
	baz=59							
EKS2				⇑*i*S		**Sn**	**15 05 14.8**	**-1.1**
	baz=59							
ULHL	**Ulahol**	**3.72**	**29**	⇑*i*P		**Pn**	**15 04 34.9**	**+0.7**
	baz=30							
ULHL				⇑*i*S		**Sn**	**15 05 17.2**	**-1.0**
	baz=30							
MRKS	**Merke**	**3.74**	**354**	*e*P		**Pb**	**15 04 41.2**	**-1.5**
	29nm,0.4s							
MRKS				*e*S		**Sb**	**15 05 29.5**	**+1.4**
	98nm,0.5s							
MRKS	**Merke**	**3.74**	**354**	Pg		**Pb**	**15 04 42.0**	**-0.7**
	27nm,0.4s							
MRKS				Lg		Lg	15 05 26.5	
	98nm,0.5s							
CHMS	**Chumysh**	**4.03**	**10**	⇑Pn		**Pn**	**15 04 39.0**	**+0.6**
	8.4nm,0.8s							
CHMS				⇓Lg		Lg	15 05 34.9	
	40nm,0.7s							
TKM2	**Tokmak 2**	**4.12**	**19**	⇑Pn		**Pn**	**15 04 41.6**	**+1.8**
	9.0nm,0.8s							
TKM2				⇓Lg		Lg	15 05 37.3	
	39nm,1.0s							
IUG	**luzhnay**	**4.23**	**319**	*e*P		**Pb**	**15 04 53.8**	**+2.7**
	88nm,1.1s							
IUG				*e*S		**Sg**	**15 05 50.5**	**-1.9**
	122nm,2.1s							
IUG	**luzhnay**	**4.23**	**319**	Pg		**Pb**	**15 04 52.9**	**+1.8**
	162nm,0.6s							
IUG				Lg		Lg	15 05 45.2	
	58nm,0.6s							
KST	**Kastek**	**4.34**	**22**	*e*P		**Pb**	**15 04 52.0**	**-0.9**
	12nm,0.6s							
KST				*e*S		**Sb**	**15 05 46.5**	**+1.2**
	48nm,1.4s							
SGDS	**Sogindy**	**4.47**	**8**	*e*P		**Pb**	**15 04 54.1**	**-1.0**
	12nm,0.6s							
SGDS				*e*S		**Sb**	**15 05 51.2**	**+2.2**
	37nm,1.1s							
SGDS	**Sogindy**	**4.47**	**8**	Pg		**Pb**	**15 04 55.1**	**0.0**
	11nm,0.5s							
SGDS				Lg		Lg	15 05 49.2	
	36nm,0.6s							
DGS	**Degeres**	**4.47**	**19**	*e*P		**Pb**	**15 04 52.9**	**-2.3**
	10nm,0.5s							
DGS				*e*S		**Sb**	**15 05 50.0**	**+0.9**
	34nm,0.6s							
DGS	**Degeres**	**4.47**	**19**	Pg		**Pb**	**15 04 56.2**	**+1.0**
	18nm,0.3s							
DGS				Lg		Lg	15 05 51.1	
	35nm,0.8s							
TNSS	**Tian-Shan**	**4.66**	**30**	*e*P		**Pb**	**15 04 57.3**	**-1.4**
	37nm,0.4s							
TNSS				*e*S		**Sb**	**15 05 56.0**	**+0.9**
	16nm,0.9s							
TNSS	**Tian-Shan**	**4.66**	**30**	Pg		**Pb**	**15 04 57.3**	**-1.4**
	37nm,0.4s							
TNSS				Lg		Lg	15 05 54.0	
	16nm,0.9s							
KK31	**Karatay Array**	**4.76**	**330**	Pn		**Pn**	**15 04 50.6**	**+2.1**
	5.7nm,0.5s,baz=134,slow=12,SNR=30							
KK31				⇓Pg		**Pb**	**15 05 02.2**	**+2.1**
	12nm,0.5s,baz=153,slow=14,SNR=3.8							
KK31				⇓Sn		**Sn**	**15 05 47.4**	**+3.6**
	9.8nm,0.5s							
KK31				⇓Lg		Lg	15 06 02.8	
	8.3nm,0.5s							
MDOK	**Medeo**	**4.81**	**30**	*e*P		**Pb**	**15 04 59.3**	**-1.7**
	32nm,0.8s							
MDOK				*e*S		**Sb**	**15 05 58.9**	**-0.1**
	46nm,1.6s							
MDOK	**Medeo**	**4.81**	**30**	⇑Pn		**Pn**	**15 04 53.3**	**+4.1**
	26nm,0.6s							
MDOK				Lg		Lg	15 06 02.1	
	56nm,1.2s							
CHKK	**Chushkaly**	**5.39**	**25**	*e*P		**Pb**	**15 05 12.2**	**+1.5**
	10nm,0.9s							
CHKK				*e*S		**Sb**	**15 06 20.5**	**+5.0**
	15nm,0.5s							
CHKK	**Chushkaly**	**5.39**	**25**	Pg		**Pb**	**15 05 11.7**	**+1.0**
	10nm,0.9s							
CHKK				Lg		Lg	15 06 17.9	
	15nm,0.5s							
MKAR	**Makanchi Array**	**9.95**	**36**	Pn		**Pn**	**15 05 59.8**	**+0.2**
	0.1nm,0.3s,baz=214,slow=13,SNR=1.3							
	0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**12.07**	**15**	Lg		Lg	15 09 50.5	
	0.1nm,0.3s,baz=201,slow=29,SNR=4.7							
BVAR	**Borovoye Array**	**14.20**	**352**	Pn		**Pn**	**15 06 54.8**	**-2.8**
	baz=170,slow=13,SNR=3.8							
	1.5nm,0.6s							
ZALV	**Zalesovo Beam**	**16.71**	**23**	Pn		**Pn**	**15 07 29.5**	**-1.1**
	0.2nm,0.3s,baz=208,slow=15,SNR=2.3							
	0.4nm,0.3s							
FINES	**FINESS Array B**	**36.69**	**323**	P		**P**	**15 10 42.9**	**-0.4**
	1.2nm,0.8s,baz=109,slow=12,SNR=4.1							
	1.2nm,0.8s							
ARCES	**ARCESS Array B**	**39.70**	**336**	P		**P**	**15 11 07.6**	**-1.0**
	2.9nm,0.9s,baz=116,slow=8.1,SNR=3.7							
	2.9nm,0.9s							
WRA	**Warramunga Arr**	**81.51**	**124**	P		**P**	**15 15 55.8**	**+1.5**
	0.1nm,0.5s,baz=319,slow=4.5,SNR=1.1							
	0.1nm,0.5s							

---

*IDC **25** 15:04:43.1±0.9,12.°95N×145.°36E,h0km,mb4.1/10,*
mbtmp4.1/10,Error ellipse: s-maj=28.6km s-min=15.2km
az=76.0
*NEIC **25** 15:04:49.1±2.8,12.°80N±0.°07×145.°1E±0.°1,h35km±8km,*
mb4.4/18,Error ellipse: s-maj=18.5km s-min=9.5km
az=73.0
ISC 25 15:04:47.4±0.6,12.°72N±0.°07×145.°2E±0.°1,h35km,n40,
σ1§59/41,mb4.3/20,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GUMO	**Guam**	**0.90**	**343**	Pn		**Pn**	**15 05 02.9**	**-0.8**
	485nm,0.3s,baz=344,slow=23,SNR=413							
GUMO				Sn		**Sn**	**15 05 14.0**	**-1.5**
	1µm,0.3s,baz=13,slow=19,SNR=15							
GUMO	**Guam**	**0.90**	**343**			**Pn**	**15 05 03.0**	**-0.7**
GUMO				Sn		**Sn**	**15 05 13.3**	**-2.1**
PATS	**Pohnpei**	**14.23**	**113**	Pn		**Pn**	**15 08 05.5**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**21.99**	**69**	T		T	15 32 44.6	
	baz=257,slow=74							
H11N2	**WAKE ISLAND Hy**	**22.00**	**69**	T		T	15 32 36.9	
	baz=257							
H11N3	**WAKE ISLAND Hy**	**22.01**	**69**	T		T	15 32 47.1	
	baz=257,slow=74							
COEN	**Coen**	**26.58**	**184**	P		**P**	**15 10 19.9**	**-2.6**
COEN				IAmb		IAmb	15 10 26.4	
	comp=Z,8.9nm,1.1s							
KNRA	**Kununurra**	**32.54**	**210**	P		**P**	**15 11 15.9**	**+0.5**
KNRA				IAmb		IAmb	15 11 32.7	
	comp=Z,8.5nm,1.2s							
WB0	**Warramunga Arr**	**33.98**	**198**	P		**P**	**15 11 27.4**	**-0.5**
WB2	**Warramunga Arr**	**34.16**	**198**	P		**P**	**15 11 29.2**	**-0.3**
WB2				IAmb		IAmb	15 11 46.9	
	comp=Z,3.3nm,1.0s							
WRA	**Warramunga Arr**	**34.16**	**198**	P		**P**	**15 11 32.4**	**+2.9**
	comp=Z,1.1nm,0.7s,baz=21,slow=9.5,SNR=10							
	comp=Z,1.1nm,0.7s							
WRA	**Warramunga Arr**	**34.16**	**198**	P		**P**	**15 11 29.7**	**+0.2**
ASAR	**Alice Springs**	**37.80**	**197**	P		**P**	**15 12 04.2**	**+3.5**
	comp=Z,0.6nm,0.6s,baz=21,slow=12,SNR=24							
	comp=Z,0.6nm,0.6s							
ASAR	**Alice Springs**	**37.80**	**197**	P		**P**	**15 11 58.5**	**-2.2**
MBWA	**Marble Bar**	**41.92**	**217**	P		**P**	**15 12 33.6**	**-1.3**
MBWA				IAmb		IAmb	15 12 53.9	
	comp=Z,9.4nm,1.1s							
CMAR	**Chiang Mai Arr**	**44.77**	**283**	P		**P**	**15 12 59.3**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=80,slow=6.8,SNR=9.7							
CMAR				PcP		**PP**	**15 14 42.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=67,slow=1.9,SNR=4.0							
	comp=Z,1.1nm,0.4s							
SONM	**Songino Array**	**47.59**	**325**	P		**P**	**15 13 20.6**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=116,slow=5.9,SNR=7.2							
SONM				PcP		**PcP**	**15 14 51.3**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=157,slow=4.4,SNR=6.5							
	comp=Z,0.3nm,0.4s							
SONM	**Songino Array**	**47.59**	**325**	P		**P**	**15 13 17.6**	**-2.3**
YAK	**Yakutsk**	**50.48**	**351**	P		**P**	**15 13 42.0**	**+0.4**
	comp=Z,2.5nm,0.4s,baz=128,slow=1.4,SNR=3.0							
	comp=Z,2.5nm,0.4s							
KURBB	**Kurchatov Arra**	**65.46**	**320**	P		**P**	**15 15 26.6**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=103,slow=6.8,SNR=2.6							
	comp=Z,0.5nm,0.4s							
PPLA	**Purkeypile**	**66.44**	**26**	P		**P**	**15 15 34.8**	**+1.7**
CAST	**Castle Rocks**	**66.65**	**26**	P		**P**	**15 15 35.8**	**+1.5**
TRF	**Thorofare Moun**	**67.43**	**26**	P		**P**	**15 15 40.5**	**+1.0**
ILAR	**Eielson Array**	**69.23**	**25**	P		**P**	**15 15 49.8**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=251,slow=5.7,SNR=20							
	comp=Z,0.9nm,0.4s							
ILAR	**Eielson Array**	**69.23**	**25**	P		**P**	**15 15 50.9**	**+0.4**
TOLK	**Toolik Lake Re**	**69.32**	**21**	P		**P**	**15 15 52.4**	**+1.3**
TOLK				IAmb		IAmb	15 16 06.8	
	comp=Z,6.2nm,1.4s							
KK31	**Karatay Array**	**70.22**	**311**	P		**P**	**15 15 58.2**	**+1.2**
KKAR	**Karatay Array**	**70.22**	**311**	P		**P**	**15 15 58.2**	**+1.2**
SCRK	**Sand Creek**	**70.28**	**26**	P		**P**	**15 15 58.6**	**+1.5**
SCRK				IAmb		IAmb	15 16 27.9	
	comp=Z,3.2nm,1.2s							
FYU	**Fort Yukon**	**70.34**	**23**	P		**P**	**15 15 58.4**	**+1.1**
FYU				IAmb		IAmb	15 16 19.7	
	comp=Z,9.1nm,1.2s							
BMAR	**Burnt Mountain**	**70.79**	**23**	P		**P**	**15 16 02.3**	**+2.2**
I26K	**Coal Creek Min**	**70.89**	**25**	P		**P**	**15 16 00.3**	**-0.4**
L27K	**Beaver Creek,**	**71.06**	**27**	P		**P**	**15 16 03.4**	**+1.6**
L27K				IAmb		IAmb	15 16 16.0	
	comp=Z,3.3nm,1.2s							
BCAR	**Beaver Creek A**	**71.08**	**27**	P		**P**	**15 16 03.4**	**+1.4**
DAWY	**Dawson**	**72.29**	**27**	P		**P**	**15 16 11.1**	**+1.9**
DAWY				IAmb		IAmb	15 16 18.7	
	comp=Z,4.2nm,1.3s							
HYT	**Haines Junctio**	**72.81**	**30**	P		**P**	**15 16 15.3**	**+2.8**
HYT				IAmb		IAmb	15 16 20.1	
	comp=Z,6.0nm,1.2s							
ABKAR	**Akbulak array**	**77.36**	**318**	P		**P**	**15 16 40.8**	**+2.1**
BELG	**Belogornoye**	**84.57**	**322**	P		**P**	**15 17 16.4**	**-0.6**
	comp=Z,4.7nm,0.6s,baz=288,slow=6.4,SNR=2.2							
	comp=Z,4.7nm,0.6s							
ARCES	**ARCESS Array B**	**87.99**	**342**	P		**P**	**15 17 32.9**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=68,slow=7.1,SNR=4.1							
	comp=Z,2.4nm,0.9s							
FINES	**FINESS Array B**	**92.06**	**335**	P		**P**	**15 17 52.6**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=59,slow=4.1,SNR=16							
	comp=Z,1.0nm,0.4s							

---

*SOME **25** 15:06:32.7,39.°00N×73.°72E,h0km*
*KRNET **25** 15:06:35.3±0.1,39.°28N×73.°78E,mb3.6*
ISC 25 15:06:33.1±2.2,39.°0N±0.°1×73.°83E±0.°05,h10km,n13,
σ1§65/26,6C-6D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
OHH	**Osh**	**1.68**	**332**	⇑*i*P		**Pn**	**15 07 03.0**	**+0.3**
	baz=29							
OHH				⇑*i*S		**Sn**	**15 07 22.9**	**-1.4**
	baz=29							
BTK	**Batken**	**2.54**	**294**	⇓*i*P		**Pb**	**15 07 18.3**	**-0.5**
	baz=90							
BTK				⇓*i*S		**Sb**	**15 07 49.5**	**-0.6**
	baz=90							
ARLS	**Aral**	**2.84**	**8**	⇓*i*P		**Pn**	**15 07 20.9**	**+2.3**
	baz=9.0							
ARLS				⇓*i*S		**Sn**	**15 07 53.9**	**+0.9**
	baz=9.0							
NRN	**Naryn**	**2.91**	**34**	⇓*i*P		**Pn**	**15 07 22.2**	**+2.5**
	baz=37							
NRN				⇓*i*S		**Sn**	**15 07 56.6**	**+1.7**
	baz=37							
TRKS	**Terek-Say**	**3.22**	**321**	⇑*i*P		**Pn**	**15 07 25.7**	**+1.8**
	baz=18							
TRKS				⇑*i*S		**Sn**	**15 08 02.7**	**+0.3**
	baz=18							
UCH	**Uchtor**	**3.22**	**9**	⇑*i*P		**Pn**	**15 07 26.3**	**+2.1**
	baz=10.0							
UCH				⇑*i*S		**Sn**	**15 08 03.8**	**+1.0**
	baz=10.0							
MRKS	**Merke**	**3.72**	**353**	*e*P		**Pg**	**15 07 44.6**	**+0.2**
	13nm,0.3s							
MRKS				*e*S		**Sg**	**15 08 34.0**	**+1.3**
	47nm,0.4s							
IUG	**luzhnay**	**4.24**	**318**	*e*P		**Pg**	**15 07 53.1**	**-1.1**
	17nm,0.4s							
IUG				*e*S		**Sg**	**15 08 48.7**	**-0.4**
	37nm,0.6s							
KST	**Kastek**	**4.31**	**21**	*e*P		**Pg**	**15 07 55.9**	**+0.2**
	11nm,0.8s							
KST				*e*S		**Sg**	**15 08 52.7**	**+1.3**
	32nm,0.7s							
SGDS	**Sogindy**	**4.45**	**8**	*e*P		**Pg**	**15 07 58.0**	**-0.3**
	11nm,0.8s							
SGDS				*e*S		**Sg**	**15 08 54.9**	**-0.9**
	15nm,1.2s							
TNSS	**Tian-Shan**	**4.63**	**30**	*e*P		**Pg**	**15 08 00.4**	**-1.4**
	6.1nm,0.5s							
TNSS				*e*S		**Sg**	**15 08 59.2**	**-2.7**
	9.2nm,0.8s							
MDOK	**Medeo**	**4.78**	**30**	*e*P		**Pg**	**15 08 02.5**	**-2.1**
	13nm,0.7s							
MDOK				*e*S		**Sg**	**15 09 03.3**	**-3.2**
	23nm,1.2s							
CHKK	**Chushkaly**	**5.36**	**25**	*e*P		**Pg**	**15 08 14.2**	**-1.5**
	114nm,0.6s							
CHKK				*e*S		**Sg**	**15 09 23.0**	**-2.1**
	15nm,0.5s							

---

*SNET **25** 15:08:40.9±1.3,14.°90N×91.°00W,h194km±26km,ML4.7*
*IDC **25** 15:08:40.7±1.6,14.°83N×91.°00W,h200km±15km,mb4.0/16,*
mbtmp4.5/20,Error ellipse: s-maj=18.0km s-min=8.1km
az=57.0
*NEIC **25** 15:08:41.2±1.9,14.°78N±0.°09×90.°95W±0.°08,h195km±7km,*
mb4.7/43,Error ellipse: s-maj=13.4km s-min=10.5km
az=217.0
*UCR **25** 15:08:41.9±2.4,13.°61N×91.°45W,h175km±77km,ML4.4,*
MW3.7,mb4.7(NEIC)
*GCG **25** 15:08:42.6±0.6,14.°90N×91.°10W,h183km±7km,MD4.4*
ISC 25 15:08:40.9±0.6,14.°79N±0.°05×91.°04W±0.°06,h201km±5km,
n196,σ1§40/211,mb4.6/29,Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
FUG	**Fuego 3**	**0.39**	**151**	*e*P		**Pn**	**15 09 08.3**	**+0.3**
FUG				*e*S		**S**	**15 09 29.0**	**-0.1**
STG3	**Santiaguito 3,**	**0.52**	**261**	*e*P		**Pn**	**15 09 08.4**	**0.0**
PCG	**Pacaya**	**0.58**	**133**	*e*P		**Pn**	**15 09 09.5**	**+0.7**
PCG				*e*S		**S**	**15 09 30.7**	**+0.3**
RTAL	**Retalhuleu**	**0.69**	**247**			**Pn**	**15 09 08.2**	**-0.8**
RTAL				Sn		**S**	**15 09 29.5**	**-1.1**
HUEH	**Huehuetenango**	**0.69**	**320**	Pn		**Pn**	**15 09 08.5**	**-0.8**
NBG	**Las Nubes**	**0.70**	**107**	*e*P		**Pn**	**15 09 10.6**	**+1.3**
NBG				*e*S		**S**	**15 09 32.3**	**+1.0**
SULM	**Suchitepequez,**	**0.70**	**227**	*e*P		**Pn**	**15 09 09.2**	**+0.2**
MRL	**Marmol**	**1.34**	**77**	*e*P		**Pn**	**15 09 15.1**	**+1.5**
MRL				*e*S		**S**	**15 09 39.9**	**+1.3**
SLOZ	**Alcaldia de Sa**	**1.43**	**122**	*e*P		**Pn**	**15 09 14.6**	**+0.4**
NUBE	**Las Nubes**	**1.51**	**126**	*e*P		**Pn**	**15 09 15.0**	**+0.1**
NUBE				*e*S		**S**	**15 09 40.5**	**-0.4**
NUBE	**Las Nubes**	**1.51**	**126**	*e*P		**Pn**	**15 09 15.0**	**+0.1**
NUBE				*e*S		**S**	**15 09 40.5**	**-0.4**
ESQI	**Esquipulas**	**1.66**	**98**	Pn		**Pn**	**15 09 17.1**	**+0.8**
CEVE	**Cerro Verde**	**1.67**	**125**	*e*P		**Pn**	**15 09 17.0**	**+0.4**
CEVE				*e*S		**S**	**15 09 47.0**	**+3.3**
CEVE				IAML			15 09 58.6	
	comp=Z,4µm,0.4s							
CEVE	**Cerro Verde**	**1.67**	**125**	*e*P		**Pn**	**15 09 17.0**	**+0.4**
CEVE				*e*S		**S**	**15 09 47.0**	**+3.3**
CEVE				IAML			15 09 58.6	
	comp=Z,4µm,0.4s							
CCIG	**Comitan**	**1.82**	**325**	Pn		**Pn**	**15 09 18.1**	**+0.2**
CEDA	**San Andres**	**1.87**	**121**	*e*P		**Pn**	**15 09 18.8**	**+0.5**
CEDA				*e*S		**S**	**15 09 47.7**	**+1.0**
CEDA	**San Andres**	**1.87**	**121**	*e*P		**Pn**	**15 09 18.8**	**+0.5**
CEDA				*e*S		**S**	**15 09 47.7**	**+1.0**
JAYA	**Jayaque - finc**	**1.91**	**126**	*e*P		**Pn**	**15 09 18.5**	**-0.3**
JAYA				*e*S		**S**	**15 09 48.9**	**+1.2**
JAYA				IAML			15 09 53.0	
	comp=Z,3µm,0.3s							
JAYA	**Jayaque - finc**	**1.91**	**126**	*e*P		**Pn**	**15 09 18.5**	**-0.3**
JAYA				*e*S		**S**	**15 09 48.9**	**+1.2**
JAYA				IAML			15 09 53.0	
	comp=Z,3µm,0.3s							
PAVA	**Las Pavas**	**2.30**	**117**	*e*P		**Pn**	**15 09 23.6**	**+0.8**
PAVA	**Las Pavas**	**2.30**	**117**	*e*P		**Pn**	**15 09 23.6**	**+0.8**
PETF	**Flores**	**2.40**	**28**			**Pn**	**15 09 23.5**	**-0.2**
ALJI	**Alcalda de J**	**2.80**	**121**	*e*P		**Pn**	**15 09 29.4**	**+1.1**
ALJI				*e*S		**S**	**15 10 06.5**	**+1.8**
ALJI	**Alcalda de J**	**2.80**	**121**	*e*P		**Pn**	**15 09 29.4**	**+1.1**
ALJI				*e*S		**S**	**15 10 06.5**	**+1.8**
TGUH	**Tegucigalpa,Un**	**3.72**	**101**	Pn		**Pn**	**15 09 38.4**	**-1.0**
CMIG	**Matias Romero**	**4.35**	**302**	P		**Pn**	**15 09 46.5**	**-0.6**
	comp=Z,50nm,0.3s,baz=143,slow=9.0,SNR=132							
CMIG				S		**S**	**15 10 32.1**	**-6.5**
	comp=Z,118nm,0.4s,baz=109,slow=19,SNR=17							
BOAB	**BOACO BROADBAN**	**5.72**	**113**	Pn		**Pn**	**15 10 02.1**	**-2.5**
TEIG	**Tepich**	**6.01**	**26**	Pn		**Pn**	**15 10 07.8**	**-0.5**
ORTG	**Ortega, Santa**	**7.00**	**128**	Pn		**Pn**	**15 10 17.7**	**-3.6**
ORTG	**Ortega, Santa**	**7.00**	**128**	*e*S		**S**	**15 11 37.0**	**-3.8**
JTS	**Las Juntas de**	**7.44**	**126**	P		**Pn**	**15 10 28.0**	**+1.1**
	comp=Z,48nm,0.4s,baz=38,slow=7.5,SNR=37							
JTS				S		**S**	**15 11 44.9**	**-6.1**
	comp=Z,41nm,0.4s,baz=349,slow=22,SNR=7.0							
JTS	**Las Juntas de**	**7.44**	**126**	Pn		**Pn**	**15 10 27.7**	**+0.9**
JTS	**Las Juntas de**	**7.44**	**126**	*e*S		**S**	**15 11 44.5**	**-6.5**
ARE1	**Arenal 1**	**7.52**	**124**	*e*S		**S**	**15 11 51.8**	**-1.3**
TLIG	**Tlapa**	**7.74**	**292**	Pn		**Pn**	**15 10 32.0**	**+1.1**
LAFE	**Finca La Fe, P**	**7.77**	**129**	*e*P		Pn	15 10 40.5	+9.3
HDC	**Heredia**	**8.27**	**124**	*e*P		**Pn**	**15 10 39.5**	**+1.6**
OCM	**Ochomogo**	**8.46**	**124**	*e*P		**Pn**	**15 10 41.7**	**+1.4**
LCR2	**La Lucha 2**	**8.51**	**125**	*e*P		**Pn**	**15 10 42.4**	**+1.4**
VTRT	**Volcan Turrial**	**8.53**	**123**	*e*P		**Pn**	**15 10 43.6**	**+2.2**
VTCV	**VTCV, Calle Va**	**8.59**	**123**	*e*P		**Pn**	**15 10 43.6**	**+1.4**
RIMA	**Rio Macho**	**8.61**	**125**	Pn		**Pn**	**15 10 42.6**	**+0.3**
RIMA	**Rio Macho**	**8.61**	**125**	*e*P		**Pn**	**15 10 43.8**	**+1.5**
CDM	**Cerro de Muert**	**8.81**	**125**	*e*P		**Pn**	**15 10 46.7**	**+1.5**
EDDO	**Dominical**	**8.92**	**127**	*e*P		**Pn**	**15 10 47.6**	**+1.5**
SRBA	**San Rafael, Bu**	**9.32**	**125**	Pn		**Pn**	**15 10 51.5**	**0.0**
SRBA	**San Rafael, Bu**	**9.32**	**125**	*e*P		**Pn**	**15 10 52.6**	**+1.1**
EDPN	**Palmar Norte**	**9.41**	**127**	*e*P		**Pn**	**15 10 53.7**	**+1.1**
POTG	**Potrero Grande**	**9.62**	**125**	*e*P		**Pn**	**15 10 57.2**	**+1.9**
CTCR	**Cotocan**	**10.00**	**125**	*e*P		**Pn**	**15 11 00.9**	**+0.5**
BRU2	**Volcan**	**10.11**	**125**	*e*P		**Pn**	**15 11 03.1**	**+1.3**
BCIP	**Isla Barro Col**	**12.30**	**116**	Pn		**Pn**	**15 11 28.0**	**-1.6**
833A	**Chaparral WMA,**

WVT	**Waverly**	**21.44**	**7**	P		**P**	**15 13 14.5**	**+1.1**	
	baz=188								
TUL1	**Leonard**	**21.46**	**349**	P		**P**	**15 13 14.6**	**+1.1**	
	baz=167								
HHAR	**Hobbs**	**21.56**	**354**	P		**P**	**15 13 13.6**	**-1.0**	
HHAR				IAmb		IAmb	15 13 15.8		
	comp=Z,27nm,1.1s								
RLO	**Rose Lookout**	**21.58**	**351**			**P**	**15 13 13.9**	**-0.9**	
RLO				IAmb		IAmb	15 13 17.5		
	comp=Z,35nm,1.0s								
CLTN	**Cedars of Leba**	**21.63**	**10**	P		**P**	**15 13 16.2**	**+1.0**	
CLTN				IAmb		IAmb	15 13 17.9		
	comp=Z,27nm,0.9s								
TKL	**Tuckaleechee C**	**21.78**	**16**	P		**P**	**15 13 17.2**	**+0.4**	
	comp=Z,84nm,1.2s,baz=181,slow=9.8,SNR=29								
	comp=Z,84nm,1.2s								
V53A	**Saluda**	**22.06**	**18**	P		**P**	**15 13 21.2**	**+1.6**	
V53A				IAmb		IAmb	15 13 27.1		
	comp=Z,18nm,0.9s								
KMSC	**Kings Mountain**	**22.07**	**22**	P		**P**	**15 13 20.9**	**+1.3**	
	baz=206,SNR=18								
U49A	**Red Boiling Sp**	**22.14**	**11**	P		**P**	**15 13 21.2**	**+1.0**	
U49A				IAmb		IAmb	15 13 22.0		
	comp=Z,34nm,1.1s								
AMTX	**Amarillo**	**22.18**	**336**	P		**P**	**15 13 21.7**	**+0.9**	
	baz=152								
T35A	**Sooner Cattle**	**22.57**	**349**	P		**P**	**15 13 24.0**	**-0.2**	
T35A				IAmb		IAmb	15 13 25.7		
	comp=Z,25nm,1.1s								
W57A	**Gilead**	**22.58**	**24**	P		**P**	**15 13 24.2**	**-0.1**	
TZTN	**Tazewell**	**22.67**	**16**	P		**P**	**15 13 25.6**	**+0.5**	
TZTN	**Tazewell**	**22.67**	**16**	P		**P**	**15 13 26.3**	**+1.1**	
	baz=199,SNR=13								
S39A	**Bolivar**	**22.90**	**355**	P		**P**	**15 13 27.9**	**+0.7**	
CCM	**Cathedral Cave**	**23.17**	**360**	P		**P**	**15 13 31.3**	**+1.7**	
	baz=179								
BAUV	**El Baul**	**23.23**	**102**	P		**P**	**15 13 28.6**	**-1.9**	
WCI	**Wyandotte Cave**	**23.72**	**9**	P		**P**	**15 13 35.6**	**+1.0**	
	baz=191								
R49A	**Shelbyville**	**23.98**	**11**	P		**P**	**15 13 37.0**	**+0.1**	
R49A				IAmb		IAmb	15 13 40.8		
	comp=Z,13nm,0.6s								
BLA	**Blacksburg**	**24.25**	**21**	P		**P**	**15 13 40.1**	**+0.6**	
	baz=206								
ANMO	**Albuquerque**	**24.40**	**328**	P		**P**	**15 13 42.8**	**+1.7**	
	baz=142								
KSU1	**Kansas State U**	**24.71**	**350**	P		**P**	**15 13 46.0**	**+2.5**	
	baz=167								
Q51A	**Peebles**	**25.07**	**14**	P		**P**	**15 13 46.5**	**-0.4**	
P49A	**Miami Univ. Ec**	**25.27**	**12**	P		**P**	**15 13 49.3**	**+0.7**	
	baz=194								
HDIL	**Hopedale**	**25.71**	**3**	P		**P**	**15 13 53.6**	**+1.0**	
	baz=184								
SFIN	**Lafayette**	**25.73**	**7**	P		**P**	**15 13 53.2**	**+0.5**	
	baz=189								
O48B	**Farmland**	**25.89**	**10**	P		**P**	**15 13 54.3**	**+0.1**	
	baz=193								
P52A	**Corning**	**25.95**	**16**	P		**P**	**15 13 55.8**	**+1.0**	
	baz=200								
CBN	**Corbin Frederi**	**26.27**	**25**	P		**P**	**15 13 59.0**	**+1.4**	
	baz=211								
ACSO	**Alum Creek Sta**	**26.31**	**14**	P		**P**	**15 13 59.0**	**+1.1**	
	baz=198,SNR=5.6								
O53A	**New Philadelph**	**26.78**	**17**	P		**P**	**15 14 03.5**	**+1.4**	
	baz=201								
S22A	**4UR Ranch, Cre**	**26.81**	**331**	P		**P**	**15 14 03.8**	**+1.0**	
	baz=144								
M53A	**WI Miller and**	**28.04**	**17**	P		**P**	**15 14 14.4**	**+1.0**	
	baz=202								
SSPA	**Standing Stone**	**28.19**	**22**	P		**P**	**15 14 16.0**	**+1.3**	
	baz=208								
CZSB	**Cruzeiro do Su**	**28.83**	**140**	*e*P		**P**	**15 14 23.6**	**+2.9**	
ECSD	**EROS Data Cent**	**29.24**	**352**	P		**P**	**15 14 24.4**	**+0.5**	
	baz=169								
TPFO	**Pinon Flats**	**29.67**	**314**	P		**P**	**15 14 28.9**	**+0.9**	
	baz=123								
GMRC	**Granite Mounta**	**29.79**	**316**	P		**P**	**15 14 30.1**	**+1.0**	
	baz=126								
PAL	**Palisades**	**30.07**	**26**	P		**P**	**15 14 32.7**	**+1.4**	
	baz=214								
BINY	**Binghamton**	**30.25**	**23**	P		**P**	**15 14 33.8**	**+0.9**	
	baz=210,SNR=6.1								
SADO	**Sadowa**	**31.54**	**16**	P		**P**	**15 14 43.1**	**-1.0**	
	comp=Z,10nm,0.9s,baz=257,slow=6.3,SNR=3.1								
	comp=Z,10nm,0.9s								
L61B	**Northampton**	**31.78**	**26**	P		**P**	**15 14 47.1**	**+0.8**	
	baz=215								
PDAR	**Pinedale Array**	**32.11**	**334**	P		**P**	**15 14 49.4**	**0.0**	
	comp=Z,0.1nm,0.4s,baz=150,slow=9.2,SNR=1.8								
LONY	**Lake Ozonia**	**32.85**	**22**	P		**P**	**15 14 55.7**	**+0.1**	
LONY				IAmb		IAmb	15 14 57.8		
	comp=Z,27nm,1.1s								
LONY	**Lake Ozonia**	**32.85**	**22**	P		**P**	**15 14 55.7**	**+0.1**	
	baz=210,SNR=6.9								
LBNH	**Lisbon**	**33.56**	**25**	P		**P**	**15 15 03.3**	**+1.6**	
	baz=215								
AGMN	**Agassiz Nation**	**33.65**	**354**	P		**P**	**15 15 02.4**	**0.0**	
	baz=172								
NVAR	**Mina Array Bea**	**33.66**	**320**	P		**P**	**15 15 02.9**	**-0.1**	
	comp=Z,1.6nm,0.8s,baz=134,slow=7.7,SNR=10.0								
	comp=Z,1.6nm,0.8s								
PTGA	**Pitinga**	**34.39**	**114**	P		**P**	**15 15 08.2**	**-1.1**	
	comp=Z,5.4nm,0.3s,baz=306,slow=17,SNR=7.0								
	comp=Z,5.4nm,0.3s								
ETMB	**Extrema**	**34.69**	**133**	P		**P**	**15 15 11.0**	**-0.8**	
ETMB				IAmb		IAmb	15 15 13.1		
	comp=Z,17nm,1.0s								
ETMB	**Extrema**	**34.69**	**133**	*e*P		**P**	**15 15 12.1**	**+0.3**	
PKME	**Peaks-Kenny Pk**	**35.50**	**27**	P		**P**	**15 15 19.8**	**+1.5**	
	baz=218								
ULM	**Lac du Bonnet**	**35.58**	**355**	P		**P**	**15 15 18.1**	**-0.9**	
	comp=Z,4.5nm,0.7s,baz=187,slow=9.3,SNR=4.8								
	comp=Z,4.5nm,0.7s								
LPAZ	**La Paz**	**38.28**	**143**	P		**P**	**15 15 43.7**	**+0.9**	
	comp=Z,6.6nm,0.8s,baz=333,slow=6.7,SNR=29								
	comp=Z,6.6nm,0.8s								
LPAZ	**La Paz**	**38.28**	**143**	P		**P**	**15 15 42.1**	**-0.7**	
LPAZ	**La Paz**	**38.28**	**143**	*e*P		**P**	**15 15 44.1**	**+1.3**	
PB16	**IPOC Station P**	**39.16**	**146**	P		**P**	**15 15 50.0**	**-0.1**	
PB16				IAmb		IAmb	15 15 53.5		
	comp=Z,12nm,0.8s								
MNMC	**Minye Minye**	**39.77**	**147**	P		**P**	**15 15 57.0**	**+2.2**	
MNMC				IAmb		IAmb	15 15 58.2		
	comp=Z,23nm,0.8s								
ITTB	**Itaituba**	**39.83**	**116**	*e*P		**P**	**15 15 52.7**	**-2.4**	
PSGCX	**Pisagua**	**39.89**	**148**	P		**P**	**15 15 56.9**	**+1.4**	
PB11	**IPOC Station P**	**40.27**	**148**	P		**P**	**15 15 59.8**	**+1.1**	
PB11				IAmb		IAmb	15 16 01.5		
	comp=Z,19nm,0.9s								
PB08	**IPOC Station P**	**40.84**	**148**	P		**P**	**15 16 02.6**	**-1.0**	
MCPB	**Macapa, AP**	**41.38**	**108**	*e*P		**P**	**15 16 05.3**	**-2.4**	
PB01	**IPOC Station P**	**41.42**	**149**	P		**P**	**15 16 07.5**	**-0.5**	
NPGB	**Novo Progresso**	**41.50**	**119**	*e*P		**P**	**15 16 06.0**	**-2.7**	
PDRB	**Porto dos Gac**	**42.94**	**126**	*e*P		**P**	**15 16 18.5**	**-1.7**	
CLDB	**Colider**	**43.24**	**124**	*e*P		**P**	**15 16 21.0**	**-1.8**	
PTLB	**Pontes e Lacer**	**43.55**	**132**	P		**P**	**15 16 23.2**	**-1.9**	
PTLB				IAmb		IAmb	15 16 25.8		
	comp=Z,12nm,0.9s								
PTLB	**Pontes e Lacer**	**43.55**	**132**	*e*P		**P**	**15 16 24.6**	**-0.5**	
SCHQ	**Schefferville**	**44.16**	**20**	P		**P**	**15 16 29.2**	**-0.3**	
	comp=Z,14nm,0.8s,baz=220,slow=7.1,SNR=12								
	comp=Z,14nm,0.8s								
SCHQ	**Schefferville**	**44.16**	**20**	P		**P**	**15 16 28.5**	**-1.0**	
SCHQ				IAmb		IAmb	15 16 31.0		
	comp=Z,18nm,0.8s								
BBRB	**Robore, Bolivi**	**45.02**	**136**	*e*P		**P**	**15 16 36.1**	**-0.7**	
SALV	**Santo Antonio**	**46.36**	**130**	*e*P		**P**	**15 16 46.3**	**-1.0**	
SNDB	**Serra Nova Dou**	**47.51**	**122**	*e*P		**P**	**15 16 55.1**	**-1.1**	
PANT	**Pantanal (Braz**	**47.70**	**134**	*e*P		**P**	**15 16 57.6**	**0.0**	
ARAG	**Araguaiana, MT**	**49.20**	**126**	*e*P		**P**	**15 17 08.0**	**-1.0**	
AQDB	**Aquidauana**	**49.34**	**134**	*e*P		**P**	**15 17 09.9**	**-0.1**	
CO03	**El Pedregal**	**49.41**	**157**	P		**P**	**15 17 10.3**	**-0.2**	
C2SB	**Chapadao do Su**	**50.28**	**130**	*e*P		**P**	**15 17 17.4**	**+0.3**	
BDFB	**Brasilia**	**52.17**	**124**	P		**P**	**15 17 31.0**	**-0.4**	
	comp=Z,3.6nm,0.6s,baz=293,slow=11,SNR=5.5								
	comp=Z,3.6nm,0.6s								
CPUP	**Villa Florida**	**52.40**	**141**	P		**P**	**15 17 32.0**	**-0.7**	
	comp=Z,6.7nm,0.9s,baz=320,slow=7.5,SNR=14								
	comp=Z,6.7nm,0.9s								
CPUP	**Villa Florida**	**52.40**	**141**	P		**P**	**15 17 31.5**	**-1.3**	
CPUP				IAmb		IAmb	15 17 33.5		
	comp=Z,13nm,1.1s								
ITRB	**Iturama**	**52.69**	**129**	*e*P		**P**	**15 17 35.0**	**-0.1**	
R33M	**Jennings River**	**53.31**	**336**	P		**P**	**15 17 40.3**	**+1.1**	
	baz=129								
IPMB	**Ipameri, GO**	**53.32**	**126**	*e*P		**P**	**15 17 38.8**	**-1.0**	

Q32M	**Nakina River**	**53.56**	**335**	P		**P**	**15 17 42.1**	**+1.0**	
	baz=128								
S32K	**Killisnoo**	**53.68**	**332**	P		**P**	**15 17 43.1**	**+1.5**	
	baz=124								
PTGB	**Pitanga**	**54.66**	**135**	*e*P		**P**	**15 17 48.7**	**-0.6**	
BB19B	**Bebedouro**	**54.88**	**130**	*e*P		**P**	**15 17 50.7**	**-0.2**	
ITQB	**Itaqui**	**55.28**	**143**	*e*P		**P**	**15 17 54.1**	**+0.5**	
UNIS	**Unistalda (Bra**	**55.76**	**142**	*e*P		**P**	**15 17 57.8**	**+0.8**	
MC01	**Montes Claros**	**56.05**	**122**	*e*P		**P**	**15 17 59.1**	**-0.3**	
DIAM	**Diamantina, MG**	**57.09**	**124**	*e*P		**P**	**15 18 06.6**	**-0.2**	
VAO	**Valinhos**	**57.20**	**130**	*e*P		**P**	**15 18 07.6**	**+0.2**	
PLCA	**Paso Flores**	**58.42**	**162**	P		**P**	**15 18 15.4**	**-0.2**	
	comp=Z,4.5nm,0.9s,baz=334,slow=8.8,SNR=15								
	comp=Z,4.5nm,0.9s								
PLCA	**Paso Flores**	**58.42**	**162**	*e*P		**P**	**15 18 17.6**	**+2.0**	
INK	**Inuvik**	**59.95**	**343**	P		**P**	**15 18 25.0**	**-0.5**	
	comp=Z,1.5nm,0.7s,baz=105,slow=3.0,SNR=3.8								
	comp=Z,1.5nm,0.7s								
RIB01	**Linhares ES**	**60.27**	**123**	*e*P		**P**	**15 18 28.5**	**-0.1**	
ALF01	**Guarapari-ES**	**60.67**	**124**	*e*P		**P**	**15 18 31.4**	**+0.2**	
ILAR	**Eielson Array**	**62.49**	**336**	P		**P**	**15 18 41.5**	**-1.2**	
	comp=Z,0.5nm,0.3s,baz=134,slow=8.9,SNR=24								
	comp=Z,0.5nm,0.3s								
ICESG	**Greenland Ices**	**63.03**	**18**	*i* P		**P**	**15 18 45.2**	**-1.4**	
SUMG	**Summit**	**65.23**	**15**	*i* P		**P**	**15 18 60.0**	**-0.9**	
ESDC	**Sonseca Array**	**78.50**	**52**	P		**P**	**15 20 19.2**	**-0.8**	
	comp=Z,1.4nm,0.6s,baz=282,slow=5.8,SNR=7.3								
	comp=Z,1.4nm,0.6s								
HFS	**Hagfors**	**84.46**	**29**	P		**P**	**15 20 50.8**	**+0.1**	
	comp=Z,0.9nm,0.5s,baz=255,slow=4.3,SNR=1.1								
	comp=Z,0.9nm,0.5s								
ARCES	**ARCESS Array B**	**85.10**	**18**	P		**P**	**15 20 53.6**	**-0.2**	
	comp=Z,2.7nm,0.8s,baz=292,slow=4.8,SNR=7.3								
	comp=Z,2.7nm,0.8s								
MAW	**Mawson**	**124.56**	**168**	PKP		**PKiKP**	**15 27 16.2**	**+0.3**	
	comp=Z,1.5nm,0.5s,baz=217,slow=3.6,SNR=12								
WRA	**Warramunga Arr**	**136.49**	**257**	PKP		**PKPdf**	**15 27 40.0**	**+0.3**	
	comp=Z,2.2nm,0.9s,baz=80,slow=1.3,SNR=19								
ASAR	**Alice Springs**	**136.80**	**251**	PKhKP		PKPpre	15 27 32.5		
	comp=Z,0.3nm,0.7s,baz=107,slow=2.9,SNR=4.1								
ASAR				PKP		**PKPdf**	**15 27 40.5**	**+0.2**	
	comp=Z,1.1nm,0.8s,baz=98,slow=2.1,SNR=9.9								
PZH	**PanZhiHua**	**137.11**	**343**	PKP		**PKPdf**	**15 27 41.0**	**+0.1**	
CMAR	**Chiang Mai Arr**	**145.53**	**343**	PKPbc		**PKPdf**	**15 27 55.5**	**-0.4**	
	comp=Z,1.2nm,0.4s,baz=344,slow=3.4,SNR=8.7								

WEL 25 15:09:45.3±0.3, 42°S±2°×17°4E±°, h5km, M3.2/29, ML3.5/13, MLv3.2/29, Error ellipse: s-maj=0.0km s-min=0.0km az=97.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.11**	**183**	P	Pg	15 09 48.0	+0.4
KHZ				S	Sg	15 09 50.3	+1.2
BSWZ	**Blackbirch Sta**	**0.64**	**23**	P	Pg	15 09 57.6	0.0
BSWZ				S	Sb	15 10 07.1	-1.1
THZ	**Tophouse**	**0.72**	**319**	P	Pg	15 09 59.6	+0.4
THZ				S	Sg	15 10 09.3	+0.7
CMWZ	**Cape Campbell**	**0.75**	**42**	P	Pg	15 10 00.6	-0.1
GVZ	**Greta Valley S**	**0.76**	**210**	P	Pb	15 10 00.5	-0.5
TUWZ	**Tuamarina**	**0.93**	**19**	P	Pg	15 10 02.9	-0.2
LTZ	**Lake Taylor**	**1.05**	**243**	P	Pg	15 10 05.0	-0.5
MRNZ	**Matariki Terra**	**1.08**	**327**	P	Pg	15 10 06.2	+0.1
AMCZ	**Amberley**	**1.09**	**217**	P	Pg	15 10 05.2	-1.0
NNZ	**Nelson**	**1.10**	**353**	P	Pg	15 10 05.9	-0.4
TCW	**Tory Channel**	**1.23**	**27**	P	Pg	15 10 07.2	-1.6
TKNZ	**Takaka Hill**	**1.35**	**341**	P	Pn	15 10 10.3	-0.5
WEL	**Wellington**	**1.37**	**42**	P	Pn	15 10 09.1	-2.0
DSZ	**Denniston Nort**	**1.41**	**293**	P	Pn	15 10 11.5	-0.2
OKCZ	**Okains Bay**	**1.46**	**194**	P	Pn	15 10 09.6	-2.7
OXZ	**Oxford**	**1.50**	**227**	P	Pn	15 10 10.1	-2.9
DUWZ	**D'Urville Isla**	**1.53**	**11**	P	Pn	15 10 12.3	-1.0
MQZ	**McQueen's Vall**	**1.54**	**205**	P	Pn	15 10 09.9	-3.5
MSWZ	**Moikau Station**	**1.55**	**56**	P	Pn	15 10 10.7	-2.9
INZ	**Inchbonnie**	**1.61**	**254**	P	Pn	15 10 13.2	-1.1
AKCZ	**Akaroa Harbour**	**1.63**	**196**	P	Pn	15 10 11.5	-3.1
CAW	**Cannon Point**	**1.66**	**44**	P	Pn	15 10 12.6	-2.4
QRZ	**Quartz Range**	**1.67**	**332**	P	Pn	15 10 15.3	+0.2
RACZ	**Rakaia**	**1.75**	**216**	P	Pn	15 10 13.3	-3.0
KIW	**Kapiti Island**	**1.77**	**36**	P	Pn	15 10 14.8	-1.8
MHCZ	**Mount Hutt**	**1.90**	**229**	P	Pn	15 10 15.5	-2.9
OGWZ	**Otaki Gorge**	**1.93**	**40**	P	Pn	15 10 16.4	-2.3
WACZ	**Wakanui South**	**2.06**	**217**	P	Pn	15 10 17.5	-3.0
TMWZ	**Te Maipa**	**2.13**	**56**	P	Pn	15 10 18.0	-3.5
WVZ	**Waitaha Valley**	**2.21**	**249**	P	Pn	15 10 21.3	-1.3
MRZ	**Mangatainoka R**	**2.25**	**44**	P	Pn	15 10 20.3	-2.8
RPZ	**Rata Peaks**	**2.31**	**232**	P	Pn	15 10 21.3	-2.7
ARCZ	**Arundel**	**2.38**	**226**	P	Pn	15 10 22.0	-3.0
GCSZ	**Gaunt Creek Bo**	**2.57**	**246**	P	Pn	15 10 26.2	-1.4
WAZ	**Wanganui**	**2.77**	**24**	P	Pn	15 10 30.5	+0.1
TMZ	**Timaru**	**2.78**	**221**	P	Pn	15 10 27.5	-3.0
DVHZ	**Dannevirke**	**2.82**	**45**	P	Pn	15 10 26.0	-5.0
TSZ	**Takapari Road**	**2.89**	**40**	P	Pn	15 10 29.1	-3.0
LREZ	**Lake Rotokare**	**2.92**	**13**	P	Pn	15 10 34.9	+2.6
KHEZ	**Kahui Hut**	**3.03**	**7**	P	Pn	15 10 35.7	+1.7
NBEZ	**Newall Road No**	**3.05**	**5**	P	Pn	15 10 35.2	+1.1
NEZ	**North Egmont**	**3.06**	**8**	P	Pn	15 10 36.2	+1.7
PKE	**Pukeiti**	**3.13**	**6**	P	Pn	15 10 36.9	+1.6
LBZ	**Lake Benmore**	**3.21**	**229**	P	Pn	15 10 33.9	-2.5
VRZ	**Vera Road**	**3.31**	**17**	P	Pn	15 10 37.9	+0.2
WNVZ	**Wahianoa**	**3.36**	**28**	P	Pn	15 10 37.9	-0.7
BHHZ	**Black Hill Sta**	**3.40**	**35**	P	Pn	15 10 36.9	-2.2
ODZ	**Otahua Downs**	**3.45**	**217**	P	Pn	15 10 36.4	-3.2
SNVZ	**South Ngauruho**	**3.50**	**28**	P	Pn	15 10 43.8	+3.2
KWHZ	**Kaweka Forest**	**3.61**	**38**	P	Pn	15 10 45.1	+3.1
HIZ	**Hauiti**	**3.92**	**15**	P	Pn	15 10 46.3	+0.2
MRHZ	**Matea Rd**	**4.10**	**33**	P	Pn	15 10 45.1	-3.6
HHSZ	**Highcliff Hill**	**4.16**	**210**	P	Pn	15 10 46.3	-3.1
EAZ	**Earnscleugh**	**4.24**	**225**	P	Pn	15 10 47.9	-2.6
TUZ	**Tuapeka**	**4.61**	**216**	P	Pn	15 10 52.8	-2.8
TOZ	**Tahuroa Road**	**4.81**	**19**	P	Pn	15 10 57.1	-1.3
SYZ	**Scrubby Hill**	**5.27**	**215**	P	Pn	15 11 02.6	-2.3
AWAZ	**Awhitu Peninsu**	**5.31**	**10**	P	Pn	15 11 04.8	-0.3
MKAZ	**Moumakai**	**5.34**	**14**	P	Pn	15 11 04.6	-1.1
ETAZ	**East Tamaki Re**	**5.45**	**12**	P	Pn	15 11 06.9	-0.3
MBAZ	**Motutapu North**	**5.63**	**11**	P	Pn	15 11 09.5	-0.1
WIAZ	**Waiheke Island**	**5.64**	**13**	P	Pn	15 11 09.5	-0.3

KRNET 25 15:11:39.8±0.1, 39°32N×73°80E, mb3.9, 10C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.43**	**327**	⇑*i*P	Pn	15 12 06.3	-0.8
	baz=27						
OHH				⇑*i*S	Sb	15 12 26.1	-0.2
	baz=27						
BTK	**Batken**	**2.42**	**289**	⇑*i*P	Pn	15 12 22.1	+1.4
	baz=89						
BTK				⇑*i*S	Sn	15 12 52.7	+1.7
	baz=89						
ARLS	**Aral**	**2.57**	**9**	⇑*i*P	Pn	15 12 23.7	+0.9
	baz=9.0						
ARLS				⇑*i*S	Sn	15 12 55.8	+1.0
	baz=9.0						
NRN	**Naryn**	**2.69**	**38**	⇑*i*P	Pn	15 12 25.3	+0.6
	baz=38						
NRN				⇑*i*S	Sn	15 12 58.9	+0.7
	baz=38						
UCH	**Uchtor**	**2.95**	**10**	⇑*i*P	Pn	15 12 29.3	+0.9
	baz=10.0						
UCH				⇑*i*S	Sn	15 13 05.6	+0.9
	baz=10.0						
TRKS	**Terek-Say**	**3.00**	**318**	⇓*i*P	Pn	15 12 29.2	+0.4
	baz=18						
TRKS				⇓*i*S	Sn	15 13 04.7	-0.8
	baz=18						

IDC ***25*** *15:12:11.8±0.9, 39°15N×74°23E, h0km, mb3.8/15, mbtmp3.8/21, ML3.3/6, Error ellipse: s-maj=17.3km s-min=13.0km az=125.0*
SOME ***25*** *15:12:18.0, 39°45N×73°90E, h10km*
KRNET ***25*** *15:12:19.2±0.1, 39°25N×73°75E, mb4.3*

ISC 25 15:12:14.9±1.6, 39°33N±0°05×74°02E±0°04, h7km±10km, n39, σ2ᵖ18/51, mb3.7/13, 4C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.53**	**322**	⇓*i*P	**Pg**	**15 12 46.1**	**+2.0**
	baz=30						
OHH				⇓*i*S	**Sg**	**15 13 05.9**	**+2.0**
	baz=30						
ARLS	**Aral**	**2.54**	**5**	⇓*i*P	**Pg**	**15 13 03.7**	**+0.2**
	baz=10.0						
ARLS				⇓*i*S	**Sg**	**15 13 36.0**	**-0.4**
	baz=10.0						
BTK	**Batken**	**2.58**	**287**	⇑*i*P	**Pb**	**15 13 00.3**	**-1.2**
	baz=91						
BTK				⇑*i*S	**Sn**	**15 13 30.1**	**+1.4**
	baz=91						
NRN	**Naryn**	**2.59**	**35**	⇓*i*P	**Pb**	**15 13 05.3**	**+3.5**
	baz=37						
NRN				⇓*i*S	**Sg**	**15 13 38.6**	**+0.6**
	baz=37						
UCH	**Uchtor**	**2.92**	**7**	⇓*i*P	**Pb**	**15 13 09.3**	**+1.8**
	baz=11						
UCH				⇓*i*S	**Sg**	**15 13 45.9**	**-2.7**
	baz=11						
TRKS	**Terek-Say**	**3.11**	**316**	⇑*i*P	**Pb**	**15 13 08.3**	**-2.3**
	baz=19						
TRKS				⇑*i*S	**Sn**	**15 13 43.5**	**+1.5**
	baz=19						
AAK	**Ala-Archa**	**3.32**	**6**	Pn	**Pn**	**15 13 11.9**	**+4.5**
	10nm,0.3s,baz=176,slow=5.8,SNR=10						
AAK				Lg	Lg	15 14 00.2	
	10nm,0.3s,baz=315,slow=20,SNR=1.4						
	53nm,0.5s						
MRKS	**Merke**	**3.46**	**350**	*e*P	**Pb**	**15 13 19.2**	**+2.6**
	98nm,0.4s						
MRKS				*e*S	**Sg**	**15 14 01.5**	**-4.7**
	130nm,0.5s						
DZA	**Taraz**	**4.10**	**331**	*e*P	**Pb**	**15 13 30.4**	**+3.0**
	70nm,0.4s						
DZA				*e*S	**Sb**	**15 14 18.2**	**+1.1**
	286nm,0.6s						
DGS	**Degeres**	**4.12**	**18**	*e*P	**Pg**	**15 13 32.4**	**-1.5**
	51nm,0.5s						
DGS				*e*S	**Sg**	**15 14 24.9**	**-2.4**
	97nm,0.9s						
SGDS	**Sogindy**	**4.14**	**6**	*e*P	**Pb**	**15 13 32.0**	**+3.9**
	50nm,0.6s						
SGDS				*e*S	**Sg**	**15 14 25.8**	**-2.1**
	43nm,1.3s						
TNSS	**Tian-Shan**	**4.31**	**30**	*e*P	**Pg**	**15 13 36.6**	**-0.8**
	41nm,0.3s						
TNSS				*e*S	**Sg**	**15 14 31.6**	**-1.7**
	77nm,0.9s						
CHM	**Chimkent**	**4.49**	**313**	*e*P	**Pg**	**15 13 39.6**	**-1.3**
	96nm,0.2s						
CHM				*e*S	**Sg**	**15 14 39.4**	**+0.4**
	217nm,0.7s						
CHKK	**Chushkaly**	**5.04**	**25**	*e*P	**Pg**	**15 13 49.6**	**-1.8**
	29nm,0.6s						
CHKK				*e*S	**Sg**	**15 14 53.6**	**-2.9**
	40nm,0.7s						
CHCP	**Chirah Chowk**	**5.69**	**186**	P	**Pn**	**15 13 44.0**	**+4.1**
CEP	**Cherat**	**5.75**	**198**	P	**Pn**	**15 13 45.4**	**+4.6**
THW	**Thamme Wali**	**6.78**	**197**	P	**Pn**	**15 13 57.3**	**+2.5**
SARP	**Sargodha**	**7.47**	**189**	P	**Pn**	**15 14 04.3**	**0.0**
MKAR	**Makanchi Array**	**9.60**	**36**	Pn	**Pn**	**15 14 33.9**	**+0.5**
	0.2nm,0.3s,baz=226,slow=16,SNR=4.0						
MKAR				Lg	Lg	15 17 18.5	
	0.2nm,0.3s,baz=211,slow=27,SNR=3.6						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**11.73**	**14**	Pn	**Pn**	**15 14 59.9**	**-2.6**
	0.1nm,0.3s,baz=188,slow=11,SNR=1.7					

NRN ⇓*i*S **Sb** 15 17 47.5 -0.3
baz=37
NRN Naryn 2.62 41 Pn **Pn** 15 17 10.6 -0.2
NRN Naryn 2.62 41 PN **Pn** 15 17 10.6 -0.2
AML Almayashu 2.64 0 P **Pb** 15 17 16.3 +0.8
SNR=46
UCH Uchtor 2.81 13 P **Pb** 15 17 18.0 -0.3
SNR=39
UCH Uchtor 2.81 13⇓*i*P **Pb** 15 17 18.4 +0.1
baz=10.0
UCH ⇓*i*S **Sg** 15 17 54.5 -3.0
baz=10.0
TRKS Terek-Say 2.82 317⇑*i*P **Pb** 15 17 17.9 -0.5
baz=18
TRKS ⇑*i*S **Sg** 15 17 53.8 -4.1
baz=18
EKS2 Erkin-Say 3.17 1 P **Pb** 15 17 24.1 -0.3
SNR=21
EKS2 Erkin-Say 3.17 1⇑*i*P **Pb** 15 17 23.3 -1.0
baz=60
EKS2 ⇑*i*S **Sb** 15 18 03.5 +0.1
baz=60
AAK Ala-Archa 3.21 11 P **Pb** 15 17 24.4 -0.5
SNR=27
AAK Ala-Archa 3.21 11 Pn **Pb** 15 17 24.5 -0.4
comp=E,28nm,0.3s,baz=179,slow=5.6,SNR=21
AAK Sn **Sg** 15 18 08.6 -1.6
comp=E,4.0nm,0.3s,baz=150,slow=20,SNR=1.8
comp=E,122nm,0.4s
AAK Ala-Archa 3.21 11⇑*i*P **Pb** 15 17 23.8 -1.1
baz=9.0
AAK ⇑*i*S **Sb** 15 18 04.2 -0.2
baz=9.0
AAK Ala-Archa 3.21 11 Pn **Pn** 15 17 21.4 +2.8
AAK Ala-Archa 3.21 11 *d*iPN **Pb** 15 17 24.4 -0.5
MRKS Merke 3.27 354 *e*P **Pg** 15 17 30.0 0.0
comp=E,62nm,1.2s
MRKS *e*S **Sg** 15 18 15.8 +3.3
comp=E,265nm,0.7s
MRKS Merke 3.27 354 Pg **Pg** 15 17 29.9 -0.2
comp=E,65nm,0.6s
MRKS Lg Lg 15 18 15.1
comp=E,216nm,0.7s
KBK Karagaybulak 3.31 16 P **Pb** 15 17 25.1 -1.5
SNR=18
KBK Karagaybulak 3.31 16⇓*i*P **Pb** 15 17 24.8 -1.8
baz=14
KBK ⇓*i*S **Sb** 15 18 06.2 -1.1
baz=14
ULHL Ulahol 3.37 34 P **Pb** 15 17 29.4 +1.7
SNR=21
BOOM Boomskoye usch 3.45 29 **Pn** 15 17 22.1 +0.1
BOOM Boomskoye usch 3.45 29 PN **Pn** 15 17 22.1 +0.1
CHMS Chumysh 3.60 12 P **Pb** 15 17 29.9 -1.6
SNR=12
CHMS Chumysh 3.60 12⇓*i*P **Pb** 15 17 29.1 -2.4
baz=11
CHMS ⇓*i*S **Sb** 15 18 13.0 -2.6
baz=11
CHMS Chumysh 3.60 12 ⇓Pn **Pb** 15 17 29.5 -2.1
comp=E,33nm,0.5s
CHMS ⇑Lg Lg 15 18 24.3
comp=E,61nm,0.6s
CHMS Chumysh 3.60 12 PN **Pb** 15 17 29.5 -2.1
TKM2 Tokmak 2 3.72 22 P **Pb** 15 17 30.9 -2.8
SNR=13
TKM2 Tokmak 2 3.72 22 ⇓Pn **Pn** 15 17 30.4 +4.6
comp=E,113nm,1.1s
TKM2 ⇑Lg Lg 15 18 28.9
comp=E,145nm,0.9s
TKM2 Tokmak 2 3.72 22 PN **Pn** 15 17 30.4 +4.6
USP Ospenovka 3.83 9 P **Pb** 15 17 33.0 -2.4
SNR=11
DZA Taraz 3.84 333 *e*P **Pb** 15 17 36.3 +0.6
comp=E,82nm,0.5s
DZA *e*S **Sg** 15 18 26.4 -4.2
comp=E,324nm,0.5s
DZA Taraz 3.84 333 *e*Pn **Pb** 15 17 33.9 -1.8
baz=332
DZA Taraz 3.84 333 Pg **Pb** 15 17 35.8 +0.1
comp=E,124nm,0.4s
DZA Lg Lg 15 18 25.2
comp=E,311nm,0.4s
DZA Taraz 3.84 333 *e*PN **Pb** 15 17 33.9 -1.8
IUG luzhnay 3.84 315 *e*P **Pb** 15 17 36.0 +0.3
comp=E,173nm,0.5s
IUG *e*S **Sg** 15 18 26.2 -4.6
comp=E,389nm,0.9s
IUG luzhnay 3.84 315 *i* Pn **Pb** 15 17 34.1 -1.7
baz=316
IUG *e*Pg **Pg** 15 17 45.3 +4.4
baz=316
IUG *e*Sn **Sg** 15 18 25.4 -5.3
baz=316
IUG luzhnay 3.84 315 Pg **Pb** 15 17 35.4 -0.4
comp=E,229nm,0.6s
IUG Lg Lg 15 18 24.4
comp=E,351nm,0.6s
IUG luzhnay 3.84 315 *i* PN **Pb** 15 17 34.1 -1.7
IUG *e* 15 17 45.3
IUG *e* 15 18 25.4
TARG Taragay, Kyrgy 3.85 53 **Pn** 15 17 25.8 -1.9
TARG Taragay, Kyrgy 3.85 53 PN **Pn** 15 17 25.8 -1.9
SGDS Sogindy 4.02 10 *e*P **Pg** 15 17 43.3 -1.2
comp=E,44nm,0.7s
SGDS *e*S **Sg** 15 18 38.4 +1.9
comp=E,107nm,0.8s
SGDS Sogindy 4.02 10 *e*Pn **Pb** 15 17 34.8 -4.0
baz=4.8
SGDS *e*Pb **Pg** 15 17 43.1 -1.3
baz=4.8
SGDS Sogindy 4.02 10 Pg **Pg** 15 17 43.2 -1.2
comp=E,42nm,0.3s
SGDS Lg Lg 15 18 40.1
comp=E,107nm,0.7s
SGDS Sogindy 4.02 10 *e*PN **Pb** 15 17 34.8 -4.0
DGS Degeres 4.07 22 *e*P **Pg** 15 17 44.7 -0.4
comp=E,67nm,0.4s
DGS *e*S **Sg** 15 18 40.6 +2.8
comp=E,138nm,0.6s
MTBS Maitube 4.18 29 *e*P **Pg** 15 17 45.8 -1.6
comp=E,80nm,0.8s
MTBS *e*S **Sg** 15 18 42.7 +1.1
comp=E,82nm,0.9s
CHM Chimkent 4.20 314 *e*P **Pb** 15 17 42.1 +0.4
comp=E,83nm,0.5s
CHM *e*S **Sg** 15 18 36.1 -6.0
comp=E,209nm,0.4s
TNSS Tian-Shan 4.31 34 *e*Pn **Pn** 15 17 37.5 +3.4
baz=27
TNSS *i* Pg **Pb** 15 17 46.8 +2.8
baz=27
TNSS *e*Lg Lg 15 18 47.3
baz=27
TNSS Tian-Shan 4.31 34 Pg **Pb** 15 17 47.6 +3.6
comp=E,61nm,0.5s
TNSS Lg Lg 15 18 45.8
comp=E,56nm,0.9s
TNSS Tian-Shan 4.31 34 *e*PN **Pn** 15 17 37.5 +3.4
TNSS *i* 15 17 46.7
KK31 Karatay Array 4.33 327 **Pn** 15 17 37.8 +3.8
KK31 Karatay Array 4.33 327 Pn **Pb** 15 17 40.6 -3.5
comp=E,12nm,0.5s,baz=138,slow=12,SNR=16
KK31 ⇓Sn **Sb** 15 18 36.5 -0.3
comp=E,38nm,0.6s,baz=153,slow=28,SNR=4.0
KK31 ⇑Lg Lg 15 18 55.0
comp=E,33nm,0.5s,baz=140,slow=27,SNR=4.2
KK31 Karatay Array 4.33 327 PN **Pn** 15 17 37.8 +3.8
KKAR Karatay Array 4.33 327 **Pn** 15 17 37.5 +3.5
KKAR Karatay Array 4.33 327 Pn **Pn** 15 17 36.8 +2.7
KKAR Karatay Array 4.33 327 PN **Pn** 15 17 36.8 +2.7
AAA Alma-Ata 4.44 32 *e*Pg **Pb** 15 17 49.5 +3.6
baz=26
AAA Alma-Ata 4.44 32 *e*PN **Pb** 15 17 49.5 +3.6
MDOK Medeo 4.46 33 *e*P **Pg** 15 17 51.2 -1.5
comp=E,42nm,0.5s
MDOK *e*S **Sg** 15 18 52.2 +1.8
comp=E,170nm,0.8s
MDOK Medeo 4.46 33 *e*Pg **Pb** 15 17 48.9 +2.6
baz=27
MDOK *e*Lg Lg 15 18 52.5
baz=27
MDOK Medeo 4.46 33 Pg **Pb** 15 17 48.8 +2.5
comp=E,136nm,1.3s
MDOK Pg **Pg** 15 17 49.5 -3.2
comp=E,61nm,0.6s
MDOK Lg Lg 15 18 49.6
comp=E,170nm,0.7s
MDOK ⇑Lg Lg 15 18 50.7
comp=E,287nm,1.1s
MDOK Medeo 4.46 33 *e*PN **Pb** 15 17 48.9 +2.6
KUU Kurty 4.83 23 *e*Pg **Pb** 15 17 57.0 +4.5
baz=18
KUU Kurty 4.83 23 Pg **Pg** 15 17 57.4 -2.4
comp=E,56nm,0.5s
KUU Lg Lg 15 19 02.6
comp=E,146nm,0.8s
KUU Kurty 4.83 23 *e*PN **Pb** 15 17 56.9 +4.5
CHKK Chushkaly 5.01 28 *e*P **Pg** 15 18 01.2 -2.1
comp=E,38nm,0.4s
CHKK *e*S **Sg** 15 19 09.0 +0.8
comp=E,91nm,0.6s
CHKK Chushkaly 5.01 28 *i* Pg **Pb** 15 18 00.1 +4.4
baz=23
CHKK Chushkaly 5.01 28 Pg **Pb** 15 17 59.7 +4.1
comp=E,55nm,0.5s
CHKK Pg **Pg** 15 18 00.8 -2.5
comp=E,55nm,0.6s
SATY Saty 5.03 43 *e*Pg **Pb** 15 17 59.0 +3.0
baz=38
UZB Uzynbulak 5.43 46 *e*Pg **Pb** 15 18 05.1 +2.3
baz=40
KPKS Kokpek 5.46 42 *e*Pn **Pn** 15 17 51.7 +2.0
baz=36
KPKS *e*Pg **Pb** 15 18 06.1 +2.8
baz=36
KPKS Kokpek 5.46 42 *e*PN **Pn** 15 17 51.6 +2.0
KPKS *e* 15 18 06.1
BTLS Baital 5.56 3 *e*Pg **Pg** 15 18 13.8 +0.1
baz=360
ARXS Arharly 5.64 32 *e*PN **Pb** 15 18 07.0 +0.6
SHLS Shalkode 5.68 48 *e*Pg **Pg** 15 18 13.8 -2.4
baz=45
PDGK Podgornoye 5.81 47 ⇑Pg **Pb** 15 18 13.8 +4.6
comp=E,76nm,1.3s
PDGK ⇑Lg Lg 15 19 27.4
comp=E,120nm,1.1s
CHCP Chirah Chowk 5.83 184 P **Pn** 15 17 57.2 +2.6
CEP Cherat 5.83 195 P **Pn** 15 17 58.6 +3.9
KBL Kabul 6.18 218 Pn **Pn** 15 17 56.4 -3.2
KBL Kabul 6.18 218 PN **Pn** 15 17 56.4 -3.2
TDK Taldyqorghan 6.53 31 *e*Pg Pb 15 18 27.9 +6.5
baz=27
THW Thamme Wali 6.86 194 P **Pn** 15 18 10.6 +1.8
MKAR Makanchi Array 9.63 38 Pn **Pn** 15 18 47.9 +1.2
comp=E,0.1nm,0.3s,baz=216,slow=14,SNR=2.6
MKAR Lg Lg 15 21 31.3
comp=E,0.2nm,0.3s,baz=225,slow=27,SNR=2.3
comp=E,1.4nm,0.7s
HRA Herat 10.48 244 Pn **Pn** 15 18 58.8 +0.2
WMQ Urumqi 11.33 63 *e*P **Pn** 15 19 08.5 -1.6
WMQ smax smax
comp=N,16nm,1.5s
WMQ smax smax
comp=E,22nm,1.1s
KURBB Kurchatov Arra 11.64 15 Lg Lg 15 22 34.5
baz=193,slow=28,SNR=4.2
GEYT Alibeck 12.27 268 Pn **Pn** 15 19 24.5 +1.6
comp=E,0.2nm,0.3s,baz=78,slow=13,SNR=1.5
comp=E,3.5nm,0.6s
PYUN Piuthan 13.73 143 *e*P Pn 15 19 35.4 -7.6
PYUN *e*S Sn 15 21 57.3 -19
BVAR Borovoye Array 13.73 352 Pn **Pn** 15 19 43.4 +0.7
comp=E,0.1nm,0.3s,baz=153,slow=14,SNR=10
BVAR Lg Lg 15 23 46.2
baz=163,slow=21,SNR=2.4
comp=E,9.9nm,0.9s
BRVK Borovoye 13.78 351 Pn **Pn** 15 19 44.9 +1.6
BRVK Borovoye 13.78 351⇑*e*P **Pn** 15 19 46.0 +2.7
ABKAR Akbulak array 13.84 319 Pn **Pn** 15 19 45.3 +1.1
DANN Dangsing 13.89 140 *e*P Pn 15 19 37.1 -8.2
DANN *e*S Sn 15 22 02.1 -18
DGZ Jazzator, Alta 14.12 39⇓*e*P **Pn** 15 19 49.8 +1.6
GKN Gorkha 14.62 138 *e*P Pn 15 19 46.6 -8.5
GUN Gumba 15.35 135 *e*P Pn 15 19 56.5 -8.6
PKI Pulchoki 15.37 137 *e*P Pn 15 19 56.6 -8.7
JIRN Jiri 15.72 135 *e*P Pn 15 20 01.1 -8.9
ZALV Zalesovo Beam 16.32 24 Pn **Pn** 15 20 17.2 0.0
comp=E,0.5nm,0.3s,baz=211,slow=12,SNR=12
comp=E,5.7nm,0.8s
ZALV Zalesovo Beam 16.32 24 Pn **Pn** 15 20 16.1 -1.2
ZALV Zalesovo Beam 16.32 24 *i* P **P** 15 20 20.2 -0.1
ZALV pmax pmax
comp=E,4.0nm,0.6s
RAMN Ramite 16.50 135 *e*P Pn 15 20 10.9 -9.0
ARU Arti 19.67 334 P **Pn** 15 21 00.6 +2.0
comp=E,2.1nm,0.3s,baz=164,slow=6.8,SNR=5.6
comp=E,2.1nm,0.3s
ARU Arti 19.67 334*d* iP **Pn** 15 21 00.8 +2.3
ARU 15 21 17.9
ARU S S 15 24 49.3 +10
ARU SS SnSn 15 25 07.0 +13
ARU pmax pmax
comp=E,5.0nm,0.8s
AKT Akhty 19.83 284 *e*P **Pn** 15 21 02.7 +2.1
AKT *e* 15 21 20.4
AKT pmax pmax
comp=E,23nm,1.4s
KNGR Kungurtug, Tuv 20.08 49⇑*e*P **P** 15 21 00.4 -1.4
GTA Gaotai 20.16 82 *e*P **P** 15 21 00.8 -1.9
GTA pP Pn 15 21 07.0 +2.4
GTA sP sP 15 21 10.8 +4.8
GTA pmax pmax
comp=E,4.0nm,0.8s
BELG Belogornoye 22.11 314 P **P** 15 21 26.7 +3.2
comp=E,12nm,0.8s,baz=91,slow=6.6,SNR=3.7
comp=E,12nm,0.8s
BELG Belogornoye 22.11 314⇓*e*P **P** 15 21 24.9 +1.4
BELG pmax pmax
comp=E,2.0nm,0.9s
GNI Garni 22.21 281 P **P** 15 21 27.5 +2.6
comp=E,6.3nm,0.8s,baz=110,slow=4.5,SNR=3.9
comp=E,6.3nm,0.8s
GNI Garni 22.21 281⇑*e*P **P** 15 21 29.0 +4.1
GNI pmax pmax
comp=E,22nm,1.3s
ONI Oni 22.96 288 P **P** 15 21 35.6 +2.8
ONI IAmb IAmb 15 21 41.3
comp=E,13nm,0.8s
KBZ Khabaz 23.34 290 P **P** 15 21 38.7 +2.2
comp=E,1.9nm,0.8s,baz=107,slow=14,SNR=2.2
comp=E,1.9nm,0.8s
NEY Neytrino 23.47 289⇑*e*P **P** 15 21 40.8 +2.7
NEY pmax pmax
comp=E,1.0nm,0.7s
KIV Kislovodsk 23.49 291 *e*P **P** 15 21 42.3 +4.1
KIV pmax pmax
comp=E,7.0nm,1.0s
SONM Songino Array 24.94 60 P **P** 15 21 46.6 -5.1
comp=E,0.9nm,0.7s,baz=255,slow=10,SNR=6.8
SONM PcP **PcP** 15 25 23.7 -3.3
comp=E,0.5nm,0.8s,baz=270,slow=2.3,SNR=2.5
comp=E,0.9nm,0.7s
SONM Songino Array 24.94 60 P P 15 21 46.2 -5.5
VORR Voronezh 26.77 308 *e*P **P** 15 22 07.6 -0.5
VORR pmax pmax
comp=E,60nm,0.4s
RAYN Ar Rayn 28.67 245 P **P** 15 22 24.0 -1.4
RAYN IAmb IAmb 15 22 26.3
comp=E,6.1nm,0.7s
RAYN Ar Rayn 28.67 245 P **P** 15 22 24.0 -1.4
RAYN pmax pmax
comp=E,6.0nm,0.7s
CMAR Chiang Mai Arr 30.27 127 P P 15 22 30.8 -8.7
comp=E,0.7nm,0.5s,baz=354,slow=26,SNR=2.0
comp=E,0.7nm,0.5s
BR131 Keskin Array S 30.68 283⇑*i*P **P** 15 22 44.7 +1.5
BRTR Keskin Array B 30.68 283 P **P** 15 22 43.5 +0.2
comp=E,1.8nm,0.9s,baz=93,slow=7.0,SNR=9.0
comp=E,1.8nm,0.9s
BRTR Keskin Array B 30.68 283 P **P** 15 22 43.9 +0.7
BRTR Keskin Array B 30.68 283 *i* P **P** 15 22 45.2 +2.0
BRTR pmax pmax
comp=E,2.0nm,0.9s
AKASG Malin Array Be 32.86 305 P **P** 15 23 02.1 +0.1
comp=E,0.1nm,0.3s,baz=78,slow=7.2,SNR=6.1
comp=E,0.1nm,0.3s
AKASG Malin Array Be 32.86 305 *i* P **P** 15 23 05.8 +3.7
AKASG pmax pmax
comp=E,1.0nm,0.5s
AKBB Malin Array Si 32.86 305⇓*e*P **P** 15 23 03.0 +0.9
AKBB pmax pmax
comp=Z,3.0nm,0.8s
FIA1 FINESS Array S 36.28 323 P **P** 15 23 32.4 +0.8
FIA1 IAmb IAmb 15 23 36.7
comp=Z,19nm,1.3s
FINES FINESS Array B 36.28 323 P **P** 15 23 32.1 +0.6
comp=Z,1.9nm,0.5s,baz=113,slow=11,SNR=3.3
comp=Z,1.9nm,0.5s
FINES FINESS Array B 36.28 323 P **P** 15 23 31.7 +0.2
FINES FINESS Array B 36.28 323 *i* P P 15 23 36.2 +4.7
FINES pmax pmax
comp=Z,2.0nm,0.5s
NJ2 Nanjing 37.08 87 *e*P P 15 23 34.3 -4.3
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,12nm,0.7s
ARCES ARCESS Array B 39.25 336 P **P** 15 23 57.5 +1.0
comp=Z,2.2nm,0.8s,baz=91,slow=9.9,SNR=2.2
comp=Z,2.2nm,0.8s
KLR Kul'dur 41.70 57⇑*e*P **P** 15 24 14.5 -2.5
KLR pmax pmax
comp=Z,11nm,2.2s
HFS Hagfors 42.10 320 P **P** 15 24 20.4 +0.2
comp=Z,4.3nm,0.9s,baz=91,slow=12,SNR=6.4
comp=Z,4.3nm,0.9s
TIXI Tiksi 42.21 23 P **P** 15 24 19.2 -1.7
comp=Z,2.5nm,0.6s,baz=270,slow=2.6,SNR=14
comp=Z,2.5nm,0.6s
TIXI Tiksi 42.21 23 P **P** 15 24 19.1 -1.8
TIXI Tiksi 42.21 23⇑*i*P **P** 15 24 19.5 -1.4
TIXI pmax pmax
comp=Z,16nm,3.8s
USRK Ussuriysk Ar. 42.90 64 P P 15 24 22.4 -4.5
USRK Ussuriysk Ar. 42.90 64 P P 15 24 22.4 -4.5
GERES GERESS Array B 43.02 303 P **P** 15 24 27.6 -0.3
comp=Z,0.3nm,0.4s,baz=76,slow=8.2,SNR=1.7
comp=Z,0.3nm,0.4s
KHC Kasperske Hory 43.04 303⇑*e*P **P** 15 24 30.3 +2.2
KHC pmax pmax
comp=Z,22nm,2.1s
NB2 NORSAR Subarra 43.34 321 P **P** 15 24 30.4 +0.1
comp=Z,2.4nm,0.8s,baz=89,slow=7.9
NOA NORSAR Array B 43.34 321 P **P** 15 24 30.6 +0.3
comp=Z,1.6nm,0.7s,baz=90,slow=8.0,SNR=4.6
comp=Z,1.6nm,0.7s
ESDC Sonseca Array 57.97 297 P **P** 15 26 21.1 +0.1
comp=Z,0.9nm,0.8s,baz=58,slow=6.3,SNR=4.8
comp=Z,0.9nm,0.8s
INK Inuvik 70.60 10 P **P** 15 27 41.3 -2.0
comp=Z,2.1nm,0.6s,baz=357,slow=4.7,SNR=5.4
comp=Z,2.1nm,0.6s
C36M Paulatuk 70.69 7 P **P** 15 27 42.0 -1.8
C36M IAmb IAmb 15 27 43.0
comp=Z,4.1nm,0.5s
POKR Poker Plat Res 70.90 17 P **P** 15 27 43.8 -1.4
POKR IAmb IAmb 15 27 52.5
comp=Z,3.8nm,1.0s
ILAR Eielson Array 71.32 17 P **P** 15 27 45.8 -2.0
comp=Z,1.1nm,0.8s,baz=318,slow=4.6,SNR=9.1
comp=Z,1.1nm,0.8s
ILAR Eielson Array 71.32 17 P **P** 15 27 45.1 -2.6
PPLA Purkeypile 71.56 20 P **P** 15 27 46.3 -3.1
J26L Joseph Creek 72.28 16 P **P** 15 27 51.4 -2.3
DHY Denali Highway 72.64 18 P **P** 15 27 53.1 -2.8
DHY IAmb IAmb 15 28 13.5
comp=Z,6.9nm,1.4s
SCRK Sand Creek 72.65 16 P **P** 15 27 53.3 -2.6
SUA Susitna One 73.13 21 P **P** 15 27 56.1 -2.7
SML Sawmill 73.48 19 P **P** 15 27 58.1 -2.7
RC01 Rabbit Creek A 73.71 20 P **P** 15 27 59.4 -2.7
SCM Sheep Creek Mo 73.71 19 P **P** 15 27 59.4 -2.8
SCM Sheep Creek Mo 73.71 19 P **P** 15 27 59.4 -2.8
SCM pmax pmax
comp=Z,13nm,1.2s
L27K Beaver Creek, 73.92 16 P **P** 15 28 01.6 -1.7
L27K IAmb IAmb 15 28 23.9
comp=Z,5.0nm,1.4s
WB0 Warramunga Arr 81.74 124 P P 15 28 42.0 -5.3
WB0 IAmb IAmb 15 28 52.6
comp=Z,4.0nm,1.2s
WRA Warramunga Arr 81.83 124 P P 15 28 42.8 -5.1
comp=Z,1.4nm,0.6s,baz=325,slow=5.0,SNR=24
comp=Z,1.4nm,0.6s
WRA Warramunga Arr 81.83 124 P P 15 28 43.0 -4.8
WRA Warramunga Arr 81.83 124 *i* P P 15 28 43.5 -4.3
WRA pmax pmax
comp=Z,1.0nm,0.6s
WB2 Warramunga Arr 81.84 124 P P 15 28 43.0 -4.9
WB2 IAmb IAmb 15 28 44.0
comp=Z,2.7nm,0.6s
ASAR Alice Springs 84.28 127 P P 15 28 55.0 -5.5
comp=Z,1.0nm,0.7s,baz=314,slow=5.0,SNR=15
comp=Z,1.0nm,0.7s

IDC ***25*** *15:19:34.4±0.8, 36.82N×97.83W, h0km, mb4.2/3, mbtmp4.1/10, ML3.9/6, Error ellipse: s-maj=12.3km s-min=11.2km az=138.0*
TUL ***25*** *15:19:35.7±1.0, 36.84N±0.01×97.75W±0.01, h8km±6km, ML4.2, mb4.0/5(NEIC), mb_Lg4.3/105(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=148.0*
ANF ***25*** *15:19:35.9±0.1, 36.83N×97.77W, h6km, ML5.1/23, Error ellipse: s-maj=1.7km s-min=1.6km az=124.0*
NEIC ***25*** *15:19:35.7±0.5, 36.82N±0.01×97.75W±0.01, h6km±7km, Error ellipse: s-maj=1.7km s-min=1.6km az=154.0*

ISC 25 15:19:35.3±0.8, 36.83N±0.02×97.75W±0.02, h10km±6km, n258, σ1♀20/256, mb4.3/4, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
GC02	**Grant County #**	**0.09**	**284**	Pg	**Pg**	**15 19 37.6**	**-0.2**
KAN14	**Manchester OK**	**0.21**	**307**		**Pg**	**15 19 40.1**	**+0.3**
KAN14				Sg	**Sg**	**15 19 43.2**	**+0.5**
KAN17	**Caldwell West**	**0.21**	**358**	Pg	**Pg**	**15 19 40.3**	**+0.5**
KAN13	**South Haven SW**	**0.29**	**50**	Pg	**Pg**	**15 19 41.7**	**+0.6**
KAN13				Sg	**Sg**	**15 19 45.7**	**+0.7**
KAN05	**Bluff City Nor**	**0.29**	**341**		**Pg**	**15 19 41.8**	**+0.5**
KAN01	**Argonia South**	**0.32**	**359**	Pg	**Pg**	**15 19 42.3**	**+0.5**
OK032	**Salt Plains WL**	**0.37**	**266**	Pg	**Pg**	**15 19 43.1**	**+0.5**
CROK	**Carrier**	**0.37**	**210**	Pg	**Pg**	**15 19 43.3**	**+0.6**
CROK				Sg	**Sg**	**15 19 48.7**	**+1.1**
KAN10	**Anthony SW Sta**	**0.40**	**317**		**Pg**	**15 19 43.8**	**+0.5**
KAN06	**Argonia West S**	**0.42**	**349**		**Pg**	**15 19 44.2**	**+0.5**
KS20	**Mayfield South**	**0.43**	**22**	Pg	**Pg**	**15 19 44.2**	**+0.4**
KAN08	**Anthony NE Sta**	**0.43**	**336**	Pg	**Pg**	**15 19 44.2**	**+0.4**
BLOK	**Blackwell**	**0.44**	**99**	Pg	**Pg**	**15 19 44.4**	**+0.5**
KS21	**Milan North St**	**0.46**	**9**	Pg	**Pg**	**15 19 44.8**	**+0.4**
KAN12	**Harper NE Stat**	**0.51**	**337**	Pg	**Pg**	**15 19 45.6**	**+0.4**
OK050	**Pawnee Station**	**0.76**	**125**		**Pg**	**15 19 50.3**	**+0.3**
OK045	**Pawnee Station**	**0.77**	**120**	Pg	**Pg**	**15 19 50.5**	**+0.3**
OK048	**Pawnee Station**	**0.77**	**122**		**Pg**	**15 19 50.5**	**+0.3**
OK035	**E0210 Rd and N**	**0.78**	**261**	Pg	**Pg**	**15 19 50.4**	**+0.1**
OK046	**Pawnee Station**	**0.81**	**122**	Pg	**Pg**	**15 19 51.2**	**+0.3**
OK051	**E0350 and S346**	**0.81**	**113**	Pg	**Pg**	**15 19 51.1**	**+0.3**
OK038	**West end E0370**	**0.87**	**246**	Pg	**Pg**	**15 19 52.2**	**+0.1**
OK044	**Pawnee Station**	**0.90**	**120**	Pg	**Pg**	**15 19 52.7**	**+0.2**
T35A	**Sooner Cattle**	**1.00**	**85**	Pg	**Pg**	**15 19 54.5**	**0.0**
T35B	**Sooner Cattle**	**1.00**	**85**	P	**Pg**	**15 19 54.6**	**+0.1**
baz=265							
OK033	**Mehan**	**1.02**	**140**	Pg	**Pg**	**15 19 55.2**	**+0.2**
OK029	**Liberty Lake**	**1.06**	**167**	Pg	**Pg**	**15 19 55.7**	**0.0**
QUOK	**Quay**	**1.07**	**128**		**Pg**	**15 19 56.0**	**+0.1**
U32A	**Winter Ranch,**	**1.10**	**246**		**Pb**	**15 19 56.3**	**-0.1**
U32A	**Winter Ranch,**	**1.10**	**246**	P	**Pb**	**15 19 56.4**	**-0.1**
baz=66							
U32A				S	**Sg**	**15 20 11.4**	**+0.6**
baz=66							
OK053	**SW of W Deep R**	**1.13**	**136**		**Pb**	**15 19 57.0**	**+0.2**
OK052	**Battle Ridge R**	**1.13**	**137**		**Pb**	**15 19 57.1**	**+0.1**
OK031	**S. Brethren Rd**	**1.15**	**140**		**Pb**	**15 19 57.4**	**+0.2**
OK034	**N. Norfolk Rd.**	**1.17**	**134**		**Pb**	**15 19 57.8**	**+0.2**
BCOK	**Bluff Creek, N**	**1.18**	**174**		**Pb**	**15 19 57.9**	**+0.2**
OK030	**Cody Creek RV**	**1.19**	**139**		**Pb**	**15 19 58.1**	**+0.2**
OK005	**Luther M Schoo**	**1.26**	**159**		**Pn**	**15 19 59.4**	**+0.5**
OK009	**Oakdale Elemen**	**1.27**	**168**		**Pn**	**15 19 59.7**	**+0.6**
OK025	**Westminster Rd**	**1.29**	**165**		**Pn**	**15 19 59.9**	**+0.5**
CSTR	**Hydro, Custer**	**1.40**	**213**	Pn	**Pn**	**15 20 01.7**	**+0.7**
DEOK	**Depew**	**1.41**	**134**		**Pn**	**15 20 01.7**	**+0.6**
ELIS	**Ellis County**	**1.54**	**241**	Pn	**Pn**	**15 20 04.2**	**+1.3**
FNO	**Franklin**	**1.60**	**170**		**Pn**	**15 20 04.6**	**+1.1**
FNO				IAmb_Lg		15 20 29.9	
comp=Z,2μm,0.8s							
R32A	**Long Quarter,**	**1.76**	**335**		**Pb**	**15 20 07.3**	**-0.4**

R32A	**Long Quarter,**	**1.76**	**335**	P		**Pb**	**15 20 07.6**	**-0.1**
	baz=154								
R32A				S		**Sb**	**15 20 30.7**	**+0.8**
	baz=154								
TUL1	**Leonard**	**1.83**	**120**			**Pn**	**15 20 08.3**	**+1.5**
TUL1				IAmb_Lg			15 20 34.1		
	comp=Z,2µm,0.8s								
TUL1	**Leonard**	**1.83**	**120**	P		**Pn**	**15 20 08.1**	**+1.3**
	baz=300								
TUL1				S		**Sb**	**15 20 33.1**	**+1.3**
	baz=300								
TUL1	**Leonard**	**1.83**	**120**	P		**Pn**	**15 20 08.1**	**+1.3**
	baz=300								
TUL1				Sb		**Sb**	**15 20 33.3**	**+1.5**
	baz=300								
X34A	**Smith Ranch, M**	**2.23**	**182**			**Pn**	**15 20 14.1**	**+1.9**
X34A				IAmb_Lg			15 20 52.7		
	comp=Z,782nm,0.8s								
WMOK	**Wichita Mounta**	**2.25**	**202**	Pn		**Pn**	**15 20 13.5**	**+1.0**
WMOK	**Wichita Mounta**	**2.25**	**202**	P		**Pn**	**15 20 13.9**	**+1.3**
	baz=22								
WMOK				S		**Sn**	**15 20 42.7**	**+2.3**
	baz=22								
WMOK	**Wichita Mounta**	**2.25**	**202**	P		**Pn**	**15 20 13.6**	**+1.0**
	baz=22,SNR=668								
WMOK				S		**Sn**	**15 20 42.4**	**+2.1**
	baz=22								
KSU1	**Kansas State U**	**2.44**	**21**	Pn		**Pn**	**15 20 15.7**	**+0.5**
KSU1	**Kansas State U**	**2.44**	**21**	IAmb_Lg			15 20 57.6		
	comp=Z,793nm,0.8s								
KSU1	**Kansas State U**	**2.44**	**21**	P		**Pn**	**15 20 16.8**	**+1.7**
	baz=202								
KSU1				S		**Sn**	**15 20 47.4**	**+2.3**
	baz=202								
KSU1	**Kansas State U**	**2.44**	**21**	P		**Pn**	**15 20 16.6**	**+1.4**
	baz=202,SNR=309								
KSU1				S		**Sb**	**15 20 47.6**	**-1.8**
	baz=202								
CBKS	**Cedar Bluff**	**2.53**	**322**	Pn		**Pn**	**15 20 17.9**	**+1.4**
CBKS	**Cedar Bluff**	**2.53**	**322**	P		**Pn**	**15 20 17.8**	**+1.4**
	baz=141								
CBKS	**Cedar Bluff**	**2.53**	**322**	P		**Pn**	**15 20 17.9**	**+1.4**
	baz=141,SNR=52								
CBKS				S		**Sb**	**15 20 50.5**	**-1.5**
	baz=141								
U38A	**Gravette**	**2.74**	**97**	Pn		**Pn**	**15 20 20.4**	**+1.1**
U38A	**Gravette**	**2.74**	**97**	P		**Pn**	**15 20 21.0**	**+1.7**
	baz=279								
LOOK	**Love County**	**2.87**	**170**	Pn		**Pn**	**15 20 22.5**	**+1.4**
LOOK				IAmb_Lg			15 21 12.9		
	comp=Z,240nm,0.9s								
X37A	**Clayton**	**2.96**	**138**	IAmb_Lg			15 21 14.4		
	comp=Z,888nm,0.7s								
X37A	**Clayton**	**2.96**	**138**	P		**Pn**	**15 20 24.1**	**+1.8**
	baz=320								
HHAR	**Hobbs**	**3.12**	**99**			**Pn**	**15 20 25.9**	**+1.4**
HHAR				IAmb_Lg			15 21 18.9		
	comp=Z,796nm,0.8s								
HHAR	**Hobbs**	**3.12**	**99**	P		**Pn**	**15 20 26.1**	**+1.6**
	baz=281								
Z35A	**Perchaven, San**	**3.52**	**173**			**Pn**	**15 20 31.4**	**+1.5**
Z35A	**Perchaven, San**	**3.52**	**173**	P		**Pn**	**15 20 31.7**	**+1.8**
	baz=353								
Z35A				S		**Sn**	**15 21 14.4**	**+2.8**
	baz=353								
S39A	**Bolivar**	**3.64**	**75**	Pn		**Pn**	**15 20 32.6**	**+0.9**
S39A	**Bolivar**	**3.64**	**75**	P		**Pn**	**15 20 32.5**	**+0.9**
	baz=257								
AMTX	**Amarillo**	**3.73**	**240**	IAmb_Lg			15 21 44.0		
	comp=Z,1µm,0.8s								
AMTX	**Amarillo**	**3.73**	**240**	P		**Pn**	**15 20 35.3**	**+2.2**
	baz=58								
AMTX				Sb		**Sg**	**15 21 32.1**	**-3.2**
	baz=58								
FW02	**City of Haslet**	**3.89**	**175**	Pn		**Pn**	**15 20 36.5**	**+1.4**
N33B	**J Bar K, Exete**	**3.91**	**3**	P		**Pn**	**15 20 35.9**	**+0.5**
	baz=184								
N33A	**J Bar K, Exete**	**3.91**	**3**	Pn		**Pn**	**15 20 35.9**	**+0.5**
MIAR	**Mount Ida**	**4.09**	**123**	Pn		**Pn**	**15 20 39.0**	**+1.1**
MIAR	**Mount Ida**	**4.09**	**123**	P		**Pn**	**15 20 39.0**	**+1.1**
	baz=305								
MIAR	**Mount Ida**	**4.09**	**123**	P		**Pn**	**15 20 38.7**	**+0.8**
	baz=305								
MIAR				S		**Sn**	**15 21 26.4**	**+0.5**
	baz=305								
Z38A	**Mt. Pleasant**	**4.22**	**147**	Pn		**Pn**	**15 20 40.8**	**+1.1**
Z38A				IAmb_Lg			15 21 58.0		
	comp=Z,500nm,0.7s								
P38A	**Dawn**	**4.34**	**49**	Pn		**Pn**	**15 20 42.6**	**+1.4**
P38A	**Dawn**	**4.34**	**49**	P		**Pn**	**15 20 42.7**	**+1.4**
	baz=231								
N35A	**Tabor**	**4.35**	**22**			**Pn**	**15 20 43.1**	**+1.6**
N35A	**Tabor**	**4.35**	**22**	P		**Pn**	**15 20 42.8**	**+1.3**
	baz=203								
MGMO	**Mountain Grove**	**4.40**	**84**			**Pn**	**15 20 43.5**	**+1.3**
MGMO				IAmb_Lg			15 21 56.0		
	comp=Z,868nm,0.8s								
KSCO	**Kaye Shedlock'**	**4.43**	**301**			**Pn**	**15 20 44.0**	**+1.4**
KSCO				IAmb_Lg			15 22 07.5		
	comp=Z,856nm,0.8s								
KSCO	**Kaye Shedlock'**	**4.43**	**301**	P		**Pn**	**15 20 44.2**	**+1.6**
	baz=118								
KSCO	**Kaye Shedlock'**	**4.43**	**301**	P		**Pn**	**15 20 43.9**	**+1.4**
	baz=118,SNR=11								
KSCO				S		**Sn**	**15 21 35.3**	**+1.0**
	baz=118								
ABTX	**Abilene, Hawle**	**4.48**	**201**	Pn		**Pn**	**15 20 43.8**	**+0.6**
ABTX	**Abilene, Hawle**	**4.48**	**201**	P		**Pn**	**15 20 44.3**	**+1.1**
	baz=20								
ABTX				S		**Sn**	**15 21 36.6**	**+1.2**
	baz=20								
BGNE	**Belgrade**	**4.58**	**356**	Pn		**Pn**	**15 20 45.7**	**+1.0**
BGNE	**Belgrade**	**4.58**	**356**	P		**Pn**	**15 20 45.5**	**+0.9**
	baz=176								
BGNE	**Belgrade**	**4.58**	**356**	P		**Pn**	**15 20 45.6**	**+1.0**
	baz=176,SNR=30								
R40A	**Maddies Statio**	**4.59**	**70**	Pn		**Pn**	**15 20 45.8**	**+1.0**
R40A	**Maddies Statio**	**4.59**	**70**	P		**Pn**	**15 20 45.7**	**+1.0**
	baz=253								
FCAR	**Ozark Folk Cen**	**4.64**	**100**			**Pn**	**15 20 46.1**	**+0.7**
FCAR				IAmb_Lg			15 22 02.7		
	comp=Z,593nm,0.8s								
WHAR	**Wooly Hollow**	**4.69**	**108**	Pn		**Pn**	**15 20 47.2**	**+1.1**
WHAR				IAmb_Lg			15 22 09.5		
	comp=Z,444nm,0.8s								
WHTX	**Lake Whitney,**	**4.83**	**177**	Pn		**Pn**	**15 20 48.9**	**+0.9**
WHTX	**Lake Whitney,**	**4.83**	**177**	P		**Pn**	**15 20 49.0**	**+0.9**
	baz=357								
WHTX	**Lake Whitney,**	**4.83**	**177**	P		**Pn**	**15 20 48.8**	**+0.7**
	baz=357								
WHTX				S		**Sn**	**15 21 43.2**	**-0.9**
	baz=357								
UALR	**University of**	**4.85**	**113**	IAmb_Lg			15 22 14.3		
	comp=Z,511nm,0.8s								
WLAR	**White Oak Lake**	**4.92**	**128**	Pn		**Pn**	**15 20 50.0**	**+0.6**
MSTX	**Muleshoe**	**5.00**	**237**	Pn		**Pn**	**15 20 51.5**	**+1.1**
MSTX	**Muleshoe**	**5.00**	**237**	P		**Pn**	**15 20 51.5**	**+1.1**
	baz=54								
MSTX	**Muleshoe**	**5.00**	**237**	P		**Pn**	**15 20 51.2**	**+0.8**
	baz=54								
237A	**Washetta, Mont**	**5.08**	**161**			**Pn**	**15 20 51.6**	**+0.2**
237A	**Washetta, Mont**	**5.08**	**161**	P		**Pn**	**15 20 52.1**	**+0.7**
	baz=342								
P40A	**Paris**	**5.24**	**57**	IAmb_Lg			15 22 27.5		
	comp=Z,585nm,0.7s								
OGNE	**Ogallala**	**5.29**	**322**	Pn		**Pn**	**15 20 56.6**	**+2.1**
OGNE				IAmb_Lg			15 22 36.2		
	comp=Z,526nm,0.9s								
OGNE	**Ogallala**	**5.29**	**322**	P		**Pn**	**15 20 56.7**	**+2.1**
	baz=140,SNR=44								
N38A	**Joes South For**	**5.30**	**40**			**Pn**	**15 20 55.3**	**+0.8**
N38A	**Joes South For**	**5.30**	**40**	P		**Pn**	**15 20 55.8**	**+1.3**
	baz=223								
CCM	**Cathedral Cave**	**5.32**	**75**	Pn		**Pn**	**15 20 55.1**	**+0.3**
CCM				IAmb_Lg			15 22 32.1		
	comp=Z,578nm,0.8s								
CCM	**Cathedral Cave**	**5.32**	**75**	P		**Pn**	**15 20 55.3**	**+0.5**
	baz=258								
CCM	**Cathedral Cave**	**5.32**	**75**	P		**Pn**	**15 20 55.0**	**+0.3**
	baz=258								
CCM				S		**Sn**	**15 21 56.1**	**0.0**
	baz=258								
T25A	**Trinidad**	**5.34**	**275**	Pn		**Pn**	**15 20 56.1**	**+0.8**
T25A				IAmb_Lg			15 22 37.0		
	comp=Z,384nm,0.8s								
T25A	**Trinidad**	**5.34**	**275**	P		**Pn**	**15 20 56.2**	**+1.0**
	baz=92,SNR=13								
LCAR	**Lake Charles**	**5.37**	**96**			**Pn**	**15 20 56.2**	**+0.8**
LCAR				IAmb_Lg			15 22 32.7		
	comp=Z,351nm,1.1s								
NATX	**Nacogdoches**	**5.67**	**152**	IAmb_Lg			15 22 50.1		
	comp=Z,316nm,0.9s								
NATX	**Nacogdoches**	**5.67**	**152**	P		**Pn**	**15 21 00.1**	**+0.6**
	baz=334								
NATX				S		**Sn**	**15 22 03.8**	**-0.8**
	baz=334								
CCAR	**Cane Creek**	**5.69**	**119**	IAmb_Lg			15 22 47.4		
	comp=Z,568nm,0.8s								
K31A	**O'Neill**	**5.84**	**353**			**Pn**	**15 21 03.0**	**+1.1**
PBMO	**Poplar Bluff**	**5.88**	**88**	IAmb_Lg			15 22 47.5		
	comp=Z,532nm,0.8s								
FVM	**French Village**	**5.95**	**77**			**Pn**	**15 21 03.8**	**+0.4**
435B	**Jarrell**	**6.03**	**179**			**Pn**	**15 21 04.5**	**-0.1**
435B	**Jarrell**	**6.03**	**179**	P		**Pn**	**15 21 04.8**	**+0.2**
	baz=359								
SCIA	**State Center**	**6.17**	**33**	Pn		**Pn**	**15 21 07.4**	**+1.0**
SCIA				IAmb_Lg			15 23 00.7		
	comp=Z,547nm,0.7s								
SCIA	**State Center**	**6.17**	**33**	P		**Pn**	**15 21 07.2**	**+0.8**
	baz=216,SNR=8.0								
Q24A	**Divide**	**6.22**	**292**			**Pn**	**15 21 08.4**	**+0.9**
Q24A				IAmb_Lg			15 22 53.3		
	comp=Z,279nm,0.9s								
Q24A	**Divide**	**6.22**	**292**	P		**Pn**	**15 21 08.2**	**+0.7**
	baz=108								
SLM	**Saint Louis**	**6.22**	**71**			**Pn**	**15 21 07.2**	**0.0**
SLM				IAmb_Lg			15 22 50.7		
	comp=Z,400nm,0.9s								
SDCO	**Great Sand Dun**	**6.25**	**281**			**Pn**	**15 21 09.3**	**+1.6**
SDCO	**Great Sand Dun**	**6.25**	**281**	P		**Pn**	**15 21 08.8**	**+1.0**
	baz=96,SNR=27								
CPRX	**Cap Rock**	**6.29**	**235**	Pn		**Pn**	**15 21 09.3**	**+1.1**
BRIGG	**Briggsdale**	**6.35**	**308**	IAmb_Lg			15 23 04.7		
	comp=Z,436nm,0.9s								
PEBM	**Pemiscott Bayo**	**6.40**	**94**	Pn		**Pn**	**15 21 10.6**	**+1.1**
CGM3	**Cape Girardeau**	**6.49**	**83**			**Pn**	**15 21 11.2**	**+0.4**
CGM3				IAmb_Lg			15 23 00.2		
	comp=Z,390nm,1.1s								
PVMO	**Portageville**	**6.49**	**91**	IAmb_Lg			15 23 18.3		
	comp=Z,376nm,0.8s								
HTMS	**Hat Mesa**	**6.51**	**230**			**Pn**	**15 21 12.0**	**+0.8**
JCT	**Junction City**	**6.56**	**196**	Pn		**Pn**	**15 21 11.1**	**-0.8**
JCT				IAmb_Lg			15 23 06.8		
	comp=Z,254nm,0.8s								
JCT	**Junction City**	**6.56**	**196**	P		**Pn**	**15 21 11.7**	**-0.1**
	baz=14,SNR=11								
143A	**Socs Landing,**	**6.65**	**126**	Pn		**Pn**	**15 21 13.2**	**+0.1**
143A				IAmb_Lg			15 23 10.6		
	comp=Z,276nm,0.7s								
S44A	**Carbondale**	**6.83**	**80**			**Pn**	**15 21 15.4**	**-0.1**
S44A				IAmb_Lg			15 23 11.7		
	comp=Z,311nm,0.7s								
HALT	**Halls**	**6.85**	**95**	IAmb_Lg			15 23 15.1		
	comp=Z,345nm,0.9s								
ISCO	**Idaho Springs**	**6.85**	**298**	IAmb_Lg			15 23 14.1		
	comp=Z,344nm,0.9s								
ISCO	**Idaho Springs**	**6.85**	**298**	P		**Pn**	**15 21 16.1**	**0.0**
	baz=113								
ECSD	**EROS Data Cent**	**6.95**	**7**	Pn		**Pn**	**15 21 16.9**	**-0.3**
ECSD	**EROS Data Cent**	**6.95**	**7**	P		**Pn**	**15 21 17.0**	**-0.1**
	baz=188,SNR=39								
P43A	**Skaggs, Pawnee**	**7.06**	**64**			**Pn**	**15 21 18.7**	**+0.1**
UTMT	**University of**	**7.17**	**91**	IAmb_Lg			15 23 42.3		
	comp=Z,468nm,0.7s								
OXF	**Oxford**	**7.17**	**106**			**Pn**	**15 21 20.8**	**+0.6**
OXF				IAmb_Lg			15 23 35.5		
	comp=Z,423nm,1.1s								
OXF	**Oxford**	**7.17**	**106**	P		**Pn**	**15 21 19.7**	**-0.5**
	baz=291								
Q44A	**Meyer Farm, Va**	**7.21**	**71**	Pn		**Pn**	**15 21 20.7**	**0.0**
Q44A				IAmb_Lg			15 23 31.5		
	comp=Z,490nm,0.9s								
L40A	**Anamosa**	**7.27**	**42**			**Pn**	**15 21 22.0**	**+0.5**
S22A	**4UR Ranch, Cre**	**7.29**	**280**	P		**Pn**	**15 21 23.1**	**+0.9**
	baz=95								
T45A	**Paducah**	**7.30**	**86**	IAmb_Lg			15 23 42.2		
	comp=Z,360nm,0.9s								
Y45A	**Yeager Farm, C**	**7.33**	**111**	IAmb_Lg			15 23 36.4		
	comp=Z,316nm,0.9s								
PHWY	**Pilot Hill**	**7.47**	**309**			**Pn**	**15 21 25.3**	**+0.7**
PHWY				IAmb_Lg			15 23 44.1		
	comp=Z,238nm,0.9s								
VBMS	**Vicksburg**	**7.54**	**126**	IAmb_Lg			15 23 53.3		
	comp=Z,201nm,1.0s								
N23A	**Red Feather La**	**7.57**	**305**	Pn		**Pn**	**15 21 27.1**	**+1.2**
N23A				IAmb_Lg			15 23 49.0		
	comp=Z,443nm,0.8s								
N23A	**Red Feather La**	**7.57**	**305**	P		**Pn**	**15 21 27.5**	**+1.6**
	baz=120,SNR=6.7								
HDIL	**Hopedale**	**7.59**	**58**	Pn		**Pn**	**15 21 25.6**	**-0.3**
HDIL	**Hopedale**	**7.59**	**58**	P		**Pn**	**15 21 26.1**	**+0.2**
	baz=243,SNR=9.3								
SUSD	**Miller**	**7.66**	**354**			**Pn**	**15 21 26.9**	**0.0**
SUSD				IAmb_Lg			15 23 58.2		
	comp=Z,315nm,1.0s								
SUSD	**Miller**	**7.66**	**354**	P		**Pn**	**15 21 27.4**	**+0.5**
	baz=173,SNR=7.3								
OLIL	**Olney**	**7.88**	**73**	IAmb_Lg			15 23 59.9		
	comp=Z,372nm,1.0s								
I37A	**Lemond, Waseca**	**7.91**	**23**	Pn		**Pn**	**15 21 29.9**	**-0.4**
I37A				IAmb_Lg			15 24 02.9		
	comp=Z,368nm,0.8s								
Y22D	**IRIS PASSCAL I**	**7.97**	**253**	IAmb_Lg			15 24 03.8		
	comp=Z,346nm,0.9s								
O44A	**Mansfield**	**8.00**	**63**			**Pn**	**15 21 31.3**	**-0.3**
WVT	**Waverly**	**8.03**	**92**	Pn		**Pn**	**15 21 31.5**	**-0.4**
WVT	**Waverly**	**8.03**	**92**	P		**Pn**	**15 21 31.1**	**-0.8**
	baz=278								
PLAL	**Pickwick Lake**	**8.07**	**100**	Pn		**Pn**	**15 21 32.6**	**+0.2**
PLAL				IAmb_Lg			15 23 52.3		
	comp=Z,182nm,1.0s								
L42A	**Oliver, Polo**	**8.11**	**48**	Pn		**Pn**	**15 21 33.5**	**+0.4**
146A	**Union**	**8.29**	**118**	IAmb_Lg			15 24 22.2		
	comp=Z,181nm,0.7s								
JFWS	**Jewell Farm**	**8.38**	**41**			**Pn**	**15 21 36.8**	**+0.1**
JFWS	**Jewell Farm**	**8.38**	**41**	P		**Pn**	**15 21 37.0**	**+0.2**
	baz=226,SNR=9.6								
833A	**Chaparral WMA,**	**8.59**	**190**	Pn		**Pn**	**15 21 39.6**	**-0.1**
833A	**Chaparral WMA,**	**8.59**	**190**	P		**Pn**	**15 21 39.8**	**0.0**
	baz=8.8								
MVCO	**Mesa Verde**	**8.60**	**276**	P		**Pn**	**15 21 40.9**	**+0.9**
	baz=89								
RSSD	**Black Hills**	**8.71**	**329**	P		**Pn**	**15 21 42.6**	**+1.1**
	baz=145								
RWWY	**Rawlins**	**8.79**	**306**	IAmb_Lg			15 24 30.0		
	comp=Z,175nm,0.9s								
M44A	**Midewin, Midew**	**8.81**	**56**	Pn		**Pn**	**15 21 42.8**	**+0.1**
M44A				IAmb_Lg			15 24 28.7		
	comp=Z,250nm,0.8s								
I40A	**Norwalk**	**8.91**	**35**			**Pn**	**15 21 44.1**	**+0.1**
I40A				IAmb_Lg			15 24 25.7		
	comp=Z,200nm,0.8s								
K22A	**Casper**	**8.91**	**313**	IAmb_Lg			15 24 31.9		
	comp=Z,219nm,0.9s								
TX31	**Lajitas Ar. Si**	**8.97**	**215**	Pn		**Pn**	**15 21 44.4**	**-0.6**
TX32	**Lajitas Array**	**8.97**	**215**			**Pn**	**15 21 44.5**	**-0.5**
TXAR	**Lajitas Array**	**8.97**	**215**	Pn		**Pn**	**15 21 43.6**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=38,slow=11,SNR=25								
TXAR				Lg		Lg	15 24 08.9		
	comp=Z,3.1nm,0.3s,baz=57,slow=14,SNR=3.8 comp=Z,0.9nm,0.3s								
TXAR	**Lajitas Array**	**8.97**	**215**	Pn		**Pn**	**15 21 44.4**	**-0.6**
SFIN	**Lafayette**	**9.06**	**64**	Pn		**Pn**	**15 21 46.6**	**+0.5**
SFIN	**Lafayette**	**9.06**	**64**	P		**Pn**	**15 21 46.1**	**0.0**
	baz=250								
F33A	**5 Mile Ranch,**	**9.07**	**6**			**Pn**	**15 21 45.3**	**-0.9**
BLO	**Bloomington**	**9.17**	**72**			**Pn**	**15 21 47.0**	**-0.6**
SPMN	**Marine on St.**	**9.18**	**22**			**Pn**	**15 21 47.2**	**-0.5**
SPMN	**Marine on St.**	**9.18**	**22**	P		**Pn**	**15 21 47.9**	**+0.2**
	baz=206,SNR=10								
WCI	**Wyandotte Cave**	**9.21**	**78**	Pn		**Pn**	**15 21 48.2**	**0.0**
WCI	**Wyandotte Cave**	**9.21**	**78**	P		**Pn**	**15 21 48.0**	**-0.1**
	baz=265								
L44A	**Lake County Fo**	**9.29**	**52**	IAmb_Lg			15 24 40.8		
	comp=Z,560nm,1.1s								
121A	**Cookes Peak, D**	**9.31**	**246**	P		**Pn**	**15 21 51.0**	**+1.4**
	baz=60								
F36A	**Milaca**	**9.56**	**18**			**Pn**	**15 21 52.0**	**-1.0**
LRAL	**Lakeview Retre**	**9.61**	**110**	P		**Pn**	**15 21 54.7**	**+1.1**
	baz=296								
U49A	**Red Boiling Sp**	**9.63**	**88**			**Pn**	**15 21 54.1**	**+0.3**
SWET	**Sewanee**	**9.71**	**96**			**Pn**	**15 21 55.5**	**+0.5**
I42A	**Draeger Farm,**	**9.75**	**41**	Pn		**Pn**	**15 21 56.3**	**+0.7**
I42A				IAmb_Lg			15 24 45.8		
	comp=Z,178nm,0.8s								
T50A	**Nancy**	**10.34**	**85**			**Pn**	**15 22 03.5**	**-0.2**
O48B	**Farmland**	**10.44**	**67**	P		**Pn**	**15 22 03.9**	**-1.1**
	baz=255								
P49A	**Miami Univ. Ec**	**10.61**	**71**	P		**Pn**	**15 22 06.5**	**-0.8**
	baz=259								
R50A	**Paris**	**10.76**	**78**			**Pn**	**15 22 09.1**	**-0.3**
CPCT	**Cooper Cave**	**10.79**	**93**	Pn		**Pn**	**15 22 09.5**	**-0.3**
PD31	**Pinedale Array**	**10.84**	**307**	Pn		**Pn**	**15 22 11.5**	**+0.8**
PDAR	**Pinedale Array**	**10.84**	**307**	Pn		**Pn**	**15 22 10.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=119,slow=16,SNR=7.7								
PDAR				Lg		Lg	15 25 12.8		
	comp=Z,2.5nm,0.3s,baz=92,slow=31,SNR=3.9 comp=Z,0.5nm,0.3s								
BW06	**Boulder Array**	**10.84**	**307**			**Pn**	**15 22 10.9**	**+0.2**
BW06	**Boulder Array**	**10.84**	**307**	P		**Pn**	**15 22 11.4**	**+0.7**
	baz=119								
O49A	**Covington**	**11.04**	**68**	Pn		**Pn**	**15 22 12.9**	**-0.3**
WUAZ	**Wupatki**	**11.09**	**267**	P		**Pn**	**15 22 15.4**	**+1.4**
	baz=79								
COWI	**Conover**	**11.29**	**32**			**Pn**	**15 22 16.9**	**+0.3**
S51A	**Beattyville**	**11.32**	**82**	Pn		**Pn**	**15 22 17.6**	**+0.5**
N49A	**Columbus Grove**	**11.34**	**65**			**Pn**	**15 22 15.7**	**-1.6**
TKL	**Tuckaleechee C**	**11.35**	**92**	Pn		**Pn**	**15 22 17.2**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=227,slow=5.7,SNR=20								
TKL				Sn		**Sn**	**15 24 21.2**	**-3.1**
	comp=Z,1.2nm,0.3s,baz=215,slow=16,SNR=1.9								
TKL				Lg		Lg	15 25 26.6		
	comp=Z,6.4nm,0.3s,baz=357,slow=22,SNR=9.4 comp=Z,6.4nm,0.4s								
TZTN	**Tazewell**	**11.41**	**87**	P		**Pn**	**15 22 19.0**	**+0.7**
	baz=276								
AGMN	**Agassiz Nation**	**11.54**	**6**	Pn		**Pn**	**15 22 17.6**	**-2.5**
AGMN	**Agassiz Nation**	**11.54**	**6**	P		**Pn**	**15 22 18.0**	**-2.1**
	baz=188,SNR=10								
LAO	**LASA Array**	**11.70**	**330**	P		**Pn**	**15 22 23.3**	**+1.1**
	baz=144								
B35A	**Bob, Littlefor**	**11.90**	**13**	Pn		**Pn**	**15 22 22.1**	**-2.8**
RLMT	**Red Lodge**	**12.00**	**317**	P		**Pn**	**15 22 26.5**	**-0.1**
	baz=130								
EYMN	**Ely**	**12.03**	**21**	Pn		**Pn**	**15 22 24.0**	**-2.7**
EYMN	**Ely**	**12.03**	**21**	P		**Pn**	**15 22 24.6**	**-2.1**
	baz=205,SNR=6.5								
ACSO	**Alum Creek Sta**	**12.06**	**69**	P		**Pn**	**15 22 25.1**	**-2.0**
	baz=258,SNR=6.7								
AAM	**Ann Arbor**	**12.17**	**59**	P		**Pn**	**15 22 29.7**	**+1.1**
	baz=248								
D41A	**Chassel**	**12.29**	**31**	Pn		**Pn**	**15 22 28.5**	**-1.8**
E43A	**Lone Tree Farm**	**12.47**	**37**	Pn		**Pn**	**15 22 31.2**	**-1.5**
DGMT	**Dagmar**	**12.55**	**340**	P		**Pn**	**15 22 32.4**	**-1.5**
	baz=156,SNR=5.7								
P52A	**Corning**	**12.60**	**72**	P		**Pn**	**15 22 33.4**	**-1.1**
	baz=262								
R53A	**Hurricane**	**12.63**	**78**	Pn		**Pn**	**15 22 33.5**	**-1.4**
S54A	**Dingess, Beckl**	**13.13**	**81**			**Pn**	**15 22 40.9**	**-0.9**
P53A	**Whipple**	**13.15**	**73**	Pn		**Pn**	**15 22 40.3**	**-1.8**
O53A	**New Philadelph**	**13.39**	**70**	Pn		**Pn**	**15 22 43.2**	**-2.1**
O53A	**New Philadelph**	**13.39**	**70**	P		**Pn**	**15 22 43.8**	**-1.6**
	baz=260								
KMSC	**Kings Mountain**	**13.41**	**92**	P		**Pn**	**15 22 44.0**	**-1.5**
	baz=282								
ULM	**Lac du Bonnet**	**13.48**	**5**	Pn		Pn	15 22 41.9	-4.6
	comp=Z,1.6nm,0.3s,baz=190,slow=12,SNR=9.2								
ULM				Sn		Sn	15 25 06.7	-10	
	comp=Z,2.6nm,0.3s,baz=270,slow=19,SNR=3.0								
ULM				Lg		Lg	15 26 35.9		
	comp=Z,2.9nm,0.3s,baz=100,slow=18,SNR=2.3 comp=Z,4.8nm,0.4s								
Q54A	**Coxs Mills**	**13.54**	**76**			**Pn**	**15 22 45.0**	**-2.3**
E46A	**Sault Ste Mari**	**13.84**	**42**	Pn		**Pn**	**15 22 48.0**	**-3.4**
BLA	**Blacksburg**	**13.86**	**83**	P		**Pn**	**15 22 50.5**	**-1.3**
	baz=274								
EGMT	**Eagleton

ZALV **Zalesovo Beam** 16.72 23 Pn Pn 15 29 14.1 -1.7
0.1nm,0.3s,baz=223,slow=9.7,SNR=1.6
ZALV Lg Lg 15 34 14.9
0.1nm,0.3s,baz=217,slow=24,SNR=2.2
0.3nm,0.3s
FINES **FINESS Array B** 36.91 324 P P 15 32 31.9 +1.7
0.9nm,0.8s,baz=111,slow=6.1,SNR=1.6
0.9nm,0.8s

---

*IDC **25** 15:25:46.5±2.3, 18°.86S×175°.46W, h176km, 20km, mb4.1/19, mbtmp4.6/22, Error ellipse: s-maj=15.4km s-min=10.6km az=139.0*
*NEIC **25** 15:25:47.2±1.9, 18°.90S±0°.09×175°.43W±0°.08, h183km±7km, mb4.7/63, Error ellipse: s-maj=12.7km s-min=11.0km az=170.0*
*NOU **25** 15:25:51.2, 18°.88S×175°.18W, h240km, mb4.8/65, Tonga Islands*
ISC 25 15:25:52.0±0.3, **19°.08S**±0°.06×**175°.37W**±0°.05, **h231**km, **n414**, σ1°.**18**/412, **mb4.6**/63, **9C-7D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.38**	**284**	P		**Pn**		**15 26 48.4**	**+0.8**
TAVE	**Taveuni**	**4.93**	**298**	P		**Pn**		**15 27 06.3**	**0.0**
NIUE	**Niue**	**5.14**	**91**	Pn		**Pn**		**15 27 06.6**	**-2.4**
NIUE				Sn		**S**		**15 28 04.3**	**-5.7**
NIUE	**Niue**	**5.14**	**91**	P		**Pn**		**15 27 07.1**	**-1.9**
DGTI	**Dogotuki**	**5.43**	**300**	P		**Pn**		**15 27 11.9**	**-0.7**
AFI	**Afiamalu**	**6.19**	**34**	P		Pn		15 27 14.8	-7.5
	77nm,0.3s,baz=168,slow=4.1,SNR=76								
AFI				S		S		15 28 18.2	-16
	446nm,0.3s,baz=298,slow=21,SNR=10								
AFI	**Afiamalu**	**6.19**	**34**	P		Pn		15 27 16.1	-6.2
MSVF	**Nonsavu**	**6.39**	**281**	P		**Pn**		**15 27 25.6**	**+0.7**
	92nm,0.7s,baz=116,slow=10,SNR=162								
MSVF	**Nonsavu**	**6.39**	**281**	Pn		**Pn**		**15 27 24.8**	**-0.1**
MSVF	**Nonsavu**	**6.39**	**281**	P		**Pn**		**15 27 26.0**	**+1.1**
RAR	**Rarotonga**	**14.80**	**101**	P		**Pn**		**15 29 09.2**	**-1.3**
	35nm,1.0s,baz=270,slow=13,SNR=1.7								
RAR	**Rarotonga**	**14.80**	**101**	Pn		P		15 29 19.5	+8.7
RTV	**Rentapao**	**15.44**	**272**	P		**Pn**		**15 29 19.9**	**+1.6**
DVP	**Devils Point**	**15.67**	**272**	P		**Pn**		**15 29 22.1**	**+1.1**
MARNC	**Mare, Loyalty**	**15.76**	**258**	P		**P**		**15 29 21.6**	**+0.3**
LIFNC	**LIFOU**	**16.44**	**261**	P		**P**		**15 29 28.2**	**-0.6**
LIFNC	**LIFOU**	**16.44**	**261**	P		**Pn**		**15 29 31.8**	**+1.6**
YATNC	**Mamie plateau,**	**16.88**	**257**	P		**Pn**		**15 29 35.1**	**-0.3**
OUENC	**Ouen Island, N**	**16.97**	**256**	P		**Pn**		**15 29 35.6**	**-0.8**
OUENC	**Ouen Island, N**	**16.97**	**256**	P		**Pn**		**15 29 36.2**	**-0.2**
DZM	**Mont Dzumac**	**17.29**	**257**	P		**P**		**15 29 37.7**	**-0.6**
	31nm,0.9s,baz=82,slow=16,SNR=32								
DZM	**Mont Dzumac**	**17.29**	**257**	P		**Pn**		**15 29 39.5**	**-0.8**
DZM				IAmb		IAmb		15 29 42.5	
	comp=Z,41nm,0.9s								
DZM	**Mont Dzumac**	**17.29**	**257**	P		**Pn**		**15 29 41.1**	**+0.8**
ONTNC	**Ouen Toro**	**17.31**	**256**	P		**Pn**		**15 29 39.4**	**-1.0**
ONTNC				IAmb		IAmb		15 29 46.2	
	comp=Z,33nm,0.8s								
OUZ	**Omahuta**	**18.81**	**209**	P		**P**		**15 29 55.8**	**+1.3**
KOUNC	**Koumac, New Ca**	**19.20**	**262**	P		**P**		**15 29 57.9**	**-0.9**
KOUNC				IAmb		IAmb		15 30 05.2	
	comp=Z,50nm,1.0s								
KOUNC	**Koumac, New Ca**	**19.20**	**262**	P		**P**		**15 30 00.1**	**+1.3**
KUZ	**Kuaotunu**	**19.26**	**202**	P		**Pn**		**15 30 01.9**	**-1.3**
WMGZ	**Waiomatatini S**	**19.44**	**195**	P		**Pn**		**15 30 04.5**	**-0.8**
HAZ	**Te Kaha**	**19.54**	**196**	P		**P**		**15 30 04.1**	**+1.9**
PKGZ	**Pakihiroa**	**19.59**	**196**	P		**Pn**		**15 30 05.4**	**-1.8**
PUZ	**Puketiti**	**19.72**	**195**	P		**Pn**		**15 30 08.9**	**+0.2**
RUGZ	**Raukumara Rang**	**19.77**	**196**	P		**Pn**		**15 30 07.4**	**-2.0**
TWGZ	**Tauwhareparae**	**19.89**	**196**	P		**Pn**		**15 30 09.0**	**-1.7**
TGRZ	**Tauranga**	**19.96**	**200**	P		**Pn**		**15 30 09.9**	**-1.6**
OPRZ	**Ohinepanea**	**19.98**	**199**	P		**P**		**15 30 09.2**	**+2.3**
URZ	**Urewera**	**20.20**	**197**	P		**P**		**15 30 09.8**	**+0.5**
URZ	**Urewera**	**20.20**	**197**	P		**P**		**15 30 10.0**	**+0.7**
OMRZ	**Omania**	**20.28**	**199**	P		Pn		15 30 13.3	-2.1
MUGZ	**Murupara**	**20.50**	**198**	P		**P**		**15 30 13.4**	**+0.9**
RTZ	**Ruatahuna**	**20.57**	**197**	P		**P**		**15 30 12.7**	**-0.6**
HIZ	**Hauiti**	**21.14**	**202**	P		**P**		**15 30 22.1**	**+2.9**
TCW	**Tory Channel**	**23.77**	**200**	P		**P**		**15 30 44.2**	**+0.7**
QRZ	**Quartz Range**	**24.02**	**203**	P		**P**		**15 30 49.0**	**+3.1**
QRZ	**Quartz Range**	**24.02**	**203**	P		**P**		**15 30 48.8**	**+2.9**
TKNZ	**Takaka Hill**	**24.05**	**202**	P		**P**		**15 30 48.5**	**+2.3**
TUWZ	**Tuamarina**	**24.07**	**200**	P		**P**		**15 30 45.5**	**-0.8**
CMWZ	**Cape Campbell**	**24.27**	**199**	P		P		15 31 01.7	+14
MRNZ	**Matariki Terra**	**24.45**	**202**	P		**P**		**15 30 49.5**	**-0.2**
MRNZ	**Matariki Terra**	**24.45**	**202**	P		**P**		**15 30 51.3**	**+1.6**
THZ	**Tophouse**	**24.71**	**201**	P		**P**		**15 30 53.7**	**+1.5**
GVZ	**Greta Valley S**	**25.75**	**200**	P		**P**		**15 31 05.5**	**+4.1**
LTZ	**Lake Taylor**	**25.84**	**201**	P		**P**		**15 31 00.8**	**-1.4**
LTZ	**Lake Taylor**	**25.84**	**201**	P		**P**		**15 31 02.1**	**-0.1**
AMCZ	**Amberley**	**26.06**	**200**	P		**P**		**15 31 10.4**	**+6.3**
INZ	**Inchbonnie**	**26.08**	**202**	P		**P**		**15 31 04.2**	**-0.1**
OXZ	**Oxford**	**26.40**	**201**	P		**P**		**15 31 07.1**	**-0.1**
OXZ	**Oxford**	**26.40**	**201**	P		**P**		**15 31 08.0**	**+0.8**
WVZ	**Waitaha Valley**	**26.64**	**203**	P		**P**		**15 31 09.7**	**+0.3**
RPZ	**Rata Peaks**	**27.08**	**202**	P		**P**		**15 31 14.2**	**+0.9**
	comp=Z,16nm,0.7s,baz=68,slow=16,SNR=2.8								
	comp=Z,16nm,0.7s								
RPZ	**Rata Peaks**	**27.08**	**202**	P		**P**		**15 31 13.4**	**+0.1**
RPZ	**Rata Peaks**	**27.08**	**202**	P		**P**		**15 31 14.2**	**+0.9**
RPZ	**Rata Peaks**	**27.08**	**202**	P		**P**		**15 31 16.4**	**+3.1**
JCZ	**Jackson Bay**	**28.23**	**205**	P		**P**		**15 31 24.0**	**+0.4**
EIDS	**Eidsvold**	**31.63**	**252**	P		**P**		**15 31 52.5**	**-1.1**
EIDS				IAmb		IAmb		15 31 55.6	
	comp=Z,20nm,0.8s								
EIDS	**Eidsvold**	**31.63**	**252**	P		**P**		**15 31 54.2**	**+0.6**
ARMA	**Armidale**	**31.91**	**243**	P		**P**		**15 31 55.4**	**-0.9**
ARMA				IAmb		IAmb		15 32 00.1	
	comp=Z,14nm,0.7s								
ARMA	**Armidale**	**31.91**	**243**	P		**P**		**15 31 56.9**	**+0.7**
RK1H	**Rockhampton Ha**	**32.06**	**256**	P		**P**		**15 31 57.0**	**-0.5**
RMQ	**Roma**	**33.80**	**251**	P		**P**		**15 32 12.6**	**+0.1**
CNB	**Canberra Magne**	**35.07**	**235**	P		**P**		**15 32 23.3**	**0.0**
CAN	**Canberra**	**35.35**	**235**	P		**P**		**15 32 25.0**	**-0.7**
CAN				IAmb		IAmb		15 32 28.7	
	comp=Z,21nm,1.1s								
TV1H	**Townsville Har**	**35.69**	**263**	P		**P**		**15 32 29.2**	**+0.5**
	comp=Z,18nm,0.7s								
JOHN	**Johnston Islan**	**36.05**	**10**	P		**P**		**15 32 30.1**	**-1.6**
CTA	**Charters Tower**	**36.12**	**262**	P		**P**		**15 32 31.5**	**-0.9**
CMSA	**Cobar Meteorol**	**37.13**	**243**	P		**P**		**15 32 40.3**	**-0.5**
PMG	**Port Moresby**	**37.50**	**280**	P		**P**		**15 32 43.2**	**-0.8**
	comp=Z,37nm,0.9s,baz=101,slow=2.5,SNR=11								
	comp=Z,37nm,0.9s								
PMG	**Port Moresby**	**37.50**	**280**	P		**P**		**15 32 42.8**	**-1.2**
PMG	**Port Moresby**	**37.50**	**280**	P		**P**		**15 32 43.9**	**-0.1**
PMG	**Port Moresby**	**37.50**	**280**	P		**P**		**15 32 43.7**	**-0.3**
QLP	**Quilpie**	**37.85**	**251**	P		**P**		**15 32 46.3**	**-0.6**
MTSU	**Mount Surprise**	**38.16**	**265**	P		**P**		**15 32 48.2**	**-1.4**
TOO	**Toolangi**	**38.73**	**233**	P		**P**		**15 32 53.5**	**-0.5**
TOO				IAmb		IAmb		15 32 58.6	
	comp=Z,27nm,1.3s								
TOO	**Toolangi**	**38.73**	**233**	P		**P**		**15 32 53.8**	**-0.2**
COEN	**Coen**	**40.01**	**271**	P		**P**		**15 33 03.6**	**-1.2**
COEN				IAmb		IAmb		15 33 05.4	
	comp=Z,12nm,0.7s								
COEN	**Coen**	**40.01**	**271**	P		**P**		**15 33 03.7**	**-1.1**
MANU	**Manus Island**	**40.21**	**290**	P		**P**		**15 33 06.0**	**-0.5**
STKA	**Stephens Creek**	**40.64**	**243**	P		**P**		**15 33 09.2**	**-0.6**
	comp=Z,7.3nm,0.8s,baz=90,slow=11,SNR=13								
	comp=Z,7.3nm,0.8s								
STKA	**Stephens Creek**	**40.64**	**243**	P		**P**		**15 33 09.5**	**-0.3**
STKA	**Stephens Creek**	**40.64**	**243**	P		**P**		**15 33 09.6**	**-0.2**
INKA	**Innaminka**	**41.01**	**249**	P		**P**		**15 33 13.3**	**+0.4**
QIS	**Mount Isa**	**42.29**	**260**	P		**P**		**15 33 21.5**	**-1.8**
HTT	**Hallett**	**43.08**	**241**	P		**P**		**15 33 29.5**	**0.0**
LCRK	**Leigh Creek**	**43.37**	**246**	P		**P**		**15 33 31.3**	**-0.6**
BBOO	**Buckleboo**	**45.40**	**242**	P		**P**		**15 33 46.8**	**-1.0**
BBOO				IAmb		IAmb		15 33 50.6	
	comp=Z,38nm,1.4s								
BBOO	**Buckleboo**	**45.40**	**242**	P		**P**		**15 33 47.2**	**-0.6**
OOD	**Oodnadatta**	**45.49**	**250**	P		**P**		**15 33 48.9**	**+0.3**
MULG	**Mulgathing**	**46.95**	**246**	P		**P**		**15 33 59.0**	**-1.0**
WR0	**Warramunga Arr**	**47.08**	**260**	P		**P**		**15 33 59.4**	**-1.7**
AS01	**Alice Springs**	**47.23**	**255**	P		**P**		**15 34 01.2**	**-1.0**
WB0	**Warramunga Arr**	**47.24**	**260**	P		**P**		**15 34 00.5**	**-1.8**
WB0				IAmb		IAmb		15 34 02.6	
	comp=Z,24nm,0.9s								
WB2	**Warramunga Arr**	**47.26**	**260**	P		**P**		**15 34 00.3**	**-2.1**
WB2				IAmb		IAmb		15 34 03.4	
	comp=Z,51nm,1.4s								
WB2				PcP		**PcP**		**15 35 30.1**	**+0.3**
WRAB	**Tennant Creek**	**47.26**	**260**	P		**P**		**15 34 00.8**	**-1.7**
WRAB				IAmb		IAmb		15 34 02.7	
	comp=Z,18nm,0.8s								
WRAB	**Tennant Creek**	**47.26**	**260**	P		**P**		**15 34 01.0**	**-1.5**
AS31	**Alice Springs**	**47.27**	**255**	P		**P**		**15 34 01.4**	**-1.1**
ASAR	**Alice Springs**	**47.27**	**255**	P		**P**		**15 34 01.4**	**-1.2**
	comp=Z,31nm,0.7s,baz=89,slow=7.9,SNR=194								
ASAR				PcP		**PcP**		**15 35 29.9**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=103,slow=4.1,SNR=8.8								
ASAR				S		**S**		**15 40 33.6**	**-4.6**
	comp=Z,1.4nm,0.7s,baz=94,slow=15,SNR=11								
	comp=Z,31nm,0.7s								
ASAR	**Alice Springs**	**47.27**	**255**	P		**P**		**15 34 00.8**	**-1.8**
ASAR				PcP		**PcP**		**15 35 30.0**	**+0.1**
WRA	**Warramunga Arr**	**47.27**	**260**	P		**P**		**15 34 00.5**	**-2.1**
	comp=Z,10nm,0.3s,baz=98,slow=6.0,SNR=385								
WRA				PcP		**PcP**		**15 35 29.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=91,slow=3.8,SNR=4.8								
WRA				S		**S**		**15 40 32.0**	**-6.2**
	comp=Z,0.7nm,0.8s,baz=96,slow=15,SNR=2.4								
	comp=Z,10nm,0.3s								
WRA	**Warramunga Arr**	**47.27**	**260**	P		**P**		**15 33 59.7**	**-2.9**
WRA				PcP		**PcP**		**15 35 30.1**	**+0.2**
KDU	**Kakadu**	**50.43**	**269**	P		**P**		**15 34 25.1**	**-1.4**
MTN	**Manton Dam**	**51.66**	**269**	P		**P**		**15 34 33.9**	**-1.8**
MTN				IAmb		IAmb		15 34 36.2	
	comp=Z,16nm,0.9s								
MTN	**Manton Dam**	**51.66**	**269**	P		**P**		**15 34 34.3**	**-1.4**
FORT	**Forrest**	**52.13**	**245**	P		**P**		**15 34 37.5**	**-1.5**
FORT				IAmb		IAmb		15 34 39.5	
	comp=Z,30nm,0.8s								
FORT	**Forrest**	**52.13**	**245**	P		**P**		**15 34 38.1**	**-0.9**
WRKA	**Warakurna**	**52.24**	**253**	P		**P**		**15 34 38.9**	**-1.1**
KNRA	**Kununurra**	**53.25**	**264**	P		**P**		**15 34 45.9**	**-1.4**
KNRA	**Kununurra**	**53.25**	**264**	P		**P**		**15 34 46.2**	**-1.1**
FAKI	**Fak Fak**	**53.64**	**281**	P		**P**		**15 34 48.5**	**-1.7**
LBMI	**Labuha**	**58.88**	**281**	P		**P**		**15 35 27.0**	**-0.2**
	comp=Z,28nm,1.2s								
SOEI	**Soe**	**58.96**	**270**	P		**P**		**15 35 27.7**	**-0.2**
SOEI	**Soe**	**58.96**	**270**	P		**P**		**15 35 28.6**	**+0.7**
SBA	**Scott Base**	**59.45**	**184**	P		**P**		**15 35 29.5**	**-0.5**
VNDA	**Vanda**	**59.54**	**186**	P		**P**		**15 35 33.0**	**+2.4**
	comp=Z,3.1nm,0.7s,baz=0.6,slow=7.6,SNR=26								
	comp=Z,3.1nm,0.7s								
VNDA	**Vanda**	**59.54**	**186**	P		**P**		**15 35 33.1**	**+2.4**
SANI	**Sanana**	**59.78**	**279**	P		**P**		**15 35 30.5**	**-2.9**
	comp=Z,18nm,1.1s								
PSA00	**Pilbara Seismi**	**60.41**	**256**	P		**P**		**15 35 35.1**	**-2.5**
PSA00				IAmb		IAmb		15 35 38.0	
	comp=Z,18nm,0.9s								
MBWA	**Marble Bar**	**60.59**	**256**	P		**P**		**15 35 36.5**	**-2.3**
MBWA				IAmb		IAmb		15 35 39.3	
	comp=Z,16nm,1.1s								
MBWA	**Marble Bar**	**60.59**	**256**	P		**P**		**15 35 37.5**	**-1.3**
MEEK	**Meekatharra**	**60.73**	**250**	P		**P**		**15 35 38.5**	**-1.2**
KLBR	**Kellerberrin**	**60.90**	**244**	P		**P**		**15 35 39.9**	**-0.8**
NWAO	**Narrogin (SRO)**	**61.22**	**242**	P		**P**		**15 35 41.8**	**-1.0**
NWAO				IAmb		IAmb		15 36 16.8	
	comp=Z,40nm,1.4s								
BLDU	**Ballidu**	**61.90**	**245**	P		**P**		**15 35 46.9**	**-0.5**
MUN	**Mundaring**	**62.17**	**243**	P		**P**		**15 35 48.9**	**-0.3**
MORW	**Morawa**	**62.66**	**247**	P		**P**		**15 35 51.4**	**-1.1**
MORW				IAmb		IAmb		15 35 54.0	
	comp=Z,22nm,1.4s								
MORW	**Morawa**	**62.66**	**247**	P		**P**		**15 35 51.6**	**-0.9**
LUWI	**Luwuk**	**63.14**	**279**	P		**P**		**15 35 56.2**	**+0.4**
	comp=Z,3µmcomp=Z,27nm,1.2s								
GTOI	**Gorontalo**	**63.52**	**281**	P		**P**		**15 35 57.4**	**-0.9**
	comp=Z,6.8nm,1.2s								
GIRL	**Giralia**	**65.33**	**253**	P		**P**		**15 36 09.9**	**+0.1**
GIRL	**Giralia**	**65.33**	**253**	P		**P**		**15 36 10.2**	**+0.3**
PLAI	**Plampang**	**65.36**	**269**	P		**P**		**15 36 10.5**	**+0.3**
CASY	**Casey**	**66.29**	**205**	P		**P**		**15 36 16.3**	**+1.1**
CASY				IAmb		IAmb		15 36 18.1	
	comp=Z,18nm,1.0s								
MJAR	**Matsushiro Arr**	**70.59**	**322**	P		**P**		**15 36 40.4**	**-1.9**
	comp=Z,5.0nm,0.7s,baz=153,slow=6.6,SNR=5.6								
	comp=Z,5.0nm,0.7s								
MAJO	**Matsushiro**	**70.59**	**322**	P		**P**		**15 36 40.4**	**-1.8**
MAJO				IAmb		IAmb		15 36 42.9	
	comp=Z,17nm,1.2s								
MJB9	**Matsu-Tunnel**	**70.60**	**322**	P		**P**		**15 36 41.1**	**-1.2**
MJB9				IAmb		IAmb		15 36 43.9	
	comp=Z,16nm,1.2s								
QSPA	**South Pole Qui**	**70.98**	**180**	P		**P**		**15 36 46.0**	**+1.6**
QSPA				IAmb		IAmb		15 36 47.4	
	comp=Z,9.3nm,0.8s								
JMN	**Monobe**	**71.40**	**317**	P		**P**		**15 36 46.8**	**-0.4**
JMN				IAmb		IAmb		15 36 49.6	
	comp=Z,43nm,1.2s								
NIKH	**Nikolski High**	**71.97**	**4**	P		**P**		**15 36 51.2**	**+1.1**
	baz=187								
JSU	**Suzuyama**	**72.32**	**313**	P		**P**		**15 36 51.0**	**-1.7**
JHS	**Saijyo**	**72.69**	**318**	P		**P**		**15 36 55.1**	**+0.3**
JHS	**Saijyo**	**72.69**	**318**	P		**P**		**15 36 55.4**	**+0.6**
UNV	**Unalaska Valle**	**73.03**	**5**	P		**P**		**15 36 57.3**	**+1.0**
	baz=189								
UNV	**Unalaska Valle**	**73.03**	**5**	P		**P**		**15 36 56.1**	**-0.2**
SNCC	**San Nicolas Is**	**74.48**	**46**	P		**P**		**15 37 05.4**	**+0.2**
	baz=234								
JTU	**Tsushima**	**74.82**	**315**	P		**P**		**15 37 06.1**	**-1.0**
JTU	**Tsushima**	**74.82**	**315**	P		**P**		**15 37 06.9**	**-0.2**
SDPT	**Sand Point**	**75.21**	**9**	P		**P**		**15 37 09.6**	**+0.8**
	baz=195								
PKM	**Mcpherson Peak**	**75.24**	**45**	P		**P**		**15 37 10.5**	**+0.7**
	baz=234								
CIS	**Catalina Islan**	**75.32**	**46**	P		**P**		**15 37 10.9**	**+0.9**
	baz=235								
PETK	**Petropavlovsk-**	**75.58**	**344**	P		**P**		**15 37 10.1**	**-1.0**
	comp=Z,4.6nm,0.9s,baz=144,slow=8.5,SNR=5.7								
	comp=Z,4.6nm,0.9s								
VES	**Vestal, Richgr**	**76.28**	**44**	P		**P**		**15 37 16.4**	**+1.0**
	baz=234								
BFSC	**Mount Baldy Ra**	**76.32**	**46**	P		**P**		**15 37 16.5**	**+0.6**
	baz=236								
MONP2	**Monument Peak**	**76.42**	**48**	P		**P**		**15 37 17.3**	**+0.7**
	baz=237								
EDW2	**Edwards Air Fo**	**76.46**	**45**	P		**P**		**15 37 17.1**	**+0.6**
	baz=235,SNR=5.4								
IKP	**In-Ko-Pah, Jac**	**76.51**	**48**	P		**P**		**15 37 18.3**	**+1.5**
	baz=237								
ISA	**Isabella, Lake**	**76.58**	**45**	P		**P**		**15 37 18.6**	**+1.4**
	baz=235								
LRMC	**Laurel Mtn Rad**	**77.01**	**45**	P		**P**		**15 37 21.0**	**+1.3**
	baz=235								
CWC	**Cottonwood Cre**	**77.29**	**44**	P		**P**		**15 37 22.8**	**+1.6**
	baz=235								
BELC	**Belle Mtn. Jos**	**77.33**	**47**	P		**P**		**15 37 22.4**	**+1.0**
	baz=237								
MPMC	**Manual Prospec**	**77.47**	**45**	P		**P**		**15 37 23.4**	**+1.1**
	baz=235,SNR=6.5								
GSC	**Goldstone, Bar**	**77.50**	**46**	P		**P**		**15 37 23.4**	**+1.1**
	baz=236								
KSRS	**Korea Array**	**77.51**	**317**	P		**P**		**15 37 23.1**	**+1.0**
	comp=Z,6.3nm,1.0s,baz=140,slow=5.8,SNR=15								
	comp=Z,6.3nm,1.0s								
BC3	**Big Chuckawall**	**77.52**	**48**	P		**P**		**15 37 23.7**	**+1.2**
	baz=237								
HEC	**Hector,Ludlow**	**77.55**	**46**	P		**P**		**15 37 23.8**	**+1.2**
	baz=236								
R16K	**Pilot Point**	**77.79**	**10**	P		**P**		**15 37 24.7**	**+1.5**
	baz=197								
GMRC	**Granite Mounta**	**77.99**	**47**	P		**P**		**15 37 25.9**	**+0.8**
	baz=237								
IRM	**Iron Mountain**	**78.00**	**47**	P		**P**		**15 37 26.1**	**+1.0**
	baz=237								
GRAC	**Grapevine Rang**	**78.08**	**44**	P		**P**		**15 37 26.8**	**+1.4**
	baz=235								
FURC	**Furnace Creek,**	**78.11**	**45**	P		**P**		**15 37 27.2**	**+1.7**
	baz=236								
TUQ	**Turquoise Moun**	**78.17**	**46**	P		**P**		**15 37 27.5**	**+1.5**
	baz=236								
NVAR	**Mina Array Bea**	**78.31**	**42**	P		**P**		**15 37 27.5**	**+0.7**
	comp=Z,5.5nm,0.9s,baz=228,slow=9.0,SNR=22								
	comp=Z,5.5nm,0.9s								
NVAR	**Mina Array Bea**	**78.31**	**42**	P		**P**		**15 37 27.1**	**+0.2**
WCT	**Wildcat Mounta**	**78.45**	**44**	P		**P**		**15 37 26.6**	**-1.0**
214A	**Organ Pipe Nat**	**78.50**	**50**	P		**P**		**15 37 29.8**	**+2.0**
	baz=239								
Q17K	**Contact Creek**	**78.73**	**10**	P		**P**		**15 37 29.2**	**+0.6**
	baz=199								
PDMCI	**Parker Dam,Lak**	**78.78**	**48**	P		**P**		**15 37 30.2**	**+0.9**
	baz=238								
TPNV	**Topopah Spring**	**78.79**	**44**	P		**P**		**15 37 29.3**	**-0.2**
TPNV	**Topopah Spring**	**78.79**	**44**	P		**P**		**15 37 30.5**	**+1.0**
	baz=236								
TPH	**Tonopah**	**78.79**	**43**	P		**P**		**15 37 29.0**	**-0.5**
TPH				IAmb		IAmb		15 37 31.5	
	comp=Z,24nm,1.0s								
P16K	**Nushagak River**	**79.13**	**9**	P		**P**		**15 37 29.3**	**-1.2**
	baz=197								
USRK	**Ussuriysk Ar.**	**79.23**	**324**	P		**P**		**15 37 33.2**	**+1.8**
	comp=Z,3.4nm,1.0s,baz=49,slow=5.8,SNR=4.4								
Q18K	**Katmai Hardscr**	**79.25**	**11**	P		**P**		**15 37 31.2**	**-0.2**
	baz=200								
P17K	**Kvichak River**	**79.53**	**10**	P		**P**		**15 37 32.8**	**+0.1**
	baz=198								
Q20K	**Shuyak Island**	**79.70**	**12**	P		**P**		**15 37 34.5**	**+0.9**
	baz=202								
Q19K	**Cape Douglas,**	**79.76**	**11**	P		**P**		**15 37 35.1**	**+1.1**
	baz=201								
P18K	**Big Mountain,**	**79.92**	**10**	P		**P**		**15 37 35.3**	**+0.5**
	baz=199								
O17K	**Koliganek Bris**	**79.98**	**9**	P		**P**		**15 37 36.0**	**+0.9**
	baz=198								
R11A	**Troy Canyon, C**	**80.01**	**44**	P		**P**		**15 37 36.8**	**+0.8**
	baz=236								
TUC	**Tucson**	**80.16**	**51**	P		**P**		**15 37 38.3**	**+1.4**
	baz=240								
O18K	**Koktuh Hills**	**80.36**	**10**	P		**P**		**15 37 37.8**	**+0.6**
	baz=199								
N16K	**Nishlik Lake**	**80.41**	**8**	P		**P**		**15 37 38.4**	**+1.0**
	baz=196								
BELA	**Belgrano 2**	**80.63**	**172**	P		**P**		**15 37 39.4**	**+0.9**
HOM	**Homer**	**80.82**	**12**	P		**P**		**15 37 39.6**	**0.0**
	baz=203								
O19K	**Port Alsworth**	**80.83**	**10**	P		**P**		**15 37 39.5**	**-0.1**
	baz=200								
NJ2	**Nanjing**	**80.92**	**308**	*eP*		**P**		**15 37 44.3**	**+3.5**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
N18K	**Kilae Creek**	**81.03**	**10**	P		**P**		**15 37 40.7**	**0.0**
	baz=199								
BRSE	**Bradley Lake S**	**81.08**	**12**	P		**P**		**15 37 41.4**	**+0.4**
	baz=204								
WUAZ	**Wupatki**	**81.35**	**48**	P		**P**		**15 37 43.7**	**+0.5**
	baz=239								
N19K	**Bonanza Creek**	**81.38**	**10**	P		**P**		**15 37 42.4**	**-0.2**
	baz=200								
CAPN	**Captain Cook N**	**81.94**	**12**	P		**P**		**15 37 47.4**	**+2.0**
	baz=203								
N20K	**Mount Spurr**	**82.14**	**11**	P		**P**		**15 37 46.9**	**+0.3**
	baz=202								
SPCR	**Spurr Chakacha**	**82.14**	**11**	P		**P**		**15 37 46.6**	**0.0**
	baz=202								
M19K	**Big River Lodg**	**82.43**	**10**	P		**P**		**15 37 48.0**	**+0.1**
	baz=200								
CRAG	**Craig**	**82.44**	**23**	P		**P**		**15 37 49.0**	**+0.9**
	baz=220								
121A	**

	baz=222								
YUK8	**Steele Glacier**	**85.02**	**16**	P	**P**	**15 38 01.6**	**+0.2**		
	baz=214								
BPAW	**Bear Paw Mtn.**	**85.05**	**10**	P	**P**	**15 38 02.3**	**+1.1**		
	baz=203								
MCK	**McKinley**	**85.08**	**11**	P	**P**	**15 37 59.9**	**-1.4**		
MCK				IAmb	IAmb	15 38 02.4			
	comp=Z,18nm,0.9s								
MCK	**McKinley**	**85.08**	**11**	P	**P**	**15 38 01.0**	**-0.4**		
	baz=205,SNR=11								
PAX	**Paxson**	**85.10**	**13**	P	**P**	**15 38 00.8**	**-0.7**		
	baz=208								
M26K	**Nabesna, AK**	**85.16**	**14**	P	**P**	**15 38 02.0**	**+0.2**		
	baz=211								
YUK3	**Moose Creek**	**85.25**	**16**	P	**P**	**15 38 03.0**	**+0.5**		
	baz=213,SNR=6.0								
HYT	**Haines Junctio**	**85.27**	**18**	P	**P**	**15 38 02.3**	**-0.2**		
	baz=216								
YUK4	**Talbot Arm**	**85.37**	**17**	P	**P**	**15 38 03.6**	**+0.5**		
	baz=215								
M27K	**Edge Creek, AK**	**85.39**	**15**	P	**P**	**15 38 03.7**	**+0.6**		
	baz=212								
Q32M	**Nakina River**	**85.42**	**21**	P	**P**	**15 38 04.2**	**+0.8**		
	baz=220								
P32M	**Atlin**	**85.43**	**20**	P	**P**	**15 38 03.9**	**+0.7**		
	baz=219								
L26K	**Log Cabin Wild**	**85.62**	**14**	P	**P**	**15 38 04.1**	**0.0**		
L26K				IAmb	IAmb	15 38 05.8			
	comp=Z,12nm,1.2s								
L26K	**Log Cabin Wild**	**85.62**	**14**	P	**P**	**15 38 04.7**	**+0.6**		
	baz=210,SNR=5.8								
S22A	**4UR Ranch, Cre**	**85.63**	**48**	P	**P**	**15 38 05.8**	**+0.8**		
	baz=242								
O30N	**Mendenhall**	**85.63**	**18**	P	**P**	**15 38 04.9**	**+0.7**		
	baz=217								
BVCY	**Beaver Creek**	**85.69**	**15**	P	**P**	**15 38 05.2**	**+0.8**		
	baz=213								
K24K	**Donnelly Dome**	**85.77**	**13**	P	**P**	**15 38 05.3**	**+0.6**		
	baz=208,SNR=5.8								
DLBC	**Dease Lake**	**85.80**	**22**	P	**P**	**15 38 04.2**	**-0.9**		
	comp=Z,2.6nm,0.8s,baz=194,slow=6.1,SNR=5.6								
	comp=Z,2.6nm,0.8s								
DLBC	**Dease Lake**	**85.80**	**22**	P	**P**	**15 38 05.5**	**+0.4**		
	baz=223								
NEA2	**Nenana**	**85.84**	**11**	P	**P**	**15 38 05.0**	**0.0**		
	baz=205								
I21K	**Tanana**	**85.89**	**10**	P	**P**	**15 38 05.8**	**+0.6**		
	baz=202								
WHY	**Whitehorse**	**85.91**	**19**	P	**P**	**15 38 06.3**	**+0.7**		
	baz=218								
WRH	**Wood River Hil**	**85.91**	**11**	P	**P**	**15 38 04.5**	**-0.9**		
WRH				IAmb	IAmb	15 38 06.5			
	comp=Z,27nm,1.1s								
MLY	**Manley**	**85.95**	**10**	P	**P**	**15 38 05.5**	**-0.1**		
	baz=203,SNR=6.0								
L27K	**Beaver Creek,**	**86.00**	**15**	P	**P**	**15 38 05.1**	**-0.8**		
L27K	**Beaver Creek,**	**86.00**	**15**	P	**P**	**15 38 06.0**	**0.0**		
	baz=212								
HDA	**Harding Lake**	**86.07**	**12**	P	**P**	**15 38 05.4**	**-0.8**		
HDA				IAmb	IAmb	15 38 06.7			
	comp=Z,8.7nm,0.8s								
HDA	**Harding Lake**	**86.07**	**12**	P	**P**	**15 38 06.1**	**-0.1**		
	baz=207,SNR=6.9								
R33M	**Jennings River**	**86.19**	**21**	P	**P**	**15 38 07.7**	**+0.6**		
	baz=222								
P33M	**Teslin, Yukon**	**86.20**	**20**	P	**P**	**15 38 07.4**	**+0.4**		
	baz=220								
H21K	**Melozitna Rive**	**86.20**	**9**	P	**P**	**15 38 05.9**	**-0.9**		
H21K				IAmb	IAmb	15 38 07.9			
	comp=Z,12nm,1.4s								
H21K	**Melozitna Rive**	**86.20**	**9**	P	**P**	**15 38 07.1**	**+0.2**		
	baz=201								
PDAR	**Pinedale Array**	**86.24**	**42**	P	**P**	**15 38 07.1**	**-0.8**		
	comp=Z,0.3nm,0.5s,baz=184,slow=3.2,SNR=4.7								
	comp=Z,0.3nm,0.5s								
I23K	**Minto, Yukon-K**	**86.29**	**11**	P	**P**	**15 38 07.2**	**0.0**		
	baz=205								
N31M	**Braeburn, Yuko**	**86.30**	**18**	P	**P**	**15 38 07.9**	**+0.5**		
	baz=217								
SCRK	**Sand Creek**	**86.30**	**13**	P	**P**	**15 38 07.9**	**+0.4**		
	baz=210								
TCOL	**CIGO, UAF Yank**	**86.32**	**11**	P	**P**	**15 38 06.8**	**-0.6**		
	baz=206,SNR=5.5								
COLA	**College**	**86.32**	**11**	P	**P**	**15 38 06.8**	**-0.6**		
	baz=206								
M29M	**Somme Creek**	**86.33**	**16**	P	**P**	**15 38 07.6**	**-0.1**		
	baz=215								
ILAR	**Eielson Array**	**86.41**	**12**	P	**P**	**15 38 06.3**	**-1.5**		
	comp=Z,5.4nm,1.0s,baz=206,slow=5.1,SNR=25								
	comp=Z,5.4nm,1.0s								
BOZ	**Bozeman (W)**	**86.42**	**39**	P	**P**	**15 38 08.9**	**+0.4**		
	baz=238								
HNS	**HongShan**	**86.45**	**311**	⇑P	**P**	**15 38 10.3**	**+1.7**		
HNS				pmax	pmax				
	comp=Z,17nm,1.2s								
SDCO	**Great Sand Dun**	**86.56**	**48**	P	**P**	**15 38 10.2**	**+0.6**		
	baz=243								
POKR	**Poker Plat Res**	**86.62**	**11**	P	**P**	**15 38 09.1**	**+0.2**		
	baz=206								
H22K	**Ishtalitna Cre**	**86.64**	**10**	P	**P**	**15 38 09.5**	**+0.5**		
	baz=203								
BJI	**Beijing**	**86.66**	**314**	P	**P**	**15 38 11.0**	**+1.4**		
BJI				pmax	pmax				
	comp=Z,12nm,1.6s								
N32M	**Quiet Lake**	**86.84**	**19**	P	**P**	**15 38 13.1**	**+3.0**		
	baz=220								
J26L	**Joseph Creek**	**86.85**	**13**	P	**P**	**15 38 11.1**	**+1.0**		
	baz=210								
PSI	**Prapat**	**86.85**	**274**	P	**P**	**15 38 10.9**	**-0.4**		
	comp=Z,1.9nm,0.4s,baz=194,slow=5.9,SNR=5.2								
	comp=Z,1.9nm,0.4s								
MSTX	**Muleshoe**	**86.88**	**53**	P	**P**	**15 38 11.8**	**+0.8**		
	baz=245								
M30M	**Minto, Yukon**	**86.89**	**17**	P	**P**	**15 38 10.1**	**-0.1**		
	baz=216								
G21K	**Allakaket**	**86.91**	**9**	P	**P**	**15 38 11.3**	**+1.1**		
	baz=201								
L29M	**L29M**	**86.97**	**16**	P	**P**	**15 38 11.9**	**+1.3**		
	baz=215								
PRP	**Porcupine Dome**	**87.34**	**12**	P	**P**	**15 38 13.4**	**+0.9**		
	baz=208								
DAWY	**Dawson**	**87.44**	**15**	P	**P**	**15 38 12.1**	**-0.7**		
DAWY	**Dawson**	**87.44**	**15**	P	**P**	**15 38 13.6**	**+0.7**		
	baz=214,SNR=6.3								
EGAK	**Eagle**	**87.62**	**14**	P	**P**	**15 38 15.2**	**+1.6**		
	baz=212,SNR=5.3								
I26K	**Coal Creek Min**	**87.64**	**13**	P	**P**	**15 38 14.8**	**+1.1**		
	baz=210								
K29M	**Barlow Dome**	**87.73**	**16**	P	**P**	**15 38 15.0**	**+0.7**		
	baz=216								
PLCA	**Paso Flores**	**88.42**	**133**	P	**P**	**15 38 19.8**	**+1.5**		
	comp=Z,0.6nm,0.5s,baz=221,slow=6.5,SNR=3.7								
	comp=Z,0.6nm,0.5s								
MMPY	**Sheldon Lake,**	**88.52**	**19**	P	**P**	**15 38 18.7**	**+0.7**		
	baz=221								
XLT	**XiLinHaoTe**	**88.55**	**318**	⇑*i*P	**P**	**15 38 19.5**	**+0.9**		
XLT				pmax	pmax				
	comp=Z,7.0nm,1.4s								
E22K	**Anaktuvuk Pass**	**88.66**	**9**	P	**P**	**15 38 18.7**	**+0.2**		
	baz=202								
TGTN	**Hyland Airport**	**88.67**	**21**	P	**P**	**15 38 19.7**	**+1.0**		
	baz=224								
ABTX	**Abilene, Hawle**	**88.71**	**55**	P	**P**	**15 38 20.1**	**+0.5**		
	baz=247								
H27K	**Steamboat Moun**	**88.78**	**13**	P	**P**	**15 38 20.4**	**+1.3**		
	baz=212								
E23K	**Chandalar**	**88.91**	**9**	P	**P**	**15 38 19.9**	**+0.1**		
	baz=204								
G26K	**Porcupine Rive**	**88.94**	**12**	P	**P**	**15 38 20.9**	**+1.1**		
	baz=210								
TROLL	**Troll, Antarti**	**89.13**	**179**	P	**P**	**15 38 22.0**	**+1.0**		
F25K	**Christian Rive**	**89.16**	**11**	P	**P**	**15 38 21.6**	**+0.7**		
	baz=208								
KOTAN	**Kotaneelee Air**	**89.17**	**23**	P	**P**	**15 38 21.5**	**+0.5**		
	baz=228								
XAN	**Xi'an**	**89.27**	**306**	⇑P	**P**	**15 38 24.0**	**+1.8**		
XAN				pP	PcP	15 38 31.8	+8.4		
XAN				pmax	pmax				
	comp=Z,16nm,1.0s								
SNAA	**Sanae**	**89.33**	**178**	P	**P**	**15 38 22.5**	**+0.6**		
VNA3	**Neumayer Olymp**	**89.36**	**175**	P	**P**	**15 38 22.8**	**+0.8**		
VNA2	**Neumayer--Watz**	**89.84**	**176**	P	**P**	**15 38 25.5**	**+1.3**		
	baz=173,slow=3.9								
EPYK	**Eagle Plains**	**89.98**	**15**	P	**P**	**15 38 24.5**	**-0.2**		
	baz=216								
VNA1	**Neumayer--Stat**	**90.05**	**176**	P	**P**	**15 38 27.0**	**+1.9**		
HHC	**Hu-ho-hao-te**	**90.16**	**313**	*e*P	**P**	**15 38 26.8**	**+0.6**		
HHC				pmax	pmax				
	comp=Z,29nm,0.5s								
HHC				pmax	pmax				
	comp=Z,5μm,7.1s								
C23K	**Itkillik River**	**90.40**	**8**	P	**P**	**15 38 27.3**	**+0.8**		
	baz=204								
G30M	**tAoh Zraii Nji**	**90.59**	**14**	P	**P**	**15 38 28.3**	**+0.7**		
	baz=217								
C27K	**Jaqu River**	**91.29**	**11**	P	**P**	**15 38 30.0**	**-0.7**		
	baz=210								
C26K	**Camden Bay**	**91.34**	**10**	P	**P**	**15 38 30.5**	**-0.3**		
	baz=209								
F31M	**Tsiigehtchic**	**91.55**	**15**	P	**P**	**15 38 32.3**	**+0.4**		
	baz=219								
CMAR	**Chiang Mai Arr**	**92.00**	**289**	P	**P**	**15 38 36.5**	**+1.3**		
	comp=Z,2.4nm,1.0s,baz=114,slow=2.9,SNR=13								
	comp=Z,2.4nm,1.0s								
PZH	**PanZhiHua**	**92.26**	**297**	P	**P**	**15 38 38.0**	**+1.7**		
PZH				pmax	pmax				
	comp=Z,10.0nm,1.0s								
LZH	**Lanzhou**	**93.90**	**307**	*e*P	**P**	**15 38 45.5**	**+1.8**		
LZH				pP	pP	15 39 30.5	-8.9		
LZH				sP	pwP	15 39 46.5	+4.0		
LZH				pmax	pmax				
	comp=Z,11nm,1.1s								
ECSD	**EROS Data Cent**	**95.17**	**46**	P	**P**	**15 38 49.2**	**0.0**		
	baz=249								
SONM	**Songino Array**	**96.33**	**318**	P	**P**	**15 38 55.2**	**+0.7**		
	comp=Z,0.3nm,0.6s,baz=130,slow=5.5,SNR=1.9								
	comp=Z,0.3nm,0.6s								
BVAR	**Borovoye Array**	**119.58**	**321**	PKP	**PKPdf**	**15 44 13.4**	**-0.6**		
	comp=Z,0.9nm,0.4s,baz=123,slow=2.4,SNR=1.9								
ARCES	**ARCESS Array B**	**127.95**	**351**	PKP	**PKPdf**	**15 44 29.0**	**-0.6**		
	comp=Z,0.6nm,0.4s,baz=19,slow=1.7,SNR=12								
BOSA	**Boshof**	**128.56**	**203**	PKP	**PKiKP**	**15 44 33.1**	**+0.2**		
	comp=Z,1.5nm,0.9s,baz=32,slow=3.6,SNR=3.7								
FINES	**FINESS Array B**	**135.07**	**346**	PKhKP	PKPpre	15 44 32.6			
	comp=Z,3.2nm,1.0s,baz=256,slow=23,SNR=2.1								
HFS	**Hagfors**	**138.49**	**353**	PKhKP	PKPpre	15 44 40.1			
	comp=Z,3.6nm,0.9s,baz=247,slow=3.1,SNR=2.2								
AKASG	**Malin Array Be**	**142.91**	**334**	PKhKP	PKPpre	15 44 52.9			
	comp=Z,1.3nm,0.4s,baz=40,slow=4.3,SNR=11								
SORM	**Soroca**	**145.22**	**332**	⇓P	**PKPab**	**15 45 02.6**	**+0.1**		
STHS	**Stebnicka Huta**	**146.93**	**340**	*e*PKP	**PKPbc**	**15 45 07.1**	**0.0**		
BURAR	**Bucovina Array**	**146.96**	**334**	⇑P	**PKPab**	**15 45 08.6**	**-0.7**		
CLL	**Colim**	**147.17**	**350**	*i* PKPbc	**PKPbc**	**15 45 07.8**	**+0.1**		
	comp=Z,16nm,0.8s								
CLL				*i* PKiKP	**PKPab**	**15 45 10.9**	**+1.0**		
	comp=Z,6.0nm,0.7s								
CLL				*ex*	x	15 46 07.0			
OSTC	**Ostas**	**147.27**	**346**	*e*PKP	**PKiKP**	**15 45 09.1**	**-1.0**		
BRG	**Berggiesshubel**	**147.43**	**349**	*i* PKP	**PKPbc**	**15 45 09.1**	**+0.6**		
BRG				Amp		15 45 11.4			
	comp=Z,14nm,1.4s								
DPC	**Dobruska-Polom**	**147.44**	**346**	*e*PKP	**PKPbc**	**15 45 09.0**	**+0.4**		
TRPA	**Tarpa**	**147.58**	**337**	⇑P	**PKPbc**	**15 45 08.9**	**+0.1**		
KRLC	**Kraliky**	**147.59**	**345**	*e*PKP	**PKPbc**	**15 45 09.4**	**+0.4**		
BRTR	**Keskin Array B**	**147.65**	**316**	PKPbc	**PKPbc**	**15 45 09.2**	**-0.4**		
	comp=Z,2.5nm,0.6s,baz=140,slow=4.4,SNR=15								
VRI	**Vrancioaia**	**147.65**	**331**	⇓P	**PKPbc**	**15 45 08.7**	**-0.5**		
MORC	**Moravsky Berou**	**147.68**	**344**	⇑P	**PKPbc**	**15 45 09.6**	**+0.4**		
MORC	**Moravsky Berou**	**147.68**	**344**	*e*PKP	**PKiKP**	**15 45 10.2**	**-0.8**		
PLOR	**Plostina**	**147.70**	**331**	⇓P	**PKiKP**	**15 45 10.4**	**-0.8**		
MAUC	**Maruska**	**147.98**	**344**	*e*PKP	**PKiKP**	**15 45 11.0**	**-0.7**		
DOPR	**Dopca**	**148.18**	**332**	⇓P	**PKiKP**	**15 45 11.9**	**-0.3**		
ASF	**Jabal al Asfar**	**148.26**	**301**	PKPbc	**PKPbc**	**15 45 11.7**	**+0.3**		
	comp=Z,5.5nm,1.0s,baz=132,slow=5.4,SNR=3.7								
MLR	**Muntele Rosu**	**148.29**	**331**	⇓P	**PKPbc**	**15 45 11.8**	**+0.7**		
MLR	**Muntele Rosu**	**148.29**	**331**	PKPbc	**PKPbc**	**15 45 11.0**	**-0.1**		
	comp=Z,1.9nm,0.5s,baz=27,slow=5.0,SNR=6.5								
VRAC	**Vranov**	**148.35**	**345**	*e*PKP	**PKiKP**	**15 45 12.3**	**-0.1**		
VYHS	**Vyhne**	**148.49**	**342**	*e*PKP	**PKiKP**	**15 45 12.3**	**-0.4**		
KRUC	**Moravsky**	**148.63**	**345**	*e*PKP	**PKPbc**	**15 45 11.6**	**0.0**		
DRGR		**148.63**	**336**	⇓P	**PKiKP**	**15 45 13.3**	**+0.2**		
ARR	**Arges**	**148.98**	**332**	⇑P	**PKiKP**	**15 45 14.0**	**+0.1**		
MODS	**Modra-Piesok**	**149.04**	**344**	*e*PKP	**PKiKP**	**15 45 14.0**	**+0.2**		
KHC	**Kasperske Hory**	**149.17**	**349**	*e*PKP	**PKPbc**	**15 45 13.5**	**+0.5**		
MMAI	**Mount Meron Ar**	**149.20**	**303**	PKPbc	**PKiKP**	**15 45 14.2**	**-0.5**		
	comp=Z,4.6nm,0.6s,baz=80,slow=7.0,SNR=10.0								
CKRC	**Cesky Krumlov**	**149.32**	**347**	*e*PKP	**PKPbc**	**15 45 13.9**	**+0.5**		
GERES	**GERESS Array B**	**149.42**	**348**	PKPbc	**PKPbc**	**15 45 13.8**	**0.0**		
	comp=Z,2.2nm,0.8s,baz=45,slow=0.8,SNR=10								
CONA	**Conrad Observa**	**149.81**	**345**	*e*P	**PKiKP**	**15 45 15.3**	**-0.2**		
	comp=Z,13nm,1.2s								
RONA	**Rosalia, Austr**	**149.91**	**344**	*e*P	**PKPbc**	**15 45 14.9**	**0.0**		
	comp=Z,10nm,1.2s								
BZS	**Buzias**	**150.03**	**336**	⇑P	**PKPbc**	**15 45 14.6**	**-0.6**		
HERR	**Herculane**	**150.32**	**334**	⇑P	**PKPbc**	**15 45 15.7**	**-0.2**		
EIL	**Elat**	**150.53**	**297**	PKPbc	**PKiKP**	**15 45 17.8**	**+0.3**		
	comp=Z,10.0nm,0.9s,baz=340,slow=9.6,SNR=5.1								
BIOA	**Bad Ischl, Aus**	**150.54**	**348**	*e*P	**PKiKP**	**15 45 17.4**	**+0.4**		
	comp=Z,7.6nm,1.2s								
MORH	**Mrgy, Hungar**	**150.58**	**340**	⇓P	**PKiKP**	**15 45 16.8**	**-0.3**		
KBA	**Koelnbreinsper**	**151.18**	**348**	*e*P	**PKPbc**	**15 45 17.3**	**-0.8**		
	comp=Z,1.9nm,0.4s								
SOKA	**Soboth**	**151.18**	**345**	*e*P	**PKiKP**	**15 45 18.7**	**+0.3**		
	comp=Z,7.2nm,1.2s								
RETA	**Reutte**	**151.23**	**351**	*e*P	**PKiKP**	**15 45 18.7**	**+0.2**		
	comp=Z,7.4nm,1.0s								
WATA	**Walderalm**	**151.25**	**350**	*e*P	**PKPbc**	**15 45 17.3**	**-0.9**		
	comp=Z,5.0nm,0.7s								
WTTA	**Wattenberg**	**151.31**	**350**	*e*P	**PKPbc**	**15 45 18.3**	**-0.1**		
	comp=Z,6.5nm,0.4s								
MOTA	**Moosalm**	**151.32**	**351**	*e*P	**PKPbc**	**15 45 18.2**	**-0.1**		
	comp=Z,7.4nm,0.9s								
SQTA	**Sank Quirin**	**151.43**	**351**	*e*P	**PKiKP**	**15 45 18.8**	**-0.1**		
	comp=Z,8.1nm,1.0s								
OBKA	**Obir**	**151.46**	**346**	*e*P	**PKiKP**	**15 45 19.9**	**+0.9**		
	comp=Z,8.3nm,1.4s								
DAVA	**Damuels**	**151.54**	**352**	*e*P	**PKiKP**	**15 45 19.6**	**+0.3**		
	comp=Z,3.7nm,0.6s								
MYKA	**Terra Mystica**	**151.55**	**347**	*e*P	**PKPbc**	**15 45 18.0**	**-0.7**		
	comp=Z,2.7nm,0.5s								
ABTA	**Abfaltersbach**	**151.66**	**349**	*e*P	**PKPbc**	**15 45 18.6**	**-0.4**		
	comp=Z,5.0nm,0.5s								
FETA	**Feichten**	**151.69**	**351**	*e*P	**PKiKP**	**15 45 19.5**	**-0.1**		
	comp=Z,5.8nm,1.1s								
DAVOX	**Davos/Dischmat**	**152.04**	**352**	PKPbc	**PKiKP**	**15 45 20.2**	**-0.1**		
	comp=Z,3.4nm,0.4s,baz=218,slow=3.4,SNR=11								
ESDC	**Sonseca Array**	**158.18**	**18**	PKPab	**PKPab**	**15 45 56.4**	**-0.2**		
	comp=Z,1.9nm,1.0s,baz=328,slow=4.6,SNR=4.0								

MOS ***25*** *15:26:44.8₀1.5, 39˚.04N×74˚.03E, h10km, mb4.6/24, Error ellipse: s-maj=5.8km s-min=3.6km az=92.8*
IDC ***25*** *15:26:44.8₀0.6, 39˚.05N×73˚.90E, h0km, mb4.2/27, mbtmp4.2/33, ML3.6/6, Error ellipse: s-maj=12.5km s-min=10.5km az=157.0*
NEIC ***25*** *15:26:46.0±2.7, 39˚.19N±0˚.07×73˚.96E±0˚.08, h10km±1km, mb4.8/20, Error ellipse: s-maj=12.6km s-min=9.3km az=139.0*
SOME ***25*** *15:26:45.8, 39˚.33N×74˚.00E, h0km, MS4.4*
KRNET ***25*** *15:26:46.6₀0.1, 39˚.22N×73˚.96E, mb5.1*
BJI ***25*** *15:26:46.0₀0.0, 39˚.15N×73˚.90E, h9km, mb4.4/26, ML4.5/5*
NNC ***25*** *15:26:51.1±2.3, 39˚.41N×74˚.08E, h0km, mb5.0, mpv4.9, Error ellipse: s-maj=19.2km s-min=10.8km az=179.0*

ISC 25 15:26:46.8₀0.3, **39˚.10N**±0˚.03×**74˚.00E**±0˚.03, **h10km, n282, s282/321, mb4.5/56, 49C-40D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.59**	**74**	Pg	Pn	15 27 09.8	-5.3
KSH				Sg	Sn	15 27 25.5	-10
KSH				smax	smax		
	comp=N,4μm,1.3s						
KSH				smax	smax		
	comp=E,4μm,0.8s						
OHH	**Osh**	**1.70**	**327**	⇑*e*P	**Pn**	**15 27 15.9**	**-0.7**
	baz=26						
OHH				⇑*i*S	**Sn**	**15 27 37.4**	**-1.1**
	baz=26						
BTK	**Batken**	**2.64**	**292**	⇑*i*P	**Pn**	**15 27 30.9**	**+1.4**
	baz=90						
BTK				⇑*i*S	**Sn**	**15 28 03.0**	**+1.4**
	baz=90						
BTK	**Batken**	**2.64**	**292**	Pn	**Pn**	**15 27 26.2**	**-3.3**
BTK	**Batken**	**2.64**	**292**	PN	**Pn**	**15 27 26.2**	**-3.3**
ARLS	**Aral**	**2.77**	**5**	⇓*i*P	**Pn**	**15 27 32.3**	**+0.9**
	baz=6.0						
ARLS				⇓*i*S	**Sn**	**15 28 05.4**	**+0.4**
	baz=6.0						
NRN	**Naryn**	**2.79**	**33**	⇓*e*P	**Pn**	**15 27 32.8**	**+1.0**
	baz=34						
NRN				⇓*i*S	**Sn**	**15 28 06.2**	**+0.5**
	baz=34						
NRN	**Naryn**	**2.79**	**33**	Pn	**Pn**	**15 27 29.4**	**-2.3**
NRN	**Naryn**	**2.79**	**33**	PN	**Pn**	**15 27 29.5**	**-2.3**
AML	**Almayashu**	**3.04**	**356**	P	**Pn**	**15 27 38.0**	**+2.7**
	SNR=22						
UCH	**Uchtor**	**3.15**	**7**	P	**Pn**	**15 27 40.1**	**+3.3**
	SNR=21						
UCH	**Uchtor**	**3.15**	**7**	⇑*i*P	**Pn**	**15 27 37.7**	**+0.8**
	baz=8.0						
UCH				⇑*i*S	**Sn**	**15 28 14.8**	**+0.1**
	baz=8.0						
TRKS	**Terek-Say**	**3.26**	**319**	⇑*e*P	**Pn**	**15 27 38.2**	**0.0**
	baz=17						
TRKS				⇑*i*S	**Sn**	**15 28 15.4**	**-1.8**
	baz=17						
TRKS	**Terek-Say**	**3.26**	**319**	PN	**Pn**	**15 27 39.8**	**+1.6**
AAK	**Ala-Archa**	**3.55**	**6**	P	**Pn**	**15 27 45.8**	**+3.6**
	SNR=19						
AAK	**Ala-Archa**	**3.55**	**6**	Pn	**Pn**	**15 27 45.7**	**+3.6**
	30nm,0.3s,baz=168,slow=6.1,SNR=21						
AAK				Sn	**Sb**	**15 28 30.6**	**-2.5**
	34nm,0.3s,baz=324,slow=14,SNR=5.6						
	96nm,0.4s						
AAK	**Ala-Archa**	**3.55**	**6**	⇑*e*P	**Pn**	**15 27 42.5**	**+0.3**
	baz=7.0						
AAK				⇑*i*S	**Sn**	**15 28 23.9**	**-0.4**
	baz=7.0						
AAK	**Ala-Archa**	**3.55**	**6**	Pn	**Pn**	**15 27 39.8**	**-2.4**
AAK	**Ala-Archa**	**3.55**	**6**	*de*PN	**Pn**	**15 27 44.8**	**+2.6**
AAK				pmax	pmax		
	comp=Z,92nm,0.5s						
EKS2	**Erkin-Say**	**3.56**	**357**	P	**Pn**	**15 27 45.4**	**+3.1**
	SNR=16						
EKS2	**Erkin-Say**	**3.56**	**357**	⇓*i*P	**Pn**	**15 27 42.8**	**+0.5**
	baz=58						
EKS2				⇓*e*S	**Sn**	**15 28 24.0**	**-0.5**
	baz=58						
ULHL	**Ulahol**	**3.57**	**28**	P	**Pb**	**15 27 49.8**	**-0.5**
	SNR=8.5						
ULHL	**Ulahol**	**3.57**	**28**	⇑*e*P	**Pn**	**15 27 43.3**	**+0.8**
	baz=29						
ULHL				⇑*i*S	**Sn**	**15 28 24.8**	**-0.1**
	baz=29						
KBK	**Karagaybulak**	**3.62**	**11**	P	**Pb**	**15 27 50.8**	**-0.3**
	SNR=11						
KBK	**Karagaybulak**	**3.62**	**11**	⇓*e*P	**Pn**	**15 27 43.9**	**+0.7**
	baz=12						
KBK				⇓*i*S	**Sn**	**15 28 25.6**	**-0.5**
	baz=12						
MRKS	**Merke**	**3.69**	**351**	*e*P	**Pb**	**15 27 51.8**	**-0.3**
	comp=Z,484nm,0.5s						
MRKS				*e*S	**Sb**	**15 28 38.7**	**+1.8**
	comp=Z,2μm,0.7s						
BOOM	**Boomskoye usch**	**3.69**	**23**	Pn	**Pn**	**15 27 40.4**	**-3.7**
BOOM	**Boomskoye usch**	**3.69**	**23**	PN	**Pn**	**15 27 40.4**	**-3.7**
FRU1	**Bishkek**	**3.74**	**7**	⇓*i*P	**Pn**	**15 27 44.9**	**+0.3**
	baz=8.0						
FRU1				⇓*i*S	**Sn**	**15 28 28.6**	**-0.1**
	baz=8.0						
TARG	**Taragay, Kyrgy**	**3.92**	**47**	Pn	**Pn**	**15 27 44.2**	**-3.2**
TARG	**Taragay, Kyrgy**	**3.92**	**47**	PN	**Pn**	**15 27 44.2**	**-3.2**
CHMS	**Chumysh**	**3.94**	**8**	P	**Pn**	**15 27 51.1**	**+3.8**
	SNR=11						
CHMS	**Chumysh**	**3.94**	**8**	⇓Pn	**Pn**	**15 27 51.0**	**+3.8**
	comp=Z,128nm,0.6s						
CHMS				⇓Lg	Lg	15 28 45.6	
	comp=Z,1μm,0.8s						
CHMS	**Chumysh**	**3.94**	**8**	PN	**Pn**	**15 27 51.1**	**+3.8**
TKM2	**Tokmak 2**	**4.00**	**17**	P	**Pb**	**15 27 53.7**	**-3.9**
	SNR=6.5						
TKM2	**Tokmak 2**	**4.00**	**17**

baz=28
MDOK Medeo 4.67 29 Pg **Pb 15 28 10.0 +1.2**
comp=Z,477nm,0.8s
MDOK ⇓Lg Lg 15 29 11.3
comp=Z,532nm,0.8s
MDOK Medeo 4.67 29 *e*PN **Pn 15 27 58.9 +1.4**
MDOK *e* 15 28 10.4
KK31 Karatay Array 4.79 328 ⇓Pn **Pn 15 28 01.2 +2.2**
comp=Z,24nm,0.3s,baz=126,slow=12,SNR=34
KK31 ⇓Pg **Pb 15 28 11.5 +0.7**
comp=Z,276nm,0.7s,baz=148,slow=16,SNR=17
KK31 ⇑Sn **Sn 15 28 57.3 +2.8**
comp=Z,296nm,0.7s
KK31 ⇓Lg Lg 15 29 13.6
comp=Z,346nm,0.8s,baz=152,slow=28,SNR=3.9
KK31 Karatay Array 4.79 328 PN **Pn 15 28 01.2 +2.2**
KK31 P **Pb 15 28 11.5 +0.7**
KK31 S **Sn 15 28 57.3 +2.8**
KKAR Karatay Array 4.79 328 Pn **Pn 15 27 56.7 -2.3**
KKAR Karatay Array 4.79 328 PN **Pn 15 27 56.7 -2.3**
KUU Kurty 5.10 19 *e*P **Pb 15 28 19.2 +3.1**
comp=Z,101nm,0.7s
KUU *e*S **Sb 15 29 24.4 +6.9**
comp=Z,733nm,0.7s
KUU Kurty 5.10 19 *e*Pn **Pn 15 28 05.7 +2.3**
baz=19
KUU *e*Pg **Pb 15 28 18.5 +2.4**
baz=19
KUU Kurty 5.10 19 *e*PN **Pn 15 28 05.6 +2.3**
KUU *e* 15 28 18.4
SATY Saty 5.17 39 *e*Pn **Pn 15 28 06.3 +1.9**
baz=38
SATY *i* Pg **Pb 15 28 19.4 +2.0**
baz=38
SATY Saty 5.17 39 *e*PN **Pn 15 28 06.2 +1.9**
SATY *i* 15 28 19.3
CHKK Chushkaly 5.25 24 *e*P **Pb 15 28 22.1 +3.3**
comp=Z,84nm,0.7s
CHKK *e*S **Sb 15 29 29.4 +7.6**
comp=Z,311nm,0.7s
CHKK Chushkaly 5.25 24 *e*Pn **Pn 15 28 07.4 +1.9**
baz=24
CHKK *e*Pg **Pb 15 28 21.3 +2.6**
baz=24
CHKK Chushkaly 5.25 24 *e*PN **Pn 15 28 07.3 +1.9**
CHKK *e* 15 28 21.3
ZHN Zhinishke 5.26 38 *e*Pn **Pn 15 28 07.7 +2.0**
baz=38
ZHN *e*Pg **Pb 15 28 21.1 +2.1**
baz=38
ZHN Zhinishke 5.26 38 *e*PN **Pn 15 28 07.6 +2.0**
ZHN *e* 15 28 21.0
NIL Nilore 5.47 187 Pn **Pn 15 28 09.1 +0.6**
NIL Nilore 5.47 187 PN **Pn 15 28 09.1 +0.6**
UZB Uzynbulak 5.54 42 *i*Pg **Pb 15 28 25.8 +2.0**
baz=41
KPKS Kokpek 5.61 37 *i*Pn **Pn 15 28 12.2 +1.8**
baz=37
KPKS *i*Pg **Pb 15 28 26.8 +1.9**
baz=37
KPKS Kokpek 5.61 37 *i*PN **Pn 15 28 12.1 +1.8**
KPKS *i* 15 28 26.7
SHLS Shalkode 5.78 44 *i*Pn Pn 15 28 18.3 +5.5
baz=46
SHLS *i*Pg **Pg 15 28 34.3 -3.2**
baz=46
SHLS Shalkode 5.78 44 *i*PN Pn 15 28 18.3 +5.5
SHLS *i* 15 28 34.3
ARXS Arharly 5.86 28 *e*PN **Pb 15 28 26.1 -3.0**
PDGK Podgornoye 5.91 43 ⇑Pg **Pb 15 28 29.8 -0.3**
comp=Z,259nm,1.1s
PDGK ⇑Lg Lg 15 29 50.6
comp=Z,465nm,0.9s
BTLS Baital 5.94 0 *e*Pn **Pn 15 28 17.2 +2.4**
baz=0.0
BTLS *e*Pg **Pb 15 28 33.8 +3.4**
baz=0.0
BTLS Baital 5.94 0 *e*PN **Pn 15 28 17.1 +2.4**
BTLS *e* 15 28 33.7
KBL Kabul 6.04 223 Pn **Pn 15 28 13.9 -2.6**
KBL Kabul 6.04 223 PN **Pn 15 28 13.9 -2.6**
JMU Jammu 6.41 173 *e*P **Pn 15 28 24.1 +2.7**
JMU *e*S **Sn 15 29 36.8 +2.2**
THW Thamme Wali 6.55 197 P Pn 15 28 31.0 +7.7
TDK Taldyqorghan 6.75 28 *e*Pg **Pb 15 28 48.1 +4.0**
baz=28
SARP Sargodha 7.25 189 P Pn 15 28 38.7 +5.9
BHK Bhakra 7.92 165 *e*P Pn 15 28 48.3 +6.3
BHK *e*S **Sn 15 30 16.2 +4.5**
SMLA Simla 8.37 161 *e*P Pn 15 28 52.4 +4.3
SMLA *e*S **Sn 15 30 24.7 +2.1**
SMLA IAML 15 30 41.7
comp=E,161nm,0.7s
SMLA IAML 15 30 43.6
comp=N,142nm,0.7s
OTUK Ortayu 9.22 353 ⇑Pn **Pn 15 28 60.0 +0.2**
comp=N,23nm,0.8s
OTUK ⇑Lg Lg 15 31 34.4
comp=N,201nm,0.8s
OTUK Ortayu 9.22 353 P **Pn 15 29 00.0 +0.2**
DDI Dehra Dun 9.37 158 *e*P Pn 15 29 05.9 +3.9
DDI *e*S **Sn 15 30 52.3 +4.8**
MAKZ Makanchi 9.67 35 ⇑Pn **Pn 15 29 08.7 +2.8**
comp=N,10nm,0.8s
MAKZ ⇓Pg 15 29 36.9
comp=N,30nm,1.0s
MAKZ ⇓Lg Lg 15 31 48.6
comp=N,36nm,0.9s
MAKZ Makanchi 9.67 35 P **Pn 15 29 08.7 +2.8**
MK31 Makanchi Array 9.80 36 **Pn 15 29 04.5 -3.2**
MK31 Makanchi Array 9.80 36 ⇑Pn **Pn 15 29 10.6 +2.9**
comp=N,9.5nm,0.8s,baz=209,slow=11,SNR=26
MK31 ⇓Pg 15 29 44.0
comp=N,26nm,0.8s,baz=226,slow=15,SNR=3.4
MK31 ⇑Lg Lg 15 31 52.7
comp=N,57nm,1.1s
MK31 Makanchi Array 9.80 36 ⇓*e*P **Pn 15 29 09.4 +1.7**
MKAR Makanchi Array 9.80 36 Pn **Pn 15 29 10.2 +2.5**
comp=N,0.3nm,0.3s,baz=212,slow=11,SNR=14
MKAR Lg Lg 15 31 49.1
comp=N,0.5nm,0.3s,baz=211,slow=25,SNR=2.2
comp=N,4.4nm,0.8s
MKAR Makanchi Array 9.80 36 Pn **Pn 15 29 05.8 -1.9**
MKAR Makanchi Array 9.80 36 P **Pn 15 29 05.8 -1.9**
NDI New Delhi 10.73 165 *e*P **Pn 15 29 24.0 +3.5**
PTH Pithoragarh 10.82 150 *e*P **Pn 15 29 24.6 +2.6**
KUDL Kundal 11.12 169 *e*P **Pn 15 29 29.5 +3.6**
SONA Sohna 11.12 166 *e*P Pn 15 29 30.7 +4.8
WMQ Urumqi 11.30 61 *e*P **Pn 15 29 29.0 +0.6**
WMQ pP 15 29 34.5
WMQ S **Sn 15 31 30.8 -4.0**
WMQ pmax pmax
comp=N,24nm,0.7s
KURBB Kurchatov Arra 11.96 14 Pn **Pn 15 29 37.3 +0.1**
comp=N,0.1nm,0.3s,baz=205,slow=12,SNR=4.2
KURBB Lg Lg 15 32 58.8
comp=N,0.2nm,0.3s,baz=140,slow=47,SNR=4.1
comp=N,0.8nm,0.7s
KURBB Kurchatov Arra 11.96 14 ⇓Pn **Pn 15 29 38.3 +1.1**
comp=N,5.3nm,0.7s
KURBB ⇓Lg Lg 15 33 00.7
comp=N,276nm,1.4s
KURBB Kurchatov Arra 11.96 14 P **Pn 15 29 38.3 +1.1**
KURK Kurchatov 12.06 14 ⇓Pn **Pn 15 29 41.4 +2.7**
comp=N,11nm,1.5s
KURK ⇓Lg Lg 15 33 04.2
comp=N,255nm,1.3s
KURK Kurchatov 12.06 14 P **Pn 15 29 37.3 -1.4**
GEYT Alibeck 12.50 270 Pn **Pn 15 29 43.3 -1.5**
comp=N,1.7nm,0.3s,baz=91,slow=10,SNR=11
comp=N,3.5nm,0.4s
GEYT Alibeck 12.50 270 **Pn 15 29 41.5 -3.3**
GYA0 ALIBECK ARRAY 12.50 270 P **Pn 15 29 40.8 -3.9**
GYA0B ALIBECK ARRAY 12.50 270 **Pn 15 29 40.8 -3.9**
PYUN Piuthan 13.28 143 *e*P **Pn 15 29 54.1 -1.5**
comp=N,20nm,0.6s
DANN Dangsing 13.44 140 *e*P **Pn 15 29 56.5 -1.4**
comp=N,22nm,0.5s
KOLN Koldanda 13.84 142 *e*P **Pn 15 30 01.6 -1.7**
JHNI Jhansi 14.12 163 *e*P **Pn 15 30 07.6 +0.6**
BVA0 Borovoye Array 14.15 351 ⇓Pn **Pn 15 30 07.3 +0.2**
comp=N,15nm,0.9s
BVA0 Borovoye Array 14.15 351 P **Pn 15 30 07.3 +0.2**
BVAR Borovoye Array 14.15 351 Pn **Pn 15 30 05.0 -2.1**
comp=N,0.2nm,0.3s,baz=168,slow=13,SNR=17
BVAR Lg Lg 15 34 04.9
comp=N,0.1nm,0.3s,baz=169,slow=26,SNR=1.9
comp=N,5.8nm,0.5s
GKN Gorkha 14.17 138 *e*P **Pn 15 30 06.6 -1.2**
BRVK Borovoye 14.19 351 Pn **Pn 15 30 05.6 -2.2**
BRVK Borovoye 14.19 351 ⇓Pn **Pn 15 30 08.5 +0.8**
comp=N,16nm,1.0s
BRVK Borovoye 14.19 351 ⇑*i*P **Pn 15 30 04.9 -2.9**
DGZ Jazzator, Alta 14.28 38 ⇓*e*P **Pn 15 30 09.4 +0.3**
AB31 Akbulak array 14.29 320 Pn **Pn 15 30 10.4 +1.4**
comp=N,24nm,0.8s,baz=133,slow=15,SNR=65
AB31 Akbulak array 14.29 320 P **Pn 15 30 10.4 +1.4**
ABKAR Akbulak array 14.29 320 Pn Pn 15 30 04.5 -4.6
ABKAR Akbulak array 14.29 320 Pn Pn 15 30 04.4 -4.6
VLK Valmikinagar 14.35 142 *e*P **Pn 15 30 10.3 +0.3**
VLK *e*S **Sn 15 32 46.5 -2.8**
DMN Daman 14.73 138 *e*P **Pn 15 30 14.3 -1.2**
GUN Gumba 14.91 135 *e*P **Pn 15 30 17.2 -0.8**
PKIN Phulchoki 14.91 137 *e*P **Pn 15 30 16.6 -1.4**
PKI Pulchoki 14.92 137 *e*P **Pn 15 30 16.5 -1.7**
comp=N,77nm,1.2s
JIRN Jiri 15.28 135 *e*P **Pn 15 30 21.9 -1.0**
comp=N,31nm,0.5s
AKTO Aktyubinsk 16.00 320 ⇓Pn **Pn 15 30 33.3 +1.5**
comp=N,13nm,0.7s
AKTO Aktyubinsk 16.00 320 P **Pn 15 30 33.3 +1.5**
RAMN Ramite 16.06 135 *e*P **Pn 15 30 32.7 -0.3**
comp=N,74nm,0.8s
BHPL Bhopal 16.08 169 *e*P **Pn 15 30 31.1 -1.9**
BHPL *e*S **Sn 15 33 23.6 -7.9**
ODAN Odare 16.57 133 *e*P **Pn 15 30 39.8 +0.3**
comp=N,4.4nm,0.7s
ZAA0 Zalesovo Array 16.58 23 Pn **Pn 15 30 37.9 -1.3**
ZALV Zalesovo Beam 16.58 23 Pn **Pn 15 30 38.4 -0.8**
comp=N,0.3nm,0.3s,baz=210,slow=11,SNR=15
ZALV Lg Lg 15 35 29.3
comp=N,0.2nm,0.3s,baz=225,slow=24,SNR=1.8
comp=N,3.7nm,0.7s
ZALV Zalesovo Beam 16.58 23 Pn **Pn 15 30 37.4 -1.8**
JBP Jabalpur 16.68 160 *e*P **P 15 30 44.8 +1.8**
AKL Akola 18.52 171 *e*P **Pn 15 31 08.4 +4.9**
SVE Sverdlovsk 19.80 338 *e*P **Pn 15 31 19.5 +0.8**
SVE pmax pmax
comp=Z,28nm,1.3s
GTA Gaotai 19.98 81 *e*P **Pn 15 31 22.0 +0.9**
GTA pP sP 15 31 26.5 +1.2
GTA sP pP 15 31 29.8 +6.4
GTA pmax pmax
comp=Z,6.0nm,1.3s
ARU Arti 20.12 335 P **P 15 31 20.2 -0.4**
comp=Z,21nm,0.8s,baz=151,slow=5.4,SNR=31
ARU Lg Lg 15 37 20.4
baz=12,slow=18,SNR=2.1
comp=Z,21nm,0.8s
ARU Arti 20.12 335 P **P 15 31 20.4 -0.2**
ARU Arti 20.12 335 *d*P **P 15 31 21.6 +0.9**
ARU 15 31 36.5
ARU S Sn 15 35 10.1 +1.4
ARU SS **SnSn 15 35 26.0 +2.8**
ARU pmax pmax
comp=Z,29nm,0.9s
AKT Akhty 20.16 285 *e*P Pn 15 31 23.6 +0.4
AKT *e* 15 31 39.5
AKT *e*S Sn 15 35 11.3 +1.3
AKT *e*SS **SnSn 15 35 30.7 +6.4**
AKT pmax pmax
comp=Z,46nm,1.5s
KNGR Kungurtug, Tuv 20.16 48 ⇓*e*P **P 15 31 22.3 +1.0**
KNGR pmax pmax
comp=Z,9.0nm,0.8s
ZIRO ZIRO 20.16 119 *e*P Pn 15 31 24.1 +0.7
WSAR Wadi Sarin 20.52 224 P **P 15 31 24.6 -0.6**
comp=Z,11nm,0.8s,baz=67,slow=9.2,SNR=11
comp=Z,11nm,0.8s
MOKO MOKOCHONG 21.40 120 *e*P **P 15 31 36.9 +2.0**
KOHI KOHIMA 21.53 122 *e*P **P 15 31 38.8 +2.5**
GROC Groznyy 21.58 290 *e*P **P 15 31 34.8 -1.7**
GROC *e* 15 31 56.1
GROC pmax pmax
comp=Z,192nm,1.2s
IMP Imphal 22.04 124 *e*P **P 15 31 44.9 +3.1**
GNI Garni 22.52 282 P **P 15 31 45.9 -1.0**
comp=Z,9.9nm,0.6s,baz=122,slow=15,SNR=5.1
comp=Z,9.9nm,0.6s
GNI Garni 22.52 282 P **P 15 31 43.7 -3.2**
GNI IAmb IAmb 15 31 55.3
comp=Z,46nm,0.9s
GNI Garni 22.52 282 *d*eP **P 15 31 48.8 +2.0**
GNI pmax pmax
comp=Z,27nm,1.3s
BELG Belogornoye 22.55 315 P **P 15 31 45.5 -1.2**
comp=Z,25nm,0.9s,baz=158,slow=4.6,SNR=4.9
comp=Z,25nm,0.9s
BELG Belogornoye 22.55 315 ⇑*e*P **P 15 31 45.9 -0.9**
BELG pmax pmax
comp=Z,9.0nm,0.9s
ZEI Tsey 22.97 289 *e*P **P 15 31 53.8 +2.2**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
SAIH SAIHA 23.17 130 *e*P **P 15 31 58.2 +4.5**
NCK Nalchik 23.19 291 ⇑*e*P **P 15 31 53.4 -0.3**
NCK pmax pmax
comp=Z,17nm,0.5s
ONI Oni 23.30 288 P **P 15 31 54.7 -0.2**
ONI IAmb IAmb 15 31 58.9
comp=Z,32nm,0.9s
ONI Oni 23.30 288 P **P 15 31 54.7 -0.2**
ONI pmax pmax
comp=Z,33nm,0.9s
ZAK Zakamensk 23.50 52 *e*P **P 15 31 57.0 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
KBZ Khabaz 23.70 291 P **P 15 31 57.0 -1.6**
comp=Z,3.0nm,0.8s,baz=141,slow=10.0,SNR=4.8
comp=Z,3.0nm,0.8s
KBZ Khabaz 23.70 291 ⇑*e*P **P 15 31 58.0 -0.7**
KBZ pmax pmax
comp=Z,8.0nm,0.7s
LZH Lanzhou 23.79 88 *e*P **P 15 32 00.8 +0.9**
LZH pP sP 15 32 06.3 +0.4
LZH sP pP 15 32 09.3 +5.2
LZH pmax pmax
comp=Z,10.0nm,1.0s
NEY Neytrino 23.83 290 ⇑*e*P **P 15 32 00.5 +0.3**
NEY pmax pmax
comp=Z,5.0nm,0.6s
KVAR Kislovodsk Arr 23.85 292 P **P 15 31 59.2 -1.1**
comp=Z,1.8nm,0.3s,baz=75,slow=20,SNR=1.8
comp=Z,1.8nm,0.3s
KIV Kislovodsk 23.86 292 ⇓P **P 15 32 00.3 0.0**
KIV Kislovodsk 23.86 292 *e*P **P 15 32 02.1 +1.8**
KIV pmax pmax
comp=Z,13nm,1.0s
SONM Songino Array 24.93 59 P **P 15 32 10.3 +0.1**
comp=Z,2.4nm,0.8s,baz=261,slow=10,SNR=17
comp=Z,2.4nm,0.8s
SONM Songino Array 24.93 59 P **P 15 32 09.4 -0.8**
TNCH TengChong 24.98 117 P **P 15 32 11.8 +1.0**
TNCH pP pP 15 32 14.0 -1.3
TNCH sP sP 15 32 17.8 +0.6
TNCH pmax pmax
comp=Z,7.0nm,0.4s
KIRV Kirov 25.08 329 ⇑*e*P **P 15 32 10.0 -1.2**
VRH Novokhopyorsk 25.56 309 *e*P **P 15 32 15.3 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
PZH PanZhiHua 26.38 110 P **P 15 32 26.0 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 27.12 308 *e*P **P 15 32 26.6 -3.2**
VSR pmax pmax
comp=Z,10.0nm,1.8s
VORR Voronezh 27.20 309 *e*P **P 15 32 32.1 +1.6**
VORR pmax pmax
comp=Z,40nm,0.4s
LPSR Galich'ya Gora 27.60 311 *e*P **P 15 32 36.7 +2.6**
LPSR pmax pmax
comp=Z,20nm,1.0s
XAN Xi'an 28.39 89 P P 15 32 48.3 +6.9
XAN pmax pmax
comp=Z,3.0nm,1.0s
PRGR Permogore 28.50 332 *e*P **P 15 32 39.7 -2.3**
PRGR pmax pmax
comp=Z,3.0nm,0.5s
HHC Hu-ho-hao-te 28.70 74 *e*P **P 15 32 43.8 -0.4**
HHC pmax pmax
comp=Z,21nm,0.8s
RAYN Ar Rayn 28.72 246 P **P 15 32 43.9 -0.5**
RAYN IAmb IAmb 15 32 47.4
comp=Z,7.6nm,0.6s
RAYN Ar Rayn 28.72 246 P **P 15 32 43.9 -0.5**
RAYN pmax pmax
comp=Z,8.0nm,0.6s
OBN Obninsk 29.64 315 ⇑*e*P **P 15 32 51.8 -0.4**
OBN *e* 15 33 47.4
OBN *e*S **S 15 37 52.4 +5.0**
OBN pmax pmax
comp=Z,38nm,2.1s
OBN MLR MLR
comp=Z,5μm,17.0s
CMAR Chiang Mai Arr 29.85 126 P **P 15 32 54.2 -0.2**
comp=Z,0.3nm,0.3s,baz=314,slow=10,SNR=1.1
comp=Z,0.3nm,0.3s
KLMR Klimovskoe 30.49 327 P **P 15 33 00.9 +1.3**
KLMR AMP 15 33 05.4
comp=Z,19nm,1.6s
KLMR Klimovskoe 30.49 327 P **P 15 33 00.8 +1.2**
KLMR pmax pmax
comp=Z,19nm,1.6s
BR131 Keskin Array S 31.00 284 *c*P **P 15 33 06.0 +1.3**
BRTR Keskin Array B 31.00 284 P **P 15 33 03.3 -1.3**
comp=Z,3.2nm,0.6s,baz=89,slow=7.5,SNR=24
comp=Z,3.2nm,0.6s
BRTR Keskin Array B 31.00 284 P **P 15 33 01.8 -2.8**
BRTR Keskin Array B 31.00 284 *i*P **P 15 33 05.9 +1.3**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 33.28 305 P **P 15 33 23.6 -0.6**
comp=Z,0.6nm,0.4s,baz=80,slow=7.3,SNR=16
AKASG PcP **PcP 15 36 05.3 -1.0**
comp=Z,0.9nm,0.6s,baz=75,slow=3.1,SNR=2.5
comp=Z,0.6nm,0.4s
AKBB Malin Array Si 33.28 305 P **P 15 33 22.9 -1.3**
AKBB IAmb IAmb 15 33 29.4
comp=Z,6.5nm,0.8s
AKBB Malin Array Si 33.28 305 ⇓*e*P **P 15 33 23.1 -1.1**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
TPGR Topolog 34.01 295 ⇑P **P 15 33 30.8 +0.1**
CFR Carcaliu 34.18 295 ⇑P **P 15 33 32.6 +0.5**
MNK Minsk 34.43 312 *i*P **P 15 33 32.6 -1.6**
comp=E,3.0nm,0.8s
MNK *i*P **P 15 33 32.6 -1.6**
comp=N,43nm,0.8s
MNK *i*P **P 15 33 32.6 -1.6**
comp=Z,13nm,0.8s,baz=277
MNK *i*PP **PnPn 15 34 47.5 -1.3**
MNK *i*PPP PPP 15 34 59.4
MNK *i*S **S 15 39 01.7 -0.4**
MNK *i*SS **SnSn 15 41 13.5 +1.4**
MNK *i*SSS SSS 15 41 29.4
MNK *i*LR LR 15 47 53.6
MNK *i*LRM MLR 15 49 43.8
comp=E,249nm,16.1s
MNK *i*LRM MLR 15 50 09.3
comp=N,3μm,16.9s
MNK *i*LRM MLR 15 50 09.3
comp=Z,3μm,16.9s
MNK Minsk 34.43 312 *i*P **P 15 33 32.6 -1.6**
MNK *i* 15 34 47.5
MNK *i* 15 36 07.6
MNK *i*S **S 15 39 01.7 -0.4**
MNK *i*SS **SnSn 15 41 13.4 +1.4**
MNK *i* 15 43 55.6
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=N,43nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=E,249nm,16.0s
MNK MLR MLR
comp=N,3μm,17.0s
MNK MLR MLR
comp=Z,3μm,17.0s
AKAS Kas 35.00 280 P **P 15 33 38.3 -1.2**
AKAS IAmb IAmb 15 34 07.9
comp=Z,27nm,1.5s
TESR Tescani 35.08 298 ⇑P **P 15 33 40.4 +0.5**
VRI Vrincioaia 35.09 297 ⇑P **P 15 33 41.4 +1.4**
NACGM Naroch 35.11 313 *e*P P 15 33 26.6 -13
comp=Z,12nm,0.8s,baz=97
PLOR Plostina 35.14 297 ⇑P **P 15 33 42.2 +1.6**
COVR Voineasa-Covas 35.45 297 ⇑P **P 15 33 44.7 +1.5**
MLR Muntele Rosu 35.68 296 ⇑P **P 15 33 47.4 +2.1**
MLR Muntele Rosu 35.68 296 P **P 15 33 45.4 +0.2**
comp=Z,11nm,0.8s,baz=78,slow=7.6,SNR=9.7
comp=Z,11nm,0.8s
MLR Muntele Rosu 35.68 296 P **P 15 33 43.5 -1.8**
MLR IAmb IAmb 15 33 51.2
comp=Z,13nm,0.8s
BURAR Bucovina Array 35.96 300 ⇓P **P 15 33 49.1 +1.5**
DOPR Dopca 36.01 297 ⇓P **P 15 33 49.2 +1.3**
VOIR 36.31 296 ⇑P **P 15 33 51.3 +0.7**
ARR Arges 36.61 296 ⇑P **P 15 33 54.5 +1.3**
FINES FINESS Array B 36.73 323 P **P 15 33 53.2 -0.7**
comp=Z,3.0nm,0.5s,baz=114,slow=10,SNR=32
comp=Z,3.0nm,0.5s
NJ2 Nanjing 36.86 87 *e*P **P 15 33 54.3 -1.0**
NJ2 pmax pmax
comp=Z,24nm,0.8s
KARP Karpathos 37.10 280 P **P 15 33 57.0 -0.3**
TRPA Tarpa 37.71 301 ⇑P **P 15 34 03.9 +1.5**
KOLS Kolonicke sedl 37.81 302 *e*P **P 15 34 05.4 +2.2**
KOLS Kolonicke sedl 37.81 302 *e*P **P 15 34 05.4 +2.2**
GZR Gura Zlata 37.90 297 ⇑P **P 15 34 04.8 +0.7**
HERR Herculane 38.23 296 ⇑P **P 15 34 07.1 +0.3**
MDVR Moldovita 38.74 296 ⇓P **P 15 34 11.9 +0.7**
IDI Anoyia 38.93 280 P **P 15 34 12.0 -0.9**
comp=Z,3.0nm,0.7s,baz=44,slow=14,SNR=6.2
comp=Z,3.0nm,0.7s
IDI Anoyia 38.93 280 P **P 15 34 12.1 -0.7**
ARCES ARCESS Array B 39.70 336 P **P 15 34 18.2 -0.6**
comp=Z,2.9nm,0.5s,baz=111,slow=8.0,SNR=18
comp=Z,2.9nm,0.5s
ARCES ARCESS Array B 39.70 336 P **P 15 34 17.4 -1.4**
ARCES IAmb IAmb 15 34 29.8
comp=Z,30nm,1.4s
YAK Yakutsk 40.47 37 ⇑*e*P **P 15 34 25.0 -0.2**
YAK pmax pmax
comp=Z,3.0nm,0.7s
DPC Dobruska-Polom 41.51 305 *e*P **P 15 34 35.8 +1.7**
DPC Dobruska-Polom 41.51 305 *e*P **P 15 34 35.8 +1.7**
KLR Kul'dur 41.71 56 P **P 15 34 36.0 +0.4**
comp=Z,0.9nm,0.6s,baz=271,slow=10,SNR=3.1
comp=Z,0.9nm,0.6s
KLR Kul'dur 41.71 56 ⇓*e*P **P 15 34 35.0 -0.7**
KLR pmax pmax
comp=Z,6.0nm,1.5s
KSRS Korea Array 41.84 75 P **P 15 34 37.0 +0.2**
comp=Z,0.8nm,0.8s,baz=282,slow=8.0,SNR=2.4
comp=Z,0.8nm,0.8s
TIXI Tiksi 42.47 23 P **P 15 34 41.1 -0.4**
comp=Z,2.7nm,0.6s,baz=269,slow=22,SNR=11
comp=Z,2.7nm,0.6s
TIXI Tiksi 42.47 23 P **P 15 34 40.5 -1.1**
TIXI Tiksi 42.47 23 ⇑*e*P **P 15 34 40.6 -0.9**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 42.55 320 P **P 15 34 41.9 -0.4**
comp=Z,4.5nm,0.5s,baz=98,slow=9.3,SNR=11
comp=Z,4.5nm,0.5s
GERES GERESS Array B 43.42 303 P **P 15 34 49.2 -0.5**
comp=Z,1.3nm,0.7s,baz=70,slow=12,SNR=6.1
comp=Z,1.3nm,0.7s
KHC Kasperske Hory 43.45 304 *e*P **P 15 34 50.5 +0.6**
KHC Kasperske Hory 43.45 304 *e*P **P 15 34 50.5 +0.6**
CLL Collm 43.46 307 *e*P **P 15 34 48.0 -1.9**
CLL *i* sP **pP 15 34 55.1 +0.7**
CLL Collm 43.46 307 *e*P **P 15 34 48.0 -1.9**
CLL *i* 15 34 55.1
NC405 NORSAR Array S 43.54 321 P **P 15 34 49.7 -0.7**
NC303 NORSAR Array S 43.71 322 P **P 15 34 50.5 -1.2**
NB2 NORSAR Subarra 43.79 321 P **P 15 34 51.6 -0.8**
comp=Z,6.2nm,0.9s,baz=89,slow=7.9
NOA NORSAR Array B 43.79 321 P **P 15 34 51.7 -0.7**
comp=Z,1.9nm,0.5s,baz=90,slow=7.9,SNR=8.3
comp=Z,1.9nm,0.5s
NC204 NORSAR Array S 44.01 322 P **P 15 34 52.5 -1.7**
DAVOX Davos/Dischmat 46.39 301 P **P 15 35 11.4 -2.1**

comp=Z,2.0nm,0.5s,baz=168,slow=9.3,SNR=2.9
comp=Z,2.0nm,0.5s
ESDC Sonseca Array 58.35 298 P P 15 36 41.2 -1.0
comp=Z,1.7nm,0.6s,baz=56,slow=7.1,SNR=11
comp=Z,1.7nm,0.6s
TOLK Toolik Lake Re 67.79 16 P **P 15 37 42.9 -1.6**
TOLK IAmb IAmb 15 37 50.7
comp=Z,8.9nm,1.1s
A36M Sachs Harbour 68.38 6 P **P 15 37 46.3 -1.7**
A36M IAmb IAmb 15 37 54.9
comp=Z,7.0nm,0.8s
IMAR Indian Mountai 68.96 19 P **P 15 37 50.2 -1.5**
BMAR Burnt Mountain 69.84 15 P **P 15 37 55.2 -2.0**
INK Inuvik 70.94 10 P **P 15 38 02.5 -1.2**
comp=Z,1.3nm,0.5s,baz=327,slow=5.7,SNR=3.5
comp=Z,1.3nm,0.5s
INK Inuvik 70.94 10 P **P 15 38 02.6 -1.2**
INK IAmb IAmb 15 38 35.9
comp=Z,5.2nm,1.0s
INK Inuvik 70.94 10 P **P 15 38 02.6 -1.2**
INK pmax pmax
comp=Z,5.0nm,1.0s
CCB Clear Creek Bu 71.51 18 P **P 15 38 04.9 -2.4**
ILAR Eielson Array 71.61 17 P **P 15 38 05.6 -2.4**
ILAR Eielson Array 71.61 17 P **P 15 38 05.6 -2.4**
DBIC Dimbokro 77.18 268 P **P 15 38 40.1 -1.1**
comp=Z,3.3nm,0.6s,baz=37,slow=8.3,SNR=5.2
comp=Z,3.3nm,0.6s
KIC Kosan Boka 77.28 268⇑*iP* **P 15 38 41.9 +0.1**
comp=Z,7.8nm,0.5s
TIC Toumodi 77.32 268⇑*iP* **P 15 38 42.1 +0.1**
comp=Z,15nm,0.8s
LIC Lamto 77.59 268⇓*eP* **P 15 38 43.4 -0.1**
comp=Z,15nm,0.5s
YKA Yellowknife Ar 78.51 4 P **P 15 38 47.7 -0.1**
comp=Z,0.9nm,0.6s,baz=354,slow=9.3,SNR=4.1
comp=Z,0.9nm,0.6s
WRA Warramunga Arr 81.42 124 P **P 15 39 04.0 -0.1**
comp=Z,0.8nm,0.5s,baz=326,slow=5.2,SNR=10
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 81.42 124 *i* P **P 15 39 04.8 +0.7**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 83.86 127 P **P 15 39 16.6 -0.2**
comp=Z,0.4nm,0.6s,baz=310,slow=5.4,SNR=6.2
comp=Z,0.4nm,0.6s

IDC ***25*** *15:34:40.7±3.0,21.00S×178.89W,h633km±31km, mb3.3/4, mbtmp4.4/7, Error ellipse: s-maj=89.5km s-min=27.1km az=153.0*
ISC 25 15:34:41.5±1.8, 20.7S±0.4×179.0W±0.3, h650km, n8, σ0.82/8, mb4.0/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.11**	**316**	P	**P**	**15 36 11.3**	**-0.3**
	25nm,0.4s,baz=152,slow=5.1,SNR=71						
AFI	**Afiamalu**	**9.64**	**46**	P	**P**	**15 36 57.9**	**-0.2**
	17nm,0.6s,baz=201,slow=8.6,SNR=2.1						
DZM	**Mont Dzumac**	**13.67**	**262**	P	**P**	**15 37 35.1**	**-0.6**
	1.9nm,0.5s,baz=93,slow=20,SNR=6.4						
CTA	**Charters Tower**	**32.58**	**265**	P	**P**	**15 40 23.8**	**+1.0**
	5.0nm,0.4s,baz=93,slow=10,SNR=16						
	5.0nm,0.4s						
STKA	**Stephens Creek**	**36.89**	**244**	P	**P**	**15 40 57.3**	**-0.8**
	1.7nm,0.5s,baz=92,slow=12,SNR=7.4						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**43.60**	**257**	P	**P**	**15 41 52.0**	**+0.6**
	4.4nm,0.6s,baz=94,slow=7.7,SNR=53						
	4.4nm,0.6s						
WRA	**Warramunga Arr**	**43.69**	**262**	P	**P**	**15 41 51.9**	**-0.1**
	1.2nm,0.3s,baz=95,slow=7.9,SNR=16						
	1.2nm,0.3s						
AKASG	**Malin Array Be**	**142.78**	**330**	PKP	**PKPdf**	**15 53 03.3**	**+0.8**
	0.5nm,0.4s,baz=48,slow=5.0,SNR=5.2						

SOME 25 15:38:15.1, 40.58N×74.78E, h10km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**2.46**	**332**	*e*P	Pb	15 39 00.7	+1.3
	7.7nm,0.1s						
MRKS				*e*S	Sg	15 39 33.9	0.0
	12nm,0.7s						
KST	**Kastek**	**2.61**	**19**	*e*P	Pg	15 39 04.0	-1.1
	1.0nm,0.3s						
KST				*e*S	Sg	15 39 39.2	+0.2
	28nm,0.4s						
DGS	**Degeres**	**2.76**	**15**	*e*P	Pb	15 39 05.0	+0.5
	3.0nm,0.4s						
DGS				*e*S	Sb	15 39 41.0	+2.6
	37nm,0.6s						
MTBS	**Maitube**	**2.83**	**25**	*e*P	Pb	15 39 05.7	0.0
	1.1nm,0.1s						
MTBS				*e*S	Sb	15 39 42.1	+1.7
	24nm,0.4s						
TNSS	**Tian-Shan**	**2.94**	**33**	*e*P	Pg	15 39 10.8	-0.6
	7.0nm,0.5s						
TNSS				*e*S	Sg	15 39 51.2	+1.8
	12nm,0.8s						
MDOK	**Medeo**	**3.08**	**33**	*e*P	Pg	15 39 12.6	-1.6
	5.7nm,0.7s						
MDOK				*e*S	Sg	15 39 54.1	0.0
	15nm,1.1s						
DZA	**Taraz**	**3.46**	**313**	*e*P	Pg	15 39 19.3	-2.2
	44nm,0.1s						
DZA				*e*S	Sg	15 40 05.4	-0.9
	52nm,0.2s						
KUU	**Kurty**	**3.50**	**19**	*e*P	Pb	15 39 18.0	+0.8
	3.5nm,0.7s						
KUU				*e*S	Sb	15 40 03.4	+3.6
	19nm,0.8s						
CHM	**Chimkent**	**4.26**	**296**	*e*P	Pg	15 39 33.5	-3.2
	56nm,0.2s						
CHM				*e*S	Sg	15 40 29.7	-2.2
	191nm,0.3s						

IDC ***25*** *15:38:33.4±2.6,39.19N×74.41E, h0km, mb3.6/3, mbtmp3.5/7, ML2.8/4, Error ellipse: s-maj=38.1km s-min=25.3km az=155.0*
KRNET ***25*** *15:38:35.5±0.1,39.32N×73.75E, mb3.6*
ISC 25 15:38:28.2±1.6, 39.0N±0.1×73.72E±0.06, h10km, n17, σ1.91/20, mb3.6/3, 6C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.73**	**336**	⇓*iP*	**Pg**	**15 39 01.3**	**-0.1**
OHH	baz=28			⇓*iS*	**Sn**	**15 39 20.4**	**-0.2**
	baz=28						
BTK	**Batken**	**2.50**	**297**	⇓*iP*	**Pg**	**15 39 16.3**	**+0.1**
	baz=89						
BTK				⇓*iS*	**Sb**	**15 39 46.1**	**+1.8**
	baz=89						
ARLS	**Aral**	**2.94**	**9**	⇑*iP*	**Pb**	**15 39 19.0**	**-1.8**
	baz=10.0						
ARLS				⇑*iS*	**Sn**	**15 39 50.6**	**0.0**
	baz=10.0						
NRN	**Naryn**	**3.03**	**34**	⇓*iP*	**Pb**	**15 39 20.4**	**-2.0**
	baz=38						
NRN				⇓*iS*	**Sn**	**15 39 53.3**	**+0.3**
	baz=38						
TRKS	**Terek-Say**	**3.25**	**323**	⇓*iP*	**Pb**	**15 39 23.7**	**-2.3**
	baz=18						
TRKS				⇓*iS*	**Sn**	**15 39 58.3**	**+0.2**
	baz=18						
UCH	**Uchtor**	**3.33**	**10**	⇑*iP*	**Pb**	**15 39 24.6**	**-3.0**
	baz=11						
UCH				⇑*iS*	**Sn**	**15 39 59.7**	**-0.8**
	baz=11						
AAK	**Ala-Archa**	**3.73**	**9**	Pn	**Pb**	**15 39 31.3**	**-2.9**
	6.4nm,0.3s,baz=174,slow=11,SNR=14						
	14nm,0.5s						
MKAR	**Makanchi Array**	**10.04**	**36**	Pn	**Pn**	**15 40 54.8**	**+2.3**
	baz=223,slow=17,SNR=1.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**12.15**	**15**	Lg	Lg	15 44 41.3	
	baz=198,slow=31,SNR=4.7						
BVAR	**Borovoye Array**	**14.26**	**352**	Pn	**Pn**	**15 41 52.9**	**+2.8**
	baz=156,slow=14,SNR=5.8						
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**16.80**	**23**	Pn	**Pn**	**15 42 23.0**	**-0.5**
	baz=212,slow=14,SNR=2.0						
	0.5nm,0.5s						
SONM	**Songino Array**	**25.19**	**59**	P	**P**	**15 43 54.6**	**+0.6**
	0.4nm,0.8s,baz=247,slow=9.7,SNR=2.2						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**30.83**	**284**	P	P	15 44 56.4	+12
	0.8nm,0.8s,baz=96,slow=9.0,SNR=4.2						
	0.8nm,0.8s						
TPGR	**Topolog**	**33.88**	**295**	⇑P	**P**	**15 45 10.0**	**-1.1**
TIRR	**Tirgusor**	**33.93**	**294**	⇑P	**P**	**15 45 11.2**	**-0.2**
HARR	**Harsova**	**34.25**	**295**	⇓P	**P**	**15 45 10.6**	**-3.6**
FINES	**FINESS Array B**	**36.72**	**324**	P	P	15 45 41.1	+5.9
	4.1nm,1.1s,baz=108,slow=7.5,SNR=1.5						
	4.1nm,1.1s						

BJI ***25*** *15:39:02.6±0.0,39.41N×73.40E,h10km,mb4.1/7, mB4.0/1,ML3.9/5*
IDC ***25*** *15:39:06.0±0.8,39.10N×74.05E,h0km,mb4.0/17, mbtmp4.0/23,ML3.4/6,Error ellipse: s-maj=14.2km s-min=13.2km az=42.0*
MOS ***25*** *15:39:08.5±2.1,39.10N×73.98E,h22km,mb4.3/7,Error ellipse: s-maj=10.4km s-min=5.7km az=97.0*
KRNET ***25*** *15:39:10.7±0.1,39.33N×73.80E,mb4.5*
NNC ***25*** *15:39:11.5±2.6,39.42N×74.09E,h0km,mb4.6,mpv4.5, Error ellipse: s-maj=21.2km s-min=12.5km az=171.0*
SOME ***25*** *15:39:11.0,39.58N×73.75E,h0km,MS3.9*
ISC 25 15:39:07.2±0.5, 39.26N±0.03×74.14E±0.03, h10km, n101, σ2.30/112, mb4.0/18, 28C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.45**	**79**	Pg	**Pn**	**15 39 31.5**	**-2.0**
KSH				Sg	**Sn**	**15 39 47.3**	**-5.3**
KSH				smax	smax		
	comp=N,870nm,1.1s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
OHH	**Osh**	**1.63**	**321**	⇓*iP*	**Pb**	**15 39 37.1**	**-0.3**
	baz=27						
OHH				⇓*iS*	**Sn**	**15 39 56.9**	**-0.3**
	baz=27						
NRN	**Naryn**	**2.59**	**33**	⇑*iP*	**Pg**	**15 39 56.6**	**-0.3**
	baz=38						
NRN				⇑*iS*	**Sg**	**15 40 29.8**	**-0.7**
	baz=38						
ARLS	**Aral**	**2.60**	**3**	⇓*iP*	**Pg**	**15 39 55.3**	**-1.7**
	baz=9.0						
ARLS				⇓*iS*	**Sg**	**15 40 27.7**	**-2.9**
	baz=9.0						
BTK	**Batken**	**2.68**	**288**	⇑*iP*	**Pb**	**15 39 53.5**	**-1.8**
	baz=88						
BTK				⇑*iS*	**Sn**	**15 40 24.3**	**+1.2**
	baz=88						
AML	**Almayashu**	**2.88**	**353**	P	**Pb**	**15 39 58.3**	**-0.6**
	SNR=18						
UCH	**Uchtor**	**2.97**	**5**	P	**Pb**	**15 40 01.1**	**+0.6**
	SNR=22						
UCH	**Uchtor**	**2.97**	**5**	⇑*iP*	**Pb**	**15 40 01.0**	**+0.5**
	baz=10.0						
UCH				⇑*iS*	**Sb**	**15 40 37.5**	**+0.4**
	baz=10.0						
TRKS	**Terek-Say**	**3.22**	**316**	⇑*iP*	**Pn**	**15 40 00.2**	**+2.3**
	baz=18						
TRKS				⇑*iS*	**Sn**	**15 40 36.2**	**-0.2**
	baz=18						
ULHL	**Ulahol**	**3.38**	**28**	P	**Pg**	**15 40 11.4**	**-0.6**
	SNR=8.2						
AAK	**Ala-Archa**	**3.38**	**4**	P	**Pb**	**15 40 06.7**	**-0.6**
	SNR=7.9						
AAK	**Ala-Archa**	**3.38**	**4**	Pn	**Pb**	**15 40 05.9**	**-1.4**
	31nm,0.3s,baz=161,slow=9.8,SNR=18						
AAK				Sn	**Sb**	**15 40 48.9**	**+0.4**
	baz=129,slow=14						
	79nm,0.5s						
AAK	**Ala-Archa**	**3.38**	**4**	*de*PN	**Pb**	**15 40 06.0**	**-1.3**
AAK				pmax	pmax		
	comp=Z,147nm,1.0s						
EKS2	**Erkin-Say**	**3.41**	**356**	P	**Pb**	**15 40 06.8**	**-0.9**
	SNR=18						
EKS2	**Erkin-Say**	**3.41**	**356**	⇓*iP*	**Pb**	**15 40 06.2**	**-1.5**
	baz=60						
EKS2				⇓*iS*	**Sb**	**15 40 46.4**	**-2.8**
	baz=60						
KBK	**Karagaybulak**	**3.44**	**10**	P	**Pb**	**15 40 08.1**	**-0.3**
	SNR=9.8						
KBK	**Karagaybulak**	**3.44**	**10**	⇑*iP*	**Pb**	**15 40 07.1**	**-1.3**
	baz=14						
KBK				⇑*iS*	**Sb**	**15 40 48.9**	**-1.4**
	baz=14						
MRKS	**Merke**	**3.54**	**349**	*e*P	**Pb**	**15 40 09.7**	**-0.3**
	comp=Z,83nm,0.9s						
MRKS				*e*S	**Sb**	**15 40 52.4**	**-0.8**
	comp=Z,178nm,1.1s						
CHMS	**Chumysh**	**3.76**	**7**	P	**Pb**	**15 40 11.8**	**-1.9**
	SNR=15						
CHMS	**Chumysh**	**3.76**	**7**	⇑Pn	**Pb**	**15 40 10.7**	**-3.0**
	comp=Z,61nm,0.7s						
CHMS				⇓Lg	Lg	15 41 05.4	
	comp=Z,186nm,1.1s						
CHMS	**Chumysh**	**3.76**	**7**	PN	**Pb**	**15 40 10.7**	**-3.0**
TKM2	**Tokmak 2**	**3.82**	**16**	P	Pn	15 39 36.5	-30
	SNR=5.9						
TKM2	**Tokmak 2**	**3.82**	**16**	⇑Pg	**Pg**	**15 40 17.0**	**-3.3**
	comp=Z,47nm,0.5s						
TKM2				⇑Lg	Lg	15 41 10.2	
	comp=Z,80nm,0.7s						
TKM2	**Tokmak 2**	**3.82**	**16**	PN	**Pg**	**15 40 17.0**	**-3.3**
KST	**Kastek**	**4.02**	**19**	*e*P	**Pg**	**15 40 24.1**	**0.0**
	comp=Z,38nm,0.6s						
KST				*e*S	**Sg**	**15 41 18.0**	**+1.7**
	comp=Z,185nm,0.7s						
DGS	**Degeres**	**4.16**	**17**	*e*P	**Pg**	**15 40 25.9**	**-1.0**
	comp=Z,63nm,0.5s						
DGS				*e*S	**Sg**	**15 41 20.8**	**0.0**
	comp=Z,78nm,2.0s						
DZA	**Taraz**	**4.20**	**331**	*e*P	**Pb**	**15 40 17.9**	**-3.3**
	comp=Z,87nm,0.3s						
DZA				*e*S	**Sb**	**15 41 06.9**	**-5.0**
	comp=Z,450nm,0.6s						
SGDS	**Sogindy**	**4.20**	**5**	*e*PN	**Pb**	**15 40 23.0**	**+1.8**
MTBS	**Maitube**	**4.23**	**23**	*e*P	**Pg**	**15 40 27.0**	**-1.2**
	comp=Z,53nm,0.7s						
MTBS				*e*S	**Sg**	**15 41 23.0**	**-0.1**
	comp=Z,68nm,0.7s						
IUG	**Iuzhnay**	**4.25**	**314**	*e*P	Pb	15 40 17.9	-4.0
	comp=Z,202nm,0.3s						
IUG				*e*S	**Sb**	**15 41 07.0**	**-6.3**
	comp=Z,521nm,0.6s						
IUG	**Iuzhnay**	**4.25**	**314**	*e*PN	**Pn**	**15 40 11.8**	**-0.2**
TNSS	**Tian-Shan**	**4.33**	**28**	*e*P	**Pg**	**15 40 31.1**	**+1.1**
	comp=Z,65nm,0.7s						
TNSS				*e*S	**Sg**	**15 41 29.8**	**+3.8**
	comp=Z,57nm,0.7s						
AAA	**Alma-Ata**	**4.46**	**27**	*e*PN	**Pb**	**15 40 21.7**	**-4.0**
MDOK	**Medeo**	**4.47**	**28**	*e*P	**Pg**	**15 40 32.9**	**+0.1**
	comp=Z,46nm,1.0s						
MDOK				*e*S	**Sg**	**15 41 33.4**	**+2.6**
	comp=Z,71nm,1.0s						
MDOK	**Medeo**	**4.47**	**28**	Pg	**Pg**	**15 40 30.9**	**-1.9**
	comp=Z,60nm,0.6s						
MDOK				Lg	Lg	15 41 29.6	
	comp=Z,103nm,0.8s						
MDOK	**Medeo**	**4.47**	**28**	PN	**Pg**	**15 40 30.9**	**-1.9**
KK31	**Karatay Array**	**4.71**	**326**	⇓Pn	**Pn**	**15 40 21.6**	**+3.3**
	comp=Z,65nm,0.8s,baz=128,slow=12,SNR=28						
KK31				⇑Sn	**Sn**	**15 41 17.2**	**+4.2**
	comp=Z,29nm,0.5s,baz=142,slow=27,SNR=4.3						
KK31				⇑Lg	Lg	15 41 35.0	
	comp=Z,27nm,0.4s						
KK31	**Karatay Array**	**4.71**	**326**	PN	**Pn**	**15 40 21.6**	**+3.3**
KK31				S	**Sn**	**15 41 17.2**	**+4.2**
KUU	**Kurty**	**4.91**	**19**	*e*P	**Pg**	**15 40 40.1**	**-1.1**
	comp=Z,57nm,0.7s						
KUU				*e*S	**Sg**	**15 41 45.5**	**+0.7**
	comp=Z,118nm,1.1s						
UZB	**Uzynbulak**	**5.35**	**42**	*e*PN	**Pg**	**15 40 46.6**	**-3.0**
KPKS	**Kokpek**	**5.42**	**38**	*e*PN	Pg	15 40 45.9	-5.0
SHLS	**Shalkode**	**5.59**	**44**	*e*PN	**Pg**	**15 40 53.4**	**-0.8**
CHCP	**Chirah Chowk**	**5.64**	**187**	P	Pn	15 40 38.1	+7.0
ARXS	**Arharly**	**5.66**	**28**	*e*PN	**Pb**	**15 40 45.5**	**-0.6**
CEP	**Cherat**	**5.72**	**199**	P	Pn	15 40 40.5	+8.2
PDGK	**Podgornoye**	**5.72**	**43**	⇑Pg	**Pg**	**15 40 52.5**	**-4.2**
	comp=Z,36nm,0.7s						
PDGK				⇓Lg	Lg	15 42 10.2	
	comp=Z,87nm,0.9s						
PDGK	**Podgornoye**	**5.72**	**43**	PN	**Pg**	**15 40 52.5**	**-4.2**
BTLS	**Baital**	**5.77**	**359**	*e*PN	**Pb**	**15 40 50.8**	**+2.9**
OTUK	**Ortayu**	**9.07**	**352**	⇓Pn	**Pn**	**15 41 21.3**	**+3.2**
	comp=Z,22nm,1.0s						
OTUK				⇓Lg	Lg	15 43 54.0	
	comp=Z,48nm,1.1s						
OTUK	**Ortayu**	**9.07**	**352**	P	**Pn**	**15 41 21.3**	**+3.2**
MAKZ	**Makanchi**	**9.47**	**35**	⇑Pg	Pn	15 41 30.3	+6.7
	comp=Z,3.9nm,0.9s						
MAKZ				⇑Lg	Lg	15 44 07.0	
	comp=Z,11nm,1.2s						
MAKZ	**Makanchi**	**9.47**	**35**	P	Pn	15 41 30.3	+6.7
MK31	**Makanchi Array**	**9.60**	**36**	⇑Pg	Pn	15 41 31.6	+6.2
	comp=Z,2.4nm,0.6s,baz=230,slow=15,SNR=4.0						
MK31				⇑Lg	Lg	15 44 12.7	
	comp=Z,9.2nm,1.0s						
MK31	**Makanchi Array**	**9.60**	**36**	P	Pn	15 41 31.6	+6.2
MKAR	**Makanchi Array**	**9.60**	**36**	Pn	Pn	15 41 30.6	+5.2
	comp=Z,0.2nm,0.3s,baz=216,slow=13,SNR=5.5						
	comp=Z,1.4nm,0.6s						
NDI	**New Delhi**	**10.86**	**165**	*e*P	Pn	15 41 48.0	+5.3
NDI				*e*S	**Sn**	**15 43 43.0**	**-1.2**
WMQ	**Urumqi**	**11.13**	**62**	*e*P	Pn	15 41 52.5	+6.1
KURBB	**Kurchatov Arra**	**11.77**	**14**	Pn	**Pn**	**15 41 57.5**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=200,slow=11,SNR=3.2						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**11.77**	**14**	⇓Lg	Lg	15 45 19.9	
	comp=Z,46nm,1.0s						
KURK	**Kurchatov**	**11.88**	**14**	⇑Lg	Lg	15 45 23.4	
	comp=Z,34nm,1.3s						
KURK	**Kurchatov**	**11.88**	**14**	P	Pn	**15 41 57.5**	**+1.0**
GEYT	**Alibeck**	**12.61**	**269**	Pn	**Pn**	**15 42 06.5**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=93,slow=19,SNR=3.2						
GEYT				Sn	**Sn**	**15 44 26.6**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=94,slow=17,SNR=5.1						
	comp=Z,1.3nm,0.5s						
BVA0	**Borovoye Array**	**14.00**	**351**	⇓Pn	**P**	**15 42 32.6**	**-1.0**
	comp=Z,13nm,0.9s						
BVA0	**Borovoye Array**	**14.00**	**351**	P	**P**	**15 42 32.6**	**-1.0**
BVAR	**Borovoye Array**	**14.00**	**351**	Pn	**Pn**	**15 42 26.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=13,SNR=8.8						
	comp=Z,4.5nm,0.7s						
BRVK	**Borovoye**	**14.05**	**350**	⇑Pn	**P**	**15 42 32.4**	**-1.6**
	comp=Z,21nm,1.0s						
BRVK	**Borovoye**	**14.05**	**350**	P	**P**	**15 42 32.4**	**-1.6**
DGZ	**Jazzator, Alta**	**14.08**	**38**	⇓*eP*	**P**	**15 42 35.4**	**+0.8**
AB31	**Akbulak array**	**14.23**	**319**	⇑Pn	**Pn**	**15 42 27.6**	**-1.1**
	comp=Z,6.0nm,0.7s,baz=126,slow=13,SNR=11						
AB31	**Akbulak array**	**14.23**	**319**	P	**Pn**	**15 42 27.6**	**-1.1**
AKTO	**Aktyubinsk**	**15.94**	**320**	⇑Pn	**Pn**	**15 42 52.1**	**+0.7**
	comp=Z,9.1nm,0.9s						
AKTO	**Aktyubinsk**	**15.94**	**320**	P	**Pn**	**15 42 52.1**	**+0.7**
ZALV	**Zalesovo Beam**	**16.39**	**23**	Pn	**P**	**15 42 58.6**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=207,slow=11,SNR=3.3						
	comp=Z,1.5nm,0.5s						
ARU	**Arti**	**20.02**	**334**	P	**Pn**	**15 43 41.7**	**0.0**
	comp=Z,8.9nm,0.8s,baz=142,slow=12,SNR=2.4						
	comp=Z,8.9nm,0.8s						
ARU	**Arti**	**20.02**	**334**	*c iP*	**Pn**	**15 43 43.9**	**+2.2**
ARU						15 43 57.2	
ARU				S	**Sn**	**15 47 32.2**	**+5.5**
ARU				SS	**SnSn**	**15 47 49.7**	**+8.7**
ARU				pmax	pmax		
	comp=Z,20nm,1.1s						
BELG	**Belogornoye**	**22.51**	**314**	P	**P**	**15 44 08.3**	**+1.6**
	comp=Z,16nm,0.8s,baz=146,slow=7.3,SNR=4.4						
	comp=Z,16nm,0.8s						
BELG	**Belogornoye**	**22.51**	**314**	⇓*eP*	**P**	**15 44 09.0**	**+2.3**
BELG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GNI	**Garni**	**22.59**	**282**	P	**P**	**15 44 09.0**	**+1.1**
	comp=Z,4.8nm,0.6s,baz=143,slow=10,SNR=2.6						
	comp=Z,4.8nm,0.6s						
GNI	**Garni**	**22.59**	**282**	⇓*eP*	**P**	**15 44 12.0**	**+4.0**
GNI				pmax	pmax		
	comp=Z,28nm,1.2s						
KBZ	**Khabaz**	**23.74**	**291**	P	**P**	**15 44 20.4**	**+1.0**
	comp=Z,2.9nm,1.0s,baz=75,slow=16,SNR=2.3						
	comp=Z,2.9nm,1.0s						
KIV	**Kislovodsk**	**23.89**	**292**	*e*P	**P**	**15 44 24.2**	**+3.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**24.75**	**59**	P	**P**	**15 44 30.2**	**+1.3**
	comp=Z,6.0nm,0.8s,baz=276,slow=10,SNR=3.8						
	comp=Z,6.0nm,0.8s						
RAYN	**Ar Rayn**	**28.89**	**246**	⇑P	**P**	**15 45 07.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**29.86**	**127**	P	**P**	**15 45 14.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=329,slow=3.4,SNR=1.9						
	comp=Z,0.4nm,0.3s						
BRTR	**Keskin Array B**	**31.07**	**284**	*ce*P	**P**	**15 45 28.7**	**+3.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**33.27**	**305**	P	**P**	**15 45 44.7**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=82,slow=7.1,SNR=8.0						
	comp=Z,0.4nm,0.4s						
AKASG	**Malin Array Be**	**33.27**	**305**	*ce*P	**P**	**15 45 47.5**	**+3.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MLR	**Muntele Rosu**	**35.70**	**296**	P	**P**	**15 46 06.7**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=185,slow=13,SNR=5.6						
	comp=Z,3.2nm,0.6s						
FINES	**FINESS Array B**	**36.67**	**323**	P	**P**	**15 46 14.6**	**+0.9**
	comp=Z,1.9nm,0.4s,baz=107,slow=9.0,SNR=14						
	comp=Z,1.9nm,0.4s						
NJ2	**Nanjing**	**36.74**	**87**	*e*P	**P**	**15 46 16.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.8s						
ARCES	**ARCESS Array B**	**39.60**	**336**	P	**P**	**15 46 38.7**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=105,slow=7.9,SNR=5.5						
	comp=Z,1.8nm,0.6s						
HFS	**Hagfors**	**42.49**	**320**	P	**P**	**15 47 02.3**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=95,slow=12,SNR=3.3						
	comp=Z,4.3nm,0.8s						
GERES	**GERESS Array B**	**43.43**	**303**	P	**P**	**15 47 11.0**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=67,slow=7.7,SNR=1.9						
	comp=Z,0.5nm,0.5s						
GERES	**GERESS Array B**	**43.43**	**303**	P	**P**	**15 47 11.0**	**+0.9**
NB2	**NORSAR Subarra**	**43.73**	**321**	P	**P**	**15 47 13.0**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**43.73**	**321**	P	**P**	**15 47 12.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=97,slow=7.7,SNR=5.6						
	comp=Z,1.7nm,0.8s						
**ES

RBU	**Red Butte Cany**	**0.35**	**19**			**Pg**	**15 45 46.2**	**-0.1**
WMUT	**West Mountain**	**0.39**	**165**			**Pg**	**15 45 47.3**	**+0.3**
JLU	**Jordanelle**	**0.42**	**69**			**Pg**	**15 45 47.8**	**+0.3**
JLU	**Jordanelle**	**0.42**	**69**	IAML			15 45 54.0	
	comp=N,1µm,0.3s							
JLU				IAML			15 45 54.2	
	comp=E,1µm,0.3s							
O16A	**Springville**	**0.43**	**125**			**Pg**	**15 45 48.0**	**+0.3**
LDJ	**Lady**	**0.44**	**73**			**Pb**	**15 45 48.7**	**-0.5**
RCJ	**Ross Creek**	**0.45**	**62**			**Pb**	**15 45 48.5**	**-0.9**
HLJ	**Hailstone**	**0.46**	**70**			**Pb**	**15 45 48.7**	**-0.7**
KLJ	**Keetly**	**0.46**	**67**			**Pb**	**15 45 48.8**	**-0.8**
HEB	**Heber**	**0.48**	**84**			**Pb**	**15 45 49.4**	**-0.5**
MPU	**Maple Canyon**	**0.50**	**150**			**Pb**	**15 45 49.4**	**-0.8**
MPU	**Maple Canyon**	**0.50**	**150**	IAML			15 45 57.7	
	comp=N,549nm,0.1s							
MPU				IAML			15 45 59.3	
	comp=E,528nm,0.2s							
NLU	**North Lily Min**	**0.51**	**190**			**Pg**	**15 45 49.0**	**-0.1**
NLU	**North Lily Min**	**0.51**	**190**	IAML			15 45 56.2	
	comp=N,1µm,0.2s							
NLU				IAML			15 45 59.7	
	comp=E,938nm,0.5s							
DAU	**Daniels Canyon**	**0.54**	**94**			**Pb**	**15 45 50.5**	**-0.4**
SUU	**Santaquin Cany**	**0.58**	**167**			**Pg**	**15 45 50.5**	**+0.1**
FPU	**Francis Peak**	**0.58**	**9**			**Pg**	**15 45 50.4**	**-0.2**
N16A	**Rees Ranch, Co**	**0.59**	**42**			**Pb**	**15 45 51.4**	**-0.3**
NAIU	**Northern Antel**	**0.60**	**340**			**Pg**	**15 45 50.5**	**-0.4**
SNUT	**Stansbury Nort**	**0.60**	**316**			**Pg**	**15 45 50.7**	**-0.2**
HTU	**Hoyt Peak**	**0.61**	**68**			**Pb**	**15 45 51.8**	**-0.3**
WBC	**Weber Canyon**	**0.69**	**4**			**Pb**	**15 45 52.8**	**-0.6**
DUG	**Dugway, Tooele**	**0.70**	**249**			**Pg**	**15 45 52.2**	**-0.6**
DUG	**Dugway, Tooele**	**0.70**	**249**	IAML			15 46 05.3	
	comp=E,2µm,0.3s							
DUG	**Dugway, Tooele**	**0.70**	**249**	P		**Pg**	**15 45 52.1**	**-0.6**
	baz=67							
DUG				S		**Sg**	**15 46 01.3**	**-0.7**
	baz=67							
TCUT	**Toone Canyon**	**0.79**	**32**			**Pb**	**15 45 54.7**	**-0.4**
TCUT	**Toone Canyon**	**0.79**	**32**			**Pb**	**15 45 54.8**	**-0.4**
LHUT	**Little Humpy P**	**0.85**	**59**			**Pb**	**15 45 56.7**	**+0.3**
BSUT	**Blindstream Ca**	**0.92**	**84**			**Pb**	**15 45 57.3**	**-0.2**
SPUT	**South Promonto**	**0.93**	**337**			**Pg**	**15 45 56.6**	**-0.6**
SPUT	**South Promonto**	**0.93**	**337**	IAML			15 46 12.0	
	comp=N,739nm,0.5s							
SPUT				IAML			15 46 12.0	
	comp=E,458nm,0.7s							
BGU	**Big Grassy Mou**	**0.94**	**301**			**Pg**	**15 45 56.6**	**-0.8**
BGU	**Big Grassy Mou**	**0.94**	**301**	IAML			15 46 10.3	
	comp=N,751nm,0.5s							
BGU				IAML			15 46 11.1	
	comp=E,1µm,0.5s							
LEVU	**Levan**	**0.95**	**173**			**Pg**	**15 45 57.2**	**-0.3**
ELU	**Electric Lake**	**1.00**	**144**			**Pn**	**15 45 59.1**	**-0.5**
EPU	**East Promontor**	**1.00**	**340**			**Pg**	**15 45 57.8**	**-0.7**
MCU	**Monte Cristo P**	**1.06**	**19**			**Pg**	**15 45 59.1**	**-0.7**
EMUT	**Emma Park**	**1.08**	**126**			**Pn**	**15 46 00.4**	**-0.3**
FLU	**Fool Peak**	**1.08**	**189**			**Pg**	**15 45 59.5**	**-0.6**
WVUT	**Wellsville**	**1.16**	**0**			**Pg**	**15 46 00.6**	**-0.9**
LTU	**Little Mountai**	**1.16**	**349**			**Pb**	**15 46 00.5**	**-0.9**
HWUT	**Hardware Ranch**	**1.19**	**14**			**Pb**	**15 46 01.5**	**-0.5**
HWUT	**Hardware Ranch**	**1.19**	**14**	IAML			15 46 20.3	
	comp=E,690nm,0.9s							
HWUT				IAML			15 46 23.3	
	comp=E,494nm,1.1s							
ARGU	**Argyle Ridge**	**1.25**	**120**			**Pg**	**15 46 03.6**	**+0.2**
SGU	**Sterling**	**1.29**	**169**			**Pg**	**15 46 03.7**	**-0.4**
TMUT	**Trail Mountain**	**1.29**	**153**			**Pn**	**15 46 03.4**	**-0.2**
TMUT				IAML			15 46 28.4	
	comp=E,291nm,0.5s							
TMUT				IAML			15 46 30.6	
	comp=N,354nm,0.7s							
DCM	**Dugout Coal Mi**	**1.30**	**125**			**Pg**	**15 46 04.1**	**-0.1**
FSU	**Fish Springs**	**1.32**	**237**			**Pn**	**15 46 02.5**	**-1.3**
DBD	**Des Bee Dove**	**1.32**	**149**			**Pg**	**15 46 04.7**	**+0.1**
P17A	**Butcher Ranch,**	**1.35**	**136**			**Pn**	**15 46 04.0**	**-0.4**
HDU	**Hyde Park**	**1.36**	**6**			**Pn**	**15 46 04.0**	**-0.4**
BCE	**Book Cliffs Ea**	**1.46**	**125**			**Pg**	**15 46 06.6**	**-0.6**
ROA	**Roan Cliffs**	**1.46**	**122**			**Pg**	**15 46 06.8**	**-0.4**
HVU	**Hansel Valley**	**1.46**	**335**			**Pn**	**15 46 04.6**	**-1.2**
HVU	**Hansel Valley**	**1.46**	**335**	IAML			15 46 27.5	
	comp=N,373nm,0.3s							
HVU				IAML			15 46 28.1	
	comp=E,332nm,0.4s							
PTU	**Portage**	**1.50**	**350**			**Pn**	**15 46 05.5**	**-0.9**
P18A	**Preston Nutter**	**1.55**	**121**			**Pg**	**15 46 08.4**	**-0.6**
P18A	**Preston Nutter**	**1.55**	**121**	IAML			15 46 30.1	
	comp=N,277nm,0.5s							
P18A				IAML			15 46 32.2	
	comp=E,181nm,0.5s							
Q16A	**Castle Valley**	**1.65**	**158**			**Pn**	**15 46 07.7**	**-0.7**
SRU	**San Rafael Swe**	**1.74**	**140**			**Pn**	**15 46 09.5**	**-0.1**
SRU				IAML			15 46 36.5	
	comp=N,193nm,0.5s							
SRU				IAML			15 46 43.2	
	comp=E,221nm,0.6s							
NPI	**North Pocatell**	**1.75**	**346**			**Pn**	**15 46 08.9**	**-0.8**
RDMU	**Red Mountain**	**1.83**	**86**			**Pn**	**15 46 11.4**	**+0.5**
TCRU	**Three Creeks R**	**1.88**	**192**	Pn		Pn	15 46 06.6	-5.0
TCRU				IAML			15 46 40.0	
	comp=N,269nm,0.8s							
TCRU				IAML			15 46 43.5	
	comp=E,267nm,0.9s							
MSU	**Marysvale**	**1.94**	**185**			**Pn**	**15 46 12.5**	**0.0**
MVU	**Marysvale**	**1.96**	**186**	Pn		**Pn**	**15 46 11.8**	**-0.8**
SPR3	**Spring Creek 3**	**2.33**	**232**	Pn		**Pn**	**15 46 18.1**	**+0.2**
SPR3				IAML			15 46 58.5	
	comp=E,70nm,0.5s							
SPR3				IAML			15 46 58.7	
	comp=N,93nm,0.7s							
AHID	**Auburn Hatcher**	**2.40**	**15**			**Pn**	**15 46 17.6**	**-1.2**
PSUT	**Pine Spring**	**2.41**	**218**			**Pn**	**15 46 18.4**	**-0.5**
PSUT				IAML			15 46 59.1	
	comp=E,93nm,0.6s							
PSUT				IAML			15 46 60.0	
	comp=N,86nm,0.8s							
MTPU	**Mount Pierson**	**2.41**	**184**			**Pn**	**15 46 17.9**	**-1.2**
ELK	**Elko**	**2.51**	**278**			**Pn**	**15 46 19.3**	**-1.0**
ELK				IAML			15 46 59.5	
	comp=N,136nm,0.3s							
ECR	**Eagle Creek**	**2.64**	**9**			**Pn**	**15 46 21.7**	**-0.3**
O20A	**White River Ci**	**2.86**	**95**			**Pn**	**15 46 25.9**	**+0.8**
O20A	**White River Ci**	**2.86**	**95**	Pb		**Pb**	**15 46 30.4**	**0.0**
	baz=278							
O20A				Sb		**Sb**	**15 47 07.9**	**+2.3**
	baz=278							
BW06	**Boulder Array**	**2.93**	**37**			**Pn**	**15 46 26.9**	**+0.9**
BW06				IAML			15 47 14.8	
	comp=N,83nm,0.5s							
BW06				IAML			15 47 18.3	
	comp=N,108nm,0.9s							
BW06	**Boulder Array**	**2.93**	**37**	Pb		**Pb**	**15 46 31.5**	**-0.2**
	baz=219							
BW06				Sb		**Sb**	**15 47 10.0**	**+2.4**
	baz=219							
PD31	**Pinedale Array**	**2.93**	**37**			**Pn**	**15 46 26.4**	**+0.4**
PDAR	**Pinedale Array**	**2.93**	**37**	Pn		**Pn**	**15 46 26.2**	**+0.1**
	comp=N,5.4nm,0.5s,baz=208,slow=16,SNR=58							
PDAR				Pg		**Pb**	**15 46 31.2**	**-0.4**
	comp=N,12nm,0.3s,baz=211,slow=16,SNR=66							
PDAR				Lg		Lg	15 47 09.5	
	comp=N,30nm,0.3s,baz=225,slow=29,SNR=26							
PDAR	**Pinedale Array**	**2.93**	**37**			**Pn**	**15 46 26.5**	**+0.4**
SZCU	**Shurtz Canyon**	**2.98**	**197**			**Pn**	**15 46 26.6**	**-0.2**
SZCU				IAML			15 47 18.2	
	comp=N,56nm,0.3s							
SZCU				IAML			15 47 20.6	
	comp=E,66nm,0.5s							
PKCU	**Pink Cliffs**	**3.02**	**185**			**Pn**	**15 46 26.0**	**-1.3**
PKCU				IAML			15 47 17.9	
	comp=N,58nm,1.5s							
PKCU				IAML			15 47 20.0	
	comp=E,98nm,0.5s							
REDW	**Red Top Meadow**	**3.02**	**16**			**Pn**	**15 46 27.4**	**0.0**
PV23	**Carpenter Ridg**	**3.03**	**130**			**Pn**	**15 46 28.4**	**+0.9**
CCUT	**Cedar City**	**3.10**	**201**			**Pn**	**15 46 28.3**	**0.0**
SNOW	**Snow King Moun**	**3.14**	**16**			**Pn**	**15 46 30.0**	**+1.1**
SNOW				IAML			15 47 22.3	
	comp=E,130nm,0.6s							
PV11	**David Mesa, Pa**	**3.22**	**131**	Pn		**Pn**	**15 46 31.1**	**+1.2**
PV07	**Paradox Valley**	**3.26**	**127**			**Pn**	**15 46 30.2**	**-0.4**
PV07				IAML			15 47 24.1	
	comp=E,112nm,0.9s							
LOHW	**Long Hollow**	**3.32**	**17**			**Pn**	**15 46 32.0**	**+0.7**
LOHW				IAML			15 47 24.4	
	comp=E,94nm,0.5s							
LOHW				IAML			15 47 25.6	
	comp=E,89nm,0.6s							
PV13	**Radium Mtn., P**	**3.34**	**132**			**Pn**	**15 46 33.3**	**+1.5**
PV13				IAML			15 47 27.5	
	comp=N,72nm,0.5s							
PV13				IAML			15 47 31.3	
	comp=E,97nm,0.5s							
MOOW	**Moose Ponds**	**3.42**	**15**			**Pn**	**15 46 33.2**	**+0.5**
PV15	**Paradox Valley**	**3.42**	**127**			**Pn**	**15 46 34.0**	**+1.2**
KNB	**Kanab**	**3.50**	**191**			**Pn**	**15 46 31.7**	**-2.1**
IMW	**Indian Meadow**	**3.52**	**12**			**Pn**	**15 46 35.3**	**+1.1**
IMW				IAML			15 47 37.1	
	comp=E,84nm,0.5s							
HLID	**Hailey**	**3.60**	**330**	Pn		**Pn**	**15 46 35.6**	**+0.3**
HLID	**Hailey**	**3.60**	**330**	P		**Pn**	**15 46 36.0**	**+0.8**
	baz=149							
FLWY	**Flagg Ranch**	**3.75**	**14**			**Pn**	**15 46 38.2**	**+1.0**
FLWY				IAML			15 47 38.7	
	comp=E,40nm,1.2s							
FLWY				IAML			15 47 46.2	
	comp=E,55nm,1.4s							
RWWY	**Rawlins**	**3.80**	**69**			**Pn**	**15 46 39.5**	**+1.5**
RWWY				IAML			15 47 58.3	
	comp=E,64nm,0.9s							
PRN	**Pahroc Range**	**3.88**	**219**			**Pn**	**15 46 39.7**	**+0.7**
PRN				IAML			15 47 45.7	
	comp=N,60nm,0.8s							
PRN				IAML			15 48 00.3	
	comp=E,58nm,0.8s							
SMCO	**Snowmass**	**4.05**	**107**			**Pn**	**15 46 41.6**	**+0.1**
H17A	**Grant Village**	**4.07**	**14**			**Pn**	**15 46 42.9**	**+1.2**
H17A				IAML			15 48 13.1	
	comp=N,48nm,0.2s							
H17A				IAML			15 48 13.6	
	comp=E,41nm,0.1s							
H17A	**Grant Village**	**4.07**	**14**	P		**Pg**	**15 46 54.9**	**-2.3**
	baz=195							
MFID	**Camas Ranch**	**4.13**	**317**			**Pn**	**15 46 41.8**	**-0.6**
MFID				IAML			15 47 53.8	
	comp=E,30nm,0.8s							
MFID				IAML			15 47 53.8	
	comp=E,40nm,0.8s							
MVCO	**Mesa Verde**	**4.22**	**139**	Sb		**Sg**	**15 47 51.5**	**-3.2**
	baz=321							
Q09A	**Carvers**	**4.34**	**250**			**Pn**	**15 46 44.2**	**-1.2**
N23A	**Red Feather La**	**4.60**	**83**	P		**Pg**	**15 47 06.1**	**-1.1**
	baz=266							
TPNV	**Topopah Spring**	**4.85**	**225**	Pn		**Pn**	**15 46 53.6**	**+1.3**
TPNV				IAML			15 48 18.2	
	comp=E,20nm,3.8s							
TPNV				IAML			15 48 24.3	
	comp=E,25nm,3.5s							
TPNV	**Topopah Spring**	**4.85**	**225**	P		**Pn**	**15 46 54.7**	**+2.4**
	baz=42							
KVN	**Kaiserville**	**4.93**	**255**	Pn		**Pn**	**15 46 54.4**	**+0.9**
KVN				IAML			15 48 18.7	
	comp=E,27nm,0.8s							
KVN				IAML			15 48 24.8	
	comp=N,21nm,1.1s							
WUAZ	**Wupatki**	**4.95**	**174**	Pn		**Pn**	**15 46 53.0**	**-0.7**
RLMT	**Red Lodge**	**5.07**	**22**	Pn		**Pn**	**15 46 53.1**	**-2.4**
RLMT				IAML			15 48 16.7	
	comp=N,12nm,3.2s							
RLMT				IAML			15 48 47.7	
	comp=N,12nm,4.5s							
RLMT	**Red Lodge**	**5.07**	**22**	Sb		**Sb**	**15 48 15.0**	**+5.9**
	baz=204							
NVAR	**Mina Array Bea**	**5.31**	**250**	Pn		**Pn**	**15 47 02.1**	**+3.4**
	comp=N,0.4nm,0.3s,baz=81,slow=11,SNR=6.8							
NVAR				Pg		**Pb**	**15 47 15.7**	**+3.5**
	comp=N,2.4nm,0.3s,baz=71,slow=33,SNR=10							
NVAR				Lg		Lg	15 48 26.2	
	comp=N,0.7nm,0.3s,baz=90,slow=22,SNR=1.8							
	comp=N,0.6nm,0.4s							
ULM	**Lac du Bonnet**	**14.93**	**44**	Pn		**Pn**	**15 49 08.4**	**-1.8**
	comp=N,0.2nm,0.3s,baz=217,slow=5.1,SNR=2.1							
ULM				Lg		Lg	15 53 20.7	
	comp=N,0.1nm,0.3s,baz=173,slow=19,SNR=1.3							
	comp=N,1.6nm,0.5s							

WEL 25 15:48:08.3,42°S±13°×17°4E±°,h43km±15km,M2.8/12,
ML2.6/8,MLv2.8/12,Error ellipse: s-maj=0.0km
s-min=0.0km az=146.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUWZ	**Tuamarina**	**0.20**	**57**	P	Pn	15 48 16.3	+0.4
BSWZ	**Blackbirch Sta**	**0.21**	**148**	P	Pn	15 48 16.2	+0.2
NNZ	**Nelson**	**0.41**	**321**	P	Pn	15 48 18.3	+0.3
CMWZ	**Cape Campbell**	**0.42**	**120**	P	Pn	15 48 19.6	+1.4
TCW	**Tory Channel**	**0.53**	**52**	P	Pn	15 48 20.0	+0.5
THZ	**Tophouse**	**0.66**	**249**	P	Pn	15 48 21.4	+0.2
MRNZ	**Matariki Terra**	**0.74**	**280**	P	Pn	15 48 23.0	+0.7
DUWZ	**D'Urville Isla**	**0.75**	**12**	P	Pn	15 48 26.9	+4.5
TKNZ	**Takaka Hill**	**0.76**	**311**	P	Pn	15 48 23.4	+0.7
WEL	**Wellington**	**0.82**	**73**	P	Pn	15 48 24.2	+0.8
CAW	**Cannon Point**	**1.10**	**68**	P	Pn	15 48 27.7	+0.5
KIW	**Kapiti Island**	**1.12**	**53**	P	Pn	15 48 28.7	+1.2
QRZ	**Quartz Range**	**1.15**	**308**	P	Pn	15 48 29.5	+1.6
PLWZ	**Palliser**	**1.15**	**92**	P	Pn	15 48 27.6	-0.4
OGWZ	**Otaki Gorge**	**1.31**	**57**	P	Pn	15 48 30.8	+0.7
MTW	**Mount Morrison**	**1.39**	**75**	P	Pn	15 48 30.7	-0.5

WEL 25 15:48:35.7±0.8,41°S±4°×17°7E±°,h17km±5km,M3.0/26,
ML3.3/16,MLv3.0/26,Error ellipse: s-maj=0.0km
s-min=0.0km az=115.7,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWZ	**Angora Road**	**0.23**	**288**	P	Pb	15 48 41.6	+0.2
ANWZ	**Angora Road**	**0.23**	**288**	P	Pb	15 48 41.6	+0.2
ANWZ				S	Sb	15 48 46.5	+1.2
PRHZ	**Porangahau**	**0.28**	**340**	P	Pb	15 48 42.8	+0.5
PRHZ	**Porangahau**	**0.28**	**340**	P	Pb	15 48 42.8	+0.5
PRHZ				S	Sb	15 48 48.5	+1.7
BFZ	**Birch Farm**	**0.42**	**249**	P	Pb	15 48 45.1	+0.4
BFZ	**Birch Farm**	**0.42**	**249**	P	Pb	15 48 45.1	+0.4
PXZ	**Pawanui**	**0.51**	**9**	P	Pb	15 48 47.2	+1.0
PXZ	**Pawanui**	**0.51**	**9**	P	Pn	15 48 47.2	-1.0
DVHZ	**Dannevirke**	**0.51**	**297**	P	Pb	15 48 46.8	+0.6
DVHZ	**Dannevirke**	**0.51**	**297**	P	Pb	15 48 46.8	+0.6
DVHZ				S	Sn	15 48 55.9	-0.7
WPHZ	**Waipukurau**	**0.53**	**332**	P	Pb	15 48 47.4	+0.9
CPWZ	**Castlepoint**	**0.57**	**228**	P	Pb	15 48 48.0	+0.8
PRWZ	**Pori Road**	**0.60**	**267**	P	Pb	15 48 48.5	+0.7
TIWZ	**Tintock**	**0.71**	**249**	P	Pb	15 48 50.0	+0.3
KAHZ	**Kahuranaki**	**0.74**	**7**	P	Pb	15 48 50.8	+0.6
PNHZ	**Pukenui**	**0.75**	**325**	P	Pg	15 48 51.0	+0.6
POWZ	**Post Office Ro**	**0.77**	**280**	P	Pg	15 48 51.1	+0.4
TSZ	**Takapari Road**	**0.77**	**307**	P	Pg	15 48 51.1	+0.4
TMWZ	**Te Maipa**	**0.88**	**229**	P	Pb	15 48 51.6	-0.9
MRZ	**Mangatainoka R**	**0.91**	**261**	P	Pb	15 48 52.3	-0.7
HOWZ	**Holdsworth Sta**	**1.01**	**248**	P	Pb	15 48 53.7	-1.1
MCHZ	**McNeill Hill**	**1.09**	**357**	P	Pb	15 48 56.0	-0.1
KWHZ	**Kaweka Forest**	**1.14**	**347**	P	Pn	15 48 56.2	-0.8
BHHZ	**Black Hill Sta**	**1.17**	**333**	P	Pb	15 48 57.6	+0.1
ARHZ	**Aropaoanui**	**1.28**	**8**	P	Pn	15 48 58.1	-0.7
MOVZ	**Moawhango**	**1.36**	**325**	P	Pb	15 49 01.1	+0.3
WHVZ	**Whangaehu Hut**	**1.54**	**324**	P	Pb	15 49 04.5	+0.6
WAZ	**Wanganui**	**1.56**	**299**	P	Pg	15 49 05.8	-0.1
ETVZ	**East Tongariro**	**1.61**	**330**	P	Pg	15 49 06.0	-0.7
NGZ	**Ngauruhoe**	**1.62**	**326**	P	Pb	15 49 05.6	+0.3
NNVZ	**North Ngauruho**	**1.65**	**327**	P	Pb	15 49 06.2	+0.4
TWVZ	**Taurewa**	**1.78**	**325**	P	Pg	15 49 14.3	+4.4
RATZ	**Rangitukua**	**1.83**	**335**	P	Pg	15 49 12.0	+1.2
ALRZ	**Allen Road**	**1.99**	**351**	P	Pb	15 49 12.5	+0.9
MUGZ	**Murupara**	**2.05**	**0**	P	Pg	15 49 14.8	-0.3
WPRZ	**Whakapapatarin**	**2.06**	**347**	P	Pb	15 49 12.4	-0.3
URZ	**Urewera**	**2.28**	**7**	P	Pg	15 49 18.3	-1.2
TLZ	**Tolley Road**	**2.39**	**336**	P	Pn	15 49 15.2	+1.0
OMRZ	**Omania**	**2.44**	**353**	P	Pn	15 49 16.2	+1.4
HIZ	**Hauiti**	**2.50**	**323**	P	Pb	15 49 19.0	-1.1
PKE	**Pukeiti**	**2.52**	**301**	P	Pn	15 49 17.1	+1.2
KARZ	**Kaharoa**	**2.54**	**351**	P	Pn	15 49 16.8	+0.6
RUGZ	**Raukumara Rang**	**2.66**	**16**	P	Pb	15 49 24.8	+1.8
OPRZ	**Ohinepanea**	**2.69**	**357**	P	Pn	15 49 19.2	+1.0
TGRZ	**Tauranga**	**2.82**	**352**	P	Pn	15 49 20.1	0.0
INZ	**Inchbonnie**	**4.55**	**239**	P	Pn	15 49 40.5	-3.3

WEL 25 15:49:00.7,39°S±6°×17°6E±°,h63km±16km,M2.7/16,
ML2.9/23,MLv2.7/16,Error ellipse: s-maj=0.0km
s-min=0.0km az=122.7,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRHZ	**Matea Rd**	**0.32**	**108**	P	Pn	15 49 12.1	+0.7
MRHZ	**Matea Rd**	**0.32**	**108**	P	Pn	15 49 12.1	+0.7
TMVZ	**Te Maari**	**0.46**	**214**	P	Pn	15 49 12.3	-0.3
TMVZ	**Te Maari**	**0.46**	**214**	P	Pn	15 49 12.3	-0.3
BKZ	**Black Stump Fm**	**0.56**	**140**	P	Pn	15 49 13.6	0.0
FWVZ	**Far West T-bar**	**0.64**	**216**	P	Pn	15 49 14.9	+0.2
MTHZ	**Maungataniwha**	**0.64**	**101**	P	Pn	15 49 14.5	0.0
NMHZ	**Naumai**	**0.70**	**121**	P	Pn	15 49 15.8	+0.5
RTZ	**Ruatahuna**	**0.75**	**81**	P	Pn	15 49 16.1	+0.3
PKVZ	**Pokaka**	**0.77**	**224**	P	Pn	15 49 16.2	+0.1
MTVZ	**Mangateitei**	**0.78**	**214**	P	Pn	15 49 16.4	+0.2
RAHZ	**Arahi**	**0.84**	**103**	P	Pn	15 49 17.1	+0.2
MCHZ	**McNeill Hill**	**0.88**	**144**	P	Pn	15 49 18.8	+1.4
ARHZ	**Aropaoanui**	**0.92**	**125**	P	Pn	15 49 16.8	-1.1
WHHZ	**Waihua**	**1.00**	**110**	P	Pn	15 49 19.9	+1.0
SNGZ	**Shannon Statio**	**1.02**	**93**	P	Pn	15 49 20.7	+1.4
VRZ	**Vera Road**	**1.07**	**248**	P	Pn	15 49 19.8	+0.1
TOZ	**Tahuroa Road**	**1.09**	**337**	P	Pn	15 49 21.1	+1.1
TOZ	**Tahuroa Road**	**1.09**	**337**	P	Pn	15 49 21.1	+1.1
MWZ	**Matawai**	**1.24**	**72**	P	Pn	15 49 21.7	-0.3
WAZ	**Wanganui**	**1.30**	**218**	P	Pn	15 49 22.5	-0.3
KNZ	**Kokohu**	**1.31**	**103**	P	Pn	15 49 22.4	-0.6
RIGZ	**Rimuhau**	**1.35**	**89**	P	Pn	15 49 23.4	-0.2
TKGZ	**Te Karaka**	**1.45**	**79**	P	Pn	15 49 24.8	-0.1
LREZ	**Lake Rotokare**	**1.46**	**240**	P	Pn	15 49 25.0	+0.1
MHGZ	**Mahia Peninsul**	**1.52**	**106**	P	Pn	15 49 24.8	-1.0
NEZ	**North Egmont**	**1.60**	**250**	P	Pn	15 49 24.4	-2.6
HAZ	**Te Kaha**	**1.69**	**55**	P	Pn	15 49 26.9	-1.1
MKAZ	**Moumakai**	**1.77**	**337**	P	Pn	15 49 29.7	+0.6
PKGZ	**Pakihiroa**	**1.82**	**63**	P	Pn	15 49 29.4	-0.5
KUZ	**Kuaotunu**	**2.00**	**353**	P	Pn	15 49 32.6	+0.3
WMGZ	**Waiomatatini S**	**2.09**	**65**	P	Pn	15 49 32.3	-1.1

*SOME **25** 15:51:24.4,39°.40N×73°.72E,h10km*
*KRNET **25** 15:51:27.5±0.1,39°.31N×73°.82E,mb3.8*
ISC 25 15:51:26.9±2.2,39°.2N±0°.1×73°.73E±0°.04,h10km,n15,
σ1°58/30,6C-6D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.48**	**331**	⇑*i*P	**Pn**	**15 51 54.2**	**+0.4**
	baz=27						
OHH				⇑*i*S	**Sn**	**15 52 13.8**	**+0.5**
	baz=27						
BTK	**Batken**	**2.40**	**291**	⇓*i*P	**Pb**	**15 52 09.5**	**-0.7**
	baz=89						
BTK				⇓*i*S	**Sb**	**15 52 40.2**	**+0.3**
	baz=89						
ARLS	**Aral**	**2.67**	**10**	⇑*i*P	**Pn**	**15 52 11.0**	**+0.9**
	baz=9.0						
ARLS				⇑*i*S	**Sn**	**15 52 43.0**	**+0.4**
	baz=9.0						
NRN	**Naryn**	**2.80**	**37**	⇑*i*P	**Pn**	**15 52 12.5**	**+0.4**
	baz=37						
NRN				⇑*i*S	**Sn**	**15 52 45.8**	**-0.3**
	baz=37						
TRKS	**Terek-Say**	**3.03**	**320**	⇓*i*P	**Pn**	**15 52 16.6**	**+1.5**
	baz=18						
TRKS				⇓*i*S	**Sn**	**15 52 52.1**	**+0.5**
	baz=18						
UCH	**Uchtor**	**3.05**	**11**	⇓*i*P	**Pn**	**15 52 17.3**	**+1.6**
	baz=10.0						
UCH				⇓*i*S	**Sn**	**15 52 53.3**	**+0.8**
	baz=10.0						
MRKS	**Merke**	**3.53**	**354**	*e*P	**Pb**	**15 52 26.9**	**-2.7**
	17nm,0.3s						
MRKS				*e*S	**Sb**	**15 53 12.1**	**-0.5**
	86nm,0.3s						
IUG	**Iuzhnay**	**4.05**	**317

	11nm,0.6s							
TNSS				*e*S		**Sb**	15 59 11.5	**-1.5**
	8.8nm,0.9s							
MDOK	**Medeo**	**4.65**	**32**	*e*P		**Pb**	15 58 17.9	**-3.0**
	21nm,1.1s							
MDOK				*e*S		**Sb**	15 59 15.8	**-1.2**
	15nm,0.6s							
KUU	**Kurty**	**5.03**	**23**	*e*P		**Pb**	15 58 25.2	**-2.1**
	3.6nm,0.2s							
KUU				*e*S		**Sb**	15 59 28.4	**+0.5**
	27nm,0.4s							
CHKK	**Chushkaly**	**5.21**	**28**	*e*P		**Pb**	15 58 28.9	**-1.5**
	4.1nm,0.3s							
CHKK				*e*S		**Sb**	15 59 34.5	**+1.4**
	11nm,0.8s							
BTLS	**Baital**	**5.77**	**3**	*e*P		**Pb**	15 58 39.8	**-0.1**
	1.9nm,0.6s							
BTLS				*e*S		**Sb**	15 59 53.2	**+4.2**
	6.4nm,0.6s							
ARXS	**Arharly**	**5.84**	**31**	*e*P		**Pb**	15 58 41.4	**+0.4**
	17nm,0.7s							
ARXS				*e*S		**Sb**	15 59 56.3	**+5.3**
	9.6nm,1.1s							

KRNET ***25*** *16:03:56.9±0.1, 39°.26N×73°.80E, mb3.7*
SOME ***25*** *16:03:56.7, 39°.35N×73°.83E, h5km*
ISC 25 16:03:59.8±1.7**, 39°.44N**±0°.08×**73°.82E**±0°.03**, h10**km**, n28, σ2§39/48, 12C-6D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.35**	**324**	⇑*i*P	**Pg**	**16 04 25.3**	**-0.4**
	baz=28						
OHH				⇑*i*S	**Sg**	16 04 45.2	**+2.0**
	baz=28						
BTK	**Batken**	**2.40**	**286**	⇓*i*P	**Pb**	16 04 40.2	**-2.9**
	baz=90						
BTK				⇓*i*S	**Sb**	16 05 11.7	**-1.1**
	baz=90						
ARLS	**Aral**	**2.45**	**9**	⇓*i*P	**Pb**	16 04 42.3	**-1.7**
	baz=9.0						
ARLS				⇓*i*S	**Sb**	16 05 15.5	**+1.2**
	baz=9.0						
NRN	**Naryn**	**2.59**	**39**	⇑*i*P	**Pb**	16 04 44.1	**-2.5**
	baz=37						
NRN				⇑*i*S	**Sb**	16 05 18.4	**-0.2**
	baz=37						
AML	**Almayashu**	**2.69**	**358**	P	**Pb**	16 04 47.0	**-1.3**
	SNR=63						
ARK	**Arkit**	**2.75**	**330**	⇓*i*P	**Pb**	16 04 46.4	**-2.7**
	baz=32						
ARK				⇓*i*S	**Sb**	16 05 23.1	**+0.2**
	baz=32						
UCH	**Uchtor**	**2.84**	**10**	P	**Pb**	16 04 48.8	**-2.0**
	SNR=32						
UCH	**Uchtor**	**2.84**	**10**	⇑*i*P	**Pn**	16 04 47.9	**+2.3**
	baz=10.0						
UCH				⇑*i*S	**Sb**	16 05 25.8	**+0.1**
	baz=10.0						
TRKS	**Terek-Say**	**2.92**	**316**	⇑*i*P	**Pn**	16 04 47.3	**+0.8**
	baz=18						
TRKS				⇑*i*S	**Sn**	16 05 24.6	**+2.8**
	baz=18						
EKS2	**Erkin-Say**	**3.22**	**359**	P	**Pb**	16 04 54.3	**-2.9**
	SNR=14						
EKS2	**Erkin-Say**	**3.22**	**359**	⇑*i*P	**Pn**	16 04 53.5	**+3.0**
	baz=60						
EKS2				⇑*i*S	**Sb**	16 05 34.9	**-1.6**
	baz=60						
AAK	**Ala-Archa**	**3.24**	**9**	P	**Pb**	16 04 54.8	**-2.7**
	SNR=19						
KBK	**Karagaybulak**	**3.33**	**14**	P	**Pb**	16 04 55.6	**-3.4**
	SNR=19						
KBK	**Karagaybulak**	**3.33**	**14**	⇑*i*P	**Pn**	16 04 55.2	**+3.2**
	baz=14						
KBK				⇑*i*S	**Sb**	16 05 37.4	**-2.2**
	baz=14						
MRKS	**Merke**	**3.33**	**352**	*e*P	**Pb**	16 05 01.5	**+2.4**
	38nm,0.9s						
MRKS				*e*S	**Sg**	16 05 46.7	**-0.2**
	55nm,0.6s						
CHMS	**Chumysh**	**3.63**	**11**	P	**Pb**	16 05 00.4	**-3.6**
	SNR=7.8						
TKM2	**Tokmak 2**	**3.73**	**20**	P	**Pn**	16 05 00.0	**+2.4**
	SNR=7.2						
USP	**Ospenovka**	**3.86**	**7**	P	**Pb**	16 05 11.0	**+3.1**
	SNR=6.3						
KST	**Kastek**	**3.95**	**23**	*e*P	**Pg**	16 05 12.7	**-2.7**
	12nm,0.4s						
KST				*e*S	**Sg**	16 06 05.6	**-0.9**
	39nm,0.9s						
IUG	**Iuzhnay**	**3.95**	**314**	*e*P	**Pg**	16 05 13.9	**-1.5**
	28nm,0.4s						
IUG				*e*S	**Sg**	16 06 08.4	**+1.7**
	72nm,0.5s						
DGS	**Degeres**	**4.07**	**20**	*e*P	**Pg**	16 05 15.0	**-2.8**
	14nm,0.8s						
DGS				*e*S	**Sg**	16 06 10.8	**+0.2**
	36nm,0.8s						
MTBS	**Maitube**	**4.18**	**27**	*e*P	**Pg**	16 05 17.3	**-2.5**
	12nm,0.6s						
MTBS				*e*S	**Sg**	16 06 13.8	**-0.1**
	26nm,0.4s						
TNSS	**Tian-Shan**	**4.30**	**32**	*e*P	**Pb**	16 05 18.3	**+2.6**
	30nm,0.5s						
TNSS				*e*S	**Sg**	16 06 17.3	**-0.5**
	29nm,1.0s						
MDOK	**Medeo**	**4.44**	**32**	*e*P	**Pb**	16 05 20.3	**+2.3**
	22nm,0.7s						
MDOK				*e*S	**Sg**	16 06 19.6	**-2.8**
	32nm,0.7s						
KUU	**Kurty**	**4.83**	**22**	*e*P	**Pb**	16 05 28.4	**+3.8**
	9.7nm,0.5s						
KUU				*e*S	**Sg**	16 06 33.2	**-1.7**
	35nm,0.4s						
SATY	**Saty**	**5.00**	**42**	*e*P	**Pb**	16 05 30.1	**+2.6**
	7.9nm,0.4s						
SATY				*e*S	**Sg**	16 06 37.2	**-3.2**
	46nm,1.0s						
CHKK	**Chushkaly**	**5.01**	**27**	*e*P	**Pb**	16 05 31.2	**+3.7**
	8.6nm,0.4s						
CHKK				*e*S	**Sg**	16 06 38.1	**-2.4**
	14nm,0.7s						
KURS	**Kuram**	**5.20**	**37**	*e*P	**Pb**	16 05 34.1	**+3.3**
	7.6nm,0.8s						
KURS				*e*S	**Sg**	16 06 43.9	**-2.8**
	28nm,1.2s						

SOME ***25*** *16:08:30.2, 39°.38N×73°.83E, h5km*
IDC ***25*** *16:08:30.2±1.5, 39°.20N×74°.59E, h0km, mb3.6/3, mbtmp3.4/6, ML2.6/3, Error ellipse: s-maj=40.4km s-min=15.9km az=79.0*
KRNET ***25*** *16:08:31.3±0.1, 39°.23N×73°.78E, mb3.7*
ISC 25 16:08:26.7±1.3**, 39°.22N**±0°.06×**74°.02E**±0°.04**, h10**km**, n31, σ1§63/47, mb3.5/3, 12C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.61**	**324**	⇑*i*P	**Pg**	**16 08 59.1**	**+1.5**
	baz=30						
OHH				⇑*i*S	**Sg**	16 09 18.6	**0.0**
	baz=30						
BTK	**Batken**	**2.61**	**290**	⇑*i*P	**Pb**	16 09 12.8	**-0.8**
	baz=91						
BTK				⇑*i*S	**Sb**	16 09 43.0	**-2.8**
	baz=91						
ARLS	**Aral**	**2.65**	**5**	⇑*i*P	**Pg**	16 09 16.1	**-1.3**
	baz=9.0						
ARLS				⇑*i*S	**Sb**	16 09 48.4	**+1.5**
	baz=9.0						
NRN	**Naryn**	**2.68**	**34**	⇓*i*P	**Pg**	16 09 17.1	**-0.9**
	baz=37						
NRN				⇓*i*S	**Sg**	16 09 50.9	**-1.8**
	baz=37						
AML	**Almayashu**	**2.92**	**355**	P	**Pg**	16 09 22.5	**-0.2**
	SNR=11						
ARK	**Arkit**	**3.02**	**329**	⇑*e*P	**Pb**	16 09 19.7	**-0.8**
	baz=32						
ARK				⇑*i*S	**Sb**	16 09 55.0	**-2.5**
	baz=32						
UCH	**Uchtor**	**3.03**	**7**	P	**Pg**	16 09 22.5	**-2.2**
	SNR=34						
UCH	**Uchtor**	**3.03**	**7**	⇓*i*P	**Pb**	16 09 21.7	**+0.8**
	baz=10.0						
UCH				⇓*i*S	**Sb**	16 09 58.8	**+0.7**
	baz=10.0						
TRKS	**Terek-Say**	**3.19**	**317**	⇑*i*P	**Pb**	**16 09 20.9**	**-2.6**
	baz=19						
TRKS				⇑*i*S	**Sn**	16 09 57.3	**+2.1**
	baz=19						
AAK	**Ala-Archa**	**3.43**	**6**	P	**Pb**	16 09 28.9	**+1.3**
	SNR=14						
AAK	**Ala-Archa**	**3.43**	**6**	Pn	**Pb**	16 09 28.2	**+0.6**
	2.0nm,0.3s,baz=164,slow=5.7,SNR=11						
AAK				Sn	**Sb**	16 10 10.0	**+0.6**
	1.3nm,0.3s,baz=162,slow=19,SNR=3.8						
AAK				Lg	Lg	16 10 19.5	
	3.2nm,0.3s,baz=167,slow=19,SNR=4.7						
	11nm,0.4s						
EKS2	**Erkin-Say**	**3.44**	**357**	P	**Pb**	16 09 29.1	**+1.3**
	SNR=17						
EKS2	**Erkin-Say**	**3.44**	**357**	⇑*i*P	**Pb**	16 09 27.0	**-0.8**
	baz=60						
EKS2				⇑*i*S	**Sb**	16 10 07.2	**-2.6**
	baz=60						
KBK	**Karagaybulak**	**3.50**	**11**	P	**Pb**	16 09 29.5	**+0.6**
	SNR=11						
MRKS	**Merke**	**3.57**	**351**	*e*P	**Pg**	16 09 35.8	**+0.7**
	9.0nm,0.5s						
MRKS				*e*S	**Sg**	16 10 23.5	**+2.1**
	54nm,0.5s						
CHMS	**Chumysh**	**3.81**	**8**	P	**Pb**	16 09 33.8	**-0.3**
	SNR=7.0						
TKM2	**Tokmak 2**	**3.88**	**17**	P	**Pb**	16 09 33.7	**-1.6**
	SNR=5.6						
USP	**Ospenovka**	**4.06**	**5**	P	**Pb**	16 09 37.5	**-0.7**
	SNR=5.1						
IUG	**Iuzhnay**	**4.21**	**315**	*e*P	**Pg**	16 09 47.1	**-0.2**
	16nm,0.6s						
IUG				*e*S	**Sg**	16 10 43.8	**+1.8**
	47nm,0.8s						
DGS	**Degeres**	**4.23**	**18**	*e*P	**Pg**	16 09 46.7	**-1.0**
	57nm,0.8s						
DGS				*e*S	**Sg**	16 10 42.7	**+0.2**
	48nm,0.8s						
SGDS	**Sogindy**	**4.25**	**6**	*e*P	**Pg**	16 09 47.8	**-0.3**
	13nm,0.7s						
SGDS				*e*S	**Sg**	16 10 43.6	**+0.4**
	30nm,0.9s						
TNSS	**Tian-Shan**	**4.41**	**29**	*e*P	**Pg**	16 09 49.8	**-1.3**
	25nm,0.6s						
TNSS				*e*S	**Sg**	16 10 48.4	**+0.3**
	15nm,0.6s						
MDOK	**Medeo**	**4.55**	**29**	*e*P	**Pg**	16 09 52.2	**-1.7**
	32nm,0.7s						
MDOK				*e*S	**Sg**	16 10 51.5	**-1.3**
	23nm,1.0s						
KUU	**Kurty**	**4.98**	**20**	*e*P	**Pg**	16 10 00.6	**-1.5**
	18nm,1.1s						
KUU				*e*S	**Sg**	16 11 05.8	**-0.7**
	34nm,0.6s						
CHKK	**Chushkaly**	**5.14**	**25**	*e*P	**Pg**	16 10 05.1	**+0.1**
	14nm,0.6s						
CHKK				*e*S	**Sg**	16 11 11.9	**+0.3**
	21nm,0.7s						
BTLS	**Baital**	**5.82**	**0**	*e*P	**Pg**	16 10 16.0	**-2.0**
	1.6nm,0.2s						
BTLS				*e*S	**Sg**	16 11 33.0	**-0.3**
	8.9nm,0.6s						
MKAR	**Makanchi Array**	**9.69**	**36**	Pn	**Pn**	16 10 50.1	**+4.0**
	0.1nm,0.3s,baz=216,slow=14,SNR=2.0						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**14.03**	**351**	Pn	**P**	16 11 49.4	**-4.0**
	baz=163,slow=10.0,SNR=2.8						
	0.8nm,0.7s						
FINES	**FINESS Array B**	**36.65**	**323**	P	P	16 15 41.1	+8.1
	1.8nm,0.9s,baz=116,slow=9.4,SNR=3.9						
	1.8nm,0.9s						
WRA	**Warramunga Arr**	**81.47**	**124**	P	**P**	**16 20 46.2**	**+2.0**
	0.2nm,0.7s,baz=333,slow=5.5,SNR=2.0						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**83.91**	**127**	P	P	16 21 00.9	+4.0
	0.3nm,0.9s,baz=327,slow=6.6,SNR=2.1						
	0.3nm,0.9s						

SNET ***25*** *16:08:18.7±3.4, 12°.26N×90°.37W, h15km±277km, ML4.5*
UCR ***25*** *16:08:19.0±3.1, 12°.18N×90°.44W, h36km±999km, ML4.4*
NEIC ***25*** *16:08:31.6±2.1, 12°.87N±0°.07×89°.48W±0°.08, h65km±9km, mb4.5/45, Md4.3(SNET), Error ellipse: s-maj=12.3km s-min=8.2km az=49.0*
IDC ***25*** *16:08:31.3±3.5, 12°.91N×89°.46W, h64km±33km, mb3.8/10, mbtmp4.1/12, ML3.4/2, Error ellipse: s-maj=35.3km s-min=14.4km az=58.0*
INET ***25*** *16:08:32.3±0.4, 12°.67N×89°.40W, h15km, MW4.4*
GCG ***25*** *16:08:52.0±0.4, 14°.70N×90°.70W, h30km±3km, MD3.9*
ISC 25 16:08:28.3±0.6**, 12°.72N**±0°.06×**89°.69W**±0°.05**, h43**km**, n104, σ1§74/108, mb4.5/30, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.95**	**14**	*e*P	**Pn**	**16 08 47.5**	**+2.0**
JAYA	**Jayaque - finc**	**0.95**	**14**	*e*P	**Pn**	**16 08 47.5**	**+2.0**
SNET	**Serv Nac Est T**	**1.05**	**25**		**Pn**	**16 08 47.7**	**+1.0**
BOQS	**Boqueron**	**1.08**	**21**	*e*P	**Pn**	**16 08 49.3**	**+2.1**
BOQS	**Boqueron**	**1.08**	**21**	*e*P	**Pn**	**16 08 49.3**	**+2.1**
LFRS	**El Faro**	**1.08**	**34**	*e*P	**Pn**	**16 08 49.5**	**+2.4**
LFRS	**El Faro**	**1.08**	**34**	*e*P	**Pn**	**16 08 49.5**	**+2.4**
CEVE	**Cerro Verde**	**1.10**	**3**	*e*P	**Pn**	**16 08 48.7**	**+1.2**
CEVE				*e*S	Sn	16 09 14.2	+13
CEVE				IAML		16 09 22.8	
	comp=Z,5μm,0.5s						
CEVE	**Cerro Verde**	**1.10**	**3**	*e*P	**Pn**	**16 08 48.7**	**+1.2**
CEVE				*e*S	Sn	16 09 14.2	+13
CEVE				IAML		16 09 22.8	
	comp=Z,5μm,0.5s						
COEG	**Centro de Oper**	**1.19**	**41**	*e*P	**Pn**	**16 08 52.3**	**+3.8**
COEG	**Centro de Oper**	**1.19**	**41**	*e*P	**Pn**	**16 08 52.3**	**+3.8**
PAVA	**Las Pavas**	**1.22**	**36**	*e*P	**Pn**	**16 08 51.5**	**+2.4**
PAVA				*e*P	**Pn**	**16 08 52.8**	**+3.7**
PAVA	**Las Pavas**	**1.22**	**36**	*e*P	**Pn**	**16 08 51.5**	**+2.4**
PAVA				*e*P	**Pn**	**16 08 52.8**	**+3.7**
JUCU	**Jucuar¡n**	**1.50**	**69**	*e*P	**Pn**	**16 08 56.0**	**+3.3**
JUCU	**Jucuar¡n**	**1.50**	**69**	*e*P	**Pn**	**16 08 56.0**	**+3.3**
PACA	**Pacayal**	**1.52**	**61**	*e*P	**Pn**	**16 08 55.7**	**+2.6**
PACA	**Pacayal**	**1.52**	**61**	*e*P	**Pn**	**16 08 55.7**	**+2.6**
PACA	**Pacayal**	**1.52**	**61**	*e*P	**Pn**	**16 08 55.0**	**+1.9**
MTO3	**Montecristo**	**1.69**	**11**	Pn	**Pn**	**16 08 57.2**	**+1.5**
ESQI	**Esquipulas**	**1.85**	**10**		**Pn**	**16 08 60.0**	**+2.2**
PCG	**Pacaya**	**1.89**	**332**	*e*P	**Pn**	**16 09 00.3**	**+2.0**
NBG	**Las Nubes**	**1.96**	**341**	*e*P	**Pn**	**16 09 01.1**	**+1.8**
FUG	**Fuego 3**	**2.05**	**327**	*e*P	**Pn**	**16 08 60.0**	**-0.5**
MRL	**Marmol**	**2.34**	**0**	*e*P	Pn	16 09 11.4	+6.9
SULM	**Suchitepequez,**	**2.41**	**311**	*e*P	**Pn**	**16 09 08.8**	**+3.5**
CRIN	**San Cristobal**	**2.57**	**90**		**Pn**	**16 09 08.6**	**+1.0**
CRIN	**San Cristobal**	**2.57**	**90**	*e*P	**Pn**	**16 09 08.7**	**+1.1**
RTAL	**Retalhuleu**	**2.65**	**313**	Pn	**Pn**	**16 09 11.9**	**+3.4**
STG3	**Santiaguito 3,**	**2.69**	**317**	*e*P	**Pn**	**16 09 08.2**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.69**	**60**		**Pn**	**16 09 10.5**	**+1.2**
CNGN	**Cerro Negro**	**2.92**	**94**		**Pn**	**16 09 13.0**	**+0.6**
CNGN	**Cerro Negro**	**2.92**	**94**	*e*P	**Pn**	**16 09 13.0**	**+0.6**
MOMN	**Momotombo**	**3.09**	**95**	*e*P	**Pn**	**16 09 15.0**	**+0.4**
MATN	**Matagalpa**	**3.67**	**86**		**Pn**	**16 09 22.8**	**0.0**
MATN	**Matagalpa**	**3.67**	**86**	*e*P	**Pn**	**16 09 22.7**	**0.0**
BOAB	**BOACO BROADBAN**	**3.93**	**94**	Pn	**Pn**	**16 09 25.5**	**-0.7**
BOAB	**BOACO BROADBAN**	**3.93**	**94**	*e*P	**Pn**	**16 09 26.3**	**+0.1**
ACON	**Acoyapa**	**4.47**	**99**	Pn	**Pn**	**16 09 33.3**	**-0.3**
ORTG	**Ortega, Santa**	**4.76**	**119**	Pn	**Pn**	**16 09 38.9**	**+1.2**
DUNO	**Dulce Nombre,**	**4.88**	**122**		**Pn**	**16 09 39.7**	**+0.5**
JTS	**Las Juntas de**	**5.23**	**117**	P	**Pn**	**16 09 45.9**	**+1.9**
	comp=Z,5.1nm,0.3s,baz=14,slow=22,SNR=23						
JTS				S	**Sn**	16 10 44.2	**+1.1**
	comp=Z,20nm,0.8s,baz=302,slow=16,SNR=1.4						
	comp=Z,12nm,0.3s						
JTS	**Las Juntas de**	**5.23**	**117**		**Pn**	**16 09 45.6**	**+1.5**
RIMA	**Rio Macho**	**6.42**	**117**		**Pn**	**16 10 03.1**	**+2.5**
CMIG	**Matias Romero**	**6.64**	**311**	P	**Pn**	**16 10 03.1**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=120,slow=12,SNR=8.0						
CMIG				S	**Sn**	16 11 21.7	**+3.8**
	comp=Z,13nm,0.6s,baz=130,slow=20,SNR=2.2						
SRBA	**San Rafael, Bu**	**7.11**	**119**	Pn	**Pn**	**16 10 13.0**	**+3.0**
URIC	**Uribia, Colomb**	**17.32**	**91**	Pn	**Pn**	**16 12 23.8**	**-3.3**
URIC				IAmb	IAmb	16 12 28.8	
	comp=Z,32nm,1.3s						
SDV	**Santo Domingo**	**19.10**	**100**	P	**P**	**16 12 46.3**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=343,slow=11,SNR=2.4						
	comp=Z,3.1nm,0.5s						
NATX	**Nacogdoches**	**19.49**	**347**	P	**P**	**16 12 49.8**	**-2.0**
LRAL	**Lakeview Retre**	**20.37**	**6**		**P**	**16 13 00.9**	**-0.4**
WHTX	**Lake Whitney,**	**20.46**	**341**	P	**P**	**16 13 00.8**	**-1.6**
WHTX				IAmb	IAmb	16 13 03.4	
	comp=Z,34nm,1.2s						
TXAR	**Lajitas Array**	**21.02**	**324**	P	**P**	**16 13 10.4**	**+1.8**
	comp=Z,9.9nm,0.8s,baz=150,slow=11,SNR=69						
	comp=Z,9.9nm,0.8s						
TXAR	**Lajitas Array**	**21.02**	**324**	P	**P**	**16 13 09.8**	**+1.2**
TX31	**Lajitas Ar. Si**	**21.02**	**324**	P	**P**	**16 13 10.4**	**+1.8**
TX32	**Lajitas Array**	**21.02**	**324**	P	**P**	**16 13 10.2**	**+1.7**
TX32				IAmb	IAmb	16 13 20.5	
	comp=Z,15nm,0.8s						
Y49A	**Blount Mountai**	**21.25**	**8**	P	**P**	**16 13 10.7**	**-0.2**
Y49A				IAmb	IAmb	16 13 13.5	
	comp=Z,13nm,0.6s						
GOGA	**Godfrey**	**21.36**	**14**	P	**P**	**16 13 10.5**	**-1.5**
BAUV	**El Baul**	**21.58**	**98**	P	**P**	**16 13 13.5**	**-1.1**
BAUV				IAmb	IAmb	16 13 36.2	
	comp=Z,14nm,0.7s						
MIAR	**Mount Ida**	**22.01**	**351**	P	**P**	**16 13 19.0**	**0.0**
MIAR				IAmb	IAmb	16 13 22.7	
	comp=Z,21nm,1.0s						
FPAL	**Fort Paine**	**22.03**	**9**	P	**P**	**16 13 17.0**	**-2.3**
UALR	**University of**	**22.09**	**354**	P	**P**	**16 13 19.7**	**0.0**
PLAL	**Pickwick Lake**	**22.21**	**3**	P	**P**	**16 13 19.9**	**-1.2**
HODGE	**Hodges**	**22.45**	**16**	P	**P**	**16 13 21.4**	**-2.4**
WHAR	**Wooly Hollow**	**22.59**	**354**	P	**P**	**16 13 26.2**	**+1.1**
WHAR				IAmb	IAmb	16 13 27.8	
	comp=Z,22nm,1.0s						
SWET	**Sewanee**	**22.65**	**8**	P	**P**	**16 13 25.5**	**-0.4**
SWET				IAmb	IAmb	16 13 28.4	
	comp=Z,9.8nm,0.7s						
X34A	**Smith Ranch, M**	**23.00**	**343**	P	**P**	**16 13 27.7**	**-1.8**
X34A				IAmb	IAmb	16 13 33.1	
	comp=Z,19nm,0.7s						
FCAR	**Ozark Folk Cen**	**23.17**	**355**	P	**P**	**16 13 28.3**	**-2.8**
FCAR				IAmb	IAmb	16 13 33.6	
	comp=Z,15nm,1.2s						
LCAR	**Lake Charles**	**23.28**	**357**	P	**P**	**16 13 31.5**	**-0.8**
WVT	**Waverly**	**23.36**	**4**	P	**P**	**16 13 32.7**	**-0.3**
WVT				IAmb	IAmb	16 13 34.4	
	comp=Z,28nm,1.4s						
BIRD	**Birdtown, Kers**	**23.38**	**19**	P	**P**	**16 13 31.1**	**-2.1**
BIRD				IAmb	IAmb	16 13 35.5	
	comp=Z,14nm,0.7s						
WMOK	**Wichita Mounta**	**23.42**	**341**	P	**P**	**16 13 32.5**	**-1.1**
TKL	**Tuckaleechee C**	**23.45**	**12**	P	**P**	**16 13 33.8**	**-0.1**
	comp=Z,7.5nm,0.7s,baz=179,slow=12,SNR=13						
	comp=Z,7.5nm,0.7s						
TKL	**Tuckaleechee C**	**23.45**	**12**	P	**P**	**16 13 33.6**	**-0.3**
CLTN	**Cedars of Leba**	**23.46**	**7**	P	**P**	**16 13 34.0**	**0.0**
CLTN				IAmb	IAmb	16 13 35.7	
	comp=Z,12nm,0.8s						
FNO	**Franklin**	**23.50**	**344**		**P**	**16 13 33.3**	**-1.1**
RLO	**Rose Lookout**	**23.83**	**349**		**P**	**16 13 37.3**	**-0.2**
RLO				IAmb	IAmb	16 13 39.2	
	comp=Z,9.0nm,0.9s						
U49A	**Red Boiling Sp**	**23.95**	**8**	P	**P**	**16 13 38.6**	**+0.1**
U49A				IAmb	IAmb	16 13 41.2	
	comp=Z,13nm,0.8s						
MGMO	**Mountain Grove**	**24.44**	**355**	P	**P**	**16 13 42.6**	**-0.5**
AMTX	**Amarillo**	**24.60**	**336**	P	**P**	**16 13 44.7**	**+0.1**
AMTX				IAmb	IAmb	16 13 55.5	
	comp=Z,13nm,0.8s						
S44A	**Carbondale**	**24.87**	**1**	P	**P**	**16 13 47.8**	**+0.9**
S39A	**Bolivar**	**25.07**	**353**	P	**P**	**16 13 47.0**	**-1.8**
S39A				IAmb	IAmb	16 13 50.7	
	comp=Z,11nm,0.7s						
CCM	**Cathedral Cave**	**25.27**	**357**	P	**P**	**16 13 49.8**	**-0.7**
CCM				IAmb	IAmb	16 13 52.7	
	comp=Z,13nm,0.7s						
R40A	**Maddies Statio**	**25.57**	**355**	P	**P**	**16 13 51.9**	**-1.3**
Q44A	**Meyer Farm, Va**	**26.08**	**1**	P	**P**	**16 13 57.9**	**0.0**
Q44A				IAmb	IAmb	16 14 01.5	
	comp=Z,29nm,1.0s						
I37A	**Lemond, Waseca**	**31.34**	**355**	P	**P**	**16 14 44.9**	**+0.2**
ECSD	**EROS Data Cent**	**31.47**	**350**	P	**P**	**16 14 45.1**	**-0.8**
ECSD				IAmb	IAmb	16 14 46.1	
	comp=Z,19nm,1.4s						
PDAR	**Pinedale Array**	**34.53**	**334**	P	**P**	**16 15 12.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=130,slow=9.5,SNR=4.3						
	comp=Z,0.3nm,0.5s						
REDW	**Red Top Meadow**	**35.58**	**333**	P	**P**	**16 15 22.0**	**+0.1**
REDW				IAmb	IAmb	16 15 32.8	
	comp=Z,5.3nm,0.8s						
AGMN	**Agassiz Nation**	**35.84**	**353**		**P**	**16 15 23.6**	**-0.1**
LPAZ	**La Paz**	**35.85**	**143**	P	**P**	**16 15 25.9**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=308,slow=8.4,SNR=2.2						
	comp=Z,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**36.08**	**320**	P	**P**	**16 15 27.0**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=121,slow=8.0,SNR=9.1						
NVAR				PcP	**PcP**	**16 17 53.0**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=142,slow=3.1,SNR=4.9						
	comp=Z,1.3nm,0.8s						
ULM	**Lac du Bonnet**	**37.76**	**354**	P	**P**	**16 15 39.5**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=191,slow=8.0,SNR=3.7						
	comp=Z,2.7nm,0.6s						
SCHQ	**Schefferville**	**45.67**	**18**	P	**P**	**16 16 43.9**	**-0.9**
	comp=Z,6.8nm,0.7s,baz=222,slow=7.2,SNR=8.1						
	comp=Z,6.8nm,0.7s						
SCHQ	**Schefferville**	**45.67**	**18**	P	**P**	**16 16 43.5**	**-1.2**
**C

AAK	**Ala-Archa**	**3.21**	**8**	Pn		**Pb**	**16 11 31.6**	**-0.2**	
	7.2nm,0.3s,baz=168,slow=6.0,SNR=6.1								
AAK				Sn		**Sg**	**16 12 16.8**	**-1.0**	
	6.1nm,0.3s,baz=15,slow=16,SNR=8.1								
	46nm,0.5s								
MRKS	**Merke**	**3.33**	**351**	*e*P		**Pb**	**16 11 34.1**	**+0.2**	
	19nm,0.6s								
MRKS				*e*S		**Sb**	**16 12 16.3**	**+1.8**	
	182nm,0.9s								
KST	**Kastek**	**3.91**	**23**	*e*P		**Pg**	**16 11 47.2**	**-2.2**	
	17nm,0.6s								
KST				*e*S		**Sg**	**16 12 38.6**	**-1.4**	
	192nm,1.1s								
DZA	**Taraz**	**3.96**	**331**	*e*P		**Pb**	**16 11 43.2**	**-1.2**	
	48nm,0.0s								
DZA				*e*S		**Sb**	**16 12 32.0**	**-0.3**	
	203nm,1.0s								
IUG	**Iuzhnay**	**4.00**	**314**	*e*P		**Pb**	**16 11 42.7**	**-2.5**	
	86nm,0.3s								
IUG				*e*S		**Sb**	**16 12 31.1**	**-2.5**	
	246nm,0.7s								
SGDS	**Sogindy**	**4.04**	**7**	*e*P		**Pg**	**16 11 49.8**	**-2.0**	
	25nm,0.8s								
SGDS				*e*S		**Sg**	**16 12 43.3**	**-0.8**	
	89nm,0.6s								
DGS	**Degeres**	**4.04**	**20**	*e*P		**Pg**	**16 11 50.1**	**-1.8**	
	26nm,0.9s								
DGS				*e*S		**Sg**	**16 12 43.8**	**-0.3**	
	86nm,1.0s								
MTBS	**Maitube**	**4.13**	**26**	*e*P		**Pg**	**16 11 52.1**	**-1.6**	
	20nm,0.5s								
MTBS				*e*S		**Sg**	**16 12 47.3**	**+0.1**	
	85nm,0.6s								
TNSS	**Tian-Shan**	**4.25**	**31**	*e*P		**Pg**	**16 11 54.5**	**-1.4**	
	29nm,1.4s								
TNSS				*e*S		**Sg**	**16 12 51.6**	**+0.6**	
	50nm,0.9s								
CHM	**Chimkent**	**4.35**	**313**	*e*P		**Pb**	**16 11 48.9**	**-2.2**	
	59nm,0.2s								
CHM				*e*S		**Sb**	**16 12 41.7**	**-2.0**	
	138nm,0.6s								
MDOK	**Medeo**	**4.39**	**31**	*e*P		**Pg**	**16 11 56.7**	**-1.9**	
	30nm,0.8s								
MDOK				*e*S		**Sg**	**16 12 55.5**	**-0.1**	
	54nm,1.0s								
KUU	**Kurty**	**4.79**	**21**	*e*P		**Pg**	**16 12 04.4**	**-1.9**	
	5.1nm,0.4s								
KUU				*e*S		**Sg**	**16 13 08.7**	**+0.3**	
	87nm,0.7s								
CHKK	**Chushkaly**	**4.96**	**27**	*e*P		**Pg**	**16 12 07.8**	**-1.8**	
	13nm,0.6s								
CHKK				*e*S		**Sg**	**16 13 14.3**	**+0.4**	
	76nm,1.0s								
MKAR	**Makanchi Array**	**9.55**	**37**	Pn		Pn	16 12 57.2	+5.2	
	baz=200,slow=15,SNR=3.6								
MKAR				Lg		Lg	16 15 43.3		
	0.2nm,0.3s,baz=233,slow=12,SNR=2.2								
	1.3nm,0.8s								
KURBB	**Kurchatov Arra**	**11.63**	**15**	Pn		Pn	16 13 24.8	+4.3	
	baz=205,slow=12,SNR=2.5								
KURBB				Lg		Lg	16 16 44.5		
	baz=202,slow=30,SNR=8.0								
	0.2nm,0.5s								
GEYT	**Alibeck**	**12.45**	**268**	Pn		**Pn**	**16 13 33.2**	**+1.5**	
	baz=84,slow=15								
BVAR	**Borovoye Array**	**13.80**	**351**	Pn		**Pn**	**16 13 52.3**	**+2.2**	
	baz=153,slow=13,SNR=6.9								
	2.3nm,0.7s								
ZALV	**Zalesovo Beam**	**16.29**	**23**	Pn		**P**	**16 14 25.1**	**-1.1**	
	0.1nm,0.3s,baz=207,slow=13,SNR=2.2								
	0.9nm,0.5s								
ARU	**Arti**	**19.78**	**334**	P		**Pn**	**16 15 06.5**	**+0.3**	
	1.9nm,0.5s,baz=130,slow=16,SNR=2.8								
	1.9nm,0.5s								
BELG	**Belogornoye**	**22.26**		P		**P**	**16 15 34.6**	**+3.1**	
	6.0nm,0.7s,baz=100,slow=6.1,SNR=4.6								
	6.0nm,0.7s								
KIRV	**Kirov**	**24.76**	**329**	LR		LR	16 25 54.2		
	comp=Z,1μm,19.5s,baz=357,slow=37								
SONM	**Songino Array**	**24.80**	**60**	P		**P**	**16 15 57.0**	**+0.3**	
	0.5nm,0.9s,baz=284,slow=12,SNR=3.8								
	0.5nm,0.9s								
BRTR	**Keskin Array B**	**30.87**	**284**	P		**P**	**16 16 52.4**	**+1.3**	
	0.7nm,0.8s,baz=93,slow=10,SNR=3.4								
	0.7nm,0.8s								
FINES	**FINESS Array B**	**36.42**	**323**	P		**P**	**16 17 38.7**	**-0.2**	
	0.6nm,0.5s,baz=126,slow=9.7,SNR=3.9								
	0.6nm,0.5s								
ARCES	**ARCESS Array B**	**39.36**	**335**	P		**P**	**16 18 05.1**	**+1.4**	
	3.4nm,1.0s,baz=96,slow=11,SNR=7.3								
	3.4nm,1.0s								
ILAR	**Eielson Array**	**71.30**	**17**	P		**P**	**16 21 55.6**	**+1.8**	
	0.5nm,0.9s,baz=309,slow=5.7,SNR=4.4								
	0.5nm,0.9s								
WRA	**Warramunga Arr**	**81.66**	**124**	P		**P**	**16 22 51.0**	**-2.1**	
	0.4nm,0.9s,baz=329,slow=5.3,SNR=4.8								
	0.4nm,0.9s								
ASAR	**Alice Springs**	**84.11**	**127**	P		**P**	**16 23 03.9**	**-1.9**	
	0.4nm,0.9s,baz=308,slow=4.4,SNR=4.3								
	0.4nm,0.9s								

*BJI **25** 16:12:03.7±0.0,39.°57N×73.°73E, h10km, mb4.1/18, mB4.7/3, ML3.9/4, Ms4.2/1*
*IDC **25** 16:12:05.4±0.7,39.°27N×74.°22E, h0km, mb3.8/18, mbtmp3.9/21, ML3.6/3, Error ellipse: s-maj=18.9km s-min=14.2km az=32.0*
*NEIC **25** 16:12:07.2±2.2,39.°41N±0.°07×74.°23E±0.°09, h10km, mb4.3/12, Error ellipse: s-maj=13.0km s-min=9.5km az=134.0*
*SOME **25** 16:12:08.8,39.°47N×73.°60E, h5km, MS3.9*
*KRNET **25** 16:12:09.0±0.1,39.°31N×73.°81E, mb4.6*

ISC 25 16:12:05.9±1.3,39.°31N±0.°03×74.°02E±0.°03, h4km±8km, n103, σ1s96/121, mb4.1/24, 11C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSH	**Kashi**	**1.53**	**82**	Pg		**Pn**	**16 12 29.8**	**-4.3**
KSH				*s*max		*s*max		
	comp=N,2μm,1.1s							
KSH				*s*max		*s*max		
	comp=E,2μm,0.9s							
OHH	**Osh**	**1.54**	**322**	↑*i*P		**Pg**	**16 12 35.9**	**+0.5**
	baz=27							
OHH				↑*i*S		**Sg**	**16 12 56.3**	**+0.9**
	baz=27							
DRK	**Karamyk**	**1.73**	**276**			**Pg**	**16 12 39.6**	**+0.6**
ARLS	**Aral**	**2.56**	**5**	↑*i*P		**Pg**	**16 12 54.1**	**-0.9**
	baz=9.0							
ARLS				↑*i*S		**Sg**	**16 13 26.3**	**-1.9**
	baz=9.0							
BTK	**Batken**	**2.58**	**288**	↑*i*P		**Pb**	**16 12 52.3**	**-0.4**
	baz=89							
BTK				↑*i*S		**Sb**	**16 13 23.4**	**-1.4**
	baz=89							
BTK	**Batken**	**2.58**	**288**	Pn		**Pg**	**16 12 53.6**	**-1.6**
NRN	**Naryn**	**2.61**	**35**	↓*i*P		**Pg**	**16 12 55.3**	**-0.6**
	baz=37							
NRN				↓*i*S		**Sg**	**16 13 28.9**	**-0.8**
	baz=37							
NRN	**Naryn**	**2.61**	**35**	Pn		**Pn**	**16 12 47.8**	**-1.4**
AML	**Almayashu**	**2.83**	**355**	P		**Pg**	**16 12 59.4**	**-0.8**
	SNR=11							
ARK	**Arkit**	**2.94**	**329**	↓*i*P		**Pb**	**16 12 58.0**	**-0.9**
	baz=31							
ARK				↓*i*S		**Sb**	**16 13 33.6**	**-1.6**
	baz=31							
UCH	**Uchtor**	**2.94**	**7**	P		**Pb**	**16 12 59.3**	**+0.2**
	SNR=18							
UCH	**Uchtor**	**2.94**	**7**	↓*i*P		**Pb**	**16 12 59.3**	**+0.2**
	baz=10.0							
UCH				↓*i*S		**Sb**	**16 13 36.8**	**+1.2**
	baz=10.0							
TRKS	**Terek-Say**	**3.12**	**316**	↓*i*P		**Pb**	**16 12 58.7**	**-3.3**
	baz=18							
TRKS				↓*i*S		**Sn**	**16 13 35.9**	**+2.0**
	baz=18							
AAK	**Ala-Archa**	**3.35**	**6**	P		**Pg**	**16 13 10.7**	**+0.7**
	SNR=5.7							
AAK	**Ala-Archa**	**3.35**	**6**	Pn		**Pb**	**16 13 05.3**	**-0.5**
	9.3nm,0.3s,baz=348,slow=20,SNR=1.6							
AAK				Sn		**Sg**	**16 13 50.7**	**-2.7**
	14nm,0.3s,baz=191,slow=8.9,SNR=1.7							
	29nm,0.4s							
AAK	**Ala-Archa**	**3.35**	**6**	↑*i*P		**Pb**	**16 13 05.0**	**-0.9**
	baz=9.0							
AAK				↑*i*S		**Sb**	**16 13 45.8**	**-1.2**
	baz=9.0							

AAK	**Ala-Archa**	**3.35**	**6**	Pn		**Pn**	**16 12 58.9**	**-0.2**
EKS2	**Erkin-Say**	**3.36**	**357**	P		**Pb**	**16 13 06.3**	**+0.3**
	SNR=14							
EKS2	**Erkin-Say**	**3.36**	**357**	↑*i*P		**Pb**	**16 13 04.8**	**-1.2**
	baz=60							
EKS2				↑*i*S		**Sb**	**16 13 45.3**	**-1.9**
	baz=60							
ULHL	**Ulahol**	**3.39**	**29**	P		**Pg**	**16 13 11.1**	**+0.3**
	SNR=5.4							
KBK	**Karagaybulak**	**3.42**	**12**	↓*i*P		**Pb**	**16 13 06.5**	**-0.6**
	baz=14							
KBK				↓*i*S		**Sb**	**16 13 48.3**	**-0.8**
	baz=14							
MRKS	**Merke**	**3.49**	**350**	*e*P		**Pb**	**16 13 08.7**	**+0.5**
	82nm,0.8s							
MRKS				*e*S		**Sb**	**16 13 53.1**	**+2.1**
	511nm,0.7s							
TKM2	**Tokmak 2**	**3.80**	**18**	P		**Pb**	**16 13 12.7**	**-1.0**
	SNR=8.2							
USP	**Ospenovka**	**3.97**	**5**	P		**Pg**	**16 13 22.5**	**+0.6**
	SNR=5.7							
DZA	**Taraz**	**4.12**	**331**	*e*P		**Pb**	**16 13 17.3**	**-1.6**
	102nm,0.5s							
DZA				*e*S		**Sb**	**16 14 06.2**	**-2.8**
	356nm,0.5s							
DGS	**Degeres**	**4.15**	**18**	*e*P		**Pg**	**16 13 26.7**	**+1.4**
	107nm,0.5s							
DGS				*e*S		**Sg**	**16 14 21.5**	**+2.5**
	173nm,0.6s							
IUG	**Iuzhnay**	**4.15**	**314**	*e*P		**Pb**	**16 13 15.6**	**-3.9**
	208nm,0.7s							
IUG				*e*S		**Sb**	**16 14 05.2**	**-4.8**
	492nm,0.8s							
SGDS	**Sogindy**	**4.17**	**6**	*e*P		**Pg**	**16 13 25.5**	**-0.2**
	64nm,0.4s							
SGDS				*e*S		**Sg**	**16 14 20.1**	**+0.5**
	183nm,0.8s							
MTBS	**Maitube**	**4.23**	**25**	*e*P		**Pg**	**16 13 28.3**	**+1.4**
	70nm,0.4s							
MTBS				*e*S		**Sg**	**16 14 23.7**	**+2.0**
	134nm,1.3s							
MDOK	**Medeo**	**4.48**	**30**	*e*P		**Pg**	**16 13 30.6**	**-1.1**
	143nm,0.9s							
MDOK				*e*S		**Sg**	**16 14 30.4**	**+0.7**
	132nm,0.9s							
KUU	**Kurty**	**4.90**	**20**	*e*P		**Pg**	**16 13 40.6**	**+0.8**
	25nm,0.3s							
KUU				*e*S		**Sg**	**16 14 46.2**	**+3.0**
	207nm,0.6s							
CHKK	**Chushkaly**	**5.06**	**25**	*e*P		**Pg**	**16 13 42.0**	**-0.8**
	40nm,0.6s							
CHKK				*e*S		**Sg**	**16 14 50.0**	**+1.7**
	86nm,0.4s							
NIL	**Nilore**	**5.68**	**186**	Pn		Pn	16 13 35.0	+3.9
BTLS	**Baital**	**5.73**	**0**	*e*P		**Pg**	**16 13 54.0**	**-1.6**
	22nm,0.4s							
BTLS				*e*S		**Sg**	**16 15 11.4**	**+1.6**
	68nm,0.6s							
JMU	**Jammu**	**6.62**	**174**	*e*S		**Sn**	**16 15 02.1**	**+2.4**
THW	**Thamme Wali**	**6.75**	**196**	P		Pn	16 13 51.6	+5.8
SARP	**Sargodha**	**7.45**	**189**	P		Pn	16 13 59.7	+4.3
BHK	**Bhakra**	**8.11**	**165**	*e*S		**Sn**	**16 15 36.3**	**-0.4**
SMLA	**Simla**	**8.56**	**162**	*e*P		**Pn**	**16 14 13.6**	**+3.1**
SMLA				IAML			16 15 51.5	
	comp=Z,29nm,0.6s							
MKAR	**Makanchi Array**	**9.62**	**36**	Pn		Pn	16 14 29.9	+4.8
	comp=Z,0.2nm,0.3s,baz=210,slow=14,SNR=4.6							
HRA	**Herat**	**10.63**	**246**			**Pn**	**16 14 42.5**	**+3.3**
PTH	**Pithoragarh**	**10.99**	**150**	*e*P		**Pn**	**16 14 46.0**	**+1.9**
PTH				*e*S		**Sn**	**16 16 40.5**	**-7.2**
WMQ	**Urumqi**	**11.19**	**62**	*e*P		**Pn**	**16 14 48.3**	**+1.6**
WMQ				*p*max		*p*max		
	comp=Z,15nm,0.7s							
KUDL	**Kundal**	**11.32**	**169**	*e*P		**Pn**	**16 14 49.8**	**+1.3**
KURBB	**Kurchatov Arra**	**11.75**	**14**	Lg		Lg	16 18 18.7	
	comp=Z,0.1nm,0.3s,baz=204,slow=30,SNR=4.2							
GEYT	**Alibeck**	**12.51**	**269**	Pn		**Pn**	**16 15 05.5**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=80,slow=8.3,SNR=3.9							
GEYT				Sn		**Sn**	**16 17 24.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=74,slow=26,SNR=3.0							
	comp=Z,5.8nm,0.7s							
PYUN	**Piuthan**	**13.43**	**144**	*e*P		**Pn**	**16 15 14.7**	**-2.8**
	comp=Z,12nm,0.4s							
DANN	**Dangsing**	**13.59**	**141**	*e*P		**Pn**	**16 15 17.9**	**-1.8**
	comp=Z,16nm,0.5s							
BVAR	**Borovoye Array**	**13.95**	**351**	Pn		**Pn**	**16 15 26.0**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=157,slow=12,SNR=6.5							
BVAR				Sn		**Sn**	**16 17 58.6**	**-0.8**
	baz=161,slow=24,SNR=2.0							
BVAR				Lg		Lg	16 19 27.0	
	baz=162,slow=5.9,SNR=2.9							
BRVK	**Borovoye**	**13.99**	**351**			**Pn**	**16 15 25.9**	**+1.1**
ABKAR	**Akbulak array**	**14.14**	**319**	Pn		**Pn**	**16 15 27.1**	**+0.3**
GKN	**Gorkha**	**14.32**	**139**	*e*P		**Pn**	**16 15 27.2**	**-2.3**
	comp=Z,38nm,0.6s							
VLK	**Valmikinagar**	**14.51**	**143**	*e*P		**Pn**	**16 15 31.5**	**-0.5**
DMN	**Daman**	**14.88**	**138**	*e*P		**Pn**	**16 15 34.0**	**-3.3**
	comp=Z,19nm,0.4s							
GUN	**Gumba**	**15.05**	**136**	*e*P		**Pn**	**16 15 37.2**	**-2.4**
	comp=Z,7.8nm,0.4s							
PKIN	**Phulchoki**	**15.05**	**138**	*e*P		**Pn**	**16 15 36.5**	**-3.1**
	comp=Z,8.7nm,0.5s							
PKI	**Pulchoki**	**15.06**	**138**	*e*P		**Pn**	**16 15 37.1**	**-2.8**
	comp=Z,4.4nm,0.3s							
JIRN	**Jiri**	**15.41**	**135**	*e*P		**Pn**	**16 15 41.6**	**-2.9**
	comp=Z,13nm,0.4s							
RAMN	**Ramite**	**16.20**	**136**	*e*P		**Pn**	**16 15 51.5**	**-3.1**
	comp=Z,15nm,0.6s							
BHPL	**Bhopal**	**16.28**	**169**	*e*P		**P**	**16 15 56.7**	**-1.8**
ZAA0	**Zalesovo Array**	**16.39**	**23**	Pn		**Pn**	**16 15 51.4**	**-5.1**
ZALV	**Zalesovo Beam**	**16.39**	**23**	Pn		**P**	**16 15 57.6**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=207,slow=11,SNR=5.0							
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**16.39**	**23**	Pn		**Pn**	**16 15 54.0**	**-2.6**
TAPN	**Taplejung**	**16.50**	**132**	*e*P		**Pn**	**16 15 56.5**	**-2.1**
	comp=Z,4.7nm,0.4s							
BLSP	**Bilaspur**	**18.48**	**156**	*e*P		**Pn**	**16 16 27.5**	**+4.6**
GTA	**Gaotai**	**19.93**	**81**	↑P		**Pn**	**16 16 43.0**	**+2.6**
GTA				*p*P		*s*P	16 16 46.8	+4.8
GTA				*p*max		*p*max		
	comp=Z,4.0nm,0.8s							
ARU	**Arti**	**19.94**	**334**	P		**Pn**	**16 16 40.6**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=166,slow=4.4,SNR=5.5							
	comp=Z,4.4nm,0.8s							
WSAR	**Wadi Sarin**	**20.68**	**224**	P		Pn	16 16 48.2	-0.9
	comp=Z,6.5nm,0.8s,baz=34,slow=7.3,SNR=2.4							
	comp=Z,6.5nm,0.8s							
BELG	**Belogornoye**	**22.41**	**314**	P		**P**	**16 17 06.5**	**+1.2**
	comp=Z,11nm,0.7s,baz=118,slow=4.9,SNR=6.3							
	comp=Z,11nm,0.7s							
GNI	**Garni**	**22.49**	**282**	P		**P**	**16 17 09.3**	**+2.8**
	comp=Z,5.7nm,0.7s,baz=83,slow=12,SNR=1.8							
	comp=Z,5.7nm,0.7s							
ONI	**Oni**	**23.25**	**288**	P		**P**	**16 17 14.6**	**+0.3**
ONI				IAmb		IAmb	16 17 25.1	
	comp=Z,15nm,0.9s							
KBZ	**Khabaz**	**23.64**	**291**	P		**P**	**16 17 21.3**	**+3.3**
	comp=Z,1.9nm,0.9s,baz=155,slow=15,SNR=1.5							
	comp=Z,1.9nm,0.9s							
SONM	**Songino Array**	**24.81**	**59**	P		**P**	**16 17 28.6**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=262,slow=11,SNR=2.7							
	comp=Z,0.7nm,0.8s							
TNCH	**TengChong**	**25.06**	**117**	P		**P**	**16 17 32.0**	**+0.5**
TNCH				*p*P		*s*P	16 17 34.5	-0.3
TNCH				*s*P		*p*P	16 17 37.5	+3.7
TNCH				*p*max		*p*max		
	comp=Z,8.0nm,2.0s							
PZH	**PanZhiHua**	**26.43**	**111**	P		**P**	**16 17 45.8**	**+1.8**
PZH				*p*max		*p*max		
	comp=Z,10.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**28.63**	**75**	*e*P		**P**	**16 18 03.0**	**-0.5**
HHC				*p*max		*p*max		
	comp=Z,14nm,0.9s							
RAYN	**Ar Rayn**	**28.82**	**245**	P		**P**	**16 18 05.9**	**+0.6**
RAYN				IAmb		IAmb	16 18 19.8	
	comp=Z,4.6nm,1.1s							
CMAR	**Chiang Mai Arr**	**29.96**	**127**	P		**P**	**16 18 15.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=312,slow=11,SNR=1.5							
	comp=Z,0.3nm,0.4s							
BRTR	**Keskin Array B**	**30.97**	**284**	P		**P**	**16 18 25.9**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=87,slow=7.5,SNR=5.1							
	comp=Z,0.8nm,0.6s							
AKASG	**Malin Array Be**	**33.17**	**305**	P		**P**	**16 18 44.4**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=79,slow=8.0,SNR=5.4							
	comp=Z,0.3nm,0.3s							
MLR	**Muntele Rosu**	**35.60**	**296**	P		**P**	**16 19 06.8**	**+2.2**
	comp=Z,1.7nm,0.4s,baz=138,slow=12,SNR=2.0							
	comp=Z,1.7nm,0.4s							

FIA1	**FINESS Array S**	**36.58**	**323**	P		**P**	**16 19 13.0**	**+0.5**
FINES	**FINESS Array B**	**36.58**	**323**	P		**P**	**16 19 13.8**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=117,slow=8.2,SNR=13							
	comp=Z,1.5nm,0.3s							
FINES	**FINESS Array B**	**36.58**	**323**	P		**P**	**16 19 13.3**	**+0.7**
HEH	**HeiHe**	**38.67**	**56**	*e*P		**P**	**16 19 32.5**	**+2.1**
HEH				*p*max		*p*max		
	comp=Z,4.0nm,0.7s							
ARCES	**ARCESS Array B**	**39.52**	**336**	P		**P**	**16 19 37.9**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=100,slow=7.7,SNR=9.6							
	comp=Z,0.9nm,0.4s							
ARCES	**ARCESS Array B**	**39.52**	**336**	P		**P**	**16 19 35.8**	**-1.5**
TIXI	**Tiksi**	**42.27**	**23**	P		**P**	**16 20 01.1**	**+1.1**
TIXI				IAmb		IAmb	16 20 07.4	
	comp=Z,6.1nm,1.4s							
GERES	**GERESS Array B**	**43.32**	**303**	P		**P**	**16 20 09.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=58,slow=9.3,SNR=2.9							
	comp=Z,0.3nm,0.5s							
NB2	**NORSAR Subarra**	**43.63**	**321**	P		**P**	**16 20 11.5**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=91,slow=8.6							
NOA	**NORSAR Array B**	**43.63**	**321**	P		**P**	**16 20 11.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=107,slow=7.8,SNR=3.8							
	comp=Z,0.7nm,0.6s							
IMAR	**Indian Mountai**	**68.76**	**19**	P		**P**	**16 23 08.7**	**-1.8**
BMAR	**Burnt Mountain**	**69.64**	**15**	P		**P**	**16 23 15.4**	**-0.6**
INK	**Inuvik**	**70.73**	**10**	P		**P**	**16 23 21.5**	**-1.1**
	comp=Z,2.1nm,1.0s,baz=358,slow=6.5,SNR=5.8							
	comp=Z,2.1nm,1.0s							
INK	**Inuvik**	**70.73**	**10**	P		**P**	**16 23 21.4**	**-1.1**
INK				IAmb		IAmb	16 23 26.6	
	comp=Z,3.5nm,1.1s							
ILAR	**Eielson Array**	**71.41**	**17**	P		**P**	**16 23 25.4**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=325,slow=5.1,SNR=6.0							
	comp=Z,0.4nm,0.7s							
KNRA	**Kununurra**	**74.82**	**125**	P		**P**	**16 23 46.6**	**-0.9**
WRA	**Warramunga Arr**	**81.52**	**124**	P		**P**	**16 24 24.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=326,slow=5.0,SNR=12							
	comp=Z,0.7nm,0.6s							
WRA	**Warramunga Arr**	**81.52**	**124**	P		**P**	**16 24 24.4**	**-0.3**
WB2	**Warramunga Arr**	**81.53**	**124**	P		**P**	**16 24 24.6**	**-0.1**
WB2				IAmb		IAmb	16 24 42.4	
	comp=Z,5.1nm,1.4s							
AS31	**Alice Springs**	**83.97**	**127**	P		**P**	**16 24 35.6**	**-1.8**
ASAR	**Alice Springs**	**83.97**	**127**	P		**P**	**16 24 36.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=317,slow=5.2,SNR=11							
	comp=Z,0.4nm,0.6s							
ASAR	**Alice Springs**	**83.97**	**127**	P		**P**	**16 24 36.2**	**-1.2**

*IDC **25** 16:15:28.4±1.7,39.°00N×74.°24E, h0km, mb3.7/4, mbtmp3.7/7, ML3.1/3, MS4.5/2, Error ellipse: s-maj=47.3km s-min=23.5km az=77.0*
*SOME **25** 16:15:33.3,39.°25N×73.°80E, h5km*
*KRNET **25** 16:15:35.1±0.1,39.°32N×73.°89E, mb3.9*

ISC 25 16:15:33.5±2.1,39.°26N±0.°08×73.°99E±0.°04, h12km±10km, n27, σ1s88/41, mb3.7/4, 8C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OHH	**Osh**	**1.57**	**324**	↑*i*P		**Pn**	**16 16 01.8**	**+0.7**
	baz=25							
OHH				↑*i*S		**Sn**	**16 16 21.2**	**-0.2**
	baz=25							
BTK	**Batken**	**2.58**	**289**	↑*i*P		**Pn**	**16 16 16.1**	**+1.1**
	baz=88							
BTK				↑*i*S		**Sn**	**16 16 46.1**	**-0.2**
	baz=88							
ARLS	**Aral**	**2.61**	**5**	↑*i*P		**Pn**	**16 16 17.3**	**+1.7**
	baz=7.0							
ARLS				↑*i*S		**Sn**	**16 16 47.9**	**+0.7**
	baz=7.0							
NRN	**Naryn**	**2.66**	**35**	↓*i*P		**Pn**	**16 16 18.1**	**+1.7**
	baz=37							
NRN				↓*i*S		**Sn**	**16 16 49.8**	**+1.1**
	baz=37							
ARK	**Arkit**	**2.97**	**329**	↓*i*P		**Pn**	**16 16 21.8**	**+1.4**
	baz=30							
ARK				↓*i*S		**Sn**	**16 16 56.0**	**0.0**
	baz=30							
UCH	**Uchtor**	**2.99**	**7**	↓*i*P		**Pn**	**16 16 22.8**	**+1.7**
	baz=9.0							
UCH				↓*i*S		**Sn**	**16 16 57.5**	**+0.5**
	baz=9.0							
TRKS	**Terek-Say**	**3.14**	**317**	↓*i*P		**Pn**	**16 16 23.1**	**+0.2**
	baz=17							
TRKS				↓*i*S		**Sn**	**16 16 58.1**	**-2.3**
	baz=17							
AAK	**Ala-Archa**	**3.40**	**6**	Pn		**Pn**	**16 16 29.6**	**+3.2**
	6.4nm,0.3s,baz=

s-min=0.0km az=120.0

ISC 25 16:21:31.9±0.9, 40.79S±0.04×176.94E±0.05, h10km, n127, σ1901/131, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.48**	**313**	P	**Pg**		**16 21 41.8**	**+0.5**
ANWZ				S	**Sg**		**16 21 46.4**	**-1.3**
BFZ	**Birch Farm**	**0.54**	**281**	P	**Pb**		**16 21 44.1**	**+0.7**
BFZ	**Birch Farm**	**0.54**	**281**	P	**Pb**		**16 21 44.1**	**+0.7**
BFZ				S	**Sg**		**16 21 50.1**	**+0.6**
PRHZ	**Porangahau**	**0.57**	**336**	P	**Pb**		**16 21 44.4**	**+0.4**
PRHZ				S	**Sg**		**16 21 51.1**	**+0.6**
CPWZ	**Castlepoint**	**0.57**	**258**	P	**Pn**		**16 21 47.1**	**+1.0**
PXZ	**Pawanui**	**0.76**	**355**	P	**Pn**		**16 21 48.8**	**+0.2**
DVHZ	**Dannevirke**	**0.77**	**309**	P	**Pg**		**16 21 47.2**	**+0.5**
PRWZ	**Pori Road**	**0.78**	**287**	P	**Pb**		**16 21 48.2**	**+0.7**
TIWZ	**Tintock**	**0.80**	**271**	P	**Pn**		**16 21 49.2**	**-0.1**
WPHZ	**Waipukurau**	**0.82**	**332**	P	**Pb**		**16 21 48.6**	**+0.3**
TMWZ	**Te Maipa**	**0.86**	**248**	P	**Pn**		**16 21 50.7**	**+0.6**
POWZ	**Post Office Ro**	**0.98**	**294**	P	**Pg**		**16 21 50.9**	**+0.2**
KAHZ	**Kahuranaki**	**0.99**	**357**	P	**Pn**		**16 21 52.2**	**+0.2**
PNHZ	**Pukenui**	**1.04**	**327**	P	**Pg**		**16 21 51.8**	**-0.1**
MRZ	**Mangatainoka R**	**1.04**	**277**	P	**Pg**		**16 21 52.0**	**0.0**
TSZ	**Takapari Road**	**1.05**	**314**	P	**Pg**		**16 21 51.7**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.09**	**264**	P	**Pb**		**16 21 53.0**	**+0.2**
TRWZ	**Traveller**	**1.13**	**237**	P	**Pn**		**16 21 54.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.14**	**5**	P	**Pg**		**16 21 54.1**	**+0.5**
MTW	**Mount Morrison**	**1.15**	**251**	P	**Pn**		**16 21 54.3**	**+0.2**
PAWZ	**Paruwai Farm**	**1.29**	**242**	P	**Pb**		**16 21 56.6**	**+0.3**
OGWZ	**Otaki Gorge**	**1.35**	**268**	P	**Pn**		**16 21 56.5**	**-0.2**
MCHZ	**McNeill Hill**	**1.36**	**352**	P	**Pn**		**16 21 57.4**	**+0.5**
OHWZ	**Ohakea**	**1.37**	**295**	P	**Pb**		**16 21 57.5**	**-0.1**
KWHZ	**Kaweka Forest**	**1.42**	**344**	P	**Pn**		**16 21 57.7**	**-0.1**
MSWZ	**Moikau Station**	**1.42**	**243**	P	**Pn**		**16 21 57.9**	**+0.1**
CAW	**Cannon Point**	**1.46**	**257**	P	**Pn**		**16 21 58.3**	**0.0**
BHHZ	**Black Hill Sta**	**1.46**	**332**	P	**Pn**		**16 21 58.0**	**-0.4**
PLWZ	**Palliser**	**1.49**	**238**	P	**Pn**		**16 21 59.1**	**+0.3**
ARHZ	**Aropaonui**	**1.52**	**2**	P	**Pn**		**16 21 59.7**	**+0.5**
KIW	**Kapiti Island**	**1.54**	**267**	P	**Pn**		**16 21 59.5**	**0.0**
MOVZ	**Moawhango**	**1.66**	**326**	P	**Pn**		**16 22 01.1**	**0.0**
BKZ	**Black Stump Fm**	**1.66**	**348**	P	**Pn**		**16 22 01.1**	**0.0**
NMHZ	**Naumai**	**1.69**	**356**	P	**Pn**		**16 22 02.2**	**+0.6**
WHHZ	**Waihua**	**1.73**	**8**	P	**Pn**		**16 22 03.0**	**+1.0**
SNZO	**South Karori**	**1.77**	**252**	P	**Pn**		**16 22 02.9**	**+0.4**
WNVZ	**Wahianoa**	**1.79**	**324**	P	**Pn**		**16 22 03.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.79**	**25**	P	**Pn**		**16 22 03.6**	**+0.7**
MTVZ	**Mangateitei**	**1.80**	**321**	P	**Pn**		**16 22 03.5**	**+0.4**
TUVZ	**Tukino**	**1.81**	**327**	P	**Pn**		**16 22 03.8**	**+0.5**
WAZ	**Wanganui**	**1.82**	**304**	P	**Pn**		**16 22 04.2**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.83**	**325**	P	**Pn**		**16 22 04.8**	**+1.2**
TRVZ	**Turoa**	**1.83**	**324**	P	**Pn**		**16 22 04.3**	**+0.7**
DRZ	**Dome Shelter**	**1.85**	**325**	P	**Pg**		**16 22 07.4**	**0.0**
KNZ	**Kokohu**	**1.85**	**18**	P	**Pn**		**16 22 03.9**	**+0.2**
FWVZ	**Far West T-bar**	**1.87**	**325**	P	**Pb**		**16 22 05.6**	**-0.7**
RAHZ	**Arahi**	**1.87**	**3**	P	**Pn**		**16 22 04.4**	**+0.4**
SNVZ	**South Ngauruho**	**1.89**	**328**	P	**Pb**		**16 22 06.3**	**-0.3**
OTVZ	**Oturere**	**1.90**	**328**	P	**Pb**		**16 22 06.9**	**+0.2**
ETVZ	**East Tongariro**	**1.90**	**330**	P	**Pn**		**16 22 05.6**	**+1.1**
NGZ	**Ngauruhoe**	**1.91**	**327**	P	**Pn**		**16 22 05.7**	**+1.0**
TMVZ	**Te Maari**	**1.92**	**330**	P	**Pn**		**16 22 05.7**	**+0.9**
PKVZ	**Pokaka**	**1.94**	**320**	P	**Pb**		**16 22 06.4**	**-0.9**
MTHZ	**Maungataniwha**	**1.94**	**358**	P	**Pn**		**16 22 05.1**	**+0.2**
NNVZ	**North Ngauruho**	**1.94**	**328**	P	**Pn**		**16 22 06.2**	**+1.1**
NTVZ	**North Tongarir**	**1.95**	**330**	P	**Pb**		**16 22 08.4**	**+0.8**
KRVZ	**Karewarewa**	**1.97**	**329**	P	**Pb**		**16 22 07.4**	**-0.5**
MRHZ	**Matea Rd**	**2.00**	**348**	P	**Pn**		**16 22 06.5**	**+0.8**
SNGZ	**Shannon Statio**	**2.03**	**9**	P	**Pn**		**16 22 06.7**	**+0.6**
KATZ	**Kakaramea**	**2.05**	**332**	P	**Pb**		**16 22 09.5**	**+0.2**
TCW	**Tory Channel**	**2.06**	**257**	P	**Pn**		**16 22 06.5**	**-0.1**
TWVZ	**Taurewa**	**2.07**	**326**	P	**Pn**		**16 22 08.1**	**+1.3**
RATZ	**Rangitukua**	**2.12**	**334**	P	**Pn**		**16 22 09.1**	**+1.7**
RTZ	**Ruatahuna**	**2.17**	**1**	P	**Pn**		**16 22 08.5**	**+0.3**
ALRZ	**Allen Road**	**2.22**	**348**	P	**Pn**		**16 22 10.9**	**+0.7**
DUWZ	**D'Urville Isla**	**2.29**	**269**	P	**Pn**		**16 22 10.5**	**+0.7**
MUGZ	**Murupara**	**2.31**	**357**	P	**Pn**		**16 22 10.3**	**+0.2**
RAGZ	**Rawiri**	**2.32**	**9**	P	**Pn**		**16 22 10.5**	**+0.3**
PRRZ	**Plateau Road**	**2.33**	**349**	P	**Pn**		**16 22 10.5**	**+0.3**
WPRZ	**Whakapapatarin**	**2.34**	**345**	P	**Pb**		**16 22 12.7**	**-1.5**
TUWZ	**Tuamarina**	**2.35**	**253**	P	**Pn**		**16 22 10.2**	**-0.4**
LREZ	**Lake Rotokare**	**2.36**	**303**	P	**Pn**		**16 22 12.2**	**+1.6**
VRZ	**Vera Road**	**2.36**	**314**	P	**Pn**		**16 22 11.5**	**+0.8**
HRRZ	**Handcock Road**	**2.45**	**348**	P	**Pn**		**16 22 12.6**	**+0.6**
BSWZ	**Blackbirch Sta**	**2.49**	**247**	P	**Pn**		**16 22 12.2**	**-0.2**
MWZ	**Matawai**	**2.49**	**11**	P	**Pn**		**16 22 12.3**	**-0.2**
CNGZ	**Carnagh Statio**	**2.50**	**23**	P	**Pn**		**16 22 13.2**	**+0.6**
URZ	**Urewera**	**2.53**	**3**	P	**Pn**		**16 22 12.9**	**-0.2**
URZ	**Urewera**	**2.53**	**3**	P	**Pn**		**16 22 12.8**	**-0.2**
HSRZ	**Hossack Road**	**2.53**	**347**	P	**Pn**		**16 22 13.3**	**+0.2**
TARZ	**Mount Tarawera**	**2.57**	**352**	P	**Pn**		**16 22 14.2**	**+0.5**
DREZ	**Durham Road**	**2.64**	**306**	P	**Pb**		**16 22 19.9**	**+0.6**
NEZ	**North Egmont**	**2.66**	**304**	P	**Pn**		**16 22 16.6**	**+1.7**
TLZ	**Tolley Road**	**2.69**	**336**	P	**Pn**		**16 22 15.8**	**+0.6**
KHEZ	**Kahui Hut**	**2.70**	**303**	P	**Pn**		**16 22 15.8**	**+0.4**
KHEZ	**Kahui Hut**	**2.70**	**303**	P	**Pb**		**16 22 18.6**	**-1.7**
OMRZ	**Omania**	**2.72**	**350**	P	**Pn**		**16 22 15.7**	**+0.1**
NMEZ	**Namu Road**	**2.72**	**299**	P	**Pb**		**16 22 21.1**	**+0.5**
NNZ	**Nelson**	**2.73**	**260**	P	**Pn**		**16 22 16.3**	**+0.5**
PKE	**Pukeiti**	**2.77**	**304**	P	**Pb**		**16 22 19.7**	**-1.9**
HIZ	**Hauiti**	**2.79**	**324**	P	**Pn**		**16 22 16.9**	**+0.4**
HIZ	**Hauiti**	**2.79**	**324**	P	**Pn**		**16 22 17.3**	**+0.7**
NBEZ	**Newall Road No**	**2.81**	**302**	P	**Pb**		**16 22 22.5**	**+0.4**
RUGZ	**Raukumara Rang**	**2.88**	**12**	P	**Pn**		**16 22 17.8**	**-0.1**
PUZ	**Puketiti**	**2.90**	**21**	P	**Pn**		**16 22 17.5**	**-0.6**
PKGZ	**Pakihiroa**	**3.03**	**17**	P	**Pn**		**16 22 19.9**	**-0.1**
TKNZ	**Takaka Hill**	**3.03**	**264**	P	**Pn**		**16 22 20.5**	**+0.6**
HAZ	**Te Kaha**	**3.10**	**12**	P	**Pn**		**16 22 20.7**	**-0.1**
WMGZ	**Waiomatatini S**	**3.18**	**22**	P	**Pn**		**16 22 21.5**	**-0.4**
THZ	**Tophouse**	**3.19**	**251**	P	**Pn**		**16 22 21.5**	**-0.7**
MRNZ	**Matariki Terra**	**3.22**	**258**	P	**Pn**		**16 22 23.0**	**+0.5**
TOZ	**Tahuroa Road**	**3.25**	**339**	P	**Pn**		**16 22 22.8**	**-0.1**
QRZ	**Quartz Range**	**3.35**	**268**	P	**Pn**		**16 22 24.7**	**+0.4**
GVZ	**Greta Valley S**	**3.64**	**232**	P	**Pn**		**16 22 28.4**	**+0.1**
MKAZ	**Moumakai**	**3.93**	**339**	P	**Pn**		**16 22 33.1**	**+0.8**
AMCZ	**Amberley**	**3.99**	**232**	P	**Pn**		**16 22 33.4**	**+0.3**
LTZ	**Lake Taylor**	**4.02**	**239**	P	**Pn**		**16 22 32.4**	**-1.1**
ETAZ	**East Tamaki Re**	**4.14**	**337**	P	**Pn**		**16 22 36.0**	**+0.8**
KUZ	**Kuaotunu**	**4.15**	**346**	P	**Pn**		**16 22 35.7**	**+0.4**
AKCZ	**Akaroa Harbour**	**4.29**	**223**	P	**Pn**		**16 22 37.8**	**+0.6**
MQZ	**McQueen's Vall**	**4.32**	**226**	P	**Pn**		**16 22 37.1**	**-0.4**
MBAZ	**Motutapu North**	**4.32**	**338**	P	**Pn**		**16 22 39.0**	**+1.4**
OXZ	**Oxford**	**4.44**	**234**	P	**Pn**		**16 22 38.7**	**-0.6**
RACZ	**Rakaia**	**4.62**	**229**	P	**Pn**		**16 22 41.9**	**+0.2**
MHCZ	**Mount Hutt**	**4.84**	**234**	P	**Pn**		**16 22 44.5**	**-0.4**
WACZ	**Wakanui South**	**4.92**	**229**	P	**Pn**		**16 22 46.1**	**+0.3**
WVZ	**Waitaha Valley**	**5.16**	**242**	P	**Pn**		**16 22 53.0**	**+3.9**
RPZ	**Rata Peaks**	**5.26**	**234**	Pn	**Pn**		**16 22 50.2**	**-0.3**
	0.5nm,0.3s,baz=59,slow=18,SNR=1.1							
RPZ				Sn	**Sn**		**16 23 46.1**	**-5.1**
	3.9nm,0.3s,baz=31,slow=18,SNR=19 16nm,1.1s							
RPZ	**Rata Peaks**	**5.26**	**234**	P	**Pn**		**16 22 52.6**	**+2.1**
CTZ	**Chatham Island**	**5.61**	**124**	P	**Pn**		**16 22 59.7**	**+4.3**
TMZ	**Timaru**	**5.67**	**229**	P	**Pn**		**16 22 56.2**	**+0.1**
ODZ	**Otahua Downs**	**6.28**	**225**	P	**Pn**		**16 23 07.0**	**+2.5**
ODZ	**Otahua Downs**	**6.28**	**225**	P	**Pn**		**16 23 04.7**	**+0.1**
ASAR	**Alice Springs**	**39.77**	**282**	P	**P**		**16 29 05.8**	**+0.8**
	0.3nm,0.7s,baz=119,slow=6.8,SNR=9.2 0.3nm,0.7s							
WRA	**Warramunga Arr**	**41.72**	**287**	P	**P**		**16 29 21.4**	**+0.3**
	0.2nm,0.3s,baz=125,slow=8.3,SNR=6.3 0.2nm,0.3s							
ARCES	**ARCESS Array B**	**147.54**	**342**	PKPbc	**PKiKP**		**16 41 16.6**	**-0.6**
	4.7nm,1.0s,baz=29,slow=2.1,SNR=6.0							
BRTR	**Keskin Array B**	**152.10**	**280**	PKPbc	**PKiKP**		**16 41 30.1**	**+2.4**
	0.3nm,0.5s,baz=112,slow=1.6,SNR=1.8							

*SOME **25** 16:23:47.9, 39°27N×73°92E, h10km, MS3.7*
*IDC **25** 16:23:47.1±0.9, 39°11N×74°12E, h0km, mb3.7/13, mbtmp3.8/18, ML3.1/6, Error ellipse: s-maj=15.8km s-min=13.0km az=109.0*
*BJI **25** 16:23:47.0±0.0, 39°47N×73°86E, h5km, mb3.9/8, ML3.8/6, Ms4.0/1*
*KRNET **25** 16:23:50.7±0.1, 39°35N×73°84E, mb4.4*
*MOS **25** 16:23:50.0±3.5, 39°18N×73°78E, h17km, mb4.0/7, Error ellipse: s-maj=9.7km s-min=4.7km az=82.8*
*NNC **25** 16:23:53.5±1.5, 39°50N×73°95E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=14.0km s-min=8.9km az=159.0*

ISC 25 16:23:49.4±0.6, 39°12N±0°04×73°99E±0°03, h10km, n117, σ2832/140, mb3.6/13, 26C-21D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.59**	**75**	Pg		Pn	16 24 10.5	-7.2
KSH				Sg		Sn	16 24 24.8	-14
KSH				smax		smax		
	comp=N,680nm,1.0s							
KSH				smax		smax		
	comp=E,3μm,1.1s							
OHH	**Osh**	**1.68**	**327**	⇑*i*P		**Pn**	**16 24 17.3**	**-1.6**
	baz=26							
OHH				⇑*i*S		**Sn**	**16 24 37.0**	**-3.6**
	baz=26							
BTK	**Batken**	**2.62**	**292**	⇑*i*P		**Pn**	**16 24 33.8**	**+1.9**
	baz=88							
BTK				⇑*i*S		**Sn**	**16 25 04.7**	**+0.9**
	baz=88							
ARLS	**Aral**	**2.75**	**5**	⇑*i*P		**Pn**	**16 24 34.6**	**+0.9**
	baz=8.0							
ARLS				⇑*i*S		**Sn**	**16 25 07.4**	**+0.4**
	baz=8.0							
NRN	**Naryn**	**2.77**	**33**	⇑*i*P		**Pn**	**16 24 36.3**	**+2.1**
	baz=38							
NRN				⇑*i*S		**Sn**	**16 25 09.3**	**+1.4**
	baz=38							
AML	**Almayashu**	**3.02**	**356**	P		**Pn**	**16 24 39.5**	**+1.9**
	SNR=12							
ARK	**Arkit**	**3.09**	**331**	⇑*i*P		**Pn**	**16 24 38.8**	**+0.5**
	baz=30							
ARK				⇑*i*S		**Sn**	**16 25 14.0**	**-1.4**
	baz=30							
UCH	**Uchtor**	**3.13**	**7**	P		**Pn**	**16 24 40.8**	**+1.6**
	SNR=46							
UCH	**Uchtor**	**3.13**	**7**	⇓*i*P		**Pn**	**16 24 40.6**	**+1.4**
	baz=10.0							
UCH				⇓*i*S		**Sn**	**16 25 16.5**	**-0.3**
	baz=10.0							
TRKS	**Terek-Say**	**3.25**	**319**	⇓*i*P		**Pn**	**16 24 40.5**	**0.0**
	baz=17							
TRKS				⇓*i*S		**Sn**	**16 25 16.6**	**-2.7**
	baz=17							
AAK	**Ala-Archa**	**3.53**	**6**	P		**Pn**	**16 24 47.4**	**+2.9**
	SNR=13							
AAK	**Ala-Archa**	**3.53**	**6**	Pn		**Pn**	**16 24 46.4**	**+1.9**
	7.5nm,0.3s,baz=178,slow=6.5,SNR=18							
AAK				Sn		**Sb**	**16 25 32.6**	**-2.5**
	4.0nm,0.3s,baz=348,slow=14,SNR=7.8							
AAK				Lg		Lg	16 25 37.7	
	19nm,0.3s,baz=110,slow=6.3,SNR=10 44nm,0.5s							
EKS2	**Erkin-Say**	**3.54**	**357**	P		**Pn**	**16 24 46.9**	**+2.4**
	SNR=11							
EKS2	**Erkin-Say**	**3.54**	**357**	⇓*i*P		**Pn**	**16 24 45.5**	**+1.0**
	baz=59							
EKS2				⇓*i*S		**Sn**	**16 25 25.7**	**-0.8**
	baz=59							
ULHL	**Ulahol**	**3.56**	**28**	P		**Pb**	**16 24 51.9**	**-0.7**
	SNR=7.2							
KBK	**Karagaybulak**	**3.60**	**11**	P		**Pn**	**16 24 48.9**	**+3.5**
	SNR=6.5							
KBK	**Karagaybulak**	**3.60**	**11**	⇑*i*P		**Pn**	**16 24 46.9**	**+1.4**
	baz=14							
KBK				⇑*i*S		**Sn**	**16 25 27.9**	**-0.3**
	baz=14							
MRKS	**Merke**	**3.67**	**351**	*e*P		**Pb**	**16 24 52.6**	**-1.7**
	48nm,0.5s							
MRKS				*e*S		**Sb**	**16 25 37.9**	**-0.9**
	342nm,0.5s							
CHMS	**Chumysh**	**3.92**	**8**	P		**Pn**	**16 24 52.4**	**+2.8**
	SNR=5.7							
CHMS	**Chumysh**	**3.92**	**8**	⇑Pn		**Pn**	**16 24 51.6**	**+2.0**
	6.3nm,0.4s							
CHMS				⇑Pg		**Pb**	**16 24 58.6**	**+0.1**
	41nm,0.7s							
CHMS				Pg		Pg	16 25 12.0	+7.6
	141nm,0.2s							
CHMS				⇑Lg		Lg	16 25 45.6	
	209nm,0.8s							
CHMS				Lg		Lg	16 26 13.2	
	350nm,0.4s							
CHMS	**Chumysh**	**3.92**	**8**	PN		**Pn**	**16 24 51.6**	**+2.0**
CHMS				P		**Pb**	**16 24 58.6**	**+0.1**
TKM2	**Tokmak 2**	**3.98**	**17**	P		**Pn**	**16 24 55.5**	**+4.8**
	SNR=7.8							
TKM2	**Tokmak 2**	**3.98**	**17**	⇓Pn		**Pn**	**16 24 52.8**	**+2.0**
	7.7nm,0.5s							
TKM2				⇑Pg		**Pb**	**16 24 60.0**	**+0.2**
	75nm,0.9s							
TKM2				⇓Lg		Lg	16 25 50.8	
	216nm,1.1s							
TKM2	**Tokmak 2**	**3.98**	**17**	PN		**Pn**	**16 24 52.7**	**+2.0**
TKM2							16 24 59.9	
TKM2							16 25 50.8	
USP	**Ospenovka**	**4.16**	**5**	P		**Pn**	**16 24 55.1**	**+2.2**
	SNR=19							
IUG	**Iuzhnay**	**4.27**	**316**	*e*P		**Pb**	**16 25 05.5**	**+0.9**
	320nm,0.6s							
IUG				*e*S		**Sb**	**16 26 01.9**	**+5.8**
	352nm,0.9s							
DZA	**Taraz**	**4.27**	**333**	*e*P		**Pb**	**16 25 04.6**	**0.0**
	136nm,0.3s							
DZA				*e*S		**Sb**	**16 26 00.3**	**+4.1**
	345nm,0.5s							
DGS	**Degeres**	**4.33**	**18**	*e*P		**Pb**	**16 25 06.1**	**+0.5**
	39nm,0.5s							
DGS				*e*S		**Sb**	**16 26 03.1**	**+5.1**
	118nm,0.0s							
DGS	**Degeres**	**4.33**	**18**	Pg		**Pb**	**16 25 06.1**	**+0.5**
	96nm,0.5s							
DGS				Lg		Lg	16 26 03.1	
	108nm,0.9s							
SGDS	**Sogindy**	**4.35**	**6**	*e*P		**Pb**	**16 25 05.7**	**-0.3**
	35nm,0.7s							
SGDS				*e*S		**Sb**	**16 26 02.1**	**+3.5**
	132nm,1.1s							
SGDS	**Sogindy**	**4.35**	**6**	*e*PN		**Pb**	**16 25 03.4**	**-2.6**
MTBS	**Maitube**	**4.41**	**24**	*e*P		**Pb**	**16 25 07.2**	**+0.3**
	36nm,1.3s							
MTBS				*e*S		**Sb**	**16 26 05.0**	**+4.9**
	103nm,0.9s							
MTBS	**Maitube**	**4.41**	**24**	Pg		**Pb**	**16 25 07.1**	**+0.2**
	39nm,0.7s							
MTBS				Lg		Lg	16 26 04.8	
	85nm,0.9s							
TNSS	**Tian-Shan**	**4.50**	**29**	*e*P		**Pb**	**16 25 08.9**	**+0.2**
	84nm,0.4s							
TNSS				*e*S		**Sb**	**16 26 08.0**	**+4.7**
	82nm,0.8s							
TNSS	**Tian-Shan**	**4.50**	**29**	Pg		**Pb**	**16 25 08.9**	**+0.2**
	84nm,0.4s							
TNSS				Lg		Lg	16 26 07.9	
	82nm,0.8s							
CHM	**Chimkent**	**4.62**	**315**	*e*P		**Pb**	**16 25 12.0**	**+1.5**
	141nm,0.2s							
CHM				*e*S		**Sg**	**16 26 13.2**	**-4.4**
	350nm,0.4s							
AAA	**Alma-Ata**	**4.64**	**27**	*e*P		**Pb**	**16 25 11.9**	**+1.0**
	58nm,0.4s							
AAA				*e*S		**Sb**	**16 26 12.9**	**+6.0**
	195nm,0.9s							
MDOK	**Medeo**	**4.65**	**29**	*e*P		**Pb**	**16 25 11.7**	**+0.6**
	82nm,1.4s							
MDOK				*e*S		**Sb**	**16 26 12.8**	**+5.5**
	144nm,0.9s							
MDOK	**Medeo**	**4.65**	**29**	⇓Pn		**Pn**	**16 25 02.7**	**+2.8**
	8.7nm,0.7s							
MDOK				⇓Pg		**Pb**	**16 25 10.8**	**-0.3**
	127nm,1.0s							
MDOK				Pg		Pg	16 25 11.5	-7.0
	84nm,0.6s							
MDOK				⇓Lg		Lg	16 26 10.1	
	217nm,1.0s							
MDOK				Lg		Lg	16 26 12.8	
	144nm,0.9s							
MDOK	**Medeo**	**4.65**	**29**	PN		**Pn**	**16 25 02.6**	**+2.8**
MDOK							16 26 10.0	
KNDC	**Almaty**	**4.67**	**28**	⇑Pg		**Pb**	**16 25 11.3**	**0.0**
	236nm,0.7s							
KNDC				⇓Lg		Lg	16 26 10.9	
	670nm,1.2s							
KNDC	**Almaty**	**4.67**	**28**	PN		**Pb**	**16 25 11.3**	**0.0**
KNDC							16 26 10.9	
KK31	**Karatay Array**	**4.77**	**328**	Pn		**Pn**	**16 25 02.3**	**+1.0**
	22nm,0.6s,baz=126,slow=9.1,SNR=103							
KK31				⇓Pg		**Pb**	**16 25 12.8**	**-0.2**
	46nm,0.7s,baz=156,slow=17,SNR=8.9							
KK31				⇓Lg		Lg	16 26 14.7	
	104nm,0.8s							
KK31	**Karatay Array**	**4.77**	**328**	*e*PN		**Pn**	**16 25 02.2**	**+1.0**
KK31							16 25 12.8	
KK31							16 26 14.6	
KTBS	**Karatobe**	**5.01**	**23**	*e*P		**Pb**	**16 25 18.3**	**+1.1**
	17nm,0.8s							
KTBS				*e*S		**Sb**	**16 26 23.6**	**+6.1**
	155nm,0.7s							
KUU	**Kurty**	**5.08**	**20**	Pg		**Pb**	**16 25 21.1**	**+2.7**
SATY	**Saty**	**5.16**	**39**	*e*P		**Pb**	**16 25 22.4**	**+2.7**
	40nm,0.5s							
SATY				*e*S		**Sg**	**16 26 31.6**	**-3.3**
	99nm,1.2s							
CHKK	**Chushkaly**	**5.24**	**24**	*e*P		**Pb**	**16 25 23.2**	**+2.2**
	41nm,0.6s							
CHKK				*e*S		**Sg**	**16 26 32.4**	**-5.0**
	88nm,1.0s							
CHKK	**Chushkaly**	**5.24**	**24**	Pg		**Pb**	**16 25 23.2**	**+2.2**
	41nm,0.6s							
KURS	**Kuram**	**5.38**	**34**	*e*P		**Pb**	**16 25 26.7**	**+3.2**
	35nm,0.9s							
KURS				*e*S		**Sg**	**16 26 38.3**	**-3.7**
	49nm,1.3s							
CHCP	**Chirah Chowk**	**5.48**	**186**	P		Pb	16 25 17.5	-7.7
UZB	**Uzynbulak**	**5.53**	**42**	*e*P		**Pb**	**16 25 29.3**	**+3.2**
	23nm,0.3s							
UZB				*e*S		**Sg**	**16 26 42.9**	**-4.0**
	42nm,0.8s							
UZB	**Uzynbulak**	**5.53**	**42**	*e*PN		**Pb**	**16 25 22.8**	**-3.3**
CEP	**Cherat**	**5.55**	**198**	P		Pb	16 25 20.3	-6.1
KPKS	**Kokpek**	**5.60**	**38**	*e*PN		**Pn**	**16 25 13.2**	**+0.5**
SHLS	**Shalkode**	**5.77**	**44**	*e*PN		**Pb**	**16 25 27.0**	**-3.2**
ARXS	**Arharly**	**5.84**	**28**	*e*PN		**Pn**	**16 25 17.6**	**+1.5**
PDGK	**Podgornoye**	**5.90**	**43**	⇓Pn		**Pn**	**16 25 18.2**	**+1.2**
	6.9nm,0.8s							
PDGK				⇑Pg		**Pb**	**16 25 33.1**	**+0.6**
	90nm,1.1s							
PDGK				⇑Lg		Lg	16 26 52.8	
	85nm,0.9s							
PDGK	**Podgornoye**	**5.90**	**43**	PN		**Pn**	**16 25 18.1**	**+1.2**
PDGK							16 26 48.6	
BTLS	**Baital**	**5.92**	**0**	*e*PN		**Pn**	**16 25 17.6**	**+0.6**
THW	**Thamme Wali**	**6.57**	**197**	P		Pn	16 25 32.8	+6.7
OTUK	**Ortayu**	**9.20**	**353**	⇑Pn		**Pn**	**16 26 01.8**	**-0.3**
	7.4nm,1.0s							
OTUK				⇑Lg		Lg	16 28 30.5	
	88nm,1.1s							
OTUK	**Ortayu**	**9.20**	**353**	P		**Pn**	**16 26 01.7**	**-0.3**
MAKZ	**Makanchi**	**9.65**	**35**	⇓Pn		**Pn**	**16 26 10.1**	**+1.8**
	4.5nm,1.2s							
MAKZ				⇑Lg		Lg	16 28 49.4	
	8.7nm,1.2s							
MAKZ	**Makanchi**	**9.65**	**35**	P		**Pn**	**16 26 10.1**	**+1.8**
MK31	**Makanchi Array**	**9.78**	**36**	⇓Pn		**Pn**	**16 26 11.5**	**+1.4**
	5.7nm,1.2s,baz=222,slow=14,SNR=8.7							
MK31				⇓Lg		Lg	16 28 57.5	
	7.2nm,0.8s							
MK31	**Makanchi Array**	**9.78**	**36**	P		**Pn**	**16 26 11.5**	**+1.4**
MKAR	**Makanchi Array**	**9.78**	**36**	Pn		**Pn**	**16 26 11.3**	**+1.3**
	0.1nm,0.3s,baz=224,slow=15,SNR=7.0							
MKAR				Lg		Lg	16 28 57.0	
	baz=148,slow=26,SNR=1.8

comp=Z,1.4nm,0.8s
ILAR Eielson Array 71.60 17 P **P 16 35 07.9 -2.6**
comp=Z,0.7nm,0.9s,baz=317,slow=4.6,SNR=6.8
comp=Z,0.7nm,0.9s
ILAR Eielson Array 71.60 17 *e*P **P 16 35 08.5 -1.9**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 81.43 124 P **P 16 36 05.5 -1.3**
comp=Z,0.3nm,0.5s,baz=327,slow=5.1,SNR=7.9
comp=Z,0.3nm,0.5s
WRA Warramunga Arr 81.43 124 *e*P **P 16 36 06.3 -0.4**
ASAR Alice Springs 83.87 127 P **P 16 36 18.4 -1.1**
comp=Z,0.3nm,0.7s,baz=312,slow=4.5,SNR=6.0
comp=Z,0.3nm,0.7s

TAP ***25*** *16:35:58.8,24°.33N×122°.98E,h59km,ML2.5,D*
JMA ***25*** *16:35:59.4±0.1,24°.N±2°×123°.0E±0°.5,h60km,MV2.1/7,*
NW OFF ISHIGAKIJIMA IS
ISC 25 16:35:59.5±1.3,24°.32N±0°.05×122°.97E±0°.03,h56km±8km,
n61,σ0s97/109,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.14**	**351**	*i*	P		**Pn**	**16 36 08.2**	**+0.1**
JYNG					S		**Sn**	**16 36 14.6**	**+0.3**
YOJ	**Yonaguni jima**	**0.15**	**15**	*i*	P		**Pn**	**16 36 08.1**	**-0.1**
	baz=10.0								
YOJ				*i*	S		**Sn**	**16 36 14.6**	**+0.2**
	baz=10.0								
YOJ	**Yonaguni jima**	**0.15**	**15**		P		**Pn**	**16 36 08.3**	**+0.1**
YOJ					S		**Sn**	**16 36 14.8**	**+0.3**
IRIF	**Iriomote-Funau**	**0.70**	**88**		P		**Pn**	**16 36 13.3**	**-0.1**
IRIF					S		**Sn**	**16 36 23.4**	**-0.2**
JKRS	**Kuro-shima**	**0.95**	**95**		P		**Pn**	**16 36 17.0**	**+0.2**
JKRS					S		**Sn**	**16 36 30.1**	**+0.6**
TWC	**Suao**	**1.06**	**286**		P		**Pn**	**16 36 17.1**	**-1.0**
	baz=294								
TWC					S		**Sn**	**16 36 31.4**	**-0.6**
	baz=294								
JIJ	**Ishigaki jima**	**1.07**	**87**		P		**Pn**	**16 36 18.0**	**-0.3**
JIJ					S		**Sn**	**16 36 31.6**	**-0.8**
ENA	**Nanau**	**1.12**	**276**	*i*	P		**Pn**	**16 36 19.7**	**+0.7**
	baz=283								
ENA					S		**Sn**	**16 36 33.6**	**+0.1**
	baz=283								
ILA	**Ilan**	**1.20**	**292**		P		**Pn**	**16 36 20.2**	**+0.2**
	baz=291								
TIPB	**Shuangxi**	**1.23**	**302**	*i*	P		**Pn**	**16 36 20.3**	**-0.1**
	baz=309								
TIPB				*i*	S		**Sn**	**16 36 35.5**	**-0.6**
	baz=309								
ETL	**Fush Village**	**1.24**	**263**	*e*	P		**Pn**	**16 36 19.6**	**-0.9**
	baz=262								
ETL				*e*	S		**Sn**	**16 36 36.0**	**-0.3**
	baz=262								
TWE	**Neicheng**	**1.25**	**289**	*e*	P		**Pn**	**16 36 20.1**	**-0.6**
	baz=295								
TWE				*e*	S		**Sn**	**16 36 35.8**	**-0.8**
	baz=295								
JISG	**Ishigakijimahi**	**1.25**	**77**		P		**Pn**	**16 36 20.5**	**-0.2**
JISG					S		**Sn**	**16 36 36.0**	**-0.6**
SXI1	**Grass Mountain**	**1.26**	**308**	*e*	P		**Pn**	**16 36 20.4**	**-0.5**
	baz=313								
TWD	**Chiawan**	**1.27**	**260**	*e*	P		**Pn**	**16 36 20.3**	**-0.7**
	baz=259								
ENTT	**Nioudou**	**1.32**	**284**		P		**Pn**	**16 36 21.6**	**-0.1**
	baz=292								
ENTT					S		**Sn**	**16 36 37.8**	**-0.4**
	baz=292								
FUSB	**Fushanzhiwuyua**	**1.33**	**290**	*i*	P		**Pn**	**16 36 21.8**	**-0.1**
	baz=297								
FUSB					S		**Sn**	**16 36 38.5**	**-0.1**
	baz=297								
LATG	**Datong**	**1.33**	**280**		P		**Pn**	**16 36 22.0**	**+0.1**
	baz=288								
LATG				*e*	S		**Sn**	**16 36 38.7**	**0.0**
	baz=288								
NWLT	**Wulai**	**1.41**	**289**	*e*	P		**Pn**	**16 36 22.3**	**-0.6**
	baz=289								
NWLT				*e*	S		**Sn**	**16 36 39.9**	**-0.5**
	baz=289								
NNSB	**Datong**	**1.45**	**275**	*e*	P		**Pn**	**16 36 23.6**	**+0.1**
	baz=274								
NNSB				*e*	S		**Sn**	**16 36 41.7**	**+0.2**
	baz=274								
NNS	**Nan Shan**	**1.46**	**275**	*e*	P		**Pn**	**16 36 23.4**	**-0.3**
	baz=275								
NNS				*e*	S		**Sn**	**16 36 40.6**	**-1.2**
	baz=275								
NHDH	**Xindian Distri**	**1.46**	**296**	*e*	P		**Pn**	**16 36 23.5**	**-0.1**
	baz=296								
ESL	**Shilin**	**1.49**	**251**	*e*	P		**Pn**	**16 36 22.9**	**-1.0**
	baz=241								
ESL				*e*	S		**Sn**	**16 36 40.4**	**-2.0**
	baz=241								
YHNB	**Yeheng**	**1.49**	**284**		P		**Pn**	**16 36 24.7**	**+0.6**
	baz=290								
YHNB				*e*	S		**Sn**	**16 36 41.9**	**-0.7**
	baz=290								
NSK	**Sanguang**	**1.51**	**284**	*e*	P		**Pn**	**16 36 23.8**	**-0.4**
	baz=290								
NSK				*e*	S		**Sn**	**16 36 42.0**	**-1.0**
	baz=290								
YM01	**YM01**	**1.52**	**303**	*e*	P		**Pn**	**16 36 23.0**	**-1.3**
	baz=303								
YM01				*e*	S		**Sn**	**16 36 42.9**	**-0.1**
	baz=303								
WHF	**Hehuan Shan**	**1.56**	**264**	*e*	P		**Pn**	**16 36 25.1**	**-0.2**
	baz=252								
WHF				*e*	S		**Sn**	**16 36 45.0**	**+0.3**
	baz=252								
FUSS	**Fushou**	**1.57**	**268**	*e*	P		**Pn**	**16 36 25.2**	**-0.1**
	baz=267								
HGSD	**Ruisui**	**1.63**	**240**	*e*	P		**Pn**	**16 36 23.3**	**-2.6**
	baz=239								
HGSD				*e*	S		**Sn**	**16 36 43.8**	**-2.1**
	baz=239								
CHGB	**Renai**	**1.66**	**262**		P		**Pn**	**16 36 26.0**	**-0.4**
	baz=250								
CHGB					S		**Sn**	**16 36 46.5**	**-0.3**
	baz=250								
EHY	**Hungye**	**1.71**	**242**		P		**Pn**	**16 36 25.6**	**-1.3**
	baz=252								
EHY				*e*	S		**Sn**	**16 36 46.1**	**-1.6**
	baz=252								
NFF	**Wufeng Townshi**	**1.71**	**281**	*e*	P		**Pn**	**16 36 28.2**	**+1.1**
	baz=281								
WUSB	**Renai**	**1.72**	**260**		P		**Pn**	**16 36 26.7**	**-0.5**
	baz=259								
WUSB				*e*	S		**Sn**	**16 36 47.8**	**-0.4**
	baz=259								
VWDT	**VWDT**	**1.76**	**252**		P		**Pn**	**16 36 27.8**	**+0.1**
	baz=242								
VWDT				*e*	S		**Sn**	**16 36 48.1**	**-0.8**
	baz=242								
YULB	**Yu-li**	**1.79**	**239**		P		**Pn**	**16 36 27.3**	**-0.6**
	baz=251								
YULB				*e*	S		**Sn**	**16 36 48.1**	**-1.4**
	baz=251								
EYUL	**Yuli**	**1.79**	**238**	*e*	P		**Pn**	**16 36 27.2**	**-0.8**
	baz=236								
EYUL				*e*	S		**Sn**	**16 36 49.4**	**-0.3**
	baz=236								
LIOB	**Emei**	**1.81**	**281**	*e*	P		**Pn**	**16 36 29.3**	**+1.0**
	baz=281								
WHP	**Taichung City**	**1.84**	**269**	*e*	P		**Pn**	**16 36 30.9**	**+2.0**
	baz=261								
FULB	**Fuli**	**1.90**	**234**	*e*	P		**Pn**	**16 36 28.1**	**-1.4**
	baz=224								
FULB				*e*	S		**Sn**	**16 36 51.3**	**-1.0**
	baz=224								
WCS	**Beigang Elemen**	**1.90**	**263**	*e*	P		**Pn**	**16 36 28.4**	**-1.0**
	baz=255								
WCS				*e*	S		**Sn**	**16 36 52.5**	**+0.2**
	baz=255								
SSLB	**Suanglung**	**1.92**	**254**	*e*	P		**Pn**	**16 36 29.7**	**-0.1**
	baz=254								
SMLT	**Sun Moon Lake**	**1.94**	**258**	*e*	P		**Pn**	**16 36 30.5**	**+0.3**
	baz=250								
SMLT				*e*	S		**Sn**	**16 36 53.5**	**+0.1**
	baz=250								
TYC	**Yuchr**	**1.97**	**258**	*e*	P		**Pn**	**16 36 30.8**	**+0.3**
	baz=250								
TYC				*e*	S		**Sn**	**16 36 54.7**	**+0.7**
	baz=250								
YUS	**Yu-Shan**	**2.02**	**246**		P		**Pn**	**16 36 31.6**	**0.0**
	baz=245								
YUS				*e*	S		**Sn**	**16 36 54.2**	**-1.8**
	baz=245								
WHYT	**Xinyi Township**	**2.03**	**253**		P		**Pn**	**16 36 32.6**	**+1.3**
	baz=244								
WHYT				*e*	S		**Sn**	**16 36 56.5**	**+0.9**
	baz=244								
WJS	**Zhushan**	**2.11**	**257**	*e*	P		**Pn**	**16 36 32.6**	**+0.3**
	baz=256								
WJS				*e*	S		**Sn**	**16 37 00.1**	**+2.8**
	baz=256								
ELDTW	**Lidau**	**2.11**	**238**		P		**Pn**	**16 36 31.6**	**-0.9**
	baz=236								
ELDTW				*e*	S		**Sn**	**16 36 56.4**	**-1.3**
	baz=236								
ALS	**Alishan**	**2.14**	**248**		P		**Pn**	**16 36 33.5**	**+0.5**
	baz=247								
ALS				*e*	S		**Sn**	**16 36 58.1**	**-0.4**
	baz=247								
LONT	**Longtian**	**2.19**	**231**	*e*	P		**Pn**	**16 36 33.1**	**-0.5**
	baz=240								
LONT				*e*	S		**Sn**	**16 36 58.6**	**-0.9**
	baz=240								
TWGBT	**Beinan**	**2.29**	**230**	*e*	P		**Pn**	**16 36 33.7**	**-1.1**
	baz=237								
STYH	**Taoyuan**	**2.31**	**241**	*e*	P		**Pn**	**16 36 34.3**	**-0.8**
	baz=234								
STYH				*e*	S		**Sn**	**16 37 02.8**	**+0.4**
	baz=234								
WCKO	**Fanlu**	**2.33**	**248**		P		**Pn**	**16 36 36.0**	**+0.5**
	baz=247								
WCKO					S		**Sn**	**16 37 03.4**	**+0.4**
	baz=247								
TPUB	**Ta-pu**	**2.37**	**245**		P		**Pn**	**16 36 37.1**	**+1.2**
	baz=244								
TPUB				*e*	S		**Sn**	**16 37 04.7**	**+0.8**
	baz=244								
CHN4	**Tsaushan**	**2.38**	**247**		P		**Pn**	**16 36 36.5**	**+0.5**
	baz=245								
CHN4					S		**Sn**	**16 37 05.5**	**+1.5**
	baz=245								
WTP	**Ta-pu**	**2.41**	**244**		P		**Pn**	**16 36 38.4**	**+1.9**
	baz=249								
WTP					S		**Sn**	**16 37 06.8**	**+2.0**
	baz=249								
TWK	**Hsinying**	**2.50**	**246**		P		**Pn**	**16 36 39.3**	**+1.5**
	baz=244								
TWK				*e*	S		**Sn**	**16 37 08.5**	**+1.4**
	baz=244								
CHN1	**Nanshi**	**2.50**	**244**		P		**Pn**	**16 36 38.8**	**+1.1**
	baz=242								
CHN1				*e*	S		**Sn**	**16 37 09.0**	**+1.8**
	baz=242								
SSD	**Sandimen**	**2.65**	**234**		P		**Pn**	**16 36 41.4**	**+1.6**
	baz=230								
SSD				*e*	S		**Sn**	**16 37 12.2**	**+1.4**
	baz=230								
TSMG	**Majia**	**2.67**	**234**	*e*	P		**Pn**	**16 36 41.5**	**+1.4**
	baz=228								
MASBT	**Mashibuluo**	**2.73**	**232**	*e*	P		**Pn**	**16 36 42.3**	**+1.4**
	baz=226								
EAST	**Anshuo**	**2.74**	**226**	*e*	P		**Pn**	**16 36 41.5**	**+0.5**
	baz=233								

SOME ***25*** *16:44:50.8,39°.17N×73°.92E,h5km*
KRNET ***25*** *16:44:53.9±0.1,39°.27N×73°.96E,mb3.9*
IDC ***25*** *16:44:55.5±2.4,39°.40N×73°.36E,h0km,mb3.7/3,*
mbtmp3.5/9,ML3.0/6,Error ellipse: s-maj=34.4km
s-min=21.0km az=145.0
NNC ***25*** *16:44:59.4±1.0,39°.50N×74°.00E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=8.1km s-min=4.7km az=177.0
ISC 25 16:44:53.5±1.2,39°.02N±0°.07×73°.81E±0°.03,h10km,n70,
σ2s02/94,mb3.8/3,14C-19D,Tajikistan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.69**	**333**	⇑*i*	P		**Pn**	**16 45 22.8**	**-0.4**
	baz=25								
OHH				⇑*i*	S		**Sn**	**16 45 44.0**	**-1.0**
	baz=25								
BTK	**Batken**	**2.53**	**295**	⇑*i*	P		**Pb**	**16 45 38.5**	**-0.6**
	baz=89								
BTK				⇑*i*	S		**Sb**	**16 46 10.9**	**+0.6**
	baz=89								
ARLS	**Aral**	**2.86**	**8**	⇓*i*	P		**Pn**	**16 45 39.2**	**-0.2**
	baz=6.0								
ARLS				⇓*i*	S		**Sn**	**16 46 12.2**	**-1.8**
	baz=6.0								
NRN	**Naryn**	**2.93**	**34**	⇓*i*	P		**Pn**	**16 45 39.4**	**-1.1**
	baz=35								
NRN				⇓*i*	S		**Sn**	**16 46 13.7**	**-2.3**
	baz=35								
AML	**Almayashu**	**3.10**	**358**		P		**Pn**	**16 45 43.8**	**+0.8**
	SNR=55								
ARK	**Arkit**	**3.11**	**334**	⇑	P		**Pn**	**16 45 44.3**	**+1.6**
	baz=30								
ARK				⇑*i*	S		**Sn**	**16 46 20.9**	**+0.9**
	baz=30								
TRKS	**Terek-Say**	**3.23**	**322**	⇑*i*	P		**Pn**	**16 45 45.7**	**+1.3**
	baz=17								
TRKS				⇑*i*	S		**Sn**	**16 46 23.5**	**+0.5**
	baz=17								
UCH	**Uchtor**	**3.25**	**9**		P		**Pn**	**16 45 46.1**	**+1.2**
	SNR=19								
UCH	**Uchtor**	**3.25**	**9**	⇓*i*	P		**Pn**	**16 45 44.8**	**-0.1**
	baz=8.0								
UCH				⇓*i*	S		**Sn**	**16 46 21.7**	**-2.2**
	baz=8.0								
EKS2	**Erkin-Say**	**3.63**	**360**		P		**Pn**	**16 45 51.4**	**+1.4**
	SNR=14								
EKS2	**Erkin-Say**	**3.63**	**360**	⇓*i*	P		**Pn**	**16 45 50.2**	**+0.2**
	baz=58								
EKS2				⇓*i*	S		**Sn**	**16 46 31.1**	**-1.9**
	baz=58								
AAK	**Ala-Archa**	**3.65**	**8**		P		**Pn**	**16 45 51.8**	**+1.6**
	SNR=15								
AAK	**Ala-Archa**	**3.65**	**8**		Pn		**Pn**	**16 45 51.5**	**+1.3**
	3.4nm,0.3s,baz=180,slow=7.9,SNR=37								
AAK					Pg		**Pb**	**16 45 57.5**	**-0.7**
	7.4nm,0.3s,baz=196,slow=18,SNR=25								
AAK					Lg		Lg	16 46 40.6	
	10nm,0.3s,baz=162,slow=20,SNR=13								
	7.7nm,0.3s								
KBK	**Karagaybulak**	**3.73**	**13**		P		**Pn**	**16 45 54.0**	**+2.6**
	SNR=18								
MRKS	**Merke**	**3.74**	**353**	*e*	P		**Pb**	**16 45 59.4**	**-0.4**
	33nm,0.4s								
MRKS				*e*	S		**Sb**	**16 46 46.9**	**+1.7**
	114nm,0.5s								
MRKS	**Merke**	**3.74**	**353**		Pg		**Pb**	**16 45 59.5**	**-0.4**
	33nm,0.4s								
MRKS					Lg		Lg	16 46 46.4	
	114nm,0.5s								
CHMS	**Chumysh**	**4.04**	**10**		P		**Pn**	**16 45 56.9**	**+1.5**
	SNR=7.6								
CHMS	**Chumysh**	**4.04**	**10**	⇓	Pn		**Pn**	**16 45 56.6**	**+1.2**
	16nm,0.6s								
CHMS				⇓	Lg		Lg	16 46 51.3	
	79nm,1.1s								
TKM2	**Tokmak 2**	**4.12**	**19**		P		**Pn**	**16 45 58.6**	**+1.8**
	SNR=9.6								
TKM2	**Tokmak 2**	**4.12**	**19**	⇓	Pn		**Pn**	**16 45 58.0**	**+1.3**
	35nm,1.1s								
TKM2				⇓	Lg		Lg	16 46 53.5	
	28nm,0.6s								
IUG	**Iuzhnay**	**4.24**	**319**	*e*	P		**Pb**	**16 46 11.1**	**+2.8**
	80nm,0.4s								
IUG				*e*	S		**Sg**	**16 47 07.8**	**-1.9**
	112nm,0.7s								
IUG	**Iuzhnay**	**4.24**	**319**		Pg		**Pb**	**16 46 11.1**	**+2.8**
	80nm,0.4s								
IUG					Lg		Lg	16 47 06.2	
	96nm,0.4s								
USP	**Ospenovka**	**4.27**	**7**		P		Pn	16 46 03.6	+5.0
	SNR=9.2								
KST	**Kastek**	**4.33**	**21**	*e*	P		**Pb**	**16 46 09.2**	**-0.7**
	12nm,0.7s								
KST				*e*	S		**Sb**	**16 47 04.6**	**+2.3**
	63nm,0.7s								
KST	**Kastek**	**4.33**	**21**		Pg		**Pb**	**16 46 09.2**	**-0.7**
	12nm,0.7s								
KST					Lg		Lg	16 47 02.3	
	63nm,0.7s								
SGDS	**Sogindy**	**4.47**	**8**	*e*	P		**Pb**	**16 46 11.0**	**-1.1**
	11nm,0.6s								
SGDS				*e*	S		**Sb**	**16 47 07.1**	**+1.1**
	47nm,0.4s								
SGDS	**Sogindy**	**4.47**	**8**		Pg		**Pb**	**16 46 10.8**	**-1.3**
	11nm,1.2s								
SGDS					Lg		Lg	16 47 06.2	
	47nm,1.2s								
MTBS	**Maitube**	**4.56**	**25**	*e*	P		**Pb**	**16 46 13.5**	**-0.1**
	18nm,0.5s								
MTBS				*e*	S		**Sb**	**16 47 11.3**	**+2.7**
	30nm,0.7s								
MTBS	**Maitube**	**4.56**	**25**		Pg		**Pb**	**16 46 13.5**	**-0.1**
	18nm,0.5s								
MTBS					Lg		Lg	16 47 09.6	
	30nm,0.7s								
TNSS	**Tian-Shan**	**4.66**	**30**	*e*	P		**Pb**	**16 46 15.6**	**+0.1**
	15nm,0.4s								
TNSS				*e*	S		**Sb**	**16 47 16.1**	**+4.2**
	16nm,0.8s								
TNSS	**Tian-Shan**	**4.66**	**30**		Pg		**Pb**	**16 46 15.6**	**+0.1**
	15nm,0.4s								
TNSS					Lg		Lg	16 47 13.1	
	16nm,0.8s								
KK31	**Karatay Array**	**4.78**	**330**	⇓	Pn		**Pn**	**16 46 07.4**	**+1.8**
	2.2nm,0.3s,baz=136,slow=13,SNR=80								
KK31				⇑	Pg		**Pb**	**16 46 18.0**	**+0.7**
	5.1nm,0.3s,baz=146,slow=17,SNR=14								
KK31				⇑	Sn		**Sn**	**16 47 03.2**	**+2.2**
	8.4nm,0.4s,baz=147,slow=24,SNR=3.8								
KK31				⇑	Lg		Lg	16 47 19.4	
	32nm,0.8s								
AAA	**Alma-Ata**	**4.79**	**28**	*e*	P		**Pb**	**16 46 18.5**	**+0.9**
	41nm,0.3s								
AAA				*e*	S		**Sb**	**16 47 19.5**	**+4.1**
	75nm,0.3s								
AAA	**Alma-Ata**	**4.79**	**28**		Pg		**Pb**	**16 46 18.3**	**+0.6**
AAA					Lg		Lg	16 47 18.6	
MDOK	**Medeo**	**4.81**	**30**	*e*	P		**Pb**	**16 46 17.3**	**-0.6**
	21nm,0.7s								
MDOK				*e*	S		**Sb**	**16 47 17.9**	**+2.0**
	27nm,0.9s								
MDOK	**Medeo**	**4.81**	**30**		Pn		**Pn**	**16 46 08.5**	**+2.4**
	2.7nm,0.5s								
MDOK					Pg		**Pb**	**16 46 17.8**	**-0.1**
	21nm,0.7s								
MDOK					Pg		Pg	16 46 18.2	-7.4
	21nm,0.6s								
MDOK				⇑	Lg		Lg	16 47 16.3	
	58nm,1.0s								
MDOK					Lg		Lg	16 47 17.2	
	27nm,0.9s								
KUU	**Kurty**	**5.22**	**21**	*e*	P		**Pb**	**16 46 25.8**	**+0.8**
	8.9nm,0.6s								
KUU				*e*	S		**Sb**	**16 47 30.9**	**+3.1**
	31nm,0.8s								
KUU	**Kurty**	**5.22**	**21**		Pg		**Pb**	**16 46 25.8**	**+0.8**
	8.9nm,0.6s								
KUU					Lg		Lg	16 47 30.8	
	31nm,0.8s								
SATY	**Saty**	**5.32**	**39**	*e*	P		**Pb**	**16 46 26.7**	**0.0**
	9.0nm,0.6s								
SATY				*e*	S		**Sb**	**16 47 32.2**	**+1.5**
	32nm,1.2s								
SATY	**Saty**	**5.32**	**39**		Pg		**Pb**	**16 46 26.7**	**0.0**
	9.0nm,0.6s								
SATY					Lg		Lg	16 47 32.2	
	32nm,1.2s								
CHKK	**Chushkaly**	**5.38**	**25**	*e*	P		**Pb**	**16 46 28.3**	**+0.6**
	14nm,0.5s								
CHKK				*e*	S		**Sb**	**16 47 35.4**	**+3.0**
	24nm,0.8s								
CHKK	**Chushkaly**	**5.38**	**25**		Pg		**Pb**	**16 46 28.3**	**+0.6**
	14nm,0.5s								
CHKK					Lg		Lg	16 47 35.4	
	24nm,0.8s								
ZHN	**Zhinishke**	**5.42**	**39**	*e*	P		**Pb**	**16 46 29.2**	**+0.9**
	6.0nm,0.3s								
ZHN				*e*	S		**Sb**	**16 47 36.9**	**+3.5**
	22nm,0.4s								
ZHN	**Zhinishke**	**5.42**	**39**		Pg		**Pb**	**16 46 30.2**	**+1.9**
ZHN					Lg		Lg	16 47 38.1	
KURS	**Kuram**	**5.54**	**35**	*e*	P		**Pb**	**16 46 31.3**	**+0.9**
	7.1nm,0.6s								
KURS				*e*	S		**Sb**	**16 47 40.2**	**+3.3**
	13nm,1.0s								
KURS	**Kuram**	**5.54**	**35**		Pg		**Pb**	**16 46 31.3**	**+0.9**
	7.1nm,0.6s								
KURS					Lg		Lg	16 47 40.2	
	13nm,1.0s								
UZB	**Uzynbulak**	**5.70**	**42**	*e*	P		**Pb**	**16 46 34.5**	**+1.3**
	4.2nm,0.5s								
UZB				*e*	S		**Sb**	**16 47 45.4**	**+3.8**
	16nm,0.8s								
UZB	**Uzynbulak**	**5.70**	**42**		Pg		**Pb**	**16 46 34.5**	**+1.3**
	4.2nm,0.5s								
UZB					Lg		Lg	16 47 45.4	
	16nm,0.8s								
KPKS	**Kokpek**	**5.76**	**38**	*e*	P		**Pb**	**16 46 35.2**	**+1.0**
	8.4nm,0.6s								
KPKS				*e*	S		**Sb**	**16 47 47.0**	**+3.7**
	22nm,0.6s								
KPKS	**Kokpek**	**5.76**	**38**		Pg		**Pb**	**16 46 35.2**	**+1.0**
	8.4nm,0.6s								
KPKS					Lg		Lg	16 47 47.0	
	22nm,0.6s								
SHLS	**Shalkode**	**5.94**	**44**	*e*	P		**Pg**	**16 46 44.1**	**-3.1**
	17nm,0.6s								
SHLS				*e*	S		**Sg**	**16 48 02.1**	**-2.1**
	18nm,1.0s								
SHLS	**Shalkode**	**5.94**	**44**		Pg		**Pg**	**16 46 44.1**	**-3.1**
	17nm,0.6s								
SHLS					Lg		Lg	16 48 02.1	
	18nm,1.0s								
BTLS	**Baital**	**6.01**	**2**	*e*	P		**Pb**	**16 46 41.2**	**+2.8**
	3.4nm,0.5s								
BTLS				*e*	S		**Sb**	**16 47 57.2**	**+6.7**
	11nm,1.3s								
BTLS	**Baital**	**6.01**	**2**		Pg		**Pb**	**16 46 39.9**	**+1.5**
	3.4nm,0.8s								
BTLS					Lg		Lg	16 47 55.7	
	9.6nm,0.7s								
PDGK	**Podgornoye**	**6.07**	**43**		Pg		**Pb**	**16 46 40.6**	**+1.2**
	3.0nm,0.8s								
PDGK					Lg		Lg	16 47 56.1	
	11nm,1.0s								
PDGK	**Podgornoye**	**6.07**	**43**	⇓	Pn		**Pn**	**16 46 24.9**	**+1.4**
	2.1nm,0.5s								
PDGK				⇓	Pg		**Pb**	**16 46 40.1**	**+0.6**
	7.4nm,0.6s								
PDGK				⇑	Lg		Lg	16 47 55.0	
	15nm,0.6s								
DJR	**Jarkent**	**6.94**	**38**		Pg		**Pb**	**16 46 55.9**	**+1.7**
	3.0nm,0.7s								
DJR					Lg		Lg	16 48 22.7	
	12nm,0.9s								
OTUK	**Ortayu**	**9.28**	**354**	⇑	Lg		Lg	16 49 38.4	
	19nm,0.9s								
MAKZ	**Makanchi**	**9.81**	**35**	⇓	Lg		Lg	16 49 55.4	
	5.1nm,1.2s								
MK31	**Makanchi Array**	**9.95**	**36**	⇓	Lg		Lg	16 49 59.4	
	1.0nm,0.6s,baz=204,slow=31,SNR=3.6								
MKAR	**Makanchi Array**	**9.95**	**36**		Pn		**

3.0nm,1.0s,baz=90,slow=7.3,SNR=4.7
3.0nm,1.0s

BER ***25*** *16:46:40.1±1.6, 70°.98N×29°.43E, h0km, ML0.9, Suspected explosion*
HEL 25 16:46:40.6±0.6, 69°.37N×30°.57E, h0km, ML1.4, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VADS	**Vadso**	**0.86**	**331**	*eP*	Pg	16 46 55.7	-1.4
VADS				*eS*	Sg	16 47 07.0	-1.3
VADS				IAML		16 47 08.9	
	comp=Z,2.8nm,0.5s						
KEV	**Kevo**	**1.31**	**289**	PG	Pg	16 47 04.4	-1.3
	baz=110						
KEV				MSG		16 47 20.3	
	comp=Z,2.0nm,0.2s						
KEV				SG	Sg	16 47 21.8	-0.8
KEV	**Kevo**	**1.31**	**289**	*eP*	Pg	16 47 04.5	-1.2
VRF	**Varrio**	**1.67**	**193**	PG	Pn	16 47 10.8	-0.2
	baz=12						
VRF				MSG		16 47 30.4	
	comp=Z,2.5nm,0.2s						
VRF				SN	Sn	16 47 32.9	-0.2
ARA0	**ARCESS Array S**	**1.79**	**278**	PG	Pn	16 47 12.6	-0.2
	baz=97						
ARA0				SN	Sn	16 47 36.5	+0.2
ARA0	**ARCESS Array S**	**1.79**	**278**	*eP*	Pn	16 47 12.8	0.0
ARA0				*eS*	Sn	16 47 36.0	-0.2
ARA0				IAML		16 47 39.1	
	comp=Z,2.5nm,0.2s						
SGF	**Sodankyl**	**2.45**	**220**	SG	Sb	16 47 55.6	-0.4
KTK1	**Kautokeino**	**2.64**	**266**	PG	Pb	16 47 27.3	-1.4
KTK1				SG	Sb	16 47 59.9	-1.8
KTK1	**Kautokeino**	**2.64**	**266**	*eP*	Pn	16 47 26.6	+2.2
KTK1				*eS*	Sb	16 47 59.9	-1.8
KTK1				IAML		16 48 03.9	
	comp=Z,1.6nm,0.4s						
HEF	**Hetta**	**2.68**	**252**	MSG		16 47 59.6	
	comp=Z,1.1nm,0.2s						
HEF				SG	Sb	16 48 02.3	-0.5

IDC ***25*** *16:59:01.3±1.0, 39°.11N×73°.88E, h0km, mb3.6/13, mbtmp3.6/19, ML3.1/6, MS4.2/1, Error ellipse: s-maj=16.8km s-min=11.9km az=119.0*
KRNET ***25*** *16:59:01.7±0.1, 39°.13N×73°.82E, mb4.3*
SOME ***25*** *16:59:01.7, 39°.27N×73°.92E, h5km*
NNC ***25*** *16:59:08.2±1.3, 39°.46N×74°.00E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=10.6km s-min=6.5km az=176.0*
ISC 25 16:59:02.4±0.7, 38°.99N±0°.04×73°.75E±0°.03, h10km, n88, σ2s18/118, mb3.6/12, 22C-17D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.70**	**334**	⇑*iP*	**Pn**	**16 59 31.8**	**-0.4**
	baz=31						
OHH				⇑*iS*	**Sn**	**16 59 54.0**	**-0.1**
	baz=31						
BTK	**Batken**	**2.50**	**296**	⇑*iP*	**Pb**	**16 59 46.2**	**-1.3**
	baz=93						
BTK				⇑*iS*	**Sb**	**17 00 18.0**	**-0.4**
	baz=93						
ARLS	**Aral**	**2.90**	**9**	⇑*iP*	**Pn**	**16 59 49.0**	**+0.2**
	baz=8.0						
ARLS				⇑*iS*	**Sn**	**17 00 24.2**	**+0.4**
	baz=8.0						
NRN	**Naryn**	**2.99**	**35**	⇓*iP*	**Pn**	**16 59 50.5**	**+0.4**
	baz=35						
NRN				⇓*iS*	**Sn**	**17 00 26.1**	**0.0**
	baz=35						
ARK	**Arkit**	**3.12**	**335**	⇑*iP*	**Pn**	**16 59 53.2**	**+1.5**
	baz=33						
ARK				⇑*iS*	**Sn**	**17 00 30.7**	**+1.6**
	baz=33						
AML	**Almayashu**	**3.13**	**359**	P	**Pn**	**16 59 52.8**	**+0.6**
	SNR=122						
TRKS	**Terek-Say**	**3.23**	**323**	⇑*iP*	**Pn**	**16 59 54.3**	**+1.0**
	baz=20						
TRKS				⇑*iS*	**Sn**	**17 00 32.3**	**+0.5**
	baz=20						
UCH	**Uchtor**	**3.28**	**10**	P	**Pn**	**16 59 55.2**	**+0.8**
	SNR=60						
UCH	**Uchtor**	**3.28**	**10**	⇓*iP*	**Pn**	**16 59 55.1**	**+0.8**
	baz=9.0						
UCH				⇓*iS*	**Sn**	**17 00 33.7**	**0.0**
	baz=9.0						
EKS2	**Erkin-Say**	**3.67**	**0**	P	**Pn**	**17 00 00.5**	**+1.3**
	SNR=26						
EKS2	**Erkin-Say**	**3.67**	**0**	⇑*iP*	**Pn**	**17 00 00.1**	**+0.8**
	baz=60						
EKS2				⇑*iS*	**Sn**	**17 00 43.1**	**+0.5**
	baz=60						
AAK	**Ala-Archa**	**3.69**	**9**	P	**Pn**	**17 00 01.0**	**+1.5**
	SNR=14						
AAK	**Ala-Archa**	**3.69**	**9**	Pn	**Pn**	**17 00 01.1**	**+1.5**
	7.1nm,0.3s,baz=177,slow=7.0,SNR=53						
AAK				Pg	**Pb**	**17 00 06.3**	**-1.4**
	29nm,0.3s,baz=182,slow=12,SNR=39						
AAK				Sn	**Sn**	**17 00 45.4**	**+2.3**
	5.9nm,0.3s,baz=198,slow=22,SNR=3.4						
AAK				Lg	Lg	17 00 52.3	
	24nm,0.3s,baz=46,slow=19,SNR=14						
	50nm,0.5s						
ULHL	**Ulahol**	**3.76**	**29**	P	**Pb**	**17 00 06.6**	**-2.5**
	SNR=8.2						
MRKS	**Merke**	**3.77**	**354**	*eP*	**Pb**	**17 00 09.2**	**+0.1**
	31nm,0.4s						
MRKS				*eS*	**Sb**	**17 00 57.3**	**+2.4**
	296nm,0.6s						
MRKS	**Merke**	**3.77**	**354**	Pg	**Pb**	**17 00 09.2**	**+0.1**
	30nm,0.4s						
MRKS				Lg	Lg	17 00 54.0	
	296nm,0.4s						
KBK	**Karagaybulak**	**3.77**	**14**	P	**Pn**	**17 00 02.2**	**+1.4**
	SNR=57						
KBK	**Karagaybulak**	**3.77**	**14**	⇓*iP*	**Pn**	**17 00 01.8**	**+1.0**
	baz=13						
KBK				⇓*iS*	**Sn**	**17 00 45.5**	**+0.2**
	baz=13						
CHMS	**Chumysh**	**4.07**	**10**	P	**Pn**	**17 00 06.3**	**+1.6**
	SNR=23						
CHMS	**Chumysh**	**4.07**	**10**	⇑Pn	**Pn**	**17 00 05.8**	**+1.1**
	36nm,0.7s						
CHMS				⇑Lg	Lg	17 01 00.9	
	149nm,0.8s						
TKM2	**Tokmak 2**	**4.17**	**19**	P	**Pn**	**17 00 09.2**	**+3.0**
	SNR=12						
TKM2	**Tokmak 2**	**4.17**	**19**	⇓Pn	**Pn**	**17 00 07.6**	**+1.4**
	26nm,0.6s						
TKM2				⇓Lg	Lg	17 01 05.0	
	138nm,1.1s						
IUG	**Iuzhnay**	**4.24**	**319**	*eP*	**Pg**	**17 00 20.9**	**-2.6**
	223nm,0.6s						
IUG				*eS*	**Sg**	**17 01 14.6**	**-3.8**
	213nm,0.9s						
DZA	**Taraz**	**4.30**	**336**	*eP*	**Pb**	**17 00 19.6**	**+1.5**
	180nm,0.5s						
DZA				*eS*	**Sg**	**17 01 16.0**	**-4.5**
	226nm,0.6s						
USP	**Ospenovka**	**4.31**	**7**	P	**Pn**	**17 00 09.4**	**+1.4**
	SNR=9.4						
KST	**Kastek**	**4.38**	**22**	*eP*	**Pb**	**17 00 19.1**	**-0.4**
	23nm,0.4s						
KST				*eS*	**Sb**	**17 01 14.0**	**+1.6**
	95nm,0.6s						
KST	**Kastek**	**4.38**	**22**	Pg	**Pb**	**17 00 19.9**	**+0.4**
	23nm,0.4s						
KST				Lg	Lg	17 01 12.8	
	95nm,0.6s						
SGDS	**Sogindy**	**4.50**	**8**	*eP*	**Pb**	**17 00 20.2**	**-1.4**
	26nm,0.5s						
SGDS				*eS*	**Sb**	**17 01 16.6**	**+0.6**
	112nm,1.1s						
SGDS	**Sogindy**	**4.50**	**8**	Pg	**Pb**	**17 00 20.8**	**-0.8**
	26nm,0.9s						
SGDS				Lg	Lg	17 01 15.2	
	112nm,1.1s						
CHM	**Chimkent**	**4.58**	**318**	*eP*	**Pg**	**17 00 26.9**	**-3.2**
	111nm,0.3s						
CHM				*eS*	**Sg**	**17 01 28.3**	**-1.1**
	321nm,0.3s						
MTBS	**Maitube**	**4.60**	**25**	*eP*	**Pb**	**17 00 22.2**	**-1.1**
	27nm,0.5s						
MTBS				*eS*	**Sb**	**17 01 17.5**	**-1.4**
	67nm,0.6s						
TNSS	**Tian-Shan**	**4.71**	**30**	*eP*	**Pb**	**17 00 24.9**	**-0.4**
	38nm,0.2s						
TNSS				*eS*	**Sb**	**17 01 24.1**	**+1.9**
	59nm,0.7s						
TNSS	**Tian-Shan**	**4.71**	**30**	Pg	**Pb**	**17 00 24.9**	**-0.4**
	36nm,0.3s						
TNSS				Lg	Lg	17 01 22.5	
	59nm,0.9s						
KK31	**Karatay Array**	**4.78**	**330**	Pn	**Pn**	**17 00 16.8**	**+2.3**
	8.4nm,0.3s,baz=139,slow=13,SNR=112						
KK31				⇓Pg	**Pb**	**17 00 27.1**	**+0.9**
	11nm,0.3s,baz=150,slow=15,SNR=8.8						
KK31				⇑Sn	**Sn**	**17 01 13.4**	**+3.4**
	30nm,0.6s,baz=159,slow=22,SNR=3.6						
KK31				⇑Lg	Lg	17 01 28.2	
	40nm,0.6s						
AAA	**Alma-Ata**	**4.84**	**29**	*eP*	**Pb**	**17 00 26.6**	**-0.7**
	102nm,0.4s						
AAA				*eS*	**Sb**	**17 01 28.2**	**+2.4**
	153nm,0.7s						
AAA	**Alma-Ata**	**4.84**	**29**	Pg	**Pb**	**17 00 28.9**	**+1.5**
	102nm,0.4s						
AAA				Lg	Lg	17 01 28.2	
	153nm,0.7s						
MDOK	**Medeo**	**4.86**	**30**	*eP*	**Pb**	**17 00 26.3**	**-1.4**
	81nm,0.8s						
MDOK				*eS*	**Sb**	**17 01 26.8**	**+0.6**
	115nm,0.6s						
MDOK	**Medeo**	**4.86**	**30**	⇑Pg	**Pb**	**17 00 24.6**	**-3.1**
	104nm,0.8s						
MDOK				Pg	Pg	17 00 27.7	-7.7
	81nm,0.8s						
MDOK				Lg	Lg	17 01 26.8	
	115nm,0.8s						
MDOK				⇓Lg	Lg	17 01 26.8	
	138nm,0.8s						
KUU	**Kurty**	**5.27**	**21**	*eP*	**Pb**	**17 00 33.6**	**-1.0**
	17nm,0.4s						
KUU				*eS*	**Sb**	**17 01 40.2**	**+2.3**
	81nm,0.7s						
KUU	**Kurty**	**5.27**	**21**	Pg	**Pb**	**17 00 36.1**	**+1.5**
	17nm,0.4s						
KUU				Lg	Lg	17 01 40.2	
	81nm,0.7s						
CHCP	**Chirah Chowk**	**5.34**	**184**	P	**Pb**	**17 00 31.5**	**-4.3**
CEP	**Cherat**	**5.37**	**197**	P	**Pb**	**17 00 34.9**	**-1.5**
CHKK	**Chushkaly**	**5.43**	**26**	*eP*	**Pb**	**17 00 36.3**	**-1.1**
	23nm,0.7s						
CHKK				*eS*	**Sb**	**17 01 44.5**	**+1.8**
	43nm,0.5s						
CHKK	**Chushkaly**	**5.43**	**26**	Pg	**Pb**	**17 00 38.5**	**+1.1**
	23nm,0.7s						
CHKK				Lg	Lg	17 01 44.5	
	43nm,0.5s						
ZHN	**Zhinishke**	**5.47**	**39**	*eP*	**Pb**	**17 00 36.3**	**-1.8**
	5.4nm,0.4s						
ZHN				*eS*	**Sb**	**17 01 46.2**	**+2.4**
	46nm,0.9s						
ZHN	**Zhinishke**	**5.47**	**39**	Pg	**Pb**	**17 00 39.3**	**+1.2**
	5.4nm,0.4s						
ZHN				Lg	Lg	17 01 46.2	
	46nm,0.9s						
KURS	**Kuram**	**5.59**	**35**	*eP*	**Pb**	**17 00 39.9**	**-0.2**
	18nm,0.7s						
KURS				*eS*	**Sb**	**17 01 49.4**	**+2.2**
	55nm,1.0s						
KURS	**Kuram**	**5.59**	**35**	Pg	**Pb**	**17 00 42.7**	**+2.6**
	18nm,0.7s						
KURS				Lg	Lg	17 01 52.3	
	55nm,1.0s						
UZB	**Uzynbulak**	**5.75**	**42**	*eP*	**Pb**	**17 00 42.1**	**-0.8**
	16nm,0.4s						
UZB				*eS*	**Sb**	**17 01 55.3**	**+3.4**
	29nm,0.8s						
UZB	**Uzynbulak**	**5.75**	**42**	Pg	**Pb**	**17 00 43.7**	**+0.8**
	16nm,0.4s						
UZB				Lg	Lg	17 01 53.8	
	29nm,0.8s						
KPKS	**Kokpek**	**5.81**	**38**	*eP*	**Pb**	**17 00 45.0**	**+1.1**
	33nm,0.7s						
KPKS				*eS*	**Sb**	**17 01 59.4**	**+5.7**
	37nm,0.5s						
KPKS	**Kokpek**	**5.81**	**38**	Pg	**Pb**	**17 00 45.1**	**+1.1**
	33nm,0.7s						
KPKS				Lg	Lg	17 01 55.6	
	37nm,0.5s						
SHLS	**Shalkode**	**6.00**	**44**	*eP*	Pb	17 00 52.7	+5.7
	28nm,0.6s						
SHLS				*eS*	**Sg**	**17 02 13.9**	**-0.9**
	44nm,0.7s						
SHLS	**Shalkode**	**6.00**	**44**	Pg	Pb	17 00 52.7	+5.7
	30nm,0.7s						
SHLS				Lg	Lg	17 02 09.4	
	44nm,0.7s						
BTLS	**Baital**	**6.05**	**2**	*eP*	**Pb**	**17 00 49.0**	**+1.2**
	7.2nm,0.6s						
BTLS				*eS*	**Sb**	**17 02 05.1**	**+4.9**
	37nm,1.2s						
BTLS	**Baital**	**6.05**	**2**	Pg	**Pb**	**17 00 49.7**	**+1.9**
	4.9nm,0.4s						
BTLS				Lg	Lg	17 02 03.8	
	28nm,0.7s						
PDGK	**Podgornoye**	**6.13**	**43**	⇓Pn	**Pn**	**17 00 32.0**	**-1.1**
	5.4nm,1.1s						
PDGK				⇓Pg	**Pb**	**17 00 49.6**	**+0.3**
	53nm,1.1s						
PDGK				⇓Lg	Lg	17 02 05.3	
	58nm,0.8s						
THW	**Thamme Wali**	**6.39**	**195**	P	Pn	17 00 44.7	+8.0
TDK	**Taldyqorghan**	**6.93**	**29**	*eP*	**Pb**	**17 01 07.2**	**+4.2**
	76nm,0.9s						
TDK				*eS*	**Sg**	**17 02 39.5**	**-5.4**
	72nm,1.3s						
TDK	**Taldyqorghan**	**6.93**	**29**	Pg	**Pb**	**17 01 07.1**	**+4.2**
	76nm,0.9s						
TDK				Lg	Lg	17 02 33.9	
	72nm,1.3s						
DJR	**Jarkent**	**6.99**	**38**	*eP*	**Pb**	**17 01 04.5**	**+0.5**
	10nm,0.5s						
DJR				*eS*	**Sb**	**17 02 33.1**	**+5.6**
	21nm,1.0s						
DJR	**Jarkent**	**6.99**	**38**	Pg	**Pb**	**17 01 08.7**	**+4.8**
	10nm,0.5s						
DJR				Lg	Lg	17 02 36.2	
	21nm,1.0s						
OTUK	**Ortayu**	**9.30**	**354**	⇓Pn	**Pn**	**17 01 15.0**	**-1.6**
	4.6nm,0.7s						
OTUK				⇓Lg	Lg	17 03 49.5	
	65nm,1.1s						
MAKZ	**Makanchi**	**9.87**	**35**	⇑x	x	17 01 27.6	
MAKZ				⇑Pn	**Pn**	**17 01 27.6**	**+3.3**
	3.3nm,1.2s						
MAKZ				⇓Lg	Lg	17 04 06.3	
	10nm,1.1s						
MK31	**Makanchi Array**	**10.00**	**36**	Pn	**Pn**	**17 01 29.1**	**+3.1**
	1.3nm,0.8s,baz=210,slow=14,SNR=5.9						
MK31				⇑Lg	Lg	17 04 09.5	
	6.5nm,1.0s,baz=204,slow=30,SNR=4.3						
MKAR	**Makanchi Array**	**10.00**	**36**	Pn	**Pn**	**17 01 26.3**	**+0.2**
	0.2nm,0.3s,baz=222,slow=15,SNR=7.8						
MKAR				Lg	Lg	17 04 04.8	
	0.1nm,0.3s,baz=218,slow=23,SNR=2.4						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**12.11**	**15**	Pn	**Pn**	**17 01 53.9**	**-1.0**
	baz=202,slow=12,SNR=1.9						
KURBB				Sn	**Sn**	**17 04 02.2**	**-7.7**
	baz=152,slow=22,SNR=1.4						
KURBB				Lg	Lg	17 05 13.0	
	baz=199,slow=30,SNR=4.8						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**12.11**	**15**	⇑Lg	Lg	17 05 17.0	
	27nm,0.8s						
KURK	**Kurchatov**	**12.22**	**15**	⇓Lg	Lg	17 05 18.8	
	54nm,1.4s						
GEYT	**Alibeck**	**12.30**	**270**	Pn	**Pn**	**17 01 58.6**	**+1.0**
	0.4nm,0.3s,baz=90,slow=16,SNR=3.0						
GEYT				Sn	**Sn**	**17 04 16.8**	**+2.0**
	0.5nm,0.3s,baz=191,slow=30,SNR=3.4						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**14.22**	**352**	Pn	**Pn**	**17 02 20.6**	**-3.2**
	0.1nm,0.3s,baz=164,slow=14,SNR=5.7						
BVAR				Lg	Lg	17 06 20.7	
	baz=170,slow=33,SNR=2.1						
	2.2nm,0.6s						
AB31	**Akbulak array**	**14.24**	**321**	Pn	**Pn**	**17 02 27.4**	**+3.4**
	3.7nm,0.8s,baz=128,slow=13,SNR=33						
AKTO	**Aktyubinsk**	**15.96**	**321**	⇑Pn	**P**	**17 02 50.6**	**+0.1**
	3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**16.76**	**23**	Pn	**Pn**	**17 02 55.2**	**-1.8**
	0.3nm,0.3s,baz=199,slow=12,SNR=5.1						
	0.9nm,0.5s						
ARU	**Arti**	**20.14**	**335**	P	**P**	**17 03 35.6**	**-0.8**
	1.1nm,0.2s,baz=115,slow=21,SNR=4.6						
	1.1nm,0.2s						
BRDH	**Bariadhala**	**22.31**	**132**	LR	LR	17 15 07.6	
	comp=Z,546nm,18.2s,baz=232,slow=43						
GNI	**Garni**	**22.35**	**282**	P	**P**	**17 04 02.2**	**+1.5**
	2.7nm,0.6s,baz=169,slow=15,SNR=2.1						
	2.7nm,0.6s						
BELG	**Belogornoye**	**22.48**	**315**	P	**P**	**17 04 00.9**	**-0.8**
	7.1nm,0.8s,baz=40,slow=5.4,SNR=2.6						
	7.1nm,0.8s						
KBZ	**Khabaz**	**23.56**	**292**	P	**P**	**17 04 15.2**	**+2.3**
	1.5nm,0.9s,baz=74,slow=15,SNR=1.7						
	1.5nm,0.9s						
SONM	**Songino Array**	**25.15**	**59**	P	**P**	**17 04 26.4**	**-1.4**
	0.3nm,0.7s,baz=262,slow=8.2,SNR=4.3						
	0.3nm,0.7s						
BRTR	**Keskin Array B**	**30.84**	**284**	P	**P**	**17 05 20.8**	**+2.0**
	0.4nm,0.6s,baz=116,slow=8.4,SNR=4.1						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**33.18**	**305**	P	**P**	**17 05 39.2**	**+0.3**
	0.1nm,0.3s,baz=78,slow=8.5,SNR=2.6						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**36.70**	**324**	P	**P**	**17 06 08.4**	**-0.8**
	0.7nm,0.4s,baz=120,slow=10,SNR=11						
	0.7nm,0.4s						
ARCES	**ARCESS Array B**	**39.72**	**336**	P	**P**	**17 06 34.4**	**-0.2**
	1.4nm,0.7s,baz=114,slow=8.0,SNR=8.5						
	1.4nm,0.7s						
HFS	**Hagfors**	**42.50**	**320**	P	**P**	**17 06 57.8**	**+0.2**
	1.1nm,0.5s,baz=69,slow=7.9,SNR=1.7						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**71.78**	**17**	P	**P**	**17 10 25.2**	**+0.7**
	0.4nm,0.8s,baz=329,slow=3.4,SNR=4.5						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**81.52**	**124**	P	**P**	**17 11 19.9**	**-0.3**
	0.3nm,0.7s,baz=323,slow=4.7,SNR=1.9						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**83.95**	**127**	P	**P**	**17 11 32.8**	**0.0**
	0.2nm,0.8s,baz=326,slow=4.8,SNR=2.2						
	0.2nm,0.8s						

IDC ***25*** *17:12:04.3±1.7, 16°.62N×101°.70W, h0km, mb4.0/4, mbtmp3.7/6, ML3.3/2, MS4.3/2, Error ellipse: s-maj=37.6km s-min=27.7km az=19.0*
MEX ***25*** *17:12:05.5±0.4, 16°.77N×101°.93W, h10km, MD4.3*
NEIC ***25*** *17:12:08.9±1.5, 16°.75N±0°.08×101°.63W±0°.10, h20km±10km, mb4.1/68, Md4.2/43(MEX), Error ellipse: s-maj=16.5km s-min=8.3km az=50.0*
ISC 25 17:12:05.1±0.8, 16°.76N±0°.06×101°.83W±0°.05, h10km, n124, σ2s09/154, mb4.1/22, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UON	**La Union**	**1.20**	**1**	*eP*	**Pb**	**17 12 23.7**	**-4.2**
UON				*eS*	**Sb**	**17 12 38.9**	**-4.6**
ATYC	**Atoyac**	**1.41**	**71**	*eP*	**Pn**	**17 12 28.1**	**-2.7**
ATYC				*eS*	**Sn**	**17 12 46.5**	**-3.0**
CAIG	**El Cayaco**	**1.52**	**79**		**Pn**	**17 12 30.0**	**-2.4**
CAIG					**Sn**	**17 12 50.0**	**-2.3**
CAIG	**El Cayaco**	**1.52**	**79**	*eP*	**Pn**	**17 12 30.0**	**-2.4**
CAIG				*eS*	**Sn**	**17 12 50.0**	**-2.3**
ACP2	**Acapulco**	**1.87**	**86**		**Pn**	**17 12 36.6**	**-0.5**
ACP2					**Sn**	**17 12 58.1**	**-2.6**
ACP2	**Acapulco**	**1.87**	**86**	*eP*	**Pn**	**17 12 36.6**	**-0.5**
ACP2				*eS*	**Sn**	**17 12 58.1**	**-2.6**
ARIG	**Puente Sto Nin**	**2.07**	**43**		**Pn**	**17 12 39.1**	**-0.8**
ARIG					**Sn**	**17 13 03.5**	**-2.3**
ARIG	**Puente Sto Nin**	**2.07**	**43**	*eP*	**Pn**	**17 12 39.1**	**-0.8**
ARIG				*eS*	**Sn**	**17 13 03.5**	**-2.3**
MMIG	**Aquila**	**2.09**	**317**	*eP*	**Pn**	**17 12 37.0**	**-3.3**
MMIG				*eS*	**Sn**	**17 13 00.2**	**-6.1**
DAIG	**Los Arroyos**	**2.10**	**83**		**Pn**	**17 12 38.5**	**-1.9**
DAIG					**Sn**	**17 13 03.6**	**-3.1**
DAIG	**Los Arroyos**	**2.10**	**83**	*eP*	**Pn**	**17 12 38.5**	**-1.9**
DAIG				*eS*	**Sn**	**17 13 03.6**	**-3.1**
MEIG	**Mezcala**	**2.41**	**61**		**Pn**	**17 12 45.1**	**+0.4**
MEIG					**Sn**	**17 13 12.1**	**-2.2**
MEIG	**Mezcala**	**2.41**	**61**	*eP*	**Pn**	**17 12 45.1**	**+0.4**
MEIG				*eS*	**Sn**	**17 13 12.1**	**-2.2**
CRIG	**Cruz Grande**	**2.59**	**90**		**Pn**	**17 12 46.5**	**-0.6**
CRIG					**Sn**	**17 13 14.1**	**-4.5**
CRIG	**Cruz Grande**	**2.59**	**90**	*i* P	**Pn**	**17 12 46.5**	**-0.6**
CRIG				*eS*	**Sn**	**17 13 14.1**	**-4.5**
PLIG	**Platanillo**	**2.75**	**54**		**Pn**	**17 12 49.6**	**+0.2**
PLIG					**Sn**	**17 13 21.3**	**-1.4**
PLIG	**Platanillo**	**2.75**	**54**	*eP*	**Pn**	**17 12 49.6**	**+0.2**
PLIG				*eS*	**Sn**	**17 13 21.3**	**-1.4**
MOIG	**Morelia**	**2.96**	**12**		**Pn**	**17 12 53.6**	**+1.2**
MGIG	**Malinaltepec**	**3.10**	**81**		**Pn**	**17 12 54.6**	**+0.4**
MGIG					**Sn**	**17 13 29.8**	**-1.6**
MGIG	**Malinaltepec**	**3.10**	**81**	*eP*	**Pn**	**17 12 53.6**	**-0.6**
MGIG				*eS*	**Sn**	**17 13 29.8**	**-1.6**
TLIG	**Tlapa**	**3.22**	**75**	Pn	**Pn**	**17 12 56.0**	**+0.2**
TLIG	**Tlapa**	**3.22**	**75**	*eP*	**Pn**	**17 12 54.9**	**-0.9**
TLIG				*eS*	**Sn**	**17 13 32.9**	**-1.5**
YAIG	**Yautepec**	**3.36**	**51**		**Pn**	**17 12 57.6**	**-0.2**
YAIG					**Sn**	**17 13 35.7**	**-2.2**
YAIG	**Yautepec**	**3.36**	**51**	*eP*	**Pn**	**17 12 57.6**	**-0.2**
YAIG				*eS*	**Sn**	**17 13 35.7**	**-2.2**
PNIG	**Pinotepa**	**3.57**	**95**		**Pn**	**17 12 59.1**	**-1.4**
PNIG					Sn	17 13 35.4	-7.5
PNIG	**Pinotepa**	**3.57**	**95**	*eP*	**Pn**	**17 12 59.1**	**-1.4**
PNIG				*eS*	**Sn**	**17 13 41.2**	**-1.7**
UNM	**Universidad Na**	**3.59**	**44**	Pn	**Pn**	**17 12 58.8**	**-2.3**
FTIG	**Fresnillo de T**	**3.71**	**72**		**Pn**	**17 13 02.3**	**-0.3**
FTIG					**Sn**	**17 13 46.8**	**+0.3**
FTIG	**Fresnillo de T**	**3.71**	**72**	*eP*	**Pn**	**17 13 02.3**	**-0.3**
FTIG				*eS*	**Sn**	**17 13 46.8**	**+0.3**
TXIG	**Tlaxiaco**	**3.92**	**82**		**Pn**	**17 13 06.2**	**+0.6**
TXIG					**Sn**	**17 13 48.7**	**-3.1**
TXIG	**Tlaxiaco**	**3.92**	**82**	*eP*	**Pn**	**17 13 06.2**	**+0.6**
TXIG				*eS*	**Sn**	**17 13 48.7**	**-3.1**
HLIG	**Huajuapan de L**	**3.99**	**74**		**Pn**	**17 13 06.6**	**0.0**
HLIG					**Sn**	**17 13 49.5**	**-4.6**
HLIG	**Huajuapan de L**	**3.99**	**74**	*eP*	**Pn**	**17 13 05.7**	**-0.9**
HLIG				*eS*	**Sn**	**17 13 51.7**	**-1.9**
YOIG	**Yosondua**	**4.11**	**88**		**

DUN6	**Lazy B Ranch**	**17.04**	**339**	P	**P**	**17 16 06.3**	**+0.8**
DUN6				IAmb	IAmb	17 16 11.5		
	comp=Z,27nm,1.2s							
MSTX	**Muleshoe**	**17.16**	**357**	P	**P**	**17 16 07.0**	**+0.3**
BNM	**Barren Site**	**17.84**	**347**	P	**P**	**17 16 16.3**	**+1.9**
AMTX	**Amarillo**	**18.05**	**0**	P	**P**	**17 16 18.1**	**+1.5**
AMTX				IAmb	IAmb	17 16 21.6		
	comp=Z,14nm,1.0s							
X34A	**Smith Ranch, M**	**18.12**	**11**	P	**P**	**17 16 18.2**	**+0.9**
OK031	**S. Brethren Rd**	**19.62**	**12**	P	**Pn**	**17 16 35.7**	**+0.6**
OK052	**Battle Ridge R**	**19.67**	**12**	P	**Pn**	**17 16 37.0**	**+1.4**
OK052				IAmb	IAmb	17 16 40.3		
	comp=Z,16nm,1.2s							
OK053	**SW of W Deep R**	**19.69**	**12**	P	**Pn**	**17 16 36.2**	**+0.2**
OK053				IAmb	IAmb	17 16 39.3		
	comp=Z,19nm,1.3s							
OK034	**N. Norfolk Rd.**	**19.70**	**12**	P	**P**	**17 16 35.8**	**+1.1**
OK034				IAmb	IAmb	17 16 40.1		
	comp=Z,11nm,1.0s							
TUL1	**Leonard**	**19.81**	**15**	P	**P**	**17 16 36.9**	**+1.1**
TUL1				IAmb	IAmb	17 16 42.4		
	comp=Z,8.1nm,1.0s							
OK044	**Pawnee Station**	**20.04**	**12**	P	**P**	**17 16 39.6**	**+1.4**
OK044				IAmb	IAmb	17 16 48.7		
	comp=Z,7.9nm,0.8s							
OK046	**Pawnee Station**	**20.04**	**12**	P	**P**	**17 16 39.5**	**+1.2**
OK048	**Pawnee Station**	**20.05**	**12**	P	Pn	17 16 41.1	+0.9
OK048				IAmb	IAmb	17 16 48.6		
	comp=Z,8.0nm,1.1s							
OK045	**Pawnee Station**	**20.09**	**12**	P	Pn	17 16 41.5	+0.9
OK045				IAmb	IAmb	17 16 48.7		
	comp=Z,16nm,1.3s							
BLOK	**Blackwell**	**20.34**	**11**	P	**P**	**17 16 43.0**	**+1.5**
BLOK				IAmb	IAmb	17 16 44.0		
	comp=Z,12nm,1.2s							
T25A	**Trinidad**	**20.42**	**354**		Pn	17 16 45.9	+1.1
WUAZ	**Wupatki**	**20.52**	**337**	P	Pn	17 16 46.9	+1.0
WUAZ				IAmb	IAmb	17 16 49.6		
	comp=Z,7.3nm,0.9s							
T35A	**Sooner Cattle**	**20.62**	**12**	P	**P**	**17 16 45.7**	**+1.1**
T35A				IAmb	IAmb	17 16 50.6		
	comp=Z,7.1nm,0.9s							
HHAR	**Hobbs**	**20.67**	**18**	P	**P**	**17 16 46.6**	**+1.4**
HHAR				IAmb	IAmb	17 16 48.0		
	comp=Z,11nm,1.5s							
SDCO	**Great Sand Dun**	**21.15**	**352**	P	**P**	**17 16 53.7**	**+3.0**
SDCO				IAmb	IAmb	17 16 56.6		
	comp=Z,11nm,1.2s							
W13A	**Hualapai Mount**	**21.20**	**332**	P	**P**	**17 16 54.4**	**+3.3**
MVCO	**Mesa Verde**	**21.20**	**345**	P	**P**	**17 16 53.0**	**+1.9**
MVCO				IAmb	IAmb	17 17 30.3		
	comp=Z,16nm,1.5s							
S22A	**4UR Ranch, Cre**	**21.36**	**349**	P	**P**	**17 16 55.9**	**+3.0**
S22A				IAmb	IAmb	17 17 00.3		
	comp=Z,12nm,1.4s							
LCAR	**Lake Charles**	**21.45**	**24**	P	**P**	**17 16 56.4**	**+3.0**
U15A	**North Rim**	**21.68**	**337**	P	**P**	**17 16 59.5**	**+3.2**
R32A	**Long Quarter,**	**21.75**	**7**	P	**P**	**17 16 58.8**	**+2.0**
PLAL	**Pickwick Lake**	**21.92**	**32**		**P**	**17 17 01.1**	**+2.5**
S39A	**Bolivar**	**22.16**	**18**	P	**P**	**17 17 02.9**	**+1.8**
S39A				IAmb	IAmb	17 17 04.3		
	comp=Z,9.7nm,1.5s							
KSCO	**Kaye Shedlock'**	**22.18**	**358**	P	**P**	**17 17 03.7**	**+2.3**
PV13	**Radium Mtn., P**	**22.18**	**345**	P	**P**	**17 17 03.6**	**+2.0**
Z51A	**Franklin**	**22.30**	**39**	P	**P**	**17 17 01.6**	**-1.1**
Z51A				IAmb	IAmb	17 17 07.6		
	comp=Z,11nm,1.1s							
PV11	**David Mesa, Pa**	**22.33**	**345**	P	**P**	**17 17 04.2**	**+1.1**
PV11				IAmb	IAmb	17 17 08.7		
	comp=Z,8.0nm,1.2s							
KNB	**Kanab**	**22.39**	**336**	P	**P**	**17 17 05.4**	**+1.5**
LCMT	**Little Creek M**	**22.55**	**336**	P	**P**	**17 17 08.5**	**+3.0**
SMCO	**Snowmass**	**22.78**	**350**	P	**P**	**17 17 10.7**	**+2.5**
FPAL	**Fort Paine**	**22.90**	**36**	P	**P**	**17 17 10.9**	**+1.7**
FPAL				IAmb	IAmb	17 17 13.7		
	comp=Z,7.6nm,1.1s							
WVT	**Waverly**	**22.95**	**30**	P	**P**	**17 17 10.6**	**+0.9**
WVT				IAmb	IAmb	17 17 15.2		
	comp=Z,9.3nm,1.1s							
MTPU	**Mount Pierson**	**23.07**	**339**	P	**P**	**17 17 14.8**	**+3.6**
MTPU				IAmb	IAmb	17 17 16.4		
	comp=Z,8.1nm,1.0s							
CCM	**Cathedral Cave**	**23.17**	**22**	P	**P**	**17 17 13.5**	**+1.8**
CCM				IAmb	IAmb	17 17 14.9		
	comp=Z,5.6nm,1.1s							
CLTN	**Cedars of Leba**	**23.67**	**33**	P	**P**	**17 17 17.3**	**+0.5**
TPNV	**Topopah Spring**	**23.81**	**330**	P	**P**	**17 17 20.5**	**+2.1**
WCT	**Wildcat Mounta**	**23.87**	**330**	P	**P**	**17 17 20.8**	**+2.0**
TMUT	**Trail Mountain**	**23.90**	**342**	P	**P**	**17 17 21.8**	**+2.4**
TMUT				IAmb	IAmb	17 17 23.3		
	comp=Z,8.8nm,1.4s							
P38A	**Dawn**	**23.90**	**16**	P	**P**	**17 17 20.1**	**+1.1**
P38A				IAmb	IAmb	17 17 22.6		
	comp=Z,8.5nm,1.1s							
T47A	**Sharon Grove**	**23.99**	**30**	P	**P**	**17 17 20.8**	**+0.9**
T47A				IAmb	IAmb	17 17 23.9		
	comp=Z,5.8nm,0.9s							
CPCT	**Cooper Cave**	**24.18**	**36**	P	**P**	**17 17 22.7**	**+1.0**
CPCT				IAmb	IAmb	17 17 25.2		
	comp=Z,10nm,1.2s							
P40A	**Paris**	**24.23**	**19**	P	**P**	**17 17 23.5**	**+1.4**
GMN	**Gold Mountain**	**24.58**	**329**	P	**P**	**17 17 28.9**	**+3.3**
GMN				IAmb	IAmb	17 17 31.6		
	comp=Z,7.1nm,1.1s							
PHWY	**Pilot Hill**	**24.65**	**353**	P	**P**	**17 17 27.5**	**+1.2**
R11A	**Troy Canyon, C**	**24.66**	**333**	P	**P**	**17 17 28.4**	**+2.1**
TKL	**Tuckaleechee C**	**24.75**	**37**	P	**P**	**17 17 27.9**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=191,slow=9.4,SNR=3.7							
	comp=Z,2.8nm,0.8s							
BG3	**Lake Jocassee**	**24.80**	**39**	P	**P**	**17 17 28.8**	**+1.5**
T50A	**Nancy**	**25.16**	**33**	P	**P**	**17 17 31.4**	**+0.9**
T50A				IAmb	IAmb	17 17 33.6		
	comp=Z,4.2nm,0.8s							
WCI	**Wyandotte Cave**	**25.37**	**30**	P	**P**	**17 17 33.5**	**+1.1**
NVAR	**Mina Array Bea**	**25.97**	**329**	P	**P**	**17 17 41.0**	**+2.8**
	comp=Z,3nm,0.9s,baz=144,slow=10.0,SNR=9.8							
	comp=Z,2.3nm,0.9s							
KVN	**Kaiserville**	**26.37**	**331**	P	**P**	**17 17 44.6**	**+2.9**
KVN				IAmb	IAmb	17 17 55.1		
	comp=Z,4.6nm,1.1s							
BW06	**Boulder Array**	**26.75**	**347**	P	**P**	**17 17 47.6**	**+2.5**
BW06				IAmb	IAmb	17 17 52.7		
	comp=Z,6.2nm,1.4s							
PD31	**Pinedale Array**	**26.75**	**347**	P	**P**	**17 17 47.6**	**+2.5**
PD31				IAmb	IAmb	17 17 52.7		
	comp=Z,4.6nm,1.2s							
PDAR	**Pinedale Array**	**26.75**	**347**	P	**P**	**17 17 47.5**	**+2.3**
	comp=Z,2.7nm,1.1s,baz=161,slow=9.4,SNR=11							
	comp=Z,2.7nm,1.1s							
PDAR	**Pinedale Array**	**26.75**	**347**	P	**P**	**17 17 47.0**	**+1.9**
Q51A	**Peebles**	**27.44**	**32**	P	**P**	**17 17 52.2**	**+1.0**
Q52A	**Bidwell**	**27.96**	**34**	P	**P**	**17 17 57.0**	**+1.2**
YBH	**Yreka Blue Hor**	**30.67**	**328**	LR	LR	17 30 20.4		
	comp=Z,330nm,19.7s,baz=144,slow=36							
ILAR	**Eielson Array**	**56.70**	**339**	P	**P**	**17 21 50.6**	**+2.1**
	comp=Z,1.7nm,1.0s,baz=150,slow=6.0,SNR=10							
	comp=Z,1.7nm,1.0s							
BBTS	**Babate**	**81.48**	**77**	LR	LR	17 56 43.4		
	comp=Z,228nm,18.8s,baz=50,slow=33							
WRA	**Warramunga Arr**	**126.79**	**257**	PKP	**PKPdf**	**17 31 10.2**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=81,slow=3.2,SNR=2.8							
ASAR	**Alice Springs**	**127.51**	**253**	PKP	**PKiKP**	**17 31 11.8**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=90,slow=6.5,SNR=1.2							
PZH	**PanZhiHua**	**131.27**	**332**	PKP	**PKiKP**	**17 31 19.3**	**-0.1**

*KRNET **25** 17:14:16.7±0.1,39°.13N×74°.07E,mb3.5*
*SOME **25** 17:14:23.3,39°.33N×73°.97E,h0km*
ISC 25 17:14:21.1±1.5,39°.24N±0°.07×73°.94E±0°.03,h10km,n31,
σ1s67/56,6C-12D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.56**	**326**	**⇑eP**	**Pn**	**17 14 48.7**	**-0.3**
	baz=25						
OHH				⇑eS	**Sg**	**17 15 11.9**	**+0.6**
	baz=25						
DRK	**Karamyk**	**1.68**	**279**	**⇓eP**	**Pn**	**17 14 50.2**	**-0.5**
	baz=82						
DRK				⇓eS	**Sg**	**17 15 14.9**	**0.0**
	baz=82						
BTK	**Batken**	**2.54**	**290**	**⇑eP**	**Pn**	**17 15 03.0**	**+0.5**
	baz=91						
BTK				⇑eS	**Sb**	**17 15 37.2**	**-1.0**
	baz=91						

ARLS	**Aral**	**2.64**	**6**	**⇓eP**	**Pn**	**17 15 04.0**	**+0.1**
	baz=4.0						
ARLS				⇓eS	**Sn**	**17 15 38.2**	**+2.2**
	baz=4.0						
NRN	**Naryn**	**2.70**	**35**	**⇓eP**	**Pn**	**17 15 03.7**	**-1.2**
	baz=32						
NRN				⇓eS	**Sn**	**17 15 38.2**	**+0.4**
	baz=32						
AML	**Almayashu**	**2.90**	**356**	P	**Pg**	**17 15 15.8**	**-0.8**
	SNR=15						
UCH	**Uchtor**	**3.02**	**8**	P	**Pb**	**17 16 16.4**	**+1.2**
	SNR=6.4						
UCH	**Uchtor**	**3.02**	**8**	**⇓eP**	**Pn**	**17 15 09.4**	**0.0**
	baz=6.0						
UCH				⇓eS	**Sn**	**17 15 48.0**	**+2.2**
	baz=6.0						
TRKS	**Terek-Say**	**3.13**	**318**	**⇑eP**	**Pn**	**17 15 10.5**	**-0.1**
	baz=17						
TRKS				⇑eS	**Sn**	**17 15 50.1**	**+1.9**
	baz=17						
AAK	**Ala-Archa**	**3.42**	**7**	P	**Pb**	**17 15 22.0**	**+0.1**
	SNR=9.7						
AAK	**Ala-Archa**	**3.42**	**7**	**⇓eP**	**Pn**	**17 15 15.0**	**+0.3**
	baz=5.0						
AAK				⇓eS	**Sn**	**17 15 57.4**	**+2.0**
	baz=5.0						
EKS2	**Erkin-Say**	**3.42**	**358**	P	**Pb**	**17 15 22.6**	**+0.7**
	SNR=8.1						
EKS2	**Erkin-Say**	**3.42**	**358**	**⇓eP**	**Pn**	**17 15 15.1**	**+0.5**
	baz=57						
EKS2				⇓eS	**Sn**	**17 15 57.7**	**+2.4**
	baz=57						
KBK	**Karagaybulak**	**3.50**	**12**	P	**Pb**	**17 15 24.3**	**+1.0**
	SNR=7.5						
MRKS	**Merke**	**3.55**	**352**	**eP**	**Pg**	**17 15 27.9**	**-1.2**
	18nm,0.4s						
MRKS				eS	**Sg**	**17 16 14.5**	**-0.5**
	32nm,0.3s						
USP	**Ospenovka**	**4.05**	**6**	P	**Pg**	**17 15 37.4**	**-1.3**
	SNR=6.5						
KST	**Kastek**	**4.10**	**21**	**eP**	**Pg**	**17 15 37.8**	**-1.8**
	4.8nm,0.5s						
KST				eS	**Sg**	**17 16 31.8**	**-0.9**
	30nm,0.7s						
DZA	**Taraz**	**4.15**	**333**	**eP**	**Pg**	**17 15 39.1**	**-1.4**
	66nm,0.1s						
DZA				eS	**Sg**	**17 16 33.6**	**-0.7**
	56nm,0.2s						
IUG	**Iuzhnay**	**4.16**	**316**	**eP**	**Pg**	**17 15 39.6**	**-1.1**
	14nm,0.5s						
IUG				eS	**Sg**	**17 16 34.3**	**-0.2**
	56nm,0.6s						
SGDS	**Sogindy**	**4.25**	**7**	**eP**	**Pg**	**17 15 40.5**	**-1.9**
	4.3nm,0.5s						
SGDS				eS	**Sg**	**17 16 36.1**	**-1.3**
	18nm,0.5s						
MTBS	**Maitube**	**4.32**	**25**	**eP**	**Pg**	**17 15 43.1**	**-0.7**
	5.9nm,0.5s						
MTBS				eS	**Sg**	**17 16 40.5**	**+0.7**
	16nm,0.7s						
TNSS	**Tian-Shan**	**4.43**	**30**	**eP**	**Pg**	**17 15 45.3**	**-0.5**
	14nm,0.5s						
TNSS				eS	**Sg**	**17 16 44.5**	**+1.3**
	7.9nm,0.9s						
CHM	**Chimkent**	**4.51**	**314**	**eP**	**Pg**	**17 15 46.1**	**-1.2**
	30nm,0.2s						
CHM				eS	**Sg**	**17 16 45.4**	**-0.4**
	103nm,0.2s						
MDOK	**Medeo**	**4.57**	**30**	**eP**	**Pg**	**17 15 47.2**	**-1.4**
	8.3nm,0.5s						
MDOK				eS	**Sg**	**17 16 47.7**	**-0.1**
	16nm,0.9s						
KUU	**Kurty**	**4.99**	**20**	**eP**	**Pg**	**17 15 54.1**	**-2.5**
	1.9nm,0.4s						
KUU				eS	**Sg**	**17 16 59.6**	**-1.6**
	12nm,0.6s						
SATY	**Saty**	**5.10**	**40**	**eP**	**Pg**	**17 15 57.0**	**-1.6**
	6.2nm,0.7s						
SATY				eS	**Sg**	**17 17 04.3**	**-0.3**
	14nm,0.6s						
CHKK	**Chushkaly**	**5.15**	**25**	**eP**	**Pg**	**17 15 58.2**	**-1.5**
	0.7nm,0.1s						
CHKK				eS	**Sg**	**17 17 06.8**	**+0.4**
	9.4nm,0.4s						
KURS	**Kuram**	**5.31**	**35**	**eP**	**Pg**	**17 15 59.4**	**-3.4**
	3.9nm,0.8s						
KURS				eS	**Sg**	**17 17 09.0**	**-2.5**
	7.4nm,1.1s						
UZB	**Uzynbulak**	**5.47**	**43**	**eP**	**Pg**	**17 16 03.3**	**-2.6**
	2.0nm,0.6s						
UZB				eS	**Sg**	**17 17 15.0**	**-1.8**
	4.2nm,0.8s						
KPKS	**Kokpek**	**5.53**	**39**	**eP**	**Pg**	**17 16 03.9**	**-3.1**
	2.6nm,0.6s						
KPKS				eS	**Sg**	**17 17 16.7**	**-2.0**
	16nm,0.6s						
SHLS	**Shalkode**	**5.72**	**45**	**eP**	**Pg**	**17 16 12.5**	**+1.9**
	3.0nm,0.4s						
SHLS				eS	**Sg**	**17 17 30.8**	**+6.1**
	7.2nm,1.4s						

*IDC **25** 17:15:54.7±1.4,37°.22N×141°.71E,h0km,mb3.3/5,*
mbtmp3.3/6,ML2.3/1,Error ellipse: s-maj=28.5km
s-min=27.9km az=135.0
*JMA **25** 17:15:58.4±0.1,37°.1N±0°.3×141°.5E±0°.7,h30km±1km,*
MV3.5/38,E OFF FUKUSHIMA PREF
ISC 25 17:15:56.4±1.9,37°.07N±0°.05×141°.55E±0°.08,h11km±10km,
n23,σ0s77/23,mb3.3/5,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.61**	**299**	*i* P	**Pg**	**17 16 08.9**	**+0.6**
JFK				S	**Sg**	**17 16 16.4**	**0.0**
JFFD	**Fukushimafurud**	**0.79**	**272**	*i* P	**Pg**	**17 16 11.7**	**0.0**
JFFD				S	**Sg**	**17 16 21.4**	**-0.7**
JMST	**Minamisoumatoc**	**0.84**	**321**	P	**Pg**	**17 16 13.0**	**+0.4**
JMST				S	**Sg**	**17 16 23.6**	**+0.1**
JHO	**Hitachi**	**0.91**	**240**	*i* P	**Pg**	**17 16 13.9**	**-0.1**
JHO				S	**Sg**	**17 16 25.2**	**-0.6**
JMM	**Marumori**	**0.99**	**323**	*i* P	**Pg**	**17 16 15.6**	**0.0**
JMM				S	**Sg**	**17 16 28.3**	**-0.3**
JIO	**Ouri**	**1.39**	**353**	*i* P	**Pn**	**17 16 22.0**	**+0.2**
JIO				S	**Sn**	**17 16 39.9**	**-0.2**
JOU	**Okura**	**1.47**	**332**	P	**Pb**	**17 16 23.8**	**0.0**
JOU				S	**Sn**	**17 16 42.6**	**+0.4**
JFY	**Yanaizu**	**1.51**	**283**	P	**Pn**	**17 16 24.0**	**+0.5**
JFY				S	**Sn**	**17 16 43.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.73**	**260**	Pn	**Pn**	**17 16 41.5**	**+1.2**
MJAR	0.5nm,0.3s,baz=78,slow=17,SNR=25						
				Sn	**Sb**	**17 17 17.5**	**-1.4**
	0.8nm,0.3s,baz=309,slow=27,SNR=7.2						
	1.4nm,0.3s						
SONM	**Songino Array**	**27.85**	**304**	P	**P**	**17 21 46.4**	**+0.3**
	0.3nm,0.7s,baz=96,slow=8.7,SNR=1.9						
	0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.07**	**121**	T	T	17 51 15.9	
	baz=314,slow=75,SNR=130						
H11N1	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	17 51 18.8	
	baz=314,slow=75,SNR=74						
H11N3	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	17 51 18.9	
	baz=314,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy**	**28.79**	**123**	T	T	17 52 09.5	
	baz=316,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy**	**28.79**	**123**	T	T	17 52 07.6	
	baz=316,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	17 52 10.1	
	baz=316,slow=76,SNR=30						
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**17 24 05.3**	**0.0**
	0.2nm,0.7s,baz=86,slow=8.1,SNR=5.1						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**49.40**	**32**	P	**P**	**17 24 44.1**	**-1.8**
	0.2nm,0.7s,baz=268,slow=6.3,SNR=2.1						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**57.11**	**188**	P	**P**	**17 25 43.7**	**+0.7**
	0.3nm,0.6s,baz=3.6,slow=7.3,SNR=3.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**60.84**	**188**	P	**P**	**17 26 10.3**	**+1.4**
	0.4nm,0.9s,baz=18,slow=9.7,SNR=3.2						
	0.4nm,0.9s						
H03N2	**Juan Fernandez**	**146.92**	**96**	T	T	20 19 53.0	
	baz=291,slow=76,SNR=10.0						
H03N3	**Juan Fernandez**	**146.93**	**96**	T	T	20 19 54.1	
	baz=291,slow=76,SNR=10						
H03N1	**Juan Fernandez**	**146.94**	**96**	T	T	20 19 54.0	
	baz=291,slow=76,SNR=9.0						

*NEIC **25** 17:21:15.6±1.6,17°.6S×178°.7W±0°.2,h546km±8km,*
mb4.2/30,Error ellipse: s-maj=21.6km s-min=15.0km
az=92.0
*IDC **25** 17:21:16.7±1.7,17°.55S×178°.99W,h548km±17km,*
mb3.3/11,mbtmp4.2/12,Error ellipse: s-maj=39.4km
s-min=15.8km az=149.0
*NOU **25** 17:21:25.3,17°.33S×178°.63W,h438km,mb4.5/38,Fiji*
Islands Region
ISC 25 17:21:15.2±0.6,17°.6S±0°.1×178°.86W±0°.09,h539km,n52,
σ0s89/53,mb4.2/26,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.60**	**176**	P	**P**	**17 22 20.0**	**+0.4**
TAVE	**Taveuni**	**1.36**	**312**	P	**P**	**17 22 22.7**	**+1.2**
DGTI	**Dogotuki**	**1.89**	**314**	P	**P**	**17 22 24.0**	**+0.5**
MSVF	**Nonsavu**	**2.95**	**268**	P	**P**	**17 22 30.7**	**+1.6**
	53nm,0.8s,baz=123,slow=4.9,SNR=75						
MSVF	**Nonsavu**	**2.95**	**268**		**P**	**17 22 30.9**	**+1.7**
MSVF	**Nonsavu**	**2.95**	**268**	P	**P**	**17 22 31.5**	**+2.3**
NIUE	**Niue**	**8.60**	**101**	P	**P**	**17 23 16.9**	**-1.8**
KOUNC	**Koumac, New Ca**	**16.20**	**257**	P	**P**	**17 24 36.3**	**-0.7**
OUZ	**Omahuta**	**18.77**	**200**	P	**P**	**17 25 01.3**	**+0.8**
LBZ	**Lake Benmore**	**28.23**	**197**	P	**P**	**17 26 26.6**	**+1.8**
EIDS	**Eidsvold**	**28.96**	**249**	P	**P**	**17 26 31.0**	**-0.5**
EIDS				IAmb	IAmb	17 26 32.1	
	comp=Z,5.2nm,0.9s						
ARMA	**Armidale**	**29.71**	**239**	P	**P**	**17 26 38.7**	**+0.7**
ARMA				IAmb	IAmb	17 26 47.3	
	comp=Z,15nm,1.4s						
MLZ	**Mavora Lakes**	**29.72**	**199**	P	**P**	**17 26 37.1**	**-0.7**
COEN	**Coen**	**36.68**	**270**	P	**P**	**17 27 36.9**	**+0.1**
TOO	**Toolangi**	**37.02**	**230**	P	**P**	**17 27 39.5**	**+0.1**
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**17 27 51.3**	**+0.6**
	comp=Z,5.7nm,0.7s,baz=90,slow=7.3,SNR=14						
	comp=Z,5.7nm,0.7s						
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**17 27 51.3**	**+0.6**
BBOO	**Buckleboo**	**43.17**	**241**	P	**P**	**17 28 28.9**	**+0.2**
BBOO				IAmb	IAmb	17 28 29.7	
	comp=Z,9.9nm,0.9s						
WR0	**Warramunga Arr**	**44.07**	**259**	P	**P**	**17 28 36.3**	**+0.4**
WB0	**Warramunga Arr**	**44.23**	**260**	P	**P**	**17 28 36.1**	**-1.0**
WB2	**Warramunga Arr**	**44.25**	**259**	P	**P**	**17 28 36.3**	**-0.9**
WRA	**Warramunga Arr**	**44.26**	**259**	P	**P**	**17 28 36.5**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=97,slow=7.6,SNR=35						
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**44.26**	**259**	P	**P**	**17 28 35.3**	**-2.1**
AS31	**Alice Springs**	**44.45**	**254**	P	**P**	**17 28 38.8**	**0.0**
AS31				IAmb	IAmb	17 28 39.8	
	comp=Z,4.8nm,0.5s						
ASAR	**Alice Springs**	**44.46**	**254**	P	**P**	**17 28 38.7**	**-0.1**
	comp=Z,9.3nm,0.4s,baz=89,slow=7.9,SNR=608						
ASAR				PcP	**PcP**	**17 30 11.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=109,slow=3.6,SNR=1.2						
	comp=Z,9.3nm,0.4s						
MTN	**Manton Dam**	**48.38**	**268**	P	**P**	**17 29 07.6**	**-1.0**
MTN				IAmb	IAmb	17 29 09.0	
	comp=Z,6.4nm,0.8s						
FORT	**Forrest**	**49.74**	**244**	P	**P**	**17 29 17.9**	**-0.5**
FORT				IAmb	IAmb	17 29 31.2	
	comp=Z,14nm,1.0s						
KNRA	**Kununurra**	**50.09**	**264**	P	**P**	**17 29 20.5**	**-0.7**
KNRA				IAmb	IAmb	17 29 22.0	
	comp=Z,7.8nm,1.0s						
FAKI	**Fak Fak**	**50.10**	**281**	P	**P**	**17 29 21.8**	**+0.4**
SIJI	**Sorong**	**51.76**	**283**	P	**P**	**17 29 33.1**	**-0.3**
	comp=Z,6.6nm,0.5s,baz=135,slow=7.1,SNR=7.7						
	comp=Z,6.6nm,0.5s						
PSA00	**Pilbara Seismi**	**57.57**	**255**	P	**P**	**17 30 13.4**	**-0.6**
PSA00				IAmb	IAmb	17 30 14.0	
	comp=Z,8.1nm,1.0s						
MBWA	**Marble Bar**	**57.73**	**256**	P	**P**	**17 30 14.2**	**-0.9**
MBWA				IAmb	IAmb	17 30 23.5	
	comp=Z,18nm,1.4s						
MORW	**Morawa**	**60.20**	**246**	P	**P**	**17 30 31.0**	**-0.6**
MORW				IAmb	IAmb	17 30 45.2	
	comp=Z,16nm,1.4s						
TOLI2	**Tolitoli**	**62.24**	**281**	P	**P**	**17 30 44.8**	**-0.4**
TOLI2				IAmb	IAmb	17 30 56.6	
	comp=Z,8.5nm,1.0s						
GIRL	**Giralia**	**62.57**	**253**	P	**P**	**17 30 46.8**	**-0.3**
MAJO	**Matsushiro**	**67.43**	**324**	P	**P**	**17 31 16.2**	**-1.2**
MAJO				IAmb	IAmb	17 31 17.6	
	comp=Z,11nm,1.4s						
MJB9	**Matsu-Tunnel**	**67.44**	**324**	P	**P**	**17 31 17.1**	**-0.3**
MJB9				IAmb	IAmb	17 31 18.6	
	comp=Z,10nm,1.3s						
KKM	**Kota Kinabalu**	**68.26**	**284**	P	**P**	**17 31 21.8**	**-1.2**
KKM				IAmb	IAmb	17 31 27.7	
	comp=Z,6.0nm,1.1s						
UGM	**Wanagama**	**69.23**	**268**	P	**P**	**17 31 28.8**	**0.0**
JHS	**Saijyo**	**69.41**	**319**	P	**P**	**17 31 29.4**	**0.0**
QSPA	**South Pole Qui**	**72.42**	**180**	P	**P**	**17 31 46.5**	**-0.3**
QSPA				IAmb	IAmb	17 31 47.4	
	comp=Z,7.3nm,1.4s						
PETK	**Petropavlovsk-**	**73.

LBZ	**Lake Benmore**	**28.10**	**197**	P	**P**	**17 26 40.9**	**-1.8**
JCZ	**Jackson Bay**	**28.23**	**199**	P	**P**	**17 26 44.7**	**+0.8**
ODZ	**Otahua Downs**	**28.59**	**196**	P	**P**	**17 26 45.5**	**-1.3**
ODZ				IAmb	IAmb	17 27 20.5	
	comp=Z,48nm,1.3s						
WKZ	**Wanaka**	**28.84**	**198**	P	**P**	**17 26 47.9**	**-1.2**
EIDS	**Eidsvold**	**28.96**	**250**	P	**P**	**17 26 50.2**	**-0.3**
EIDS				IAmb	IAmb	17 26 51.1	
	comp=Z,6.6nm,0.6s						
EIDS	**Eidsvold**	**28.96**	**250**	P	**P**	**17 26 50.2**	**-0.3**
MLZ	**Mavora Lakes**	**29.60**	**199**	P	**P**	**17 26 56.1**	**+0.4**
KWAJ	**Kwajalein Atol**	**29.63**	**332**	P	**P**	**17 26 59.8**	**+3.5**
ARMA	**Armidale**	**29.69**	**239**	P	**P**	**17 26 57.6**	**+0.8**
ARMA				IAmb	IAmb	17 27 10.1	
	comp=Z,21nm,1.4s						
ARMA	**Armidale**	**29.69**	**239**	P	**P**	**17 26 57.9**	**+1.1**
WHZ	**Wether Hill Ro**	**30.12**	**199**	P	**P**	**17 27 00.5**	**+0.3**
RMQ	**Roma**	**31.21**	**248**	P	**P**	**17 27 10.7**	**+0.9**
CTA	**Charters Tower**	**33.10**	**260**	P	**P**	**17 27 26.1**	**+0.1**
CNB	**Canberra Magne**	**33.21**	**232**	P	**P**	**17 27 28.2**	**+1.4**
MTSU	**Mount Surprise**	**35.05**	**264**	P	**P**	**17 27 41.9**	**-0.5**
QLP	**Quilpie**	**35.23**	**249**	P	**P**	**17 27 44.0**	**+0.3**
COEN	**Coen**	**36.73**	**270**	P	**P**	**17 27 56.2**	**-0.1**
COEN				IAmb	IAmb	17 27 57.5	
	comp=Z,8.7nm,0.8s						
TOO	**Toolangi**	**36.97**	**230**	P	**P**	**17 27 58.9**	**+1.0**
TOO				IAmb	IAmb	17 28 38.7	
	comp=Z,31nm,1.4s						
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**17 28 10.3**	**+0.9**
	comp=Z,7.9nm,0.7s,baz=89,slow=6.7,SNR=14						
	comp=Z,7.9nm,0.7s						
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**17 28 10.2**	**+0.9**
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**17 28 10.6**	**+1.2**
INKA	**Innaminka**	**38.45**	**248**	P	**P**	**17 28 11.5**	**+1.4**
HTT	**Hallett**	**40.89**	**239**	P	**P**	**17 28 30.6**	**+0.9**
BBOO	**Buckleboo**	**43.15**	**241**	P	**P**	**17 28 47.7**	**+0.3**
BBOO				IAmb	IAmb	17 28 48.2	
	comp=Z,25nm,1.2s						
WR0	**Warramunga Arr**	**44.10**	**259**	P	**P**	**17 28 53.8**	**-1.2**
WB0	**Warramunga Arr**	**44.26**	**260**	P	**P**	**17 28 54.6**	**-1.5**
WB2	**Warramunga Arr**	**44.28**	**259**	P	**P**	**17 28 55.2**	**-1.1**
WB2				IAmb	IAmb	17 28 56.5	
	comp=Z,5.3nm,0.6s						
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**17 28 55.6**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=92,slow=7.0,SNR=32						
WRA				PcP	**PcP**	**17 30 28.8**	**0.0**
	comp=Z,0.9nm,0.6s,baz=92,slow=3.9,SNR=5.1						
WRA				S	**S**	**17 34 46.7**	**-4.1**
	comp=Z,0.3nm,0.9s,baz=94,slow=12,SNR=2.3						
	comp=Z,4.3nm,0.7s						
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**17 28 55.3**	**-1.2**
AS01	**Alice Springs**	**44.43**	**254**	P	**P**	**17 28 57.6**	**+0.1**
AS31	**Alice Springs**	**44.47**	**254**	P	**P**	**17 28 57.5**	**-0.3**
AS31				IAmb	IAmb	17 28 58.4	
	comp=Z,12nm,0.6s						
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**17 28 57.9**	**+0.1**
	comp=Z,28nm,0.4s,baz=88,slow=8.2,SNR=94						
ASAR				PcP	**PcP**	**17 30 29.7**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=99,slow=4.2,SNR=4.8						
ASAR				S	**S**	**17 34 51.7**	**-1.6**
	comp=Z,1.1nm,1.0s,baz=86,slow=16,SNR=7.3						
	comp=Z,28nm,0.4s						
MULG	**Mulgathing**	**44.53**	**245**	P	**P**	**17 28 58.5**	**+0.4**
KDU	**Kakadu**	**47.19**	**269**	P	**P**	**17 29 18.4**	**-0.1**
MTN	**Manton Dam**	**48.43**	**268**	P	**P**	**17 29 27.5**	**-0.4**
MTN				IAmb	IAmb	17 29 28.0	
	comp=Z,9.6nm,0.8s						
WRKA	**Warakurna**	**49.53**	**252**	P	**P**	**17 29 36.4**	**+0.5**
FORT	**Forrest**	**49.73**	**244**	P	**P**	**17 29 36.8**	**-0.4**
FORT				IAmb	IAmb	17 29 37.7	
	comp=Z,28nm,0.6s						
FORT	**Forrest**	**49.73**	**244**	P	**P**	**17 29 37.3**	**+0.1**
KNRA	**Kununurra**	**50.13**	**264**	P	**P**	**17 29 40.1**	**-0.2**
KNRA				IAmb	IAmb	17 29 40.9	
	comp=Z,16nm,0.7s						
KNRA	**Kununurra**	**50.13**	**264**	P	**P**	**17 29 40.8**	**+0.5**
FAKI	**Fak Fak**	**50.19**	**281**	P	**P**	**17 29 40.7**	**-0.1**
FAKI	**Fak Fak**	**50.19**	**281**	P	**P**	**17 29 40.9**	**+0.1**
SIJI	**Sorong**	**51.85**	**283**	P	**P**	**17 29 53.2**	**+0.4**
	comp=Z,25nm,0.6s,baz=135,slow=5.9,SNR=21						
	comp=Z,25nm,0.6s						
SOEI	**Soe**	**55.70**	**270**	P	**P**	**17 30 21.3**	**+1.1**
SOEI				IAmb	IAmb	17 30 22.6	
	comp=Z,21nm,0.7s						
SOEI	**Soe**	**55.70**	**270**	P	**P**	**17 30 21.9**	**+1.7**
PSA00	**Pilbara Seismi**	**57.58**	**255**	P	**P**	**17 30 32.5**	**-0.4**
PSA00				IAmb	IAmb	17 30 33.5	
	comp=Z,9.8nm,0.7s						
PSA00	**Pilbara Seismi**	**57.58**	**255**	P	**P**	**17 30 32.9**	**0.0**
MBWA	**Marble Bar**	**57.75**	**256**	P	**P**	**17 30 33.6**	**-0.3**
MBWA	**Marble Bar**	**57.75**	**256**	P	**P**	**17 30 34.0**	**0.0**
MEEK	**Meekatharra**	**58.13**	**249**	P	**P**	**17 30 36.3**	**-0.3**
KLBR	**Kellerberrin**	**58.55**	**243**	P	**P**	**17 30 39.3**	**0.0**
BLDU	**Ballidu**	**59.50**	**245**	P	**P**	**17 30 45.7**	**0.0**
MORW	**Morawa**	**60.19**	**246**	P	**P**	**17 30 49.8**	**-0.5**
MORW	**Morawa**	**60.19**	**246**	P	**P**	**17 30 50.3**	**0.0**
VNDA	**Vanda**	**60.54**	**185**	P	**P**	**17 30 53.6**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=183,slow=4.8,SNR=1.6						
PLAI	**Plampang**	**62.12**	**269**	P	**P**	**17 31 03.2**	**+0.1**
TOLI2	**Tolitoli**	**62.33**	**281**	P	**P**	**17 31 05.2**	**+0.8**
TOLI2				IAmb	IAmb	17 31 17.0	
	comp=Z,9.7nm,1.0s						
TOLI2	**Tolitoli**	**62.33**	**281**	P	**P**	**17 31 06.1**	**+1.6**
GIRL	**Giralia**	**62.58**	**253**	P	**P**	**17 31 06.9**	**+0.9**
GIRL	**Giralia**	**62.58**	**253**	P	**P**	**17 31 07.5**	**+1.6**
RPN	**Rapa Nui**	**64.18**	**112**	P	**P**	**17 31 17.6**	**+1.5**
	comp=Z,35nm,0.8s,baz=98,slow=12,SNR=1.7						
	comp=Z,35nm,0.8s						
MJAR	**Matsushiro Arr**	**67.58**	**324**	P	**P**	**17 31 36.6**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=159,slow=5.6,SNR=6.3						
	comp=Z,3.4nm,0.7s						
MAJO	**Matsushiro**	**67.58**	**324**	P	**P**	**17 31 37.0**	**0.0**
MAJO				IAmb	IAmb	17 31 47.4	
	comp=Z,8.9nm,1.1s						
MJB9	**Matsu-Tunnel**	**67.59**	**324**	P	**P**	**17 31 37.9**	**+0.8**
MJB9				IAmb	IAmb	17 31 48.4	
	comp=Z,9.4nm,1.2s						
KKM	**Kota Kinabalu**	**68.35**	**284**	P	**P**	**17 31 42.4**	**+0.1**
KKM				IAmb	IAmb	17 31 45.3	
	comp=Z,8.9nm,1.0s						
KKM	**Kota Kinabalu**	**68.35**	**284**	P	**P**	**17 31 43.0**	**+0.7**
UGM	**Wanagama**	**69.28**	**268**	P	**P**	**17 31 47.5**	**-0.4**
UGM	**Wanagama**	**69.28**	**268**	P	**P**	**17 31 48.3**	**+0.5**
JHS	**Saijyo**	**69.56**	**319**	P	**P**	**17 31 49.6**	**+0.6**
JHS				IAmb	IAmb	17 32 23.9	
	comp=Z,56nm,1.5s						
JKA	**Kamikawa-asahi**	**70.99**	**332**	P	**P**	**17 31 58.5**	**+1.3**
JKA				IAmb	IAmb	17 32 31.8	
	comp=Z,69nm,1.4s						
QSPA	**South Pole Qui**	**72.27**	**180**	P	**P**	**17 32 03.8**	**-0.8**
PEA0B	**Petropavlovsk-**	**73.46**	**345**	P	**P**	**17 32 11.0**	**-0.4**
PETK	**Petropavlovsk-**	**73.46**	**345**	P	**P**	**17 32 10.8**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=118,slow=7.4,SNR=7.8						
	comp=Z,2.2nm,0.7s						
PETK	**Petropavlovsk-**	**73.46**	**345**	P	**P**	**17 32 11.1**	**-0.3**
KSAR	**Wonju Array Be**	**74.38**	**318**	P	**P**	**17 32 18.2**	**+1.3**
MCCM	**Marconi Confer**	**76.45**	**42**	P	**P**	**17 32 30.8**	**+2.5**
BEKR	**Beckworth**	**79.04**	**42**	P	**P**	**17 32 43.0**	**+0.4**
DSP	**Deep Springs**	**79.25**	**45**	P	**P**	**17 32 44.4**	**+1.0**
GRAC	**Grapevine Rang**	**79.46**	**46**		pP	17 34 38.7	-2.5
NVAR	**Mina Array Bea**	**79.59**	**44**	P	**P**	**17 32 45.1**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=226,slow=6.9,SNR=7.2						
	comp=Z,0.9nm,0.7s						
O18K	**Koktuh Hills**	**79.70**	**12**	P	**P**	**17 32 45.2**	**-0.2**
O18K				IAmb	IAmb	17 32 53.2	
	comp=Z,15nm,1.1s						
IPM	**Ipoh**	**82.04**	**277**	P	**P**	**17 32 59.3**	**+0.8**
IPM				IAmb	IAmb	17 33 00.2	
	comp=Z,6.7nm,0.8s						
SUA	**Susitna One**	**82.09**	**13**	P	**P**	**17 32 57.2**	**-0.6**
SUA				IAmb	IAmb	17 33 23.7	
	comp=Z,29nm,1.4s						
BELA	**Belgrano 2**	**82.34**	**173**	P	**P**	**17 32 58.4**	**-0.4**
BMRM	**Bremner River**	**83.14**	**16**	P	**P**	**17 33 01.6**	**-1.4**
BMRM				IAmb	IAmb	17 33 19.2	
	comp=Z,8.7nm,1.1s						
SCM	**Sheep Creek Mo**	**83.19**	**14**	P	**P**	**17 33 02.2**	**-1.0**
SCM				IAmb	IAmb	17 33 04.0	
	comp=Z,10nm,0.8s						
RPSI	**Rantau Prapat**	**83.47**	**275**	P	**P**	**17 33 05.5**	**-0.2**
PSI	**Prapat**	**83.50**	**275**	P	**P**	**17 33 05.5**	**-0.5**
	comp=Z,3.1nm,0.4s,baz=188,slow=0.5,SNR=4.8						
	comp=Z,3.1nm,0.4s						
SEY	**Seymchan**	**83.57**	**347**	P	**P**	**17 33 04.4**	**-0.6**
	comp=Z,5.2nm,0.6s,baz=152,slow=6.0,SNR=18						
	comp=Z,5.2nm,0.6s						
CAST	**Castle Rocks**	**83.58**	**12**	P	**P**	**17 33 03.5**	**-1.5**
TABL	**Table Mountain**	**83.66**	**18**	P	**P**	**17 33 06.2**	**+0.4**
TABL				IAmb	IAmb	17 33 21.8	
	comp=Z,14nm,1.2s						
VRDI	**Verde Repeater**	**83.66**	**16**	P	**P**	**17 33 05.0**	**-0.7**
VRDI				IAmb	IAmb	17 33 47.0	
	comp=Z,11nm,1.3s						
N25K	**Chitina, Valde**	**83.68**	**16**	P	**P**	**17 33 05.5**	**-0.2**
N25K				IAmb	IAmb	17 33 34.6	
	comp=Z,16nm,1.4s						
M24K	**Tolsona, Glenn**	**83.71**	**15**	P	**P**	**17 33 05.8**	**0.0**
M24K				IAmb	IAmb	17 33 30.9	
	comp=Z,32nm,1.2s						
GLB	**Gilahina Butte**	**83.74**	**16**	P	**P**	**17 33 05.5**	**-0.4**
J20K	**Nowinta River**	**83.89**	**11**	P	**P**	**17 33 06.5**	**-0.1**
KTH	**Kantishna Hill**	**83.93**	**12**	P	**P**	**17 33 05.4**	**-1.5**
KTH				IAmb	IAmb	17 33 18.2	
	comp=Z,12nm,1.5s						
TRF	**Thorofare Moun**	**83.96**	**12**	P	**P**	**17 33 05.7**	**-1.5**
TRF				IAmb	IAmb	17 33 07.2	
	comp=Z,6.7nm,0.8s						
BARN	**Barnard Glacie**	**84.01**	**17**	P	**P**	**17 33 06.8**	**-0.7**
BARN				IAmb	IAmb	17 33 27.7	
	comp=Z,13nm,1.5s						
DHY	**Denali Highway**	**84.26**	**14**	P	**P**	**17 33 07.9**	**-0.7**
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**	**17 33 15.2**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=223,slow=5.3,SNR=18						
	comp=Z,0.7nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.24**	**58**	P	**P**	**17 33 20.3**	**+1.4**
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**17 33 20.9**	**+2.0**
	comp=Z,1.2nm,0.7s,baz=215,slow=5.7,SNR=8.6						
	comp=Z,1.2nm,0.7s						
PDAR	**Pinedale Array**	**87.51**	**44**	P	**P**	**17 33 25.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=210,slow=4.3,SNR=6.2						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**88.49**	**290**	P	**P**	**17 33 30.7**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=112,slow=2.4,SNR=9.2						
	comp=Z,0.9nm,0.8s						
INK	**Inuvik**	**91.86**	**15**	P	**P**	**17 33 44.2**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=208,slow=7.7,SNR=2.6						
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**93.21**	**319**	P	**P**	**17 33 50.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=124,slow=7.1,SNR=1.9						
	comp=Z,0.2nm,0.5s						
D32A	**Dogwood Acres,**	**97.40**	**43**		pwP	17 36 09.2	-3.8
PARMO	**Parma**	**99.65**	**55**		pwP	17 36 22.5	-1.1
Q44A	**Meyer Farm, Va**	**100.78**	**53**		pP	17 36 23.3	-2.4
MKAR	**Makanchi Array**	**108.78**	**314**	PKiKP	**PKiKP**	**17 39 00.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=130,slow=0.7,SNR=9.0						
ARCES	**ARCESS Array B**	**126.12**	**350**	PKP	**PKPdf**	**17 39 33.5**	**-0.8**
	comp=Z,3.3nm,1.1s,baz=64,slow=2.1,SNR=1.6						
AKASG	**Malin Array Be**	**140.27**	**332**	PKhKP	PKPpre	17 39 54.1	
	comp=Z,0.3nm,0.4s,baz=44,slow=4.1,SNR=5.5						
AKASG				PKP	**PKiKP**	**17 40 02.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=39,slow=2.7,SNR=5.8						
BNN	**Bunyan**	**143.29**	**312**		PKPbc	17 40 05.2	-0.4
BURAR	**Bucovina Array**	**144.33**	**332**	⇑P	**PKPab**	**17 40 09.8**	**+0.8**
GHRR		**144.40**	**328**	⇑P	**PKPab**	**17 40 10.3**	**+1.2**
BRTR	**Keskin Array B**	**144.43**	**315**	PKP	**PKPdf**	**17 40 08.9**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=113,slow=3.4,SNR=13						
BRTR	**Keskin Array B**	**144.43**	**315**		PKPbc	17 40 08.4	-0.8
TPGR	**Topolog**	**144.69**	**326**	⇑P	**PKPdf**	**17 40 09.1**	**-0.2**
PLOR	**Plostina**	**144.93**	**328**	⇑P	**PKPab**	**17 40 10.9**	**-0.4**
TIRR	**Tirgusor**	**144.95**	**325**	⇑P	**PKPab**	**17 40 10.5**	**-0.7**
HARR	**Harsova**	**145.06**	**326**	⇑P	**PKPdf**	**17 40 08.0**	**-1.9**
TRPA	**Tarpa**	**145.07**	**335**	⇓P	**PKPab**	**17 40 11.5**	**-0.1**
OSTC	**Ostas**	**145.16**	**343**	*e*PKP	**PKPab**	**17 40 12.0**	**+0.1**
CLL	**Collm**	**145.25**	**347**		**PKPbc**	**17 40 10.9**	**-0.2**
CLL	**Collm**	**145.25**	**347**	⇓*i*PKPbc	**PKPab**	**17 40 11.2**	**-1.0**
	comp=Z,8.0nm,0.6s						
DPC	**Dobruska-Polom**	**145.32**	**343**	*e*PKP	**PKPab**	**17 40 12.2**	**-0.4**
KRLC	**Kraliky**	**145.43**	**342**	*e*PKP	**PKPab**	**17 40 12.2**	**-0.8**
DOPR	**Dopca**	**145.46**	**330**	⇑P	**PKPab**	**17 40 13.1**	**-0.1**
ISR	**Istrita**	**145.49**	**328**	⇓P	**PKPbc**	**17 40 12.1**	**0.0**
MLR	**Muntele Rosu**	**145.53**	**329**	⇑P	**PKPab**	**17 40 13.0**	**-0.7**
PVCC	**Panska Ves**	**145.62**	**345**	*e*PKP	**PKPab**	**17 40 13.1**	**-0.6**
VOIR		**146.01**	**329**	⇑P	**PKPbc**	**17 40 12.3**	**-1.3**
DRGR		**146.06**	**333**	⇑P	**PKPab**	**17 40 14.3**	**-1.3**
PRU	**Pruhonice**	**146.12**	**345**	*e*PKP	**PKPab**	**17 40 14.6**	**-1.1**
GOPC	**GO Pecny, Ondr**	**146.13**	**344**	*e*PKP	**PKPbc**	**17 40 14.1**	**+0.4**
KHC	**Kasperske Hory**	**147.16**	**345**	*e*PKP	**PKiKP**	**17 40 17.1**	**-1.2**
KHC				*ex*	x	17 40 20.6	
CKRC	**Cesky Krumlov**	**147.26**	**344**	*e*PKP	**PKiKP**	**17 40 17.6**	**-0.9**
GEC2	**GERESS Array S**	**147.39**	**345**		**PKPbc**	**17 40 17.1**	**-0.1**
GERES	**GERESS Array B**	**147.39**	**345**	PKPbc	**PKPbc**	**17 40 17.5**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=33,slow=3.4,SNR=14						
GERES	**GERESS Array B**	**147.39**	**345**		**PKPbc**	**17 40 17.1**	**-0.1**
CONA	**Conrad Observa**	**147.62**	**341**	*e*P	**PKPdf**	**17 40 14.8**	**+0.5**
	comp=Z,3.4nm,0.7s						
RONA	**Rosalia, Austr**	**147.69**	**341**	*e*P	**PKiKP**	**17 40 18.5**	**-0.9**
	comp=Z,5.3nm,0.8s						
BIOA	**Bad Ischl, Aus**	**148.47**	**344**	*e*P	**PKPab**	**17 40 26.3**	**+1.0**
	comp=Z,3.5nm,0.7s						
SOKA	**Soboth**	**149.00**	**341**	*e*P	**PKPbc**	**17 40 21.2**	**0.0**
	comp=Z,2.4nm,0.6s						
WATA	**Walderalm**	**149.31**	**346**	*e*P	**PKPbc**	**17 40 22.0**	**0.0**
	comp=Z,2.4nm,0.5s						
RETA	**Reutte**	**149.35**	**347**	*e*P	**PKiKP**	**17 40 22.4**	**-0.5**
	comp=Z,1.2nm,0.4s						
WTTA	**Wattenberg**	**149.37**	**346**	*e*P	**PKiKP**	**17 40 22.3**	**-0.7**
	comp=Z,3.6nm,0.4s						
MOTA	**Moosalm**	**149.41**	**347**	*e*P	**PKiKP**	**17 40 22.9**	**-0.2**
	comp=Z,1.6nm,0.6s						
MYKA	**Terra Mystica**	**149.44**	**343**	*e*P	**PKPbc**	**17 40 22.0**	**-0.3**
	comp=Z,3.3nm,0.4s						
SQTA	**Sankt Quirin**	**149.50**	**347**	*e*P	**PKiKP**	**17 40 22.7**	**-0.6**
	comp=Z,1.0nm,0.4s						
ABTA	**Abfaltersbach**	**149.64**	**345**	*e*P	**PKPbc**	**17 40 22.3**	**-0.5**
	comp=Z,4.2nm,0.6s						
DAVA	**Damuels**	**149.72**	**348**	*e*P	**PKiKP**	**17 40 25.6**	**+1.8**
	comp=Z,1.6nm,0.6s						
FETA	**Feichten**	**149.80**	**347**	*e*P	**PKiKP**	**17 40 23.9**	**-0.1**
	comp=Z,2.0nm,0.7s						

HVO ***25*** *17:24:50.4±0.9, 19°.39N±0°.02×155°.278W±0°.007, h3km±1km, ML2.8/25,ML2.1/40(NEIC), Error ellipse: s-maj=2.7km s-min=0.8km az=188.0*

NEIC 25 17:24:51.1±0.7, 19°.39N±0°.02×155°.287W±0°.006, h1km±4km, Error ellipse: s-maj=2.8km s-min=0.8km az=172.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDHHI	**Sand Hill**	**0.01**	**245**		Pg	17 24 51.3	-0.2
SDHHI				IAML		17 24 51.5	
	comp=E,2μm,0.2s						
SDHHI				IAML		17 24 51.5	
	comp=N,2μm,0.5s						
SDHHI				Sg	Sg	17 24 51.8	-0.1
RIM	**Rim**	**0.01**	**77**		Pg	17 24 51.3	-0.3
RIM				Sg	Sg	17 24 51.8	-0.2
WRMHI	**West Rim**	**0.02**	**320**		Pg	17 24 52.4	+0.7
NPH	**North Pit**	**0.02**	**17**		Pg	17 24 51.3	-0.3
NPH				IAML		17 24 51.8	
	comp=N,5μm,0.3s						
NPH				IAML		17 24 52.0	
	comp=E,5μm,0.2s						
KKO	**Keanakako`i**	**0.02**	**75**		Pg	17 24 51.4	-0.2
KKO				Sg	Sg	17 24 52.0	-0.1
OBL	**Observatory Le**	**0.03**	**7**		Pg	17 24 51.7	0.0
UWE	**Uwekahuna**	**0.03**	**350**		Pg	17 24 51.8	0.0
UWE				IAML		17 24 52.0	
	comp=N,1μm,0.3s						
BYL	**Byron's Ledge**	**0.03**	**53**		Pg	17 24 51.6	-0.1
BYL				Sg	Sg	17 24 52.2	0.0
BYL				IAML		17 24 52.3	
	comp=N,3μm,0.2s						
UWB	**Uwekahuna B**	**0.03**	**15**		Pg	17 24 51.7	0.0
HATHI	**Halema'uma'u T**	**0.04**	**39**		Pg	17 24 51.8	-0.1
HATHI				Sg	Sg	17 24 52.8	+0.3
SBLHI	**Steaming Bluff**	**0.04**	**28**		Pg	17 24 51.8	-0.1
SBLHI				IAML		17 24 52.2	
	comp=N,3μm,0.5s						
PUH	**Pauahi**	**0.07**	**105**		Pg	17 24 52.4	-0.1
PUH				IAML		17 24 53.1	
	comp=E,832nm,0.3s						
PUH				IAML		17 24 53.6	
	comp=N,1μm,0.3s						
RSD	**Rainshed**	**0.07**	**7**		Pg	17 24 52.5	0.0
HLP	**Hilina Pali**	**0.10**	**191**		Pg	17 24 53.1	+0.1
HLP				IAML		17 24 55.5	
	comp=N,792nm,0.4s						
HLP				IAML		17 24 55.8	
	comp=E,944nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**97**		Pg	17 24 53.1	-0.1
MLH	**Mauna Loa**	**0.14**	**317**		Pg	17 24 54.1	+0.3
MLH				Sg	Sg	17 24 57.3	+1.7
MLH				IAML		17 24 58.4	
	comp=E,904nm,0.4s						
AIN	**Ainahou**	**0.16**	**263**		Pg	17 24 54.3	0.0
NPOC	**North of Pu'u**	**0.17**	**90**		Pg	17 24 54.0	-0.4
NPOC				IAML		17 24 57.8	
	comp=E,770nm,0.7s						
JCUZ	**Jacuzzi**	**0.18**	**93**	Pg	Pg	17 24 54.1	-0.4
JCUZ				IAML		17 24 57.3	
	comp=N,411nm,0.7s						
HTC	**Hot Caves**	**0.19**	**214**		Pg	17 24 54.8	+0.1
JOKA	**Jonika Flow**	**0.27**	**81**		Pg	17 24 55.6	-0.6
JOKA					Sg	17 24 58.0	-1.7
HMH	**Humu'ula Sheep**	**0.28**	**319**		Pg	17 24 56.6	+0.2
HMH				IAML		17 25 01.8	
	comp=N,249nm,1.2s						
HMH				IAML		17 25 05.9	
	comp=E,219nm,0.4s						
MWH	**Moku'aweowe**	**0.31**	**288**		Pg	17 24 57.0	0.0
MLOA	**Mauna Loa Obse**	**0.31**	**298**		Pg	17 24 57.0	0.0
MLOA				IAML		17 24 59.6	
	comp=N,303nm,2.9s						
MLOA				IAML		17 25 04.3	
	comp=E,264nm,0.4s						
KHU	**Kahuku**	**0.34**	**245**		Sb	17 25 04.2	-1.9
KHU	**Kahuku**	**0.34**	**245**		Pg	17 24 57.7	0.0
KHU				IAML		17 25 03.3	
	comp=N,413nm,3.6s						
KHU				IAML		17 25 07.2	
	comp=E,415nm,3.7s						
ALEP	**Alea Permanent**	**0.37**	**294**		Pg	17 24 58.0	-0.2
ALEP					Sg	17 25 03.6	+0.6
POHA	**Pohakuloa**	**0.43**	**328**		Pg	17 24 58.9	-0.5
POHA				IAML		17 25 05.3	
	comp=E,241nm,2.9s						
POHA				IAML		17 25 13.8	
	comp=E,218nm,0.9s						
HUH	**Hualalai**	**0.59**	**299**	Pg	Pg	17 25 01.9	-0.6
KHLU	**Kahalu`u**	**0.60**	**289**		Pg	17 25 02.2	-0.5

MDD ***25*** *17:26:33.0±0.7, 36°.75N×9°.72W, h20km±5km, mb_Lg3.0/13, Error ellipse: s-maj=7.2km s-min=4.4km az=43.0*

SFS ***25*** *17:26:34.0, 36°.75N×9°.67W, h25km, ML2.9, SW. CABO DE SAN VICENTE*

INMG ***25*** *17:26:34.9±1.2, 36°.80N×9°.66W, h20km±3km, ML2.3, Error ellipse: s-maj=3.8km s-min=2.9km az=42.0*

CNRM ***25*** *17:26:35.4, 36°.47N×9°.13W, h30km, ml2.3*

ISC 25 17:26:29.3±1.6, 36°.61N±0°.05×9°.78W±0°.07, h30km, n55, σ1§93/98, 4C-3D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSVI	**Cabo S. Vicent**	**0.75**	**56**	*e*S	**Sn**	**17 26 55.8**	**+1.6**
PFVI	**Vila Bisbo**	**0.93**	**55**	⇑*i*P	**Pb**	**17 26 48.5**	**+1.7**
PFVI				*e*S	**Sb**	**17 26 58.9**	**+0.1**
PFVI				A	A	17 26 59.8	
	78nm,0.4s						
PFVI	**Vila Bisbo**	**0.93**	**55**	S	**Sb**	**17 26 59.0**	**+0.3**
PLAGO	**Lagos**	**1.00**	**61**	*e*S	**Sb**	**17 27 01.1**	**+0.2**
PALJ	**Aljezur**	**1.06**	**48**	*e*S	**Sn**	**17 27 02.0**	**+0.2**
PPOR	**Portimao**	**1.13**	**52

EMIJ					*i* Vmb_Lg		17 28 17.5	
ZHG	**ZHG**	**4.07**	**140**		P	**Pn**	**17 27 29.8**	**+0.1**
ZHG					S	**Sn**	**17 28 13.1**	**-3.2**
MTE	**Manteigas**	**4.17**	**24**	*e*	Pn	**Pn**	**17 27 32.5**	**+1.5**
PVIS	**Viseu**	**4.36**	**19**	*e*	Pn	**Pn**	**17 27 33.4**	**-0.1**
PVIS				*e*	Sn	**Sn**	**17 28 22.6**	**-0.7**
EADA	**Adamuz**	**4.42**	**68**		P	**Pn**	**17 27 36.7**	**+2.3**
EADA					S	**Sn**	**17 28 22.6**	**-2.3**
EADA				*i*	Vmb_Lg		17 28 26.4	
ELGU	**Los Guajares,**	**4.95**	**85**		P	**Pn**	**17 27 45.1**	**+3.4**
ELGU					S	**Sn**	**17 28 38.7**	**+0.8**
ELGU				*i*	Vmb_Lg		17 28 43.6	
MVO	**Moncorvo**	**5.03**	**24**	*e*	Pn	**Pn**	**17 27 44.3**	**+1.6**
MVO				*e*	Sn	**Sn**	**17 28 38.1**	**-1.8**
PAB	**San Pablo**	**5.19**	**54**		P	**Pn**	**17 27 47.0**	**+2.0**
PAB					S	**Sn**	**17 28 40.5**	**-3.4**
PAB				*i*	Vmb_Lg		17 28 42.2	
PCAB	**Cabril**	**5.27**	**14**	*e*	Pn	**Pn**	**17 27 47.5**	**+1.4**
ELOB	**Lobios**	**5.42**	**14**		P	**Pn**	**17 27 49.5**	**+1.4**
ELOB					S	**Sn**	**17 28 45.2**	**-4.2**
PGAV	**Gavieira, Arco**	**5.47**	**12**	*e*	Pn	**Pn**	**17 27 50.3**	**+1.4**
PGAV				*e*	Sn	**Sn**	**17 28 47.4**	**-3.5**
EQES	**Quesada**	**5.49**	**75**		P	**Pn**	**17 27 51.8**	**+2.7**
EQES					S	**Sn**	**17 28 49.6**	**-1.6**
EQES				*i*	Vmb_Lg		17 28 51.4	
MD31	**MD31**	**5.57**	**131**		P	**Pn**	**17 27 51.1**	**+0.9**
MD31					S	**Sn**	**17 28 49.0**	**-4.3**
OUK	**Oukaimeden**	**5.62**	**163**		P	**Pn**	**17 27 53.7**	**+2.6**
PBRG	**Braganca**	**5.70**	**24**	*e*	Pn	**Pn**	**17 27 53.7**	**+1.8**
ECAL	**Calabor**	**5.82**	**23**		P	**Pn**	**17 27 55.0**	**+1.3**
ECAL					S	**Sn**	**17 28 56.5**	**-3.0**
GUD	**Guadarrama**	**5.97**	**46**		P	**Pn**	**17 27 57.1**	**+1.4**
GUD					S	**Sn**	**17 28 59.2**	**-3.9**
GUD				*i*	Vmb_Lg		17 29 01.9	
EZAR	**Zarzadilla de**	**6.57**	**77**		P	**Pn**	**17 28 05.5**	**+1.5**
EZAR					S	**Sn**	**17 29 15.3**	**-2.7**
EZAR				*i*	Vmb_Lg		17 31 30.7	
ETOB	**Tobarra**	**6.84**	**70**		P	**Pn**	**17 28 10.0**	**+2.3**
ETOB					S	**Sn**	**17 29 21.6**	**-3.0**
ETOR	**Torete**	**7.36**	**53**		P	**Pn**	**17 28 16.6**	**+1.9**
ETOR					S	**Sn**	**17 29 31.9**	**-5.3**
EARI	**Arriondas**	**7.55**	**26**		P	**Pn**	**17 28 19.3**	**+2.0**
EMOS	**Mosqueruela**	**8.20**	**60**		S	**Sn**	**17 29 54.8**	**-3.4**

*IDC **25** 17:26:36.0±0.9, 37°.29N×141°.70E, h0km, mb3.7/11, mbtmp3.7/14, ML2.9/3, Error ellipse: s-maj=25.0km s-min=18.4km az=88.0*
*JMA **25** 17:26:39.4±0.2, 37°.2N±0°.4×14°.2E±°, h36km±1km, MV3.8/34, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF
ISC 25 17:26:37.7±2.0, 37°.24N±0°.04×141°.62E±0°.08, h10km±11km, n30, σ1s13/29, mb3.6/11, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.61**	**282**	P		**Pg**	**17 26 50.1**	**+0.7**
JFK				S		**Sg**	**17 26 57.4**	**0.0**
JMST	**Minamisoumatoc**	**0.76**	**310**	P		**Pg**	**17 26 52.7**	**+0.4**
JMST				S		**Sg**	**17 27 02.1**	**-0.1**
JFFD	**Fukushimafurud**	**0.86**	**260**	⇓*i*P		**Pb**	**17 26 53.9**	**-0.8**
JFFD				⇓S		**Sb**	**17 27 04.3**	**-2.0**
JMM	**Marumori**	**0.91**	**314**	*i* P		**Pb**	**17 26 55.0**	**-0.4**
JMM				S		**Sb**	**17 27 06.1**	**-1.5**
JHO	**Hitachi**	**1.05**	**234**	*i* P		**Pb**	**17 26 56.6**	**-1.4**
JHO				S		**Sb**	**17 27 09.7**	**-2.0**
JIO	**Ouri**	**1.23**	**350**	*i* P		**Pn**	**17 27 00.4**	**-0.5**
JIO				S		**Sb**	**17 27 15.8**	**-1.1**
MJAR	**Matsushiro Arr**	**2.82**	**257**	Pn		**Pn**	**17 27 22.7**	**-0.2**
	0.7nm,0.3s,baz=14,slow=15,SNR=30							
MJAR				Sn		**Sn**	**17 27 59.9**	**+3.0**
	1.0nm,0.3s,baz=253,slow=16,SNR=2.3 5.4nm,0.5s							
JHJ	**Hachijo jima 2**	**4.38**	**201**	Pn		**Pn**	**17 27 45.4**	**+1.2**
	9.5nm,0.3s,baz=71,slow=24,SNR=2.2							
JHJ				Sn		**Sn**	**17 28 34.2**	**-1.0**
	14nm,0.3s,baz=253,slow=23,SNR=2.1 95nm,0.7s							
USRK	**Ussuriysk Ar.**	**10.08**	**317**	Pn		Pn	17 29 09.3	+6.9
	0.2nm,0.3s,baz=130,slow=13,SNR=1.8							
KSRS	**Korea Array**	**10.91**	**275**	Pn		**Pn**	**17 29 15.1**	**+1.4**
	baz=76,slow=14,SNR=1.7 0.7nm,0.7s							
SONM	**Songino Array**	**27.81**	**304**	P		**P**	**17 32 26.2**	**-0.8**
	0.5nm,0.7s,baz=97,slow=9.1,SNR=3.9 0.5nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T		T	18 01 54.9	
	baz=314,slow=75,SNR=68							
H11N1	**WAKE ISLAND Hy**	**28.12**	**121**	T		T	18 01 57.8	
	baz=314,slow=75,SNR=57							
H11N3	**WAKE ISLAND Hy**	**28.13**	**121**	T		T	18 01 59.7	
	baz=314,slow=75,SNR=88							
H11S1	**WAKE ISLAND Hy**	**28.83**	**123**	T		T	18 02 53.0	
	baz=316,slow=76,SNR=71							
H11S3	**WAKE ISLAND Hy**	**28.83**	**124**	T		T	18 02 53.2	
	baz=316,slow=76,SNR=48							
H11S2	**WAKE ISLAND Hy**	**28.85**	**124**	T		T	18 02 51.4	
	baz=316,slow=76,SNR=42							
ZALV	**Zalesovo Beam**	**41.90**	**312**	P		**P**	**17 34 28.5**	**+0.5**
	0.5nm,0.4s,baz=111,slow=8.1,SNR=4.8 0.5nm,0.4s							
MKAR	**Makanchi Array**	**44.15**	**302**	P		**P**	**17 34 46.7**	**+0.3**
	0.7nm,0.7s,baz=81,slow=11,SNR=6.1 0.7nm,0.7s							
ILAR	**Eielson Array**	**49.23**	**32**	P		**P**	**17 35 25.0**	**-0.8**
	0.2nm,0.7s,baz=270,slow=6.4,SNR=1.7 0.2nm,0.7s							
WRA	**Warramunga Arr**	**57.29**	**188**	P		**P**	**17 36 25.4**	**-0.2**
	0.3nm,0.5s,baz=4.3,slow=6.9,SNR=9.6							
WRA				PcP		**PcP**	**17 37 20.9**	**+1.2**
	0.2nm,0.6s,baz=6.5,slow=4.6,SNR=1.7 0.3nm,0.5s							
ASAR	**Alice Springs**	**61.02**	**188**	P		**P**	**17 36 51.7**	**+0.4**
	0.3nm,0.7s,baz=16,slow=7.0,SNR=2.7 0.3nm,0.7s							
ARCES	**ARCESS Array B**	**63.86**	**339**	P		**P**	**17 37 10.1**	**+0.2**
	2.0nm,0.8s,baz=72,slow=8.6,SNR=1.6 2.0nm,0.8s							
FINES	**FINESS Array B**	**68.71**	**332**	P		**P**	**17 37 40.9**	**-0.2**
	2.1nm,0.9s,baz=47,slow=6.1,SNR=2.5 2.1nm,0.9s							
NOA	**NORSAR Array B**	**74.06**	**337**	P		**P**	**17 38 13.5**	**0.0**
	0.3nm,0.5s,baz=27,slow=3.4,SNR=1.8 0.3nm,0.5s							
AKASG	**Malin Array Be**	**74.23**	**322**	P		**P**	**17 38 14.2**	**-0.4**
	0.3nm,0.3s,baz=46,slow=6.4,SNR=6.5 0.3nm,0.3s							
GERES	**GERESS Array B**	**82.62**	**328**	P		**P**	**17 39 01.1**	**-0.1**
	0.2nm,0.4s,baz=46,slow=7.0,SNR=1.9 0.2nm,0.4s							
H03N2	**Juan Fernandez**	**146.88**	**96**	T		T	20 30 32.1	
	baz=291,slow=76,SNR=5.2							
H03N3	**Juan Fernandez**	**146.89**	**96**	T		T	20 30 29.9	
	baz=291,slow=76,SNR=5.6							
H03N1	**Juan Fernandez**	**146.90**	**96**	T		T	20 30 34.5	
	baz=291,slow=76,SNR=6.0							

*KRNET **25** 17:55:20.8±0.1, 39°.25N×73°.92E, mb3.7*
*SOME **25** 17:55:20.6, 39°.25N×73°.92E, h5km*
*NNC **25** 17:55:29.8±2.0, 39°.63N×73°.85E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=17.1km s-min=10.8km az=168.0*
ISC 25 17:55:23.8±1.6, 39°.15N±0°.08×73°.72E±0°.03, h10km, n43, σ2s55/65, 15C-14D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.52**	**283**	⇓*e*P		**Pn**	**17 55 52.0**	**+0.6**
	baz=78							
DRK				⇓*e*S		**Sg**	**17 56 14.7**	**+1.8**
	baz=78							
OHH	**Osh**	**1.55**	**333**	⇑*e*P		**Pn**	**17 55 49.6**	**-2.0**
	baz=26							
OHH				⇑*e*S		**Sn**	**17 56 10.7**	**-1.1**
	baz=26							
BTK	**Batken**	**2.42**	**293**	⇑*e*P		**Pn**	**17 56 05.1**	**+1.6**
	baz=89							
BTK				⇑*e*S		**Sb**	**17 56 37.4**	**+0.1**
	baz=89							
ARLS	**Aral**	**2.75**	**9**	⇓*e*P		**Pn**	**17 56 06.2**	**-1.9**
	baz=7.0							
ARLS				⇓*e*S		**Sn**	**17 56 39.6**	**-1.8**
	baz=7.0							
NRN	**Naryn**	**2.87**	**37**	⇑*e*P		**Pn**	**17 56 07.1**	**-2.9**
	baz=35							
NRN				⇑*e*S		**Sn**	**17 56 41.0**	**-3.8**
	baz=35							
ARK	**Arkit**	**2.96**	**334**	⇑*e*P		**Pn**	**17 56 11.0**	**0.0**
	baz=30							
ARK				⇑*e*S		**Sn**	**17 56 47.7**	**+1.0**
	baz=30							
AML	**Almayashu**	**2.98**	**360**	P		**Pn**	**17 56 12.3**	**+0.9**
	SNR=17							
TRKS	**Terek-Say**	**3.09**	**321**	⇓*e*P		**Pn**	**17 56 12.5**	**-0.3**
	baz=17							
TRKS				⇓*e*S		**Sn**	**17 56 50.1**	**+0.3**
	baz=17							
UCH	**Uchtor**	**3.13**	**11**	P		**Pn**	**17 56 14.9**	**+1.2**
	SNR=20							
UCH	**Uchtor**	**3.13**	**11**	⇓*e*P		**Pn**	**17 56 11.9**	**-1.8**
	baz=8.0							
UCH				⇓*e*S		**Sn**	**17 56 49.3**	**-2.1**
	baz=8.0							
EKS2	**Erkin-Say**	**3.51**	**1**	P		**Pn**	**17 56 21.8**	**+3.3**
	SNR=18							
EKS2	**Erkin-Say**	**3.51**	**1**	⇑*e*P		**Pn**	**17 56 17.4**	**-1.1**
	baz=58							
EKS2				⇑*e*S		**Sn**	**17 56 58.5**	**-1.7**
	baz=58							
AAK	**Ala-Archa**	**3.53**	**9**	P		**Pn**	**17 56 20.6**	**+1.6**
	SNR=7.6							
AAK	**Ala-Archa**	**3.53**	**9**	⇓*e*P		**Pn**	**17 56 17.3**	**-1.6**
	baz=7.0							
AAK				⇓*e*S		**Sn**	**17 56 58.6**	**-2.2**
	baz=7.0							
MRKS	**Merke**	**3.61**	**354**	*e*P		**Pb**	**17 56 26.3**	**-1.5**
	26nm,0.6s							
MRKS				*e*S		**Sb**	**17 57 14.6**	**+2.9**
	45nm,0.6s							
MRKS	**Merke**	**3.61**	**354**	Pg		**Pb**	**17 56 26.9**	**-1.0**
	26nm,0.6s							
MRKS				Lg		Lg	17 57 12.1	
	45nm,0.6s							
KBK	**Karagaybulak**	**3.62**	**15**	P		**Pb**	**17 56 26.6**	**-1.5**
	SNR=9.7							
CHMS	**Chumysh**	**3.92**	**11**	⇑Pn		**Pn**	**17 56 25.4**	**+1.2**
	6.7nm,0.5s							
CHMS				⇓Lg		Lg	17 57 19.7	
	38nm,1.1s							
TKM2	**Tokmak 2**	**4.03**	**20**	⇑Pn		**Pn**	**17 56 27.1**	**+1.4**
	4.5nm,0.6s							
TKM2				⇓Lg		Lg	17 57 21.0	
	26nm,1.2s							
IUG	**Iuzhnay**	**4.10**	**318**	*e*P		**Pg**	**17 56 39.3**	**-3.1**
	60nm,0.5s							
IUG				*e*S		**Sg**	**17 57 36.6**	**+1.1**
	76nm,0.6s							
IUG	**Iuzhnay**	**4.10**	**318**	Pg		**Pg**	**17 56 39.3**	**-3.1**
	60nm,0.5s							
USP	**Ospenovka**	**4.16**	**8**	P		**Pb**	**17 56 37.2**	**+0.2**
	SNR=6.2							
KST	**Kastek**	**4.24**	**23**	*e*P		**Pb**	**17 56 36.7**	**-1.9**
	5.9nm,0.7s							
KST				*e*S		**Sb**	**17 57 33.3**	**+3.4**
	34nm,1.1s							
KST	**Kastek**	**4.24**	**23**	Pg		**Pb**	**17 56 36.7**	**-1.9**
	5.9nm,0.7s							
KST				Lg		Lg	17 57 29.0	
	34nm,1.1s							
SGDS	**Sogindy**	**4.35**	**9**	*e*P		**Pb**	**17 56 38.9**	**-1.5**
	8.3nm,0.5s							
SGDS				*e*S		**Sb**	**17 57 35.6**	**+2.6**
	18nm,0.9s							
SGDS	**Sogindy**	**4.35**	**9**	Pg		**Pb**	**17 56 39.7**	**-0.7**
	8.3nm,0.5s							
SGDS				Lg		Lg	17 57 35.2	
	18nm,1.0s							
MTBS	**Maitube**	**4.47**	**26**	*e*P		**Pb**	**17 56 40.9**	**-1.6**
	7.7nm,0.2s							
MTBS				*e*S		**Sb**	**17 57 39.4**	**+2.9**
	20nm,0.7s							
MTBS	**Maitube**	**4.47**	**26**	Pg		**Pb**	**17 56 42.6**	**+0.1**
	8.9nm,0.5s							
MTBS				Lg		Lg	17 57 39.4	
	20nm,0.7s							
TNSS	**Tian-Shan**	**4.59**	**31**	*e*P		**Pb**	**17 56 44.1**	**-0.5**
	30nm,0.4s							
TNSS				*e*S		**Sb**	**17 57 44.5**	**+4.4**
	8.0nm,0.6s							
KK31	**Karatay Array**	**4.63**	**330**	⇓Pn		**Pn**	**17 56 35.6**	**+1.8**
	1.0nm,0.2s,baz=127,slow=12,SNR=37							
KK31				Pg		**Pb**	**17 56 46.2**	**+1.1**
	5.9nm,0.6s,baz=148,slow=15,SNR=9.3							
KK31				⇑Lg		Lg	17 57 45.8	
	6.6nm,0.5s							
MDOK	**Medeo**	**4.73**	**31**	*e*P		**Pb**	**17 56 46.1**	**-0.9**
	24nm,0.5s							
MDOK				*e*S		**Sb**	**17 57 48.8**	**+4.8**
	24nm,1.1s							
MDOK	**Medeo**	**4.73**	**31**	Pn		**Pn**	**17 56 39.1**	**+3.7**
	19nm,0.5s							
MDOK				Lg		Lg	17 57 46.3	
	50nm,1.3s							
SATY	**Saty**	**5.27**	**41**	*e*P		**Pb**	**17 56 54.7**	**-1.4**
	9.5nm,0.8s							
SATY				*e*S		**Sb**	**17 58 03.6**	**+4.1**
	15nm,1.1s							
SATY	**Saty**	**5.27**	**41**	Pg		**Pb**	**17 56 54.8**	**-1.4**
	8.7nm,1.0s							
SATY				Lg		Lg	17 57 59.9	
	15nm,1.1s							
CHKK	**Chushkaly**	**5.30**	**27**	*e*P		**Pb**	**17 56 57.8**	**+1.3**
	4.1nm,0.5s							
CHKK				*e*S		**Sb**	**17 58 07.2**	**+6.9**
	14nm,0.0s							
KURS	**Kuram**	**5.48**	**36**	*e*P		**Pb**	**17 56 59.3**	**-0.3**
	6.5nm,0.8s							
KURS				*e*S		**Sb**	**17 58 11.2**	**+5.8**
	8.3nm,1.0s							
KURS	**Kuram**	**5.48**	**36**	Pg		**Pb**	**17 56 59.8**	**+0.2**
	6.5nm,0.8s							
KURS				Lg		Lg	17 58 09.4	
	8.7nm,1.1s							
KPKS	**Kokpek**	**5.71**	**39**	*e*P		**Pb**	**17 57 02.7**	**-0.9**
	4.9nm,0.4s							
KPKS				*e*S		**Sb**	**17 58 18.3**	**+6.3**
	16nm,0.5s							
KPKS	**Kokpek**	**5.71**	**39**	Pg		**Pb**	**17 57 02.8**	**-0.7**
	6.8nm,0.6s							
KPKS				Lg		Lg	17 58 15.1	
	16nm,0.9s							
SHLS	**Shalkode**	**5.90**	**45**	*e*P		**Pb**	**17 57 11.2**	**+4.4**
	6.8nm,0.8s							
SHLS				*e*S		**Sg**	**17 58 32.0**	**-1.2**
	12nm,0.8s							
SHLS	**Shalkode**	**5.90**	**45**	Pg		**Pg**	**17 57 13.1**	**-3.7**
	6.8nm,0.8s							
PDGK	**Podgornoye**	**6.03**	**44**	⇑Pg		**Pg**	**17 57 16.0**	**-3.2**
	7.3nm,0.7s							
PDGK				⇑Lg		Lg	17 58 27.4	
	18nm,0.9s							
OTUK	**Ortayu**	**9.15**	**354**	⇓Lg		Lg	18 00 04.7	
	10.0nm,1.4s							

KRNET 25 18:00:05.8±0.1, 39°.32N×73°.61E, mb2.5, 3C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.36**	**333**	⇑*i*P		Pg	18 00 30.3	-1.6
	baz=33							
OHH				⇑*i*S		Sg	18 00 48.2	-1.3
	baz=33							
ARLS	**Aral**	**2.60**	**12**	⇑*i*P		Pn	18 00 47.4	-1.8
	baz=12							
TRKS	**Terek-Say**	**2.90**	**320**	⇓*i*P		Pn	18 00 50.9	-2.5
	baz=20							
TRKS				⇓*i*S		Sn	18 01 23.8	-5.3
	baz=20							
UCH	**Uchtor**	**2.99**	**13**	⇓*i*P		Pn	18 00 53.1	-1.7
	baz=13							
UCH				⇓*i*S		Sn	18 01 27.6	-4.0
	baz=13							

*IDC **25** 18:03:47.8±1.6, 39°.24N×74°.05E, h0km, mb3.4/4, mbtmp3.4/7, ML2.8/3, Error ellipse: s-maj=31.8km s-min=23.9km az=157.0*
*SOME **25** 18:03:49.8, 39°.40N×74°.00E, h0km*

*KRNET **25** 18:03:50.5±0.1, 39°.40N×74°.08E, mb3.8*
*NNC **25** 18:03:55.9±1.8, 39°.50N×73°.96E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=13.5km s-min=9.0km az=177.0*
ISC 25 18:03:55.6±1.5, 39°.51N±0°.05×73°.88E±0°.03, h3km±9km, n64, σ1s77/86, mb3.5/4, 27C-14D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.32**	**321**	⇑*i*P		**Pg**	**18 04 18.8**	**-2.1**
	baz=19							
OHH				⇑*i*S		**Sn**	**18 04 39.5**	**+0.4**
	baz=19							
DRK	**Karamyk**	**1.61**	**270**	⇑*i*P		**Pn**	**18 04 23.5**	**-1.7**
	baz=73							
DRK				⇑*i*S		**Sg**	**18 04 47.9**	**+0.5**
	baz=73							
ARLS	**Aral**	**2.37**	**8**	⇑*e*P		**Pn**	**18 04 34.1**	**-1.4**
	baz=4.0							
ARLS				⇑*i*S		**Sn**	**18 05 05.9**	**+0.7**
	baz=4.0							
BTK	**Batken**	**2.42**	**284**	⇓*e*P		**Pn**	**18 04 35.8**	**-0.4**
	baz=86							
BTK				⇓*i*S		**Sb**	**18 05 09.3**	**-0.9**
	baz=86							
NRN	**Naryn**	**2.51**	**39**	⇑*i*P		**Pn**	**18 04 34.5**	**-3.1**
	baz=35							
NRN				⇑*i*S		**Sn**	**18 05 06.5**	**-2.3**
	baz=35							
AML	**Almayashu**	**2.62**	**357**	P		**Pn**	**18 04 40.1**	**+0.9**
	SNR=47							
ARK	**Arkit**	**2.71**	**328**	⇑*i*P		**Pn**	**18 04 40.1**	**-0.1**
	baz=27							
ARK				⇑*i*S		**Sb**	**18 05 16.3**	**-2.2**
	baz=27							
UCH	**Uchtor**	**2.75**	**10**	P		**Pn**	**18 04 42.0**	**+0.9**
	SNR=42							
UCH	**Uchtor**	**2.75**	**10**	⇑*e*P		**Pn**	**18 04 39.6**	**-1.5**
	baz=6.0							
UCH				⇑*i*S		**Sn**	**18 05 15.5**	**+0.4**
	baz=6.0							
TRKS	**Terek-Say**	**2.90**	**315**	⇑*e*P		**Pn**	**18 04 42.1**	**-0.8**
	baz=14							
TRKS				⇑*i*S		**Sb**	**18 05 19.5**	**-4.6**
	baz=14							
EKS2	**Erkin-Say**	**3.15**	**359**	P		**Pn**	**18 04 47.7**	**+1.5**
	SNR=18							
EKS2	**Erkin-Say**	**3.15**	**359**	⇑*e*P		**Pn**	**18 04 45.3**	**-0.9**
	baz=56							
EKS2				⇑*i*S		**Sn**	**18 05 25.2**	**+0.9**
	baz=56							
AAK	**Ala-Archa**	**3.16**	**8**	P		**Pn**	**18 04 47.6**	**+1.2**
	SNR=24							
AAK	**Ala-Archa**	**3.16**	**8**	⇑*e*P		**Pn**	**18 04 44.9**	**-1.4**
	baz=5.0							
AAK				⇑*i*S		**Sn**	**18 05 24.7**	**+0.1**
	baz=5.0							
KBK	**Karagaybulak**	**3.24**	**14**	P		**Pn**	**18 04 50.0**	**+2.5**
	SNR=32							
KBK	**Karagaybulak**	**3.24**	**14**	⇓*e*P		**Pn**	**18 04 45.8**	**-1.7**
	baz=11							
KBK				⇓*i*S		**Sn**	**18 05 26.6**	**-0.1**
	baz=11							
ULHL	**Ulahol**	**3.27**	**32**	⇑*e*P		**Pn**	**18 04 45.6**	**-2.3**
	baz=29							
ULHL				⇑*i*S		**Sn**	**18 05 25.7**	**-1.6**
	baz=29							
MRKS	**Merke**	**3.27**	**351**	*e*P		**Pb**	**18 04 54.5**	**+0.2**
	30nm,0.6s							
MRKS				*e*S		**Sg**	**18 05 41.0**	**+0.4**
	50nm,0.5s							
MRKS	**Merke**	**3.27**	**351**	Pg		**Pb**	**18 04 54.5**	**+0.2**
	30nm,0.6s							
MRKS				Lg		Lg	18 05 41.0	
	50nm,0.5s							
CHMS	**Chumysh**	**3.54**	**10**	P		**Pn**	**18 04 52.6**	**+1.1**
	SNR=11							
CHMS	**Chumysh**	**3.54**	**10**	⇑*e*P		**Pn**	**18 04 50.2**	**-1.4**
	baz=8.0							
CHMS				⇑*i*S		**Sn**	**18 05 33.7**	**-0.3**
	baz=8.0							
CHMS	**Chumysh**	**3.54**	**10**	⇑Pn		**Pn**	**18 04 52.9**	**+1.3**
	7.8nm,0.5s							
CHMS				⇑Lg		Lg	18 05 49.4	
	78nm,1.1s							
TKM2	**Tokmak 2**	**3.64**	**20**	P		**Pn**	**18 04 54.0**	**+1.0**
	SNR=12							
TKM2	**Tokmak 2**	**3.64**	**20**	⇓*e*P		**Pn**	**18 04 51.3**	**-1.8**
	baz=18							
TKM2				⇓*i*S		**Sn**	**18 05 35.6**	**-1.0**
	baz=18							
TKM2	**Tokmak 2**	**3.64**	**20**	⇑Pn		**Pn**	**18 04 55.8**	**+2.8**
	3.9nm,0.4s							
TKM2				⇓Pg		**Pb**	**18 05 03.7**	**+3.0**
	33nm,1.0s							
TKM2				⇓Lg		Lg	18 05 52.3	
	28nm,0.8s							
USP	**Ospenovka**	**3.78**	**7**	P		**Pn**	**18 04 56.5**	**+1.7**
	SNR=6.1							
KST	**Kastek**	**3.86**	**23**	*e*P		**Pb**	**18 05 05.1**	**+0.7**
	6.6nm,0.5s							
KST				*e*S		**Sg**	**18 05 59.3**	**-0.3**
	36nm,0.7s							
KST	**Kastek**	**3.86**	**23**	Pg		**Pb**	**18 05 05.1**	**+0.7**
	6.6nm,0.5s							
KST				Lg		Lg	18 05 59.3	
	36nm,0.7s							
IUG	**Iuzhnay**	**3.93**	**313**	*e*P		**Pb**	**18 05 05.9**	**+0.3**
	35nm,0.3s							
IUG				*e*S		**Sg**	**18 06 00.7**	**-1.2**
	86nm,0.8s							
SGDS	**Sogindy**	**3.98**	**8**	*e*P		**Pb**	**18 05 06.7**	**+0.4**
	7.7nm,0.6s							
SGDS				*e*S		**Sg**	**18 06 02.2**	**-1.1**
	36nm,0.9s							
SGDS	**Sogindy**	**3.98**	**8**	Pg		**Pb**	**18 05 06.7**	**+0.4**
	7.7nm,0.7s							
SGDS				Lg		Lg	18 06 03.2	
	36nm,0.9s							
DGS	**Degeres**	**3.99**	**20**	*e*P		**Pb**	**18 05 08.0**	**+1.4**
	19nm,0.5s							
DGS				*e*S		**Sg**	**18 06 04.5**	**+0.8**
	36nm,0.7s							
DGS	**Degeres**	**3.99**	**20**	Pg		**Pb**	**18 05 08.0**	**+1.4**
	19nm,0.5s							
DGS				Lg		Lg	18 06 04.5	
	36nm,0.7s							
MTBS	**Maitube**	**4.09**	**27**	*e*P		**Pb**	**18 05 09.3**	**+1.0**
	9.7nm,0.5s							
MTBS	

	36nm,0.6s								
CHKK	**Chushkaly**	**4.92**	**27**	*e*P		**Pb**	**18 05 23.8**	**+1.4**	
	4.9nm,0.5s								
CHKK				*e*S		**Sg**	**18 06 31.4**	**-2.2**	
	13nm,0.4s								
CHKK	**Chushkaly**	**4.92**	**27**	Pg		**Pb**	**18 05 23.8**	**+1.4**	
	4.9nm,0.5s								
CHKK				Lg		Lg	18 06 31.4		
	13nm,0.4s								
KURS	**Kuram**	**5.11**	**38**	*e*P		**Pb**	**18 05 28.1**	**+2.4**	
KURS				*e*S		**Sg**	**18 06 38.6**	**-1.1**	
KURS	**Kuram**	**5.11**	**38**	Pg		**Pb**	**18 05 28.1**	**+2.4**	
UZB	**Uzynbulak**	**5.31**	**45**	*e*P		**Pb**	**18 05 29.8**	**+0.8**	
	3.2nm,0.5s								
UZB				*e*S		**Sg**	**18 06 41.8**	**-4.2**	
	7.4nm,0.8s								
UZB	**Uzynbulak**	**5.31**	**45**	Pg		**Pb**	**18 05 29.8**	**+0.8**	
	3.2nm,0.5s								
UZB				Lg		Lg	18 06 41.8		
	7.4nm,0.8s								
KPKS	**Kokpek**	**5.35**	**41**	*e*P		**Pb**	**18 05 31.1**	**+1.4**	
	2.6nm,0.4s								
KPKS				*e*S		**Sg**	**18 06 43.9**	**-3.4**	
	24nm,0.6s								
KPKS	**Kokpek**	**5.35**	**41**	Pg		**Pb**	**18 05 31.1**	**+1.4**	
	2.6nm,0.4s								
KPKS				Lg		Lg	18 06 43.9		
	24nm,0.6s								
BTLS	**Baital**	**5.53**	**1**	*e*P		Pb	18 05 36.9	+4.2	
	4.6nm,0.5s								
BTLS				*e*S		**Sg**	**18 06 53.6**	**+0.6**	
	13nm,0.4s								
SHLS	**Shalkode**	**5.56**	**47**	*e*P		Pb	18 05 38.7	+5.4	
	3.4nm,0.4s								
SHLS				*e*S		**Sg**	**18 06 57.5**	**+3.4**	
	13nm,0.9s								
SHLS	**Shalkode**	**5.56**	**47**	Pg		Pb	18 05 38.7	+5.4	
	3.4nm,0.4s								
PDGK	**Podgornoye**	**5.68**	**46**	Pg		**Pb**	**18 05 37.9**	**+2.5**	
PDGK	**Podgornoye**	**5.68**	**46**	⇓Pn		Pn	18 05 25.1	+4.1	
	6.1nm,0.7s								
PDGK				⇓Lg		Lg	18 06 57.2		
	28nm,0.8s								
OTUK	**Ortayu**	**8.80**	**353**	⇓Pn		**Pn**	**18 06 03.4**	**-0.3**	
	3.4nm,0.7s								
MKAR	**Makanchi Array**	**9.52**	**37**	Pn		Pn	18 06 09.6	-4.0	
	baz=222,slow=11,SNR=1.7								
MKAR				Lg		Lg	18 08 53.5		
	baz=219,slow=23,SNR=2.1								
	0.3nm,0.7s								
GEYT	**Alibeck**	**12.42**	**268**	Pn		Pn	18 06 45.3	-7.9	
	0.2nm,0.3s,baz=76,slow=15,SNR=1.8								
	0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**16.24**	**24**	Pn		Pn	18 07 37.7	-6.8	
	0.1nm,0.3s,baz=206,slow=9.6,SNR=1.6								
	0.4nm,0.3s								
SONM	**Songino Array**	**24.80**	**60**	P		P	18 09 11.5	-7.3	
	0.2nm,0.6s,baz=258,slow=7.2,SNR=1.3								
	0.2nm,0.6s								
FINES	**FINESS Array B**	**36.35**	**323**	P		**P**	**18 10 56.2**	**-4.2**	
	0.5nm,0.4s,baz=111,slow=7.6,SNR=6.7								
	0.5nm,0.4s								
ARCES	**ARCESS Array B**	**39.29**	**335**	P		P	18 11 20.4	-4.9	
	2.1nm,0.9s,baz=113,slow=9.1,SNR=1.8								
	2.1nm,0.9s								
WRA	**Warramunga Arr**	**81.72**	**124**	P		P	18 16 07.1	-8.5	
	0.2nm,0.9s,baz=331,slow=4.9,SNR=1.4								
	0.2nm,0.9s								

TAP 25 18:03:56.6, 23.91N×121.72E, h51km, ML3.5, 12C-21D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.12**	**249**	⇑	*i*	P	Pn	18 04 04.7	+0.1
	baz=267								
TEYL						S	Sn	18 04 11.1	+0.8
	baz=267								
HWA	**Hwalien**	**0.12**	**303**		*i*	P	Pn	18 04 04.7	+0.1
	baz=305								
HWA						*e*S	Sn	18 04 11.0	+0.7
	baz=305								
TWD	**Chiawan**	**0.20**	**327**	⇓	*i*	P	Pn	18 04 05.1	0.0
	baz=329								
TWD						S	Sn	18 04 11.2	+0.1
	baz=329								
ETM	**Tongmen**	**0.21**	**285**		*i*	P	Pn	18 04 05.2	0.0
	baz=285								
ETM						S	Sn	18 04 11.3	+0.1
	baz=285								
TEGC	**Jichi Village**	**0.26**	**219**	⇑	*i*	P	Pn	18 04 05.4	-0.1
	baz=218								
TEGC						*e*S	Sn	18 04 12.3	+0.6
	baz=218								
ETL	**Fush Village**	**0.26**	**341**	⇓	*i*	P	Pn	18 04 05.5	-0.1
	baz=341								
ETL						*e*S	Sn	18 04 12.3	+0.3
	baz=341								
ESL	**Shilin**	**0.28**	**250**	⇑	*i*	P	Pn	18 04 05.4	-0.2
	baz=249								
ESL						S	Sn	18 04 11.8	-0.3
	baz=249								
EGFH	**Guangfu**	**0.36**	**228**	⇑	*i*	P	Pn	18 04 06.0	-0.4
	baz=228								
EGFH						*e*S	Sn	18 04 12.9	-0.4
	baz=228								
ETLH	**Xiulin Townshi**	**0.37**	**324**	⇓	*i*	P	Pn	18 04 06.6	0.0
	baz=324								
ETLH						*i* S	Sn	18 04 13.7	0.0
	baz=324								
WHF	**Hehuan Shan**	**0.47**	**300**	⇓	*i*	P	Pn	18 04 08.3	+0.2
	baz=300								
WHF						S	Sn	18 04 16.6	+0.2
	baz=300								
HGSD	**Ruisui**	**0.49**	**213**	⇑	*i*	P	Pn	18 04 07.7	-0.2
	baz=213								
HGSD						*e*S	Sn	18 04 16.8	+0.9
	baz=213								
ENA	**Nanau**	**0.52**	**2**	⇓		P	Pn	18 04 08.3	+0.1
	baz=3.0								
ENA						*e*S	Sn	18 04 17.2	+0.7
	baz=3.0								
CHGB	**Renai**	**0.52**	**287**	⇓	*i*	P	Pn	18 04 09.0	+0.6
	baz=287								
CHGB						*i* S	Sn	18 04 17.5	+0.6
	baz=287								
EWUT	**Wuta**	**0.54**	**6**	⇓	*e*	P	Pn	18 04 07.2	-1.2
	baz=6.0								
EWUT						*e*S	Sn	18 04 15.9	-1.0
	baz=6.0								
EHY	**Hungye**	**0.54**	**222**	⇑	*i*	P	Pn	18 04 07.7	-0.7
	baz=221								
EHY						*e*S	Sn	18 04 15.9	-1.0
	baz=221								
FUSS	**Fushou**	**0.55**	**308**	⇓	*i*	P	Pn	18 04 09.4	+0.6
	baz=308								
FUSS						*e*S	Sn	18 04 18.3	+0.8
	baz=308								
VWDT	**VWDT**	**0.55**	**254**	⇑	*i*	P	Pn	18 04 09.1	+0.5
	baz=254								
VWDT						*e*S	Sn	18 04 17.5	+0.4
	baz=254								
WUSB	**Renai**	**0.56**	**279**	⇓	*i*	P	Pn	18 04 09.4	+0.6
	baz=279								
WUSB						S	Sn	18 04 18.2	+0.8
	baz=279								
NNSB	**Datong**	**0.60**	**330**	⇓	*i*	P	Pn	18 04 09.9	+0.5
	baz=329								
NNSB						*e*S	Sn	18 04 19.1	+0.6
	baz=329								
NNSH	**Datong**	**0.60**	**330**	⇓	*i*	P	Pn	18 04 08.8	-0.5
	baz=329								
NNSH						*e*S	Sn	18 04 18.2	-0.2
	baz=329								
TWT	**Tachien**	**0.60**	**305**		*i*	P	Pn	18 04 10.3	+1.0
	baz=304								
TWT						*e*S	Sn	18 04 19.6	+1.1
	baz=304								
NNS	**Nan Shan**	**0.61**	**329**	⇓	*i*	P	Pn	18 04 09.1	-0.5
	baz=330								
NNS						*e*S	Sn	18 04 18.8	+0.1
	baz=330								
TDCB	**Techi**	**0.61**	**304**			P	Pn	18 04 10.4	+0.9
	baz=304								
TDCB						*e*S	Sn	18 04 19.6	+0.8
	baz=304								
ECBN	**Changbin**	**0.64**	**203**		*e*	P	Pn	18 04 08.2	-1.4
	baz=202								
ECBN						*e*S	Sn	18 04 17.8	-1.2
	baz=202								
YULB	**Yu-li**	**0.64**	**217**	⇑	*i*	P	Pn	18 04 08.9	-0.8
	baz=217								
YULB						*e*S	Sn	18 04 17.8	-1.3
	baz=217								
LATG	**Datong**	**0.65**	**344**	⇓	*i*	P	Pn	18 04 10.3	+0.4
	baz=344								
LATG						*e*S	Sn	18 04 20.1	+0.6
	baz=344								
EYUL	**Yuli**	**0.67**	**213**	⇑		P	Pn	18 04 09.6	-0.5
	baz=213								
EYUL						*e*S	Sn	18 04 20.9	+1.2
	baz=213								
TWF1	**Yuli**	**0.68**	**215**	⇑	*i*	P	Pn	18 04 09.4	-0.7
	baz=214								
TWF1						*e*S	Sn	18 04 18.7	-1.2
	baz=214								
WPL	**Puli Township**	**0.70**	**279**			P	Pn	18 04 11.3	+0.8
	baz=278								
WPL						*e*S	Sn	18 04 22.1	+1.5
	baz=278								
TWC	**Suao**	**0.71**	**10**	⇓	*i*	P	Pn	18 04 11.3	+0.8
	baz=11								
TWC						*e*S	Sn	18 04 21.8	+1.3
	baz=11								
SSLB	**Suanglung**	**0.71**	**260**		*i*	P	Pn	18 04 11.0	+0.4
	baz=260								
SSLB						*e*S	Sn	18 04 21.1	+0.4
	baz=260								
NDS	**Dongshan**	**0.72**	**360**		*e*	P	Pn	18 04 10.4	-0.3
	baz=360								
NDS						*e*S	Sn	18 04 21.4	+0.5
	baz=360								
DPDB	**Guoxing**	**0.73**	**280**		*e*	P	Pn	18 04 11.9	+1.0
	baz=280								
ENTT	**Nioudou**	**0.74**	**349**	⇓	*i*	P	Pn	18 04 10.6	-0.4
	baz=350								
ENTT						*e*S	Sn	18 04 21.6	+0.2
	baz=350								
SMLT	**Sun Moon Lake**	**0.75**	**268**		*i*	P	Pn	18 04 12.0	+0.8
	baz=268								
SMLT						*e*S	Sn	18 04 22.4	+0.7
	baz=268								
WCS	**Beigang Elemen**	**0.75**	**281**	⇓	*e*	P	Pn	18 04 11.1	0.0
	baz=281								
WCS						*e*S	Sn	18 04 22.1	+0.5
	baz=281								
TYC	**Yuchr**	**0.79**	**270**		*e*	P	Pn	18 04 12.4	+0.9
	baz=270								
TYC						*e*S	Sn	18 04 23.4	+1.0
	baz=270								
WHP	**Taichung City**	**0.80**	**298**		*e*	P	Pn	18 04 12.9	+1.2
	baz=298								
WHP						*e*S	Sn	18 04 24.9	+2.2
	baz=298								
FULB	**Fuli**	**0.81**	**209**		*e*	P	Pn	18 04 11.8	-0.1
	baz=209								
FULB						*e*S	Sn	18 04 23.7	+0.8
	baz=209								
TWE	**Neicheng**	**0.81**	**357**	⇓		P	Pn	18 04 12.7	+0.8
	baz=358								
TWE						*e*S	Sn	18 04 24.3	+1.3
	baz=358								
YUS	**Yu-Shan**	**0.82**	**239**		*e*	P	Pn	18 04 12.8	+0.4
	baz=239								
YUS						*e*S	Sn	18 04 23.9	0.0
	baz=239								
WHYT	**Xinyi Township**	**0.82**	**255**	⇑		P	Pn	18 04 13.0	+1.0
	baz=255								
WHYT						*e*S	Sn	18 04 24.3	+1.1
	baz=255								
YHNB	**Yeheng**	**0.82**	**338**	⇓		P	Pn	18 04 13.0	+0.9
	baz=338								
YHNB						*e*S	Sn	18 04 24.4	+1.1
	baz=338								
NSK	**Sanguang**	**0.83**	**337**	⇓		P	Pn	18 04 12.1	-0.1
	baz=337								
NSK						*e*S	Sn	18 04 23.6	0.0
	baz=337								
FUSB	**Fushanzhiwuyua**	**0.85**	**352**		*e*	P	Pn	18 04 13.2	+0.7
	baz=352								
FUSB						*e*S	Sn	18 04 25.3	+1.2
	baz=352								
CHKT	**Chengkung**	**0.87**	**202**		*e*	P	Pn	18 04 11.7	-0.9
	baz=201								
CHKT						*e*S	Sn	18 04 22.7	-1.6
	baz=201								
NWLT	**Wulai**	**0.89**	**347**		*e*	P	Pn	18 04 12.9	-0.1
	baz=347								
NWLT						*e*S	Sn	18 04 24.8	-0.1
	baz=347								
NFF	**Wufeng Townshi**	**0.90**	**323**		*e*	P	Pn	18 04 13.6	+0.4
	baz=323								
NFF						*e*S	Sn	18 04 27.3	+2.0
	baz=323								
WJS	**Zhushan**	**0.91**	**265**		*e*	P	Pn	18 04 14.9	+1.7
	baz=265								
WJS						*e*S	Sn	18 04 27.7	+2.4
	baz=265								
ALS	**Alishan**	**0.93**	**245**		*e*	P	Pn	18 04 14.7	+1.0
	baz=244								
ALS						*e*S	Sn	18 04 27.2	+1.0
	baz=244								
ECS	**Chishang**	**0.93**	**210**		*e*	P	Pn	18 04 12.7	-0.8
	baz=209								
ECS						*e*S	Sn	18 04 25.6	-0.3
	baz=209								
WWF	**Wufeng**	**0.94**	**278**		*e*	P	Pn	18 04 14.8	+1.2
	baz=278								
WWF						*e*S	Sn	18 04 29.0	+2.9
	baz=278								
WNT	**Mingjian**	**0.95**	**268**		*e*	P	Pn	18 04 15.6	+1.9
	baz=268								
WNT						*e*S	Sn	18 04 29.0	+2.8
	baz=268								
WNT1	**Nantou City**	**0.95**	**270**		*e*	P	Pn	18 04 15.8	+2.1
	baz=270								
WNT1						*e*S	Sn	18 04 29.8	+3.6
	baz=270								
ELDTW	**Lidau**	**0.96**	**222**	⇑	*e*	P	Pn	18 04 13.4	-0.6
	baz=221								
ELDTW						*e*S	Sn	18 04 25.9	-0.8
	baz=221								
TWQ1	**Liyutan**	**0.97**	**297**		*e*	P	Pn	18 04 15.6	+1.7
	baz=297								
TWQ1						*e*S	Sn	18 04 29.7	+3.0
	baz=297								
NSTT	**Nanjuang**	**0.97**	**318**	⇓	*e*	P	Pn	18 04 16.1	+2.1
	baz=318								
NSTT						*e*S	Sn	18 04 30.2	+3.4
	baz=318								
LIOB	**Emei**	**0.97**	**319**		*e*	P	Pn	18 04 16.2	+2.1
	baz=319								
LIOB						*e*S	Sn	18 04 31.3	+4.4
	baz=319								
TCU	**Taichung**	**0.98**	**284**	⇓	*e*	P	Pn	18 04 16.2	+2.1
	baz=284								
TCU						*e*S	Sn	18 04 30.3	+3.3
	baz=284								
CHN5	**Tsauling**	**1.00**	**252**		*e*	P	Pn	18 04 14.8	+0.3
	baz=252								
CHN5						*e*S	Sn	18 04 29.2	+1.5
	baz=252								
NJD	**Zhudong**	**1.00**	**325**		*e*	P	Pn	18 04 16.8	+2.4
	baz=325								
NJD						*e*S	Sn	18 04 30.9	+3.3
	baz=325								
EDH	**Donghe**	**1.01**	**202**		*e*	P	Pn	18 04 13.7	-0.8
	baz=202								
EDH						*e*S	Sn	18 04 26.4	-1.3
	baz=202								
NSY	**Sanyi**	**1.01**	**300**		*e*	P	Pn	18 04 16.4	+1.9
	baz=300								
NSY						*e*S	Sn	18 04 31.2	+3.5
	baz=300								
WYL	**Yuanlin Townsh**	**1.04**	**273**		*e*	P	Pn	18 04 17.1	+2.2
	baz=273								
WYL						*e*S	Sn	18 04 32.3	+3.9
	baz=273								
NMLH	**Miaoli**	**1.05**	**307**		*e*	P	Pn	18 04 16.8	+1.7
	baz=306								
NMLH						*e*S	Sn	18 04 31.3	+2.6
	baz=306								
TIPB	**Shuangxi**	**1.06**	**5**		*e*	P	Pn	18 04 16.9	+1.6
	baz=5.0								
TIPB						*e*S	Sn	18 04 31.3	+2.2
	baz=5.0								
NHDH	**Xindian Distri**	**1.06**	**351**		*e*	P	Pn	18 04 16.4	+1.2
	baz=351								
NHDH						*e*S	Sn	18 04 31.2	+2.2
	baz=351								
TWA	**Mucha**	**1.07**	**354**		*e*	P	Pn	18 04 16.7	+1.3
	baz=354								
TWA						*e*S	Sn	18 04 30.8	+1.5
	baz=354								
WCHH	**Zhanghua**	**1.07**	**279**		*e*	P	Pn	18 04 17.2	+1.8
	baz=279								
WCHH						*e*S	Sn	18 04 32.4	+3.2
	baz=279								
HSN1	**Hsinchu**	**1.07**	**324**		*e*	P	Pn	18 04 17.6	+2.2
	baz=324								
WDJ	**Dajia District**	**1.08**	**294**		*e*	P	Pn	18 04 17.0	+1.6
	baz=294								
WDJ						*e*S	Sn	18 04 32.6	+3.3
	baz=294								
WGK	**Gukeng**	**1.08**	**258**		*e*	P	Pn	18 04 17.1	+1.7
	baz=258								
WGK						*e*S	Sn	18 04 32.5	+3.1
	baz=258								
TATO	**Taipei**	**1.08**	**349**		*e*	P	Pn	18 04 16.7	+1.2
	baz=349								
NJN	**Zhunan**	**1.09**	**315**		*e*	P	Pn	18 04 17.4	+1.8
	baz=315								
WDLH	**Douliu**	**1.10**	**259**		*e*	P	Pn	18 04 17.5	+1.8
	baz=259								
WDLH						*e*S	Sn	18 04 33.1	+3.1
	baz=259								
SBCB	**Hsinchu**	**1.10**	**323**		*e*	P	Pn	18 04 17.7	+1.9
	baz=323								
WCKO	**Fanlu**	**1.12**	**246**		*e*	P	Pn	18 04 16.9	+0.8
	baz=245								
WCKO						*e*S	Sn	18 04 32.2	+1.8
	baz=245								
LONT	**Longtian**	**1.13**	**209**		*e*	P	Pn	18 04 15.0	-1.2
	baz=208								
LONT						*e*S	Sn	18 04 29.5	-1.2
	baz=208								
STYH	**Taoyuan**	**1.13**	**230**		*e*	P	Pn	18 04 16.0	-0.2
	baz=230								
STYH						*e*S	Sn	18 04 30.9	+0.2
	baz=230								
STYT	**Tauyuan**	**1.15**	**230**		*e*	P	Pn	18 04 17.3	+0.8
	baz=230								
STYT						*e*S	Sn	18 04 32.6	+1.4
	baz=230								
NWF	**Wu-fen Shan**	**1.16**	**3**		*e*	P	Pn	18 04 18.5	+1.9
	baz=3.0								
NWF						*e*S	Sn	18 04 34.2	+2.7
	baz=3.0								
WFSB	**Wu-fen Shan**	**1.16**	**3**		*e*	P	Pn	18 04 18.2	+1.7
	baz=3.0								
WFSB						*e*S	Sn	18 04 34.3	+3.0
	baz=3.0								
TPUB	**Ta-pu**	**1.17**	**239**		*e*	P	Pn	18 04 17.9	+1.2
	baz=239								
TPUB						*e*S	Sn	18 04 34.0	+2.5
	baz=239								
CHN4	**Tsaushan**	**1.17**	**242**		*e*	P	Pn	18 04 17.2	+0.5
	baz=242								
CHN4						*e*S	Sn	18 04 33.3	+1.7
	baz=242								
SXI1	**Grass Mountain**	**1.19**	**7**		*e*	P	Pn	18 04 17.6	+0.6
	baz=7.0								
CHN2	**Minshiung**	**1.20**	**252**		*e*	P	Pn	18 04 19.8	+2.7
	baz=252								
CHN2						*e*S	Sn	18 04 36.1	+3.8
	baz=252								
WTP	**Ta-pu**	**1.21**	**237**		*e*	P	Pn	18 04 18.6	+1.3
	baz=237								
WTP						*e*S	Sn	18 04 35.1	+2.6
	baz=237								
TWS1	**Kuangyinshan**	**1.22**	**347**		*e*	P	Pn	18 04 19.0	+1.6
	baz=347								
TWS1						*e*S	Sn	18 04 35.5	+2.7
	baz=347								
WRL	**Guolierlin Hig**	**1.23**	**270**		*e*	P	Pn	18 04 18.1	+0.6
	baz=270								
WRL						*e*S	Sn	18 04 34.9	+1.9
	baz=270								
TWGBT	**Beinan**	**1.23**	**208**		*e*	P	Pn	18 04 16.1	-1.5
	baz=208								
TWGBT						*e*S	Sn	18 04 31.0	-2.2
	baz=208								
TWG	**Pinlang**	**1.23**	**209**		*e*	P	Pn	18 04 16.1	-1.5
	baz=208								
TWG						*e*S	Sn	18 04 30.8	-2.3
	baz=208								
WTK	**Tuku**	**1.24**	**260**		*e*	P	Pn	18 04 19.9	+2.3
	baz=260								
YM01	**YM01**	**1.24**	**354**		*e*	P	Pn	18 04 18.5	+0.8
	baz=354								
YM01						*e*S	Sn	18 04 34.8	+1.5
	baz=354								
LDUT	**Ludao**	**1.25**	**191**		*e*	P	Pn	18 04 16.1	-1.7
	baz=190								
LDUT						*e*S	Sn	18 04 30.9	-2.6
	baz=190								
NHW	**Xinwu Township**	**1.25**	**331**		*e*	P	Pn	18 04 18.7	+0.9
	baz=331								
CHY	**Chiayi**	**1.25**	**251**		*e*	P	Pn	18 04 19.6	+1.7
	baz=251								
CHY						*e*S	Sn	18 04 36.3	+2.7
	baz=251								
TWK	**Hsinying**	**1.30**	**241**		*e*	P	Pn	18 04 19.8	+1.4
	baz=240								
TWK						*e*S	Sn	18 04 37.6	+2.8
	baz=240								
YOJ	**Yonaguni jima**	**1.30**	**65**		*e*	P	Pn	18 04 19.1	+0.6
	baz=65								
YOJ						*e*S	Sn	18 04 34.3	-0.5
	baz=65								
CHN1	**Nanshi**	**1.31**	**237**		*e*	P	Pn	18 04 19.9	+1.3
	baz=237								
CHN1						*e*S	Sn	18 04 37.5	+2.5
	baz=237								
WTCT	**Ta-ch'eng**	**1.31**	**268**		*e*	P	Pn	18 04 20.3	+1.7
	baz=268								
WTCT						*e*S	Sn	18 04 38.9	+3.9
	baz=268								
SGST	**Jiashian**	**1.33**	**232**		*e*	P	Pn	18 04 19.5	+0.7
	baz=231								
SGST						*e*S	Sn	18 04 37.0	+1.6
	baz=231								
SLGT	**Liugui**	**1.34**	**227**		*e*	P	Pn	18 04 20.3	+1.3
	baz=227								
WSF	**Szhu**	**1.40**	**259**		*e*	P	Pn	18 04 21.8	+2.0
	baz=259								
WSF						*e*S	Sn	18 04 40.3	+3.3
	baz=259								
WSL	**Shuilin Townsh**	**1.42**	**255**		*e*	P	Pn	18 04 20.5	+0.5
	baz=254								
WSL						*e*S	Sn	18 04 39.1	+1.5
	baz=254								
ECL	**Taimali**	**1.48**	**208**		*e*	P	Pn	18 04 19.4	-1.6
	baz=208								
ECL						*e*S	Sn	18 04 37.4	-1.8
	baz=208								
CHN8	**Yiju**	**1.49**	**248**		*e*	P	Pn	18 04 22.3	+1.3
	baz=248								
CHN8						*e*S	Sn	18 04 41.9	+2.6
	baz=248								
SSD	**Sandimen**	**1.53**	**221**		*e*	P	Pn	18 04 22.3	+0.7
	baz=220								
SSD						*e*S	Sn	18 04 42.8	+2.5
	baz=220								
TSMG	**Majia**	**1.55**	**220**		*e*	P	Pn	18 04 23.5	+1.6
	baz=219								
TWM1	**Shoushan**	**1.61**	**228**		*e*	P	Pn	18 04 21.8	-0.9
	baz=228								
MASBT	**Mashibuluo**	**1.63**	**218**		*e*	P	Pn	18 04 23.4	+0.5
	baz=218								
MASBT						*e*S	Sn	18 04 45.0	+2.2
	baz=218								
EAST	**Anshuo**	**1.72**	**208**		*e*	P	Pn	18 04 23.3	-

PNG eS Sn 18 04 53.2 +1.1
baz=260

*IDC **25** 18:06:46.0±25.0, 38.°50N×74.°07E, h0km, mb3.9/1, mbtmp3.5/3, ML2.9/2, MS3.0/1, Error ellipse: s-maj=437.9km s-min=44.1km az=159.0*
*SOME **25** 18:06:48.0, 39.°03N×74.°00E, h10km*
*KRNET **25** 18:06:50.5±0.1, 39.°18N×74.°07E, mb4.0*
*NNC **25** 18:06:55.2±1.6, 39.°37N×74.°06E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=11.5km s-min=6.0km az=175.0*
ISC 25 18:06:55.3±1.2, 39.°45N±0.°06×73.°91E±0.°03, h10km, n54, σ2ˢ48/77, 16C-24D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.38**	**322**	⇑*e*P	**Pb**	**18 07 21.0**	**-0.3**
	baz=24						
OHH				⇑*e*S	**Sg**	**18 07 43.4**	**+3.7**
	baz=24						
DRK	**Karamyk**	**1.63**	**272**	⇓*e*P	**Pn**	**18 07 23.1**	**-1.3**
	baz=81						
DRK				⇓*e*S	**Sb**	**18 07 47.2**	**+0.7**
	baz=81						
ARLS	**Aral**	**2.43**	**7**	⇑*e*P	**Pn**	**18 07 36.1**	**+0.8**
	baz=4.0						
ARLS				⇑*e*S	**Sb**	**18 08 09.3**	**0.0**
	baz=4.0						
BTK	**Batken**	**2.46**	**285**	⇑*e*P	**Pn**	**18 07 35.7**	**+0.1**
	baz=90						
BTK				⇑*e*S	**Sb**	**18 08 08.6**	**-1.5**
	baz=90						
NRN	**Naryn**	**2.55**	**38**	⇓*e*P	**Pn**	**18 07 36.0**	**-1.0**
	baz=32						
NRN				⇓*e*S	**Sn**	**18 08 09.1**	**+0.9**
	baz=32						
AML	**Almayashu**	**2.69**	**357**	P	**Pb**	**18 07 42.5**	**-1.2**
	SNR=28						
ARK	**Arkit**	**2.78**	**328**	⇑*e*P	**Pn**	**18 07 41.6**	**+1.6**
	baz=29						
ARK				⇑*e*S	**Sb**	**18 08 18.7**	**-0.5**
	baz=29						
UCH	**Uchtor**	**2.81**	**9**	P	**Pb**	**18 07 45.4**	**-0.6**
	SNR=48						
UCH	**Uchtor**	**2.81**	**9**	⇓*e*P	**Pn**	**18 07 41.6**	**+0.8**
	baz=6.0						
UCH				⇓*e*S	**Sb**	**18 08 18.7**	**-2.0**
	baz=6.0						
TRKS	**Terek-Say**	**2.96**	**315**	⇓*e*P	**Pn**	**18 07 42.9**	**+0.3**
	baz=17						
TRKS				⇓*e*S	**Sn**	**18 08 21.2**	**+2.9**
	baz=17						
EKS2	**Erkin-Say**	**3.21**	**358**	P	**Pb**	**18 07 51.6**	**-0.9**
	SNR=22						
AAK	**Ala-Archa**	**3.22**	**8**	P	**Pb**	**18 07 50.8**	**-1.8**
	SNR=19						
AAK	**Ala-Archa**	**3.22**	**8**	LR	LR	18 09 42.2	
	comp=Z,204nm,20.4s,baz=136,slow=42						
AAK	**Ala-Archa**	**3.22**	**8**	⇑*e*P	**Pn**	**18 07 47.0**	**+0.9**
	baz=5.0						
AAK				⇑*e*S	**Sn**	**18 08 28.2**	**+3.7**
	baz=5.0						
KBK	**Karagaybulak**	**3.30**	**13**	P	**Pb**	**18 07 52.6**	**-1.5**
	SNR=13						
KBK	**Karagaybulak**	**3.30**	**13**	⇓*e*P	**Pn**	**18 07 47.9**	**+0.7**
	baz=11						
KBK				⇓*e*S	**Sn**	**18 08 29.7**	**+3.1**
	baz=11						
ULHL	**Ulahol**	**3.31**	**32**	P	**Pg**	**18 07 57.6**	**-1.1**
	SNR=8.2						
ULHL	**Ulahol**	**3.31**	**32**	⇓*e*P	**Pn**	**18 07 47.0**	**-0.4**
	baz=28						
ULHL				⇓*e*S	**Sn**	**18 08 28.2**	**+1.3**
	baz=28						
MRKS	**Merke**	**3.33**	**351**	*e*P	**Pg**	**18 07 57.1**	**-2.1**
	45nm,0.4s						
MRKS				*e*S	**Sg**	**18 08 44.0**	**+1.6**
	54nm,0.6s						
MRKS	**Merke**	**3.33**	**351**	Pg	**Pg**	**18 07 57.3**	**-1.9**
	45nm,0.6s						
MRKS				Lg	Lg	18 08 44.0	
	54nm,0.6s						
FRU1	**Bishkek**	**3.40**	**9**	⇓*e*P	**Pn**	**18 07 49.8**	**+1.3**
	baz=7.0						
FRU1				⇓*e*S	**Sn**	**18 08 33.1**	**+4.1**
	baz=7.0						
CHMS	**Chumysh**	**3.60**	**10**	⇓Pg	**Pb**	**18 07 59.6**	**+0.5**
	18nm,0.9s						
CHMS				⇑Lg	Lg	18 08 50.6	
	24nm,0.6s						
TKM2	**Tokmak 2**	**3.70**	**20**	⇑Pg	**Pb**	**18 08 01.0**	**+0.1**
	27nm,0.9s						
TKM2				⇓Lg	Lg	18 08 52.3	
	16nm,0.6s						
USP	**Ospenovka**	**3.84**	**6**	P	**Pb**	**18 08 00.2**	**-3.0**
	SNR=5.6						
KST	**Kastek**	**3.91**	**23**	*e*P	**Pg**	**18 08 07.8**	**-2.5**
	13nm,0.4s						
KST				*e*S	**Sg**	**18 09 02.0**	**+1.1**
	37nm,0.6s						
KST	**Kastek**	**3.91**	**23**	Pg	**Pg**	**18 08 07.8**	**-2.5**
	13nm,0.4s						
KST				Lg	Lg	18 09 02.7	
	37nm,0.8s						
IUG	**Iuzhnay**	**3.99**	**314**	*e*P	**Pg**	**18 08 09.5**	**-2.3**
	28nm,0.3s						
IUG				*e*S	**Sg**	**18 09 05.6**	**+2.1**
	61nm,0.6s						
IUG	**Iuzhnay**	**3.99**	**314**	Pg	**Pg**	**18 08 09.5**	**-2.3**
	28nm,0.3s						
IUG				Lg	Lg	18 09 05.6	
	61nm,0.6s						
SGDS	**Sogindy**	**4.04**	**7**	*e*P	**Pg**	**18 08 09.6**	**-3.1**
	16nm,0.7s						
SGDS				*e*S	**Sg**	**18 09 05.2**	**+0.2**
	24nm,1.0s						
SGDS	**Sogindy**	**4.04**	**7**	Pg	**Pg**	**18 08 09.6**	**-3.1**
	15nm,0.5s						
SGDS				Lg	Lg	18 09 06.0	
	24nm,1.0s						
MTBS	**Maitube**	**4.14**	**26**	*e*P	**Pg**	**18 08 11.8**	**-2.8**
	16nm,0.6s						
MTBS				*e*S	**Sg**	**18 09 08.8**	**+0.5**
	19nm,0.5s						
MTBS	**Maitube**	**4.14**	**26**	Pg	**Pg**	**18 08 11.8**	**-2.8**
	16nm,0.6s						
MTBS				Lg	Lg	18 09 08.8	
	19nm,0.5s						
TNSS	**Tian-Shan**	**4.25**	**32**	*e*P	**Pg**	**18 08 14.3**	**-2.5**
	22nm,0.6s						
TNSS				*e*S	**Sg**	**18 09 13.1**	**+1.1**
	7.0nm,0.5s						
TNSS	**Tian-Shan**	**4.25**	**32**	Pg	**Pg**	**18 08 14.3**	**-2.5**
	22nm,0.6s						
TNSS				Lg	Lg	18 09 13.1	
	7.0nm,0.5s						
MDOK	**Medeo**	**4.40**	**31**	*e*P	**Pg**	**18 08 16.1**	**-3.5**
	27nm,1.0s						
MDOK				*e*S	**Sg**	**18 09 16.6**	**0.0**
	23nm,0.8s						
MDOK	**Medeo**	**4.40**	**31**	⇑Pg	**Pb**	**18 08 15.4**	**+2.6**
	34nm,0.8s						
MDOK				Pg	**Pg**	**18 08 16.1**	**-3.5**
	27nm,1.0s						
MDOK				⇑Lg	Lg	18 09 16.1	
	27nm,0.8s						
MDOK				Lg	Lg	18 09 16.6	
	23nm,0.8s						
KK31	**Karatay Array**	**4.46**	**326**	⇓Pn	**Pn**	**18 08 06.9**	**+3.9**
	3.0nm,0.4s,baz=192,slow=49,SNR=17						
KK31				Pg	**Pg**	**18 08 18.1**	**-2.7**
	4.4nm,0.5s,baz=142,slow=15,SNR=5.0						
KK31				⇓Sn	**Sb**	**18 09 02.4**	**-5.2**
	8.6nm,0.5s,baz=140,slow=21,SNR=3.3						
KK31				⇓Lg	Lg	18 09 19.2	
	15nm,0.6s						
KUU	**Kurty**	**4.80**	**21**	*e*P	**Pg**	**18 08 23.5**	**-3.8**
	15nm,0.7s						
KUU				*e*S	**Sg**	**18 09 29.1**	**-0.3**
	24nm,0.7s						
KUU	**Kurty**	**4.80**	**21**	Pg	**Pg**	**18 08 23.5**	**-3.8**
	15nm,0.7s						
KUU				Lg	Lg	18 09 29.1	
	24nm,0.7s						
KURS	**Kuram**	**5.15**	**37**	*e*P	**Pg**	**18 08 29.5**	**-4.5**
	11nm,0.9s						
KURS				*e*S	**Sg**	**18 09 39.4**	**-1.3**
	14nm,1.4s						
KURS	**Kuram**	**5.15**	**37**	Pg	**Pg**	**18 08 29.5**	**-4.5**
	11nm,0.9s						
KURS				Lg	Lg	18 09 39.4	
	14nm,1.4s						
UZB	**Uzynbulak**	**5.34**	**45**	*e*P	**Pg**	**18 08 32.9**	**-4.6**
	4.6nm,0.7s						
UZB				*e*S	**Sg**	**18 09 44.9**	**-1.7**
	12nm,1.1s						
UZB	**Uzynbulak**	**5.34**	**45**	Pg	**Pg**	**18 08 32.9**	**-4.6**
	4.6nm,0.7s						
UZB				Lg	Lg	18 09 44.9	
	12nm,1.1s						
KPKS	**Kokpek**	**5.38**	**40**	*e*P	**Pg**	**18 08 34.4**	**-4.1**
	6.9nm,0.5s						
KPKS				*e*S	**Sg**	**18 09 47.3**	**-0.8**
	21nm,0.4s						
KPKS	**Kokpek**	**5.38**	**40**	Pg	**Pb**	**18 08 32.7**	**+3.2**
	7.8nm,0.7s						
KPKS				Lg	Lg	18 09 45.2	
	21nm,0.6s						
SHLS	**Shalkode**	**5.59**	**47**	*e*P	**Pg**	**18 08 41.9**	**-0.4**
	5.5nm,0.5s						
SHLS				*e*S	**Sg**	**18 10 00.3**	**+5.6**
	14nm,0.9s						
SHLS	**Shalkode**	**5.59**	**47**	Pg	**Pg**	**18 08 41.9**	**-0.4**
	5.5nm,0.5s						
PDGK	**Podgornoye**	**5.71**	**45**	⇓Pg	**Pb**	**18 08 37.9**	**+2.7**
	12nm,0.8s						
PDGK				⇓Lg	Lg	18 09 51.6	
	17nm,0.8s						
OTUK	**Ortayu**	**8.87**	**353**	⇓Lg	Lg	18 11 38.7	
	15nm,1.1s						
MKAR	**Makanchi Array**	**9.56**	**37**	Pn	**Pn**	**18 09 15.2**	**+2.2**
	0.1nm,0.3s,baz=224,slow=16,SNR=2.4						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**11.64**	**15**	⇓Lg	Lg	18 09 58.4	
	13nm,0.9s						
KURBB				⇑Lg	Lg	18 13 04.2	
	12nm,1.4s						
KURK	**Kurchatov**	**11.74**	**15**	⇑Lg	Lg	18 09 59.7	
	5.8nm,0.9s						
KURK				⇓Lg	Lg	18 13 06.2	
	8.4nm,1.3s						
ZALV	**Zalesovo Beam**	**16.29**	**24**	Pn	**P**	**18 10 48.0**	**+1.0**
	0.2nm,0.3s,baz=207,slow=9.3,SNR=1.7						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**36.41**	**323**	P	**P**	**18 13 58.8**	**-0.9**
	0.8nm,0.5s,baz=115,slow=9.4,SNR=4.7						
	0.8nm,0.5s						

IDC 25 18:15:26.6±107.0, 46.°30S×100.°16E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=1856.0km s-min=161.7km az=67.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.54**	**48**	T	T	18 35 36.1	
	baz=215,slow=74,SNR=9.0						
H01W3	**Cape Leeuwin H**	**15.56**	**48**	T	T	18 35 35.3	
	baz=215,slow=74,SNR=12						
H01W1	**Cape Leeuwin H**	**15.56**	**48**	T	T	18 35 37.0	
	baz=215,slow=74,SNR=16						
STKA	**Stephens Creek**	**34.82**	**80**	P	P	18 22 19.1	-0.1
	1.8nm,0.8s,baz=247,slow=9.4,SNR=1.9						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**35.29**	**62**	P	P	18 22 23.4	0.0
	0.3nm,0.9s,baz=216,slow=7.8,SNR=2.2						
	0.3nm,0.9s						
WRA	**Warramunga Arr**	**38.38**	**58**	P	P	18 22 49.4	-0.2
	0.2nm,0.6s,baz=223,slow=8.6,SNR=2.1						
	0.2nm,0.6s						

*IDC **25** 18:19:28.0±1.8, 39.°02N×74.°32E, h0km, mb3.6/2, mbtmp3.5/5, ML2.7/4, Error ellipse: s-maj=35.5km s-min=19.4km az=88.0*
*KRNET **25** 18:19:35.9±0.1, 39.°48N×73.°78E, mb3.7*
*SOME **25** 18:19:36.7, 39.°72N×73.°77E, h0km*
ISC 25 18:19:30.1±1.7, 39.°31N±0.°06×73.°88E±0.°03, h8km±10km, n30, σ1ˢ52/54, 20C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.48**	**326**	⇑*i*P	**Pg**	**18 20 00.6**	**+2.2**
	baz=24						
OHH				⇑*i*S	**Sn**	**18 20 18.6**	**+2.0**
	baz=24						
DRK	**Karamyk**	**1.62**	**277**	⇑*i*P	Pg	18 20 04.8	+3.6
	baz=71						
DRK				⇑*i*S	**Sg**	**18 20 25.8**	**+3.6**
	baz=71						
BTK	**Batken**	**2.48**	**289**	⇑*i*P	**Pg**	**18 20 17.9**	**+0.3**
	baz=85						
BTK				⇑*i*S	**Sg**	**18 20 48.5**	**-1.1**
	baz=85						
ARLS	**Aral**	**2.57**	**7**	⇑*e*P	**Pg**	**18 20 18.6**	**-0.8**
	baz=10.0						
ARLS				⇑*i*S	**Sb**	**18 20 50.2**	**+1.7**
	baz=10.0						
NRN	**Naryn**	**2.67**	**37**	⇑*i*P	**Pg**	**18 20 21.0**	**-0.4**
	baz=40						
NRN				⇑*i*S	**Sb**	**18 20 54.0**	**+2.5**
	baz=40						
ARK	**Arkit**	**2.88**	**330**	⇑*i*P	**Pg**	**18 20 22.7**	**-2.7**
	baz=30						
ARK				⇑*i*S	**Sb**	**18 20 57.1**	**-0.2**
	baz=30						
UCH	**Uchtor**	**2.96**	**9**	⇓*i*P	**Pb**	**18 20 24.2**	**+0.9**
	baz=11						
UCH				⇓*i*S	**Sb**	**18 20 59.4**	**-0.4**
	baz=11						
TRKS	**Terek-Say**	**3.05**	**318**	⇑*i*P	**Pb**	**18 20 24.3**	**-0.4**
	baz=16						
TRKS				⇑*i*S	**Sb**	**18 20 59.8**	**-2.3**
	baz=16						
EKS2	**Erkin-Say**	**3.35**	**359**	⇑*i*P	**Pb**	**18 20 29.5**	**-0.4**
	baz=0.0						
EKS2				⇑*i*S	**Sb**	**18 21 08.7**	**-2.1**
	baz=0.0						
AAK	**Ala-Archa**	**3.36**	**8**	Pn	**Pb**	**18 20 29.8**	**-0.2**
	3.0nm,0.3s,baz=157,slow=5.0,SNR=4.8						
AAK				Sn	**Sg**	**18 21 14.6**	**-3.4**
	baz=298,slow=17						
AAK				Lg	Lg	18 21 22.5	
	1.4nm,0.3s,baz=162,slow=20,SNR=5.6						
	8.6nm,0.3s						
AAK	**Ala-Archa**	**3.36**	**8**	⇑*i*P	**Pb**	**18 20 30.0**	**0.0**
	baz=10.0						
AAK				⇑*i*S	**Sb**	**18 21 09.3**	**-1.8**
	baz=10.0						
ULHL	**Ulahol**	**3.44**	**31**	⇑*i*P	**Pb**	**18 20 31.6**	**+0.2**
	baz=33						
ULHL				⇑*i*S	**Sb**	**18 21 12.5**	**-1.0**
	baz=33						
MRKS	**Merke**	**3.47**	**352**	*e*P	**Pg**	**18 20 36.7**	**+0.1**
	25nm,0.3s						
MRKS				*e*S	**Sg**	**18 21 22.4**	**+0.8**
	54nm,0.4s						
DZA	**Taraz**	**4.06**	**333**	*e*P	**Pg**	**18 20 46.6**	**-1.4**
	17nm,0.2s						
DZA				*e*S	**Sg**	**18 21 39.5**	**-1.1**
	49nm,0.2s						
IUG	**Iuzhnay**	**4.07**	**315**	*e*P	**Pg**	**18 20 46.8**	**-1.3**
	20nm,0.6s						
IUG				*e*S	**Sg**	**18 21 39.9**	**-1.0**
	39nm,0.7s						
SGDS	**Sogindy**	**4.18**	**8**	*e*P	**Pg**	**18 20 50.2**	**+0.1**
	12nm,0.4s						
SGDS				*e*S	**Sg**	**18 21 45.6**	**+1.3**
	12nm,0.7s						
MTBS	**Maitube**	**4.28**	**26**	*e*P	**Pg**	**18 20 51.9**	**-0.1**
	6.4nm,0.6s						
MTBS				*e*S	**Sg**	**18 21 48.8**	**+1.3**
	16nm,0.8s						
TNSS	**Tian-Shan**	**4.39**	**31**	*e*P	**Pg**	**18 20 54.4**	**+0.2**
	14nm,0.5s						
TNSS				*e*S	**Sg**	**18 21 52.9**	**+1.8**
	10nm,0.7s						
CHM	**Chimkent**	**4.42**	**314**	*e*P	**Pg**	**18 20 53.5**	**-1.3**
	61nm,0.3s						
CHM				*e*S	**Sg**	**18 21 50.8**	**-1.3**
	55nm,0.3s						
MDOK	**Medeo**	**4.53**	**31**	*e*P	**Pg**	**18 20 56.7**	**-0.2**
	5.7nm,0.3s						
MDOK				*e*S	**Sg**	**18 21 57.1**	**+1.4**
	21nm,0.8s						
KUU	**Kurty**	**4.94**	**21**	*e*P	**Pg**	**18 21 03.7**	**-1.0**
	7.4nm,0.6s						
KUU				*e*S	**Sg**	**18 22 09.2**	**+0.5**
	25nm,0.6s						
SATY	**Saty**	**5.07**	**41**	*e*P	**Pg**	**18 21 06.1**	**-1.2**
	13nm,0.9s						
SATY				*e*S	**Sg**	**18 22 13.0**	**0.0**
	24nm,1.5s						
CHKK	**Chushkaly**	**5.11**	**26**	*e*P	**Pg**	**18 21 07.2**	**-0.7**
	6.3nm,0.5s						
CHKK				*e*S	**Sg**	**18 22 14.8**	**+0.8**
	8.2nm,0.3s						
UZB	**Uzynbulak**	**5.46**	**44**	*e*P	**Pg**	**18 21 13.4**	**-1.2**
	2.7nm,0.7s						
UZB				*e*S	**Sg**	**18 22 25.4**	**+0.1**
	7.0nm,0.6s						
KPKS	**Kokpek**	**5.51**	**39**	*e*P	**Pg**	**18 21 13.6**	**-2.0**
	4.9nm,0.8s						
KPKS				*e*S	**Sg**	**18 22 25.6**	**-1.3**
	13nm,0.5s						
MKAR	**Makanchi Array**	**9.69**	**37**	Pn	**Pn**	**18 21 49.4**	**-0.4**
	baz=226,slow=33,SNR=1.4						
MKAR				Lg	Lg	18 24 34.1	
	baz=227,slow=32						
BVAR	**Borovoye Array**	**13.93**	**351**	Pn	**Pn**	**18 22 50.3**	**+2.6**
	baz=168,slow=13,SNR=2.2						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**16.43**	**23**	Pn	**Pn**	**18 23 20.1**	**-0.8**
	0.2nm,0.3s,baz=210,slow=13,SNR=1.7						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**36.51**	**323**	P	**P**	**18 26 37.0**	**+1.4**
	1.9nm,0.9s,baz=106,slow=10,SNR=1.4						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**81.61**	**124**	P	**P**	**18 31 45.9**	**-2.9**
	0.2nm,0.8s,baz=330,slow=5.3,SNR=1.5						
	0.2nm,0.8s						

*IDC **25** 18:22:21.1±1.8, 34.°36N×69.°74E, h0km, mb3.7/7, mbtmp3.7/12, ML3.2/5, MS3.7/2, Error ellipse: s-maj=28.8km s-min=27.8km az=167.0*
ISC 25 18:22:24.1±1.0, 34.°3N±0.°1×69.°7E±0.°1, h24km, n22, σ1ˢ29/21, mb3.7/7, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**9.15**	**23**	Pn	**Pn**	**18 24 37.2**	**+2.5**
	0.9nm,0.3s,baz=174,slow=6.3,SNR=5.9						
AAK				Sn	**Sn**	**18 26 18.3**	**+1.2**
	0.4nm,0.3s,baz=340,slow=22,SNR=2.4						
	2.9nm,0.5s						
GEYT	**Alibeck**	**10.03**	**295**	Pn	**Pn**	**18 24 46.6**	**-0.1**
	0.2nm,0.3s,baz=113,slow=11,SNR=2.4						
	0.9nm,0.5s						
DANN	**Dangsing**	**13.41**	**112**	*e*P	**Pn**	**18 25 34.3**	**+1.1**
	4.7nm,0.2s						
GKN	**Gorkha**	**14.26**	**112**	*e*P	**Pn**	**18 25 45.2**	**+0.6**
	6.5nm,0.3s						
DMN	**Daman**	**14.81**	**113**	*e*P	**Pn**	**18 25 51.9**	**-0.4**
	16nm,0.4s						
KKN	**Kakani**	**14.86**	**112**	*e*P	**Pn**	**18 25 52.5**	**-0.3**
	2.1nm,0.6s						
PKIN	**Phulchoki**	**15.05**	**112**	*e*P	**Pn**	**18 25 54.0**	**-1.5**
	10nm,0.5s						
PKI	**Pulchoki**	**15.06**	**112**	*e*P	**Pn**	**18 25 54.4**	**-1.3**
	9.2nm,0.5s						
GUN	**Gumba**	**15.26**	**110**	*e*P	**Pn**	**18 25 57.6**	**-0.7**
	5.5nm,0.4s						
JIRN	**Jiri**	**15.62**	**111**	*e*P	**Pn**	**18 26 01.6**	**-1.5**
	6.0nm,0.4s						
MKAR	**Makanchi Array**	**15.72**	**34**	Pn	**Pn**	**18 26 03.4**	**-0.6**
	0.1nm,0.3s,baz=211,slow=11,SNR=2.3						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**17.56**	**19**	P	**Pn**	**18 26 25.6**	**-1.5**
	0.1nm,0.3s,baz=211,slow=10,SNR=1.7						
	1.2nm,0.2s						
BVAR	**Borovoye Array**	**18.74**	**1**	P	**P**	**18 26 39.5**	**-1.5**
	baz=186,slow=8.4,SNR=4.2						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**22.38**	**24**	P	**P**	**18 27 19.6**	**-0.7**
	0.8nm,0.3s,baz=210,slow=11,SNR=5.4						
	0.8nm,0.3s						
ARU	**Arti**	**23.42**	**344**	P	**P**	**18 27 30.5**	**-0.7**
	0.6nm,0.3s,baz=116,slow=23,SNR=1.5						
	0.6nm,0.3s						
SONM	**Songino Array**	**30.51**	**53**	P	**P**	**18 28 33.7**	**-1.7**
	0.1nm,0.4s,baz=260,slow=8.6,SNR=1.3						
	1.0nm,0.4s						
FINES	**FINESS Array B**	**38.75**	**328**	P	**P**	**18 29 47.4**	**+1.2**
	2.7nm,1.0s,baz=111,slow=7.6,SNR=2.3						
	2.7nm,1.0s						
ARCES	**ARCESS Array B**	**42.80**	**339**	P	**P**	**18 30 19.3**	**-0.2**
	5.2nm,1.1s,baz=116,slow=8.4,SNR=2.9						
	5.2nm,1.1s						
TIXI	**Tiksi**	**48.23**	**21**	P	**P**	**18 31 01.7**	**-0.7**
	0.4nm,0.4s,baz=270,slow=24,SNR=2.5						
	0.4nm,0.4s						
JNU	**Nakatsue**	**50.23**	**73**	LR	LR	18 55 03.0	
	comp=Z,89nm,18.8s,baz=38,slow=39						
JHJ	**Hachijo jima 2**	**57.23**	**70**	LR	LR	19 01 20.8	
	comp=Z,50nm,18.4s,baz=116,slow=41						
ASAR	**Alice Springs**	**83.90**	**124**	P	**P**	**18 34 54.0**	**+1.8**
	0.2nm,0.8s,baz=307,slow=5.0,SNR=2.7						
	0.2nm,0.8s						

*IDC **25** 18:26:33.7±0.7, 27.°20N×140.°27E, h368km±7km, mb3.2/15, mbtmp3.9/17, Error ellipse: s-maj=20.5km s-min=13.3km az=77.0*
*JMA **25** 18:26:36.6±0.3, 28.°N±1.°×14.°1E±.°, h386km±3km, MV4.0/26, W OFF OGASAWARA*
ISC 25 18:26:32.7±0.7, 27.°21N±0.°08×139.°9E±0.°1, h350km, n26, σ1ˢ79/32, mb3.5/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.04**	**93**	P	**Pn**	**18 27 27.0**	**+2.7**
CBIJ				*e*S	**S**	**18 28 06.4**	**+0.8**
JCJ	**Chichijima**	**2.04**	**93**	P	**Pn**	**18 27 26.5**	**+2.2**
	64nm,0.4s,baz=353,slow=15,SNR=22						
JCJ				S	**S**	**18 28 06.0**	**+0.4**
	187nm,0.4s,baz=269,slow=22,SNR=20						
JHH2	**Haha-jima-NKT2**	**2.11**	**105**	P	**Pn**	**18 27 28.2**	**+3.4**
JHH2				S	**S**	**18 28 09.1**	**+2.5**
JHJ	**Hachijo jima 2**	**5.89**	**359**	P	**Pn**	**18 28 04.2**	**+2.1**
	145nm,1.0s,baz=66,slow=20,SNR=1.6						
JHJ				S	**S**	**18 29 18.4**	**+3.7**
	50nm,0.4s,baz=75,slow=20,SNR=1.8						
BSO1	**Boso 1**	**7.47**	**7**	*e*P	**Pn**	**18 28 22.8**	**+2.9**
JOD2	**Odawara 2**	**8.05**	**355**	P	**P**	**18 28 31.1**	**+0.7**
JNY	**Yasuok**	**8.30**	**348**	*e*P	**P**	**18 28 35.5**	**+2.3**
JHU	**Hanno**	**8.63**	**357**	P	**P**	**18 28 36.9**	**+0.2**
JRY	**Ryogami san**	**8.82**	**355**	P	**P**	**18 28 39.1**	**+0.2**
JRY				*e*S	**S**	**18 30 16.3**	**-1.3**
MJAR	**Matsushiro Arr**	**9.41**	**352**	P	**P**	**18 28 45.6**	**+0.1**
	0.4nm,0.3s,baz=165,slow=10.0,SNR=4.1						
MJAR				S	**S**	**18 30 28.2**	**-2.5**
	0.8nm,0.6s,baz=150,slow=34,SNR=1.7						
KLR	**Kul'dur**	**22.87**	**346**	P	**P**	**18 31 08.1**	**+1.5**
	1.3nm,0.4s,baz=162,slow=10,SNR=7.7						
	1.3nm,0.4s						
SEY	**Seymchan**	**36.65**	**10**	P	**P**	**18 33 06.3**	**-0.4**
	1.1nm,0.5s,baz=15,slow=22,SNR=1.3			

4.9nm,1.1s,baz=80,slow=7.5,SNR=6.1
4.9nm,1.1s
YKA Yellowknife Ar 73.00 28 P P 18 37 23.2 -1.4
1.2nm,0.5s,baz=302,slow=6.5,SNR=4.3
1.2nm,0.5s
FINES FINESS Array B 76.93 333 P P 18 37 46.5 -0.4
1.9nm,0.5s,baz=76,slow=4.9,SNR=27
1.9nm,0.5s
AKASG Malin Array Be 81.31 323 P P 18 38 10.7 +0.1
0.3nm,0.4s,baz=58,slow=7.8,SNR=1.7
0.3nm,0.4s
NVAR Mina Array Bea 82.03 51 P P 18 38 13.2 -1.7
0.4nm,0.7s,baz=280,slow=5.4,SNR=1.9
0.4nm,0.7s
NOA NORSAR Array B 82.74 337 P P 18 38 16.9 -0.9
0.8nm,0.6s,baz=47,slow=4.7,SNR=3.4
0.8nm,0.6s

KRNET ***25*** *18:27:47.5±0.1,39.°01N×74.°33E,mb3.6*
SOME ***25*** *18:27:52.7,39.°20N×74.°02E,h5km*
ISC 25 18:27:49.5±1.8,39.°17N±0.°09×74.°09E±0.°04,h10km,n23,
σ1ˢ71/41,8C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OHH	**Osh**	**1.68**	**324**	⇑	*iP*	**Pn**	**18 28 18.8**	**-0.2**
	baz=22							
OHH				⇑	*iS*	**Sn**	**18 28 41.8**	**+1.1**
	baz=22							
DRK	**Karamyk**	**1.80**	**280**	⇑	*iP*	**Pn**	**18 28 20.1**	**-0.8**
	baz=84							
DRK				⇑	*iS*	**Sn**	**18 28 44.1**	**+0.2**
	baz=84							
BTK	**Batken**	**2.67**	**290**	⇑	*eP*	**Pn**	**18 28 32.1**	**-0.6**
	baz=92							
BTK				⇑	*iS*	**Sn**	**18 29 05.5**	**+0.3**
	baz=92							
ARLS	**Aral**	**2.69**	**4**	⇓	*iP*	**Pn**	**18 28 31.9**	**-1.1**
	baz=60							
ARLS				⇓	*iS*	**Sn**	**18 29 03.8**	**-1.9**
	baz=60							
NRN	**Naryn**	**2.69**	**32**	⇑	*iP*	**Pn**	**18 28 29.8**	**-3.4**
	baz=27							
NRN				⇑	*iS*	**Sn**	**18 29 00.8**	**-5.1**
	baz=27							
AML	**Almayashu**	**2.97**	**354**		P	**Pb**	**18 28 44.4**	**+1.7**
	SNR=14							
UCH	**Uchtor**	**3.07**	**6**		P	**Pb**	**18 28 46.5**	**+2.0**
	SNR=11							
UCH	**Uchtor**	**3.07**	**6**	⇓	*iP*	**Pn**	**18 28 37.0**	**-1.5**
	baz=2.0							
UCH				⇓	*iS*	**Sn**	**18 29 13.5**	**-2.0**
	baz=2.0							
TRKS	**Terek-Say**	**3.26**	**317**	⇓	*iP*	**Pn**	**18 28 40.2**	**-0.6**
	baz=16							
TRKS				⇓	*iS*	**Sn**	**18 29 18.4**	**-1.3**
	baz=16							
AAK	**Ala-Archa**	**3.47**	**5**		P	**Pb**	**18 28 52.6**	**+1.4**
	SNR=12							
EKS2	**Erkin-Say**	**3.49**	**356**		P	**Pb**	**18 28 52.2**	**+0.7**
	SNR=7.8							
KBK	**Karagaybulak**	**3.54**	**10**		P	**Pb**	**18 28 53.2**	**+0.9**
	SNR=11							
MRKS	**Merke**	**3.63**	**350**		*eP*	**Pg**	**18 28 58.5**	**-0.4**
	16nm,0.4s							
MRKS					*eS*	**Sg**	**18 29 46.2**	**+0.2**
	55nm,0.8s							
KST	**Kastek**	**4.12**	**20**		*eP*	**Pg**	**18 29 09.1**	**+0.7**
KST					*eS*	**Sg**	**18 30 03.7**	**+2.0**
DZA	**Taraz**	**4.26**	**332**		*eP*	**Pg**	**18 29 10.9**	**-0.2**
	16nm,0.2s							
DZA					*eS*	**Sg**	**18 30 07.0**	**+0.8**
	58nm,0.4s							
IUG	**Iuzhnay**	**4.28**	**315**		*eP*	**Pg**	**18 29 10.9**	**-0.6**
IUG					*eS*	**Sg**	**18 30 07.7**	**+0.7**
SGDS	**Sogindy**	**4.29**	**5**		*eP*	**Pg**	**18 29 10.5**	**-1.3**
	2.1nm,0.3s							
SGDS					*eS*	**Sg**	**18 30 06.7**	**-0.6**
	15nm,0.8s							
MTBS	**Maitube**	**4.33**	**23**		*eP*	**Pg**	**18 29 12.7**	**+0.2**
	2.6nm,0.3s							
MTBS					*eS*	**Sg**	**18 30 10.3**	**+1.7**
	10nm,0.4s							
TNSS	**Tian-Shan**	**4.42**	**28**		*eP*	**Pg**	**18 29 15.5**	**+1.2**
	5.2nm,0.4s							
TNSS					*eS*	**Sg**	**18 30 14.9**	**+3.3**
	8.9nm,0.7s							
MDOK	**Medeo**	**4.57**	**28**		*eP*	**Pg**	**18 29 18.3**	**+1.3**
	5.1nm,0.4s							
MDOK					*eS*	**Sg**	**18 30 19.5**	**+3.3**
	16nm,0.7s							
CHM	**Chimkent**	**4.63**	**314**		*eP*	**Pg**	**18 29 17.1**	**-1.1**
	34nm,0.1s							
CHM					*eS*	**Sg**	**18 30 17.9**	**-0.3**
	94nm,0.4s							
CHKK	**Chushkaly**	**5.16**	**24**		*eP*	**Pg**	**18 29 28.9**	**+0.6**
	3.2nm,0.5s							
CHKK					*eS*	**Sg**	**18 30 37.8**	**+2.7**
	6.7nm,0.5s							
KPKS	**Kokpek**	**5.51**	**37**		*eP*	**Pg**	**18 29 34.4**	**-0.6**
	2.5nm,0.5s							
KPKS					*eS*	**Sg**	**18 30 47.6**	**+1.3**
	12nm,0.5s							

IDC ***25*** *18:37:32.4±0.8,39.°11N×74.°23E,h0km,mb3.7/18,*
mbtmp3.8/23,ML3.3/6,MS2.8/1,Error ellipse:
s-maj=15.2km s-min=11.6km az=99.0
MOS ***25*** *18:37:33.9±1.7,39.°09N×73.°95E,h17km,mb4.3/10,Error*
ellipse: s-maj=7.7km s-min=4.6km az=96.1
BJI ***25*** *18:37:35.3±0.0,39.°30N×74.°06E,h10km,mb4.2/17,*
mB4.5/11,ML3.9/7,Ms3.9/4,Ms7 3.5/2
NEIC ***25*** *18:37:35.6±1.8,39.°18N±0.°03×73.°86E±0.°08,h10km±2km,*
mb4.4/15,Error ellipse: s-maj=10.2km s-min=3.5km
az=73.0
KRNET ***25*** *18:37:39.4±0.1,39.°50N×73.°74E,mb4.5*
NNC ***25*** *18:37:40.8±1.6,39.°56N×73.°89E,h0km,mb4.5,mpv4.3,*
Error ellipse: s-maj=15.7km s-min=9.2km az=166.0
SOME ***25*** *18:37:41.4,39.°80N×73.°80E,h0km,MS3.5*
ISC 25 18:37:34.9±1.2,39.°15N±0.°03×73.°88E±0.°02,h9km±8km,
n176,σ2ˢ41/207,mb4.1/30,34C-21D,Tajikistan-Xinjiang
border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OHH	**Osh**	**1.61**	**329**	⇑	*iP*	**Pn**	**18 38 03.0**	**-0.6**
	baz=25							
OHH				⇑	*iS*	**Sn**	**18 38 20.2**	**-4.4**
	baz=25							
DRK	**Karamyk**	**1.65**	**282**	⇑	*eP*	**Pg**	**18 38 07.2**	**+0.7**
	baz=70							
DRK				⇑	*eS*	**Sg**	**18 38 27.7**	**-0.2**
	baz=70							
DRK	**Karamyk**	**1.65**	**282**			**Pn**	**18 38 04.5**	**+0.1**
KSH	**Kashi**	**1.66**	**77**		Pg	Pn	18 37 56.5	-7.8
KSH					Sg	Sn	18 38 12.0	-14
KSH					smax	smax		
	comp=N,2μm,0.7s							
KSH					smax	smax		
	comp=E,3μm,1.0s							
BTK	**Batken**	**2.54**	**292**	⇑	*iP*	**Pb**	**18 38 20.2**	**-0.4**
	baz=85							
BTK				⇑	*iS*	**Sn**	**18 38 50.0**	**+2.6**
	baz=85							
BTK	**Batken**	**2.54**	**292**			**Pb**	**18 38 19.0**	**-1.6**
BTK	**Batken**	**2.54**	**292**		PN	**Pb**	**18 38 19.0**	**-1.6**
ARLS	**Aral**	**2.73**	**7**	⇓	*eP*	**Pn**	**18 38 21.2**	**+2.2**
	baz=11							
ARLS				⇓	*iS*	**Sn**	**18 38 51.8**	**-0.4**
	baz=11							
NRN	**Naryn**	**2.80**	**35**	⇓	*iP*	**Pb**	**18 38 24.0**	**-1.2**
	baz=41							
NRN				⇓	*iS*	**Sn**	**18 38 55.8**	**+1.7**
	baz=41							
NRN	**Naryn**	**2.80**	**35**		Pn	**Pn**	**18 38 20.3**	**+0.2**
NRN	**Naryn**	**2.80**	**35**		PN	**Pn**	**18 38 20.3**	**+0.2**
AML	**Almayashu**	**2.98**	**357**		P	**Pn**	**18 38 24.7**	**+2.0**
	SNR=38							
ARK	**Arkit**	**3.02**	**332**	⇑	*eP*	**Pn**	**18 38 25.0**	**+2.0**
	baz=30							
ARK				⇑	*iS*	**Sn**	**18 38 58.4**	**-1.0**
	baz=30							
UCH	**Uchtor**	**3.11**	**9**		P	**Pn**	**18 38 26.9**	**+2.4**
	SNR=126							
UCH	**Uchtor**	**3.11**	**9**	⇑	*eP*	**Pn**	**18 38 26.5**	**+2.0**
	baz=12							
UCH				⇑	*iS*	**Sn**	**18 39 01.4**	**-0.7**
	baz=12							
TRKS	**Terek-Say**	**3.17**	**319**	⇑	*iP*	**Pn**	**18 38 26.7**	**+1.6**
	baz=16							
TRKS				⇑	*iS*	**Sn**	**18 39 01.1**	**-2.0**
	baz=16							
EKS2	**Erkin-Say**	**3.51**	**359**		P	**Pn**	**18 38 32.4**	**+2.7**
	SNR=34							
AAK	**Ala-Archa**	**3.51**	**7**		P	**Pn**	**18 38 32.5**	**+2.6**
	SNR=51							
AAK	**Ala-Archa**	**3.51**	**7**		Pn	**Pn**	**18 38 31.9**	**+2.1**
	6.5nm,0.3s,baz=177,slow=6.9,SNR=62							
AAK					Pg	**Pb**	**18 38 37.2**	**-0.2**
	30nm,0.3s,baz=178,slow=8.8,SNR=49							
AAK					Sn	**Sn**	**18 39 15.9**	**+4.3**
	13nm,0.3s,baz=350,slow=12,SNR=6.7							
AAK					Lg	Lg	18 39 23.5	
	33nm,0.3s,baz=118,slow=8.4,SNR=11							
	40nm,0.5s							
AAK	**Ala-Archa**	**3.51**	**7**	⇓	*iP*	**Pn**	**18 38 32.2**	**+2.4**
	baz=10.0							
AAK				⇓	*iS*	**Sn**	**18 39 10.9**	**-0.7**
	baz=10.0							
AAK	**Ala-Archa**	**3.51**	**7**		Pn	**Pn**	**18 38 30.6**	**+0.8**
AAK	**Ala-Archa**	**3.51**	**7**	*d*	PN	**Pn**	**18 38 32.9**	**+3.1**
ULHL	**Ulahol**	**3.57**	**29**		P	**Pn**	**18 38 33.5**	**+2.9**
	SNR=12							
ULHL	**Ulahol**	**3.57**	**29**	⇑	*iP*	**Pn**	**18 38 34.7**	**+4.0**
	baz=34							
ULHL				⇑	*iS*	**Sn**	**18 39 14.4**	**+1.2**
	baz=34							
KBK	**Karagaybulak**	**3.59**	**13**		P	**Pn**	**18 38 33.7**	**+2.8**
	SNR=54							
MRKS	**Merke**	**3.62**	**352**		*eP*	**Pb**	**18 38 38.5**	**-0.7**
	58nm,1.0s							
MRKS					*eS*	**Sb**	**18 39 24.2**	**+0.9**
	455nm,0.8s							
CHMS	**Chumysh**	**3.90**	**9**		P	**Pn**	**18 38 38.2**	**+3.2**
	SNR=22							
CHMS	**Chumysh**	**3.90**	**9**	⇓	Pn	**Pn**	**18 38 36.8**	**+1.8**
	12nm,0.5s							
CHMS				⇓	Lg	Lg	18 39 33.1	
	208nm,0.7s							
CHMS	**Chumysh**	**3.90**	**9**		PN	**Pn**	**18 38 36.8**	**+1.8**
TKM2	**Tokmak 2**	**3.98**	**18**		P	**Pn**	**18 38 38.9**	**+2.6**
	SNR=18							
TKM2	**Tokmak 2**	**3.98**	**18**	⇑	Pn	**Pn**	**18 38 38.7**	**+2.3**
	14nm,0.5s							
TKM2				⇑	Pg	**Pb**	**18 38 48.2**	**+2.9**
	60nm,0.7s							
TKM2				⇓	Lg	Lg	18 39 36.9	
	283nm,1.2s							
TKM2	**Tokmak 2**	**3.98**	**18**		PN	**Pn**	**18 38 38.0**	**+1.7**
TKM2					P	**Pb**	**18 38 48.0**	**+2.6**
TAS	**Tashkent**	**4.13**	**303**		Pn	**Pn**	**18 38 39.1**	**+1.0**
TAS	**Tashkent**	**4.13**	**303**		PN	**Pn**	**18 38 39.1**	**+1.0**
USP	**Ospenovka**	**4.14**	**6**		P	**Pn**	**18 38 40.9**	**+2.6**
	SNR=7.8							
IUG	**Iuzhnay**	**4.19**	**317**		*eP*	**Pb**	**18 38 51.6**	**+2.9**
	360nm,0.7s							
IUG					*eS*	**Sg**	**18 39 47.2**	**-2.2**
	320nm,0.7s							
KST	**Kastek**	**4.19**	**21**		*eP*	**Pb**	**18 38 49.8**	**+0.9**
	90nm,0.8s							
KST					*eS*	**Sb**	**18 39 44.1**	**+4.4**
	162nm,0.6s							
DZA	**Taraz**	**4.21**	**334**		*eP*	**Pb**	**18 38 50.4**	**+1.4**
	174nm,0.6s							
DZA					*eS*	**Sb**	**18 39 44.8**	**+4.8**
	352nm,0.7s							
SGDS	**Sogindy**	**4.33**	**7**		*eP*	**Pb**	**18 38 51.6**	**+0.3**
	64nm,0.6s							
SGDS					*eS*	**Sb**	**18 39 47.4**	**+3.8**
	121nm,0.7s							
MTBS	**Maitube**	**4.42**	**25**		*eP*	**Pb**	**18 38 53.5**	**+0.8**
	69nm,0.5s							
MTBS					*eS*	**Sb**	**18 39 50.0**	**+4.0**
	149nm,0.7s							
TNSS	**Tian-Shan**	**4.52**	**30**		*eP*	**Pb**	**18 38 55.4**	**+0.7**
	152nm,0.4s							
TNSS					*eS*	**Sb**	**18 39 54.8**	**+5.5**
	93nm,0.8s							
CHM	**Chimkent**	**4.54**	**316**		*eP*	**Pb**	**18 38 58.0**	**+3.3**
	206nm,0.4s							
CHM					*eS*	**Sg**	**18 39 57.8**	**-2.8**
	399nm,0.5s							
AAA	**Alma-Ata**	**4.66**	**28**		*eP*	**Pb**	**18 38 57.9**	**+1.2**
	103nm,0.4s							
AAA					*eS*	**Sb**	**18 39 58.9**	**+6.0**
	182nm,0.6s							
MDOK	**Medeo**	**4.67**	**30**		*eP*	**Pb**	**18 38 57.2**	**+0.3**
	129nm,0.7s							
MDOK					*eS*	**Sb**	**18 39 58.4**	**+5.1**
	154nm,0.7s							
MDOK	**Medeo**	**4.67**	**30**	⇑	Pn	**Pn**	**18 38 48.7**	**+3.1**
	8.7nm,0.5s							
MDOK				⇑	Pg	**Pb**	**18 38 57.1**	**+0.1**
	217nm,1.0s							
MDOK				⇓	Lg	Lg	18 39 57.0	
	207nm,0.9s							
MDOK	**Medeo**	**4.67**	**30**		PN	**Pn**	**18 38 48.0**	**+2.4**
KNDC	**Almaty**	**4.68**	**29**	⇓	Pg	**Pb**	**18 38 57.8**	**+0.7**
	314nm,0.6s							
KNDC				⇑	Lg	Lg	18 39 56.6	
	723nm,1.1s							
KNDC	**Almaty**	**4.68**	**29**		PN	**Pb**	**18 38 57.8**	**+0.7**
KK31	**Karatay Array**	**4.70**	**328**		PN	**Pn**	**18 38 47.5**	**+1.5**
KK31	**Karatay Array**	**4.70**	**328**	⇓	Pn	**Pn**	**18 38 48.1**	**+2.1**
	15nm,0.5s							
KK31				⇑	Pg	**Pb**	**18 38 58.7**	**+1.3**
	38nm,0.5s							
KK31				⇑	Lg	Lg	18 40 02.2	
	101nm,0.7s							
KK31	**Karatay Array**	**4.70**	**328**		PN	**Pn**	**18 38 47.5**	**+1.5**
KKAR	**Karatay Array**	**4.70**	**328**		Pn	**Pn**	**18 38 47.0**	**+1.1**
KKAR	**Karatay Array**	**4.70**	**328**			**Pn**	**18 38 48.0**	**+2.0**
KKAR	**Karatay Array**	**4.70**	**328**		PN	**Pn**	**18 38 47.1**	**+1.1**
KTBS	**Karatobe**	**5.02**	**24**		*eP*	**Pb**	**18 39 04.5**	**+1.6**
	31nm,0.9s							
KTBS					*eS*	**Sg**	**18 40 11.0**	**-5.0**
	174nm,1.0s							
KUU	**Kurty**	**5.08**	**20**		*eP*	**Pb**	**18 39 05.8**	**+1.8**
	11nm,0.5s							
KUU					*eS*	**Sg**	**18 40 12.9**	**-5.2**
	149nm,0.5s							
SATY	**Saty**	**5.19**	**40**		*eP*	**Pb**	**18 39 09.3**	**+3.5**
	55nm,0.6s							
SATY					*eS*	**Sg**	**18 40 18.8**	**-2.6**
	98nm,0.8s							
CHKK	**Chushkaly**	**5.25**	**25**		*eP*	**Pb**	**18 39 08.8**	**+2.0**
	54nm,0.9s							
CHKK					*eS*	**Sg**	**18 40 17.9**	**-5.3**
	107nm,1.2s							
ZHN	**Zhinishke**	**5.28**	**39**		*eP*	**Pb**	**18 39 10.9**	**+3.4**
	12nm,0.2s							
ZHN					*eS*	**Sg**	**18 40 21.2**	**-3.2**
	71nm,0.7s							
KURS	**Kuram**	**5.40**	**35**		*eP*	**Pb**	**18 39 11.4**	**+1.9**
	72nm,0.5s							
KURS					*eS*	**Sg**	**18 40 22.6**	**-5.7**
	58nm,1.1s							
CHCP	**Chirah Chowk**	**5.50**	**185**		P	Pn	18 39 03.4	+6.3
NIL	**Nilore**	**5.51**	**185**		Pn	**Pn**	**18 39 00.4**	**+3.2**
NIL	**Nilore**	**5.51**	**185**		PN	**Pn**	**18 39 00.4**	**+3.2**
CEP	**Cherat**	**5.55**	**197**		P	Pb	18 39 05.5	-6.5
SHLS	**Shalkode**	**5.81**	**45**		*eP*	**Pg**	**18 39 25.2**	**-0.8**
	32nm,0.9s							
SHLS					*eS*	**Sg**	**18 40 46.1**	**+4.8**
	72nm,0.9s							
ARXS	**Arharly**	**5.86**	**29**		*ePN*	**Pn**	**18 39 06.6**	**+4.7**
BTLS	**Baital**	**5.89**	**1**		*eP*	**Pb**	**18 39 18.7**	**+1.1**
	7.5nm,0.7s							
BTLS					*eS*	**Sb**	**18 40 35.6**	**+7.3**
	59nm,2.1s							
PDGK	**Podgornoye**	**5.94**	**44**	⇑	Pg	**Pb**	**18 39 22.8**	**+4.2**
	121nm,1.4s							
PDGK				⇓	Lg	Lg	18 40 39.4	
	118nm,1.1s							
KBL	**Kabul**	**6.02**	**222**		Pn	**Pn**	**18 39 04.4**	**+0.1**
KBL	**Kabul**	**6.02**	**222**		PN	**Pn**	**18 39 04.4**	**+0.1**
JMU	**Jammu**	**6.47**	**172**		*eP*	Pn	18 39 17.4	+7.1
JMU					*eS*	**Sn**	**18 40 29.4**	**+5.1**
THW	**Thamme Wali**	**6.58**	**196**		P	Pn	18 39 18.3	+6.5
DJR	**Jarkent**	**6.80**	**39**		*eP*	Pb	18 39 39.5	+6.2
	15nm,0.6s							
DJR					*eS*	**Sg**	**18 41 10.5**	**-2.7**
	35nm,0.8s							
BHK	**Bhakra**	**7.99**	**164**		*eP*	**Pn**	**18 39 35.6**	**+4.4**
BHK					*eS*	**Sn**	**18 41 03.1**	**+1.5**
SMLA	**Simla**	**8.44**	**160**		*eP*	**Pn**	**18 39 40.2**	**+2.9**
SMLA					*eS*	**Sn**	**18 41 11.7**	**-1.1**
SMLA					IAML		18 41 18.6	
	comp=N,61nm,0.7s							
SMLA					IAML		18 41 23.5	
	comp=E,66nm,0.5s							
OTUK	**Ortayu**	**9.16**	**353**	⇑	Pn	**Pn**	**18 39 48.1**	**+1.0**
	comp=E,7.7nm,0.9s							
OTUK				⇓	Lg	Lg	18 42 17.4	
	comp=E,82nm,0.9s							
OTUK	**Ortayu**	**9.16**	**353**		P	**Pn**	**18 39 48.0**	**+0.8**
MAKZ	**Makanchi**	**9.68**	**35**		Pn	**Pn**	**18 39 53.9**	**-0.4**
MAKZ	**Makanchi**	**9.68**	**35**	⇓	Pn	**Pn**	**18 39 58.6**	**+4.3**
	comp=E,4.1nm,0.9s							
MAKZ				⇑	Pg		18 40 29.5	
	comp=E,9.1nm,0.9s							
MAKZ				⇑	Lg	Lg	18 42 37.0	
	comp=E,12nm,1.4s							
MAKZ	**Makanchi**	**9.68**	**35**		P	**Pn**	**18 39 53.9**	**-0.4**
MK31	**Makanchi Array**	**9.81**	**36**			**Pn**	**18 39 56.3**	**+0.2**
MK31	**Makanchi Array**	**9.81**	**36**		Pn	**Pn**	**18 40 00.1**	**+4.0**
	comp=E,1.4nm,0.6s,baz=220,slow=15,SNR=8.8							
MK31				⇓	Pg		18 40 30.6	
	comp=E,13nm,1.1s,baz=220,slow=13,SNR=4.0							
MK31				⇑	Lg	Lg	18 42 39.3	
	comp=E,8.3nm,0.8s							
MK31	**Makanchi Array**	**9.81**	**36**	⇓	*eP*	**Pn**	**18 40 00.0**	**+4.0**
MKAR	**Makanchi Array**	**9.81**	**36**		Pn	**Pn**	**18 39 53.7**	**-2.4**
	comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=3.1							
MKAR					Lg	Lg	18 42 36.4	
	baz=222,slow=25							
MKAR					LR	LR	18 44 04.6	
	comp=E,67nm,21.7s,baz=15,slow=40							
MKAR	**Makanchi Array**	**9.81**	**36**			**Pn**	**18 39 56.9**	**+0.8**
HRA	**Herat**	**10.47**	**247**		Pn	**Pn**	**18 40 05.7**	**+0.3**
PTH	**Pithoragarh**	**10.91**	**149**		*eP*	**Pn**	**18 40 13.3**	**+1.9**
LGTI	**Lohaghat**	**11.01**	**150**		*eP*	**Pn**	**18 40 12.8**	**+0.3**
LGTI					*eS*	**Sn**	**18 42 11.0**	**-4.8**
KUDL	**Kundal**	**11.19**	**168**		*eP*	**Pn**	**18 40 19.0**	**+4.0**
WMQ	**Urumqi**	**11.36**	**61**		*eP*	**Pn**	**18 40 19.8**	**+2.5**
KURBB	**Kurchatov Arra**	**11.93**	**14**		Pn	**Pn**	**18 40 23.9**	**-1.1**
	comp=E,0.1nm,0.3s,baz=208,slow=13,SNR=2.2							
KURBB					Lg	Lg	18 43 45.0	
	comp=E,0.1nm,0.3s,baz=204,slow=30,SNR=7.8							
	comp=E,0.4nm,0.2s							
KURBB	**Kurchatov Arra**	**11.93**	**14**	⇑	Lg	Lg	18 43 46.2	
	comp=E,34nm,0.9s							
KURK	**Kurchatov**	**12.04**	**15**		Pn	**Pn**	**18 40 25.9**	**-0.6**
KURK	**Kurchatov**	**12.04**	**15**	⇑	Lg	Lg	18 43 53.2	
	comp=E,23nm,0.8s							
KURK	**Kurchatov**	**12.04**	**15**		P	**Pn**	**18 40 25.9**	**-0.6**
GEYT	**Alibeck**	**12.41**	**269**		Pn	**Pn**	**18 40 34.8**	**+3.1**
	comp=E,0.9nm,0.3s,baz=98,slow=8.2,SNR=15							
GEYT					Sn	**Sn**	**18 42 51.0**	**+0.9**
	comp=E,0.4nm,0.3s,baz=93,slow=16,SNR=3.8							
GEYT					Lg	Lg	18 44 22.0	
	baz=87,slow=28							
	comp=E,6.4nm,0.6s							
GEYT	**Alibeck**	**12.41**	**269**		Pn	**Pn**	**18 40 31.7**	**+0.1**
GYA0	**ALIBECK ARRAY**	**12.41**	**269**		P	**Pn**	**18 40 31.8**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**12.41**	**269**		Pn	**Pn**	**18 40 31.8**	**+0.1**
DANN	**Dangsing**	**13.54**	**140**		*eP*	**Pn**	**18 40 45.6**	**-1.8**
	comp=E,11nm,0.4s							
KOLN	**Koldanda**	**13.94**	**142**		*eP*	**Pn**	**18 40 51.1**	**-1.7**
BVA0	**Borovoye Array**	**14.09**	**351**	⇓	Pn	**Pn**	**18 40 55.4**	**+0.9**
	comp=E,8.4nm,0.8s							
BVA0	**Borovoye Array**	**14.09**	**351**		P	**Pn**	**18 40 55.4**	**+0.9**
BVAR	**Borovoye Array**	**14.09**	**351**		Pn	**Pn**	**18 40 52.7**	**-1.8**
	comp=E,0.1nm,0.3s,baz=160,slow=14,SNR=31							
BVAR					Sn	Sn	18 43 20.3	-11
	baz=195,slow=15,SNR=1.3							
BVAR					Lg	Lg	18 44 48.9	
	baz=164,slow=33,SNR=3.2							
	comp=E,5.8nm,0.7s							
BRVK	**Borovoye**	**14.13**	**351**		Pn	**Pn**	**18 40 52.4**	**-2.7**
BRVK	**Borovoye**	**14.13**	**351**	*c*	*iP*	**Pn**	**18 40 53.5**	**-1.6**
BRVK					pmax	pmax		
	comp=Z,5.0nm,0.6s							
AB31	**Akbulak array**	**14.19**	**320**		Pn	**Pn**	**18 40 57.6**	**+1.7**
	comp=Z,8.5nm,0.8s,baz=136,slow=12,SNR=61							
AB31	**Akbulak array**	**14.19**	**320**		P	**Pn**	**18 40 57.6**	**+1.7**
ABKAR	**Akbulak array**	**14.19**	**320**		Pn	**Pn**	**18 40 53.9**	**-2.0**
ABKAR	**Akbulak array**	**14.19**	**320**			**Pn**	**18 40 53.9**	**-2.0**
GKN	**Gorkha**	**14.27**	**138**		*eP*	**Pn**	**18 40 55.1**	**-2.1**
	comp=Z,7.7nm,0.3s							
DMN	**Daman**	**14.83**	**138**		*eP*	**Pn**	**18 41 02.9**	**-2.1**
	comp=Z,13nm,0.4s							
PKIN	**Phulchoki**	**15.01**	**137**		*eP*	**Pn**	**18 41 05.4**	**-2.0**
PKI	**Pulchoki**	**15.02**	**137**		*eP*	**Pn**	**18 41 05.1**	**-2.5**
	comp=Z,3.6nm,0.3s							
JIRN	**Jiri**	**15.37**	**135**		*eP*	**Pn**	**18 41 09.7**	**-2.7**
	comp=Z,11nm,0.4s							
AKTO	**Aktyubinsk**	**15.90**	**320**	⇑	Pn	**Pn**	**18 41 21.3**	**+2.5**
	comp=Z,7.0nm,0.7s							
AKTO	**Aktyubinsk**	**15.90**	**320**		P	**Pn**	**18 41 21.3**	**+2.5**
RAMN	**Ramite**	**16.16**	**135**		*eP*	**Pn**	**18 41 20.9**	**-1.5**
	comp=Z,6.7nm,0.3s							
ZAA0	**Zalesovo Array**	**16.57**	**23**		Pn	**Pn**	**18 41 25.5**	**-1.8**
ZALV	**Zalesovo Beam**	**16.57**	**23**		Pn	**Pn**

KIV					pmax	pmax			
	comp=Z,5.0nm,1.0s								
SONM	**Songino Array**	**24.98**	**59**	P	**P**	**18 42 57.2**	**-1.7**		
	comp=Z,0.2nm,0.5s,baz=259,slow=10,SNR=1.9								
	comp=Z,0.2nm,0.5s								
KIRV	**Kirov**	**24.99**	**329**	P	**P**	**18 43 00.5**	**+1.8**		
	comp=Z,6.4nm,0.7s,baz=94,slow=2.6,SNR=3.7								
	comp=Z,6.4nm,0.7s								
KIRV	**Kirov**	**24.99**	**329**	*d* iP	**P**	**18 43 01.6**	**+3.0**		
TNCH	**TengChong**	**25.08**	**117**	P	**P**	**18 43 01.3**	**+1.4**		
TNCH				sP	sP	18 43 05.3	-0.3		
TNCH				pmax	pmax				
	comp=Z,6.0nm,0.5s								
PZH	**PanZhiHua**	**26.48**	**110**	P	**P**	**18 43 14.5**	**+1.9**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
PZH				pmax	pmax				
	comp=Z,130nm,5.6s								
VSR	**Storozhevoye**	**27.02**	**308**	*e*P	**P**	**18 43 18.0**	**+0.9**		
VSR				pmax	pmax				
	comp=Z,4.0nm,0.4s								
HHC	**Hu-ho-hao-te**	**28.77**	**74**	*e*P	**P**	**18 43 32.8**	**-0.2**		
HHC				pmax	pmax				
	comp=Z,310nm,6.9s								
OBN	**Obninsk**	**29.55**	**315⇑**	*e*P	**P**	**18 43 40.5**	**+1.0**		
OBN				*e*		18 44 31.9			
OBN				pmax	pmax				
	comp=Z,22nm,1.9s								
OBN				MLR	MLR				
	comp=Z,46nm,17.0s								
CMAR	**Chiang Mai Arr**	**29.95**	**126**	P	**P**	**18 43 41.2**	**-2.3**		
	comp=Z,0.3nm,0.3s,baz=276,slow=9.9,SNR=4.5								
	comp=Z,0.3nm,0.3s								
BRTR	**Keskin Array B**	**30.91**	**284**	P	**P**	**18 43 53.6**	**+1.6**		
	comp=Z,0.7nm,0.8s,baz=77,slow=11,SNR=4.1								
	comp=Z,0.7nm,0.8s								
AKASG	**Malin Array Be**	**33.17**	**305**	P	**P**	**18 44 12.5**	**+1.0**		
	comp=Z,0.1nm,0.3s,baz=78,slow=8.2,SNR=2.9								
	comp=Z,0.1nm,0.3s								
MLR	**Muntele Rosu**	**35.57**	**296**	P	**P**	**18 44 30.7**	**-1.9**		
MLR				IAmb	IAmb	18 44 47.0			
	comp=Z,13nm,1.5s								
MLR	**Muntele Rosu**	**35.57**	**296**	P	**P**	**18 44 30.7**	**-1.9**		
MLR				pmax	pmax				
	comp=Z,13nm,1.5s								
BURAR	**Bucovina Array**	**35.86**	**300**	P	**P**	**18 44 35.3**	**+0.3**		
BURAR	**Bucovina Array**	**35.86**	**300**	P	**P**	**18 44 35.3**	**+0.3**		
FIA1	**FINESS Array S**	**36.64**	**323**	P	**P**	**18 44 40.8**	**-0.5**		
FIA1				IAmb	IAmb	18 45 15.5			
	comp=Z,17nm,1.2s								
FINES	**FINESS Array B**	**36.64**	**323**	P	**P**	**18 44 41.9**	**+0.6**		
	comp=Z,1.4nm,0.4s,baz=112,slow=10,SNR=12								
	comp=Z,1.4nm,0.4s								
FINES	**FINESS Array B**	**36.64**	**323**	P	**P**	**18 44 41.7**	**+0.4**		
FINES	**FINESS Array B**	**36.64**	**323**	*i* P	**P**	**18 44 40.7**	**-0.6**		
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KARP	**Karpathos**	**37.00**	**279**	P	**P**	**18 44 41.8**	**-3.0**		
IDI	**Anoyia**	**38.83**	**280**	P	**P**	**18 44 59.5**	**-0.7**		
IDI				IAmb	IAmb	18 45 11.2			
	comp=Z,3.7nm,1.0s								
KEV	**Kevo**	**39.24**	**336**	P	**P**	**18 45 02.1**	**-1.0**		
KEV	**Kevo**	**39.24**	**336**	P	**P**	**18 45 02.1**	**-1.0**		
KEV				pmax	pmax				
	comp=Z,55nm,1.5s								
ARCES	**ARCESS Array B**	**39.62**	**336**	P	**P**	**18 45 06.5**	**+0.1**		
	comp=Z,2.6nm,0.9s,baz=107,slow=7.8,SNR=8.2								
	comp=Z,2.6nm,0.9s								
ARCES	**ARCESS Array B**	**39.62**	**336**	P	**P**	**18 45 06.2**	**-0.1**		
ARCES				IAmb	IAmb	18 45 49.4			
	comp=Z,13nm,1.4s								
KLR	**Kul'dur**	**41.76**	**56⇑**	*e*P	**P**	**18 45 24.7**	**+0.4**		
KLR				pmax	pmax				
	comp=Z,9.0nm,2.0s								
TIXI	**Tiksi**	**42.46**	**23**	P	**P**	**18 45 28.2**	**-1.4**		
	comp=Z,0.6nm,0.3s,baz=270,slow=23,SNR=1.8								
	comp=Z,0.6nm,0.3s								
TIXI	**Tiksi**	**42.46**	**23⇑**	*e*P	**P**	**18 45 28.9**	**-0.8**		
TIXI				pmax	pmax				
	comp=Z,13nm,3.7s								
GERES	**GERESS Array B**	**43.32**	**303**	P	**P**	**18 45 36.4**	**-0.7**		
	comp=Z,0.1nm,0.3s,baz=82,slow=9.0,SNR=2.6								
	comp=Z,0.1nm,0.3s								
GERES	**GERESS Array B**	**43.32**	**303**	P	**P**	**18 45 35.9**	**-1.3**		
NC405	**NORSAR Array S**	**43.45**	**321**	P	**P**	**18 45 36.4**	**-1.4**		
NB2	**NORSAR Subarra**	**43.69**	**321**	P	**P**	**18 45 39.9**	**0.0**		
	comp=Z,2.4nm,0.8s,baz=91,slow=7.9								
NOA	**NORSAR Array B**	**43.69**	**321**	P	**P**	**18 45 39.8**	**0.0**		
	comp=Z,1.0nm,0.8s,baz=94,slow=7.6,SNR=2.5								
	comp=Z,1.0nm,0.8s								
ESDC	**Sonseca Array**	**58.25**	**297**	P	**P**	**18 47 29.5**	**-0.2**		
	comp=Z,0.3nm,0.7s,baz=58,slow=7.4,SNR=1.9								
	comp=Z,0.3nm,0.7s								
INK	**Inuvik**	**70.91**	**10**	P	**P**	**18 48 49.3**	**-2.5**		
	comp=Z,1.9nm,0.5s,baz=163,slow=9.0,SNR=5.4								
	comp=Z,1.9nm,0.5s								
ILAR	**Eielson Array**	**71.59**	**17**	P	**P**	**18 48 53.4**	**-2.7**		
	comp=Z,0.4nm,0.9s,baz=333,slow=7.1,SNR=3.5								
	comp=Z,0.4nm,0.9s								
WRA	**Warramunga Arr**	**81.52**	**124**	P	P	18 49 48.6	-4.3		
	comp=Z,0.4nm,0.7s,baz=326,slow=5.0,SNR=2.5								
	comp=Z,0.4nm,0.7s								
ASAR	**Alice Springs**	**83.96**	**127**	P	**P**	**18 50 04.4**	**-1.1**		
	comp=Z,0.4nm,1.0s,baz=311,slow=4.9,SNR=3.0								
	comp=Z,0.4nm,1.0s								

*PDG **25** 18:43:59.0±0.1,43˚.16N×18˚.08E,h9km, MD2.7/1, ML2.7/13,Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
*RHSSO **25** 18:43:59.9±0.2,43˚.15N×18˚.11E,h7km±2km,ML2.8/15*
*BEO **25** 18:43:59.6±0.3,43˚.19N×18˚.06E,h3km±2km, ML2.6/11*
ISC 25 18:43:59.4±1.0,**43˚.16N**±0˚.02×**18˚.09E**±0˚.01,**h6**km±9km,
n69,σ0**93**/130,**14C-7D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.41**	**224**	*e*Pg	**Pg**	**18 44 06.5**	**-0.7**
STON				*e*Sg	**Sg**	**18 44 13.3**	**+0.7**
STON	**Ston**	**0.41**	**224**	*e*Pg	**Pg**	**18 44 06.6**	**-0.7**
STON				Sg	**Sg**	**18 44 13.3**	**+0.7**
STON	**Ston**	**0.41**	**224**	*e*Pg	**Pg**	**18 44 06.5**	**-0.7**
STON				*e*Sg	**Sg**	**18 44 13.6**	**+1.0**
BRY	**Bratogost**	**0.42**	**128⇑**	*i*Pg	**Pg**	**18 44 07.5**	**-0.1**
BRY				*e*Sg	**Sg**	**18 44 14.1**	**+1.0**
BRY	**Bratogost**	**0.42**	**128**	*e*Pg	**Pg**	**18 44 07.0**	**-0.6**
BRY				*i* Sg	**Sg**	**18 44 13.8**	**+0.7**
TREB	**Trebinje**	**0.49**	**156⇓**	*i*Pg	**Pg**	**18 44 08.5**	**-0.2**
TREB				*e*Sg	**Sg**	**18 44 16.0**	**+0.9**
TREB	**Trebinje**	**0.49**	**156**	*e*Pg	**Pg**	**18 44 08.5**	**-0.2**
TREB				*e*Sg	**Sg**	**18 44 16.4**	**+1.3**
DBRK	**Dubrovnik**	**0.50**	**175**	*e*Pg	**Pg**	**18 44 08.2**	**-0.8**
DBRK				Sg	**Sg**	**18 44 15.7**	**+0.3**
UPM	**Unac-Piva**	**0.60**	**86⇑**	*i*Pg	**Pg**	**18 44 10.7**	**-0.3**
UPM				*e*Sg	**Sg**	**18 44 19.6**	**+0.8**
UPM	**Unac-Piva**	**0.60**	**86⇓**	*i*Pg	**Pg**	**18 44 10.3**	**-0.7**
UPM				*i* Sg	**Sg**	**18 44 19.9**	**+1.1**
NKME	**Niksic**	**0.75**	**122⇓**	*i*Pg	**Pg**	**18 44 13.0**	**-0.8**
NKME				*i* Sg	**Sb**	**18 44 24.9**	**-0.5**
RICI	**Ricice**	**0.77**	**296**	*i* Pg	**Pg**	**18 44 14.2**	**0.0**
RICI				Sg	**Sb**	**18 44 26.5**	**+0.4**
HCY	**Herceg Novi**	**0.78**	**157⇑**	*i*Pg	**Pg**	**18 44 13.6**	**-0.7**
HCY				*e*Sg	**Sg**	**18 44 24.3**	**0.0**
HCY	**Herceg Novi**	**0.78**	**157⇑**	*i*Pg	**Pg**	**18 44 13.4**	**-0.9**
HCY				*i* Sg	**Sb**	**18 44 25.6**	**-0.5**
MAKA	**Makarska**	**0.79**	**279**	*e*Pg	**Pg**	**18 44 14.2**	**-0.4**
MAKA				Sg	**Sb**	**18 44 27.0**	**+0.5**
CEME	**Cevo**	**0.87**	**135⇑**	*i*Pg	**Pg**	**18 44 15.1**	**-0.9**
CEME				*i* Sg	**Sb**	**18 44 28.8**	**0.0**
LSTV	**Lastovo**	**0.96**	**246**	*e*Pg	**Pg**	**18 44 17.1**	**-0.8**
LSTV				Sg	**Sb**	**18 44 31.1**	**-0.4**
PLE	**Pljevlja**	**0.97**	**80⇑**	*i*Pg	**Pg**	**18 44 17.0**	**-0.9**
PLE				*i* Sg	**Sb**	**18 44 32.3**	**+0.6**
RUDO	**Rudo**	**1.04**	**64**	*e*Pg	**Pg**	**18 44 18.1**	**-1.3**
RUDO				*e*Sg	**Sg**	**18 44 32.4**	**-0.4**
RUDO	**Rudo**	**1.04**	**64**	*e*Pg	**Pg**	**18 44 18.3**	**-1.1**
RUDO				*e*Sg	**Sg**	**18 44 32.1**	**-0.7**
BUM	**Brajici-Budva**	**1.05**	**145⇓**	*i*Pg	**Pg**	**18 44 18.4**	**-1.1**
BUM				*i* Sg	**Sb**	**18 44 34.9**	**+0.9**
KOME	**Kolasin**	**1.09**	**106⇑**	*i*Pg	**Pg**	**18 44 19.3**	**-1.1**
KOME				*i* Sg	**Sn**	**18 44 36.5**	**-0.4**
HAPS	**Han Pijesak,BI**	**1.12**	**34⇓**	*i*Pg	**Pg**	**18 44 20.2**	**-0.6**
HAPS				*e*Sg	**Sg**	**18 44 35.7**	**+0.4**
SRKY	**Kupres RS**	**1.12**	**324**	*e*Pg	**Pg**	**18 44 20.7**	**-0.3**
SRKY				*e*Sg	**Sb**	**18 44 36.5**	**+0.2**
PDG	**Podgorica**	**1.13**	**130**	⇑P	**Pn**	**18 44 22.1**	**+0.4**
PDG				⇑S	**Sn**	**18 44 39.0**	**+1.4**
TTG	**Podgorica**	**1.13**	**130**	*e*Pg	**Pg**	**18 44 19.9**	**-1.1**
TTG				*i* Sg	**Sn**	**18 44 37.7**	**+0.1**
BBLS	**Lazi?i**	**1.19**	**53**	*e*Pg	**Pg**	**18 44 21.4**	**-0.8**
BBLS				*e*Sg	**Sg**	**18 44 37.3**	**-0.3**
BBLS	**Lazi?i**	**1.19**	**53**	*e*Pg	**Pg**	**18 44 21.6**	**-0.6**
BBLS				*e*Sg	**Sg**	**18 44 38.1**	**+0.5**
HVAR	**Hvar**	**1.20**	**271**	*e*Pg	**Pg**	**18 44 21.4**	**-1.0**
HVAR				Sg	**Sn**	**18 44 39.7**	**+0.3**
DRME	**Dracevica, Mon**	**1.27**	**140**	*e*Pg	**Pn**	**18 44 22.8**	**-0.9**
DRME				*e*Sg	**Sg**	**18 44 39.9**	**-0.2**
DRME	**Dracevica, Mon**	**1.27**	**140**	*e*Pg	**Pn**	**18 44 22.5**	**-1.2**
DRME				*i* Sg	**Sn**	**18 44 42.4**	**+1.3**
IVA	**Berane**	**1.36**	**102⇓**	*i*Pg	**Pn**	**18 44 24.1**	**-0.9**
IVA				*i* Sg	**Sn**	**18 44 45.4**	**+2.0**
SJES	**Sjenica**	**1.38**	**85**	*e*Pg	**Pn**	**18 44 25.1**	**-0.3**
SJES				*e*Sg	**Sb**	**18 44 43.3**	**-0.4**
SJES	**Sjenica**	**1.38**	**85**	*e*Pg	**Pn**	**18 44 25.4**	**0.0**
SJES				*e*Sg	**Sg**	**18 44 44.8**	**+1.0**
MGRS	**Mrkonjic Grad**	**1.45**	**330**	*e*Pg	**Pn**	**18 44 26.5**	**+0.3**
MGRS				*e*Sg	**Sg**	**18 44 46.1**	**+0.1**
ULC	**Ulcinj**	**1.47**	**144⇑**	*i*Pg	**Pn**	**18 44 26.2**	**-0.3**
ULC				*i* Sg	**Sg**	**18 44 48.9**	**+2.2**
KIJV	**Kijevo**	**1.48**	**305**	*e*Pn	**Pb**	**18 44 27.7**	**+0.2**
KIJV				Sn	**Sg**	**18 44 49.3**	**+2.2**
PVY	**Plav**	**1.49**	**112**	*e*Pg	**Pn**	**18 44 26.6**	**-0.3**
PVY				*i* Sg	**Sg**	**18 44 49.3**	**+2.1**
IVAS	**Ivanjica**	**1.56**	**74**	*e*Pg	**Pn**	**18 44 27.0**	**-0.8**
IVAS				*e*Sg	**Sb**	**18 44 49.3**	**+0.5**
DIVS	**Divibare**	**1.67**	**55**	*e*Pn	**Pn**	**18 44 28.6**	**-0.7**
DIVS				*e*Sn	**Sn**	**18 44 50.7**	**-0.4**
DIVS	**Divibare**	**1.67**	**55**	*e*Pn	**Pn**	**18 44 28.7**	**-0.6**
DIVS				*e*Sn	**Sg**	**18 44 53.4**	**+0.4**
BLY	**Banja Luka**	**1.71**	**338**	*e*Pn	**Pn**	**18 44 30.6**	**+0.8**
BLY				*e*Sn	**Sb**	**18 44 52.9**	**-0.2**
BLY	**Banja Luka**	**1.71**	**338**	*e*Pg	**Pg**	**18 44 32.0**	**-0.3**
BLY				*e*Sg	**Sb**	**18 44 53.5**	**+0.3**
A050A	**Klekovaca**	**1.73**	**320**	*e*Pn	**Pb**	**18 44 31.1**	**-0.6**
A050A				*e*Sn	**Sn**	**18 44 53.2**	**+0.5**
TEKS	**Tekeris**	**1.73**	**36**	*e*Pn	**Pn**	**18 44 31.0**	**+0.9**
TEKS				*e*Sn	**Sn**	**18 44 52.9**	**+0.3**
TEKS	**Tekeris**	**1.73**	**36**	*e*Pg	**Pn**	**18 44 30.8**	**+0.7**
TEKS				*e*Sg	**Sb**	**18 44 54.1**	**+0.3**
MORI	**Morici**	**1.87**	**293**	*e*Pn	**Pb**	**18 44 33.1**	**-0.9**
MORI				Sn	**Sg**	**18 44 58.6**	**-0.8**
TRUS	**Trudelj**	**1.99**	**57**	*e*Pn	**Pn**	**18 44 32.8**	**-0.8**
TRUS				*e*Sn	**Sn**	**18 44 58.8**	**-0.1**
A051A	**Mrakovica**	**2.04**	**336**	*e*Pn	**Pn**	**18 44 34.5**	**+0.2**
A051A				*e*Sn	**Sn**	**18 45 00.2**	**+0.1**
GRUS	**Gruza**	**2.04**	**68**	*e*Pn	**Pn**	**18 44 34.3**	**-0.1**
GRUS				*e*Sn	**Sn**	**18 45 01.6**	**+1.4**
UDBI	**Udbina**	**2.16**	**310**	*e*Pn	**Pb**	**18 44 38.8**	**-0.3**
UDBI				Sn	**Sg**	**18 45 08.2**	**-0.8**
SELS	**Selova**	**2.22**	**88**	*e*Pn	**Pn**	**18 44 36.4**	**-0.4**
SELS				*e*Sn	**Sb**	**18 45 06.4**	**-1.3**
FRGS	**Fruska Gora**	**2.35**	**31**	*e*Pn	**Pn**	**18 44 39.6**	**+1.0**
FRGS				*e*Sn	**Sn**	**18 45 08.2**	**+0.4**
FRGS	**Fruska Gora**	**2.35**	**31**	*e*Pn	**Pn**	**18 44 39.3**	**+0.7**
VIRC	**Vir**	**2.47**	**298**	*e*Pn	**Pb**	**18 44 42.8**	**-1.5**
VIRC				Sn	**Sb**	**18 45 13.9**	**-0.9**
MDVR	**Moldovita**	**3.08**	**57**	⇑P	**Pg**	**18 45 01.7**	**+3.4**
MORH	**Mrgy, Hungar**	**3.08**	**7**	⇑P	**Pn**	**18 44 46.2**	**-2.3**
MORH	**Mrgy, Hungar**	**3.08**	**7**	*e*Pn	**Pn**	**18 44 48.8**	**+0.2**
MORH				*e*Sn	**Sn**	**18 45 25.9**	**+0.2**
CRES	**Cresnjev**	**3.26**	**326**	*e*Pn	**Pn**	**18 44 52.2**	**+1.1**
CRES				*e*Sn	**Sn**	**18 45 30.4**	**+0.2**
BZS	**Buzias**	**3.52**	**45**	⇑P	**Pg**	**18 45 05.6**	**-1.3**
CEY	**Cerknica**	**3.67**	**316**	*e*Pn	**Pn**	**18 44 57.5**	**+0.7**
CEY				*e*Sn	**Sn**	**18 45 40.7**	**+0.2**
VTS	**Vitosha**	**3.82**	**96**	⇑P	**Pn**	**18 44 59.5**	**+0.5**
SIRR	**Siria**	**4.01**	**38**	⇓P	**Pn**	**18 45 01.7**	**+0.2**
SOKA	**Soboth**	**4.13**	**329**	*e*Pn	**Pn**	**18 45 04.5**	**+1.4**
	0.7nm,0.2s						
SOKA				*e*Sn	**Sn**	**18 45 50.9**	**-0.9**
	6.4nm,0.8s						
ARSA	**Arzberg**	**4.47**	**337**	*e*Pn	**Pn**	**18 45 08.3**	**+0.6**
ARSA	**Arzberg**	**4.47**	**337**	*e*Pn	**Pn**	**18 45 09.9**	**+2.2**
	1.2nm,0.3s						
ARSA				*e*Sn	**Sn**	**18 45 58.5**	**-1.6**
RONA	**Rosalia, Austr**	**4.71**	**345**	*e*Pn	**Pn**	**18 45 11.7**	**+0.6**
	0.3nm,0.2s						
RONA				*e*Sn	**Sn**	**18 46 04.5**	**-1.5**
	1.5nm,0.4s						
KBA	**Koelnbreinsper**	**5.16**	**321**	*e*Pn	**Pn**	**18 45 19.5**	**+2.2**
	0.3nm,0.2s						
KBA				*e*Sn	**Sn**	**18 46 17.1**	**-0.1**
	0.9nm,0.5s						
VYHS	**Vyhne**	**5.36**	**5**	*e*SN	**Sn**	**18 46 21.4**	**-0.5**

*IDC **25** 18:46:39.8±4.3,40˚.05N×23˚.48E,h0km,mb3.5/3, mbtmp3.3/5,ML2.5/1,Error ellipse: s-maj=65.2km s-min=23.5km az=33.0*
*ISK **25** 18:46:44.9,40˚.63N×23˚.47E,h10km,ML3.5/21*
*THE **25** 18:46:45.4,40˚.61N×23˚.47E,h10km±1km,ML3.4/18,Error ellipse: s-maj=1.4km s-min=0.6km az=9.0*
*ATH **25** 18:46:45.7,40˚.60N×23˚.48E,h5km±1km,ML3.3/25,Error ellipse: s-maj=2.0km s-min=0.7km az=20.0*
*BEO **25** 18:46:45.5±0.7,40˚.62N×23˚.48E,h5km±2km,ML3.4/10*
*DDA **25** 18:46:45.0±0.0,39˚.99N×23˚.60E,h10km±38km,MW3.6*
*SKO **25** 18:46:46.4,40˚.60N×23˚.42E,h0km*
ISC 25 18:46:45.6±0.8,**40˚.60N**±0˚.02×**23˚.46E**±0˚.01,**h15**km±5km,
n165,σ1**23**/220,**mb3.3**/3,**26C-11D,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOH	**Sokhos**	**0.24**	**341**	P	**Pg**	**18 46 50.8**	**-0.1**
SOH				S	**Sg**	**18 46 54.1**	**-0.4**
	30μm,0.3s						
SOH	**Sokhos**	**0.24**	**341**	⇑*i*Pg	**Pg**	**18 46 50.8**	**-0.1**
SOH				*i* Sg	**Sg**	**18 46 54.1**	**-0.4**
SOH	**Sokhos**	**0.24**	**341**	P	**Pg**	**18 46 50.8**	**-0.1**
SOH				S	**Sg**	**18 46 53.9**	**-0.6**
SOH				AML	AML	18 46 54.5	
	comp=E,89781μm,0.3s						
SOH				AML	AML	18 46 54.6	
	comp=N,61000μm,0.3s						
HORT	**Hortiatis**	**0.27**	**270**	PG	**Pg**	**18 46 51.6**	**+0.1**
HORT				SG	**Sg**	**18 46 55.4**	**-0.1**
HORT	**Hortiatis**	**0.27**	**270**	P	**Pg**	**18 46 51.5**	**+0.1**
HORT				S	**Sg**	**18 46 55.6**	**+0.1**
	comp=N,6μm,0.2s						
HORT	**Hortiatis**	**0.27**	**270**	P	**Pg**	**18 46 51.6**	**+0.1**
HORT				AML	AML	18 46 55.8	
	comp=N,11619μm,0.2s						
HORT				AML	AML	18 46 57.1	
	comp=E,11601μm,0.3s						
THE	**Thessaloniki**	**0.38**	**275**	P	**Pg**	**18 46 52.9**	**-0.3**
THE				S	**Sg**	**18 46 58.2**	**-0.3**
	comp=E,2μm,0.4s						
THE	**Thessaloniki**	**0.38**	**275**	⇓*i*Pg	**Pg**	**18 46 52.9**	**-0.3**
THE				*i* Sg	**Sg**	**18 46 55.8**	**-2.7**
THE	**Thessaloniki**	**0.38**	**275**	P	**Pg**	**18 46 53.0**	**-0.3**
THE				AML	AML	18 47 00.1	
	comp=N,4326μm,0.3s						
THE				AML	AML	18 47 01.2	
	comp=E,3752μm,0.3s						
KOKK	**Kokkinochori,**	**0.47**	**62**	P	**Pg**	**18 46 54.5**	**-0.4**
KOKK				S	**Sg**	**18 47 00.8**	**-0.4**
	comp=E,4μm,0.2s						
KOKK	**Kokkinochori,**	**0.47**	**62**	P	**Pg**	**18 46 54.6**	**-0.4**
OUR	**Ouranopolis**	**0.48**	**123**	PG	**Pg**	**18 46 55.0**	**-0.1**
OUR				SG	**Sg**	**18 47 01.9**	**+0.3**
OUR	**Ouranopolis**	**0.48**	**123**	P	**Pg**	**18 46 55.0**	**-0.1**
OUR				S	**Sg**	**18 47 01.7**	**+0.1**
	comp=E,8μm,0.2s						
OUR	**Ouranopolis**	**0.48**	**123**	P	**Pg**	**18 46 55.0**	**-0.1**
OUR				S	**Sg**	**18 47 01.1**	**-0.4**
OUR				AML	AML	18 47 02.2	
	comp=N,16995μm,0.3s						
OUR				AML	AML	18 47 02.9	
	comp=E,16002μm,0.2s						
SRS	**Serrai**	**0.53**	**11**	P	**Pg**	**18 46 55.3**	**-0.8**
SRS				S	**Sg**	**18 47 02.5**	**-0.7**
	comp=E,5μm,0.1s						
SRS	**Serrai**	**0.53**	**11**	*e*Pg	**Pg**	**18 46 55.2**	**-0.8**
SRS				*e*Sg	**Sg**	**18 47 02.5**	**-0.7**
SRS	**Serrai**	**0.53**	**11⇑**	*e*Pg	**Pg**	**18 46 55.3**	**-0.8**
SRS				*i* Sg	**Sb**	**18 47 04.0**	**0.0**
SRS	**Serrai**	**0.53**	**11**	P	**Pg**	**18 46 55.4**	**-0.6**
SRS				S	**Sg**	**18 47 02.5**	**-0.7**
SRS				AML	AML	18 47 04.8	
	comp=N,11790μm,0.1s						
SRS				AML	AML	18 47 05.0	
	comp=E,9462μm,0.1s						
PAIG	**Paliouri**	**0.69**	**166**	P	**Pg**	**18 46 58.4**	**-0.7**
PAIG				S	**Sg**	**18 47 07.9**	**-0.3**
	comp=E,4μm,0.3s						
PAIG	**Paliouri**	**0.69**	**166**	P	**Pg**	**18 46 58.4**	**-0.7**
PAIG				S	**Sg**	**18 47 07.3**	**-0.9**
PAIG				AML	AML	18 47 08.5	
	comp=E,7188μm,0.2s						
PAIG				AML	AML	18 47 13.0	
	comp=N,7039μm,0.4s						
KNT	**Kendrikon**	**0.71**	**323**	PG	**Pg**	**18 46 58.2**	**-1.2**
KNT	**Kendrikon**	**0.71**	**323**	P	**Pg**	**18 46 58.2**	**-1.2**
KNT				S	**Sg**	**18 47 07.4**	**-1.3**
	comp=N,5μm,0.2s						
KNT	**Kendrikon**	**0.71**	**323⇑**	*e*Pg	**Pg**	**18 46 58.2**	**-1.2**
KNT				*i* Sg	**Sg**	**18 47 07.4**	**-1.3**
KNT	**Kendrikon**	**0.71**	**323**	P	**Pg**	**18 46 58.3**	**-1.1**
KNT				S	**Sg**	**18 47 07.4**	**-1.3**
KNT				AML	AML	18 47 08.1	
	comp=E,10447μm,0.2s						
KNT				AML	AML	18 47 08.2	
	comp=N,8839μm,0.2s						
KVLA	**Kavala**	**0.78**	**64**	P	**Pg**	**18 47 00.5**	**-0.3**
KVLA				S	**Sg**	**18 47 10.5**	**-0.7**
KVLA				AML	AML	18 47 13.3	
	comp=N,10304μm,0.3s						
KVLA				AML	AML	18 47 13.7	
	comp=E,9424μm,0.2s						
NVR	**Nevrokopi**	**0.81**	**22**	P	**Pg**	**18 47 00.8**	**-0.6**
NVR				S	**Sg**	**18 47 11.9**	**-0.2**
	comp=E,6μm,0.2s						
NVR	**Nevrokopi**	**0.81**	**22**	P	**Pg**	**18 47 00.8**	**-0.6**
NVR				S	**Sg**	**18 47 11.8**	**-0.2**
NVR				AML	AML	18 47 13.0	
	comp=N,11900μm,0.2s						
NVR				AML	AML	18 47 13.4	
	comp=E,11760μm,0.2s						
GRG	**Griva**	**0.88**	**294**	PG	**Pb**	**18 47 02.0**	**-0.6**
GRG				SG	**Sb**	**18 47 14.9**	**+0.8**
GRG	**Griva**	**0.88**	**294**	P	**Pb**	**18 47 01.9**	**-0.6**
GRG				S	**Sg**	**18 47 14.2**	**0.0**
	comp=E,5μm,0.4s						
GRG	**Griva**	**0.88**	**294**	*i* Pg	**Pb**	**18 47 02.3**	**-0.2**
GRG				*i* Sg	**Sn**	**18 47 15.7**	**-0.2**
GRG	**Griva**	**0.88**	**294**	P	**Pb**	**18 47 02.0**	**-0.6**
GRG				S	**Sg**	**18 47 14.3**	**+0.1**
GRG				AML	AML	18 47 19.1	
	comp=E,7886μm,0.4s						
GRG				AML	AML	18 47 19.2	
	comp=N,10718μm,0.5s						
KAVA	**Kavala**	**0.90**	**63**	P	**Pb**	**18 47 02.3**	**-0.5**
KAVA				S	**Sb**	**18 47 14.7**	**+0.2**
	comp=N,3μm,0.3s						
KAVA	**Kavala**	**0.90**	**63**	P	**Pb**	**18 47 02.3**	**-0.5**
KAVA				S	**Sb**	**18 47 14.4**	**-0.1**
THAS	**Thassos island**	**0.96**	**89**	P	**Pb**	**18 47 03.5**	**-0.4**
THAS				S	**Sb**	**18 47 16.5**	**+0.1**
	comp=N,2μm,0.4s						
THAS	**Thassos island**	**0.96**	**89**	P	**Pb**	**18 47 03.3**	**-0.6**
THAS				S	**Sb**	**18 47 16.6**	**+0.2**
THAS				AML	AML	18 47 18.9	
	comp=E,3627μm,0.3s						
THAS				AML	AML	18 47 19.1	
	comp=N,5700μm,0.3s						
VAY	**Valandovo**	**0.99**	**317**	*e*P

BOSS	**Bosilegrad**	**2.03**	**339**	*e*Pg		**Pn**	**18 47 20.8 +1.5**
BOSS				*e*Sg		**Sb**	**18 47 49.4 +2.1**
SKO	**Skopje**	**2.05**	**313**	*e*Pg		**Pb**	**18 47 21.9 -0.6**
SKO				*e*Sg		**Sb**	**18 47 49.1 +1.4**
SKO	**Skopje**	**2.05**	**313**	*i* Pn		**Pb**	**18 47 21.6 -0.9**
ENEZ	**Enez**	**2.06**	**85**	PN		**Pn**	**18 47 20.3 +0.8**
CAVK	**Edirne/Enez-Ca**	**2.06**	**87**	P		**Pb**	**18 47 23.9 +1.2**
OHR	**Ohrid**	**2.08**	**285**	*e*Pg		**Pb**	**18 47 22.0 -1.0**
OHR				*e*Sg		**Sg**	**18 47 52.4 -0.1**
OHR	**Ohrid**	**2.08**	**285**	*i* Pn		**Pb**	**18 47 22.1 -1.0**
OHR				*e*Sn		**Sb**	**18 47 48.7 0.0**
OHR				*e*Lg		Lg	18 47 59.8
	comp=N,227nm,0.9s						
OHR				*e*Lg		Lg	18 48 00.9
	comp=E,138nm,0.5s						
EVR	**Evrytania**	**2.10**	**218**	P		**Pn**	**18 47 21.6 +1.3**
BOZC	**Bozcaada**	**2.13**	**110**	PN		**Pn**	**18 47 21.8 +1.3**
BOZC	**Bozcaada**	**2.13**	**110**	P		**Pn**	**18 47 21.8 +1.3**
ECEA	**Canakkale, Ece**	**2.15**	**104**	P		**Pg**	**18 47 26.4 -0.4**
SIGR	**SIGRI**	**2.31**	**126**	PN		**Pn**	**18 47 23.9 +0.9**
GELI	**Tayfur-Gelibol**	**2.31**	**94**	PN		**Pn**	**18 47 23.9 +0.9**
ANX	**Ano Chora**	**2.33**	**211**	P		**Pn**	**18 47 24.9 +1.5**
ANX				AML		AML	18 47 55.7
	comp=E,985µm,0.5s						
ANX				AML		AML	18 48 05.4
	comp=N,793µm,0.4s						
ERIK	**Erikli-Kesan**	**2.33**	**87**	PN		**Pn**	**18 47 24.6 +1.4**
ERIK	**Erikli-Kesan**	**2.33**	**87**	P		**Pn**	**18 47 24.8 +1.6**
ERIK				S		**Sb**	**18 47 57.5 +1.8**
ERIK				*i* AML		AML	18 48 03.0
	comp=N,196nm,0.6s						
EZN	**Ezine**	**2.33**	**108**	PN		**Pn**	**18 47 24.1 +0.9**
EZN	**Ezine**	**2.33**	**108**	P		**Pn**	**18 47 23.1 -0.2**
GPNR	**Gulpinar-Canak**	**2.35**	**118**	PN		**Pn**	**18 47 24.9 +1.3**
VIL2	**Platees**	**2.39**	**184**	P		**Pn**	**18 47 25.3 +1.2**
VIL2				AML		AML	18 47 57.0
	comp=N,394µm,0.8s						
VIL2				AML		AML	18 47 57.1
	comp=E,425µm,0.5s						
SERG	**Sergoula**	**2.44**	**207**	P		**Pn**	**18 47 26.0 +1.2**
SERG				AML		AML	18 47 57.3
	comp=N,456µm,0.4s						
SERG				AML		AML	18 47 58.2
	comp=E,495µm,0.5s						
KESN	**Edirne-Kesan**	**2.46**	**84**	P		**Pn**	**18 47 24.8 -0.6**
UKOP	**Uzunkopru-Edir**	**2.47**	**77**	PN		**Pn**	**18 47 26.0 +0.8**
UKOP	**Uzunkopru-Edir**	**2.47**	**77**	P		**Pg**	**18 47 33.1 +0.2**
UKOP				S		**Sg**	**18 48 05.3 +0.5**
UKOP				*i* AML		AML	18 48 07.0
	comp=E,3µm,0.7s						
EFP	**Efpalio**	**2.48**	**209**	P		**Pn**	**18 47 26.7 +1.4**
EFP				AML		AML	18 48 13.8
	comp=N,319µm,0.5s						
EFP				AML		AML	18 48 15.2
	comp=E,398µm,0.9s						
PVO	**Paravola**	**2.48**	**218**	P		**Pn**	**18 47 27.4 +2.1**
BAYC	**CANAKKALE_Bayr**	**2.52**	**109**	P		**Pn**	**18 47 25.2 -0.6**
LPK	**Lapseki**	**2.53**	**94**	PN		**Pn**	**18 47 26.4 +0.4**
BARS	**Barje**	**2.54**	**332**	*e*Pn		**Pn**	**18 47 27.2 +1.0**
BARS	**Barje**	**2.54**	**332**	*i* Pn		**Pn**	**18 47 27.4 +1.3**
DION	**Dionisos Attik**	**2.54**	**172**	P		**Pn**	**18 47 26.9 +0.7**
LAKA	**Lakka**	**2.62**	**206**	P		**Pn**	**18 47 28.3 +1.0**
IGT	**Igoumenitsa**	**2.62**	**247**	P		**Pn**	**18 47 29.5 +2.2**
LOUT	**Loutraki**	**2.63**	**188**	P		**Pn**	**18 47 28.1 +0.7**
ZAPS	**Zavoj**	**2.74**	**347**	*e*Pn		**Pn**	**18 47 30.6 +1.6**
ZAPS				*e*Sn		**Sn**	**18 48 03.0 +1.1**
VLY	**Voula,Athens**	**2.75**	**174**	P		**Pn**	**18 47 29.4 +0.3**
EDRB	**Edirne**	**2.78**	**62**	PN		**Pn**	**18 47 30.8 +1.4**
TIR	**Tirane**	**2.82**	**287**	⇑P		**Pn**	**18 47 31.7 +1.6**
TIR	**Tirane**	**2.82**	**287**	*i* Pn		**Pb**	**18 47 34.1 -1.5**
RKY	**Sarkoy-Tekirda**	**2.83**	**87**	PN		**Pn**	**18 47 31.9 +1.6**
KRBG	**Karabiga-Canak**	**2.94**	**93**	PN		**Pn**	**18 47 32.6 +1.0**
KRBG	**Karabiga-Canak**	**2.94**	**93**	P		**Pn**	**18 47 30.9 -0.7**
CHOS	**Chios island**	**2.98**	**137**	PN		**Pn**	**18 47 33.5 +1.1**
CHOS	**Chios island**	**2.98**	**137**	P		**Pn**	**18 47 33.4 +1.1**
BUHA	**Balikesir, Bur**	**2.99**	**110**	P		**Pn**	**18 47 33.5 +1.2**
KNL	**Balıkesir**	**3.12**	**95**	P		**Pn**	**18 47 33.1 -1.1**
KNL				S		**Sb**	**18 48 22.3 +3.7**
SELS	**Selova**	**3.15**	**327**	*e*Pn		**Pn**	**18 47 35.3 +0.7**
SELS				*e*Sn		**Sn**	**18 48 14.1 +2.2**
CRLT	**Corlu**	**3.29**	**79**	PN		**Pn**	**18 47 38.2 +1.7**
URLA	**Izmir**	**3.30**	**132**	PN		**Pn**	**18 47 36.9 +0.2**
ZAGS	**Zajecar**	**3.34**	**345**	*e*Pn		**Pn**	**18 47 38.1 +0.9**
ZAGS				*e*Sn		**Sn**	**18 48 17.2 +0.7**
EDC	**Edincik**	**3.37**	**93**	PN		**Pn**	**18 47 39.4 +1.8**
VLAD	**Vladila**	**3.47**	**11**	⇑P		**Pn**	**18 47 40.7 +1.7**
PDG	**Podgorica**	**3.65**	**302**	⇓P		**Pn**	**18 47 42.6 +1.2**
SLVT	**Silivri**	**3.66**	**79**	P		**Pg**	**18 47 53.6 -2.0**
SLVT				S		**Sg**	**18 48 39.3 -3.7**
SJES	**Sjenica**	**3.72**	**317**	*e*Pn		**Pn**	**18 47 44.3 +1.8**
COPA	**Copaceanca**	**3.77**	**20**	⇓P		**Pn**	**18 47 45.6 +2.6**
IVAS	**Ivanjica**	**3.86**	**322**	*e*Pn		**Pn**	**18 47 45.3 +0.9**
GRUS	**Gruza**	**3.87**	**329**	*e*Pn		**Pn**	**18 47 45.3 +0.9**
APE	**Apeiranthos**	**3.88**	**155**	⇓P		**Pn**	**18 47 45.6 +0.9**
KUBS	**Kucevo**	**4.03**	**342**	*e*Pn		**Pn**	**18 47 46.2 -0.5**
HUMR	**Humele**	**4.09**	**15**	⇓P		**Pn**	**18 47 49.5 +2.0**
TRUS	**Trudelj**	**4.27**	**329**	*e*Pn		**Pn**	**18 47 50.6 +0.6**
DIVS	**Divibare**	**4.34**	**325**	*e*Pn		**Pn**	**18 47 51.9 +0.9**
HERR	**Herculane**	**4.35**	**350**	⇑P		**Pn**	**18 47 51.5 +0.4**
MDVR	**Moldovita**	**4.38**	**343**	⇑P		**Pn**	**18 47 52.5 +1.0**
KALB	**Balgarevo**	**4.64**	**51**	⇑P		**Pn**	**18 47 57.9 +2.9**
ICOR	**Ion Corvin**	**4.77**	**41**	⇓P		**Pn**	**18 47 58.8 +2.0**
GZR	**Gura Zlata**	**4.82**	**354**	⇓P		**Pn**	**18 47 58.1 +0.5**
LOT	**Lotru**	**4.85**	**3**	⇑P		**Pn**	**18 47 59.0 +0.9**
VOIR		**4.98**	**13**	⇑P		**Pn**	**18 48 01.6 +1.8**
ISR	**Istrita**	**5.06**	**26**	⇑P		**Pn**	**18 48 03.3 +2.5**
BZS	**Buzias**	**5.20**	**346**	⇑P		**Pn**	**18 48 03.5 +0.8**
MLR	**Muntele Rosu**	**5.22**	**20**	⇑P		**Pn**	**18 48 05.6 +2.5**
NEHR	**Nehoiu**	**5.26**	**22**	⇑P		**Pn**	**18 48 06.0 +2.5**
TIRR	**Tirgusor**	**5.32**	**42**	⇑P		**Pn**	**18 48 05.7 +1.3**
TIRR	**Tirgusor**	**5.32**	**42**	⇑P		**Pn**	**18 48 05.7 +1.3**
IDI	**Anoyia**	**5.42**	**167**	⇑P		**Pn**	**18 48 07.7 +1.8**
DOPR	**Dopca**	**5.55**	**14**	⇑P		**Pn**	**18 48 09.9 +2.4**
COVR	**Voineasa-Covas**	**5.62**	**20**	⇑P		**Pn**	**18 48 11.4 +2.9**
CFR	**Carcaliu**	**5.72**	**35**	⇑P		**Pn**	**18 48 11.2 +1.3**
OZUR		**5.75**	**16**	⇑P		**Pn**	**18 48 12.5 +2.2**
VRI	**Vrincioaia**	**5.78**	**23**	⇑P		**Pn**	**18 48 13.6 +2.9**
SIRR	**Siria**	**5.82**	**348**	⇑P		**Pn**	**18 48 12.1 +0.8**
VARL	**Varlezi**	**6.19**	**30**	⇑P		**Pn**	**18 48 19.1 +2.7**
VLDR	**Vladesti**	**6.24**	**31**	⇓P		**Pn**	**18 48 19.5 +2.6**
MORH	**Mrgy, Hungar**	**6.62**	**330**	⇑P		**Pn**	**18 48 23.1 +1.0**
BRTR	**Keskin Array B**	**7.85**	**93**	Pn		Pn	18 48 34.5 -4.8
	comp=E,0.1nm,0.3s,baz=274,slow=9.8,SNR=1.4						
BRTR				Sn		**Sn**	**18 50 03.0 -4.8**
	baz=316,slow=39 comp=E,0.2nm,0.5s						
SOKA	**Soboth**	**8.61**	**318**	*e*Pn		**Pn**	**18 48 52.3 +2.6**
	comp=E,0.8nm,0.4s						
OBKA	**Obir**	**8.76**	**315**	*e*Pn		**Pn**	**18 48 54.4 +2.7**
	comp=E,2.0nm,0.7s						
ARSA	**Arzberg**	**8.77**	**322**	*e*Pn		**Pn**	**18 48 54.2 +2.4**
	comp=E,1.3nm,0.3s						
ABTA	**Abfaltersbach**	**10.03**	**311**	*e*Pn		**Pn**	**18 49 08.8 -0.3**
	comp=E,2.3nm,0.6s						
AKASG	**Malin Array Be**	**10.88**	**20**	Pn		**Pn**	**18 49 22.4 +1.9**
	comp=E,0.2nm,0.3s,baz=208,slow=12,SNR=0.9						
NACGM	**Naroch**	**14.49**	**8**	*e*P		**Pn**	**18 50 07.1 -2.7**
	comp=Z,7.0nm,1.1s,baz=190						
NOA	**NORSAR Array B**	**21.81**	**344**	P		**P**	**18 51 37.3 +0.4**
	comp=Z,1.0nm,0.8s,baz=156,slow=9.7,SNR=3.2 comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**42.12**	**61**	P		**P**	**18 54 37.4 +0.4**
	comp=Z,0.4nm,0.6s,baz=283,slow=8.3,SNR=4.8 comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**42.39**	**50**	P		**P**	**18 54 38.6 -0.4**
	comp=Z,0.6nm,0.5s,baz=270,slow=7.2,SNR=3.6 comp=Z,0.6nm,0.5s						

*IDC **25** 18:52:04.6±2.8, 33.°08N×131.°99E, h57km±23km, mb3.4/6, mbtmp3.9/9,ML3.8/3,MS2.8/1,Error ellipse: s-maj=31.4km s-min=16.9km az=33.0*

*NIED **25** 18:52:06.2, 33.°20N×132.°12E, h47km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=8.49; $M_{\theta\theta}$1.02; $M_{\phi\phi}$7.46; $M_{r\theta}$0.37; $M_{r\phi}$2.59; $M_{\theta\phi}$3.06; Fault plane solution: M_o8.98000×10^{14} NP1:ϕ_s24.00000°, δ35.00000°, λ-83.00000°. NP2:ϕ_s195.00000°, δ55.00000°, λ-95.00000°.*

*JMA **25** 18:52:06.2±0.1, 33.°2N±0.°2×132.°1E±0.°2, h47km, MD3.8/32, MV4.0/32, BUNGO CHANNEL*

JMA Felt III J1 at BUNGO CHANNEL .

ISC 25 18:52:05.3±0.8, 33.°18N±0.°05×132.°13E±0.°04, h53km±7km, n41,σ1°34/36, mb3.7/6, 4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUS	**Usuki**	**0.33**	**251**	P	**Pn**	**18 52 15.3**	**+0.3**
JUS				S	**Sn**	**18 52 21.8**	**-0.1**
JUS	**Usuki**	**0.33**	**251**	A	A	18 52 15.3	
	comp=E,14nm,0.7s,comp=E,24nm,0.4s						
JSKE	**Saikikamae**	**0.42**	**207**	⇓P	**Pn**	**18 52 16.6**	**+0.8**
JSKE				⇓S	**Sn**	**18 52 24.4**	**+1.0**
JSKE	**Saikikamae**	**0.42**	**207**	A	A	18 52 16.6	
	comp=E,7.0nm,0.6s,comp=E,7.0nm,1.1s						
UWA2	**Uwa jima 2**	**0.42**	**85**	P	**Pn**	**18 52 16.2**	**+0.3**
UWA2				S	**Sn**	**18 52 23.9**	**+0.3**
UWA2	**Uwa jima 2**	**0.42**	**85**	A	A	18 52 16.2	
	comp=E,12nm,1.5s,comp=E,18nm,0.4s						
JNA	**Nagahama**	**0.48**	**38**	⇓P	**Pn**	**18 52 16.7**	**+0.1**
JNA				⇓S	**Sn**	**18 52 24.4**	**-0.3**
JNA	**Nagahama**	**0.48**	**38**	A	A	18 52 16.7	
	comp=E,21nm,0.7s,comp=E,14nm,1.4s						
JBEP	**Beppuamama**	**0.62**	**285**	A	A	18 52 18.6	
	comp=E,30nm,0.5s,comp=E,32nm,0.9s						
JTO	**Tosashimizu**	**0.65**	**119**	P	**Pn**	**18 52 18.9**	**+0.4**
JTO				S	**Sn**	**18 52 28.3**	**+0.2**
JKI	**Kunimi**	**0.65**	**315**	A	A	18 52 18.9	
	comp=E,24nm,0.6s,comp=E,24nm,0.9s						
JKIT	**Kitakata**	**0.79**	**226**	A	A	18 52 21.2	
	comp=E,5.0nm,1.2s,comp=E,5.0nm,2.3s						
JKU	**Kubokawa**	**0.80**	**80**	P	**Pn**	**18 52 20.7**	**+0.2**
JKU				*e*S	**Sn**	**18 52 31.5**	**0.0**
JKU	**Kubokawa**	**0.80**	**80**	A	A	18 52 20.7	
	comp=E,4.0nm,2.3s,comp=E,4.0nm,2.1s						
JKD	**Kudamatsu**	**0.90**	**347**	A	A	18 52 22.2	
	comp=E,11nm,0.5s,comp=E,11nm,0.5s						
JET	**Tanbara**	**0.98**	**52**	P	**Pn**	**18 52 23.1**	**+0.3**
JET				*e*S	**Sn**	**18 52 35.3**	**-0.5**
JET	**Tanbara**	**0.98**	**52**	A	A	18 52 23.1	
	comp=E,10.0nm,0.2s,comp=E,11nm,0.3s						
JHM	**Kurahashi**	**1.02**	**19**	P	**Pn**	**18 52 23.9**	**+0.6**
JHM	**Kurahashi**	**1.02**	**19**	A	A	18 52 23.9	
	comp=E,3.0nm,3.1s,comp=E,3.0nm,1.9s						
JNU	**Nakatsue**	**1.05**	**267**	P	**Pn**	**18 52 24.9**	**+1.2**
JMN	**Monobe**	**1.57**	**69**	P	**Pn**	**18 52 32.9**	**+2.1**
JMN	**Monobe**	**1.57**	**69**	A	A	18 52 32.0	
	comp=E,3.0nm,1.2s,comp=E,3.0nm,1.3s						
JNKG	**Nichinankitago**	**1.64**	**203**	A	A	18 52 33.5	
	comp=E,2.0nm,1.3s,comp=E,2.0nm,1.9s						
JHS	**Saijyo**	**2.00**	**24**	P	**Pn**	**18 52 39.4**	**+2.8**
JSU	**Suzuyama**	**2.18**	**221**	P	**Pn**	**18 52 41.9**	**+2.7**
JTU	**Tsushima**	**2.64**	**301**	P	**Pn**	**18 52 45.6**	**+0.3**
INU	**Inuyama**	**4.59**	**60**	P	**Pn**	**18 53 13.9**	**+1.7**
JGF	**Kuroka**	**4.96**	**59**	P	**Pn**	**18 53 18.3**	**+1.1**
TJN	**Taejon**	**5.05**	**311**	P	**Pn**	**18 53 19.3**	**+0.8**
KSRS	**Korea Array**	**5.48**	**322**	P	**Pn**	**18 53 25.4**	**+1.1**
	2.1nm,0.3s,baz=141,slow=14,SNR=40						
KSRS				S	**Sn**	**18 54 25.2**	**-0.7**
	9.7nm,0.4s,baz=141,slow=25,SNR=9.4						
KSRS				LR	LR	18 55 58.6	
	comp=Z,92nm,18.9s,baz=145,slow=43 7.0nm,0.5s						
MAJO	**Matsushiro**	**6.02**	**54**	P	**Pn**	**18 53 33.7**	**+1.9**
MJAR	**Matsushiro Arr**	**6.02**	**54**	P	**Pn**	**18 53 34.0**	**+2.2**
	0.8nm,0.3s,baz=239,slow=14,SNR=49 12nm,0.4s						
JHJ	**Hachijo jima 2**	**6.42**	**88**	P	**Pn**	**18 53 37.4**	**+0.1**
	25nm,0.3s,baz=337,slow=14,SNR=7.4 67nm,0.4s						
JHJ2	**Mitsune**	**6.45**	**88**	P	**Pn**	**18 53 37.9**	**+0.3**
KLR	**Kul'dur**	**16.04**	**359**	P	**P**	**18 55 52.2**	**+2.4**
	1.5nm,0.7s,baz=192,slow=12,SNR=6.4						
SONM	**Songino Array**	**24.29**	**315**	P	**P**	**18 57 17.8**	**+0.2**
	0.9nm,0.7s,baz=134,slow=9.5,SNR=7.2 0.9nm,0.7s						
WRA	**Warramunga Arr**	**52.86**	**177**	P	**P**	**19 01 14.0**	**-1.7**
	0.5nm,0.5s,baz=353,slow=7.5,SNR=1.1 0.5nm,0.5s						
ILAR	**Eielson Array**	**56.74**	**30**	P	**P**	**19 01 44.5**	**+1.2**
	0.5nm,0.8s,baz=266,slow=6.8,SNR=8.4 0.5nm,0.8s						
FINES	**FINESS Array B**	**68.52**	**330**	P	**P**	**19 02 59.5**	**-2.2**
	1.8nm,0.8s,baz=69,slow=7.6,SNR=1.8 1.8nm,0.8s						
NVAR	**Mina Array Bea**	**83.31**	**48**	P	**P**	**19 04 25.3**	**-1.5**
	0.7nm,0.7s,baz=303,slow=5.3,SNR=2.6 0.7nm,0.7s						
PDAR	**Pinedale Array**	**85.67**	**41**	P	**P**	**19 04 38.1**	**-0.5**
	0.2nm,0.6s,baz=280,slow=5.2,SNR=2.6 0.2nm,0.6s						

*NEIC **25** 18:54:40.3±1.0, 7.°6S±0.°1×128.°38E±0.°09, h139km±16km, mb4.1/3, Error ellipse: s-maj=16.7km s-min=11.2km az=147.0*

*IDC **25** 18:54:40.4±2.1, 7.°64S×128.°45E, h156km±27km, mb3.0/1, mbtmp3.8/5, MS2.8/1, Error ellipse: s-maj=33.3km s-min=23.3km az=96.0*

ISC 25 18:54:39.5±0.8, 7.°60S±0.°07×128.°42E±0.°09, h151km, n19, σ2°03/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.88**	**98**	Pn	**Pn**	**18 55 26.2**	**+0.7**
SOEI	**Soe**	**4.63**	**242**	Pn	**Pn**	**18 55 48.3**	**+0.1**
BATI	**Baumata**	**5.36**	**241**	P	**Pn**	**18 55 59.2**	**+1.4**
	13nm,0.4s,baz=358,slow=2.1,SNR=11						
BATI				S	**Sn**	**18 56 56.3**	**-2.8**
	29nm,0.4s,baz=112,slow=16,SNR=17						
MTN	**Manton Dam**	**5.86**	**153**		**Pn**	**18 56 05.4**	**+1.0**
FAKI	**Fak Fak**	**6.01**	**40**	Pn	**Pn**	**18 56 06.9**	**+0.4**
SIJI	**Sorong**	**7.26**	**23**	P	**Pn**	**18 56 24.1**	**+1.0**
	3.1nm,0.3s,baz=216,slow=19,SNR=11						
SIJI				S	**Sn**	**18 57 41.0**	**-3.5**
	2.5nm,0.5s,baz=128,slow=23,SNR=1.3						
KNRA	**Kununurra**	**8.04**	**178**		**Pn**	**18 56 33.6**	**+0.1**
WB0	**Warramunga Arr**	**13.41**	**155**		**Pn**	**18 57 42.9**	**-1.2**
WRA	**Warramunga Arr**	**13.55**	**156**	P	**Pn**	**18 57 44.8**	**-1.0**
	1.5nm,0.7s,baz=323,slow=13,SNR=22						
WRA				S	Sn	19 00 06.8	-9.1
	1.5nm,0.7s,baz=332,slow=23,SNR=4.9						
WRA	**Warramunga Arr**	**13.55**	**156**	Pn	**Pn**	**18 57 42.2**	**-3.6**
WB2	**Warramunga Arr**	**13.55**	**155**	Pn	**Pn**	**18 57 43.5**	**-2.4**
WR0	**Warramunga Arr**	**13.65**	**155**	Pn	**Pn**	**18 57 45.7**	**-1.4**
COEN	**Coen**	**15.81**	**115**	P	**P**	**18 58 17.3**	**+2.5**
COEN				IAmb	IAmb	18 58 41.6	
	comp=Z,28nm,1.5s						
PSA00	**Pilbara Seismi**	**16.17**	**210**	P	**Pn**	**18 58 19.3**	**+0.9**
PSA00				IAmb	IAmb	18 58 30.3	
	comp=Z,28nm,1.5s						
AS31	**Alice Springs**	**16.82**	**162**	P	**Pn**	**18 58 27.4**	**+1.0**
AS31				IAmb	IAmb	18 58 36.3	
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**16.82**	**162**	P	**P**	**18 58 26.7**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=345,slow=14,SNR=27						
ASAR				S	**S**	**19 01 29.9**	**-3.5**
	comp=Z,0.9nm,1.1s,baz=347,slow=30,SNR=4.0						
ASAR	**Alice Springs**	**16.82**	**162**	P	**Pn**	**18 58 28.5**	**+2.2**
KSRS	**Korea Array**	**44.82**	**359**	LR	LR	19 20 53.5	
	comp=Z,11nm,21.4s,baz=325,slow=35						
MKAR	**Makanchi Array**	**67.88**	**328**	P	**P**	**19 05 22.3**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=128,slow=7.4,SNR=4.3 comp=Z,0.2nm,0.5s						

WEL 25 19:11:56.7±1.1, 38.°S±7.°×17.°9E±.°, h12km, M3.3/25, ML3.6/19, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=44.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.73**	**291**	P	Pb	19 12 11.3	0.0
PUZ	**Puketiti**	**0.80**	**271**	P	Pg	19 12 12.1	-0.1
PUZ				S	Sb	19 12 23.5	+0.1
CNGZ	**Carnagh Statio**	**0.93**	**244**	P	Pb	19 12 15.1	-0.4
MXZ	**Matakaoa Point**	**0.93**	**304**	P	Pb	19 12 14.8	+0.2
PKGZ	**Pakihiroa**	**0.97**	**282**	P	Pg	19 12 14.7	-0.6
PKGZ				S	Sb	19 12 28.7	+0.6
TWGZ	**Tauwhareparae**	**1.02**	**265**	P	Pb	19 12 15.9	-0.4
TWGZ				S	Sn	19 12 30.7	-0.5
TKGZ	**Te Karaka**	**1.18**	**252**	P	Pb	19 12 18.2	-0.7
TKGZ				S	Sb	19 12 34.3	+0.2
HAZ	**Te Kaha**	**1.22**	**285**	P	Pn	19 12 18.6	-1.0
RUGZ	**Raukumara Rang**	**1.27**	**275**	P	Pn	19 12 19.0	-1.3
RIGZ	**Rimuhau**	**1.34**	**242**	P	Pn	19 12 21.1	-0.2
MWZ	**Matawai**	**1.40**	**259**	P	Pn	19 12 21.1	-0.9
RAGZ	**Rawiri**	**1.52**	**254**	P	Pn	19 12 24.2	+0.5
KNZ	**Kokohu**	**1.56**	**233**	P	Pn	19 12 23.5	-0.7
SNGZ	**Shannon Statio**	**1.67**	**245**	P	Pn	19 12 25.6	-0.2
URZ	**Urewera**	**1.71**	**264**	P	Pn	19 12 26.5	+0.2
WHRZ	**Whale Island**	**1.83**	**277**	P	Pn	19 12 28.9	+0.9
RAHZ	**Arahi**	**1.91**	**244**	P	Pn	19 12 29.3	+0.3
MTHZ	**Maungataniwha**	**2.06**	**247**	P	Pn	19 12 31.1	0.0
ARHZ	**Aropaoanui**	**2.13**	**236**	P	Pn	19 12 32.4	+0.3
NMHZ	**Naumai**	**2.18**	**242**	P	Pn	19 12 33.0	+0.2
CKHZ	**Cape Kidnapper**	**2.32**	**227**	P	Pn	19 12 34.5	-0.3
MCHZ	**McNeill Hill**	**2.43**	**235**	P	Pn	19 12 36.1	0.0
BKZ	**Black Stump Fm**	**2.43**	**243**	P	Pn	19 12 35.9	-0.3
KAHZ	**Kahuranaki**	**2.53**	**227**	P	Pn	19 12 37.1	-0.5
KWHZ	**Kaweka Forest**	**2.60**	**238**	P	Pn	19 12 37.9	-0.7
BHHZ	**Black Hill Sta**	**2.87**	**240**	P	Pn	19 12 41.9	-0.5
PNHZ	**Pukenui**	**3.01**	**232**	P	Pn	19 12 42.9	-1.3
KUZ	**Kuaotunu**	**3.13**	**294**	P	Pn	19 12 45.4	-0.4
MRZ	**Mangatainoka R**	**3.85**	**227**	P	Pn	19 12 53.5	-2.1
CTZ	**Chatham Island**	**6.44**	**152**	P	Pn	19 13 33.0	+1.7

*NEIC **25** 19:21:16.4±2.2, 9.°61N±0.°08×73.°60W±0.°09, h135km±8km, mb4.1/5, Error ellipse: s-maj=12.3km s-min=11.4km az=97.0*

*RSNC **25** 19:21:17.2±0.9, 9.°46N×73.°61W, h113km±4km, ML3.8, Mw3.8, Fault plane solution: NP1:ϕ_s87.00000°, δ88.00000°, λ-6.00000°.*

*IDC **25** 19:21:19.1±1.7, 9.°32N×73.°39W, h129km±17km, mb3.3/5, mbtmp3.8/8, Error ellipse: s-maj=19.3km s-min=13.3km az=132.0*

ISC 25 19:21:16.0±0.7, 9.°46N±0.°03×73.°62W±0.°04, h113km±7km, n62,σ1°84/84, mb3.7/6, 5C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LL1C	**La Loma 1 Cana**	**0.11**	**38**	⇑*i*P	**Pn**	**19 21 33.0**	**+1.4**
LL1C				*e*S	**Sn**	**19 21 44.5**	**+1.2**
LL5C	**La Loma 5 El P**	**0.31**	**342**	⇑*i*P	**Pn**	**19 21 33.3**	**+1.1**
LL5C				IAML		19 21 44.8	
	comp=Z,4µm,0.3s						
LL5C				*e*S	**Sn**	**19 21 45.4**	**+1.1**
SJCC	**San Jacinto, C**	**1.60**	**286**	⇑*i*P	**Pn**	**19 21 45.6**	**+1.4**
SJCC				*e*S	**Sn**	**19 22 06.7**	**+1.1**
SJCC				IAML		19 22 09.5	
	comp=Z,2µm,0.5s						
CRJC	**Cerrejon, Guaj**	**1.72**	**25**	⇓*e*P	**Pn**	**19 21 46.5**	**+0.8**
CRJC				*e*S	**Sn**	**19 22 08.3**	**0.0**
CRJC				IAML		19 22 09.3	
	comp=Z,2µm,0.1s						
SMRC	**Santa Marta, M**	**1.80**	**341**	*e*P	**Pn**	**19 21 47.8**	**+1.2**
SMRC				*e*S	**Sn**	**19 22 09.5**	**-0.5**
SMRC				IAML		19 22 16.3	
	comp=Z,650nm,0.4s						
PAMC	**Pamplona, Colo**	**2.29**	**156**	⇑*e*P	**Pn**	**19 21 54.9**	**+1.5**
PAMC				*e*S	**Sn**	**19 22 28.8**	**+0.9**
PAMC				IAML		19 22 26.0	
	comp=Z,552nm,0.6s						
ZARC	**Zaragoza, Cauc**	**2.30**	**212**	⇓*e*P	**Pn**	**19 21 53.6**	**+0.5**
ZARC				*e*S	**

comp=Z,0.7nm,0.4s,baz=307,slow=13,SNR=2.0
comp=Z,0.7nm,0.4s

PSGCX	**Pisagua**	**29.08**	**173**	P		**P**	**19 27 05.8**	**-0.3**
TXAR	**Lajitas Array**	**34.38**	**309**	P		**P**	**19 27 55.5**	**+2.9**
	comp=Z,0.4nm,0.6s,baz=135,slow=10,SNR=4.1							
	comp=Z,0.4nm,0.6s							
PDAR	**Pinedale Array**	**45.68**	**323**	P		**P**	**19 29 29.1**	**+3.3**
	comp=Z,0.1nm,0.5s,baz=120,slow=12,SNR=2.2							
	comp=Z,0.1nm,0.5s							
PLCA	**Paso Flores**	**50.02**	**177**	P		**P**	**19 29 59.1**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=352,slow=8.0,SNR=5.7							
	comp=Z,3.4nm,0.9s							
ASAR	**Alice Springs**	**150.15**	**238**	PKPbc		**PKiKP**	**19 40 56.1**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=116,slow=4.2,SNR=1.6							
WRA	**Warramunga Arr**	**151.06**	**246**	PKPbc		**PKiKP**	**19 40 58.5**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=98,slow=3.0,SNR=4.6							

*IDC **25** 19:29:33.4±4.4,39˚.12N×74˚.04E,h0km,mb3.9/3,*
mbtmp3.7/8,ML3.0/5,MS3.1/2,Error ellipse: s-maj=70.7km
s-min=25.0km az=129.0
*KRNET **25** 19:29:35.5±0.1,39˚.39N×74˚.05E,mb4.1*
*SOME **25** 19:29:35.3,39˚.43N×74˚.05E,h5km*
*NNC **25** 19:29:41.7±1.4,39˚.60N×73˚.95E,h0km,mb4.3,mpv4.0,*
Error ellipse: s-maj=11.3km s-min=6.6km az=176.0

ISC 25 19:29:38.1±1.0,39˚.39N±0˚.06×73˚.93E±0˚.03,h10km,n66,
σ2s27/91,23C-28D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.43**	**322**	⇓*i*P	**Pn**	**19 30 03.6**	**-0.7**
	baz=20						
OHH				⇓*i*S	**Sg**	**19 30 24.3**	**+0.1**
	baz=20						
DRK	**Karamyk**	**1.65**	**274**	⇑*i*P	**Pn**	**19 30 08.2**	**+0.7**
	baz=74						
DRK				⇑*i*S	**Sg**	**19 30 32.0**	**+0.7**
	baz=74						
ARLS	**Aral**	**2.48**	**7**	⇓*i*P	**Pn**	**19 30 19.2**	**+0.4**
	baz=5.0						
ARLS				⇓*i*S	**Sn**	**19 30 51.0**	**+1.7**
	baz=5.0						
BTK	**Batken**	**2.49**	**286**	⇓*i*P	**Pn**	**19 30 20.6**	**+1.8**
	baz=86						
BTK				⇓*i*S	**Sb**	**19 30 53.5**	**-0.3**
	baz=86						
NRN	**Naryn**	**2.58**	**37**	⇑*i*P	**Pn**	**19 30 19.5**	**-0.7**
	baz=35						
NRN				⇑*i*S	**Sn**	**19 30 51.8**	**0.0**
	baz=35						
AML	**Almayashu**	**2.74**	**356**	P	**Pn**	**19 30 24.9**	**+2.3**
	SNR=21						
ARK	**Arkit**	**2.83**	**329**	⇑*i*P	**Pn**	**19 30 24.7**	**+1.2**
	baz=27						
ARK				⇑*i*S	**Sn**	**19 31 00.8**	**+3.0**
	baz=27						
UCH	**Uchtor**	**2.87**	**9**	P	**Pn**	**19 30 27.4**	**+3.1**
	SNR=97						
UCH	**Uchtor**	**2.87**	**9**	⇑*e*P	**Pn**	**19 30 24.6**	**+0.3**
	baz=7.0						
UCH				⇑*i*S	**Sn**	**19 31 00.6**	**+1.5**
	baz=7.0						
TRKS	**Terek-Say**	**3.02**	**316**	⇓*e*P	**Pn**	**19 30 26.8**	**+0.7**
	baz=14						
TRKS				⇓*e*S	**Sn**	**19 31 04.1**	**+1.8**
	baz=14						
EKS2	**Erkin-Say**	**3.27**	**358**	P	**Pn**	**19 30 32.5**	**+3.0**
	SNR=20						
EKS2	**Erkin-Say**	**3.27**	**358**	⇓*i*P	**Pn**	**19 30 30.3**	**+0.8**
	baz=56						
EKS2				⇓*i*S	**Sn**	**19 31 10.3**	**+1.8**
	baz=56						
AAK	**Ala-Archa**	**3.27**	**7**	P	**Pn**	**19 30 33.0**	**+3.4**
	SNR=23						
AAK	**Ala-Archa**	**3.27**	**7**	Pn	**Pn**	**19 30 32.9**	**+3.4**
	10nm,0.3s,baz=188,slow=14,SNR=58						
AAK				Sn	**Sb**	**19 31 17.1**	**+0.8**
	3.9nm,0.3s,baz=110,slow=16,SNR=5.9						
AAK				LR	LR	19 31 58.0	
	comp=Z,61nm,18.9s,baz=189,slow=41						
	27nm,0.3s						
AAK	**Ala-Archa**	**3.27**	**7**	⇑*e*P	**Pn**	**19 30 30.1**	**+0.5**
	baz=6.0						
AAK				⇑*e*S	**Sn**	**19 31 10.0**	**+1.4**
	baz=6.0						
ULHL	**Ulahol**	**3.35**	**31**	P	**Pb**	**19 30 38.3**	**+0.7**
	SNR=8.5						
ULHL	**Ulahol**	**3.35**	**31**	⇓*i*P	**Pn**	**19 30 30.6**	**-0.1**
	baz=29						
ULHL				⇓*i*S	**Sn**	**19 31 10.8**	**+0.2**
	baz=29						
KBK	**Karagaybulak**	**3.35**	**13**	P	**Pn**	**19 30 34.4**	**+3.7**
	SNR=47						
KBK	**Karagaybulak**	**3.35**	**13**	⇑*i*P	**Pn**	**19 30 30.9**	**+0.2**
	baz=11						
KBK				⇑*i*S	**Sn**	**19 31 11.6**	**+1.0**
	baz=11						
MRKS	**Merke**	**3.39**	**351**	*e*P	**Pb**	**19 30 38.5**	**+0.2**
	51nm,0.7s						
MRKS				*e*S	**Sg**	**19 31 24.2**	**-2.9**
	68nm,0.4s						
MRKS	**Merke**	**3.39**	**351**	Pg	**Pb**	**19 30 38.0**	**-0.4**
	51nm,0.5s						
FRU1	**Bishkek**	**3.46**	**9**	⇓*e*P	**Pn**	**19 30 32.8**	**+0.8**
	baz=7.0						
FRU1				⇓*e*S	**Sn**	**19 31 14.6**	**+1.5**
	baz=7.0						
CHMS	**Chumysh**	**3.66**	**9**	P	**Pn**	**19 30 37.7**	**+3.0**
	SNR=23						
CHMS	**Chumysh**	**3.66**	**9**	⇓*i*P	**Pn**	**19 30 35.4**	**+0.6**
	baz=8.0						
CHMS				⇓*i*S	**Sn**	**19 31 19.0**	**+1.0**
	baz=8.0						
CHMS	**Chumysh**	**3.66**	**9**	⇓Pn	**Pn**	**19 30 37.7**	**+3.0**
	19nm,0.5s						
CHMS				⇑Lg	Lg	19 31 33.9	
	88nm,0.7s						
TKM2	**Tokmak 2**	**3.74**	**19**	P	**Pn**	**19 30 39.4**	**+3.3**
	SNR=13						
TKM2	**Tokmak 2**	**3.74**	**19**	⇓*e*P	**Pn**	**19 30 36.3**	**+0.2**
	baz=18						
TKM2				⇓*e*S	**Sn**	**19 31 21.0**	**+0.6**
	baz=18						
TKM2	**Tokmak 2**	**3.74**	**19**	⇑Pn	**Pn**	**19 30 38.5**	**+2.4**
	19nm,0.7s						
TKM2				⇑Lg	Lg	19 31 35.8	
	72nm,0.8s						
USP	**Ospenovka**	**3.90**	**6**	P	**Pn**	**19 30 41.0**	**+2.9**
	SNR=8.8						
DZA	**Taraz**	**4.01**	**332**	*e*P	**Pb**	**19 30 46.3**	**-2.5**
	45nm,0.6s						
DZA				*e*S	**Sb**	**19 31 36.8**	**-0.6**
	170nm,0.5s						
IUG	**Iuzhnay**	**4.04**	**314**	*e*P	**Pb**	**19 30 52.9**	**+3.5**
	57nm,0.7s						
IUG				*e*S	**Sg**	**19 31 48.0**	**+0.1**
	227nm,0.6s						
SGDS	**Sogindy**	**4.09**	**7**	*e*P	**Pb**	**19 30 51.3**	**+1.1**
	13nm,0.6s						
SGDS				*e*S	**Sg**	**19 31 48.2**	**-1.3**
	35nm,1.1s						
SGDS	**Sogindy**	**4.09**	**7**	Pg	**Pb**	**19 30 50.7**	**+0.5**
SGDS				Lg	Lg	19 31 42.0	
TNSS	**Tian-Shan**	**4.29**	**31**	*e*P	**Pb**	**19 30 56.1**	**+2.2**
	19nm,0.3s						
TNSS				*e*S	**Sg**	**19 31 54.7**	**-1.3**
	37nm,0.5s						
TNSS	**Tian-Shan**	**4.29**	**31**	Pg	**Pb**	**19 30 55.3**	**+1.3**
TNSS				Lg	Lg	19 31 49.8	
CHM	**Chimkent**	**4.39**	**313**	*e*P	**Pb**	**19 30 58.0**	**+2.6**
	39nm,0.4s						
CHM				*e*S	**Sg**	**19 31 57.7**	**-1.5**
	388nm,0.4s						
MDOK	**Medeo**	**4.44**	**31**	*e*P	**Pb**	**19 30 57.8**	**+1.5**
	20nm,0.7s						
MDOK				*e*S	**Sg**	**19 31 58.6**	**-2.0**
	56nm,1.1s						
MDOK	**Medeo**	**4.44**	**31**	⇑Pg	**Pb**	**19 30 57.5**	**+1.3**
	18nm,0.6s						
MDOK				Pg	Pg	19 30 59.0	-4.1
MDOK				Lg	Lg	19 31 56.2	
MDOK				Lg	Lg	19 31 57.6	
	57nm,0.8s						
KK31	**Karatay Array**	**4.52**	**326**	Pn	**Pn**	**19 30 48.6**	**+2.1**
	6.9nm,0.5s,baz=132,slow=13,SNR=69						
KK31				⇑Pg	**Pb**	**19 31 01.3**	**+3.9**
	24nm,0.7s,baz=140,slow=15,SNR=6.4						
KK31				⇓Sn	**Sn**	**19 31 43.2**	**+4.1**
	52nm,0.8s,baz=141,slow=28,SNR=4.6						
KK31				⇓Lg	Lg	19 31 57.3	
	34nm,0.6s,baz=147,slow=29,SNR=4.5						
KUU	**Kurty**	**4.85**	**21**	*e*P	**Pb**	**19 31 06.4**	**+3.3**
	21nm,0.4s						
KUU				*e*S	**Sg**	**19 32 14.1**	**+0.4**
	45nm,0.8s						
KUU	**Kurty**	**4.85**	**21**	Pg	**Pb**	**19 31 06.3**	**+3.3**
KUU				Lg	Lg	19 32 08.7	
SATY	**Saty**	**4.98**	**41**	*e*P	**Pb**	**19 31 08.3**	**+2.9**
	17nm,0.5s						
SATY				*e*S	**Sg**	**19 32 15.4**	**-2.6**
	58nm,0.4s						
SATY	**Saty**	**4.98**	**41**	Pg	**Pb**	**19 31 09.6**	**+4.1**
SATY				Lg	Lg	19 32 14.3	
CHKK	**Chushkaly**	**5.01**	**26**	*e*P	**Pb**	**19 31 08.6**	**+2.7**
	26nm,0.5s						
CHKK				*e*S	**Sg**	**19 32 14.5**	**-4.5**
	36nm,0.8s						
CHKK	**Chushkaly**	**5.01**	**26**	Pg	**Pb**	**19 31 10.3**	**+4.4**
CHKK				Lg	Lg	19 32 16.1	
KURS	**Kuram**	**5.19**	**37**	*e*P	**Pb**	**19 31 11.8**	**+2.9**
	17nm,0.7s						
KURS				*e*S	**Sg**	**19 32 22.7**	**-1.9**
	47nm,1.8s						
KURS	**Kuram**	**5.19**	**37**	Pg	Pb	19 31 14.3	+5.4
	17nm,0.7s						
PDGK	**Podgornoye**	**5.74**	**45**	⇓Pn	**Pn**	**19 31 07.2**	**+3.8**
	4.1nm,0.7s						
PDGK				⇓Pg	**Pb**	**19 31 22.7**	**+4.3**
	22nm,0.7s						
PDGK				⇓Lg	Lg	19 32 40.8	
	41nm,0.9s						
OTUK	**Ortayu**	**8.92**	**353**	⇑Pn	**Pn**	**19 31 47.5**	**+0.4**
	5.2nm,0.9s						
OTUK				⇑Lg	Lg	19 34 18.7	
	9.5nm,0.9s						
MAKZ	**Makanchi**	**9.46**	**36**	⇓Lg	Lg	19 34 34.0	
	6.8nm,1.4s						
MK31	**Makanchi Array**	**9.59**	**37**	⇑Pn	**Pn**	**19 31 59.3**	**+3.1**
	5.4nm,1.2s,baz=222,slow=14,SNR=3.4						
MK31				⇓Lg	Lg	19 34 42.4	
	4.4nm,0.8s						
MKAR	**Makanchi Array**	**9.59**	**37**	Lg	Lg	19 34 33.7	
	baz=252,slow=34,SNR=1.0						
KURBB	**Kurchatov Arra**	**11.69**	**15**	Pn	**Pn**	**19 32 24.3**	**-0.5**
	baz=200,slow=12,SNR=2.1						
KURBB				Lg	Lg	19 35 42.6	
	baz=196,slow=26,SNR=4.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**11.69**	**15**	⇑Lg	Lg	19 35 48.3	
	16nm,0.8s						
KURK	**Kurchatov**	**11.79**	**15**	⇑Lg	Lg	19 35 48.4	
	24nm,1.3s						
GEYT	**Alibeck**	**12.45**	**268**	Pn	**Pn**	**19 32 32.2**	**-3.2**
	0.3nm,0.3s,baz=113,slow=8.3,SNR=4.1						
GEYT				Sn	**Sn**	**19 34 47.9**	**-6.3**
	0.1nm,0.3s,baz=120,slow=17,SNR=1.7						
	0.6nm,0.4s						
BVA0	**Borovoye Array**	**13.85**	**351**	⇓Pn	**Pn**	**19 32 55.6**	**+1.2**
	6.3nm,1.3s						
BVAR	**Borovoye Array**	**13.85**	**351**	Pn	**Pn**	**19 32 52.9**	**-1.5**
	baz=161,slow=14,SNR=8.7						
BVAR				Lg	Lg	19 36 57.4	
	baz=160,slow=30,SNR=5.3						
	2.1nm,0.7s						
BRVK	**Borovoye**	**13.90**	**351**	⇓Pn	**Pn**	**19 32 56.5**	**+1.5**
	8.6nm,0.9s						
AB31	**Akbulak array**	**14.03**	**319**	Pn	**Pn**	**19 32 58.5**	**+1.7**
	0.8nm,0.5s,baz=256,slow=34,SNR=30						
AKTO	**Aktyubinsk**	**15.74**	**320**	⇑Pn	**Pn**	**19 33 21.4**	**+1.6**
	2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**16.34**	**23**	Pn	**Pn**	**19 33 25.3**	**-2.1**
	0.1nm,0.3s,baz=212,slow=10,SNR=1.8						
	0.3nm,0.3s						
ARU	**Arti**	**19.84**	**334**	P	**P**	**19 34 08.1**	**-0.7**
	2.2nm,0.7s,baz=129,slow=13,SNR=2.8						
	2.2nm,0.7s						
FINES	**FINESS Array B**	**36.47**	**323**	P	**P**	**19 36 41.4**	**-1.6**
	1.5nm,0.9s,baz=107,slow=6.6,SNR=6.4						
	1.5nm,0.9s						
ARCES	**ARCESS Array B**	**39.42**	**336**	P	**P**	**19 37 07.7**	**0.0**
	2.0nm,0.7s,baz=101,slow=9.3,SNR=5.7						
	2.0nm,0.7s						
LBTB	**Lobatse**	**78.37**	**224**	LR	LR	20 17 24.2	
	comp=Z,37nm,18.2s,baz=78,slow=37						

IDC 25 19:36:46.0±7.0,32˚.81S×179˚.36W,h0km,mb3.3/2,
mbtmp3.3/2,Error ellipse: s-maj=312.1km
s-min=61.8km az=161.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.89**	**270**	P	P	19 44 37.9	-0.4
	0.3nm,0.5s,baz=110,slow=7.8,SNR=8.5						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.10**	**275**	P	P	19 44 48.4	+0.2
	0.2nm,0.4s,baz=117,slow=7.8,SNR=6.0						
	0.2nm,0.4s						
H03S2	**Juan Fernandez**	**80.10**	**124**	T	T	21 17 20.4	
	baz=235						
H03S1	**Juan Fernandez**	**80.11**	**124**	T	T	21 17 20.7	
	baz=235						
H03S3	**Juan Fernandez**	**80.11**	**124**	T	T	21 17 21.4	
	baz=235						
H03N3	**Juan Fernandez**	**80.31**	**123**	T	T	21 17 23.4	
	baz=238						
H03N2	**Juan Fernandez**	**80.31**	**123**	T	T	21 17 25.5	
	baz=238						
H03N1	**Juan Fernandez**	**80.32**	**123**	T	T	21 17 23.1	
	baz=238						
FINES	**FINESS Array B**	**146.97**	**338**	PKPbc	PKPbc	19 56 28.9	-0.8
	2.0nm,0.7s,baz=24,slow=2.3,SNR=3.9						

*IDC **25** 19:37:52.8±0.6,7˚.05N×92˚.44E,h0km,mb4.2/15,*
mbtmp4.2/18,ML4.0/2,MS3.5/3,Error ellipse:
s-maj=23.9km s-min=13.2km az=52.0
*NDI **25** 19:37:54.3±2.6,7˚.18N×92˚.48E,h10km,mb4.5,*
mb4.4(NEIC)
*NEIC **25** 19:37:57.1±1.4,7˚.11N±0˚.08×92˚.45E±0˚.08,h29km±4km,*
mb4.4/36,Error ellipse: s-maj=11.7km s-min=10.5km
az=221.0

ISC 25 19:37:55.7±0.5,7˚.07N±0˚.07×92˚.41E±0˚.07,h23km,n97,
σ1s13/93,mb4.3/29,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**4.87**	**112**		**Pn**	**19 39 07.7**	**+0.1**
SRIT	**Nakonsritamara**	**7.29**	**78**		**Pn**	**19 39 41.7**	**+0.9**
PSI	**Prapat**	**7.76**	**123**	Pn	**Pn**	**19 39 47.2**	**-0.2**
	3.6nm,0.5s,baz=340,slow=14,SNR=1.3						
PSI				Sn	**Sn**	**19 41 18.1**	**+3.4**
	0.6nm,0.3s,baz=285,slow=20,SNR=1.5						
RPSI	**Rantau Prapat**	**7.82**	**123**		**Pn**	**19 39 47.2**	**-0.9**
RPSI	**Rantau Prapat**	**7.82**	**123**	Pn	**Pn**	**19 39 46.9**	**-1.2**
KULM	**Kulim**	**8.39**	**102**	Pn	**Pn**	**19 39 55.9**	**0.0**
IPM	**Ipoh**	**8.96**	**106**	Pn	**Pn**	**19 40 02.3**	**-1.5**
PALK	**Pallekele**	**11.61**	**272**	Pn	**Pn**	**19 40 40.3**	**+0.1**
	1.1nm,0.3s,baz=184,slow=16,SNR=7.5						
PALK				Sn	Sn	19 42 39.2	-10
	1.5nm,0.3s,baz=83,slow=23,SNR=1.7						
PALK				LR	LR	19 44 38.6	
	comp=Z,124nm,19.5s,baz=183,slow=35						
	7.1nm,0.5s						
PALK	**Pallekele**	**11.61**	**272**	Pn	**Pn**	**19 40 39.9**	**-0.3**
CM31	**Chiang Mai Arr**	**12.98**	**29**	Pn	**Pn**	**19 40 57.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**12.98**	**29**	Pn	**Pn**	**19 41 00.9**	**+2.0**
	0.2nm,0.3s,baz=230,slow=14,SNR=50						
	4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.98**	**29**	Pn	**Pn**	**19 40 57.7**	**-1.3**
CHTO	**Chiang Mai**	**13.29**	**28**		**Pn**	**19 41 02.9**	**-0.2**
PHRA	**Phrae**	**13.68**	**33**		**Pn**	**19 41 07.6**	**-0.7**
BWNR	**Bhubaneshwar**	**14.62**	**335**	*e*P	**Pn**	**19 41 18.5**	**-2.7**
SALM	**Salem**	**14.73**	**289**	*e*P	**Pn**	**19 41 22.4**	**-0.4**
SALM				*e*S	Sn	19 43 53.3	-12
VJD	**Vijayawada**	**14.84**	**310**	*e*P	**Pn**	**19 41 24.7**	**+0.5**
KOD	**Kodaikanal**	**15.10**	**283**	*i*P	**Pn**	**19 41 26.6**	**-1.4**
KOD				*e*P	**Pn**	**19 41 26.6**	**-1.4**
KOD				*e*S	Sn	19 44 01.6	-13
CRAI	**Chiangrai**	**15.19**	**30**		**Pn**	**19 41 28.7**	**-0.2**
SAIH	**SAIHA**	**15.34**	**2**	*e*P	**Pn**	**19 41 30.5**	**-0.5**
SAIH				IAmb	IAmb	19 41 41.8	
	comp=Z,9.2nm,0.8s						

PCHI	**Peechi**	**16.24**	**283**	*e*P		**Pn**	**19 41 42.6**	**+0.1**
PCHI				*e*S		Sn	19 44 30.3	-12
SHL	**Shillong**	**18.40**	**359**	P		**P**	**19 42 08.4**	**-1.1**
KOHI	**KOHIMA**	**18.61**	**5**	*e*P		**P**	**19 42 10.4**	**-1.5**
KOHI				IAmb		IAmb	19 42 20.5	
	comp=Z,49nm,0.7s							
MOKO	**MOKOCHONG**	**19.25**	**6**	*e*P		**P**	**19 42 18.5**	**-0.2**
MOKO				IAmb		IAmb	19 42 28.9	
	comp=Z,25nm,1.0s							
ODAN	**Odare**			**20.25 347**	*e*P	Pn	19 42 32.8	+1.0
GTK	**Tadong**			**20.46 350**	*e*P	Pn	19 42 34.3	+0.2
GTK					IAmb	IAmb	19 42 42.6	
	comp=Z,37nm,1.0s							
RAMN	**Ramite**			**20.52 345**	*e*P	Pn	19 42 35.5	+0.5
TAPN	**Taplejung**			**20.65 348**	*e*P	Pn	19 42 36.3	-0.3
	comp=Z,32nm,0.9s							
JIRN	**Jiri**			**21.31 345**	*e*P	**P**	**19 42 42.9**	**+1.5**
	comp=Z,41nm,0.8s							
PKI	**Pulchoki**			**21.44 343**	*e*P	**P**	**19 42 44.6**	**+1.8**
	comp=Z,22nm,1.0s							
PKIN	**Phulchoki**			**21.45 343**	*e*P	**P**	**19 42 44.7**	**+1.9**
GUN	**Gumba**			**21.63 344**	*e*P	**P**	**19 42 46.3**	**+1.5**
GKN	**Gorkha**			**22.08 341**	*e*P	**P**	**19 42 51.0**	**+1.6**
	comp=Z,36nm,0.8s							
LSA	**Lhasa**			**22.54 357**	P	**P**	**19 42 53.3**	**-1.4**
LSA					IAmb	IAmb	19 42 58.3	
	comp=Z,6.5nm,0.7s							
DANN	**Dangsing**			**22.69 340**	*e*P	**P**	**19 42 57.4**	**+1.3**
	comp=Z,21nm,0.9s							
MYLDM	**Lahad Datu**		**26.01**	**93**	P	**P**	**19 43 27.0**	**-0.3**
MYLDM					IAmb	IAmb	19 43 50.7	
	comp=Z,26nm,1.2s							
SOEI	**Soe**			**35.87 117**	P	**P**	**19 44 51.0**	**-3.4**
TARG	**Taragay, Kyrgy**			**36.87 342**	P	**P**	**19 44 59.6**	**-3.4**
TARG					IAmb	IAmb	19 45 12.3	
	comp=Z,4.2nm,1.1s							
MK31	**Makanchi Array**			**40.52 349**	P	**P**	**19 45 32.7**	**-0.4**
MKAR	**Makanchi Array**			**40.52 349**	P	**P**	**19 45 33.8**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=166,slow=8.8,SNR=43							
	comp=Z,3.0nm,0.5s							
MKAR	**Makanchi Array**			**40.52 349**	P	**P**	**19 45 33.1**	**+0.1**
MAKZ	**Makanchi**			**40.59 349**	P	**P**	**19 45 34.2**	**+0.6**
MAKZ					IAmb	IAmb	19 45 35.2	
	comp=Z,3.2nm,0.6s							
KKAR	**Karatay Array**			**40.73 335**	P	**P**	**19 45 34.6**	**-0.2**
KKAR	**Karatay Array**			**40.73 335**	P	**P**	**19 45 34.6**	**-0.2**
KKAR					IAmb	IAmb	19 45 37.1	
	comp=Z,3.3nm,0.8s							
SONM	**Songino Array**		**42.33**	**14**	P	**P**	**19 45 48.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=216,slow=5.3,SNR=5.3							
SONM					PcP	**PcP**	**19 47 42.8**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=204,slow=3.2,SNR=2.8							
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**		**42.33**	**14**	P	**P**	**19 45 48.7**	**+0.7**
KNRA	**Kununurra**		**42.52**	**122**	P	**P**	**19 45 49.5**	**-0.3**
KNRA					IAmb	IAmb	19 46 06.5	
	comp=Z,10.0nm,1.2s							
MTN	**Manton Dam**		**43.27**	**117**	P	**P**	**19 45 54.9**	**-1.0**
MTN					IAmb	IAmb	19 46 05.5	
	comp=Z,16nm,1.3s							
GEYT	**Alibeck**		**43.67**	**320**	P	**P**	**19 46 01.5**	**+2.5**
	comp=Z,4.4nm,0.7s,baz=156,slow=9.1,SNR=9.1							
	comp=Z,4.4nm,0.7s							
GEYT	**Alibeck**		**43.67**	**320**	P	**P**	**19 45 57.7**	**-1.2**
GYA0B	**ALIBECK ARRAY**		**43.67**	**320**	P	**P**	**19 45 58.6**	**-0.3**
GYA0B					IAmb	IAmb	19 46 02.3	
	comp=Z,5.8nm,0.8s							
KURBB	**Kurchatov Arra**		**44.92**	**348**	P	**P**	**19 46 09.6**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=173,slow=7.2,SNR=36							
KURBB					PcP	**PcP**	**19 47 50.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=160,slow=2.9,SNR=0.8							
	comp=Z,3.8nm,0.7s							
H01W3	**Cape Leeuwin H**		**46.50**	**155**	T	T	20 36 16.2	
	baz=327,slow=74							
H01W2	**Cape Leeuwin H**		**46.52**	**155**	T	T	20 36 16.3	
	baz=327,slow=74							
H01W1	**Cape Leeuwin H**		**46.52**	**155**	T	T	20 36 18.3	
	baz=327							
ZAA0	**Zalesovo Array**		**47.14**	**354**	P	**P**	**19 46 26.2**	**+0.1**
ZAA0					IAmb	IAmb	19 46 28.6	
	comp=Z,2.2nm,0.6s							
ZALV	**Zalesovo Beam**		**47.14**	**354**	P	**P**	**19 46 26.9**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=168,slow=7.8,SNR=9.1							
	comp=Z,1.8nm,0.6s							
ZALV	**Zalesovo Beam**		**47.14**	**354**	P	**P**	**19 46 26.1**	**0.0**
WB0	**Warramunga Arr**		**49.18**	**124**	P	**P**	**19 46 42.4**	**-0.1**
WB0					IAmb	IAmb	19 46 50.5	
	comp=Z,4.1nm,0.8s							
BVAR	**Borovoye Array**		**49.21**	**343**	P	**P**	**19 46 42.5**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=144,slow=5.2,SNR=5.6							
	comp=Z,1.1nm,0.6s							
WRA	**Warramunga Arr**		**49.22**	**124**	P	**P**	**19 46 42.4**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=303,slow=8.9,SNR=19							
	comp=Z,2.2nm,0.8s							
WRA	**Warramunga Arr**		**49.22**	**124**	P	**P**	**19 46 42.0**	**-0.8**
WB2	**Warramunga Arr**		**49.23**	**124**	P	**P**	**19 46 42.6**	**-0.2**
WB2					IAmb	IAmb	19 46 57.8	
	comp=Z,9.2nm,1.2s							
ABKAR	**Akbulak array**		**50.13**	**333**	P	**P**	**19 46 50.1**	**+0.9**
ABKAR	**Akbulak array**		**50.13**	**333**	P	**P**	**19 46 49.8**	**+0.7**
ABKAR					IAmb	IAmb	19 46 51.4	
	comp=Z,7.1nm,1.2s							
USRK	**

*SOME **25** 19:40:09.1,39˙22N×73˚90E,h0km*
*IDC **25** 19:40:09.9±1.8,39˙15N×74˙16E,h0km,mb3.8/3, mbtmp3.7/5,ML3.1/2,Error ellipse: s-maj=52.3km s-min=22.8km az=82.0*
*KRNET **25** 19:40:11.1±0.1,39˙24N×73˙88E,mb3.8*
ISC 25 19:40:13.2±1.9,39˙13N±0˙07×73˚76E±0˙04,h12km±12km, n37,σ1°96/64,mb3.7/3,8C-12D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.56**	**284**	⇑	*e*P	**Pn**	**19 40 41.8**	**+0.8**
	baz=79							
DRK				⇑	*e*S	**Sn**	**19 41 04.4**	**+3.1**
	baz=79							
OHH	**Osh**	**1.58**	**332**	⇓	*e*P	**Pn**	**19 40 39.9**	**-1.2**
	baz=27							
OHH				⇓	*e*S	**Sn**	**19 41 01.3**	**-0.3**
	baz=27							
BTK	**Batken**	**2.45**	**293**	⇓	*e*P	**Pn**	**19 40 55.2**	**+2.1**
	baz=90							
BTK				⇓	*e*S	**Sn**	**19 41 27.4**	**+4.3**
	baz=90							
ARLS	**Aral**	**2.76**	**9**	⇑	*e*P	**Pn**	**19 40 57.0**	**-0.5**
	baz=7.0							
ARLS				⇑	*e*S	**Sn**	**19 41 30.4**	**-0.5**
	baz=7.0							
NRN	**Naryn**	**2.87**	**36**	⇑	*e*P	**Pn**	**19 40 58.0**	**-1.1**
	baz=36							
NRN				⇑	*e*S	**Sn**	**19 41 32.3**	**-1.5**
	baz=36							
ARK	**Arkit**	**3.00**	**333**	⇑	*i*P	**Pn**	**19 41 01.3**	**+0.7**
	baz=31							
ARK				⇑	*e*S	**Sn**	**19 41 38.3**	**+1.8**
	baz=31							
AML	**Almayashu**	**3.00**	**359**		P	**Pn**	**19 41 01.1**	**+0.2**
	SNR=11							
TRKS	**Terek-Say**	**3.12**	**321**	⇓	*e*P	**Pn**	**19 41 02.8**	**+0.4**
	baz=18							
TRKS				⇓	*e*S	**Sn**	**19 41 40.4**	**+0.7**
	baz=18							
UCH	**Uchtor**	**3.15**	**10**		P	**Pn**	**19 41 03.8**	**+0.8**
	SNR=18							
UCH	**Uchtor**	**3.15**	**10**	⇓	*i*P	**Pn**	**19 41 02.8**	**-0.2**
	baz=9.0							
UCH				⇓	*e*S	**Sn**	**19 41 40.4**	**-0.4**
	baz=9.0							
EKS2	**Erkin-Say**	**3.53**	**0**		P	**Pn**	**19 41 10.4**	**+2.5**
	SNR=10							
EKS2	**Erkin-Say**	**3.53**	**0**	⇓	*i*P	**Pn**	**19 41 08.2**	**+0.2**
	baz=59							
EKS2				⇓	*e*S	**Sn**	**19 41 49.3**	**-0.4**
	baz=59							
AAK	**Ala-Archa**	**3.55**	**9**		P	**Pn**	**19 41 09.6**	**+1.3**
	SNR=7.2							
AAK	**Ala-Archa**	**3.55**	**9**		Pn	**Pn**	**19 41 08.9**	**+0.6**
	9.5nm,0.3s,baz=189,slow=9.3,SNR=14							
AAK					Sn	**Sn**	**19 41 52.8**	**+2.6**
	2.0nm,0.3s,baz=162,slow=20,SNR=1.3 14nm,0.4s							
AAK	**Ala-Archa**	**3.55**	**9**	⇓	*i*P	**Pn**	**19 41 08.1**	**-0.2**
	baz=8.0							
AAK				⇓	*e*S	**Sn**	**19 41 49.7**	**-0.5**
	baz=8.0							
MRKS	**Merke**	**3.63**	**354**		*e*P	**Pb**	**19 41 15.1**	**-2.4**
	39nm,0.6s							
MRKS					*e*S	**Sb**	**19 42 01.5**	**0.0**
	39nm,0.5s							
ULHL	**Ulahol**	**3.64**	**30**		P	**Pb**	**19 41 15.5**	**-2.1**
	SNR=6.7							
IUG	**Iuzhnay**	**4.14**	**318**		*e*P	**Pb**	**19 41 25.4**	**-0.6**
	30nm,0.4s							
IUG					*e*S	**Sb**	**19 42 17.0**	**+1.1**
	64nm,0.6s							
USP	**Ospenovka**	**4.17**	**8**		P	**Pb**	**19 41 26.2**	**-0.4**
	SNR=7.8							
KST	**Kastek**	**4.25**	**22**		*e*P	**Pb**	**19 41 27.9**	**-0.1**
	17nm,0.5s							
KST					*e*S	**Sb**	**19 42 20.3**	**+1.1**
	31nm,0.7s							
SGDS	**Sogindy**	**4.37**	**8**		*e*P	**Pb**	**19 41 28.8**	**-1.2**
	14nm,0.6s							
SGDS					*e*S	**Sb**	**19 42 24.2**	**+1.6**
	15nm,1.1s							
DGS	**Degeres**	**4.38**	**20**		*e*P	**Pb**	**19 41 29.8**	**-0.4**
	20nm,0.6s							
DGS					*e*S	**Sb**	**19 42 26.3**	**+3.3**
	18nm,0.6s							
MTBS	**Maitube**	**4.48**	**26**		*e*P	**Pb**	**19 41 31.8**	**0.0**
	9.4nm,0.4s							
MTBS					*e*S	**Sb**	**19 42 27.3**	**+1.6**
	22nm,0.7s							
TNSS	**Tian-Shan**	**4.59**	**31**		*e*P	**Pb**	**19 41 33.3**	**-0.6**
	14nm,0.0s							
TNSS					*e*S	**Sb**	**19 42 31.4**	**+2.2**
	16nm,0.7s							
MDOK	**Medeo**	**4.73**	**31**		*e*P	**Pb**	**19 41 35.7**	**-0.5**
	16nm,0.8s							
MDOK					*e*S	**Sb**	**19 42 35.5**	**+2.2**
	25nm,1.0s							
KRBS	**Karabastau**	**4.79**	**17**		*e*P	**Pb**	**19 41 35.4**	**-1.6**
	9.0nm,0.6s							
KRBS					*e*S	**Sb**	**19 42 35.3**	**+0.8**
	13nm,1.1s							
KTBS	**Karatobe**	**5.08**	**25**		*e*P	**Pb**	**19 41 42.4**	**+0.3**
	11nm,0.5s							
KTBS					*e*S	**Sb**	**19 42 46.8**	**+3.8**
	37nm,0.6s							
KUU	**Kurty**	**5.14**	**21**		*e*P	**Pb**	**19 41 42.6**	**-0.5**
	5.9nm,0.3s							
KUU					*e*S	**Sb**	**19 42 47.9**	**+3.2**
	18nm,0.6s							
SATY	**Saty**	**5.27**	**40**		*e*P	**Pb**	**19 41 45.6**	**+0.3**
	7.8nm,0.7s							
SATY					*e*S	**Sb**	**19 42 52.4**	**+3.8**
	33nm,0.8s							
CHKK	**Chushkaly**	**5.31**	**26**		*e*P	**Pb**	**19 41 46.7**	**+0.8**
	7.8nm,0.4s							
CHKK					*e*S	**Sb**	**19 42 53.7**	**+4.1**
	12nm,0.5s							
KURS	**Kuram**	**5.48**	**36**		*e*P	**Pb**	**19 41 49.4**	**+0.6**
	6.2nm,0.6s							
KURS					*e*S	**Sb**	**19 42 58.9**	**+4.4**
	9.3nm,0.6s							
UZB	**Uzynbulak**	**5.65**	**43**		*e*P	**Pb**	**19 41 53.1**	**+1.3**
	3.4nm,0.4s							
UZB					*e*S	**Sb**	**19 43 04.0**	**+4.5**
	9.8nm,0.9s							
SHLS	**Shalkode**	**5.89**	**45**		*e*P	**Pg**	**19 42 04.3**	**-1.7**
	10nm,0.7s							
SHLS					*e*S	**Sg**	**19 43 25.9**	**+3.5**
	13nm,1.0s							
BVAR	**Borovoye Array**	**14.09**	**352**		Pn	**Pn**	**19 43 30.3**	**-2.2**
	baz=161,slow=10,SNR=1.9 0.4nm,0.4s							
FINES	**FINESS Array B**	**36.60**	**323**		P	**P**	**19 47 17.7**	**-1.1**
	0.5nm,0.4s,baz=108,slow=8.9,SNR=1.2 0.5nm,0.4s							
ARCES	**ARCESS Array B**	**39.60**	**336**		P	**P**	**19 47 43.9**	**-0.1**
	2.9nm,1.0s,baz=106,slow=9.5,SNR=1.3 2.9nm,1.0s							
WRA	**Warramunga Arr**	**81.59**	**124**		P	**P**	**19 52 28.7**	**-2.4**
	0.5nm,0.9s,baz=333,slow=5.1,SNR=2.9 0.5nm,0.9s							

*BJI **25** 19:46:16.5±0.0,39˚10N×74˚16E,h10km,mb4.4/28, mB4.5/16,ML4.2/5,Ms4.0/13,Ms7.3/12*
*KRNET **25** 19:46:17.7±0.1,39˚00N×74˚62E,mb4.7*
*SOME **25** 19:46:17.6,39˙23N×74˙32E,h5km,MS4.0*
*IDC **25** 19:46:17.7±0.6,39˚11N×74˚42E,h0km,mb4.1/26, mbtmp4.1/32,ML3.7/5,MS3.5/32,Error ellipse: s-maj=11.7km s-min=10.7km az=121.0*
*NEIC **25** 19:46:19.5±2.5,39˙24N±0˙06×74˙31E±0˙07,h10km±1km, mb4.7/81,Mwr4.3/12,Error ellipse: s-maj=10.5km s-min=8.6km az=157.0*
*MOS **25** 19:46:19.7±1.2,39˚12N×74˚34E,h19km,mb4.6/26,Error ellipse: s-maj=5.7km s-min=3.5km az=89.2*
*NEIC **25** 19:46:19.5,39˙24N×74˙31E,h29km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.20; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$0.66; $M_{r\theta}$1.35; $M_{r\phi}$-2.81; $M_{\theta\phi}$0.89; Fault plane solution: M_o3.29000×10^{15} NP1:ϕ_s278.38000°, δ74.75000°,λ-158.63000°. NP2:ϕ_s182.50000°, δ69.42000°,λ-16.32000°. Principal axes: T 2.9735,*

Plg4.0000°, Azm50.0000°; N 0.5602, Plg64.0000°, Azm312.0000°; P -3.5336, Plg26.0000°, Azm141.0000°;
*NNC **25** 19:46:22.6±1.4,39˙34N×74˙41E,h0km,mb4.9,mpv4.6*
Error ellipse: s-maj=11.8km s-min=7.4km az=171.0
ISC 25 19:46:19.1±0.3,39˚05N±0˙03×74˚25E±0˙02,h10km,n364, σ2°16/400,mb4.6/81,MS3.5/29,30C-37D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.42**	**70**		Pg	Pn	19 46 36.0	-9.0
KSH					Sg	Sn	19 46 48.5	-15
KSH					smax	smax		
	comp=N,4μm,1.0s							
KSH					smax	smax		
	comp=E,5μm,0.9s							
DRK	**Karamyk**	**1.95**	**284**	⇓	*i*P	**Pb**	**19 46 54.8**	**-0.1**
	baz=83							
DRK				⇓	*i*S	**Sg**	**19 47 22.5**	**+0.7**
	baz=83							
DRK	**Karamyk**	**1.95**	**284**			**Pb**	**19 46 54.0**	**-0.9**
DRK					Sn	**Sg**	**19 47 21.5**	**-0.3**
NRN	**Naryn**	**2.73**	**29**		Pn	**Pn**	**19 47 03.9**	**+0.6**
NRN	**Naryn**	**2.73**	**29**		PN	**Pn**	**19 47 03.9**	**+0.6**
BTK	**Batken**	**2.84**	**292**			**Pb**	**19 47 07.6**	**-2.3**
BTK	**Batken**	**2.84**	**292**		PN	**Pb**	**19 47 07.6**	**-2.3**
AML	**Almayashu**	**3.11**	**352**		P	**Pn**	**19 47 10.2**	**+1.7**
	SNR=238							
UCH	**Uchtor**	**3.18**	**4**		P	**Pn**	**19 47 11.6**	**+2.0**
	SNR=425							
UCH	**Uchtor**	**3.18**	**4**	⇓	*e*P	**Pn**	**19 47 09.1**	**-0.5**
	baz=59							
UCH				⇓	*i*S	**Sn**	**19 47 46.0**	**-1.8**
	baz=59							
ARK	**Arkit**	**3.25**	**328**	⇑	*e*P	**Pn**	**19 47 11.8**	**+1.5**
	baz=25							
ARK				⇑	*i*S	**Sn**	**19 47 51.8**	**+2.7**
	baz=25							
TRKS	**Terek-Say**	**3.44**	**317**	⇓	*i*P	**Pn**	**19 47 14.2**	**+1.4**
	baz=14							
TRKS				⇓	*i*S	**Sn**	**19 47 55.1**	**+1.4**
	baz=14							
ULHL	**Ulahol**	**3.53**	**25**		P	**Pn**	**19 47 15.9**	**+1.7**
	SNR=14							
ULHL	**Ulahol**	**3.53**	**25**	⇓	*e*P	**Pn**	**19 47 11.8**	**-2.4**
	baz=20							
ULHL				⇓	*i*S	**Sn**	**19 47 52.2**	**-4.0**
	baz=20							
AAK	**Ala-Archa**	**3.59**	**3**		P	**Pn**	**19 47 17.5**	**+2.5**
	SNR=88							
AAK	**Ala-Archa**	**3.59**	**3**		Pn	**Pn**	**19 47 17.1**	**+2.2**
	22nm,0.3s,baz=174,slow=6.7,SNR=108							
AAK					Lg	Lg	19 48 08.4	
	16nm,0.3s,baz=270,slow=20,SNR=8.1							
AAK					LR	LR	19 48 45.4	
	comp=Z,996nm,18.0s,baz=194,slow=42 86nm,0.5s							
AAK	**Ala-Archa**	**3.59**	**3**	⇓	*i*P	**Pn**	**19 47 14.7**	**-0.2**
	baz=59							
AAK				⇓	*i*S	**Sn**	**19 47 55.9**	**-1.6**
	baz=59							
AAK	**Ala-Archa**	**3.59**	**3**			**Pn**	**19 47 16.2**	**+1.2**
AAK	**Ala-Archa**	**3.59**	**3**	c	*i*PN	**Pn**	**19 47 17.0**	**+2.1**
EKS2	**Erkin-Say**	**3.63**	**354**		P	**Pn**	**19 47 17.9**	**+2.5**
	SNR=76							
EKS2	**Erkin-Say**	**3.63**	**354**	⇓	*i*P	**Pn**	**19 47 15.5**	**+0.1**
	baz=50							
EKS2				⇓	*i*S	**Sn**	**19 47 57.8**	**-0.5**
	baz=50							
KBK	**Karagaybulak**	**3.64**	**8**		P	**Pn**	**19 47 17.9**	**+2.2**
	SNR=5.5							
KBK	**Karagaybulak**	**3.64**	**8**	⇑	*e*P	**Pn**	**19 47 15.0**	**-0.7**
	baz=4.0							
KBK				⇑	*i*S	**Sn**	**19 47 56.4**	**-2.4**
	baz=4.0							
MRKS	**Merke**	**3.77**	**348**		*e*P	**Pb**	**19 47 23.7**	**-2.2**
	144nm,0.7s							
MRKS					*e*S	**Sb**	**19 48 11.8**	**+0.2**
	456nm,0.6s							
MRKS	**Merke**	**3.77**	**348**		Pg	**Pb**	**19 47 26.2**	**+0.3**
	71nm,0.4s							
MRKS					Lg	Lg	19 48 15.3	
	443nm,0.8s							
CHMS	**Chumysh**	**3.96**	**5**		P	**Pn**	**19 47 22.3**	**+2.3**
	SNR=43							
CHMS	**Chumysh**	**3.96**	**5**	⇑	Pn	**Pn**	**19 47 22.2**	**+2.3**
	98nm,0.8s							
CHMS				⇓	Lg	Lg	19 48 18.4	
	329nm,0.9s							
CHMS	**Chumysh**	**3.96**	**5**		PN	**Pn**	**19 47 22.2**	**+2.3**
TKM2	**Tokmak 2**	**4.00**	**14**		P	**Pn**	**19 47 23.0**	**+2.3**
	SNR=51							
TKM2	**Tokmak 2**	**4.00**	**14**	⇓	*e*P	**Pn**	**19 47 19.1**	**-1.5**
	baz=10.0							
TKM2				⇓	*e*S	**Sn**	**19 48 04.0**	**-3.7**
	baz=10.0							
TKM2	**Tokmak 2**	**4.00**	**14**	⇑	Pn	**Pn**	**19 47 22.6**	**+2.0**
	42nm,0.5s							
TKM2				⇓	Lg	Lg	19 48 16.4	
	577nm,1.2s							
TKM2	**Tokmak 2**	**4.00**	**14**		PN	**Pn**	**19 47 22.6**	**+2.0**
USP	**Ospenovka**	**4.22**	**2**		P	**Pn**	**19 47 26.4**	**+3.0**
	SNR=15							
MTBS	**Maitube**	**4.40**	**21**		*e*P	**Pb**	**19 47 37.0**	**+0.5**
	132nm,0.5s							
MTBS					*e*S	**Sb**	**19 48 33.7**	**+4.2**
	206nm,0.4s							
MTBS	**Maitube**	**4.40**	**21**		Pg	**Pb**	**19 47 38.2**	**+1.8**
MTBS					Lg	Lg	19 48 36.7	
SGDS	**Sogindy**	**4.41**	**4**		*e*P	**Pb**	**19 47 36.5**	**-0.1**
	58nm,1.1s							
SGDS					*e*S	**Sb**	**19 48 33.3**	**+3.5**
	160nm,0.6s							
SGDS	**Sogindy**	**4.41**	**4**		*e*Pn	**Pn**	**19 47 28.2**	**+2.1**
	baz=1.8							
SGDS					*i* Pg	**Pb**	**19 47 37.3**	**+0.7**
	baz=1.8							
SGDS					*e*Lg	Lg	19 48 35.8	
	baz=1.8							
SGDS	**Sogindy**	**4.41**	**4**		Pg	**Pb**	**19 47 36.5**	**-0.1**
	58nm,1.1s							
SGDS	**Sogindy**	**4.41**	**4**		*e*PN	**Pn**	**19 47 28.2**	**+2.1**
SGDS					*i*		19 47 37.3	
TAS	**Tashkent**	**4.42**	**302**			**Pn**	**19 47 25.4**	**-0.8**
TAS	**Tashkent**	**4.42**	**302**		PN	**Pn**	**19 47 25.4**	**-0.8**
DZA	**Taraz**	**4.43**	**331**		*e*P	**Pb**	**19 47 35.6**	**-1.3**
	84nm,0.1s							
DZA					*e*S	**Sb**	**19 48 31.6**	**+1.1**
	463nm,0.8s							
DZA	**Taraz**	**4.43**	**331**		*e*Pn	**Pn**	**19 47 27.9**	**+1.6**
	baz=329							
DZA					*e*Pg	**Pb**	**19 47 38.5**	**+1.5**
	baz=329							
DZA	**Taraz**	**4.43**	**331**		*e*PN	**Pn**	**19 47 27.9**	**+1.6**
DZA					*e*		19 47 38.4	
IUG	**Iuzhnay**	**4.46**	**315**		*e*P	**Pb**	**19 47 36.7**	**-0.9**
	134nm,0.5s							
IUG					*e*S	**Sb**	**19 48 33.4**	**+2.0**
	518nm,0.9s							
IUG	**Iuzhnay**	**4.46**	**315**		*e*Pn	**Pn**	**19 47 29.9**	**+3.0**
	baz=314							
IUG					*e*Pg	**Pb**	**19 47 41.4**	**+3.9**
	baz=314							
IUG					*e*Sn	**Sn**	**19 48 24.2**	**+5.4**
	baz=314							
IUG	**Iuzhnay**	**4.46**	**315**		Pg	**Pb**	**19 47 41.5**	**+4.0**
	586nm,0.7s							
IUG	**Iuzhnay**	**4.46**	**315**		*e*PN	**Pn**	**19 47 29.9**	**+3.0**
IUG					*e*		19 47 41.3	
IUG					*e*		19 48 24.2	
TNSS	**Tian-Shan**	**4.47**	**26**		*e*P	**Pb**	**19 47 38.0**	**0.0**
	172nm,0.6s							
TNSS					*e*S	**Sb**	**19 48 36.3**	**+4.1**
	172nm,0.8s							
TNSS	**Tian-Shan**	**4.47**	**26**		*e*Pn	**Pn**	**19 47 28.7**	**+1.4**
	baz=25							
TNSS					*e*Pg	**Pb**	**19 47 38.4**	**+0.4**
	baz=25							
TNSS					*e*Lg	Lg	19 48 36.4	
	baz=25							
TNSS	**Tian-Shan**	**4.47**	**26**		Pg	**Pb**	**19 47 38.0**	**0.0**
	172nm,0.6s							
TNSS					Lg	Lg	19 48 36.3	
	172nm,0.8s							
TNSS	**Tian-Shan**	**4.47**	**26**		*e*PN	**Pn**	**19 47 28.7**	**+1.4**
TNSS					*e*		19 47 38.3	
AAA	**Alma-Ata**	**4.62**	**25**		*e*P	**Pb**	**19 47 41.1**	**+0.9**
	122nm,0.6s							
AAA					*e*S	**Sb**	**19 48 41.0**	**+5.1**
	522nm,1.0s							
AAA	**Alma-Ata**	**4.62**	**25**		*e*Pn	**Pn**	**19 47 30.7**	**+1.7**
	baz=24							
AAA					*e*Pg	**Pb**	**19 47 40.9**	**+0.7**
	baz=24							
AAA					*e*Lg	Lg	19 48 41.7	
	baz=24							
AAA	**Alma-Ata**	**4.62**	**25**		Pg	**Pb**	**19 47 41.1**	**+0.9**
	122nm,0.6s							
AAA					Lg	Lg	19 48 41.0	
	522nm,1.0s							
AAA	**Alma-Ata**	**4.62**	**25**		*e*PN	**Pn**	**19 47 30.7**	**+1.7**
AAA					*e*		19 47 40.9	
MDOK	**Medeo**	**4.62**	**26**		*e*P	**Pb**	**19 47 40.5**	**+0.1**
	117nm,0.6s							
MDOK					*e*S	**Sb**	**19 48 39.9**	**+3.8**
	315nm,0.9s							
MDOK	**Medeo**	**4.62**	**26**		*e*Pn	**Pn**	**19 47 30.5**	**+1.3**
	baz=25							
MDOK					*i* Pg	**Pb**	**19 47 40.9**	**+0.5**
	baz=25							
MDOK					*e*Lg	Lg	19 48 40.6	
	baz=25							
MDOK	**Medeo**	**4.62**	**26**	⇑	Pn	**Pn**	**19 47 30.2**	**+1.1**
	17nm,0.7s							
MDOK					Pg	**Pb**	**19 47 40.5**	**+0.1**
	117nm,0.6s							
MDOK				⇓	Pg	Pg	19 47 40.7	-6.9
	102nm,0.6s							
MDOK					Lg	Lg	19 48 39.8	
	624nm,1.1s							
MDOK					Lg	Lg	19 48 39.9	
	315nm,0.9s							
MDOK	**Medeo**	**4.62**	**26**		*e*PN	**Pn**	**19 47 30.4**	**+1.3**
MDOK					*i*		19 47 40.8	
KNDC	**Almaty**	**4.64**	**25**	⇑	Pg	**Pb**	**19 47 40.8**	**+0.2**
	311nm,0.6s							
KNDC				⇑	Lg	Lg	19 48 41.9	
	1μm,1.1s							
KNDC	**Almaty**	**4.64**	**25**		PN	**Pn**	**19 47 30.0**	**+0.7**
CHM	**Chimkent**	**4.81**	**314**		*e*P	**Pb**	**19 47 43.6**	**+0.1**
	94nm,0.3s							
CHM					*e*S	**Sb**	**19 48 45.1**	**+3.7**
	502nm,0.7s							
CHM	**Chimkent**	**4.81**	**314**		*e*Pn	**Pn**	**19 47 35.2**	**+3.5**
	baz=313							
CHM					*i* Pg	**Pb**	**19 47 47.4**	**+3.9**
	baz=313							
CHM					*e*Sn	**Sn**	**19 48 30.1**	**+2.7**
	baz=313							
CHM	**Chimkent**	**4.81**	**314**		*e*PN	**Pn**	**19 47 35.1**	**+3.5**
CHM					*i*		19 47 47.3	
CHM					*e*		19 48 30.1	
KK31	**Karatay Array**	**4.94**	**326**		Pn	**Pn**	**19 47 34.9**	**+1.5**
KK31	**Karatay Array**	**4.94**	**326**	⇓	Pn	**Pn**	**19 47 35.4**	**+2.0**
	9.6nm,0.3s,baz=129,slow=12,SNR=154							
KK31				⇓	Sn	**Sn**	**19 48 34.6**	**+4.1**
	55nm,0.5s,baz=162,slow=26,SNR=2.8							
KK31				⇑	Lg	Lg	19 48 52.2	
	87nm,0.6s							
KK31	**Karatay Array**	**4.94**	**326**		PN	**Pn**	**19 47 34.9**	**+1.5**
KKAR	**Karatay Array**	**4.94**	**326**			**Pn**	**19 47 34.9**	**+1.6**
KKAR	**Karatay Array**	**4.94**	**326**		Pn	**Pn**	**19 47 34.8**	**+1.5**
KKAR	**Karatay Array**	**4.94**	**326**		PN	**Pn**	**19 47 34.9**	**+1.6**
KUU	**Kurty**	**5.09**	**17**		*e*P	**Pb**	**19 47 49.0**	**+0.8**
	87nm,0.9s							
KUU					*e*S	**Sb**	**19 48 55.0**	**+5.7**
	284nm,0.8s							
KUU	**Kurty**	**5.09**	**17**		*e*Pn	**Pn**	**19 47 36.5**	**+1.1**
	baz=16							
KUU					*e*Pg	**Pb**	**19 47 49.6**	**+1.5**
	baz=16							
KUU	**Kurty**	**5.09**	**17**		Pg	**Pb**	**19 47 49.0**	**+0.8**
	87nm,0.9s							
KUU					Lg	Lg	19 48 55.1	
	284nm,0.8s							
KUU	**Kurty**	**5.09**	**17**		*e*PN	**Pn**	**19 47 36.5**	**+1.1**
KUU					*e*		19 47 49.6	
SATY	**Saty**	**5.09**	**37**		*e*P	**Pb**	**19 47 48.5**	**+0.2**
	82nm,0.4s							
SATY					*e*S	**Sb**	**19 48 53.3**	**+3.7**
	232nm,1.9s							
SATY	**Saty**	**5.09**	**37**		*e*Pn	**Pn**	**19 47 36.3**	**+0.8**
	baz=36							
SATY					*i* Pg	**Pb**	**19 47 49.1**	**+0.8**
	baz=36							
SATY	**Saty**	**5.09**	**37**		*e*PN	**Pn**	**19 47 36.3**	**+0.8**
SATY					*i*		19 47 49.0	
CHKK	**Chushkaly**	**5.22**	**22**		*e*P	**Pb**	**19 47 51.0**	**+0.6**
CHKK					*e*S	**Sb**	**19 48 58.7**	**+5.4**
CHKK	**Chushkaly**	**5.22**	**22**		*e*Pn	**Pn**	**19 47 38.6**	**+1.4**
	baz=21							
CHKK					*e*Pg	**Pb**	**19 47 51.7**	**+1.3**
	baz=21							
CHKK	**Chushkaly**	**5.22**	**22**		Pg	**Pb**	**19 47 51.0**	**+0.6**
CHKK					Lg	Lg	19 48 58.7	
CHKK	**Chushkaly**	**5.22**	**22**		*e*PN	**Pn**	**19 47 38.6**	**+1.4**
CHKK					*e*		19 47 51.7	
KURS	**Kuram**	**5.33**	**32**		*e*P	**Pb**	**19 47 52.5**	**+0.2**
KURS					*e*S	**Sb**	**19 49 01.2**	**+4.9**
KURS	**Kuram**	**5.33**	**32**		Pg	**Pb**	**19 47 52.5**	**+0.2**
KURS					Lg	Lg	19 49 01.2	
CHCP	**Chirah Chowk**	**5.44**	**189**		P	Pb	19 47 46.4	-7.8
NIL	**Nilore**	**5.45**	**189**		Pn	Pb	19 47 46.5	-7.8
NIL	**Nilore**	**5.45**	**189**		PN	Pb	19 47 46.5	-7.8
UZB	**Uzynbulak**	**5.45**	**40**		*e*P	**Pb**	**19 47 55.4**	**+0.9**
	37nm,0.8s							
UZB					*e*S	**Sb**	**19 49 06.2**	**+6.2**
	153nm,1.1s							
UZB	**Uzynbulak**	**5.45**	**40**		*e*Pn	**Pn**	**19 47 41.7**	**+1.2**
	baz=39							
UZB					*i* Pg	**Pb**	**19 47 55.2**	**+0.7**
	baz=39							
UZB	**Uzynbulak**	**5.45**	**40**		Pg	**Pb**	**19 47 55.4**	**+0.9**
	37nm,0.8s							
UZB					Lg	Lg	19 49 06.2	
	153nm,1.1s							
UZB	**Uzynbulak**	**5.45**	**40**		*e*PN	**Pn**	**19 47 41.7**	**+1.2**
UZB					*i*		19 47 55.2	
KPKS	**Kokpek**	**5.53**	**36**		*e*P	**Pb**	**19 47 57.8**	**+1.9**
	97nm,0.4s							
KPKS					*e*S	**Sb**	**19 49 09.4**	**+7.1**
	235nm,0.6s							
KPKS	**Kokpek**	**5.53**	**36**		*e*Pn	**Pn**	**19 47 42.7**	**+1.1**
	baz=35							
KPKS					*i* Pg	**Pb**	**19 47 57.1**

THW	**Thamme Wali**	**6.56**	**199**	P		Pn		19 48 01.6	+5.9	
TDK	**Taldyqorghan**	**6.70**	**26**	*e*P		**Pb**		**19 48 18.5**	**+2.8**	
	39nm,0.5s									
TDK				*e*S		Sb		19 49 45.3	+9.5	
	223nm,0.9s									
TDK	**Taldyqorghan**	**6.70**	**26**	*e*Pn		**Pn**		**19 47 59.3**	**+1.6**	
	baz=25									
TDK				*e*Pg		**Pb**		**19 48 18.6**	**+2.9**	
	baz=25									
TDK	**Taldyqorghan**	**6.70**	**26**	Pg		Pb		19 48 21.8	+6.1	
TDK	**Taldyqorghan**	**6.70**	**26**	*e*PN		**Pn**		**19 47 59.2**	**+1.6**	
TDK				*e*				19 48 18.6		
DJR	**Jarkent**	**6.71**	**36**	*e*P		**Pb**		**19 48 20.5**	**+4.7**	
	16nm,0.6s									
DJR				*e*S		**Sg**		**19 49 48.9**	**-5.5**	
	67nm,1.0s									
BHK	**Bhakra**	**7.82**	**166**	*e*P		**Pn**		**19 48 15.8**	**+2.9**	
BHK				*e*S		**Sn**		**19 49 45.7**	**+4.2**	
SMLA	**Simla**	**8.26**	**162**	*e*P		Pn		19 48 23.5	+4.7	
SMLA				*e*S		**Sn**		**19 49 56.1**	**+4.0**	
SMLA				IAML				19 50 05.1		
	comp=N,156nm,0.5s									
SMLA				IAML				19 50 09.6		
	comp=E,160nm,0.7s									
OTUK	**Ortayu**	**9.30**	**352**	⇓Pn		**Pn**		**19 48 33.6**	**+0.4**	
	comp=E,18nm,0.8s									
OTUK				⇑Lg		Lg		19 51 08.0		
	comp=E,71nm,0.8s									
OTUK	**Ortayu**	**9.30**	**352**	P		**Pn**		**19 48 33.0**	**-0.1**	
MAKZ	**Makanchi**	**9.60**	**34**	Pn		**Pn**		**19 48 34.1**	**-3.1**	
MAKZ	**Makanchi**	**9.60**	**34**	⇓Pn		**Pn**		**19 48 39.9**	**+2.6**	
	comp=E,9.9nm,1.1s									
MAKZ				⇓Lg		Lg		19 51 15.2		
	comp=E,19nm,1.4s									
MAKZ	**Makanchi**	**9.60**	**34**	P		**Pn**		**19 48 34.2**	**-3.1**	
MK31	**Makanchi Array**	**9.72**	**35**			**Pn**		**19 48 39.9**	**+0.9**	
MK31	**Makanchi Array**	**9.72**	**35**	⇓Pn		**Pn**		**19 48 40.9**	**+1.9**	
	comp=E,3.9nm,0.6s,baz=213,slow=13,SNR=23									
MK31				⇓Lg		Lg		19 51 17.4		
	comp=E,16nm,0.8s,baz=220,slow=23,SNR=3.6									
MK31	**Makanchi Array**	**9.72**	**35**	*d*P		**Pn**		**19 48 41.6**	**+2.6**	
MKAR	**Makanchi Array**	**9.72**	**35**	Pn		**Pn**		**19 48 39.0**	**0.0**	
	comp=E,0.5nm,0.3s,baz=220,slow=15,SNR=20									
MKAR				Lg		Lg		19 51 17.9		
	comp=E,0.3nm,0.3s,baz=282,slow=31,SNR=2.5									
MKAR				LR		LR		19 52 46.5		
	comp=E,202nm,20.6s,baz=230,slow=40									
	comp=E,2.2nm,0.5s									
MKAR	**Makanchi Array**	**9.72**	**35**	Pn		**Pn**		**19 48 38.8**	**-0.2**	
MKAR	**Makanchi Array**	**9.72**	**35**	P		**Pn**		**19 48 38.8**	**-0.2**	
NDI	**New Delhi**	**10.63**	**166**	*e*P		**Pn**		**19 48 54.0**	**+2.6**	
PTH	**Pithoragarh**	**10.68**	**151**	*e*P		**Pn**		**19 48 51.8**	**-0.5**	
PTH				*e*S		**Sn**		**19 50 47.1**	**-4.9**	
HRA	**Herat**	**10.70**	**248**	Pn		**Pn**		**19 48 53.6**	**+1.0**	
LGTI	**Lohaghat**	**10.78**	**151**	*e*P		**Pn**		**19 48 54.1**	**+0.6**	
LGTI				*e*S		**Sn**		**19 50 53.7**	**-0.5**	
SONA	**Sohna**	**11.03**	**167**	*e*P		**Pn**		**19 48 59.3**	**+2.5**	
KUDL	**Kundal**	**11.04**	**170**	*e*P		**Pn**		**19 48 59.2**	**+2.2**	
KUDL				*e*S		**Sn**		**19 50 59.6**	**-0.8**	
WMQ	**Urumqi**	**11.16**	**60**	⇓P		**Pn**		**19 48 58.8**	**+0.1**	
WMQ				pP				19 49 01.5		
WMQ				sP				19 49 07.0		
WMQ				S		**Sn**		**19 50 56.5**	**-7.0**	
WMQ				pmax		pmax				
	comp=E,33nm,0.9s									
WMQ				LR		LR				
	comp=E,370nm,11.5s									
WMQ				LR		LR				
	comp=E,410nm,9.5s									
WMQ				LR		LR				
	comp=E,210nm,18.7s									
ZSN	**Zaisan**	**11.41**	**39**	*e*Pn		**Pn**		**19 49 03.3**	**+1.2**	
	baz=39									
ZSN	**Zaisan**	**11.41**	**39**	*e*P		**Pn**		**19 49 03.2**	**+1.2**	
KURBB	**Kurchatov Arra**	**11.96**	**13**	Pn		**Pn**		**19 49 08.9**	**-0.7**	
	comp=E,1.6nm,0.8s,baz=188,slow=13,SNR=3.0									
KURBB				Sn		**Sn**		**19 51 17.3**	**-5.6**	
	baz=169,slow=29,SNR=2.2									
KURBB				Lg		Lg		19 52 25.2		
	baz=183,slow=32,SNR=4.3									
KURBB	**Kurchatov Arra**	**11.96**	**13**	⇓Lg		Lg		19 52 31.5		
	comp=E,123nm,1.0s									
KURK	**Kurchatov**	**12.07**	**13**	Pn		**Pn**		**19 49 07.7**	**-3.3**	
KURK	**Kurchatov**	**12.07**	**13**	⇑Lg		Lg		19 52 34.9		
	comp=E,97nm,1.5s									
KURK	**Kurchatov**	**12.07**	**13**	*d*eP		**Pn**		**19 49 12.7**	**+1.7**	
AJM	**Ajmer**	**12.54**	**178**	*e*S		**Sn**		**19 51 38.3**	**+0.9**	
GEYT	**Alibeck**	**12.69**	**270**	Pn		**Pn**		**19 49 19.3**	**-0.4**	
	comp=E,0.8nm,0.3s,baz=98,slow=10,SNR=12									
GEYT				Sn		**Sn**		**19 51 35.6**	**-5.5**	
	comp=E,0.5nm,0.3s,baz=93,slow=15,SNR=2.3									
GEYT				Lg		Lg		19 53 08.2		
	baz=41,slow=27									
GEYT				LR		LR		19 54 59.9		
	comp=E,189nm,19.9s,baz=66,slow=41									
	comp=E,2.4nm,0.5s									
GYA0	**ALIBECK ARRAY**	**12.69**	**270**	P		**Pn**		**19 49 18.4**	**-1.3**	
GYA0B	**ALIBECK ARRAY**	**12.69**	**270**	Pn		**Pn**		**19 49 18.4**	**-1.2**	
DANN	**Dangsing**	**13.28**	**141**	*e*P		**Pn**		**19 49 26.8**	**-1.1**	
	comp=E,22nm,0.5s									
GKN	**Gorkha**	**14.00**	**139**	*e*P		**Pn**		**19 49 35.5**	**-2.2**	
	comp=E,52nm,0.9s									
VLK	**Valmikinagar**	**14.19**	**143**	*e*P		**Pn**		**19 49 39.4**	**-0.7**	
DGZ	**Jazzator, Ålta**	**14.20**	**37**	⇓*e*P		**Pn**		**19 49 40.5**	**+0.2**	
BVA0	**Borovoye Array**	**14.23**	**350**	⇑Pn		**Pn**		**19 49 39.7**	**-0.8**	
	comp=E,14nm,0.9s									
BVA0	**Borovoye Array**	**14.23**	**350**	P		**Pn**		**19 49 39.7**	**-0.8**	
BVAR	**Borovoye Array**	**14.23**	**350**	Pn		**Pn**		**19 49 39.4**	**-1.2**	
	comp=E,0.2nm,0.3s,baz=165,slow=12,SNR=29									
BVAR				Lg		Lg		19 53 36.0		
	baz=158,slow=20,SNR=1.4									
BVAR				LR		LR		19 55 14.8		
	comp=E,168nm,19.1s,baz=173,slow=38									
	comp=E,12nm,0.9s									
BRVK	**Borovoye**	**14.28**	**350**	Pn		**Pn**		**19 49 39.0**	**-2.2**	
BRVK	**Borovoye**	**14.28**	**350**	⇓Pn		**Pn**		**19 49 40.7**	**-0.5**	
	comp=E,25nm,0.7s									
BRVK	**Borovoye**	**14.28**	**350**	*d*iP		**Pn**		**19 49 40.6**	**-0.5**	
AB31	**Akbulak array**	**14.45**	**320**	Pn		**Pn**		**19 49 42.4**	**-1.2**	
	comp=E,12nm,0.6s,baz=130,slow=11,SNR=77									
AB31	**Akbulak array**	**14.45**	**320**	P		**Pn**		**19 49 42.0**	**-1.6**	
ABKAR	**Akbulak array**	**14.45**	**320**			**Pn**		**19 49 42.1**	**-1.5**	
ABKAR	**Akbulak array**	**14.45**	**320**	Pn		**Pn**		**19 49 42.1**	**-1.5**	
ABKAR						**Sn**		**19 52 16.7**	**-7.1**	
KKN	**Kakani**	**14.51**	**137**	*e*P		**Pn**		**19 49 42.5**	**-2.2**	
DMN	**Daman**	**14.56**	**138**	*e*P		**Pn**		**19 49 44.2**	**-1.3**	
	comp=E,24nm,0.5s									
GUN	**Gumba**	**14.73**	**135**	*e*P		**Pn**		**19 49 46.4**	**-1.5**	
	comp=E,7.8nm,0.4s									
PKIN	**Phulchoki**	**14.74**	**138**	*e*P		**Pn**		**19 49 46.4**	**-1.5**	
PKI	**Pulchoki**	**14.75**	**138**	*e*P		**Pn**		**19 49 46.7**	**-1.4**	
JIRN	**Jiri**	**15.10**	**135**	*e*P		**Pn**		**19 49 50.8**	**-2.0**	
	comp=E,26nm,0.4s									
RAMN	**Ramite**	**15.88**	**136**	*e*P		**Pn**		**19 50 00.9**	**-2.1**	
	comp=E,59nm,0.8s									
BHPL	**Bhopal**	**15.99**	**169**	*e*P		**Pn**		**19 50 02.9**	**-1.3**	
AKTO	**Aktyubinsk**	**16.16**	**320**	⇑Pn		**Pn**		**19 50 06.1**	**-0.1**	
	comp=E,14nm,0.8s									
AKTO	**Aktyubinsk**	**16.16**	**320**	P		**Pn**		**19 50 05.0**	**-1.2**	
TAPN	**Taplejung**	**16.20**	**132**	*e*P		**Pn**		**19 50 05.8**	**-1.2**	
ZAA0	**Zalesovo Array**	**16.55**	**22**	Pn		**Pn**		**19 50 08.4**	**-2.7**	
ZALV	**Zalesovo Beam**	**16.55**	**22**	Pn		**Pn**		**19 50 08.3**	**-2.8**	
	comp=E,0.4nm,0.3s,baz=206,slow=12,SNR=17									
ZALV				Lg		Lg		19 54 55.3		
	comp=E,0.1nm,0.3s,baz=220,slow=23,SNR=3.6									
ZALV				LR		LR		19 56 41.5		
	comp=E,130nm,18.6s,baz=70,slow=38									
	comp=E,3.8nm,0.6s									
ZALV	**Zalesovo Beam**	**16.55**	**22**	Pn		**Pn**		**19 50 08.7**	**-2.5**	
ZALV	**Zalesovo Beam**	**16.55**	**22**	P		**Pn**		**19 50 08.7**	**-2.5**	
LSA	**Lhasa**	**16.76**	**119**	P		**P**		**19 50 16.2**	**-0.4**	
LSA	**Lhasa**	**16.76**	**119**	P		**P**		**19 50 16.2**	**-0.4**	
LSA				pmax		pmax				
	comp=E,4.0nm,0.7s									
GTA	**Gaotai**	**19.79**	**81**	⇑P		**Pn**		**19 50 51.3**	**+0.1**	
GTA				pP		sP		19 50 54.5	-1.1	
GTA				sP		pP		19 50 58.0	+4.3	
GTA				pmax		pmax				
	comp=E,11nm,0.7s									
GTA				pmax		pmax				
	comp=E,61nm,4.7s									
GTA				LR		LR				
	comp=E,130nm,12.7s									
GTA				LR		LR				
	comp=E,130nm,13.1s									
GTA				LR		LR				
	comp=Z,180nm,14.5s									
ZIRO	**ZIRO**	**19.97**	**119**	*e*P		**Pn**		**19 50 54.2**	**+0.9**	
SHL	**Shillong**	**20.02**	**127**	P		**Pn**		**19 50 53.7**	**-0.3**	
SHL	**Shillong**	**20.02**	**127**	P		**Pn**		**19 50 53.7**	**-0.3**	
SHL				pmax		pmax				
	comp=Z,20nm,1.1s									
KNGR	**Kungurtug, Tuv**	**20.05**	**47**	⇑*e*P		**P**		**19 50 52.2**	**-0.2**	
KNGR				pmax		pmax				
	comp=Z,6.0nm,0.9s									
ITAN	**ITANAGAR**	**20.13**	**120**	*e*P		Pn		19 50 55.2	+0.1	
ITAN				IAmb		IAmb		19 51 03.0		
	comp=Z,29nm,0.8s									
ARU	**Arti**	**20.25**	**334**	P		**P**		**19 50 54.9**	**+0.6**	
	comp=Z,3.9nm,0.5s,baz=155,slow=7.6,SNR=17									
ARU				Lg		Lg		19 56 54.0		
	baz=146,slow=22,SNR=1.1									
	comp=Z,3.9nm,0.5s									
ARU	**Arti**	**20.25**	**334**	P		**P**		**19 50 54.4**	**+0.1**	
ARU	**Arti**	**20.25**	**334**	*d*iP		Pn		19 50 56.9	+0.6	
ARU								19 51 14.1		
ARU				SS		**SnSn**		**19 55 05.1**	**+6.5**	
ARU				pmax		pmax				
	comp=Z,18nm,0.8s									
WSAR	**Wadi Sarin**	**20.62**	**225**	P		Pn		19 51 00.8	0.0	
	comp=Z,16nm,0.8s,baz=82,slow=8.7,SNR=14									
WSAR				LR		LR		20 00 00.9		
	comp=Z,83nm,18.4s,baz=96,slow=40									
	comp=Z,16nm,0.8s									
UOSS	**Minazif**	**20.73**	**233**	P		Pn		19 51 02.0	-0.2	
UOSS				IAmb		IAmb		19 51 21.6		
	comp=Z,46nm,1.4s									
MOKO	**MOKOCHONG**	**21.20**	**121**	*e*P		**P**		**19 51 06.0**	**+0.9**	
MOKO				IAmb		IAmb		19 51 10.0		
	comp=Z,45nm,0.8s									
LKP	**Lekhapani**	**21.46**	**117**	*e*P		**P**		**19 51 08.9**	**+1.3**	
LKP				IAmb		IAmb		19 51 15.3		
	comp=Z,16nm,0.8s									
GROC	**Groznyy**	**21.78**	**290**	*e*P		**P**		**19 51 13.6**	**+2.6**	
GROC				*e*				19 51 34.7		
GROC				*e*S		**S**		**19 55 14.7**	**+2.9**	
GROC				pmax		pmax				
	comp=Z,137nm,1.0s									
BRDH	**Bariadhala**	**22.05**	**133**	LR		LR		20 00 31.8		
	comp=Z,113nm,18.8s,baz=210,slow=39									
BELG	**Belogornoye**	**22.72**	**315**	P		**P**		**19 51 21.5**	**+0.6**	
	comp=Z,17nm,0.7s,baz=36,slow=19,SNR=3.7									
BELG				LR		LR		20 01 15.8		
	comp=Z,117nm,19.3s,baz=123,slow=39									
	comp=Z,17nm,0.7s									
BELG	**Belogornoye**	**22.72**	**315**	⇓*e*P		**P**		**19 51 22.8**	**+1.9**	
BELG				pmax		pmax				
	comp=Z,4.0nm,0.9s									
GNI	**Garni**	**22.72**	**282**	P		**P**		**19 51 24.2**	**+3.0**	
	comp=Z,9.8nm,0.8s,baz=23,slow=5.0,SNR=7.2									
GNI				LR		LR		20 01 44.3		
	comp=Z,58nm,18.5s,baz=90,slow=41									
	comp=Z,9.8nm,0.8s									
GNI	**Garni**	**22.72**	**282**	P		**P**		**19 51 21.3**	**+0.1**	
GNI				IAmb		IAmb		19 51 34.9		
	comp=Z,38nm,1.0s									
GNI	**Garni**	**22.72**	**282**	P		**P**		**19 51 21.3**	**+0.1**	
GNI				pmax		pmax				
	comp=Z,38nm,1.0s									
ZEI	**Tsey**	**23.17**	**289**	*e*P		**P**		**19 51 31.8**	**+5.8**	
ZEI				pmax		pmax				
	comp=Z,6.0nm,0.7s									
NCK	**Nalchik**	**23.39**	**291**	⇑*e*P		**P**		**19 51 29.9**	**+1.9**	
NCK				pmax		pmax				
	comp=Z,20nm,0.8s									
ONI	**Oni**	**23.51**	**289**	P		**P**		**19 51 29.6**	**+0.4**	
ONI				IAmb		IAmb		19 51 36.7		
	comp=Z,16nm,0.8s									
ONI	**Oni**	**23.51**	**289**	P		**P**		**19 51 29.6**	**+0.4**	
ONI				pmax		pmax				
	comp=Z,16nm,0.8s									
LZH	**Lanzhou**	**23.60**	**88**	*e*P		**P**		**19 51 31.3**	**+1.1**	
LZH				pP		pP		19 51 34.3	-0.1	
LZH				sP		sP		19 51 36.5	+0.3	
LZH				pmax		pmax				
	comp=Z,7.0nm,1.0s									
KBZ	**Khabaz**	**23.90**	**291**	P		**P**		**19 51 34.4**	**+1.5**	
	comp=Z,2.9nm,0.9s,baz=138,slow=11,SNR=4.5									
KBZ				LR		LR		20 02 38.9		
	comp=Z,106nm,19.1s,baz=87,slow=41									
	comp=Z,2.9nm,0.9s									
KBZ	**Khabaz**	**23.90**	**291**	*c*eP		**P**		**19 51 33.3**	**+0.4**	
KBZ				pmax		pmax				
	comp=Z,3.0nm,0.9s									
KARS	**Kars**	**23.93**	**284**	P		**P**		**19 51 34.0**	**+0.7**	
KARS	**Kars**	**23.93**	**284**	P		**P**		**19 51 34.0**	**+0.7**	
KARS				pmax		pmax				
	comp=Z,39nm,0.8s									
KVAR	**Kislovodsk Arr**	**24.05**	**292**	LR		LR		20 01 38.3		
	comp=Z,108nm,21.6s,baz=260,slow=38									
KIV	**Kislovodsk**	**24.06**	**292**	P		**P**		**19 51 32.5**	**-2.0**	
KIV	**Kislovodsk**	**24.06**	**292**	*e*P		**P**		**19 51 35.7**	**+1.2**	
KIV				pmax		pmax				
	comp=Z,8.0nm,1.1s									
KIV				MLR		MLR				
	comp=Z,30nm,15.0s									
GEVA	**Gevas**	**24.30**	**278**	P		**P**		**19 51 36.3**	**-0.6**	
TNCH	**TengChong**	**24.78**	**117**	P		**P**		**19 51 42.0**	**+0.7**	
TNCH				pP		sP		19 51 46.0	-1.3	
TNCH				sP		pP		19 51 48.8	+3.3	
TNCH				pmax		pmax				
	comp=Z,4.0nm,0.9s									
TNCH				pmax		pmax				
	comp=Z,49nm,3.2s									
SONM	**Songino Array**	**24.79**	**59**	P		**P**		**19 51 41.1**	**-0.1**	
	comp=Z,1.5nm,0.6s,baz=258,slow=9.9,SNR=17									
SONM				LR		LR		20 02 19.8		
	comp=Z,121nm,21.5s,baz=214,slow=39									
	comp=Z,1.5nm,0.6s									
SONM	**Songino Array**	**24.79**	**59**	P		**P**		**19 51 41.8**	**+0.6**	
KIRV	**Kirov**	**25.23**	**329**	P		**P**		**19 51 46.7**	**+1.9**	
	comp=Z,11nm,0.7s,baz=153,slow=6.8,SNR=5.9									
KIRV				LR		LR		20 02 14.8		
	comp=Z,255nm,18.8s,baz=133,slow=38									
	comp=Z,11nm,0.7s									
KIRV	**Kirov**	**25.23**	**329**	⇑*e*P		**P**		**19 51 47.3**	**+2.5**	
VRH	**Novokhopyorsk**	**25.75**	**309**	*e*P		**P**		**19 51 50.0**	**+0.4**	
VRH				pmax		pmax				
	comp=Z,20nm,1.5s									
PZH	**PanZhiHua**	**26.17**	**110**	P		**P**		**19 51 55.8**	**+1.9**	
PZH				pmax		pmax				
	comp=Z,10.0nm,0.5s									
PZH				pmax		pmax				
	comp=Z,120nm,4.2s									
VSR	**Storozhevoye**	**27.31**	**308**	*e*P		**P**		**19 52 03.4**	**-0.3**	
VSR				pmax		pmax				
	comp=Z,10.0nm,1.6s									
VORR	**Voronezh**	**27.39**	**309**	*e*P		P		19 52 12.9	+8.5	
VORR				pmax		pmax				
	comp=Z,20nm,0.4s									
LPSR	**Galich'ya Gora**	**27.78**	**311**	*e*P		**P**		**19 52 07.9**	**0.0**	
LPSR				pmax		pmax				
	comp=Z,8.0nm,0.8s									
ANN	**Anapa**	**27.82**	**294**	*e*P		**P**		**19 52 05.8**	**-2.6**	
ANN				*e**PP		**pP**		**19 52 08.2**	**-4.6**	
ANN				*e*				19 52 54.1		
ANN				*e*S		**S**		**19 56 48.4**	**-2.9**	
ANN				pmax		pmax				
	comp=Z,25nm,1.1s									
RAYN	**Ar Rayn**	**28.88**	**246**	P		**P**		**19 52 19.8**	**+1.7**	
RAYN				IAmb		IAmb		19 52 24.2		
	comp=Z,8.0nm,0.8s									
RAYN	**Ar Rayn**	**28.88**	**246**	P		**P**		**19 52 19.8**	**+1.7**	
RAYN				pmax		pmax				
	comp=Z,8.0nm,0.9s									
CMAR	**Chiang Mai Arr**	**29.66**	**127**	P		**P**		**19 52 25.8**	**+0.8**	
	comp=Z,0.2nm,0.3s,baz=309,slow=10,SNR=1.3									
CMAR				LR		LR		20 06 17.0		
	comp=Z,34nm,21.0s,baz=295,slow=40									
	comp=Z,0.2nm,0.3s									
NRIK	**Noril'sk**	**31.18**	**9**	P		**P**		**19 52 37.2**	**-0.7**	
	comp=Z,1.7nm,0.3s,baz=164,slow=3.6,SNR=2.2									
	comp=Z,1.7nm,0.3s									
BR131	**Keskin Array S**	**31.21**	**284**	P		**P**		**19 52 40.2**	**+1.5**	
BR131	**Keskin Array S**	**31.21**	**284**	⇑*i*P		**P**		**19 52 41.0**	**+2.3**	
BRTR	**Keskin Array B**	**31.21**	**284**	P		**P**		**19 52 40.8**	**+2.1**	
	comp=Z,2.7nm,0.9s,baz=91,slow=7.9,SNR=14									
BRTR				LR		LR		20 07 15.8		
	comp=Z,52nm,18.1s,baz=96,slow=40									
	comp=Z,2.7nm,0.9s									
BRTR	**Keskin Array B**	**31.21**	**284**	P		**P**		**19 52 40.4**	**+1.8**	
BRTR	**Keskin Array B**	**31.21**	**284**	*e*P		**P**		**19 52 42.2**	**+3.5**	
BRTR				pmax		pmax				
	comp=Z,3.0nm,0.8s									
PALK	**Pallekele**	**32.17**	**168**	LR		LR		20 06 38.6		
	comp=Z,92nm,18.7s,baz=88,slow=38									
AKASG	**Malin Array Be**	**33.47**	**305**	P		**P**		**19 52 59.2**	**+1.1**	
	comp=Z,0.3nm,0.3s,baz=80,slow=7.4,SNR=13									
AKASG				LR		LR		20 07 47.2		
	comp=Z,116nm,18.9s,baz=58,slow=38									
	comp=Z,0.3nm,0.3s									
AKASG	**Malin Array Be**	**33.47**	**305**	*e*P		**P**		**19 53 00.1**	**+2.0**	
AKASG				pmax		pmax				
	comp=Z,2.0nm,0.6s									
AKBB	**Malin Array Si**	**33.47**	**305**	P		**P**		**19 52 58.7**	**+0.5**	
AKBB				IAmb		IAmb		19 53 01.6		
	comp=Z,4.7nm,0.7s									
AKBB	**Malin Array Si**	**33.47**	**305**	⇓*e*P		**P**		**19 52 59.5**	**+1.4**	
AKBB				pmax		pmax				
	comp=Z,5.0nm,0.7s									
EIL	**Elat**	**33.55**	**266**	LR		LR		20 08 58.1		
	comp=Z,66nm,21.1s,baz=80,slow=40									
BORA	**Eskisehir**	**33.57**	**286**	P		**P**		**19 53 01.0**	**+1.7**	
BORA				IAmb		IAmb		19 53 05.0		
	comp=Z,6.0nm,1.0s									
MNK	**Minsk**	**34.61**	**312**	*i* P		**P**		**19 53 08.5**	**+0.4**	
	comp=E,2.0nm,0.9s									
MNK				*i* P		**P**		**19 53 08.5**	**+0.4**	
	comp=N,30nm,0.8s									
MNK				*i* P		**P**		**19 53 08.5**	**+0.4**	
	comp=Z,10.0nm,0.9s,baz=277									
MNK				*i* PP		**PP**		**19 54 24.3**	**-2.0**	
MNK				*i* PPP		PPP		19 54 36.5		
MNK				*i* S		**S**		**19 58 39.2**	**+2.1**	
MNK				*i* SS		**SnSn**		**20 00 53.2**	**+4.4**	
MNK				*i* SSS		SSS		20 01 12.8		
MNK				*i* LQ		LQ		20 04 32.4		
MNK				*i* LR		LR		20 06 43.4		
MNK				*i* LRM		MLR		20 08 25.9		
	comp=N,346nm,23.0s									
MNK				*i* LRM		MLR		20 08 27.2		
	comp=E,15nm,16.6s									
MNK				*i* LRM		MLR		20 08 50.2		
	comp=Z,105nm,20.4s									
MNK	**Minsk**	**34.61**	**312**	*i* P		**P**		**19 53 08.4**	**+0.4**	
MNK				*i*				19 54 24.3		
MNK				*i*				19 55 42.1		
MNK				*i* S		**S**		**19 58 39.2**	**+2.1**	
MNK				*i* SS		**SnSn**		**20 00 53.1**	**+4.4**	
MNK				*i* SSS		SSS		20 01 12.7		
MNK				*i*				20 03 28.8		
MNK				pmax		pmax				
	comp=N,30nm,0.8s									
MNK				pmax		pmax				
	comp=E,2.0nm,0.9s									
MNK				pmax		pmax				
	comp=Z,10.0nm,0.9s									
MNK				MLR		MLR				
	comp=N,346nm,23.0s									
MNK				MLR		MLR				
	comp=E,15nm,17.0s									
MNK				MLR		MLR				
	comp=Z,105nm,20.0s									
VRI	**Vrincioaia**	**35.29**	**297**	⇑P		**P**		**19 53 18.0**	**+4.0**	
PLOR	**Plostina**	**35.34**	**297**	⇓P		**P**		**19 53 16.9**	**+2.4**	
COVR	**Voineasa-Covas**	**35.65**	**297**	⇑P		**P**		**19 53 20.9**	**+3.7**	
MLR	**Muntele Rosu**	**35.88**	**296**	⇑P		P		19 53 24.6	+5.3	
MLR	**Muntele Rosu**	**35.88**	**296**	P		**P**		**19 53 20.6**	**+1.4**	
MLR				IAmb		IAmb		19 53 29.5		
	comp=Z,7.6nm,0.8s									
MLR	**Muntele Rosu**	**35.88**	**296**	P		**P**		**19 53 20.6**	**+1.4**	
MLR				pmax		pmax				
	comp=Z,8.0nm,0.8s									
BURAR	**Bucovina Array**	**36.16**	**300**	P		**P**		**19 53 22.8**	**+1.2**	
BURAR	**Bucovina Array**	**36.16**	**300**

KHC	Kasperske Hory	43.65	304	*e*P		P		19 54 26.0 +2.3
CLL	Collm	43.65	307	P		P		19 54 21.9 -1.8
CLL	Collm	43.65	307	*e*P		P		19 54 25.0 +1.4
CLL				*i* x		x		19 54 37.0
	comp=Z,5.0nm,0.9s							
CLL				*e*x		x		19 56 16.0
CLL				LmV				20 14 00.0
	comp=Z,100nm,18.4s							
CLL	Collm	43.65	307	*e*P		P		19 54 25.0 +1.4
CLL				*i*				19 54 37.0
NC405	NORSAR Array S	43.71	321	P		P		19 54 22.1 -1.9
NC405				IAmb		IAmb		19 55 03.9
	comp=Z,14nm,0.9s							
NC303	NORSAR Array S	43.88	322	P		P		19 54 24.4 -1.0
NC303				IAmb		IAmb		19 54 37.3
	comp=Z,14nm,1.0s							
SGRT	San Giovanni R	43.89	293	P		P		19 54 24.6 -1.3
NB201	NORSAR Array S	43.91	321	P		P		19 54 25.4 -0.3
NB2	NORSAR Subarra	43.95	321	P		P		19 54 26.4 +0.4
	comp=Z,11nm,1.0s,baz=90,slow=7.9							
NOA	NORSAR Array B	43.95	321	P		P		19 54 25.8 -0.1
	comp=Z,2.2nm,0.7s,baz=91,slow=7.9,SNR=7.2							
NOA				LR		LR		20 13 30.0
	comp=Z,78nm,21.9s,baz=95,slow=37							
	comp=Z,2.2nm,0.7s							
NOA	NORSAR Array B	43.95	321	*e*P		P		19 54 27.3 +1.3
NOA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NAO01	NORSAR Array S	44.11	321	P		P		19 54 27.0 -0.2
NBO00	NORSAR Array S	44.16	321	P		P		19 54 26.6 -1.1
NC204	NORSAR Array S	44.17	322	P		P		19 54 26.9 -0.9
CTI	Castel Tesino	45.59	300	P		P		19 54 38.9 -0.5
CTI				IAmb		IAmb		19 55 11.4
	comp=Z,10nm,1.4s							
CTI	Castel Tesino	45.59	300	P		P		19 54 38.9 -0.5
CTI				pmax		pmax		
	comp=Z,10.0nm,1.4s							
SPITS	Spitsbergen Ar	45.63	346	LR		LR		20 16 10.4
	comp=Z,64nm,19.1s,baz=60,slow=39							
DGAR	Diego Garcia	46.25	182	P		P		19 54 45.2 +0.6
DGAR				pmax		pmax		
	comp=Z,134nm,1.0s							
DAVOX	Davos/Dischmat	46.59	301	LR		LR		20 16 55.0
	comp=Z,104nm,18.1s,baz=70,slow=39							
WLF	Walferdange	48.27	306	P		P		19 54 59.1 -1.0
WLF	Walferdange	48.27	306	P		P		19 54 59.1 -1.0
WLF				pmax		pmax		
	comp=Z,28nm,1.5s							
MJB9	Matsu-Tunnel	49.66	72	P		P		19 55 10.8 -0.2
MJB9				IAmb		IAmb		19 55 30.0
	comp=Z,13nm,1.1s							
MAJO	Matsushiro	49.66	72	P		P		19 55 09.7 -1.3
MAJO				IAmb		IAmb		19 55 29.0
	comp=Z,12nm,1.1s							
MAJO	Matsushiro	49.66	72	P		P		19 55 09.7 -1.3
MAJO				pmax		pmax		
	comp=Z,12nm,1.1s							
LODK	Lodwar	50.04	235	P		P		19 55 15.4 +1.3
ASAJ	Asahikawa	50.04	61	LR		LR		20 16 44.1
	comp=Z,41nm,18.0s,baz=96,slow=37							
ASAJ	Asahikawa	50.04	61	P		P		19 55 13.1 -0.7
ASAJ				pmax		pmax		
	comp=Z,46nm,1.5s							
JKA	Kamikawa-asahi	50.05	61	P		P		19 55 13.1 -0.7
KKM	Kota Kinabalu	50.10	120	P		P		19 55 16.4 +1.8
MA2	Magadan	50.77	40	LR		LR		20 17 30.3
	comp=Z,60nm,18.4s,baz=217,slow=37							
EKA	Eskdalemuir Ar	52.27	315	LR		LR		20 19 37.1
	comp=Z,69nm,19.2s,baz=74,slow=38							
BORG	Borgarnes	57.70	330	LR		LR		20 20 55.5
	comp=Z,36nm,20.3s,baz=34,slow=36							
ESDC	Sonseca Array	58.55	298	P		P		19 56 15.0 -0.9
	comp=Z,1.5nm,0.7s,baz=59,slow=6.5,SNR=11							
	comp=Z,1.5nm,0.7s							
TOLK	Toolik Lake Re	67.79	16	P		P		19 57 16.0 -0.7
TOLK				IAmb		IAmb		19 57 21.4
	comp=Z,5.3nm,0.7s							
AMKA	Amchitka	68.77	40	P		P		19 57 20.9 -2.1
IMAR	Indian Mountai	68.95	19	P		P		19 57 22.6 -1.4
BMAR	Burnt Mountain	69.84	15	P		P		19 57 28.8 -0.7
H23K	Yukon River	70.11	18	P		P		19 57 30.4 -0.7
H23K				IAmb		IAmb		19 57 37.9
	comp=Z,5.2nm,0.7s							
J20K	Nowinta River	70.27	20	P		P		19 57 31.6 -0.5
J20K				IAmb		IAmb		19 57 45.3
	comp=Z,5.7nm,1.2s							
H24K	Noodor Dome	70.48	17	P		P		19 57 32.6 -0.8
H24K				IAmb		IAmb		19 58 09.4
	comp=Z,4.3nm,1.2s							
K20K	Telida	70.94	21	P		P		19 57 35.4 -0.8
K20K				IAmb		IAmb		19 58 18.7
	comp=Z,13nm,1.4s							
INK	Inuvik	70.95	11	P		P		19 57 34.7 -1.4
	comp=Z,2.3nm,0.6s,baz=354,slow=6.2,SNR=7.9							
	comp=Z,2.3nm,0.6s							
INK	Inuvik	70.95	11	P		P		19 57 34.8 -1.4
INK				IAmb		IAmb		19 57 39.6
	comp=Z,4.8nm,0.9s							
INK	Inuvik	70.95	11	P		P		19 57 34.8 -1.4
INK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
C36M	Paulatuk	71.07	7	P		P		19 57 35.5 -1.3
C36M				IAmb		IAmb		19 57 46.2
	comp=Z,5.7nm,0.7s							
MDM	Murphy Dome	71.13	18	P		P		19 57 36.2 -1.2
MDM				IAmb		IAmb		19 57 48.4
	comp=Z,8.1nm,1.3s							
CAST	Castle Rocks	71.43	20	P		P		19 57 37.6 -1.5
CAST				IAmb		IAmb		19 57 50.9
	comp=Z,12nm,1.5s							
WRH	Wood River Hil	71.58	18	P		P		19 57 39.4 -0.6
WRH				IAmb		IAmb		19 58 16.8
	comp=Z,5.8nm,1.3s							
IL31		71.61	17	P		P		19 57 38.1 -2.0
ILAR	Eielson Array	71.61	17	P		P		19 57 38.5 -1.7
	comp=Z,1.3nm,0.7s,baz=317,slow=4.5,SNR=15							
	comp=Z,1.3nm,0.7s							
ILAR	Eielson Array	71.61	17	P		P		19 57 38.3 -1.9
ILAR	Eielson Array	71.61	17	*e*P		P		19 57 42.4 +2.2
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KTH	Kantishna Hill	71.63	20	P		P		19 57 38.9 -1.5
KTH				IAmb		IAmb		19 57 58.5
	comp=Z,14nm,1.4s							
PPLA	Purkeypile	71.82	20	P		P		19 57 40.8 -0.9
TRF	Thorofare Moun	71.88	19	P		P		19 57 40.5 -1.6
TRF				IAmb		IAmb		19 58 20.1
	comp=Z,9.8nm,1.3s							
MCK	McKinley	71.98	19	P		P		19 57 40.9 -1.6
MCK				IAmb		IAmb		19 57 47.3
	comp=Z,14nm,1.5s							
MCK	McKinley	71.98	19	P		P		19 57 40.9 -1.6
MCK				pmax		pmax		
	comp=Z,14nm,1.5s							
J26L	Joseph Creek	72.58	16	P		P		19 57 43.7 -2.5
SKT	Skwentna	72.75	21	P		P		19 57 44.6 -2.5
SKT				IAmb		IAmb		19 58 25.6
	comp=Z,14nm,1.4s							
DHY	Denali Highway	72.92	18	P		P		19 57 47.0 -1.3
DHY				IAmb		IAmb		19 58 00.2
	comp=Z,4.5nm,1.0s							
SCRK	Sand Creek	72.94	17	P		P		19 57 46.5 -1.8
SCRK				IAmb		IAmb		19 58 04.0
	comp=Z,10nm,1.4s							
MACI	Morro de la Ar	73.36	293	P		P		19 57 49.3 -2.2
SUA	Susitna One	73.39	21	P		P		19 57 50.0 -1.0
GHO	Glory Hole Cre	73.62	20	P		P		19 57 50.9 -1.4
P18K	Big Mountain,	73.73	24	P		P		19 57 53.3 +0.4
SML	Sawmill	73.75	20	P		P		19 57 51.9 -1.2
SML				IAmb		IAmb		19 58 05.1
	comp=Z,7.7nm,0.8s							
RC01	Rabbit Creek A	73.97	21	P		P		19 57 52.5 -1.8
RC01				IAmb		IAmb		19 57 58.1
	comp=Z,12nm,1.2s							
SCM	Sheep Creek Mo	73.98	19	P		P		19 57 52.1 -2.4
SCM	Sheep Creek Mo	73.98	19	P		P		19 57 52.1 -2.4
SCM				pmax		pmax		
	comp=Z,25nm,1.3s							
M24K	Tolsona, Glenn	74.04	18	P		P		19 57 52.3 -2.5
L27K	Beaver Creek,	74.22	16	P		P		19 57 53.8 -2.0
BCAR	Beaver Creek A	74.23	16	P		P		19 57 55.4 -0.4
KNRA	Kununurra	74.52	126	P		P		19 57 57.7 -0.3
KNRA				IAmb		IAmb		19 58 06.9
	comp=Z,12nm,1.3s							
KLU	Klutina	74.63	19	P		P		19 57 57.7 -0.5
KLU				IAmb		IAmb		19 58 32.8
	comp=Z,9.6nm,1.2s							
HYT	Haines Junctio	77.14	15	P		P		19 58 12.0 -0.7
HYT				IAmb		IAmb		19 58 16.5
	comp=Z,5.2nm,0.8s							
YKA	Yellowknife Ar	78.55	4	P		P		19 58 20.7 +0.4
	comp=Z,1.9nm,0.7s,baz=351,slow=7.1,SNR=2.2							
	comp=Z,1.9nm,0.7s							
WRA	Warramunga Arr	81.22	124	P		P		19 58 34.6 -0.8
	comp=Z,1.1nm,0.7s,baz=325,slow=5.1,SNR=10							
	comp=Z,1.1nm,0.7s							
WRA	Warramunga Arr	81.22	124	*e*P		P		19 58 36.0 +0.7
WRA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BOSA	Boshof	81.36	222	P		P		19 58 38.3 +2.3
	comp=Z,1.8nm,0.8s,baz=84,slow=10,SNR=2.3							
	comp=Z,1.8nm,0.8s							
ASAR	Alice Springs	83.67	127	P		P		19 58 47.6 -0.5
	comp=Z,0.8nm,0.7s,baz=321,slow=5.6,SNR=10							
	comp=Z,0.8nm,0.7s							

*TIR **25** 19:47:46.1, 40.33N×20.44E, h6km±2km, Md2.7, Ml2.5*
*THE **25** 19:47:47.0, 40.33N×20.42E, h0km±2km, ML2.2/12, Error ellipse: s-maj=2.6km s-min=0.7km az=297.0*
*ATH **25** 19:47:47.6, 40.28N×20.47E, h10km±31km, ML2.2/10, Error ellipse: s-maj=31.6km s-min=1.1km az=0.0*

ISC 25 19:47:47.1±1.0, 40.31N±0.02×20.44E±0.02, h7km±9km, n40, σ0.79/60, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSK	Leskovik	0.20	144	P		Pg	19 47 51.0	-0.2
LSK				S		Sg	19 47 54.8	+0.8
	2μm,0.6s							
LSK	Leskovik	0.20	144	P		Pg	19 47 50.7	-0.5
	baz=146							
LSK				S		Sg	19 47 54.5	+0.6
	baz=146							
LSK				AMP				
	comp=N,11nm,0.5s,baz=146							
KBN	Korca	0.41	40	P		Pg	19 47 54.4	-0.7
KBN				S		Sg	19 48 01.1	+0.7
	comp=N,600nm,0.3s							
KBN	Korca	0.41	40	P		Pg	19 47 54.4	-0.7
	baz=41							
KBN				S		Sg	19 47 59.5	-0.9
	baz=41							
KBN				AMP				
	comp=N,2.6nm,0.4s,baz=41							
NEST	Nestorio	0.47	77	P		Pg	19 47 56.3	0.0
NEST				S		Sg	19 48 03.6	+1.1
	comp=N,305nm,0.3s							
NEST	Nestorio	0.47	77	P		Pg	19 47 56.0	-0.3
NEST				S		Sg	19 48 03.1	+0.6
NEST				AML		AML	19 48 06.8	
	comp=N,729μm,0.3s							
NEST				AML		AML	19 48 07.4	
	comp=E,792μm,0.4s							
PENT	Pentalofos	0.54	102	P		Pg	19 47 57.3	-0.3
PENT	Pentalofos	0.54	102	P		Pg	19 47 57.4	-0.3
PENT				S		Sg	19 48 05.0	+0.2
SRN	Sarande	0.55	218	P		Pg	19 47 57.5	-0.2
SRN				S		Sg	19 48 06.1	+1.2
	comp=E,255nm,0.5s							
SRN	Sarande	0.55	218	P		Pb	19 47 58.7	-0.4
	baz=218							
SRN				S		Sb	19 48 06.4	-0.7
	baz=218							
SRN				AMP				
	comp=N,0.9nm,0.5s,baz=218							
KASA	Kassiopi	0.69	215	P		Pg	19 48 00.2	-0.1
KASA				S		Sg	19 48 09.7	+0.4
JAN	Janina	0.73	154	P		Pg	19 47 59.8	-1.3
JAN				S		Sg	19 48 11.2	+0.7
	comp=N,228nm,0.3s							
JAN	Janina	0.73	154	P		Pg	19 47 60.0	-1.1
JAN				AML		AML	19 48 17.4	
	comp=E,553μm,0.3s							
JAN				AML		AML	19 48 19.4	
	comp=N,411μm,0.3s							
KEK	Kerkira	0.78	220	P		Pg	19 48 01.5	-0.6
KEK				S		Sg	19 48 12.8	+0.6
	comp=N,240nm,0.6s							
KEK	Kerkira	0.78	220	P		Pg	19 48 01.4	-0.7
KEK				S		Sb	19 48 13.8	+0.1
KEK				AML		AML	19 48 20.7	
	comp=N,412μm,0.5s							
KEK				AML		AML	19 48 21.4	
	comp=E,391μm,0.4s							
IGT	Igoumenitsa	0.78	186	P		Pg	19 48 01.8	-0.4
IGT				S		Sb	19 48 14.5	+0.6
	comp=E,138nm,0.3s							
IGT	Igoumenitsa	0.78	186	P		Pg	19 48 02.1	-0.1
	baz=187							
IGT				S		Sb	19 48 14.4	+0.4
	baz=187							
IGT	Igoumenitsa	0.78	186	P		Pg	19 48 01.8	-0.4
IGT				AML		AML	19 48 18.0	
	comp=E,288μm,0.4s							
IGT				AML		AML	19 48 22.2	
	comp=N,285μm,0.3s							
KPRO	Kipourio	0.79	117	P		Pg	19 48 02.3	0.0
KPRO				AML		AML	19 48 17.6	
	comp=E,438μm,0.3s							
KPRO				AML		AML	19 48 17.9	
	comp=N,342μm,0.3s							
OHR	Ohrid	0.84	19	*e*Pg		Pg	19 48 03.2	-0.1
OHR				*e*Sg		Sb	19 48 16.0	+0.3
FNA	Florina	0.85	56	P		Pg	19 48 02.4	-1.1
FNA				S		Sb	19 48 15.5	-0.5
	comp=N,222nm,0.3s							
FNA	Florina	0.85	56	P		Pg	19 48 02.7	-0.8
	baz=57							
FNA				S		Sb	19 48 15.9	-0.1
	baz=57							
FNA	Florina	0.85	56	P		Pg	19 48 02.5	-1.1
FNA				AML		AML	19 48 20.1	
	comp=E,438μm,0.4s							
FNA				AML		AML	19 48 20.2	
	comp=N,444μm,0.3s							
KZN	Kozani	1.01	90	P		Pg	19 48 06.1	-0.5
KZN				S		Sn	19 48 22.8	+0.4
	comp=N,105nm,0.4s							
KZN	Kozani	1.01	90	P		Pg	19 48 05.8	-0.8
KZN				AML		AML	19 48 23.7	
	comp=E,230μm,0.4s							
KZN				AML		AML	19 48 29.8	
	comp=N,206μm,0.3s							
TIR	Tirane	1.12	337	P		Pg	19 48 08.1	-0.6
TIR				S		Sn	19 48 25.1	+0.1
	comp=N,72nm,0.5s							
KTI	Kastanea	1.28	86	P		Pg	19 48 11.1	-0.6
THL	Klokotos Trika	1.42	121	P		Pn	19 48 13.7	+0.3
THL				S		Sg	19 48 35.2	+2.4
	comp=N,65nm,0.6s							
THL	Klokotos Trika	1.42	121	P		Pn	19 48 12.8	-0.5
THL				AML		AML	19 48 40.9	
	comp=N,158μm,0.6s							
THL				AML		AML	19 48 41.3	
	comp=E,102μm,0.6s							
SCTE	Santa Cesarea	1.53	262	P		Pn	19 48 14.5	-0.4
GRG	Griva	1.62	66	P		Pn	19 48 16.6	+0.4
GRG				S		Sg	19 48 39.3	0.0
	comp=E,30nm,0.4s							
GRG	Griva	1.62	66	P		Pn	19 48 16.6	+0.4
EVR	Evrytania	1.75	142	AML		AML	19 48 49.3	
	comp=N,80μm,0.8s							
EVR				AML		AML	19 48 53.2	
	comp=E,102μm,0.9s							
SKO	Skopje	1.82	24	*e*Pn		Pg	19 48 24.9	+2.9
MAKR	Makrakomi, Fth	1.84	134	AML		AML	19 48 55.5	
	comp=E,216μm,0.5s							
MAKR				AML		AML	19 48 57.0	
	comp=N,261μm,0.4s							
VAY	Valandovo	1.90	57	*e*Pn		Pb	19 48 21.4	-0.7
STIP	Stip	1.91	43	*e*Pn		Pg	19 48 23.0	-0.8
HORT	Hortiatis	2.05	81	P		Pn	19 48 22.0	0.0
KNT	Kendrikon	2.05	65	P		Pn	19 48 21.6	-0.4
KOKK	Kokkinochori,	2.75	78	P		Pn	19 48 32.3	+0.6

KRSC 25 19:57:51.9±1.7, 55.05N×164.82E, h50km±24km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	Bering	0.68	76	*e*P		Pn	19 58 06.3	+0.9
BKI				*e*S		Sn	19 58 16.3	+1.2
KBTR	Krutoberegovo	1.62	317	*e*P		Pn	19 58 18.3	+0.3
KBTR				*e*S		Sn	19 58 37.2	-0.6
KBG	Krutoberegovo	1.70	316	*e*P		Pn	19 58 19.5	+0.4
KBG				*e*S		Sn	19 58 39.8	+0.1
MKZ	Mys Kozlova	1.85	256	*e*P		Pn	19 58 23.4	+2.3
MKZ				*e*S		Sn	19 58 46.0	+2.6
SMKR	Semkarok	2.44	311	*e*P		Pn	19 58 31.7	+2.5
SMKR				*e*S		Sn	19 59 01.4	+3.6
BZGR	Bezymyannyi-Gr	2.51	293	*e*P		Pn	19 58 34.0	+3.7
BZGR				*e*S		Sn	19 59 04.4	+4.7
TUMD	Tumrok D	2.54	275	*e*P		Pn	19 58 35.5	+4.9
TUMD				*e*S		Sn	19 59 03.9	+3.6
BDR	Baidarnaya	2.54	308	*e*P		Pn	19 58 34.1	+3.4
BDR				*e*S		Sn	19 59 05.2	+4.7
SRKR	Sorokina	2.61	310	*e*P		Pn	19 58 34.8	+3.2
BZMR	Bezymyannaya	2.62	292	P		Pn	19 58 35.5	+3.7
BZWR	Bezymyannyi-We	2.62	292	*e*P		Pn	19 58 36.1	+4.2
BZWR				*e*S		Sn	19 59 07.7	+5.1
KLY	Klyuchi	2.68	300	*e*P		Pn	19 58 35.0	+2.6
KLY				*e*S		Sn	19 59 06.2	+2.6
KRSR	Krestovskiy	2.68	298	*e*P		Pn	19 58 35.8	+3.2
KRSR				*e*S		Sn	19 59 07.3	+3.4
TUMR	Tumrok	2.69	277	*e*P		Pn	19 58 36.9	+4.2
TUMR				*e*S		Sn	19 59 08.6	+4.5
KIRR	Kirishev	2.70	291	*e*P		Pn	19 58 36.8	+3.9
KIRR				S		Sn	19 59 05.9	+1.4
KMNR	Kamenistaya	2.71	287	*e*P		Pn	19 58 37.1	+4.2
KMNR				S		Sn	19 59 09.5	+5.0
KPT	Kopyto	2.77	291	*e*P		Pn	19 58 37.4	+3.6
KPT				S		Sn	19 59 10.9	+4.8
KOZ	Kozyrevsk	2.99	292	*e*P		Pn	19 58 41.6	+4.9
SRDR	Sredinnyy	3.16	296	*e*P		Pn	19 58 43.7	+4.6
SRDR				*e*S		Sn	19 59 20.5	+5.0
SPN	Mys Shipunski	3.43	237	*e*P		Pn	19 58 46.2	+3.4
SPN				*e*S		Sn	19 59 23.9	+1.7
ESO	Esso	3.59	287	*e*P		Pn	19 58 49.6	+4.6
NLC	Nalytchevo	3.73	242	*e*S		Sn	19 59 32.0	+2.6
SDLR	Sedlovina	3.91	245	*e*P		Pn	19 58 54.1	+4.6
SDLR				*e*S		Sn	19 59 37.2	+3.1
SMAR	Somma	3.96	246	*e*P		Pn	19 58 55.0	+4.7
SMAR				*e*S		Sn	19 59 40.5	+5.0
KRER	Koryakskii	3.97	246	*e*P		Pn	19 58 54.2	+3.8
KRER				*e*S		Sn	19 59 38.9	+3.2
UGLR	Uglovaya	3.98	245	*e*P		Pn	19 58 55.2	+4.8
UGLR				*e*S		Sn	19 59 39.0	+3.3
KOK	Koryaka	4.04	247	*e*P		Pn	19 58 55.9	+4.7
DALK	Dalny	4.11	243	*e*P		Pn	19 58 56.5	+4.5
DALK				*e*S		Sn	19 59 40.6	+1.9
PET	Petropavlovsk	4.16	243	*e*P		Pn	19 58 57.1	+4.3
GNL	Ganaly	4.24	254	*e*P		Pn	19 58 59.2	+5.2
GNL				*e*S		Sn	19 59 46.5	+4.2
OSSR	Ossora	4.32	348	P		Pn	19 58 59.3	+4.4
OSSR				S		Sn	19 59 44.3	+0.3
KRMR	Karymshinskiy	4.53	243	*e*P		Pn	19 59 01.9	+4.0
KRMR				*e*S		Sn	19 59 53.4	+4.2
RUS	Russkaya	4.57	238	*e*P		Pn	19 59 02.1	+3.8
RUS				*e*S		Sn	19 59 51.6	+1.6
MTVR	Mutnovka	4.70	240	*e*P		Pn	19 59 04.8	+4.5
MTVR				*e*S		Sn	19 59 55.9	+2.4
GRL	Gorelyy	4.71	241	*e*P		Pn	19 59 05.2	+4.7
GRL				*e*S		Sn	19 59 57.2	+3.3
KDTR	Khodutka, Kamc	5.17	234	*e*P		Pn	19 59 10.4	+3.8
KDTR				S		Sn	20 00 05.3	+0.4

*IDC **25** 19:58:27.9±0.8, 37.13N×141.46E, h0km, mb3.9/14, mbtmp3.9/16, ML2.9/2, MS3.3/6, Error ellipse: s-maj=19.8km s-min=15.4km az=108.0*
*JMA **25** 19:58:29.8±0.2, 37.2N±0.4×14.2E±, h29km±1km, MD4.2/35, MV3.7/35, E OFF FUKUSHIMA PREF*
*NIED **25** 19:58:29.8, 37.20N×141.52E, h29km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-6.20; $M_{\theta\theta}$2.74; $M_{\phi\phi}$3.46; $M_{r\theta}$1.25; $M_{\theta\phi}$3.61; $M_{\phi r}$-1.28; Fault plane solution: $M_0$6.72000×10^{14} NP1: ϕ_s238.00000°, δ47.00000°, λ-68.00000°. NP2:ϕ_s27.00000°, δ48.00000°, λ-112.00000°.*

ISC 25 19:58:31.6±1.1, 37.21N±0.04×141.49E±0.06, h27km±6km, n66, σ1.78/45, mb3.9/15, MS3.6/4, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	Kawauchi	0.52	288	*i* P		Pb	19 58 40.2	-2.0
JFK				*e*S		Sb	19 58 47.7	-1.7
JFK	Kawauchi	0.52	288	A		A	19 58 40.2	
	comp=E,8.0nm,2.9s,comp=E,10.0nm,2.4s							
JMST	Minamisoumatoc	0.70	317	*i* P		Pb	19 58 43.6	-1.7
JMST				S		Sb	19 58 53.7	-0.9
JMST	Minamisoumatoc	0.70	317	A		A	19 58 43.6	
	comp=E,7.0nm,0.7s,comp=E,11nm,0.7s							
JFFD	Fukushimafurud	0.75	261	*i* P		Pb	19 58 44.2	-1.9
JFFD				S		Sb	19 58 54.9	-1.2
JFFD	Fukushimafurud	0.75	261	A		A	19 58 44.2	
	comp=E,4.0nm,2.7s,comp=E,7.0nm,0.9s							
JMM	Marumori	0.86	320	P		Pb	19 58 46.3	-1.6
JMM	Marumori	0.86	320	⇓ *i* P		Pb	19 58 46.1	-1.8
JMM				⇓S		Sb	19 58 58.1	-1.0
JMM	Marumori	0.86	320	A		A	19 58 46.1	
	comp=E,4.0nm,6.8s,comp=E,4.0nm,0.7s							
JHO	Hitachi	0.95	231	P		Pn	19 58 46.8	-2.4
JHO	Hitachi	0.95	231	A		A	19 58 46.8	
	comp=E,4.0nm,6.7s,comp=E,4.0nm,5.4s							
JIO	Ouri	1.25	355	*i* P		Pn	19 58 51.9	-1.4
JIO				S		Sn	19 59 09.2	+0.1
JYAR	Yonezawaarcadi	1.28	304	A		A	19 58 52.5	
	comp=E,17nm,1.4s,comp=E,20nm,0.9s							
JSB	Shiboa	1.28	260	P		Pn	19 58 53.7	-0.1
JSB	Shiboa	1.28	260	A		A	19 58 53.7	
	comp=E,11nm,4.4s,comp=E,10.0nm,7.5s							
JOU	Okura	1.33	331	A		A	19 58 53.3	
	comp=E,6.0nm,0.7s,comp=E,16nm,0.7s							
JFY	Yanaizu	1.44	278	A		A	19 58 54.9	
	comp=E,3.0nm,4.6s,comp=E,3.0nm,3

KLR	**Kul'dur**	**13.94**	**333**	LR	LR	20 07 02.3			
	comp=Z,112nm,18.7s,baz=228,slow=37								
YAK	**Yakutsk**	**25.91**	**347**	P	**P**	**20 04 01.2**	**+0.1**		
	3.4nm,0.4s,baz=160,slow=18,SNR=6.3								
	3.4nm,0.4s								
SEY	**Seymchan**	**26.61**	**11**	P	**P**	**20 04 08.4**	**+1.1**		
	2.1nm,0.8s,baz=197,slow=19,SNR=2.0								
	2.1nm,0.8s								
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**20 04 18.4**	**+0.5**		
	1.2nm,0.8s,baz=104,slow=8.5,SNR=9.8								
	1.2nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	20 33 47.5			
	baz=314,slow=75,SNR=1129								
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	20 33 48.3			
	baz=314,slow=75,SNR=909								
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	20 33 50.6			
	baz=314,slow=75,SNR=1098								
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	20 34 40.8			
	baz=316,slow=76,SNR=437								
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	20 34 42.8			
	baz=316,slow=76,SNR=389								
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	20 34 43.2			
	baz=316,slow=76,SNR=289								
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**20 06 19.4**	**+0.4**		
	2.1nm,0.7s,baz=94,slow=7.4,SNR=10								
ZALV				LR	LR	20 24 36.3			
	comp=Z,26nm,18.8s,baz=43,slow=38								
	2.1nm,0.7s								
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**20 06 37.8**	**+0.5**		
	1.6nm,0.8s,baz=86,slow=9.8,SNR=11								
	1.6nm,0.8s								
ILAR	**Eielson Array**	**49.31**	**32**	P	**P**	**20 07 19.5**	**+1.6**		
	0.7nm,0.7s,baz=272,slow=6.0,SNR=9.8								
	0.7nm,0.7s								
INK	**Inuvik**	**54.20**	**27**	P	**P**	**20 07 55.0**	**+0.7**		
	2.3nm,1.0s,baz=225,slow=5.4,SNR=4.5								
	2.3nm,1.0s								
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**20 08 16.0**	**-0.7**		
	1.2nm,0.9s,baz=6.7,slow=7.3,SNR=9.9								
	1.2nm,0.9s								
ASAR	**Alice Springs**	**60.97**	**188**	P	**P**	**20 08 41.3**	**-1.1**		
	0.3nm,0.7s,baz=11,slow=6.0,SNR=6.2								
	0.3nm,0.7s								
GEYT	**Alibeck**	**63.80**	**299**	P	**P**	**20 09 02.2**	**+0.8**		
	1.6nm,0.6s,baz=56,slow=3.7,SNR=4.0								
	1.6nm,0.6s								
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**20 09 32.9**	**+0.7**		
	3.0nm,0.7s,baz=343,slow=6.0,SNR=5.9								
	3.0nm,0.7s								
MNK	**Minsk**	**72.38**	**326**	*i* P	**P**	**20 09 51.4**	**-3.5**		
	comp=E,1.0nm,0.7s								
MNK				*i* P	**P**	**20 09 51.4**	**-3.5**		
	comp=N,27nm,0.8s								
MNK				*i* P	**P**	**20 09 51.4**	**-3.5**		
	comp=Z,7.0nm,0.8s,baz=230								
MNK				*i* PcP	**sP**	**20 10 09.3**	**+2.7**		
MNK				*i* PP	**PP**	**20 12 31.8**	**-3.6**		
MNK				*i* PPP	PPP	20 14 15.8			
MNK				*i* SS	SS	20 23 53.9	-0.2		
MNK				*i* SSS	SSS	20 27 13.9			
MNK				*i* LQ	LQ	20 36 54.8			
MNK				*i* LR	LR	20 42 12.0			
MNK				*i* LRM	MLR	20 44 32.4			
	comp=E,6.0nm,10.3s								
MNK				*i* LRM	MLR	20 44 37.6			
	comp=N,180nm,15.5s								
MNK				*i* LRM	MLR	20 44 39.5			
	comp=Z,52nm,12.9s								
NOA	**NORSAR Array B**	**74.05**	**337**	LR	LR	20 45 43.3			
AKASG	comp=Z,17nm,18.1s,baz=355,slow=38 **Malin Array Be**	**74.20**	**322**	P	**P**	**20 10 06.2**	**+0.5**		
	comp=Z,0.8nm,0.6s,baz=48,slow=6.0,SNR=7.4								
	comp=Z,0.8nm,0.6s								
PDAR	**Pinedale Array**	**77.50**	**46**	P	**P**	**20 10 26.9**	**+1.9**		
	comp=Z,0.5nm,0.9s,baz=298,slow=1.9,SNR=2.6								
	comp=Z,0.5nm,0.9s								
BRTR	**Keskin Array B**	**78.78**	**312**	P	**P**	**20 10 33.0**	**+0.9**		
	comp=Z,0.7nm,0.8s,baz=73,slow=5.3,SNR=3.9								
	comp=Z,0.7nm,0.8s								
MLR	**Muntele Rosu**	**79.29**	**320**	LR	LR	20 47 34.6			
	comp=Z,42nm,19.0s,baz=100,slow=37								
LPAZ	**La Paz**	**146.55**	**59**	PKPbc	**PKPab**	**20 18 13.2**	**+0.6**		
	comp=Z,0.6nm,0.5s,baz=313,slow=4.1,SNR=2.5								
H03N2	**Juan Fernandez**	**146.98**	**96**	T	T	23 02 28.0			
	baz=291								
H03N3	**Juan Fernandez**	**146.99**	**96**	T	T	23 02 28.5			
	baz=291								
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	23 02 29.9			
	baz=291								

*SOME **25** 20:07:23.6,39˚.03N×74˚.15E,h0km*
*KRNET **25** 20:07:27.5±0.1,39˚.15N×74˚.41E,mb3.9*
*NNC **25** 20:07:33.6±1.8,39˚.35N×74˚.49E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=14.5km s-min=7.7km az=171.0

ISC 25 20:07:28.7±1.0,39˚.16N±0˚.05×74˚.59E±0˚.04,h10km,n60,
σ2s 14/85,20C-17D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.95**	**315**	⇑*e*P	**Pn**	**20 08 02.0**	**+0.1**
	baz=18						
OHH				⇑*e*S	**Sb**	**20 08 27.1**	**-1.6**
	baz=18						
DRK	**Karamyk**	**2.19**	**279**	⇑*e*P	**Pn**	**20 08 05.1**	**-0.3**
	baz=80						
DRK				⇑*e*S	**Sn**	**20 08 32.7**	**0.0**
	baz=80						
NRN	**Naryn**	**2.51**	**25**	⇓*e*P	**Pb**	**20 08 12.2**	**-2.0**
	baz=27						
NRN				⇓*e*S	**Sb**	**20 08 44.8**	**-0.5**
	baz=27						
ARLS	**Aral**	**2.71**	**356**	⇑*e*P	**Pn**	**20 08 14.2**	**+1.8**
	baz=59						
ARLS				⇑*e*S	**Sb**	**20 08 47.9**	**-2.7**
	baz=59						
AML	**Almayashu**	**3.05**	**347**	P	**Pb**	**20 08 21.8**	**-1.5**
	SNR=31						
BTK	**Batken**	**3.05**	**288**	⇑*e*P	**Pn**	**20 08 17.0**	**-0.1**
	baz=89						
BTK				⇑*e*S	**Sn**	**20 08 53.0**	**-0.7**
	baz=89						
UCH	**Uchtor**	**3.06**	**359**	P	**Pb**	**20 08 23.7**	**+0.1**
	SNR=20						
UCH	**Uchtor**	**3.06**	**359**	⇓*e*P	**Pn**	**20 08 19.3**	**+1.7**
	baz=1.0						
UCH				⇓*e*S	**Sn**	**20 08 57.2**	**+2.6**
	baz=1.0						
ARK	**Arkit**	**3.31**	**324**	⇑*e*P	**Pn**	**20 08 21.5**	**+0.8**
	baz=26						
ARK				⇑*e*S	**Sn**	**20 09 00.8**	**+0.6**
	baz=26						
ULHL	**Ulahol**	**3.33**	**22**	⇓*e*P	**Pn**	**20 08 23.6**	**+2.6**
	baz=24						
ULHL				⇓*e*S	**Sb**	**20 09 04.4**	**-4.2**
	baz=24						
AAK	**Ala-Archa**	**3.48**	**359**	P	**Pb**	**20 08 29.4**	**-1.1**
	SNR=21						
AAK	**Ala-Archa**	**3.48**	**359**	⇑*e*P	**Pn**	**20 08 24.8**	**+1.8**
	baz=1.0						
AAK				⇑*e*S	**Sn**	**20 09 06.8**	**+2.5**
	baz=1.0						
KBK	**Karagaybulak**	**3.50**	**4**	P	**Pb**	**20 08 30.0**	**-0.9**
	SNR=20						
KBK	**Karagaybulak**	**3.50**	**4**	⇓*e*P	**Pn**	**20 08 25.4**	**+2.0**
	baz=6.0						
KBK				⇓*i*S	**Sn**	**20 09 07.9**	**+2.9**
	baz=6.0						
TRKS	**Terek-Say**	**3.54**	**313**	⇓*i*P	**Pn**	**20 08 23.5**	**-0.4**
	baz=14						
TRKS				⇓*e*S	**Sn**	**20 09 04.6**	**-1.4**
	baz=14						
EKS2	**Erkin-Say**	**3.55**	**350**	P	**Pb**	**20 08 29.3**	**-2.4**
	SNR=11						
EKS2	**Erkin-Say**	**3.55**	**350**	⇑*e*P	**Pn**	**20 08 25.6**	**+1.6**
	baz=52						
EKS2				⇑*e*S	**Sn**	**20 09 08.2**	**+2.1**
	baz=52						
MRKS	**Merke**	**3.73**	**344**	*e*P	**Pb**	**20 08 32.9**	**-1.8**
	10.0nm,0.5s						
MRKS				*e*S	**Sb**	**20 09 20.2**	**+0.2**
	30nm,0.7s						
MRKS	**Merke**	**3.73**	**344**	Pg	**Pb**	**20 08 34.5**	**-0.2**
	13nm,0.4s						
TKM2	**Tokmak 2**	**3.83**	**11**	P	**Pb**	**20 08 33.0**	**-3.6**
	SNR=5.7						
TKM2	**Tokmak 2**	**3.83**	**11**	⇑Pn	**Pb**	**20 08 32.8**	**-3.8**
	12nm,0.4s						
TKM2				⇑Lg	Lg	20 09 27.3	
	18nm,0.5s						
CHMS	**Chumysh**	**3.84**	**2**	P	**Pb**	**20 08 34.3**	**-2.2**
	SNR=7.8						
CHMS	**Chumysh**	**3.84**	**2**	⇓Pn	**Pb**	**20 08 34.0**	**-2.5**
	8.1nm,0.5s						
CHMS				⇑Lg	Lg	20 09 30.4	
	21nm,0.6s						
KST	**Kastek**	**4.02**	**15**	*e*P	**Pb**	**20 08 38.2**	**-1.4**
	12nm,0.4s						
KST				*e*S	**Sb**	**20 09 28.5**	**+0.2**
	52nm,0.7s						
USP	**Ospenovka**	**4.10**	**359**	P	**Pg**	**20 08 44.0**	**-3.3**
	SNR=11						
MTBS	**Maitube**	**4.20**	**19**	*e*P	**Pg**	**20 08 46.7**	**-2.5**
	12nm,0.6s						
MTBS				*e*S	**Sg**	**20 09 43.8**	**+0.2**
	24nm,0.6s						
MTBS	**Maitube**	**4.20**	**19**	Pg	**Pg**	**20 08 47.4**	**-1.8**
	12nm,0.6s						
MTBS				Lg	Lg	20 09 43.0	
	24nm,0.6s						
TNSS	**Tian-Shan**	**4.26**	**24**	*e*P	**Pg**	**20 08 48.8**	**-1.6**
	23nm,0.7s						
TNSS				*e*S	**Sg**	**20 09 47.5**	**+1.8**
	23nm,0.6s						
TNSS	**Tian-Shan**	**4.26**	**24**	Pg	**Pg**	**20 08 48.8**	**-1.6**
	23nm,0.7s						
TNSS				Lg	Lg	20 09 45.6	
	23nm,0.6s						
SGDS	**Sogindy**	**4.29**	**0**	*e*P	**Pb**	**20 08 46.6**	**+2.4**
	12nm,0.7s						
SGDS				*e*S	**Sg**	**20 09 44.2**	**-2.2**
	17nm,1.3s						
MDOK	**Medeo**	**4.41**	**24**	Pg	**Pg**	**20 08 50.9**	**-2.3**
MDOK				Pg	Pb	20 08 51.0	+4.6
	24nm,1.0s						
MDOK				Lg	Lg	20 09 47.7	
	64nm,0.9s						
MDOK				Lg	Lg	20 09 49.4	
AAA	**Alma-Ata**	**4.41**	**23**	*e*P	**Pg**	**20 08 52.0**	**-1.2**
	18nm,0.3s						
AAA				*e*S	**Sg**	**20 09 52.0**	**+1.8**
	66nm,0.4s						
AAA	**Alma-Ata**	**4.41**	**23**	Pg	**Pg**	**20 08 52.7**	**-0.5**
AAA				Lg	Lg	20 09 51.5	
IUG	**Iuzhnay**	**4.57**	**312**	*e*P	**Pn**	**20 08 41.9**	**+3.9**
	16nm,0.3s						
IUG				*e*S	**Sn**	**20 09 36.6**	**+5.3**
	76nm,0.6s						
IUG	**Iuzhnay**	**4.57**	**312**	Pg	**Pb**	**20 08 51.7**	**+2.6**
	40nm,0.6s						
SATY	**Saty**	**4.85**	**35**	*e*P	**Pg**	**20 09 00.1**	**-1.4**
SATY				*e*S	**Sg**	**20 10 04.8**	**+0.5**
SATY	**Saty**	**4.85**	**35**	Pg	**Pg**	**20 09 00.1**	**-1.4**
SATY				Lg	Lg	20 10 04.8	
KUU	**Kurty**	**4.91**	**15**	*e*P	**Pg**	**20 08 59.8**	**-2.9**
	7.6nm,1.1s						
KUU				*e*S	**Sg**	**20 10 06.1**	**-0.2**
	34nm,0.7s						
KUU	**Kurty**	**4.91**	**15**	Pg	**Pg**	**20 08 59.8**	**-2.9**
KUU				Lg	Lg	20 10 04.3	
ZHN	**Zhinishke**	**4.95**	**35**	*e*P	**Pg**	**20 09 01.1**	**-2.3**
	6.8nm,0.3s						
ZHN				*e*S	**Sg**	**20 10 06.4**	**-1.0**
	21nm,0.7s						
ZHN	**Zhinishke**	**4.95**	**35**	Pg	**Pg**	**20 09 01.1**	**-2.3**
	6.8nm,0.3s						
ZHN				Lg	Lg	20 10 06.4	
	21nm,0.7s						
KK31	**Karatay Array**	**5.00**	**323**	Pn	**Pn**	**20 08 46.9**	**+3.0**
	1.2nm,0.3s,baz=129,slow=13,SNR=34						
KK31				⇓Pg	**Pb**	**20 08 58.4**	**+2.1**
	7.7nm,0.7s,baz=142,slow=14,SNR=5.6						
KK31				⇓Sn	**Sn**	**20 09 46.5**	**+4.9**
	44nm,1.1s						
KK31				⇑Lg	Lg	20 10 03.8	
	19nm,0.8s						
KURS	**Kuram**	**5.09**	**31**	*e*P	**Pg**	**20 09 04.5**	**-1.8**
	10nm,0.5s						
KURS				*e*S	**Sg**	**20 10 12.2**	**0.0**
	14nm,1.2s						
KURS	**Kuram**	**5.09**	**31**	Pg	**Pg**	**20 09 04.5**	**-1.8**
KURS				Lg	Lg	20 10 12.2	
UZB	**Uzynbulak**	**5.20**	**39**	*e*P	**Pg**	**20 09 06.5**	**-1.8**
	4.7nm,0.6s						
UZB				*e*S	**Sg**	**20 10 16.0**	**+0.3**
	16nm,0.9s						
UZB	**Uzynbulak**	**5.20**	**39**	Pg	**Pg**	**20 09 06.5**	**-1.8**
	4.7nm,0.6s						
UZB				Lg	Lg	20 10 16.0	
	16nm,0.9s						
KPKS	**Kokpek**	**5.29**	**34**	*e*P	**Pg**	**20 09 08.1**	**-2.0**
	16nm,0.5s						
KPKS				*e*S	**Sg**	**20 10 17.9**	**-0.7**
	39nm,0.6s						
KPKS	**Kokpek**	**5.29**	**34**	Pg	**Pg**	**20 09 06.8**	**-3.3**
KPKS				Lg	Lg	20 10 16.2	
SHLS	**Shalkode**	**5.43**	**41**	*e*P	Pg	20 09 17.7	+5.1
	12nm,0.6s						
SHLS				*e*S	Sg	20 10 34.7	+12
	26nm,2.0s						
SHLS	**Shalkode**	**5.43**	**41**	Pg	**Pg**	**20 09 14.8**	**+2.1**
SHLS				Lg	Lg	20 10 29.9	
PDGK	**Podgornoye**	**5.57**	**40**	Pg	**Pg**	**20 09 12.9**	**-2.4**
PDGK				Lg	Lg	20 10 26.6	
PDGK	**Podgornoye**	**5.57**	**40**	⇓Pn	**Pn**	**20 08 55.3**	**+3.5**
	2.7nm,0.7s						
PDGK				⇑Pg	**Pg**	**20 09 11.7**	**-3.6**
	6.9nm,0.5s						
PDGK				⇓Lg	Lg	20 10 24.0	
	29nm,0.8s						
TDK	**Taldyqorghan**	**6.49**	**25**	*e*P	**Pg**	**20 09 31.3**	**-1.6**
	14nm,0.7s						
TDK				*e*S	**Sg**	**20 10 57.9**	**+0.9**
	32nm,1.0s						
TDK	**Taldyqorghan**	**6.49**	**25**	Pg	**Pg**	**20 09 31.3**	**-1.6**
	14nm,0.7s						
TDK				Lg	Lg	20 10 57.9	
	32nm,1.0s						
OTUK	**Ortayu**	**9.23**	**351**	⇓Lg	Lg	20 12 18.2	
	7.5nm,1.1s						
KURBB	**Kurchatov Arra**	**11.79**	**12**	⇑Lg	Lg	20 13 41.7	
	11nm,1.1s						
KURK	**Kurchatov**	**11.90**	**13**	⇓Lg	Lg	20 13 44.5	
	6.6nm,1.1s						
PKIN	**Phulchoki**	**14.65**	**139**	*e*P	**Pn**	**20 10 56.3**	**0.0**
	3.1nm,0.4s						
PKI	**Pulchoki**	**14.66**	**139**	*e*P	**Pn**	**20 10 57.0**	**+0.5**
JIRN	**Jiri**	**15.00**	**136**	*e*P	**Pn**	**20 11 01.0**	**-0.1**

*IDC **25** 20:07:35.1±2.3,37˚.21N×142˚.37E,h0km,mb3.5/3,*
mbtmp3.6/5,ML3.0/2,Error ellipse: s-maj=44.2km
s-min=28.7km az=64.0
*JMA **25** 20:07:38.9±0.3,37˚.2N±0˚.7×14˚2E±˚,h37km,MV3.7/34,E*
OFF FUKUSHIMA PREF

ISC 25 20:07:40.7±1.2,37˚.26N±0˚.05×142˚.19E±0˚.09,h35km,n31,
σ1s 94/30,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.05**	**276**	*i* P	**Pn**	**20 07 57.1**	**-1.8**
JFK				S	**Sn**	**20 08 10.3**	**-2.1**
JMST	**Minamisoumatoc**	**1.14**	**295**	*i* P	**Pn**	**20 07 58.5**	**-1.5**
JMST				*e*S	**Sn**	**20 08 12.4**	**-2.0**
JIKH	**Ishinomakibobu**	**1.20**	**332**	*i* P	**Pn**	**20 07 59.8**	**-1.1**
JMM	**Marumori**	**1.26**	**299**	P	**Pn**	**20 08 00.6**	**-1.2**
JMM	**Marumori**	**1.26**	**299**	*i* P	**Pn**	**20 08 00.6**	**-1.2**
JMM				*e*S	**Sn**	**20 08 16.1**	**-1.4**
JFFD	**Fukushimafurud**	**1.31**	**263**	*i* P	**Pn**	**20 08 00.6**	**-1.8**
JIO	**Ouri**	**1.37**	**331**	*i* P	**Pn**	**20 08 02.4**	**-0.8**
JOU	**Okura**	**1.64**	**313**	P	**Pn**	**20 08 06.8**	**-0.2**
JMK	**Ichinoseki**	**1.86**	**336**	P	**Pn**	**20 08 10.2**	**+0.2**
JYS	**Shirataka**	**1.94**	**300**	P	**Pn**	**20 08 11.7**	**+0.6**
JFY	**Yanaizu**	**1.98**	**275**	P	**Pn**	**20 08 11.6**	**-0.1**
JYK	**Kaneyama**	**2.20**	**320**	P	**Pn**	**20 08 14.3**	**-0.4**
JAG	**Ashikaga**	**2.34**	**250**	*i* P	**Pn**	**20 08 15.7**	**-1.0**
JSD	**Sado**	**3.21**	**285**	P	**Pn**	**20 08 29.6**	**+1.0**
MJAR	**Matsushiro Arr**	**3.27**	**259**	Pn	**Pn**	**20 08 30.0**	**+0.6**
	0.6nm,0.3s,baz=87,slow=15,SNR=20						
MJAR				Sn	**Sn**	**20 09 10.3**	**+3.2**
	0.6nm,0.3s,baz=58,slow=23,SNR=6.0						
	2.5nm,0.3s						
MAJO	**Matsushiro**	**3.27**	**259**	P	**Pn**	**20 08 31.3**	**+1.9**
JTM	**Tenmabayashi**	**3.63**	**346**	P	**Pn**	**20 08 38.6**	**+4.2**
JGF	**Kuroka**	**4.23**	**248**	P	**Pn**	**20 08 45.0**	**+2.3**
JHJ2	**Mitsune**	**4.57**	**206**	P	**Pn**	**20 08 49.0**	**+1.8**
JHJ	**Hachijo jima 2**	**4.57**	**206**	Pn	**Pn**	**20 08 46.2**	**-1.1**
	6.3nm,0.3s,baz=158,slow=21,SNR=7.3						
JHJ				Sn	**Sn**	**20 09 34.9**	**-4.3**
	5.7nm,0.3s,baz=64,slow=20,SNR=1.4						
	128nm,0.8s						
INU	**Inuyama**	**4.59**	**247**	P	**Pn**	**20 08 50.3**	**+2.8**
JMN	**Monobe**	**7.63**	**245**	P	**Pn**	**20 09 31.6**	**+2.2**
H11N2	**WAKE ISLAND Hy**	**27.74**	**122**	T	T	20 42 51.8	
	baz=314,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.74**	**122**	T	T	20 42 40.0	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.75**	**122**	T	T	20 42 52.8	
	baz=314,slow=75,SNR=21						
SONM	**Songino Array**	**28.18**	**303**	P	**P**	**20 13 30.7**	**+0.9**
	0.7nm,0.8s,baz=105,slow=9.4,SNR=5.3						
	0.7nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	20 43 46.4	
	baz=316,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	20 43 45.4	
	baz=316,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	20 43 34.7	
	baz=316,slow=76,SNR=17						
MKAR	**Makanchi Array**	**44.52**	**302**	P	**P**	**20 15 49.3**	**+0.5**
	0.4nm,0.7s,baz=87,slow=9.1,SNR=3.6						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**57.37**	**189**	P	**P**	**20 17 24.7**	**-0.8**
	0.4nm,0.6s,baz=355,slow=7.5,SNR=6.5						
	0.4nm,0.6s						

IDC 25 20:14:08.2±1.9,1˚.74N×126˚.27E,h0km,mb3.8/3,
mbtmp3.8/3,Error ellipse: s-maj=175.6km
s-min=27.2km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.95**	**160**	P	P	20 19 13.6	-0.7
	2.6nm,0.7s,baz=339,slow=10,SNR=18						
	2.6nm,0.7s						
ASAR	**Alice Springs**	**26.32**	**164**	P	P	20 19 46.2	+0.3
	1.0nm,0.4s,baz=331,slow=8.5,SNR=20						
ASAR				PcP	PcP	20 23 12.0	-0.3
	0.1nm,0.6s,baz=349,slow=2.2,SNR=4.1						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**58.93**	**326**	P	P	20 24 09.5	+0.2
	0.2nm,0.4s,baz=119,slow=7.4,SNR=1.7						
	0.2nm,0.4s						

*SOME **25** 20:18:08.8,39˚.17N×74˚.45E,h5km*
*KRNET **25** 20:18:08.0±0.1,39˚.03N×74˚.45E,mb3.6*

ISC 25 20:18:10.1±3.1,38˚.9N±0˚.1×74˚.43E±0˚.05,h1km±24km,n28,
σ1s 75/49,14C-6D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**2.02**	**322**	⇓*e*P	**Pn**	**20 18 44.8**	**-0.6**
	baz=20						
OHH				⇓*e*S	**Sn**	**20 19 11.6**	**+0.3**
	baz=20						
DRK	**Karamyk**	**2.11**	**286**	⇑*e*P	**Pn**	**20 18 46.9**	**+0.1**
	baz=83						
DRK				⇑*e*S	**Sb**	**20 19 15.3**	**-0.8**
	baz=83						
NRN	**Naryn**	**2.76**	**25**	⇑*e*P	**Pn**	**20 18 54.3**	**-1.5**
	baz=25						
NRN				⇑*e*S	**Sn**	**20 19 28.4**	**-1.5**
	baz=25						
ARLS	**Aral**	**2.92**	**358**	⇑*e*P	**Pn**	**20 18 56.8**	**-0.9**
	baz=58						
ARLS				⇑*e*S	**Sn**	**20 19 32.2**	**-1.3**
	baz=58						
BTK	**Batken**	**3.01**	**293**	⇓*e*P	**Pn**	**20 18 59.0**	**+0.1**
	baz=91						
BTK				⇓*e*S	**Sn**	**20 19 36.1**	**+0.5**
	baz=91						
AML	**Almayashu**	**3.23**	**350**	P	**Pn**	**20 19 03.3**	**+1.0**
	SNR=7.9						
UCH	**Uchtor**	**3.28**	**1**	P	**Pn**	**20 19 04.7**	**+1.7**
	SNR=11						
UCH	**Uchtor**	**3.28**	**1**	⇑*e*P	**Pn**	**20 19 02.1**	**-0.9**
	baz=1.0						
UCH				⇑*e*S	**Sn**	**20 19 41.8**	**-1.1**
	baz=1.0						
ARK	**Arkit**	**3.42**	**327**	⇑*e*P	**Pn**	**20 19 04.2**	**-0.4**
	baz=26						
ARK				⇑*e*S	**Sn**	**20 19 45.0**	**-0.8**
	baz=26						
TRKS	**Terek-Say**	**3.61**	**317**	⇑*e*P	**Pn**	**20 19 06.0**	**-1.2**
	baz=15						
TRKS				⇑*e*S	**Sn**	**20 19 48.5**	**-2.0**
	baz=15						
AAK	**Ala-Archa**	**3.69**	**1**	⇓*e*P	**Pn**	**20 19 07.7**	**-0.7**
	baz=1.0						
AAK				⇓*e*S	**Sn**	**20 19 51.1**	**-1.5**
	baz=1.0						
KBK	**Karagaybulak**	**3.73**	**6**	P	**Pn**	**20 19 11.6**	**+2.7**
	SNR=6.7						
EKS2	**Erkin-Say**	**3.75**	**353**	P	**Pn**	**20 19 11.7**	**+2.6**
	SNR=16						
EKS2	**Erkin-Say**	**3.75**	**353**	⇑*e*P	**Pn**	**20 19 08.4**	**-0.7**
	baz=52						
EKS2				⇑*e*S	**Sn**	**20 19 52.4**	**-1.5**
	baz=52						
MRKS	**Merke**	**3.91**	**347**	*e*P	**Pb**	**20 19 17.6**	**-2.2**
	12nm,0.3s						
MRKS				*e*S	**Sb**	**20 20 07.0**	**-0.6**
	23nm,0.5s						
TKM2	**Tokmak 2**	**4.07**	**12**	P	**Pn**	**20 19 14.1**	**+0.5**
	SNR=6.9						
KST	**Kastek**	**4.26**	**15**	*e*P	**Pb**	**20 19 24.4**	**-1.4**
	4.4nm,0.3s						
KST				*e*S	**Sb**	**20 20 19.2**	**+1.4**
	24nm,0.9s						
USP	**Ospenovka**	**4.32**	**1**	P	Pn	20 19 10.4	-6.5
	SNR=5.4						
MTBS	**Maitube**	**4.45**	**19**

VRF					MSG			20 21 24.0	
	comp=Z,3.8nm,0.2s								
VRF					SN	Sg		20 21 26.9	-0.2
OLKF	**Oulanka, Finla**	**2.15**	**232**		PG	Pb		20 21 16.6	-1.2
OLKF					SG	Sb		20 21 45.2	+0.1
KU6	**Riekki**	**2.23**	**223**		PG	Pn		20 21 17.5	+1.3
KU6					MSG			20 21 44.2	
	comp=Z,2.7nm,0.2s								
KU6					SG	Sb		20 21 46.9	-0.3
MSF	**Maaselka**	**2.54**	**228**		PG	Pb		20 21 22.6	-1.9
MSF					SG	Sb		20 21 57.1	+0.7
SGF	**Sodankyl**	**2.73**	**268**		PG	Pb		20 21 26.5	-1.2
SGF					SG	Sb		20 22 01.8	+0.1
RNF	**Rovaniemi**	**3.16**	**253**		PN	Pn		20 21 29.0	+0.1
	baz=68								
KEV	**Kevo**	**3.18**	**314**		PN	Pn		20 21 30.1	+0.8
KEV					SN	Sn		20 22 08.8	+1.0
KEV					MSG			20 22 11.4	
	comp=Z,1.3nm,0.2s								
ARA0	**ARCESS Array S**	**3.50**	**306**		PN	Pn		20 21 33.7	0.0
	baz=123								
ARA0					SN	Sn		20 22 15.5	-0.3
KLF	**Kolari**	**3.74**	**267**		PG	Pb		20 21 46.5	+1.5
	baz=81								
HEF	**Hetta**	**3.81**	**285**	*e*P		Pb		20 21 46.5	+0.4

IDC 25 20:25:54.5±2.6, 5°08S×129°23E, h346km×36km, mb3.0/1, mbtmp3.7/4, Error ellipse: s-maj=67.7km s-min=13.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SIJI	**Sorong**	**4.65**	**26**	P	Pn		20 27 11.1	+1.0
	2.2nm,0.4s,baz=242,slow=11,SNR=1.3							
SIJI				S	S		20 28 11.1	-0.1
	5.5nm,0.2s,baz=208,slow=23,SNR=7.8							
WRA	**Warramunga Arr**	**15.59**	**162**	P	P		20 29 16.1	+0.3
	1.0nm,0.4s,baz=340,slow=12,SNR=22							
ASAR	**Alice Springs**	**19.02**	**167**	P	P		20 29 52.6	0.0
	2.1nm,0.6s,baz=345,slow=12,SNR=31							
ASAR				S	S		20 33 10.1	+0.1
	0.3nm,0.5s,baz=348,slow=25,SNR=3.5							
MKAR	**Makanchi Array**	**66.21**	**327**	P	P		20 36 06.1	0.0
	0.3nm,0.4s,baz=117,slow=8.2,SNR=8.3							
	0.3nm,0.4s							

IDC 25 20:26:12.6±1.9, 8°39S×124°25E, h0km, mb3.5/1, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=51.9km s-min=24.4km az=85.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BATI	**Baumata**	**1.90**	**198**	Pn	Pn		20 26 46.3	+0.1
	17nm,0.3s,baz=350,slow=12,SNR=27							
BATI				Sn	Sn		20 27 10.2	-0.7
	22nm,0.3s,baz=331,slow=7.2,SNR=5.4							
BATI				LR	LR		20 27 34.8	
	comp=Z,80nm,19.0s,baz=360,slow=43							
WRA	**Warramunga Arr**	**15.07**	**141**	Pn	Pn		20 29 45.8	-1.3
	0.2nm,0.3s,baz=320,slow=13,SNR=3.4							
WRA				Sn	Sn		20 32 23.4	-11
	0.1nm,0.3s,baz=321,slow=26,SNR=3.7							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**17.78**	**150**	P	P		20 30 23.2	+0.6
	0.1nm,0.3s,baz=321,slow=11,SNR=6.0							
	1.6nm,1.1s							
MKAR	**Makanchi Array**	**66.41**	**330**	P	P		20 37 03.6	0.0
	0.4nm,0.8s,baz=126,slow=8.4,SNR=3.7							
	0.4nm,0.8s							

IDC 25 20:34:29.6±5.1, 39°04N×110°20E, h0km, mb3.2/2, mbtmp3.3/3, Error ellipse: s-maj=107.7km s-min=23.2km az=86.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SONM	**Songino Array**	**9.22**	**344**	Pn	Pn		20 36 44.4	+0.5
	1.0nm,0.9s,baz=166,slow=13,SNR=5.6							
SONM				Sn	Sn		20 38 29.0	+0.6
	0.1nm,0.3s,baz=164,slow=22,SNR=4.0							
SONM				Lg	Lg		20 39 20.9	
	0.1nm,0.3s,baz=160,slow=26,SNR=10							
MKAR	**Makanchi Array**	**21.78**	**300**	P		P	20 39 23.5	+0.6
	0.7nm,0.9s,baz=96,slow=12,SNR=3.7							
	0.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**22.72**	**209**	P		P	20 39 32.9	-0.3
	1.1nm,0.8s,baz=12,slow=10,SNR=10.0							
	1.1nm,0.8s							

*IDC **25**:37:28.1±0.8, 39°.10N×74°.01E, h0km, mb3.7/16, mbtmp3.7/22, ML3.2/6, MS3.1/8, Error ellipse: s-maj=14.7km s-min=12.8km az=95.0*
*NEIC **25**:37:31.0±2.3, 39°.27N±0°.06×73°.99E±0°.09, h10km±1km, mb4.2/8, Error ellipse: s-maj=13.4km s-min=8.8km az=131.0*
*SOME **25**:37:30.5, 39°.47N×73°.87E, h0km*
*KRNET **25**:37:30.4±0.1, 39°.36N×73°.91E, mb4.3*
*BJI **25**:37:31.3±0.0, 39°.40N×74°.12E, h10km, mb3.9/11, mB4.0/1, ML3.7/7, Ms3.6/2, Ms7 3.0/1*
*NNC **25**:37:34.8±1.3, 39°.51N×73°.85E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=11.4km s-min=7.4km az=165.0*

ISC 25 20:37:30.1±0.5, 39°.14N±0°.04×73°.85E±0°.02, h10km, n148, σ2s 42/177, mb3.8/18, MS3.1/6, 36C-21D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OHH	**Osh**	**1.61**	**330**	⇑*e*P	**Pn**		**20 37 57.8**	**-0.8**
	baz=24							
OHH				⇑*e*S	**Sn**		**20 38 17.9**	**-1.6**
	baz=24							
DRK	**Karamyk**	**1.62**	**283**	⇑*e*P	**Pg**		**20 38 01.2**	**0.0**
	baz=75							
DRK				⇑*e*S	**Sg**		**20 38 23.7**	**+1.4**
	baz=75							
DRK	**Karamyk**	**1.62**	**283**		**Pn**		**20 37 59.4**	**+0.4**
KSH	**Kashi**	**1.69**	**76**	Pg	Pn		20 37 51.8	-8.0
KSH				Sg	Sn		20 38 08.0	-14
KSH				smax	smax			
	comp=N,890nm,0.9s							
KSH				smax	smax			
	comp=E,2μm,1.0s							
BTK	**Batken**	**2.51**	**292**	⇑*e*P	**Pb**		**20 38 14.2**	**-1.1**
	baz=87							
BTK				⇑*e*S	**Sb**		**20 38 46.3**	**-0.1**
	baz=87							
BTK	**Batken**	**2.51**	**292**		**Pb**		**20 38 14.9**	**-0.4**
ARLS	**Aral**	**2.75**	**7**	⇑*e*P	**Pn**		**20 38 14.7**	**+0.4**
	baz=7.0							
ARLS				⇑*e*S	**Sn**		**20 38 46.9**	**-0.8**
	baz=7.0							
NRN	**Naryn**	**2.83**	**35**	⇓*e*P	**Pn**		**20 38 15.7**	**+0.1**
	baz=37							
NRN				⇓*e*S	**Sn**		**20 38 49.1**	**-0.7**
	baz=37							
NRN	**Naryn**	**2.83**	**35**		**Pn**		**20 38 13.6**	**-1.9**
AML	**Almayashu**	**2.99**	**358**	P	**Pn**		**20 38 19.4**	**+1.5**
	SNR=33							
ARK	**Arkit**	**3.02**	**332**	⇑*e*P	**Pn**		**20 38 19.5**	**+1.4**
	baz=29							
ARK				⇑*e*S	**Sn**		**20 38 55.3**	**+0.9**
	baz=29							
UCH	**Uchtor**	**3.13**	**9**	P	**Pn**		**20 38 21.8**	**+2.0**
	SNR=43							
UCH	**Uchtor**	**3.13**	**9**	⇑*e*P	**Pn**		**20 38 20.3**	**+0.4**
	baz=9.0							
UCH				⇑*e*S	**Sn**		**20 38 56.8**	**-0.7**
	baz=9.0							
TRKS	**Terek-Say**	**3.16**	**320**	⇑*e*P	**Pn**		**20 38 20.9**	**+0.9**
	baz=16							
TRKS				⇑*e*S	**Sn**		**20 38 58.0**	**+0.1**
	baz=16							
EKS2	**Erkin-Say**	**3.52**	**359**	P	**Pn**		**20 38 27.1**	**+2.1**
	SNR=40							
EKS2	**Erkin-Say**	**3.52**	**359**	⇓*e*P	**Pn**		**20 38 25.6**	**+0.6**
	baz=58							
EKS2				⇓*e*S	**Sn**		**20 39 05.8**	**-0.9**
	baz=58							
AAK	**Ala-Archa**	**3.53**	**8**	P	**Pn**		**20 38 27.4**	**+2.2**
	SNR=24							
AAK	**Ala-Archa**	**3.53**	**8**	Pn	**Pn**		**20 38 27.6**	**+2.5**
	9.0nm,0.3s,baz=177,slow=6.1,SNR=40							
AAK				Sn	**Sn**		**20 39 12.5**	**+5.5**
	6.2nm,0.3s,baz=17,slow=16,SNR=8.6							
AAK				Lg	Lg		20 39 18.9	
	22nm,0.3s,baz=32,slow=17,SNR=8.1							
AAK				LR	LR		20 40 01.9	
	comp=Z,176nm,20.4s,baz=196,slow=43							
	40nm,0.5s							
AAK	**Ala-Archa**	**3.53**	**8**	⇓*e*P	**Pn**		**20 38 25.5**	**+0.4**
	baz=8.0							
AAK				⇓*e*S	**Sn**		**20 39 06.2**	**-0.8**
	baz=8.0							
AAK	**Ala-Archa**	**3.53**	**8**	Pn	**Pn**		**20 38 26.1**	**+1.0**
ULHL	**Ulahol**	**3.60**	**30**	P	**Pb**		**20 38 33.8**	**-0.2**
	SNR=16							
ULHL	**Ulahol**	**3.60**	**30**	⇑*e*P	**Pn**		**20 38 26.7**	**+0.6**
	baz=31							
ULHL				⇑*e*S	**Sn**		**20 39 08.1**	**-0.7**
	baz=31							
KBK	**Karagaybulak**	**3.62**	**13**	P	**Pn**		**20 38 28.3**	**+2.1**
	SNR=35							
KBK	**Karagaybulak**	**3.62**	**13**	⇑*e*P	**Pn**		**20 38 26.6**	**+0.3**
	baz=13							
KBK				⇑*e*S	**Sn**		**20 39 08.1**	**-1.0**
	baz=13							
MRKS	**Merke**	**3.64**	**353**	*e*P	**Pb**		**20 38 32.5**	**-2.0**
	86nm,0.4s							
MRKS				*e*S	**Sb**		**20 39 16.5**	**-2.1**
	129nm,0.5s							
MRKS	**Merke**	**3.64**	**353**	Pg	**Pb**		**20 38 33.1**	**-1.4**
	105nm,0.5s							
FRU1	**Bishkek**	**3.72**	**9**	⇑*e*P	**Pn**		**20 38 28.4**	**+0.8**
	baz=9.0							
FRU1				⇑*e*S	**Sn**		**20 39 10.8**	**-0.7**
	baz=9.0							
CHMS	**Chumysh**	**3.92**	**10**	P	**Pn**		**20 38 32.9**	**+2.6**
	SNR=18							
CHMS	**Chumysh**	**3.92**	**10**	⇓*e*P	**Pn**		**20 38 31.0**	**+0.7**
	baz=10.0							
CHMS				⇓*e*S	**Sn**		**20 39 15.2**	**-1.2**
	baz=10.0							
CHMS	**Chumysh**	**3.92**	**10**	⇑Pn	**Pn**		**20 38 32.2**	**+1.9**
	17nm,0.5s							
CHMS				⇓Lg	Lg		20 39 28.7	
	107nm,0.6s							
TKM2	**Tokmak 2**	**4.01**	**19**	P	**Pn**		**20 38 33.2**	**+1.5**
	SNR=19							
TKM2	**Tokmak 2**	**4.01**	**19**	⇑Pn	**Pn**		**20 38 34.0**	**+2.3**
	39nm,0.8s							
TKM2				⇓Lg	Lg		20 39 30.1	
	73nm,0.6s							
TAS	**Tashkent**	**4.11**	**304**	⇑*e*P	**Pn**		**20 38 35.5**	**+2.5**
	baz=1.0							
TAS				⇑*e*S	**Sn**		**20 39 23.4**	**+2.3**
	baz=1.0							
TAS	**Tashkent**	**4.11**	**304**	Pn	**Pn**		**20 38 33.3**	**+0.3**
USP	**Ospenovka**	**4.16**	**7**	P	**Pn**		**20 38 36.0**	**+2.4**
	SNR=19							
USP	**Ospenovka**	**4.16**	**7**	⇓*e*P	**Pn**		**20 38 34.3**	**+0.7**
	baz=6.0							
USP				⇓*e*S	**Sn**		**20 39 20.8**	**-1.5**
	baz=6.0							
IUG	**Iuzhnay**	**4.18**	**317**	*e*P	**Pb**		**20 38 43.3**	**-0.4**
	148nm,2.5s							
IUG				*e*S	**Sb**		**20 39 34.4**	**+0.1**
	164nm,1.4s							
DZA	**Taraz**	**4.21**	**334**	*e*P	**Pb**		**20 38 40.3**	**-3.8**
	55nm,0.5s							
DZA				*e*S	**Sn**		**20 39 29.5**	**+6.0**
	187nm,0.8s							
DZA	**Taraz**	**4.21**	**334**	Pg	**Pb**		**20 38 44.5**	**+0.4**
	116nm,0.9s							
DZA				Lg	Lg		20 39 34.5	
	187nm,0.7s							
KST	**Kastek**	**4.22**	**22**	*e*P	**Pb**		**20 38 45.0**	**+0.6**
	23nm,0.6s							
KST				*e*S	**Sb**		**20 39 38.7**	**+3.2**
	151nm,0.7s							
KST	**Kastek**	**4.22**	**22**	Pg	**Pb**		**20 38 47.8**	**+3.4**
KST				Lg	Lg		20 39 40.9	
SGDS	**Sogindy**	**4.35**	**8**	*e*P	**Pb**		**20 38 47.0**	**+0.3**
	18nm,0.8s							
SGDS				*e*S	**Sb**		**20 39 42.3**	**+3.0**
	81nm,0.7s							
SGDS	**Sogindy**	**4.35**	**8**	Pg	**Pb**		**20 38 49.4**	**+2.7**
SGDS				Lg	Lg		20 39 43.1	
MTBS	**Maitube**	**4.44**	**25**	*e*P	**Pb**		**20 38 48.5**	**+0.4**
	40nm,0.6s							
MTBS				*e*S	**Sb**		**20 39 45.8**	**+4.0**
	104nm,0.7s							
MTBS	**Maitube**	**4.44**	**25**	Pg	**Pb**		**20 38 50.8**	**+2.6**
MTBS				Lg	Lg		20 39 45.5	
CHM	**Chimkent**	**4.53**	**316**	*e*P	**Pb**		**20 38 53.0**	**+3.4**
	42nm,0.9s							
CHM				*e*S	**Sg**		**20 39 51.6**	**-3.8**
	291nm,0.4s							
TNSS	**Tian-Shan**	**4.55**	**30**	*e*P	**Pb**		**20 38 51.0**	**+0.8**
	43nm,0.3s							
TNSS				*e*S	**Sb**		**20 39 49.9**	**+4.7**
	39nm,0.9s							
TNSS	**Tian-Shan**	**4.55**	**30**	Pg	**Pb**		**20 38 53.6**	**+3.4**
TNSS				Lg	Lg		20 39 50.0	
AAA	**Alma-Ata**	**4.68**	**29**	*e*P	**Pb**		**20 38 53.7**	**+1.4**
	48nm,0.6s							
AAA				*e*S	**Sb**		**20 39 54.1**	**+5.4**
	100nm,0.9s							
AAA	**Alma-Ata**	**4.68**	**29**	Pg	**Pb**		**20 38 55.8**	**+3.5**
	44nm,0.4s							
AAA				Lg	Lg		20 39 54.1	
	100nm,0.9s							
MDOK	**Medeo**	**4.69**	**30**	*e*P	**Pb**		**20 38 53.3**	**+0.8**
	30nm,0.3s							
MDOK				*e*S	**Sb**		**20 39 53.3**	**+4.1**
	77nm,2.8s							
MDOK	**Medeo**	**4.69**	**30**	Pn	**Pn**		**20 38 44.0**	**+2.9**
	6.4nm,0.6s							
MDOK				Pg	**Pb**		**20 38 53.3**	**+0.8**
	50nm,0.7s							
MDOK				Pg	Pg		20 38 55.4	-4.5
MDOK				⇑Lg	Lg		20 39 53.3	
	102nm,1.1s							
MDOK				Lg	Lg		20 39 53.5	
KK31	**Karatay Array**	**4.70**	**329**	Pn	**Pn**		**20 38 42.2**	**+1.3**
KK31	**Karatay Array**	**4.70**	**329**	⇑Pn	**Pn**		**20 38 42.9**	**+1.9**
	10nm,0.4s,baz=130,slow=13,SNR=48							
KK31				⇑Lg	Lg		20 39 56.6	
	58nm,0.6s							
KKAR	**Karatay Array**	**4.70**	**329**	⇓*e*P	**Pn**		**20 38 42.8**	**+1.8**
	baz=27							
KKAR				⇓*e*S	**Sn**		**20 39 35.0**	**-0.5**
	baz=27							
KKAR	**Karatay Array**	**4.70**	**329**	Pn	**Pn**		**20 38 42.0**	**+1.0**
KKAR	**Karatay Array**	**4.70**	**329**		**Pn**		**20 38 42.7**	**+1.7**
KNDC	**Almaty**	**4.71**	**29**	⇑Pn	**Pn**		**20 38 41.8**	**+0.6**
	18nm,0.5s							
KNDC				⇑Pg	**Pb**		**20 38 53.4**	**+0.6**
	210nm,0.9s							
KNDC				⇓Lg	Lg		20 39 54.9	
	645nm,1.3s							
KUU	**Kurty**	**5.11**	**21**	*e*P	**Pb**		**20 39 00.3**	**+0.8**
	27nm,0.5s							
KUU				*e*S	**Sb**		**20 40 05.2**	**+4.2**
	110nm,0.7s							
KUU	**Kurty**	**5.11**	**21**	Pg	**Pb**		**20 39 02.2**	**+2.7**
KUU				Lg	Lg		20 40 05.1	
SATY	**Saty**	**5.22**	**40**	*e*P	**Pb**		**20 39 01.4**	**0.0**
	26nm,0.8s							
SATY				*e*S	**Sb**		**20 40 08.9**	**+4.7**
	94nm,1.6s							
SATY	**Saty**	**5.22**	**40**	Pg	**Pg**		**20 39 07.5**	**-2.5**
CHKK	**Chushkaly**	**5.27**	**26**	*e*P	**Pb**		**20 39 05.3**	**+3.0**
	44nm,0.5s							
CHKK				*e*S	**Sb**		**20 40 12.4**	**+6.8**
	68nm,0.5s							
CHKK	**Chushkaly**	**5.27**	**26**	Pg	**Pb**		**20 39 05.3**	**+3.0**
	45nm,0.6s							
CHKK				Lg	Lg		20 40 11.2	
	68nm,0.5s							
ZHN	**Zhinishke**	**5.31**	**39**	*e*P	**Pb**		**20 39 03.1**	**0.0**
ZHN				*e*S	**Sb**		**20 40 12.0**	**+5.1**
ZHN	**Zhinishke**	**5.31**	**39**	Pg	**Pb**		**20 39 06.4**	**+3.3**
ZHN				Lg	Lg		20 40 12.0	
KURS	**Kuram**	**5.43**	**35**	*e*P	**Pb**		**20 39 06.5**	**+1.4**
	31nm,0.5s							
KURS				*e*S	**Sb**		**20 40 15.9**	**+5.6**
	46nm,1.7s							
KURS	**Kuram**	**5.43**	**35**	Pg	**Pb**		**20 39 08.4**	**+3.4**
KURS				Lg	Lg		20 40 15.7	
CHCP	**Chirah Chowk**	**5.49**	**185**	P	Pb		20 38 59.9	-6.1
NIL	**Nilore**	**5.50**	**185**	Pn	Pn		20 38 57.1	+5.1
CEP	**Cherat**	**5.53**	**197**	P	Pb		20 39 00.0	-6.7
UZB	**Uzynbulak**	**5.60**	**43**	*e*P	**Pb**		**20 39 09.3**	**+1.4**
	17nm,0.6s							
UZB				*e*S	**Sb**		**20 40 22.9**	**+7.8**
	39nm,0.9s							
UZB	**Uzynbulak**	**5.60**	**43**	Pg	**Pb**		**20 39 09.9**	**+2.0**
UZB				Lg	Lg		20 40 17.9	
KPKS	**Kokpek**	**5.66**	**39**	*e*P	**Pb**		**20 39 08.8**	**0.0**
	21nm,0.5s							
KPKS				*e*S	**Sb**		**20 40 20.9**	**+4.2**
	75nm,0.6s							
KPKS	**Kokpek**	**5.66**	**39**	Pg	**Pb**		**20 39 11.8**	**+2.9**
KPKS				Lg	Lg		20 40 21.9	
BTLS	**Baital**	**5.90**	**1**	*e*P	**Pb**		**20 39 13.9**	**+0.9**
	12nm,0.9s							
BTLS				*e*S	**Sb**		**20 40 29.6**	**+5.8**
	22nm,0.6s							
BTLS	**Baital**	**5.90**	**1**	Pg	**Pb**		**20 39 16.7**	**+3.7**
	12nm,0.9s							
BTLS				Lg	Lg		20 40 29.6	
	22nm,0.6s							
PDGK	**Podgornoye**	**5.97**	**44**	Pg	**Pg**		**20 39 20.9**	**-3.4**
PDGK	**Podgornoye**	**5.97**	**44**	⇑Pn	**Pn**		**20 38 59.7**	**+1.1**
	6.2nm,0.7s							
PDGK				⇓Pg	**Pb**		**20 39 16.0**	**+1.7**
	19nm,0.7s							
PDGK				⇑Lg	Lg		20 40 31.8	
	70nm,1.1s							
KBL	**Kabul**	**5.99**	**221**	Pn	**Pn**		**20 39 00.5**	**+1.6**
THW	**Thamme Wali**	**6.55**	**196**	P	Pn		20 39 12.6	+6.1
TDK	**Taldyqorghan**	**6.77**	**29**	*e*P	**Pb**		**20 39 32.5**	**+4.7**
	36nm,0.7s							
TDK				*e*S	**Sg**		**20 41 00.6**	**-6.7**
	125nm,1.0s							
TDK	**Taldyqorghan**	**6.77**	**29**	Pg	Pb		20 39 32.9	+5.1
TDK				Lg	Lg		20 40 57.4	
DJR	**Jarkent**	**6.83**	**39**	*e*P	Pb		20 39 34.8	+5.9
	7.8nm,0.7s							
DJR				*e*S	**Sg**		**20 41 05.0**	**-4.3**
	17nm,0.8s							
DJR	**Jarkent**	**6.83**	**39**	Pg	**Pg**		**20 39 37.5**	**-3.4**
	7.8nm,0.7s							
OTUK	**Ortayu**	**9.17**	**354**	⇑Pn	**Pn**		**20 39 43.2**	**+0.8**
	9.6nm,0.8s							
OTUK				⇓Lg	Lg		20 42 11.7	
	76nm,1.4s							
MAKZ	**Makanchi**	**9.71**	**35**	⇓Lg	Lg		20 42 29.6	
	11nm,1.4s							
MK31	**Makanchi Array**	**9.84**	**36**	Pn	**Pn**		**20 39 49.0**	**-2.5**
MK31	**Makanchi Array**	**9.84**	**36**	Pn	**Pn**		**20 39 53.4**	**+1.9**
	5.4nm,1.2s,baz=218,slow=12,SNR=5.1							
MK31				⇓Lg	Lg		20 42 36.6	
	13nm,1.2s,baz=216,slow=24,SNR=3.8							
MKAR	**Makanchi Array**	**9.84**	**36**	Pn	**Pn**		**20 39 53.2**	**+1.7**
	0.1nm,0.3s,baz=226,slow=16,SNR=4.9							
MKAR				Lg	Lg		20 42 35.9	
	0.1nm,0.3s,baz=212,slow=27,SNR=2.2							
MKAR				LR	LR		20 44 11.5	
	comp=Z,57nm,21.9s,baz=224,slow=41							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**9.84**	**36**	Pn	**Pn**		**20 39 49.2**	**-2.4**
HRA	**Herat**	**10.44**	**247**	Pn	**Pn**		**20 40 03.1**	**+3.1**
WMQ	**Urumqi**	**11.39**	**61**	*e*P	**Pn**		**20 40 15.8**	**+2.9**
KURBB	**Kurchatov Arra**	**11.95**	**15**	Pn	**Pn**		**20 40 19.7**	**-0.7**
	0.1nm,0.3s,baz=202,slow=11,SNR=1.9							
KURBB				Lg	Lg		20 43 43.5	
	0.2nm,0.3s,baz=203,slow=32,SNR=6.3							
	0.7nm,0.3s							
KURBB	**Kurchatov Arra**	**11.95**	**15**	⇑Lg	Lg		20 43 42.1	
	37nm,0.9s							
KURK	**Kurchatov**	**12.06**	**15**	⇑Lg	Lg		20 43 42.9	
	38nm,1.3s							
GEYT	**Alibeck**	**12.38**	**269**	Pn	**Pn**		**20 40 26.6**	**+0.2**
	0.3nm,0.3s,baz=59,slow=14,SNR=2.7							
GEYT				Sn	**Sn**		**20 42 42.6**	**-1.8**
	0.2nm,0.3s,baz=71,slow=21,SNR=2.1							
	0.6nm,0.3s							
GEYT	**Alibeck**	**12.38**	**269**	Pn	**Pn**		**20 40 28.5**	**+2.2**
GYA0B	**ALIBECK ARRAY**	**12.38**	**269**	Pn	**Pn**		**20 40 28.5**	**+2.1**
PYUN	**Piuthan**	**13.38**	**143**	*e*P	**Pn**		**20 40 38.6**	**-1.6**
	17nm,0.5s							
DANN	**Dangsing**	**13.54**	**140**	*e*P	**Pn**		**20 40 41.2**	**-1.3**
	7.6nm,0.4s							
BVA0	**Borovoye Array**	**14.10**	**351**	⇓Pn	**Pn**		**20 40 48.8**	**-0.9**
	8.6nm,0.8s							
BVAR	**Borovoye Array**	**14.10**	**351**	Pn	**Pn**		**20 40 48.2**	**-1.4**
	0.1nm,0.3s,baz=167,slow=12,SNR=11							
BVAR				Lg	Lg		20 44 58.4	
	baz=159,slow=29,SNR=6.1							
	3.8nm,0.8s							
BRVK	**Borovoye**	**14.14**	**351**	Pn	**Pn**		**20 40 47.9**	**-2.3**
BRVK	**Borovoye**	**14.14**	**351**	⇑Pn	**Pn**		**20 40 48.6**	**-1.7**
	13nm,0.9s							
AB31	**Akbulak array**	**14.18**	**320**	Pn	**Pn**		**20 40 49.4**	**-1.4**
	3.0nm,0.7s,baz=129,slow=11,SNR=45							
ABKAR	**Akbulak array**	**14.18**	**320**	Pn	**Pn**		**20 40 48.9**	**-2.0**
ABKAR	**Akbulak array**	**14.18**	**320**		**Pn**		**20 40 48.8**	**-2.1**
GKN	**Gorkha**	**14.28**	**138**	*e*P	**Pn**		**20 40 50.2**	**-2.2**
	6.2nm,0.3s							
GUN	**Gumba**	**15.02**	**135**	*e*P	**Pn**		**20 41 00.3**	**-2.4**
PKIN	**Phulchoki**	**15.02**	**137**	*e*P	**Pn**		**20 41 00.7**	**-1.9**
	6.3nm,0.5s							
PKI	**Pulchoki**	**15.03**	**137**	*e*P	**Pn**		**20 41 00.9**	**-1.9**
	5.5nm,0.6s							
JIRN	**Jiri**	**15.38**	**134**	*e*P	**Pn**		**20 41 05.0**	**-2.6**
	5.2nm,0.3s							
AKTO	**Aktyubinsk**	**15.90**	**320**	⇓Pn	**Pn**		**20 41 13.5**	**-0.3**
	4.1nm,0.8s							
TAPN	**Taplejung**	**16.49**	**131**	*e*P	**Pn**		**20 41 19.6**	**-2.2**
ZAA0	**Zalesovo Array**	**16.60**	**23**	P	**Pn**		**20 41 19.1**	**-3.6**
ZALV	**Zalesovo Beam**	**16.60**	**23**	Pn	**

comp=Z,1.5nm,0.4s,baz=118,slow=8.7,SNR=14
comp=Z,1.5nm,0.4s
FINES FINESS Array B 36.63 323 P **P** **20 44 36.1 -0.2**
ARCES ARCESS Array B 39.62 336 P **P** **20 45 00.8 -0.6**
comp=Z,0.8nm,0.4s,baz=46,slow=3.5,SNR=9.8
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 39.62 336 P **P** **20 45 01.1 -0.4**
ARCES IAmb IAmb 20 45 43.7
comp=Z,14nm,1.3s
HFS Hagfors 42.44 320 P **P** **20 45 25.7 +0.9**
baz=98,slow=10
GERES GERESS Array B 43.31 303 P **P** **20 45 33.0 +1.0**
comp=Z,0.1nm,0.3s,baz=61,slow=10,SNR=1.6
comp=Z,0.1nm,0.3s
CLL Collm 43.35 307 *eP* **P** **20 45 33.0 +0.8**
CLL *ePP* **PP** **20 47 17.0 +4.3**
NOA NORSAR Array B 43.69 321 P **P** **20 45 35.1 +0.3**
comp=Z,1.1nm,0.7s,baz=92,slow=8.0,SNR=2.2
NOA LR LR 21 04 21.4
comp=Z,25nm,20.0s,baz=350,slow=37
comp=Z,1.1nm,0.7s
ESDC Sonseca Array 58.23 297 P **P** **20 47 24.0 -0.6**
comp=Z,0.6nm,0.8s,baz=55,slow=7.5,SNR=2.8
comp=Z,0.6nm,0.8s
INK Inuvik 70.93 10 P **P** **20 48 44.9 -2.1**
comp=Z,2.2nm,1.1s,baz=70,slow=1.9,SNR=3.9
comp=Z,2.2nm,1.1s
ILAR Eielson Array 71.62 17 P **P** **20 48 49.6 -1.7**
comp=Z,0.5nm,0.9s,baz=297,slow=4.7,SNR=4.4
comp=Z,0.5nm,0.9s
WRA Warramunga Arr 81.53 124 P **P** **20 49 46.3 -1.6**
comp=Z,0.2nm,0.6s,baz=325,slow=4.9,SNR=6.5
comp=Z,0.2nm,0.6s
ASAR Alice Springs 83.97 127 P **P** **20 49 59.0 -1.6**
comp=Z,0.6nm,1.0s,baz=316,slow=5.2,SNR=2.9
comp=Z,0.6nm,1.0s

GCG ***25*** *20:48:32.4±0.8, 14.26N×91.79W, h56km±6km, MD3.4*
SNET ***25*** *20:48:33.0±1.0, 14.01N×91.51W, h4km±11km, ML2.9*
ISC 25 20:48:30.1±4.1, 14.1N±0.2×91.9W±0.2, h60km±20km**, n8,** σ1**8**/**20**/14**, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.40**	**58**	***e*P**		**Pn**	**20 48 42.1**	**+1.0**
SULM				*e*S		**Sn**	**20 48 48.3**	**-0.7**
STG3	**Santiaguito 3,**	**0.70**	**28**	***e*P**		**Pn**	**20 48 44.2**	**-0.4**
STG3				*e*S		**Sn**	**20 48 54.3**	**-0.8**
FUG	**Fuego 3**	**1.10**	**71**	***e*P**		**Pn**	**20 48 49.6**	**0.0**
FUG				*e*S		**Sn**	**20 49 04.0**	**0.0**
PCG	**Pacaya**	**1.30**	**77**	***e*P**		**Pn**	**20 48 53.4**	**+1.0**
PCG				*e*S		**Sn**	**20 49 09.3**	**+0.4**
NBG	**Las Nubes**	**1.59**	**72**	***e*P**		**Pn**	**20 48 58.1**	**+1.8**
NUBE	**Las Nubes**	**2.08**	**95**	***e*P**		**Pn**	**20 49 03.4**	**+0.6**
NUBE				*e*S		**Sn**	**20 49 25.7**	**-2.0**
CEVE	**Cerro Verde**	**2.24**	**96**	***e*P**		**Pn**	**20 49 05.5**	**+0.4**
CEVE				*e*S		**Sn**	**20 49 31.1**	**-0.6**
CEVE				IAML			20 49 37.4	
	comp=Z,343nm,0.3s							
JAYA	**Jayaque - finc**	**2.43**	**100**	*e*S		**Sn**	**20 49 34.6**	**-1.7**

IDC ***25*** *20:58:19.5±0.5, 39.07N×74.34E, h0km, mb4.4/33, mbtmp4.4/39, ML3.9/6, MS3.5/40, Error ellipse: s-maj=11.1km s-min=9.4km az=179.0*
BJI ***25*** *20:58:20.4±0.0, 39.12N×74.29E, h6km, mb4.5/41, mB4.6/25, ML4.1/5, Ms4.0/22, Ms7 3.8/21*
SOME ***25*** *20:58:20.7, 39.38N×74.07E, h0km, MS4.1*
MOS ***25*** *20:58:20.1±1.5, 39.06N×74.38E, h13km, mb4.8/36, Error ellipse: s-maj=4.5km s-min=3.2km az=98.8*
NEIC ***25*** *20:58:21.3±2.2, 39.19N±0.06×74.25E±0.08, h10km±1km, mb4.9/90, Error ellipse: s-maj=11.1km s-min=9.2km az=139.0*
KRNET ***25*** *20:58:22.1±0.1, 39.32N×74.20E, mb4.9*
ISC 25 20:58:20.6±0.3, 39.02N±0.03×74.26E±0.02, h10km**, n464,** σ2**8**/**18**/516**, mb4.7**/113**, MS3.5**/43**, 53C-63D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.42**	**69**	Pg		Pn	20 58 38.3	-8.3
KSH				Sg		Sn	20 58 51.5	-14
KSH				smax		smax		
	comp=N,4μm,0.7s							
KSH				smax		smax		
	comp=E,4μm,0.7s							
OHH	**Osh**	**1.88**	**323**	***e*P**		**Pn**	**20 58 52.4**	**-0.5**
	baz=18							
OHH				*e*S		**Sn**	**20 59 14.8**	**-2.0**
	baz=18							
OHH	**Osh**	**1.88**	**323**	PN		**Pn**	**20 58 52.8**	**-0.1**
DRK	**Karamyk**	**1.96**	**284**	***e*P**		**Pb**	**20 58 57.0**	**+0.4**
	baz=76							
DRK				*e*S		**Sb**	**20 59 22.3**	**+1.1**
	baz=76							
DRK	**Karamyk**	**1.96**	**284**			**Pn**	**20 58 54.1**	**-0.1**
NRN	**Naryn**	**2.76**	**28**	***e*P**		**Pn**	**20 59 06.1**	**+0.9**
	baz=32							
NRN				*e*S		**Sn**	**20 59 38.2**	**-0.5**
	baz=32							
NRN	**Naryn**	**2.76**	**28**	Pn		**Pn**	**20 59 06.2**	**+1.0**
NRN	**Naryn**	**2.76**	**28**	PN		**Pn**	**20 59 06.2**	**+1.0**
ARLS	**Aral**	**2.84**	**1**	***e*P**		**Pn**	**20 59 06.5**	**+0.3**
	baz=2.0							
ARLS				*e*S		**Sn**	**20 59 39.0**	**-1.5**
	baz=2.0							
BTK	**Batken**	**2.85**	**292**	***e*P**		**Pn**	**20 59 09.1**	**+2.8**
	baz=87							
BTK				*e*S		**Sn**	**20 59 43.2**	**+2.5**
	baz=87							
BTK	**Batken**	**2.85**	**292**	Pn		**Pn**	**20 59 09.6**	**+3.3**
BTK	**Batken**	**2.85**	**292**	PN		**Pn**	**20 59 09.6**	**+3.3**
AML	**Almayashu**	**3.14**	**352**	P		**Pn**	**20 59 12.1**	**+1.6**
	SNR=194							
UCH	**Uchtor**	**3.21**	**3**	P		**Pn**	**20 59 13.4**	**+1.9**
	SNR=86							
UCH	**Uchtor**	**3.21**	**3**	***e*P**		**Pn**	**20 59 12.0**	**+0.5**
	baz=5.0							
UCH				*e*S		**Sn**	**20 59 48.4**	**-1.7**
	baz=5.0							
ARK	**Arkit**	**3.28**	**329**	***e*P**		**Pn**	**20 59 13.2**	**+1.0**
	baz=26							
ARK				*e*S		**Sn**	**20 59 50.3**	**-1.0**
	baz=26							
ARK	**Arkit**	**3.28**	**329**	PN		**Pn**	**20 59 13.9**	**+1.7**
TRKS	**Terek-Say**	**3.46**	**317**	***e*P**		**Pn**	**20 59 15.2**	**+0.5**
	baz=14							
TRKS				*e*S		**Sn**	**20 59 53.9**	**-1.9**
	baz=14							
TRKS	**Terek-Say**	**3.46**	**317**	PN		**Pn**	**20 59 16.3**	**+1.6**
ULHL	**Ulahol**	**3.56**	**24**	P		**Pn**	**20 59 18.9**	**+2.8**
	SNR=22							
ULHL	**Ulahol**	**3.56**	**24**	***e*P**		**Pn**	**20 59 17.3**	**+1.2**
	baz=27							
ULHL				*e*S		**Sn**	**20 59 57.6**	**-0.7**
	baz=27							
AAK	**Ala-Archa**	**3.62**	**3**	P		**Pn**	**20 59 19.1**	**+2.2**
	SNR=106							
AAK	**Ala-Archa**	**3.62**	**3**	Pn		**Pn**	**20 59 19.1**	**+2.2**
	35nm,0.3s,baz=184,slow=10,SNR=74							
AAK				Lg		Lg	21 00 09.9	
	29nm,0.3s,baz=96,slow=22,SNR=10.0							
AAK				LR		LR	21 00 47.2	
	comp=Z,1μm,18.4s,baz=200,slow=41							
	287nm,0.6s							
AAK	**Ala-Archa**	**3.62**	**3**	***e*P**		**Pn**	**20 59 17.6**	**+0.7**
	baz=4.0							
AAK				*e*S		**Sn**	**20 59 58.0**	**-1.7**
	baz=4.0							
AAK	**Ala-Archa**	**3.62**	**3**	Pn		**Pn**	**20 59 18.5**	**+1.6**
AAK	**Ala-Archa**	**3.62**	**3**	*c i*PN		**Pn**	**20 59 18.8**	**+1.9**
AAK				pmax		pmax		
	comp=Z,279nm,0.7s							
EKS2	**Erkin-Say**	**3.66**	**354**	P		**Pn**	**20 59 19.5**	**+2.2**
	SNR=77							
EKS2	**Erkin-Say**	**3.66**	**354**	***e*P**		**Pn**	**20 59 17.9**	**+0.5**
	baz=55							
EKS2				*e*S		**Sn**	**20 59 58.7**	**-1.9**
	baz=55							
KBK	**Karagaybulak**	**3.67**	**8**	P		**Pn**	**20 59 19.7**	**+2.1**
	SNR=128							
KBK	**Karagaybulak**	**3.67**	**8**	***e*P**		**Pn**	**20 59 18.3**	**+0.7**
	baz=9.0							
KBK				*e*S		**Sn**	**20 59 59.5**	**-1.6**
	baz=9.0							
FRU1	**Bishkek**	**3.80**	**4**	***e*P**		**Pn**	**20 59 20.2**	**+1.0**
	baz=5.0							
FRU1				*e*S		**Sn**	**21 00 02.7**	**-1.3**
	baz=5.0							
MRKS	**Merke**	**3.80**	**348**	***e*P**		**Pb**	**20 59 25.1**	**-2.7**
	comp=Z,147nm,0.0s							
MRKS				*e*S		**Sb**	**21 00 12.7**	**-1.3**
	comp=Z,662nm,0.7s							
CHMS	**Chumysh**	**3.99**	**5**	P		**Pn**	**20 59 23.7**	**+1.8**
	SNR=38							
CHMS	**Chumysh**	**3.99**	**5**	***e*P**		**Pn**	**20 59 22.5**	**+0.6**
	baz=6.0							
CHMS				*e*S		**Sn**	**21 00 06.9**	**-1.9**
	baz=6.0							
TKM2	**Tokmak 2**	**4.03**	**14**	P		**Pn**	**20 59 24.6**	**+2.1**
	SNR=61							
TKM2	**Tokmak 2**	**4.03**	**14**	***e*P**		**Pn**	**20 59 23.3**	**+0.8**
	baz=16							
TKM2				*e*S		**Sn**	**21 00 08.4**	**-1.5**
	baz=16							
TKM2	**Tokmak 2**	**4.03**	**14**	PN		**Pn**	**20 59 24.0**	**+1.5**
TKM2				P		**Pb**	**20 59 33.0**	**+1.2**
KST	**Kastek**	**4.22**	**17**	***e*P**		**Pb**	**20 59 32.7**	**-2.4**
	comp=Z,244nm,0.6s							
KST				*e*S		**Sb**	**21 00 23.1**	**-3.0**
	comp=Z,474nm,0.6s							
USP	**Ospenovka**	**4.25**	**2**	P		**Pn**	**20 59 26.8**	**+1.4**
	SNR=24							
USP	**Ospenovka**	**4.25**	**2**	***e*P**		**Pn**	**20 59 26.0**	**+0.6**
	baz=3.0							
USP				*e*S		**Sn**	**21 00 12.9**	**-2.2**
	baz=3.0							
DGS	**Degeres**	**4.37**	**15**	***e*P**		**Pb**	**20 59 37.2**	**-0.3**
	comp=Z,310nm,0.5s							
DGS				*e*S		**Sb**	**21 00 34.0**	**+3.7**
	comp=Z,377nm,0.8s							
MTBS	**Maitube**	**4.42**	**21**	***e*P**		**Pb**	**20 59 38.8**	**+0.3**
MTBS				*e*S		**Sb**	**21 00 35.7**	**+3.8**
SGDS	**Sogindy**	**4.44**	**4**	***e*P**		**Pb**	**20 59 38.9**	**+0.2**
	comp=Z,116nm,1.3s							
SGDS				*e*S		**Sb**	**21 00 35.3**	**+3.1**
	comp=Z,331nm,0.8s							
SGDS	**Sogindy**	**4.44**	**4**	*i* Pn		**Pn**	**20 59 30.6**	**+2.5**
	baz=1.1							
SGDS				*i* Pg		**Pb**	**20 59 39.5**	**+0.9**
	baz=1.1							
SGDS				*e*Lg		Lg	21 00 37.8	
	baz=1.1							
SGDS	**Sogindy**	**4.44**	**4**	*i* PN		**Pn**	**20 59 30.5**	**+2.5**
SGDS				*i*			20 59 39.5	
TAS	**Tashkent**	**4.44**	**303**	***e*P**		**Pn**	**20 59 30.2**	**+2.1**
	baz=0.0							
TAS				*e*S		**Sn**	**21 00 20.2**	**+0.4**
	baz=0.0							
TAS	**Tashkent**	**4.44**	**303**			**Pn**	**20 59 28.4**	**+0.4**
TAS	**Tashkent**	**4.44**	**303**	PN		**Pn**	**20 59 28.4**	**+0.4**
DZA	**Taraz**	**4.46**	**331**	***e*P**		**Pb**	**20 59 40.0**	**+1.0**
	comp=Z,290nm,0.5s							
DZA				*e*S		**Sb**	**21 00 36.8**	**+4.0**
	comp=Z,680nm,0.9s							
DZA	**Taraz**	**4.46**	**331**	***e*Pn**		**Pn**	**20 59 32.4**	**+4.2**
	baz=329							
DZA	**Taraz**	**4.46**	**331**	***e*PN**		**Pn**	**20 59 32.4**	**+4.2**
IUG	**luzhnay**	**4.49**	**316**	***e*P**		**Pb**	**20 59 39.0**	**-0.5**
	comp=Z,244nm,1.0s							
IUG				*e*S		**Sb**	**21 00 35.3**	**+1.6**
	comp=Z,630nm,0.8s							
IUG	**luzhnay**	**4.49**	**316**	***e*Pn**		**Pn**	**20 59 31.2**	**+2.5**
	baz=314							
IUG				*i* Pg		**Pg**	**20 59 44.5**	**-2.0**
	baz=314							
IUG				*e*Sn		**Sn**	**21 00 23.8**	**+2.9**
	baz=314							
IUG				*e*Lg		Lg	21 00 45.4	
	baz=314							
IUG	**luzhnay**	**4.49**	**316**	***e*PN**		**Pn**	**20 59 31.2**	**+2.5**
IUG				*i*			20 59 44.5	
IUG				*e*			21 00 23.8	
TNSS	**Tian-Shan**	**4.50**	**26**	***e*P**		**Pb**	**20 59 40.6**	**+0.7**
	comp=Z,140nm,0.4s							
TNSS				*e*S		**Sb**	**21 00 38.6**	**+4.3**
	comp=Z,215nm,0.8s							
TNSS	**Tian-Shan**	**4.50**	**26**	*i*Pn		**Pn**	**20 59 30.8**	**+1.6**
	baz=24							
TNSS				*i* Pg		**Pb**	**20 59 40.6**	**+0.7**
	baz=24							
TNSS				*e*Lg		Lg	21 00 38.4	
	baz=24							
TNSS	**Tian-Shan**	**4.50**	**26**	*i*PN		**Pn**	**20 59 30.8**	**+1.6**
TNSS				*i*			20 59 40.6	
ANVS	**Anan'yevo**	**4.56**	**33**	***e*P**		**Pn**	**20 59 31.7**	**+1.8**
	baz=36							
ANVS				*e*S		**Sn**	**21 00 22.5**	**-0.5**
	baz=36							
ANVS	**Anan'yevo**	**4.56**	**33**	PN		**Pn**	**20 59 31.6**	**+1.7**
AAA	**Alma-Ata**	**4.64**	**25**	***e*P**		**Pb**	**20 59 44.8**	**+2.7**
	comp=Z,225nm,0.5s							
AAA				*e*S		**Sb**	**21 00 43.6**	**+5.5**
	comp=Z,564nm,0.8s							
AAA	**Alma-Ata**	**4.64**	**25**	***e*Pn**		**Pn**	**20 59 32.3**	**+1.4**
	baz=23							
AAA				*e*Pg		**Pb**	**20 59 43.6**	**+1.4**
	baz=23							
AAA				*e*Lg		Lg	21 00 43.8	
	baz=23							
AAA	**Alma-Ata**	**4.64**	**25**	***e*PN**		**Pn**	**20 59 32.2**	**+1.4**
AAA				*e*			20 59 43.6	
MDOK	**Medeo**	**4.65**	**26**	***e*P**		**Pb**	**20 59 43.1**	**+0.9**
MDOK				*e*S		**Sb**	**21 00 42.3**	**+4.0**
MDOK	**Medeo**	**4.65**	**26**	*i* Pn		**Pn**	**20 59 32.7**	**+1.7**
	baz=24							
MDOK				*i* Pg		**Pb**	**20 59 42.1**	**-0.2**
	baz=24							
MDOK				*e*Lg		Lg	21 00 42.8	
	baz=24							
MDOK	**Medeo**	**4.65**	**26**	*i* PN		**Pn**	**20 59 32.6**	**+1.7**
MDOK				*i*			20 59 42.9	
KNDC	**Almaty**	**4.67**	**25**	PN		**Pn**	**20 59 33.0**	**+1.8**
CHM	**Chimkent**	**4.84**	**314**	***e*P**		**Pb**	**20 59 44.7**	**-0.7**
	comp=Z,144nm,0.4s							
CHM				*e*S		**Sb**	**21 00 47.2**	**+3.6**
	comp=Z,583nm,0.8s							
CHM	**Chimkent**	**4.84**	**314**	***e*Pn**		**Pn**	**20 59 37.2**	**+3.7**
	baz=313							
CHM				*e*Pg		Pb	20 59 50.3	+4.9
	baz=313							
CHM	**Chimkent**	**4.84**	**314**	***e*PN**		**Pn**	**20 59 37.1**	**+3.7**
CHM				*e*			20 59 50.2	
KK31	**Karatay Array**	**4.97**	**326**	Pn		**Pn**	**20 59 36.1**	**+0.9**
KK31	**Karatay Array**	**4.97**	**326**	PN		**Pn**	**20 59 36.1**	**+0.9**
KKAR	**Karatay Array**	**4.97**	**326**	***e*P**		**Pn**	**20 59 36.5**	**+1.3**
	baz=25							
KKAR				*e*S		**Sn**	**21 00 30.6**	**-2.1**
	baz=25							
KKAR	**Karatay Array**	**4.97**	**326**			**Pn**	**20 59 37.0**	**+1.7**
KKAR	**Karatay Array**	**4.97**	**326**	Pn		**Pn**	**20 59 36.6**	**+1.3**
KKAR	**Karatay Array**	**4.97**	**326**	PN		**Pn**	**20 59 37.0**	**+1.7**
KTBS	**Karatobe**	**5.03**	**20**	***e*P**		**Pb**	**20 59 50.4**	**+1.7**
	comp=Z,162nm,0.7s							
KTBS				*e*S		**Sb**	**21 00 54.2**	**+4.9**
	comp=Z,330nm,0.7s							
SATY	**Saty**	**5.11**	**37**	***e*P**		**Pb**	**20 59 51.5**	**+1.3**
SATY				*e*S		**Sb**	**21 00 59.1**	**+7.4**
SATY	**Saty**	**5.11**	**37**	***e*Pn**		**Pn**	**20 59 38.6**	**+1.3**
	baz=35							
SATY				*i* Pg		**Pb**	**20 59 50.5**	**+0.3**
	baz=35							
SATY				*e*Lg		Lg	21 00 58.0	
	baz=35							
SATY	**Saty**	**5.11**	**37**	***e*PN**		**Pn**	**20 59 38.6**	**+1.3**
SATY				*i*			20 59 50.5	
KUU	**Kurty**	**5.12**	**17**	***e*P**		**Pb**	**20 59 52.0**	**+1.8**
KUU				*e*S		**Sb**	**21 00 57.4**	**+5.7**
KUU	**Kurty**	**5.12**	**17**	***e*Pn**		**Pn**	**20 59 38.0**	**+0.6**
	baz=15							
KUU				*i* Pg		**Pb**	**20 59 51.2**	**+1.0**
	baz=15							
KUU	**Kurty**	**5.12**	**17**	***e*PN**		**Pn**	**20 59 37.9**	**+0.6**
KUU				*i*			20 59 51.1	
ZHN	**Zhinishke**	**5.21**	**36**	***e*Pn**		**Pn**	**20 59 39.7**	**+1.0**
	baz=34							
ZHN	**Zhinishke**	**5.21**	**36**	***e*PN**		**Pn**	**20 59 39.7**	**+1.0**
CHKK	**Chushkaly**	**5.25**	**22**	***e*P**		**Pb**	**20 59 54.9**	**+2.4**
	comp=Z,76nm,0.6s							
CHKK				*e*S		**Sb**	**21 01 02.4**	**+6.9**
	comp=Z,140nm,1.0s							
CHKK	**Chushkaly**	**5.25**	**22**	***e*Pn**		**Pn**	**20 59 41.0**	**+1.8**
	baz=20							
CHKK				*i* Pg		**Pb**	**20 59 54.2**	**+1.8**
	baz=20							
CHKK				*e*Lg		Lg	21 01 02.4	
	baz=20							
CHKK	**Chushkaly**	**5.25**	**22**	***e*PN**		**Pn**	**20 59 40.9**	**+1.8**
CHKK				*i*			20 59 54.2	
CHCP	**Chirah Chowk**	**5.41**	**189**	P		Pb	20 59 47.9	-7.3
NIL	**Nilore**	**5.42**	**189**	Pn		Pn	20 59 47.5	+6.0
NIL	**Nilore**	**5.42**	**189**	PN		Pn	20 59 47.5	+6.0
UZB	**Uzynbulak**	**5.47**	**40**	***e*Pn**		**Pn**	**20 59 43.5**	**+1.1**
	baz=38							
UZB				*i* Pg		**Pb**	**20 59 57.7**	**+1.4**
	baz=38							
UZB				*e*Lg		Lg	21 01 08.7	
	baz=38							
UZB	**Uzynbulak**	**5.47**	**40**	***e*PN**		**Pn**	**20 59 43.4**	**+1.1**
UZB				*i*			20 59 57.7	
CEP	**Cherat**	**5.52**	**201**	P		Pb	20 59 50.4	-6.7
KPKS	**Kokpek**	**5.56**	**35**	***e*P**		**Pb**	**20 59 59.3**	**+1.6**
	comp=Z,152nm,0.9s							
KPKS				*e*S		**Sb**	**21 01 11.1**	**+6.6**
	comp=Z,217nm,0.9s							
KPKS	**Kokpek**	**5.56**	**35**	*i* Pn		**Pn**	**20 59 44.3**	**+0.8**
	baz=34							
KPKS				*i* Pg		**Pb**	**20 59 59.0**	**+1.3**
	baz=34							
KPKS				*e*Lg		Lg	21 01 11.3	
	baz=34							
KPKS	**Kokpek**	**5.56**	**35**	*i* PN		**Pn**	**20 59 44.2**	**+0.8**
KPKS				*i*			20 59 59.0	
SHLS	**Shalkode**	**5.71**	**42**	***e*Pn**		**Pn**	**20 59 49.6**	**+4.1**
	baz=43							
SHLS				*e*Pg		**Pb**	**21 00 04.8**	**+4.5**
	baz=43							
SHLS	**Shalkode**	**5.71**	**42**	***e*PN**		**Pn**	**20 59 49.5**	**+4.1**
PDGK	**Podgornoye**	**5.84**	**41**	PN		**Pn**	**20 59 48.0**	**+0.6**
BTLS	**Baital**	**6.02**	**359**	***e*P**		**Pb**	**21 00 08.2**	**+2.6**
	comp=Z,35nm,0.8s							
BTLS				*e*S		**Sb**	**21 01 25.8**	**+8.1**
	comp=Z,71nm,0.8s							
BTLS	**Baital**	**6.02**	**359**	***e*Pn**		**Pn**	**20 59 52.1**	**+2.4**
	baz=357							
BTLS				*e*Pg		**Pb**	**21 00 08.8**	**+3.3**
	baz=357							
BTLS	**Baital**	**6.02**	**359**	***e*PN**		**Pn**	**20 59 52.0**	**+2.4**
KBL	**Kabul**	**6.12**	**225**	Pn		Pn	20 59 56.1	+4.8
KBL	**Kabul**	**6.12**	**225**	PN		Pn	20 59 56.1	+4.8
JMU	**Jammu**	**6.31**	**175**	*e*P		Pn	20 59 58.9	+5.2
THW	**Thamme Wali**	**6.54**	**199**	P		Pn	21 00 03.2	+6.4
TDK	**Taldyqorghan**	**6.73**	**26**	***e*Pn**		**Pn**	**21 00 02.1**	**+2.7**
	baz=25							
TDK				*e*Pb		**Pb**	**21 00 14.9**	**-2.8**
	baz=25							
TDK				*e*Pg		Pg	21 00 20.6	-8.9
	baz=25							
TDK	**Taldyqorghan**	**6.73**	**26**	***e*PN**		**Pn**	**21 00 02.1**	**+2.7**
TDK				*e*			21 00 20.5	
DJR	**Jarkent**	**6.73**	**36**	***e*P**		Pg	21 00 24.9	-4.6
	comp=Z,24nm,0.6s							
DJR				*e*S		**Sg**	**21 01 53.8**	**-2.8**
	comp=Z,53nm,0.9s							
SARP	**Sargodha**	**7.20**	**191**	P		Pn	21 00 10.2	+4.3
BHK	**Bhakra**	**7.79**	**166**	*e*P		Pn	21 00 18.7	+4.7
BHK				*e*S		**Sn**	**21 01 46.7**	**+4.5**
SMLA	**Simla**	**8.22**	**162**	*e*P		Pn	21 00 25.4	+5.4
SMLA				*e*S		**Sn**	**21 01 56.0**	**+3.0**
SMLA				IAML			21 02 04.3	
	comp=E,250nm,0.5s							
SMLA				IAML			21 02 04.9	
	comp=N,276nm,0.5s							
DDI	**Dehra Dun**	**9.22**	**159**	***e*P**		**Pn**	**21 00 36.0**	**+2.3**
DDI				*e*S		**Sn**	**21 02 20.0**	**+2.5**
DDI				IAML			21 02 35.8	
	comp=N,284nm,0.7s							
DDI				IAML			21 02 37.3	
	comp=E,372nm,0.3s							
OTUK	**Ortayu**	**9.33**	**352**	P		**Pn**	**21 00 35.0**	**-0.1**
MAKZ	**Makanchi**	**9.62**	**34**	Pn		**Pn**	**21 00 39.4**	**+0.3**
MAKZ	**Makanchi**	**9.62**	**34**	P		**Pn**	**21 00 39.4**	**+0.3**
MK31	**Makanchi Array**	**9.75**	**35**			**Pn**	**21 00 41.8**	**+1.0**
MK31	**Makanchi Array**	**9.75**	**35**	P		**Pn**	**21 00 41.8**	**+1.0**
MKAR	**Makanchi Array**	**9.75**	**35**	Pn		**Pn**	**21 00 41.8**	**+1.0**
	comp=E,2.0nm,0.3s,baz=223,slow=13,SNR=82							
MKAR				Lg		Lg	21 03 22.6	
	comp=E,0.7nm,0.3s,baz=221,slow=31,SNR=2.3							
MKAR				LR		LR	21 04 49.5	
	comp=E,293nm,19.3s,baz=132,slow=40							
	comp=E,5.3nm,0.5s							
MKAR	**Makanchi Array**	**9.75**	**35**	Pn		**Pn**	**21 00 41.5**	**+0.6**
NDI	**New Delhi**	**10.60**	**166**	*e*P		Pn	21 00 57.0	+4.5
NDI				*e*S		**Sn**	**21 02 54.0**	**+2.8**
PTH	**Pithoragarh**	**10.65**	**151**	*e*P		**Pn**	**21 00 55.4**	**+2.0**
HRA	**Herat**	**10.69**	**248**	Pn		**Pn**	**21 00 56.2**	**+2.2**
LGTI	**Lohaghat**	**10.75**	**151**	*e*P		**Pn**	**21 00 54.7**	**+0.2**
LGTI				*e*S		**Sn**	**21 02 52.5**	**-2.4**
SONA	**Sohna**	**10.99**	**167**	*e*P		**Pn**	**21 01 01.3**	**+3.4**
SONA				*e*P		**Pn**	**21 01 01.7**	**+3.8**
KUDL	**Kundal**	**11.00**	**170**	*e*P		**Pn**	**21 00 59.0**	**+1.0**
WMQ	**Urumqi**	**11.17**	**60**	↓P		**Pn**	**21 01 00.8**	**+0.4**
WMQ				pP			21 01 04.5	
WMQ				sP			21 01 08.5	
WMQ				pmax		pmax		
	comp=E,42nm,0.9s							
WMQ				LR		LR		
	comp=E,500nm,14.1s							
WMQ				LR		LR		
	comp=E,370nm,8.7s							
WMQ				LR		LR		
	comp=E,190nm,21.5s							
ZSN	**Zaisan**	**11.43**	**39**	***e*Pn**		**Pn**	**21 01 04.2**	**+0.3**
	baz=38							
ZSN	**Zaisan**	**11.43**	**39**	***e*P**		**Pn**	**21 01

comp=Z,38nm,0.3s
RAMN Ramite 15.86 136 *e*P **Pn 21 02 01.9 -2.3**
comp=Z,111nm,0.9s
BHPL Bhopal 15.96 169 *e*P **Pn 21 02 04.6 -0.7**
BHPL IAmb IAmb 21 02 15.8
comp=Z,18nm,0.3s
BHPL *e*S **Sn 21 04 57.1 -5.1**
TAPN Taplejung 16.17 132 *e*P **Pn 21 02 06.8 -1.4**
comp=Z,36nm,0.7s
AKTO Aktyubinsk 16.19 320 P **Pn 21 02 07.0 -1.1**
ODAN Odare 16.36 134 *e*P **Pn 21 02 08.7 -2.0**
comp=Z,3.6nm,0.5s
ZAA0 Zalesovo Array 16.58 22 Pn **Pn 21 02 10.5 -2.5**
ZALV Zalesovo Beam 16.58 22 Pn **Pn 21 02 11.6 -1.4**
comp=Z,1.8nm,0.3s,baz=209,slow=11,SNR=44
ZALV LR LR 21 08 44.0
comp=Z,207nm,19.2s,baz=86,slow=38
comp=Z,9.9nm,0.5s
ZALV Zalesovo Beam 16.58 22 Pn **Pn 21 02 10.5 -2.5**
LSA Lhasa 16.74 119 P **Pn 21 02 14.9 -0.8**
LSA Lhasa 16.74 119 P **Pn 21 02 14.9 -0.8**
LSA pmax pmax
comp=Z,8.0nm,1.0s
BOK Bokaro 18.11 144 *e*P **P 21 02 32.0 -0.6**
GTA Gaotai 19.79 81 ⇑P **Pn 21 02 53.5 +0.8**
GTA pP sP 21 02 59.8 +3.0
GTA sP pP 21 03 02.8 +7.8
GTA pmax pmax
comp=Z,24nm,0.7s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=Z,110nm,16.0s
GTA LR LR
comp=Z,150nm,18.9s
GTA LR LR
comp=Z,140nm,16.0s
SVE Sverdlovsk 19.95 338 *e*P Pn 21 02 55.1 +0.8
SVE pmax pmax
comp=Z,18nm,1.0s
SHL Shillong 20.00 127 P **P 21 02 52.7 -0.9**
SHL Shillong 20.00 127 *e*P **Pn 21 02 55.2 0.0**
SHL IAmb IAmb 21 02 59.2
comp=Z,11nm,0.9s
SHL Shillong 20.00 127 P **P 21 02 52.7 -0.9**
SHL pmax pmax
comp=Z,13nm,0.7s
KNGR Kungurtug, Tuv 20.07 47⇓ *e*P **P 21 02 53.5 -0.6**
KNGR pmax pmax
comp=Z,22nm,1.2s
ARU Arti 20.28 334 P **P 21 02 57.3 +1.1**
comp=Z,13nm,0.6s,baz=152,slow=7.7,SNR=18
ARU Lg Lg 21 09 04.8
baz=156,slow=19,SNR=1.9
ARU LR LR 21 10 57.6
comp=Z,138nm,18.7s,baz=171,slow=37
comp=Z,13nm,0.6s
ARU Arti 20.28 334 **P 21 02 54.2 -2.0**
ARU Arti 20.28 334*d i*P **P 21 02 57.6 +1.4**
ARU 21 03 12.9
ARU S Sn 21 06 47.2 +0.8
ARU SS **SnSn 21 07 03.9 +3.0**
ARU pmax pmax
comp=Z,20nm,0.8s
ARU MLR MLR
comp=Z,114nm,11.0s
AKT Akhty 20.37 285 *e*P **P 21 02 59.1 +1.7**
AKT *e* 21 03 16.7
AKT pmax pmax
comp=Z,32nm,1.1s
WSAR Wadi Sarin 20.60 225 P Pn 21 03 01.9 -0.2
comp=Z,16nm,0.8s,baz=68,slow=7.5,SNR=16
WSAR LR LR 21 12 01.0
comp=Z,62nm,19.9s,baz=94,slow=40
comp=Z,16nm,0.8s
UOSS Minazif 20.71 233 P **P 21 02 59.8 -1.3**
UOSS IAmb IAmb 21 03 17.7
comp=Z,136nm,2.0s
GROC Groznyy 21.80 290 *e*P **P 21 03 13.4 +0.8**
GROC *e* 21 03 36.2
GROC *e*S **S 21 07 16.5 +2.9**
GROC pmax pmax
comp=Z,211nm,0.9s
BRDH Bariadhala 22.03 133 LR LR 21 12 46.7
comp=Z,70nm,20.1s,baz=287,slow=39
MOY Mondy 22.50 47 *e*P **P 21 03 19.3 -1.0**
GNI Garni 22.73 282 P **P 21 03 23.8 +1.0**
comp=Z,10nm,0.6s,baz=0.0,slow=3.0,SNR=3.5
GNI LR LR 21 13 35.8
comp=Z,31nm,19.0s,baz=98,slow=40
comp=Z,10nm,0.6s
GNI Garni 22.73 282 P **P 21 03 24.7 +1.8**
GNI IAmb IAmb 21 03 38.1
comp=Z,58nm,1.1s
GNI Garni 22.73 282⇓ *e*P **P 21 03 27.2 +4.3**
GNI pmax pmax
comp=Z,79nm,1.2s
BELG Belogornoye 22.75 315 P **P 21 03 23.4 +0.8**
comp=Z,37nm,0.9s,baz=121,slow=2.9,SNR=9.8
BELG LR LR 21 13 08.2
comp=Z,110nm,18.0s,baz=159,slow=39
comp=Z,37nm,0.9s
BELG Belogornoye 22.75 315⇓ *e*P **P 21 03 21.4 -1.3**
BELG pmax pmax
comp=Z,8.0nm,0.9s
ZEI Tsey 23.19 289 *e*P **P 21 03 29.9 +2.3**
ZEI pmax pmax
comp=Z,9.0nm,0.7s
NCK Nalchik 23.41 291⇓ *i*P **P 21 03 32.0 +2.4**
NCK pmax pmax
comp=Z,33nm,0.8s
ONI Oni 23.52 289 P **P 21 03 31.8 +1.0**
ONI IAmb IAmb 21 03 37.5
comp=Z,54nm,0.9s
ONI Oni 23.52 289 P **P 21 03 31.8 +1.0**
ONI pmax pmax
comp=Z,54nm,0.9s
LZH Lanzhou 23.59 88 *e*P **P 21 03 33.5 +1.8**
LZH pP sP 21 03 38.8 +1.1
LZH sP pP 21 03 42.0 +6.1
LZH pmax pmax
comp=Z,18nm,1.1s
LZH LR LR
comp=Z,410nm,14.1s
LZH LR LR
comp=Z,170nm,13.6s
LZH LR LR
comp=Z,310nm,15.3s
KBZ Khabaz 23.92 291 P **P 21 03 36.1 +1.6**
comp=Z,3.8nm,0.8s,baz=124,slow=7.4,SNR=6.1
KBZ LR LR 21 15 08.1
comp=Z,76nm,19.1s,baz=98,slow=42
comp=Z,3.8nm,0.8s
KBZ Khabaz 23.92 291⇓ *e*P **P 21 03 36.6 +2.1**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KARS Kars 23.94 284 P **P 21 03 33.5 -1.5**
KARS Kars 23.94 284 P **P 21 03 33.5 -1.5**
KARS pmax pmax
comp=Z,111nm,0.9s
NEY Neytrino 24.05 290*d i*P **P 21 03 40.1 +4.1**
NEY pmax pmax
comp=Z,7.0nm,0.6s
KVAR Kislovodsk Arr 24.07 292 P **P 21 03 37.5 +1.4**
comp=Z,6.5nm,1.1s,baz=0.0,slow=9.1,SNR=2.2
KVAR LR LR 21 13 39.7
comp=Z,125nm,21.4s,baz=312,slow=38
comp=Z,6.5nm,1.1s
KIV Kislovodsk 24.07 292 ⇑P **P 21 03 37.4 +1.3**
KIV Kislovodsk 24.07 292 P **P 21 03 36.1 0.0**
KIV IAmb IAmb 21 03 55.6
comp=Z,11nm,0.6s
KIV Kislovodsk 24.07 292 *e*P **P 21 03 37.7 +1.6**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,23nm,15.0s
GEVA Gevas 24.31 278 P **P 21 03 38.1 -0.4**
TNCH TengChong 24.76 117 P **P 21 03 42.8 +0.2**
TNCH pP pP 21 03 46.0 -0.9
TNCH sP sP 21 03 48.0 -0.6
TNCH S **S 21 07 57.0 -8.0**
TNCH pmax pmax
comp=Z,7.0nm,0.6s
TNCH pmax pmax
comp=Z,76nm,5.1s
TNCH LR LR
comp=Z,160nm,3.9s
TNCH LR LR
comp=Z,120nm,5.0s
TNCH LR LR
comp=Z,110nm,4.8s
SONM Songino Array 24.80 59 P **P 21 03 43.6 +0.8**
comp=Z,3.6nm,0.6s,baz=265,slow=9.4,SNR=47
SONM PcP **PcP 21 07 19.2 +0.3**
comp=Z,0.6nm,0.9s,baz=318,slow=4.1,SNR=2.2
SONM LR LR 21 14 26.1
comp=Z,108nm,21.6s,baz=318,slow=39
comp=Z,3.6nm,0.6s
SONM Songino Array 24.80 59 P **P 21 03 40.8 -2.0**
GURO Guroymak-BITLI 25.06 279 P **P 21 03 44.5 -0.7**
KIRV Kirov 25.26 329 P **P 21 03 47.1 +0.5**
comp=Z,12nm,0.7s,baz=8.6,slow=3.1,SNR=5.9
KIRV LR LR 21 14 16.4
comp=Z,233nm,20.1s,baz=123,slow=38
comp=Z,12nm,0.7s
KIRV Kirov 25.26 329⇑ *e*P **P 21 03 49.8 +3.2**
VRH Novokhopyorsk 25.77 309 *e*P **P 21 03 51.5 +0.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KOPT Kop Dagi 25.98 283 P **P 21 03 54.3 +0.6**
PZH PanZhiHua 26.16 110 P **P 21 03 54.8 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
SOC Sochi 26.23 291 *e*P **P 21 03 55.7 +0.1**
SOC *e* 21 04 32.6
SOC *e*S **S 21 08 29.3 +1.6**
SOC *e*SS **SnSn 21 09 31.6 +5.1**
SOC *e*SSS SSS 21 09 45.4
SOC MLR MLR
comp=Z,103nm,21.0s
MARD Mardin 26.30 277 P **P 21 03 56.4 0.0**
VSR Storozhevoye 27.33 308 *e*P **P 21 04 05.5 +0.1**
VSR pmax pmax
comp=Z,20nm,1.2s
BTO Baotou 27.41 75 *e*P **P 21 04 05.5 -0.9**
VORR Voronezh 27.41 309 *e*P **P 21 04 06.4 +0.3**
VORR pmax pmax
comp=Z,20nm,0.4s
LPSR Galich'ya Gora 27.81 311 *e*P **P 21 04 09.5 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
ANN Anapa 27.84 294 *e*P **P 21 04 06.8 -3.2**
ANN *e**PP **pP 21 04 12.9 -1.5**
ANN *e*PPP PPP 21 05 04.2
ANN *e*S **S 21 08 49.4 -3.6**
ANN pmax pmax
comp=Z,16nm,0.8s
XAN Xi'an 28.19 89 ⇑P **P 21 04 15.3 +2.0**
XAN pP sP 21 04 19.0 -0.4
XAN pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 28.53 74 *e*P **P 21 04 16.0 -0.4**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,85nm,6.4s
HHC LR LR
comp=Z,290nm,10.9s
HHC LR LR
comp=Z,350nm,15.8s
HHC LR LR
comp=Z,350nm,13.0s
PRGR Permogore 28.67 332 *e*P **P 21 04 15.8 -1.4**
PRGR pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 28.87 246 P **P 21 04 21.6 +2.1**
RAYN IAmb IAmb 21 04 25.0
comp=Z,7.2nm,0.7s
RAYN Ar Rayn 28.87 246⇓ P **P 21 04 21.9 +2.4**
CMAR Chiang Mai Arr 29.64 127 P **P 21 04 26.8 +0.5**
comp=Z,0.2nm,0.3s,baz=324,slow=8.9,SNR=4.8
CMAR PcP **PcP 21 07 32.1 +1.3**
comp=Z,0.8nm,0.6s,baz=304,slow=2.1,SNR=6.4
CMAR LR LR 21 16 25.7
comp=Z,39nm,19.6s,baz=315,slow=37
comp=Z,0.2nm,0.3s
OBN Obninsk 29.84 315⇑ *e*P **P 21 04 29.5 +1.8**
OBN *e* 21 05 25.9
OBN pmax pmax
comp=Z,32nm,1.6s
OBN MLR MLR
comp=Z,69nm,15.0s
SIM Simferopol' 30.19 294 *e*P **P 21 04 32.8 +1.9**
SIM pmax pmax
comp=Z,37nm,0.8s
KLMR Klimovskoe 30.67 327 *e*P **P 21 04 33.1 -1.9**
KLMR AMP 21 04 38.1
comp=Z,19nm,1.3s
KLMR *e*PP **PnPn 21 05 32.7 -1.6**
KLMR Klimovskoe 30.67 327 *e*P **P 21 04 33.1 -1.9**
KLMR *e* 21 05 32.6
KLMR pmax pmax
comp=Z,19nm,1.3s
ILGA Ilgaz 30.91 287 P **P 21 04 37.2 -0.4**
ASF Jabal al Asfar 30.98 269 P **P 21 04 40.8 +2.6**
comp=Z,3.4nm,0.9s,baz=56,slow=11,SNR=3.6
comp=Z,3.4nm,0.9s
NRIK Noril'sk 31.21 9⇓ *e*P **P 21 04 39.1 -0.6**
NRIK pmax pmax
comp=Z,5.0nm,0.8s
BR131 Keskin Array S 31.22 284 P **P 21 04 40.7 +0.4**
BR131 IAmb IAmb 21 04 45.3
comp=Z,16nm,0.9s
BR131 Keskin Array S 31.22 284*d i*P **P 21 04 42.9 +2.6**
BRTR Keskin Array B 31.22 284 P **P 21 04 42.0 +1.7**
comp=Z,6.2nm,0.8s,baz=86,slow=7.2,SNR=27
comp=Z,6.2nm,0.8s
BRTR Keskin Array B 31.22 284 P **P 21 04 40.6 +0.3**
BRTR Keskin Array B 31.22 284 P **P 21 04 42.0 +1.7**
MMAI Mount Meron Ar 31.82 271 P **P 21 04 48.0 +2.5**
comp=Z,0.6nm,0.6s,baz=69,slow=9.7,SNR=1.3
MMAI LR LR 21 20 46.4
comp=Z,34nm,18.4s,baz=342,slow=42
comp=Z,0.6nm,0.6s
ANTO Ankara 31.83 285 P **P 21 04 46.9 +1.3**
ANTO IAmb IAmb 21 04 51.1
comp=Z,13nm,0.9s
ANTO Ankara 31.83 285 P **P 21 04 46.9 +1.3**
ANTO pmax pmax
comp=Z,13nm,1.0s
PALK Pallekele 32.14 168 LR LR 21 17 52.4
comp=Z,91nm,19.9s,baz=84,slow=36
MDUB Mudurnu 32.90 286 P **P 21 04 54.7 -0.3**
PURM Purcari 33.07 298⇓ P **P 21 04 60.0 +3.7**
AKASG Malin Array Be 33.49 305 P **P 21 04 59.3 -0.5**
comp=Z,1.2nm,0.5s,baz=80,slow=7.3,SNR=20
AKASG PcP **PcP 21 07 39.9 -0.7**
comp=Z,2.6nm,0.6s,baz=75,slow=3.4,SNR=8.1
AKASG LR LR 21 19 59.0
comp=Z,77nm,18.6s,baz=54,slow=39
comp=Z,1.2nm,0.5s
AKASG Malin Array Be 33.49 305 *i* P **P 21 05 02.2 +2.4**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 33.49 305 P **P 21 04 58.9 -0.9**
AKBB IAmb IAmb 21 05 02.5
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 33.49 305⇑ *i*P **P 21 05 02.0 +2.2**
AKBB pmax pmax
comp=Z,7.0nm,0.6s
EIL Elat 33.55 266 LR LR 21 21 08.7
comp=Z,38nm,18.3s,baz=54,slow=41
BORA Eskisehir 33.58 286 P **P 21 05 00.7 -0.3**
BORA IAmb IAmb 21 05 05.7
comp=Z,12nm,0.9s
HIA Hailar 33.74 57 P **P 21 05 01.6 -0.6**
HIA Hailar 33.74 57 P **P 21 05 01.6 -0.6**
HIA pmax pmax
comp=Z,3.0nm,0.7s
MILM Milestii Mici 33.78 299⇑ P **P 21 05 05.0 +2.5**
MILM Milestii Mici 33.78 299 *i* P **P 21 05 04.9 +2.5**
comp=Z,20nm,0.7s
MILM Milestii Mici 33.78 299 *i* P **P 21 05 04.9 +2.5**
MILM pmax pmax
comp=Z,20nm,0.7s
SORM Soroca 34.04 301⇑ P **P 21 05 06.9 +2.3**
SORM Soroca 34.04 301⇑ P **P 21 05 06.9 +2.3**
TPGR Topolog 34.23 295⇓ P **P 21 05 10.5 +4.1**
MFTR Murfatlar 34.31 294⇑ P **P 21 05 11.6 +4.6**
CFR Carcaliu 34.39 296⇓ P **P 21 05 10.7 +2.9**
CFR Carcaliu 34.39 296⇓ P **P 21 05 10.7 +2.9**
TATR Tatarca 34.41 296⇑ P **P 21 05 11.8 +3.9**
SCTR Scanteiesti 34.44 296⇑ P **P 21 05 12.0 +3.9**
TLBR Topalu 34.53 294⇑ P **P 21 05 13.1 +4.2**
HARR Harsova 34.60 295⇑ P **P 21 05 13.8 +4.3**
HARR Harsova 34.60 295⇑ P **P 21 05 13.8 +4.3**
MNK Minsk 34.63 312 *i* P **P 21 05 11.9 +2.2**
comp=E,2.0nm,0.9s
MNK *i* P **P 21 05 11.9 +2.2**
comp=N,37nm,0.9s
MNK *i* P **P 21 05 11.9 +2.2**
comp=Z,13nm,0.8s,baz=277
MNK *i* PP **PP 21 06 28.1 0.0**
MNK *i* PPP PPP 21 06 40.4
MNK *i* S **S 21 10 43.2 +4.2**
MNK *i* SS **SnSn 21 12 57.8 +6.9**
MNK *i* SSS SSS 21 13 13.8
MNK *i* LR LR 21 18 28.0
MNK *i* LRM MLR 21 20 59.4
comp=N,106nm,14.7s
MNK *i* LRM MLR 21 21 20.5
comp=E,13nm,15.3s
MNK *i* LRM MLR 21 21 21.8
comp=Z,67nm,12.8s
MNK Minsk 34.63 312 *i* P **P 21 05 11.9 +2.2**
MNK *i* 21 06 28.0
MNK *i* PPP PPP 21 06 40.3
MNK *i* 21 07 45.1
MNK *i* S **S 21 10 43.2 +4.2**
MNK *i* SS **SnSn 21 12 57.7 +6.9**
MNK *i* SSS SSS 21 13 13.8
MNK *i* 21 15 33.9
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK pmax pmax
comp=N,37nm,0.9s
MNK MLR MLR
comp=N,106nm,15.0s
MNK MLR MLR
comp=E,13nm,15.0s
MNK MLR MLR
comp=Z,67nm,13.0s
ICOR Ion Corvin 34.76 294⇓ P **P 21 05 13.7 +2.8**
ELL Elmali 34.82 280 P **P 21 05 13.7 +2.0**
ELL IAmb IAmb 21 05 28.0
comp=Z,17nm,0.8s
ELL Elmali 34.82 280 P **P 21 05 13.7 +2.0**
ELL pmax pmax
comp=Z,17nm,0.8s
ODBI Odobesti 35.09 297⇑ P **P 21 05 18.2 +4.5**
TESR Tescani 35.30 298⇓ P **P 21 05 19.2 +3.6**
VRI Vrincioaia 35.30 297⇑ P **P 21 05 17.9 +2.2**
VRI Vrincioaia 35.30 297⇑ P **P 21 05 17.9 +2.2**
NACGM Naroch 35.31 313 *e*P **P 21 05 17.9 +2.3**
comp=Z,23nm,0.9s,baz=97
PLOR Plostina 35.36 297⇓ P **P 21 05 18.0 +1.8**
PLOR Plostina 35.36 297⇓ P **P 21 05 18.0 +1.8**
NEHR Nehoiu 35.66 296⇑ P **P 21 05 20.9 +2.2**
COVR Voineasa-Covas 35.67 297⇑ P **P 21 05 23.5 +4.7**
MLR Muntele Rosu 35.89 296⇑ P **P 21 05 23.5 +2.6**
MLR Muntele Rosu 35.89 296 LR LR 21 24 47.4
comp=Z,28nm,19.3s,baz=36,slow=44
MLR Muntele Rosu 35.89 296 P **P 21 05 21.5 +0.6**
MLR IAmb IAmb 21 05 28.2
comp=Z,24nm,1.2s
MLR Muntele Rosu 35.89 296⇑ P **P 21 05 23.5 +2.6**
OZUR 35.93 297⇑ P **P 21 05 24.7 +3.6**
LVZ Lovozero 36.15 336 P **P 21 05 22.7 +0.1**
LVZ Lovozero 36.15 336 P **P 21 05 22.7 +0.1**
LVZ pmax pmax
comp=Z,64nm,1.4s
BURAR Bucovina Array 36.17 300⇑ P **P 21 05 26.3 +3.1**
BURAR Bucovina Array 36.17 300 P **P 21 05 23.7 +0.5**
BURAR Bucovina Array 36.17 300⇑ P **P 21 05 26.3 +3.1**
BUR08 Bucovina Ar. S 36.18 300 P **P 21 05 23.3 0.0**
BUR08 IAmb IAmb 21 06 37.3
comp=Z,24nm,2.0s
DOPR Dopca 36.22 297⇓ P **P 21 05 28.1 +4.5**
ARG Arkhangelos 36.35 280 P **P 21 05 25.2 +0.5**
ARG IAmb IAmb 21 05 55.2
comp=Z,65nm,1.9s
ARG Arkhangelos 36.35 280 P **P 21 05 25.2 +0.5**
ARG pmax pmax
comp=Z,65nm,1.9s
VOIR 36.52 296⇓ P **P 21 05 30.1 +3.9**
VOIR 36.52 296⇓ P **P 21 05 30.1 +3.9**
NJ2 Nanjing 36.66 87 *e*P **P 21 05 30.5 +3.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
HUMR Humele 36.70 295⇑ P **P 21 05 31.8 +4.1**
ARR Arges 36.82 296⇓ P **P 21 05 32.8 +4.1**
FINES FINESS Array B 36.92 323 P **P 21 05 28.9 -0.3**
comp=Z,3.0nm,0.4s,baz=115,slow=9.8,SNR=35
FINES LR LR 21 21 00.2
comp=Z,98nm,20.2s,baz=44,slow=37
comp=Z,3.0nm,0.4s
FINES FINESS Array B 36.92 323 *i* P **P 21 05 28.8 -0.4**
FINES pmax pmax
comp=Z,3.0nm,0.4s
RDO Rodhopi 36.95 289 P **P 21 05 29.2 -0.6**
KARP Karpathos 37.31 280 P **P 21 05 32.9 -0.1**
KARP IAmb IAmb 21 05 37.5
comp=Z,44nm,1.0s
TRPA Tarpa 37.92 301⇓ P **P 21 05 39.1 +1.2**
TRPA Tarpa 37.92 301 P **P 21 05 38.4 +0.5**
DRGR 37.96 299⇑ P **P 21 05 41.8 +3.4**
DRGR 37.96 299⇑ P **P 21 05 41.8 +3.4**
APE Apeiranthos 38.06 283⇓ P **P 21 05 43.4 +4.1**
APE Apeiranthos 38.06 283⇓ P **P 21 05 43.4 +4.1**
GZR Gura Zlata 38.12 297⇓ P **P 21 05 43.3 +3.6**
GZR Gura Zlata 38.12 297⇓ P **P 21 05 43.3 +3.6**
VTS Vitosha 38.30 292⇓ P **P 21 05 45.8 +4.3**
VTS Vitosha 38.30 292 P **P 21 05 41.2 -0.3**
VTS Vitosha 38.30 292⇓ P **P 21 05 45.8 +4.3**
SANT Santorini 38.34 282 P **P 21 05 41.6 0.0**
SANT IAmb IAmb 21 05 45.4
comp=Z,23nm,1.3s
HERR Herculane 38.45 296⇑ P **P 21 05 44.5 +2.1**
ZEA Zeya 38.47 50 *e*P **P 21 05 41.4 -1.1**
STHS Stebnicka Huta 38.66 303 *e*P **P 21 05 45.2 +1.1**
STHS Stebnicka Huta 38.66 303 *e*P **P 21 05 45.2 +1.1**
HEH HeiHe 38.68 55 *e*P **P 21 05 44.8 +0.5**
HEH pmax pmax
comp=Z,16nm,0.7s
BZS Buzias 38.88 297⇓ P **P 21 05 50.2 +4.1**
BZS Buzias 38.88 297⇓ P **P 21 05 50.2 +4.1**
MDVR Moldovita 38.96 296⇓ P **P 21 05 50.0 +3.2**
IDI Anoyia 39.14 280⇓ P **P 21 05 52.0 +3.6**
IDI Anoyia 39.14 280 P **P 21 05 47.3 -1.1**
OJC Ojcow 39.52 305 P **P 21 05 49.9 -1.4**
OJC Ojcow 39.52 305 P **P 21 05 49.9 -1.4**
OJC pmax pmax
comp=Z,7.0nm,0.9s
ARA0 ARCESS Array S 39.86 336 *e*P **P 21 05 54.2 +0.3**
ARCES ARCESS Array B 39.86 336 P **P 21 05 53.6 -0.3**
comp=Z,2.4nm,0.6s,baz=109,slow=9.2,SNR=24
ARCES LR LR 21 23 02.3
comp=Z,94nm,18.9s,baz=184,slow=37
comp=Z,2.4nm,0.6s
ARCES ARCESS Array B 39.86 336 P **P 21 05 53.1 -0.8**
ARCES IAmb IAmb 21 06 08.7
comp=Z,64nm,1.8s
FNA Florina 40.09 290 P **P 21 05 55.5 -0.7**
FNA Florina 40.09 290 P **P 21 05 55.6 -0.7**
FNA pmax pmax
comp=Z,3.0nm,0.7s
VYHS Vyhne 40.34 302 *e*P **P 21 06 01.4 +3.3**
VYHS Vyhne 40.34 302 *e*P **P 21 06 01.4 +3.3**
KTK1 Kautokeino 40.41 334 *e*P **P 21 05 57.7 -0.7**
YAK Yakutsk 40.41 37 P **P 21 05 57.7 -0.9**
comp=Z,9.2nm,0.6s,baz=93,slow=0.5,SNR=9.4
YAK LR LR 21 23 28.2
comp=Z,122nm,19.4s,baz=226,slow=37
comp=Z,9.2nm,0.6s
YAK Yakutsk 40.41 37 P **P 21 05 57.1 -1.4**
YAK IAmb IAmb 21 05 59.0
comp=Z,17nm,0.7s
YAK Yakutsk 40.41 37⇓ *e*P **P 21 05 57.2 -1.4**
YAK pmax pmax
comp=Z,15nm,0.6s
ITM Ithomi 40.75 284 P **P 21 06 01.9 +0.2**

ITM				IAmb	IAmb	21 06 10.7		
	comp=Z,59nm,1.8s							
MORC	**Moravsky Berou**	**41.01**	**304**	⇑P	**P**	**21 06 07.0**	**+3.3**	
MORC	**Moravsky Berou**	**41.01**	**304**	P	**P**	**21 06 03.5**	**-0.3**	
MORC	**Moravsky Berou**	**41.01**	**304**	*e*P	**P**	**21 06 06.9**	**+3.1**	
MORC	**Moravsky Berou**	**41.01**	**304**	⇑P	**P**	**21 06 07.0**	**+3.3**	
PDG	**Podgorica**	**41.21**	**293**	P	**P**	**21 06 05.6**	**+0.2**	
PDG				IAmb	IAmb	21 06 09.6		
	comp=Z,18nm,0.7s							
KRLC	**Kraliky**	**41.46**	**305**	*e*P	**P**	**21 06 08.6**	**+1.1**	
KRLC	**Kraliky**	**41.46**	**305**	*e*P	**P**	**21 06 08.6**	**+1.1**	
KLR	**Kul'dur**	**41.59**	**56**	P	**P**	**21 06 08.7**	**+0.3**	
	comp=Z,1.9nm,0.4s,baz=278,slow=6.8,SNR=13							
KLR				LR	LR	21 26 38.3		
	comp=Z,19nm,19.1s,baz=278,slow=41							
	comp=Z,1.9nm,0.4s							
KLR	**Kul'dur**	**41.59**	**56**	⇓*e*P	**P**	**21 06 07.2**	**-1.2**	
KLR				pmax	pmax			
	comp=Z,19nm,3.8s							
KSRS	**Korea Array**	**41.67**	**75**	P	**P**	**21 06 09.7**	**+0.4**	
	comp=Z,2.0nm,0.7s,baz=282,slow=7.0,SNR=7.1							
KSRS				LR	LR	21 26 04.7		
	comp=Z,63nm,19.8s,baz=270,slow=40							
	comp=Z,2.0nm,0.7s							
VRAC	**Vranov**	**41.69**	**304**	P	**P**	**21 06 11.4**	**+2.2**	
	comp=Z,2.6nm,0.6s,baz=90,slow=12,SNR=2.2							
VRAC				LR	LR	21 24 04.7		
	comp=Z,41nm,18.6s,baz=80,slow=37							
	comp=Z,2.6nm,0.6s							
DPC	**Dobruska-Polom**	**41.72**	**305**	*e*P	**P**	**21 06 10.4**	**+0.8**	
DPC	**Dobruska-Polom**	**41.72**	**305**	*e*P	**P**	**21 06 10.4**	**+0.8**	
RONA	**Rosalia, Austr**	**42.14**	**301**	*e*P	**P**	**21 06 17.6**	**+4.5**	
	comp=Z,6.3nm,1.2s							
CONA	**Conrad Observa**	**42.39**	**302**	*e*P	**P**	**21 06 18.9**	**+3.8**	
	comp=Z,7.4nm,0.7s							
TIXI	**Tiksi**	**42.47**	**22**	LR	LR	21 24 54.5		
	comp=Z,134nm,21.1s,baz=182,slow=38							
TIXI	**Tiksi**	**42.47**	**22**	P	**P**	**21 06 13.5**	**-1.8**	
TIXI	**Tiksi**	**42.47**	**22**	⇓*i*P	**P**	**21 06 14.5**	**-0.8**	
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
YULB	**Yu-li**	**42.67**	**97**	P	**P**	**21 06 19.9**	**+2.3**	
YULB				IAmb	IAmb	21 06 49.2		
	comp=Z,62nm,1.4s							
USRK	**Ussuriysk Ar.**	**42.71**	**64**	LR	LR	21 25 55.8		
	comp=Z,86nm,19.8s,baz=255,slow=39							
HFS	**Hagfors**	**42.74**	**320**	LR	LR	21 26 41.8		
	comp=Z,44nm,19.5s,baz=92,slow=40							
FAUS	**Fauske**	**42.82**	**331**	*e*P	**P**	**21 06 18.2**	**0.0**	
FAUS				IAmb	IAmb	21 06 24.5		
	comp=Z,168nm,2.2s							
BRG	**Berggiesshubel**	**43.15**	**306**	*e*P	**P**	**21 06 21.9**	**+0.7**	
BRG				Amp		21 06 25.0		
	comp=Z,4.6nm,0.8s							
BRG	**Berggiesshubel**	**43.15**	**306**	*e*P	**P**	**21 06 21.8**	**+0.7**	
BRG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
SOKA	**Soboth**	**43.18**	**300**	*e*P	**P**	**21 06 22.7**	**+1.2**	
	comp=Z,6.4nm,1.2s							
GEC2	**GERESS Array S**	**43.64**	**304**	P	**P**	**21 06 24.9**	**-0.3**	
GERES	**GERESS Array B**	**43.64**	**304**	P	**P**	**21 06 25.3**	**0.0**	
	comp=Z,2.6nm,0.6s,baz=80,slow=7.3,SNR=13							
GERES				PcP	**PcP**	**21 08 12.2**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=101,slow=5.1,SNR=2.3							
	comp=Z,2.6nm,0.6s							
GERES	**GERESS Array B**	**43.64**	**304**	P	**P**	**21 06 24.7**	**-0.5**	
KHC	**Kasperske Hory**	**43.67**	**304**	P	**P**	**21 06 24.9**	**-0.5**	
KHC				IAmb	IAmb	21 06 29.7		
	comp=Z,23nm,1.6s							
KHC	**Kasperske Hory**	**43.67**	**304**	*e*P	**P**	**21 06 26.3**	**+0.9**	
KHC	**Kasperske Hory**	**43.67**	**304**	⇓*e*P	**P**	**21 06 26.0**	**+0.6**	
KHC				pmax	pmax			
	comp=Z,29nm,1.6s							
CLL	**Collm**	**43.67**	**307**	P	**P**	**21 06 24.4**	**-0.9**	
CLL				IAmb	IAmb	21 06 28.9		
	comp=Z,16nm,1.4s							
CLL	**Collm**	**43.67**	**307**	*e*P	**P**	**21 06 25.0**	**-0.3**	
	comp=Z,5.0nm,0.6s							
CLL				*i* pP	**pP**	**21 06 27.8**	**-2.0**	
	comp=Z,5.0nm,0.6s							
CLL				*e*PP	**PP**	**21 08 03.0**	**-3.7**	
CLL	**Collm**	**43.67**	**307**	P	**P**	**21 06 24.4**	**-0.9**	
CLL				pmax	pmax			
	comp=Z,16nm,1.4s							
NC405	**NORSAR Array S**	**43.73**	**321**	P	**P**	**21 06 25.0**	**-0.7**	
NC602	**NORSAR Array S**	**43.81**	**321**	P	**P**	**21 06 25.5**	**-0.8**	
NC602	**NORSAR Array S**	**43.81**	**321**	*e*P	**P**	**21 06 25.5**	**-0.8**	
NC303	**NORSAR Array S**	**43.90**	**322**	P	**P**	**21 06 25.8**	**-1.3**	
NC303				IAmb	IAmb	21 07 33.1		
	comp=Z,65nm,1.6s							
BIOA	**Bad Ischl, Aus**	**43.90**	**302**	*e*P	**P**	**21 06 28.0**	**+0.7**	
	comp=Z,1.1nm,0.4s							
NB201	**NORSAR Array S**	**43.94**	**321**	P	**P**	**21 06 26.2**	**-1.1**	
NB2	**NORSAR Subarra**	**43.98**	**321**	P	**P**	**21 06 26.8**	**-0.9**	
	baz=92,slow=8.6							
NB2	**NORSAR Subarra**	**43.98**	**321**	P	**P**	**21 06 26.8**	**-0.9**	
	comp=Z,5.4nm,0.6s,baz=92,slow=8.6							
NOA	**NORSAR Array B**	**43.98**	**321**	P	**P**	**21 06 27.1**	**-0.6**	
	comp=Z,2.3nm,0.4s,baz=101,slow=7.3,SNR=17							
NOA				LR	LR	21 25 30.0		
	comp=Z,76nm,19.8s,baz=110,slow=37							
	comp=Z,2.3nm,0.4s							
NC204	**NORSAR Array S**	**44.20**	**322**	P	**P**	**21 06 28.9**	**-0.6**	
PRED	**Cave del Predi**	**44.22**	**300**	P	**P**	**21 06 28.7**	**-1.2**	
PRED				IAmb	IAmb	21 06 34.2		
	comp=Z,11nm,1.0s							
KONO	**Kongsberg**	**44.81**	**319**	P	**P**	**21 06 32.5**	**-1.8**	
KONO	**Kongsberg**	**44.81**	**319**	P	**P**	**21 06 32.5**	**-1.8**	
KONO				pmax	pmax			
	comp=Z,74nm,1.7s							
KONO	**Kongsberg**	**44.81**	**319**	*e*P	**P**	**21 06 33.9**	**-0.4**	
ABTA	**Abfaltersbach**	**44.86**	**301**	*e*P	**P**	**21 06 37.7**	**+2.7**	
	comp=Z,3.7nm,0.6s							
DOMB	**Dombas**	**45.00**	**323**	*e*P	**P**	**21 06 35.7**	**-0.2**	
CIMO	**Cimolais**	**45.01**	**300**	P	**P**	**21 06 35.2**	**-0.9**	
CIMO				IAmb	IAmb	21 06 36.5		
	comp=Z,22nm,1.7s							
WTTA	**Wattenberg**	**45.32**	**302**	*e*P	**P**	**21 06 41.3**	**+2.5**	
	comp=Z,5.9nm,0.8s							
WATA	**Walderalm**	**45.35**	**302**	*e*P	**P**	**21 06 41.3**	**+2.3**	
	comp=Z,2.0nm,0.6s							
JNU	**Nakatsue**	**45.52**	**79**	LR	LR	21 29 14.8		
	comp=Z,27nm,18.6s,baz=18,slow=41							
SQTA	**Sankt Quirin**	**45.62**	**302**	*e*P	**P**	**21 06 42.0**	**+0.9**	
	comp=Z,1.6nm,0.4s							
MOTA	**Moosalm**	**45.66**	**302**	*e*P	**P**	**21 06 41.5**	**+0.1**	
	comp=Z,2.2nm,1.0s							
SPITS	**Spitsbergen Ar**	**45.66**	**346**	LR	LR	21 28 01.8		
	comp=Z,59nm,19.6s,baz=3.0,slow=39							
SPITS	**Spitsbergen Ar**	**45.66**	**346**	P	**P**	**21 06 40.3**	**-0.6**	
SPITS				pmax	pmax			
	comp=Z,62nm,1.4s							
RETA	**Reutte**	**45.85**	**302**	*e*P	**P**	**21 06 40.4**	**-2.4**	
	comp=Z,0.1nm,0.2s							
FETA	**Feichten**	**45.98**	**302**	*e*P	**P**	**21 06 47.3**	**+3.3**	
	comp=Z,5.0nm,1.3s							
JOW	**Kunigami**	**46.33**	**88**	P	**P**	**21 06 45.8**	**-1.0**	
FUORN	**Ofenpass-Fuorn**	**46.39**	**301**	P	**P**	**21 06 47.7**	**+0.4**	
FUORN				IAmb	IAmb	21 08 26.2		
	comp=Z,4.3nm,0.6s							
RAFF	**Raffo Rosso**	**46.40**	**288**	P	**P**	**21 06 48.1**	**+0.9**	
JHS	**Saijyo**	**46.47**	**76**	P	**P**	**21 06 46.7**	**-1.1**	
DAVA	**Damuels**	**46.48**	**302**	*e*P	**P**	**21 06 48.1**	**+0.2**	
	comp=Z,7.3nm,0.8s							
OSSC	**Osservatorio P**	**46.57**	**297**	P	**P**	**21 06 47.5**	**-1.0**	
OSSC				IAmb	IAmb	21 06 53.4		
	comp=Z,30nm,1.5s							
DAVOX	**Davos/Dischmat**	**46.61**	**301**	P	**P**	**21 06 48.6**	**-0.4**	
	comp=Z,6.2nm,0.5s,baz=92,slow=6.0,SNR=18							
DAVOX				LR	LR	21 28 57.2		
	comp=Z,57nm,18.2s,baz=71,slow=39							
	comp=Z,6.2nm,0.5s							
MSSA	**Maissana**	**47.53**	**298**	P	**P**	**21 06 55.5**	**-0.6**	
JMN	**Monobe**	**47.56**	**77**	P	**P**	**21 06 55.4**	**-1.0**	
ECH	**Echery**	**48.02**	**304**	P	**P**	**21 06 58.4**	**-1.3**	
ECH				IAmb	IAmb	21 07 49.0		
	comp=Z,12nm,1.3s							
ECH	**Echery**	**48.02**	**304**	P	**P**	**21 06 58.4**	**-1.3**	
ECH				pmax	pmax			
	comp=Z,12nm,1.3s							
JWT	**Wachi**	**48.08**	**74**	P	**P**	**21 06 57.8**	**-2.5**	
SENIN	**Lac Senin/Sane**	**48.43**	**302**	P	**P**	**21 07 03.0**	**-0.2**	
BNI	**Bardonecchia**	**49.24**	**300**	P	**P**	**21 07 08.5**	**-0.8**	
BNI				IAmb	IAmb	21 07 13.7		
	comp=Z,17nm,1.2s							
BNI	**Bardonecchia**	**49.24**	**300**	P	**P**	**21 07 08.5**	**-0.8**	
	comp=Z,17nm,1.3s							
JGF	**Kuroka**	**49.41**	**73**	P	**P**	**21 07 09.3**	**-1.3**	
MAJO	**Matsushiro**	**49.67**	**72**	⇓*e*P	**P**	**21 07 12.0**	**-0.5**	
MAJO				pmax	pmax			
	comp=Z,45nm,3.8s							
MJAR	**Matsushiro Arr**	**49.67**	**72**	P	**P**	**21 07 12.4**	**-0.2**	
	comp=Z,2.4nm,0.7s,baz=296,slow=8.6,SNR=8.8							
MJAR				LR	LR	21 28 55.8		
	comp=Z,40nm,20.9s,baz=212,slow=37							
	comp=Z,2.4nm,0.7s							
ASAJ	**Asahikawa**	**50.05**	**61**	LR	LR	21 30 42.2		
	comp=Z,58nm,18.4s,baz=136,slow=39							
MA2	**Magadan**	**50.79**	**40**	LR	LR	21 29 42.9		
	comp=Z,115nm,18.1s,baz=254,slow=37							
SEY	**Seymchan**	**50.88**	**35**	P	**P**	**21 07 20.7**	**-0.7**	
	baz=254,slow=15							
CLF	**Chambon-Foret**	**51.22**	**305**	P	**P**	**21 07 23.4**	**-0.7**	
JHJ	**Hachijo jima 2**	**52.28**	**75**	LR	LR	21 31 14.7		
	comp=Z,42nm,19.0s,baz=84,slow=38							
EKA	**Eskdalemuir Ar**	**52.30**	**315**	P	**P**	**21 07 34.1**	**+2.1**	
	baz=88,slow=8.1							
ESK	**Eskdalemuir**	**52.33**	**315**	P	**P**	**21 07 31.9**	**-0.3**	
ESK	**Eskdalemuir**	**52.33**	**315**	P	**P**	**21 07 31.9**	**-0.3**	
ESK				pmax	pmax			
	comp=Z,88nm,1.9s							
BILL	**Bilibino**	**55.20**	**27**	⇑*e*P	**P**	**21 07 53.2**	**+0.1**	
BILL				*e*		21 08 52.8		
BILL				*e*		21 09 54.6		
BILL				*e*S	S	21 15 27.8	-8.3	
BILL				pmax	pmax			
	comp=Z,40nm,3.3s							
BILL				MLR	MLR			
	comp=Z,59nm,15.0s							
DAV	**Davao City (W)**	**55.96**	**111**	LR	LR	21 35 33.0		
	comp=Z,38nm,18.3s,baz=346,slow=40							
PETK	**Petropavlovsk-**	**56.37**	**46**	P	**P**	**21 08 00.3**	**-1.4**	
	comp=Z,8.4nm,1.1s,baz=243,slow=6.3,SNR=2.6							
	comp=Z,8.4nm,1.1s							
BORG	**Borgarnes**	**57.73**	**330**	LR	LR	21 31 40.1		
	comp=Z,36nm,18.3s,baz=30,slow=35							
ESBB	**Sonseca Array**	**58.57**	**298**	P	**P**	**21 08 17.3**	**-0.2**	
ESBB				IAmb	IAmb	21 08 20.7		
	comp=Z,6.6nm,0.7s							
ESDC	**Sonseca Array**	**58.57**	**298**	P	**P**	**21 08 17.4**	**-0.1**	
	comp=Z,4.9nm,0.5s,baz=56,slow=7.0,SNR=40							
	comp=Z,4.9nm,0.5s							
ESDC	**Sonseca Array**	**58.57**	**298**	P	**P**	**21 08 17.2**	**-0.3**	
PAB	**San Pablo**	**58.89**	**298**	P	**P**	**21 08 18.8**	**-1.0**	
PAB				IAmb	IAmb	21 10 11.4		
	comp=Z,27nm,1.6s							
PAB	**San Pablo**	**58.89**	**298**	P	**P**	**21 08 18.8**	**-1.0**	
PAB				pmax	pmax			
	comp=Z,27nm,1.7s							
MDT	**Midelt**	**62.30**	**291**	P	**P**	**21 08 44.0**	**+0.8**	
	comp=Z,2.1nm,0.7s,baz=0.0,slow=4.0,SNR=2.4							
	comp=Z,2.1nm,0.7s							
TOLK	**Toolik Lake Re**	**67.82**	**16**	P	**P**	**21 09 17.8**	**-0.6**	
COLD	**Coldfoot**	**68.83**	**17**	P	**P**	**21 09 24.0**	**-0.7**	
COLD				IAmb	IAmb	21 09 28.1		
	comp=Z,14nm,1.2s							
H23K	**Yukon River**	**70.13**	**18**	P	**P**	**21 09 32.4**	**-0.3**	
H23K				IAmb	IAmb	21 09 37.7		
	comp=Z,16nm,1.6s							
INK	**Inuvik**	**70.98**	**11**	P	**P**	**21 09 37.2**	**-0.6**	
	comp=Z,9.1nm,0.8s,baz=338,slow=11,SNR=25							
	comp=Z,9.1nm,0.8s							
INK	**Inuvik**	**70.98**	**11**	P	**P**	**21 09 36.9**	**-0.9**	
INK				IAmb	IAmb	21 09 41.2		
	comp=Z,10.0nm,0.8s							
C36M	**Paulatuk**	**71.10**	**7**	P	**P**	**21 09 37.0**	**-1.5**	
MDM	**Murphy Dome**	**71.16**	**18**	P	**P**	**21 09 38.2**	**-0.8**	
MDM				IAmb	IAmb	21 09 43.5		
	comp=Z,20nm,1.4s							
COLA	**College**	**71.32**	**18**	⇓*e*P	**P**	**21 09 38.6**	**-1.3**	
COLA				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CAST	**Castle Rocks**	**71.46**	**20**	P	**P**	**21 09 40.1**	**-0.7**	
CAST				IAmb	IAmb	21 09 50.2		
	comp=Z,20nm,1.5s							
IL31		**71.63**	**17**	P	**P**	**21 09 39.5**	**-2.3**	
IL31				IAmb	IAmb	21 10 07.4		
	comp=Z,32nm,2.0s							
ILAR	**Eielson Array**	**71.63**	**17**	P	**P**	**21 09 40.5**	**-1.3**	
	comp=Z,2.9nm,0.8s,baz=319,slow=4.9,SNR=33							
ILAR				LR	LR	21 47 36.2		
	comp=Z,34nm,19.5s,baz=227,slow=41							
	comp=Z,2.9nm,0.8s							
ILAR	**Eielson Array**	**71.63**	**17**	P	**P**	**21 09 40.7**	**-1.2**	
ILAR	**Eielson Array**	**71.63**	**17**	P	**P**	**21 09 40.7**	**-1.2**	
J26L	**Joseph Creek**	**72.61**	**16**	P	**P**	**21 09 45.9**	**-2.0**	
J26L				IAmb	IAmb	21 09 47.9		
	comp=Z,4.1nm,0.7s							
I29M	**Ogilvie Camp,**	**72.90**	**14**	P	**P**	**21 09 48.0**	**-1.5**	
I29M				IAmb	IAmb	21 09 48.9		
	comp=Z,28nm,1.8s							
DHY	**Denali Highway**	**72.95**	**18**	P	**P**	**21 09 48.5**	**-1.5**	
DAWY	**Dawson**	**73.86**	**15**	P	**P**	**21 09 54.1**	**-1.1**	
DAWY				IAmb	IAmb	21 09 58.2		
	comp=Z,6.8nm,1.1s							
HYT	**Haines Junctio**	**77.17**	**15**	P	**P**	**21 10 13.5**	**-0.9**	
HYT				IAmb	IAmb	21 10 15.7		
	comp=Z,9.9nm,0.9s							
YKA	**Yellowknife Ar**	**78.58**	**4**	P	**P**	**21 10 21.6**	**-0.4**	
	comp=Z,4.7nm,0.8s,baz=346,slow=6.0,SNR=7.5							
	comp=Z,4.7nm,0.8s							
WRA	**Warramunga Arr**	**81.20**	**124**	P	**P**	**21 10 36.9**	**+0.1**	
	comp=Z,1.8nm,0.5s,baz=325,slow=5.0,SNR=39							
WRA				PKKPbc	**PKKPbc**	**21 29 13.4**	**+1.4**	
	comp=Z,0.5nm,0.7s,baz=140,slow=2.1,SNR=4.8							
	comp=Z,1.8nm,0.5s							
WRA	**Warramunga Arr**	**81.20**	**124**	P	**P**	**21 10 36.7**	**-0.1**	
WRA	**Warramunga Arr**	**81.20**	**124**	*i* P	**P**	**21 10 35.5**	**-1.2**	
WRA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
WB2	**Warramunga Arr**	**81.21**	**124**	P	**P**	**21 10 36.0**	**-0.8**	
WB2				IAmb	IAmb	21 10 37.9		
	comp=Z,6.3nm,1.1s							
BOSA	**Boshof**	**81.34**	**222**	P	**P**	**21 10 38.4**	**+1.0**	
	comp=Z,1.2nm,0.6s,baz=12,slow=6.1,SNR=3.6							
	comp=Z,1.2nm,0.6s							
ASAR	**Alice Springs**	**83.65**	**127**	P	**P**	**21 10 49.5**	**+0.1**	
	comp=Z,1.3nm,0.6s,baz=314,slow=5.1,SNR=28							
	comp=Z,1.3nm,0.6s							
ULM	**Lac du Bonnet**	**90.69**	**354**	P	**P**	**21 11 23.9**	**+0.5**	
	comp=Z,2.7nm,0.8s,baz=0.0,slow=3.0,SNR=2.7							
	comp=Z,2.7nm,0.8s							
PDAR	**Pinedale Array**	**98.52**	**3**	LR	LR	22 00 52.2		
	comp=Z,32nm,18.1s,baz=317,slow=38							
VNDA	**Vanda**	**127.22**	**164**	PKP	**PKiKP**	**21 17 24.7**	**+0.3**	
	comp=Z,0.5nm,0.8s,baz=256,slow=6.9,SNR=3.6							
CPUP	**Villa Florida**	**137.78**	**273**	PKP	**PKiKP**	**21 17 47.1**	**-0.1**	
	comp=Z,0.9nm,0.5s,baz=162,slow=6.2,SNR=3.3							
LPAZ	**La Paz**	**140.12**	**294**	PKP	**PKiKP**	**21 17 52.5**	**-0.6**	
	comp=Z,0.9nm,0.7s,baz=17,slow=9.1,SNR=4.5							
PLCA	**Paso Flores**	**153.04**	**255**	PKPbc	**PKiKP**	**21 18 18.7**	**+0.4**	
	comp=Z,1.7nm,0.8s,baz=17,slow=3.8,SNR=3.8							

SKO 25 21:02:49.9,41°.27N×22°.46E,h9km,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.10**	**58**	*i* Pg	Pg	21 02 52.3	0.0
VAY				*i* Sg	Sg	21 02 55.1	+1.0
VAY				*e*Lg	Lg	21 02 55.2	
	comp=E,17nm,0.4s						
VAY				*e*Lg	Lg	21 02 55.3	
	comp=N,12nm,0.4s						
GRG	**Griva**	**0.32**	**188**	*i* Pg	Pg	21 02 56.3	+0.1
GRG				*i* Sg	Sg	21 03 01.1	+0.7
KNT	**Kendrikon**	**0.35**	**108**	*i* Pg	Pg	21 02 56.8	0.0
KNT				*i* Sg	Sg	21 03 02.4	+1.0
STIP	**Stip**	**0.47**	**334**	*i* Pg	Pb	21 02 59.9	-0.5
STIP				*i* Sg	Sg	21 03 05.2	-0.1

ATH 25 21:03:49.4,37°.37N×23°.59E,h5km±3km,ML1.8/3,Error ellipse: s-maj=3.8km s-min=1.0km az=299.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YDRA	**Hydra**	**0.10**	**259**	P	Pg	21 03 51.1	-0.5
YDRA				S	Sg	21 03 53.6	+0.6
YDRA				AML	AML	21 03 54.3	
	comp=E,2896μm,0.2s						
YDRA				AML	AML	21 03 55.7	
	comp=N,2836μm,0.4s						
VLY	**Voula,Athens**	**0.51**	**18**	P	Pg	21 03 58.9	-0.2
VLY				S	Sg	21 04 06.4	+0.6
VLY				AML	AML	21 04 08.8	
	comp=N,248μm,0.3s						
VLY				AML	AML	21 04 09.6	
	comp=E,297μm,0.3s						
ATHU	**Athens Univers**	**0.62**	**14**	P	Pg	21 04 00.8	-0.4
PTL	**Penteli**	**0.71**	**18**	P	Pg	21 04 02.6	-0.4
DION	**Dionisos Attik**	**0.76**	**21**	P	Pg	21 04 03.6	-0.3
LOUT	**Loutraki**	**0.79**	**322**	P	Pg	21 04 04.1	-0.4
VLI	**Veliai**	**0.83**	**219**	P	Pg	21 04 05.3	-0.1
VIL2	**Platees**	**0.88**	**343**	P	Pg	21 04 04.7	-1.5
VIL2				AML	AML	21 04 21.5	
	comp=N,56μm,0.3s						
VIL2				AML	AML	21 04 24.8	
	comp=E,74μm,0.3s						
KTHA	**Kythira Island**	**1.19**	**201**	P	Pg	21 04 11.6	-0.6
KTHR	**Kythira**	**1.20**	**203**	P	Pg	21 04 12.1	-0.3
KYMI	**Kymi, Euboea I**	**1.32**	**17**	P	Pn	21 04 13.4	-1.1
ITM	**Ithomi**	**1.34**	**262**	P	Pn	21 04 14.3	-0.5

SOME ***25*** *21:04:17.0,39°.15N×74°.47E,h0km*
KRNET ***25*** *21:04:20.3±0.1,39°.12N×74°.33E,mb3.9*
IDC ***25*** *21:04:21.6±4.7,39°.26N×73°.98E,h0km,mb3.8/2, mbtmp3.8/4,ML3.0/2,Error ellipse: s-maj=86.4km s-min=24.2km az=121.0*

ISC 25 21:04:18.9±2.0,39°.23N±0°.07×74°.35E±0°.04,h4km±12km, n25,σ1s64/46,12C-10D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.77**	**318**	⇓*e*P	**Pg**	**21 04 54.2**	**+1.4**
	baz=20						
OHH				⇓*e*S	**Sg**	**21 05 18.9**	**+3.2**
	baz=20						
DRK	**Karamyk**	**1.99**	**278**	⇓*e*P	**Pg**	**21 04 56.6**	**-0.5**
	baz=81						
DRK				⇓*i*S	**Sg**	**21 05 23.2**	**+0.3**
	baz=81						
NRN	**Naryn**	**2.54**	**29**	⇑*e*P	**Pb**	**21 05 05.3**	**0.0**
	baz=28						
NRN				⇑*e*S	**Sb**	**21 05 38.2**	**+1.2**
	baz=28						
ARLS	**Aral**	**2.63**	**360**	⇑*e*P	**Pb**	**21 05 07.0**	**+0.3**
	baz=60						
ARLS				⇑*e*S	**Sb**	**21 05 40.9**	**+1.4**
	baz=60						
BTK	**Batken**	**2.85**	**288**	⇓*e*P	**Pb**	**21 05 08.7**	**-1.7**
	baz=90						
BTK				⇓*e*S	**Sb**	**21 05 44.1**	**-1.6**
	baz=90						
UCH	**Uchtor**	**3.00**	**2**	⇑*i*P	**Pb**	**21 05 12.1**	**-1.1**
	baz=3.0						
UCH				⇑*e*S	**Sb**	**21 05 50.3**	**-0.1**
	baz=3.0						
ARK	**Arkit**	**3.15**	**325**	⇓*e*P	**Pb**	**21 05 13.7**	**-1.8**
	baz=27						
ARK				⇓*i*S	**Sb**	**21 05 52.9**	**-1.4**
	baz=27						
TRKS	**Terek-Say**	**3.36**	**314**	⇑*e*P	**Pb**	**21 05 15.9**	**-3.3**
	baz=15						
TRKS				⇑*e*S	**Sb**	**21 05 56.2**	**-4.3**
	baz=15						
AAK	**Ala-Archa**	**3.41**	**2**	Pn	**Pb**	**21 05 20.2**	**+0.2**
	2.0nm,0.3s,baz=169,slow=11,SNR=4.9						
AAK				Lg	Lg	21 06 10.0	
	4.8nm,0.3s,baz=299,slow=20,SNR=5.8						
	17nm,0.5s						
AAK	**Ala-Archa**	**3.41**	**2**	⇑*e*P	**Pb**	**21 05 17.8**	**-2.2**
	baz=2.0						
AAK				⇑*e*S	**Sb**	**21 05 59.6**	**-2.2**
	baz=2.0						
KBK	**Karagaybulak**	**3.46**	**7**	⇑*e*P	**Pb**	**21 05 18.5**	**-2.3**
	baz=7.0						
KBK				⇑*e*S	**Sb**	**21 06 00.8**	**-2.4**
	baz=7.0						
EKS2	**Erkin-Say**	**3.46**	**353**	⇓*e*P	**Pb**	**21 05 18.5**	**-2.3**
	baz=53						
EKS2				⇓*e*S	**Sb**	**21 06 00.8**	**-2.4**
	baz=53						
MRKS	**Merke**	**3.62**	**347**	*e*P	**Pb**	**21 05 22.5**	**-0.9**
	10nm,0.4s						
MRKS				*e*S	**Sb**	**21 06 07.3**	**-0.5**
	33nm,0.7s						
KST	**Kastek**	**4.00**	**17**	*e*P	**Pb**	**21 05 29.4**	**-0.7**
	19nm,0.8s						
KST				*e*S	**Sb**	**21 06 17.9**	**-1.0**
	41nm,0.5s						
DGS	**

CAR1 AML AML
comp=E,1280µm,0.7s
CAR1 AML AML
comp=N,1100µm,0.8s
CAR1 AML AML
comp=N,1225µm,0.8s
CAR1 AML AML
comp=E,1134µm,0.8s
CAR1 AML AML
comp=E,1285µm,0.7s
JOPP Joppolo 0.64 151 ⇓P **Pn 21 09 46.7 +0.2**
JOPP S **S 21 10 12.4 -0.6**
JOPP AML AML
comp=E,364µm,0.8s
JOPP AML AML
comp=N,425µm,0.6s
JOPP AML AML
comp=E,416µm,1.6s
JOPP AML AML
comp=N,431µm,0.8s
SPS2 Spezzano della 0.67 79 P **Pn 21 09 47.4 +0.8**
SPS2 S **S 21 10 13.3 +0.2**
SPS2 AML AML
comp=N,257µm,0.4s
SPS2 AML AML
comp=E,342µm,0.2s
SPS2 AML AML
comp=N,462µm,0.3s
GRI Girifalco 0.80 115 ⇑P **Pn 21 09 48.0 +0.8**
GRI AML AML
comp=N,892µm,1.1s
GRI AML AML
comp=E,939µm,0.9s
MMN Mormanno 0.82 28 P **Pn 21 09 47.7 +0.7**
TDS Terranova Siba 0.82 53 ⇓P **Pn 21 09 48.3 +1.2**
TDS AML AML
comp=E,99µm,0.5s
TDS AML AML
comp=N,79µm,0.7s
TDS AML AML
comp=N,146µm,0.6s
TDS AML AML
comp=E,240µm,1.4s
LLI Lipari 0.83 211 P **Pn 21 09 48.1 +0.9**
CUC Castrocucco 0.86 17 ⇓P **Pn 21 09 48.1 +0.7**
MSRU Castanea 0.90 179 ⇓P **Pn 21 09 47.7 0.0**
MSRU S **S 21 10 14.1 -0.9**
MSRU AML AML
comp=N,895µm,0.4s
MSRU AML AML
comp=E,1015µm,0.5s
CEL Celeste 0.96 161 ⇓P **Pn 21 09 47.9 0.0**
CEL S **S 21 10 15.1 -0.6**
CEL AML AML
comp=E,565µm,1.0s
CEL AML AML
comp=E,686µm,1.0s
CEL AML AML
comp=N,427µm,0.4s
CEL AML AML
comp=N,352µm,1.4s
MSCL Scilla 0.96 166 AML AML
comp=N,1090µm,0.5s
MSCL AML AML
comp=E,1430µm,0.8s
MGR Morigerati 0.97 3 ⇓P **Pn 21 09 48.9 +1.1**
MGR AML AML
comp=E,124µm,1.1s
MGR AML AML
comp=N,141µm,1.0s
SALB San Lorenzo Be 0.97 43 ⇓P **Pn 21 09 49.2 +1.2**
SALB AML AML
comp=N,326µm,0.4s
SALB AML AML
comp=N,298µm,0.9s
SALB AML AML
comp=E,516µm,1.0s
SALB AML AML
comp=E,502µm,0.9s
GMB Gambarie 1.03 165 AML AML
comp=N,2680µm,1.2s
GMB AML AML
comp=E,3685µm,0.2s
SIRI Monte Sirino - 1.06 16 ⇓P **Pn 21 09 49.2 +0.8**
SIRI AML AML
comp=N,192µm,0.5s
SIRI AML AML
comp=E,231µm,0.2s
SIRI AML AML
comp=E,229µm,0.2s
SIRI AML AML
comp=N,190µm,0.4s
SIRI AML AML
comp=N,192µm,0.5s
MTSN Montesano sull 1.12 10 P **Pn 21 09 49.0 +0.2**
SCHR S. Chirico Rap 1.13 24 ⇓P **Pn 21 09 50.5 +1.7**
SCHR AML AML
comp=E,196µm,0.6s
SCHR AML AML
comp=E,196µm,0.6s
SCHR AML AML
comp=N,114µm,0.6s
CMPR Campora 1.16 353 P **Pn 21 09 50.2 +1.2**
ORI Oriolo Calabro 1.16 39 ⇓P **Pn 21 09 50.3 +1.3**
ORI AML AML
comp=N,1120µm,0.4s
ORI AML AML
comp=E,914µm,0.3s
LADO San Nicola del 1.17 84 ⇓P **Pn 21 09 49.9 +0.9**
LADO AML AML
comp=E,27µm,1.2s
LADO AML AML
comp=N,26µm,0.3s
LADO AML AML
comp=N,26µm,0.3s
MCEL Monticello 1.18 12 AML AML
comp=N,201µm,0.9s
MCEL AML AML
comp=E,204µm,0.7s
MCEL AML AML
comp=N,194µm,0.9s
MCEL AML AML
comp=E,204µm,0.7s
MCEL AML AML
comp=E,202µm,0.8s
AIO Antillo 1.21 190 AML AML
comp=E,573µm,0.7s
AIO AML AML
comp=N,836µm,0.4s
SLCN Sala Consilina 1.23 5 P **Pn 21 09 50.9 +1.4**
CDRU Civita di Ruta 1.33 354 P **Pn 21 09 51.0 +0.9**
MSFR San Fratello 1.33 212 P **Pn 21 09 50.8 +0.6**
MNO Monte Soro 1.38 207 P **Pn 21 09 51.5 +0.8**
MNO AML AML
comp=E,216µm,1.3s
MNO AML AML
comp=N,426µm,0.9s
CRAC Craco 1.40 31 AML AML
comp=E,878µm,0.6s
CRAC AML AML
comp=N,945µm,1.0s
EMSG Monte Spagnolo 1.41 198 P **Pn 21 09 52.8 +2.0**
PTRP Pietrapertosa 1.42 18 ⇑P **Pn 21 09 52.3 +1.5**
EPZF Pizzo Felice 1.43 200 P **Pn 21 09 52.0 +1.0**
EPZF AML AML
comp=E,434µm,0.7s
EPZF AML AML
comp=N,594µm,0.3s
PLLN Pollina 1.58 222 ⇓P **Pn 21 09 52.4 +0.4**
MRLC Muro Lucano 1.59 0 P **Pn 21 09 53.3 +1.3**
GALF Gagliano Caste 1.62 207 P **Pn 21 09 54.1 +1.8**
GALF AML AML
comp=N,154µm,0.4s
GALF AML AML
comp=E,160µm,0.4s
MCRV Calabrutti - M 1.63 351 P **Pn 21 09 53.6 +1.2**
GIB Gibilmanna 1.64 225 ⇓P **Pn 21 09 53.0 +0.4**
GIB AML AML
comp=E,533µm,0.9s
GIB AML AML
comp=E,534µm,0.9s
GIB AML AML
comp=N,456µm,0.6s
ACER Acerenza 1.66 12 ⇑P **Pn 21 09 53.2 +0.7**
ACER AML AML
comp=N,158µm,1.1s
ACER AML AML
comp=E,146µm,1.6s
EPOZ Pozzillo 1.68 191 P **Pn 21 09 52.0 -0.7**
PETRA Petralia Sopra 1.71 219 ⇓P **Pn 21 09 54.0 +0.8**
PETRA AML AML
comp=E,168µm,0.6s
PETRA AML AML
comp=N,186µm,0.4s
CAGR Agira 1.73 207 ⇓P **Pn 21 09 55.0 +1.8**
CAGR AML AML
comp=E,608µm,0.7s
CAGR AML AML
comp=N,1210µm,0.5s
MATE Matera 1.75 32 P **Pn 21 09 53.2 0.0**
MATE AML AML
comp=E,239µm,0.8s
MATE AML AML
comp=N,282µm,0.9s
LTRZ Laterza 1.76 35 ⇓P **Pn 21 09 53.3 0.0**
LTRZ AML AML
comp=N,2092µm,1.5s
LTRZ AML AML
comp=E,345µm,0.6s
LTRZ AML AML
comp=N,10780µm,1.6s
USI Ustica 1.86 256 P **Pn 21 09 54.9 +0.7**
SOLUN Solunto 1.87 236 P **Pn 21 09 54.9 +0.6**
HLNI Lentini 1.88 195 P **Pn 21 09 54.7 +0.3**
VAE Valguarnera 1.89 207 P **Pn 21 09 56.5 +2.0**
comp=N,21nm,0.4s,baz=28,slow=12,SNR=6.7
HAGA Augusta 1.90 188 P **Pn 21 09 54.1 -0.4**
AGST Augusta-Monte 1.92 186 P **Pn 21 09 54.8 0.0**
AMUR Altamura 1.94 26 P **Pn 21 09 55.1 +0.2**
AMUR AML AML
comp=E,126µm,1.2s
AMUR AML AML
comp=N,180µm,0.9s
TAR1 Taranto 1.94 45 AML AML
comp=N,325µm,0.5s
TAR1 AML AML
comp=E,220µm,0.7s
MPG Monte Pellegri 1.94 240 P **Pn 21 09 55.6 +0.6**
MRVN Minervino Murg 1.97 16 P **Pn 21 09 56.5 +1.4**
MRVN AML AML
comp=N,71µm,0.8s
MRVN AML AML
comp=E,71µm,1.3s
NOCI Noci 2.02 36 ⇓P **Pn 21 09 55.5 -0.1**
NOCI AML AML
comp=N,274µm,0.8s
NOCI AML AML
comp=E,236µm,0.5s
SSY Sortino 2.04 189 P **Pn 21 09 55.7 -0.1**
SSY AML AML
comp=E,330µm,1.5s
SSY AML AML
comp=N,669µm,0.4s
RAFF Raffo Rosso 2.13 205 ⇓P **Pn 21 09 57.7 +1.0**
PIGN Pignataro Magg 2.27 334 ⇑P **Pn 21 09 59.0 +1.2**
HMDC Modica 2.27 194 ⇓P **Pn 21 09 58.6 +0.6**
MODR Mondragone 2.33 329 ⇑P **Pn 21 09 59.4 +1.0**
SCTE Santa Cesarea 2.47 68 ⇓P **Pn 21 10 00.5 +0.7**
SCTE AML AML
comp=N,500µm,0.5s
SCTE AML AML
comp=E,300µm,1.1s
PGF Pioggiola 5.97 307 *e*P **Pn 21 10 41.4 +0.9**
PGF *e*Sn **S 21 11 51.5 +0.7**
comp=E,1.4nm,0.5s
KEST Kesra 5.97 237 P **Pn 21 10 40.5 -0.1**
comp=E,4.1nm,0.7s,baz=31,slow=5.0,SNR=4.6
OBKA Obir 7.37 355 *e*Pn **Pn 21 10 58.2 +0.2**
SOKA Soboth 7.52 358 *e*Pn **Pn 21 11 00.1 +0.3**
comp=E,2.3nm,0.7s
SBF Sospel 7.65 310 *e*Sn **S 21 12 29.7 +0.6**
comp=E,5.2nm,0.5s
ABTA Abfaltersbach 7.88 345 Pn **Pn 21 11 04.8 +0.3**
SNR=5.3
LMR La Mourre 7.94 304 *e*P **Pn 21 11 06.8 +1.6**
LMR *e*Sn **S 21 12 36.4 +0.6**
comp=E,0.6nm,0.3s
KBA Koelnbreinsper 8.06 350 *e*Pn **Pn 21 11 06.6 -0.2**
IDI Anoyia 8.44 114 P **Pn 21 11 13.2 +1.6**
comp=E,1.5nm,0.3s,baz=298,slow=14,SNR=2.2
MBDF Montbardon 8.54 313 *e*P **Pn 21 11 14.8 +1.9**
WTTA Wattenberg 8.57 342 *e*Pn **Pn 21 11 16.9 +3.6**
comp=E,2.8nm,0.6s
FETA Feichten 8.59 338 Pn **Pn 21 11 16.2 +2.8**
SNR=17
BIOA Bad Ischl, Aus 8.63 352 *e*Pn **Pn 21 11 14.8 +1.0**
comp=E,3.0nm,0.8s
SQTA Sankt Quirin 8.63 340 Pn **Pn 21 11 16.1 +2.1**
SNR=19
DAVOX Davos/Dischmat 8.65 333 P **Pn 21 11 13.4 -0.9**
comp=E,4.0nm,0.5s,baz=150,slow=5.9,SNR=13
WATA Walderalm 8.65 342 Pn **Pn 21 11 15.8 +1.6**
SNR=4.4
SMRF Simiane la Rot 8.85 306 *e*P **Pn 21 11 18.1 +1.4**
RETA Reutte 9.00 339 *e*Pn **Pn 21 11 19.5 +0.9**
comp=E,11nm,1.3s
LPL La Plagne 9.07 317 *e*P **Pn 21 11 21.4 +1.8**
DAVA Damuels 9.09 335 *e*Pn **Pn 21 11 20.6 +0.8**
comp=E,4.2nm,0.7s
ORIF Oris-en-Rattie 9.17 312 *e*P **Pn 21 11 23.0 +2.2**
ORIF *e*Sn **S 21 13 04.8 +0.4**
comp=E,0.4nm,0.2s
GERES GERESS Array B 9.76 353 P **Pn 21 11 27.5 -0.7**
comp=E,0.8nm,0.6s,baz=167,slow=13,SNR=7.2
VIVF Saint-Julien-l 9.85 309 *e*P **Pn 21 11 31.2 +1.9**
KHC Kasperske Hory 10.06 353 *e*P **Pn 21 11 31.7 -0.1**
CABF La Chapelle 10.14 320 *e*P **Pn 21 11 32.4 -0.6**
CABF *e*Sn **S 21 13 27.4 +0.5**
comp=E,0.7nm,0.4s
VRAC Vranov 10.17 4 P **Pn 21 11 32.6 -0.7**
comp=E,1.9nm,0.5s,baz=184,slow=11,SNR=4.5
HINF Hinteralfeld 10.68 327 *e*P **Pn 21 11 39.1 -0.5**
HINF *e*Sn **S 21 13 39.8 +0.6**
comp=E,0.5nm,0.3s
CDF Champ du Feu 10.98 330 *e*P **Pn 21 11 42.3 -1.1**
CDF *e*Sn **S 21 13 46.9 +0.6**
comp=E,1.1nm,0.5s
HAU Haudompre 11.04 326 *e*P **Pn 21 11 43.2 -0.9**
HAU *e*Sn **S 21 13 48.3 +0.7**
comp=E,1.3nm,0.3s
SMF Signal de Mont 11.34 315 *e*P **Pn 21 11 45.3 -2.6**
SMF *e*Sn **S 21 13 55.4 +0.8**
comp=E,0.4nm,0.2s
CAF Calviac 11.52 304 *e*P **Pn 21 11 51.9 +1.8**
CAF *e*Sn **S 21 13 59.5 +0.8**
comp=E,0.4nm,0.3s
AVF Avril sur Loir 11.70 315 *e*P **Pn 21 11 53.6 +1.3**
AVF *e*Sn **S 21 14 03.7 +0.9**
comp=E,0.5nm,0.4s
LOR Lormes 11.72 317 *e*P **Pn 21 11 49.9 -2.7**
baz=132
PAGF Fort de Pagny 11.73 326 *e*P **Pn 21 11 54.1 +1.4**
PAGF *e*Sn **S 21 14 04.4 +1.0**
comp=E,2.3nm,0.4s
BRG Berggiesshubel 11.76 355 *e*P **P 21 11 56.7 +0.4**
BRG Amp 21 11 58.5
comp=Z,4.7nm,0.8s
SFTF Sexfontaines 11.77 324 *e*Sn **S 21 14 05.5 +1.0**
comp=Z,3.4nm,0.4s
SSF Saint Saulge 11.78 316 *e*P **Pn 21 11 52.2 -1.1**
SSF *e*Sn **S 21 14 05.5 +0.9**
comp=Z,1.2nm,0.5s
BGF Bois d'Agland 11.85 313 *e*Sn **S 21 14 07.2 +0.9**
comp=Z,0.8nm,0.2s
MEZF Maizieres J'vi 11.98 325 *e*P **P 21 11 58.0 -0.8**
MEZF *e*Sn **S 21 14 10.4 +1.1**
comp=Z,2.6nm,0.5s
RJF Les Rejaudoux 12.03 305 *e*P **P 21 11 58.3 -1.1**
SAVF Savonnieres en 12.04 325 *e*P **P 21 11 59.2 -0.2**
SAVF *e*Sn **S 21 14 11.5 +1.0**
comp=Z,2.2nm,0.4s
EPF Esparros 12.06 294 *e*P **P 21 11 58.5 -1.3**
TCF Toulx Ste Croi 12.07 310 *e*P **Pn 21 11 58.1 +1.1**
TCF *e*Sn **S 21 14 12.5 +1.0**
comp=Z,0.8nm,0.5s
CLL Collm 12.27 353 *e*P **Pn 21 12 00.0 +0.7**
LFF La Frestale 12.38 303 *e*P **P 21 12 02.6 -0.6**
LFF *e*Sn **S 21 14 19.7 +1.1**
comp=Z,1.0nm,0.3s
ETSF Etsaut 12.68 292 *e*P **P 21 12 06.3 -0.4**
ETSF *e*Sn **S 21 14 26.7 +1.2**
comp=Z,0.4nm,0.4s
SJPF Ste Jean 13.20 293 *e*P **P 21 12 12.4 0.0**
SJPF *e*Sn **S 21 14 38.9 +1.5**
comp=Z,0.3nm,0.3s
MFF Saint Martin d 13.65 308 *e*P **P 21 12 17.6 +0.3**
MFF *e*Sn **S 21 14 49.6 +2.2**
comp=Z,0.3nm,0.2s
BRTR Keskin Array B 14.04 82 P **P 21 12 24.3 +2.4**
comp=Z,1.7nm,0.6s,baz=269,slow=11,SNR=11
LDF La Druitiere 14.66 315 *e*P **P 21 12 26.7 -1.7**
LDF *e*Sn **S 21 15 13.3 +3.0**
comp=Z,1.0nm,0.3s
FLN La Foliniere 14.95 315 *e*P **P 21 12 30.4 -1.2**
FLN *e*Sn **S 21 15 20.1 +3.4**
comp=Z,0.3nm,0.2s
GRR Gorron 14.95 313 *e*P **P 21 12 30.8 -0.9**
GRR *e*Sn **S 21 15 20.4 +3.5**
comp=Z,0.3nm,0.2s
ESDC Sonseca Array 15.05 278 P **P 21 12 31.7 -1.2**
comp=Z,1.1nm,0.7s,baz=81,slow=12,SNR=7.6
AKASG Malin Array Be 15.06 36 P **Pn 21 12 33.2 0.0**
comp=Z,0.2nm,0.2s,baz=231,slow=10.0,SNR=2.6
QUIF Quistinic 16.08 309 *e*P **P 21 12 43.2 -0.8**
QUIF *e*Sn **S 21 15 47.0 +7.5**
comp=Z,1.7nm,0.3s
ROSF Rostrenen 16.33 310 *e*P **P 21 12 45.2 -1.6**
MMAI Mount Meron Ar 17.21 105 P **Pn 21 12 59.5 +0.5**
comp=Z,2.7nm,0.5s,baz=313,slow=9.0,SNR=11
EIL Elat 18.61 115 P **Pn 21 13 14.3 -1.0**
comp=Z,6.8nm,0.7s,baz=329,slow=7.6,SNR=6.0
EKA Eskdalemuir Ar 20.43 328 P **P 21 13 27.7 -3.2**
comp=Z,2.0nm,0.3s,baz=141,slow=11,SNR=46
comp=Z,2.0nm,0.3s
HFS Hagfors 21.02 357 P **P 21 13 34.3 -2.6**
comp=Z,2.6nm,0.5s,baz=174,slow=10.0,SNR=18
comp=Z,2.6nm,0.5s
NB2 NORSAR Subarra 22.06 354 P **P 21 13 44.9 -1.8**
comp=Z,0.7nm,0.4s,baz=171,slow=11
NOA NORSAR Array B 22.06 354 P **P 21 13 44.9 -1.8**
comp=Z,0.7nm,0.6s,baz=168,slow=10,SNR=5.8
comp=Z,0.7nm,0.6s
FINES FINESS Array B 23.25 13 P **P 21 13 56.6 -0.9**
comp=Z,5.7nm,0.5s,baz=188,slow=8.6,SNR=57
comp=Z,5.7nm,0.5s
ARCES ARCESS Array B 30.90 7 P **P 21 15 03.6 -1.9**
comp=Z,1.4nm,0.5s,baz=191,slow=9.4,SNR=23
comp=Z,1.4nm,0.5s
ZALV Zalesovo Beam 47.97 48 P **P 21 17 25.8 -0.1**
comp=Z,0.6nm,0.4s,baz=262,slow=4.4,SNR=2.1
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 48.13 58 P **P 21 17 27.9 +0.5**
comp=Z,0.1nm,0.3s,baz=280,slow=7.3,SNR=1.8
comp=Z,0.1nm,0.3s
TIXI Tiksi 60.07 20 P **P 21 18 52.4 -0.3**
comp=Z,0.6nm,0.3s,baz=270,slow=4.0,SNR=5.6
comp=Z,0.6nm,0.3s
SONM Songino Array 62.84 49 P **P 21 19 11.9 +0.1**
comp=Z,0.4nm,0.8s,baz=287,slow=5.9,SNR=3.0
comp=Z,0.4nm,0.8s
PDAR Pinedale Array 84.44 323 P **P 21 21 16.6 -0.6**
comp=Z,0.1nm,0.4s,baz=64,slow=6.8,SNR=5.9
comp=Z,0.1nm,0.4s

WEL 25 21:13:34.0±0.3, 42°S±3°×17°4E±°, h6km±3km, M3.3/27, ML3.5/19, MLv3.3/27, Error ellipse: s-maj=0.0km s-min=0.0km az=143.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**235**	P	Pg	21 13 36.0	+0.2
BSWZ	**Blackbirch Sta**	**0.32**	**268**	P	Pg	21 13 40.5	+0.2
BSWZ				S	Sg	21 13 45.7	+1.2
TUWZ	**Tuamarina**	**0.38**	**315**	P	Pg	21 13 41.9	+0.4
TUWZ				S	Sg	21 13 47.9	+1.4
TCW	**Tory Channel**	**0.49**	**358**	P	Pg	21 13 43.7	+0.2
WEL	**Wellington**	**0.55**	**40**	P	Pg	21 13 45.1	+0.5
PLWZ	**Palliser**	**0.73**	**80**	P	Pb	21 13 49.0	-0.2
MSWZ	**Moikau Station**	**0.77**	**68**	P	Pb	21 13 49.3	-0.5
CAW	**Cannon Point**	**0.83**	**44**	P	Pg	21 13 49.9	0.0
NNZ	**Nelson**	**0.85**	**305**	P	Pg	21 13 50.0	-0.3
PAWZ	**Paruwai Farm**	**0.90**	**70**	P	Pb	21 13 51.8	-0.4
KHZ	**Kahutara**	**0.91**	**218**	P	Pb	21 13 51.9	-0.3
DUWZ	**D'Urville Isla**	**0.95**	**342**	P	Pb	21 13 52.5	-0.3
KIW	**Kapiti Island**	**0.96**	**29**	P	Pg	21 13 52.1	-0.3
THZ	**Tophouse**	**1.05**	**266**	P	Pg	21 13 53.9	-0.2
MTW	**Mount Morrison**	**1.05**	**59**	P	Pg	21 13 54.1	-0.2
TRWZ	**Traveller**	**1.08**	**74**	P	Pg	21 13 54.2	-0.6
OGWZ	**Otaki Gorge**	**1.10**	**37**	P	Pg	21 13 54.7	-0.4
MRNZ	**Matariki Terra**	**1.20**	**284**	P	Pg	21 13 56.8	-0.2
TKNZ	**Kaikaka Hill**	**1.21**	**303**	P	Pg	21 13 56.5	-0.7
HOWZ	**Holdsworth Sta**	**1.22**	**49**	P	Pb	21 13 57.5	-0.1
TMWZ	**Te Maipa**	**1.34**	**64**	P	Pn	21 13 57.7	-1.6
MRZ	**Mangatainoka R**	**1.42**	**43**	P	Pn	21 13 59.5	-0.9
QRZ	**Quartz Range**	**1.60**	**303**	P	Pn	21 14 02.9	+0.1
PRWZ	**Pori Road**	**1.71**	**48**	P	Pn	21 14 04.5	+0.2
BFZ	**Birch Farm**	**1.79**	**56**	P	Pn	21 14 04.1	-1.3
DVHZ	**Dannevirke**	**1.99**	**46**	P	Pn	21 14 07.4	-0.9
TSZ	**Takapari Road**	**2.07**	**38**	P	Pn	21 14 08.1	-1.2
KHEZ	**Kahui Hut**	**2.42**	**355**	P	Pn	21 14 16.0	+1.8
PKVZ	**Pokaka**	**2.54**	**19**	P	Pb	21 14 18.6	-1.4
MOVZ	**Moawhango**	**2.55**	**26**	P	Pn	21 14 16.1	+0.1
WNVZ	**Wahianoa**	**2.57**	**23**	P	Pn	21 14 16.9	+0.5
BHHZ	**Black Hill Sta**	**2.59**	**32**	P	Pn	21 14 16.9	+0.4
VRZ	**Vera Road**	**2.60**	**8**	P	Pb	21 14 18.9	-2.2
WHVZ	**Whangaehu Hut**	**2.61**	**23**	P	Pn	21 14 18.7	+1.7
KAHZ	**Kahuranaki**	**2.73**	**47**	P	Pn	21 14 17.1	-1.4
OTVZ	**Oturere**	**2.74**	**23**	P	Pb	21 14 23.1	-0.5
NNVZ	**North Ngauruho**	**2.76**	**22**	P	Pn	21 14 21.4	+2.4
TWVZ	**Taurewa**	**2.77**	**19**	P	Pb	21 14 23.2	-0.8
ETVZ	**East Tongariro**	**2.78**	**23**	P	Pb	21 14 23.3	-0.9
TMVZ	**Te Maari**	**2.80**	**23**	P	Pb	21 14 23.5	-1.0
KRVZ	**Karewarewa**	**2.80**	**22**	P	Pb	21 14 24.8	+0.3
HIZ	**Hauiti**	**3.21**	**8**	P	Pn	21 14 27.2	+2.1

*SNET **25** 21:22:04.9±1.4, 12°.37N×89°.07W, h10km, ML4.2*
*IDC **25** 21:22:05.5±1.6, 13°.01N×88°.66W, h0km, mb4.0/8, mbtmp4.0/10, ML3.4/2, MS3.1/2, Error ellipse: s-maj=37.9km s-min=25.7km az=40.0*
*INET **25** 21:22:07.9±0.9, 12°.48N×88°.97W, h14km, MW3.8*
*NEIC **25** 21:22:09.1±2.2, 12°.60N±0°.08×88°.90W±0°.08, h35km±2km, mb4.4/72, Md4.2(SNET), Error ellipse: s-maj=16.3km s-min=9.0km az=224.0*

ISC 25 21:22:08.1±0.7, 12°.52N±0°.06×88°.99W±0°.06, h40km, n110, σ1s40/107, mb4.5/34, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**1.02**	**44**	*e*P	**Pn**	**21 22 26.8**	**+0.7**
JUCU				*e*S	**Sn**	**21 22 43.3**	**+4.0**
COEB	**Comit de Eme**	**1.07**	**24**	*e*P	**Pn**	**21 22 27.2**	**+0.4**
LFRS	**El Faro**	**1.10**	**356**	*i* P	**Pn**	**21 22 27.1**	**-0.1**
PACA	**Pacayal**	**1.14**	**34**	*e*P	**Pn**	**21 22 28.7**	**+1.0**
SNET	**Serv Nac Est T**	**1.19**	**348**	Pn	**Pn**	**21 22 28.4**	**+0.1**
JAYA	**Jayaque - finc**	**1.22**	**338**	*e*P	**Pn**	**21 22 28.7**	**-0.1**
JAYA				*e*S	**Sn**	**21 22 46.5**	**+2.4**
BOQS	**Boqueron**	**1.24**	**347**	*e*P	**Pn**	**21 22 29.1**	**-0.1**
CEVE	**Cerro Verde**	**1.44**	**335**	*e*P	**Pn**	**21 22 31.9**	**-0.1**
CRIN	**San Cristobal**	**1.90**	**84**	Pn	**Pn**	**21 22 38.9**	**+0.8**
CRIN	**San Cristobal**	**1.90**	**84**	*e*P	**Pn**	**21 22 39.0**	**+1.0**
MTO3	**Montecristo**	**1.90**	**349**	Pn	**Pn**	**21 22 38.9**	**+0.6**
MTO3	**Montecristo**	**1.90**	**349**	*e*P	**Pn**	**21 22 39.2**	**+0.8**
ESQI	**Esquipulas**	**2.06**	**350**	Pn	**Pn**	**21 22 41.9**	**+1.6**
ESQI	**Esquipulas**	**2.06**	**350**	*e*P	**Pn**	**21 22 42.8**	**+2.5**
CNGN	**Cerro Negro**	**2.23**	**90**		**Pn**	**21 22 43.4**	**+0.7**
CNGN	**Cerro Negro**	**2.23**	**90**	*e*P	**Pn**	**21 22 45.0**	**+2.4**
TGUH	**Tegucigalpa,Un**	**2.26**	**47**	Pn	**Pn**	**21 22 44.3**	**+1.1**
MOMN	**Momotombo**	**2.39**	**92**	*e*P	**Pn**	**21 22 44.8**	**-0.1**
MATN	**Matagalpa**	**3.01**	**82**		**Pn**	**21 22 53.1**	**-0.3**
BOAB	**BOACO BROADBAN**	**3.24**	**91**	Pn	**Pn**	**21 22 56.2**	**-0.3**
BOAB	**BOACO BROADBAN**	**3.24**	**91**	*e*P	**Pn**	**21 22 56.3**	**-0.2**
ACON	**Acoyapa**	**3.77**	**98**	Pn	**Pn**	**21 23 04.7**	**+1.0**
ORTG	**Ortega, Santa**	**4.07**	**121**		**Pn**	**21 23 09.8**	**+1.8**
DUNO	**Dulce Nombre,**	**4.20**	**125**	Pn	**Pn**	**21 23 10.2**	**+0.5**
JTS	**Las Juntas de**	**4.53**	**119**	Pn	**Pn**	**21 23 16.5**	**+2.3**
	3.3nm,0.3s,baz=13,slow=21,SNR=9.9						
JTS				Sn	**Sn**	**21 24 01.4**	**-4.3**
	1.2nm,0.3s,baz=48,slow=23,SNR=1.8 7.6nm,0.3s						
JTS	**Las Juntas de**	**4.53**	**119**	Pn	**Pn**	**21 23 16.7**	**+2.4**
JACO	**JACO, Garabito**	**5.11**	**123**	Pn	**Pn**	**21 23 24.6**	**+2.5**
RIMA	**Rio Macho**	**5.72**	**118**		**Pn**	**21 23 33.4**	**+2.6**
PEZE	**Perez Zeledon,**	**6.07**	**120**	Pn	**Pn**	**21 23 38.1**	**+2.6**

SRBA	**San Rafael, Bu**	**6.42**	**120**	Pn		**Pn**	**21 23 42.9**	**+2.6**
BRU2	**Volcan**	**7.21**	**120**	Pn		**Pn**	**21 23 52.8**	**+1.6**
CMIG	**Matias Romero**	**7.29**	**309**	Pn		**Pn**	**21 23 54.5**	**+2.4**
	0.4nm,0.3s,baz=130,slow=7.9,SNR=2.0							
CMIG				Sn		**Sn**	**21 25 13.0**	**-0.7**
	0.1nm,0.3s,baz=183,slow=16,SNR=1.7							
	4.3nm,1.0s							
BOSC	**San Juan Bosco**	**18.73**	**146**	P		**Pn**	**21 26 24.1**	**-0.4**
352A	**Blakely**	**19.24**	**11**	P		**P**	**21 26 29.7**	**+0.6**
352A				IAmb		IAmb	21 26 32.4	
	comp=Z,19nm,0.7s							
TIGA	**Tifton**	**19.48**	**14**	P		**Pn**	**21 26 32.6**	**-0.5**
TIGA				IAmb		IAmb	21 26 34.8	
	comp=Z,16nm,0.7s							
435B	**Jarrell**	**19.84**	**338**	P		**P**	**21 26 35.9**	**+0.2**
435B				IAmb		IAmb	21 26 36.9	
	comp=Z,23nm,0.7s							
152A	**Waverly Hall**	**20.43**	**10**	P		**P**	**21 26 42.8**	**+0.7**
JCT	**Junction City**	**20.49**	**332**	P		**P**	**21 26 42.7**	**0.0**
JCT				IAmb		IAmb	21 26 43.7	
	comp=Z,10nm,0.7s							
LRAL	**Lakeview Retre**	**20.50**	**5**	P		**P**	**21 26 43.7**	**+0.9**
WHTX	**Lake Whitney,**	**20.89**	**339**	P		**P**	**21 26 46.9**	**-0.1**
WHTX				IAmb		IAmb	21 26 48.4	
	comp=Z,11nm,0.8s							
Z51A	**Franklin**	**20.99**	**9**	P		**P**	**21 26 49.2**	**+1.1**
Z51A				IAmb		IAmb	21 26 52.4	
	comp=Z,7.6nm,0.8s							
Y49A	**Blount Mountai**	**21.37**	**6**	P		**P**	**21 26 52.5**	**+0.4**
GOGA	**Godfrey**	**21.40**	**13**	P		**P**	**21 26 52.8**	**+0.3**
TXAR	**Lajitas Array**	**21.59**	**323**	P		**P**	**21 26 56.4**	**+1.7**
	comp=Z,5.7nm,0.7s,baz=147,slow=11,SNR=39							
	comp=Z,5.7nm,0.7s							
TXAR	**Lajitas Array**	**21.59**	**323**	P		**P**	**21 26 55.9**	**+1.2**
TX31	**Lajitas Ar. Si**	**21.59**	**323**	P		**P**	**21 26 56.0**	**+1.3**
TX31				IAmb		IAmb	21 26 57.4	
	comp=Z,17nm,0.7s							
TX32	**Lajitas Array**	**21.59**	**323**	P		**P**	**21 26 55.6**	**+0.9**
X48A	**Hartselle**	**21.91**	**4**	P		**P**	**21 26 57.7**	**-0.2**
ATAH	**Atahualpa**	**22.18**	**151**	LR		LR	21 34 34.1	
	comp=Z,41nm,18.1s,baz=342,slow=33							
ABTX	**Abilene, Hawle**	**22.27**	**336**	P		**P**	**21 27 00.8**	**-1.1**
MIAR	**Mount Ida**	**22.32**	**350**	P		**P**	**21 27 03.2**	**+0.9**
MIAR				IAmb		IAmb	21 27 05.5	
	comp=Z,18nm,0.8s							
UALR	**University of**	**22.37**	**353**	P		**P**	**21 27 03.5**	**+0.7**
UALR				IAmb		IAmb	21 27 07.5	
	comp=Z,9.7nm,0.6s							
HODGE	**Hodges**	**22.47**	**15**	P		**P**	**21 27 00.0**	**-3.9**
HODGE				IAmb		IAmb	21 27 00.6	
	comp=Z,22nm,1.1s							
X37A	**Clayton**	**22.73**	**346**	P		**P**	**21 27 08.2**	**+1.5**
WHAR	**Wooly Hollow**	**22.87**	**353**	P		**P**	**21 27 08.6**	**+0.5**
WHAR				IAmb		IAmb	21 27 10.3	
	comp=Z,8.2nm,0.8s							
CPCT	**Cooper Cave**	**23.18**	**9**	P		**P**	**21 27 11.3**	**-0.1**
BIRD	**Birdtown, Kers**	**23.35**	**18**	P		**P**	**21 27 13.5**	**+0.5**
BIRD				IAmb		IAmb	21 27 14.9	
	comp=Z,10nm,0.9s							
X34A	**Smith Ranch, M**	**23.41**	**341**			**P**	**21 27 14.9**	**+1.4**
FCAR	**Ozark Folk Cen**	**23.44**	**354**	P		**P**	**21 27 14.3**	**+0.5**
TKL	**Tuckaleechee C**	**23.52**	**11**	P		**P**	**21 27 13.2**	**-1.3**
	comp=Z,6.4nm,0.7s,baz=180,slow=12,SNR=13							
TKL				LR		LR	21 36 15.0	
	comp=Z,56nm,18.2s,baz=156,slow=37							
	comp=Z,6.4nm,0.7s							
TKL	**Tuckaleechee C**	**23.52**	**11**	IAmb		IAmb	21 27 16.2	
	comp=Z,6.4nm,0.7s							
LCAR	**Lake Charles**	**23.53**	**356**	P		**P**	**21 27 14.9**	**+0.2**
LCAR				IAmb		IAmb	21 27 17.1	
	comp=Z,7.0nm,0.7s							
WVT	**Waverly**	**23.53**	**2**	P		**P**	**21 27 14.9**	**+0.2**
Y60A	**Bolivia**	**23.53**	**23**	P		**P**	**21 27 13.9**	**-0.8**
CLTN	**Cedars of Leba**	**23.59**	**5**	P		**P**	**21 27 15.5**	**+0.2**
CLTN				IAmb		IAmb	21 27 16.6	
	comp=Z,6.7nm,0.7s							
STVI	**Saint Thomas**	**23.87**	**73**	P		**P**	**21 27 16.3**	**-1.8**
FNO	**Franklin**	**23.89**	**343**			**P**	**21 27 18.4**	**+0.3**
W57A	**Gilead**	**23.96**	**18**	P		**P**	**21 27 18.9**	**+0.2**
W57A				IAmb		IAmb	21 27 20.1	
	comp=Z,8.0nm,1.1s							
U49A	**Red Boiling Sp**	**24.07**	**6**	P		**P**	**21 27 19.3**	**-0.4**
HHAR	**Hobbs**	**24.08**	**350**	P		**P**	**21 27 19.6**	**-0.3**
RLO	**Rose Lookout**	**24.17**	**348**	P		**P**	**21 27 20.4**	**-0.2**
RLO				IAmb		IAmb	21 27 21.9	
	comp=Z,11nm,0.7s							
V55A	**Taylorsville**	**24.27**	**16**	P		**P**	**21 27 20.9**	**-0.7**
U38A	**Gravette**	**24.31**	**349**	P		**P**	**21 27 21.4**	**-0.6**
OK031	**S. Brethren Rd**	**24.39**	**344**			**P**	**21 27 22.0**	**-0.6**
OK034	**N. Norfolk Rd.**	**24.41**	**345**			**P**	**21 27 22.2**	**-0.6**
OK052	**Battle Ridge R**	**24.41**	**345**			**P**	**21 27 22.0**	**-0.9**
T47A	**Sharon Grove**	**24.42**	**4**	P		**P**	**21 27 22.3**	**-0.7**
T47A				IAmb		IAmb	21 27 23.1	
	comp=Z,11nm,0.8s							
OK053	**SW of W Deep R**	**24.43**	**345**			**P**	**21 27 22.3**	**-0.8**
OK033	**Mehan**	**24.50**	**344**	P		**P**	**21 27 23.1**	**-0.6**
OK033				IAmb		IAmb	21 27 23.7	
	comp=Z,14nm,0.8s							
QUOK	**Quay**	**24.56**	**345**	IAmb		IAmb	21 27 24.7	
	comp=Z,22nm,0.9s							
MSTX	**Muleshoe**	**24.77**	**332**	P		**P**	**21 27 25.4**	**-1.0**
MSTX				IAmb		IAmb	21 27 34.5	
	comp=Z,6.7nm,0.9s							
OK050	**Pawnee Station**	**24.84**	**345**	IAmb		IAmb	21 27 26.9	
	comp=Z,12nm,0.8s							
OK051	**E0350 and S346**	**24.91**	**345**	P		**P**	**21 27 26.8**	**-0.6**
OK051				IAmb		IAmb	21 27 29.1	
	comp=Z,30nm,1.5s							
AMTX	**Amarillo**	**25.07**	**335**	P		**P**	**21 27 28.9**	**0.0**
AMTX				IAmb		IAmb	21 27 36.8	
	comp=Z,5.6nm,0.8s							
S44A	**Carbondale**	**25.07**	**359**	P		**P**	**21 27 28.5**	**-0.3**
S44A				IAmb		IAmb	21 27 29.4	
	comp=Z,4.7nm,0.7s							
BLOK	**Blackwell**	**25.25**	**344**			**P**	**21 27 30.1**	**-0.3**
BLOK				IAmb		IAmb	21 27 30.5	
	comp=Z,14nm,0.7s							
S39A	**Bolivar**	**25.37**	**352**	P		**P**	**21 27 31.5**	**-0.1**
S39A				IAmb		IAmb	21 27 34.0	
	comp=Z,10.0nm,0.7s							
GC02	**Grant County #**	**25.51**	**343**	P		**P**	**21 27 32.1**	**-0.7**
CCM	**Cathedral Cave**	**25.51**	**356**	P		**P**	**21 27 32.6**	**-0.3**
WCI	**Wyandotte Cave**	**25.72**	**5**	P		**P**	**21 27 33.9**	**-0.8**
WCI				IAmb		IAmb	21 27 35.4	
	comp=Z,9.6nm,0.8s							
KAN05	**Bluff City Nor**	**25.75**	**343**	P		**P**	**21 27 34.0**	**-1.0**
KAN05				IAmb		IAmb	21 27 35.5	
	comp=Z,21nm,1.1s							
KAN01	**Argonia South**	**25.76**	**344**			**P**	**21 27 34.0**	**-1.2**
KS20	**Mayfield South**	**25.78**	**344**			**P**	**21 27 33.9**	**-1.4**
KS20				IAmb		IAmb	21 27 35.3	
	comp=Z,14nm,0.7s							
R40A	**Maddies Statio**	**25.83**	**354**	P		**P**	**21 27 35.5**	**-0.2**
R40A				IAmb		IAmb	21 27 38.7	
	comp=Z,11nm,0.7s							
T57A	**Hurt**	**25.89**	**18**	P		**P**	**21 27 36.4**	**+0.1**
P40A	**Paris**	**27.04**	**355**	IAmb		IAmb	21 27 46.9	
	comp=Z,12nm,0.7s							
Q54A	**Coxs Mills**	**27.33**	**14**	IAmb		IAmb	21 27 49.6	
	comp=Z,6.2nm,0.6s							
L40A	**Anamosa**	**29.50**	**357**	P		**P**	**21 28 07.9**	**-0.6**
SADO	**Sadowa**	**33.23**	**13**	P		**P**	**21 28 40.0**	**-1.3**
	comp=Z,5.0nm,0.5s,baz=248,slow=6.5,SNR=7.8							
	comp=Z,5.0nm,0.5s							
PDAR	**Pinedale Array**	**35.02**	**333**	P		**P**	**21 28 56.4**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=138,slow=8.4,SNR=2.1							
	comp=Z,0.2nm,0.5s							
REDW	**Red Top Meadow**	**36.07**	**333**	IAmb		IAmb	21 29 08.8	
	comp=Z,6.4nm,1.1s							
AGMN	**Agassiz Nation**	**36.13**	**352**	P		**P**	**21 29 05.5**	**-0.8**
NVAR	**Mina Array Bea**	**36.67**	**320**	P		**P**	**21 29 13.7**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=160,slow=4.7,SNR=4.6							
	comp=Z,0.6nm,0.7s							
ULM	**Lac du Bonnet**	**38.05**	**353**	P		**P**	**21 29 21.1**	**-1.4**
	comp=Z,3.2nm,0.5s,baz=174,slow=8.2,SNR=3.7							
	comp=Z,3.2nm,0.5s							
SCHQ	**Schefferville**	**45.66**	**18**	P		**P**	**21 30 22.9**	**-1.9**
	comp=Z,4.0nm,0.6s,baz=197,slow=6.3,SNR=4.5							
	comp=Z,4.0nm,0.6s							
ILAR	**Eielson Array**	**65.36**	**336**	P		**P**	**21 32 45.7**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=112,slow=6.9,SNR=3.7							
	comp=Z,0.5nm,0.9s							
WRA	**Warramunga Arr**	**137.85**	**254**	PKP		**PKiKP**	**21 41 34.7**	**+3.5**
	comp=Z,0.2nm,0.5s,baz=84,slow=1.8,SNR=7.3							
ASAR	**Alice Springs**	**137.90**	**249**	PKP		**PKiKP**	**21 41 35.0**	**+3.8**
	comp=Z,0.4nm,0.8s,baz=90,slow=2.8,SNR=2.6							
PZH	**PanZhiHua**	**139.83**	**345**	PKP		**PKPdf**	**21 41 32.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**148.24**	**346**	PKPbc		**PKiKP**	**21 41 51.9**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=346,slow=4.0,SNR=10							

PGC 25 21:24:01.6±0.1, 54.37N×117.28W, h3km, ML3.6/17, 173km Nne of Jasper, Alberta Alberta, Canada Induced., Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLDA	**Berland Lookou**	**0.28**	**195**	P	Pg	21 24 06.4	-0.7
BRLDA				S	Sg	21 24 10.9	+0.1
SWHSA	**Sweathouse Loo**	**0.62**	**29**	P	Pg	21 24 12.8	-0.7
SWHSA				S	Sg	21 24 21.6	+0.1
BDMTA	**Bald Mountain**	**1.05**	**296**	P	Pg	21 24 20.6	-1.3
BDMTA				S	Sg	21 24 35.3	-0.2
STPRA	**Salt Prairie L**	**1.54**	**32**	Pn	Pn	21 24 29.0	-1.1
STPRA				Sn	Sn	21 24 49.4	-1.1
WTMTA	**White Mountain**	**1.75**	**320**	Pn	Pn	21 24 32.5	-0.3
WTMTA				Sn	Sn	21 24 56.0	+0.3
MNB	**Mounoet Dainar**	**2.27**	**197**	Pn	Pn	21 24 40.2	0.0
NBC4	**NorthernBC 4**	**2.36**	**306**	Pn	Pn	21 24 41.3	+0.1
NBC4				Sn	Sn	21 25 10.1	-0.6
NBC4				Sg	Sb	21 25 13.9	-0.3
EDM	**Edmonton**	**2.59**	**115**	Pn	Pn	21 24 43.7	-0.8
EDM				Sn	Sn	21 25 14.5	-2.0
BLBC	**Blue River**	**2.61**	**208**	Pn	Pn	21 24 45.0	+0.1
SLEB	**Sale Mountain**	**3.25**	**190**	Pn	Pn	21 24 53.6	0.0
SLEB				Pg	Pb	21 25 00.7	+0.8
SLEB				Sg	Sb	21 25 39.0	-0.8
FSJB	**Fort St James**	**4.10**	**274**	Pn	Pn	21 25 04.6	-0.6
FSJB				Pg	Pb	21 25 14.1	-0.4
FSJB				Sg	Sb	21 26 08.2	+3.9
UBRB	**Upper Baezaeko**	**4.31**	**253**	Pn	Pn	21 25 12.0	+3.9
UBRB				Sg	Sb	21 26 14.6	+4.1
NBC5	**NorthernBC 5**	**4.39**	**318**	Pn	Pn	21 25 08.2	-0.9
NBC5				Sn	Sn	21 25 59.1	-1.6
LLLB	**Lillooet**	**4.70**	**219**	Pg	Pb	21 25 59.3	+0.8
LLLB				Sg	Sb	21 26 25.6	+4.2
NBC6	**NorthernBC 6**	**4.79**	**334**	Pn	Pn	21 25 12.9	-1.6
NBC6				Sg	Sb	21 26 28.3	+4.2
PNT	**Penticton**	**5.26**	**197**	Pn	Pn	21 25 20.2	-0.8
PNT				Pg	Pb	21 25 36.5	+2.3
PNT				Sg	Sb	21 26 41.7	+4.0
FNBB	**Fort Nelson**	**5.53**	**327**	Pn	Pn	21 25 23.4	-1.4
FNBB				Sn	Sn	21 26 23.6	-5.1
WALA	**Waterton Lakes**	**5.71**	**157**	Pn	Pn	21 25 26.5	-0.8
WALA				Pg	Pb	21 25 44.1	+2.2
WALA				Sn	Sn	21 26 28.7	-4.7
WALA				Sg	Sb	21 26 55.3	+4.6
HNBB	**Haney**	**6.05**	**215**	Sg	Sb	21 27 06.2	+5.8
NBC2	**NorthernBC 2**	**6.12**	**334**	Pn	Pn	21 25 31.0	-1.9
NBC2				Pg	Pg	21 25 56.9	-2.0
NBC2				Sn	Sn	21 26 38.1	-5.2
NBC2				Sg	Sg	21 27 11.1	-7.1
B08A	**Colville Reser**	**6.15**	**193**	Sg	Sb	21 27 09.6	+6.3

*WEL **25** 21:26:50.6±0.2, 42˚S×17˚4E±˚, h15km, 2km, M3.8/34, ML4.0/22, MLv3.8/34, Error ellipse: s-maj=0.0km s-min=0.0km az=130.8*
*NOU **25** 21:26:51.1, 41.91S×174.17E, h6km, MLv4.2/9, Cook Strait, New Zealand*

ISC 25 21:26:50.1±1.0, 41.87S±0.04×174.26E±0.03, h17km±7km, n103, σ1.930/107, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**343**	P	**Pg**	**21 26 54.1**	**+0.2**
CMWZ				S	**Sg**	**21 26 56.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.33**	**298**	P	**Pg**	**21 26 56.8**	**-0.3**
TUWZ	**Tuamarina**	**0.50**	**331**	P	**Pg**	**21 26 59.4**	**-0.7**
TUWZ				S	**Sg**	**21 27 06.5**	**-1.4**
SNZO	**South Karori**	**0.65**	**31**	P	**Pb**	**21 27 03.0**	**0.0**
TCW	**Tory Channel**	**0.66**	**1**	P	**Pg**	**21 27 02.2**	**-0.9**
TCW				S	**Sg**	**21 27 11.0**	**-0.9**
WEL	**Wellington**	**0.70**	**33**	P	**Pb**	**21 27 03.9**	**+0.2**
KHZ	**Kahutara**	**0.77**	**225**	P	**Pn**	**21 27 06.8**	**+0.8**
KHZ	**Kahutara**	**0.77**	**225**	P	**Pn**	**21 27 06.9**	**+0.8**
PLWZ	**Palliser**	**0.80**	**68**	P	**Pb**	**21 27 06.5**	**+1.0**
MSWZ	**Moikau Station**	**0.87**	**59**	P	**Pb**	**21 27 07.5**	**+0.9**
NNZ	**Nelson**	**0.93**	**314**	P	**Pg**	**21 27 07.0**	**-1.2**
CAW	**Cannon Point**	**0.97**	**39**	P	**Pg**	**21 27 08.7**	**-0.2**
PAWZ	**Paruwai Farm**	**1.00**	**61**	P	**Pg**	**21 27 09.2**	**-0.3**
THZ	**Tophouse**	**1.02**	**276**	P	**Pg**	**21 27 09.5**	**-0.3**
DUWZ	**D'Urville Isla**	**1.10**	**346**	P	**Pg**	**21 27 09.7**	**-1.7**
KIW	**Kapiti Island**	**1.12**	**26**	P	**Pb**	**21 27 10.8**	**-0.2**
TRWZ	**Traveller**	**1.17**	**67**	P	**Pb**	**21 27 11.2**	**-0.6**
MTW	**Mount Morrison**	**1.17**	**23**	P	**Pb**	**21 27 11.3**	**-0.5**
MRNZ	**Matariki Terra**	**1.22**	**292**	P	**Pb**	**21 27 12.7**	**-0.1**
OGWZ	**Otaki Gorge**	**1.26**	**33**	P	**Pn**	**21 27 12.8**	**0.0**
TKNZ	**Takaka Hill**	**1.29**	**310**	P	**Pn**	**21 27 13.1**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.35**	**44**	P	**Pn**	**21 27 14.7**	**+0.5**
GVZ	**Greta Valley S**	**1.42**	**219**	P	**Pn**	**21 27 16.1**	**+0.9**
TMWZ	**Te Maipa**	**1.44**	**58**	P	**Pn**	**21 27 14.8**	**-0.6**
MRZ	**Mangatainoka R**	**1.56**	**40**	P	**Pn**	**21 27 16.8**	**-0.3**
QRZ	**Quartz Range**	**1.67**	**308**	P	**Pn**	**21 27 19.7**	**+1.1**
QRZ	**Quartz Range**	**1.67**	**308**	P	**Pn**	**21 27 19.4**	**+0.8**
LTZ	**Lake Taylor**	**1.73**	**238**	P	**Pn**	**21 27 20.1**	**+0.6**
AMCZ	**Amberley**	**1.77**	**222**	P	**Pn**	**21 27 21.2**	**+1.3**
PRWZ	**Pori Road**	**1.84**	**45**	P	**Pn**	**21 27 20.7**	**-0.1**
DSZ	**Dennistion Nort**	**1.84**	**273**	P	**Pn**	**21 27 22.5**	**+1.6**
OHWZ	**Ohakea**	**1.85**	**26**	P	**Pn**	**21 27 22.2**	**+1.3**
POWZ	**Post Office Ro**	**1.87**	**38**	P	**Pn**	**21 27 21.1**	**-0.1**
BFZ	**Birch Farm**	**1.91**	**52**	P	**Pn**	**21 27 21.9**	**+0.1**
OKCZ	**Okains Bay**	**2.05**	**205**	P	**Pn**	**21 27 23.8**	**0.0**
DVHZ	**Dannevirke**	**2.13**	**43**	P	**Pn**	**21 27 24.0**	**-0.9**
MQZ	**McQueen's Vall**	**2.18**	**212**	P	**Pn**	**21 27 24.7**	**-0.8**
ANWZ	**Angora Road**	**2.19**	**51**	P	**Pg**	**21 27 32.7**	**+0.7**
WAZ	**Wanganui**	**2.19**	**15**	P	**Pb**	**21 27 28.6**	**-0.6**
OXZ	**Oxford**	**2.19**	**228**	P	**Pn**	**21 27 25.2**	**-0.5**
TSZ	**Takapari Road**	**2.22**	**36**	P	**Pn**	**21 27 25.6**	**-0.5**
AKCZ	**Akaroa Harbour**	**2.23**	**206**	P	**Pn**	**21 27 26.0**	**-0.3**
INZ	**Inchbonnie**	**2.26**	**247**	P	**Pn**	**21 27 27.5**	**+0.9**
PRHZ	**Porangahau**	**2.41**	**49**	P	**Pn**	**21 27 28.4**	**-0.2**
RACZ	**Rakaia**	**2.42**	**219**	P	**Pn**	**21 27 28.3**	**-0.6**
PNHZ	**Pukenui**	**2.45**	**38**	P	**Pn**	**21 27 28.5**	**-0.7**
WPHZ	**Waipukurau**	**2.45**	**43**	P	**Pg**	**21 27 35.7**	**-1.2**
NMEZ	**Namu Road**	**2.47**	**353**	P	**Pb**	**21 27 33.9**	**-0.1**
KHEZ	**Kahui Hut**	**2.58**	**356**	P	**Pb**	**21 27 34.8**	**-1.1**
KHEZ	**Kahui Hut**	**2.58**	**356**	P	**Pb**	**21 27 34.7**	**-1.3**
NEZ	**North Egmont**	**2.60**	**357**	P	**Pb**	**21 27 35.2**	**-1.1**
NBEZ	**Newall Road No**	**2.62**	**353**	P	**Pb**	**21 27 34.8**	**-1.7**
MTVZ	**Mangateitei**	**2.65**	**21**	P	**Pb**	**21 27 36.3**	**+1.3**
DREZ	**Durham Road**	**2.68**	**359**	P	**Pb**	**21 27 36.0**	**-1.6**
PKE	**Pukeiti**	**2.68**	**355**	P	**Pb**	**21 27 36.7**	**-1.0**
PXZ	**Pawanui**	**2.69**	**48**	P	**Pb**	**21 27 39.3**	**+1.5**
PKVZ	**Pokaka**	**2.71**	**18**	P	**Pb**	**21 27 37.9**	**-0.2**
MOVZ	**Moawhango**	**2.71**	**25**	P	**Pn**	**21 27 33.8**	**+0.9**
WACZ	**Wakanui South**	**2.73**	**220**	P	**Pn**	**21 27 32.8**	**-0.2**
WNVZ	**Wahianoa**	**2.74**	**22**	P	**Pb**	**21 27 38.1**	**-0.5**
BHHZ	**Black Hill Sta**	**2.75**	**30**	P	**Pb**	**21 27 39.0**	**+0.3**
TRVZ	**Turoa**	**2.75**	**21**	P	**Pb**	**21 27 37.4**	**-1.5**
VRZ	**Vera Road**	**2.77**	**8**	P	**Pn**	**21 27 35.2**	**+1.5**
DRZ	**Dome Shelter**	**2.78**	**21**	P	**Pb**	**21 27 39.5**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.78**	**22**	P	**Pn**	**21 27 36.3**	**+2.4**
FWVZ	**Far West T-bar**	**2.79**	**21**	P	**Pb**	**21 27 38.7**	**-0.9**
MHEZ	**Mangahewa**	**2.79**	**1**	P	**Pb**	**21 27 39.4**	**-0.1**
TUVZ	**Tukino**	**2.81**	**23**	P	**Pb**	**21 27 40.4**	**+0.6**
WVZ	**Waitaha Valley**	**2.87**	**244**	P	**Pn**	**21 27 38.2**	**+3.2**
NGZ	**Ngauruhoe**	**2.88**	**21**	P	**Pb**	**21 27 40.0**	**-1.1**
SNVZ	**South Ngauruho**	**2.88**	**22**	P	**Pb**	**21 27 40.2**	**-0.9**
OTVZ	**Oturere**	**2.91**	**22**	P	**Pn**	**21 27 38.9**	**+3.2**
NNVZ	**North Ngauruho**	**2.92**	**21**	P	**Pb**	**21 27 40.0**	**-1.9**
TWVZ	**Taurewa**	**2.94**	**18**	P	**Pn**	**21 27 37.3**	**+1.2**
KWHZ	**Kaweka Forest**	**2.95**	**35**	P	**Pn**	**21 27 36.3**	**+0.2**
KWHZ				P	**Pb**	**21 27 43.4**	**+1.2**
ETVZ	**East Tongariro**	**2.95**	**22**	P	**Pn**	**21 27 38.2**	**+2.0**
TMVZ	**Te Maari**	**2.96**	**22**	P	**Pb**	**21 27 40.7**	**-1.8**
KRVZ	**Karewarewa**	**2.97**	**21**	P	**Pb**	**21 27 41.2**	**-1.4**
NTVZ	**North Tongarir**	**2.97**	**22**	P	**Pb**	**21 27 42.0**	**-0.6**
RPZ	**Rata Peaks**	**3.00**	**231**	P	**Pn**	**21 27 36.4**	**-0.4**
RPZ	**Rata Peaks**	**3.00**	**231**	P	**Pn**	**21 27 36.5**	**-0.2**
KATZ	**Kakaramea**	**3.09**	**21**	P	**Pb**	**21 27 45.4**	**+0.7**
RITZ	**Rihia Road**	**3.14**	**23**	P	**Pb**	**21 27 45.0**	**-0.3**
BKZ	**Black Stump Fm**	**3.19**	**33**	P	**Pb**	**21 27 45.2**	**-1.1**
BKZ	**Black Stump Fm**	**3.19**	**33**	P	**Pb**	**21 27 47.2**	**+0.9**
RATZ	**Rangitukua**	**3.22**	**21**	P	**Pb**	**21 27 47.3**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**3.25**	**242**	P	**Pn**	**21 27 41.9**	**+1.7**
HIZ	**Hauiti**	**3.39**	**8**	P	**Pn**	**21 27 45.1**	**+3.0**
HIZ	**Hauiti**	**3.39**	**8**	P	**Pn**	**21 27 44.2**	**+2.1**
MRHZ	**Matea Rd**	**3.45**	**29**	P	**Pb**	**21 27 50.2**	**-0.6**
TMZ	**Timaru**	**3.46**	**222**	P	**Pn**	**21 27 43.1**	**-0.1**
TLZ	**Tolley Road**	**3.67**	**16**	P	**Pb**	**21 27 53.4**	**-1.1**
LBZ	**Lake Benmore**	**3.90**	**229**	P	**Pn**	**21 27 49.2**	**0.0**
ODZ	**Otahua Downs**	**4.12**	**219**	P	**Pn**	**21 27 52.2**	**0.0**
ODZ	**Otahua Downs**	**4.12**	**219**	P	**Pn**	**21 27 51.4**	**-0.8**
URZ	**Urewera**	**4.22**	**32**	P	**Pn**	**21 27 56.8**	**+3.3**
URZ	**Urewera**	**4.22**	**32**	P	**Pn**	**21 27 54.1**	**+0.6**
TOZ	**Tahuroa Road**	**4.25**	**13**	P	**Pn**	**21 27 57.8**	**+3.9**
JCZ	**Jackson Bay**	**4.58**	**239**	P	**Pn**	**21 28 03.0**	**+4.4**
HHSZ	**Highcliff Hill**	**4.81**	**212**	P	**Pn**	**21 28 00.7**	**-1.0**
AWAZ	**Awhitu Peninsu**	**4.81**	**4**	P	**Pn**	**21 28 04.3**	**+2.6**
MKAZ	**Moumakai**	**4.81**	**9**	P	**Pn**	**21 28 04.1**	**+2.4**
TUZ	**Tuapeka**	**5.28**	**218**	P	**Pn**	**21 28 07.9**	**-0.1**

WEL 25 21:37:22.0±0.3, 42˚S×3˚×17˚4E±˚, h11km±2km, M3.6/34, ML3.8/23, MLv3.6/34, Error ellipse: s-maj=0.0km s-min=0.0km az=146.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**236**	P	Pg	21 37 25.4	+1.1
CMWZ				S	Sg	21 37 27.8	+1.8
BSWZ	**Blackbirch Sta**	**0.30**	**270**	P	Pg	21 37 28.8	+0.6
TUWZ	**Tuamarina**	**0.38**	**318**	P	Pb	21 37 30.4	-0.4
TUWZ				S	Sb	21 37 35.8	-0.9
TCW	**Tory Channel**	**0.50**	**359**	P	Pb	21 37 32.6	-0.3
WEL	**Wellington**	**0.56**	**41**	P	Pb	21 37 34.1	+0.2
PLWZ	**Palliser**	**0.74**	**79**	P	Pb	21 37 37.3	+0.3
MSWZ	**Moikau Station**	**0.78**	**68**	P	Pb	21 37 38.3	+0.6
NNZ	**Nelson**	**0.84**	**306**	P	Pg	21 37 38.4	+0.2
CAW	**Cannon Point**	**0.85**	**44**	P	Pb	21 37 38.9	+0.2
KHZ	**Kahutara**	**0.89**	**218**	P	Pb	21 37 39.5	-0.1
PAWZ	**Paruwai Farm**	**0.92**	**69**	P	Pb	21 37 40.0	0.0
DUWZ	**D'Urville Isla**	**0.95**	**343**	P	Pb	21 37 40.5	-0.1
KIW	**Kapiti Island**	**0.97**	**29**	P	Pb	21 37 41.0	0.0
THZ	**Tophouse**	**1.03**	**267**	P	Pg	21 37 41.8	-0.1

TOZ	**Tahuroa Road**	**4.18**	**14**	P	Pn	21 58 33.2	+2.3
MKAZ	**Moumakai**	**4.75**	**9**	P	Pn	21 58 40.1	+1.5

RSNC 25 22:03:53.5±1.1, 6°.81N×73°.16W, h147km±5km, ML3.0, Mw3.5, 3C-3D, Fault plane solution: NP1:ϕ±ϕ157.00000°, δ80.00000°, λ116.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**186**	↑*iP*	Pn	22 04 13.2	-0.6
BARC				*eS*	Sn	22 04 28.4	-0.8
BARC				IAML		22 04 31.0	
	comp=Z,364nm,0.3s						
BRRC	**Barranca, Sant**	**0.62**	**298**	↑*eP*	Pn	22 04 15.0	-0.2
BRRC				*eS*	Sn	22 04 31.9	+0.2
BRRC				IAML		22 04 35.6	
	comp=Z,125nm,0.4s						
PAMC	**Pamplona, Colo**	**0.69**	**41**	↓*iP*	Pn	22 04 16.0	-0.3
PAMC				*eS*	Sn	22 04 33.2	-0.3
PAMC				IAML		22 04 35.7	
	comp=Z,124nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*eP*	Pn	22 04 20.0	-1.0
PTBC				*eS*	Sn	22 04 41.1	-0.8
PTBC				IAML		22 04 48.4	
	comp=Z,162nm,0.4s						
TAMC	**Tame, Arauca**	**1.41**	**105**	↓*iP*	Pn	22 04 21.4	-0.6
TAMC				IAML		22 04 42.3	
	comp=Z,64nm,0.3s						
TAMC				*eS*	Sn	22 04 43.3	-0.4
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*eP*	Pn	22 04 25.6	-0.7
ZARC				*eS*	Sn	22 04 51.5	0.0
ZARC				IAML		22 04 57.4	
	comp=Z,93nm,0.4s						
NORC	**Norcasia**	**2.10**	**234**	*eP*	Pn	22 04 29.3	-0.5
NORC				*eS*	Sn	22 04 56.8	-0.8
NORC				IAML		22 05 02.8	
	comp=Z,81nm,0.2s						
CHIC	**Chingaza**	**2.24**	**195**	*eP*	Pn	22 04 31.2	-0.6
CHIC				*eS*	Sn	22 05 00.8	-0.3
ROSC	**El Rosal**	**2.27**	**211**	*eS*	Sn	22 05 05.1	+3.2
ROSC				IAML		22 05 08.2	
	comp=Z,131nm,0.5s						
UREC	**San Jos de Ur**	**2.53**	**292**	*eP*	Pn	22 04 33.0	-1.9
UREC				*eS*	Sn	22 05 03.9	-2.9
UREC				IAML		22 05 15.0	
	comp=Z,40nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.74**	**352**	*eS*	Sn	22 05 13.7	+2.2
PTGC	**Puerto Gaitan,**	**2.79**	**158**	*eP*	Pn	22 04 36.0	-2.1
PTGC				*eS*	Sn	22 05 09.5	-3.1
PTGC				IAML		22 05 10.6	
	comp=Z,41nm,0.2s						
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*eP*	Pn	22 04 41.4	+0.6
CBOC				*eS*	Sn	22 05 16.9	-0.4
CBOC				IAML		22 05 30.4	
	comp=Z,20nm,0.4s						
ANIL	**Santa Ana**	**3.21**	**224**	↓*eP*	Pn	22 04 44.3	+0.5
ANIL				*eS*	Sn	22 05 24.0	+1.4
PRAC	**Prado**	**3.53**	**209**	*eP*	Pn	22 04 46.7	-0.9
PRAC				*eS*	Sn	22 05 28.8	-0.7
PRAC				IAML		22 05 35.0	
	comp=Z,60nm,0.3s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*eP*	Pn	22 04 47.6	-0.4
ORTC				*eS*	Sn	22 05 30.4	+0.2
ORTC				IAML		22 05 36.4	
	comp=Z,44nm,0.5s						
PLMC	**San Jos del P**	**3.64**	**239**	↑*eP*	Pn	22 04 48.7	-0.4
PLMC				*eS*	Sn	22 05 28.6	-3.5
PLMC				IAML		22 05 41.7	
	comp=Z,22nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	*eP*	Pn	22 04 56.0	-0.3
CRJC				*eS*	Sn	22 05 40.5	-4.6
CRJC				IAML		22 05 46.4	
	comp=Z,22nm,0.3s						
YOTC	**Yotoco, Valle**	**4.24**	**229**	*eP*	Pn	22 04 57.8	+0.8
YOTC				*eS*	Sn	22 05 50.8	+4.5
URIC	**Uribia, Colomb**	**4.99**	**13**	*eP*	Pn	22 05 02.9	-3.9
URIC				*eS*	Sn	22 05 58.0	-5.9
URIC				IAML		22 06 08.3	
	comp=Z,3.8nm,0.3s						

NEIC 25 22:18:34.2±1.8, 25°.6S±0°.2×179°.6W±0°.2, h484km±19km, mb4.3/17, Error ellipse: s-maj=29.7km s-min=6.0km az=221.0
IDC 25 22:18:39.1±6.4, 25°.16S×179°.81E, h513km±45km, mb3.5/4, mbtmp4.5/6, Error ellipse: s-maj=101.7km s-min=25.7km az=138.0

ISC 25 22:18:35.4±1.1, 25°.6S±0°.1×179°.8W±0°.2, h500km, n32, σ1s21/33, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.04**	**345**	P	**P**	**22 20 31.1**	**-1.4**
	5.6nm,0.4s,baz=294,slow=24,SNR=19						
MSVF	**Nonsavu**	**8.04**	**345**	P	**P**	**22 20 31.0**	**-1.5**
OUZ	**Omahuta**	**11.21**	**209**	P	**P**	**22 21 05.0**	**-0.4**
MARNC	**Mare, Loyalty**	**11.91**	**287**	P	**P**	**22 21 13.2**	**0.0**
MXZ	**Matakaoa Point**	**12.08**	**187**	P	**P**	**22 21 13.3**	**-1.4**
OUENC	**Ouen Island, N**	**12.64**	**282**	P	**P**	**22 21 19.3**	**-1.5**
LIFNC	**LIFOU**	**12.87**	**289**	P	**P**	**22 21 22.5**	**-0.7**
DZM	**Mont Dzumac**	**13.09**	**282**	P	**P**	**22 21 25.8**	**0.0**
	11nm,0.7s,baz=136,slow=20,SNR=14						
KOUNC	**Koumac, New Ca**	**15.50**	**285**	P	**P**	**22 21 53.9**	**+3.0**
KOUNC				IAmb	IAmb	22 22 01.9	
	comp=Z,20nm,1.4s						
GVZ	**Greta Valley S**	**18.35**	**197**	P	**P**	**22 22 16.7**	**-2.1**
LTZ	**Lake Taylor**	**18.39**	**199**	P	**P**	**22 22 17.8**	**-1.4**
FOZ	**Fox Glacier**	**19.85**	**203**	P	**P**	**22 22 33.1**	**+0.6**
ARMA	**Armidale**	**25.69**	**253**	P	**P**	**22 23 26.4**	**+1.2**
ARMA				IAmb	IAmb	22 23 27.2	
	comp=Z,33nm,1.5s						
EIDS	**Eidsvold**	**26.30**	**264**	P	**P**	**22 23 31.1**	**+0.6**
EIDS				IAmb	IAmb	22 23 31.5	
	comp=Z,11nm,0.8s						
CTA	**Charters Tower**	**31.74**	**273**	P	**P**	**22 24 18.1**	**+0.2**
	comp=Z,6.2nm,0.5s,baz=100,slow=9.5,SNR=15						
	comp=Z,6.2nm,0.5s						
STKA	**Stephens Creek**	**34.34**	**250**	P	**P**	**22 24 40.4**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=70,slow=12,SNR=7.2						
	comp=Z,1.6nm,0.5s						
STKA	**Stephens Creek**	**34.34**	**250**	P	**P**	**22 24 40.0**	**+0.2**
COEN	**Coen**	**36.62**	**281**	P	**P**	**22 25 00.2**	**+1.2**
COEN				IAmb	IAmb	22 25 00.9	
	comp=Z,8.8nm,1.1s						
BBOO	**Buckleboo**	**39.02**	**249**	P	**P**	**22 25 18.0**	**-0.5**
BBOO				IAmb	IAmb	22 25 39.1	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**42.01**	**262**	P	**P**	**22 25 42.4**	**-0.1**
AS31				IAmb	IAmb	22 25 43.7	
	comp=Z,3.0nm,0.4s						
ASAR	**Alice Springs**	**42.01**	**262**	P	**P**	**22 25 42.2**	**-0.3**
	comp=Z,3.5nm,0.4s,baz=91,slow=7.5,SNR=126						
	comp=Z,3.5nm,0.4s						
WR0	**Warramunga Arr**	**42.35**	**268**	P	**P**	**22 25 44.9**	**-0.3**
WR0				IAmb	IAmb	22 25 45.6	
	comp=Z,3.6nm,0.6s						
WB2	**Warramunga Arr**	**42.53**	**268**	P	**P**	**22 25 46.2**	**-0.4**
WRA	**Warramunga Arr**	**42.54**	**268**	P	**P**	**22 25 45.9**	**-0.8**
	comp=Z,2.9nm,0.4s,baz=104,slow=7.7,SNR=40						
	comp=Z,2.9nm,0.4s						
WRA	**Warramunga Arr**	**42.54**	**268**	P	**P**	**22 25 46.2**	**-0.6**
WB0	**Warramunga Arr**	**42.54**	**268**	P	**P**	**22 25 46.1**	**-0.6**
WB0				IAmb	IAmb	22 25 47.4	
	comp=Z,5.1nm,0.7s						
FORT	**Forrest**	**45.96**	**251**	P	**P**	**22 26 11.8**	**-1.3**
KNRA	**Kununurra**	**48.92**	**271**	P	**P**	**22 26 35.9**	**+0.3**
KNRA				IAmb	IAmb	22 26 37.3	
	comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	**64.54**	**180**	P	**P**	**22 28 23.4**	**+1.0**
AKASG	**Malin Array Be**	**146.47**	**326**	PKPbc	**PKiKP**	**22 37 20.8**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=43,slow=3.8,SNR=4.7						
BRTR	**Keskin Array B**	**148.72**	**305**	PKPbc	**PKPbc**	**22 37 26.3**	**0.0**
	comp=Z,0.4nm,0.4s,baz=75,slow=1.7,SNR=5.6						
CLL	**Collm**	**152.49**	**343**	*e*PKPbc	**PKiKP**	**22 37 37.0**	**+2.4**
CLL				*e*PKPab	**PKPab**	**22 37 49.0**	**+1.8**

SOME 25 22:18:43.5, 39°.05N×74°.40E, h10km
KRNET 25 22:18:44.5±0.1, 39°.08N×74°.37E, mb4.0
IDC 25 22:18:45.8±1.9, 39°.03N×74°.78E, h0km, mb3.7/7, mbtmp3.7/12, ML3.0/5, MS3.0/6, Error ellipse: s-maj=31.3km s-min=17.5km az=139.0

NNC 25 22:18:52.6±1.8, 39°.48N×74°.43E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=14.7km s-min=10.7km az=164.0

ISC 25 22:18:49.9±0.9, 39°.32N±0°.05×74°.38E±0°.03, h10km, n76, σ2s21/98, mb3.7/6, MS2.9/5, 29C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.72**	**315**	↑*eP*	Pn	**22 19 19.6**	**-0.4**
	baz=20						
OHH				↑*eS*	Sg	**22 19 45.5**	**+0.3**
	baz=20						
DRK	**Karamyk**	**2.01**	**275**	↓*eP*	Pn	**22 19 22.2**	**-2.0**
	baz=82						
DRK				↓*iS*	Sn	**22 19 49.8**	**+0.3**
	baz=82						
NRN	**Naryn**	**2.44**	**30**	↑*eP*	Pn	**22 19 30.6**	**+0.4**
	baz=27						
NRN				↑*eS*	Sb	**22 20 04.2**	**-0.2**
	baz=27						
ARLS	**Aral**	**2.53**	**359**	↓*eP*	Pn	**22 19 32.3**	**+1.0**
	baz=59						
ARLS				↓*eS*	Sb	**22 20 07.5**	**+0.6**
	baz=59						
BTK	**Batken**	**2.85**	**286**	↑*eP*	Pn	**22 19 34.3**	**-1.2**
	baz=91						
BTK				↑*eS*	Sn	**22 20 10.6**	**+0.7**
	baz=91						
AML	**Almayashu**	**2.85**	**350**	P	Pn	**22 19 39.0**	**+3.1**
	SNR=23						
UCH	**Uchtor**	**2.90**	**2**	P	Pn	**22 19 39.6**	**+3.0**
	SNR=21						
UCH	**Uchtor**	**2.90**	**2**	↑*eP*	Pn	**22 19 37.6**	**+1.0**
	baz=2.0						
UCH				↑*eS*	Sb	**22 20 16.6**	**-1.2**
	baz=2.0						
ARK	**Arkit**	**3.08**	**324**	↑*eP*	Pn	**22 19 39.6**	**+0.8**
	baz=27						
ARK				↑*eS*	Sb	**22 20 19.6**	**-3.1**
	baz=27						
ULHL	**Ulahol**	**3.24**	**25**	↑*eP*	Pn	**22 19 42.1**	**+1.0**
	baz=24						
ULHL				↑*eS*	Sb	**22 20 24.3**	**-3.0**
	baz=24						
AAK	**Ala-Archa**	**3.31**	**1**	P	Pb	**22 19 46.6**	**-2.3**
	SNR=44						
AAK	**Ala-Archa**	**3.31**	**1**	Pn	Pn	**22 19 44.8**	**+2.8**
	3.6nm,0.3s,baz=181,slow=7.8,SNR=42						
AAK				Sn	Sb	**22 20 32.0**	**+2.8**
	baz=135,slow=19						
	22nm,0.6s						
AAK	**Ala-Archa**	**3.31**	**1**	↓*eP*	Pn	**22 19 43.4**	**+1.4**
	baz=2.0						
AAK				↓*eS*	Sb	**22 20 26.1**	**-3.2**
	baz=2.0						
TRKS	**Terek-Say**	**3.31**	**313**	↓*eP*	Pn	**22 19 41.1**	**-0.9**
	baz=15						
TRKS				↓*eS*	Sn	**22 20 22.7**	**+1.1**
	baz=15						
KBK	**Karagaybulak**	**3.36**	**7**	P	Pn	**22 19 46.3**	**+3.6**
	SNR=21						
KBK	**Karagaybulak**	**3.36**	**7**	↑*eP*	Pn	**22 19 43.9**	**+1.3**
	baz=7.0						
KBK				↑*eS*	Sb	**22 20 27.1**	**-3.5**
	baz=7.0						
EKS2	**Erkin-Say**	**3.37**	**352**	P	Pn	**22 19 46.1**	**+3.4**
	SNR=25						
EKS2	**Erkin-Say**	**3.37**	**352**	↓*eP*	Pn	**22 19 43.8**	**+1.1**
	baz=53						
EKS2				↓*eS*	Sb	**22 20 27.2**	**-3.6**
	baz=53						
FRU1	**Bishkek**	**3.49**	**3**	↑*eP*	Pn	**22 19 46.0**	**+1.7**
	baz=3.0						
FRU1				↑*eS*	Sb	**22 20 30.8**	**-3.5**
	baz=3.0						
MRKS	**Merke**	**3.53**	**346**	*eP*	Pb	**22 19 52.8**	**+0.3**
	14nm,0.3s						
MRKS				*eS*	Sg	**22 20 42.7**	**-0.5**
	34nm,0.6s						
MRKS	**Merke**	**3.53**	**346**	Pg	Pb	**22 19 52.0**	**-0.6**
	13nm,0.3s						
MRKS				Lg	Lg	22 20 41.6	
	30nm,0.9s						
CHMS	**Chumysh**	**3.68**	**4**	P	Pn	**22 19 51.5**	**+4.6**
	SNR=13						
CHMS	**Chumysh**	**3.68**	**4**	↓Pn	Pn	**22 19 49.6**	**+2.7**
	20nm,0.8s						
CHMS				↑Lg	Lg	22 20 46.7	
	60nm,0.9s						
TKM2	**Tokmak 2**	**3.71**	**14**	P	Pn	**22 19 50.1**	**+2.7**
	SNR=6.0						
TKM2	**Tokmak 2**	**3.71**	**14**	↑Pn	Pn	**22 19 49.6**	**+2.1**
	15nm,0.7s						
TKM2				↑Lg	Lg	22 20 43.4	
	47nm,0.8s						
KST	**Kastek**	**3.90**	**17**	*eP*	Pb	**22 19 59.9**	**+0.9**
	23nm,0.8s						
KST				*eS*	Sg	**22 20 54.9**	**-0.4**
	67nm,0.7s						
USP	**Ospenovka**	**3.94**	**1**	P	Pb	**22 20 01.8**	**+2.3**
	SNR=11						
MTBS	**Maitube**	**4.10**	**21**	*eP*	Pb	**22 20 03.3**	**+1.0**
	13nm,0.5s						
MTBS				*eS*	Sg	**22 21 00.5**	**-1.2**
	39nm,0.7s						
MTBS	**Maitube**	**4.10**	**21**	Pg	Pb	**22 20 03.3**	**+1.0**
	13nm,0.5s						
MTBS				Lg	Lg	22 21 00.4	
	39nm,0.7s						
SGDS	**Sogindy**	**4.13**	**2**	*eP*	Pb	**22 20 05.0**	**+2.3**
	16nm,1.1s						
SGDS				*eS*	Sg	**22 21 04.1**	**+1.6**
	21nm,1.1s						
SGDS	**Sogindy**	**4.13**	**2**	Pg	Pb	**22 20 05.0**	**+2.3**
	16nm,1.1s						
SGDS				Lg	Lg	22 21 04.1	
	21nm,1.1s						
TNSS	**Tian-Shan**	**4.18**	**27**	*eP*	Pb	**22 20 05.1**	**+1.2**
	30nm,0.6s						
TNSS				*eS*	Sg	**22 21 03.9**	**-0.4**
	33nm,0.7s						
TNSS	**Tian-Shan**	**4.18**	**27**	Pg	Pb	**22 20 05.1**	**+1.2**
	30nm,0.6s						
TNSS				Lg	Lg	22 21 04.7	
	33nm,0.7s						
DZA	**Taraz**	**4.25**	**328**	*eP*	Pb	**22 20 06.1**	**+1.4**
	23nm,0.1s						
DZA				*eS*	Sg	**22 21 05.3**	**-0.9**
	72nm,0.8s						
MDOK	**Medeo**	**4.33**	**27**	*eP*	Pb	**22 20 07.3**	**+1.1**
	18nm,0.9s						
MDOK				*eS*	Sg	**22 21 07.3**	**-1.7**
	76nm,1.0s						
MDOK	**Medeo**	**4.33**	**27**	Pg	Pb	**22 20 07.9**	**+1.7**
	33nm,0.7s						
MDOK				Lg	Lg	22 21 07.0	
	123nm,1.0s						
IUG	**Iuzhnay**	**4.34**	**312**	*eP*	Pb	**22 20 07.8**	**+1.3**
	33nm,0.8s						
IUG				*eS*	Sg	**22 21 08.5**	**-1.0**
	103nm,1.0s						
KNDC	**Almaty**	**4.35**	**26**	↑Pn	Pn	**22 19 60.0**	**+3.8**
	97nm,0.9s						
KNDC				↑Lg	Lg	22 21 06.2	
	292nm,1.1s						
CHM	**Chimkent**	**4.70**	**311**	*eP*	Pb	**22 20 13.9**	**+1.4**
	36nm,0.2s						
CHM				*eS*	Sg	**22 21 18.8**	**-2.1**
	73nm,0.6s						
KK31	**Karatay Array**	**4.77**	**324**	↓Pn	Pn	**22 20 04.4**	**+2.5**
	12nm,0.9s,baz=113,slow=14,SNR=30						
KK31				↑Lg	Lg	22 21 20.0	
	12nm,0.6s,baz=156,slow=27,SNR=3.5						
KUU	**Kurty**	**4.79**	**17**	*eP*	Pb	**22 20 16.6**	**+2.5**
	11nm,0.5s						
KUU				*eS*	Sg	**22 21 23.6**	**-0.3**
	42nm,0.6s						
SATY	**Saty**	**4.81**	**38**	*eP*	Pb	**22 20 14.6**	**+0.2**
	20nm,1.3s						
SATY				*eS*	Sg	**22 21 20.6**	**-3.7**
	66nm,1.3s						
SATY	**Saty**	**4.81**	**38**	Pg	Pb	**22 20 14.6**	**+0.2**
	20nm,1.3s						
SATY				Lg	Lg	22 21 20.6	
	66nm,1.3s						
ZHN	**Zhinishke**	**4.91**	**37**	*eP*	Pb	**22 20 17.2**	**+1.2**
	4.0nm,0.4s						
ZHN				*eS*	Sg	**22 21 24.5**	**-2.9**
	30nm,0.6s						
ZHN	**Zhinishke**	**4.91**	**37**	Pg	Pb	**22 20 17.2**	**+1.2**
	4.0nm,0.4s						
ZHN				Lg	Lg	22 21 24.5	
	30nm,0.6s						
CHKK	**Chushkaly**	**4.93**	**22**	*eP*	Pb	**22 20 18.0**	**+1.7**
	13nm,0.8s						
CHKK				*eS*	Sg	**22 21 26.0**	**-2.2**
	32nm,0.9s						
CHKK	**Chushkaly**	**4.93**	**22**	Pg	Pb	**22 20 18.0**	**+1.7**
	13nm,0.8s						
CHKK				Lg	Lg	22 21 26.0	
	32nm,0.9s						
UZB	**Uzynbulak**	**5.18**	**41**	*eP*	Pb	**22 20 22.4**	**+1.8**
	7.5nm,0.8s						
UZB				*eS*	Sg	**22 21 33.5**	**-2.6**
	35nm,0.9s						
UZB	**Uzynbulak**	**5.18**	**41**	Pg	Pb	**22 20 22.4**	**+1.8**
	7.5nm,0.8s						
UZB				Lg	Lg	22 21 33.5	
	35nm,0.9s						
SHLS	**Shalkode**	**5.41**	**43**	*eP*	Pg	**22 20 31.6**	**-2.0**
	28nm,1.3s						
SHLS				*eS*	Sg	**22 21 50.2**	**+6.5**
	29nm,0.8s						
SHLS	**Shalkode**	**5.41**	**43**	Pg	Pg	**22 20 31.6**	**-2.0**
	28nm,1.3s						
PDGK	**Podgornoye**	**5.55**	**42**	Pg	Pb	**22 20 27.7**	**+0.7**
	5.8nm,0.7s						
PDGK				Lg	Lg	22 21 43.8	
	11nm,1.0s						
PDGK	**Podgornoye**	**5.55**	**42**	↑Pn	Pn	**22 20 16.9**	**+4.2**
	4.9nm,0.8s						
PDGK				↑Pg	Pb	22 20 32.8	+5.8
	33nm,1.4s						
PDGK				↑Lg	Lg	22 21 42.0	
BTLS	**Baital**	**5.72**	**358**	*eP*	Pg	**22 20 36.1**	**-3.3**
	4.3nm,0.3s						
BTLS				*eS*	Sg	**22 21 57.4**	**+4.0**
	8.9nm,0.7s						
BTLS	**Baital**	**5.72**	**358**	Pg	Pb	**22 20 34.4**	**+4.6**
OTUK	**Ortayu**	**9.04**	**351**	↑Pn	Pn	**22 21 03.1**	**+2.6**
	1.5nm,0.6s						
OTUK				↓Lg	Lg	22 23 31.3	
	9.2nm,1.4s						
MAKZ	**Makanchi**	**9.31**	**34**	↑Lg	Lg	22 23 45.3	
	6.1nm,1.3s						
MK31	**Makanchi Array**	**9.44**	**35**	↑Lg	Lg	22 23 44.0	
	3.5nm,1.0s,baz=215,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**9.44**	**35**	Pn	Pn	**22 21 05.5**	**-0.4**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.7						
MKAR				Lg	Lg	22 23 47.7	
	0.1nm,0.3s,baz=224,slow=33,SNR=3.9						
MKAR				LR	LR	22 25 13.1	
	comp=Z,41nm,20.2s,baz=218,slow=41						
	1.1nm,1.0s						
KURBB	**Kurchatov Arra**	**11.67**	**13**	Pn	Pn	**22 21 37.7**	**+1.3**
	baz=198,slow=12,SNR=2.0						
KURBB				Lg	Lg	22 24 56.7	
	baz=198,slow=29,SNR=6.9						
KURBB	**Kurchatov Arra**	**11.67**	**13**	↑Lg	Lg	22 25 00.2	
	17nm,1.1s						
KURK	**Kurchatov**	**11.78**	**13**	↓Lg	Lg	22 25 01.8	
	14nm,1.3s						
GEYT	**Allback**	**12.80**	**269**	Pn	Pn	**22 21 54.2**	**+2.2**
	0.2nm,0.3s,baz=92,slow=7.8,SNR=2.3						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**13.98**	**350**	Pn	Pn	**22 22 07.9**	**-0.1**
	baz=168,slow=15,SNR=7.8						
BVAR				Lg	Lg	22 26 12.8	
	baz=153,slow=20,SNR=2.3						
	1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**16.26**	**22**	Pn	Pn	**22 22 36.5**	**-1.7**
	0.3nm,0.3s,baz=200,slow=12,SNR=5.5						
	0.8nm,0.4s						
ARU	**Arti**	**20.05**	**334**	P	Pn	**22 23 25.8**	**+1.0**
	2.4nm,0.7s,baz=172,slow=2.5,SNR=7.1						
	2.4nm,0.7s						
GNI	**Garni**	**22.77**	**282**	P	**P**	**22 23 53.2**	**+0.6**
	3.6nm,0.8s,baz=191,slow=22,SNR=2.1						
	3.6nm,0.8s						
SONM	**Songino Array**	**24.56**	**59**	P	**P**	**22 24 06.6**	**-3.4**
	0.1nm,0.3s,baz=268,slow=7.2,SNR=2.0						
SONM				LR	LR	22 33 14.9	
	comp=Z,26nm,19.4s,baz=74,slow=36						
	0.1nm,0.3s						
BRTR	**Keskin Array B**	**31.24**	**284**	P	**P**	**22 25 10.2**	**+0.4**
	0.9nm,0.8s,baz=90,slow=8.6,SNR=6.1						
	0.9nm,0.8s						
EIL	**Elat**	**33.67**	**266**	LR	LR	22 41 26.2	
	comp=Z,23nm,18.8s,baz=74,slow=40						
FINES	**FINESS Array B**	**36.73**	**323**	P	**P**	**22 25 58.3**	**+1.3**
	0.9nm,0.6s,baz=108,slow=12,SNR=5.6						
	0.9nm,0.6s						
ARCES	**ARCESS Array B**	**39.62**	**335**	P	**P**	**22 26 22.6**	**+1.3**
	2.7nm,1.0s,baz=96,slow=8.3,SNR=3.9						
	2.7nm,1.0s						
NOA	**NORSAR Array B**	**43.80**	**321**	LR	LR	22 45 34.4	
	comp=Z,13nm,18.2s,baz=255,slow=36						
JHJ	**Hachijo jima 2**	**52.11**	**75**	LR	LR	22 51 26.9	
	comp=Z,38nm,19.0s,baz=148,slow=38						
KMBO	**Kilima Mbogo**	**52.70**	**229**	LR	LR	22 53 20.2	
	comp=Z,25nm,18.8s,baz=93,slow=39						
ESDC	**Sonseca Array**	**58.52**	**298**	P	**P**	**22 28 46.0**	**-0.4**
	0.3nm,0.6s,baz=48,slow=7.3,SNR=5.2						
	0.3nm,0.6s						

IDC 25 22:22:07.0±5.8, 17°.67S×178°.63W, h623km, 23km, mb2.8/2, mbtmp3.7/3, Error ellipse: s-maj=298.0km s-min=60.1km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.17**	**268**	P	P	22 23 29.0	-0.1
	12nm,0.5s,baz=119,slow=6.0,SNR=18						
WRA	**Warramunga Arr**	**44.47**	**259**	P	P	22 29 25.0	-0.1
	0.5nm,0.5s,baz=96,slow=7.5,SNR=8.4						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**44.65**	**254**	P	P	22 29 26.6	+0.1
	1.0nm,0.5s,baz=86,slow=8.7,SNR=12						
	1.0nm,0.5s						
BRTR	**Keskin Array B**	**144.47**	**315**	PKP	PKPdf	22 40 33.5	-0.7
	0.2nm,0.4s,baz=109,slow=3.1,SNR=1.8						

INET 25 22:24:03.2±0.5, 12°.60N×88°.48W, h25km±15km, MW3.8
SNET 25 22:24:03.3±1.4, 12°.66N×88°.52W, h13km±10km, ML3.3

ISC 25 22:24:01.8±2.6, 12°.58N±0°.09×88°.48W±0°.06, h19km±4km, n17, σ0s55/24, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.71**	**18**	↓*iP*	Pb	**22 24 16.3**	**+0.7**
JUCU				*eS*	Sg	**22 24 25.8**	**+0.5**
BLLM	**Bellamira**	**0.89**	**15**	*eP*	Pb	**22 24 19.5**	**+0.8**
PACA	**Pacayal**	**0.90**	**10**	*eP*	Pb	**22 24 19.3**	**+0.4

*IDC **25** 22:44:05.5±1.8,31°.59N×130°.41E, h132km±17km, mb3.4/6, mbtmp4.0/9, Error ellipse: s-maj=26.2km s-min=13.3km az=112.0*
*JMA **25** 22:44:06.7±0.1,31°.6N±0°.4×130°.7E±0°.6, h132km, MV3.4/34, NEAR KAGOSHIMA CITY*
JMA Felt I J1 at NEAR KAGOSHIMA CITY .
*NIED **25** 22:44:06.7, 31°.64N×130°.69E, h132km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.41; $M_{\theta\theta}$0.67; $M_{\phi\phi}$-1.08; $M_{r\theta}$-2.06; $M_{\theta\phi}$-0.52; $M_{\phi r}$5.27; Fault plane solution: $M_0$5.76000×10^{14} NP1: ϕ_s236.00000°, δ10.00000°, λ167.00000°. NP2: ϕ_s339.00000°, δ88.00000°, λ80.00000°.*

ISC 25 22:44:05.9±0.8,31°.62N±0°.05×130°.59E±0°.07,h137km±6km, n25,σ1$23/34,mb3.8/6,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSU	Suzuyama	0.16	226	P			Pn	22 44 25.0	+0.4
JSU	Suzuyama	0.16	226	P			Pn	22 44 25.0	+0.4
JSU				S			Sn	22 44 38.9	+0.2
JTZ	Takazaki	0.51	56	P			Pn	22 44 25.5	-0.3
JTZ				S			Sn	22 44 39.2	-1.7
JSJ	Shimokoshiki	0.75	275	P			Pn	22 44 28.0	+0.6
JSJ				eS			Sn	22 44 44.5	+0.9
JIU3	Izumi3	0.94	11	P			Pn	22 44 29.0	+0.1
JIU3				eS			Sn	22 44 45.5	-1.0
JTN	Tanegashima 3	1.02	161	i P			Pn	22 44 30.0	+0.4
JTN				S			Sn	22 44 47.4	-0.3
JMTN	Minamitane	1.25	168	i P			Pn	22 44 32.4	+0.6
JMTN				S			Sn	22 44 51.4	-0.2
JYAK	Yakushimahirau	1.38	183	i P			Pn	22 44 33.5	+0.4
JYAK				S			Sn	22 44 53.0	-1.0
JNU	Nakatsue	1.52	9	P			Pn	22 44 35.0	+0.3
JTU	Tsushima	3.06	341	P			Pn	22 44 54.4	+0.9
JMN	Monobe	3.48	52	P			Pn	22 44 58.3	-0.6
JHS	Saijyo	3.98	31	P			Pn	22 45 04.9	-0.6
JOW	Kunigami	5.18	204	P			Pn	22 45 21.1	-0.5
	8.8nm,0.3s,baz=86,slow=20,SNR=16								
JOW				S			Sn	22 46 17.3	-3.2
	12nm,0.3s,baz=122,slow=24,SNR=8.4								
JOW	Kunigami	5.18	204	P			Pn	22 45 21.3	-0.2
JGF	Kuroka	6.90	53	P			Pn	22 45 45.6	+1.1
JHJ	Hachijo jima 2	7.92	77	P			Pn	22 46 01.1	+2.9
	59nm,0.3s,baz=109,slow=21,SNR=5.8								
JHJ2	Mitsune	7.94	77	P			Pn	22 46 01.2	+2.7
MAJO	Matsushiro	8.00	50	P			Pn	22 46 00.8	+1.6
MJAR	Matsushiro Arr	8.00	50	P			Pn	22 46 00.5	+1.3
	4.5nm,0.3s,baz=238,slow=13,SNR=28								
MJAR				S			Sn	22 47 26.7	-1.5
	1.8nm,0.5s,baz=226,slow=24,SNR=4.6								
WRA	Warramunga Arr	51.39	175	P			P	22 52 55.9	-0.7
	0.5nm,0.4s,baz=353,slow=7.9,SNR=8.9								
	0.5nm,0.4s								
ASAR	Alice Springs	55.06	176	P			P	22 53 23.7	+0.2
	0.5nm,0.3s,baz=3.2,slow=7.3,SNR=13								
	0.5nm,0.3s								
ILAR	Eielson Array	58.74	30	P			P	22 53 49.4	+0.6
	0.2nm,0.6s,baz=286,slow=8.2,SNR=4.8								
	0.2nm,0.6s								
STKA	Stephens Creek	64.01	170	P			P	22 54 25.1	+0.5
	1.1nm,0.5s,baz=0.0,slow=6.1,SNR=4.2								
	1.1nm,0.5s								
FINES	FINESS Array B	69.22	330	P			P	22 54 56.7	-0.7
	1.7nm,0.9s,baz=59,slow=5.4,SNR=5.0								
	1.7nm,0.9s								
BRTR	Keskin Array B	75.38	308	P			P	22 55 35.1	+0.5
	0.1nm,0.3s,baz=56,slow=3.6,SNR=3.9								
	0.1nm,0.3s								

*SNET **25** 23:01:04.8±1.1, 12°.06N×88°.99W, h16km±16km, ML3.4*
*INET **25** 23:01:10.8±0.5, 12°.16N×88°.53W, h14km, MW3.6*

ISC 25 23:01:02.7±3.5,12°.0N±0°.2×89°.0W±0°.2,h10km,n11, σ0$63/10,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	1.44	28	eP			Pn	23 01 29.2	+0.3
COEB	Comit de Eme	1.56	15	eP			Pn	23 01 31.3	+0.6
SJTE	Alcalda de S	1.63	358	eP			Pn	23 01 30.9	-0.7
LCND	La Caada	1.68	38	eP			Pn	23 01 32.4	+0.2
LCND				IAML				23 01 59.5	
	comp=Z,543nm,0.3s								
PQSS	Presa 15 de Se	1.68	13	eP			Pn	23 01 32.9	+0.7
PAVA	Las Pavas	1.72	0	IAML				23 01 57.1	
	comp=Z,349nm,0.3s								
CEVE	Cerro Verde	1.95	340	eP			Pn	23 01 37.0	+0.7
CRIN	San Cristobal	1.99	69	eP			Pn	23 01 36.9	+0.4
NUBE	Las Nubes	2.08	337	eS			Sn	23 02 00.1	-0.8
MOMN	Momotombo	2.39	79	eP			Pn	23 01 41.9	-0.1
BOAB	BOACO BROADBAN	3.24	81	eP			Pn	23 01 53.8	+0.1

MAN 25 23:03:34.7,6°.39N×126°.53E,h58km,mb4.1,ML2.9,MS2.6, 1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KCP	Kidapawan	1.56	293	⇓iP			Pn	23 04 00.4	+0.2
KCP				eS			Sn	23 04 17.9	-1.5
GSPH	General Santos	1.60	259	⇑eP			Pn	23 03 59.2	-1.7
GSPH				i S			Sn	23 04 18.1	-2.4
BIPH	Bislig	1.79	355	⇓iP			Pn	23 04 04.7	+1.4
BIPH				i S			Sn	23 04 27.4	+2.3

*NEIC **25** 23:03:39.0±1.6, 22°.58S±0°.09×171°.2E±0°.1, h48km±11km, mb4.6/16, Error ellipse: s-maj=14.4km s-min=12.2km az=130.0*
*IDC **25** 23:03:41.8±3.4, 22°.34S×170°.96E, h70km±25km, mb3.9/4, mbtmp4.2/6, MS3.4/11, Error ellipse: s-maj=61.6km s-min=18.0km az=165.0*
*NOU **25** 23:03:56.0, 22°.18S×169°.54E, h0km, MLv3.5/6, Southeast of Loyalty Islands*

ISC 25 23:03:39.7±0.8,22°.7S±0°.1×171°.06E±0°.07,h42km,n64, σ1$47/53,mb4.5/12,MS3.4/10,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.05	292				Pn	23 04 24.6	-0.9
MARNC							Sn	23 05 00.9	+0.2
MARNC	Mare, Loyalty	3.05	292	P			Pn	23 04 24.4	-1.0
YATNC	Mamie plateau,	3.91	278	P			Pn	23 04 36.8	-0.5
OUENC	Ouen Island, N	3.91	273				Pn	23 04 37.9	+0.6
OUENC							Sn	23 05 22.9	+1.0
OUENC	Ouen Island, N	3.91	273	P			Pn	23 04 37.6	+0.3
LIFNC	LIFOU	4.02	297	Pn			Pn	23 04 38.8	0.0
LIFNC							Sn	23 05 26.0	+1.3
LIFNC	LIFOU	4.02	297	P			Pn	23 04 38.6	-0.2
ONTNC	Ouen Toro	4.28	274				Pn	23 04 43.1	+0.8
ONTNC	Ouen Toro	4.28	274	P			Pn	23 04 43.6	+1.3
DZM	Mont Dzumac	4.32	277	P			Pn	23 04 43.2	+0.3
	21nm,0.3s,baz=92,slow=18,SNR=315								
DZM				S			Sn	23 05 31.7	-0.4
	28nm,0.3s,baz=104,slow=19,SNR=12								
DZM	Mont Dzumac	4.32	277				Pn	23 04 43.4	+0.5
DZM							Sn	23 05 33.5	+1.4
DZM	Mont Dzumac	4.32	277	P			Pn	23 04 43.2	+0.3
KOUNC	Koumac, New Ca	6.65	287	Pn			Pn	23 05 14.2	-0.7
MSVF	Nonsavu	8.19	54	P			Pn	23 05 36.8	+0.6
	54nm,1.3s,baz=225,slow=19,SNR=12								
MSVF				LR			LR	23 08 05.7	
	comp=Z,434nm,19.3s,baz=235,slow=33								
EIDS	Eidsvold	18.45	258	P			Pn	23 07 56.0	+3.7
CTA	Charters Tower	23.24	272	LR			LR	23 17 16.3	
	comp=Z,72nm,18.1s,baz=82,slow=35								
STKA	Stephens Creek	27.68	244	P			P	23 09 24.1	+0.2
	2.4nm,0.8s,baz=85,slow=12,SNR=5.6								
STKA				LR			LR	23 19 39.3	
	comp=Z,47nm,19.4s,baz=29,slow=34								
	2.4nm,0.8s								
STKA	Stephens Creek	27.68	244	P			P	23 09 23.7	-0.2
WR0	Warramunga Arr	34.08	268	P			P	23 10 19.9	-0.5
WR0				IAmb			IAmb	23 10 20.7	
	comp=Z,14nm,1.5s								
AS31	Alice Springs	34.11	261	P			P	23 10 19.8	-0.9
ASAR	Alice Springs	34.12	261	P			P	23 10 19.5	-1.3
	comp=Z,4.2nm,0.8s,baz=88,slow=9.0,SNR=45								
ASAR				LR			LR	23 24 04.2	
	comp=Z,55nm,19.4s,baz=150,slow=36								
	comp=Z,4.2nm,0.8s								
ASAR	Alice Springs	34.12	261	P			P	23 10 19.9	-0.9
WB0	Warramunga Arr	34.25	268	P			P	23 10 20.7	-1.2
WB0				IAmb			IAmb	23 10 21.0	
	comp=Z,8.2nm,1.2s								
WB2	Warramunga Arr	34.26	268	P			P	23 10 20.4	-1.5
WB2				IAmb			IAmb	23 11 00.6	
	comp=Z,13nm,1.5s								
WRA	Warramunga Arr	34.27	268	P			P	23 10 20.0	-2.1
	comp=Z,0.9nm,0.7s,baz=97,slow=8.2,SNR=6.1								
	comp=Z,0.9nm,0.7s								
WRA	Warramunga Arr	34.27	268	P			P	23 10 20.3	-1.8
FORT	Forrest	39.06	249	P			P	23 10 60.0	-2.8
FORT				IAmb			IAmb	23 11 34.1	
	comp=Z,20nm,1.1s								
MTN	Manton Dam	39.15	278	P			P	23 11 02.8	-0.9
KNRA	Kununurra	40.45	272	P			P	23 11 14.2	-0.2
KNRA				IAmb			IAmb	23 11 17.9	
	comp=Z,23nm,1.3s								
H11N1	WAKE ISLAND Hy	42.32	354	T			T	23 56 31.6	
	baz=173								
H11N3	WAKE ISLAND Hy	42.32	354	T			T	23 56 31.7	
	baz=173								
H11N2	WAKE ISLAND Hy	42.34	354	T			T	23 56 32.7	
	baz=173								
BATI	Baumata	46.93	277	LR			LR	23 33 35.2	
	comp=Z,73nm,18.2s,baz=142,slow=38								
MBWA	Marble Bar	47.45	262	P			P	23 12 09.8	-0.8
NWAO	Narrogin (SRO)	48.26	245	P			P	23 12 15.7	-1.0
MORW	Morawa	49.55	250	P			P	23 12 25.6	-1.1
VNDA	Vanda	55.09	182	LR			LR	23 32 33.7	
	comp=Z,36nm,21.5s,baz=318,slow=31								
VNDA	Vanda	55.09	182	P			P	23 13 05.9	-1.1
VNDA				IAmb			IAmb	23 13 46.3	
	comp=Z,3.3nm,1.4s								
SBA	Scott Base	55.28	181	P			P	23 13 07.9	-0.4
SBA				IAmb			IAmb	23 13 08.5	
	comp=Z,5.0nm,1.1s								
LEM	Lembang	62.91	274	LR			LR	23 44 30.3	
	comp=Z,36nm,18.2s,baz=22,slow=39								
QSPA	South Pole Qui	67.40	180	LR			LR	23 40 37.6	
	comp=Z,23nm,19.9s,baz=12,slow=33								
QSPA	South Pole Qui	67.40	180	P			P	23 14 29.1	-1.6
QSPA				IAmb			IAmb	23 14 29.9	
	comp=Z,10nm,1.1s								
JNU	Nakatsue	67.43	324	LR			LR	23 41 40.2	
	comp=Z,21nm,19.6s,baz=45,slow=34								
PETK	Petropavlovsk-	76.34	352	LR			LR	23 46 25.8	
	comp=Z,16nm,19.3s,baz=96,slow=34								
CMAR	Chiang Mai Arr	81.45	294	P			P	23 15 52.3	-0.6
	comp=Z,0.8nm,0.3s,baz=134,slow=5.2,SNR=0.9								
	comp=Z,0.8nm,0.3s								
MA2	Magadan	83.62	350	LR			LR	23 50 00.9	
	comp=Z,21nm,18.1s,baz=176,slow=33								
H03S2	Juan Fernandez	92.91	128	T			T	00 59 49.6	
	baz=238,slow=74,SNR=4.5								
H03S1	Juan Fernandez	92.92	128	T			T	00 59 50.7	
	baz=238,slow=74,SNR=3.2								
H03S3	Juan Fernandez	92.92	128	T			T	00 59 50.5	
	baz=238,slow=74,SNR=4.1								
RONA	Rosalia, Austr	147.88	327	eP			PKPdf	23 23 18.0	+0.8
	comp=Z,0.3nm,0.2s								
CONA	Conrad Observa	147.94	328	eP			PKPdf	23 23 18.1	+0.7
	comp=Z,0.7nm,0.5s								
GERES	GERESS Array B	148.30	331	PKPbc			PKPdf	23 23 18.1	+0.2
	comp=Z,1.1nm,0.7s,baz=60,slow=2.6,SNR=5.7								
MOA	Molln	148.76	329	eP			PKPdf	23 23 18.6	-0.1
	comp=Z,0.2nm,0.2s								
SOKA	Soboth	149.21	327	eP			PKPdf	23 23 20.6	+1.1
	comp=Z,0.7nm,0.4s								
OBKA	Obir	149.56	327	eP			PKPdf	23 23 22.6	+2.5
	comp=Z,1.8nm,0.6s								
KBA	Koelnbreinsper	149.75	329	eP			PKPdf	23 23 22.4	+1.9
	comp=Z,1.5nm,0.6s								
WATA	Walderalm	150.38	331	eP			PKPdf	23 23 23.3	+1.9
	comp=Z,1.2nm,0.4s								
ABTA	Abfaltersbach	150.39	329	eP			PKPdf	23 23 23.0	+1.6
WTTA	Wattenberg	150.41	331	eP			PKPdf	23 23 23.4	+1.9
	comp=Z,0.4nm,0.2s								
MOTA	Moosalm	150.58	332	eP			PKPdf	23 23 23.4	+1.7
	comp=Z,0.5nm,0.3s								
RETA	Reutte	150.62	332	eP			PKPdf	23 23 24.0	+2.3
	comp=Z,0.2nm,0.3s								
SQTA	Sankt Quirin	150.63	331	eP			PKPdf	23 23 24.3	+2.5
	comp=Z,1.6nm,0.4s								
FETA	Feichten	150.99	332	eP			PKPdf	23 23 25.2	+2.8
	comp=Z,2.2nm,0.7s								
DAVOX	Davos/Dischmat	151.55	332	PKPbc			PKPdf	23 23 26.6	+3.3
	comp=Z,2.8nm,0.7s,baz=11,slow=5.2,SNR=3.8								

*AEIC **25** 23:12:15.5±1.0, 54°.2N±0°.3×167°.5W±0°.3, h217km±9km, ML2.7, Error ellipse: s-maj=55.2km s-min=12.7km az=151.0*

NEIC 25 23:12:13.6±0.1,54°.3N±0°.8×167°.5W±0°.8,h227km±33km, Error ellipse: s-maj=125.9km s-min=13.0km az=150.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	0.74	125				Pn	23 12 44.6	-0.1
UNV							Sn	23 13 08.9	-0.1
AKUT	Akutan	1.04	97				Pn	23 12 46.2	-0.1
NIKH	Nikolski High	1.53	212	Pn			Pn	23 12 49.8	-0.1
SDPT	Sand Point	4.22	72	Pn			Pn	23 13 19.6	+0.7
CHIR	Chirikof Islan	7.01	72	Pn			Pn	23 13 51.8	-2.3

JMA 25 23:12:24.3±0.1,36°.2N±0°.3×140°.9E±0°.8,h44km±1km, MV2.1/34,E OFF IBARAKI PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.29	301	P			Pn	23 12 32.9	+0.1
JHYU				eS			Sn	23 12 38.5	-0.3
JIHU	Itakohorinouch	0.38	233	P			Pn	23 12 34.4	+0.7
JIHU				eS			Sn	23 12 41.5	+1.2
CHOJ	Chosi	0.49	184	P			Pn	23 12 34.9	-0.2
CHOJ				S			Sn	23 12 42.0	-0.7
JHO	Hitachi	0.49	328	P			Pn	23 12 34.8	-0.3
JHO				S			Sn	23 12 41.9	-1.0
JYT	Yasato	0.57	274	P			Pn	23 12 36.1	+0.1
JYT				S			Sn	23 12 44.0	-0.5
JFK	Kawauchi	1.17	359	P			Pn	23 12 43.8	-0.5
JFK				S			Sn	23 12 57.5	-1.6
JAG	Ashikaga	1.19	282	P			Pn	23 12 45.0	+0.5
JAG				S			Sn	23 12 59.9	+0.4
JKT	Katashina	1.45	294	P			Pn	23 12 49.2	+1.1
JKT				S			Sn	23 13 06.9	+1.0

*IDC **25** 23:12:42.3±0.5, 39°.18N×73°.99E, h0km, mb4.2/30, mbtmp4.2/36, ML3.7/6, MS3.5/25, Error ellipse: s-maj=10.2km s-min=8.1km az=114.0*
*MOS **25** 23:12:42.9±1.3, 39°.14N×73°.95E, h10km, mb4.6/38, Error ellipse: s-maj=4.7km s-min=3.2km az=88.6*
*SOME **25** 23:12:42.1, 39°.33N×73°.55E, h10km, MS4.2*
*BJI **25** 23:12:44.0±0.0, 39°.19N×74°.07E, h8km, mb4.5/32, mB4.6/18, ML4.2/6, Ms4.0/19, Ms7 3.9/20*
*NEIC **25** 23:12:44.5, 39°.27N×74°.05E, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.92; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-0.77; $M_{r\theta}$4.07; $M_{\theta\phi}$-0.31; $M_{\phi r}$1.57; Fault plane solution: $M_0$4.46000×10^{15} NP1:ϕ_s195.71000°, δ7.27000°, λ38.37000°. NP2:ϕ_s67.56000°, δ85.49000°, λ95.71000°. Principal axes: T 4.6771, Plg49.0000°, Azm344.0000°; N -0.4711, Plg6.0000°, Azm247.0000°; P -4.2060, Plg40.0000°, Azm152.0000°;*
*NEIC **25** 23:12:44.5±1.8, 39°.26N±0°.04×74°.04E±0°.05, h10km±1km, mb4.5/76, Mwr4.4/12 Error ellipse: s-maj=8.8km s-min=3.3km az=219.0*
*KRNET **25** 23:12:47.0±0.1, 39°.42N×73°.95E, mb4.8*
*NNC **25** 23:12:48.0±1.5, 39°.46N×74°.04E, h0km, mb5.1, mpv4.8, Error ellipse: s-maj=12.3km s-min=8.1km az=168.0*

ISC 25 23:12:43.3±0.9,39°.15N±0°.03×73°.92E±0°.02,h7km±5km, n450,σ2$46/530,mb4.4/97,MS3.6/27,49C-50D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	Osh	1.62	328	⇓iP			Pn	23 13 13.4	+1.0
	baz=21								
OHH				⇓iS			Sn	23 13 32.8	-0.9
	baz=21								
OHH	Osh	1.62	328	PN			Pn	23 13 13.4	+1.0
KSH	Kashi	1.64	76	Pg			Pn	23 13 04.5	-8.1
KSH				Sg			Sn	23 13 20.5	-14
KSH				smax			smax		
	comp=N,5µm,0.7s								
KSH				smax			smax		
	comp=E,3µm,0.9s								
DRK	Karamyk	1.67	282	⇑iP			Pg	23 13 17.5	+2.1
	baz=73								
DRK				⇑iS			Sg	23 13 40.3	+3.2
	baz=73								
DRK	Karamyk	1.67	282				Pn	23 13 14.8	+1.5
BTK	Batken	2.56	292	⇑iP			Pb	23 13 30.4	+0.8
	baz=86								
BTK				⇑iS			Sb	23 14 01.7	+0.4
	baz=86								
BTK	Batken	2.56	292				Pb	23 13 29.8	+0.2
BTK	Batken	2.56	292	PN			Pb	23 13 29.8	+0.2
ARLS	Aral	2.73	6	⇑iP			Pn	23 13 29.6	+2.0
	baz=7.0								
ARLS				⇑iS			Sn	23 14 00.3	-0.6
	baz=7.0								
NRN	Naryn	2.78	34	⇓eP			Pn	23 13 30.6	+2.0
	baz=37								
NRN				⇓iS			Sn	23 14 02.3	-0.3
	baz=37								
NRN	Naryn	2.78	34				Pn	23 13 29.8	+1.2
NRN	Naryn	2.78	34	PN			Pn	23 13 29.8	+1.2
AML	Almayashu	2.98	357	P			Pn	23 13 34.0	+2.6
	SNR=542								
ARK	Arkit	3.04	331	⇑iP			Pn	23 13 34.6	+2.7
	baz=28								
ARK				⇑iS			Sn	23 14 09.4	+0.9
	baz=28								
UCH	Uchtor	3.11	8	P			Pn	23 13 35.7	+2.6
	SNR=241								
UCH	Uchtor	3.11	8	⇓iP			Pn	23 13 34.8	+1.6
	baz=8.0								
UCH				⇓iS			Sn	23 14 09.8	-1.0
	baz=8.0								
TRKS	Terek-Say	3.19	319	⇑iP			Pn	23 13 36.4	+2.5
	baz=15								
TRKS				⇑iS			Sn	23 14 12.4	+0.1
	baz=15								
TRKS	Terek-Say	3.19	319	PN			Pn	23 13 36.5	+2.5
EKS2	Erkin-Say	3.51	358	P			Pn	23 13 41.5	+3.2
	SNR=215								
EKS2	Erkin-Say	3.51	358	⇓iP			Pn	23 13 40.4	+2.0
	baz=58								
EKS2				⇓iS			Sn	23 14 19.6	-0.6
	baz=58								
AAK	Ala-Archa	3.51	7	P			Pn	23 13 41.3	+2.9
	SNR=225								
AAK	Ala-Archa	3.51	7	Pn			Pn	23 13 41.7	+3.3
	32nm,0.3s,baz=174,slow=8.2,SNR=291								
AAK							Sn	23 14 24.4	+4.0
	22nm,0.3s,baz=151,slow=19,SNR=1.1								
AAK				Lg			Lg	23 14 31.4	
	36nm,0.3s,baz=201,slow=21,SNR=7.1								
AAK				LR			LR	23 15 11.5	
	comp=Z,481nm,18.2s,baz=92,slow=43								
	232nm,0.5s								
AAK	Ala-Archa	3.51	7	⇓iP			Pn	23 13 40.3	+1.9
	baz=7.0								
AAK				⇓iS			Sn	23 14 19.3	-1.0
	baz=7.0								
AAK	Ala-Archa	3.51	7	Pn			Pn	23 13 41.1	+2.7
AAK	Ala-Archa	3.51	7	c iPN			Pn	23 13 41.2	+2.8
AAK				pmax			pmax		
	comp=Z,278nm,0.8s								
ULHL	Ulahol	3.56	29	P			Pb	23 13 46.2	-0.5
	SNR=99								
ULHL	Ulahol	3.56	29	⇓eP			Pn	23 13 41.5	+2.3
	baz=31								
ULHL				⇓iS			Sn	23 14 21.2	-0.4
	baz=31								
KBK	Karagaybulak	3.59	12	P			Pn	23 13 42.6	+3.1
	SNR=127								
KBK	Karagaybulak	3.59	12	⇑iP			Pn	23 13 41.7	+2.2
	baz=13								
KBK				⇑iS			Sn	23 14 21.5	-0.8
	baz=13								
MRKS	Merke	3.63	352	eP			Pb	23 13 46.0	-1.8
	comp=Z,48nm,0.4s								
MRKS				eS			Sb	23 14 31.6	-0.4
	comp=Z,844nm,1.0s								
MRKS	Merke	3.63	352	eP			Pb	23 13 48.6	+0.8
	comp=Z,104nm,0.4s								
MRKS				eS			Sb	23 14 33.2	+1.1
	comp=Z,844nm,1.0s								
MRKS	Merke	3.63	352	Pg			Pn	23 13 43.0	+3.0
	comp=Z,44nm,0.5s								
FRU1	Bishkek	3.70	8	⇓iP			Pn	23 13 43.5	+2.6
	baz=8.0								
FRU1				⇓iS			Sn	23 14 24.3	-0.4
	baz=8.0								
CHMS	Chumysh	3.90	9	P			Pn	23 13 46.4	+2.7
	SNR=23								
CHMS	Chumysh	3.90	9	⇑Pn			Pn	23 13 46.3	+2.7
	comp=Z,162nm,0.7s								
CHMS				⇑Lg			Lg	23 14 43.1	
	comp=Z,753nm,0.8s								
CHMS	Chumysh	3.90	9	PN			Pn	23 13 46.3	+2.7
TARG	Taragay, Kyrgy	3.93	48				Pn	23 13 46.6	+2.2
TARG	Taragay, Kyrgy	3.93	48	PN			Pn	23 13 46.6	+2.2
TKM2	Tokmak 2	3.98	18	P			Pn	23 13 47.4	+2.6
	SNR=18								
TKM2	Tokmak 2	3.98	18	⇑Pn			Pn	23 13 47.2	+2.3
	comp=Z,136nm,0.8s								
TKM2				⇓Lg			Lg	23 14 42.5	
	comp=Z,344nm,0.7s								
TKM2	Tokmak 2	3.98	18	PN			Pn	23 13 47.0	+2.1
TKM2				P			Pb	23 13 54.0	+0.2
USP	Ospenovka	4.14	6	P			Pn	23 13 49.5	+2.5
	SNR=52								
USP	Ospenovka	4.14	6	⇓eP			Pn	23 13 49.0	+2.1
	baz=6.0			

	comp=Z,100nm,0.5s								
DZA	**Taraz**	**4.22**	**333**	*e*PN		**Pn**	**23 13 51.5**	**+3.5**
DZA				*e*			23 13 59.7		
DGS	**Degeres**	**4.32**	**18**	*e*P		**Pb**	**23 14 00.7**	**+1.1**
	comp=Z,182nm,0.7s								
DGS				*e*S		**Sb**	**23 14 57.6**	**+5.6**
	comp=Z,499nm,0.7s								
DGS	**Degeres**	**4.32**	**18**	*e*P		**Pb**	**23 14 01.8**	**+2.2**
	comp=Z,182nm,0.7s								
DGS				*e*S		**Sb**	**23 14 57.6**	**+5.6**
	comp=Z,499nm,0.7s								
DGS	**Degeres**	**4.32**	**18**	Pg		**Pb**	**23 14 00.7**	**+1.1**
	comp=Z,182nm,0.7s								
DGS				Lg		Lg	23 14 57.6		
	comp=Z,499nm,0.7s								
SGDS	**Sogindy**	**4.33**	**7**	*e*P		**Pb**	**23 13 58.4**	**-1.3**
	comp=Z,110nm,0.7s								
SGDS				*e*S		**Sb**	**23 14 53.7**	**+1.4**
	comp=Z,187nm,0.7s								
SGDS	**Sogindy**	**4.33**	**7**	*e*P		**Pb**	**23 14 00.7**	**+1.0**
	comp=Z,110nm,0.7s								
SGDS				*e*S		**Sb**	**23 14 53.7**	**+1.4**
	comp=Z,187nm,0.7s								
SGDS	**Sogindy**	**4.33**	**7**	*e*Pn		**Pn**	**23 13 52.0**	**+2.4**
	baz=6.5								
SGDS				*i* Pg		**Pb**	**23 14 00.9**	**+1.1**
	baz=6.5								
SGDS				*e*Lg		Lg	23 14 58.7		
	baz=6.5								
SGDS	**Sogindy**	**4.33**	**7**	Pg		**Pb**	**23 14 00.4**	**+0.7**
	comp=Z,261nm,1.0s								
SGDS	**Sogindy**	**4.33**	**7**	*e*PN		**Pn**	**23 13 52.0**	**+2.4**
SGDS				*i*			23 14 00.9		
MTBS	**Maitube**	**4.41**	**25**	*e*P		**Pb**	**23 14 01.1**	**0.0**
	comp=Z,54nm,0.5s								
MTBS				*e*S		**Sb**	**23 14 58.4**	**+4.0**
	comp=Z,258nm,0.7s								
MTBS	**Maitube**	**4.41**	**25**	*e*P		**Pb**	**23 14 01.1**	**0.0**
	comp=Z,54nm,0.5s								
MTBS				*e*S		**Sb**	**23 14 58.4**	**+4.0**
	comp=Z,258nm,0.7s								
MTBS	**Maitube**	**4.41**	**25**	Pg		**Pb**	**23 14 01.1**	**0.0**
	comp=Z,54nm,0.5s								
MTBS				Lg		Lg	23 14 58.4		
	comp=Z,258nm,0.7s								
TNSS	**Tian-Shan**	**4.51**	**30**	*e*P		**Pb**	**23 14 04.2**	**+1.3**
	comp=Z,273nm,0.6s								
TNSS				*e*S		**Sg**	**23 15 03.7**	**-4.3**
	comp=Z,228nm,1.0s								
TNSS	**Tian-Shan**	**4.51**	**30**	*e*P		**Pb**	**23 14 04.2**	**+1.3**
	comp=Z,273nm,0.6s								
TNSS				*e*S		**Sg**	**23 15 03.7**	**-4.3**
	comp=Z,228nm,1.0s								
TNSS	**Tian-Shan**	**4.51**	**30**	*e*Pn		**Pn**	**23 13 54.8**	**+2.5**
	baz=29								
TNSS				*i* Pg		**Pb**	**23 14 04.2**	**+1.3**
	baz=29								
TNSS				*e*Lg		Lg	23 15 04.3		
	baz=29								
TNSS	**Tian-Shan**	**4.51**	**30**	Pg		**Pb**	**23 14 04.3**	**+1.3**
	comp=Z,273nm,0.6s								
TNSS				Lg		Lg	23 15 03.7		
	comp=Z,228nm,1.0s								
TNSS	**Tian-Shan**	**4.51**	**30**	*e*PN		**Pn**	**23 13 54.8**	**+2.5**
TNSS				*i*			23 14 04.1		
CHM	**Chimkent**	**4.56**	**315**	*e*P		Pn	23 13 59.1	+6.5
	comp=Z,182nm,0.2s								
CHM				*e*S		**Sn**	**23 14 54.4**	**+8.5**
	comp=Z,477nm,0.6s								
CHM	**Chimkent**	**4.56**	**315**	*e*P		**Pb**	**23 14 00.6**	**-2.9**
	comp=Z,210nm,0.4s								
CHM				*e*S		**Sn**	**23 14 54.4**	**+8.5**
	comp=Z,477nm,0.6s								
CHM	**Chimkent**	**4.56**	**315**	*e*Pn		**Pn**	**23 13 56.4**	**+3.8**
	baz=315								
CHM				*e*Pg		**Pb**	**23 14 05.7**	**+2.2**
	baz=315								
CHM	**Chimkent**	**4.56**	**315**	*e*PN		**Pn**	**23 13 56.4**	**+3.8**
CHM				*e*			23 14 05.7		
ANVS	**Anan'yevo**	**4.61**	**37**	PN		**Pn**	**23 13 56.0**	**+2.5**
AAA	**Alma-Ata**	**4.64**	**28**	*e*P		**Pb**	**23 14 07.0**	**+1.9**
	comp=Z,382nm,0.7s								
AAA				*e*S		**Sg**	**23 15 08.3**	**-4.0**
	comp=Z,665nm,0.9s								
AAA	**Alma-Ata**	**4.64**	**28**	*e*P		**Pb**	**23 14 07.0**	**+1.9**
	comp=Z,382nm,0.7s								
AAA				*e*S		**Sg**	**23 15 08.3**	**-4.0**
	comp=Z,665nm,0.9s								
AAA	**Alma-Ata**	**4.64**	**28**	*e*Pn		**Pn**	**23 13 57.8**	**+3.8**
	baz=28								
AAA				*i* Pg		**Pb**	**23 14 06.7**	**+1.6**
	baz=28								
AAA				*e*Lg		Lg	23 15 08.6		
	baz=28								
AAA	**Alma-Ata**	**4.64**	**28**	Pg		**Pb**	**23 14 07.0**	**+1.9**
	comp=Z,382nm,0.7s								
AAA				Lg		Lg	23 15 08.3		
	comp=Z,665nm,0.9s								
AAA	**Alma-Ata**	**4.64**	**28**	*e*PN		**Pn**	**23 13 57.7**	**+3.8**
AAA				*i*			23 14 06.6		
MDOK	**Medeo**	**4.65**	**30**	*e*P		**Pb**	**23 14 06.0**	**+0.7**
	comp=Z,264nm,0.9s								
MDOK				*e*S		**Sb**	**23 15 06.6**	**+5.0**
	comp=Z,373nm,1.0s								
MDOK	**Medeo**	**4.65**	**30**	*e*P		**Pb**	**23 14 06.0**	**+0.7**
	comp=Z,264nm,0.9s								
MDOK				*e*S		**Sb**	**23 15 06.6**	**+5.0**
	comp=Z,373nm,1.0s								
MDOK	**Medeo**	**4.65**	**30**	*e*Pn		**Pn**	**23 13 56.2**	**+2.1**
	baz=29								
MDOK				*i* Pg		**Pb**	**23 14 06.5**	**+1.2**
	baz=29								
MDOK	**Medeo**	**4.65**	**30**	⇑Pn		**Pn**	**23 13 56.5**	**+2.4**
	comp=Z,25nm,0.6s								
MDOK				Pg		**Pb**	**23 14 06.0**	**+0.7**
	comp=Z,264nm,0.9s								
MDOK				Pg		Pg	23 14 06.9	-5.5	
	comp=Z,339nm,0.8s								
MDOK				Lg		Lg	23 15 06.6		
	comp=Z,373nm,1.0s								
MDOK				Lg		Lg	23 15 07.5		
	comp=Z,697nm,1.1s								
MDOK	**Medeo**	**4.65**	**30**	*e*PN		**Pn**	**23 13 56.1**	**+2.0**
MDOK				*i*			23 14 06.5		
KNDC	**Almaty**	**4.67**	**29**	⇑Pn		**Pn**	**23 13 58.6**	**+4.3**
	comp=Z,74nm,0.5s								
KNDC				⇓Pg		**Pb**	**23 14 07.5**	**+2.0**
	comp=Z,1μm,0.9s								
KNDC				⇓Lg		Lg	23 15 08.7		
	comp=Z,2μm,1.1s								
KNDC	**Almaty**	**4.67**	**29**	PN		**Pn**	**23 13 58.6**	**+4.3**
KNDC				P		**Pb**	**23 14 07.5**	**+2.0**
KK31	**Karatay Array**	**4.71**	**328**	Pn		**Pn**	**23 13 57.0**	**+2.2**
KK31	**Karatay Array**	**4.71**	**328**	Pn		**Pn**	**23 13 57.6**	**+2.8**
	comp=Z,85nm,0.7s,baz=144,slow=11,SNR=266								
KK31				⇓Sn		**Sn**	**23 14 52.7**	**+3.0**
	comp=Z,147nm,0.8s,baz=148,slow=26,SNR=4.4								
KK31				⇑Lg		Lg	23 15 12.5		
	comp=Z,161nm,0.7s								
KK31	**Karatay Array**	**4.71**	**328**	PN		**Pn**	**23 13 57.0**	**+2.2**
KKAR	**Karatay Array**	**4.71**	**328**	Pn		**Pn**	**23 13 57.1**	**+2.3**
KKAR	**Karatay Array**	**4.71**	**328**			**Pn**	**23 13 57.4**	**+2.6**
KKAR	**Karatay Array**	**4.71**	**328**	PN		**Pn**	**23 13 57.1**	**+2.3**
KRBS	**Karabastau**	**4.73**	**16**	*e*P		**Pb**	**23 14 08.0**	**+1.5**
	comp=Z,61nm,0.6s								
KRBS				*e*S		**Sb**	**23 15 10.8**	**+7.1**
	comp=Z,161nm,0.8s								
KRBS	**Karabastau**	**4.73**	**16**	*e*P		**Pb**	**23 14 08.0**	**+1.5**
	comp=Z,61nm,0.6s								
KRBS				*e*S		**Sb**	**23 15 10.8**	**+7.1**
	comp=Z,161nm,0.8s								
KRBS	**Karabastau**	**4.73**	**16**	Pg		**Pb**	**23 14 08.0**	**+1.5**
	comp=Z,61nm,0.6s								
KRBS				Lg		Lg	23 15 10.8		
	comp=Z,161nm,0.8s								
KTBS	**Karatobe**	**5.01**	**24**	*e*P		**Pb**	**23 14 13.1**	**+1.8**
	comp=Z,297nm,0.7s								
KTBS				*e*S		**Sb**	**23 15 18.2**	**+6.5**
	comp=Z,290nm,0.9s								
KTBS	**Karatobe**	**5.01**	**24**	*e*P		**Pb**	**23 14 13.1**	**+1.8**
	comp=Z,297nm,0.7s								
KTBS				*e*S		**Sb**	**23 15 18.2**	**+6.5**
	comp=Z,290nm,0.9s								
KTBS	**Karatobe**	**5.01**	**24**	Pg		**Pb**	**23 14 13.1**	**+1.8**
	comp=Z,297nm,0.7s								
KTBS				Lg		Lg	23 15 18.2		
	comp=Z,290nm,0.9s								
KUU	**Kurty**	**5.08**	**20**	*e*Pn		**Pn**	**23 14 02.8**	**+3.0**
	baz=20								
KUU				*e*Pg		**Pb**	**23 14 14.8**	**+2.4**
	baz=20								
KUU	**Kurty**	**5.08**	**20**	*e*PN		**Pn**	**23 14 02.7**	**+3.0**
KUU				*e*			23 14 14.7		
SATY	**Saty**	**5.17**	**40**	*e*P		**Pg**	**23 14 19.6**	**-2.7**
	comp=Z,157nm,1.0s								
SATY				*e*S		**Sg**	**23 15 29.8**	**+0.5**
	comp=Z,342nm,1.4s								
SATY	**Saty**	**5.17**	**40**	*e*P		**Pg**	**23 14 19.6**	**-2.7**
	comp=Z,157nm,1.0s								
SATY				*e*S		**Sg**	**23 15 29.8**	**+0.5**
	comp=Z,342nm,1.4s								
SATY	**Saty**	**5.17**	**40**	*e*Pn		**Pn**	**23 14 02.6**	**+1.4**
	baz=40								
SATY				*i* Pg		**Pb**	**23 14 15.4**	**+1.3**
	baz=40								
SATY	**Saty**	**5.17**	**40**	Pg		**Pb**	**23 14 15.1**	**+1.0**
	comp=Z,127nm,0.8s								
SATY				Lg		Lg	23 15 22.3		
	comp=Z,261nm,0.7s								
SATY	**Saty**	**5.17**	**40**	*e*PN		**Pn**	**23 14 02.6**	**+1.4**
SATY				*i*			23 14 15.3		
CHKK	**Chushkaly**	**5.24**	**25**	*e*P		**Pb**	**23 14 16.1**	**+1.0**
	comp=Z,222nm,0.6s								
CHKK				*e*S		**Sb**	**23 15 24.7**	**+6.5**
	comp=Z,234nm,0.8s								
CHKK	**Chushkaly**	**5.24**	**25**	*e*P		**Pb**	**23 14 16.1**	**+1.0**
	comp=Z,222nm,0.6s								
CHKK				*e*S		**Sb**	**23 15 24.7**	**+6.5**
	comp=Z,234nm,0.8s								
CHKK	**Chushkaly**	**5.24**	**25**	*e*Pn		**Pn**	**23 14 05.0**	**+3.0**
	baz=25								
CHKK				*e*Pg		**Pb**	**23 14 17.0**	**+1.8**
	baz=25								
CHKK	**Chushkaly**	**5.24**	**25**	Pg		**Pb**	**23 14 16.1**	**+1.0**
	comp=Z,222nm,0.6s								
CHKK				Lg		Lg	23 15 24.7		
	comp=Z,234nm,0.8s								
CHKK	**Chushkaly**	**5.24**	**25**	*e*PN		**Pn**	**23 14 04.9**	**+3.0**
CHKK				*e*			23 14 16.9		
ZHN	**Zhinishke**	**5.27**	**39**	*e*P		**Pb**	**23 14 18.9**	**+3.2**
	comp=Z,18nm,0.5s								
ZHN				*e*S		**Sg**	**23 15 28.6**	**-3.8**
	comp=Z,168nm,1.3s								
ZHN	**Zhinishke**	**5.27**	**39**	*e*P		**Pb**	**23 14 18.9**	**+3.2**
	comp=Z,18nm,0.5s								
ZHN				*e*S		**Sg**	**23 15 28.6**	**-3.8**
	comp=Z,168nm,1.3s								
ZHN	**Zhinishke**	**5.27**	**39**	Pg		**Pb**	**23 14 17.0**	**+1.3**
	comp=Z,18nm,0.6s								
ZHN				Lg		Lg	23 15 25.2		
	comp=Z,163nm,0.5s								
KURS	**Kuram**	**5.39**	**35**	*e*P		**Pg**	**23 14 23.5**	**-3.0**
	comp=Z,149nm,0.9s								
KURS				*e*S		**Sg**	**23 15 36.8**	**+0.5**
	comp=Z,207nm,0.3s								
KURS	**Kuram**	**5.39**	**35**	*e*P		**Pg**	**23 14 23.5**	**-3.0**
	comp=Z,149nm,0.9s								
KURS				*e*S		**Sg**	**23 15 36.8**	**+0.5**
	comp=Z,207nm,0.3s								
KURS	**Kuram**	**5.39**	**35**	Pg		**Pb**	**23 14 18.4**	**+0.6**
	comp=Z,79nm,0.8s								
KURS				Lg		Lg	23 15 27.5		
	comp=Z,169nm,1.0s								
CHCP	**Chirah Chowk**	**5.51**	**186**	P		Pb	23 14 11.3	-8.5	
NIL	**Nilore**	**5.51**	**186**			Pn	23 14 11.2	+5.4	
NIL	**Nilore**	**5.51**	**186**	PN		Pn	23 14 11.2	+5.3	
UZB	**Uzynbulak**	**5.55**	**42**	*e*P		**Pg**	**23 14 25.4**	**-4.1**
	comp=Z,44nm,0.6s								
UZB				*e*S		**Sg**	**23 15 39.7**	**-1.7**
	comp=Z,170nm,1.0s								
UZB	**Uzynbulak**	**5.55**	**42**	*e*P		**Pg**	**23 14 25.4**	**-4.1**
	comp=Z,44nm,0.6s								
UZB				*e*S		**Sg**	**23 15 39.7**	**-1.7**
	comp=Z,170nm,1.0s								
UZB	**Uzynbulak**	**5.55**	**42**	*e*Pn		**Pn**	**23 14 08.2**	**+1.7**
	baz=42								
UZB				*e*Pg		**Pb**	**23 14 22.2**	**+1.7**
	baz=42								
UZB	**Uzynbulak**	**5.55**	**42**	Pg		**Pb**	**23 14 21.3**	**+0.8**
	comp=Z,52nm,0.5s								
UZB				Lg		Lg	23 15 32.6		
	comp=Z,170nm,1.0s								
UZB	**Uzynbulak**	**5.55**	**42**	*e*PN		**Pn**	**23 14 08.1**	**+1.7**
UZB				*e*			23 14 22.2		
CEP	**Cherat**	**5.56**	**198**	P		Pb	23 14 14.3	-6.4	
KPKS	**Kokpek**	**5.61**	**38**	*e*P		**Pb**	**23 14 25.2**	**+3.6**
	comp=Z,130nm,0.6s								
KPKS				*e*S		**Sg**	**23 15 39.3**	**-4.1**
	comp=Z,222nm,0.6s								
KPKS	**Kokpek**	**5.61**	**38**	*e*P		**Pb**	**23 14 25.2**	**+3.6**
	comp=Z,130nm,0.6s								
KPKS				*e*S		**Sg**	**23 15 39.3**	**-4.1**
	comp=Z,222nm,0.6s								
KPKS	**Kokpek**	**5.61**	**38**	*e*Pn		**Pn**	**23 14 09.0**	**+1.7**
	baz=38								
KPKS				*e*Pg		**Pb**	**23 14 23.3**	**+1.8**
	baz=38								
KPKS	**Kokpek**	**5.61**	**38**	Pg		**Pb**	**23 14 21.4**	**-0.1**
	comp=Z,132nm,0.9s								
KPKS				Lg		Lg	23 15 34.2		
	comp=Z,196nm,0.7s								
KPKS	**Kokpek**	**5.61**	**38**	*e*PN		**Pn**	**23 14 08.9**	**+1.7**
KPKS				*e*			23 14 23.3		
SHLS	**Shalkode**	**5.79**	**44**	*e*P		**Pg**	**23 14 35.5**	**+1.4**
	comp=Z,100nm,1.1s								
SHLS				*e*S		**Sg**	**23 15 57.5**	**+8.3**
	comp=Z,301nm,1.1s								
SHLS	**Shalkode**	**5.79**	**44**	*e*P		**Pg**	**23 14 35.5**	**+1.4**
	comp=Z,100nm,1.1s								
SHLS				*e*S		**Sg**	**23 15 57.5**	**+8.3**
	comp=Z,301nm,1.1s								
SHLS	**Shalkode**	**5.79**	**44**	*e*Pn		Pn	23 14 15.0	+5.2	
	baz=46								
SHLS				*i* Pg		**Pg**	**23 14 31.2**	**-2.9**
	baz=46								
SHLS	**Shalkode**	**5.79**	**44**	Pg		**Pg**	**23 14 31.3**	**-2.9**
	comp=Z,88nm,0.9s								
SHLS				Lg		Lg	23 15 49.9		
	comp=Z,301nm,1.1s								
SHLS	**Shalkode**	**5.79**	**44**	*e*PN		Pn	23 14 14.9	+5.2	
SHLS				*i*			23 14 31.2		
ARXS	**Arharly**	**5.84**	**29**	Pg		**Pb**	**23 14 26.6**	**+1.1**
	comp=Z,410nm,1.0s								
ARXS				Lg		Lg	23 15 42.1		
	comp=Z,208nm,0.6s								
ARXS	**Arharly**	**5.84**	**29**	*e*PN		**Pn**	**23 14 12.5**	**+2.1**
BTLS	**Baital**	**5.89**	**1**	*e*P		**Pb**	**23 14 29.6**	**+3.4**
	comp=Z,27nm,0.9s								
BTLS				*e*S		Sb	23 15 46.4	+9.5	
	comp=Z,105nm,0.8s								
BTLS	**Baital**	**5.89**	**1**	*e*P		**Pb**	**23 14 29.6**	**+3.4**
	comp=Z,27nm,0.9s								
BTLS				*e*S		Sb	23 15 46.4	+9.5	
	comp=Z,105nm,0.8s								
BTLS	**Baital**	**5.89**	**1**	*e*Pn		**Pn**	**23 14 13.7**	**+2.8**
	baz=0.6								
BTLS				*e*Pg		**Pb**	**23 14 28.8**	**+2.6**
	baz=0.6								
BTLS	**Baital**	**5.89**	**1**	Pg		**Pb**	**23 14 27.2**	**+1.0**
	comp=Z,27nm,0.6s								
BTLS				Lg		Lg	23 15 43.4		
	comp=Z,99nm,0.8s								
BTLS	**Baital**	**5.89**	**1**	*e*PN		**Pn**	**23 14 13.7**	**+2.8**
BTLS				*e*			23 14 28.8		
PDGK	**Podgornoye**	**5.92**	**43**	Pg		**Pb**	**23 14 28.1**	**+1.2**
	comp=Z,69nm,0.8s								
PDGK				Lg		Lg	23 15 44.7		
	comp=Z,81nm,0.9s								
PDGK	**Podgornoye**	**5.92**	**43**	⇑Pn		**Pn**	**23 14 13.3**	**+1.8**
	comp=Z,19nm,0.7s								
PDGK				⇓Pg		**Pb**	**23 14 29.8**	**+2.9**
	comp=Z,148nm,0.8s								
PDGK				⇓Lg		Lg	23 15 47.7		
	comp=Z,271nm,0.8s								
PDGK	**Podgornoye**	**5.92**	**43**	PN		**Pn**	**23 14 12.0**	**+0.5**
KBL	**Kabul**	**6.04**	**222**	Pn		Pn	23 14 18.7	+5.6	
KBL	**Kabul**	**6.04**	**222**	PN		Pn	23 14 18.7	+5.5	
JMU	**Jammu**	**6.47**	**173**	*e*P		**Pn**	**23 14 21.5**	**+2.6**
THW	**Thamme Wali**	**6.58**	**196**	P		Pn	23 14 26.1	+5.6	
TDK	**Taldyqorghan**	**6.73**	**28**	*e*P		Pb	23 14 46.1	+5.6	
	comp=Z,260nm,0.6s								
TDK				*e*S		**Sg**	**23 16 15.4**	**-4.0**
	comp=Z,433nm,0.9s								
TDK	**Taldyqorghan**	**6.73**	**28**	*e*Pn		**Pn**	**23 14 14.8**	**+2.4**
	baz=28								
TDK				*i* Pg		**Pb**	**23 14 44.5**	**+3.9**
	baz=28								
TDK	**Taldyqorghan**	**6.73**	**28**	*e*PN		**Pn**	**23 14 25.1**	**+2.6**
TDK				*i*			23 14 44.5		
DJR	**Jarkent**	**6.79**	**38**	*e*P		**Pg**	**23 14 50.2**	**-3.0**
	comp=Z,32nm,0.6s								
DJR				*e*S		**Sg**	**23 16 22.6**	**+1.5**
	comp=Z,84nm,1.0s								
DJR	**Jarkent**	**6.79**	**38**	*e*P		**Pg**	**23 14 50.2**	**-3.0**
	comp=Z,32nm,0.6s								
DJR				*e*S		**Sg**	**23 16 22.6**	**+1.5**
	comp=Z,84nm,1.0s								
DJR	**Jarkent**	**6.79**	**38**	Pg		**Pb**	**23 14 45.4**	**+3.8**
	comp=Z,23nm,0.7s								
SARP	**Sargodha**	**7.28**	**188**	P		**Pn**	**23 14 33.3**	**+3.2**
BHK	**Bhakra**	**7.98**	**164**	*e*P		Pn	23 14 43.0	+3.3	
BHK				*e*S		**Sn**	**23 16 09.4**	**-0.8**
SMLA	**Simla**	**8.43**	**161**	*e*P		**Pn**	**23 14 47.3**	**+1.4**
SMLA				*e*S		**Sn**	**23 16 22.5**	**+1.2**
SMLA				IAML			23 16 27.3		
	comp=E,214nm,0.5s								
SMLA				IAML			23 16 27.4		
	comp=N,259nm,0.4s								
OTUK	**Ortayu**	**9.16**	**353**	⇑Pn		**Pn**	**23 14 57.5**	**+1.6**
	comp=N,31nm,1.4s								
OTUK				⇑Lg		Lg	23 17 27.0		
	comp=N,103nm,1.0s								
OTUK	**Ortayu**	**9.16**	**353**	P		**Pn**	**23 14 57.0**	**+1.1**
DDI	**Dehra Dun**	**9.44**	**158**	*e*S		**Sn**	**23 16 47.0**	**+0.8**
MAKZ	**Makanchi**	**9.66**	**35**	Pn		**Pn**	**23 15 03.8**	**+1.1**
MAKZ	**Makanchi**	**9.66**	**35**	⇓Pn		**Pn**	**23 15 05.2**	**+2.5**
	comp=N,14nm,1.3s								
MAKZ	**Makanchi**	**9.66**	**35**	P		**Pn**	**23 15 03.8**	**+1.1**
MKAR	**Makanchi Array**	**9.79**	**36**	Pn		**Pn**	**23 15 06.4**	**+1.9**
	comp=N,0.5nm,0.3s,baz=223,slow=13,SNR=26								
MKAR				Lg		Lg	23 17 51.3		
	comp=N,0.5nm,0.3s,baz=218,slow=35,SNR=2.2								
MKAR				LR		LR	23 19 15.4		
	comp=N,106nm,20.1s,baz=208,slow=40								
	comp=N,2.8nm,0.7s								
MKAR	**Makanchi Array**	**9.79**	**36**	Pn		**Pn**	**23 15 06.0**	**+1.5**
MK31	**Makanchi Array**	**9.79**	**36**			**Pn**	**23 15 06.0**	**+1.5**
MK31	**Makanchi Array**	**9.79**	**36**	⇓Pn		**Pn**	**23 15 06.6**	**+2.1**
	comp=N,13nm,0.7s,baz=204,slow=11,SNR=29								
MK31	**Makanchi Array**	**9.79**	**36**	*e*P		**Pn**	**23 15 06.4**	**+1.9**
HRA	**Herat**	**10.50**	**247**	Pn		**Pn**	**23 15 16.6**	**+2.2**
NDI	**New Delhi**	**10.79**	**164**	*e*P		**Pn**	**23 15 20.0**	**+1.8**
PTH	**Pithoragarh**	**10.90**	**150**	*e*P		**Pn**	**23 15 19.4**	**-0.4**
PTH				*e*S		**Sn**	**23 17 13.8**	**-8.3**
LGTI	**Lohaghat**	**11.00**	**150**	*e*P		**Pn**	**23 15 20.9**	**-0.1**
LGTI				*e*S		**Sn**	**23 17 19.0**	**-5.3**
KUDL	**Kundal**	**11.18**	**168**	*e*P		**Pn**	**23 15 24.2**	**+0.6**
KUDL				*e*S		**Sn**	**23 17 24.9**	**-4.0**
WMQ	**Urumqi**	**11.34**	**61**	*e*P		**Pn**	**23 15 26.0**	**+0.3**
WMQ				S		**Sn**	**23 17 33.5**	**+0.9**
WMQ				pmax	pmax				
	comp=N,15nm,0.9s								
WMQ				pmax	pmax				
	comp=N,150nm,5.1s								
WMQ				LR	LR				
	comp=N,220nm,10.9s								
WMQ				LR	LR				
	comp=N,330nm,6.7s								
WMQ				LR	LR				
	comp=N,110nm,12.7s								
ZSN	**Zaisan**	**11.50**	**40**	*e*Pn		**Pn**	**23 15 29.8**	**+2.0**
	baz=40								
ZSN	**Zaisan**	**11.50**	**40**	*e*P		**Pn**	**23 15 29.8**	**+2.0**
KURBB	**Kurchatov Arra**	**11.93**	**14**	Pn		**Pn**	**23 15 33.5**	**-0.2**
	comp=N,0.1nm,0.3s,baz=202,slow=12,SNR=9.6								
KURBB				Sn		**Sn**	**23 17 39.5**	**-7.4**
	comp=N,0.1nm,0.3s,baz=206,slow=16,SNR=4.5								
KURBB				Lg		Lg	23 18 58.0		
	comp=N,0.2nm,0.3s,baz=202,slow=28,SNR=7.6								
	comp=N,0.9nm,0.7s								
KURBB	**Kurchatov Arra**	**11.93**	**14**	⇑Pn		**Pn**	**23 15 34.4**	**+0.8**
	comp=N,5.5nm,0.8s								
KURBB				⇑Lg		Lg	23 18 57.3		
	comp=N,105nm,1.1s								
KURBB	**Kurchatov Arra**	**11.93**	**14**	P		**Pn**	**23 15 34.4**	**+0.8**
KURK	**Kurchatov**	**12.03**	**14**	Pn		**Pn**	**23 15 35.5**	**+0.4**
KURK	**Kurchatov**	**12.03**	**14**	⇑Pn		**Pn**	**23 15 35.6**	**+0.6**
	comp=N,5.4nm,0.9s								
KURK				⇑Lg		Lg	23 18 58.3		
	comp=N,154nm,1.5s								
KURK	**Kurchatov**	**12.03**	**14**	⇑*e*P		**Pn**	**23 15 37.3**	**+2.2**
KURK				pmax	pmax				
	comp=Z,2.0nm,0.7s								
GEYT	**Alibeck**	**12.43**	**269**	Pn		**Pn**	**23 15 39.8**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=98,slow=9.0,SNR=14								
GEYT				Sn		**Sn**	**23 18 01.4**	**+1.9**
	comp=Z,0.5nm,

BLSP Bilaspur 18.36 155 *e*S **Sn 23 20 13.5 -10**
BOK Bokaro 18.37 143 *e*P **P 23 16 57.2 -1.4**
AKL Akola 18.58 171 *e*S **Sn 23 20 19.2 -10**
SVE Sverdlovsk 19.73 338 *e*P **P 23 17 13.8 +0.5**
SVE *e*S **S 23 20 51.0 -4.8**
SVE pmax pmax
comp=Z,18nm,1.1s
GTA Gaotai 20.03 81 *e*P **Pn 23 17 17.8 -0.8**
GTA pP sP 23 17 21.0 -0.6
GTA sP pP 23 17 24.0 +3.9
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,61nm,4.7s
GTA LR LR
comp=Z,190nm,13.1s
GTA LR LR
comp=Z,200nm,13.8s
GTA LR LR
comp=Z,220nm,14.5s
ARU Arti 20.05 335 P **P 23 17 17.5 +0.7**
comp=Z,7.2nm,0.7s,baz=148,slow=6.8,SNR=16
ARU S **S 23 20 54.5 -7.7**
comp=Z,1.0nm,0.6s,baz=139,slow=20,SNR=1.5
ARU Lg Lg 23 23 17.5
baz=346,slow=22
ARU LR LR 23 25 22.0
comp=Z,130nm,19.0s,baz=176,slow=38
comp=Z,7.2nm,0.7s
ARU Arti 20.05 335 P **P 23 17 16.4 -0.3**
ARU IAmb IAmb 23 17 29.7
comp=Z,16nm,0.8s
ARU Arti 20.05 335*c i*P **P 23 17 18.4 +1.6**
ARU 23 17 32.9
ARU S Sn 23 21 09.1 +5.0
ARU SS **SnSn 23 21 28.1 +10**
ARU pmax pmax
comp=Z,19nm,1.2s
ARU MLR MLR
comp=Z,177nm,12.0s
AKT Akhty 20.08 285 *e*P Pn 23 17 21.3 +2.1
AKT *e* 23 17 38.0
AKT pmax pmax
comp=Z,26nm,0.9s
KNGR Kungurtug, Tuv 20.18 48⇑*e*P **P 23 17 17.7 -0.6**
KNGR pmax pmax
comp=Z,19nm,0.9s
ZIRO ZIRO 20.24 119 *e*P Pn 23 17 18.9 -2.4
SHL Shillong 20.29 127 P Pn 23 17 20.6 -1.2
SHL IAmb IAmb 23 17 27.4
comp=Z,27nm,1.0s
SHL Shillong 20.29 127 P Pn 23 17 20.6 -1.2
SHL pmax pmax
comp=Z,27nm,1.0s
WSAR Wadi Sarin 20.51 224 P Pn 23 17 24.0 -0.1
comp=Z,31nm,1.0s,baz=56,slow=12,SNR=17
WSAR LR LR 23 27 29.0
comp=Z,51nm,18.4s,baz=70,slow=43
comp=Z,31nm,1.0s
GROC Groznyy 21.50 290 *e*P **P 23 17 32.4 -0.2**
GROC *e* 23 17 51.9
GROC pmax pmax
comp=Z,137nm,1.0s
BRDH Bariadhala 22.32 132 LR LR 23 27 36.4
comp=Z,117nm,21.2s,baz=54,slow=40
GNI Garni 22.45 282 P **P 23 17 45.5 +2.5**
comp=Z,22nm,1.1s,baz=135,slow=3.9,SNR=9.0
GNI LR LR 23 27 57.3
comp=Z,58nm,19.6s,baz=100,slow=41
comp=Z,22nm,1.1s
GNI Garni 22.45 282 P **P 23 17 45.0 +2.1**
GNI Garni 22.45 282*c i*P **P 23 17 45.6 +2.6**
GNI pmax pmax
comp=Z,89nm,1.1s
BELG Belogornoye 22.47 315 P **P 23 17 42.3 -0.5**
comp=Z,27nm,0.8s,baz=112,slow=5.0,SNR=8.5
comp=Z,27nm,0.8s
BELG Belogornoye 22.47 315*c i*P **P 23 17 42.1 -0.7**
BELG pmax pmax
comp=Z,4.0nm,0.9s
ZEI Tsey 22.89 289 *e*P **P 23 17 47.3 -0.4**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
NCK Nalchik 23.11 291⇓*i*P **P 23 17 50.5 +0.7**
NCK pmax pmax
comp=Z,37nm,0.9s
ONI Oni 23.23 288 P **P 23 17 52.4 +1.4**
ONI Oni 23.23 288 P **P 23 17 52.4 +1.4**
ONI pmax pmax
comp=Z,44nm,1.0s
ZAK Zakamensk 23.52 52 *e*P **P 23 17 56.4 +2.4**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 23.62 291 P **P 23 17 54.9 0.0**
comp=Z,4.0nm,0.9s,baz=107,slow=17,SNR=5.6
KBZ LR LR 23 29 18.1
comp=Z,63nm,18.2s,baz=75,slow=42
comp=Z,4.0nm,0.9s
KBZ Khabaz 23.62 291*de*P **P 23 17 55.7 +0.9**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KARS Kars 23.65 283 P **P 23 17 56.5 +1.1**
KARS Kars 23.65 283 P **P 23 17 56.5 +1.1**
KARS pmax pmax
comp=Z,74nm,1.0s
NEY Neytrino 23.75 290⇓*e*P **P 23 17 58.3 +2.0**
NEY pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 23.78 292⇑P **P 23 17 57.4 +0.9**
KIV Kislovodsk 23.78 292 P **P 23 17 57.1 +0.6**
KIV IAmb IAmb 23 18 13.5
comp=Z,8.0nm,0.8s
KIV Kislovodsk 23.78 292 *e*P **P 23 17 56.9 +0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,28nm,14.0s
LZH Lanzhou 23.85 88 *e*P **P 23 17 59.3 +1.9**
LZH pP sP 23 18 03.5 +1.3
LZH sP pP 23 18 06.0 +5.3
LZH pmax pmax
comp=Z,9.0nm,1.3s
LZH LR LR
comp=Z,240nm,12.2s
LZH LR LR
comp=Z,310nm,13.6s
LZH LR LR
comp=Z,350nm,16.3s
GEVA Gevas 24.03 278 P **P 23 17 59.3 +0.2**
GEVA IAmb IAmb 23 18 03.2
comp=Z,23nm,1.0s
GURO Guroymak-BITLI 24.78 279 P **P 23 18 07.1 +1.3**
SONM Songino Array 24.96 59 P **P 23 18 06.8 -0.6**
comp=Z,2.4nm,0.7s,baz=261,slow=10,SNR=14
SONM PcP **PcP 23 21 41.9 -0.6**
comp=Z,0.6nm,0.9s,baz=269,slow=2.5,SNR=2.4
SONM LR LR 23 28 54.4
comp=Z,179nm,19.6s,baz=234,slow=39
comp=Z,2.4nm,0.7s
SONM Songino Array 24.96 59 P **P 23 18 08.0 +0.7**
KIRV Kirov 25.01 329*c i*P **P 23 18 07.4 -0.1**
TNCH TengChong 25.05 117 *e*P **P 23 18 08.5 +0.1**
TNCH pmax pmax
comp=Z,47nm,0.8s
ULN Ulaanbaatar 25.40 59 P **P 23 18 11.7 +0.3**
ULN IAmb IAmb 23 18 17.5
comp=Z,5.9nm,0.8s
ULN Ulaanbaatar 25.40 59 P **P 23 18 11.7 +0.3**
ULN pmax pmax
comp=Z,6.0nm,0.9s
VRH Novokhopyorsk 25.48 309 *e*P **P 23 18 10.9 -0.9**
VRH pmax pmax
comp=Z,10.0nm,1.0s
KOPT Kop Dagi 25.69 283 P **P 23 18 15.4 +1.2**
KOPT IAmb IAmb 23 18 29.2
comp=Z,7.8nm,0.9s
MARD Mardin 26.02 276 P **P 23 18 18.1 +1.1**
MARD IAmb IAmb 23 18 20.9
comp=Z,9.9nm,0.9s
PZH PanZhiHua 26.45 110 P **P 23 18 23.8 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,5.5s
VSR Storozhevoye 27.04 308 *e*P **P 23 18 23.5 -2.5**
VSR pmax pmax
comp=Z,5.0nm,0.6s
VORR Voronezh 27.12 309 *e*P **P 23 18 26.7 0.0**
VORR pmax pmax
comp=Z,20nm,0.4s
LPSR Galich'ya Gora 27.52 311 *e*P **P 23 18 30.7 +0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ANN Anapa 27.54 294 *e*P **P 23 18 26.3 -4.2**
ANN *e*'PP **pP 23 18 29.3 -4.8**
ANN *e*S **S 23 23 06.2 -5.7**
ANN pmax pmax
comp=Z,30nm,1.1s
PRGR Permogore 28.43 332 *e*P **P 23 18 37.9 -0.3**
PRGR pmax pmax
comp=Z,4.0nm,0.6s
TOKA Tokat 28.68 284 P **P 23 18 40.7 -0.1**
TOKA IAmb IAmb 23 18 54.4
comp=Z,4.7nm,0.7s
RAYN Ar Rayn 28.68 245 P **P 23 18 42.8 +1.8**
RAYN Ar Rayn 28.68 245 P **P 23 18 42.8 +1.8**
RAYN pmax pmax
comp=Z,24nm,0.7s
HHC Hu-ho-hao-te 28.75 74 *e*P **P 23 18 41.8 +0.3**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,110nm,6.2s
HHC LR LR
comp=Z,220nm,14.2s
HHC LR LR
comp=Z,290nm,12.3s
HHC LR LR
comp=Z,340nm,13.3s
GAZ Gaziantep 28.81 278 P **P 23 18 43.1 +1.1**
GAZ IAmb IAmb 23 18 45.8
comp=Z,6.0nm,0.8s
BNN Bunyan 29.45 282 P **P 23 18 48.6 +0.8**
BNN IAmb IAmb 23 18 51.0
comp=Z,6.3nm,0.8s
OBN Obninsk 29.56 315⇑*e*P **P 23 18 49.3 +0.9**
OBN *e*SS SS 23 25 41.0 -7.6
OBN pmax pmax
comp=Z,26nm,1.8s
OBN MLR MLR
comp=Z,109nm,14.0s
SIM Simferopol' 29.89 294 *e*P **P 23 18 53.5 +2.0**
SIM pmax pmax
comp=Z,45nm,1.3s
CMAR Chiang Mai Arr 29.93 126 P **P 23 18 53.6 +1.6**
comp=Z,0.9nm,0.4s,baz=312,slow=9.8,SNR=7.1
CMAR PcP **PcP 23 21 55.4 +0.6**
comp=Z,1.1nm,0.3s,baz=304,slow=3.5,SNR=6.6
CMAR LR LR 23 31 52.7
comp=Z,35nm,21.9s,baz=255,slow=38
comp=Z,0.9nm,0.4s
CMAR Chiang Mai Arr 29.93 126 *i* P **P 23 18 54.9 +2.9**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
ILGA Ilgaz 30.62 287 P **P 23 18 59.9 +1.7**
BR131 Keskin Array S 30.93 284 P **P 23 19 02.0 +1.1**
BR131 IAmb IAmb 23 19 03.8
comp=Z,12nm,0.9s
BR131 Keskin Array S 30.93 284*d i*P **P 23 19 03.1 +2.2**
BRTR Keskin Array B 30.93 284 P **P 23 19 01.8 +0.9**
comp=Z,5.0nm,0.8s,baz=89,slow=8.0,SNR=32
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 30.93 284 *i* P **P 23 19 03.0 +2.2**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
NRIK Noril'sk 31.12 9 P **P 23 19 01.9 -0.1**
comp=Z,2.1nm,0.7s,baz=198,slow=3.9,SNR=3.8
comp=Z,2.1nm,0.7s
NRIK Noril'sk 31.12 9⇓*e*P **P 23 19 00.7 -1.4**
NRIK pmax pmax
comp=Z,18nm,3.7s
MMAI Mount Meron Ar 31.55 271 P **P 23 19 06.7 +0.3**
comp=Z,0.7nm,0.5s,baz=69,slow=7.9,SNR=2.0
MMAI PcP **PcP 23 22 00.3 +1.4**
comp=Z,0.8nm,0.5s,baz=112,slow=22,SNR=3.2
comp=Z,0.7nm,0.5s
PALK Palekele 32.32 167 LR LR 23 32 26.4
comp=Z,80nm,18.7s,baz=57,slow=37
AKASG Malin Array Be 33.20 305 P **P 23 19 19.7 -0.7**
comp=Z,0.3nm,0.3s,baz=80,slow=7.4,SNR=7.1
AKASG PcP **PcP 23 22 02.6 -0.4**
comp=Z,1.1nm,0.6s,baz=75,slow=3.2,SNR=6.9
AKASG LR LR 23 35 26.7
comp=Z,101nm,18.3s,baz=59,slow=41
comp=Z,0.3nm,0.3s
AKASG Malin Array Be 33.20 305 *i* P **P 23 19 20.5 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 33.20 305⇓*i*P **P 23 19 20.7 +0.2**
AKBB pmax pmax
comp=Z,48nm,4.8s
KIEV Kiev 33.21 305 P **P 23 19 21.0 +0.5**
EIL Elat 33.30 266 P **P 23 19 22.1 +0.6**
comp=Z,8.1nm,0.9s,baz=73,slow=5.1,SNR=3.8
EIL LR LR 23 35 36.3
comp=Z,52nm,18.2s,baz=50,slow=41
comp=Z,8.1nm,0.9s
MILM Milestii Mici 33.48 298⇓P **P 23 19 24.5 +1.5**
MILM Milestii Mici 33.48 298 P **P 23 19 24.5 +1.5**
TPGR Topolog 33.94 295⇓P **P 23 19 28.7 +1.7**
CFR Carcaliu 34.10 295⇑P **P 23 19 29.5 +1.1**
CFR Carcaliu 34.10 295 P **P 23 19 29.5 +1.1**
MNK Minsk 34.35 312 *i* P **P 23 19 28.8 -1.6**
comp=E,3.0nm,0.9s
MNK *i* P **P 23 19 28.8 -1.6**
comp=N,32nm,0.9s
MNK *i* P **P 23 19 28.8 -1.6**
comp=Z,15nm,0.9s,baz=277
MNK *i* PP **PP 23 20 43.4 -4.7**
MNK *i* PPP PPP 23 20 55.1
MNK *i* PcP **PcP 23 22 04.4 -1.8**
MNK *i* S **S 23 24 57.3 -0.8**
MNK *i* SS **SnSn 23 27 08.3 +1.0**
MNK *i* SSS SSS 23 27 24.2
MNK *i* LQ LQ 23 30 53.4
MNK *i* LR LR 23 33 01.1
MNK *i* LRM MLR 23 34 08.8
comp=N,279nm,17.9s
MNK *i* LRM MLR 23 34 29.9
comp=E,7.0nm,11.5s
MNK *i* LRM MLR 23 34 33.7
comp=Z,82nm,14.7s
MNK Minsk 34.35 312 *i* P **P 23 19 28.8 -1.6**
MNK *i* 23 20 43.3
MNK *i* 23 22 04.4
MNK *i* S **S 23 24 57.3 -0.8**
MNK *i* SS **SnSn 23 27 08.2 +1.0**
MNK *i* 23 29 52.1
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,32nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=N,279nm,18.0s
MNK MLR MLR
comp=E,7.0nm,12.0s
MNK MLR MLR
comp=Z,82nm,15.0s
TESR Tescani 35.00 298⇓P **P 23 19 37.6 +1.4**
VRI Vrincioaia 35.01 297⇓P **P 23 19 38.4 +2.1**
VRI Vrincioaia 35.01 297 P **P 23 19 38.4 +2.1**
PLOR Plostina 35.06 297⇓P **P 23 19 39.2 +2.3**
PLOR Plostina 35.06 297 P **P 23 19 39.1 +2.3**
COVR Voineasa-Covas 35.38 297⇓P **P 23 19 41.6 +2.1**
RAZG Razgrad 35.48 293⇓P **P 23 19 42.4 +2.1**
MLR Muntele Rosu 35.60 296⇑P **P 23 19 43.0 +1.5**
MLR Muntele Rosu 35.60 296 P **P 23 19 43.2 +1.7**
comp=Z,10nm,0.8s,baz=91,slow=2.0,SNR=17
MLR LR LR 23 35 41.3
comp=Z,49nm,20.0s,baz=24,slow=39
comp=Z,10nm,0.8s
MLR Muntele Rosu 35.60 296 P **P 23 19 42.9 +1.4**
MLR Muntele Rosu 35.60 296 P **P 23 19 42.9 +1.4**
MLR pmax pmax
comp=Z,14nm,0.9s
BURAR Bucovina Array 35.88 300⇓P **P 23 19 44.5 +0.7**
BURAR Bucovina Array 35.88 300 P **P 23 19 44.6 +0.7**
BURAR Bucovina Array 35.88 300 P **P 23 19 44.6 +0.7**
BUR08 Bucovina Ar. S 35.89 300 P **P 23 19 44.4 +0.4**
DOPR Dopca 35.93 297⇓P **P 23 19 45.7 +1.5**
VOIR 36.23 296⇑P **P 23 19 49.0 +2.1**
VOIR 36.23 296 P **P 23 19 48.9 +2.1**
ARR Arges 36.53 296⇓P **P 23 19 51.2 +1.8**
FINES FINESS Array B 36.66 323 P **P 23 19 50.2 +0.1**
comp=Z,3.1nm,0.5s,baz=110,slow=9.5,SNR=31
comp=Z,3.1nm,0.5s
FINES FINESS Array B 36.66 323 P **P 23 19 50.5 +0.4**
RDO Rodhopi 36.66 289 P **P 23 19 50.9 +0.4**
RDO IAmb IAmb 23 19 53.1
comp=Z,5.5nm,1.0s
NJ2 Nanjing 36.92 87 *e*P **P 23 19 53.3 +0.5**
NJ2 pmax pmax
comp=Z,26nm,0.8s
KARP Karpathos 37.02 279 P **P 23 19 54.5 +0.8**
GZR Gura Zlata 37.82 297⇓P **P 23 20 01.5 +1.2**
VTS Vitosha 38.01 292⇓P **P 23 20 04.0 +1.9**
VTS Vitosha 38.01 292 P **P 23 20 03.1 +1.0**
VTS IAmb IAmb 23 20 05.1
comp=Z,4.5nm,0.8s
VTS Vitosha 38.01 292 P **P 23 20 03.1 +1.0**
VTS pmax pmax
comp=Z,4.0nm,0.8s
SANT Santorini 38.05 281⇑P **P 23 20 02.8 +0.4**
SANT Santorini 38.05 281 IAmb IAmb 23 20 05.1
comp=Z,8.2nm,1.0s
HERR Herculane 38.16 296⇓P **P 23 20 03.6 +0.5**
SIRR Siria 38.46 298⇑P **P 23 20 06.1 +0.5**
MDVR Moldovita 38.67 296⇓P **P 23 20 09.3 +1.8**
HEH HeiHe 38.83 55 *e*P **P 23 20 07.5 -1.2**
HEH pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 39.63 336 P **P 23 20 14.9 -0.3**
comp=Z,5.7nm,0.8s,baz=111,slow=9.8,SNR=21
ARCES LR LR 23 37 34.6
comp=Z,74nm,18.4s,baz=190,slow=38
comp=Z,5.7nm,0.8s
YAK Yakutsk 40.47 37 LR LR 23 37 56.3
comp=Z,40nm,20.3s,baz=346,slow=38
YAK Yakutsk 40.47 37⇓*e*P **P 23 20 21.8 -0.4**
YAK pmax pmax
comp=Z,8.0nm,0.6s
MORC Moravsky Berou 40.72 304 P **P 23 20 26.0 +1.5**
MORC Moravsky Berou 40.72 304 P **P 23 20 26.0 +1.5**
MORC pmax pmax
comp=Z,3.0nm,1.1s
PDG Podgorica 40.92 293⇓P **P 23 20 27.4 +1.3**
VRAC Vranov 41.39 304 LR LR 23 40 44.0
comp=Z,51nm,18.4s,baz=77,slow=41
KLR Kul'dur 41.74 56 LR LR 23 38 54.7
comp=Z,77nm,19.9s,baz=272,slow=38
KSRS Korea Array 41.89 75 P **P 23 20 34.5 +0.4**
comp=Z,0.6nm,0.3s,baz=286,slow=8.7,SNR=2.2
comp=Z,0.6nm,0.3s
TIXI Tiksi 42.45 23 P **P 23 20 37.5 -0.8**
TIXI Tiksi 42.45 23⇑*e*P **P 23 20 36.9 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
HFS Hagfors 42.47 320 P **P 23 20 38.5 -0.1**
comp=Z,3.5nm,0.6s,baz=109,slow=10,SNR=12
HFS LR LR 23 38 57.1
comp=Z,88nm,20.5s,baz=85,slow=37
comp=Z,3.5nm,0.6s
USRK Usuriysk Ar. 42.89 64 LR LR 23 41 15.5
comp=Z,87nm,19.9s,baz=274,slow=40
GEC2 GERESS Array S 43.35 303 P **P 23 20 46.8 +0.8**
GERES GERESS Array B 43.35 303 P **P 23 20 46.8 +0.8**
comp=Z,0.8nm,0.5s,baz=77,slow=6.0,SNR=9.8
GERES LR LR 23 40 11.4
comp=Z,68nm,21.8s,baz=86,slow=38
comp=Z,0.8nm,0.5s
GERES GERESS Array B 43.35 303 P **P 23 20 47.1 +1.1**
KHC Kasperske Hory 43.37 304 *e*P **P 23 20 46.5 +0.3**
KHC Kasperske Hory 43.37 304 *e*P P 23 20 38.5 -7.7
KHC *e* 23 20 46.5
CLL Collm 43.38 307 P **P 23 20 46.4 +0.2**
CLL Collm 43.38 307 P **P 23 20 46.4 +0.2**
CLL pmax pmax
comp=Z,3.0nm,1.0s
NC405 NORSAR Array S 43.47 321 P **P 23 20 46.2 -0.5**
NC405 IAmb IAmb 23 20 57.3
comp=Z,3.6nm,0.6s
NC303 NORSAR Array S 43.64 322 P **P 23 20 48.5 +0.4**
NC303 IAmb IAmb 23 20 57.3
comp=Z,8.3nm,0.8s
NB2 NORSAR Subarra 43.71 321 P **P 23 20 48.3 -0.4**
comp=Z,2.1nm,0.6s,baz=90,slow=7.9
NOA NORSAR Array B 43.71 321 P **P 23 20 48.4 -0.4**
comp=Z,4.9nm,0.9s,baz=91,slow=7.9,SNR=9.2
NOA LR LR 23 39 53.6
comp=Z,84nm,18.1s,baz=75,slow=37
comp=Z,4.9nm,0.9s
CUC Castrocucco 44.09 290 P **P 23 20 53.3 +1.2**
WTTA Wattenberg 45.03 302 *e*P **P 23 21 00.7 +1.1**
comp=Z,1.5nm,0.5s
WATA Walderalm 45.05 302 *e*P **P 23 20 59.8 0.0**
comp=Z,0.4nm,0.3s
SQTA Sankt Quirin 45.32 302 *e*P **P 23 21 01.1 -0.8**
comp=Z,0.5nm,0.3s
MOTA Moosalm 45.36 302 *e*P **P 23 21 01.7 -0.5**
comp=Z,1.0nm,0.4s
DAVA Damuels 46.18 302 *e*P **P 23 21 09.9 +1.1**
comp=Z,1.5nm,0.3s
DAVOX Davos/Dischmat 46.31 301 P **P 23 21 09.1 -0.7**
comp=Z,1.3nm,0.4s,baz=90,slow=11,SNR=7.4
DAVOX LR LR 23 42 10.7
comp=Z,72nm,18.3s,baz=70,slow=38
comp=Z,1.3nm,0.4s
BNI Bardonecchia 48.94 300 P **P 23 21 31.1 +0.9**
BNI IAmb IAmb 23 21 39.6
comp=Z,4.1nm,1.1s
BNI Bardonecchia 48.94 300 P **P 23 21 31.1 +0.9**
BNI pmax pmax
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 49.88 72 P **P 23 21 36.2 -1.2**
comp=Z,1.5nm,0.8s,baz=289,slow=9.2,SNR=2.2
comp=Z,1.5nm,0.8s
LODK Lodwar 49.89 234 P **P 23 21 39.3 +1.7**
EKA Eskdalemuir Ar 52.02 315 P **P 23 21 52.6 -0.5**
comp=Z,3.7nm,0.9s,baz=79,slow=7.4,SNR=7.0
comp=Z,3.7nm,0.9s
KMBO Kilima Mbogo 52.31 229 P **P 23 21 56.8 +0.8**
comp=Z,1.5nm,0.8s,baz=45,slow=14,SNR=6.7
comp=Z,1.5nm,0.8s
KMBO Kilima Mbogo 52.31 229 P **P 23 21 57.3 +1.3**
KMBO Kilima Mbogo 52.31 229 *i* P **P 23 21 58.0 +1.9**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
MBAR Mbarara 55.91 236 LR LR 23 48 52.8
comp=Z,60nm,18.2s,baz=24,slow=39
MBAR Mbarara 55.91 236 P **P 23 22 23.3 +1.0**
MBAR IAmb IAmb 23 22 24.6
comp=Z,5.3nm,0.8s
MBAR Mbarara 55.91 236⇓*e*P **P 23 22 22.9 +0.6**
MBAR pmax pmax
comp=Z,6.0nm,0.8s
ESDC Sonseca Array 58.27 297 P **P 23 22 38.7 +0.1**
comp=Z,1.8nm,0.8s,baz=52,slow=6.8,SNR=14
comp=Z,1.8nm,0.8s
TAM Tamanrasset 59.57 276 P **P 23 22 48.4 +0.4**
TAM Tamanrasset 59.57 276 P **P 23 22 48.4 +0.4**
TAM pmax pmax
comp=Z,2.0nm,1.0s
TOLK Toolik Lake Re 67.76 16 P **P 23 23 40.8 -0.5**
IMAR Indian Mountai 68.94 19 P **P 23 23 47.3 -1.2**
BMAR Burnt Mountain 69.81 15 P **P 23 23 53.9 -0.1**
TTA Tatalina 70.72 22 P **P 23 23 58.9 -0.8**
TTA IAmb IAmb 23 24 15.4
comp=Z,3.5nm,1.1s
TTA Tatalina 70.72 22 P **P 23 23 58.9 -0.8**
TTA pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 70.90 10 P **P 23 23 59.7 -0.8**
comp=Z,2.9nm,0.6s,baz=353,slow=7.3,SNR=23
comp=Z,2.9nm,0.6s
C36M Paulatuk 71.00 7 P **P 23 24 00.3 -0.8**
MDM Murphy Dome 71.12 18 P **P 23 24 01.3 -0.7**
MDM IAmb IAmb 23 24 02.6
comp=Z,2.5nm,0.6s
POKR Poker Plat Res 71.17 17 P **P 23 24 02.4 +0.1**
POKR IAmb IAmb 23 24 05.8
comp=Z,4.3nm,0.8s
PRP Porcupine Dome 71.25 16 P **P 23 24 02.9 0.0**
COLA College 71.28 17⇑*e*P **P 23 24 02.0 -0.9**
COLA pmax pmax
comp=Z,32nm,4.7s
CAST Castle Rocks 71.42 20 P **P 23 24 03.4 -0.5**

CAST					IAmb	IAmb	23 24 22.9	
	comp=Z,2.5nm,0.9s							
CCB	**Clear Creek Bu**	**71.48**	**18**	P		**P**	**23 24 03.3**	**-0.8**
WRH	**Wood River Hil**	**71.56**	**18**	P		**P**	**23 24 03.7**	**-0.9**
ILAR	**Eielson Array**	**71.59**	**17**	P		**P**	**23 24 03.4**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=322,slow=4.8,SNR=20							
	comp=Z,1.6nm,0.8s							
KTH	**Kantishna Hill**	**71.62**	**19**	P		**P**	**23 24 04.1**	**-0.9**
KTH					IAmb	IAmb	23 24 11.0	
	comp=Z,4.5nm,1.0s							
PPLA	**Purkeypile**	**71.82**	**20**	P		**P**	**23 24 05.5**	**-0.9**
PPLA					IAmb	IAmb	23 24 08.0	
	comp=Z,5.1nm,0.8s							
TRF	**Thorofare Moun**	**71.86**	**19**	P		**P**	**23 24 06.8**	**+0.1**
MCK	**McKinley**	**71.97**	**19**	P		**P**	**23 24 06.6**	**-0.5**
MCK					IAmb	IAmb	23 24 23.2	
	comp=Z,3.0nm,1.1s							
MCK	**McKinley**	**71.97**	**19**	P		**P**	**23 24 06.6**	**-0.5**
MCK					pmax	pmax		
	comp=Z,3.0nm,1.1s							
SKT	**Skwentna**	**72.74**	**21**	P		**P**	**23 24 10.6**	**-1.2**
SKT					IAmb	IAmb	23 24 11.4	
	comp=Z,5.4nm,1.0s							
SUA	**Susitna One**	**73.38**	**21**	P		**P**	**23 24 14.6**	**-1.1**
PAX	**Paxson**	**73.45**	**18**	P		**P**	**23 24 14.9**	**-1.2**
PAX	**Paxson**	**73.45**	**18**	P		**P**	**23 24 14.9**	**-1.2**
PAX					pmax	pmax		
	comp=Z,2.0nm,0.8s							
GHO	**Glory Hole Cre**	**73.61**	**20**	P		**P**	**23 24 16.0**	**-1.0**
GHO					IAmb	IAmb	23 24 24.5	
	comp=Z,6.9nm,1.1s							
SML	**Sawmill**	**73.74**	**19**	P		**P**	**23 24 16.9**	**-0.8**
RC01	**Rabbit Creek A**	**73.97**	**20**	P		**P**	**23 24 18.0**	**-1.0**
RC01					IAmb	IAmb	23 24 34.6	
	comp=Z,3.9nm,0.8s							
SCM	**Sheep Creek Mo**	**73.97**	**19**	P		**P**	**23 24 18.2**	**-0.9**
SCM					IAmb	IAmb	23 24 22.9	
	comp=Z,7.3nm,0.8s							
SCM	**Sheep Creek Mo**	**73.97**	**19**	P		**P**	**23 24 18.2**	**-0.9**
SCM					pmax	pmax		
	comp=Z,7.0nm,0.8s							
M24K	**Tolsona, Glenn**	**74.03**	**18**	P		**P**	**23 24 19.1**	**-0.3**
M24K					IAmb	IAmb	23 24 25.5	
	comp=Z,8.0nm,0.9s							
KNK	**Knik Glacier**	**74.04**	**20**	P		**P**	**23 24 18.7**	**-0.7**
KNK					IAmb	IAmb	23 24 25.6	
	comp=Z,6.7nm,1.1s							
BCAR	**Beaver Creek A**	**74.20**	**16**	P		**P**	**23 24 20.3**	**-0.1**
PWL	**Port Wells**	**74.54**	**20**	P		**P**	**23 24 21.6**	**-0.7**
N25K	**Chitina, Valde**	**74.84**	**18**	P		**P**	**23 24 24.7**	**+0.6**
N25K					IAmb	IAmb	23 24 32.2	
	comp=Z,5.0nm,1.1s							
HYT	**Haines Junctio**	**77.11**	**15**	P		**P**	**23 24 37.7**	**+0.5**
HYT					IAmb	IAmb	23 24 42.4	
	comp=Z,6.5nm,0.9s							
DBIC	**Dimbokro**	**77.12**	**268**	P		**P**	**23 24 38.2**	**+0.4**
DBIC	**Dimbokro**	**77.12**	**268**	P		**P**	**23 24 38.2**	**+0.4**
KIC	**Kosan Boka**	**77.22**	**268**	*eP*		**P**	**23 24 38.6**	**+0.2**
	comp=Z,17nm,0.6s							
TIC	**Toumodi**	**77.26**	**268**	*eP*		**P**	**23 24 38.6**	**0.0**
	comp=Z,24nm,0.8s							
LIC	**Lamto**	**77.53**	**268**	*eP*		**P**	**23 24 39.9**	**-0.2**
	comp=Z,35nm,0.7s							
LBTB	**Lobatse**	**78.19**	**224**	P		**P**	**23 24 45.5**	**+2.0**
YKA	**Yellowknife Ar**	**78.47**	**4**	P		**P**	**23 24 43.4**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=347,slow=5.8,SNR=5.6							
	comp=Z,2.0nm,0.6s							
YKA	**Yellowknife Ar**	**78.47**	**4**	P		**P**	**23 24 44.0**	**-0.5**
YKA	**Yellowknife Ar**	**78.47**	**4**	P		**P**	**23 24 44.0**	**-0.5**
BESE	**Bessie Mountai**	**79.71**	**15**	P		**P**	**23 24 52.1**	**+0.6**
BOSA	**Boshof**	**81.26**	**222**	P		**P**	**23 25 00.7**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=24,slow=4.4,SNR=5.2							
	comp=Z,2.9nm,0.8s							
BOSA	**Boshof**	**81.26**	**222**	P		**P**	**23 25 01.1**	**+1.0**
BOSA					IAmb	IAmb	23 25 06.0	
	comp=Z,5.7nm,1.0s							
WB0	**Warramunga Arr**	**81.40**	**124**	P		**P**	**23 25 00.9**	**-0.1**
WB0					IAmb	IAmb	23 25 08.5	
	comp=Z,2.6nm,0.8s							
WRA	**Warramunga Arr**	**81.50**	**124**	P		**P**	**23 25 00.7**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=325,slow=5.3,SNR=22							
	comp=Z,2.5nm,0.7s							
WRA	**Warramunga Arr**	**81.50**	**124**	P		**P**	**23 25 01.6**	**+0.1**
WRA	**Warramunga Arr**	**81.50**	**124**	P		**P**	**23 25 01.6**	**+0.1**
COEN	**Coen**	**83.30**	**114**	P		**P**	**23 25 11.1**	**0.0**
AS31	**Alice Springs**	**83.94**	**127**	P		**P**	**23 25 13.0**	**-1.1**
ASAR	**Alice Springs**	**83.94**	**127**	P		**P**	**23 25 13.1**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=319,slow=5.4,SNR=22							
	comp=Z,1.9nm,0.7s							
ASAR	**Alice Springs**	**83.94**	**127**	P		**P**	**23 25 13.9**	**-0.3**
ASAR	**Alice Springs**	**83.94**	**127**	P		**P**	**23 25 13.9**	**-0.3**
BATG	**Bathurst New B**	**86.84**	**334**	P		**P**	**23 25 29.1**	**+0.7**
BATG					IAmb	IAmb	23 25 33.7	
	comp=Z,5.5nm,1.0s							
PLID	**Pearl Lake**	**95.67**	**7**	P		**P**	**23 26 09.3**	**-0.6**
YHL	**Hebgen Lake**	**96.25**	**4**	P		**P**	**23 26 11.3**	**-1.4**
TROLL	**Troll, Antarti**	**121.37**	**200**	PKPdf		**PKiKP**	**23 31 37.3**	**+0.9**
VNDA	**Vanda**	**127.42**	**164**	PKP		**PKiKP**	**23 31 47.5**	**-0.6**
	comp=Z,0.7nm,1.1s,baz=289,slow=4.9,SNR=4.2							
CPUP	**Villa Florida**	**137.51**	**272**	PKP		**PKPdf**	**23 32 06.4**	**-1.6**
	comp=Z,1.8nm,0.9s,baz=27,slow=4.5,SNR=3.2							
PLCA	**Paso Flores**	**152.82**	**255**	PKPbc		**PKiKP**	**23 32 42.2**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=107,slow=6.1,SNR=3.0							

*IDC **25** 23:28:44.6±2.2,21°.59N×143°.32E, h288km±19km, mb3.4/11, mbtmp4.1/13, Error ellipse: s-maj=31.4km s-min=15.6km az=87.0*
*NEIC **25** 23:28:47.0±2.4,21°.62N±0°.08×143°.03E±0°.09, h292km±8km, mb4.5/26, Error ellipse: s-maj=15.3km s-min=7.0km az=51.0*

ISC 25 23:28:47.1±0.6,21°.63N±0°.06×143°.0E±0°.1, h300km, n50, σ1s42/53, mb4.2/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.50**	**352**	P	**Pn**	**23 30 09.2**	**-1.2**
	76nm,0.3s,baz=95,slow=17,SNR=11						
JCJ				S	**S**	**23 31 15.0**	**-2.4**
	45nm,0.3s,baz=251,slow=22,SNR=1.8						
JCJ	**Chichijima**	**5.50**	**352**	Pn	**Pn**	**23 30 09.9**	**-0.4**
JCJ				Sn	**S**	**23 31 15.6**	**-1.8**
GUMO	**Guam**	**8.19**	**167**	Pn	**Pn**	**23 30 43.2**	**+0.1**
JHJ2	**Mitsune**	**11.79**	**347**	Pn	**Pn**	**23 31 26.6**	**-0.4**
JMN	**Monobe**	**14.51**	**328**		**Pn**	**23 32 00.2**	**+0.5**
INU	**Inuyama**	**14.64**	**340**	P	**P**	**23 31 59.5**	**-0.7**
JGF	**Kuroka**	**14.78**	**342**	P	**P**	**23 32 02.4**	**+0.7**
MJAR	**Matsushiro Arr**	**15.44**	**345**	P	**P**	**23 32 08.4**	**-0.5**
	1.9nm,0.4s,baz=157,slow=5.9,SNR=7.8						
MAJO	**Matsushiro**	**15.44**	**345**	P	**P**	**23 32 09.1**	**+0.2**
MAJO					IAmb	IAmb	23 32 18.1
	comp=Z,13nm,1.1s						
MJB9	**Matsu-Tunnel**	**15.44**	**345**	P	**P**	**23 32 09.7**	**+0.7**
MJB9					IAmb	IAmb	23 32 19.1
	comp=Z,12nm,1.1s						
JHS	**Saijyo**	**15.90**	**329**		**Pn**	**23 32 15.7**	**-0.3**
JHS					IAmb	IAmb	23 32 17.0
	comp=Z,20nm,0.8s						
JMM	**Marumori**	**16.30**	**354**	P	**P**	**23 32 19.7**	**+1.5**
JSD	**Sado**	**16.86**	**347**	P	**P**	**23 32 24.1**	**-0.3**
JSD					IAmb	IAmb	23 32 24.6
	comp=Z,22nm,0.5s						
YULB	**Yu-li**	**20.13**	**279**	P	**P**	**23 32 59.0**	**-0.5**
YULB					IAmb	IAmb	23 33 02.3
	comp=Z,76nm,1.5s						
ERM	**Erimo**	**20.33**	**0**	P	**P**	**23 33 02.0**	**+0.9**
KSRS	**Korea Array**	**20.47**	**324**	P	**P**	**23 33 02.7**	**0.0**
	comp=Z,1.8nm,0.6s,baz=143,slow=9.2,SNR=7.1						
	comp=Z,1.8nm,0.6s						
KLR	**Kul'dur**	**28.96**	**345**	P	**P**	**23 34 19.0**	**-0.2**
	comp=Z,6.8nm,0.6s,baz=157,slow=8.5,SNR=31						
	comp=Z,6.8nm,0.6s						
SONM	**Songino Array**	**39.29**	**321**	P	**P**	**23 35 49.0**	**+1.4**
	comp=Z,2.0nm,0.4s,baz=128,slow=7.2,SNR=8.1						
	comp=Z,2.0nm,0.4s						
SONM	**Songino Array**	**39.29**	**321**	P	**P**	**23 35 48.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**41.41**	**274**	P	**P**	**23 36 06.0**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=92,slow=6.5,SNR=2.2						
	comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**42.17**	**192**	P	**P**	**23 36 10.1**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=1.7,slow=9.1,SNR=2.3						
	comp=Z,0.6nm,0.4s						
KULM	**Kulim**	**44.09**	**255**	P	**P**	**23 36 27.1**	**+0.6**
ASAR	**Alice Springs**	**45.88**	**192**	P	**P**	**23 36 38.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=13,slow=6.6,SNR=5.0						
	comp=Z,0.3nm,0.3s						
UNV	**Unalaska Valle**	**49.77**	**37**	P	**P**	**23 37 09.9**	**+0.4**
UNV					IAmb	IAmb	23 37 10.0
	comp=Z,81nm,1.4s						
BBOO	**Buckleboo**	**54.53**	**187**	P	**P**	**23 37 43.8**	**-0.8**
BBOO					IAmb	IAmb	23 38 14.6
	comp=Z,20nm,1.4s						
MK31	**Makanchi Array**	**54.62**	**313**	P	**P**	**23 37 45.7**	**+0.4**
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**23 37 45.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=88,slow=8.2,SNR=4.8						
MKAR				PcP	**PcP**	**23 38 43.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=94,slow=3.6,SNR=4.0						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**23 37 46.7**	**+1.4**
TOLK	**Toolik Lake Re**	**61.85**	**23**	P	**P**	**23 38 37.5**	**+2.9**
TOLK					IAmb	IAmb	23 39 07.5
	comp=Z,8.5nm,1.5s						
IL31		**62.18**	**27**	P	**P**	**23 38 38.5**	**+1.7**
IL31					IAmb	IAmb	23 38 43.1
	comp=Z,5.9nm,1.3s						
ILAR	**Eielson Array**	**62.18**	**27**	P	**P**	**23 38 35.1**	**-1.7**
	comp=Z,0.7nm,1.1s,baz=277,slow=5.1,SNR=3.3						
	comp=Z,0.7nm,1.1s						
ILAR	**Eielson Array**	**62.18**	**27**	P	**P**	**23 38 34.6**	**-2.2**
KLU	**Klutina**	**62.21**	**31**	P	**P**	**23 38 37.4**	**+0.2**
KLU					IAmb	IAmb	23 38 47.1
	comp=Z,15nm,1.5s						
RAGM	**Ragged Mountai**	**62.72**	**32**	P	**P**	**23 38 41.8**	**+1.3**
BMRM	**Bremner River**	**62.80**	**32**	P	**P**	**23 38 40.4**	**-0.6**
BMRM					IAmb	IAmb	23 39 02.1
	comp=Z,24nm,1.3s						
J25K	**Salcha River,**	**62.80**	**27**	P	**P**	**23 38 40.9**	**-0.1**
KAIM	**Kayak Island**	**62.82**	**33**	P	**P**	**23 38 41.6**	**+0.6**
N25K	**Chitina, Valde**	**62.85**	**31**	P	**P**	**23 38 39.7**	**-1.7**
N25K					IAmb	IAmb	23 39 18.1
	comp=Z,20nm,1.5s						
FYU	**Fort Yukon**	**63.11**	**25**	P	**P**	**23 38 44.0**	**+1.1**
FYU					IAmb	IAmb	23 39 20.2
	comp=Z,13nm,1.0s						
BERG	**Berg Lake**	**63.20**	**32**	P	**P**	**23 38 47.1**	**+3.5**
SCRK	**Sand Creek**	**63.34**	**28**	P	**P**	**23 38 43.8**	**-0.8**
BMAR	**Burnt Mountain**	**63.48**	**24**	P	**P**	**23 38 46.4**	**+1.0**
ABKAR	**Akbulak array**	**69.48**	**316**	P	**P**	**23 39 23.1**	**-0.3**
PLWZ	**Palliser**	**69.62**	**155**	P	**P**	**23 39 22.4**	**-1.9**
A36M	**Sachs Harbour**	**70.16**	**19**	P	**P**	**23 39 23.0**	**-4.0**
A36M					IAmb	IAmb	23 39 24.0
	comp=Z,2.6nm,0.7s						
LBZ	**Lake Benmore**	**70.24**	**160**	P	**P**	**23 39 29.6**	**+1.7**
EUNU	**Eureka**	**75.19**	**8**	P	**P**	**23 39 59.5**	**+2.9**
ARCES	**ARCESS Array B**	**78.94**	**341**	P	**P**	**23 40 17.0**	**-0.3**
	comp=Z,4.3nm,1.0s,baz=60,slow=9.5,SNR=4.1						
	comp=Z,4.3nm,1.0s						
KBZ	**Khabaz**	**82.30**	**314**	P	**P**	**23 40 34.8**	**-0.7**
	comp=Z,4.1nm,1.1s,baz=74,slow=7.4,SNR=3.7						
	comp=Z,4.1nm,1.1s						
FINES	**FINESS Array B**	**83.17**	**334**	P	**P**	**23 40 38.3**	**-1.4**
	comp=Z,4.3nm,1.1s,baz=57,slow=5.1,SNR=6.7						
	comp=Z,4.3nm,1.1s						

*IDC **25** 23:29:54.7±7.3,7°.47S×128°.49E, h113km±78km, mb3.3/2, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=66.0km s-min=27.4km az=28.0*

ISC 25 23:29:57.1±0.9,7.75S±0°.08×128°.48E±0°.08, h150km, n11, σ2s40/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.62**	**244**	P	**Pn**	**23 31 05.9**	**+0.3**
BATI	**Baumata**	**5.35**	**243**	P	**Pn**	**23 31 16.0**	**+0.8**
	20nm,0.3s,baz=94,slow=16,SNR=13						
BATI				S	**Sn**	**23 32 15.6**	**-0.5**
	49nm,0.5s,baz=66,slow=23,SNR=14						
	65nm,0.4s						
MTN	**Manton Dam**	**5.69**	**153**	P	**Pn**	**23 31 22.8**	**+3.1**
FAKI	**Fak Fak**	**6.09**	**38**	P	**Pn**	**23 31 23.9**	**-1.2**
KDU	**Kakadu**	**6.28**	**142**	P	**Pn**	**23 31 30.5**	**+2.9**
KNRA	**Kununurra**	**7.88**	**178**	P	**Pn**	**23 31 51.3**	**+2.4**
PLAI	**Plampang**	**10.65**	**263**	P	**Pn**	**23 32 25.2**	**-0.5**
WRA	**Warramunga Arr**	**13.38**	**155**	P	**Pn**	**23 33 02.0**	**+0.8**
	0.4nm,0.3s,baz=337,slow=13,SNR=13						
WRA				S	**Sn**	**23 35 25.1**	**-4.3**
	1.3nm,0.5s,baz=330,slow=22,SNR=8.2						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**16.66**	**162**	P	**Pn**	**23 33 45.7**	**+3.8**
	0.1nm,0.3s,baz=338,slow=10.0,SNR=7.3						
ASAR				S	**S**	**23 36 45.5**	**-1.6**
	0.7nm,0.7s,baz=323,slow=15,SNR=4.8						
	0.9nm,0.9s						
MKAR	**Makanchi Array**	**68.04**	**328**	P	**P**	**23 40 40.3**	**-0.1**
	0.2nm,0.4s,baz=130,slow=6.6,SNR=4.5						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**71.60**	**335**	P	**P**	**23 41 02.5**	**+0.6**
	0.5nm,0.3s,baz=131,slow=8.1,SNR=2.0						
	0.5nm,0.3s						

IDC 25 23:36:32.2±119.0, 48.67S×123.96E, h0km, mb3.6/3, mbtmp3.7/3, MS3.3/5, Error ellipse: s-maj=1951.0km s-min=120.5km az=10.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.57**	**329**	T	T	**23 57 00.6**	
	baz=152,slow=74						
H01W2	**Cape Leeuwin H**	**15.57**	**328**	T	T	**23 56 51.2**	
	baz=152,slow=74						
H01W3	**Cape Leeuwin H**	**15.58**	**329**	T	T	**23 57 03.3**	
	baz=152,slow=74						
STKA	**Stephens Creek**	**21.41**	**45**	P	P	**23 41 21.5**	**-0.1**
	1.8nm,0.5s,baz=208,slow=12,SNR=4.4						
STKA				LR	LR	**23 48 06.9**	
	comp=Z,55nm,20.9s,baz=202,slow=32						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**26.16**	**21**	P	P	**23 42 08.5**	**+0.2**
	1.4nm,0.7s,baz=199,slow=9.1,SNR=14						
ASAR				LR	LR	**23 52 52.2**	
	comp=Z,68nm,18.0s,baz=166,slow=38						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**29.85**	**20**	P	P	**23 42 41.0**	**-0.2**
	0.2nm,0.5s,baz=196,slow=8.7,SNR=2.3						
WRA				LR	LR	**23 54 04.7**	
	comp=Z,87nm,19.4s,baz=124,slow=35						
	0.2nm,0.5s						
CTA	**Charters Tower**	**33.68**	**40**	LR	LR	**23 57 02.7**	
	comp=Z,53nm,18.1s,baz=262,slow=36						
SNAA	**Sanae**	**54.23**	**198**	LR	LR	**00 07 47.8**	
	comp=Z,35nm,20.8s,baz=127,slow=35						

IDC 25 23:45:59.2±2.3, 30°.21S×176°.43W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=59.7km s-min=36.6km az=35.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.61**	**306**	Pn	Pn	**23 46 28.0**	**-0.8**
	45nm,0.3s,baz=295,slow=24,SNR=1.4						
RAO				Sn	Sg	**23 46 53.0**	**+2.2**
	590nm,0.3s,baz=38,slow=22,SNR=12						
RAO				LR	LR	**23 46 57.0**	
	comp=Z,99nm,19.9s,baz=230,slow=36						
ASAR	**Alice Springs**	**44.47**	**266**	P	P	**23 54 12.6**	**+0.1**
	0.3nm,0.3s,baz=102,slow=7.8,SNR=4.9						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**45.45**	**271**	P	P	**23 54 19.7**	**-0.5**
	0.4nm,0.5s,baz=111,slow=7.4,SNR=5.9						
	0.4nm,0.5s						
H03S2	**Juan Fernandez**	**79.43**	**123**	T	T	**01 25 34.2**	
	baz=236						
H03S1	**Juan Fernandez**	**79.45**	**123**	T	T	**01 25 26.4**	
	baz=236						
H03S3	**Juan Fernandez**	**79.45**	**123**	T	T	**01 25 16.8**	
	baz=236						
H03N3	**Juan Fernandez**	**79.62**	**123**	T	T	**01 25 40.0**	
	baz=241,slow=72,SNR=62						
H03N2	**Juan Fernandez**	**79.62**	**123**	T	T	**01 25 41.2**	
	baz=241,slow=72,SNR=142						
H03N1	**Juan Fernandez**	**79.64**	**123**	T	T	**01 25 40.7**	
	baz=241,slow=72,SNR=146						
H10N3	**ASCENSION HYDR**	**138.38**	**152**	T	T	**02 38 35.8**	
	baz=203						
H10N1	**ASCENSION HYDR**	**138.38**	**152**	T	T	**02 38 27.7**	
	baz=203						
H10N2	**ASCENSION HYDR**	**138.39**	**152**	T	T	**02 38 36.1**	
	baz=203						

FINES	**FINESS Array B**	**145.42**	**341**	PKPbc		PKPbc	**00 05 37.8**	**-0.6**
	2.7nm,0.7s,baz=62,slow=3.3,SNR=11							

DJA 26 00:21:21.8±1.2,4°N±8°×9°3E±°, h10km, M4.0/6, mb4.2/1, mB4.7/1, MLv4.0/6, Mw(mB)3.9/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.19**	**78**	P	Pn	**00 22 11.9**	**-0.2**
MLSI				S	Sn	**00 22 50.6**	**+0.4**
SNSI	**Sinabang, Aceh**	**3.29**	**112**	P	Pn	**00 22 12.5**	**-0.9**
SNSI				S	Sn	**00 22 52.9**	**+0.4**
LHMI	**Lhok Sumawe**	**4.00**	**66**	P	Pn	**00 22 22.5**	**-0.6**
KCSI	**Kotacane, Aceh**	**4.49**	**91**	P	Pn	**00 22 30.7**	**+0.7**
KCSI				S	Sn	**00 23 24.1**	**+1.7**

WEL 26 00:34:10.0±0.8, 41°S±4°×17°7E±°, h19km±4km, M3.2/47, ML3.5/25, MLv3.2/47, Error ellipse: s-maj=0.0km s-min=0.0km az=120.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWZ	**Angora Road**	**0.26**	**293**	P	Pg	**00 34 16.7**	**+0.8**
PRHZ	**Porangahau**	**0.32**	**339**	P	Pb	**00 34 17.7**	**+0.7**
PRHZ				S	Sb	**00 34 23.4**	**+1.8**
BFZ	**Birch Farm**	**0.42**	**253**	P	Pn	**00 34 20.3**	**-0.7**
BFZ				S	Sn	**00 34 28.0**	**-0.3**
PXZ	**Pawanui**	**0.53**	**7**	P	Pn	**00 34 22.2**	**-0.3**
DVHZ	**Dannevirke**	**0.54**	**299**	P	Pn	**00 34 21.9**	**-0.7**
WPHZ	**Waipukurau**	**0.56**	**332**	P	Pn	**00 34 22.4**	**-0.5**
CPWZ	**Castlepoint**	**0.56**	**232**	P	Pn	**00 34 23.0**	**+0.1**
PRWZ	**Pori Road**	**0.62**	**270**	P	Pn	**00 34 23.6**	**-0.1**
TIWZ	**Tintock**	**0.71**	**252**	P	Pn	**00 34 24.8**	**-0.2**
KAHZ	**Kahuranaki**	**0.77**	**5**	P	Pn	**00 34 25.7**	**-0.1**
PNHZ	**Pukenui**	**0.79**	**325**	P	Pn	**00 34 25.9**	**-0.1**
POWZ	**Post Office Ro**	**0.79**	**282**	P	Pn	**00 34 26.1**	**+0.1**
TSZ	**Takapari Road**	**0.80**	**308**	P	Pn	**00 34 26.1**	**-0.1**
TMWZ	**Te Maipa**	**0.87**	**231**	P	Pb	**00 34 26.6**	**+0.2**
MRZ	**Mangatainoka R**	**0.92**	**263**	P	Pb	**00 34 27.4**	**+0.1**
CKHZ	**Cape Kidnapper**	**0.93**	**14**	P	Pn	**00 34 27.8**	**-0.1**
MCHZ	**McNeill Hill**	**1.12**	**357**	P	Pb	**00 34 31.0**	**+0.3**
MTW	**Mount Morrison**	**1.14**	**238**	P	Pn	**00 34 30.1**	**-0.8**
TRWZ	**Traveller**	**1.18**	**224**	P	Pn	**00 34 30.4**	**-0.9**
BHHZ	**Black Hill Sta**	**1.21**	**332**	P	Pb	**00 34 32.5**	**+0.3**
OGWZ	**Otaki Gorge**	**1.25**	**258**	P	Pn	**00 34 32.0**	**-0.4**
PAWZ	**Paruwai Farm**	**1.31**	**231**	P	Pn	**00 34 32.4**	**-0.9**
MOVZ	**Moawhango**	**1.40**	**325**	P	Pb	**00 34 36.2**	**+0.7**
CAW	**Cannon Point**	**1.41**	**247**	P	Pn	**00 34 34.0**	**-0.6**
BKZ	**Black Stump Fm**	**1.41**	**351**	P	Pn	**00 34 34.8**	**+0.2**
MSWZ	**Moikau Station**	**1.44**	**233**	P	Pn	**00 34 33.7**	**-1.3**
KIW	**Kapiti Island**	**1.45**	**258**	P	Pn	**00 34 34.9**	**-0.2**
NMHZ	**Naumai**	**1.46**	**1**	P	Pn	**00 34 35.6**	**+0.3**
PLWZ	**Palliser**	**1.53**	**228**	P	Pn	**00 34 35.0**	**-1.3**
WNVZ	**Wahianoa**	**1.53**	**323**	P	Pb	**00 34 38.3**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.57**	**324**	P	Pb	**00 34 38.9**	**+0.4**
FWVZ	**Far West T-bar**	**1.61**	**324**	P	Pb	**00 34 39.9**	**+0.7**
SNVZ	**South Ngauruho**	**1.63**	**327**	P	Pb	**00 34 40.3**	**+0.8**
OTVZ	**Oturere**	**1.64**	**328**	P	Pb	**00 34 40.1**	**+0.4**
ETVZ	**East Tongariro**	**1.65**	**330**	P	Pb	**00 34 40.5**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.65**	**32**	P	Pn	**00 34 36.9**	**-1.0**
NGZ	**Ngauruhoe**	**1.66**	**326**	P	Pb	**00 34 40.6**	**+0.7**
RAHZ	**Arahi**	**1.66**	**8**	P	Pn	**00 34 37.9**	**-0.1**
TMVZ	**Te Maari**	**1.67**	**330**	P	Pb	**00 34 40.2**	**+0.2**
KNZ	**Kokohu**	**1.68**	**24**	P	Pn	**00 34 37.4**	**-0.9**
NNVZ	**North Ngauruho**	**1.69**	**327**	P	Pb	**00 34 41.1**	**+0.7**
NTVZ	**North Tongarir**	**1.69**	**329**	P	Pb	**00 34 41.3**	**+0.8**
KRVZ	**Karewarewa**	**1.71**	**329**	P	Pb	**00 34 41.4**	**+0.6**
RITZ	**Rihia Road**	**1.73**	**335**	P	Pb	**00 34 42.1**	**+0.9**
MRHZ	**Matea Rd**	**1.75**	**351**	P	Pn	**00 34 40.0**	**+0.8**
KATZ	**Kakaramea**	**1.79**	**332**	P	Pg	**00 34 46.7**	**+2.2**
SNGZ	**Shannon Statio**	**1.83**	**14**	P	Pn	**00 34 40.6**	**+0.2**
TCW	**Tory Channel**	**2.01**	**250**	P	Pn	**00 34 42.1**	**-0.7**
MUGZ	**Mur

VNDA	**Vanda**	**48.49**	**168**	P	**P**	**00 53 01.1**	**+0.2**
VNDA				IAmb	IAmb	00 53 15.9	
	comp=Z,3.5nm,1.4s						
SBA	**Scott Base**	**48.84**	**169**	P	**P**	**00 53 04.7**	**+1.2**
KMBO	**Kilima Mbogo**	**50.22**	**11**	LR	LR	01 12 40.4	
	comp=Z,27nm,18.8s,baz=102,slow=34						
MBAR	**Mbarara**	**50.25**	**3**	LR	LR	01 13 57.6	
	comp=Z,38nm,19.2s,baz=134,slow=35						
CPUP	**Villa Florida**	**67.64**	**255**	P	**P**	**00 55 15.1**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=109,slow=4.7,SNR=7.2						
	comp=Z,2.2nm,0.7s						
ASAR	**Alice Springs**	**80.89**	**116**	P	**P**	**00 56 33.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=223,slow=4.9,SNR=2.1						
	comp=Z,0.3nm,0.6s						
SIJI	**Sorong**	**97.17**	**100**	LR	LR	01 37 32.1	
	comp=Z,35nm,21.6s,baz=159,slow=33						
NVAR	**Mina Array Bea**	**153.69**	**254**	PKPab	**PKPab**	**01 04 28.7**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=132,slow=5.4,SNR=2.3						

NEIC ***26*** *00:51:09.8±2.3, 19.°6S±0.°1×177.°7W±0.°1, h575km±7km, mb4.4/106, Error ellipse: s-maj=18.8km s-min=15.1km az=146.0*

NOU ***26*** *00:51:09.2, 19.°67S×177.°37W, h597km, MLv4.8/36, Fiji Islands Region*

IDC ***26*** *00:51:11.7±1.1, 19.°59S×177.°84W, h603km±10km, mb3.6/13, mbtmp4.5/15, Error ellipse: s-maj=16.3km s-min=10.7km az=147.0*

ISC 26 00:51:11.1±0.4, 19.°54S±0.°08×177.°66W±0.°07, h600km, n223, σ1s18/226, mb4.3/68, 26C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.69**	**320**	P	**P**	**00 52 23.6**	**-0.7**
TAVE	**Taveuni**	**3.53**	**322**	P	**P**	**00 52 33.0**	**-0.5**
DGTI	**Dogotuki**	**4.06**	**322**	P	**P**	**00 52 36.4**	**-0.7**
MSVF	**Nonsavu**	**4.44**	**293**	P	**P**	**00 52 39.5**	**-0.4**
	44nm,0.3s,baz=139,slow=7.8,SNR=132						
MSVF				S	**S**	**00 53 52.0**	**-0.2**
	46nm,0.9s,baz=75,slow=20,SNR=10						
MSVF	**Nonsavu**	**4.44**	**293**	P	**P**	**00 52 39.9**	**0.0**
FUTU	**Fugatoga**	**5.22**	**355**	P	**P**	**00 52 45.4**	**-0.5**
NIUE	**Niue**	**7.32**	**88**	P	**P**	**00 53 02.2**	**-1.8**
AFI	**Afiamalu**	**7.94**	**46**	P	**P**	**00 53 07.1**	**-2.9**
	51nm,0.4s,baz=193,slow=1.4,SNR=21						
AFI				S	**S**	**00 54 42.3**	**-5.1**
	28nm,0.3s,baz=106,slow=22,SNR=8.1						
AFI	**Afiamalu**	**7.94**	**46**	P	**P**	**00 53 07.0**	**-3.1**
AFI	**Afiamalu**	**7.94**	**46**	P	**P**	**00 53 07.5**	**-2.6**
MARNC	**Mare, Loyalty**	**13.54**	**259**	P	**P**	**00 54 03.2**	**-2.3**
LIFNC	**LIFOU**	**14.23**	**262**	P	**P**	**00 54 09.6**	**-2.6**
OUENC	**Ouen Island, N**	**14.76**	**256**	P	**P**	**00 54 14.9**	**-2.2**
DZM	**Mont Dzumac**	**15.07**	**258**	P	**P**	**00 54 19.2**	**-0.9**
	7.1nm,0.6s,baz=84,slow=19,SNR=25						
DZM	**Mont Dzumac**	**15.07**	**258**	P	**P**	**00 54 19.7**	**-0.4**
DZM				IAmb	IAmb	00 54 49.9	
	comp=Z,14nm,1.3s						
KOUNC	**Koumac, New Ca**	**16.99**	**264**	P	**P**	**00 54 38.5**	**+1.0**
KOUNC	**Koumac, New Ca**	**16.99**	**264**	P	**P**	**00 54 38.6**	**+1.0**
OUZ	**Omahuta**	**17.43**	**205**	P	**P**	**00 54 42.9**	**+1.5**
OUZ				IAmb	IAmb	00 54 43.6	
	comp=Z,17nm,1.0s						
URZ	**Urewera**	**19.20**	**193**	P	**P**	**00 54 54.7**	**-2.7**
RTZ	**Ruatahuna**	**19.57**	**193**	P	**P**	**00 54 59.1**	**-1.7**
BKZ	**Black Stump Fm**	**20.20**	**193**	P	**P**	**00 55 04.0**	**-2.6**
MRZ	**Mangatainoka R**	**21.84**	**194**	P	**P**	**00 55 19.4**	**-1.7**
TCW	**Tory Channel**	**22.67**	**196**	P	**P**	**00 55 27.9**	**-0.6**
QRZ	**Quartz Range**	**22.82**	**199**	P	**P**	**00 55 29.2**	**-0.6**
TUWZ	**Tuamarina**	**22.97**	**196**	P	**P**	**00 55 28.1**	**-3.0**
THZ	**Tophouse**	**23.56**	**198**	P	**P**	**00 55 35.4**	**-1.1**
DSZ	**Denniston Nort**	**23.88**	**200**	P	**P**	**00 55 38.2**	**-1.1**
INZ	**Inchbonnie**	**24.88**	**199**	P	**P**	**00 55 47.2**	**-0.8**
FOZ	**Fox Glacier**	**26.13**	**201**	P	**P**	**00 55 58.7**	**-0.4**
WKZ	**Wanaka**	**27.55**	**201**	P	**P**	**00 56 09.5**	**-2.0**
MLZ	**Mavora Lakes**	**28.33**	**201**	P	**P**	**00 56 17.3**	**-0.9**
DCZ	**Deep Cove**	**28.75**	**203**	P	**P**	**00 56 21.9**	**+0.1**
WHZ	**Wether Hill Ro**	**28.84**	**201**	P	**P**	**00 56 23.2**	**+0.5**
ARMA	**Armidale**	**29.78**	**243**	P	**P**	**00 56 31.1**	**0.0**
ARMA				IAmb	IAmb	00 56 33.7	
	comp=Z,8.6nm,1.1s						
RMQ	**Roma**	**31.61**	**251**	P	**P**	**00 56 47.1**	**+0.5**
CAN	**Canberra**	**33.31**	**235**	P	**P**	**00 57 01.0**	**0.0**
CTA	**Charters Tower**	**33.91**	**263**	P	**P**	**00 57 05.8**	**-0.3**
CMSA	**Cobar Meteorol**	**35.00**	**243**	P	**P**	**00 57 14.7**	**-0.3**
PMG	**Port Moresby**	**35.45**	**281**	P	**P**	**00 57 20.1**	**+1.2**
	comp=Z,54nm,1.0s						
QLP	**Quilpie**	**35.66**	**251**	P	**P**	**00 57 20.1**	**-0.4**
MTSU	**Mount Surprise**	**35.97**	**266**	P	**P**	**00 57 23.0**	**-0.2**
TOO	**Toolangi**	**36.72**	**233**	P	**P**	**00 57 29.2**	**+0.1**
COEN	**Coen**	**37.85**	**272**	P	**P**	**00 57 38.6**	**+0.1**
COEN				IAmb	IAmb	00 57 40.1	
	comp=Z,18nm,0.8s						
COEN	**Coen**	**37.85**	**272**	P	**P**	**00 57 38.7**	**+0.1**
BRAT	**Ballarat**	**37.90**	**234**	P	**P**	**00 57 37.8**	**-0.8**
STKA	**Stephens Creek**	**38.50**	**243**	P	**P**	**00 57 41.8**	**-1.8**
	comp=Z,19nm,1.0s,baz=87,slow=10,SNR=24						
	comp=Z,19nm,1.0s						
STKA	**Stephens Creek**	**38.50**	**243**	P	**P**	**00 57 43.8**	**+0.2**
STKA	**Stephens Creek**	**38.50**	**243**	P	**P**	**00 57 43.7**	**+0.2**
INKA	**Innaminka**	**38.82**	**250**	P	**P**	**00 57 46.9**	**+0.7**
QIS	**Mount Isa**	**40.07**	**261**	P	**P**	**00 57 56.7**	**+0.3**
HTT	**Hallett**	**40.96**	**241**	P	**P**	**00 58 03.3**	**0.0**
	comp=Z,21nm,0.8s						
LCRK	**Leigh Creek**	**41.21**	**246**	P	**P**	**00 58 05.4**	**+0.2**
WHYH	**Whyalla**	**42.02**	**242**	P	**P**	**00 58 11.8**	**+0.3**
BBOO	**Buckleboo**	**43.26**	**243**	P	**P**	**00 58 20.8**	**-0.4**
BBOO				IAmb	IAmb	00 58 21.5	
	comp=Z,16nm,0.8s						
BBOO	**Buckleboo**	**43.26**	**243**	P	**P**	**00 58 20.7**	**-0.5**
OOD	**Oodnadatta**	**43.30**	**250**	P	**P**	**00 58 22.0**	**+0.4**
MULG	**Mulgathing**	**44.79**	**246**	P	**P**	**00 58 32.5**	**-0.5**
WR0	**Warramunga Arr**	**44.87**	**261**	P	**P**	**00 58 33.0**	**-0.7**
WR0				IAmb	IAmb	00 58 35.0	
	comp=Z,16nm,1.1s						
AS01	**Alice Springs**	**45.01**	**256**	P	**P**	**00 58 34.5**	**-0.3**
WB0	**Warramunga Arr**	**45.03**	**261**	P	**P**	**00 58 34.2**	**-0.8**
WB2	**Warramunga Arr**	**45.04**	**261**	P	**P**	**00 58 33.9**	**-1.2**
WRAB	**Tennant Creek**	**45.05**	**261**	P	**P**	**00 58 34.3**	**-0.8**
WRAB				IAmb	IAmb	00 58 35.6	
	comp=Z,28nm,1.0s						
WRAB	**Tennant Creek**	**45.05**	**261**	P	**P**	**00 58 34.1**	**-1.0**
AS31	**Alice Springs**	**45.05**	**256**	P	**P**	**00 58 34.6**	**-0.6**
AS31				IAmb	IAmb	00 58 36.6	
	comp=Z,22nm,1.4s						
ASAR	**Alice Springs**	**45.05**	**256**	P	**P**	**00 58 34.5**	**-0.6**
	comp=Z,41nm,1.0s,baz=94,slow=8.0,SNR=120						
ASAR				PcP	**PcP**	**01 00 02.0**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=103,slow=4.0,SNR=7.8						
ASAR				ScP	**ScP**	**01 03 02.1**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=100,slow=4.9,SNR=2.6						
ASAR				S	**S**	**01 04 30.4**	**-1.4**
	comp=Z,2.8nm,1.0s,baz=91,slow=15,SNR=16						
	comp=Z,41nm,1.0s						
ASAR	**Alice Springs**	**45.05**	**256**	P	**P**	**00 58 34.9**	**-0.3**
WRA	**Warramunga Arr**	**45.05**	**261**	P	**P**	**00 58 34.1**	**-1.1**
	comp=Z,9.2nm,0.4s,baz=96,slow=7.8,SNR=128						
WRA				PcP	**PcP**	**01 00 03.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=89,slow=4.2,SNR=5.5						
WRA				ScP	**ScP**	**01 03 02.0**	**+3.0**
	comp=Z,0.3nm,0.6s,baz=89,slow=4.1,SNR=2.9						
WRA				S	**S**	**01 04 28.1**	**-3.6**
	comp=Z,1.5nm,0.9s,baz=97,slow=13,SNR=7.8						
	comp=Z,9.2nm,0.4s						
WRA	**Warramunga Arr**	**45.05**	**261**	P	**P**	**00 58 34.2**	**-1.0**
KDU	**Kakadu**	**48.25**	**270**	P	**P**	**00 58 58.6**	**-0.6**
MTN	**Manton Dam**	**49.48**	**270**	P	**P**	**00 59 08.3**	**0.0**
MTN	**Manton Dam**	**49.48**	**270**	P	**P**	**00 59 08.7**	**+0.4**
FORT	**Forrest**	**49.97**	**246**	P	**P**	**00 59 10.7**	**-1.0**
WRKA	**Warakurna**	**50.04**	**253**	P	**P**	**00 59 11.7**	**-0.6**
KNRA	**Kununurra**	**51.05**	**265**	P	**P**	**00 59 19.2**	**-0.5**
KNRA				IAmb	IAmb	00 59 20.6	
	comp=Z,23nm,0.8s						
KNRA	**Kununurra**	**51.05**	**265**	P	**P**	**00 59 19.1**	**-0.5**
FAKI	**Fak Fak**	**51.60**	**282**	P	**P**	**00 59 23.2**	**-0.4**
FAKI				IAmb	IAmb	00 59 24.9	
	comp=Z,31nm,1.4s						
SOEI	**Soe**	**56.80**	**271**	P	**P**	**01 00 01.1**	**+0.9**
TNTI	**Ternate**	**57.53**	**284**	P	**P**	**01 00 04.5**	**-0.6**
TNTI				IAmb	IAmb	01 00 07.0	
	comp=Z,33nm,0.8s						
PSA00	**Pilbara Seismi**	**58.20**	**256**	IAmb	IAmb	01 00 10.3	
	comp=Z,23nm,0.8s						
MBWA	**Marble Bar**	**58.38**	**257**	P	**P**	**01 00 09.9**	**-0.8**
MBWA				IAmb	IAmb	01 00 11.4	
	comp=Z,13nm,0.8s						
SBA	**Scott Base**	**58.85**	**184**	P	**P**	**01 00 14.4**	**+1.6**
SBA				IAmb	IAmb	01 00 16.8	
	comp=Z,15nm,1.1s						
VNDA	**Vanda**	**58.89**	**185**	P	**P**	**01 00 13.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=7.2,slow=8.4,SNR=14						
VNDA				PcP	**PcP**	**01 00 53.0**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=45,slow=1.4,SNR=1.8						
	comp=Z,1.2nm,0.6s						
VNDA	**Vanda**	**58.89**	**185**	P	**P**	**01 00 14.3**	**+1.2**
KAPI	**Kappang**	**62.52**	**275**	P	**P**	**01 00 37.3**	**-0.7**
KAPI				IAmb	IAmb	01 00 39.3	
	comp=Z,17nm,1.3s						
GIRL	**Giralia**	**63.12**	**254**	P	**P**	**01 00 42.2**	**+0.5**
TOLI2	**Tolitoli**	**63.72**	**281**	P	**P**	**01 00 45.6**	**-0.1**
TOLI2				IAmb	IAmb	01 00 46.9	
	comp=Z,14nm,0.9s						
JAGI	**Jajag, Banyuwa**	**66.71**	**269**	P	**P**	**01 01 03.2**	**-1.2**
MJAR	**Matsushiro Arr**	**69.63**	**323**	P	**P**	**01 01 20.8**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=151,slow=6.5,SNR=7.2						
	comp=Z,3.5nm,0.7s						
UGM	**Wanagama**	**70.30**	**268**	P	**P**	**01 01 26.1**	**+0.1**
QSPA	**South Pole Qui**	**70.53**	**180**	P	**P**	**01 01 27.2**	**+0.7**
QSPA				IAmb	IAmb	01 01 29.0	
	comp=Z,13nm,0.9s						
PETK	**Petropavlovsk-**	**75.43**	**345**	P	**P**	**01 01 53.4**	**-0.9**
	comp=Z,3.9nm,0.8s,baz=169,slow=8.8,SNR=2.2						
	comp=Z,3.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.35**	**326**	P	**P**	**01 02 12.1**	**+1.7**
	comp=Z,3.0nm,0.7s,baz=202,slow=3.1,SNR=5.8						
	comp=Z,3.0nm,0.7s						
MDPB	**Devils Postpil**	**79.15**	**44**	P	**P**	**01 02 16.0**	**+0.8**
YBH	**Yreka Blue Hor**	**79.34**	**39**	P	**P**	**01 02 17.8**	**+2.0**
YBH				IAmb	IAmb	01 02 37.1	
	comp=Z,15nm,1.4s						
PNTR	**Pine Nut**	**79.66**	**42**	P	**P**	**01 02 20.4**	**+2.6**
PNTR				IAmb	IAmb	01 02 21.0	
	comp=Z,9.2nm,1.0s						
DSP	**Deep Springs**	**79.73**	**44**	P	**P**	**01 02 19.6**	**+1.7**
HUMO	**Hull Mountain**	**79.74**	**38**	P	**P**	**01 02 19.2**	**+1.4**
HUMO				IAmb	IAmb	01 02 39.8	
	comp=Z,25nm,1.4s						
PIX	**Pinacate**	**79.79**	**51**	P	**P**	**01 02 19.5**	**+1.2**
YERR	**Yerington**	**79.83**	**42**	IAmb	IAmb	01 02 21.6	
	comp=Z,6.1nm,0.6s						
NVAR	**Mina Array Bea**	**80.11**	**43**	P	**P**	**01 02 21.4**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=225,slow=8.5,SNR=14						
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**80.11**	**43**	P	**P**	**01 02 21.8**	**+1.6**
BELA	**Belgrano 2**	**80.47**	**173**	P	**P**	**01 02 21.1**	**+0.1**
BELA				IAmb	IAmb	01 02 22.7	
	comp=Z,9.6nm,1.2s						
KVN	**Kaiserville**	**80.59**	**43**	P	**P**	**01 02 23.4**	**+0.8**
TPH	**Tonopah**	**80.62**	**44**	P	**P**	**01 02 23.4**	**+0.6**
TPH				IAmb	IAmb	01 02 25.8	
	comp=Z,27nm,1.1s						
MOD	**Modoc Plateau**	**80.88**	**40**	P	**P**	**01 02 25.7**	**+1.8**
MOD				IAmb	IAmb	01 02 26.9	
	comp=Z,5.4nm,0.8s						
K05A	**Summer Lake**	**81.02**	**39**	P	**P**	**01 02 26.7**	**+2.1**
O18K	**Koktuh Hills**	**81.20**	**11**	P	**P**	**01 02 25.2**	**+0.2**
O18K				IAmb	IAmb	01 02 27.1	
	comp=Z,14nm,1.1s						
P19K	**Oil Pt**	**81.39**	**12**	P	**P**	**01 02 25.9**	**-0.1**
PRN	**Pahroc Range**	**81.70**	**46**	P	**P**	**01 02 30.0**	**+1.8**
PRN				IAmb	IAmb	01 02 31.7	
	comp=Z,5.0nm,0.9s						
ILSW	**Iliamna Southw**	**81.72**	**12**	P	**P**	**01 02 28.0**	**+0.3**
ILSW				IAmb	IAmb	01 02 28.4	
	comp=Z,10nm,1.0s						
R11A	**Troy Canyon, C**	**81.84**	**45**		pP	01 04 29.6	-5.2
BMN	**Battle Mountai**	**81.93**	**42**	P	**P**	**01 02 30.8**	**+1.4**
BMN				IAmb	IAmb	01 02 32.4	
	comp=Z,6.6nm,0.9s						
TUC	**Tucson**	**82.14**	**52**	P	**P**	**01 02 32.8**	**+2.3**
N19K	**Bonanza Creek**	**82.23**	**11**	P	**P**	**01 02 29.4**	**-0.9**
N19K				IAmb	IAmb	01 03 11.7	
	comp=Z,21nm,1.4s						
MAW	**Mawson**	**82.57**	**200**	P	**P**	**01 02 31.0**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=124,slow=3.6,SNR=6.1						
	comp=Z,1.9nm,0.6s						
MAW	**Mawson**	**82.57**	**200**	P	**P**	**01 02 32.7**	**+0.8**
I07A	**Izee**	**82.64**	**38**	P	**P**	**01 02 34.4**	**+1.6**
319A	**Douglas**	**82.82**	**53**	P	**P**	**01 02 35.1**	**+1.1**
319A				IAmb	IAmb	01 02 38.0	
	comp=Z,10nm,1.0s						
J08A	**Circle Bar Ran**	**82.82**	**39**	P	**P**	**01 02 34.7**	**+1.0**
J08A				IAmb	IAmb	01 02 36.7	
	comp=Z,6.8nm,1.1s						
KNB	**Kanab**	**83.01**	**47**	P	**P**	**01 02 35.8**	**+0.9**
U15A	**North Rim**	**83.08**	**48**	P	**P**	**01 02 37.0**	**+1.6**
U15A				IAmb	IAmb	01 02 38.9	
	comp=Z,4.3nm,0.8s						
PSUT	**Pine Spring**	**83.09**	**45**	P	**P**	**01 02 36.7**	**+1.4**
L19K	**White Mountain**	**83.44**	**11**	P	**P**	**01 02 36.9**	**+0.7**
L19K				IAmb	IAmb	01 02 38.5	
	comp=Z,5.4nm,1.1s						
PWL	**Port Wells**	**83.54**	**14**	P	**P**	**01 02 36.8**	**+0.1**
PWL				IAmb	IAmb	01 03 17.5	
	comp=Z,35nm,1.5s						
SUA	**Susitna One**	**83.56**	**13**	P	**P**	**01 02 36.7**	**-0.2**
SUA				IAmb	IAmb	01 03 07.0	
	comp=Z,23nm,1.4s						
PKCU	**Pink Cliffs**	**83.58**	**47**	P	**P**	**01 02 40.7**	**+2.8**
TTA	**Tatalina**	**83.95**	**10**	P	**P**	**01 02 39.5**	**+0.7**
TTA				IAmb	IAmb	01 02 43.7	
	comp=Z,7.1nm,1.3s						
GHO	**Glory Hole Cre**	**84.22**	**13**	P	**P**	**01 02 40.2**	**+0.1**
SCM	**Sheep Creek Mo**	**84.63**	**14**	P	**P**	**01 02 42.6**	**+0.5**
K20K	**Telida**	**84.67**	**10**	P	**P**	**01 02 42.9**	**+0.7**
K20K				IAmb	IAmb	01 02 44.0	
	comp=Z,7.2nm,1.2s						
F10A	**Beach Ranch, E**	**85.05**	**38**	IAmb	IAmb	01 02 47.5	
	comp=Z,10.0nm,1.1s						
N25K	**Chitina, Valde**	**85.08**	**15**	P	**P**	**01 02 44.9**	**+0.6**
N25K				IAmb	IAmb	01 02 48.9	
	comp=Z,17nm,1.4s						
CAST	**Castle Rocks**	**85.08**	**11**	P	**P**	**01 02 43.4**	**-0.8**
CAST				IAmb	IAmb	01 02 44.1	
	comp=Z,18nm,1.3s						
TMUT	**Trail Mountain**	**85.26**	**46**	P	**P**	**01 02 47.7**	**+1.7**
B08A	**Colville Reser**	**85.26**	**35**	P	**P**	**01 02 46.5**	**+1.0**
PLID	**Pearl Lake**	**85.27**	**39**	P	**P**	**01 02 47.1**	**+1.3**
J20K	**Nowinta River**	**85.42**	**10**	P	**P**	**01 02 46.2**	**+0.4**
J20K				IAmb	IAmb	01 03 06.8	
	comp=Z,9.7nm,1.4s						
TRF	**Thorofare Moun**	**85.45**	**12**	P	**P**	**01 02 46.1**	**0.0**
TRF				IAmb	IAmb	01 02 47.4	
	comp=Z,19nm,1.4s						
MCK	**McKinley**	**85.97**	**12**	P	**P**	**01 02 49.2**	**+0.8**
MCK				IAmb	IAmb	01 02 50.3	
	comp=Z,15nm,1.2s						
TX31	**Lajitas Ar. Si**	**86.27**	**57**	IAmb	IAmb	01 02 54.6	
	comp=Z,14nm,1.4s						
TXAR	**Lajitas Array**	**86.27**	**57**	P	**P**	**01 02 52.2**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=223,slow=6.1,SNR=8.5						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**86.27**	**57**	P	**P**	**01 02 52.7**	**+1.9**
MLY	**Manley**	**86.79**	**11**	P	**P**	**01 02 51.9**	**-0.4**
WRH	**Wood River Hil**	**86.80**	**12**	P	**P**	**01 02 52.0**	**-0.3**
H21K	**Melozitna Rive**	**87.01**	**10**	P	**P**	**01 02 53.8**	**+0.5**
CCB	**Clear Creek Bu**	**87.01**	**12**	P	**P**	**01 02 52.9**	**-0.3**
CCB				IAmb	IAmb	01 02 53.2	
	comp=Z,3.3nm,0.6s						
MCMT	**McKenzie Canyo**	**87.02**	**40**	P	**P**	**01 02 55.6**	**+1.5**
I23K	**Minto, Yukon-K**	**87.15**	**12**	P	**P**	**01 02 53.0**	**-0.9**
I23K				IAmb	IAmb	01 02 55.2	
	comp=Z,9.7nm,1.5s						
IMAR	**Indian Mountai**	**87.16**	**10**	P	**P**	**01 02 54.1**	**+0.2**
MDM	**Murphy Dome**	**87.20**	**12**	P	**P**	**01 02 53.6**	**-0.6**
MDM				IAmb	IAmb	01 02 55.4	
	comp=Z,3.5nm,1.0s						
ILAR	**Eielson Array**	**87.31**	**13**	P	**P**	**01 02 54.0**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=226,slow=5.4,SNR=12						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**87.31**	**13**	P	**P**	**01 02 54.4**	**-0.3**
XLT	**XiLinHaoTe**	**87.43**	**319**	*e*P	P	01 03 04.0	+8.1
XLT				pmax	pmax		
	comp=Z,6.0nm,1.2s						
XLT				pmax	pmax		
	comp=Z,93nm,5.3s						
J25K	**Salcha River,**	**87.49**	**13**	P	**P**	**01 02 55.6**	**0.0**
TPAW	**Teton Pass**	**87.51**	**42**	P	**P**	**01 02 57.7**	**+1.2**
TPAW				IAmb	IAmb	01 02 59.0	
	comp=Z,9.5nm,1.4s						
IMW	**Indian Meadow**	**87.72**	**42**	P	**P**	**01 02 59.0**	**+1.5**
IMW				IAmb	IAmb	01 03 01.3	
	comp=Z,8.7nm,1.4s						
J26L	**Joseph Creek**	**87.80**	**14**	P	**P**	**01 02 58.7**	**+1.6**
J26L				IAmb	IAmb	01 02 59.7	
	comp=Z,3.2nm,0.8s						
QLMT	**Earthquake Lak**	**87.89**	**41**	P	**P**	**01 02 59.9**	**+1.8**
PD31	**Pinedale Array**	**88.05**	**43**	P	**P**	**01 02 59.7**	**+0.8**
PDAR	**Pinedale Array**	**88.05**	**43**	P	**P**	**01 02 58.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=236,slow=1.6,SNR=7.1						
	comp=Z,0.9nm,0.5s						
PDAR	**Pinedale Array**	**88.05**	**43**	P	**P**	**01 02 59.8**	**+0.8**
YHL	**Hebgen Lake**	**88.05**	**41**	P	**P**	**01 03 00.6**	**+1.6**
YHL				IAmb	IAmb	01 03 02.8	
	comp=Z,8.2nm,1.1s						
H17A	**Grant Village**	**88.20**	**41**	P	**P**	**01 03 01.4**	**+1.7**
H17A				IAmb	IAmb	01 03 03.8	
	comp=Z,3.3nm,0.6s						
TROLL	**Troll, Antarti**	**88.69**	**180**	P	**P**	**01 03 01.2**	**-0.2**
HHC	**Hu-ho-hao-te**	**88.91**	**314**	*e*P	P	01 03 08.0	+5.1
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,6.2s						
VNA3	**Neumayer Olymp**	**89.08**	**176**	P	**P**	**01 03 02.8**	**-0.2**
VNA2	**Neumayer--Watz**	**89.52**	**177**	P	**P**	**01 03 05.6**	**+0.6**
	baz=178,slow=4.0						
VNA1	**Neumayer--Stat**	**89.75**	**176**	P	**P**	**01 03 05.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**90.09**	**289**	P	**P**	**01 03 10.2**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=123,slow=2.8,SNR=18						
	comp=Z,3.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.09**	**289**	P	**P**	**01 03 10.4**	**+1.7**
PZH	**PanZhiHua**	**90.54**	**298**	P	**P**	**01 03 13.8**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.1s						
MKAR	**Makanchi Array**	**110.77**	**314**	PKiKP	**PKiKP**	**01 08 35.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=168,slow=4.0,SNR=4.8						
ARCES	**ARCESS Array B**	**128.03**	**350**	PKP	**PKPdf**	**01 09 08.9**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=357,slow=1.8,SNR=5.0						
FINES	**FINESS Array B**	**134.94**	**344**	PKP	**PKPdf**	**01 09 22.6**	**+0.3**
	comp=Z,6.2nm,1.1s,baz=52,slow=2.3,SNR=3.7						
AKASG	**Malin Array Be**	**142.32**	**332**	PKhKP	PKPpre	01 09 33.3	
	comp=Z,1.5nm,0.5s,baz=43,slow=4.1,SNR=9.1						
MILM	**Milestii Mici**	**145.16**	**328**	⇑P	**PKPbc**	**01 09 42.3**	**0.0**
BNN	**Bunyan**	**145.26**	**311**		**PKPbc**	**01 09 43.2**	**+0.2**
VLDR	**Vladesti**	**146.26**	**327**	⇑P	**PKPbc**	**01 09 45.8**	**+0.4**
BURAR	**Bucovina Array**	**146.38**	**332**	⇑P	**PKiKP**	**01 09 48.1**	**+0.1**
BRTR	**Keskin Array B**	**146.42**	**314**	PKPbc	**PKPbc**	**01 09 46.4**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=142,slow=4.1,SNR=23						
BRTR	**Keskin Array B**	**146.42**	**314**		**PKPbc**	**01 09 46.5**	**+0.2**
GHRR		**146.45**	**328**	⇑P	**PKPbc**	**01 09 46.6**	**+0.7**
KOLS	**Kolonicke sedl**	**146.57**	**336**	*e*PKP	**PKiKP**	**01 09 47.9**	**-0.4**
VRI	**Vrincioaia**	**146.93**	**328**	⇑P	**PKPbc**	**01 09 48.0**	**+0.7**
PLOR	**Plostina**	**146.98**	**328**	⇓P	**PKPdf**	**01 09 45.6**	**+1.2**
TRPA	**Tarpa**	**147.11**	**335**	⇑P	**PKPbc**	**01 09 48.1**	**+0.5**
OSTC	**Ostas**	**147.14**	**344**	⇑*e*PKP	**PKPbc**	**01 09 47.7**	**0.0**
CLL	**Collm**	**147.20**	**348**		**PKPbc**	**01 09 48.6**	**+0.8**
CLL	**Collm**	**147.20**	**348**	*i* PKPbc	**PKPbc**

JMA ***26*** *01:11:27.8±0.2,35.8N±0.8×14.1E±, h22km±2km, MV3.3/31, NEAR CHOSHI CITY*

ISC 26 01:11:26.2±2.4,35.81N±0.07×141.4E±0.1, h11km±14km, n25,σ0§83/20, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.46**	**257**	P	**Pg**	**01 11 35.5**	**+0.3**
CHOJ				S	**Sg**	**01 11 40.9**	**-0.5**
JIHU	**Itakohorinouch**	**0.74**	**282**	P	**Pg**	**01 11 41.1**	**+0.7**
JIHU				S	**Sg**	**01 11 50.1**	**0.0**
JSMT	**Sammumatsuo**	**0.80**	**258**	P	**Pg**	**01 11 42.1**	**+0.5**
JSMT				S	**Sg**	**01 11 51.9**	**-0.2**
JHYU	**Hitachinakayam**	**0.85**	**309**	P	**Pb**	**01 11 43.1**	**+0.1**
JHYU				S	**Sg**	**01 11 54.0**	**+0.2**
JHO	**Hitachi**	**1.05**	**320**	P	**Pb**	**01 11 45.9**	**-0.5**
JYT	**Yasato**	**1.07**	**293**	P	**Pb**	**01 11 45.3**	**-1.4**
BSO1	**Boso 1**	**1.21**	**197**	P	**Pn**	**01 11 48.1**	**-0.4**
BSO3	**Boso 3**	**1.25**	**217**	P	**Pn**	**01 11 49.0**	**-0.3**
MJAR	**Matsushiro Arr**	**2.69**	**287**	Pn	**Pn**	**01 12 09.2**	**-0.2**
	0.6nm,0.3s,baz=88,slow=13,SNR=26						
MJAR				Sn	**Sb**	**01 12 47.0**	**-0.5**
	0.5nm,0.3s,baz=284,slow=30,SNR=4.9 11nm,0.7s						
KSRS	**Korea Array**	**10.96**	**283**	LR	LR	01 17 47.8	
	comp=Z,13nm,22.0s,baz=160,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.54**	**119**	T	T	01 46 03.4	
	baz=311,slow=75,SNR=90						
H11N1	**WAKE ISLAND Hy**	**27.55**	**119**	T	T	01 46 04.9	
	baz=311,slow=75,SNR=108						
H11N3	**WAKE ISLAND Hy**	**27.56**	**119**	T	T	01 46 04.7	
	baz=311,slow=75,SNR=83						
H11S1	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	01 47 01.9	
	baz=313,slow=76,SNR=63						
H11S3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	01 46 55.9	
	baz=313,slow=76,SNR=65						
H11S2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	01 46 57.0	
	baz=313,slow=76,SNR=53						
SONM	**Songino Array**	**28.48**	**306**	P	**P**	**01 17 22.3**	**+0.9**
	0.7nm,0.9s,baz=118,slow=10,SNR=2.6 0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**42.74**	**313**	P	**P**	**01 19 23.9**	**+0.6**
	0.5nm,0.4s,baz=109,slow=7.8,SNR=1.5 0.5nm,0.4s						
MKAR	**Makanchi Array**	**44.78**	**303**	P	**P**	**01 19 40.1**	**+0.3**
	0.7nm,0.6s,baz=91,slow=8.7,SNR=8.2 0.7nm,0.6s						
ILAR	**Eielson Array**	**50.53**	**32**	P	**P**	**01 20 22.3**	**-1.9**
	0.2nm,0.8s,baz=277,slow=7.2,SNR=1.6 0.2nm,0.8s						
WRA	**Warramunga Arr**	**55.85**	**188**	P	**P**	**01 21 04.5**	**+0.8**
	0.6nm,0.6s,baz=3.2,slow=7.7,SNR=12 0.6nm,0.6s						
ASAR	**Alice Springs**	**59.58**	**188**	P	**P**	**01 21 31.2**	**+1.3**
	0.3nm,0.7s,baz=19,slow=12,SNR=2.0 0.3nm,0.7s						
H03N2	**Juan Fernandez**	**146.88**	**98**	T	T	04 15 29.1	
	baz=290,slow=74						
H03N3	**Juan Fernandez**	**146.89**	**98**	T	T	04 15 29.2	
	baz=290,slow=74						
H03N1	**Juan Fernandez**	**146.89**	**98**	T	T	04 15 25.9	
	baz=290						

IDC ***26*** *01:32:39.6±5.0,39.04N×74.20E, h0km, mb3.7/4, mbtmp3.7/7, ML3.0/3, MS2.2/1, Error ellipse: s-maj=89.1km s-min=26.7km az=122.0*

SOME ***26*** *01:32:41.2,39.30N×73.65E, h10km*

NNC ***26*** *01:32:48.8±3.3,39.59N×73.90E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=24.5km s-min=12.9km az=171.0*

ISC 26 01:32:47.5±0.8,39.53N±0.05×73.72E±0.04, h10km, n62, σ2§11/79, mb3.9/3, 6C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.60**	**360**	P	**Pb**	**01 33 32.7**	**-1.9**
	SNR=43						
UCH	**Uchtor**	**2.77**	**12**	P	**Pn**	**01 33 34.6**	**+2.3**
	SNR=89						
EKS2	**Erkin-Say**	**3.13**	**1**	P	**Pn**	**01 33 40.3**	**+3.2**
	SNR=8.5						
AAK	**Ala-Archa**	**3.16**	**10**	P	**Pn**	**01 33 40.3**	**+2.7**
	SNR=23						
AAK	**Ala-Archa**	**3.16**	**10**	Pn	**Pb**	**01 33 40.8**	**-3.2**
	4.0nm,0.3s,baz=178,slow=7.7,SNR=57						
AAK				Sn	**Sb**	**01 34 23.3**	**+0.7**
	baz=145,slow=22						
AAK				LR	LR	01 35 14.5	
	comp=Z,34nm,18.3s,baz=136,slow=43 13nm,0.5s						
MRKS	**Merke**	**3.24**	**354**	*e*P	**Pb**	**01 33 44.9**	**-0.3**
	36nm,0.2s						
MRKS				*e*S	**Sg**	**01 34 30.9**	**-0.7**
	72nm,0.3s						
MRKS	**Merke**	**3.24**	**354**	Pg	**Pb**	**01 33 44.9**	**-0.3**
	36nm,0.3s						
MRKS				Lg	Lg	01 34 30.9	
	72nm,0.3s						
KBK	**Karagaybulak**	**3.26**	**16**	P	**Pb**	**01 33 42.7**	**-3.0**
	SNR=28						
ULHL	**Ulahol**	**3.32**	**34**	P	**Pb**	**01 33 45.8**	**-0.9**
	SNR=11						
CHMS	**Chumysh**	**3.56**	**12**	P	**Pn**	**01 33 45.9**	**+3.1**
	SNR=10.0						
TKM2	**Tokmak 2**	**3.67**	**22**	P	**Pn**	**01 33 46.9**	**+2.3**
	SNR=9.6						
TKM2	**Tokmak 2**	**3.67**	**22**	⇓Pn	**Pn**	**01 33 46.9**	**+2.3**
	37nm,0.9s						
TKM2				⇑Lg	Lg	01 34 42.2	
	24nm,0.8s						
USP	**Ospenovka**	**3.78**	**9**	P	**Pn**	**01 33 48.3**	**+2.3**
	SNR=6.7						
DZA	**Taraz**	**3.82**	**333**	*e*P	**Pb**	**01 33 54.6**	**-0.4**
	36nm,0.0s						
DZA				*e*S	**Sg**	**01 34 47.8**	**-2.3**
	47nm,0.1s						
DZA	**Taraz**	**3.82**	**333**	Pg	**Pb**	**01 33 54.6**	**-0.4**
	36nm,0.1s						
DZA				Lg	Lg	01 34 47.8	
	50nm,0.2s						
IUG	**Iuzhnay**	**3.83**	**314**	*e*P	**Pb**	**01 33 54.5**	**-0.9**
	87nm,0.4s						
IUG				*e*S	**Sb**	**01 34 46.9**	**+5.0**
	96nm,0.8s						
IUG	**Iuzhnay**	**3.83**	**314**	Pg	**Pb**	**01 33 54.5**	**-0.9**
	88nm,0.5s						
IUG				Lg	Lg	01 34 46.9	
	96nm,0.8s						
KST	**Kastek**	**3.90**	**25**	*e*P	**Pb**	**01 33 56.9**	**+0.4**
	13nm,0.4s						
KST				*e*S	**Sg**	**01 34 51.6**	**-1.2**
	46nm,0.8s						
KST	**Kastek**	**3.90**	**25**	Pg	**Pb**	**01 33 56.9**	**+0.4**
	13nm,0.4s						
KST				Lg	Lg	01 34 51.6	
	46nm,0.8s						
SGDS	**Sogindy**	**3.98**	**10**	*e*P	**Pb**	**01 33 59.3**	**+1.5**
	18nm,0.4s						
SGDS				*e*S	**Sg**	**01 34 55.6**	**+0.2**
	30nm,0.2s						
SGDS	**Sogindy**	**3.98**	**10**	Pg	**Pb**	**01 33 59.3**	**+1.5**
	18nm,0.4s						
SGDS				Lg	Lg	01 34 55.6	
	30nm,1.3s						
DGS	**Degeres**	**4.02**	**22**	*e*P	**Pb**	**01 33 59.1**	**+0.6**
	26nm,0.5s						
DGS				*e*S	**Sg**	**01 34 55.2**	**-1.4**
	28nm,0.7s						
DGS	**Degeres**	**4.02**	**22**	Pg	**Pb**	**01 33 59.1**	**+0.6**
	26nm,0.3s						
DGS				Lg	Lg	01 34 55.2	
	28nm,0.7s						
MTBS	**Maitube**	**4.14**	**29**	*e*P	**Pb**	**01 34 01.5**	**+1.0**
	16nm,0.5s						
MTBS				*e*S	**Sg**	**01 34 59.4**	**-1.0**
	23nm,0.4s						
MTBS	**Maitube**	**4.14**	**29**	Pg	**Pb**	**01 34 01.5**	**+1.0**
	16nm,0.5s						
MTBS				Lg	Lg	01 34 59.4	
	23nm,0.4s						
TNSS	**Tian-Shan**	**4.27**	**34**	*e*P	**Pb**	**01 34 04.3**	**+1.4**
	24nm,0.6s						
TNSS				*e*S	**Sg**	**01 35 04.0**	**-0.6**
	16nm,0.3s						
TNSS	**Tian-Shan**	**4.27**	**34**	Pg	**Pb**	**01 34 04.3**	**+1.4**
	24nm,0.6s						
TNSS				Lg	Lg	01 35 04.0	
	16nm,0.7s						
KK31	**Karatay Array**	**4.32**	**327**	⇑Pn	**Pn**	**01 33 56.2**	**+3.0**
	7.1nm,0.5s,baz=132,slow=13						
KK31				⇑Sn	**Sn**	**01 34 50.2**	**+6.5**
	16nm,0.7s,baz=135,slow=26						
KK31				⇓Lg	Lg	01 35 08.5	
	12nm,0.6s,baz=130,slow=30						
AAA	**Alma-Ata**	**4.39**	**32**	*e*P	**Pb**	**01 34 05.7**	**+0.8**
	22nm,0.1s						
AAA				*e*S	**Sg**	**01 35 06.6**	**-2.1**
	7.0nm,0.0s						
AAA	**Alma-Ata**	**4.39**	**32**	Pg	**Pb**	**01 34 05.7**	**+0.8**
	23nm,0.1s						
AAA				Lg	Lg	01 35 06.6	
	7.5nm,0.4s						
MDOK	**Medeo**	**4.41**	**33**	*e*P	**Pb**	**01 34 06.8**	**+1.6**
	20nm,0.7s						
MDOK				*e*S	**Sg**	**01 35 08.5**	**-0.7**
	19nm,0.5s						
MDOK	**Medeo**	**4.41**	**33**	Pn	**Pn**	**01 33 56.7**	**+2.0**
	18nm,0.6s						
MDOK				Pg	**Pb**	**01 34 06.8**	**+1.6**
	20nm,0.7s						
MDOK				Lg	Lg	01 35 04.4	
	44nm,1.2s						
MDOK				Lg	Lg	01 35 08.5	
	19nm,1.1s						
KRBS	**Karabastau**	**4.42**	**19**	*e*P	**Pb**	**01 34 06.6**	**+1.4**
	11nm,0.4s						
KRBS				*e*S	**Sg**	**01 35 08.2**	**-1.2**
	24nm,0.7s						
KRBS	**Karabastau**	**4.42**	**19**	Pg	**Pb**	**01 34 06.6**	**+1.4**
	11nm,0.3s						
KRBS				Lg	Lg	01 35 08.2	
	24nm,0.7s						
KTBS	**Karatobe**	**4.74**	**27**	*e*P	**Pb**	**01 34 12.4**	**+1.8**
	12nm,0.5s						
KTBS				*e*S	**Sg**	**01 35 18.0**	**-1.5**
	33nm,0.3s						
KTBS	**Karatobe**	**4.74**	**27**	Pg	**Pb**	**01 34 12.4**	**+1.8**
	12nm,0.5s						
KTBS				Lg	Lg	01 35 18.0	
	34nm,0.4s						
KUU	**Kurty**	**4.78**	**23**	*e*P	**Pb**	**01 34 13.6**	**+2.2**
	14nm,0.7s						
KUU				*e*S	**Sg**	**01 35 19.9**	**-1.2**
	13nm,0.6s						
KUU	**Kurty**	**4.78**	**23**	Pg	**Pb**	**01 34 13.6**	**+2.2**
	14nm,0.7s						
KUU				Lg	Lg	01 35 19.9	
	13nm,0.6s						
CHKK	**Chushkaly**	**4.97**	**28**	*e*P	**Pb**	**01 34 17.1**	**+2.5**
	16nm,0.2s						
CHKK				*e*S	**Sg**	**01 35 26.6**	**-0.5**
	16nm,0.2s						
CHKK	**Chushkaly**	**4.97**	**28**	Pg	**Pb**	**01 34 17.2**	**+2.5**
	16nm,0.3s						
CHKK				Lg	Lg	01 35 26.6	
	16nm,0.3s						
SATY	**Saty**	**4.99**	**43**	*e*P	**Pb**	**01 34 17.0**	**+1.9**
	8.6nm,0.1s						
SATY				*e*S	**Sg**	**01 35 25.9**	**-1.9**
	28nm,0.1s						
SATY	**Saty**	**4.99**	**43**	Pg	**Pb**	**01 34 17.0**	**+1.9**
	9.5nm,0.7s						
SATY				Lg	Lg	01 35 25.9	
	28nm,0.1s						
UZB	**Uzynbulak**	**5.38**	**46**	*e*P	**Pg**	01 34 24.9	-5.7
	3.7nm,0.3s						
UZB				*e*S	**Sg**	**01 35 39.6**	**-0.8**
	8.8nm,0.5s						
UZB	**Uzynbulak**	**5.38**	**46**	Pg	Pg	01 34 24.9	-5.7
	3.7nm,0.3s						
UZB				Lg	Lg	01 35 39.6	
	8.8nm,0.5s						
KPKS	**Kokpek**	**5.42**	**42**	*e*P	**Pb**	**01 34 25.1**	**+2.7**
	9.1nm,0.3s						
KPKS				*e*S	**Sg**	**01 35 39.3**	**-2.2**
	25nm,0.5s						
KPKS	**Kokpek**	**5.42**	**42**	Pg	**Pb**	**01 34 25.0**	**+2.7**
	9.4nm,0.4s						
KPKS				Lg	Lg	01 35 39.3	
	25nm,0.5s						
BTLS	**Baital**	**5.52**	**2**	*e*P	**Pg**	**01 34 29.5**	**-3.7**
	3.0nm,0.2s						
BTLS				*e*S	**Sg**	**01 35 47.6**	**+3.0**
	7.5nm,0.0s						
BTLS	**Baital**	**5.52**	**2**	Pg	**Pg**	**01 34 29.5**	**-3.7**
	3.0nm,0.3s						
BTLS				Lg	Lg	01 35 47.6	
	7.7nm,0.7s						
ARXS	**Arharly**	**5.60**	**32**	*e*P	Pg	01 34 29.1	-5.6
	18nm,0.1s						
ARXS				*e*S	**Sg**	**01 35 46.6**	**-0.5**
	8.7nm,0.8s						
ARXS	**Arharly**	**5.60**	**32**	Pg	Pg	01 34 29.1	-5.6
	18nm,0.6s						
ARXS				Lg	Lg	01 35 46.6	
	8.7nm,0.8s						
PDGK	**Podgornoye**	**5.76**	**47**	⇑Pg	**Pb**	**01 34 29.8**	**+1.6**
	2.0nm,0.7s						
PDGK				⇓Lg	Lg	01 35 47.0	
	38nm,1.1s						
CHCP	**Chirah Chowk**	**5.87**	**184**	P	**Pn**	**01 34 12.9**	**-1.7**
CEP	**Cherat**	**5.87**	**195**	P	**Pn**	**01 34 14.7**	**-0.1**
THW	**Thamme Wali**	**6.91**	**194**	P	**Pn**	**01 34 26.7**	**-2.1**
OTUK	**Ortayu**	**8.77**	**354**	⇑Pg	Pg	01 35 29.6	-5.8
	4.0nm,1.2s						
OTUK				⇓Sn	**Sn**	**01 36 37.6**	**+4.2**
	5.3nm,1.4s						
OTUK				⇑Lg	Lg	01 37 27.3	
	14nm,1.2s						
KURBB	**Kurchatov Arra**	**11.60**	**15**	Lg	Lg	01 38 57.0	
	baz=201,slow=28						
BVAR	**Borovoye Array**	**13.70**	**351**	Pn	**Pn**	**01 36 00.9**	**-0.8**
	baz=160,slow=13,SNR=7.1 1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**16.28**	**24**	Pn	**Pn**	**01 36 34.9**	**-1.2**
	0.2nm,0.3s,baz=212,slow=9.7,SNR=1.8 0.5nm,0.3s						
ARU	**Arti**	**19.65**	**334**	P	**P**	**01 37 17.8**	**+1.6**
	0.6nm,0.3s,baz=126,slow=19,SNR=1.8 0.6nm,0.3s						
BRTR	**Keskin Array B**	**30.70**	**283**	P	**P**	**01 39 00.2**	**-2.4**
	0.3nm,0.7s,baz=103,slow=6.4,SNR=2.2 0.3nm,0.7s						
FINES	**FINESS Array B**	**36.27**	**323**	P	**P**	**01 39 49.0**	**-1.6**
	1.7nm,0.8s,baz=108,slow=8.9,SNR=4.4 1.7nm,0.8s						
ARCES	**ARCESS Array B**	**39.23**	**336**	P	**P**	**01 40 13.3**	**-2.3**
	3.7nm,1.0s,baz=121,slow=8.8,SNR=4.6 3.7nm,1.0s						

WEL ***26*** *01:40:54.4±0.3,38.3S±3.3×17.8E±, h25km±2km, M3.6/52, ML4.0/32, MLv3.6/52, Error ellipse: s-maj=0.0km s-min=0.0km az=61.1*

NOU ***26*** *01:40:55.2,37.95S×177.82E, h23km, MLv3.7/7, Off E. Coast of N. Island, N.Z.*

IDC ***26*** *01:40:57.0±5.9,36.27S×176.89E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=289.1km s-min=57.8km az=171.0*

ISC 26 01:40:53.8±1.0,37.99S±0.04×177.93E±0.05, h44km±7km, n79,σ1§13/84, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKGZ	**Pakihiroa**	**0.15**	**48**	P	**Pn**	**01 41 01.6**	**+0.3**
PKGZ				S	**Sn**	**01 41 07.2**	**+0.6**
TWGZ	**Tauwhareparae**	**0.19**	**169**	P	**Pn**	**01 41 01.5**	**0.0**
TWGZ				S	**Sn**	**01 41 07.5**	**+0.5**
RUGZ	**Raukumara Rang**	**0.20**	**277**	P	**Pn**	**01 41 01.2**	**-0.5**
RUGZ				S	**Sn**	**01 41 06.0**	**-1.3**
HAZ	**Te Kaha**	**0.26**	**333**	P	**Pn**	**01 41 02.4**	**+0.3**
HAZ				S	**Sn**	**01 41 08.1**	**+0.3**
PUZ	**Puketiti**	**0.27**	**108**	P	**Pn**	**01 41 02.8**	**+0.7**
PUZ				S	**Sn**	**01 41 09.5**	**+1.5**
WMGZ	**Waiomatatini S**	**0.42**	**66**	P	**Pn**	**01 41 05.4**	**+1.7**
TKGZ	**Te Karaka**	**0.45**	**189**	P	**Pn**	**01 41 04.6**	**+0.4**
TKGZ				S	**Sn**	**01 41 13.3**	**+1.8**
MWZ	**Matawai**	**0.47**	**223**	P	**Pn**	**01 41 04.2**	**-0.2**
MWZ				S	**Sn**	**01 41 11.1**	**-0.8**
MXZ	**Matakaoa Point**	**0.52**	**35**	P	Pn	01 41 07.3	+2.3
MXZ	**Matakaoa Point**	**0.52**	**35**	P	Pn	01 41 07.1	+2.2
CNGZ	**Carnagh Statio**	**0.54**	**157**	P	**Pn**	**01 41 06.4**	**+1.2**
RAGZ	**Rawiri**	**0.65**	**219**	P	**Pn**	**01 41 07.4**	**+0.6**
URZ	**Urewera**	**0.70**	**247**	P	**Pn**	**01 41 08.0**	**+0.6**
URZ	**Urewera**	**0.70**	**247**	P	**Pn**	**01 41 08.1**	**+0.7**
RIGZ	**Rimuhau**	**0.73**	**191**	P	**Pn**	**01 41 08.5**	**+0.7**
WIZ	**White Island**	**0.75**	**308**	P	**Pn**	**01 41 08.3**	**+0.3**
WSRZ	**White Island S**	**0.76**	**308**	P	**Pn**	**01 41 08.4**	**+0.1**
WHRZ	**Whale Island**	**0.77**	**280**	P	**Pn**	**01 41 09.0**	**+0.6**
SNGZ	**Shannon Statio**	**0.92**	**210**	P	**Pn**	**01 41 11.2**	**+0.8**
EDRZ	**Edgecumbe**	**0.95**	**263**	P	**Pn**	**01 41 11.5**	**+0.7**
RTZ	**Ruatahuna**	**0.98**	**230**	P	**Pn**	**01 41 12.5**	**+1.3**
MARZ	**Manawahe**	**0.99**	**270**	P	**Pn**	**01 41 11.8**	**+0.4**
MUGZ	**Murupara**	**1.04**	**242**	P	**Pn**	**01 41 12.8**	**+0.9**
KNZ	**Kokohu**	**1.05**	**191**	P	**Pn**	**01 41 12.0**	**-0.1**
OPRZ	**Ohinepanea**	**1.10**	**277**	P	**Pn**	**01 41 12.9**	**+0.1**
RAHZ	**Arahi**	**1.14**	**216**	P	**Pn**	**01 41 14.6**	**+1.3**
TARZ	**Mount Tarawera**	**1.15**	**257**	P	**Pn**	**01 41 14.6**	**+0.9**
MHGZ	**Mahia Peninsul**	**1.16**	**181**	P	**Pn**	**01 41 13.7**	**+0.1**
RRRZ	**Republican Roa**	**1.17**	**252**	P	**Pn**	**01 41 14.9**	**+1.1**
MTHZ	**Maungataniwha**	**1.22**	**225**	P	**Pn**	**01 41 16.3**	**+1.8**
WHHZ	**Waihua**	**1.22**	**207**	P	**Pn**	**01 41 15.2**	**+0.8**
OMRZ	**Omania**	**1.24**	**264**	P	**Pn**	**01 41 15.8**	**+1.0**
PRRZ	**Plateau Road**	**1.32**	**247**	P	**Pn**	**01 41 16.5**	**+0.8**
KARZ	**Kaharoa**	**1.33**	**268**	P	**Pn**	**01 41 16.5**	**+0.5**
TGRZ	**Tauranga**	**1.35**	**281**	P	**Pn**	**01 41 16.4**	**+0.2**
HRRZ	**Handcock Road**	**1.36**	**252**	P	**Pn**	**01 41 17.4**	**+1.0**
ALRZ	**Allen Road**	**1.38**	**245**	P	**Pn**	**01 41 17.4**	**+0.8**
NMHZ	**Naumai**	**1.42**	**218**	P	**Pn**	**01 41 18.7**	**+1.5**
MRHZ	**Matea Rd**	**1.46**	**234**	P	**Pn**	**01 41 18.8**	**+1.0**
ARHZ	**Aropaoanui**	**1.47**	**210**	P	**Pn**	**01 41 18.7**	**+0.9**
GRRZ	**Galatos Road**	**1.48**	**255**	P	**Pn**	**01 41 19.4**	**+1.3**
WPRZ	**Whakapapatarin**	**1.49**	**249**	P	**Pn**	**01 41 18.7**	**+0.5**
MYRZ	**Mayor Island**	**1.52**	**297**	P	**Pn**	**01 41 18.7**	**+0.2**
BKZ	**Black Stump Fm**	**1.63**	**223**	P	**Pn**	**01 41 21.8**	**+1.7**
BKZ	**Black Stump Fm**	**1.63**	**223**	P	**Pn**	**01 41 21.6**	**+1.5**
MCHZ	**McNeill Hill**	**1.75**	**213**	P	**Pn**	**01 41 22.5**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.79**	**202**	P	**Pn**	**01 41 21.7**	**-0.6**
KWHZ	**Kaweka Forest**	**1.86**	**219**	P	**Pn**	**01 41 24.1**	**+0.9**
TOZ	**Tahuroa Road**	**1.94**	**277**	P	**Pn**	**01 41 24.6**	**+0.2**
KAHZ	**Kahuranaki**	**1.98**	**204**	P	**Pn**	**01 41 24.5**	**-0.4**
TMVZ	**Te Maari**	**2.08**	**237**	P	**Pn**	**01 41 27.3**	**+1.0**
ETVZ	**East Tongariro**	**2.08**	**236**	P	**Pn**	**01 41 27.3**	**+0.9**
BHHZ	**Black Hill Sta**	**2.09**	**224**	P	**Pn**	**01 41 27.4**	**+0.9**
KRVZ	**Karewarewa**	**2.11**	**238**	P	**Pn**	**01 41 27.7**	**+0.9**
OTVZ	**Oturere**	**2.13**	**236**	P	**Pn**	**01 41 28.1**	**+1.1**
NNVZ	**North Ngauruho**	**2.15**	**237**	P	**Pn**	**01 41 28.9**	**+1.7**
KUZ	**Kuaotunu**	**2.16**	**304**	P	**Pn**	**01 41 27.4**	**+0.1**
KUZ	**Kuaotunu**	**2.16**	**304**	P	**Pn**	**01 41 27.2**	**-0.1**
PXZ	**Pawanui**	**2.20**	**202**	P	**Pn**	**01 41 27.0**	**-0.9**
WNVZ	**Wahianoa**	**2.26**	**233**	P	**Pn**	**01 41 30.4**	**+1.4**
MKAZ	**Moumakai**	**2.38**	**291**	P	**Pn**	**01 41 30.6**	**+0.4**
HIZ	**Hauiti**	**2.48**	**257**	P	**Pn**	**01 41 33.7**	**+2.0**
HIZ	**Hauiti**	**2.48**	**257**	P	**Pn**	**01 41 33.3**	**+1.6**
PRHZ	**Porangahau**	**2.49**	**204**	P	**Pn**	**01 41 30.5**	**-1.3**
TSZ	**Takapari Road**	**2.57**	**216**	P	**Pn**	**01 41 32.7**	**-0.4**
ETAZ	**East Tamaki Re**	**2.61**	**292**	P	**Pn**	**01 41 34.5**	**+1.0**
GRZ	**Great Barrier**	**2.63**	**311**	P	**Pn**	**01 41 34.6**	**+0.8**
DVHZ	**Dannevirke**	**2.68**	**210**	P	**Pn**	**01 41 33.4**	**-1.1**
MBAZ	**Motutapu North**	**2.71**	**296**	P	**Pn**	**01 41 35.8**	**+0.9**
VRZ	**Vera Road**	**2.73**	**245**	P	**Pn**	**01 41 37.2**	**+2.0**
MRZ	**Mangatainoka R**	**3.23**	**214**	P	**Pn**	**01 41 40.2**	**-1.8**
KHEZ	**Kahui Hut**	**3.33**	**246**	P	**Pn**	**01 41 46.5**	**+3.0**
KHEZ	**Kahui Hut**	**3.33**	**246**	P	**Pn**	**01 41 46.4**	**+2.8**
WCZ	**Waipu Caves**	**3.53**	**304**	P	**Pn**	**01 41 47.1**	**+1.0**
SNZO	**South Karori**	**4.15**	**216**	P	**Pn**	**01 41 55.9**	**+1.3**
OUZ	**Omahuta**	**4.45**	**307**	P	**Pn**	**01 42 00.4**	**+1.6**
ASAR	**Alice Springs**	**40.05**	**278**	P	**P**	**01 48 24.6**	**-0.2**
	0.6nm,0.6s,baz=127,slow=8.5,SNR=13 0.6nm,0.6s						
WRA	**Warramunga Arr**	**41.74**	**283**	P	**P**	**01 48 38.6**	**-0.2**
	0.7nm,0.6s,baz=123,slow=7.7,SNR=10 0.7nm,0.6s						
FINES	**FINESS Array B**	**150.73**	**332**	PKPbc	**PKPab**	**02 00 45.1**	**-2.4**
	4.4nm,1.0s,baz=64,slow=3.5,SNR=6.8						

NEIC ***26*** *01:55:29.9±1.3,24.8S±0.1×180.0W±0.1, h515km±11km, mb4.5/26, Error ellipse: s-maj=21.7km s-min=16.8km az=175.0*

NOU ***26*** *01:55:29.0,25.02S×179.86W, h504km, mb4.6/34, South of Fiji Islands*

IDC ***26*** *01:55:30.7±1.4,24.89S×179.78E, h503km±14km, mb3.8/9, mbtmp4.6/11, Error ellipse: s-maj=18.5km s-min=12.4km az=172.0*

ISC 26 01:55:29.6±0.5,24.96S±0.08×179.96E±0.07, h501km, n87, σ1§18/94, mb4.6/25, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.40**	**346**	P	**P**	**01 57 19.2**	**-0.9**
	19nm,0.7s,baz=138,slow=12,SNR=25						
MSVF	**Nonsavu**	**7.40**	**346**	P	**P**	**01 57 18.9**	**-1.3**
MSVF	**Nonsavu**	**7.40**	**346**	P	**P**	**01 57 19.6**	**-0.5**
TAVE	**Taveuni**	**8.21**	**1**	P	**P**	**01 57 29.2**	**+0.9**
DGTI	**Dogotuki**	**8.61**	**359**	P	**P**	**01 57 33.1**	**+0.6**
NIUE	**Niue**	**11.05**	**60**	P	**P**	**01 57 56.2**	**-1.9**
MARNC	**Mare, Loyalty**	**11.50**	**285**	P	**P**	**01 58 02.1**	**-0.8**
MARNC	**Mare, Loyalty**	**11.50**	**285**	P	**P**	**01 58 03.7**	**-0.8**
OUENC	**Ouen Island, N**	**12.28**	**279**	P	**P**	**01 58 11.2**	**0.0**
OUENC	**Ouen Island, N**	**12.28**	**279**	P	**P**	**01 58 12.7**	**+1.5**
YATNC	**Mamie plateau,**	**12.33**	**281**	P	**P**	**01 58 13.1**	**+1.4**
LIFNC	**LIFOU**	**12.44**	**287**	P	**P**	**01 58 12.7**	**-0.2**
**ON

OOD	Oodnadatta	39.61	256	P		P	02 02 17.8	+0.5
MULG	Mulgathing	40.81	252	P		P	02 02 26.2	-0.7
AS01	Alice Springs	41.80	262	P		P	02 02 34.9	-0.1
AS31	Alice Springs	41.84	262	P		P	02 02 35.1	-0.1
ASAR	Alice Springs	41.84	262	P		P	02 02 35.0	-0.3
	comp=Z,19nm,0.9s,baz=90,slow=7.8,SNR=98							
ASAR				ScP		ScP	02 07 24.4	+2.2
	comp=Z,0.9nm,0.9s,baz=107,slow=3.9,SNR=4.5							
ASAR				S		S	02 08 14.8	-1.8
	comp=Z,0.7nm,0.7s,baz=101,slow=15,SNR=7.1							
	comp=Z,19nm,0.9s							
ASAR	Alice Springs	41.84	262	P		P	02 02 35.2	-0.1
WB2	Warramunga Arr	42.30	267	P		P	02 02 38.3	-0.6
WRAB	Tennant Creek	42.30	267	P		P	02 02 38.2	-0.8
WRA	Warramunga Arr	42.31	267	P		P	02 02 38.2	-0.7
	comp=Z,12nm,0.5s,baz=104,slow=7.8,SNR=224							
WRA				ScP		ScP	02 07 24.6	+0.5
	comp=Z,2.6nm,1.0s,baz=103,slow=3.8,SNR=11							
WRA				S		S	02 08 20.6	-2.8
	comp=Z,0.9nm,0.7s,baz=99,slow=14,SNR=6.0							
	comp=Z,12nm,0.5s							
WRA	Warramunga Arr	42.31	267	P		P	02 02 38.3	-0.7
FORT	Forrest	45.92	251	P		P	02 03 05.9	-1.0
WRKA	Warakurna	46.58	258	P		P	02 03 11.5	-0.5
KNRA	Kununurra	48.66	271	P		P	02 03 26.9	-0.8
VNDA	Vanda	53.33	185	P		P	02 04 01.9	+1.2
	comp=Z,0.3nm,0.5s,baz=356,slow=7.4,SNR=2.1							
VNDA	Vanda	53.33	185	P		P	02 04 00.6	-0.2
KLBR	Kellerberrin	54.55	248	P		P	02 04 09.4	-0.8
PSA00	Pilbara Seismi	54.95	260	P		P	02 04 12.0	-1.1
PSA00				IAmb		IAmb	02 04 19.4	
	comp=Z,28nm,1.4s							
MBWA	Marble Bar	55.16	261	P		P	02 04 13.5	-1.1
MBWA				IAmb		IAmb	02 04 26.1	
	comp=Z,34nm,1.4s							
MORW	Morawa	56.48	251	P		P	02 04 23.1	-0.6
MORW				IAmb		IAmb	02 04 23.6	
	comp=Z,16nm,1.1s							
SANI	Sanana	56.74	285	P		P	02 04 26.1	+0.5
GIRL	Giralia	59.65	257	P		P	02 04 45.6	+0.4
PLAI	Plampang	61.15	274	P		P	02 04 54.9	-0.4
TOLI2	Tolitoli	62.81	285	P		P	02 05 05.3	-0.9
TOLI2				IAmb		IAmb	02 05 05.9	
	comp=Z,7.0nm,0.8s							
TOLI2	Tolitoli	62.81	285	P		P	02 05 06.4	+0.2
QSPA	South Pole Qui	65.13	180	P		P	02 05 21.4	+1.2
	comp=Z,4.1nm,0.8s,baz=356,slow=1.3,SNR=17							
	comp=Z,4.1nm,0.8s							
QSPA	South Pole Qui	65.13	180	P		P	02 05 20.1	-0.2
QSPA				IAmb		IAmb	02 05 22.1	
	comp=Z,6.1nm,0.9s							
SMAI	San Martin Ant	75.14	159	P		P	02 06 20.2	+0.7
SMAI				IAmb		IAmb	02 07 03.0	
	comp=Z,22nm,1.5s							
BELA	Belgrano 2	75.40	173	P		P	02 06 20.8	-0.1
NVAR	Mina Array Bea	85.53	44	P		P	02 07 16.1	+1.5
	comp=Z,1.1nm,0.8s,baz=220,slow=8.5,SNR=7.9							
	comp=Z,1.1nm,0.8s							
KVN	Kaiserville	86.03	44	P		P	02 07 15.9	-1.0
O22K	Cooper Landing	88.65	14	P		P	02 07 24.1	-4.3
CMAR	Chiang Mai Arr	89.86	290	P		P	02 07 36.0	+1.0
	comp=Z,1.6nm,0.3s,baz=152,slow=4.1,SNR=5.5							
	comp=Z,1.6nm,0.3s							
TXAR	Lajitas Array	91.02	58	P		P	02 07 40.5	+0.2
	comp=Z,1.2nm,0.7s,baz=232,slow=5.7,SNR=9.0							
	comp=Z,1.2nm,0.7s							
HHC	Hu-ho-hao-te	91.14	315	*e*P		P	02 07 43.0	+2.4
HHC				pmax		pmax		
	comp=Z,28nm,0.6s							
HHC				pmax		pmax		
	comp=Z,210nm,6.2s							
PZH	PanZhiHua	91.16	299	P		P	02 07 44.3	+3.3
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,140nm,5.0s							
PDAR	Pinedale Array	93.47	44	P		P	02 07 52.7	+1.3
	comp=Z,0.3nm,0.6s,baz=237,slow=3.1,SNR=2.7							
	comp=Z,0.3nm,0.6s							
AKASG	Malin Array Be	145.83	326	PKPbc		PKPdf	02 14 11.2	+0.7
	comp=Z,1.0nm,0.6s,baz=40,slow=3.4,SNR=5.2							
BRTR	Keskin Array B	148.17	306	PKPbc		PKPbc	02 14 19.0	0.0
	comp=Z,0.4nm,0.7s,baz=76,slow=3.5,SNR=3.0							
CLL	Collm	151.85	343	*e*(PKPdf)		PKPdf	02 14 23.0	+2.9
CLL				*i* PKPbc		PKiKP	02 14 27.8	+0.5
	comp=Z,12nm,1.5s							
CLL				*e*PKPab		PKPab	02 14 39.0	+0.5
CLL				*ep*PKPbc		pPKPab	02 16 28.0	-3.0

WEL 26 01:59:28.1±1.0, 42°S±4°×17°4E±°, h10km±6km, M1.6/4, ML2.1/6, MLv1.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=44.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**60**	P	Pg	01 59 32.1	+0.7
CMWZ				S	Sg	01 59 36.1	+2.3
BSWZ	**Blackbirch Sta**	**0.16**	**311**	P	Pg	01 59 32.5	+0.8
BSWZ				S	Sg	01 59 36.0	+1.9
TUWZ	**Tuamarina**	**0.40**	**349**	P	Pb	01 59 37.1	-0.2
TUWZ				S	Sb	01 59 42.9	-0.5
TCW	**Tory Channel**	**0.64**	**16**	P	Pg	01 59 40.4	-0.1
KHZ	**Kahutara**	**0.70**	**212**	P	Pb	01 59 42.5	+0.1
NNZ	**Nelson**	**0.78**	**320**	P	Pb	01 59 43.7	-0.1

*NIED **26** 02:06:44.9, 37°.24N×141°.50E, h31km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.70; Mθθ-0.24; Mφφ0.94; Mrθ-0.22; Mθφ0.81; Mφr0.16; Fault plane solution: M₀1.15000×10¹⁴ NP1:φs61.00000°, δ57.00000°, λ-37.00000°. NP2:φs173.00000°, δ59.00000°, λ-141.00000°.*

JMA 26 02:06:44.9±0.2, 37°.2N±0°.4×14°1E±°, h31km±1km, MV3.6/34, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**285**	P	Pb	02 06 55.1	-0.6
JFK				S	Sb	02 07 02.6	-0.4
JMST	**Minamisoumatoc**	**0.69**	**315**	P	Pb	02 06 57.9	-0.5
JMST				S	Sb	02 07 07.3	-0.4
JFFD	**Fukushimafurud**	**0.76**	**259**	P	Pn	02 06 58.7	-0.8
JMM	**Marumori**	**0.84**	**318**	P	Pn	02 07 00.3	-0.3
JMM				S	Sn	02 07 11.5	-0.4
JHO	**Hitachi**	**0.97**	**230**	P	Pn	02 07 01.6	-0.9
JHO				S	Sn	02 07 14.5	-0.6
JIO	**Ouri**	**1.22**	**354**	P	Pn	02 07 06.0	+0.3
JIO				S	Sn	02 07 21.2	0.0
JOU	**Okura**	**1.30**	**330**	P	Pb	02 07 08.2	-0.6
JOU				S	Sb	02 07 25.2	-0.1

*SOME **26** 02:09:04.4, 39°.25N×73°.68E, h10km*
*NNC **26** 02:09:17.4±4.1, 39°.75N×74°.05E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=30.2km s-min=18.2km az=169.0*

ISC 26 02:09:02.5±2.7, 39°2N±0°.1×73.73E±0°.04, h10km, n25, σ1§12/39, 4C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.52**	**354**	*e*P	**Pg**	**02 10 08.4**	**-1.6**
MRKS	4.3nm,0.0s			*e*S	**Sg**	**02 10 54.2**	**-1.4**
MRKS	16nm,0.3s **Merke**	**3.52**	**354**	Pg	**Pg**	**02 10 08.4**	**-1.6**
MRKS	4.3nm,0.2s			Lg	Lg	02 10 54.2	
TKM2	17nm,0.5s **Tokmak 2**	**3.94**	**20**	⇓Pn	**Pb**	**02 10 12.7**	**+0.6**
TKM2	1.9nm,0.5s			⇑Lg	Lg	02 11 02.4	
IUG	9.3nm,0.9s **Iuzhnay**	**4.04**	**317**	*e*P	**Pg**	**02 10 19.0**	**-0.9**
IUG	41nm,0.5s			*e*S	**Sg**	**02 11 12.9**	**+0.6**
IUG	13nm,0.0s **Iuzhnay**	**4.04**	**317**	Pg	**Pg**	**02 10 19.0**	**-0.9**
IUG	41nm,0.5s			Lg	Lg	02 11 12.9	
KST	13nm,0.4s **Kastek**	**4.16**	**23**	*e*P	**Pg**	**02 10 21.3**	**-0.8**
	3.2nm,0.2s						
KST				*e*S	**Sg**	**02 11 16.5**	**+0.5**
	9.3nm,0.1s						
KST	**Kastek**	**4.16**	**23**	Pg	**Pg**	**02 10 21.3**	**-0.8**
	3.2nm,0.4s						
KST				Lg	Lg	02 11 16.5	
	9.4nm,0.7s						
SGDS	**Sogindy**	**4.26**	**9**	*e*P	**Pg**	**02 10 23.3**	**-0.8**
	3.4nm,0.2s						
SGDS				*e*S	**Sg**	**02 11 20.2**	**+0.9**
	6.1nm,0.3s						
SGDS	**Sogindy**	**4.26**	**9**	Pg	**Pg**	**02 10 23.3**	**-0.8**
	3.4nm,0.3s						
SGDS				Lg	Lg	02 11 20.2	
	6.1nm,0.5s						
DGS	**Degeres**	**4.29**	**20**	*e*P	**Pg**	**02 10 24.1**	**-0.5**
	3.6nm,0.2s						
DGS				*e*S	**Sg**	**02 11 21.6**	**+1.5**
	7.6nm,0.4s						
DGS	**Degeres**	**4.29**	**20**	Pg	**Pg**	**02 10 24.1**	**-0.5**
	3.6nm,0.3s						
DGS				Lg	Lg	02 11 21.6	
	7.6nm,0.4s						
MTBS	**Maitube**	**4.39**	**27**	*e*P	**Pg**	**02 10 25.3**	**-1.2**
	2.3nm,0.0s						
MTBS				*e*S	**Sg**	**02 11 23.7**	**+0.4**
	6.2nm,0.1s						
TNSS	**Tian-Shan**	**4.51**	**32**	*e*P	**Pg**	**02 10 28.0**	**-0.8**
	4.7nm,0.2s						
TNSS				*e*S	**Sg**	**02 11 28.0**	**+0.9**
	3.3nm,0.4s						
TNSS	**Tian-Shan**	**4.51**	**32**	Pg	**Pg**	**02 10 28.0**	**-0.8**
	4.8nm,0.5s						
TNSS				Lg	Lg	02 11 28.0	
	3.4nm,0.6s						
KK31	**Karatay Array**	**4.56**	**329**	⇑Pn	**Pb**	**02 10 24.9**	**+2.3**
	baz=136,slow=13						
KK31				⇑Sn	**Sb**	**02 11 16.2**	**-1.4**
	2.3nm,0.5s,baz=138,slow=24						
KK31				⇑Lg	Lg	02 11 30.3	
	2.7nm,0.5s,baz=134,slow=27						
MDOK	**Medeo**	**4.65**	**31**	*e*P	**Pg**	**02 10 30.8**	**-0.7**
	6.2nm,0.3s						
MDOK				*e*S	**Sg**	**02 11 33.1**	**+1.3**
	4.8nm,0.4s						
MDOK	**Medeo**	**4.65**	**31**	Pn	**Pb**	**02 10 23.9**	**-0.3**
	5.7nm,0.8s						
MDOK				Pg	**Pg**	**02 10 30.8**	**-0.7**
	6.2nm,0.6s						
MDOK				Lg	Lg	02 11 27.8	
	12nm,1.2s						
MDOK				Lg	Lg	02 11 33.1	
	4.8nm,0.4s						
KRBS	**Karabastau**	**4.69**	**18**	*e*P	**Pg**	**02 10 31.1**	**-1.1**
	2.2nm,0.3s						
KRBS				*e*S	**Sg**	**02 11 34.0**	**+1.1**
	4.9nm,0.7s						
KRBS	**Karabastau**	**4.69**	**18**	Pg	**Pg**	**02 10 31.1**	**-1.1**
	2.2nm,0.6s						
KRBS				Lg	Lg	02 11 34.0	
	4.9nm,0.7s						
KTBS	**Karatobe**	**4.99**	**25**	*e*P	**Pg**	**02 10 37.5**	**-0.5**
	2.6nm,0.0s						
KTBS				*e*S	**Sg**	**02 11 44.5**	**+1.8**
	5.4nm,0.3s						
KTBS	**Karatobe**	**4.99**	**25**	Pg	**Pg**	**02 10 37.5**	**-0.5**
	2.6nm,0.4s						
KTBS				Lg	Lg	02 11 44.5	
	5.4nm,0.6s						
SATY	**Saty**	**5.20**	**41**	*e*P	**Pg**	**02 10 40.8**	**-1.2**
	2.5nm,0.1s						
SATY				*e*S	**Sg**	**02 11 50.0**	**+0.6**
	3.8nm,0.3s						
SATY	**Saty**	**5.20**	**41**	Pg	**Pg**	**02 10 40.8**	**-1.2**
	2.7nm,0.4s						
SATY				Lg	Lg	02 11 50.0	
	3.8nm,0.3s						
ARXS	**Arharly**	**5.84**	**30**	*e*P	**Pg**	**02 10 53.1**	**-1.2**
	4.0nm,0.4s						
ARXS				*e*S	**Sg**	**02 12 11.3**	**+1.4**
	3.2nm,0.2s						
ARXS	**Arharly**	**5.84**	**30**	Pg	**Pg**	**02 10 53.1**	**-1.2**
	4.0nm,0.6s						
ARXS				Lg	Lg	02 12 11.3	
	3.2nm,0.5s						

WEL 26 02:13:32.1±0.3, 42°S±3°×17°4E±°, h10km±2km, M3.4/32, ML3.6/18, MLv3.4/32, Error ellipse: s-maj=0.0km s-min=0.0km az=128.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.27**	**10**	P	Pg	02 13 38.1	+0.6
BSWZ				S	Sg	02 13 42.4	+1.2
CMWZ	**Cape Campbell**	**0.38**	**53**	P	Pb	02 13 40.9	+0.1
KHZ	**Kahutara**	**0.48**	**205**	P	Pg	02 13 41.8	+0.3
TUWZ	**Tuamarina**	**0.56**	**10**	P	Pb	02 13 43.4	-0.5
THZ	**Tophouse**	**0.71**	**287**	P	Pg	02 13 45.8	0.0
NNZ	**Nelson**	**0.83**	**337**	P	Pg	02 13 47.8	-0.2
TCW	**Tory Channel**	**0.84**	**25**	P	Pg	02 13 48.2	-0.2
MRNZ	**Matariki Terra**	**0.98**	**306**	P	Pg	02 13 50.9	0.0
WEL	**Wellington**	**1.00**	**46**	P	Pn	02 13 51.8	-0.3
TKNZ	**Takaka Hill**	**1.14**	**326**	P	Pb	02 13 53.5	-0.4
GVZ	**Greta Valley S**	**1.14**	**210**	P	Pb	02 13 53.4	-0.5
PLWZ	**Palliser**	**1.15**	**70**	P	Pb	02 13 53.1	-1.0
DUWZ	**D'Urville Isla**	**1.18**	**4**	P	Pb	02 13 54.0	-0.6
MSWZ	**Moikau Station**	**1.21**	**63**	P	Pn	02 13 54.1	-1.0
CAW	**Cannon Point**	**1.28**	**48**	P	Pn	02 13 55.5	-0.6
PAWZ	**Paruwai Farm**	**1.35**	**64**	P	Pn	02 13 56.2	-0.8
KIW	**Kapiti Island**	**1.39**	**37**	P	Pn	02 13 57.6	+0.1
LTZ	**Lake Taylor**	**1.40**	**234**	P	Pn	02 13 57.4	-0.3
AMCZ	**Amberley**	**1.47**	**215**	P	Pn	02 13 57.7	-1.0
QRZ	**Quartz Range**	**1.50**	**320**	P	Pb	02 13 59.7	-0.4
MTW	**Mount Morrison**	**1.51**	**58**	P	Pn	02 13 58.2	-1.0
DSZ	**Denniston Nort**	**1.52**	**278**	P	Pb	02 14 00.5	+0.1
TRWZ	**Traveller**	**1.52**	**68**	P	Pn	02 13 57.8	-1.5
OGWZ	**Otaki Gorge**	**1.55**	**42**	P	Pn	02 13 59.3	-0.4
TMWZ	**Te Maipa**	**1.79**	**61**	P	Pn	02 14 01.6	-1.4
OKCZ	**Okains Bay**	**1.83**	**197**	P	Pn	02 14 01.9	-1.7
MRZ	**Mangatainoka R**	**1.87**	**46**	P	Pn	02 14 03.1	-1.0
OXZ	**Oxford**	**1.88**	**224**	P	Pn	02 14 02.6	-1.7
INZ	**Inchbonnie**	**1.91**	**246**	P	Pn	02 14 04.8	+0.1
MQZ	**McQueen's Vall**	**1.93**	**206**	P	Pn	02 14 02.5	-2.4
AKCZ	**Akaroa Harbour**	**2.00**	**199**	P	Pn	02 14 04.1	-1.9
RACZ	**Rakaia**	**2.14**	**215**	P	Pn	02 14 05.8	-2.0
PRWZ	**Pori Road**	**2.16**	**50**	P	Pn	02 14 07.3	-0.8
POWZ	**Post Office Ro**	**2.17**	**44**	P	Pn	02 14 07.4	-0.8
MHCZ	**Mount Hutt**	**2.27**	**226**	P	Pn	02 14 08.0	-1.7
WACZ	**Wakanui South**	**2.44**	**216**	P	Pn	02 14 10.2	-1.8
DVHZ	**Dannevirke**	**2.44**	**47**	P	Pn	02 14 10.4	-1.7
TSZ	**Takapari Road**	**2.51**	**41**	P	Pn	02 14 12.1	-0.9
WVZ	**Waitaha Valley**	**2.52**	**243**	P	Pn	02 14 12.8	-0.3
RPZ	**Rata Peaks**	**2.67**	**229**	P	Pn	02 14 14.2	-1.0
KHEZ	**Kahui Hut**	**2.69**	**3**	P	Pb	02 14 19.5	-0.8
NBEZ	**Newall Road No**	**2.71**	**1**	P	Pb	02 14 20.2	-0.4
NEZ	**North Egmont**	**2.71**	**5**	P	Pn	02 14 17.4	+1.6
PNHZ	**Pukenui**	**2.74**	**42**	P	Pn	02 14 15.1	-1.0
PKE	**Pukeiti**	**2.79**	**3**	P	Pb	02 14 20.4	-1.6
GCSZ	**Gaunt Creek Bo**	**2.90**	**241**	P	Pn	02 14 19.0	+0.7
PKVZ	**Pokaka**	**2.93**	**24**	P	Pn	02 14 24.1	-0.3
VRZ	**Vera Road**	**2.94**	**14**	P	Pn	02 14 21.9	-2.7
MOVZ	**Moawhango**	**2.96**	**30**	P	Pn	02 14 23.3	-1.7
WNVZ	**Wahianoa**	**2.98**	**28**	P	Pn	02 14 22.1	+2.6
WHVZ	**Whangaehu Hut**	**3.01**	**27**	P	Pn	02 14 23.8	-2.2
BHHZ	**Black Hill Sta**	**3.02**	**35**	P	Pb	02 14 25.3	-0.6
FWVZ	**Far West T-bar**	**3.03**	**27**	P	Pb	02 14 24.8	-1.4
TUVZ	**Tukino**	**3.05**	**28**	P	Pb	02 14 27.3	+0.8
NGZ	**Ngauruhoe**	**3.11**	**27**	P	Pb	02 14 28.5	+0.9
OTVZ	**Oturere**	**3.15**	**27**	P	Pb	02 14 27.4	-0.8
NNVZ	**North Ngauruho**	**3.16**	**26**	P	Pb	02 14 28.7	+0.4
TWVZ	**Taurewa**	**3.16**	**24**	P	Pn	02 14 24.8	+2.9
TMZ	**Timaru**	**3.16**	**220**	P	Pn	02 14 20.2	-1.7
ETVZ	**East Tongariro**	**3.19**	**28**	P	Pb	02 14 26.2	-2.7
KRVZ	**Karewarewa**	**3.20**	**26**	P	Pn	02 14 24.0	+1.4
TMVZ	**Te Maari**	**3.20**	**27**	P	Pn	02 14 25.5	+2.9
KATZ	**Kakaramea**	**3.33**	**26**	P	Pb	02 14 31.7	+0.4
HIZ	**Hauiti**	**3.55**	**13**	P	Pn	02 14 31.1	+3.8
LBZ	**Lake Benmore**	**3.58**	**227**	P	Pn	02 14 26.9	-0.8
ODZ	**Otahua Downs**	**3.83**	**216**	P	Pn	02 14 28.9	-2.2
JCZ	**Jackson Bay**	**4.24**	**239**	P	Pn	02 14 37.6	+0.8
URZ	**Urewera**	**4.49**	**35**	P	Pb	02 14 47.7	-3.3
EAZ	**Earnscleugh**	**4.61**	**224**	P	Pn	02 14 39.8	-2.1
MKAZ	**Moumakai**	**4.98**	**13**	P	Pn	02 14 49.0	+2.1

WEL 26 02:14:30.9±0.3, 42°S±2°×17°4E±°, h5km, M3.4/25, ML3.6/12, MLv3.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=117.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**194**	P	Pg	02 14 36.9	+0.5
KHZ				S	Sg	02 14 41.3	+1.1
BSWZ	**Blackbirch Sta**	**0.46**	**23**	P	Pg	02 14 40.4	+0.6
BSWZ				S	Sb	02 14 47.5	-1.2
CMWZ	**Cape Campbell**	**0.58**	**48**	P	Pb	02 14 43.1	-0.5
THZ	**Tophouse**	**0.66**	**305**	P	Pb	02 14 44.3	-0.7
TUWZ	**Tuamarina**	**0.75**	**18**	P	Pg	02 14 45.6	+0.4
GVZ	**Greta Valley S**	**0.94**	**208**	P	Pb	02 14 49.5	-0.2
NNZ	**Nelson**	**0.94**	**348**	P	Pg	02 14 49.1	+0.1
MRNZ	**Matariki Terra**	**0.99**	**318**	P	Pb	02 14 50.7	+0.1
TCW	**Tory Channel**	**1.05**	**28**	P	Pg	02 14 50.6	-0.4
LTZ	**Lake Taylor**	**1.20**	**237**	P	Pg	02 14 53.2	-0.6
WEL	**Wellington**	**1.21**	**45**	P	Pg	02 14 53.1	-0.9
TKNZ	**Takaka Hill**	**1.22**	**335**	P	Pb	02 14 54.3	-0.1
AMCZ	**Amberley**	**1.26**	**215**	P	Pg	02 14 53.7	-1.5
PLWZ	**Palliser**	**1.34**	**65**	P	Pn	02 14 54.0	-2.3
DUWZ	**D'Urville Isla**	**1.35**	**9**	P	Pn	02 14 56.1	-0.4
MSWZ	**Moikau Station**	**1.41**	**60**	P	Pn	02 14 55.1	-2.1
DSZ	**Denniston Nort**	**1.42**	**286**	P	Pg	02 14 58.3	+0.2
CAW	**Cannon Point**	**1.49**	**47**	P	Pn	02 14 56.8	-1.6
PAWZ	**Paruwai Farm**	**1.54**	**61**	P	Pn	02 14 56.7	-2.4
KIW	**Kapiti Island**	**1.60**	**37**	P	Pn	02 14 58.9	-0.9
OXZ	**Oxford**	**1.67**	**224**	P	Pn	02 14 58.8	-2.0
MQZ	**McQueen's Vall**	**1.72**	**204**	P	Pn	02 14 58.7	-2.9
OGWZ	**Otaki Gorge**	**1.75**	**42**	P	Pn	02 15 00.4	-1.5
MRZ	**Mangatainoka R**	**2.08**	**45**	P	Pn	02 15 04.4	-2.0
WACZ	**Wakanui South**	**2.23**	**216**	P	Pn	02 15 06.4	-2.1

*NOU **26** 02:19:21.8, 42°.72S×173°.42E, h4km, MLv4.1/8, South Island, New Zealand*
*WEL **26** 02:19:23.5±0.3, 43°S±2°×17°3E±°, h5km, M3.4/10, ML4.0/17, MLv3.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4*

ISC 26 02:19:23.0±0.9, 42°.62S±0°.03×173°.34E±0°.04, h10km, n57, σ1§27/60, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**37**	P	**Pg**	**02 19 28.5**	**+0.4**
KHZ	**Kahutara**	**0.25**	**37**	P	**Pg**	**02 19 28.6**	**+0.4**
KHZ				S	**Sg**	**02 19 32.3**	**+0.8**
GVZ	**Greta Valley S**	**0.42**	**212**	P	**Pb**	**02 19 33.3**	**+0.8**
GVZ				S	**Sb**	**02 19 40.6**	**+1.8**
AMCZ	**Amberley**	**0.75**	**222**	P	**Pb**	**02 19 39.5**	**+1.2**
AMCZ				P	**Pn**	**02 19 39.7**	**-0.1**
LTZ	**Lake Taylor**	**0.80**	**258**	P	**Pg**	**02 19 38.5**	**0.0**
THZ	**Tophouse**	**0.91**	**339**	P	**Pg**	**02 19 39.4**	**-1.2**
BSWZ	**Blackbirch Sta**	**0.99**	**24**	P	**Pb**	**02 19 41.7**	**-0.4**
OKCZ	**Okains Bay**	**1.12**	**190**	P	**Pb**	**02 19 44.4**	**-0.1**
OXZ	**Oxford**	**1.19**	**233**	P	**Pb**	**02 19 44.6**	**-1.4**
MQZ	**McQueen's Vall**	**1.20**	**204**	P	**Pn**	**02 19 44.4**	**-1.4**
MQZ				P	**Pb**	**02 19 44.5**	**-1.3**
TUWZ	**Tuamarina**	**1.27**	**21**	P	**Pn**	**02 19 46.6**	**-0.2**
MRNZ	**Matariki Terra**	**1.29**	**340**	P	**Pb**	**02 19 46.1**	**-1.3**
AKCZ	**Akaroa Harbour**	**1.29**	**194**	P	**Pn**	**02 19 46.4**	**-0.8**
NNZ	**Nelson**	**1.40**	**1**	P	**Pb**	**02 19 48.2**	**-1.0**
INZ	**Inchbonnie**	**1.40**	**265**	P	**Pn**	**02 19 48.3**	**-0.3**
RACZ	**Rakaia**	**1.42**	**218**	P	**Pn**	**02 19 47.8**	**-1.0**
DSZ	**Denniston Nort**	**1.44**	**307**	P	**Pn**	**02 19 48.3**	**-0.9**
TCW	**Tory Channel**	**1.57**	**27**	P	**Pn**	**02 19 50.1**	**-0.8**
MHCZ	**Mount Hutt**	**1.59**	**234**	P	**Pn**	**02 19 50.0**	**-1.2**
TKNZ	**Takaka Hill**	**1.61**	**350**	P	**Pb**	**02 19 51.3**	**-1.5**
SNZO	**South Karori**	**1.66**	**38**	P	**Pn**	**02 19 51.4**	**-0.7**
WEL	**Wellington**	**1.71**	**39**	P	**Pn**	**02 19 52.1**	**-0.7**
WACZ	**Wakanui South**	**1.72**	**219**	P	**Pn**	**02 19 52.0**	**-1.0**
PLWZ	**Palliser**	**1.77**	**54**	P	**Pn**	**02 19 52.4**	**-1.4**
MSWZ	**Moikau Station**	**1.86**	**51**	P	**Pn**	**02 19 53.7**	**-1.3**
DUWZ	**D'Urville Isla**	**1.86**	**14**	P	**Pb**	**02 19 56.7**	**-1.1**
QRZ	**Quartz Range**	**1.89**	**341**	P	**Pb**	**02 19 55.6**	**-2.0**
QRZ	**Quartz Range**	**1.89**	**341**	P	**Pn**	**02 19 55.4**	**0.0**
WVZ	**Waitaha Valley**	**1.97**	**256**	P	**Pn**	**02 19 55.9**	**-0.5**
CAW	**Cannon Point**	**1.98**	**41**	P	**Pn**	**02 19 55.6**	**-1.1**
RPZ	**Rata Peaks**	**2.00**	**236**	P	**Pn**	**02 19 55.9**	**-1.0**
RPZ	**Rata Peaks**	**2.00**	**236**	P	**Pn**	**02 19 55.9**	**-1.0**
ARCZ	**Arundel**	**2.06**	**229**	P	**Pn**	**02 19 56.4**	**-1.4**
KIW	**Kapiti Island**	**2.11**	**34**	P	**Pn**	**02 19 57.8**	**-0.6**
TRWZ	**Traveller**	**2.13**	**56**	P	**Pn**	**02 19 57.3**	**-1.4**
OGWZ	**Otaki Gorge**	**2.26**	**38**	P	**Pn**	**02 19 59.4**	**-1.1**
GCSZ	**Gaunt Creek Bo**	**2.32**	**251**	P	**Pn**	**02 20 01.4**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.37**	**44**	P	**Pn**	**02 20 01.0**	**-1.0**
TMZ	**Timaru**	**2.45**	**223**	P	**Pn**	**02 20 02.1**	**-1.0**
FOZ	**Fox Glacier**	**2.74**	**249**	P	**Pn**	**02 20 07.5**	**+0.5**
LBZ	**Lake Benmore**	**2.90**

*IDC **26** 02:29:16.8±1.3,21˚.07N×122˚.45E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=60.2km s-min=27.5km az=63.0*

*TAP **26** 02:29:38.9,21˚.30N×122˚.44E, h133km±1km, ML4.1, D*

*MAN **26** 02:29:40.3,20˚.21N×123˚.13E, h1km, mb4.1, ML2.9, MS2.5*

ISC 26 02:29:34.5±1.0,21˚.11N±0˚.04×122˚.49E±0˚.09, h151km±8km, n74, σ1§78/129, mb3.6/7, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**1.22 317**		*eP*	**Pn**	**02 30 02.8**	**+1.5**
	baz=312						
LYUB				*eS*	**Sn**	**02 30 20.1**	**-1.8**
	baz=312						
LAY	**Lan-yu**	**1.27 317**		*eP*	**Pn**	**02 30 03.2**	**+1.4**
	baz=312						
LAY				*eS*	**Sn**	**02 30 20.7**	**-2.1**
	baz=312						
TSEB	**Hengchuen, Pin**	**1.68 298**		*eP*	**Pn**	**02 30 08.6**	**+2.6**
	baz=288						
TSEB				S	**Sn**	**02 30 31.2**	**+1.0**
	baz=288						
TWKBT	**Hengchun**	**1.77 298**		*i* P	**Pn**	**02 30 09.2**	**+2.2**
	baz=288						
TWKBT				S	**Sn**	**02 30 31.5**	**-0.5**
	baz=288						
TWK1	**Hengchun**	**1.77 298**		*eP*	**Pn**	**02 30 09.0**	**+1.9**
	baz=288						
TWK1				*eS*	**Sn**	**02 30 31.2**	**-0.9**
	baz=288						
SMST	**Manzhou Townsh**	**1.79 301**		*i* P	**Pn**	**02 30 09.1**	**+1.9**
	baz=302						
SMST				*i* S	**Sn**	**02 30 31.3**	**-1.1**
	baz=302						
LDUT	**Ludao**	**1.82 329**		*eP*	**Pn**	**02 30 08.9**	**+1.3**
	baz=332						
LDUT				*eS*	**Sn**	**02 30 30.8**	**-2.3**
	baz=332						
HEN	**Hengchun**	**1.86 299**		*eP*	**Pn**	**02 30 10.4**	**+2.4**
	baz=297						
HEN				S	**Sn**	**02 30 32.9**	**-0.9**
	baz=297						
SLIU	**Shizi**	**1.92 305**		*i* P	**Pn**	**02 30 10.4**	**+1.7**
	baz=305						
SLIU				S	**Sn**	**02 30 33.6**	**-1.5**
	baz=305						
TAWH	**Dawu Township**	**1.93 310**		P	**Pn**	**02 30 09.2**	**+0.4**
	baz=306						
TAWH				S	**Sn**	**02 30 32.6**	**-2.6**
	baz=306						
TAW	**Tawu**	**1.93 310**		*eP*	**Pn**	**02 30 10.5**	**+1.6**
	baz=307						
TAW				*eS*	**Sn**	**02 30 34.3**	**-1.0**
	baz=307						
EAST	**Anshuo**	**1.98 310**		P	**Pn**	**02 30 11.1**	**+1.6**
	baz=307						
EAST				S	**Sn**	**02 30 35.2**	**-1.3**
	baz=307						
ECL	**Taimali**	**2.06 316**		*eP*	**Pn**	**02 30 11.7**	**+1.4**
	baz=309						
ECL				*eS*	**Sn**	**02 30 36.7**	**-1.2**
	baz=309						
CICP	**Calayan Island**	**2.07 207**		*eP*	**Pn**	**02 30 12.4**	**+1.9**
CICP				*eS*	**Sn**	**02 30 37.1**	**-1.0**
SCZT	**Fangliau**	**2.15 306**		P	**Pn**	**02 30 12.7**	**+1.4**
	baz=303						
SCZT				*eS*	**Sn**	**02 30 37.9**	**-1.8**
	baz=303						
TWGBT	**Beinan**	**2.15 323**		*eP*	**Pn**	**02 30 13.3**	**+1.9**
	baz=312						
TWGBT				*eS*	**Sn**	**02 30 39.2**	**-0.6**
	baz=312						
TWG	**Pinlang**	**2.15 323**		*eP*	**Pn**	**02 30 13.4**	**+2.0**
	baz=312						
TWG				S	**Sn**	**02 30 39.5**	**-0.5**
	baz=312						
EDH	**Donghe**	**2.15 330**		*eP*	**Pn**	**02 30 12.5**	**+1.0**
	baz=332						
EDH				*eS*	**Sn**	**02 30 37.2**	**-2.8**
	baz=332						
LONT	**Longtian**	**2.19 325**		*eP*	**Pn**	**02 30 13.9**	**+2.1**
	baz=315						
LONT				*eS*	**Sn**	**02 30 40.2**	**-0.6**
	baz=315						
CHKT	**Chengkung**	**2.24 332**		*eS*	**Sn**	**02 30 39.9**	**-1.9**
	baz=334						
MASBT	**Mashibuluo**	**2.28 311**		P	**Pn**	**02 30 14.3**	**+1.3**
	baz=308						
MASBT				S	**Sn**	**02 30 40.5**	**-2.2**
	baz=308						
TSMG	**Majia**	**2.34 313**		*eP*	**Pn**	**02 30 15.4**	**+1.8**
	baz=310						
TSMG				*eS*	**Sn**	**02 30 43.0**	**-0.8**
	baz=310						
FULB	**Fuli**	**2.35 332**		*eP*	**Pn**	**02 30 15.6**	**+1.7**
	baz=334						
FULB				*eS*	**Sn**	**02 30 42.6**	**-1.7**
	baz=334						
EYUL	**Yuli**	**2.48 334**		*eP*	**Pn**	**02 30 17.4**	**+2.1**
	baz=336						
EYUL				*eS*	**Sn**	**02 30 44.7**	**-2.2**
	baz=336						
ELDTW	**Lidau**	**2.48 327**		*eP*	**Pn**	**02 30 17.5**	**+2.0**
	baz=321						
ELDTW				*eS*	**Sn**	**02 30 45.4**	**-1.7**
	baz=321						
YULB	**Yu-li**	**2.52 334**		*eP*	**Pn**	**02 30 17.6**	**+1.7**
	baz=336						
YULB				*eS*	**Sn**	**02 30 46.1**	**-1.9**
	baz=336						
SCST	**Cishan**	**2.56 314**		*eP*	**Pn**	**02 30 19.0**	**+2.6**
	baz=305						
SCST				*eS*	**Sn**	**02 30 48.3**	**-0.4**
	baz=305						
TWM1	**Shoushan**	**2.57 312**		*eP*	**Pn**	**02 30 19.1**	**+2.6**
	baz=309						
TWM1				*eS*	**Sn**	**02 30 48.1**	**-0.8**
	baz=309						
HGSD	**Ruisui**	**2.57 338**		*eP*	**Pn**	**02 30 18.2**	**+1.7**
	baz=339						
HGSD				*eS*	**Sn**	**02 30 47.2**	**-1.7**
	baz=339						
WSSB	**Gushan**	**2.57 307**		*eP*	**Pn**	**02 30 19.3**	**+2.8**
	baz=304						
WSSB				*eS*	**Sn**	**02 30 49.2**	**+0.2**
	baz=304						
STYH	**Taoyuan**	**2.59 323**		*eP*	**Pn**	**02 30 18.7**	**+1.9**
	baz=324						
STYH				*eS*	**Sn**	**02 30 48.7**	**-0.8**
	baz=324						
EHY	**Hungye**	**2.62 336**		*eP*	**Pn**	**02 30 18.9**	**+1.8**
	baz=337						
EHY				*eS*	**Sn**	**02 30 48.3**	**-1.8**
	baz=337						
SGST	**Jiashian**	**2.64 318**		*eP*	**Pn**	**02 30 19.8**	**+2.4**
	baz=316						
SGST				*eS*	**Sn**	**02 30 49.9**	**-0.7**
	baz=316						
WTP	**Ta-pu**	**2.75 321**		*eP*	**Pn**	**02 30 21.2**	**+2.4**
	baz=324						
WTP				*eS*	**Sn**	**02 30 52.2**	**-0.8**
	baz=324						
CHN1	**Nanshi**	**2.75 319**		*eP*	**Pn**	**02 30 21.2**	**+2.5**
	baz=308						
CHN1				*eS*	**Sn**	**02 30 52.4**	**-0.6**
	baz=308						
YUS	**Yu-Shan**	**2.76 329**		*eP*	**Pn**	**02 30 21.3**	**+1.9**
	baz=332						
YUS				*eS*	**Sn**	**02 30 52.2**	**-1.9**
	baz=332						
TPUB	**Ta-pu**	**2.78 322**		*eP*	**Pn**	**02 30 21.1**	**+2.0**
	baz=320						
TPUB				*eS*	**Sn**	**02 30 52.0**	**-1.6**
	baz=320						
TWK	**Hsinying**	**2.84 320**		*eP*	**Pn**	**02 30 22.1**	**+2.2**
	baz=309						
TWK				*eS*	**Sn**	**02 30 54.2**	**-0.8**
	baz=309						
CHN4	**Tsaushan**	**2.84 322**		*eP*	**Pn**	**02 30 22.0**	**+2.1**
	baz=311						
CHN4				*eS*	**Sn**	**02 30 53.7**	**-1.3**
	baz=311						
PACPP	**Pamplona Cagay**	**2.85 202**		*eP*	**Pn**	**02 30 21.9**	**+1.9**
PACPP				*eS*	**Sn**	**02 30 52.8**	**-2.4**
ALS	**Alishan**	**2.85 327**		*eP*	**Pn**	**02 30 22.4**	**+2.1**
	baz=319						
ALS				*eS*	**Sn**	**02 30 54.3**	**-1.5**
	baz=319						
SSHA	**Shanhua**	**2.87 315**		*eS*	**Sn**	**02 30 55.5**	**-0.2**
	baz=313						
WCKO	**Fanlu**	**2.90 323**		*eS*	**Sn**	**02 30 55.6**	**-0.8**
	baz=322						
VWDT	**VWDT**	**2.91 335**		*eP*	**Pn**	**02 30 23.2**	**+2.4**
	baz=334						
VWDT				*eS*	**Sn**	**02 30 55.4**	**-1.2**
	baz=334						
SCLT	**Jiali**	**2.96 314**		*eS*	**Sn**	**02 30 56.5**	**-1.1**
	baz=312						
WHYT	**Xinyi Township**	**2.99 330**		*eP*	**Pn**	**02 30 24.6**	**+2.8**
	baz=329						
WHYT				*eS*	**Sn**	**02 30 57.4**	**-0.9**
	baz=329						
CHN5	**Tsauling**	**2.99 326**		*eP*	**Pn**	**02 30 24.3**	**+2.4**
	baz=316						
CHN5				*eS*	**Sn**	**02 30 57.2**	**-1.3**
	baz=316						
TSCK	**Chigu Township**	**3.01 313**		*eP*	**Pn**	**02 30 22.4**	**+0.4**
	baz=310						
TSCK				*eS*	**Sn**	**02 30 58.9**	**+0.1**
	baz=310						
SSLB	**Suanglung**	**3.02 332**		*eP*	**Pn**	**02 30 24.6**	**+2.4**
	baz=333						
SSLB				*eS*	**Sn**	**02 30 58.0**	**-1.1**
	baz=333						
CHY	**Chiayi**	**3.05 322**		*eS*	**Sn**	**02 30 58.6**	**-1.1**
	baz=320						
WUSB	**Renai**	**3.14 336**		*eP*	**Pn**	**02 30 26.6**	**+2.8**
	baz=341						
WUSB				*eS*	**Sn**	**02 31 00.5**	**-1.4**
	baz=341						
WDLH	**Douliu**	**3.14 325**		*eS*	**Sn**	**02 31 01.1**	**-0.6**
	baz=324						
TYC	**Yuchr**	**3.16 332**		*eS*	**Sn**	**02 31 01.2**	**-1.1**
	baz=321						
CHGB	**Renai**	**3.18 338**		*eP*	**Pn**	**02 30 26.7**	**+2.3**
	baz=344						
CHGB				*eS*	**Sn**	**02 31 01.4**	**-1.6**
	baz=344						
WNT	**Mingjian**	**3.22 329**		*eS*	**Sn**	**02 31 02.6**	**-1.0**
	baz=319						
WHF	**Hehuan Shan**	**3.23 340**		*eP*	**Pn**	**02 30 27.3**	**+2.1**
	baz=339						
WHF				*eS*	**Sn**	**02 31 02.6**	**-1.8**
	baz=339						
WCS	**Beigang Elemen**	**3.27 334**		*eP*	**Pn**	**02 30 28.1**	**+2.7**
	baz=335						
WCS				*eS*	**Sn**	**02 31 04.1**	**-0.8**
	baz=335						
WSF	**Szhu**	**3.28 321**		*eS*	**Sn**	**02 31 04.4**	**-0.5**
	baz=312						
WDGT	**Dungji**	**3.38 310**		*eP*	**Pn**	**02 30 29.5**	**+2.8**
	baz=313						
WDGT				*eS*	**Sn**	**02 31 05.5**	**-1.8**
	baz=313						
WRL	**Guolierlin Hig**	**3.40 325**		*eS*	**Sn**	**02 31 07.3**	**-0.3**
	baz=324						
WHP	**Taichung City**	**3.46 336**		*eP*	**Pn**	**02 30 30.5**	**+2.7**
	baz=339						
WHP				*eS*	**Sn**	**02 31 07.7**	**-1.6**
	baz=339						
LATG	**Datong**	**3.52 346**		*eP*	**Pn**	**02 30 31.0**	**+2.4**
	baz=345						
VCHM	**Qimei**	**3.52 307**		*eP*	**Pn**	**02 30 29.8**	**+1.3**
	baz=305						
VCHM				*eS*	**Sn**	**02 31 09.3**	**-1.2**
	baz=305						
PHUB	**P'eng-hu**	**3.61 312**		*eP*	**Pn**	**02 30 30.9**	**+1.3**
	baz=310						
PHUB				*eS*	**Sn**	**02 31 08.7**	**-3.8**
	baz=310						
PNG	**Penghu**	**3.66 313**		*eP*	**Pn**	**02 30 31.0**	**+0.8**
	baz=311						
PNG				*eS*	**Sn**	**02 31 10.1**	**-3.5**
	baz=311						
VWUC	**VWUC**	**4.77 325**		*eP*	**Pn**	**02 30 47.5**	**+2.7**
	baz=323						
VWUC				*eS*	**Sn**	**02 31 37.5**	**-2.3**
	baz=323						
PTMZ	**Houxiangcun**	**4.99 322**		*eS*	**Sn**	**02 31 42.3**	**-2.7**
	baz=321						
SONM	**Songino Array**	**29.66 338**		P	**P**	**02 35 25.6**	**-0.3**
	0.4nm,0.6s,baz=151,slow=10,SNR=4.2 0.4nm,0.6s						
MKAR	**Makanchi Array**	**41.40 318**		P	**P**	**02 37 05.8**	**-0.1**
	2.2nm,0.6s,baz=111,slow=9.3,SNR=19 2.2nm,0.6s						
WRA	**Warramunga Arr**	**42.42 163**		P	**P**	**02 37 13.4**	**-1.0**
	0.3nm,0.7s,baz=345,slow=9.1,SNR=2.8 0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**43.48 328**		P	**P**	**02 37 21.6**	**-0.9**
	0.8nm,0.5s,baz=116,slow=10,SNR=2.0 0.8nm,0.5s						
ILAR	**Eielson Array**	**71.39 27**		P	**P**	**02 40 39.2**	**+1.5**
	0.3nm,0.8s,baz=269,slow=4.6,SNR=4.3 0.3nm,0.8s						
ARCES	**ARCESS Array B**	**72.83 339**		P	**P**	**02 40 46.5**	**+0.2**
	2.1nm,0.9s,baz=90,slow=5.4,SNR=1.5 2.1nm,0.9s						
FINES	**FINESS Array B**	**74.70 330**		P	**P**	**02 40 56.3**	**-1.0**
	3.7nm,1.0s,baz=64,slow=6.3,SNR=3.5 3.7nm,1.0s						

IDC 26 02:37:54.4±1.3,23˚.18S×13˚.32W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=60.5km s-min=31.9km az=175.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**14.20 355**		T	T	02 55 32.3	
	baz=46,slow=74,SNR=25						
H10S3	**ASCENSION HYDR**	**14.20 355**		T	T	02 55 31.5	
	baz=174,slow=74,SNR=53						
H10N1	**ASCENSION HYDR**	**15.29 356**		T	T	02 56 48.5	
	baz=180,slow=74,SNR=16						
H10N3	**ASCENSION HYDR**	**15.29 356**		T	T	02 56 49.2	
	baz=180,slow=74,SNR=56						
H10N2	**ASCENSION HYDR**	**15.30 356**		T	T	02 56 50.8	
	baz=180,slow=74,SNR=9.5						
BOSA	**Boshof**	**35.02 107**		P	P	02 44 48.9	-0.1
	3.7nm,0.8s,baz=280,slow=11,SNR=5.3 3.7nm,0.8s						
CPUP	**Villa Florida**	**39.95 256**		P	P	02 45 29.9	-0.8
	1.1nm,0.7s,baz=114,slow=12,SNR=3.2 1.1nm,0.7s						
BRTR	**Keskin Array B**	**76.39 35**		P	P	02 49 45.2	-0.6
	0.8nm,0.8s,baz=217,slow=6.7,SNR=5.1 0.8nm,0.8s						
ILAR	**Eielson Array**	**128.71 337**		PKP	PKiKP	02 57 04.2	+0.5
	0.4nm,0.9s,baz=352,slow=2.7,SNR=5.2						

*IDC **26** 02:39:03.9±0.5,3˚.93N×32˚.24W, h0km, mb4.5/31, mbtmp4.5/32, ML5.2/1, MS4.3/64, Error ellipse: s-maj=16.9km s-min=10.2km az=152.0*

*MOS **26** 02:39:03.2±0.8,3˚.90N×32˚.13W, h10km, mb5.0/41, MS4.5/9, Error ellipse: s-maj=11.2km s-min=5.4km az=49.9*

*NEIC **26** 02:39:05.6±1.3,3˚.79N±0˚.09×32˚.10W±0˚.10, h10km±1km, mb5.0/274, Error ellipse: s-maj=18.7km s-min=12.9km az=132.0*

*GCMT **26** 02:39:08.6±0.1,3˚.95N±0˚.01×32˚.22W±0˚.01, h12km, MW5.2/129, Moment Tensor Solution. s89,c134; s129,c230; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.35±.11; Mθθ 0.66±.12; Mϕϕ -0.31±.12; Mrθ 0.70±.28; Mϕθ -7.83±.09; Mϕr-0.25±.30; Best double couple: Mo7.87900×10¹⁶ NP1:ϕs88.00000°, δ88.00000°, λ175.00000°. NP2:ϕs178.00000°, δ85.00000°, λ2.00000°. Principal axes: T 8.0740, Plg5.0000°, Azm43.0000°; N -0.3900, Plg85.0000°, Azm250.0000°; P -7.6840, Plg2.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 02:39:06.0±0.3,3˚.76N±0˚.05×32˚.15W±0˚.06, h18km, n599, σ1§29/472, mb5.0/212, MS4.4/76, 33C-18D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.24 201**		Pn	**Pn**	**02 41 31.1**	**-1.1**
	14nm,0.3s,baz=162,slow=15,SNR=86						
RCBR				Sn	**Sn**	**02 43 19.7**	**-6.9**
	15nm,0.3s,baz=58,slow=12,SNR=14						
RCBR				LR	LR	02 44 33.8	
	comp=Z,5μm,21.3s,baz=153,slow=32						
RCBR	**Riachuelo**	**10.24 201**		Pn	**Pn**	**02 41 31.3**	**-0.9**
RCBR	**Riachuelo**	**10.24 201**		*eP*	**Pn**	**02 41 32.7**	**+0.5**
RCBR	**Riachuelo**	**10.24 201**		P	**Pn**	**02 41 31.3**	**-0.9**
ROSB	**Rosrio**	**13.67 241**		*eP*	**Pn**	**02 42 15.8**	**-3.3**
SACV	**Santiago Islan**	**13.96 37**		Pn	**Pn**	**02 42 19.8**	**-3.3**
TMAB	**Tom-Au,PA,Br**	**17.06 249**		*eP*	**Pn**	**02 43 01.3**	**-2.5**
MBO	**M'Bour**	**18.33 54**			**Pn**	**02 43 17.7**	**-1.8**
BBTS	**Babate**	**18.82 54**		P	**Pn**	**02 43 25.0**	**-0.5**
	7.6nm,0.3s,baz=314,slow=2.3,SNR=14						
BBTS				LR	LR	02 48 49.7	
	comp=Z,2μm,19.6s,baz=235,slow=31						
GDU01	**Guandu, BA**	**18.87 203**		*eP*	**P**	**02 43 25.8**	**+0.3**
SMTB	**Santa Maria do**	**19.85 231**		*eP*	**P**	**02 43 36.9**	**+0.6**
PRPB	**Parauapebas**	**20.21 241**		*eP*	**P**	**02 43 39.9**	**-0.4**
MCPB	**Macapa, AP**	**20.31 259**		*eP*	**P**	**02 43 40.7**	**-0.5**
CMC01	**Camacan, BA**	**20.35 201**		*eP*	Pn	02 43 43.7	0.0
SDBA	**SAO DESIDERIO**	**20.46 218**		*eP*	**P**	**02 43 43.1**	**+0.1**
MDP	**Montagnes des**	**20.47 274**		P	**P**	**02 43 42.7**	**-0.3**
	29nm,0.8s,baz=101,slow=9.6,SNR=18 29nm,0.8s						
H10N3	**ASCENSION HYDR**	**21.05 123**		T	T	03 05 41.7	
	baz=303,slow=75,SNR=1526						
H10N2	**ASCENSION HYDR**	**21.05 123**		T	T	03 05 42.0	
	baz=303,slow=75,SNR=2071						
H10N1	**ASCENSION HYDR**	**21.07 123**		T	T	03 05 43.2	
	baz=303,slow=75,SNR=1369						
H10S3	**ASCENSION HYDR**	**21.53 126**		T	T	03 06 25.2	
	baz=304,slow=74,SNR=1053						
H10S2	**ASCENSION HYDR**	**21.55 126**		T	T	03 06 26.6	
	baz=276,slow=74,SNR=298						
GUA01	**Guaratinga, BA**	**21.59 200**		*eP*	**P**	**02 43 57.2**	**+2.2**
JANB	**Januaria**	**22.24 213**		*eP*	**P**	**02 44 02.1**	**-0.1**
MALB	**Monte Alegre**	**22.80 256**		*eP*	**P**	**02 44 07.5**	**-0.5**
NAN01	**Guarapari, ES**	**22.87 200**		*eP*	**P**	**02 44 10.5**	**+1.9**
MC01	**Montes Claros**	**23.44 209**		*eP*	**P**	**02 44 15.1**	**+0.5**
SJMB	**Sao Joao De Ma**	**24.03 201**		*eP*	**P**	**02 44 21.9**	**+1.7**
RIB01	**Linhares ES**	**24.32 199**		*eP*	**P**	**02 44 24.6**	**+1.7**
SNDB	**Serra Nova Dou**	**24.63 230**		*eP*	**P**	**02 44 26.7**	**+1.0**
DIAM	**Diamantina, MG**	**24.69 207**		*eP*	**P**	**02 44 27.4**	**+1.1**
BDFB	**Brasilia**	**24.86 219**		P	**P**	**02 44 28.4**	**+0.4**
	14nm,0.7s,baz=54,slow=7.3,SNR=25						
BDFB				LR	LR	02 53 12.3	
	comp=Z,1μm,20.9s,baz=31,slow=34 14nm,0.7s						
BDFB	**Brasilia**	**24.86 219**		P	**P**	**02 44 28.7**	**+0.7**
BDFB	**Brasilia**	**24.86 219**		*eP*	**P**	**02 44 28.6**	**+0.7**
BDFB	**Brasilia**	**24.86 219**		P	**P**	**02 44 28.7**	**+0.7**
BDFB				pmax	pmax		
	comp=Z,133nm,1.9s						
ITTB	**Itaituba**	**24.91 251**		*eP*	**P**	**02 44 27.8**	**-0.4**
NPGB	**Novo Progresso**	**25.53 245**		*eP*	**P**	**02 44 32.9**	**-1.0**
ALF01	**Guarapari-ES**	**25.65 199**		*eP*	**P**	**02 44 38.3**	**+3.5**
IPMB	**Ipameri, GO**	**26.79 216**		*eP*	**P**	**02 44 46.1**	**+0.8**
CAM01	**Campos-RJ**	**27.08 200**		*eP*	**P**	**02 44 51.4**	**+3.7**
DBIC	**Dimbokro**	**27.33 83**		P	**P**	**02 44 49.0**	**-1.2**
DBIC	**Dimbokro**	**27.33 83**		P	**P**	**02 44 49.0**	**-1.2**
ARAG	**Araguaiana, MT**	**27.44 225**		*eP*	**P**	**02 44 52.3**	**+1.2**
DUB01	**Friburgo-RJ**	**27.56 201**		*eP*	**P**	**02 44 55.4**	**+3.2**
CLDB	**Colider**	**27.66 238**		*eP*	**P**	**02 44 53.1**	**-0.1**
VAS01	**Vassouras-RJ**	**28.14 203**		*eP*	**P**	**02 44 59.5**	**+2.2**
PTGA	**Pitinga**	**28.16 261**		P	**P**	**02 44 56.3**	**-1.3**
	comp=Z,10nm,0.8s,baz=351,slow=22,SNR=3.8 comp=Z,10nm,0.8s						
BOAV	**Boa Vista**	**28.36 268**		P	**P**	**02 44 59.6**	**+0.2**
BOAV				IAmb	IAmb	02 45 05.2	
	comp=Z,23nm,0.9s						
BOAV	**Boa Vista**	**28.36 268**		*eP*	**P**	**02 44 59.4**	**0.0**
PDRB	**Porto dos Gac**	**28.83 238**		*eP*	**P**	**02 45 03.9**	**+0.4**
MACA	**Manacapuru-AM**	**29.33 257**		P	**P**	**02 45 07.8**	**-0.3**
MACA				IAmb	IAmb	02 45 27.3	
	comp=Z,13nm,1.0s						
ITRB	**Iturama**	**29.40 217**		*eP*	**P**	**02 45 09.7**	**+1.1**
BB19B	**Bebedouro**	**29.44 212**		*eP*	**P**	**02 45 11.3**	**+2.4**
H05S1	**Guadeloupe/Mar**	**30.20 292**		T	T	03 16 44.9	
	SNR=274						
VAO	**Valinhos**	**30.28 208**		*eP*	**P**	**02 45 19.2**	**+2.8**
SALV	**Santo Antonio**	**30.40 229**		*eP*	**P**	**02 45 17.2**	**-0.2**
H05N1	**Guadeloupe/Mar**	**31.02 296**		T	T	03 17 26.0	
	SNR=37						
PCMB	**Pacaembu**	**31.40 216**		*eP*	**P**	**02 45 27.6**	**+1.4**
PET01	**Itanhaem-SP**	**31.53 207**		*eP*	**P**	**02 45 29.9**	**+2.6**
PMOZ	**Porto Moniz, M**	**32.12 24**		eLR	LR	02 53 45.3	
	comp=Z,766nm,20.0s						
PMOZ	**Porto Moniz, M**	**32.12 24**		T	T	03 18 31.2	
PMAR	**Madeira**	**32.15 25**		T	T	03 18 30.0	
VILB	**Vilhena**	**32.43 239**		P	**P**	**02 45 36.1**	**+0.7**
VILB				IAmb	IAmb	02 45 38.0	
	comp=Z,26nm,1.4s						
VILB	**Vilhena**	**32.43 239**		*eP*	**P**	**02 45 37.1**	**+1.6**
PTLB	**Pontes e Lacer**	**32.83 234**		P	**P**	**02 45 39.1**	**+0.2**
PTLB				IAmb	IAmb	02 45 41.0	
	comp=Z,8.1nm,1.0s						
PTLB	**Pontes e Lacer**	**32.83 234**		*eP*	**P**	**02 45 39.6**	**+0.7**
PCRV	**Puerto La Cruz**	**32.85 283**		LR	LR	02 59 17.2	
	comp=Z,163nm,18.9s,slow=37						
AQDB	**Aquidauana**	**33.38 223**		P	**P**	**02 45 44.4**	**+0.8**
AQDB	**Aquidauana**	**33.38 223**		*eP*	**P**	**02 45 45.0**	**+1.3**
PTGB	**Pitanga**	**34.30 213**		*eP*	**P**	**02 45 53.6**	**+2.0**
SIV	**San Ignacio**	**34.69 235**		LR	LR	02 59 43.1	
	comp=Z,2μm,18.9s,baz=94,slow=36						
SGCB	**SCo Gabriel d**	**35.07 264**		*eP*	**P**	**02 45 58.5**	**+0.1**
MTP	**Monte Pirata**	**35.66 296**		P	**P**	**02 46 03.5**	**+0.1**
MTP				IAmb	IAmb	02 46 04.3	
	comp=Z,34nm,1.0s						
HUMP	**Col San Antoni**	**35.94 296**		P	**P**	**02 46 05.3**	**-0.5**
HUMP				IAmb	IAmb	02 46 06.7	
	comp=Z,38nm,1.1s						
BAUV	**El Baul**	**36.02 280**		P	**P**	**02 46 07.8**	**+1.3**
TER01	**Tubaro-SC**	**36.02 206**		*eP*	**P**	**02 46 09.2**	**+2.9**
SJG	**San Juan**	**36.20 296**		P	**P**	**02 46 07.4**	**-0.6**
	comp=Z,12nm,0.9s,baz=200,slow=1.0,SNR=3.8						
SJG				LR	LR	02 57 39.7	
	comp=Z,254nm,21.0s,baz=110,slow=31 comp=Z,12nm,0.9s						
ITAB	**Concordia**	**36.36 211**		*eP*	**P**	**02 46 11.8**	**+2.5**
ETMB	**Extrema**	**36.52 248**		P	**P**	**02 46 11.5**	**+0.8**
ETMB				IAmb	IAmb	02 46 12.4	
	comp=Z,20nm,1.2s						
ETMB	**Extrema**	**36.52 248**		*eP*	**P**	**02 46 11.6**	**+0.8**
SDV	**Santo Domingo**	**38.57 279**		P	**P**	**02 46 29.0**	**+0.5**
	comp=Z,8.1nm,0.7s,baz=34,slow=3.9,SNR=8.4 comp=Z,8.1nm,0.7s						
SDV	**Santo Dogo**	**38.57 279**		P	**P**	**02 46 28.4**	**0.0**
SDV	**Santo Domingo**	**38.57 279**		*eP*	**P**	**02 46 28.9**	**+0.5**
CPUP	**Villa Florida**	**38.59 218**		P	**P**	**02 46 29.3**	**+1.2**
	comp=Z,13nm,1.0s,baz=47,slow=6.6,SNR=17						
CPUP				LR	LR	03 01 58.3	

comp=Z,33nm,1.8s
PMRV Marv??o 42.01 29 *e*LR LR 02 58 26.4
comp=Z,528nm,20.0s
CZSB Cruzeiro do Su 42.04 254 P **P** **02 46 57.0 0.0**
CZSB IAmb IAmb 02 47 07.7
comp=Z,44nm,1.1s
CZSB Cruzeiro do Su 42.04 254 *e*P **P** **02 46 57.2 +0.2**
ROSC El Rosal 42.06 273 P **P** **02 46 58.0 +0.4**
comp=Z,32nm,0.9s,baz=328,slow=6.8,SNR=9.8
ROSC LR LR 03 05 05.5
comp=Z,804nm,18.1s,baz=85,slow=37
comp=Z,32nm,0.9s
ROSC El Rosal 42.06 273 P **P** **02 46 58.2 +0.6**
ROSC IAmb IAmb 02 47 02.9
comp=Z,45nm,1.1s
ROSC El Rosal 42.06 273 P **P** **02 46 58.0 +0.4**
MTE Manteigas 42.70 28 *e*S **S** **02 53 32.5 +7.7**
MTE *e*LQ LQ 02 56 43.2
MTE *e*LR LR 02 58 34.2
comp=Z,654nm,20.0s
PB16 IPOC Station P 42.86 238 P **P** **02 47 03.1 -1.2**
MVO Moncorvo 43.54 28 *e*P **P** **02 47 09.3 +0.4**
comp=Z,36nm,1.8s
MVO *e*LQ LQ 02 57 09.2
MVO *e*LR LR 02 59 07.8
comp=Z,592nm,20.0s
PGAV Gavieira, Arco 43.62 26 *e*S S 02 53 48.8 +10
PGAV *e*LR LR 02 59 06.9
comp=Z,640nm,20.0s
ESDC Sonseca Array 43.92 32 P **P** **02 47 12.0 0.0**
comp=Z,4.0nm,0.9s,baz=228,slow=8.3,SNR=16
ESDC LR LR 03 02 45.9
comp=Z,317nm,19.0s,baz=205,slow=32
comp=Z,4.0nm,0.9s
ESDC Sonseca Array 43.92 32 P **P** **02 47 11.5 -0.4**
PB09 IPOC Station P 44.30 233 IAmb IAmb 02 47 19.7
comp=Z,38nm,1.4s
PB15 IPOC Station P 45.20 232 IAmb IAmb 02 47 23.2
comp=Z,35nm,1.1s
AC02 Maricunga 46.92 227 IAmb IAmb 02 47 38.7
comp=Z,14nm,1.0s
CHSH Refugio Sur-Vo 46.98 264 IAmb IAmb 02 47 43.7
comp=Z,14nm,0.8s
NNA Nana 47.10 250 LR LR 03 07 14.8
comp=Z,338nm,18.5s,baz=71,slow=36
ATAH Atahualpa 47.41 257 LR LR 03 07 38.7
comp=Z,476nm,18.8s,baz=80,slow=36
COHC Cochancay 47.48 263 P **P** **02 47 39.9 -0.5**
COHC IAmb IAmb 02 47 45.1
comp=Z,12nm,1.1s
MCRA Macar, Loja 48.44 261 IAmb IAmb 02 47 55.4
comp=Z,14nm,1.1s
CFA Coronel Fontan 49.15 222 LR LR 03 10 04.3
comp=Z,534nm,18.4s,baz=70,slow=38
LCO Las Campanas 49.30 226 P **P** **02 47 54.9 +0.4**
LCO IAmb IAmb 02 47 55.7
comp=Z,22nm,1.2s
LCO Las Campanas 49.30 226 P **P** **02 47 54.9 +0.4**
LCO pmax pmax
comp=Z,22nm,1.3s
CO01 Juntas del Tor 49.43 225 IAmb IAmb 02 48 08.0
comp=Z,13nm,1.0s
KEST Kesra 49.76 45 P **P** **02 47 58.3 +0.6**
comp=Z,4.7nm,0.9s,baz=151,slow=1.3,SNR=3.9
KEST LR LR 03 08 55.0
comp=Z,986nm,20.1s,baz=198,slow=36
comp=Z,4.7nm,0.9s
KEST Kesra 49.76 45 P **P** **02 47 58.2 +0.4**
KEST IAmb IAmb 02 48 08.4
comp=Z,12nm,0.9s
TRQA Tornquist 49.96 211 P **P** **02 47 59.1 0.0**
TRQA IAmb IAmb 02 48 04.7
comp=Z,18nm,1.1s
TRQA Tornquist 49.96 211 P **P** **02 47 59.1 0.0**
TRQA pmax pmax
comp=Z,18nm,1.1s
CO03 El Pedregal 50.35 224 IAmb IAmb 02 48 03.5
comp=Z,43nm,1.7s
CO06 Fray Jorge 50.91 225 IAmb IAmb 02 48 07.3
comp=Z,26nm,0.8s
VA03 San Esteban 51.41 222 IAmb IAmb 02 48 11.4
comp=Z,15nm,0.8s
LMEL Las Melosas 51.84 221 IAmb IAmb 02 48 17.5
comp=Z,29nm,1.4s
MT05 Renca 51.91 222 P **P** **02 48 14.4 +0.4**
BO04 La Punta 52.20 221 IAmb IAmb 02 48 26.2
comp=Z,30nm,1.0s
MT09 Talagante 52.31 221 IAmb IAmb 02 48 21.4
comp=Z,22nm,1.1s
MT01 Popeta 52.54 221 IAmb IAmb 02 48 19.1
comp=Z,14nm,0.9s
BO01 Tunca 52.75 221 IAmb IAmb 02 48 24.7
comp=Z,17nm,1.1s
BO02 Sierra Bellavi 52.80 220 IAmb IAmb 02 48 36.8
comp=Z,51nm,1.7s
TRNY Table Rock, Ra 52.98 321 P **P** **02 48 22.0 +0.4**
TRNY IAmb IAmb 02 48 30.5
comp=Z,33nm,1.6s
BRNY Black Rk. Fore 52.99 321 P **P** **02 48 21.7 -0.1**
baz=124
BNI Bardonecchia 53.34 34 P **P** **02 48 24.5 0.0**
BNI IAmb IAmb 02 48 45.1
comp=Z,28nm,1.6s
BNI Bardonecchia 53.34 34 P **P** **02 48 24.5 0.0**
BNI pmax pmax
comp=Z,28nm,1.6s
V58A Windy Hill, Pi 53.73 313 IAmb IAmb 02 48 28.2
comp=Z,24nm,1.2s
R58B Mineral 53.81 315 IAmb IAmb 02 48 37.0
comp=Z,16nm,1.2s
R58B Mineral 53.81 315 P **P** **02 48 27.5 -0.3**
R58B P **P** **02 48 27.5 -0.3**
baz=118
MATN Matagalpa 53.88 283 P **P** **02 48 28.9 0.0**
Y57A Sumter 53.96 310 IAmb IAmb 02 48 34.1
comp=Z,15nm,0.7s
TSUM Tsumeb 53.97 117 LR LR 03 06 37.5
comp=Z,348nm,19.6s,baz=288,slow=31
VAE Valguarnera 54.17 45 LR LR 03 10 49.8
comp=Z,784nm,21.1s,baz=338,slow=35
BIRD Birdtown, Kers 54.26 311 IAmb IAmb 02 48 32.3
comp=Z,17nm,1.2s
S57A Dark Hollow, R 54.47 315 P **P** **02 48 32.8 +0.1**
baz=117
S57A P **P** **02 48 32.8 +0.1**
baz=117
P57A Homestead Farm 54.61 317 P **P** **02 48 33.8 +0.1**
baz=119
P57A P **P** **02 48 33.8 +0.1**
baz=119
HAW Hawthorne Fire 54.65 309 P **P** **02 48 34.2 +0.1**
baz=112
BINY Binghamton 54.66 321 P **P** **02 48 34.8 +0.8**
baz=122
255A Hazlehurst 54.83 307 P **P** **02 48 35.9 +0.5**
baz=110
J58A Remsen 54.85 322 P **P** **02 48 35.6 +0.2**
J58A IAmb IAmb 02 48 51.6
comp=Z,18nm,1.1s
J58A Remsen 54.85 322 P **P** **02 48 35.4 +0.1**
baz=124
J58A P **P** **02 48 35.4 +0.1**
baz=124
Q56A Snyder Ridge, 55.21 316 IAmb IAmb 02 48 56.4
comp=Z,18nm,1.0s
Q56A Snyder Ridge, 55.21 316 P **P** **02 48 38.3 +0.2**
baz=117
Q56A P **P** **02 48 38.3 +0.2**
baz=117
BLA Blacksburg 55.28 314 IAmb IAmb 02 48 49.6
comp=Z,15nm,0.8s
BLA Blacksburg 55.28 314 P **P** **02 48 38.6 0.0**
baz=115
BLA Blacksburg 55.28 314 P **P** **02 48 38.9 +0.2**
baz=115
V55A Taylorsville 55.31 312 IAmb IAmb 02 48 40.1
comp=Z,25nm,1.2s
V55A Taylorsville 55.31 312 P **P** **02 48 38.3 -0.5**
baz=114
V55A P **P** **02 48 38.3 -0.5**
baz=114
HODGE Hodges 55.48 310 IAmb IAmb 02 48 43.6
comp=Z,20nm,1.5s
DOU Dourbes 55.61 28 *d*P **P** **02 48 40.1 -0.5**
comp=Z,8.3nm,1.2s
BMRD Maredsous 55.83 28 *d*P **P** **02 48 42.9 +0.6**
RCHB Rochefort 55.95 28 *d*P **P** **02 48 43.6 +0.6**
TRQ Mont Tremblant 56.05 326 P **P** **02 48 43.6 -0.4**
TRQ IAmb IAmb 02 48 53.5
comp=Z,12nm,0.8s
BCLA Clavier 56.16 28 *d*P **P** **02 48 43.3 -1.3**
DAVOX Davos/Dischmat 56.17 34 P **P** **02 48 44.7 -0.3**
comp=Z,1.8nm,0.7s,baz=175,slow=7.9,SNR=2.4
DAVOX LR LR 03 09 26.0
comp=Z,363nm,21.9s,baz=249,slow=32
comp=Z,1.8nm,0.7s
S54A Dingess, Beckl 56.17 314 IAmb IAmb 02 48 55.3
comp=Z,11nm,0.8s
BG3 Lake Jocassee 56.27 310 P **P** **02 48 45.8 +0.1**
BG3 IAmb IAmb 02 48 47.3
comp=Z,23nm,1.1s
CASEE Lake Jocassee 56.27 310 P **P** **02 48 46.2 +0.5**
baz=112
Q54A Coxs Mills 56.34 315 IAmb IAmb 02 48 51.8
comp=Z,14nm,0.9s
Q54A Coxs Mills 56.34 315 P **P** **02 48 46.1 0.0**
baz=116
Q54A P **P** **02 48 46.1 0.0**
baz=116
WVNY West Valley, N 56.43 320 P **P** **02 48 46.9 +0.2**
V53A Saluda 56.43 311 IAmb IAmb 02 48 52.6
comp=Z,16nm,1.3s
DAVA Damuels 56.47 33 *e*P **P** **02 48 47.6 +0.5**
comp=Z,9.5nm,1.4s
EKA Eskdalemuir Ar 56.48 19 LR LR 03 09 41.6
comp=Z,406nm,18.4s,baz=222,slow=33
PLCA Paso Flores 56.50 214 P **P** **02 48 48.8 +1.5**
comp=Z,1.2nm,0.6s,baz=42,slow=8.6,SNR=3.3
PLCA LR LR 03 13 10.1
comp=Z,998nm,19.2s,baz=60,slow=36
comp=Z,1.2nm,0.6s
MEM Membach 56.62 28 *d*P **P** **02 48 48.5 +0.6**
comp=Z,6.4nm,1.1s
MEM *d*PcP **PcP** **02 49 43.2 -0.9**
FETA Feichten 56.78 34 *e*P **P** **02 48 49.0 -0.4**
comp=Z,7.1nm,1.5s
P53A Whipple 56.94 316 IAmb IAmb 02 48 51.2
comp=Z,24nm,1.2s
STU Stuttgart 57.01 31 P **P** **02 48 50.8 +0.1**
STU Stuttgart 57.01 31 P **P** **02 48 50.8 +0.1**
STU pmax pmax
comp=Z,11nm,0.4s
RETA Reutte 57.07 33 *e*P **P** **02 48 51.0 -0.3**
comp=Z,10nm,1.5s
N53A Lisbon 57.15 317 IAmb IAmb 02 48 52.8
comp=Z,31nm,1.2s
N53A Lisbon 57.15 317 P **P** **02 48 52.1 +0.3**
baz=117
N53A P **P** **02 48 52.1 +0.3**
baz=117
O53A New Philadelph 57.15 317 IAmb IAmb 02 49 02.5
comp=Z,22nm,1.1s
O53A New Philadelph 57.15 317 P **P** **02 48 52.0 +0.1**
baz=116
TKL Tuckaleechee C 57.16 311 LR LR 03 07 47.6
comp=Z,281nm,21.9s,baz=119,slow=30
SQTA Sankt Quirin 57.16 34 *e*P **P** **02 48 51.7 -0.3**
comp=Z,10nm,1.1s
MOTA Moosalm 57.18 34 *e*P **P** **02 48 51.2 -0.9**
comp=Z,13nm,1.4s
TZTN Tazewell 57.31 312 IAmb IAmb 02 48 56.8
comp=Z,34nm,1.5s
TZTN Tazewell 57.31 312 P **P** **02 48 53.3 +0.1**
baz=112
Q52A Bidwell 57.34 315 IAmb IAmb 02 48 54.0
comp=Z,19nm,1.1s
Q52A Bidwell 57.34 315 P **P** **02 48 53.2 0.0**
baz=115
Q52A P **P** **02 48 53.2 0.0**
baz=115
CIMO Cimolais 57.35 35 IAmb IAmb 02 48 54.2
comp=Z,9.9nm,1.2s
WTTA Wattenberg 57.43 34 *e*P **P** **02 48 54.2 +0.3**
comp=Z,8.1nm,1.2s
WATA Walderalm 57.44 34 *e*P **P** **02 48 53.1 -0.8**
comp=Z,11nm,1.4s
STAL STALIGIAL 57.47 35 P **P** **02 48 53.8 -0.3**
STAL IAmb IAmb 02 48 55.6
comp=Z,22nm,1.2s
O52A Adamsville 57.52 316 IAmb IAmb 02 48 55.4
comp=Z,19nm,1.0s
O52A Adamsville 57.52 316 P **P** **02 48 54.3 -0.2**
baz=116
O52A P **P** **02 48 54.3 -0.2**
baz=116
P52A Corning 57.52 315 IAmb IAmb 02 49 00.6
comp=Z,13nm,1.0s
P52A Corning 57.52 315 P **P** **02 48 54.2 -0.4**
baz=115
X51A Calhoun 57.60 309 IAmb IAmb 02 49 00.4
comp=Z,16nm,1.1s
ABTA Abfaltersbach 57.63 35 *i* P **P** **02 48 55.3 +0.1**
comp=Z,15nm,1.2s,SNR=8.2
V51A Loudon 57.65 311 IAmb IAmb 02 49 05.7
comp=Z,14nm,1.1s
V51A Loudon 57.65 311 P **P** **02 48 55.0 -0.5**
baz=111
S51A Beattyville 57.77 313 IAmb IAmb 02 49 06.5
comp=Z,13nm,1.0s
250A Grady 57.90 306 P **P** **02 48 57.4 +0.1**
baz=107
SADO Sadowa 57.95 322 LR LR 03 08 15.0
comp=Z,158nm,21.3s,baz=162,slow=30
P51A Williamsport 58.11 315 IAmb IAmb 02 49 23.0
comp=Z,19nm,1.1s
Q51A Peebles 58.13 314 IAmb IAmb 02 49 08.9
comp=Z,16nm,0.9s
Q51A Peebles 58.13 314 P **P** **02 48 58.4 -0.4**
baz=114
Q51A P **P** **02 48 58.4 -0.4**
baz=114
SCHQ Schefferville 58.13 337 P **P** **02 48 58.0 -0.5**
comp=Z,6.0nm,0.8s,baz=162,slow=5.0,SNR=5.7
SCHQ LR LR 03 11 33.7
comp=Z,147nm,18.6s,baz=168,slow=34
comp=Z,6.0nm,0.8s
SCHQ Schefferville 58.13 337 P **P** **02 48 59.2 +0.6**
SCHQ IAmb IAmb 02 49 07.9
comp=Z,19nm,0.8s
W50A Signal Mountai 58.17 310 P **P** **02 48 59.4 +0.2**
baz=110
FPAL Fort Paine 58.18 309 IAmb IAmb 02 49 07.8
comp=Z,12nm,0.9s
MYKA Terra Mystica 58.22 36 *e*P **P** **02 48 59.9 +0.6**
comp=Z,24nm,1.4s
KBA Koelnbreinsper 58.29 35 *e*P **P** **02 48 59.3 -0.7**
comp=Z,18nm,1.1s
ACSO Alum Creek Sta 58.37 316 IAmb IAmb 02 49 10.4
comp=Z,16nm,0.8s
ACSO Alum Creek Sta 58.37 316 P **P** **02 48 59.9 -0.5**
baz=115
ACSO Alum Creek Sta 58.37 316 P **P** **02 49 00.5 +0.1**
baz=115
T50A Nancy 58.45 312 IAmb IAmb 02 49 02.3
comp=Z,27nm,1.8s
R50A Paris 58.55 313 IAmb IAmb 02 49 12.6
comp=Z,10nm,0.9s
R50A Paris 58.55 313 P **P** **02 49 01.4 -0.3**
baz=112
R50A P **P** **02 49 01.4 -0.3**
baz=112
Y49A Blount Mountai 58.59 308 IAmb IAmb 02 49 07.1
comp=Z,13nm,0.9s
Y49A Blount Mountai 58.59 308 P **P** **02 49 01.9 -0.2**
baz=108
GRFO Grafenberg 58.62 31 P **P** **02 49 02.2 +0.2**
GRFO Grafenberg 58.62 31 P **P** **02 49 02.2 +0.2**
GRFO pmax pmax
comp=Z,41nm,1.5s
BIOA Bad Ischl, Aus 58.79 34 *e*P **P** **02 49 02.5 -0.7**
comp=Z,8.9nm,1.1s
LRAL Lakeview Retre 58.80 307 P **P** **02 49 03.5 0.0**
LRAL IAmb IAmb 02 49 08.5
comp=Z,14nm,1.0s
LRAL Lakeview Retre 58.80 307 P **P** **02 49 03.6 0.0**
baz=108
LRAL Lakeview Retre 58.80 307 P **P** **02 49 03.9 +0.3**
baz=108
LL02 Futaleuf 58.86 213 IAmb IAmb 02 49 16.3
comp=Z,11nm,1.0s
U49A Red Boiling Sp 58.98 311 IAmb IAmb 02 49 05.8
comp=Z,18nm,1.1s
SOKA Soboth 59.05 36 *i* P **P** **02 49 05.4 +0.2**
comp=Z,21nm,1.2s,SNR=11
R49A Shelbyville 59.17 313 IAmb IAmb 02 49 27.1
comp=Z,17nm,1.4s
MOA Molln 59.23 35 *e*P **P** **02 49 05.8 -0.6**
comp=Z,9.4nm,1.4s
CLTN Cedars of Leba 59.25 310 IAmb IAmb 02 49 10.2
comp=Z,15nm,1.2s
O49A Covington 59.30 315 IAmb IAmb 02 49 16.9
comp=Z,13nm,0.9s
P49A Miami Univ. Ec 59.31 314 P **P** **02 49 06.6 -0.4**
baz=113
P49A Miami Univ. Ec 59.31 314 P **P** **02 49 06.7 -0.3**
baz=113
GEC2 GERESS Array S 59.47 33 IAmb IAmb 02 49 08.7
comp=Z,11nm,1.2s
GERES GERESS Array B 59.47 33 P **P** **02 49 07.7 -0.3**
comp=Z,5.2nm,1.1s,baz=232,slow=4.4,SNR=20
GERES LR LR 03 12 42.4
comp=Z,276nm,19.1s,baz=266,slow=34
comp=Z,5.2nm,1.1s
GERES GERESS Array B 59.47 33 P **P** **02 49 07.0 -0.9**
V48A Smith Brothers 59.51 310 IAmb IAmb 02 49 13.9
comp=Z,16nm,1.1s
V48A Smith Brothers 59.51 310 P **P** **02 49 08.1 -0.4**
baz=109
KHC Kasperske Hory 59.56 33 IAmb IAmb 02 49 33.8
comp=Z,22nm,1.6s
KHC Kasperske Hory 59.56 33 *e*P **P** **02 49 08.2 -0.4**
KHC *ep*P **pwP** **02 49 16.8 -0.8**
KHC *e*S S 02 57 28.2 +11
KHC AMS AMS 03 11 30.0
comp=Z,500nm,17.4s
KHC Kasperske Hory 59.56 33 *e*P **P** **02 49 08.2 -0.4**
KHC *e**PP **pwP** **02 49 16.8 -0.8**
KHC *e*S S 02 57 28.2 +11
KHC MLR MLR
comp=Z,500nm,17.4s
NKC Novy Kostel 59.58 32 AMS AMS 03 12 50.0
comp=Z,500nm,20.3s
ARSA Arzberg 59.64 36 *e*P **P** **02 49 08.9 -0.3**
comp=Z,8.0nm,1.3s
Z47A Carrollton 59.71 306 P **P** **02 49 10.0 +0.2**
baz=107
CKRC Cesky Krumlov 59.79 34 *e*P **P** **02 49 09.7 -0.4**
CKRC *e*S **S** **02 57 26.6 +6.0**
P48A Milroy 59.79 314 IAmb IAmb 02 49 15.0
comp=Z,15nm,1.2s
O48B Farmland 59.90 315 P **P** **02 49 10.7 -0.3**
baz=113
WCI Wyandotte Cave 59.97 312 P **P** **02 49 11.7 +0.2**
WCI IAmb IAmb 02 49 21.6
comp=Z,7.8nm,0.8s
WCI Wyandotte Cave 59.97 312 P **P** **02 49 11.6 +0.2**
baz=111
WCI Wyandotte Cave 59.97 312 P **P** **02 49 11.7 +0.2**
WCI pmax pmax
comp=Z,8.0nm,0.8s
T47A Sharon Grove 60.14 311 P **P** **02 49 12.5 -0.3**
baz=110
CONA Conrad Observa 60.19 35 *e*P **P** **02 49 13.0 0.0**
comp=Z,10nm,1.3s
RONA Rosalia, Austr 60.32 36 *i* P **P** **02 49 13.9 0.0**
comp=Z,20nm,1.2s,SNR=8.4
WVT Waverly 60.41 310 P **P** **02 49 14.1 -0.5**
WVT IAmb IAmb 02 49 14.9
comp=Z,19nm,1.4s
WVT Waverly 60.41 310 P **P** **02 49 13.7 -0.9**
baz=109
WVT Waverly 60.41 310 P **P** **02 49 14.2 -0.5**
baz=109
WVT Waverly 60.41 310 P **P** **02 49 14.1 -0.5**
WVT pmax pmax
comp=Z,19nm,1.5s
SOP Sopron 60.46 36 P **P** **02 49 12.3 -2.4**
CLL Collm 60.50 31 P **P** **02 49 15.6 +0.7**
CLL IAmb IAmb 02 49 16.2
comp=Z,19nm,1.6s
CLL Collm 60.50 31 *i* P **P** **02 49 14.8 -0.1**
comp=Z,23nm,1.8s
CLL *e*S **S** **02 57 30.0 +0.4**
comp=N,200nm,24.3s
CLL *e*S **S** **02 57 30.0 +0.4**
comp=E,300nm,24.0s
CLL *e*S **S** **02 57 30.0 +0.4**
comp=Z,100nm,28.4s
CLL *e*SS **SS** **03 01 30.0 +2.2**
CLL Lm MLR 03 13 00.0
comp=N,200nm,19.4s
CLL Lm MLR 03 13 00.0
comp=E,200nm,18.5s
CLL Lm MLR 03 13 00.0
comp=Z,400nm,18.6s
CLL Collm 60.50 31 *i* P **P** **02 49 14.8 -0.1**
CLL pmax pmax
comp=Z,23nm,1.8s
CLL MLR MLR
comp=Z,400nm,18.6s
PRU Pruhonice 60.55 33 *e*P **P** **02 49 15.5 +0.2**
PRU *ep*P **pwP** **02 49 24.4 0.0**
PRU *e*S S 02 57 40.3 +10
PRU AMS AMS 03 12 00.0
comp=Z,500nm,16.3s
PRU Pruhonice 60.55 33 *e*P **P** **02 49 15.5 +0.2**
PRU *e**PP **pwP** **02 49 24.4 0.0**
PRU *e*S S 02 57 40.3 +10
PRU MLR MLR
comp=Z,500nm,16.3s
KOVH Kovagotottos 60.60 38 P **P** **02 49 14.4 -1.4**
TREC Trest 60.69 34 *e*P **P** **02 49 16.3 0.0**
TREC *ep*P **pwP** **02 49 24.7 -0.7**
TREC Trest 60.69 34 *e*P **P** **02 49 16.3 0.0**
TREC *e**PP **pwP** **02 49 24.7 -0.7**
BRG Berggiesshubel 60.73 32 *e*P **P** **02 49 16.4 -0.1**
BRG Amp 02 49 18.6
comp=Z,20nm,1.6s
BRG Berggiesshubel 60.73 32 S S 02 57 43.0 +10
BRG Amp 03 13 58.0
comp=Z,0.3nm,14.0s
BRG Berggiesshubel 60.73 32 *e*P **P** **02 49 16.4 -0.1**
BRG S S 02 57 43.0 +10
BRG pmax pmax
comp=Z,20nm,1.6s
BRG smax smax
comp=Z,302nm,14.0s
MPLH Magyarpolny 60.78 37 P **P** **02 49 16.8 -0.2**
PVCC Panska Ves 60.87 32 AMS AMS 03 12 00.0
comp=Z,400nm,15.6s
DIVS Divibare 60.90 41 IAmb IAmb 02 49 20.5
comp=Z,20nm,1.4s
ZST Bratislava 61.04 35 *e*P **P** **02 49 18.6 -0.1**
ZST Bratislava 61.04 35 *e*P **P** **02 49 18.6 -0.1**
ZST pmax pmax
comp=Z,54nm,1.3s
KRUC Moravsky 61.08 34 *e*P **P** **02 49 18.4 -0.5**
Y45A Yeager Farm, C 61.08 307 IAmb IAmb 02 49 22.9
comp=Z,17nm,0.9s
OXF Oxford 61.16 308 P **P** **02 49 18.6 -1.1**
baz=107
IDI Anoyia 61.21 52 P **P** **02 49 21.6 +1.5**
comp=Z,9.0nm,1.1s,baz=288,slow=7.6,SNR=7.4
comp=Z,9.0nm,1.1s
IDI Anoyia 61.21 52 IAmb IAmb 02 49 23.4
comp=Z,24nm,1.4s
MODS Modra-Piesok 61.23 35 *e*P **P** **02 49 19.4 -0.6**
MODS Modra-Piesok 61.23 35 *e*P **P** **02 49 19.4 -0.6**
MODS pmax pmax
comp=Z,45nm,1.4s
CSKK Cskako 61.31 37 P **P** **02 49 20.5 0.0**
VRAC Vranov 61.32 34 ⇑P **P** **02 49 20.5 0.0**
VRAC Vranov 61.32 34 LR LR 03 13 53.7
comp=Z,201nm,19.8s,baz=246,slow=34
VRAC Vranov 61.32 34 *e*P **P** **02 49 20.1 -0.5**
VRAC Vranov 61.32 34 ⇑P **P** **02 49 20.5 0.0**
BORG Borgarnes 61.36 5 LR LR 03 10 01.7
comp=Z,106nm,22.0s,baz=195,slow=30
SMOL Smolenice 61.39 35 *e*P **P** **02 49 21.6 +0.6**
SRO Srobarova 61.56 36 *e*P **P** **02 49 22.7 +0.5**
SRO Srobarova 61.56 36 *e*P **P** **02 49 22.7 +0.5**
SRO pmax pmax
comp=Z,32nm,1.6s
UPC Upice 61.63 33 *e*P **P** **02 49 22.2 -0.4**
UPC AMS AMS 03 12 30.0
comp=Z,400nm,16.7s
UPC Upice 61.63 33 *e*P **P** **02 49 22.2 -0.4**
UPC MLR MLR
comp=Z,400nm,16.7s
DPC Dobruska-Polom 61.71 33 *e*P **P** **02 49 23.1 -0.2**

DPC AMS AMS 03 13 10.0
comp=Z,400nm,15.0s
DPC Dobruska-Polom 61.71 33 *e*P **P 02 49 23.1 -0.2**
DPC MLR MLR
comp=Z,400nm,15.0s
SUR Sutherland 61.72 130 LR LR 03 09 52.5
comp=Z,416nm,21.7s,baz=296,slow=30
OSTC Ostas 61.77 33 *e*P **P 02 49 23.5 -0.1**
OSTC AMS AMS 03 13 10.0
comp=Z,400nm,15.0s
KRLC Kraliky 61.82 33 *e*P **P 02 49 24.3 +0.3**
KRLC AMS AMS 03 13 20.0
comp=Z,300nm,15.3s
KRLC Kraliky 61.82 33 *e*P **P 02 49 24.3 +0.3**
KRLC MLR MLR
comp=Z,300nm,15.3s
SANT Santorini 61.97 51 P **P 02 49 25.2 0.0**
MAUC Maruska 62.04 35 *e*P **P 02 49 26.0 +0.5**
MORC Moravsky Berou 62.09 34 *e*P **P 02 49 25.9 +0.1**
VYHS Vyhne 62.19 36 *e*P **P 02 49 25.8 -0.7**
VYHS Vyhne 62.19 36 *e*P **P 02 49 25.8 -0.7**
VYHS pmax pmax
comp=Z,8.0nm,1.2s
Q44A Meyer Farm, Va 62.20 312 P **P 02 49 25.5 -1.2**
baz=109
O44A Mansfield 62.22 314 P **P 02 49 25.5 -1.3**
baz=110
APE Apeiranthos 62.24 50*ce*P **P 02 49 26.8 -0.2**
APE pmax pmax
comp=Z,16nm,1.3s
VTS Vitosha 62.46 43 P **P 02 49 28.0 -0.5**
VTS Vitosha 62.46 43 P **P 02 49 28.0 -0.5**
VTS pmax pmax
comp=Z,7.0nm,1.2s
PSZ Piszkesteto 62.54 37 ⇑P **P 02 49 29.4 +0.5**
PSZ Piszkesteto 62.54 37 P **P 02 49 28.9 0.0**
PSZ Piszkesteto 62.54 37 P **P 02 49 28.5 -0.4**
PSZ Piszkesteto 62.54 37 ⇑P **P 02 49 29.4 +0.5**
BZS Buzias 62.59 40 ⇓P **P 02 49 28.9 -0.3**
BZS Buzias 62.59 40 ⇓P **P 02 49 28.9 -0.3**
LSZ Lusaka 62.64 109 LR LR 03 11 13.3
comp=Z,91nm,19.4s,baz=284,slow=31
CMIG Matias Romero 62.85 287 LR LR 03 16 29.8
comp=Z,81nm,21.4s,baz=89,slow=36
LBTB Lobatse 62.89 120 LR LR 03 11 20.9
comp=Z,324nm,21.3s,baz=284,slow=31
SIRR Siria 62.89 39 ⇑P **P 02 49 30.8 -0.4**
HDIL Hopedale 62.95 314 P **P 02 49 31.2 -0.4**
HDIL Hopedale 62.95 314 P **P 02 49 31.0 -0.7**
baz=110
LCAR Lake Charles 62.96 309 IAmb IAmb 02 49 35.6
comp=Z,11nm,1.0s
LCAR Lake Charles 62.96 309 P **P 02 49 30.3 -1.5**
baz=106
SURR Surduc 62.97 40 ⇑P **P 02 49 32.1 +0.4**
MBAR Mbarara 63.00 93 P **P 02 49 34.2 +1.5**
comp=Z,3.2nm,0.2s,baz=224,slow=5.1,SNR=2.1
MBAR LR LR 03 12 30.0
comp=Z,149nm,21.8s,baz=264,slow=32
comp=Z,3.2nm,0.2s
GZR Gura Zlata 63.24 40 ⇑P **P 02 49 33.1 -0.5**
GZR Gura Zlata 63.24 40 ⇑P **P 02 49 33.1 -0.5**
RDO Rodhopi 63.54 45 IAmb IAmb 02 49 38.0
comp=Z,15nm,1.2s
UALR University of 63.55 307 IAmb IAmb 02 49 40.3
comp=Z,18nm,1.0s
OJC Ojcow 63.57 34 P **P 02 49 33.9 -1.7**
OJC IAmb IAmb 02 49 34.2
comp=Z,21nm,1.2s
OJC Ojcow 63.57 34 P **P 02 49 33.9 -1.7**
OJC pmax pmax
comp=Z,21nm,1.2s
CCM Cathedral Cave 63.60 311 P **P 02 49 35.4 -0.6**
CCM IAmb IAmb 02 49 45.0
comp=Z,13nm,0.8s
CCM Cathedral Cave 63.60 311 P **P 02 49 34.7 -1.4**
baz=107
CCM Cathedral Cave 63.60 311 P **P 02 49 35.1 -0.9**
baz=107
CCM Cathedral Cave 63.60 311 P **P 02 49 35.4 -0.6**
CCM pmax pmax
comp=Z,13nm,0.8s
WHAR Wooly Hollow 63.64 308 IAmb IAmb 02 50 01.5
comp=Z,20nm,1.4s
DRGR 63.77 39 ⇑P **P 02 49 37.2 +0.1**
DRGR 63.77 39 ⇑P **P 02 49 37.2 +0.1**
BOSA Boshof 63.80 124 P **P 02 49 38.8 +1.2**
comp=Z,3.0nm,0.9s,baz=305,slow=7.0,SNR=3.7
BOSA LR LR 03 11 58.0
comp=Z,448nm,21.3s,baz=290,slow=31
comp=Z,3.0nm,0.9s
I42A Draeger Farm, 63.87 318 P **P 02 49 37.1 -0.6**
baz=112
CRVS Cervenica-Dubn 63.92 36 *e*P **P 02 49 37.9 -0.1**
CRVS Cervenica-Dubn 63.92 36 *e*P **P 02 49 37.9 -0.1**
CRVS pmax pmax
comp=Z,25nm,1.5s
STHS Stebnicka Huta 64.03 36 *e*P **P 02 49 39.7 +1.1**
STHS Stebnicka Huta 64.03 36 *e*P **P 02 49 39.7 +1.1**
MGMO Mountain Grove 64.12 310 IAmb IAmb 02 49 50.5
comp=Z,13nm,0.8s
TRPA Tarpa 64.23 37 ⇑P **P 02 49 39.5 -0.4**
TRPA Tarpa 64.23 37 P **P 02 49 39.7 -0.2**
CJR Cluj-Napoca 64.30 39 ⇑P **P 02 49 41.5 +1.0**
CJR Cluj-Napoca 64.30 39 ⇑P **P 02 49 41.5 +1.0**
UZH Uzhgorod 64.30 37 ⇑/P **P 02 49 40.2 -0.2**
UZH *e* 02 49 46.4
KOLS Kolonicke sedl 64.42 36 *e*P **P 02 49 41.7 +0.5**
KOLS Kolonicke sedl 64.42 36 *e*P **P 02 49 41.7 +0.5**
JFWS Jewell Farm 64.43 316 P **P 02 49 42.5 +1.1**
JFWS Jewell Farm 64.43 316 P **P 02 49 42.5 +1.1**
JFWS pmax pmax
comp=Z,18nm,1.0s
ARR Arges 64.43 41 ⇓P **P 02 49 41.6 +0.2**
R40A Maddies Statio 64.44 311 IAmb IAmb 02 49 43.9
comp=Z,11nm,1.1s
R40A Maddies Statio 64.44 311 P **P 02 49 40.1 -1.4**
baz=106
MIAR Mount Ida 64.48 307 IAmb IAmb 02 49 45.7
comp=Z,8.1nm,1.0s
MIAR Mount Ida 64.48 307 P **P 02 49 40.8 -1.2**
baz=104
MIAR Mount Ida 64.48 307 P **P 02 49 40.9 -1.0**
baz=104
P40A Paris 64.63 312 IAmb IAmb 02 49 51.6
comp=Z,14nm,0.8s
P40A Paris 64.63 312 P **P 02 49 41.3 -1.5**
baz=107
VOIR 64.73 41 ⇓P P 02 49 38.4 -5.0
VOIR 64.73 41 ⇓P P 02 49 38.4 -5.0
L40A Anamosa 64.82 315 IAmb IAmb 02 49 53.1
comp=Z,14nm,0.8s
S39A Bolivar 65.08 310 IAmb IAmb 02 49 44.9
comp=Z,11nm,1.2s
DOPR Dopca 65.15 40 ⇑P **P 02 49 46.1 0.0**
MLR Muntele Rosu 65.34 41 ⇑P **P 02 49 46.8 -0.6**
MLR Muntele Rosu 65.34 41 P **P 02 49 48.1 +0.7**
comp=Z,32nm,1.2s,baz=294,slow=2.5,SNR=15
MLR Muntele Rosu 65.34 41 P **P 02 49 47.0 -0.4**
MLR Muntele Rosu 65.34 41 ⇑P **P 02 49 46.8 -0.6**
FRB Frobisher Bay 65.44 343 LR LR 03 13 32.3
comp=Z,97nm,21.7s,baz=174,slow=32
OZUR 65.45 40 ⇑P **P 02 49 47.6 -0.4**
COVR Voineasa-Covas 65.63 41 ⇓P **P 02 49 49.0 -0.2**
BURAR Bucovina Array 65.67 39 P **P 02 49 47.5 -1.9**
NB2 NORSAR Subarra 65.79 21 P **P 02 49 49.2 -0.8**
baz=228,slow=6.5
NB2 NORSAR Subarra 65.79 21 P **P 02 49 49.2 -0.8**
comp=Z,99nm,2.5s,baz=228,slow=6.5
NOA NORSAR Array B 65.79 21 P **P 02 49 49.6 -0.4**
comp=Z,9.1nm,1.2s,baz=230,slow=6.4,SNR=6.0
NOA LR LR 03 16 58.2
comp=Z,258nm,18.4s,baz=240,slow=35
comp=Z,9.1nm,1.2s
LVV L'vov 65.83 36 *e*P **P 02 49 50.3 -0.1**
PLOR Plostina 65.93 41 ⇓P **P 02 49 52.9 +1.8**
PLOR Plostina 65.93 41 ⇓P **P 02 49 52.9 +1.8**
VRI Vrincioaia 65.98 41 ⇑P **P 02 49 50.3 -1.1**
VRI Vrincioaia 65.98 41 ⇑P **P 02 49 50.3 -1.1**
RLO Rose Lookout 66.02 308 IAmb IAmb 02 49 55.5
comp=Z,13nm,0.9s
HFS Hagfors 66.15 23 LR LR 03 16 14.2
comp=Z,128nm,20.4s,baz=240,slow=34
TESR Tescani 66.16 40 ⇑P **P 02 49 50.8 -1.7**
TUL1 Leonard 66.56 308 IAmb IAmb 02 49 59.8
comp=Z,14nm,1.0s
TUL1 Leonard 66.56 308 P **P 02 49 54.2 -1.1**
baz=103
TUL1 Leonard 66.56 308 P **P 02 49 54.4 -0.9**
baz=103
CFR Carcaliu 66.68 42 ⇑P **P 02 49 54.4 -1.5**
CFR Carcaliu 66.68 42 ⇑P **P 02 49 54.4 -1.5**
SPMN Marine on St. 66.94 318 P **P 02 49 56.2 -1.4**
baz=109
SPMN Marine on St. 66.94 318 P **P 02 49 56.4 -1.1**
baz=109
I37A Lemond, Waseca 66.96 317 IAmb IAmb 02 50 06.2
comp=Z,15nm,1.1s
435B Jarrell 67.03 302 IAmb IAmb 02 50 02.5
comp=Z,17nm,1.2s
WHTX Lake Whitney, 67.13 303 IAmb IAmb 02 50 01.5
comp=Z,9.6nm,0.8s
Z35A Perchaven, San 67.21 305 P **P 02 49 58.8 -0.7**
LOOK Love County 67.28 305 IAmb IAmb 02 50 02.8
comp=Z,14nm,0.7s
OK034 N. Norfolk Rd. 67.31 307 IAmb IAmb 02 50 23.0
comp=Z,20nm,1.2s
T35B Sooner Cattle 67.35 308 P **P 02 49 59.4 -1.0**
baz=103
OK045 Pawnee Station 67.58 308 **P 02 50 01.6 -0.2**
SORM Soroca 67.82 39 ⇑P **P 02 50 01.9 -1.1**
SORM Soroca 67.82 39 ⇑P **P 02 50 01.9 -1.1**
833A Chaparral WMA, 68.22 299 P **P 02 50 05.8 -0.1**
baz=98
833A Chaparral WMA, 68.22 299 P **P 02 50 06.0 +0.1**
baz=98
KS20 Mayfield South 68.24 309 P **P 02 50 05.5 -0.4**
BR231 Keskin MP Arra 68.46 49 P **P 02 50 07.4 0.0**
ANTO Ankara 68.48 49 P **P 02 50 07.0 -0.5**
ANTO IAmb IAmb 02 50 09.2
comp=Z,16nm,1.1s
ANTO Ankara 68.48 49 P **P 02 50 07.0 -0.5**
ANTO pmax pmax
comp=Z,16nm,1.1s
B35A Bob, Littlefor 68.57 321 IAmb IAmb 02 50 23.7
comp=Z,15nm,1.3s
B35A Bob, Littlefor 68.57 321 P **P 02 50 05.7 -2.1**
baz=110
WMOK Wichita Mounta 68.72 306 P **P 02 50 07.1 -2.0**
baz=101
WMOK Wichita Mounta 68.72 306 P **P 02 50 07.5 -1.5**
baz=101
SUMG Summit 68.84 358 *i* P **P 02 50 07.9 -1.6**
JCT Junction City 68.87 301 IAmb IAmb 02 50 19.7
comp=Z,14nm,1.0s
JCT Junction City 68.87 301 P **P 02 50 09.9 -0.2**
baz=98
JCT Junction City 68.87 301 P **P 02 50 09.9 -0.2**
baz=98
ABTX Abilene, Hawle 69.06 303 IAmb IAmb 02 50 20.5
comp=Z,7.7nm,0.8s
ABTX Abilene, Hawle 69.06 303 P **P 02 50 10.0 -1.2**
baz=99
ABTX Abilene, Hawle 69.06 303 P **P 02 50 10.2 -1.0**
baz=99
BR131 Keskin Array S 69.08 49*ce*P **P 02 50 11.5 +0.2**
BRTR Keskin Array B 69.08 49 P **P 02 50 11.3 0.0**
comp=Z,7.3nm,1.1s,baz=235,slow=4.4,SNR=20
BRTR PP **PP 02 52 42.2 -1.9**
comp=Z,0.2nm,0.5s,baz=260,slow=8.6,SNR=4.2
comp=Z,7.3nm,1.1s
BRTR Keskin Array B 69.08 49 P **P 02 50 10.2 -1.2**
BRTR Keskin Array B 69.08 49*ce*P **P 02 50 11.3 0.0**
BRTR pmax pmax
comp=Z,8.0nm,1.2s
ECSD EROS Data Cent 69.10 316 IAmb IAmb 02 50 33.6
comp=Z,8.9nm,1.1s
ECSD EROS Data Cent 69.10 316 P **P 02 50 09.7 -1.5**
baz=106
ECSD EROS Data Cent 69.10 316 P **P 02 50 09.8 -1.4**
baz=106
AKASG Malin Array Be 69.25 37 P **P 02 50 11.7 -0.3**
comp=Z,8.9nm,1.1s,baz=249,slow=6.7,SNR=33
AKASG LR LR 03 17 54.3
comp=Z,180nm,21.2s,baz=254,slow=34
comp=Z,8.9nm,1.1s
AKASG Malin Array Be 69.25 37*ce*P **P 02 50 11.6 -0.3**
AKASG pmax pmax
comp=Z,8.0nm,1.0s
AKBB Malin Array Si 69.25 37 P **P 02 50 11.6 -0.3**
AKBB Malin Array Si 69.25 37 ⇓*i*P **P 02 50 11.2 -0.7**
AKBB pmax pmax
comp=Z,27nm,1.5s
R32A Long Quarter, 69.38 310 P **P 02 50 12.4 -0.7**
baz=102
KMBO Kilima Mbogo 69.53 93 P **P 02 50 16.2 +1.5**
comp=Z,0.4nm,0.3s,baz=234,slow=3.7,SNR=6.6
comp=Z,0.4nm,0.3s
BGNE Belgrade 69.62 313 P **P 02 50 14.4 -0.1**
MNK Minsk 69.90 33 *i* P **P 02 50 15.1 -0.8**
comp=E,3.0nm,1.3s
MNK *i* P **P 02 50 15.1 -0.8**
comp=N,27nm,0.8s
MNK *i* P **P 02 50 15.1 -0.8**
comp=Z,6.0nm,1.0s,baz=247
MNK *i* PP **PP 02 52 48.8 -1.7**
MNK *i* PPP PPP 02 54 31.5
MNK *i* S **S 02 59 25.8 +0.9**
MNK *i* SS **SS 03 03 53.1 -0.9**
MNK *i* SSS SSS 03 07 14.7
MNK *i* LQ LQ 03 14 52.1
MNK *i* LR LR 03 20 43.5
MNK *i* LRM MLR 03 23 29.2
comp=Z,110nm,13.4s
MNK *i* LRM MLR 03 23 37.2
comp=E,19nm,12.1s
MNK *i* LRM MLR 03 24 41.1
comp=N,137nm,11.5s
MNK Minsk 69.90 33 *i* P **P 02 50 15.1 -0.8**
MNK *i* 02 52 48.8
MNK *i* PPP PPP 02 54 31.5
MNK *i* S **S 02 59 25.8 +0.9**
MNK *i* SS **SS 03 03 53.0 -0.9**
MNK pmax pmax
comp=N,27nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.3s
MNK pmax pmax
comp=Z,6.0nm,1.0s
MNK MLR MLR
comp=Z,110nm,13.0s
MNK MLR MLR
comp=E,19nm,12.0s
MNK MLR MLR
comp=N,137nm,12.0s
AGMN Agassiz Nation 69.90 320 P **P 02 50 15.8 -0.2**
AGMN IAmb IAmb 02 50 25.1
comp=Z,24nm,1.6s
AGMN Agassiz Nation 69.90 320 P **P 02 50 14.5 -1.5**
baz=108
ASF Jabal al Asfar 70.30 57 P **P 02 50 19.5 +0.6**
comp=Z,11nm,1.2s,baz=237,slow=1.5,SNR=5.3
ASF LR LR 03 21 20.6
comp=Z,250nm,20.7s,baz=286,slow=36
comp=Z,11nm,1.2s
KIBK Kibwezi 70.42 94 P **P 02 50 17.4 -2.6**
ZAIG Zacatecas 70.50 293 P **P 02 50 21.5 +0.9**
ULM Lac du Bonnet 70.51 322 P **P 02 50 17.7 -2.0**
comp=Z,1.8nm,0.6s,baz=120,slow=4.6,SNR=3.0
ULM LR LR 03 16 23.4
comp=Z,120nm,21.3s,baz=108,slow=32
comp=Z,1.8nm,0.6s
MSTX Muleshoe 71.86 304 IAmb IAmb 02 50 54.5
comp=Z,12nm,1.1s
MSTX Muleshoe 71.86 304 P **P 02 50 28.3 -0.1**
baz=98
MSTX Muleshoe 71.86 304 P **P 02 50 28.4 0.0**
baz=98
FINES FINESS Array B 71.96 25 P **P 02 50 28.6 +0.4**
comp=Z,1.1nm,0.6s,baz=341,slow=4.0,SNR=4.0
FINES LR LR 03 19 36.6
comp=Z,149nm,19.6s,baz=242,slow=34
comp=Z,1.1nm,0.6s
TXAR Lajitas Array 72.06 299 P **P 02 50 29.3 -0.3**
comp=Z,1.0nm,0.7s,baz=116,slow=6.2,SNR=7.1
TXAR LR LR 03 23 36.2
comp=Z,19nm,18.9s,baz=75,slow=37
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 72.06 299 P **P 02 50 30.4 +0.8**
TXAR Lajitas Array 72.06 299 P **P 02 50 30.4 +0.8**
PMSA Palmer Station 72.29 194 LR LR 03 21 47.1
comp=Z,54nm,19.2s,baz=32,slow=35
OGNE Ogallala 72.39 312 IAmb IAmb 02 50 40.6
comp=Z,21nm,0.9s
OGNE Ogallala 72.39 312 P **P 02 50 31.1 -0.3**
baz=100
OGNE Ogallala 72.39 312 P **P 02 50 31.4 0.0**
baz=100
KSCO Kaye Shedlock' 72.50 310 IAmb IAmb 02 50 42.3
comp=Z,18nm,0.9s
ANN Anapa 72.93 44 *e*P **P 02 50 31.8 -2.5**
ANN *e*S **S 02 59 58.3 -1.9**
ANN pmax pmax
comp=Z,51nm,1.2s
T25A Trinidad 73.61 308 IAmb IAmb 02 51 07.4
comp=Z,20nm,1.6s
T25A Trinidad 73.61 308 P **P 02 50 38.4 -0.5**
baz=98
MARD Mardin 74.16 52 P **P 02 50 42.0 0.0**
MARD IAmb IAmb 02 50 43.9
comp=Z,27nm,1.5s
Q24A Divide 74.44 309 IAmb IAmb 02 50 60.0
comp=Z,20nm,1.1s
Q24A Divide 74.44 309 P **P 02 50 44.6 +0.8**
baz=98
SDCO Great Sand Dun 74.55 308 P **P 02 50 44.0 -0.4**
baz=97
OBN Obninsk 74.84 34 *i* P **P 02 50 47.6 +2.3**
OBN pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 75.00 305⇑ *e*P **P 02 50 46.9 -0.1**
ANMO pmax pmax
comp=Z,8.0nm,1.7s
GURO Guroymak-BITLI 75.30 51 IAmb IAmb 02 50 51.0
comp=Z,15nm,1.4s
N23A Red Feather La 75.31 311 IAmb IAmb 02 50 58.9
comp=Z,22nm,1.1s
N23A Red Feather La 75.31 311 P **P 02 50 49.4 +0.7**
baz=98
Y22A Socorro 75.31 304 P **P 02 50 49.0 +0.2**
baz=95
DGMT Dagmar 75.32 319 P **P 02 50 48.4 +0.1**
baz=101
DGMT Dagmar 75.32 319 P **P 02 50 48.8 +0.5**
baz=101
FFC Flin Flon 75.36 326 P **P 02 50 49.3 +0.9**
FFC IAmb IAmb 02 50 57.0
comp=Z,14nm,1.0s
FFC Flin Flon 75.36 326 P **P 02 50 49.3 +0.9**
FFC pmax pmax
comp=Z,14nm,1.0s
VSR Storozhevoye 75.42 38 *e*P P 02 50 42.9 -5.9
VSR pmax pmax
comp=Z,10.0nm,1.5s
TULEG Thule 75.47 352 IAmb IAmb 02 50 56.5
comp=Z,18nm,1.1s
VORR Voronezh 75.55 38 *e*P **P 02 50 47.2 -2.3**
VORR pmax pmax
comp=Z,30nm,0.3s
LPSR Galich'ya Gora 75.58 37 *e*P **P 02 50 49.1 -0.6**
LPSR pmax pmax
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 75.59 18 P **P 02 50 49.0 -0.5**
comp=Z,2.2nm,0.7s,baz=274,slow=6.1,SNR=4.3
ARCES LR LR 03 17 16.7
comp=Z,268nm,21.1s,baz=210,slow=30
comp=Z,2.2nm,0.7s
ARCES ARCESS Array B 75.59 18 P **P 02 50 49.0 -0.5**
S22A 4UR Ranch, Cre 75.60 308 P **P 02 50 51.1 +0.6**
baz=96
SMCO Snowmass 75.87 309 IAmb IAmb 02 51 21.6
comp=Z,16nm,1.3s
121A Cookes Peak, D 75.88 302 P **P 02 50 53.0 +1.0**
baz=94
VNA1 Neumayer--Stat 75.96 172 P **P 02 50 52.4 +1.0**
VNA3 Neumayer Olymp 76.31 173 P **P 02 50 54.5 +1.0**
VNA2 Neumayer--Watz 76.33 172 P **P 02 50 54.3 +0.7**
baz=338,slow=4.0
LAO LASA Array 76.36 317 IAmb IAmb 02 51 18.7
comp=Z,22nm,1.2s
LAO LASA Array 76.36 317 P **P 02 50 54.7 +0.3**
baz=99
LAO LASA Array 76.36 317 P **P 02 50 54.8 +0.4**
baz=99
NEY Neytrino 76.42 47⇓ *e*P **P 02 50 54.5 -0.4**
NEY pmax pmax
comp=Z,3.0nm,1.4s
KIV Kislovodsk 76.49 46 P **P 02 50 55.6 +0.4**
KIV Kislovodsk 76.49 46 *e*P **P 02 50 55.0 -0.2**
KIV *e*S **S 03 00 41.5 +1.1**
KIV *e*SS **SS 03 05 32.9 -2.4**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,78nm,18.0s
KVAR Kislovodsk Arr 76.50 46 LR LR 03 26 04.7
comp=Z,93nm,20.7s,baz=28,slow=37
ONI Oni 76.87 47 IAmb IAmb 02 50 58.9
comp=Z,15nm,1.3s
O20A White River Ci 76.95 310 IAmb IAmb 02 51 08.9
comp=Z,14nm,0.9s
O20A White River Ci 76.95 310 P **P 02 50 58.5 +0.5**
baz=96
DUN6 Lazy B Ranch 76.98 302 IAmb IAmb 02 51 18.9
comp=Z,56nm,1.6s
VRH Novokhopyorsk 76.99 38 *e*P **P 02 50 57.5 -0.2**
VRH pmax pmax
comp=Z,10.0nm,1.5s
RAYN Ar Rayn 77.19 67 P **P 02 50 59.8 +0.3**
RAYN Ar Rayn 77.19 67 P **P 02 50 59.8 +0.3**
RAYN pmax pmax
comp=Z,13nm,1.5s
ZEI Tsey 77.22 47 *e*P **P 02 50 59.5 0.0**
ZEI pmax pmax
comp=Z,13nm,1.6s
GNI Garni 77.57 50⇓ *e*P **P 02 51 00.3 -1.1**
GNI pmax pmax
comp=Z,16nm,1.7s
LPIG La Paz 77.67 294 LR LR 03 23 55.7
comp=Z,27nm,20.2s,baz=76,slow=35
SNAA Sanae 77.67 171 LR LR 03 20 35.8
comp=Z,97nm,18.1s,baz=3.5,slow=32
RDMU Red Mountain 78.01 311 IAmb IAmb 02 51 19.1
comp=Z,16nm,1.4s
PDAR Pinedale Array 78.21 313 P **P 02 51 04.9 -0.1**
comp=Z,1.3nm,0.7s,baz=85,slow=7.1,SNR=12
PDAR LR LR 03 24 49.6
comp=Z,46nm,18.5s,baz=108,slow=35
comp=Z,1.3nm,0.7s
TUC Tucson 78.39 302 P **P 02 51 06.0 -0.1**
TUC Tucson 78.39 302 P **P 02 51 07.0 +0.9**
baz=93
TUC Tucson 78.39 302 P **P 02 51 06.0 -0.1**
TUC pmax pmax
comp=Z,6.0nm,1.0s
SPITS Spitsbergen Ar 78.46 9 LR LR 03 19 18.0
comp=Z,138nm,19.3s,baz=208,slow=31
SRU San Rafael Swe 78.61 309 IAmb IAmb 02 51 23.3
comp=Z,15nm,1.2s
P17A Butcher Ranch, 78.81 309 IAmb IAmb 02 51 19.1
comp=Z,26nm,1.7s
TROLL Troll, Antarti 78.87 170 P **P 02 51 09.7 +1.8**
EGMT Eagleton 78.92 318 P **P 02 51 11.6 +3.0**
baz=97
WUAZ Wupatki 79.05 305 P **P 02 51 10.9 +1.2**
baz=93
SNOW Snow King Moun 79.15 313 P **P 02 51 11.5 +1.3**
TMUT Trail Mountain 79.16 309 IAmb IAmb 02 51 26.3
comp=Z,21nm,1.7s
FLWY Flagg Ranch 79.17 314 IAmb IAmb 02 51 20.5
comp=Z,14nm,1.0s
RES Resolute Bay 79.38 346 P **P 02 51 11.7 +1.2**
RES Resolute Bay 79.38 346 P **P 02 51 11.7 +1.2**
RES pmax pmax
comp=Z,14nm,1.3s
YMR Madison River 79.41 315 IAmb IAmb 02 51 29.1
comp=Z,27nm,1.5s
HWUT Hardware Ranch 79.59 311 IAmb IAmb 02 51 21.4
comp=Z,12nm,0.8s
U15A North Rim 79.84 306 P **P 02 51 15.1 +0.9**
MAK Makhachkala 79.88 47 *e*P P 02 51 07.8 -6.0
MAK *e*S **S 03 01 08.1 -8.4**
MAK *e*SS **SS 03 06 21.1 -4.9**
MAK pmax pmax
comp=Z,188nm,1.3s
MAK MLR MLR
comp=Z,139nm,17.0s
214A Organ Pipe Nat 80.10 302 P **P 02 51 16.6 +1.3**
baz=92

DUG	**Dugway, Tooele**	**80.45**	**310**	P		**P**	**02 51 18.7**	**+1.5**
	baz=93							
BGU	**Big Grassy Mou**	**80.65**	**311**	IAmb		IAmb	02 51 33.3	
	comp=Z,20nm,1.5s							
CCUT	**Cedar City**	**80.75**	**307**	IAmb		IAmb	02 51 30.6	
	comp=Z,16nm,1.1s							
BELG	**Belogornoye**	**80.79**	**38**	LR		LR	03 26 10.9	
	comp=Z,183nm,19.3s,baz=322,slow=35							
BELG	**Belogornoye**	**80.79**	**38**	*i* P		**P**	**02 51 18.1**	**-0.4**
BELG				pmax		pmax		
	comp=Z,3.0nm,1.1s							
PRGR	**Permogore**	**80.90**	**28**	*e*P		**P**	**02 51 17.6**	**-1.3**
PRGR				pmax		pmax		
	comp=Z,17nm,1.5s							
BELA	**Belgrano 2**	**81.55**	**181**	P		**P**	**02 51 23.6**	**+1.6**
BELA				IAmb		IAmb	02 51 32.3	
	comp=Z,21nm,1.3s							
IRM	**Iron Mountain**	**82.11**	**304**	P		**P**	**02 51 26.6**	**+0.6**
	baz=91							
KIRV	**Kirov**	**82.40**	**32**	LR		LR	03 26 37.6	
	comp=Z,285nm,19.2s,baz=268,slow=35							
KIRV	**Kirov**	**82.40**	**32**	*ce*P		**P**	**02 51 25.2**	**-1.7**
TUQ	**Turquoise Moun**	**82.76**	**305**	P		**P**	**02 51 31.2**	**+1.7**
	baz=90							
HEC	**Hector,Ludlow**	**83.09**	**304**	P		**P**	**02 51 32.4**	**+1.2**
	baz=90							
YKA	**Yellowknife Ar**	**83.19**	**332**	P		**P**	**02 51 31.7**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=111,slow=4.8,SNR=4.4							
YKA				LR		LR	03 25 51.2	
	comp=Z,165nm,18.9s,baz=100,slow=34							
	comp=Z,2.6nm,0.8s							
PFO	**Pinyon Flats O**	**83.19**	**303**	LR		LR	03 24 40.0	
	comp=Z,93nm,21.4s,baz=100,slow=33							
QSM	**Queen of Sheba**	**83.53**	**306**	IAmb		IAmb	02 51 50.5	
	comp=Z,12nm,1.1s							
LCH	**Last Change Ra**	**84.16**	**307**	P		**P**	**02 51 37.1**	**+0.4**
LRMC	**Laurel Mtn Rad**	**84.20**	**305**	P		**P**	**02 51 37.8**	**+0.9**
	baz=90							
EDW2	**Edwards Air Fo**	**84.46**	**305**	P		**P**	**02 51 39.5**	**+1.3**
	baz=89							
NVAR	**Mina Array Bea**	**84.67**	**308**	P		**P**	**02 51 40.0**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=108,slow=4.3,SNR=6.8							
	comp=Z,1.1nm,0.7s							
NVAR	**Mina Array Bea**	**84.67**	**308**	P		**P**	**02 51 39.9**	**+0.6**
J08A	**Circle Bar Ran**	**84.76**	**313**	IAmb		IAmb	02 51 51.0	
	comp=Z,9.4nm,1.0s							
RYN	**Ryan**	**84.84**	**308**	IAmb		IAmb	02 51 45.2	
	comp=Z,9.3nm,1.2s							
ISA	**Isabella, Lake**	**84.84**	**305**	P		**P**	**02 51 41.3**	**+1.2**
	baz=89							
WVOR	**Wild Horse Val**	**84.89**	**312**	IAmb		IAmb	02 51 56.1	
	comp=Z,15nm,1.4s							
WAPA	**Wapiti River**	**85.28**	**325**	IAmb		IAmb	02 51 47.6	
	comp=Z,14nm,1.1s							
ARU	**Arti**	**87.29**	**34**	P		**P**	**02 51 52.1**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=279,slow=4.6,SNR=5.3							
ARU				LR		LR	03 28 37.5	
	comp=Z,341nm,20.9s,baz=282,slow=34							
	comp=Z,1.2nm,0.3s							
ARU	**Arti**	**87.29**	**34**	P		**P**	**02 51 52.2**	**+0.6**
ARU				IAmb		IAmb	02 51 53.9	
	comp=Z,20nm,1.6s							
ARU	**Arti**	**87.29**	**34**	*d* P		**P**	**02 51 51.9**	**+0.3**
ARU							02 55 14.0	
ARU				S		**SKSac**	**03 02 19.3**	**+1.0**
ARU				SS		**SS**	**03 08 18.4**	**+3.4**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.1s							
A36M	**Sachs Harbour**	**87.41**	**342**	P		**P**	**02 51 53.3**	**+1.5**
A36M				IAmb		IAmb	02 52 01.7	
	comp=Z,10nm,1.0s							
A36M	**Sachs Harbour**	**87.41**	**342**	P		**P**	**02 51 54.2**	**+2.4**
	baz=86							
YBH	**Yreka Blue Hor**	**87.94**	**312**	LR		LR	03 26 50.5	
	comp=Z,167nm,21.7s,baz=79,slow=33							
ABKAR	**Akbulak array**	**88.55**	**41**	P		**P**	**02 51 56.3**	**-1.5**
WSAR	**Wadi Sarin**	**89.25**	**67**	LR		LR	03 31 56.8	
	comp=Z,182nm,21.3s,baz=298,slow=36							
BBB	**Bella Bella**	**90.71**	**322**	LR		LR	03 28 32.3	
	comp=Z,106nm,21.6s,baz=87,slow=33							
INK	**Inuvik**	**90.72**	**339**	LR		LR	03 30 23.0	
	comp=Z,168nm,19.1s,baz=128,slow=34							
DLBC	**Dease Lake**	**90.94**	**329**	LR		LR	03 30 29.2	
	comp=Z,135nm,19.3s,baz=92,slow=34							
HRA	**Herat**	**91.52**	**56**	P		**P**	**02 52 12.6**	**+0.3**
HRA				IAmb		IAmb	02 52 26.8	
	comp=Z,14nm,1.6s							
QSPA	**South Pole Qui**	**93.81**	**180**	LR		LR	03 27 55.1	
	comp=Z,107nm,21.8s,baz=180,slow=31							
QSPA	**South Pole Qui**	**93.81**	**180**	P		**P**	**02 52 23.7**	**+1.7**
QSPA				IAmb		IAmb	02 52 32.6	
	comp=Z,9.6nm,1.1s							
BRVK	**Borovoye**	**94.46**	**36**	*ce*P		**P**	**02 52 24.3**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.7s							
BVAR	**Borovoye Array**	**94.53**	**36**	LR		LR	03 32 46.1	
	comp=Z,206nm,21.6s,baz=280,slow=34							
BMAR	**Burnt Mountain**	**94.98**	**339**	P		**P**	**02 52 28.3**	**+1.0**
I26K	**Coal Creek Min**	**95.23**	**337**	P		**P**	**02 52 32.2**	**+3.8**
	baz=69							
MAW	**Mawson**	**95.38**	**157**	LR		LR	03 29 17.8	
	comp=Z,140nm,18.3s,baz=272,slow=32							
TOLK	**Toolik Lake Re**	**96.18**	**341**	P		**P**	**02 52 34.5**	**+1.8**
	baz=63							
NRIK	**Noril'sk**	**96.58**	**18**	LR		LR	03 33 48.5	
	comp=Z,218nm,21.0s,baz=318,slow=34							
ILAR	**Eielson Array**	**96.89**	**337**	P		**P**	**02 52 35.4**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=53,slow=4.6,SNR=6.6							
ILAR				LR		LR	03 34 00.4	
	comp=Z,174nm,19.4s,baz=59,slow=34							
	comp=Z,1.8nm,0.9s							
ILAR	**Eielson Array**	**96.89**	**337**	P		**P**	**02 52 36.2**	**+0.2**
ILAR	**Eielson Array**	**96.89**	**337**	P		**P**	**02 52 36.2**	**+0.2**
HARP	**HAARP**	**97.12**	**334**	P		Pdif	02 52 40.2	+3.1
	baz=68							
AAK	**Ala-Archa**	**99.61**	**46**	LR		LR	03 41 32.2	
	comp=Z,102nm,19.8s,baz=310,slow=38							
KURBB	**Kurchatov Arra**	**100.03**	**37**	LR		LR	03 36 42.4	
	comp=Z,188nm,20.8s,baz=326,slow=35							
KURK	**Kurchatov**	**100.06**	**37**	*eP*		**Pdif**	**02 52 50.7**	**+0.2**
KURK				pmax		pmax		
	comp=Z,4.0nm,2.5s							
KSH	**Kashi**	**101.47**	**49**	P		**Pdif**	**02 53 00.0**	**+2.8**
PPT2	**Papeete2**	**117.26**	**252**	*e*SS		SS	03 15 13.5	+1.6
	comp=Z,145nm,28.0s							
PPT2	**Papeete2**	**117.26**	**252**	*e*LR		LR	03 33 25.3	
	comp=Z,176nm,27.2s							
HHC	**Hu-ho-hao-te**	**124.59**	**33**	*eP*		**PKPdf**	**02 58 01.0**	**-4.0**
CD2	**Chengdu**	**125.64**	**47**	PKP		**PKPdf**	**02 58 06.0**	**-1.2**
PZH	**PanZhiHua**	**126.23**	**53**	PKP		**PKPdf**	**02 58 06.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**127.02**	**64**	PKP		**PKiKP**	**02 58 10.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=270,slow=2.7,SNR=1.1							
CN2	**Changchun**	**128.54**	**21**	*eP*		**PKPdf**	**02 58 07.3**	**-5.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
SBUM	**Sibu**	**143.86**	**81**	PKPdf		PKPbc	02 58 39.1	0.0
JAGI	**Jajag, Banyuwa**	**146.18**	**100**	PKPbc		**PKPdf**	**02 58 45.0**	**-0.4**
MSVF	**Nonsavu**	**147.32**	**243**	PKPbc		**PKPdf**	**02 58 47.9**	**+0.6**
MSVF	**Nonsavu**	**147.32**	**243**	PKP2		**PKPdf**	**02 58 47.9**	**+0.6**
STKA	**Stephens Creek**	**151.42**	**169**	PKPbc		**PKiKP**	**02 59 02.0**	**+2.1**
	comp=Z,3.0nm,0.8s,baz=152,slow=0.7,SNR=6.1							
DZM	**Mont Dzumac**	**154.38**	**223**	*e*LR		LR	03 50 38.0	
	comp=Z,264nm,23.4s							
ASAR	**Alice Springs**	**156.06**	**147**	PKP		**PKPdf**	**02 59 01.6**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=330,slow=5.4,SNR=3.4							
WRA	**Warramunga Arr**	**159.21**	**142**	PKP		**PKPdf**	**02 59 05.5**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=239,slow=1.8,SNR=2.4							

JMA 26 03:01:45.4±0.1, 37°2.N±0.3′×141°.5E±0.6, h18km±1km, MV1.3/20, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**286**	P	Pg	03 01 55.0	-0.2
JMST	**Minamisoumatoc**	**0.67**	**318**	*e*P	Pb	03 01 58.2	-0.3
JFFD	**Fukushimafurud**	**0.73**	**259**	*e*P	Pb	03 01 58.9	-0.7
JMM	**Marumori**	**0.82**	**320**	*e*P	Pb	03 02 00.7	-0.5

*IDC **26** 03:32:36.7±1.1, 6°.09S×113°.15E, h587km±13km, mb3.2/14, mbtmp4.2/15, Error ellipse: s-maj=15.9km s-min=9.7km az=60.0*
*NEIC **26** 03:32:36.6±1.9, 6°.2S±0°.1×113°.0E±0°.1, h591km±8km, mb4.3/15, Error ellipse: s-maj=19.5km s-min=9.0km az=221.0*
*DJA **26** 03:32:36.7±0.4, 6°.S±.7°×111°.3E±°, h583km±4km, M4.3/25, mb4.5/6, mB4.9/4, MLv4.3/25, Mw(mB)4.2/4, MwMwp5.2/1, Mwp5.4/1*

ISC 26 03:32:36.1±0.5, 6°20S±0°.07×113°.13E±0°.06, h585km±5km, n89, σ1°03/98, mb4.0/20, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRJI	**Gresik**	**0.96**	**222**	P	**P**	**03 33 46.7**	**+1.0**
GRJI				S	**S**	**03 34 42.5**	**+0.2**
TBJI	**Tambak Boyo**	**1.41**	**244**	P	**P**	**03 33 47.7**	**+0.8**
TBJI				S	**S**	**03 34 45.4**	**+1.0**
BLJI	**Banyuglugur**	**1.60**	**163**	P	**P**	**03 33 48.8**	**+1.3**
ABJI	**Asem Bagus**	**1.93**	**145**	P	**P**	**03 33 50.0**	**+1.3**
ABJI				S	**S**	**03 34 49.5**	**+1.8**
NGJI	**Ngawi**	**2.02**	**235**	P	**P**	**03 33 50.8**	**+1.7**
GMJI	**Gumukmas**	**2.08**	**171**	P	**P**	**03 33 49.1**	**-0.2**
GMJI				S	**S**	**03 34 46.3**	**-2.6**
PWJI	**Pagerwojo**	**2.24**	**216**	P	**P**	**03 33 50.2**	**+0.2**
PWJI				S	**S**	**03 34 48.2**	**-2.0**
JAGI	**Jajag, Banyuwa**	**2.47**	**156**	P	**P**	**03 33 50.6**	**-0.5**
JAGI	**Jajag, Banyuwa**	**2.47**	**156**	P	**P**	**03 33 50.6**	**-0.5**
JAGI				S	**S**	**03 34 49.4**	**-2.9**
JAGI	**Jajag, Banyuwa**	**2.47**	**156**	P	**P**	**03 33 50.8**	**-0.4**
SRBI	**Singaraja**	**2.79**	**132**	P	**P**	**03 33 53.4**	**+0.6**
SRBI				S	**S**	**03 34 55.1**	**-0.1**
SMRI	**Semarang**	**2.80**	**252**	P	**P**	**03 33 53.5**	**+0.6**
SMRI	**Semarang**	**2.80**	**252**	P	**P**	**03 33 53.8**	**+0.9**
SMRI	**Semarang**	**2.80**	**252**	P	**P**	**03 33 53.8**	**+0.9**
UGM	**Wanagama**	**3.10**	**237**	P	**P**	**03 33 54.5**	**-0.1**
UGM	**Wanagama**	**3.10**	**237**	P	**P**	**03 33 54.2**	**-0.4**
UGM				S	**S**	**03 34 56.4**	**-2.1**
UGM	**Wanagama**	**3.10**	**237**	P	**P**	**03 33 55.0**	**+0.4**
BBKI	**Banjar Baru**	**3.21**	**32**	P	**P**	**03 33 56.1**	**+0.8**
DNP	**Denpasar**	**3.21**	**140**	P	**P**	**03 33 55.4**	**+0.2**
YOGI	**Yogyakarta**	**3.24**	**240**	P	**P**	**03 33 55.0**	**-0.4**
IGBI	**Denpasar**	**3.28**	**143**	P	**P**	**03 33 54.9**	**-0.8**
PBKI	**Pangkalan Bun**	**3.77**	**337**	P	**P**	**03 33 59.8**	**+0.9**
TWSI	**Taliwang, Sumb**	**4.50**	**124**	P	**P**	**03 34 03.4**	**-0.7**
CMJI	**Cimerak**	**4.90**	**251**	P	**P**	**03 34 06.2**	**-1.1**
PLAI	**Plampang**	**5.30**	**120**	P	**P**	**03 34 10.1**	**-0.4**
	0.3nm620nm26nm,0.5s						
LEM	**Lembang**	**5.51**	**263**	P	**P**	**03 34 13.3**	**+0.9**
	64nm,0.5s,baz=338,slow=21,SNR=5.3						
LEM				S	**S**	**03 35 32.2**	**+1.1**
	23nm,0.3s,baz=129,slow=20,SNR=3.8						
LEM	**Lembang**	**5.51**	**263**	P	**P**	**03 34 12.2**	**-0.2**
	0.4nm88nm,0.8s						
BBJI	**Bungbulang**	**5.58**	**257**	P	**P**	**03 34 12.3**	**-0.6**
CBJI	**Citeko**	**6.25**	**268**	P	**P**	**03 34 17.0**	**-1.6**
SKJI	**Sukabumi**	**6.58**	**263**	P	**P**	**03 34 20.5**	**-1.1**
	1.1nm100nm,0.5s						
CGJI	**Cibinong**	**7.40**	**266**	P	**P**	**03 34 28.0**	**-1.2**
	0.7nm4µm86nm,0.4s						
PPBI	**Pangkal Pinang**	**8.04**	**300**	P	**P**	**03 34 36.0**	**+0.6**
KSM	**Kuching**	**8.13**	**340**	P	**P**	**03 34 36.3**	**+0.1**
KSM	**Kuching**	**8.13**	**340**	P	**P**	**03 34 37.4**	**+1.2**
SBUM	**Sibu**	**8.64**	**354**	P	**P**	**03 34 42.4**	**+1.2**
MPSI	**Mapaga**	**9.37**	**46**	P	**P**	**03 34 49.5**	**+1.1**
TOLI2	**Tolitoli**	**10.54**	**47**	P	**P**	**03 35 00.9**	**+0.9**
TOLI2	**Tolitoli**	**10.54**	**47**	P	**P**	**03 35 00.7**	**+0.6**
SOEI	**Soe**	**11.58**	**108**	P	**P**	**03 35 11.1**	**+0.4**
GTOI	**Gorontalo**	**11.98**	**56**	P	**P**	**03 35 13.0**	**-1.6**
MYLDM	**Lahad Datu**	**12.51**	**25**	P	**P**	**03 35 21.8**	**+1.7**
KKM	**Kota Kinabalu**	**12.55**	**14**	P	**P**	**03 35 20.8**	**+0.2**
MBWA	**Marble Bar**	**16.19**	**157**	P	**P**	**03 35 56.5**	**+0.6**
PSA00	**Pilbara Seismi**	**16.61**	**158**	P	**P**	**03 36 00.3**	**+0.6**
PSA00				IAmb	IAmb	03 36 01.7	
	comp=Z,11nm,0.8s						
KNRA	**Kununurra**	**17.99**	**123**	P	**P**	**03 36 11.9**	**-0.5**
KNRA				IAmb	IAmb	03 36 15.0	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**24.72**	**126**	P	**P**	**03 37 13.4**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=307,slow=9.3,SNR=33						
WRA				PcP	**PcP**	**03 40 29.4**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=305,slow=2.1,SNR=7.0						
WRA				S	**S**	**03 40 52.3**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=297,slow=15,SNR=3.7						
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**24.72**	**126**	P	**P**	**03 37 12.6**	**-0.1**
WB2	**Warramunga Arr**	**24.73**	**126**	P	**P**	**03 37 13.0**	**+0.2**
WB2				IAmb	IAmb	03 37 29.3	
	comp=Z,8.5nm,1.3s						
AS31	**Alice Springs**	**26.47**	**133**	P	**P**	**03 37 27.5**	**-0.7**
AS31				IAmb	IAmb	03 37 29.6	
	comp=Z,1.5nm,0.5s						
ASAR	**Alice Springs**	**26.47**	**133**	P	**P**	**03 37 29.0**	**+0.9**
	comp=Z,3.0nm,0.5s,baz=314,slow=8.9,SNR=64						
ASAR				PcP	**PcP**	**03 40 33.5**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=311,slow=2.0,SNR=13						
ASAR				S	**S**	**03 41 20.3**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=309,slow=15,SNR=10						
	comp=Z,3.0nm,0.5s						
FORT	**Forrest**	**28.18**	**152**	P	**P**	**03 37 43.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**28.22**	**331**	P	**P**	**03 37 44.0**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=159,slow=7.6,SNR=7.9						
	comp=Z,1.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.22**	**331**	P	**P**	**03 37 43.6**	**+0.3**
COEN	**Coen**	**30.54**	**107**	P	**P**	**03 38 03.5**	**0.0**
COEN				IAmb	IAmb	03 38 04.5	
	comp=Z,5.2nm,0.7s						
PMG	**Port Moresby**	**33.86**	**98**	P	**P**	**03 38 31.6**	**+0.1**
PMG				IAmb	IAmb	03 38 35.6	
	comp=Z,11nm,0.9s						
BBOO	**Buckleboo**	**34.01**	**144**	P	**P**	**03 38 32.6**	**+0.1**
CTA	**Charters Tower**	**34.99**	**116**	P	**P**	**03 38 42.2**	**+1.3**
	comp=Z,2.3nm,0.5s,baz=295,slow=4.8,SNR=5.6						
	comp=Z,2.3nm,0.5s						
STKA	**Stephens Creek**	**36.87**	**137**	P	**P**	**03 38 57.1**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=311,slow=7.9,SNR=8.7						
	comp=Z,2.3nm,0.5s						
STKA	**Stephens Creek**	**36.87**	**137**	P	**P**	**03 38 56.3**	**+0.1**
SHL	**Shillong**	**37.73**	**328**	P	**P**	**03 39 02.6**	**-0.9**
SHL				IAmb	IAmb	03 39 04.1	
	comp=Z,9.8nm,1.1s						
ARMA	**Armidale**	**43.43**	**129**	P	**P**	**03 39 49.7**	**+1.0**
ARMA				IAmb	IAmb	03 40 00.6	
	comp=Z,22nm,1.4s						
KSRS	**Korea Array**	**45.57**	**17**	P	**P**	**03 40 04.9**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=201,slow=9.1,SNR=4.3						
	comp=Z,1.4nm,0.8s						
SONM	**Songino Array**	**54.13**	**354**	P	**P**	**03 41 07.3**	**0.0**
	comp=Z,0.9nm,0.4s,baz=182,slow=8.4,SNR=9.0						
	comp=Z,0.9nm,0.4s						
SONM	**Songino Array**	**54.13**	**354**	P	**P**	**03 41 07.8**	**+0.5**
MKAR	**Makanchi Array**	**59.43**	**336**	P	**P**	**03 41 43.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=144,slow=7.8,SNR=6.3						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.43**	**336**	P	**P**	**03 41 42.7**	**-0.7**
ZALV	**Zalesovo Beam**	**64.48**	**342**	P	**P**	**03 42 14.8**	**-1.1**
MAW	**Mawson**	**69.96**	**198**	P	**P**	**03 42 50.9**	**+1.8**
	comp=Z,1.9nm,0.6s,baz=36,slow=0.6,SNR=6.2						
	comp=Z,1.9nm,0.6s						
PETK	**Petropavlovsk-**	**70.04**	**27**	P	**P**	**03 42 48.9**	**-1.0**
	comp=Z,4.0nm,1.0s,baz=208,slow=2.1,SNR=1.2						
	comp=Z,4.0nm,1.0s						
ABKAR	**Akbulak array**	**71.98**	**327**	P	**P**	**03 43 01.0**	**-0.3**
ABKAR				pP	**pP**	**03 45 00.7**	**-0.4**
VNDA	**Vanda**	**75.68**	**170**	P	**P**	**03 43 22.6**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=314,slow=6.8,SNR=25						
	comp=Z,1.3nm,0.4s						
VNDA	**Vanda**	**75.68**	**170**	P	**P**	**03 43 21.9**	**+0.2**
VNDA				IAmb	IAmb	03 43 24.1	
	comp=Z,1.6nm,0.8s						
TIXI	**Tiksi**	**78.39**	**5**	P	**P**	**03 43 35.0**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=90,slow=22,SNR=7.0						
	comp=Z,1.5nm,0.7s						
BOSA	**Boshof**	**85.21**	**242**	P	**P**	**03 44 12.5**	**+0.3**
	comp=Z,3.5nm,1.1s,baz=189,slow=15,SNR=1.7						
	comp=Z,3.5nm,1.1s						
BRTR	**Keskin Array B**	**85.90**	**311**	P	**P**	**03 44 14.8**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=130,slow=7.3,SNR=6.4						
	comp=Z,0.7nm,0.7s						
LCAR	**Lake Charles**	**142.86**	**33**		**PKPdf**	**03 51 01.1**	**-3.1**
P49A	**Miami Univ. Ec**	**143.12**	**23**		PKPab	03 51 01.8	-0.6
PARMO	**Parma**	**143.16**	**31**		PKPab	03 51 03.3	+0.7
WCI	**Wyandotte Cave**	**143.57**	**26**	PKPdf	PKPab	03 51 03.7	-0.5
P51A	**Williamsport**	**143.79**	**21**	PKPdf	PKPbc	03 51 04.5	-0.5
R49A	**Shelbyville**	**144.00**	**25**	PKPbc	PKPbc	03 51 05.4	-0.3
WVT	**Waverly**	**144.55**	**30**	PKPbc	**PKPdf**	**03 51 07.2**	**+0.1**
T50A	**Nancy**	**145.21**	**26**	PKPbc	**PKPbc**	**03 51 09.7**	**+0.3**
CLTN	**Cedars of Leba**	**145.31**	**28**	PKPbc	**PKPdf**	**03 51 09.0**	**+0.6**
CPUP	**Villa Florida**	**146.36**	**196**	PKPbc	**PKPbc**	**03 51 13.6**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=173,slow=3.8,SNR=11						
AC02	**Maricunga**	**147.09**	**176**	PKPbc	**PKPdf**	**03 51 12.9**	**+0.5**
T59A	**Double "B" Far**	**147.85**	**16**	PKPbc	**PKPdf**	**03 51 13.3**	**+0.6**
BDFB	**Brasilia**	**151.37**	**221**	PKPbc	**PKiKP**	**03 51 26.2**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=132,slow=2.0,SNR=15						
LPAZ	**La Paz**	**157.62**	**177**	PKPab	**PKPab**	**03 52 03.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=195,slow=8.8,SNR=5.2						

*IDC **26** 03:42:30.0±1.7, 37°.28N×141°.77E, h0km, mb3.3/2, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=41.3km s-min=24.6km az=130.0*
*JMA **26** 03:42:32.3±0.2, 37°.3N±0°.4×141°.5E±0°.9, h31km±1km, MV3.3/31, E OFF FUKUSHIMA PREF*

ISC 26 03:42:33.8±1.6, 37°.37N±0°.04×141°.45E±0°.09, h30km±11km, n17, σ1°11/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**270**	*i* P	**Pb**	**03 42 43.0**	**-0.6**
JFK				S	**Sb**	**03 42 50.5**	**+0.1**
JMST	**Minamisoumatoc**	**0.57**	**309**	*i* P	**Pb**	**03 42 44.9**	**-0.5**
JMST				S	**Sb**	**03 42 54.3**	**+1.1**
JMM	**Marumori**	**0.72**	**314**	P	**Pn**	**03 42 47.3**	**-0.6**
JMM				*e*S	**Sn**	**03 42 58.1**	**+0.3**
JFFD	**Fukushimafurud**	**0.76**	**249**	P	**Pn**	**03 42 47.3**	**-1.2**
JFFD				S	**Sn**	**03 42 57.9**	**-1.0**
JHO	**Hitachi**	**1.03**	**223**	P	**Pn**	**03 42 50.5**	**-1.7**
JHO				*e*S	**Sn**	**03 43 04.0**	**-1.6**
JIO	**Ouri**	**1.08**	**356**	P	**Pn**	**03 42 52.0**	**-1.0**
JIO				*e*S	**Sn**	**03 43 06.6**	**-0.3**
JOU	**Okura**	**1.17**	**328**	*i* P	**Pb**	**03 42 55.0**	**-0.5**
JOU				S	**Sb**	**03 43 11.7**	**+1.4**
MJAR	**Matsushiro Arr**	**2.72**	**253**	Pn	**Pn**	**03 43 17.0**	**+1.6**
	0.3nm,0.3s,baz=77,slow=16,SNR=7.7						
MJAR				Sn	**Sb**	**03 43 56.0**	**+1.2**
	0.4nm,0.3s,baz=322,slow=12,SNR=5.6						
	1.6nm,0.4s						
JHJ	**Hachijo jima 2**	**4.46**	**198**	Pn	**Pn**	**03 43 39.7**	**+0.4**
	15nm,0.3s,baz=70,slow=7.0,SNR=2.2						
JHJ				Sn	**Sn**	**03 44 31.6**	**+1.5**
	7.2nm,0.3s,baz=258,slow=22,SNR=1.2						
	116nm,0.8s						
H11N2	**WAKE ISLAND Hy 28.30**	**121**		T	T	04 17 51.9	
	baz=314,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy 28.31**	**121**		T	T	04 17 52.0	
	baz=314,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy 28.32**	**121**		T	T	04 17 54.1	
	baz=314,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy 29.02**	**123**		T	T	04 18 44.6	
	baz=316,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy 29.02**	**123**		T	T	04 18 47.2	
	baz=316,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy 29.04**	**123**		T	T	04 18 45.6	
	baz=316,slow=76,SNR=22						
ILAR	**Eielson Array**	**49.20**	**33**	P	**P**	**03 51 18.9**	**+0.2**
	0.3nm,0.8s,baz=277,slow=7.2,SNR=2.7						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**57.40**	**188**	P	**P**	**03 52 19.8**	**+0.3**
	0.3nm,0.7s,baz=6.3,slow=6.9,SNR=1.5						
	0.3nm,0.7s						

*IDC **26** 03:43:52.8±1.6, 39°.23N×20°.65E, h0km, mb3.8/6, mbtmp3.8/11, ML3.7/5, MS2.9/3, Error ellipse: s-maj=26.2km s-min=17.4km az=33.0*
*TIR **26** 03:43:56.5, 39°.37N×20°.80E, h2km±1km, Md3.9, Ml3.7*
*THE **26** 03:43:57.3, 39°.37N×20°.83E, h9km±1

KEK S Sn 03 44 26.6 +1.5
comp=E,3μm,0.4s
KEK Kerkira 0.85 295 P Pb 03 44 13.0 +0.4
KEK S Sn 03 44 26.4 +1.3
KEK AML AML 03 44 30.6
comp=E,6579μm,0.3s
KEK AML AML 03 44 30.9
comp=N,6145μm,0.4s
PENT Pentalofos 0.87 18 P Pb 03 44 13.3 +0.3
PENT Pentalofos 0.87 18 P Pb 03 44 13.3 +0.3
PENT S Sn 03 44 26.2 +0.3
EVR Evrytania 0.91 119 P Pb 03 44 13.8 +0.2
EVR Evrytania 0.91 119 P Pb 03 44 13.5 -0.1
EVR S Sb 03 44 25.4 +0.1
EVR AML AML 03 44 32.1
comp=N,1749μm,0.7s
EVR AML AML 03 44 33.1
comp=E,1749μm,0.5s
FSK Fiskardo 0.92 191 P Pb 03 44 13.8 0.0
PVO Paravola 0.94 143 P Pn 03 44 14.8 +0.3
PVO Paravola 0.94 143 P Pn 03 44 14.5 -0.1
THL Klokotos Trika 0.96 78 P Pb 03 44 14.5 0.0
THL Klokotos Trika 0.96 78 P Pb 03 44 14.3 -0.3
THL S Sb 03 44 27.0 +0.2
NEST Nestorio 1.07 10 P Pn 03 44 17.0 +0.6
NEST S Sn 03 44 32.2 +1.5
comp=E,3μm,0.8s
NEST Nestorio 1.07 10 P Pn 03 44 16.7 +0.3
NEST AML AML 03 44 39.3
comp=N,5687μm,0.6s
NEST AML AML 03 44 39.8
comp=E,6126μm,0.6s
MAKR Makrakomi, Fth 1.10 108 P Pb 03 44 17.1 +0.3
MAKR AML AML 03 44 38.1
comp=N,7897μm,0.6s
MAKR AML AML 03 44 38.6
comp=E,5550μm,0.7s
KEF4 Livadi, Kephal 1.14 195 P Pb 03 44 18.8 +1.2
KEF4 Livadi, Kephal 1.14 195 P Pb 03 44 18.7 +1.1
ANX Ano Chora 1.17 131 P Pb 03 44 19.1 +1.1
ANX Ano Chora 1.17 131 P Pb 03 44 18.5 +0.4
DMLN Damoulianata-K 1.17 197 P Pb 03 44 19.2 +1.1
VLS Valsamata 1.20 188 P Pb 03 44 18.8 +0.3
KZN Kozani 1.20 38 P Pb 03 44 18.9 +0.2
KZN S Sn 03 44 36.7 +2.7
comp=E,2μm,0.8s
KEF3 Kipouria, Keph 1.21 197 P Pb 03 44 19.3 +0.6
KEF3 Kipouria, Keph 1.21 197 P Pb 03 44 19.0 +0.2
KBN Korca 1.26 360 P Pb 03 44 19.7 +0.1
KBN Korca 1.26 360 P Pb 03 44 21.4 +1.8
baz=0.0
KBN S Sn 03 44 39.1 +3.8
baz=0.0
KBN AMP
comp=E,5.2nm,0.7s,baz=0.0
EFP Efpalio 1.28 137 P Pb 03 44 20.6 +0.7
SERG Sergoula 1.37 134 P Pb 03 44 22.2 +0.8
RLS Riolos of Patr 1.41 158 P Pb 03 44 22.7 +0.6
KTI Kastanea 1.44 44 P Pb 03 44 23.2 +0.4
FNA Florina 1.48 17 P Pb 03 44 23.9 +0.4
FNA Florina 1.48 17 P Pb 03 44 23.9 +0.4
baz=17
FNA S Sb 03 44 46.2 +4.3
baz=17
FNA Florina 1.48 17 P Pb 03 44 23.9 +0.4
VLO Vlora 1.49 318 P Pb 03 44 25.1 +1.6
baz=318
VLO S Sb 03 44 46.3 +4.4
baz=318
VLO AMP
comp=N,11nm,0.7s,baz=318
OHR Ohrid 1.74 0 *i* Pn Pb 03 44 30.1 +2.2
OHR *e*Sn Sb 03 44 54.2 +4.9
SCTE Santa Cesarea 1.93 292 P Pb 03 44 31.1 +0.1
baz=293
GRG Griva 2.01 37 P Pb 03 44 31.4 -1.0
TIR Tirane 2.10 341 ⇓P Pb 03 44 33.3 -0.7
TIR Tirane 2.10 341 P Pb 03 44 33.7 -0.3
baz=341
TIR S Sb 03 45 01.0 +1.4
baz=341
TIR AMP
comp=E,1.4nm,0.8s,baz=341
VAY Valandovo 2.38 34 *i* Pn Pb 03 44 36.6 -2.0
KNT Kendrikon 2.41 41 P Pn 03 44 36.4 +1.6
STIP Stip 2.56 24 *i* Pn Pb 03 44 41.3 -0.4
SKO Skopje 2.65 10 *i* Pn Pb 03 44 41.8 -1.5
ULC Ulcinj 2.85 336 *e*Pn Pn 03 44 43.0 +2.1
ULC *i* Sn Sn 03 45 16.9 +2.3
BCI Bajram Curri 3.05 350 P Pn 03 44 46.9 +3.3
baz=350
DRME Dracevica, Mon 3.07 337 *e*Pn Pn 03 44 45.9 +2.0
DRME Dracevica, Mon 3.07 337 ⇑*i*Pn Pn 03 44 46.1 +2.2
DRME *i* Sn Sn 03 45 22.2 +2.2
BUM Brajici-Budva 3.27 334 *e*Pn Pn 03 44 48.8 +2.2
BUM *i* Sn Sn 03 45 26.8 +1.9
PDG Podgorica 3.28 340 ⇑P Pn 03 44 48.2 +1.5
TTG Podgorica 3.28 340 ⇓*i*Pn Pn 03 44 48.9 +2.2
TTG *i* Sn Sn 03 45 27.0 +2.0
PVY Plav 3.29 349 *e*Pn Pn 03 44 49.0 +2.0
PVY *i* Sn Sn 03 45 27.4 +1.9
MATE Matera 3.39 294 ⇑P Pn 03 44 50.0 +1.7
CEME Cevo 3.48 336 ⇓*i*Pn Pn 03 44 51.7 +2.1
CEME *i* Sn Sn 03 45 31.9 +1.7
HCY Herceg Novi 3.54 331 *e*Pn Pn 03 44 50.4 +0.1
HCY Herceg Novi 3.54 331 *e*Pn Pn 03 44 52.5 +2.2
HCY *i* Sn Sn 03 45 33.3 +1.8
IVA Berane 3.57 349 ⇓*i*Pn Pn 03 44 53.0 +2.2
IVA *i* Sn Sn 03 45 34.1 +1.7
KOME Kolasin 3.61 345 ⇑*i*Pn Pn 03 44 53.5 +2.1
KOME *i* Sn Sn 03 45 36.2 +1.7
NKME Niksic 3.67 338 *e*Pn Pn 03 44 54.4 +2.2
NKME *i* Sn Sn 03 45 36.6 +1.7
VTS Vitosha 3.74 29 ⇑P Pn 03 44 55.7 +2.5
TREB Trebinje 3.83 332 *e*Pn Pn 03 44 54.3 +0.1
BRY Bratogost 3.92 335 *e*Pn Pn 03 44 56.8 +1.1
BRY Bratogost 3.92 335 *e*Pn Pn 03 44 57.8 +2.1
BRY *i* Sn Sn 03 45 42.5 +1.3
UPM Unac-Piva 4.09 340 *e*Pn Pn 03 45 00.6 +2.6
UPM Unac-Piva 4.09 340 ⇑*i*Pn Pn 03 45 00.2 +2.2
UPM *i* Sn Sn 03 45 46.6 +1.2
PLE Pljevlja 4.10 345 ⇑*i*Pn Pn 03 45 00.3 +2.2
PLE *i* Sn Sn 03 45 46.7 +1.2
STON Ston 4.21 327 *e*Pn Pn 03 44 58.7 -0.8
APE Apeiranthos 4.38 120 ⇑P Pn 03 45 04.2 +2.3
RUDO Rudo 4.38 346 *e*Pn Pn 03 45 01.0 -0.9
BBLS Lazići 4.62 347 *e*Pn Pn 03 45 06.1 +0.9
DIVS Divibare 4.77 353 *e*Pn Pn 03 45 08.5 +1.2
HAPS Han Pijesak,BI 4.92 344 *e*Pn Pn 03 45 09.0 -0.3
IDI Anoyia 5.21 140 Pn Pn 03 45 13.0 -0.4
comp=E,0.5nm,0.3s,baz=346,slow=5.9,SNR=12
IDI Sn Sn 03 46 12.0 -1.0
comp=E,0.6nm,0.3s,baz=305,slow=23,SNR=2.1
comp=E,1.4nm,0.4s
VAE Valguarnera 5.36 251 Sn Sn 03 46 15.2 -1.2
comp=E,0.8nm,0.3s,baz=336,slow=19,SNR=1.5
SRKY Kupres RS 5.43 331 *e*Pn Pn 03 45 17.5 +1.2
HERR Herculane 5.64 12 ⇑P Pn 03 45 21.5 +2.3
MGRS Mrkonjic Grad 5.76 332 *e*Pn Pn 03 45 22.5 +1.7
FRGS Fruska Gora 5.83 353 *e*Pn Pn 03 45 23.1 +1.3
BLY Banja Luka 6.01 335 *e*Pn Pn 03 45 24.8 +0.5
A050A Klekovaca 6.02 329 *e*Pn Pn 03 45 26.2 +1.7
GZR Gura Zlata 6.20 13 ⇑P Pn 03 45 29.4 +2.5
BZS Buzias 6.28 5 ⇑P Pn 03 45 30.3 +2.4
A051A Mrakovica 6.34 334 *e*Pn Pn 03 45 29.1 +0.3
SURR Surduc 6.46 8 ⇑P Pn 03 45 33.4 +3.1
LOT Lotru 6.46 19 ⇑P Pn 03 45 33.1 +2.5
ARR Arges 6.64 24 ⇑P Pn 03 45 35.4 +2.6
VOIR 6.83 26 ⇑P Pn 03 45 39.5 +3.9
SIRR Siria 6.93 5 ⇑P Pn 03 45 39.0 +2.1
MORH Mrgy, Hungar 7.03 348 P Pn 03 45 38.7 +0.6
MLR Muntele Rosu 7.21 30 ⇑P Pn 03 45 44.5 +3.7
MLR Muntele Rosu 7.21 30 Pn Pn 03 45 44.0 +3.2
comp=E,0.6nm,0.3s,baz=233,slow=5.0,SNR=10
comp=E,18nm,1.0s
NEHR Nehoiu 7.30 32 ⇑P Pn 03 45 45.6 +3.7
DOPR Dopca 7.41 26 ⇑P Pn 03 45 46.5 +3.0
CRES Cresnjev 7.56 330 *e*Pn Pn 03 45 45.3 -0.2
COVR Voineasa-Covas 7.60 30 ⇑P Pn 03 45 49.1 +3.0
PLOR Plostina 7.79 32 ⇑P Pn 03 45 52.8 +4.2
VRI Vrincioaia 7.83 32 ⇑P Pn 03 45 53.6 +4.4
CEY Cerknica 7.91 326 *e*Pn Pn 03 45 50.9 +0.5

MPLH Magyarpolny 8.15 344 P Pn 03 45 55.8 +2.1
MPLH S Sn 03 47 22.9 -2.2
SOKA Soboth 8.44 332 *e*Pn Pn 03 45 58.3 +0.6
comp=E,2.1nm,0.5s
SOKA *e*Sn Sn 03 47 29.6 -2.7
comp=E,6.5nm,0.8s
OBKA Obir 8.48 329 *e*Pn Pn 03 45 58.2 0.0
OBKA Obir 8.48 329 *e*Pn Pn 03 45 59.7 +1.5
comp=E,0.4nm,0.2s
OBKA *e*Sn Sn 03 47 32.4 -0.9
comp=E,6.8nm,0.3s
PSZ Piszkesteto 8.57 356 ⇓P Pn 03 46 01.4 +1.9
PSZ Piszkesteto 8.57 356 P Pn 03 46 00.7 +1.2
ARSA Arzberg 8.77 336 *e*Pn Pn 03 46 02.8 +0.8
comp=E,1.9nm,0.5s
MYKA Terra Mystica 8.95 327 *e*Pn Pn 03 46 07.8 +3.2
comp=E,0.9nm,0.2s
MYKA *e*Sn Sn 03 47 38.4 -6.5
comp=E,3.5nm,0.4s
VYHS Vyhne 9.23 352 *e*PN Pn 03 46 10.1 +1.6
VYHS *e*SN Sn 03 47 49.6 -2.1
CONA Conrad Observa 9.27 339 *e*Pn Pn 03 46 12.4 +3.3
comp=E,1.2nm,0.5s
KBA Koelnbreinsper 9.43 327 *e*Pn Pn 03 46 12.8 +1.5
comp=E,2.0nm,0.7s
KBA *e*Sn Sn 03 47 52.2 -4.5
comp=E,1.8nm,0.3s
ABTA Abfaltersbach 9.54 323 *e*Pn Pn 03 46 15.5 +2.7
comp=E,1.2nm,0.3s
ABTA *e*Sn Sn 03 47 54.8 -4.7
comp=E,14nm,0.6s
MOA Molln 9.71 333 *e*Pn Pn 03 46 17.5 +2.5
comp=E,0.6nm,0.3s
MOA *e*Sn Sn 03 48 00.1 -3.3
BIOA Bad Ischl, Aus 9.81 330 *e*Pn Pn 03 46 18.6 +2.3
comp=E,1.0nm,0.4s
BIOA *e*Sn Sn 03 48 02.9 -2.9
comp=E,4.3nm,0.4s
BRTR Keskin Array B 9.93 84 Pn Pn 03 46 23.3 +5.1
baz=280,slow=13,SNR=1.8
WTTA Wattenberg 10.33 323 *e*Pn Pn 03 46 25.5 +1.9
comp=E,0.7nm,0.2s
WTTA *e*Sn Sn 03 48 13.1 -5.8
comp=E,6.7nm,0.5s
VRAC Vranov 10.38 345 LR LR 03 50 50.5
comp=E,44nm,20.4s,baz=168,slow=40
WATA Walderalm 10.41 323 *e*Pn Pn 03 46 27.7 +3.0
comp=E,2.8nm,0.5s
WATA *e*Sn Sn 03 48 17.9 -2.9
comp=E,4.4nm,0.4s
SQTA Sankt Quirin 10.50 321 *e*Pn Pn 03 46 27.8 +1.8
comp=E,0.1nm,0.1s
SQTA *e*Sn Sn 03 48 18.6 -4.5
comp=E,9.4nm,0.5s
FETA Feichten 10.60 319 *e*Pn Pn 03 46 30.1 +2.8
comp=E,0.6nm,0.4s
FETA *e*Sn Sn 03 48 24.2 -1.3
comp=E,3.3nm,0.5s
MOTA Moosalm 10.64 322 *e*Pn Pn 03 46 30.3 +2.4
comp=E,5.4nm,0.7s
MOTA *e*Sn Sn 03 48 22.6 -3.8
comp=E,8.9nm,0.7s
GERES GERESS Array B 10.76 334 Pn Pn 03 46 30.7 +1.3
comp=E,0.2nm,0.3s,baz=158,slow=15,SNR=7.2
GERES Sn Sn 03 48 25.3 -3.8
comp=E,0.5nm,0.3s,baz=155,slow=24,SNR=7.5
comp=E,0.6nm,0.5s
DAVOX Davos/Dischmat 10.89 316 Pn Pn 03 46 32.1 +0.8
comp=E,0.3nm,0.3s,baz=161,slow=14,SNR=2.4
DAVOX Sn Sn 03 48 26.4 -6.0
comp=E,0.1nm,0.3s,baz=138,slow=18,SNR=1.8
comp=E,3.5nm,1.1s
RETA Reutte 10.91 321 *e*Sn Sn 03 48 28.8 -4.0
comp=E,1.1nm,0.3s
KHC Kasperske Hory 11.04 334 *e*PN Pn 03 46 35.7 +2.4
KHC *e*SN Sn 03 48 31.8 -4.3
AKASG Malin Array Be 12.79 25 LR LR 03 52 58.3
comp=E,85nm,18.1s,baz=176,slow=42
NACGM Naroch 16.06 13 *e*P Pn 03 47 37.1 -3.8
comp=Z,12nm,0.7s,baz=197
ESDC Sonseca Array 19.09 279 P P 03 48 16.0 -1.9
comp=Z,0.1nm,0.3s,baz=291,slow=15,SNR=2.0
comp=Z,1.1nm,0.9s
HFS Hagfors 21.27 350 P P 03 48 41.0 -0.2
comp=Z,2.8nm,0.6s,baz=164,slow=16,SNR=3.0
comp=Z,2.8nm,0.6s
FINES FINESS Array B 22.34 7 P P 03 48 53.4 +0.6
comp=Z,2.7nm,0.9s,baz=161,slow=12,SNR=5.2
comp=Z,2.7nm,0.9s
NB2 NORSAR Subarra 22.50 348 P P 03 48 54.6 +0.1
comp=Z,9.8nm,1.2s,baz=160,slow=11
NOA NORSAR Array B 22.50 348 P P 03 48 54.7 +0.2
comp=Z,2.2nm,0.8s,baz=164,slow=11,SNR=5.7
NOA LR LR 03 58 23.9
comp=Z,19nm,18.1s,baz=0.0,slow=38
comp=Z,2.2nm,0.8s
EKA Eskdalemuir Ar 22.60 323 P P 03 48 55.5 -0.1
comp=Z,1.1nm,0.6s,baz=118,slow=10,SNR=7.1
comp=Z,1.1nm,0.6s
ARCES ARCESS Array B 30.34 3 P P 03 50 05.2 -1.1
comp=Z,5.0nm,1.1s,baz=184,slow=11,SNR=3.7
comp=Z,5.0nm,1.1s
ZALV Zalesovo Beam 44.74 49 P P 03 52 07.4 -0.8
comp=Z,1.1nm,0.6s,baz=274,slow=11,SNR=2.4
comp=Z,1.1nm,0.6s

ROM 26 03:44:03.1±0.8, 42.72N±0.03×13.27E±0.05, h48km±6km, ML2.1/20, 13C-7D, Error ellipse: s-maj=3.6km s-min=2.7km az=302.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.10**	**151**	⇓P	Pn	03 44 10.3	-0.6
SMA1				AML	AML		
	comp=N,707μm,0.2s						
SMA1				AML	AML		
	comp=E,624μm,0.4s						
T1218	**Civita (PG)**	**0.12**	**247**	⇑P	Pn	03 44 10.6	-0.3
T1218				AML	AML		
	comp=E,1285μm,0.3s						
T1218				AML	AML		
	comp=N,1210μm,0.8s						
T1218				AML	AML		
	comp=E,1360μm,0.3s						
T1218				AML	AML		
	comp=N,1175μm,0.3s						
T1218				AML	AML		
	comp=N,1205μm,0.8s						
T1243	**Rocca Santa Ma**	**0.13**	**99**	⇑P	Pn	03 44 10.9	-0.1
T1245	**Castelsantange**	**0.15**	**337**	⇓P	Pn	03 44 10.4	-0.8
T1245				AML	AML		
	comp=E,368μm,1.5s						
T1245				AML	AML		
	comp=N,607μm,1.6s						
T1245				AML	AML		
	comp=N,467μm,1.2s						
T1245				AML	AML		
	comp=E,367μm,1.5s						
T1245				AML	AML		
	comp=E,352μm,0.2s						
T1245				AML	AML		
	comp=N,608μm,1.6s						
T1245				AML	AML		
	comp=E,352μm,0.2s						
T1245				AML	AML		
	comp=N,607μm,1.6s						
T1245				AML	AML		
	comp=E,368μm,1.5s						
NRCA	**Norcia**	**0.16**	**316**	P	Pn	03 44 10.5	-0.6
NRCA				S	Sn	03 44 16.3	-0.4
NRCA				AML	AML		
	comp=E,1665μm,0.1s						
NRCA				AML	AML		
	comp=N,940μm,1.6s						
NRCA				AML	AML		
	comp=E,1800μm,0.1s						
NRCA				AML	AML		
	comp=E,1670μm,0.1s						
NRCA				AML	AML		
	comp=N,1066μm,0.2s						
NRCA				AML	AML		
	comp=N,939μm,1.6s						
T1241	**Roccafluvione,**	**0.18**	**41**	⇑P	Pn	03 44 11.9	+0.7
T1241				AML	AML		
	comp=E,484μm,0.2s						
T1241				AML	AML		
	comp=N,235μm,0.6s						
T1241				AML	AML		
	comp=E,484μm,0.2s						
T1241				AML	AML		
	comp=N,234μm,0.6s						
MMO1	**Montemonaco**	**0.19**	**13**	⇑P	Pn	03 44 11.9	+0.6
MMO1				S	Sn	03 44 17.5	+0.5
LNSS	**Leonessa**	**0.20**	**236**	⇑P	Pn	03 44 11.9	+0.5
LNSS				S	Sn	03 44 17.7	+0.4
LNSS				AML	AML		
	comp=E,160μm,0.1s						
LNSS				AML	AML		
	comp=N,550μm,1.1s						
MC2	**Monte Cornacci**	**0.20**	**344**	P	Pn	03 44 12.3	+0.8
MC2				S	Sn	03 44 18.5	+1.0
CAMP	**Campotosto**	**0.21**	**150**	⇑P	Pn	03 44 12.0	+0.5
CAMP				AML	AML		
	comp=E,184μm,0.2s						
CAMP				AML	AML		
	comp=N,196μm,0.3s						
RM33	**Pellescritta (**	**0.21**	**191**	⇑P	Pn	03 44 12.0	+0.5
RM33				AML	AML		
	comp=N,278μm,0.1s						
RM33				AML	AML		
	comp=E,492μm,0.7s						
T1216	**Preci, Frazion**	**0.25**	**313**	P	Pn	03 44 11.1	-0.6
T1216				AML	AML		
	comp=N,390μm,0.9s						
T1216				AML	AML		
	comp=E,234μm,0.4s						
T1216				AML	AML		
	comp=N,390μm,0.9s						
T1216				AML	AML		
	comp=E,234μm,0.4s						
TERO	**Teramo**	**0.26**	**111**	P	Pn	03 44 12.9	+1.2
TERO				AML	AML		
	comp=E,290μm,0.1s						
TERO				AML	AML		
	comp=N,300μm,0.4s						
T1247	**Pizzolo (AQ)**	**0.28**	**175**	P	Pn	03 44 13.1	+1.2
T1247				AML	AML		
	comp=N,300μm,1.1s						
T1247				AML	AML		
	comp=E,291μm,1.1s						
T1247				AML	AML		
	comp=N,300μm,1.1s						
T1256	**Bolognola (MC)**	**0.29**	**354**	⇓P	Pn	03 44 15.9	+3.7
T1256				AML	AML		
	comp=E,138μm,0.3s						
T1256				AML	AML		
	comp=N,94μm,1.0s						
T1256				AML	AML		
	comp=E,138μm,0.3s						
T1215	**Vallo di Nera,**	**0.31**	**286**	⇑P	Pn	03 44 13.8	+1.6
T1215				AML	AML		
	comp=E,91μm,0.1s						
T1215				AML	AML		
	comp=N,107μm,1.5s						
T1215				AML	AML		
	comp=E,91μm,0.1s						
T1215				AML	AML		
	comp=N,108μm,1.5s						
T1215				AML	AML		
	comp=N,108μm,1.5s						
FDMO	**Fiordimonte**	**0.35**	**337**	⇑P	Pn	03 44 15.5	+3.0
FDMO				AML	AML		
	comp=N,95μm,1.6s						
FDMO				AML	AML		
	comp=E,72μm,0.2s						
FDMO				AML	AML		
	comp=N,95μm,1.6s						
FDMO				AML	AML		
	comp=N,95μm,1.6s						
GIGS	**Gran Sasso**	**0.35**	**140**	⇓P	Pn	03 44 14.6	+2.0
GIGS				AML	AML		
	comp=E,28μm,1.0s						
GIGS				AML	AML		
	comp=N,36μm,1.4s						
GIGS				AML	AML		
	comp=N,36μm,1.4s						
GUMA	**Gualdo di Mace**	**0.35**	**8**	P	Pn	03 44 17.2	+4.6
GUMA				AML	AML		
	comp=E,834μm,0.3s						
GUMA				AML	AML		
	comp=N,402μm,0.3s						
GUMA				AML	AML		
	comp=E,876μm,1.5s						
GUMA				AML	AML		
	comp=N,498μm,0.3s						
T1211	**Morro Reatino**	**0.36**	**239**	⇓P	Pn	03 44 14.4	+1.7
OFFI	**Offida**	**0.38**	**54**	⇑P	Pn	03 44 16.2	+3.4
CSP1	**Cessapalombo**	**0.38**	**353**	P	Pn	03 44 17.6	+4.6
T1219	**Muccia, Frazio**	**0.39**	**330**	P	Pn	03 44 16.0	+3.0
T1219				AML	AML		
	comp=E,96μm,1.4s						
T1219				AML	AML		
	comp=N,91μm,0.3s						
T1219				AML	AML		
	comp=N,90μm,0.3s						
T1219				AML	AML		
	comp=E,96μm,1.4s						
ARRO	**Arrone**	**0.40**	**250**	⇑P	Pn	03 44 15.1	+2.1
ARRO				AML	AML		
	comp=N,113μm,0.6s						
ARRO				AML	AML		
	comp=E,109μm,1.3s						
ARRO				AML	AML		
	comp=N,113μm,0.6s						
FIAM	**Fiamignano**	**0.46**	**194**	⇓P	Pn	03 44 16.2	+2.3
FAGN	**Fagnano**	**0.51**	**153**	⇑P	Pn	03 44 20.0	+5.6
FAGN				AML	AML		
	comp=E,101μm,0.4s						
FAGN				AML	AML		
	comp=N,100μm,0.5s						
CESX	**Cesi**	**0.52**	**258**	S	Sn	03 44 28.0	+5.4
VCEL	**Villa Celiera**	**0.53**	**127**	⇓P	Pn	03 44 20.2	+5.5
ASSB	**Assisi San Ben**	**0.55**	**306**	P	Pn	03 44 20.5	+5.6
ASSB				AML	AML		
	comp=N,57μm,1.2s						
ASSB				AML	AML		
	comp=E,64μm,0.7s						
T0110	**Collepietro**	**0.62**	**142**	⇑P	Pn	03 44 21.2	+5.5
EL6	**Elcito**	**0.62**	**349**	S	Sn	03 44 32.0	+6.9
ARVD	**Arcevia**	**0.82**	**343**	S	Sn	03 44 39.0	+10

KRNET ***26*** *03:46:31.0±0.1, 39.16N×74.38E, mb3.8*
SOME ***26*** *03:46:30.5, 39.35N×74.38E, h5km*
IDC ***26*** *03:46:30.5±1.2, 39.06N×74.71E, h0km, mb3.8/7, mbtmp3.7/10, ML2.7/3, MS2.9/3, Error ellipse: s-maj=23.2km s-min=22.1km az=101.0*
NNC ***26*** *03:46:35.2±1.3, 39.42N×74.46E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=9.3km s-min=5.8km az=167.0*

ISC 26 03:46:31.3±1.4, 39.37N±0.05×74.41E±0.03, h3km±8km, n76, σ2s24/120, mb3.7/7, 19C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.70**	**313**	⇑*i*P	**Pg**	**03 47 04.6**	**+0.7**
	baz=18						
OHH				⇑*i*S	**Sg**	**03 47 28.7**	**+2.8**
	baz=18						
DRK	**Karamyk**	**2.02**	**274**	⇓*i*P	**Pn**	**03 47 06.8**	**+0.2**
	baz=80						
DRK				⇓*i*S	**Sb**	**03 47 33.6**	**-0.9**
	baz=80						
ARLS	**Aral**	**2.49**	**359**	⇓*i*P	**Pb**	**03 47 16.2**	**-0.6**
	baz=59						
ARLS				⇓*i*S	**Sg**	**03 47 49.5**	**-1.8**
	baz=59						
AML	**Almayashu**	**2.81**	**349**	P	**Pb**	**03 47 22.1**	**-0.3**
	SNR=21						
BTK	**Batken**	**2.85**	**285**	⇑*i*P	**Pn**	**03 47 19.1**	**+1.3**
	baz=89						
BTK				⇑*i*S	**Sn**	**03 47 53.8**	**+1.2**
	baz=89						
UCH	**Uchtor**	**2.86**	**2**	P	**Pb**	**03 47 24.2**	**+1.0**
	SNR=59						
UCH	**Uchtor**	**2.86**	**2**	⇓*i*P	**Pb**	**03 47 21.7**	**-1.5**
	baz=2.0						
UCH				⇓*i*S	**Sb**	**03 47 58.9**	**+0.2**
	baz=2.0						
ARK	**Arkit**	**3.06**	**323**	⇑*i*P	**Pb**	**03 47 23.7**	**-2.7**
	baz=26						
ARK				⇑*i*S	**Sb**	**03 48 02.3**	**-1.9**
	baz=26						
GAR	**Garm**	**3.20**	**265**	⇑*i*P	**Pn**	**03 47 22.5**	**-0.1**

	baz=68								
GAR				⇑*i*S		**Sn**	**03 48 00.6**	**-0.7**	
	baz=68								
AAK	**Ala-Archa**	**3.27**	**1**	P		**Pb**	**03 47 29.9**	**-0.1**	
	SNR=22								
AAK	**Ala-Archa**	**3.27**	**1**	⇑*i*P		**Pb**	**03 47 27.5**	**-2.5**	
	baz=1.0								
AAK				⇑*i*S		**Sb**	**03 48 08.6**	**-1.6**	
	baz=1.0								
TRKS	**Terek-Say**	**3.30**	**312**	⇑*i*P		**Pn**	**03 47 25.6**	**+1.6**	
	baz=14								
TRKS				⇑*i*S		**Sn**	**03 48 05.7**	**+2.0**	
	baz=14								
KBK	**Karagaybulak**	**3.31**	**7**	P		**Pb**	**03 47 28.9**	**-1.9**	
	SNR=14								
KBK	**Karagaybulak**	**3.31**	**7**	⇑*i*P		**Pb**	**03 47 27.7**	**-3.1**	
	baz=7.0								
KBK				⇑*i*S		**Sb**	**03 48 09.2**	**-2.3**	
	baz=7.0								
EKS2	**Erkin-Say**	**3.32**	**352**	P		**Pb**	**03 47 29.7**	**-1.3**	
	SNR=18								
EKS2	**Erkin-Say**	**3.32**	**352**	⇓*i*P		**Pb**	**03 47 28.1**	**-2.9**	
	baz=53								
EKS2				⇓*i*S		**Sb**	**03 48 10.3**	**-1.5**	
	baz=53								
MRKS	**Merke**	**3.49**	**346**	*e*P		**Pg**	**03 47 37.3**	**-0.9**	
	20nm,0.3s								
MRKS				*e*S		**Sg**	**03 48 25.2**	**+1.8**	
	20nm,0.2s								
MRKS	**Merke**	**3.49**	**346**	Pg		**Pb**	**03 47 35.6**	**+1.9**	
	20nm,0.5s								
MRKS				Pg		**Pg**	**03 47 37.3**	**-0.9**	
	20nm,0.5s								
MRKS				Lg		Lg	03 48 22.4		
	25nm,0.6s								
MRKS				Lg		Lg	03 48 25.2		
	25nm,0.6s								
TKM2	**Tokmak 2**	**3.66**	**14**	⇑Pn		**Pb**	**03 47 35.1**	**-1.7**	
	29nm,1.0s								
TKM2				⇓Sn		**Sb**	**03 48 18.1**	**-3.6**	
	25nm,0.7s								
TKM2				⇓Lg		Lg	03 48 30.5		
	38nm,0.8s								
KST	**Kastek**	**3.85**	**17**	*e*P		**Pg**	**03 47 43.0**	**-2.2**	
	25nm,0.2s								
KST				*e*S		**Sg**	**03 48 34.9**	**-0.3**	
	58nm,0.3s								
KST	**Kastek**	**3.85**	**17**	Pg		**Pg**	**03 47 42.7**	**-2.5**	
	25nm,0.4s								
KST				Pg		**Pg**	**03 47 43.0**	**-2.2**	
	25nm,0.3s								
KST				Lg		Lg	03 48 34.7		
	76nm,0.3s								
KST				Lg		Lg	03 48 34.9		
	57nm,0.3s								
USP	**Ospenovka**	**3.90**	**1**	P		**Pg**	**03 47 45.4**	**-0.5**	
	SNR=10								
DGS	**Degeres**	**4.00**	**14**	*e*P		**Pg**	**03 47 46.4**	**-1.7**	
	29nm,0.6s								
DGS				*e*S		**Sg**	**03 48 41.1**	**+1.2**	
	62nm,0.8s								
DGS	**Degeres**	**4.00**	**14**	Pg		**Pg**	**03 47 45.5**	**-2.5**	
	28nm,0.7s								
DGS				Pg		**Pg**	**03 47 46.4**	**-1.7**	
	29nm,0.6s								
DGS				Lg		Lg	03 48 39.6		
	62nm,0.6s								
DGS				Lg		Lg	03 48 41.1		
	62nm,0.8s								
IZV	**Izvestkoviy**	**4.02**	**24**	*e*P		**Pg**	**03 47 47.0**	**-1.4**	
	21nm,0.5s								
IZV				*e*S		**Sg**	**03 48 42.4**	**+1.8**	
	44nm,0.6s								
IZV	**Izvestkoviy**	**4.02**	**24**	Pg		**Pg**	**03 47 46.7**	**-1.7**	
	21nm,0.6s								
IZV				Pg		**Pg**	**03 47 47.0**	**-1.4**	
	21nm,0.5s								
IZV				Lg		Lg	03 48 41.7		
	44nm,0.5s								
IZV				Lg		Lg	03 48 42.4		
	44nm,0.6s								
MTBS	**Maitube**	**4.05**	**21**	*e*P		**Pg**	**03 47 47.7**	**-1.3**	
	27nm,0.5s								
MTBS				*e*S		**Sg**	**03 48 43.3**	**+1.7**	
	27nm,0.3s								
MTBS	**Maitube**	**4.05**	**21**	Pg		**Pg**	**03 47 47.0**	**-2.1**	
	27nm,0.2s								
MTBS				Pg		**Pg**	**03 47 47.7**	**-1.3**	
	27nm,0.5s								
MTBS				Lg		Lg	03 48 42.1		
	28nm,0.5s								
MTBS				Lg		Lg	03 48 43.3		
	28nm,0.5s								
SGDS	**Sogindy**	**4.08**	**2**	*e*P		**Pg**	**03 47 48.3**	**-1.3**	
	16nm,0.4s								
SGDS				*e*S		**Sg**	**03 48 44.5**	**+2.0**	
	20nm,0.2s								
SGDS	**Sogindy**	**4.08**	**2**	Pg		**Pg**	**03 47 48.3**	**-1.3**	
	16nm,0.4s								
SGDS				Pg		**Pg**	**03 47 48.3**	**-1.3**	
	16nm,0.3s								
SGDS				Lg		Lg	03 48 44.5		
	20nm,0.5s								
SGDS				Lg		Lg	03 48 44.5		
	20nm,0.6s								
TNSS	**Tian-Shan**	**4.13**	**27**	*e*P		**Pg**	**03 47 48.9**	**-1.7**	
	36nm,0.2s								
TNSS				*e*S		**Sg**	**03 48 45.1**	**+0.9**	
	26nm,0.8s								
TNSS	**Tian-Shan**	**4.13**	**27**	Pg		**Pg**	**03 47 48.9**	**-1.7**	
	36nm,0.4s								
TNSS				Pg		**Pg**	**03 47 49.0**	**-1.6**	
	36nm,0.5s								
TNSS				Lg		Lg	03 48 45.1		
	26nm,0.8s								
TNSS				Lg		Lg	03 48 45.9		
	26nm,0.5s								
AAA	**Alma-Ata**	**4.28**	**25**	Pg		**Pg**	**03 47 50.9**	**-2.4**	
	44nm,0.2s								
AAA				Lg		Lg	03 48 48.8		
	73nm,0.3s								
MDOK	**Medeo**	**4.28**	**27**	*e*P		**Pg**	**03 47 51.3**	**-2.1**	
	26nm,0.3s								
MDOK				*e*S		**Sg**	**03 48 49.0**	**+0.1**	
	58nm,0.7s								
MDOK	**Medeo**	**4.28**	**27**	⇑Pn		**Pb**	**03 47 44.4**	**-2.9**	
	34nm,0.8s								
MDOK				Pg		**Pg**	**03 47 51.3**	**-2.1**	
	26nm,0.6s								
MDOK				Lg		Lg	03 48 47.9		
	79nm,0.9s								
MDOK				Lg		Lg	03 48 49.0		
	58nm,0.7s								
IUG	**Iuzhnay**	**4.33**	**311**	*e*P		**Pg**	**03 47 52.1**	**-2.1**	
	62nm,0.1s								
IUG				*e*S		**Sg**	**03 48 50.8**	**+0.4**	
	80nm,1.0s								
IUG	**Iuzhnay**	**4.33**	**311**	Pg		**Pg**	**03 47 51.0**	**-3.3**	
	62nm,0.4s								
IUG				Pg		**Pg**	**03 47 52.1**	**-2.1**	
	62nm,0.5s								
IUG				Lg		Lg	03 48 48.8		
	80nm,1.0s								
IUG				Lg		Lg	03 48 50.8		
	80nm,1.0s								
KRBS	**Karabastau**	**4.43**	**12**	*e*P		**Pg**	**03 47 54.4**	**-1.7**	
	10nm,0.7s								
KRBS				*e*S		**Sg**	**03 48 54.6**	**+1.1**	
	30nm,0.7s								
KRBS	**Karabastau**	**4.43**	**12**	Pg		**Pg**	**03 47 53.7**	**-2.5**	
	14nm,0.4s								
KRBS				Pg		**Pg**	**03 47 54.4**	**-1.7**	
	10nm,0.7s								
KRBS				Lg		Lg	03 48 53.6		
	30nm,0.5s								
KRBS				Lg		Lg	03 48 54.6		
	30nm,0.7s								
KTBS	**Karatobe**	**4.66**	**21**	*e*P		**Pg**	**03 47 58.4**	**-2.2**	
	22nm,0.6s								
KTBS				*e*S		**Sg**	**03 49 01.4**	**+0.4**	
	44nm,0.4s								
KTBS	**Karatobe**	**4.66**	**21**	Pg		**Pg**	**03 47 58.4**	**-2.2**	
	22nm,0.6s								
KTBS				Pg		**Pg**	**03 47 58.5**	**-2.2**	
	22nm,0.6s								
KTBS				Lg		Lg	03 49 01.5		
	44nm,0.4s								
KTBS				Lg		Lg	03 49 01.7		
	45nm,0.6s								
KUU	**Kurty**	**4.75**	**17**	*e*P		**Pg**	**03 48 00.3**	**-2.0**	
	12nm,0.4s								
KUU				*e*S		**Sg**	**03 49 04.8**	**+1.1**	
	38nm,0.3s								
KUU	**Kurty**	**4.75**	**17**	Pg		**Pg**	**03 48 00.3**	**-2.0**	
	12nm,0.6s								
KUU				Pg		**Pg**	**03 48 00.3**	**-2.0**	
	12nm,0.4s								
KUU				Lg		Lg	03 49 04.8		
	38nm,0.3s								
KUU				Lg		Lg	03 49 04.9		
	38nm,0.3s								
KK31	**Karatay Array**	**4.75**	**323**	⇑Pn		Pb	03 47 50.0	-5.2	
	5.5nm,0.5s,baz=136,slow=13								
KK31				⇑Sn		**Sb**	**03 48 46.9**	**-5.7**	
	6.1nm,0.6s,baz=144,slow=24								
KK31				⇑Lg		Lg	03 49 06.1		
	12nm,0.7s,baz=136,slow=29								
SATY	**Saty**	**4.76**	**38**	*e*P		**Pg**	**03 47 59.0**	**-3.6**	
	22nm,1.0s								
SATY				*e*S		**Sg**	**03 49 02.7**	**-1.6**	
	62nm,0.4s								
SATY	**Saty**	**4.76**	**38**	Pg		**Pg**	**03 47 59.0**	**-3.6**	
	22nm,1.0s								
SATY				Pg		**Pg**	**03 48 00.7**	**-1.9**	
	22nm,0.8s								
SATY				Lg		Lg	03 49 02.7		
	64nm,1.3s								
SATY				Lg		Lg	03 49 05.6		
	63nm,0.8s								
CHKK	**Chushkaly**	**4.88**	**23**	*e*P		**Pg**	**03 48 03.1**	**-1.7**	
	13nm,0.3s								
CHKK				*e*S		**Sg**	**03 49 09.5**	**+1.4**	
	23nm,0.7s								
CHKK	**Chushkaly**	**4.88**	**23**	Pg		**Pg**	**03 48 02.4**	**-2.5**	
	13nm,0.4s								
CHKK				Pg		**Pg**	**03 48 03.1**	**-1.7**	
	13nm,0.4s								
CHKK				Lg		Lg	03 49 08.5		
	32nm,0.6s								
CHKK				Lg		Lg	03 49 09.5		
	23nm,0.7s								
KURS	**Kuram**	**4.99**	**33**	Pg		**Pg**	**03 48 03.5**	**-3.5**	
	22nm,0.5s								
KURS				Lg		Lg	03 49 10.8		
	27nm,0.5s								
UZB	**Uzynbulak**	**5.13**	**41**	*e*P		Pg	03 48 05.8	-3.8	
	13nm,0.7s								
UZB				*e*S		**Sg**	**03 49 14.8**	**-1.4**	
	24nm,0.9s								
UZB	**Uzynbulak**	**5.13**	**41**	Pg		Pg	03 48 05.8	-3.8	
	13nm,0.7s								
UZB				Pg		Pg	03 48 05.9	-3.8	
	13nm,0.6s								
UZB				Lg		Lg	03 49 14.8		
	24nm,0.9s								
UZB				Lg		Lg	03 49 14.9		
	24nm,1.2s								
KPKS	**Kokpek**	**5.21**	**37**	*e*P		**Pg**	**03 48 07.5**	**-3.6**	
	28nm,0.6s								
KPKS				*e*S		**Sg**	**03 49 17.2**	**-1.3**	
	54nm,0.3s								
KPKS	**Kokpek**	**5.21**	**37**	Pg		**Pg**	**03 48 07.3**	**-3.8**	
	28nm,0.7s								
KPKS				Pg		**Pg**	**03 48 07.5**	**-3.6**	
	28nm,0.5s								
KPKS				Lg		Lg	03 49 17.2		
	54nm,0.4s								
KPKS				Lg		Lg	03 49 17.2		
	54nm,0.4s								
SHLS	**Shalkode**	**5.37**	**44**	*e*P		**Pg**	**03 48 15.0**	**+0.8**	
	20nm,0.4s								
SHLS				*e*S		**Sg**	**03 49 30.3**	**+6.5**	
	25nm,0.3s								
SHLS	**Shalkode**	**5.37**	**44**	Pg		**Pg**	**03 48 15.0**	**+0.8**	
	20nm,0.7s								
SHLS				Pg		**Pg**	**03 48 16.5**	**+2.3**	
	22nm,0.3s								
SHLS				Lg		Lg	03 49 30.3		
	30nm,0.8s								
SHLS				Lg		Lg	03 49 33.1		
	18nm,1.0s								
ARXS	**Arharly**	**5.47**	**27**	*e*P		**Pg**	**03 48 14.0**	**-2.2**	
	19nm,0.3s								
ARXS				*e*S		**Sg**	**03 49 28.3**	**+1.2**	
	12nm,0.8s								
ARXS	**Arharly**	**5.47**	**27**	Pg		**Pg**	**03 48 14.0**	**-2.2**	
	19nm,0.6s								
ARXS				Lg		Lg	03 49 28.3		
	12nm,0.8s								
PDGK	**Podgornoye**	**5.50**	**42**	Pg		**Pg**	**03 48 14.2**	**-2.6**	
	6.6nm,0.3s								
PDGK				Lg		Lg	03 49 28.6		
	11nm,0.5s								
PDGK	**Podgornoye**	**5.50**	**42**	⇓Pn		Pb	03 48 00.9	-7.2	
	16nm,0.7s								
PDGK				⇓Sn		**Sn**	**03 49 04.0**	**+5.9**	
	14nm,0.9s								
PDGK				⇓Lg		Lg	03 49 28.4		
	38nm,0.8s								
BTLS	**Baital**	**5.67**	**357**	*e*P		**Pg**	**03 48 18.5**	**-1.6**	
	3.4nm,0.2s								
BTLS				*e*S		**Sg**	**03 49 36.1**	**+2.6**	
	8.3nm,0.4s								
BTLS	**Baital**	**5.67**	**357**	Pg		**Pg**	**03 48 18.4**	**-1.6**	
	3.5nm,0.4s								
BTLS				Pg		**Pg**	**03 48 18.5**	**-1.6**	
	3.4nm,0.4s								
BTLS				Lg		Lg	03 49 36.1		
	8.2nm,0.5s								
BTLS				Lg		Lg	03 49 36.2		
	8.3nm,0.5s								
DJR	**Jarkent**	**6.38**	**37**	*e*P		**Pg**	**03 48 31.0**	**-2.6**	
	5.0nm,0.3s								
DJR				*e*S		**Sg**	**03 49 58.2**	**+1.9**	
	11nm,0.8s								
DJR	**Jarkent**	**6.38**	**37**	Pg		**Pg**	**03 48 31.0**	**-2.6**	
	5.0nm,0.4s								
DJR				Lg		Lg	03 49 58.2		
	10nm,0.5s								
MKAR	**Makanchi Array**	**9.39**	**35**	Pn		**Pn**	**03 48 50.5**	**+2.9**	
	0.1nm,0.3s,baz=218,slow=14,SNR=5.0								
MKAR				Lg		Lg	03 51 30.5		
	0.1nm,0.3s,baz=224,slow=26,SNR=3.2								
	1.9nm,1.1s								
GEYT	**Alibeck**	**12.82**	**269**	LR		LR	03 54 47.7		
	comp=Z,45nm,20.4s,baz=38,slow=38								
BVAR	**Borovoye Array**	**13.94**	**350**	Pn		**Pn**	**03 49 50.7**	**+1.1**	
	baz=164,slow=12,SNR=9.0								
	2.6nm,0.9s								
ZALV	**Zalesovo Beam**	**16.21**	**22**	Pn		**Pn**	**03 50 20.5**	**+0.6**	
	0.3nm,0.3s,baz=228,slow=11,SNR=2.1								
	0.6nm,0.4s								
KBZ	**Khabaz**	**23.90**	**291**	P		**P**	**03 51 48.8**	**+2.7**	
	2.3nm,1.0s,baz=70,slow=23,SNR=2.0								
	2.3nm,1.0s								
BRTR	**Keskin Array B**	**31.25**	**284**	P		**P**	**03 52 53.9**	**+1.6**	
	1.0nm,1.1s,baz=91,slow=8.6,SNR=3.7								
	1.0nm,1.1s								
AKASG	**Malin Array Be**	**33.38**	**305**	LR		LR	04 08 17.7		
	comp=Z,18nm,20.2s,baz=7.0,slow=39								
FINES	**FINESS Array B**	**36.71**	**323**	P		**P**	**03 53 42.9**	**+3.7**	
	5.5nm,1.0s,baz=104,slow=5.9,SNR=4.5								
	5.5nm,1.0s								
IDI	**Anoyia**	**39.19**	**280**	LR		LR	04 12 53.4		
	comp=Z,20nm,18.7s,baz=208,slow=40								
ARCES	**ARCESS Array B**	**39.59**	**335**	P		**P**	**03 54 06.6**	**+3.2**	
	1.9nm,0.8s,baz=108,slow=12,SNR=1.7								
	1.9nm,0.8s								
INK	**Inuvik**	**70.62**	**11**	P		**P**	**03 57 49.2**	**+1.8**	
	0.5nm,0.5s,baz=330,slow=3.1,SNR=5.8								
	0.5nm,0.5s								
WRA	**Warramunga Arr**	**81.31**	**125**	P		**P**	**03 58 45.0**	**-4.1**	
	0.3nm,0.8s,baz=324,slow=5.7,SNR=1.7								
	0.3nm,0.8s								
ASAR	**Alice Springs**	**83.77**	**127**	P		**P**	**03 59 01.5**	**-0.4**	
	0.3nm,0.8s,baz=316,slow=5.2,SNR=2.5								
	0.3nm,0.8s								

MAN 26 04:03:35.5, 10.03N×125.04E, h24km, mb3.8, ML2.6, MS2.1, 1C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.51**	**119**	⇓*e*P		Pn	04 03 46.9	-0.4
SCPH				*e*S		Sn	04 03 55.8	+0.5
TABP	**Talibon, Bohol**	**0.69**	**275**	⇑*e*P		Pn	04 03 49.6	-0.2
TABP				*e*S		Sn	04 03 59.4	-0.5
GHBP	**Garcia Hernand**	**0.81**	**241**	⇓*e*P		Pn	04 03 53.9	+2.5
GHBP				*e*S		Sn	04 04 09.3	+6.6
TBP	**Tagbilaran**	**1.20**	**254**	⇓*i*P		Pb	04 03 59.3	+1.6
TBP				*i* S		Sb	04 04 20.1	+7.3

WEL 26 04:05:16.5±0.7, 41.5°S±4°×17.3°E±°, h93km±5km, M3.2/26, MLv3.2/26, Error ellipse: s-maj=0.0km s-min=0.0km az=136.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MRNZ	**Matariki Terra**	**0.10**	**307**	P		Pn	04 05 30.9	+1.3
MRNZ				S		Sn	04 05 41.6	+2.4
THZ	**Tophouse**	**0.30**	**174**	P		Pn	04 05 31.8	+1.5
THZ				S		Sn	04 05 43.1	+2.5
TKNZ	**Takaka Hill**	**0.43**	**10**	P		Pn	04 05 32.2	+1.2
NNZ	**Nelson**	**0.46**	**58**	P		Pn	04 05 32.4	+1.3
QRZ	**Quartz Range**	**0.68**	**338**	P		Pn	04 05 34.0	+1.0
BSWZ	**Blackbirch Sta**	**0.80**	**109**	P		Pn	04 05 35.4	+1.2
TUWZ	**Tuamarina**	**0.81**	**88**	P		Pn	04 05 35.3	+1.0
DSZ	**Denniston Nort**	**0.84**	**250**	P		Pn	04 05 35.1	+0.4
DUWZ	**D'Urville Isla**	**1.03**	**51**	P		Pn	04 05 38.1	+1.4
CMWZ	**Cape Campbell**	**1.05**	**106**	P		Pn	04 05 37.7	+0.8
KHZ	**Kahutara**	**1.08**	**152**	P		Pn	04 05 38.1	+0.9
TCW	**Tory Channel**	**1.09**	**77**	P		Pn	04 05 38.2	+0.8
LTZ	**Lake Taylor**	**1.39**	**198**	P		Pn	04 05 41.3	+0.3
WEL	**Wellington**	**1.44**	**84**	P		Pn	04 05 41.5	-0.1
GVZ	**Greta Valley S**	**1.51**	**175**	P		Pn	04 05 42.9	+0.4
INZ	**Inchbonnie**	**1.65**	**219**	P		Pn	04 05 44.1	-0.1
KIW	**Kapiti Island**	**1.66**	**70**	P		Pn	04 05 44.2	-0.1
CAW	**Cannon Point**	**1.70**	**79**	P		Pn	04 05 44.3	-0.6
MSWZ	**Moikau Station**	**1.79**	**89**	P		Pn	04 05 45.1	-1.0
PLWZ	**Palliser**	**1.80**	**94**	P		Pn	04 05 45.1	-1.1
OGWZ	**Otaki Gorge**	**1.86**	**71**	P		Pn	04 05 46.4	-0.4
OXZ	**Oxford**	**1.96**	**198**	P		Pn	04 05 47.2	-1.0
NMEZ	**Namu Road**	**2.19**	**21**	P		Pn	04 05 52.3	+1.2
MRZ	**Mangatainoka R**	**2.20**	**70**	P		Pn	04 05 50.4	-1.0
MQZ	**McQueen's Vall**	**2.25**	**184**	P		Pn	04 05 50.5	-1.5
WVZ	**Waitaha Valley**	**2.26**	**224**	P		Pn	04 05 51.4	-0.7
OKCZ	**Okains Bay**	**2.27**	**176**	P		Pn	04 05 51.6	-0.7
MHCZ	**Mount Hutt**	**2.28**	**204**	P		Pn	04 05 51.4	-1.1
LREZ	**Lake Rotokare**	**2.32**	**31**	P		Pn	04 05 54.4	+1.5
NBEZ	**Newall Road No**	**2.32**	**20**	P		Pn	04 05 53.9	+0.9
RACZ	**Rakaia**	**2.33**	**193**	P		Pn	04 05 51.8	-1.3
KHEZ	**Kahui Hut**	**2.33**	**23**	P		Pn	04 05 54.2	+1.0
WAZ	**Wanganui**	**2.35**	**44**	P		Pn	04 05 54.3	+0.9
NEZ	**North Egmont**	**2.38**	**24**	P		Pn	04 05 54.6	+0.8
AKCZ	**Akaroa Harbour**	**2.41**	**179**	P		Pn	04 05 53.4	-0.7
PKE	**Pukeiti**	**2.42**	**21**	P		Pn	04 05 55.2	+0.9
DREZ	**Durham Road**	**2.49**	**25**	P		Pn	04 05 56.1	+0.9
WACZ	**Wakanui South**	**2.59**	**197**	P		Pn	04 05 55.6	-1.0
GCSZ	**Gaunt Creek Bo**	**2.64**	**225**	P		Pn	04 05 56.5	-0.6
BFZ	**Birch Farm**	**2.67**	**74**	P		Pn	04 05 55.7	-1.9
VRZ	**Vera Road**	**2.75**	**32**	P		Pn	04 05 59.3	+0.7
WNVZ	**Wahianoa**	**2.98**	**45**	P		Pn	04 06 04.9	+3.0
FWVZ	**Far West T-bar**	**3.01**	**44**	P		Pn	04 06 02.8	+0.4
MOVZ	**Moawhango**	**3.01**	**48**	P		Pn	04 06 03.9	+1.7
FOZ	**Fox Glacier**	**3.06**	**226**	P		Pn	04 06 01.5	-1.3
TWVZ	**Taurewa**	**3.09**	**40**	P		Pn	04 06 03.9	+0.5
NNVZ	**North Ngauruho**	**3.14**	**43**	P		Pn	04 06 05.5	+1.5
TMVZ	**Te Maari**	**3.19**	**44**	P		Pn	04 06 07.6	+2.9
TMZ	**Timaru**	**3.23**	**204**	P		Pn	04 06 03.3	-1.8
HIZ	**Hauiti**	**3.32**	**28**	P		Pn	04 06 06.1	-0.2
BKZ	**Black Stump Fm**	**3.60**	**52**	P		Pn	04 06 13.2	+3.1
ODZ	**Otahua Downs**	**3.93**	**204**	P		Pn	04 06 12.6	-1.9
JCZ	**Jackson Bay**	**3.98**	**228**	P		Pn	04 06 13.7	-1.6
MKAZ	**Moumakai**	**4.70**	**23**	P		Pn	04 06 24.8	-0.2
MWZ	**Matawai**	**4.75**	**50**	P		Pn	04 06 25.9	+0.1

*KRNET **26** 04:16:30.2±0.1, 39.17N×74.20E, mb3.6*
*SOME **26** 04:16:31.9, 39.32N×74.13E, h10km*
*NNC **26** 04:16:32.5±3.3, 39.24N×74.44E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=28.6km s-min=16.5km az=137.0*

ISC 26 04:16:28.9±1.4, 39.27N±0.06×74.19E±0.03, h10km, n36, σ1s55/63, 13C-20D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OHH	**Osh**	**1.65**	**320**	⇑*e*P		**Pg**	**04 17 02.4**	**+1.8**
	baz=21							
OHH				⇑*e*S		**Sg**	**04 17 25.9**	**+3.9**
	baz=21							
DRK	**Karamyk**	**1.86**	**277**	⇑*e*P		**Pg**	**04 17 05.5**	**+0.9**
	baz=80							
DRK				⇑*e*S		**Sg**	**04 17 31.1**	**+2.4**
	baz=80							
ARLS	**Aral**	**2.59**	**2**	⇓*e*P		**Pb**	**04 17 16.5**	**+1.0**
	baz=2.0							
ARLS				⇓*e*S		**Sg**	**04 17 50.4**	**-1.7**
	baz=2.0							
BTK	**Batken**	**2.72**	**288**	⇓*e*P		**Pb**	**04 17 17.7**	**+0.1**
	baz=90							
BTK				⇓*e*S		**Sb**	**04 17 52.3**	**+1.3**
	baz=90							
AML	**Almayashu**	**2.88**	**353**	P		**Pb**	**04 17 21.8**	**+1.2**
	SNR=23							
UCH	**Uchtor**	**2.96**	**5**	P		**Pb**	**04 17 23.1**	**+1.0**
	SNR=43							
UCH	**Uchtor**	**2.96**	**5**	⇑*e*P		**Pb**	**04 17 22.2**	**+0.1**
	baz=4.0							
UCH				⇑*e*S		**Sb**	**04 17 59.8**	**+1.3**
	baz=4.0							
GAR	**Garm**	**3.02**	**266**	⇓*e*P		**Pb**	**04 17 21.3**	**-1.5**
	baz=68							
GAR				⇓*e*S		**Sb**	**04 17 58.6**	**-1.2**
	baz=68							
ARK	**Arkit**	**3.04**	**327**	⇓*i*P		**Pb**	**04 17 22.8**	**-0.3**
	baz=28							
ARK				⇓*i*S		**Sb**	**04 18 01.1**	**+0.7**
	baz=28							
TRKS	**Terek-Say**	**3.24**	**315**	⇑*e*P		**Pb**	**04 17 24.5**	**-2.1**
	baz=16							
TRKS				⇑*e*S		**Sb**	**04 18 04.4**	**-1.8**
	baz=16							
ULHL	**Ulahol

IUG					*e*S		**Sg**	04 18 44.8	**-1.2**
	71nm,0.7s								
TNSS	**Tian-Shan**	**4.30**	**28**		*e*P		**Pg**	04 17 50.7	**-0.6**
	20nm,0.5s								
TNSS					*e*S		**Sg**	04 18 47.6	**+0.6**
	10nm,0.0s								
MDOK	**Medeo**	**4.45**	**28**		*e*P		**Pg**	04 17 52.7	**-1.3**
	11nm,0.1s								
MDOK					*e*S		**Sg**	04 18 50.8	**-0.9**
	12nm,0.4s								
MDOK	**Medeo**	**4.45**	**28**		Pg		**Pg**	04 17 52.2	**-1.8**
	9.5nm,0.6s								
MDOK				⇓	Lg		Lg	04 18 52.0	
	34nm,1.7s								
KRBS	**Karabastau**	**4.56**	**14**		*e*P		**Pg**	04 17 56.5	**+0.3**
	4.6nm,0.5s								
KRBS					*e*S		**Sg**	04 18 57.3	**+2.0**
	12nm,0.3s								
KK31	**Karatay Array**	**4.73**	**325**	⇓	Pn		Pn	04 17 45.2	+5.0
	1.2nm,0.3s,baz=135,slow=13								
KK31				⇓	Sn		**Sb**	04 18 44.4	**-4.4**
	2.5nm,0.5s,baz=142,slow=13								
KK31				⇓	Lg		Lg	04 19 03.9	
	7.4nm,0.7s,baz=146,slow=26								
KTBS	**Karatobe**	**4.82**	**22**		*e*P		**Pg**	04 18 00.3	**-0.8**
	5.0nm,0.6s								
KTBS					*e*S		**Sg**	04 19 03.8	**+0.2**
	19nm,0.5s								
KUU	**Kurty**	**4.89**	**19**		*e*P		**Pg**	04 18 02.3	**-0.3**
	3.8nm,0.1s								
KUU					*e*S		**Sg**	04 19 07.1	**+1.2**
	27nm,0.2s								
SATY	**Saty**	**4.95**	**39**		*e*P		**Pg**	04 18 03.3	**-0.3**
	9.0nm,0.2s								
SATY					*e*S		**Sg**	04 19 08.8	**+1.2**
	9.7nm,0.6s								
CHKK	**Chushkaly**	**5.04**	**24**		*e*P		**Pg**	04 18 05.1	**-0.2**
	6.0nm,0.4s								
CHKK					*e*S		**Sg**	04 19 12.2	**+1.5**
	11nm,0.4s								
UZB	**Uzynbulak**	**5.32**	**42**		*e*P		**Pg**	04 18 09.2	**-1.5**
	3.6nm,0.2s								
UZB					*e*S		**Sg**	04 19 19.2	**-0.4**
	10nm,0.9s								
ARXS	**Arharly**	**5.64**	**28**		*e*P		**Pg**	04 18 16.6	**-0.3**
	7.5nm,0.2s								
ARXS					*e*S		**Sg**	04 19 32.3	**+2.4**
	8.2nm,0.3s								
PDGK	**Podgornoye**	**5.69**	**43**	⇑	Pg		**Pb**	04 18 12.5	**+4.2**
	6.1nm,0.7s								
PDGK				⇓	Lg		Lg	04 19 26.8	
	14nm,0.8s								

IDC 26 04:16:44.9±1.1, 18°.14N×147°.34E, h0km, mb3.3/5, mbtmp3.3/5, MS2.8/1, Error ellipse: s-maj=53.9km s-min=24.7km az=110.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.94**	**199**	P	P	04 24 20.5	-0.5
	0.2nm,0.4s,baz=18,slow=8.6,SNR=6.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**43.57**	**198**	P	P	04 24 50.6	-0.3
	0.1nm,0.4s,baz=16,slow=6.5,SNR=2.0						
	0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**45.84**	**278**	LR	LR	04 45 57.7	
	comp=Z,10nm,18.2s,baz=180,slow=38						
MKAR	**Makanchi Array**	**59.97**	**314**	P	P	04 26 54.2	+1.1
	0.2nm,0.5s,baz=90,slow=8.6,SNR=1.7						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**63.46**	**26**	P	P	04 27 14.8	-1.5
	0.2nm,0.4s,baz=254,slow=5.8,SNR=7.4						
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**82.25**	**52**	P	P	04 29 10.6	+1.9
	0.2nm,0.5s,baz=263,slow=5.0,SNR=2.4						
	0.2nm,0.5s						

*SOME **26** 04:18:54.3, 39°.27N×73°.87E, h0km*
*KRNET **26** 04:18:54.7±0.1, 39°.19N×74°.00E, mb3.9*
*NNC **26** 04:19:00.2±3.7, 39°.52N×74°.21E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=24.2km s-min=6.3km az=174.0*

ISC 26 04:18:59.6±2.2, 39°.22N±0°.07×73°.69E±0°.04, h9km±17km, n33, σ2s51/62, 13C-18D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.48**	**332**	⇑ *i*P	**Pn**	**04 19 24.9**	**-1.7**
	baz=25						
OHH				⇑ *e*S	**Sb**	**04 19 46.9**	**+0.6**
	baz=25						
DRK	**Karamyk**	**1.49**	**281**	⇓ *e*P	**Pn**	**04 19 26.9**	**0.0**
	baz=80						
DRK				⇓ *e*S	**Sg**	**04 19 50.3**	**+2.8**
	baz=80						
BTK	**Batken**	**2.37**	**292**	⇑ *e*P	**Pn**	**04 19 39.6**	**+0.8**
	baz=90						
BTK				⇑ *e*S	**Sb**	**04 20 12.6**	**+0.6**
	baz=90						
GAR	**Garm**	**2.63**	**266**	⇑ *i*P	**Pn**	**04 19 43.2**	**+0.7**
	baz=67						
GAR				⇑ *i*S	**Sb**	**04 20 19.0**	**-0.6**
	baz=67						
ARLS	**Aral**	**2.68**	**10**	⇓ *e*P	**Pn**	**04 19 40.6**	**-2.6**
	baz=5.0						
ARLS				⇓ *e*S	**Sn**	**04 20 14.1**	**-1.9**
	baz=5.0						
ARK	**Arkit**	**2.89**	**334**	⇑ *e*P	**Pn**	**04 19 45.6**	**-0.5**
	baz=30						
ARK				⇑ *e*S	**Sn**	**04 20 22.8**	**+1.7**
	baz=30						
TRKS	**Terek-Say**	**3.02**	**321**	⇓ *e*P	**Pn**	**04 19 47.1**	**-0.8**
	baz=17						
TRKS				⇓ *i*S	**Sn**	**04 20 25.2**	**+0.9**
	baz=17						
UCH	**Uchtor**	**3.07**	**12**	⇓ *i*P	**Pn**	**04 19 46.1**	**-2.7**
	baz=7.0						
UCH				⇓ *i*S	**Sn**	**04 20 23.7**	**-2.2**
	baz=7.0						
EKS2	**Erkin-Say**	**3.44**	**1**	⇓ *e*P	**Pn**	**04 19 51.6**	**-2.0**
	baz=57						
EKS2				⇓ *e*S	**Sn**	**04 20 33.3**	**-1.3**
	baz=57						
AAK	**Ala-Archa**	**3.47**	**10**	⇑ *i*P	**Pn**	**04 19 51.6**	**-2.4**
	baz=6.0						
AAK				⇑ *e*S	**Sn**	**04 20 33.3**	**-2.1**
	baz=6.0						
MRKS	**Merke**	**3.54**	**354**	*e*P	**Pn**	**04 19 58.4**	**+3.4**
	23nm,0.5s						
MRKS				*e*S	**Sb**	**04 20 44.4**	**-1.3**
	39nm,0.3s						
TKM2	**Tokmak 2**	**3.97**	**21**	⇓	Pg	**Pn**	**04 20 05.0**	**+4.0**
	26nm,0.9s						
TKM2				⇑	Lg	Lg	04 20 53.9	
	18nm,0.7s						
IUG	**Iuzhnay**	**4.04**	**318**	*e*P		**Pb**	**04 20 08.0**	**-3.0**
	25nm,0.3s						
IUG				*e*S		**Sb**	**04 21 00.6**	**+0.6**
	59nm,0.3s						
KST	**Kastek**	**4.19**	**23**	*e*P		**Pb**	**04 20 10.1**	**-3.5**
	13nm,2.1s						
KST				*e*S		**Sb**	**04 21 04.5**	**+0.1**
	24nm,0.5s						
SGDS	**Sogindy**	**4.29**	**9**	*e*P		**Pb**	**04 20 12.2**	**-3.1**
	8.4nm,0.2s						
SGDS				*e*S		**Sb**	**04 21 08.3**	**+1.1**
	16nm,0.4s						
DGS	**Degeres**	**4.32**	**21**	*e*P		**Pb**	**04 20 12.6**	**-3.2**
	16nm,0.6s						
DGS				*e*S		**Sb**	**04 21 08.8**	**+0.8**
	21nm,0.3s						
IZV	**Izvestkoviy**	**4.41**	**29**	*e*P		**Pb**	**04 20 14.1**	**-3.2**
	13nm,0.5s						
IZV				*e*S		**Sb**	**04 21 11.6**	**+0.9**
	24nm,0.3s						
MTBS	**Maitube**	**4.42**	**27**	*e*P		**Pb**	**04 20 14.3**	**-3.3**
	20nm,0.4s						
MTBS				*e*S		**Sb**	**04 21 11.9**	**+0.9**
	13nm,0.3s						
TNSS	**Tian-Shan**	**4.54**	**32**	*e*P		**Pb**	**04 20 16.6**	**-3.2**
	21nm,0.5s						
TNSS				*e*S		**Sb**	**04 21 15.7**	**+1.0**
	11nm,0.3s						
KK31	**Karatay Array**	**4.56**	**329**	⇓	Pn	**Pn**	**04 20 09.6**	**+0.7**
	2.0nm,0.5s,baz=135,slow=14						
KK31				⇓	Sn	**Sn**	**04 21 04.6**	**+2.5**
	5.3nm,0.4s,baz=143,slow=25						
KK31				⇓	Lg	Lg	04 21 23.0	
	17nm,0.7s,baz=138,slow=30						
KKAR	**Karatay Array**	**4.56**	**329**	⇓ *e*P		**Pn**	**04 20 08.8**	**-0.1**
	baz=27						
KKAR				⇓ *e*S		**Sn**	**04 21 02.8**	**+0.7**
	baz=27						
MDOK	**Medeo**	**4.69**	**32**	*e*P		**Pb**	**04 20 19.2**	**-2.9**
	11nm,0.0s						
MDOK				*e*S		**Sb**	**04 21 20.2**	**+1.5**
	31nm,0.9s						
MDOK	**Medeo**	**4.69**	**32**	⇓	Pg	Pn	04 20 15.9	+5.2
	10nm,0.6s							
MDOK				⇓	Lg	Lg	04 21 15.3	
	34nm,1.2s							
KRBS	**Karabastau**	**4.72**	**18**	*e*P		**Pb**	**04 20 19.9**	**-2.6**
	7.2nm,0.6s							
KRBS				*e*S		**Sb**	**04 21 21.6**	**+2.1**
	14nm,0.6s							
KTBS	**Karatobe**	**5.02**	**26**	*e*P		**Pb**	**04 20 25.6**	**-2.1**
	12nm,0.6s							
KTBS				*e*S		**Sb**	**04 21 31.2**	**+3.0**
	26nm,0.2s							
KUU	**Kurty**	**5.08**	**22**	*e*P		**Pb**	**04 20 26.0**	**-2.7**
	4.9nm,0.0s							
KUU				*e*S		**Sb**	**04 21 31.6**	**+1.8**
	30nm,0.2s							
SATY	**Saty**	**5.24**	**41**	*e*P		**Pb**	**04 20 29.5**	**-1.9**
	7.8nm,0.3s							
SATY				*e*S		**Sb**	**04 21 38.1**	**+3.7**
	15nm,0.5s							
CHKK	**Chushkaly**	**5.25**	**27**	*e*P		**Pb**	**04 20 29.5**	**-2.1**
	6.0nm,0.2s							
CHKK				*e*S		**Sb**	**04 21 38.2**	**+3.4**
	18nm,0.1s							
UZB	**Uzynbulak**	**5.62**	**44**	*e*P		**Pb**	**04 20 36.0**	**-2.0**
	3.9nm,0.3s							
UZB				*e*S		**Sb**	**04 21 49.4**	**+3.8**
	12nm,0.1s							
KPKS	**Kokpek**	**5.67**	**40**	*e*P		**Pb**	**04 20 37.0**	**-1.8**
	12nm,0.5s							
KPKS				*e*S		**Sb**	**04 21 50.8**	**+3.8**
	26nm,0.5s							
BTLS	**Baital**	**5.83**	**3**	*e*P		**Pb**	**04 20 41.1**	**-0.3**
	3.3nm,0.2s							
BTLS				*e*S		**Sb**	**04 21 57.9**	**+6.6**
	6.6nm,0.1s							
ARXS	**Arharly**	**5.87**	**30**	*e*P		**Pb**	**04 20 41.4**	**-0.9**
	15nm,0.8s							
ARXS				*e*S		**Sb**	**04 21 57.9**	**+5.2**
	8.2nm,1.0s							
PDGK	**Podgornoye**	**6.00**	**45**	⇑	Pg	**Pb**	**04 20 41.3**	**-3.1**
	4.9nm,0.7s							
PDGK				⇑	Lg	Lg	04 21 54.9	
	31nm,1.2s							

*UCR **26** 04:28:47.5±1.7, 12°.35N×89°.36W, h24km, mb4.3(NEIC)*
*INET **26** 04:28:53.5±0.8, 11°.57N×88°.77W, h17km±15km, MW3.8*
*NEIC **26** 04:29:06.0±1.9, 12°.30N±0°.09×88°.20W±0°.08, h42km±11km, mb4.3/19, Error ellipse: s-maj=14.6km s-min=8.4km az=217.0*

ISC 26 04:29:04.1±1.1, 12°.18N±0°.07×88°.24W±0°.08, h35km, n50, σ1s07/46, mb4.3/9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.27**	**66**		**Pn**	**04 29 25.7**	**+0.2**
CRIN	**San Cristobal**	**1.27**	**66**	*e*P	**Pn**	**04 29 25.5**	**+0.1**
CNGN	**Cerro Negro**	**1.54**	**78**		**Pn**	**04 29 28.9**	**-0.3**
CNGN	**Cerro Negro**	**1.54**	**78**	*e*P	**Pn**	**04 29 29.1**	**0.0**
SNET	**Serv Nac Est T**	**1.78**	**327**	Pn	**Pn**	**04 29 31.9**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.09**	**27**		**Pn**	**04 29 37.6**	**+0.8**
MATN	**Matagalpa**	**2.38**	**71**		**Pn**	**04 29 39.5**	**-1.2**
MATN	**Matagalpa**	**2.38**	**71**	*e*P	**Pn**	**04 29 39.2**	**-1.6**
BOAB	**BOACO BROADBAN**	**2.53**	**84**		**Pn**	**04 29 42.1**	**-0.6**
ESQI	**Esquipulas**	**2.60**	**336**	Pn	**Pn**	**04 29 43.7**	**-0.1**
CONN	**Concepcion**	**2.63**	**103**	*e*P	Pn	04 29 39.7	-4.4
ACON	**Acoyapa**	**3.01**	**94**	Pn	**Pn**	**04 29 49.2**	**-0.1**
ACON	**Acoyapa**	**3.01**	**94**	*e*P	**Pn**	**04 29 48.0**	**-1.3**
SAJU	**San Juanillo,**	**3.25**	**130**	*e*P	**Pn**	**04 29 51.0**	**-1.7**
ORTG	**Ortega, Santa**	**3.27**	**123**	Pn	**Pn**	**04 29 55.8**	**+2.8**
ORTG	**Ortega, Santa**	**3.27**	**123**	*e*P	**Pn**	**04 29 51.8**	**-1.2**
VMAR	**Armenia, Volca**	**3.35**	**114**	*e*P	**Pn**	**04 29 53.4**	**-0.6**
CUI	**Cuipilapa**	**3.38**	**116**	*e*P	**Pn**	**04 29 53.1**	**-1.3**
DUNO	**Dulce Nombre,**	**3.41**	**127**	Pn	**Pn**	**04 29 56.9**	**+2.0**
DUNO	**Dulce Nombre,**	**3.41**	**127**	*e*P	**Pn**	**04 29 53.1**	**-1.7**
POPE	**POPE, Guanacas**	**3.60**	**125**	*e*P	**Pn**	**04 29 56.2**	**-1.2**
JTS	**Las Juntas de**	**3.73**	**120**	Pn	**Pn**	**04 30 02.7**	**+3.4**
JTS	**Las Juntas de**	**3.73**	**120**	*e*P	**Pn**	**04 29 58.7**	**-0.6**
LAFE	**Finca La Fe, P**	**4.03**	**125**	*e*P	**Pn**	**04 30 01.9**	**-1.5**
RIMA	**Rio Macho**	**4.92**	**119**		**Pn**	**04 30 16.2**	**+0.4**
CDM	**Cerro de Muert**	**5.11**	**120**	*e*P	**Pn**	**04 30 19.1**	**+0.4**
PEZE	**Perez Zeledon,**	**5.28**	**121**		**Pn**	**04 30 21.4**	**+0.9**
SRBA	**San Rafael, Bu**	**5.62**	**121**	Pn	**Pn**	**04 30 25.8**	**+0.5**
SRBA	**San Rafael, Bu**	**5.62**	**121**	*e*P	**Pn**	**04 30 25.3**	**0.0**
833A	**Chaparral WMA,**	**19.15**	**329**		**P**	**04 33 24.3**	**-0.2**
833A					IAmb	IAmb	04 33 27.4	
	comp=Z,18nm,0.9s						
JCT	**Junction City**	**21.13**	**331**		P	**P**	**04 33 45.7**	**-0.3**
WLAR	**White Oak Lake**	**21.87**	**349**		P	**P**	**04 33 53.7**	**-0.1**
TX31	**Lajitas Ar. Si**	**22.30**	**322**		P	**P**	**04 33 59.5**	**+0.8**
TX31					IAmb	IAmb	04 34 09.7	
	comp=Z,10nm,1.0s						
TX32	**Lajitas Array**	**22.30**	**322**		P	**P**	**04 33 58.9**	**+0.2**
Z35A	**Perchaven, San**	**22.61**	**340**		P	**P**	**04 34 02.4**	**+0.6**
Z35A					IAmb	IAmb	04 34 04.5	
	comp=Z,11nm,1.0s						
MIAR	**Mount Ida**	**22.79**	**349**		P	**P**	**04 34 04.3**	**+0.6**
X34A	**Smith Ranch, M**	**23.96**	**340**		P	**P**	**04 34 15.5**	**+0.2**
WMOK	**Wichita Mounta**	**24.41**	**339**		P	**P**	**04 34 19.0**	**-0.5**
FNO	**Franklin**	**24.43**	**342**		P	**P**	**04 34 19.5**	**-0.1**
OK030	**Cody Creek RV**	**24.87**	**343**		P	**P**	**04 34 22.3**	**-1.3**
OK030					IAmb	IAmb	04 34 24.1	
	comp=Z,9.1nm,0.9s						
OK052	**Battle Ridge R**	**24.94**	**343**		P	**P**	**04 34 23.7**	**-0.5**
QUOK	**Quay**	**25.08**	**344**		P	**P**	**04 34 25.6**	**+0.1**
QUOK					IAmb	IAmb	04 34 25.6	
	comp=Z,7.6nm,0.7s						
OK044	**Pawnee Station**	**25.29**	**344**		P	**P**	**04 34 27.1**	**-0.2**
OK044					IAmb	IAmb	04 34 30.1	
	comp=Z,8.2nm,0.8s						
MSTX	**Muleshoe**	**25.42**	**331**		P	**P**	**04 34 28.5**	**-0.2**
MSTX					IAmb	IAmb	04 34 33.7	
	comp=Z,7.8nm,0.9s						
S39A	**Bolivar**	**25.81**	**351**		P	**P**	**04 34 32.2**	**+0.2**
S39A					IAmb	IAmb	04 34 33.1	
	comp=Z,8.1nm,0.8s						
KAN16	**Harper SW Stat**	**26.45**	**342**			pP	04 34 49.6	+1.9
HSIG		**26.98**	**312**		P	**P**	**04 34 42.3**	**-0.4**
HSIG					IAmb	IAmb	04 34 56.5	
	comp=Z,11nm,1.5s						
REDW	**Red Top Meadow**	**36.70**	**332**		IAmb	IAmb	04 36 17.7	
	comp=Z,7.0nm,1.4s						
ML02	**Panimavida**	**50.27**	**162**			pP	04 38 10.1	+3.1
PZH	**PanZhiHua**	**140.34**	**346**		PKP	**PKPdf**	**04 48 31.0**	**+0.6**

ROM 26 04:31:35.0±0.1, 42°.823N±0°.003×13°.249E±0°.004, h13km, ML2.0/18, 11C-6D, Error ellipse: s-maj=0.3km s-min=0.1km az=91.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.06**	**307**	P	Pg	04 31 37.9	+0.1
T1245				S	Sg	04 31 39.9	+0.2
T1245	**Castelsantange**	**0.06**	**307**	P	Pg	04 31 37.9	+0.1
T1245				S	Sg	04 31 39.9	+0.2
MMO1	**Montemonaco**	**0.10**	**37**	P	Pg	04 31 38.3	+0.2
MMO1				S	Sg	04 31 40.6	+0.3
MMO1	**Montemonaco**	**0.10**	**37**	P	Pg	04 31 38.3	+0.2
MMO1				S	Sg	04 31 40.6	+0.3
MC2	**Monte Cornacci**	**0.10**	**335**	P	Pg	04 31 38.4	+0.1
MC2				S	Sg	04 31 40.9	+0.3
MC2	**Monte Cornacci**	**0.10**	**335**	P	Pg	04 31 38.4	+0.1
MC2				S	Sg	04 31 41.0	+0.4
NRCA	**Norcia**	**0.10**	**276**	P	Pg	04 31 38.2	+0.1
NRCA				S	Sg	04 31 40.5	+0.1
T1241	**Roccafluvione,**	**0.14**	**76**	P	Pg	04 31 38.8	+0.2
T1241				S	Sg	04 31 41.6	+0.5
T1241	**Roccafluvione,**	**0.14**	**76**	P	Pg	04 31 38.8	+0.2
T1241				S	Sg	04 31 41.7	+0.6
T1241				AML	AML		
	comp=E,1715μm,0.3s						
T1241				AML	AML		
	comp=N,710μm,1.5s						
T1241				AML	AML		
	comp=E,1755μm,0.3s						
T1241				AML	AML		
	comp=N,697μm,1.5s						
T1241				AML	AML		
	comp=E,1710μm,0.3s						
T1216	**Preci, Frazion**	**0.18**	**292**	P	Pg	04 31 39.2	0.0
T1216				AML	AML		
	comp=E,862μm,0.2s						
T1216				AML	AML		
	comp=N,1150μm,0.2s						
T1216				AML	AML		
	comp=E,862μm,0.2s						
T1216				AML	AML		
	comp=N,1150μm,0.2s						
T1216				AML	AML		
	comp=N,1150μm,0.2s						
T1216				AML	AML		
	comp=E,862μm,0.2s						
T1218	**Civita (PG)**	**0.18**	**213**	P	Pg	04 31 39.6	+0.3
T1218				S	Sg	04 31 42.9	+0.7
T1218				AML	AML		
	comp=E,1290μm,0.1s						
T1218				AML	AML		
	comp=N,1690μm,0.9s						
T1218				AML	AML		
	comp=E,1210μm,0.1s						
T1218				AML	AML		
	comp=N,1720μm,0.9s						
T1218				AML	AML		
	comp=E,1290μm,0.1s						
T1218				AML	AML		
	comp=N,1690μm,0.9s						
T1218				AML	AML		
	comp=E,1210μm,0.1s						
T1218				AML	AML		
	comp=N,1720μm,0.9s						
T1218				AML	AML		
	comp=E,1207μm,0.2s						
T1218				AML	AML		
	comp=E,1290μm,0.2s						
T1218				AML	AML		
	comp=N,1690μm,0.9s						
T1218				AML	AML		
	comp=N,1720μm,0.9s						
T1218	**Civita (PG)**	**0.18**	**213**	⇑ P	Pg	04 31 39.5	+0.3
T1218				S	Sb	04 31 43.0	-0.8
T1218				AML	AML		
	comp=E,1285μm,0.1s						
T1218				AML	AML		
	comp=N,1685μm,0.9s						
T1218				AML	AML		
	comp=E,1208μm,0.1s						
T1218				AML	AML		
	comp=N,1720μm,0.9s						
T1218				AML	AML		
	comp=E,1290μm,0.1s						
T1218				AML	AML		
	comp=E,1210μm,0.1s						
T1218				AML	AML		
	comp=E,1290μm,0.2s						
T1218				AML	AML		
	comp=E,1207μm,0.2s						
T1256	**Bolognola (MC)**	**0.18**	**355**	P	Pg	04 31 39.5	+0.1
T1256				S	Sg	04 31 42.9	+0.5
T1256				AML	AML		
	comp=E,400μm,1.6s						
T1256				AML	AML		
	comp=N,426μm,1.5s						
T1256				AML	AML		
	comp=E,401μm,1.6s						
T1256				AML	AML		
	comp=E,375μm,0.6s						
T1256				AML	AML		
	comp=N,426μm,1.5s						
T1256				AML	AML		
	comp=N,378μm,0.3s						
T1243	**Rocca Santa Ma**	**0.19**	**131**	P	Pg	04 31 39.6	+0.1
T1243				S	Sg	04 31 43.1	+0.6
T1243	**Rocca Santa Ma**	**0.19**	**131**	⇓ P	Pg	04 31 39.7	+0.2
T1243				S	Sg	04 31 43.1	+0.6
SMA1	**SAN MARTINO**	**0.20**	**162**	P	Pg	04 31 39.8	+0.2
SMA1				S	Sg	04 31 43.4	+0.6
SMA1				AML	AML		
	comp=E,497μm,0.2s						
SMA1				AML	AML		
	comp=N,346μm,0.5s						
SMA1				AML	AML		
	comp=E,497μm,0.2s						
SMA1				AML	AML		
	comp=N,346μm,0.5s						
SMA1				AML	AML		
	comp=E,497μm,0.2s						
SMA1				AML	AML		
	comp=N,346μm,0.5s						
FDMO	**Fiordimonte**	**0.24**	**331**	⇑ P	Pg	04 31 40.5	+0.2
FDMO				S	Sg	04 31 44.5	+0.7
GUMA	**Gualdo di Mace**	**0.25**	**15**	⇓ P	Pb	04 31 41.0	-0.4
GUMA				S	Sb	04 31 45.6	-0.1
GUMA				AML	AML		
	comp=N,2775μm,0.2s						
GUMA				AML	AML		
	comp=E,1885μm,0.3s						
GUMA				AML	AML		
	comp=N,2215μm,0.3s						
GUMA				AML	AML		
	comp=E,1805μm,0.2s						
LNSS	**Leonessa**	**0.27**	**215**	⇓ P	Pg	04 31 41.0	+0.2
LNSS				S	Sb	04 31 45.9	-0.4
LNSS				AML	AML		
	comp=N,696μm,0.9s						
LNSS				AML	AML		
	comp=E,219μm,0.2s						
CSP1	**Cessapalombo**	**0.27**	**353**	⇓ P	Pg	04 31 41.0	+0.2
CSP1				S	Sb	04 31 45.6	-0.8
CSP1				AML	AML		
	comp=E,286μm,0.5s						
CSP1				AML	AML		
	comp=N,350μm,1.0s						
CSP1				AML	AML		
	comp=E,286μm,0.5s						
T1215	**Vallo di Nera,**	**0.28**	**266**	P	Pg	04 31 41.1	+0.2
T1215				S	Sb	04 31 45.8	-0.8
T1219	**Muccia, Frazio**	**0.29**	**323**	⇑ P	Pg	04 31 41.2	+0.1
T1219				S	Sg	04 31 46.0	+0.7
T1219				AML	AML		
	comp=E,208μm,0.3s						
T1219				AML	AML		
	comp=N,238μm,0.5s						
CAMP	**Campotosto**	**0.31**	**158**	⇑ P	Pg	04 31 41.5	+0.1
CAMP				S	Sg	04 31 46.6	+0.8
CAMP				AML	AML		
	comp=N,93μm,1.2s						
CAMP				AML	AML		
	comp=E,148μm,0.2s						
CAMP				AML	AML		
	comp=N,93μm,1.2s						
CESI	**CESI - Serrava**	**0.31**	**306**	⇑ P	Pg	04 31 41.6	+0.1
CESI				S	Sg	04 31 46.6	+0.8
CESI				AML	AML		
	comp=E,200μm,1.3s						
CESI				AML	AML		
	comp=N,340μm,0.6s						
RM33	**Pellescritta (**	**0.32**	**185**	⇑ P	Pg	04 31 41.7	+0.2
RM33				S	Sb	04 31 47.0	-0.5
RM33				AML	AML		
	comp=E,482μm,0.6s						
RM33				AML	AML		
	comp=N,376μm,1.2s						
RM33				AML	AML		
	comp=E,464μm,0.3s						
RM33				AML	AML		
	comp=N

OFFI				S	Sb	04 31 50.1	+1.8		
OFFI				AML	AML				
	comp=N,452µm,0.9s								
OFFI				AML	AML				
	comp=E,619µm,0.7s								
T1247	**Pizzolo (AQ)**	**0.38**	**175**	⇑P	Pg	04 31 42.9	+0.2		
T1247				AML	AML				
	comp=E,270µm,1.4s								
T1247				AML	AML				
	comp=N,240µm,0.6s								
T1211	**Morro Reatino**	**0.41**	**225**	P	Pg	04 31 43.2	0.0		
T1211				AML	AML				
	comp=E,9755µm,1.0s								
T1211				AML	AML				
	comp=N,336µm,0.4s								
T1211				AML	AML				
	comp=E,294µm,0.4s								
T1211				AML	AML				
	comp=N,374µm,0.4s								
T1211				AML	AML				
	comp=E,9740µm,1.0s								
T1211				AML	AML				
	comp=N,336µm,0.4s								
T1211				AML	AML				
	comp=E,290µm,0.4s								
T1211				AML	AML				
	comp=N,372µm,0.4s								
T1211				AML	AML				
	comp=N,335µm,0.4s								
T1211				AML	AML				
	comp=N,372µm,0.4s								
T1211				AML	AML				
	comp=E,291µm,0.4s								
T1211				AML	AML				
	comp=E,9795µm,1.0s								
T1211	**Morro Reatino**	**0.41**	**225**	⇓P	Pg	04 31 43.3	+0.1		
T1211				S	Sb	04 31 50.1	-0.2		
T1211				AML	AML				
	comp=E,9760µm,1.0s								
T1211				AML	AML				
	comp=N,336µm,0.4s								
T1211				AML	AML				
	comp=E,292µm,0.4s								
T1211				AML	AML				
	comp=N,372µm,0.4s								
T1211				AML	AML				
	comp=E,9740µm,1.0s								
T1211				AML	AML				
	comp=E,290µm,0.4s								
T1211				AML	AML				
	comp=N,372µm,0.4s								
T1211				AML	AML				
	comp=N,335µm,0.4s								
T1211				AML	AML				
	comp=E,9795µm,1.0s								
T1211				AML	AML				
	comp=E,291µm,0.4s								
ARRO	**Arrone**	**0.43**	**236**	⇑P	Pg	04 31 43.6	0.0		
ARRO				S	Sb	04 31 50.7	-0.2		
ARRO				AML	AML				
	comp=N,141µm,1.1s								
ARRO				AML	AML				
	comp=E,93µm,0.2s								
GIGS	**Gran Sasso**	**0.44**	**148**	P	Pg	04 31 43.7	-0.1		
GIGS				AML	AML				
	comp=E,53µm,0.7s								
GIGS				AML	AML				
	comp=N,42µm,0.4s								
GIGS				AML	AML				
	comp=E,53µm,0.7s								
ASSB	**Assisi San Ben**	**0.49**	**297**	⇑P	Pb	04 31 45.2	-0.2		
ASSB				AML	AML				
	comp=E,159µm,0.2s								
ASSB				AML	AML				
	comp=N,100µm,0.2s								
TRTR	**Tortoreto Alta**	**0.49**	**91**	AML	AML				
	comp=N,392µm,1.4s								
TRTR				AML	AML				
	comp=E,434µm,0.4s								
EL6	**Elcito**	**0.52**	**348**	P	Pg	04 31 43.6	-1.6		
EL6				AML	AML				
	comp=E,108µm,1.5s								
EL6				AML	AML				
	comp=N,112µm,1.5s								
CESX	**Cesi**	**0.54**	**247**	⇓P	Pg	04 31 45.4	-0.1		
CESX				AML	AML				
	comp=N,86µm,1.6s								
CESX				AML	AML				
	comp=E,78µm,0.2s								
CING	**Cingoli**	**0.55**	**356**	AML	AML				
	comp=N,78µm,1.4s								
CING				AML	AML				
	comp=E,124µm,0.5s								
FIAM	**Fiamignano**	**0.56**	**190**	AML	AML				
	comp=N,63µm,0.4s								
FIAM				AML	AML				
	comp=E,83µm,0.5s								
FIAM				AML	AML				
	comp=E,84µm,0.5s								
FAGN	**Fagnano**	**0.61**	**156**	AML	AML				
	comp=N,104µm,1.6s								
FAGN				AML	AML				
	comp=E,88µm,1.6s								
VCEL	**Villa Celiera**	**0.61**	**134**	P	Pg	04 31 44.7	-2.3		
ARVD	**Arcevia**	**0.71**	**342**	P	Pg	04 31 47.3	-1.6		
T0110	**Collepietro**	**0.71**	**146**	AML	AML				
	comp=N,64µm,1.3s								
T0110				AML	AML				
	comp=E,76µm,1.0s								

*KRNET **26** 04:35:27.7±0.1,39.˚26N×73.˚96E,mb3.7*
*SOME **26** 04:35:29.2,39.˚40N×73.˚77E,h10km*
*IDC **26** 04:35:31.5±3.2,39.˚62N×73.˚08E,h0km,mb4.1/2,*
mbtmp3.9/3,ML2.9/2,MS3.7/3,Error ellipse: s-maj=54.0km
s-min=25.3km az=139.0
*NNC **26** 04:35:34.0±5.0,39.˚57N×74.˚03E,h0km,mb4.1,mpv3.6,*
Error ellipse: s-maj=37.4km s-min=18.2km az=165.0
ISC 26 04:35:27.7±1.3,39˚40N±0˚06×73˚89E±0˚03,h10km,n50,
σ1s55/71,MS3.8/3,14C-10D,Tajikistan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.41**	**323**	⇓*e*P	**Pg**	**04 35 56.7**	**+1.9**
	baz=25						
OHH				⇓*e*S	**Sg**	**04 36 18.2**	**+5.1**
	baz=25						
DRK	**Karamyk**	**1.62**	**274**	⇓*e*P	**Pg**	**04 35 59.4**	**+0.6**
	baz=78						
DRK				⇓*e*S	**Sg**	**04 36 22.6**	**+2.8**
	baz=78						
BTK	**Batken**	**2.46**	**287**	⇑*e*P	**Pb**	**04 36 12.3**	**+0.3**
	baz=89						
BTK				⇑*e*S	**Sg**	**04 36 45.0**	**-1.7**
	baz=89						
ARLS	**Aral**	**2.48**	**8**	⇑*e*P	**Pg**	**04 36 13.4**	**-1.9**
	baz=6.0						
ARLS				⇑*e*S	**Sg**	**04 36 46.7**	**-0.8**
	baz=6.0						
AML	**Almayashu**	**2.73**	**357**	P	**Pb**	**04 36 17.6**	**+0.7**
	SNR=22						
GAR	**Garm**	**2.80**	**263**	⇑*e*P	**Pb**	**04 36 16.4**	**-1.6**
	baz=66						
GAR				⇑*e*S	**Sb**	**04 36 52.0**	**-0.4**
	baz=66						
ARK	**Arkit**	**2.81**	**329**	⇓*e*P	**Pb**	**04 36 18.2**	**+0.1**
	baz=30						
ARK				⇓*e*S	**Sb**	**04 36 55.0**	**+2.4**
	baz=30						
UCH	**Uchtor**	**2.87**	**9**	P	**Pb**	**04 36 19.3**	**+0.1**
	SNR=19						
UCH	**Uchtor**	**2.87**	**9**	⇓*e*P	**Pb**	**04 36 18.7**	**-0.6**
	baz=8.0						
UCH				⇓*e*S	**Sb**	**04 36 55.9**	**+1.3**
	baz=8.0						
TRKS	**Terek-Say**	**2.99**	**316**	⇑*e*P	**Pb**	**04 36 19.5**	**-1.6**
	baz=17						
TRKS				⇑*e*S	**Sb**	**04 36 57.4**	**-0.4**
	baz=17						
EKS2	**Erkin-Say**	**3.26**	**359**	P	**Pb**	**04 36 26.1**	**+0.3**
	SNR=13						
EKS2	**Erkin-Say**	**3.26**	**359**	⇑*e*P	**Pb**	**04 36 24.3**	**-1.5**
	baz=58						
EKS2				⇑*e*S	**Sb**	**04 37 05.5**	**-0.1**
	baz=58						

AAK	**Ala-Archa**	**3.27**	**8**	P	**Pb**	**04 36 25.7**	**-0.3**		
	SNR=11								
AAK	**Ala-Archa**	**3.27**	**8**	Pn	**Pb**	**04 36 25.3**	**-0.7**		
	4.6nm,0.3s,baz=171,slow=13,SNR=10								
AAK				Lg	Lg	04 37 15.2			
	3.8nm,0.3s,baz=66,slow=10,SNR=12								
	4.1nm,0.3s								
AAK	**Ala-Archa**	**3.27**	**8**	⇑*e*P	**Pb**	**04 36 24.3**	**-1.6**		
	baz=7.0								
AAK				⇑*e*S	**Sb**	**04 37 05.5**	**-0.3**		
	baz=7.0								
KBK	**Karagaybulak**	**3.35**	**14**	P	**Pb**	**04 36 27.4**	**0.0**		
	SNR=7.8								
ULHL	**Ulahol**	**3.36**	**31**	P	**Pg**	**04 36 30.9**	**-1.2**		
	SNR=10								
MRKS	**Merke**	**3.38**	**352**	*e*P	**Pg**	**04 36 31.6**	**-0.9**		
	8.4nm,0.4s								
MRKS				*e*S	**Sg**	**04 37 16.6**	**+0.3**		
	37nm,0.7s								
MRKS	**Merke**	**3.38**	**352**	Pg	**Pg**	**04 36 31.6**	**-0.9**		
	8.4nm,0.4s								
MRKS				Lg	Lg	04 37 17.2			
	37nm,0.7s								
KST	**Kastek**	**3.96**	**23**	*e*P	**Pg**	**04 36 42.7**	**-0.9**		
	4.7nm,0.4s								
KST				*e*S	**Sg**	**04 37 35.9**	**+0.9**		
	14nm,0.8s								
KST	**Kastek**	**3.96**	**23**	Pg	**Pg**	**04 36 43.6**	**-0.1**		
	4.7nm,0.4s								
KST				Lg	Lg	04 37 36.3			
	14nm,0.8s								
IUG	**Iuzhnay**	**4.01**	**314**	*e*P	**Pg**	**04 36 41.8**	**-2.8**		
	47nm,0.7s								
IUG				*e*S	**Sg**	**04 37 34.1**	**-2.5**		
	27nm,0.7s								
IUG	**Iuzhnay**	**4.01**	**314**	Pg	**Pg**	**04 36 41.8**	**-2.8**		
	47nm,0.7s								
IUG				Lg	Lg	04 37 34.1			
	27nm,0.7s								
SGDS	**Sogindy**	**4.09**	**8**	*e*P	**Pg**	**04 36 45.1**	**-0.9**		
	6.3nm,0.6s								
SGDS				*e*S	**Sg**	**04 37 39.8**	**+0.8**		
	12nm,0.9s								
SGDS	**Sogindy**	**4.09**	**8**	Pg	**Pg**	**04 36 45.9**	**-0.1**		
	6.3nm,0.6s								
SGDS				Lg	Lg	04 37 41.5			
	12nm,0.9s								
DGS	**Degeres**	**4.09**	**20**	*e*P	**Pg**	**04 36 45.4**	**-0.8**		
	6.6nm,0.5s								
DGS				*e*S	**Sg**	**04 37 40.2**	**+1.0**		
	18nm,3.0s								
DGS	**Degeres**	**4.09**	**20**	Pg	**Pg**	**04 36 45.4**	**-0.8**		
	6.6nm,0.5s								
DGS				Lg	Lg	04 37 40.2			
	18nm,0.7s								
MTBS	**Maitube**	**4.19**	**26**	*e*P	**Pg**	**04 36 46.8**	**-1.2**		
	6.6nm,0.6s								
MTBS				*e*S	**Sg**	**04 37 42.6**	**+0.3**		
	9.8nm,0.3s								
MTBS	**Maitube**	**4.19**	**26**	Pg	**Pg**	**04 36 46.8**	**-1.2**		
	6.6nm,0.6s								
MTBS				Lg	Lg	04 37 42.6			
	9.4nm,0.7s								
TNSS	**Tian-Shan**	**4.31**	**31**	*e*P	**Pg**	**04 36 49.7**	**-0.5**		
	9.7nm,0.4s								
TNSS				*e*S	**Sg**	**04 37 47.8**	**+1.8**		
	7.6nm,0.7s								
TNSS	**Tian-Shan**	**4.31**	**31**	Pg	**Pg**	**04 36 50.6**	**+0.4**		
	9.7nm,0.4s								
TNSS				Lg	Lg	04 37 49.0			
	7.6nm,0.7s								
MDOK	**Medeo**	**4.45**	**31**	*e*P	**Pg**	**04 36 52.2**	**-0.8**		
	18nm,0.5s								
MDOK				*e*S	**Sg**	**04 37 52.0**	**+1.4**		
	15nm,0.8s								
MDOK	**Medeo**	**4.45**	**31**	Pg	**Pg**	**04 36 49.9**	**-3.1**		
	18nm,0.6s								
MDOK				Pg	Pb	04 36 50.9	+4.8		
	18nm,0.5s								
MDOK				Lg	Lg	04 37 49.6			
	36nm,1.3s								
MDOK				Lg	Lg	04 37 50.0			
	15nm,0.8s								
KK31	**Karatay Array**	**4.49**	**327**	⇓Pn	Pn	04 36 40.3	+4.4		
	1.0nm,0.2s,baz=138,slow=14								
KK31				⇓Pg	**Pg**	**04 36 51.9**	**-1.9**		
	3.0nm,0.4s								
KK31				⇑Sn	**Sb**	**04 37 37.3**	**-3.6**		
	5.4nm,0.6s,baz=128,slow=26								
KK31				⇑Lg	Lg	04 37 56.3			
	4.3nm,0.5s,baz=136,slow=31								
KRBS	**Karabastau**	**4.50**	**17**	*e*P	**Pg**	**04 36 52.5**	**-1.4**		
	4.1nm,0.5s								
KRBS				*e*S	**Sg**	**04 37 52.4**	**+0.2**		
	14nm,0.7s								
KRBS	**Karabastau**	**4.50**	**17**	Pg	**Pg**	**04 36 52.4**	**-1.4**		
	4.1nm,0.5s								
KRBS				Lg	Lg	04 37 52.0			
	14nm,0.7s								
KOTS	**Kotyrbulak**	**4.54**	**31**	*e*P	**Pg**	**04 36 53.8**	**-0.9**		
	18nm,0.6s								
KOTS				*e*S	**Sg**	**04 37 54.7**	**+1.3**		
	36nm,0.7s								
KOTS	**Kotyrbulak**	**4.54**	**31**	Pg	**Pg**	**04 36 53.8**	**-0.9**		
	18nm,0.6s								
KOTS				Lg	Lg	04 37 55.0			
	36nm,0.7s								
KUU	**Kurty**	**4.85**	**21**	*e*P	**Pg**	**04 36 59.1**	**-1.5**		
	3.7nm,0.4s								
KUU				*e*S	**Sg**	**04 38 04.2**	**+0.7**		
	14nm,0.8s								
KUU	**Kurty**	**4.85**	**21**	Pg	**Pg**	**04 36 59.1**	**-1.5**		
	3.7nm,0.4s								
KUU				Lg	Lg	04 38 04.2			
	14nm,0.8s								
SATY	**Saty**	**5.00**	**42**	*e*P	**Pg**	**04 37 01.4**	**-2.0**		
	8.6nm,0.9s								
SATY				*e*S	**Sg**	**04 38 08.0**	**-0.2**		
	9.0nm,0.1s								
CHKK	**Chushkaly**	**5.02**	**27**	*e*P	**Pg**	**04 37 02.1**	**-1.8**		
	3.4nm,0.5s								
CHKK				*e*S	**Sg**	**04 38 08.5**	**-0.5**		
	7.0nm,0.5s								
CHKK	**Chushkaly**	**5.02**	**27**	Pg	**Pg**	**04 37 02.1**	**-1.8**		
	3.4nm,0.5s								
CHKK				Lg	Lg	04 38 08.5			
	7.0nm,0.5s								
ARXS	**Arharly**	**5.64**	**30**	*e*P	**Pg**	**04 37 15.1**	**-0.6**		
ARXS				*e*S	**Sg**	**04 38 31.1**	**+2.3**		
	7.7nm,0.2s								
MKAR	**Makanchi Array**	**9.61**	**37**	Pn	Pn	04 37 56.0	+10		
	baz=212,slow=16,SNR=1.7								
FINES	**FINESS Array B**	**36.44**	**323**	P	**P**	**04 42 33.8**	**+1.4**		
	3.1nm,0.9s,baz=98,slow=10,SNR=1.9								
	3.1nm,0.9s								
ARCES	**ARCESS Array B**	**39.40**	**336**	P	**P**	**04 42 58.7**	**+1.5**		
	2.6nm,0.9s,baz=122,slow=8.6,SNR=1.7								
	2.6nm,0.9s								
VRAC	**Vranov**	**41.24**	**303**	LR	LR	05 04 54.7			
	comp=Z,25nm,19.4s,baz=102,slow=43								
JOW	**Kunigami**	**46.61**	**89**	LR	LR	05 06 01.2			
	comp=Z,117nm,21.7s,baz=119,slow=39								
INK	**Inuvik**	**70.66**	**10**	LR	LR	05 22 52.3			
	comp=Z,189nm,18.2s,baz=212,slow=40								

*IDC **26** 04:37:38.1±0.6,12.˚33N×87.˚95W,h0km,mb4.3/14,*
mbtmp4.3/18,ML3.3/4,MS3.7/30,Error ellipse:
s-maj=28.2km s-min=11.3km az=52.0
*INET **26** 04:37:39.6±0.8,11.˚93N×88.˚29W,h11km±13km,MW4.2*
*UCR **26** 04:37:41.4±2.0,12.˚10N×88.˚23W,h21km±11km,ML4.0,*
mb4.7(NEIC)
*SNET **26** 04:37:42.5±1.7,12.˚08N×88.˚24W,h46km,ML4.5,ML4.1*
*NEIC **26** 04:37:44.2±2.3,12.˚19N±0.˚07×88.˚09W±0.˚06,h37km±6km,*
mb4.7/242,Md4.5(SNET),Error ellipse: s-maj=11.9km
s-min=7.0km az=212.0
*GCG **26** 04:38:24.3±0.3,14.˚87N×90.˚30W,h45km±16km,MD4.3*
ISC 26 04:37:41.6±1.3,12˚11N±0˚05×88˚20W±0˚04,h27km±9km,
n381,σ1s22/283,mb4.7/117,MS3.7/28,2C,Off coast of
central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.21**	**17**	⇑*i*P	**Pb**	**04 38 04.0**	**-0.1**
CNCH	**Conchagua**	**1.21**	**17**	⇑*i*P	**Pb**	**04 38 04.0**	**-0.1**
LCND	**La Caada**	**1.23**	**14**	*e*P	**Pb**	**04 38 03.9**	**-0.4**

LCND	**La Caada**	**1.23**	**14**	*e*P	**Pb**	**04 38 03.9**	**-0.4**		
ALJI	**Alcalda de J**	**1.26**	**343**	IAML		04 38 25.2			
	comp=Z,3µm,0.3s								
ALJI	**Alcalda de J**	**1.26**	**343**	IAML		04 38 25.2			
	comp=Z,3µm,0.3s								
CRIN	**San Cristobal**	**1.27**	**62**		**Pb**	**04 38 04.4**	**-0.5**		
CRIN	**San Cristobal**	**1.27**	**62**	*e*P	**Pb**	**04 38 04.4**	**-0.5**		
CRIN				*e*S	**Sn**	**04 38 19.2**	**-0.6**		
VSM	**San Miguel**	**1.31**	**357**	*e*P	**Pb**	**04 38 05.4**	**-0.4**		
VSM	**San Miguel**	**1.31**	**357**	*e*P	**Pb**	**04 38 05.4**	**-0.4**		
PACA	**Pacayal**	**1.36**	**355**	*e*P	**Pn**	**04 38 05.6**	**+0.7**		
PACA				*e*S	**Sb**	**04 38 24.4**	**+0.9**		
PACA	**Pacayal**	**1.36**	**355**	*e*P	**Pn**	**04 38 05.6**	**+0.7**		
PACA				*e*S	**Sb**	**04 38 24.4**	**+0.9**		
PACA	**Pacayal**	**1.36**	**355**	*e*P	**Pb**	**04 38 05.9**	**-0.6**		
COEB	**Comit de Eme**	**1.42**	**347**	*e*P	**Pn**	**04 38 06.2**	**+0.4**		
COEB				*e*S	**Sb**	**04 38 25.8**	**+0.5**		
COEB	**Comit de Eme**	**1.42**	**347**	*e*P	**Pn**	**04 38 06.2**	**+0.4**		
COEB				*e*S	**Sb**	**04 38 25.8**	**+0.5**		
CNGN	**Cerro Negro**	**1.52**	**75**		**Pn**	**04 38 06.9**	**-0.2**		
CNGN	**Cerro Negro**	**1.52**	**75**	*e*P	**Pn**	**04 38 06.4**	**-0.7**		
COEG	**Centro de Oper**	**1.64**	**336**	*e*P	**Pn**	**04 38 08.9**	**+0.1**		
COEG	**Centro de Oper**	**1.64**	**336**	*e*P	**Pn**	**04 38 08.9**	**+0.1**		
MOMN	**Momotombo**	**1.65**	**79**	*e*P	**Pn**	**04 38 08.6**	**-0.3**		
SJTE	**Alcalda de S**	**1.69**	**332**	*e*P	**Pn**	**04 38 08.9**	**-0.5**		
SJTE	**Alcalda de S**	**1.69**	**332**	*e*P	**Pn**	**04 38 08.9**	**-0.5**		
LFRS	**El Faro**	**1.72**	**331**	*e*P	**Pn**	**04 38 10.1**	**+0.2**		
LFRS	**El Faro**	**1.72**	**331**	*e*P	**Pn**	**04 38 10.1**	**+0.2**		
PAVA	**Las Pavas**	**1.75**	**336**	*e*P	**Pn**	**04 38 10.8**	**+0.5**		
PAVA				*e*S	**Sb**	**04 38 34.3**	**-0.4**		
PAVA	**Las Pavas**	**1.75**	**336**	*e*P	**Pn**	**04 38 10.8**	**+0.5**		
PAVA				*e*S	**Sb**	**04 38 34.3**	**-0.4**		
LBRS	**Las Brisas**	**1.82**	**333**	*e*P	**Pn**	**04 38 11.9**	**+0.7**		
LBRS	**Las Brisas**	**1.82**	**333**	*e*P	**Pn**	**04 38 11.9**	**+0.7**		
LFU	**La Fuente**	**1.86**	**331**	*e*P	**Pn**	**04 38 12.1**	**+0.3**		
LFU	**La Fuente**	**1.86**	**331**	*e*P	**Pn**	**04 38 12.1**	**+0.3**		
SNET	**Serv Nac Est T**	**1.86**	**327**		**Pn**	**04 38 11.8**	**0.0**		
SNET	**Serv Nac Est T**	**1.86**	**327**	*e*P	**Pn**	**04 38 11.7**	**-0.2**		
UEES	**Universidad Ev**	**1.89**	**328**	*e*S	**Sb**	**04 38 37.6**	**-1.2**		
UEES	**Universidad Ev**	**1.89**	**328**	*e*S	**Sb**	**04 38 37.6**	**-1.2**		
MGAN	**Managua**	**1.91**	**89**	*e*P	**Pn**	**04 38 12.4**	**0.0**		
MGAN				*e*P	**Pn**	**04 38 12.4**	**0.0**		
BOQS	**Boqueron**	**1.93**	**327**	*e*P	**Pn**	**04 38 13.3**	**+0.4**		
BOQS	**Boqueron**	**1.93**	**327**	*e*P	**Pn**	**04 38 13.3**	**+0.4**		
P5NO	**Presa 5 de nov**	**1.94**	**344**	*e*P	**Pn**	**04 38 14.0**	**+1.1**		
P5NO				*e*S	**Sb**	**04 38 40.1**	**-0.1**		
JAYA	**Jayaque - finc**	**1.96**	**322**	*e*P	**Pn**	**04 38 13.1**	**-0.2**		
JAYA				*e*S	**Sn**	**04 38 37.4**	**+0.3**		
JAYA	**Jayaque - finc**	**1.96**	**322**	*e*P	**Pn**	**04 38 13.1**	**-0.2**		
JAYA				*e*S	**Sn**	**04 38 37.4**	**+0.3**		
WILN	**Americas 2**	**1.97**	**88**	*e*P	**Pn**	**04 38 13.1**	**-0.1**		
CEDA	**San Andres**	**2.05**	**325**	*e*P	**Pn**	**04 38 13.5**	**-0.8**		
CEDA	**San Andres**	**2.05**	**325**	*e*P	**Pn**	**04 38 13.5**	**-0.8**		
TGUH	**Tegucigalpa,Un**	**2.14**	**25**		**Pn**	**04 38 17.3**	**+1.7**		
TGUH	**Tegucigalpa,Un**	**2.14**	**25**	*e*P	**Pn**	**04 38 17.3**	**+1.7**		
CEVE	**Cerro Verde**	**2.20**	**321**	*e*P	**Pn**	**04 38 16.9**	**+0.2**		
CEVE	**Cerro Verde**	**2.20**	**321**	*e*P	**Pn**	**04 38 16.9**	**+0.2**		
SBLS	**San Blas**	**2.21**	**321**	*e*P	**Pn**	**04 38 17.2**	**+0.4**		
SBLS	**San Blas**	**2.21**	**321**	*e*P	**Pn**	**04 38 17.2**	**+0.4**		
SNJE	**San Jose**	**2.22**	**322**	*e*P	**Pn**	**04 38 17.1**	**+0.3**		
SNJE	**San Jose**	**2.22**	**322**	*e*P	**Pn**	**04 38 17.1**	**+0.3**		
RTR	**El Retiro**	**2.27**	**322**	*e*P	**Pn**	**04 38 18.3**	**+0.8**		
RTR	**El Retiro**	**2.27**	**322**	*e*P	**Pn**	**04 38 18.3**	**+0.8**		
NUBE	**Las Nubes**	**2.35**	**319**	*e*P	**Pn**	**04 38 18.4**	**-0.3**		
NUBE	**Las Nubes**	**2.35**	**319**	*e*P	**Pn**	**04 38 18.4**	**-0.3**		
MATN	**Matagalpa**	**2.37**	**70**		**Pn**	**04 38 17.9**	**-0.8**		
MATN	**Matagalpa**	**2.37**	**70**	*e*P	**Pn**	**04 38 18.0**	**-0.7**		
BOAB	**BOACO BROADBAN**	**2.50**	**82**		**Pn**	**04 38 20.2**	**-0.3**		
CONN	**Concepcion**	**2.58**	**102**	*e*P	**Pn**	**04 38 19.9**	**-1.7**		
ESQI	**Esquipulas**	**2.68**	**336**		**Pn**	**04 38 24.7**	**+1.6**		
ESQI	**Esquipulas**	**2.68**	**336**	*e*P	**Pn**	**04 38 23.9**	**+0.9**		
ACON	**Acoyapa**	**2.96**	**92**		**Pn**	**04 38 26.2**	**-0.7**		
ACON	**Acoyapa**	**2.96**	**92**	*e*P	**Pn**	**04 38 25.8**	**-1.1**		
ORTG	**Ortega, Santa**	**3.20**	**123**		**Pn**	**04 38 30.1**	**-0.2**		
GUAB	**Guayabo de Bag**	**3.23**	**115**	*e*P	**Pn**	**04 38 30.2**	**-0.4**		
NBG	**Las Nubes**	**3.23**	**320**	*e*P	**Pn**	**04 38 33.7**	**+2.9**		
VMAR	**Armenia, Volca**	**3.28**	**113**	*e*P	**Pn**	**04 38 30.7**	**-0.6**		
MRL	**Marmol**	**3.29**	**334**	*e*P	**Pb**	**04 38 37.7**	**-1.7**		
CUI	**Cuipilapa**	**3.31**	**116**	*e*P	**Pn**	**04 38 31.1**	**-0.6**		
DUNO	**Dulce Nombre,**	**3.34**	**127**		**Pn**	**04 38 31.4**	**-0.6**		
FUEG	**Fuego 3**	**3.47**	**312**	*e*P	**Pn**	**04 38 38.0**	**+4.0**		
POPE	**POPE, Guanacas**	**3.53**	**125**	*e*P	**Pn**	**04 38 34.0**	**-0.6**		
JTS	**Las Juntas de**	**3.66**	**119**	Pn	**Pn**	**04 38 36.6**	**0.0**		
	comp=Z,4.4nm,0.3s,baz=14,slow=19,SNR=14								
JTS				Sn	**Sn**	**04 39 15.3**	**-3.6**		
	comp=Z,12nm,0.3s,baz=3.6,slow=8.8,SNR=7.9								
	comp=Z,11nm,0.3s								
JTS	**Las Juntas de**	**3.66**	**119**		**Pn**	**04 38 37.1**	**+0.5**		
JTS	**Las Juntas de**	**3.66**	**119**	*e*P	**Pn**	**04 38 37.0**	**+0.5**		
ARE1	**Arenal 1**	**3.79**	**115**	*e*P	**Pn**	**04 38 38.6**	**+0.4**		
ESPN	**Las Esperanzas**	**3.81**	**88**		**Pn**	**04 38 39.6**	**+1.0**		
LAFE	**Finca La Fe, P**	**3.96**	**125**	*e*P	**Pn**	**04 38 39.3**	**-1.3**		
LAFE	**Finca La Fe, P**	**3.96**	**125**	*e*P	**Pn**	**04 38 40.1**	**-0.5**		
COVE	**Coope Vega, Sa**	**3.97**	**110**	Pn	**Pn**	**04 38 42.9**	**+2.1**		
RTAL	**Retalhuleu**	**4.16**	**306**	Pn	**Pn**	**04 38 46.2**	**+2.8**		
STG3	**Santiaguito 3,**	**4.18**	**309**	*e*P	**Pn**	**04 38 45.9**	**+2.1**		
JACO	**JACO, Garabito**	**4.24**	**125**		**Pn**	**04 38 45.6**	**+1.1**		
HDC	**Heredia**	**4.53**	**117**		**Pn**	**04 38 49.4**	**+0.9**		
HDC	**Heredia**	**4.53**	**117**	*e*P	**Pn**	**04 38 52.6**	**+4.1**		
OCM	**Ochomogo**	**4.71**	**117**	*e*P	**Pn**	**04 38 52.5**	**+1.4**

VBMS	Vicksburg	20.13	354	P	Pn	04 42 14.8	-0.7		
VBMS	Vicksburg	20.13	354	P	Pn	04 42 15.9	+0.4		
	baz=173,SNR=8.9								
255A	Hazlehurst	20.42	14	IAmb	IAmb	04 42 19.2			
	comp=Z,24nm,0.8s								
NATX	Nacogdoches	20.44	344	IAmb	IAmb	04 42 19.6			
	comp=Z,37nm,0.8s								
NATX	Nacogdoches	20.44	344	P	Pn	04 42 18.5	-0.7		
	baz=161,SNR=12								
146A	Union	20.45	358	IAmb	IAmb	04 42 19.7			
	comp=Z,37nm,1.0s								
435B	Jarrell	20.51	336	IAmb	IAmb	04 42 19.1			
	comp=Z,39nm,0.7s								
435B	Jarrell	20.51	336	P	P	04 42 18.3	+0.5		
	baz=153								
143A	Socs Landing,	20.71	352	IAmb	IAmb	04 42 26.7			
	comp=Z,24nm,0.8s								
152A	Waverly Hall	20.71	8	IAmb	IAmb	04 42 25.0			
	comp=Z,29nm,1.0s								
LRAL	Lakeview Retre	20.86	3	P	Pn	04 42 23.2	-0.9		
LRAL				IAmb	IAmb	04 42 26.3			
	comp=Z,22nm,0.9s								
LRAL	Lakeview Retre	20.86	3	P	Pn	04 42 23.3	-0.7		
	baz=183,SNR=18								
Z47A	Carrollton	20.99	0	IAmb	IAmb	04 42 27.3			
	comp=Z,18nm,0.8s								
JCT	Junction City	21.21	331	P	P	04 42 25.4	+0.1		
JCT				IAmb	IAmb	04 42 26.6			
	comp=Z,30nm,0.7s								
JCT	Junction City	21.21	331	P	P	04 42 25.5	+0.2		
	baz=147,SNR=28								
ATAH	Atahualpa	21.46	152	P	P	04 42 30.8	+2.3		
	comp=Z,3.5nm,0.7s,baz=15,slow=13,SNR=2.4								
ATAH				LR	LR	04 49 20.4			
	comp=Z,191nm,19.1s,baz=338,slow=33								
	comp=Z,3.5nm,0.7s								
WHTX	Lake Whitney,	21.55	338	IAmb	IAmb	04 42 47.1			
	comp=Z,19nm,0.8s								
GOGA	Godfrey	21.64	11	P	P	04 42 30.4	+0.5		
GOGA	Godfrey	21.64	11	P	P	04 42 31.0	+1.1		
	baz=192,SNR=13								
Y45A	Yeager Farm, C	21.69	357	IAmb	IAmb	04 42 36.2			
	comp=Z,20nm,0.8s								
Y49A	Blount Mountai	21.71	4	IAmb	IAmb	04 42 34.2			
	comp=Z,18nm,0.8s								
Z38A	Mt. Pleasant	21.95	345	IAmb	IAmb	04 42 35.4			
	comp=Z,26nm,0.8s								
CCAR	Cane Creek	21.95	352	IAmb	IAmb	04 43 01.1			
	comp=Z,31nm,1.0s								
Y52A	Lilburn	21.98	9	IAmb	IAmb	04 42 35.5			
	comp=Z,17nm,0.7s								
HPIG		22.06	314	P	P	04 42 36.8	+2.1		
OXF	Oxford	22.33	357	IAmb	IAmb	04 42 39.1			
	comp=Z,44nm,1.2s								
OXF	Oxford	22.33	357	P	P	04 42 38.2	+0.9		
	baz=177								
FW02	City of Haslet	22.37	339	P	P	04 42 39.3	+1.5		
FW02				IAmb	IAmb	04 42 40.6			
	comp=Z,25nm,0.7s								
TXAR	Lajitas Array	22.38	322	P	P	04 42 39.1	+1.1		
	comp=Z,10nm,0.7s,baz=143,slow=9.4,SNR=81								
TXAR				PcP	PcP	04 46 34.6	+2.0		
	comp=Z,1.2nm,0.9s,baz=174,slow=3.6,SNR=4.6								
	comp=Z,10nm,0.7s								
TX31	Lajitas Ar. Si	22.38	322	IAmb	IAmb	04 42 41.1			
	comp=Z,34nm,0.7s								
TX32	Lajitas Array	22.38	322	IAmb	IAmb	04 42 41.1			
	comp=Z,12nm,0.7s								
HODGE	Hodges	22.68	13	IAmb	IAmb	04 42 43.3			
	comp=Z,26nm,0.8s								
MIAR	Mount Ida	22.86	349	P	P	04 42 43.6	+0.6		
MIAR	Mount Ida	22.86	349	P	P	04 42 43.6	+0.6		
	baz=166,SNR=55								
H06E1	SOCORRO T-PHAS	22.87	290	T	T	05 06 17.4			
	SNR=17								
UALR	University of	22.88	351	IAmb	IAmb	04 42 45.7			
	comp=Z,34nm,0.8s								
Y57A	Sumter	22.94	17	IAmb	IAmb	04 42 45.6			
	comp=Z,15nm,0.6s								
JSC	Jenkinsville	22.96	15	IAmb	IAmb	04 42 46.1			
	comp=Z,24nm,1.0s								
ABTX	Abilene, Hawle	22.96	335	IAmb	IAmb	04 42 45.8			
	comp=Z,35nm,0.8s								
ABTX	Abilene, Hawle	22.96	335	P	P	04 42 43.3	-0.7		
	baz=150,SNR=15								
SWET	Sewanee	23.10	5	P	P	04 42 44.5	-0.8		
PCRV	Puerto La Cruz	23.20	92	P	P	04 42 45.9	-0.7		
	comp=Z,7.3nm,0.7s,baz=295,slow=4.3,SNR=1.8								
	comp=Z,7.3nm,0.7s								
LOOK	Love County	23.27	341	IAmb	IAmb	04 42 49.0			
	comp=Z,41nm,0.7s								
BG3	Lake Jocassee	23.28	11	IAmb	IAmb	04 42 49.0			
	comp=Z,24nm,0.9s								
X37A	Clayton	23.31	345	IAmb	IAmb	04 42 50.3			
	comp=Z,20nm,0.7s								
PAULI	Pauline	23.34	13	IAmb	IAmb	04 42 50.5			
	comp=Z,17nm,0.7s								
WHAR	Wooly Hollow	23.37	352	P	P	04 42 48.0	-0.1		
WHAR				IAmb	IAmb	04 42 49.4			
	comp=Z,37nm,0.8s								
BIRD	Birdtown, Kers	23.51	16	IAmb	IAmb	04 42 50.7			
	comp=Z,18nm,0.7s								
X58A	Rowland	23.75	18	IAmb	IAmb	04 42 52.5			
	comp=Z,13nm,0.6s								
KMSC	Kings Mountain	23.76	14	IAmb	IAmb	04 42 53.3			
	comp=Z,14nm,0.9s								
KMSC	Kings Mountain	23.76	14	P	P	04 42 52.3	+0.4		
	baz=197,SNR=7.7								
TKL	Tuckaleechee C	23.79	9	P	P	04 42 51.9	-0.2		
	comp=Z,25nm,0.8s,baz=181,slow=11,SNR=34								
TKL				LR	LR	04 53 04.5			
	comp=Z,148nm,18.2s,baz=184,slow=39								
	comp=Z,25nm,0.8s								
TKL	Tuckaleechee C	23.79	9	IAmb	IAmb	04 42 54.2			
	comp=Z,28nm,0.8s								
WVT	Waverly	23.92	1	P	P	04 42 53.7	+0.4		
WVT	Waverly	23.92	1	P	P	04 42 53.6	+0.2		
	baz=181								
FCAR	Ozark Folk Cen	23.94	352	IAmb	IAmb	04 42 56.7			
	comp=Z,16nm,0.7s								
V53A	Saluda	23.96	11	IAmb	IAmb	04 42 59.5			
	comp=Z,16nm,0.8s								
V52A	Sevierville	23.99	9	IAmb	IAmb	04 42 56.1			
	comp=Z,14nm,0.9s								
W57A	Gilead	24.12	17	P	P	04 42 55.2	0.0		
W57A				IAmb	IAmb	04 42 55.6			
	comp=Z,10nm,0.7s								
U49A	Red Boiling Sp	24.40	5	IAmb	IAmb	04 42 58.4			
	comp=Z,21nm,1.4s								
V55A	Taylorsville	24.47	14	IAmb	IAmb	04 43 00.9			
	comp=Z,11nm,0.8s								
WMOK	Wichita Mounta	24.49	339	IAmb	IAmb	04 42 59.6			
	comp=Z,26nm,1.1s								
WMOK	Wichita Mounta	24.49	339	P	P	04 42 58.2	-0.5		
	baz=154,SNR=29								
HHAR	Hobbs	24.62	349	P	P	04 42 59.7	-0.1		
HHAR				IAmb	IAmb	04 43 01.9			
	comp=Z,20nm,0.8s								
TUL1	Leonard	24.67	345	IAmb	IAmb	04 43 01.1			
	comp=Z,31nm,0.9s								
TUL1	Leonard	24.67	345	P	P	04 42 59.7	-0.6		
	baz=162,SNR=15								
TZTN	Tazewell	24.69	9	P	P	04 43 00.3	-0.1		
	baz=191								
RLO	Rose Lookout	24.73	347	IAmb	IAmb	04 43 03.7			
	comp=Z,22nm,0.8s								
DEOK	Depew	24.79	344	IAmb	IAmb	04 43 01.4			
	comp=Z,40nm,0.6s								
T47A	Sharon Grove	24.79	2	P	P	04 43 00.5	-0.8		
T47A				IAmb	IAmb	04 43 01.4			
	comp=Z,24nm,0.8s								
CNNC	Cliffs of the	24.85	20	IAmb	IAmb	04 43 04.6			
	comp=Z,22nm,1.1s								
U38A	Gravette	24.86	348	IAmb	IAmb	04 43 04.5			
	comp=Z,28nm,0.8s								
BCOK	Bluff Creek, N	24.94	342	IAmb	IAmb	04 43 04.4			
	comp=Z,45nm,0.7s								
OK030	Cody Creek RV	24.95	343	P	P	04 43 02.4	-0.4		
V58A	Windy Hill, Pi	24.97	18	IAmb	IAmb	04 43 03.8			
	comp=Z,20nm,0.7s								
CZSB	Cruzeiro do Su	25.02	141	eP	P	04 43 10.6	+7.0		
CGM3	Cape Girardeau	25.12	357	IAmb	IAmb	04 43 04.4			
	comp=Z,8.1nm,0.8s								
U56A	King	25.14	15	IAmb	IAmb	04 43 07.4			
	comp=Z,11nm,0.8s								
QUOK	Quay	25.16	344	IAmb	IAmb	04 43 05.2			
	comp=Z,81nm,0.7s								
MGMO	Mountain Grove	25.20	352	IAmb	IAmb	04 43 06.4			
	comp=Z,21nm,0.8s								
CSTR	Hydro, Custer	25.28	340	IAmb	IAmb	04 43 07.0			
	comp=Z,7.0nm,0.6s								
S44A	Carbondale	25.49	358	IAmb	IAmb	04 43 15.2			
	comp=Z,14nm,0.7s								
MSTX	Muleshoe	25.50	331	P	P	04 43 07.7	-0.2		
	baz=145,SNR=24								
AMTX	Amarillo	25.77	334	P	P	04 43 10.9	+0.6		
AMTX	Amarillo	25.77	334	P	P	04 43 10.4	+0.1		
	baz=148								
T35A	Sooner Cattle	25.81	345	IAmb	IAmb	04 43 15.0			
	comp=Z,12nm,0.8s								
CROK	Carrier	25.84	342	IAmb	IAmb	04 43 11.0			
	comp=Z,26nm,0.8s								
BLOK	Blackwell	25.85	343	IAmb	IAmb	04 43 13.0			
	comp=Z,46nm,1.1s								
ELIS	Ellis County	25.91	339	IAmb	IAmb	04 43 14.1			
	comp=Z,48nm,0.6s								
BLA	Blacksburg	25.95	14	P	P	04 43 12.6	+0.6		
	baz=197								
CCM	Cathedral Cave	25.98	355	P	P	04 43 11.2	-0.9		
CCM				IAmb	IAmb	04 43 13.5			
	comp=Z,20nm,0.7s								
CCM	Cathedral Cave	25.98	355	P	P	04 43 11.2	-0.9		
	baz=173								
WCI	Wyandotte Cave	26.07	3	P	P	04 43 12.3	-0.6		
WCI				IAmb	IAmb	04 43 13.6			
	comp=Z,15nm,0.7s								
WCI	Wyandotte Cave	26.07	3	P	P	04 43 12.0	-0.9		
	baz=184								
GC02	Grant County #	26.12	342		P	04 43 12.9	-0.5		
KAN14	Manchester OK	26.25	342	P	P	04 43 14.1	-0.5		
KAN14				IAmb	IAmb	04 43 16.5			
	comp=Z,18nm,0.8s								
R40A	Maddies Statio	26.32	353	IAmb	IAmb	04 43 16.6			
	comp=Z,12nm,0.7s								
NNA	Nana	26.46	154	LR	LR	04 52 27.0			
	comp=Z,38nm,20.2s,baz=336,slow=34								
Q44A	Meyer Farm, Va	26.69	359	P	P	04 43 17.9	-0.6		
Q44A				IAmb	IAmb	04 43 18.5			
	comp=Z,16nm,0.8s								
R55A	Marlinton	27.04	14	IAmb	IAmb	04 43 23.7			
	comp=Z,10nm,0.8s								
121A	Cookes Peak, D	27.14	322	P	P	04 43 25.0	+2.2		
	baz=134,SNR=6.6								
Q51A	Peebles	27.15	8	IAmb	IAmb	04 43 23.7			
	comp=Z,20nm,0.7s								
Q52A	Bidwell	27.26	10	IAmb	IAmb	04 43 24.2			
	comp=Z,15nm,1.0s								
P40A	Paris	27.52	354	IAmb	IAmb	04 43 26.6			
	comp=Z,19nm,0.7s								
Q54A	Coxs Mills	27.55	12	IAmb	IAmb	04 43 27.8			
	comp=Z,17nm,0.7s								
BNM	Barren Site	27.63	326	P	P	04 43 28.6	+1.3		
CBN	Corbin Frederi	27.73	19	IAmb	IAmb	04 43 28.6			
	comp=Z,12nm,0.5s								
R32A	Long Quarter,	27.83	342	IAmb	IAmb	04 43 32.3			
	comp=Z,17nm,0.9s								
KSU1	Kansas State U	27.90	346	P	P	04 43 28.9	-0.5		
	baz=162,SNR=13								
P53A	Whipple	27.93	11	IAmb	IAmb	04 43 30.1			
	comp=Z,12nm,0.8s								
O44A	Mansfield	27.93	360	IAmb	IAmb	04 43 29.0			
	comp=Z,9.5nm,0.7s								
P52A	Corning	27.94	10	IAmb	IAmb	04 43 30.0			
	comp=Z,10nm,0.9s								
P52A	Corning	27.94	10	P	P	04 43 29.5	-0.2		
	baz=192								
SFIN	Lafayette	28.18	2	P	P	04 43 30.8	-1.0		
	baz=182								
HDIL	Hopedale	28.35	358	P	P	04 43 32.8	-0.6		
HDIL				IAmb	IAmb	04 43 45.5			
	comp=Z,9.5nm,0.8s								
HDIL	Hopedale	28.35	358	P	P	04 43 33.1	-0.3		
	baz=178								
ACSO	Alum Creek Sta	28.39	8	IAmb	IAmb	04 43 34.0			
	comp=Z,14nm,0.8s								
ACSO	Alum Creek Sta	28.39	8	P	P	04 43 33.0	-0.7		
	baz=191,SNR=5.1								
CBKS	Cedar Bluff	28.51	341	P	P	04 43 35.5	+0.6		
	baz=156								
N41A	Harden Midland	28.58	356	IAmb	IAmb	04 43 34.9			
	comp=Z,12nm,0.8s								
O53A	New Philadelph	28.70	11	IAmb	IAmb	04 43 37.4			
	comp=Z,8.7nm,0.8s								
P57A	Homestead Farm	28.72	17	IAmb	IAmb	04 43 37.7			
	comp=Z,7.3nm,0.7s								
O54A	Avella	28.80	12	IAmb	IAmb	04 43 38.8			
	comp=Z,11nm,0.7s								
T25A	Trinidad	28.86	332	IAmb	IAmb	04 43 41.4			
	comp=Z,7.3nm,0.7s								
T25A	Trinidad	28.86	332	P	P	04 43 40.4	+2.2		
	baz=145,SNR=8.2								
TUC	Tucson	28.89	318	P	P	04 43 39.5	+1.1		
N49A	Columbus Grove	28.92	6	IAmb	IAmb	04 43 38.6			
	comp=Z,10nm,0.8s								
N35A	Tabor	29.38	348	IAmb	IAmb	04 43 48.0			
	comp=Z,13nm,0.7s								
PAGS	Pennsylvania G	29.78	18	IAmb	IAmb	04 43 50.2			
	comp=Z,13nm,0.8s								
SSPA	Standing Stone	29.83	16	P	P	04 43 46.5	0.0		
SSPA				IAmb	IAmb	04 43 50.9			
	comp=Z,7.3nm,0.8s								
SDCO	Great Sand Dun	29.86	332	P	P	04 43 49.0	+1.9		
	baz=144,SNR=9.6								
L40A	Anamosa	29.96	355	IAmb	IAmb	04 43 48.1			
	comp=Z,14nm,0.8s								
SCIA	State Center	30.01	353	P	P	04 43 48.4	+0.3		
	baz=170								
S22A	4UR Ranch, Cre	30.49	330	P	P	04 43 54.4	+1.6		
	baz=142,SNR=7.8								
K38A	Parkersburg	30.68	353	P	P	04 43 53.8	-0.2		
M57A	Sunshine Farm,	30.69	16	IAmb	IAmb	04 43 55.8			
	comp=Z,7.5nm,0.7s								
JFWS	Jewell Farm	30.74	357	IAmb	IAmb	04 43 57.2			
	comp=Z,10nm,0.7s								
ETMB	Extrema	30.85	134	P	P	04 43 56.9	+1.1		
ETMB				IAmb	IAmb	04 43 59.5			
	comp=Z,14nm,0.8s								
ETMB	Extrema	30.85	134	eP	P	04 43 58.2	+2.4		
OGNE	Ogallala	31.19	340	IAmb	IAmb	04 44 01.3			
	comp=Z,9.2nm,0.7s								
OGNE	Ogallala	31.19	340	P	P	04 44 00.0	+1.4		
	baz=153								
MACA	Manacapuru-AM	31.28	117	P	P	04 43 59.7	+0.1		
MACA				IAmb	IAmb	04 44 00.5			
	comp=Z,9.1nm,0.6s								
SMCO	Snowmass	31.69	332	IAmb	IAmb	04 44 09.5			
	comp=Z,6.8nm,1.0s								
PV13	Radium Mtn., P	31.80	328	IAmb	IAmb	04 44 10.1			
	comp=Z,11nm,1.4s								
PV11	David Mesa, Pa	31.94	328	IAmb	IAmb	04 44 10.6			
	comp=Z,9.1nm,1.1s								
ECSD	EROS Data Cent	32.34	349	IAmb	IAmb	04 44 08.3			
	comp=Z,11nm,0.8s								
ECSD	EROS Data Cent	32.34	349	P	P	04 44 07.3	-1.2		
	baz=164,SNR=14								
PHWY	Pilot Hill	32.78	336	P	P	04 44 14.3	+1.5		
PHWY				IAmb	IAmb	04 44 18.4			
	comp=Z,5.1nm,0.8s								
BC3	Big Chuckawall	32.84	315	P	P	04 44 15.5	+2.2		
	baz=124								
O20A	White River Ci	33.05	331	IAmb	IAmb	04 44 26.1			
	comp=Z,11nm,1.0s								
O20A	White River Ci	33.05	331	P	P	04 44 17.6	+2.5		
	baz=142,SNR=7.8								
G40A	Rib Lake	33.09	357	IAmb	IAmb	04 44 15.1			
	comp=Z,8.8nm,0.7s								
SPMN	Marine on St.	33.23	354	P	P	04 44 15.0	-1.4		
	baz=172,SNR=26								
SADO	Sadowa	33.46	12	LR	LR	04 58 45.2			
	comp=Z,182nm,18.9s,baz=190,slow=38								
PFO	Pinon Flats O	33.51	314	LR	LR	04 58 44.1			
	comp=Z,120nm,21.6s,baz=134,slow=38								
V12A	Nelson	33.65	319	P	P	04 44 21.2	+0.9		
COWI	Conover	33.89	359	IAmb	IAmb	04 44 22.1			
	comp=Z,7.9nm,0.7s								
TMUT	Trail Mountain	33.90	327		PcP	04 47 03.1	+2.1		
K22A	Casper	34.34	336	IAmb	IAmb	04 44 31.2			
	comp=Z,7.0nm,0.9s								
LONY	Lake Ozonia	34.44	17	P	P	04 44 26.9	0.0		
LONY				IAmb	IAmb	04 44 27.6			
	comp=Z,11nm,0.8s								
RSSD	Black Hills	34.69	340	P	P	04 44 30.0	+0.7		
RSSD				IAmb	IAmb	04 44 32.1			
	comp=Z,11nm,0.7s								
RSSD	Black Hills	34.69	340	P	P	04 44 30.0	+0.7		
	baz=152								
SPR3	Spring Creek 3	35.43	324	PcP	PcP	04 47 07.3	+1.9		
PDAR	Pinedale Array	35.73	333	P	P	04 44 38.0	-0.3		
	comp=Z,1.1nm,0.8s,baz=129,slow=11,SNR=8.1								
PDAR				PcP	PcP	04 47 06.8	+0.8		
	comp=Z,1.1nm,0.6s,baz=136,slow=5.3,SNR=6.8								
PDAR				LR	LR	05 03 43.1			
	comp=Z,68nm,18.8s,baz=130,slow=44								
	comp=Z,1.1nm,0.8s								
PDAR	Pinedale Array	35.73	333	P	P	04 44 39.3	+0.9		
PDAR				PcP	PcP	04 47 06.9	+0.8		
HWUT	Hardware Ranch	35.79	329	P	P	04 44 39.5	+0.8		
HWUT				IAmb	IAmb	04 44 50.2			
	comp=Z,9.5nm,1.2s								
HWUT				PcP	PcP	04 47 07.1	+0.9		
MDP	Montagnes des	35.81	98	LR	LR	05 01 25.4			
	comp=Z,73nm,18.7s,baz=21,slow=40								
EYMN	Ely	35.83	356	IAmb	IAmb	04 44 37.7			
	comp=Z,7.6nm,0.7s								
EYMN	Ely	35.83	356	P	P	04 44 37.3	-1.6		
	baz=174								
B35A	Bob, Littlefor	36.43	354	IAmb	IAmb	04 44 43.6			
	comp=Z,11nm,0.7s								
AHID	Auburn Hatcher	36.44	331	IAmb	IAmb	04 44 58.6			
	comp=Z,5.8nm,0.8s								
AGMN	Agassiz Nation	36.64	351	P	P	04 44 44.6	-1.1		
AGMN				PcP	PcP	04 47 08.1	-0.3		
AGMN	Agassiz Nation	36.64	351	P	P	04 44 44.6	-1.1		
	baz=167,SNR=21								
MDND	Maddock	36.89	347	P	P	04 44 47.2	-0.6		
	baz=161,SNR=7.5								
TPAW	Teton Pass	36.93	332	IAmb	IAmb	04 44 57.8			
	comp=Z,7.2nm,0.8s								
FXWY	Fox Creek	37.08	332	P	P	04 44 50.0	+0.1		
FXWY				PcP	PcP	04 47 11.8	+1.6		
ELK	Elko	37.12	325	LR	LR	05 03 43.4			
	comp=Z,250nm,18.9s,baz=138,slow=42								
FLWY	Flagg Ranch	37.28	333	IAmb	IAmb	04 45 00.8			
	comp=Z,10nm,1.1s								
VILB	Vilhena	37.30	131	P	P	04 44 52.2	+0.4		
VILB				IAmb	IAmb	04 44 54.0			
	comp=Z,14nm,0.7s								
VILB	Vilhena	37.30	131	eP	P	04 44 52.1	+0.4		
NVAR	Mina Array Bea	37.48	320	P	P	04 44 54.4	+1.1		
	comp=Z,1.1nm,0.7s,baz=133,slow=8.7,SNR=9.1								
NVAR				PcP	PcP	04 47 13.4	+1.9		
	comp=Z,1.9nm,0.7s,baz=144,slow=4.6,SNR=13								
	comp=Z,1.1nm,0.7s								
NVAR	Mina Array Bea	37.48	320	P	P	04 44 54.3	+1.1		
NVAR				PcP	PcP	04 47 12.9	+1.5		
RLMT	Red Lodge	37.50	335	P	P	04 44 54.1	+0.7		
	baz=145								
LAO	LASA Array	37.68	340	IAmb	IAmb	04 44 55.9			
	comp=Z,9.9nm,1.1s								
YMR	Madison River	37.86	333	IAmb	IAmb	04 45 03.1			
	comp=Z,8.8nm,0.8s								
YHB	Horse Butte	38.02	333	IAmb	IAmb	04 45 08.1			
	comp=Z,7.0nm,0.8s								
YHL	Hebgen Lake	38.10	333	IAmb	IAmb	04 45 11.6			
	comp=Z,5.9nm,0.8s								
GCMT	Greycliff	38.21	336	P	P	04 44 59.6	+0.4		
GCMT				PcP	PcP	04 47 14.9	+1.5		
ULM	Lac du Bonnet	38.55	352	P	P	04 45 00.2	-1.7		
	comp=Z,35nm,0.7s,baz=169,slow=8.8,SNR=43								
ULM				LR	LR	05 01 27.6			
	comp=Z,125nm,21.9s,baz=142,slow=37								
DGMT	Dagmar	38.62	343	P	P	04 45 02.8	+0.3		
	baz=154,SNR=13								
HLID	Hailey	38.65	329	P	P	04 45 04.2	+1.1		
	baz=136								
SIV	San Ignacio	38.73	135	P	P	04 45 03.8	-0.1		
	comp=Z,4.8nm,0.7s,baz=312,slow=8.5,SNR=24								
SIV				PcP	PcP	04 47 16.9	+1.5		
	comp=Z,3.3nm,0.6s,baz=265,slow=3.6,SNR=11								
	comp=Z,4.8nm,0.7s								
BOZ	Bozeman (W)	38.88	334	P	P	04 45 06.0	+1.1		
	baz=142								
LMN	Caledonia Moun	39.06	26	IAmb	IAmb	04 45 06.6			
	comp=Z,15nm,0.8s								
PDRB	Porto dos Gac	39.14	126	eP	P	04 45 06.7	-0.6		
PTLB	Pontes e Lacer	39.72	133	eP	P	04 45 15.7	+3.7		
EGMT	Eagleton	40.08	337	P	P	04 45 15.6	+0.8		
EGMT				IAmb	IAmb	04 45 19.8			
	comp=Z,12nm,0.8s								
EGMT				PcP	PcP	04 47 19.9	+0.7		
EGMT	Eagleton	40.08	337	P	P	04 45 15.2	+0.4		
	baz=146,SNR=6.7								
MSO	Missoula	40.85	333	P	P	04 45 21.6	+0.4		
MSO				IAmb	IAmb	04 45 26.0			
	comp=Z,13nm,1.4s								
MSO				PcP	PcP	04 47 22.1	+0.3		
MSO	Missoula	40.85	333	P	P	04 45 22.1	+0.8		
	baz=139								
YBH	Yreka Blue Hor	42.15	321	LR	LR	05 03 27.3			
	comp=Z,105nm,18.8s,baz=188,slow=37								
NEW	Newport	43.36	332	LR	LR	05 08 24.0			
	comp=Z,101nm,19.4s,baz=127,slow=43								
SNDB	Serra Nova Dou	43.76	122	eP	P	04 45 44.6	-0.6		
FFC	Flin Flon	43.88	349	P	P	04 45 45.3	-0.3		
FFC				IAmb	IAmb	04 45 46.0			
	comp=Z,10nm,0.8s					

E25K	**Arctic Village**	**66.99**	**340**	P		**P**	**04 48 32.5 +0.7**
	baz=116						
D25K	**Kavik River**	**67.79**	**341**	P		**P**	**04 48 37.1 +0.3**
	baz=116						
EUNU	**Eureka**	**67.96**	**0**	P		**P**	**04 48 37.1 -0.7**
EUNU				IAmb		IAmb	04 48 37.6
	comp=Z,5.9nm,0.8s						
F22K	**John River**	**69.06**	**338**	P		**P**	**04 48 45.4 +0.7**
	baz=110						
BORG	**Borgarnes**	**69.33**	**25**	LR		LR	05 19 40.7
	comp=Z,40nm,18.6s,baz=235,slow=36						
C23K	**Itkillik River**	**69.36**	**341**	P		**P**	**04 48 47.1 +0.6**
	baz=112						
F21K	**Alatna River**	**69.44**	**338**	P		**P**	**04 48 48.2 +1.1**
	baz=108						
SPITS	**Spitsbergen Ar**	**81.19**	**12**	LR		LR	05 26 49.3
	comp=Z,49nm,19.5s,baz=252,slow=36						
NOA	**NORSAR Array B**	**84.02**	**29**	P		**P**	**04 50 07.3 -2.3**
	comp=Z,0.9nm,0.8s,baz=287,slow=4.9,SNR=1.7						
NOA				LR		LR	05 24 18.1
	comp=Z,30nm,20.9s,baz=300,slow=34						
	comp=Z,0.9nm,0.8s						
HFS	**Hagfors**	**85.44**	**29**	LR		LR	05 28 52.2
	comp=Z,32nm,18.7s,baz=346,slow=36						
DAVOX	**Davos/Dischmat**	**86.73**	**43**	LR		LR	05 22 42.0
	comp=Z,58nm,19.1s,baz=274,slow=31						
ARCES	**ARCESS Array B**	**86.74**	**19**	LR		LR	05 27 26.3
	comp=Z,28nm,21.9s,baz=279,slow=35						
VRAC	**Vranov**	**90.34**	**39**	LR		LR	05 26 49.0
	comp=Z,74nm,18.4s,baz=304,slow=33						
FINES	**FINESS Array B**	**90.60**	**26**	LR		LR	05 32 17.9
	comp=Z,44nm,18.1s,baz=243,slow=36						
MA2	**Magadan**	**94.43**	**334**	LR		LR	05 37 01.8
	comp=Z,26nm,21.5s,baz=86,slow=38						
AKASG	**Malin Array Be**	**97.22**	**35**	LR		LR	05 32 11.5
	comp=Z,55nm,20.6s,baz=342,slow=34						
NRIK	**Noril'sk**	**98.70**	**2**	LR		LR	05 37 06.9
	comp=Z,75nm,21.5s,baz=288,slow=36						
BOSA	**Boshof**	**116.20**	**116**	PKP		**PKiKP**	**04 56 24.8 +1.5**
	comp=Z,2.2nm,0.8s,baz=62,slow=2.9,SNR=3.4						
SONM	**Songino Array**	**118.92**	**349**	PKP		**PKiKP**	**04 56 28.7 +0.6**
	comp=Z,0.3nm,0.5s,baz=12,slow=1.2,SNR=3.7						
KSRS	**Korea Array**	**120.16**	**327**	PKP		**PKiKP**	**04 56 32.4 +1.8**
	comp=Z,1.6nm,0.6s,baz=23,slow=2.5,SNR=6.0						
MKAR	**Makanchi Array**	**120.75**	**8**	PKP		**PKPdf**	**04 56 29.5 -1.9**
	comp=Z,0.3nm,0.5s,baz=321,slow=2.0,SNR=2.3						
ASAR	**Alice Springs**	**138.46**	**248**	PKP		**PKPdf**	**04 57 05.1 -0.5**
	comp=Z,0.3nm,0.3s,baz=86,slow=2.2,SNR=5.5						
WRA	**Warramunga Arr**	**138.47**	**254**	PKP		**PKPdf**	**04 57 05.1 -0.5**
	comp=Z,0.3nm,0.8s,baz=87,slow=2.9,SNR=6.6						
PZH	**PanZhiHua**	**140.42**	**346**	PKP		**PKPdf**	**04 57 09.5 +0.2**
MND	**Mandalay**	**145.82**	**353**	PKPbc		**PKPdf**	**04 57 19.0 +0.3**
CRAI	**Chiangrai**	**146.78**	**345**	PKPbc		**PKPdf**	**04 57 19.9 -0.5**
CHTO	**Chiang Mai**	**148.47**	**347**	PKPbc		**PKPdf**	**04 57 24.0 +0.7**
CMAR	**Chiang Mai Arr**	**148.82**	**347**	PKPbc		**PKPbc**	**04 57 25.9 -1.8**
	comp=Z,6.1nm,0.7s,baz=340,slow=3.6,SNR=26						

SOME **26** *04:38:16.5,39˚.17N×74˚.40E,h0km*
KRNET **26** *04:38:17.2±0.1,39˚.07N×74˚.30E,mb4.3*
IDC **26** *04:38:18.3±0.8,39˚.12N×74˚.53E,h0km,mb3.8/17, mbtmp3.8/21,ML3.3/4,MS3.1/9,Error ellipse: s-maj=15.7km s-min=13.7km az=122.0*
NEIC **26** *04:38:20.6±1.7,39˚.16N±0˚.07×74˚.38E±0˚.08,h10km±1km, mb4.3/8,Error ellipse: s-maj=12.8km s-min=8.9km az=139.0*
NNC **26** *04:38:25.2±2.8,39˚.49N×74˚.43E,h0km,mb4.6,mpv4.2, Error ellipse: s-maj=21.5km s-min=14.6km az=161.0*

ISC 26 04:38:19.3±0.5,39˚.00N±0˚.03×74˚.26E±0˚.03,h10km,n125, σ2ş06/157,mb3.9/19,MS3.2/5,17C-22D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.90**	**324**	⇑	*eP*	**Pn**	**04 38 51.7**	**-0.2**
	baz=22							
OHH				⇑	*eS*	**Sn**	**04 39 16.9**	**+0.9**
	baz=22							
DRK	**Karamyk**	**1.97**	**285**	⇑	*eP*	**Pn**	**04 38 53.6**	**+0.5**
	baz=83							
DRK				⇑	*eS*	**Sb**	**04 39 20.1**	**-0.1**
	baz=83							
DRK	**Karamyk**	**1.97**	**285**			**Pb**	**04 38 54.8**	**-0.7**
NRN	**Naryn**	**2.77**	**28**			**Pn**	**04 39 03.9**	**-0.2**
ARLS	**Aral**	**2.86**	**1**	⇓	*eP*	**Pn**	**04 39 04.6**	**-0.6**
	baz=0.0							
ARLS				⇓	*eS*	**Sn**	**04 39 39.2**	**-0.6**
	baz=0.0							
BTK	**Batken**	**2.86**	**293**	⇑	*eP*	**Pn**	**04 39 05.9**	**+0.7**
	baz=91							
BTK				⇑	*eS*	**Sn**	**04 39 41.1**	**+1.4**
	baz=91							
BTK	**Batken**	**2.86**	**293**			**Pb**	**04 39 07.8**	**-2.7**
GAR	**Garm**	**3.07**	**271**	⇓	*eP*	**Pn**	**04 39 09.2**	**+1.1**
	baz=70							
GAR				⇓	*eS*	**Sn**	**04 39 47.2**	**+2.3**
	baz=70							
GAR	**Garm**	**3.07**	**271**	Pn		**Pb**	**04 39 11.2**	**-2.9**
AML	**Almayashu**	**3.16**	**352**	P		**Pn**	**04 39 10.7**	**+1.2**
	SNR=33							
UCH	**Uchtor**	**3.23**	**3**	P		**Pn**	**04 39 11.0**	**+0.5**
	SNR=98							
UCH	**Uchtor**	**3.23**	**3**	⇓	*eP*	**Pn**	**04 39 10.0**	**-0.5**
	baz=3.0							
UCH				⇓	*iS*	**Sn**	**04 39 48.5**	**-0.8**
	baz=3.0							
ARK	**Arkit**	**3.30**	**329**	⇑	*eP*	**Pn**	**04 39 11.2**	**0.0**
	baz=28							
ARK				⇑	*eS*	**Sn**	**04 39 50.7**	**+0.1**
	baz=28							
TRKS	**Terek-Say**	**3.48**	**318**	⇓	*eP*	**Pn**	**04 39 12.8**	**-0.9**
	baz=16							
TRKS				⇓	*eS*	**Sn**	**04 39 53.6**	**-1.4**
	baz=16							
ULHL	**Ulahol**	**3.58**	**24**	P		**Pn**	**04 39 16.3**	**+1.2**
	SNR=15							
ULHL	**Ulahol**	**3.58**	**24**	⇓	*eP*	**Pn**	**04 39 14.5**	**-0.6**
	baz=24							
ULHL				⇓	*eS*	**Sn**	**04 39 56.5**	**-1.0**
	baz=24							
AAK	**Ala-Archa**	**3.64**	**3**	P		**Pn**	**04 39 17.4**	**+1.5**
	SNR=33							
AAK	**Ala-Archa**	**3.64**	**3**	Pn		**Pn**	**04 39 17.8**	**+1.9**
	9.8nm,0.3s,baz=174,slow=7.6,SNR=21							
AAK				Lg		Lg	04 40 07.6	
	4.6nm,0.3s,baz=292,slow=21,SNR=9.2							
AAK				LR		LR	04 40 45.1	
	comp=Z,255nm,18.5s,baz=194,slow=42							
	77nm,0.5s							
AAK	**Ala-Archa**	**3.64**	**3**	⇓	*eP*	**Pn**	**04 39 15.7**	**-0.2**
	baz=2.0							
AAK				⇓	*eS*	**Sn**	**04 39 58.3**	**-0.7**
	baz=2.0							
AAK	**Ala-Archa**	**3.64**	**3**			**Pn**	**04 39 16.4**	**+0.5**
EKS2	**Erkin-Say**	**3.68**	**354**	P		**Pn**	**04 39 18.3**	**+1.9**
	SNR=19							
EKS2	**Erkin-Say**	**3.68**	**354**	⇓	*eP*	**Pn**	**04 39 16.0**	**-0.4**
	baz=54							
EKS2				⇓	*eS*	**Sn**	**04 39 59.0**	**-0.9**
	baz=54							
KBK	**Karagaybulak**	**3.69**	**8**	P		**Pn**	**04 39 18.1**	**+1.4**
	SNR=29							
KBK	**Karagaybulak**	**3.69**	**8**	⇓	*eP*	**Pn**	**04 39 16.1**	**-0.5**
	baz=8.0							
KBK				⇓	*eS*	**Sn**	**04 39 59.3**	**-1.0**
	baz=8.0							
MRKS	**Merke**	**3.82**	**349**		*eP*	**Pb**	**04 39 25.6**	**-1.4**
	36nm,0.6s							
MRKS					*eS*	**Sb**	**04 40 14.8**	**+1.4**
	86nm,0.5s							
MRKS	**Merke**	**3.82**	**349**	Pg		**Pb**	**04 39 27.8**	**+0.8**
	36nm,0.6s							
MRKS				Lg		Lg	04 40 14.8	
	86nm,0.5s							
TARG	**Taragay, Kyrgy**	**3.84**	**44**			**Pn**	**04 39 18.1**	**-0.9**
CHGR	**Chuyangaron**	**4.00**	**267**	Pn		**Pn**	**04 39 23.3**	**+2.6**
CHMS	**Chumysh**	**4.01**	**5**	P		**Pn**	**04 39 21.6**	**+0.7**
	SNR=18							
TKM2	**Tokmak 2**	**4.05**	**14**	P		**Pn**	**04 39 22.1**	**+0.6**
	SNR=23							
TKM2	**Tokmak 2**	**4.05**	**14**	⇑	Pn	**Pn**	**04 39 21.5**	**0.0**
	45nm,0.8s							
TKM2				⇑	Lg	Lg	04 40 19.1	
	115nm,0.8s							
KST	**Kastek**	**4.24**	**17**		*eP*	**Pb**	**04 39 31.8**	**-2.3**
	42nm,0.1s							
KST					*eS*	**Sb**	**04 40 25.9**	**+0.5**
	129nm,0.7s							
KST	**Kastek**	**4.24**	**17**	Pg		**Pb**	**04 39 32.8**	**-1.3**
	42nm,0.7s							
KST				Lg		Lg	04 40 24.0	
	129nm,0.7s							
USP	**Ospenovka**	**4.27**	**2**	P		**Pn**	**04 39 25.9**	**+1.5**
	SNR=6.1							
DGS	**Degeres**	**4.39**	**15**		*eP*	**Pb**	**04 39 35.4**	**-1.2**
	98nm,0.6s							
DGS					*eS*	**Sb**	**04 40 31.6**	**+1.9**
	82nm,0.8s							
DGS	**Degeres**	**4.39**	**15**	Pg		**Pb**	**04 39 37.5**	**+0.9**
	98nm,0.6s							
DGS				Lg		Lg	04 40 31.7	
	82nm,0.8s							
IZV	**Izvestkoviy**	**4.41**	**23**		*eP*	**Pb**	**04 39 36.3**	**-0.7**
	23nm,0.2s							
IZV					*eS*	**Sb**	**04 40 33.5**	**+3.3**
	120nm,0.1s							
MTBS	**Maitube**	**4.44**	**21**		*eP*	**Pb**	**04 39 36.9**	**-0.6**
	47nm,0.7s							
MTBS					*eS*	**Sb**	**04 40 33.2**	**+2.1**
	72nm,0.6s							
MTBS	**Maitube**	**4.44**	**21**	Pg		**Pb**	**04 39 37.5**	**+0.1**
	47nm,0.7s							
MTBS				Lg		Lg	04 40 32.1	
	72nm,0.6s							
TAS	**Tashkent**	**4.46**	**303**	Pn		**Pn**	**04 39 29.1**	**+2.1**
SGDS	**Sogindy**	**4.46**	**3**		*eP*	**Pb**	**04 39 37.0**	**-0.7**
	22nm,0.2s							
SGDS					*eS*	**Sb**	**04 40 35.0**	**+3.4**
	39nm,0.3s							
SGDS	**Sogindy**	**4.46**	**3**	Pg		**Pb**	**04 39 37.0**	**-0.7**
	24nm,0.8s							
SGDS				Lg		Lg	04 40 30.9	
IUG	**Iuzhnay**	**4.50**	**316**		*eP*	**Pg**	**04 39 42.5**	**-3.1**
	114nm,0.3s							
IUG					*eS*	**Sg**	**04 40 45.4**	**+1.6**
	202nm,0.9s							
TNSS	**Tian-Shan**	**4.52**	**26**		*eP*	**Pb**	**04 39 38.0**	**-0.9**
	30nm,0.4s							
TNSS					*eS*	**Sb**	**04 40 35.9**	**+2.3**
	47nm,0.9s							
TNSS	**Tian-Shan**	**4.52**	**26**	Pg		**Pb**	**04 39 38.6**	**-0.4**
	30nm,0.4s							
TNSS				Lg		Lg	04 40 34.4	
	47nm,0.9s							
AAA	**Alma-Ata**	**4.66**	**25**		*eP*	**Pb**	**04 39 42.0**	**+0.8**
	56nm,0.5s							
AAA					*eS*	**Sb**	**04 40 41.1**	**+3.8**
	152nm,0.8s							
AAA	**Alma-Ata**	**4.66**	**25**	Pg		**Pb**	**04 39 42.7**	**+1.5**
	56nm,0.5s							
AAA				Lg		Lg	04 40 41.0	
	152nm,0.8s							
MDOK	**Medeo**	**4.66**	**26**		*eP*	**Pb**	**04 39 40.5**	**-0.8**
	30nm,0.8s							
MDOK					*eS*	**Sb**	**04 40 40.1**	**+2.5**
	93nm,0.9s							
MDOK	**Medeo**	**4.66**	**26**	⇓	Pn	**Pn**	**04 39 29.6**	**-0.3**
	33nm,0.6s							
MDOK					Pg	**Pb**	**04 39 41.9**	**+0.6**
	30nm,0.8s							
MDOK					Lg	Lg	04 40 38.1	
	156nm,1.0s							
MDOK					Lg	Lg	04 40 39.3	
	93nm,0.9s							
KOTS	**Kotyrbulak**	**4.75**	**26**		*eP*	**Pb**	**04 39 42.3**	**-0.5**
	21nm,0.7s							
KOTS					*eS*	**Sb**	**04 40 43.1**	**+3.1**
	139nm,0.8s							
KOTS	**Kotyrbulak**	**4.75**	**26**	Pg		**Pb**	**04 39 44.5**	**+1.7**
	21nm,0.7s							
KOTS				Lg		Lg	04 40 43.6	
	139nm,0.8s							
KRBS	**Karabastau**	**4.81**	**12**		*eP*	**Pb**	**04 39 44.5**	**+0.7**
	19nm,0.5s							
KRBS					*eS*	**Sb**	**04 40 46.8**	**+5.0**
	63nm,0.7s							
KRBS	**Karabastau**	**4.81**	**12**	Pg		**Pb**	**04 39 44.7**	**+1.0**
	19nm,0.5s							
KRBS				Lg		Lg	04 40 44.7	
	63nm,0.7s							
KK31	**Karatay Array**	**4.99**	**327**			**Pn**	**04 39 34.7**	**+0.4**
KK31	**Karatay Array**	**4.99**	**327**	⇑	Pn	**Pn**	**04 39 34.2**	**0.0**
	14nm,0.6s,baz=131,slow=12							
KK31				⇓	Sn	**Sn**	**04 40 31.4**	**-0.5**
	16nm,0.6s,baz=130,slow=24							
KK31				⇑	Lg	Lg	04 40 51.5	
	28nm,0.6s,baz=131,slow=31							
KKAR	**Karatay Array**	**4.99**	**327**			**Pn**	**04 39 34.9**	**+0.7**
KTBS	**Karatobe**	**5.05**	**20**		*eP*	**Pb**	**04 39 47.0**	**-0.8**
	44nm,0.5s							
KTBS					*eS*	**Sb**	**04 40 50.9**	**+2.3**
	129nm,0.7s							
KTBS	**Karatobe**	**5.05**	**20**	Pg		**Pb**	**04 39 49.4**	**+1.6**
	44nm,0.5s							
KTBS				Lg		Lg	04 40 52.0	
	129nm,0.7s							
SATY	**Saty**	**5.13**	**36**		*eP*	**Pb**	**04 39 48.5**	**-0.7**
	30nm,0.1s							
SATY					*eS*	**Sb**	**04 40 53.7**	**+2.8**
	48nm,0.3s							
KUU	**Kurty**	**5.13**	**17**		*eP*	**Pb**	**04 39 49.7**	**+0.5**
	24nm,0.9s							
KUU					*eS*	**Sb**	**04 40 54.5**	**+3.6**
	91nm,1.0s							
KUU	**Kurty**	**5.13**	**17**	Pg		**Pb**	**04 39 50.4**	**+1.2**
	24nm,0.9s							
KUU				Lg		Lg	04 40 53.7	
	91nm,1.0s							
CHKK	**Chushkaly**	**5.27**	**22**		*eP*	**Pb**	**04 39 51.7**	**+0.2**
	25nm,0.5s							
CHKK					*eS*	**Sb**	**04 40 59.0**	**+4.2**
	42nm,0.8s							
CHKK	**Chushkaly**	**5.27**	**22**	Pg		**Pb**	**04 39 53.2**	**+1.7**
	25nm,0.5s							
CHKK				Lg		Lg	04 40 58.8	
	42nm,0.8s							
KURS	**Kuram**	**5.37**	**32**		*eP*	**Pb**	**04 39 52.8**	**-0.4**
	25nm,0.2s							
KURS					*eS*	**Sb**	**04 41 02.5**	**+4.9**
	28nm,0.5s							
CHCP	**Chirah Chowk**	**5.39**	**189**	⇑	P	**Pb**	**04 39 49.1**	**-4.5**
NIL	**Nilore**	**5.40**	**189**	Pn		**Pn**	**04 39 44.3**	**+4.3**
UZB	**Uzynbulak**	**5.49**	**39**		*eP*	**Pb**	**04 39 55.3**	**-0.1**
	11nm,0.1s							
UZB					*eS*	**Sb**	**04 41 05.6**	**+4.3**
	40nm,0.3s							
CEP	**Cherat**	**5.50**	**201**	P		Pb	04 39 48.8	-6.8
CEP				S		**Sb**	**04 41 01.0**	**-0.7**
KPKS	**Kokpek**	**5.57**	**35**		*eP*	**Pb**	**04 39 56.9**	**+0.1**
	16nm,0.1s							
KPKS					*eS*	**Sb**	**04 41 07.4**	**+3.8**
	81nm,0.1s							
SHLS	**Shalkode**	**5.72**	**42**		*eP*	**Pb**	**04 40 03.4**	**+4.1**
	27nm,0.1s							
SHLS					*eS*	**Sg**	**04 41 21.1**	**-1.8**
	27nm,0.2s							
ARXS	**Arharly**	**5.86**	**26**		*eP*	**Pb**	**04 40 02.5**	**+1.0**
ARXS					*eS*	**Sb**	**04 41 17.8**	**+6.0**
	29nm,0.2s							
PDGK	**Podgornoye**	**5.86**	**41**	⇑	Pn	**Pn**	**04 39 46.0**	**-0.3**
	25nm,0.7s							
PDGK				⇓	Lg	Lg	04 41 11.2	
	42nm,0.7s							
BTLS	**Baital**	**6.04**	**359**		*eP*	**Pb**	**04 40 05.2**	**+0.5**
	6.9nm,0.8s							
BTLS					*eS*	**Sb**	**04 41 23.0**	**+6.0**
	11nm,1.4s							
BTLS	**Baital**	**6.04**	**359**	Pg		**Pb**	**04 40 06.8**	**+2.2**
	6.9nm,0.8s							
BTLS				Lg		Lg	04 41 22.9	
	11nm,1.4s							
KBL	**Kabul**	**6.11**	**225**	Pn		**Pn**	**04 39 53.5**	**+3.6**
THN	**Thein Dam**	**6.66**	**169**		*eP*	Pn	04 40 04.3	+7.1
THN					*eS*	Sn	04 41 21.7	+8.6
BHK	**Bhakra**	**7.77**	**166**		*eS*	**Sn**	**04 41 46.4**	**+5.9**
OTUK	**Ortayu**	**9.35**	**352**	⇓	Pn	**Pn**	**04 40 31.1**	**-3.0**
	6.4nm,0.8s							
OTUK				⇓	Lg	Lg	04 43 07.3	
	37nm,1.2s							
MK31	**Makanchi Array**	**9.76**	**34**			**Pn**	**04 40 38.2**	**-1.6**
MKAR	**Makanchi Array**	**9.76**	**34**	Pn		**Pn**	**04 40 40.1**	**+0.4**
	0.3nm,0.3s,baz=103,slow=28,SNR=11							
MKAR					Lg	Lg	04 43 22.3	
	0.2nm,0.3s,baz=212,slow=31,SNR=3.2							
MKAR				LR		LR	04 43 56.7	
	comp=Z,23nm,21.3s,baz=208,slow=35							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**9.76**	**34**	Pn		**Pn**	**04 40 37.4**	**-2.4**
HRA	**Herat**	**10.69**	**248**	Pn		**Pn**	**04 40 55.3**	**+2.6**
KUDL	**Kundal**	**10.98**	**170**		*eP*	**Pn**	**04 40 58.5**	**+1.9**
KUDL					*eS*	**Sn**	**04 42 55.8**	**-3.6**
KURBB	**Kurchatov Arra**	**12.01**	**13**	Pn		**Pn**	**04 41 11.7**	**+1.2**
	0.1nm,0.3s,baz=202,slow=12,SNR=1.8							
KURBB				Lg		Lg	04 44 31.0	
	0.3nm,0.3s,baz=201,slow=29,SNR=7.5							
GEYT	**Alibeck**	**12.70**	**270**	LR		LR	04 47 05.8	
	comp=Z,50nm,18.6s,baz=82,slow=41							
GYA0B	**ALIBECK ARRAY**	**12.70**	**270**	Pn		**Pn**	**04 41 20.2**	**+0.2**
BVA0	**Borovoye Array**	**14.28**	**350**	⇑	P	**Pn**	**04 41 39.1**	**-2.4**
	5.5nm,0.7s							
BVAR	**Borovoye Array**	**14.28**	**350**	Pn		**Pn**	**04 41 39.2**	**-2.3**
	0.1nm,0.3s,baz=158,slow=13,SNR=10							
BVAR				Lg		Lg	04 45 48.4	
	baz=159,slow=25,SNR=5.4							
BVAR				LR		LR	04 47 05.0	
	comp=Z,53nm,19.8s,baz=207,slow=37							
	3.5nm,0.7s							
BRVK	**Borovoye**	**14.33**	**350**	Pn		**Pn**	**04 41 40.5**	**-1.6**
BRVK	**Borovoye**	**14.33**	**350**	⇑	P	**Pn**	**04 41 43.1**	**+0.9**
	8.5nm,0.7s							
AB31	**Akbulak array**	**14.49**	**320**	⇓	P	Pn	04 41 39.3	-5.1
	8.0nm,0.9s							
ABKAR	**Akbulak array**	**14.49**	**320**	Pn		**Pn**	**04 41 42.2**	**-2.2**
AKTO	**Aktyubinsk**	**16.21**	**320**	⇑	P	**Pn**	**04 42 03.1**	**-3.9**
	11nm,1.3s							
ZAA0	**Zalesovo Array**	**16.60**	**22**	Pn		**Pn**	**04 42 10.9**	**-1.1**
ZALV	**Zalesovo Beam**	**16.60**	**22**	Pn		**Pn**	**04 42 09.0**	**-3.0**
	0.4nm,0.3s,baz=210,slow=9.6,SNR=5.8							
	1.2nm,0.4s							
ZALV	**Zalesovo Beam**	**16.60**	**22**			**Pn**	**04 42 09.3**	**-2.6**
ARU	**Arti**	**20.30**	**334**	P		**P**	**04 42 55.9**	**+0.8**
	4.9nm,0.7s,baz=154,slow=9.6,SNR=8.8							
	4.9nm,0.7s							
ARU	**Arti**	**20.30**	**334**	P		**P**	**04 42 55.3**	**+0.1**
WSAR	**Wadi Sarin**	**20.59**	**225**	P		Pn	04 43 01.3	+0.6
	4.9nm,0.8s,baz=58,slow=11,SNR=3.5							
	4.9nm,0.8s							
GNI	**Garni**	**22.74**	**282**	P		**P**	**04 43 25.0**	**+3.3**
	3.4nm,0.4s,baz=31,slow=23,SNR=2.3							
	3.4nm,0.4s							
GNI	**Garni**	**22.74**	**282**	P		**P**	**04 43 22.6**	**+0.9**
BELG	**Belogornoye**	**22.76**	**315**	P		**P**	**04 43 24.4**	**+2.8**
	2.7nm,0.5s,baz=227,slow=6.1,SNR=1.9							
	2.7nm,0.5s							
ONI	**Oni**	**23.53**	**289**	P		**P**	**04 43 30.7**	**+1.0**
ONI				IAmb		IAmb	04 43 34.8	
	comp=Z,10nm,1.0s							
KBZ	**Khabaz**	**23.93**	**292**	P		**P**	**04 43 36.1**	**+2.7**
	comp=Z,1.7nm,0.9s,baz=216,slow=17,SNR=1.7							
	comp=Z,1.7nm,0.9s							
SONM	**Songino Array**	**24.81**	**59**	P		**P**	**04 43 41.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=248,slow=9.7,SNR=6.6							
SONM				LR		LR	04 54 22.6	
	comp=Z,81nm,20.4s,baz=138,slow=39							
	comp=Z,0.8nm,0.5s							
KOPT	**Kop Dagi**	**25.98**	**283**	P		**P**	**04 43 54.0**	**+1.5**
KOPT				IAmb		IAmb	04 43 58.2	
	comp=Z,6.8nm,1.0s							
RAYN	**Ar Rayn**	**28.86**	**246**	P		**P**	**04 44 20.1**	**+1.9**
RAYN				IAmb		IAmb	04 44 22.0	
	comp=Z,2.9nm,0.7s							
BR131	**Keskin Array S**	**31.23**	**284**	P		**P**	**04 44 39.8**	**+0.7**
BR131				IAmb		IAmb	04 44 42.6	
	comp=Z,3.2nm,0.8s							
BRTR	**Keskin Array B**	**31.23**	**284**	P		**P**	**04 44 40.8**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=81,slow=8.3,SNR=8.9							
	comp=Z,1.5nm,0.8s							
BRTR	**Keskin Array B**	**31.23**	**284**	P		**P**	**04 44 41.4**	**+2.3**
PALK	**Pallekele**	**32.12**	**168**	LR		LR	04 58 08.2	
	comp=Z,16nm,20.0s,baz=325,slow=37							
BJT	**Baijiatuau**	**32.14**	**75**	P		**P**	**04 44 45.2**	**-1.7**
AKASG	**Malin Array Be**	**33.50**	**305**	P		**P**	**04 44 59.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=80,slow=7.6,SNR=6.4							
AKASG				LR		LR	05 01 23.6	
	comp=Z,51nm,18.1s,baz=71,slow=41							
	comp=Z,0.2nm,0.3s							
FINES	**FINESS Array B**	**36.94**	**323**	P		**P**	**04 45 28.7**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=116,slow=9.7,SNR=10.0							
FINES				LR		LR	05 01 05.6	
	comp=Z,68nm,18.3s,baz=240,slow=37							
	comp=Z,2.5nm,0.8s							
FINES	**FINESS Array B**	**36.94**	**323**	P		**P**	**04 45 27.8**	**-0.4**
ARCES	**ARCESS Array B**	**39.88**	**336**	P		**P**	**04 45 53.8**	**+1.0**
	0.4nm,0.3s,baz=99,slow=7.5,SNR=5.6							
	comp=Z,2.3nm,0.8s							
TIXI	**Tiksi**	**42.49**	**22**	P		**P**	**04 46 12.0**	**-2.2**
	comp=Z,1.0nm,0.6s,baz=270,slow=23,SNR=3.7							
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**43.65**	**304**	P		**P**	**04 46 25.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=56,slow=9.6,SNR=2.9							
	comp=Z,0.3nm,0.5s							
NB2	**NORSAR Subarra**	**43.99**

INZ	**Inchbonnie**	**2.29**	**244**	P	Pn	04 39 06.0 +0.4
PRHZ	**Porangahau**	**2.34**	**51**	P	Pn	04 39 04.0 -2.1
NMEZ	**Namu Road**	**2.35**	**353**	P	Pb	04 39 09.8 -0.2
PNHZ	**Pukenui**	**2.36**	**40**	P	Pn	04 39 05.0 -1.4
WPHZ	**Waipukurau**	**2.37**	**45**	P	Pn	04 39 04.9 -1.6
KHEZ	**Kahui Hut**	**2.46**	**356**	P	Pb	04 39 11.1 -0.7
NEZ	**North Egmont**	**2.48**	**357**	P	Pb	04 39 12.1 -0.1
NBEZ	**Newall Road No**	**2.50**	**353**	P	Pb	04 39 10.8 -1.7
DREZ	**Durham Road**	**2.56**	**359**	P	Pb	04 39 12.4 -1.1
PKE	**Pukeiti**	**2.56**	**356**	P	Pb	04 39 12.8 -0.7
PKVZ	**Pokaka**	**2.60**	**19**	P	Pb	04 39 14.3 +0.1
MOVZ	**Moawhango**	**2.61**	**27**	P	Pn	04 39 09.7 -0.2
WNVZ	**Wahianoa**	**2.63**	**24**	P	Pn	04 39 10.7 +0.5
TRVZ	**Turoa**	**2.64**	**23**	P	Pn	04 39 11.4 +0.9
BHHZ	**Black Hill Sta**	**2.65**	**32**	P	Pn	04 39 10.2 -0.3
VRZ	**Vera Road**	**2.65**	**9**	P	Pn	04 39 12.1 +1.7
DRZ	**Dome Shelter**	**2.67**	**23**	P	Pn	04 39 09.9 -1.0
WHVZ	**Whangaehu Hut**	**2.67**	**23**	P	Pn	04 39 11.4 +0.5
MHEZ	**Mangahewa**	**2.67**	**1**	P	Pb	04 39 14.6 -0.8
FWVZ	**Far West T-bar**	**2.69**	**22**	P	Pn	04 39 11.9 +0.9
TUVZ	**Tukino**	**2.70**	**24**	P	Pn	04 39 13.4 +2.2
NGZ	**Ngauruhoe**	**2.77**	**22**	P	Pb	04 39 17.7 +0.5
SNVZ	**South Ngauruho**	**2.77**	**23**	P	Pb	04 39 17.9 +0.7
OTVZ	**Oturere**	**2.80**	**23**	P	Pn	04 39 13.1 +0.4
NNVZ	**North Ngauruho**	**2.82**	**22**	P	Pn	04 39 13.5 +0.7
TWVZ	**Taurewa**	**2.83**	**19**	P	Pn	04 39 11.2 -1.7
ETVZ	**East Tongariro**	**2.84**	**24**	P	Pn	04 39 13.7 +0.5
KWHZ	**Kaweka Forest**	**2.85**	**36**	P	Pb	04 39 19.2 +0.6
TMVZ	**Te Maari**	**2.86**	**23**	P	Pn	04 39 13.5 +0.2
KRVZ	**Karewarewa**	**2.86**	**22**	P	Pn	04 39 14.2 +0.8
NTVZ	**North Tongarir**	**2.87**	**23**	P	Pn	04 39 13.8 +0.3
KATZ	**Kakaramea**	**2.98**	**22**	P	Pn	04 39 17.6 +2.5
RITZ	**Rihia Road**	**3.03**	**25**	P	Pn	04 39 17.4 +1.7
BKZ	**Black Stump Fm**	**3.10**	**34**	P	Pn	04 39 15.1 -1.5
HIZ	**Hauiti**	**3.27**	**8**	P	Pn	04 39 20.6 +1.7
MUGZ	**Murupara**	**3.80**	**31**	P	Pn	04 39 24.3 -1.9
URZ	**Urewera**	**4.12**	**33**	P	Pn	04 39 30.0 -0.6
TOZ	**Tahuroa Road**	**4.13**	**14**	P	Pn	04 39 31.7 +1.0
RUGZ	**Raukumara Rang**	**4.61**	**36**	P	Pn	04 39 34.6 -2.9
AWAZ	**Awhitu Peninsu**	**4.69**	**4**	P	Pn	04 39 40.9 +2.5
MKAZ	**Moumakai**	**4.69**	**9**	P	Pn	04 39 39.1 +0.6
HAZ	**Te Kaha**	**4.83**	**36**	P	Pn	04 39 37.8 -2.5

*SOME **26** 04:45:42.6, 39˚.10N×74˚.00E, h10km*
*KRNET **26** 04:45:58.2±0.1, 39˚.20N×73˚.98E, mb3.1*
ISC 26 04:45:59.6±2.6, 39˚.38N±0˚.09×74˚.02E±0˚.07, h13km±13km, n11, σ1§48/22, 8C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.49**	**321**	⇓*eP*	**Pg**	**04 46 27.9**	**-0.3**
	baz=26						
OHH				⇓*eS*	**Sg**	**04 46 49.3**	**+1.8**
	baz=26						
DRK	**Karamyk**	**1.72**	**274**	⇑*eP*	**Pn**	**04 46 29.5**	**0.0**
	baz=80						
DRK				⇑*eS*	**Sb**	**04 46 53.0**	**+0.2**
	baz=80						
ARLS	**Aral**	**2.49**	**5**	⇓*eP*	**Pb**	**04 46 43.5**	**-0.8**
	baz=6.0						
ARLS				⇓*eS*	**Sb**	**04 47 16.3**	**+1.3**
	baz=6.0						
BTK	**Batken**	**2.56**	**286**	⇑*eP*	**Pn**	**04 46 42.2**	**+1.4**
	baz=90						
BTK				⇑*eS*	**Sb**	**04 47 14.3**	**-2.5**
	baz=90						
GAR	**Garm**	**2.90**	**264**	⇑*eP*	**Pn**	**04 46 45.9**	**+0.3**
	baz=67						
GAR				⇑*eS*	**Sn**	**04 47 20.9**	**+0.6**
	baz=67						
TRKS	**Terek-Say**	**3.07**	**315**	⇑*eP*	**Pn**	**04 46 49.3**	**+1.3**
	baz=17						
TRKS				⇑*eS*	**Sn**	**04 47 27.0**	**+2.3**
	baz=17						
MRKS	**Merke**	**3.42**	**350**	*eP*	**Pn**	**04 46 51.4**	**-1.2**
	2.1nm,0.7s						
MRKS				*eS*	**Sb**	**04 47 41.0**	**-0.5**
	4.4nm,0.7s						
KST	**Kastek**	**3.95**	**21**	*eP*	**Pn**	**04 46 59.7**	**-0.3**
	2.4nm,0.1s						
KST				*eS*	**Sb**	**04 47 55.4**	**-1.3**
	7.1nm,0.3s						
DGS	**Degeres**	**4.08**	**18**	*eP*	**Pn**	**04 47 02.6**	**+0.8**
	1.9nm,0.5s						
DGS				*eS*	**Sb**	**04 48 00.2**	**-0.4**
	3.1nm,0.8s						
SGDS	**Sogindy**	**4.10**	**6**	*eP*	**Pn**	**04 47 02.6**	**+0.6**
	0.8nm,0.3s						
SGDS				*eS*	**Sb**	**04 47 59.8**	**-1.3**
	5.1nm,0.7s						
IUG	**Iuzhnay**	**4.10**	**314**	*eP*	**Pn**	**04 47 01.3**	**-0.8**
	3.2nm,0.6s						
IUG				*eS*	**Sb**	**04 47 57.9**	**-3.3**
	10nm,1.0s						

*DDA **26** 04:52:09.3±0.0, 40˚.25N×33˚.31E, h13km±1km, MW3.8*
*ISK **26** 04:52:09.4, 40˚.26N×33˚.34E, h10km, ML3.9/31*
*CFUSG **26** 04:52:10.6±0.8, 40˚.25N×33˚.17E, h5km, mb2.6/3, Northern Turkey Magtype MSH 3.1 from 3 stations*
*IDC **26** 04:52:10.8, 40˚.25N×33˚.49E, h0km, mb4.0/4, mbtmp3.8/10, ML3.6/6, MS2.8/2, Error ellipse: s-maj=16.0km s-min=6.7km az=80.0*
ISC 26 04:52:10.2±1.1, 40˚.26N±0˚.02×33˚.34E±0˚.02, h1km±9km, n115, σ1§30/135, mb4.0/4, 16C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDT	**Eldivan**	**0.24**	**16**	P	**Pg**	**04 52 14.8**	**-0.1**
ELDT				S	**Sg**	**04 52 18.9**	**+0.8**
ELDT				*i* AML	AML	04 52 20.0	
	comp=N,2µm,0.4s						
ELDT				*i* AML	AML	04 52 21.0	
	comp=E,2µm,0.8s						
CANT	**Cankiri**	**0.41**	**32**	PG	**Pg**	**04 52 18.6**	**+0.5**
DELI	**KIRIKKALE**	**0.52**	**120**	P	**Pg**	**04 52 19.9**	**-0.2**
ANTO	**Ankara**	**0.57**	**227**	⇑P	**Pg**	**04 52 20.9**	**-0.1**
ANTO	**Ankara**	**0.57**	**227**	PG	**Pg**	**04 52 20.8**	**-0.3**
ANTO				SG	**Sg**	**04 52 29.2**	**+0.7**
BRTR	**Keskin Array B**	**0.58**	**156**	Pg	**Pg**	**04 52 21.2**	**-0.1**
	306nm,0.3s,baz=335,slow=16,SNR=4892						
BRTR				Lg	Lg	04 52 29.7	
	385nm,0.3s,baz=321,slow=24,SNR=10						
BRTR	**Keskin Array B**	**0.58**	**156**	PG	**Pg**	**04 52 21.5**	**+0.2**
CMDR	**Camlidere-ANKA**	**0.70**	**290**	P	**Pg**	**04 52 22.7**	**-0.9**
BBAL	**Bala**	**0.73**	**193**	P	**Pg**	**04 52 24.4**	**+0.1**
ILGA	**Ilgaz**	**0.84**	**20**	P	**Pg**	**04 52 25.0**	**-1.4**
KAMT	**Kaman**	**0.93**	**162**	PG	**Pg**	**04 52 27.8**	**-0.2**
CORM	**Corum**	**0.99**	**94**	PG	**Pg**	**04 52 28.5**	**-0.7**
CDAG	**Cicekdag**	**1.02**	**128**	P	**Pg**	**04 52 29.3**	**-0.3**
CDAG				S	**Sb**	**04 52 43.9**	**-0.5**
CDAG				*i* AML	AML	04 52 50.0	
	comp=N,2µm,0.3s						
CDAG				*i* AML	AML	04 52 51.0	
	comp=E,2µm,0.4s						
PELI	**Kastamonı-Ara**	**1.04**	**359**	P	**Pg**	**04 52 29.5**	**-0.7**
PELI				S	**Sg**	**04 52 44.0**	**+0.3**
PELI				*i* AML	AML	04 52 49.0	
	comp=E,1µm,0.9s						
SAFT	**Safranbolu**	**1.10**	**333**	PN	**Pg**	**04 52 30.9**	**-0.4**
KBUK	**KARABUK-Merkez**	**1.12**	**331**	P	**Pb**	**04 52 30.4**	**-1.9**
KBUK				S	**Sg**	**04 52 45.6**	**-0.5**
KBUK				*i* AML	AML	04 52 49.0	
	comp=N,500nm,0.6s						
KBUK				*i* AML	AML	04 52 50.0	
	comp=E,709nm,0.6s						
KKUL	**Konya-Kulu**	**1.13**	**197**	P	**Pn**	**04 52 32.7**	**-0.5**
KKUL				S	**Sn**	**04 52 49.0**	**-0.4**
KIBS	**BOLU**	**1.15**	**279**	P	**Pb**	**04 52 31.4**	**-1.5**
KIBS				S	**Sn**	**04 52 48.7**	**-1.2**
KIBS				*i* AML	AML	04 52 51.0	
	comp=N,1µm,0.7s						
KIBS				*i* AML	AML	04 52 51.0	
	comp=E,2µm,0.5s						
KMON	**Kastamonu**	**1.17**	**17**	PN	**Pb**	**04 52 32.2**	**-1.0**
CTAK	**Corum_Osmancik**	**1.18**	**70**	P	**Pb**	**04 52 32.4**	**-1.0**
CTAK				S	**Sn**	**04 52 51.5**	**+0.8**
CTAK				*i* AML	AML	04 52 57.0	
	comp=E,1µm,0.6s						
KIRS	**Kirsehir-Merke**	**1.21**	**158**	P	**Pb**	**04 52 31.9**	**-2.0**
KIRS				S	**Sg**	**04 52 49.8**	**+0.8**
KAGI	**orum-Kargı**	**1.24**	**44**	P	**Pn**	**04 52 33.3**	**-1.3**
KULU	**Kulu**	**1.24**	**192**	PN	**Pn**	**04 52 33.9**	**-0.8**
COAL	**Corum-Alaca**	**1.26**	**90**	P	**Pb**	**04 52 34.6**	**-0.2**
COAL				S	**Sn**	**04 52 51.7**	**-0.9**
COAL				*i* AML	AML	04 52 56.0	
	comp=E,2µm,0.8s						
COAL				*i* AML	AML	04 53 01.0	
	comp=N,911nm,0.8s						
YUVA	**Yuva-Kibriscik**	**1.27**	**277**	PN	**Pn**	**04 52 33.5**	**-1.6**
SERE	**Sereflikochisa**	**1.32**	**172**	PN	**Pn**	**04 52 34.4**	**-1.4**
DEVR	**Zonguldak/Devr**	**1.36**	**311**	P	**Pn**	**04 52 35.3**	**-1.0**
YAYX	**Yaylak**	**1.37**	**164**	PN	**Pn**	**04 52 35.1**	**-1.3**
AUMIH	**MIHALICIK**	**1.48**	**255**	PN	**Pn**	**04 52 36.8**	**-1.2**
AUMIH	**MIHALICIK**	**1.48**	**255**	P	**Pn**	**04 52 37.4**	**-0.6**
KOZK	**Kozakli-Nevseh**	**1.58**	**131**	PN	**Pn**	**04 52 38.1**	**-1.2**
YIGI	**Dzce**	**1.60**	**297**	P	**Pn**	**04 52 39.1**	**-0.5**
BTIN	**Bartın**	**1.60**	**329**	P	**Pn**	**04 52 39.3**	**-0.3**
AUSIV	**SIVRIHISAR**	**1.61**	**240**	PN	**Pn**	**04 52 38.6**	**-1.1**
AUSIV	**SIVRIHISAR**	**1.61**	**240**	P	**Pn**	**04 52 39.4**	**-0.3**
AUSIV				S	**Sg**	**04 53 01.6**	**-0.2**
AUSIV				*i* AML	AML	04 53 08.0	
	comp=N,566nm,0.8s						
AUSIV				*i* AML	AML	04 53 08.0	
	comp=E,356nm,0.9s						
SVRH	**Sivrihisar-ESK**	**1.61**	**241**	PN	**Pn**	**04 52 38.7**	**-1.1**
BOYA	**Sinop/Boyabat-**	**1.63**	**38**	P	**Pn**	**04 52 39.8**	**-0.2**
AKSY	**AKSARAY - Alti**	**1.64**	**168**	P	**Pn**	**04 52 39.8**	**-0.4**
AKSY				S	**Sg**	**04 53 03.7**	**+0.9**
AKSY				*i* AML	AML	04 53 05.0	
	comp=N,1µm,0.4s						
YOZ	**Yozgat**	**1.64**	**111**	PN	**Pn**	**04 52 39.1**	**-1.2**
MDUB	**Mudurnu**	**1.65**	**278**	PN	**Pn**	**04 52 39.3**	**-1.0**
CIDE	**Kastamonu/Cide**	**1.65**	**350**	P	**Pb**	**04 52 41.4**	**0.0**
CKRK	**Yozgat, Cekere**	**1.67**	**96**	P	**Pb**	**04 52 41.6**	**-0.1**
CKRK				S	**Sg**	**04 53 04.2**	**+0.5**
CKRK				*i* AML	AML	04 53 06.0	
	comp=N,641nm,0.7s						
CKRK				*i* AML	AML	04 53 08.0	
	comp=E,625nm,0.4s						
SIRC	**Yozgat**	**1.67**	**123**	P	**Pb**	**04 52 41.0**	**-0.8**
CHBY	**Cihanbeyli**	**1.71**	**192**	PN	**Pn**	**04 52 40.2**	**-0.9**
BZK	**Bozkurt**	**1.77**	**16**	⇓P	**Pn**	**04 52 41.5**	**-0.4**
BZK				⇑S	**Sg**	**04 53 07.6**	**+0.4**
BZK	**Bozkurt**	**1.77**	**16**	PN	**Pn**	**04 52 39.9**	**-2.0**
KIZT	**Kizilcal**	**1.78**	**220**	PN	**Pn**	**04 52 41.2**	**-0.9**
KDZE	**Karadeniz Ereo**	**1.78**	**307**	⇑P	**Pb**	**04 52 43.7**	**+0.1**
KDZE				⇓S	**Sg**	**04 53 09.7**	**+2.2**
KDZE	**Karadeniz Ereo**	**1.78**	**307**	PN	**Pn**	**04 52 41.3**	**-0.8**
BTAS	**Taskesti**	**1.81**	**281**	P	**Pb**	**04 52 43.1**	**-1.0**
BTAS				S	**Sb**	**04 53 07.6**	**+0.2**
BTAS				*i* AML	AML	04 53 12.0	
	comp=E,882nm,0.7s						
AVNS	**Nevsehir-Avano**	**1.86**	**141**	P	**Pb**	**04 52 43.8**	**-1.2**
AVNS				S	**Sg**	**04 53 09.6**	**-0.4**
AVNS				*i* AML	AML	04 53 15.0	
	comp=E,3µm,0.7s						
AVNS				*i* AML	AML	04 53 17.0	
	comp=N,2µm,0.6s						
HACI	**Hacifakili, Ak**	**1.92**	**106**	P	**Pb**	**04 52 44.8**	**-1.2**
HACI				S	**Sg**	**04 53 11.9**	**+0.1**
HACI				*i* AML	AML	04 53 14.0	
	comp=N,928nm,0.5s						
HACI				*i* AML	AML	04 53 14.0	
	comp=E,1µm,0.7s						
CIFT	**Cifteler, Eski**	**1.97**	**244**	PN	**Pn**	**04 52 43.8**	**-0.9**
KDHN	**Kadinhani**	**1.98**	**209**	P	**Pb**	**04 52 45.6**	**-1.4**
SAHE	**Sakarya_HENDEK**	**1.98**	**288**	P	**Pn**	**04 52 45.3**	**+0.5**
HAVZ	**Havza**	**1.99**	**65**	P	**Pb**	**04 52 46.2**	**-0.9**
HAVZ				S	**Sb**	**04 53 12.1**	**-0.2**
HAVZ				*i* AML	AML	04 53 16.0	
	comp=N,1µm,0.6s						
HAVZ				*i* AML	AML	04 53 16.0	
	comp=E,1µm,0.5s						
ALIN	**Konya, Altinte**	**1.99**	**190**	P	**Pn**	**04 52 44.7**	**-0.3**
YARM	**Yarimca-Ladik(**	**2.01**	**70**	PN	**Pn**	**04 52 44.1**	**-1.2**
DIKM	**Dikmen**	**2.01**	**46**	⇓P	**Pn**	**04 52 45.1**	**-0.2**
DIKM	**Dikmen**	**2.01**	**46**	PN	**Pn**	**04 52 44.2**	**-1.0**
GULA	**Gulagac**	**2.03**	**160**	PN	**Pn**	**04 52 44.8**	**-0.8**
ESKT	**Eskisehir**	**2.05**	**250**	PN	**Pn**	**04 52 44.9**	**-1.0**
SGAZ	**Eskisehir, Sey**	**2.06**	**250**	P	**Pn**	**04 52 43.1**	**-2.8**
SULT	**Sultanhani-AKS**	**2.06**	**176**	PN	**Pn**	**04 52 44.9**	**-1.1**
KIZO	**Buyukkizoglu-L**	**2.08**	**71**	PN	**Pn**	**04 52 45.1**	**-1.1**
GULT	**Gulveren**	**2.16**	**276**	PN	**Pn**	**04 52 46.6**	**-0.8**
LADK	**Ladik-KONYA**	**2.19**	**201**	PN	**Pn**	**04 52 45.7**	**-2.1**
KVT	**Kavak**	**2.22**	**67**	PN	**Pn**	**04 52 47.0**	**-1.1**
GUNE	**Kayseri**	**2.23**	**127**	P	**Pb**	**04 52 50.3**	**-1.0**
BORA	**Eskisehir**	**2.25**	**261**	PN	**Pn**	**04 52 47.3**	**-1.2**
SINO	**SINOP_Merkez**	**2.25**	**38**	P	**Pn**	**04 52 44.6**	**-3.9**
SAUV	**Serdivan-Sakar**	**2.35**	**283**	PN	**Pn**	**04 52 49.1**	**-0.7**
NIG	**Nigde**	**2.36**	**155**	PN	**Pn**	**04 52 49.5**	**-0.8**
KAYN	**Sakarya, Kayna**	**2.39**	**288**	P	**Pn**	**04 52 49.9**	**-0.5**
BNN	**Bunyan**	**2.39**	**125**	PN	**Pn**	**04 52 49.6**	**-1.0**
TOKT	**Tokat**	**2.45**	**87**	PN	**Pn**	**04 52 50.8**	**-0.6**
DOGA	**KONYA_Doganhis**	**2.51**	**212**	P	**Pn**	**04 52 52.6**	**+0.4**
NIDE	**Nigde/Merkez-G**	**2.52**	**153**	P	**Pn**	**04 52 52.8**	**+0.5**
BILE	**Bilecik/Merkez**	**2.65**	**269**	P	**Pn**	**04 52 55.2**	**+1.1**
ANDZ	**Kutahya, Merke**	**2.75**	**255**	P	**Pn**	**04 52 55.5**	**+0.1**
SVSK	**Karacayir**	**2.83**	**96**	PN	**Pn**	**04 52 55.9**	**-0.5**
SAIM	**ADANA**	**3.12**	**136**	P	**Pn**	**04 53 02.6**	**+2.0**
AKO	**Adana**	**3.24**	**149**	P	**Pb**	**04 53 08.6**	**+0.1**
CUKAN	**kangal_SIVAS**	**3.32**	**105**	P	**Pn**	**04 53 05.0**	**+1.7**
SEV	**Sevastopol'**	**4.29**	**3**	*eP*	**Pn**	**04 53 15.2**	**-1.3**
SEV				Pm		04 53 17.4	
	comp=Z,5.0nm,0.3s						
SEV				*eS*	**Sn**	**04 54 04.1**	**-3.1**
SEV				Sm		04 54 06.0	
	comp=N,4.0nm,0.5s						
SEV				Sm		04 54 06.0	
	comp=E,9.0nm,0.6s						
ALU	**Alushta**	**4.49**	**10**	*eP*	**Pn**	**04 53 19.7**	**+0.4**
ALU				Pm		04 53 23.7	
	comp=Z,6.0nm,0.3s						
ALU				*eS*	**Sn**	**04 54 11.7**	**-0.4**
ALU				Sm		04 54 17.4	
	comp=N,39nm,0.3s						
SUDU	**Sudak**	**4.79**	**14**	*eP*	**Pn**	**04 53 23.4**	**0.0**
SUDU				Pm		04 53 30.2	
	comp=Z,7.0nm,0.4s						
SUDU				*eS*	**Sn**	**04 54 18.4**	**-1.1**
SUDU				Sm		04 54 24.1	
	comp=N,17nm,0.4s						
SUDU				Sm		04 54 24.1	
	comp=E,5.0nm,0.5s						
MFTR	**Murfatlar**	**5.35**	**319**	⇑P	**Pn**	**04 53 33.5**	**+2.4**
TIRR	**Tirgusor**	**5.56**	**321**	⇑P	**Pn**	**04 53 36.5**	**+2.6**
ICOR	**Ion Corvin**	**5.64**	**315**	⇓P	**Pn**	**04 53 37.5**	**+2.5**
TPGR	**Topolog**	**5.86**	**323**	⇑P	**Pn**	**04 53 39.6**	**+1.5**
CFR	**Carcaliu**	**6.23**	**324**	⇑P	**Pn**	**04 53 44.3**	**+1.1**
APE	**Apeiranthos**	**6.89**	**245**	⇑P	**Pn**	**04 53 53.0**	**+0.7**
NEHR	**Nehoiu**	**7.31**	**317**	⇓P	**Pn**	**04 54 01.4**	**+3.4**
VRI	**Vrincioaia**	**7.40**	**321**	⇑P	**Pn**	**04 54 01.4**	**+2.1**
MMAI	**Mount Meron Ar**	**7.42**	**166**	Pn	**Pn**	**04 54 01.0**	**+1.4**
	comp=E,1.8nm,0.3s,baz=18,slow=14,SNR=9.8						
MMAI				LR	LR	04 57 40.1	
	comp=E,90nm,19.1s,baz=280,slow=45						
	comp=E,2.5nm,0.5s						
MLR	**Muntele Rosu**	**7.54**	**316**	⇑P	Pn	04 54 06.2	+4.9
MLR	**Muntele Rosu**	**7.54**	**316**	Pn	**Pn**	**04 54 04.2**	**+2.9**
	comp=E,0.2nm,0.3s,baz=300,slow=17,SNR=2.0						
	comp=E,1.3nm,0.6s						
COVR	**Voineasa-Covas**	**7.64**	**319**	⇑P	**Pn**	**04 54 03.8**	**+1.2**
KBZ	**Khabaz**	**7.92**	**61**	Pn	**Pn**	**04 54 07.1**	**+0.8**
	comp=E,0.1nm,0.3s,baz=244,slow=10,SNR=4.8						
KBZ				LR	LR	04 57 18.8	
	comp=E,46nm,19.8s,baz=270,slow=39						
	comp=E,2.1nm,0.7s						
VOIR		**7.99**	**313**	⇓P	**Pn**	**04 54 09.7**	**+2.3**
DOPR	**Dopca**	**8.14**	**317**	⇓P	**Pn**	**04 54 12.0**	**+2.5**
ARR	**Arges**	**8.18**	**311**	⇓P	**Pn**	**04 54 12.2**	**+2.1**
IDI	**Anoyia**	**8.32**	**236**	⇑P	**Pn**	**04 54 12.1**	**+0.1**
IDI	**Anoyia**	**8.32**	**236**	Pn	**Pn**	**04 54 14.0**	**+1.9**
	comp=E,1.2nm,0.3s,baz=54,slow=14,SNR=19						
	comp=E,4.6nm,0.4s						
SORM	**Soroca**	**8.65**	**337**	⇑P	**Pn**	**04 54 14.5**	**-1.8**
LOT	**Lotru**	**8.73**	**310**	⇑P	**Pn**	**04 54 21.6**	**+4.0**
GZR	**Gura Zlata**	**9.30**	**307**	⇑P	Pn	04 54 32.7	+7.3
BURAR	**Bucovina Array**	**9.40**	**324**	⇑P	**Pn**	**04 54 26.3**	**-0.5**
AKASG	**Malin Array Be**	**10.83**	**346**	Pn	**Pn**	**04 54 44.8**	**-1.4**
	comp=E,1.0nm,0.3s,baz=164,slow=12,SNR=4.5						
	comp=E,0.2nm,0.3s						
GERES	**GERESS Array B**	**16.39**	**308**	Pn	**P**	**04 56 03.7**	**-0.6**
	comp=E,0.1nm,0.3s,baz=116,slow=12,SNR=5.5						
	comp=E,0.6nm,0.7s						
KIRV	**Kirov**	**21.01**	**24**	P	**P**	**04 56 55.7**	**+0.8**
	comp=E,8.9nm,0.4s,baz=171,slow=2.0,SNR=4.5						
	comp=E,8.9nm,0.4s						
FINES	**FINESS Array B**	**21.68**	**351**	P	**P**	**04 57 03.6**	**+1.7**
	comp=E,4.7nm,0.9s,baz=164,slow=16,SNR=8.9						
	comp=E,4.7nm,0.9s						
KURBB	**Kurchatov Arra**	**32.89**	**56**	P	**P**	**04 58 46.2**	**+0.7**
	comp=E,2.1nm,0.9s,baz=276,slow=8.8,SNR=8.4						
	comp=E,2.1nm,0.9s						
MKAR	**Makanchi Array**	**35.61**	**63**	P	**P**	**04 59 09.7**	**+0.5**
	comp=E,0.7nm,0.5s,baz=269,slow=9.6,SNR=7.7						
	comp=E,0.7nm,0.5s						

*MAN **26** 04:54:30.6, 7˚.30N×127˚.34E, h12km, mb4.9, ML3.9, MS3.9*
*DJA **26** 04:54:37.3±0.9, 7˚1N±7˚×12˚7E±˚, h42km±8km, M4.7/18, mB5.0/6, mb4.8/18, MLv4.8/5, Mw(mB)4.4/6*
*NEIC **26** 04:54:39.2±1.5, 7˚.36N±0˚.09×126˚.94E±0˚.09, h73km±8km, mb4.6/39, Error ellipse: s-maj=13.6km s-min=12.2km az=219.0*
*IDC **26** 04:54:39.9±1.6, 7˚.31N×126˚.81E, h80km±14km, mb4.2/29, mbtmp4.5/31, MS3.5/19, Error ellipse: s-maj=17.4km s-min=10.1km az=78.0*
ISC 26 04:54:37.9±0.8, 7˚.31N±0˚.04×127˚.04E±0˚.06, h64km±6km, n137, σ1§80/139, mb4.5/51, 7C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.10**	**322**	⇓*iP*	**Pn**	**04 54 54.0**	**-3.4**
BIPH				*i* S	**Sn**	**04 55 11.3**	**-0.6**
DAV	**Davao City (W)**	**1.47**	**261**	P	**Pn**	**04 55 02.9**	**+0.5**
	3µm,0.5s,baz=109,slow=3.7,SNR=46						
DAV				S	**Sn**	**04 55 24.9**	**+4.1**
	3µm,0.8s,baz=169,slow=17,SNR=7.3						
DAV	**Davao City (W)**	**1.47**	**261**	Pn	**Pn**	**04 55 02.3**	**-0.1**
KCP	**Kidapawan**	**1.96**	**261**	⇑*iP*	**Pn**	**04 55 08.3**	**-0.7**
KCP				*i* S	**Sn**	**04 55 34.9**	**+2.3**
BUKP	**Musuan**	**2.04**	**286**	⇑*eP*	**Pn**	**04 55 09.4**	**-0.7**
GSPH	**General Santos**	**2.41**	**240**	⇑*eP*	**Pn**	**04 55 12.8**	**-2.4**
GSPH				*i* S	**Sn**	**04 55 43.3**	**-0.3**
CGP	**Cagayan de Oro**	**2.59**	**296**	⇑*iP*	**Pn**	**04 55 17.1**	**-0.4**
CGP				*i* S	**Sn**	**04 55 52.2**	**+4.4**
CTBH	**Cotabato--PC H**	**2.77**	**268**	*eP*	**Pn**	**04 55 19.5**	**-0.6**
CTBH				*i* S	Sn	04 56 05.5	+13
SCPH	**Surigao**	**2.90**	**328**	⇓*iP*	**Pn**	**04 55 19.9**	**-1.8**
SCPH				*i* S	Sn	04 56 09.7	+14
GHBP	**Garcia Hernand**	**3.54**	**311**	⇑*eP*	**Pn**	**04 55 30.4**	**-0.1**
GHBP				*eS*	**Sn**	**04 56 12.9**	**+1.7**
LSIP	**Lazi, Siquijor**	**3.83**	**298**	⇓*eP*	**Pn**	**04 55 33.9**	**-0.6**
LSIP				*eS*	**Sn**	**04 56 20.9**	**+2.6**
TABP	**Talibon, Bohol**	**3.85**	**316**	⇓*eP*	**Pn**	**04 55 33.8**	**-0.9**
TABP				*eS*	**Sn**	**04 56 22.0**	**+3.3**
SGSI	**Sangihe**	**3.90**	**203**	P	**Pn**	**04 55 33.9**	**-1.6**
TBP	**Tagbilaran**	**3.94**	**307**	⇑*iP*	**Pn**	**04 55 35.2**	**-0.7**
TBP				*i* S	Sn	04 56 30.8	+10
LLP	**Lapu-Lapu**	**4.26**	**315**	⇓*eP*	**Pn**	**04 55 40.3**	**-0.1**
LLP				*eS*	**Sn**	**04 56 36.4**	**+7.5**
RCP	**Roxas**	**5.98**	**315**	⇑*eP*	**Pn**	**04 56 04.0**	**0.0**
TNTI	**Ternate**	**6.50**	**177**	Pn	**Pn**	**04 56 09.2**	**-1.9**
TNTI	**Ternate**	**6.50**	**177**	P	**Pn**	**04 56 12.5**	**+1.4**
	0.3nm53nm,0.6s		

TNCH					pP	pP	05 01 21.0	+3.1
CTA	**Charters Tower**	**33.15**	**146**		LR	LR	05 16 22.5	
	comp=Z,70nm,18.8s,baz=261,slow=39							
HHC	**Hu-ho-hao-te**	**36.14**	**340**	*eP*		**P**	**05 01 37.3**	**+3.2**
HHC					pmax	pmax		
	comp=Z,32nm,0.8s							
HHC					pmax	pmax		
	comp=Z,140nm,6.9s							
USA0B	**Ussuriysk Arra**	**37.00**	**6**		P	**P**	**05 01 41.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**37.00**	**6**		P	**P**	**05 01 42.3**	**+1.1**
	comp=Z,33nm,0.9s,baz=188,slow=7.1,SNR=33							
	comp=Z,33nm,0.9s							
USRK	**Ussuriysk Ar.**	**37.00**	**6**		P	**P**	**05 01 41.4**	**+0.1**
MDJ	**Mudanjiang**	**37.23**	**3**		P	**P**	**05 01 44.0**	**+0.8**
MDJ					pmax	pmax		
	comp=Z,27nm,0.9s							
MDJ					pmax	pmax		
	comp=Z,150nm,5.7s							
MORW	**Morawa**	**37.69**	**196**		P	**P**	**05 01 47.6**	**+0.3**
MORW					IAmb	IAmb	05 01 51.0	
	comp=Z,16nm,1.1s							
FORT	**Forrest**	**37.88**	**179**		P	**P**	**05 01 49.8**	**+0.9**
H11N1	**WAKE ISLAND Hy**	**40.55**	**68**		T	T	05 46 26.7	
	baz=265,slow=75,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**40.56**	**68**		T	T	05 46 25.2	
	baz=265							
H11N3	**WAKE ISLAND Hy**	**40.57**	**68**		T	T	05 46 20.7	
	baz=265,slow=75,SNR=3.6							
NWAO	**Narrogin (SRO)**	**41.09**	**193**		P	**P**	**05 02 15.1**	**-0.4**
NWAO					IAmb	IAmb	05 02 16.5	
	comp=Z,20nm,0.9s							
NWAO	**Narrogin (SRO)**	**41.09**	**193**		P	**P**	**05 02 15.4**	**-0.2**
NWAO					IAmb	IAmb	05 02 16.5	
	comp=Z,16nm,0.9s							
STKA	**Stephens Creek**	**41.37**	**161**		P	**P**	**05 02 19.2**	**+1.3**
	comp=Z,5.4nm,0.7s,baz=332,slow=8.2,SNR=10							
STKA					LR	LR	05 22 12.7	
	comp=Z,54nm,19.4s,baz=19,slow=40							
	comp=Z,5.4nm,0.7s							
STKA	**Stephens Creek**	**41.37**	**161**		P	**P**	**05 02 18.8**	**+0.9**
KLR	**Kul'dur**	**41.97**	**5**		P	**P**	**05 02 22.9**	**+0.4**
	comp=Z,4.5nm,0.6s,baz=180,slow=4.8,SNR=18							
KLR					LR	LR	05 19 39.7	
	comp=Z,29nm,19.7s,baz=158,slow=36							
	comp=Z,4.5nm,0.6s							
HEH	**HeiHe**	**42.80**	**0**	*eP*		**P**	**05 02 29.5**	**+0.2**
HEH					pmax	pmax		
	comp=Z,8.0nm,0.9s							
HEH					pmax	pmax		
	comp=Z,230nm,5.5s							
SONM	**Songino Array**	**44.04**	**340**		P	**P**	**05 02 38.5**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=185,slow=33,SNR=5.0							
SONM					PcP	**PcP**	**05 04 24.4**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=167,slow=3.5,SNR=4.0							
	comp=Z,1.1nm,0.6s							
SONM	**Songino Array**	**44.04**	**340**		P	**P**	**05 02 38.9**	**-0.6**
PALK	**Pallekele**	**45.95**	**273**		LR	LR	05 24 18.8	
	comp=Z,51nm,18.7s,baz=169,slow=39							
DZM	**Mont Dzumac**	**48.41**	**128**		LR	LR	05 22 39.8	
	comp=Z,47nm,20.3s,baz=316,slow=35							
WMQ	**Urumqi**	**50.02**	**323**	*eP*		**P**	**05 03 26.8**	**+0.7**
WMQ					pP	pP	05 03 40.5	-0.8
WMQ					pmax	pmax		
	comp=Z,16nm,0.7s							
PETK	**Petropavlovsk-**	**52.02**	**23**		P	**P**	**05 03 42.2**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=172,slow=2.1,SNR=4.3							
	comp=Z,3.3nm,0.8s							
YAK	**Yakutsk**	**54.64**	**2**		P	**P**	**05 03 59.7**	**-0.2**
	comp=Z,8.0nm,0.4s,baz=354,slow=2.0,SNR=7.3							
	comp=Z,8.0nm,0.4s							
YAK	**Yakutsk**	**54.64**	**2**		P	**P**	**05 03 59.5**	**-0.3**
MKAR	**Makanchi Array**	**54.84**	**324**		P	**P**	**05 04 00.8**	**-0.8**
	comp=Z,3.1nm,0.8s,baz=116,slow=7.3,SNR=35							
MKAR					PcP	**PcP**	**05 05 03.1**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=104,slow=5.1,SNR=4.7							
	comp=Z,3.1nm,0.8s							
MKAR	**Makanchi Array**	**54.84**	**324**		P	**P**	**05 04 01.0**	**-0.7**
MAKZ	**Makanchi**	**55.03**	**324**		P	**P**	**05 04 02.1**	**-0.9**
MAKZ					IAmb	IAmb	05 04 05.3	
	comp=Z,4.3nm,1.0s							
MA2	**Magadan**	**55.18**	**14**		P	**P**	**05 04 04.5**	**+0.6**
	comp=Z,3.8nm,0.2s,baz=127,slow=23,SNR=5.3							
	comp=Z,3.8nm,0.2s							
MSVF	**Nonsavu**	**56.18**	**117**		P	**P**	**05 04 13.7**	**+1.9**
	comp=Z,3.4nm,0.7s,baz=145,slow=24,SNR=2.7							
	comp=Z,3.4nm,0.7s							
ZALV	**Zalesovo Beam**	**57.58**	**332**		P	**P**	**05 04 20.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=307,slow=27,SNR=2.7							
	comp=Z,0.8nm,0.3s							
ZALV	**Zalesovo Beam**	**57.58**	**332**		P	**P**	**05 04 19.2**	**-1.8**
AAK	**Ala-Archa**	**57.97**	**316**		LR	LR	05 31 19.5	
	comp=Z,67nm,19.7s,baz=68,slow=38							
KURK	**Kurchatov**	**58.93**	**326**		P	**P**	**05 04 29.2**	**-1.3**
KURK					IAmb	IAmb	05 04 32.6	
	comp=Z,7.9nm,1.2s							
KURBB	**Kurchatov Arra**	**58.93**	**326**		P	**P**	**05 04 29.0**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=126,slow=6.2,SNR=16							
	comp=Z,2.6nm,0.7s							
GAR	**Garm**	**59.78**	**311**		P	**P**	**05 04 35.0**	**-1.7**
KK31	**Karatay Array**	**60.87**	**316**		P	**P**	**05 04 42.3**	**-1.8**
KK31					IAmb	IAmb	05 04 43.8	
	comp=Z,4.5nm,0.8s							
KKAR	**Karatay Array**	**60.87**	**316**		P	**P**	**05 04 43.2**	**-0.8**
KKAR					IAmb	IAmb	05 04 43.8	
	comp=Z,4.5nm,0.8s							
AFI	**Afiamalu**	**64.27**	**109**		LR	LR	05 30 47.9	
	comp=Z,51nm,18.8s,baz=209,slow=34							
TIXI	**Tiksi**	**64.28**	**1**		P	**P**	**05 05 05.7**	**-0.4**
TIXI					IAmb	IAmb	05 05 07.4	
	comp=Z,15nm,1.0s							
BVAR	**Borovoye Array**	**64.52**	**326**		P	**P**	**05 05 07.1**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=116,slow=6.9,SNR=5.6							
	comp=Z,1.1nm,0.5s							
BRVK	**Borovoye**	**64.60**	**326**		P	**P**	**05 05 07.8**	**-0.8**
GEYT	**Ailbeck**	**68.93**	**308**		P	**P**	**05 05 35.6**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=359,slow=29,SNR=2.1							
	comp=Z,1.3nm,0.5s							
ABKAR	**Akbulak array**	**69.61**	**320**		P	**P**	**05 05 39.6**	**-0.8**
ARU	**Arti**	**72.11**	**327**		P	**P**	**05 05 53.9**	**-1.5**
	comp=Z,2.1nm,0.4s,baz=99,slow=6.2,SNR=5.4							
ARU					LR	LR	05 40 22.0	
	comp=Z,24nm,21.4s,baz=323,slow=38							
	comp=Z,2.1nm,0.4s							
KIRV	**Kirov**	**77.35**	**328**		P	**P**	**05 06 26.1**	**+0.5**
	comp=Z,6.8nm,0.5s,baz=225,slow=2.0,SNR=3.5							
	comp=Z,6.8nm,0.5s							
BELG	**Belogornoye**	**77.79**	**322**		P	**P**	**05 06 27.0**	**-1.2**
	comp=Z,25nm,0.9s,baz=112,slow=3.6,SNR=8.6							
	comp=Z,25nm,0.9s							
RAYN	**Ar Rayn**	**79.39**	**293**		P	**P**	**05 06 36.2**	**-1.5**
RAYN					IAmb	IAmb	05 06 38.2	
	comp=Z,8.6nm,0.9s							
GNI	**Garni**	**79.45**	**309**		LR	LR	05 46 14.1	
	comp=Z,23nm,19.1s,baz=341,slow=39							
KBZ	**Khabaz**	**80.77**	**313**		P	**P**	**05 06 43.9**	**-0.8**
	comp=Z,3.3nm,1.0s,baz=164,slow=3.2,SNR=4.0							
	comp=Z,3.3nm,1.0s							
GURO	**Guroymak-BITLI**	**81.60**	**308**		P	**P**	**05 06 48.4**	**-1.1**
GURO					IAmb	IAmb	05 06 51.1	
	comp=Z,6.6nm,1.0s							
ILAR	**Eielson Array**	**81.76**	**26**		P	**P**	**05 06 50.1**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=248,slow=4.9,SNR=18							
	comp=Z,0.4nm,0.4s							
KLMR	**Klimovskoe**	**82.46**	**330**	*eP*		**P**	**05 06 51.7**	**-1.5**
BMAR	**Burnt Mountain**	**82.68**	**23**		P	**P**	**05 06 56.0**	**+1.6**
BNN	**Bunyan**	**86.40**	**309**		P	**P**	**05 07 12.5**	**-1.3**
VNDA	**Vanda**	**86.92**	**173**		P	**P**	**05 07 15.8**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=331,slow=5.3,SNR=5.5							
	comp=Z,0.5nm,0.7s							
MAW	**Mawson**	**87.20**	**200**		LR	LR	05 45 09.2	
	comp=Z,34nm,18.6s,baz=224,slow=35							
ARCES	**ARCESS Array B**	**87.22**	**340**		P	**P**	**05 07 16.9**	**-0.1**
	comp=Z,5.1nm,1.0s,baz=75,slow=6.1,SNR=6.7							
	comp=Z,5.1nm,1.0s							
BR131	**Keskin Array S**	**87.99**	**310**		P	**P**	**05 07 19.2**	**-2.3**
BR131					IAmb	IAmb	05 07 21.6	
	comp=Z,2.6nm,0.8s							
BRTR	**Keskin Array B**	**87.99**	**310**		P	**P**	**05 07 20.8**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=95,slow=6.2,SNR=6.1							
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**87.99**	**310**		P	**P**	**05 07 18.9**	**-2.6**
A36M	**Sachs Harbour**	**88.50**	**17**		P	**P**	**05 07 22.7**	**-0.3**
A36M					IAmb	IAmb	05 07 25.4	
	comp=Z,5.6nm,1.1s							
FINES	**FINESS Array B**	**88.84**	**332**		P	**P**	**05 07 23.7**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=108,slow=6.2,SNR=8.3							
	comp=Z,2.3nm,0.8s							
AKASG	**Malin Array Be**	**89.33**	**321**		P	**P**	**05 07 26.3**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=65,slow=4.6,SNR=7.3							
	comp=Z,1.7nm,0.6s							
MNK	**Minsk**	**89.39**	**325**	*i* P		**P**	**05 07 23.2**	**-4.4**
	comp=E,2.0nm,1.0s							
MNK				*i* P		**P**	**05 07 23.2**	**-4.4**
	comp=N,33nm,1.0s							
MNK				*i* P		**P**	**05 07 23.2**	**-4.4**
	comp=Z,8.0nm,1.0s,baz=78							
MNK				*i* pP		**pP**	**05 07 42.5**	**-1.3**
MNK				*i* PP		**PP**	**05 10 54.2**	**-4.8**
MNK				*i* PPP		PPP	05 12 51.6	
MNK				*i* S		**SKSac**	**05 17 48.6**	**-3.6**
MNK				*i* SS		**SS**	**05 24 04.8**	**-3.6**
MNK				*i* SSS		SSS	05 27 42.1	
MNK				*i* LQ		LQ	05 41 50.3	
MNK				*i* LR		LR	05 47 33.5	
MNK				*i* LRM		MLR	05 48 29.0	
	comp=E,30nm,15.9s							
MNK				*i* LRM		MLR	05 49 17.4	
	comp=N,146nm,12.1s							
MNK				*i* LRM		MLR	05 49 24.4	
	comp=Z,98nm,14.6s							
EUNU	**Eureka**	**91.11**	**6**		P	**P**	**05 07 34.5**	**-0.7**
KOLS	**Kolonicke sedl**	**94.11**	**320**	*eP*		**P**	**05 07 51.0**	**+1.4**
CRVS	**Cervenica-Dubn**	**94.64**	**320**	*eP*		**P**	**05 07 52.9**	**+0.9**
HFS	**Hagfors**	**95.01**	**333**	P		**P**	**05 07 51.2**	**-2.2**
	comp=Z,12nm,1.2s,baz=90,slow=7.4,SNR=4.0							
	comp=Z,12nm,1.2s							
NOA	**NORSAR Array B**	**95.73**	**334**	LR		LR	05 54 03.2	
	comp=Z,26nm,18.4s,baz=345,slow=37							
MBAR	**Mbarara**	**96.33**	**270**	LR		LR	05 51 41.1	
	comp=Z,22nm,19.5s,baz=330,slow=36							
GERES	**GERESS Array B**	**99.48**	**322**	P		**Pdif**	**05 08 12.8**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=77,slow=6.1,SNR=5.1							
	comp=Z,0.8nm,0.8s							
TXAR	**Lajitas Array**	**119.14**	**51**	PKP		**PKiKP**	**05 13 22.1**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=282,slow=4.2,SNR=3.0							
PLCA	**Paso Flores**	**143.20**	**157**	PKP		**PKPdf**	**05 14 05.9**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=145,slow=7.0,SNR=4.4							
CPUP	**Villa Florida**	**160.63**	**168**	PKPab		**PKPab**	**05 15 15.8**	**+2.8**
	comp=Z,0.8nm,0.6s,baz=198,slow=9.6,SNR=2.2							
LPAZ	**La Paz**	**162.69**	**122**	PKPab		**PKPab**	**05 15 25.9**	**+2.7**
	comp=Z,1.3nm,0.8s,baz=268,slow=6.6,SNR=2.6							

*SOME **26** 04:58:53.9,39.˚48N×74.˚17E,h10km*
*KRNET **26** 04:58:55.8±0.1,39.˚18N×73.˚96E,mb3.3*
*NNC **26** 04:59:01.7±2.6,39.˚49N×74.˚28E,h0km,mb3.4,mpv3.0,*
Error ellipse: s-maj=23.7km s-min=10.4km az=165.0

ISC 26 04:58:56.2±1.6,39.˚29N±0.˚08×74.˚15E±0.˚05,h10km,n24,
σ1s76/39,16C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.62**	**320**	⇑*eP*	**Pb**	**04 59 26.0**	**-0.3**
OHH	baz=26			⇑*eS*	**Sg**	**04 59 48.5**	**+0.1**
	baz=26						
DRK	**Karamyk**	**1.83**	**277**	⇑*eP*	**Pn**	**04 59 27.9**	**-0.1**
DRK	baz=81			⇑*eS*	**Sn**	**04 59 51.1**	**-0.3**
	baz=81						
ARLS	**Aral**	**2.58**	**3**	⇓*eP*	**Pb**	**04 59 42.4**	**-0.2**
	baz=6.0						
ARLS				⇓*eS*	**Sg**	**05 00 16.5**	**-2.5**
	baz=6.0						
BTK	**Batken**	**2.69**	**288**	⇑*eP*	**Pn**	**04 59 40.8**	**+1.2**
	baz=91						
BTK				⇑*iS*	**Sn**	**05 00 14.0**	**+1.8**
	baz=91						
AML	**Almayashu**	**2.86**	**353**	P	**Pb**	**04 59 47.3**	**-0.4**
	SNR=9.1						
UCH	**Uchtor**	**2.95**	**5**	P	**Pb**	**04 59 49.1**	**-0.1**
	SNR=8.1						
UCH	**Uchtor**	**2.95**	**5**	⇑*eP*	**Pb**	**04 59 48.0**	**-1.2**
	baz=8.0						
UCH				⇑*eS*	**Sb**	**05 00 26.1**	**+0.6**
	baz=8.0						
GAR	**Garm**	**3.00**	**266**	⇓*eP*	**Pn**	**04 59 44.6**	**+0.7**
	baz=68						
GAR				⇓*eS*	**Sn**	**05 00 20.1**	**+0.2**
	baz=68						
TRKS	**Terek-Say**	**3.21**	**315**	⇑*eP*	**Pn**	**04 59 48.4**	**+1.5**
	baz=18						
TRKS				⇑*eS*	**Sn**	**05 00 27.1**	**+1.8**
	baz=18						
AAK	**Ala-Archa**	**3.36**	**4**	P	**Pb**	**04 59 54.9**	**-1.1**
	SNR=10.0						
AAK	**Ala-Archa**	**3.36**	**4**	⇓*eP*	**Pb**	**04 59 53.6**	**-2.3**
	baz=6.0						
AAK				⇓*eS*	**Sb**	**05 00 35.7**	**-1.2**
	baz=6.0						
EKS2	**Erkin-Say**	**3.38**	**355**	P	**Pb**	**04 59 55.5**	**-0.8**
	SNR=9.0						
EKS2	**Erkin-Say**	**3.38**	**355**	⇓*eP*	**Pb**	**04 59 53.6**	**-2.7**
	baz=58						
EKS2				⇓*eS*	**Sb**	**05 00 35.7**	**-1.9**
	baz=58						
KBK	**Karagaybulak**	**3.42**	**10**	P	**Pb**	**04 59 56.9**	**-0.1**
	SNR=5.5						
MRKS	**Merke**	**3.53**	**349**	*eP*	**Pb**	**04 59 55.3**	**-3.4**
	1.1nm,0.1s						
MRKS				*eS*	**Sb**	**05 00 39.3**	**-2.4**
	10nm,0.5s						
TKM2	**Tokmak 2**	**3.79**	**16**	⇑Pn	**Pn**	**04 59 57.2**	**+2.4**
	1.8nm,0.8s						
TKM2				⇑Lg	Lg	05 00 49.1	
	14nm,1.1s						
KST	**Kastek**	**4.00**	**19**	*eP*	**Pb**	**05 00 04.4**	**-2.3**
	3.2nm,0.5s						
KST				*eS*	**Sb**	**05 00 55.2**	**0.0**
	13nm,0.2s						
DGS	**Degeres**	**4.14**	**17**	*eP*	**Pb**	**05 00 06.3**	**-2.8**
	2.5nm,0.7s						
DGS				*eS*	**Sb**	**05 00 58.7**	**-0.5**
	7.1nm,0.7s						
SGDS	**Sogindy**	**4.18**	**5**	*eP*	**Pb**	**05 00 08.8**	**-1.1**
	1.2nm,0.1s						
SGDS				*eS*	**Sb**	**05 01 02.6**	**+2.2**
	2.0nm,0.6s						
MTBS	**Maitube**	**4.21**	**23**	*eP*	**Pb**	**05 00 08.9**	**-1.5**
	2.2nm,0.2s						
MTBS				*eS*	**Sb**	**05 01 03.1**	**+1.8**
	4.2nm,0.3s						
IUG	**Iuzhnay**	**4.24**	**314**	*eP*	**Pb**	**05 00 09.8**	**-1.1**
	14nm,0.3s						
IUG				*eS*	**Sb**	**05 01 04.3**	**+2.2**
	12nm,0.4s						
MDOK	**Medeo**	**4.45**	**28**	Pg	**Pg**	**05 00 20.2**	**-1.2**
	12nm,1.3s						
MDOK				Lg	Lg	05 01 13.5	
	17nm,1.3s						
KK31	**Karatay Array**	**4.70**	**325**	⇑Pn	Pn	05 00 12.7	+5.5
	0.3nm,0.3s,baz=136,slow=14						
KK31				⇓Sn	**Sn**	**05 01 04.6**	**+2.9**
	2.0nm,0.6s,baz=136,slow=24						
KK31				⇑Lg	Lg	05 01 27.0	
	3.3nm,0.6s,baz=133,slow=30						
PDGK	**Podgornoye**	**5.70**	**43**	⇑Pn	**Pn**	**05 00 23.8**	**+2.8**
	3.9nm,1.2s						
PDGK				⇑Lg	Lg	05 01 55.7	
	8.5nm,0.9s						

*IDC **26** 05:07:38.4±2.2,17.˚53S×178.˚76W,h591km±20km,mb3.2/4,*
mbtmp4.1/6,Error ellipse: s-maj=105.2km s-min=26.7km
az=155.0

ISC 26 05:07:39.1±1.6,17.˚2S±1.˚0×178.˚9W±0.˚5,h600km,n6,
σ0s78/7,mb3.8/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.94**	**259**	P	**P**	**05 08 57.0**	**-1.0**
	18nm,0.6s,baz=109,slow=8.9,SNR=22						
DZM	**Mont Dzumac**	**14.62**	**248**	P	**P**	**05 10 44.9**	**+1.0**
	2.8nm,0.6s,baz=6.2,slow=18,SNR=2.1						
STKA	**Stephens Creek**	**38.55**	**240**	P	**P**	**05 14 11.6**	**-0.4**
	2.1nm,0.4s,baz=59,slow=12,SNR=9.4						
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**44.28**	**259**	P	**P**	**05 14 57.5**	**+0.2**
	0.9nm,0.5s,baz=96,slow=7.0,SNR=23						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**05 14 59.2**	**+0.1**
	9.0nm,0.6s,baz=88,slow=8.3,SNR=136						
ASAR				PcP	**PcP**	**05 16 28.9**	**-0.1**
	0.1nm,0.3s,baz=98,slow=4.8,SNR=1.8						
	9.0nm,0.6s						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**05 19 18.0**	**+0.4**
	0.2nm,0.6s,baz=201,slow=4.7,SNR=4.0						
	0.2nm,0.6s						

*IDC **26** 05:11:49.1±1.3,52.˚34N×31.˚64W,h0km,mb3.7/10,*
mbtmp3.7/11,ML3.8/1,MS3.4/4,Error ellipse:
s-maj=44.5km s-min=18.1km az=6.0

ISC 26 05:11:50.8±1.1,52.˚4N±0.˚3×31.˚6W±0.˚1,h12km,n15,
σ0s43/14,mb3.6/10,MS3.4/4,Northern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**17.00**	**69**	P	**P**	**05 15 49.1**	**-0.9**
	baz=269,slow=9.4						
	1.7nm,0.7s						
ESDC	**Sonseca Array**	**22.84**	**113**	P	**P**	**05 16 54.0**	**+0.3**
	1.1nm,0.9s,baz=314,slow=8.8,SNR=4.1						
	1.1nm,0.9s						
GERES	**GERESS Array B**	**28.61**	**79**	P	**P**	**05 17 46.9**	**0.0**
	0.8nm,0.9s,baz=289,slow=8.3,SNR=4.8						
	0.8nm,0.9s						
SADO	**Sadowa**	**31.86**	**276**	LR	LR	05 29 55.7	
	comp=Z,50nm,18.4s,baz=22,slow=34						
AKASG	**Malin Array Be**	**36.91**	**68**	P	**P**	**05 18 58.7**	**-0.3**
	0.7nm,0.7s,baz=300,slow=9.3,SNR=2.3						
	0.7nm,0.7s						
BRTR	**Keskin Array B**	**45.51**	**79**	P	**P**	**05 20 10.5**	**+0.5**
	1.9nm,0.9s,baz=344,slow=7.0,SNR=4.3						
BRTR				LR	LR	05 40 19.3	
	comp=Z,41nm,18.2s,baz=322,slow=38						
	1.9nm,0.9s						
PDAR	**Pinedale Array**	**51.05**	**292**	P	**P**	**05 20 52.5**	**-0.4**
	0.6nm,0.6s,baz=68,slow=7.2,SNR=7.7						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**53.04**	**331**	P	**P**	**05 21 07.4**	**+0.3**
	0.6nm,0.8s,baz=40,slow=5.8,SNR=6.6						
ILAR				PcP	**PcP**	**05 22 15.5**	**0.0**
	0.5nm,0.8s,baz=360,slow=3.6,SNR=4.6						
ILAR				LR	LR	05 41 33.0	
	comp=Z,31nm,19.4s,baz=89,slow=34						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**56.64**	**276**	P	**P**	**05 21 33.8**	**0.0**
	0.3nm,0.7s,baz=57,slow=7.6,SNR=2.7						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**61.60**	**37**	P	**P**	**05 22 07.9**	**+0.2**
	0.5nm,0.4s,baz=322,slow=6.4,SNR=1.7						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**66.23**	**43**	P	**P**	**05 22 38.3**	**0.0**
	1.1nm,0.7s,baz=330,slow=5.1,SNR=8.5						
	1.1nm,0.7s						
SONM	**Songino Array**	**73.95**	**28**	P	**P**	**05 23 26.4**	**+0.6**
	0.6nm,0.8s,baz=342,slow=6.6,SNR=4.2						
	0.6nm,0.8s						
JOW	**Kunigami**	**99.21**	**18**	LR	LR	06 13 58.3	
	comp=Z,31nm,18.6s,baz=120,slow=38						
WRA	**Warramunga Arr**	**145.85**	**24**	PKPbc	**PKPab**	**05 31 29.8**	**-0.5**
	0.7nm,1.0s,baz=341,slow=3.6,SNR=6.6						
ASAR	**Alice Springs**	**149.29**	**27**	PKPbc	**PKPbc**	**05 31 39.2**	**-0.1**
	0.2nm,0.3s,baz=2.9,slow=1.9,SNR=2.4						

*SNET **26** 06:03:16.1±1.2,11.˚98N×88.˚28W,h12km±28km,ML3.0*
*INET **26** 06:03:26.6±0.4,12.˚29N×87.˚67W,h15km±15km,MW3.5*

ISC 26 06:03:19.2±2.3,12.˚0N±0.˚2×88.˚24W±0.˚10,h35km,n14,
σ1s05/14,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**1.30**	**15**	*eP*	**Pn**	**06 03 40.1**	**-0.8**
CRIN	**San Cristobal**	**1.33**	**61**	*eP*	**Pn**	**06 03 41.5**	**+0.1**
COEB	**Comit de Eme**	**1.48**	**349**	*eP*	**Pn**	**06 03 43.2**	**-0.1**
COEB				IAML		06 04 09.9	
	comp=Z,187nm,0.5s						
CNGN	**Cerro Negro**	**1.57**	**73**	*eP*	**Pn**	**06 03 44.2**	**-0.5**
COEG	**Centro de Oper**	**1.69**	**338**	*eP*	**Pn**	**06 03 46.4**	**+0.1**
MOMN	**Momotombo**	**1.70**	**77**	*eP*	**Pn**	**06 03 46.0**	**-0.5**
CAHU	**Cacacuatique**	**1.72**	**1**	*eP*	**Pn**	**06 03 47.2**	**+0.3**
LFRS	**El Faro**	**1.77**	**333**	*eP*	**Pn**	**06 03 46.0**	**-1.4**
MGAN	**Managua**	**1.95**	**87**	*eP*	**Pn**	**06 03 51.7**	**+1.8**
JAYA	**Jayaque - finc**	**1.99**	**324**	*eS*	**Sn**	**06 04 15.6**	**+1.3**
RTR	**El Retiro**	**2.30**	**324**	*eP*	**Pn**	**06 03 54.2**	**-0.5**
NUBE	**Las Nubes**	**2.38**	**321**	*eP*	**Pn**	**06 03 55.5**	**-0.4**
MATN	**Matagalpa**	**2.43**	**68**	*eP*	**Pn**	**06 03 55.1**	**-1.4**
ACON	**Acoyapa**	**3.00**	**91**	*eP*	**Pn**	**06 04 03.0**	**-1.2**

*JMA **26** 06:09:03.3±0.1,38.˚9N±0.˚3×142.˚1E±0.˚7,h45km±1km,*
MV3.7/33,KINKAZAN REGION
JMA Felt I J1 at KINKAZAN REGION .
*NIED **26** 06:09:03.3,38.˚86N×142.˚05E,h45km,MW3.5,Moment*
*Tensor Solution. s3

	comp=E,76nm,0.2s							
AGPR	**Aguadilla, PR**	**0.52**	**75**	Pn	Pn	06 13 59.5	+0.6	
AGPR				IAML		06 14 07.1		
	comp=E,140nm,3.5s							
AGPR				IAML		06 14 28.2		
	comp=N,140nm,2.8s							
AGPR	**Aguadilla, PR**	**0.52**	**75**	*i* P	Pn	06 13 59.8	+0.8	
AGPR				*e*S	Sn	06 14 13.3	+0.7	
AGPR				IAML		06 14 16.0		
	comp=Z,65nm,2.0s							
CRPR	**Cabo Rojo, PR**	**0.60**	**123**	Pn	Pn	06 13 59.5	0.0	
CRPR	**Cabo Rojo, PR**	**0.60**	**123**	*i* P	Pn	06 13 59.4	-0.1	
CRPR				*e*S	Sn	06 14 13.1	-0.5	
CRPR				IAML		06 14 14.5		
	comp=Z,73nm,2.1s							
MLPR	**Magueyes Islan**	**0.67**	**123**	Pn	Pn	06 13 59.8	-0.2	
PCDR	**Punta Cana, DR**	**0.73**	**284**	Pn	Pn	06 14 00.4	0.0	
PCDR				IAML		06 14 40.5		
	comp=E,107nm,2.3s							
PCDR	**Punta Cana, DR**	**0.73**	**284**	*i* P	Pn	06 14 02.0	+1.6	
PCDR				*e*S	Sn	06 14 16.8	+1.5	
PCDR				IAML		06 14 19.6		
	comp=Z,134nm,2.5s							
AOPR	**Arecibo Observ**	**0.84**	**89**	Pn	Pn	06 14 01.3	-0.1	
AOPR				IAML		06 14 19.1		
	comp=N,107nm,0.2s							
UUPR	**Utuado, UPR, P**	**0.88**	**95**		Pn	06 14 02.2	+0.5	
CELP	**Cerrillos**	**1.04**	**104**	Pn	Pn	06 14 02.8	-0.4	
CELP				IAML		06 14 16.5		
	comp=N,36nm,3.0s							
EMPR	**Esperanza - Ma**	**1.06**	**82**	Pn	Pn	06 14 03.0	-0.5	
SJG	**San Juan**	**1.43**	**99**	Pn	Pn	06 14 07.3	-0.2	
SJG				IAML		06 14 56.3		
	comp=N,29nm,3.5s							
GCPR	**Guaynabo City**	**1.48**	**91**⇑	*e*P	Pn	06 14 07.7	-0.3	
GCPR	**Guaynabo City**	**1.48**	**91**		Pn	06 14 07.7	-0.3	
GCPR	**Guaynabo City**	**1.48**	**91**	IAML		06 14 28.7		
	comp=N,29nm,2.7s							
CBYP	**Canovanas**	**1.69**	**92**⇑	*e*P	Pn	06 14 10.4	-0.1	
CBYP	**Canovanas**	**1.69**	**92**	*e*S	Sn	06 14 32.6	-0.7	
CBYP	**Canovanas**	**1.69**	**92**		Pn	06 14 10.4	-0.1	
CBYP					Sn	06 14 32.6	-0.7	
HUMP	**Col San Antoni**	**1.71**	**96**⇑	*e*P	Pn	06 14 10.8	+0.1	
HUMP	**Col San Antoni**	**1.71**	**96**	*e*S	Sn	06 14 33.8	+0.2	
HUMP	**Col San Antoni**	**1.71**	**96**		Pn	06 14 10.8	+0.1	
HUMP					Sn	06 14 33.8	+0.2	
HUMP	**Col San Antoni**	**1.71**	**96**	IAML		06 14 34.7		
	comp=N,31nm,0.4s							
HUMP				IAML		06 14 34.8		
	comp=E,33nm,0.2s							
MTP	**Monte Pirata**	**2.00**	**97**⇑	*e*P	Pn	06 14 15.2	+1.0	
MTP	**Monte Pirata**	**2.00**	**97**	*e*S	Sn	06 14 39.9	+0.1	
MTP	**Monte Pirata**	**2.00**	**97**		Pn	06 14 15.2	+1.0	
MTP					Sn	06 14 39.9	+0.1	
MTP	**Monte Pirata**	**2.00**	**97**	IAML		06 14 41.0		
	comp=N,24nm,2.8s							
MTP				IAML		06 15 40.4		
	comp=E,24nm,3.9s							
CUPR	**Culebra, Puert**	**2.24**	**90**⇑	*e*P	Pn	06 14 17.1	-0.2	
CUPR	**Culebra, Puert**	**2.24**	**90**	*e*S	Sn	06 14 45.1	0.0	
CUPR	**Culebra, Puert**	**2.24**	**90**		Pn	06 14 17.1	-0.2	
CUPR					Sn	06 14 45.1	0.0	
CUPR	**Culebra, Puert**	**2.24**	**90**	IAML		06 15 37.3		
	comp=N,12nm,1.2s							
STVI	**Saint Thomas**	**2.55**	**89**	Pn	Pn	06 14 20.6	-0.6	
STVI				IAML		06 15 14.7		
	comp=N,32nm,3.6s							
STVI				IAML		06 15 59.3		
	comp=E,27nm,1.9s							
SJVI	**Gifft Hill Sch**	**2.72**	**90**⇑	*e*P	Pn	06 14 23.7	+0.2	
SJVI	**Gifft Hill Sch**	**2.72**	**90**	*e*S	Sn	06 14 55.4	-0.9	
SJVI	**Gifft Hill Sch**	**2.72**	**90**		Pn	06 14 23.7	+0.2	
SJVI					Sn	06 14 55.4	-0.9	
SJVI	**Gifft Hill Sch**	**2.72**	**90**	IAML		06 15 29.7		
	comp=E,28nm,3.8s							
SJVI				IAML		06 15 48.3		
	comp=N,26nm,3.5s							

*SOME **26** 06:25:36.3,38°.97N×73°.73E,h5km*
*NNC **26** 06:25:42.9±5.9,39°.24N×73°.90E,h0km,mb3.8,mpv3.3, Error ellipse: s-maj=43.4km s-min=23.3km az=162.0*
*KRNET **26** 06:25:48.7±0.1,39°.23N×74°.06E,mb3.5*
ISC 26 06:25:52.0±1.5,39°.55N±0°.05×74°.02E±0°.03,h1km±8km, n37,σ1°99/50,20C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.35**	**316**⇑	*e*P	**Pg**	**06 26 19.3**	**+1.4**
	baz=23						
OHH				⇑*e*S	**Sg**	**06 26 41.4**	**+5.9**
	baz=23						
DRK	**Karamyk**	**1.71**	**268**⇑	*e*P	**Pn**	**06 26 22.0**	**-1.3**
	baz=79						
DRK				⇑*e*S	**Sb**	**06 26 45.9**	**-0.8**
	baz=79						
ARLS	**Aral**	**2.32**	**6**⇓	*e*P	**Pb**	**06 26 34.6**	**0.0**
	baz=4.0						
ARLS				⇓*e*S	**Sg**	**06 27 08.0**	**+1.6**
	baz=4.0						
BTK	**Batken**	**2.51**	**283**⇑	*i*P	**Pn**	**06 26 34.6**	**+0.5**
	baz=89						
BTK				⇑*e*S	**Sb**	**06 27 08.0**	**-1.4**
	baz=89						
UCH	**Uchtor**	**2.70**	**8**⇑	*e*P	**Pb**	**06 26 39.9**	**-1.4**
	baz=6.0						
UCH				⇑*e*S	**Sb**	**06 27 17.1**	**+2.0**
	baz=6.0						
ARK	**Arkit**	**2.73**	**326**⇑	*e*P	**Pb**	**06 26 40.0**	**-1.7**
	baz=29						
ARK				⇑*e*S	**Sg**	**06 27 17.7**	**-2.0**
	baz=29						
TRKS	**Terek-Say**	**2.95**	**313**⇓	*e*P	**Pn**	**06 26 41.4**	**+1.3**
	baz=16						
TRKS				⇓*e*S	**Sb**	**06 27 20.2**	**-1.8**
	baz=16						
AAK	**Ala-Archa**	**3.10**	**7**⇑	*e*P	**Pn**	**06 26 45.6**	**+3.4**
	baz=5.0						
AAK				⇑*e*S	**Sb**	**06 27 27.0**	**+0.6**
	baz=5.0						
EKS2	**Erkin-Say**	**3.11**	**357**⇑	*e*P	**Pn**	**06 26 45.7**	**+3.4**
	baz=56						
EKS2				⇑*e*S	**Sb**	**06 27 27.2**	**+0.6**
	baz=56						
ULHL	**Ulahol**	**3.17**	**31**⇓	*e*P	**Pn**	**06 26 45.7**	**+2.4**
	baz=28						
ULHL				⇓*i*S	**Sb**	**06 27 27.6**	**-1.0**
	baz=28						
KBK	**Karagaybulak**	**3.18**	**13**⇑	*e*P	**Pn**	**06 26 46.5**	**+3.2**
	baz=11						
KBK				⇑*e*S	**Sb**	**06 27 28.8**	**+0.2**
	baz=11						
MRKS	**Merke**	**3.24**	**350**	*e*P	**Pn**	**06 26 47.4**	**+3.3**
	6.0nm,0.5s						
MRKS				*e*S	Sg	06 27 39.2	+3.0
	18nm,0.1s						
MRKS	**Merke**	**3.24**	**350**	Pg	**Pn**	**06 26 47.4**	**+3.3**
	6.0nm,0.5s						
MRKS				Lg	Lg	06 27 39.2	
	12nm,0.7s						
TKM2	**Tokmak 2**	**3.57**	**19**	⇑Pg	**Pn**	**06 26 51.0**	**+2.4**
	3.3nm,0.5s						
TKM2				⇓Lg	Lg	06 27 48.9	
	7.4nm,0.5s						
KST	**Kastek**	**3.78**	**22**	*e*P	**Pb**	**06 26 57.8**	**-1.8**
	4.1nm,0.5s						
KST				*e*S	Sg	06 27 56.5	+3.0
	13nm,0.8s						
KST	**Kastek**	**3.78**	**22**	Pg	**Pb**	**06 26 57.8**	**-1.8**
	4.1nm,0.5s						
KST				Lg	Lg	06 27 56.9	
	13nm,0.8s						
DGS	**Degeres**	**3.91**	**19**	*e*P	**Pb**	**06 27 00.7**	**-1.2**
	3.6nm,0.7s						
DGS				*e*S	Sg	06 28 01.4	+3.6
	8.0nm,0.7s						
DGS	**Degeres**	**3.91**	**19**	Pg	**Pb**	**06 27 01.0**	**-0.9**
	3.6nm,0.7s						
DGS				Lg	Lg	06 28 01.4	
	8.0nm,0.7s						
SGDS	**Sogindy**	**3.92**	**7**	*e*P	**Pb**	**06 27 01.2**	**-0.7**
	3.5nm,0.6s						
SGDS				*e*S	Sg	06 28 02.2	+4.2
	10nm,0.6s						
SGDS	**Sogindy**	**3.92**	**7**	Pg	**Pb**	**06 27 01.2**	**-0.7**
	3.5nm,0.6s						
SGDS				Lg	Lg	06 28 02.2	
	10nm,0.6s						
IUG	**luzhnay**	**3.98**	**312**	*e*P	**Pn**	**06 26 54.5**	**+0.3**
	13nm,0.5s						
IUG				*e*S	**Sb**	**06 27 50.5**	**-1.1**
	24nm,0.3s						
IUG	**luzhnay**	**3.98**	**312**	Pg	**Pn**	**06 26 54.6**	**+0.3**
	13nm,0.5s						
IUG				Lg	Lg	06 27 50.5	
	22nm,0.8s						
MTBS	**Maitube**	**4.01**	**26**	*e*P	**Pb**	**06 27 01.3**	**-2.1**
	2.4nm,0.2s						
MTBS				*e*S	Sg	06 28 02.2	+1.5
	6.5nm,0.6s						
MTBS	**Maitube**	**4.01**	**26**	Pg	**Pb**	**06 27 01.3**	**-2.1**
	2.2nm,0.4s						
MTBS				Lg	Lg	06 28 02.2	
	6.5nm,0.6s						
TNSS	**Tian-Shan**	**4.12**	**31**	*e*P	**Pb**	**06 27 04.5**	**-1.1**
	5.3nm,0.6s						
TNSS				*e*S	Sg	06 28 08.2	+3.9
	5.7nm,0.3s						
TNSS	**Tian-Shan**	**4.12**	**31**	Pg	**Pb**	**06 27 04.5**	**-1.1**
	5.3nm,0.6s						
TNSS				Lg	Lg	06 28 08.2	
	5.8nm,0.8s						
MDOK	**Medeo**	**4.27**	**31**	*e*P	**Pb**	**06 27 07.4**	**-0.5**
	3.8nm,0.5s						
MDOK				*e*S	Sg	06 28 13.5	+4.4
	7.9nm,0.8s						
MDOK	**Medeo**	**4.27**	**31**	Pg	Pn	06 27 03.4	+5.1
	9.6nm,1.2s						
MDOK				Pg	**Pb**	**06 27 07.4**	**-0.5**
	3.8nm,0.5s						
MDOK				Lg	Lg	06 28 10.0	
	11nm,0.8s						
MDOK				Lg	Lg	06 28 13.5	
	7.9nm,0.8s						
KRBS	**Karabastau**	**4.32**	**16**	*e*P	**Pb**	**06 27 07.1**	**-1.6**
	1.7nm,0.6s						
KRBS				*e*S	Sg	06 28 12.3	+1.5
	4.9nm,0.1s						
KRBS	**Karabastau**	**4.32**	**16**	Pg	**Pb**	**06 27 07.3**	**-1.5**
	1.7nm,0.6s						
KRBS				Lg	Lg	06 28 12.3	
	4.1nm,0.6s						
KOTS	**Kotyrbulak**	**4.35**	**31**	*e*P	**Pb**	**06 27 08.3**	**-1.0**
	3.2nm,0.3s						
KOTS				*e*S	Sg	06 28 14.0	+2.2
	12nm,0.8s						
KOTS	**Kotyrbulak**	**4.35**	**31**	Pg	**Pb**	**06 27 08.3**	**-1.0**
	3.2nm,0.8s						
KOTS				Lg	Lg	06 28 14.0	
	12nm,0.8s						
KK31	**Karatay Array**	**4.42**	**324**	⇑Pg	**Pn**	**06 27 02.4**	**+2.2**
	2.3nm,0.6s,baz=131,slow=13						
KK31				⇑Sn	**Sn**	**06 27 48.5**	**-3.8**
	1.0nm,0.3s,baz=131,slow=25						
KK31				⇑Lg	Lg	06 28 10.8	
	4.5nm,0.6s,baz=139,slow=31						
KTBS	**Karatobe**	**4.61**	**25**	*e*P	**Pb**	**06 27 14.3**	**+0.7**
	4.0nm,0.1s						
KTBS				*e*S	Sg	06 28 25.0	+4.9
	9.4nm,0.7s						
KTBS	**Karatobe**	**4.61**	**25**	Pg	**Pb**	**06 27 14.6**	**+1.0**
	4.0nm,0.8s						
KTBS				Lg	Lg	06 28 25.0	
	9.4nm,0.7s						
KUU	**Kurty**	**4.67**	**21**	*e*P	**Pb**	**06 27 14.1**	**-0.6**
	0.8nm,0.3s						
KUU				*e*S	Sg	06 28 24.4	+2.4
	11nm,0.4s						
KUU	**Kurty**	**4.67**	**21**	Pg	**Pb**	**06 27 14.1**	**-0.6**
	0.8nm,0.3s						
KUU				Lg	Lg	06 28 24.1	
	11nm,0.4s						

*THE **26** 06:29:05.7,37°.47N×20°.56E,h7km±3km,ML2.5/4, Error ellipse: s-maj=3.7km s-min=0.7km az=55.0*
*ATH **26** 06:29:06.7,37°.50N×20°.65E,h15km±6km,ML2.1/1, Error ellipse: s-maj=7.2km s-min=1.5km az=24.0*
ISC 26 06:29:04.7±2.4,37°.43N±0°.09×20°.56E±0°.08,h5km±14km, n16,σ0°849/22,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.36**	**38**	P	**Pg**	**06 29 11.7**	**+0.1**
LTHK				S	**Sg**	**06 29 16.7**	**+0.3**
	2μm,0.3s						
VLS	**Valsamata**	**0.75**	**2**	P	**Pg**	**06 29 18.5**	**-0.6**
VLS				S	**Sg**	**06 29 29.1**	**+0.2**
VLS	**Valsamata**	**0.75**	**2**	P	**Pg**	**06 29 19.3**	**+0.2**
VLS				S	**Sg**	**06 29 29.3**	**+0.5**
VLS				AML	AML	06 29 33.2	
	comp=E,295μm,0.2s						
VLS				AML	AML	06 29 36.2	
	comp=N,348μm,0.3s						
KEF3	**Kipouria, Keph**	**0.79**	**348**	P	**Pg**	**06 29 19.9**	**0.0**
KEF3				S	**Sg**	**06 29 30.7**	**+0.5**
	comp=N,792nm,0.4s						
KEF3	**Kipouria, Keph**	**0.79**	**348**	P	**Pb**	**06 29 21.6**	**+0.6**
DMLN	**Damoulianata-K**	**0.82**	**350**	P	**Pg**	**06 29 20.3**	**-0.2**
DMLN				S	**Sb**	**06 29 32.5**	**-0.4**
	comp=N,365nm,0.5s						
KEF4	**Livadi, Kephal**	**0.84**	**353**	P	**Pb**	**06 29 21.9**	**+0.1**
RLS	**Riolos of Patr**	**0.95**	**49**	P	**Pg**	**06 29 22.4**	**-0.7**
FSK	**Fiskardo**	**1.03**	**0**	P	**Pg**	**06 29 24.3**	**-0.2**
DRO	**Drossia**	**1.05**	**60**	P	**Pg**	**06 29 25.1**	**+0.2**
DRO	**Drossia**	**1.05**	**60**	P	**Pg**	**06 29 24.7**	**-0.2**
PYL	**PYLOS**	**1.08**	**119**	P	**Pb**	**06 29 25.9**	**0.0**
PYL				S	**Sn**	**06 29 43.1**	**+1.2**
	comp=N,82nm,0.3s						
PYL	**PYLOS**	**1.08**	**119**	P	**Pb**	**06 29 26.0**	**0.0**
ITM	**Ithomi**	**1.12**	**102**	P	**Pb**	**06 29 26.4**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.25**	**1**	P	**Pn**	**06 29 28.2**	**-0.7**
ANX	**Ano Chora**	**1.58**	**42**	P	**Pn**	**06 29 33.1**	**-0.4**

*SOME **26** 06:35:18.2,39°.33N×73°.48E,h10km*
*KRNET **26** 06:35:20.5±0.1,39°.25N×74°.08E,mb3.7*
*NNC **26** 06:35:28.0±4.9,39°.73N×74°.25E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=35.9km s-min=19.7km az=163.0*
ISC 26 06:35:24.6±2.1,39°.51N±0°.07×73°.87E±0°.05,h1km±14km, n31,σ1°85/55,19C-9D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.31**	**321**⇑	*e*P	**Pb**	**06 35 50.1**	**0.0**
	baz=22						
OHH				⇑*e*S	**Sn**	**06 36 12.0**	**+3.7**
	baz=22						
DRK	**Karamyk**	**1.60**	**270**⇑	*e*P	**Pn**	**06 35 53.4**	**-0.8**
	baz=78						
DRK				⇑*e*S	**Sg**	**06 36 17.2**	**+1.3**
	baz=78						
ARLS	**Aral**	**2.38**	**8**⇑	*e*P	**Pn**	**06 36 05.0**	**+0.1**
	baz=4.0						
ARLS				⇑*e*S	**Sb**	**06 36 37.6**	**-0.6**
	baz=4.0						
BTK	**Batken**	**2.41**	**284**⇑	*e*P	**Pn**	**06 36 05.5**	**+0.3**
	baz=89						
BTK				⇑*e*S	**Sb**	**06 36 38.5**	**-0.6**
	baz=89						
ARK	**Arkit**	**2.71**	**328**⇑	*i*P	**Pn**	**06 36 10.7**	**+1.3**
	baz=28						
ARK				⇑*i*S	**Sb**	**06 36 47.3**	**-0.4**
	baz=28						
UCH	**Uchtor**	**2.76**	**10**⇑	*e*P	**Pn**	**06 36 10.6**	**+0.2**
	baz=6.0						
UCH				⇑*e*S	**Sb**	**06 36 47.0**	**-2.6**
	baz=6.0						
GAR	**Garm**	**2.80**	**261**⇓	*e*P	**Pn**	**06 36 09.5**	**-1.1**
	baz=66						
GAR				⇓*e*S	**Sn**	**06 36 45.3**	**+0.2**
	baz=66						
TRKS	**Terek-Say**	**2.90**	**315**⇑	*e*P	**Pn**	**06 36 12.2**	**+0.2**
	baz=16						
TRKS				⇑*e*S	**Sb**	**06 36 50.3**	**-2.9**
	baz=16						
EKS2	**Erkin-Say**	**3.15**	**359**⇓	*e*P	**Pn**	**06 36 16.4**	**+0.9**
	baz=56						
EKS2				⇓*e*S	**Sb**	**06 36 57.1**	**-3.4**
	baz=56						
AAK	**Ala-Archa**	**3.17**	**8**⇓	*e*P	**Pn**	**06 36 16.0**	**+0.3**
	baz=5.0						
AAK				⇓*e*S	**Sn**	**06 36 56.4**	**+2.2**
	baz=5.0						
KBK	**Karagaybulak**	**3.25**	**14**⇓	*i*P	**Pn**	**06 36 17.0**	**+0.1**
	baz=11						
KBK				⇓*e*S	**Sn**	**06 36 58.1**	**+1.8**
	baz=11						
MRKS	**Merke**	**3.27**	**352**	*e*P	**Pn**	**06 36 19.7**	**+2.6**
	16nm,0.5s						
MRKS				*e*S	**Sb**	**06 37 04.0**	**+0.2**
	16nm,0.6s						
MRKS	**Merke**	**3.27**	**352**	Pg	**Pn**	**06 36 19.7**	**+2.6**
	16nm,0.5s						
MRKS				Lg	Lg	06 37 04.6	
	16nm,0.6s						
TKM2	**Tokmak 2**	**3.65**	**20**	⇑Pn	**Pn**	**06 36 20.3**	**-2.1**
	18nm,1.0s						
TKM2				⇑Sn	**Sn**	**06 37 03.5**	**-2.8**
	6.4nm,0.7s						
TKM2				⇓Lg	Lg	06 37 17.2	
	12nm,0.7s						
KST	**Kastek**	**3.87**	**23**	*e*P	**Pb**	**06 36 34.5**	**+0.7**
	7.6nm,0.4s						
KST				*e*S	**Sg**	**06 37 29.3**	**+0.3**
	17nm,0.3s						
KST	**Kastek**	**3.87**	**23**	Pg	**Pb**	**06 36 34.5**	**+0.7**
	7.6nm,0.4s						
KST				Lg	Lg	06 37 29.3	
	17nm,0.8s						
IUG	**luzhnay**	**3.93**	**313**	*e*P	**Pn**	**06 36 28.4**	**+2.4**
	8.6nm,0.1s						
IUG				*e*S	**Sb**	**06 37 19.1**	**-3.7**
	30nm,0.1s						
IUG	**luzhnay**	**3.93**	**313**	Pg	**Pn**	**06 36 28.5**	**+2.4**
	8.7nm,0.3s						
IUG				Lg	Lg	06 37 19.1	
	30nm,0.5s						
SGDS	**Sogindy**	**3.99**	**8**	*e*P	**Pb**	**06 36 34.7**	**-0.9**
	3.8nm,0.2s						
SGDS				*e*S	**Sg**	**06 37 29.8**	**-2.8**
	7.6nm,0.9s						
SGDS	**Sogindy**	**3.99**	**8**	Pg	**Pb**	**06 36 34.7**	**-0.9**
	4.0nm,0.9s						
SGDS				Lg	Lg	06 37 29.8	
	7.6nm,0.9s						
DGS	**Degeres**	**4.00**	**20**	*e*P	**Pb**	**06 36 36.0**	**+0.1**
	12nm,0.1s						
DGS				*e*S	**Sg**	**06 37 32.5**	**-0.5**
	14nm,0.8s						
DGS	**Degeres**	**4.00**	**20**	Pg	**Pb**	**06 36 36.0**	**+0.1**
	12nm,0.7s						
DGS				Lg	Lg	06 37 32.5	
	14nm,0.8s						
MTBS	**Maitube**	**4.10**	**27**	*e*P	**Pb**	**06 36 38.5**	**+0.9**
	9.2nm,0.3s						
MTBS				*e*S	**Sg**	**06 37 36.5**	**+0.1**
	8.0nm,0.6s						
MTBS	**Maitube**	**4.10**	**27**	Pg	**Pb**	**06 36 38.5**	**+0.9**
	9.3nm,0.8s						
MTBS				Lg	Lg	06 37 36.5	
	8.0nm,0.6s						
TNSS	**Tian-Shan**	**4.22**	**32**	*e*P	**Pb**	**06 36 41.2**	**+1.3**
	16nm,0.4s						
TNSS				*e*S	**Sg**	**06 37 40.9**	**+0.6**
	8.8nm,0.3s						
MDOK	**Medeo**	**4.37**	**32**	*e*P	**Pb**	**06 36 43.7**	**+1.5**
	11nm,0.1s						
MDOK				*e*S	**Sg**	**06 37 45.4**	**+0.5**
	13nm,0.7s						
MDOK	**Medeo**	**4.37**	**32**	Pn	**Pn**	**06 36 31.4**	**-0.8**
	13nm,0.8s						
MDOK				Lg	Lg	06 37 39.2	
	19nm,0.8s						
KK31	**Karatay Array**	**4.39**	**326**	⇑Pn	**Pn**	**06 36 34.8**	**+2.4**
	0.6nm,0.3s,baz=130,slow=15						
KK31				⇑Sn	**Sb**	**06 37 30.5**	**-5.5**
	3.2nm,0.5s,baz=137,slow=22						
KK31				⇑Lg	Lg	06 37 48.5	
	2.8nm,0.4s,baz=136,slow=27						
KOTS	**Kotyrbulak**	**4.46**	**32**	*e*P	**Pb**	**06 36 45.7**	**+2.0**
	4.8nm,2.4s						
KOTS				*e*S	**Sg**	**06 37 48.5**	**+0.9**
	40nm,0.7s						
KTBS	**Karatobe**	**4.70**	**26**	*e*P	**Pb**	**06 36 49.5**	**+1.6**
	8.2nm,0.1s						
KTBS				*e*S	**Sg**	**06 37 55.0**	**-0.6**
	15nm,0.8s						
KUU	**Kurty**	**4.76**	**22**	*e*P	**Pb**	**06 36 51.2**	**+2.4**
	5.4nm,0.4s						
KUU				*e*S	**Sg**	**06 37 57.6**	**+0.1**
	14nm,0.5s						

*IDC **26** 06:35:50.1±0.7,56°.70S×25°.15W,h0km,mb4.3/9, mbtmp4.2/9,MS3.8/11, Error ellipse: s-maj=26.4km s-min=18.8km az=52.0*
*NEIC **26** 06:35:56.0±1.3,56°.9S±0°.1×25°.5W±0°.2,h34km±5km, mb4.8/38, Error ellipse: s-maj=20.8km s-min=14.4km az=212.0*
ISC 26 06:35:55.4±0.5,56°.78S±0°.08×25°.29W±0°.09,h35km,n74, σ0°883/74,mb4.8/25,MS3.9/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.83**	**287**	Pn	**Pn**	**06 37 33.7**	**+0.8**
VNA1	**Neumayer--Stat**	**15.73**	**159**	P	**Pn**	**06 39 33.0**	**-0.9**
VNA3	**Neumayer Olymp**	**15.96**	**162**	P	**Pn**	**06 39 35.3**	**-1.5**
VNA2	**Neumayer--Watz**	**16.12**	**159**	P	**Pn**	**06 39 37.1**	**-1.9**
	baz=325,slow=14						
SNAA	**Sanae**	**17.65**	**157**	LR	LR	06 45 58.8	
	comp=Z,166nm,18.6s,baz=8.0,slow=34						
TROLL	**Troll, Antarti**	**19.12**	**154**	P	**Pn**	**06 40 18.2**	**+2.1**
EFI	**East Falkland**	**19.70**	**271**	P	**P**	**06 40 20.9**	**-0.5**
BELA	**Belgrano 2**	**21.43**	**185**	P	**P**	**06 40 39.0**	**-1.0**
SMAI	**San Martin Ant**	**21.91**	**222**	P	**P**	**06 40 45.2**	**+0.1**
MG01	**Puerto William**	**23.56**	**256**	P	**P**	**06 41 01.2**	**-1.0**
MG05	**Puerto Natales**	**27.61**	**260**	P	**P**	**06 41 38.9**	**-0.2**
GO09	**Cerro Castillo**	**27.72**	**261**	P	**P**	**06 41 39.6**	**-0.6**
GO09				IAmb	IAmb	06 42 21.3	
	comp=Z,75nm,1.9s						
TRQA	**Tornquist**	**30.58**	**292**	P	**P**	**06 42 04.6**	**-1.0**
TRQA				IAmb	IAmb	06 42 05.1	
	comp=Z,24nm,1.9s						
COYC	**Coyhaique**	**30.80**	**271**	P	**P**	**06 42 06.4**	**-1.0**
COYC				IAmb	IAmb	06 42 38.5	
	comp=Z,39nm,1.8s						
PLCA	**Paso Flores**	**33.16**	**279**	P	**P**	**06 42 26.8**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=128,slow=5.5,SNR=3.7						
PLCA				LR	LR	06 57 40.4	
	comp=Z,107nm,18.1s,baz=141,slow=39 comp=Z,2.1nm,0.9s						
PLCA	**Paso Flores**	**33.16**	**279**	P	**P**	**06 42 27.2**	**-1.2**
PLCA				IAmb	IAmb	06 42 46.0	
	comp=Z,24nm,1.6s						
QSPA	**South Pole Qui**	**33.47**	**180**	P	**P**	**06 42 31.3**	**+0.5**
	comp=Z,5.8nm,0.6s,baz=216,slow=1.7,SNR=60 comp=Z,5.8nm,0.6s						
QSPA	**South Pole Qui**	**33.47**	**180**	P	**P**	**06 42 31.1**

CO02	**Combarbal**	**40.56**	**289**	P	**P**	**06 43 30.9**	**-0.4**
CO02				IAmb	IAmb	06 44 18.3	
	comp=Z,45nm,1.9s						
CO01	**Juntas del Tor**	**41.07**	**291**	P	**P**	**06 43 35.5**	**-0.2**
AC05	**El Transito**	**42.08**	**292**	P	**P**	**06 43 43.2**	**-0.6**
AC05				IAmb	IAmb	06 43 44.2	
	comp=Z,19nm,1.2s						
SOE	**Somerset East**	**42.10**	**77**	P	**P**	**06 43 44.6**	**+0.7**
SOE				IAmb	IAmb	06 44 51.3	
	comp=Z,36nm,1.6s						
AQDB	**Aquidauana**	**42.66**	**316**	P	**P**	**06 43 47.6**	**-0.8**
AC02	**Maricunga**	**43.15**	**295**	P	**P**	**06 43 52.7**	**-0.2**
BOSA	**Boshof**	**45.15**	**73**	LR	LR	07 00 08.1	
	comp=Z,307nm,18.5s,baz=186,slow=32						
SBA	**Scott Base**	**45.42**	**184**	P	**P**	**06 44 11.6**	**+1.7**
VNDA	**Vanda**	**45.89**	**182**	P	**P**	**06 44 14.7**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=194,slow=7.1,SNR=13						
	comp=Z,1.5nm,0.7s						
VNDA	**Vanda**	**45.89**	**182**	P	**P**	**06 44 14.1**	**+0.5**
VNDA	**Vanda**	**45.89**	**182**	P	**P**	**06 44 14.7**	**+1.1**
VNDA				pP	**pP**	**06 44 23.8**	**+1.1**
VNDA				sP	**pwP**	**06 44 28.1**	**+0.1**
LVC	**Limon Verde**	**46.58**	**299**	P	**P**	**06 44 19.7**	**-0.4**
LVC				IAmb	IAmb	06 44 23.2	
	comp=Z,15nm,0.7s						
LVC	**Limon Verde**	**46.58**	**299**	P	**P**	**06 44 20.5**	**+0.4**
LVC				pP	**pP**	**06 44 30.0**	**+0.7**
PB10	**IPOC Station P**	**46.62**	**296**	P	**P**	**06 44 19.2**	**-0.8**
CCD	**Concordia, Ant**	**46.77**	**169**	P	**P**	**06 44 21.2**	**+0.2**
PB09	**IPOC Station P**	**47.43**	**299**	P	**P**	**06 44 26.6**	**+0.1**
PB01	**IPOC Station P**	**48.19**	**299**	P	**P**	**06 44 32.8**	**+0.5**
PB01				IAmb	IAmb	06 44 33.8	
	comp=Z,12nm,1.0s						
LBTB	**Lobatse**	**48.23**	**71**	LR	LR	07 01 58.5	
	comp=Z,146nm,18.3s,baz=208,slow=33						
PTLB	**Pontes e Lacer**	**48.56**	**314**	P	**P**	**06 44 35.5**	**+0.4**
PTLB				IAmb	IAmb	06 44 44.1	
	comp=Z,8.0nm,1.0s						
TSUM	**Tsumeb**	**49.14**	**58**	P	**P**	**06 44 39.6**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=258,slow=4.9,SNR=3.9						
TSUM				LR	LR	07 01 32.0	
	comp=Z,46nm,19.6s,baz=148,slow=31						
	comp=Z,2.8nm,0.8s						
GO01	**Chusmiza**	**49.23**	**300**	P	**P**	**06 44 40.9**	**+0.1**
GO01				IAmb	IAmb	06 44 58.6	
	comp=Z,9.9nm,0.8s						
MNMC	**Minye Minye**	**49.88**	**300**	P	**P**	**06 44 46.0**	**+0.5**
PB16	**IPOC Station P**	**50.52**	**301**	P	**P**	**06 44 51.0**	**+0.3**
PB16				IAmb	IAmb	06 44 59.7	
	comp=Z,12nm,1.2s						
LPAZ	**La Paz**	**51.66**	**304**	P	**P**	**06 45 00.2**	**+0.9**
	comp=Z,9.3nm,0.5s,baz=155,slow=5.0,SNR=36						
	comp=Z,9.3nm,0.5s						
LPAZ	**La Paz**	**51.66**	**304**	P	**P**	**06 44 59.7**	**+0.4**
LPAZ				IAmb	IAmb	06 45 17.0	
	comp=Z,14nm,0.8s						
LPAZ	**La Paz**	**51.66**	**304**	P	**P**	**06 45 00.1**	**+0.9**
LPAZ				pP	**pP**	**06 45 09.0**	**+0.4**
LPAZ				sP	**pwP**	**06 45 13.6**	**+0.2**
DRV	**Dumont d'Urvil**	**56.38**	**173**	P	**P**	**06 45 32.3**	**-0.1**
DRV				sP	**pwP**	**06 45 46.2**	**-1.1**
LSZ	**Lusaka**	**57.67**	**67**	LR	LR	07 07 47.1	
	comp=Z,119nm,18.3s,baz=186,slow=33						
NNA	**Nana**	**59.52**	**297**	LR	LR	07 15 04.6	
	comp=Z,36nm,18.0s,baz=160,slow=40						
BOAV	**Boa Vista**	**65.51**	**321**	P	**P**	**06 46 34.7**	**-0.3**
BOAV				IAmb	IAmb	06 46 44.0	
	comp=Z,7.8nm,1.1s						
MCRA	**Macar, Loja**	**67.63**	**298**	P	**P**	**06 46 49.2**	**+0.5**
MCRA				IAmb	IAmb	06 47 13.2	
	comp=Z,20nm,1.9s						
MBAR	**Mbarara**	**71.56**	**61**	LR	LR	07 15 21.7	
	comp=Z,49nm,18.5s,baz=119,slow=33						
KMBO	**Kilima Mbogo**	**74.33**	**67**	P	**P**	**06 47 27.9**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=143,slow=18,SNR=2.0						
KMBO				LR	LR	07 16 59.7	
	comp=Z,23nm,20.2s,baz=94,slow=33						
	comp=Z,1.0nm,0.4s						
SDV	**Santo Domingo**	**75.28**	**313**	LR	LR	07 22 44.1	
	comp=Z,62nm,18.5s,baz=108,slow=37						
ESQI	**Esquipulas**	**88.59**	**299**	P	**P**	**06 48 46.4**	**+1.8**
ASAR	**Alice Springs**	**97.96**	**161**	P	**P**	**06 49 27.3**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=174,slow=3.7,SNR=2.0						
	comp=Z,0.2nm,0.6s						
A36M	**Sachs Harbour**	**145.39**	**327**		**PKPab**	**06 55 28.0**	**+0.1**
M30M	**Minto, Yukon**	**146.45**	**309**	PKPdf	**PKPbc**	**06 55 30.8**	**-0.5**
INK	**Inuvik**	**147.04**	**320**	PKPbc	**PKPab**	**06 55 33.5**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=166,slow=4.6,SNR=3.7						
INK	**Inuvik**	**147.04**	**320**		**PKPbc**	**06 55 33.3**	**+0.6**
DAWY	**Dawson**	**148.07**	**311**	PKPbc	**PKPbc**	**06 55 35.3**	**-0.4**
BCAR	**Beaver Creek A**	**148.77**	**308**	PKPbc	**PKPbc**	**06 55 37.9**	**+0.3**
L27K	**Beaver Creek,**	**148.79**	**308**	PKPbc	**PKPbc**	**06 55 37.9**	**+0.3**
SONM	**Songino Array**	**149.72**	**86**	PKPbc	**PKPbc**	**06 55 39.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=226,slow=2.8,SNR=4.1						
ILAR	**Eielson Array**	**151.39**	**310**	PKPbc	**PKPbc**	**06 55 43.4**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=138,slow=2.0,SNR=27						

KRSC 26 06:42:29.8±1.2, 55.08N×164.78E, h48km±24km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.70**	**79**	P	Pn	06 42 44.3	+1.0
BKI				S	Sn	06 42 53.9	+0.8
KBTR	**Krutoberegovo**	**1.58**	**316**	*e*P	Pn	06 42 56.1	+0.8
KBTR				S	Sn	06 43 14.3	-0.3
KBG	**Krutoberegovo**	**1.66**	**316**	P	Pn	06 42 58.0	+1.6
KBG				S	Sn	06 43 17.8	+1.3
MKZ	**Mys Kozlova**	**1.84**	**255**	*e*P	Pn	06 43 01.8	+3.0
MKZ				*e*S	Sn	06 43 22.4	+1.5
SMKR	**Semkarok**	**2.40**	**310**	*e*P	Pn	06 43 08.8	+2.2
SMKR				*e*S	Sn	06 43 37.6	+2.9
BZGR	**Bezymyannyi-Gr**	**2.48**	**292**	*e*S	Sn	06 43 41.4	+4.7
BDR	**Baidarnaya**	**2.50**	**308**	*e*P	Pn	06 43 11.1	+3.1
SRKR	**Sorokina**	**2.57**	**309**	*e*P	Pn	06 43 12.1	+3.1
SRKR				*e*S	Sn	06 43 44.1	+5.1
TUMR	**Tumrok**	**2.66**	**276**	*e*P	Pn	06 43 14.4	+4.2
TUMR				*e*S	Sn	06 43 45.7	+4.4
KMNR	**Kamenistaya**	**2.67**	**286**	P	Pn	06 43 14.8	+4.4
KMNR				S	Sn	06 43 46.6	+5.0
KPT	**Kopyto**	**2.74**	**291**	*e*P	Pn	06 43 15.9	+4.7
KOZ	**Kozyrevsk**	**2.95**	**291**	P	Pn	06 43 18.8	+4.7
SRDR	**Sredinnyy**	**3.12**	**295**	P	Pn	06 43 21.0	+4.5
SRDR				*e*S	Sn	06 43 58.4	+5.9
ESO	**Esso**	**3.56**	**286**	S	Sn	06 44 06.7	+3.5
SDLR	**Sedlovina**	**3.91**	**245**	*e*P	Pn	06 43 31.9	+4.6
SDLR				S	Sn	06 44 16.1	+4.2
SMAR	**Somma**	**3.96**	**245**	*e*P	Pn	06 43 32.7	+4.6
KRER	**Koryakskii**	**3.96**	**246**	P	Pn	06 43 33.0	+4.8
UGLR	**Uglovaya**	**3.97**	**244**	P	Pn	06 43 32.7	+4.5
KOK	**Koryaka**	**4.03**	**246**	P	Pn	06 43 33.3	+4.3
DALK	**Dalny**	**4.10**	**242**	P	Pn	06 43 33.8	+4.0
PET	**Petropavlovsk**	**4.16**	**243**	*e*P	Pn	06 43 35.1	+4.5
GNL	**Ganaly**	**4.23**	**254**	*e*P	Pn	06 43 36.6	+4.9
KRMR	**Karymshinskiy**	**4.53**	**243**	*e*P	Pn	06 43 40.0	+4.3
KRMR				*e*S	Sn	06 44 30.1	+3.1
RUS	**Russkaya**	**4.57**	**237**	P	Pn	06 43 40.1	+3.9
RUS				S	Sn	06 44 29.2	+1.3
MTVR	**Mutnovka**	**4.70**	**239**	*e*P	Pn	06 43 42.5	+4.3
MTVR				*e*S	Sn	06 44 33.9	+2.5
GRL	**Gorelyy**	**4.71**	**240**	*e*P	Pn	06 43 43.0	+4.7
GRL				*e*S	Sn	06 44 33.6	+1.9
KDTR	**Khodutka, Kamc**	**5.17**	**233**	P	Pn	06 43 47.1	+2.5

*NNC **26** 06:54:54.9±3.3, 39.27N×74.34E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=25.1km s-min=14.5km az=158.0*
*KRNET **26** 06:54:54.7±0.1, 39.23N×74.13E, mb3.8*
*SOME **26** 06:54:56.3, 39.52N×73.95E, h0km*
ISC 26 06:54:55.5±1.4, 39.28N±0.06×74.08E±0.04, h10km, n52, σ2.66/77, 18C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.59**	**322**	⇑*e*P	**Pb**	**06 55 25.7**	**+0.6**
	baz=22						
OHH				⇑*e*S	**Sg**	**06 55 48.2**	**+1.4**
	baz=22						
DRK	**Karamyk**	**1.78**	**277**	⇑*e*P	**Pb**	**06 55 28.7**	**+0.3**
	baz=79						
DRK				⇑*e*S	**Sg**	**06 55 53.4**	**+0.7**
	baz=79						
ARLS	**Aral**	**2.59**	**4**	⇑*e*P	**Pb**	**06 55 40.3**	**-1.8**
	baz=3.0						
ARLS				⇑*e*S	**Sb**	**06 56 13.8**	**-0.3**
	baz=3.0						
BTK	**Batken**	**2.63**	**288**	⇑*e*P	**Pb**	**06 55 41.2**	**-1.6**
	baz=89						
BTK				⇑*e*S	**Sb**	**06 56 15.2**	**-0.1**
	baz=89						
AML	**Almayashu**	**2.87**	**354**	P	**Pb**	**06 55 45.7**	**-1.3**
	SNR=16						
GAR	**Garm**	**2.94**	**266**	⇓*e*P	**Pb**	**06 55 45.2**	**-2.8**
	baz=67						
GAR				⇓*e*S	**Sb**	**06 56 22.0**	**-2.0**
	baz=67						
UCH	**Uchtor**	**2.97**	**6**	P	**Pb**	**06 55 46.6**	**-2.1**
	SNR=88						
UCH	**Uchtor**	**2.97**	**6**	⇑*e*P	**Pb**	**06 55 45.9**	**-2.9**
	baz=5.0						
UCH				⇑*e*S	**Sb**	**06 56 23.3**	**-1.9**
	baz=5.0						
ARK	**Arkit**	**2.99**	**328**	⇑*e*P	**Pb**	**06 55 46.2**	**-2.7**
	baz=28						
ARK				⇑*e*S	**Sb**	**06 56 24.0**	**-1.6**
	baz=28						
TRKS	**Terek-Say**	**3.18**	**316**	⇓*e*P	**Pn**	**06 55 48.2**	**+2.5**
	baz=16						
TRKS				⇓*e*S	**Sn**	**06 56 26.8**	**+3.0**
	baz=16						
AAK	**Ala-Archa**	**3.37**	**5**	P	**Pb**	**06 55 53.2**	**-2.3**
	SNR=6.4						
AAK	**Ala-Archa**	**3.37**	**5**	⇑*e*P	**Pn**	**06 55 51.3**	**+2.9**
	baz=5.0						
AAK				⇑*e*S	**Sn**	**06 56 32.8**	**+4.2**
	baz=5.0						
EKS2	**Erkin-Say**	**3.39**	**356**	P	**Pb**	**06 55 53.7**	**-2.1**
	SNR=11						
EKS2	**Erkin-Say**	**3.39**	**356**	⇓*e*P	**Pn**	**06 55 51.5**	**+2.9**
	baz=56						
EKS2				⇓*e*S	**Sn**	**06 56 33.1**	**+4.2**
	baz=56						
ULHL	**Ulahol**	**3.39**	**28**	P	**Pn**	**06 55 51.4**	**+2.7**
	SNR=6.5						
ULHL	**Ulahol**	**3.39**	**28**	⇓*e*P	**Pn**	**06 55 51.3**	**+2.6**
	baz=27						
ULHL				⇓*e*S	**Sn**	**06 56 32.8**	**+3.7**
	baz=27						
KBK	**Karagaybulak**	**3.44**	**11**	P	**Pb**	**06 55 53.4**	**-3.2**
	SNR=5.8						
KBK	**Karagaybulak**	**3.44**	**11**	⇓*e*P	**Pn**	**06 55 52.1**	**+2.7**
	baz=10.0						
KBK				⇓*e*S	**Sn**	**06 56 34.5**	**+4.2**
	baz=10.0						
MRKS	**Merke**	**3.52**	**350**	*e*P	**Pb**	**06 55 59.9**	**+1.9**
	14nm,0.5s						
MRKS				*e*S	**Sb**	**06 56 45.5**	**+4.5**
	82nm,0.4s						
MRKS	**Merke**	**3.52**	**350**	Pg	**Pb**	**06 55 54.6**	**-3.5**
	11nm,0.4s						
MRKS				Lg	Lg	06 56 40.8	
	44nm,0.4s						
CHMS	**Chumysh**	**3.75**	**8**	P	**Pn**	**06 55 57.2**	**+3.7**
	SNR=6.1						
TKM2	**Tokmak 2**	**3.82**	**17**	P	**Pn**	**06 55 57.7**	**+3.2**
	SNR=5.2						
TKM2	**Tokmak 2**	**3.82**	**17**	⇓Pg	**Pb**	**06 56 01.7**	**-1.4**
	20nm,0.7s						
TKM2				⇓Lg	Lg	06 56 56.0	
	67nm,1.2s						
USP	**Ospenovka**	**4.00**	**4**	P	**Pb**	**06 56 01.4**	**-4.7**
	SNR=5.4						
KST	**Kastek**	**4.02**	**20**	*e*P	**Pb**	**06 56 02.9**	**-3.6**
	12nm,0.4s						
KST				*e*S	**Sb**	**06 56 53.5**	**-1.9**
	34nm,0.3s						
KST	**Kastek**	**4.02**	**20**	Pg	**Pb**	**06 56 06.8**	**+0.2**
	15nm,0.6s						
KST				Lg	Lg	06 57 01.0	
	35nm,0.8s						
DGS	**Degeres**	**4.16**	**17**	*e*P	**Pb**	**06 56 11.2**	**+2.2**
	13nm,0.6s						
DGS				*e*S	**Sg**	**06 57 06.3**	**-2.8**
	35nm,0.6s						
DGS	**Degeres**	**4.16**	**17**	Pg	**Pb**	**06 56 10.0**	**+1.0**
	13nm,0.6s						
DGS				Lg	Lg	06 57 06.8	
	35nm,0.6s						
SGDS	**Sogindy**	**4.19**	**6**	*e*P	**Pb**	**06 56 11.6**	**+2.2**
	7.2nm,0.6s						
SGDS				*e*S	**Sg**	**06 57 07.7**	**-2.4**
	22nm,0.6s						
SGDS	**Sogindy**	**4.19**	**6**	Pg	**Pb**	**06 56 10.0**	**+0.6**
	7.2nm,0.6s						
SGDS				Lg	Lg	06 57 06.3	
	22nm,0.6s						
IUG	**Iuzhnay**	**4.20**	**314**	*e*P	**Pb**	**06 56 07.0**	**-2.6**
	26nm,0.4s						
IUG				*e*S	**Sb**	**06 56 58.0**	**-2.5**
	55nm,0.9s						
IUG	**Iuzhnay**	**4.20**	**314**	Pg	Pn	06 56 04.6	+4.8
	25nm,0.4s						
IUG				Lg	Lg	06 56 57.4	
	55nm,0.9s						
IZV	**Izvestkoviy**	**4.22**	**26**	*e*P	**Pb**	**06 56 11.6**	**+1.8**
	13nm,0.2s						
IZV				*e*S	**Sg**	**06 57 09.4**	**-1.5**
	46nm,0.2s						
IZV	**Izvestkoviy**	**4.22**	**26**	Pg	**Pg**	**06 56 12.7**	**-3.6**
IZV				Lg	Lg	06 57 10.7	
MTBS	**Maitube**	**4.24**	**24**	*e*P	**Pb**	**06 56 11.7**	**+1.5**
	27nm,0.7s						
MTBS				*e*S	**Sg**	**06 57 08.9**	**-2.7**
	18nm,0.7s						
MTBS	**Maitube**	**4.24**	**24**	Pg	**Pb**	**06 56 11.7**	**+1.5**
	27nm,0.7s						
MTBS				Lg	Lg	06 57 08.9	
	18nm,0.7s						
TNSS	**Tian-Shan**	**4.34**	**29**	*e*P	**Pb**	**06 56 14.2**	**+2.1**
	22nm,0.1s						
TNSS				*e*S	**Sg**	**06 57 13.2**	**-1.6**
	13nm,0.2s						
TNSS	**Tian-Shan**	**4.34**	**29**	Pg	**Pb**	**06 56 14.2**	**+2.1**
	22nm,0.7s						
TNSS				Lg	Lg	06 57 13.2	
	13nm,0.9s						
MDOK	**Medeo**	**4.48**	**29**	*e*P	**Pb**	**06 56 15.9**	**+1.5**
	16nm,0.9s						
MDOK				*e*S	**Sg**	**06 57 16.2**	**-3.3**
	23nm,0.8s						
MDOK	**Medeo**	**4.48**	**29**	Pg	**Pb**	**06 56 15.2**	**+0.8**
	39nm,1.0s						
MDOK				Pg	Pg	06 56 15.9	-5.5
	16nm,0.9s						
MDOK				Lg	Lg	06 57 14.7	
	49nm,1.0s						
MDOK				Lg	Lg	06 57 16.2	
	23nm,0.8s						
KOTS	**Kotyrbulak**	**4.57**	**29**	*e*P	**Pb**	**06 56 17.6**	**+1.8**
	14nm,1.0s						
KOTS				*e*S	**Sg**	**06 57 19.6**	**-2.6**
	58nm,0.8s						
KOTS	**Kotyrbulak**	**4.57**	**29**	Pg	**Pb**	**06 56 17.6**	**+1.8**
	14nm,0.8s						
KOTS				Lg	Lg	06 57 19.6	
	58nm,0.8s						
KRBS	**Karabastau**	**4.58**	**15**	*e*P	**Pb**	**06 56 17.2**	**+1.3**
	11nm,0.7s						
KRBS				*e*S	**Sg**	**06 57 18.8**	**-3.7**
	8.5nm,0.8s						
KRBS	**Karabastau**	**4.58**	**15**	Pg	**Pb**	**06 56 17.2**	**+1.3**
	11nm,0.7s						
KRBS				Lg	Lg	06 57 18.8	
	8.5nm,0.8s						
KK31	**Karatay Array**	**4.67**	**326**	⇑Pn	**Pn**	**06 56 07.7**	**+1.5**
	4.2nm,0.5s,baz=138,slow=13						
KK31				⇑Sn	**Sn**	**06 57 06.8**	**+6.3**
	5.0nm,0.5s,baz=140,slow=25						
KK31				⇓Lg	Lg	06 57 28.1	
	17nm,0.6s,baz=134,slow=28						
KTBS	**Karatobe**	**4.84**	**23**	*e*P	**Pb**	**06 56 22.4**	**+1.9**
	18nm,0.7s						
KTBS				*e*S	**Sg**	**06 57 27.8**	**-3.2**
	45nm,0.7s						
KTBS	**Karatobe**	**4.84**	**23**	Pg	**Pb**	**06 56 23.5**	**+3.0**
	18nm,0.7s						
KTBS				Lg	Lg	06 57 29.4	
	45nm,0.7s						
KUU	**Kurty**	**4.92**	**19**	*e*P	**Pb**	**06 56 24.0**	**+2.4**
	16nm,0.1s						
KUU				*e*S	**Sg**	**06 57 30.3**	**-3.0**
	26nm,0.2s						
KUU	**Kurty**	**4.92**	**19**	Pg	**Pb**	**06 56 24.0**	**+2.4**
	16nm,0.8s						
KUU				Lg	Lg	06 57 30.3	
	27nm,0.8s						
ARXS	**Arharly**	**5.67**	**28**	*e*P	**Pg**	**06 56 39.5**	**-4.7**
	15nm,0.1s						
ARXS				*e*S	**Sg**	**06 57 56.9**	**-0.8**
	18nm,0.2s						
PDGK	**Podgornoye**	**5.75**	**43**	⇑Pg	**Pb**	**06 56 34.6**	**-1.3**
	11nm,0.8s						
PDGK				⇑Lg	Lg	06 57 51.7	
	28nm,0.9s						
OTUK	**Ortayu**	**9.05**	**353**	⇓Lg	Lg	06 59 44.6	
	18nm,1.4s						

*IDC **26** 06:56:11.9±0.5, 30.52N×142.02E, h0km, mb4.3/20, mbtmp4.3/23, ML3.8/3, MS3.5/11, Error ellipse: s-maj=18.0km s-min=12.7km az=74.0*
*MOS **26** 06:56:14.7±1.1, 30.53N×142.03E, h32km, mb4.9/25, Error ellipse: s-maj=13.9km s-min=6.6km az=121.4*
*JMA **26** 06:56:14.2±0.2, 30.6N±0.8×14.2E±°, h50km, MV4.3/39, NEAR TORISHIMA IS*
*NIED **26** 06:56:14.2, 30.61N×142.24E, h50km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.18; Mθθ0.66; Mϕϕ-0.84; Mrθ2.78; Mθϕ-0.61; Mϕr0.40; Fault plane solution: M0 2.93000×10^15^ NP1: φs166.00000°, δ17.00000°, λ-1.00000°. NP2: φs257.00000°, δ90.00000°, λ-107.00000°.*
*NEIC **26** 06:56:16.5±1.8, 30.59N±0.10×142.1E±0.1, h25km±5km, mb4.8/47 Error ellipse: s-maj=14.4km s-min=13.9km az=97.0*
ISC 26 06:56:15.0±0.4, 30.58N±0.05×142.19E±0.07, h23km, n156, σ1.65/174, mb4.7/57, MS3.7/8, 2C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.80**	**313**	*e*P	**Pn**	**06 56 58.2**	**-0.1**
JHCJ	**Hachijojimakas**	**3.21**	**321**	P	**Pn**	**06 57 03.9**	**-0.2**
JHCJ				*e*S	**Sn**	**06 57 40.0**	**-1.6**
JHJ2	**Mitsune**	**3.23**	**322**	Pn	**Pn**	**06 57 03.0**	**-1.3**
JHJ2	**Mitsune**	**3.23**	**322**	P	**Pn**	**06 57 03.7**	**-0.6**
JHJ2				*e*S	**Sn**	**06 57 39.1**	**-3.0**
JHJ	**Hachijo jima 2**	**3.26**	**322**	Pn	**Pn**	**06 57 04.0**	**-0.7**
	14nm,0.3s,baz=217,slow=23,SNR=8.7						
JHJ				Sn	**Sn**	**06 57 39.0**	**-3.8**
	56nm,0.3s,baz=239,slow=23,SNR=6.7						
JHJ				LR	LR	06 58 32.0	
	comp=Z,489nm,18.1s,baz=98,slow=44						
	82nm,0.4s						
CBIJ	**Chichi jima**	**3.47**	**180**	*e*P	**Pn**	**06 57 07.7**	**+0.1**
CBIJ				*e*S	**Sn**	**06 57 46.2**	**-1.7**
JCJ	**Chichijima**	**3.47**	**180**	Pn	**Pn**	**06 57 06.5**	**-1.0**
	39nm,0.3s,baz=266,slow=23,SNR=12						
JCJ				Sn	**Sn**	**06 57 43.1**	**-4.9**
	66nm,0.3s,baz=299,slow=23,SNR=7.0						
	71nm,0.3s						
JMKN	**Mikurajimanish**	**3.97**	**327**	*e*S	**Sn**	**06 57 58.0**	**-2.3**
JMYK	**Miyake Tsubota**	**4.13**	**328**	*e*S	**Sn**	**06 58 02.1**	**-2.1**
BSO1	**Boso 1**	**4.19**	**346**	P	**Pn**	**06 57 16.5**	**-0.5**
BSO1				S	**Sn**	**06 58 02.3**	**-2.6**
BSO3	**Boso 3**	**4.44**	**342**	P	**Pn**	**06 57 22.5**	**+1.8**
BSO3				S	**Sn**	**06 58 11.4**	**-0.1**
BSO4	**Boso 4**	**4.67**	**341**	*e*P	**Pn**	**06 57 25.7**	**+1.8**
BSO4				*e*S	**Sn**	**06 58 17.1**	**-0.3**
JOD2	**Odawara 2**	**5.35**	**332**	P	**Pn**	**06 57 34.1**	**+0.7**
JOD2				S	**Sn**	**06 58 34.1**	**-0.3**
JHU	**Hanno**	**5.80**	**336**	P	**Pn**	**06 57 40.1**	**+0.6**
JYT	**Yasato**	**5.88**	**344**	*e*P	**Pn**	**06 57 40.9**	**+0.3**
JYT				*e*S	**Sn**	**06 58 44.6**	**-2.7**
JRY	**Ryogami san**	**6.08**	**334**	P	**Pn**	**06 57 44.2**	**+0.7**
JRY				*e*S	**Sn**	**06 58 52.2**	**-0.1**
JHO	**Hitachi**	**6.17**	**348**	P	**Pn**	**06 57 44.0**	**-0.6**
JAG	**Ashikaga**	**6.26**	**339**	P	**Pn**	**06 57 45.7**	**-0.3**
MJAR	**Matsushiro Arr**	**6.81**	**332**	Pn	**Pn**	**06 57 53.7**	**+0.2**
	0.7nm,0.3s,baz=161,slow=11,SNR=31						
MJAR				Sn	**Sn**	**06 59 09.0**	**-1.4**
	0.6nm,0.3s,baz=163,slow=19,SNR=8.0						
MJAR				LR	LR	07 00 44.4	
	comp=Z,247nm,18.1s,baz=158,slow=40						
	12nm,0.7s						
MAJO	**Matsushiro**	**6.81**	**332**		**Pn**	**06 57 53.9**	**+0.4**
MAJO	**Matsushiro**	**6.81**	**332**	*i* P	**Pn**	**06 57 53.5**	**0.0**
MJB9	**Matsu-Tunnel**	**6.82**	**332**		**Pn**	**06 57 55.3**	**+1.7**
JMM	**Marumori**	**7.36**	**351**		**Pn**	**06 57 60.0**	**-1.1**
JSD	**Sado**	**8.12**	**337**	Pn	**Pn**	**06 58 10.9**	**-0.5**
JNU	**Nakatsue**	**9.95**	**288**	LR	LR	07 02 24.1	
	comp=Z,303nm,19.3s,baz=120,slow=38						
JTM	**Tenmabayashi**	**10.23**	**355**	Pn	**Pn**	**06 58 39.3**	**-1.0**
ERM	**Erimo**	**11.44**	**4**	Pn	**Pn**	**06 58 53.6**	**-3.3**
ERM	**Erimo**	**11.44**	**4**	P	**Pn**	**06 58 53.6**	**-3.3**
JOW	**Kunigami**	**12.77**	**256**	LR	LR	07 03 32.9	
	comp=Z,208nm,21.7s,baz=170,slow=35						
JKA	**Kamikawa-asahi**	**13.52**	**1**	Pn	**Pn**	**06 59 22.5**	**-2.7**
ASAJ	**Asahikawa**	**13.52**	**1**	P	**Pn**	**06 59 22.5**	**-2.8**
KSRS	**Korea Array**	**13.67**	**304**	Pn	**Pn**	**06 59 28.9**	**+1.6**
	0.2nm,0.3s,baz=108,slow=13,SNR=5.7						
KSRS				LR	LR	07 04 52.4	
	comp=Z,134nm,18.6s,baz=125,slow=38						
KSRS	**Korea Array**	**13.67**	**304**	P	**Pn**	**06 59 29.0**	**+1.6**

DGZ					pmax	pmax			
	comp=Z,11nm,0.9s								
ZALV	**Zalesovo Beam**	**46.91**	**317**		P	**P**	**07 04 43.1**	**-0.3**	
	comp=Z,0.8nm,0.3s,baz=92,slow=10,SNR=4.2								
ZALV					PcP	**PcP**	**07 06 16.1**	**+0.3**	
	comp=Z,2.4nm,0.5s,baz=89,slow=4.0,SNR=6.5								
	comp=Z,0.8nm,0.3s								
ZALV	**Zalesovo Beam**	**46.91**	**317**	*i*	P	**P**	**07 04 43.4**	**0.0**	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MK31	**Makanchi Array**	**48.32**	**307**		P	**P**	**07 04 54.9**	**+0.3**	
MK31	**Makanchi Array**	**48.32**	**307**	*i*	P	**P**	**07 04 54.4**	**-0.2**	
MKAR	**Makanchi Array**	**48.32**	**307**		P	**P**	**07 04 54.7**	**+0.1**	
	comp=Z,3.7nm,0.6s,baz=91,slow=9.6,SNR=39								
MKAR					PcP	**PcP**	**07 06 20.5**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=81,slow=9.2,SNR=0.9								
MKAR					LR	LR	07 25 38.3		
	comp=Z,62nm,19.8s,baz=122,slow=37								
	comp=Z,3.7nm,0.6s								
MKAR	**Makanchi Array**	**48.32**	**307**		P	**P**	**07 04 54.3**	**-0.3**	
MKAR	**Makanchi Array**	**48.32**	**307**		P	**P**	**07 04 54.3**	**-0.3**	
MAKZ	**Makanchi**	**48.53**	**307**		P	**P**	**07 04 56.0**	**-0.2**	
MAKZ					IAmb	IAmb	07 04 58.0		
	comp=Z,4.5nm,0.5s								
MAKZ	**Makanchi**	**48.53**	**307**		P	**P**	**07 04 56.0**	**-0.2**	
MAKZ					pmax	pmax			
	comp=Z,4.0nm,0.5s								
NRIK	**Noril'sk**	**49.43**	**338**		P	**P**	**07 05 03.4**	**+0.7**	
	comp=Z,3.0nm,0.7s,baz=96,slow=10,SNR=4.2								
	comp=Z,3.0nm,0.7s								
NRIK	**Noril'sk**	**49.43**	**338**	*i*	P	**P**	**07 05 01.6**	**-1.1**	
NRIK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
O18K	**Koktuh Hills**	**50.41**	**36**		P	**P**	**07 05 12.2**	**+1.9**	
KURK	**Kurchatov**	**50.60**	**313**		P	**P**	**07 05 11.3**	**-0.5**	
KURK	**Kurchatov**	**50.60**	**313**		P	**P**	**07 05 11.3**	**-0.5**	
KURK					pmax	pmax			
	comp=Z,7.0nm,1.0s								
WB0	**Warramunga Arr**	**50.61**	**190**		P	**P**	**07 05 11.8**	**-0.4**	
WRAB	**Tennant Creek**	**50.78**	**190**		P	**P**	**07 05 13.1**	**-0.4**	
WRAB					IAmb	IAmb	07 05 14.0		
	comp=Z,16nm,0.9s								
WRAB	**Tennant Creek**	**50.78**	**190**	*i*	P	**P**	**07 05 13.2**	**-0.3**	
WRAB					pmax	pmax			
	comp=Z,15nm,0.9s								
WRA	**Warramunga Arr**	**50.79**	**190**		P	**P**	**07 05 13.1**	**-0.5**	
	comp=Z,13nm,0.6s,baz=6.0,slow=7.7,SNR=93								
WRA					PcP	**PcP**	**07 06 31.1**	**+0.8**	
	comp=Z,0.6nm,0.4s,baz=1.2,slow=4.0,SNR=1.3								
	comp=Z,13nm,0.6s								
WRA	**Warramunga Arr**	**50.79**	**190**		P	**P**	**07 05 12.2**	**-1.3**	
WRA	**Warramunga Arr**	**50.79**	**190**	*i*	P	**P**	**07 05 12.6**	**-1.0**	
WRA					pmax	pmax			
	comp=Z,13nm,0.6s								
K20K	**Telida**	**51.40**	**31**		P	**P**	**07 05 19.2**	**+1.4**	
K20K					IAmb	IAmb	07 05 20.7		
	comp=Z,23nm,1.5s								
J20K	**Nowinta River**	**51.49**	**30**		P	**P**	**07 05 20.6**	**+2.3**	
J20K					IAmb	IAmb	07 06 04.2		
	comp=Z,35nm,1.8s								
IMAR	**Indian Mountai**	**51.96**	**28**		P	**P**	**07 05 22.7**	**+0.9**	
TARG	**Taragay, Kyrgy**	**52.07**	**301**		P	**P**	**07 05 23.6**	**+0.1**	
TARG					IAmb	IAmb	07 05 25.8		
	comp=Z,6.5nm,0.7s								
TARG	**Taragay, Kyrgy**	**52.07**	**301**		P	**P**	**07 05 23.6**	**+0.1**	
TARG					pmax	pmax			
	comp=Z,7.0nm,0.7s								
PPLA	**Purkeypile**	**52.19**	**32**		P	**P**	**07 05 25.1**	**+1.3**	
H21K	**Melozitna Rive**	**52.29**	**28**		P	**P**	**07 05 25.8**	**+1.5**	
CAST	**Castle Rocks**	**52.30**	**31**		P	**P**	**07 05 26.1**	**+1.7**	
CAST					IAmb	IAmb	07 05 44.1		
	comp=Z,52nm,2.0s								
MLY	**Manley**	**53.06**	**29**		P	**P**	**07 05 31.8**	**+1.7**	
MLY					IAmb	IAmb	07 07 07.3		
	comp=Z,24nm,2.0s								
NRN	**Naryn**	**53.45**	**301**		P	**P**	**07 05 34.1**	**+0.4**	
NRN					IAmb	IAmb	07 05 35.2		
	comp=Z,5.3nm,0.5s								
NRN	**Naryn**	**53.45**	**301**		P	**P**	**07 05 34.1**	**+0.4**	
NRN					pmax	pmax			
	comp=Z,5.0nm,0.5s								
NEA2	**Nenana**	**53.73**	**30**		P	**P**	**07 05 36.5**	**+1.5**	
NEA2					IAmb	IAmb	07 05 53.0		
	comp=Z,9.4nm,1.2s								
TOLK	**Toolik Lake Re**	**53.98**	**25**		P	**P**	**07 05 38.0**	**+1.3**	
MDM	**Murphy Dome**	**54.12**	**29**		P	**P**	**07 05 39.4**	**+1.6**	
MDM					IAmb	IAmb	07 05 57.9		
	comp=Z,10nm,1.4s								
AAK	**Ala-Archa**	**54.33**	**303**	*ce*	P	**P**	**07 05 38.5**	**-1.3**	
AAK					pmax	pmax			
	comp=Z,9.0nm,1.7s								
H24K	**Noodor Dome**	**54.33**	**28**		P	**P**	**07 05 41.4**	**+2.0**	
H24K					IAmb	IAmb	07 07 15.2		
	comp=Z,24nm,2.0s								
SCM	**Sheep Creek Mo**	**54.39**	**33**		P	**P**	**07 05 41.3**	**+1.4**	
SCM	**Sheep Creek Mo**	**54.39**	**33**		P	**P**	**07 05 41.3**	**+1.4**	
SCM					pmax	pmax			
	comp=Z,101nm,1.8s								
AS31	**Alice Springs**	**54.52**	**189**		P	**P**	**07 05 41.1**	**0.0**	
ASAR	**Alice Springs**	**54.52**	**189**		P	**P**	**07 05 40.8**	**-0.3**	
	comp=Z,4.1nm,0.8s,baz=3.5,slow=5.7,SNR=58								
	comp=Z,4.1nm,0.8s								
ASAR	**Alice Springs**	**54.52**	**189**		P	**P**	**07 05 40.4**	**-0.7**	
ASAR	**Alice Springs**	**54.52**	**189**		P	**P**	**07 05 40.4**	**-0.7**	
ILAR	**Eielson Array**	**54.68**	**30**		P	**P**	**07 05 42.4**	**+0.5**	
	comp=Z,0.9nm,0.6s,baz=262,slow=6.5,SNR=11								
	comp=Z,0.9nm,0.6s								
ILAR	**Eielson Array**	**54.68**	**30**		P	**P**	**07 05 42.3**	**+0.4**	
ILAR	**Eielson Array**	**54.68**	**30**		P	**P**	**07 05 42.3**	**+0.4**	
BVAR	**Borovoye Array**	**55.52**	**316**		LR	LR	07 30 29.2		
	comp=Z,67nm,18.6s,baz=89,slow=37								
BRVK	**Borovoye**	**55.58**	**316**		P	**P**	**07 05 48.9**	**+0.4**	
BRVK	**Borovoye**	**55.58**	**316**	*i*	P	**P**	**07 05 47.6**	**-0.9**	
BRVK					pmax	pmax			
	comp=Z,15nm,2.8s								
BMAR	**Burnt Mountain**	**55.74**	**27**		P	**P**	**07 05 51.4**	**+2.0**	
SCRK	**Sand Creek**	**55.93**	**31**		P	**P**	**07 05 51.4**	**+0.4**	
SCRK					IAmb	IAmb	07 06 11.6		
	comp=Z,16nm,1.6s								
L27K	**Beaver Creek,**	**56.92**	**32**		P	**P**	**07 05 58.3**	**+0.3**	
L27K					IAmb	IAmb	07 06 18.0		
	comp=Z,16nm,1.9s								
KK31	**Karatay Array**	**57.10**	**304**		P	**P**	**07 06 00.1**	**+0.6**	
KK31					IAmb	IAmb	07 06 02.1		
	comp=Z,18nm,1.2s								
KK31	**Karatay Array**	**57.10**	**304**		P	**P**	**07 06 00.2**	**+0.6**	
KK31					pmax	pmax			
	comp=Z,18nm,1.3s								
KKAR	**Karatay Array**	**57.10**	**304**		P	**P**	**07 06 00.3**	**+0.7**	
KKAR	**Karatay Array**	**57.10**	**304**		P	**P**	**07 06 00.3**	**+0.7**	
DAWY	**Dawson**	**57.95**	**31**		P	**P**	**07 06 06.3**	**+1.1**	
DAWY					IAmb	IAmb	07 07 40.1		
	comp=Z,23nm,1.9s								
GAR	**Garm**	**58.24**	**299**		P	**P**	**07 06 07.8**	**0.0**	
EPYK	**Eagle Plains**	**58.87**	**28**		P	**P**	**07 06 13.3**	**+1.7**	
EPYK					IAmb	IAmb	07 06 29.7		
	comp=Z,8.7nm,0.9s								
CHGR	**Chuyangaron**	**59.21**	**299**		P	**P**	**07 06 14.6**	**+0.2**	
CHGR	**Chuyangaron**	**59.21**	**299**		P	**P**	**07 06 14.6**	**+0.2**	
CHGR					pmax	pmax			
	comp=Z,68nm,0.7s								
SVE	**Sverdlovsk**	**60.50**	**321**	*eP*	P	**P**	**07 06 23.8**	**+0.9**	
SVE					pmax	pmax			
	comp=Z,10.0nm,1.4s								
FARO	**Faro, Yukon**	**60.91**	**32**		P	**P**	**07 06 27.1**	**+1.5**	
FARO					IAmb	IAmb	07 07 47.9		
	comp=Z,24nm,1.9s								
ARU	**Arti**	**61.70**	**321**	*c i*	P	**P**	**07 06 31.3**	**+0.2**	
ARU					S	**S**	**07 14 56.7**	**+4.4**	
ARU					SS	**SS**	**07 18 57.1**	**+3.7**	
ARU					pmax	pmax			
	comp=Z,11nm,1.1s								
PALK	**Pallekele**	**61.83**	**261**		LR	LR	07 36 10.5		
	comp=Z,54nm,18.5s,baz=299,slow=39								
STKA	**Stephens Creek**	**62.12**	**181**		P	**P**	**07 06 33.9**	**-0.1**	
	comp=Z,2.3nm,0.5s,baz=19,slow=5.2,SNR=7.1								
	comp=Z,2.3nm,0.5s								
FORT	**Forrest**	**62.48**	**194**		P	**P**	**07 06 36.2**	**-0.3**	
ABKAR	**Akbulak array**	**62.70**	**313**		P	**P**	**07 06 37.8**	**-0.1**	
ABKAR					IAmb	IAmb	07 06 53.8		
	comp=Z,3.5nm,0.6s								
KIRV	**Kirov**	**65.84**	**325**		LR	LR	07 38 20.3		
	comp=Z,59nm,18.2s,baz=92,slow=38								
KIRV	**Kirov**	**65.84**	**325**	*i*	P	**P**	**07 06 57.8**	**-0.4**	
HRA	**Herat**	**65.85**	**297**		P	**P**	**07 06 59.5**	**+0.4**	
HRA					IAmb	IAmb	07 07 00.5		
	comp=Z,7.6nm,0.7s								
EUNU	**Eureka**	**66.47**	**8**		P	**P**	**07 07 03.2**	**+1.1**	
EUNU					IAmb	IAmb	07 08 09.3		
	comp=Z,17nm,1.8s								
GEYT	**Alibeck**	**67.65**	**302**		P	**P**	**07 07 09.7**	**-0.5**	
	comp=Z,5.9nm,0.8s,baz=68,slow=4.0,SNR=7.7								
	comp=Z,5.9nm,0.8s								
ARCES	**ARCESS Array B**	**70.27**	**340**		P	**P**	**07 07 26.7**	**+0.8**	
	comp=Z,4.2nm,0.9s,baz=51,slow=6.2,SNR=2.7								
	comp=Z,4.2nm,0.9s								
AKT	**Akhty**	**73.52**	**309**	*eP*	P	**P**	**07 07 47.2**	**+1.1**	
AKT				*e*			07 08 02.1		
AKT					pmax	pmax			
	comp=Z,98nm,2.0s								
FINES	**FINESS Array B**	**74.84**	**333**		P	**P**	**07 07 53.8**	**+0.6**	
	comp=Z,1.0nm,0.4s,baz=56,slow=5.6,SNR=13								
	comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**74.84**	**333**	*i*	P	**P**	**07 07 53.7**	**+0.5**	
FINES					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KBZ	**Khabaz**	**75.66**	**312**		P	**P**	**07 07 59.0**	**+0.7**	
	comp=Z,6.6nm,0.8s,baz=82,slow=6.9,SNR=9.4								
	comp=Z,6.6nm,0.8s								
KBZ	**Khabaz**	**75.66**	**312**	*i*	P	**P**	**07 07 58.8**	**+0.5**	
KBZ					pmax	pmax			
	comp=Z,8.0nm,0.9s								
KIV	**Kislovodsk**	**75.68**	**313**	*eP*	P	**P**	**07 08 01.0**	**+2.4**	
KIV					pmax	pmax			
	comp=Z,12nm,1.0s								
KIV					MLR	MLR			
	comp=Z,37nm,18.0s								
MNK	**Minsk**	**78.22**	**327**	*i*	P	**P**	**07 08 09.8**	**-2.7**	
	comp=E,2.0nm,1.0s								
MNK				*i*	P	**P**	**07 08 09.8**	**-2.7**	
	comp=N,27nm,1.0s								
MNK				*i*	P	**P**	**07 08 09.8**	**-2.7**	
	comp=Z,7.0nm,0.8s,baz=53								
MNK				*i*	PP	**PP**	**07 11 05.0**	**-3.9**	
MNK				*i*	PPP	PPP	07 12 54.2		
MNK				*i*	S	**S**	**07 18 05.2**	**-0.7**	
MNK				*i*	SS	**SS**	**07 23 09.6**	**+2.4**	
MNK				*i*	SSS	SSS	07 26 32.4		
MNK				*i*	LQ	LQ	07 37 35.7		
MNK				*i*	LR	LR	07 42 44.8		
MNK				*i*	LRM	MLR	07 45 44.3		
	comp=Z,98nm,17.2s								
MNK				*i*	LRM	MLR	07 46 18.8		
	comp=E,41nm,17.2s								
MNK				*i*	LRM	MLR	07 46 43.7		
	comp=N,317nm,21.7s								
MNK	**Minsk**	**78.22**	**327**	*i*	P	**P**	**07 08 09.8**	**-2.7**	
MNK				*i*			07 11 04.9		
MNK				*i*	PPP	PPP	07 12 54.2		
MNK				*i*	S	**S**	**07 18 05.1**	**-0.7**	
MNK				*i*	SS	**SS**	**07 23 09.5**	**+2.4**	
MNK				*i*	SSS	SSS	07 26 32.4		
MNK					pmax	pmax			
	comp=Z,7.0nm,0.8s								
MNK					pmax	pmax			
	comp=N,27nm,1.0s								
MNK					pmax	pmax			
	comp=E,2.0nm,1.0s								
MNK					MLR	MLR			
	comp=Z,98nm,17.0s								
MNK					MLR	MLR			
	comp=E,41nm,17.0s								
MNK					MLR	MLR			
	comp=N,317nm,22.0s								
LRM	**Limekiln Ridge**	**78.34**	**44**		P	**P**	**07 08 15.0**	**+1.3**	
NVAR	**Mina Array Bea**	**78.38**	**52**		P	**P**	**07 08 15.6**	**+1.6**	
	comp=N,2.5nm,0.6s,baz=293,slow=5.5,SNR=20								
	comp=N,2.5nm,0.6s								
AKASG	**Malin Array Be**	**79.82**	**323**		P	**P**	**07 08 21.1**	**-0.3**	
	comp=N,0.5nm,0.4s,baz=52,slow=5.7,SNR=5.7								
	comp=N,0.5nm,0.4s								
AKASG	**Malin Array Be**	**79.82**	**323**	*i*	P	**P**	**07 08 23.5**	**+2.1**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.3s								
NOA	**NORSAR Array B**	**80.39**	**338**		P	**P**	**07 08 23.9**	**-0.5**	
	comp=Z,1.0nm,0.8s,baz=41,slow=5.2,SNR=2.3								
	comp=Z,1.0nm,0.8s								
TPNV	**Topopah Spring**	**80.53**	**53**		P	**P**	**07 08 27.1**	**+1.4**	
TPNV	**Topopah Spring**	**80.53**	**53**		P	**P**	**07 08 27.1**	**+1.4**	
TPNV					pmax	pmax			
	comp=Z,3.0nm,0.7s								
PD31	**Pinedale Array**	**81.75**	**45**		P	**P**	**07 08 32.9**	**+0.7**	
PDAR	**Pinedale Array**	**81.75**	**45**		P	**P**	**07 08 33.3**	**+1.1**	
	comp=Z,1.0nm,0.6s,baz=286,slow=2.1,SNR=12								
	comp=Z,1.0nm,0.6s								
PDAR	**Pinedale Array**	**81.75**	**45**		P	**P**	**07 08 33.2**	**+1.0**	
SRU	**San Rafael Swe**	**83.19**	**48**		P	**P**	**07 08 40.4**	**+0.7**	
SRU	**San Rafael Swe**	**83.19**	**48**		P	**P**	**07 08 40.4**	**+0.7**	
SRU					pmax	pmax			
	comp=Z,3.0nm,0.7s								
BRTR	**Keskin Array B**	**83.65**	**313**		P	**P**	**07 08 42.9**	**+0.9**	
	comp=Z,4.0nm,1.0s,baz=95,slow=3.9,SNR=9.8								
	comp=Z,4.0nm,1.0s								
RAYN	**Ar Rayn**	**83.76**	**293**		P	**P**	**07 08 43.3**	**+0.6**	
RAYN					IAmb	IAmb	07 08 58.6		
	comp=Z,21nm,1.3s								
RAYN	**Ar Rayn**	**83.76**	**293**		P	**P**	**07 08 43.3**	**+0.6**	
RAYN					pmax	pmax			
	comp=Z,21nm,1.3s								
CLL	**Collm**	**87.02**	**331**	*eP*	P	**P**	**07 08 58.0**	**-0.4**	
TX31	**Lajitas Ar. Si**	**93.52**	**53**		P	**P**	**07 09 30.9**	**+1.5**	
TXAR	**Lajitas Array**	**93.52**	**53**		P	**P**	**07 09 31.3**	**+1.9**	
	comp=Z,1.3nm,0.7s,baz=316,slow=2.5,SNR=16								
	comp=Z,1.3nm,0.7s								
TXAR	**Lajitas Array**	**93.52**	**53**			**P**	**07 09 30.9**	**+1.5**	
TXAR	**Lajitas Array**	**93.52**	**53**		P	**P**	**07 09 30.9**	**+1.5**	
LPAZ	**La Paz**	**148.88**	**70**		PKPbc	**PKiKP**	**07 16 04.2**	**+0.7**	
	comp=Z,0.5nm,0.4s,baz=270,slow=1.0,SNR=2.6								
SIV	**San Ignacio**	**154.24**	**61**		PKPab	**PKPab**	**07 16 28.4**	**+0.6**	
	comp=Z,2.3nm,0.8s,baz=287,slow=7.0,SNR=12								

*IDC **26** 06:59:09.7±1.3, 12.62N×87.75W, h0km, mb3.9/7, mbtmp3.9/9, ML3.4/2, MS3.3/6, Error ellipse: s-maj=45.9km s-min=18.1km az=53.0*
*UCR **26** 06:59:11.1±1.3, 12.08N×88.20W, h24km±11km, ML3.6, mb4.4(NEIC)*
*SNET **26** 06:59:11.1±1.3, 12.10N×88.21W, h21km±11km, ML3.6*
*NEIC **26** 06:59:13.6±1.2, 12.20N±0.07×88.09W±0.05, h35km±8km, mb4.4/29, Error ellipse: s-maj=10.5km s-min=6.7km az=203.0*
*INET **26** 06:59:15.4±0.6, 12.16N×87.95W, h21km, MW3.7*

ISC 26 06:59:11.0±1.6, 12.13N±0.06×88.14W±0.05, h23km±12km, n90, σ1°05/98, mb4.3/17, MS3.3/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**1.19**	**12**		*eP*	**Pb**	**06 59 33.6**	**+0.7**
LCND					IAML		06 59 59.8	
	comp=Z,838nm,0.3s							
LCND	**La Caada**	**1.19**	**12**		*eP*	**Pb**	**06 59 33.6**	**+0.7**
LCND					IAML		06 59 59.8	
	comp=Z,838nm,0.3s							
CRIN	**San Cristobal**	**1.20**	**62**			**Pb**	**06 59 33.8**	**+0.6**
CRIN					Sn	**Sb**	**06 59 46.8**	**-1.6**
CRIN	**San Cristobal**	**1.20**	**62**		*eP*	**Pb**	**06 59 33.9**	**+0.7**
ALJI	**Alcalda de J**	**1.26**	**340**		*i P*	**Pn**	**06 59 33.5**	**+0.3**
ALJI					*eS*	**Sb**	**06 59 51.2**	**+1.3**
ALJI					IAML		06 59 57.0	
	comp=Z,971nm,0.3s							
ALJI	**Alcalda de J**	**1.26**	**340**		*i P*	**Pn**	**06 59 33.5**	**+0.3**
ALJI					*eS*	**Sb**	**06 59 51.2**	**+1.3**
ALJI					IAML		06 59 57.0	
	comp=Z,971nm,0.3s							
COEB	**Comit de Eme**	**1.41**	**344**		*eP*	**Pb**	**06 59 36.0**	**-0.7**
COEB					*eS*	**Sb**	**06 59 55.2**	**+0.9**
COEB					IAML		07 00 04.3	
	comp=Z,721nm,0.3s							
COEB	**Comit de Eme**	**1.41**	**344**		*eP*	**Pb**	**06 59 36.0**	**-0.7**
COEB					*eS*	**Sb**	**06 59 55.2**	**+0.9**
COEB					IAML		07 00 04.3	
	comp=Z,721nm,0.3s							
CNGN	**Cerro Negro**	**1.45**	**75**			**Pb**	**06 59 36.9**	**-0.6**
CNGN	**Cerro Negro**	**1.45**	**75**		*eP*	**Pb**	**06 59 36.7**	**-0.7**
MOMN	**Momotombo**	**1.59**	**80**		*eP*	**Pb**	**06 59 38.3**	**-1.5**
MOMN					*eS*	**Sb**	**07 00 00.5**	**+1.1**
SCLA	**Alcaldia de Sa**	**1.66**	**340**		*eP*	**Pn**	**06 59 39.8**	**+1.0**
SCLA					*eS*	**Sb**	**07 00 01.0**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.66**	**340**		*eP*	**Pn**	**06 59 39.8**	**+1.0**
SCLA					*eS*	**Sb**	**07 00 01.0**	**-0.5**
SJTE	**Alcalda de S**	**1.70**	**330**		*eP*	**Pn**	**06 59 38.7**	**-0.6**
SJTE					*eS*	**Sb**	**07 00 02.4**	**-0.2**
SJTE	**Alcalda de S**	**1.70**	**330**		*eP*	**Pn**	**06 59 38.7**	**-0.6**
SJTE					*eS*	**Sb**	**07 00 02.4**	**-0.2**
SNET	**Serv Nac Est T**	**1.88**	**326**		Pn	**Pn**	**06 59 41.7**	**-0.1**
JAYA	**Jayaque - finc**	**1.98**	**320**		*eP*	**Pn**	**06 59 42.7**	**-0.6**
JAYA					*eS*	**Sn**	**07 00 07.8**	**+0.4**
JAYA	**Jayaque - finc**	**1.98**	**320**		*eP*	**Pn**	**06 59 42.7**	**-0.6**
JAYA					*eS*	**Sn**	**07 00 07.8**	**+0.4**
CEDA	**San Andres**	**2.06**	**324**		*eS*	**Sn**	**07 00 10.9**	**+1.6**
CEDA					IAML		07 00 16.7	
	comp=Z,556nm,0.5s							
CEDA	**San Andres**	**2.06**	**324**		*eS*	**Sn**	**07 00 10.9**	**+1.6**
CEDA					IAML		07 00 16.7	
	comp=Z,556nm,0.5s							
TGUH	**Tegucigalpa,Un**	**2.09**	**24**			**Pn**	**06 59 45.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.09**	**24**		*eP*	**Pb**	**06 59 46.8**	**-1.5**
CEVE	**Cerro Verde**	**2.22**	**319**		IAML		07 00 18.2	
	comp=Z,887nm,0.3s							
CEVE	**Cerro Verde**	**2.22**	**319**		IAML		07 00 18.2	
	comp=Z,887nm,0.3s							
MATN	**Matagalpa**	**2.30**	**70**			**Pn**	**06 59 48.5**	**+0.8**
NUBE	**Las Nubes**	**2.38**	**318**		*eP*	**Pn**	**06 59 48.1**	**-0.6**
NUBE	**Las Nubes**	**2.38**	**318**		*eP*	**Pn**	**06 59 48.1**	**-0.6**
BOAB	**BOACO BROADBAN**	**2.44**	**82**			**Pn**	**06 59 50.0**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.44**	**82**		*eP*	**Pn**	**06 59 50.4**	**+1.0**
CONN	**Concepcion**	**2.52**	**103**		*eP*	**Pn**	**06 59 50.2**	**-0.4**
ESQI	**Esquipulas**	**2.68**	**334**			**Pn**	**06 59 53.9**	**+1.0**
ACON	**Acoyapa**	**2.91**	**93**			**Pn**	**06 59 56.0**	**+0.1**
ORTG	**Ortega, Santa**	**3.16**	**124**		Pn	**Pn**	**06 59 59.8**	**+0.3**
DUNO	**Dulce Nombre,**	**3.30**	**128**			**Pn**	**07 00 01.3**	**0.0**
JTS	**Las Juntas de**	**3.62**	**120**		Pn	**Pn**	**07 00 07.6**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=30,slow=6.5,SNR=9.8							
JTS					Sn	**Sn**	**07 00 47.5**	**-0.4**
	comp=Z,9.4nm,0.3s,baz=343,slow=19,SNR=5.8							
	comp=Z,4.3nm,0.3s							
JTS	**Las Juntas de**	**3.62**	**120**			**Pn**	**07 00 06.7**	**+0.9**
ESPN	**Las Esperanzas**	**3.75**	**89**			**Pn**	**07 00 07.9**	**+0.3**
JACO	**JACO, Garabito**	**4.21**	**125**		Pn	**Pn**	**07 00 15.3**	**+1.5**
HUEH	**Huehuetenango**	**4.55**	**314**		Pn	**Pn**	**07 00 18.5**	**-0.2**
CVTR	**Volcan Turrial**	**4.79**	**116**		Pn	**Pn**	**07 00 23.0**	**+0.9**
RIMA	**Rio Macho**	**4.81**	**119**			**Pn**	**07 00 23.1**	**+0.8**
CDM	**Cerro de Muert**	**5.00**	**120**		*eP*	**Pn**	**07 00 27.6**	**+2.4**
PEZE	**Perez Zeledon,**	**5.17**	**122**			**Pn**	**07 00 28.3**	**+1.2**
SRBA	**San Rafael, Bu**	**5.51**	**121**		Pn	**Pn**	**07 00 33.1**	**+1.3**
CMIG	**Matias Romero**	**8.18**	**308**		Pn	**Pn**	**07 01 10.0**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=146,slow=11,SNR=16							
CMIG					Sn	**Sn**	**07 02 38.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=276,slow=8.5,SNR=1.9							
	comp=Z,1.7nm,0.3s							
LGNH	**Logne**	**16.26**	**65**		P	**P**	**07 02 59.9**	**-1.1**
ZAIG	**Zacatecas**	**17.34**	**310**		P	**Pn**	**07 03 12.0**	**0.0**
833A	**Chaparral WMA,**	**19.24**	**329**			**P**	**07 03 34.0**	**+0.3**
833A					IAmb	IAmb	07 03 36.3	
	comp=Z,26nm,0.8s							
VBMS	**Vicksburg**	**20.11**	**354**		P	**P**	**07 03 43.8**	**+0.6**
VBMS					IAmb	IAmb	07 03 46.6	
	comp=Z,13nm,0.7s							
435B	**Jarrell**	**20.51**	**336**		P	**P**	**07 03 48.0**	**+0.3**
435B					IAmb	IAmb	07 03 48.8	
	comp=Z,8.7nm,0.3s							
152A	**Waverly Hall**	**20.68**	**8**		P	**P**	**07 03 48.9**	**-0.5**
JCT	**Junction City**	**21.21**	**331**		P	**P**	**07 03 55.1**	**-0.2**
JCT					IAmb	IAmb	07 04 06.9	
	comp=Z,16nm,1.4s							
WLAR	**White Oak Lake**	**21.93**	**349**		P	**P**	**07 04 03.9**	**+1.0**
WLAR					IAmb	IAmb	07 04 07.3	
	comp=Z,15nm,0.8s							
TX31	**Lajitas Ar. Si**	**22.40**	**322**		P	**P**	**07 04 08.5**	**+0.4

baz=252
H11S2 WAKE ISLAND Hy 23.23 72 T T 07 32 44.5
baz=252
H11N1 WAKE ISLAND Hy 23.68 69 T T 07 33 12.8
baz=255,slow=74
H11N2 WAKE ISLAND Hy 23.68 69 T T 07 33 16.6
baz=255,slow=74
H11N3 WAKE ISLAND Hy 23.69 69 T T 07 33 22.5
baz=255
CTA Charters Tower 32.30 175 P **P 07 10 02.3 -0.6**
1.0nm,0.6s,baz=345,slow=18,SNR=1.2
1.0nm,0.6s
WRA Warramunga Arr 33.28 196 P **P 07 10 11.0 -0.4**
1.1nm,0.7s,baz=20,slow=9.8,SNR=10
WRA LR LR 07 24 56.2
comp=Z,46nm,18.9s,baz=324,slow=39
1.1nm,0.7s
ASAR Alice Springs 36.95 195 P **P 07 10 43.6 +0.5**
0.5nm,1.0s,baz=17,slow=9.7,SNR=4.7
0.5nm,1.0s
SONM Songino Array 47.01 326 P **P 07 12 04.2 -0.9**
0.2nm,0.3s,baz=109,slow=13,SNR=2.2
0.2nm,0.3s
MKAR Makanchi Array 61.47 317 P **P 07 13 52.0 +1.6**
0.5nm,1.0s,baz=107,slow=6.3,SNR=2.3
0.5nm,1.0s
KURBB Kurchatov Arra 64.72 320 P **P 07 14 11.5 -0.3**
0.7nm,0.7s,baz=105,slow=6.6,SNR=1.6
0.7nm,0.7s
BVAR Borovoye Array 70.09 322 P **P 07 14 46.0 +0.3**
0.7nm,0.6s,baz=83,slow=6.0,SNR=2.8
0.7nm,0.6s
ILAR Eielson Array 70.31 25 P **P 07 14 45.8 -1.1**
0.2nm,0.6s,baz=252,slow=5.6,SNR=4.3
0.2nm,0.6s
YKA Yellowknife Ar 84.62 27 P **P 07 16 08.3 +1.4**
0.8nm,0.7s,baz=297,slow=4.1,SNR=2.3
0.8nm,0.7s
NVAR Mina Array Bea 88.79 51 P **P 07 16 29.1 +1.1**
0.6nm,0.6s,baz=282,slow=4.5,SNR=4.8
0.6nm,0.6s
FINES FINESS Array B 91.74 335 P **P 07 16 40.5 -0.5**
2.8nm,0.9s,baz=64,slow=6.3,SNR=1.3
2.8nm,0.9s

IDC 26 07:06:57.3±2.4, 28°.23N×85°.67E, h0km, mb3.6/4, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=84.5km s-min=23.1km az=73.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**18.73**	**353**	P		07 11 18.3	+0.5
	0.2nm,0.3s,baz=176,slow=10,SNR=4.9						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**23.02**	**348**	P	P	07 12 03.0	-0.7
	0.4nm,0.3s,baz=169,slow=10,SNR=2.4						
	0.4nm,0.3s						
SONM	**Songino Array**	**25.35**	**34**	P	P	07 12 26.2	+0.1
	0.9nm,0.5s,baz=221,slow=10.0,SNR=7.6						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**67.12**	**130**	P	P	07 17 53.1	+0.1
	0.7nm,0.5s,baz=323,slow=6.4,SNR=23						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**69.44**	**133**	P	P	07 18 07.5	-0.1
	0.2nm,0.5s,baz=324,slow=6.1,SNR=6.9						
	0.2nm,0.5s						

---

*SNET **26** 07:11:18.1±0.8, 11°.96N×88°.30W, h30km±61km, ML3.0*
*INET **26** 07:11:30.0±0.5, 12°.66N×87°.61W, h10km±4km, MW3.4*

ISC 26 07:11:16.9±2.2, 12°.0N±0°.1×88°.2W±0°.07, h33km, n10, σ2 12/14, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**1.38**	**350**	*eP*	**Pb**	**07 11 41.3**	**-0.9**
ALJI				*eS*	**Sb**	**07 11 59.4**	**-0.2**
LCND	**La Caada**	**1.41**	**17**	*eP*	**Pb**	**07 11 41.4**	**-1.2**
CRIN	**San Cristobal**	**1.44**	**59**	*eP*	**Pb**	**07 11 41.5**	**-1.8**
CRIN				*eS*	**Sb**	**07 12 02.6**	**+1.2**
CNRM	**Centro Naciona**	**1.52**	**5**	*eS*	**Sb**	**07 12 02.9**	**-0.5**
COEB	**Comit de Eme**	**1.55**	**352**	*eP*	**Pb**	**07 11 43.5**	**-1.6**
BOQS	**Boqueron**	**2.00**	**332**	*eP*	**Pb**	**07 11 50.6**	**-2.2**
JAYA	**Jayaque - finc**	**2.02**	**327**	*eP*	**Pb**	**07 11 50.7**	**-2.4**
P5NO	**Presa 5 de nov**	**2.06**	**348**	*eP*	**Pb**	**07 11 51.0**	**-2.7**
NUBE	**Las Nubes**	**2.40**	**324**	*eP*	**Pn**	**07 11 55.7**	**+1.6**
NUBE				*eS*	**Sn**	**07 12 24.5**	**+2.0**
NUBE				IAML		07 12 39.6	
	comp=Z,82nm,0.5s						
BOAB	**BOACO BROADBAN**	**2.64**	**79**	*eP*	**Pn**	**07 11 59.6**	**+2.4**
BOAB				*eS*	**Sb**	**07 12 32.6**	**-3.0**

WEL 26 07:21:25.2±0.3, 42°.S±3°.17°.4E±°, h13km±3km, M3.2/20, ML3.6/19, MLv3.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=138.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.12**	**230**	P	Pb	07 21 29.7	+0.3
CMWZ				S	Sb	07 21 33.1	+1.0
BSWZ	**Blackbirch Sta**	**0.35**	**263**	P	Pb	07 21 33.0	-0.2
BSWZ				S	Sb	07 21 38.8	+0.1
TUWZ	**Tuamarina**	**0.38**	**309**	P	Pb	07 21 33.9	0.0
TUWZ				S	Sb	07 21 39.9	+0.2
TCW	**Tory Channel**	**0.46**	**354**	P	Pb	07 21 35.3	0.0
TCW				S	Sb	07 21 42.2	+0.2
WEL	**Wellington**	**0.51**	**40**	P	Pb	07 21 36.3	+0.3
PLWZ	**Palliser**	**0.70**	**82**	P	Pb	07 21 39.7	+0.4
MSWZ	**Moikau Station**	**0.73**	**70**	P	Pb	07 21 40.5	+0.6
CAW	**Cannon Point**	**0.79**	**44**	P	Pb	07 21 41.1	+0.3
NNZ	**Nelson**	**0.85**	**302**	P	Pb	07 21 42.1	+0.3
PAWZ	**Paruwai Farm**	**0.87**	**71**	P	Pb	07 21 42.2	0.0
KIW	**Kapiti Island**	**0.92**	**28**	P	Pb	07 21 43.2	+0.2
DUWZ	**D'Urville Isla**	**0.93**	**340**	P	Pb	07 21 43.5	+0.3
KHZ	**Kahutara**	**0.95**	**218**	P	Pb	07 21 43.2	-0.4
MTW	**Mount Morrison**	**1.02**	**60**	P	Pb	07 21 44.3	-0.3
TRWZ	**Traveller**	**1.05**	**75**	P	Pb	07 21 44.4	-0.9
OGWZ	**Otaki Gorge**	**1.06**	**37**	P	Pg	07 21 45.6	-0.1
THZ	**Tophouse**	**1.07**	**265**	P	Pb	07 21 45.6	-0.1
HOWZ	**Holdsworth Sta**	**1.18**	**49**	P	Pn	07 21 46.7	-0.8
MRNZ	**Matariki Terra**	**1.22**	**282**	P	Pb	07 21 48.3	+0.2
TKNZ	**Takaka Hill**	**1.22**	**301**	P	Pb	07 21 48.2	+0.1
TMWZ	**Te Maipa**	**1.30**	**65**	P	Pn	07 21 47.8	-1.3
MRZ	**Mangatainoka R**	**1.38**	**43**	P	Pn	07 21 49.6	-0.5
TIWZ	**Tintock**	**1.47**	**53**	P	Pn	07 21 50.4	-1.0
QRZ	**Quartz Range**	**1.60**	**301**	P	Pb	07 21 54.5	-0.2
GVZ	**Greta Valley S**	**1.61**	**216**	P	Pn	07 21 52.1	-1.3
PRWZ	**Pori Road**	**1.67**	**48**	P	Pn	07 21 53.2	-0.9
POWZ	**Post Office Ro**	**1.68**	**41**	P	Pn	07 21 53.8	-0.4
BFZ	**Birch Farm**	**1.75**	**56**	P	Pn	07 21 53.6	-1.7
LTZ	**Lake Taylor**	**1.89**	**233**	P	Pn	07 21 56.3	-1.0
DSZ	**Denniston Nort**	**1.90**	**267**	P	Pn	07 21 57.9	+0.5
AMCZ	**Amberley**	**1.95**	**219**	P	Pn	07 21 56.3	-1.8
WAZ	**Wangarui**	**1.98**	**15**	P	Pb	07 22 02.0	+1.0
TSZ	**Takapari Road**	**2.03**	**38**	P	Pn	07 21 58.4	-0.8
OKCZ	**Okains Bay**	**2.26**	**204**	P	Pn	07 21 59.9	-2.4
MQZ	**McQueen's Vall**	**2.38**	**211**	P	Pn	07 22 01.0	-3.0
KHEZ	**Kahui Hut**	**2.39**	**354**	P	Pb	07 22 08.4	+0.3
INZ	**Inchbonnie**	**2.39**	**243**	P	Pn	07 22 03.6	-0.5
NBEZ	**Newall Road No**	**2.43**	**351**	P	Pg	07 22 11.6	-0.2
AKCZ	**Akaroa Harbour**	**2.44**	**205**	P	Pn	07 22 02.3	-2.4
PKE	**Pukeiti**	**2.49**	**354**	P	Pg	07 22 12.2	-0.7
PXZ	**Pawanui**	**2.52**	**50**	P	Pn	07 22 06.0	+0.2
VRZ	**Vera Road**	**2.57**	**7**	P	Pb	07 22 09.5	-1.6
WACZ	**Wakanui South**	**2.92**	**218**	P	Pn	07 22 09.0	-2.3
WVZ	**Waitaha Valley**	**3.01**	**241**	P	Pn	07 22 12.6	0.0
TMZ	**Timaru**	**3.65**	**221**	P	Pn	07 22 19.3	-2.0
ODZ	**Otahua Downs**	**4.31**	**217**	P	Pn	07 22 28.3	-2.2

---

*NEIC **26** 07:21:40.6, 38°.91S×177°.66E, h28km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr3.01; Mθθ-1.25; Mφφ-1.77; Mrθ1.12; Mrφ-1.90; Mθφ1.73; Fault plane solution: Mo3.84000×10^16^ NP1:φs226.76000°, δ29.02000°, λ99.23000°. NP2:φs36.23000°, δ61.40000°, λ84.91000°. Principal axes: T 3.6325, Plg73.0000°, Azm294.0000°; N 0.3869, Plg4.0000°, Azm39.0000°; P -4.0194, Plg16.0000°, Azm130.0000°;*
*NOU **26** 07:21:41.4, 38°.86S×177°.63E, h14km, mb5.0/41, North Island, New Zealand*
*BJI **26** 07:21:41.7±0.0, 39°.09S×177°.19E, h16km, mb5.4/11, mB5.9/6*
*NEIC **26** 07:21:41.6±1.2, 38°.88S±0°.05×177°.62E±0°.07, h19km±4km, mb5.0/25, Mwr5.0/17, Error ellipse: s-maj=9.6km s-min=6.2km az=132.0*
*WEL **26** 07:21:43.0±0.2, 39°.S±2°×17°.7E±°, h12km±2km, M4.9/94, ML5.3/60, MLv4.9/94, Error ellipse: s-maj=0.0km s-min=0.0km az=130.1*
*IDC **26** 07:21:46.3±1.9, 38°.72S×177°.18E, h44km±16km, mb4.6/11, mbtmp4.8/13, ML4.1/2, MS4.2/35, Error ellipse: s-maj=16.1km s-min=13.9km az=68.0*
*GCMT **26** 07:21:47.6±0.3, 38°.82S±0°.02×177°.55E±0°.03, h24km±1km, MW4.9/77, Moment Tensor Solution. s35,c41; s77,c97; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.43±.18; Mθθ1.05±.11; Mφφ-2.47±.12; Mrθ-1.07±.18; Mφθ-1.50±.08; Mφr1.30±.16; Best double couple: Mo3.11200×10^16^ NP1:φs345.00000°, δ69.00000°, λ43.00000°. NP2: φs237.00000°, δ51.00000°, λ153.00000°. Principal axes: T 3.0300, Plg44.0000°, Azm208.0000°; N 0.1760, Plg44.0000°, Azm6.0000°; P -3.1950, Plg11.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 07:21:43.0±0.7, 38°.77S±0°.02×177°.46E±0°.02, h23km, 4km, n310, σ1§41/290, mb5.0/28, MS4.3/37, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNGZ	**Shannon Statio**	**0.10**	**260**	P	**Pb**	**07 21 46.8**	**-0.7**
SNGZ				S	**Sb**	**07 21 50.9**	**+0.4**
RIGZ	**Rimuhau**	**0.24**	**76**	P	**Pb**	**07 21 48.6**	**-0.5**
RIGZ				S	**Sb**	**07 21 53.6**	**+0.5**
RAGZ	**Rawiri**	**0.27**	**352**	P	**Pb**	**07 21 48.7**	**-0.8**
RAGZ				S	**Sb**	**07 21 53.8**	**-0.2**
KNZ	**Kokohu**	**0.30**	**148**	P	**Pb**	**07 21 50.3**	**+0.3**
KNZ				S	**Sn**	**07 21 56.4**	**-1.3**
RAHZ	**Arahi**	**0.33**	**243**	P	**Pb**	**07 21 51.0**	**+0.6**
RAHZ				S	**Sn**	**07 21 57.9**	**-0.7**
WHHZ	**Waihua**	**0.36**	**210**	P	**Pn**	**07 21 51.8**	**-0.9**
RTZ	**Ruatahuna**	**0.41**	**291**		**Pb**	**07 21 51.4**	**-0.2**
RTZ	**Ruatahuna**	**0.41**	**291**	P	**Pb**	**07 21 51.5**	**-0.2**
MWZ	**Matawai**	**0.43**	**7**	P	**Pb**	**07 21 51.3**	**-0.7**
TKWZ	**Te Karaka**	**0.44**	**43**	P	**Pb**	**07 21 51.9**	**-0.3**
MTHZ	**Maungataniwha**	**0.49**	**260**	P	**Pb**	**07 21 53.5**	**+0.4**
MHGZ	**Mahia Peninsul**	**0.52**	**138**	P	**Pn**	**07 21 54.8**	**-0.2**
URZ	**Urewera**	**0.58**	**331**	P	**Pb**	**07 21 53.9**	**-0.5**
URZ	**Urewera**	**0.58**	**331**	P	**Pb**	**07 21 53.9**	**-0.5**
NMHZ	**Naumai**	**0.61**	**237**	P	**Pn**	**07 21 56.3**	**0.0**
MUGZ	**Murupara**	**0.61**	**298**	P	**Pb**	**07 21 54.9**	**-0.2**
ARHZ	**Aropaoanui**	**0.62**	**216**	P	**Pn**	**07 21 56.6**	**+0.3**
CNGZ	**Carnagh Statio**	**0.65**	**65**	P	**Pn**	**07 21 56.7**	**0.0**
TWGZ	**Tauwhareparae**	**0.71**	**35**	P	**Pn**	**07 21 57.6**	**-0.1**
RUGZ	**Raukumara Rang**	**0.82**	**12**	P	**Pb**	**07 21 58.1**	**-0.4**
MRHZ	**Matea Rd**	**0.82**	**265**	P	**Pn**	**07 21 59.1**	**-0.1**
BKZ	**Black Stump Fm**	**0.86**	**242**		**Pn**	**07 21 60.0**	**+0.3**
BKZ	**Black Stump Fm**	**0.86**	**242**	P	**Pn**	**07 22 00.6**	**+0.9**
BKZ	**Black Stump Fm**	**0.86**	**242**	P	**Pn**	**07 22 00.2**	**+0.5**
RRRZ	**Republican Roa**	**0.86**	**299**	P	**Pb**	**07 21 59.5**	**+0.2**
EDRZ	**Edgecumbe**	**0.87**	**319**	P	**Pb**	**07 21 59.6**	**+0.2**
PRRZ	**Plateau Road**	**0.88**	**287**	P	**Pn**	**07 21 60.0**	**0.0**
ALRZ	**Allen Road**	**0.90**	**283**	P	**Pn**	**07 22 00.5**	**+0.5**
MCHZ	**McNeill Hill**	**0.90**	**221**	P	**Pn**	**07 22 01.7**	**+1.5**
TARZ	**Mount Tarawera**	**0.92**	**305**	P	**Pn**	**07 22 00.9**	**+0.4**
PUZ	**Puketiti**	**0.93**	**42**	P	**Pb**	**07 22 00.2**	**-0.3**
CKHZ	**Cape Kidnapper**	**0.94**	**198**	P	**Pn**	**07 22 01.2**	**+0.4**
WHRZ	**Whale Island**	**0.99**	**337**	P	**Pb**	**07 22 01.6**	**+0.2**
MARZ	**Manawahe**	**0.99**	**321**	P	**Pb**	**07 22 02.0**	**+0.4**
HRRZ	**Handcock Road**	**1.00**	**292**	P	**Pb**	**07 22 02.2**	**+0.6**
PKGZ	**Pakihiroa**	**1.00**	**29**	P	**Pb**	**07 22 01.9**	**+0.3**
MKRZ	**Makatiti**	**1.00**	**308**	P	**Pb**	**07 22 02.8**	**+1.1**
HLRZ	**Highlands Stat**	**1.01**	**300**	P	**Pb**	**07 22 02.6**	**+0.8**
HAZ	**Te Kaha**	**1.04**	**14**	P	**Pn**	**07 22 01.8**	**-0.3**
KWHZ	**Kaweka Forest**	**1.04**	**231**	P	**Pb**	**07 22 03.5**	**+1.0**
WPRZ	**Whakapapatarin**	**1.05**	**283**	P	**Pb**	**07 22 03.2**	**+0.7**
HSRZ	**Hossack Road**	**1.06**	**295**	P	**Pb**	**07 22 03.3**	**+0.7**
HATZ	**Hinemaiaia**	**1.08**	**263**	P	**Pb**	**07 22 03.8**	**+0.8**
OMRZ	**Omania**	**1.08**	**307**	P	**Pb**	**07 22 03.4**	**+0.3**
KAHZ	**Kahuranaki**	**1.12**	**204**	P	**Pb**	**07 22 04.3**	**+0.5**
LIRZ	**Liebenseins R**	**1.14**	**312**	P	**Pb**	**07 22 04.2**	**+0.2**
GRRZ	**Galatos Road**	**1.14**	**291**	P	**Pb**	**07 22 04.7**	**+0.6**
UTU	**Utuhina**	**1.16**	**300**	P	**Pb**	**07 22 05.3**	**+0.9**
OPRZ	**Ohinepanea**	**1.16**	**322**	P	**Pn**	**07 22 03.6**	**-0.3**
WHTZ	**Whakaora**	**1.18**	**274**	P	**Pb**	**07 22 05.6**	**+0.8**
NGRZ	**Ngongotaha**	**1.20**	**303**	P	**Pb**	**07 22 05.6**	**+0.5**
WMGZ	**Waiomatatini S**	**1.20**	**39**	P	**Pn**	**07 22 04.1**	**-0.3**
KARZ	**Kaharoa**	**1.21**	**307**	P	**Pb**	**07 22 05.0**	**-0.2**
WIZ	**White Island**	**1.25**	**350**	P	**Pn**	**07 22 05.4**	**+0.3**
WSRZ	**White Island S**	**1.27**	**350**	P	**Pn**	**07 22 05.5**	**+0.3**
BHHZ	**Black Hill Sta**	**1.31**	**236**	P	**Pb**	**07 22 06.9**	**0.0**
RATZ	**Rangitukua**	**1.33**	**265**	P	**Pb**	**07 22 07.3**	**+0.1**
MXZ	**Matakaoa Point**	**1.37**	**29**		**Pn**	**07 22 06.5**	**-0.2**
MXZ	**Matakaoa Point**	**1.37**	**29**	P	**Pb**	**07 22 07.6**	**-0.4**
MXZ	**Matakaoa Point**	**1.37**	**29**	P	**Pn**	**07 22 06.9**	**+0.2**
KATZ	**Kakaramea**	**1.40**	**261**	P	**Pb**	**07 22 08.7**	**+0.2**
TGRZ	**Tauranga**	**1.40**	**317**	P	**Pn**	**07 22 07.1**	**0.0**
ETVZ	**East Tongariro**	**1.42**	**254**	P	**Pb**	**07 22 08.8**	**0.0**
TMVZ	**Te Maari**	**1.42**	**255**	P	**Pb**	**07 22 08.8**	**0.0**
NTVZ	**North Tongarir**	**1.43**	**256**	P	**Pb**	**07 22 09.2**	**+0.1**
OTVZ	**Oturere**	**1.46**	**254**	P	**Pb**	**07 22 09.6**	**0.0**
KRVZ	**Karewarewa**	**1.46**	**256**	P	**Pb**	**07 22 09.4**	**-0.2**
MOVZ	**Moawhango**	**1.48**	**244**	P	**Pb**	**07 22 09.5**	**-0.3**
SNVZ	**South Ngauruho**	**1.48**	**253**	P	**Pb**	**07 22 10.1**	**+0.1**
NNVZ	**North Ngauruho**	**1.49**	**255**	P	**Pb**	**07 22 10.1**	**+0.1**
TUVZ	**Tukino**	**1.50**	**250**	P	**Pb**	**07 22 10.2**	**0.0**
KMRZ	**Kaimai**	**1.51**	**307**	P	**Pn**	**07 22 09.0**	**+0.4**
NGZ	**Ngauruhoe**	**1.51**	**254**	P	**Pb**	**07 22 10.3**	**-0.1**
PNHZ	**Pukenui**	**1.51**	**220**	P	**Pn**	**07 22 08.9**	**+0.3**
WPHZ	**Waipukurau**	**1.52**	**211**	P	**Pn**	**07 22 09.0**	**+0.2**
WHVZ	**Whangaehu Hut**	**1.55**	**250**	P	**Pb**	**07 22 10.7**	**-0.4**
WNVZ	**Wahianoa**	**1.56**	**248**	P	**Pb**	**07 22 10.8**	**-0.4**
DRZ	**Dome Shelter**	**1.57**	**250**	P	**Pb**	**07 22 11.5**	**0.0**
FWVZ	**Far West T-bar**	**1.57**	**251**	P	**Pb**	**07 22 10.9**	**-0.5**
TLZ	**Tolley Road**	**1.57**	**285**	P	**Pn**	**07 22 10.5**	**+1.0**
TRVZ	**Turoa**	**1.58**	**250**	P	**Pb**	**07 22 11.2**	**-0.6**
TWVZ	**Tauwewa**	**1.61**	**258**	P	**Pb**	**07 22 11.6**	**-0.4**
PRHZ	**Porangahau**	**1.63**	**203**	P	**Pn**	**07 22 10.3**	**0.0**
MTVZ	**Mangateitei**	**1.67**	**248**	P	**Pb**	**07 22 12.8**	**-0.3**
PKVZ	**Pokaka**	**1.73**	**252**	P	**Pb**	**07 22 13.7**	**-0.4**
MYRZ	**Mayor Island**	**1.77**	**327**	P	**Pn**	**07 22 12.5**	**+0.3**
ANWZ	**Angora Road**	**1.86**	**204**	P	**Pn**	**07 22 13.8**	**+0.5**
TOZ	**Tahuroa Road**	**1.86**	**303**	P	**Pn**	**07 22 13.7**	**+0.4**
HIZ	**Hauiti**	**2.06**	**276**	Pn	**Pn**	**07 22 17.0**	**+0.8**
HIZ	**Hauiti**	**2.06**	**276**	P	**Pb**	**07 22 18.1**	**-1.6**
HIZ	**Hauiti**	**2.06**	**276**	P	**Pn**	**07 22 17.6**	**+1.5**
POWZ	**Post Office Ro**	**2.09**	**218**	P	**Pn**	**07 22 17.0**	**+0.4**
BFZ	**Birch Farm**	**2.13**	**206**	Pn	**Pn**	**07 22 15.6**	**-1.6**
BFZ	**Birch Farm**	**2.13**	**206**	P	**Pn**	**07 22 17.6**	**+0.4**
BFZ	**Birch Farm**	**2.13**	**206**	P	**Pn**	**07 22 17.1**	**0.0**
TIWZ	**Tintock**	**2.35**	**211**	P	**Pn**	**07 22 20.6**	**+0.4**
CPWZ	**Castlepoint**	**2.35**	**204**	P	**Pn**	**07 22 20.8**	**+0.6**
KUZ	**Kuaotunu**	**2.44**	**325**	P	**Pn**	**07 22 22.4**	**+1.0**
KUZ	**Kuaotunu**	**2.44**	**325**	P	**Pn**	**07 22 21.4**	**0.0**
MKAZ	**Moumakai**	**2.46**	**312**	P	**Pn**	**07 22 22.0**	**+0.3**
MHEZ	**Mangahewa**	**2.47**	**262**	P	**Pn**	**07 22 21.5**	**-0.3**
LREZ	**Lake Rotokare**	**2.48**	**253**	P	**Pb**	**07 22 24.6**	**-2.2**
DREZ	**Durham Road**	**2.58**	**260**	P	**Pb**	**07 22 27.1**	**-1.5**
NEZ	**North Egmont**	**2.67**	**258**	P	**Pb**	**07 22 28.0**	**-2.2**
WIAZ	**Waiheke Island**	**2.70**	**316**	P	**Pn**	**07 22 26.7**	**+1.8**
ETAZ	**East Tamaki Re**	**2.70**	**311**	P	**Pn**	**07 22 26.4**	**+1.4**
KHEZ	**Kahui Hut**	**2.74**	**258**	P	**Pb**	**07 22 28.6**	**-2.7**
KHEZ	**Kahui Hut**	**2.74**	**258**	P	**Pb**	**07 22 28.9**	**-2.4**
PKE	**Pukeiti**	**2.74**	**260**	P	**Pb**	**07 22 28.8**	**-2.6**
AWAZ	**Awhitu Peninsu**	**2.80**	**306**	P	**Pn**	**07 22 27.5**	**+1.1**
NBEZ	**Newall Road No**	**2.85**	**259**	P	**Pb**	**07 22 30.4**	**-2.7**
MBAZ	**Motutapu North**	**2.85**	**314**	P	**Pn**	**07 22 28.6**	**+1.6**
EPAZ	**Eden Park BICE**	**2.86**	**310**	P	**Pb**	**07 22 30.4**	**-3.0**
NMEZ	**Namu Road**	**2.87**	**256**	P	**Pb**	**07 22 30.7**	**-2.7**
KIW	**Kapiti Island**	**2.87**	**222**	P	**Pn**	**07 22 27.4**	**0.0**
HBAZ	**Herne Bay Bore**	**2.89**	**311**	P	**Pn**	**07 22 30.7**	**+3.2**
WTAZ	**Waiatarua**	**2.93**	**308**	P	**Pn**	**07 22 29.4**	**+1.3**
GRZ	**Great Barrier**	**2.97**	**327**	P	**Pn**	**07 22 29.6**	**+0.9**
ABAZ	**Army Bay**	**3.00**	**315**	P	**Pn**	**07 22 30.9**	**+1.8**
RVAZ	**Riverhead Bore**	**3.03**	**310**	P	**Pn**	**07 22 32.2**	**+2.7**
MSWZ	**Moikau Station**	**3.15**	**212**	Pn	**Pn**	**07 22 28.8**	**-2.3**
PLWZ	**Palliser**	**3.27**	**210**	Pn	**Pn**	**07 22 30.8**	**-2.1**
SNZO	**South Karori**	**3.31**	**219**	Pn	**Pn**	**07 22 31.1**	**-2.2**
DUWZ	**D'Urville Isla**	**3.40**	**232**	P	**Pn**	**07 22 35.2**	**+0.5**
WCZ	**Waipu Caves**	**3.76**	**318**	P	**Pn**	**07 22 40.6**	**+1.1**
TUWZ	**Tuamarina**	**3.79**	**224**	Pn	**Pn**	**07 22 38.8**	**-1.2**
NNZ	**Nelson**	**3.98**	**231**		**Pn**	**07 22 41.6**	**-0.9**
NNZ	**Nelson**	**3.98**	**231**	P	**Pn**	**07 22 42.3**	**-0.2**
BSWZ	**Blackbirch Sta**	**4.03**	**222**		**Pn**	**07 22 42.0**	**-1.2**
TKNZ	**Takaka Hill**	**4.14**	**235**		**Pn**	**07 22 44.1**	**-0.7**
TKNZ	**Takaka Hill**	**4.14**	**235**	P	**Pn**	**07 22 44.5**	**-0.3**
QRZ	**Quartz Range**	**4.32**	**240**	Pn	**Pn**	**07 22 47.5**	**+0.2**
MRNZ	**Matariki Terra**	**4.47**	**232**		**Pn**	**07 22 48.6**	**-0.6**
THZ	**Tophouse**	**4.60**	**228**	P	**Pn**	**07 22 50.3**	**-0.8**
OUZ	**Omahuta**	**4.70**	**318**	Pn	**Pn**	**07 22 53.5**	**+1.1**
OUZ	**Omahuta**	**4.70**	**318**	P	**Pn**	**07 22 54.1**	**+1.6**
OUZ	**Omahuta**	**4.70**	**318**	P	**Pn**	**07 22 54.0**	**+1.6**
KHZ	**Kahutara**	**4.71**	**218**	P	**Pb**	**07 23 08.9**	**+4.0**
GVZ	**Greta Valley S**	**5.38**	**217**	Pn	**Pn**	**07 22 58.9**	**-2.8**
GVZ	**Greta Valley S**	**5.38**	**217**	P	**Pn**	**07 23 00.3**	**-1.5**
LTZ	**Lake Taylor**	**5.62**	**223**	Pn	**Pn**	**07 23 03.0**	**-2.2**
LTZ	**Lake Taylor**	**5.62**	**223**	P	**Pn**	**07 23 02.8**	**-2.4**
AMCZ	**Amberley**	**5.72**	**218**	P	**Pn**	**07 23 04.2**	**-2.2**
OKCZ	**Okains Bay**	**5.96**	**212**	P	**Pn**	**07 23 06.7**	**-3.1**
INZ	**Inchbonnie**	**6.04**	**227**		**Pn**	**07 23 08.8**	**-2.1**
MQZ	**McQueen's Vall**	**6.12**	**215**	P	**Pn**	**07 23 08.3**	**-3.7**
OXZ	**Oxford**	**6.13**	**220**	P	**Pn**	**07 23 10.0**	**-2.1**
AKCZ	**Akaroa Harbour**	**6.15**	**212**	P	**Pn**	**07 23 09.1**	**-3.2**
RACZ	**Rakaia**	**6.38**	**217**	P	**Pn**	**07 23 13.2**	**-2.2**
WVZ	**Waitaha Valley**	**6.67**	**228**	P	**Pn**	**07 23 24.0**	**+4.6**
CTZ	**Chatham Island**	**6.67**	**140**	P	**Pn**	**07 23 19.3**	**-0.2**
WACZ	**Wakanui South**	**6.68**	**217**	P	**Pn**	**07 23 17.1**	**-2.5**
I36NZ	**CHATHAM INFRAS**	**6.87**	**140**	I	I	07 57 10.0	
	baz=321,slow=317,SNR=0.7						
RPZ	**Rata Peaks**	**6.91**	**222**	P	**Pn**	**07 23 21.6**	**-1.3**
	7.0nm,0.3s,baz=278,slow=3.0,SNR=7.5						
RPZ				S	**Sn**	**07 24 34.5**	**-6.2**
	37nm,0.4s,baz=132,slow=20,SNR=8.0						
	16nm,0.3s						
RPZ	**Rata Peaks**	**6.91**	**222**		**Pn**	**07 23 21.9**	**-1.0**
RPZ	**Rata Peaks**	**6.91**	**222**	P	**Pn**	**07 23 21.9**	**-1.0**
LBZ	**Lake Benmore**	**7.83**	**222**	Pn	**Pn**	**07 23 32.9**	**-2.5**
ODZ	**Otahua Downs**	**8.07**	**217**	P	**Pn**	**07 23 36.4**	**-2.3**
WHZ	**Wether Hill Ro**	**10.01**	**222**	P	**Pn**	**07 24 06.6**	**+1.2**
RAO	**Raoul Island**	**10.23**	**23**	LR	LR	07 27 58.7	
	comp=Z,2μm,18.4s,baz=196,slow=36						
DZM	**Mont Dzumac**	**19.13**	**327**	*eLR*	LR	07 30 38.4	
	comp=Z,1μm,20.5s						
DZM	**Mont Dzumac**	**19.13**	**327**	P	**Pn**	**07 26 05.9**	**+0.3**
	0.4nm,0.3s,baz=231,slow=14,SNR=1.5						
DZM				LR	LR	07 32 20.6	
	comp=Z,2μm,18.3s,baz=150,slow=33						
	4.3nm,0.8s						
DZM	**Mont Dzumac**	**19.13**	**327**	P	**Pn**	**07 26 07.0**	**+1.4**
**MSVF

WR0	**Warramunga Arr**	**41.40**	**284**	P		**P**	**07 29 27.7**	**+0.1**
WB2	**Warramunga Arr**	**41.55**	**284**	P		**P**	**07 29 28.4**	**-0.5**
	baz=41							
WB2	**Warramunga Arr**	**41.55**	**284**	P		**P**	**07 29 28.7**	**-0.2**
WRAB	**Tennant Creek**	**41.56**	**284**	P		**P**	**07 29 28.7**	**-0.2**
WRA	**Warramunga Arr**	**41.56**	**284**	P		**P**	**07 29 28.6**	**-0.4**
	comp=Z,7.1nm,0.6s,baz=127,slow=6.9,SNR=89							
WRA				ScP		**ScP**	**07 35 11.5**	**-3.1**
	comp=Z,0.6nm,0.7s,baz=123,slow=3.7,SNR=3.0							
WRA				LR		LR	07 47 49.2	
	comp=Z,676nm,18.0s,baz=118,slow=38							
	comp=Z,7.1nm,0.6s							
WRA	**Warramunga Arr**	**41.56**	**284**	P		**P**	**07 29 28.5**	**-0.4**
WRKA	**Warakurna**	**43.44**	**273**	P		**P**	**07 29 43.5**	**-0.7**
	baz=43,SNR=27							
WRKA	**Warakurna**	**43.44**	**273**	P		**P**	**07 29 43.5**	**-0.7**
CASY	**Casey**	**46.04**	**211**	P		**P**	**07 30 05.2**	**+0.9**
TAOE	**Nuku Hiva Isla**	**48.24**	**63**	*e*S		**S**	**07 37 20.4**	**-0.3**
	comp=Z,128nm,25.6s							
TAOE				*e*LR		LR	07 44 00.8	
	comp=Z,381nm,22.6s							
KNRA	**Kununurra**	**48.36**	**284**	P		**P**	**07 30 22.9**	**-0.1**
MTN	**Manton Dam**	**48.38**	**289**	P		**P**	**07 30 22.5**	**-0.7**
MTN				IAmb		IAmb	07 30 23.5	
	comp=Z,28nm,1.1s							
MTN	**Manton Dam**	**48.38**	**289**	P		**P**	**07 30 23.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**48.41**	**257**	LR		LR	07 50 15.9	
	comp=Z,275nm,18.5s,baz=10.0,slow=36							
MEEK	**Meekatharra**	**50.21**	**266**	P		**P**	**07 30 36.4**	**-0.7**
MORW	**Morawa**	**51.04**	**261**	P		**P**	**07 30 42.9**	**-0.5**
MORW				IAmb		IAmb	07 30 55.3	
	comp=Z,14nm,1.0s							
MORW	**Morawa**	**51.04**	**261**	P		**P**	**07 30 42.8**	**-0.6**
QSPA	**South Pole Qui**	**51.36**	**180**	P		**P**	**07 30 48.2**	**+2.7**
	comp=Z,25nm,0.8s,baz=37,slow=4.0,SNR=92							
QSPA				LR		LR	07 49 26.1	
	comp=Z,256nm,20.6s,baz=42,slow=32							
	comp=Z,25nm,0.8s							
PSA00	**Pilbara Seismi**	**51.85**	**272**	P		**P**	**07 30 48.3**	**-1.2**
PSA00				IAmb		IAmb	07 30 49.2	
	comp=Z,19nm,0.8s							
MBWA	**Marble Bar**	**52.17**	**272**	P		**P**	**07 30 51.2**	**-0.7**
SOEI	**Soe**	**55.48**	**287**	P		**P**	**07 31 16.1**	**-0.2**
SOEI	**Soe**	**55.48**	**287**	P		P	07 31 23.8	+7.5
SOEI	**Soe**	**55.48**	**287**	P		**P**	**07 31 17.6**	**+1.3**
BATI	**Baumata**	**55.65**	**286**	LR		LR	07 56 06.0	
	comp=Z,513nm,19.8s,baz=162,slow=37							
GIRL	**Giralia**	**55.67**	**267**	P		**P**	**07 31 17.7**	**+0.3**
SIJI	**Sorong**	**56.60**	**300**	LR		LR	07 55 55.0	
	comp=Z,428nm,20.0s,baz=138,slow=36							
SWI	**Sorong**	**56.61**	**300**	P		**P**	**07 31 22.5**	**-1.7**
	comp=Z,73nm,1.1s							
LBMI	**Labuha**	**59.35**	**297**	P		**P**	**07 31 44.6**	**+1.1**
SANI	**Sanana**	**59.42**	**295**	P		**P**	**07 31 43.1**	**-0.8**
	comp=Z,51nm,1.0s							
SANI	**Sanana**	**59.42**	**295**	P		**P**	**07 31 43.4**	**-0.5**
RPN	**Rapa Nui**	**61.04**	**103**	LR		LR	07 53 14.0	
	comp=Z,157nm,18.4s,baz=220,slow=31							
KAPI	**Kappang**	**61.95**	**287**	LR		LR	08 01 33.7	
	comp=Z,289nm,18.1s,baz=126,slow=39							
BELA	**Belgrano 2**	**62.00**	**173**	P		**P**	**07 32 00.6**	**0.0**
BELA				IAmb		IAmb	07 32 03.0	
	comp=Z,16nm,0.9s							
MAW	**Mawson**	**63.17**	**203**	P		**P**	**07 32 10.5**	**+1.9**
	comp=Z,12nm,1.2s,baz=126,slow=7.2,SNR=7.7							
	comp=Z,12nm,1.2s							
APSI	**Ampana**	**63.32**	**292**	P		**P**	**07 32 13.4**	**+3.1**
PMSA	**Palmer Station**	**66.20**	**156**	LR		LR	07 57 13.0	
	comp=Z,88nm,19.7s,baz=232,slow=32							
TROLL	**Troll, Antarti**	**69.47**	**182**	P		**P**	**07 32 50.7**	**+1.7**
SNAA	**Sanae**	**69.87**	**180**	LR		LR	08 01 46.1	
	comp=Z,163nm,19.0s,baz=190,slow=34							
LEM	**Lembang**	**70.06**	**277**	LR		LR	08 03 56.2	
	comp=Z,434nm,20.5s,baz=123,slow=36							
VNA3	**Neumayer Olymp**	**70.18**	**178**	P		**P**	**07 32 54.7**	**+1.5**
VNA2	**Neumayer--Watz**	**70.56**	**178**	P		**P**	**07 32 57.4**	**+1.8**
	baz=179,slow=7.0							
VNA1	**Neumayer--Stat**	**70.81**	**178**	P		**P**	**07 32 59.0**	**+2.0**
H03S2	**Juan Fernandez**	**78.90**	**124**	T		T	08 59 56.4	
	baz=229,slow=74,SNR=28							
H03S1	**Juan Fernandez**	**78.91**	**124**	T		T	08 59 59.0	
	baz=229,slow=74,SNR=26							
H03S3	**Juan Fernandez**	**78.92**	**124**	T		T	08 59 54.6	
	baz=229,slow=74,SNR=19							
PLCA	**Paso Flores**	**79.46**	**134**	P		**P**	**07 33 49.5**	**+1.9**
	comp=Z,5.9nm,0.9s,baz=238,slow=4.9,SNR=14							
PLCA				LR		LR	08 01 45.9	
	comp=Z,90nm,19.1s,baz=230,slow=30							
	comp=Z,5.9nm,0.9s							
PLCA	**Paso Flores**	**79.46**	**134**	P		**P**	**07 33 45.3**	**-2.3**
PLCA				IAmb		IAmb	07 33 51.0	
	comp=Z,7.8nm,0.9s							
JHJ	**Hachijo jima 2**	**79.62**	**329**	LR		LR	08 04 43.2	
	comp=Z,50nm,21.8s,baz=106,slow=32							
RPSI	**Rantau Prapat**	**82.76**	**279**	P		**P**	**07 34 02.8**	**-2.6**
RPSI				IAmb		IAmb	07 34 04.3	
	comp=Z,8.7nm,1.0s							
PSI	**Prapat**	**82.83**	**279**	LR		LR	08 13 42.8	
	comp=Z,302nm,18.7s,baz=126,slow=38							
MJAR	**Matsushiro Arr**	**83.23**	**329**	P		**P**	**07 34 05.5**	**-1.7**
	comp=Z,3.6nm,0.9s,baz=161,slow=5.3,SNR=5.9							
MJAR				LR		LR	08 12 09.2	
	comp=Z,32nm,18.9s,baz=152,slow=36							
	comp=Z,3.6nm,0.9s							
JNU	**Nakatsue**	**83.58**	**322**	LR		LR	08 07 32.2	
	comp=Z,53nm,19.8s,baz=130,slow=33							
CFA	**Coronel Fontan**	**87.09**	**129**	LR		LR	08 04 52.8	
	comp=Z,110nm,20.8s,baz=204,slow=30							
ASAJ	**Asahikawa**	**88.31**	**336**	LR		LR	08 09 54.5	
	comp=Z,64nm,18.9s,baz=164,slow=33							
KSRS	**Korea Array**	**88.50**	**329**	P		**P**	**07 34 33.7**	**+0.5**
	comp=Z,9.7nm,0.9s,baz=140,slow=5.6,SNR=24							
KSRS				LR		LR	08 12 30.5	
	comp=Z,59nm,19.7s,baz=130,slow=34							
	comp=Z,9.7nm,0.9s							
KSAR	**Wonju Array Be**	**88.51**	**323**	P		**P**	**07 34 33.0**	**-0.3**
LPIG	**La Paz**	**92.02**	**61**	LR		LR	08 08 48.5	
	comp=Z,165nm,19.1s,baz=218,slow=31							
USRK	**Ussuriysk Ar.**	**92.23**	**329**	LR		LR	08 14 26.1	
	comp=Z,39nm,19.2s,baz=184,slow=34							
CMAR	**Chiang Mai Arr**	**92.78**	**291**	P		**P**	**07 34 54.0**	**+0.3**
	comp=Z,3.7nm,0.3s,baz=134,slow=3.9,SNR=4.2							
CMAR				LR		LR	08 20 15.4	
	comp=Z,62nm,20.0s,baz=185,slow=38							
	comp=Z,3.7nm,0.3s							
PETK	**Petropavlovsk-**	**93.09**	**348**	LR		LR	08 11 42.8	
	comp=Z,76nm,19.6s,baz=145,slow=32							
CN2	**Changchun**	**94.69**	**325**	*e*P		**P**	**07 35 05.8**	**+4.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH	**PanZhiHua**	**95.97**	**299**	P		**P**	**07 35 11.8**	**+3.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,170nm,5.6s							
ATAH	**Atahualpa**	**96.47**	**104**	LR		LR	08 10 41.7	
	comp=Z,141nm,18.8s,baz=283,slow=30							
YBH	**Yreka Blue Hor**	**96.86**	**41**	LR		LR	08 12 44.7	
	comp=Z,94nm,19.4s,baz=206,slow=32							
TNCH	**TengChong**	**97.26**	**296**	*e*P		Pdif	07 35 16.5	+2.2
TNCH				pP		pP	07 35 23.0	+0.9
CPUP	**Villa Florida**	**97.44**	**132**	LR		LR	08 13 27.6	
	comp=Z,119nm,18.0s,baz=226,slow=32							
LPAZ	**La Paz**	**97.84**	**118**	LR		LR	08 11 01.9	
	comp=Z,47nm,19.1s,baz=250,slow=30							
HHC	**Hu-ho-hao-te**	**99.45**	**315**	*e*P		**Pdif**	**07 35 26.3**	**+2.7**
HHC				pmax		pmax		
	comp=Z,30nm,0.9s							
HHC				pmax		pmax		
	comp=Z,120nm,6.9s							
PALK	**Pallekele**	**99.77**	**271**	LR		LR	08 19 53.6	
	comp=Z,130nm,18.8s,baz=230,slow=35							
LZH	**Lanzhou**	**100.78**	**308**	*e*P		**Pdif**	**07 35 30.0**	**+0.3**
LZH				pP		pPdif	07 35 37.3	-0.3
LZH				sP		sP	07 35 41.5	+1.1
LZH				pmax		pmax		
	comp=Z,16nm,1.1s							
ILAR	**Eielson Array**	**106.93**	**15**	PKiKP		**PKiKP**	**07 40 04.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=225,slow=2.5,SNR=4.6							
WMQ	**Urumqi**	**115.34**	**307**	*e*PKP		**PKPdf**	**07 40 22.3**	**0.0**
MKAR	**Makanchi Array**	**120.10**	**308**	PKP		**PKPdf**	**07 40 29.4**	**-2.0**
	comp=Z,1.3nm,1.0s,baz=34,slow=0.5,SNR=4.0							
ZALV	**Zalesovo Beam**	**121.62**	**316**	PKP		**PKPdf**	**07 40 32.1**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=158,slow=0.8,SNR=1.5							
KURBB	**Kurchatov Arra**	**123.92**	**311**	PKP		**PKPdf**	**07 40 36.6**	**-1.9**
	baz=105,slow=1.4							
KMBO	**Kilima Mbogo**	**126.05**	**232**	PKP		**PKiKP**	**07 40 44.5**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=62,slow=2.7,SNR=6.3							
ARA0	**ARCESS Array S**	**145.73**	**343**	*e*PKPdf		**PKPdf**	**07 41 18.1**	**-0.3**
ARCES	**ARCESS Array B**	**145.73**	**343**	PKPbc		**PKPdf**	**07 41 17.8**	**-0.6**
	comp=Z,20nm,0.8s,baz=44,slow=4.0,SNR=53							
KBZ	**Khabaz**	**145.81**	**293**	PKPbc		**PKPbc**	**07 41 19.6**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=127,slow=3.2,SNR=7.5							
KTK1	**Kautokeino**	**146.65**	**343**	*e*PKPdf		**PKPdf**	**07 41 20.0**	**+0.1**
KTK1				*e*PKPdf		**PKPdf**	**07 41 20.0**	**+0.1**
JETT	**Jettan, Norway**	**146.80**	**346**	*e*PKPdf		**PKPbc**	**07 41 21.4**	**-0.6**
TRO	**Tromso**	**147.01**	**346**	*e*PKPdf		**PKPdf**	**07 41 21.5**	**+1.0**
FAUS	**Fauske**	**149.64**	**346**	*e*PKPbc		**PKiKP**	**07 41 30.8**	**+0.3**
FINES	**FINESS Array B**	**151.24**	**331**	PKPbc		**PKPbc**	**07 41 32.1**	**-1.3**
	comp=Z,6.3nm,0.9s,baz=22,slow=3.0,SNR=18							
BRTR	**Keskin Array B**	**152.08**	**284**	PKPbc		**PKPbc**	**07 41 34.7**	**-1.6**
	comp=Z,3.6nm,0.9s,baz=113,slow=3.2,SNR=11							
NACGM	**Naroch**	**154.52**	**319**	*e*PKP		**PKPdf**	**07 41 33.1**	**+0.6**
	comp=Z,13nm,0.8s,baz=62							
AKASG	**Malin Array Be**	**154.68**	**308**	PKPab		**PKPab**	**07 41 54.8**	**-1.6**
	comp=Z,3.9nm,0.8s,baz=58,slow=4.5,SNR=8.7							
NOA	**NORSAR Array B**	**156.11**	**343**	PKPab		**PKPab**	**07 42 00.3**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=26,slow=3.2,SNR=1.9							
VRAC	**Vranov**	**162.72**	**314**	*e*PKP		**PKPab**	**07 42 30.0**	**-1.3**
KRUC	**Moravsky**	**162.96**	**313**	*e*PKP		**PKPab**	**07 42 31.6**	**-0.7**
CLL	**Collm**	**163.38**	**324**	*e*PKPdf		**PKPdf**	**07 41 43.0**	**0.0**
CLL				*i* PKPab		**PKPab**	**07 42 32.0**	**-2.0**
	comp=Z,10.0nm,1.0s							
CLL				*ep*PKPab		**pPKPab**	**07 42 39.0**	**-2.9**
CLL				LmV			08 58 00.0	
	comp=Z,100nm,18.4s							
GERES	**GERESS Array B**	**164.57**	**316**	PKPab		**PKPab**	**07 42 37.4**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=31,slow=3.1,SNR=4.8							

IDC 26 07:24:56.4±5.0, 12°69S×117°20E, h0km, mb3.9/3, mbtmp3.8/4, ML3.7/1, MS4.3/1, Error ellipse: s-maj=214.2km s-min=37.4km az=40.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.80**	**69**		LR	LR	07 29 34.6	
	comp=Z,76nm,20.9s,baz=231,slow=41							
WRA	**Warramunga Arr**	**17.95**	**116**	P	P		07 29 08.0	-0.3
	0.2nm,0.3s,baz=290,slow=13,SNR=9.9							
WRA				S	Sn		07 32 11.1	-17
	0.6nm,0.6s,baz=287,slow=22,SNR=3.1							
	0.7nm,0.7s							
SONM	**Songino Array**	**61.02**	**352**	P	P		07 35 12.3	+0.4
	0.2nm,0.5s,baz=151,slow=7.4,SNR=2.1							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**66.97**	**335**	P	P		07 35 51.5	+0.6
	1.1nm,0.5s,baz=149,slow=7.5,SNR=12							
	1.1nm,0.5s							
ZALV	**Zalesovo Beam**	**71.88**	**341**	P	P		07 36 19.8	-1.4
	1.1nm,0.5s,baz=134,slow=6.2,SNR=3.6							
	1.1nm,0.5s							
SHEM	**Shemya Is, Ala**	**81.33**	**31**	LR	LR		08 07 59.7	
	comp=Z,169nm,22.0s,baz=262,slow=32							

KRNET ***26*** *07:34:31.9±0.1, 39°.35N×73°.89E, mb3.9*
SOME ***26*** *07:34:32.3, 39°.48N×73°.80E, h0km*
NNC ***26*** *07:34:34.9±2.5, 39°.49N×74°.03E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=18.9km s-min=10.0km az=162.0*

ISC 26 07:34:30.2±1.5, 39°.41N±0°.05×73°.89E±0°.03, h5km±13km, n52, σ1°92/82, 19C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.40**	**323**	⇓*e*P		**Pg**	**07 34 59.2**	**+2.1**
OHH	baz=24			⇓*e*S		**Sn**	**07 35 19.2**	**+3.7**
DRK	**Karamyk**	**1.62**	**273**	⇑*e*P		**Pg**	**07 35 02.4**	**+1.1**
DRK	baz=75			⇑*e*S		**Sg**	**07 35 24.8**	**+2.6**
BTK	**Batken**	**2.45**	**286**	⇑*e*P		**Pg**	**07 35 15.6**	**-1.7**
BTK	baz=88			⇑*e*S		**Sg**	**07 35 47.3**	**-1.8**
ARLS	**Aral**	**2.47**	**8**	⇓*e*P		**Pg**	**07 35 16.5**	**-1.1**
ARLS	baz=8.0			⇓*e*S		**Sg**	**07 35 48.9**	**-0.7**
AML	**Almayashu**	**2.72**	**357**	P		**Pb**	**07 35 20.2**	**+0.5**
	SNR=64							
ARK	**Arkit**	**2.80**	**329**	⇑*e*P		**Pb**	**07 35 20.8**	**0.0**
ARK	baz=30			⇑*e*S		**Sb**	**07 35 56.7**	**+1.2**
GAR	**Garm**	**2.80**	**263**	⇑*e*P		**Pb**	**07 35 20.1**	**-0.8**
GAR	baz=64			⇑*e*S		**Sb**	**07 35 55.5**	**-0.1**
UCH	**Uchtor**	**2.85**	**9**	P		**Pb**	**07 35 22.8**	**+0.9**
	SNR=30							
UCH	**Uchtor**	**2.85**	**9**	⇑*e*P		**Pb**	**07 35 22.1**	**+0.1**
UCH	baz=9.0			⇑*e*S		**Sb**	**07 35 58.5**	**+1.1**
TRKS	**Terek-Say**	**2.98**	**316**	⇑*e*P		**Pb**	**07 35 22.5**	**-1.4**
TRKS	baz=16			⇑*e*S		**Sb**	**07 35 59.3**	**-1.4**
	baz=16							
EKS2	**Erkin-Say**	**3.25**	**359**	P		**Pb**	**07 35 28.3**	**-0.2**
	SNR=18							
EKS2	**Erkin-Say**	**3.25**	**359**	⇑*e*P		**Pb**	**07 35 27.3**	**-1.2**
EKS2	baz=59			⇑*e*S		**Sb**	**07 36 07.5**	**-0.9**
	baz=59							
AAK	**Ala-Archa**	**3.26**	**8**	P		**Pb**	**07 35 28.6**	**-0.1**
	SNR=12							
AAK	**Ala-Archa**	**3.26**	**8**	⇓*e*P		**Pb**	**07 35 27.4**	**-1.3**
AAK	baz=8.0			⇓*e*S		**Sb**	**07 36 07.8**	**-0.9**
	baz=8.0							
KBK	**Karagaybulak**	**3.34**	**14**	P		**Pb**	**07 35 29.8**	**-0.3**
	SNR=9.6							
KBK	**Karagaybulak**	**3.34**	**14**	⇓*e*P		**Pb**	**07 35 28.5**	**-1.6**
KBK	baz=13			⇓*e*S		**Sb**	**07 36 09.8**	**-1.3**
	baz=13							
ULHL	**Ulahol**	**3.35**	**31**	P		**Pg**	**07 35 34.0**	**-0.4**
	SNR=6.8							
ULHL	**Ulahol**	**3.35**	**31**	⇓*e*P		**Pb**	**07 35 28.5**	**-1.8**
ULHL	baz=31			⇓*e*S		**Sb**	**07 36 09.8**	**-1.6**
	baz=31							
MRKS	**Merke**	**3.37**	**352**	*e*P		**Pg**	**07 35 32.7**	**-2.1**
MRKS	31nm,0.5s			*e*S		**Sg**	**07 36 18.5**	**0.0**
	64nm,0.4s							
MRKS	**Merke**	**3.37**	**352**	Pg		**Pg**	**07 35 33.0**	**-1.7**
MRKS	31nm,0.5s			Lg		Lg	07 36 19.3	
	64nm,0.4s							
TKM2	**Tokmak 2**	**3.74**	**20**	⇑Pg		**Pg**	**07 35 41.1**	**-0.7**
TKM2	12nm,0.5s			⇑Lg		Lg	07 36 31.8	
	21nm,0.6s							
USP	**Ospenovka**	**3.88**	**7**	P		**Pg**	**07 35 44.1**	**-0.5**
	SNR=6.2							
KST	**Kastek**	**3.95**	**23**	*e*P		**Pg**	**07 35 45.1**	**-0.9**
KST	8.6nm,0.1s			*e*S		**Sg**	**07 36 39.6**	**+2.5**
	56nm,0.7s							
KST	**Kastek**	**3.95**	**23**	Pg		**Pg**	**07 35 45.1**	**-0.9**
KST	8.3nm,0.6s			Lg		Lg	07 36 39.6	
	56nm,0.7s							
IUG	**Iuzhnay**	**4.01**	**314**	*e*P		**Pg**	**07 35 47.6**	**+0.7**
IUG	43nm,0.5s			*e*S		**Sg**	**07 36 41.9**	**+3.0**
	106nm,0.8s							
IUG	**Iuzhnay**	**4.01**	**314**	Pg		**Pb**	**07 35 38.3**	**-3.0**
IUG	36nm,0.6s			Lg		Lg	07 36 28.3	
SGDS	**Sogindy**	**4.08**	**8**	*e*P		**Pg**	**07 35 47.1**	**-1.2**
SGDS	8.5nm,0.8s			*e*S		**Sg**	**07 36 43.4**	**+2.3**
	40nm,0.7s							
SGDS	**Sogindy**	**4.08**	**8**	Pg		**Pg**	**07 35 47.1**	**-1.2**
SGDS	8.5nm,0.8s			Lg		Lg	07 36 43.4	
	40nm,0.7s							
DGS	**Degeres**	**4.08**	**20**	*e*P		**Pg**	**07 35 46.8**	**-1.6**
DGS	11nm,0.3s			*e*S		**Sg**	**07 36 43.0**	**+1.6**
	32nm,0.9s							
DGS	**Degeres**	**4.08**	**20**	Pg		**Pg**	**07 35 46.8**	**-1.6**
DGS	11nm,0.8s			Lg		Lg	07 36 43.0	
	32nm,0.9s							
IZV	**Izvestkoviy**	**4.17**	**29**	*e*P		**Pg**	**07 35 48.8**	**-1.3**
IZV	8.3nm,0.7s			*e*S		**Sg**	**07 36 46.4**	**+2.4**
	34nm,0.9s							
IZV	**Izvestkoviy**	**4.17**	**29**	Pg		**Pg**	**07 35 48.8**	**-1.3**
IZV	8.3nm,0.7s			Lg		Lg	07 36 46.4	
	34nm,0.9s							
MTBS	**Maitube**	**4.18**	**26**	*e*P		**Pg**	**07 35 49.2**	**-1.1**
MTBS	7.7nm,0.6s			*e*S		**Sg**	**07 36 46.6**	**+2.1**
	17nm,0.8s							
MTBS	**Maitube**	**4.18**	**26**	Pg		**Pg**	**07 35 49.2**	**-1.1**
MTBS	7.7nm,0.6s			Lg		Lg	07 36 46.6	
	17nm,0.8s							
TNSS	**Tian-Shan**	**4.29**	**31**	*e*P		**Pg**	**07 35 51.6**	**-1.0**
TNSS	8.9nm,0.2s			*e*S		**Sg**	**07 36 50.9**	**+2.7**
	14nm,0.3s							
TNSS	**Tian-Shan**	**4.29**	**31**	Pg		**Pg**	**07 35 51.6**	**-1.0**
TNSS	9.0nm,0.6s			Lg		Lg	07 36 50.6	
	14nm,0.8s							
MDOK	**Medeo**	**4.44**	**31**	*e*P		**Pg**	**07 35 53.9**	**-1.4**
MDOK	14nm,0.8s			*e*S		**Sg**	**07 36 54.9**	**+2.0**
	20nm,0.7s							
MDOK	**Medeo**	**4.44**	**31**	Pg		**Pg**	**07 35 53.0**	**-2.3**
MDOK	21nm,1.0s			Pg		Pb	07 35 53.5	+4.7
MDOK	14nm,0.8s			Lg		Lg	07 36 53.6	
	33nm,0.8s							
MDOK				Lg		Lg	07 36 53.9	
	20nm,0.7s							
KK31	**Karatay Array**	**4.48**	**326**	⇑Pn		Pb	07 35 43.8	-5.7
KK31	1.5nm,0.3s,baz=134,slow=13			⇓Pg		**Pg**	**07 35 54.6**	**-1.5**
	3.6nm,0.3s,baz=137,slow=15							
KK31				⇑Sn		**Sb**	**07 36 38.2**	**-5.6**
	11nm,0.6s,baz=138,slow=26							
KK31				⇓Lg		Lg	07 36 56.4	
	26nm,0.7s,baz=138,slow=30							
KRBS	**Karabastau**	**4.49**	**17**	*e*P		**Pg**	**07 35 55.1**	**-1.0**
KRBS	8.5nm,0.1s			*e*S		**Sg**	**07 36 57.3**	**+3.0**
	24nm,0.8s							
KRBS	**Karabastau**	**4.49**	**17**	Pg		**Pg**	**07 35 55.1**	**-1.0**
KRBS	8.6nm,0.8s			Lg		Lg	07 36 57.3	
	24nm,0.8s							
KOTS	**Kotyrbulak**	**4.53**	**31**	*e*P		**Pg**	**07 35 55.6**	**-1.3**
KOTS	13nm,0.7s			*e*S		**Sg**	**07 36 58.1**	**+2.5**
	68nm,0.3s							
KOTS	**Kotyrbulak**	**4.53**	**31**	Pg		**Pg**	**07 35 55.6**	**-1.3**
KOTS	13nm,0.7s			Lg		Lg	07 36 58.1	
	68nm,0.8s							
KTBS	**Karatobe**	**4.78**	**25**	*e*P		**Pg**	**07 35 59.8**	**-2.0**
KTBS	13nm,0.2s			*e*S		**Sg**	**07 37 04.7**	**+0.9**
	44nm,0.9s							
KTBS	**Karatobe**	**4.78**	**25**	Pg		**Pg**	**07 35 59.8**	**-2.0**
KTBS	13nm,0.9s			Lg		Lg	07 37 05.8	
	44nm,0.9s							
KUU	**Kurty**	**4.84**	**21**	*e*P		**Pg**	**07 36 00.1**	**-2.9**
KUU	9.1nm,0.9s			*e*S		**Sg**	**07 37 05.7**	**0.0**
	18nm,1.6s							
KUU	**Kurty**	**4.84**	**21**	Pg		**Pg**	**07 35 59.8**	**-3.1**
KUU	9.1nm,0.9s			Lg		Lg	07 37 04.9	
	18nm,1.6s							
SATY	**Saty**	**4.99**	**42**	*e*P		**Pg**	**07 36 04.4**	**-1.4**
SATY	8.1nm,0.7s			*e*S		**Sg**	**07 37 12.8**	**+2.3**
	22nm,0.2s							
CHKK	**Chushkaly**	**5.01**	**27**	*e*P		**Pg**	**07 36 05.1**	**-1.1**
CHKK	6.9nm,0.2s			*e*S		**Sg**	**07 37 13.6**	**+2.5**
	18nm,0.1s							
UZB	**Uzynbulak**	**5.38**	**44**	*e*P		**Pg**	**07 36 13.3**	**+0.1**
UZB	2.8nm,0.1s			*e*S		**Sg**	**07 37 27.7**	**+4.8**
	7.4nm,0.4s							
ARXS	**Arharly**	**5.63**	**30**	*e*P		**Pg**	**07 36 16.9**	**-1.1**
ARXS	11nm,0.1s			*e*S		**Sg**	**07 37 34.0**	**+3.0**
	15nm,0.1s							
PDGK	**Podgornoye**	**5.75**	**45**	⇓Pg		**Pg**	**07 36 16.7**	**-3.7**
PDGK	8.6nm,0.7s			⇑Lg		Lg	07 37 34.4	
	16nm,0.8s							

INET ***26*** *07:35:19.8±0.3, 11°.49N×88°.77W, h15km±3km, MW2.9*
SNET ***26*** *07:35:27.6±1.0, 12°.08N×88°.33W, h0km±12km, ML2.7*

ISC 26 07:35:26.4±2.8, 11°.9N±0°.1×88°.56W±0°.09, h33km, n8, σ1°25/10, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.38**	**359**	*e*S		**Sb**	**07 36 10.4**	**+1.4**
LCND	**La Caada**	**1.51**	**25**	*e*P		**Pb**	**07 35

BTK	**Batken**	**2.51**	**290**			**Pb**	**07 43 38.0**	**-0.2**
ARLS	**Aral**	**2.65**	**7**	⇓	*e*P	**Pb**	**07 43 37.9**	**-2.7**
	baz=7.0							
ARLS				⇓	*e*S	**Sb**	**07 44 12.2**	**-1.1**
	baz=7.0							
NRN	**Naryn**	**2.73**	**36**			**Pb**	**07 43 40.0**	**-2.1**
GAR	**Garm**	**2.79**	**266**	⇓	*e*P	**Pb**	**07 43 39.6**	**-3.4**
	baz=67							
GAR				⇓	*e*S	**Sb**	**07 44 14.6**	**-2.6**
	baz=67							
GAR	**Garm**	**2.79**	**266**			**Pb**	**07 43 41.6**	**-1.4**
AML	**Almayashu**	**2.90**	**357**	P		**Pb**	**07 43 42.9**	**-2.2**
	SNR=84							
ARK	**Arkit**	**2.96**	**331**	⇓	*e*P	**Pb**	**07 43 42.4**	**-3.4**
	baz=31							
ARK				⇓	*e*S	**Sb**	**07 44 19.6**	**-2.4**
	baz=31							
UCH	**Uchtor**	**3.03**	**9**	P		**Pb**	**07 43 45.3**	**-2.0**
	SNR=285							
UCH	**Uchtor**	**3.03**	**9**	⇑	*e*P	**Pn**	**07 43 43.4**	**+1.9**
	baz=9.0							
UCH				⇑	*e*S	**Sb**	**07 44 21.7**	**-2.9**
	baz=9.0							
TRKS	**Terek-Say**	**3.11**	**318**	⇓	*e*P	**Pn**	**07 43 43.4**	**+1.1**
	baz=18							
TRKS				⇓	*e*S	**Sn**	**07 44 21.7**	**+2.1**
	baz=18							
EKS2	**Erkin-Say**	**3.43**	**359**	P		**Pb**	**07 43 50.6**	**-3.3**
	SNR=63							
EKS2	**Erkin-Say**	**3.43**	**359**	⇓	*e*P	**Pn**	**07 43 49.0**	**+2.4**
	baz=58							
EKS2				⇓	*e*S	**Sn**	**07 44 31.0**	**+3.6**
	baz=58							
AAK	**Ala-Archa**	**3.44**	**7**	P		**Pb**	**07 43 51.1**	**-2.9**
	SNR=55							
AAK	**Ala-Archa**	**3.44**	**7**	Pn		**Pb**	**07 43 50.8**	**-3.2**
	18nm,0.3s,baz=170,slow=6.8,SNR=79							
AAK					Sn	**Sb**	**07 44 34.5**	**-1.4**
	2.8nm,0.3s,baz=14,slow=17,SNR=1.8 62nm,0.5s							
AAK	**Ala-Archa**	**3.44**	**7**	⇓	*e*P	**Pn**	**07 43 49.1**	**+2.4**
	baz=7.0							
AAK				⇓	*e*S	**Sn**	**07 44 31.0**	**+3.4**
	baz=7.0							
AAK	**Ala-Archa**	**3.44**	**7**	Pn		**Pb**	**07 43 50.2**	**-3.8**
ULHL	**Ulahol**	**3.50**	**30**	P		**Pb**	**07 43 53.8**	**-1.4**
	SNR=14							
ULHL	**Ulahol**	**3.50**	**30**	⇓	*e*P	**Pn**	**07 43 50.0**	**+2.3**
	baz=29							
ULHL				⇓	*e*S	**Sn**	**07 44 32.5**	**+3.2**
	baz=29							
KBK	**Karagaybulak**	**3.52**	**13**	P		**Pb**	**07 43 52.2**	**-3.2**
	SNR=53							
KBK	**Karagaybulak**	**3.52**	**13**	⇓	*e*P	**Pn**	**07 43 50.2**	**+2.3**
	baz=13							
KBK				⇓	*e*S	**Sn**	**07 44 32.9**	**+3.3**
	baz=13							
MRKS	**Merke**	**3.55**	**352**		*e*P	**Pb**	**07 43 51.7**	**-4.2**
	134nm,0.5s							
MRKS					*e*S	**Sb**	**07 44 36.3**	**-2.8**
	192nm,0.3s							
MRKS	**Merke**	**3.55**	**352**		Pg	**Pb**	**07 43 51.7**	**-4.2**
	134nm,0.5s							
MRKS					Lg	Lg	07 44 37.2	
	190nm,0.6s							
CHGR	**Chuyangaron**	**3.73**	**263**		Pn	Pb	07 43 53.8	-5.3
CHMS	**Chumysh**	**3.82**	**10**	P		**Pb**	**07 43 56.1**	**-4.4**
	SNR=22							
CHMS	**Chumysh**	**3.82**	**10**	⇓	*e*P	**Pn**	**07 43 54.4**	**+2.5**
	baz=9.0							
CHMS				⇓	*e*S	**Sn**	**07 44 40.1**	**+3.2**
	baz=9.0							
TARG	**Taragay, Kyrgy**	**3.89**	**49**			**Pb**	**07 43 57.6**	**-4.4**
TKM2	**Tokmak 2**	**3.91**	**19**	P		**Pb**	**07 43 58.3**	**-3.8**
	SNR=11							
TKM2	**Tokmak 2**	**3.91**	**19**	⇓	*e*P	**Pn**	**07 43 55.4**	**+2.1**
	baz=18							
TKM2				⇓	*e*S	**Sn**	**07 44 42.3**	**+3.0**
	baz=18							
TKM2	**Tokmak 2**	**3.91**	**19**	⇑	Pn	Pb	07 43 57.2	-4.9
	43nm,0.5s							
TKM2				⇑	Lg	Lg	07 44 54.3	
	147nm,0.7s							
USP	**Ospenovka**	**4.06**	**6**	P		Pb	07 43 59.4	-5.2
	SNR=11							
USP	**Ospenovka**	**4.06**	**6**	⇓	*e*P	**Pn**	**07 43 57.8**	**+2.6**
	baz=6.0							
USP				⇓	*e*S	**Sn**	**07 44 46.1**	**+3.3**
	baz=6.0							
TAS	**Tashkent**	**4.09**	**302**			**Pn**	**07 43 59.0**	**+3.4**
KST	**Kastek**	**4.12**	**22**		*e*P	**Pb**	**07 44 05.5**	**-0.1**
	42nm,0.6s							
KST					*e*S	**Sb**	**07 44 59.9**	**+4.3**
	233nm,0.7s							
KST	**Kastek**	**4.12**	**22**		Pg	**Pb**	**07 44 05.5**	**-0.1**
	42nm,0.6s							
KST					Lg	Lg	07 45 00.4	
	233nm,0.7s							
IUG	**Iuzhnay**	**4.13**	**316**		*e*P	**Pg**	**07 44 09.5**	**-2.7**
	260nm,0.7s							
IUG					*e*S	**Sg**	**07 45 04.5**	**-1.2**
	460nm,0.5s							
DZA	**Taraz**	**4.14**	**333**		*e*P	**Pb**	**07 44 02.1**	**-3.8**
	100nm,0.3s							
DZA					*e*S	**Sb**	**07 44 51.9**	**-4.1**
	566nm,0.7s							
DGS	**Degeres**	**4.25**	**19**		*e*P	**Pb**	**07 44 09.1**	**+1.1**
	45nm,0.6s							
DGS					*e*S	**Sg**	**07 45 05.8**	**-3.7**
	217nm,0.8s							
DGS	**Degeres**	**4.25**	**19**		Pg	**Pb**	**07 44 09.1**	**+1.1**
	45nm,0.6s							
DGS					Lg	Lg	07 45 06.3	
	217nm,0.8s							
SGDS	**Sogindy**	**4.25**	**7**		*e*P	**Pb**	**07 44 06.4**	**-1.5**
	37nm,0.6s							
SGDS					*e*S	**Sb**	**07 45 01.4**	**+2.1**
	126nm,1.1s							
SGDS	**Sogindy**	**4.25**	**7**		Pg	**Pb**	**07 44 05.6**	**-2.3**
	37nm,0.6s							
SGDS					Lg	Lg	07 44 59.7	
	126nm,1.1s							
IZV	**Izvestkoviy**	**4.32**	**28**		*e*P	**Pb**	**07 44 09.2**	**+0.1**
	40nm,0.5s							
IZV					*e*S	**Sb**	**07 45 06.1**	**+4.7**
	194nm,0.7s							
MTBS	**Maitube**	**4.34**	**25**		*e*P	**Pb**	**07 44 10.6**	**+1.2**
	45nm,0.6s							
MTBS					*e*S	**Sg**	**07 45 08.7**	**-3.7**
	175nm,0.6s							
MTBS	**Maitube**	**4.34**	**25**		Pg	**Pb**	**07 44 11.2**	**+1.8**
	45nm,0.6s							
MTBS					Lg	Lg	07 45 09.3	
	175nm,0.6s							
TNSS	**Tian-Shan**	**4.45**	**30**		*e*P	**Pb**	**07 44 13.3**	**+1.9**
	57nm,0.2s							
TNSS					*e*S	**Sg**	**07 45 13.6**	**-2.2**
	73nm,0.7s							
TNSS	**Tian-Shan**	**4.45**	**30**		Pg	**Pg**	**07 44 14.0**	**-4.3**
	57nm,0.5s							
TNSS					Lg	Lg	07 45 13.6	
	73nm,0.7s							
AAA	**Alma-Ata**	**4.58**	**29**		*e*P	**Pb**	**07 44 15.3**	**+1.7**
	44nm,0.3s							
AAA					*e*S	**Sg**	**07 45 16.8**	**-3.3**
	197nm,0.6s							
AAA	**Alma-Ata**	**4.58**	**29**		Pg	**Pb**	**07 44 15.3**	**+1.7**
	44nm,0.3s							
AAA					Lg	Lg	07 45 17.2	
	197nm,0.6s							
MDOK	**Medeo**	**4.59**	**30**		*e*P	**Pb**	**07 44 15.5**	**+1.7**
	54nm,0.7s							
MDOK					*e*S	**Sg**	**07 45 16.7**	**-3.8**
	103nm,0.7s							
MDOK	**Medeo**	**4.59**	**30**		Pn	Pn	07 44 07.3	+4.7
	104nm,0.8s							
MDOK					Pg	**Pb**	**07 44 15.5**	**+1.7**
	54nm,0.7s							
MDOK				⇑	Pg	**Pb**	**07 44 16.8**	**+3.0**
	104nm,0.8s							
MDOK				⇑	Lg	Lg	07 45 15.8	
	202nm,0.8s							
MDOK					Lg	Lg	07 45 16.7	
	103nm,0.7s							
KNDC	**Almaty**	**4.61**	**29**	⇓	Pg	**Pb**	**07 44 16.3**	**+2.3**
	302nm,0.8s							
KNDC				⇓	Lg	Lg	07 45 17.4	
	1μm,1.2s							
KK31	**Karatay Array**	**4.63**	**328**			**Pn**	**07 44 06.3**	**+3.2**
KK31	**Karatay Array**	**4.63**	**328**	⇑	Pn	**Pn**	**07 44 05.9**	**+2.9**
	42nm,0.7s,baz=137,slow=12							
KK31				⇓	Sn	**Sn**	**07 45 01.3**	**+4.4**
	146nm,0.9s,baz=138,slow=22							
KK31				⇑	Lg	Lg	07 45 16.7	
	123nm,0.8s,baz=132,slow=27							
KKAR	**Karatay Array**	**4.63**	**328**	⇑	*e*P	**Pn**	**07 44 05.6**	**+2.5**
	baz=28							
KKAR				⇑	*e*S	**Sn**	**07 44 59.6**	**+2.7**
	baz=28							
KKAR	**Karatay Array**	**4.63**	**328**			**Pn**	**07 44 06.0**	**+2.9**
KKAR	**Karatay Array**	**4.63**	**328**			**Pn**	**07 44 06.1**	**+3.1**
KRBS	**Karabastau**	**4.66**	**16**		*e*P	**Pb**	**07 44 16.2**	**+1.4**
	38nm,0.5s							
KRBS					*e*S	**Sg**	**07 45 18.1**	**-4.5**
	168nm,0.8s							
KRBS	**Karabastau**	**4.66**	**16**		Pg	**Pb**	**07 44 16.2**	**+1.4**
	38nm,0.5s							
KRBS					Lg	Lg	07 45 18.1	
	168nm,0.8s							
KOTS	**Kotyrbulak**	**4.68**	**30**		*e*P	**Pb**	**07 44 17.3**	**+2.1**
	81nm,0.6s							
KOTS					*e*S	**Sg**	**07 45 19.9**	**-3.3**
	191nm,0.8s							
KOTS	**Kotyrbulak**	**4.68**	**30**		Pg	**Pb**	**07 44 17.3**	**+2.1**
	81nm,0.6s							
KOTS					Lg	Lg	07 45 19.9	
	191nm,0.8s							
KTBS	**Karatobe**	**4.95**	**24**		*e*P	**Pb**	**07 44 21.5**	**+1.8**
	68nm,0.8s							
KTBS					*e*S	**Sg**	**07 45 27.5**	**-4.2**
	264nm,0.7s							
KTBS	**Karatobe**	**4.95**	**24**		Pg	**Pb**	**07 44 21.9**	**+2.2**
	68nm,0.8s							
KTBS					Lg	Lg	07 45 27.8	
	264nm,0.7s							
KUU	**Kurty**	**5.01**	**21**		*e*P	**Pb**	**07 44 22.2**	**+1.5**
	30nm,0.5s							
KUU					*e*S	**Sg**	**07 45 28.4**	**-5.4**
	131nm,0.8s							
KUU	**Kurty**	**5.01**	**21**		Pg	**Pb**	**07 44 22.2**	**+1.5**
	30nm,0.5s							
KUU					Lg	Lg	07 45 28.2	
	131nm,0.8s							
SATY	**Saty**	**5.12**	**40**		*e*P	**Pg**	**07 44 26.8**	**-4.4**
	50nm,0.1s							
SATY					*e*S	**Sg**	**07 45 36.7**	**-0.8**
	143nm,0.2s							
CHKK	**Chushkaly**	**5.17**	**26**		*e*P	**Pb**	**07 44 25.3**	**+1.8**
	70nm,0.6s							
CHKK					*e*S	**Sg**	**07 45 34.2**	**-4.8**
	120nm,0.9s							
CHKK	**Chushkaly**	**5.17**	**26**		Lg	Lg	07 45 34.2	
	120nm,0.9s							
ZHN	**Zhinishke**	**5.22**	**40**		*e*P	**Pb**	**07 44 27.1**	**+2.7**
	12nm,0.0s							
ZHN					*e*S	**Sg**	**07 45 37.0**	**-3.6**
	66nm,0.5s							
KURS	**Kuram**	**5.34**	**36**		*e*P	Pg	07 44 29.9	-5.3
	35nm,0.5s							
KURS					*e*S	**Sg**	**07 45 41.9**	**-2.4**
	113nm,0.3s							
UZB	**Uzynbulak**	**5.50**	**43**		*e*P	Pg	07 44 33.7	-4.8
	27nm,0.2s							
UZB					*e*S	**Sg**	**07 45 48.5**	**-1.2**
	56nm,0.2s							
KPKS	**Kokpek**	**5.56**	**39**		*e*P	**Pb**	**07 44 33.2**	**+3.0**
	42nm,0.1s							
KPKS					*e*S	**Sg**	**07 45 47.7**	**-3.8**
	149nm,0.1s							
CHCP	**Chirah Chowk**	**5.58**	**185**		P	Pb	07 44 21.9	-8.7
NIL	**Nilore**	**5.59**	**185**			Pn	07 44 21.3	+5.0
CEP	**Cherat**	**5.63**	**197**		P	Pb	07 44 22.6	-8.8
CEP					S	Sb	07 45 28.0	-11
ARXS	**Arharly**	**5.79**	**29**		*e*P	**Pb**	**07 44 37.2**	**+3.2**
	70nm,3.5s							
ARXS					*e*S	**Sg**	**07 45 54.4**	**-4.3**
	99nm,0.3s							
BTLS	**Baital**	**5.81**	**1**		*e*P	**Pb**	**07 44 35.0**	**+0.6**
	16nm,0.1s							
BTLS					*e*S	**Sb**	**07 45 50.9**	**+6.9**
	42nm,1.5s							
PDGK	**Podgornoye**	**5.88**	**44**	⇑	Pn	Pn	07 44 25.2	+4.9
	49nm,0.8s							
PDGK				⇓	Pg	**Pb**	**07 44 38.0**	**+2.3**
	49nm,0.8s							
PDGK				⇑	Lg	Lg	07 45 54.2	
	144nm,0.9s							
BLB	**Baldybastay**	**5.95**	**34**		*e*P	**Pb**	**07 44 40.6**	**+3.7**
	32nm,0.1s							
BLB					*e*S	**Sg**	**07 45 59.7**	**-4.3**
	103nm,0.1s							
KBL	**Kabul**	**6.08**	**221**			**Pn**	**07 44 24.9**	**+1.7**
THN	**Thein Dam**	**6.94**	**167**		*e*P	Pn	07 44 40.1	+5.4
THN					*e*S	**Sn**	**07 45 55.1**	**+1.4**
THN					*e*S	**Sn**	**07 45 58.4**	**+4.6**
SARP	**Sargodha**	**7.36**	**188**		P	Pn	07 44 45.1	+4.6
SMLA	**Simla**	**8.52**	**161**		*e*P	**Pn**	**07 44 57.1**	**+0.8**
SMLA					*e*S	**Sn**	**07 46 32.8**	**+0.3**
SMLA					IAML		07 46 41.1	
	comp=N,64nm,0.3s							
SMLA					IAML		07 46 53.6	
	comp=E,71nm,0.5s							
OTUK	**Ortayu**	**9.08**	**353**	⇑	Pn	**Pn**	**07 45 05.1**	**+1.0**
	comp=E,12nm,0.5s							
OTUK				⇑	Lg	Lg	07 47 37.6	
	comp=E,34nm,0.7s							
MAKZ	**Makanchi**	**9.61**	**35**		Pn	Pn	07 45 16.4	+5.0
MK31	**Makanchi Array**	**9.74**	**36**		Pn	Pn	07 45 17.4	+4.3
MKAR	**Makanchi Array**	**9.74**	**36**		LR	LR	07 49 34.6	
	comp=E,59nm,20.4s,baz=162,slow=41							
MKAR	**Makanchi Array**	**9.74**	**36**			Pn	07 45 17.1	+4.0
HRA	**Herat**	**10.51**	**246**			**Pn**	**07 45 25.4**	**+1.6**
PTH	**Pithoragarh**	**10.98**	**150**		*e*S	Sn	07 47 22.8	-10
LGTI	**Lohaghat**	**11.08**	**150**		*e*P	**Pn**	**07 45 32.1**	**+0.6**
KUDL	**Kundal**	**11.27**	**168**		*e*P	**Pn**	**07 45 33.2**	**-0.9**
KUDL					*e*S	**Sn**	**07 47 38.6**	**-1.4**
SONA	**Sohna**	**11.27**	**165**		*e*P	**Pn**	**07 45 35.0**	**+0.9**
SONA					*e*S	**Sn**	**07 47 35.7**	**-4.3**
WMQ	**Urumqi**	**11.32**	**62**		*e*P	Pn	07 45 40.8	+6.0
WMQ					pmax	pmax		
	comp=E,13nm,0.7s							
GEYT	**Alibeck**	**12.41**	**269**		Pn	**Pn**	**07 45 49.0**	**-0.8**
	comp=E,1.2nm,0.3s,baz=108,slow=8.2,SNR=8.0							
GEYT					Sn	**Sn**	**07 48 07.8**	**-0.3**
	comp=E,0.3nm,0.3s,baz=101,slow=15,SNR=2.4							
GEYT					LR	LR	07 51 27.3	
	comp=E,109nm,18.2s,baz=95,slow=41							
	comp=E,1.8nm,0.3s							
GYA0B	**ALIBECK ARRAY**	**12.41**	**269**		Pn	**Pn**	**07 45 49.6**	**-0.2**
PYUN	**Piuthan**	**13.43**	**143**		*e*P	**Pn**	**07 46 01.5**	**-2.4**
DANN	**Dangsing**	**13.60**	**140**		*e*P	**Pn**	**07 46 04.2**	**-2.0**
BVA0	**Borovoye Array**	**14.01**	**351**	⇓	P	**Pn**	**07 46 12.7**	**+1.4**
	comp=E,14nm,0.8s							
BVAR	**Borovoye Array**	**14.01**	**351**		Pn	**Pn**	**07 46 11.3**	**-0.1**
	comp=E,0.1nm,0.3s,baz=159,slow=13,SNR=9.8							
BVAR					LR	LR	07 52 03.6	
	comp=E,55nm,18.6s,baz=167,slow=39 comp=E,2.0nm,0.4s							
BRVK	**Borovoye**	**14.05**	**351**			**Pn**	**07 46 13.0**	**+1.0**
BRVK	**Borovoye**	**14.05**	**351**	⇓	P	**Pn**	**07 46 13.6**	**+1.6**
	comp=E,19nm,0.7s							
AB31	**Akbulak array**	**14.13**	**320**	⇑	P	**P**	**07 46 16.1**	**-4.7**
	comp=E,3.1nm,0.6s							
AB31				⇓	S	**Sn**	**07 48 53.0**	**+3.1**
	comp=E,4.3nm,0.7s							
ABKAR	**Akbulak array**	**14.13**	**320**			**Pn**	**07 46 12.4**	**-0.7**
JHNI	**Jhansi**	**14.27**	**163**		*e*P	**Pn**	**07 46 13.2**	**-1.9**
PKI	**Pulchoki**	**15.08**	**137**		*e*P	**Pn**	**07 46 24.5**	**-1.9**
JIRN	**Jiri**	**15.43**	**135**		*e*P	**Pn**	**07 46 29.1**	**-2.0**
AKTO	**Aktyubinsk**	**15.84**	**320**	⇑	P	**P**	**07 46 39.2**	**-0.6**
	comp=E,4.9nm,0.8s							
RAMN	**Ramite**	**16.21**	**135**		*e*P	**Pn**	**07 46 38.6**	**-2.5**
ZAA0	**Zalesovo Array**	**16.50**	**23**		Pn	**P**	**07 46 46.8**	**-0.2**
ZALV	**Zalesovo Beam**	**16.50**	**23**		Pn	**P**	**07 46 44.9**	**-2.1**
	comp=E,0.7nm,0.3s,baz=213,slow=12,SNR=5.4							
ZALV					LR	LR	07 53 52.3	
	comp=E,26nm,19.0s,baz=68,slow=40 comp=E,2.1nm,0.4s							
ZALV	**Zalesovo Beam**	**16.50**	**23**			**P**	**07 46 47.6**	**+0.6**
TAPN	**Taplejung**	**16.53**	**132**		*e*P	**Pn**	**07 46 43.4**	**-1.8**
LSA	**Lhasa**	**17.09**	**119**		P	P	07 47 07.3	+13
LSA					pmax	pmax		
	comp=E,11nm,1.3s							
ARU	**Arti**	**19.97**	**335**		P	Pn	07 47 25.1	-1.8
	comp=Z,8.3nm,0.9s,baz=90,slow=14,SNR=11							
	comp=Z,8.3nm,0.9s							
ARU	**Arti**	**19.97**	**335**		P	Pn	07 47 27.7	+0.8
ARU					lAmb	lAmb	07 47 31.9	
	comp=Z,11nm,0.9s							
GTA	**Gaotai**	**20.04**	**81**		*e*P	Pn	07 47 29.3	+1.3
GTA					pP	sP	07 47 32.0	-0.1
GTA					sP	pP	07 47 35.5	+5.2
GTA					pmax	pmax		
	comp=Z,3.0nm,0.9s							
GTA					pmax	pmax		
	comp=Z,91nm,5.6s							
GTA					LR	LR		
	comp=Z,92nm,14.9s							
GTA					LR	LR		
	comp=Z,79nm,15.6s							
WSAR	**Wadi Sarin**	**20.55**	**224**		P	Pn	07 47 32.1	-1.9
	comp=Z,7.9nm,1.1s,baz=72,slow=6.3,SNR=2.5 comp=Z,7.9nm,1.1s							
KOHI	**KOHIMA**	**21.67**	**122**		*e*P	**P**	**07 47 45.0**	**+1.0**
BRDH	**Bariadhala**	**22.39**	**132**		LR	LR	07 58 29.9	
	comp=Z,70nm,19.1s,baz=283,slow=42							
BELG	**Belogornoye**	**22.39**	**315**		P	**P**	**07 47 52.4**	**+1.1**
	comp=Z,5.6nm,0.6s,baz=75,slow=2.0,SNR=2.6 comp=Z,5.6nm,0.6s							
GNI	**Garni**	**22.41**	**282**		P	**P**	**07 47 52.8**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=120,slow=14,SNR=1.3 comp=Z,2.8nm,0.3s							
ONI	**Oni**	**23.18**	**288**		P	**P**	**07 48 01.7**	**+1.9**
ONI					lAmb	lAmb	07 48 05.0	
	comp=Z,9.0nm,0.9s							
KBZ	**Khabaz**	**23.57**	**291**		P	**P**	**07 48 05.6**	**+2.0**
	comp=Z,1.8nm,0.7s,baz=63,slow=22,SNR=2.4							
KBZ					LR	LR	07 59 15.6	
	comp=Z,60nm,18.8s,baz=133,slow=42 comp=Z,1.8nm,0.7s							
SONM	**Songino Array**	**24.94**	**59**		P	**P**	**07 48 18.0**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=262,slow=10.0,SNR=2.0							
SONM					LR	LR	07 59 26.8	
	comp=Z,57nm,18.9s,baz=345,slow=40 comp=Z,0.2nm,0.5s							
PZH	**PanZhiHua**	**26.50**	**110**		P	**P**	**07 48 34.5**	**+3.7**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
PZH					pmax	pmax		
	comp=Z,110nm,4.4s							
RAYN	**Ar Rayn**	**28.70**	**245**		P	**P**	**07 48 52.7**	**+2.3**
RAYN					lAmb	lAmb	07 48 56.0	
	comp=Z,2.3nm,0.8s							
HHC	**Hu-ho-hao-te**	**28.75**	**75**		*e*P	P	07 48 55.5	+4.7
HHC					pmax	pmax		
	comp=Z,24nm,0.7s							
HHC					pmax	pmax		
	comp=Z,220nm,5.1s							
BR131	**Keskin Array S**	**30.89**	**284**		P	**P**	**07 49 11.4**	**+1.6**
BR131					lAmb	lAmb	07 49 14.7	
	comp=Z,3.2nm,0.8s							
BRTR	**Keskin Array B**	**30.89**	**284**		P	**P**	**07 49 11.4**	**+1.6**
	comp=Z,1.3nm,0.9s,baz=106,slow=9.3,SNR=4.4 comp=Z,1.3nm,0.9s							
BRTR	**Keskin Array B**	**30.89**	**284**		P	**P**	**07 49 11.1**	**+1.3**
AKASG	**Malin Array Be**	**33.13**	**305**		P	**P**	**07 49 30.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=81,slow=7.4,SNR=2.5							
AKASG					LR	LR	08 02 58.1	
	comp=Z,53nm,18.2s,baz=30,slow=36 comp=Z,0.1nm,0.3s							
EIL	**Elat**	**33.28**	**265**		LR	LR	08 05 24.9	
	comp=Z,48nm,19.7s,baz=60,slow=41							
MLR	**Muntele Rosu**	**35.54**	**296**		P	**P**	**07 49 51.8**	**+1.5**
MLR					lAmb	lAmb	07 50 01.0	
	comp=Z,4.1nm,0.9s							
BURAR	**Bucovina Array**	**35.82**	**300**		P	**P**	**07 49 54.2**	**+1.6**
FINES	**FINESS Array B**	**36.58**	**323**		P	**P**	**07 49 59.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=115,slow=8.2,SNR=9.4 comp=Z,0.6nm,0.3s							
FINES	**FINESS Array B**	**36.58**	**323**		P	**P**	**07 49 59.2**	**+0.4**
IDI	**Anoyia**	**38.82**	**280**		LR	LR	08 10 11.4	
	comp=Z,17nm,20.5s,baz=326,slow=42							
ARCES	**ARCESS Array B**	**39.55**	**336**		P	**P**	**07 50 24.4**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=108,slow=8.9,SNR=8.5 comp=Z,2.9nm,0.7s							
ARCES	**ARCESS Array B**	**39.55**	**336**		P	**P**	**07 50 24.9**	**+1.1**
ARCES					lAmb	lAmb	07 50 57.7	
	comp=Z,8.8nm,1.2s							
VRAC	**Vranov**	**41.33**	**303**		LR	LR	08 11 47.0	
	comp=Z,54nm,18.3s,baz=86,slow=42							
TIXI	**Tiksi**	**42.38**	**23**		P	**P**	**07 50 48.8**	**+1.8**
HFS	**Hagfors**	**42.39**	**320**		LR	LR	08 08 51.3	
	comp=Z,37nm,18.3s,baz=110,slow=37							
GERES	**GERESS Array B**	**43.28**	**303**		P	**P**	**07 50 54.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=101,slow=5.1,SNR=3.7 comp=Z,0.3nm,0.6s							
CLL	**Collm**	**43.32**	**307**		*e*P	**P**	**07 50 56.0**	**+1.1**
CLL					LmV		08 11 00.0	
	comp=Z,100nm,20.6s							
NC303	**NORSAR Array S**	**43.56**	**321**		P	**P**	**07 50 58.3**	**+1.6**
NB2	**NORSAR Subarra**	**43.63**	**321**		P	**P**	**07 50 57.0**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**43.63**	**321**		P	**P**	**07 50 57.0**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=93,slow=8.5,SNR=1.6							
NOA					LR	LR	08 09 44.3	
	comp=Z,45nm,21.6s,baz=310,slow=37 comp=Z,1.0nm,0.7s							
MA2	**Magadan**	**50.81**	**40**		LR	LR	08 14 10.4	
	comp=Z,117nm,20.9s,baz=154,slow=37							
LSZ	**Lusaka**	**68.99**	**228**		LR	LR	08 24 47.1	
	comp=Z,240nm,19.7s,ba

LBMI Labuha 7.34 173 P **Pn** 07 57 42.3 +1.6
0.3nm52nm,0.9s
MRSI Marisa 7.72 217 P **Pn** 07 57 45.2 -0.7
0.5nm824nm39nm,0.6s
TOLI2 Tolitoli 8.02 226 Pn **Pn** 07 57 46.5 -3.5
MYLDM Lahad Datu 8.18 260 Pn **Pn** 07 57 54.6 +2.4
LUWI Luwuk 8.58 207 Pn **Pn** 07 57 59.8 +2.2
SANI Sanana 8.71 184 P **Pn** 07 57 54.8 -4.6
1um26nm,0.6s
SIJI Sorong 8.85 148 P **Pn** 07 58 00.6 -0.8
9.7nm,0.3s,baz=323,slow=20,SNR=3.2
APSI Ampana 9.02 213 P **Pn** 07 58 03.7 0.0
978nm78nm,1.0s
KAPI Kappang 13.48 211 P **Pn** 07 59 05.2 +1.0
8.8nm,0.6s,baz=25,slow=11,SNR=5.3
KAPI Kappang 13.48 211 Pn **Pn** 07 59 03.0 -1.2
SBUM Sibu 14.93 254 **Pn** 07 59 25.0 +2.0
BATI Baumata 17.04 190 P **Pn** 07 59 50.1 +0.6
37nm,0.5s,baz=277,slow=13,SNR=2.4
KSM Kuching 17.04 253 P **Pn** 07 59 50.8 +1.2
PLAI Plampang 17.75 210 P **Pn** 08 00 04.8 +6.7
PLAI Plampang 17.75 210 P **P** 07 59 57.6 -0.3
JAGI Jajag, Banyuwa 19.51 220 P **P** 08 00 18.4 +1.2
JAGI IAmb IAmb 08 00 22.0
comp=Z,13nm,0.8s
MTN Manton Dam 19.93 167 P **P** 08 00 21.7 0.0
MTN IAmb IAmb 08 00 27.6
comp=Z,12nm,0.6s
KDU Kakadu 20.12 163 P **P** 08 00 24.2 +0.4
KNRA Kununurra 22.33 174 P **P** 08 00 47.3 -0.2
KNRA IAmb IAmb 08 00 54.8
comp=Z,18nm,0.7s
WB0 Warramunga Arr 27.39 164 P **P** 08 01 33.8 -0.5
WB0 IAmb IAmb 08 01 54.3
comp=Z,10nm,1.2s
WRAB Tennant Creek 27.54 164 P **P** 08 01 35.3 -0.3
WRA Warramunga Arr 27.55 164 P **P** 08 01 34.1 -1.6
comp=Z,1.3nm,0.6s,baz=344,slow=11,SNR=21
WRA PcP **PcP** 08 04 51.8 -0.2
comp=Z,0.4nm,0.5s,baz=338,slow=2.6,SNR=3.6
WRA ScP **ScP** 08 08 26.0 +0.3
comp=Z,0.2nm,0.5s,baz=348,slow=3.1,SNR=6.0
comp=Z,1.3nm,0.6s
WRA Warramunga Arr 27.55 164 P **P** 08 01 35.4 -0.3
WR0 Warramunga Arr 27.62 164 P **P** 08 01 36.8 +0.5
KRVT Keravat (AS076 27.64 113 LR LR 08 10 53.3
comp=Z,52nm,21.5s,baz=97,slow=33
MBWA Marble Bar 28.49 194 P **P** 08 01 43.4 -0.6
PSA00 Pilbara Seismi 28.86 193 P **P** 08 01 46.5 -0.8
PSA00 IAmb IAmb 08 01 48.3
comp=Z,19nm,1.1s
AS31 Alice Springs 31.01 167 P **P** 08 02 06.5 +0.2
AS31 IAmb IAmb 08 02 08.3
comp=Z,1.9nm,0.3s
ASAR Alice Springs 31.01 167 P **P** 08 02 05.9 -0.5
comp=Z,2.1nm,0.4s,baz=340,slow=7.2,SNR=57
ASAR PcP **PcP** 08 05 00.7 -0.1
comp=Z,0.9nm,0.6s,baz=350,slow=2.3,SNR=10.0
ASAR ScP **ScP** 08 08 37.1 +0.4
comp=Z,0.2nm,0.4s,baz=346,slow=3.3,SNR=2.3
comp=Z,2.1nm,0.4s
ASAR Alice Springs 31.01 167 P **P** 08 02 06.4 0.0
AS01 Alice Springs 31.02 167 P **P** 08 02 07.0 +0.6
WRKA Warakurna 31.58 177 P **P** 08 02 12.0 +0.6
JMM Marumori 33.61 21 P **P** 08 02 27.3 -1.6
OOD Oodnadatta 35.40 166 P **P** 08 02 44.5 +0.1
MORW Morawa 36.98 195 P **P** 08 02 57.4 -0.6
MORW IAmb IAmb 08 02 58.7
comp=Z,7.7nm,0.9s
MORW Morawa 36.98 195 P **P** 08 02 57.6 -0.3
FORT Forrest 37.29 178 P **P** 08 03 00.9 +0.4
FORT Forrest 37.29 178 P **P** 08 03 01.2 +0.7
MULG Mulgathing 37.46 169 P **P** 08 03 02.6 +0.6
KMBL Kambalda 38.11 187 P **P** 08 03 07.4 -0.1
BLDU Ballidu 38.28 194 P **P** 08 03 08.7 -0.2
LCRK Leigh Creek 38.58 164 P **P** 08 03 12.0 +0.6
KLBR Kellerberrin 38.99 192 P **P** 08 03 15.2 +0.3
MUN Mundaring 39.71 194 P **P** 08 03 21.5 +0.7
BBOO Buckleboo 40.30 168 P **P** 08 03 26.2 +0.4
BBOO Buckleboo 40.30 168 P **P** 08 03 26.1 +0.4
NWAO Narrogin (SRO) 40.39 192 P **P** 08 03 26.7 +0.2
NWAO Narrogin (SRO) 40.39 192 P **P** 08 03 27.3 +0.8
H11S3 WAKE ISLAND Hy 40.75 69 T T 08 47 40.4
baz=249,slow=73,SNR=12
H11S1 WAKE ISLAND Hy 40.77 69 T T 08 47 41.3
baz=249,slow=73,SNR=4.8
H11S2 WAKE ISLAND Hy 40.77 69 T T 08 47 43.2
baz=249,slow=73,SNR=6.0
STKA Stephens Creek 40.94 160 P **P** 08 03 30.7 -0.3
comp=Z,3.1nm,0.4s,baz=348,slow=7.6,SNR=15
comp=Z,3.1nm,0.4s
STKA Stephens Creek 40.94 160 P **P** 08 03 31.0 0.0
STKA Stephens Creek 40.94 160 P **P** 08 03 31.4 +0.4
SONM Songino Array 44.47 341 P **P** 08 03 59.9 +0.3
comp=Z,0.5nm,0.4s,baz=160,slow=8.9,SNR=3.2
comp=Z,0.5nm,0.4s
MK31 Makanchi Array 55.07 324 P **P** 08 05 19.6 -0.3
MKAR Makanchi Array 55.07 324 P **P** 08 05 19.4 -0.5
comp=Z,1.4nm,0.4s,baz=118,slow=7.4,SNR=34
MKAR PcP **PcP** 08 06 21.1 +0.6
comp=Z,1.3nm,0.6s,baz=115,slow=4.0,SNR=6.5
comp=Z,1.4nm,0.4s
ZALV Zalesovo Beam 57.91 332 P **P** 08 05 39.0 -0.8
comp=Z,0.6nm,0.3s,baz=140,slow=4.8,SNR=3.9
comp=Z,0.6nm,0.3s
GAR Garm 59.85 311 P **P** 08 05 53.5 -0.3
KK31 Karatay Array 61.00 316 P **P** 08 06 00.8 -0.6
KK31 IAmb IAmb 08 06 01.8
comp=Z,1.5nm,0.8s
KKAR Karatay Array 61.00 316 P **P** 08 06 00.9 -0.4
KKAR Karatay Array 61.00 316 P **P** 08 06 00.8 -0.6
KKAR IAmb IAmb 08 06 01.8
comp=Z,1.5nm,0.8s
BRVK Borovoye 64.86 326 P **P** 08 06 26.6 -0.1
BRVK IAmb IAmb 08 06 28.5
comp=Z,4.6nm,0.9s
GEYT Alibeck 68.95 308 P **P** 08 06 53.5 +0.4
comp=Z,2.2nm,0.7s,baz=59,slow=15,SNR=3.7
comp=Z,2.2nm,0.7s
ABKAR Akbulak array 69.79 320 P **P** 08 06 57.8 -0.2
ARU Arti 72.38 327 P **P** 08 07 13.6 +0.1
ARU IAmb IAmb 08 07 14.1
comp=Z,5.0nm,0.6s
CASY Casey 73.72 187 P **P** 08 07 21.8 +0.7
CASY IAmb IAmb 08 07 47.1
comp=Z,14nm,1.3s
SUA Susitna One 80.65 29 P **P** 08 08 00.1 -0.2
SUA IAmb IAmb 08 08 03.4
comp=Z,6.3nm,1.2s
ILAR Eielson Array 82.51 26 P **P** 08 08 07.6 -2.2
comp=Z,0.3nm,0.7s,baz=236,slow=4.8,SNR=2.6
comp=Z,0.3nm,0.7s
PPT Papeete 86.16 108 LR LR 08 44 33.6
comp=Z,21nm,18.9s,baz=58,slow=34
VNDA Vanda 86.36 173 P **P** 08 08 28.7 -0.3
comp=Z,0.3nm,0.4s,baz=329,slow=7.2,SNR=5.6
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 87.64 340 P **P** 08 08 34.7 -0.7
comp=Z,2.0nm,0.9s,baz=69,slow=4.0,SNR=4.3
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 88.03 310 P **P** 08 08 37.2 -0.9
comp=Z,0.5nm,0.5s,baz=86,slow=5.3,SNR=3.3
comp=Z,0.5nm,0.5s
FINES FINESS Array B 89.17 332 P **P** 08 08 42.2 -0.6
comp=Z,6.7nm,1.0s,baz=60,slow=3.3,SNR=8.6
comp=Z,6.7nm,1.0s
AKASG Malin Array Be 89.52 321 P **P** 08 08 43.5 -1.1
comp=Z,0.6nm,0.5s,baz=68,slow=5.0,SNR=4.6
comp=Z,0.6nm,0.5s

*IDC **26** 08:07:44.3±0.8, 14°.35N×93°.86W, h0km, mb4.2/13, mbtmp4.2/15, ML3.7/2, MS3.8/29, Error ellipse: s-maj=33.2km s-min=13.6km az=58.0*
*GCMT **26** 08:07:46.6±0.5, 14°.47N±0°.03×94°.32W±0°.03, h13km±1km, MW4.8/79, Moment Tensor Solution. s13,c16; s79,c104; Duration: 0 Moment tensor: Scale 10^16 Nm; Mn~1.74±.16; Mw0.87±.09; Mw0.87±.10; Mw0.22±.24; Mw~0.88±.06; Mw1.26±.31; Best double couple: Mo2.13200×10^16 NP1:φs296.00000°, δ37.00000°, λ-128.00000°. NP2: φs160.00000°, δ62.00000°, λ-65.00000°. Principal axes: T 1.9230, Plg13.0000°, Azm232.0000°; N 0.4220, Plg22.0000°, Azm328.0000°; P -2.3410, Plg64.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s.*

2016 NOV

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*MEX **26** 08:07:47.8±0.7, 14°.34N×94°.11W, h10km, MD4.7*
*NEIC **26** 08:07:47.6±1.9, 14°.44N±0°.07×93°.97W±0°.06, h10km±1km, mb4.5/59, Md4.7/10(MEX), Error ellipse: s-maj=11.5km s-min=9.0km az=199.0*
*GCG **26** 08:07:51.2±0.7, 14°.73N×93°.61W, h0km±222km, MD4.1*
ISC 26 08:07:45.8±0.5, 14°.33N±0°.04×94°.11W±0°.03, h10km, n238, σ2s09/248, mb4.5/35, MS3.8/32, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PCIG		**1.61**	**32**			**Pn**	**08 08 13.0**	**-1.4**
PCIG						**Sb**	**08 08 33.0**	**-3.1**
PCIG		**1.61**	**32**	*eP*		**Pn**	**08 08 13.0**	**-1.4**
PCIG				*eS*		**Sb**	**08 08 33.0**	**-3.1**
THIG		**1.87**	**72**	*eP*		**Pn**	**08 08 16.4**	**-1.6**
THIG				*eS*		**Sn**	**08 08 38.3**	**-3.4**
PATR	**El Naranjo**	**1.98**	**66**	*eP*		**Pn**	**08 08 17.6**	**-2.0**
PATR				*eS*		**Sn**	**08 08 41.4**	**-3.1**
PAVE	**Pavencul**	**2.06**	**65**	*eP*		**Pn**	**08 08 18.9**	**-1.8**
PAVE				*eS*		**Sn**	**08 08 43.0**	**-3.5**
PAVE				*eS*		**Sb**	**08 08 44.9**	**-4.3**
CHUJ	**Union Juarez**	**2.08**	**68**	*eP*		**Pn**	**08 08 19.0**	**-2.0**
CHUJ				*eS*		**Sn**	**08 08 42.0**	**-5.1**
NILT	**Santiago Nilte**	**2.28**	**348**	*eP*		**Pn**	**08 08 22.4**	**-1.1**
NILT				*eS*		**Sn**	**08 08 48.1**	**-3.5**
RTAL	**Retalhuleu**	**2.35**	**85**			**Pn**	**08 08 22.8**	**-1.7**
HUIG	**Huatulco**	**2.40**	**307**			**Pn**	**08 08 23.3**	**-1.9**
HUIG	**Huatulco**	**2.40**	**307**	*eP*		**Pn**	**08 08 23.3**	**-1.9**
HUIG				*eS*		**Sn**	**08 08 48.8**	**-5.9**
SULM	**Suchitepequez,**	**2.47**	**90**	*eP*		**Pn**	**08 08 26.5**	**+0.4**
STG3	**Santiaguito 3,**	**2.49**	**81**	*eP*		**Pn**	**08 08 25.8**	**-0.8**
STG3				*eS*		**Sn**	**08 08 53.8**	**-3.3**
TGIG		**2.61**	**21**	*eP*		**Pn**	**08 08 28.7**	**+0.5**
TGIG				*eS*		**Sn**	**08 08 59.5**	**-0.6**
HUEH	**Huehuetenango**	**2.71**	**68**			**Pn**	**08 08 30.0**	**+0.4**
CCIG	**Comitan**	**2.72**	**44**			**Pn**	**08 08 30.2**	**+0.4**
CCIG	**Comitan**	**2.72**	**44**	*eP*		**Pn**	**08 08 30.6**	**+0.8**
CCIG				*eS*		**Sn**	**08 09 01.9**	**-0.9**
CMIG	**Matias Romero**	**2.84**	**345**	Pn		**Pn**	**08 08 30.7**	**-0.6**
	16nm,0.3s,baz=179,slow=12,SNR=209							
CMIG				Sn		**Sn**	**08 09 02.4**	**-3.3**
	149nm,0.3s,baz=48,slow=10.0,SNR=34							
	104nm,0.6s							
CMIG	**Matias Romero**	**2.84**	**345**			**Pn**	**08 08 30.8**	**-0.6**
CMIG						**Sn**	**08 09 03.0**	**-2.7**
CMIG	**Matias Romero**	**2.84**	**345**	*eP*		**Pn**	**08 08 30.7**	**-0.6**
CMIG				*eS*		**Sn**	**08 09 03.0**	**-2.7**
FUG	**Fuego 3**	**3.17**	**87**	*eP*		**Pn**	**08 08 36.4**	**+0.4**
FUG				*eS*		**Sn**	**08 09 11.4**	**-2.4**
PEIG	**Puerto Escondi**	**3.37**	**300**	*eP*		**Pn**	**08 08 37.1**	**-1.5**
PEIG				*eS*		**Sn**	**08 09 16.8**	**-1.9**
PCG	**Pacaya**	**3.39**	**89**	*eP*		**Pn**	**08 08 39.6**	**+0.5**
PCG				*eS*		**Sn**	**08 09 17.8**	**-1.8**
NBG	**Las Nubes**	**3.65**	**86**	*eP*		**Pn**	**08 08 43.9**	**+1.2**
OXLC	**Oaxaca**	**3.69**	**318**	*eP*		**Pn**	**08 08 42.4**	**-0.8**
OXLC				*eS*		**Sn**	**08 09 21.9**	**-5.0**
TUIG	**Tuzandepetl**	**3.70**	**355**	*e*		**Pn**	**08 08 43.6**	**+0.6**
TUIG				*e*			08 09 26.6	
OXBJ	**Oaxaca**	**3.71**	**318**	*eP*		**Pn**	**08 08 40.6**	**-2.8**
OXBJ				*eS*		**Sn**	**08 09 21.8**	**-5.5**
VHO	**Vista Hermosa**	**3.72**	**318**	*eP*		**Pn**	**08 08 44.6**	**+1.1**
VHO				*eS*		**Sn**	**08 09 24.2**	**-3.4**
NEUV	**Arroyo Zacate**	**3.74**	**334**	*eP*		**Pn**	**08 08 43.5**	**-0.1**
NEUV				*eS*		**Sn**	**08 09 24.2**	**-3.5**
YOIG	**Yosondua**	**4.16**	**308**	*eP*		**Pn**	**08 08 51.1**	**+1.5**
YOIG				*eS*		Sn	08 09 31.9	-6.6
PMUV	**Sontecomapan**	**4.30**	**347**	*eP*		**Pn**	**08 08 50.7**	**-0.8**
PMUV				*eS*		**Sn**	**08 09 38.6**	**-3.1**
MRL	**Marmol**	**4.35**	**80**	*eP*		**Pn**	**08 08 52.2**	**0.0**
PNIG	**Pinotepa**	**4.39**	**298**	*eP*		**Pn**	**08 08 52.1**	**-0.4**
PNIG				*eS*		**Sn**	**08 09 40.1**	**-3.6**
TXIG	**Tlaxiaco**	**4.57**	**310**	*eP*		**Pn**	**08 08 56.7**	**+1.4**
TXIG				*eS*		**Sn**	**08 09 42.0**	**-6.6**
ESQI	**Esquipulas**	**4.62**	**87**			**Pn**	**08 08 55.3**	**-0.6**
TOIG	**Toxpalan**	**4.70**	**323**	*eP*		**Pn**	**08 08 59.9**	**+3.0**
TOIG				*eS*		**Sn**	**08 09 48.7**	**-2.9**
PETF	**Flores**	**4.83**	**57**			**Pn**	**08 08 58.2**	**-0.4**
HLIG	**Huajuapan de L**	**4.97**	**315**	*eP*		**Pn**	**08 09 01.9**	**+1.1**
HLIG				*eS*		**Sn**	**08 10 01.7**	**+3.2**
TPIG	**Tehuac#an**	**5.13**	**323**	*e*		**Pn**	**08 09 02.2**	**-0.7**
TPIG				*e*			08 09 57.8	
FTIG	**Fresnillo de T**	**5.25**	**313**	*eP*		**Pn**	**08 09 06.8**	**+2.2**
FTIG				*eS*		**Sn**	**08 10 01.1**	**-4.2**
TLIG	**Tlapa**	**5.36**	**307**	Pn		**Pn**	**08 09 08.0**	**+1.9**
TLIG	**Tlapa**	**5.36**	**307**	*eP*		**Pn**	**08 09 08.0**	**+1.9**
TLIG				*eS*		**Sn**	**08 10 04.0**	**-3.9**
SCIG	**Sabancuy**	**5.39**	**31**	*eP*		**Pn**	**08 09 05.8**	**-0.6**
SCIG				*eS*		**Sn**	**08 10 09.2**	**+0.6**
CRIG	**Cruz Grande**	**5.40**	**297**	*eP*		**Pn**	**08 09 07.0**	**+0.6**
CRIG				*eS*		Sn	08 09 59.2	-10
JAUV	**Jalcomulco**	**5.63**	**333**	*eP*		**Pn**	**08 09 10.0**	**+0.2**
JAUV				*eS*		**Sn**	**08 10 08.8**	**-5.8**
DAIG	**Los Arroyos**	**5.97**	**297**	*eP*		**Pn**	**08 09 14.3**	**0.0**
DAIG				*eS*		**Sn**	**08 10 21.4**	**-1.5**
MEIG	**Mezcala**	**6.39**	**305**	*eP*		**Pn**	**08 09 24.3**	**+2.1**
MEIG				*eS*		**Sn**	**08 10 27.4**	**-5.9**
PPM	**Popocatepetl**	**6.40**	**318**	*eP*		**Pn**	**08 09 24.2**	**+3.5**
PPM				*eS*		**Sn**	**08 10 29.0**	**-5.0**
CAIG	**El Cayaco**	**6.52**	**295**	*eP*		**Pn**	**08 09 22.3**	**+0.5**
CAIG				*eS*		Sn	08 10 26.3	-10
YAIG	**Yautepec**	**6.55**	**314**	*eP*		**Pn**	**08 09 25.3**	**+2.9**
YAIG				*eS*		**Sn**	**08 10 30.4**	**-6.9**
PLIG	**Platanillo**	**6.57**	**309**	*eP*		**Pn**	**08 09 24.6**	**+2.0**
PLIG				*eS*		**Sn**	**08 10 33.9**	**-3.7**
ARIG	**Puente Sto Nin**	**7.16**	**304**	*eP*		**Pn**	**08 09 33.0**	**+2.2**
ARIG				*eS*		**Sn**	**08 10 52.1**	**-0.1**
TEIG	**Tepich**	**8.09**	**43**			**Pn**	**08 09 40.9**	**-2.5**
MOIG	**Morelia**	**8.61**	**309**	Pn		**Pn**	**08 09 54.9**	**+4.1**
RIMA	**Rio Macho**	**11.00**	**113**			**Pn**	**08 10 24.6**	**+1.1**
ZAIG	**Zacatecas**	**11.61**	**318**	Pn		**Pn**	**08 10 35.0**	**+3.1**
833A	**Chaparral WMA,**	**14.77**	**341**			**Pn**	**08 11 15.8**	**+0.9**
833A	**Chaparral WMA,**	**14.77**	**341**	P		**Pn**	**08 11 17.6**	**+2.8**
	baz=159							
HPIG		**16.55**	**321**	P		**P**	**08 11 41.1**	**+0.2**
435B	**Jarrell**	**16.68**	**350**			**Pn**	**08 11 39.6**	**-0.2**
435B					IAmb	IAmb	08 11 55.5	
	comp=Z,22nm,0.9s							
JCT	**Junction City**	**16.91**	**343**			**Pn**	**08 11 44.0**	**+1.3**
JCT					IAmb	IAmb	08 12 07.8	
	comp=Z,25nm,1.1s							
JCT	**Junction City**	**16.91**	**343**	P		**P**	**08 11 44.9**	**+0.2**
	baz=160,SNR=9.0							
344A	**Westbrook Farm**	**17.32**	**10**	P		**Pn**	**08 11 47.6**	**-0.2**
TX31	**Lajitas Ar. Si**	**17.35**	**331**	P		**Pn**	**08 11 49.4**	**+1.0**
TX32	**Lajitas Array**	**17.35**	**331**	P		**Pn**	**08 11 48.8**	**+0.5**
TXAR	**Lajitas Array**	**17.35**	**331**	P		**P**	**08 11 50.5**	**+0.8**
	baz=159,slow=13,SNR=13							
	comp=Z,2.7nm,1.0s							
TXAR	**Lajitas Array**	**17.35**	**331**	P		**Pn**	**08 11 49.0**	**+0.6**
LPIG	**La Paz**	**18.11**	**305**	LR		LR	08 18 59.9	
	comp=Z,162nm,18.4s,baz=162,slow=37							
ABTX	**Abilene, Hawle**	**18.90**	**345**	P		**Pn**	**08 12 07.8**	**+0.6**
ABTX					IAmb	IAmb	08 12 20.8	
	comp=Z,29nm,0.8s							
ABTX	**Abilene, Hawle**	**18.90**	**345**	P		**Pn**	**08 12 08.9**	**+1.7**
	baz=163,SNR=18							
Z35A	**Perchaven, San**	**19.13**	**352**	P		**P**	**08 12 09.8**	**+0.7**
Z35A					IAmb	IAmb	08 12 19.1	
	comp=Z,24nm,0.9s							
Z47A	**Carrollton**	**19.57**	**15**	P		**P**	**08 12 13.5**	**-0.4**
Z47A					IAmb	IAmb	08 12 28.0	
	comp=Z,22nm,0.8s							
LRAL	**Lakeview Retre**	**19.71**	**18**	P		**Pn**	**08 12 17.1**	**+0.1**
	baz=200							
LOOK	**Love County**	**19.77**	**352**	P		**P**	**08 12 16.7**	**+0.5**
LOOK					IAmb	IAmb	08 12 53.5	
	comp=Z,17nm,0.7s							
CLNB	**Carlsbad**	**19.96**	**335**	P		**P**	**08 12 19.9**	**+1.6**
HTMS	**Hat Mesa**	**20.04**	**336**	P		**P**	**08 12 21.1**	**+1.8**
MIAR	**Mount Ida**	**20.13**	**1**	P		**P**	**08 12 20.0**	**0.0**
MIAR					IAmb	IAmb	08 12 29.0	
	comp=Z,16nm,1.0s							
MIAR	**Mount Ida**	**20.13**	**1**	P		**P**	**08 12 20.2**	**+0.2**
	baz=181,SNR=7.6							
X37A	**Clayton**	**20.20**	**357**	P		**P**	**08 12 21.2**	**+0.4**
X37A					IAmb	IAmb	08 12 47.8	
	comp=Z,20nm,1.2s							
X34A	**Smith Ranch, M**	**20.46**	**351**			**P**	**08 12 24.8**	**+1.2**
X34A					IAmb	IAmb	08 12 53.5	
	comp=Z,22nm,0.9s							
OXF	**Oxford**	**20.54**	**11**	P		Pn	08 12 26.0	-0.7
	baz=193							
CPRX	**Cap Rock**	**20.63**	**336**	P		**P**	**08 12 27.3**	**+1.6**
WMOK	**Wichita Mounta**	**20.75**	**349**			**P**	**08 12 26.8**	**0.0**
WMOK	**Wichita Mounta**	**20.75**	**349**	P		**P**	**08 12 28.0**	**+1.2**
	baz=167							
PULU	**Pululahua**	**20.99**	**131**	P		**P**	**08 12 32.1**	**+2.1**
X48A	**Hartselle**	**21.03**	**16**	P		**P**	**08 12 28.9**	**-0.8**
IMBA	**Imbabura, San**	**21.04**	**130**	P		**P**	**08 12 31.0**	**+0.4**
FNO	**Franklin**	**21.05**	**352**			**P**	**08 12 30.1**	**+0.1**
MSTX	**Muleshoe**	**21.07**	**340**	P		**P**	**08 12 31.6**	**+1.2**
MSTX	**Muleshoe**	**21.07**	**340**	P		**P**	**08 12 33.8**	**+3.4**
	baz=156,SNR=8.3							
PLAL	**Pickwick Lake**	**21.27**	**14**	P		**P**	**08 12 32.5**	**+0.1**
SLOR	**San Lorenzo -**	**21.51**	**133**	P		**P**	**08 12 36.2**	**+0.5**
FPAL	**Fort Paine**	**21.54**	**19**	P		**P**	**08 12 35.2**	**-0.1**
FPAL					IAmb	IAmb	08 12 47.3	
	comp=Z,14nm,1.0s							
AMTX	**Amarillo**	**21.58**	**343**	P		**P**	**08 12 38.2**	**+2.4**
	baz=159							
OK029	**Liberty Lake**	**21.59**	**353**			**P**	**08 12 35.1**	**-0.7**
OK029					IAmb	IAmb	08 12 39.6	
	comp=Z,27nm,0.9s							
ROSC	**El Rosal**	**21.65**	**114**	P		**P**	**08 12 38.7**	**+1.6**
	comp=Z,12nm,1.0s,baz=318,slow=16,SNR=5.8							
ROSC	**El Rosal**	**21.65**	**114**	P		**P**	**08 12 37.0**	**-0.1**
ROSC					IAmb	IAmb	08 12 57.7	
	comp=Z,17nm,0.8s							
URIC	**Uribia, Colomb**	**21.70**	**94**	P		**P**	**08 12 37.4**	**+0.2**
URIC					IAmb	IAmb	08 12 49.2	
	comp=Z,16nm,1.0s							
CHSH	**Refugio Sur-Vo**	**21.80**	**135**	P		**P**	**08 12 40.0**	**+1.2**
CHSH					IAmb	IAmb	08 12 44.6	
	comp=Z,16nm,0.9s							
LCAR	**Lake Charles**	**21.81**	**6**	P		**P**	**08 12 38.0**	**-0.2**
PORT	**Chimborazo Vol**	**21.84**	**135**	P		**P**	**08 12 40.0**	**+0.8**
PORT					IAmb	IAmb	08 12 46.1	
	comp=Z,32nm,1.0s							
HHAR	**Hobbs**	**21.86**	**0**	P		**P**	**08 12 39.9**	**+1.2**
HHAR					IAmb	IAmb	08 12 52.2	
	comp=Z,12nm,0.7s							
319A	**Douglas**	**21.94**	**323**	P		**P**	**08 12 41.4**	**+1.7**
319A					IAmb	IAmb	08 13 00.4	
	comp=Z,24nm,1.2s							
121A	**Cookes Peak, D**	**22.00**	**328**	P		**P**	**08 12 44.3**	**+3.8**
	baz=142,SNR=22							
LNXT	**Lenox**	**22.07**	**10**	P		**P**	**08 12 40.7**	**-0.3**
LNXT					IAmb	IAmb	08 12 55.5	
	comp=Z,19nm,0.9s							
COHC	**Cochancay**	**22.25**	**137**	P		**P**	**08 12 43.3**	**+0.2**
CLTN	**Cedars of Leba**	**22.77**	**16**	P		**P**	**08 12 46.9**	**-1.5**
CLTN					IAmb	IAmb	08 12 58.9	
	comp=Z,12nm,0.9s							
T45A	**Paducah**	**23.12**	**11**	P		**P**	**08 12 51.0**	**-1.1**
TKL	**Tuckaleechee C**	**23.18**	**22**	P		**P**	**08 12 51.9**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=182,slow=14,SNR=5.3							
TKL					LR	LR	08 23 15.2	
	comp=Z,188nm,21.0s,baz=203,slow=40							
	comp=Z,1.7nm,0.6s							
BOSC	**San Juan Bosco**	**23.26**	**137**	P		**P**	**08 12 54.7**	**+0.8**
BOSC					IAmb	IAmb	08 12 59.6	
	comp=Z,17nm,1.1s							
TUC	**Tucson**	**23.50**	**322**	P		**P**	**08 12 58.0**	**+2.0**
TUC					IAmb	IAmb	08 12 60.0	
	comp=Z,21nm,1.4s							
TUC	**Tucson**	**23.50**	**322**	P		**P**	**08 12 58.9**	**+2.9**
	baz=135							
SDV	**Santo Domingo**	**23.61**	**101**	P		**P**	**08 12 56.4**	**-1.1**
	comp=Z,4.5nm,0.7s,baz=45,slow=10.0,SNR=4.2							
	comp=Z,4.5nm,0.7s							
SDV	**Santo Domingo**	**23.61**	**101**	P		**P**	**08 12 58.4**	**+0.9**
S44A	**Carbondale**	**23.67**	**10**	P		**P**	**08 12 57.2**	**-0.3**
S44A					IAmb	IAmb	08 13 37.4	
	comp=Z,12nm,0.9s							
CCM	**Cathedral Cave**	**23.77**	**6**	P		**P**	**08 12 57.9**	**-0.6**
	baz=186							
USIN	**University of**	**24.23**	**12**	P		**P**	**08 13 01.4**	**-1.5**
214A	**Organ Pipe Nat**	**24.50**	**319**	P		**P**	**08 13 06.8**	**+1.3**
	baz=131							
T25A	**Trinidad**	**24.50**	**340**	P		**P**	**08 13 08.4**	**+2.8**
	baz=155,SNR=8.9							
WCI	**Wyandotte Cave**	**24.79**	**15**	P		**P**	**08 13 07.2**	**-0.8**
	baz=198							
OLIL	**Olney**	**24.88**	**11**	P		**P**	**08 13 07.8**	**-1.0**
SDCO	**Great Sand Dun**	**25.42**	**339**	P		**P**	**08 13 16.8**	**+2.7**
	baz=153,SNR=11							
113A	**Mohawk Valley,**	**25.64**	**319**	P		**P**	**08 13 17.3**	**+1.6**
113A					IAmb	IAmb	08 13 31.4	
	comp=Z,6.5nm,1.0s							
S22A	**4UR Ranch, Cre**	**25.92**	**336**	P		**P**	**08 13 21.4**	**+2.8**
	baz=150							
MVCO	**Mesa Verde**	**26.15**	**333**	P		**P**	**08 13 21.8**	**+1.2**
MVCO					IAmb	IAmb	08 13 23.9	
	comp=Z,14nm,1.2s							
MVCO	**Mesa Verde**	**26.15**	**333**	P		**P**	**08 13 23.3**	**+2.7**
	baz=146,SNR=7.5							
WUAZ	**Wupatki**	**26.19**	**327**	P		**P**	**08 13 21.8**	**+0.9**
WUAZ					IAmb	IAmb	08 13 37.9	
	comp=Z,13nm,1.0s							
WUAZ	**Wupatki**	**26.19**	**327**	P		**P**	**08 13 23.5**	**+2.6**
	baz=139,SNR=7.9							
N38A	**Joes South For**	**26.38**	**1**	P		**P**	**08 13 21.9**	**-0.5**
ATAH	**Atahualpa**	**26.42**	**143**	P		**P**	**08 13 24.8**

BMN IAmb IAmb 08 14 35.2
comp=Z,5.8nm,1.0s
RLMT Red Lodge 33.27 340 P **P** **08 14 25.6 +1.9**
baz=152
MDND Maddock 33.73 353 P **P** **08 14 28.1 +0.7**
HLID Hailey 33.93 333 P **P** **08 14 31.6 +2.2**
baz=143
MCMT McKenzie Canyo 34.31 336 P **P** **08 14 34.5 +1.7**
DGMT Dagmar 35.05 348 P **P** **08 14 40.5 +1.6**
baz=162
ULM Lac du Bonnet 35.85 358 P **P** **08 14 43.6 -2.0**
comp=Z,2.1nm,0.5s,baz=161,slow=2.2,SNR=3.8
comp=Z,2.1nm,0.5s
MSO Missoula 36.40 337 P **P** **08 14 52.3 +1.7**
baz=146
YBH Yreka Blue Hor 36.87 323 LR LR 08 32 26.9
comp=Z,277nm,18.4s,baz=186,slow=40
NEW Newport 38.82 335 LR LR 08 33 11.6
comp=Z,140nm,18.3s,baz=158,slow=39
LPAZ La Paz 39.80 139 P **P** **08 15 19.4 -0.8**
comp=Z,3.8nm,1.1s,baz=303,slow=6.3,SNR=5.6
LPAZ LR LR 08 30 17.1
comp=Z,61nm,20.0s,baz=262,slow=34
comp=Z,3.8nm,1.1s
PB16 IPOC Station P 40.52 143 P **P** **08 15 27.1 +1.1**
MNMC Minye Minye 41.09 143 P **P** **08 15 31.0 +0.6**
MNMC IAmb IAmb 08 15 33.9
comp=Z,14nm,1.1s
MDP Montagnes des 41.82 98 LR LR 08 33 21.1
comp=Z,103nm,19.6s,baz=250,slow=37
RPN Rapa Nui 43.78 200 LR LR 08 29 16.5
comp=Z,91nm,21.3s,baz=38,slow=29
SIV San Ignacio 44.42 131 LR LR 08 33 47.9
comp=Z,47nm,20.5s,baz=242,slow=35
PTLB Pontes e Lacer 45.51 129 P **P** **08 16 05.1 -0.7**
PTLB IAmb IAmb 08 16 07.5
comp=Z,4.0nm,1.1s
SCHQ Schefferville 45.65 22 LR LR 08 37 21.7
comp=Z,167nm,18.1s,baz=222,slow=39
CO03 El Pedregal 50.24 154 P **P** **08 16 42.3 -0.1**
CO03 IAmb IAmb 08 16 53.1
comp=Z,9.3nm,0.9s
YKA Yellowknife Ar 50.26 348 P **P** **08 16 42.5 +0.5**
comp=Z,2.6nm,0.8s,baz=153,slow=7.1,SNR=6.4
comp=Z,2.6nm,0.8s
KOTAN Kotaneelee Air 50.70 341 P **P** **08 16 47.6 +2.1**
baz=141
TAOE Nuku Hiva Isla 51.15 246 *e*LR LR 08 31 34.7
comp=Z,39nm,27.5s
DLBC Dease Lake 51.53 337 LR LR 08 43 06.6
comp=Z,92nm,18.8s,baz=132,slow=41
CFA Coronel Fontan 51.98 152 LR LR 08 35 40.5
comp=Z,45nm,18.1s,baz=163,slow=32
FRB Frobisher Bay 52.47 14 LR LR 08 42 31.1
comp=Z,125nm,18.7s,baz=206,slow=40
TGTN Hyland Airport 53.12 340 P **P** **08 17 06.0 +2.5**
baz=137
CPUP Villa Florida 53.97 138 P **P** **08 17 08.1 -2.1**
comp=Z,4.6nm,1.2s,baz=341,slow=12,SNR=3.9
comp=Z,4.6nm,1.2s
BDFB Brasilia 54.43 121 P **P** **08 17 12.2 -1.6**
comp=Z,1.6nm,0.4s,baz=79,slow=6.7,SNR=3.3
comp=Z,1.6nm,0.4s
L29M L29M 57.59 338 P **P** **08 17 37.2 +1.5**
baz=127
PLCA Paso Flores 58.98 159 P **P** **08 17 44.8 -1.0**
comp=Z,6.1nm,1.2s,baz=321,slow=6.0,SNR=4.5
PLCA LR LR 08 37 16.6
comp=Z,39nm,19.3s,baz=337,slow=30
comp=Z,6.1nm,1.2s
F31M Tsiigehtchic 59.01 343 P **P** **08 17 46.5 +1.0**
baz=134
INK Inuvik 59.55 344 P **P** **08 17 49.0 -0.2**
comp=Z,2.5nm,0.7s
INK LR LR 08 45 57.1
comp=Z,71nm,18.4s,baz=258,slow=38
comp=Z,2.5nm,0.7s
INK Inuvik 59.55 344 P **P** **08 17 50.1 +0.9**
baz=134
K27K Chicken 59.56 338 P **P** **08 17 50.8 +1.4**
J26L Joseph Creek 60.37 338 P **P** **08 17 56.1 +1.1**
J26L Joseph Creek 60.37 338 P **P** **08 17 56.9 +1.8**
baz=122
A36M Sachs Harbour 60.54 349 P **P** **08 17 56.0 +0.1**
baz=145
H27K Steamboat Moun 60.62 340 P **P** **08 17 57.9 +1.2**
baz=125
I26K Coal Creek Min 60.65 339 P **P** **08 17 57.6 +0.7**
baz=123
G27K Doyon Strip 60.99 340 P **P** **08 17 60.0 +0.8**
baz=125
WAT6 Susitna Watana 61.05 335 P **P** **08 18 01.3 +1.5**
baz=117
ILAR Eielson Array 61.74 337 P **P** **08 18 03.8 -0.4**
comp=Z,4.2nm,1.1s,baz=134,slow=4.1,SNR=23
comp=Z,4.2nm,1.1s
ILAR Eielson Array 61.74 337 P **P** **08 18 04.2 -0.1**
G26K Porcupine Rive 61.77 340 P **P** **08 18 05.6 +1.3**
baz=123
E27K Coleen River 61.77 342 P **P** **08 18 05.4 +1.0**
baz=126
MCK McKinley 62.05 336 P **P** **08 17 08.8 +1.4**
baz=116
NEA2 Nenana 62.49 337 P **P** **08 18 10.4 +1.1**
baz=116
H24K Noodor Dome 62.62 338 P **P** **08 18 11.3 +1.2**
baz=118
F25K Christian Rive 62.72 340 P **P** **08 18 12.5 +1.6**
baz=121
I23K Minto, Yukon-K 62.85 337 P **P** **08 18 12.8 +1.2**
baz=116
G24K Hadweenzic Riv 62.89 339 P **P** **08 18 12.9 +1.0**
baz=119
CAST Castle Rocks 63.20 335 P **P** **08 18 14.7 +0.7**
baz=113
C27K Jago River 63.23 343 P **P** **08 18 15.7 +1.6**
baz=124
PPT2 Papeete2 63.24 242 *e*LR LR 08 37 09.7
comp=Z,55nm,22.0s
N19K Bonanza Creek 63.31 332 P **P** **08 18 15.9 +1.0**
baz=109
MLY Manley 63.32 337 P **P** **08 18 15.8 +0.9**
baz=115
Q16K King Salmon 63.70 329 P **P** **08 18 18.4 +1.1**
baz=106
C26K Camden Bay 63.74 343 P **P** **08 18 19.0 +1.5**
baz=123
D25K Kavik River 63.86 342 P **P** **08 18 19.5 +1.2**
baz=121
K20K Telida 64.01 334 P **P** **08 18 19.5 +0.2**
baz=111
E23K Chandalar 64.27 340 P **P** **08 18 23.4 +2.3**
baz=117
C24K Franklin Bluff 64.77 342 P **P** **08 18 25.9 +1.8**
baz=119
E22K Anaktuvuk Pass 65.04 340 P **P** **08 18 27.2 +1.1**
baz=115
F21K Alatna River 65.24 338 P **P** **08 18 29.1 +1.7**
baz=113
C23K Itkillik River 65.41 341 P **P** **08 18 29.7 +1.4**
baz=117
TBI Tubuai 65.82 236 *e*LR LR 08 38 21.7
comp=Z,1μm,25.5s
TBI *e*LR LR 08 38 21.8
comp=Z,537nm,29.5s
BORG Borgarnes 69.80 26 LR LR 08 50 45.0
comp=Z,93nm,18.0s,baz=296,slow=37
BBTS Babate 74.71 78 LR LR 08 49 55.1
comp=Z,194nm,19.6s,baz=209,slow=34
SPITS Spitsbergen Ar 80.17 11 LR LR 08 58 20.8
comp=Z,55nm,18.3s,baz=274,slow=38
ESDC Sonseca Array 81.11 51 P **P** **08 20 00.9 -0.8**
comp=Z,1.9nm,1.0s,baz=293,slow=4.4,SNR=6.6
comp=Z,1.9nm,1.0s
AFI Afiamalu 81.82 253 LR LR 08 49 00.7
comp=Z,33nm,21.9s,baz=115,slow=30
NOA NORSAR Array B 84.83 28 LR LR 08 58 26.9
comp=Z,51nm,18.3s,baz=280,slow=36
HFS Hagfors 86.30 29 LR LR 08 58 39.1
comp=Z,84nm,20.0s,baz=282,slow=36
MSVF Nonsavu 92.27 252 LR LR 08 52 21.7
comp=Z,44nm,21.3s,baz=20,slow=29
KEST Kesra 92.32 52 LR LR 08 59 38.8
comp=Z,147nm,18.2s,baz=308,slow=34
YAK Yakutsk 96.49 341 LR LR 09 11 50.9
comp=Z,31nm,19.1s,baz=260,slow=40
DZM Mont Dzumac 103.86 250 *e*LR LR 08 55 59.0
comp=Z,86nm,23.9s

WRA Warramunga Arr 133.49 256 PKP **PKPdf** **08 27 02.7 -0.7**
comp=Z,1.5nm,1.0s,baz=86,slow=1.5,SNR=11
ASAR Alice Springs 133.84 251 PKP **PKPdf** **08 27 04.0 +0.1**
comp=Z,0.4nm,0.8s,baz=124,slow=1.3,SNR=5.1
PZH PanZhiHua 136.58 339 PKP **PKPdf** **08 27 09.0 -0.2**
CMAR Chiang Mai Arr 144.97 338 PKPbc **PKPab** **08 27 23.4 0.0**
comp=Z,4.1nm,0.6s,baz=348,slow=4.0,SNR=28

TRN 26 08:07:49.6, 17.60N×61.68W, h26km, MD3.9, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.13**	**304**	*e*P	Pn	08 07 56.0	0.0
ANWB				*e*S	Sb	08 08 00.3	+2.2
ANBD	**Bethesda, Anti**	**0.55**	**189**	*i*P	Pn	08 08 02.1	+0.3
ANBD				*e*S	Sn	08 08 11.5	+1.3
ABD	**La Joyeuse, An**	**1.13**	**171**	*e*P	Pb	08 08 11.3	+0.8
ABD				*e*S	Sb	08 08 26.3	+1.5
SEUS	**St. Eustatius**	**1.25**	**265**	*e*P	Pb	08 08 13.2	+0.6
SEUS				*e*S	Sb	08 08 30.9	+2.6
SMRT	**St. Maarten**	**1.41**	**289**	*e*P	Pn	08 08 14.1	+0.5
SMRT				*e*S	Sb	08 08 32.6	-0.2
SABA	**Saba**	**1.50**	**271**	*e*P	Pb	08 08 16.6	-0.2
CBE	**Ff, Capester**	**1.52**	**178**	*e*P	Pb	08 08 16.8	-0.5
CBE				*e*S	Sb	08 08 37.1	+1.0
TBG	**Guadaloupe-3**	**1.73**	**179**	*e*P	Pb	08 08 19.7	-1.1
TDBA	**Terre de Bas,**	**1.74**	**179**	*e*P	Pb	08 08 20.7	-0.2
MDCT	**Cottage Hill,**	**1.98**	**174**	*e*P	Pn	08 08 22.6	+1.2
MDCT				*e*S	Sb	08 08 48.9	-0.4
PCM	**Pelee Case Pet**	**2.80**	**171**	*e*P	Pn	08 08 35.5	+2.7
BAMF	**Morne Balai**	**2.81**	**170**	*e*P	Pn	08 08 35.0	+2.0
CXM	**Morne La Croix**	**2.81**	**170**	*e*P	Pn	08 08 35.4	+2.3
GBMF	**Grand Be**	**2.83**	**170**	*e*P	Pn	08 08 35.9	+2.7
CDVI	**St. Croix**	**2.95**	**273**	*e*P	Pn	08 08 37.2	+2.4
MPOM	**Morne Pois Mar**	**3.23**	**166**	*e*P	Pn	08 08 40.7	+2.0
SLBI	**Saint Lucia, B**	**3.62**	**169**	*e*P	Pn	08 08 46.2	+2.2
SJG	**San Juan**	**4.29**	**278**	*e*P	Pn	08 08 55.9	+2.6
SVB	**Belmont**	**4.32**	**175**	*e*P	Pn	08 08 55.9	+2.2
AOPR	**Arecibo Observ**	**4.89**	**280**	*e*P	Pn	08 09 03.2	+1.6
AOPR	**Arecibo Observ**	**4.89**	**280**	*e*S	Sn	08 10 01.3	+4.0

*NEIC **26** 08:12:47.8±1.2, 19.26N±0.08×145.88E±0.09, h122km±9km, mb4.3/26, Error ellipse: s-maj=14.5km s-min=9.1km az=47.0*
*IDC **26** 08:12:49.5±2.6, 19.28N×145.87E, h149km±26km, mb3.5/11, mbtmp4.0/13, MS2.2/1, Error ellipse: s-maj=25.1km s-min=13.6km az=80.0*
ISC 26 08:12:49.3±0.6, 19.27N±0.06×145.8E±0.1, h150km, n49, σ1§18/44, mb4.1/21, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.73**	**189**	P	**Pn**	**08 14 12.7**	**+0.3**
	42nm,0.2s,baz=145,slow=12,SNR=15						
GUMO				LR	LR	08 15 14.3	
	comp=Z,26nm,21.0s,baz=142,slow=25						
GUMO				S	**Sn**	**08 15 18.3**	**+1.0**
	46nm,0.7s,baz=25,slow=19,SNR=1.1						
GUMO	**Guam**	**5.73**	**189**	Pn	**Pn**	**08 14 11.0**	**-1.4**
JCJ	**Chichijima**	**8.47**	**337**	Pn	**Pn**	**08 14 47.1**	**-1.9**
JMZ	**Minamidaito 2**	**14.97**	**298**	Pn	**Pn**	**08 16 13.4**	**0.0**
PATS	**Pohnpei**	**17.33**	**134**	P	**Pn**	**08 16 40.6**	**-1.7**
INU	**Inuyama**	**17.80**	**336**	P	**Pn**	**08 16 47.3**	**-0.4**
INU				IAmb	IAmb	08 17 03.6	
	comp=Z,23nm,1.3s						
JGF	**Kuroka**	**17.90**	**337**	P	**P**	**08 16 47.0**	**-0.5**
MJAR	**Matsushiro Arr**	**18.46**	**340**	P	**Pn**	**08 16 54.5**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=169,slow=10,SNR=7.3						
MAJO	**Matsushiro**	**18.46**	**340**	P	**Pn**	**08 16 54.8**	**-0.6**
MAJO				IAmb	IAmb	08 17 05.8	
	comp=Z,13nm,1.1s						
MJB9	**Matsu-Tunnel**	**18.46**	**340**	P	**Pn**	**08 16 54.5**	**-1.0**
JHS	**Saijyo**	**19.29**	**327**	P	**Pn**	**08 17 03.5**	**-1.7**
JHS				IAmb	IAmb	08 17 40.9	
	comp=Z,32nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**19.76**	**89**	T	T	08 38 00.1	
	baz=275,slow=75,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**19.77**	**89**	T	T	08 38 00.9	
	baz=275,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**19.78**	**89**	T	T	08 38 01.3	
	baz=275,slow=75,SNR=9.9						
JSD	**Sado**	**19.82**	**342**	P	**P**	**08 17 08.7**	**+0.4**
JSD				IAmb	IAmb	08 17 26.6	
	comp=Z,23nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**19.87**	**85**	T	T	08 38 43.4	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**19.88**	**85**	T	T	08 38 27.1	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**19.89**	**85**	T	T	08 38 50.0	
	baz=266						
KSRS	**Korea Array**	**23.93**	**323**	P	**P**	**08 17 50.7**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=144,slow=8.4,SNR=7.0						
	comp=Z,2.2nm,0.8s						
FAKI	**Fak Fak**	**25.78**	**213**	P	**P**	**08 18 07.0**	**+0.5**
FAKI				IAmb	IAmb	08 18 42.0	
	comp=Z,12nm,1.0s						
TNTI	**Ternate**	**25.79**	**227**	P	**P**	**08 18 06.8**	**+0.3**
KLR	**Kul'dur**	**31.96**	**342**	P	**P**	**08 19 01.6**	**+0.8**
	comp=Z,5.0nm,0.6s,baz=134,slow=8.0,SNR=18						
	comp=Z,5.0nm,0.6s						
WB2	**Warramunga Arr**	**40.56**	**197**	P	**P**	**08 20 14.6**	**+0.4**
WB2				IAmb	IAmb	08 20 16.0	
	comp=Z,3.5nm,0.8s						
WRA	**Warramunga Arr**	**40.57**	**197**	P	**P**	**08 20 14.8**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=14,slow=8.1,SNR=30						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**40.57**	**197**	P	**P**	**08 20 14.2**	**0.0**
SONM	**Songino Array**	**42.77**	**321**	P	**P**	**08 20 32.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=132,slow=8.6,SNR=4.2						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**44.23**	**196**	P	**P**	**08 20 43.0**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=20,slow=11,SNR=2.6						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**57.63**	**322**	P	**P**	**08 22 24.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=109,slow=7.8,SNR=1.4						
	comp=Z,0.5nm,0.3s						
N18K	**Kilae Creek**	**57.99**	**30**	P	**P**	**08 22 27.6**	**+1.5**
O18K	**Koktuh Hills**	**58.06**	**31**	P	**P**	**08 22 27.9**	**+1.4**
MKAR	**Makanchi Array**	**58.15**	**314**	P	**P**	**08 22 27.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=114,slow=6.5,SNR=2.4						
	comp=Z,0.4nm,0.7s						
N19K	**Bonanza Creek**	**58.69**	**30**	P	**P**	**08 22 32.7**	**+1.7**
J20K	**Nowinta River**	**59.89**	**26**	P	**P**	**08 22 40.9**	**+1.9**
J20K				IAmb	IAmb	08 22 54.3	
	comp=Z,3.7nm,1.3s						
CAST	**Castle Rocks**	**60.53**	**27**	P	**P**	**08 22 44.8**	**+1.4**
CAST				IAmb	IAmb	08 22 45.6	
	comp=Z,3.7nm,0.8s						
IMAR	**Indian Mountai**	**60.65**	**24**	P	**P**	**08 22 45.3**	**+1.2**
H21K	**Melozitna Rive**	**60.91**	**25**	P	**P**	**08 22 47.3**	**+1.4**
BPAW	**Bear Paw Mtn.**	**61.19**	**27**	P	**P**	**08 22 48.8**	**+0.9**
BPAW				IAmb	IAmb	08 22 49.5	
	comp=Z,3.7nm,0.8s						
TRF	**Thorofare Moun**	**61.32**	**27**	P	**P**	**08 22 49.2**	**+0.3**
TRF				IAmb	IAmb	08 23 17.0	
	comp=Z,4.1nm,1.2s						
MLY	**Manley**	**61.55**	**26**	P	**P**	**08 22 51.2**	**+0.9**
MLY				IAmb	IAmb	08 22 52.6	
	comp=Z,4.2nm,1.0s						
SML	**Sawmill**	**61.82**	**29**	P	**P**	**08 22 53.0**	**+0.9**
H23K	**Yukon River**	**62.25**	**25**	P	**P**	**08 22 56.1**	**+1.2**
MDM	**Murphy Dome**	**62.56**	**26**	P	**P**	**08 22 58.1**	**+1.1**
MDM				IAmb	IAmb	08 22 59.5	
	comp=Z,1.7nm,0.6s						
ILAR	**Eielson Array**	**63.08**	**26**	P	**P**	**08 22 58.9**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=257,slow=5.2,SNR=13						
	comp=Z,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**82.70**	**52**	P	**P**	**08 24 58.6**	**+1.9**
	comp=Z,2.4nm,0.7s,baz=271,slow=6.0,SNR=12						
	comp=Z,2.4nm,0.7s						
FINES	**FINESS Array B**	**86.41**	**335**	P	**P**	**08 25 14.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=60,slow=5.0,SNR=6.5						
	comp=Z,2.1nm,0.7s						
HWUT	**Hardware Ranch**	**86.43**	**47**	P	**P**	**08 25 14.7**	**-0.6**
HWUT				IAmb	IAmb	08 25 17.7	
	comp=Z,5.9nm,0.8s						
RLMT	**Red Lodge**	**86.58**	**43**	P	**P**	**08 25 18.5**	**+2.4**
RLMT				IAmb	IAmb	08 25 20.2	
	comp=Z,2.3nm,0.7s						
PDAR	**Pinedale Array**	**87.34**	**46**	P	**P**	**08 25 19.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=240,slow=1.5,SNR=7.1						
	comp=Z,0.5nm,0.7s						

LPAZ La Paz 147.57 90 PKPbc **PKPab** **08 32 18.1 -1.9**
comp=Z,1.9nm,1.1s,baz=3.0,slow=7.2,SNR=3.6

*ISK **26** 08:14:13.2, 38.36N×39.18E, h12km, ML2.5/9*
*DDA **26** 08:14:14.8±0.0, 38.37N×39.29E, h7km±2km, ML2.3*
ISC 26 08:14:14.1±1.0, 38.37N±0.03×39.24E±0.03, h12km±9km, n16, σ0§84/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.24**	**303**	P	**Pg**	**08 14 20.5**	**+1.3**
ELZG				*i* AML	AML	08 14 26.0	
	comp=N,838nm,0.3s						
ELZG				*i* AML	AML	08 14 27.0	
	comp=E,637nm,0.3s						
PTK	**Pertek**	**0.54**	**13**	PG	**Pg**	**08 14 24.6**	**-0.1**
PTK				SG	**Sb**	**08 14 32.9**	**-0.6**
KOVA	**Elazig, Kovanc**	**0.56**	**53**	P	**Pg**	**08 14 25.1**	**0.0**
KOVA				S	**Sg**	**08 14 33.1**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.78**	**18**	P	**Pg**	**08 14 29.5**	**+0.2**
TNCL				S	**Sg**	**08 14 38.0**	**-1.5**
DYBB	**Diyarbakir**	**0.82**	**120**	PG	**Pb**	**08 14 30.3**	**-0.1**
DIYA	**Diyarbakir**	**0.83**	**122**	P	**Pb**	**08 14 31.0**	**+0.5**
DIYA				*i* AML	AML	08 14 47.0	
	comp=E,77nm,0.2s						
DIYA				*i* AML	AML	08 14 48.0	
	comp=N,68nm,0.2s						
URFA	**Urfa**	**0.98**	**200**	PG	**Pg**	**08 14 31.9**	**-1.2**
URFA				SG	**Sg**	**08 14 45.7**	**-0.2**
ARPR	**Arapgir-MALATY**	**1.01**	**316**	PG	**Pg**	**08 14 32.8**	**-0.8**
AKCD	**Akcadag**	**1.04**	**266**	P	**Pn**	**08 14 35.1**	**+0.4**
AKCD				S	**Sn**	**08 14 50.9**	**+1.7**
AKCD				*i* AML	AML	08 14 54.0	
	comp=E,59nm,0.4s						
AKCD				*i* AML	AML	08 14 56.0	
	comp=N,102nm,0.6s						
KEMA	**Kemaliye**	**1.07**	**327**	P	**Pg**	**08 14 34.5**	**-0.3**
ERZN	**Erzincan**	**1.27**	**17**	PN	**Pn**	**08 14 36.9**	**-1.0**
BNGB	**Bingl**	**1.29**	**61**	PN	**Pb**	**08 14 38.5**	**+0.1**
BNGB				SN	**Sn**	**08 14 56.6**	**+1.2**
MAZI	**Mazidag**	**1.32**	**133**	PN	**Pn**	**08 14 38.3**	**-0.2**
MAZI				SN	**Sg**	**08 14 56.6**	**0.0**
DARE	**Darende-Malaty**	**1.39**	**279**	PN	**Pn**	**08 14 38.6**	**-0.9**
YEDI	**Yedisu-Bingol**	**1.48**	**43**	PN	**Pn**	**08 14 40.6**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.56**	**97**	PN	**Pn**	**08 14 42.3**	**+0.5**
SVAN				SN	**Sg**	**08 15 03.8**	**-0.5**

*ANF **26** 08:19:59.1±0.6, 32.74N×115.41W, h10km, ML3.2/16, Error ellipse: s-maj=6.4km s-min=3.4km az=178.0*
*NEIC **26** 08:20:00.4±2.1, 32.741N±0.010×115.43W±0.02, h20km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=75.0*
*PAS **26** 08:20:00.7±2.3, 32.75N±0.01×115.42W±0.01, h11km±3km, ML3.4/261, ML3.0/26(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=153.0*
*ECX **26** 08:20:01.2±0.7, 32.74N×115.45W, h17km±2km, MD3.2, ML3.4*
ISC 26 08:20:00.6±0.8, 32.73N±0.02×115.44W±0.02, h18km±3km, n109, σ1§15/153, 7C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ICBC	**Inst. de Cultu**	**0.07**	**202**	*e*P	**Pg**	**08 20 03.8**	**-0.2**
ICBC				*e*S	**Sg**	**08 20 06.9**	**+0.7**
DREC	**Desert Rsrch C**	**0.08**	**357**		**Pg**	**08 20 03.4**	**-0.7**
DREC	**Desert Rsrch C**	**0.08**	**357**	⇓*e*P	**Pg**	**08 20 03.4**	**-0.7**
DREC				*e*S	**Sg**	**08 20 06.4**	**0.0**
UABX	**UABC, Campus M**	**0.09**	**179**		**Pg**	**08 20 04.1**	**0.0**
UABX					**Sb**	**08 20 07.5**	**+0.9**
UABX	**UABC, Campus M**	**0.09**	**179**	IAML		08 20 08.6	
	comp=E,6μm,0.8s						
UABX				IAML		08 20 08.8	
	comp=N,5μm,0.4s						
UABX	**UABC, Campus M**	**0.09**	**179**	*e*P	**Pg**	**08 20 04.2**	**0.0**
SNR	**Schaffner Ranc**	**0.14**	**2**		**Pg**	**08 20 04.0**	**-0.7**
SNR					**Sg**	**08 20 07.4**	**+0.1**
IMPE	**Imperial**	**0.20**	**330**		**Pg**	**08 20 05.4**	**-0.1**
WESC	**Westside Schoo**	**0.25**	**278**		**Pg**	**08 20 06.4**	**+0.1**
WESC					**Sb**	**08 20 11.2**	**+0.8**
WESC	**Westside Schoo**	**0.25**	**278**	⇑*e*P	**Pg**	**08 20 06.4**	**+0.1**
SGL	**Mount Signal**	**0.25**	**252**		**Pg**	**08 20 06.2**	**-0.1**
SGL					**Sg**	**08 20 10.5**	**+0.3**
COK2	**Cook Ranch 2**	**0.27**	**297**		**Sb**	**08 20 11.7**	**+0.5**
COA	**Coachella**	**0.30**	**63**		**Pg**	**08 20 06.7**	**-0.5**
COA					**Sg**	**08 20 11.8**	**+0.2**
YUCAX	**Ej. Yucatįn**	**0.32**	**112**	⇑*e*P	**Pg**	**08 20 07.7**	**+0.3**
CPBX	**Cerro Prieto**	**0.33**	**159**		**Pg**	**08 20 07.9**	**+0.3**
CPBX					**Sb**	**08 20 14.4**	**+1.4**
CPBX	**Cerro Prieto**	**0.33**	**159**	IAML		08 20 18.7	
	comp=N,2μm,0.5s						
CPBX				IAML		08 20 19.4	
	comp=E,3μm,0.2s						
CPBX	**Cerro Prieto**	**0.33**	**159**	*e*P	**Pg**	**08 20 08.0**	**+0.3**
WEMD	**Westmorland, C**	**0.33**	**339**		**Pg**	**08 20 07.6**	**-0.1**
WEMD					**Sb**	**08 20 13.4**	**+0.3**
WEMD	**Westmorland, C**	**0.33**	**339**	⇓*e*P	**Pg**	**08 20 07.6**	**-0.1**
CTLX	**Tlaxcala, TLX**	**0.36**	**135**	*e*P	**Pb**	**08 20 09.4**	**+1.0**
CTLX				IAML		08 20 18.8	
CTLX	comp=N,2μm,1.1s		⇑	*e*		08 20 18.8	
CTLX				IAML		08 20 19.0	
	comp=E,3μm,1.0s		⇑	*e*			
CTLX						08 20 19.0	
SWSC	**Sam W. Stewart**	**0.37**	**306**		**Pg**	**08 20 07.8**	**-0.5**
SWSC					**Sg**	**08 20 13.6**	**0.0**
SWSC	**Sam W. Stewart**	**0.37**	**306**	P	**Pg**	**08 20 07.8**	**-0.5**
	baz=122,SNR=227						
SWSC				S	**Sg**	**08 20 13.6**	**0.0**
	baz=122						
SWSC	**Sam W. Stewart**	**0.37**	**306**	*e*P	**Pg**	**08 20 07.8**	**-0.5**
SWSC				*e*S	**Sg**	**08 20 13.6**	**0.0**
SWSC				IAML		08 20 14.8	
	comp=E,4μm,0.3s						
SWSC			⇓	*e*		08 20 14.8	
EMSC	**East Mesa**	**0.39**	**88**		**Pg**	**08 20 08.5**	**-0.1**
EMSC					**Sg**	**08 20 14.7**	**+0.7**
EMSC	**East Mesa**	**0.39**	**88**	*e*P	**Pg**	**08 20 08.6**	**-0.1**
EMSC				*e*S	**Sg**	**08 20 14.7**	**+0.7**
SUP	**Superstition M**	**0.39**	**305**		**Pg**	**08 20 08.4**	**-0.4**
SUP					**Sg**	**08 20 14.2**	**-0.2**
SALX	**Saltillo**	**0.40**	**139**	*e*P	**Pn**	**08 20 14.0**	**+2.5**
YUH2	**Yuha Desert**	**0.41**	**259**	⇑*e*P	**Pg**	**08 20 08.8**	**-0.3**
YUH2				*e*S	**Sg**	**08 20 15.0**	**+0.2**
YUH	**Yuha Desert**	**0.41**	**259**		**Pg**	**08 20 09.0**	**-0.1**
YUH					**Sg**	**08 20 15.1**	**+0.3**
YUH	**Yuha Desert**	**0.41**	**259**	IAML		08 20 15.8	
	comp=N,799nm,0.4s						
YUH				IAML		08 20 15.9	
	comp=E,637nm,0.1s						
RUN	**Ruthven**	**0.46**	**58**		**Pg**	**08 20 08.9**	**-1.1**
RUN					**Sg**	**08 20 15.2**	**-1.1**
CRR	**Carrizo Plain**	**0.47**	**290**		**Pg**	**08 20 09.7**	**-0.4**
CRR					**Sg**	**08 20 17.1**	**+0.5**
ERRC	**Elmore Ranch**	**0.50**	**321**		**Pg**	**08 20 10.7**	**0.0**
ERRC					**Sb**	**08 20 18.9**	**+1.0**
GUVIX	**Guadalupe Vict**	**0.52**	**144**		**Pg**	**08 20 10.2**	**-0.9**
RMX	**La Rumorosa**	**0.55**	**257**		**Pg**	**08 20 10.9**	**-0.7**
RMX					**Sg**	**08 20 18.3**	**-0.8**
RMX	**La Rumorosa**	**0.55**	**257**	IAML		08 20 19

GLA	**Glamis**	**0.61**	**58**	P		**Pg**	**08 20 11.4**	**-1.3**
	baz=239,SNR=62							
GLA				S		**Sg**	**08 20 19.1**	**-1.9**
	baz=239							
SALN	**Salton City**	**0.72**	**321**			**Pg**	**08 20 14.9**	**+0.2**
SALN						**Sb**	**08 20 24.9**	**+0.8**
SLH	**Sleepy Hollow**	**0.82**	**304**			**Pb**	**08 20 15.2**	**-1.3**
SLH						**Sg**	**08 20 28.2**	**+0.5**
SLH	**Sleepy Hollow**	**0.82**	**304**	*eP*		**Pb**	**08 20 15.2**	**-1.3**
ESJX	**Sierra Juarez**	**0.84**	**211**			**Pb**	**08 20 16.4**	**-0.4**
ESJX	**Sierra Juarez**	**0.84**	**211**			**Sg**	**08 20 28.9**	**+0.8**
MONP2	**Monument Peak**	**0.84**	**282**			**Pb**	**08 20 15.8**	**-1.1**
MONP2						**Sb**	**08 20 27.6**	**-0.3**
MONP2	**Monument Peak**	**0.84**	**282**	P		**Pb**	**08 20 15.8**	**-1.1**
	baz=100,SNR=165							
MONP2				S		**Sb**	**08 20 27.9**	**0.0**
	baz=100							
MONP2	**Monument Peak**	**0.84**	**282**	*eP*		**Pb**	**08 20 15.8**	**-1.1**
BC3	**Big Chuckawall**	**0.93**	**359**			**Pb**	**08 20 16.6**	**-1.7**
BC3	**Big Chuckawall**	**0.93**	**359**	P		**Pb**	**08 20 16.5**	**-1.7**
	baz=178,SNR=545							
BORC	**Borrego Spring**	**0.98**	**304**			**Pb**	**08 20 17.5**	**-1.7**
BORC						**Sb**	**08 20 32.0**	**+0.3**
TKX	**Tecate**	**0.99**	**261**			**Pb**	**08 20 19.3**	**-0.1**
TKX				IAML			08 20 34.1	
	comp=E,329nm,0.2s							
HAY	**Hayfield**	**1.00**	**348**			**Pb**	**08 20 18.1**	**-1.4**
CTW	**Cottonwood Mou**	**1.01**	**339**			**Pb**	**08 20 18.5**	**-1.2**
CTCC	**Cactus City**	**1.03**	**334**			**Pb**	**08 20 18.8**	**-1.2**
JUEM	**Julian Eagle M**	**1.03**	**290**			**Pb**	**08 20 18.6**	**-1.5**
BAR	**Barrett**	**1.04**	**268**			**Pb**	**08 20 19.6**	**-0.5**
BAR				IAML			08 20 35.3	
	comp=E,364nm,0.2s							
BAR	**Barrett**	**1.04**	**268**	*eP*		**Pb**	**08 20 18.9**	**-1.2**
SJX	**San Joaquin**	**1.06**	**205**	⇓*eP*		**Pb**	**08 20 16.4**	**-4.0**
SJX				*eS*		**Sb**	**08 20 27.8**	**-6.1**
CBX	**Cerro Bola**	**1.11**	**249**			**Pb**	**08 20 21.2**	**-0.2**
CBX				IAML			08 20 37.8	
	comp=N,220nm,0.8s							
CBX	**Cerro Bola**	**1.11**	**249**	*eP*		**Pb**	**08 20 21.0**	**-0.4**
MATG	**Mataguay Scout**	**1.12**	**295**			**Pb**	**08 20 19.9**	**-1.6**
EML	**El Monte Cty P**	**1.19**	**278**			**Pn**	**08 20 20.9**	**-1.5**
PMD	**Palm Desert**	**1.21**	**320**			**Pn**	**08 20 21.5**	**-1.2**
PMD				IAML			08 20 39.5	
	comp=E,437nm,0.8s							
PMD				IAML			08 20 47.5	
	comp=N,364nm,0.4s							
PMD	**Palm Desert**	**1.21**	**320**			**Sb**	**08 20 38.6**	**+0.3**
TPFO	**Pinon Flats**	**1.22**	**316**	P		**Pn**	**08 20 20.6**	**-2.3**
	baz=135,SNR=169							
TPFO				S		**Sb**	**08 20 39.3**	**+0.5**
	baz=135							
XPFO	**Pion Flat**	**1.22**	**316**			**Pn**	**08 20 23.2**	**+0.1**
XPFO						**Sb**	**08 20 39.3**	**+0.4**
PFO	**Pinyon Flats O**	**1.23**	**316**	P		**Pn**	**08 20 20.8**	**-2.3**
	baz=135,SNR=218							
PFO				S		**Sb**	**08 20 39.4**	**+0.4**
	baz=135							
FRD	**Ford Ranch, An**	**1.24**	**309**			**Pn**	**08 20 21.5**	**-1.7**
FRD						**Sn**	**08 20 40.2**	**+0.7**
FRD	**Ford Ranch, An**	**1.24**	**309**			**Pn**	**08 20 21.5**	**-1.7**
FRD						**Sn**	**08 20 40.5**	**+0.9**
SDRC	**San Diego Road**	**1.26**	**271**			**Pn**	**08 20 22.9**	**-0.6**
SDRC	**San Diego Road**	**1.26**	**271**	*eP*		**Pn**	**08 20 22.2**	**-1.2**
BZNA	**Buzz No.'s Pla**	**1.28**	**307**			**Pn**	**08 20 22.9**	**-0.9**
BZNA						**Sn**	**08 20 41.6**	**+1.0**
SNDA	**J Saunders Pla**	**1.28**	**310**			**Pn**	**08 20 22.3**	**-1.5**
SNDA						**Sg**	**08 20 42.0**	**-0.2**
DPP	**Dos Picos Cty**	**1.29**	**283**			**Pn**	**08 20 23.0**	**-0.9**
DPP						**Sn**	**08 20 41.8**	**+1.1**
ECBX	**El Chinero**	**1.29**	**165**	*eP*		**Pn**	**08 20 23.2**	**-0.7**
DNR	**Dunn Ranch,Anz**	**1.30**	**310**			**Pn**	**08 20 22.6**	**-1.5**
CCX	**Cicese**	**1.34**	**231**			**Pn**	**08 20 25.1**	**+0.5**
PLM	**Palomar**	**1.35**	**298**			**Pn**	**08 20 23.4**	**-1.3**
CRY	**Cary Ranch**	**1.37**	**308**			**Sb**	**08 20 44.1**	**+1.0**
TJX	**Tijuana**	**1.38**	**261**			**Pn**	**08 20 25.0**	**0.0**
109C	**Camp Elliot, M**	**1.41**	**277**			**Pn**	**08 20 25.4**	**-0.1**
109C				IAML			08 20 45.7	
	comp=E,299nm,0.4s							
109C	**Camp Elliot, M**	**1.41**	**277**	Pb		**Pn**	**08 20 26.3**	**+0.9**
	baz=95,SNR=40							
109C				S		**Sn**	**08 20 43.5**	**0.0**
	baz=95							
CPE	**Camp Elliot**	**1.41**	**277**			**Sn**	**08 20 43.7**	**+0.2**
GORC	**Green Oak Ranc**	**1.56**	**286**			**Pn**	**08 20 26.8**	**-0.7**
GORC						**Sn**	**08 20 47.6**	**+0.2**
POB	**Polly Butte**	**1.57**	**308**			**Pn**	**08 20 27.0**	**-0.7**
POB						**Sg**	**08 20 50.4**	**-0.9**
DGR	**Domenigoni Val**	**1.60**	**305**			**Pn**	**08 20 27.3**	**-0.9**
DGR						**Sb**	**08 20 51.1**	**+1.3**
BACC	**Bachelor Mtn.**	**1.60**	**304**			**Sb**	**08 20 51.4**	**+1.6**
HMTC	**Hemet**	**1.64**	**307**			**Pn**	**08 20 27.8**	**-0.8**
HMTC						**Sb**	**08 20 51.8**	**+1.2**
MURC	**Murrieta**	**1.71**	**301**	Sb		**Sb**	**08 20 54.4**	**+1.6**
	baz=119							
SFX	**San Felipe**	**1.76**	**163**			**Pn**	**08 20 30.6**	**+0.4**
ELS	**Elsinore Mount**	**1.90**	**299**			**Pn**	**08 20 31.8**	**-0.4**
GMRC	**Granite Mounta**	**2.06**	**355**	Pb		**Pb**	**08 20 38.3**	**+0.6**
	baz=174,SNR=78							
214A	**Organ Pipe Nat**	**2.36**	**108**	P		**Pn**	**08 20 36.8**	**-1.7**
	baz=290							
BFSC	**Mount Baldy Ra**	**2.39**	**310**	Sb		**Sb**	**08 21 14.3**	**+1.8**
	baz=128							
CIS	**Catalina Islan**	**2.58**	**286**	Pb		**Pb**	**08 20 48.0**	**+1.5**
	baz=104,SNR=5.9							
CIS				Sb		**Sb**	**08 21 20.4**	**+2.5**
	baz=104							
EDW2	**Edwards Air Fo**	**3.02**	**316**	P		**Pg**	**08 20 59.3**	**+0.7**
	baz=134,SNR=30							
EDW2				Sb		**Sb**	**08 21 34.0**	**+3.4**
	baz=134							
V12A	**Nelson**	**3.03**	**9**			**Pn**	**08 20 47.5**	**-0.4**
SHOC	**Shoshone, Teco**	**3.24**	**348**	P		**Pg**	**08 21 03.3**	**+0.5**
	baz=167							
TPNV	**Topopah Spring**	**4.26**	**351**	P		**Pg**	**08 21 23.2**	**+0.9**
	baz=171							
U15A	**North Rim**	**4.51**	**34**			**Pn**	**08 21 09.2**	**+0.8**
LCMT	**Little Creek M**	**4.64**	**22**			**Pn**	**08 21 10.2**	**+0.2**
KNB	**Kanab**	**4.79**	**26**			**Pn**	**08 21 12.7**	**+0.6**
X18A	**Snowflake**	**4.92**	**67**	Pn		**Pn**	**08 21 14.6**	**+0.6**
PKCU	**Pink Cliffs**	**5.36**	**28**			**Pn**	**08 21 20.7**	**+0.6**

*IDC **26** 08:24:48.7±1.4,6°.55N×72°.78W,h162km±18km, mbtmp4.0/2,Error ellipse: s-maj=697.2km s-min=7.5km az=132.0*
*RSNC **26** 08:24:49.5±1.0,6°.82N×73°.16W,h153km±4km,ML3.3, Mw3.7,Fault plane solution: NP1:φs41.00000°, δ48.00000°,λ76.00000°.*

ISC 26 08:24:48.3±1.1,6°.84N±0°.03×73°.13W±0°.04,h158km±7km, n32,σ1ş37/59,6C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**193**	⇑*eP*		**Pn**	**08 25 10.1**	**+0.1**
BARC				*eS*		**Sn**	**08 25 25.5**	**-1.0**
BARC				IAML			08 25 26.2	
	comp=Z,865nm,0.3s							
BRRC	**Barranca, Sant**	**0.64**	**295**	⇑*eP*		**Pn**	**08 25 11.9**	**+0.6**
BRRC				*eS*		**Sn**	**08 25 29.1**	**+0.2**
BRRC				IAML			08 25 33.2	
	comp=Z,323nm,0.2s							
PAMC	**Pamplona, Colo**	**0.65**	**40**	⇑*eP*		**Pn**	**08 25 12.8**	**+0.9**
PAMC				*eS*		**Sn**	**08 25 30.2**	**+0.2**
PAMC				IAML			08 25 32.5	
	comp=Z,269nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	⇑*eP*		**Pn**	**08 25 16.4**	**-0.6**
PTBC				*eS*		**Sn**	**08 25 37.8**	**-1.3**
PTBC				IAML			08 25 43.4	
	comp=Z,296nm,0.2s							
TAMC	**Tame, Arauca**	**1.39**	**107**	⇑*eP*		**Pn**	**08 25 18.4**	**+1.0**
TAMC				*eS*		**Sn**	**08 25 40.3**	**+0.7**
TAMC				IAML			08 25 42.3	
	comp=Z,125nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*eP*		**Pn**	**08 25 22.2**	**+0.1**
ZARC				*eS*		**Sn**	**08 25 47.7**	**-0.4**
ZARC				IAML			08 25 54.7	
	comp=Z,301nm,0.4s							
NORC	**Norcasia**	**2.15**	**234**	*eP*		**Pn**	**08 25 25.9**	**+0.2**
NORC				*eS*		**Sn**	**08 25 53.7**	**-0.8**
NORC				IAML			08 26 01.6	
	comp=Z,103nm,0.2s							
CHIC	**Chingaza**	**2.27**	**195**	*eP*		**Pn**	**08 25 28.0**	**+0.4**
CHIC				*eS*		**Sn**	**08 25 57.1**	**-0.8**
CHIC				IAML			08 25 59.9	
	comp=Z,140nm,0.4s							
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**08 25 29.5**	**+1.5**
	comp=Z,82nm,0.3s,baz=66,slow=20,SNR=128							
ROSC				S		**Sn**	**08 25 59.1**	**+0.5**
	comp=Z,430nm,0.3s,baz=327,slow=20,SNR=22							
ROSC	**El Rosal**	**2.31**	**211**	*eP*		**Pn**	**08 25 29.9**	**+1.9**
ROSC				*eS*		**Sn**	**08 25 59.2**	**+0.6**
ROSC				IAML			08 26 04.9	
	comp=Z,422nm,0.4s							
UREC	**San Jos de Ur**	**2.55**	**291**	⇓*eP*		**Pn**	**08 25 29.9**	**-0.6**
UREC				*eS*		**Sn**	**08 26 01.4**	**-1.7**
UREC				IAML			08 26 11.4	
	comp=Z,224nm,0.3s							
LL1C	**La Loma 1 Cana**	**2.72**	**351**	*eP*		**Pn**	**08 25 35.4**	**+2.8**
LL1C				*eS*		**Sn**	**08 26 09.9**	**+3.1**
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇓*eP*		**Pn**	**08 25 33.2**	**-0.4**
PTGC				*eS*		**Sn**	**08 26 06.9**	**-1.7**
PTGC				IAML			08 26 11.5	
	comp=Z,77nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*eP*		**Pn**	**08 25 38.2**	**+1.7**
CBOC				*eS*		**Sn**	**08 26 13.5**	**-0.3**
CBOC				IAML			08 26 25.0	
	comp=Z,31nm,0.3s							
DBBC	**Dabeiba**	**3.07**	**274**	*eP*		**Pn**	**08 25 38.8**	**+1.8**
DBBC				*eS*		**Sn**	**08 26 13.5**	**-1.1**
ARGC	**Ariguani, Magd**	**3.20**	**340**	*eP*		**Pn**	**08 25 40.1**	**+1.6**
ARGC				*eS*		**Sn**	**08 26 19.4**	**+1.8**
ARGC				IAML			08 26 28.1	
	comp=Z,49nm,0.3s							
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**08 25 39.8**	**+1.0**
	comp=Z,26nm,0.3s,baz=189,slow=0.9,SNR=31							
SDV				S		**Sn**	**08 26 17.3**	**-0.5**
	comp=Z,40nm,0.5s,baz=49,slow=13,SNR=16							
ANIL	**Santa Ana**	**3.25**	**224**	*eP*		**Pn**	**08 25 41.8**	**+2.3**
ANIL				*eS*		**Sn**	**08 26 21.3**	**+2.1**
PRAC	**Prado**	**3.56**	**210**	*eP*		**Pn**	**08 25 43.3**	**0.0**
PRAC				*eS*		**Sn**	**08 26 25.9**	**-0.1**
PRAC				IAML			08 26 30.3	
	comp=Z,118nm,0.6s							
ORTC	**Ortega, Tolima**	**3.59**	**216**	*eP*		**Pn**	**08 25 44.3**	**+0.7**
ORTC				*eS*		**Sn**	**08 26 27.9**	**+1.2**
ORTC				IAML			08 26 33.9	
	comp=Z,64nm,0.4s							
SJCC	**San Jacinto, C**	**3.66**	**326**	*eP*		**Pn**	**08 25 43.7**	**-0.7**
SJCC				*eS*		**Sn**	**08 26 25.2**	**-2.8**
SJCC				IAML			08 26 39.8	
	comp=Z,82nm,0.8s							
PLMC	**San Jos del P**	**3.68**	**239**	⇓*eP*		**Pn**	**08 25 45.6**	**+0.9**
PLMC				*eS*		**Sn**	**08 26 26.7**	**-1.9**
PLMC				IAML			08 26 33.6	
	comp=Z,19nm,0.2s							
LCBC	**Los crdobas,**	**3.79**	**302**	*eP*		**Pn**	**08 25 46.4**	**+0.3**
LCBC				*eS*		**Sn**	**08 26 32.9**	**+2.0**
LCBC				IAML			08 26 35.0	
	comp=Z,52nm,0.3s							
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*eP*		**Pn**	**08 25 50.6**	**-0.4**
CRJC				*eS*		**Sn**	**08 26 37.4**	**-2.5**
CRJC				IAML			08 26 42.9	
	comp=Z,61nm,0.4s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	⇑*eP*		**Pn**	**08 25 52.7**	**+0.1**
GUVC	**San Jose del G**	**4.29**	**173**	*eP*		**Pn**	**08 25 52.4**	**-0.3**
GUVC				*eS*		**Sn**	**08 26 41.2**	**-1.7**
GUVC				IAML			08 26 45.7	
	comp=Z,45nm,0.3s							
SMRC	**Santa Marta, M**	**4.43**	**346**	*eP*		**Pn**	**08 25 55.2**	**+0.7**
SMRC				*eS*		**Sn**	**08 26 44.0**	**-2.1**
SMRC				IAML			08 26 47.6	
	comp=Z,28nm,0.5s							
URIC	**Uribia, Colomb**	**4.96**	**13**	*eP*		**Pn**	**08 26 00.9**	**-0.5**
URIC				*eS*		**Sn**	**08 26 55.8**	**-2.6**
URIC				IAML			08 27 03.1	
	comp=Z,13nm,0.4s							
GARC	**Garzon, Huila**	**5.19**	**207**	*eP*		**Pn**	**08 26 04.3**	**-0.4**
GARC				IAML			08 27 08.4	
	comp=Z,27nm,0.2s							
FLOC	**Florencia**	**5.80**	**206**	*eP*		**Pn**	**08 26 12.8**	**+0.3**
FLOC				IAML			08 27 22.2	
	comp=Z,4.5nm,0.7s							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	**08 44 18.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=117,slow=3.7,SNR=11							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**08 44 21.7**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=108,slow=2.7,SNR=14							

*IDC **26** 08:46:10.1±0.8,39°.14N×74°.06E,h0km,mb3.9/15, mbtmp3.9/21,ML3.3/6,Error ellipse: s-maj=15.4km s-min=13.2km az=69.0*
*BJI **26** 08:46:13.7±0.0,39°.24N×74°.01E,h12km,mb4.0/7, mB4.4/2,ML3.7/5,Ms3.5/2,Ms7.3.4/1*
*KRNET **26** 08:46:14.6±0.1,39°.35N×73°.80E,mb4.6*
*NNC **26** 08:46:15.3±2.3,39°.50N×73°.68E,h0km,mb4.7,mpv4.4, Error ellipse: s-maj=18.3km s-min=10.6km az=168.0*
*NEIC **26** 08:46:15.7±1.9,39°.29N±0°.06×73°.92E±0°.07,h10km±2km, mb4.4/7,Error ellipse: s-maj=10.8km s-min=8.9km az=145.0*
*SOME **26** 08:46:16.3,39°.60N×73°.88E,h5km,MS3.6*

ISC 26 08:46:12.6±1.2,39°.29N±0°.03×73°.83E±0°.02,h2km±7km, n140,σ2ş49/186,mb3.9/18,38C-27D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.47**	**327**	⇓*iP*		**Pb**	**08 46 40.9**	**+0.3**
	baz=27							
OHH				⇓*eS*		**Sb**	**08 47 00.1**	**+0.3**
	baz=27							
DRK	**Karamyk**	**1.58**	**277**	⇓*eP*		**Pb**	**08 46 43.7**	**+1.0**
	baz=76							
DRK				⇓*eS*		**Sg**	**08 47 04.6**	**+1.2**
	baz=76							
DRK	**Karamyk**	**1.58**	**277**			**Pg**	**08 46 45.0**	**+2.0**
KSH	**Kashi**	**1.68**	**82**	Pg		Pn	08 46 34.5	-8.5
KSH				Sg		Sn	08 46 51.0	-14
KSH				smax		smax		
	comp=N,950nm,0.7s							
KSH				smax		smax		
	comp=E,2μm,0.9s							
BTK	**Batken**	**2.45**	**289**	⇓*eP*		**Pb**	**08 46 56.8**	**-0.5**
	baz=88							
BTK				⇓*iS*		**Sb**	**08 47 27.4**	**-0.5**
	baz=88							
BTK	**Batken**	**2.45**	**289**			**Pb**	**08 46 58.9**	**+1.6**
ARLS	**Aral**	**2.59**	**8**	⇓*eP*		**Pn**	**08 46 58.2**	**+2.5**
	baz=9.0							
ARLS				⇓*eS*		**Sb**	**08 47 30.3**	**-1.9**
	baz=9.0							
NRN	**Naryn**	**2.71**	**37**	Pn		**Pn**	**08 46 58.5**	**+1.2**
GAR	**Garm**	**2.75**	**265**	⇓*iP*		**Pb**	**08 47 01.0**	**-1.4**
	baz=64							
GAR				⇓*iS*		**Sb**	**08 47 35.0**	**-1.6**
	baz=64							
GAR	**Garm**	**2.75**	**265**			**Pb**	**08 47 01.5**	**-0.9**
AML	**Almayashu**	**2.84**	**358**	P		**Pn**	**08 47 02.3**	**-1.9**
	SNR=211							
ARK	**Arkit**	**2.88**	**331**	⇑*eP*		**Pn**	**08 47 02.5**	**+3.0**
	baz=31							
ARK				⇑*iS*		**Sn**	**08 47 37.3**	**+2.5**
	baz=31							
UCH	**Uchtor**	**2.98**	**10**	P		**Pn**	**08 47 04.1**	**+2.9**
	SNR=255							
UCH	**Uchtor**	**2.98**	**10**	⇓*iP*		**Pn**	**08 47 03.9**	**+2.7**
	baz=10.0							
UCH				⇓*eS*		**Sn**	**08 47 40.2**	**+2.5**
	baz=10.0							
TRKS	**Terek-Say**	**3.04**	**318**	⇑*eP*		**Pn**	**08 47 03.7**	**+2.0**
	baz=17							
TRKS				⇑*iS*		**Sn**	**08 47 39.6**	**+0.9**
	baz=17							
EKS2	**Erkin-Say**	**3.37**	**359**	P		**Pn**	**08 47 09.9**	**+3.6**
	SNR=90							
EKS2	**Erkin-Say**	**3.37**	**359**	⇑*eP*		**Pn**	**08 47 09.2**	**+3.0**
	baz=60							
EKS2				⇑*iS*		**Sn**	**08 47 48.8**	**+2.0**
	baz=60							
AAK	**Ala-Archa**	**3.38**	**8**	P		**Pn**	**08 47 10.2**	**+3.7**
	SNR=63							
AAK	**Ala-Archa**	**3.38**	**8**	Pn		**Pn**	**08 47 09.8**	**+3.3**
	20nm,0.3s,baz=164,slow=6.8,SNR=100							
AAK					Sn	**Sb**	**08 47 53.4**	**-1.4**
	13nm,0.3s,baz=153,slow=16,SNR=9.3							
	67nm,0.5s							
AAK	**Ala-Archa**	**3.38**	**8**	⇑*eP*		**Pn**	**08 47 09.4**	**+2.9**
	baz=9.0							
AAK				⇑*eS*		**Sn**	**08 47 49.4**	**+2.2**
	baz=9.0							
KBK	**Karagaybulak**	**3.47**	**14**	P		**Pn**	**08 47 11.2**	**+3.6**
	SNR=48							
KBK	**Karagaybulak**	**3.47**	**14**	⇑*eP*		**Pn**	**08 47 10.6**	**+2.9**
	baz=14							
KBK				⇑*eS*		**Sn**	**08 47 51.7**	**+2.3**
	baz=14							
ULHL	**Ulahol**	**3.47**	**31**	P		**Pn**	**08 47 11.1**	**+3.3**
	SNR=7.9							
ULHL	**Ulahol**	**3.47**	**31**	⇑*eP*		**Pn**	**08 47 10.8**	**+3.0**
	baz=32							
ULHL				⇑*eS*		**Sn**	**08 47 52.1**	**+2.5**
	baz=32							
MRKS	**Merke**	**3.48**	**353**	*eP*		**Pb**	**08 47 14.4**	**-0.5**
	128nm,0.5s							
MRKS				*eS*		**Sb**	**08 47 57.7**	**0.0**
	138nm,0.5s							
MRKS	**Merke**	**3.48**	**353**	Pg		**Pn**	**08 47 11.5**	**+3.7**
	75nm,0.4s							
MRKS				Lg		Lg	08 47 57.1	
	138nm,0.5s							
CHGR	**Chuyangaron**	**3.69**	**262**	⇑*eP*		**Pn**	**08 47 14.3**	**+3.6**
	baz=61							
CHGR				⇑*iS*		**Sn**	**08 47 57.9**	**+3.1**
	baz=61							
CHGR	**Chuyangaron**	**3.69**	**262**	Pn		**Pn**	**08 47 14.0**	**+3.3**
CHMS	**Chumysh**	**3.77**	**10**	P		**Pn**	**08 47 15.2**	**+3.5**
	SNR=27							
TKM2	**Tokmak 2**	**3.86**	**20**	P		**Pn**	**08 47 16.1**	**+3.0**
	SNR=24							
TKM2	**Tokmak 2**	**3.86**	**20**	⇑*eP*		**Pn**	**08 47 15.9**	**+2.7**
	baz=20							
TKM2				⇑*eS*		**Sn**	**08 48 01.3**	**+2.1**
	baz=20							
TKM2	**Tokmak 2**	**3.86**	**20**	⇑Pn		**Pn**	**08 47 16.0**	**+2.9**
	13nm,0.3s							
TKM2				⇓Pg		**Pb**	**08 47 24.7**	**+3.1**
	50nm,0.5s							
TKM2				⇓Sn		**Sn**	**08 48 02.1**	**+2.9**
	71nm,0.7s							
TKM2				⇑Lg		Lg	08 48 14.7	
	86nm,0.7s							
TARG	**Taragay, Kyrgy**	**3.89**	**50**	⇑*eP*		**Pn**	**08 47 17.0**	**+3.3**
	baz=51							
TARG				⇑*eS*		**Sn**	**08 48 02.5**	**+2.4**
	baz=51							
TARG	**Taragay, Kyrgy**	**3.89**	**50**			**Pn**	**08 47 15.9**	**+2.3**
USP	**Ospenovka**	**4.00**	**7**	P		**Pn**	**08 47 18.2**	**+3.3**
	SNR=14							
USP	**Ospenovka**	**4.00**	**7**	⇓*eP*		**Pn**	**08 47 18.0**	**+3.1**
	baz=7.0							
USP				⇓*eS*		**Sn**	**08 48 04.3**	**+1.9**
	baz=7.0							
TAS	**Tashkent**	**4.02**	**302**	⇑*eP*		**Pn**	**08 47 18.2**	**+3.1**
	baz=1.0							
TAS				⇑*eS*		**Sn**	**08 48 04.7**	**+2.0**
	baz=1.0							
TAS	**Tashkent**	**4.02**	**302**			**Pn**	**08 47 19.1**	**+4.1**
IUG	**Iuzhnay**	**4.06**	**316**	*eP*		**Pg**	**08 47 29.5**	**-0.8**
	197nm,0.6s							
IUG				*eS*		**Sg**	**08 48 23.6**	**+0.7**
	302nm,0.5s							
IUG	**Iuzhnay**	**4.06**	**316**	Pg		**Pn**	**08 47 19.8**	**+4.1**
	319nm,0.5s							
IUG				Lg		Lg	08 48 10.7	
	434nm,0.6s							
DZA	**Taraz**	**4.06**	**333**	Pg		**Pn**	**08 47 20.0**	**+4.3**
	158nm,0.4s							
DZA				Lg		Lg	08 48 11.1	
	340nm,0.5s							
KST	**Kastek**	**4.08**	**23**	*eP*		**Pb**	**08 47 28.0**	**+2.8**
	54nm,0.5s							
KST				*eS*		**Sg**	**08 48 23.3**	**-0.3**
	250nm,0.6s							
KST	**Kastek**	**4.08**	**23**	Pg		**Pb**	**08 47 26.2**	**+1.0**
	36nm,0.5s							
KST				Lg		Lg	08 48 21.5	
	250nm,0.6s							
SGDS	**Sogindy**	**4.20**	**8**	*eP*		**Pb**	**08 47 28.8**	**+1.6**
	31nm,0.1s							
SGDS				*eS*		**Sg**	**08 48 26.7**	**-0.8**
	136nm,0.1s							
SGDS	**Sogindy**	**4.20**	**8**	Pg		**Pb**	**08 47 26.8**	**-0.4**
	30nm,0.7s							
SGDS				Lg		Lg	08 48 23.7	
	137nm,0.6s							
DGS	**Degeres**	**4.21**	**20**	*eP*		**Pg**	**08 47 31.4**	**-1.8**
	61nm,0.7s							
DGS				*eS*		**Sg**	**08 48 27.6**	**-0.2**
	160nm,0.7s							
DGS	**Degeres**	**4.21**	**20**	Pg		**Pb**	**08 47 27.9**	**+0.5**
	47nm,0.8s							
DGS				Lg		Lg	08 48 24.5	
	160nm,0.7s							
IZV	**Izvestkoviy**	**4.29**	**28**	*eP*		**Pb**	**08 47 30.4**	**+1.7**
	37nm,0.1s							
IZV				*eS*		**Sg**	**08 48 28.9**	**-1.5**
	129nm,0.8s							
IZV	**Izvestkoviy**	**4.29**	**28**	Pg		**Pb**	**08 47 30.4**	**+1.7**
	37nm,0.5s							
IZV				Lg

66nm,0.3s
KOTS eS Sg 08 48 40.1 -1.9
183nm,0.9s
KOTS Kotyrbulak 4.65 31 Pg Pb 08 47 37.0 +2.1
68nm,0.7s
KOTS Lg Lg 08 48 40.1
183nm,0.9s
KTBS Karatobe 4.91 25 eP Pb 08 47 41.2 +2.0
50nm,0.0s
KTBS eS Sg 08 48 47.1 -3.1
155nm,0.2s
KTBS Karatobe 4.91 25 Pg Pb 08 47 41.2 +2.0
49nm,0.7s
KTBS Lg Lg 08 48 47.1
155nm,0.6s
KUU Kurty 4.97 21 eP Pb 08 47 40.5 +0.3
23nm,0.4s
KUU eS Sb 08 48 45.9 +5.5
118nm,0.7s
KUU Kurty 4.97 21 Pg Pb 08 47 40.5 +0.3
23nm,0.4s
KUU Lg Lg 08 48 45.9
118nm,0.7s
SATY Saty 5.11 41 eP Pb 08 47 46.3 +3.6
34nm,0.8s
SATY eS Sg 08 48 56.2 -0.4
115nm,1.2s
CHKK Chushkaly 5.14 26 eP Pb 08 47 44.8 +1.7
58nm,0.7s
CHKK eS Sg 08 48 53.8 -3.8
77nm,0.2s
CHKK Chushkaly 5.14 26 Pg Pb 08 47 44.8 +1.7
58nm,0.7s
CHKK Lg Lg 08 48 53.8
77nm,1.1s
KURS Kuram 5.31 37 eP Pb 08 47 49.6 +3.5
43nm,0.4s
KURS eS Sg 08 49 01.9 -1.4
83nm,0.5s
UZB Uzynbulak 5.49 44 eP Pb 08 47 53.5 +4.2
21nm,0.5s
UZB eS Sg 08 49 08.0 -0.9
57nm,0.9s
KPKS Kokpek 5.54 40 eP Pb 08 47 53.5 +3.5
41nm,0.4s
KPKS eS Sg 08 49 08.5 -2.1
104nm,0.4s
CHCP Chirah Chowk 5.64 185 P Pn 08 47 41.1 +3.7
NIL Nilore 5.65 185 Pn Pn 08 47 40.1 +2.6
CEP Cherat 5.67 196 P Pn 08 47 43.6 +5.7
SHLS Shalkode 5.74 46 eP Pg 08 48 02.1 -0.4
24nm,0.0s
SHLS eS Sg 08 49 23.0 +6.2
71nm,0.4s
BTLS Baital 5.75 2 eP Pb 08 47 55.5 +2.1
7.2nm,0.1s
BTLS eS Sg 08 49 12.3 -4.8
30nm,0.1s
BTLS Baital 5.75 2 Pg Pb 08 47 55.6 +2.1
7.4nm,0.6s
BTLS Lg Lg 08 49 13.2
PDGK Podgornoye 5.87 45 ⇑Pn Pn 08 47 42.3 +1.6
9.9nm,0.7s
PDGK ⇑Pg Pb 08 48 01.1 +5.5
28nm,0.7s
PDGK ⇓Sn Sn 08 48 55.5 +7.0
46nm,1.0s
PDGK ⇑Lg Lg 08 49 18.8
79nm,0.9s
BLB Baldybastay 5.93 34 eP Pb 08 48 01.3 +4.6
44nm,0.2s
BLB eS Sg 08 49 21.3 -1.6
84nm,0.3s
KBL Kabul 6.10 220 Pn 08 47 47.3 +3.4
THW Thamme Wali 6.70 195 P Pn 08 47 54.5 +2.6
DJR Jarkent 6.72 40 eP Pb 08 48 15.7 +5.5
8.6nm,0.2s
DJR eS Sg 08 49 46.0 -2.4
24nm,0.6s
THN Thein Dam 7.01 167 eP Pn 08 47 60.0 +3.8
THN eS Sn 08 49 17.6 +1.2
BHK Bhakra 8.14 164 eS Sn 08 49 42.3 -1.8
SMLA Simla 8.59 160 eP Pn 08 48 18.7 +0.9
SMLA eS Sn 08 49 52.2 -3.1
SMLA IAML 08 49 59.5
comp=N,59nm,0.3s
OTUK Ortayu 9.02 354 ⇑Pn Pn 08 48 23.7 0.0
comp=N,14nm,0.9s
OTUK ⇓Lg Lg 08 50 55.4
comp=N,91nm,1.4s
MAKZ Makanchi 9.59 36 ⇓Pn Pn 08 48 32.8 +1.3
comp=N,3.7nm,1.1s
MAKZ ⇑Pg 08 49 07.5
comp=N,6.4nm,0.8s
MAKZ ⇓Lg Lg 08 51 18.8
comp=N,17nm,1.2s
MK31 Makanchi Array 9.72 37 Pn Pn 08 48 35.5 +2.2
MK31 Makanchi Array 9.72 37 ⇑Pn Pn 08 48 33.7 +0.4
comp=N,0.5nm,0.5s
MK31 ⇑Pg 08 49 13.5
comp=N,3.2nm,0.7s
MK31 ⇓Lg Lg 08 51 22.6
comp=N,27nm,1.4s
MKAR Makanchi Array 9.72 37 Pn Pn 08 48 33.4 +0.1
comp=N,0.1nm,0.3s,baz=225,slow=15,SNR=5.2
MKAR Lg Lg 08 51 18.1
comp=N,0.1nm,0.3s,baz=215,slow=29,SNR=2.0
comp=N,0.4nm,0.5s
MKAR Makanchi Array 9.72 37 Pn Pn 08 48 34.7 +1.3
HRA Herat 10.49 246 Pn Pn 08 48 46.9 +2.8
WMQ Urumqi 11.33 62 eP Pn 08 48 52.8 -2.6
WMQ sP 08 49 02.0
WMQ pmax pmax
comp=N,11nm,0.7s
KUDL Kundal 11.34 168 eP Pn 08 48 55.4 0.0
KUDL eS Sn 08 50 58.0 -4.7
KURBB Kurchatov Arra 11.81 15 Pn Pn 08 49 01.0 -0.8
comp=N,0.1nm,0.3s,baz=204,slow=11,SNR=6.2
KURBB Lg Lg 08 52 20.9
comp=N,0.1nm,0.3s,baz=206,slow=32,SNR=6.6
comp=N,0.3nm,0.3s
KURBB Kurchatov Arra 11.81 15 ⇓Lg Lg 08 52 26.7
comp=N,84nm,1.6s
KURK Kurchatov 11.91 15 ⇑Lg Lg 08 52 30.2
comp=N,49nm,1.2s
GEYT Alibeck 12.37 269 Pn Pn 08 49 08.8 -0.8
comp=N,0.3nm,0.3s,baz=168,slow=7.6,SNR=1.7
GEYT Sn Sn 08 51 27.6 -0.3
comp=N,0.8nm,0.3s,baz=53,slow=22,SNR=1.9
comp=N,0.9nm,0.3s
BVA0 Borovoye Array 13.94 351 ⇓P Pn 08 49 31.0 +0.1
comp=N,6.9nm,0.6s
BVAR Borovoye Array 13.94 351 Pn Pn 08 49 28.2 -2.7
comp=N,0.1nm,0.3s,baz=166,slow=14,SNR=14
comp=N,3.4nm,0.6s
BRVK Borovoye 13.98 351 Pn 08 49 31.2 -0.3
BRVK Borovoye 13.98 351 ⇑P Pn 08 49 31.3 -0.3
comp=N,19nm,1.1s
AB31 Akbulak array 14.05 320 ⇑P Pn 08 49 30.8 -1.7
comp=N,3.7nm,0.6s
AB31 ⇑S Sn 08 52 07.3 -1.7
comp=N,2.0nm,0.5s
ABKAR Akbulak array 14.05 320 Pn 08 49 32.1 -0.5
ABKAR Akbulak array 14.05 320 Pn Pn 08 49 32.2 -0.3
AKTO Aktyubinsk 15.77 320 ⇑P Pn 08 49 53.9 -1.6
comp=N,6.2nm,0.7s
ZAA0 Zalesovo Array 16.46 23 Pn 08 50 05.9 +1.5
ZALV Zalesovo Beam 16.46 23 Pn Pn 08 50 02.8 -1.6
comp=N,0.4nm,0.3s,baz=212,slow=9.9,SNR=7.2
comp=N,1.4nm,0.4s
ZALV Zalesovo Beam 16.46 23 Pn Pn 08 50 05.6 +1.3
ARU Arti 19.89 335 P P 08 50 45.2 +0.2
comp=N,1.8nm,0.3s,baz=160,slow=7.5,SNR=6.9
comp=N,1.8nm,0.3s
ARU Arti 19.89 335 P Pn 08 50 47.8 +1.2
ARU IAmb IAmb 08 50 54.3
comp=Z,7.5nm,0.8s
GTA Gaotai 20.08 81 eP P 08 50 48.3 +1.0
GTA pP pP 08 50 52.3 +3.2
GTA sP sP 08 50 55.5 +5.5
GTA pmax pmax
comp=Z,5.0nm,0.7s
BELG Belogornoye 22.32 315 P P 08 51 10.9 -0.3
comp=Z,6.5nm,0.6s,baz=90,slow=7.1,SNR=4.0
comp=Z,6.5nm,0.6s
GNI Garni 22.35 282 P P 08 51 17.6 +5.8
comp=Z,9.7nm,0.9s,baz=150,slow=20,SNR=2.1

ONI Oni 23.12 288 P P 08 51 22.4 +2.6
ONI IAmb IAmb 08 51 41.8
comp=Z,9.6nm,1.1s
KBZ Khabaz 23.51 291 P P 08 51 33.3 +10
comp=Z,2.1nm,0.6s,baz=100,slow=10,SNR=2.6
SONM Songino Array 24.95 59 P P 08 51 33.3 -3.9
comp=Z,0.6nm,0.8s,baz=265,slow=9.7,SNR=4.5
comp=Z,0.6nm,0.8s
TNCH TengChong 25.18 117 eP P 08 51 44.8 +5.3
OBN Obninsk 29.42 315 P P 08 52 18.1 +1.1
comp=Z,5.1nm,0.4s,baz=10,slow=21,SNR=3.4
comp=Z,5.1nm,0.4s
CMAR Chiang Mai Arr 30.07 126 P P 08 52 19.3 -3.9
comp=Z,1.5nm,0.4s,baz=299,slow=39,SNR=1.4
comp=Z,1.5nm,0.4s
BRTR Keskin Array B 30.83 284 P P 08 52 28.8 -1.1
comp=Z,0.4nm,0.7s,baz=99,slow=7.8,SNR=2.1
comp=Z,0.4nm,0.7s
BJT Baijiatuao 32.38 75 P P 08 52 43.7 +0.3
BJT IAmb IAmb 08 52 50.2
comp=Z,3.8nm,0.5s
FIA1 FINESS Array S 36.50 323 P P 08 53 19.3 +0.5
FINES FINESS Array B 36.50 323 P P 08 53 19.3 +0.5
comp=Z,1.5nm,0.4s,baz=117,slow=9.7,SNR=22
comp=Z,1.5nm,0.4s
ARCES ARCESS Array B 39.48 336 P P 08 53 43.8 0.0
comp=Z,1.3nm,0.5s,baz=99,slow=7.5,SNR=13
comp=Z,1.3nm,0.5s
ARCES ARCESS Array B 39.48 336 P P 08 53 44.4 +0.6
GERES GERESS Array B 43.21 303 P P 08 54 14.6 -0.3
comp=Z,0.2nm,0.5s,baz=68,slow=8.6,SNR=2.1
comp=Z,0.2nm,0.5s
NB2 NORSAR Subarra 43.56 321 P P 08 54 16.8 -0.7
comp=Z,1.5nm,0.7s,baz=92,slow=8.6
NOA NORSAR Array B 43.56 321 P P 08 54 16.9 -0.6
comp=Z,0.6nm,0.6s,baz=92,slow=7.8,SNR=3.6
comp=Z,0.6nm,0.6s
MJAR Matsushiro Arr 49.90 72 P P 08 55 03.5 -4.0
comp=Z,1.2nm,0.7s,baz=305,slow=6.9,SNR=2.7
comp=Z,1.2nm,0.7s
ILAR Eielson Array 71.47 17 P P 08 57 30.9 -3.2
comp=Z,0.6nm,0.9s,baz=316,slow=3.8,SNR=5.6
comp=Z,0.6nm,0.9s
YKA Yellowknife Ar 78.33 4 P P 08 58 12.7 -1.0
comp=Z,1.8nm,0.9s,baz=353,slow=9.0,SNR=1.5
comp=Z,1.8nm,0.9s
WRA Warramunga Arr 81.63 124 P P 08 58 29.9 -2.4
comp=Z,0.4nm,0.6s,baz=325,slow=5.1,SNR=12
comp=Z,0.4nm,0.6s
ASAR Alice Springs 84.08 127 P P 08 58 41.8 -3.1
comp=Z,0.2nm,0.7s,baz=315,slow=4.8,SNR=6.1
comp=Z,0.2nm,0.7s

*KRNET **26** 08:50:50.9±0.1,39.˚23N×74.˚28E,mb3.6*
*SOME **26** 08:50:51.7,39.˚42N×74.˚00E,h5km*
ISC 26 08:50:49.0±1.7,39.˚29N±0.˚06×74.˚28E±0.˚04,h18km±5km,
n23,σ1s79/46,16C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.69**	**318**	⇓*e*P	**Pg**	**08 51 23.3**	**+1.8**
	baz=19						
OHH				⇓*e*S	**Sg**	**08 51 47.0**	**+3.5**
	baz=19						
DRK	**Karamyk**	**1.93**	**277**	⇓*e*P	**Pg**	**08 51 27.0**	**+0.8**
	baz=78						
DRK				⇓*e*S	**Sg**	**08 51 53.7**	**+2.4**
	baz=78						
ARLS	**Aral**	**2.57**	**1**	⇑*i*P	**Pg**	**08 51 36.5**	**-1.9**
	baz=1.0						
ARLS				⇑*i*S	**Sg**	**08 52 09.9**	**-1.8**
	baz=1.0						
BTK	**Batken**	**2.78**	**287**	⇑*e*P	**Pb**	**08 51 39.0**	**+0.8**
	baz=88						
BTK				⇑*e*S	**Sg**	**08 52 14.3**	**-4.1**
	baz=88						
UCH	**Uchtor**	**2.94**	**3**	⇑*e*P	**Pb**	**08 51 42.0**	**+0.8**
	baz=3.0						
UCH				⇑*e*S	**Sb**	**08 52 19.4**	**+2.4**
	baz=3.0						
ARK	**Arkit**	**3.07**	**326**	⇑*e*P	**Pb**	**08 51 43.4**	**+0.3**
	baz=26						
ARK				⇑*e*S	**Sb**	**08 52 21.8**	**+1.5**
	baz=26						
GAR	**Garm**	**3.10**	**266**	⇓*e*P	**Pb**	**08 51 42.9**	**-0.7**
	baz=67						
GAR				⇓*e*S	**Sb**	**08 52 21.2**	**+0.1**
	baz=67						
TRKS	**Terek-Say**	**3.28**	**314**	⇑*e*P	**Pb**	**08 51 45.5**	**-1.3**
	baz=14						
TRKS				⇑*i*S	**Sb**	**08 52 25.2**	**-1.3**
	baz=14						
ULHL	**Ulahol**	**3.31**	**26**	⇑*e*P	**Pb**	**08 51 47.0**	**-0.3**
	baz=26						
ULHL				⇑*e*S	**Sb**	**08 52 27.6**	**+0.3**
	baz=26						
AAK	**Ala-Archa**	**3.35**	**3**	⇑*e*P	**Pb**	**08 51 47.4**	**-0.6**
	baz=3.0						
AAK				⇑*e*S	**Sb**	**08 52 28.8**	**+0.3**
	baz=3.0						
EKS2	**Erkin-Say**	**3.39**	**354**	⇓*e*P	**Pb**	**08 51 47.9**	**-0.8**
	baz=54						
EKS2				⇓*e*S	**Sb**	**08 52 29.9**	**+0.3**
	baz=54						
MRKS	**Merke**	**3.55**	**347**	*e*P	**Pg**	**08 51 55.0**	**-1.9**
	11nm,0.3s						
MRKS				*e*S	**Sg**	**08 52 40.7**	**-2.2**
	18nm,0.5s						
TARG	**Taragay, Kyrgy**	**3.63**	**47**	⇑*e*P	**Pb**	**08 51 51.3**	**-1.6**
	baz=46						
TARG				⇑*e*S	**Sb**	**08 52 35.4**	**-1.3**
	baz=46						
KST	**Kastek**	**3.96**	**18**	*e*P	**Pg**	**08 52 04.5**	**-0.4**
	4.6nm,0.2s						
KST				*e*S	**Sg**	**08 52 56.9**	**+0.7**
	31nm,0.1s						
DGS	**Degeres**	**4.11**	**15**	*e*P	**Pg**	**08 52 07.0**	**-0.7**
	14nm,0.1s						
DGS				*e*S	**Sg**	**08 53 01.2**	**+0.3**
	26nm,0.1s						
MTBS	**Maitube**	**4.17**	**22**	*e*P	**Pg**	**08 52 08.7**	**-0.1**
	6.4nm,0.4s						
MTBS				*e*S	**Sg**	**08 53 04.5**	**+1.7**
	12nm,0.8s						
SGDS	**Sogindy**	**4.17**	**3**	*e*P	**Pg**	**08 52 08.5**	**-0.4**
	5.7nm,0.5s						
SGDS				*e*S	**Sg**	**08 53 04.1**	**+1.2**
	11nm,1.1s						
TNSS	**Tian-Shan**	**4.25**	**27**	*e*P	**Pg**	**08 52 10.7**	**+0.2**
	17nm,0.1s						
TNSS				*e*S	**Sg**	**08 53 07.7**	**+2.1**
	7.2nm,0.9s						
IUG	**Iuzhnay**	**4.31**	**313**	*e*P	**Pb**	**08 52 07.2**	**+2.9**
	17nm,0.1s						
IUG				*e*S	**Sg**	**08 53 01.6**	**-5.9**
	34nm,0.5s						
MDOK	**Medeo**	**4.40**	**27**	*e*P	**Pg**	**08 52 13.2**	**0.0**
	11nm,0.5s						
MDOK				*e*S	**Sg**	**08 53 11.8**	**+1.5**
	14nm,0.8s						
KRBS	**Karabastau**	**4.53**	**13**	*e*P	**Pg**	**08 52 15.3**	**-0.4**
	4.2nm,0.3s						
KRBS				*e*S	**Sg**	**08 53 15.2**	**+0.8**
	12nm,0.7s						
KTBS	**Karatobe**	**4.78**	**21**	*e*P	**Pg**	**08 52 19.5**	**-0.9**
	5.2nm,0.4s						
KTBS				*e*S	**Sg**	**08 53 22.4**	**+0.2**
	22nm,0.0s						
KUU	**Kurty**	**4.86**	**18**	*e*P	**Pg**	**08 52 22.2**	**+0.3**
	3.8nm,0.4s						
KUU				*e*S	**Sg**	**08 53 27.1**	**+2.3**
	18nm,0.3s						

*ISK **26** 08:59:27.3,42.˚10N×24.˚94E,h5km,ML2.9/15*
*BEO **26** 08:59:28.3±0.7,41.˚93N×24.˚85E,h0km,ML2.8/10*
*DDA **26** 08:59:30.0±0.0,42.˚16N×25.˚20E,h10km±1km,ML2.5*
*THE **26** 08:59:30.1,42.˚03N×25.˚06E,h10km±31km,ML2.8/8,Error ellipse: s-maj=31.6km s-min=0.9km az=0.0*
ISC 26 08:59:26.8±1.1,42.˚15N±0.˚02×25.˚04E±0.˚02,h6km±9km,
n59,σ1s42/89,16C-2D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.26**	**259**	PG	**Pg**	**08 59 31.4**	**-0.5**
PLD	**Plovdiv**	**0.26**	**259**	*e*Pg	**Pg**	**08 59 31.2**	**-0.7**
PLD				*e*Sg	**Sg**	**08 59 34.2**	**-1.1**

KDZ Kurdzhali 0.58 151 PG Pb 08 59 39.2 -0.2
RDO Rodhopi 1.07 160 PG Pn 08 59 48.3 -0.2
RDO SG Sn 09 00 04.3 +0.6
RDO Rodhopi 1.07 160 P Pn 08 59 48.2 -0.2
RDO S Sb 09 00 02.0 -0.1
552nm,0.2s
NVR Nevrokopi 1.20 228 P Pn 08 59 50.1 -0.1
NVR S Sg 09 00 06.6 +1.4
400nm,0.2s
KAVA Kavala 1.22 199 P Pg 08 59 51.1 +0.8
KAVA S Sb 09 00 06.5 +0.1
820nm,0.2s
PLVB Pleven 1.27 346 ⇑P Pb 08 59 51.4 +0.2
PLVB ⇑S Sb 09 00 07.2 -0.6
EDRB Edirne 1.30 103 PN Pg 08 59 53.3 +1.5
EDRB Edirne 1.30 103 P Pg 08 59 52.5 +0.7
EDRB S Sg 09 00 10.5 +1.8
110nm,0.3s
VTS Vitosha 1.42 290 ⇑P Pn 08 59 52.4 -1.0
VTS ⇑S Sn 09 00 08.9 -3.5
VTS Vitosha 1.42 290 *e*Pg Pn 08 59 52.3 -1.1
VTS eSg Sn 09 00 11.7 -0.8
SRS Serrai 1.50 227 P Pb 08 59 55.3 +0.1
SRS S Sn 09 00 14.6 +0.3
418nm,0.5s
KOKK Kokkinochori, 1.55 211 P Pb 08 59 56.1 +0.1
KOKK S Sn 09 00 14.6 -0.8
222nm,0.3s
THAS Thassos island 1.57 189 P Pb 08 59 55.8 -0.4
UKOP Uzunkopru-Edir 1.57 130 PN Pg 08 59 57.9 +1.0
UKOP SN Sg 09 00 20.2 +2.9
KIRK Kırklareli 1.58 103 P Pb 08 59 55.8 -0.6
KIRK S Sg 09 00 17.8 +0.4
KIRK *i* AML AML 09 00 21.0
comp=N,74nm,1.0s
ENEZ Enez 1.64 149 PN Pg 08 59 58.8 +0.5
ENEZ SN Sg 09 00 21.2 +1.6
ENEZ Enez 1.64 149 P Pb 08 59 56.7 -0.9
ENEZ S Sn 09 00 16.8 -1.0
195nm,0.4s
CAVK Edirne/Enez-Ca 1.69 150 P Pb 08 59 58.5 +0.2
CAVK S Sg 09 00 20.1 -1.0
CAVK *i* AML AML 09 00 27.0
comp=N,78nm,0.5s
CAVK *i* AML AML 09 00 28.0
comp=E,96nm,0.3s
SMTH Samothraki Isl 1.72 168 P Pb 08 59 58.4 -0.5
SMTH S Sn 09 00 18.9 -0.8
RAZG Razgrad 1.77 37 ⇑P Pg 09 00 01.6 +0.7
RAZG ⇑S Sg 09 00 24.5 +0.7
ARMN Kirklareli, Me 1.80 98 P Pb 08 59 58.8 -1.4
ARMN S Sn 09 00 21.0 -0.7
ARMN *i* AML AML 09 00 31.0
comp=N,28nm,0.7s
KESN Edirne-Kesan 1.81 137 P Pb 09 00 00.1 -0.5
KESN S Sg 09 00 24.3 -0.7
SOH Sokhos 1.84 224 P Pn 09 00 00.0 +0.9
ERIK Erikli-Kesan 1.85 143 PN Pg 09 00 01.9 -0.4
ERIK SN Sg 09 00 26.7 +0.5
KNT Kendrikon 1.89 239 P Pn 08 59 59.5 -0.2
KNT S Sn 09 00 24.9 +1.0
120nm,0.2s
BOSS Bosilegrad 1.93 281 *e*Pg Pn 09 00 01.7 +1.4
BOSS *e*Sg Sb 09 00 28.1 +1.2
VAY Valandovo 2.03 247 *e*Pn Pb 09 00 04.3 +0.1
GELI Tayfur-Gelibol 2.06 148 PN Pb 09 00 04.8 +0.2
GADA Gvkgeada 2.06 162 PN Pb 09 00 04.7 0.0
ZAPS Zavoj 2.10 303 *e*Pn Pb 09 00 04.6 -0.8
ZAPS *e*Sn Sb 09 00 31.9 +0.2
VIZE Kirklareli, Vi 2.17 104 P Pb 09 00 04.8 -1.7
VIZE S Sb 09 00 30.9 -2.7
VIZE *i* AML AML 09 00 40.0
comp=N,36nm,0.4s
VIZE *i* AML AML 09 00 41.0
comp=E,30nm,0.7s
RKY Sarkoy-Tekirda 2.17 132 PN Pb 09 00 06.4 -0.2
STIP Stip 2.18 259 *e*Pn Pn 09 00 01.1 -2.6
STIP *e*Sn Sn 09 00 29.1 -1.9
BOZC Bozcaada 2.43 161 PN Pb 09 00 09.2 -1.8
KRBG Karabiga-Canak 2.45 135 PN Pb 09 00 09.4 -1.8
BARS Barje 2.48 287 *e*Pn Pn 09 00 08.4 +0.6
CTYL Yalıkoy Yolu 2.52 105 PN Pb 09 00 11.9 -0.6
EZN Ezine 2.52 157 PN Pb 09 00 10.8 -1.7
SLVT Silivri 2.54 110 PN Pb 09 00 12.4 -0.5
ZAGS Zajecar 2.65 310 *e*Pn Pb 09 00 13.6 -1.1
ZAGS *e*Sn Sb 09 00 46.2 -1.2
CTKS Kestanelik-??a 2.75 108 PN Pb 09 00 15.8 -0.6
SELS Selova 3.08 292 *e*Pn Pn 09 00 15.9 -0.2
TLBR Topalu 3.24 41 ⇓P Pb 09 00 23.2 -1.6
VOIR 3.28 0 ⇑P Pn 09 00 20.3 +1.4
VOIR ⇓S Sn 09 00 58.0 -0.4
HERR Herculane 3.33 326 ⇑P Pn 09 00 19.8 +0.3
KUBS Kucevo 3.34 314 *e*Pn Pn 09 00 22.9 +3.3
KUBS *e*Sn Sn 09 01 03.3 +3.7
TIRR Tirgusor 3.37 46 ⇑P Pb 09 00 23.2 -3.8
MLR Muntele Rosu 3.40 11 ⇑P Pn 09 00 22.9 +2.3
LOT Lotru 3.42 345 ⇑P Pn 09 00 22.3 +1.4
GRUS Gruza 3.62 300 *e*Pn Pn 09 00 25.7 +2.3
GRUS *e*Sn Sn 09 01 08.2 +1.7
GZR Gura Zlata 3.63 334 ⇑P Pn 09 00 24.5 +0.8
TPGR Topolog 3.65 41 ⇑P Pb 09 00 28.2 -3.6
IVAS Ivanjica 3.87 293 *e*Pn Pn 09 00 28.2 +1.3
VRI Vrincioaia 3.90 18 ⇑P Pn 09 00 29.2 +1.8
TRUS Trudelj 3.97 303 *e*Pn Pn 09 00 30.7 +2.4
SURR Surduc 4.17 331 ⇑P Pn 09 00 31.2 +0.1
BZS Buzias 4.26 326 ⇑P Pn 09 00 31.6 -0.6

*IDC **26** 09:04:39.3±2.0,5.˚23N×128.˚55E,h0km,mb3.6/4,*
mbtmp3.6/4,Error ellipse: s-maj=168.8km s-min=24.4km az=66.0
ISC 26 09:04:40.5±1.2,5.˚3N±0.˚2×128.˚2E±0.˚3,h10km,n6,σ1s57/9,
mb3.5/4,1C-1D,East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**3.41**	**328**	⇓*i*P	**Pg**	**09 05 44.4**	**-1.5**
BIPH				*i* S	**Sn**	**09 06 14.1**	**-0.2**
BUKP	**Musuan**	**4.04**	**310**	⇑*e*P	**Pb**	**09 05 53.1**	**+1.4**
BUKP				*e*S	**Sb**	**09 06 39.5**	**-1.1**
WRA	**Warramunga Arr**	**25.77**	**167**	P	**P**	**09 10 10.6**	**-1.1**
	0.7nm,0.7s,baz=348,slow=10,SNR=16						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**29.29**	**169**	P	**P**	**09 10 42.6**	**-0.7**
	0.1nm,0.3s,baz=352,slow=7.8,SNR=2.4						
ASAR				PcP	**PcP**	**09 13 48.9**	**-1.3**
	0.2nm,0.5s,baz=356,slow=2.4,SNR=4.2						
	0.1nm,0.3s						
STKA	**Stephens Creek**	**39.09**	**162**	P	**P**	**09 12 08.2**	**+0.3**
	1.4nm,0.4s,baz=332,slow=9.1,SNR=5.1						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**57.14**	**324**	P	**P**	**09 14 29.9**	**+2.4**
	0.3nm,0.6s,baz=107,slow=8.1,SNR=7.7						
	0.3nm,0.6s						

IDC 26 09:13:10.1±2.8,6.˚86S×128.˚33E,h0km,mb3.5/1,
mbtmp3.6/3,ML3.9/2,Error ellipse: s-maj=298.7km
s-min=32.8km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.26**	**156**	Pn	Pn	09 16 32.4	-1.1
	0.7nm,0.3s,baz=333,slow=13,SNR=32						
WRA				Sn	Sn	09 18 58.8	-14
	0.5nm,0.3s,baz=342,slow=21,SNR=7.4						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**17.55**	**163**	P	P	09 17 17.2	-0.4
	0.2nm,0.3s,baz=342,slow=10,SNR=16						
ASAR				S	Sn	09 20 24.0	-8.6
	0.2nm,0.4s,baz=335,slow=22,SNR=1.8						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**67.21**	**328**	P	P	09 24 06.3	0.0
	0.2nm,0.5s,baz=118,slow=8.2,SNR=2.0						
	0.2nm,0.5s						

*NOU **26** 09:21:02.5,41.˚91S×174.˚58E,h13km,MLv4.0/10,Cook Strait, New Zealand*
*WEL **26** 09:21:03.5±0.3,42.˚3S±3.˚3×17.˚4E±.˚,h10km±3km,M3.6/28,*
ML3.9/25,MLv3.6/28,Error ellipse: s-maj=0.0km
s-min=0.0km az=146.5

ISC 26 09:21:03.0±1.3, 41.80S±0.03×174.38E±0.02, h16km±13km, n87, σ1§16/89, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**292**	P	**Pb**	**09 21 07.0**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.39**	**282**	P	**Pg**	**09 21 11.1**	**+0.2**
BSWZ				S	**Sb**	**09 21 16.7**	**-0.5**
TUWZ	**Tuamarina**	**0.49**	**318**	P	**Pb**	**09 21 12.7**	**-0.6**
TUWZ				S	**Sb**	**09 21 19.1**	**-1.1**
SNZO	**South Karori**	**0.55**	**27**	P	**Pb**	**09 21 14.3**	**+0.1**
WEL	**Wellington**	**0.59**	**30**	P	**Pb**	**09 21 15.1**	**+0.1**
TCW	**Tory Channel**	**0.59**	**352**	P	**Pg**	**09 21 14.4**	**-0.3**
PLWZ	**Palliser**	**0.69**	**71**	P	**Pb**	**09 21 18.3**	**+1.6**
MSWZ	**Moikau Station**	**0.76**	**60**	P	**Pb**	**09 21 19.1**	**+1.3**
CAW	**Cannon Point**	**0.86**	**37**	P	**Pg**	**09 21 19.8**	**0.0**
KHZ	**Kahutara**	**0.88**	**225**	P	**Pb**	**09 21 21.5**	**+1.6**
KHZ	**Kahutara**	**0.88**	**225**	P	**Pb**	**09 21 21.3**	**+1.5**
PAWZ	**Paruwai Farm**	**0.89**	**62**	P	**Pb**	**09 21 21.0**	**+0.9**
NNZ	**Nelson**	**0.95**	**307**	P	**Pg**	**09 21 20.8**	**-0.7**
KIW	**Kapiti Island**	**1.02**	**23**	P	**Pg**	**09 21 22.3**	**-0.5**
DUWZ	**D'Urville Isla**	**1.05**	**341**	P	**Pb**	**09 21 22.7**	**-0.1**
MTW	**Mount Morrison**	**1.06**	**53**	P	**Pg**	**09 21 23.3**	**-0.2**
TRWZ	**Traveller**	**1.06**	**68**	P	**Pg**	**09 21 23.0**	**-0.5**
THZ	**Tophouse**	**1.10**	**271**	P	**Pg**	**09 21 24.2**	**-0.2**
OGWZ	**Otaki Gorge**	**1.15**	**31**	P	**Pb**	**09 21 24.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.24**	**44**	P	**Pn**	**09 21 25.7**	**0.0**
MRNZ	**Matariki Terra**	**1.28**	**288**	P	**Pb**	**09 21 27.1**	**+0.4**
TKNZ	**Takaka Hill**	**1.31**	**305**	P	**Pn**	**09 21 27.3**	**+0.6**
TMWZ	**Te Maipa**	**1.33**	**59**	P	**Pn**	**09 21 26.7**	**-0.2**
MRZ	**Mangatainoka R**	**1.45**	**39**	P	**Pn**	**09 21 28.8**	**+0.2**
GVZ	**Greta Valley S**	**1.54**	**220**	P	**Pn**	**09 21 30.3**	**+0.5**
CPWZ	**Castlepoint**	**1.63**	**58**	P	**Pn**	**09 21 31.3**	**+0.2**
QRZ	**Quartz Range**	**1.70**	**304**	P	**Pb**	**09 21 33.7**	**-0.2**
QRZ	**Quartz Range**	**1.70**	**304**	P	**Pb**	**09 21 33.5**	**-0.3**
PRWZ	**Pori Road**	**1.73**	**45**	P	**Pn**	**09 21 32.2**	**-0.1**
OHWZ	**Ohakea**	**1.74**	**24**	P	**Pb**	**09 21 34.2**	**-0.4**
POWZ	**Post Office Ro**	**1.75**	**37**	P	**Pn**	**09 21 32.9**	**+0.2**
BFZ	**Birch Farm**	**1.80**	**52**	P	**Pn**	**09 21 32.7**	**-0.6**
BFZ	**Birch Farm**	**1.80**	**52**	P	**Pn**	**09 21 32.5**	**-0.8**
LTZ	**Lake Taylor**	**1.85**	**237**	P	**Pn**	**09 21 34.6**	**+0.5**
AMCZ	**Amberley**	**1.88**	**222**	P	**Pn**	**09 21 34.5**	**+0.1**
DSZ	**Denniston Nort**	**1.93**	**271**	P	**Pn**	**09 21 36.4**	**+1.2**
ANWZ	**Angora Road**	**2.07**	**50**	P	**Pn**	**09 21 36.2**	**-0.9**
WAZ	**Wanganui**	**2.09**	**13**	P	**Pb**	**09 21 39.8**	**-0.7**
TSZ	**Takapari Road**	**2.11**	**35**	P	**Pn**	**09 21 37.6**	**-0.1**
OKCZ	**Okains Bay**	**2.15**	**206**	P	**Pn**	**09 21 37.9**	**-0.4**
MQZ	**McQueen's Vall**	**2.29**	**213**	P	**Pn**	**09 21 39.1**	**-1.0**
PRHZ	**Porangahau**	**2.29**	**49**	P	**Pn**	**09 21 39.0**	**-1.1**
OXZ	**Oxford**	**2.31**	**228**	P	**Pb**	**09 21 44.7**	**+0.5**
WPHZ	**Waipukurau**	**2.33**	**43**	P	**Pn**	**09 21 40.1**	**-0.6**
AKCZ	**Akaroa Harbour**	**2.34**	**207**	P	**Pn**	**09 21 40.3**	**-0.5**
INZ	**Inchbonnie**	**2.37**	**246**	P	**Pb**	**09 21 46.2**	**+1.0**
KHEZ	**Kahui Hut**	**2.52**	**354**	P	**Pn**	**09 21 45.7**	**+2.4**
KHEZ	**Kahui Hut**	**2.52**	**354**	P	**Pn**	**09 21 47.1**	**+0.8**
NEZ	**North Egmont**	**2.54**	**355**	P	**Pg**	**09 21 49.9**	**-1.7**
NBEZ	**Newall Road No**	**2.56**	**351**	P	**Pb**	**09 21 47.6**	**-0.9**
MOVZ	**Moawhango**	**2.61**	**24**	P	**Pn**	**09 21 45.7**	**+1.1**
DREZ	**Durham Road**	**2.61**	**357**	P	**Pb**	**09 21 48.2**	**-1.2**
PKE	**Pukeiti**	**2.62**	**353**	P	**Pb**	**09 21 49.3**	**-0.3**
BHHZ	**Black Hill Sta**	**2.64**	**30**	P	**Pb**	**09 21 51.0**	**+1.1**
WNVZ	**Wahianoa**	**2.64**	**21**	P	**Pn**	**09 21 46.3**	**+1.3**
TRVZ	**Turoa**	**2.65**	**20**	P	**Pb**	**09 21 50.2**	**0.0**
DRZ	**Dome Shelter**	**2.68**	**20**	P	**Pb**	**09 21 52.0**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.68**	**21**	P	**Pb**	**09 21 50.5**	**-0.2**
VRZ	**Vera Road**	**2.69**	**6**	P	**Pn**	**09 21 47.7**	**+2.1**
FWVZ	**Far West T-bar**	**2.69**	**20**	P	**Pb**	**09 21 50.9**	**-0.1**
KAHZ	**Kahuranaki**	**2.76**	**44**	P	**Pn**	**09 21 45.7**	**-0.8**
NGZ	**Ngauruhoe**	**2.78**	**20**	P	**Pb**	**09 21 52.7**	**+0.3**
OTVZ	**Oturere**	**2.81**	**21**	P	**Pb**	**09 21 53.6**	**+0.8**
NNVZ	**North Ngauruho**	**2.83**	**20**	P	**Pn**	**09 21 49.4**	**+1.8**
WTVZ	**West Tongariro**	**2.83**	**19**	P	**Pn**	**09 21 49.0**	**+2.2**
TWVZ	**Taurewa**	**2.84**	**17**	P	**Pn**	**09 21 54.0**	**+0.5**
WACZ	**Wakanui South**	**2.84**	**220**	P	**Pn**	**09 21 47.4**	**-0.3**
ETVZ	**East Tongariro**	**2.85**	**21**	P	**Pb**	**09 21 53.6**	**+0.1**
TMVZ	**Te Maari**	**2.86**	**21**	P	**Pb**	**09 21 53.7**	**-0.1**
KRVZ	**Karewarewa**	**2.87**	**20**	P	**Pb**	**09 21 54.6**	**+0.8**
MCHZ	**McNeill Hill**	**2.94**	**38**	P	**Pn**	**09 21 48.4**	**-0.7**
WVZ	**Waitaha Valley**	**2.98**	**243**	P	**Pb**	**09 21 55.5**	**-0.3**
BKZ	**Black Stump Fm**	**3.08**	**32**	P	**Pn**	**09 21 52.0**	**+0.9**
RPZ	**Rata Peaks**	**3.11**	**231**	P	**Pn**	**09 21 51.1**	**-0.3**
RPZ	**Rata Peaks**	**3.11**	**231**	P	**Pn**	**09 21 51.1**	**-0.3**
RATZ	**Rangitukua**	**3.12**	**20**	P	**Pb**	**09 21 59.1**	**+1.0**
HIZ	**Hauiti**	**3.30**	**6**	P	**Pn**	**09 21 56.1**	**+2.1**
HIZ	**Hauiti**	**3.30**	**6**	P	**Pn**	**09 21 56.2**	**+2.2**
MRHZ	**Matea Rd**	**3.35**	**28**	P	**Pn**	**09 21 53.8**	**-0.9**
TMZ	**Timaru**	**3.58**	**223**	P	**Pn**	**09 21 57.6**	**-0.2**
URZ	**Urewera**	**4.11**	**32**	P	**Pn**	**09 22 04.0**	**-1.1**
URZ	**Urewera**	**4.11**	**32**	P	**Pn**	**09 22 04.0**	**-1.1**
TOZ	**Tahuroa Road**	**4.15**	**14**	P	**Pn**	**09 22 10.5**	**+4.8**
ODZ	**Otahua Downs**	**4.23**	**219**	P	**Pn**	**09 22 06.5**	**-0.3**
ODZ	**Otahua Downs**	**4.23**	**219**	P	**Pn**	**09 22 05.8**	**-1.0**
MKAZ	**Moumakai**	**4.73**	**8**	P	**Pn**	**09 22 15.5**	**+1.9**
ETAZ	**East Tamaki Re**	**4.86**	**5**	P	**Pn**	**09 22 19.5**	**+4.1**

*IDC **26** 09:21:35.5±8.3, 36.48N×142.01E, h0km, mb3.1/2, mbtmp3.0/3, ML1.9/1, Error ellipse: s-maj=177.6km s-min=34.1km az=25.0*
*JMA **26** 09:21:43.6±0.2, 35.9N±0.8×14.1E, h34km±2km, MV2.9/32, FAR E OFF IBARAKI PREF*

ISC 26 09:21:40.9±2.6, 35.93N±0.09×141.4E±0.1, h21km±6km, n16, σ1§48/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.52**	**244**	P	**Pn**	**09 21 52.9**	**-0.2**
CHOJ				S	**Sb**	**09 21 59.4**	**+1.0**
JIHU	**Itakohorinouch**	**0.74**	**273**	P	**Pn**	**09 21 56.7**	**+0.7**
JIHU				S	**Sn**	**09 22 06.3**	**-0.4**
JHYU	**Hitachinakayam**	**0.80**	**301**	P	**Pn**	**09 21 57.5**	**+0.5**
JHO	**Hitachi**	**0.98**	**315**	P	**Pn**	**09 21 59.7**	**+0.3**
JYT	**Yasato**	**1.05**	**287**	P	**Pb**	**09 22 00.3**	**-0.1**
JYT				S	**Sb**	**09 22 12.2**	**-1.4**
JFK	**Kawauchi**	**1.50**	**343**	P	**Pb**	**09 22 07.8**	**-0.4**
JAG	**Ashikaga**	**1.68**	**288**	*i* P	**Pb**	**09 22 09.4**	**-1.7**
JAG				S	**Sn**	**09 22 28.4**	**-1.5**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=90,slow=9.0,SNR=7.7	**2.68**	**284**	Pn	**Pn**	**09 22 24.6**	**+1.8**
MJAR				Sn	**Sb**	**09 23 03.3**	**+2.7**
	0.2nm,0.3s,baz=355,slow=25,SNR=4.3 1.0nm,0.3s						
H11N2	**WAKE ISLAND Hy 27.58** baz=311,slow=75,SNR=11	**119**		T	T	09 56 29.4	
H11N1	**WAKE ISLAND Hy 27.59** baz=311,slow=75,SNR=12	**119**		T	T	09 56 30.2	
H11N3	**WAKE ISLAND Hy 27.60** baz=311,slow=75,SNR=11	**119**		T	T	09 56 31.1	
H11S1	**WAKE ISLAND Hy 28.26** baz=313,slow=76,SNR=7.1	**121**		T	T	09 57 20.6	
H11S3	**WAKE ISLAND Hy 28.26** baz=313,slow=76,SNR=6.3	**121**		T	T	09 57 20.3	
H11S2	**WAKE ISLAND Hy 28.28** baz=313,slow=76,SNR=3.9	**121**		T	T	09 57 25.0	
WRA	**Warramunga Arr** 0.1nm,0.4s,baz=4.5,slow=7.1,SNR=1.3 0.1nm,0.4s	**55.97**	**188**	P	P	09 31 19.4	+1.7
ASAR	**Alice Springs** 0.1nm,0.5s,baz=17,slow=11,SNR=1.7 0.1nm,0.5s	**59.70**	**188**	P	P	09 31 46.5	+2.7

*IDC **26** 09:23:23.7±0.4, 39.14N×74.27E, h0km, mb4.7/41, mbtmp4.7/47, ML4.3/5, MS4.3/77, Error ellipse: s-maj=8.9km s-min=8.4km az=102.0*
*MOS **26** 09:23:24.1±1.0, 39.07N×74.27E, h14km, mb5.2/51, MS4.4/18, Error ellipse: s-maj=4.5km s-min=3.0km az=93.8*
*BJI **26** 09:23:26.2±0.0, 39.17N×74.26E, h28km, mb4.8/60, mB5.0/40, ML5.1/4, Ms5.0/65, Ms7 4.6/62*
*SOME **26** 09:23:26.5, 39.37N×74.28E, h5km, MS4.9*
*NEIC **26** 09:23:26.2±1.8, 39.29N±0.03×74.26E±0.07, h10km±1km, mb5.1/190, Error ellipse: s-maj=9.1km s-min=5.4km az=280.0*
*GCMT **26** 09:23:27.2±0.2, 39.26N±0.01×74.26E±0.01, h20km±1km, MW5.0/118, Moment Tensor Solution. s46,c60; s118,c184; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.34±.11; Mθθ-1.80±.10; Mϕϕ2.14±.09; Mrθ0.03±.19; Mθϕ-3.67±.08; Mϕr-0.34±.17; Best double couple:*

M0 4.17800×10^16^ NP1:ϕs194.00000°, δ89.00000°, λ4.00000°. NP2:ϕs104.00000°, δ86.00000°, λ179.00000°. Principal axes: T 4.3550, Plg4.0000°, Azm59.0000°; N -0.3540, Plg86.0000°, Azm207.0000°; P -4.0010, Plg2.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*KRNET **26** 09:23:28.4±0.1, 39.41N×74.17E, mb5.4*
*NNC **26** 09:23:29.9±1.5, 39.37N×74.44E, h0km, mb5.8, mpv5.5, Error ellipse: s-maj=12.2km s-min=8.2km az=161.0*

ISC 26 09:23:25.7±0.5, 39.27N±0.02×74.25E±0.02, h10km±2km, h11km:pP-P, n851, σ2§13/900, mb5.0/235, MS4.4/120, 73C-58D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.36**	**79**	Pg	Pn	09 23 42.0	-8.8
KSH				Sg	Sb	09 23 51.3	-17
KSH				smax	smax		
	comp=N,46μm,0.9s						
KSH				smax	smax		
	comp=E,54μm,1.0s						
OHH	**Osh** baz=17	**1.68**	**318**	⇑*e*P	**Pb**	**09 23 56.9**	**+0.1**
OHH				⇑*i*S	**Sn**	**09 24 17.3**	**+0.4**
	baz=17						
OHH	**Osh**	**1.68**	**318**	*e*PN	**Pb**	**09 23 56.9**	**+0.1**
OHH				*i* S	**Sn**	**09 24 17.3**	**+0.4**
DRK	**Karamyk** baz=73	**1.91**	**277**	⇑*i*P	**Pb**	**09 24 01.8**	**+1.0**
DRK				⇑*i*S	**Sg**	**09 24 26.5**	**-0.7**
	baz=73						
DRK	**Karamyk**	**1.91**	**277**		**Pn**	**09 23 59.3**	**+0.7**
NRN	**Naryn** baz=34	**2.54**	**31**	⇑*i*P	**Pb**	**09 24 10.0**	**-1.5**
NRN				⇑*i*S	**Sn**	**09 24 40.7**	**+2.3**
	baz=34						
NRN	**Naryn**	**2.54**	**31**	Pn	**Pb**	**09 24 09.7**	**-1.9**
NRN	**Naryn**	**2.54**	**31**	PN	**Pb**	**09 24 09.7**	**-1.9**
ARLS	**Aral** baz=3.0	**2.59**	**1**	⇓*i*P	**Pb**	**09 24 10.4**	**-1.9**
ARLS				⇓*i*S	**Sn**	**09 24 40.6**	**+1.3**
	baz=3.0						
ARLS	**Aral**	**2.59**	**1**	*i* PN	**Pb**	**09 24 10.4**	**-1.9**
ARLS				*i* S	**Sn**	**09 24 40.6**	**+1.3**
BTK	**Batken** baz=85	**2.76**	**288**	⇑*i*P	**Pb**	**09 24 13.4**	**-1.8**
BTK				⇑*i*S	**Sn**	**09 24 45.7**	**+2.1**
	baz=85						
BTK	**Batken**	**2.76**	**288**		**Pn**	**09 24 12.1**	**+2.0**
BTK	**Batken**	**2.76**	**288**	PN	**Pn**	**09 24 12.1**	**+2.0**
AML	**Almayashu** SNR=632	**2.89**	**352**	P	**Pb**	**09 24 15.4**	**-2.1**
AML	**Almayashu**	**2.89**	**352**	*i* PN	**Pn**	**09 24 15.0**	**+2.9**
AML				*i* S	**Sn**	**09 24 48.3**	**+1.2**
UCH	**Uchtor** SNR=2100	**2.96**	**4**	P	**Pb**	**09 24 16.8**	**-2.0**
UCH	**Uchtor** baz=5.0	**2.96**	**4**	⇓*i*P	**Pb**	**09 24 16.2**	**-2.6**
UCH				⇓*i*S	**Sn**	**09 24 50.1**	**+1.2**
	baz=5.0						
UCH	**Uchtor**	**2.96**	**4**	*i* PN	**Pb**	**09 24 16.2**	**-2.6**
UCH				*i* S	**Sn**	**09 24 50.1**	**+1.2**
ARK	**Arkit** baz=26	**3.07**	**326**	⇑*i*P	**Pn**	**09 24 17.1**	**+2.8**
ARK				⇑*i*S	**Sn**	**09 24 52.7**	**+1.6**
	baz=26						
ARK	**Arkit**	**3.07**	**326**	*i* PN	**Pn**	**09 24 17.1**	**+2.8**
ARK				*i* S	**Sn**	**09 24 52.7**	**+1.6**
GAR	**Garm**	**3.07**	**266**		**Pn**	**09 24 16.5**	**+2.1**
TRKS	**Terek-Say** baz=13	**3.27**	**314**	⇓*i*P	**Pn**	**09 24 18.9**	**+1.7**
TRKS				⇓*i*S	**Sn**	**09 24 56.2**	**-0.1**
	baz=13						
TRKS	**Terek-Say**	**3.27**	**314**	*i* PN	**Pn**	**09 24 18.9**	**+1.7**
ULHL	**Ulahol** SNR=43	**3.33**	**26**	P	**Pn**	**09 24 21.5**	**+3.5**
AAK	**Ala-Archa** SNR=388	**3.37**	**3**	P	**Pb**	**09 24 22.4**	**-3.1**
AAK	**Ala-Archa** 70nm,0.3s,baz=66,slow=19,SNR=282	**3.37**	**3**	Pn	**Pb**	**09 24 23.0**	**-2.5**
AAK				Sn	**Sb**	**09 25 07.2**	**+0.6**
	58nm,0.3s,baz=254,slow=23,SNR=7.0						
AAK				Lg	Lg	09 25 14.4	
	156nm,0.3s,baz=280,slow=22,SNR=6.4 584nm,0.8s						
AAK	**Ala-Archa** baz=4.0	**3.37**	**3**	⇓*e*P	**Pn**	**09 24 21.0**	**+2.5**
AAK				⇓*i*S	**Sn**	**09 25 00.1**	**+1.5**
	baz=4.0						
AAK	**Ala-Archa**	**3.37**	**3**	Pn	**Pn**	**09 24 19.6**	**+1.1**
AAK	**Ala-Archa**	**3.37**	**3**	P	**Pb**	**09 24 23.2**	**-2.3**
AAK				S	**Sb**	**09 25 03.8**	**-2.8**
AAK	**Ala-Archa** SNR=147	**3.37**	**3**	*i* P	**Pb**	**09 24 22.8**	**-2.7**
AAK	**Ala-Archa**	**3.37**	**3**	*c i*PN	**Pb**	**09 24 22.8**	**-2.7**
EKS2	**Erkin-Say** SNR=161	**3.40**	**354**	P	**Pb**	**09 24 23.1**	**-3.0**
KBK	**Karagaybulak** SNR=289	**3.42**	**9**	P	**Pb**	**09 24 23.6**	**-2.9**
BOOM	**Boomskoye usch**	**3.46**	**21**	Pn	**Pn**	**09 24 23.3**	**+3.5**
BOOM	**Boomskoye usch**	**3.46**	**21**	PN	**Pn**	**09 24 23.3**	**+3.5**
MRKS	**Merke** 639nm,0.2s	**3.55**	**348**	*e*P	**Pb**	**09 24 30.6**	**+1.9**
MRKS				*e*S	**Sg**	**09 25 17.0**	**-2.9**
	2μm,0.1s						
MRKS	**Merke**	**3.55**	**348**	Pg	**Pb**	**09 24 31.0**	**+2.2**
	568nm,0.5s						
MRKS				Lg	Lg	09 25 17.0	
	2μm,0.6s						
TARG	**Taragay, Kyrgy**	**3.65**	**47**		**Pn**	**09 24 24.6**	**+1.9**
TARG	**Taragay, Kyrgy**	**3.65**	**47**	PN	**Pn**	**09 24 24.6**	**+1.9**
CHMS	**Chumysh** SNR=163	**3.74**	**6**	P	**Pn**	**09 24 27.4**	**+3.9**
CHMS	**Chumysh** baz=7.0	**3.74**	**6**	⇓*i*P	**Pn**	**09 24 26.3**	**+2.8**
CHMS				⇓*i*S	**Sn**	**09 25 08.9**	**+1.3**
	baz=7.0						
CHMS	**Chumysh**	**3.74**	**6**	*i* PN	**Pb**	**09 24 28.0**	**-3.9**
CHMS				pmax	pmax		
	comp=Z,347nm,1.0s						
TKM2	**Tokmak 2** SNR=292	**3.78**	**15**	P	**Pn**	**09 24 28.0**	**+3.8**
TKM2	**Tokmak 2**	**3.78**	**15**	⇓Pn	**Pn**	**09 24 28.0**	**+3.8**
	comp=Z,335nm,0.8s						
TKM2				⇓Pg	**Pg**	**09 24 39.1**	**+0.9**
	comp=Z,1μm,1.0s						
TKM2				⇑Lg	Lg	09 25 29.0	
	comp=Z,1μm,0.8s						
TKM2	**Tokmak 2**	**3.78**	**15**	*i* PN	**Pn**	**09 24 28.2**	**+3.9**
TKM2				pmax	pmax		
	comp=Z,140nm,0.4s						
KST	**Kastek**	**3.98**	**18**	*e*P	**Pg**	**09 24 40.1**	**-1.9**
	comp=Z,504nm,0.4s						
KST				*e*S	**Sg**	**09 25 33.5**	**-0.1**
	comp=Z,3μm,0.2s						
KST	**Kastek**	**3.98**	**18**	Pg	**Pg**	**09 24 40.9**	**-1.1**
	comp=Z,504nm,0.4s						
KST				Lg	Lg	09 25 34.5	
	comp=Z,3μm,0.7s						
USP	**Ospenovka** SNR=103	**4.00**	**3**	P	**Pn**	**09 24 30.7**	**+3.7**
CHGR	**Chuyangaron**	**4.02**	**263**		**Pn**	**09 24 28.6**	**+1.2**
CHGR	**Chuyangaron**	**4.02**	**263**	PN	**Pn**	**09 24 28.6**	**+1.2**
DGS	**Degeres** comp=Z,1μm,0.7s	**4.13**	**16**	*e*P	**Pb**	**09 24 41.5**	**+3.0**
DGS				*e*S	**Sg**	**09 25 36.1**	**-2.1**
	comp=Z,1μm,1.0s						
DGS	**Degeres**	**4.13**	**16**	Pg	**Pg**	**09 24 44.1**	**-0.6**
	comp=Z,1μm,0.7s						
DGS				Lg	Lg	09 25 39.1	
	comp=Z,1μm,1.0s						
IZV	**Izvestkoviy** comp=Z,727nm,0.3s	**4.16**	**25**	*e*P	**Pg**	**09 24 42.6**	**-2.8**
IZV				*e*S	**Sg**	**09 25 37.4**	**-1.9**
	comp=Z,2μm,0.8s						
IZV	**Izvestkoviy** comp=Z,719nm,0.9s	**4.16**	**25**	Pg	**Pg**	**09 24 42.6**	**-2.8**
IZV				Lg	Lg	09 25 38.7	
	comp=Z,2μm,0.8s						
SGDS	**Sogindy** comp=Z,309nm,1.0s	**4.18**	**4**	*e*P	**Pg**	**09 24 43.1**	**-2.8**
SGDS				*e*S	**Sg**	**09 25 38.6**	**-1.5**
	comp=Z,1μm,0.9s						
SGDS	**Sogindy**	**4.18**	**4**	*e*Pn	**Pn**	**09 24 33.0**	**+3.4**
	baz=3.9						
SGDS				*i* Pg	**Pg**	**09 24 43.3**	**-2.6**
	baz=3.9						
SGDS				*e*Lg	Lg	09 25 41.0	
	baz=3.9						
SGDS	**Sogindy**	**4.18**	**4**	Pg	**Pg**	**09 24 43.1**	**-2.8**
	comp=Z,309nm,1.0s						
SGDS				Lg	Lg	09 25 39.1	
	comp=Z,1μm,0.9s						
SGDS	**Sogindy**	**4.18**	**4**	*e*PN	**Pn**	**09 24 33.0**	**+3.4**
SGDS				*i*		09 24 43.2	
MTBS	**Maitube** comp=Z,543nm,4.2s	**4.19**	**22**	*e*P	**Pb**	**09 24 42.8**	**+3.3**
MTBS				*e*S	**Sg**	**09 25 38.1**	**-2.1**
	comp=Z,1μm,0.3s						
MTBS	**Maitube** comp=Z,502nm,0.8s	**4.19**	**22**	Pg	**Pg**	**09 24 43.7**	**-2.2**
MTBS				Lg	Lg	09 25 39.5	
	comp=Z,1μm,0.8s						
DZA	**Taraz** comp=Z,952nm,0.4s	**4.24**	**330**	*e*P	**Pg**	**09 24 44.1**	**-2.8**
DZA				*e*S	**Sg**	**09 25 40.3**	**-1.4**
	comp=Z,2μm,0.5s						
DZA	**Taraz** baz=330	**4.24**	**330**	*e*Pn	**Pn**	**09 24 34.0**	**+3.6**
DZA				*i* Pg	**Pg**	**09 24 43.9**	**-2.9**
	baz=330						
DZA	**Taraz**	**4.24**	**330**	*e*PN	**Pn**	**09 24 33.9**	**+3.6**
DZA				*i*		09 24 43.9	
TNSS	**Tian-Shan** comp=Z,1μm,0.2s	**4.28**	**28**	*e*P	**Pg**	**09 24 45.0**	**-2.6**
TNSS				*e*S	**Sg**	**09 25 42.2**	**-0.8**
	comp=Z,850nm,0.2s						
TNSS	**Tian-Shan** baz=27	**4.28**	**28**	*e*Pn	**Pn**	**09 24 34.5**	**+3.3**
TNSS				*i* Pg	**Pb**	**09 24 44.5**	**+3.3**
	baz=27						
TNSS				*e*Lg	Lg	09 25 42.3	
	baz=27						
TNSS	**Tian-Shan** comp=Z,1μm,0.6s	**4.28**	**28**	Pg	**Pg**	**09 24 45.0**	**-2.6**
TNSS				Lg	Lg	09 25 42.2	
	comp=Z,847nm,1.1s						
TNSS	**Tian-Shan**	**4.28**	**28**	*e*PN	**Pn**	**09 24 34.5**	**+3.3**
TNSS				*i*		09 24 44.4	
IUG	**luzhnay** comp=Z,5μm,0.7s	**4.30**	**313**	*e*P	**Pg**	**09 24 47.0**	**-1.2**
IUG				*e*S	**Sg**	**09 25 44.7**	**+0.8**
	comp=Z,3μm,1.6s						
IUG	**luzhnay** baz=314	**4.30**	**313**	*e*Pn	**Pn**	**09 24 34.0**	**+2.6**
IUG	**luzhnay**	**4.30**	**313**	*e*PN	**Pn**	**09 24 33.9**	**+2.6**
TAS	**Tashkent**	**4.31**	**300**	Pn	**Pn**	**09 24 35.0**	**+3.7**
TAS	**Tashkent**	**4.31**	**300**	PN	**Pn**	**09 24 35.0**	**+3.7**
AAA	**Alma-Ata** comp=Z,1μm,0.7s	**4.42**	**26**	*e*P	**Pg**	**09 24 47.2**	**-3.1**
AAA				*e*S	**Sg**	**09 25 45.5**	**-2.0**
	comp=Z,4μm,0.4s						
AAA	**Alma-Ata** baz=26	**4.42**	**26**	*e*Pn	**Pn**	**09 24 37.0**	**+4.2**
AAA				*i* Pg	**Pg**	**09 24 47.8**	**-2.5**
	baz=26						
AAA				*e*Lg	Lg	09 25 47.9	
	baz=26						
AAA	**Alma-Ata** comp=Z,1μm,0.7s	**4.42**	**26**	Pg	**Pg**	**09 24 47.8**	**-2.5**
AAA				Lg	Lg	09 25 47.6	
	comp=Z,4μm,1.1s						
AAA	**Alma-Ata**	**4.42**	**26**	*e*PN	**Pn**	**09 24 37.0**	**+4.2**
AAA				*i*		09 24 47.7	
MDOK	**Medeo** comp=Z,1μm,0.2s	**4.42**	**28**	*e*P	**Pb**	**09 24 46.9**	**+3.4**
MDOK				*e*S	**Sg**	**09 25 44.9**	**-2.8**
	comp=Z,2μm,0.6s						
MDOK	**Medeo** baz=27	**4.42**	**28**	*i* Pn	**Pn**	**09 24 36.6**	**+3.6**
MDOK				*i* Pg	**Pb**	**09 24 46.9**	**+3.4**
	baz=27						
MDOK				*e*Lg	Lg	09 25 46.5	
	baz=27						
MDOK	**Medeo** comp=Z,125nm,0.7s	**4.42**	**28**	Pn	**Pn**	**09 24 36.5**	**+3.5**
MDOK				Pg	**Pb**	**09 24 46.9**	**+3.4**
	comp=Z,1μm,0.7s						
MDOK				Pg	**Pg**	**09 24 48.2**	**-2.3**
	comp=Z,1μm,0.6s						
MDOK				Lg	Lg	09 25 44.9	
	comp=Z,2μm,1.2s						
MDOK				⇓Lg	Lg	09 25 48.2	
	comp=Z,5μm,1.5s						
MDOK	**Medeo**	**4.42**	**28**	*i* PN	**Pn**	**09 24 36.6**	**+3.6**
MDOK				*i*		09 24 46.9	
KNDC	**Almaty** comp=Z,335nm,0.6s	**4.44**	**27**	⇓Pn	**Pn**	**09 24 37.6**	**+4.5**
KNDC				⇑Pg	**Pg**	**09 24 47.6**	**-3.2**
	comp=Z,3μm,0.7s						
KNDC				⇓Lg	Lg	09 25 47.7	
	comp=Z,28μm,2.0s						
KNDC	**Almaty**	**4.44**	**27**	PN	**Pg**	**09 24 47.7**	**-3.1**
KNDC						09 25 47.5	
KOTS	**Kotyrbulak** comp=Z,1μm,0.3s	**4.51**	**28**	*e*P	**Pg**	**09 24 49.3**	**-2.8**
KOTS				*e*S	**Sg**	**09 25 49.5**	**-0.9**
	comp=Z,3μm,0.7s						
KOTS

	baz=38								
SATY	**Saty**		**4.91**	**38**	Pg		**Pb**	**09 24 54.5**	**+2.6**
	comp=Z,741nm,0.8s								
SATY					Lg		Lg	09 25 59.2	
	comp=Z,2µm,1.5s								
SATY	**Saty**		**4.91**	**38**	*c* iPN		**Pn**	**09 24 42.6**	**+2.9**
SATY					*i*			09 24 54.7	
ZHN	**Zhinishke**		**5.01**	**38**	*e*P		**Pg**	**09 24 57.7**	**-4.0**
	comp=Z,133nm,0.3s								
ZHN					*e*S		**Sg**	**09 26 04.0**	**-2.5**
	comp=Z,743nm,0.6s								
ZHN	**Zhinishke**		**5.01**	**38**	*e*Pn		**Pn**	**09 24 43.9**	**+2.9**
	baz=37								
ZHN					*e*Pg		**Pb**	**09 24 57.1**	**+3.6**
	baz=37								
ZHN	**Zhinishke**		**5.01**	**38**	Pg		**Pg**	**09 24 57.7**	**-4.0**
	comp=Z,133nm,0.3s								
ZHN					Lg		Lg	09 26 04.0	
	comp=Z,743nm,0.6s								
ZHN	**Zhinishke**		**5.01**	**38**	*e*PN		**Pn**	**09 24 43.9**	**+2.9**
ZHN					*e*			09 24 57.1	
CHKK	**Chushkaly**		**5.02**	**23**	*e*P		**Pg**	**09 24 58.1**	**-3.7**
	comp=Z,580nm,0.7s								
CHKK					*e*S		**Sg**	**09 26 04.4**	**-2.4**
	comp=Z,478nm,0.6s								
CHKK	**Chushkaly**		**5.02**	**23**	*e*Pn		**Pn**	**09 24 44.5**	**+3.5**
	baz=23								
CHKK					*i* Pg		**Pg**	**09 24 58.4**	**-3.4**
	baz=23								
CHKK					*e*Lg		Lg	09 26 05.9	
	baz=23								
CHKK	**Chushkaly**		**5.02**	**23**	Pg		**Pg**	**09 24 59.1**	**-2.7**
	comp=Z,580nm,0.7s								
CHKK					Lg		Lg	09 26 06.0	
	comp=Z,408nm,0.7s								
CHKK	**Chushkaly**		**5.02**	**23**	*e*PN		**Pn**	**09 24 44.5**	**+3.5**
CHKK					*i*			09 24 58.3	
KURS	**Kuram**		**5.14**	**34**	*e*P		**Pb**	**09 24 58.8**	**+3.1**
	comp=Z,692nm,0.4s								
KURS					*e*S		**Sg**	**09 26 05.3**	**-5.4**
	comp=Z,650nm,0.6s								
KURS	**Kuram**		**5.14**	**34**	Pg		**Pb**	**09 24 58.8**	**+3.1**
	comp=Z,684nm,0.9s								
KURS					Lg		Lg	09 26 05.3	
	comp=Z,636nm,1.4s								
UZB	**Uzynbulak**		**5.28**	**41**	*e*P		**Pb**	**09 25 01.2**	**+3.0**
	comp=Z,424nm,0.6s								
UZB					*e*S		**Sg**	**09 26 10.0**	**-5.3**
	comp=Z,2µm,0.3s								
UZB	**Uzynbulak**		**5.28**	**41**	*e*Pn		**Pn**	**09 24 48.0**	**+3.2**
	baz=41								
UZB					*i* Pg		**Pb**	**09 25 01.7**	**+3.5**
	baz=41								
UZB	**Uzynbulak**		**5.28**	**41**	Pg		**Pg**	**09 25 03.9**	**-3.0**
	comp=Z,425nm,0.7s								
UZB					Lg		Lg	09 26 13.7	
	comp=Z,2µm,1.4s								
UZB	**Uzynbulak**		**5.28**	**41**	*e*PN		**Pn**	**09 24 48.0**	**+3.2**
UZB					*i*			09 25 01.6	
KPKS	**Kokpek**		**5.35**	**37**	*e*P		**Pb**	**09 25 03.8**	**+4.5**
	comp=Z,2µm,1.0s								
KPKS					*e*S		**Sg**	**09 26 13.8**	**-3.7**
	comp=Z,2µm,0.7s								
KPKS	**Kokpek**		**5.35**	**37**	*e*Pn		**Pn**	**09 24 48.9**	**+3.2**
	baz=37								
KPKS					*e*Pg		**Pb**	**09 25 02.8**	**+3.4**
	baz=37								
KPKS	**Kokpek**		**5.35**	**37**	Pg		**Pb**	**09 25 03.8**	**+4.5**
	comp=Z,2µm,1.0s								
KPKS					Lg		Lg	09 26 13.8	
	comp=Z,2µm,0.7s								
KPKS	**Kokpek**		**5.35**	**37**	*e*PN		**Pn**	**09 24 48.9**	**+3.2**
KPKS					*e*			09 25 02.8	
SHLS	**Shalkode**		**5.52**	**44**	*e*P		**Pg**	**09 25 10.8**	**-0.7**
	comp=Z,890nm,0.2s								
SHLS					*e*S		**Sg**	**09 26 26.0**	**+3.0**
	comp=Z,2µm,0.5s								
SHLS	**Shalkode**		**5.52**	**44**	*e*Pn		Pn	09 24 54.4	+6.3
	baz=45								
SHLS					*i* Pg		**Pg**	**09 25 09.8**	**-1.6**
	baz=45								
SHLS	**Shalkode**		**5.52**	**44**	Pg		**Pg**	**09 25 09.2**	**-2.2**
	comp=Z,892nm,1.3s								
SHLS					Lg		Lg	09 26 23.2	
	comp=Z,2µm,1.3s								
SHLS	**Shalkode**		**5.52**	**44**	*e*PN		Pn	09 24 54.3	+6.2
SHLS					*i*			09 25 09.7	
ARXS	**Arharly**		**5.61**	**27**	*e*P		**Pg**	**09 25 09.5**	**-3.7**
	comp=Z,829nm,0.6s								
ARXS					*e*S		**Sg**	**09 26 24.3**	**-1.6**
	comp=Z,617nm,0.6s								
ARXS	**Arharly**		**5.61**	**27**	Pg		**Pg**	**09 25 10.5**	**-2.7**
	comp=Z,829nm,0.6s								
ARXS					Lg		Lg	09 26 26.0	
	comp=Z,617nm,0.6s								
PDGK	**Podgornoye**		**5.65**	**43**	Pg		**Pb**	**09 25 07.7**	**+3.1**
	comp=Z,323nm,0.7s								
PDGK					Lg		Lg	09 26 20.6	
	comp=Z,429nm,0.8s								
PDGK	**Podgornoye**		**5.65**	**43**	⇑Pn		**Pn**	**09 24 53.1**	**+3.2**
	comp=Z,128nm,0.8s								
PDGK					⇑Pg		**Pg**	**09 25 10.3**	**-3.7**
	comp=Z,668nm,0.7s								
PDGK					⇓Lg		Lg	09 26 25.4	
	comp=Z,3µm,1.4s								
PDGK	**Podgornoye**		**5.65**	**43**	PN		Pn	**09 24 52.3**	**+2.4**
PDGK								09 25 07.7	
CHCP	**Chirah Chowk**		**5.66**	**188**	P		**Pn**	**09 24 51.8**	**+1.9**
NIL	**Nilore**		**5.67**	**188**	Pn		**Pn**	**09 24 51.5**	**+1.5**
NIL	**Nilore**		**5.67**	**188**	P		**Pn**	**09 24 52.2**	**+2.2**
NIL					S		**Sn**	**09 25 57.9**	**+2.8**
NIL	**Nilore**		**5.67**	**188**	PN		**Pn**	**09 24 51.5**	**+1.5**
CEP	**Cherat**		**5.76**	**200**	P		**Pn**	**09 24 54.0**	**+2.7**
CEP					S		**Sn**	**09 26 01.0**	**+3.5**
BLB	**Baldybastay**		**5.76**	**32**	*e*P		Pb	09 25 11.2	+4.8
	comp=Z,1µm,0.1s								
BLB					*e*S		**Sg**	**09 26 26.7**	**-4.0**
	comp=Z,985nm,0.2s								
BLB	**Baldybastay**		**5.76**	**32**	Pg		**Pg**	**09 25 13.3**	**-2.8**
	comp=Z,1µm,0.7s								
BLB					Lg		Lg	09 26 28.8	
	comp=Z,932nm,0.7s								
BTLS	**Baital**		**5.77**	**359**	*e*P		**Pg**	**09 25 11.9**	**-4.2**
	comp=Z,96nm,1.0s								
BTLS					*e*S		**Sg**	**09 26 27.5**	**-3.3**
	comp=Z,344nm,1.2s								
BTLS	**Baital**		**5.77**	**359**	*e*Pn		**Pn**	**09 24 55.2**	**+3.8**
	baz=359								
BTLS	**Baital**		**5.77**	**359**	Pg		**Pb**	**09 25 10.8**	**+4.5**
	comp=Z,96nm,1.0s								
BTLS					Lg		Lg	09 26 25.6	
	comp=Z,344nm,1.2s								
BTLS	**Baital**		**5.77**	**359**	*e*PN		**Pn**	**09 24 55.1**	**+3.8**
KBL	**Kabul**		**6.30**	**223**	Pn		**Pn**	**09 25 02.3**	**+3.4**
KBL	**Kabul**		**6.30**	**223**	P		**Pn**	**09 25 03.5**	**+4.6**
	SNR=41								
KBL					S		**Sn**	**09 26 18.8**	**+7.8**
KBL	**Kabul**		**6.30**	**223**	PN		**Pn**	**09 25 02.3**	**+3.4**
TDK	**Taldyqorghan**		**6.50**	**27**	*e*P		Pg	09 25 24.9	-5.3
	comp=Z,1µm,0.8s								
TDK					*e*S		**Sg**	**09 26 50.7**	**-3.7**
	comp=Z,2µm,1.1s								
TDK	**Taldyqorghan**		**6.50**	**27**	*e*Pn		**Pn**	**09 25 05.1**	**+3.7**
	baz=27								
TDK					*e*Pb		**Pb**	**09 25 19.6**	**+0.6**
	baz=27								
TDK					*i* PgPg		**Pg**	**09 25 27.3**	**-2.9**
	baz=27								
TDK	**Taldyqorghan**		**6.50**	**27**	Pg		**Pg**	**09 25 27.3**	**-2.9**
	comp=Z,1µm,0.8s								
TDK					Lg		Lg	09 26 54.1	
	comp=Z,2µm,1.1s								
TDK	**Taldyqorghan**		**6.50**	**27**	*e*PN		**Pn**	**09 25 05.1**	**+3.7**
DJR	**Jarkent**		**6.53**	**38**	*e*P		Pg	09 25 25.4	-5.3
	comp=Z,185nm,0.3s								
DJR					*e*S		**Sg**	**09 26 51.5**	**-3.8**
	comp=Z,479nm,0.2s								
DJR	**Jarkent**		**6.53**	**38**	Pg		Pg	09 25 25.4	-5.3
	comp=Z,180nm,0.7s								
DJR					Lg		Lg	09 26 50.9	
	comp=Z,320nm,1.0s								
JMU	**Jammu**		**6.56**	**175**	*e*P		**Pn**	**09 25 00.0**	**-2.2**
JMU					*e*P		**Pn**	**09 25 02.0**	**-0.2**
THW	**Thamme Wali**		**6.78**	**198**	P		**Pn**	**09 25 05.9**	**+0.7**
THN	**Thein Dam**		**6.93**	**170**	*e*P		**Pn**	**09 25 08.2**	**+0.9**
THN					*e*S		**Sn**	**09 26 27.2**	**+1.2**
SARP	**Sargodha**		**7.45**	**190**	P		**Pn**	**09 25 14.1**	**-0.3**

BHK	**Bhakra**		**8.04**	**167**	*e*P		**Pn**	**09 25 24.0**	**+1.5**
BHK					*e*S		**Sn**	**09 26 52.3**	**-1.1**
SMLA	**Simla**		**8.47**	**163**	*e*P		**Pn**	**09 25 28.0**	**-0.4**
SMLA					*e*S		**Sn**	**09 27 00.5**	**-3.5**
SMLA					*e*S		**Sn**	**09 27 01.6**	**-2.4**
SMLA					IAML			09 27 09.3	
	comp=E,902nm,0.5s								
SMLA					IAML			09 27 09.4	
	comp=N,1µm,0.9s								
OTUK	**Ortayu**		**9.07**	**352**	P		**Pn**	**09 25 39.3**	**+2.6**
MAKZ	**Makanchi**		**9.41**	**34**	P		**Pn**	**09 25 42.6**	**+1.3**
MAKZ	**Makanchi**		**9.41**	**34**	⇑Pn		**Pn**	**09 25 43.4**	**+2.0**
	comp=N,86nm,1.1s								
MAKZ					⇑Pg			09 26 18.4	
	comp=N,114nm,1.1s								
MAKZ					⇑Lg		Lg	09 28 25.6	
	comp=N,407nm,1.6s								
MAKZ	**Makanchi**		**9.41**	**34**	P		**Pn**	**09 25 42.6**	**+1.3**
DDI	**Dehra Dun**		**9.46**	**160**	*e*P		**Pn**	**09 25 41.5**	**-0.6**
DDI					*e*S		**Sn**	**09 27 23.2**	**-5.3**
DDI					IAML			09 27 33.5	
	comp=N,1µm,0.9s								
MK31	**Makanchi Array**		**9.54**	**35**			**Pn**	**09 25 45.7**	**+2.7**
MK31	**Makanchi Array**		**9.54**	**35**	⇓Pn		**Pn**	**09 25 46.9**	**+3.8**
	comp=N,36nm,0.7s								
MK31					⇓Pg			09 26 21.8	
	comp=N,104nm,0.8s								
MK31					⇑Lg		Lg	09 28 29.8	
	comp=N,228nm,1.4s								
MK31	**Makanchi Array**		**9.54**	**35**	*c* iP		**Pn**	**09 25 45.8**	**+2.7**
MKAR	**Makanchi Array**		**9.54**	**35**	Pn		**Pn**	**09 25 45.9**	**+2.8**
	comp=N,3.5nm,0.3s,baz=217,slow=7.5,SNR=98								
MKAR					Lg		Lg	09 28 24.1	
	comp=N,0.8nm,0.3s,baz=220,slow=33,SNR=2.4								
MKAR					LR		LR	09 29 52.7	
	comp=N,2µm,21.7s,baz=231,slow=40								
	comp=N,16nm,0.5s								
MKAR	**Makanchi Array**		**9.54**	**35**			**Pn**	**09 25 45.1**	**+2.0**
MKAR	**Makanchi Array**		**9.54**	**35**	P		**Pn**	**09 25 45.1**	**+2.0**
BRZS	**Berezniki**		**10.77**	**355**	*e*Pn		**Pn**	**09 26 03.0**	**+3.2**
	baz=355								
BRZS	**Berezniki**		**10.77**	**355**	*e*P		**Pn**	**09 26 03.0**	**+3.2**
HRA	**Herat**		**10.79**	**247**			**Pn**	**09 25 59.6**	**-0.8**
BHGR	**Bahadurgarh**		**10.79**	**167**	*e*P		**Pn**	**09 26 00.3**	**+0.1**
NDI	**New Delhi**		**10.85**	**166**	*e*P		**Pn**	**09 26 03.0**	**+2.0**
PTH	**Pithoragarh**		**10.88**	**151**	*e*P		**Pn**	**09 25 58.9**	**-2.7**
LGTI	**Lohaghat**		**10.98**	**151**	*e*P		**Pn**	**09 25 59.2**	**-3.6**
LGTI					*e*P		**Pn**	**09 26 06.7**	**+3.9**
LGTI					*e*S		**Sn**	**09 27 58.7**	**-6.8**
AYAN	**Aya Nagar**		**11.02**	**167**	*e*P		**Pn**	**09 26 05.0**	**+1.6**
WMQ	**Urumqi**		**11.05**	**61**	⇓*i* P		**Pn**	**09 26 04.8**	**+1.0**
WMQ					pP			09 26 10.5	
WMQ					S		**Sn**	**09 28 11.5**	**+4.1**
WMQ					pmax		pmax		
	comp=N,180nm,0.9s								
WMQ					pmax		pmax		
	comp=N,390nm,4.7s								
WMQ					LR		LR		
	comp=N,2µm,8.9s								
WMQ					LR		LR		
	comp=N,3µm,6.9s								
WMQ					LR		LR		
	comp=N,2µm,16.3s								
ZSN	**Zaisan**		**11.24**	**40**	*i* Pn		**Pn**	**09 26 09.7**	**+3.4**
	baz=40								
ZSN					*e*PgPg		**PgPg**	**09 27 01.8**	**+0.8**
	baz=40								
ZSN	**Zaisan**		**11.24**	**40**	*i* P		**Pn**	**09 26 09.7**	**+3.4**
SONA	**Sohna**		**11.24**	**167**	*e*P		**Pn**	**09 26 05.5**	**-0.9**
SONA					*e*S		**Sn**	**09 28 04.7**	**-7.4**
KUDL	**Kundal**		**11.26**	**170**	*e*P		**Pn**	**09 26 03.7**	**-2.9**
KUDL					*e*S		**Sn**	**09 28 03.4**	**-9.0**
KURBB	**Kurchatov Arra**		**11.74**	**14**	Pn		**Pn**	**09 26 15.1**	**+1.9**
	comp=N,6.8nm,0.8s,baz=202,slow=12,SNR=30								
KURBB					Lg		Lg	09 29 34.5	
	comp=N,0.4nm,0.3s,baz=201,slow=28,SNR=13								
KURBB					LR		LR	09 31 00.0	
	comp=N,2µm,18.3s,baz=187,slow=38								
KURBB	**Kurchatov Arra**		**11.74**	**14**	P		**Pn**	**09 26 14.8**	**+1.6**
KURK	**Kurchatov**		**11.85**	**14**			**Pn**	**09 26 15.4**	**+0.8**
KURK	**Kurchatov**		**11.85**	**14**	P		**Pn**	**09 26 15.7**	**+1.1**
KURK	**Kurchatov**		**11.85**	**14**	*ce*P		**Pn**	**09 26 16.6**	**+2.0**
KURK					pmax		pmax		
	comp=Z,13nm,0.8s								
GEYT	**Alibeck**		**12.70**	**269**	Pn		**Pn**	**09 26 24.0**	**-2.3**
	comp=Z,3.2nm,0.3s,baz=93,slow=9.4,SNR=21								
GEYT					Sn		**Sn**	**09 28 48.3**	**+0.6**
	comp=Z,3.4nm,0.3s,baz=65,slow=25,SNR=2.4								
GEYT					LR		LR	09 31 54.9	
	comp=Z,880nm,20.8s,baz=72,slow=40								
	comp=Z,14nm,0.6s								
GYA0B	**ALIBECK ARRAY**		**12.70**	**269**			**Pn**	**09 26 23.9**	**-2.4**
AJM	**Ajmer**		**12.76**	**178**	*e*P		**Pn**	**09 26 23.3**	**-4.0**
AJM					*e*S		Sn	09 28 39.5	-10
PYUN	**Piuthan**		**13.30**	**144**	*e*P		Pn	09 26 29.6	-5.1
	comp=Z,629nm,0.8s								
DANN	**Dangsing**		**13.45**	**141**	*e*P		**Pn**	**09 26 32.3**	**-4.6**
	comp=Z,222nm,0.6s								
KOLN	**Kolanda**		**13.86**	**143**	*e*P		Pn	09 26 36.7	-5.7
BVA0	**Borovoye Array**		**14.01**	**350**	⇓Pn		**Pn**	**09 26 43.4**	**-0.7**
	comp=Z,134nm,1.1s								
BVAR	**Borovoye Array**		**14.01**	**350**	Pn		**Pn**	**09 26 44.8**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=158,slow=12,SNR=105								
BVAR					Lg		Lg	09 30 45.2	
	comp=Z,0.1nm,0.3s,baz=153,slow=30,SNR=1.9								
BVAR					LR		LR	09 32 21.4	
	comp=Z,1µm,19.0s,baz=166,slow=38								
	comp=Z,107nm,0.9s								
DGZ	**Jazzator, Alta**		**14.02**	**38**	*i* P		**Pn**	**09 26 46.1**	**+1.7**
BRVK	**Borovoye**		**14.06**	**350**			**Pn**	**09 26 45.6**	**+0.8**
BRVK	**Borovoye**		**14.06**	**350**	P		**Pn**	**09 26 45.1**	**+0.4**
BRVK					P		**Pn**	**09 26 45.1**	**+0.4**
BRVK	**Borovoye**		**14.06**	**350**	⇓Pn		**Pn**	**09 26 44.0**	**-0.7**
	comp=Z,99nm,0.9s								
BRVK	**Borovoye**		**14.06**	**350**	*ce*P		**Pn**	**09 26 44.8**	**+0.1**
BRVK					pmax		pmax		
	comp=Z,102nm,1.0s								
GKN	**Gorkha**		**14.17**	**139**	*e*P		Pn	09 26 41.7	-4.9
	comp=Z,406nm,0.6s								
JHNI	**Jhansi**		**14.23**	**164**	*e*P		**Pn**	**09 26 43.9**	**-3.4**
AB31	**Akbulak array**		**14.28**	**319**	⇓Pn		**Pn**	**09 26 48.4**	**+0.6**
	comp=Z,88nm,0.8s								
AB31					⇓Sn		**Sn**	**09 29 33.4**	**+7.1**
	comp=Z,29nm,0.7s								
AB31					⇓Lg		Lg	09 31 03.8	
	comp=Z,125nm,1.4s								
AB31	**Akbulak array**		**14.28**	**319**	*i* P		**Pn**	**09 26 47.6**	**-0.3**
ABKAR	**Akbulak array**		**14.28**	**319**			**Pn**	**09 26 47.6**	**-0.3**
KKN	**Kakani**		**14.67**	**138**	*e*P		Pn	09 26 48.3	-5.2
DMN	**Daman**		**14.73**	**139**	*e*P		Pn	09 26 49.2	-5.2
GUN	**Gumba**		**14.89**	**136**	*e*P		**Pn**	**09 26 52.3**	**-4.3**
	comp=Z,82nm,0.4s								
PKIN	**Phulchoki**		**14.90**	**138**	*e*P		Pn	09 26 51.7	-5.0
	comp=Z,129nm,0.6s								
PKI	**Pulchoki**		**14.92**	**138**	*e*P		Pn	09 26 51.7	-5.2
	comp=Z,184nm,0.7s								
JIRN	**Jiri**		**15.26**	**136**	*e*P		**Pn**	**09 26 56.5**	**-5.0**
	comp=Z,106nm,0.4s								
AKTO	**Aktyubinsk**		**15.99**	**320**	⇑Pn		**P**	**09 27 14.9**	**+0.8**
	comp=Z,98nm,0.8s								
AKTO					⇑Sn		**S**	**09 30 15.4**	**-6.5**
	comp=Z,51nm,1.2s								
AKTO					⇑Lg		Lg	09 32 03.0	
	comp=Z,134nm,1.6s								
AKTO	**Aktyubinsk**		**15.99**	**320**	P		**Pn**	**09 27 11.2**	**+0.6**
RAMN	**Ramite**		**16.04**	**136**	*e*P		**Pn**	**09 27 05.7**	**-5.9**
BHPL	**Bhopal**		**16.21**	**169**	*e*P		**Pn**	**09 27 08.9**	**-4.6**
BHPL					IAmb		IAmb	09 27 16.6	
	comp=Z,47nm,0.5s								
ZAA0	**Zalesovo Array**		**16.35**	**23**			**Pn**	**09 27 14.4**	**-0.7**
ZALV	**Zalesovo Beam**		**16.35**	**23**	Pn		**Pn**	**09 27 15.1**	**0.0**
	comp=Z,1.6nm,0.3s,baz=209,slow=11,SNR=94								
ZALV					LR		LR	09 33 57.5	
	comp=Z,758nm,21.4s,baz=227,slow=38								
	comp=Z,23nm,0.6s								
ZALV	**Zalesovo Beam**		**16.35**	**23**	P		**Pn**	**09 27 14.6**	**-0.5**
BHUJ	**Bhuj**		**16.44**	**195**	*e*P		**Pn**	**09 27 13.2**	**-3.3**
BHUJ					IAmb		IAmb	09 27 26.8	
	comp=Z,88nm,0.6s								
ODAN	**Odare**		**16.55**	**135**	*e*P		**Pn**	**09 27 12.4**	**-5.6**
LSA	**Lhasa**		**16.87**	**119**	P		**Pn**	**09 27 23.1**	**+0.8**
LSA	**Lhasa**		**16.87**	**119**	P		**P**	**09 27 23.5**	**-1.0**
LSA					S		**Sn**	**09 30 35.0**	**+5.0**
LSA					pmax		pmax		
	comp=Z,24nm,1.2s								

LSA					LR		LR		
	comp=Z,880nm,14.2s								
LSA					LR		LR		
	comp=Z,1µm,18.5s								
LSA					LR		LR		
	comp=Z,1µm,18.5s								
LSA	**Lhasa**		**16.87**	**119**	P		**Pn**	**09 27 23.1**	**+0.8**
LSA					pmax		pmax		
	comp=Z,31nm,0.9s								
GTK	**Tadong**		**16.89**	**131**	*e*P		**P**	**09 27 23.4**	**-1.0**
GTK					IAmb		IAmb	09 27 29.6	
	comp=Z,111nm,0.8s								
NGCH	**Negor - Chabah**		**17.73**	**222**	P		**P**	**09 27 34.3**	**+0.8**
NGCH					S		**Sn**	**09 30 52.0**	**+1.8**
BOK	**Bokaro**		**18.32**	**144**	*e*P		**Pn**	**09 27 37.6**	**-2.3**
BOK					IAmb		IAmb	09 27 40.8	
	comp=Z,237nm,1.3s								
DHUB	**DHUBRI**		**18.68**	**130**	*e*P		**P**	**09 27 40.8**	**-3.2**
DHUB					IAmb		IAmb	09 27 50.0	
	comp=Z,171nm,1.1s								
JASK	**Jask - Hormozg**		**19.18**	**231**	P		**Pn**	**09 27 50.3**	**0.0**
JASK					S		**Sn**	**09 31 24.8**	**-0.4**
GUWA	**GUWAHATI**		**19.59**	**127**	*e*P		**P**	**09 27 52.6**	**-1.3**
GUWA					IAmb		IAmb	09 28 04.6	
	comp=Z,53nm,0.8s								
SVE	**Sverdlovsk**		**19.71**	**337**	*e*P		**Pn**	**09 27 57.7**	**+1.2**
SVE					*e*S		**Sn**	**09 31 39.1**	**+1.3**
SVE					pmax		pmax		
	comp=Z,53nm,1.1s								
SVE					MLR		MLR		
	comp=Z,1µm,13.0s								
GTA	**Gaotai**		**19.76**	**81**	⇑P		**Pn**	**09 27 57.5**	**+0.2**
GTA					sP		sP	09 28 03.8	+1.8
GTA					S		**Sn**	**09 31 40.3**	**+1.0**
GTA					pmax		pmax		
	comp=Z,96nm,0.8s								
GTA					pmax		pmax		
	comp=Z,590nm,6.0s								
GTA					LR		LR		
	comp=Z,1µm,11.3s								
GTA					LR		LR		
	comp=Z,1µm,9.5s								
GTA					LR		LR		
	comp=Z,1µm,9.1s								
TEZP	**TEZPUR**		**19.99**	**124**	*e*P		**P**	**09 27 57.8**	**-0.5**
TEZP					IAmb		IAmb	09 28 06.6	
	comp=Z,46nm,0.6s								
ARU	**Arti**		**20.05**	**334**	P		**P**	**09 27 59.5**	**+0.7**
	comp=Z,24nm,0.8s,baz=159,slow=5.9,SNR=24								
ARU					Lg		Lg	09 34 00.1	
	baz=205,slow=20,SNR=3.6								
ARU					LR		LR	09 36 02.9	
	comp=Z,918nm,19.0s,baz=137,slow=38								
	comp=Z,24nm,0.8s								
ARU	**Arti**		**20.05**	**334**	P		**P**	**09 27 58.8**	**0.0**
ARU					IAmb		IAmb	09 28 05.7	
	comp=Z,63nm,0.9s								
ARU	**Arti**		**20.05**	**334**	*d* iP		Pn	09 28 01.1	+0.6
ARU								09 28 15.1	
ARU					S		Sn	09 31 50.7	+4.8
ARU					SS		**SnSn**	**09 32 08.3**	**+8.0**
ARU					pmax		pmax		
	comp=Z,72nm,0.9s								
ARU					MLR		MLR		
	comp=Z,810nm,17.0s								
ZIRO	**ZIRO**		**20.08**	**120**	*e*P		**P**	**09 27 59.7**	**+0.3**
BANOM	**Banah**		**20.10**	**234**	P		**P**	**09 27 58.8**	**-0.8**
BANOM					P		**P**	**09 27 58.8**	**-0.8**
BANOM	**Banah**		**20.10**	**234**	P		**P**	**09 27 57.7**	**-1.9**
SHME	**Shamm**		**20.11**	**234**	P		**P**	**09 27 59.1**	**-0.5**
SHME					P		**P**	**09 27 59.1**	**-0.5**
SHME	**Shamm**		**20.11**	**234**	P		**P**	**09 27 58.8**	**-0.8**
SHL	**Shillong**		**20.16**	**127**	P		**P**	**09 27 58.4**	**-2.0**
SHL					IAmb		IAmb	09 28 05.9	
	comp=Z,97nm,1.0s								
SHL	**Shillong**		**20.16**	**127**	P		**P**	**09 27 58.6**	**-1.7**
	SNR=33								
SHL	**Shillong**		**20.16**	**127**	*e*P		**P**	**09 27 58.8**	**-1.6**
SHL					IAmb		IAmb	09 28 05.6	
	comp=Z,56nm,0.8s								
SHL	**Shillong**		**20.16**	**127**	P		**P**	**09 27 58.4**	**-2.0**
SHL					pmax		pmax		
	comp=Z,97nm,1.0s								
ITAN	**ITANAGAR**		**20.24**	**121**	*e*P		**P**

AJN	**Ajban**		**21.90**	**234**	P	**P**	**09 28 22.5**	**+3.6**	SOC		eSSS	SSS	09 34 49.0	
BSY	**Bisya**		**21.96**	**226**	P	**P**	**09 28 21.8**	**+2.1**	SOC			MLR	MLR	
BSY					P	**P**	**09 28 21.8**	**+2.1**		comp=Z,540nm,19.0s				
HYBB	**Hyderabad (bro**		**22.10**	**169**	*e*P	**P**	**09 28 19.1**	**-2.0**	**PZH**	**PanZhiHua**	**26.25**	**111**	P	**P**	**09 29 03.0**	**+1.8**
HYBB					*e*		09 35 07.7		PZH				sP	**sP**	**09 29 09.5**	**+2.1**
HYBB					IVMs_BB	IVMs_BB	09 36 33.3		PZH				pmax	pmax		
	comp=Z,485nm,12.2s									comp=Z,20nm,0.8s						
BRDH	**Bariadhala**		**22.21**	**133**	P	**P**	**09 28 21.8**	**-0.4**	PZH				pmax	pmax		
	comp=Z,104nm,0.4s,baz=20,slow=7.7,SNR=9.3									comp=Z,170nm,4.3s						
BRDH					LR	LR	09 37 50.7		PZH				LR	LR		
	comp=Z,686nm,21.4s,baz=334,slow=39									comp=Z,5μm,23.1s						
	comp=Z,104nm,0.4s								PZH				LR	LR		
MOY	**Mondy**		**22.33**	**48**	*e*P	**P**	**09 28 24.4**	**+0.8**		comp=Z,3μm,22.0s						
MOY					pmax	pmax			PZH				LR	LR		
	comp=Z,65nm,2.5s									comp=Z,2μm,22.0s						
BELG	**Belogornoye**		**22.57**	**314**	P	**P**	**09 28 25.3**	**-0.6**	**MARD**	**Mardin**	**26.26**	**276**	P	**P**	**09 29 01.2**	**0.0**
	comp=Z,35nm,0.6s,baz=16,slow=1.6,SNR=17								MARD				IAmb	IAmb	09 29 06.6	
BELG					LR	LR	09 38 13.6			comp=Z,39nm,0.9s						
	comp=Z,902nm,19.5s,baz=123,slow=39								**KTUT**	**Trabzon**	**26.32**	**285**	P	**P**	**09 29 01.5**	**0.0**
	comp=Z,35nm,0.6s								**DOK**	**Doka**	**26.97**	**226**	P	**P**	**09 29 07.1**	**-0.5**
BELG	**Belogornoye**		**22.57**	**314***c*	*i*P	**P**	**09 28 24.8**	**-1.1**		SNR=5.2						
BELG					pmax	pmax			DOK				P	**P**	**09 29 07.1**	**-0.5**
	comp=Z,45nm,0.9s									SNR=5.2						
GNI	**Garni**		**22.68**	**282**	P	**P**	**09 28 28.2**	**+0.8**	**VSR**	**Storozhevoye**	**27.17**	**308**	*e*P	**P**	**09 29 08.5**	**-0.6**
	comp=Z,42nm,0.7s,baz=23,slow=2.7,SNR=12								VSR				pmax	pmax		
GNI					LR	LR	09 38 39.7			comp=Z,50nm,1.0s						
	comp=Z,431nm,20.1s,baz=96,slow=40								**VORR**	**Voronezh**	**27.25**	**309**	*e*P	**P**	**09 29 12.8**	**+3.1**
	comp=Z,42nm,0.7s								VORR				pmax	pmax		
GNI	**Garni**		**22.68**	**282**	P	**P**	**09 28 27.6**	**+0.2**		comp=Z,70nm,0.5s						
GNI	**Garni**		**22.68**	**282**	P	**P**	**09 28 29.4**	**+2.0**	**BTO**	**Baotou**	**27.34**	**76**	*e*P	**P**	**09 29 07.8**	**-3.1**
GNI					S	**S**	**09 32 41.3**	**+5.7**	BTO				S	**S**	**09 33 47.3**	**-3.4**
GNI	**Garni**		**22.68**	**282***ce*	P	**P**	**09 28 28.8**	**+1.4**	BTO				LR	LR		
GNI					pmax	pmax				comp=Z,8μm,15.5s						
	comp=Z,280nm,2.5s								BTO				LR	LR		
MHTO	**MHTO**		**22.97**	**222**	P	**P**	**09 28 31.0**	**+0.6**		comp=Z,4μm,17.5s						
	SNR=6.2								**LPSR**	**Galich'ya Gora**	**27.64**	**311**	*e*P	**P**	**09 29 12.8**	**-0.4**
MHTO					P	**P**	**09 28 31.0**	**+0.6**	LPSR				pmax	pmax		
	SNR=6.2									comp=Z,40nm,0.8s						
ZEI	**Tsey**		**23.10**	**289**	*e*P	**P**	**09 28 30.1**	**-1.7**	**ANN**	**Anapa**	**27.73**	**294**	*e*P	**P**	**09 29 13.5**	**-0.7**
ZEI					pmax	pmax			ANN				*e*S	**S**	**09 33 57.3**	**+0.9**
	comp=Z,31nm,0.9s								ANN				pmax	pmax		
ZAK	**Zakamensk**		**23.24**	**52**	*e*P	**P**	**09 28 32.9**	**-0.2**		comp=Z,86nm,1.0s						
ZAK					pmax	pmax			ANN				MLR	MLR		
	comp=Z,25nm,1.1s									comp=Z,532nm,12.0s						
NCK	**Nalchik**		**23.32**	**290**	*i* P	**P**	**09 28 32.7**	**-1.1**	**KMI**	**Kunming**	**27.79**	**112**	⇑P	**P**	**09 29 17.8**	**+2.6**
NCK					pmax	pmax			KMI				S	**S**	**09 33 56.8**	**-1.4**
	comp=Z,54nm,0.6s								KMI				pmax	pmax		
ONI	**Oni**		**23.44**	**288**	P	**P**	**09 28 35.9**	**+0.8**		comp=Z,14nm,1.2s						
ONI	**Oni**		**23.44**	**288**	P	**P**	**09 28 35.9**	**+0.8**	KMI				LR	LR		
ONI					pmax	pmax				comp=Z,1μm,17.5s						
	comp=Z,200nm,0.9s								KMI				LR	LR		
LZH	**Lanzhou**		**23.59**	**88**	⇓P	**P**	**09 28 37.5**	**+0.8**		comp=Z,1μm,16.9s						
LZH					sP	sP	09 28 44.5	+1.5	KMI				LR	LR		
LZH					S	**S**	**09 32 48.8**	**-2.3**		comp=Z,870nm,12.8s						
LZH					sS	sS	09 33 00.0	+1.6	**XAN**	**Xi'an**	**28.19**	**90**	P	**P**	**09 29 18.8**	**+0.4**
LZH					SS	**SnSn**	**09 33 30.3**	**+2.8**	XAN				pP	sP	09 29 27.5	+2.7
LZH					pmax	pmax			XAN				pmax	pmax		
	comp=Z,110nm,1.1s									comp=Z,14nm,1.2s						
LZH					pmax	pmax			XAN				pmax	pmax		
	comp=Z,330nm,4.6s									comp=Z,120nm,4.2s						
LZH					LR	LR			XAN				LR	LR		
	comp=Z,5μm,17.5s									comp=Z,4μm,14.4s						
LZH					LR	LR			XAN				LR	LR		
	comp=Z,2μm,17.7s									comp=Z,2μm,15.1s						
LZH					LR	LR			XAN				LR	LR		
	comp=Z,3μm,19.6s									comp=Z,2μm,16.5s						
SHMA	**Al-Shehemyia**		**23.67**	**243**	P	**P**	**09 28 37.5**	**+0.1**	**PRGR**	**Permogore**	**28.44**	**331**	*e*P	**P**	**09 29 20.5**	**+0.2**
KBZ	**Khabaz**		**23.82**	**291**	P	**P**	**09 28 39.0**	**+0.3**	PRGR				*e*		09 32 34.4	
	comp=Z,12nm,0.9s,baz=137,slow=8.5,SNR=9.4								PRGR				pmax	pmax		
KBZ					LR	LR	09 39 53.8			comp=Z,6.0nm,0.4s						
	comp=Z,1μm,18.4s,baz=94,slow=42								**ABTO**	**Aybut**	**28.45**	**226**	P	**P**	**09 29 21.0**	**+0.1**
	comp=Z,12nm,0.9s								**HHC**	**Hu-ho-hao-te**	**28.46**	**75**	*e*P	**P**	**09 29 22.8**	**+1.9**
KBZ	**Khabaz**		**23.82**	**291***ce*	P	**P**	**09 28 37.2**	**-1.5**	HHC				pP	sP	09 29 28.3	+1.0
KBZ					pmax	pmax			HHC				S	**S**	**09 34 10.0**	**+1.7**
	comp=Z,35nm,1.1s								HHC				pmax	pmax		
KARS	**Kars**		**23.88**	**283**	P	**P**	**09 28 39.3**	**-0.2**		comp=Z,19nm,1.0s						
KARS	**Kars**		**23.88**	**283**	P	**P**	**09 28 39.3**	**-0.2**	HHC				pmax	pmax		
KARS					pmax	pmax				comp=Z,180nm,5.5s						
	comp=Z,295nm,0.9s								HHC				LR	LR		
SAKB	**Bahrain**		**23.89**	**243**	P	**P**	**09 28 42.0**	**+2.6**		comp=Z,2μm,15.7s						
SAKB					S	**S**	**09 33 01.0**	**+5.4**	HHC				LR	LR		
NEY	**Neytrino**		**23.95**	**290**	*i* P	**P**	**09 28 40.8**	**+0.6**		comp=Z,2μm,14.0s						
NEY					pmax	pmax			HHC				LR	LR		
	comp=Z,18nm,0.8s									comp=Z,2μm,16.1s						
KVAR	**Kislovodsk Arr**		**23.97**	**292**	P	**P**	**09 28 43.4**	**+3.2**	**TOKA**	**Tokat**	**28.90**	**284**	P	**P**	**09 29 24.6**	**-0.1**
	comp=Z,5.9nm,0.5s,baz=214,slow=15,SNR=2.6								TOKA				IAmb	IAmb	09 29 30.0	
KVAR					LR	LR	09 38 43.6			comp=Z,34nm,1.3s						
	comp=Z,1μm,21.7s,baz=196,slow=38								**RAYN**	**Ar Rayn**	**28.97**	**246**	P	**P**	**09 29 25.5**	**0.0**
KIV	**Kislovodsk**		**23.98**	**292**	⇑P	**P**	**09 28 40.9**	**+0.6**	RAYN				IAmb	IAmb	09 29 30.7	
KIV	**Kislovodsk**		**23.98**	**292**	P	**P**	**09 28 39.8**	**-0.5**		comp=Z,42nm,0.9s						
KIV					IAmb	IAmb	09 29 02.8		**RAYN**	**Ar Rayn**	**28.97**	**246**	*i* P	**P**	**09 29 24.4**	**-1.1**
	comp=Z,38nm,0.6s									SNR=42						
KIV	**Kislovodsk**		**23.98**	**292**	P	**P**	**09 28 41.4**	**+1.1**	**RAYN**	**Ar Rayn**	**28.97**	**246**	P	**P**	**09 29 25.5**	**0.0**
KIV					P	**P**	**09 28 41.4**	**+1.1**	RAYN				pmax	pmax		
KIV					S	**S**	**09 32 57.4**	**+0.4**		comp=Z,42nm,0.9s						
KIV					S	**S**	**09 32 57.4**	**+0.4**	**GAZ**	**Gaziantep**	**29.05**	**278**	P	**P**	**09 29 24.7**	**-1.4**
KIV	**Kislovodsk**		**23.98**	**292**	*e*P	**P**	**09 28 40.1**	**-0.2**	GAZ				IAmb	IAmb	09 29 31.6	
KIV					*e*S	**S**	**09 32 58.3**	**+1.3**		comp=Z,21nm,0.9s						
KIV					pmax	pmax			**MOS**	**Moscow**	**29.28**	**316**	*e*P	**P**	**09 29 25.3**	**-2.5**
	comp=Z,40nm,1.0s								MOS				*e*PPP	PPP	09 30 27.2	
KIV					MLR	MLR			MOS				*e*		09 30 40.6	
	comp=Z,483nm,15.0s								MOS				*e*		09 34 19.2	
MZR	**Muzera**		**23.98**	**234**	P	**P**	**09 28 43.0**	**+2.6**	MOS				MLR	MLR		
MZR	**Muzera**		**23.98**	**234**	P	**P**	**09 28 39.3**	**-1.1**		comp=Z,600nm,19.0s						
SHA1	**Shidzhatmaz**		**24.00**	**291**	*i* P	**P**	**09 28 39.6**	**-1.1**	**CHTO**	**Chiang Mai**	**29.53**	**127**	P	**P**	**09 29 29.9**	**-0.5**
DQM	**DQM**		**24.07**	**222**	P	**P**	**09 28 43.3**	**+2.1**	**CHTO**	**Chiang Mai**	**29.53**	**127**	P	**P**	**09 29 29.9**	**-0.5**
DQM					P	**P**	**09 28 43.3**	**+2.1**	**DIKM**	**Dikmen**	**29.59**	**287**	⇑P	**P**	**09 29 31.6**	**+0.8**
GEVA	**Gevas**		**24.27**	**278**	P	**P**	**09 28 42.5**	**-0.7**	**OBN**	**Obninsk**	**29.66**	**315**	LR	LR	09 42 23.7	
GEVA					IAmb	IAmb	09 28 49.7			comp=Z,181nm,19.3s,baz=140,slow=38						
	comp=Z,59nm,0.9s								**OBN**	**Obninsk**	**29.66**	**315**	*i* P	**P**	**09 29 32.0**	**+0.8**
IRK	**Irkutsk**		**24.43**	**48**	*e*P	P	09 28 32.9	-11	OBN				*i*		09 30 31.7	
IRK					pmax	pmax			OBN				pmax	pmax		
	comp=Z,41nm,2.0s									comp=Z,26nm,1.3s						
SONM	**Songino Array**		**24.67**	**59**	P	**P**	**09 28 47.4**	**+0.7**	OBN				MLR	MLR		
	comp=Z,11nm,0.6s,baz=261,slow=9.5,SNR=53									comp=Z,644nm,18.0s						
SONM					LR	LR	09 40 02.3		**BNN**	**Bunyan**	**29.68**	**282**	P	**P**	**09 29 30.8**	**-1.0**
	comp=Z,664nm,19.5s,baz=268,slow=40								BNN				IAmb	IAmb	09 29 35.4	
	comp=Z,11nm,0.6s									comp=Z,16nm,0.8s						
SONM	**Songino Array**		**24.67**	**59**	P	**P**	**09 28 47.5**	**+0.8**	**TIY**	**Taiyuan**	**29.78**	**81**	*e*P	**P**	**09 29 34.3**	**+1.7**
TNCH	**TengChong**		**24.88**	**118**	P	**P**	**09 28 51.8**	**+3.0**	TIY				S	**S**	**09 34 33.0**	**+4.0**
TNCH					pP	sP	09 28 54.5	-0.5	TIY				pmax	pmax		
TNCH					sP	pP	09 28 57.0	+3.8		comp=Z,13nm,0.7s						
TNCH					PP	**PnPn**	**09 29 28.8**	**+7.5**	TIY				pmax	pmax		
TNCH					S	**S**	**09 33 12.0**	**0.0**		comp=Z,170nm,3.6s						
TNCH					sS	pS	09 33 16.8	-0.5	TIY				LR	LR		
TNCH					pmax	pmax				comp=Z,2μm,18.5s						
	comp=Z,110nm,1.1s								TIY				LR	LR		
TNCH					pmax	pmax				comp=Z,750nm,17.9s						
	comp=Z,190nm,3.3s								TIY				LR	LR		
TNCH					LR	LR				comp=Z,1μm,22.0s						
	comp=Z,520nm,15.9s								**CMAR**	**Chiang Mai Arr**	**29.79**	**127**	P	**P**	**09 29 31.7**	**-1.0**
TNCH					LR	LR				comp=Z,1.2nm,0.3s,baz=316,slow=8.8,SNR=1.1						
	comp=Z,670nm,18.0s								CMAR				ScP	**ScP**	**09 36 18.9**	**+0.7**
TNCH					LR	LR				comp=Z,1.3nm,0.4s,baz=325,slow=4.9,SNR=4.4						
	comp=Z,620nm,14.7s								CMAR				LR	LR	09 44 20.4	
GURO	**Guroymak-BITLI**		**25.02**	**279**	P	**P**	**09 28 48.6**	**-1.3**		comp=Z,142nm,18.3s,baz=310,slow=42						
KIRV	**Kirov**		**25.04**	**329**	P	**P**	**09 28 52.7**	**+3.0**		comp=Z,1.2nm,0.3s						
	comp=Z,46nm,0.8s,baz=296,slow=1.5,SNR=9.2								**CMAR**	**Chiang Mai Arr**	**29.79**	**127**	P	**P**	**09 29 31.4**	**-1.3**
KIRV					LR	LR	09 39 22.1		**SIM**	**Simferopol'**	**30.08**	**294***c*	*i*P	**P**	**09 29 35.8**	**+0.7**
	comp=Z,1μm,20.1s,baz=137,slow=38								SIM				*e*		09 32 38.3	
KIRV	**Kirov**		**25.04**	**329***ce*	P	**P**	**09 28 51.9**	**+2.2**	SIM				pmax	pmax		
ULN	**Ulaanbaatar**		**25.12**	**59**	P	**P**	**09 28 51.3**	**+0.6**		comp=Z,167nm,1.0s						
ULN					IAmb	IAmb	09 28 54.6		SIM				pmax	pmax		
	comp=Z,23nm,0.8s									comp=Z,160nm,6.3s						
ULN	**Ulaanbaatar**		**25.12**	**59**	P	**P**	**09 28 51.3**	**+0.6**	SIM				MLR	MLR		
ULN					pmax	pmax				comp=Z,206nm,17.0s						
	comp=Z,23nm,0.9s								**ENH**	**Enshi**	**30.15**	**96**	P	**P**	**09 29 35.7**	**-0.2**
CD2	**Chengdu**		**25.46**	**100**	P	**P**	**09 28 55.3**	**+1.4**	ENH				IAmb	IAmb	09 30 38.7	
CD2					S	**S**	**09 33 19.5**	**-1.4**		comp=Z,28nm,1.2s						
CD2					pmax	pmax			**KLMR**	**Klimovskoe**	**30.45**	**327**	*e*P	**P**	**09 29 39.7**	**+1.5**
	comp=Z,50nm,1.0s								KLMR				AMP		09 29 48.1	
CD2					LR	LR				comp=Z,34nm,1.2s						
	comp=Z,1μm,11.8s								KLMR				LQ	LQ	09 40 06.5	
CD2					LR	LR			KLMR				LQ	LQ	09 40 06.5	
	comp=Z,990nm,7.4s								KLMR				LR	LR	09 41 05.2	
CD2					LR	LR			KLMR				AMP		09 42 34.8	
	comp=Z,1μm,11.3s									comp=Z,700nm,13.5s						
VRH	**Novokhopyorsk**		**25.61**	**308**	*e*P	**P**	**09 28 55.4**	**+0.5**	**KLMR**	**Klimovskoe**	**30.45**	**327**	*e*P	**P**	**09 29 39.6**	**+1.4**
VRH					pmax	pmax			KLMR				pmax	pmax		
	comp=Z,20nm,0.5s									comp=Z,34nm,1.2s						
KOPT	**Kop Dagi**		**25.92**	**282**	P	**P**	**09 28 58.1**	**-0.1**	KLMR				MLR	MLR		
SOC	**Sochi**		**26.13**	**291**	*e*P	**P**	**09 28 59.2**	**-0.6**		comp=Z,700nm,14.0s						
SOC					*e*		09 29 38.1		**BZK**	**Bozkurt**	**30.48**	**288**	P	**P**	**09 29 39.7**	**+1.1**
SOC					*e*S	**S**	**09 33 32.4**	**+1.1**	**PHRA**	**Phrae**	**30.57**	**125**	P	**P**	**09 29 38.6**	**-1.0**
SOC					*e*SS	**SnSn**	**09 34 33.0**	**+3.7**	**LYN**	**LuoYang**	**30.76**	**87**	⇓*i*P	**P**	**09 29 42.8**	**+1.6**
									LYN				pmax	pmax		

	comp=Z,150nm,6.8s							
LYN					LR	LR		
	comp=Z,1μm,17.4s							
LYN					LR	LR		
	comp=Z,710nm,18.8s							
LYN					LR	LR		
	comp=Z,640nm,18.2s							
ILGA	**Ilgaz**		**30.84**	**286**	P	**P**	**09 29 42.6**	**+0.5**
NRIK	**Noril'sk**		**30.96**	**9**	P	**P**	**09 29 43.4**	**+0.8**
	comp=Z,7.0nm,0.9s,baz=190,slow=7.1,SNR=8.8							
	comp=Z,7.0nm,0.9s							
NRIK	**Noril'sk**		**30.96**	**9**	P	**P**	**09 29 43.3**	**+0.7**
NRIK	**Noril'sk**		**30.96**	**9***ce*	P	**P**	**09 29 43.1**	**+0.5**
NRIK					pmax	pmax		
	comp=Z,18nm,1.1s							
ASF	**Jabal al Asfar**		**30.98**	**268**	P	**P**	**09 29 44.0**	**+0.7**
	comp=Z,8.4nm,1.0s,baz=71,slow=1.4,SNR=5.6							
ASF					LR	LR	09 43 35.5	
	comp=Z,544nm,21.7s,baz=86,slow=39							
	comp=Z,8.4nm,1.0s							
ASF	**Jabal al Asfar**		**30.98**	**268**	P	**P**	**09 29 44.0**	**+0.7**
BR131	**Keskin Array S**		**31.16**	**284**	IAmb	IAmb	09 29 49.5	
	comp=Z,36nm,0.8s							
BR131	**Keskin Array S**		**31.16**	**284***d*	*i*P	**P**	**09 29 45.3**	**+0.5**
BRTR	**Keskin Array B**		**31.16**	**284**	P	**P**	**09 29 45.8**	**+0.9**
	comp=Z,22nm,0.9s,baz=92,slow=6.7,SNR=39							
BRTR					LR	LR	09 44 00.4	
	comp=Z,461nm,20.6s,baz=97,slow=40							
	comp=Z,22nm,0.9s							
BRTR	**Keskin Array B**		**31.16**	**284**	P	**P**	**09 29 44.7**	**-0.1**
BRTR	**Keskin Array B**		**31.16**	**284**	*i* P	**P**	**09 29 45.7**	**+0.9**
BRTR					pmax	pmax		
	comp=Z,23nm,0.9s							
XLT	**XiLinHaoTe**		**31.38**	**68**	*e*P	**P**	**09 29 47.8**	**+1.1**
XLT					PP	**PnPn**	**09 30 49.5**	**+0.5**
XLT					S	**S**	**09 34 59.8**	**+5.8**
XLT					pmax	pmax		
	comp=Z,12nm,0.8s							
XLT					pmax	pmax		
	comp=Z,160nm,5.3s							
XLT					LR	LR		
	comp=Z,100nm,16.2s							
XLT					LR	LR		
	comp=Z,660nm,14.9s							
XLT					LR	LR		
	comp=Z,900nm,15.2s							
BOD	**Bodaibo**		**31.57**	**41**	*e*P	**P**	**09 29 48.3**	**+0.2**
BOD					pmax	pmax		
	comp=Z,17nm,1.4s							
HNS	**HongShan**		**31.61**	**80**	⇑P	**P**	**09 29 49.5**	**+0.9**
HNS					*e*S	**S**	**09 35 02.5**	**+5.1**
HNS					pmax	pmax		
	comp=Z,15nm,1.0s							
HNS					LR	LR		
	comp=Z,1μm,17.5s							
HNS					LR	LR		
	comp=Z,900nm,18.4s							
HNS					LR	LR		
	comp=Z,870nm,21.6s							
ANTO	**Ankara**		**31.76**	**285**	⇑P	**P**	**09 29 51.5**	**+1.4**
ANTO	**Ankara**		**31.76**	**285**	P	**P**	**09 29 50.3**	**+0.3**
ANTO	**Ankara**		**31.76**	**285**	P	**P**	**09 29 50.3**	**+0.3**
ANTO					pmax	pmax		
	comp=Z,69nm,1.4s							
BR231	**Keskin MP Arra**		**31.78**	**284**	P	**P**	**09 29 48.6**	**-1.7**
BR231					IAmb	IAmb	09 29 55.5	
	comp=Z,52nm,1.2s							
MMAI	**Mount Meron Ar**		**31.81**	**271**	P	**P**	**09 29 52.0**	**+1.5**
	comp=Z,4.6nm,0.7s,baz=42,slow=7.9,SNR=5.0							
MMAI					PcP	**PcP**	**09 32 41.5**	**0.0**
	comp=Z,3.2nm,0.8s,baz=358,slow=20,SNR=4.0							
MMAI					LR	LR	09 45 51.2	
	comp=Z,296nm,19.1s,baz=296,slow=42							
	comp=Z,4.6nm,0.7s							
BJI	**Beijing**		**32.07**	**75**	P	**P**	**09 29 53.5**	**+0.9**
BJI					pP	**pP**	**09 29 58.0**	**+0.8**
BJI					sP	**sP**	**09 30 00.8**	**+1.8**
BJI					S	**S**	**09 35 05.0**	**+0.4**
BJI					ScP	**ScP**	**09 36 23.5**	**-1.9**
BJI					PcS	**PcS**	**09 36 27.0**	**+0.4**
BJI					pmax	pmax		
	comp=Z,11nm,0.8s							
BJI					LR	LR		
	comp=Z,840nm,12.9s							
BJI					LR	LR		
	comp=Z,920nm,13.5s							
BJI					LR	LR		
	comp=Z,1μm,15.6s							
BJT	**Baijiatuau**		**32.07**	**75**	P	**P**	**09 29 53.2**	**+0.5**
BJT	**Baijiatuau**		**32.07**	**75**	P	**P**	**09 29 53.2**	**+0.5**
BJT					pmax	pmax		
	comp=Z,10.0nm,0.9s							
PALK	**Pallekele**		**32.38**	**168**	P	**P**	**09 29 54.5**	**-1.2**
	comp=Z,8.6nm,0.8s,baz=16,slow=7.4,SNR=2.5							
PALK					LR	LR	09 42 48.8	
	comp=Z,649nm,19.4s,baz=91,slow=36							
	comp=Z,8.6nm,0.8s							
ADZR	**Andozero**		**32.52**	**331**	*e*P	**P**	**09 29 59.2**	**+2.9**
ADZR					pmax	pmax		
	comp=Z,15nm,0.5s							
CSS	**Mathiatis**		**32.71**	**275**	P	**P**	**09 29 58.0**	**-0.4**
MDUB	**Mudurnu**		**32.83**	**286**	P	**P**	**09 29 59.2**	**-0.2**
GULI	**GuiLin**		**33.33**	**104**	*e*P	**P**	**09 30 02.0**	**-1.8**
AKASG	**Malin Array Be**		**33.34**	**305**	P	**P**	**09 30 03.4**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=79,slow=7.4,SNR=27							
AKASG					PcP	**PcP**	**09 32 44.7**	**-0.6**
	comp=Z,4.4nm,0.7s,baz=75,slow=3.3,SNR=8.1							
AKASG					LR	LR	09 44 52.6	
	comp=Z,925nm,19.3s,baz=88,slow=39							
	comp=Z,1.1nm,0.4s							
AKASG	**Malin Array Be**		**33.34**	**305**	P	**P**	**09 30 03.6**	**0.0**
AKASG	**Malin Array Be**		**33.34**	**305**	P	**P**	**09 30 03.6**	**0.0**
AKASG					pmax	pmax		
	comp=Z,27nm,2.0s							
AKBB	**Malin Array Si**		**33.34**	**305**	P	**P**	**09 30 03.4**	**-0.3**
AKBB					IAmb	IAmb	09 30 08.0	
	comp=Z,17nm,0.7s							
AKBB	**Malin Array Si**		**33.34**	**305***ce*	P	**P**	**09 30 03.3**	**-0.3**
AKBB					pmax	pmax		
	comp=Z,16nm,0.6s							
BORA	**Eskisehir**		**33.51**	**285**	P	**P**	**09 30 06.0**	**+0.7**
BORA					IAmb	IAmb	09 30 09.9	
	comp=Z,36nm,0.9s							
EIL	**Elat**		**33.56**	**266**	LR	LR	09 46 40.8	
	comp=Z,529nm,18.0s,baz=70,slow=42							
MILM	**Milestii Mici**		**33.66**	**298**	⇑P	**P**	**09 30 07.2**	**+0.8**
WHN	**Wuhan**		**33.79**	**92**	⇑P	P	09 30 13.5	+5.7
WHN					LR	LR		
	comp=Z,3μm,15.2s							
TIA	**Tai'an**		**33.81**	**81**	P	**P**	**09 30 09.3**	**+1.4**
TIA					pmax	pmax		
	comp=Z,23nm,0.9s							
TIA					LR	LR		
	comp=Z,1μm,16.9s							
TIA					LR	LR		
	comp=Z,750nm,17.8s							
TIA					LR	LR		
	comp=Z,820nm,15.1s							
SORM	**Soroca**		**33.91**	**300**	⇓P	**P**	**09 30 08.5**	**-0.1**
TPGR	**Topolog**		**34.12**	**295**	⇑P	**P**	**09 30 11.1**	**+0.5**
TIRR	**Tirgusor**		**34.18**	**294**	⇑P	**P**	**09 30 11.8**	**+0.8**
TIRR	**Tirgusor**		**34.18**	**294**	P	**P**	**09 30 11.3**	**+0.3**
TIRR					IAmb	IAmb	09 30 27.4	
	comp=Z,29nm,0.9s							
TIRR	**Tirgusor**		**34.18**	**294**	P	**P**	**09 30 11.3**	**+0.3**
TIRR					pmax	pmax		
	comp=Z,29nm,0.9s							
MFTR	**Murfatlar**		**34.21**	**293**	P	**P**	**09 30 12.6**	**+1.3**
CFR	**Carcaliu**		**34.28**	**295**	⇑P	**P**	**09 30 12.2**	**+0.3**
SCTR	**Scanteiesti**		**34.33**	**296**	⇑P	**P**	**09 30 13.8**	**+1.5**
VARL	**Varlezi**		**34.41**	**296**	P	**P**	**09 30 14.0**	**+1.1**
TLBR	**Topalu**		**34.42**	**294**	⇑P	**P**	**09 30 13.9**	**+0.7**
MNK	**Minsk**		**34.46**	**312**	*i* P	**P**	**09 30 15.4**	**+2.0**
	comp=E,6.0nm,1.0s							
MNK					*i* P	**P**	**09 30 15.4**	**+2.0**
	comp=N,26nm,1.0s							
MNK					*i* P	**P**	**09 30 15.4**	**+2.0**
	comp=Z,35nm,0.9s,baz=97							
MNK		

MNK *i* LRM MLR 09 46 25.9
comp=N,796nm,13.2s
MNK *i* LRM MLR 09 46 33.5
comp=Z,1μm,18.7s
MNK *i* LRM MLR 09 46 40.3
comp=E,139nm,14.8s
MNK Minsk 34.46 312 *i* P **P** **09 30 15.3 +2.0**
MNK *i* 09 31 31.4
MNK *i* PPP PPP 09 31 44.2
MNK *i* 09 32 51.1
MNK *i* S **S** **09 35 45.6 +4.3**
MNK *i* SS **SnSn** **09 37 57.8 +6.1**
MNK *i* SSS SSS 09 38 14.1
MNK pmax pmax
comp=Z,35nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=N,26nm,1.0s
MLR MLR
comp=N,796nm,13.0s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=E,139nm,15.0s
HARR Harsova 34.49 294 ⇓P **P** **09 30 14.4 +0.7**
IZVR Izvoarele 34.50 296 P **P** **09 30 14.3 +0.6**
ICOR Ion Corvin 34.66 293 P **P** **09 30 16.1 +0.9**
ELL Elmali 34.77 280 P **P** **09 30 16.3 -0.1**
ELL Elmali 34.77 280 P **P** **09 30 16.3 -0.1**
ELL pmax pmax
comp=Z,47nm,1.0s
NACGM Naroch 35.14 312 *e*P **P** **09 30 22.9 +3.7**
comp=Z,40nm,0.8s,baz=96
AKAS Kas 35.16 279 P **P** **09 30 18.6 -1.2**
TESR Tescani 35.17 298 ⇑P **P** **09 30 19.9 +0.3**
VRI Vrincioaia 35.19 297 ⇑P **P** **09 30 21.3 +1.6**
PLOR Plostina 35.24 297 ⇑P **P** **09 30 21.4 +1.1**
MANT Manisa 35.29 284 P **P** **09 30 21.4 +0.5**
MANT IAmb IAmb 09 30 25.3
comp=Z,61nm,1.3s
ISR Istrita 35.41 295 ⇑P **P** **09 30 22.5 +0.8**
COVR Voineasa-Covas 35.55 297 ⇑P **P** **09 30 23.5 +0.5**
RAZG Razgrad 35.67 293 P **P** **09 30 23.8 -0.1**
SECR 35.75 295 ⇑P **P** **09 30 26.1 +1.5**
MLR Muntele Rosu 35.78 296 ⇓P **P** **09 30 26.4 +1.4**
MLR Muntele Rosu 35.78 296 LR LR 09 47 44.5
comp=Z,293nm,19.9s,baz=72,slow=41
BURAR Bucovina Array 36.04 300 ⇑P **P** **09 30 28.5 +1.3**
BUR08 Bucovina Ar. S 36.05 300 P **P** **09 30 27.4 +0.1**
DOPR Dopca 36.10 297 ⇓P **P** **09 30 28.8 +1.1**
APA Apatity 36.14 335 ⇓ *i*P **P** **09 30 29.0 +1.3**
APA pmax pmax
comp=Z,7.0nm,1.1s
VOIR 36.41 296 ⇑P **P** **09 30 31.3 +0.9**
DL2 Dalian 36.44 75 P **P** **09 30 32.5 +2.0**
DL2 S **S** **09 36 15.0 +2.9**
DL2 pmax pmax
comp=Z,57nm,1.1s
DL2 LR LR
comp=Z,1μm,16.4s
DL2 LR LR
comp=Z,510nm,21.0s
DL2 LR LR
comp=Z,1μm,17.8s
STFAR Stefanesti-Arg 36.56 295 ⇑P **P** **09 30 32.9 +1.4**
NJ2 Nanjing 36.65 87 *e*P **P** **09 30 36.0 +3.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
NJ2 LR LR
comp=Z,2μm,17.5s
NJ2 LR LR
comp=Z,940nm,19.9s
NJ2 LR LR
comp=Z,790nm,11.4s
LVV L'vov 36.68 304 *e*P **P** **09 30 32.5 +0.1**
LVV *e* 09 31 54.2
LVV *e*S **S** **09 36 09.8 -5.7**
LVV *e*SSS SSS 09 39 20.2
LVV MLR MLR
comp=N,400nm,16.0s
LVV MLR MLR
comp=E,300nm,16.0s
LVV MLR MLR
comp=Z,400nm,17.0s
ARCR ARCALIA 36.68 299 P **P** **09 30 33.8 +1.2**
ARR Arges 36.71 296 ⇑P **P** **09 30 33.9 +1.0**
FIA1 FINESS Array S 36.71 323 P **P** **09 30 32.6 0.0**
FIA1 IAmb IAmb 09 30 40.5
comp=Z,84nm,1.6s
FINES FINESS Array B 36.71 323 P **P** **09 30 32.5 0.0**
comp=Z,12nm,0.4s,baz=114,slow=9.5,SNR=40
FINES LR LR 09 46 04.3
comp=Z,770nm,19.6s,baz=109,slow=37
comp=Z,12nm,0.4s
FINES FINESS Array B 36.71 323 P **P** **09 30 32.7 +0.1**
FINES FINESS Array B 36.71 323 P **P** **09 30 32.7 +0.1**
QIZ Qiongzhong 36.73 113 P **P** **09 30 32.3 -0.9**
QIZ S **S** **09 36 18.5 +1.6**
QIZ LR LR
comp=Z,1μm,18.1s
QIZ LR LR
comp=Z,1μm,17.2s
QIZ LR LR
comp=Z,1μm,20.0s
PABE Paberze 36.81 313 IAmb IAmb 09 30 40.0
comp=Z,62nm,1.2s
SNY Shenyang 37.16 70 ⇑P **P** **09 30 36.8 +0.2**
SNY S **S** **09 36 26.8 +3.8**
SNY pmax pmax
comp=Z,24nm,0.5s
SNY pmax pmax
comp=Z,170nm,4.0s
SNY LR LR
comp=Z,730nm,14.9s
SNY LR LR
comp=Z,1μm,14.3s
SNY LR LR
comp=Z,1μm,16.1s
LOT Lotru 37.30 296 P **P** **09 30 39.0 +1.0**
MARR Marisel-Cluj 37.57 298 P **P** **09 30 41.3 +1.1**
TRPA Tarpa 37.79 301 ⇑P **P** **09 30 43.0 +1.1**
TRPA Tarpa 37.79 301 P **P** **09 30 42.5 +0.6**
DRGR 37.83 299 P **P** **09 30 42.4 0.0**
KOLS Kolonicke sedl 37.88 302 *e*P **P** **09 30 42.2 -0.5**
KOLS *e*PP **PP** **09 32 05.9 -3.2**
KOLS Kolonicke sedl 37.88 302 *e*P **P** **09 30 42.2 -0.5**
GZR Gura Zlata 38.00 296 ⇑P **P** **09 30 44.5 +0.7**
APE Apeiranthos 38.00 282 ⇓P **P** **09 30 43.9 -0.1**
APE Apeiranthos 38.00 282 *d* *i*P **P** **09 30 43.8 -0.1**
APE pmax pmax
comp=Z,61nm,1.0s
CN2 Changchun 38.09 66 *e*P P 09 30 49.8 +5.3
CN2 *es*P sP 09 30 56.0 +5.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,12.0s
CN2 LR LR
comp=Z,800nm,12.0s
CN2 LR LR
comp=Z,900nm,12.0s
VTS Vitosha 38.21 292 ⇑P **P** **09 30 46.5 +0.8**
SANT Santorini 38.28 281 ⇑P **P** **09 30 45.9 -0.4**
SANT Santorini 38.28 281 IAmb IAmb 09 30 49.5
comp=Z,34nm,1.0s
ZEA Zeya 38.31 50 *e*P **P** **09 30 47.9 +1.7**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=N,400nm,16.0s
ZEA MLR MLR
comp=Z,400nm,15.0s
SURR Surduc 38.39 297 ⇑P **P** **09 30 47.9 +0.9**
STHS Stebnicka Huta 38.51 303 *e*P **P** **09 30 48.5 +0.5**
STHS Stebnicka Huta 38.51 303 *e*P **P** **09 30 48.5 +0.5**
HEH HeiHe 38.54 56 *e*P **P** **09 30 48.5 +0.3**
HEH pmax pmax
comp=Z,45nm,0.8s
HEH pmax pmax
comp=Z,99nm,3.9s
HEH LR LR
comp=Z,1μm,13.5s
HEH LR LR
comp=Z,1μm,15.7s
HEH LR LR
comp=Z,2μm,15.8s
SIRR Siria 38.63 298 ⇑P **P** **09 30 49.3 +0.3**
VADS Vadso 38.69 337 *e*P **P** **09 30 49.7 +0.5**
VADS IAmb IAmb 09 30 51.3
comp=Z,30nm,1.2s
BZS Buzias 38.77 297 ⇑P **P** **09 30 50.9 +0.8**
IDI Anoyia 39.09 280 ⇓P **P** **09 30 53.1 0.0**
IDI Anoyia 39.09 280 LR LR 09 51 07.9
comp=Z,253nm,19.6s,baz=78,slow=42
IDI Anoyia 39.09 280 P **P** **09 30 52.9 -0.2**
ARA0 ARCESS Array S 39.63 336 *e*P **P** **09 30 57.6 +0.5**
ARCES ARCESS Array B 39.63 336 P **P** **09 30 57.2 +0.1**
comp=Z,15nm,0.8s,baz=108,slow=8.1,SNR=19
ARCES LR LR 09 47 22.8
comp=Z,261nm,18.2s,baz=119,slow=36
comp=Z,15nm,0.8s
ARCES ARCESS Array B 39.63 336 P **P** **09 30 57.6 +0.5**
ARCES IAmb IAmb 09 31 00.3
comp=Z,126nm,1.9s
ARCES ARCESS Array B 39.63 336 P **P** **09 30 57.6 +0.5**
ARCES pmax pmax
comp=Z,126nm,2.0s
KTK1 Kautokeino 40.18 334 *e*P **P** **09 31 01.7 +0.1**
KTK1 IAmb IAmb 09 31 05.3
comp=Z,26nm,1.1s
VYHS Vyhne 40.20 302 *e*P **P** **09 31 02.8 +0.7**
VYHS Vyhne 40.20 302 *e*P **P** **09 31 02.8 +0.7**
YAK Yakutsk 40.21 37 P **P** **09 31 01.9 0.0**
comp=Z,16nm,0.6s,baz=127,slow=1.4,SNR=9.8
YAK LR LR 09 48 40.3
comp=Z,684nm,20.5s,baz=264,slow=38
comp=Z,16nm,0.6s
YAK Yakutsk 40.21 37 *e*P **P** **09 31 01.3 -0.7**
YAK *e*S **S** **09 37 03.6 -5.0**
YAK *e*SS **SS** **09 39 56.9 -9.4**
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,71nm,2.5s
YAK pmax pmax
comp=N,51nm,2.1s
YAK pmax pmax
comp=E,30nm,2.3s
YAK smax smax
comp=E,38nm,1.8s
YAK smax smax
comp=N,121nm,2.2s
YAK MLR MLR
comp=Z,735nm,17.0s
YAK MLR MLR
comp=E,520nm,18.0s
KBN Korca 40.48 290 IAmb IAmb 09 31 06.0
comp=Z,25nm,0.5s
INCN Inchon 40.63 75 P **P** **09 31 06.2 +0.4**
INCN Inchon 40.63 75 P **P** **09 31 06.2 +0.4**
INCN pmax pmax
comp=Z,132nm,1.8s
HAMF Hammerfest 40.64 337 *e*P **P** **09 31 06.1 +0.6**
HAMF IAmb IAmb 09 31 08.4
comp=Z,106nm,1.4s
MORH Mrgy, Hungar 40.70 299 ⇑P **P** **09 31 06.9 +0.6**
MORH Mrgy, Hungar 40.70 299 P **P** **09 31 07.0 +0.8**
MDJ Mudanjiang 40.84 64 P **P** **09 31 07.3 -0.1**
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,230nm,4.2s
MDJ LR LR
comp=Z,1μm,14.1s
MDJ LR LR
comp=Z,960nm,15.2s
MDJ LR LR
comp=Z,1μm,23.0s
MORC Moravsky Berou 40.87 304 P **P** **09 31 08.1 +0.5**
MORC Moravsky Berou 40.87 304 *e*P **P** **09 31 08.2 +0.5**
MORC Moravsky Berou 40.87 304 P **P** **09 31 08.1 +0.5**
MORC pmax pmax
comp=Z,10.0nm,1.1s
KOVH Kovagototos 41.09 298 P **P** **09 31 09.3 -0.2**
PDG Podgorica 41.11 293 ⇑P **P** **09 31 10.2 +0.6**
PDG Podgorica 41.11 293 P **P** **09 31 09.4 -0.2**
PDG IAmb IAmb 09 31 14.8
comp=Z,33nm,0.8s
JETT Jettan, Norway 41.31 335 *e*P **P** **09 31 11.6 +0.6**
KRLC Kraliky 41.31 305 *e*P **P** **09 31 11.7 +0.4**
KRLC AMS AMS 09 48 50.0
comp=Z,800nm,19.6s
KRLC Kraliky 41.31 305 *e*P **P** **09 31 11.7 +0.4**
KRLC *e* 09 31 11.7
KRLC MLR MLR
comp=Z,800nm,19.6s
KLR Kul'dur 41.45 57 P **P** **09 31 12.5 +0.1**
comp=Z,5.0nm,0.6s,baz=272,slow=7.2,SNR=19
KLR LR LR 09 50 00.1
comp=Z,808nm,21.0s,baz=268,slow=38
comp=Z,5.0nm,0.6s
KLR Kul'dur 41.45 57 *ce*P **P** **09 31 12.7 +0.3**
KLR pmax pmax
comp=Z,15nm,1.5s
VRAC Vranov 41.54 304 LR LR 09 49 46.7
comp=Z,470nm,20.3s,baz=80,slow=38
VRAC Vranov 41.54 304 *e*P **P** **09 31 13.6 +0.4**
DPC Dobruska-Polom 41.57 305 *e*P **P** **09 31 14.1 +0.7**
DPC AMS AMS 09 49 20.0
comp=Z,800nm,17.2s
DPC Dobruska-Polom 41.57 305 *e*P **P** **09 31 14.1 +0.7**
DPC MLR MLR
comp=Z,800nm,17.2s
KSAR Wonju Array Be 41.58 75 P **P** **09 31 13.5 -0.1**
KSAR Wonju Array Be 41.58 75 P **P** **09 31 13.5 -0.1**
KSRS Korea Array 41.61 75 P **P** **09 31 13.8 0.0**
comp=Z,6.0nm,0.8s,baz=281,slow=8.2,SNR=19
KSRS LR LR 09 51 18.4
comp=Z,916nm,18.1s,baz=280,slow=40
comp=Z,6.0nm,0.8s
OSTC Ostas 41.61 305 AMS AMS 09 49 20.0
comp=Z,800nm,16.3s
KRUC Moravsky 41.71 303 *e*P **P** **09 31 15.5 +1.0**
UPC Upice 41.75 305 AMS AMS 09 49 20.0
comp=Z,1μm,19.3s
TRO Tromso 41.83 334 *e*P **P** **09 31 15.7 +0.5**
RONA Rosalia, Austr 42.01 301 *e*P **P** **09 31 17.4 +0.3**
comp=Z,7.6nm,1.0s
TIXI Tiksi 42.24 23 P **P** **09 31 18.5 0.0**
comp=Z,6.3nm,0.5s,baz=90,slow=23,SNR=29
TIXI LR LR 09 49 58.2
comp=Z,799nm,20.9s,baz=270,slow=38
comp=Z,6.3nm,0.5s
TIXI Tiksi 42.24 23 P **P** **09 31 18.1 -0.4**
TIXI Tiksi 42.24 23 *ce*P **P** **09 31 18.0 -0.5**
TIXI pmax pmax
comp=Z,18nm,1.3s
CONA Conrad Observa 42.25 302 *e*P **P** **09 31 19.7 +0.7**
comp=Z,9.9nm,1.0s
IPM Ipoh 42.28 138 P **P** **09 31 17.7 -1.8**
HFS Hagfors 42.54 320 LR LR 09 49 36.1
comp=Z,695nm,19.5s,baz=102,slow=37
FAUS Fauske 42.59 331 *e*P **P** **09 31 21.6 +0.2**
FAUS IAmb IAmb 09 31 22.3
comp=Z,124nm,1.6s
USRK Ussuriysk Ar. 42.60 64 P **P** **09 31 21.7 -0.1**
comp=Z,5.1nm,0.7s,baz=266,slow=5.4,SNR=5.6
USRK LR LR 09 50 59.5
comp=Z,742nm,19.4s,baz=272,slow=39
comp=Z,5.1nm,0.7s
ARSA Arzberg 42.61 301 *e*P **P** **09 31 22.0 +0.1**
comp=Z,2.8nm,1.1s
GOPC GO Pecny, Ondr 42.61 305 AMS AMS 09 49 40.0
comp=Z,900nm,20.2s
PVCC Panska Ves 42.66 306 AMS AMS 09 50 00.0
comp=Z,1μm,17.4s
PSI Prapat 42.68 142 P **P** **09 31 23.1 +0.2**
comp=Z,5.0nm,0.8s,baz=260,slow=7.3,SNR=5.5
PSI PcP **PcP** **09 33 14.3 -0.4**
comp=Z,10nm,0.9s,baz=251,slow=5.1,SNR=5.4
PSI LR LR 09 52 43.5
comp=Z,184nm,18.6s,baz=296,slow=41
comp=Z,5.0nm,0.8s
PSI Prapat 42.68 142 P **P** **09 31 22.9 0.0**
PSI pmax pmax
comp=Z,10.0nm,1.0s
STEI Steigen 42.71 331 *e*P **P** **09 31 22.9 +0.5**
STEI IAmb IAmb 09 31 25.6
comp=Z,271nm,2.1s
PRU Pruhonice 42.76 305 *e*P **P** **09 31 23.8 +0.8**
PRU AMS AMS 09 49 50.0
comp=Z,900nm,17.4s
PRU Pruhonice 42.76 305 *e*P **P** **09 31 23.8 +0.8**
PRU MLR MLR
comp=Z,900nm,17.4s
RPSI Rantau Prapat 42.77 142 P **P** **09 31 22.9 -0.6**
BRG Berggiesshubel 43.00 306 *i* P **P** **09 31 25.6 +0.6**
BRG Amp 09 31 32.9
comp=Z,11nm,1.0s
BRG *e*x x 09 31 37.6
BRG Amp 09 31 39.2
comp=Z,16nm,1.2s
BRG Amp 09 50 17.0
comp=E,0.8nm,16.3s
BRG Amp 09 50 22.0
comp=Z,1.0nm,19.3s
BRG Amp 09 50 29.0
comp=N,1.6nm,16.1s
BRG Berggiesshubel 43.00 306 *i* P **P** **09 31 25.5 +0.6**
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,16nm,1.2s
BRG MLR MLR
comp=E,760nm,16.3s
BRG MLR MLR
comp=Z,956nm,19.3s
BRG MLR MLR
comp=N,2μm,16.1s
SOKA Soboth 43.05 300 *e*P **P** **09 31 26.1 +0.5**
comp=N,13nm,1.1s
CKRC Cesky Krumlov 43.11 303 *e*P **P** **09 31 27.1 +1.2**
CKRC AMS AMS 09 50 10.0
comp=N,600nm,22.3s
MOA Molln 43.32 302 *e*P **P** **09 31 28.5 +0.8**
comp=N,5.4nm,1.1s
GSI Gunungsitoli 43.38 145 P **P** **09 31 28.6 +0.2**
GSI IAmb IAmb 09 31 34.8
comp=Z,33nm,0.8s
GSI Gunungsitoli 43.38 145 P P 09 31 35.3 +6.9
OBKA Obir 43.41 300 *e*P **P** **09 31 29.2 +0.7**
comp=Z,9.2nm,1.1s
GEC2 GERESS Array S 43.50 303 P **P** **09 31 29.7 +0.5**
GERES GERESS Array B 43.50 303 P **P** **09 31 30.0 +0.9**
comp=Z,3.9nm,0.6s,baz=76,slow=7.0,SNR=22
GERES LR LR 09 50 56.3
comp=Z,603nm,21.5s,baz=78,slow=38
comp=Z,3.9nm,0.6s
GERES GERESS Array B 43.50 303 P **P** **09 31 29.4 +0.2**
CLL Collm 43.52 307 *i* P **P** **09 31 28.7 -0.5**
comp=Z,10.0nm,0.8s
CLL *i* x x 09 31 55.6
CLL *e*PP **PP** **09 33 12.0 +1.8**
CLL *es*PP 09 33 16.0
CLL *e*PPP PPP 09 33 46.0
CLL *e*(PcS) 09 37 00.0
CLL *e*S **S** **09 37 54.0 -3.8**
CLL *e*SS **SS** **09 41 06.0 -5.9**
CLL *ex* x 09 42 24.0
CLL Collm 43.52 307 *i* P **P** **09 31 28.7 -0.5**
CLL pmax pmax
comp=Z,10.0nm,0.8s
KHC Kasperske Hory 43.52 304 P **P** **09 31 29.2 -0.1**
KHC Kasperske Hory 43.52 304 *e*P **P** **09 31 29.6 +0.3**
KHC AMS AMS 09 50 10.0
comp=Z,900nm,17.5s
KHC Kasperske Hory 43.52 304 *i* P **P** **09 31 29.4 +0.1**
KHC pmax pmax
comp=Z,23nm,0.9s
NC405 NORSAR Array S 43.53 321 P **P** **09 31 29.0 -0.2**
NC602 NORSAR Array S 43.62 321 *e*P **P** **09 31 29.4 -0.4**
NC303 NORSAR Array S 43.70 321 P **P** **09 31 29.6 -0.9**
NC303 IAmb IAmb 09 31 38.4
comp=Z,35nm,0.8s
BIOA Bad Ischl, Aus 43.77 302 *e*P **P** **09 31 31.0 -0.3**
comp=Z,2.1nm,0.4s
NB2 NORSAR Subarra 43.78 321 P **P** **09 31 30.4 -0.7**
baz=91,slow=8.6
NB2 NORSAR Subarra 43.78 321 P **P** **09 31 30.4 -0.7**
comp=Z,29nm,0.8s,baz=91,slow=8.6
NOA NORSAR Array B 43.78 321 P **P** **09 31 30.5 -0.7**
comp=Z,21nm,0.9s,baz=90,slow=7.9,SNR=21
NOA LR LR 09 50 58.6
comp=Z,539nm,19.7s,baz=95,slow=38
comp=Z,21nm,0.9s
NC204 NORSAR Array S 43.99 322 P **P** **09 31 32.6 -0.3**
MYKA Terra Mystica 44.00 300 *e*P **P** **09 31 36.5 +3.3**
comp=Z,2.1nm,0.4s
NKC Novy Kostel 44.04 305 AMS AMS 09 50 30.0
comp=Z,1μm,17.2s
KBA Koelnbreinsper 44.09 301 *e*P **P** **09 31 34.3 +0.2**
comp=Z,7.0nm,1.1s
CUC Castrocucco 44.30 290 IAmb IAmb 09 31 40.7
comp=Z,41nm,0.9s
KONO Kongsberg 44.61 319 *e*P **P** **09 31 36.6 -1.2**
ABTA Abfaltersbach 44.73 301 *e*P **P** **09 31 41.4 +2.3**
comp=Z,4.3nm,0.8s
DOMB Dombas 44.80 323 *e*P **P** **09 31 39.3 0.0**
DOMB IAmb IAmb 09 31 39.9
comp=Z,53nm,1.3s
CIMO Cimolais 44.88 300 IAmb IAmb 09 31 45.2
comp=Z,13nm,1.3s
GRA1 Grafenberg Arr 44.92 305 IAmb IAmb 09 31 54.0
comp=Z,27nm,1.1s
GRFO Grafenberg 44.92 305 P **P** **09 31 40.5 0.0**
GRFO IAmb IAmb 09 31 54.0
comp=Z,24nm,1.1s
GRFO Grafenberg 44.92 305 P **P** **09 31 40.5 0.0**
GRFO pmax pmax
comp=Z,24nm,1.1s
WTTA Wattenberg 45.19 302 *e*P **P** **09 31 41.0 -1.8**
comp=Z,1.3nm,0.7s
SKAR Skarslia 45.21 321 *e*P **P** **09 31 43.2 +0.5**
WATA Walderalm 45.21 302 *e*P **P** **09 31 42.0 -0.9**
comp=Z,4.0nm,0.8s
NRCA Norcia 45.35 295 IAmb IAmb 09 32 13.0
comp=Z,51nm,1.3s
SPITS Spitsbergen Ar 45.41 346 P **P** **09 31 44.8 +0.8**
comp=Z,16nm,0.9s,baz=132,slow=20,SNR=2.6
SPITS LR LR 09 53 14.6
comp=Z,325nm,20.1s,baz=60,slow=39
comp=Z,16nm,0.9s
JNU Nakatsue 45.48 79 LR LR 09 51 38.1
comp=Z,378nm,20.2s,baz=296,slow=37
JNU Nakatsue 45.48 79 IAmb IAmb 09 31 47.1
comp=Z,35nm,1.0s
SQTA Sankt Quirin 45.48 302 *e*P **P** **09 31 47.1 +2.0**
comp=Z,0.1nm,0.2s
MOTA Moosalm 45.52 302 *e*P **P** **09 31 45.1 -0.4**
comp=Z,5.5nm,0.9s
RETA Reutte 45.71 302 *e*P **P** **09 31 47.4 +0.6**
comp=Z,5.6nm,1.2s
FETA Feichten 45.85 301 *e*P **P** **09 31 47.8 -0.2**
comp=Z,5.0nm,0.9s
BKNI Bangkinang 45.86 141 P P 09 31 56.9 +8.7
VAE Valguarnera 46.19 288 LR LR 09 56 30.6
comp=Z,92nm,19.5s,baz=102,slow=43
JOW Kunigami 46.33 89 LR LR 09 54 17.3
comp=Z,540nm,18.6s,baz=290,slow=40
DAVA Damuels 46.34 302 *e*P **P** **09 31 51.6 -0.3**
comp=Z,18nm,0.9s
JHS Saijyo 46.41 76 P **P** **09 31 52.2 -0.3**
JHS IAmb IAmb 09 31 57.0
comp=Z,29nm,1.0s
OSSC Osservatorio P 46.45 297 IAmb IAmb 09 32 28.5
comp=Z,14nm,0.9s
DAVOX Davos/Dischmat 46.47 301 LR LR 09 53 17.8
comp=Z,338nm,19.9s,baz=64,slow=38
PDSI Padang 46.66 143 P **P** **09 31 54.6 +0.1**
comp=Z,53nm,1.3s
BFO Black Forest 47.09 304 P **P** **09 31 58.0 +0.4**
BFO Black Forest 47.09 304 *i* P **P** **09 31 59.9 +2.3**
MSSA Maissana 47.41 298 IAmb IAmb 09 32 05.2
comp=Z,12nm,0.9s
BTNL Ternell 47.92 307 *d*P **P** **09 32 04.9 +0.9**
comp=Z,12nm,0.9s
BTNL *d*pP **pP** **09 32 07.8 -0.9**
BTNL *d*PcP **PcP** **09 33 35.3 +3.0**

MEM Membach 47.99 307 *d*P **P 09 32 05.2 +0.6**
comp=Z,13nm,0.9s
MEM *d*pP **pP 09 32 08.5 -0.7**
WLF Walferdange 48.14 306 IAmb IAmb 09 32 07.3
comp=Z,16nm,0.7s
WLF Walferdange 48.14 306 *d*P **P 09 32 07.0 +1.4**
comp=Z,13nm,0.9s
WLF *d*pP **pP 09 32 09.9 -0.4**
DSRI Dabo 48.34 137 P **P 09 32 07.8 +0.2**
BCLA Clavier 48.47 307 *d*P **P 09 32 08.1 -0.2**
comp=Z,6.7nm,0.9s
BCLA *d*pP **pP 09 32 11.2 -1.7**
BCLA *d*PcP **PcP 09 33 34.7 +0.4**
RCHB Rochefort 48.59 307 *d*P **P 09 32 09.8 +0.6**
comp=Z,7.4nm,1.0s
RCHB *d*pP **pP 09 32 13.2 -0.6**
BGES Gesves 48.62 307 *d*P **P 09 32 09.9 +0.5**
comp=Z,7.4nm,0.9s
BGES *d*pP **pP 09 32 12.6 -1.4**
BMRD Maredsous 48.84 307 *d*P **P 09 32 11.6 +0.6**
comp=Z,9.3nm,1.0s
DOU Dourbes 49.00 307 *d*P **P 09 32 12.9 +0.7**
DOU *d*pP **pP 09 32 16.2 -0.8**
DOU *dx* x 09 33 49.5
BNI Bardonecchia 49.11 300 IAmb IAmb 09 32 22.3
comp=Z,22nm,1.1s
JGF Kuroka 49.34 73 P **P 09 32 15.3 +0.1**
JGF IAmb IAmb 09 32 18.3
comp=Z,17nm,0.7s
MJB9 Matsu-Tunnel 49.59 72 IAmb IAmb 09 32 21.2
comp=Z,17nm,0.8s
MAJO Matsushiro 49.59 72 P **P 09 32 17.1 0.0**
MAJO IAmb IAmb 09 32 20.2
comp=Z,17nm,0.8s
MAJO Matsushiro 49.59 72 *i* P **P 09 32 16.3 -0.8**
MAJO pmax pmax
comp=Z,63nm,2.3s
MJAR Matsushiro Arr 49.59 72 P **P 09 32 17.0 -0.1**
comp=Z,9.7nm,0.8s,baz=292,slow=9.0,SNR=20
MJAR LR LR 09 54 53.7
comp=Z,419nm,19.1s,baz=290,slow=38
comp=Z,9.7nm,0.8s
ASAJ Asahikawa 49.93 61 LR LR 09 55 45.1
comp=Z,509nm,18.4s,baz=292,slow=39
KSM Kuching 49.95 130 P **P 09 32 19.8 -0.2**
KSM IAmb IAmb 09 32 21.1
comp=Z,18nm,1.1s
JTM Tenmabayashi 50.04 66 IAmb IAmb 09 32 20.5
comp=Z,35nm,1.0s
LODK Lodwar 50.17 235 P **P 09 32 21.4 -0.3**
LODK Lodwar 50.17 235 P **P 09 32 24.3 +2.6**
SNR=6.5
KKM Kota Kinabalu 50.21 120 P **P 09 32 22.3 +0.2**
PPBI Pangkal Pinang 50.58 137 P **P 09 32 24.8 +0.1**
comp=Z,9µmcomp=Z,27nm,0.6s
KEST Kesra 50.62 288 P **P 09 32 25.2 +0.2**
comp=Z,11nm,0.9s,baz=282,slow=3.8,SNR=6.8
KEST LR LR 09 59 21.9
comp=Z,227nm,18.6s,baz=14,slow=43
comp=Z,11nm,0.9s
KEST Kesra 50.62 288 IAmb IAmb 09 32 31.6
comp=Z,20nm,1.1s
SEY Seymchan 50.68 35 P **P 09 32 25.1 +0.3**
comp=Z,2.3nm,0.7s,baz=302,slow=5.2,SNR=5.0
comp=Z,2.3nm,0.7s
CLF Chambon-Foret 51.07 305 IAmb IAmb 09 32 33.2
comp=Z,36nm,1.1s
EKA Eskdalemuir Ar 52.12 315 LR LR 09 57 23.5
comp=Z,538nm,18.4s,baz=76,slow=39
ESK Eskdalemuir 52.15 315 P **P 09 32 35.6 -0.3**
ESK IAmb IAmb 09 32 41.2
comp=Z,30nm,1.1s
ESK Eskdalemuir 52.15 315 P **P 09 32 35.6 -0.3**
ESK pmax pmax
comp=Z,29nm,1.1s
JHJ Hachijo jima 2 52.22 75 LR LR 09 57 25.7
comp=Z,502nm,18.2s,baz=285,slow=39
MYLDM Lahad Datu 52.39 119 P **P 09 32 38.6 +0.4**
KMBO Kilima Mbogo 52.59 229 P **P 09 32 39.3 -0.8**
comp=Z,2.9nm,0.8s,baz=48,slow=23,SNR=2.6
KMBO LR LR 09 55 58.9
comp=Z,134nm,20.5s,baz=75,slow=37
comp=Z,2.9nm,0.8s
KMBO Kilima Mbogo 52.59 229 P **P 09 32 39.6 -0.4**
KMBO Kilima Mbogo 52.59 229 P **P 09 32 39.6 -0.4**
KMBO pmax pmax
comp=Z,4.0nm,1.1s
DAG Danmarks Havn 52.81 343 *i* P **P 09 32 39.4 -1.2**
DAG IAmb IAmb 09 32 45.9
comp=Z,7.9nm,0.7s
BILL Bilibino 54.98 27 P **P 09 32 56.3 -0.2**
BILL IAmb IAmb 09 34 07.6
comp=Z,25nm,1.5s
BILL Bilibino 54.98 27 *i* P **P 09 32 55.4 -1.2**
BILL *i* 09 33 04.3
BILL *i* 09 34 00.6
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL MLR MLR
comp=Z,301nm,19.0s
LEM Lembang 55.30 138 LR LR 10 01 12.8
comp=Z,144nm,18.1s,baz=332,slow=41
DAV Davao City (W) 56.05 111 LR LR 10 00 30.2
comp=Z,484nm,19.2s,baz=356,slow=40
PETK Petropavlovsk- 56.19 46 P **P 09 33 05.0 -0.5**
comp=Z,4.3nm,1.0s,baz=268,slow=9.8,SNR=1.8
comp=Z,4.3nm,1.0s
PETK Petropavlovsk- 56.19 46 P **P 09 33 05.0 -0.5**
MBAR Mbarara 56.20 236 LR LR 09 59 44.1
comp=Z,346nm,18.1s,baz=22,slow=39
MBAR Mbarara 56.20 236 P **P 09 33 06.3 0.0**
MBAR IAmb IAmb 09 33 09.1
comp=Z,15nm,1.1s
MBAR Mbarara 56.20 236 *i* P **P 09 33 04.5 -1.7**
MBAR pmax pmax
comp=Z,15nm,1.1s
MPSI Mapaga 56.88 121 P **P 09 33 12.1 +1.2**
comp=Z,22nm,1.2s
JCJ Chichijima 56.93 80 LR LR 09 57 39.0
comp=Z,226nm,21.7s,baz=94,slow=36
BORG Borgarnes 57.51 330 LR LR 09 57 53.2
comp=Z,274nm,18.4s,baz=79,slow=36
MRSI Marisa 58.15 119 P **P 09 33 20.7 +0.9**
comp=Z,42nm,0.7s
ESBB Sonseca Array 58.45 298 IAmb IAmb 09 34 43.1
comp=Z,32nm,1.6s
ESDC Sonseca Array 58.45 298 P **P 09 33 21.3 -0.4**
comp=Z,7.7nm,0.8s,baz=55,slow=7.0,SNR=49
ESDC LR LR 10 00 46.3
comp=Z,194nm,18.0s,baz=68,slow=38
comp=Z,7.7nm,0.8s
NEEM North Greenlan 58.87 348 *i* P **P 09 33 24.4 0.0**
NEEM IAmb IAmb 09 33 31.2
comp=Z,10nm,0.9s
SUMG Summit 59.27 341 *i* P **P 09 33 28.1 +0.7**
SUMG IAmb IAmb 09 33 32.2
comp=Z,7.4nm,1.0s
PBRG Braganca 59.37 301 *e*P **P 09 33 29.6 +1.5**
comp=Z,37nm,1.7s
MVO Moncorvo 59.85 300 *e*P **P 09 33 31.9 +0.4**
comp=Z,60nm,1.8s
MVO Moncorvo 59.85 300 *e*LR LR 09 56 12.1
comp=Z,138nm,16.0s
PCAB Cabril 60.26 301 *e*P **P 09 33 35.0 +0.8**
PGAV Gavieira, Arco 60.31 302 *e*P **P 09 33 35.1 +0.5**
comp=Z,60nm,2.3s
PGAV Gavieira, Arco 60.31 302 *e*LR LR 09 57 12.4
comp=Z,171nm,18.0s
EUNU Eureka 60.43 356 P **P 09 33 35.4 +0.6**
MTE Manteigas 60.55 300 *e*LR LR 09 59 27.2
comp=Z,152nm,18.0s
PVIS Viseu 60.64 300 *e*P **P 09 33 37.2 +0.4**
comp=Z,52nm,2.3s
KAPI Kappang 60.84 126 LR LR 10 02 12.6
comp=Z,183nm,21.9s,baz=306,slow=38
PMRV Marv??o 60.91 299 *e*P **P 09 33 39.2 +0.5**
comp=Z,38nm,1.6s
PMRV Marv??o 60.91 299 *e*LR LR 09 55 46.9
comp=Z,177nm,18.0s
PBAR Barrancos 61.27 297 *e*P **P 09 33 41.1 0.0**
comp=Z,32nm,2.9s
PESTR Estremoz 61.31 298 *e*P **P 09 33 42.0 +0.6**
comp=Z,20nm,1.8s
ICESG Greenland Ices 61.61 338 *i* P **P 09 33 43.3 0.0**
ICESG IAmb IAmb 09 33 48.4
comp=Z,14nm,0.9s
EVO Evora 61.77 298 *e*P **P 09 33 47.4 +3.0**
comp=Z,28nm,2.3s
PSBE So Bento 61.82 299 *e*P **P 09 33 49.5 +4.7**
comp=Z,120nm,2.1s
PBEJ Beja 61.91 298 *e*P **P 09 33 48.1 +2.7**
comp=Z,16nm,1.5s
PVAQ Vaqueiros 62.12 297 *e*P **P 09 33 43.4 -3.4**
comp=Z,20nm,1.9s
PVAQ Vaqueiros 62.12 297 *e*LR LR 09 58 40.2
comp=Z,233nm,18.0s
MDT Midelt 62.20 291 LR LR 10 04 58.5
comp=Z,89nm,19.1s,baz=31,slow=40
MESJ Messejana 62.25 298 *e*P **P 09 33 48.1 +0.4**
comp=Z,31nm,1.5s
SANI Sanana 62.74 118 P **P 09 33 51.2 0.0**
comp=Z,14nm,0.7s
OPO Ambohidratompo 62.87 209 LR LR 09 58 23.4
comp=Z,107nm,21.9s,baz=172,slow=34
DY2G Dye2 65.21 338 *i* P **P 09 34 06.5 -0.5**
DY2G IAmb IAmb 09 34 11.9
comp=Z,6.7nm,0.6s
SIJI Sorong 65.60 113 LR LR 10 03 17.6
comp=Z,70nm,21.5s,baz=12,slow=36
VOI Vohitsoka 66.06 208 P **P 09 34 11.3 -1.5**
VOI IAmb IAmb 09 34 15.8
comp=Z,14nm,0.9s
VOI Vohitsoka 66.06 208 P **P 09 34 15.2 +2.3**
SFJD Kangerlussuaq 66.09 339 LR LR 10 06 37.8
comp=Z,121nm,18.0s,baz=38,slow=39
RES Resolute Bay 66.10 357 P **P 09 34 11.7 -0.7**
comp=Z,1.4nm,0.7s,baz=72,slow=17,SNR=2.6
RES LR LR 10 06 55.2
comp=Z,174nm,18.9s,baz=340,slow=39
comp=Z,1.4nm,0.7s
C23K Itkillik River 66.39 15 P **P 09 34 15.2 +0.9**
baz=323
GUMO Guam 66.57 91 LR LR 10 06 39.5
comp=Z,155nm,18.1s,baz=60,slow=39
C24K Franklin Bluff 66.87 15 P **P 09 34 18.1 +0.8**
baz=325
D23K Nanushuk River 67.07 16 P **P 09 34 19.1 +0.4**
baz=324
C26K Camden Bay 67.43 14 P **P 09 34 22.1 +1.2**
baz=328
E22K Anaktuvuk Pass 67.49 17 P **P 09 34 21.2 -0.2**
baz=323
TOLK Toolik Lake Re 67.57 16 P **P 09 34 22.2 +0.3**
TOLK Toolik Lake Re 67.57 16 P **P 09 34 22.4 +0.5**
baz=324
D25K Kavik River 67.66 14 P **P 09 34 23.3 +0.8**
baz=327
F21K Alatna River 67.83 18 P **P 09 34 23.7 +0.2**
baz=322
C27K Jago River 67.90 13 P **P 09 34 24.9 +1.0**
baz=329
F22K John River 67.91 18 P **P 09 34 24.5 +0.5**
baz=323
E23K Chandalar 68.04 16 P **P 09 34 25.0 +0.1**
baz=325
A36M Sachs Harbour 68.19 6 P **P 09 34 26.0 +0.4**
baz=344,SNR=17
E24K Your Creek 68.27 16 P **P 09 34 26.5 +0.2**
baz=326
G21K Allakaket 68.38 19 P **P 09 34 27.0 0.0**
baz=323
COLD Coldfoot 68.59 17 P **P 09 34 28.3 0.0**
baz=324
E25K Arctic Village 68.83 15 P **P 09 34 29.8 0.0**
baz=328
F24K Squaw Lake 68.86 16 P **P 09 34 30.0 0.0**
baz=326
GCSA Galena City Sc 68.87 21 P **P 09 34 30.3 +0.3**
baz=320
G23K Bananza Creek 69.05 17 P **P 09 34 32.0 +0.8**
baz=325
LSZ Lusaka 69.22 228 LR LR 10 08 55.1
comp=Z,122nm,18.2s,baz=28,slow=40
H21K Melozitna Rive 69.23 19 IAmb IAmb 09 34 36.0
comp=Z,14nm,1.1s
F25K Christian Rive 69.27 15 P **P 09 34 33.5 +1.0**
baz=328
E27K Coleen River 69.54 14 P **P 09 34 34.5 +0.4**
baz=331
G24K Haduwenzic Riv 69.64 16 P **P 09 34 35.2 +0.5**
baz=327
I21K Tanana 69.82 19 P **P 09 34 36.3 +0.4**
baz=323
G25K Bearman Lake 69.88 16 P **P 09 34 37.2 +1.0**
baz=328
H23K Yukon River 69.89 18 P **P 09 34 37.1 +0.7**
H23K IAmb IAmb 09 34 49.5
comp=Z,24nm,1.3s
H23K Yukon River 69.89 18 P **P 09 34 37.1 +0.7**
baz=325
J20K Nowinta River 70.06 20 P **P 09 34 37.9 +0.5**
baz=322
G26K Porcupine Rive 70.20 15 P **P 09 34 39.0 +0.8**
baz=330
MLY Manley 70.25 19 IAmb IAmb 09 35 05.3
comp=Z,34nm,1.9s
MLY Manley 70.25 19 P **P 09 34 38.7 +0.1**
baz=324
H24K Noodor Dome 70.27 17 IAmb IAmb 09 34 47.8
comp=Z,11nm,1.1s
H24K Noodor Dome 70.27 17 P **P 09 34 39.3 +0.6**
baz=326
I23K Minto, Yukon-K 70.49 18 P **P 09 34 40.5 +0.5**
baz=326
K20K Telida 70.73 21 P **P 09 34 42.1 +0.5**
baz=322
INK Inuvik 70.73 11 P **P 09 34 41.4 0.0**
comp=Z,16nm,0.8s,baz=346,slow=7.1,SNR=24
comp=Z,16nm,0.8s
INK Inuvik 70.73 11 IAmb IAmb 09 34 45.2
comp=Z,19nm,0.9s
INK Inuvik 70.73 11 P **P 09 34 41.3 0.0**
baz=338,SNR=18
G27K Doyon Strip 70.74 14 P **P 09 34 42.4 +0.8**
baz=331
CHUM Lake Minchumin 70.78 20 P **P 09 34 42.2 +0.4**
baz=323
C36M Paulatuk 70.85 7 P **P 09 34 41.2 -0.9**
baz=345,SNR=16
MDM Murphy Dome 70.92 18 IAmb IAmb 09 34 47.0
comp=Z,13nm,1.1s
BPAW Bear Paw Mtn. 70.95 19 P **P 09 34 42.8 -0.1**
baz=324
POKR Poker Plat Res 70.97 17 P **P 09 34 43.7 +0.7**
baz=327
NEA2 Nenana 71.02 18 IAmb IAmb 09 34 46.7
comp=Z,13nm,0.9s
NEA2 Nenana 71.02 18 P **P 09 34 43.3 0.0**
baz=326,SNR=9.9
PRP Porcupine Dome 71.06 16 IAmb IAmb 09 34 47.8
comp=Z,24nm,1.5s
TCOL CIGO, UAF Yank 71.08 18 P **P 09 34 43.9 +0.3**
baz=327,SNR=9.6
COLA College 71.08 18 P **P 09 34 43.8 +0.2**
COLA IAmb IAmb 09 34 47.2
comp=Z,22nm,0.8s
COLA College 71.08 18 P **P 09 34 43.9 +0.3**
baz=327
COLA College 71.08 18 *i* P **P 09 34 43.6 0.0**
COLA pmax pmax
comp=Z,26nm,1.0s
CAST Castle Rocks 71.22 20 IAmb IAmb 09 34 49.1
comp=Z,14nm,1.0s
CAST Castle Rocks 71.22 20 P **P 09 34 44.7 +0.2**
baz=324
H27K Steamboat Moun 71.27 14 P **P 09 34 45.4 +0.6**
baz=331
CCB Clear Creek Bu 71.28 18 IAmb IAmb 09 34 49.4
comp=Z,37nm,2.0s
WRH Wood River Hil 71.36 18 IAmb IAmb 09 35 58.5
comp=Z,22nm,1.6s
IL31 71.39 17 IAmb IAmb 09 34 48.3
comp=Z,13nm,0.9s
ILAR Eielson Array 71.39 17 P **P 09 34 44.6 -0.9**
comp=Z,7.1nm,0.8s,baz=318,slow=5.0,SNR=59
comp=Z,7.1nm,0.8s
KTH Kantishna Hill 71.42 20 IAmb IAmb 09 34 49.1
comp=Z,15nm,0.8s
L20K Farewell, AK 71.48 21 P **P 09 34 46.7 +0.6**
baz=322
F31M Tsiigehtchic 71.51 11 P **P 09 34 46.3 +0.2**
baz=338
G30M tAoh Zraii Nji 71.54 12 P **P 09 34 46.3 -0.1**
baz=336
N16K Nishlik Lake 71.55 25 P **P 09 34 47.7 +1.2**
baz=319
PPLA Purkeypile 71.61 20 P **P 09 34 47.0 0.0**
baz=324
HDA Harding Lake 71.68 18 IAmb IAmb 09 34 53.2
comp=Z,28nm,1.7s
I26K Coal Creek Min 71.75 16 P **P 09 34 48.0 +0.3**
baz=330
MCK McKinley 71.77 19 IAmb IAmb 09 35 00.6
comp=Z,50nm,1.9s
MCK McKinley 71.77 19 P **P 09 34 47.4 -0.4**
baz=326
I27K Kandik River 71.81 15 P **P 09 34 48.4 +0.3**
baz=332
J25K Salcha River, 71.87 17 P **P 09 34 48.1 -0.4**
baz=329
EPYK Eagle Plains 72.02 13 IAmb IAmb 09 34 57.0
comp=Z,35nm,1.6s
EPYK Eagle Plains 72.02 13 P **P 09 34 49.1 -0.2**
baz=335
M20K Styx River 72.17 21 P **P 09 34 50.6 +0.3**
baz=323
J26L Joseph Creek 72.37 16 IAmb IAmb 09 34 54.8
comp=Z,14nm,0.9s
J26L Joseph Creek 72.37 16 P **P 09 34 51.4 -0.1**
baz=330
K24K Donnelly Dome 72.47 17 P **P 09 34 51.4 -0.6**
baz=329
SKT Skwentna 72.54 21 P **P 09 34 51.2 -1.2**
baz=324,SNR=7.1
WAT1 Susitna Watana 72.62 19 P **P 09 34 51.8 -1.2**
baz=326
EGAK Eagle 72.63 15 IAmb IAmb 09 35 12.3
comp=Z,14nm,1.2s
I29M Ogilvie Camp, 72.66 14 IAmb IAmb 09 34 56.2
comp=Z,13nm,0.9s
I29M Ogilvie Camp, 72.66 14 P **P 09 34 52.9 -0.2**
baz=334,SNR=11
DHY Denali Highway 72.71 18 IAmb IAmb 09 34 56.3
comp=Z,9.4nm,0.8s
DHY Denali Highway 72.71 18 P **P 09 34 52.8 -0.8**
baz=327,SNR=6.7
SCRK Sand Creek 72.73 17 IAmb IAmb 09 34 57.1
comp=Z,14nm,1.0s
SCRK Sand Creek 72.73 17 P **P 09 34 53.6 -0.1**
baz=330,SNR=6.8
RIDG Independent Ri 72.74 17 P **P 09 34 53.5 -0.2**
baz=329
DOT Dot Lake 73.00 17 IAmb IAmb 09 36 05.5
comp=Z,22nm,1.3s
WAT6 Susitna Watana 73.04 19 P **P 09 34 55.0 -0.6**
baz=327
K27K Chicken 73.10 16 IAmb IAmb 09 34 59.6
comp=Z,12nm,1.1s
K27K Chicken 73.10 16 P **P 09 34 56.3 +0.6**
baz=331
FRB Frobisher Bay 73.16 344 LR LR 10 11 34.4
comp=Z,163nm,19.3s,baz=10.0,slow=39
O18K Koktuh Hills 73.17 24 P **P 09 34 57.0 +0.8**
O18K IAmb IAmb 09 35 00.2
comp=Z,22nm,1.1s
O18K Koktuh Hills 73.17 24 P **P 09 34 57.5 +1.3**
baz=322
SUA Susitna One 73.17 21 IAmb IAmb 09 36 54.0
comp=Z,28nm,1.4s
GENI Genyem 73.26 108 P **P 09 35 01.1 +3.7**
comp=Z,5µmcomp=Z,60nm,1.1s
PAX Paxson 73.26 18 IAmb IAmb 09 34 60.0
comp=Z,15nm,1.0s
PAX Paxson 73.26 18 P **P 09 34 56.5 -0.3**
baz=329,SNR=8.0
J29M Klondike Camp 73.49 14 IAmb IAmb 09 35 12.0
comp=Z,26nm,1.4s
PMR Palmer 73.51 20 P **P 09 34 57.6 -0.5**
PMR Palmer 73.51 20 P **P 09 34 57.6 -0.5**
PMR pmax pmax
comp=Z,98nm,1.9s
P18K Big Mountain, 73.52 24 P **P 09 34 59.2 +0.9**
SML Sawmill 73.54 20 IAmb IAmb 09 35 01.5
comp=Z,27nm,0.9s
SML Sawmill 73.54 20 P **P 09 34 58.2 -0.2**
baz=327
DAWY Dawson 73.61 15 IAmb IAmb 09 35 02.2
comp=Z,11nm,0.9s
DAWY Dawson 73.61 15 P **P 09 34 58.7 -0.1**
baz=333,SNR=6.5
L26K Log Cabin Wild 73.70 17 IAmb IAmb 09 35 13.9
comp=Z,22nm,1.4s
M23K Glacier View 73.70 19 P **P 09 34 58.9 -0.4**
baz=327
RC01 Rabbit Creek A 73.76 21 IAmb IAmb 09 35 24.7
comp=Z,39nm,1.5s
RC01 Rabbit Creek A 73.76 21 P **P 09 34 59.2 -0.4**
baz=326
SCM Sheep Creek Mo 73.77 19 IAmb IAmb 09 35 03.1
comp=Z,27nm,0.9s
SCM Sheep Creek Mo 73.77 19 P **P 09 34 59.7 -0.2**
baz=328
HARP HAARP 73.83 18 P **P 09 35 00.9 +0.8**
baz=329,SNR=9.4
M24K Tolsona, Glenn 73.83 19 P **P 09 35 00.9 +0.8**
baz=328
L27K Beaver Creek, 74.00 16 P **P 09 35 01.7 +0.5**
baz=332
K29M Barlow Dome 74.18 14 P **P 09 35 02.5 +0.3**
baz=335,SNR=10
M27K Edge Creek, AK 74.61 17 IAmb IAmb 09 35 14.3
comp=Z,15nm,1.1s
KNRA Kununurra 74.65 126 IAmb IAmb 09 35 15.2
comp=Z,26nm,1.0s
M29M Somme Creek 75.26 15 P **P 09 35 08.9 +0.4**
baz=334
YUK4 Talbot Arm 76.22 16 P **P 09 35 14.4 +0.3**
baz=334
M31M Drury Creek, Y 76.26 13 IAmb IAmb 09 35 18.6
comp=Z,51nm,1.8s
MMPY Sheldon Lake, 76.40 12 P **P 09 35 15.6 +0.6**
baz=340
N31M Braeburn, Yuko 76.66 14 IAmb IAmb 09 35 25.9
comp=Z,18nm,1.0s
HYT Haines Junctio 76.93 15 IAmb IAmb 09 35 24.9
comp=Z,16nm,0.8s
HYT Haines Junctio 76.93 15 P **P 09 35 18.8 +0.8**
baz=335
O30N Mendenhall 77.26 15 P **P 09 35 20.3 +0.5**
baz=336
DBIC Dimbokro 77.38 268 P **P 09 35 20.3 -0.8**
DBIC Dimbokro 77.38 268 P **P 09 35 20.3 -0.8**
KIC Kosan Boka 77.48 268⇑ *e*P **P 09 35 19.7 -2.0**
comp=Z,14nm,0.5s
TIC Toumodi 77.53 268⇑ *e*P **P 09 35 20.8 -1.2**
comp=Z,39nm,0.8s
WHY Whitehorse 77.60 14 P **P 09 35 21.4 -0.3**
LIC Lamto 77.79 268⇓ *e*P **P 09 35 22.4 -1.0**
comp=Z,80nm,0.8s
YKA Yellowknife Ar 78.33 4 P **P 09 35 25.2 -0.4**
comp=Z,4.6nm,0.8s,baz=351,slow=8.5,SNR=16
YKA LR LR 10 12 12.0
comp=Z,174nm,20.8s,baz=301,slow=37
comp=Z,4.6nm,0.8s
MORW Morawa 78.35 143 P **P 09 35 25.4 -0.7**
MORW IAmb IAmb 09 35 41.4
comp=Z,22nm,1.1s
PLBC Pleasant Camp 78.41 15 P **P 09 35 26.8 +0.6**
baz=336
LBTB Lobatse 78.46 224 LR LR 10 11 42.0
comp=Z,77nm,19.7s,baz=5.5,slow=37
LBTB Lobatse 78.46 224 P **P 09 35 26.6 -0.2**
LBTB IAmb IAmb 09 35 32.0
comp=Z,28nm,1.4s
LBTB Lobatse 78.46 224 *i* P **P 09 35 25.4 -1.5**
LBTB Lobatse 78.46 224 *i* P **P 09 35 25.4 -1.5**
LBTB Lobatse 78.46 224 P **P 09 35 26.7 -0.2**
LBTB pmax pmax
comp=Z,28nm,1.4s
TSUM Tsumeb 78.64 234 LR LR 10 12 20.8
comp=Z,132nm,21.5s,baz=335,slow=37
TSUM Tsumeb 78.64 234 P **P 09 35 27.4 -0.7**
TSUM IAmb IAmb 09 35 31.3
comp=Z,12nm,0.9s
SCHQ Schefferville 80.51 338 LR LR 10 13 19.5
comp=Z,151nm,19.8s,baz=28,slow=37
DLBC Dease Lake 80.56 13 P **P 09 35 38.5 +0.5**
comp=Z,1.4nm,0.4s,baz=220,slow=2.9,SNR=3.6
comp=Z,1.4nm,0.4s
WRA Warramunga Arr 81.35 124 P **P 09 35 41.2 -1.4**
comp=Z,4.0nm,0.6s,baz=319,slow=4.3,SNR=111
WRA PKKPbc **PKKPbc 09 54 18.4 +1.7**
comp=Z,0.8nm,0.8s,baz=140,slow=2.2,SNR=7.7

WRA				LR		LR	10 15 30.9		
	comp=Z,64nm,21.9s,baz=318,slow=38								
	comp=Z,4.0nm,0.6s								
WRAB	**Tennant Creek**	**81.35**	**124**	P		**P**	**09 35 41.6**	**-1.0**	
WRAB				IAmb		IAmb	09 35 42.0		
	comp=Z,7.8nm,0.6s								
WRAB	**Tennant Creek**	**81.35**	**124**	*d iP*		**P**	**09 35 40.9**	**-1.7**	
WRAB				pmax		pmax			
	comp=Z,14nm,1.4s								
WB2	**Warramunga Arr**	**81.36**	**124**	IAmb		IAmb	09 35 42.7		
	comp=Z,44nm,1.8s								
BOSA	**Boshof**	**81.52**	**222**	P		**P**	**09 35 42.3**	**-1.1**	
	comp=Z,4.1nm,0.8s,baz=9.7,slow=2.9,SNR=8.7								
BOSA				LR		LR	10 12 48.6		
	comp=Z,65nm,19.3s,baz=22,slow=36								
	comp=Z,4.1nm,0.8s								
BOSA	**Boshof**	**81.52**	**222**	P		**P**	**09 35 42.6**	**-0.9**	
BOSA				IAmb		IAmb	09 35 47.0		
	comp=Z,39nm,1.8s								
BOSA	**Boshof**	**81.52**	**222**	*i* P		**P**	**09 35 41.8**	**-1.7**	
BOSA	**Boshof**	**81.52**	**222**	*i* P		**P**	**09 35 41.8**	**-1.7**	
BOSA	**Boshof**	**81.52**	**222**	P		**P**	**09 35 42.6**	**-0.9**	
BOSA				pmax		pmax			
	comp=Z,39nm,1.8s								
NWAO	**Narrogin (SRO)**	**82.16**	**145**	LR		LR	10 12 40.0		
	comp=Z,55nm,20.8s,baz=68,slow=36								
COEN	**Coen**	**83.11**	**114**	P		**P**	**09 35 52.2**	**+0.3**	
COEN				IAmb		IAmb	09 35 55.1		
	comp=Z,14nm,0.8s								
ASAR	**Alice Springs**	**83.80**	**127**	P		**P**	**09 35 53.9**	**-1.4**	
	comp=Z,2.6nm,0.6s,baz=314,slow=5.0,SNR=61								
ASAR				PKKPbc		**PKKPbc**	**09 54 14.2**	**+3.0**	
	comp=Z,0.7nm,0.8s,baz=152,slow=2.8,SNR=5.9								
ASAR				LR		LR	10 17 11.0		
	comp=Z,61nm,20.4s,baz=312,slow=39								
	comp=Z,2.6nm,0.6s								
ASAR	**Alice Springs**	**83.80**	**127**	P		**P**	**09 35 54.5**	**-0.8**	
WAPA	**Wapiti River**	**85.20**	**8**	IAmb		IAmb	09 36 12.5		
	comp=Z,14nm,1.2s								
FORT	**Forrest**	**85.79**	**136**	P		**P**	**09 36 04.3**	**-0.8**	
SUR	**Sutherland**	**86.83**	**223**	LR		LR	10 18 55.1		
	comp=Z,87nm,18.1s,baz=32,slow=38								
CTA	**Charters Tower**	**89.42**	**117**	LR		LR	10 19 22.1		
	comp=Z,65nm,21.6s,baz=263,slow=38								
ULM	**Lac du Bonnet**	**90.43**	**354**	LR		LR	10 20 34.3		
	comp=Z,175nm,19.6s,baz=337,slow=38								
NEW	**Newport**	**92.26**	**8**	P		**P**	**09 36 35.7**	**-0.1**	
	comp=Z,3.0nm,0.9s,baz=329,slow=0.4,SNR=5.3								
NEW				LR		LR	10 23 02.7		
	comp=Z,138nm,18.1s,baz=344,slow=39								
	comp=Z,3.0nm,0.9s								
SADO	**Sadowa**	**92.97**	**341**	LR		LR	10 23 16.4		
	comp=Z,163nm,18.6s,baz=5.5,slow=39								
STKA	**Stephens Creek**	**94.41**	**128**	P		**P**	**09 36 44.5**	**-1.3**	
	comp=Z,1.0nm,0.7s,baz=306,slow=12,SNR=3.4								
STKA				LR		LR	10 23 45.9		
	comp=Z,140nm,19.5s,baz=344,slow=38								
	comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**98.27**	**3**	LR		LR	10 25 56.9		
	comp=Z,105nm,18.7s,baz=357,slow=38								
DZM	**Mont Dzumac**	**105.25**	**106**	*e*LR		LR	10 12 13.0		
	comp=Z,134nm,23.9s								
TXAR	**Lajitas Array**	**111.72**	**358**	PP		**PP**	**09 42 44.0**	**+2.4**	
	comp=Z,0.3nm,0.8s,baz=354,slow=3.8,SNR=3.6								
TXAR				PKKPbc		**PKKPbc**	**09 52 53.2**	**-0.3**	
	comp=Z,0.8nm,1.1s,baz=242,slow=2.7,SNR=4.3								
TROLL	**Troll, Antarti**	**121.57**	**200**	PKPdf		**PKiKP**	**09 42 18.6**	**0.0**	
VNDA	**Vanda**	**127.47**	**164**	PKP		**PKPdf**	**09 42 28.4**	**-1.0**	
	comp=Z,1.0nm,1.1s,baz=281,slow=6.4,SNR=4.3								
QSPA	**South Pole Qui**	**129.06**	**180**			**PKPdf**	**09 42 32.5**	**-0.3**	
SIV	**San Ignacio**	**134.71**	**288**	PKP		**PKPdf**	**09 42 44.7**	**-0.3**	
	comp=Z,1.7nm,0.7s,baz=52,slow=4.9,SNR=9.7								
PPT2	**Papeete2**	**136.34**	**73**	*e*LR		LR	10 26 38.6		
	comp=Z,122nm,26.5s								
TAOE	**Nuku Hiva Isla**	**136.83**	**55**	*e*LR		LR	10 26 53.3		
	comp=Z,112nm,24.4s								
CPUP	**Villa Florida**	**137.77**	**273**	PKP		**PKPdf**	**09 42 49.5**	**-0.9**	
	comp=Z,3.3nm,0.9s,baz=29,slow=2.6,SNR=3.8								
TBI	**Tubuai**	**139.83**	**80**	*e*LR		LR	10 28 14.0		
	comp=Z,734nm,31.8s								
PB07	**IPOC Station P**	**144.78**	**289**			**PKPab**	**09 43 02.1**	**-0.1**	
PMSA	**Palmer Station**	**144.89**	**210**	PKP		**PKPab**	**09 42 59.0**	**-2.0**	
	comp=Z,16nm,0.6s,baz=253,slow=5.4,SNR=9.6								
TRQA	**Tornquist**	**146.05**	**258**	PKPdf		**PKPdf**	**09 43 05.2**	**+0.4**	
TRQA	**Tornquist**	**146.05**	**258**	PKP2		**PKPdf**	**09 43 05.2**	**+0.4**	
AC02	**Maricunga**	**147.12**	**281**			**PKPbc**	**09 43 10.5**	**+0.8**	
GO03	**Copiap**	**148.35**	**281**			**PKPbc**	**09 43 11.7**	**-0.8**	
CFA	**Coronel Fontan**	**148.67**	**272**	PKPbc		**PKPbc**	**09 43 12.2**	**-1.0**	
	comp=Z,11nm,0.8s,baz=62,slow=2.1,SNR=8.5								
AC05	**El Transito**	**149.00**	**279**			**PKPbc**	**09 43 13.9**	**-0.3**	
LCO	**Las Campanas**	**149.41**	**279**			**PKPbc**	**09 43 15.0**	**-0.4**	
LCO	**Las Campanas**	**149.41**	**279**	PKP2		**PKPbc**	**09 43 15.0**	**-0.4**	
BO02	**Sierra Bellavi**	**151.84**	**268**			**PKPbc**	**09 43 20.6**	**-0.1**	
PLCA	**Paso Flores**	**153.10**	**256**	PKPbc		**PKPbc**	**09 43 22.8**	**-0.6**	
	comp=Z,3.9nm,1.0s,baz=143,slow=2.5,SNR=6.1								

*SOME **26** 09:36:17.8, 39˚.35N×73˚.95E, h5km*
*KRNET **26** 09:36:18.6±0.1, 39˚.31N×73˚.94E, mb3.8*
*NNC **26** 09:36:23.6±2.6, 39˚.53N×73˚.99E, h0km, mb4.3, mpv3.9,*
Error ellipse: s-maj=20.1km s-min=10.9km az=166.0
ISC 26 09:36:15.5±1.5, 39˚.29N±0˚.06×74˚.04E±0˚.03, h7km±13km, n54, σ1°53/87, 22C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.57**	**322**	⇓*e*P	**Pg**	**09 36 46.8**	**+1.2**
	baz=24						
OHH				⇓*e*S	**Sg**	**09 37 07.8**	**+1.9**
	baz=24						
DRK	**Karamyk**	**1.75**	**277**	⇑*e*P	**Pg**	**09 36 49.9**	**+0.9**
	baz=77						
DRK				⇑*i*S	**Sg**	**09 37 12.7**	**+1.0**
	baz=77						
ARLS	**Aral**	**2.58**	**5**	⇓*i*P	**Pg**	**09 37 03.4**	**-1.5**
	baz=6.0						
ARLS				⇓*i*S	**Sg**	**09 37 36.3**	**-2.1**
	baz=6.0						
BTK	**Batken**	**2.61**	**288**	⇑*e*P	**Pb**	**09 37 02.8**	**+0.3**
	baz=88						
BTK				⇑*e*S	**Sg**	**09 37 35.4**	**-3.8**
	baz=88						
AML	**Almayashu**	**2.85**	**355**	P	**Pb**	**09 37 07.8**	**+0.8**
	SNR=12						
GAR	**Garm**	**2.91**	**266**	⇓*i*P	**Pb**	**09 37 07.3**	**-0.5**
	baz=65						
GAR				⇓*i*S	**Sb**	**09 37 42.9**	**-0.8**
	baz=65						
UCH	**Uchtor**	**2.96**	**7**	P	**Pg**	**09 37 10.4**	**-1.8**
	SNR=31						
UCH	**Uchtor**	**2.96**	**7**	⇑*e*P	**Pb**	**09 37 09.0**	**+0.2**
	baz=8.0						
UCH				⇑*e*S	**Sb**	**09 37 45.7**	**+0.4**
	baz=8.0						
ARK	**Arkit**	**2.97**	**328**	⇑*e*P	**Pb**	**09 37 08.4**	**-0.3**
	baz=29						
ARK				⇑*e*S	**Sb**	**09 37 44.8**	**-0.4**
	baz=29						
TRKS	**Terek-Say**	**3.15**	**316**	⇑*e*P	**Pb**	**09 37 09.8**	**-2.1**
	baz=16						
TRKS				⇑*e*S	**Sb**	**09 37 47.1**	**-3.5**
	baz=16						
AAK	**Ala-Archa**	**3.37**	**6**	P	**Pb**	**09 37 16.0**	**+0.4**
	SNR=6.2						
AAK	**Ala-Archa**	**3.37**	**6**	⇓*e*P	**Pb**	**09 37 14.5**	**-1.0**
	baz=7.0						
AAK				⇓*e*S	**Sb**	**09 37 55.2**	**-1.5**
	baz=7.0						
EKS2	**Erkin-Say**	**3.38**	**357**	P	**Pb**	**09 37 16.8**	**+1.1**
	SNR=13						
EKS2	**Erkin-Say**	**3.38**	**357**	⇑*e*P	**Pb**	**09 37 14.5**	**-1.2**
	baz=58						
EKS2				⇑*e*S	**Sb**	**09 37 55.2**	**-1.9**
	baz=58						
ULHL	**Ulahol**	**3.40**	**29**	P	**Pg**	**09 37 21.4**	**+0.9**
	SNR=5.3						
ULHL	**Ulahol**	**3.40**	**29**	⇑*e*P	**Pb**	**09 37 15.4**	**-0.7**
	baz=30						
ULHL				⇑*e*S	**Sb**	**09 37 56.8**	**-0.8**
	baz=30						
KBK	**Karagaybulak**	**3.44**	**11**	⇑*e*P	**Pb**	**09 37 15.5**	**-1.2**
	baz=12						
KBK				⇑*e*S	**Sb**	**09 37 57.1**	**-1.7**
	baz=12						
MRKS	**Merke**	**3.51**	**350**	*e*P	**Pg**	**09 37 22.2**	**-0.5**
	9.5nm,0.1s						
MRKS				*e*S	**Sg**	**09 38 08.8**	**+0.6**
	50nm,0.4s						
MRKS	**Merke**	**3.51**	**350**	Pg	**Pg**	**09 37 21.9**	**-0.8**
	7.3nm,0.2s						
MRKS				Lg	Lg	09 38 07.0	
	50nm,0.4s						
TKM2	**Tokmak 2**	**3.82**	**17**	⇑Pn	**Pb**	**09 37 22.2**	**-1.0**
	4.5nm,0.4s						
TKM2				⇓Sn	**Sb**	**09 38 06.4**	**-3.3**
	9.7nm,0.7s						
TKM2				⇑Lg	Lg	09 38 19.8	
	22nm,0.8s						
KST	**Kastek**	**4.02**	**20**	*e*P	**Pg**	**09 37 31.9**	**-0.6**
	5.3nm,0.1s						
KST				*e*S	**Sg**	**09 38 25.4**	**+0.7**
	28nm,0.0s						
DGS	**Degeres**	**4.16**	**18**	*e*P	**Pg**	**09 37 35.3**	**+0.2**
	10nm,0.5s						
DGS				*e*S	**Sg**	**09 38 31.7**	**+2.6**
	20nm,0.8s						
DGS	**Degeres**	**4.16**	**18**	Pg	**Pg**	**09 37 35.3**	**+0.2**
	10nm,0.5s						
DGS				Lg	Lg	09 38 32.1	
	20nm,0.8s						
IUG	**luzhnay**	**4.18**	**314**	*e*P	**Pg**	**09 37 35.7**	**+0.2**
	88nm,0.6s						
IUG				*e*S	**Sg**	**09 38 31.9**	**+2.3**
	44nm,0.0s						
IUG	**luzhnay**	**4.18**	**314**	Pg	**Pg**	**09 37 38.2**	**+2.7**
	88nm,0.6s						
IUG				Lg	Lg	09 38 35.2	
	41nm,0.5s						
SGDS	**Sogindy**	**4.18**	**6**	*e*P	**Pg**	**09 37 34.7**	**-0.9**
	9.6nm,0.1s						
SGDS				*e*S	**Sg**	**09 38 29.9**	**+0.1**
	22nm,0.9s						
SGDS	**Sogindy**	**4.18**	**6**	Pg	**Pg**	**09 37 34.7**	**-0.9**
	9.1nm,0.4s						
SGDS				Lg	Lg	09 38 29.9	
	22nm,0.9s						
IZV	**Izvestkoviy**	**4.22**	**27**	*e*P	**Pg**	**09 37 36.2**	**-0.1**
	12nm,0.7s						
IZV				*e*S	**Sg**	**09 38 33.1**	**+2.2**
	15nm,0.6s						
IZV	**Izvestkoviy**	**4.22**	**27**	Pg	**Pg**	**09 37 36.7**	**+0.4**
	12nm,0.7s						
IZV				Lg	Lg	09 38 33.6	
	15nm,0.6s						
MTBS	**Maitube**	**4.24**	**24**	*e*P	**Pg**	**09 37 36.6**	**0.0**
	6.7nm,0.2s						
MTBS				*e*S	**Sg**	**09 38 34.3**	**+2.7**
	21nm,0.6s						
MTBS	**Maitube**	**4.24**	**24**	Pg	**Pg**	**09 37 37.2**	**+0.5**
	6.7nm,0.2s						
MTBS				Lg	Lg	09 38 36.0	
	21nm,0.6s						
TNSS	**Tian-Shan**	**4.34**	**29**	*e*P	**Pg**	**09 37 38.6**	**0.0**
	25nm,0.6s						
TNSS				*e*S	**Sg**	**09 38 37.2**	**+2.3**
	7.7nm,0.6s						
TNSS	**Tian-Shan**	**4.34**	**29**	Pg	**Pg**	**09 37 38.6**	**0.0**
	25nm,0.6s						
TNSS				Lg	Lg	09 38 37.8	
	7.7nm,0.6s						
MDOK	**Medeo**	**4.49**	**29**	*e*P	**Pg**	**09 37 41.1**	**-0.3**
	22nm,0.3s						
MDOK				*e*S	**Sg**	**09 38 41.1**	**+1.6**
	17nm,0.6s						
MDOK	**Medeo**	**4.49**	**29**	Pn	**Pb**	**09 37 33.5**	**-1.1**
	20nm,0.6s						
MDOK				Pg	**Pg**	**09 37 41.1**	**-0.3**
	21nm,0.4s						
MDOK				⇑Lg	Lg	09 38 40.9	
	27nm,1.0s						
MDOK				Lg	Lg	09 38 41.1	
	17nm,0.6s						
KOTS	**Kotyrbulak**	**4.57**	**29**	*e*P	**Pg**	**09 37 42.5**	**-0.5**
	28nm,0.4s						
KOTS				*e*S	**Sg**	**09 38 43.8**	**+1.5**
	43nm,0.6s						
KOTS	**Kotyrbulak**	**4.57**	**29**	Pg	**Pg**	**09 37 42.9**	**-0.1**
	28nm,0.4s						
KOTS				Lg	Lg	09 38 45.6	
	43nm,0.6s						
KRBS	**Karabastau**	**4.57**	**15**	*e*P	**Pg**	**09 37 42.1**	**-0.9**
	8.2nm,0.5s						
KRBS				*e*S	**Sg**	**09 38 43.4**	**+1.1**
	16nm,0.7s						
KRBS	**Karabastau**	**4.57**	**15**	Pg	**Pg**	**09 37 42.1**	**-0.9**
	8.2nm,0.5s						
KRBS				Lg	Lg	09 38 43.6	
	16nm,0.7s						
KK31	**Karatay Array**	**4.65**	**326**	⇑Pn	Pn	09 37 31.0	+4.8
	6.4nm,0.6s,baz=136,slow=12						
KK31				⇓Pg	**Pg**	**09 37 41.8**	**-2.7**
	3.2nm,0.3s,baz=142,slow=15						
KK31				⇑Sn	**Sn**	**09 38 24.0**	**+3.6**
	8.9nm,0.6s,baz=145,slow=26						
KK31				⇑Lg	Lg	09 38 41.4	
	15nm,0.8s,baz=132,slow=27						
KTBS	**Karatobe**	**4.84**	**23**	*e*P	**Pg**	**09 37 47.3**	**-0.9**
	12nm,0.5s						
KTBS				*e*S	**Sg**	**09 38 52.3**	**+1.3**
	28nm,0.1s						
KTBS	**Karatobe**	**4.84**	**23**	Pg	**Pg**	**09 37 48.1**	**-0.2**
	12nm,0.5s						
KTBS				Lg	Lg	09 38 53.3	
	28nm,0.5s						
KUU	**Kurty**	**4.91**	**20**	*e*P	**Pg**	**09 37 48.9**	**-0.6**
	4.8nm,0.1s						
KUU				*e*S	**Sg**	**09 38 54.6**	**+1.4**
	18nm,0.2s						
KUU	**Kurty**	**4.91**	**20**	Pg	**Pg**	**09 37 48.9**	**-0.6**
	5.4nm,0.5s						
KUU				Lg	Lg	09 38 54.6	
	18nm,0.8s						
SATY	**Saty**	**5.00**	**40**	*e*P	**Pg**	**09 37 49.6**	**-1.7**
	9.3nm,0.8s						
SATY				*e*S	**Sg**	**09 38 56.0**	**-0.1**
	16nm,0.2s						
SATY	**Saty**	**5.00**	**40**	Pg	**Pg**	**09 37 49.6**	**-1.7**
	9.3nm,0.8s						
SATY				Lg	Lg	09 38 56.0	
	16nm,0.9s						
CHKK	**Chushkaly**	**5.07**	**25**	*e*P	**Pg**	**09 37 53.1**	**+0.5**
	9.0nm,0.7s						
CHKK				*e*S	**Sg**	**09 39 02.1**	**+3.9**
	12nm,0.7s						
CHKK	**Chushkaly**	**5.07**	**25**	Pg	**Pg**	**09 37 53.1**	**+0.5**
	9.0nm,0.7s						
CHKK				Lg	Lg	09 39 01.5	
	12nm,0.7s						
UZB	**Uzynbulak**	**5.38**	**43**	*e*P	**Pg**	**09 37 58.5**	**0.0**
	6.2nm,0.6s						
UZB				*e*S	**Sg**	**09 39 10.7**	**+2.5**
	11nm,0.5s						
UZB	**Uzynbulak**	**5.38**	**43**	Pg	**Pg**	**09 37 56.6**	**-1.9**
	6.2nm,0.6s						
UZB				Lg	Lg	09 39 08.0	
	11nm,0.5s						
ARXS	**Arharly**	**5.68**	**29**	*e*P	**Pg**	**09 38 03.5**	**-0.7**
	18nm,0.3s						
ARXS				*e*S	**Sg**	**09 39 19.7**	**+2.0**
	11nm,0.1s						
ARXS	**Arharly**	**5.68**	**29**	Pg	**Pg**	**09 38 03.5**	**-0.7**
	18nm,0.6s						
ARXS				Lg	Lg	09 39 18.4	
	10nm,0.8s						
BTLS	**Baital**	**5.75**	**0**	*e*P	**Pg**	**09 38 05.0**	**-0.6**
	2.3nm,0.4s						
BTLS				*e*S	**Sg**	**09 39 21.4**	**+1.4**
	7.8nm,0.8s						
BTLS	**Baital**	**5.75**	**0**	Pg	**Pg**	**09 38 04.9**	**-0.6**
	2.3nm,0.4s						
BTLS				Lg	Lg	09 39 21.2	
	7.8nm,0.8s						

*SOME **26** 09:40:24.1, 39˚.02N×74˚.32E, h0km*
*KRNET **26** 09:40:26.8±0.1, 39˚.19N×74˚.33E, mb3.8*
*IDC **26** 09:40:28.4±1.8, 39˚.04N×74˚.49E, h0km, mb3.5/3,*
mbtmp3.6/6, ML3.0/3, Error ellipse: s-maj=35.9km
s-min=19.9km az=73.0
*NNC **26** 09:40:35.9±2.7, 39˚.52N×74˚.44E, h0km, mb4.4, mpv4.0,*
Error ellipse: s-maj=20.9km s-min=11.6km az=158.0
ISC 26 09:40:29.6±1.0, 39˚.30N±0˚.05×74˚.38E±0˚.03, h10km, n56,
σ2°35/83, mb3.2/3, 11C-21D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.74**	**315**	⇑*e*P	**Pn**	**09 40 59.9**	**0.0**
	baz=19						
OHH				⇑*e*S	**Sg**	**09 41 24.3**	**-1.1**
	baz=19						
DRK	**Karamyk**	**2.01**	**276**	⇓*e*P	**Pn**	**09 41 03.7**	**-0.1**
	baz=79						
DRK				⇓*e*S	**Sn**	**09 41 30.8**	**+1.6**
	baz=79						
ARLS	**Aral**	**2.56**	**359**	⇑*i*P	**Pb**	**09 41 13.2**	**-2.5**
	baz=0.0						
ARLS				⇑*e*S	**Sb**	**09 41 46.8**	**-0.6**
	baz=0.0						
BTK	**Batken**	**2.85**	**287**	⇑*e*P	**Pn**	**09 41 15.5**	**+0.3**
	baz=89						
BTK				⇑*e*S	**Sn**	**09 41 51.4**	**+1.7**
	baz=89						
AML	**Almayashu**	**2.88**	**350**	P	**Pb**	**09 41 21.2**	**-0.1**
	SNR=27						
UCH	**Uchtor**	**2.93**	**2**	P	**Pb**	**09 41 21.2**	**-1.0**
	SNR=21						
UCH	**Uchtor**	**2.93**	**2**	⇓*e*P	**Pb**	**09 41 18.5**	**-3.7**
	baz=3.0						
UCH				⇓*e*S	**Sb**	**09 41 56.1**	**-2.1**
	baz=3.0						
ARK	**Arkit**	**3.11**	**324**	⇑*i*P	**Pn**	**09 41 19.9**	**+1.2**
	baz=26						
ARK				⇑*e*S	**Sb**	**09 41 59.0**	**-3.9**
	baz=26						
GAR	**Garm**	**3.17**	**266**	⇓*e*P	**Pn**	**09 41 19.4**	**-0.3**
	baz=68						
GAR				⇓*e*S	**Sn**	**09 41 57.9**	**+0.2**
	baz=68						
ULHL	**Ulahol**	**3.27**	**25**	⇓*e*P	**Pn**	**09 41 22.9**	**+1.8**
	baz=25						
ULHL				⇓*e*S	**Sb**	**09 42 04.3**	**-3.4**
	baz=25						
TRKS	**Terek-Say**	**3.33**	**313**	⇓*e*P	**Pn**	**09 41 22.1**	**+0.2**
	baz=14						
TRKS				⇓*i*S	**Sn**	**09 42 02.3**	**+0.7**
	baz=14						
AAK	**Ala-Archa**	**3.34**	**1**	P	**Pb**	**09 41 27.7**	**-1.3**
	SNR=7.5						
AAK	**Ala-Archa**	**3.34**	**1**	Pn	**Pb**	**09 41 27.9**	**-1.1**
	3.3nm,0.3s,baz=151,slow=5.9,SNR=11						
AAK				Sn	**Sg**	**09 42 12.1**	**-4.7**
	2.1nm,0.3s,baz=11,slow=19,SNR=1.3						
AAK				Lg	Lg	09 42 18.5	
	2.7nm,0.3s,baz=85,slow=22,SNR=7.9						
	30nm,0.5s						
KBK	**Karagaybulak**	**3.38**	**7**	P	**Pb**	**09 41 27.7**	**-2.1**
	SNR=12						
KBK	**Karagaybulak**	**3.38**	**7**	⇓*e*P	**Pn**	**09 41 24.6**	**+2.0**
	baz=8.0						
KBK				⇓*e*S	**Sb**	**09 42 06.8**	**-4.2**
	baz=8.0						
EKS2	**Erkin-Say**	**3.39**	**352**	P	**Pb**	**09 41 27.9**	**-1.9**
	SNR=14						
EKS2	**Erkin-Say**	**3.39**	**352**	⇓*e*P	**Pn**	**09 41 24.4**	**+1.7**
	baz=53						
EKS2				⇓*e*S	**Sb**	**09 42 06.7**	**-4.5**
	baz=53						
MRKS	**Merke**	**3.56**	**346**	*e*P	**Pg**	**09 41 34.5**	**-3.2**
	19nm,0.0s						
MRKS				*e*S	**Sg**	**09 42 22.8**	**-0.9**
	32nm,0.1s						
MRKS	**Merke**	**3.56**	**346**	Pg	**Pg**	**09 41 36.5**	**-1.2**
	19nm,0.4s						
MRKS				Lg	Lg	09 42 22.8	
	32nm,0.7s						
TKM2	**Tokmak 2**	**3.74**	**14**	P	**Pb**	**09 41 32.5**	**-3.3**
	SNR=13						
TKM2	**Tokmak 2**	**3.74**	**14**	⇓*e*P	**Pn**	**09 41 29.7**	**+2.2**
	baz=14						
TKM2				⇓*e*S	**Sb**	**09 42 15.4**	**-5.8**
	baz=14						
KST	**Kastek**	**3.93**	**17**	*e*P	**Pg**	**09 41 40.6**	**-4.2**
	14nm,0.5s						
KST				*e*S	**Sg**	**09 42 35.7**	**-0.1**
	37nm,0.1s						
KST	**Kastek**	**3.93**	**17**	Pg	**Pg**	**09 41 44.8**	**0.0**
	14nm,0.5s						
KST				Lg	Lg	09 42 37.4	
	37nm,0.8s						
USP	**Ospenovka**	**3.97**	**1**	P	**Pb**	**09 41 37.0**	**-2.6**
	SNR=5.9						
DGS	**Degeres**	**4.08**	**14**	*e*P	**Pg**	**09 41 46.9**	**-0.8**
	30nm,0.6s						
DGS				*e*S	**Sg**	**09 42 44.4**	**+3.9**
	19nm,0.1s						
DGS	**Degeres**	**4.08**	**14**	Pg	**Pg**	**09 41 46.9**	**-0.8**
	30nm,0.6s						
DGS				Lg	Lg	09 42 40.1	
	19nm,0.6s						
CHGR	**Chuyangaron**	**4.12**	**263**	⇓*e*P	**Pn**	**09 41 32.6**	**-0.1**
	baz=64						
CHGR				⇓*e*S	**Sn**	**09 42 20.4**	**-0.6**
	baz=64						
MTBS	**Maitube**	**4.13**	**21**	*e*P	**Pg**	**09 41 46.9**	**-1.7**
	13nm,0.8s						
MTBS				*e*S	**Sg**	**09 42 42.8**	**+0.7**
	16nm,0.7s						
MTBS	**Maitube**	**4.13**	**21**	Pg	**Pg**	**09 41 46.1**	**-2.5**
	12nm,0.6s						
MTBS				Lg	Lg	09 42 39.5	
	16nm,0.7s						
SGDS	**Sogindy**	**4.16**	**2**	*e*P	**Pg**	**09 41 47.4**	**-1.8**
	12nm,0.5s						
SGDS				*e*S	**Sg**	**09 42 44.7**	**+1.7**
	18nm,0.7s						
SGDS	**Sogindy**	**4.16**	**2**	Pg	**Pg**	**09 41 47.4**	**-1.8**
	12nm,0.5s						
SGDS				Lg	Lg	09 42 41.0	
	18nm,0.7s						
TNSS	**Tian-Shan**	**4.21**	**27**	*e*P	**Pg**	**09 41 48.5**	**-1.7**
	40nm,0.2s						
TNSS				*e*S	**Sg**	**09 42 47.6**	**+2.9**
	8.9nm,0.7s						
TNSS	**Tian-Shan**	**4.21**	**27**	Pg	**Pg**	**09 41 48.5**	**-1.7**
	39nm,0.4s						
TNSS				Lg	Lg	09 42 43.8	
	8.9nm,0.7s						
MDOK	**Medeo**	**4.36**	**27**	*e*P	**Pg**	**09 41 50.6**	**-2.4**
	26nm,0.4s						
MDOK				*e*S	**Sg**	**09 42 50.4**	**+1.0**
	13nm,0.1s						
MDOK	**Medeo**	**4.36**	**27**	P

	22nm,0.7s								
KUU	**Kurty**	**4.82**	**17**	Pg	**Pg**	**09 42 00.5**	**-1.4**		
	18nm,0.8s								
KUU				Lg	Lg	09 43 03.5			
	22nm,0.7s								
SATY	**Saty**	**4.83**	**38**	*e*P	**Pg**	**09 42 01.4**	**-0.7**		
	12nm,0.3s								
SATY				*e*S	**Sg**	**09 43 09.8**	**+5.1**		
	21nm,0.1s								
CHKK	**Chushkaly**	**4.96**	**22**	*e*P	**Pg**	**09 42 02.6**	**-1.8**		
	10nm,0.4s								
CHKK				*e*S	**Sg**	**09 43 10.5**	**+1.9**		
	10nm,0.1s								
CHKK	**Chushkaly**	**4.96**	**22**	Pg	**Pg**	**09 42 02.6**	**-1.8**		
	10nm,0.4s								
CHKK				Lg	Lg	09 43 07.1			
	13nm,0.3s								
ARXS	**Arharly**	**5.55**	**27**	*e*P	**Pg**	**09 42 13.3**	**-2.5**		
	14nm,0.2s								
ARXS				*e*S	**Sg**	**09 43 29.9**	**+2.3**		
	6.7nm,0.2s								
ARXS	**Arharly**	**5.55**	**27**	Pg	**Pg**	**09 42 14.4**	**-1.3**		
	13nm,0.6s								
ARXS				Lg	Lg	09 43 27.5			
	6.7nm,0.8s								
PDGK	**Podgornoye**	**5.57**	**42**	⇑Pg	**Pg**	**09 42 12.1**	**-4.1**		
	7.7nm,0.6s								
PDGK				⇑Lg	Lg	09 43 25.1			
	22nm,0.9s								
MKAR	**Makanchi Array**	**9.46**	**35**	Pn	Pn	09 42 50.5	+4.6		
	0.2nm,0.3s,baz=221,slow=14,SNR=6.8								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**11.70**	**13**	Lg	Lg	09 46 40.6			
	baz=196,slow=29,SNR=1.9								
BVAR	**Borovoye Array**	**14.01**	**350**	Pn	**Pn**	**09 43 50.7**	**+2.7**		
	baz=156,slow=14,SNR=4.9								
	2.0nm,0.8s								
SONM	**Songino Array**	**24.57**	**59**	P	**P**	**09 45 50.8**	**+1.1**		
	0.3nm,0.4s,baz=261,slow=9.3,SNR=3.1								
	0.3nm,0.4s								
FINES	**FINESS Array B**	**36.76**	**323**	P	**P**	**09 47 40.0**	**+3.1**		
	3.2nm,0.9s,baz=99,slow=8.6,SNR=3.4								
	3.2nm,0.9s								
WRA	**Warramunga Arr**	**81.28**	**125**	P	**P**	**09 52 45.0**	**-1.1**		
	0.1nm,0.5s,baz=316,slow=4.0,SNR=5.6								
	0.1nm,0.5s								

HVO ***26*** *09:46:45.9±0.9, 19°.35N±0°.03×155°.10W±0°.02, h6km±1km, ML2.5/19, ML2.5/38(NEIC), Error ellipse: s-maj=5.7km s-min=1.4km az=147.0*

NEIC 26 09:46:45.8±0.8, 19°.35N±0°.01×155°.097W±0°.008, h9km±2km, Error ellipse: s-maj=2.0km s-min=1.0km az=187.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.04**	**354**		Pg	09 46 47.6	-0.1
JCUZ					Sg	09 46 47.7	-1.4
JCUZ				IAML		09 46 49.2	
	comp=E,4μm,0.6s						
JCUZ				IAML		09 46 49.0	
	comp=N,3μm,0.3s						
NPOC	**North of Pu'u**	**0.05**	**345**	Pg	Pg	09 46 47.8	0.0
NPOC				IAML		09 46 49.0	
	comp=E,3μm,0.3s						
NPOC				IAML		09 46 49.2	
	comp=N,3μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.07**	**295**		Pg	09 46 48.1	0.0
PUH	**Pauahi**	**0.12**	**283**		Pg	09 46 48.7	0.0
PUH					Sg	09 46 48.7	-2.0
PUH				IAML		09 46 51.6	
	comp=N,2μm,0.7s						
JOKA	**Jonika Flow**	**0.12**	**46**		Pg	09 46 48.7	-0.1
JOKA					Sg	09 46 50.9	+0.1
BYL	**Byron's Ledge**	**0.17**	**292**		Pg	09 46 49.1	-0.3
BYL				IAML		09 46 52.8	
	comp=N,1μm,0.5s						
KKO	**Keanakako`i**	**0.17**	**287**		Pg	09 46 49.6	+0.1
KKO					Sg	09 46 49.7	-2.4
KKO				IAML		09 46 54.6	
	comp=N,2μm,1.4s						
KKO				IAML		09 46 55.3	
	comp=E,1μm,1.2s						
HATHI	**Halema'uma'u T**	**0.17**	**296**		Pg	09 46 49.5	0.0
HATHI				IAML		09 46 51.9	
	comp=E,937nm,1.0s						
RIM	**Rim**	**0.17**	**286**		Pg	09 46 49.7	+0.1
RIM				IAML		09 46 54.4	
	comp=E,882nm,1.1s						
RIM				IAML		09 46 54.4	
	comp=N,2μm,1.2s						
SBLHI	**Steaming Bluff**	**0.18**	**296**		Pg	09 46 49.6	-0.1
UWB	**Uwekahuna B**	**0.19**	**294**		Pg	09 46 49.7	-0.1
UWE	**Uwekahuna**	**0.20**	**291**	Pg	Pg	09 46 50.0	0.0
UWE				IAML		09 46 55.9	
	comp=N,1μm,0.4s						
UWE				IAML		09 46 56.1	
	comp=E,1μm,0.8s						
RSD	**Rainshed**	**0.20**	**304**		Pg	09 46 50.3	+0.1
HLP	**Hilina Pali**	**0.21**	**255**		Pg	09 46 50.4	+0.2
HLP				IAML		09 46 55.8	
	comp=E,995nm,0.5s						
HLP				IAML		09 46 56.3	
	comp=N,934nm,0.5s						
HTC	**Hot Caves**	**0.30**	**249**		Pg	09 46 52.6	+0.7
MLH	**Mauna Loa**	**0.31**	**298**		Pg	09 46 52.4	+0.3
MLH					Sg	09 46 52.7	-3.6
AIN	**Ainahou**	**0.34**	**274**		Pg	09 46 53.4	+0.7
HMH	**Humu'ula Sheep**	**0.44**	**305**		Pg	09 46 54.8	+0.2
MLOA	**Mauna Loa Obse**	**0.49**	**293**		Pg	09 46 55.4	0.0
MLOA				IAML		09 47 03.1	
	comp=N,370nm,0.5s						
MWH	**Moku'aweowe**	**0.49**	**286**		Pg	09 46 55.5	-0.1
KHU	**Kahuku**	**0.50**	**258**		Pg	09 46 55.1	-0.5
KHU				IAML		09 47 02.1	
	comp=E,385nm,3.1s						
KHU				IAML		09 47 10.9	
	comp=N,358nm,1.0s						
ALEP	**Alea Permanent**	**0.55**	**290**		Pg	09 46 55.9	-0.7
ALEP					Sg	09 47 04.4	+0.5
POHA	**Pohakuloa**	**0.58**	**315**		Pg	09 46 56.5	-0.7
POHA					Sg	09 46 56.6	-8.2
POHA				IAML		09 47 05.3	
	comp=N,398nm,0.3s						
POHA				IAML		09 47 05.3	
	comp=N,381nm,0.2s						
HUH	**Hualalai**	**0.77**	**296**		Pg	09 47 00.4	-0.4
KHLU	**Kahalu`u**	**0.79**	**288**		Pg	09 46 59.2	-1.8

IDC ***26*** *10:04:57.0±0.6, 55°.25N×164°.84E, h0km, mb4.3/28, mbtmp4.3/32, ML4.5/4, MS3.9/56, Error ellipse: s-maj=15.2km s-min=10.6km az=173.0*

KRSC ***26*** *10:04:57.1±1.6, 55°.07N×164°.86E, h50km±22km, ML5.3*

BJI ***26*** *10:04:57.0±0.0, 55°.41N×165°.19E, h31km, mb4.7/20, mB5.1/13, Ms4.9/11, Ms7 4.5/11*

MOS ***26*** *10:04:59.5±0.8, 55°.12N×164°.86E, h34km, mb4.8/18, MS3.8/8, Error ellipse: s-maj=5.5km s-min=4.9km az=74.7*

NEIC ***26*** *10:05:01.1±0.8, 55°.15N±0°.08×164°.9E±0°.1, h29km±3km, mb4.6/191, Error ellipse: s-maj=12.4km s-min=9.0km az=156.0*

GCMT ***26*** *10:05:02.0±0.3, 55°.21N±0°.02×164°.94E±0°.03, h18km±1km, MW4.9/87, Moment Tensor Solution. s19,c20; s87,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.16±.11; $M_{\theta\theta}$-1.91±.09; $M_{\phi\phi}$2.07±.10; $M_{r\theta}$1.35±.29; $M_{\theta\phi}$0.42±.06; $M_{\phi r}$0.49±.20; Best double couple: M_o2.47600×10^{16} NP1:ϕ_s230.00000°,δ83.00000°,λ-33.00000°. NP2: ϕ_s324.00000°,δ57.00000°,λ-171.00000°. Principal axes: T 2.3050, Plg17.0000°, Azm281.0000°; N 0.3410, Plg56.0000°, Azm38.0000°; P -2.6480, Plg28.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 10:05:00.5±0.9, 55°.06N±0°.03×164°.92E±0°.03, h28km±6km, n475, σ1§35/423, mb4.7/146, MS4.0/59, 1C-3D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.62**	**76**	*e*P	**Pn**	**10 05 11.5**	**-2.0**
BKI				*e*S	**Sb**	**10 05 20.8**	**-0.5**
KBTR	**Krutoberegovo**	**1.65**	**315**	*e*P	Pn	10 05 23.8	-3.8
KBTR				*e*S	**Sn**	**10 05 43.2**	**-4.7**
KBTR	**Krutoberegovo**	**1.65**	**315**	PN	Pn	10 05 23.8	-3.8
KBTR				S	**Sn**	**10 05 43.2**	**-4.7**
KBG	**Krutoberegovo**	**1.73**	**315**	*e*P	**Pn**	**10 05 25.4**	**-3.3**
KBG				*e*S	**Sn**	**10 05 46.0**	**-3.8**
KBG	**Krutoberegovo**	**1.73**	**315**	PN	**Pn**	**10 05 25.4**	**-3.3**
KBG				S	**Sn**	**10 05 46.0**	**-3.8**
MKZ	**Mys Kozlova**	**1.91**	**256**	*e*P	**Pn**	**10 05 29.5**	**-1.7**
MKZ				*e*S	**Sn**	**10 05 50.4**	**-3.9**
MKZ	**Mys Kozlova**	**1.91**	**256**	PN	**Pn**	**10 05 29.5**	**-1.7**
MKZ				S	**Sn**	**10 05 50.4**	**-3.9**
SMKR	**Semkarok**	**2.47**	**309**	*e*P	**Pn**	**10 05 37.5**	**-1.5**
SMKR				*e*S	**Sn**	**10 06 05.5**	**-2.7**
SMKR	**Semkarok**	**2.47**	**309**	PN	**Pn**	**10 05 37.5**	**-1.5**
SMKR				S	**Sn**	**10 06 05.5**	**-2.7**
ZLN	**Zelenaya**	**2.52**	**294**	*e*P	**Pn**	**10 05 39.3**	**-0.4**
ZLN				*e*S	**Sn**	**10 06 09.7**	**+0.1**
ZLN	**Zelenaya**	**2.52**	**294**	PN	**Pn**	**10 05 39.3**	**-0.4**
ZLN				S	**Sn**	**10 06 09.7**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.56**	**292**	*e*P	**Pn**	**10 05 39.8**	**-0.4**
BZGR				*e*S	**Sn**	**10 06 10.5**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.56**	**292**	PN	**Pn**	**10 05 39.8**	**-0.4**
BZGR				S	**Sn**	**10 06 10.5**	**+0.1**
BDR	**Baidarnaya**	**2.58**	**307**	*e*P	**Pn**	**10 05 39.0**	**-1.5**
BDR				*e*S	**Sn**	**10 06 10.8**	**-0.1**
BDR	**Baidarnaya**	**2.58**	**307**	PN	**Pn**	**10 05 39.0**	**-1.5**
BDR				S	**Sn**	**10 06 10.8**	**-0.1**
CIRR	**Tsirk**	**2.59**	**296**	*e*P	**Pn**	**10 05 40.3**	**-0.4**
CIRR				*e*S	**Sn**	**10 06 11.1**	**-0.2**
CIRR	**Tsirk**	**2.59**	**296**	PN	**Pn**	**10 05 40.3**	**-0.4**
CIRR				S	**Sn**	**10 06 11.1**	**-0.2**
TUMD	**Tumrok D**	**2.60**	**275**	*e*P	**Pn**	**10 05 40.0**	**-0.7**
TUMD				*e*S	**Sn**	**10 06 08.6**	**-2.7**
SRKR	**Sorokina**	**2.65**	**309**	*e*P	**Pn**	**10 05 40.1**	**-1.3**
SRKR				*e*S	**Sn**	**10 06 12.4**	**-0.2**
SRKR	**Sorokina**	**2.65**	**309**	PN	**Pn**	**10 05 40.1**	**-1.3**
SRKR				S	**Sn**	**10 06 12.4**	**-0.2**
BZMR	**Bezymyannaya**	**2.67**	**291**	*e*P	**Pn**	**10 05 41.2**	**-0.5**
BZMR				*e*S	**Sn**	**10 06 12.9**	**-0.2**
BZMR	**Bezymyannaya**	**2.67**	**291**	PN	**Pn**	**10 05 41.2**	**-0.5**
BZMR				S	**Sn**	**10 06 12.9**	**-0.2**
BZWR	**Bezymyannyi-We**	**2.67**	**292**	*e*P	**Pn**	**10 05 41.6**	**-0.2**
BZWR				*e*S	**Sn**	**10 06 13.0**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.67**	**292**	PN	**Pn**	**10 05 41.6**	**-0.2**
BZWR				S	**Sn**	**10 06 13.0**	**-0.3**
KLY	**Klyuchi**	**2.72**	**299**	*e*P	**Pn**	**10 05 40.0**	**-2.3**
KLY				*e*S	**Sn**	**10 06 11.5**	**-2.7**
KLY	**Klyuchi**	**2.72**	**299**	PN	**Pn**	**10 05 40.0**	**-2.3**
KLY				S	**Sn**	**10 06 11.5**	**-2.7**
KRSR	**Krestovskiy**	**2.72**	**297**	*e*P	**Pn**	**10 05 41.5**	**-1.0**
KRSR				*e*S	**Sn**	**10 06 13.2**	**-1.3**
KRSR	**Krestovskiy**	**2.72**	**297**	PN	**Pn**	**10 05 41.5**	**-1.0**
KRSR				S	**Sn**	**10 06 13.2**	**-1.3**
TUMR	**Tumrok**	**2.74**	**277**	*e*P	**Pn**	**10 05 42.0**	**-0.8**
TUMR				*e*S	**Sn**	**10 06 14.3**	**-0.7**
TUMR	**Tumrok**	**2.74**	**277**	PN	**Pn**	**10 05 40.0**	**-2.8**
KIRR	**Kirishev**	**2.75**	**291**	*e*P	**Pn**	**10 05 42.4**	**-0.5**
KIRR				*e*S	**Sn**	**10 06 14.3**	**-0.9**
KIRR	**Kirishev**	**2.75**	**291**	PN	**Pn**	**10 05 42.4**	**-0.5**
KIRR				S	**Sn**	**10 06 14.3**	**-0.9**
KMNR	**Kamenistaya**	**2.76**	**287**	*e*P	**Pn**	**10 05 42.7**	**-0.2**
KMNR				*e*S	**Sn**	**10 06 14.2**	**-1.1**
KMNR	**Kamenistaya**	**2.76**	**287**	PN	**Pn**	**10 05 42.7**	**-0.2**
KMNR				S	**Sn**	**10 06 14.2**	**-1.1**
KPT	**Kopyto**	**2.82**	**291**	*e*P	**Pn**	**10 05 43.4**	**-0.4**
KPT				*e*S	**Sn**	**10 06 15.1**	**-1.7**
KPT	**Kopyto**	**2.82**	**291**	PN	**Pn**	**10 05 43.4**	**-0.4**
KPT				S	**Sn**	**10 06 15.1**	**-1.7**
KOZ	**Kozyrevsk**	**3.03**	**291**	*e*P	**Pn**	**10 05 46.5**	**-0.1**
KOZ				*e*S	**Sn**	**10 06 21.9**	**-0.1**
KOZ	**Kozyrevsk**	**3.03**	**291**	PN	**Pn**	**10 05 46.5**	**-0.1**
KOZ				S	**Sn**	**10 06 21.9**	**-0.1**
SRDR	**Sredinnyy**	**3.20**	**295**	*e*P	**Pn**	**10 05 49.0**	**0.0**
SRDR				*e*S	**Sn**	**10 06 26.1**	**-0.1**
SRDR	**Sredinnyy**	**3.20**	**295**	PN	**Pn**	**10 05 49.0**	**0.0**
SRDR				S	**Sn**	**10 06 26.1**	**-0.1**
SPN	**Mys Shipunski**	**3.49**	**238**	*e*P	**Pn**	**10 05 51.9**	**-1.0**
SPN				*e*S	**Sn**	**10 06 29.5**	**-3.7**
SPN	**Mys Shipunski**	**3.49**	**238**	PN	**Pn**	**10 05 51.9**	**-1.0**
ESO	**Esso**	**3.64**	**286**	*e*P	**Pn**	**10 05 54.3**	**-0.7**
ESO				*e*S	**Sn**	**10 06 34.6**	**-2.4**
ESO	**Esso**	**3.64**	**286**	PN	**Pn**	**10 05 54.3**	**-0.7**
ESO				S	**Sn**	**10 06 34.6**	**-2.4**
NLC	**Nalytchevo**	**3.79**	**242**	*e*P	**Pn**	**10 05 56.6**	**-0.3**
NLC				*e*S	**Sn**	**10 06 37.8**	**-2.7**
NLC	**Nalytchevo**	**3.79**	**242**	PN	**Pn**	**10 05 56.6**	**-0.3**
SDLR	**Sedlovina**	**3.97**	**246**	*e*P	**Pn**	**10 06 00.0**	**+0.4**
SDLR				*e*S	**Sn**	**10 06 44.3**	**-0.9**
SDLR	**Sedlovina**	**3.97**	**246**	PN	**Pn**	**10 06 00.0**	**+0.4**
SMAR	**Somma**	**4.02**	**246**	*e*P	**Pn**	**10 06 00.5**	**+0.1**
SMAR				*e*S	**Sn**	**10 06 45.0**	**-1.6**
SMAR	**Somma**	**4.02**	**246**	PN	**Pn**	**10 06 00.5**	**+0.1**
KRER	**Koryakskii**	**4.03**	**247**	*e*P	**Pn**	**10 06 00.7**	**+0.2**
KRER				*e*S	**Sn**	**10 06 45.3**	**-1.5**
KRER	**Koryakskii**	**4.03**	**247**	PN	**Pn**	**10 06 00.7**	**+0.2**
UGLR	**Uglovaya**	**4.04**	**245**	*e*P	**Pn**	**10 06 00.5**	**0.0**
UGLR				*e*S	**Sn**	**10 06 45.7**	**-1.1**
UGLR	**Uglovaya**	**4.04**	**245**	PN	**Pn**	**10 06 00.5**	**0.0**
KOK	**Koryaka**	**4.09**	**247**	*e*P	**Pn**	**10 06 01.7**	**+0.4**
KOK				*e*S	**Sn**	**10 06 46.1**	**-2.2**
KOK	**Koryaka**	**4.09**	**247**	PN	**Pn**	**10 06 01.7**	**+0.4**
DALK	**Dalny**	**4.16**	**243**	*e*P	**Pn**	**10 06 02.3**	**+0.2**
DALK				*e*S	**Sn**	**10 06 47.0**	**-2.8**
DALK	**Dalny**	**4.16**	**243**	PN	**Pn**	**10 06 02.3**	**+0.2**
PET	**Petropavlovsk**	**4.22**	**244**		**Pn**	**10 06 03.3**	**+0.4**
PET	**Petropavlovsk**	**4.22**	**244**	*e*P	**Pn**	**10 06 02.7**	**-0.2**
PET				*e*S	**Sn**	**10 06 48.7**	**-2.5**
PET	**Petropavlovsk**	**4.22**	**244**	*e*PN	**Pn**	**10 06 02.3**	**-0.6**
PET				pmax	pmax		
	comp=Z,248nm,0.6s						
PET				MLR	MLR		
	comp=Z,3μm,13.0s						
PET				MLR	MLR		
	comp=Z,2μm,12.0s						
GNL	**Ganaly**	**4.30**	**254**	*e*P	**Pn**	**10 06 04.8**	**+0.6**
GNL	**Ganaly**	**4.30**	**254**	PN	**Pn**	**10 06 04.8**	**+0.6**
OSSR	**Ossora**	**4.32**	**347**	*e*P	**Pn**	**10 06 03.0**	**-1.2**
OSSR				*e*S	**Sn**	**10 06 49.8**	**-3.8**
OSSR	**Ossora**	**4.32**	**347**	PN	**Pn**	**10 06 03.0**	**-1.2**
KRMR	**Karymshinskiy**	**4.59**	**244**	*e*P	**Pn**	**10 06 08.4**	**+0.4**
KRMR				*e*S	**Sn**	**10 06 59.0**	**-1.3**
KRMR	**Karymshinskiy**	**4.59**	**244**	PN	**Pn**	**10 06 08.4**	**+0.4**
RUS	**Russkaya**	**4.62**	**238**	*e*P	**Pn**	**10 06 07.7**	**-0.7**
RUS				*e*S	**Sn**	**10 06 57.4**	**-3.7**
RUS	**Russkaya**	**4.62**	**238**	PN	**Pn**	**10 06 07.7**	**-0.7**
PEA0B	**Petropavlovsk-**	**4.68**	**248**	Pn	**Pn**	**10 06 09.4**	**+0.2**
PEA0B	**Petropavlovsk-**	**4.68**	**248**	*i* PN	**Pn**	**10 06 09.3**	**+0.1**
PETK	**Petropavlovsk-**	**4.68**	**248**	Pn	**Pn**	**10 06 08.9**	**-0.3**
	comp=Z,13nm,0.3s,baz=276,slow=33,SNR=277						
PETK				Sn	**Sn**	**10 07 02.9**	**+0.4**
	comp=Z,31nm,0.3s,baz=329,slow=5.2,SNR=3.3						
PETK				LR	LR	10 08 25.4	
	comp=Z,1μm,18.2s,baz=66,slow=44						
	comp=Z,16nm,0.3s						
PETK	**Petropavlovsk-**	**4.68**	**248**	Pn	**Pn**	**10 06 09.5**	**+0.2**
MTVR	**Mutnovka**	**4.76**	**240**	*e*P	**Pn**	**10 06 10.2**	**-0.2**
MTVR				*e*S	**Sn**	**10 07 01.9**	**-2.8**
MTVR	**Mutnovka**	**4.76**	**240**	PN	**Pn**	**10 06 10.2**	**-0.2**
GRL	**Gorelyy**	**4.77**	**241**	*e*P	**Pn**	**10 06 11.0**	**+0.4**
GRL				*e*S	**Sn**	**10 07 04.2**	**-0.8**
GRL	**Gorelyy**	**4.77**	**241**	PN	**Pn**	**10 06 11.0**	**+0.4**
APC	**Apacha**	**5.05**	**248**	*e*P	**Pn**	**10 06 15.7**	**+1.4**
APC				*e*S	**Sn**	**10 07 11.5**	**-0.2**
APC	**Apacha**	**5.05**	**248**	PN	**Pn**	**10 06 15.7**	**+1.4**
KDTR	**Khodutka, Kamc**	**5.23**	**234**	*e*P	**Pn**	**10 06 15.8**	**-0.9**
KDTR				*e*S	**Sn**	**10 07 12.0**	**-4.0**
KDTR	**Khodutka, Kamc**	**5.23**	**234**	PN	**Pn**	**10 06 15.8**	**-0.9**
TILK	**Tilichiki**	**5.44**	**6**	*e*P	**Pn**	**10 06 19.3**	**-0.3**
TILK	**Tilichiki**	**5.44**	**6**	PN	**Pn**	**10 06 19.3**	**-0.3**
SHEM	**Shemya Is, Ala**	**5.91**	**110**	Pn	**Pn**	**10 06 27.4**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=236,slow=23,SNR=1.3						
SHEM				Sn	**Sn**	**10 07 30.8**	**-2.1**
	comp=Z,5.3nm,0.3s,baz=276,slow=17,SNR=1.9						
	comp=Z,27nm,0.6s						
SMY	**Shemya**	**5.91**	**110**	Pn	**Pn**	**10 06 27.6**	**+1.5**
SMY	**Shemya**	**5.91**	**110**	PN	**Pn**	**10 06 27.6**	**+1.5**
PAU	**Pauzhetka**	**6.05**	**237**	*e*P	**Pn**	**10 06 28.4**	**+0.4**
PAU	**Pauzhetka**	**6.05**	**237**	PN	**Pn**	**10 06 28.4**	**+0.4**
SKR	**Severo-Kuril's**	**6.90**	**234**	*e*P	**Pn**	**10 06 39.2**	**-0.5**
SKR				*e*S	**Sn**	**10 07 52.2**	**-4.9**
SKR	**Severo-Kuril's**	**6.90**	**234**	*e*PN	**Pn**	**10 06 39.5**	**-0.2**
SKR				pmax	pmax		
	comp=Z,31nm,0.3s						
SKR				pmax	pmax		
	comp=Z,300nm,4.1s						
SKR				MLR	MLR		
	comp=Z,600nm,16.0s						
KMSK	**Kamenskaya**	**7.46**	**5**	*e*P	**Pn**	**10 06 47.1**	**-0.2**
KMSK	**Kamenskaya**	**7.46**	**5**	PN	**Pn**	**10 06 47.1**	**-0.2**
MA2	**Magadan**	**8.88**	**306**	Pn	**Pn**	**10 07 06.6**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=23,slow=24,SNR=1.8						
MA2				LR	LR	10 10 53.6	
	comp=Z,667nm,20.3s,baz=112,slow=41						
	comp=Z,13nm,1.0s						
OKH	**Okha**	**12.92**	**272**	*de*PN	Pn	10 07 50.2	-12
OKH				MLR	MLR		
	comp=N,2μm,12.0s						
OKH				MLR	MLR		
	comp=E,2μm,12.0s						
OKH				MLR	MLR		
	comp=Z,800nm,15.0s						
BILL	**Bilibino**	**13.04**	**2**	Pn	**Pn**	**10 08 05.1**	**+1.5**
BILL	**Bilibino**	**13.04**	**2**	*i* PN	Pn	10 07 59.0	-4.6
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,350nm,15.0s						
YSS	**Yuzh-Sakhalins**	**16.08**	**249**	*e*P	**Pn**	**10 08 45.6**	**+1.2**
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
UNV	**Unalaska Valle**	**16.62**	**82**		**P**	**10 08 53.7**	**+0.2**
AKUT	**Akutan**	**16.96**	**81**	P	**P**	**10 08 57.7**	**+0.5**
GRNR	**Gornyy**	**17.65**	**268**	‖ *i* P	**Pn**	**10 09 04.3**	**+0.2**
GRNR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GRNR				MLR	MLR		
	comp=E,550nm,13.0s						
GRNR				MLR	MLR		
	comp=N,220nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,670nm,15.0s						
JKA	**Kamikawa-asahi**	**18.06**	**242**	P	**Pn**	**10 09 08.8**	**-0.4**
JKA				IAmb	IAmb	10 09 49.1	
	comp=Z,74nm,1.3s						
ASAJ	**Asahikawa**	**18.06**	**242**	LR	LR	10 15 43.9	
	comp=Z,340nm,19.2s,baz=50,slow=36						
ASAJ	**Asahikawa**	**18.06**	**242**	P	**Pn**	**10 09 08.8**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,74nm,1.3s						
ERM	**Erimo**	**19.34**	**237**	*i* P	P	10 09 10.3	-13
YAK	**Yakutsk**	**19.46**	**305**	P	**P**	**10 09 22.3**	**-2.4**
YAK	comp=Z,0.2nm,0.3s,baz=116,slow=2.0,SNR=8.7			LR	LR	10 17 02.7	
	comp=Z,536nm,18.1s,baz=96,slow=38						
	comp=Z,9.1nm,0.5s						
YAK	**Yakutsk**	**19.46**	**305**	P	**P**	**10 09 22.5**	**-2.1**
YAK				IAmb	IAmb	10 09 34.3	
	comp=Z,35nm,0.7s						
YAK	**Yakutsk**	**19.46**	**305**	*e*P	**P**	**10 09 23.3**	**-1.3**
YAK				*e*S	**S**	**10 12 59.8**	**-2.9**
YAK				pmax	pmax		
	comp=Z,31nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.0s						
YAK				pmax	pmax		
	comp=Z,105nm,1.4s						
YAK				pmax	pmax		
	comp=N,32nm,1.3s						
YAK				pmax	pmax		
	comp=E,72nm,1.2s						
YAK				smax	smax		
	comp=N,101nm,2.0s						
YAK				smax	smax		
	comp=N,57nm,1.9s						
YAK				MLR	MLR		
	comp=Z,451nm,16.0s						
CHGN	**Chignik**	**20.56**	**71**	P	**P**	**10 09 36.6**	**-0.1**
KLR	**Kul'dur**	**21.03**	**268**	P	**P**	**10 09 43.7**	**+1.8**
	comp=Z,4.1nm,1.1s,baz=54,slow=12,SNR=5.9						
KLR				LR	LR	10 18 10.6	
	comp=Z,450nm,20.3s,baz=64,slow=38						
	comp=Z,4.1nm,1.1s						
KLR	**Kul'dur**	**21.03**	**268**	*i* P	**P**	**10 09 40.3**	**-1.5**
TTA	**Tatalina**	**21.30**	**53**	P	**P**	**10 09 45.7**	**+1.0**
TTA	**Tatalina**	**21.30**	**53**	P	**P**	**10 09 46.3**	**+1.6**
	baz=267						
TTA	**Tatalina**	**21.30**	**53**	P	**P**	**10 09 45.7**	**+1.0**
TTA				pmax	pmax		
	comp=Z,21nm,1.3s						
N18K	**Kilae Creek**	**21.34**	**59**	P	**P**	**10 09 45.7**	**+0.6**
N18K				IAmb	IAmb	10 10 00.5	
	comp=Z,22nm,0.8s						
R17K	**Ugashik Creek**	**21.40**	**67**	P	**P**	**10 09 47.2**	**+1.5**
	baz=280						
SVW2	**Sparrevohn**	**21.47**	**58**	P	**P**	**10 09 45.6**	**-0.9**
**

BPAW Bear Paw Mtn. 23.61 50 P P 10 10 08.7 -0.1
BPAW IAmb IAmb 10 10 14.3
comp=Z,24nm,1.3s
BPAW Bear Paw Mtn. 23.61 50 P P 10 10 09.3 +0.5
baz=268,SNR=7.0
KTH Kantishna Hill 23.63 51 P P 10 10 09.4 +0.4
KTH IAmb IAmb 10 10 12.9
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 23.71 256 P P 10 10 08.4 -1.5
USA0B IAmb IAmb 10 10 33.7
comp=Z,18nm,1.1s
USA0B Ussuriysk Arra 23.71 256 P P 10 10 08.4 -1.5
USA0B pmax pmax
comp=Z,18nm,1.1s
USRK Ussuriysk Ar. 23.71 256 LR LR 10 19 51.7
comp=Z,587nm,18.7s,baz=53,slow=38
USRK Ussuriysk Ar. 23.71 256 P P 10 10 08.7 -1.2
USRK Ussuriysk Ar. 23.71 256 P P 10 10 08.7 -1.2
E22K Anaktuvuk Pass 23.75 40 P P 10 10 10.4 +0.3
baz=258
MLY Manley 23.76 47 P P 10 10 10.4 +0.2
SUA Susitna One 23.79 56 P P 10 10 10.0 -0.6
SUA IAmb IAmb 10 10 23.4
comp=Z,25nm,1.0s
SUA Susitna One 23.79 56 P P 10 10 11.0 +0.4
baz=275
TRF Thorofare Moun 23.91 51 P P 10 10 11.7 -0.1
TRF IAmb IAmb 10 10 13.2
comp=Z,29nm,0.9s
TRF Thorofare Moun 23.91 51 P P 10 10 12.2 +0.4
baz=271,SNR=12
CUT Chulitna 23.95 54 P P 10 10 10.9 -1.0
CUT IAmb IAmb 10 10 12.7
comp=Z,24nm,0.9s
CUT Chulitna 23.95 54 P P 10 10 11.5 -0.5
baz=273
COLD Coldfoot 24.20 42 P P 10 10 14.0 -0.3
G23K Bananza Creek 24.20 43 P P 10 10 15.0 +0.6
baz=264
BWN Browne 24.28 50 P P 10 10 15.3 +0.3
H23K Yukon River 24.31 46 IAmb IAmb 10 10 40.7
comp=Z,21nm,1.1s
H23K Yukon River 24.31 46 P P 10 10 15.9 +0.6
baz=266
I23K Minto, Yukon-K 24.35 47 P P 10 10 15.1 -0.5
I23K Minto, Yukon-K 24.35 47 P P 10 10 16.0 +0.4
baz=268,SNR=8.9
NEA2 Nenana 24.45 49 P P 10 10 16.1 -0.5
NEA2 IAmb IAmb 10 10 18.2
comp=Z,17nm,1.0s
NEA2 Nenana 24.45 49 P P 10 10 16.5 -0.1
baz=269,SNR=15
MCK McKinley 24.51 51 P P 10 10 16.3 -0.9
MCK IAmb IAmb 10 10 23.0
comp=Z,31nm,1.2s
MCK McKinley 24.51 51 P P 10 10 17.2 0.0
baz=271,SNR=7.6
MCK McKinley 24.51 51 P P 10 10 16.3 -0.9
MCK pmax pmax
comp=Z,31nm,1.2s
C23K Itkillik River 24.55 36 P P 10 10 17.3 -0.1
baz=256
RND Reindeer 24.56 51 P P 10 10 16.4 -1.2
RND IAmb IAmb 10 10 19.8
comp=Z,15nm,1.1s
RND Reindeer 24.56 51 P P 10 10 16.4 -1.2
RND pmax pmax
comp=Z,15nm,1.1s
TOLK Toolik Lake Re 24.66 39 P P 10 10 18.0 -0.5
TOLK IAmb IAmb 10 10 50.4
comp=Z,18nm,0.9s
TOLK Toolik Lake Re 24.66 39 P P 10 10 18.8 +0.3
baz=260,SNR=7.0
WAT1 Susitna Watana 24.72 53 P P 10 10 18.0 -1.1
baz=274
MDM Murphy Dome 24.82 48 P P 10 10 19.6 -0.4
WRH Wood River Hil 24.88 49 IAmb IAmb 10 10 25.5
comp=Z,25nm,1.2s
KNK Knik Glacier 24.88 56 P P 10 10 20.5 -0.1
baz=277
SML Sawmill 24.90 55 P P 10 10 20.6 -0.2
baz=276
E24K Your Creek 24.97 40 P P 10 10 21.9 +0.6
baz=262,SNR=12
TCOL CIGO, UAF Yank 24.98 48 P P 10 10 21.0 -0.3
TCOL IAmb IAmb 10 10 50.8
comp=Z,28nm,1.3s
TCOL CIGO, UAF Yank 24.98 48 P P 10 10 21.4 +0.1
baz=270,SNR=7.3
COLA College 24.98 48 P P 10 10 20.9 -0.4
COLA IAmb IAmb 10 10 50.8
comp=Z,27nm,1.3s
COLA College 24.98 48 P P 10 10 20.9 -0.4
COLA pmax pmax
comp=Z,27nm,1.3s
H24K Noodor Dome 25.00 46 P P 10 10 22.1 +0.6
baz=268
CCB Clear Creek Bu 25.00 48 IAmb IAmb 10 10 23.8
comp=Z,25nm,0.9s
PWL Port Wells 25.01 57 P P 10 10 21.1 -0.6
baz=278
F24K Squaw Lake 25.12 42 P P 10 10 22.7 0.0
baz=264
POKR Poker Plat Res 25.16 47 IAmb IAmb 10 10 25.1
comp=Z,12nm,0.6s
POKR Poker Plat Res 25.16 47 P P 10 10 23.7 +0.7
baz=270
C24K Franklin Bluff 25.18 36 P P 10 10 23.4 +0.3
baz=258
M23K Glacier View 25.19 55 P P 10 10 23.1 -0.2
baz=276
G24K Hadweenzic Riv 25.21 44 P P 10 10 24.2 +0.8
baz=266,SNR=8.6
DHY Denali Highway 25.24 52 P P 10 10 22.8 -1.1
DHY IAmb IAmb 10 10 25.0
comp=Z,13nm,0.6s
DHY Denali Highway 25.24 52 P P 10 10 23.6 -0.4
baz=274,SNR=8.4
HDA Harding Lake 25.37 49 IAmb IAmb 10 10 38.2
comp=Z,13nm,0.8s
HDA Harding Lake 25.37 49 P P 10 10 24.1 -0.8
baz=271,SNR=7.6
SCM Sheep Creek Mo 25.37 55 P P 10 10 25.3 +0.3
baz=277
IL31 25.39 48 IAmb IAmb 10 10 25.9
comp=Z,11nm,0.7s
ILAR Eielson Array 25.39 48 P P 10 10 24.4 -0.7
comp=Z,9.3nm,0.7s,baz=259,slow=8.7,SNR=73
comp=Z,9.3nm,0.7s
M24K Tolsona, Glenn 25.88 54 P P 10 10 30.5 +0.8
baz=277
D25K Kavik River 25.91 38 P P 10 10 29.7 -0.1
baz=262
K24K Donnelly Dome 25.91 50 P P 10 10 29.3 -0.5
baz=274
PRP Porcupine Dome 25.96 46 P P 10 10 30.4 -0.1
PRP IAmb IAmb 10 10 31.8
comp=Z,16nm,0.7s
PRP Porcupine Dome 25.96 46 P P 10 10 30.7 +0.3
baz=270,SNR=14
MJAR Matsushiro Arr 26.00 236 LR LR 10 23 02.5
comp=Z,236nm,18.5s,baz=26,slow=42
J25K Salcha River, 26.05 48 P P 10 10 29.9 -1.3
baz=272
E25K Arctic Village 26.06 40 P P 10 10 31.7 +0.6
baz=265
KLU Klutina 26.08 56 IAmb IAmb 10 10 47.0
comp=Z,18nm,0.8s
PAX Paxson 26.12 52 P P 10 10 31.8 0.0
baz=276
HARP HAARP 26.32 53 P P 10 10 34.1 +0.6
baz=277
C26K Camden Bay 26.51 36 P P 10 10 35.5 +0.5
baz=262
G26K Porcupine Rive 26.68 43 P P 10 10 37.6 +0.9
baz=269
DOT Dot Lake 26.69 51 IAmb IAmb 10 10 40.8
comp=Z,14nm,1.2s
SCRK Sand Creek 26.69 50 P P 10 10 36.0 -1.0
baz=275,SNR=10
N25K Chitina, Valde 26.69 55 P P 10 10 37.2 +0.2
baz=279
J26L Joseph Creek 26.84 49 P P 10 10 37.5 -0.7
baz=274
L26K Log Cabin Wild 27.07 52 P P 10 10 41.3 +1.0
baz=277
K27K Chicken 27.52 50 IAmb IAmb 10 10 45.1
comp=Z,10nm,0.7s
K27K Chicken 27.52 50 P P 10 10 44.3 0.0
baz=276
E27K Coleen River 27.55 41 P P 10 10 45.2 +0.7
baz=269
H27K Steamboat Moun 27.59 45 P P 10 10 45.8 +0.9
baz=273
BOD Bodaibo 27.74 297 *e*P P 10 10 44.2 -2.1
BOD pmax pmax
comp=Z,10.0nm,1.5s
L27K Beaver Creek, 27.75 52 IAmb IAmb 10 10 47.7
comp=Z,11nm,0.8s
L27K Beaver Creek, 27.75 52 P P 10 10 47.0 +0.6
baz=278,SNR=11
M27K Edge Creek, AK 27.84 53 IAmb IAmb 10 11 03.2
comp=Z,9.7nm,0.8s
EGAK Eagle 27.84 48 IAmb IAmb 10 10 47.0
comp=Z,14nm,0.9s
EGAK Eagle 27.84 48 P P 10 10 46.1 -1.1
baz=276,SNR=12
JHJ Hachijo jima 2 28.13 229 LR LR 10 22 24.6
comp=Z,63nm,20.1s,baz=85,slow=37
BVCY Beaver Creek 28.30 53 P P 10 10 52.0 +0.7
baz=280
DAWY Dawson 28.69 49 P P 10 10 54.7 -0.1
DAWY Dawson 28.69 49 P P 10 10 55.0 +0.2
baz=278
O28M Mount Upton 28.95 56 P P 10 10 58.1 +0.8
baz=284
M29M Somme Creek 29.39 52 P P 10 11 02.0 +1.0
baz=282
L29M L29M 29.41 51 P P 10 11 02.3 +1.2
baz=281
INK Inuvik 30.55 40 P P 10 11 11.2 +0.1
comp=Z,3.1nm,0.6s,baz=299,slow=7.1,SNR=7.7
comp=Z,3.1nm,0.6s
INK Inuvik 30.55 40 IAmb IAmb 10 11 22.1
comp=Z,6.2nm,0.7s
INK Inuvik 30.55 40 P P 10 11 11.6 +0.5
baz=276
KSRS Korea Array 30.57 250 P P 10 11 13.3 +1.7
comp=Z,1.3nm,0.7s,baz=43,slow=10,SNR=4.3
KSRS LR LR 10 23 12.5
comp=Z,198nm,19.2s,baz=45,slow=36
comp=Z,1.3nm,0.7s
M31M Drury Creek, Y 31.29 52 IAmb IAmb 10 11 19.9
comp=Z,12nm,0.8s
M31M Drury Creek, Y 31.29 52 P P 10 11 19.1 +1.4
baz=285,SNR=7.2
WHY Whitehorse 31.50 55 P P 10 11 21.4 +1.7
baz=287
JNU Nakatsue 32.34 241 LR LR 10 23 42.3
comp=Z,168nm,20.1s,baz=52,slow=35
MMPY Sheldon Lake, 32.58 50 P P 10 11 30.4 +1.3
baz=287
A36M Sachs Harbour 32.96 32 IAmb IAmb 10 11 44.4
comp=Z,7.5nm,0.8s
A36M Sachs Harbour 32.96 32 P P 10 11 33.0 +0.8
baz=277,SNR=9.5
R33M Jennings River 33.77 56 P P 10 11 41.5 +1.9
baz=292
C36M Paulatuk 33.78 37 P P 10 11 39.5 +0.1
C36M IAmb IAmb 10 11 50.5
comp=Z,10nm,0.9s
C36M Paulatuk 33.78 37 P P 10 11 39.6 +0.3
baz=282
TGTN Hyland Airport 34.26 51 P P 10 11 44.8 +1.1
baz=290,SNR=6.5
DLBC Dease Lake 34.59 57 LR LR 10 26 55.1
comp=Z,388nm,18.6s,baz=300,slow=38
H11N2 WAKE ISLAND Hy 35.30 177 T T 10 49 50.0
baz=358,slow=76,SNR=502
H11N3 WAKE ISLAND Hy 35.32 177 T T 10 49 46.7
baz=358,slow=76,SNR=438
H11N1 WAKE ISLAND Hy 35.32 177 T T 10 49 58.4
baz=358,slow=76,SNR=451
NRIK Noril'sk 35.96 324 P P 10 11 57.8 -0.4
comp=Z,1.9nm,0.4s,baz=70,slow=1.9,SNR=3.6
comp=Z,1.9nm,0.4s
SONM Songino Array 36.21 283 P P 10 12 00.4 -0.4
comp=Z,2.0nm,0.6s,baz=56,slow=8.4,SNR=12
SONM LR LR 10 27 26.3
comp=Z,363nm,19.5s,baz=36,slow=37
comp=Z,2.0nm,0.6s
SONM Songino Array 36.21 283 P P 10 12 00.2 -0.5
SONM Songino Array 36.21 283 P P 10 12 00.2 -0.5
SONM pmax pmax
comp=Z,3.0nm,0.8s
H11S1 WAKE ISLAND Hy 36.52 177 T T 10 51 26.3
baz=359,slow=74,SNR=14
H11S3 WAKE ISLAND Hy 36.53 177 T T 10 51 25.3
baz=359,slow=74,SNR=6.2
H11S2 WAKE ISLAND Hy 36.53 177 T T 10 51 34.7
baz=359
ZAK Zakamensk 36.55 289 *e*P P 10 12 01.3 -2.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s
KOTAN Kotaneelee Air 36.71 52 P P 10 12 06.2 +1.5
baz=295
HHC Hu-ho-hao-te 37.49 270 *e*P P 10 12 12.5 +0.8
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,220nm,6.2s
HHC LR LR
comp=Z,1μm,13.5s
HHC LR LR
comp=Z,990nm,14.1s
HHC LR LR
comp=Z,750nm,15.6s
BBB Bella Bella 38.45 66 LR LR 10 27 31.5
comp=Z,255nm,19.0s,baz=310,slow=35
JOW Kunigami 38.77 238 LR LR 10 29 29.1
comp=Z,104nm,19.5s,baz=337,slow=38
EUNU Eureka 39.33 15 P P 10 12 26.7 +0.1
YKA Yellowknife Ar 39.77 46 P P 10 12 30.5 +0.1
comp=Z,1.8nm,0.6s,baz=310,slow=9.0,SNR=13
comp=Z,1.8nm,0.6s
RES Resolute Bay 40.40 24 LR LR 10 29 42.1
comp=Z,62nm,21.7s,baz=348,slow=37
GUMO Guam 44.24 209 LR LR 10 31 44.0
comp=Z,62nm,18.8s,baz=48,slow=36
GTA Gaotai 45.18 278 *e*P P 10 13 16.8 +2.0
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,68nm,4.3s
GTA LR LR
comp=N,490nm,17.5s
GTA LR LR
comp=E,530nm,16.7s
GTA LR LR
comp=Z,730nm,15.6s
B08A Colville Reser 45.26 66 IAmb IAmb 10 13 21.3
comp=Z,8.9nm,1.1s
EDM Edmonton 45.31 57 P P 10 13 15.8 +0.3
EDM Edmonton 45.31 57 P P 10 13 15.8 +0.3
EDM pmax pmax
comp=Z,14nm,0.8s
DGZ Jazzator, Alta 45.33 297 *i*P P 10 13 13.3 -2.6
DGZ pmax pmax
comp=Z,13nm,1.1s
SPITS Spitsbergen Ar 45.64 351 LR LR 10 32 11.7
comp=Z,119nm,19.6s,baz=5.0,slow=36
NEW Newport 46.47 64 LR LR 10 34 30.0
comp=Z,148nm,18.0s,baz=317,slow=38
NEW Newport 46.47 64 P P 10 13 25.0 +0.2
NEW IAmb IAmb 10 13 30.1
comp=Z,6.5nm,1.1s
NEW Newport 46.47 64 P P 10 13 25.0 +0.2
NEW pmax pmax
comp=Z,7.0nm,1.1s
E09A Wood Farm, Sta 47.05 67 IAmb IAmb 10 13 35.1
comp=Z,6.2nm,0.9s
WALA Waterton Lakes 47.61 62 P P 10 13 33.7 -0.1
WMQ Urumqi 48.97 291 *e*P P 10 13 44.5 +0.3
WMQ pP sP 10 13 55.5 +1.9
WMQ sP pwP 10 14 00.5 +2.3
WMQ S S 10 20 50.3 +3.9
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ LR LR
comp=Z,700nm,20.3s
WMQ LR LR
comp=Z,560nm,17.9s
WMQ LR LR
comp=Z,330nm,24.1s
MSO Missoula 49.04 64 P P 10 13 45.2 +0.4
baz=311
KURK Kurchatov 49.08 303 P P 10 13 44.5 -0.3
KURK Kurchatov 49.08 303 P P 10 13 44.5 -0.3
KURK pmax pmax
comp=Z,38nm,1.0s
PLID Pearl Lake 49.12 67 P P 10 13 45.9 +0.4
KURBB Kurchatov Arra 49.18 303 P P 10 13 45.1 -0.5
comp=Z,6.8nm,0.6s,baz=55,slow=7.9,SNR=9.7
comp=Z,6.8nm,0.6s
MKAR Makanchi Array 49.83 297 P P 10 13 49.9 -0.8
comp=Z,2.8nm,0.6s,baz=49,slow=6.9,SNR=4.3
comp=Z,2.8nm,0.6s
EGMT Eagleton 50.38 60 IAmb IAmb 10 14 07.3
comp=Z,8.4nm,0.8s
EGMT Eagleton 50.38 60 P P 10 13 55.0 +0.1
baz=312
MCMT McKenzie Canyo 50.95 65 P P 10 13 59.5 +0.1
HLID Hailey 50.99 67 P P 10 13 59.4 -0.2
HLID Hailey 50.99 67 P P 10 14 00.3 +0.7
baz=313
BOZ Bozeman (W) 51.06 64 IAmb IAmb 10 14 00.9
comp=Z,9.1nm,1.5s
BOZ Bozeman (W) 51.06 64 P P 10 14 00.7 +0.6
baz=313,SNR=5.6
VCNR Virginia City 51.08 75 IAmb IAmb 10 14 04.1
comp=Z,6.2nm,0.8s
BVAR Borovoye Array 51.36 310 P P 10 14 02.0 -0.1
comp=Z,4.5nm,0.7s,baz=64,slow=6.8,SNR=8.9
BVAR LR LR 10 38 22.7
comp=Z,211nm,18.2s,baz=42,slow=39
comp=Z,4.5nm,0.7s
BRVK Borovoye 51.38 310 P P 10 14 02.3 +0.1
BRVK IAmb IAmb 10 14 13.3
comp=Z,9.9nm,0.8s
BRVK Borovoye 51.38 310 *i*P P 10 13 58.2 -4.1
BRVK pmax pmax
comp=Z,11nm,0.9s
QLMT Earthquake Lak 51.69 64 P P 10 14 05.2 +0.2
YHL Hebgen Lake 51.80 64 IAmb IAmb 10 14 18.6
comp=Z,5.7nm,0.9s
YMR Madison River 52.04 64 IAmb IAmb 10 14 21.0
comp=Z,7.5nm,0.7s
KVN Kaiserville 52.11 74 IAmb IAmb 10 14 10.0
comp=Z,4.8nm,0.9s
ARCES ARCESS Array B 52.26 343 P P 10 14 08.1 -0.5
comp=Z,3.2nm,0.8s,baz=1.9,slow=11,SNR=4.9
ARCES LR LR 10 40 18.3
comp=Z,105nm,18.3s,baz=6.0,slow=41
comp=Z,3.2nm,0.8s
H17A Grant Village 52.43 64 P P 10 14 11.1 +0.6
H17A Grant Village 52.43 64 P P 10 14 12.9 +2.3
baz=314,SNR=5.7
NVAR Mina Array Bea 52.44 75 P P 10 14 11.9 +1.3
comp=Z,2.5nm,0.7s,baz=297,slow=7.1,SNR=18
comp=Z,2.5nm,0.7s
FLWY Flagg Ranch 52.58 65 IAmb IAmb 10 14 19.9
comp=Z,8.1nm,0.8s
RLMT Red Lodge 52.60 63 P P 10 14 12.9 +1.1
baz=314,SNR=16
LAO LASA Array 53.05 59 IAmb IAmb 10 14 21.2
comp=Z,10.0nm,0.9s
LAO LASA Array 53.05 59 P P 10 14 16.1 +1.3
baz=314
PZH PanZhiHua 53.44 265 P P 10 14 20.0 +2.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,220nm,5.1s
ARU Arti 53.83 319 P P 10 14 20.4 +0.1
comp=Z,5.6nm,0.7s,baz=43,slow=3.2,SNR=3.8
ARU LR LR 10 39 07.6
comp=Z,161nm,19.0s,baz=39,slow=38
comp=Z,5.6nm,0.7s
ARU Arti 53.83 319 *d*iP P 10 14 20.3 0.0
ARU 10 15 20.4
ARU S S 10 21 56.2 +3.2
ARU SS SKiKP 10 25 32.2 +1.0
ARU pmax pmax
comp=Z,6.0nm,0.7s
KMI Kunming 53.93 263 ⇑P P 10 14 28.8 +7.1
KMI pmax pmax
comp=Z,19nm,1.4s
KMI LR LR
comp=N,610nm,16.1s
KMI LR LR
comp=E,370nm,15.5s
KMI LR LR
comp=Z,430nm,19.6s
GRAC Grapevine Rang 53.98 75 P P 10 14 23.6 +1.8
baz=316
CWC Cottonwood Cre 53.98 76 P P 10 14 23.3 +1.4
baz=316
R11A Troy Canyon, C 54.00 73 P P 10 14 23.1 +1.1
baz=316
BW06 Boulder Array 54.09 65 IAmb IAmb 10 14 24.6
comp=Z,4.3nm,0.8s
BW06 Boulder Array 54.09 65 P P 10 14 23.5 +0.8
baz=315,SNR=8.8
PDAR Pinedale Array 54.09 65 P P 10 14 23.5 +0.7
comp=Z,3.6nm,0.8s,baz=328,slow=2.9,SNR=33
comp=Z,3.6nm,0.8s
DUG Dugway, Tooele 54.19 69 IAmb IAmb 10 14 26.1
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 54.19 69 P P 10 14 24.6 +1.2
baz=316,SNR=6.8
SPR3 Spring Creek 3 54.22 71 P P 10 14 24.8 +1.0
SPR3 IAmb IAmb 10 14 26.9
comp=Z,7.8nm,0.8s
PRGR Permogore 54.25 329 *e*P P 10 14 22.1 -1.2
PRGR pmax pmax
comp=Z,5.0nm,0.6s
CTU Camp Tracy 54.41 68 IAmb IAmb 10 14 31.0
comp=Z,4.1nm,0.8s
FRB Frobisher Bay 54.53 26 LR LR 10 39 41.5
comp=Z,84nm,21.7s,baz=2.0,slow=38
MPMC Manual Prospec 54.59 76 P P 10 14 27.7 +1.3
baz=317
TPNV Topopah Spring 54.63 75 IAmb IAmb 10 14 54.4
comp=Z,6.3nm,0.8s
TPNV Topopah Spring 54.63 75 P P 10 14 28.1 +1.5
baz=316,SNR=7.3
FURC Furnace Creek, 54.64 75 P P 10 14 28.1 +1.7
baz=317,SNR=13
NLU North Lily Min 54.76 69 IAmb IAmb 10 14 30.2
comp=Z,3.7nm,0.8s
PSUT Pine Spring 54.81 72 IAmb IAmb 10 14 47.4
comp=Z,5.3nm,0.8s
LRMC Laurel Mtn Rad 54.90 77 P P 10 14 29.9 +1.4
baz=317
GWY Greenwater Val 54.95 75 IAmb IAmb 10 14 44.5
comp=Z,7.1nm,0.8s
MPU Maple Canyon 54.95 69 IAmb IAmb 10 14 31.3
comp=Z,5.8nm,0.8s
QSM Queen of Sheba 55.00 76 IAmb IAmb 10 14 42.9
comp=Z,5.6nm,0.8s
EDW2 Edwards Air Fo 55.16 78 P P 10 14 31.5 +1.1
baz=317
SFJD Kangerlussuaq 55.38 16 LR LR 10 40 13.7
comp=Z,80nm,19.3s,baz=354,slow=38
SHOC Shoshone, Teco 55.38 75 P P 10 14 33.1 +1.2
baz=317
ULM Lac du Bonnet 55.39 50 P P 10 14 31.8 +0.1
comp=Z,5.4nm,0.7s,baz=306,slow=10,SNR=3.2
comp=Z,5.4nm,0.7s
KIRV Kirov 55.45 325 LR LR 10 40 35.0
comp=Z,163nm,18.5s,baz=40,slow=39
GSC Goldstone, Bar 55.52 76 IAmb IAmb 10 14 35.2
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 55.52 76 P P 10 14 34.3 +1.3
baz=317,SNR=6.3
TCRU Three Creeks R 55.52 70 IAmb IAmb 10 15 07.2
comp=Z,6.0nm,0.8s
CCUT Cedar City 55.79 72 IAmb IAmb 10 14 49.1
comp=Z,4.7nm,0.8s
BFSC Mount Baldy Ra 55.81 78 P P 10 14 36.1 +0.9
baz=318
P17A Butcher Ranch, 55.82 69 IAmb IAmb 10 14 51.9
comp=Z,6.3nm,0.9s
TUQ Turquoise Moun 55.91 76 P P 10 14 37.3 +1.4
baz=317
RSSD Black Hills 55.95 60 P P 10 14 35.8 -0.3
RSSD IAmb IAmb 10 14 41.7
comp=Z,6.2nm,1.1s
RSSD Black Hills 55.95 60 P P 10 14 35.8 -0.3
RSSD pmax pmax
comp=Z,6.0nm,1.1s
P18A Preston Nutter 55.97 68 IAmb IAmb 10 14 40.7
comp=Z,5.9nm,0.9s

Q16A	**Castle Valley**	**55.99**	**69**	IAmb	IAmb	10 14 39.7			
	comp=Z,5.5nm,0.8s								
TNCH	**TengChong**	**56.42**	**266**	*eP*	**P**	**10 14 40.0**	**+0.4**		
TNCH				pP	pP	10 14 46.3	-0.3		
TNCH				pmax	pmax				
	comp=Z,58nm,0.6s								
PKCU	**Pink Cliffs**	**56.44**	**71**	P	**P**	**10 14 40.2**	**+0.4**		
PKCU				IAmb	IAmb	10 14 54.3			
	comp=Z,6.4nm,0.8s								
KNB	**Kanab**	**56.47**	**72**	IAmb	IAmb	10 15 02.5			
	comp=Z,7.4nm,1.1s								
GMRC	**Granite Mounta**	**56.53**	**76**	P	**P**	**10 14 41.4**	**+1.1**		
	baz=318,SNR=5.6								
KLMR	**Klimovskoe**	**56.62**	**331**	*eP*	**P**	**10 14 40.1**	**-0.3**		
KLMR				AMP		10 14 50.7			
	comp=Z,57nm,2.3s								
KLMR	**Klimovskoe**	**56.62**	**331**	*eP*	**P**	**10 14 40.0**	**-0.3**		
KLMR				pmax	pmax				
	comp=Z,57nm,2.3s								
O20A	**White River Ci**	**56.67**	**66**	P	**P**	**10 14 42.2**	**+0.9**		
	baz=317,SNR=7.6								
AGMN	**Agassiz Nation**	**56.82**	**52**	P	**P**	**10 14 42.6**	**+0.6**		
	baz=318								
BELC	**Belle Mtn. Jos**	**56.92**	**77**	P	**P**	**10 14 43.8**	**+0.7**		
	baz=318								
IRM	**Iron Mountain**	**57.28**	**76**	P	**P**	**10 14 47.1**	**+1.6**		
	baz=318								
N23A	**Red Feather La**	**57.32**	**64**	IAmb	IAmb	10 14 48.1			
	comp=Z,6.9nm,0.8s								
N23A	**Red Feather La**	**57.32**	**64**	P	**P**	**10 14 47.3**	**+1.3**		
	baz=317,SNR=6.3								
PV23	**Carpenter Ridg**	**57.49**	**68**	P	**P**	**10 14 47.4**	**+0.3**		
PV23				IAmb	IAmb	10 14 53.3			
	comp=Z,6.1nm,0.7s								
PV13	**Radium Mtn., P**	**57.80**	**68**	IAmb	IAmb	10 14 51.4			
	comp=Z,6.4nm,0.7s								
WUAZ	**Wupatki**	**58.37**	**72**	P	**P**	**10 14 55.2**	**+2.0**		
	baz=318								
MVCO	**Mesa Verde**	**58.67**	**69**	P	**P**	**10 14 56.5**	**+1.0**		
	baz=318								
EYMN	**Ely**	**59.03**	**50**	P	**P**	**10 14 57.9**	**+0.4**		
	baz=320								
S22A	**4UR Ranch, Cre**	**59.17**	**67**	P	**P**	**10 15 00.8**	**+1.9**		
	baz=318,SNR=6.2								
FINES	**FINESS Array B**	**59.39**	**338**	P	**P**	**10 14 59.2**	**-0.5**		
	comp=Z,4.8nm,1.1s,baz=31,slow=11,SNR=5.2								
FINES				LR	LR	10 43 59.2			
	comp=Z,55nm,18.9s,baz=34,slow=40								
	comp=Z,4.8nm,1.1s								
SDCO	**Great Sand Dun**	**59.87**	**66**	P	**P**	**10 15 05.5**	**+1.7**		
	baz=318								
X18A	**Snowflake**	**59.88**	**72**	IAmb	IAmb	10 15 06.0			
	comp=Z,3.5nm,0.7s								
BELG	**Belogornoye**	**61.00**	**321**	P	**P**	**10 15 10.5**	**-0.4**		
	comp=Z,12nm,0.9s,baz=50,slow=5.5,SNR=2.3								
BELG				LR	LR	10 44 09.8			
	comp=Z,242nm,18.2s,baz=33,slow=39								
	comp=Z,12nm,0.9s								
BELG	**Belogornoye**	**61.00**	**321**	*i* P	**P**	**10 15 08.6**	**-2.3**		
BELG				pmax	pmax				
	comp=Z,5.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**61.33**	**261**	P	**P**	**10 15 15.2**	**+1.6**		
	comp=Z,2.1nm,0.3s,baz=24,slow=8.1,SNR=5.6								
CMAR				LR	LR	10 44 36.5			
	comp=Z,155nm,18.5s,baz=55,slow=39								
	comp=Z,2.1nm,0.3s								
ANMO	**Albuquerque**	**61.46**	**69**	P	**P**	**10 15 11.7**	**-2.9**		
ANMO				pmax	pmax				
	comp=Z,13nm,4.3s								
JIRN	**Jiri**	**61.48**	**278**	*eP*	**P**	**10 15 18.3**	**+3.3**		
	comp=Z,6.9nm,0.4s								
RAMN	**Ramite**	**61.79**	**277**	*eP*	P	10 15 28.7	+12		
	comp=Z,27nm,0.6s								
PKI	**Pulchoki**	**61.99**	**279**	*eP*	**P**	**10 15 17.1**	**-1.3**		
PKIN	**Phulchoki**	**61.99**	**279**	*eP*	**P**	**10 15 18.1**	**-0.2**		
GKN	**Gorkha**	**62.10**	**280**	*eP*	P	10 15 13.0	-5.9		
DMN	**Daman**	**62.13**	**279**	*eP*	**P**	**10 15 16.7**	**-2.5**		
BRDH	**Bariadhala**	**62.19**	**270**	LR	LR	10 46 28.9			
	comp=Z,140nm,18.6s,baz=73,slow=40								
DANN	**Dangsing**	**62.33**	**280**	*eP*	P	10 15 14.7	-5.9		
NB2	**NORSAR Subarra**	**62.38**	**346**	P	**P**	**10 15 19.4**	**-0.7**		
	comp=Z,1.1nm,0.6s,baz=17,slow=6.9								
NOA	**NORSAR Array B**	**62.38**	**346**	P	**P**	**10 15 18.8**	**-1.4**		
	comp=Z,2.2nm,0.8s,baz=17,slow=6.9,SNR=5.3								
NOA				LR	LR	10 44 10.9			
	comp=Z,61nm,19.9s,baz=10.0,slow=38								
	comp=Z,2.2nm,0.8s								
SCHQ	**Schefferville**	**62.54**	**31**	P	**P**	**10 15 20.4**	**-0.8**		
	comp=Z,2.6nm,0.7s,baz=15,slow=9.6,SNR=3.5								
SCHQ				LR	LR	10 46 57.4			
	comp=Z,103nm,18.2s,baz=304,slow=40								
	comp=Z,2.6nm,0.7s								
HFS	**Hagfors**	**62.88**	**344**	LR	LR	10 42 53.6			
	comp=Z,76nm,21.6s,baz=32,slow=36								
PYUN	**Piuthan**	**62.96**	**281**	*eP*	**P**	**10 15 24.7**	**0.0**		
	comp=Z,78nm,1.0s								
KSU1	**Kansas State U**	**63.40**	**59**	P	**P**	**10 15 26.8**	**-0.3**		
	baz=321								
MSTX	**Muleshoe**	**64.17**	**67**	P	**P**	**10 15 33.1**	**+0.6**		
	baz=320								
HNR	**Honiara**	**64.39**	**185**	LR	LR	10 38 45.7			
	comp=Z,2μm,20.7s,baz=356,slow=31								
VORR	**Voronezh**	**64.47**	**326**	*eP*	**P**	**10 15 35.3**	**+1.3**		
VORR				pmax	pmax				
	comp=Z,60nm,0.4s								
WMOK	**Wichita Mounta**	**65.67**	**64**	IAmb	IAmb	10 15 43.9			
	comp=Z,6.0nm,0.8s								
WMOK	**Wichita Mounta**	**65.67**	**64**	P	**P**	**10 15 42.6**	**+0.4**		
	baz=321,SNR=8.3								
HDIL	**Hopedale**	**65.76**	**54**	P	**P**	**10 15 42.7**	**+0.1**		
	baz=323								
PMG	**Port Moresby**	**65.94**	**199**	LR	LR	10 38 19.7			
	comp=Z,344nm,21.9s,baz=358,slow=30								
ABTX	**Abilene, Hawle**	**66.87**	**66**	IAmb	IAmb	10 15 51.5			
	comp=Z,5.0nm,0.8s								
ABTX	**Abilene, Hawle**	**66.87**	**66**	P	**P**	**10 15 50.0**	**+0.1**		
	baz=322,SNR=5.9								
HHAR	**Hobbs**	**66.92**	**60**	IAmb	IAmb	10 16 00.6			
	comp=Z,3.8nm,0.8s								
MGMO	**Mountain Grove**	**67.05**	**58**	IAmb	IAmb	10 16 01.4			
	comp=Z,4.2nm,0.7s								
TX31	**Lajitas Ar. Si**	**67.28**	**71**	P	**P**	**10 15 52.8**	**+0.3**		
TX32	**Lajitas Array**	**67.28**	**71**	IAmb	IAmb	10 15 54.5			
	comp=Z,4.6nm,0.8s								
TXAR	**Lajitas Array**	**67.28**	**71**	P	**P**	**10 15 53.4**	**+0.9**		
	comp=Z,5.2nm,0.8s,baz=299,slow=4.4,SNR=56								
	comp=Z,5.2nm,0.8s								
LPIG	**La Paz**	**67.67**	**80**	LR	LR	10 41 43.6			
	comp=Z,59nm,19.5s,baz=335,slow=33								
FCAR	**Ozark Folk Cen**	**68.12**	**59**	IAmb	IAmb	10 15 57.8			
	comp=Z,6.2nm,0.8s								
AKASG	**Malin Array Be**	**68.31**	**331**	P	**P**	**10 15 58.8**	**+0.2**		
	comp=Z,0.8nm,0.6s,baz=19,slow=28,SNR=2.4								
	comp=Z,0.8nm,0.6s								
JCT	**Junction City**	**68.46**	**68**	IAmb	IAmb	10 16 07.8			
	comp=Z,4.6nm,0.8s								
JCT	**Junction City**	**68.46**	**68**	P	**P**	**10 16 00.5**	**+0.5**		
	baz=322								
MIAR	**Mount Ida**	**68.47**	**60**	P	**P**	**10 16 00.1**	**+0.3**		
MIAR				IAmb	IAmb	10 16 33.2			
	comp=Z,9.4nm,1.3s								
MIAR	**Mount Ida**	**68.47**	**60**	P	**P**	**10 16 00.2**	**+0.3**		
	baz=323								
MIAR	**Mount Ida**	**68.47**	**60**	P	**P**	**10 16 00.1**	**+0.3**		
MIAR				pmax	pmax				
	comp=Z,9.0nm,1.3s								
WHAR	**Wooly Hollow**	**68.52**	**59**	P	**P**	**10 16 00.2**	**+0.1**		
WHAR				IAmb	IAmb	10 16 11.8			
	comp=Z,5.4nm,0.8s								
PARMO	**Parma**	**68.65**	**56**	P	**P**	**10 16 01.3**	**+0.4**		
E62A	**Clayton Lake**	**68.78**	**37**	P	**P**	**10 16 01.1**	**-0.5**		
MAK	**Makhachkala**	**68.84**	**316**	*eP*	**P**	**10 15 58.6**	**-3.4**		
MAK				*eS*	**S**	**10 25 00.5**	**-3.3**		
MAK				pmax	pmax				
	comp=Z,655nm,2.3s								
KIV	**Kislovodsk**	**69.87**	**319**	*eP*	P	10 16 03.6	-4.9		
KIV				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,107nm,17.0s								
KBZ	**Khabaz**	**69.98**	**319**	LR	LR	10 51 03.5			
	comp=Z,192nm,18.9s,baz=32,slow=40								
WVT	**Waverly**	**70.00**	**55**	P	**P**	**10 16 09.5**	**+0.2**		
WVT				IAmb	IAmb	10 16 22.0			
	comp=Z,8.1nm,1.1s								
WVT	**Waverly**	**70.00**	**55**	P	**P**	**10 16 09.6**	**+0.2**		
	baz=324								
WVT	**Waverly**	**70.00**	**55**	P	**P**	**10 16 09.5**	**+0.2**		
WVT				pmax	pmax				
	comp=Z,8.0nm,1.2s								
CLTN	**Cedars of Leba**	**70.73**	**54**	IAmb	IAmb	10 16 14.9			
	comp=Z,6.5nm,0.8s								
V48A	**Smith Brothers**	**70.79**	**55**	IAmb	IAmb	10 16 26.2			
	comp=Z,7.0nm,0.8s								
CLL	**Collm**	**71.45**	**342**	*eP*	**P**	**10 16 18.0**	**+0.2**		
CLL				*eP*	**pP**	**10 16 26.0**	**+1.1**		
CLL				LmV		10 48 00.0			
	comp=Z,100nm,21.9s								
CLL	**Collm**	**71.45**	**342**	*eP*	**P**	**10 16 18.0**	**+0.2**		
CLL				*e**SP	**pP**	**10 16 26.0**	**+1.1**		
W50A	**Signal Mountai**	**71.94**	**54**	IAmb	IAmb	10 16 35.5			
	comp=Z,6.9nm,0.8s								
TKL	**Tuckaleechee C**	**72.27**	**53**	LR	LR	10 49 51.8			
	comp=Z,104nm,19.8s,baz=334,slow=37								
GNI	**Garni**	**72.32**	**316**	LR	LR	10 51 56.8			
	comp=Z,201nm,18.6s,baz=26,slow=39								
Y49A	**Blount Mountai**	**72.52**	**56**	IAmb	IAmb	10 16 36.7			
	comp=Z,9.9nm,1.0s								
VRAC	**Vranov**	**72.66**	**339**	LR	LR	10 51 53.5			
	comp=Z,121nm,20.2s,baz=24,slow=39								
VYHS	**Vyhne**	**72.95**	**337**	*eP*	**P**	**10 16 31.5**	**+4.6**		
VYHS	**Vyhne**	**72.95**	**337**	*eP*	**P**	**10 16 31.5**	**+4.6**		
MTN	**Manton Dam**	**73.40**	**214**	P	**P**	**10 16 30.5**	**+0.7**		
GERES	**GERESS Array B**	**73.68**	**341**	P	**P**	**10 16 30.8**	**-0.5**		
	comp=Z,0.8nm,0.7s,baz=50,slow=9.2,SNR=2.2								
GERES				LR	LR	10 53 40.1			
	comp=Z,72nm,18.6s,baz=52,slow=40								
	comp=Z,0.8nm,0.7s								
MLR	**Muntele Rosu**	**73.97**	**331**	LR	LR	10 51 39.1			
	comp=Z,190nm,18.2s,baz=54,slow=38								
CONA	**Conrad Observa**	**74.12**	**339**	*eP*	P	10 16 46.9	+13		
	comp=Z,4.3nm,1.2s								
RONA	**Rosalia, Austr**	**74.25**	**339**	*eP*	P	10 16 46.8	+12		
	comp=Z,6.5nm,1.5s								
152A	**Waverly Hall**	**74.30**	**55**	IAmb	IAmb	10 16 47.1			
	comp=Z,8.0nm,0.8s								
KBA	**Koelnbreinsper**	**75.44**	**340**	*eP*	P	10 16 48.5	+6.8		
	comp=Z,9.4nm,0.8s								
WATA	**Walderalm**	**75.53**	**342**	*eP*	P	10 16 54.9	+13		
	comp=Z,2.0nm,0.5s								
MOTA	**Moosalm**	**75.60**	**342**	*eP*	P	10 16 54.1	+12		
	comp=Z,4.5nm,0.8s								
SQTA	**Sankt Quirin**	**75.70**	**342**	*eP*	P	10 16 53.7	+11		
	comp=Z,2.6nm,0.6s								
OBKA	**Obir**	**75.75**	**339**	*eP*	**P**	**10 16 44.8**	**+1.4**		
	comp=Z,5.7nm,0.7s								
ABTA	**Abfaltersbach**	**75.92**	**341**	*eP*	P	10 16 53.8	+9.5		
	comp=Z,7.2nm,0.9s								
FETA	**Feichten**	**75.98**	**342**	*eP*	P	10 16 58.0	+13		
	comp=Z,5.4nm,1.0s								
DAVOX	**Davos/Dischmat**	**76.36**	**343**	LR	LR	10 54 24.7			
	comp=Z,118nm,19.6s,baz=68,slow=39								
CTA	**Charters Tower**	**76.53**	**198**	LR	LR	10 53 01.6			
	comp=Z,14nm,18.7s,baz=77,slow=38								
BRTR	**Keskin Array B**	**76.82**	**323**	P	**P**	**10 16 49.4**	**-0.2**		
	comp=Z,1.4nm,0.8s,baz=66,slow=3.1,SNR=4.3								
BRTR				LR	LR	10 56 45.3			
	comp=Z,84nm,18.8s,baz=56,slow=41								
	comp=Z,1.4nm,0.8s								
DZM	**Mont Dzumac**	**76.83**	**179**	LR	LR	10 46 38.8			
	comp=Z,94nm,19.2s,baz=14,slow=32								
WB0	**Warramunga Arr**	**78.95**	**209**	P	**P**	**10 17 01.6**	**+0.4**		
WB0				IAmb	IAmb	10 17 02.7			
	comp=Z,8.9nm,1.1s								
WR0	**Warramunga Arr**	**79.09**	**209**	P	**P**	**10 17 02.7**	**+0.6**		
WR0				IAmb	IAmb	10 17 13.6			
	comp=Z,6.4nm,1.0s								
WRAB	**Tennant Creek**	**79.12**	**209**	P	**P**	**10 17 02.8**	**+0.6**		
WRAB				IAmb	IAmb	10 17 03.7			
	comp=Z,8.7nm,0.9s								
WRAB	**Tennant Creek**	**79.12**	**209**	P	**P**	**10 17 02.8**	**+0.6**		
WRAB				pmax	pmax				
	comp=Z,9.0nm,1.0s								
WB2	**Warramunga Ar**	**79.13**	**209**	IAmb	IAmb	10 17 04.3			
	comp=Z,9.4nm,1.0s								
WRA	**Warramunga Arr**	**79.13**	**209**	P	**P**	**10 17 02.8**	**+0.5**		
	comp=Z,5.7nm,0.9s,baz=23,slow=5.9,SNR=28								
WRA				LR	LR	10 49 01.5			
	comp=Z,30nm,21.8s,baz=13,slow=33								
	comp=Z,5.7nm,0.9s								
WSAR	**Wadi Sarin**	**80.06**	**296**	LR	LR	10 55 35.9			
	comp=Z,140nm,18.6s,baz=76,slow=38								
PALK	**Pallekele**	**80.77**	**269**	LR	LR	10 57 54.3			
	comp=Z,62nm,19.3s,baz=114,slow=39								
PPT	**Papeete**	**82.00**	**137**	LR	LR	10 43 56.7			
	comp=Z,54nm,21.9s,baz=324,slow=28								
MMAI	**Mount Meron Ar**	**82.18**	**319**	LR	LR	10 59 09.9			
	comp=Z,83nm,18.2s,baz=199,slow=40								
AS31	**Alice Springs**	**82.78**	**208**	P	**P**	**10 17 22.7**	**+0.9**		
ASAR	**Alice Springs**	**82.79**	**208**	P	**P**	**10 17 23.1**	**+1.3**		
	comp=Z,7.5nm,0.9s,baz=15,slow=4.9,SNR=47								
ASAR				LR	LR	10 54 32.6			
	comp=Z,24nm,18.9s,baz=327,slow=36								
	comp=Z,7.5nm,0.9s								
ASAR	**Alice Springs**	**82.79**	**208**	P	**P**	**10 17 22.3**	**+0.5**		
ASAR	**Alice Springs**	**82.79**	**208**	P	**P**	**10 17 22.3**	**+0.5**		
IDI	**Anoyia**	**83.70**	**328**	LR	LR	11 00 53.3			
	comp=Z,42nm,19.1s,baz=38,slow=40								
ESDC	**Sonseca Array**	**85.15**	**351**	P	**P**	**10 17 34.5**	**+0.6**		
	comp=Z,1.7nm,0.9s,baz=360,slow=5.7,SNR=8.2								
	comp=Z,1.7nm,0.9s								
STKA	**Stephens Creek**	**88.88**	**200**	LR	LR	10 50 51.0			
	comp=Z,41nm,21.9s,baz=22,slow=31								
MDT	**Midelt**	**92.02**	**351**	LR	LR	11 01 47.6			
	comp=Z,13nm,18.2s,baz=349,slow=37								
JTS	**Las Juntas de**	**92.85**	**68**	LR	LR	11 03 01.0			
	comp=Z,27nm,18.4s,baz=36,slow=38								
SJG	**San Juan**	**95.23**	**48**	LR	LR	11 03 59.8			
	comp=Z,62nm,19.8s,baz=319,slow=37								
RPZ	**Rata Peaks**	**98.54**	**176**	LR	LR	11 02 00.6			
	comp=Z,67nm,18.4s,baz=316,slow=35								
QSPA	**South Pole Qui**	**144.81**	**180**	PKPbc	**PKPab**	**10 24 31.9**	**-0.4**		
	comp=Z,9.5nm,1.0s,baz=334,slow=1.7,SNR=18								

IDC 26 10:06:17.0±35.0, 35°46.N×70°79.E, h159km±155km, mb3.5/3, mbtmp3.9/5, ML3.5/2, MS3.0/1, Error ellipse: s-maj=431.0km s-min=105.5km az=172.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**7.72**	**21**	P	Pn	10 08 06.7	-0.1
	2.3nm,0.3s,baz=160,slow=6.7,SNR=8.2						
	5.4nm,0.3s						
MKAR	**Makanchi Array**	**14.24**	**34**	P	Pn	10 09 31.7	+0.3
	0.1nm,0.3s,baz=209,slow=10,SNR=2.0						
	1.8nm,1.2s						
ZALV	**Zalesovo Beam**	**20.93**	**24**	LR	LR	10 20 00.2	
	comp=Z,37nm,18.7s,baz=78,slow=39						
FINES	**FINESS Array B**	**38.25**	**327**	P	P	10 13 21.6	+0.2
	1.9nm,0.8s,baz=106,slow=10,SNR=4.5						
	1.9nm,0.8s						
ARCES	**ARCESS Array B**	**42.04**	**338**	P	P	10 13 51.8	-0.6
	4.4nm,1.0s,baz=119,slow=7.5,SNR=5.6						
	4.4nm,1.0s						
NOA	**NORSAR Array B**	**45.11**	**324**	P	P	10 14 17.2	+0.1
	0.7nm,0.8s,baz=103,slow=8.3,SNR=1.5						
	0.7nm,0.8s						

*IDC **26** 10:07:57.1±0.8, 37.°32N×141.°47E, h0km, mb4.1/14, mbtmp4.1/16, ML3.5/2, Error ellipse: s-maj=22.9km s-min=17.1km az=114.0*
*JMA **26** 10:07:59.1±0.2, 37.°3N±0.°3×141.°6E±0.°9, h32km±1km, MD4.3/40, MV4.3/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **26** 10:07:59.1, 37.°32N×141.°57E, h32km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.79; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$5.33; $M_{r\theta}$-0.99; $M_{\theta\phi}$2.16; $M_{\theta r}$-0.90; Fault plane solution: $M_0$5.60000×10^{14} NP1: ϕ_s188.00000°, δ40.00000°, λ-105.00000°. NP2: ϕ_s28.00000°, δ52.00000°, λ-78.00000°.*

ISC 26 10:07:58.7±1.7, 37.°32N±0.°04×141.°56E±0.°06, h11km±9km, n61, σ1°§08/46, mb4.0/14, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.55**	**275**	⇓*i* P	**Pg**	**10 08 10.2**	**+0.8**
JFK				⇓S	**Sg**	**10 08 17.8**	**+1.1**
JFK	**Kawauchi**	**0.55**	**275**	A	A	10 08 10.2	
	comp=E,27nm,0.6s,comp=E,11nm,0.7s						

*IDC **26** 10:07:58.3±0.7, 39.°04N×74.°26E, h0km, mb4.2/18, mbtmp4.3/24, ML3.8/5, MS3.3/6, Error ellipse: s-maj=13.9km s-min=13.1km az=142.0*
*MOS **26** 10:07:59.5±1.3, 39.°06N×74.°17E, h12km, mb4.6/19, Error ellipse: s-maj=5.8km s-min=3.9km az=89.5*
*SOME **26** 10:07:59.8, 39.°23N×74.°47E, h10km, MS4.0*
*NEIC **26** 10:08:01.6±2.2, 39.°25N±0.°05×74.°22E±0.°05, h10km±1km, mb4.6/62, Error ellipse: s-maj=9.1km s-min=6.3km az=200.0*
*BJI **26** 10:08:01.0±0.0, 39.°13N×74.°28E, h7km, mb4.4/29, mB4.6/15, ML4.0/4, Ms4.1/12, Ms7 3.8/12*
*KRNET **26** 10:08:02.4±0.1, 39.°30N×74.°18E, mb4.8*
*NNC **26** 10:08:05.3±1.9, 39.°45N×74.°34E, h0km, mb5.2, mpv4.8, Error ellipse: s-maj=14.7km s-min=9.2km az=168.0*

ISC 26 10:07:58.7±1.3, 38.°99N±0.°03×74.°15E±0.°03, h0km±8km, n298, σ1°§70/334, mb4.6/61, MS3.4/6, 37C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.52**	**69**	Pg	Pn	10 08 17.5	-10
KSH				Sg	Sn	10 08 30.8	-17
KSH				smax	smax		
	comp=N,2μm,0.8s						
KSH				smax	smax		
	comp=E,2μm,1.0s						
OHH	**Osh**	**1.86**	**326**	⇑*e*P	**Pn**	**10 08 32.7**	**+0.8**
	baz=19						
OHH				⇑*i*S	**Sn**	**10 08 54.7**	**-1.5**
	baz=19						
OHH	**Osh**	**1.86**	**326**	PN	**Pn**	**10 08 32.6**	**+0.7**
DRK	**Karamyk**	**1.89**	**286**	⇑*e*P	**Pg**	**10 08 36.8**	**+1.9**
	baz=76						
DRK				⇑*i*S	**Sg**	**10 09 01.9**	**+2.6**

JMST	**Minamisoumatoc**	**0.67**	**307**	⇓*i* P	**Pg**	**10 08 12.0**	**+0.2**		
JMST				⇓S	**Sg**	**10 08 21.2**	**+0.6**		
JMST	**Minamisoumatoc**	**0.67**	**307**	A	A	10 08 12.0			
	comp=E,23nm,0.9s,comp=E,29nm,0.3s								
JMM	**Marumori**	**0.82**	**312**	P	**Pg**	**10 08 14.3**	**-0.3**		
JMM	**Marumori**	**0.82**	**312**	⇓*i* P	**Pg**	**10 08 14.3**	**-0.3**		
JMM				⇓S	**Sg**	**10 08 25.2**	**0.0**		
JMM	**Marumori**	**0.82**	**312**	A	A	10 08 14.3			
	comp=E,13nm,0.3s,comp=E,18nm,0.6s								
JFFD	**Fukushimafurud**	**0.83**	**255**	⇓*i* P	**Pg**	**10 08 14.5**	**-0.2**		
JFFD				⇓S	**Sg**	**10 08 25.3**	**-0.3**		
JFFD	**Fukushimafurud**	**0.83**	**255**	A	A	10 08 14.5			
	comp=E,5.0nm,2.5s,comp=E,4.0nm,0.8s								
JHO	**Hitachi**	**1.06**	**229**	*i* P	**Pb**	**10 08 17.6**	**-1.5**		
JHO				S	**Sb**	**10 08 31.5**	**-1.5**		
JIO	**Ouri**	**1.15**	**352**	*i* P	**Pb**	**10 08 19.0**	**-1.6**		
JIO				S	**Sb**	**10 08 34.0**	**-1.5**		
JOU	**Okura**	**1.27**	**326**	⇓P	**Pn**	**10 08 21.9**	**-0.5**		
JOU				⇓S	**Sb**	**10 08 38.8**	**-0.1**		
JOU	**Okura**	**1.27**	**326**	A	A	10 08 21.9			
	comp=E,12nm,0.6s,comp=E,10.0nm,0.7s								
JYAR	**Yonezawaarcadi**	**1.27**	**298**	A	A	10 08 21.3			
	comp=E,15nm,0.6s,comp=E,21nm,1.2s								
JSB	**Shiboa**	**1.36**	**256**	A	A	10 08 22.6			
	comp=E,12nm,1.2s,comp=E,7.0nm,1.4s								
JOFO	**Osakifurukawao**	**1.38**	**338**	A	A	10 08 22.9			
	comp=E,22nm,0.8s,comp=E,14nm,2.5s								
JFY	**Yanaizu**	**1.48**	**274**	*i* P	**Pn**	**10 08 25.1**	**-0.2**		
JFY				S	**Sn**	**10 08 44.7**	**0.0**		
JYS	**Shirataka**	**1.49**	**308**	⇓*i* P	**Pn**	**10 08 25.6**	**+0.1**		
JYS				⇓S	**Sn**	**10 08 45.5**	**+0.7**		
JYS	**Shirataka**	**1.49**	**308**	A	A	10 08 25.6			
	comp=E,9.0nm,1.4s,comp=E,8.0nm,1.2s								
JYT	**Yasato**	**1.54**	**226**	A	A	10 08 25.4			
	comp=E,5.0nm,0.4s,comp=E,5.0nm,1.3s								
JIHU	**Itakohorinouch**	**1.58**	**212**	A	A	10 08 25.9			
	comp=E,14nm,1.0s,comp=E,11nm,2.2s								
JMK	**Ichinoseki**	**1.66**	**351**	A	A	10 08 26.9			
	comp=E,6.0nm,5.2s,comp=E,3.0nm,5.3s								
JYK	**Kaneyama**	**1.86**	**330**	A	A	10 08 29.9			
	comp=E,4.0nm,0.9s,comp=E,3.0nm,1.1s								
JYA	**Atsumi**	**1.94**	**312**	A	A	10 08 31.1			
	comp=E,7.0

baz=76
DRK Karamyk 1.89 286 Pb 10 08 34.2 0.0
BTK Batken 2.79 294⇑ eP Pb 10 08 48.7 -0.7
baz=87
BTK ⇑ iS **Sb 10 09 22.7 -1.5**
baz=87
BTK Batken 2.79 294 Pn 10 08 46.3 +1.6
BTK Batken 2.79 294 PN Pn 10 08 46.3 +1.6
NRN Naryn 2.83 30 Pn 10 08 45.6 +0.2
NRN Naryn 2.83 30 PN Pn 10 08 45.7 +0.2
ARLS Aral 2.88 3⇑ eP Pn 10 08 46.7 +0.8
baz=3.0
ARLS ⇑ iS **Sn 10 09 19.3 -2.0**
baz=3.0
GAR Garm 2.98 271⇑ eP Pb 10 08 53.4 +0.6
baz=65
GAR ⇑ iS **Sb 10 09 30.5 +0.7**
baz=65
GAR Garm 2.98 271 Pn 10 08 50.2 +2.8
AML Almayashu 3.16 354 P Pb 10 08 53.6 -2.4
SNR=22
UCH Uchtor 3.25 5 P Pn 10 08 54.2 +2.8
SNR=34
UCH Uchtor 3.25 5⇑ eP Pn 10 08 52.1 +0.7
baz=5.0
UCH ⇑ iS **Sn 10 09 28.7 -2.3**
baz=5.0
ARK Arkit 3.27 330⇑ eP Pn 10 08 53.2 +1.9
baz=27
ARK ⇑ iS **Sn 10 09 30.2 -0.7**
baz=27
ARK Arkit 3.27 330 PN Pn 10 08 48.4 -2.9
TRKS Terek-Say 3.43 319⇑ iP Pn 10 08 55.3 +1.8
baz=14
TRKS ⇑ iS **Sn 10 09 33.5 -1.4**
baz=14
ULHL Ulahol 3.63 25 P Pb 10 09 02.8 -1.0
SNR=25
AAK Ala-Archa 3.66 4 P Pn 10 08 59.6 +2.9
SNR=68
AAK Ala-Archa 3.66 4 Pn Pn 10 08 59.5 +2.9
34nm,0.3s,baz=159,slow=7.2,SNR=63
AAK Lg Lg 10 09 49.9
27nm,0.3s,baz=85,slow=15,SNR=7.1
98nm,0.5s
AAK Ala-Archa 3.66 4 Pn 10 08 56.8 +0.1
AAK Ala-Archa 3.66 4 ce PN Pn 10 08 58.5 +1.8
AAK pmax pmax
comp=Z,98nm,0.6s
EKS2 Erkin-Say 3.68 356 P Pn 10 09 00.2 +3.2
SNR=30
KBK Karagaybulak 3.72 9 P Pn 10 08 59.6 +2.1
SNR=58
BOOM Boomskoye usch 3.76 21 Pn 10 08 56.5 -1.6
BOOM Boomskoye usch 3.76 21 PN Pn 10 08 56.5 -1.6
MRKS Merke 3.82 350 eP Pb 10 09 06.4 -0.6
comp=Z,74nm,0.3s
MRKS eS **Sb 10 09 54.3 +0.4**
comp=Z,283nm,0.7s
MRKS Merke 3.82 350 Pg Pb 10 09 06.4 -0.6
comp=Z,74nm,0.3s
MRKS Lg Lg 10 09 55.4
comp=Z,283nm,0.7s
CHGR Chuyangaron 3.91 267 Pn Pn 10 09 03.3 +3.2
CHGR Chuyangaron 3.91 267 PN Pn 10 09 03.3 +3.2
TARG Taragay, Kyrgy 3.92 44 Pn 10 09 00.8 +0.3
TARG Taragay, Kyrgy 3.92 44 PN Pn 10 09 00.8 +0.3
CHMS Chumysh 4.04 6 P Pn 10 09 04.7 +2.9
SNR=28
TKM2 Tokmak 2 4.08 15 P Pn 10 09 03.9 +1.4
SNR=68
TKM2 Tokmak 2 4.08 15 ⇑Pn Pn 10 09 03.8 +1.2
comp=Z,186nm,0.8s
TKM2 ⇑Lg Lg 10 10 01.1
comp=Z,187nm,0.8s
TKM2 Tokmak 2 4.08 15 PN Pn 10 09 03.8 +1.2
USP Ospenovka 4.29 3 P Pn 10 09 08.1 +2.9
SNR=23
TAS Tashkent 4.39 304 Pn 10 09 07.6 +1.0
TAS Tashkent 4.39 304 PN Pn 10 09 07.6 +1.0
DGS Degeres 4.43 16 eP Pb 10 09 16.9 -0.5
comp=Z,182nm,0.5s
DGS eS **Sb 10 10 12.0 +0.7**
comp=Z,172nm,1.1s
DGS Degeres 4.43 16 Pg Pb 10 09 16.9 -0.5
comp=Z,182nm,0.5s
DGS Lg Lg 10 10 12.0
comp=Z,172nm,1.1s
IUG luzhnay 4.45 317 eP Pg 10 09 21.5 -2.4
comp=Z,276nm,0.5s
IUG eS **Sg 10 10 20.7 -0.9**
comp=Z,508nm,0.1s
IUG luzhnay 4.45 317 ePn Pn 10 09 10.2 +2.7
baz=316
IUG ePg **Pb 10 09 19.1 +1.3**
baz=316
IUG luzhnay 4.45 317 Pg Pb 10 09 19.1 +1.3
comp=Z,276nm,0.5s
IUG Lg Lg 10 10 14.8
comp=Z,487nm,0.7s
IUG luzhnay 4.45 317 ePN Pn 10 09 10.2 +2.7
IUG e 10 09 19.1
IZV Izvestkoviy 4.46 24 eP Pb 10 09 16.1 -1.9
comp=Z,201nm,0.8s
IZV eS **Sb 10 10 10.7 -1.6**
comp=Z,164nm,0.7s
IZV Izvestkoviy 4.46 24 Pg Pb 10 09 18.5 +0.6
comp=Z,201nm,0.8s
IZV Lg Lg 10 10 15.3
comp=Z,164nm,0.7s
SGDS Sogindy 4.48 5 eP Pb 10 09 18.2 0.0
comp=Z,50nm,0.4s
SGDS eS **Sb 10 10 15.3 +2.6**
comp=Z,203nm,0.8s
SGDS Sogindy 4.48 5 ePn Pn 10 09 09.6 +1.7
baz=4.2
SGDS ePg **Pb 10 09 18.3 0.0**
baz=4.2
SGDS Sogindy 4.48 5 Pg Pb 10 09 18.2 0.0
comp=Z,50nm,0.4s
SGDS Lg Lg 10 10 15.3
comp=Z,203nm,0.8s
SGDS Sogindy 4.48 5 ePN Pn 10 09 09.5 +1.7
SGDS e 10 09 18.2
MTBS Maitube 4.49 22 eP Pb 10 09 15.7 -2.7
comp=Z,186nm,0.6s
MTBS eS **Sb 10 10 10.5 -2.5**
comp=Z,132nm,0.9s
MTBS Maitube 4.49 22 Pg Pb 10 09 18.5 +0.2
comp=Z,186nm,0.6s
MTBS Lg Lg 10 10 14.8
comp=Z,132nm,0.9s
TNSS Tian-Shan 4.57 27 eP Pb 10 09 18.8 -1.2
comp=Z,327nm,0.3s
TNSS eS **Sb 10 10 15.5 -0.2**
comp=Z,110nm,0.2s
TNSS Tian-Shan 4.57 27 ePn Pn 10 09 10.3 +0.9
baz=27
TNSS ePg **Pb 10 09 20.0 0.0**
baz=27
TNSS Tian-Shan 4.57 27 Pg Pb 10 09 20.1 +0.2
comp=Z,371nm,0.5s
TNSS Lg Lg 10 10 18.9
comp=Z,110nm,0.9s
TNSS Tian-Shan 4.57 27 ePN Pn 10 09 10.3 +0.9
TNSS e 10 09 20.0
AAA Alma-Ata 4.71 25 eP Pb 10 09 22.3 +0.1
comp=Z,376nm,0.5s
AAA eS **Sb 10 10 21.9 +2.4**
comp=Z,352nm,0.3s
AAA Alma-Ata 4.71 25 ePn Pn 10 09 12.6 +1.5
baz=25
AAA i Pg **Pb 10 09 23.2 +1.0**
baz=25
AAA Alma-Ata 4.71 25 Pg Pb 10 09 23.2 +1.0
comp=Z,376nm,0.5s
AAA Lg Lg 10 10 22.7
comp=Z,364nm,0.8s
AAA Alma-Ata 4.71 25 ePN Pn 10 09 12.5 +1.5
AAA i 10 09 23.1
MDOK Medeo 4.71 27 eP Pb 10 09 22.1 -0.2
comp=Z,248nm,0.6s
MDOK eS **Sb 10 10 21.2 +1.5**
comp=Z,139nm,0.6s
MDOK Medeo 4.71 27 i Pn Pn 10 09 12.2 +0.9
baz=27
MDOK i Pg **Pb 10 09 22.4 +0.1**
comp=Z,21nm,0.5s
MDOK Medeo 4.71 27 Pn Pn 10 09 12.2 +0.9
MDOK Pg **Pb 10 09 21.4 -0.9**
comp=Z,228nm,0.6s
MDOK Pg **Pb 10 09 22.1 -0.2**
comp=Z,248nm,0.6s
MDOK Sn **Sn 10 10 04.2 -2.5**
comp=Z,105nm,0.8s
MDOK Lg Lg 10 10 20.2
comp=Z,294nm,0.8s
MDOK Lg Lg 10 10 21.2
comp=Z,139nm,0.6s
MDOK Medeo 4.71 27 i PN Pn 10 09 12.1 +0.9
MDOK i 10 09 22.3
KNDC Almaty 4.73 26 ⇓Pn Pn 10 09 13.8 +2.4
comp=Z,62nm,0.5s
KNDC ⇑Pg **Pb 10 09 22.7 +0.1**
comp=Z,849nm,0.7s
KNDC ⇑Lg Lg 10 10 22.0
comp=Z,1μm,0.9s
KNDC Almaty 4.73 26 PN Pn 10 09 13.8 +2.4
KNDC P **Pb 10 09 22.7 +0.1**
KOTS Kotyrbulak 4.80 27 eP Pb 10 09 24.1 +0.3
comp=Z,206nm,0.7s
KOTS eS **Sb 10 10 24.5 +2.4**
comp=Z,489nm,0.8s
KOTS Kotyrbulak 4.80 27 Pg Pb 10 09 24.1 +0.3
comp=Z,206nm,0.7s
KOTS Lg Lg 10 10 24.5
comp=Z,489nm,0.8s
KRBS Karabastau 4.84 13 eP Pb 10 09 24.5 +0.1
comp=Z,66nm,0.3s
KRBS eS **Sb 10 10 25.7 +2.4**
comp=Z,95nm,0.6s
KRBS Karabastau 4.84 13 Pg Pb 10 09 25.5 +1.0
comp=Z,66nm,0.3s
KRBS Lg Lg 10 10 26.9
comp=Z,95nm,0.6s
KK31 Karatay Array 4.95 327 Pn 10 09 14.4 +0.1
KK31 Karatay Array 4.95 327 ⇓Pn Pn 10 09 15.8 +1.5
comp=Z,14nm,0.4s,baz=128,slow=16
KK31 ⇑Sn **Sn 10 10 12.3 +0.1**
comp=Z,28nm,0.4s,baz=132,slow=26
KK31 ⇓Lg Lg 10 10 33.6
comp=Z,243nm,1.1s,baz=137,slow=28
KK31 Karatay Array 4.95 327 PN Pn 10 09 14.4 +0.1
KKAR Karatay Array 4.95 327 Pn 10 09 14.5 +0.2
KKAR Karatay Array 4.95 327 Pn 10 09 14.4 +0.1
KKAR Karatay Array 4.95 327 PN Pn 10 09 14.5 +0.2
KTBS Karatobe 5.09 21 eP Pb 10 09 28.9 +0.2
comp=Z,304nm,0.7s
KTBS eS **Sb 10 10 33.1 +2.7**
comp=Z,380nm,1.4s
KTBS Karatobe 5.09 21 Pg Pb 10 09 29.4 +0.7
comp=Z,304nm,0.7s
KTBS Lg Lg 10 10 34.2
comp=Z,380nm,1.4s
KUU Kurty 5.17 18 eP Pb 10 09 30.8 +0.8
comp=Z,161nm,0.8s
KUU eS **Sb 10 10 35.5 +2.8**
comp=Z,342nm,1.0s
KUU Kurty 5.17 18 ePg Pb 10 09 31.9 +1.9
baz=18
KUU Kurty 5.17 18 Pg Pb 10 09 30.8 +0.8
comp=Z,161nm,0.8s
KUU Lg Lg 10 10 35.5
comp=Z,342nm,1.0s
SATY Saty 5.19 37 eP Pb 10 09 28.9 -1.5
comp=Z,116nm,0.8s
SATY eS **Sb 10 10 33.1 -0.3**
comp=Z,207nm,1.3s
SATY Saty 5.19 37 ePn Pn 10 09 19.5 +1.8
baz=37
SATY Saty 5.19 37 Pg Pb 10 09 28.9 -1.5
comp=Z,116nm,0.8s
SATY Lg Lg 10 10 33.1
comp=Z,207nm,1.3s
SATY Saty 5.19 37 ePN Pn 10 09 19.5 +1.8
ZHN Zhinishke 5.29 36 eP Pb 10 09 31.3 -0.7
comp=Z,34nm,0.6s
ZHN eS **Sb 10 10 37.6 +1.4**
comp=Z,89nm,0.8s
ZHN Zhinishke 5.29 36 Pg Pb 10 09 31.3 -0.7
comp=Z,34nm,0.6s
ZHN Lg Lg 10 10 37.6
comp=Z,89nm,0.8s
CHKK Chushkaly 5.31 23 eP Pb 10 09 33.8 +1.4
comp=Z,125nm,0.3s
CHKK eS **Sb 10 10 42.0 +5.3**
comp=Z,113nm,0.6s
CHKK Chushkaly 5.31 23 ePn Pn 10 09 21.5 +2.1
baz=23
CHKK i Pg **Pb 10 09 34.5 +2.1**
baz=23
CHKK Chushkaly 5.31 23 Pg Pb 10 09 34.4 +2.0
comp=Z,125nm,0.7s
CHKK Lg Lg 10 10 42.0
comp=Z,113nm,0.6s
CHKK Chushkaly 5.31 23 ePN Pn 10 09 21.4 +2.1
CHKK i 10 09 34.5
CHCP Chirak Chowk 5.36 188 P Pb 10 09 30.0 -3.3
NIL Nilore 5.37 188 Pn Pn 10 09 25.9 +5.8
NIL Nilore 5.37 188 PN Pn 10 09 25.9 +5.7
KURS Kuram 5.42 33 eP Pb 10 09 33.0 -1.4
comp=Z,93nm,0.4s
KURS eS **Sb 10 10 39.8 -0.2**
comp=Z,53nm,1.1s
KURS Kuram 5.42 33 Pg Pb 10 09 33.0 -1.4
comp=Z,93nm,0.4s
KURS Lg Lg 10 10 39.8
comp=Z,53nm,1.1s
CEP Cherat 5.46 200 P Pb 10 09 32.7 -2.3
CEP S **Sb 10 10 39.0 -2.1**
UZB Uzynbulak 5.55 40 eP Pb 10 09 36.1 -0.6
comp=Z,77nm,0.5s
UZB eS **Sb 10 10 45.7 +1.9**
comp=Z,98nm,0.2s
UZB Uzynbulak 5.55 40 ePn Pn 10 09 24.5 +1.7
baz=40
UZB ePg **Pb 10 09 39.0 +2.4**
baz=40
UZB Uzynbulak 5.55 40 Pg Pb 10 09 39.2 +2.6
comp=Z,77nm,0.5s
UZB Lg Lg 10 10 51.1
comp=Z,94nm,0.6s
UZB Uzynbulak 5.55 40 ePN Pn 10 09 24.4 +1.7
UZB e 10 09 39.0
KPKS Kokpek 5.63 36 eP Pb 10 09 38.3 +0.4
comp=Z,184nm,0.9s
KPKS eS **Sb 10 10 48.9 +2.8**
comp=Z,265nm,0.8s
KPKS Kokpek 5.63 36 ePn Pn 10 09 25.4 +1.6
baz=36
KPKS ePg **Pb 10 09 38.7 +0.8**
baz=36
KPKS Kokpek 5.63 36 Pg Pb 10 09 38.3 +0.4
comp=Z,184nm,0.9s
KPKS Lg Lg 10 10 48.9
comp=Z,265nm,0.8s
KPKS Kokpek 5.63 36 ePN Pn 10 09 25.4 +1.6
KPKS e 10 09 38.7
SHLS Shalkode 5.79 42 eP Pb 10 09 44.9 +4.3
comp=Z,84nm,0.6s
SHLS eS **Sg 10 11 01.6 -3.0**
comp=Z,96nm,0.8s
SHLS Shalkode 5.79 42 ePg Pb 10 09 45.1 +4.6
baz=44
SHLS Shalkode 5.79 42 Pg Pb 10 09 44.9 +4.3
comp=Z,84nm,0.6s
SHLS Lg Lg 10 11 01.6
comp=Z,96nm,0.8s
ARXS Arharly 5.91 27 eP Pb 10 09 43.9 +1.3
comp=Z,193nm,0.3s
ARXS eS **Sb 10 10 58.8 +4.9**
comp=Z,105nm,0.6s
ARXS Arharly 5.91 27 Pg Pb 10 09 40.6 -2.0
comp=Z,193nm,0.6s
ARXS Lg Lg 10 10 52.5
comp=Z,105nm,0.6s
PDGK Podgornoye 5.92 41 Pg Pb 10 09 42.0 -0.9
comp=Z,60nm,0.6s
PDGK Lg Lg 10 10 55.7
comp=Z,71nm,0.8s
PDGK Podgornoye 5.92 41 ⇓Pn Pn 10 09 28.2 +0.4
comp=Z,16nm,0.7s
PDGK ⇓Pg **Pb 10 09 45.6 +2.7**
comp=Z,111nm,0.7s
PDGK ⇓Lg Lg 10 10 59.6
comp=Z,249nm,1.1s
PDGK Podgornoye 5.92 41 PN Pn 10 09 28.2 +0.4
PDGK P **Pb 10 09 45.6 +2.7**
KBL Kabul 6.04 224 Pn Pn 10 09 36.6 +7.2
KBL Kabul 6.04 224 PN Pn 10 09 36.6 +7.2
BTLS Baital 6.05 359 eP Pb 10 09 47.0 +2.1
comp=Z,16nm,0.4s
BTLS eS **Sb 10 11 03.8 +5.8**
comp=Z,60nm,0.9s
BTLS Baital 6.05 359 ePn Pn 10 09 31.2 +1.8
baz=359
BTLS ePg **Pb 10 09 47.9 +2.9**
baz=359
BTLS Baital 6.05 359 Pg Pb 10 09 47.0 +2.1
comp=Z,14nm,0.5s
BTLS Lg Lg 10 11 03.0
comp=Z,60nm,0.9s
BTLS Baital 6.05 359 ePN Pn 10 09 31.2 +1.8
BTLS e 10 09 47.9
BLB Baldybastay 6.05 31 eP Pb 10 09 45.7 +0.6
comp=Z,233nm,0.6s
BLB eS **Sb 10 11 01.9 +3.8**
comp=Z,102nm,0.7s
BLB Baldybastay 6.05 31 Pg Pb 10 09 42.8 -2.3
comp=Z,233nm,0.6s
BLB Lg Lg 10 10 56.3
comp=Z,102nm,0.7s
THW Thamme Wali 6.48 198 P Pn 10 09 43.6 +8.3
OTUK Ortayu 9.35 353 ⇑Pn Pn 10 10 18.3 +3.7
comp=Z,10nm,0.7s
OTUK Ortayu 9.35 353 P Pn 10 10 18.3 +3.7
MAKZ Makanchi 9.70 34 Pn Pn 10 10 18.7 -0.7
MAKZ Makanchi 9.70 34 ⇓Pn Pn 10 10 20.3 +0.9
comp=Z,6.3nm,0.9s
MAKZ ⇑Pg 10 10 56.2
comp=Z,20nm,1.4s
MAKZ ⇑Lg Lg 10 12 58.2
comp=Z,29nm,1.4s
MAKZ Makanchi 9.70 34 P Pn 10 10 18.7 -0.7
MK31 Makanchi Array 9.82 35 Pn 10 10 20.2 -1.0
MK31 Makanchi Array 9.82 35 ⇑Pn Pn 10 10 21.8 +0.6
comp=Z,7.1nm,0.7s
MK31 ⇑Lg Lg 10 13 03.4
comp=Z,11nm,0.8s
MK31 Makanchi Array 9.82 35 P Pn 10 10 20.2 -1.0
MKAR Makanchi Array 9.82 35 Pn Pn 10 10 21.0 -0.2
comp=Z,0.8nm,0.3s,baz=214,slow=12,SNR=30
comp=Z,2.9nm,0.6s
MKAR Makanchi Array 9.82 35 Pn Pn 10 10 19.3 -1.9
MKAR Makanchi Array 9.82 35 P Pn 10 10 19.3 -1.9
HRA Herat 10.60 248 Pn Pn 10 10 34.9 +2.9
WMQ Urumqi 11.26 60 ⇓P Pn 10 10 40.3 -0.6
WMQ pP 10 10 43.8
WMQ sP 10 10 50.8
WMQ S **Sn 10 12 53.3 +5.8**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,130nm,5.7s
WMQ LR LR
comp=Z,470nm,4.0s
WMQ LR LR
comp=Z,310nm,5.5s
WMQ LR LR
comp=Z,150nm,17.7s
KURBB Kurchatov Arra 12.04 13 Pn Pn 10 10 50.9 -0.5
comp=Z,1.8nm,0.2s,baz=266,slow=25,SNR=1.3
KURBB Lg Lg 10 14 17.1
comp=Z,0.1nm,0.3s,baz=200,slow=30,SNR=7.1
KURBB Kurchatov Arra 12.04 13 ⇑Lg Lg 10 14 11.1
comp=Z,123nm,1.4s
KURK Kurchatov 12.15 14 Pn Pn 10 10 50.8 -2.1
KURK Kurchatov 12.15 14 ⇓Lg Lg 10 14 14.8
comp=Z,58nm,1.1s
KURK Kurchatov 12.15 14 ce P Pn 10 10 50.7 -2.2
KURK pmax pmax
comp=Z,6.0nm,1.7s
GEYT Alibeck 12.61 270 Pn Pn 10 10 58.7 -0.7
comp=Z,2.2nm,0.3s,baz=96,slow=9.7,SNR=14
GEYT Sn **Sn 10 13 14.8 -5.7**
comp=Z,0.6nm,0.3s,baz=106,slow=16,SNR=2.6
GEYT LR LR 10 16 08.4
comp=Z,58nm,18.2s,baz=34,slow=39
comp=Z,3.4nm,0.3s
GEYT Alibeck 12.61 270 Pn Pn 10 10 59.7 +0.3
GYA0 ALIBECK ARRAY 12.61 270 P Pn 10 10 59.4 0.0
GYA0B ALIBECK ARRAY 12.61 270 Pn Pn 10 10 59.4 +0.1
PYUN Piuthan 13.12 143 eP Pn 10 11 06.9 +0.4
comp=Z,50nm,0.7s
DANN Dangsing 13.28 140 eP Pn 10 11 09.6 +0.8
comp=Z,25nm,0.6s
GKN Gorkha 14.01 138 eP Pn 10 11 19.0 +0.4
BVAR Borovoye Array 14.28 351 Pn Pn 10 11 20.1 -1.9
comp=Z,0.1nm,0.3s,baz=158,slow=13,SNR=22
BVAR Lg Lg 10 15 32.4
baz=161,slow=27,SNR=3.7
BVAR LR LR 10 17 12.0
comp=Z,46nm,18.8s,baz=162,slow=39
comp=Z,7.2nm,0.8s
DGZ Jazzator, Alta 14.30 37 i P Pn 10 11 21.1 -1.4
BRVK Borovoye 14.32 351 Pn Pn 10 11 21.7 -1.0
BRVK Borovoye 14.32 351 i P Pn 10 11 21.5 -1.2
ABKAR Akbulak array 14.45 320 Pn Pn 10 11 22.7 -1.7
ABKAR Akbulak array 14.45 320 Pn 10 11 22.9 -1.4
PKIN Phulchoki 14.75 137 eP Pn 10 11 28.9 +0.1
comp=Z,16nm,0.5s
PKI Pulchoki 14.76 137 eP Pn 10 11 28.5 -0.5
comp=Z,19nm,0.6s
JIRN Jiri 15.11 135 eP Pn 10 11 33.9 +0.1
comp=Z,13nm,0.4s
RAMN Ramite 15.89 135 eP Pn 10 11 41.8 -2.2
comp=Z,13nm,0.6s
ZAA0 Zalesovo Array 16.64 22 Pn Pn 10 11 51.1 -2.1
ZALV Zalesovo Beam 16.64 22 Pn Pn 10 11 51.3 -1.9
comp=Z,0.6nm,0.3s,baz=212,slow=12,SNR=12
ZALV Lg Lg 10 16 45.1
comp=Z,0.2nm,0.3s,baz=195,slow=22,SNR=1.5
comp=Z,5.8nm,0.6s
ZALV Zalesovo Beam 16.64 22 Pn Pn 10 11 51.6 -1.6
ZALV Zalesovo Beam 16.64 22 i P Pn 10 11 53.7 +0.5
ZALV pmax pmax
comp=Z,7.0nm,0.6s
GTA Gaotai 19.88 81 eP Pn 10 12 33.0 -0.2
GTA pP 10 12 36.0
GTA sP 10 12 38.5
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,48nm,4.6s
GTA LR LR
comp=Z,150nm,12.0s
GTA LR LR
comp=Z,170nm,12.4s
GTA LR LR
comp=Z,180nm,10.2s
SVE Sverdlovsk 19.95 338 eP Pn 10 12 34.3 +0.6
SHL Shillong 20.05 127 P Pn 10 12 34.5 -0.8
SHL Shillong 20.05 127 P Pn 10 12 34.5 -0.8
SHL pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 20.27 334 P P 10 12 35.9 +0.2
comp=Z,9.2nm,0.8s,baz=155,slow=6.1,SNR=14
comp=Z,9.2nm,0.8s
ARU Arti 20.27 334 P 10 12 34.7 -0.9
ARU Arti 20.27 334 c iP P 10 12 36.5 +0.9
ARU 10 12 50.5
ARU SS **SnSn 10 16 47.0 +6.4**
ARU pmax pmax
comp=Z,19nm,1.0s
WSAR Wadi Sarin 20.52 225 P Pn 10 12 41.5 +0.9
comp=Z,17nm,0.8s,baz=55,slow=5.5,SNR=10
UOSS Minazif 20.63 233 P Pn 10 12 42.9 +1.0
UOSS lAmb lAmb 10 12 50.0
comp=Z,27nm,1.2s
GROC Groznyy 21.73 290 eP P 10 12 50.7 -0.7
GROC e 10 13 11.5
GROC pmax pmax
comp=Z,167nm,1.0s
GNI Garni 22.66 282 P P 10 13 03.4 +1.8
comp=Z,7.7nm,0.5s,baz=322,slow=3.3,SNR=12
comp=Z,7.7nm,0.5s
GNI Garni 22.66 282 P P 10 13 03.1 +1.5
GNI Garni 22.66 282 P P 10 13 03.1 +1.5
GNI pmax pmax

comp=Z,62nm,1.0s
BELG Belogornoye 22.71 315 P **P 10 13 00.2 -1.6**
comp=Z,26nm,1.0s,baz=168,slow=2.9,SNR=6.4
comp=Z,26nm,1.0s
ZEI Tsey 23.12 289 *e*P **P 10 13 08.1 +1.7**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
ONI Oni 23.45 289 P **P 10 13 10.8 +1.1**
ONI lAmb lAmb 10 13 13.4
comp=Z,34nm,1.0s
ONI Oni 23.45 289 P **P 10 13 10.8 +1.1**
ONI pmax pmax
comp=Z,34nm,1.0s
ZAK Zakamensk 23.49 51 *e*P **P 10 13 10.2 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
LZH Lanzhou 23.68 88 *e*P **P 10 13 16.5 +4.4**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH LR LR
comp=Z,890nm,13.4s
LZH LR LR
comp=Z,780nm,14.3s
LZH LR LR
comp=Z,920nm,16.5s
KBZ Khabaz 23.85 292 P **P 10 13 13.1 -0.3**
comp=Z,3.3nm,0.8s,baz=135,slow=11,SNR=4.9
comp=Z,3.3nm,0.8s
KBZ Khabaz 23.85 292 *i*P **P 10 13 13.6 +0.1**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KARS Kars 23.86 284 P **P 10 13 15.5 +1.6**
KARS Kars 23.86 284 P **P 10 13 15.5 +1.6**
KARS pmax pmax
comp=Z,71nm,0.8s
NEY Neytrino 23.98 290 *i*P **P 10 13 14.2 -0.7**
NEY pmax pmax
comp=Z,3.0nm,0.6s
KVAR Kislovodsk Arr 24.00 292 LR LR 10 23 06.8
comp=Z,94nm,20.6s,baz=324,slow=38
KIV Kislovodsk 24.00 292 *e*P **P 10 13 14.7 -0.4**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,32nm,14.0s
GEVA Gevas 24.23 278 P **P 10 13 19.6 +2.2**
GEVA lAmb lAmb 10 13 21.2
comp=Z,8.5nm,0.9s
TNCH TengChong 24.82 117 *e*P **P 10 13 24.8 +2.0**
TNCH pP 10 13 27.5
SONM Songino Array 24.89 59 P **P 10 13 23.4 +0.1**
comp=Z,1.5nm,0.7s,baz=262,slow=10,SNR=5.3
comp=Z,1.5nm,0.7s
GURO Guroymak-BITLI 24.98 279 P **P 10 13 26.3 +2.2**
KIRV Kirov 25.24 329*ce*P **P 10 13 25.3 -0.7**
CD2 Chengdu 25.49 99 *e*P **P 10 13 28.5 -0.2**
PZH PanZhiHua 26.23 110 P **P 10 13 37.0 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,210nm,4.0s
VORR Voronezh 27.36 309 *e*P **P 10 13 46.2 +0.9**
VORR pmax pmax
comp=Z,50nm,0.4s
HHC Hu-ho-hao-te 28.62 74 *e*P **P 10 13 57.0 +0.1**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,91nm,5.5s
RAYN Ar Rayn 28.78 246 P **P 10 14 00.5 +2.2**
RAYN lAmb lAmb 10 14 05.9
comp=Z,10nm,0.7s
RAYN Ar Rayn 28.78 246 P **P 10 14 00.5 +2.2**
RAYN pmax pmax
comp=Z,10.0nm,0.7s
BR131 Keskin Array S 31.14 284 P **P 10 14 20.7 +1.4**
BR131 lAmb lAmb 10 14 21.7
comp=Z,11nm,0.9s
BR131 Keskin Array S 31.14 284 *i*P **P 10 14 19.9 +0.7**
BRTR Keskin Array B 31.14 284 P **P 10 14 20.9 +1.7**
comp=Z,4.8nm,0.7s,baz=81,slow=7.6,SNR=20
comp=Z,4.8nm,0.7s
BRTR Keskin Array B 31.14 284 P **P 10 14 20.7 +1.4**
BRTR Keskin Array B 31.14 284 P **P 10 14 20.7 +1.4**
NRIK Noril'sk 31.26 9*ce*P **P 10 14 19.8 +0.1**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
PALK Pallekele 32.12 168 LR LR 10 26 49.4
comp=Z,110nm,18.1s,baz=34,slow=35
MDUB Mudurnu 32.83 287 P **P 10 14 35.0 +1.0**
AKASG Malin Array Be 33.44 305 P **P 10 14 38.7 -0.3**
comp=Z,0.3nm,0.3s,baz=79,slow=7.4,SNR=17
AKASG PcP **PcP 10 17 19.7 -0.6**
comp=Z,1.1nm,0.6s,baz=74,slow=3.4,SNR=5.2
comp=Z,0.3nm,0.3s
AKBB Malin Array Si 33.44 305 P **P 10 14 38.5 -0.5**
AKBB lAmb lAmb 10 14 39.3
comp=Z,6.4nm,0.8s
AKBB Malin Array Si 33.44 305*ce*P **P 10 14 37.6 -1.4**
AKBB pmax pmax
comp=Z,39nm,3.3s
BORA Eskisehir 33.51 286 P **P 10 14 41.3 +1.3**
BORA lAmb lAmb 10 14 42.1
comp=Z,9.9nm,0.9s
MANT Manisa 35.28 284 P **P 10 14 57.3 +1.9**
MLR Muntele Rosu 35.83 296 P **P 10 15 01.7 +1.7**
MLR lAmb lAmb 10 15 04.6
comp=Z,11nm,1.0s
MLR Muntele Rosu 35.83 296 P **P 10 15 01.7 +1.7**
MLR pmax pmax
comp=Z,11nm,1.0s
NJ2 Nanjing 36.75 87 *e*P P 10 15 13.3 +5.5
NJ2 pmax pmax
comp=Z,16nm,0.5s
FIA1 FINESS Array S 36.89 323 P **P 10 15 08.3 -0.4**
FINES FINESS Array B 36.89 323 P **P 10 15 07.8 -0.9**
comp=Z,2.4nm,0.4s,baz=95,slow=7.0,SNR=24
comp=Z,2.4nm,0.4s
KARP Karpathos 37.23 280 P **P 10 15 13.4 +1.4**
VTS Vitosha 38.24 292 P **P 10 15 22.2 +1.7**
VTS lAmb lAmb 10 15 23.0
comp=Z,5.4nm,0.8s
VTS Vitosha 38.24 292 P **P 10 15 22.2 +1.7**
VTS pmax pmax
comp=Z,5.0nm,0.8s
SANT Santorini 38.26 282 P **P 10 15 21.1 +0.4**
SANT lAmb lAmb 10 15 21.7
comp=Z,18nm,1.4s
HEH HeiHe 38.77 55 *e*P **P 10 15 24.3 -0.4**
HEH pmax pmax
comp=Z,7.0nm,0.8s
IDI Anoyia 39.06 280 P **P 10 15 27.3 -0.1**
ARCES ARCESS Array B 39.85 336 P **P 10 15 32.1 -1.4**
comp=Z,6.1nm,0.9s,baz=109,slow=9.0,SNR=12
comp=Z,6.1nm,0.9s
FNA Florina 40.02 290 P **P 10 15 35.3 -0.1**
FNA Florina 40.02 290 P **P 10 15 35.3 -0.1**
FNA pmax pmax
comp=Z,3.0nm,0.8s
DIVS Divibare 40.24 295 P **P 10 15 37.8 +0.6**
VYHS Vyhne 40.28 302 *e*P **P 10 15 36.9 -0.4**
VYHS *e*PP **PP 10 17 09.7 0.0**
VYHS Vyhne 40.28 302 *e*P **P 10 15 36.9 -0.4**
VYHS *e* 10 17 09.7
YAK Yakutsk 40.49 37*ce*P **P 10 15 39.7 +0.8**
YAK pmax pmax
comp=Z,9.0nm,1.0s
ITM Ithomi 40.68 284 P **P 10 15 40.5 -0.3**
VRAC Vranov 41.63 304 *e*P **P 10 15 49.3 +0.8**
KLR Kul'dur 41.68 56*ce*P **P 10 15 48.8 0.0**
KLR pmax pmax
comp=Z,6.0nm,1.7s
KSAR Wonju Array Be 41.74 75 P **P 10 15 50.1 +0.6**
KSAR Wonju Array Be 41.74 75 P **P 10 15 50.1 +0.6**
TIXI Tiksi 42.53 22 P **P 10 15 53.4 -2.1**
comp=Z,2.2nm,0.8s,baz=270,slow=20,SNR=3.1
comp=Z,2.2nm,0.8s
TIXI Tiksi 42.53 22 P **P 10 15 53.8 -1.6**
TIXI Tiksi 42.53 22*ce*P **P 10 15 56.4 +0.9**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
GEC2 GERESS Array S 43.59 304 P **P 10 16 05.1 +0.6**
GERES GERESS Array B 43.59 304 P **P 10 16 05.2 +0.8**
comp=Z,2.4nm,0.8s,baz=69,slow=7.3,SNR=14
comp=Z,2.4nm,0.8s
GERES GERESS Array B 43.59 304 P **P 10 16 05.4 +0.9**

KHC Kasperske Hory 43.61 304 P **P 10 16 05.2 +0.6**
KHC lAmb lAmb 10 16 09.6
comp=Z,11nm,1.5s
KHC Kasperske Hory 43.61 304 *e*P **P 10 16 04.5 -0.1**
KHC Kasperske Hory 43.61 304 *e*P **P 10 16 04.5 -0.1**
CLL Collm 43.63 307 P **P 10 16 04.2 -0.4**
CLL lAmb lAmb 10 16 05.3
comp=Z,12nm,1.2s
CLL Collm 43.63 307 *i*P **P 10 16 04.7 +0.1**
comp=Z,12nm,1.2s
CLL *ex* x 10 16 17.0
CLL *e*PP **PP 10 17 47.0 +1.2**
CLL *e*PPP PPP 10 18 18.0
CLL LmV 10 34 00.0
comp=Z,100nm,18.7s
CLL Collm 43.63 307 *i*P **P 10 16 04.7 +0.1**
CLL pmax pmax
comp=Z,12nm,1.2s
NC303 NORSAR Array S 43.88 322 P **P 10 16 06.6 +0.1**
NB2 NORSAR Subarra 43.95 321 P **P 10 16 05.9 -1.2**
comp=Z,1.2nm,0.4s,baz=91,slow=7.9
NOA NORSAR Array B 43.95 321 P **P 10 16 06.2 -1.0**
comp=Z,2.6nm,0.6s,baz=91,slow=7.9,SNR=9.0
comp=Z,2.6nm,0.6s
FUORN Ofenpass-Fuorn 46.34 301 P **P 10 16 25.9 -0.7**
SENIN Lac Senin/Sane 48.38 302 P **P 10 16 42.6 +0.1**
BNI Bardonecchia 49.18 300 P **P 10 16 48.8 +0.3**
BNI lAmb lAmb 10 16 55.2
comp=Z,16nm,1.4s
BNI Bardonecchia 49.18 300 P **P 10 16 48.8 +0.3**
BNI pmax pmax
comp=Z,16nm,1.5s
SSB Saint Sauveur 50.54 301 P **P 10 16 59.4 +0.6**
SSB lAmb lAmb 10 16 59.7
comp=Z,11nm,1.3s
SSB Saint Sauveur 50.54 301 P **P 10 16 59.4 +0.6**
SSB Saint Sauveur 50.54 301 pmax pmax
comp=Z,11nm,1.3s
KMBO Kilima Mbogo 52.34 229 LR LR 10 39 23.6
comp=Z,38nm,18.1s,baz=94,slow=36
MBAR Mbarara 55.97 236 LR LR 10 44 29.6
comp=Z,30nm,19.8s,baz=53,slow=39
MBAR Mbarara 55.97 236*ce*P **P 10 17 37.4 -1.8**
MBAR pmax pmax
comp=Z,11nm,1.7s
ESDC Sonseca Array 58.51 298 P **P 10 17 56.1 -0.7**
comp=Z,3.5nm,0.5s,baz=56,slow=7.0,SNR=28
comp=Z,3.5nm,0.5s
TOLK Toolik Lake Re 67.87 16 P **P 10 18 57.3 -1.1**
A36M Sachs Harbour 68.48 6 P **P 10 19 01.1 -1.0**
A36M lAmb lAmb 10 19 08.8
comp=Z,5.3nm,0.8s
IMAR Indian Mountai 69.03 19 P **P 10 19 04.2 -1.5**
BMAR Burnt Mountain 69.92 15 P **P 10 19 10.9 -0.3**
INK Inuvik 71.03 11 P **P 10 19 16.4 -1.4**
comp=Z,2.8nm,0.6s,baz=314,slow=3.3,SNR=7.1
comp=Z,2.8nm,0.6s
C36M Paulatuk 71.15 7 P **P 10 19 16.9 -1.6**
MDM Murphy Dome 71.22 18 P **P 10 19 17.9 -1.2**
MDM lAmb lAmb 10 19 36.2
comp=Z,6.5nm,1.3s
POKR Poker Plat Res 71.27 17 P **P 10 19 18.9 -0.5**
POKR lAmb lAmb 10 19 40.0
comp=Z,5.0nm,0.8s
NEA2 Nenana 71.32 18 P **P 10 19 19.1 -0.7**
NEA2 lAmb lAmb 10 19 22.9
comp=Z,8.1nm,1.3s
IL31 71.69 17 lAmb lAmb 10 19 26.7
comp=Z,2.9nm,0.8s
ILAR Eielson Array 71.69 17 P **P 10 19 19.6 -2.3**
comp=Z,1.5nm,0.8s,baz=321,slow=5.4,SNR=13
comp=Z,1.5nm,0.8s
PPLA Purkeypile 71.91 20 P **P 10 19 22.4 -1.1**
I26K Coal Creek Min 72.05 16 P **P 10 19 23.2 -0.9**
I26K lAmb lAmb 10 19 47.8
comp=Z,8.3nm,1.5s
J25K Salcha River, 72.17 17 P **P 10 19 23.4 -1.6**
J25K lAmb lAmb 10 19 41.6
comp=Z,3.8nm,1.1s
J26L Joseph Creek 72.67 16 P **P 10 19 26.6 -1.3**
J26L lAmb lAmb 10 19 32.4
comp=Z,3.9nm,1.1s
SCRK Sand Creek 73.03 17 P **P 10 19 28.9 -1.2**
DAWY Dawson 73.91 15 P **P 10 19 34.0 -1.2**
RC01 Rabbit Creek A 74.06 21 P **P 10 19 34.7 -1.3**
RC01 lAmb lAmb 10 19 37.4
comp=Z,14nm,1.4s
L27K Beaver Creek, 74.30 16 P **P 10 19 36.7 -0.8**
BCAR Beaver Creek A 74.31 16 P **P 10 19 37.0 -0.6**
KNRA Kununurra 74.55 125 P **P 10 19 40.1 +0.7**
KNRA lAmb lAmb 10 19 40.4
comp=Z,9.5nm,0.9s
M27K Edge Creek, AK 74.91 17 P **P 10 19 40.6 -0.6**
HYT Haines Junctio 77.22 15 P **P 10 19 54.0 -0.4**
YKA Yellowknife Ar 78.62 4 P **P 10 20 00.3 -1.6**
comp=Z,1.4nm,0.7s,baz=351,slow=8.4,SNR=6.2
comp=Z,1.4nm,0.7s
WB0 Warramunga Arr 81.16 124 P **P 10 20 16.1 -0.2**
WB0 lAmb lAmb 10 20 32.4
comp=Z,8.8nm,1.4s
WRA Warramunga Arr 81.26 124 P **P 10 20 16.3 -0.5**
comp=Z,1.8nm,0.6s,baz=320,slow=4.4,SNR=27
comp=Z,1.8nm,0.6s
WRA Warramunga Arr 81.26 124 P **P 10 20 16.8 +0.1**
WRAB Tennant Creek 81.26 124 P **P 10 20 16.9 +0.1**
WRAB lAmb lAmb 10 20 17.1
comp=Z,3.1nm,0.6s
WRAB Tennant Creek 81.26 124 P **P 10 20 16.9 +0.1**
WRAB pmax pmax
comp=Z,3.0nm,0.6s
WB2 Warramunga Arr 81.26 124 P **P 10 20 16.8 -0.1**
WB2 lAmb lAmb 10 20 17.1
comp=Z,3.6nm,0.6s
WR0 Warramunga Arr 81.40 124 P **P 10 20 17.3 -0.2**
WR0 lAmb lAmb 10 20 17.7
comp=Z,5.9nm,1.2s
COEN Coen 83.07 114 P **P 10 20 26.9 +0.5**
COEN lAmb lAmb 10 20 27.3
comp=Z,5.8nm,0.8s
ASAR Alice Springs 83.70 127 P **P 10 20 29.1 -0.4**
comp=Z,1.3nm,0.6s,baz=313,slow=4.9,SNR=14
comp=Z,1.3nm,0.6s
ASAR Alice Springs 83.70 127 P **P 10 20 29.8 +0.3**
FORT Forrest 85.64 136 P **P 10 20 39.7 +0.7**

*TAP **26** 10:08:31.5,24.°78N×122.°97E,h144km±1km,ML2.9,C*
*JMA **26** 10:08:32.6±0.2,25.°N±3.°×123.°1E±0.°8,h123km±3km,*
MV2.2/7,NW OFF ISHIGAKIJIMA IS
ISC 26 10:08:32.1±1.9,**24.°77N**±0.°07×**123.°00E**±0.°03,
h135km±12km,**n49,**σ**0°79/93,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.30**	**177**	P	**Pn**	**10 08 51.1**	**+0.2**
	baz=174						
YOJ				*e*S	**Sn**	**10 09 06.7**	**+1.7**
	baz=174						
IRIF	**Iriomote-Funau**	**0.79**	**122**	P	**Pn**	**10 08 53.8**	**+0.1**
IRIF				*e*S	**Sn**	**10 09 10.1**	**+0.1**
TWC	**Suao**	**1.05**	**262**	P	**Pn**	**10 08 55.7**	**-0.2**
	baz=260						
TWC				*e*S	**Sn**	**10 09 13.2**	**-0.8**
	baz=260						
JKRS	**Kuro-shima**	**1.06**	**119**	P	**Pn**	**10 08 56.6**	**+0.6**
JKRS				S	**Sn**	**10 09 14.6**	**+0.5**
SXI1	**Grass Mountain**	**1.07**	**288**	P	**Pn**	**10 08 56.1**	**-0.1**
	baz=287						
SXI1				*e*S	**Sn**	**10 09 15.1**	**+0.6**
	baz=287						
TIPB	**Shuangxi**	**1.08**	**281**	*i* P	**Pn**	**10 08 56.6**	**+0.3**
	baz=280						
TIPB				*i* S	**Sn**	**10 09 14.8**	**+0.1**
	baz=280						
JIJ	**Ishigaki jima**	**1.12**	**111**	P	**Pn**	**10 08 56.5**	**0.0**
JIJ				S	**Sn**	**10 09 14.1**	**-1.0**
ENA	**Nanau**	**1.19**	**254**	*i* P	**Pn**	**10 08 57.7**	**+0.4**
	baz=252						
ENA				S	**Sn**	**10 09 16.7**	**+0.3**
	baz=252						
JISG	**Ishigakijimahi**	**1.21**	**98**	P	**Pn**	**10 08 57.1**	**-0.3**
JISG				S	**Sn**	**10 09 15.6**	**-1.1**
TWE	**Neicheng**	**1.21**	**268**	P	**Pn**	**10 08 57.8**	**+0.3**
	baz=267						
TWE				S	**Sn**	**10 09 16.2**	**-0.5**
	baz=267						
FUSB	**Fushanzhiwuyua**	**1.28**	**270**	*i* P	**Pn**	**10 08 58.2**	**0.0**
	baz=269						
FUSB				S	**Sn**	**10 09 17.5**	**-0.6**
	baz=269						
ENTT	**Nioudou**	**1.31**	**265**	P	**Pn**	**10 08 58.2**	**-0.3**
	baz=263						
ENTT				*i* S	**Sn**	**10 09 18.6**	**0.0**
	baz=263						
LATG	**Datong**	**1.36**	**261**	P	**Pn**	**10 08 59.7**	**+0.6**
	baz=259						
LATG				*e*S	**Sn**	**10 09 20.2**	**+0.6**
	baz=259						
NWLT	**Wulai**	**1.36**	**271**	*e*P	**Pn**	**10 08 58.0**	**-1.0**
	baz=269						
NWLT				*e*S	**Sn**	**10 09 19.7**	**+0.2**
	baz=269						
ETL	**Fush Village**	**1.39**	**245**	P	**Pn**	**10 08 59.9**	**+0.5**
	baz=243						
ETL				S	**Sn**	**10 09 19.9**	**-0.2**
	baz=243						
TWD	**Chiawan**	**1.45**	**242**	*e*P	**Pn**	**10 09 00.3**	**+0.4**
	baz=240						
TWD				S	**Sn**	**10 09 20.6**	**-0.5**
	baz=240						
YHNB	**Yeheng**	**1.48**	**267**	P	**Pn**	**10 09 00.8**	**+0.4**
	baz=265						
YHNB				S	**Sn**	**10 09 21.8**	**-0.1**
	baz=265						
ETLH	**Xiulin Townshi**	**1.49**	**248**	P	**Pn**	**10 09 00.3**	**-0.2**
	baz=247						
ETLH				*i* S	**Sn**	**10 09 21.9**	**-0.2**
	baz=247						
NSK	**Sanguang**	**1.49**	**267**	*e*P	**Pn**	**10 08 59.8**	**-0.7**
	baz=265						
NSK				*e*S	**Sn**	**10 09 20.8**	**-1.4**
	baz=265						
NNSB	**Datong**	**1.51**	**257**	P	**Pn**	**10 09 01.1**	**+0.4**
	baz=256						
NNSB				*i* S	**Sn**	**10 09 22.2**	**-0.3**
	baz=256						
NNSH	**Datong**	**1.51**	**257**	*e*P	**Pn**	**10 08 59.9**	**-0.8**
	baz=256						
NNSH				*e*S	**Sn**	**10 09 21.5**	**-1.1**
	baz=256						
NNS	**Nan Shan**	**1.51**	**258**	P	**Pn**	**10 09 00.3**	**-0.5**
	baz=256						
NNS				*e*S	**Sn**	**10 09 21.4**	**-1.2**
	baz=256						
JTJ	**Tarama**	**1.56**	**94**	P	**Pn**	**10 09 01.1**	**0.0**
JTJ				S	**Sn**	**10 09 22.4**	**-0.9**
ETM	**Tongmen**	**1.58**	**240**	P	**Pn**	**10 09 01.5**	**0.0**
	baz=239						
ETM				S	**Sn**	**10 09 23.5**	**-0.4**
	baz=239						
FUSS	**Fushou**	**1.68**	**252**	P	**Pn**	**10 09 03.2**	**+0.4**
	baz=251						
FUSS				S	**Sn**	**10 09 26.2**	**0.0**
	baz=251						
WHF	**Hehuan Shan**	**1.69**	**249**	*e*S	**Sn**	**10 09 24.9**	**-1.9**
	baz=247						
NFF	**Wufeng Townshi**	**1.71**	**266**	*e*P	**Pn**	**10 09 02.1**	**-0.9**
	baz=265						
NFF				*e*S	**Sn**	**10 09 25.0**	**-1.6**
	baz=265						
EGFH	**Guangfu**	**1.80**	**233**	*e*P	**Pn**	**10 09 03.5**	**-0.5**
	baz=231						
EGFH				S	**Sn**	**10 09 28.6**	**+0.3**
	baz=231						
CHGB	**Renai**	**1.80**	**247**	*e*P	**Pn**	**10 09 05.0**	**+0.8**
	baz=246						
CHGB				*e*S	**Sn**	**10 09 29.2**	**+0.5**
	baz=246						
LIOB	**Emei**	**1.81**	**267**	P	**Pn**	**10 09 04.3**	**+0.3**
	baz=265						
LIOB				S	**Sn**	**10 09 28.3**	**-0.2**
	baz=265						
NSTT	**Nanjuang**	**1.82**	**266**	*i* P	**Pn**	**10 09 04.1**	**0.0**
	baz=265						
NSTT				*i* S	**Sn**	**10 09 28.1**	**-0.6**
	baz=265						
WUSB	**Renai**	**1.88**	**246**	P	**Pn**	**10 09 05.5**	**+0.5**
	baz=245						
WUSB				*e*S	**Sn**	**10 09 30.0**	**-0.2**
	baz=245						
HGSD	**Ruisui**	**1.92**	**229**	*i* P	**Pn**	**10 09 05.7**	**+0.4**
	baz=227						
HGSD				*e*S	**Sn**	**10 09 30.2**	**-0.5**
	baz=227						
WHP	**Taichung City**	**1.93**	**256**	*e*P	**Pn**	**10 09 06.6**	**+1.1**
	baz=254						
VWDT	**VWDT**	**1.97**	**240**	P	**Pn**	**10 09 06.8**	**+0.9**
	baz=238						
VWDT				S	**Sn**	**10 09 32.0**	**+0.2**
	baz=238						
EHY	**Hungye**	**1.98**	**231**	P	**Pn**	**10 09 05.7**	**-0.3**
	baz=229						
WCS	**Beigang Elemen**	**2.03**	**250**	*i* P	**Pn**	**10 09 06.7**	**+0.1**
	baz=249						
WCS				S	**Sn**	**10 09 32.9**	**-0.2**
	baz=249						
YULB	**Yu-li**	**2.07**	**229**	P	**Pn**	**10 09 06.9**	**-0.3**
	baz=227						
YULB				*e*S	**Sn**	**10 09 33.2**	**-0.9**
	baz=227						
JMJ	**Miyako jima 2**	**2.09**	**88**	P	**Pn**	**10 09 08.1**	**+0.7**
	baz=88						
JMJ				*e*S	**Sn**	**10 09 34.9**	**+0.4**
	baz=88						
TWF1	**Yuli**	**2.10**	**228**	*e*P	**Pn**	**10 09 07.9**	**+0.4**
	baz=226						
TWF1				*e*S	**Sn**	**10 09 32.8**	**-1.9**
	baz=226						
SSLB	**Suanglung**	**2.10**	**243**	P	**Pn**	**10 09 08.7**	**+1.1**
	baz=241						
SSLB				*e*S	**Sn**	**10 09 36.4**	**+1.6**
	baz=241						
SMLT	**Sun Moon Lake**	**2.10**	**246**	*e*P	**Pn**	**10 09 09.4**	**+1.7**
	baz=244						
TYC	**Yuchr**	**2.13**	**247**	P	**Pn**	**10 09 08.7**	**+0.8**
	baz=245						
TYC				*e*S	**Sn**	**10 09 37.3**	**+2.0**
	baz=245						
FULB	**Fuli**	**2.20**	**225**	P	**Pn**	**10 09 09.4**	**+0.5**
	baz=224						
FULB				*e*S	**Sn**	**10 09 37.0**	**0.0**
	baz=224						
WHYT	**Xinyi Township**	**2.23**	**242**	*e*P	**Pn**	**10 09 10.8**	**+1.7**
	baz=240						
WHYT				*e*S	**Sn**	**10 09 38.9**	**+1.4**
	baz=240						
ALS	**Alishan**	**2.36**	**238**	*e*P	**Pn**	**10 09 12.1**	**+1.1**
	baz=237						
EDH	**Donghe**	**2.36**	**221**	*e*P	**Pn**	**10 09 10.3**	**-0.5**
	baz=220						
EDH				*e*S	**Sn**	**10 09 40.1**	**-0.4**
	baz=220						
LDUT	**Ludao**	**2.51**	**214**	P	**Pn**	**10 09 12.6**	**-0.1**
	baz=213						
LDUT				*e*S	**Sn**	**10 09 43.1**	**-0.7**
	baz=213						
STYH	**Taoyuan**	**2.58**	**232**	P	**Pn**	**10 09 13.4**	**-0.1**
	baz=231						
STYH				*e*S	**Sn**	**10 09 43.9**	**-1.4**
	baz=231						

*IDC **26** 10:13:59.6±1.1,55.°13N×164.°80E,h0km,mb3.5/6,*
mbtmp3.5/7,ML2.7/1,Error ellipse: s-maj=38.9km
s-min=20.9km az=155.0
*KRSC **26** 10:14:00.6±1.8,55.°07N×164.°81E,h51km±22km,ML4.1*
ISC 26 10:14:02.6±1.7,**55.°09N**±0.°04×**164.°90E**±0.°06,**h24**km±15km,
n47,σ**1°59/74,mb3.5/6,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.63**	**79**	*e*P	**Pb**	**10 14 14.7**	**-0.2**
BKI				*e*S	**Sb**	**10 14 24.0**	**+0.7**
KBTR	**Krutoberegovo**	**1.63**	**315**	*e*P	**Pn**	**10 14 27.1**	**-2.7**
KBTR				*e*S	**Sn**	**10 14 45.7**	**-4.3**
KBG	**Krutoberegovo**	**1.71**	**314**	*e*P	**Pn**	**10 14 28.4**	**-2.4**
KBG				*e*S	**Sn**	**10 14 48.7**	**-3.2**
MKZ	**Mys Kozlova**	**1.91**	**255**	*e*P	**Pn**	**10 14 32.7**	**-0.9**
MKZ				*e*S	**Sn**	**10 14 54.9**	**-1.9**
SMKR	**Semkarok**	**2.45**	**309**	*e*P	**Pn**	**10 14 40.4**	**-0.7**
SMKR				*e*S	**Sn**	**10 15 10.8**	**+0.5**
ZLN	**Zelenaya**	**2.50**	**294**	*e*P	**Pn**	**10 14 42.4**	**+0.5**

BZGR	**Bezymyannyi-Gr**	**2.54**	**291**	*eP*		**Pn**	**10 14 42.5**	**+0.1**
BDR	**Baidarnaya**	**2.56**	**307**	*eP*		**Pn**	**10 14 42.5**	**-0.1**
BDR				*eS*		**Sn**	**10 15 14.0**	**+1.0**
TUMD	**Tumrok D**	**2.58**	**274**	*eP*		**Pn**	**10 14 42.9**	**0.0**
TUMD				*eS*		**Sn**	**10 15 13.5**	**-0.1**
SRKR	**Sorokina**	**2.62**	**308**	*eP*		**Pn**	**10 14 43.6**	**+0.1**
SRKR				*eS*		**Sn**	**10 15 15.6**	**+1.0**
BZMR	**Bezymyannaya**	**2.65**	**291**	*eP*		**Pn**	**10 14 44.8**	**+0.9**
BZWR	**Bezymyannyi-We**	**2.65**	**291**	*eP*		**Pn**	**10 14 44.5**	**+0.5**
BZWR				*eS*		**Sn**	**10 15 15.8**	**+0.3**
KLY	**Klyuchi**	**2.70**	**299**	*eP*		**Pn**	**10 14 42.9**	**-1.6**
KLY				*eS*		**Sn**	**10 15 14.0**	**-2.3**
KRSR	**Krestovskiy**	**2.70**	**297**	*eP*		**Pn**	**10 14 45.1**	**+0.5**
KIRR	**Kirishev**	**2.73**	**290**	*eP*		**Pn**	**10 14 45.7**	**+0.6**
TUMR	**Tumrok**	**2.73**	**276**	*eP*		**Pn**	**10 14 45.4**	**+0.4**
TUMR				*eS*		**Sn**	**10 15 17.6**	**+0.3**
KMNR	**Kamenistaya**	**2.74**	**286**	*eP*		**Pn**	**10 14 45.7**	**+0.6**
KPT	**Kopyto**	**2.80**	**290**	*eP*		**Pn**	**10 14 46.7**	**+0.7**
KOZ	**Kozyrevsk**	**3.01**	**291**	*eP*		**Pn**	**10 14 49.4**	**+0.6**
SRDR	**Sredinnyy**	**3.18**	**295**	*eP*		**Pn**	**10 14 51.8**	**+0.6**
SRDR				*eS*		**Sn**	**10 15 29.7**	**+1.4**
SPN	**Mys Shipunski**	**3.49**	**237**	*eP*		**Pn**	**10 14 54.8**	**-0.6**
SPN				*eS*		**Sn**	**10 15 32.0**	**-3.9**
ESO	**Esso**	**3.62**	**286**	*eP*		**Pn**	**10 14 57.6**	**+0.4**
ESO				*eS*		**Sn**	**10 15 38.9**	**-0.3**
NLC	**Nalytchevo**	**3.79**	**242**	*eP*		**Pn**	**10 14 59.6**	**+0.2**
NLC				*eS*		**Sn**	**10 15 41.0**	**-2.2**
SDLR	**Sedlovina**	**3.97**	**245**	*eP*		**Pn**	**10 15 03.3**	**+1.2**
SDLR				*eS*		**Sn**	**10 15 47.3**	**-0.6**
SMAR	**Somma**	**4.02**	**245**	*eP*		**Pn**	**10 15 03.8**	**+1.0**
SMAR				*eS*		**Sn**	**10 15 48.0**	**-1.3**
KRER	**Koryakskii**	**4.03**	**246**	*eP*		**Pn**	**10 15 04.3**	**+1.4**
KRER				*eS*		**Sn**	**10 15 47.7**	**-1.7**
UGLR	**Uglovaya**	**4.04**	**245**	*eP*		**Pn**	**10 15 03.7**	**+0.7**
UGLR				*eS*		**Sn**	**10 15 48.4**	**-1.1**
KOK	**Koryaka**	**4.09**	**247**	*eP*		**Pn**	**10 15 05.0**	**+1.3**
KOK				*eS*		**Sn**	**10 15 49.8**	**-1.1**
DALK	**Dalny**	**4.16**	**243**	*eP*		**Pn**	**10 15 05.3**	**+0.7**
DALK				*eS*		**Sn**	**10 15 50.1**	**-2.3**
PET	**Petropavlovsk**	**4.22**	**243**	*eP*		**Pn**	**10 15 06.4**	**+1.0**
PET				*eS*		**Sn**	**10 15 51.7**	**-2.1**
OSSR	**Ossora**	**4.29**	**347**	*eP*		**Pn**	**10 15 06.2**	**-0.1**
OSSR				*eS*		**Sn**	**10 15 52.9**	**-2.7**
GNL	**Ganaly**	**4.30**	**254**	*eP*		**Pn**	**10 15 07.4**	**+0.8**
GNL				*eS*		**Sn**	**10 15 54.4**	**-1.5**
KRMR	**Karymshinskiy**	**4.59**	**243**	*eP*		**Pn**	**10 15 11.5**	**+1.0**
KRMR				*eS*		**Sn**	**10 16 01.7**	**-1.3**
RUS	**Russkaya**	**4.63**	**238**	*eP*		**Pn**	**10 15 11.1**	**+0.1**
RUS				*eS*		**Sn**	**10 15 59.2**	**-4.6**
PETK	**Petropavlovsk-**	**4.68**	**248**	Pn		**Pn**	**10 15 11.8**	**+0.1**
	1.7nm,0.3s,baz=72,slow=17,SNR=20							
PETK				Sn		**Sn**	**10 16 06.5**	**+1.3**
	2.2nm,0.3s,baz=93,slow=22,SNR=7.5 3.7nm,0.5s							
MTVR	**Mutnovka**	**4.76**	**240**	*eP*		**Pn**	**10 15 13.6**	**+0.7**
MTVR				*eS*		**Sn**	**10 16 04.9**	**-2.4**
GRL	**Gorelyy**	**4.77**	**241**	*eP*		**Pn**	**10 15 14.2**	**+1.1**
GRL				*eS*		**Sn**	**10 16 07.0**	**-0.7**
KDTR	**Khodutka, Kamc**	**5.23**	**234**	*eP*		**Pn**	**10 15 19.0**	**-0.3**
KDTR				*eS*		**Sn**	**10 16 14.3**	**-4.5**
ILAR	**Eielson Array**	**25.39**	**48**	P		**P**	**10 19 28.1**	**+0.5**
	0.6nm,0.7s,baz=254,slow=8.2,SNR=8.0 0.6nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**35.33**	**177**	T		T	10 58 48.9	
	baz=359,slow=76,SNR=8.3							
H11N3	**WAKE ISLAND Hy**	**35.34**	**177**	T		T	10 58 51.6	
	baz=359,slow=76,SNR=7.0							
H11N1	**WAKE ISLAND Hy**	**35.35**	**177**	T		T	10 58 53.8	
	baz=359,slow=76,SNR=8.9							
KURBB	**Kurchatov Arra**	**49.16**	**303**	P		**P**	**10 22 48.1**	**0.0**
	0.5nm,0.4s,baz=55,slow=8.0,SNR=4.1 0.5nm,0.4s							
MKAR	**Makanchi Array**	**49.81**	**297**	P		**P**	**10 22 53.0**	**-0.2**
	0.3nm,0.6s,baz=42,slow=5.7,SNR=2.0 0.3nm,0.6s							
TXAR	**Lajitas Array**	**67.28**	**71**	P		**P**	**10 24 56.5**	**+1.3**
	0.2nm,0.6s,baz=312,slow=6.7,SNR=4.5 0.2nm,0.6s							
WRA	**Warramunga Arr**	**79.14**	**209**	P		**P**	**10 26 05.4**	**+0.3**
	0.3nm,0.8s,baz=26,slow=5.9,SNR=2.1 0.3nm,0.8s							
ASAR	**Alice Springs**	**82.80**	**208**	P		**P**	**10 26 25.6**	**+1.1**
	0.3nm,0.7s,baz=3.1,slow=5.2,SNR=2.7 0.3nm,0.7s							

IDC ***26*** *10:17:42.3±1.0,37°.15N×141°.30E, h0km, mb3.7/9, mbtmp3.7/10, ML2.2/1, MS3.5/2, Error ellipse: s-maj=26.7km s-min=22.5km az=77.0*
JMA ***26*** *10:17:44.5±0.2,37°.3N±0°.3×141°.4E±0°.8, h22km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*

ISC 26 10:17:43.8±2.0,37°.23N±0°.04×141°.33E±0°.07, h9km±12km, n29, σ0°75/27, mb3.6/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.39**	**291**	P	**Pb**	**10 17 52.6**	**-0.3**
JFK				S	**Sb**	**10 17 58.6**	**-0.4**
JMST	**Minamisoumatoc**	**0.61**	**325**	P	**Pb**	**10 17 56.1**	**-0.4**
JMST				S	**Sb**	**10 18 04.8**	**-0.4**
JFFD	**Fukushimafurud**	**0.63**	**258**	*i* P	**Pb**	**10 17 56.8**	**-0.1**
JFFD				S	**Sb**	**10 18 05.8**	**0.0**
JMM	**Marumori**	**0.77**	**326**	P	**Pg**	**10 17 58.8**	**+0.2**
JMM				S	**Sb**	**10 18 09.6**	**-0.2**
JHO	**Hitachi**	**0.87**	**225**	P	**Pb**	**10 18 00.5**	**-0.5**
JHO				S	**Sb**	**10 18 12.2**	**-0.5**
JSB	**Shiboa**	**1.16**	**258**	P	**Pg**	**10 18 06.8**	**+0.8**
JSB				S	**Sn**	**10 18 22.9**	**+0.8**
JIO	**Ouri**	**1.23**	**1**	P	**Pn**	**10 18 06.2**	**-0.9**
JIO				S	**Sb**	**10 18 22.1**	**-0.8**
JOU	**Okura**	**1.25**	**335**	P	**Pb**	**10 18 07.4**	**-0.2**
JOU				S	**Sb**	**10 18 23.8**	**0.0**
MJAR	**Matsushiro Arr**	**2.59**	**256**	Pn	**Pn**	**10 18 25.7**	**-0.1**
	0.5nm,0.3s,baz=42,slow=11,SNR=4.0						
MJAR				Sn	**Sb**	**10 19 00.1**	**-2.3**
	0.6nm,0.3s,baz=82,slow=18,SNR=6.0 4.8nm,0.5s						
SONM	**Songino Array**	**27.62**	**304**	P	**P**	**10 23 31.8**	**+0.3**
	0.7nm,0.8s,baz=106,slow=9.1,SNR=3.3 0.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	10 53 09.5	
	baz=314,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	10 53 10.1	
	baz=314,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	10 53 11.3	
	baz=314,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	10 54 00.7	
	baz=316,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	10 54 02.9	
	baz=316,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	10 54 02.4	
	baz=316,slow=76,SNR=33						
TIXI	**Tiksi**	**35.09**	**353**	LR	LR	10 41 56.4	
	comp=Z,49nm,18.1s,baz=184,slow=41						
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**10 25 33.6**	**+0.8**
	0.6nm,0.5s,baz=120,slow=8.5,SNR=3.5 0.6nm,0.5s						
MKAR	**Makanchi Array**	**43.96**	**302**	P	**P**	**10 25 50.1**	**-1.0**
	0.9nm,0.9s,baz=69,slow=6.6,SNR=3.4 0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**45.83**	**308**	P	**P**	**10 26 05.5**	**-0.3**
	1.1nm,0.6s,baz=81,slow=7.6,SNR=3.1 1.1nm,0.6s						
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**10 26 33.7**	**+0.6**
	0.8nm,1.0s,baz=257,slow=7.2,SNR=5.6 0.8nm,1.0s						
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**10 27 30.6**	**-0.8**
	0.8nm,0.7s,baz=5.5,slow=7.2,SNR=9.2 0.8nm,0.7s						
ASAR	**Alice Springs**	**60.97**	**188**	P	**P**	**10 27 56.8**	**-0.5**
	0.3nm,0.7s,baz=24,slow=7.1,SNR=2.8 0.3nm,0.7s						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**10 28 47.2**	**+0.5**
	2.2nm,0.8s,baz=92,slow=10,SNR=3.3 2.2nm,0.8s						
JMIC	**Jan Mayen**	**69.94**	**350**	LR	LR	11 01 44.3	
	comp=Z,46nm,19.4s,baz=325,slow=38						
TXAR	**Lajitas Array**	**90.06**	**52**	P	**P**	**10 30 44.9**	**+0.7**
	0.3nm,0.7s,baz=318,slow=3.5,SNR=3.8 0.3nm,0.7s						
H03N2	**Juan Fernandez**	**147.11**	**96**	T	T	13 21 52.6	
	baz=290						
H03N3	**Juan Fernandez**	**147.12**	**96**	T	T	13 21 52.1	
	baz=290,slow=74,SNR=8.3						
H03N1	**Juan Fernandez**	**147.12**	**96**	T	T	13 21 47.3	
	baz=290,slow=74,SNR=14						

IDC ***26*** *10:23:42.0±0.9, 38°.96N×74°.16E, h0km, mb3.9/14, mbtmp4.0/18, ML3.6/4, MS3.3/3, Error ellipse: s-maj=18.1km s-min=15.8km az=57.0*
BJI ***26*** *10:23:45.0±0.0, 39°.22N×74°.34E, h7km, mb4.2/10, mB4.9/5, ML3.8/5, Ms3.8/4, Ms7 3.8/3*
KRNET ***26*** *10:23:47.4±0.1, 39°.41N×74°.10E, mb4.4*
NEIC ***26*** *10:23:47.1±2.0, 39°.29N±0°.07×74°.33E±0°.05, h10km±1km, mb4.3/9, Error ellipse: s-maj=12.1km s-min=5.6km az=339.0*
NNC ***26*** *10:23:48.4±2.1, 39°.41N×74°.37E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=17.5km s-min=11.0km az=161.0*
SOME ***26*** *10:23:49.2, 39°.68N×74°.07E, h0km*

ISC 26 10:23:45.2±0.5, 39°.27N±0°.03×74°.29E±0°.03, h10km, n137, σ25°55/161, mb4.0/19, 26C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.33**	**79**	Pg	Pn	10 24 01.0	-8.9
KSH				Sg	Sb	10 24 14.5	-13
KSH				smax	smax		
	comp=N,2μm,0.8s						
KSH				smax	smax		
	comp=E,2μm,0.8s						
OHH	**Osh**	**1.70**	**318**	⇑*i*P	**Pn**	**10 24 15.7**	**+0.6**
	baz=18						
OHH				⇑*i*S	**Sn**	**10 24 36.4**	**-0.6**
	baz=18						
DRK	**Karamyk**	**1.94**	**277**	⇑*i*P	**Pb**	**10 24 20.6**	**-0.2**
	baz=73						
DRK				⇑*i*S	**Sn**	**10 24 45.1**	**+2.0**
	baz=73						
DRK	**Karamyk**	**1.94**	**277**	Pn	**Pb**	**10 24 20.3**	**-0.5**
NRN	**Naryn**	**2.52**	**31**	Pn	**Pb**	**10 24 29.1**	**-1.8**
ARLS	**Aral**	**2.59**	**1**	⇑*i*P	**Pb**	**10 24 30.7**	**-1.1**
	baz=4.0						
ARLS				⇑*i*S	**Sb**	**10 25 02.5**	**-1.2**
	baz=4.0						
BTK	**Batken**	**2.79**	**287**	⇑*eP*	**Pn**	**10 24 32.8**	**+2.8**
	baz=85						
BTK				⇑*i*S	**Sn**	**10 25 06.1**	**+2.3**
	baz=85						
BTK	**Batken**	**2.79**	**287**	Pn	**Pb**	**10 24 33.4**	**-1.8**
AML	**Almayashu**	**2.89**	**351**	P	**Pn**	**10 24 35.0**	**+3.3**
	SNR=69						
UCH	**Uchtor**	**2.96**	**3**	P	**Pb**	**10 24 36.4**	**-1.9**
	SNR=99						
ARK	**Arkit**	**3.08**	**326**	⇑*eP*	**Pn**	**10 24 36.8**	**+2.7**
	baz=27						
ARK				⇑*i*S	**Sn**	**10 25 12.9**	**+1.8**
	baz=27						
GAR	**Garm**	**3.10**	**266**	⇑*eP*	**Pb**	**10 24 37.9**	**-2.6**
	baz=63						
GAR				⇑*i*S	**Sn**	**10 25 14.7**	**+3.2**
	baz=63						
GAR	**Garm**	**3.10**	**266**	Pn	**Pn**	**10 24 36.5**	**+2.2**
TRKS	**Terek-Say**	**3.30**	**314**	⇓*eP*	**Pn**	**10 24 38.9**	**+1.9**
	baz=14						
TRKS				⇓*i*S	**Sn**	**10 25 16.3**	**-0.1**
	baz=14						
ULHL	**Ulahol**	**3.32**	**26**	P	**Pb**	**10 24 46.5**	**+2.2**
	SNR=12						
AAK	**Ala-Archa**	**3.37**	**3**	P	**Pb**	**10 24 43.1**	**-2.0**
	SNR=14						
AAK	**Ala-Archa**	**3.37**	**3**	Pn	**Pb**	**10 24 43.4**	**-1.6**
	33nm,0.3s,baz=174,slow=6.8,SNR=34						
AAK				Lg	Lg	10 25 32.6	
	14nm,0.3s,baz=93,slow=23,SNR=8.6						
AAK				LR	LR	10 26 19.4	
	comp=Z,165nm,20.0s,baz=192,slow=43 139nm,0.4s						
AAK	**Ala-Archa**	**3.37**	**3**		**Pn**	**10 24 42.1**	**+4.1**
EKS2	**Erkin-Say**	**3.41**	**354**	P	**Pb**	**10 24 44.0**	**-1.8**
	SNR=28						
EKS2	**Erkin-Say**	**3.41**	**354**	⇑*eP*	**Pn**	**10 24 41.9**	**+3.3**
	baz=56						
EKS2				⇑*i*S	**Sn**	**10 25 21.7**	**+2.6**
	baz=56						
KBK	**Karagaybulak**	**3.42**	**8**	P	**Pb**	**10 24 45.3**	**-0.7**
	SNR=14						
BOOM	**Boomskoye usch**	**3.45**	**21**		**Pn**	**10 24 40.8**	**+1.6**
MRKS	**Merke**	**3.56**	**347**	*eP*	**Pb**	**10 24 49.7**	**+1.4**
	74nm,0.5s						
MRKS				*eS*	**Sb**	**10 25 35.2**	**+3.5**
	179nm,0.4s						
MRKS	**Merke**	**3.56**	**347**	Pg	**Pb**	**10 24 48.3**	**-0.1**
	74nm,0.5s						
MRKS				Lg	Lg	10 25 35.0	
	179nm,0.4s						
TARG	**Taragay, Kyrgy**	**3.63**	**46**		**Pn**	**10 24 43.6**	**+1.7**
CHMS	**Chumysh**	**3.74**	**5**	P	**Pb**	**10 24 47.9**	**-3.4**
	SNR=14						
TKM2	**Tokmak 2**	**3.78**	**15**	P	**Pn**	**10 24 47.8**	**+4.1**
	SNR=14						
TKM2	**Tokmak 2**	**3.78**	**15**	⇑Pn	**Pn**	**10 24 46.8**	**+3.1**
	70nm,0.7s						
TKM2				⇑Lg	Lg	10 25 45.1	
	278nm,1.4s						
USP	**Ospenovka**	**4.00**	**2**	P	**Pb**	**10 24 52.3**	**-3.4**
	SNR=21						
CHGR	**Chuyangaron**	**4.05**	**263**	Pn	**Pn**	**10 24 48.7**	**+1.4**
DGS	**Degeres**	**4.12**	**15**	*eP*	**Pg**	**10 25 02.2**	**-1.9**
	79nm,0.5s						
DGS				*eS*	**Sg**	**10 25 56.7**	**-0.9**
	92nm,0.1s						
DGS	**Degeres**	**4.12**	**15**	Pg	**Pg**	**10 25 02.4**	**-1.7**
	79nm,0.5s						
DGS				Lg	Lg	10 25 56.7	
	93nm,0.8s						
IZV	**Izvestkoviy**	**4.15**	**24**	*eP*	**Pg**	**10 25 03.5**	**-1.2**
	32nm,0.6s						
IZV				*eS*	**Sg**	**10 25 58.2**	**-0.3**
	107nm,0.7s						
IZV	**Izvestkoviy**	**4.15**	**24**	Pg	**Pg**	**10 25 02.2**	**-2.5**
	32nm,0.6s						
IZV				Lg	Lg	10 25 58.4	
	107nm,0.7s						
MTBS	**Maitube**	**4.18**	**22**	*eP*	**Pb**	**10 25 01.8**	**+2.9**
	61nm,0.5s						
MTBS				*eS*	**Sg**	**10 25 58.1**	**-1.3**
	79nm,0.7s						
MTBS	**Maitube**	**4.18**	**22**	Pg	**Pb**	**10 25 01.7**	**+2.9**
	61nm,0.5s						
MTBS				Lg	Lg	10 25 58.1	
	79nm,0.7s						
SGDS	**Sogindy**	**4.18**	**3**	*eP*	**Pb**	**10 25 02.3**	**+3.4**
	28nm,0.3s						
SGDS				*eS*	**Sg**	**10 25 57.5**	**-2.1**
	108nm,0.7s						
SGDS	**Sogindy**	**4.18**	**3**	Pg	**Pb**	**10 25 01.8**	**+2.8**
	28nm,0.3s						
SGDS				Lg	Lg	10 25 58.1	
	108nm,0.7s						
TNSS	**Tian-Shan**	**4.26**	**27**	*eP*	**Pb**	**10 25 03.6**	**+3.1**
	167nm,0.4s						
TNSS				*eS*	**Sg**	**10 26 01.5**	**-0.6**
	69nm,0.6s						
TNSS	**Tian-Shan**	**4.26**	**27**	Pg	**Pb**	**10 25 03.6**	**+3.1**
	167nm,0.4s						
TNSS				Lg	Lg	10 26 01.9	
	69nm,0.6s						
IUG	**Iuzhnay**	**4.33**	**313**	*eP*	**Pb**	**10 25 05.7**	**+4.3**
	246nm,0.5s						
IUG				*eS*	**Sg**	**10 26 05.0**	**+0.9**
	280nm,0.5s						
IUG	**Iuzhnay**	**4.33**	**313**	Pg	**Pg**	**10 25 06.3**	**-1.8**
	246nm,0.5s						
IUG				Lg	Lg	10 26 05.5	
	280nm,0.5s						
TAS	**Tashkent**	**4.33**	**300**	Pn	**Pn**	**10 24 53.7**	**+2.6**
AAA	**Alma-Ata**	**4.40**	**26**	*eP*	**Pb**	**10 25 06.3**	**+3.6**
	158nm,0.4s						
AAA				*eS*	**Sg**	**10 26 06.1**	**-0.5**
	170nm,0.1s						
AAA	**Alma-Ata**	**4.40**	**26**	Pg	**Pg**	**10 25 06.5**	**-3.0**
	158nm,0.4s						
AAA				Lg	Lg	10 26 06.1	
	181nm,0.9s						
MDOK	**Medeo**	**4.41**	**27**	*eP*	**Pb**	**10 25 05.5**	**+2.7**
	111nm,0.6s						
MDOK				*eS*	**Sg**	**10 26 04.6**	**-2.2**
	93nm,0.1s						
MDOK	**Medeo**	**4.41**	**27**	Pn	**Pn**	**10 24 55.5**	**+3.1**
	9.1nm,0.6s						
MDOK				Pg	**Pb**	**10 25 05.1**	**+2.2**
	93nm,0.6s						
MDOK				Pg	**Pb**	**10 25 06.1**	**+3.2**
	111nm,0.6s						
MDOK				Lg	Lg	10 26 04.6	
	89nm,0.6s						
MDOK				Lg	Lg	10 26 04.9	
	147nm,0.8s						
KNDC	**Almaty**	**4.43**	**26**	⇑Pg	**Pb**	**10 25 05.9**	**+2.8**
	262nm,0.6s						
KNDC				⇑Lg	Lg	10 26 07.0	
	957nm,1.4s						
KOTS	**Kotyrbulak**	**4.50**	**27**	*eP*	**Pb**	**10 25 08.0**	**+3.7**
	89nm,0.2s						
KOTS				*eS*	**Sg**	**10 26 08.9**	**-0.7**
	104nm,0.2s						
KOTS	**Kotyrbulak**	**4.50**	**27**	Pg	**Pb**	**10 25 08.0**	**+3.7**
	89nm,0.5s						
KOTS				Lg	Lg	10 26 08.9	
	102nm,0.7s						
KRBS	**Karabastau**	**4.54**	**13**	*eP*	**Pb**	**10 25 08.6**	**+3.6**
	36nm,0.4s						
KRBS				*eS*	**Sg**	**10 26 09.4**	**-1.6**
	82nm,0.7s						
KRBS	**Karabastau**	**4.54**	**13**	Pg	**Pb**	**10 25 08.6**	**+3.6**
	36nm,0.4s						
KRBS				Lg	Lg	10 26 09.1	
	82nm,0.7s						
KK31	**Karatay Array**	**4.77**	**325**		**Pn**	**10 24 59.6**	**+2.5**
KK31	**Karatay Array**	**4.77**	**325**	⇑Pn	**Pn**	**10 24 58.6**	**+1.5**
	40nm,0.7s,baz=134,slow=14						
KK31				⇑Sn	**Sn**	**10 25 56.5**	**+3.9**
	74nm,0.8s,baz=133,slow=24						
KK31				⇓Lg	Lg	10 26 15.7	
	28nm,0.5s,baz=127,slow=29						
KKAR	**Karatay Array**	**4.77**	**325**		**Pn**	**10 24 59.6**	**+2.4**
KKAR	**Karatay Array**	**4.77**	**325**		**Pn**	**10 24 59.6**	**+2.4**
KTBS	**Karatobe**	**4.79**	**21**	*eP*	**Pb**	**10 25 12.1**	**+2.9**
	64nm,0.6s						
KTBS				*eS*	**Sg**	**10 26 15.6**	**-3.3**
	119nm,0.8s						
KTBS	**Karatobe**	**4.79**	**21**	Pg	**Pb**	**10 25 13.3**	**+4.1**
	64nm,0.6s						
KTBS				Lg	Lg	10 26 17.1	
	119nm,0.8s						
KUU	**Kurty**	**4.87**	**18**	*eP*	**Pb**	**10 25 13.9**	**+3.4**
	63nm,0.7s						
KUU				*eS*	**Sg**	**10 26 18.9**	**-2.5**
	138nm,0.6s						
KUU	**Kurty**	**4.87**	**18**	Pg	**Pb**	**10 25 14.0**	**+3.4**
	63nm,0.7s						
KUU				Lg	Lg	10 26 18.9	
	138nm,0.6s						
SATY	**Saty**	**4.90**	**38**	*eP*	**Pb**	**10 25 13.3**	**+2.2**
	53nm,0.7s						
SATY				*eS*	**Sg**	**10 26 18.1**	**-4.3**
	46nm,0.6s						
SATY	**Saty**	**4.90**	**38**	Pg	**Pb**	**10 25 13.3**	**+2.2**
	53nm,0.7s						
SATY				Lg	Lg	10 26 18.5	
	46nm,0.6s						
CHKK	**Chushkaly**	**5.01**	**23**	*eP*	**Pb**	**10 25 16.3**	**+3.4**
	45nm,0.8s						
CHKK				*eS*	**Sg**	**10 26 23.2**	**-2.7**
	64nm,0.7s						
CHKK	**Chushkaly**	**5.01**	**23**	Pg	**Pg**	**10 25 17.6**	**-3.4**
	45nm,0.8s						
CHKK				Lg	Lg	10 26 24.9	
	64nm,0.7s						
KURS	**Kuram**	**5.12**	**33**	*eP*	**Pb**	**10 25 17.2**	**+2.2**
	38nm,0.1s						
KURS				*eS*	**Sg**	**10 26 24.9**	**-4.8**
	68nm,0.7s						
UZB	**Uzynbulak**	**5.27**	**41**	*eP*	**Pb**	**10 25 20.7**	**+3.2**
	37nm,0.4s						
UZB				*eS*	**Sg**	**10 26 30.7**	**-3.5**
	64nm,1.0s						
UZB	**Uzynbulak**	**5.27**	**41**	Pg	**Pg**	**10 25 22.9**	**-3.1**
	37nm,0.4s						
UZB				Lg	Lg	10 26 35.7	
	64nm,1.0s						
KPKS	**Kokpek**	**5.34**	**37**	*eP*	**Pb**	**10 25 22.2**	**+3.6**
	72nm,0.3s						
KPKS				*eS*	**Sg**	**10 26 33.2**	**-3.3**
	113nm,0.8s						
KPKS	**Kokpek**	**5.34**	**37**	Pg	**Pb**	**10 25 22.2**	**+3.6**
	82nm,0.9s						
KPKS				Lg	Lg	10 26 33.2	
	113nm,0.6s						
SHLS	**Shalkode**	**5.50**	**43**	*eP*	**Pg**	**10 25 28.6**	**-1.9**
	49nm,0.3s						
SHLS				*eS*	**Sg**	**10 26 45.8**	**+3.9**
	82nm,1.6s						
SHLS	**Shalkode**	**5.50**	**43**	Pg	**Pg**	**10 25 28.6**	**-1.9**
	49nm,0.3s						
SHLS				Lg	Lg	10 26 45.7	
	82nm,1.6s						
ARXS	**Arharly**	**5.60**	**27**	*eP*	Pb	10 25 28.1	+5.0
	102nm,0.0s						
ARXS				*eS*	**Sg**	**10 26 43.6**	**-1.4**
	45nm,0.7s						
ARXS	**Arharly**	**5.60**	**27**	Pg	**Pg**	**10 25 29.0**	**-3.5**
	102nm,0.7s						
ARXS				Lg	Lg	10 26 43.6	
	45nm,0.7s						
PDGK	**Podgornoye**	**5.64**	**42**	Pg	**Pb**	**10 25 26.2**	**+2.5**
	33nm,0.7s						
PDGK				Lg	Lg	10 26 40.7	
	41nm,0.9s						
PDGK	**Podgornoye**	**5.64**	**42**	⇑Pn	**Pn**	**10 25 11.3**	**+2.2**
	7.3nm,0.7s						
PDGK				⇓Pg	**Pb**	**10 25 25.8**	**+2.1**
	62nm,0.7s						
PDGK				⇑Lg	Lg	10 26 47.0	
	117nm,1.0s						
CHCP	**Chirah Chowk**	**5.66**	**189**	P	Pn	10 25 13.5	+4.1
NIL	**Nilore**	**5.67**	**189**		**Pn**	**

comp=Z,0.5nm,0.3s,baz=266,slow=38,SNR=2.1
PYUN Piuthan 13.28 144 *e*P **Pn** **10 26 50.3 -3.7**
DANN Dangsing 13.43 141 *e*P **Pn** **10 26 52.4 -3.7**
BVA0 Borovoye Array 14.02 350 ⇓Pn **Pn** **10 27 05.6 +1.8**
comp=Z,10nm,1.1s
BVA0 ⇓Lg Lg 10 31 10.9
comp=Z,28nm,1.4s
BVAR Borovoye Array 14.02 350 Pn **Pn** **10 27 05.0 +1.3**
comp=Z,0.1nm,0.3s,baz=161,slow=14,SNR=21
BVAR Lg Lg 10 31 13.0
baz=157,slow=24,SNR=2.5
comp=Z,4.9nm,0.7s
BRVK Borovoye 14.06 350 Pn **Pn** **10 27 05.6 +1.3**
BRVK Borovoye 14.06 350 ⇓Pn **Pn** **10 27 01.6 -2.8**
comp=Z,17nm,1.3s
GKN Gorkha 14.15 139 *e*P Pn 10 26 58.6 -7.2
AB31 Akbulak array 14.30 319 ⇓P **Pn** **10 27 08.0 +0.4**
comp=Z,2.4nm,0.5s
ABKAR Akbulak array 14.30 319 Pn **Pn** **10 27 07.1 -0.6**
GUN Gumba 14.87 136 *e*P **Pn** **10 27 13.0 -2.9**
JIRN Jiri 15.24 136 *e*P **Pn** **10 27 17.4 -3.4**
AKTO Aktyubinsk 16.01 319 ⇑P **Pn** **10 27 32.5 +2.1**
comp=Z,8.1nm,0.8s
RAMN Ramite 16.02 136 *e*P **Pn** **10 27 24.7 -6.2**
ZAA0 Zalesovo Array 16.34 23 Pn **Pn** **10 27 34.2 -0.3**
ZALV Zalesovo Beam 16.34 23 Pn **Pn** **10 27 34.7 +0.2**
comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=8.2
comp=Z,2.1nm,0.6s
ZALV Zalesovo Beam 16.34 23 Pn **Pn** **10 27 34.0 -0.5**
GTA Gaotai 19.73 81 *e*P **Pn** **10 28 16.8 +0.3**
GTA pP sP 10 28 20.0 -1.1
GTA sP pP 10 28 22.8 +3.6
GTA pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 20.07 334 P Pn 10 28 20.4 +0.2
comp=Z,4.8nm,0.7s,baz=135,slow=17,SNR=2.3
comp=Z,4.8nm,0.7s
ARU Arti 20.07 334 Pn 10 28 21.1 +0.8
ARU IAmb IAmb 10 28 24.9
comp=Z,8.2nm,0.9s
SHL Shillong 20.13 128 P **P** **10 28 19.1 -0.5**
WSAR Wadi Sarin 20.80 224 P **P** **10 28 26.4 -0.2**
comp=Z,7.7nm,0.7s,baz=74,slow=7.8,SNR=6.4
GNI Garni 22.70 282 P **P** **10 28 48.2 +1.0**
comp=Z,6.2nm,0.6s,baz=334,slow=13,SNR=2.0
GNI Garni 22.70 282 P **P** **10 28 48.0 +0.8**
ONI Oni 23.47 288 P **P** **10 28 56.0 +1.1**
ONI IAmb IAmb 10 29 01.3
comp=Z,22nm,1.3s
GEVA Gevas 24.30 278 P **P** **10 29 04.7 +1.7**
GEVA IAmb IAmb 10 29 09.0
comp=Z,5.1nm,1.0s
SONM Songino Array 24.65 59 P **P** **10 29 06.6 +0.6**
comp=Z,0.9nm,0.6s,baz=258,slow=10,SNR=7.9
comp=Z,0.9nm,0.6s
SONM Songino Array 24.65 59 P **P** **10 29 07.1 +1.0**
PZH PanZhiHua 26.22 111 P **P** **10 29 21.8 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.4s
HHC Hu-ho-hao-te 28.44 75 *e*P **P** **10 29 41.3 +1.1**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,330nm,5.5s
RAYN Ar Rayn 29.00 246 P **P** **10 29 46.4 +1.2**
RAYN IAmb IAmb 10 29 49.4
comp=Z,4.6nm,0.8s
BRTR Keskin Array B 31.18 284 P **P** **10 30 04.0 -0.5**
comp=Z,0.6nm,0.4s,baz=78,slow=12,SNR=3.6
comp=Z,0.6nm,0.4s
BRTR Keskin Array B 31.18 284 P **P** **10 30 06.8 +2.3**
AKASG Malin Array Be 33.36 305 P **P** **10 30 22.2 -1.2**
comp=Z,0.3nm,0.4s,baz=78,slow=7.6,SNR=2.2
comp=Z,0.3nm,0.4s
FINES FINESS Array B 36.73 323 P **P** **10 30 51.4 -0.9**
comp=Z,2.5nm,0.6s,baz=109,slow=10.0,SNR=17
comp=Z,2.5nm,0.6s
ARCES ARCESS Array B 39.64 336 P **P** **10 31 16.0 -0.7**
comp=Z,2.5nm,0.9s,baz=108,slow=8.7,SNR=7.1
comp=Z,2.5nm,0.9s
KSRS Korea Array 41.58 75 LR LR 10 51 27.2
comp=Z,39nm,18.3s,baz=270,slow=40
TIXI Tiksi 42.23 23 P **P** **10 31 39.7 +1.8**
comp=Z,2.1nm,0.3s,baz=270,slow=2.3,SNR=6.1
comp=Z,2.1nm,0.3s
NB2 NORSAR Subarra 43.80 321 P **P** **10 31 49.7 -1.2**
comp=Z,1.4nm,0.6s,baz=91,slow=7.9
NOA NORSAR Array B 43.80 321 P **P** **10 31 49.8 -1.1**
comp=Z,1.9nm,0.8s,baz=91,slow=7.7,SNR=5.1
comp=Z,1.9nm,0.8s
KEST Kesra 50.65 288 LR LR 10 58 49.3
comp=Z,76nm,18.1s,baz=253,slow=42
ESDC Sonseca Array 58.48 298 P **P** **10 33 40.1 -1.4**
comp=Z,0.8nm,0.5s,baz=55,slow=7.1,SNR=7.0
comp=Z,0.8nm,0.5s
INK Inuvik 70.73 11 P **P** **10 35 00.1 -0.8**
comp=Z,1.7nm,0.9s,baz=325,slow=3.5,SNR=3.5
comp=Z,1.7nm,0.9s
ILAR Eielson Array 71.39 17 P **P** **10 35 06.0 +1.1**
comp=Z,0.5nm,0.7s,baz=326,slow=3.1,SNR=6.3
comp=Z,0.5nm,0.7s
YKA Yellowknife Ar 78.33 4 P **P** **10 35 47.3 +2.2**
comp=Z,0.7nm,0.6s,baz=353,slow=8.9,SNR=2.0
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 81.33 124 P **P** **10 35 59.9 -2.1**
comp=Z,0.5nm,0.5s,baz=324,slow=4.9,SNR=21
comp=Z,0.5nm,0.5s
ASAR Alice Springs 83.78 127 P **P** **10 36 12.2 -2.6**
comp=Z,0.4nm,0.6s,baz=314,slow=4.9,SNR=10
comp=Z,0.4nm,0.6s

GUC 26 10:35:58.4±0.5, 22.60S×68.69W, h105km±2km, ML3.8, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.59**	**127**	⇓*e*P	Pn	10 36 15.6	-0.2
AF01				*e*S	Sn	10 36 28.7	0.0
AF01				IAML		10 36 37.0	
	comp=N,3μm,0.4s						
AF01				IAML		10 36 38.9	
	comp=E,4μm,0.6s						
PB06	**IPOC Station P**	**0.82**	**263**	*e*P	Pn	10 36 17.2	-0.4
PB06				*e*S	Sn	10 36 31.6	-0.4
PB06				IAML		10 36 33.9	
	comp=E,2μm,0.3s						
PB06				IAML		10 36 36.4	
	comp=N,1μm,0.3s						
PB15	**IPOC Station P**	**0.94**	**230**	*e*P	Pn	10 36 19.1	+0.3
PB15				*e*S	Sn	10 36 34.7	+0.6
PB09	**IPOC Station P**	**0.95**	**327**	⇑*e*P	Pn	10 36 18.8	-0.1
PB09				*e*S	Sn	10 36 34.5	+0.2
PB09				IAML		10 36 36.4	
	comp=E,2μm,0.4s						
PB03	**IPOC Station P**	**1.13**	**299**	⇑*e*P	Pn	10 36 20.2	-0.5
PB03				*e*S	Sn	10 36 37.0	-0.7
PB03				IAML		10 36 38.2	
	comp=E,4μm,0.6s						
PB04	**IPOC Station P**	**1.38**	**281**	*e*P	Pn	10 36 23.3	-0.3
PB04				*e*S	Sn	10 36 42.2	-0.5
PB04				IAML		10 36 45.5	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.41**	**308**	⇑*e*P	Pn	10 36 23.6	-0.5
PB07				*e*S	Sn	10 36 42.9	-0.5
PB07				IAML		10 36 48.2	
	comp=E,1μm,0.2s						
PB02	**IPOC Station P**	**1.70**	**319**	⇑*e*P	Pn	10 36 27.1	-0.4
PB02				*e*S	Sn	10 36 49.0	-0.6
PB02				IAML		10 36 55.0	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**1.72**	**334**	⇑*e*P	Pn	10 36 27.4	-0.4
PB01				*e*S	Sn	10 36 49.3	-0.7
PB01				IAML		10 36 52.4	
	comp=E,2μm,0.1s						
PB10	**IPOC Station P**	**1.94**	**242**	*e*P	Pn	10 36 30.0	-0.4
PB10				*e*S	Sn	10 36 52.7	-2.2
PB10				IAML		10 37 04.3	
	comp=N,364nm,0.3s						
PATCX	**Punta Patache**	**2.23**	**322**	*e*P	Pn	10 36 33.2	-1.1
PATCX				*e*S	Sn	10 37 00.9	-0.8
PATCX				IAML		10 37 07.5	
	comp=E,999nm,0.2s						
TA01	**Diego Aracena**	**2.45**	**325**	⇑*e*P	Pn	10 36 36.4	-0.7
TA01				*e*S	Sn	10 37 06.8	0.0
TA01				IAML		10 37 14.1	
	comp=E,624nm,0.3s						
PB08	**IPOC Station P**	**2.48**	**350**	*e*P	Pn	10 36 37.9	0.0
PB08				*e*S	Sn	10 37 10.6	+2.5
PB08				IAML		10 37 15.5	
	comp=E,324nm,0.1s						
HMBC	**Humberstone**	**2.57**	**334**	*e*P	Pn	10 36 37.1	-1.6
HMBC				*e*S	Sn	10 37 05.4	-4.2
HMBC				IAML		10 37 16.8	
	comp=E,709nm,0.2s						
TA02	**Huaiquique**	**2.68**	**330**	⇑*e*P	Pn	10 36 39.0	-1.1
TA02				*e*S	Sn	10 37 10.8	-1.2
TA02				IAML		10 37 20.5	
	comp=N,1μm,0.1s						
PB11	**IPOC Station P**	**2.97**	**342**	*e*P	Pn	10 36 42.8	-1.2
PB11				*i* S	Sn	10 37 18.4	-0.7
PB11				IAML		10 37 27.4	
	comp=E,515nm,0.3s						
PSGC	**Pisagua**	**3.27**	**336**	⇑*e*P	Pn	10 36 46.2	-1.9
PSGC				*e*S	Sn	10 37 21.9	-4.5
PSGC				IAML		10 37 41.6	
	comp=N,251nm,0.3s						
MNMC	**Minye Minye**	**3.56**	**346**	*e*P	Pn	10 36 50.6	-1.4
MNMC				*e*S	Sn	10 37 31.5	-1.8

*PRU **26** 10:39:51.7±0.0, 42.87N×13.64E, h10km*
*ROM **26** 10:39:51.1±0.1, 43.009N±0.004×13.136E±0.005, h10km, ML2.7/39, Error ellipse: s-maj=0.4km s-min=0.3km az=342.0*

ISC 26 10:39:52.0±0.8, 43.01N±0.02×13.14E±0.02, h10km, n67, σ1°14/86, 16C-18D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.05**	**307**	P	**Pg**	**10 39 53.0**	**-1.1**
FDMO				S	**Sg**	**10 39 54.0**	**-1.5**
FDMO				AML	AML		
	comp=E,21750μm,0.6s						
FDMO				AML	AML		
	comp=N,36100μm,0.3s						
T1256	**Bolognola (MC)**	**0.06**	**90**	⇑P	**Pg**	**10 39 53.3**	**-1.0**
T1256				AML	AML		
	comp=N,18950μm,1.1s						
T1256				AML	AML		
	comp=E,16200μm,0.8s						
T1256				AML	AML		
	comp=E,16650μm,0.8s						
T1256				AML	AML		
	comp=E,16150μm,0.8s						
T1256				AML	AML		
	comp=N,18900μm,1.1s						
T1256				AML	AML		
	comp=N,18300μm,1.1s						
FEMA	**Monte Fema**	**0.08**	**236**	P	**Pg**	**10 39 53.8**	**-0.7**
FEMA				S	**Sg**	**10 39 55.5**	**-0.8**
FEMA				AML	AML		
	comp=N,19000μm,0.4s						
FEMA				AML	AML		
	comp=E,20200μm,1.5s						
FEMA				AML	AML		
	comp=N,19050μm,0.4s						
FEMA				AML	AML		
	comp=N,19050μm,0.4s						
CSP1	**Cessapalombo**	**0.10**	**29**	⇑P	**Pg**	**10 39 54.0**	**-0.7**
CSP1				S	**Sg**	**10 39 55.8**	**-0.8**
CSP1				AML	AML		
	comp=N,20400μm,1.4s						
CSP1				AML	AML		
	comp=E,11250μm,0.5s						
T1219	**Muccia, Frazio**	**0.11**	**297**	⇓P	**Pg**	**10 39 54.2**	**-0.6**
T1219				S	**Sg**	**10 39 56.3**	**-0.5**
T1219				AML	AML		
	comp=N,14750μm,0.2s						
T1219				AML	AML		
	comp=E,14800μm,1.0s						
T1219				AML	AML		
	comp=N,14750μm,0.2s						
T1219				AML	AML		
	comp=E,15150μm,1.0s						
T1219				AML	AML		
	comp=N,14500μm,0.2s						
T1216	**Preci, Frazion**	**0.15**	**218**	P	**Pg**	**10 39 54.9**	**-0.4**
T1216				S	**Sg**	**10 39 57.6**	**0.0**
T1216				AML	AML		
	comp=E,9830μm,1.6s						
T1216				AML	AML		
	comp=N,11400μm,1.0s						
T1216				AML	AML		
	comp=E,9830μm,1.6s						
T1216				AML	AML		
	comp=N,11400μm,1.1s						
T1216				AML	AML		
	comp=E,9825μm,1.6s						
GUMA	**Gualdo di Mace**	**0.15**	**69**	⇑P	**Pg**	**10 39 55.4**	**0.0**
GUMA				S	**Sg**	**10 39 58.6**	**+0.7**
GUMA				AML	AML		
	comp=N,21450μm,0.4s						
GUMA				AML	AML		
	comp=E,15200μm,1.5s						
GUMA				AML	AML		
	comp=N,16900μm,0.4s						
GUMA				AML	AML		
	comp=E,17750μm,0.5s						
T1245	**Castelsantange**	**0.15**	**167**	S	**Sg**	**10 39 59.0**	**+1.0**
CESI	**CESI - Serrava**	**0.17**	**269**	⇓P	**Pg**	**10 39 55.5**	**-0.3**
CESI				S	**Sg**	**10 39 58.7**	**+0.3**
CESI				AML	AML		
	comp=E,8160μm,1.6s						
CESI				AML	AML		
	comp=N,7350μm,0.9s						
MMO1	**Montemonaco**	**0.17**	**128**	P	**Pg**	**10 39 55.3**	**-0.5**
MMO1				S	**Sg**	**10 39 58.3**	**-0.1**
NRCA	**Norcia**	**0.17**	**186**	P	**Pg**	**10 39 55.3**	**-0.5**
NRCA				S	**Sg**	**10 39 59.0**	**+0.6**
NRCA				AML	AML		
	comp=E,6975μm,0.5s						
NRCA				AML	AML		
	comp=E,7340μm,0.6s						
NRCA				AML	AML		
	comp=E,6980μm,0.5s						
NRCA				AML	AML		
	comp=N,5995μm,0.2s						
NRCA				AML	AML		
	comp=N,5605μm,0.2s						
SEF1	**Sefro**	**0.20**	**315**	P	**Pg**	**10 39 56.0**	**-0.2**
SEF1				S	**Sg**	**10 39 59.4**	**+0.3**
SEF1				AML	AML		
	comp=E,10725μm,0.2s						
SEF1				AML	AML		
	comp=N,8070μm,1.2s						
SEF1				AML	AML		
	comp=E,10710μm,0.2s						
SEF1				AML	AML		
	comp=N,8075μm,1.2s						
SEF1				AML	AML		
	comp=E,10715μm,0.2s						
SSM1	**San Severino M**	**0.22**	**7**	P	**Pg**	**10 39 56.9**	**+0.3**
T1241	**Roccafluvione,**	**0.26**	**125**	P	**Pg**	**10 39 57.0**	**-0.3**
T1241				S	**Sg**	**10 40 01.5**	**+0.6**
T1241				AML	AML		
	comp=E,1705μm,0.5s						
T1241				AML	AML		
	comp=N,1410μm,0.1s						
T1241				AML	AML		
	comp=E,1640μm,0.5s						
T1241				AML	AML		
	comp=N,1375μm,0.1s						
T1241				AML	AML		
	comp=E,1700μm,0.5s						
T1241				AML	AML		
	comp=N,1405μm,0.1s						
T1241				AML	AML		
	comp=E,1700μm,0.5s						
T1215	**Vallo di Nera,**	**0.29**	**224**	⇑P	**Pg**	**10 39 57.5**	**-0.3**
T1215				S	**Sg**	**10 40 02.3**	**+0.7**
T1215				AML	AML		
	comp=N,1361μm,0.5s						
T1215				AML	AML		
	comp=E,1315μm,0.3s						
T1215				AML	AML		
	comp=N,1362μm,0.5s						
T1215				AML	AML		
	comp=E,1320μm,0.3s						
T1215				AML	AML		
	comp=E,1365μm,0.3s						
T1215				AML	AML		
	comp=N,1379μm,0.4s						
SNTG	**Esanatoglia**	**0.29**	**330**	⇓P	**Pg**	**10 39 57.4**	**-0.5**
SNTG				AML	AML		
	comp=E,1180μm,0.7s						
SNTG				AML	AML		
	comp=E,1145μm,0.7s						
SNTG				AML	AML		
	comp=N,934μm,0.2s						
SNTG				AML	AML		
	comp=N,846μm,0.5s						
SNTG				AML	AML		
	comp=N,933μm,0.2s						
EL6	**Elcito**	**0.32**	**355**	⇓P	**Pg**	**10 39 58.1**	**-0.4**
EL6				AML	AML		
	comp=N,3215μm,0.3s						
EL6				AML	AML		
	comp=E,2195μm,0.2s						
T1218	**Civita (PG)**	**0.34**	**183**	P	**Pg**	**10 39 58.4**	**-0.3**
T1218				S	**Sg**	**10 40 03.9**	**+0.6**
ASSB	**Assisi San Ben**	**0.35**	**276**	⇓P	**Pg**	**10 39 58.7**	**-0.4**
ASSB				AML	AML		
	comp=N,3285μm,0.4s						
ASSB				AML	AML		
	comp=E,4510μm,0.3s						
CING	**Cingoli**	**0.37**	**6**	⇓P	**Pg**	**10 39 59.0**	**-0.4**
CING				AML	AML		
	comp=E,1765μm,0.3s						
CING				AML	AML		
	comp=N,1530μm,0.2s						
T1243	**Rocca Santa Ma**	**0.38**	**144**	P	**Pg**	**10 39 59.0**	**-0.6**
FOSV	**Fossato di Vic**	**0.40**	**316**	⇓P	**Pg**	**10 39 59.5**	**-0.4**
FOSV				AML	AML		
	comp=E,1008μm,0.3s						
FOSV				AML	AML		
	comp=N,2160μm,0.3s						
OFFI	**Offida**	**0.41**	**100**	⇑P	**Pb**	**10 40 00.7**	**-0.6**
OFFI				AML	AML		
	comp=N,1520μm,1.4s						
OFFI				AML	AML		
	comp=E,1395μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.41**	**296**	⇓P	**Pg**	**10 39 59.8**	**-0.3**
ATCC				AML	AML		
	comp=E,4000μm,0.2s						
ATCC				AML	AML		
	comp=N,3275μm,0.3s						
LNSS	**Leonessa**	**0.41**	**190**	⇓P	**Pg**	**10 40 00.1**	**0.0**
LNSS				AML	AML		
	comp=E,713μm,1.5s						
LNSS				AML	AML		
	comp=N,1380μm,0.5s						
RM33	**Pellescritta (**	**0.50**	**174**	P	**Pg**	**10 40 01.4**	**-0.4**
RM33				AML	AML		
	comp=E,579μm,0.5s						
RM33				AML	AML		
	comp=N,650μm,0.8s						
RM33				AML	AML		
	comp=E,540μm,1.4s						
RM33				AML	AML		
	comp=N,664μm,0.8s						
RM33				AML	AML		
	comp=N,650μm,0.8s						
RM33				AML	AML		
	comp=N,664μm,0.8s						
RM33				AML	AML		
	comp=E,579μm,0.5s						
SSFR	**Montelago di S**	**0.50**	**329**	⇑P	**Pg**	**10 40 01.4**	**-0.4**
SSFR				AML	AML		
	comp=N,1895μm,1.4s						
SSFR				AML	AML		
	comp=E,2000μm,0.7s						
ARRO	**Arrone**	**0.51**	**213**	⇑P	**Pg**	**10 40 02.0**	**+0.1**
ARRO				AML	AML		
	comp=E,622μm,0.8s						
ARRO				AML	AML		
	comp=N,553μm,0.3s						
CAMP	**Campotosto**	**0.51**	**157**	⇑P	**Pg**	**10 40 01.3**	**-0.6**
CAMP				AML	AML		
	comp=N,558μm,0.7s						
CAMP				AML	AML		
	comp=E,446μm,0.3s						
ARVD	**Arcevia**	**0.51**	**344**	⇓P	**Pg**	**10 40 01.5**	**-0.5**
ARVD				S	**Sb**	**10 40 11.0**	**+0.4**
ARVD				AML	AML		
	comp=E,1044μm,0.2s						
ARVD				AML	AML		
	comp=N,699μm,0.2s						
TERO	**Teramo**	**0.51**	**138**	⇑P	**Pg**	**10 40 01.4**	**-0.6**
TERO				AML	AML		
	comp=E,790μm,0.6s						
TERO				AML	AML		
	comp=N,738μm,0.2s						
TERO				AML	AML		
	comp=E,812μm,0.6s						
TERO				AML	AML		
	comp=N,778μm,0.2s						
MURB	**Monte Urbino**	**0.52**	**300**	⇓P	**Pg**	**10 40 01.8**	**-0.3**
MURB				S	**Sb**	**10 40 11.0**	**+0.1**
MURB				AML	AML		
	comp=E,2795μm,0.4s						
MURB				AML	AML		
	comp=N,2170μm,1.1s						
MURB				AML	AML		
	comp=N,2140μm,1.1s						
MURB				AML	AML		
	comp=E,3150μm,0.2s						
T1211	**Morro Reatino**	**0.52**	**204**	⇓P	**Pg**	**10 40 02.2**	**+0.1**
T1211				S	**Sb**	**10 40 11.0**	**+0.2**
T1211				AML	AML		
	comp=E,720μm,0.5s						
T1211				AML	AML		
	comp=N,1052μm,0.7s						
T1211				AML	AML		
	comp=E,720μm,0.5s						
T1211				AML	AML		
	comp=N,1052μm,0.7s						
ATFO	**Monte Foce - G**	**0.55**	**311**	⇓P	**Pg**	**10 40 02.2**	**-0.5**
ATFO				AML	AML		
	comp=E,633μm,0.4s						
ATFO				AML	AML		
	comp=N,526μm,0.5s						
CESX	**Cesi**	**0.57**	**226**	⇑P	**Pg**	**10 40 02.3**	**-0.8**
CESX				AML	AML		
	comp=N,1420μm,0.4s						
CESX				AML	AML		
	comp=E,894μm,0.3s						
FRON	**Frontone**	**0.59**	**329**	⇓P	**Pg**	**10 40 02.9**	**-0.6**
FRON				AML	AML		
	comp=E,542μm,1.5s						
FRON				AML	AML		
	comp=N,960μm,0.2s						
FRON				AML	AML		
	comp=E,542μm,1.5s						
COR1	**Corinaldo**	**0.63**	**351**	P	**Pb**	**10 40 04.8**	**-0.4**
COR1				AML	AML		
	comp=N,1185μm,0.6s						
COR1				AML	AML		
	comp=E,645μm,0.3s						
GIGS	**Gran Sasso**	**0.64**	**150**	P	**Pg**	**10 40 03.6**	**-0.8**
GIGS				S	**Sb**	**10 40 14.0**	**-0.3**
GIGS				AML	AML		
	comp=E,130μm,1.5s						
GIGS				AML	AML		
	comp=N,150μm,0.6s						
ATVO	**AVT- Monte Val**	**0.66**	**305**	⇓P	**Pg**	**10 40 04.0**	**-0.7**
ATVO				AML	AML		
	comp=E,297μm,0.7s						
ATVO				AML	AML		
	comp=N,376μm,0.8s						
PIEI	**Piela**	**0.69**	**320**	⇑P	**Pg**	**10 40 04.5**	**-0.8**
PIEI				S	**Sn**	**10 40 17.0**	**-1.7**
PIEI				AML	AML		
	comp=N,313μm,0.7s						
PIEI				AML	AML		
	comp=E,376μm,0.2s						
ATPI	**Pietralunga -**	**0.70**	**310**	P	**Pg**	**10 40 04.0**	**-1.5**
ATPI				AML	AML		
	comp=E,354μm,0.4s						
ATPI				AML	AML		
	comp=N,276μm,1.5s						
NARO	**Abbazia di Nar**	**0.73**	**326**	⇓P	**Pg**	**10 40 05.3**	**-0.7**
NARO				AML	AML		
	comp=N,264μm,0.2s						
NARO				AML	AML		
	comp=E,248μm,1.5s						
FSSB	**Fossombrone**	**0.73**	**339**	⇓P	**Pg**	**10 40 05.8**	**-0.4**

FSSB					AML	AML			
	comp=N,3660μm,0.4s								
FSSB					AML	AML			
	comp=E,1245μm,0.4s								
FIAM	**Fiamignano**	**0.74**	**181**	⇑P		**Pg**	**10 40 05.6**	**-0.7**
FIAM				S		**Sb**	**10 40 17.0**	**-0.2**
FIAM				AML	AML			
	comp=N,188μm,0.3s								
FIAM				AML	AML				
	comp=E,248μm,0.8s								
MGAB	**Montegabbione**	**0.76**	**263**	P		**Pn**	**10 40 07.9**	**-0.9**
VCEL	**Villa Celiera**	**0.80**	**140**	P		**Pg**	**10 40 07.1**	**-0.4**
VCEL				AML	AML				
	comp=E,536μm,0.4s								
VCEL				AML	AML				
	comp=N,445μm,0.4s								
FAGN	**Fagnano**	**0.81**	**156**	⇑P		**Pb**	**10 40 07.9**	**-0.3**
FAGN				AML	AML				
	comp=E,613μm,0.3s								
FAGN				AML	AML				
	comp=N,556μm,0.4s								
BADI	**Badiali**	**0.82**	**308**	⇑P		**Pg**	**10 40 07.3**	**-0.6**
T0110	**Collepietro**	**0.91**	**149**	⇑P		**Pg**	**10 40 08.7**	**-0.9**
T0110				AML	AML				
	comp=E,501μm,0.5s								
T0110				AML	AML				
	comp=N,436μm,0.4s								
SACS	**San Casciano d**	**0.92**	**261**	⇑P		**Pb**	**10 40 09.9**	**-0.1**
SACS				AML	AML				
	comp=E,182μm,0.6s								
SACS				AML	AML				
	comp=N,226μm,0.7s								
CRE	**Caprese Michel**	**1.06**	**306**	⇓P		**Pn**	**10 40 13.5**	**+0.5**
OBKA	**Obir**	**3.64**	**15**	*e*Pn		**Pg**	**10 41 00.6**	**-1.2**
	comp=N,2.2nm,0.3s								
ABTA	**Abfaltersbach**	**3.77**	**353**	*e*Pn		**Pn**	**10 40 51.5**	**+1.3**
	comp=N,2.5nm,0.2s								
SOKA	**Soboth**	**3.91**	**19**	*e*Pn		**Pg**	**10 41 06.5**	**-0.4**
	comp=N,0.9nm,0.4s								
KBA	**Koelnbreinsper**	**4.07**	**2**	*e*Pn		**Pn**	**10 40 55.9**	**+1.4**
	comp=N,0.2nm,0.1s								
FETA	**Feichten**	**4.36**	**338**	*e*Pn		**Pn**	**10 41 01.4**	**+2.9**
	comp=N,0.6nm,0.3s								
WTTA	**Wattenberg**	**4.39**	**346**	*e*Pn		**Pn**	**10 41 02.2**	**+3.3**
	comp=N,0.7nm,0.2s								
SQTA	**Sankt Quirin**	**4.43**	**343**	*e*Pn		**Pn**	**10 41 02.1**	**+2.7**
	comp=N,6.5nm,0.5s								
WATA	**Walderalm**	**4.47**	**346**	*e*Pn		**Pn**	**10 41 03.1**	**+3.2**
ARSA	**Arzberg**	**4.57**	**21**	*e*Pn		Pb	10 41 06.8	-5.4
	comp=N,0.8nm,0.3s								
MOTA	**Moosalm**	**4.57**	**342**	*e*Pn		**Pn**	**10 41 02.9**	**+1.6**
	comp=N,0.8nm,0.3s								
BIOA	**Bad Ischl, Aus**	**4.70**	**4**	*e*Pn		**Pn**	**10 41 07.5**	**+4.5**
	comp=N,1.4nm,0.2s								
DAVA	**Damuels**	**4.86**	**333**	*e*Pn		**Pn**	**10 41 08.7**	**+3.4**
	comp=N,0.4nm,0.3s								
MOA	**Molln**	**4.91**	**9**	*e*Pn		**Pn**	**10 41 06.9**	**+1.1**
	comp=N,0.7nm,0.3s								
RONA	**Rosalia, Austr**	**5.19**	**24**	*e*Pn		**Pn**	**10 41 08.5**	**-1.3**
	comp=N,0.7nm,0.2s								
CONA	**Conrad Observa**	**5.28**	**20**	*e*Pn		**Pn**	**10 41 11.3**	**+0.3**
	comp=N,0.4nm,0.3s								
KHC	**Kasperske Hory**	**6.13**	**3**	*e*PN		**Pn**	**10 41 23.0**	**+0.3**
KHC				*e*SN		**Sn**	**10 42 32.5**	**-0.4**

*SOME **26** 11:04:12.2, 39.°32N × 73.°97E, h5km*
*KRNET **26** 11:04:15.1 ± 0.1, 39.°39N × 73.°97E, mb3.9*
*NNC **26** 11:04:19.2 ± 2.7, 39.°53N × 74.°01E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=21.2km s-min=11.5km az=169.0*
*IDC **26** 11:04:21.4 ± 17.0, 40.°07N × 73.°37E, h0km, mb4.4/1, mbtmp3.8/3, ML2.8/2, Error ellipse: s-maj=310.7km s-min=35.7km az=166.0*

ISC 26 11:04:18.4 ± 1.1, **39.°45N** ± 0.°06 × **73.°88E** ± 0.°03, **h10**km, **n61**, σ1 **99**/94, **17C-9D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.36**	**322**	⇑*i*P		**Pn**	**11 04 42.3**	**-1.3**
	baz=22							
OHH				⇑*i*S		**Sb**	**11 05 02.5**	**+0.9**
	baz=22							
DRK	**Karamyk**	**1.61**	**272**	⇑*i*P		**Pn**	**11 04 46.6**	**-0.6**
	baz=74							
DRK				⇑*i*S		**Sn**	**11 05 09.8**	**+1.6**
	baz=74							
ARLS	**Aral**	**2.43**	**8**	⇑*i*P		**Pn**	**11 04 58.9**	**+0.6**
	baz=6.0							
ARLS				⇑*i*S		**Sn**	**11 05 30.7**	**+2.5**
	baz=6.0							
BTK	**Batken**	**2.44**	**285**	⇓*e*P		**Pn**	**11 04 59.3**	**+0.9**
	baz=86							
BTK				⇓*i*S		**Sn**	**11 05 31.7**	**+3.4**
	baz=86							
AML	**Almayashu**	**2.68**	**357**	P		**Pn**	**11 05 04.5**	**+2.6**
	SNR=56							
GAR	**Garm**	**2.81**	**262**	⇑*i*P		**Pn**	**11 05 04.1**	**+0.7**
	baz=63							
GAR				⇑*i*S		**Sn**	**11 05 39.9**	**+2.5**
	baz=63							
UCH	**Uchtor**	**2.81**	**10**	P		**Pn**	**11 05 06.1**	**+2.2**
	SNR=51							
UCH	**Uchtor**	**2.81**	**10**	⇑*e*P		**Pn**	**11 05 04.4**	**+0.5**
	baz=8.0							
UCH				⇑*e*S		**Sn**	**11 05 40.4**	**+2.3**
	baz=8.0							
TRKS	**Terek-Say**	**2.95**	**316**	⇑*i*P		**Pn**	**11 05 05.8**	**+0.4**
	baz=15							
TRKS				⇑*i*S		**Sn**	**11 05 42.8**	**+1.9**
	baz=15							
EKS2	**Erkin-Say**	**3.21**	**359**	P		**Pn**	**11 05 11.6**	**+2.7**
	SNR=6.9							
EKS2	**Erkin-Say**	**3.21**	**359**	⇓*e*P		**Pn**	**11 05 09.8**	**+0.8**
	baz=58							
EKS2				⇓*e*S		**Sn**	**11 05 49.7**	**+2.4**
	baz=58							
AAK	**Ala-Archa**	**3.22**	**8**	P		**Pn**	**11 05 11.8**	**+2.6**
	SNR=15							
KBK	**Karagaybulak**	**3.30**	**14**	P		**Pn**	**11 05 13.0**	**+2.7**
	SNR=25							
MRKS	**Merke**	**3.33**	**352**	*e*P		**Pb**	**11 05 16.9**	**-0.7**
	32nm,0.2s							
MRKS				*e*S		**Sg**	**11 06 03.6**	**-1.6**
	92nm,0.4s							
MRKS	**Merke**	**3.33**	**352**	Pg		**Pb**	**11 05 16.9**	**-0.7**
	33nm,0.4s							
MRKS				Lg		Lg	11 06 03.6	
	92nm,0.4s							
CHMS	**Chumysh**	**3.60**	**10**	P		**Pn**	**11 05 16.7**	**+2.4**
	SNR=7.3							
TKM2	**Tokmak 2**	**3.70**	**20**	⇓Pn		**Pn**	**11 05 17.2**	**+1.3**
	4.7nm,0.6s							
TKM2				⇑Pg		**Pb**	**11 05 26.0**	**+2.1**
	14nm,0.6s							
TKM2				⇑Lg		Lg	11 06 12.3	
	16nm,0.6s							
USP	**Ospenovka**	**3.84**	**7**	P		**Pn**	**11 05 20.4**	**+2.8**
	SNR=11							
KST	**Kastek**	**3.92**	**23**	*e*P		**Pb**	**11 05 28.3**	**+0.7**
	6.6nm,0.3s							
KST				*e*S		**Sg**	**11 06 23.7**	**-0.5**
	67nm,0.6s							
KST	**Kastek**	**3.92**	**23**	Pg		**Pb**	**11 05 29.3**	**+1.7**
	6.6nm,0.3s							
KST				Lg		Lg	11 06 25.4	
	67nm,0.6s							
IUG	**Iuzhnay**	**3.97**	**314**	*e*P		**Pb**	**11 05 28.5**	**-0.1**
	37nm,0.4s							
IUG				*e*S		**Sg**	**11 06 24.0**	**-2.0**
	58nm,0.1s							
IUG	**Iuzhnay**	**3.97**	**314**	Pg		**Pb**	**11 05 28.5**	**-0.1**
	37nm,0.4s							
IUG				Lg		Lg	11 06 25.1	
	58nm,0.6s							
SGDS	**Sogindy**	**4.04**	**8**	*e*P		**Pb**	**11 05 30.3**	**+0.7**
	9.3nm,0.5s							
SGDS				*e*S		**Sg**	**11 06 27.1**	**-0.9**
	33nm,0.7s							
SGDS	**Sogindy**	**4.04**	**8**	Pg		**Pb**	**11 05 30.0**	**+0.4**
	9.3nm,0.5s							
SGDS				Lg		Lg	11 06 27.1	
	33nm,0.7s							
DGS	**Degeres**	**4.04**	**20**	*e*P		**Pb**	**11 05 29.7**	**-0.1**
	28nm,0.2s							
DGS				*e*S		**Sg**	**11 06 25.7**	**-2.6**
	45nm,0.1s							
DGS	**Degeres**	**4.04**	**20**	Pg		**Pb**	**11 05 31.6**	**+1.8**
	27nm,0.5s							
DGS				Lg		Lg	11 06 29.2	
	43nm,0.8s							
MTBS	**Maitube**	**4.15**	**27**	*e*P		**Pb**	**11 05 32.0**	**+0.5**
	10nm,0.4s							
MTBS				*e*S		**Sg**	**11 06 30.0**	**-1.5**
	28nm,0.5s							
MTBS	**Maitube**	**4.15**	**27**	Pg		**Pb**	**11 05 32.0**	**+0.5**
	10nm,0.4s							
MTBS				Lg		Lg	11 06 30.0	
	28nm,0.5s							
TNSS	**Tian-Shan**	**4.26**	**32**	*e*P		**Pb**	**11 05 34.4**	**+0.7**
	14nm,0.6s							
TNSS				*e*S		**Sg**	**11 06 34.5**	**-0.8**
	15nm,0.8s							
TNSS	**Tian-Shan**	**4.26**	**32**	Pg		**Pb**	**11 05 34.4**	**+0.7**
	14nm,0.6s							
TNSS				Lg		Lg	11 06 34.5	
	15nm,0.8s							
MDOK	**Medeo**	**4.41**	**32**	*e*P		**Pb**	**11 05 36.2**	**+0.2**
	13nm,0.5s							
MDOK				*e*S		**Sg**	**11 06 37.3**	**-2.6**
	20nm,0.3s							
MDOK	**Medeo**	**4.41**	**32**	Pg		**Pb**	**11 05 35.9**	**-0.2**
	12nm,0.4s							
MDOK				Pg		**Pb**	**11 05 37.2**	**+1.2**
	13nm,0.5s							
MDOK				Lg		Lg	11 06 33.9	
	36nm,0.8s							
MDOK				Lg		Lg	11 06 37.3	
	20nm,1.0s							
KK31	**Karatay Array**	**4.44**	**326**	⇑Pn		**Pn**	**11 05 26.9**	**+1.0**
	3.2nm,0.3s,baz=135,slow=12							
KK31				⇑Pg		**Pg**	**11 05 42.2**	**-1.3**
	4.7nm,0.4s,baz=130,slow=16							
KK31				⇓Sn		**Sn**	**11 06 20.5**	**+2.9**
	7.1nm,0.4s,baz=137,slow=26							
KK31				⇓Lg		Lg	11 06 38.8	
	21nm,0.6s,baz=132,slow=28							
KRBS	**Karabastau**	**4.45**	**17**	*e*P		**Pb**	**11 05 37.4**	**+0.8**
	6.4nm,0.2s							
KRBS				*e*S		**Sg**	**11 06 39.3**	**-1.9**
	19nm,0.4s							
KRBS	**Karabastau**	**4.45**	**17**	Pg		**Pb**	**11 05 38.0**	**+1.4**
	6.4nm,0.4s							
KRBS				Lg		Lg	11 06 39.0	
	17nm,0.6s							
KOTS	**Kotyrbulak**	**4.49**	**32**	*e*P		**Pb**	**11 05 38.2**	**+0.7**
	12nm,0.1s							
KOTS				*e*S		**Sg**	**11 06 40.3**	**-2.4**
	93nm,0.7s							
KOTS	**Kotyrbulak**	**4.49**	**32**	Pg		**Pb**	**11 05 38.2**	**+0.7**
	12nm,0.5s							
KOTS				Lg		Lg	11 06 40.3	
	93nm,0.7s							
KTBS	**Karatobe**	**4.75**	**25**	*e*P		**Pb**	**11 05 42.5**	**+0.8**
	15nm,0.5s							
KTBS				*e*S		**Sg**	**11 06 48.4**	**-2.3**
	52nm,0.7s							
KTBS	**Karatobe**	**4.75**	**25**	Pg		**Pb**	**11 05 42.5**	**+0.8**
	15nm,0.5s							
KTBS				Lg		Lg	11 06 48.4	
	52nm,0.7s							
KUU	**Kurty**	**4.80**	**22**	*e*P		**Pb**	**11 05 44.0**	**+1.4**
	8.4nm,0.5s							
KUU				*e*S		**Sg**	**11 06 50.1**	**-2.5**
	45nm,0.5s							
KUU	**Kurty**	**4.80**	**22**	Pg		**Pb**	**11 05 44.0**	**+1.4**
	8.4nm,0.5s							
KUU				Lg		Lg	11 06 50.1	
	45nm,0.5s							
SATY	**Saty**	**4.96**	**42**	*e*P		**Pb**	**11 05 46.1**	**+0.7**
	11nm,0.2s							
SATY				*e*S		**Sg**	**11 06 53.6**	**-4.0**
	25nm,0.3s							
SATY	**Saty**	**4.96**	**42**	Pg		**Pb**	**11 05 46.5**	**+1.0**
	12nm,0.9s							
SATY				Lg		Lg	11 06 56.6	
	25nm,1.3s							
CHKK	**Chushkaly**	**4.98**	**27**	*e*P		**Pb**	**11 05 47.2**	**+1.6**
	16nm,0.2s							
CHKK				*e*S		**Sg**	**11 06 56.3**	**-1.8**
	21nm,0.8s							
CHKK	**Chushkaly**	**4.98**	**27**	Pg		**Pb**	**11 05 47.8**	**+2.2**
	17nm,0.6s							
CHKK				Lg		Lg	11 06 57.0	
	21nm,0.8s							
KURS	**Kuram**	**5.16**	**37**	*e*P		**Pb**	**11 05 49.9**	**+1.1**
	6.5nm,0.4s							
KURS				*e*S		**Sg**	**11 07 00.4**	**-3.6**
	14nm,1.5s							
KURS	**Kuram**	**5.16**	**37**	Pg		**Pb**	**11 05 49.9**	**+1.1**
	6.5nm,0.4s							
KURS				Lg		Lg	11 07 00.4	
	14nm,1.5s							
UZB	**Uzynbulak**	**5.35**	**45**	*e*P		**Pb**	**11 05 53.6**	**+1.6**
	6.2nm,0.5s							
UZB				*e*S		**Sg**	**11 07 07.3**	**-2.9**
	12nm,0.8s							
UZB	**Uzynbulak**	**5.35**	**45**	Pg		**Pb**	**11 05 53.4**	**+1.3**
	6.2nm,0.5s							
UZB				Lg		Lg	11 07 07.3	
	13nm,0.9s							
BTLS	**Baital**	**5.59**	**1**	*e*P		**Pb**	**11 05 59.3**	**+3.3**
BTLS				*e*S		**Sg**	**11 07 16.2**	**-1.5**
ARXS	**Arharly**	**5.60**	**30**	*e*P		**Pb**	**11 05 59.0**	**+2.8**
	15nm,0.7s							
ARXS				*e*S		**Sg**	**11 07 16.1**	**-1.9**
	20nm,0.4s							
ARXS	**Arharly**	**5.60**	**30**	Pg		**Pb**	**11 06 00.5**	**+4.3**
	15nm,0.7s							
ARXS				Lg		Lg	11 07 17.8	
	20nm,0.7s							
SHLS	**Shalkode**	**5.60**	**47**	*e*P		**Pg**	**11 06 02.5**	**-3.1**
	8.5nm,0.4s							
SHLS				*e*S		**Sg**	**11 07 22.7**	**+4.5**
	14nm,0.5s							
SHLS	**Shalkode**	**5.60**	**47**	Pg		**Pg**	**11 06 02.5**	**-3.1**
	8.5nm,0.4s							
SHLS				Lg		Lg	11 07 22.7	
	14nm,0.5s							
PDGK	**Podgornoye**	**5.73**	**46**	Pg		**Pb**	**11 05 58.5**	**+0.1**
	4.8nm,0.5s							
PDGK				Lg		Lg	11 07 16.1	
	4.8nm,1.0s							
PDGK	**Podgornoye**	**5.73**	**46**	⇓Pn		**Pn**	**11 05 44.9**	**+1.3**
	4.4nm,0.9s							
PDGK				⇑Pg		**Pb**	**11 06 00.1**	**+1.6**
	11nm,0.8s							
PDGK				⇓Lg		Lg	11 07 15.3	
	24nm,1.1s							
BLB	**Baldybastay**	**5.78**	**35**	*e*P		**Pb**	**11 06 03.0**	**+3.8**
	24nm,0.8s							
BLB				*e*S		**Sg**	**11 07 23.2**	**-0.5**
	14nm,0.7s							
BLB	**Baldybastay**	**5.78**	**35**	Pg		**Pb**	**11 06 03.6**	**+4.3**
	24nm,0.8s							
BLB				Lg		Lg	11 07 23.2	
	14nm,0.7s							
MKAR	**Makanchi Array**	**9.57**	**37**	Pn		**Pn**	**11 06 38.1**	**+1.9**
	0.1nm,0.3s,baz=228,slow=18,SNR=1.7							
	1.7nm,1.1s							
ZALV	**Zalesovo Beam**	**16.30**	**24**	Pn		**Pn**	**11 08 06.6**	**-0.5**
	0.3nm,0.3s,baz=218,slow=9.1,SNR=2.2							
	0.6nm,0.3s							
FINES	**FINESS Array B**	**36.40**	**323**	P		**P**	**11 11 20.9**	**-1.8**
	6.4nm,1.1s,baz=118,slow=12,SNR=3.7							
	6.4nm,1.1s							

*IDC **26** 11:08:01.2 ± 0.7, 55.°13N × 164.°91E, h0km, mb3.9/9, mbtmp3.9/10, ML3.3/1, MS2.9/2, Error ellipse: s-maj=33.6km s-min=15.2km az=156.0*
*KRSC **26** 11:08:01.8 ± 1.8, 55.°09N × 164.°85E, h50km ± 23km, ML4.3*
*MOS **26** 11:08:04.2 ± 1.1, 55.°13N × 164.°86E, h38km, mb4.1/2, Error ellipse: s-maj=6.9km s-min=6.2km az=152.5*
*NEIC **26** 11:08:06.3 ± 1.9, 55.°2N ± 0.°3 × 164.°8E ± 0.°3, h34km ± 11km, mb4.2/26, Error ellipse: s-maj=47.1km s-min=15.1km az=148.0*

ISC 26 11:08:04.1 ± 0.6, **55.°11N** ± 0.°04 × **164.°90E** ± 0.°05, **h21**km ± 4km, **n131**, σ1 **50**/180, **mb4.1**/22, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.62**	**81**	*e*P		**Pb**	**11 08 16.2**	**-0.1**
BKI				*e*S		**Sb**	**11 08 25.6**	**+0.9**
BKI	**Bering**	**0.62**	**81**	PN		**Pb**	**11 08 16.2**	**-0.1**
BKI					S	**Sb**	**11 08 25.6**	**+0.9**
KBTR	**Krutoberegovo**	**1.61**	**314**	*e*P		**Pn**	**11 08 28.3**	**-3.0**
KBTR				*e*S		**Sn**	**11 08 46.9**	**-4.6**
KBTR	**Krutoberegovo**	**1.61**	**314**	PN		**Pn**	**11 08 28.3**	**-3.0**
KBTR					S	**Sn**	**11 08 46.9**	**-4.6**
KBG	**Krutoberegovo**	**1.69**	**314**	*e*P		**Pn**	**11 08 29.4**	**-3.0**
KBG				*e*S		**Sn**	**11 08 49.5**	**-3.9**
KBG	**Krutoberegovo**	**1.69**	**314**	PN		**Pn**	**11 08 29.4**	**-3.0**
KBG					S	**Sn**	**11 08 49.5**	**-3.9**
MKZ	**Mys Kozlova**	**1.92**	**254**	*e*P		**Pn**	**11 08 34.3**	**-1.2**
MKZ				*e*S		**Sn**	**11 08 56.4**	**-2.5**
MKZ	**Mys Kozlova**	**1.92**	**254**	PN		**Pn**	**11 08 34.3**	**-1.2**
MKZ					S	**Sn**	**11 08 56.4**	**-2.5**
SMKR	**Semkarok**	**2.43**	**309**	*e*P		**Pn**	**11 08 41.7**	**-1.0**
SMKR				*e*S		**Sn**	**11 09 11.6**	**-0.2**
SMKR	**Semkarok**	**2.43**	**309**	PN		**Pn**	**11 08 41.7**	**-1.0**
SMKR					S	**Sn**	**11 09 11.6**	**-0.2**
ZLN	**Zelenaya**	**2.50**	**293**	*e*P		**Pn**	**11 08 42.8**	**-0.8**
ZLN	**Zelenaya**	**2.50**	**293**	PN		**Pn**	**11 08 42.8**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**2.53**	**291**	*e*P		**Pn**	**11 08 44.4**	**+0.4**
BZGR				*e*S		**Sn**	**11 09 14.7**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**2.53**	**291**	PN		**Pn**	**11 08 44.4**	**+0.4**
BZGR					S	**Sn**	**11 09 14.7**	**+0.4**
BDR	**Baidarnaya**	**2.54**	**307**	*e*P		**Pn**	**11 08 43.8**	**-0.4**
BDR				*e*S		**Sn**	**11 09 14.3**	**-0.2**
BDR	**Baidarnaya**	**2.54**	**307**	PN		**Pn**	**11 08 43.8**	**-0.4**
BDR					S	**Sn**	**11 09 14.3**	**-0.2**
CIRR	**Tsirk**	**2.56**	**295**	*e*P		**Pn**	**11 08 44.4**	**-0.1**
CIRR				*e*S		**Sn**	**11 09 15.6**	**+0.5**
CIRR	**Tsirk**	**2.56**	**295**	PN		**Pn**	**11 08 44.4**	**-0.1**
CIRR					S	**Sn**	**11 09 15.6**	**+0.5**
TUMD	**Tumrok D**	**2.58**	**274**	*e*P		**Pn**	**11 08 44.3**	**-0.4**
TUMD				*e*S		**Sn**	**11 09 13.4**	**-2.1**
SRKR	**Sorokina**	**2.61**	**308**	*e*P		**Pn**	**11 08 43.3**	**-1.8**
SRKR				*e*S		**Sn**	**11 09 16.1**	**-0.1**
SRKR	**Sorokina**	**2.61**	**308**	PN		**Pn**	**11 08 43.3**	**-1.8**
SRKR					S	**Sn**	**11 09 16.1**	**-0.1**
BZMR	**Bezymyannaya**	**2.64**	**290**	*e*P		**Pn**	**11 08 46.3**	**+0.7**
BZMR	**Bezymyannaya**	**2.64**	**290**	PN		**Pn**	**11 08 46.3**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.65**	**291**	*e*P		**Pn**	**11 08 46.0**	**+0.3**
BZWR				*e*S		**Sn**	**11 09 16.9**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.65**	**291**	PN		**Pn**	**11 08 46.0**	**+0.3**
BZWR					S	**Sn**	**11 09 16.9**	**-0.3**
KLY	**Klyuchi**	**2.69**	**298**	*e*P		**Pn**	**11 08 44.2**	**-1.9**
KLY				*e*S		**Sn**	**11 09 15.4**	**-2.6**
KLY	**Klyuchi**	**2.69**	**298**	PN		**Pn**	**11 08 44.2**	**-1.9**
KLY					S	**Sn**	**11 09 15.4**	**-2.6**
KRSR	**Krestovskiy**	**2.69**	**296**	*e*P		**Pn**	**11 08 45.6**	**-0.7**
KRSR				*e*S		**Sn**	**11 09 17.3**	**-1.0**
KRSR	**Krestovskiy**	**2.69**	**296**	PN		**Pn**	**11 08 45.6**	**-0.7**
KRSR					S	**Sn**	**11 09 17.3**	**-1.0**
KIRR	**Kirishev**	**2.73**	**290**	*e*P		**Pn**	**11 08 47.7**	**+0.9**
KIRR				*e*S		**Sn**	**11 09 19.5**	**+0.4**
KIRR	**Kirishev**	**2.73**	**290**	PN		**Pn**	**11 08 47.7**	**+0.9**
KIRR					S	**Sn**	**11 09 19.5**	**+0.4**
TUMR	**Tumrok**	**2.73**	**276**	*e*P		**Pn**	**11 08 46.8**	**0.0**
TUMR				*e*S		**Sn**	**11 09 19.5**	**+0.3**
TUMR	**Tumrok**	**2.73**	**276**	PN		**Pn**	**11 08 44.3**	**-2.5**
KMNR	**Kamenistaya**	**2.73**	**286**	*e*P		**Pn**	**11 08 47.3**	**+0.5**
KMNR				*e*S		**Sn**	**11 09 19.5**	**+0.2**
KMNR	**Kamenistaya**	**2.73**	**286**	PN		**Pn**	**11 08 47.3**	**+0.5**
KMNR					S	**Sn**	**11 09 19.5**	**+0.2**
KPT	**Kopyto**	**2.79**	**290**	*e*P		**Pn**	**11 08 48.0**	**+0.4**
KPT				*e*S		**Sn**	**11 09 21.4**	**+0.7**
KPT	**Kopyto**	**2.79**	**290**	PN		**Pn**	**11 08 48.0**	**+0.4**
KPT					S	**Sn**	**11 09 21.4**	**+0.7**
KOZ	**Kozyrevsk**	**3.01**	**290**	*e*P		**Pn**	**11 08 51.2**	**+0.7**
KOZ				*e*S		**Sn**	**11 09 26.8**	**+0.9**
KOZ	**Kozyrevsk**	**3.01**	**290**	PN		**Pn**	**11 08 51.2**	**+0.7**
KOZ					S	**Sn**	**11 09 26.8**	**+0.9**
SRDR	**Sredinnyy**	**3.17**	**295**	*e*P		**Pn**	**11 08 53.4**	**+0.6**
SRDR				*e*S		**Sn**	**11 09 31.4**	**+1.4**
SRDR	**Sredinnyy**	**3.17**	**295**	PN		**Pn**	**11 08 53.4**	**+0.6**
SRDR					S	**Sn**	**11 09 31.4**	**+1.4**
SPN	**Mys Shipunski**	**3.51**	**237**	*e*P		**Pn**	**11 08 56.2**	**-1.2**
SPN				*e*S		**Sn**	**11 09 35.0**	**-3.2**
SPN	**Mys Shipunski**	**3.51**	**237**	PN		**Pn**	**11 08 56.2**	**-1.2**
ESO	**Esso**	**3.62**	**286**	*e*P		**Pn**	**11 08 58.4**	**-0.5**
ESO				*e*S		**Sn**	**11 09 38.4**	**-2.6**
ESO	**Esso**	**3.62**	**286**	PN		**Pn**	**11 08 58.4**	**-0.5**
ESO					S	**Sn**	**11 09 38.4**	**-2.6**
NLC	**Nalytchevo**	**3.80**	**242**	*e*P		**Pn**	**11 09 00.7**	**-0.7**
NLC				*e*S		**Sn**	**11 09 42.5**	**-2.9**
NLC	**Nalytchevo**	**3.80**	**242**	PN		**Pn**	**11 09 00.7**	**-0.7**
SDLR	**Sedlovina**	**3.98**	**245**	*e*P		**Pn**	**11 09 04.5**	**+0.5**
SDLR				*e*S		**Sn**	**11 09 47.7**	**-2.4**
SDLR	**Sedlovina**	**3.98**	**245**	PN		**Pn**	**11 09 04.5**	**+0.5**
SMAR	**Somma**	**4.03**	**245**	*e*P		**Pn**	**11 09 05.3**	**+0.5**
SMAR				*e*S		**Sn**	**11 09 47.7**	**-3.7**
SMAR	**Somma**	**4.03**	**245**	PN		**Pn**	**11 09 05.3**	**+0.5**
KRER	**Koryakskii**	**4.04**	**246**	*e*P		**Pn**	**11 09 05.4**	**+0.5**
KRER				*e*S		**Sn**	**11 09 47.8**	**-3.8**
KRER	**Koryakskii**	**4.04**	**246**	PN		**Pn**	**11 09 05.4**	**+0.5**
UGLR	**Uglovaya**	**4.05**	**244**	*e*P		**Pn**	**11 09 05.4**	**+0.5**
UGLR				*e*S		**Sn**	**11 09 49.9**	**-1.8**
UGLR	**Uglovaya**	**4.05**	**244**	PN	

PPLA	**Purkeypile**	**23.03**	**53**	P	**P**	**11 13 08.6**	**+1.0**
PPLA				IAmb	IAmb	11 13 14.9	
	comp=Z,19nm,1.4s						
CAST	**Castle Rocks**	**23.08**	**52**	P	**P**	**11 13 08.9**	**+0.9**
CAST				IAmb	IAmb	11 13 20.1	
	comp=Z,8.0nm,1.5s						
BPAW	**Bear Paw Mtn.**	**23.58**	**50**	P	**P**	**11 13 14.0**	**+1.0**
BPAW				IAmb	IAmb	11 13 42.2	
	comp=Z,5.1nm,1.2s						
TRF	**Thorofare Moun**	**23.89**	**51**	P	**P**	**11 13 16.0**	**-0.1**
TRF				IAmb	IAmb	11 13 17.6	
	comp=Z,5.8nm,0.9s						
MDM	**Murphy Dome**	**24.80**	**48**	P	**P**	**11 13 24.0**	**-0.2**
WRH	**Wood River Hil**	**24.85**	**49**	P	**P**	**11 13 25.4**	**+0.7**
WRH				IAmb	IAmb	11 13 29.3	
	comp=Z,8.7nm,1.2s						
SML	**Sawmill**	**24.88**	**55**	P	**P**	**11 13 24.9**	**-0.2**
SML				IAmb	IAmb	11 13 30.1	
	comp=Z,8.4nm,1.0s						
CCB	**Clear Creek Bu**	**24.98**	**49**	P	**P**	**11 13 25.6**	**-0.1**
DHY	**Denali Highway**	**25.22**	**52**	P	**P**	**11 13 27.5**	**-0.7**
IL31		**25.37**	**48**	P	**P**	**11 13 29.1**	**-0.2**
IL31				IAmb	IAmb	11 13 30.4	
	comp=Z,6.9nm,1.2s						
ILAR	**Eielson Array**	**25.37**	**48**	P	**P**	**11 13 28.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=261,slow=8.4,SNR=17						
	comp=Z,1.6nm,0.8s						
ILAR	**Eielson Array**	**25.37**	**48**	P	**P**	**11 13 28.0**	**-1.3**
ILAR	**Eielson Array**	**25.37**	**48**	P	**P**	**11 13 28.0**	**-1.3**
M24K	**Tolsona, Glenn**	**25.86**	**54**	P	**P**	**11 13 34.6**	**+0.7**
J25K	**Salcha River,**	**26.02**	**49**	P	**P**	**11 13 34.3**	**-1.1**
BMAR	**Burnt Mountain**	**26.36**	**42**	P	**P**	**11 13 38.6**	**+0.2**
J26L	**Joseph Creek**	**26.81**	**49**	P	**P**	**11 13 41.6**	**-0.9**
K27K	**Chicken**	**27.50**	**50**	P	**P**	**11 13 48.0**	**-0.6**
L27K	**Beaver Creek,**	**27.73**	**52**	P	**P**	**11 13 51.2**	**+0.5**
BCAR	**Beaver Creek A**	**27.75**	**52**	P	**P**	**11 13 51.6**	**+0.7**
EGAK	**Eagle**	**27.82**	**48**	P	**P**	**11 13 50.9**	**-0.6**
EGAK				IAmb	IAmb	11 13 51.2	
	comp=Z,5.3nm,1.1s						
DAWY	**Dawson**	**28.67**	**49**	P	**P**	**11 13 59.1**	**0.0**
DAWY				IAmb	IAmb	11 14 14.5	
	comp=Z,8.4nm,1.4s						
M31M	**Drury Creek, Y**	**31.27**	**52**	P	**P**	**11 14 22.8**	**+0.7**
M31M				IAmb	IAmb	11 14 23.0	
	comp=Z,6.8nm,1.2s						
WHY	**Whitehorse**	**31.48**	**55**	P	**P**	**11 14 25.5**	**+1.5**
DLBC	**Dease Lake**	**34.57**	**57**	P	**P**	**11 14 50.8**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**35.35**	**177**	T	T	11 53 01.9	
	baz=359,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**35.37**	**177**	T	T	11 53 02.2	
	baz=359,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**35.37**	**177**	T	T	11 52 59.5	
	baz=359,slow=76,SNR=18						
SONM	**Songino Array**	**36.19**	**283**	P	**P**	**11 15 06.6**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=62,slow=8.0,SNR=7.9						
	comp=Z,0.9nm,0.6s						
SONM	**Songino Array**	**36.19**	**283**	P	**P**	**11 15 05.5**	**+0.4**
SONM	**Songino Array**	**36.19**	**283**	P	**P**	**11 15 05.5**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
EUNU	**Eureka**	**39.29**	**15**	P	**P**	**11 15 29.5**	**-1.3**
EUNU				IAmb	IAmb	11 15 56.8	
	comp=Z,6.2nm,1.4s						
YKA	**Yellowknife Ar**	**39.74**	**46**	P	**P**	**11 15 34.7**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=296,slow=8.5,SNR=3.4						
	comp=Z,2.4nm,0.9s						
MKAR	**Makanchi Array**	**49.80**	**297**	P	**P**	**11 16 54.3**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=56,slow=6.6,SNR=6.2						
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**54.08**	**65**	P	**P**	**11 17 27.9**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=327,slow=2.5,SNR=4.1						
	comp=Z,0.2nm,0.4s						
ULM	**Lac du Bonnet**	**55.36**	**50**	LR	LR	11 40 48.8	
	comp=Z,21nm,20.3s,baz=56,slow=36						
CMAR	**Chiang Mai Arr**	**61.33**	**261**	P	**P**	**11 18 18.3**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=26,slow=6.6,SNR=7.0						
	comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**67.27**	**71**	P	**P**	**11 18 57.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=295,slow=4.7,SNR=13						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**79.17**	**209**	P	**P**	**11 20 07.3**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=21,slow=6.1,SNR=11						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**82.83**	**208**	P	**P**	**11 20 27.6**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=16,slow=5.0,SNR=14						
	comp=Z,1.6nm,0.8s						

WEL 26 11:08:58.1±0.3, 42°S±3°×17°4E±°, h5km±2km, M3.6/35, ML3.9/19, MLv3.6/35, Error ellipse: s-maj=0.0km s-min=0.0km az=137.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**358**	P	Pg	11 08 59.6	0.0
CMWZ				S	Sg	11 09 01.9	+1.3
BSWZ	**Blackbirch Sta**	**0.27**	**291**	P	Pg	11 09 03.5	+0.1
BSWZ				S	Sb	11 09 08.8	-1.7
TUWZ	**Tuamarina**	**0.43**	**332**	P	Pg	11 09 06.9	+0.4
TCW	**Tory Channel**	**0.60**	**4**	P	Pg	11 09 09.8	+0.1
WEL	**Wellington**	**0.67**	**38**	P	Pb	11 09 11.7	-0.6
KHZ	**Kahutara**	**0.79**	**220**	P	Pb	11 09 14.0	-0.3
PLWZ	**Palliser**	**0.81**	**71**	P	Pb	11 09 14.9	0.0
NNZ	**Nelson**	**0.86**	**313**	P	Pg	11 09 14.7	-0.1
MSWZ	**Moikau Station**	**0.87**	**63**	P	Pb	11 09 15.8	+0.1
CAW	**Cannon Point**	**0.95**	**43**	P	Pg	11 09 16.6	+0.2
THZ	**Tophouse**	**0.98**	**272**	P	Pg	11 09 17.0	0.0
PAWZ	**Paruwai Farm**	**1.00**	**65**	P	Pg	11 09 17.2	-0.2
DUWZ	**D'Urville Isla**	**1.03**	**348**	P	Pg	11 09 17.7	-0.3
KIW	**Kapiti Island**	**1.08**	**29**	P	Pg	11 09 18.7	-0.2
MRNZ	**Matariki Terra**	**1.17**	**290**	P	Pg	11 09 20.6	+0.1
TRWZ	**Traveller**	**1.18**	**70**	P	Pg	11 09 19.5	-1.2
TKNZ	**Takaka Hill**	**1.22**	**309**	P	Pg	11 09 21.1	-0.5
OGWZ	**Otaki Gorge**	**1.23**	**36**	P	Pg	11 09 21.2	-0.5
HOWZ	**Holdsworth Sta**	**1.34**	**47**	P	Pn	11 09 22.4	-1.2
TMWZ	**Te Maipa**	**1.44**	**61**	P	Pn	11 09 23.2	-1.8
GVZ	**Greta Valley S**	**1.45**	**217**	P	Pn	11 09 23.8	-1.3
MRZ	**Mangatainoka R**	**1.54**	**42**	P	Pn	11 09 25.2	-1.1
QRZ	**Quartz Range**	**1.61**	**307**	P	Pn	11 09 27.7	+0.5
AMCZ	**Amberley**	**1.79**	**220**	P	Pn	11 09 30.0	+0.3
DSZ	**Denniston Nort**	**1.81**	**271**	P	Pn	11 09 30.6	+0.6
OHWZ	**Ohakea**	**1.81**	**28**	P	Pb	11 09 32.1	+0.4
PRWZ	**Pori Road**	**1.82**	**47**	P	Pn	11 09 30.3	+0.1
BFZ	**Birch Farm**	**1.90**	**54**	P	Pn	11 09 29.9	-1.3
DVHZ	**Dannevirke**	**2.11**	**45**	P	Pg	11 09 37.8	-0.8
WAZ	**Wanganui**	**2.14**	**16**	P	Pn	11 09 35.8	+1.2
TSZ	**Takapari Road**	**2.19**	**38**	P	Pn	11 09 32.8	-2.5
OXZ	**Oxford**	**2.21**	**226**	P	Pn	11 09 33.4	-2.1
MQZ	**McQueen's Vall**	**2.22**	**211**	P	Pn	11 09 32.7	-2.8
AKCZ	**Akaroa Harbour**	**2.27**	**205**	P	Pn	11 09 33.9	-2.5
LREZ	**Lake Rotokare**	**2.35**	**4**	P	Pb	11 09 41.7	+0.6
PRHZ	**Porangahau**	**2.39**	**51**	P	Pn	11 09 37.0	-1.0
PNHZ	**Pukenui**	**2.42**	**39**	P	Pn	11 09 36.8	-1.6
WPHZ	**Waipukurau**	**2.43**	**45**	P	Pb	11 09 42.2	-0.1
RACZ	**Rakaia**	**2.45**	**218**	P	Pn	11 09 36.9	-1.9
KHEZ	**Kahui Hut**	**2.52**	**356**	P	Pb	11 09 43.6	-0.3
NBEZ	**Newall Road No**	**2.56**	**354**	P	Pb	11 09 44.9	+0.4
MHCZ	**Mount Hutt**	**2.60**	**228**	P	Pn	11 09 41.7	+0.7
DREZ	**Durham Road**	**2.62**	**360**	P	Pb	11 09 43.7	-1.9
MOVZ	**Moawhango**	**2.67**	**26**	P	Pb	11 09 45.9	-0.6
PXZ	**Pawanui**	**2.68**	**49**	P	Pb	11 09 47.3	+0.7
WNVZ	**Wahianoa**	**2.70**	**23**	P	Pb	11 09 44.7	-2.3
TRVZ	**Turoa**	**2.71**	**22**	P	Pb	11 09 47.0	-0.2
BHHZ	**Black Hill Sta**	**2.71**	**32**	P	Pb	11 09 46.2	-1.0
VRZ	**Vera Road**	**2.72**	**9**	P	Pn	11 09 43.8	+1.4
DRZ	**Dome Shelter**	**2.73**	**22**	P	Pg	11 09 49.6	-0.9
DRZ	**Dome Shelter**	**2.73**	**22**	P	Pg	11 09 49.6	-0.9
WHVZ	**Whangaehu Hut**	**2.73**	**23**	P	Pb	11 09 47.8	+0.1
FWVZ	**Far West T-bar**	**2.75**	**22**	P	Pb	11 09 48.1	+0.2
WACZ	**Wakanui South**	**2.75**	**219**	P	Pn	11 09 40.9	-2.1
NGZ	**Ngauruhoe**	**2.84**	**22**	P	Pb	11 09 50.5	+1.2
NGZ	**Ngauruhoe**	**2.84**	**22**	P	Pb	11 09 50.5	+1.2
OTVZ	**Oturere**	**2.87**	**23**	P	Pb	11 09 50.6	+0.7
WVZ	**Waitaha Valley**	**2.87**	**243**	P	Pb	11 09 48.4	-1.4
NNVZ	**North Ngauruho**	**2.88**	**22**	P	Pb	11 09 48.7	-1.5
WTVZ	**West Tongariro**	**2.89**	**22**	P	Pb	11 09 50.8	+0.6
TWVZ	**Taurewa**	**2.89**	**19**	P	Pb	11 09 51.1	+0.8
ETVZ	**East Tongariro**	**2.91**	**24**	P	Pb	11 09 50.6	+0.1
KWHZ	**Kaweka Forest**	**2.92**	**36**	P	Pg	11 09 52.9	-1.2
TMVZ	**Te Maari**	**2.92**	**23**	P	Pb	11 09 50.9	+0.1
RPZ	**Rata Peaks**	**3.01**	**230**	P	Pn	11 09 45.0	-1.4
MCHZ	**McNeill Hill**	**3.03**	**39**	P	Pg	11 09 55.7	-0.4
KATZ	**Kakaramea**	**3.05**	**22**	P	Pb	11 09 54.1	+1.1
BKZ	**Black Stump Fm**	**3.16**	**34**	P	Pg	11 09 57.6	-1.1
RATZ	**Rangitukua**	**3.17**	**23**	P	Pb	11 09 56.7	+1.7
HIZ	**Hauiti**	**3.33**	**9**	P	Pn	11 09 53.4	+2.5
NMHZ	**Naumai**	**3.35**	**37**	P	Pg	11 10 02.3	-0.1
MRHZ	**Matea Rd**	**3.42**	**30**	P	Pb	11 09 59.3	+0.1
TMZ	**Timaru**	**3.48**	**221**	P	Pn	11 09 51.7	-1.3
MTHZ	**Maungataniwha**	**3.57**	**35**	P	Pg	11 10 05.0	-1.6
RAHZ	**Arahi**	**3.63**	**38**	P	Pg	11 10 07.7	0.0
PRRZ	**Plateau Road**	**3.71**	**27**	P	Pg	11 10 07.7	-1.4
UTU	**Utuhina**	**3.94**	**23**	P	Pg	11 10 12.7	-0.8
ODZ	**Otahua Downs**	**4.15**	**218**	P	Pn	11 10 00.5	-1.7
URZ	**Urewera**	**4.19**	**33**	P	Pb	11 10 10.4	-1.9
TOZ	**Tahuroa Road**	**4.19**	**14**	P	Pn	11 10 04.8	+2.1
JCZ	**Jackson Bay**	**4.58**	**239**	P	Pn	11 10 12.1	+3.9
AWAZ	**Awhitu Peninsu**	**4.75**	**4**	P	Pn	11 10 15.4	+5.0
MKAZ	**Moumakai**	**4.76**	**9**	P	Pn	11 10 11.5	+1.0
ETAZ	**East Tamaki Re**	**4.88**	**7**	P	Pn	11 10 14.8	+2.6

*KRNET **26** 11:09:57.4±0.1, 39°.21N×74°.35E, mb3.7*
*SOME **26** 11:09:57.5, 39°.40N×74°.27E, h0km*
*NNC **26** 11:10:01.2±2.6, 39°.45N×74°.45E, h0km, mb4.1, mpv3.7,*
Error ellipse: s-maj=19.7km s-min=10.3km az=163.0
ISC 26 11:09:57.8±1.6, 39°.05N±0°.07×74°.16E±0°.04, h10km, n49, σ1s 78°/77, 15C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.82**	**325**	⇑*i*P	**Pb**	**11 10 30.6**	**-0.6**
	baz=18						
OHH				⇑*i*S	**Sg**	**11 10 54.9**	**-1.3**
	baz=18						
BTK	**Batken**	**2.78**	**292**	⇓*i*P	**Pb**	**11 10 46.2**	**-1.4**
	baz=88						
BTK				⇓*i*S	**Sb**	**11 11 22.1**	**+0.4**
	baz=88						
ARLS	**Aral**	**2.81**	**2**	⇑*e*P	**Pn**	**11 10 43.3**	**+0.3**
	baz=60						
ARLS				⇑*i*S	**Sn**	**11 11 16.9**	**-0.2**
	baz=60						
GAR	**Garm**	**3.00**	**270**	⇑*e*P	**Pb**	**11 10 50.4**	**-1.0**
	baz=67						
GAR				⇑*i*S	**Sb**	**11 11 28.9**	**+0.8**
	baz=67						
AML	**Almayashu**	**3.10**	**354**	P	**Pn**	**11 10 47.6**	**+0.4**
	SNR=15						
UCH	**Uchtor**	**3.19**	**5**	P	**Pn**	**11 10 48.8**	**+0.4**
	SNR=11						
UCH	**Uchtor**	**3.19**	**5**	⇑*i*P	**Pn**	**11 10 48.8**	**+0.4**
	baz=2.0						
UCH				⇑*i*S	**Sn**	**11 11 26.0**	**-0.7**
	baz=2.0						
ARK	**Arkit**	**3.22**	**329**	⇓*i*P	**Pn**	**11 10 50.7**	**+2.1**
	baz=26						
ARK				⇓*i*P	**Sn**	**11 11 29.3**	**+2.3**
	baz=26						
TRKS	**Terek-Say**	**3.39**	**318**	⇑*i*P	**Pn**	**11 10 52.5**	**+1.5**
	baz=14						
TRKS				⇑*i*S	**Sn**	**11 11 32.9**	**+1.6**
	baz=14						
AAK	**Ala-Archa**	**3.59**	**4**	P	**Pn**	**11 10 56.5**	**+2.8**
	SNR=10						
EKS2	**Erkin-Say**	**3.62**	**355**	⇑*e*P	**Pn**	**11 10 54.9**	**+0.8**
	baz=53						
EKS2				⇑*i*S	**Sn**	**11 11 36.9**	**-0.1**
	baz=53						
KBK	**Karagaybulak**	**3.65**	**9**	P	**Pn**	**11 10 57.5**	**+2.9**
	SNR=8.7						
MRKS	**Merke**	**3.76**	**349**	*e*P	**Pb**	**11 11 03.0**	**-1.4**
	13nm,0.1s						
MRKS				*e*S	**Sb**	**11 11 50.0**	**0.0**
	16nm,0.1s						
MRKS	**Merke**	**3.76**	**349**	Pg	**Pb**	**11 11 02.1**	**-2.3**
	13nm,0.3s						
MRKS				Lg	Lg	11 11 47.6	
	21nm,0.6s						
TKM2	**Tokmak 2**	**4.02**	**15**	P	**Pn**	**11 10 59.8**	**+0.1**
	SNR=7.6						
TKM2	**Tokmak 2**	**4.02**	**15**	⇓Pg	**Pn**	**11 11 03.6**	**+4.0**
	8.1nm,0.5s						
TKM2				⇑Lg	Lg	11 11 52.6	
	18nm,0.6s						
KST	**Kastek**	**4.22**	**18**	*e*P	**Pb**	**11 11 09.5**	**-2.7**
	12nm,0.0s						
KST				*e*S	**Sb**	**11 12 01.2**	**-2.0**
	29nm,0.7s						
KST	**Kastek**	**4.22**	**18**	Pg	**Pb**	**11 11 11.7**	**-0.5**
	12nm,0.6s						
KST				Lg	Lg	11 12 04.4	
	29nm,0.7s						
DGS	**Degeres**	**4.36**	**16**	*e*P	**Pb**	**11 11 12.9**	**-1.7**
	15nm,0.6s						
DGS				*e*S	**Sb**	**11 12 07.2**	**-0.2**
	31nm,0.8s						
DGS	**Degeres**	**4.36**	**16**	Pg	**Pb**	**11 11 14.4**	**-0.2**
	15nm,0.6s						
DGS				Lg	Lg	11 12 09.1	
	31nm,0.8s						
IUG	**Iuzhnay**	**4.41**	**316**	*e*P	**Pg**	**11 11 20.1**	**-2.3**
	32nm,0.1s						
IUG				*e*S	**Sg**	**11 12 19.6**	**+0.1**
	51nm,0.8s						
IUG	**Iuzhnay**	**4.41**	**316**	Pg	**Pg**	**11 11 21.0**	**-1.3**
	35nm,0.6s						
IUG				Lg	Lg	11 12 21.5	
	51nm,0.8s						
SGDS	**Sogindy**	**4.41**	**4**	*e*P	**Pb**	**11 11 15.1**	**-0.4**
	7.2nm,0.7s						
SGDS				*e*S	**Sb**	**11 12 10.4**	**+1.6**
	10nm,0.9s						
SGDS	**Sogindy**	**4.41**	**4**	Pg	**Pb**	**11 11 15.1**	**-0.4**
	7.2nm,0.7s						
SGDS				Lg	Lg	11 12 11.4	
	10nm,0.9s						
MTBS	**Maitube**	**4.42**	**22**	*e*P	**Pb**	**11 11 14.1**	**-1.5**
	6.8nm,0.2s						
MTBS				*e*S	**Sb**	**11 12 08.8**	**-0.2**
	18nm,0.2s						
MTBS	**Maitube**	**4.42**	**22**	Pg	**Pb**	**11 11 15.7**	**0.0**
	8.2nm,0.7s						
MTBS				Lg	Lg	11 12 11.0	
	9.6nm,0.7s						
TNSS	**Tian-Shan**	**4.51**	**27**	*e*P	**Pb**	**11 11 15.8**	**-1.5**
	16nm,0.3s						
TNSS				*e*S	**Sb**	**11 12 12.2**	**+0.4**
	15nm,0.7s						
TNSS	**Tian-Shan**	**4.51**	**27**	Pg	**Pb**	**11 11 15.8**	**-1.5**
	16nm,0.4s						
TNSS				Lg	Lg	11 12 12.2	
	15nm,0.7s						
MDOK	**Medeo**	**4.65**	**27**	*e*P	**Pb**	**11 11 17.8**	**-1.8**
	9.1nm,0.1s						
MDOK				*e*S	**Sb**	**11 12 15.6**	**-0.2**
	33nm,0.6s						
MDOK	**Medeo**	**4.65**	**27**	Pg	**Pb**	**11 11 15.1**	**-4.5**
	7.3nm,0.5s						
MDOK				Pg	Pg	11 11 17.8	-9.2
	8.1nm,0.3s						
MDOK				Lg	Lg	11 12 12.5	
	44nm,0.8s						
MDOK				Lg	Lg	11 12 16.0	
	33nm,0.6s						
KOTS	**Kotyrbulak**	**4.74**	**27**	*e*P	**Pb**	**11 11 18.9**	**-2.1**
	7.7nm,0.1s						
KOTS				*e*S	**Sb**	**11 12 17.2**	**-0.9**
	74nm,0.6s						
KOTS	**Kotyrbulak**	**4.74**	**27**	Pg	**Pb**	**11 11 20.0**	**-1.0**
	8.0nm,0.5s						
KOTS				Lg	Lg	11 12 19.6	
	74nm,0.6s						
KRBS	**Karabastau**	**4.78**	**13**	*e*P	**Pb**	**11 11 21.3**	**-0.4**
	6.7nm,0.1s						
KRBS				*e*S	**Sb**	**11 12 21.3**	**+2.0**
	18nm,0.1s						
KRBS	**Karabastau**	**4.78**	**13**	Pg	**Pb**	**11 11 21.6**	**-0.1**
	6.8nm,0.4s						
KRBS				Lg	Lg	11 12 21.3	
	5.5nm,0.7s						
KK31	**Karatay Array**	**4.90**	**327**	⇑Pn	**Pn**	**11 11 13.0**	**+1.4**
	0.6nm,0.3s,baz=139,slow=13						
KK31				⇓Pg	**Pb**	**11 11 24.7**	**+1.0**
	6.7nm,0.8s,baz=138,slow=16						
KK31				⇓Sn	**Sn**	**11 12 08.8**	**+0.4**
	2.8nm,0.5s,baz=137,slow=24						
KK31				⇓Lg	Lg	11 12 30.8	
	2.3nm,0.4s,baz=133,slow=29						
KTBS	**Karatobe**	**5.03**	**21**	*e*P	**Pb**	**11 11 25.5**	**-0.5**
	5.6nm,0.4s						
KTBS				*e*S	**Sb**	**11 12 29.0**	**+2.5**
	30nm,0.6s						
KTBS	**Karatobe**	**5.03**	**21**	Pg	**Pb**	**11 11 26.0**	**0.0**
	5.6nm,0.4s						
KTBS				Lg	Lg	11 12 29.0	
	30nm,0.6s						
KUU	**Kurty**	**5.11**	**18**	*e*P	**Pb**	**11 11 27.0**	**-0.3**
	5.1nm,0.3s						
KUU				*e*S	**Sb**	**11 12 31.6**	**+2.9**
	34nm,0.7s						
KUU	**Kurty**	**5.11**	**18**	Pg	**Pb**	**11 11 27.0**	**-0.3**
	5.1nm,0.3s						
KUU				Lg	Lg	11 12 31.6	
	34nm,0.7s						
CHKK	**Chushkaly**	**5.25**	**23**	*e*P	**Pb**	**11 11 29.5**	**-0.1**
	4.9nm,0.2s						
CHKK				*e*S	**Sb**	**11 12 35.5**	**+2.7**
	16nm,0.2s						
CHKK	**Chushkaly**	**5.25**	**23**	Pg	**Pb**	**11 11 29.8**	**+0.1**
	4.9nm,0.6s						
CHKK				Lg	Lg	11 12 35.5	
	15nm,0.5s						
UZB	**Uzynbulak**	**5.50**	**40**	*e*P	**Pb**	**11 11 32.9**	**-1.1**
	2.6nm,0.3s						
UZB				*e*S	**Sb**	**11 12 41.6**	**+1.5**
	8.0nm,0.2s						
KPKS	**Kokpek**	**5.57**	**36**	*e*P	**Pb**	**11 11 34.8**	**-0.5**
	3.8nm,0.0s						
KPKS				*e*S	**Sb**	**11 12 44.5**	**+2.3**
	29nm,0.2s						
SHLS	**Shalkode**	**5.73**	**43**	*e*P	**Pb**	**11 11 42.2**	**+4.2**
	11nm,0.5s						
SHLS				*e*S	**Sg**	**11 12 57.6**	**-4.2**
	10nm,0.5s						
ARXS	**Arharly**	**5.84**	**27**	*e*P	**Pb**	**11 11 40.2**	**+0.3**
	8.6nm,0.4s						
ARXS				*e*S	**Sb**	**11 12 53.7**	**+3.8**
	15nm,0.3s						
ARXS	**Arharly**	**5.84**	**27**	Pg	**Pb**	**11 11 40.2**	**+0.3**
	8.6nm,0.8s						
ARXS				Lg	Lg	11 12 53.4	
	15nm,0.9s						
PDGK	**Podgornoye**	**5.87**	**42**	⇓Pg	**Pb**	**11 11 36.8**	**-3.5**
	9.7nm,0.7s						
PDGK				⇑Lg	Lg	11 12 51.9	
	30nm,1.3s						
BLB	**Baldybastay**	**5.99**	**31**	*e*P	**Pb**	**11 11 42.7**	**+0.3**
	18nm,0.7s						
BLB				*e*S	**Sb**	**11 12 57.5**	**+3.3**
	8.7nm,0.6s						
BLB	**Baldybastay**	**5.99**	**31**	Pg	**Pb**	**11 11 41.8**	**-0.6**
	18nm,0.7s						
BLB				Lg	Lg	11 12 57.5	
	8.7nm,0.6s						

*SNET **26** 11:10:33.1±1.4, 12°.09N×89°.17W, h18km±8km, ML3.2*
*INET **26** 11:10:35.3±0.8, 12°.14N×88°.94W, h15km, MW3.2*
ISC 26 11:10:30.7±4.2, 12°.0N±0°.1×89°.1W±0°.09, h11km±18km, n12, σ0s 71/19, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.40**	**22**	*e*P	**Pn**	**11 10 56.6**	**+0.4**
ALJI				*e*S	**Sg**	**11 11 16.1**	**+0.1**
ALJI				IAML		11 11 19.0	
	comp=Z,395nm,0.2s						
COEB	**Comit de Eme**	**1.58**	**21**	*e*P	**Pn**	**11 10 59.1**	**+0.3**
COEB				*e*S	**Sg**	**11 11 20.8**	**-0.7**
COEB				IAML		11 11 23.9	
	comp=Z,513nm,0.4s						
SJTE	**Alcalda de S**	**1.59**	**4**	*e*P	**Pn**	**11 10 59.2**	**+0.3**
SJTE				*e*S	**Sn**	**11 11 19.4**	**-0.1**
COEG	**Centro de Oper**	**1.61**	**8**	*e*P	**Pn**	**11 11 00.5**	**+1.3**
JAYA	**Jayaque - finc**	**1.66**	**349**	*e*P	**Pn**	**11 11 00.4**	**+0.4**
JAYA				*e*S	**Sn**	**11 11 21.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.71**	**12**	*e*P	**Pn**	**11 11 01.4**	**+0.8**
SCLA				*e*S	**Sb**	**11 11 23.2**	**-0.7**
SCLA				IAML		11 11 32.4	
	comp=Z,99nm,0.4s						
LCND	**La Caada**	**1.75**	**43**	*e*P	**Pn**	**11 11 01.6**	**+0.6**
LCND				*e*S	**Sb**	**11 11 25.4**	**+0.6**
LCND				IAML		11 11 26.0	
	comp=Z,430nm,0.3s						
CEDA	**San Andres**	**1.80**	**351**	*e*S	**Sn**	**11 11 24.6**	**0.0**
NUBE	**Las Nubes**	**1.98**	**341**	*e*P	**Pn**	**11 11 04.8**	**+0.4**
NUBE				*e*S	**Sn**	**11 11 27.9**	**-1.5**
SLOZ	**Alcaldia de Sa**	**2.10**	**342**	*e*P	**Pn**	**11 11 06.4**	**+0.5**
CRIN	**San Cristobal**	**2.12**	**71**	*e*P	**Pn**	**11 11 06.5**	**+0.3**
MOMN	**Momotombo**	**2.54**	**81**	*e*P	**Pn**	**11 11 11.8**	**-0.1**

HEL 26 11:11:30.8±0.3, 67°.67N×30°.50E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia

σ0.92/18, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**279**	*i* P		**Pg**	**11 23 02.0**	**+1.1**
JFK				↓*e*S		**Sg**	**11 23 09.7**	**+0.9**
JMST	**Minamisoumatoc**	**0.73**	**308**	*i* P		**Pg**	**11 23 03.9**	**+0.3**
JMST				↓S		**Sg**	**11 23 13.4**	**+0.2**
JFFD	**Fukushimafurud**	**0.86**	**258**	*i* P		**Pg**	**11 23 06.3**	**+0.3**
JFFD				↓*e*S		**Sg**	**11 23 17.4**	**+0.2**
JMM	**Marumori**	**0.88**	**312**	P		**Pg**	**11 23 06.4**	**0.0**
JMM	**Marumori**	**0.88**	**312**	↓*i* P		**Pg**	**11 23 06.2**	**-0.2**
JMM				↓*e*S		**Sg**	**11 23 17.2**	**-0.7**
JHO	**Hitachi**	**1.07**	**232**	P		**Pg**	**11 23 09.5**	**-0.4**
JHO				*e*S		**Sg**	**11 23 23.5**	**-0.3**
JIO	**Ouri**	**1.20**	**350**	↓P		**Pb**	**11 23 10.9**	**-1.3**
JOU	**Okura**	**1.32**	**326**	↓P		**Pn**	**11 23 13.8**	**-0.1**
JOU				↓S		**Sb**	**11 23 30.6**	**-0.8**
JSD	**Sado**	**2.77**	**287**	P		**Pb**	**11 23 38.7**	**-0.3**
MAJO	**Matsushiro**	**2.83**	**256**	P		**Pb**	**11 23 40.6**	**+0.6**
JGF	**Kuroka**	**3.82**	**245**	P		**Pb**	**11 23 55.1**	**-1.8**
ERM	**Erimo**	**4.88**	**14**	P		**Pn**	**11 24 04.8**	**+2.0**

WEL 26 11:30:06.0±0.4, 42°S±3°×17°4E±°, h5km, M3.0/21, ML3.3/13, MLv3.0/21, Error ellipse: s-maj=0.0km s-min=0.0km az=122.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.22**	**202**	P		Pg	11 30 10.8	+0.4
KHZ				S		Sg	11 30 14.4	+1.1
BSWZ	**Blackbirch Sta**	**0.53**	**19**	P		Pg	11 30 16.2	+0.1
BSWZ				S		Sg	11 30 23.8	+0.9
CMWZ	**Cape Campbell**	**0.63**	**43**	P		Pb	11 30 18.9	-0.5
THZ	**Tophouse**	**0.71**	**309**	P		Pg	11 30 19.9	+0.2
TUWZ	**Tuamarina**	**0.81**	**16**	P		Pg	11 30 21.5	-0.1
GVZ	**Greta Valley S**	**0.88**	**211**	P		Pb	11 30 23.7	-0.1
NNZ	**Nelson**	**1.01**	**348**	P		Pg	11 30 25.1	-0.4
MRNZ	**Matariki Terra**	**1.05**	**320**	P		Pb	11 30 26.6	-0.1
TCW	**Tory Channel**	**1.11**	**25**	P		Pg	11 30 26.4	-0.8
LTZ	**Lake Taylor**	**1.17**	**240**	P		Pg	11 30 27.6	-0.8
AMCZ	**Amberley**	**1.21**	**217**	P		Pg	11 30 28.3	-0.9
WEL	**Wellington**	**1.25**	**42**	P		Pg	11 30 28.7	-1.3
TKNZ	**Takaka Hill**	**1.29**	**336**	P		Pn	11 30 31.1	-0.5
PLWZ	**Palliser**	**1.36**	**62**	P		Pn	11 30 29.4	-2.3
DUWZ	**D'Urville Isla**	**1.42**	**8**	P		Pn	11 30 32.5	-0.1
MSWZ	**Moikau Station**	**1.44**	**57**	P		Pn	11 30 30.5	-2.3
DSZ	**Denniston Nort**	**1.45**	**288**	P		Pb	11 30 33.6	0.0
CAW	**Cannon Point**	**1.53**	**44**	P		Pn	11 30 32.3	-1.8
OKCZ	**Okains Bay**	**1.57**	**196**	P		Pn	11 30 32.7	-1.9
QRZ	**Quartz Range**	**1.62**	**328**	P		Pn	11 30 35.8	+0.6
OXZ	**Oxford**	**1.63**	**226**	P		Pn	11 30 33.1	-2.2
KIW	**Kapiti Island**	**1.65**	**35**	P		Pn	11 30 34.5	-1.2
MQZ	**McQueen's Vall**	**1.66**	**206**	P		Pn	11 30 33.0	-2.8
MTW	**Mount Morrison**	**1.74**	**53**	P		Pn	11 30 34.6	-2.3
AKCZ	**Akaroa Harbour**	**1.75**	**198**	P		Pn	11 30 34.6	-2.4
OGWZ	**Otaki Gorge**	**1.80**	**40**	P		Pn	11 30 36.1	-1.6
RACZ	**Rakaia**	**1.88**	**216**	P		Pn	11 30 36.5	-2.3
TMWZ	**Te Maipa**	**2.01**	**57**	P		Pn	11 30 37.7	-2.9
MRZ	**Mangatainoka R**	**2.12**	**44**	P		Pn	11 30 40.0	-2.2
WACZ	**Wakanui South**	**2.18**	**217**	P		Pn	11 30 40.8	-2.2
PRWZ	**Pori Road**	**2.41**	**47**	P		Pn	11 30 43.7	-2.4
RPZ	**Rata Peaks**	**2.43**	**231**	P		Pn	11 30 44.4	-1.9
WAZ	**Wanganui**	**2.66**	**23**	P		Pn	11 30 50.2	+0.7
TSZ	**Takapari Road**	**2.77**	**40**	P		Pn	11 30 48.7	-2.4
TMZ	**Timaru**	**2.90**	**221**	P		Pn	11 30 50.9	-2.1
PNHZ	**Pukenui**	**3.00**	**41**	P		Pn	11 30 51.5	-2.7
VRZ	**Vera Road**	**3.20**	**16**	P		Pn	11 30 57.6	+0.6
ODZ	**Otahua Downs**	**3.57**	**217**	P		Pn	11 30 59.3	-2.8
HIZ	**Hauiti**	**3.81**	**14**	P		Pn	11 31 06.1	+0.8
HHSZ	**Highcliff Hill**	**4.28**	**210**	P		Pn	11 31 09.4	-2.4
EAZ	**Earnscleugh**	**4.36**	**225**	P		Pn	11 31 10.9	-2.0
TUZ	**Tuapeka**	**4.73**	**216**	P		Pn	11 31 15.9	-2.1

*IDC **26** 11:39:33.3±0.9, 55°.16N×164°.83E, h0km, mb3.6/8, mbtmp3.6/9, ML3.4/1, MS2.6/2, Error ellipse: s-maj=38.6km s-min=17.5km az=156.0*
*KRSC **26** 11:39:33.6±1.4, 55°.08N×164°.85E, h49km±24km, ML4.1*
ISC 26 11:39:35.6±1.9, 55°.12N±0°.04×164°.87E±0°.06, h17km±13km, n52, σ1.952/77, mb3.6/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.64**	**82**	*e*P		**Pg**	**11 39 47.9**	**-0.2**
BKI				*e*S		**Sb**	**11 39 57.4**	**+0.6**
KBTR	**Krutoberegovo**	**1.60**	**314**	*e*P		**Pn**	**11 40 00.0**	**-3.0**
KBTR				*e*S		**Sn**	**11 40 18.4**	**-4.8**
KBG	**Krutoberegovo**	**1.68**	**314**	*e*P		**Pn**	**11 40 01.1**	**-2.9**
KBG				*e*S		**Sn**	**11 40 20.9**	**-4.2**
MKZ	**Mys Kozlova**	**1.90**	**254**	*e*P		**Pn**	**11 40 05.9**	**-1.3**
MKZ				*e*S		**Sn**	**11 40 28.6**	**-2.1**
SMKR	**Semkarok**	**2.42**	**309**	*e*P		**Pn**	**11 40 13.2**	**-1.1**
SMKR				*e*S		**Sn**	**11 40 43.1**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**2.51**	**291**	*e*P		**Pn**	**11 40 16.2**	**+0.5**
BZGR				*e*S		**Sn**	**11 40 46.4**	**+0.5**
BDR	**Baidarnaya**	**2.53**	**307**	*e*P		**Pn**	**11 40 15.3**	**-0.5**
BDR				*e*S		**Sn**	**11 40 45.6**	**-0.6**
CIRR	**Tsirk**	**2.54**	**295**	*e*S		**Sn**	**11 40 46.0**	**-0.8**
TUMD	**Tumrok D**	**2.57**	**274**	*e*P		**Pn**	**11 40 16.1**	**-0.3**
TUMD				*e*S		**Sn**	**11 40 45.9**	**-1.3**
SRKR	**Sorokina**	**2.59**	**308**	*e*P		**Pn**	**11 40 16.1**	**-0.7**
SRKR				*e*S		**Sn**	**11 40 46.9**	**-0.9**
BZMR	**Bezymyannaya**	**2.62**	**290**	*e*P		**Pn**	**11 40 17.5**	**+0.3**
BZMR				*e*S		**Sn**	**11 40 48.7**	**0.0**
BZWR	**Bezymyannyi-We**	**2.63**	**291**	*e*P		**Pn**	**11 40 18.0**	**+0.7**
KLY	**Klyuchi**	**2.67**	**298**	*e*P		**Pn**	**11 40 16.0**	**-1.7**
KLY				*e*S		**Sn**	**11 40 47.2**	**-2.4**
KRSR	**Krestovskiy**	**2.68**	**296**	*e*P		**Pn**	**11 40 17.6**	**-0.3**
KRSR				*e*S		**Sn**	**11 40 49.6**	**-0.4**
KIRR	**Kirishev**	**2.71**	**290**	*e*P		**Pn**	**11 40 19.4**	**+1.0**
KIRR				*e*S		**Sn**	**11 40 51.4**	**+0.6**
TUMR	**Tumrok**	**2.71**	**275**	*e*P		**Pn**	**11 40 18.7**	**+0.2**
TUMR				*e*S		**Sn**	**11 40 50.5**	**-0.4**
KMNR	**Kamenistaya**	**2.72**	**285**	*e*P		**Pn**	**11 40 19.5**	**+1.0**
KMNR				*e*S		**Sn**	**11 40 51.2**	**+0.2**
KPT	**Kopyto**	**2.78**	**290**	*e*P		**Pn**	**11 40 20.1**	**+0.8**
KPT				*e*S		**Sn**	**11 40 52.8**	**+0.4**
KOZ	**Kozyrevsk**	**2.99**	**290**	*e*P		**Pn**	**11 40 23.1**	**+0.9**
KOZ				*e*S		**Sn**	**11 40 58.4**	**+0.8**
SRDR	**Sredinnyy**	**3.15**	**294**	*e*P		**Pn**	**11 40 25.4**	**+0.9**
SRDR				*e*S		**Sn**	**11 41 01.9**	**+0.2**
ESO	**Esso**	**3.60**	**285**	*e*P		**Pn**	**11 40 31.4**	**+0.8**
ESO				*e*S		**Sn**	**11 41 12.5**	**-0.1**
NLC	**Nalytchevo**	**3.79**	**241**	*e*P		**Pn**	**11 40 32.5**	**-0.6**
NLC				*e*S		**Sn**	**11 41 15.0**	**-2.3**
SDLR	**Sedlovina**	**3.97**	**245**	*e*P		**Pn**	**11 40 35.8**	**+0.1**
SDLR				*e*S		**Sn**	**11 41 19.7**	**-2.2**
SMAR	**Somma**	**4.02**	**245**	*e*P		**Pn**	**11 40 36.4**	**-0.1**
SMAR				*e*S		**Sn**	**11 41 20.5**	**-2.8**
KRER	**Koryakskii**	**4.03**	**246**	*e*P		**Pn**	**11 40 37.0**	**+0.4**
KRER				*e*S		**Sn**	**11 41 21.4**	**-2.1**
UGLR	**Uglovaya**	**4.04**	**244**	*e*P		**Pn**	**11 40 36.8**	**+0.2**
UGLR				*e*S		**Sn**	**11 41 22.1**	**-1.4**
KOK	**Koryaka**	**4.09**	**246**	*e*P		**Pn**	**11 40 38.0**	**+0.6**
DALK	**Dalny**	**4.17**	**242**	*e*P		**Pn**	**11 40 37.9**	**-0.4**
DALK				*e*S		**Sn**	**11 41 24.5**	**-2.0**
OSSR	**Ossora**	**4.26**	**347**	*e*P		**Pn**	**11 40 38.7**	**-0.8**
GNL	**Ganaly**	**4.29**	**253**	*e*P		**Pn**	**11 40 40.9**	**+0.7**
GNL				*e*S		**Sn**	**11 41 29.2**	**-0.7**
KRMR	**Karymshinskiy**	**4.59**	**243**	*e*P		**Pn**	**11 40 44.3**	**+0.1**
RUS	**Russkaya**	**4.63**	**237**	*e*P		**Pn**	**11 40 44.5**	**-0.2**
RUS				*e*S		**Sn**	**11 41 34.3**	**-3.7**
PETK	**Petropavlovsk-** 7.8nm,0.3s,baz=276,slow=33,SNR=206	**4.68**	**247**	Pn		**Pn**	**11 40 45.3**	**0.0**
PETK	1.5nm,0.3s,baz=199,slow=3.1,SNR=3.8 14nm,0.5s			Sn		**Sn**	**11 41 39.8**	**+0.7**
MTVR	**Mutnovka**	**4.76**	**239**	*e*P		**Pn**	**11 40 46.7**	**0.0**
MTVR				*e*S		**Sn**	**11 41 39.0**	**-2.5**
GRL	**Gorelyy**	**4.78**	**240**	*e*P		**Pn**	**11 40 47.5**	**+0.7**
APC	**Apacha**	**5.05**	**247**	*e*P		**Pn**	**11 40 51.8**	**+1.4**
KDTR	**Khodutka, Kamc**	**5.24**	**234**	*e*P		**Pn**	**11 40 52.5**	**-0.5**
KDTR				*e*S		**Sn**	**11 41 48.3**	**-4.7**
PAU	**Pauzhetka**	**6.06**	**236**	*e*P		**Pn**	**11 41 04.4**	**+0.1**
SKR	**Severo-Kuril's**	**6.91**	**234**	*e*P		**Pn**	**11 41 15.1**	**-0.9**
MA2	**Magadan** comp=Z,35nm,18.2s,baz=33,slow=39	**8.83**	**306**	LR		LR	11 45 16.7	
YAK	**Yakutsk** comp=Z,20nm,19.8s,baz=93,slow=40	**19.41**	**305**	LR		LR	11 52 31.0	

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array** 1.0nm,0.8s,baz=254,slow=7.9,SNR=10.0 1.0nm,0.8s	**25.37**	**48**	P		**P**	**11 45 01.2**	**-0.2**
H11N2	**WAKE ISLAND Hy** baz=359,slow=76,SNR=72	**35.36**	**177**	T		T	12 24 27.5	
H11N3	**WAKE ISLAND Hy** baz=359,slow=76,SNR=48	**35.38**	**177**	T		T	12 24 33.2	
H11N1	**WAKE ISLAND Hy** baz=359,slow=76,SNR=44	**35.38**	**177**	T		T	12 24 27.5	
SONM	**Songino Array** 0.5nm,0.6s,baz=59,slow=10.0,SNR=2.8 0.5nm,0.6s	**36.17**	**283**	P		**P**	**11 46 37.9**	**+1.0**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=48,slow=7.3,SNR=2.9 0.5nm,0.7s	**49.78**	**297**	P		**P**	**11 48 25.8**	**-1.1**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=299,slow=8.2,SNR=1.7 0.1nm,0.3s	**54.09**	**65**	P		**P**	**11 49 00.1**	**+0.8**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=31,slow=6.6,SNR=4.4 0.4nm,0.4s	**61.32**	**261**	P		**P**	**11 49 51.0**	**+0.8**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=302,slow=4.8,SNR=5.0 0.3nm,0.7s	**67.28**	**71**	P		**P**	**11 50 30.2**	**+1.0**
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=21,slow=6.0,SNR=6.8 0.6nm,0.8s	**79.17**	**209**	P		**P**	**11 51 39.4**	**+0.3**
ASAR	**Alice Springs** 0.9nm,0.8s,baz=21,slow=5.7,SNR=7.0 0.9nm,0.8s	**82.83**	**208**	P		**P**	**11 51 59.4**	**+0.8**

IDC 26 11:40:13.7±2.2, 5°.98S×150°.63E, h144km±28km, mb2.8/3, mbtmp3.3/4, Error ellipse: s-maj=138.2km s-min=23.0km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** 85nm,0.6s,baz=156,slow=17,SNR=1.5	**2.16**	**40**	P		Pn	11 40 50.3	0.0
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=52,slow=9.7,SNR=11 0.6nm,0.7s	**21.06**	**227**	P		P	11 44 46.9	+0.3
ASAR	**Alice Springs** 0.2nm,0.4s,baz=52,slow=8.9,SNR=9.6 0.2nm,0.4s	**23.84**	**221**	P		P	11 45 13.6	-0.3
ILAR	**Eielson Array** 0.2nm,0.7s,baz=258,slow=5.8,SNR=2.2 0.2nm,0.7s	**84.06**	**22**	P		P	11 52 28.0	+0.1

*SKHL **26** 11:44:38.4±0.3, 42°.90N×145°.80E, h62km±3km, mb4.5/3*
*JMA **26** 11:44:38.2±0.1, 42°.9N±0°.5×145°.8E±0°.8, h68km±1km, MV3.3/40, OFF NEMURO PENINSULA*
ISC 26 11:44:38.3±2.0, 42°.92N±0°.09×145°.76E±0°.07, h66km±11km, n14, σ0.938/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.44**	**358**	*e*P		**Pn**	**11 44 50.1**	**0.0**
NEM2				*e*S		**Sn**	**11 44 58.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.45**	**357**	*e*P		**Pn**	**11 44 50.1**	**-0.1**
NMR	140nm,0.2s			AMB		AMB	11 44 50.3	
NMR				*e*S		**Sn**	**11 44 58.7**	**-0.2**
NMR	950nm,0.3s			A		A	11 44 59.3	
NMR	1μm,0.3s			A		A	11 44 59.3	
JKHN	**Kushirohamanak**	**0.47**	**290**	*e*P		**Pn**	**11 44 50.8**	**+0.4**
JKHN				*e*S		**Sn**	**11 44 59.5**	**+0.2**
AKK	**Akkeshi**	**0.68**	**278**	*i* P		**Pn**	**11 44 52.7**	**0.0**
AKK	180nm,0.2s			AMB		AMB	11 44 53.0	
AKK				*i* S		**Sn**	**11 45 03.3**	**+0.1**
AKK	470nm,0.2s			A		A	11 45 03.3	
AKK	790nm,0.2s			A		A	11 45 03.3	
JAK	**Akkeshi**	**0.79**	**276**	*e*P		**Pn**	**11 44 53.9**	**0.0**
JAK				*e*S		**Sn**	**11 45 05.5**	**+0.2**
JNK	**Nakash**	**1.01**	**311**	*e*P		**Pn**	**11 44 56.3**	**-0.4**
JNK				*e*S		**Sn**	**11 45 09.2**	**-1.1**
JNSB	**Nemuroshibetsu**	**1.02**	**327**	*e*P		**Pn**	**11 44 56.6**	**-0.1**
JNSB				*e*S		**Sn**	**11 45 10.9**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.11**	**4**	*e*P		**Pn**	**11 44 57.8**	**-0.2**
YUK	130nm,0.2s			AMB		AMB	11 44 58.2	
YUK				*e*S		**Sn**	**11 45 12.6**	**-0.1**
YUK	1μm,0.5s			A		A	11 45 13.1	
YUK	800nm,0.5s			A		A	11 45 13.1	
JRA	**Rausu**	**1.12**	**336**	*e*P		**Pn**	**11 44 58.1**	**+0.1**
JRA				*e*S		**Sn**	**11 45 12.9**	**+0.1**
JOB	**Onbets**	**1.42**	**270**	*e*P		**Pn**	**11 45 02.0**	**0.0**
JOB				*e*S		**Sn**	**11 45 19.0**	**-0.1**
JAR	**Ashorobuto**	**1.51**	**285**	*e*P		**Pn**	**11 45 03.3**	**+0.1**
JAR				*e*S		**Sn**	**11 45 22.0**	**0.0**
JTKR	**Abashiri--Toko**	**1.71**	**308**	*e*P		**Pn**	**11 45 06.2**	**+0.3**
JTKR				*e*S		**Sn**	**11 45 27.5**	**+0.7**
JCH	**Churui**	**1.79**	**261**	*e*P		**Pn**	**11 45 07.0**	**0.0**
JCH				*e*S		**Sn**	**11 45 28.1**	**-0.7**
KUR	**Kuril'sk**	**2.76**	**33**	*e*P		**Pn**	**11 45 20.6**	**+0.4**
KUR				*e*S		**Sn**	**11 45 52.0**	**-0.4**
KUR	130nm,0.2s			A		A	11 45 54.0	
KUR	70nm,0.2s			A		A	11 45 54.0	

WEL 26 11:44:45.2±0.9, 42°S±3°×17°4E±°, h5km, M2.8/10, ML2.9/7, MLv2.8/10, Error ellipse: s-maj=0.0km s-min=0.0km az=70.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**199**	P		Pg	11 44 49.4	+0.1
KHZ				S		Sg	11 44 52.9	+0.9
THZ	**Tophouse**	**0.71**	**310**	P		Pg	11 44 58.8	0.0
THZ				S		Sg	11 45 08.8	+0.8
GVZ	**Greta Valley S**	**0.86**	**210**	P		Pg	11 45 01.9	0.0
GVZ				S		Sb	11 45 14.9	+0.3
MRNZ	**Matariki Terra**	**1.05**	**321**	P		Pg	11 45 05.3	0.0
LTZ	**Lake Taylor**	**1.15**	**240**	P		Pg	11 45 06.3	-0.9
DSZ	**Denniston Nort**	**1.44**	**289**	P		Pn	11 45 12.0	0.0
OXZ	**Oxford**	**1.61**	**226**	P		Pn	11 45 11.4	-2.9
QRZ	**Quartz Range**	**1.62**	**329**	P		Pn	11 45 14.9	+0.4
MQZ	**McQueen's Vall**	**1.65**	**205**	P		Pn	11 45 11.0	-3.7
MQZ	**McQueen's Vall**	**1.65**	**205**	P		Pn	11 45 10.8	-4.0
AKCZ	**Akaroa Harbour**	**1.73**	**198**	P		Pn	11 45 12.8	-3.2
MHCZ	**Mount Hutt**	**2.00**	**229**	P		Pn	11 45 15.7	-4.1
WACZ	**Wakanui South**	**2.16**	**217**	P		Pn	11 45 19.1	-2.7
RPZ	**Rata Peaks**	**2.41**	**231**	P		Pn	11 45 22.9	-2.4

WEL 26 11:44:50.9±0.5, 42°S±2°×17°4E±°, h8km±3km, M2.4/14, ML2.6/12, MLv2.4/14, Error ellipse: s-maj=0.0km s-min=0.0km az=65.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**153**	P		Pg	11 44 53.7	+0.7
CMWZ				S		Sg	11 44 56.2	+1.6
BSWZ	**Blackbirch Sta**	**0.22**	**259**	P		Pg	11 44 55.0	-0.3
BSWZ				S		Sg	11 44 59.5	+1.3
TUWZ	**Tuamarina**	**0.29**	**326**	P		Pb	11 44 57.7	-0.7
TUWZ				S		Sb	11 45 02.8	-0.6
TCW	**Tory Channel**	**0.47**	**11**	P		Pg	11 45 00.6	+0.6
NNZ	**Nelson**	**0.74**	**308**	P		Pg	11 45 04.1	-1.1
PLWZ	**Palliser**	**0.83**	**83**	P		Pb	11 45 07.4	-0.1
MSWZ	**Moikau Station**	**0.86**	**73**	P		Pb	11 45 07.8	-0.2
KHZ	**Kahutara**	**0.88**	**212**	P		Pb	11 45 08.1	-0.2
KHZ				S		Sb	11 45 21.0	+0.9
CAW	**Cannon Point**	**0.89**	**51**	P		Pg	11 45 07.9	+0.1
DUWZ	**D'Urville Isla**	**0.89**	**348**	P		Pg	11 45 08.0	+0.1
KIW	**Kapiti Island**	**0.99**	**35**	P		Pg	11 45 09.6	-0.2
MRNZ	**Matariki Terra**	**1.09**	**284**	P		Pb	11 45 12.0	0.0
MTW	**Mount Morrison**	**1.13**	**63**	P		Pg	11 45 11.7	-0.9
OGWZ	**Otaki Gorge**	**1.15**	**42**	P		Pg	11 45 12.5	-0.3

SCB 26 11:50:19.1±0.9, 17°.43S×65°.98W, h35km±8km, ML3.7/2, Error ellipse: s-maj=3.3km s-min=2.7km az=2.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SOEJ	**Jacaque**	**2.16**	**282**	P		Pn	11 50 49.2	-3.9
BBOD	**La Paz, Gloria**	**2.63**	**287**	P		Pn	11 50 56.2	-3.3
GO01	**Chusmiza**	**3.77**	**233**	P		Pn	11 51 11.1	-4.2
MOCB	**Mochara**	**3.81**	**175**	P		Pn	11 51 12.8	-3.0
MOCB				S		Sn	11 51 50.4	-9.2
MOCB	68nm,0.4s			IAML			11 52 07.7	
YJA	**Yavi**	**4.74**	**175**	P		Pn	11 51 24.3	-4.2
SIV	**San Ignacio**	**4.92**	**74**	P		Pn	11 51 26.6	-4.0
SIV				S		Sn	11 52 15.8	-10
SIV	72nm,0.4s			IAML			11 53 05.8	
BBSD	**Serra de San D**	**5.13**	**88**	P		Pn	11 51 29.3	-4.3
PTLB	**Pontes e Lacer**	**6.86**	**74**	P		Pn	11 51 53.0	-4.2
VILB	**Vilhena**	**7.14**	**52**	P		Pn	11 51 57.4	-3.7
ETMB	**Extrema**	**7.57**	**358**	P		Pn	11 52 03.2	-3.9

IDC 26 11:51:38.0±4.5, 7°.12S×130°.35E, h180km±64km, mb3.1/1, mbtmp3.7/4, Error ellipse: s-maj=132.5km s-min=19.1km az=81.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 2.8nm,0.3s,baz=151,slow=22,SNR=1.6	**6.28**	**8**	P		Pn	11 53 09.3	+0.6
SIJI	2.6nm,0.3s,baz=284,slow=23,SNR=1.7			S		Sn	11 54 20.6	+0.3
WRA	**Warramunga Arr** 1.3nm,0.4s,baz=347,slow=12,SNR=39	**13.32**	**164**	P		Pn	11 54 38.4	-1.8
WRA	5.5nm,0.7s,baz=342,slow=22,SNR=16			S		Sn	11 57 00.1	-8.4
ASAR	**Alice Springs** 0.9nm,0.5s,baz=339,slow=9.9,SNR=12	**16.80**	**169**	P		Pn	11 55 24.0	+1.1
ASAR	0.7nm,0.4s,baz=330,slow=22,SNR=8.5			S		S	11 58 24.0	-4.2
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=123,slow=7.4,SNR=4.6 0.3nm,0.4s	**68.52**	**327**	P		P	12 02 20.8	-0.1

*ATH **26** 11:52:12.4, 37°.64N×20°.96E, h16km±1km, ML3.4/6, Error ellipse: s-maj=1.8km s-min=1.0km az=25.0*
*THE **26** 11:52:12.3, 37°.63N×20°.95E, h10km±31km, ML3.6/19, Error ellipse: s-maj=31.6km s-min=0.5km az=0.0*
ISC 26 11:52:12.7±0.9, 37°.65N±0°.03×20°.96E±0°.03, h15km±6km, n36, σ0.997/61, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.12**	**303**	P		**Pg**	**11 52 16.1**	**0.0**
LTHK				S		**Sg**	**11 52 18.0**	**-0.3**
LTHK	**Lithakia** 151μm,0.4s	**0.12**	**303**	P		**Pg**	**11 52 16.0**	**0.0**
LTHK				S		**Sg**	**11 52 18.9**	**+0.6**
LTHK				AML		AML	11 52 23.6	
LTHK				AML		AML	11 52 26.1	
PSDA	**Pessada-Kefalo** 24μm,0.2s	**0.55**	**328**	P		**Pg**	**11 52 22.8**	**-0.8**
PSDA				S		**Sg**	**11 52 31.5**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.55**	**328**	P		**Pg**	**11 52 22.9**	**-0.8**
PSDA				S		**Sg**	**11 52 31.4**	**+0.5**
RLS	**Riolos of Patr** 6μm,0.4s	**0.57**	**44**	P		**Pg**	**11 52 23.3**	**-0.7**
RLS				S		**Sb**	**11 52 32.8**	**+0.3**
RLS	**Riolos of Patr**	**0.57**	**44**	P		**Pg**	**11 52 23.2**	**-0.7**
RLS				S		**Sg**	**11 52 31.8**	**+0.2**
RLS	comp=E,7877μm,0.5s			AML		AML	11 52 35.1	
RLS	comp=N,14590μm,0.4s			AML		AML	11 52 35.7	
VLS	**Valsamata**	**0.61**	**331**	P		**Pg**	**11 52 23.8**	**-0.8**
VLS	comp=N,4μm,0.2s			S		**Sg**	**11 52 32.9**	**+0.2**
VLS	**Valsamata**	**0.61**	**331**	P		**Pg**	**11 52 23.7**	**-1.0**
VLS				S		**Sg**	**11 52 32.4**	**-0.2**
VLS	comp=E,7027μm,0.2s			AML		AML	11 52 33.9	
VLS	comp=N,8697μm,0.3s			AML		AML	11 52 33.9	
DRO	**Drossia**	**0.67**	**63**	P		**Pg**	**11 52 25.4**	**-0.4**
DRO	comp=N,8μm,0.4s			S		**Sb**	**11 52 35.4**	**+0.1**
DRO	**Drossia**	**0.67**	**63**	P		**Pg**	**11 52 25.2**	**-0.6**
DRO				S		**Sg**	**11 52 34.8**	**+0.1**
DRO	comp=N,11154μm,0.5s			AML		AML	11 52 41.2	
DRO	comp=E,14223μm,0.5s			AML		AML	11 52 42.2	
KEF3	**Kipouria, Keph**	**0.74**	**319**	P		**Pg**	**11 52 26.0**	**-1.1**
KEF3	comp=E,11μm,0.4s			S		**Sb**	**11 52 37.4**	**+0.2**
KEF3	**Kipouria, Keph**	**0.74**	**319**	P		**Pg**	**11 52 26.3**	**-0.8**
KEF3				S		**Sb**	**11

MLv3.0/12, **Error ellipse: s-maj=0.0km s-min=0.0km az=136.6, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.15**	**64**	P	Pg	11 55 37.5	+0.2
KHZ				S	Sg	11 55 40.0	+0.7
GVZ	**Greta Valley S**	**0.54**	**206**	P	Pg	11 55 45.2	+0.6
GVZ				S	Sb	11 55 53.4	-0.9
LTZ	**Lake Taylor**	**0.85**	**249**	P	Pg	11 55 50.8	+0.2
LTZ				S	Sg	11 56 02.1	+0.3
AMCZ	**Amberley**	**0.86**	**217**	P	Pg	11 55 50.7	-0.1
AMCZ				S	Sb	11 56 04.0	+0.4
MRNZ	**Matariki Terra**	**1.17**	**337**	P	Pg	11 55 56.7	0.0
OKCZ	**Okains Bay**	**1.26**	**190**	P	Pg	11 55 55.9	-2.5
OXZ	**Oxford**	**1.28**	**229**	P	Pg	11 55 56.5	-2.4
MQZ	**McQueen's Vall**	**1.32**	**203**	P	Pn	11 55 56.4	-3.0
DSZ	**Denniston Nort**	**1.37**	**302**	P	Pn	11 55 59.9	-0.1
AKCZ	**Akaroa Harbour**	**1.43**	**193**	P	Pn	11 55 58.0	-2.9
RACZ	**Rakaia**	**1.53**	**215**	P	Pn	11 55 59.4	-2.8
QRZ	**Quartz Range**	**1.77**	**339**	P	Pn	11 56 06.2	+0.7
WVZ	**Waitaha Valley**	**2.02**	**252**	P	Pn	11 56 08.1	-0.8
RPZ	**Rata Peaks**	**2.09**	**233**	P	Pn	11 56 07.7	-2.2
TMZ	**Timaru**	**2.56**	**221**	P	Pn	11 56 13.9	-2.5
LBZ	**Lake Benmore**	**2.99**	**229**	P	Pn	11 56 21.3	-1.1
ODZ	**Otahua Downs**	**3.23**	**217**	P	Pn	11 56 22.6	-2.9
VRZ	**Vera Road**	**3.52**	**18**	P	Pn	11 56 26.1	-3.5
TWVZ	**Taurewa**	**3.76**	**26**	P	Pn	11 56 29.6	-3.4
ETAZ	**East Tamaki Re**	**5.66**	**13**	P	Pn	11 56 58.3	-0.6

WEL 26 11:55:39.2±0.7, **42°S**±5°×**17°4E**±°, **h13**km±5km, **M2.6**/12, **ML2.9**/11, **MLv2.6**/12, **Error ellipse: s-maj=0.0km s-min=0.0km az=175.1, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**311**	P	Pg	11 55 42.2	+0.6
CMWZ				S	Sg	11 55 44.7	+1.4
BSWZ	**Blackbirch Sta**	**0.29**	**282**	P	Pb	11 55 46.4	+0.1
BSWZ				S	Sb	11 55 51.8	+0.7
TUWZ	**Tuamarina**	**0.42**	**326**	P	Pb	11 55 48.5	+0.1
TUWZ				S	Sb	11 55 55.3	+0.5
TCW	**Tory Channel**	**0.57**	**1**	P	Pg	11 55 50.5	+0.2
WEL	**Wellington**	**0.62**	**38**	P	Pb	11 55 51.8	-0.2
PLWZ	**Palliser**	**0.78**	**75**	P	Pb	11 55 54.7	+0.1
NNZ	**Nelson**	**0.87**	**310**	P	Pn	11 55 57.1	0.0
NNZ	**Nelson**	**0.87**	**310**	P	Pn	11 55 57.1	+0.1
CAW	**Cannon Point**	**0.91**	**42**	P	Pg	11 55 56.7	0.0
PAWZ	**Paruwai Farm**	**0.96**	**66**	P	Pb	11 55 57.4	-0.4
DUWZ	**D'Urville Isla**	**1.01**	**345**	P	Pn	11 55 59.0	0.0
KIW	**Kapiti Island**	**1.04**	**28**	P	Pb	11 55 58.8	-0.2
KIW				S	Sn	11 56 13.5	-0.4
MRZ	**Mangatainoka R**	**1.50**	**42**	P	Pn	11 56 05.3	-0.4
TSZ	**Takapari Road**	**2.15**	**37**	P	Pn	11 56 14.2	-0.5
WPHZ	**Waipukurau**	**2.38**	**45**	P	Pb	11 56 22.3	+0.4
ARHZ	**Aropaoanui**	**3.27**	**41**	P	Pn	11 56 30.9	+0.9

*ECX **26** 11:58:39.2±0.5, 31°.37N×115°.25W, h7km±6km, MD2.7, ML2.9*
*MEX **26** 11:58:40.7±0.7, 31°.28N×115°.21W, h5km±17km, MD3.0*
ISC 26 11:58:38.7±0.9, **31°37N**±0°.03×**115°24W**±0°.03, **h12**km±8km, **n18**, σ0s**87**/33, **6C-4D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.19**	**58**⇑	*iP*	**Pg**	**11 58 43.0**	**+0.1**
ECBX				*eS*	**Sg**	**11 58 45.8**	**+0.1**
ECBX	comp=N,3μm,0.2s			IAML		11 58 46.0	
ECBX	comp=E,2μm,0.2s			IAML		11 58 46.7	
ECBX				⇑*e*		11 58 46.7	
SPIG	**San Pedro Mart**	**0.38**	**211**	*eP*	**Pg**	**11 58 46.1**	**-0.3**
SPIG				*eS*	**Sg**	**11 58 51.3**	**-0.3**
SPIG	**San Pedro Mart**	**0.38**	**211**	*eP*	**Pg**	**11 58 46.0**	**-0.4**
SPIG				*eS*	**Sg**	**11 58 51.4**	**-0.1**
VTX	**Valle De La Tr**	**0.47**	**272**⇑	*iP*	**Pg**	**11 58 47.7**	**-0.2**
VTX				*eS*	**Sg**	**11 58 54.0**	**-0.2**
VTX	comp=E,870nm,0.1s			IAML		11 58 54.6	
SFX	**San Felipe**	**0.47**	**135**	*eP*	**Pg**	**11 58 47.9**	**-0.1**
SFX				*eS*	**Sg**	**11 58 54.3**	**0.0**
SFX	comp=N,825nm,0.3s			IAML		11 58 54.5	
SFX	**San Felipe**	**0.47**	**135**	*eP*	**Pg**	**11 58 47.9**	**-0.1**
SFX				*eS*	**Sg**	**11 58 54.2**	**0.0**
SJX	**San Joaquin**	**0.73**	**303**	*eP*	**Pb**	**11 58 54.9**	**+1.5**
SJX				*eS*	**Sn**	**11 59 06.4**	**+0.5**
SJX				⇑*e*		11 59 09.1	
SJX	comp=N,399nm,0.1s			IAML		11 59 09.1	
SJX				⇓*e*		11 59 10.4	
SJX	comp=E,464nm,0.1s			IAML		11 59 10.4	
RHX	**Rio Hardy**	**0.76**	**357**⇓	*eP*	**Pg**	**11 58 53.0**	**-0.5**
RHX				*eS*	**Sg**	**11 59 03.1**	**-0.3**
MBIG	**Mexicali**	**1.03**	**2**	*eP*	**Pg**	**11 58 58.7**	**+0.1**
MBIG				*eP*	**Pb**	**11 58 59.2**	**+0.6**
MBIG				*eS*	**Sb**	**11 59 13.3**	**+1.2**
MBIG				*eS*	**Sn**	**11 59 14.5**	**+1.0**
CPBX	**Cerro Prieto**	**1.04**	**357**	IAML		11 59 17.1	
CPBX	comp=E,753nm,0.4s			⇓*e*		11 59 17.1	
CPBX	comp=N,806nm,0.2s			IAML		11 59 19.3	
CPBX				*e*		11 59 19.3	
YUH2	**Yuha Desert**	**1.40**	**336**⇓	*eP*	**Pn**	**11 59 02.5**	**-1.6**
RMX	**La Rumorosa**	**1.42**	**330**	*eP*	**Pn**	**11 59 02.5**	**-2.1**
RMX				*eS*	**Sb**	**11 59 21.4**	**-2.0**
IKP	**In-Ko-Pah, Jac**	**1.47**	**330**	*eP*	**Pn**	**11 59 04.1**	**-1.1**
CBX	**Cerro Bola**	**1.53**	**308**	*eP*	**Pn**	**11 59 06.0**	**-0.2**
CBX				*eS*	**Sn**	**11 59 26.1**	**+0.1**
CBX	**Cerro Bola**	**1.53**	**308**	*eP*	**Pn**	**11 59 07.0**	**+0.8**
CBX				*eS*	**Sn**	**11 59 25.7**	**-0.4**
TJIG	**Tijuana**	**1.62**	**311**	*eP*	**Pn**	**11 59 08.0**	**+0.9**
TJIG				*eS*	**Sn**	**11 59 27.9**	**0.0**
BAR	**Barrett**	**1.78**	**317**	*eP*	**Pn**	**11 59 09.0**	**-0.4**
BAR				*eS*	**Sn**	**11 59 33.1**	**+1.0**
BAR				⇑*e*		11 59 34.5	
BAR	comp=N,158nm,0.2s			IAML		11 59 34.5	
BAR	comp=E,191nm,0.2s			IAML		11 59 34.8	
BAR				⇑*e*		11 59 34.8	
214A	**Organ Pipe Nat**	**2.15**	**74**	*eP*	**Pn**	**11 59 13.6**	**-1.0**
214A				*e*		11 59 34.4	

IDC 26 12:01:27.8±5.4, **6°33S**×**148°66E, h99**km±56km, **mb3.3**/2, **mbtmp3.5**/4, **Error ellipse: s-maj=130.4km s-min=34.6km az=128.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.40**	**206**	P	Pn	12 02 17.7	-1.2
PMG	6.2nm,0.3s,baz=29,slow=13,SNR=2.8			S	Sn	12 02 59.4	+1.1
WRA	**Warramunga Arr**	**19.41**	**224**	P	P	12 05 45.6	-0.7
ASAR	**Alice Springs**	**22.33**	**218**	P	P	12 06 17.6	0.0
ILAR	**Eielson Array**	**85.14**	**23**	P	P	12 13 52.9	+0.3

47nm,0.4s,baz=90,slow=19,SNR=16
0.5nm,0.5s,baz=52,slow=10,SNR=7.7
0.9nm,0.6s,baz=50,slow=9.3,SNR=14
0.9nm,0.6s
0.5nm,0.6s,baz=256,slow=5.1,SNR=7.4
0.5nm,0.6s

WEL 26 12:07:08.3±1.3, **32°S**±12°×**18°0E**±2°?, **h454**km±25km, **M4.4**/12, **mB4.4/3, MLv4.5**/12, **Mw(mB)3.5**/3, **Error ellipse: s-maj=0.0km s-min=0.0km az=108.3, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.20**	**36**	P	P	12 08 17.6	+0.4
WMGZ	**Waiomatatini S**	**6.06**	**191**	P	P	12 08 42.6	-0.6
HAZ	**Te Kaha**	**6.13**	**196**	P	P	12 08 43.2	-0.7
WCZ	**Waipu Caves**	**6.16**	**227**	P	P	12 08 43.8	-0.4
PKGZ	**Pakihiroa**	**6.19**	**194**	P	P	12 08 44.3	-0.3
PUZ	**Puketiti**	**6.34**	**192**	P	P	12 08 44.9	-1.2
PUZ				S	S	12 10 06.1	0.0
TWGZ	**Tauwhareparae**	**6.49**	**194**	P	P	12 08 48.4	+0.7
OPRZ	**Ohinepanea**	**6.57**	**204**	P	P	12 08 50.6	+2.1
MWZ	**Matawai**	**6.74**	**196**	P	P	12 08 50.5	+0.2
MWZ				S	S	12 10 15.6	+1.7
URZ	**Urewera**	**6.78**	**199**	P	P	12 08 50.0	-0.6
MUGZ	**Murupara**	**7.08**	**200**	P	P	12 08 53.7	-0.1
BKZ	**Black Stump Fm**	**7.80**	**200**	P	P	12 09 01.3	-0.2
BHHZ	**Black Hill Sta**	**8.22**	**201**	P	P	12 09 06.3	+0.3
KAHZ	**Kahuranaki**	**8.28**	**196**	P	P	12 09 07.7	+1.0
PXZ	**Pawanui**	**8.51**	**196**	P	P	12 09 09.7	+0.6

*NOU **26** 12:26:36.6, 41°.88S×174°.47E, h10km, MLv4.4/14, Cook Strait, New Zealand*
*WEL **26** 12:26:37.1±0.3, 42°.5S±2°×17°.4E±°, h14km±2km, M3.9/35, ML4.1/24, MLv3.9/35, Error ellipse: s-maj=0.0km s-min=0.0km az=140.8*
ISC 26 12:26:36.1±1.1, **41°.83S**±0°.04×**174°.40E**±0°.03, **h17**km±7km, **n90**, σ1s**22**/98, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**300**	P	**Pg**	**12 26 41.1**	**+0.7**
CMWZ				S	**Sg**	**12 26 44.4**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.41**	**286**	P	**Pb**	**12 26 44.6**	**-0.3**
BSWZ				S	**Sb**	**12 26 49.8**	**-1.0**
TUWZ	**Tuamarina**	**0.53**	**319**	P	**Pg**	**12 26 45.8**	**-0.8**
TUWZ				S	**Sg**	**12 26 52.0**	**-1.8**
SNZO	**South Karori**	**0.57**	**24**	P	**Pb**	**12 26 48.0**	**+0.5**
WEL	**Wellington**	**0.61**	**27**	P	**Pb**	**12 26 48.9**	**+0.6**
WEL				S	**Sb**	**12 26 57.7**	**+1.0**
TCW	**Tory Channel**	**0.63**	**351**	P	**Pg**	**12 26 47.7**	**-0.8**
TCW				S	**Sg**	**12 26 54.9**	**-1.9**
PLWZ	**Palliser**	**0.69**	**68**	P	**Pn**	**12 26 52.2**	**+1.1**
MSWZ	**Moikau Station**	**0.76**	**57**	P	**Pn**	**12 26 53.0**	**+1.0**
MSWZ				S	**Sn**	**12 27 04.6**	**+1.6**
KHZ	**Kahutara**	**0.87**	**227**	P	**Pn**	**12 26 54.9**	**+1.5**
KHZ	**Kahutara**	**0.87**	**227**	P	**Pn**	**12 26 54.9**	**+1.5**
CAW	**Cannon Point**	**0.88**	**35**	P	**Pn**	**12 26 53.6**	**-0.1**
PAWZ	**Paruwai Farm**	**0.89**	**60**	P	**Pn**	**12 26 54.6**	**+0.8**
NNZ	**Nelson**	**0.98**	**308**	P	**Pg**	**12 26 53.9**	**-1.3**
KIW	**Kapiti Island**	**1.04**	**22**	P	**Pb**	**12 26 55.8**	**+0.1**
KIW				S	**Sb**	**12 27 09.7**	**+0.7**
TRWZ	**Traveller**	**1.06**	**66**	P	**Pn**	**12 26 56.8**	**+0.7**
MTW	**Mount Morrison**	**1.06**	**51**	P	**Pn**	**12 26 56.9**	**+0.7**
DUWZ	**D'Urville Isla**	**1.09**	**340**	P	**Pb**	**12 26 56.2**	**-0.2**
THZ	**Tophouse**	**1.12**	**273**	P	**Pn**	**12 26 57.3**	**+0.3**
OGWZ	**Otaki Gorge**	**1.17**	**30**	P	**Pn**	**12 26 58.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.25**	**42**	P	**Pn**	**12 26 59.2**	**+0.4**
MRNZ	**Matariki Terra**	**1.31**	**289**	P	**Pb**	**12 26 60.0**	**-0.2**
TMWZ	**Te Maipa**	**1.33**	**58**	P	**Pn**	**12 27 00.2**	**+0.3**
TKNZ	**Takaka Hill**	**1.35**	**306**	P	**Pn**	**12 27 00.4**	**+0.3**
MRZ	**Mangatainoka R**	**1.47**	**38**	P	**Pn**	**12 27 02.2**	**+0.4**
GVZ	**Greta Valley S**	**1.52**	**221**	P	**Pn**	**12 27 03.7**	**+1.2**
TIWZ	**Tintock**	**1.54**	**47**	P	**Pn**	**12 27 02.9**	**+0.2**
QRZ	**Quartz Range**	**1.73**	**305**	P	**Pb**	**12 27 06.7**	**-0.7**
QRZ	**Quartz Range**	**1.73**	**305**	P	**Pb**	**12 27 06.5**	**-0.9**
PRWZ	**Pori Road**	**1.74**	**43**	P	**Pn**	**12 27 05.7**	**+0.2**
OHWZ	**Ohakea**	**1.77**	**23**	P	**Pb**	**12 27 07.5**	**-0.4**
POWZ	**Post Office Ro**	**1.77**	**36**	P	**Pn**	**12 27 06.3**	**+0.4**
BFZ	**Birch Farm**	**1.80**	**51**	P	**Pn**	**12 27 06.2**	**-0.1**
BFZ	**Birch Farm**	**1.80**	**51**	P	**Pn**	**12 27 06.0**	**-0.4**
LTZ	**Lake Taylor**	**1.84**	**238**	P	**Pn**	**12 27 07.8**	**+0.9**
AMCZ	**Amberley**	**1.87**	**223**	P	**Pn**	**12 27 07.7**	**+0.5**
DSZ	**Denniston Nort**	**1.94**	**272**	P	**Pn**	**12 27 09.4**	**+1.0**
ANWZ	**Angora Road**	**2.08**	**49**	P	**Pn**	**12 27 09.6**	**-0.6**
WAZ	**Wanganui**	**2.12**	**12**	P	**Pb**	**12 27 13.0**	**-1.1**
TSZ	**Takapari Road**	**2.13**	**34**	P	**Pn**	**12 27 10.8**	**0.0**
MQZ	**McQueen's Vall**	**2.27**	**214**	P	**Pn**	**12 27 12.5**	**-0.3**
OXZ	**Oxford**	**2.30**	**229**	P	**Pn**	**12 27 13.0**	**-0.1**
WPHZ	**Waipukurau**	**2.34**	**42**	P	**Pn**	**12 27 13.5**	**-0.4**
PNHZ	**Pukenui**	**2.35**	**36**	P	**Pn**	**12 27 13.6**	**-0.3**
LREZ	**Lake Rotokare**	**2.37**	**360**	P	**Pb**	**12 27 17.4**	**-0.9**
KHEZ	**Kahui Hut**	**2.55**	**353**	P	**Pb**	**12 27 20.2**	**-1.3**
KHEZ	**Kahui Hut**	**2.55**	**353**	P	**Pb**	**12 27 20.1**	**-1.3**
PXZ	**Pawanui**	**2.59**	**47**	P	**Pn**	**12 27 15.9**	**-1.3**
NBEZ	**Newall Road No**	**2.59**	**351**	P	**Pn**	**12 27 19.6**	**+2.4**
MOVZ	**Moawhango**	**2.63**	**23**	P	**Pn**	**12 27 18.4**	**+0.6**
PKVZ	**Pokaka**	**2.64**	**16**	P	**Pn**	**12 27 19.5**	**+1.6**
DREZ	**Durham Road**	**2.65**	**357**	P	**Pb**	**12 27 20.9**	**-2.1**
PKE	**Pukeiti**	**2.65**	**353**	P	**Pb**	**12 27 20.9**	**-2.2**
BHHZ	**Black Hill Sta**	**2.66**	**29**	P	**Pn**	**12 27 18.8**	**+0.6**
WNVZ	**Wahianoa**	**2.66**	**20**	P	**Pn**	**12 27 19.5**	**+1.1**
TRVZ	**Turoa**	**2.68**	**19**	P	**Pn**	**12 27 23.3**	**-0.4**
WHVZ	**Whangaehu Hut**	**2.70**	**20**	P	**Pn**	**12 27 20.3**	**+1.4**
DRZ	**Dome Shelter**	**2.70**	**19**	P	**Pb**	**12 27 24.8**	**+0.6**
VRZ	**Vera Road**	**2.72**	**6**	P	**Pn**	**12 27 20.9**	**+2.0**
FWVZ	**Far West T-bar**	**2.72**	**19**	P	**Pn**	**12 27 20.6**	**+1.5**
KAHZ	**Kahuranaki**	**2.77**	**43**	P	**Pn**	**12 27 18.6**	**-1.0**
NGZ	**Ngauruhoe**	**2.81**	**19**	P	**Pb**	**12 27 25.3**	**-0.5**
WACZ	**Wakanui South**	**2.83**	**221**	P	**Pn**	**12 27 20.5**	**+0.1**
OTVZ	**Oturere**	**2.83**	**20**	P	**Pb**	**12 27 26.8**	**+0.5**
NNVZ	**North Ngauruho**	**2.85**	**19**	P	**Pn**	**12 27 22.9**	**+1.9**
TWVZ	**Taurewa**	**2.87**	**16**	P	**Pn**	**12 27 22.6**	**+1.5**
ETVZ	**East Tongariro**	**2.87**	**21**	P	**Pn**	**12 27 22.4**	**+1.2**
ETVZ				P	**Pb**	**12 27 26.9**	**0.0**
TMVZ	**Te Maari**	**2.89**	**21**	P	**Pn**	**12 27 22.7**	**+1.3**
KRVZ	**Karewarewa**	**2.89**	**19**	P	**Pn**	**12 27 22.6**	**+1.2**
NTVZ	**North Tongarir**	**2.90**	**20**	P	**Pn**	**12 27 27.6**	**+0.2**
MCHZ	**McNeill Hill**	**2.96**	**37**	P	**Pn**	**12 27 21.6**	**-0.6**
RPZ	**Rata Peaks**	**3.10**	**232**	P	**Pn**	**12 27 24.8**	**+0.6**
ARHZ	**Aropaoanui**	**3.24**	**38**	P	**Pn**	**12 27 25.0**	**-1.1**
NMHZ	**Matamai**	**3.29**	**35**	P	**Pn**	**12 27 26.3**	**-0.6**
HIZ	**Hauiti**	**3.33**	**6**	P	**Pn**	**12 27 29.7**	**+2.3**
HIZ	**Hauiti**	**3.33**	**6**	P	**Pn**	**12 27 29.0**	**+1.6**
ALRZ	**Allen Road**	**3.59**	**25**	P	**Pb**	**12 27 37.4**	**-1.7**
URZ	**Urewera**	**4.13**	**31**	P	**Pn**	**12 27 40.6**	**+2.3**
TOZ	**Tahuroa Road**	**4.18**	**12**	P	**Pn**	**12 27 40.6**	**+1.5**
ODZ	**Otahua Downs**	**4.22**	**219**	P	**Pn**	**12 27 40.2**	**+0.7**
JCZ	**Jackson Bay**	**4.69**	**240**	P	**Pn**	**12 27 47.7**	**+1.6**
MKAZ	**Moumakai**	**4.76**	**7**	P	**Pn**	**12 27 47.8**	**+0.8**
AWAZ	**Awhitu Peninsu**	**4.77**	**2**	P	**Pn**	**12 27 49.7**	**+2.6**
HAZ	**Te Kaha**	**4.83**	**34**	P	**Pn**	**12 27 47.7**	**-0.3**
ETAZ	**East Tamaki Re**	**4.89**	**5**	P	**Pn**	**12 27 50.4**	**+1.6**
RVAZ	**Riverhead Bore**	**5.06**	**2**	P	**Pn**	**12 27 53.3**	**+2.2**
KUZ	**Kuaotunu**	**5.18**	**12**	P	**Pn**	**12 27 53.8**	**+1.0**
WCZ	**Waipu Caves**	**5.88**	**360**	P	**Pn**	**12 28 05.2**	**+2.8**
SYZ	**Scrubby Hill**	**6.04**	**217**	P	**Pn**	**12 28 05.1**	**+0.6**
OUZ	**Omahuta**	**6.63**	**354**	P	**Pn**	**12 28 15.8**	**+3.1**
CTZ	**Chatham Island**	**6.88**	**109**	P	**Pn**	**12 28 17.2**	**+1.2**

*BJI **26** 12:40:21.0±0.0, 26°.40N×141°.20E, h93km, mb4.3/22, mB4.9/13*
*NEIC **26** 12:40:22.9±1.4, 26°.35N±0°.08×141°.24E±0°.08, h90km±6km, mb5.0/69, Error ellipse: s-maj=12.7km s-min=9.7km az=144.0*
*MOS **26** 12:40:22.5±1.1, 26°.35N×141°.18E, h109km, mb4.7/15, Error ellipse: s-maj=14.8km s-min=5.8km az=93.6*
*JMA **26** 12:40:23.8±0.2, 26°.4N±0°.8×14°2E±°, h117km±3km, MD4.9/30, MV4.5/30, NEAR CHICHIJIMA ISLAND*
JMA Felt II J1 at NEAR CHICHIJIMA ISLAND .
*IDC **26** 12:40:25.3±0.6, 26°.35N×141°.17E, h119km±5km, mb4.1/19, mbtmp4.4/22, MS2.9/9, Error ellipse: s-maj=15.6km s-min=8.5km az=90.0*
ISC 26 12:40:23.5±0.4, **26°.35N**±0°.04×**141°.31E**±0°.06, **h103**km±3km, **h103**km:**pP-P, n315**, σ1s**48**/330, **mb4.9**/67, **9C, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**0.82**	**69**	P	**Pn**	**12 40 41.7**	**-0.6**
JHH2				S	**Sn**	**12 40 55.0**	**-1.5**
JHH2	**Haha-jima-NKT2**	**0.82**	**69**	A	A	12 40 41.7	
CBIJ	**Chichi jima**	**1.08**	**46**	P	**Pn**	**12 40 44.5**	**-0.5**
CBIJ				S	**Sn**	**12 41 00.5**	**-0.7**
CBIJ	**Chichi jima**	**1.08**	**46**	A	A	12 40 44.5	
JCJ	**Chichijima**	**1.08**	**46**	P	**Pn**	**12 40 44.5**	**-0.5**
JCJ				S	**Sn**	**12 40 59.7**	**-1.5**
JCJ	**Chichijima**	**1.08**	**46**	P	**Pn**	**12 40 45.2**	**+0.2**
JHJ2	**Mitsune**	**6.87**	**349**	Pn	**Pn**	**12 41 59.6**	**-1.9**
JHJ2	**Mitsune**	**6.87**	**349**	P	**Pn**	**12 42 05.1**	**+3.6**
JHJ	**Hachijo jima 2**	**6.88**	**349**	P	**Pn**	**12 42 02.1**	**+0.4**

comp=E,100nm,0.9s,comp=E,51nm,1.0s
4μm,0.3s,baz=298,slow=22,SNR=634
17μm,0.6s,baz=130,slow=21,SNR=45
247nm,0.9s
comp=E,180nm,0.5s,comp=E,108nm,0.3s
comp=E,2,200nm,0.8s
comp=E,7,200nm,2.8s
comp=E,9,0nm,1.2s
baz=292,slow=75,SNR=6.9
baz=292,slow=75,SNR=5.6
baz=292,slow=75,SNR=5.0
comp=E,4,1nm,0.8s
comp=E,150nm,6.2s
comp=E,4,4nm,0.7s,baz=150,slow=7.2,SNR=17
comp=E,3.3nm,0.6s,baz=205,slow=6.3,SNR=3.8
comp=E,49nm,19.1s,baz=132,slow=33
comp=E,4.4nm,0.7s
comp=E,3.0nm,0.5s
comp=E,2.0nm,0.8s
comp=E,2.2nm,1.0s,baz=7.1,slow=14,SNR=6.9
comp=E,2.0nm,0.6s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**8.46**	**355**	P	**Pn**	**12 42 21.7**	**-1.2**
BSO4	**Boso 4**	**8.66**	**355**	P	**Pn**	**12 42 24.9**	**-0.9**
HMMJ	**Hamamatsu 2**	**9.03**	**341**	P	**Pn**	**12 42 32.6**	**+1.7**
JNY	**Yasuok**	**9.46**	**343**	*eP*	**Pn**	**12 42 38.5**	**+1.6**
JAO	**Obara**	**9.55**	**340**	P	**Pn**	**12 42 40.1**	**+2.1**
JHU	**Hanno**	**9.63**	**350**	P	**Pn**	**12 42 36.9**	**-2.2**
INU	**Inuyama**	**9.70**	**339**	Pn	**Pn**	**12 42 39.2**	**-0.8**
INU	**Inuyama**	**9.70**	**339**	P	**Pn**	**12 42 43.0**	**+3.0**
JMN	**Monobe**	**9.78**	**321**	P	Pn	12 42 47.0	+5.9
JGF	**Kuroka**	**9.83**	**341**	Pn	**Pn**	**12 42 39.7**	**-2.1**
JGF	**Kuroka**	**9.83**	**341**	P	**Pn**	**12 42 44.0**	**+2.2**
JYT	**Yasato**	**9.90**	**355**	P	**Pn**	**12 42 41.2**	**-1.5**
MJAR	**Matsushiro Arr**	**10.50**	**346**	P	**Pn**	**12 42 50.1**	**-0.8**
MAJO	**Matsushiro**	**10.51**	**346**	Pn	**Pn**	**12 42 50.5**	**-0.5**
MAJO	**Matsushiro**	**10.51**	**346**	P	**Pn**	**12 42 50.0**	**-1.0**
MAJO	**Matsushiro**	**10.51**	**346**	*i* P	**Pn**	**12 42 49.9**	**-1.0**
MJB9	**Matsu-Tunnel**	**10.51**	**346**	Pn	**Pn**	**12 42 51.4**	**+0.4**
JSU	**Suzuyama**	**10.81**	**301**	P	**Pn**	**12 42 59.3**	**+4.1**
JMM	**Marumori**	**11.50**	**358**		**Pn**	**12 43 01.7**	**-2.6**
JOW	**Kunigami**	**11.68**	**275**	LR	LR	12 47 00.9	
JSD	**Sado**	**11.94**	**348**	Pn	**Pn**	**12 43 06.8**	**-3.4**
JSD	**Sado**	**11.94**	**348**	P	**Pn**	**12 43 06.5**	**-3.7**
JTM	**Tenmabayashi**	**14.40**	**359**	Pn	**Pn**	**12 43 41.0**	**-1.3**
ERM	**Erimo**	**15.70**	**5**		**Pn**	**12 43 57.2**	**-1.6**
ERM	**Erimo**	**15.70**	**5**	*i* P	**Pn**	**12 43 59.3**	**+0.5**
KSRS	**Korea Array**	**15.85**	**318**	P	**Pn**	**12 44 01.4**	**+0.7**
KSRS				LR	LR	12 50 01.2	
NMR	**Nemuro--Hokkai**	**17.36**	**11**	P	**Pn**	**12 44 20.3**	**+1.2**
NMR				*e*S	**Sn**	**12 47 25.4**	**-6.9**
ASAJ	**Asahikawa**	**17.76**	**3**	LR	LR	12 52 49.3	
ASAJ	**Asahikawa**	**17.76**	**3**	P	**Pn**	**12 44 24.6**	**+0.6**
JKA	**Kamikawa-asahi**	**17.76**	**3**	P	**Pn**	**12 44 24.6**	**+0.6**
RUSJ	**Misakicho**	**18.00**	**9**	*e*P	**Pn**	**12 44 29.2**	**+2.3**
RUSJ				S	**S**	**12 47 43.4**	**-3.7**
YUK	**Yuzh-Kuril'sk**	**18.03**	**11**	*i* P	**P**	**12 44 26.0**	**-0.3**
YULB	**Yu-li**	**18.40**	**265**	P	**Pn**	**12 44 31.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**19.35**	**339**	P	**P**	**12 44 40.9**	**+0.2**
NJ2	**Nanjing**	**20.40**	**291**	*e*P	Pn	12 44 56.5	+1.3
NJ2				pmax	pmax		
YSS	**Yuzh-Sakhalins**	**20.60**	**3**	P	**P**	**12 44 53.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**20.60**	**3**	*e*P	**P**	**12 44 54.1**	**-0.1**
YSS				pmax	pmax		
KLR	**Kul'dur**	**24.02**	**344**	P	**P**	**12 45 27.6**	**-1.1**
KLR				pP	**pwP**	**12 45 55.1**	**+1.7**
KLR				LR	LR	12 53 43.0	
KLR	**Kul'dur**	**24.02**	**344**	*ce*P	**P**	**12 45 27.7**	**-0.9**
KLR				pmax	pmax		
H11N2	**WAKE ISLAND Hy**	**24.42**	**100**	T	T	13 10 46.2	
H11N1	**WAKE ISLAND Hy**	**24.42**	**100**	T	T	13 10 53.3	
H11N3	**WAKE ISLAND Hy**	**24.44**	**100**	T	T	13 10 54.0	
TYV	**Tymovskoe**	**24.50**	**2**	*e*P	P	12 45 18.0	-15
TYV				pmax	pmax		
H11S3	**WAKE ISLAND Hy**	**24.69**	**

WRA **Warramunga Arr** **46.51** **189** *ce*P **P** **12 48 40.2 -0.4**
WRA pmax pmax
comp=Z,21nm,0.6s
PSI **Prapat** **46.89** **247** LR LR 13 08 16.7
comp=Z,65nm,18.9s,baz=215,slow=36
TAPN **Taplejung** **47.52** **284** *e*P **P** **12 48 49.5 +0.6**
comp=Z,5.5nm,0.5s
AKUT **Akutan** **47.52** **40** P **P** **12 48 48.5 +0.4**
RAMN **Ramite** **48.57** **284** *e*P **P** **12 48 57.2 +0.3**
JIRN **Jiri** **48.78** **285** *e*P **P** **12 48 59.5 +0.8**
comp=Z,16nm,0.5s
GUN **Gumba** **49.00** **285** *e*P **P** **12 49 01.3 +1.0**
ZALV **Zalesovo Beam** **49.55** **320** ScP **ScP** **12 54 05.8 -4.2**
comp=Z,1.7nm,0.6s,baz=127,slow=5.4,SNR=5.3
AS31 **Alice Springs** **50.23** **189** P **P** **12 49 08.7 -0.4**
ASAR **Alice Springs** **50.23** **189** P **P** **12 49 08.4 -0.7**
comp=Z,1.4nm,0.4s,baz=3.9,slow=4.9,SNR=39
ASAR PcP **PcP** **12 50 27.6 +0.8**
comp=Z,1.5nm,0.9s,baz=14,slow=4.8,SNR=5.6
ASAR ScP **ScP** **12 54 10.0 -3.3**
comp=Z,0.2nm,0.6s,baz=6.9,slow=5.0,SNR=1.8
ASAR S **S** **12 56 15.9 +2.1**
comp=Z,0.3nm,0.7s,baz=20,slow=22,SNR=5.1
comp=Z,1.4nm,0.4s
ASAR **Alice Springs** **50.23** **189** P **P** **12 49 09.0 -0.2**
ASAR **Alice Springs** **50.23** **189** P **P** **12 49 09.0 -0.2**
MK31 **Makanchi Array** **50.36** **310** P **P** **12 49 08.4 -1.5**
MK31 **Makanchi Array** **50.36** **310** P **P** **12 49 08.4 -1.5**
MK31 pmax pmax
comp=Z,11nm,1.5s
MKAR **Makanchi Array** **50.36** **310** P **P** **12 49 09.1 -0.8**
comp=Z,0.5nm,0.8s,baz=87,slow=9.3,SNR=4.9
MKAR ScP **ScP** **12 54 09.9 -3.7**
comp=Z,0.9nm,0.6s,baz=84,slow=5.8,SNR=6.6
MKAR **Makanchi Array** **50.36** **310** *ce*P **P** **12 49 12.8 +2.9**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
DANN **Dangsing** **50.74** **286** *e*P **P** **12 49 14.0 +0.6**
comp=Z,20nm,0.7s
PYUN **Piuthan** **51.46** **286** *e*P **P** **12 49 19.1 +0.4**
MBWA **Marble Bar** **51.65** **206** P **P** **12 49 19.8 0.0**
MBWA **Marble Bar** **51.65** **206** P **P** **12 49 19.2 -0.5**
PSA00 **Pilbara Seismi** **51.98** **206** P **P** **12 49 22.2 0.0**
PSA00 IAmb IAmb 12 49 24.6
comp=Z,23nm,1.2s
CHGN **Chignik** **52.09** **38** P **P** **12 49 22.4 -0.3**
EIDS **Eidsvold** **52.27** **169** P **P** **12 49 24.7 +0.4**
EIDS IAmb IAmb 12 50 44.9
comp=Z,53nm,1.9s
N16K **Nishlik Lake** **52.68** **33** P **P** **12 49 28.4 +1.4**
baz=258
P16K **Nushagak River** **52.78** **34** P **P** **12 49 29.1 +1.4**
baz=259
O16K **Kokwok River B** **52.83** **34** P **P** **12 49 29.5 +1.4**
baz=259
NRIK **Noril'sk** **53.06** **339** P **P** **12 49 30.2 +0.5**
comp=Z,1.0nm,0.3s,baz=85,slow=5.7,SNR=2.0
comp=Z,1.0nm,0.3s
NRIK **Noril'sk** **53.06** **339** P **P** **12 49 30.6 +0.9**
NRIK IAmb IAmb 12 49 54.5
comp=Z,18nm,1.8s
NRIK **Noril'sk** **53.06** **339** P **P** **12 49 30.6 +0.9**
NRIK pmax pmax
comp=Z,18nm,1.8s
O17K **Koliganek Bris** **53.37** **34** P **P** **12 49 33.3 +1.3**
baz=260
Q16K **King Salmon** **53.40** **35** P **P** **12 49 32.6 +0.4**
baz=261
P17K **Kvichak River** **53.59** **34** P **P** **12 49 34.5 +0.8**
baz=261
DZM **Mont Dzumac** **53.94** **151** P **P** **12 49 36.5 -0.2**
comp=Z,2.4nm,0.5s,baz=108,slow=20,SNR=1.7
comp=Z,2.4nm,0.5s
Q18K **Katmai Hardscr** **54.25** **35** P **P** **12 49 38.2 -0.4**
baz=262
O18K **Koktuh Hills** **54.32** **34** P **P** **12 49 40.5 +1.5**
baz=261
SII **Sitkinak Islan** **54.45** **38** P **P** **12 49 40.6 +0.6**
SII **Sitkinak Islan** **54.45** **38** P **P** **12 49 41.0 +1.0**
baz=265
O19K **Port Alsworth** **54.81** **33** P **P** **12 49 43.7 +1.2**
baz=262
N19K **Bonanza Creek** **54.82** **33** P **P** **12 49 44.0 +1.3**
baz=261
OHAK **Old Harbor** **55.00** **37** P **P** **12 49 44.2 +0.3**
baz=265
M19K **Big River Lodg** **55.04** **31** P **P** **12 49 45.7 +1.5**
baz=261
P19K **Oil Pt** **55.28** **34** P **P** **12 49 46.5 +0.5**
baz=263
L20K **Farewell, AK** **55.37** **31** P **P** **12 49 48.1 +1.5**
baz=261
K20K **Telida** **55.43** **30** P **P** **12 49 48.6 +1.6**
K20K IAmb IAmb 12 49 49.5
comp=Z,15nm,1.1s
K20K **Telida** **55.43** **30** P **P** **12 49 48.6 +1.6**
baz=260
J20K **Nowinta River** **55.55** **29** P **P** **12 49 49.5 +1.7**
J20K IAmb IAmb 12 49 50.2
comp=Z,17nm,0.8s
J20K **Nowinta River** **55.55** **29** P **P** **12 49 49.6 +1.8**
baz=259
Q20K **Shuyak Island** **55.60** **36** P **P** **12 49 48.2 0.0**
baz=265
M20K **Styx River** **55.62** **32** P **P** **12 49 49.8 +1.3**
M20K IAmb IAmb 12 51 26.4
comp=Z,20nm,1.4s
IMAR **Indian Mountai** **56.06** **27** P **P** **12 49 52.9 +1.5**
PPLA **Purkeypile** **56.20** **30** P **P** **12 49 53.5 +0.9**
PPLA IAmb IAmb 12 50 33.1
comp=Z,39nm,1.6s
G21K **Allakaket** **56.27** **26** P **P** **12 49 54.6 +1.7**
baz=258
CNPM **China Poot** **56.28** **34** P **P** **12 49 53.0 -0.1**
CHUM **Lake Minchumin** **56.29** **29** P **P** **12 49 54.5 +1.5**
baz=261
CAST **Castle Rocks** **56.32** **30** P **P** **12 49 54.7 +1.3**
baz=262,SNR=6.1
H21K **Melozitna Rive** **56.38** **27** P **P** **12 49 55.3 +1.6**
H21K IAmb IAmb 12 49 56.3
comp=Z,14nm,0.9s
H21K **Melozitna Rive** **56.38** **27** P **P** **12 49 55.3 +1.6**
baz=260
F21K **Alatna River** **56.42** **25** P **P** **12 49 55.1 +1.1**
baz=258
BRLK **Bradley Lake** **56.48** **34** P **P** **12 49 54.3 -0.2**
I21K **Tanana** **56.64** **28** P **P** **12 49 57.0 +1.6**
I21K IAmb IAmb 12 49 58.6
comp=Z,11nm,0.8s
I21K **Tanana** **56.64** **28** P **P** **12 49 57.5 +2.0**
baz=261
BPAW **Bear Paw Mtn.** **56.90** **29** P **P** **12 49 58.5 +1.1**
BPAW IAmb IAmb 12 49 59.3
comp=Z,5.7nm,0.6s
BPAW **Bear Paw Mtn.** **56.90** **29** P **P** **12 49 58.9 +1.5**
baz=262
F22K **John River** **56.97** **25** P **P** **12 49 59.8 +1.9**
baz=259
H22K **Ishtalitna Cre** **57.00** **27** P **P** **12 49 59.8 +1.7**
baz=261,SNR=6.6
O22K **Cooper Landing** **57.11** **33** P **P** **12 49 59.1 +0.2**
baz=266
TRF **Thorofare Moun** **57.13** **30** P **P** **12 49 60.0 +0.8**
TRF **Thorofare Moun** **57.13** **30** P **P** **12 50 00.1 +0.9**
baz=263
MLY **Manley** **57.13** **28** P **P** **12 50 00.4 +1.3**
baz=262,SNR=6.3
SEW **Seward** **57.22** **34** P **P** **12 49 60.0 +0.3**
baz=266
E22K **Anaktuvuk Pass** **57.23** **24** P **P** **12 50 01.2 +1.5**
baz=259
PMR **Palmer** **57.48** **32** P **P** **12 50 01.9 +0.4**
PMR IAmb IAmb 12 50 02.2
comp=Z,10nm,0.8s
PMR **Palmer** **57.48** **32** P **P** **12 50 01.8 +0.4**
baz=266
PMR **Palmer** **57.48** **32** P **P** **12 50 01.9 +0.4**
PMR pmax pmax
comp=Z,10.0nm,0.8s
BWN **Browne** **57.57** **29** P **P** **12 50 03.6 +1.5**
BWN IAmb IAmb 12 50 04.8
comp=Z,19nm,1.0s
G23K **Bananza Creek** **57.67** **26** P **P** **12 50 05.0 +2.2**
baz=262
I23K **Minto, Yukon-K** **57.73** **28** P **P** **12 50 04.7 +1.6**
baz=263
H23K **Yukon River** **57.74** **27** P **P** **12 50 05.2 +2.0**
baz=263
MCK **McKinley** **57.76** **30** P **P** **12 50 04.0 +0.6**
MCK IAmb IAmb 12 50 04.6
comp=Z,13nm,0.9s
MCK **McKinley** **57.76** **30** P **P** **12 50 04.0 +0.6**
baz=264
MCK **McKinley** **57.76** **30** P **P** **12 50 04.0 +0.6**
MCK pmax pmax
comp=Z,13nm,0.9s
NEA2 **Nenana** **57.79** **29** P **P** **12 50 05.0 +1.4**
NEA2 IAmb IAmb 12 50 05.4
comp=Z,11nm,0.6s
NEA2 **Nenana** **57.79** **29** P **P** **12 50 04.9 +1.2**
baz=264,SNR=8.4
KNK **Knik Glacier** **57.79** **32** P **P** **12 50 04.2 +0.5**
baz=266
D23K **Nanushuk River** **57.80** **23** P **P** **12 50 05.2 +1.6**
baz=260
WAT1 **Susitna Watana** **57.85** **31** P **P** **12 50 04.3 +0.2**
baz=265
SML **Sawmill** **57.88** **32** P **P** **12 50 04.8 +0.5**
baz=266
STKA **Stephens Creek** **57.90** **180** P **P** **12 50 04.4 -0.3**
comp=Z,3.9nm,0.5s,baz=356,slow=9.0,SNR=13
STKA pP **pwP** **12 50 32.8 -0.1**
comp=Z,3.3nm,0.6s,baz=9.5,slow=13,SNR=3.4
comp=Z,3.9nm,0.5s
STKA **Stephens Creek** **57.90** **180** P **P** **12 50 04.4 -0.3**
C23K **Itkilik River** **57.98** **22** P **P** **12 50 06.2 +1.4**
baz=259
M23K **Glacier View** **58.16** **32** P **P** **12 50 07.2 +0.9**
baz=267
FORT **Forrest** **58.20** **193** P **P** **12 50 06.7 -0.1**
WAT6 **Susitna Watana** **58.21** **31** P **P** **12 50 07.2 +0.5**
baz=266,SNR=5.4
TCOL **CIGO, UAF Yank** **58.33** **28** P **P** **12 50 08.8 +1.4**
baz=265
COLA **College** **58.34** **28** P **P** **12 50 08.4 +1.0**
COLA sP **pwP** **12 50 37.5 +1.2**
SCM **Sheep Creek Mo** **58.36** **32** P **P** **12 50 08.4 +0.7**
baz=267
DHY **Denali Highway** **58.41** **30** P **P** **12 50 08.9 +0.8**
DHY IAmb IAmb 12 50 53.0
comp=Z,39nm,2.0s
DHY **Denali Highway** **58.41** **30** P **P** **12 50 08.6 +0.5**
baz=266
H24K **Noodor Dome** **58.42** **27** P **P** **12 50 09.6 +1.5**
baz=264
E24K **Your Creek** **58.45** **24** P **P** **12 50 10.1 +1.8**
baz=262
F24K **Squaw Lake** **58.60** **25** P **P** **12 50 11.2 +1.9**
baz=263
C24K **Franklin Bluff** **58.62** **23** P **P** **12 50 10.7 +1.4**
baz=261
G24K **Hadweenzic Riv** **58.67** **26** P **P** **12 50 11.8 +2.1**
baz=264
HDA **Harding Lake** **58.69** **29** P **P** **12 50 09.6 -0.2**
baz=266,SNR=8.4
IL31 **58.74** **28** P **P** **12 50 10.0 -0.1**
IL31 IAmb IAmb 12 50 10.8
comp=Z,9.2nm,0.8s
ILAR **Eielson Array** **58.74** **28** P **P** **12 50 09.8 -0.4**
comp=Z,7.2nm,0.8s,baz=262,slow=6.0,SNR=54
comp=Z,7.2nm,0.8s
ILAR **Eielson Array** **58.74** **28** P **P** **12 50 10.1 -0.1**
ILAR **Eielson Array** **58.74** **28** P **P** **12 50 10.1 -0.1**
KKAR **Karatay Array** **58.89** **306** P **P** **12 50 11.9 +0.2**
KKAR **Karatay Array** **58.89** **306** P **P** **12 50 11.9 +0.2**
M24K **Tolsona, Glenn** **58.91** **32** P **P** **12 50 11.9 +0.3**
KLU **Klutina** **59.01** **32** P **P** **12 50 13.3 +1.1**
KLU **Klutina** **59.01** **32** P **P** **12 50 13.4 +1.1**
baz=269
BBOO **Buckleboo** **59.04** **185** P **P** **12 50 12.3 -0.3**
K24K **Donnelly Dome** **59.16** **30** P **P** **12 50 13.6 +0.4**
baz=267
PAX **Paxson** **59.27** **31** P **P** **12 50 14.9 +0.9**
PAX **Paxson** **59.27** **31** P **P** **12 50 14.9 +0.9**
baz=268,SNR=6.1
PAX **Paxson** **59.27** **31** P **P** **12 50 14.9 +0.9**
PAX pmax pmax
comp=Z,39nm,1.6s
D25K **Kavik River** **59.37** **23** P **P** **12 50 15.7 +1.2**
baz=264,SNR=7.8
J25K **Salcha River,** **59.38** **29** P **P** **12 50 14.7 -0.1**
J25K IAmb IAmb 12 50 58.8
comp=Z,25nm,1.8s
J25K **Salcha River,** **59.38** **29** P **P** **12 50 14.9 +0.2**
baz=267
HARP **HAARP** **59.40** **31** P **P** **12 50 16.0 +1.2**
baz=269
F25K **Christian Rive** **59.47** **25** P **P** **12 50 17.0 +1.7**
baz=265,SNR=5.3
E25K **Arctic Village** **59.54** **25** P **P** **12 50 17.6 +1.8**
baz=265,SNR=5.6
BMAR **Burnt Mountain** **59.87** **25** P **P** **12 50 19.7 +1.7**
C26K **Camden Bay** **59.95** **23** P **P** **12 50 20.5 +2.1**
baz=265
SCRK **Sand Creek** **59.96** **29** P **P** **12 50 19.2 +0.4**
SCRK **Sand Creek** **59.96** **29** P **P** **12 50 19.0 +0.2**
baz=269,SNR=15
F26K **Sheenjek River** **60.05** **25** P **P** **12 50 21.6 +2.4**
baz=267
J26L **Joseph Creek** **60.16** **29** P **P** **12 50 20.4 +0.4**
J26L IAmb IAmb 12 50 21.2
comp=Z,16nm,0.7s
J26L **Joseph Creek** **60.16** **29** P **P** **12 50 20.6 +0.5**
baz=269
MORW **Morawa** **60.20** **206** P **P** **12 50 20.7 +0.1**
MORW IAmb IAmb 12 50 39.1
comp=Z,19nm,1.4s
L26K **Log Cabin Wild** **60.24** **31** P **P** **12 50 21.7 +1.1**
baz=270,SNR=7.2
C27K **Jago River** **60.34** **23** P **P** **12 50 22.5 +1.4**
baz=266
M26K **Nabesna, AK** **60.40** **31** P **P** **12 50 22.9 +1.2**
baz=271
MCARA **McCarthy VSAT** **60.41** **32** P **P** **12 50 23.2 +1.5**
baz=271
M27K **Edge Creek, AK** **60.92** **31** P **P** **12 50 26.3 +0.9**
baz=272
L27K **Beaver Creek,** **60.93** **30** P **P** **12 50 26.6 +1.3**
baz=271
BCAR **Beaver Creek A** **60.95** **30** P **P** **12 50 26.7 +1.2**
H27K **Steamboat Moun** **61.03** **27** P **P** **12 50 27.8 +1.8**
baz=270
E27K **Coleen River** **61.03** **25** P **P** **12 50 27.6 +1.8**
baz=269
DAWY **Dawson** **61.98** **29** P **P** **12 50 33.9 +1.5**
baz=273
I29M **Ogilvie Camp,** **62.38** **28** P **P** **12 50 36.0 +1.1**
baz=273,SNR=5.3
M29M **Somme Creek** **62.51** **31** P **P** **12 50 37.9 +1.9**
baz=275
YUK4 **Talbot Arm** **62.51** **32** P **P** **12 50 38.1 +2.0**
baz=275
L29M **L29M** **62.61** **30** P **P** **12 50 38.5 +2.0**
baz=275,SNR=5.1
O29M **Mount Kennedy** **62.64** **34** P **P** **12 50 38.8 +1.9**
baz=276
YUK6 **Outpost Mounta** **62.69** **33** P **P** **12 50 38.8 +1.4**
baz=276
EPYK **Eagle Plains** **62.97** **27** P **P** **12 50 40.1 +1.2**
baz=274,SNR=5.6
HYT **Haines Junctio** **63.12** **33** P **P** **12 50 40.8 +0.7**
HYT **Haines Junctio** **63.12** **33** P **P** **12 50 41.9 +1.8**
baz=276
G30M **tAoh Zraii Nji** **63.12** **26** P **P** **12 50 40.5 +0.6**
baz=274
P29M **Windy Craggy** **63.13** **34** P **P** **12 50 42.0 +1.9**
baz=277
NWAO **Narrogin (SRO)** **63.24** **203** P **P** **12 50 41.0 0.0**
NWAO IAmb IAmb 12 51 13.4
comp=Z,28nm,1.2s
NWAO **Narrogin (SRO)** **63.24** **203** P **P** **12 50 41.0 0.0**
NWAO pmax pmax
comp=Z,28nm,1.3s
TOO **Toolangi** **63.70** **176** P **P** **12 50 44.9 +0.9**
TOO IAmb IAmb 12 52 39.4
comp=Z,48nm,1.8s
TOO **Toolangi** **63.70** **176** P **P** **12 50 44.9 +0.9**
TOO pmax pmax
comp=Z,48nm,1.8s
N31M **Braeburn, Yuko** **63.87** **32** P **P** **12 50 46.1 +1.3**
N31M IAmb IAmb 12 52 13.5
comp=Z,72nm,2.0s
INK **Inuvik** **64.03** **24** P **P** **12 50 45.9 +0.2**
comp=Z,2.5nm,0.5s,baz=299,slow=6.2,SNR=12
comp=Z,2.5nm,0.5s
INK **Inuvik** **64.03** **24** P **P** **12 50 46.1 +0.4**
INK IAmb IAmb 12 50 51.8
comp=Z,18nm,1.6s
INK **Inuvik** **64.03** **24** P **P** **12 50 46.4 +0.6**
baz=276
INK **Inuvik** **64.03** **24** P **P** **12 50 46.1 +0.4**
INK pmax pmax
comp=Z,18nm,1.7s
F31M **Tsiigehtchic** **64.04** **25** P **P** **12 50 46.3 +0.5**
baz=276
ARU **Arti** **64.54** **322** *c*P **P** **12 50 47.7 -1.6**
ARU S **S** **12 59 20.7 +0.4**
ARU SS **SS** **13 03 26.3 -5.7**
ARU pmax pmax
comp=Z,27nm,4.2s
ABKAR **Akbulak array** **65.06** **314** P **P** **12 50 51.6 -1.2**
A36M **Sachs Harbour** **66.25** **20** P **P** **12 51 00.7 +0.7**
A36M IAmb IAmb 12 51 01.9
comp=Z,8.2nm,0.8s
A36M **Sachs Harbour** **66.25** **20** P **P** **12 51 00.7 +0.7**
baz=282,SNR=6.5
C36M **Paulatuk** **67.23** **23** P **P** **12 51 06.2 -0.1**
baz=284,SNR=5.2
DLBC **Dease Lake** **67.27** **35** LR LR 13 23 30.1
comp=Z,19nm,18.2s,baz=292,slow=38
DLBC **Dease Lake** **67.27** **35** P **P** **12 51 07.4 +0.5**
DLBC IAmb IAmb 12 53 25.1
comp=Z,23nm,1.5s
TGTN **Hyland Airport** **67.40** **31** P **P** **12 51 09.3 +1.7**
baz=284
EUNU **Eureka** **70.75** **8** P **P** **12 51 28.5 +0.5**
EUNU IAmb IAmb 12 53 15.2
comp=Z,25nm,2.0s
ALE **Alert** **70.75** **3** P **P** **12 51 28.6 +0.7**
KBS **Kingsbay** **71.16** **351** P **P** **12 51 31.4 +1.1**
KBS **Kingsbay** **71.16** **351** P **P** **12 51 31.5 +1.1**
KBS pmax pmax
comp=Z,102nm,1.7s
YKA **Yellowknife Ar** **73.17** **28** P **P** **12 51 42.7 +0.1**
comp=Z,6.6nm,0.6s,baz=313,slow=7.6,SNR=41
comp=Z,6.6nm,0.6s
NNZ **Nelson** **73.50** **155** P **P** **12 51 45.0 +0.2**
ARCES **ARCESS Array B** **73.99** **341** P **P** **12 51 47.9 +0.6**
comp=Z,1.7nm,0.7s,baz=60,slow=7.4,SNR=7.4
ARCES pP **pwP** **12 52 16.3 +1.1**
comp=Z,2.4nm,0.8s,baz=57,slow=8.8,SNR=1.7
comp=Z,1.7nm,0.7s
B08A **Colville Reser** **76.61** **43** P **P** **12 52 03.9 +1.1**
NEW **Newport** **77.98** **42** P **P** **12 52 11.4 +0.9**
NEW **Newport** **77.98** **42** P **P** **12 52 11.4 +0.9**
baz=296
NEW **Newport** **77.98** **42** P **P** **12 52 11.4 +0.9**
NEW pmax pmax
comp=Z,6.0nm,0.8s
FINES **FINESS Array B** **78.27** **334** P **P** **12 52 10.0 -1.7**
comp=Z,2.7nm,0.5s,baz=71,slow=5.2,SNR=26
comp=Z,2.7nm,0.5s
FINES **FINESS Array B** **78.27** **334** P **P** **12 52 10.0 -1.7**
WALA **Waterton Lakes** **79.52** **40** P **P** **12 52 20.5 +1.6**
WALA IAmb IAmb 12 52 21.1
comp=Z,9.9nm,0.6s
MSO **Missoula** **80.56** **42** P **P** **12 52 25.2 +0.6**
baz=298
MNK **Minsk** **81.35** **327** *i* P **P** **12 52 26.8 -1.6**
comp=E,5.0nm,1.0s
MNK *i* P **P** **12 52 26.8 -1.6**
comp=N,45nm,1.3s
MNK *i* P **P** **12 52 26.8 -1.6**
comp=Z,11nm,1.3s,baz=56
MNK *i* pP **pP** **12 52 52.9 -1.4**
MNK *i* PP **PP** **12 55 35.6 +0.6**
MNK *i* PPP PPP 12 57 26.1
MNK *i* S **S** **13 02 29.6 -1.2**
MNK *i* sS **sS** **13 03 15.1 -0.2**
MNK *i* SS **SS** **13 07 52.8 +5.0**
MNK *i* SSS SSS 13 11 10.2
MNK *i* LQ LQ 13 21 52.2
MNK *i* LR LR 13 28 51.2
MNK *i* LRM MLR 13 31 01.6
comp=N,863nm,20.4s
MNK *i* LRM MLR 13 31 16.0
comp=E,78nm,19.8s
MNK *i* LRM MLR 13 31 23.6
comp=Z,152nm,14.1s
MNK **Minsk** **81.35** **327** *i* P **P** **12 52 26.8 -1.6**
MNK *i* *PP **pP** **12 52 52.8 -1.4**
MNK *i* 12 55 35.6
MNK *i* PPP PPP 12 57 26.1
MNK *i* S **S** **13 02 29.6 -1.2**
MNK *i* *SS **sS** **13 03 15.0 -0.2**
MNK *i* SS **SS** **13 07 52.8 +5.0**
MNK *i* SSS SSS 13 11 10.2
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK pmax pmax
comp=N,45nm,1.3s
MNK pmax pmax
comp=Z,11nm,1.3s
MNK MLR MLR
comp=N,863nm,20.0s
MNK MLR MLR
comp=E,78nm,20.0s
MNK MLR MLR
comp=Z,152nm,14.0s
NVAR **Mina Array Bea** **81.59** **51** P **P** **12 52 31.4 +1.0**
comp=Z,2.0nm,0.8s,baz=289,slow=5.2,SNR=11
comp=Z,2.0nm,0.8s
HLID **Hailey** **81.82** **45** P **P** **12 52 32.8 +1.4**
baz=299
HRY **Holter Researc** **81.88** **42** P **P** **12 52 32.8 +1.2**
LRM **Limekiln Ridge** **81.95** **43** P **P** **12 52 33.3 +1.2**
EGMT **Eagleton** **82.43** **40** P **P** **12 52 35.4 +1.0**
baz=301
BOZ **Bozeman (W)** **82.56** **43** P **P** **12 52 36.3 +1.1**
baz=300
ELK **Elko** **82.62** **48** P **P** **12 52 36.6 +0.9**
ELK **Elko** **82.62** **48** P **P** **12 52 36.6 +0.9**
ELK pmax pmax
comp=Z,4.0nm,1.1s
YHL **Hebgen Lake** **83.21** **43** P **P** **12 52 40.6 +1.8**
LRMC **Laurel Mtn Rad** **83.38** **54** P **P** **12 52 40.5 +0.8**
baz=298
R11A **Troy Canyon, C** **83.52** **50** P **P** **12 52 41.4 +1.0**
baz=299
H17A **Grant Village** **83.81** **43** P **P** **12 52 44.8 +3.0**
baz=301
NOA **NORSAR Array B** **84.01** **338** P **P** **12 52 41.5 -0.7**
comp=Z,0.5nm,0.4s,baz=45,slow=4.9,SNR=2.4
comp=Z,0.5nm,0.4s
TPAW **Teton Pass** **84.04** **44** P **P** **12 52 44.1 +1.1**
RLMT **Red Lodge** **84.23** **42** P **P** **12 52 45.5 +1.6**
RLMT IAmb IAmb 12 52 46.1
comp=Z,9.7nm,0.6s
RLMT **Red Lodge** **84.23** **42** P **P** **12 52 45.5 +1.6**
baz=302
DUG **Dugway, Tooele** **84.50** **48** P **P** **12 52 46.4 +1.1**
baz=300
TUQ **Turquoise Moun** **84.67** **53** P **P** **12 52 47.0 +0.8**
baz=299
PFO **Pinyon Flats O** **85.15** **55** P **P** **12 52 49.1 +0.5**
PFO **Pinyon Flats O** **85.15** **55** P **P** **12 52 49.3 +0.8**
baz=298
PFO **Pinyon Flats O** **85.15** **55** P **P** **12 52 49.1 +0.5**
PFO pmax pmax
comp=Z,11nm,1.3s
TPFO **Pinon Flats** **85.15** **55** P **P** **12 52 49.3 +0.7**
baz=298
GMRC **Granite Mounta** **85.17** **54** P **P** **12 52 49.7 +1.0**
baz=299
LAO **LASA Array** **85.17** **40** P **P** **12 52 49.6 +1.2**
baz=304
BW06 **Boulder Array** **85.29** **44** P **P** **12 52 50.0 +0.7**
BW06 **Boulder Array** **85.29** **44** P **P** **12 52 49.7 +0.4**
baz=302
PD31 **Pinedale Array** **85.29** **44** P **P** **12 52 49.9 +0.6**
PDAR **Pinedale Array** **85.29** **44** P **P** **12 52 49.8 +0.5**
comp=Z,2.5nm,0.6s,baz=272,slow=1.8,SNR=29
comp=Z,2.5nm,0.6s
BELC **Belle Mtn. Jos** **85.30** **54** P **P** **12 52 49.9 +0.6**
baz=299
IRM **Iron Mountain** **85.84** **54** P **P** **12 52 52.8 +0.9**
baz=299
BC3 **Big Chuckawall** **85.86** **54** P **P** **12 52 53.0 +0.9**
baz=299
P17A **Butcher Ranch,** **86.25** **48** P **P** **12 52 55.2 +1.2**

P17A					IAmb	IAmb	12 52 55.7		
	comp=Z,6.6nm,0.8s								
O20A	**White River Ci**	**87.53**	**46**	P		**P**	**12 53 00.9**	**+0.7**	
	baz=303								
VYHS	**Vyhne**	**89.48**	**326**	*eP*		**P**	**12 53 10.2**	**+1.2**	
VYHS	**Vyhne**	**89.48**	**326**	*eP*		**P**	**12 53 10.2**	**+1.2**	
SDCO	**Great Sand Dun**	**90.63**	**47**			**P**	**12 53 15.7**	**+0.8**	
SDCO	**Great Sand Dun**	**90.63**	**47**	P		**P**	**12 53 16.2**	**+1.2**	
	baz=305								
ANMO	**Albuquerque**	**91.56**	**50**	*ceP*		**P**	**12 53 18.7**	**-0.5**	
ANMO					pmax	pmax			
	comp=Z,4.0nm,1.0s								
TXAR	**Lajitas Array**	**96.67**	**53**	P		**P**	**12 53 43.6**	**+1.0**	
	comp=Z,1.0nm,0.8s,baz=298,slow=2.4,SNR=14								
	comp=Z,1.0nm,0.8s								
PLCA	**Paso Flores**	**150.00**	**127**	PKPbc		**PKiKP**	**13 00 02.8**	**-0.1**	
	comp=Z,2.1nm,0.7s,baz=210,slow=3.4,SNR=8.5								
PLCA				PKPbc		**pPKPab**	**13 00 33.6**	**-0.8**	
	comp=Z,1.2nm,0.6s,baz=216,slow=3.9,SNR=2.5								
LPAZ	**La Paz**	**150.86**	**76**	PKPbc		**PKiKP**	**13 00 06.2**	**+0.2**	
	comp=Z,4.7nm,0.7s,baz=255,slow=2.0,SNR=19								
LPAZ				PKPbc		**sPKPdf**	**13 00 37.4**	**+0.2**	
	comp=Z,2.6nm,0.6s,baz=253,slow=6.6,SNR=3.4								

*IDC **26** 12:42:27.7±1.6, 1°.53N×121°.71E, h0km, mb3.6/3, mbtmp3.6/3, MS2.9/2, Error ellipse: s-maj=224.5km s-min=26.3km az=61.0*
*DJA **26** 12:42:30.1±0.4, 1°.1N±4°×12°.1E±°, h10km, M4.2/12, mb4.4/5, mB4.4/1, MLv4.0/12, Mw(mB)3.6/1*
*NEIC **26** 12:42:31.9±2.4, 1°.1N±0°.2×120°.7E±0°.2, h21km±8km, mb4.1/9, Error ellipse: s-maj=39.3km s-min=5.8km az=50.0*
ISC 26 12:42:29.5±1.8, 1°28N±0°.08×120°.95E±0°.07, h10km±11km, n29, σ1§37/27, mb4.1/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**0.24**	**226**	Pg	**Pg**	**12 42 34.5**	**0.0**
TOLI2				Sg	**Sg**	**12 42 37.5**	**-0.3**
MRSI	**Marisa**	**1.27**	**129**	P	**Pn**	**12 42 52.4**	**-0.9**
MPSI	**Mapaga**	**1.41**	**228**	P	**Pn**	**12 42 54.6**	**-0.7**
GTOI	**Gorontalo**	**2.15**	**107**	P	**Pn**	**12 43 03.9**	**-1.6**
APSI	**Ampana**	**2.29**	**162**	P	**Pn**	**12 43 08.1**	**+0.8**
LUWI	**Luwuk**	**2.94**	**142**	Pn	**Pn**	**12 43 18.9**	**+2.6**
LUWI	**Luwuk**	**2.94**	**142**	P	**Pn**	**12 43 18.0**	**+1.7**
MYLDM	**Lahad Datu**	**4.58**	**328**	Pn	**Pn**	**12 43 40.7**	**+1.8**
SPSI	**Sidrap Palu**	**5.34**	**193**	P	**Pn**	**12 43 49.9**	**+0.5**
	0.1nm362nm31nm,0.7s						
BNSI	**Bone**	**5.71**	**189**	P	Pn	12 43 59.2	+4.8
SANI	**Sanana**	**6.02**	**123**	P	**Pn**	**12 43 59.5**	**+0.8**
	0.1nm8.6nm,0.7s						
BKSI	**Bulukumba**	**6.61**	**187**	P	**Pn**	**12 44 07.2**	**+0.4**
KKM	**Kota Kinabalu**	**6.69**	**315**	Pn	**Pn**	**12 44 09.4**	**+1.4**
DAV	**Davao City (W)**	**7.37**	**39**	LR	LR	12 47 38.1	
	comp=Z,58nm,18.2s,baz=154,slow=46						
MTN	**Manton Dam**	**17.29**	**145**	P	**P**	**12 46 32.4**	**-0.2**
MTN				IAmb	IAmb	12 47 09.3	
	comp=Z,19nm,1.5s						
KNRA	**Kununurra**	**18.53**	**156**	P	**Pn**	**12 46 47.9**	**+1.4**
GIRL	**Giralia**	**24.67**	**195**	P	**P**	**12 47 47.7**	**-3.0**
WB0	**Warramunga Arr**	**24.73**	**148**	P	**P**	**12 47 49.8**	**-1.5**
WB0				IAmb	IAmb	12 47 52.4	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**24.84**	**149**	P	**P**	**12 47 51.0**	**-1.3**
WRAB				IAmb	IAmb	12 48 24.0	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**24.84**	**149**	P	**P**	**12 47 50.1**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=326,slow=10,SNR=13						
	comp=Z,0.8nm,0.7s						
WB2	**Warramunga Arr**	**24.85**	**149**	P	**P**	**12 47 51.7**	**-0.7**
WR0	**Warramunga Arr**	**24.96**	**148**	P	**P**	**12 47 53.8**	**+0.4**
WR0				IAmb	IAmb	12 48 02.8	
	comp=Z,3.1nm,0.8s						
JOW	**Kunigami**	**26.36**	**15**	LR	LR	13 00 25.0	
	comp=Z,37nm,18.1s,baz=114,slow=42						
ASAR	**Alice Springs**	**27.81**	**154**	P	**P**	**12 48 18.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=337,slow=9.9,SNR=8.6						
	comp=Z,0.4nm,0.7s						
MK31	**Makanchi Array**	**56.46**	**329**	P	**P**	**12 52 11.8**	**+0.1**
MKAR	**Makanchi Array**	**56.46**	**329**	P	**P**	**12 52 12.6**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=130,slow=9.0,SNR=5.3						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**56.46**	**329**	P	**P**	**12 52 11.8**	**+0.1**
ABKAR	**Akbulak array**	**70.47**	**323**	P	**P**	**12 53 44.4**	**+0.1**
QSPA	**South Pole Qui**	**91.21**	**180**	P	**P**	**12 55 35.8**	**+1.0**
QSPA				IAmb	IAmb	12 56 03.0	
	comp=Z,1.5nm,1.1s						

*DDA **26** 12:46:41.6±0.0, 40°.57N×37°.10E, h7km±3km, ML2.3*
*ISK **26** 12:46:41.3, 40°.58N×37°.07E, h7km, ML2.9/13*
ISC 26 12:46:41.7±1.0, 40°58N±0°.03×37°10E±0°.02, h10km±9km, n27, σ0§52/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.25**	**137**	PG	**Pg**	**12 46 47.2**	**+0.3**
RSDY				SG	**Sg**	**12 46 51.1**	**+0.7**
TOKT	**Tokat**	**0.50**	**238**	PG	**Pg**	**12 46 51.3**	**-0.2**
TOKT				SG	**Sg**	**12 46 57.9**	**-0.2**
TOKA	**Tokat**	**0.54**	**242**	P	**Pg**	**12 46 52.0**	**-0.3**
TOKA				*i* AML	AML	12 47 01.0	
	comp=E,163nm,0.4s						
TOKA				*i* AML	AML	12 47 02.0	
	comp=N,122nm,0.4s						
SVSK	**Karacayir**	**0.67**	**187**	PG	**Pg**	**12 46 54.7**	**0.0**
SVSK				SG	**Sb**	**12 47 04.6**	**-0.3**
ORDU	**Ordu-Boztepe**	**0.70**	**54**	P	**Pb**	**12 46 55.9**	**-0.2**
ORDU				S	**Sb**	**12 47 05.5**	**-0.4**
ORDU				*i* AML	AML	12 47 07.0	
	comp=N,126nm,0.5s						
SCER	**sogukcermik**	**0.72**	**178**	P	**Pb**	**12 46 56.2**	**-0.3**
SCER				S	**Sb**	**12 47 06.2**	**-0.4**
SCER				*i* AML	AML	12 47 09.0	
	comp=E,114nm,0.4s						
SCER				*i* AML	AML	12 47 10.0	
	comp=N,149nm,0.4s						
CUZAR	**Zara_SIVAS**	**0.86**	**143**	P	**Pg**	**12 46 58.3**	**-0.1**
CUZAR				S	**Sb**	**12 47 10.0**	**-0.6**
SUSE	**Susehri**	**0.92**	**114**	P	**Pg**	**12 46 58.6**	**-0.9**
SUSE				S	**Sg**	**12 47 11.3**	**-0.1**
SUSE				*i* AML	AML	12 47 14.0	
	comp=E,70nm,0.3s						
KIZO	**Buyukkizoglu-L**	**0.94**	**290**	PG	**Pg**	**12 46 59.6**	**-0.3**
KVT	**Kavak**	**0.94**	**302**	PG	**Pg**	**12 46 59.7**	**-0.2**
KVT				SG	**Sb**	**12 47 12.6**	**-0.2**
AMSY	**Amasya-Merkez**	**0.97**	**274**	P	**Pb**	**12 47 00.6**	**0.0**
AMSY				S	**Sb**	**12 47 12.8**	**-0.7**
AMSY				*i* AML	AML	12 47 16.0	
	comp=E,124nm,0.3s						
AMSY				*i* AML	AML	12 47 18.0	
	comp=N,132nm,0.5s						
YARM	**Yarimca-Ladik(**	**1.03**	**290**	PG	**Pb**	**12 47 01.3**	**-0.4**
SAMS	**Samsun-Alacam**	**1.04**	**319**	P	**Pb**	**12 47 02.0**	**+0.2**
SAMS				S	**Sb**	**12 47 15.8**	**+0.3**
SAMS				*i* AML	AML	12 47 20.0	
	comp=E,103nm,0.6s						
SAMS				*i* AML	AML	12 47 20.0	
	comp=N,70nm,0.3s						
HAVZ	**Havza**	**1.16**	**295**	P	**Pb**	**12 47 03.8**	**-0.1**
HAVZ				*i* AML	AML	12 47 23.0	
	comp=N,70nm,0.5s						
ESPY	**Espiye-Giresun**	**1.28**	**74**	PN	**Pn**	**12 47 05.4**	**-0.3**
ALUC	**Giresun/Alucra**	**1.29**	**100**	P	**Pn**	**12 47 05.2**	**-0.9**
ALUC				*i* AML	AML	12 47 26.0	
	comp=E,52nm,0.2s						
ALUC				*i* AML	AML	12 47 26.0	
	comp=N,53nm,0.1s						
CUAYA	**Sivas-Altinyay**	**1.34**	**192**	P	**Pg**	**12 47 07.6**	**+0.1**
HACI	**Hacifakili, Ak**	**1.37**	**231**	P	**Pn**	**12 47 07.1**	**0.0**
HACI				S	**Sb**	**12 47 24.9**	**-0.3**
YOZ	**Yozgat**	**1.66**	**236**	PN	**Pb**	**12 47 11.6**	**-0.9**
YOZ				SN	**Sb**	**12 47 33.5**	**-0.1**
KEMA	**Kemaliye**	**1.69**	**140**	P	**Pb**	**12 47 12.8**	**-0.2**
KEMA				S	**Sg**	**12 47 36.0**	**-0.2**
KEMA				*i* AML	AML	12 47 38.0	
	comp=E,34nm,0.5s						
KEMA				*i* AML	AML	12 47 38.0	
	comp=N,31nm,0.7s						
KELT	**Kelkit**	**1.70**	**104**	P	**Pn**	**12 47 12.6**	**+0.9**
DIKM	**Dikmen**	**1.75**	**308**	PN	**Pn**	**12 47 12.8**	**+0.6**
DIKM				SN	**Sb**	**12 47 35.6**	**-0.5**
ARPR	**Arapgir-MALATY**	**1.77**	**147**	PN	**Pn**	**12 47 13.2**	**+0.7**
ARPR				SN	**Sb**	**12 47 36.4**	**-0.2**
GUMT	**Gumushane**	**1.82**	**93**	PN	**Pn**	**12 47 13.9**	**+0.7**
CORM	**Corum**	**1.93**	**259**	PN	**Pn**	**12 47 15.2**	**+0.4**
CORM				SN	**Sn**	**12 47 39.9**	**+0.7**
SARI	**SarD1z-Kayseri**	**2.24**	**194**	PN	**Pn**	**12 47 19.8**	**+0.8**
BAYT	**Aydıntepe-Bayb**	**2.33**	**94**	PN	**Pn**	**12 47 21.6**	**+1.3**

*DDA **26** 12:49:35.5±0.0, 39°.03N×29°.58E, h6km±2km, ML2.2*
*ISK **26** 12:49:35.2, 39°.02N×29°.63E, h5km, ML2.6/20*
ISC 26 12:49:35.6±1.0, 39°03N±0°.02×29°62E±0°.03, h6km±9km, n33, σ0§61/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.12**	**301**	P	**Pg**	**12 49 38.2**	**-0.1**
GDZ				S	**Sg**	**12 49 39.8**	**-0.2**
GDZ				*i* AML	AML	12 49 40.0	
	comp=E,1μm,0.1s						
GDZ				*i* AML	AML	12 49 40.0	
	comp=N,2μm,0.2s						
GEDZ	**Gediz**	**0.16**	**277**	PG	**Pg**	**12 49 39.8**	**+0.9**
TVSB	**Tavsanli**	**0.44**	**344**	PG	**Pg**	**12 49 43.6**	**-0.6**
SIMA	**Simav-Kutahya**	**0.50**	**277**	PG	**Pb**	**12 49 46.1**	**-0.8**
SMAA	**Simav-Kutahya**	**0.50**	**279**	PG	**Pb**	**12 49 46.8**	**-0.1**
ANDZ	**Kutahya, Merke**	**0.53**	**24**	P	**Pg**	**12 49 45.8**	**-0.1**
ANDZ				S	**Sg**	**12 49 53.5**	**+0.7**
USAK	**Uak-Merkez**	**0.56**	**237**	P	**Pb**	**12 49 47.0**	**-0.9**
USAK				S	**Sg**	**12 49 54.4**	**+0.7**
PASA	**Karahalli, USA**	**0.68**	**189**	P	**Pb**	**12 49 49.3**	**-0.7**
PASA				S	**Sg**	**12 49 57.8**	**+0.1**
KHL	**Karahalli**	**0.70**	**186**	PG	**Pb**	**12 49 50.1**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.87**	**152**	P	**Pb**	**12 49 53.2**	**0.0**
KZIL				S	**Sb**	**12 50 04.9**	**-0.3**
KULA	**Kula-Manisa**	**0.91**	**236**	PG	**Pb**	**12 49 53.3**	**-0.5**
AUBOZ	**BOZOYUK**	**0.94**	**20**	PG	**Pb**	**12 49 53.9**	**-0.5**
AUBOZ				SG	**Sb**	**12 50 08.6**	**-0.7**
AUBOZ	**BOZOYUK**	**0.94**	**20**	P	**Pg**	**12 49 52.7**	**-1.0**
AUBOZ				*i* AML	AML	12 50 10.0	
	comp=E,94nm,0.4s						
AUBOZ				*i* AML	AML	12 50 11.0	
	comp=N,70nm,0.4s						
MANT	**Manisa**	**0.98**	**237**	P	**Pg**	**12 49 54.4**	**-0.2**
MANT				S	**Sg**	**12 50 07.2**	**-0.2**
DURS	**Dursunbey**	**1.06**	**303**	P	**Pb**	**12 49 56.3**	**-0.1**
DURS				S	**Sb**	**12 50 09.8**	**-0.8**
BORA	**Eskisehir**	**1.07**	**37**	PG	**Pb**	**12 49 56.8**	**+0.1**
BORA	**Eskisehir**	**1.07**	**37**	P	**Pb**	**12 49 56.5**	**-0.1**
BORA				S	**Sg**	**12 50 09.8**	**-0.3**
BILE	**Bilecik/Merkez**	**1.15**	**10**	P	**Pn**	**12 49 58.2**	**-0.2**
BILE				*i* AML	AML	12 50 17.0	
	comp=N,44nm,0.3s						
BILE				*i* AML	AML	12 50 18.0	
	comp=E,38nm,0.3s						
ORLT	**Orhaneli**	**1.16**	**332**	PN	**Pn**	**12 49 59.0**	**+0.5**
ORLT				SN	**Sn**	**12 50 16.1**	**+1.3**
ULDT	**Uludag**	**1.18**	**342**	P	**Pn**	**12 49 59.1**	**+0.2**
ULDT				S	**Sg**	**12 50 13.3**	**-0.1**
ULDT				*i* AML	AML	12 50 17.0	
	comp=E,66nm,0.3s						
ULDT				*i* AML	AML	12 50 18.0	
	comp=N,38nm,0.4s						
CAVI	**Cavuskoy**	**1.19**	**8**	PN	**Pn**	**12 49 59.4**	**+0.5**
CAVI				SN	**Sn**	**12 50 16.9**	**+1.5**
SRCK	**Saricakaya, Es**	**1.28**	**37**	PN	**Pg**	**12 50 00.9**	**+0.7**
ADVT	**Abdulvahap**	**1.41**	**4**	PN	**Pg**	**12 50 03.4**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.54**	**74**	PN	**Pg**	**12 50 04.9**	**-0.2**
YLV	**Yalova**	**1.55**	**353**	PN	**Pg**	**12 50 05.2**	**-0.2**
GULT	**Gulveren**	**1.57**	**26**	PN	**Pg**	**12 50 05.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.57**	**322**	PN	**Pg**	**12 50 05.9**	**+0.1**
ARMT	**Armutlu**	**1.64**	**340**	PN	**Pg**	**12 50 06.9**	**-0.2**
AUMIH	**MIHALICIK**	**1.67**	**59**	PN	**Pb**	**12 50 06.6**	**-0.3**
HRT	**Hereke**	**1.79**	**1**	PN	**Pb**	**12 50 08.6**	**-0.4**
GONE	**Gonen-Balikesi**	**1.81**	**305**	PN	**Pb**	**12 50 08.9**	**-0.2**
KAVV	**Kandilli-Istan**	**2.08**	**348**	PN	**Pb**	**12 50 13.0**	**-0.8**
ISK	**Istanbul-Kandi**	**2.08**	**348**	PN	**Pb**	**12 50 12.8**	**-1.0**

*IDC **26** 12:52:27.9±0.9, 55°.13N×164°.95E, h0km, mb3.5/10, mbtmp3.6/11, ML3.3/1, MS2.9/6, Error ellipse: s-maj=30.5km s-min=16.5km az=160.0*
*KRSC **26** 12:52:28.1±1.7, 55°.06N×164°.90E, h48km±23km, ML4.3*
ISC 26 12:52:30.8±0.7, 55°08N±0°.04×164°93E±0°.05, h21km±5km, n57, σ1§64/83, mb3.6/10, MS2.9/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.61**	**78**	*eP*	**Pb**	**12 52 42.6**	**-0.1**
BKI				*eS*	**Sb**	**12 52 52.0**	**+1.1**
KBTR	**Krutoberegovo**	**1.65**	**314**	*eP*	**Pn**	**12 52 55.2**	**-3.2**
KBTR				*eS*	**Sn**	**12 53 13.9**	**-5.1**
KBG	**Krutoberegovo**	**1.73**	**314**	*eP*	**Pn**	**12 52 56.3**	**-3.2**
KBG				*eS*	**Sn**	**12 53 17.0**	**-3.9**
MKZ	**Mys Kozlova**	**1.93**	**255**	*eP*	**Pn**	**12 53 00.9**	**-1.3**
MKZ				*eS*	**Sn**	**12 53 23.2**	**-2.6**
SMKR	**Semkarok**	**2.47**	**309**	*eP*	**Pn**	**12 53 08.5**	**-1.3**
SMKR				*eS*	**Sn**	**12 53 37.2**	**-2.1**
ZLN	**Zelenaya**	**2.53**	**293**	*eS*	**Sn**	**12 53 40.2**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**2.56**	**291**	*eP*	**Pn**	**12 53 13.7**	**-0.4**
BZGR				*eS*	**Sn**	**12 53 41.3**	**-0.3**
BDR	**Baidarnaya**	**2.58**	**307**	*eP*	**Pn**	**12 53 10.7**	**-0.6**
TUMD	**Tumrok D**	**2.61**	**275**	*eP*	**Pn**	**12 53 11.0**	**-0.6**
TUMD				*eS*	**Sn**	**12 53 41.4**	**-1.2**
SRKR	**Sorokina**	**2.64**	**308**	*eP*	**Pn**	**12 53 11.3**	**-0.9**
SRKR				*eS*	**Sn**	**12 53 42.5**	**-1.1**
BZMR	**Bezymyannaya**	**2.67**	**291**	*eP*	**Pn**	**12 53 12.3**	**-0.3**
BZMR				*eS*	**Sn**	**12 53 44.0**	**-0.4**
BZWR	**Bezymyannyi-We**	**2.67**	**291**	*eP*	**Pn**	**12 53 13.0**	**+0.3**
BZWR				*eS*	**Sn**	**12 53 45.9**	**+1.4**
KLY	**Klyuchi**	**2.72**	**299**	*eP*	**Pn**	**12 53 11.5**	**-1.6**
KLY				*eS*	**Sn**	**12 53 42.5**	**-2.9**
KRSR	**Krestovskiy**	**2.73**	**296**	*eP*	**Pn**	**12 53 12.6**	**-0.7**
KRSR				*eS*	**Sn**	**12 53 44.7**	**-1.0**
TUMR	**Tumrok**	**2.75**	**276**	*eP*	**Pn**	**12 53 13.6**	**-0.1**
TUMR				*eS*	**Sn**	**12 53 46.9**	**+0.5**
KIRR	**Kirishev**	**2.75**	**290**	*eP*	**Pn**	**12 53 13.9**	**+0.1**
KIRR				*eS*	**Sn**	**12 53 47.0**	**+0.6**
KMNR	**Kamenistaya**	**2.76**	**286**	*eP*	**Pn**	**12 53 14.1**	**+0.3**
KMNR				*eS*	**Sn**	**12 53 47.6**	**+1.0**
KPT	**Kopyto**	**2.82**	**290**	*eP*	**Pn**	**12 53 14.9**	**+0.2**
KPT				*eS*	**Sn**	**12 53 48.4**	**+0.4**
KOZ	**Kozyrevsk**	**3.04**	**291**	*eP*	**Pn**	**12 53 18.1**	**+0.6**
KOZ				*eS*	**Sn**	**12 53 54.3**	**+1.1**
SRDR	**Sredinnyy**	**3.20**	**295**	*eP*	**Pn**	**12 53 20.0**	**+0.1**
SRDR				*eS*	**Sn**	**12 53 57.7**	**+0.3**
SPN	**Mys Shipunski**	**3.51**	**238**	P	**Pn**	**12 53 22.8**	**-1.2**
SPN				*eS*	**Sn**	**12 54 01.2**	**-3.6**
ESO	**Esso**	**3.65**	**286**	*eP*	**Pn**	**12 53 25.4**	**-0.5**
ESO				*eS*	**Sn**	**12 54 06.3**	**-1.9**
NLC	**Nalytchevo**	**3.80**	**242**	*eS*	**Sn**	**12 54 09.3**	**-2.8**
SDLR	**Sedlovina**	**3.99**	**246**	*eP*	**Pn**	**12 53 31.0**	**+0.3**
SDLR				*eS*	**Sn**	**12 54 14.8**	**-2.0**
SMAR	**Somma**	**4.04**	**246**	*eP*	**Pn**	**12 53 31.5**	**0.0**
KRER	**Koryakskii**	**4.04**	**246**	*eP*	**Pn**	**12 53 32.0**	**+0.4**
KRER				*eS*	**Sn**	**12 54 16.4**	**-2.0**
UGLR	**Uglovaya**	**4.05**	**245**	*eP*	**Pn**	**12 53 31.8**	**+0.2**
UGLR				*eS*	**Sn**	**12 54 17.2**	**-1.2**
KOK	**Koryaka**	**4.11**	**247**	*eP*	**Pn**	**12 53 32.9**	**+0.5**
KOK				*eS*	**Sn**	**12 54 19.2**	**-0.6**
DALK	**Dalny**	**4.18**	**243**	*eP*	**Pn**	**12 53 32.8**	**-0.4**
DALK				*eS*	**Sn**	**12 54 18.1**	**-3.3**
PET	**Petropavlovsk**	**4.24**	**243**	*eP*	**Pn**	**12 53 34.0**	**0.0**
PET				*eS*	**Sn**	**12 54 20.3**	**-2.4**
OSSR	**Ossora**	**4.30**	**347**	*eP*	**Pn**	**12 53 33.7**	**-1.2**
GNL	**Ganaly**	**4.32**	**254**	*eP*	**Pn**	**12 53 36.0**	**+0.8**
GNL				*eS*	**Sn**	**12 54 25.0**	**+0.1**
KRMR	**Karymshinskiy**	**4.61**	**243**	*eP*	**Pn**	**12 53 38.9**	**-0.2**
KRMR				*eS*	**Sn**	**12 54 29.6**	**-2.3**
RUS	**Russkaya**	**4.64**	**238**	*eP*	**Pn**	**12 53 39.0**	**-0.5**
RUS				*eS*	**Sn**	**12 54 28.2**	**-4.5**
PETK	**Petropavlovsk-**	**4.70**	**248**	Pn	**Pn**	**12 53 40.5**	**+0.2**
	6.3nm,0.3s,baz=84,slow=14,SNR=63						
PETK				Sn	**Sn**	**12 54 35.9**	**+1.8**
	2.9nm,0.3s,baz=57,slow=16,SNR=6.4						
PETK				LR	LR	12 55 29.7	
	comp=Z,64nm,20.5s,baz=329,slow=38						
	9.0nm,0.4s						
MTVR	**Mutnovka**	**4.77**	**240**	*eP*	**Pn**	**12 53 41.6**	**+0.1**
MTVR				*eS*	**Sn**	**12 54 32.3**	**-3.9**
GRL	**Gorelyy**	**4.79**	**241**	*eP*	**Pn**	**12 53 42.3**	**+0.6**
GRL				*eS*	**Sn**	**12 54 35.0**	**-1.6**
APC	**Apacha**	**5.07**	**248**	*eP*	**Pn**	**12 53 46.9**	**+1.5**
KDTR	**Khodutka, Kamc**	**5.25**	**234**	*eP*	**Pn**	**12 53 47.4**	**-0.4**
TILK	**Tilichiki**	**5.42**	**6**	*eP*	**Pn**	**12 53 50.9**	**+0.7**
KMSK	**Kamenskaya**	**7.44**	**5**	*eP*	**Pn**	**12 54 17.9**	**0.0**
MA2	**Magadan**	**8.88**	**306**	LR	LR	12 57 57.2	
	comp=Z,22nm,19.0s,baz=106,slow=37						
ASAJ	**Asahikawa**	**18.08**	**242**	LR	LR	13 03 36.2	
	comp=Z,30nm,21.0s,baz=335,slow=37						
KLR	**Kul'dur**	**21.05**	**268**	P	**P**	**12 57 14.2**	**+1.2**
	0.5nm,0.5s,baz=45,slow=17,SNR=1.9						
KLR				LR	LR	13 05 32.2	
	comp=Z,40nm,19.9s,baz=52,slow=37						
	0.5nm,0.5s						
TIXI	**Tiksi**	**22.60**	**331**	P	**P**	**12 57 29.7**	**+0.3**
	0.7nm,0.3s,baz=90,slow=23,SNR=4.0						
	0.7nm,0.3s						
ILAR	**Eielson Array**	**25.38**	**48**	P	**P**	**12 57 55.4**	**-0.7**
	0.7nm,0.7s,baz=255,slow=8.4,SNR=11						
	0.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.32**	**177**	T	T	13 37 19.6	
	baz=358,slow=76,SNR=204						
H11N3	**WAKE ISLAND Hy**	**35.34**	**177**	T	T	13 37 22.8	
	baz=358,slow=76,SNR=158						
H11N1	**WAKE ISLAND Hy**	**35.34**	**177**	T	T	13 37 22.1	
	baz=358,slow=76,SNR=202						
SONM	**Songino Array**	**36.22**	**283**	P	**P**	**12 59 32.0**	**+0.1**
	0.4nm,0.5s,baz=64,slow=7.6,SNR=1.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.83**	**297**	P	**P**	**13 01 21.1**	**-0.8**
	0.7nm,0.7s,baz=56,slow=6.5,SNR=4.6						
	0.7nm,0.7s						
ARU	**Arti**	**53.83**	**319**	LR	LR	13 26 39.9	
	comp=Z,74nm,18.5s,baz=278,slow=38						
PDAR	**Pinedale Array**	**54.08**	**65**	P	**P**	**13 01 54.5**	**+0.6**
	0.1nm,0.3s,baz=292,slow=5.7,SNR=2.7						
	0.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**61.34**	**261**	P	**P**	**13 02 46.0**	**+1.1**
	0.3nm,0.3s,baz=31,slow=5.4,SNR=1.5						
CMAR				LR	LR	13 34 50.4	
	comp=Z,8.4nm,18.4s,baz=105,slow=41						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**67.26**	**71**	P	**P**	**13 03 24.2**	**+0.6**
	0.3nm,0.6s,baz=314,slow=3.1,SNR=8.3						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**79.15**	**209**	P	**P**	**13 04 34.0**	**+0.3**
	0.5nm,1.0s,baz=25,slow=5.7,SNR=2.5						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**82.81**	**208**	P	**P**	**13 04 54.1**	**+1.0**
	0.5nm,0.8s,baz=13,slow=5.1,SNR=5.6						
	0.5nm,0.8s						

*NOU **26** 12:56:04.6, 42°.86S×172°.97E, h0km, MLv4.0/8, South Island, New Zealand*
*WEL **26** 12:56:05.3±0.3, 43°.3S±2°.×17°.3E±°, h5km, M3.2/28, ML3.3/16, MLv3.2/28, Error ellipse: s-maj=0.0km s-min=0.0km az=117.3*
ISC 26 12:56:05.0±0.9, 42°68S±0°.03×172°90E±0°.03, h15km, n58, σ1§51/60, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.30**	**161**	P	**Pb**	**12 56 12.6**	**+0.5**
LTZ	**Lake Taylor**	**0.47**	**258**	P	**Pb**	**12 56 15.1**	**0.0**
LTZ				S	**Sb**	**12 56 21.9**	**0.0**
AMCZ	**Amberley**	**0.53**	**200**	P	**Pn**	**12 56 17.1**	**-0.9**
KHTZ	**Kahutara**	**0.54**	**61**	P	**Pb**	**12 56 16.0**	**-0.1**
KHZ	**Kahutara**	**0.54**	**61**	P	**Pb**	**12 56 16.2**	**+0.1**
KHZ				S	**Sb**	**12 56 23.9**	**+0.2**
OXZ	**Oxford**	**0.90**	**224**	P	**Pn**	**12 56 23.0**	**-0.1**
THZ	**Tophouse**	**0.92**	**0**	P	**Pb**	**12 56 22.3**	**-0.3**
**MQZ

UREC	**San Jos de Ur**	**2.51**	**292**	*e*S	Sn	13 13 05.6	-2.6
UREC				IAML		13 13 14.4	
	comp=Z,106nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.72**	**352**	*e*P	Pn	13 12 40.5	+1.5
LL1C				*e*S	Sn	13 13 14.6	+1.8
PTGC	**Puerto Gaitan,**	**2.81**	**158**	*e*P	Pn	13 12 38.4	-1.7
PTGC				*e*S	Sn	13 13 11.8	-3.0
PTGC				IAML		13 13 17.5	
	comp=Z,80nm,0.5s						
CBOC	**Ciudad Bolivar**	**2.98**	**251**	*e*P	Pn	13 12 43.0	+0.6
CBOC				*e*S	Sn	13 13 18.5	-0.4
CBOC				IAML		13 13 23.7	
	comp=Z,23nm,0.4s						
DBBC	**Dabeiba**	**3.02**	**274**	*e*P	Pn	13 12 43.5	+0.7
DBBC				*e*S	Sn	13 13 16.4	-3.3
ANIL	**Santa Ana**	**3.21**	**224**	*e*P	Pn	13 12 46.1	+0.6
ANIL				*e*S	Sn	13 13 25.4	+1.0
PRAC	**Prado**	**3.54**	**209**	*e*P	Pn	13 12 49.1	-0.4
PRAC				*e*S	Sn	13 13 30.6	-0.9
PRAC				IAML		13 13 37.8	
	comp=Z,91nm,0.2s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P	Pn	13 12 49.6	-0.2
ORTC				*e*S	Sn	13 13 33.7	+1.6
ORTC				IAML		13 13 36.7	
	comp=Z,73nm,0.2s						
SJCC	**San Jacinto, C**	**3.64**	**327**	*i* P	Pn	13 12 49.5	-1.3
SJCC				*e*S	Sn	13 13 29.8	-4.0
SJCC				IAML		13 13 45.2	
	comp=Z,28nm,0.6s						
PLMC	**San Jos del P**	**3.64**	**238**	*e*P	Pn	13 12 50.8	0.0
PLMC				*e*S	Sn	13 13 34.7	+0.8
PLMC				IAML		13 13 38.3	
	comp=Z,20nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	*e*P	Pn	13 12 55.7	-2.1
CRJC				*e*S	Sn	13 13 42.8	-3.7
CRJC				IAML		13 13 46.3	
	comp=Z,40nm,0.4s						
SMRC	**Santa Marta, M**	**4.43**	**347**	*e*P	Pn	13 13 00.6	-0.5
SMRC				*e*S	Sn	13 13 48.4	-4.0
URIC	**Uribia, Colomb**	**4.98**	**13**	*e*P	Pn	13 13 05.7	-2.6
URIC				*e*S	Sn	13 14 00.0	-5.4
URIC				IAML		13 14 06.6	
	comp=Z,7.1nm,0.4s						

*IDC **26** 13:22:27.6±1.3, 4.°62S×125.°64E, h448km±18km, mb3.5/12, mbtmp4.3/16, Error ellipse: s-maj=21.7km s-min=11.9km az=70.0*
*DJA **26** 13:22:28.1±0.8, 5.°5S±3.°×12.°6E±.°, h433km±10km, M4.0/15, mb4.3/9, mB4.4/8, MLv4.3/15, Mw(mB)3.5/8*
*NEIC **26** 13:22:28.1±1.5, 4.°69S±0.°07×125.°7E±0.°1, h448km±9km, mb4.2/23, Error ellipse: s-maj=20.8km s-min=9.6km az=75.0*

ISC 26 13:22:28.0±0.5, 4.°65S±0.°05×125.°77E±0.°08, h450km, n69, σ1s21/72, mb4.1/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.93**	**44**	P	**P**	**13 23 27.1**	**-1.0**
SANI	**Sanana**	**2.59**	**5**	P	**P**	**13 23 30.3**	**-1.9**
SANI				S	**S**	**13 24 21.6**	**-2.5**
AAI	**Ambon**	**2.60**	**69**	S	**S**	**13 24 22.6**	**-1.6**
LBMI	**Labuha**	**4.34**	**24**	P	**P**	**13 23 46.4**	**+0.2**
LUWI	**Luwuk**	**4.67**	**320**		**P**	**13 23 48.5**	**-0.8**
LUWI	**Luwuk**	**4.67**	**320**	P	**P**	**13 23 48.1**	**-1.1**
SOEI	**Soe**	**5.29**	**196**		**P**	**13 23 54.6**	**-0.7**
SOEI	**Soe**	**5.29**	**196**	P	**P**	**13 23 54.8**	**-0.5**
	0.5nm906nm21nm,0.6s						
MMRI	**Maumere**	**5.29**	**221**		**P**	**13 23 55.5**	**+0.3**
MMRI	**Maumere**	**5.29**	**221**	P	**P**	**13 23 55.3**	**+0.1**
	0.4nm72nm,0.7s						
BSSI	**Bau Bau, Buton**	**5.46**	**254**	P	**P**	**13 23 56.1**	**-0.8**
	0.2nm697nm59nm,0.9s						
APSI	**Ampana**	**5.54**	**312**	P	**P**	**13 23 56.9**	**-0.8**
	0.3nm854nm67nm,0.7s						
BNSI	**Bone**	**5.65**	**272**	P	**P**	**13 23 59.1**	**+0.3**
	0.1nm371nm29nm,0.8s						
BKSI	**Bulukumba**	**5.67**	**263**	P	**P**	**13 23 57.7**	**-1.2**
	0.1nm387nm38nm,0.7s						
BATI	**Baumata**	**5.91**	**201**	P	**P**	**13 24 00.9**	**-0.5**
	92nm,0.4s,baz=81,slow=4.5,SNR=23						
BATI				S	**S**	**13 25 16.2**	**-1.4**
	73nm,0.4s,baz=105,slow=20,SNR=6.9						
BATI	**Baumata**	**5.91**	**201**	P	**P**	**13 24 00.5**	**-0.9**
	0.5nm1μm113nm,0.6s						
GTOI	**Gorontalo**	**5.93**	**332**	P	**P**	**13 24 02.1**	**+0.5**
	0.2nm584nm65nm,0.7s						
KAPI	**Kappang**	**6.01**	**266**	P	**P**	**13 24 01.4**	**-1.0**
	5.0nm,0.4s,baz=146,slow=5.5,SNR=5.9						
SPSI	**Sidrap Palu**	**6.02**	**276**	P	**P**	**13 24 00.7**	**-1.9**
	0.1nm17nm,0.5s						
MRSI	**Marisa**	**6.37**	**323**	P	**P**	**13 24 04.5**	**-1.6**
	0.5nm2μm155nm,0.7s						
SIJI	**Sorong**	**6.65**	**56**	P	**P**	**13 24 10.0**	**+0.9**
	3.5nm,0.4s,baz=320,slow=18,SNR=4.1						
FAKI	**Fak Fak**	**6.69**	**75**	P	**P**	**13 24 10.2**	**+0.7**
TOLI2	**Tolitoli**	**7.59**	**319**	P	**P**	**13 24 17.6**	**-1.4**
MPSI	**Mapaga**	**7.68**	**310**	P	**P**	**13 24 18.6**	**-1.4**
MTN	**Manton Dam**	**9.71**	**147**		**P**	**13 24 42.6**	**+0.5**
KNRA	**Kununurra**	**11.35**	**165**	P	**P**	**13 25 00.2**	**+0.5**
SBUM	**Sibu**	**15.27**	**297**	P	**P**	**13 25 42.6**	**+0.6**
SBUM				IAmb	IAmb	13 25 43.7	
	comp=Z,2.6nm,0.7s						
WB0	**Warramunga Arr**	**17.22**	**152**	P	**P**	**13 26 02.5**	**-0.1**
WRAB	**Tennant Creek**	**17.34**	**152**	P	**P**	**13 26 03.7**	**-0.2**
WRA	**Warramunga Arr**	**17.34**	**152**	P	**P**	**13 26 03.4**	**-0.6**
	comp=Z,18nm,0.5s,baz=333,slow=9.9,SNR=225						
WRA	**Warramunga Arr**	**17.34**	**152**	P	**P**	**13 26 02.4**	**-1.6**
WB2	**Warramunga Arr**	**17.35**	**152**	P	**P**	**13 26 03.8**	**-0.3**
MBWA	**Marble Bar**	**17.43**	**199**	P	**P**	**13 26 03.6**	**-1.2**
MBWA				IAmb	IAmb	13 26 37.3	
	comp=Z,11nm,1.3s						
WR0	**Warramunga Arr**	**17.45**	**151**	P	**P**	**13 26 04.7**	**-0.4**
COEN	**Coen**	**19.49**	**120**	P	**P**	**13 26 23.8**	**-1.1**
COEN				IAmb	IAmb	13 26 48.9	
	comp=Z,6.3nm,1.1s						
AS31	**Alice Springs**	**20.47**	**158**	P	**P**	**13 26 34.9**	**+1.1**
AS31				IAmb	IAmb	13 26 39.5	
	comp=Z,3.4nm,0.5s						
ASAR	**Alice Springs**	**20.47**	**158**	P	**P**	**13 26 34.6**	**+0.9**
	comp=Z,5.6nm,0.4s,baz=345,slow=9.7,SNR=97						
ASAR				S	**S**	**13 29 54.3**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=348,slow=22,SNR=4.7						
	comp=Z,5.6nm,0.4s						
ASAR	**Alice Springs**	**20.47**	**158**	P	**P**	**13 26 34.9**	**+1.1**
FORT	**Forrest**	**26.08**	**176**	P	**P**	**13 27 24.4**	**+0.5**
FORT				IAmb	IAmb	13 28 04.8	
	comp=Z,14nm,0.9s						
BBOO	**Buckleboo**	**29.62**	**162**	P	**P**	**13 27 55.2**	**+0.1**
BBOO				IAmb	IAmb	13 28 18.2	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**30.89**	**153**	P	**P**	**13 28 06.7**	**+0.6**
	comp=Z,3.7nm,0.4s,baz=327,slow=7.9,SNR=14						
	comp=Z,3.7nm,0.4s						
STKA	**Stephens Creek**	**30.89**	**153**	P	**P**	**13 28 07.1**	**+1.0**
CAN	**Canberra**	**37.31**	**148**	P	**P**	**13 29 03.0**	**+2.6**
CAN				IAmb	IAmb	13 29 18.6	
	comp=Z,30nm,1.5s						
TOO	**Toolangi**	**37.40**	**154**	P	**P**	**13 29 03.5**	**+2.4**
TOO				IAmb	IAmb	13 29 27.3	
	comp=Z,19nm,1.2s						
PZH	**PanZhiHua**	**38.73**	**324**	P	**P**	**13 29 14.5**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,3.7s						
MJAR	**Matsushiro Arr**	**42.59**	**15**	P	**P**	**13 29 40.9**	**-2.1**
	comp=Z,1.2nm,0.6s,baz=184,slow=8.2,SNR=5.3						
	comp=Z,1.2nm,0.6s						
HHC	**Hu-ho-hao-te**	**47.11**	**345**	*e*P	**P**	**13 30 22.0**	**+4.0**
HHC				pmax	pmax		
	comp=Z,49nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,6.2s						
USA0B	**Ussuriysk Arra**	**48.95**	**6**	P	**P**	**13 30 31.7**	**+0.1**
USA0B				IAmb	IAmb	13 30 42.2	
	comp=Z,7.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**48.95**	**6**	P	**P**	**13 30 31.5**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=191,slow=7.3,SNR=15						
	comp=Z,2.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**48.95**	**6**	P	**P**	**13 30 31.7**	**+0.1**
JKA	**Kamikawa-asahi**	**50.85**	**16**	P	**P**	**13 30 46.2**	**+0.5**
JKA				IAmb	IAmb	13 30 59.8	
	comp=Z,37nm,1.4s						

SONM	**Songino Array**	**54.97**	**344**	P	**P**	**13 31 14.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=172,slow=7.2,SNR=3.6							
	comp=Z,0.4nm,0.5s							
WHZ	**Wether Hill Ro**	**55.01**	**145**	P	**P**	**13 31 14.0**	**-1.6**
WMQ	**Urumqi**	**59.17**	**329**	*e*P	**P**	**13 31 46.5**	**+2.1**
PETK	**Petropavlovsk-**	**63.52**	**21**	P	**P**	**13 32 13.6**	**+0.8**
	comp=Z,6.7nm,0.9s,baz=195,slow=8.2,SNR=9.5							
	comp=Z,6.7nm,0.9s							
PETK	**Petropavlovsk-**	**63.52**	**21**	P	**P**	**13 32 13.8**	**+1.1**
MK31	**Makanchi Array**	**63.99**	**328**	P	**P**	**13 32 15.6**	**-0.3**
MK31				IAmb	IAmb	13 32 21.3		
	comp=Z,13nm,1.5s							
MKAR	**Makanchi Array**	**63.99**	**328**	P	**P**	**13 32 15.2**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=113,slow=8.7,SNR=21							
	comp=Z,1.6nm,0.6s							
MKAR	**Makanchi Array**	**63.99**	**328**	P	**P**	**13 32 15.5**	**-0.5**
ZALV	**Zalesovo Beam**	**67.66**	**335**	P	**P**	**13 32 37.5**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=108,slow=3.4,SNR=5.7							
	comp=Z,1.2nm,0.4s							
KURBB	**Kurchatov Arra**	**68.34**	**330**	P	**P**	**13 32 42.1**	**-0.9**
	comp=Z,2.4nm,0.2s,baz=132,slow=5.4,SNR=10.0							
	comp=Z,2.4nm,0.2s							
KURK	**Kurchatov**	**68.36**	**330**	P	**P**	**13 32 42.4**	**-0.7**
KURK				IAmb	IAmb	13 32 42.6		
	comp=Z,2.3nm,0.5s							
SEY	**Seymchan**	**70.36**	**13**	P	**P**	**13 32 55.6**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=227,slow=5.6,SNR=8.4							
	comp=Z,2.5nm,0.6s							
BRVK	**Borovoye**	**73.94**	**329**	P	**P**	**13 33 15.9**	**-0.1**
VNDA	**Vanda**	**75.30**	**172**	P	**P**	**13 33 23.7**	**+0.4**
TIXI	**Tiksi**	**76.18**	**1**	P	**P**	**13 33 27.9**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=91,slow=23,SNR=8.7							
	comp=Z,1.5nm,0.4s							
ABKAR	**Akbulak array**	**78.08**	**322**	P	**P**	**13 33 38.6**	**-0.5**
ABKAR				IAmb	IAmb	13 34 10.3		
	comp=Z,4.2nm,1.4s							
QSPA	**South Pole Qui**	**85.31**	**180**	P	**P**	**13 34 15.7**	**-0.5**
ILAR	**Eielson Array**	**93.03**	**25**	P	**P**	**13 34 50.9**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=270,slow=4.1,SNR=5.9							
	comp=Z,0.2nm,0.6s							

*NEIC **26** 13:24:43.5±1.4, 19.°1N±0.°1×145.°6E±0.°1, h217km±8km, mb4.0/12, Error ellipse: s-maj=19.0km s-min=14.6km az=101.0*
*IDC **26** 13:24:45.6±5.8, 18.°96N×145.°72E, h239km±25km, mb3.3/2, mbtmp3.9/4, Error ellipse: s-maj=219.8km s-min=19.2km az=87.0*

ISC 26 13:24:43.0±0.9, 19.°13N±0.°07×145.°5E±0.°2, h214km, n24, σ1s16/25, mb3.9/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.54**	**186**	P	**Pn**	**13 26 06.9**	**+2.3**
	42nm,0.7s,baz=192,slow=22,SNR=1.4						
GUMO				S	**S**	**13 27 10.1**	**+1.0**
	66nm,0.7s,baz=307,slow=18,SNR=2.1						
GUMO	**Guam**	**5.54**	**186**	Pn	**Pn**	**13 26 02.7**	**-2.0**
JHJ2	**Mitsune**	**14.83**	**341**	P	**P**	**13 28 04.3**	**+1.4**
JOW	**Kunigami**	**17.61**	**299**	P	**P**	**13 28 34.1**	**+0.5**
JGF	**Kuroka**	**17.92**	**338**	P	**P**	**13 28 34.8**	**-2.1**
JGF				IAmb	IAmb	13 28 37.1	
	comp=Z,11nm,1.1s						
MJAR	**Matsushiro Arr**	**18.50**	**341**	P	**Pn**	**13 28 46.3**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=159,slow=10,SNR=5.6						
JNU	**Nakatsue**	**19.12**	**320**	P	**P**	**13 28 50.2**	**+0.3**
JMM	**Marumori**	**19.12**	**349**	P	**P**	**13 28 50.5**	**+0.7**
MTN	**Manton Dam**	**34.78**	**205**	P	**P**	**13 31 13.1**	**-0.3**
MTN				IAmb	IAmb	13 31 26.4	
	comp=Z,4.0nm,1.1s						
KNRA	**Kununurra**	**38.31**	**207**	P	**P**	**13 31 43.0**	**-0.2**
KNRA				IAmb	IAmb	13 31 55.1	
	comp=Z,6.9nm,1.1s						
WB0	**Warramunga Arr**	**40.16**	**196**	P	**P**	**13 31 57.9**	**-0.5**
WRAB	**Tennant Creek**	**40.33**	**196**	P	**P**	**13 31 59.1**	**-0.7**
WRAB				IAmb	IAmb	13 31 59.7	
	comp=Z,2.7nm,0.7s						
WB2	**Warramunga Arr**	**40.34**	**196**	P	**P**	**13 31 59.1**	**-0.8**
WB2				IAmb	IAmb	13 31 59.8	
	comp=Z,2.5nm,0.6s						
WRA	**Warramunga Arr**	**40.34**	**196**	P	**P**	**13 31 59.5**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=19,slow=8.2,SNR=9.7						
	comp=Z,0.8nm,0.3s						
ASAR	**Alice Springs**	**44.01**	**195**	P	**P**	**13 32 28.9**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=15,slow=7.7,SNR=9.7						
	comp=Z,0.9nm,0.6s						
CCB	**Clear Creek Bu**	**62.93**	**26**	P	**P**	**13 34 48.5**	**+2.2**
J25K	**Salcha River,**	**63.95**	**27**	P	**P**	**13 34 52.6**	**-0.5**
J25K				IAmb	IAmb	13 35 00.1	
	comp=Z,2.0nm,0.9s						
J26L	**Joseph Creek**	**64.70**	**27**	P	**P**	**13 34 58.2**	**+0.3**
BMAR	**Burnt Mountain**	**64.80**	**24**	P	**P**	**13 34 57.6**	**-0.9**
L27K	**Beaver Creek,**	**65.28**	**29**	P	**P**	**13 35 01.7**	**+0.1**
K27K	**Chicken**	**65.28**	**28**	P	**P**	**13 35 01.6**	**0.0**
BCAR	**Beaver Creek A**	**65.30**	**29**	P	**P**	**13 35 02.5**	**+0.7**
DAWY	**Dawson**	**66.46**	**28**	P	**P**	**13 35 07.4**	**-1.8**
ABKAR	**Akbulak array**	**72.90**	**317**	P	**P**	**13 35 48.0**	**-0.6**

KRSC 26 13:39:01.0±1.6, 55.°06N×164.°84E, h47km±23km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.67**	**77**	*e*P	Pn	13 39 14.9	+0.7
BKI				*e*S	Sn	13 39 24.3	+0.6
KBTR	**Krutoberegovo**	**1.62**	**316**	*e*P	Pn	13 39 27.5	+0.4
KBTR				*e*S	Sn	13 39 46.5	-0.3
KBG	**Krutoberegovo**	**1.70**	**316**	*e*P	Pn	13 39 28.5	+0.3
KBG				*e*S	Sn	13 39 48.5	-0.2
MKZ	**Mys Kozlova**	**1.87**	**256**	*e*P	Pn	13 39 33.3	+2.9
MKZ				*e*S	Sn	13 39 55.4	+2.6
SMKR	**Semkarok**	**2.44**	**310**	*e*P	Pn	13 39 40.8	+2.5
SMKR				*e*S	Sn	13 40 10.4	+3.5
BDR	**Baidarnaya**	**2.54**	**308**	*e*P	Pn	13 39 42.8	+3.0
BDR				*e*S	Sn	13 40 14.4	+4.8
TUMD	**Tumrok D**	**2.55**	**275**	*e*P	Pn	13 39 43.4	+3.5
TUMD				*e*S	Sn	13 40 13.8	+4.1
SRKR	**Sorokina**	**2.61**	**309**	*e*P	Pn	13 39 43.8	+3.1
SRKR				*e*S	Sn	13 40 16.7	+5.5
KLY	**Klyuchi**	**2.68**	**300**	*e*P	Pn	13 39 43.6	+2.0
KLY				*e*S	Sn	13 40 15.4	+2.6
KRSR	**Krestovskiy**	**2.68**	**297**	*e*P	Pn	13 39 45.6	+3.8
KRSR				*e*S	Sn	13 40 17.9	+4.9
TUMR	**Tumrok**	**2.70**	**277**	*e*P	Pn	13 39 45.3	+3.3
TUMR				*e*S	Sn	13 40 18.4	+5.0
KIRR	**Kirishev**	**2.71**	**291**	*e*P	Pn	13 39 46.0	+3.9
KIRR				*e*S	Sn	13 40 18.9	+5.2
KMNR	**Kamenistaya**	**2.71**	**287**	*e*P	Pn	13 39 46.4	+4.2
KMNR				*e*S	Sn	13 40 18.8	+5.0
KPT	**Kopyto**	**2.78**	**291**	*e*P	Pn	13 39 47.5	+4.5
KOZ	**Kozyrevsk**	**2.99**	**292**	*e*P	Pn	13 39 50.9	+5.0
SRDR	**Sredinnyy**	**3.16**	**296**	*e*P	Pn	13 39 52.8	+4.6
SRDR				*e*S	Sn	13 40 29.5	+4.8
SPN	**Mys Shipunski**	**3.45**	**237**	*e*P	Pn	13 39 56.0	+3.8
SPN				*e*S	Sn	13 40 33.2	+1.5
ESO	**Esso**	**3.60**	**286**	*e*P	Pn	13 39 58.1	+3.9
NLC	**Nalytchevo**	**3.75**	**242**	*e*P	Pn	13 39 59.8	+3.6
NLC				*e*S	Sn	13 40 42.0	+3.1
SDLR	**Sedlovina**	**3.93**	**245**	*e*P	Pn	13 40 03.8	+5.0
SDLR				*e*S	Sn	13 40 48.1	+4.4
SMAR	**Somma**	**3.98**	**246**	*e*P	Pn	13 40 04.4	+4.8
SMAR				*e*S	Sn	13 40 49.1	+4.1
KRER	**Koryakskii**	**3.98**	**246**	*e*P	Pn	13 40 04.7	+5.0
KRER				*e*S	Sn	13 40 48.2	+3.0
UGLR	**Uglovaya**	**3.99**	**245**	*e*P	Pn	13 40 04.5	+4.8
KOK	**Koryaka**	**4.05**	**247**	*e*P	Pn	13 40 05.7	+5.2
DALK	**Dalny**	**4.12**	**243**	*e*P	Pn	13 40 05.7	+4.4
DALK				*e*S	Sn	13 40 51.0	+2.8
PET	**Petropavlovsk**	**4.18**	**243**	*e*P	Pn	13 40 06.7	+4.6
PET				*e*S	Sn	13 40 52.9	+3.3
GNL	**Ganaly**	**4.26**	**254**	*e*P	Pn	13 40 09.0	+5.7
KRMR	**Karymshinskiy**	**4.55**	**243**	*e*P	Pn	13 40 12.3	+5.1
KRMR				*e*S	Sn	13 41 02.7	+4.0
RUS	**Russkaya**	**4.58**	**238**	*e*P	Pn	13 40 11.6	+3.9
RUS				*e*S	Sn	13 41 00.5	+0.9
MTVR	**Mutnovka**	**4.72**	**240**	*e*P	Pn	13 40 14.3	+4.6
MTVR				*e*S	Sn	13 41 05.6	+2.5
GRL	**Gorelyy**	**4.73**	**241**	*e*P	Pn	13 40 14.7	+4.9
GRL				*e*S	Sn	13 41 07.8	+4.4
KDTR	**Khodutka, Kamc**	**5.19**	**234**	*e*P	Pn	13 40 19.7	+3.7
KDTR				*e*S	Sn	13 41 15.0	+0.5

WEL 26 13:45:41.3±0.3, 43.°3S×173.°3E±.°, h5km, M3.4/25, ML3.6/13, MLv3.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=141.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.16**	**58**	P	Pg	13 45 44.5	+0.1
KHZ				S	Sg	13 45 47.0	+0.5
GVZ	**Greta Valley S**	**0.52**	**207**	P	Pb	13 45 52.2	-0.7
THZ	**Tophouse**	**0.81**	**335**	P	Pg	13 45 56.9	+0.1
LTZ	**Lake Taylor**	**0.85**	**250**	P	Pg	13 45 57.8	+0.2
AMCZ	**Amberley**	**0.85**	**217**	P	Pg	13 45 57.8	+0.2
BSWZ	**Blackbirch Sta**	**0.88**	**26**	P	Pg	13 45 58.1	0.0
CMWZ	**Cape Campbell**	**0.99**	**41**	P	Pb	13 46 00.6	-0.2
TUWZ	**Tuamarina**	**1.16**	**22**	P	Pg	13 46 02.9	-0.5
MRNZ	**Matariki Terra**	**1.19**	**338**	P	Pg	13 46 03.8	-0.2
OKCZ	**Okains Bay**	**1.24**	**190**	P	Pg	13 46 03.0	-2.1
OXZ	**Oxford**	**1.27**	**229**	P	Pg	13 46 03.4	-2.3
NNZ	**Nelson**	**1.28**	**1**	P	Pn	13 46 05.0	-0.8
MQZ	**McQueen's Vall**	**1.31**	**203**	P	Pn	13 46 03.1	-3.1
DSZ	**Denniston Nort**	**1.38**	**303**	P	Pn	13 46 06.8	-0.4
AKCZ	**Akaroa Harbour**	**1.41**	**193**	P	Pn	13 46 04.9	-2.7
TCW	**Tory Channel**	**1.46**	**28**	P	Pn	13 46 06.6	-1.7
TKNZ	**Takaka Hill**	**1.50**	**348**	P	Pn	13 46 08.5	-0.3
RACZ	**Rakaia**	**1.52**	**216**	P	Pn	13 46 06.4	-2.6
MHCZ	**Mount Hutt**	**1.67**	**231**	P	Pn	13 46 08.8	-2.4
DUWZ	**D'Urville Isla**	**1.75**	**14**	P	Pn	13 46 12.0	-0.3
MSWZ	**Moikau Station**	**1.78**	**53**	P	Pn	13 46 09.9	-2.8
QRZ	**Quartz Range**	**1.79**	**339**	P	Pn	13 46 13.3	+0.6
WACZ	**Wakanui South**	**1.82**	**217**	P	Pn	13 46 10.5	-2.7
CAW	**Cannon Point**	**1.89**	**43**	P	Pn	13 46 11.9	-2.3
WVZ	**Waitaha Valley**	**2.01**	**253**	P	Pn	13 46 14.9	-0.9
TRWZ	**Traveller**	**2.06**	**58**	P	Pn	13 46 14.3	-2.3
RPZ	**Rata Peaks**	**2.08**	**233**	P	Pn	13 46 14.4	-2.4
MTW	**Mount Morrison**	**2.09**	**51**	P	Pn	13 46 14.0	-3.0
GCSZ	**Gaunt Creek Bo**	**2.37**	**249**	P	Pn	13 46 20.2	-0.6
TMZ	**Timaru**	**2.54**	**221**	P	Pn	13 46 20.6	-2.6
LBZ	**Lake Benmore**	**2.98**	**230**	P	Pn	13 46 27.1	-2.1
WAZ	**Wanganui**	**3.01**	**25**	P	Pn	13 46 30.0	+0.4
ODZ	**Otahua Downs**	**3.21**	**217**	P	Pn	13 46 29.5	-2.9
NBEZ	**Newall Road No**	**3.25**	**7**	P	Pb	13 46 36.6	-2.9
VRZ	**Vera Road**	**3.54**	**18**	P	Pn	13 46 37.1	+0.2
KRVZ	**Karewarewa**	**3.82**	**28**	P	Pn	13 46 44.0	+3.1
HHSZ	**Highcliff Hill**	**3.92**	**209**	P	Pn	13 46 39.2	-2.9
EAZ	**Earnscleugh**	**4.00**	**226**	P	Pn	13 46 40.3	-2.9
HIZ	**Hauiti**	**4.14**	**17**	P	Pn	13 46 45.4	+0.3
TUZ	**Tuapeka**	**4.37**	**217**	P	Pn	13 46 45.7	-2.6
SYZ	**Scrubby Hill**	**5.04**	**215**	P	Pn	13 46 55.1	-2.3
TOZ	**Tahuroa Road**	**5.04**	**20**	P	Pn	13 46 56.1	-1.3
AWAZ	**Awhitu Peninsu**	**5.52**	**11**	P	Pn	13 47 04.2	+0.1
MKAZ	**Moumakai**	**5.57**	**15**	P	Pn	13 47 03.7	-1.0
ETAZ	**East Tamaki Re**	**5.67**	**13**	P	Pn	13 47 05.9	-0.3

*IDC **26** 14:06:22.1±1.4, 7.°66S×154.°98E, h0km, mb3.7/6, mbtmp3.8/8, ML1.5/1, MS3.4/2, Error ellipse: s-maj=43.8km s-min=23.4km az=132.0*

ISC 26 14:06:27.5±1.1, 7.°6S±0.°1×154.°8E±0.°1, h31km, n10, σ0s94/9, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.27**	**319**	Pn	**Pn**	**14 07 30.4**	**0.0**
	138nm,0.6s,baz=88,slow=22,SNR=1.5						
KRVT				Sn	**Sn**	**14 08 18.8**	**-0.4**
	19nm,0.3s,baz=110,slow=20,SNR=2.1						
HNR	**Honiara**	**5.38**	**111**	LR	LR	14 09 35.7	
	comp=Z,755nm,21.2s,baz=236,slow=37						
PMG	**Port Moresby**	**7.82**	**256**	Pn	**Pn**	**14 08 19.5**	**+0.3**
	0.4nm,0.3s,baz=80,slow=18,SNR=2.2						
	5.5nm,0.6s						
WRA	**Warramunga Arr**	**23.38**	**236**	P	**P**

	5.4nm,0.4s							
ATHAL					AML	AML	14 23 39.3	
	8.2nm,0.6s							
ATHAL					AML	AML	14 23 39.3	
	8.2nm,0.6s							
SZAC	**Souni**	**0.39**	**187**	⇑*eP*	**Pn**		**14 23 23.7**	**+0.1**
SZAC				S	**Sn**		**14 23 32.9**	**+1.5**
SZAC				AML	AML		14 23 34.7	
	4.0nm,0.2s							
SZAC				AML	AML		14 23 34.7	
	4.0nm,0.2s							
SZAC				AML	AML		14 23 45.4	
	4.9nm,0.4s							
SZAC				AML	AML		14 23 45.4	
	4.9nm,0.4s							
ASGA	**Asgata**	**0.44**	**144**	⇑*eP*	**Pn**		**14 23 24.2**	**+0.1**
ASGA				S	**Sn**		**14 23 33.5**	**+1.4**
ASGA				AML	AML		14 23 37.2	
	4.6nm,0.6s							
ASGA				AML	AML		14 23 37.2	
	4.6nm,0.6s							
ASGA				AML	AML		14 23 40.0	
	5.3nm,0.6s							
ASGA				AML	AML		14 23 40.0	
	5.3nm,0.6s							
NATA	**Nata**	**0.47**	**220**	P	**Pn**		**14 23 24.6**	**+0.1**
NATA				S	**Sn**		**14 23 32.8**	**+0.1**
NATA				AML	AML		14 23 36.2	
	11nm,0.3s							
NATA				AML	AML		14 23 36.2	
	11nm,0.3s							
NATA				AML	AML		14 23 37.4	
	17nm,0.2s							
NATA				AML	AML		14 23 37.4	
	17nm,0.2s							
LFK	**Lefkose**	**0.51**	**74**	PG	**Pn**		**14 23 24.9**	**0.0**
LFK				SG	**Sn**		**14 23 35.6**	**+2.1**
AKMS	**Akamas**	**0.51**	**256**	⇓*iP*	**Pn**		**14 23 24.3**	**-0.5**
AKMS				S	**Sn**		**14 23 33.8**	**+0.3**
AKMS				AML	AML		14 23 35.9	
	9.0nm,0.2s							
AKMS				AML	AML		14 23 35.9	
	9.0nm,0.2s							
AKMS				AML	AML		14 23 37.0	
	10nm,0.4s							
AKMS				AML	AML		14 23 37.0	
	10nm,0.4s							
MVOU	**Mavrovouni**	**0.58**	**102**	P	**Pn**		**14 23 25.8**	**+0.1**
MVOU				S	**Sn**		**14 23 35.7**	**+0.8**
MVOU				AML	AML		14 23 37.3	
	3.8nm,0.4s							
MVOU				AML	AML		14 23 37.3	
	3.8nm,0.4s							
MVOU				AML	AML		14 23 38.0	
	2.7nm,0.3s							
MVOU				AML	AML		14 23 38.0	
	2.7nm,0.3s							
PARAL	**Paralimni**	**0.92**	**99**	P	**Pn**		**14 23 31.7**	**+1.8**
PARAL				S	**Sn**		**14 23 45.1**	**+2.9**
PARAL				AML	AML		14 23 48.3	
	1.0nm,0.4s							
PARAL				AML	AML		14 23 48.3	
	1.0nm,0.4s							
PARAL				AML	AML		14 23 49.5	
	1.1nm,0.4s							
PARAL				AML	AML		14 23 49.5	
	1.1nm,0.4s							
TEKE	**Tekeli-Mersin**	**1.01**	**8**	PG	**Pn**		**14 23 29.8**	**-1.3**
TEKE				SG	**Sn**		**14 23 42.9**	**-1.5**
YORU	**Yoruktepe-Mers**	**1.08**	**21**	PG	**Pn**		**14 23 30.8**	**-1.2**
EREN	**Erenkoy**	**1.08**	**69**	PN	**Pn**		**14 23 33.1**	**+1.1**
EREN				SN	**Sn**		**14 23 47.9**	**+1.8**
AKK2	**Akkuyu-Mersin**	**1.11**	**26**	PN	**Pn**		**14 23 31.2**	**-1.2**
AKK1	**Akkuyu-Mersin**	**1.11**	**26**	PN	**Pn**		**14 23 31.4**	**-1.0**
AKKU	**Akkuyu-Mersin**	**1.13**	**26**	PN	**Pn**		**14 23 31.9**	**-0.8**
AKKU				SN	**Sn**		**14 23 46.3**	**-1.0**
OREN	**Orenkoy-Mersin**	**1.15**	**22**	PN	**Pn**		**14 23 31.9**	**-1.0**
GULN	**MERSIN_Gulnar**	**1.15**	**25**	P	**Pn**		**14 23 31.9**	**-1.1**
GULN				S	**Sn**		**14 23 44.7**	**-3.1**
TISA	**Tisan-Mersin**	**1.18**	**31**	PN	**Pn**		**14 23 32.4**	**-1.0**
TEPK	**Tepekoy-MERSIN**	**1.19**	**24**	PN	**Pn**		**14 23 33.1**	**-0.4**
YESI	**Yesilovacik-Me**	**1.20**	**28**	PN	**Pn**		**14 23 32.9**	**-0.7**
GAZI	**Gazipasa**	**1.20**	**335**	PN	**Pn**		**14 23 32.3**	**-1.4**
GAZI	**Gazipasa**	**1.20**	**335**	P	**Pn**		**14 23 32.1**	**-1.5**
GAZI				S	**Sn**		**14 23 46.5**	**-2.5**
BERE	**Bereket-Mersin**	**1.23**	**11**	PN	**Pn**		**14 23 33.2**	**-0.9**
KARG	**Kargicak-Mersi**	**1.23**	**30**	PN	**Pn**		**14 23 33.5**	**-0.5**
IKL	**Isikli**	**1.25**	**29**	PN	**Pn**		**14 23 33.6**	**-0.7**
TEVE	**Tevekalti-Mers**	**1.35**	**18**	PN	**Pn**		**14 23 35.5**	**-0.3**
KEBE	**Keben-Mersin**	**1.45**	**26**	PN	**Pn**		**14 23 36.9**	**-0.1**
SILI	**Silifke-Mersin**	**1.46**	**33**	PN	**Pn**		**14 23 37.1**	**0.0**
ERMK	**Ermenek**	**1.50**	**359**	P	**Pn**		**14 23 37.6**	**-0.2**
KIZK	**Mersin**	**1.66**	**36**	PN	**Pn**		**14 23 39.9**	**+0.1**
KIZK	**Mersin**	**1.66**	**36**	P	**Pn**		**14 23 39.4**	**-0.3**
KIZK				*i* AML	AML		14 24 02.0	
	comp=E,255nm,0.6s							
KIZK				*i* AML	AML		14 24 06.0	
	comp=N,150nm,0.6s							
HDMB	**Hadim**	**1.85**	**349**	PN	**Pn**		**14 23 41.4**	**-1.3**
KRMN	**Karaman**	**2.04**	**7**	PN	**Pn**		**14 23 44.3**	**-0.9**
KEPZ	**Antalya-Kepez**	**2.06**	**329**	P	**Pn**		**14 23 44.9**	**-0.4**
KEPZ				S	**Sn**		**14 24 09.0**	**-0.9**
KKBE	**Karaman, Kazim**	**2.07**	**0**	P	**Pn**		**14 23 46.3**	**+0.8**
KKBE				S	**Sn**		**14 24 10.9**	**+0.6**
MERS	**Mersin**	**2.15**	**36**	PN	**Pn**		**14 23 47.3**	**+0.8**
DED	**Mersin**	**2.36**	**39**	P	**Pn**		**14 23 48.8**	**-0.6**
DED				S	**Sn**		**14 24 15.9**	**-1.3**
AKUM	**Antalya-Kumluc**	**2.42**	**300**	P	**Pn**		**14 23 51.4**	**+1.3**
AKUM				S	**Sn**		**14 24 25.3**	**+6.8**
AKUM				*i* AML	AML		14 24 30.0	
	comp=E,67nm,0.7s							
AKUM				*i* AML	AML		14 24 33.0	
	comp=N,69nm,0.7s							
KERG	**Konya-Eregli**	**2.46**	**23**	P	**Pn**		**14 23 52.2**	**+1.3**
KERG				S	**Sn**		**14 24 20.3**	**+0.4**
KERG				*i* AML	AML		14 24 24.0	
	comp=E,79nm,0.3s							
KERG				*i* AML	AML		14 24 25.0	
	comp=N,91nm,0.3s							
SEDI	**Konya, Seydise**	**2.49**	**338**	P	**Pn**		**14 23 52.5**	**+1.1**
SEDI				S	**Sn**		**14 24 22.1**	**+1.5**
SEDI				*i* AML	AML		14 24 26.0	
	comp=N,84nm,0.7s							
GULE	**Gulek**	**2.60**	**34**	P	**Pn**		**14 23 53.9**	**+1.1**
GULE				S	**Sn**		**14 24 24.3**	**+0.9**
GULE				*i* AML	AML		14 24 27.0	
	comp=N,114nm,0.6s							
GULE				*i* AML	AML		14 24 31.0	
	comp=E,174nm,0.5s							
HWQ	**Hawqa**	**2.62**	**108**	*eP*	**Pn**		**14 23 53.9**	**+0.8**
HNTI	**Hanita**	**2.77**	**137**	P	**Pn**		**14 23 54.9**	**-0.1**
HNTI	**Hanita**	**2.77**	**137**	Pn	**Pn**		**14 23 55.2**	**+0.2**
HNTI				Sn	**Sn**		**14 24 25.6**	**-1.6**
BUCA	**Burdur, Bucak-**	**2.91**	**319**	P	**Pn**		**14 23 58.4**	**+1.5**
RCY	**Rachaya**	**2.91**	**124**	*eP*	**Pn**		**14 23 57.1**	**+0.1**
MMA0B	**Mount Meron ar**	**2.95**	**135**	Pn	**Pn**		**14 23 57.6**	**+0.1**
MMA0B				Sn	**Sn**		**14 24 30.0**	**-1.7**
GEM	**Giv'at Ha'Em**	**2.97**	**130**	P	**Pn**		**14 23 57.8**	**+0.1**
GEM	**Giv'at Ha'Em**	**2.97**	**130**	Pn	**Pn**		**14 23 57.8**	**+0.1**
GEM				Sn	**Sn**		**14 24 30.4**	**-1.7**
NATI	**Neve Ativ**	**2.98**	**128**	P	**Pn**		**14 23 58.2**	**+0.3**
NATI	**Neve Ativ**	**2.98**	**128**	Pn	**Pn**		**14 23 58.6**	**+0.1**
NATI				Sn	**Sn**		**14 24 30.7**	**-1.7**
OFRI	**`Ofer**	**3.04**	**145**	P	**Pn**		**14 23 58.7**	**+0.1**
OFRI	**`Ofer**	**3.04**	**145**	Pn	**Pn**		**14 23 58.8**	**+0.1**
OFRI				Sn	**Sn**		**14 24 32.3**	**-1.6**
BLGI	**Bet Lehem HaGe**	**3.05**	**141**	Pn	**Pn**		**14 23 58.7**	**-0.1**
BLGI				Sn	**Sn**		**14 24 32.7**	**-1.3**
DOGA	**KONYA_Doganhis**	**3.13**	**341**	P	**Pn**		**14 24 00.5**	**+0.5**
SLTI	**Sal'it**	**3.38**	**148**	P	**Pn**		**14 24 05.5**	**+2.1**
SLTI	**Sal'it**	**3.38**	**148**	Pn	**Pn**		**14 24 04.3**	**+0.9**
SLTI				Sn	**Sn**		**14 24 41.0**	**-1.3**
MMLI	**Mount Malkishu**	**3.40**	**142**	Pn	**Pn**		**14 24 04.0**	**+0.4**
MMLI				Sn	**Sn**		**14 24 41.2**	**-1.5**
YVAC	**Isparta, Yalva**	**3.41**	**337**	P	**Pn**		**14 24 03.8**	**+0.1**
SALP	**Salfit**	**3.60**	**148**	Pn	**Pn**		**14 24 06.6**	**+0.3**
SALP				Sn	**Sn**		**14 24 46.2**	**-1.4**
HMDT	**Nahal Hemdat**	**3.60**	**142**	P	**Pn**		**14 24 07.0**	**+0.7**
HMDT	**Nahal Hemdat**	**3.60**	**142**	Pn	**Pn**		**14 24 07.4**	**+1.1**
HMDT				Sn	**Sn**		**14 24 47.0**	**-0.6**
AMAZ	**Amatzia**	**3.96**	**155**	Pn	**Pn**		**14 24 12.0**	**+0.7**
DSI	**Dead Sea**	**4.11**	**149**	P	**Pn**		**14 24 13.1**	**-0.2**
DSI	**Dead Sea**	**4.11**	**149**	Pn	**Pn**		**14 24 13.7**	**+0.4**
DSI				Sn	**Sn**		**14 24 58.8**	**-1.3**
YTIR	**Yattir**	**4.19**	**154**	Pn	**Pn**		**14 24 15.3**	**+0.8**
YTIR				Sn	**Sn**		**14 25 01.4**	**-0.8**
MDBI	**Mazsada**	**4.33**	**151**	P	**Pn**		**14 24 15.7**	**-0.5**
MDBI	**Mazsada**	**4.33**	**151**	Pn	**Pn**		**14 24 16.9**	**+0.7**
MDBI				Sn	**Sn**		**14 25 03.7**	**-1.6**
KZIT	**Kziot**	**4.40**	**163**	Pn	**Pn**		**14 24 17.3**	**0.0**
LISJ	**El Lisan**	**4.44**	**151**	P	**Pn**		**14 24 17.0**	**-0.8**
KARP	**Karpathos**	**4.74**	**277**	P	Pn		14 24 17.5	-4.4
PRNI	**Paran**	**5.08**	**159**	P	**Pn**		**14 24 26.4**	**-0.3**
	0.1nm23nm,0.8s							
PRNI	**Paran**	**5.08**	**159**	Pn	**Pn**		**14 24 27.3**	**+0.6**
PRNI				Sn	**Sn**		**14 25 23.4**	**-0.7**
KRMI	**Paran Flat**	**5.23**	**163**	P	Pn		14 24 25.2	-3.6
	0.1nm3.1nm,1.1s							
HRFI	**Mount Harif**	**5.39**	**160**	Pn	**Pn**		**14 24 30.9**	**0.0**
HRFI				Sn	**Sn**		**14 25 30.1**	**-1.6**
MBRI	**Mt Berech**	**5.59**	**162**	P	**Pn**		**14 24 33.3**	**-0.4**
	1.0nm2µm95nm,0.8s							
MBRI	**Mt Berech**	**5.59**	**162**	Pn	**Pn**		**14 24 34.2**	**+0.5**
MBRI				Sn	**Sn**		**14 25 35.4**	**-1.2**
EIL	**Elat**	**5.72**	**162**	P	**Pn**		**14 24 36.1**	**+0.7**
	0.0nm5.5nm,0.9s							
IDI	**Anoyia**	**6.59**	**274**	P	**Pn**		**14 24 45.0**	**-2.3**

WEL 26 14:23:53.4±0.3, 43°S±3°×17°3E±°, h5km, M3.0/21, ML3.3/12, MLv3.0/21, Error ellipse: s-maj=0.0km s-min=0.0km az=125.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.25**	**60**	P	P		Pg	14 23 58.3	+0.1
GVZ	**Greta Valley S**	**0.46**	**200**	P	P		Pb	14 24 03.1	-0.8
GVZ				S	S		Sb	14 24 10.5	-0.6
LTZ	**Lake Taylor**	**0.76**	**251**	P	P		Pg	14 24 08.2	+0.3
AMCZ	**Amberley**	**0.77**	**214**	P	P		Pb	14 24 08.9	-0.4
THZ	**Tophouse**	**0.82**	**342**	P	P		Pg	14 24 09.1	+0.1
BSWZ	**Blackbirch Sta**	**0.95**	**30**	P	P		Pg	14 24 11.6	+0.1
OXZ	**Oxford**	**1.19**	**228**	P	P		Pg	14 24 14.4	-1.7
OKCZ	**Okains Bay**	**1.19**	**187**	P	P		Pg	14 24 14.5	-1.7
MRNZ	**Matariki Terra**	**1.20**	**342**	P	P		Pg	14 24 15.8	-0.5
TUWZ	**Tuamarina**	**1.22**	**25**	P	P		Pg	14 24 16.4	-0.4
MQZ	**McQueen's Vall**	**1.25**	**200**	P	P		Pg	14 24 14.4	-2.8
NNZ	**Nelson**	**1.32**	**4**	P	P		Pn	14 24 17.8	-0.7
DSZ	**Denniston Nort**	**1.33**	**306**	P	P		Pn	14 24 18.0	-0.7
AKCZ	**Akaroa Harbour**	**1.36**	**190**	P	P		Pn	14 24 16.2	-2.7
RACZ	**Rakaia**	**1.44**	**214**	P	P		Pn	14 24 17.4	-2.7
TKNZ	**Takaka Hill**	**1.52**	**352**	P	P		Pn	14 24 21.1	-0.1
TCW	**Tory Channel**	**1.53**	**30**	P	P		Pn	14 24 19.9	-1.5
MHCZ	**Mount Hutt**	**1.58**	**231**	P	P		Pn	14 24 19.8	-2.3
WACZ	**Wakanui South**	**1.74**	**216**	P	P		Pn	14 24 21.6	-2.6
PLWZ	**Pallisei**	**1.78**	**58**	P	P		Pn	14 24 22.2	-2.6
QRZ	**Quartz Range**	**1.79**	**342**	P	P		Pn	14 24 25.2	+0.8
MSWZ	**Moikau Station**	**1.87**	**54**	P	P		Pn	14 24 23.4	-2.6
WVZ	**Waitaha Valley**	**1.92**	**253**	P	P		Pn	14 24 25.7	-1.0
RPZ	**Rata Peaks**	**1.99**	**233**	P	P		Pn	14 24 25.5	-2.2
TRWZ	**Traveller**	**2.15**	**59**	P	P		Pn	14 24 27.1	-2.7
MTW	**Mount Morrison**	**2.18**	**51**	P	P		Pn	14 24 27.4	-2.8
TMZ	**Timaru**	**2.46**	**221**	P	P		Pn	14 24 33.0	-1.1
ODZ	**Otahua Downs**	**3.13**	**216**	P	P		Pn	14 24 40.7	-2.7
VRZ	**Vera Road**	**3.60**	**19**	P	P		Pn	14 24 50.9	+1.2
TOZ	**Tahuroa Road**	**5.10**	**21**	P	P		Pn	14 25 12.5	+2.0
AWAZ	**Awhitu Peninsu**	**5.57**	**12**	P	P		Pn	14 25 20.0	+3.1
ETAZ	**East Tamaki Re**	**5.73**	**14**	P	P		Pn	14 25 19.0	0.0

*NNC **26** 14:37:58.4±0.7, 44°.79N×79°.55E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=4.7km s-min=3.8km az=44.0*
*SOME **26** 14:37:59.9, 44°.70N×79°.40E, h5km*

ISC 26 14:37:59.6±1.2, 44°.75N±0°.02×79°.49E±0°.02, h1km±13km, n62, σ1s12/103, 7C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.47**	**152**	*eP*	**Pg**			**14 38 08.8**	**+0.2**
DJR	255nm,0.1s			*eS*	**Sg**			**14 38 15.3**	**+0.7**
DJR	322nm,0.1s **Jarkent**	**0.47**	**152**	P	**Pg**			**14 38 08.8**	**+0.2**
DJR	258nm,0.1s			S	**Sg**			**14 38 15.4**	**+0.7**
TDK	480nm,0.3s **Taldyqorghan**	**0.81**	**289**	*eP*	**Pg**			**14 38 15.3**	**+0.1**
TDK	422nm,0.2s			*eS*	**Sg**			**14 38 26.0**	**+0.3**
TDK	1µm,0.1s **Taldyqorghan**	**0.81**	**289**	P	**Pg**			**14 38 15.3**	**+0.1**
TDK	422nm,0.2s			S	**Sg**			**14 38 26.0**	**+0.3**
BLB	1µm,0.3s **Baldybastay**	**0.97**	**228**	*eP*	**Pg**			**14 38 18.4**	**+0.2**
BLB	193nm,0.1s			*eS*	**Sg**			**14 38 31.8**	**+0.9**
BLB	458nm,0.1s **Baldybastay**	**0.97**	**228**	P	**Pg**			**14 38 19.0**	**+0.7**
BLB	193nm,0.1s			S	**Sb**			**14 38 32.6**	**-0.2**
ARXS	458nm,0.2s **Arharly**	**1.30**	**246**	*eP*	**Pn**			**14 38 24.1**	**-0.9**
ARXS	132nm,0.2s			*eS*	**Sg**			**14 38 41.8**	**+0.3**
ARXS	270nm,0.2s **Arharly**	**1.30**	**246**	P	**Pn**			**14 38 24.4**	**-0.6**
ARXS	132nm,0.2s			S	**Sg**			**14 38 41.8**	**+0.3**
KPKS	270nm,0.2s **Kokpek**	**1.41**	**205**	*eP*	**Pn**			**14 38 26.2**	**-0.3**
KPKS	152nm,0.1s			*eS*	**Sg**			**14 38 45.3**	**+0.6**
KPKS	510nm,0.3s **Kokpek**	**1.41**	**205**	P	**Pn**			**14 38 26.2**	**-0.3**
KPKS	152nm,0.1s			S	**Sg**			**14 38 45.3**	**+0.6**
PDGK	510nm,0.3s **Podgornoye**	**1.42**	**180**	P	**Pn**			**14 38 26.1**	**-0.6**
PDGK	18nm,0.1s			S	**Sb**			**14 38 45.2**	**-0.3**
PDGK	35nm,0.2s **Podgornoye**	**1.42**	**180**	⇓P	**Pn**			**14 38 25.2**	**-1.5**
PDGK	19nm,0.5s			⇑S	**Sb**			**14 38 44.9**	**-0.6**
KTMS	43nm,0.6s **Ketmen**	**1.44**	**154**	*eP*	**Pn**			**14 38 25.8**	**-1.3**
KTMS	43nm,0.2s			*eS*	**Sb**			**14 38 44.6**	**-1.6**
KTMS	60nm,0.1s **Ketmen**	**1.44**	**154**	P	**Pn**			**14 38 25.7**	**-1.3**
KTMS	43nm,0.2s			S	**Sb**			**14 38 44.6**	**-1.6**
KURS	55nm,0.3s **Kuram**	**1.58**	**218**	*eP*	**Pb**			**14 38 29.5**	**-0.1**
KURS	50nm,0.1s			*eS*	**Sg**			**14 38 50.9**	**+0.6**
KURS	263nm,0.1s **Kuram**	**1.58**	**218**	P	**Pb**			**14 38 29.7**	**+0.1**
KURS	46nm,0.2s			S	**Sg**			**14 38 50.8**	**+0.6**
SHLS	258nm,0.2s **Shalkode**	**1.59**	**181**	*eP*	**Pn**			**14 38 29.4**	**+0.4**
SHLS	39nm,0.2s			*eS*	**Sg**			**14 38 50.7**	**0.0**
SHLS	73nm,0.3s **Shalkode**	**1.59**	**181**	P	**Pn**			**14 38 29.5**	**+0.4**
SHLS	39nm,0.2s			S	**Sg**			**14 38 50.7**	**0.0**
UZB	73nm,0.3s **Uzynbulak**	**1.63**	**192**	*eP*	**Pn**			**14 38 29.9**	**+0.3**
UZB	22nm,0.2s			*eS*	**Sb**			**14 38 51.7**	**-0.1**
UZB	247nm,0.2s **Uzynbulak**	**1.63**	**192**	P	**Pn**			**14 38 29.9**	**+0.3**
UZB	22nm,0.2s			S	**Sb**			**14 38 51.7**	**-0.1**
ZHN	247nm,0.2s **Zhinishke**	**1.75**	**206**	*eP*	**Pb**			**14 38 32.3**	**-0.3**
ZHN	41nm,0.1s			*eS*	**Sg**			**14 38 55.6**	**-0.3**
ZHN	816nm,0.1s **Zhinishke**	**1.75**	**206**	P	**Pb**			**14 38 32.3**	**-0.3**
ZHN	41nm,0.1s			S	**Sg**			**14 38 55.6**	**-0.3**
SATY	816nm,0.3s **Saty**	**1.86**	**205**	*eP*	**Pb**			**14 38 34.6**	**+0.1**
	75nm,0.1s								
SATY				*eS*	**Sg**			**14 38 59.7**	**+0.4**
	471nm,0.1s								
SATY	**Saty**	**1.86**	**205**	P	**Pb**			**14 38 34.6**	**+0.1**
	75nm,0.1s								
SATY				S	**Sg**			**14 38 59.7**	**+0.4**
	471nm,0.1s								
CHKK	**Chushkaly**	**2.00**	**244**	*eP*	**Pn**			**14 38 35.7**	**+1.0**
	25nm,0.0s								
CHKK				*eS*	**Sb**			**14 39 01.9**	**-0.4**
	338nm,0.1s								
CHKK	**Chushkaly**	**2.00**	**244**	Pg	**Pn**			**14 38 35.7**	**+1.0**
	22nm,0.2s								
CHKK				Lg	Lg			14 39 01.9	
	337nm,0.1s								
KTBS	**Karatobe**	**2.27**	**244**	*eP*	**Pb**			**14 38 40.8**	**-0.5**
	39nm,0.3s								
KTBS				*eS*	**Sb**			**14 39 10.5**	**+0.6**
	212nm,0.4s								
KTBS	**Karatobe**	**2.27**	**244**	Pg	**Pb**			**14 38 40.8**	**-0.5**
	39nm,0.2s								
KTBS				Lg	Lg			14 39 10.5	
	212nm,0.4s								
KOTS	**Kotyrbulak**	**2.29**	**229**	*eP*	**Pb**			**14 38 42.0**	**+0.3**
	20nm,0.2s								
KOTS				*eS*	**Sg**			**14 39 12.5**	**-0.6**
	331nm,0.3s								
KOTS	**Kotyrbulak**	**2.29**	**229**	Pg	**Pb**			**14 38 42.2**	**+0.4**
	20nm,0.2s								
KOTS				Lg	Lg			14 39 12.8	
	331nm,0.3s								
MDOK	**Medeo**	**2.37**	**229**	*eP*	**Pb**			**14 38 43.0**	**-0.2**
	40nm,0.5s								
MDOK				*eS*	**Sb**			**14 39 14.1**	**+1.2**
	144nm,0.4s								
MDOK	**Medeo**	**2.37**	**229**	Pn	**Pb**			**14 38 41.6**	**-1.6**
	30nm,0.6s								
MDOK				Pg	**Pb**			**14 38 43.0**	**-0.2**
	40nm,0.5s								
MDOK				Sn	**Sb**			**14 39 13.3**	**+0.3**
	158nm,0.7s								
MDOK				Lg	Lg			14 39 14.1	
	144nm,0.4s								
KNDC	**Almaty**	**2.38**	**231**	⇓Pg	**Pb**			**14 38 43.4**	**+0.1**
	34nm,0.5s								
KNDC				⇓Lg	Lg			14 39 19.4	
	222nm,0.5s								
AAA	**Alma-Ata**	**2.41**	**231**	*eP*	**Pb**			**14 38 44.3**	**+0.5**
	48nm,0.1s								
AAA				*eS*	**Sg**			**14 39 16.3**	**-0.8**
	213nm,0.2s								
AAA	**Alma-Ata**	**2.41**	**231**	Pg	**Pb**			**14 38 44.3**	**+0.5**
	48nm,0.2s								
AAA				Lg	Lg			14 39 16.3	
	212nm,0.2s								
KUU	**Kurty**	**2.42**	**250**	*eP*	**Pb**			**14 38 42.7**	**-1.2**
	11nm,0.2s								
KUU				*eS*	**Sb**			**14 39 14.1**	**-0.1**
	130nm,0.4s								
KUU	**Kurty**	**2.42**	**250**	Pg	**Pb**			**14 38 42.7**	**-1.2**
	11nm,0.2s								
KUU				Lg	Lg			14 39 14.6	
	130nm,0.4s								
TNSS	**Tian-Shan**	**2.51**	**228**	*eP*	**Pb**			**14 38 45.8**	**+0.1**
	23nm,0.3s								
TNSS				*eS*	**Sb**			**14 39 18.6**	**+1.3**
	39nm,0.5s								
TNSS	**Tian-Shan**	**2.51**	**228**	Pg	**Pb**			**14 38 46.0**	**+0.2**
	23nm,0.3s								
TNSS				Lg	Lg			14 39 18.6	
	39nm,0.3s								
MAKZ	**Makanchi**	**2.70**	**39**	⇓Pg	**Pn**			**14 38 43.4**	**-0.8**
	2.6nm,0.5s								
MAKZ				⇓Lg	Lg			14 39 17.6	
	13nm,0.3s								
MTBS	**Maitube**	**2.74**	**235**	*eP*	**Pb**			**14 38 49.5**	**+0.1**
	17nm,0.2s								
MTBS				*eS*	**Sb**			**14 39 25.2**	**+1.7**
	238nm,0.3s								
MTBS	**Maitube**	**2.74**	**235**	Pg	**Pb**			**14 38 49.5**	**+0.1**
	17nm,0.2s								
MTBS				Lg	Lg			14 39 25.2	
	238nm,0.3s								
MK31	**Makanchi Array**	**2.84**	**43**	⇑Pg	**Pn**			**14 38 45.2**	**-0.9**
	1.0nm,0.1s,baz=217,slow=15								
MK31				⇑Lg	Lg			14 39 25.7	
	26nm,0.3s,baz=218,slow=27								
KRBS	**Karabastau**	**2.94**	**250**	*eP*	**Pb**			**14 38 52.3**	**-0.5**
	16nm,0.4s								
KRBS				*eS*	**Sb**			**14 39 30.1**	**+0.9**
	40nm,0.1s								
KRBS	**Karabastau**	**2.94**	**250**	Pg	**Pb**			**14 38 51.7**	**-1.1**
	16nm,0.4s								
KRBS				Lg	Lg			14 39 30.1	
	38nm,0.2s								
KST	**Kastek**	**3.06**	**237**	*eP*	**Pb**			**14 38 55.1**	**0.0**
	15nm,0.1s								
KST				*eS*	**Sb**			**14 39 34.9**	**+1.9**
	50nm,0.2s								
KST	**Kastek**	**3.06**	**237**	Pg	**Pb**			**14 38 55.1**	**0.0**
	15nm,0.5s								
KST				Lg	Lg			14 39 34.9	
	50nm,0.4s								
DGS	**Degeres**	**3.07**	**242**	*eP*	**Pb**			**14 38 55.2**	**0.0**
	33nm,4.6s								
DGS				*eS*	**Sb**			**14 39 34.7**	**+1.5**
	76nm,0.5s								
DGS	**Degeres**	**3.07**	**242**	Pg	**Pb**			**14 38 55.2**	**0.0**
	30nm,0.2s								
DGS				Lg	Lg			14 39 34.7	
	76nm,0.5s								
TKM2	**Tokmak 2**	**3.35**	**238**	⇓Pn	**Pn**			**14 38 54.1**	**+0.7**
	5.8nm,0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.08**	**267**	P	P	14 54 45.4	0.0
	0.5nm,1.1s,baz=111,slow=6.6,SNR=2.6 0.5nm,1.1s						
WRA	**Warramunga Arr**	**44.06**	**272**	P	P	14 54 53.1	-0.3
	0.4nm,0.7s,baz=110,slow=8.0,SNR=8.8 0.4nm,0.7s						
FINES	**FINESS Array B**	**145.08**	**340**	PKPbc	PKPbc	15 06 20.7	-0.8
	1.4nm,0.7s,baz=29,slow=4.4,SNR=5.2						

*IDC **26** 14:51:36.2±1.2,37.26N×141.78E,h0km,mb3.5/6, mbtmp3.6/8,ML3.4/2,MS2.9/1,Error ellipse: s-maj=28.0km s-min=21.8km az=89.0*

*NIED **26** 14:51:39.7,37.21N×141.54E,h31km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.97; $M_{\theta\theta}$=0.63; $M_{\phi\phi}$ 1.34; $M_{r\theta}$=1.20; $M_{\theta\phi}$ 1.29; $M_{\phi r}$=0.31; Fault plane solution: $M_0$2.49000×10^{14} NP1:ϕ_s13.00000°, δ44.00000°,λ:-129.00000°. NP2:ϕ_s242.00000°, δ57.00000°,λ:-58.00000°.*

*JMA **26** 14:51:39.7±0.1,37.2N±0.3×141.5E±0.7,h31km±1km, MV3.9/39,E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

ISC 26 14:51:38.0±1.8,37.21N±0.04×141.60E±0.07,h9km±10km, n32,σ1§27/35,mb3.6/6,2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**285**	*i* P	**Pb**	**14 51 50.7**	**+0.1**
JFK				S	**Sg**	14 51 58.2	**+0.7**
JMST	**Minamisoumatoc**	**0.76**	**312**	*i* P	**Pb**	14 51 53.2	**-0.2**
JMST				S	**Sg**	14 52 02.7	**0.0**
JFFD	**Fukushimafurud**	**0.84**	**262⇓**	*i* P	**Pg**	14 51 54.4	**+0.2**
JFFD				⇓S	**Sg**	14 52 04.6	**-0.5**
JMM	**Marumori**	**0.91**	**316**	P	**Pg**	14 51 55.7	**+0.1**
JMM	**Marumori**	**0.91**	**316**	*i* P	**Pg**	14 51 55.6	**0.0**
JMM				S	**Sg**	14 52 06.7	**-0.8**
JHO	**Hitachi**	**1.02**	**234**	*i* P	**Pg**	14 51 57.0	**-0.6**
JHO				S	**Sg**	14 52 09.9	**-1.1**
JIO	**Ouri**	**1.25**	**351**	*i* P	**Pn**	14 52 01.0	**-0.7**
JIO				S	**Sb**	14 52 16.6	**-1.5**
JOU	**Okura**	**1.37**	**327**	*i* P	**Pb**	14 52 03.4	**-0.3**
JOU				S	**Sb**	14 52 20.9	**-0.5**
JFY	**Yanaizu**	**1.52**	**278**	*i* P	**Pn**	14 52 05.8	**+0.4**
JFY				S	**Sn**	14 52 24.6	**-0.7**
JSD	**Sado**	**2.78**	**288**	P	**Pn**	14 52 23.6	**+1.0**
MJAR	**Matsushiro Arr**	**2.80**	**257**	Pn	**Pn**	14 52 23.4	**+0.4**
	1.1nm,0.3s,baz=78,slow=17,SNR=93						
MJAR				Sn	**Sb**	**14 53 01.7**	**-0.9**
	1.2nm,0.3s,baz=206,slow=32,SNR=4.1 7.5nm,0.4s						
MAJO	**Matsushiro**	**2.80**	**257**	P	**Pn**	14 52 24.9	**+1.9**
JTM	**Tenmabayashi**	**3.59**	**354**	P	**Pn**	14 52 36.2	**+2.4**
JGF	**Kuroka**	**3.78**	**246**	P	**Pn**	14 52 38.5	**+2.0**
INU	**Inuyama**	**4.14**	**245**	P	**Pn**	14 52 44.1	**+2.7**
JHJ2	**Mitsune**	**4.35**	**200**	P	**Pn**	14 52 45.8	**+1.6**
JHJ	**Hachijo jima 2**	**4.35**	**201**	Pn	**Pn**	14 52 44.1	**-0.1**
	22nm,0.3s,baz=68,slow=22,SNR=9.6						
JHJ				Sn	**Sn**	**14 53 34.0**	**-1.0**
	15nm,0.3s,baz=62,slow=21,SNR=1.5 45nm,0.3s						
ERM	**Erimo**	**4.94**	**14**	P	**Pn**	14 52 55.0	**+2.6**
JEM	**Erimo**	**4.94**	**14**	P	**Pn**	14 52 55.0	**+2.6**
PETK	**Petropavlovsk-**	**19.46**	**30**	LR	LR	15 04 32.7	
	comp=Z,33nm,18.5s,baz=106,slow=40						
SONM	**Songino Array**	**27.81**	**304**	P	**P**	**14 57 28.1**	**+0.7**
	0.6nm,0.8s,baz=85,slow=6.2,SNR=2.9 0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	15 26 56.1	
	baz=314,slow=75,SNR=110						
H11N1	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	15 26 58.4	
	baz=314,slow=75,SNR=100						
H11N3	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	15 26 59.7	
	baz=314,slow=75,SNR=83						
H11S1	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	15 27 50.6	
	baz=316,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	15 27 48.9	
	baz=316,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	15 27 51.8	
	baz=316,slow=76,SNR=32						
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**14 59 47.4**	**+0.5**
	1.2nm,1.1s,baz=93,slow=10,SNR=3.4 1.2nm,1.1s						
ILAR	**Eielson Array**	**49.26**	**32**	P	**P**	**15 00 25.1**	**-1.4**
	0.3nm,1.0s,baz=248,slow=4.8,SNR=2.0 0.3nm,1.0s						
WRA	**Warramunga Arr**	**57.26**	**188**	P	**P**	**15 01 26.1**	**+0.3**
	0.4nm,0.5s,baz=4.8,slow=7.1,SNR=14 0.4nm,0.5s						
ASAR	**Alice Springs**	**60.99**	**188**	P	**P**	**15 01 51.8**	**+0.1**
	0.5nm,1.0s,baz=360,slow=4.9,SNR=4.9 0.5nm,1.0s						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**15 03 15.0**	**-0.1**
	0.2nm,0.3s,baz=45,slow=6.8,SNR=4.1 0.2nm,0.3s						

KRSC 26 15:01:37.4±1.5,55.10N×164.81E,h48km±24km,ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.67**	**81**	*eP*	Pn	15 01 51.6	+0.9
BKI				*eS*	Sn	15 02 01.1	+0.8
KBTR	**Krutoberegovo**	**1.58**	**315**	*eP*	Pn	15 02 03.6	+0.6
KBTR				*eS*	Sn	15 02 22.0	-0.3
KBG	**Krutoberegovo**	**1.66**	**315**	*eP*	Pn	15 02 04.8	+0.7
KBG				*eS*	Sn	15 02 24.2	0.0
MKZ	**Mys Kozlova**	**1.86**	**254**	*eP*	Pn	15 02 09.8	+3.0
MKZ				*eS*	Sn	15 02 31.8	+2.7
SMKR	**Semkarok**	**2.40**	**310**	*eP*	Pn	15 02 16.7	+2.4
SMKR				*eS*	Sn	15 02 44.5	+2.0
BZGR	**Bezymyannyi-Gr**	**2.49**	**291**	*eS*	Sn	15 02 49.7	+5.0
BDR	**Baidarnaya**	**2.51**	**307**	*eS*	Sn	15 02 49.5	+4.3
TUMD	**Tumrok D**	**2.54**	**274**	*eP*	Pn	15 02 19.9	+3.8
TUMD				*eS*	Sn	15 02 50.0	+4.3
SRKR	**Sorokina**	**2.58**	**309**	*eP*	Pn	15 02 19.6	+2.9
SRKR				*eS*	Sn	15 02 50.5	+3.7
BZWR	**Bezymyannyi-We**	**2.60**	**291**	*eS*	Sn	15 02 51.8	+4.2
KLY	**Klyuchi**	**2.65**	**299**	*eP*	Pn	15 02 19.9	+2.3
KLY				*eS*	Sn	15 02 50.6	+2.2
KIRR	**Kirishev**	**2.68**	**290**	*eS*	Sn	15 02 51.8	+2.3
TUMR	**Tumrok**	**2.68**	**276**	P	Pn	15 02 22.4	+4.2
KMNR	**Kamenistaya**	**2.69**	**286**	*eP*	Pn	15 02 23.1	+4.8
KMNR				S	Sn	15 02 55.4	+5.8
KPT	**Kopyto**	**2.75**	**290**	P	Pn	15 02 23.5	+4.4
KOZ	**Kozyrevsk**	**2.96**	**291**	P	Pn	15 02 27.0	+5.1
SRDR	**Sredinnyy**	**3.13**	**295**	*eP*	Pn	15 02 28.8	+4.5
SRDR				*eS*	Sn	15 03 05.1	+4.7
SPN	**Mys Shipunski**	**3.46**	**237**	*eP*	Pn	15 02 31.4	+2.7
SPN				*eS*	Sn	15 03 09.7	+1.3
SDLR	**Sedlovina**	**3.93**	**245**	P	Pn	15 02 40.2	+4.9
SMAR	**Somma**	**3.98**	**245**	P	Pn	15 02 40.8	+4.7
KRER	**Koryakskii**	**3.99**	**246**	*eP*	Pn	15 02 41.2	+5.0
UGLR	**Uglovaya**	**4.00**	**244**	P	Pn	15 02 40.6	+4.4
KOK	**Koryaka**	**4.05**	**246**	*eP*	Pn	15 02 41.8	+4.8
DALK	**Dalny**	**4.13**	**242**	P	Pn	15 02 41.8	+3.9
PET	**Petropavlovsk**	**4.18**	**243**	P	Pn	15 02 42.7	+4.1
GNL	**Ganaly**	**4.25**	**253**	P	Pn	15 02 44.6	+4.9
KRMR	**Karymshinskiy**	**4.55**	**243**	*eP*	Pn	15 02 48.1	+4.4
KRMR				S	Sn	15 03 38.4	+3.1
RUS	**Russkaya**	**4.59**	**237**	*eP*	Pn	15 02 47.7	+3.5
RUS				*eS*	Sn	15 03 37.0	+0.7
MTVR	**Mutnovka**	**4.72**	**239**	*eP*	Pn	15 02 50.5	+4.3
MTVR				*eS*	Sn	15 03 41.9	+2.2
GRL	**Gorelyy**	**4.74**	**240**	*eP*	Pn	15 02 51.0	+4.6
KDTR	**Khodutka, Kamc**	**5.20**	**233**	P	Pn	15 02 56.0	+3.4

*NOU **26** 15:14:21.8,42.47S×173.88E,h8km,MLv4.1/11,South Island, New Zealand*

*WEL **26** 15:14:23.5±0.3,42.2S×17.4E±,h5km,M3.6/37, ML3.9/13,MLv3.6/37,Error ellipse: s-maj=0.0km s-min=0.0km az=121.2*

ISC 26 15:14:23.1±1.2,42.33S±0.03×173.76E±0.04,h21km±3km, n78,σ1§23/80,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**243**	P	**Pb**	**15 14 27.8**	**-1.1**
KHZ	**Kahutara**	**0.18**	**243**	P	**Pb**	15 14 27.7	-1.2
BSWZ	**Blackbirch Sta**	**0.62**	**8**	P	**Pb**	15 14 34.4	-1.0
BSWZ				S	**Sb**	15 14 42.5	-1.3
CMWZ	**Cape Campbell**	**0.68**	**30**	P	**Pn**	15 14 37.3	-0.1
GVZ	**Greta Valley S**	**0.83**	**220**	P	**Pn**	15 14 40.4	+0.8
THZ	**Tophouse**	**0.85**	**312**	P	**Pb**	15 14 37.4	-1.8
THZ				S	**Sb**	15 14 47.2	-3.0
TUWZ	**Tuamarina**	**0.92**	**9**	P	**Pb**	15 14 39.7	-0.5
NNZ	**Nelson**	**1.15**	**346**	P	**Pn**	15 14 43.0	-1.0
AMCZ	**Amberley**	**1.17**	**224**	P	**Pn**	15 14 44.9	+0.3
LTZ	**Lake Taylor**	**1.19**	**247**	P	**Pn**	15 14 44.3	-0.2
TCW	**Tory Channel**	**1.19**	**19**	P	**Pn**	15 14 44.6	+0.1
MRNZ	**Matariki Terra**	**1.20**	**321**	P	**Pn**	15 14 44.0	-0.6
SNZO	**South Karori**	**1.24**	**35**	P	**Pn**	15 14 45.8	0.0
PLWZ	**Palliser**	**1.35**	**56**	P	**Pn**	15 14 47.1	+0.4
TKNZ	**Takaka Hill**	**1.43**	**335**	P	**Pn**	15 14 47.9	0.0
MSWZ	**Moikau Station**	**1.44**	**51**	P	**Pn**	15 14 48.3	+0.3
OKCZ	**Okains Bay**	**1.48**	**200**	P	**Pn**	15 14 49.2	-0.7
DUWZ	**D'Urville Isla**	**1.54**	**5**	P	**Pn**	15 14 49.6	+0.3
PAWZ	**Paruwai Farm**	**1.57**	**53**	P	**Pn**	15 14 49.9	+0.2
CAW	**Cannon Point**	**1.57**	**39**	P	**Pn**	15 14 50.2	+0.5
DSZ	**Denniston Nort**	**1.57**	**291**	P	**Pn**	15 14 50.3	+0.5
MQZ	**McQueen's Vall**	**1.59**	**210**	P	**Pn**	15 14 49.7	-0.3
MQZ				P	**Pn**	15 14 49.7	-0.3
OXZ	**Oxford**	**1.61**	**231**	P	**Pn**	15 14 49.8	-0.4
AKCZ	**Akaroa Harbour**	**1.66**	**202**	P	**Pn**	15 14 51.2	+0.3
KIW	**Kapiti Island**	**1.71**	**31**	P	**Pn**	15 14 52.3	+0.7
TRWZ	**Traveller**	**1.72**	**58**	P	**Pn**	15 14 51.6	-0.2
INZ	**Inchbonnie**	**1.75**	**256**	P	**Pn**	15 14 52.8	+0.6
MTW	**Mount Morrison**	**1.76**	**49**	P	**Pn**	15 14 52.2	-0.1
QRZ	**Quartz Range**	**1.77**	**328**	P	**Pn**	15 14 53.9	-0.9
QRZ	**Quartz Range**	**1.77**	**328**	P	**Pb**	15 14 53.8	-0.9
RACZ	**Rakaia**	**1.83**	**220**	P	**Pn**	15 14 53.0	-0.3
OGWZ	**Otaki Gorge**	**1.85**	**35**	P	**Pn**	15 14 54.0	+0.4
MHCZ	**Mount Hutt**	**2.00**	**233**	P	**Pn**	15 14 55.2	-0.6
TMWZ	**Te Maipa**	**2.01**	**53**	P	**Pn**	15 14 55.5	-0.4
WACZ	**Wakanui South**	**2.13**	**221**	P	**Pn**	15 14 57.3	-0.2
MRZ	**Mangatainoka R**	**2.16**	**40**	P	**Pn**	15 14 57.7	-0.1
WVZ	**Waitaha Valley**	**2.35**	**251**	P	**Pn**	15 15 00.8	+0.4
RPZ	**Rata Peaks**	**2.42**	**234**	P	**Pn**	15 15 01.2	-0.2
RPZ	**Rata Peaks**	**2.42**	**234**	P	**Pn**	15 15 01.1	-0.2
BFZ	**Birch Farm**	**2.49**	**49**	P	**Pn**	15 15 01.8	-0.6
GCSZ	**Gaunt Creek Bo**	**2.71**	**248**	P	**Pn**	15 15 06.0	+0.6
WAZ	**Wanganui**	**2.74**	**20**	P	**Pn**	15 15 08.3	+2.5
TSZ	**Takapari Road**	**2.82**	**37**	P	**Pn**	15 15 06.5	-0.4
TMZ	**Timaru**	**2.87**	**223**	P	**Pn**	15 15 07.4	-0.2
KHEZ	**Kahui Hut**	**3.04**	**4**	P	**Pb**	15 15 13.9	-2.7
KHEZ	**Kahui Hut**	**3.04**	**4**	P	**Pb**	15 15 16.4	-0.1
NBEZ	**Newall Road No**	**3.06**	**2**	P	**Pb**	15 15 16.6	-0.3
FOZ	**Fox Glacier**	**3.13**	**246**	P	**Pn**	15 15 11.8	+0.6
MOVZ	**Moawhango**	**3.29**	**28**	P	**Pn**	15 15 15.6	+2.1
VRZ	**Vera Road**	**3.29**	**14**	P	**Pn**	15 15 15.5	+2.0
LBZ	**Lake Benmore**	**3.32**	**231**	P	**Pn**	15 15 13.9	+0.1
BHHZ	**Black Hill Sta**	**3.34**	**32**	P	**Pn**	15 15 14.3	+0.3
WHVZ	**Whangaehu Hut**	**3.35**	**25**	P	**Pn**	15 15 16.0	+1.6
SNVZ	**South Ngauruho**	**3.45**	**25**	P	**Pn**	15 15 18.4	+2.6
NNVZ	**North Ngauruho**	**3.50**	**24**	P	**Pb**	15 15 20.7	-3.7
WTVZ	**West Tongariro**	**3.50**	**24**	P	**Pn**	15 15 19.6	+3.2
ODZ	**Otahua Downs**	**3.53**	**219**	P	**Pn**	15 15 16.1	-0.5
ODZ	**Otahua Downs**	**3.53**	**219**	P	**Pn**	15 15 16.1	-0.5
BKZ	**Black Stump Fm**	**3.79**	**34**	P	**Pn**	15 15 21.5	+1.2
HIZ	**Hauiti**	**3.91**	**13**	P	**Pn**	15 15 24.5	+2.6
HIZ	**Hauiti**	**3.91**	**13**	P	**Pn**	15 15 24.5	+2.6
JCZ	**Jackson Bay**	**4.03**	**243**	P	**Pn**	15 15 23.7	+0.1
JCZ	**Jackson Bay**	**4.03**	**243**	P	**Pn**	15 15 24.0	+0.4
HHSZ	**Highcliff Hill**	**4.22**	**212**	P	**Pn**	15 15 26.2	+0.1
EAZ	**Earnscleugh**	**4.33**	**227**	P	**Pn**	15 15 27.3	-0.4
TUZ	**Tuapeka**	**4.68**	**218**	P	**Pn**	15 15 32.2	-0.2
TOZ	**Tahuroa Road**	**4.79**	**17**	P	**Pn**	15 15 34.7	+0.7
URZ	**Urewera**	**4.81**	**33**	P	**Pn**	15 15 33.5	-0.7
URZ	**Urewera**	**4.81**	**33**	P	**Pn**	15 15 33.6	-0.7
TKGZ	**Te Karaka**	**4.99**	**40**	P	**Pn**	15 15 35.9	-0.8
AWAZ	**Awhitu Peninsu**	**5.31**	**8**	P	**Pn**	15 15 42.6	+1.5
MKAZ	**Moumakai**	**5.33**	**12**	P	**Pn**	15 15 42.1	+0.7
SYZ	**Scrubby Hill**	**5.35**	**217**	P	**Pn**	15 15 42.0	+0.4
SYZ	**Scrubby Hill**	**5.35**	**217**	P	**Pn**	15 15 41.7	+0.1
ETAZ	**East Tamaki Re**	**5.45**	**10**	P	**Pn**	15 15 44.6	+1.6
MBAZ	**Motutapu North**	**5.63**	**9**	P	Pn	15 15 50.0	+4.5
APZ	**The Paps**	**6.10**	**221**	P	**Pn**	15 15 52.1	+0.2
OUZ	**Omahuta**	**7.11**	**359**	P	**Pn**	**15 16 08.9**	**+3.1**

*WEL **26** 15:43:00,42.20S×173.53E,h10km,ML4.1,Mw3.7, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}1.11; $M_{\theta\theta}$1.28; $M_{\phi\phi}$-2.38; $M_{r\theta}$0.51; $M_{\theta\phi}$-3.82; $M_{\phi r}$-0.47; Fault plane solution: $M_0$4.32000×10^{14} NP1: ϕ_s76.00000°,δ79.00000°,λ171.00000°. NP2: ϕ_s168.00000°,δ81.00000°,λ11.00000°. Principal axes: T -47.9300, Plg14.0000°, Azm32.0000°; N 38.5300, Plg76.0000°, Azm206.0000°; P 9.3900, Plg1.0000°, Azm302.0000°;*

*WEL **26** 15:43:29.4±0.3,42.2S±2.2×17.4E±,h5km,M3.8/34, ML4.0/17,MLv3.8/34 Error ellipse: s-maj=0.0km s-min=0.0km az=122.4*

*NOU **26** 15:43:29.1,42.40S×173.77E,h14km,MLv4.3/12,South Island, New Zealand*

ISC 26 15:43:29.4±0.9,42.22S±0.03×173.53E±0.03,h10km,n110, σ1§51/111,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**178**	P	**Pg**	**15 45 34.5**	**+0.9**
KHZ	**Kahutara**	**0.20**	**178**	P	**Pg**	15 45 34.5	+0.9
KHZ				S	**Sg**	15 45 38.2	+1.7
BSWZ	**Blackbirch Sta**	**0.56**	**27**	P	**Pg**	15 45 40.4	+0.1
BSWZ				S	**Sb**	15 45 48.9	-0.5
THZ	**Tophouse**	**0.65**	**314**	P	**Pb**	15 45 42.2	-0.7
CMWZ	**Cape Campbell**	**0.69**	**48**	P	**Pb**	15 45 43.7	+0.1
GVZ	**Greta Valley S**	**0.84**	**206**	P	**Pb**	15 45 46.5	+0.5
TUWZ	**Tuamarina**	**0.84**	**21**	P	**Pb**	15 45 45.5	-0.6
MRNZ	**Matariki Terra**	**1.00**	**324**	P	**Pb**	15 45 48.6	-0.2
NNZ	**Nelson**	**1.00**	**353**	P	**Pg**	15 45 48.1	-0.6
LTZ	**Lake Taylor**	**1.09**	**238**	P	**Pb**	15 45 50.0	-0.4
TCW	**Tory Channel**	**1.15**	**29**	P	**Pb**	15 45 50.5	-0.8
AMCZ	**Amberley**	**1.16**	**214**	P	**Pb**	15 45 50.8	-0.7
TKNZ	**Takaka Hill**	**1.26**	**340**	P	**Pb**	15 45 52.8	-0.4
SNZO	**South Karori**	**1.26**	**45**	P	**Pn**	15 45 52.4	-0.6
WEL	**Wellington**	**1.31**	**45**	P	**Pg**	15 45 53.1	-0.7
DSZ	**Denniston Nort**	**1.37**	**290**	P	**Pg**	15 45 53.9	-0.4
PLWZ	**Palliser**	**1.44**	**54**	P	**Pg**	15 45 53.9	-1.7
DUWZ	**D'Urville Isla**	**1.44**	**12**	P	**Pn**	15 45 55.3	-0.3
MSWZ	**Moikau Station**	**1.51**	**59**	P	**Pn**	15 45 55.0	-1.5
OKCZ	**Okains Bay**	**1.55**	**193**	P	**Pn**	15 45 55.7	-1.3
OXZ	**Oxford**	**1.56**	**224**	P	**Pn**	15 45 55.7	-1.5
QRZ	**Quartz Range**	**1.58**	**331**	P	**Pb**	15 45 58.2	-0.5
QRZ	**Quartz Range**	**1.58**	**331**	P	**Pb**	15 45 58.4	-0.3
CAW	**Cannon Point**	**1.60**	**47**	P	**Pn**	15 45 56.6	-1.1
MQZ	**McQueen's Vall**	**1.62**	**203**	P	**Pn**	15 45 55.9	-2.2
PAWZ	**Paruwai Farm**	**1.64**	**60**	P	**Pn**	15 45 56.6	-1.8
KIW	**Kapiti Island**	**1.70**	**38**	P	**Pn**	15 45 58.6	-0.5
AKCZ	**Akaroa Harbour**	**1.72**	**195**	P	**Pn**	15 45 57.6	-1.7
TRWZ	**Traveller**	**1.81**	**64**	P	**Pn**	15 45 58.6	-2.0
MTW	**Mount Morrison**	**1.81**	**55**	P	**Pn**	15 45 58.5	-2.2
RACZ	**Rakaia**	**1.82**	**214**	P	**Pn**	15 45 59.0	-1.8
OGWZ	**Otaki Gorge**	**1.86**	**42**	P	**Pn**	15 44 00.3	-1.0
MHCZ	**Mount Hutt**	**1.95**	**227**	P	**Pn**	15 44 01.0	-1.6
TMWZ	**Te Maipa**	**2.09**	**59**	P	**Pn**	15 44 02.2	-2.3
WACZ	**Wakanui South**	**2.12**	**215**	P	**Pn**	15 44 03.1	-1.8
MRZ	**Mangatainoka R**	**2.19**	**45**	P	**Pn**	15 44 04.2	-1.6
WVZ	**Waitaha Valley**	**2.23**	**246**	P	**Pn**	15 44 06.5	0.0
RPZ	**Rata Peaks**	**2.36**	**230**	P	**Pn**	15 44 07.3	-0.9
RPZ	**Rata Peaks**	**2.36**	**230**	P	**Pn**	15 44 06.9	-1.2
OHWZ	**Ohakea**	**2.42**	**34**	P	**Pn**	15 44 09.6	+0.6
POWZ	**Post Office Ro**	**2.48**	**43**	P	**Pn**	15 44 08.5	-1.4
GCSZ	**Gaunt Creek Bo**	**2.60**	**244**	P	**Pn**	15 44 12.5	+1.0
WAZ	**Wanganui**	**2.69**	**25**	P	**Pn**	15 44 14.2	+1.4
ANWZ	**Angora Road**	**2.83**	**53**	P	**Pg**	15 44 26.0	+2.4
LREZ	**Lake Rotokare**	**2.83**	**14**	P	**Pb**	15 44 18.6	-1.4
TSZ	**Takapari Road**	**2.83**	**41**	P	**Pn**	15 44 12.8	-1.9
TMZ	**Timaru**	**2.84**	**220**	P	**Pn**	15 44 13.3	-1.6
KHEZ	**Kahui Hut**	**2.94**	**7**	P	**Pn**	15 44 18.2	+1.9
KHEZ	**Kahui Hut**	**2.94**	**7**	P	**Pn**	15 44 18.3	+2.0
NBEZ	**Newall Road No**	**2.96**	**5**	P	**Pb**	15 44 19.3	-2.9
FOZ	**Fox Glacier**	**3.03**	**243**	P	**Pn**	15 44 16.9	-0.5
PKE	**Pukeiti**	**3.04**	**7**	P	**Pb**	15 44 20.5	-3.0
PRHZ	**Porangahau**	**3.04**	**51**	P	**Pg**	15 44 28.6	+0.9
PNHZ	**Pukenui**	**3.06**	**42**	P	**Pb**	15 44 22.3	-1.7
WPHZ	**Waipukurau**	**3.07**	**47**	P	**Pg**	15 44 27.1	-1.2
VRZ	**Vera Road**	**3.23**	**17**	P	**Pn**	**15 44 21.6**	**+1.5**
PKVZ	**Pokaka**	**3.23**	**26**	P	**Pb**	15 44 27.3	+0.4
LBZ	**Lake Benmore**	**3.27**	**227**	P	**Pn**	15 44 19.7	-1.0
MOVZ	**Moawhango**	**3.27**	**32**	P	**Pn**	15 44 20.3	-0.6
WNVZ	**Wahianoa**	**3.29**	**29**	P	**Pn**	15 44 21.4	+0.3
TRVZ	**Turoa**	**3.29**	**28**	P	**Pn**	15 44 21.4	+0.1
WHVZ	**Whangaehu Hut**	**3.32**	**29**	P	**Pn**	15 44 21.9	+0.2
PXZ	**Pawanui**	**3.33**	**50**	P	**Pb**	15 44 28.2	-0.3
BHHZ	**Black Hill Sta**	**3.33**	**36**	P	**Pb**	15 44 28.0	-0.6
FWVZ	**Far West T-bar**	**3.33**	**28**	P	**Pn**	15 44 22.0	+0.3
OTVZ	**Oturere**	**3.45**	**29**	P	**Pn**	15 44 30.1	-0.7
TWVZ	**Taurewa**	**3.46**	**25**	P	**Pn**	15 44 23.4	0.0
NNVZ	**North Ngauruho**	**3.46**	**28**	P	**Pn**	15 44 24.8	+1.3
WTVZ	**West Tongariro**	**3.47**	**27**	P	**Pn**	15 44 23.5	-0.1
KAHZ	**Kahuranaki**	**3.50**	**47**	P	**Pg**	15 44 36.2	-0.3
KRVZ	**Karewarewa**	**3.51**	**28**	P	**Pb**	15 44 32.0	+0.4
TMVZ	**Te Maari**	**3.51**	**29**	P	**Pb**	15 44 30.9	-0.8
ODZ	**Otahua Downs**	**3.52**	**216**	P	**Pn**	15 44 22.3	-1.8
ODZ	**Otahua Downs**	**3.52**	**216**	P	**Pn**	15 44 22.0	-2.1
KWHZ	**Kaweka Forest**	**3.55**	**39**	P	**Pb**	15 44 33.9	+1.6
KATZ	**Kakaramea**	**3.63**	**28**	P	**Pb**	15 44 34.8	+1.0
MCHZ	**McNeill Hill**	**3.67**	**42**	P	**Pb**	15 44 36.0	+1.8
CKHZ	**Cape Kidnapper**	**3.71**	**48**	P	**Pg**	15 44 44.5	+4.1
RATZ	**Rangitukua**	**3.76**	**28**	P	**Pb**	15 44 35.0	-0.8
BKZ	**Black Stump Fm**	**3.79**	**37**	P	**Pn**	15 44 27.8	-0.1
BKZ	**Black Stump Fm**	**3.79**	**37**	P	**Pb**	15 44 35.4	-1.0
HIZ	**Hauiti**	**3.83**	**16**	P	**Pn**	15 44 30.7	+2.2
HIZ	**Hauiti**	**3.83**	**16**	P	**Pn**	15 44 29.7	+1.2
WATZ	**Wairara**	**3.89**	**26**	P	**Pb**	15 44 38.5	+0.5
JCZ	**Jackson Bay**	**3.94**	**240**	P	**Pn**	15 44 31.4	+1.4
JCZ	**Jackson Bay**	**3.94**	**240**	P	**Pn**	15 44 31.8	+1.8
NMHZ	**Naumai**	**3.99**	**40**	P	**Pb**	15 44 40.6	+0.8
MRHZ	**Matea Rd**	**4.03**	**34**	P	**Pn**	15 44 28.9	-2.4
TLZ	**Tolley Road**	**4.17**	**22**	P	**Pn**	15 44 34.7	+1.5
WPRZ	**Whakapapatarin**	**4.20**	**29**	P	**Pg**	15 44 46.6	-3.3
ALRZ	**Allen Road**	**4.23**	**31**	P	**Pb**	15 44 44.9	+1.0
RAHZ	**Arahi**	**4.26**	**41**	P	Pb	15 44 39.4	-5.0
EAZ	**Earnscleugh**	**4.29**	**224**	P	**Pn**	15 44 33.3	-1.5
MUGZ	**Murupara**	**4.48**	**35**	P	**

MATN	**Matagalpa**	**3.04**	**71**	*eP*		**Pn**	**16 13 32.2**	**-2.0**
BOAB	**BOACO BROADBAN**	**3.17**	**81**	*eP*		**Pn**	**16 13 35.5**	**-0.4**
CONN	**Concepcion**	**3.20**	**96**	*eP*		**Pn**	**16 13 36.5**	**+0.2**

*IDC **26** 16:16:14.9±2.9, 17°.84S×176°.22W, h375km±30km, mb3.3/4, mbtmp4.0/6, Error ellipse: s-maj=106.5km s-min=23.2km az=155.0*

ISC 26 16:16:17.0±1.7, 17°.2S±0°.6×176°.5W±0°.3, h400km, n6, σ1§18/7, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.23**	**263**	P	**Pn**	**16 17 40.5**	**-1.0**
	5.5nm,0.6s,baz=132,slow=18,SNR=13						
AFI	**Afiamalu**	**5.58**	**55**	P	**Pn**	**16 17 46.0**	**+0.7**
	11nm,0.5s,baz=164,slow=2.0,SNR=5.2						
AFI				S	**S**	**16 18 56.1**	**-1.0**
	8.4nm,0.3s,baz=191,slow=16,SNR=4.2						
CTA	**Charters Tower**	**35.37**	**259**	P	**P**	**16 22 38.1**	**+1.1**
	2.2nm,0.6s,baz=71,slow=11						
	2.2nm,0.6s						
STKA	**Stephens Creek**	**40.58**	**241**	P	**P**	**16 23 18.8**	**-1.0**
	0.8nm,0.3s,baz=71,slow=9.9,SNR=6.3						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**46.56**	**259**	P	**P**	**16 24 07.4**	**+0.4**
	0.3nm,0.4s,baz=98,slow=6.3,SNR=23						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**46.75**	**253**	P	**P**	**16 24 09.2**	**+0.8**
	4.8nm,0.5s,baz=90,slow=8.5,SNR=214						
	4.8nm,0.5s						

MAN 26 16:16:21.9, 9°.48N×126°.23E, h29km, mb4.4, ML3.2, MS3.0, 5C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.79**	**293**	⇓*eP*	Pn	16 16 36.9	-0.2
SCPH				*eS*	Sn	16 16 48.6	+0.7
BIPH	**Bislig**	**1.29**	**174**	⇓*iP*	Pb	16 16 52.5	+7.0
BIPH				*i* S	Sn	16 16 58.0	-2.3
CGP	**Cagayan de Oro**	**1.82**	**236**	⇑*eP*	Pn	16 16 51.3	-0.1
CGP				*eS*	Sn	16 17 11.9	-1.6
GHBP	**Garcia Hernand**	**1.89**	**275**	⇑*eP*	Pn	16 16 53.4	+1.2
GHBP				*eS*	Sb	16 17 18.0	-0.8
BUKP	**Musuan**	**1.96**	**216**	⇑*eP*	Pn	16 16 54.0	+0.8
BUKP				*eS*	Sb	16 17 19.4	-1.7
TABP	**Talibon, Bohol**	**1.97**	**288**	⇑*eP*	Pn	16 16 54.1	+0.8
TABP				*eS*	Sn	16 17 16.8	-0.1
TBP	**Tagbilaran**	**2.34**	**275**	*eP*	Pn	16 16 59.6	+1.1
TBP				*eS*	Sn	16 17 22.3	-4.0
KCP	**Kidapawan**	**2.70**	**205**	⇑*eP*	Pn	16 17 03.2	-0.2
KCP				*eS*	Sn	16 17 36.9	+1.7
CTBH	**Cotabato--PC H**	**2.98**	**221**	*eP*	Pn	16 17 08.2	+1.0
CTBH				*i* S	Sn	16 17 43.6	+1.6

*IDC **26** 16:23:52.9±2.0, 36°.20N×142°.64E, h0km, mb3.4/5, mbtmp3.5/8, ML2.9/3, MS2.5/1, Error ellipse: s-maj=47.3km s-min=23.1km az=62.0*

*JMA **26** 16:23:57.1±0.2, 36°.3N±0°.6×14°2E±°, h58km, MV3.0/30, FAR E OFF KANTO*

ISC 26 16:23:57.8±1.2, 36°.25N±0°.06×142°.54E±0°.10, h35km, n22, σ1§27/26, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.46**	**249**	*eP*	**Pn**	**16 24 21.3**	**-0.4**
JHYU	**Hitachinakayam**	**1.58**	**274**	P	**Pn**	**16 24 22.5**	**-0.8**
JHYU				*eS*	**Sn**	**16 24 40.9**	**-1.6**
JHO	**Hitachi**	**1.63**	**284**	P	**Pn**	**16 24 22.8**	**-1.2**
JHO				*eS*	**Sn**	**16 24 41.7**	**-2.0**
JIHU	**Itakohorinouch**	**1.65**	**261**	*eP*	**Pn**	**16 24 24.0**	**-0.3**
JFK	**Kawauchi**	**1.74**	**311**	*eP*	**Pn**	**16 24 24.8**	**-0.8**
BSO1	**Boso 1**	**2.03**	**219**	*eP*	**Pn**	**16 24 29.2**	**+0.1**
JMM	**Marumori**	**2.13**	**320**	*eP*	**Pn**	**16 24 29.5**	**-1.5**
JAG	**Ashikaga**	**2.50**	**275**	*eP*	**Pn**	**16 24 35.3**	**-0.7**
JAG				*eS*	**Sn**	**16 25 03.8**	**-1.4**
JMK	**Ichinoseki**	**2.90**	**339**	*eP*	**Pn**	**16 24 40.1**	**-1.3**
JRY	**Ryogami san**	**2.95**	**267**	P	**Pn**	**16 24 41.8**	**-0.4**
JOD2	**Odawara 2**	**2.97**	**252**	*eP*	**Pn**	**16 24 42.5**	**0.0**
JYK	**Kaneyama**	**3.18**	**328**	*eP*	**Pn**	**16 24 44.6**	**-0.7**
MJAR	**Matsushiro Arr**	**3.50**	**276**	Pn	**Pn**	**16 24 49.3**	**-0.5**
	0.3nm,0.3s,baz=86,slow=15,SNR=25						
MJAR				Sn	**Sn**	**16 25 32.6**	**+2.6**
	0.2nm,0.3s,baz=93,slow=29,SNR=2.2						
	3.9nm,0.7s						
MAT	**Matsushiro**	**3.50**	**276**	*eP*	**Pn**	**16 24 50.2**	**+0.3**
JHJ	**Hachijo jima 2**	**3.86**	**217**	Pn	**Pn**	**16 24 53.9**	**-0.8**
	4.9nm,0.3s,baz=82,slow=23,SNR=2.5						
JHJ				Sn	**Sn**	**16 25 35.7**	**-3.0**
	15nm,0.3s,baz=106,slow=23,SNR=7.2						
	148nm,0.9s						
USRK	**Usurisyk Ar.**	**11.31**	**318**	Pn	**Pn**	**16 26 37.1**	**+0.3**
	0.1nm,0.3s,baz=118,slow=12,SNR=4.4						
	1.2nm,0.7s						
KSRS	**Korea Array**	**11.77**	**280**	LR	LR	16 31 38.7	
	comp=Z,19nm,18.6s,baz=70,slow=39						
SONM	**Songino Array**	**28.97**	**305**	P	**P**	**16 29 55.5**	**+1.4**
	0.4nm,0.6s,baz=115,slow=7.3,SNR=2.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.30**	**303**	P	**P**	**16 32 12.9**	**+0.8**
	0.5nm,0.7s,baz=102,slow=9.2,SNR=4.1						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**47.20**	**309**	P	**P**	**16 32 27.4**	**+0.5**
	0.2nm,0.4s,baz=78,slow=8.5,SNR=1.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**56.42**	**189**	P	**P**	**16 33 35.1**	**-0.8**
	0.4nm,1.0s,baz=7.5,slow=7.5,SNR=2.5						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**60.14**	**189**	P	**P**	**16 34 02.7**	**+0.8**
	0.4nm,1.0s,baz=354,slow=6.1,SNR=2.8						
	0.4nm,1.0s						

*SOME **26** 16:29:55.6, 39°.40N×73°.93E, h5km*
*KRNET **26** 16:29:57.9±0.1, 39°.27N×74°.13E, mb3.4*

ISC 26 16:29:51.5±1.9, 39°.14N±0°.08×74°.39E±0°.06, h10km, n16, σ1§20/32, 8C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.86**	**319**	⇑*iP*	**Pg**	**16 30 28.1**	**+0.9**
	baz=21						
OHH				⇑*iS*	**Sb**	**16 30 49.8**	**+0.8**
	baz=21						
DRK	**Karamyk**	**2.04**	**281**	⇓*iP*	**Pg**	**16 30 31.3**	**+0.7**
	baz=77						
DRK				⇓*iS*	**Sb**	**16 30 56.1**	**+1.7**
	baz=77						
ARLS	**Aral**	**2.72**	**359**	⇓*iP*	**Pg**	**16 30 42.5**	**-1.2**
	baz=3.0						
ARLS				⇓*iS*	**Sb**	**16 31 14.8**	**+0.9**
	baz=3.0						
BTK	**Batken**	**2.91**	**290**	⇑*iP*	**Pb**	**16 30 43.6**	**0.0**
	baz=88						
BTK				⇑*iS*	**Sb**	**16 31 17.2**	**-2.1**
	baz=88						
UCH	**Uchtor**	**3.09**	**2**	⇑*iP*	**Pb**	**16 30 47.9**	**+1.0**
	baz=6.0						
UCH				⇑*iS*	**Sb**	**16 31 24.4**	**-0.4**
	baz=6.0						
GAR	**Garm**	**3.17**	**269**	⇑*eP*	**Pb**	**16 30 47.9**	**-0.2**
	baz=66						
GAR				⇑*iS*	**Sb**	**16 31 24.5**	**-2.4**
	baz=66						
TRKS	**Terek-Say**	**3.45**	**315**	⇓*eP*	**Pb**	**16 30 50.0**	**-2.8**
	baz=15						
TRKS				⇓*iS*	**Sn**	**16 31 28.5**	**+2.0**
	baz=15						
MRKS	**Merke**	**3.71**	**347**	*eP*	**Pb**	**16 30 57.8**	**+0.5**
	5.4nm,0.4s						
MRKS				*eS*	**Sb**	**16 31 42.5**	**+0.2**
	15nm,0.1s						
KST	**Kastek**	**4.08**	**16**	*eP*	**Pg**	**16 31 09.0**	**-0.7**
	8.6nm,1.6s						
KST				*eS*	**Sg**	**16 32 02.1**	**-0.5**
	17nm,0.2s						
DGS	**Degeres**	**4.23**	**14**	*eP*	**Pg**	**16 31 11.7**	**-0.9**
	10nm,0.1s						
DGS				*eS*	**Sg**	**16 32 06.7**	**-0.8**
	10nm,0.4s						
TNSS	**Tian-Shan**	**4.35**	**26**	*eP*	**Pg**	**16 31 14.3**	**-0.6**
	18nm,0.2s						
TNSS				*eS*	**Sg**	**16 32 10.5**	**-0.7**
	6.1nm,0.1s						
IUG	**Iuzhnay**	**4.48**	**314**	*eP*	**Pb**	**16 31 10.5**	**+0.3**
	5.1nm,0.2s						
IUG				*eS*	**Sb**	**16 32 04.7**	**+0.4**
	15nm,1.0s						
KRBS	**Karabastau**	**4.66**	**12**	*eP*	**Pg**	**16 31 19.3**	**-1.4**
	3.2nm,0.0s						
KRBS				*eS*	**Sg**	**16 32 19.8**	**-1.2**
	7.3nm,0.8s						
KTBS	**Karatobe**	**4.89**	**20**	*eP*	**Pg**	**16 31 24.3**	**-0.8**
	7.2nm,0.5s						
KTBS				*eS*	**Sg**	**16 32 27.9**	**-0.4**
	14nm,0.5s						
CHKK	**Chushkaly**	**5.10**	**22**	*eP*	**Pg**	**16 31 28.8**	**-0.4**
	4.3nm,0.2s						
CHKK				*eS*	**Sg**	**16 32 35.7**	**+0.5**
	5.5nm,0.2s						
KPKS	**Kokpek**	**5.40**	**35**	*eP*	**Pg**	**16 31 35.2**	**+0.3**
	4.0nm,0.1s						
KPKS				*eS*	**Sg**	**16 32 46.6**	**+1.8**
	11nm,0.1s						

*INET **26** 16:34:51.1±0.5, 11°.71N×89°.19W, h18km±5km, MW3.3*
*SNET **26** 16:34:53.0±1.5, 11°.89N×88°.98W, h36km±999km, ML3.0*

ISC 26 16:34:49.5±3.6, 11°.9N±0°.1×89°.02W±0°.08, h6km±28km, n11, σ1§16/18, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PACA	**Pacayal**	**1.73**	**23**	*eP*	**Pn**	**16 35 21.1**	**+1.0**
PACA				*eS*	**Sn**	**16 35 42.2**	**-0.3**
PACA	**Pacayal**	**1.73**	**23**	*eP*	**Pb**	**16 35 22.6**	**+0.9**
PQSS	**Presa 15 de Se**	**1.80**	**14**	IAML		16 35 48.9	
	comp=Z,146nm,0.1s						
LCND	**La Caada**	**1.81**	**38**	*eP*	**Pn**	**16 35 21.7**	**+0.6**
LCND				*eS*	**Sn**	**16 35 42.5**	**-1.8**
LCND				IAML		16 35 53.3	
	comp=Z,209nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.84**	**9**	*eP*	**Pn**	**16 35 22.4**	**+0.8**
SCLA				*eS*	**Sn**	**16 35 46.4**	**+1.2**
SCLA				IAML		16 35 57.4	
	comp=Z,89nm,0.4s						
CEVE	**Cerro Verde**	**2.03**	**343**	*eP*	**Pn**	**16 35 25.1**	**+0.7**
CEVE				*eS*	**Sn**	**16 35 51.1**	**+0.9**
CRIN	**San Cristobal**	**2.10**	**67**	*eP*	**Pb**	**16 35 27.1**	**-0.8**
CRIN				*eS*	**Sb**	**16 35 55.5**	**+1.2**
NUBE	**Las Nubes**	**2.15**	**340**	*eP*	**Pn**	**16 35 25.8**	**-0.2**
NUBE				*eS*	**Sn**	**16 35 53.0**	**0.0**
MOMN	**Momotombo**	**2.49**	**77**	*eP*	**Pn**	**16 35 31.9**	**+1.4**
MOMN				*eS*	**Sb**	**16 36 04.0**	**-1.5**
MTO3	**Montecristo**	**2.53**	**353**	*eP*	**Pb**	**16 35 35.1**	**-0.4**
MTO3				*eS*	**Sb**	**16 36 05.0**	**-1.9**
BOAB	**BOACO BROADBAN**	**3.33**	**80**	*eP*	**Pn**	**16 35 42.0**	**-0.1**

MAN 26 16:39:48.6, 10°.21N×122°.34E, h33km, mb3.9, ML2.7, MS2.2, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABP	**Talibon, Bohol**	**1.97**	**93**	⇓*eP*	Pb	16 40 24.0	+0.2
TABP				*eS*	Sb	16 40 52.6	+4.7

*SOME **26** 16:57:49.0, 39°.15N×73°.88E, h5km*
*IDC **26** 16:57:51.2±1.4, 39°.05N×73°.88E, h0km, mb3.5/3, mbtmp3.4/9, ML2.9/5, Error ellipse: s-maj=26.9km s-min=15.8km az=97.0*
*KRNET **26** 16:57:54.0±0.1, 39°.26N×73°.81E, mb4.0*
*NNC **26** 16:57:58.5±2.2, 39°.44N×74°.05E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=16.3km s-min=9.5km az=168.0*

ISC 26 16:57:51.8±1.7, 39°.02N±0°.06×73°.83E±0°.04, h1km±12km, n65, σ2§11/99, mb3.4/3, 21C-11D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**1.64**	**287**	⇑*iP*	**Pb**	**16 58 23.1**	**0.0**
	baz=79						
DRK				⇑*iS*	**Sb**	**16 58 44.6**	**+0.2**
	baz=79						
OHH	**Osh**	**1.71**	**332**	⇓*iP*	**Pn**	**16 58 21.4**	**-1.4**
	baz=28						
OHH				⇓*iS*	**Sn**	**16 58 41.7**	**-3.6**
	baz=28						
BTK	**Batken**	**2.55**	**295**	⇑*iP*	**Pn**	**16 58 36.2**	**+1.8**
	baz=90						
BTK				⇑*iS*	**Sn**	**16 59 07.1**	**+0.9**
	baz=90						
GAR	**Garm**	**2.74**	**271**	⇑*eP*	**Pb**	**16 58 40.3**	**-1.4**
	baz=66						
GAR				⇑*iS*	**Sb**	**16 59 14.1**	**-1.7**
	baz=66						
ARLS	**Aral**	**2.86**	**7**	⇑*eP*	**Pn**	**16 58 38.7**	**-0.1**
	baz=8.0						
ARLS				⇑*eS*	**Sn**	**16 59 11.7**	**-2.3**
	baz=8.0						
AML	**Almayashu**	**3.11**	**358**	P	**Pn**	**16 58 44.3**	**+1.9**
	SNR=31						
TRKS	**Terek-Say**	**3.25**	**321**	⇑*iP*	**Pn**	**16 58 44.0**	**0.0**
	baz=18						
TRKS				⇑*iS*	**Sn**	**16 59 20.2**	**-3.2**
	baz=18						
UCH	**Uchtor**	**3.25**	**9**	P	**Pn**	**16 58 45.5**	**+1.2**
	SNR=34						
UCH	**Uchtor**	**3.25**	**9**	⇓*eP*	**Pn**	**16 58 44.6**	**+0.3**
	baz=10.0						
UCH				⇓*iS*	**Sn**	**16 59 21.1**	**-2.8**
	baz=10.0						
EKS2	**Erkin-Say**	**3.64**	**359**	P	**Pn**	**16 58 52.0**	**+2.6**
	SNR=19						
EKS2	**Erkin-Say**	**3.64**	**359**	⇑*eP*	**Pn**	**16 58 49.6**	**+0.2**
	baz=60						
EKS2				⇑*eS*	**Sn**	**16 59 30.1**	**-3.0**
	baz=60						
AAK	**Ala-Archa**	**3.65**	**8**	P	**Pn**	**16 58 51.2**	**+1.6**
	SNR=8.8						
AAK	**Ala-Archa**	**3.65**	**8**	Pn	**Pn**	**16 58 51.0**	**+1.4**
	3.8nm,0.3s,baz=171,slow=6.4,SNR=30						
AAK				Sn	**Sn**	**16 59 36.0**	**+2.6**
	2.6nm,0.3s,baz=12,slow=15,SNR=7.7						
	12nm,0.5s						
AAK	**Ala-Archa**	**3.65**	**8**	⇑*eP*	**Pn**	**16 58 49.9**	**+0.3**
	baz=8.0						
AAK				⇑*eS*	**Sn**	**16 59 30.6**	**-2.8**
	baz=8.0						
CHGR	**Chuyangaron**	**3.67**	**266**	⇑*eP*	**Pn**	**16 58 53.5**	**+3.7**
	baz=62						
CHGR				⇑*eS*	**Sn**	**16 59 36.8**	**+3.1**
	baz=62						
ULHL	**Ulahol**	**3.71**	**29**	⇓*eP*	**Pn**	**16 58 51.0**	**+0.5**
	baz=31						
ULHL				⇓*eS*	**Sn**	**16 59 32.9**	**-2.0**
	baz=31						
KBK	**Karagaybulak**	**3.73**	**13**	P	**Pn**	**16 58 52.8**	**+2.1**
	SNR=7.6						
KBK	**Karagaybulak**	**3.73**	**13**	⇓*eP*	**Pn**	**16 58 50.9**	**+0.2**
	baz=14						
KBK				⇓*eS*	**Sn**	**16 59 32.6**	**-2.8**
	baz=14						
MRKS	**Merke**	**3.75**	**353**	*eP*	**Pn**	**16 58 55.0**	**+4.1**
	32nm,0.6s						
MRKS				*eS*	**Sn**	**16 59 38.8**	**+3.0**
	87nm,0.3s						
MRKS	**Merke**	**3.75**	**353**	Pg	**Pb**	**16 59 01.7**	**+2.8**
	10nm,0.3s						
MRKS				Lg	Lg	16 59 48.0	
	85nm,0.6s						
TKM2	**Tokmak 2**	**4.12**	**18**	⇓Pn	**Pn**	**16 58 56.7**	**+0.6**
	31nm,1.1s						
TKM2				⇑Lg	Lg	16 59 54.3	
	34nm,0.7s						
IUG	**Iuzhnay**	**4.26**	**318**	*eP*	**Pb**	**16 59 07.9**	**+0.3**
	122nm,0.6s						
IUG				*eS*	**Sb**	**17 00 03.9**	**+4.4**
	119nm,0.8s						
USP	**Ospenovka**	**4.27**	**7**	P	**Pn**	**16 58 59.7**	**+1.6**
	SNR=8.9						
KST	**Kastek**	**4.33**	**21**	*eP*	**Pb**	**16 59 08.8**	**0.0**
	22nm,0.6s						
KST				*eS*	**Sb**	**17 00 04.3**	**+2.6**
	82nm,0.7s						
KST	**Kastek**	**4.33**	**21**	Pg	**Pb**	**16 59 11.3**	**+2.5**
	22nm,0.6s						
KST				Lg	Lg	17 00 04.5	
	82nm,0.7s						
DGS	**Degeres**	**4.47**	**19**	*eP*	**Pb**	**16 59 10.5**	**-0.6**
	21nm,0.3s						
DGS				*eS*	**Sb**	**17 00 07.1**	**+1.6**
	44nm,0.5s						
DGS	**Degeres**	**4.47**	**19**	Pg	**Pb**	**16 59 13.4**	**+2.3**
	20nm,0.7s						
DGS				Lg	Lg	17 00 07.1	
	44nm,0.8s						
SGDS	**Sogindy**	**4.47**	**7**	*eP*	**Pb**	**16 59 09.6**	**-1.6**
	7.7nm,0.6s						
SGDS				*eS*	**Sb**	**17 00 06.0**	**+0.4**
	27nm,0.2s						
MTBS	**Maitube**	**4.55**	**25**	*eP*	**Pb**	**16 59 10.9**	**-1.6**
	25nm,0.2s						
MTBS				*eS*	**Sb**	**17 00 09.1**	**+1.1**
	40nm,0.6s						
MTBS	**Maitube**	**4.55**	**25**	Pg	**Pb**	**16 59 14.4**	**+1.8**
	24nm,0.7s						
MTBS				Lg	Lg	17 00 09.1	
	40nm,0.6s						
TNSS	**Tian-Shan**	**4.65**	**29**	*eP*	**Pb**	**16 59 13.2**	**-1.3**
	16nm,0.0s						
TNSS				*eS*	**Sb**	**17 00 12.3**	**+1.1**
	20nm,0.1s						
TNSS	**Tian-Shan**	**4.65**	**29**	Pg	**Pb**	**16 59 15.9**	**+1.4**
	16nm,0.4s						
TNSS				Lg	Lg	17 00 13.2	
	20nm,1.0s						
KK31	**Karatay Array**	**4.79**	**329**	⇑Pn	**Pn**	**16 59 06.0**	**+0.9**
	3.3nm,0.3s,baz=132,slow=13						
KK31				⇑Sn	**Sn**	**17 00 01.9**	**+0.6**
	7.6nm,0.4s,baz=145,slow=24						
KK31				⇑Lg	Lg	17 00 17.6	
	22nm,0.7s,baz=140,slow=29						
MDOK	**Medeo**	**4.80**	**29**	*eP*	**Pb**	**16 59 17.1**	**+0.3**
	21nm,0.2s						
MDOK				*eS*	**Sb**	**17 00 17.2**	**+2.1**
	29nm,0.3s						
MDOK	**Medeo**	**4.80**	**29**	Pg	**Pb**	**16 59 16.5**	**-0.4**
	66nm,1.4s						
MDOK				Pg	**Pb**	**16 59 18.6**	**+1.8**
	18nm,0.5s						
MDOK				⇓Lg	Lg	17 00 16.5	
	64nm,1.0s						
MDOK				Lg	Lg	17 00 17.2	
	29nm,1.0s						
KRBS	**Karabastau**	**4.88**	**16**	*eP*	**Pb**	**16 59 17.4**	**-0.6**
	10nm,0.2s						
KRBS				*eS*	**Sb**	**17 00 18.5**	**+1.3**
	35nm,0.3s						
KRBS	**Karabastau**	**4.88**	**16**	Pg	**Pb**	**16 59 18.8**	**+0.8**
	11nm,0.5s						
KRBS				Lg	Lg	17 00 18.5	
	35nm,0.8s						
KOTS	**Kotyrbulak**	**4.88**	**29**	*eP*	**Pb**	**16 59 19.1**	**+0.9**
	19nm,0.3s						
KOTS				*eS*	**Sb**	**17 00 19.9**	**+2.3**
	61nm,0.3s						
KOTS	**Kotyrbulak**	**4.88**	**29**	Pg	**Pb**	**16 59 19.4**	**+1.2**
	19nm,0.3s						
KOTS				Lg	Lg	17 00 19.9	
	83nm,0.6s						
KTBS	**Karatobe**	**5.16**	**24**	*eP*	**Pb**	**16 59 24.2**	**+1.4**
	13nm,0.2s						
KTBS				*eS*	**Sb**	**17 00 26.7**	**+1.4**
	44nm,0.2s						
KTBS	**Karatobe**	**5.16**	**24**	Pg	**Pb**	**16 59 24.2**	**+1.4**
	13nm,0.9s						
KTBS				Lg	Lg	17 00 27.5	
	70nm,0.5s						
KUU	**Kurty**	**5.22**	**20**	*eP*	**Pb**	**16 59 23.7**	**-0.2**
	7.0nm,0.2s						
KUU				*eS*	**Sb**	**17 00 29.1**	**+2.0**
	25nm,0.1s						
KUU	**Kurty**	**5.22**	**20**	Pg	**Pb**	**16 59 25.6**	**+1.7**
	6.7nm,0.7s						
KUU				Lg	Lg	17 00 29.1	
	33nm,0.6s						
CHKK	**Chushkaly**	**5.38**	**25**	*eP*	**Pb**	**16 59 29.1**	**+2.5**
	14nm,0.2s						
CHKK				*eS*	**Sb**	**17 00 34.7**	**+3.0**
	31nm,0.2s						
CHKK	**Chushkaly**	**5.38**	**25**	Pg	**Pb**	**16 59 29.4**	**+2.7**
	14nm,0.7s						
CHKK				Lg	Lg	17 00 34.7	
	26nm,0.8s						
UZB	**Uzynbulak**	**5.69**	**42**	*eP*	**Pb**	**16 59 33.0**	**+1.0**
	7.3nm,0.5s						
UZB				*eS*	**Sb**	**17 00 41.5**	**+0.8**
	21nm,1.2s						
UZB	**Uzynbulak**	**5.69**	**42**	Pg	**Pb**	**16 59 33.0**	**+1.0**
	7.7nm,0.8s						
UZB				Lg	Lg	17 00 41.8	
	21nm,1.2s						
KPKS	**Kokpek**	**5.75**	**38**	*eP*	**Pb**	**16 59 35.2**	**+2.1**
	25nm,1.2s						
KPKS				*eS*	**Sb**	**17 00 45.4**	**+2.9**
	28nm,0.6s						
KPKS	**Kokpek**	**5.75**	**38**	Pg	**Pb**	**16 59 36.6**	**+3.6**
	25nm,1.2s						
KPKS				Lg	Lg	17 00 46.5	
	28nm,0.6s						
SHLS	**Shalkode**	**5.93**	**44**	*eP*	**Pg**	**16 59 44.2**	**-1.3**
	7.6nm,0.0s						
SHLS				*eS*	**Sg**	**17 01 00.9**	**-1.4**
	19nm,0.4s						
SHLS	**Shalkode**	**5.93**	**44**	Pg	**Pg**	**16 59 44.2**	**-1.3**
	6.9nm,0.3s						
SHLS				Lg	Lg	17 00 60.0	
	19nm,1.1s						
ARXS	**Arharly**	**5.99**	**29**	*eP*	**Pb**	**16 59 39.1**	**+2.0**
	16nm,0.3s						
ARXS				*eS*	**Sb**	**17 00 51.8**	**+2.5**
	21nm,0.2s						
ARXS	**Arharly**	**5.99**	**29**	Pg	**Pb**	**16 59 38.5**	**+1.5**
	16nm,0.7s						
ARXS				Lg	Lg	17 00 51.8	
	21nm,0.6s						
PDGK	**Podgornoye**	**6.06**	**43**	Pg	**Pb**	**16 59 41.0**	**+2.7**
	4.7nm,0.5s						
PDGK				Lg	Lg	17 00 55.4	
	12nm,0.9s						
PDGK	**Podgornoye**	**6.06**	**43**	⇑Pg	**Pb**	**16 59 36.7**	**-1.6**
	21nm,1.4s						
PDGK				⇓Lg	Lg	17 00 55.8	
	49nm,1.2s						
BLB	**Baldybastay**	**6.15**	**33**	*eP*	**Pb**	**16 59 42.7**	**+2.8**
	13nm,0.1s						
BLB				*eS*	**Sb**	**17 00 58.3**	**+4.3**
	20nm,0.3s						
BLB	**Baldybastay**	**6.15**	**33**	Pg	**Pb**	**16 59 43.5**	**+3.6**
	12nm,0.5s						
BLB				Lg	Lg	17 00 58.3	
	15nm,0.6s						
MKAR	**Makanchi Array**	**9.94**	**36**	Pn	**Pn**	**17 00 17.6**	**+1.9**
	baz=201,slow=15,SNR=1.9						
MKAR				Lg	Lg	17 03 02.2	
	baz=221,slow=30,SNR=2.6						
	0.4nm,0.8s	

s-min=0.0km az=116.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.08**	**102**	P	Pg	17 12 36.1	0.0
AMCZ	**Amberley**	**0.30**	**221**	P	Pb	17 12 41.1	-0.9
AMCZ				S	Sb	17 12 46.6	-0.6
LTZ	**Lake Taylor**	**0.51**	**289**	P	Pg	17 12 44.2	+0.2
LTZ				S	Sg	17 12 51.7	+1.1
KHZ	**Kahutara**	**0.70**	**41**	P	Pg	17 12 48.1	+0.5
OXZ	**Oxford**	**0.75**	**240**	P	Pb	17 12 49.2	-0.4
OKCZ	**Okains Bay**	**0.78**	**173**	P	Pb	17 12 50.0	-0.1
MQZ	**McQueen's Vall**	**0.78**	**195**	P	Pg	17 12 49.3	+0.1
AKCZ	**Akaroa Harbour**	**0.92**	**181**	P	Pg	17 12 51.6	-0.2
RACZ	**Rakaia**	**0.96**	**216**	P	Pg	17 12 52.5	-0.2
INZ	**Inchbonnie**	**1.11**	**281**	P	Pn	17 12 56.2	-0.1
THZ	**Tophouse**	**1.19**	**359**	P	Pg	17 12 56.5	-0.5
WACZ	**Wakanui South**	**1.27**	**218**	P	Pn	17 12 56.6	-1.8
BSWZ	**Blackbirch Sta**	**1.42**	**30**	P	Pn	17 13 00.2	-0.3
DSZ	**Dennisten Nort**	**1.46**	**325**	P	Pn	17 13 00.6	-0.5
MRNZ	**Matariki Terra**	**1.56**	**355**	P	Pn	17 13 02.4	+0.1
RPZ	**Rata Peaks**	**1.56**	**240**	P	Pn	17 13 00.8	-1.7
TUWZ	**Tuamarina**	**1.70**	**27**	P	Pn	17 13 03.5	-0.8
NNZ	**Nelson**	**1.77**	**11**	P	Pn	17 13 05.2	+0.1
TKNZ	**Takaka Hill**	**1.92**	**1**	P	Pn	17 13 07.9	+0.6
GCSZ	**Gaunt Creek Bo**	**1.94**	**258**	P	Pn	17 13 07.6	0.0
TMZ	**Timaru**	**2.00**	**224**	P	Pn	17 13 07.8	-0.7
TCW	**Tory Channel**	**2.01**	**31**	P	Pn	17 13 07.5	-1.0
QRZ	**Quartz Range**	**2.14**	**352**	P	Pn	17 13 10.8	+0.4
DUWZ	**D'Urville Isla**	**2.27**	**19**	P	Pn	17 13 12.0	-0.2
FOZ	**Fox Glacier**	**2.34**	**255**	P	Pn	17 13 13.3	+0.1
LBZ	**Lake Benmore**	**2.45**	**233**	P	Pn	17 13 13.3	-1.4
ODZ	**Otahua Downs**	**2.66**	**217**	P	Pn	17 13 15.8	-1.8
JCZ	**Jackson Bay**	**3.21**	**248**	P	Pn	17 13 24.4	-0.8
WKZ	**Wanaka**	**3.39**	**235**	P	Pn	17 13 25.8	-1.8
EAZ	**Earnscleugh**	**3.46**	**228**	P	Pn	17 13 26.6	-2.0

IDC 26 17:41:59.3±4.3, 5°95S×130°10E, h194$^{km}_{\pm 62km}$, mb2.8/1, mbtmp3.6/4, MS3.0/1, Error ellipse: s-maj=119.5km s-min=17.4km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.18**	**13**	P	Pn	17 43 16.9	+1.0
	3.8nm,0.2s,baz=223,slow=19,SNR=17						
SIJI				S	Sn	17 44 16.1	-0.2
	11nm,0.2s,baz=191,slow=23,SNR=16						
BATI	**Baumata**	**7.65**	**236**	LR	LR	17 47 25.2	
	comp=Z,97nm,18.2s,baz=233,slow=43						
WRA	**Warramunga Arr**	**14.51**	**164**	P	Pn	17 45 16.0	+0.1
	0.7nm,0.5s,baz=345,slow=13,SNR=19						
WRA				S	Sn	17 48 00.8	+2.7
	0.1nm,0.6s,baz=347,slow=18,SNR=1.4						
ASAR	**Alice Springs**	**17.99**	**169**	P	P	17 45 54.8	-0.9
	1.2nm,0.5s,baz=346,slow=12,SNR=40						
MKAR	**Makanchi Array**	**67.41**	**327**	P	P	17 52 34.1	+0.2
	0.1nm,0.4s,baz=122,slow=5.4,SNR=0.9						
	0.1nm,0.4s						

*MAN **26** 17:43:45.6, 17°.74N×120°.58E, h25^{km}, mb4.1, ML2.9, MS2.5*
*IDC **26** 17:43:50.3±5.7, 17°.63N×120°.74E, h103$^{km}_{\pm 54km}$, mb3.4/11, mbtmp3.8/11, MS3.1/4, Error ellipse: s-maj=28.4km s-min=15.0km az=68.0*
ISC 26 17:43:50.0±0.7, 17°.72N±0°.07×120°.8E±0°.2, h100^{km}, n18, σ1^{s}58/18, mb3.6/9, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**2.16**	**173**	⇓*eP*	**Pn**	**17 44 23.4**	**-1.3**
PCPH				*eS*	**Sn**	**17 44 53.4**	**+2.3**
TGY	**Tagaytay City**	**3.60**	**178**	⇑*eP*	**Pn**	**17 44 40.5**	**-3.3**
LQP	**Lukban**	**3.65**	**169**	⇑*eP*	**Pn**	**17 44 44.0**	**-0.8**
LQP				*eS*	Sn	17 45 39.9	+13
LUBP	**Lubang**	**4.00**	**188**	⇑*eP*	**Pn**	**17 44 49.5**	**+0.2**
LUBP				*i* S	**Sn**	**17 45 37.5**	**+2.3**
DAV	**Davao City (W)**	**11.55**	**156**	LR	LR	17 51 54.5	
	comp=Z,75nm,21.1s,baz=22,slow=42						
KSRS	**Korea Array**	**20.63**	**16**	P	**P**	**17 48 21.4**	**+0.1**
	1.9nm,0.8s,baz=194,slow=12,SNR=5.9						
	1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.82**	**275**	P	**P**	**17 48 23.4**	**-0.3**
	0.9nm,0.8s,baz=90,slow=9.1,SNR=9.0						
CMAR				LR	LR	17 55 44.8	
	comp=Z,27nm,18.3s,baz=85,slow=34						
	0.9nm,0.8s						
ASAJ	**Asahikawa**	**32.07**	**30**	LR	LR	18 03 25.1	
	comp=Z,66nm,18.1s,baz=325,slow=36						
SONM	**Songino Array**	**32.28**	**342**	P	**P**	**17 50 10.5**	**+1.2**
	0.5nm,0.6s,baz=163,slow=10.0,SNR=4.5						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**39.71**	**160**	P	**P**	**17 51 11.4**	**-1.4**
	1.3nm,0.7s,baz=341,slow=9.0,SNR=8.8						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**42.94**	**321**	P	**P**	**17 51 40.3**	**+1.2**
	0.7nm,0.8s,baz=115,slow=9.7,SNR=8.7						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**43.07**	**162**	P	**P**	**17 51 40.2**	**0.0**
	2.1nm,0.4s,baz=337,slow=6.9,SNR=39						
ASAR				LR	LR	18 13 47.4	
	comp=Z,29nm,18.1s,baz=325,slow=42						
	2.1nm,0.4s						
ILAR	**Eielson Array**	**75.11**	**26**	P	**P**	**17 55 21.7**	**+0.8**
	0.5nm,0.8s,baz=278,slow=5.1,SNR=5.9						
	0.5nm,0.8s						
ARCES	**ARCESS Array B**	**75.40**	**339**	P	**P**	**17 55 22.8**	**+0.3**
	1.3nm,0.9s,baz=83,slow=7.4,SNR=3.6						
	1.3nm,0.9s						
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**17 55 29.4**	**-1.7**
	0.3nm,0.7s,baz=91,slow=7.6,SNR=2.3						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**76.86**	**331**	P	**P**	**17 55 30.6**	**-0.3**
	3.3nm,0.9s,baz=34,slow=12,SNR=5.2						
	3.3nm,0.9s						
AKASG	**Malin Array Be**	**77.50**	**319**	P	**P**	**17 55 33.1**	**-1.5**
	0.2nm,0.4s,baz=65,slow=5.2,SNR=2.2						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**116.50**	**43**	PKP	**PKiKP**	**18 02 24.6**	**+1.6**
	0.2nm,0.7s,baz=344,slow=3.0,SNR=1.9						

IDC 26 17:47:38.1±8.3, 19°.09N×146°.84E, h0^{km}, mb3.5/5, mbtmp3.5/6, Error ellipse: s-maj=306.9km s-min=27.1km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**18.80**	**89**	T	T	18 10 30.5	
	baz=275,slow=74,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**18.81**	**89**	T	T	18 10 30.9	
	baz=275,slow=74,SNR=26						
H11S2	**WAKE ISLAND Hy**	**18.82**	**89**	T	T	18 10 31.8	
	baz=275,slow=74,SNR=25						
MJAR	**Matsushiro Arr**	**18.97**	**338**	P	P	17 52 00.2	-0.8
	2.3nm,1.1s,baz=162,slow=11,SNR=2.3						
KSRS	**Korea Array**	**24.66**	**322**	P	P	17 53 00.6	+0.1
	0.6nm,0.6s,baz=148,slow=8.9,SNR=4.5						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**40.69**	**198**	P	P	17 55 20.3	-0.1
	0.3nm,0.6s,baz=20,slow=8.7,SNR=5.6						
	0.3nm,0.6s						
SONM	**Songino Array**	**43.52**	**321**	P	P	17 55 44.1	+0.6
	0.2nm,0.4s,baz=122,slow=7.2,SNR=2.4						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**58.37**	**322**	P	P	17 57 35.4	+0.3
	0.3nm,0.4s,baz=97,slow=7.4,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.97**	**314**	P	P	17 57 38.8	-0.7
	0.4nm,0.8s,baz=91,slow=8.7,SNR=2.5						
	0.4nm,0.8s						

*NEIC **26** 17:55:42.6±1.9, 22°.18S±0°.03×68°.67W±0°.07, h121$^{km}_{\pm 6km}$, mb4.0/3, ML3.8(GUC), Error ellipse: s-maj=9.9km s-min=3.6km az=76.0*
*VAO **26** 17:55:42.4±0.4, 21°.90S×68°.37W, h72$^{km}_{\pm 17km}$, mb4.1*
*GUC **26** 17:55:43.5±0.7, 22°.20S×68°.64W, h114$^{km}_{\pm 3km}$, ML3.8*
ISC 26 17:55:41.5±0.8, 22°21S±0°.04×68°60W±0°.05, h119$^{km}_{\pm 7km}$, n71, σ1^{s}33/99, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.49**	**216**		**Pn**	**17 56 00.4**	**+0.6**
LVC					Sn	**17 56 13.2**	**-0.4**
LVC	**Limon Verde**	**0.49**	**216**	*eP*	**Pn**	**17 56 00.1**	**+0.3**
LVC				*i* S	**Sn**	**17 56 13.1**	**-0.5**
LVC	**Limon Verde**	**0.49**	**216**	*eP*	**Pn**	**17 56 00.2**	**+0.4**
LVC				*eS*	**Sn**	**17 56 12.6**	**-0.9**
PB09	**IPOC Station P**	**0.72**	**304**		**Pn**	**17 56 02.2**	**+1.0**
PB09					Sn	**17 56 15.7**	**-0.3**
PB09	**IPOC Station P**	**0.72**	**304**	⇓*iP*	**Pn**	**17 56 02.2**	**+1.0**
PB09				*i* S	**Sn**	**17 56 16.2**	**+0.2**
PB09				IAML		17 56 17.7	
	comp=N,2μm,0.7s						
AF01	**San Pedro de A**	**0.84**	**152**		**Pn**	**17 56 03.5**	**+1.2**
AF01					Sn	**17 56 19.3**	**+1.3**
AF01	**San Pedro de A**	**0.84**	**152**	*eP*	**Pn**	**17 56 03.4**	**+1.1**
AF01				*i* S	**Sn**	**17 56 19.1**	**+1.1**
AF01				IAML		17 56 19.9	
	comp=E,3μm,0.7s						
PB06	**IPOC Station P**	**1.03**	**241**		**Pn**	**17 56 05.0**	**+1.0**
PB06					Sn	**17 56 21.5**	**+0.6**
PB06	**IPOC Station P**	**1.03**	**241**	*eP*	**Pn**	**17 56 04.8**	**+0.9**
PB06				*i* S	**Sn**	**17 56 21.5**	**+0.6**
PB06				IAML		17 56 22.5	
	comp=E,3μm,0.3s						
PB03	**IPOC Station P**	**1.08**	**278**		**Pn**	**17 56 05.3**	**+0.8**
PB03					Sn	**17 56 21.8**	**-0.1**
PB03	**IPOC Station P**	**1.08**	**278**	⇑*iP*	**Pn**	**17 56 05.3**	**+0.8**
PB03				*i* S	**Sn**	**17 56 22.1**	**+0.3**
PB03				IAML		17 56 23.3	
	comp=N,5μm,0.3s						
PB15	**IPOC Station P**	**1.28**	**219**		**Pn**	**17 56 07.7**	**+1.1**
PB15					Sn	**17 56 27.3**	**+1.6**
PB15	**IPOC Station P**	**1.28**	**219**	⇑*iP*	**Pn**	**17 56 08.2**	**+1.5**
PB15				*i* S	**Sn**	**17 56 27.1**	**+1.4**
PB07	**IPOC Station P**	**1.29**	**292**		**Pn**	**17 56 07.5**	**+0.8**
PB07					Sn	**17 56 24.4**	**-1.3**
PB07	**IPOC Station P**	**1.29**	**292**	⇑*iP*	**Pn**	**17 56 07.7**	**+1.0**
PB07				*i* S	**Sn**	**17 56 26.0**	**+0.2**
PB07				IAML		17 56 28.8	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.42**	**324**		**Pn**	**17 56 08.9**	**+0.8**
PB01					Sn	**17 56 29.0**	**+0.7**
PB01	**IPOC Station P**	**1.42**	**324**	*eP*	**Pn**	**17 56 09.0**	**+0.8**
PB01				*i* S	**Sn**	**17 56 28.4**	**+0.1**
PB01				IAML		17 56 32.5	
	comp=N,692nm,0.5s						
PB04	**IPOC Station P**	**1.44**	**265**	Pn	**Pn**	**17 56 09.2**	**+0.8**
PB04				Sn	**Sn**	**17 56 28.6**	**-0.2**
PB04	**IPOC Station P**	**1.44**	**265**	⇑*iP*	**Pn**	**17 56 09.2**	**+0.8**
PB04				*i* S	**Sn**	**17 56 28.9**	**+0.1**
PB04				IAML		17 56 33.3	
	comp=N,2μm,0.5s						
PB02	**IPOC Station P**	**1.49**	**306**		**Pn**	**17 56 09.9**	**+1.0**
PB02				Sn	**Sn**	**17 56 29.8**	**0.0**
PB02	**IPOC Station P**	**1.49**	**306**	*i* P	**Pn**	**17 56 10.0**	**+1.0**
PB02				*i* S	**Sn**	**17 56 29.7**	**-0.1**
PB02				IAML		17 56 34.0	
	comp=E,2μm,0.4s						
PATCX	**Punta Patache**	**2.00**	**313**	Pn	**Pn**	**17 56 15.7**	**+0.7**
PATCX	**Punta Patache**	**2.00**	**313**	*eP*	**Pn**	**17 56 15.7**	**+0.7**
PATCX				*i* S	**Sn**	**17 56 43.6**	**+3.0**
PATCX				IAML		17 56 49.8	
	comp=E,1μm,0.3s						
PB08	**IPOC Station P**	**2.12**	**346**		**Pn**	**17 56 18.7**	**+1.8**
PB08	**IPOC Station P**	**2.12**	**346**	⇑*iP*	**Pn**	**17 56 19.0**	**+2.1**
PB08				*i* S	**Sn**	**17 56 46.3**	**+2.5**
PB08				IAML		17 56 50.9	
	comp=E,594nm,0.4s						
TA01	**Diego Aracena**	**2.20**	**318**		**Pn**	**17 56 17.8**	**+0.3**
TA01	**Diego Aracena**	**2.20**	**318**	*eP*	**Pn**	**17 56 17.7**	**+0.2**
TA01				*i* S	**Sn**	**17 56 44.8**	**-0.2**
TA01				IAML		17 56 54.0	
PB10	**IPOC Station P**	**2.22**	**234**	Pn	**Pn**	**17 56 18.8**	**+1.1**
PB10	**IPOC Station P**	**2.22**	**234**	*eP*	**Pn**	**17 56 19.2**	**+1.4**
PB10				IAML		17 56 54.4	
	comp=E,233nm,0.4s						
HMBC	**Humberstone**	**2.26**	**328**	⇑*iP*	**Pn**	**17 56 18.9**	**+0.4**
HMBC				*i* S	**Sn**	**17 56 47.0**	**+0.4**
HMBC				IAML		17 56 51.6	
	comp=E,916nm,0.3s						
TA02	**Huaiquique**	**2.40**	**323**		**Pn**	**17 56 20.1**	**+0.1**
TA02	**Huaiquique**	**2.40**	**323**	*eP*	**Pn**	**17 56 19.5**	**-0.6**
GO01	**Chusmiza**	**2.59**	**347**		**Pn**	**17 56 24.6**	**+1.6**
GO01	**Chusmiza**	**2.59**	**347**	*eP*	**Pn**	**17 56 24.8**	**+1.9**
GO01				*i* S	**Sn**	**17 56 57.2**	**+2.6**
PB11	**IPOC Station P**	**2.63**	**338**	Pn	**Pn**	**17 56 23.9**	**+0.8**
PB11	**IPOC Station P**	**2.63**	**338**	⇓*eP*	**Pn**	**17 56 23.5**	**+0.4**
PB11				*i* S	**Sn**	**17 56 55.6**	**+0.6**
PB11				IAML		17 57 03.6	
	comp=N,726nm,0.3s						
PB14	**IPOC Station P**	**2.92**	**214**		**Pn**	**17 56 28.2**	**+1.1**
PSGC	**Pisagua**	**2.96**	**331**	*eP*	**Pn**	**17 56 26.9**	**-0.6**
PSGC				*i* S	**Sn**	**17 57 01.9**	**-0.8**
PSGC				IAML		17 57 13.4	
	comp=E,415nm,0.2s						
PSGCX	**Pisagua**	**2.96**	**331**		**Pn**	**17 56 26.9**	**-0.6**
GO02	**Mina Guanaco**	**3.08**	**197**	Pn	**Pn**	**17 56 29.3**	**+0.2**
MNMC	**Minye Minye**	**3.20**	**343**		**Pn**	**17 56 31.5**	**+0.8**
MNMC	**Minye Minye**	**3.20**	**343**	*eP*	**Pn**	**17 56 31.5**	**+0.8**
MNMC				*i* S	**Sn**	**17 57 08.6**	**-0.1**
PB12	**IPOC Station P**	**3.92**	**335**	Pn	**Pn**	**17 56 39.4**	**-0.8**
PB12	**IPOC Station P**	**3.92**	**335**	*eP*	**Pn**	**17 56 39.3**	**-0.9**
PB12				*i* S	**Sn**	**17 57 22.4**	**-3.2**
PB16	**IPOC Station P**	**3.94**	**347**		**Pn**	**17 56 41.8**	**+0.9**
PB16	**IPOC Station P**	**3.94**	**347**	*eP*	**Pn**	**17 56 42.3**	**+1.4**
AP01	**Chacalluta**	**4.15**	**336**	Pn	**Pn**	**17 56 43.5**	**+0.4**
AC01	**Pan de Azucar**	**4.33**	**205**		**Pn**	**17 56 44.9**	**-0.6**
AC02	**Maricunga**	**4.63**	**186**		**Pn**	**17 56 50.5**	**+0.5**
PB18	**Visviri**	**4.67**	**350**		**Pn**	**17 56 49.8**	**-0.7**
AC06	**Mina Casimiro**	**5.37**	**197**		**Pn**	**17 56 58.4**	**-1.1**
GO03	**Copiap**	**5.57**	**195**		**Pn**	**17 57 00.6**	**-1.6**
AC04	**Llanos de Chal**	**6.38**	**200**	Pn	**Pn**	**17 57 10.9**	**-2.2**
AC05	**El Transito**	**6.77**	**193**		**Pn**	**17 57 16.8**	**-1.7**
LCO	**Las Campanas**	**7.04**	**195**	Pn	**Pn**	**17 57 19.3**	**-2.9**
CO05	**La Serena**	**8.04**	**197**	Pn	**Pn**	**17 57 32.3**	**-3.2**
GO04	**Tololo Observa**	**8.18**	**194**	Pn	**Pn**	**17 57 34.6**	**-3.0**
CO03	**El Pedregal**	**8.80**	**192**	Pn	**Pn**	**17 57 43.0**	**-2.9**
CO06	**Fray Jorge**	**8.86**	**197**	Pn	**Pn**	17 57 40.7	-5.9
BBSD	**Serra de San D**	**9.03**	**58**	*eP*	**Pn**	**17 57 47.1**	**-1.9**
BBSD				*eS*	Sn	17 59 21.2	-7.8
BBRB	**Robore, Bolivi**	**9.13**	**66**	*eP*	**Pn**	**17 57 47.8**	**-2.5**
CO02	**Combarbal**	**9.21**	**193**	Pn	**Pn**	17 57 45.0	-6.6
PTLB	**Pontes e Lacer**	**11.20**	**55**	Pn	**Pn**	**17 58 16.9**	**-1.3**
MT02	**Curacav**	**11.24**	**191**	Pn	**Pn**	**17 58 18.5**	**-0.1**
TRQA	**Tornquist**	**16.79**	**162**		**Pn**	**17 59 31.3**	**+1.7**
TRQA				IAmb	IAmb	17 59 50.9	
	comp=Z,18nm,1.5s						
PLCA	**Paso Flores**	**18.55**	**185**	P	**Pn**	**17 59 51.8**	**+1.2**
PLCA				IAmb	IAmb	17 59 57.7	
	comp=Z,4.2nm,0.9s						
NPGB	**Novo Progresso**	**19.76**	**42**	*eP*	**P**	**18 00 01.8**	**-0.6**
ITTB	**Itaituba**	**21.68**	**37**	*eP*	**P**	**18 00 22.8**	**-0.1**
SGCB	**S&o Gabriel d**	**22.00**	**4**	*eP*	**P**	**18 00 27.4**	**+1.1**
BOAV	**Boa Vista**	**25.69**	**19**	P	**P**	**18 01 02.8**	**+2.1**
BOAV				IAmb	IAmb	18 01 03.7	
	comp=Z,3.1nm,0.6s						
BOAV	**Boa Vista**	**25.69**	**19**	*eP*	**P**	**18 01 03.2**	**+2.5**

*WEL **26** 18:08:51.4±0.3, 42°S±2°×17°.4E±°, h9$^{km}_{\pm 2km}$, M3.7/41, ML4.0/22, MLv3.7/41, Error ellipse: s-maj=0.0km s-min=0.0km az=132.4*
*NOU **26** 18:08:51.1, 41°.83S×174°.43E, h15^{km}, MLv4.2/12, Cook Strait, New Zealand*
ISC 26 18:08:50.6±1.0, 41°78S±0°.03×174°21E±0°.03, h18$^{km}_{\pm 7km}$, n92, σ1^{s}35/95, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**11**	P	**Pg**	**18 08 54.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.26**	**285**	P	**Pg**	**18 08 56.5**	**+0.2**
BSWZ				S	**Sg**	**18 09 00.2**	**-0.1**
TUWZ	**Tuamarina**	**0.40**	**331**	P	**Pg**	**18 08 58.3**	**-0.6**
TUWZ				S	**Sg**	**18 09 03.2**	**-1.3**
TCW	**Tory Channel**	**0.57**	**5**	P	**Pg**	**18 09 01.2**	**-0.8**
TCW				S	**Sg**	**18 09 08.5**	**-1.2**
SNZO	**South Karori**	**0.60**	**39**	P	**Pb**	**18 09 02.7**	**+0.1**
WEL	**Wellington**	**0.65**	**41**	P	**Pb**	**18 09 03.7**	**+0.3**
KHZ	**Kahutara**	**0.80**	**218**	P	**Pn**	**18 09 08.9**	**+1.9**
KHZ	**Kahutara**	**0.80**	**218**	P	**Pn**	**18 09 08.6**	**+1.6**
PLWZ	**Palliser**	**0.81**	**75**	P	**Pn**	**18 09 08.2**	**+0.9**
NNZ	**Nelson**	**0.84**	**312**	P	**Pb**	**18 09 06.0**	**-0.6**
MSWZ	**Moikau Station**	**0.86**	**65**	P	**Pn**	**18 09 08.5**	**+0.6**
CAW	**Cannon Point**	**0.94**	**44**	P	**Pg**	**18 09 08.7**	**0.0**
THZ	**Tophouse**	**0.97**	**271**	P	**Pb**	**18 09 09.4**	**+0.5**
PAWZ	**Paruwai Farm**	**1.00**	**67**	P	**Pg**	**18 09 10.4**	**+0.4**
DUWZ	**D'Urville Isla**	**1.00**	**348**	P	**Pb**	**18 09 08.5**	**-0.9**
KIW	**Kapiti Island**	**1.06**	**30**	P	**Pb**	**18 09 10.3**	**-0.2**
MRNZ	**Matariki Terra**	**1.15**	**289**	P	**Pb**	**18 09 12.4**	**+0.5**
MTW	**Mount Morrison**	**1.16**	**58**	P	**Pb**	**18 09 12.4**	**+0.3**
TRWZ	**Traveller**	**1.18**	**71**	P	**Pb**	**18 09 12.9**	**+0.5**
TKNZ	**Takaka Hill**	**1.20**	**308**	P	**Pn**	**18 09 12.5**	**0.0**
OGWZ	**Otaki Gorge**	**1.21**	**37**	P	**Pb**	**18 09 13.1**	**+0.2**
TMWZ	**Te Maipa**	**1.44**	**63**	P	**Pn**	**18 09 15.9**	**+0.1**
GVZ	**Greta Valley S**	**1.47**	**216**	P	**Pb**	**18 09 17.6**	**+0.2**
MRZ	**Mangatainoka R**	**1.53**	**43**	P	**Pn**	**18 09 17.4**	**+0.4**
QRZ	**Quartz Range**	**1.58**	**307**	P	**Pn**	**18 09 19.4**	**+0.1**
QRZ	**Quartz Range**	**1.58**	**307**	P	**Pb**	**18 09 19.2**	**-0.2**
LTZ	**Lake Taylor**	**1.75**	**235**	P	**Pb**	**18 09 21.7**	**-0.5**
OHWZ	**Ohakea**	**1.79**	**28**	P	**Pb**	**18 09 22.6**	**-0.2**
DSZ	**Denniston Nort**	**1.80**	**270**	P	**Pb**	**18 09 22.9**	**-0.1**
AMCZ	**Amberley**	**1.81**	**219**	P	**Pn**	**18 09 21.8**	**+0.9**
PRWZ	**Pori Road**	**1.81**	**48**	P	**Pn**	**18 09 21.2**	**+0.3**
POWZ	**Post Office Ro**	**1.82**	**41**	P	**Pn**	**18 09 21.4**	**+0.3**
BFZ	**Birch Farm**	**1.89**	**55**	P	**Pg**	**18 09 27.8**	**+0.9**
DVHZ	**Dannevirke**	**2.10**	**46**	P	**Pb**	**18 09 28.7**	**+0.6**
WAZ	**Wanganui**	**2.11**	**17**	P	**Pb**	**18 09 27.6**	**-0.7**
OKCZ	**Okains Bay**	**2.12**	**203**	P	**Pn**	**18 09 25.6**	**+0.4**
TSZ	**Takapari Road**	**2.18**	**38**	P	**Pn**	**18 09 26.0**	**0.0**
OXZ	**Oxford**	**2.22**	**225**	P	**Pn**	**18 09 26.8**	**+0.2**
MQZ	**McQueen's Vall**	**2.24**	**210**	P	**Pn**	**18 09 26.5**	**-0.3**
AKCZ	**Akaroa Harbour**	**2.30**	**204**	P	**Pn**	**18 09 27.8**	**+0.2**
LREZ	**Lake Rotokare**	**2.33**	**4**	P	**Pn**	**18 09 29.9**	**+1.9**
NMEZ	**Namu Road**	**2.38**	**354**	P	**Pn**	**18 09 30.4**	**+1.7**
WPHZ	**Waipukurau**	**2.41**	**45**	P	**Pg**	**18 09 36.7**	**-0.2**
KHEZ	**Kahui Hut**	**2.49**	**357**	P	**Pn**	**18 09 32.5**	**+2.2**
KHEZ	**Kahui Hut**	**2.49**	**357**	P	**Pb**	**18 09 33.5**	**-1.4**
NEZ	**North Egmont**	**2.51**	**358**	P	**Pb**	**18 09 34.2**	**-1.1**
NBEZ	**Newall Road No**	**2.52**	**354**	P	**Pb**	**18 09 34.2**	**-1.2**
PKE	**Pukeiti**	**2.59**	**356**	P	**Pb**	**18 09 35.2**	**-1.3**
MHCZ	**Mount Hutt**	**2.62**	**227**	P	**Pn**	**18 09 32.2**	**+0.2**
MOVZ	**Moawhango**	**2.65**	**27**	P	**Pn**	**18 09 33.1**	**+0.6**
WNVZ	**Wahianoa**	**2.67**	**24**	P	**Pb**	**18 09 35.6**	**-2.4**
TRVZ	**Turoa**	**2.68**	**23**	P	**Pn**	**18 09 35.4**	**+2.3**
VRZ	**Vera Road**	**2.69**	**9**	P	**Pn**	**18 09 34.8**	**+1.8**
BHHZ	**Black Hill Sta**	**2.69**	**32**	P	**Pn**	**18 09 33.8**	**+0.7**
DRZ	**Dome Shelter**	**2.71**	**23**	P	**Pb**	**18 09 39.7**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.71**	**23**	P	**Pb**	**18 09 37.0**	**-1.7**
FWVZ	**Far West T-bar**	**2.73**	**23**	P	**Pb**	**18 09 37.2**	**-1.8**
WACZ	**Wakanui South**	**2.77**	**218**	P	**Pn**	**18 09 34.3**	**+0.1**
NGZ	**Ngauruhoe**	**2.81**	**23**	P	**Pn**	**18 09 39.7**	**-0.7**
KAHZ	**Kahuranaki**	**2.84**	**46**	P	**Pn**	**18 09 34.5**	**-0.6**
OTVZ	**Oturere**	**2.84**	**24**	P	**Pb**	**18 09 40.0**	**-0.9**
NNVZ	**North Ngauruho**	**2.86**	**23**	P	**Pn**	**18 09 37.7**	**+2.2**
WTVZ	**West Tongariro**	**2.87**	**22**	P	**Pn**	**18 09 37.5**	**+2.0**
TWVZ	**Taurewa**	**2.87**	**20**	P	**Pb**	**18 09 40.2**	**-1.1**
WVZ	**Waitaha Valley**	**2.87**	**242**	P	**Pb**	**18 09 40.3**	**-1.0**
ETVZ	**East Tongariro**	**2.88**	**24**	P	**Pb**	**18 09

eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**304**	P	Pb	18 27 51.3	-0.3
JFFD	**Fukushimafurud**	**0.63**	**268**	P	Pb	18 27 54.0	-0.6
JMST	**Minamisoumatoc**	**0.71**	**329**	P	Pb	18 27 55.4	-0.5
JMST				S	Sb	18 28 05.2	0.0
JHO	**Hitachi**	**0.80**	**231**	S	Sb	18 28 07.2	-0.8
JMM	**Marumori**	**0.87**	**330**	*e*P	Pb	18 27 58.1	-0.5

*SNET **26** 18:28:31.9±1.0, 13°.14N×89°.39W, h55km, ML4.1*
*INET **26** 18:28:33.4±1.4, 13°.16N×89°.30W, h47km±18km, MW3.6*
*GCG **26** 18:28:34.8±0.4, 13°.67N×89°.60W, h150km±14km, MD4.0*

ISC 26 18:28:31.1±1.7, 13°.12N±0°.06×89°.39W±0°.04, h19km±4km, n34, σ0s56/51, 3C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.53**	**354**	⇓*i*P	**Pn**	**18 28 43.9**	**+0.1**
JAYA				*e*S	**Sn**	**18 28 53.0**	**+0.8**
SNET	**Serv Nac Est T**	**0.58**	**15**	*e*P	**Pn**	**18 28 44.5**	**+0.1**
SNET				*e*S	**Sn**	**18 28 54.4**	**+1.0**
SNET	**Serv Nac Est T**	**0.58**	**15**	*e*P	**Pn**	**18 28 44.4**	**+0.1**
SNET				*e*S	**Sn**	**18 28 54.2**	**+0.8**
LFRS	**El Faro**	**0.59**	**33**	*e*P	**Pn**	**18 28 44.8**	**+0.3**
UEES	**Universidad Ev**	**0.61**	**14**	*e*P	**Pn**	**18 28 44.9**	**+0.2**
SJTE	**Alcalda de S**	**0.61**	**37**	*e*P	**Pn**	**18 28 44.8**	**0.0**
SJTE				*e*S	**Sn**	**18 28 54.6**	**+0.4**
BOQS	**Boqueron**	**0.62**	**10**	⇓*i*P	**Pn**	**18 28 45.1**	**+0.1**
CEDA	**San Andres**	**0.68**	**360**	⇓*i*P	**Pn**	**18 28 45.8**	**+0.2**
CEDA				*e*S	**Sn**	**18 28 56.4**	**+0.7**
LFU	**La Fuente**	**0.68**	**23**	⇑*i*P	**Pn**	**18 28 46.1**	**+0.4**
LBRS	**Las Brisas**	**0.70**	**29**	*e*P	**Pn**	**18 28 46.5**	**+0.5**
COEG	**Centro de Oper**	**0.70**	**45**	*e*P	**Pn**	**18 28 45.8**	**-0.2**
PAVA	**Las Pavas**	**0.73**	**37**	⇑*e*P	**Pn**	**18 28 46.7**	**+0.2**
PAVA				*e*S	**Sn**	**18 28 57.7**	**+0.5**
CEVE	**Cerro Verde**	**0.74**	**342**	⇑*i*P	**Pn**	**18 28 46.7**	**+0.1**
SBLS	**San Blas**	**0.75**	**342**	⇓*i*P	**Pn**	**18 28 46.8**	**0.0**
SNJE	**San Jose**	**0.77**	**344**	*e*P	**Pn**	**18 28 47.1**	**0.0**
RTR	**El Retiro**	**0.81**	**342**	*e*P	**Pn**	**18 28 47.8**	**+0.2**
ALJI	**Alcalda de J**	**0.82**	**76**	⇓*i*P	**Pg**	**18 28 47.4**	**+0.1**
ALJI				*e*S	**Sn**	**18 28 59.7**	**+0.5**
NUBE	**Las Nubes**	**0.86**	**334**	⇓*i*P	**Pn**	**18 28 48.0**	**-0.3**
NUBE				*e*S	**Sn**	**18 29 00.0**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.86**	**48**	*e*P	**Pn**	**18 28 48.5**	**+0.3**
SCLA				*e*S	**Sn**	**18 29 00.6**	**+0.3**
COEB	**Comit de Eme**	**0.92**	**66**	*e*P	**Pb**	**18 28 48.6**	**+0.2**
PQSS	**Presa 15 de Se**	**0.95**	**58**	⇓*i*P	**Pb**	**18 28 49.3**	**+0.4**
PQSS				*e*S	**Sg**	**18 29 02.0**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.97**	**337**	*e*P	**Pn**	**18 28 49.9**	**+0.2**
P5NO	**Presa 5 de nov**	**1.05**	**36**	*e*P	**Pb**	**18 28 50.4**	**-0.3**
P5NO				*e*S	**Sg**	**18 29 04.2**	**-1.3**
PACA	**Pacayal**	**1.09**	**72**	*e*P	**Pn**	**18 28 52.1**	**+0.6**
PACA				*e*S	**Sg**	**18 29 06.8**	**0.0**
PACA	**Pacayal**	**1.09**	**72**	*e*P	**Pn**	**18 28 51.9**	**+0.4**
MTO3	**Montecristo**	**1.27**	**1**	*e*P	**Pn**	**18 28 53.6**	**-0.3**
MTO3				*e*S	**Sb**	**18 29 09.6**	**-0.9**
ESQI	**Esquipulas**	**1.43**	**2**	*e*P	**Pn**	**18 28 56.0**	**0.0**
ESQI				*e*S	**Sn**	**18 29 14.0**	**-0.4**
LCND	**La Caada**	**1.47**	**83**	⇓*i*P	**Pn**	**18 28 56.6**	**+0.1**
CNCH	**Conchagua**	**1.52**	**84**	*e*P	**Pn**	**18 28 56.6**	**-0.8**
CNCH				*e*S	**Sn**	**18 29 17.3**	**+0.6**
NBG	**Las Nubes**	**1.73**	**328**	*e*P	**Pb**	**18 29 02.3**	**-0.1**
FUG	**Fuego 3**	**1.93**	**313**	*e*P	**Pn**	**18 29 04.4**	**+1.4**
FUG				*e*S	**Sn**	**18 29 27.9**	**+1.0**
CRIN	**San Cristobal**	**2.32**	**100**	*e*P	**Pn**	**18 29 07.7**	**-0.6**
STG3	**Santiaguito 3,**	**2.64**	**307**	*e*P	**Pn**	**18 29 13.3**	**+0.5**
STG3				*e*S	**Sn**	**18 29 42.9**	**-1.5**
MOMN	**Momotombo**	**2.87**	**104**	*e*P	**Pn**	**18 29 15.4**	**-0.4**

IDC 26 18:45:17.3±58.0, 18°.75S×178°.93E, h0km, mb3.6/3, mbtmp3.6/3, MS3.5/1, Error ellipse: s-maj=1041.0km s-min=152.4km az=79.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.01**	**241**	P	P	18 52 20.8	+0.4
	1.4nm,0.8s,baz=76,slow=8.3,SNR=3.2						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**42.00**	**261**	P	P	18 53 10.8	+0.1
	0.2nm,0.3s,baz=97,slow=7.7,SNR=11						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**42.13**	**255**	P	P	18 53 11.1	-0.7
	0.3nm,0.4s,baz=87,slow=8.7,SNR=11						
	0.3nm,0.4s						
NWAO	**Narrogin (SRO)**	**56.59**	**243**	LR	LR	19 17 33.7	
	comp=Z,42nm,19.0s,baz=358,slow=34						

IDC 26 19:00:42.6±6.5, 32°.72S×179°.68W, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=293.0km s-min=56.9km az=161.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.62**	**270**	P	P	19 08 31.6	-1.1
	0.2nm,0.8s,baz=113,slow=7.9,SNR=1.7						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**42.82**	**276**	P	P	19 08 42.9	+0.5
	0.2nm,0.3s,baz=116,slow=7.6,SNR=9.8						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**146.78**	**338**	PKPbc	PKPbc	19 20 25.0	-0.8
	15nm,1.3s,baz=26,slow=4.3,SNR=11						

MAN 26 19:08:41.0, 7°.78N×124°.71E, h30km, mb3.5, ML2.2, MS1.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.37**	**74**	⇓*e*P	Pn	19 08 50.8	+0.4
BUKP				*e*S	Sn	19 08 57.9	+1.3
CGP	**Cagayan de Oro**	**0.68**	**359**	⇑*e*P	Pn	19 08 55.1	+0.6
CGP				*e*S	Sn	19 09 04.9	+0.8
CTBH	**Cotabato--PC H**	**0.72**	**220**	*i* P	Pb	19 08 54.7	-0.4
CTBH				*i* S	Sn	19 09 06.3	+1.2

*IDC **26** 19:08:42.9±0.9, 13°.48S×111°.62W, h0km, mb3.7/5, mbtmp3.9/6, ML4.5/1, MS4.2/45, Error ellipse: s-maj=31.0km s-min=23.3km az=65.0*
*NEIC **26** 19:08:45.1±1.2, 13°.53S±0°.08×111°.7W±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=30.0km s-min=12.6km az=284.0*
*GCMT **26** 19:08:49.1±0.2, 13°.41S±0°.01×111°.63W±0°.01, h24km±1km, MW5.1/121, Moment Tensor Solution. s47,c55; s121,c164; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.52±.17; Mθθ 1.37±.15; Mφφ -0.84±.16; Mrθ -0.91±.21; Mθφ 4.96±.13; Mφr -0.60±.21; Best double couple: M≈5.18100×10^16 NP1:φs277.00000°, δ84.00000°, λ8.00000°. NP2:φs186.00000°, δ82.00000°, λ174.00000°. Principal axes: T 5.5400, Plg10.0000°, Azm141.0000°; N -0.7140, Plg80.0000°, Azm314.0000°; P -4.8230, Plg1.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 19:08:44.4±0.7, 13°.6S±0°.1×111°.6W±0°.1, h11km, n73, σ0s85/25, mb4.5/13, MS4.3/44, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.67**	**171**	Pn	**Pn**	**19 11 57.3**	**-1.1**
	2.1nm,0.3s,baz=35,slow=23,SNR=7.8						
RPN				LR	LR	19 15 57.4	
	comp=Z,2μm,18.8s,baz=0.5,slow=32						
	46nm,0.8s						
MCRA	**Macar, Loja**	**32.56**	**77**	P	**P**	**19 15 16.7**	**+0.6**
MCRA				IAmb	IAmb	19 15 25.8	
	comp=Z,7.3nm,1.2s						
ATAH	**Atahualpa**	**33.29**	**82**	LR	LR	19 25 43.3	
	comp=Z,499nm,18.2s,baz=256,slow=31						
NNA	**Nana**	**33.95**	**91**	LR	LR	19 25 44.4	
	comp=Z,241nm,19.0s,baz=252,slow=30						
CMIG	**Matias Romero**	**34.66**	**29**	LR	LR	19 26 44.7	
	comp=Z,610nm,20.1s,baz=216,slow=31						
JTS	**Las Juntas de**	**35.53**	**50**	LR	LR	19 26 25.8	
	comp=Z,596nm,21.9s,baz=294,slow=30						
H03N2	**Juan Fernandez**	**35.71**	**129**	T	T	19 53 33.3	
	baz=300,slow=76,SNR=171						
H03N3	**Juan Fernandez**	**35.72**	**129**	T	T	19 53 34.3	
	baz=300,slow=76,SNR=210						
H03N1	**Juan Fernandez**	**35.73**	**129**	T	T	19 53 34.6	
	baz=300,slow=76,SNR=199						
LPIG	**La Paz**	**37.45**	**2**	LR	LR	19 27 21.8	
	comp=Z,558nm,20.8s,baz=192,slow=30						
ROSC	**El Rosal**	**41.31**	**66**	LR	LR	19 28 18.4	
	comp=Z,92nm,20.0s,baz=250,slow=28						
LPAZ	**La Paz**	**42.07**	**99**	P	**P**	**19 16 37.1**	**-0.3**
	comp=Z,2.2nm,1.1s,baz=257,slow=5.2,SNR=7.2						
LPAZ				LR	LR	19 30 08.6	
	comp=Z,299nm,20.2s,baz=234,slow=31						
	comp=Z,2.2nm,1.1s						
LPAZ	**La Paz**	**42.07**	**99**	P	**P**	**19 16 38.6**	**+1.2**
833A	**Chaparral WMA,**	**43.29**	**16**	P	**P**	**19 16 46.4**	**+0.1**
TXAR	**Lajitas Array**	**43.33**	**10**	P	**P**	**19 16 46.7**	**0.0**
	comp=Z,0.4nm,0.8s,baz=210,slow=7.2,SNR=4.6						
TXAR				LR	LR	19 31 38.2	
	comp=Z,179nm,18.7s,baz=194,slow=32						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**43.33**	**10**	P	**P**	**19 16 46.5**	**-0.3**
CFA	**Coronel Fontan**	**43.59**	**122**	LR	LR	19 30 39.9	
	comp=Z,704nm,18.5s,baz=286,slow=30						
PLCA	**Paso Flores**	**44.90**	**135**	P	**P**	**19 16 59.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=297,slow=2.3,SNR=1.9						
PLCA				LR	LR	19 31 20.8	
	comp=Z,834nm,18.1s,baz=274,slow=30						
	comp=Z,0.8nm,0.5s						
JCT	**Junction City**	**45.24**	**14**	P	**P**	**19 17 02.0**	**+0.1**
JCT				IAmb	IAmb	19 17 12.8	
	comp=Z,9.3nm,1.1s						
121A	**Cookes Peak, D**	**45.97**	**5**	P	**P**	**19 17 08.8**	**+0.9**
121A				IAmb	IAmb	19 17 19.2	
	comp=Z,7.2nm,1.0s						
435B	**Jarrell**	**46.11**	**17**	P	**P**	**19 17 08.1**	**-0.7**
SDV	**Santo Domingo**	**46.41**	**64**	LR	LR	19 34 42.3	
	comp=Z,134nm,18.2s,baz=228,slow=34						
SDV	**Santo Domingo**	**46.41**	**64**	P	**P**	**19 17 11.4**	**-0.3**
SDV				IAmb	IAmb	19 17 22.5	
	comp=Z,10nm,1.2s						
RAR	**Rarotonga**	**46.42**	**254**	P	**P**	**19 17 11.3**	**-0.1**
	comp=Z,41nm,0.9s,baz=121,slow=5.9,SNR=1.8						
RAR				LR	LR	19 31 02.0	
	comp=Z,401nm,21.3s,baz=48,slow=29						
PFO	**Pinyon Flats O**	**47.13**	**355**	LR	LR	19 32 03.9	
	comp=Z,295nm,21.3s,baz=193,slow=30						
SAML	**Samuel**	**47.68**	**90**	P	**P**	**19 17 20.6**	**-0.9**
SAML				IAmb	IAmb	19 17 30.4	
	comp=Z,8.0nm,1.1s						
MSTX	**Muleshoe**	**48.01**	**10**	P	**P**	**19 17 22.9**	**-0.9**
SIV	**San Ignacio**	**48.86**	**99**	LR	LR	19 34 28.3	
	comp=Z,240nm,20.6s,baz=274,slow=32						
SHPR	**Sheep Range**	**49.90**	**356**	P	**P**	**19 17 38.9**	**+0.6**
PTLB	**Pontes e Lacer**	**50.76**	**99**	P	**P**	**19 17 44.9**	**-0.1**
PTLB				IAmb	IAmb	19 17 47.3	
	comp=Z,4.9nm,1.1s						
SDCO	**Great Sand Dun**	**51.35**	**6**	P	**P**	**19 17 49.1**	**-0.2**
NVAR	**Mina Array Bea**	**52.09**	**353**	P	**P**	**19 17 54.0**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=165,slow=12,SNR=4.5						
	comp=Z,0.5nm,0.4s						
NVAR	**Mina Array Bea**	**52.09**	**353**	P	**P**	**19 17 54.9**	**+0.2**
CPUP	**Villa Florida**	**52.27**	**113**	LR	LR	19 35 46.6	
	comp=Z,345nm,21.9s,baz=266,slow=31						
PTGA	**Pitinga**	**52.70**	**80**	LR	LR	19 38 09.9	
	comp=Z,241nm,18.6s,baz=249,slow=34						
ELK	**Elko**	**54.13**	**357**	LR	LR	19 37 00.4	
	comp=Z,322nm,18.8s,baz=189,slow=31						
SJG	**San Juan**	**54.80**	**56**	LR	LR	19 37 13.8	
	comp=Z,101nm,20.3s,baz=236,slow=31						
TKL	**Tuckaleechee C**	**55.60**	**27**	LR	LR	19 40 22.2	
	comp=Z,106nm,19.7s,baz=190,slow=34						
YBH	**Yreka Blue Hor**	**55.95**	**350**	LR	LR	19 36 31.4	
	comp=Z,568nm,21.4s,baz=172,slow=30						
PDAR	**Pinedale Array**	**56.08**	**2**	P	**P**	**19 18 22.1**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=145,slow=8.0,SNR=4.7						
PDAR				LR	LR	19 38 16.2	
	comp=Z,247nm,19.1s,baz=190,slow=32						
	comp=Z,0.3nm,0.7s						
AFI	**Afiamalu**	**58.28**	**262**	LR	LR	19 38 09.0	
	comp=Z,130nm,18.9s,baz=106,slow=30						
PMSA	**Palmer Station**	**60.56**	**159**	LR	LR	19 38 06.9	
	comp=Z,345nm,20.7s,baz=294,slow=29						
BDFB	**Brasilia**	**61.40**	**101**	LR	LR	19 43 19.2	
	comp=Z,134nm,20.2s,baz=321,slow=34						
MDP	**Montagnes des**	**61.42**	**76**	LR	LR	19 42 16.1	
	comp=Z,62nm,18.6s,baz=240,slow=33						
NEW	**Newport**	**61.73**	**356**	LR	LR	19 41 00.6	
	comp=Z,160nm,21.0s,baz=172,slow=31						
SADO	**Sadowa**	**65.11**	**25**	LR	LR	19 47 09.4	
	comp=Z,224nm,18.1s,baz=198,slow=36						
BBB	**Bella Bella**	**67.00**	**349**	LR	LR	19 41 37.0	
	comp=Z,141nm,21.0s,baz=178,slow=30						
MSVF	**Nonsavu**	**67.50**	**256**	LR	LR	19 41 40.4	
	comp=Z,182nm,21.6s,baz=18,slow=29						
RPZ	**Rata Peaks**	**71.62**	**228**	LR	LR	19 44 26.1	
	comp=Z,254nm,21.2s,baz=130,slow=30						
DLBC	**Dease Lake**	**73.30**	**350**	LR	LR	19 47 02.7	
	comp=Z,148nm,19.4s,baz=134,slow=31						
YKA	**Yellowknife Ar**	**75.84**	**359**	LR	LR	19 50 34.7	
	comp=Z,303nm,18.7s,baz=230,slow=33						
VNDA	**Vanda**	**76.10**	**193**	LR	LR	19 47 11.6	
	comp=Z,90nm,19.4s,baz=88,slow=30						
QSPA	**South Pole Qui**	**76.55**	**180**	P	**P**	**19 20 35.8**	**+1.1**
QSPA				IAmb	IAmb	19 20 45.1	
	comp=Z,8.5nm,1.1s						
SCHQ	**Schefferville**	**77.92**	**25**	LR	LR	19 53 43.2	
	comp=Z,165nm,19.4s,baz=215,slow=35						
ILAR	**Eielson Array**	**82.53**	**346**	LR	LR	19 52 18.7	
	comp=Z,118nm,18.0s,baz=120,slow=32						
FRB	**Frobisher Bay**	**83.84**	**18**	LR	LR	19 57 03.1	
	comp=Z,142nm,19.6s,baz=175,slow=35						
H11S2	**WAKE ISLAND Hy**	**86.53**	**290**	T	T	20 56 57.0	
	baz=106,slow=75,SNR=93						
H11S1	**WAKE ISLAND Hy**	**86.54**	**290**	T	T	20 56 55.7	
	baz=106,slow=75,SNR=43						
H11S3	**WAKE ISLAND Hy**	**86.55**	**290**	T	T	20 56 54.5	
	baz=106,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy**	**86.67**	**291**	T	T	20 57 02.0	
	baz=106,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**86.69**	**291**	T	T	20 57 03.7	
	baz=106,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**86.69**	**291**	T	T	20 56 59.3	
	baz=106,slow=75,SNR=18						
RES	**Resolute Bay**	**88.68**	**4**	LR	LR	19 58 29.6	
	comp=Z,178nm,18.9s,baz=194,slow=34						
SHEM	**Shemya Is, Ala**	**91.40**	**324**	LR	LR	19 53 41.5	
	comp=Z,190nm,21.9s,baz=108,slow=30						
SFJD	**Kangerlussuaq**	**91.66**	**20**	LR	LR	20 01 36.2	
	comp=Z,250nm,19.0s,baz=216,slow=35						
KRVT	**Keravat (AS076**	**95.14**	**264**	LR	LR	19 57 53.1	
	comp=Z,66nm,18.5s,baz=264,slow=31						
CTA	**Charters Tower**	**96.44**	**248**	LR	LR	19 57 24.5	
	comp=Z,78nm,20.9s,baz=134,slow=30						
STKA	**Stephens Creek**	**96.68**	**235**	LR	LR	19 57 52.5	
	comp=Z,142nm,21.1s,baz=54,slow=30						
PMG	**Port Moresby**	**98.55**	**258**	LR	LR	19 58 56.4	
	comp=Z,60nm,18.7s,baz=76,slow=31						
MAW	**Mawson**	**98.97**	**178**	LR	LR	20 02 49.6	
	comp=Z,152nm,20.2s,baz=185,slow=33						
MKAR	**Makanchi Array**	**144.86**	**343**	PKP	**PKPdf**	**19 28 23.2**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=52,slow=3.1,SNR=1.6						
KMBO	**Kilima Mbogo**	**145.89**	**113**	PKPbc	**PKPab**	**19 28 27.2**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=282,slow=6.3,SNR=1.6						
CMAR	**Chiang Mai Arr**	**150.23**	**283**	PKPbc	**PKiKP**	**19 28 36.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=31,slow=1.2,SNR=7.2						

MAN 26 19:09:54.8, 7°.86N×124°.77E, h27km, mb3.8, ML2.6, MS2.1, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.29**	**85**	⇓*e*P	Pn	19 10 03.1	-0.1
BUKP				*e*S	Sn	19 10 10.3	+1.6
CGP	**Cagayan de Oro**	**0.60**	**353**	⇑*e*P	Pn	19 10 07.5	0.0
CGP				*e*S	Sn	19 10 17.5	+1.1
CTBH	**Cotabato--PC H**	**0.82**	**220**	⇑*i*P	Pb	19 10 07.6	-2.9
CTBH				*i* S	Sb	19 10 17.5	-3.6
KCP	**Kidapawan**	**0.90**	**159**	⇓*e*P	Pb	19 10 19.3	+7.5

*IDC **26** 19:23:25.1±1.8, 62°.82S×152°.73E, h0km, mb3.9/4, mbtmp4.0/5, ML4.3/1, MS4.0/13, Error ellipse: s-maj=86.5km s-min=21.9km az=83.0*
*NEIC **26** 19:23:27.7±1.1, 63°.4S±0°.1×148°.9E±0°.1, h10km±2km, mb4.3/9, Error ellipse: s-maj=21.7km s-min=9.3km az=179.0*

ISC 26 19:23:27.7±1.2, 63°.2S±0°.2×150°.6E±0°.7, h10km, n36, σ1s22/18, mb4.0/6, MS3.9/12, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.85**	**170**	Pn	**Pn**	**19 26 56.6**	**-0.6**
	1.2nm,0.3s,baz=338,slow=12,SNR=64						
VNDA				Sn	Sn	19 29 31.9	-10
	1.0nm,0.3s,baz=260,slow=18,SNR=6.8						
VNDA				LR	LR	19 32 54.7	
	comp=Z,796nm,19.1s,baz=346,slow=38						
	4.5nm,0.5s						
VNDA	**Vanda**	**14.85**	**170**	Pn	**Pn**	**19 26 56.3**	**-1.0**
SBA	**Scott Base**	**15.58**	**167**	Pn	**Pn**	**19 27 05.8**	**-1.2**
SBA				IAmb	IAmb	19 27 23.8	
	comp=Z,8.6nm,0.8s						
CASY	**Casey**	**17.17**	**242**	Pn	Pn	19 27 17.1	-10
CASY				IAmb	IAmb	19 27 35.7	
	comp=Z,29nm,1.3s						
QSPA	**South Pole Qui**	**26.91**	**180**	P	**P**	**19 29 10.9**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=61,slow=7.9,SNR=1.9						
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**26.91**	**180**	P	**P**	**19 29 07.6**	**-1.0**
QSPA				IAmb	IAmb	19 29 25.1	
	comp=Z,7.4nm,1.1s						
MAW	**Mawson**	**33.90**	**223**	P	P	19 30 17.3	+7.3
	comp=Z,2.8nm,0.9s,baz=88,slow=6.1,SNR=1.9						
MAW				LR	LR	19 44 26.5	
	comp=Z,408nm,18.7s,baz=126,slow=36						
	comp=Z,2.8nm,0.9s						
H01W1	**Cape Leeuwin H**	**36.15**	**304**	T	T	20 08 31.0	
	baz=152,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**36.15**	**304**	T	T	20 08 27.0	
	baz=152,slow=76,SNR=41						
H01W3	**Cape Leeuwin H**	**36.16**	**304**	T	T	20 08 32.8	
	baz=152,slow=76,SNR=26						
NWAO	**Narrogin (SRO)**	**36.80**	**309**	LR	LR	19 41 46.8	
	comp=Z,253nm,19.3s,baz=326,slow=30						
ASAR	**Alice Springs**	**41.05**	**336**	P	**P**	**19 31 10.9**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=164,slow=8.9,SNR=20						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**41.05**	**336**	P	**P**	**19 31 10.6**	**-0.5**
AS31	**Alice Springs**	**41.05**	**336**	P	**P**	**19 31 10.4**	**-0.6**
WB2	**Warramunga Arr**	**44.61**	**338**	P	**P**	**19 31 38.6**	**-1.3**
WB2				IAmb	IAmb	19 31 46.8	
	comp=Z,4.7nm,1.0s						
WRA	**Warramunga Arr**	**44.61**	**338**	P	**P**	**19 31 38.4**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=166,slow=7.2,SNR=14						
WRA				PcP	**PcP**	**19 33 23.3**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=174,slow=3.4,SNR=3.2						
	comp=Z,1.1nm,0.7s						
WRA	**Warramunga Arr**	**44.61**	**338**	P	**P**	**19 31 38.5**	**-1.5**
PMSA	**Palmer Station**	**49.82**	**161**	LR	LR	19 51 44.7	
	comp=Z,86nm,18.0s,baz=173,slow=34						
KNRA	**Kununurra**	**49.84**	**332**	P	**P**	**19 32 19.4**	**-1.2**
MTN	**Manton Dam**	**52.12**	**336**	P	**P**	**19 32 36.6**	**-1.2**
MTN				IAmb	IAmb	19 32 50.6	
	comp=Z,6.0nm,1.1s						
PMG	**Port Moresby**	**53.73**	**356**	P	**P**	**19 32 50.4**	**+0.7**
HNR	**Honiara**	**54.07**	**11**	LR	LR	19 51 17.6	
	comp=Z,1μm,21.0s,baz=134,slow=31						
BATI	**Baumata**	**56.29**	**328**	LR	LR	19 54 44.8	
	comp=Z,198nm,21.6s,baz=154,slow=33						
PPT	**Papeete**	**60.99**	**71**	LR	LR	19 53 35.2	
	comp=Z,63nm,18.2s,baz=242,slow=30						
KAPI	**Kappang**	**62.26**	**325**	LR	LR	19 58 53.4	
	comp=Z,66nm,19.1s,baz=152,slow=34						
PLCA	**Paso Flores**	**71.36**	**148**	LR	LR	20 01 32.8	
	comp=Z,42nm,19.6s,baz=178,slow=32						
H03S1	**Juan Fernandez**	**75.59**	**139**	T	T	20 59 21.0	
	baz=199						
H03S2	**Juan Fernandez**	**75.59**	**139**	T	T	20 59 22.2	
	baz=199						
H03S3	**Juan Fernandez**	**75.61**	**139**	T	T	20 59 21.7	
	baz=199						
SUR	**Sutherland**	**76.75**	**222**	LR	LR	20 09 14.2	
	comp=Z,153nm,19.3s,baz=200,slow=35						
CPUP	**Villa Florida**	**88.09**	**155**	LR	LR	20 14 19.5	
	comp=Z,25nm,19.0s,baz=214,slow=35						
CMAR	**Chiang Mai Arr**	**90.76**	**312**	LR	LR	20 14 40.4	
	comp=Z,48nm,21.3s,baz=155,slow=34						
SIV	**San Ignacio**	**97.32**	**149**	LR	LR	20 18 26.0	
	comp=Z,23nm,19.6s,baz=231,slow=34						
AKASG	**Malin Array Be**	**146.93**	**276**	PKPbc	**PKPbc**	**19 43 09.1**	**+0.1**
	comp=Z,0.2nm,0.2s,baz=111,slow=2.8,SNR=1.5						
ESDC	**Sonseca Array**	**151.99**	**225**	PKPbc	**PKiKP**	**19 43 23.9**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=70,slow=1.5,SNR=2.4						
GERES	**GERESS Array B**	**152.61**	**259**	PKPbc	**PKiKP**	**19 43 24.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=114,slow=2.4,SN

TAMC	**Tame, Arauca**	**2.38**	**69**	⇓*e*P		**Pn**	**19 33 17.3**	**+1.2**
TAMC				*e*S		**Sn**	**19 33 46.6**	**+1.1**
DBBC	**Dabeiba**	**2.59**	**303**	*e*P		**Pn**	**19 33 20.4**	**+1.6**
DBBC				*e*S		**Sn**	**19 33 47.0**	**-3.5**
UREC	**San Jos de Ur**	**2.62**	**325**	⇓*e*P		**Pn**	**19 33 18.1**	**-1.0**
UREC				*e*S		**Sn**	**19 33 48.8**	**-2.1**
UREC				IAML			19 34 02.9	
	comp=Z,1μm,0.3s							
YOTC	**Yotoco, Valle**	**2.81**	**235**	*e*P		**Pn**	**19 33 21.9**	**+0.2**
YOTC				*e*S		**Sn**	**19 33 57.9**	**+2.4**
BETC	**Betania**	**3.21**	**206**	*e*P		**Pn**	**19 33 26.2**	**-0.7**
BETC				*e*S		**Sn**	**19 34 03.7**	**-1.3**
BETC				IAML			19 34 08.6	
	comp=Z,300nm,0.5s							
GUVC	**San Jose del G**	**3.33**	**155**	⇑*e*P		**Pn**	**19 33 28.2**	**-0.2**
GUVC				*e*S		**Sn**	**19 34 05.5**	**-2.1**
GUVC				IAML			19 34 08.3	
	comp=Z,1μm,0.3s							
MALC	**Bahia Malaga**	**3.65**	**245**	*e*P		**Pn**	**19 33 34.8**	**+2.1**
GARC	**Garzon, Huila**	**3.68**	**203**	*e*P		**Pn**	**19 33 32.5**	**-0.9**
GARC				*e*S		**Sn**	**19 34 13.6**	**-2.7**
GARC				IAML			19 34 17.3	
	comp=Z,730nm,0.2s							
LL1C	**La Loma 1 Cana**	**3.96**	**7**	*e*P		**Pn**	**19 33 37.5**	**+0.8**
LL1C				*e*S		**Sn**	**19 34 25.9**	**+3.5**
LCBC	**Los crdobas,**	**3.99**	**325**	⇑*i*P		**Pn**	**19 33 36.6**	**-0.6**
LCBC				*e*S		**Sn**	**19 34 21.5**	**-1.8**
LCBC				IAML			19 34 28.1	
	comp=Z,237nm,0.5s							
LL5C	**La Loma 5 El P**	**4.14**	**4**	*e*P		**Pn**	**19 33 39.8**	**+0.5**
LL5C				*e*S		**Sn**	**19 34 26.8**	**-0.2**
LL5C				IAML			19 34 45.4	
	comp=Z,560nm,0.2s							
ARGC	**Ariguani, Magd**	**4.25**	**357**	*e*P		**Pn**	**19 33 41.4**	**+0.8**
ARGC				*e*S		**Sn**	**19 34 30.0**	**+0.6**
ARGC				IAML			19 34 49.8	
	comp=Z,188nm,0.5s							
FLOC	**Florencia**	**4.30**	**202**	*e*P		**Pn**	**19 33 41.2**	**-0.1**
FLOC				*e*S		**Sn**	**19 34 29.2**	**-1.5**
FLOC				IAML			19 34 33.4	
	comp=Z,94nm,0.6s							
SJCC	**San Jacinto, C**	**4.43**	**345**	*e*P		**Pn**	**19 33 41.6**	**-1.5**
SJCC				*e*S		**Sn**	**19 34 25.8**	**-8.1**
SJCC				IAML			19 34 33.4	
	comp=Z,262nm,0.4s							
SDV	**Santo Domingo**	**4.70**	**46**	P		**Pn**	**19 33 48.2**	**+1.3**
	comp=Z,24nm,0.3s,baz=225,slow=5.1,SNR=23							
SDV				S		**Sn**	**19 34 40.0**	**-0.6**
	comp=Z,106nm,0.4s,baz=243,slow=23,SNR=8.9							
SDV	**Santo Domingo**	**4.70**	**46**	Pn		**Pn**	**19 33 47.9**	**+1.0**
CRJC	**Cerrejon, Guaj**	**5.51**	**12**	*e*P		**Pn**	**19 33 57.6**	**-0.1**
CRJC				*e*S		**Sn**	**19 34 58.5**	**-1.5**
SMRC	**Santa Marta, M**	**5.54**	**358**	*e*P		**Pn**	**19 33 57.4**	**-0.6**
SMRC				*e*S		**Sn**	**19 34 57.5**	**-3.1**
URIC	**Uribia, Colomb**	**6.40**	**18**	Pn		**Pn**	**19 34 09.2**	**-0.3**
URIC	**Uribia, Colomb**	**6.40**	**18**	*e*P		**Pn**	**19 34 09.3**	**-0.3**
URIC				*e*S		**Sn**	**19 35 18.0**	**-3.3**
URIC				IAML			19 35 29.7	
	comp=Z,90nm,0.5s							
BCIP	**Isla Barro Col**	**6.77**	**302**	Pn		**Pn**	**19 34 14.2**	**-0.3**
BAUV	**El Baul**	**6.81**	**60**	Pn		**Pn**	**19 34 13.8**	**-1.3**
PULU	**Pululahua**	**7.11**	**219**	Pn		**Pn**	**19 34 20.8**	**+1.2**
PCRV	**Puerto La Cruz**	**10.36**	**63**	P		**Pn**	**19 35 04.6**	**+1.5**
	comp=Z,7.2nm,0.7s,baz=187,slow=8.1,SNR=6.4							
PCRV				S		**Sn**	**19 36 54.0**	**-3.4**
	comp=Z,15nm,0.8s,baz=312,slow=15,SNR=2.5							
JTS	**Las Juntas de**	**11.78**	**294**	P		**Pn**	**19 35 23.6**	**+1.5**
	comp=Z,2.9nm,0.9s,baz=30,slow=22,SNR=1.7							
JTS				S		**Sn**	**19 37 25.3**	**-6.6**
	comp=Z,1.9nm,0.4s,baz=16,slow=20,SNR=1.3							
MTDJ	**Mount Denham**	**13.02**	**345**	Pn		**Pn**	**19 35 38.6**	**+0.3**
CZSB	**Cruzeiro do Su**	**13.30**	**174**	Pn		**Pn**	**19 35 41.3**	**-0.5**
SDDR	**Presa de Saban**	**13.58**	**11**	Pn		**Pn**	**19 35 46.9**	**+1.4**
BOAV	**Boa Vista**	**13.84**	**103**	Pn		**Pn**	**19 35 46.7**	**-2.1**
GTBY	**Guantanamo Bay**	**14.29**	**356**	Pn		**P**	**19 35 56.7**	**-1.4**
CELP	**Cerrillos**	**14.39**	**30**	Pn		**Pn**	**19 35 57.1**	**+1.3**
SJG	**San Juan**	**14.63**	**31**	P		**P**	**19 36 00.6**	**-1.3**
	comp=Z,7.1nm,0.3s,baz=300,slow=20,SNR=6.0							
CBYP	**Canovanas**	**14.92**	**32**			**P**	**19 36 04.5**	**-0.6**
PTGA	**Pitinga**	**15.38**	**114**	P		**Pn**	**19 36 07.8**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=322,slow=22,SNR=7.4							
PTGA				S		**Sn**	**19 38 52.3**	**-6.6**
	comp=Z,4.3nm,0.3s,baz=336,slow=19,SNR=7.1							
ETMB	**Extrema**	**17.17**	**153**	P		**P**	**19 36 29.4**	**-0.6**
ETMB				IAmb	IAmb		19 36 34.1	
	comp=Z,3.8nm,0.6s							
PAYG	**Puerto Ayora**	**17.39**	**250**	P		**Pn**	**19 36 33.8**	**+0.8**
TEIG	**Tepich**	**20.09**	**318**	P		**P**	**19 37 03.1**	**+1.2**
LPAZ	**La Paz**	**22.51**	**165**	P		**P**	**19 37 27.4**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=9.3,slow=6.6,SNR=5.7							
	comp=Z,1.2nm,0.4s							
LPAZ	**La Paz**	**22.51**	**165**	P		**P**	**19 37 29.1**	**+1.0**
SIV	**San Ignacio**	**24.98**	**149**	P		**P**	**19 37 48.4**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=324,slow=8.3,SNR=7.5							
	comp=Z,1.5nm,0.7s							
V53A	**Saluda**	**31.01**	**346**	P		**P**	**19 38 44.5**	**+0.7**
V53A				IAmb	IAmb		19 39 13.9	
	comp=Z,14nm,1.4s							
CPCT	**Cooper Cave**	**31.25**	**343**	P		**P**	**19 38 47.0**	**+1.0**
CPCT				IAmb	IAmb		19 39 08.5	
	comp=Z,15nm,1.4s							
GO03	**Copiap**	**33.19**	**174**	P		**P**	**19 39 02.5**	**-0.5**
GO03				IAmb	IAmb		19 39 04.5	
	comp=Z,8.0nm,0.9s							
FCAR	**Ozark Folk Cen**	**34.44**	**334**	P		**P**	**19 39 14.5**	**+0.7**
FCAR				IAmb	IAmb		19 39 15.2	
	comp=Z,3.3nm,0.7s							
LCO	**Las Campanas**	**34.55**	**175**	P		**P**	**19 39 14.2**	**-0.9**
LCO				IAmb	IAmb		19 39 16.5	
	comp=Z,7.4nm,0.8s							
P52A	**Corning**	**34.67**	**349**	P		**P**	**19 39 17.6**	**+2.0**
P52A				IAmb	IAmb		19 39 28.7	
	comp=Z,10nm,1.4s							
FVM	**French Village**	**35.53**	**337**	P		**P**	**19 39 24.1**	**+1.1**
CCM	**Cathedral Cave**	**35.91**	**337**	P		**P**	**19 39 26.9**	**+0.6**
CO03	**El Pedregal**	**36.36**	**175**	P		**P**	**19 39 30.0**	**-0.3**
TXAR	**Lajitas Array**	**36.63**	**314**	P		**P**	**19 39 33.0**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=115,slow=9.3,SNR=5.4							
	comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**36.63**	**314**	P		**P**	**19 39 33.5**	**+0.8**
TX31	**Lajitas Ar. Si**	**36.63**	**314**	P		**P**	**19 39 32.9**	**+0.3**
TX31				IAmb	IAmb		19 39 59.0	
	comp=Z,5.1nm,1.4s							
WMOK	**Wichita Mounta**	**36.94**	**325**	P		**P**	**19 39 35.8**	**+0.6**
WMOK				IAmb	IAmb		19 39 36.5	
	comp=Z,2.6nm,0.7s							
AMTX	**Amarillo**	**38.75**	**322**	P		**P**	**19 39 51.3**	**+0.9**
MT09	**Talagante**	**39.26**	**176**	P		**P**	**19 39 54.0**	**-0.7**
MT01	**Popeta**	**39.33**	**176**	P		**P**	**19 39 55.3**	**+0.2**
ECSD	**EROS Data Cent**	**42.88**	**336**	P		**P**	**19 40 24.4**	**+0.4**
ECSD				IAmb	IAmb		19 40 26.5	
	comp=Z,4.7nm,1.2s							
SDCO	**Great Sand Dun**	**42.95**	**323**	P		**P**	**19 40 26.4**	**+1.2**
EYMN	**Ely**	**44.77**	**343**	P		**P**	**19 40 40.0**	**+0.8**
EYMN				IAmb	IAmb		19 40 48.1	
	comp=Z,7.1nm,1.2s							
PV13	**Radium Mtn., P**	**45.26**	**321**	P		**P**	**19 40 45.2**	**+1.7**
PV13				IAmb	IAmb		19 40 46.2	
	comp=Z,4.6nm,0.6s							
PLCA	**Paso Flores**	**46.20**	**176**	P		**P**	**19 40 49.4**	**-1.2**
PLCA				IAmb	IAmb		19 40 50.3	
	comp=Z,7.6nm,1.2s							
P18A	**Preston Nutter**	**47.03**	**321**	P		**P**	**19 40 58.8**	**+1.4**
PDAR	**Pinedale Array**	**48.55**	**325**	P		**P**	**19 41 09.6**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=124,slow=9.1,SNR=9.7							
	comp=Z,0.8nm,0.5s							
PDAR	**Pinedale Array**	**48.55**	**325**	P		**P**	**19 41 10.1**	**+1.1**
BW06	**Boulder Array**	**48.55**	**325**	P		**P**	**19 41 09.7**	**+0.7**
DUG	**Dugway, Tooele**	**48.97**	**321**	P		**P**	**19 41 13.3**	**+1.2**
DUG				IAmb	IAmb		19 41 14.7	
	comp=Z,2.8nm,0.8s							
REDW	**Red Top Meadow**	**49.66**	**325**	P		**P**	**19 41 18.1**	**+0.7**
REDW				IAmb	IAmb		19 41 20.1	
	comp=Z,6.1nm,1.0s							
MOOW	**Moose Ponds**	**49.85**	**325**	P		**P**	**19 41 19.8**	**+1.0**
MCMT	**McKenzie Canyo**	**51.70**	**325**	P		**P**	**19 41 34.4**	**+1.7**
B08A	**Colville Reser**	**57.39**	**326**	P		**P**	**19 42 14.0**	**+0.5**
B08A				IAmb	IAmb		19 42 15.0	
	comp=Z,3.5nm,0.9s							
YKA	**Yellowknife Ar**	**64.11**	**340**	P		**P**	**19 42 58.8**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=132,slow=6.0,SNR=30							
	comp=Z,2.6nm,0.5s							
YKA	**Yellowknife Ar**	**64.11**	**340**	P		**P**	**19 42 59.0**	**+0.3**
A36M	**Sachs Harbour**	**73.39**	**345**	P		**P**	**19 43 56.3**	**+0.3**
INK	**Inuvik**	**73.88**	**341**	P		**P**	**19 43 59.9**	**+0.9**
BCAR	**Beaver Creek A**	**75.07**	**334**	P		**P**	**19 44 07.8**	**+1.7**
J25K	**Salcha River,**	**77.02**	**335**	P		**P**	**19 44 18.3**	**+1.1**
BMAR	**Burnt Mountain**	**77.46**	**338**	P		**P**	**19 44 20.9**	**+1.4**
IL31		**77.69**	**335**	P		**P**	**19 44 21.5**	**+0.8**
IL31				IAmb	IAmb		19 44 44.9	
	comp=Z,3.4nm,1.1s							
ILAR	**Eielson Array**	**77.69**	**335**	P		**P**	**19 44 20.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=110,slow=4.7,SNR=12							
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**77.69**	**335**	P		**P**	**19 44 21.2**	**+0.4**
TRF	**Thorofare Moun**	**78.89**	**334**	P		**P**	**19 44 28.6**	**+1.0**
TRF				IAmb	IAmb		19 44 54.6	
	comp=Z,9.3nm,1.4s							
PPLA	**Purkeypile**	**79.66**	**333**	P		**P**	**19 44 32.5**	**+0.8**
IMAR	**Indian Mountai**	**80.74**	**336**	P		**P**	**19 44 37.8**	**+0.5**
ASAR	**Alice Springs**	**147.66**	**233**	PKPbc		**PKPdf**	**19 52 06.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=114,slow=3.8,SNR=27							
PZH	**PanZhiHua**	**147.84**	**7**	PKPbc		**PKPdf**	**19 52 05.5**	**-0.9**
WRA	**Warramunga Arr**	**148.95**	**240**	PKPbc		**PKPdf**	**19 52 09.4**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=107,slow=3.0,SNR=46							

NNC ***26*** *19:46:37.6±3.3,39.°07N×74.°27E,h0km,mb5.0,mpv4.7,*
Error ellipse: s-maj=25.6km s-min=15.6km az=164.0
IDC ***26*** *19:46:41.3±0.7,39.°06N×74.°49E,h0km,mb3.9/24,*
mbtmp3.9/29,ML3.2/5,MS3.7/10,Error ellipse:
s-maj=12.1km s-min=11.5km az=101.0
MOS ***26*** *19:46:41.5±1.0,38.°98N×74.°49E,h10km,mb4.4/14,Error*
ellipse: s-maj=6.9km s-min=4.5km az=83.7
BJI ***26*** *19:46:42.0±0.0,39.°12N×74.°38E,h8km,mb4.2/23,*
mB4.7/12,ML4.0/5,Ms4.1/5,Ms7 3.8/4
KRNET ***26*** *19:46:43.3±0.1,39.°18N×74.°22E,mb4.4*
NEIC ***26*** *19:46:43.5±2.2,39.°10N±0.°04×74.°45E±0.°08,h10km±1km,*
mb4.4/32,Error ellipse: s-maj=11.1km s-min=6.3km
az=291.0
SOME ***26*** *19:46:44.2,39.°35N×74.°18E,h5km,MS3.8*
ISC 26 19:46:43.2±0.4,39°01N±0°03×74°29E±0°03,h10km,n252,
σ1892/270,mb4.2/41,MS4.0/7,22C-22D,Southern
Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.40**	**68**	Pg	Pn	19 46 58.8	-10
KSH				Sg	Sb	19 47 10.5	-17
KSH				smax	smax		
	comp=N,3μm,0.8s						
KSH				smax	smax		
	comp=E,5μm,0.8s						
OHH	**Osh**	**1.91**	**323**	⇓*e*P	**Pn**	**19 47 15.9**	**0.0**
	baz=21						
OHH				⇓*i*S	**Sn**	**19 47 39.8**	**-0.2**
	baz=21						
NRN	**Naryn**	**2.75**	**28**	Pn	**Pn**	**19 47 27.6**	**-0.1**
NRN	**Naryn**	**2.75**	**28**	PN	**Pn**	**19 47 27.6**	**-0.1**
ARLS	**Aral**	**2.85**	**0**	⇓*i*P	**Pn**	**19 47 30.1**	**+1.2**
	baz=2.0						
ARLS				⇓*i*S	**Sn**	**19 48 04.0**	**+0.6**
	baz=2.0						
BTK	**Batken**	**2.89**	**292**	⇑*e*P	**Pn**	**19 47 31.5**	**+2.2**
	baz=90						
BTK				⇑*i*S	**Sn**	**19 48 06.3**	**+2.2**
	baz=90						
BTK	**Batken**	**2.89**	**292**		**Pn**	**19 47 30.2**	**+1.0**
BTK	**Batken**	**2.89**	**292**	PN	**Pn**	**19 47 30.3**	**+1.0**
GAR	**Garm**	**3.10**	**271**	⇑*i*P	**Pn**	**19 47 35.4**	**+3.1**
	baz=68						
GAR				⇑*i*S	**Sn**	**19 48 13.0**	**+3.6**
	baz=68						
GAR	**Garm**	**3.10**	**271**		**Pn**	**19 47 35.6**	**+3.3**
AML	**Almayashu**	**3.15**	**352**	P	**Pn**	**19 47 34.6**	**+1.3**
	SNR=74						
UCH	**Uchtor**	**3.22**	**3**	P	**Pn**	**19 47 35.8**	**+1.5**
	SNR=117						
UCH	**Uchtor**	**3.22**	**3**	⇑*i*P	**Pn**	**19 47 35.6**	**+1.3**
	baz=4.0						
UCH				⇑*i*S	**Sn**	**19 48 13.4**	**+0.5**
	baz=4.0						
ARK	**Arkit**	**3.31**	**328**	⇓*i*P	**Pn**	**19 47 36.5**	**+1.4**
	baz=27						
ARK				⇓*i*S	**Sn**	**19 48 14.9**	**+0.3**
	baz=27						
TRKS	**Terek-Say**	**3.49**	**317**	⇑*i*P	**Pn**	**19 47 38.3**	**+0.6**
	baz=15						
TRKS				⇑*i*S	**Sn**	**19 48 18.1**	**-1.0**
	baz=15						
ULHL	**Ulahol**	**3.56**	**24**	P	**Pb**	**19 47 45.2**	**-1.1**
	SNR=5.6						
ULHL	**Ulahol**	**3.56**	**24**	⇓*i*P	**Pn**	**19 47 40.7**	**+2.0**
	baz=26						
ULHL				⇓*i*S	**Sn**	**19 48 22.2**	**+1.3**
	baz=26						
AAK	**Ala-Archa**	**3.63**	**2**	P	**Pn**	**19 47 43.0**	**+3.4**
	SNR=8.7						
AAK	**Ala-Archa**	**3.63**	**2**	Pn	**Pn**	**19 47 41.9**	**+2.3**
	14nm,0.3s,baz=182,slow=8.9,SNR=74						
AAK				Sn	**Sn**	**19 48 26.8**	**+4.2**
	1.8nm,0.3s,baz=108,slow=20,SNR=1.4						
AAK				Lg	Lg	19 48 34.3	
	14nm,0.3s,baz=283,slow=23,SNR=6.4						
AAK				LR	LR	19 49 20.6	
	comp=Z,304nm,21.5s,baz=189,slow=45						
	87nm,0.5s						
AAK	**Ala-Archa**	**3.63**	**2**	⇑*i*P	**Pn**	**19 47 41.1**	**+1.5**
	baz=3.0						
AAK				⇑*i*S	**Sn**	**19 48 22.9**	**+0.3**
	baz=3.0						
AAK	**Ala-Archa**	**3.63**	**2**		**Pn**	**19 47 40.9**	**+1.3**
AAK	**Ala-Archa**	**3.63**	**2**	*i* PN	**Pn**	**19 47 41.1**	**+1.5**
EKS2	**Erkin-Say**	**3.67**	**354**	P	**Pn**	**19 47 42.2**	**+2.1**
	SNR=49						
EKS2	**Erkin-Say**	**3.67**	**354**	⇓*i*P	**Pn**	**19 47 41.5**	**+1.3**
	baz=55						
EKS2				⇓*i*S	**Sn**	**19 48 23.6**	**0.0**
	baz=55						
KBK	**Karagaybulak**	**3.68**	**8**	P	**Pn**	**19 47 41.9**	**+1.6**
	SNR=33						
KBK	**Karagaybulak**	**3.68**	**8**	⇓*i*P	**Pn**	**19 47 41.9**	**+1.6**
	baz=9.0						
KBK				⇓*i*S	**Sn**	**19 48 24.3**	**+0.5**
	baz=9.0						
TARG	**Taragay, Kyrgy**	**3.82**	**43**		**Pn**	**19 47 42.8**	**+0.4**
TARG	**Taragay, Kyrgy**	**3.82**	**43**	PN	**Pn**	**19 47 42.8**	**+0.4**
MRKS	**Merke**	**3.82**	**348**	*e*P	**Pb**	**19 47 48.3**	**-2.4**
	68nm,0.1s						
MRKS				*e*S	**Sn**	**19 48 34.1**	**+6.9**
	112nm,0.2s						
MRKS	**Merke**	**3.82**	**348**	Pg	**Pb**	**19 47 48.3**	**-2.4**
	65nm,0.3s						
MRKS				Lg	Lg	19 48 34.5	
	138nm,0.6s						
CHMS	**Chumysh**	**4.00**	**5**	P	**Pn**	**19 47 48.2**	**+3.6**
	SNR=20						
CHMS	**Chumysh**	**4.00**	**5**	⇓*e*P	**Pn**	**19 47 46.2**	**+1.6**
	baz=6.0						
CHMS				⇓*e*S	**Sn**	**19 48 31.6**	**0.0**
	baz=6.0						
CHGR	**Chuyangaron**	**4.03**	**267**		**Pn**	**19 47 48.0**	**+3.0**
CHGR	**Chuyangaron**	**4.03**	**267**	PN	**Pn**	**19 47 48.0**	**+3.0**
TKM2	**Tokmak 2**	**4.03**	**14**	P	**Pn**	**19 47 46.6**	**+1.4**
	SNR=13						
TKM2	**Tokmak 2**	**4.03**	**14**	⇑Pn	Pn	19 47 35.9	-9.3
	3.4nm,0.3s						
TKM2				⇑Pg	Pb	19 47 48.2	-6.3
	107nm,1.1s						
TKM2				⇓Lg	Lg	19 48 42.6	
	166nm,0.8s						
KST	**Kastek**	**4.23**	**17**	*e*P	**Pb**	**19 47 56.3**	**-1.4**
	102nm,0.0s						
KST				*e*S	**Sb**	**19 48 48.2**	**-0.6**
	210nm,0.3s						
KST	**Kastek**	**4.23**	**17**	Pg	**Pb**	**19 47 56.3**	**-1.4**
	76nm,0.4s						
KST				Lg	Lg	19 48 48.2	
	277nm,0.6s						
USP	**Ospenovka**	**4.26**	**2**	P	**Pn**	**19 47 51.0**	**+2.8**
	SNR=7.7						
MTBS	**Maitube**	**4.42**	**21**	*e*P	**Pb**	**19 48 01.3**	**+0.3**
	83nm,0.5s						
MTBS				*e*S	**Sb**	**19 48 56.5**	**+2.1**
	123nm,0.4s						
MTBS	**Maitube**	**4.42**	**21**	Pg	**Pb**	**19 48 01.3**	**+0.3**
	83nm,0.5s						
MTBS				Lg	Lg	19 48 56.5	
	117nm,0.7s						
SGDS	**Sogindy**	**4.45**	**3**	*e*P	**Pb**	**19 48 01.8**	**+0.4**
	54nm,0.6s						
SGDS				*e*S	**Sb**	**19 48 57.2**	**+2.1**
	37nm,0.3s						
SGDS	**Sogindy**	**4.45**	**3**	*e*Pn	**Pn**	**19 47 52.7**	**+1.9**
	baz=0.8						
SGDS				*e*Pg	**Pb**	**19 48 01.6**	**+0.1**
	baz=0.8						
SGDS	**Sogindy**	**4.45**	**3**	Pg	**Pb**	**19 48 01.8**	**+0.4**
	54nm,0.6s						
SGDS				Lg	Lg	19 48 58.3	
	55nm,0.9s						
SGDS	**Sogindy**	**4.45**	**3**	*e*PN	**Pn**	**19 47 52.6**	**+1.9**
SGDS				*e*		19 48 01.5	
TAS	**Tashkent**	**4.47**	**303**		**Pn**	**19 47 52.9**	**+1.8**
TAS	**Tashkent**	**4.47**	**303**	PN	**Pn**	**19 47 52.9**	**+1.8**
TNSS	**Tian-Shan**	**4.50**	**26**	*e*P	**Pb**	**19 48 02.7**	**+0.2**
	175nm,0.4s						
TNSS				*e*S	**Sb**	**19 48 58.8**	**+1.9**
	101nm,0.6s						
TNSS	**Tian-Shan**	**4.50**	**26**	*e*Pn	**Pn**	**19 47 52.3**	**+0.6**
	baz=24						
TNSS				*i* Pg	**Pb**	**19 48 01.8**	**-0.7**
	baz=24						
TNSS	**Tian-Shan**	**4.50**	**26**	Pg	**Pb**	**19 48 02.7**	**+0.2**
	175nm,0.4s						
TNSS				Lg	Lg	19 48 59.0	
	101nm,0.6s						
TNSS	**Tian-Shan**	**4.50**	**26**	*e*PN	**Pn**	**19 47 52.3**	**+0.6**
TNSS				*i*		19 48 01.8	
IUG	**Iuzhnay**	**4.51**	**315**	*e*Pn	**Pn**	**19 47 54.5**	**+2.7**
	baz=313						
IUG				*e*Pg	**Pb**	**19 48 05.4**	**+2.9**
	baz=313						
IUG	**Iuzhnay**	**4.51**	**315**	*e*PN	**Pn**	**19 47 54.4**	**+2.7**
IUG				*e*		19 48 05.4	
AAA	**Alma-Ata**	**4.64**	**24**	*e*P	**Pb**	**19 48 05.6**	**+0.9**
	127nm,0.4s						
AAA				*e*S	**Sb**	**19 49 04.6**	**+3.9**
	250nm,0.3s						
AAA	**Alma-Ata**	**4.64**	**24**	*e*Pg	**Pb**	**19 48 05.1**	**+0.3**
	baz=22						
AAA	**Alma-Ata**	**4.64**	**24**	Pg	**Pb**	**19 48 05.6**	**+0.9**
	127nm,0.4s						
AAA				Lg	Lg	19 49 04.9	
	247nm,0.6s						
AAA	**Alma-Ata**	**4.64**	**24**	*e*PN	**Pb**	**19 48 05.0**	**+0.3**
MDOK	**Medeo**	**4.64**	**26**	*e*P	**Pb**	**19 48 05.0**	**+0.1**
	114nm,0.6s						
MDOK				*e*S	**Sb**	**19 49 02.8**	**+1.9**
	242nm,0.4s						
MDOK	**Medeo**	**4.64**	**26**	*e*Pn	**Pn**	**19 47 54.3**	**+0.7**
	baz=24						
MDOK				*e*Pg	**Pb**	**19 48 04.5**	**-0.4**
	baz=24						
MDOK	**Medeo**	**4.64**	**26**	Pg	Pb	19 48 00.2	-4.7
	116nm,0.7s						
MDOK				Pg	**Pb**	**19 48 05.0**	**+0.1**
	114nm,0.6s						
MDOK				Lg	Lg	19 49 02.1	
	345nm,1.0s						
MDOK				Lg	Lg	19 49 03.3	
	238nm,0.9s						
MDOK	**Medeo**	**4.64**	**26**	*e*PN	**Pn**	**19 47 54.2**	**+0.7**
MDOK				*e*		19 48 04.4	
KNDC	**Almaty**	**4.67**	**25**	⇑Pg	**Pb**	**19 48 01.0**	**-4.1**
	435nm,1.0s						
KNDC				⇓Lg	Lg	19 49 04.9	
	847nm,0.9s						
KK31	**Karatay Array**	**4.99**	**326**		**Pn**	**19 47 59.4**	**+1.2**
KK31	**Karatay Array**	**4.99**	**326**	⇑Pn	Pn	19 47 50.9	-7.3
	30nm,0.6s,baz=132,slow=12						
KK31				⇓Sn	**Sn**	**19 48 51.0**	**-5.0**
	24nm,0.5s,baz=139,slow=26						
KK31				⇓Lg	Lg	19 49 18.6	
	34nm,0.5s,baz=140,slow=31						
KK31	**Karatay Array**	**4.99**	**326**	PN	**Pn**	**19 47 59.4**	**+1.2**
KKAR	**Karatay Array**	**4.99**	**326**		**Pn**	**19 47 58.8**	**+0.6**
KKAR	**Karatay Array**	**4.99**	**326**		**Pn**	**19 47 58.9**	**+0.7**
KKAR	**Karatay Array**	**4.99**	**326**	PN	**Pn**	**19 47 58.9**	**+0.7**
SATY	**Saty**	**5.11**	**36**	*e*P	**Pb**	**19 48 14.4**	**+1.7**
	105nm,0.5s						
SATY				*e*S	**Sb**	**19 49 19.3**	**+5.2**
	259nm,1.3s						
SATY	**Saty**	**5.11**	**36**	*e*Pn	**Pn**	**19 48 00.2**	**+0.3**
	baz=35						
SATY				*e*Pg	**Pb**	**19 48 12.3**	**-0.3**
	baz=35						
SATY	**Saty**	**5.11**	**36**	Pg	**Pb**	**19 48 14.4**	**+1.7**

	21nm,0.5s								
PDGK					Lg	Lg	19 49 39.4		
	49nm,0.8s								
PDGK	**Podgornoye**	**5.83**	**41**	⇑Pn		Pn	19 48 03.0	-6.9	
	16nm,0.8s								
PDGK					⇓Pg	Pb	19 48 19.9	-5.1	
	63nm,0.7s								
PDGK					⇑Lg	Lg	19 49 38.5		
	164nm,1.1s								
BTLS	**Baital**	**6.03**	**358**	*e*Pn		**Pn**	**19 48 13.9**	**+1.4**	
	baz=357								
BTLS					*e*Pg	**Pb**	**19 48 30.8**	**+2.4**	
	baz=357								
BTLS	**Baital**	**6.03**	**358**	*e*PN		**Pn**	**19 48 13.8**	**+1.4**	
BTLS				*e*			19 48 30.8		
KBL	**Kabul**	**6.13**	**225**			**Pn**	**19 48 13.9**	**-0.1**	
KBL	**Kabul**	**6.13**	**225**	PN		**Pn**	**19 48 13.9**	**-0.1**	
THW	**Thamme Wali**	**6.54**	**199**	P		Pn	19 48 25.6	+6.2	
BHK	**Bhakra**	**7.77**	**166**	*e*P		Pn	19 48 41.8	+5.4	
SMLA	**Simla**	**8.20**	**162**	*e*P		**Pn**	**19 48 45.1**	**+2.8**	
SMLA				*e*S		**Sn**	**19 50 14.0**	**-1.0**	
SMLA					IAML		19 50 25.6		
	comp=N,101nm,0.4s								
SMLA					IAML		19 50 26.5		
	comp=E,87nm,0.5s								
OTUK	**Ortayu**	**9.34**	**352**	⇑Pn		Pn	19 48 50.2	-7.7	
	comp=E,4.7nm,0.7s								
OTUK					⇓Lg	Lg	19 51 36.5		
	comp=E,79nm,1.6s								
MAKZ	**Makanchi**	**9.62**	**33**	Pn		**Pn**	**19 49 00.8**	**-0.8**	
MAKZ	**Makanchi**	**9.62**	**33**	P		**Pn**	**19 49 00.8**	**-0.8**	
MK31	**Makanchi Array**	**9.74**	**34**	Pn		**Pn**	**19 49 02.1**	**-1.3**	
MK31	**Makanchi Array**	**9.74**	**34**	*i* P		**Pn**	**19 49 03.1**	**-0.2**	
MKAR	**Makanchi Array**	**9.74**	**34**	Pn		**Pn**	**19 49 02.2**	**-1.2**	
	comp=E,0.3nm,0.3s,baz=240,slow=16,SNR=12								
MKAR					Lg	Lg	19 51 46.8		
	comp=E,0.2nm,0.3s,baz=208,slow=22,SNR=2.4								
MKAR					LR	LR	19 53 10.7		
	comp=E,138nm,20.6s,baz=218,slow=40								
	comp=E,3.0nm,0.9s								
MKAR	**Makanchi Array**	**9.74**	**34**			**Pn**	**19 49 00.7**	**-2.7**	
MKAR	**Makanchi Array**	**9.74**	**34**	P		**Pn**	**19 49 00.7**	**-2.7**	
PTH	**Pithoragarh**	**10.62**	**151**	*e*P		**Pn**	**19 49 16.5**	**+0.8**	
HRA	**Herat**	**10.71**	**248**	Pn		**Pn**	**19 49 18.9**	**+2.0**	
LGTI	**Lohaghat**	**10.73**	**151**	*e*P		**Pn**	**19 49 17.8**	**+1.0**	
SONA	**Sohna**	**10.98**	**167**	*e*P		**Pn**	**19 49 22.8**	**+2.6**	
KUDL	**Kundal**	**10.99**	**170**	*e*P		**Pn**	**19 49 21.6**	**+1.2**	
WMQ	**Urumqi**	**11.15**	**60**	*e*P		**Pn**	**19 49 22.3**	**-0.4**	
WMQ					pP		19 49 25.3		
WMQ					PP	**PnPn**	**19 49 34.5**	**+4.2**	
WMQ					pmax	pmax			
	comp=E,7.0nm,0.6s								
KURBB	**Kurchatov Arra**	**11.99**	**13**	Pn		**Pn**	**19 49 31.2**	**-2.9**	
	baz=200,slow=12,SNR=4.7								
KURBB					Lg	Lg	19 52 49.2		
	comp=E,0.1nm,0.3s,baz=214,slow=28,SNR=1.8								
	comp=E,0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**11.99**	**13**	⇑Lg		Lg	19 52 57.4		
	comp=E,83nm,1.9s								
KURK	**Kurchatov**	**12.10**	**13**	Pn		**Pn**	**19 49 32.9**	**-2.6**	
KURK	**Kurchatov**	**12.10**	**13**	⇓Lg		Lg	19 53 01.1		
	comp=E,37nm,1.3s								
KURK	**Kurchatov**	**12.10**	**13**	*i* P		**Pn**	**19 49 35.1**	**-0.4**	
GEYT	**Alibeck**	**12.73**	**270**	Pn		**Pn**	**19 49 42.9**	**-1.4**	
	comp=E,0.9nm,0.3s,baz=103,slow=8.7,SNR=7.6								
GEYT					Sn	**Sn**	**19 52 01.6**	**-4.4**	
	comp=E,0.5nm,0.3s,baz=48,slow=26,SNR=2.4								
GYA0	**ALIBECK ARRAY**	**12.73**	**270**	P		**Pn**	**19 49 43.1**	**-1.1**	
GYA0B	**ALIBECK ARRAY**	**12.73**	**270**	Pn		**Pn**	**19 49 43.1**	**-1.1**	
DANN	**Dangsing**	**13.22**	**141**	*e*P		**Pn**	**19 49 50.1**	**-1.2**	
	comp=E,27nm,0.4s								
KOLN	**Koldanda**	**13.63**	**143**	*e*P		**Pn**	**19 49 56.9**	**+0.2**	
GKN	**Gorkha**	**13.95**	**139**	*e*P		**Pn**	**19 49 59.7**	**-1.3**	
	comp=E,25nm,0.4s								
DGZ	**Jazzator, Alta**	**14.21**	**37**	*i* P		**Pn**	**19 50 01.3**	**-3.2**	
BVA0	**Borovoye Array**	**14.28**	**350**	⇑P		Pn	19 49 58.0	-7.3	
	comp=E,9.9nm,0.8s								
BVAR	**Borovoye Array**	**14.28**	**350**	Pn		**Pn**	**19 50 02.7**	**-2.6**	
	comp=E,0.1nm,0.3s,baz=161,slow=14,SNR=30								
BVAR					Lg	Lg	19 53 59.1		
	baz=243,slow=33,SNR=2.0								
BVAR					LR	LR	19 56 01.5		
	comp=E,138nm,18.6s,baz=210,slow=39								
	comp=E,7.6nm,0.7s								
BRVK	**Borovoye**	**14.32**	**350**	Pn		**Pn**	**19 50 04.4**	**-1.6**	
BRVK	**Borovoye**	**14.32**	**350**	⇑P		Pn	19 49 58.0	-7.9	
	comp=E,16nm,0.8s								
BRVK	**Borovoye**	**14.32**	**350**	*i* P		**Pn**	**19 50 04.9**	**-1.0**	
KKN	**Kakani**	**14.45**	**137**	*e*P		**Pn**	**19 50 05.9**	**-2.1**	
	comp=E,2.8nm,0.5s								
AB31	**Akbulak array**	**14.51**	**320**	⇑P		Pn	19 49 59.6	-8.8	
	comp=E,17nm,0.9s								
ABKAR	**Akbulak array**	**14.51**	**320**	Pn		**Pn**	**19 50 06.3**	**-2.1**	
ABKAR	**Akbulak array**	**14.51**	**320**	Pn		**Pn**	**19 50 06.8**	**-1.7**	
DMN	**Daman**	**14.51**	**138**	*e*P		**Pn**	**19 50 07.4**	**-1.4**	
	comp=E,23nm,0.6s								
PKIN	**Phulchoki**	**14.69**	**138**	*e*P		**Pn**	**19 50 09.4**	**-1.8**	
	comp=E,15nm,0.6s								
PKI	**Pulchoki**	**14.70**	**138**	*e*P		**Pn**	**19 50 09.5**	**-2.0**	
JIRN	**Jiri**	**15.05**	**135**	*e*P		**Pn**	**19 50 13.5**	**-2.7**	
	comp=E,13nm,0.4s								
RAMN	**Ramite**	**15.83**	**136**	*e*P		**Pn**	**19 50 24.5**	**-1.9**	
BHPL	**Bhopal**	**15.94**	**169**	*e*P		**Pn**	**19 50 23.7**	**-3.9**	
BHPL				*e*S		**Sn**	**19 53 20.7**	**-3.7**	
TAPN	**Taplejung**	**16.14**	**132**	*e*P		**Pn**	**19 50 28.7**	**-1.8**	
AKTO	**Aktyubinsk**	**16.22**	**320**	⇑P		Pn	19 50 22.6	-8.4	
	comp=E,11nm,1.4s								
ODAN	**Odare**	**16.34**	**134**	*e*P		**Pn**	**19 50 30.8**	**-2.1**	
ZAA0	**Zalesovo Array**	**16.58**	**22**	Pn		**Pn**	**19 50 32.4**	**-3.2**	
ZALV	**Zalesovo Beam**	**16.58**	**22**	Pn		**Pn**	**19 50 32.8**	**-2.7**	
	comp=E,0.5nm,0.3s,baz=206,slow=11,SNR=13								
	comp=E,3.4nm,0.7s								
ZALV	**Zalesovo Beam**	**16.58**	**22**	Pn		**Pn**	**19 50 33.2**	**-2.4**	
ZALV	**Zalesovo Beam**	**16.58**	**22**	*i* P		**Pn**	**19 50 36.2**	**+0.6**	
ZALV					pmax	pmax			
	comp=E,3.0nm,0.7s								
LSA	**Lhasa**	**16.71**	**119**	Pg		**Pn**	**19 50 37.0**	**-0.8**	
LSA					pmax	pmax			
	comp=E,2.0nm,1.1s								
GTA	**Gaotai**	**19.77**	**81**	*e*P		**Pn**	**19 51 14.5**	**-0.4**	
GTA					pP	sP	19 51 17.8	-1.3	
GTA					sP	pP	19 51 20.3	+3.0	
GTA					pmax	pmax			
	comp=E,3.0nm,0.9s								
SHL	**Shillong**	**19.97**	**127**	P		**P**	**19 51 14.4**	**-1.4**	
SHL	**Shillong**	**19.97**	**127**	P		**P**	**19 51 14.4**	**-1.4**	
SHL					pmax	pmax			
	comp=E,7.0nm,0.7s								
ARU	**Arti**	**20.31**	**334**	P		**P**	**19 51 19.6**	**+0.5**	
	comp=E,8.6nm,0.9s,baz=145,slow=10,SNR=19								
	comp=E,8.6nm,0.9s								
ARU	**Arti**	**20.31**	**334**			**P**	**19 51 18.8**	**-0.3**	
ARU					IAmb	IAmb	19 51 24.9		
	comp=E,12nm,0.9s								
ARU	**Arti**	**20.31**	**334**	*d* P		Pn	19 51 24.3	+3.3	
ARU							19 51 39.8		
ARU					SS	Sn	19 55 37.6	+28	
ARU					pmax	pmax			
	comp=E,13nm,0.8s								
AKT	**Akhty**	**20.40**	**285**	*e*P		Pn	19 51 24.7	+2.3	
AKT				*e*			19 51 41.9		
AKT					pmax	pmax			
	comp=E,45nm,1.9s								
WSAR	**Wadi Sarin**	**20.61**	**225**	P		Pn	19 51 25.4	+0.5	
	comp=E,8.5nm,0.9s,baz=62,slow=8.7,SNR=4.6								
	comp=E,8.5nm,0.9s								
GROC	**Groznyy**	**21.83**	**290**	*e*P		**P**	**19 51 36.2**	**+0.6**	
GROC				*e*			19 51 58.5		
GROC					pmax	pmax			
	comp=E,94nm,1.2s								
GNI	**Garni**	**22.76**	**282**	P		**P**	**19 51 47.6**	**+1.8**	
	comp=E,9.1nm,0.9s,baz=147,slow=11,SNR=5.3								
	comp=E,9.1nm,0.9s								
GNI	**Garni**	**22.76**	**282**	P		**P**	**19 51 47.7**	**+1.9**	
GNI	**Garni**	**22.76**	**282**	*i* P		**P**	**19 51 48.7**	**+2.9**	
GNI					pmax	pmax			
	comp=E,45nm,1.3s								
BELG	**Belogornoye**	**22.78**	**315**	P		**P**	**19 51 46.0**	**+0.5**	
	comp=E,18nm,1.0s,baz=143,slow=4.4,SNR=8.5								
	comp=E,18nm,1.0s								
BELG	**Belogornoye**	**22.78**	**315**	*i* P		**P**	**19 51 46.9**	**+1.3**	
ZEI	**Tsey**	**23.22**	**289**	*e*P		**P**	**19 51 52.3**	**+1.8**	
ZEI					pmax	pmax			
	comp=E,4.0nm,0.7s								
ONI	**Oni**	**23.55**	**289**	P		**P**	**19 51 55.1**	**+1.4**	
ONI					IAmb	IAmb	19 52 00.8		
	comp=E,13nm,0.8s								
ONI	**Oni**	**23.55**	**289**	P		**P**	**19 51 55.1**	**+1.4**	
ONI					pmax	pmax			
	comp=E,13nm,0.8s								
LZH	**Lanzhou**	**23.56**	**88**	*e*P		**P**	**19 51 58.5**	**+4.5**	
LZH					pP	sP	19 52 04.3	+4.6	
LZH					pmax	pmax			
	comp=E,19nm,1.6s								
KBZ	**Khabaz**	**23.95**	**292**	P		**P**	**19 51 58.8**	**+1.4**	
	comp=E,0.9nm,0.6s,baz=138,slow=8.7,SNR=4.5								
	comp=E,0.9nm,0.6s								
KVAR	**Kislovodsk Arr**	**24.10**	**292**	P		**P**	**19 52 00.8**	**+1.8**	
	comp=E,1.5nm,0.4s,baz=72,slow=20,SNR=2.1								
	comp=E,1.5nm,0.4s								
KIV	**Kislovodsk**	**24.10**	**292**	*e*P		**P**	**19 51 59.4**	**+0.4**	
KIV					pmax	pmax			
	comp=E,5.0nm,1.0s								
TNCH	**TengChong**	**24.73**	**117**	P		**P**	**19 52 07.5**	**+2.6**	
TNCH					pP	sP	19 52 09.8	-1.1	
TNCH					pmax	pmax			
	comp=E,9.0nm,1.1s								
SONM	**Songino Array**	**24.78**	**59**	P		**P**	**19 52 04.5**	**-0.7**	
	comp=E,0.5nm,0.5s,baz=268,slow=8.7,SNR=5.6								
SONM					LR	LR	20 02 12.2		
	comp=E,85nm,18.1s,baz=98,slow=38								
	comp=E,0.5nm,0.5s								
SONM	**Songino Array**	**24.78**	**59**	P		**P**	**19 52 04.0**	**-1.2**	
SONM	**Songino Array**	**24.78**	**59**	P		**P**	**19 52 04.0**	**-1.2**	
SONM					pmax	pmax			
	comp=E,3.0nm,1.2s								
KIRV	**Kirov**	**25.28**	**329**	P		**P**	**19 52 10.7**	**+1.3**	
	comp=E,6.1nm,0.7s,baz=193,slow=0.3,SNR=5.1								
	comp=E,6.1nm,0.7s								
KIRV	**Kirov**	**25.28**	**329**	*i* P		**P**	**19 52 11.0**	**+1.6**	
PZH	**PanZhiHua**	**26.13**	**110**	P		**P**	**19 52 19.0**	**+1.4**	
PZH					pmax	pmax			
	comp=E,10.0nm,0.5s								
PZH					pmax	pmax			
	comp=E,100nm,5.7s								
MARD	**Mardin**	**26.33**	**277**	P		**P**	**19 52 19.9**	**+0.6**	
MARD					IAmb	IAmb	19 52 29.5		
	comp=E,7.9nm,1.2s								
HHC	**Hu-ho-hao-te**	**28.50**	**74**	*e*P		**P**	**19 52 39.0**	**+0.2**	
HHC					pmax	pmax			
	comp=E,36nm,0.7s								
HHC					pmax	pmax			
	comp=E,310nm,6.2s								
RAYN	**Ar Rayn**	**28.89**	**246**	P		**P**	**19 52 43.4**	**+1.1**	
RAYN					IAmb	IAmb	19 52 48.6		
	comp=E,5.1nm,0.8s								
RAYN	**Ar Rayn**	**28.89**	**246**	P		**P**	**19 52 43.4**	**+1.1**	
RAYN					pmax	pmax			
	comp=E,5.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**29.61**	**127**	P		**P**	**19 52 47.4**	**-1.2**	
	comp=E,0.5nm,0.9s,baz=326,slow=6.2,SNR=2.5								
	comp=E,0.5nm,0.9s								
NRIK	**Noril'sk**	**31.22**	**9**	P		**P**	**19 53 00.1**	**-2.3**	
	comp=E,2.3nm,0.5s,baz=127,slow=5.1,SNR=3.8								
	comp=E,2.3nm,0.5s								
BR131	**Keskin Array S**	**31.25**	**284**	P		**P**	**19 53 03.6**	**+0.5**	
BR131					IAmb	IAmb	19 53 09.7		
	comp=E,3.6nm,0.9s								
BR131	**Keskin Array S**	**31.25**	**284**	*e*P		**P**	**19 53 05.4**	**+2.3**	
BRTR	**Keskin Array B**	**31.25**	**284**	P		**P**	**19 53 04.6**	**+1.5**	
	comp=E,1.8nm,0.8s,baz=92,slow=8.7,SNR=10.0								
	comp=E,1.8nm,0.8s								
BRTR	**Keskin Array B**	**31.25**	**284**	P		**P**	**19 53 04.5**	**+1.4**	
BRTR	**Keskin Array B**	**31.25**	**284**	P		**P**	**19 53 04.5**	**+1.4**	
AKASG	**Malin Array Be**	**33.52**	**305**	P		**P**	**19 53 22.3**	**-0.4**	
	comp=E,2.0nm,0.2s,baz=79,slow=7.5,SNR=4.4								
	comp=E,2.0nm,0.2s								
AKASG	**Malin Array Be**	**33.52**	**305**	*i* P		**P**	**19 53 25.7**	**+3.0**	
MLR	**Muntele Rosu**	**35.92**	**296**	P		**P**	**19 53 44.3**	**+0.6**	
MLR					IAmb	IAmb	19 53 58.7		
	comp=E,3.9nm,1.0s								
MLR	**Muntele Rosu**	**35.92**	**296**	P		**P**	**19 53 44.3**	**+0.6**	
MLR					pmax	pmax			
	comp=E,4.0nm,1.0s								
BURAR	**Bucovina Array**	**36.21**	**300**	P		**P**	**19 53 46.5**	**+0.4**	
FIA1	**FINESS Array S**	**36.95**	**323**	P		**P**	**19 53 51.1**	**-0.9**	
FINES	**FINESS Array B**	**36.95**	**323**	P		**P**	**19 53 50.8**	**-1.2**	
	comp=E,1.8nm,0.7s,baz=108,slow=8.4,SNR=8.0								
	comp=E,1.8nm,0.7s								
FINES	**FINESS Array B**	**36.95**	**323**	P		**P**	**19 53 51.1**	**-1.0**	
FINES	**FINESS Array B**	**36.95**	**323**	*i* P		**P**	**19 53 51.7**	**-0.4**	
FINES					pmax	pmax			
	comp=E,1.0nm,0.4s								
KARP	**Karpathos**	**37.34**	**280**	P		**P**	**19 53 58.9**	**+3.1**	
HEH	**HeiHe**	**38.66**	**55**	*e*P		P	19 54 16.0	+9.3	
HEH					pmax	pmax			
	comp=E,4.0nm,0.8s								
HEH					pmax	pmax			
	comp=E,180nm,4.0s								
ARCES	**ARCESS Array B**	**39.88**	**336**	P		**P**	**19 54 15.5**	**-1.2**	
	comp=E,2.2nm,0.7s,baz=111,slow=9.2,SNR=6.5								
	comp=E,2.2nm,0.7s								
ARCES	**ARCESS Array B**	**39.88**	**336**	P		**P**	**19 54 16.3**	**-0.4**	
ARCES					IAmb	IAmb	19 54 28.9		
	comp=E,12nm,1.2s								
DIVS	**Divibare**	**40.34**	**295**	P		**P**	**19 54 21.5**	**+0.6**	
YAK	**Yakutsk**	**40.41**	**37**	P		**P**	**19 54 19.3**	**-1.8**	
	comp=E,0.9nm,0.3s,baz=333,slow=1.4,SNR=1.5								
	comp=E,0.9nm,0.3s								
KLR	**Kul'dur**	**41.57**	**56**	P		**P**	**19 54 29.8**	**-1.1**	
	comp=E,0.6nm,0.5s,baz=270,slow=11,SNR=1.8								
	comp=E,0.6nm,0.5s								
VRAC	**Vranov**	**41.72**	**304**	LR		LR	20 14 24.9		
	comp=E,194nm,18.7s,baz=304,slow=40								
TIXI	**Tiksi**	**42.47**	**22**	P		**P**	**19 54 36.2**	**-1.7**	
TIXI	**Tiksi**	**42.47**	**22**	P		**P**	**19 54 36.2**	**-1.7**	
TIXI					pmax	pmax			
	comp=E,2.0nm,0.8s								
GERES	**GERESS Array B**	**43.67**	**304**	P		**P**	**19 54 48.2**	**+0.1**	
	comp=E,0.5nm,0.8s,baz=51,slow=7.2,SNR=4.5								
	comp=E,0.5nm,0.8s								
GERES	**GERESS Array B**	**43.67**	**304**	P		**P**	**19 54 48.1**	**0.0**	
GERES	**GERESS Array B**	**43.67**	**304**	P		**P**	**19 54 48.1**	**0.0**	
CLL	**Collm**	**43.70**	**307**	*e*P		**P**	**19 54 50.0**	**+1.8**	
CLL					*e*PPP	PPP	19 57 07.0		
CLL	**Collm**	**43.70**	**307**	*e*P		**P**	**19 54 50.0**	**+1.8**	
NC303	**NORSAR Array S**	**43.93**	**322**	P		**P**	**19 54 48.7**	**-1.1**	
NC303					IAmb	IAmb	19 55 11.0		
	comp=E,8.3nm,0.9s								
NB2	**NORSAR Subarra**	**44.00**	**321**	P		**P**	**19 54 49.3**	**-1.2**	
	baz=91,slow=8.6								
NB2	**NORSAR Subarra**	**44.00**	**321**	P		**P**	**19 54 49.3**	**-1.2**	
	comp=E,14nm,0.5s,baz=91,slow=8.6								
NOA	**NORSAR Array B**	**44.00**	**321**	P		**P**	**19 54 49.4**	**-1.1**	
	comp=E,1.0nm,0.6s,baz=91,slow=7.9,SNR=4.1								
	comp=E,1.0nm,0.6s								
VAE	**Valguarnera**	**46.30**	**288**	LR		LR	20 20 42.3		
	comp=E,147nm,18.2s,baz=221,slow=44								
FUORN	**Ofenpass-Fuorn**	**46.42**	**301**	P		**P**	**19 55 11.7**	**+1.5**	
SENIN	**Lac Senin/Sane**	**48.46**	**302**	P		**P**	**19 55 26.5**	**+0.5**	
MJAR	**Matsushiro Arr**	**49.65**	**72**	P		**P**	**19 55 34.5**	**-0.4**	
	comp=E,0.8nm,0.6s,baz=298,slow=9.0,SNR=2.2								
	comp=E,0.8nm,0.6s								
KKM	**Kota Kinabalu**	**50.05**	**120**	P		**P**	**19 55 39.2**	**+0.9**	
KKM					IAmb	IAmb	19 55 40.2		
	comp=E,5.8nm,0.8s								
LEM	**Lembang**	**55.08**	**138**	LR		LR	20 22 28.3		
	comp=E,155nm,20.4s,baz=176,slow=39								
MBAR	**Mbarara**	**56.08**	**236**	LR		LR	20 22 52.1		
	comp=E,122nm,21.3s,baz=214,slow=39								
ESDC	**Sonseca Array**	**58.60**	**298**	P		**P**	**19 56 39.5**	**-0.8**	
	comp=E,1.4nm,0.8s,baz=59,slow=6.9,SNR=9.9								
	comp=E,1.4nm,0.8s								
ESDC	**Soniseca Array**	**58.60**	**298**	P		**P**	**19 56 39.8**	**-0.5**	
OPO	**Ambohidratompo**	**62.65**	**209**	LR		LR	20 24 37.7		
	comp=E,70nm,18.3s,baz=338,slow=36								
A36M	**Sachs Harbour**	**68.45**	**6**	P		**P**	**19 57 44.8**	**0.0**	
A36M					IAmb	IAmb	19 58 11.4		
	comp=E,3.5nm,0.9s								
IMAR	**Indian Mountai**	**68.98**	**19**	P		**P**	**19 57 47.2**	**-1.0**	
BMAR	**Burnt Mountain**	**69.87**	**15**	P		**P**	**19 57 53.3**	**-0.5**	
INK	**Inuvik**	**70.99**	**11**	P		**P**	**19 57 59.5**	**-1.0**	
INK	**Inuvik**	**70.99**	**11**	P		**P**	**19 57 59.5**	**-1.0**	
INK					pmax	pmax			
	comp=E,8.0nm,1.4s								
C36M	**Paulatuk**	**71.11**	**7**	P		**P**	**19 57 59.8**	**-1.4**	
CAST	**Castle Rocks**	**71.46**	**20**	P		**P**	**19 58 02.3**	**-1.2**	
CAST					IAmb	IAmb	19 58 08.3		
	comp=E,7.3nm,1.4s								
ILAR	**Eielson Array**	**71.64**	**17**	P		**P**	**19 58 02.5**	**-1.9**	
	comp=E,0.6nm,0.8s,baz=333,slow=6.5,SNR=5.6								
ILAR					LR	LR	20 35 47.1		
	comp=Z,48nm,19.5s,baz=234,slow=41								
	comp=Z,0.6nm,0.8s								
ILAR	**Eielson Array**	**71.64**	**17**	P		**P**	**19 58 03.5**	**-1.0**	
PPLA	**Purkeypile**	**71.85**	**20**	P		**P**	**19 58 05.1**	**-0.9**	
J26L	**Joseph Creek**	**72.61**	**16**	P		**P**	**19 58 09.1**	**-1.3**	
KNRA	**Kununurra**	**74.47**	**126**	P		**P**	**19 58 21.1**	**-0.7**	
DBIC	**Dimbokro**	**77.41**	**268**	P		**P**	**19 58 39.1**	**+0.3**	
DBIC	**Dimbokro**	**77.41**	**268**	P		**P**	**19 58 39.1**	**+0.3**	
LBTB	**Lobatse**	**78.29**	**224**	P		**P**	**19 58 44.5**	**+1.0**	
LBTB					IAmb	IAmb	19 58 52.5		
	comp=E,3.9nm,1.1s								
LBTB	**Lobatse**	**78.29**	**224**	P		**P**	**19 58 44.5**	**+1.0**	
LBTB					pmax	pmax			
	comp=E,4.0nm,1.1s								
YKA	**Yellowknife Ar**	**78.59**	**4**	P		**P**	**19 58 45.1**	**+0.5**	
	comp=E,1.1nm,0.6s,baz=344,slow=5.7,SNR=5.1								
	comp=E,1.1nm,0.6s								
YKA	**Yellowknife Ar**	**78.59**	**4**	*i* P		**P**	**19 58 45.5**	**+0.9**	
YKA					pmax	pmax			
	comp=E,1.0nm,0.7s								
WRA	**Warramunga Arr**	**81.17**	**124**	P		**P**	**19 58 58.0**	**-1.1**	
	comp=E,0.8nm,0.8s,baz=329,slow=5.3,SNR=8.9								
	comp=E,0.8nm,0.8s								
WRA	**Warramunga Arr**	**81.17**	**124**	*i* P		**P**	**19 58 58.5**	**-0.7**	
WRA					pmax	pmax			
	comp=E,1.0nm,0.8s								
WB2	**Warramunga Arr**	**81.18**	**124**	P		**P**	**19 58 58.4**	**-0.8**	
WB2					IAmb	IAmb	19 59 14.2		
	comp=E,5.9nm,1.2s								
ASAR	**Alice Springs**	**83.62**	**127**	P		**P**	**19 59 11.1**	**-0.8**	
	comp=E,0.5nm,0.7s,baz=308,slow=5.3,SNR=8.7								
	comp=E,0.5nm,0.7s								

TRN 26 19:50:11.8, 15°.87N × 60°.35W, h29 km, MD4.1,3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLPL	**La Plaine**	**1.01**	**238**	*e*P	Pb	19 50 31.2	+0.4
DLPL				*e*S	Sb	19 50 45.2	+1.5
MDVC	**Dominica, Viel**	**1.04**	**256**	*e*P	Pb	19 50 31.8	+0.5
MDVC				*e*S	Sb	19 50 45.8	+1.1
MDCT	**Cottage Hill,**	**1.10**	**257**	*e*P	Pb	19 50 32.4	+0.2
MDCT				*e*S	Sb	19 50 47.6	+1.5
ILAM	**Ilet Lapin Mar**	**1.20**	**205**	*e*P	Pb	19 50 33.7	-0.2
ILAM				*e*S	Sb	19 50 49.5	+0.5
CBE	**Ff, Capester**	**1.22**	**280**	*e*P	Pb	19 50 35.2	+0.8
CBE				*e*S	Sb	19 50 51.7	+1.9
TDBA	**Terre de Bas,**	**1.23**	**269**	*e*P	Pb	19 50 35.0	+0.4
TDBA				*e*S	Sb	19 50 52.1	+2.1
TBG	**Guadaloupe-3**	**1.24**	**270**	*e*P	Pb	19 50 35.2	+0.5
ABD	**La Joyeuse, An**	**1.25**	**299**	*e*P	Pb	19 50 34.6	-0.2
ABD				*e*S	Sb	19 50 51.7	+1.2
SVN	**Savane Anatole**	**1.29**	**218**	⇑*e*P	Pb	19 50 35.5	+0.1
BAMF	**Morne Balai**	**1.29**	**216**	⇑*e*P	Pb	19 50 35.8	+0.2
CXM	**Morne La Croix**	**1.31**	**217**	⇑*e*P	Pb	19 50 35.4	-0.6
GBMF	**Grand Be**	**1.32**	**216**	*e*P	Pb	19 50 36.0	-0.1
PCM	**Pelee Case Pet**	**1.33**	**218**	*e*P	Pb	19 50 36.2	0.0
PCM	**Pelee Case Pet**	**1.33**	**218**	*e*P	Pb	19 50 36.4	+0.2
PML	**Morne Lenard**	**1.34**	**217**	*e*P	Pb

WEL 26 20:12:11.5±0.3, 43°S ±2°×17°3E±°, h5km, M2.8/14, ML3.0/12, MLv2.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=136.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.41**	**73**	P	Pg	20 12 19.5	+0.1
KHZ				S	Sg	20 12 25.5	+0.9
GVZ	**Greta Valley S**	**0.43**	**178**	P	Pg	20 12 20.5	+0.7
GVZ				S	Sb	20 12 27.5	-1.0
LTZ	**Lake Taylor**	**0.60**	**246**	P	Pg	20 12 23.5	+0.4
LTZ				S	Sg	20 12 32.1	+1.2
AMCZ	**Amberley**	**0.69**	**203**	P	Pb	20 12 25.9	-0.2
THZ	**Tophouse**	**0.78**	**354**	P	Pg	20 12 26.5	0.0
BSWZ	**Blackbirch Sta**	**1.04**	**38**	P	Pg	20 12 31.7	+0.2
OXZ	**Oxford**	**1.07**	**222**	P	Pg	20 12 31.5	-0.5
DSZ	**Denniston Nort**	**1.20**	**311**	P	Pb	20 12 34.6	-0.1
MQZ	**McQueen's Vall**	**1.20**	**193**	P	Pg	20 12 32.9	-1.7
TUWZ	**Tuamarina**	**1.30**	**32**	P	Pn	20 12 35.9	-0.5
NNZ	**Nelson**	**1.34**	**12**	P	Pn	20 12 36.7	-0.2
RACZ	**Rakaia**	**1.35**	**208**	P	Pn	20 12 35.5	-1.5
MHCZ	**Mount Hutt**	**1.46**	**226**	P	Pn	20 12 37.2	-1.3
TKNZ	**Takaka Hill**	**1.50**	**358**	P	Pn	20 12 39.3	+0.1
WVZ	**Waitaha Valley**	**1.76**	**251**	P	Pn	20 12 43.4	+0.7

*INET **26** 20:19:58.4±0.7, 11°.89N×88°.83W, h15km±10km, MW4.0*
*SNET **26** 20:20:03.7±1.7, 12°.40N×88°.82W, h17km±44km, ML3.8*
ISC 26 20:19:55.2±2.2, 12°.1N±0°.1×88°.96W±0°.10, h10km, n17, σ1§16/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**1.49**	**16**	eS	**Sn**	**20 20 39.8**	**-2.0**
COEB				IAML		20 20 53.3	
	comp=Z,854nm,0.3s						
PACA	**Pacayal**	**1.53**	**24**	eP	**Pg**	**20 20 25.6**	**+0.9**
PACA				eS	**Sn**	**20 20 40.6**	**-2.3**
PACA				eS	**Sg**	**20 20 46.3**	**+1.6**
PACA	**Pacayal**	**1.53**	**24**	eP	**Pg**	**20 20 25.9**	**+1.2**
COEG	**Centro de Oper**	**1.55**	**3**	eP	**Pg**	**20 20 25.3**	**+0.2**
LFRS	**El Faro**	**1.56**	**356**	eP	**Pg**	**20 20 26.5**	**+1.3**
LCND	**La Caada**	**1.62**	**40**	eP	**Pb**	**20 20 25.7**	**+0.4**
LCND				IAML		20 20 52.4	
	comp=Z,2μm,0.3s						
CNCH	**Conchagua**	**1.63**	**42**	eP	**Pb**	**20 20 26.0**	**+0.5**
CNCH				eS	**Sb**	**20 20 46.3**	**0.0**
CNCH				IAML		20 20 51.8	
	comp=Z,3μm,0.3s						
JAYA	**Jayaque - finc**	**1.66**	**343**	eP	**Pg**	**20 20 27.9**	**+0.8**
BOQS	**Boqueron**	**1.70**	**349**	eP	**Pg**	**20 20 29.1**	**+1.2**
CRIN	**San Cristobal**	**1.97**	**71**	eP	**Pn**	**20 20 29.2**	**+0.5**
CRIN				eS	**Sn**	**20 20 53.7**	**+0.1**
CNGN	**Cerro Negro**	**2.25**	**79**	eP	**Pn**	**20 20 32.7**	**+0.1**
MOMN	**Momotombo**	**2.39**	**81**	eP	**Pn**	**20 20 34.2**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.58**	**39**	eP	**Pb**	**20 20 39.4**	**-2.2**
MGAN	**Managua**	**2.65**	**88**	eP	**Pn**	**20 20 37.9**	**-0.2**
WILN	**Americas 2**	**2.71**	**88**	eP	**Pn**	**20 20 38.7**	**-0.2**
HUEN		**2.74**	**84**	eP	**Pn**	**20 20 39.3**	**+0.1**
MATN	**Matagalpa**	**3.08**	**73**	eP	**Pn**	**20 20 43.6**	**-0.6**

*SNET **26** 20:29:55.9±0.8, 13°.82N×90°.63W, h119km, ML5.3*
*UCR **26** 20:29:58.3±1.2, 13°.96N×90°.50W, h104km±11km, mb4.9(NEIC)*
*INET **26** 20:30:00.6±1.3, 13°.79N×90°.29W, h3km±10km, MW4.8*
*GCMT **26** 20:30:00.0±0.5, 13°.96N±0°.03×90°.49W±0°.03, h66km±4km, MW4.8/81, Moment Tensor Solution. s15,c19; s81,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~1.02±. 15; $M_{\theta\theta}$1.42±. 11; $M_{\phi\phi}$-0.39±. 12; $M_{r\theta}$0.95±. 06; $M_{\theta\phi}$0.20±. 11; $M_{\phi r}$~0.93±. 05; Best double couple: $M_0$1.84400×10^{16} NP1:ϕ_s296.00000°, δ71.00000°, λ-60.00000°. NP2: ϕ_s56.00000°, δ35.00000°, λ-145.00000°. Principal axes: T 1.7550, Plg20.0000°, Azm4.0000°; N 0.1790, Plg28.0000°, Azm105.0000°; P -1.9320, Plg54.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 20:30:00.5±0.6, 14°.16N×89°.93W, h98km±4km, mb3.8/13, mbtmp4.2/18, MS3.5/16 Error ellipse: s-maj=22.1km s-min=9.2km az=53.0*
*NEIC **26** 20:30:02.0±1.7, 13°.95N±0°.07×90°.28W±0°.06, h110km±7km, mb4.9/35, Md5.3(SNET), Error ellipse: s-maj=10.6km s-min=7.8km az=213.0*
*GCG **26** 20:30:06.4±0.4, 14°.14N×90°.49W, h70km±11km, MD4.5*
ISC 26 20:30:00.0±0.4, 13°.91N±0°.04×90°.33W±0°.05, h101km±3km, h101km:pP-P, n341, σ1§30/354, mb4.8/29, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.54**	**91**	eP	**Pn**	**20 30 16.4**	**0.0**
NUBE	**Las Nubes**	**0.54**	**91**	eP	**Pn**	**20 30 16.4**	**0.0**
PCG	**Pacaya**	**0.54**	**331**	eP	**Pn**	**20 30 18.2**	**+1.6**
NBG	**Las Nubes**	**0.67**	**359**	eP	**Pn**	**20 30 20.0**	**+2.3**
CEVE	**Cerro Verde**	**0.69**	**97**	eP	**Pn**	**20 30 18.1**	**+0.3**
CEVE	**Cerro Verde**	**0.69**	**97**	eP	**Pn**	**20 30 18.1**	**+0.3**
SNJE	**San Jose**	**0.71**	**94**	eP	**Pn**	**20 30 18.1**	**+0.2**
SNJE	**San Jose**	**0.71**	**94**	eP	**Pn**	**20 30 18.1**	**+0.2**
FUG	**Fuego 3**	**0.72**	**317**	eP	**Pn**	**20 30 19.5**	**+1.5**
CEDA	**San Andres**	**0.92**	**97**	eP	**Pn**	**20 30 20.3**	**+0.6**
CEDA	**San Andres**	**0.92**	**97**	eP	**Pn**	**20 30 20.3**	**+0.6**
BOQS	**Boqueron**	**1.04**	**100**	eP	**Pn**	**20 30 21.4**	**+0.2**
BOQS	**Boqueron**	**1.04**	**100**	eP	**Pn**	**20 30 21.4**	**+0.2**
MTO3	**Montecristo**	**1.06**	**63**		**Pn**	**20 30 22.3**	**+0.8**
MTO3				Sn	**Sn**	**20 30 39.0**	**+1.4**
MTO3	**Montecristo**	**1.06**	**63**	eP	**Pn**	**20 30 22.3**	**+0.8**
MTO3	**Montecristo**	**1.06**	**63**	eP	**Pn**	**20 30 22.3**	**+0.8**
UEES	**Universidad Ev**	**1.08**	**100**	eP	**Pn**	**20 30 22.1**	**+0.6**
UEES	**Universidad Ev**	**1.08**	**100**	eP	**Pn**	**20 30 22.1**	**+0.6**
SNET	**Serv Nac Est T**	**1.09**	**102**		**Pn**	**20 30 21.8**	**+0.2**
SNET	**Serv Nac Est T**	**1.09**	**102**	eP	**Pn**	**20 30 21.9**	**+0.2**
SNET	**Serv Nac Est T**	**1.09**	**102**	eP	**Pn**	**20 30 21.9**	**+0.2**
ESQI	**Esquipulas**	**1.16**	**56**		**Pn**	**20 30 23.7**	**+1.3**
ESQI				Sn	**Sn**	**20 30 41.8**	**+2.5**
ESQI	**Esquipulas**	**1.16**	**56**	eP	**Pn**	**20 30 23.8**	**+1.4**
LFU	**La Fuente**	**1.20**	**98**	eP	**Pn**	**20 30 23.4**	**+0.5**
LFU	**La Fuente**	**1.20**	**98**	eP	**Pn**	**20 30 23.4**	**+0.5**
SULM	**Suchitepequez,**	**1.26**	**288**	eP	**Pn**	**20 30 25.5**	**+2.1**
LBRS	**Las Brisas**	**1.27**	**98**	eP	**Pn**	**20 30 24.4**	**+0.7**
LBRS	**Las Brisas**	**1.27**	**98**	eP	**Pn**	**20 30 24.4**	**+0.7**
MRL	**Marmol**	**1.32**	**28**	eP	**Pn**	**20 30 27.2**	**+2.7**
MRL				eS	**Sn**	**20 30 45.6**	**+2.8**
SJTE	**Alcalda de S**	**1.32**	**103**	eP	**Pn**	**20 30 24.8**	**+0.5**
SJTE	**Alcalda de S**	**1.32**	**103**	eP	**Pn**	**20 30 24.8**	**+0.5**
PAVA	**Las Pavas**	**1.37**	**98**	eP	**Pn**	**20 30 25.6**	**+0.7**
PAVA	**Las Pavas**	**1.37**	**98**	eP	**Pn**	**20 30 25.6**	**+0.7**
STG3	**Santiaguito 3,**	**1.44**	**304**	eP	**Pn**	**20 30 27.7**	**+1.9**
COEG	**Centro de Oper**	**1.44**	**102**	eP	**Pn**	**20 30 26.5**	**+0.8**
COEG	**Centro de Oper**	**1.44**	**102**	eP	**Pn**	**20 30 26.5**	**+0.8**
RTAL	**Retalhuleu**	**1.45**	**295**	Pn	**Pn**	**20 30 27.3**	**+1.5**
SNVI	**San Vicente**	**1.48**	**101**	eP	**Pn**	**20 30 27.2**	**+0.9**
SNVI	**San Vicente**	**1.48**	**101**	eP	**Pn**	**20 30 27.2**	**+0.9**
PSNO	**Presa 5 de nov**	**1.53**	**87**	eP	**Pn**	**20 30 27.1**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.57**	**98**	eP	**Pn**	**20 30 28.2**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.57**	**98**	eP	**Pn**	**20 30 28.2**	**+0.9**
PQSS	**Presa 15 de Se**	**1.75**	**99**	eP	**Pn**	**20 30 30.2**	**+0.7**
PQSS	**Presa 15 de Se**	**1.75**	**99**	eP	**Pn**	**20 30 30.2**	**+0.7**
HUEH	**Huehuetenango**	**1.80**	**321**		**Pn**	**20 30 31.1**	**+0.8**
COEB	**Comit de Eme**	**1.80**	**103**	eP	**Pn**	**20 30 31.0**	**+0.8**
COEB	**Comit de Eme**	**1.80**	**103**	eP	**Pn**	**20 30 31.0**	**+0.8**
ALJI	**Alcalda de J**	**1.81**	**109**	↓i/P	**Pn**	**20 30 31.1**	**+0.8**
ALJI	**Alcalda de J**	**1.81**	**109**	↓i/P	**Pn**	**20 30 31.1**	**+0.8**
PACA	**Pacayal**	**2.00**	**103**	eP	**Pn**	**20 30 33.8**	**+1.0**
PACA	**Pacayal**	**2.00**	**103**	eP	**Pn**	**20 30 33.8**	**+1.0**
PACA	**Pacayal**	**2.00**	**103**	eP	**Pn**	**20 30 33.8**	**+1.0**
LCND	**La Caada**	**2.45**	**104**	eP	**Pn**	**20 30 39.5**	**+0.9**
LCND				eS	**Sn**	**20 31 12.3**	**+4.2**
LCND	**La Caada**	**2.45**	**104**	eP	**Pn**	**20 30 39.5**	**+0.9**
LCND				eS	**Sn**	**20 31 12.3**	**+4.2**
CNCH	**Conchagua**	**2.51**	**104**	eP	**Pn**	**20 30 40.3**	**+0.8**
CNCH	**Conchagua**	**2.51**	**104**	eP	**Pn**	**20 30 40.3**	**+0.8**
CCIG	**Comitan**	**2.93**	**324**		**Pn**	**20 30 47.7**	**+2.7**
TGUH	**Tegucigalpa,Un**	**2.97**	**87**	Pn	**Pn**	**20 30 46.4**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.97**	**87**	eP	**Pn**	**20 30 46.5**	**+0.9**
PETF	**Flores**	**3.02**	**9**		**Pn**	**20 30 48.8**	**+2.7**
PETF	**Flores**	**3.02**	**9**	eP	**Pn**	**20 30 48.8**	**+2.7**
CRIN	**San Cristobal**	**3.42**	**110**		**Pn**	**20 30 53.1**	**+1.6**
CRIN	**San Cristobal**	**3.42**	**110**	eP	**Pn**	**20 30 53.1**	**+1.6**
CRIN				eS	**Sn**	**20 31 33.3**	**+2.0**
TELN	**Telica**	**3.65**	**110**	eP	**Pn**	**20 30 56.0**	**+1.4**
CNGN	**Cerro Negro**	**3.81**	**111**		**Pn**	**20 30 57.8**	**+1.1**
CNGN	**Cerro Negro**	**3.81**	**111**	eP	**Pn**	**20 30 57.6**	**+0.9**
CNGN				eS	**Sn**	**20 31 41.6**	**+0.9**
MOMN	**Momotombo**	**3.99**	**112**	eP	**Pn**	**20 31 00.8**	**+1.7**
BRAN	**Las Pilas**	**4.05**	**107**	eP	**Pn**	**20 31 03.3**	**+3.3**
HUEN		**4.35**	**111**	eP	**Pn**	**20 31 04.9**	**+1.0**
MATN	**Matagalpa**	**4.40**	**102**		**Pn**	**20 31 05.0**	**+0.2**
MATN	**Matagalpa**	**4.40**	**102**	eP	**Pn**	**20 31 05.2**	**+0.5**
BOAB	**BOACO BROADBAN**	**4.77**	**107**	Pn	**Pn**	**20 31 10.1**	**+0.4**
BOAB	**BOACO BROADBAN**	**4.77**	**107**	eP	**Pn**	**20 31 10.4**	**+0.6**
CONN	**Concepcion**	**5.15**	**116**	eP	**Pn**	**20 31 15.2**	**+0.3**
ACON	**Acoyapa**	**5.39**	**110**	Pn	**Pn**	**20 31 18.4**	**+0.3**
CMIG	**Matias Romero**	**5.41**	**306**	P	**Pn**	**20 31 19.6**	**+1.3**
	14nm,0.4s,baz=102,slow=7.8,SNR=27						
CMIG				S	**Sn**	**20 32 20.2**	**+0.9**
	34nm,0.7s,baz=127,slow=24,SNR=7.4						
HZTE	**Horizontes, Gu**	**5.62**	**124**		**Pn**	**20 31 23.1**	**+1.9**
GBS2	**Las Lilas**	**5.66**	**122**	eP	**Pn**	**20 31 23.6**	**+1.7**
GBS3	**Finca Las Img**	**5.69**	**123**	eP	**Pn**	**20 31 24.1**	**+1.9**
GB1A	**Boringuen Arri**	**5.72**	**122**	eP	**Pn**	**20 31 24.6**	**+1.9**
LAPC	**Finca la Perla**	**5.72**	**123**	eP	**Pn**	**20 31 23.9**	**+1.2**
BUEV	**Buena Vista**	**5.72**	**122**	eP	**Pn**	**20 31 24.9**	**+2.2**
BUAI	**Buenos Aires**	**5.74**	**121**	eP	**Pn**	**20 31 23.9**	**+1.0**
GPS3	**Bodega del ICE**	**5.78**	**122**	eP	**Pn**	**20 31 25.4**	**+1.9**
GPS1	**Guardaparques**	**5.78**	**122**	eP	**Pn**	**20 31 25.8**	**+2.2**
LIM1	**Limonal**	**5.91**	**122**	eP	**Pn**	**20 31 27.1**	**+1.9**
GUAB	**Guayabo de Bag**	**5.92**	**122**	eP	**Pn**	**20 31 27.1**	**+1.7**
SAJU	**San Juanillo,**	**5.92**	**130**	eP	**Pn**	**20 31 27.1**	**+1.8**
SAJU				eP	**Pn**	**20 31 28.1**	**+2.7**
MESS	**Mesas**	**5.93**	**122**	eP	**Pn**	**20 31 26.9**	**+1.4**
ORTG	**Ortega, Santa**	**5.93**	**126**	Pn	**Pn**	**20 31 27.3**	**+1.7**
ORTG	**Ortega, Santa**	**5.93**	**126**	eP	**Pn**	**20 31 27.5**	**+2.0**
ORTG	**Ortega, Santa**	**5.93**	**126**	eP	**Pn**	**20 31 27.5**	**+2.0**
VMAR	**Armenia, Volca**	**5.95**	**121**	eP	**Pn**	**20 31 26.8**	**+1.0**
HORNC	**Hornillas**	**5.96**	**122**	eP	**Pn**	**20 31 27.4**	**+1.5**
COLC	**Colonia**	**5.96**	**122**	eP	**Pn**	**20 31 28.3**	**+2.4**
CUI	**Cuipilapa**	**6.00**	**122**	eP	**Pn**	**20 31 27.6**	**+1.2**
DUNO	**Dulce Nombre,**	**6.08**	**128**		**Pn**	**20 31 29.1**	**+1.7**
DUNO	**Dulce Nombre,**	**6.08**	**128**	eP	**Pn**	**20 31 29.2**	**+1.7**
DUNO	**Dulce Nombre,**	**6.08**	**128**	eP	**Pn**	**20 31 29.4**	**+1.9**
NICO	**Nicoya**	**6.08**	**128**	eP	**Pn**	**20 31 30.2**	**+2.7**
PTEN	**Parque Tenorio**	**6.12**	**121**	eP	**Pn**	**20 31 28.8**	**+0.8**
ACAL	**Aguas Claras**	**6.12**	**122**	eP	**Pn**	**20 31 29.7**	**+1.6**
ESPN	**Las Esperanzas**	**6.12**	**106**		**Pn**	**20 31 29.2**	**+1.2**
ESPN	**Las Esperanzas**	**6.12**	**106**	eP	**Pn**	**20 31 30.0**	**+1.9**
VERA	**Finca Concepci**	**6.14**	**119**	eP	**Pn**	**20 31 29.1**	**+0.7**
INDI	**Punta indio, G**	**6.21**	**130**	eP	**Pn**	**20 31 31.1**	**+1.9**
POPE	**POPE, Guanacas**	**6.26**	**127**	eP	**Pn**	**20 31 32.1**	**+2.1**
JTS	**Las Juntas de**	**6.38**	**124**	P	**Pn**	**20 31 31.4**	**-0.1**
	72nm,0.3s,baz=36,slow=14,SNR=43						
JTS				S	**Sn**	**20 32 39.7**	**-3.3**
	95nm,0.3s,baz=304,slow=23,SNR=4.3						
JTS	**Las Juntas de**	**6.38**	**124**		**Pn**	**20 31 32.9**	**+1.3**
JTS	**Las Juntas de**	**6.38**	**124**	eP	**Pn**	**20 31 33.1**	**+1.5**
JTS	**Las Juntas de**	**6.38**	**124**	eP	**Pn**	**20 31 33.1**	**+1.5**
CEDE	**Laguna Cedeo**	**6.47**	**121**	eP	**Pn**	**20 31 33.2**	**+2.6**
CASO	**Castillo**	**6.47**	**122**	eP	**Pn**	**20 31 34.6**	**+1.7**
TEIG	**Tepich**	**6.58**	**17**	Pn	**Pn**	**20 31 35.5**	**+1.3**
COVE	**Coope Vega, Sa**	**6.61**	**118**		**Pn**	**20 31 34.8**	**+0.1**
COVE	**Coope Vega, Sa**	**6.61**	**118**	eP	**Pn**	**20 31 34.9**	**+0.2**
LAFE	**Finca La Fe, P**	**6.70**	**127**	eP	**Pn**	**20 31 37.4**	**+1.6**
JACO	**JACO, Garabito**	**6.98**	**127**	Pn	**Pn**	**20 31 41.3**	**+1.6**
JACO	**JACO, Garabito**	**6.98**	**127**	eP	**Pn**	**20 31 41.8**	**+2.1**
HDC	**Heredia**	**7.22**	**122**		**Pn**	**20 31 44.6**	**+1.5**
OCM	**Ochomogo**	**7.41**	**122**	eP	**Pn**	**20 31 46.9**	**+1.2**
LCR2	**La Lucha 2**	**7.45**	**123**	eP	**Pn**	**20 31 48.3**	**+1.9**
HAYA	**Volcan Irazu**	**7.46**	**121**	eP	**Pn**	**20 31 48.6**	**+2.1**
RIMA	**Rio Macho**	**7.55**	**122**		**Pn**	**20 31 49.1**	**+1.4**
RIMA	**Rio Macho**	**7.55**	**122**	eP	**Pn**	**20 31 49.6**	**+1.8**
CDM	**Cerro de Muert**	**7.76**	**123**	eP	**Pn**	**20 31 52.8**	**+2.1**
BATAN	**Batan**	**7.79**	**118**	Pn	**Pn**	**20 31 52.5**	**+1.8**
PEZE	**Perez Zeledon,**	**7.92**	**124**		**Pn**	**20 31 52.9**	**+0.3**
PEZE	**Perez Zeledon,**	**7.92**	**124**	eP	**Pn**	**20 31 55.1**	**+2.5**
SRBA	**San Rafael, Bu**	**8.27**	**124**		**Pn**	**20 31 59.0**	**+1.7**
SRBA	**San Rafael, Bu**	**8.27**	**124**	eP	**Pn**	**20 31 59.4**	**+2.1**
TLIG	**Tlapa**	**8.72**	**296**	Pn	**Pn**	**20 32 05.9**	**+2.5**
PRVC	**Isla de Provid**	**8.73**	**92**	Pn	**Pn**	**20 32 03.4**	**-0.2**
BRU2	**Volcan**	**9.06**	**123**		**Pn**	**20 32 09.9**	**+1.7**
SOR	**Soroa**	**11.23**	**37**	Pn	**Pn**	**20 32 39.2**	**+1.7**
BCIP	**Isla Barro Col**	**11.31**	**114**	Pn	**Pn**	**20 32 37.5**	**-1.1**
MTDJ	**Mount Denham**	**13.03**	**69**	Pn	**Pn**	**20 33 02.7**	**+1.3**
PAYG	**Puerto Ayora**	**14.49**	**180**	Pn	**Pn**	**20 33 21.5**	**+1.1**
ZAIG	**Zacatecas**	**14.57**	**309**		**P**	**20 33 23.7**	**-1.5**
061Z	**Ochoppi**	**14.82**	**35**		**Pn**	**20 33 25.0**	**+0.6**
GTBY	**Guantanamo Bay**	**15.74**	**66**	P	**Pn**	**20 33 36.5**	**+0.4**
060A	**Indiantown**	**16.04**	**34**		**Pn**	**20 33 39.0**	**-0.7**
833A	**Chaparral WMA,**	**16.63**	**331**	P	**P**	**20 33 49.6**	**+1.8**
833A	**Chaparral WMA,**	**16.63**	**331**	P	**P**	**20 33 51.6**	**+3.9**
	baz=148,SNR=11						
HKT	**Hockley**	**16.75**	**343**		**P**	**20 33 49.8**	**+0.9**
441A	**DeRidder**	**16.96**	**352**	P	**P**	**20 33 52.8**	**+1.4**
656A	**Willston**	**16.99**	**24**	P	**Pn**	**20 33 51.5**	**0.0**
346A	**Big Creek Wild**	**17.41**	**2**	P	**Pn**	**20 33 57.5**	**+1.0**
BRAL	**Brewton**	**17.44**	**9**	P	**P**	**20 33 55.6**	**-1.1**
344A	**Westbrook Farm**	**17.46**	**359**		**Pn**	**20 33 57.7**	**+0.5**
342A	**Flagon Creek P**	**17.48**	**354**	P	**Pn**	**20 33 58.3**	**+1.0**
URIC	**Uribia, Colomb**	**18.02**	**95**	P	**P**	**20 34 03.4**	**+0.3**
435B	**Jarrell**	**18.07**	**339**	P	**Pn**	**20 34 04.3**	**-0.2**
PULU	**Pululahua**	**18.10**	**139**		**Pn**	**20 34 06.2**	**+0.7**
352A	**Blakely**	**18.17**	**15**	P	**Pn**	**20 34 06.5**	**+0.8**
ROSC	**El Rosal**	**18.18**	**118**	P	**P**	**20 34 04.6**	**-0.7**
	6.1nm,0.4s,baz=213,slow=19,SNR=1.9						
ROSC	**El Rosal**	**18.18**	**118**	P	**P**	**20 34 03.8**	**-1.5**
NATX	**Nacogdoches**	**18.20**	**348**	P	**Pn**	**20 34 06.2**	**+0.1**
NATX	**Nacogdoches**	**18.20**	**348**	P	**Pn**	**20 34 07.3**	**+1.2**
	baz=166						
VBMS	**Vicksburg**	**18.22**	**359**	P	**Pn**	**20 34 06.3**	**0.0**
VBMS	**Vicksburg**	**18.22**	**359**	P	**Pn**	**20 34 09.3**	**+3.0**
	baz=179,SNR=6.6						
250A	**Grady**	**18.36**	**11**	P	**Pn**	**20 34 07.9**	**-0.1**
TIGA	**Tifton**	**18.51**	**18**	P	**Pn**	**20 34 09.9**	**+0.1**
TIGA	**Tifton**	**18.51**	**18**	P	**Pn**	**20 34 12.8**	**+3.1**
	baz=201,SNR=7.4						
JCT	**Junction City**	**18.66**	**334**	P	**P**	**20 34 09.3**	**-0.8**
146A	**Union**	**18.67**	**3**	P	**Pn**	**20 34 11.7**	**0.0**
SLOR	**San Lorenzo -**	**18.69**	**140**	P	**Pn**	**20 34 11.4**	**-1.1**
237A	**Washetta, Mont**	**18.69**	**345**	P	**P**	**20 34 09.9**	**-0.5**
143A	**Sopchoppy,**	**18.73**	**357**	P	**Pn**	**20 34 11.8**	**-0.6**
SDDR	**Presa de Saban**	**18.94**	**72**	P	**P**	**20 34 14.2**	**+0.9**
CHSH	**Refugio Sur-Vo**	**19.06**	**143**	P	**Pn**	**20 34 17.2**	**+0.1**
PORT	**Chimborazo Vol**	**19.10**	**142**	P	**Pn**	**20 34 16.9**	**-0.5**
WHTX	**Lake Whitney,**	**19.14**	**341**	P	**P**	**20 34 16.0**	**+0.7**
WHTX	**Lake Whitney,**	**19.14**	**341**	P	**Pn**	**20 34 16.9**	**-0.3**
	baz=158,SNR=9.5						
LRAL	**Lakeview Retre**	**19.28**	**9**	P	**Pn**	**20 34 18.1**	**-0.7**
LRAL	**Lakeview Retre**	**19.28**	**9**	P	**Pn**	**20 34 19.9**	**+1.1**
	baz=190,SNR=18						
Z47A	**Carrollton**	**19.31**	**6**	P	**Pn**	**20 34 19.1**	**-0.1**
255A	**Hazlehurst**	**19.32**	**21**	P	**Pn**	**20 34 18.6**	**-0.7**
152A	**Waverly Hall**	**19.36**	**14**	P	**P**	**20 34 18.1**	**+0.4**
COHC	**Cochancay**	**19.64**	**145**	P	**P**	**20 34 21.3**	**+0.5**
TXAR	**Lajitas Array**	**19.70**	**323**	P	**Pn**	**20 34 24.4**	**+0.6**
	1.7nm,0.8s,baz=146,slow=10,SNR=18						
TXAR				PcP	**PcP**	**20 38 37.5**	**+1.0**
	1.1nm,0.9s,baz=158,slow=2.6,SNR=5.2						
TXAR				ScP	**ScP**	**20 42 04.9**	**+1.3**
	1.3nm,0.9s,baz=160,slow=6.0,SNR=12						
TXAR	**Lajitas Array**	**19.70**	**323**	P	**Pn**	**20 34 23.0**	**-0.9**
TX31	**Lajitas Ar. Si**	**19.70**	**323**	P	**P**	**20 34 21.6**	**0.0**
TX32	**Lajitas Array**	**19.70**	**323**	P	**P**	**20 34 21.4**	**-0.1**
Z38A	**Mt. Pleasant**	**19.72**	**348**	P	**P**	**20 34 22.5**	**+0.9**
154A	**Montrose**	**19.75**	**18**	P	**P**	**20 34 22.2**	**+0.3**
WLAR	**White Oak Lake**	**19.85**	**353**	P	**P**	**20 34 23.9**	**+0.9**
Y45A	**Yeager Farm, C**	**19.88**	**2**	P	**Pn**	**20 34 24.7**	**-1.1**
Z51A	**Franklin**	**19.88**	**13**	P	**P**	**20 34 24.1**	**+0.8**
SDV	**Santo Domingo**	**19.94**	**102**	P	**P**	**20 34 22.9**	**-1.5**
	11nm,0.5s,baz=292,slow=4.4,SNR=16						
SDV				LR	LR	20 41 55.6	
	comp=Z,59nm,20.2s,baz=276,slow=36						
SDV	**Santo Domingo**	**19.94**	**102**	P	**P**	**20 34 22.6**	**-1.7**
CCAR	**Cane Creek**	**19.96**	**356**	P	**P**	**20 34 25.3**	**+1.2**
FW02	**City of Haslet**	**20.00**	**343**	P	**P**	**20 34 24.9**	**+0.3**
Y49A	**Blount Mountai**	**20.17**	**9**	P	**P**	**20 34 27.8**	**+1.3**
Z35A	**Perchaven, San**	**20.33**	**343**	P	**P**	**20 34 28.8**	**+0.6**
GOGA	**Godfrey**	**20.39**	**17**	P	**P**	**20 34 29.8**	**+0.9**
GOGA	**Godfrey**	**20.39**	**17**	P	**Pn**	20 34 31.0	-0.8
	baz=199						
ABTX	**Abilene, Hawle**	**20.47**	**337**	P	**P**	**20 34 29.8**	**0.0**
OXF	**Oxford**	**20.52**	**2**	P	**Pn**	20 34 34.7	+1.3
	baz=182						
Y52A	**Lilburn**	**20.66**	**15**	P	**P**	**20 34 32.3**	**+0.6**
X48A	**Hartselle**	**20.66**	**8**	P	**P**	**20 34 31.9**	**+0.2**
MIAR	**Mount Ida**	**20.75**	**352**	P	**P**	**20 34 32.4**	**-0.3**
MIAR	**Mount Ida**	**20.75**	**352**	P	**Pn**	20 34 34.5	-1.4
	baz=171,SNR=5.6						
UALR	**University of**	**20.85**	**355**	P	**P**	**20 34 33.7**	**-0.1**
LOOK	**Love County**	**20.93**	**344**		**P**	**20 34 34.7**	**0.0**
FPAL	**Fort Paine**	**20.98**	**11**	P	**P**	**20 34 35.3**	**+0.2**
PLAL	**Pickwick Lake**	**21.08**	**5**	P	**P**	**20 34 36.5**	**+0.3**
X37A	**Clayton**	**21.08**	**348**		**P**	**20 34 36.7**	**+0.4**
X51A	**Calhoun**	**21.15**	**13**	P	**P**	**20 34 36.9**	**-0.1**
W45A	**Hickory Valley**	**21.18**	**3**	P	**P**	**20 34 37.9**	**+0.6**
WHAR	**Wooly Hollow**	**21.36**	**356**	P	**P**	**20 34 39.0**	**-0.2**
HODGE	**Hodges**	**21.51**	**19**	P	**P**	**20 34 40.4**	**-0.4**
SWET	**Sewanee**	**21.58**	**10**	P	**P**	**20 34 42.1**	**+0.5**
W50A	**Signal Mountai**	**21.67**	**11**	P	**P**	**20 34 42.9**	**+0.3**
X34A	**Smith Ranch, M**	**21.68**	**343**		**P**	**20 34 42.4**	**-0.3**
W52A	**Murphy**	**21.87**	**14**	P	**P**	**20 34 45.6**	**+1.0**
HALT	**Halls**	**21.92**	**2**	P	**P**	**20 34 46.8**	**+1.7**
FCAR	**Ozark Folk

ULM					IAmb	IAmb	20 36 56.6		
	comp=Z,13nm,0.9s								
LPAZ	**La Paz**	**37.17**	**143**		P	**P**	**20 37 02.8**	**+0.6**	
	comp=Z,3.0nm,0.6s,baz=328,slow=6.3,SNR=18								
LPAZ					pP	**pP**	**20 37 26.1**	**+0.7**	
	comp=Z,1.7nm,0.7s,baz=321,slow=11,SNR=3.7								
	comp=Z,3.0nm,0.6s								
LPAZ	**La Paz**	**37.17**	**143**		P	**P**	**20 37 02.1**	**-0.1**	
LPAZ	**La Paz**	**37.17**	**143**		P	**P**	**20 37 03.3**	**+1.1**	
LPAZ					pP	**pP**	**20 37 26.0**	**+0.7**	
LPAZ					sP	**sP**	**20 37 36.0**	**-0.9**	
PB16	**IPOC Station P**	**38.06**	**147**		P	**P**	**20 37 11.2**	**+1.6**	
MNMC	**Minye Minye**	**38.67**	**148**		P	**P**	**20 37 15.4**	**+1.0**	
MNMC					IAmb	IAmb	20 37 41.3		
	comp=Z,16nm,1.0s								
VILB	**Vilhena**	**40.05**	**130**		P	**P**	**20 37 25.3**	**-0.3**	
VILB					IAmb	IAmb	20 37 26.9		
	comp=Z,14nm,0.6s								
DRLN	**Deer Lake**	**44.35**	**31**		P	**P**	**20 37 58.6**	**-1.5**	
SCHQ	**Schefferville**	**44.76**	**19**		P	**P**	**20 38 01.7**	**-1.6**	
	comp=Z,11nm,0.6s,baz=217,slow=7.0,SNR=9.1								
	comp=Z,11nm,0.6s								
CO03	**El Pedregal**	**48.34**	**157**		P	**P**	**20 38 32.8**	**+1.2**	
CO03					IAmb	IAmb	20 38 34.0		
	comp=Z,22nm,1.4s								
CO02	**Combarbal**	**48.55**	**158**		P	**P**	**20 38 34.0**	**+0.7**	
VA03	**San Esteban**	**50.12**	**158**		P	**P**	**20 38 45.8**	**+0.6**	
VA03					IAmb	IAmb	20 38 48.0		
	comp=Z,14nm,0.8s								
MT02	**Curacav**	**50.36**	**159**		P	**P**	**20 38 48.1**	**+1.3**	
MT09	**Talagante**	**50.88**	**159**		P	**P**	**20 38 51.9**	**+1.0**	
BDFB	**Brasilia**	**51.12**	**124**		P	**P**	**20 38 50.6**	**-2.3**	
	comp=Z,1.6nm,0.3s,baz=261,slow=10,SNR=3.2								
	comp=Z,1.6nm,0.3s								
BDFB	**Brasilia**	**51.12**	**124**		P	**P**	**20 38 51.5**	**-1.5**	
BDFB					IAmb	IAmb	20 40 12.9		
	comp=Z,19nm,1.7s								
YKA	**Yellowknife Ar**	**51.49**	**346**		P	**P**	**20 38 54.6**	**-0.4**	
	comp=Z,1.2nm,0.7s,baz=224,slow=12,SNR=3.4								
YKA					pP	**pP**	**20 39 16.7**	**-3.1**	
	comp=Z,4.0nm,1.0s,baz=148,slow=7.8,SNR=5.9								
YKA					LR	LR	21 03 29.2		
	comp=Z,46nm,18.0s,baz=323,slow=39								
	comp=Z,1.2nm,0.7s								
GO05	**Huala**	**51.70**	**161**		P	**P**	**20 38 57.5**	**+0.6**	
FRB	**Frobisher Bay**	**52.05**	**12**		LR	LR	21 01 06.0		
	comp=Z,31nm,20.8s,baz=206,slow=36								
PLCA	**Paso Flores**	**57.38**	**162**		P	**P**	**20 39 38.2**	**+0.3**	
	comp=Z,6.8nm,1.1s,baz=324,slow=6.2,SNR=7.3								
	comp=Z,6.8nm,1.1s								
PLCA	**Paso Flores**	**57.38**	**162**		P	**P**	**20 39 38.8**	**+0.8**	
PLCA					IAmb	IAmb	20 39 40.2		
	comp=Z,17nm,1.2s								
PLCA	**Paso Flores**	**57.38**	**162**		P	**P**	**20 39 38.9**	**+1.0**	
PLCA					pP	**pP**	**20 40 01.9**	**-0.8**	
TRQA	**Tornquist**	**58.14**	**154**		P	**P**	**20 39 43.7**	**+0.5**	
TRQA					IAmb	IAmb	20 39 44.6		
	comp=Z,25nm,1.6s								
SFJD	**Kangerlussuaq**	**59.12**	**17**		LR	LR	21 04 54.1		
	comp=Z,70nm,18.7s,baz=182,slow=36								
RES	**Resolute Bay**	**60.82**	**359**		LR	LR	21 08 19.4		
	comp=Z,92nm,18.2s,baz=72,slow=38								
COYC	**Coyhaique**	**61.47**	**165**		P	**P**	**20 40 06.7**	**+0.8**	
COYC	**Coyhaique**	**61.47**	**165**		P	**P**	**20 40 07.4**	**+1.6**	
ILAR	**Eielson Array**	**63.56**	**336**		P	**P**	**20 40 20.3**	**+0.7**	
	comp=Z,0.7nm,1.0s,baz=131,slow=4.8,SNR=4.3								
ILAR					pP	**pP**	**20 40 43.6**	**-1.7**	
	comp=Z,1.1nm,1.0s,baz=121,slow=3.8,SNR=5.1								
	comp=Z,0.7nm,1.0s								
BMAR	**Burnt Mountain**	**63.93**	**340**		P	**P**	**20 40 21.9**	**-0.1**	
JMIC	**Jan Mayen**	**74.28**	**20**		LR	LR	21 12 18.0		
	comp=Z,32nm,21.7s,baz=202,slow=34								
EKA	**Eskdalemuir Ar**	**77.09**	**36**		P	**P**	**20 41 39.4**	**-2.7**	
	comp=Z,1.1nm,0.8s,baz=262,slow=5.0,SNR=4.3								
	comp=Z,1.1nm,0.8s								
ESDC	**Sonseca Array**	**78.50**	**52**		P	**P**	**20 41 47.4**	**-3.0**	
	comp=Z,0.6nm,0.7s,baz=291,slow=4.8,SNR=5.2								
ESDC					pP	**pP**	**20 42 15.4**	**-1.3**	
	comp=Z,1.4nm,1.0s,baz=294,slow=7.2,SNR=4.0								
	comp=Z,0.6nm,0.7s								
MDT	**Midelt**	**79.06**	**59**		LR	LR	21 13 00.1		
	comp=Z,34nm,19.3s,baz=350,slow=33								
GERES	**GERESS Array B**	**88.63**	**40**		P	**P**	**20 42 41.1**	**-0.9**	
	comp=Z,0.5nm,0.7s,baz=222,slow=1.3,SNR=2.8								
	comp=Z,0.5nm,0.7s								
TIXI	**Tiksi**	**90.67**	**348**		LR	LR	21 29 58.3		
	comp=Z,21nm,18.3s,baz=271,slow=40								
MA2	**Magadan**	**91.90**	**334**		LR	LR	21 31 25.6		
	comp=Z,25nm,18.8s,baz=58,slow=40								
NRIK	**Noril'sk**	**96.95**	**1**		LR	LR	21 30 31.7		
	comp=Z,55nm,18.1s,baz=327,slow=38								
BOSA	**Boshof**	**118.85**	**115**		PKP	**PKPdf**	**20 48 36.1**	**-1.2**	
	comp=Z,2.0nm,0.7s,baz=331,slow=5.5,SNR=5.3								
MKAR	**Makanchi Array**	**119.21**	**6**		PKP	**PKiKP**	**20 48 39.1**	**+1.5**	
	comp=Z,0.8nm,1.0s,baz=345,slow=2.3,SNR=1.7								
HHC	**Hu-ho-hao-te**	**121.86**	**341**	*eP*		**PKiKP**	**20 48 43.5**	**+0.5**	
WMQ	**Urumqi**	**122.52**		*eP*		**PKiKP**	**20 48 45.0**	**+0.8**	
WRA	**Warramunga Arr**	**136.94**	**256**		PKhKP	PKPpre	20 49 01.7		
	comp=Z,0.3nm,0.8s,baz=88,slow=2.8,SNR=2.3								
WRA					PKP	**PKiKP**	**20 49 12.5**	**-1.2**	
	comp=Z,1.3nm,1.0s,baz=92,slow=2.0,SNR=7.5								
WRA					pPKP	pPKPdf	20 49 39.4	-0.3	
	comp=Z,0.7nm,0.8s,baz=87,slow=1.6,SNR=3.5								
WRA					SKPbc	**SKiKP**	**20 52 38.5**	**-2.2**	
	comp=Z,1.3nm,1.0s,baz=89,slow=2.8,SNR=7.7								
ASAR	**Alice Springs**	**137.16**	**250**		PKhKP	PKPpre	20 49 01.5		
	comp=Z,0.2nm,0.6s,baz=112,slow=2.9,SNR=2.0								
ASAR					PKP	**PKPdf**	**20 49 12.0**	**-0.2**	
	comp=Z,0.7nm,0.8s,baz=104,slow=3.1,SNR=5.5								
ASAR					pPKP	pPKPdf	20 49 40.0	0.0	
	comp=Z,0.7nm,0.8s,baz=108,slow=2.8,SNR=2.4								
ASAR					SKPbc	**SKiKP**	**20 52 38.8**	**-2.4**	
	comp=Z,0.6nm,0.7s,baz=101,slow=2.7,SNR=5.7								
CMAR	**Chiang Mai Arr**	**146.56**	**344**		PKPbc	**PKPbc**	**20 49 29.6**	**-1.1**	
	comp=Z,1.5nm,0.7s,baz=337,slow=3.3,SNR=12								
CMAR					pPKPbc	**pPKPdf**	**20 49 57.0**	**-0.1**	
	comp=Z,1.1nm,0.7s,baz=345,slow=3.6,SNR=2.1								

WEL ***26*** *20:33:00.41°±80.5ₛ·174.23E, h28km, ML4.1, Mw4.0, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁵ Nm; Mrr0.10; Mθθ0.65; Mφφ-0.76; Mrθ-0.08; Mθφ-0.89; Mφr-0.12; Fault plane solution: M₀1.15000×10¹⁵ NP1: φ≤341.00000°, δ85.00000°, λ-4.00000°. NP2:φ≤71.00000°, δ86.00000°, λ-175.00000°. Principal axes: T -120.6200, Plg1.0000°, Azm206.0000°; N 108.7800, Plg84.0000°, Azm109.0000°; P 11.8400, Plg6.0000°, Azm297.0000°;*

WEL 26 20:33:28.7±0.3, 42°S±3°×17°4E±°, h12km±2km, M4.2/50, ML4.4/25, MLv4.2/50 Error ellipse: s-maj=0.0km s-min=0.0km az=138.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.03**	**325**	P	Pg	20 33 32.2	+1.3
CMWZ				S	Sg	20 33 34.6	+2.2
BSWZ	**Blackbirch Sta**	**0.28**	**282**	P	Pg	20 33 34.9	+0.5
BSWZ				S	Sb	20 33 39.5	-0.7
TUWZ	**Tuamarina**	**0.41**	**327**	P	Pb	20 33 37.5	-0.4
TUWZ				S	Sb	20 33 43.6	-0.4
TCW	**Tory Channel**	**0.56**	**3**	P	Pb	20 33 40.1	-0.3
TCW				S	Sb	20 33 48.2	-0.3
WEL	**Wellington**	**0.63**	**39**	P	Pb	20 33 41.8	+0.2
PLWZ	**Palliser**	**0.79**	**75**	P	Pb	20 33 44.5	+0.1
KHZ	**Kahutara**	**0.82**	**219**	P	Pb	20 33 45.1	+0.2
MSWZ	**Moikau Station**	**0.84**	**65**	P	Pb	20 33 45.6	+0.4
NNZ	**Nelson**	**0.85**	**311**	P	Pg	20 33 45.1	-0.1
CAW	**Cannon Point**	**0.91**	**43**	P	Pb	20 33 46.6	+0.2
PAWZ	**Paruwai Farm**	**0.97**	**67**	P	Pg	20 33 47.2	-0.3
THZ	**Tophouse**	**1.00**	**270**	P	Pg	20 33 47.7	-0.2
DUWZ	**D'Urville Isla**	**1.00**	**346**	P	Pg	20 33 47.8	-0.2
KIW	**Kapiti Island**	**1.04**	**29**	P	Pb	20 33 48.7	0.0
MTW	**Mount Morrison**	**1.13**	**57**	P	Pb	20 33 49.4	-0.8
TRWZ	**Traveller**	**1.15**	**71**	P	Pb	20 33 49.3	-1.3
MRNZ	**Matariki Terra**	**1.17**	**288**	P	Pb	20 33 50.8	0.0
OGWZ	**Otaki Gorge**	**1.19**	**37**	P	Pn	20 33 50.8	-0.3
TKNZ	**Takaka Hill**	**1.21**	**307**	P	Pn	20 33 51.2	-0.3
HOWZ	**Holdsworth Sta**	**1.30**	**48**	P	Pn	20 33 51.8	-0.9
TMWZ	**Te Maipa**	**1.41**	**62**	P	Pn	20 33 52.8	-1.4
GVZ	**Greta Valley S**	**1.49**	**216**	P	Pn	20 33 54.2	-1.1
MRZ	**Mangatainoka R**	**1.50**	**43**	P	Pn	20 33 54.7	-0.8
QRZ	**Quartz Range**	**1.60**	**306**	P	Pb	20 33 57.5	-0.7
CPWZ	**Castlepoint**	**1.71**	**60**	P	Pn	20 33 59.1	+0.7
OHWZ	**Ohakea**	**1.77**	**28**	P	Pn	20 33 60.0	+0.9
LTZ	**Lake Taylor**	**1.77**	**235**	P	Pn	20 33 58.3	-0.9
PRWZ	**Pori Road**	**1.79**	**48**	P	Pn	20 33 58.7	-0.6
POWZ	**Post Office Ro**	**1.80**	**40**	P	Pn	20 33 59.1	-0.5
DSZ	**Denniston Nort**	**1.82**	**270**	P	Pn	20 34 00.6	+0.7
AMCZ	**Amberley**	**1.83**	**219**	P	Pn	20 33 58.5	-1.4
BFZ	**Birch Farm**	**1.87**	**55**	P	Pn	20 33 58.8	-1.6
DVHZ	**Dannevirke**	**2.07**	**45**	P	Pn	20 34 02.5	-0.9
WAZ	**Wanganui**	**2.10**	**16**	P	Pb	20 34 05.4	-1.2
OKCZ	**Okains Bay**	**2.13**	**204**	P	Pn	20 34 02.0	-2.2
ANWZ	**Angora Road**	**2.14**	**53**	P	Pn	20 34 04.4	+0.2
TSZ	**Takapari Road**	**2.15**	**38**	P	Pn	20 34 03.4	-1.1
OXZ	**Oxford**	**2.25**	**226**	P	Pn	20 34 03.4	-2.2
MQZ	**McQueen's Vall**	**2.26**	**211**	P	Pn	20 34 02.9	-2.9
AKCZ	**Akaroa Harbour**	**2.31**	**205**	P	Pn	20 34 04.2	-2.4
LREZ	**Lake Rotokare**	**2.31**	**3**	P	Pb	20 34 09.2	-1.1
NMEZ	**Namu Road**	**2.37**	**353**	P	Pb	20 34 10.4	-0.9
PNHZ	**Pukenui**	**2.38**	**39**	P	Pn	20 34 06.2	-1.3
WPHZ	**Waipukurau**	**2.39**	**45**	P	Pn	20 34 07.6	0.0
KHEZ	**Kahui Hut**	**2.48**	**356**	P	Pb	20 34 12.7	-0.5
RACZ	**Rakaia**	**2.49**	**218**	P	Pn	20 34 06.8	-2.2
NEZ	**North Egmont**	**2.50**	**357**	P	Pb	20 34 13.0	-0.6
NBEZ	**Newall Road No**	**2.52**	**353**	P	Pb	20 34 11.8	-2.0
MTVZ	**Mangateitei**	**2.56**	**22**	P	Pb	20 34 14.6	0.0
DREZ	**Durham Road**	**2.58**	**359**	P	Pb	20 34 14.1	-0.8
PKE	**Pukeiti**	**2.58**	**356**	P	Pb	20 34 14.0	-1.0
PKVZ	**Pokaka**	**2.62**	**19**	P	Pb	20 34 13.9	-1.7
MOVZ	**Moawhango**	**2.63**	**27**	P	Pn	20 34 11.0	-0.1
MHCZ	**Mount Hutt**	**2.64**	**227**	P	Pn	20 34 09.1	-2.0
PXZ	**Pawanui**	**2.64**	**50**	P	Pg	20 34 18.0	-1.4
WNVZ	**Wahianoa**	**2.66**	**23**	P	Pn	20 34 12.0	+0.6
TRVZ	**Turoa**	**2.67**	**22**	P	Pn	20 34 12.8	+1.1
BHHZ	**Black Hill Sta**	**2.67**	**32**	P	Pn	20 34 11.2	-0.4
VRZ	**Vera Road**	**2.68**	**9**	P	Pn	20 34 13.2	+1.6
DRZ	**Dome Shelter**	**2.69**	**22**	P	Pb	20 34 14.6	-2.4
WHVZ	**Whangaehu Hut**	**2.69**	**23**	P	Pn	20 34 13.0	+0.9
MHEZ	**Mangahewa**	**2.70**	**1**	P	Pb	20 34 15.5	-1.4
FWVZ	**Far West T-bar**	**2.71**	**22**	P	Pn	20 34 13.5	+1.2
TUVZ	**Tukino**	**2.73**	**24**	P	Pn	20 34 13.7	+1.3
WACZ	**Wakanui South**	**2.79**	**218**	P	Pn	20 34 11.0	-2.2
NGZ	**Ngauruhoe**	**2.80**	**22**	P	Pb	20 34 17.4	-1.3
SNVZ	**South Ngauruho**	**2.80**	**23**	P	Pn	20 34 14.9	+1.4
OTVZ	**Oturere**	**2.83**	**23**	P	Pn	20 34 14.3	+0.5
NNVZ	**North Ngauruho**	**2.84**	**22**	P	Pn	20 34 15.5	+1.5
WTVZ	**West Tongariro**	**2.85**	**22**	P	Pn	20 34 15.7	+1.6
TWVZ	**Taurewa**	**2.85**	**19**	P	Pb	20 34 17.5	-2.0
ETVZ	**East Tongariro**	**2.87**	**24**	P	Pn	20 34 16.8	+2.5
KWHZ	**Kaweka Forest**	**2.88**	**36**	P	Pn	20 34 21.8	+1.8
KWHZ	**Kaweka Forest**	**2.88**	**36**	P	Pn	20 34 21.3	+1.3
TMVZ	**Te Maari**	**2.88**	**23**	P	Pn	20 34 15.3	+0.8
KRVZ	**Karewarewa**	**2.88**	**22**	P	Pn	20 34 19.9	-0.3
NTVZ	**North Tongarir**	**2.89**	**23**	P	Pn	20 34 15.8	+1.2
WVZ	**Waitaha Valley**	**2.90**	**242**	P	Pn	20 34 14.6	-0.1
MCHZ	**McNeill Hill**	**2.99**	**40**	P	Pn	20 34 14.6	-1.3
KATZ	**Kakaramea**	**3.01**	**22**	P	Pb	20 34 22.5	+0.3
CKHZ	**Cape Kidnapper**	**3.02**	**47**	P	Pg	20 34 27.0	+0.4
RPZ	**Rata Peaks**	**3.04**	**229**	P	Pn	20 34 14.7	-1.9
RITZ	**Rihia Road**	**3.06**	**24**	P	Pb	20 34 22.5	-0.6
BKZ	**Black Stump Fm**	**3.12**	**34**	P	Pb	20 34 25.1	+0.9
RATZ	**Rangitukua**	**3.13**	**23**	P	Pb	20 34 24.6	+0.3
HATZ	**Hinemaiaia**	**3.21**	**27**	P	Pb	20 34 24.8	-0.8
ARHZ	**Aropaoanui**	**3.27**	**41**	P	Pg	20 34 30.7	-0.7
GCSZ	**Gaunt Creek Bo**	**3.27**	**241**	P	Pb	20 34 24.2	-2.5
HIZ	**Hauiti**	**3.29**	**8**	P	Pn	20 34 21.6	+1.6
NMHZ	**Naumai**	**3.32**	**37**	P	Pb	20 34 29.7	+2.2
WHTZ	**Whakaora**	**3.37**	**24**	P	Pg	20 34 31.3	-2.0
MRHZ	**Matea Rd**	**3.38**	**30**	P	Pb	20 34 28.1	-0.4
TMZ	**Timaru**	**3.52**	**221**	P	Pn	20 34 21.6	-1.7
MTHZ	**Mangataniwha**	**3.53**	**35**	P	Pb	20 34 31.5	+0.4
WHHZ	**Waihua**	**3.53**	**41**	P	Pg	20 34 39.3	+2.9
WPRZ	**Whakapapatarin**	**3.57**	**25**	P	Pb	20 34 30.0	-1.8
TLZ	**Tolley Road**	**3.58**	**17**	P	Pb	20 34 28.2	-3.8
RAHZ	**Arahi**	**3.59**	**38**	P	Pg	20 34 35.8	-1.6
ALRZ	**Allen Road**	**3.59**	**27**	P	Pb	20 34 29.3	-2.8
PRRZ	**Plateau Road**	**3.67**	**27**	P	Pb	20 34 31.4	-2.0
GRRZ	**Galatos Road**	**3.71**	**23**	P	Pb	20 34 36.8	+2.7
HRRZ	**Handcock Road**	**3.73**	**26**	P	Pb	20 34 34.8	+0.3
HSRZ	**Hossack Road**	**3.79**	**25**	P	Pb	20 34 37.8	+2.4
KNZ	**Kokohu**	**3.80**	**45**	P	Pg	20 34 43.9	+2.5
SNGZ	**Shannon Statio**	**3.82**	**39**	P	Pn	20 34 25.4	-1.9
RRRZ	**Republican Roa**	**3.85**	**28**	P	Pb	20 34 37.9	+1.4
HLRZ	**Highlands Stat**	**3.88**	**25**	P	Pg	20 34 43.0	+0.1
UTU	**Utuhina**	**3.90**	**23**	P	Pg	20 34 43.4	+0.1
TARZ	**Mount Tarawera**	**3.94**	**27**	P	Pg	20 34 41.4	-2.8
LBZ	**Lake Benmore**	**3.95**	**227**	P	Pn	20 34 27.9	-1.3
OMRZ	**Omania**	**4.01**	**25**	P	Pg	20 34 44.0	-1.6
KARZ	**Kaharoa**	**4.05**	**23**	P	Pg	20 34 42.6	-2.7
RAGZ	**Rawiri**	**4.08**	**38**	P	Pb	20 34 41.7	+1.2
URZ	**Urewera**	**4.15**	**33**	P	Pn	20 34 38.7	-2.9
TOZ	**Tahuroa Road**	**4.15**	**14**	P	Pn	20 34 33.0	+1.1
ODZ	**Otahua Downs**	**4.19**	**217**	P	Pn	20 34 29.6	-2.7
TGRZ	**Tauranga**	**4.33**	**22**	P	Pb	20 34 48.0	+3.3
JCZ	**Jackson Bay**	**4.62**	**238**	P	Pn	20 34 41.2	+2.8
AWAZ	**Awhitu Peninsu**	**4.71**	**4**	P	Pn	20 34 42.3	+2.7
MKAZ	**Moumakai**	**4.72**	**9**	P	Pn	20 34 40.1	+0.5
PUZ	**Puketiti**	**4.82**	**41**	P	Pb	20 34 56.3	+3.2
WTAZ	**Waiatarua**	**4.84**	**3**	P	Pn	20 34 45.2	+3.9
ETAZ	**East Tamaki Re**	**4.84**	**7**	P	Pn	20 34 44.1	+2.8
HAZ	**Te Kaha**	**4.85**	**35**	P	Pb	20 34 51.6	-2.0
EAZ	**Earnscleugh**	**4.98**	**224**	P	Pn	20 34 40.9	-2.3
RVAZ	**Riverhead Bore**	**5.00**	**3**	P	Pn	20 34 46.3	+2.8
MBAZ	**Motutapu North**	**5.03**	**6**	P	Pn	20 34 47.4	+3.6
MXZ	**Matakaoa Point**	**5.25**	**38**	P	Pb	20 35 00.4	0.0
WCZ	**Waipu Caves**	**5.85**	**1**	P	Pn	20 34 58.2	+3.4
OUZ	**Omahuta**	**6.56**	**355**	P	Pn	20 35 07.7	+2.7
CTZ	**Chatham Island**	**7.01**	**109**	P	Pn	20 35 08.8	-2.3

SOME ***26*** *20:43:34.2, 39°.28N×73°.88E, h10km*

KRNET ***26*** *20:43:37.3±0.1, 39°.36N×73°.81E, mb2.9*

ISC 26 20:43:33.6±1.9, 39°.35N±0°.08×73°.96E±0°.05, h10km, n12, σ1§48/24, 6C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.48**	**323**	⇓*eP*	**Pg**	**20 44 03.9**	**+1.8**
	baz=26						
OHH				⇓*eS*	**Sg**	**20 44 23.4**	**+2.1**
	baz=26						
BTK	**Batken**	**2.52**	**287**	⇓*eP*	**Pb**	**20 44 20.1**	**+1.0**
	baz=88						
BTK				⇓*eS*	**Sb**	**20 44 51.4**	**+1.2**
	baz=88						
ARLS	**Aral**	**2.53**	**6**	⇓*eP*	**Pg**	**20 44 21.7**	**-0.4**
	baz=9.0						
ARLS				⇓*eS*	**Sg**	**20 44 54.1**	**-0.7**
	baz=9.0						
GAR	**Garm**	**2.85**	**264**	⇑*eP*	**Pb**	**20 44 24.8**	**+0.1**
	baz=64						
GAR				⇑*eS*	**Sb**	**20 44 59.2**	**-0.5**
	baz=64						
ARK	**Arkit**	**2.88**	**329**	⇑*eP*	**Pb**	**20 44 25.8**	**+0.6**
	baz=31						
ARK				⇑*eS*	**Sb**	**20 45 01.1**	**+0.6**
	baz=31						
TRKS	**Terek-Say**	**3.06**	**316**	⇑*eP*	**Pb**	**20 44 27.2**	**-1.1**
	baz=17						
TRKS				⇑*eS*	**Sb**	**20 45 03.7**	**-2.1**
	baz=17						
MRKS	**Merke**	**3.44**	**351**	*eP*	**Pg**	**20 44 38.2**	**-1.3**
	4.7nm,0.2s						
MRKS				*eS*	**Sg**	**20 45 24.4**	**+0.3**
	14nm,0.3s						
KST	**Kastek**	**3.99**	**22**	*eP*	**Pg**	**20 44 50.1**	**+0.1**
	1.8nm,0.2s						
KST				*eS*	**Sg**	**20 45 44.8**	**+3.0**
	7.9nm,0.5s						
IUG	**Iuzhnay**	**4.09**	**314**	*eP*	**Pg**	**20 44 49.8**	**-2.1**
	10nm,0.5s						
IUG				*eS*	**Sg**	**20 45 44.2**	**-0.7**
	14nm,1.1s						
DGS	**Degeres**	**4.12**	**19**	*eP*	**Pg**	**20 44 50.7**	**-1.9**
	4.6nm,1.0s						
DGS				*eS*	**Sg**	**20 45 45.7**	**-0.4**
	5.2nm,0.9s						
KRBS	**Karabastau**	**4.53**	**16**	*eP*	**Pg**	**20 44 59.5**	**-1.0**
	1.2nm,0.3s						
KRBS				*eS*	**Sg**	**20 46 01.0**	**+1.9**
	3.6nm,0.8s						
KTBS	**Karatobe**	**4.82**	**24**	*eP*	**Pg**	**20 45 04.7**	**-1.2**
	3.0nm,0.6s						
KTBS				*eS*	**Sg**	**20 46 09.8**	**+1.6**
	9.1nm,0.7s						

INET ***26*** *20:43:44.7±0.4, 13°.63N×90°.83W, h15km±2km, MW3.9*

UCR ***26*** *20:43:48.7±1.6, 13°.69N×90°.60W, h35km±61km, MW3.5, mb4.3(NEIC)*

NEIC ***26*** *20:43:49.9±2.0, 13°.71N±0°.07×90°.49W±0°.05, h67km±10km, mb4.3/33, Md4.8(SNET), Error ellipse: s-maj=9.8km s-min=6.4km az=176.0*

SNET ***26*** *20:43:49.2±1.9, 13°.75N×90°.52W, h60km, ML4.8*

IDC ***26*** *20:43:50.5±2.9, 13°.85N×90°.29W, h87km±26km, mb3.6/11, mbtmp4.0/14, MS3.3/12, Error ellipse: s-maj=34.9km s-min=12.1km az=48.0*

GCG ***26*** *20:43:51.6±0.7, 13°.92N×90°.69W, h58km±15km, MD4.2*

ISC 26 20:43:48.7±0.9, 13°.70N±0°.06×90°.58W±0°.05, h72km±7km, n167, σ1§12/184, mb4.2/20, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.69**	**358**	*eP*	**Pn**	**20 44 03.7**	**-0.3**
FUG	**Fuego 3**	**0.79**	**341**	*eP*	**Pn**	**20 44 04.6**	**-0.4**
NUBE	**Las Nubes**	**0.80**	**75**	*i P*	**Pn**	**20 44 03.7**	**-1.4**
NUBE				*eS*	**Sn**	**20 44 16.0**	**-1.3**
NUBE	**Las Nubes**	**0.80**	**75**	*i P*	**Pn**	**20 44 03.7**	**-1.4**
NUBE				*eS*	**Sn**	**20 44 16.0**	**-1.3**
SLOZ	**Alcaldia de Sa**	**0.84**	**67**	*eP*	**Pn**	**20 44 04.7**	**-0.7**
SLOZ				*eS*	**Sn**	**20 44 17.9**	**+0.2**
NBG	**Las Nubes**	**0.91**	**14**	*eP*	**Pn**	**20 44 07.8**	**+1.2**
RTR	**El Retiro**	**0.93**	**78**	⇓*iP*	**Pn**	**20 44 06.0**	**-0.6**
RTR	**El Retiro**	**0.93**	**78**	⇓*iP*	**Pn**	**20 44 06.0**	**-0.6**
CEVE	**Cerro Verde**	**0.94**	**82**	*eP*	**Pn**	**20 44 05.5**	**-1.3**
CEVE				*eS*	**Sn**	**20 44 21.1**	**+0.9**
CEVE	**Cerro Verde**	**0.94**	**82**	*eP*	**Pn**	**20 44 05.5**	**-1.3**
CEVE				*eS*	**Sn**	**20 44 21.1**	**+0.9**
SBLS	**San Blas**	**0.94**	**81**	*i P*	**Pn**	**20 44 05.7**	**-1.1**
SBLS	**San Blas**	**0.94**	**81**	*i P*	**Pn**	**20 44 05.7**	**-1.1**
SNJE	**San Jose**	**0.96**	**80**	*eP*	**Pn**	**20 44 06.2**	**-0.8**
SNJE	**San Jose**	**0.96**	**80**	*eP*	**Pn**	**20 44 06.2**	**-0.8**
JAYA	**Jayaque - finc**	**1.10**	**92**	*eP*	**Pn**	**20 44 07.4**	**-1.3**
JAYA				*eS*	**Sn**	**20 44 22.1**	**-1.5**
JAYA	**Jayaque - finc**	**1.10**	**92**	*eP*	**Pn**	**20 44 07.4**	**-1.3**
JAYA				*eS*	**Sn**	**20 44 22.1**	**-1.5**
SULM	**Suchitepequez,**	**1.13

152A IAmb IAmb 20 48 14.9
comp=Z,28nm,1.5s
TX32 Lajitas Array 19.73 324 P **Pn** **20 48 14.8 0.0**
TXAR Lajitas Array 19.73 324 P **Pn** **20 48 14.6 -0.2**
comp=Z,2.2nm,0.7s,baz=152,slow=12,SNR=27
TXAR PcP **PcP** **20 52 30.1 +1.2**
comp=Z,0.5nm,0.8s,baz=125,slow=4.5,SNR=5.0
TXAR LR LR 20 58 08.1
comp=Z,40nm,19.4s,baz=339,slow=43
TXAR Lajitas Array 19.73 324 P **Pn** **20 48 15.2 +0.4**
WLAR White Oak Lake 20.03 354 Pn 20 48 17.4 -0.8
SDV Santo Domingo 20.13 102 P **P** **20 48 17.0 -0.3**
comp=Z,2.3nm,0.4s,baz=19,slow=15,SNR=2.2
SDV LR LR 20 56 06.4
comp=Z,43nm,20.2s,baz=253,slow=37
Z51A Franklin 20.14 13 P **P** **20 48 18.2 +1.1**
Z51A IAmb IAmb 20 48 40.3
comp=Z,13nm,0.8s
H06E1 SOCORRO T-PHAS 20.17 287 T T 21 08 35.8
SNR=7.6
Y49A Blount Mountai 20.42 10 P Pn 20 48 22.0 -0.8
Y49A IAmb IAmb 20 48 24.0
comp=Z,14nm,0.7s
ABTX Abilene, Hawle 20.58 338 P **P** **20 48 22.7 +0.8**
GOGA Godfrey 20.66 17 P **P** **20 48 23.6 +0.8**
GOGA IAmb IAmb 20 48 26.3
comp=Z,14nm,1.1s
X48A Hartselle 20.91 8 P **P** **20 48 26.6 +1.3**
MIAR Mount Ida 20.93 353 P **P** **20 48 25.7 +0.1**
FPAL Fort Paine 21.23 11 P **P** **20 48 29.6 +0.8**
FPAL IAmb IAmb 20 48 32.5
comp=Z,11nm,0.8s
X37A Clayton 21.25 349 P **P** **20 48 29.7 +0.8**
X37A IAmb IAmb 20 48 54.2
comp=Z,16nm,1.1s
SWET Sewanee 21.83 10 P **P** **20 48 36.3 +1.1**
SWET IAmb IAmb 20 48 58.9
comp=Z,11nm,0.9s
LCAR Lake Charles 22.28 359 P **P** **20 48 40.9 +0.9**
LCAR IAmb IAmb 20 49 00.6
comp=Z,13nm,0.8s
FNO Franklin 22.33 345 **P** **20 48 40.1 -0.4**
WVT Waverly 22.47 6 P **P** **20 48 42.6 +0.5**
WVT IAmb IAmb 20 49 04.3
comp=Z,11nm,1.2s
BAUV El Baul 22.59 100 P **P** **20 48 43.6 0.0**
CLTN Cedars of Leba 22.62 9 P **P** **20 48 44.2 +0.5**
CLTN IAmb IAmb 20 49 02.6
comp=Z,11nm,1.0s
TKL Tuckaleechee C 22.71 14 P **P** **20 48 44.0 -0.6**
comp=Z,4.5nm,0.7s,baz=174,slow=11,SNR=12
TKL LR LR 20 58 27.7
comp=Z,94nm,20.1s,baz=193,slow=39
comp=Z,4.5nm,0.7s
TKL Tuckaleechee C 22.71 14 **P** **20 48 44.9 +0.3**
TKL IAmb IAmb 20 49 07.2
comp=Z,18nm,1.1s
TZTN Tazewell 23.61 14 P **P** **20 48 52.7 -0.6**
TZTN IAmb IAmb 20 49 12.2
comp=Z,10nm,0.9s
SJG San Juan 23.89 76 LR LR 20 58 12.9
comp=Z,28nm,20.7s,baz=268,slow=37
WCI Wyandotte Cave 24.73 8 P **P** **20 49 03.2 -0.1**
WCI IAmb IAmb 20 49 05.8
comp=Z,16nm,0.9s
BNM Barren Site 25.03 327 P **P** **20 49 08.7 +2.3**
PFO Pinyon Flats O 30.75 315 LR LR 21 03 29.4
comp=Z,138nm,21.1s,baz=231,slow=38
V12A Nelson 30.94 319 P **P** **20 50 01.6 +2.6**
SPMN Marine on St. 31.48 357 P **P** **20 50 02.9 -0.6**
SADO Sadowa 32.47 15 P **P** **20 50 11.1 -1.1**
PDAR Pinedale Array 33.28 334 P **P** **20 50 19.9 +0.3**
comp=Z,0.2nm,0.7s,baz=95,slow=11,SNR=2.0
PDAR PcP **PcP** **20 52 60.0 -0.5**
comp=Z,0.3nm,0.5s,baz=122,slow=5.4,SNR=3.7
comp=Z,0.2nm,0.7s
PDAR Pinedale Array 33.28 334 P **P** **20 50 20.4 +0.8**
PTGA Pitinga 33.55 113 P **P** **20 50 21.4 -0.6**
comp=Z,2.0nm,0.4s,baz=304,slow=9.8,SNR=12
comp=Z,2.0nm,0.4s
ETMB Extrema 33.62 133 P **P** **20 50 22.7 +0.1**
ETMB IAmb IAmb 20 50 39.8
comp=Z,3.2nm,1.0s
REDW Red Top Meadow 34.32 333 P **P** **20 50 29.4 +0.7**
ELK Elko 34.50 326 P **P** **20 50 30.4 +0.1**
comp=Z,1.4nm,0.8s,baz=128,slow=11,SNR=6.0
ELK LR LR 21 06 15.1
comp=Z,49nm,20.4s,baz=73,slow=39
comp=Z,1.4nm,0.8s
NVAR Mina Array Bea 34.78 320 P **P** **20 50 35.3 +2.7**
comp=Z,4.9nm,0.7s,baz=132,slow=8.6,SNR=22
NVAR PcP **PcP** **20 53 05.8 +1.0**
comp=Z,1.7nm,0.8s,baz=105,slow=6.0,SNR=5.9
comp=Z,4.9nm,0.7s
NVAR Mina Array Bea 34.78 320 P **P** **20 50 35.6 +3.0**
MCMT McKenzie Canyo 36.36 333 P **P** **20 50 47.8 +1.7**
ULM Lac du Bonnet 36.71 354 P **P** **20 50 46.8 -1.9**
comp=Z,2.5nm,0.6s,baz=173,slow=12,SNR=3.3
ULM LR LR 21 06 25.7
comp=Z,34nm,21.6s,baz=267,slow=37
comp=Z,2.5nm,0.6s
YBH Yreka Blue Hor 39.46 321 LR LR 21 11 22.1
comp=Z,55nm,19.5s,baz=198,slow=42
NEW Newport 40.88 333 LR LR 21 10 04.9
comp=Z,41nm,20.2s,baz=134,slow=38
SIV San Ignacio 41.48 134 P **P** **20 51 28.3 -0.8**
comp=Z,2.4nm,0.7s,baz=301,slow=8.3,SNR=12
comp=Z,2.4nm,0.7s
SCHQ Schefferville 45.04 19 LR LR 21 10 28.6
comp=Z,63nm,18.3s,baz=16,slow=36
BDFB Brasilia 51.20 123 LR LR 21 15 53.7
comp=Z,64nm,18.3s,baz=168,slow=38
YKA Yellowknife Ar 51.64 346 P **P** **20 52 46.5 -1.3**
comp=Z,1.9nm,0.9s,baz=234,slow=13,SNR=3.4
comp=Z,1.9nm,0.9s
FRB Frobisher Bay 52.31 12 LR LR 21 15 03.4
comp=Z,64nm,20.1s,baz=201,slow=36
BCAR Beaver Creek A 60.87 336 P **P** **20 53 53.3 -0.3**
INK Inuvik 61.12 343 P **P** **20 53 53.7 -1.4**
comp=Z,1.3nm,0.7s,baz=123,slow=3.6,SNR=7.8
comp=Z,1.3nm,0.7s
ILAR Eielson Array 63.66 337 P **P** **20 54 11.4 -0.7**
comp=Z,0.2nm,0.4s,baz=172,slow=5.1,SNR=6.6
comp=Z,0.2nm,0.4s
BMAR Burnt Mountain 64.05 340 P **P** **20 54 14.5 -0.2**
ESDC Sonseca Array 78.82 52 P **P** **20 55 43.2 -1.0**
comp=Z,0.4nm,0.6s,baz=299,slow=4.5,SNR=4.1
comp=Z,0.4nm,0.6s
SONM Songino Array 116.90 347 PKP **PKPdf** **21 02 24.0 -1.5**
comp=Z,0.2nm,0.4s,baz=21,slow=9.3,SNR=1.8
MKAR Makanchi Array 119.45 6 PKP **PKPdf** **21 02 27.3 -3.0**
comp=Z,0.3nm,0.6s,baz=328,slow=2.0,SNR=2.2
WRA Warramunga Arr 136.66 255 PKP **PKPdf** **21 03 03.6 0.0**
comp=Z,0.5nm,0.7s,baz=75,slow=1.0,SNR=8.5
ASAR Alice Springs 136.86 250 PKP **PKPdf** **21 03 03.4 -0.6**
comp=Z,0.2nm,0.6s,baz=90,slow=2.4,SNR=1.8
PZH PanZhiHua 138.28 343 PKP **PKiKP** **21 03 08.0 -0.8**
CMAR Chiang Mai Arr 146.70 343 PKPbc **PKPdf** **21 03 22.4 +0.8**
comp=Z,4.1nm,0.6s,baz=341,slow=3.3,SNR=36

VAO ***26*** *20:58:31.3±1.4, 31.°76S×68.°93W, h79km±7km, mb4.3*
NEIC ***26*** *20:58:35.1±1.8, 31.°51S±0.°05×68.°65W±0.°07, h105km±4km, mb4.6/43, Md4.5(SJA), Error ellipse: s-maj=8.7km s-min=6.7km az=105.0*
IDC ***26*** *20:58:35.3±0.4, 31.°59S×68.°56W, h106km±2km, mb3.9/11, mbtmp4.2/15, MS3.1/3, Error ellipse: s-maj=13.5km s-min=11.5km az=48.0*
SJA ***26*** *20:58:35.1±0.8, 31.°58S×68.°65W, h107km±2km, ML4.1, MW4.2*
ISC 26 20:58:35.1±0.4, **31.°58S**±0.°03×**68.°60W**±0.°03, **h108**km±3km, **h108**km:**pP-P, n207**, σ1§**43**/248, **mb4.5**/31, **5C, San Juan Province**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SJA San Juan 0.06 35 eP **Pn** **20 58 50.8 +0.7**
SJA IAML 20 59 07.2
comp=Z,3μm,0.5s
ZON Zonda 0.07 293 **Pn** **20 58 50.4 +0.3**
ZON Sn **Sn** **20 59 01.0 -0.3**
ZON Zonda 0.07 293 eP **Pn** **20 58 50.4 +0.3**
ZON IAML 20 59 03.1
comp=Z,3μm,0.5s
RTLL Cerro Villicun 0.27 24 eP **Pn** **20 58 51.1 +0.5**
RTLL eS **Sn** **20 59 02.9 +0.7**
RTLL IAML 20 59 04.8
comp=Z,8μm,0.3s
RTCV Cerro Valdivia 0.29 170 eP **Pn** **20 58 51.3 +0.6**
RTCV eS **Sn** **20 59 02.9 +0.6**
RTCV IAML 20 59 04.3
comp=Z,116nm,0.9s
CFA Coronel Fontan 0.31 96 P **Pn** **20 58 51.2 +0.5**
comp=Z,6μm,0.3s,baz=279,slow=5.6
CFA S **Sn** **20 59 03.5 +1.0**
comp=Z,6μm,0.3s,baz=323,slow=20,SNR=215
CFA Coronel Fontan 0.31 96 eP **Pn** **20 58 51.6 +0.9**
CFA eS **Sn** **20 59 03.4 +1.0**
CFA eS **Sn** **20 59 03.7 +1.2**
CFA IAML 20 59 04.4
comp=Z,6μm,0.3s
ACCO Cerro Coronel 1.06 338 eP **Pn** **20 58 58.0 +0.8**
ACCO eS **Sn** **20 59 15.3 +1.5**
ACDV Cuesta del Vie 1.47 342 eP **Pn** **20 59 02.6 +1.0**
ACDV eS **Sn** **20 59 23.2 +1.5**
ACDV IAML 20 59 23.7
comp=Z,3μm,0.6s
AROD Rodeo 1.59 332 eS **Sn** **20 59 25.5 +0.9**
CO03 El Pedregal 1.94 292 **Pn** **20 59 07.6 +0.4**
CO03 Sn **Sn** **20 59 31.5 -0.3**
CO03 El Pedregal 1.94 292⇑iP **Pn** **20 59 07.7 +0.4**
CO03 El Pedregal 1.94 292 eP **Pn** **20 59 07.7 +0.4**
CO03 eS **Sn** **20 59 32.7 +0.9**
CO03 IAML 20 59 36.7
comp=Z,2μm,0.7s
VA03 San Esteban 2.04 234 **Pn** **20 59 09.0 +0.5**
VA03 Sn **Sn** **20 59 34.7 +0.6**
VA03 San Esteban 2.04 234 eP **Pn** **20 59 09.2 +0.7**
VA03 eS **Sn** **20 59 37.0 +2.9**
VA03 IAML 20 59 38.6
comp=Z,589nm,0.8s
CO01 Juntas del Tor 2.05 321 **Pn** **20 59 10.2 +1.5**
CO01 Sn **Sn** **20 59 33.0 -1.5**
CO01 Juntas del Tor 2.05 321⇑iP **Pn** **20 59 10.3 +1.5**
CO01 Juntas del Tor 2.05 321 eP **Pn** **20 59 10.3 +1.5**
CO01 eS **Sn** **20 59 36.3 +1.7**
CO01 IAML 20 59 37.7
comp=Z,1μm,0.6s
CO02 Combarbal 2.09 280 **Pn** **20 59 09.1 -0.1**
CO02 Combarbal 2.09 280⇑iP **Pn** **20 59 09.1 -0.1**
CO02 Combarbal 2.09 280 eP **Pn** **20 59 09.1 -0.1**
CO02 eS **Sn** **20 59 35.5 +0.2**
CO02 IAML 20 59 37.6
comp=Z,1μm,0.5s
APLL PUNTA DE LOS L 2.13 57 eP **Pn** **20 59 11.5 +1.8**
APLL IAML 21 00 08.6
comp=Z,6μm,3.2s
GO04 Tololo Observa 2.35 306 **Pn** **20 59 12.5 -0.3**
GO04 Tololo Observa 2.35 306 eP **Pn** **20 59 12.6 -0.2**
GO04 eS **Sn** **20 59 42.1 +0.5**
PEL Peldehue 2.36 228 eP **Pn** **20 59 13.1 +0.5**
PEL eS **Sn** **20 59 42.2 +0.8**
ROC1 El Roble 2.48 235 eP **Pn** **20 59 13.8 -0.6**
ROC1 El Roble 2.48 235 eP **Pn** **20 59 13.9 -0.5**
ROC1 eS **Sn** **20 59 43.6 -0.9**
VA06 Catapilco 2.49 246 Pn **Pn** **20 59 12.8 -1.5**
MT03 Universidad Ad 2.50 220 **Pn** **20 59 14.9 +0.3**
MT03 Universidad Ad 2.50 220 eP **Pn** **20 59 15.4 +0.8**
MT03 eS **Sn** **20 59 47.5 +2.6**
MT03 IAML 20 59 54.2
comp=Z,637nm,0.9s
MT05 Renca 2.56 224 Pn **Pn** **20 59 15.7 +0.4**
MT05 Renca 2.56 224 eP **Pn** **20 59 15.8 +0.5**
MT05 eS **Sn** **20 59 49.3 +3.2**
MT05 IAML 21 00 41.5
comp=Z,514nm,0.7s
ACLC CERRO LA CRUZ 2.57 34 eP Pn 20 59 10.2 -5.4
ACLC eS **Sn** **20 59 48.9 +2.3**
ACLC IAML 20 59 51.0
comp=Z,2μm,0.5s
MRA San Martin 2.59 110 eP **Pn** **20 59 17.6 +1.9**
MRA eS **Sn** **20 59 43.4 -3.5**
MRA eS **Sn** **20 59 47.5 +0.6**
MRA IAML 21 00 08.8
comp=Z,5μm,0.6s
LMEL Las Melosas 2.64 210 **Pn** **20 59 17.2 +0.8**
MT02 Curacav 2.73 231 **Pn** **20 59 15.3 -2.0**
MT02 Curacav 2.73 231 eP **Pn** **20 59 15.7 -1.7**
MT02 IAML 20 59 50.0
comp=Z,348nm,0.6s
CO06 Fray Jorge 2.75 288 **Pn** **20 59 15.7 -2.1**
CO06 Fray Jorge 2.75 288⇑iP **Pn** **20 59 15.9 -1.9**
CO05 La Serena 2.81 305 **Pn** **20 59 17.3 -1.1**
CO05 La Serena 2.81 305⇑iP **Pn** **20 59 17.5 -0.9**
BO04 La Punta 2.94 215 **Pn** **20 59 20.2 -0.1**
VA01 Torpederas 2.96 240 **Pn** **20 59 19.2 -1.2**
MT09 Talagante 2.98 222 **Pn** **20 59 20.1 -0.7**
AC05 El Transito 3.09 332 **Pn** **20 59 23.6 +1.3**
AC05 El Transito 3.09 332 eP **Pn** **20 59 23.6 +1.3**
AC05 eS **Sn** **21 00 01.1 +2.3**
AC05 IAML 21 00 38.5
comp=Z,602nm,0.8s
LCO Las Campanas 3.14 324 Pn **Pn** **20 59 22.9 -0.2**
MT01 Popeta 3.19 224 **Pn** **20 59 21.9 -1.7**
MT01 Popeta 3.19 224 eP **Pn** **20 59 23.0 -0.6**
MT01 IAML 21 00 02.8
comp=Z,181nm,0.2s
BO01 Tunca 3.50 216 Pn **Pn** **20 59 26.7 -1.0**
BO01 Tunca 3.50 216 eP **Pn** **20 59 26.9 -0.8**
BO01 eS **Sn** **21 00 08.2 -0.1**
BO01 IAML 21 00 12.9
comp=Z,125nm,0.6s
BO02 Sierra Bellavi 3.69 209 **Pn** **20 59 30.7 +0.3**
BO02 Sierra Bellavi 3.69 209 eP **Pn** **20 59 30.7 +0.3**
BO02 eS **Sn** **21 00 15.6 +2.5**
BO02 IAML 21 00 27.1
comp=Z,158nm,0.8s
CYA Choya 3.95 39 eP **Pn** **20 59 34.4 +0.5**
CYA eS **Sn** **21 00 19.2 -0.2**
AC04 Llanos de Chal 3.99 327 Pn **Pn** **20 59 33.4 -0.8**
AC04 Llanos de Chal 3.99 327 eP **Pn** **20 59 34.0 -0.2**
AC04 IAML 21 00 44.0
comp=Z,450nm,1.2s
GO03 Copiap 4.21 340 **Pn** **20 59 37.3 -0.1**
GO03 Copiap 4.21 340 eP **Pn** **20 59 37.3 -0.1**
GO03 eS **Sn** **21 00 27.2 +1.5**
GO05 Huala 4.42 218 **Pn** **20 59 38.1 -1.9**
AC06 Mina Casimiro 4.47 340 Pn **Pn** **20 59 40.2 -0.6**
AC02 Maricunga 4.75 354 Pn **Pn** **20 59 44.5 -0.5**
AC02 Maricunga 4.75 354 IAML 21 00 49.6
comp=Z,106nm,0.3s
ML02 Panimavida 4.79 209 **Pn** **20 59 43.4 -1.6**
AC01 Pan de Azucar 5.69 342 **Pn** **20 59 56.0 -1.1**
BI05 Punta Hualpn 6.41 215 Pn **Pn** **21 00 02.0 -4.9**
GO02 Mina Guanaco 6.45 352 Pn **Pn** **21 00 07.0 -0.8**
PB14 IPOC Station P 7.10 347 Pn **Pn** **21 00 14.4 -2.3**
PB10 IPOC Station P 8.22 347 Pn **Pn** **21 00 28.4 -3.1**
GO06 Currarrehue 8.33 196 Pn **Pn** **21 00 30.3 -2.8**
PB15 IPOC Station P 8.37 354 Pn **Pn** **21 00 31.8 -2.0**
TRQA Tornquist 8.45 142 Pn **Pn** **21 00 34.9 +0.2**
AF01 San Pedro de A 8.60 3 **Pn** **21 00 35.5 -1.4**
PB06 IPOC Station P 8.88 354 Pn **Pn** **21 00 37.9 -2.8**
LVC Limon Verde 8.93 358 Pn **Pn** **21 00 39.5 -2.1**
LVC Limon Verde 8.93 358 eP **Pn** **21 00 39.5 -2.1**
PLCA Paso Flores 9.27 189 P **Pn** **21 00 45.0 -0.8**
comp=Z,2.6nm,0.6s,baz=8.1,slow=11,SNR=15
PLCA Paso Flores 9.27 189 Pn **Pn** **21 00 44.3 -1.5**
PB04 IPOC Station P 9.31 351 Pn **Pn** **21 00 42.2 -4.3**
PB03 IPOC Station P 9.54 354 Pn **Pn** **21 00 45.5 -4.2**
PB09 IPOC Station P 9.76 356 Pn **Pn** **21 00 50.1 -2.5**
LL04 Puerto Octay 9.81 197 Pn **Pn** **21 00 48.7 -4.3**
PB02 IPOC Station P 10.28 353 Pn **Pn** **21 00 55.1 -4.5**
ITQB Itaqui 10.49 83 Pn **Pn** **21 01 00.9 -1.4**
ITQB Itaqui 10.49 83 eP **Pn** **21 01 03.8 +1.5**
TA01 Diego Aracena 11.06 352 Pn **Pn** **21 01 05.7 -4.3**
CPUP Villa Florida 11.16 65 P **Pn** **21 01 10.3 -1.2**
comp=Z,1.0nm,0.3s,baz=253,slow=18,SNR=2.9
CPUP S **Sn** **21 03 10.7 -3.6**
comp=Z,9.5nm,0.5s,baz=258,slow=8.8,SNR=0.9
CPUP LR LR 21 05 57.6
comp=Z,56nm,19.6s,baz=216,slow=40
CPUP Villa Florida 11.16 65 Pn **Pn** **21 01 11.8 +0.4**
TA02 Huaiquique 11.34 353 Pn **Pn** **21 01 13.5 -0.4**
PB08 IPOC Station P 11.40 357 Pn **Pn** **21 01 10.7 -4.2**
RODS Rosario do Sul 11.57 87 eP **Pn** **21 01 15.3 -1.6**
GO01 Chusmiza 11.87 357 Pn **Pn** **21 01 16.7 -4.6**
UNIS Unistalda (Bra 11.95 81 eP **Pn** **21 01 23.2 +1.3**
MNMC Minye Minye 12.42 356 **Pn** **21 01 24.0 -4.5**
PB16 IPOC Station P 13.21 356 **Pn** **21 01 35.3 -3.7**
CRSM Crissiumal (Br 13.31 76 eP **Pn** **21 01 39.5 -0.2**
ITAB Concordia 14.99 77 **P** **21 02 03.1 -1.0**
LPAZ La Paz 15.22 2 P **Pn** **21 02 03.4 -0.8**
comp=Z,18nm,0.7s,baz=187,slow=7.8,SNR=70
LPAZ S **Sn** **21 04 57.4 +3.8**
comp=Z,0.3nm,0.4s,baz=131,slow=19,SNR=0.8
LPAZ LR LR 21 10 00.3
comp=Z,37nm,19.2s,baz=116,slow=45
LPAZ La Paz 15.22 2 Pn **Pn** **21 02 02.1 -2.9**
LPAZ IAmb IAmb 21 02 07.8
comp=Z,21nm,0.7s
LPAZ La Paz 15.22 2 eP **Pn** **21 02 05.6 +0.7**
BBRB Robore, Bolivi 15.44 33 eP **P** **21 02 08.8 -0.4**
AQDB Aquidauana 16.00 49 eP **P** **21 02 16.5 +1.1**
BBSD Serra de San D 16.06 29 eP **P** **21 02 16.4 +0.4**
PTGB Pitanga 16.10 69 eP **P** **21 02 18.4 +1.9**
SIV San Ignacio 16.96 26 P **Pn** **21 02 24.3 -1.6**
comp=Z,7.8nm,0.7s,baz=183,slow=8.1,SNR=18
PTLB Pontes e Lacer 18.23 30 P **P** **21 02 39.0 -1.0**
PTLB IAmb IAmb 21 02 43.0
comp=Z,7.0nm,1.0s
PTLB Pontes e Lacer 18.23 30 eP **Pn** **21 02 42.0 +0.9**
TIJ01 Guaruva-PR 18.31 75 eP **Pn** **21 02 44.8 +2.6**
PCMB Pacaembu 18.39 62 eP **Pn** **21 02 43.4 +0.4**
SALV Santo Antonio 19.54 40 eP **Pn** **21 02 56.2 -0.4**
GO09 Cerro Castillo 19.87 187 P **Pn** **21 02 57.7 +0.1**
GO09 IAmb IAmb 21 03 28.7
comp=Z,28nm,1.2s
VILB Vilhena 20.08 25 P **P** **21 03 00.8 +0.7**
VILB IAmb IAmb 21 03 05.3
comp=Z,17nm,0.7s
VILB Vilhena 20.08 25 eP Pn 21 03 01.6 -1.3
ITRB Iturama 20.22 59 eP **P** **21 03 02.6 +1.0**
BB19B Bebedouro 20.78 65 eP **P** **21 03 08.3 +0.7**
RCLB Rio Claro- Sao 20.84 69 eP Pn 21 03 10.9 -0.9
VAO Valinhos 21.01 71 eP **P** **21 03 11.7 +1.6**
DVLD Doverlandia 21.08 49 eP **P** **21 03 13.7 +2.8**
EFI East Falkland 21.53 162 P **P** **21 03 15.3 0.0**
ETMB Extrema 21.76 6 P **P** **21 03 16.7 -1.4**
ETMB IAmb IAmb 21 03 28.4
comp=Z,16nm,0.9s
ETMB Extrema 21.76 6 eP **P** **21 03 19.0 +0.9**
PDRB Porto dos Gac 22.69 31 eP **P** **21 03 29.8 +2.1**
SAML Samuel 23.07 14 P **P** **21 03 30.9 -0.4**
CLDB Colider 23.77 33 eP **P** **21 03 38.6 +0.9**
CZSB Cruzeiro do Su 24.03 350 P **P** **21 03 38.8 -1.3**
CZSB IAmb IAmb 21 03 43.0
comp=Z,17nm,0.5s
CZSB Cruzeiro do Su 24.03 350 eP **P** **21 03 40.2 +0.1**
BDFB Brasilia 24.57 55 P **P** **21 03 44.9 -0.3**
comp=Z,2.1nm,0.5s,baz=211,slow=5.3,SNR=4.0
comp=Z,2.1nm,0.5s
BDFB Brasilia 24.57 55 P **P** **21 03 44.7 -0.5**
BDFB Brasilia 24.57 55 eP **P** **21 03 47.6 +2.4**
SNDB Serra Nova Dou 25.20 43 eP **P** **21 03 52.8 +2.0**
TBTG Tabatinga, AM 27.27 357 eP **P** **21 04 10.7 +1.3**
NPGB Novo Progresso 27.36 30 eP **P** **21 04 10.5 +0.2**
SGCB S£o Gabriel d 31.32 3 eP **P** **21 04 44.6 -0.6**
PTGA Pitinga 31.75 17 P **P** **21 04 48.8 -0.2**
comp=Z,1.7nm,0.3s,baz=221,slow=1.9,SNR=6.4
comp=Z,1.7nm,0.3s
MALB Monte Alegre 32.52 27 eP **P** **21 04 56.3 +0.6**
BOAV Boa Vista 34.65 14 P **P** **21 05 13.2 -1.0**
BOAV IAmb IAmb 21 05 15.4
comp=Z,3.5nm,0.8s
BOAV Boa Vista 34.65 14 eP **P** **21 05 14.3 +0.1**
MCPB Macapa, AP 34.77 30 eP **P** **21 05 16.2 +1.0**
RPN Rapa Nui 35.64 267 P **P** **21 05 24.3 +1.7**
comp=Z,76nm,0.9s,baz=70,slow=4.1,SNR=3.5
MDP Montagnes des 39.52 25 P **P** **21 05 55.7 +0.3**
comp=Z,4.6nm,0.8s,baz=198,slow=6.4,SNR=2.2
comp=Z,4.6nm,0.8s
BAUV El Baul 40.29 1 P **P** **21 06 00.7 -1.0**
TOSP Speyside 43.32 12 P **P** **21 06 26.2 -0.2**
GRGR Grenville 43.97 10 P **P** **21 06 30.8 -0.4**
BELA Belgrano 2 48.78 171 P **P** **21 07 09.0 +0.5**
BELA IAmb IAmb 21 07 17.6
comp=Z,4.8nm,0.7s
MLPR Magueyes Islan 49.28 2 P **P** **21 07 12.1 -0.9**
CELP Cerrillos 49.40 3 P **P** **21 07 12.8 -1.1**
VNA3 Neumayer Olymp 50.54 159 P **P** **21 07 21.0 -0.9**
VNA2 Neumayer--Watz 51.15 158 P **P** **21 07 25.3 -1.2**
baz=282,slow=8.0
TROLL Troll, Antarti 54.48 159 P **P** **21 07 52.4 +1.2**
TEIG Tepich 54.86 337 P **P** **21 07 54.1 -0.2**
SOR Soroa 55.79 344 P **P** **21 08 00.6 -0.4**
QSPA South Pole Qui 58.66 180 P **P** **21 08 21.8 +1.0**
QSPA IAmb IAmb 21 08 23.1
comp=Z,7.5nm,1.0s
SBA Scott Base 66.02 191 P **P** **21 09 11.0 +1.6**
VNDA Vanda 67.02 190 P **P** **21 09 15.4 -0.5**
comp=Z,1.6nm,0.8s,baz=122,slow=4.3,SNR=16
comp=Z,1.6nm,0.8s
VNDA Vanda 67.02 190 P **P** **21 09 16.9 +1.0**
W57A Gilead 67.23 350 P **P** **21 09 17.4 -0.3**
W57A IAmb IAmb 21 09 51.8
comp=Z,14nm,1.2s
CPCT Cooper Cave 68.33 346 P **P** **21 09 23.9 -0.6**
CPCT IAmb IAmb 21 09 25.1
comp=Z,3.7nm,0.7s
TKL Tuckaleechee C 68.38 347 P **P** **21 09 24.3 -0.6**
PLAL Pickwick Lake 68.69 343 P **P** **21 09 26.3 -0.5**
PLAL IAmb IAmb 21 09 30.4
comp=Z,9.9nm,1.4s
V48A Smith Brothers 69.11 344 P **P** **21 09 28.8 -0.6**
V48A IAmb IAmb 21 09 58.4
comp=Z,11nm,1.2s
TX32 Lajitas Array 69.14 328 P **P** **21 09 30.0 +0.1**
TXAR Lajitas Array 69.14 328 P **P** **21 09 30.6 +0.7**
comp=Z,1.3nm,0.6s,baz=154,slow=8.6,SNR=21
TXAR pP **pP** **21 09 58.5 +0.9**
comp=Z,0.8nm,0.7s,baz=152,slow=8.6,SNR=5.0
comp=Z,1.3nm,0.6s
JSRW J. Sargeant Re 69.45 352 P **P** **21 09 32.1 +0.7**
WVT Waverly 69.72 343 P **P** **21 09 32.8 -0.4**
WVT IAmb IAmb 21 09 34.0
comp=Z,9.5nm,0.7s
LCAR Lake Charles 70.54 341 P **P** **21 09 38.1 0.0**
LCAR IAmb IAmb 21 09 39.2
comp=Z,12nm,0.8s
DBIC Dimbokro 71.64 70 P **P** **21 09 45.6 +0.4**
CCM Cathedral Cave 72.42 341 P **P** **21 09 49.0 -0.3**
CCM IAmb IAmb 21 09 51.1
comp=Z,8.7nm,1.1s
R40A Maddies Statio 72.93 341 P **P** **21 09 51.9 -0.4**
R40A IAmb IAmb 21 09 53.6
comp=Z,12nm,0.8s
SUR Sutherland 73.43 118 P **P** **21 09 56.7 +0.7**
SUR IAmb IAmb 21 09 58.8
comp=Z,7.7nm,0.7s
P40A Paris 74.02 341 P **P** **21 09 59.0 +0.3**
P40A IAmb IAmb 21 09 59.9
comp=Z,9.4nm,0.7s
MAW Mawson 74.65 163 P **P** **21 10 03.8 +1.6**
comp=Z,4.7nm,0.8s,baz=208,slow=7.1,SNR=6.6
comp=Z,4.7nm,0.8s
MAW Mawson 74.65 163 P **P** **21 10 03.4 +1.3**
SADO Sadowa 76.59 352 P **P** **21 10 13.1 -0.2**
SADO IAmb IAmb 21 10 46.4
comp=Z,12nm,1.1s
SOE Somerset East 76.82 120 P **P** **21 10 15.9 +0.6**
SDCO Great Sand Dun 77.09 331 P **P** **21 10 17.3 +0.6**
BOSA Boshof 78.59 117 P **P** **21 10 25.7 +0.5**
comp=Z,6.0nm,0.7s,baz=239,slow=3.0,SNR=17
comp=Z,6.0nm,0.7s
BOSA Boshof 78.59 117 P **P** **21 10 25.7 +0.5**
BOSA IAmb IAmb 21 10 26.8
comp=Z,9.1nm,0.9s
ECSD EROS Data Cent 79.21 340 P **P** **21 10 27.9 0.0**
ECSD pP **pP** **21 10 56.8 +0.6**
ECSD IAmb IAmb 21 10 57.1
comp=Z,6.9nm,0.8s
LBTB Lobatse 80.65 114 P **P** **21 10 37.1 +0.7**
LBTB IAmb IAmb 21 10 38.1
comp=Z,19nm,1.4s
PDAR Pinedale Array 82.98 331 P **P** **21 10 47.5 -0.7**
comp=Z,0.8nm,0.7s,baz=137,slow=5.7,SNR=7.0
PDAR pP **pP** **21 11 17.3 +0.8**
comp=Z,0.8nm,0.7s,baz=129,slow=4.0,SNR=3.7
comp=Z,0.8nm,0.7s
PDAR Pinedale Array 82.98 331 P **P** **21 10 48.4 +0.1**
PDAR pP **pP** **21 11 16.9 +0.4**

HVU **Hansel Valley** 83.57 328 P **P** 21 10 50.9 -0.3
NVAR **Mina Array Bea** 83.63 323 P **P** 21 10 51.6 0.0
comp=Z,0.9nm,0.7s,baz=138,slow=7.7,SNR=5.5
comp=Z,0.9nm,0.7s
RLMT **Red Lodge** 84.82 332 P **P** 21 10 57.9 +0.5
RLMT IAmb IAmb 21 11 16.3
comp=Z,8.7nm,1.4s
ULM **Lac du Bonnet** 84.98 343 P **P** 21 10 57.6 -0.2
comp=Z,2.5nm,0.8s,baz=156,slow=7.6,SNR=3.0
ULM pP **pP** 21 11 25.8 -0.4
comp=Z,3.4nm,0.7s,baz=190,slow=4.5,SNR=3.6
comp=Z,2.5nm,0.8s
PLID **Pearl Lake** 87.62 329 P **P** 21 11 11.8 +0.5
PLID IAmb IAmb 21 11 42.0
comp=Z,2.5nm,0.8s
ESDC **Sonseca Array** 92.82 44 P **P** 21 11 35.6 +0.2
comp=Z,0.4nm,0.8s,baz=232,slow=5.1,SNR=1.8
comp=Z,0.4nm,0.8s
FRB **Frobisher Bay** 95.00 0 LR LR 21 58 34.6
comp=Z,35nm,18.8s,baz=9.5,slow=38
BRTR **Keskin Array B** 118.11 59 PKP **PKPdf** 21 17 08.6 -0.8
comp=Z,0.1nm,0.3s,baz=318,slow=1.9,SNR=1.4
AKASG **Malin Array Be** 118.43 46 PKP **PKPdf** 21 17 08.5 -0.9
comp=Z,0.2nm,0.3s,baz=254,slow=0.4,SNR=2.3
FINES **FINESS Array B** 119.37 33 PKP **PKPdf** 21 17 10.9 0.0
comp=Z,6.8nm,1.1s,baz=235,slow=6.7,SNR=4.5
ARCES **ARCESS Array B** 120.61 24 PKP **PKPdf** 21 17 12.0 -1.2
comp=Z,6.2nm,1.0s,baz=256,slow=2.7,SNR=2.0
ASAR **Alice Springs** 121.00 204 PKP **PKPdf** 21 17 14.7 -0.8
comp=Z,0.9nm,0.4s,baz=135,slow=1.8,SNR=24
WRA **Warramunga Arr** 124.25 206 PKP **PKPdf** 21 17 21.0 -0.7
comp=Z,3.1nm,0.6s,baz=167,slow=1.7,SNR=59
WRA pPKP **pPKPdf** 21 17 50.7 -0.7
comp=Z,0.5nm,0.5s,baz=161,slow=1.7,SNR=2.5
ARU **Arti** 136.03 40 PKP **PKiKP** 21 17 44.6 +0.2
comp=Z,2.0nm,0.5s,baz=310,slow=3.7,SNR=5.0
BVAR **Borovoye Array** 143.54 42 PKP **PKPdf** 21 17 55.6 -0.9
comp=Z,0.6nm,0.5s,baz=294,slow=4.4,SNR=3.9
YAK **Yakutsk** 147.31 344 PKPbc **PKPbc** 21 18 05.4 +0.2
comp=Z,10nm,0.6s,baz=90,slow=1.0,SNR=16
YAK pPKPbc **pPKPdf** 21 18 32.5 +0.1
comp=Z,6.7nm,0.7s,baz=64,slow=2.2,SNR=3.5
AAK **Ala-Archa** 148.79 59 PKP **PKPdf** 21 18 07.2 +1.2
comp=Z,6.5nm,0.6s,baz=315,slow=6.0,SNR=10
AAK PKPbc **PKiKP** 21 18 11.3 0.0
comp=Z,5.7nm,0.5s,baz=217,slow=3.1,SNR=15
AAK pPKPbc **pPKPbc** 21 18 39.3 -0.2
comp=Z,2.7nm,0.5s,baz=309,slow=7.7,SNR=2.5
RPSI **Rantau Prapat** 148.96 155 **PKPbc** 21 18 10.8 -0.2
PSI **Prapat** 149.06 155 PKPbc **PKPbc** 21 18 10.8 -0.6
comp=Z,5.0nm,0.5s,baz=207,slow=6.8,SNR=5.5
KURBB **Kurchatov Arra** 149.13 42 PKP **PKPdf** 21 18 07.1 +1.1
comp=Z,4.4nm,0.7s,baz=302,slow=3.1,SNR=19
KURBB PKPbc **PKiKP** 21 18 11.3 -0.2
comp=Z,4.3nm,0.7s,baz=298,slow=3.2,SNR=33
KURBB pPKPbc **pPKPbc** 21 18 38.8 -1.0
comp=Z,0.8nm,0.5s,baz=304,slow=2.9,SNR=3.0
KSH **Kashi** 150.25 65 PKPbc **PKPbc** 21 18 14.0 +0.4
KSH pPKP pPKPbc 21 18 42.5 -0.7
ZALV **Zalesovo Beam** 150.63 33 PKP **PKPdf** 21 18 08.7 +0.4
comp=Z,1.5nm,0.4s,baz=349,slow=1.5,SNR=2.3
ZALV PKPbc **PKiKP** 21 18 14.8 +0.3
comp=Z,10nm,0.5s,baz=303,slow=3.1,SNR=52
ZALV pPKPbc **pPKPbc** 21 18 42.9 -0.5
comp=Z,4.7nm,0.7s,baz=311,slow=2.6,SNR=5.2
MKAR **Makanchi Array** 152.99 47 PKPbc **PKiKP** 21 18 20.0 +0.3
comp=Z,3.0nm,0.8s,baz=298,slow=2.3,SNR=15
MKAR PKPab **PKPab** 21 18 32.0 +0.7
comp=Z,3.0nm,0.6s,baz=282,slow=3.0,SNR=19
MKAR pPKPab **pPKPab** 21 18 59.1 -0.9
comp=Z,2.3nm,0.8s,baz=289,slow=3.7,SNR=4.2
MJAR **Matsushiro Arr** 157.28 290 PKPab **PKPab** 21 18 50.4 +0.5
comp=Z,2.5nm,0.7s,baz=114,slow=2.3,SNR=5.1
CMAR **Chiang Mai Arr** 162.76 136 PKP **PKPdf** 21 18 25.4 +0.5
comp=Z,0.6nm,0.8s,baz=207,slow=2.6,SNR=4.5
CMAR PKPab **PKPab** 21 19 13.8 -0.2
comp=Z,0.3nm,0.5s,baz=236,slow=5.9,SNR=4.6
SONM **Songino Array** 163.32 12 PKPab **PKPab** 21 19 15.9 0.0
comp=Z,0.4nm,0.6s,baz=340,slow=5.9,SNR=3.6
SONM pPKPab **pPKPab** 21 19 44.3 -0.4
comp=Z,0.8nm,0.7s,baz=317,slow=3.7,SNR=5.8
PZH **PanZhiHua** 170.15 118 PKP **PKPdf** 21 18 29.3 -1.3

*IDC **26** 21:04:02.3±2.2, 38.°90N×74.°09E, h0km, mb3.7/7, mbtmp3.7/12, ML3.0/5, MS2.8/1, Error ellipse: s-maj=35.8km s-min=19.6km az=154.0*
*KRNET **26** 21:04:06.9±0.1, 39.°24N×73.°97E, mb4.3*
*SOME **26** 21:04:08.5, 39.°38N×73.°87E, h5km*
ISC 26 21:04:04.1±0.8, 39.°18N±0.°04×74.°08E±0.°03, h10km, n49, σ1°79/75, mb3.9/6, 4C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.68**	**324**	⇓*e*P		**Pg**	**21 04 36.4**	**+0.1**
	baz=25							
OHH				⇓*i*S		**Sg**	**21 04 58.1**	**0.0**
	baz=25							
BTK	**Batken**	**2.67**	**290**	⇓*i*P		**Pb**	**21 04 51.9**	**-0.2**
BTK	baz=90			⇓*i*S		**Sb**	**21 05 24.6**	**-0.4**
	baz=90							
ARLS	**Aral**	**2.69**	**4**	⇓*e*P		**Pb**	**21 04 52.7**	**+0.3**
ARLS	baz=6.0			⇓*i*S		**Sb**	**21 05 26.1**	**+0.6**
	baz=6.0							
GAR	**Garm**	**2.94**	**268**	⇓*i*P		**Pb**	**21 04 55.8**	**-0.8**
GAR	baz=66			⇓*i*S		**Sb**	**21 05 31.5**	**-1.1**
	baz=66							
ARK	**Arkit**	**3.08**	**329**	⇓*e*P		**Pb**	**21 04 57.6**	**-1.4**
ARK	baz=30			⇓*i*S		**Sb**	**21 05 34.6**	**-2.1**
	baz=30							
TRKS	**Terek-Say**	**3.25**	**317**	⇑*i*P		**Pb**	**21 04 59.1**	**-3.0**
TRKS	baz=17			⇑*i*S		**Sn**	**21 05 37.0**	**+2.8**
	baz=17							
AAK	**Ala-Archa**	**3.47**	**5**	Pn		**Pb**	**21 05 05.0**	**-0.8**
	4.1nm,0.3s,baz=177,slow=6.5,SNR=62							
AAK				Lg		Lg	21 05 49.1	
	3.1nm,0.3s,baz=47,slow=15,SNR=2.1							
AAK				LR		LR	21 06 22.9	
	comp=Z,116nm,18.3s,baz=213,slow=38							
	14nm,0.4s							
MRKS	**Merke**	**3.62**	**350**	*e*P		**Pg**	**21 05 12.3**	**-1.3**
	51nm,0.1s							
MRKS				*e*S		**Sg**	**21 05 58.0**	**-2.5**
	104nm,0.5s							
TARG	**Taragay, Kyrgy**	**3.82**	**47**	⇑*e*P		**Pb**	**21 05 09.4**	**-2.4**
	baz=48							
TARG				⇑*i*S		**Sb**	**21 05 55.2**	**-3.0**
	baz=48							
CHGR	**Chuyangaron**	**3.88**	**264**	⇓*i*P		**Pb**	**21 05 08.9**	**-3.7**
	baz=63							
CHGR				⇓*i*S		**Sn**	**21 05 54.3**	**+4.8**
	baz=63							
KST	**Kastek**	**4.12**	**20**	*e*P		**Pg**	**21 05 22.1**	**-0.8**
	40nm,0.1s							
KST				*e*S		**Sg**	**21 06 14.9**	**-1.4**
	102nm,0.2s							
TAS	**Tashkent**	**4.25**	**302**	⇓*i*P		Pn	21 05 13.6	+4.7
	baz=2.0							
TAS				⇓*i*S		**Sn**	**21 06 02.2**	**+3.7**
	baz=2.0							
DZA	**Taraz**	**4.26**	**332**	*e*P		**Pb**	**21 05 18.7**	**-0.4**
	35nm,0.1s							
DZA				*e*S		**Sb**	**21 06 08.5**	**-2.0**
	104nm,0.4s							
DGS	**Degeres**	**4.26**	**17**	*e*P		**Pg**	**21 05 24.7**	**-1.0**
	45nm,0.6s							
DGS				*e*S		**Sg**	**21 06 19.1**	**-1.8**
	69nm,0.3s							
IUG	**Iuzhnay**	**4.28**	**315**	*e*P		**Pg**	**21 05 25.1**	**-1.0**
	165nm,0.6s							
IUG				*e*S		**Sg**	**21 06 20.0**	**-1.5**
	194nm,3.8s							
SGDS	**Sogindy**	**4.29**	**5**	*e*P		**Pg**	**21 05 24.6**	**-1.7**
	23nm,0.1s							
SGDS				*e*S		**Sg**	**21 06 19.0**	**-2.9**
	72nm,0.4s							
MTBS	**Maitube**	**4.33**	**23**	*e*P		**Pg**	**21 05 25.3**	**-1.7**
	34nm,0.1s							
MTBS				*e*S		**Sg**	**21 06 20.7**	**-2.4**
	37nm,0.6s							
TNSS	**Tian-Shan**	**4.42**	**28**	*e*P		**Pg**	**21 05 28.2**	**-0.6**
	28nm,0.2s							
TNSS				*e*S		**Sg**	**21 06 25.7**	**-0.4**
	31nm,0.5s							
AAA	**Alma-Ata**	**4.56**	**27**	*e*P		**Pg**	**21 05 31.5**	**+0.1**
	55nm,0.7s							
AAA				*e*S		**Sg**	**21 06 31.2**	**+0.6**
	95nm,0.4s							
MDOK	**Medeo**	**4.57**	**28**	*e*P		**Pg**	**21 05 30.7**	**-0.9**
	22nm,0.1s							
MDOK				*e*S		**Sg**	**21 06 29.7**	**-1.1**
	33nm,0.1s							
KOTS	**Kotyrbulak**	**4.65**	**28**	*e*P		**Pg**	**21 05 33.1**	**-0.2**
	26nm,0.4s							
KOTS				*e*S		**Sg**	**21 06 34.1**	**+0.5**
	131nm,0.2s							
KRBS	**Karabastau**	**4.67**	**14**	*e*P		**Pg**	**21 05 32.4**	**-1.2**
	11nm,0.2s							
KRBS				*e*S		**Sg**	**21 06 33.0**	**-1.1**
	44nm,0.1s							
KTBS	**Karatobe**	**4.94**	**22**	*e*P		**Pg**	**21 05 37.0**	**-1.6**
	18nm,0.6s							
KTBS				*e*S		**Sg**	**21 06 40.3**	**-2.2**
	69nm,0.1s							
KUU	**Kurty**	**5.01**	**19**	*e*P		**Pg**	**21 05 39.3**	**-0.7**
	20nm,0.6s							
KUU				*e*S		**Sg**	**21 06 44.3**	**-0.5**
	60nm,0.1s							
SATY	**Saty**	**5.07**	**39**	*e*P		**Pg**	**21 05 41.4**	**+0.2**
	26nm,0.4s							
SATY				*e*S		**Sg**	**21 06 47.8**	**+1.0**
	76nm,1.3s							
CHKK	**Chushkaly**	**5.16**	**24**	*e*P		**Pg**	**21 05 41.3**	**-1.6**
	15nm,0.4s							
CHKK				*e*S		**Sg**	**21 06 48.3**	**-1.3**
	21nm,0.3s							
ZHN	**Zhinishke**	**5.17**	**38**	*e*P		**Pg**	**21 05 41.7**	**-1.3**
	7.3nm,0.1s							
ZHN				*e*S		**Sg**	**21 06 48.8**	**-1.2**
	41nm,0.5s							
UZB	**Uzynbulak**	**5.44**	**42**	*e*P		**Pg**	**21 05 47.4**	**-1.0**
	11nm,0.2s							
UZB				*e*S		**Sg**	**21 06 58.2**	**-0.6**
	29nm,0.3s							
KPKS	**Kokpek**	**5.51**	**37**	*e*P		**Pg**	**21 05 48.1**	**-1.5**
	15nm,0.5s							
KPKS				*e*S		**Sg**	**21 06 59.2**	**-1.8**
	44nm,0.2s							
CHCP	**Chirah Chowk**	**5.55**	**187**	P		**Pb**	**21 05 37.7**	**-3.4**
CEP	**Cherat**	**5.62**	**199**	P		**Pb**	**21 05 39.0**	**-3.4**
SHLS	**Shalkode**	**5.68**	**44**	*e*P		Pg	21 05 57.1	+4.2
	24nm,0.4s							
SHLS				*e*S			21 07 15.3	+8.8
	35nm,0.9s							
ARXS	**Arharly**	**5.76**	**28**	*e*P		**Pg**	**21 05 53.8**	**-0.7**
	34nm,0.1s							
ARXS				*e*S		**Sg**	**21 07 09.2**	**+0.2**
	27nm,0.1s							
BTLS	**Baital**	**5.86**	**360**	*e*P		**Pg**	**21 05 53.7**	**-2.6**
	6.1nm,0.3s							
BTLS				*e*S		**Sg**	**21 07 09.3**	**-2.9**
	11nm,0.3s							
BLB	**Baldybastay**	**5.92**	**32**	*e*P		**Pg**	**21 05 56.5**	**-0.9**
	23nm,0.3s							
BLB				*e*S		**Sg**	**21 07 14.4**	**+0.4**
	39nm,0.4s							
THW	**Thamme Wali**	**6.64**	**197**	P		Pn	21 05 50.3	+8.5
DJR	**Jarkent**	**6.69**	**38**	*e*P		**Pg**	**21 06 11.7**	**-0.5**
	5.2nm,0.5s							
DJR				*e*S		**Sg**	**21 07 39.8**	**+1.1**
	21nm,0.6s							
MKAR	**Makanchi Array**	**9.70**	**36**	Pn		Pn	21 06 28.0	+4.3
	0.1nm,0.3s,baz=222,slow=16,SNR=3.9							
MKAR				Lg		Lg	21 09 14.2	
	baz=231,slow=28,SNR=4.2							
	1.3nm,1.0s							
KURBB	**Kurchatov Arra**	**11.87**	**14**	Lg		Lg	21 10 21.9	
	0.1nm,0.3s,baz=188,slow=30,SNR=6.9							
GEYT	**Alibeck**	**12.56**	**269**	Pn		**Pn**	**21 07 00.7**	**-2.2**
	0.2nm,0.3s,baz=98,slow=10,SNR=1.5							
	0.3nm,0.3s							
BVAR	**Borovoye Array**	**14.08**	**351**	Pn		**Pn**	**21 07 25.3**	**+1.7**
	baz=165,slow=12,SNR=6.4							
BVAR				Lg		Lg	21 11 29.5	
	baz=159,slow=34,SNR=3.1							
	1.2nm,0.5s							
ZALV	**Zalesovo Beam**	**16.49**	**23**	Pn		**P**	**21 07 57.3**	**-0.7**
	0.2nm,0.3s,baz=216,slow=9.9,SNR=6.4							
	1.1nm,0.6s							
ARU	**Arti**	**20.08**	**334**	P		Pn	21 08 39.5	+0.1
	0.8nm,0.3s,baz=156,slow=7.6,SNR=5.0							
	0.8nm,0.3s							
BELG	**Belogornoye**	**22.54**	**315**	P		**P**	**21 09 05.0**	**+1.0**
	3.5nm,0.8s,baz=130,slow=7.9,SNR=1.4							
	3.5nm,0.8s							
SONM	**Songino Array**	**24.84**	**59**	P		**P**	**21 09 26.9**	**+0.2**
	0.2nm,0.5s,baz=261,slow=7.0,SNR=1.3							
	0.2nm,0.5s							
BRTR	**Keskin Array B**	**31.05**	**284**	P		**P**	**21 10 22.2**	**-0.1**
	0.4nm,0.8s,baz=80,slow=7.8,SNR=2.4							
	0.4nm,0.8s							
FINES	**FINESS Array B**	**36.71**	**323**	P		**P**	**21 11 13.0**	**+2.0**
	1.4nm,0.8s,baz=123,slow=16,SNR=6.6							
	1.4nm,0.8s							
ARCES	**ARCESS Array B**	**39.66**	**336**	P		**P**	**21 11 38.3**	**+2.5**
	2.1nm,0.7s,baz=98,slow=6.2,SNR=6.0							
	2.1nm,0.7s							
INK	**Inuvik**	**70.85**	**11**	P		**P**	**21 15 22.8**	**+2.2**
	2.0nm,1.0s,baz=309,slow=5.5,SNR=3.8							
	2.0nm,1.0s							

*IDC **26** 21:07:27.5±1.2, 26.°81N×144.°03E, h0km, mb3.6/7, mbtmp3.6/8, ML2.9/1, Error ellipse: s-maj=31.0km s-min=21.2km az=81.0*
ISC 26 21:07:32.8±1.1, 26.°9N±0.°1×143.°9E±0.°1, h35km, n9, σ1°06/10, mb3.7/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.53**	**279**	Pn		**Pn**	**21 07 57.5**	**-0.2**
	14nm,0.3s,baz=331,slow=21,SNR=14							
JCJ				Sn		**Sn**	**21 08 15.8**	**-0.4**
	71nm,0.3s,baz=278,slow=22,SNR=5.6							
MJAR	**Matsushiro Arr**	**10.79**	**335**	Pn		**Pn**	**21 10 03.5**	**-1.3**
	0.1nm,0.3s,baz=142,slow=10.0,SNR=7.0							
	0.6nm,0.3s							
SONM	**Songino Array**	**35.93**	**316**	P		**P**	**21 14 31.7**	**+1.7**
	0.3nm,0.6s,baz=100,slow=7.5,SNR=4.1							
	0.3nm,0.5s							
TIXI	**Tiksi**	**45.61**	**353**	P		**P**	**21 15 48.9**	**-0.3**
	0.5nm,0.5s,baz=90,slow=24,SNR=1.9							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**47.44**	**192**	P		**P**	**21 16 04.3**	**+0.2**
	0.6nm,0.6s,baz=13,slow=8.6,SNR=6.5							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**51.15**	**192**	P		**P**	**21 16 31.3**	**-1.2**
	0.4nm,1.0s,baz=10,slow=5.7,SNR=3.5							
	0.4nm,1.0s							
MKAR	**Makanchi Array**	**51.79**	**310**	P		**P**	**21 16 38.0**	**+0.8**
	0.3nm,0.4s,baz=95,slow=8.7,SNR=8.0							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**54.28**	**315**	P		**P**	**21 16 56.3**	**+1.0**
	0.6nm,0.5s,baz=90,slow=8.0,SNR=7.8							
	0.6nm,0.5s							
INK	**Inuvik**	**62.61**	**25**	P		**P**	**21 17 53.0**	**-0.2**
	1.0nm,0.9s,baz=284,slow=6.9,SNR=4.8							
	1.0nm,0.9s							

*IDC **26** 21:14:32.2±1.4, 5.°06N×123.°14E, h614km±19km, mb3.2/12, mbtmp4.2/13, Error ellipse: s-maj=39.8km s-min=9.9km az=62.0*
*DJA **26** 21:14:40.7±1.0, 4.°N±12.°×12.°3E±°, h420km±21km, M4.2/7, mB4.6/7, mb4.3/7, MLv4.6/6, Mw(mB)3.8/7*
ISC 26 21:14:30.3±0.7, 4.°9N±0.°1×122.°8E±0.°2, h592km, n18, σ1°35/20, mb3.6/12, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**5.87**	**180**	P		**P**	**21 16 08.5**	**-1.4**
	0.4nm1μm33nm,0.4s							
TNTI	**Ternate**	**6.14**	**131**	P		**P**	**21 16 12.1**	**-0.2**
	0.2nm971nm35nm,0.6s							
LBMI	**Labuha**	**7.23**	**139**	P		**P**	**21 16 22.4**	**+0.2**
	0.2nm1μm45nm,0.6s							
SANI	**Sanana**	**7.58**	**155**	P		**P**	**21 16 24.2**	**-1.3**
	0.1nm820nm19nm,0.7s							
AAI	**Ambon**	**10.08**	**147**	P		P	21 16 56.2	+6.4
SIJI	**Sorong**	**10.23**	**124**	P		**P**	**21 16 50.9**	**-0.3**
	5.6nm,0.4s,baz=313,slow=19,SNR=4.7							
CMAR	**Chiang Mai Arr**	**26.91**	**302**	P		**P**	**21 19 28.3**	**+2.5**
	0.5nm,0.4s,baz=121,slow=6.7,SNR=7.0							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**27.15**	**156**	P		**P**	**21 19 28.2**	**+0.3**
	5.4nm,0.5s,baz=336,slow=9.6,SNR=75							
WRA				ScP		**ScP**	**21 25 11.3**	**-2.2**
	0.2nm,0.7s,baz=352,slow=3.3,SNR=1.8							
	5.4nm,0.5s							
ASAR	**Alice Springs**	**30.37**	**159**	P		**P**	**21 19 57.0**	**+1.3**
	1.3nm,0.4s,baz=340,slow=7.4,SNR=46							
ASAR				ScP		**ScP**	**21 25 21.2**	**-2.5**
	0.5nm,0.7s,baz=350,slow=2.9,SNR=6.2							
	1.3nm,0.4s							
STKA	**Stephens Creek**	**40.70**	**155**	P		**P**	**21 21 22.2**	**+1.4**
	2.1nm,0.3s,baz=341,slow=8.5,SNR=11							
	2.1nm,0.3s							
SONM	**Songino Array**	**45.06**	**344**	P		**P**	**21 21 54.9**	**+0.3**
	0.6nm,0.6s,baz=162,slow=6.5,SNR=5.6							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**54.41**	**327**	P		**P**	**21 23 04.1**	**+1.2**
	2.2nm,0.3s,baz=120,slow=8.0,SNR=66							
MKAR				PcP		**PcP**	**21 23 56.9**	**-0.2**
	0.2nm,0.6s,baz=140,slow=3.2,SNR=1.9							
	2.2nm,0.3s							
ZALV	**Zalesovo Beam**	**57.83**	**335**	P		**P**	**21 23 25.8**	**-0.4**
	0.5nm,0.3s,baz=126,slow=8.2,SNR=3.2							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**58.69**	**329**	P		**P**	**21 23 32.7**	**+0.7**
	2.3nm,0.6s,baz=129,slow=6.4,SNR=30							
	2.3nm,0.6s							
BVAR	**Borovoye Array**	**64.24**	**328**	P		**P**	**21 24 08.0**	**-0.1**
	0.9nm,0.7s,baz=141,slow=9.6,SNR=4.4							
	0.9nm,0.7s							
TIXI	**Tiksi**	**66.81**	**2**	P		**P**	**21 24 22.5**	**-1.3**
	0.6nm,0.3s,baz=91,slow=23,SNR=4.6							
	0.6nm,0.3s							
ARU	**Arti**	**71.88**	**328**	P		**P**	**21 24 54.1**	**-0.1**
	0.9nm,0.3s,baz=237,slow=17,SNR=3.7							
	0.9nm,0.3s							
FINES	**FINESS Array B**	**88.96**	**331**	P		**P**	**21 26 21.2**	**-1.4**
	5.3nm,1.0s,baz=60,slow=4.6,SNR=5.3							
	5.3nm,1.0s							

*NNC **26** 21:18:55.7±1.0, 44.°89N×79.°60E, h0km, mb2.7, mpv2.9, Error ellipse: s-maj=12.1km s-min=5.1km az=122.0*
*SOME **26** 21:18:59.2, 44.°75N×79.°55E, h10km*
ISC 26 21:18:56.5±1.4, 44.°85N±0.°04×79.°59E±0.°04, h9km±14km, n15, σ0°59/27, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.54**	**165**	*e*P		**Pb**	**21 19 08.2**	**-0.1**
	6.7nm,0.0s							
DJR				*e*S		**Sg**	**21 19 14.8**	**+0.6**
	16nm,0.1s							
DJR	**Jarkent**	**0.54**	**165**	P		**Pb**	**21 19 08.2**	**-0.1**
	6.7nm,0.0s							
DJR				S		**Sg**	**21 19 14.8**	**+0.6**
	16nm,0.1s							
BLB	**Baldybastay**	**1.10**	**227**	*e*P		**Pb**	**21 19 18.5**	**+0.7**
	1.9nm,0.1s							
BLB				*e*S		**Sg**	**21 19 31.8**	**-0.1**
	4.2nm,0.2s							
BLB	**Baldybastay**	**1.10**	**227**	P		**Pb**	**21 19 18.5**	**+0.7**
	1.8nm,0.1s							
BLB				S		**Sg**	**21 19 31.8**	**-0.1**
	4.2nm,0.2s							
ARXS	**Arharly**	**1.41**	**244**	*e*P		**Pb**	**21 19 23.8**	**+0.6**
	3.3nm,0.2s							
ARXS				*e*S		**Sb**	**21 19 41.4**	**0.0**
	4.1nm,0.1s							
PDGK	**Podgornoye**	**1.53**	**183**	P		**Pg**	**21 19 25.7**	**-0.1**
	0.3nm,0.1s							
PDGK				S		**Sg**	**21 19 45.0**	**-0.6**
	1.0nm,0.1s							
PDGK	**Podgornoye**	**1.53**	**183**	⇑P		**Pn**	**21 19 23.8**	**-0.3**
	3.6nm,1.4s							
PDGK				⇓S		**Sb**	**21 19 44.6**	**0.0**
	9.1nm,1.4s							
KPKS	**Kokpek**	**1.53**	**205**	*e*P		**Pg**	**21 19 26.0**	**0.0**
	4.8nm,0.2s							
KPKS				*e*S		**Sg**	**21 19 45.2**	**-0.6**
	18nm,0.3s							
KPKS	**Kokpek**	**1.53**	**205**	P		**Pg**	**21 19 26.0**	**0.0**
	3.3nm,0.1s							
KPKS				S		**Sg**	**21 19 45.2**	**-0.6**
	18nm,0.3s							
UZB	**Uzynbulak**	**1.75**	**194**	*e*P		**Pb**	**21 19 29.7**	**+0.7**
	1.0nm,0.3s							
UZB				*e*S		**Sb**	**21 19 51.5**	**+0.3**
	5.4nm,0.2s							
SATY	**Saty**	**1.99**	**206**	*e*P		**Pb**	**21 19 33.9**	**+0.9**
	2.3nm,0.1s							
SATY				*e*S		**Sg**	**21 19 59.3**	**-1.1**
	13nm,0.1s							
SATY	**Saty**	**1.99**	**206**	Pg		**Pb**	**21 19 33.9**	**+0.9**
	2.5nm,0.1s							
SATY				Lg		Lg	21 19 59.3	
	13nm,0.1s							
KTBS	**Karatobe**	**2.38**	**242**	*e*P		**Pg**	**21 19 41.8**	**-0.3**
	0.9nm,0.3s							
KTBS				*e*S		**Sg**	**21 20 12.3**	**-0.6**
	4.9nm,0.1s							
MAKZ	**Makanchi**	**2.57**	**40**	⇑Pg		**Pb**	**21 19 43.7**	**+0.9**
	5.4nm,1.4s							
MAKZ				⇑Lg		Lg	21 20 16.2	
	7.3nm,1.4s							
MK31	**Makanchi Array**	**2.71**	**43**	Pg		**Pb**	**21 19 44.9**	**-0.2**
MK31				Lg		Lg	21 20 19.1	

*WEL **26** 21:24:36.5±0.3, 42.°S±3.°×17.°4E±.°, h13km±2km, M3.1/24, ML3.4/20, MLv3.1/24, Error ellipse: s-maj=0.0km s-min=0.0km az=140.0*
*NOU **26** 21:24:41.2, 41.°99S×173.°78E, h32km, MLv3.9/7, South Island, New Zealand*
ISC 26 21:24:36.1±1.0, 41.°83S±0.°03×174.°21E±0.°03, h17km, n50, σ1°01/53, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**1**	P		**Pg**	**21 24 40.0**	**+0.5**
CMWZ				S		**Sg**	**21 24 42.9**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.28**	**295**	P		**Pg**	**21 24 42.3**	**+0.2**
BSWZ				S		**Sg**	**21 24 46.6**	**+0.3**
TUWZ	**Tuamarina**	**0.45**	**333**	P		**Pg**

WVZ	Waitaha Valley	2.85	243	P		Pb	21 25 25.0	-1.5
WTVZ	West Tongariro	2.91	22	P		Pb	21 25 27.6	0.0
ETVZ	East Tongariro	2.93	23	P		Pb	21 25 28.6	+0.7
TMVZ	Te Maari	2.94	23	P		Pb	21 25 27.5	-0.6
RPZ	Rata Peaks	2.99	230	P		Pn	21 25 21.6	-1.1
BKZ	Black Stump Fm	3.18	34	P		Pb	21 25 32.7	+0.5
HIZ	Hauiti	3.35	9	P		Pb	21 25 34.9	-0.2
HIZ	Hauiti	3.35	9	P		Pn	21 25 31.3	+3.6
ODZ	Otahua Downs	4.13	218	P		Pn	21 25 37.8	-0.5
ODZ	Otahua Downs	4.13	218	P		Pn	21 25 37.5	-0.8

IDC ***26*** *21:26:32.0±2.8, 37.41N×141.98E, h0km, mb3.3/2, mbtmp3.2/3, ML2.1/1, Error ellipse: s-maj=51.7km s-min=40.1km az=29.0*
JMA ***26*** *21:26:36.6±0.2, 37.3N±0.4×141.6E±1.0, h33km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 26 21:26:34.0±2.1, **37.26N**±0.05×**141.70E**±0.08, **h7**km±10km, **n19**, σ0**89**/24, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.67**	**279**	P	**Pg**	**21 26 47.8**	**+1.0**
JFK				S	**Sg**	**21 26 55.9**	**+0.3**
JMST	**Minamisoumatoc**	**0.80**	**306**	*i* P	**Pg**	**21 26 50.1**	**+0.8**
JMST				S	**Sg**	**21 26 59.6**	**-0.1**
JFFD	**Fukushimafurud**	**0.93**	**260**	*i* P	**Pg**	**21 26 51.9**	**+0.1**
JFFD				S	**Sg**	**21 27 02.7**	**-1.1**
JMM	**Marumori**	**0.94**	**310**	*i* P	**Pg**	**21 26 52.4**	**+0.3**
JMM				S	**Sg**	**21 27 03.6**	**-0.7**
JHO	**Hitachi**	**1.11**	**235**	P	**Pb**	**21 26 54.7**	**-0.9**
JHO				S	**Sg**	**21 27 08.0**	**-1.8**
JIO	**Ouri**	**1.22**	**347**	*i* P	**Pn**	**21 26 57.4**	**-0.1**
JIO				S	**Sb**	**21 27 13.1**	**-0.3**
JOU	**Okura**	**1.38**	**324**	*i* P	**Pn**	**21 27 00.2**	**+0.6**
JOU				S	**Sb**	**21 27 17.3**	**-0.5**
JSB	**Shiboa**	**1.45**	**259**	P	**Pn**	**21 27 01.3**	**+0.6**
JSB				S	**Sn**	**21 27 19.3**	**-0.7**
JFY	**Yanaizu**	**1.60**	**276**	P	**Pn**	**21 27 03.0**	**+0.4**
JFY				*e*S	**Sn**	**21 27 22.3**	**-1.2**
JYS	**Shirataka**	**1.61**	**307**	P	**Pn**	**21 27 03.7**	**+0.8**
JYS				S	**Sn**	**21 27 23.6**	**-0.3**
MJAR	**Matsushiro Arr**	**2.89**	**257**	Pn	**Pn**	**21 27 22.2**	**+1.8**
	0.2nm,0.3s,baz=86,slow=15,SNR=34						
MJAR				Sn	**Sb**	**21 28 02.3**	**+0.9**
	0.5nm,0.3s,baz=340,slow=29,SNR=6.0 3.7nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	22 01 49.6	
	baz=314,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.08**	**122**	T	T	22 01 54.6	
	baz=314,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	22 01 53.4	
	baz=314,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	22 02 46.1	
	baz=316,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	22 02 46.2	
	baz=316,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.81**	**124**	T	T	22 02 47.3	
	baz=316,slow=76,SNR=23						
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**21 34 43.4**	**0.0**
	0.5nm,0.9s,baz=98,slow=8.9,SNR=2.1 0.5nm,0.9s						
WRA	**Warramunga Arr**	**57.32**	**188**	P	**P**	**21 36 23.1**	**+0.5**
	0.3nm,0.7s,baz=7.6,slow=7.4,SNR=2.6 0.3nm,0.7s						

IDC 26 22:06:08.1±2.1, **7.86S**×**129.65E**, **h0**km, **mb3.7**/1, **mbtmp3.3**/3, **ML3.0**/2, **MS2.8**/2, **Error ellipse: s-maj=135.5km s-min=32.3km az=67.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.24**	**285**	LR	LR	22 13 33.3	
	comp=Z,54nm,18.4s,baz=3.0,slow=44						
WRA	**Warramunga Arr**	**12.84**	**160**	Pn	Pn	22 09 11.8	-0.1
	0.1nm,0.3s,baz=342,slow=13,SNR=3.7						
WRA				Sn	Sn	22 11 28.2	-7.5
	0.2nm,0.3s,baz=345,slow=22,SNR=5.7 0.3nm,0.5s						
ASAR	**Alice Springs**	**16.23**	**166**	Pn	Pn	22 09 57.9	+0.2
	0.1nm,0.3s,baz=350,slow=11,SNR=2.9						
ASAR				Sn	Sn	22 12 49.5	-9.1
	0.1nm,0.3s,baz=357,slow=25,SNR=4.2 0.2nm,0.6s						
PMG	**Port Moresby**	**17.38**	**96**	LR	LR	22 18 52.0	
	comp=Z,32nm,18.4s,baz=296,slow=44						
MKAR	**Makanchi Array**	**68.76**	**327**	P	P	22 17 13.9	0.0
	0.4nm,0.5s,baz=119,slow=7.5,SNR=11 0.4nm,0.5s						

NOU ***26*** *22:50:37.3, 42.38S×173.91E, h11km, MLv4.2/9, South Island, New Zealand*
WEL ***26*** *22:50:38.4±0.3, 42.2S±2.2×17.4E±1.1°, h5km, M3.6/31, ML4.0/14, MLv3.6/31, Error ellipse: s-maj=0.0km s-min=0.0km az=120.3*
ISC 26 22:50:37.6±1.0, **42.28S**±0.03×**173.86E**±0.03, **h17**km±9km, **n73**, σ1**45**/79, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**239**	P	**Pg**	**22 50 44.0**	**+0.3**
KHZ	**Kahutara**	**0.28**	**239**	P	**Pg**	**22 50 44.0**	**+0.3**
KHZ				S	**Sg**	**22 50 48.4**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.56**	**1**	P	**Pg**	**22 50 48.2**	**-0.5**
BSWZ				S	**Sb**	**22 50 55.9**	**-0.7**
CMWZ	**Cape Campbell**	**0.59**	**27**	P	**Pb**	**22 50 50.7**	**+1.3**
TUWZ	**Tuamarina**	**0.85**	**4**	P	**Pg**	**22 50 53.6**	**-0.6**
TUWZ				S	**Sb**	**22 51 05.8**	**+0.9**
THZ	**Tophouse**	**0.88**	**305**	P	**Pg**	**22 50 53.6**	**-1.0**
THZ				S	**Sb**	**22 51 04.7**	**-1.1**
GVZ	**Greta Valley S**	**0.92**	**221**	P	**Pg**	**22 50 56.3**	**+0.8**
GVZ				S	**Sb**	**22 51 10.1**	**+3.0**
TCW	**Tory Channel**	**1.11**	**16**	P	**Pg**	**22 50 58.0**	**-1.0**
TCW				S	**Sg**	**22 51 13.0**	**-0.6**
NNZ	**Nelson**	**1.12**	**341**	P	**Pg**	**22 50 57.7**	**-1.5**
SNZO	**South Karori**	**1.15**	**34**	P	**Pg**	**22 50 59.6**	**-0.3**
WEL	**Wellington**	**1.20**	**35**	P	**Pg**	**22 50 59.8**	**-1.0**
MRNZ	**Matariki Terra**	**1.20**	**316**	P	**Pg**	**22 50 59.8**	**-1.1**
PLWZ	**Palliser**	**1.26**	**56**	P	**Pg**	**22 51 00.1**	**-1.8**
AMCZ	**Amberley**	**1.27**	**224**	P	**Pg**	**22 51 00.7**	**-1.3**
LTZ	**Lake Taylor**	**1.28**	**246**	P	**Pg**	**22 51 01.1**	**-1.2**
MSWZ	**Moikau Station**	**1.35**	**51**	P	**Pn**	**22 51 01.2**	**-0.4**
TKNZ	**Takaka Hill**	**1.41**	**331**	P	**Pn**	**22 51 03.1**	**+0.6**
DUWZ	**D'Urville Isla**	**1.47**	**2**	P	**Pn**	**22 51 03.5**	**+0.2**
PAWZ	**Paruwai Farm**	**1.47**	**53**	P	**Pn**	**22 51 02.7**	**-0.6**
CAW	**Cannon Point**	**1.48**	**38**	P	**Pn**	**22 51 03.2**	**-0.2**
OKCZ	**Okains Bay**	**1.56**	**202**	P	**Pn**	**22 51 04.6**	**+0.1**
KIW	**Kapiti Island**	**1.62**	**29**	P	**Pn**	**22 51 05.9**	**+0.5**
DSZ	**Denniston Nort**	**1.62**	**288**	P	**Pn**	**22 51 06.5**	**+1.1**
MQZ	**McQueen's Vall**	**1.68**	**211**	P	**Pn**	**22 51 05.4**	**-0.8**
OXZ	**Oxford**	**1.70**	**231**	P	**Pn**	**22 51 06.0**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.74**	**203**	P	**Pn**	**22 51 06.9**	**-0.1**
OGWZ	**Otaki Gorge**	**1.76**	**34**	P	**Pn**	**22 51 07.1**	**-0.1**
QRZ	**Quartz Range**	**1.76**	**325**	P	**Pb**	**22 51 09.0**	**-0.4**
QRZ	**Quartz Range**	**1.76**	**325**	P	**Pn**	**22 51 08.7**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.85**	**43**	P	**Pn**	**22 51 11.4**	**+2.9**
TMWZ	**Te Maipa**	**1.92**	**53**	P	**Pn**	**22 51 08.6**	**-0.9**
RACZ	**Rakaia**	**1.92**	**220**	P	**Pn**	**22 51 08.9**	**-0.6**
MRZ	**Mangatainoka R**	**2.07**	**39**	P	**Pn**	**22 51 11.0**	**-0.5**
MHCZ	**Mount Hutt**	**2.10**	**233**	P	**Pn**	**22 51 11.3**	**-0.7**
WACZ	**Wakanui South**	**2.23**	**221**	P	**Pn**	**22 51 13.1**	**-0.6**
BFZ	**Birch Farm**	**2.40**	**49**	P	**Pn**	**22 51 18.7**	**+2.7**
WVZ	**Waitaha Valley**	**2.44**	**250**	P	**Pn**	**22 51 17.1**	**+0.5**
RPZ	**Rata Peaks**	**2.51**	**234**	P	**Pn**	**22 51 17.5**	**-0.1**
RPZ	**Rata Peaks**	**2.51**	**234**	P	**Pn**	**22 51 17.1**	**-0.5**
WAZ	**Wanganui**	**2.66**	**19**	P	**Pn**	**22 51 21.7**	**+2.0**
GCSZ	**Gaunt Creek Bo**	**2.80**	**247**	P	**Pn**	**22 51 22.3**	**+0.8**
LREZ	**Lake Rotokare**	**2.84**	**9**	P	**Pb**	**22 51 27.4**	**-0.5**
TMZ	**Timaru**	**2.96**	**224**	P	**Pn**	**22 51 23.4**	**-0.4**
KHEZ	**Kahui Hut**	**2.98**	**2**	P	**Pn**	**22 51 26.4**	**+2.3**
KHEZ	**Kahui Hut**	**2.98**	**2**	P	**Pb**	**22 51 31.0**	**+0.8**
NBEZ	**Newall Road No**	**3.00**	**0**	P	**Pb**	**22 51 29.6**	**-1.1**
MOVZ	**Moawhango**	**3.21**	**27**	P	**Pn**	**22 51 27.5**	**+0.2**
VRZ	**Vera Road**	**3.22**	**13**	P	**Pn**	**22 51 29.2**	**+1.9**
FOZ	**Fox Glacier**	**3.23**	**246**	P	**Pn**	**22 51 28.1**	**+0.7**
WNVZ	**Wahianoa**	**3.23**	**25**	P	**Pn**	**22 51 28.2**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.27**	**24**	P	**Pn**	**22 51 30.6**	**+2.5**
FWVZ	**Far West T-bar**	**3.28**	**24**	P	**Pb**	**22 51 34.4**	**-1.1**
OTVZ	**Oturere**	**3.40**	**24**	P	**Pn**	**22 51 30.9**	**+0.9**
LBZ	**Lake Benmore**	**3.41**	**231**	P	**Pn**	**22 51 29.8**	**-0.2**
ETVZ	**East Tongariro**	**3.44**	**25**	P	**Pn**	**22 51 35.2**	**+4.8**
TMVZ	**Te Maari**	**3.45**	**25**	P	**Pn**	**22 51 35.2**	**+4.5**
ODZ	**Otahua Downs**	**3.62**	**219**	P	**Pn**	**22 51 32.5**	**-0.3**
ODZ	**Otahua Downs**	**3.62**	**219**	P	**Pn**	**22 51 32.1**	**-0.7**
BKZ	**Black Stump Fm**	**3.69**	**34**	P	**Pn**	**22 51 35.5**	**+1.6**
HIZ	**Hauiti**	**3.83**	**12**	P	**Pn**	**22 51 37.1**	**+1.3**
HIZ	**Hauiti**	**3.83**	**12**	P	**Pn**	**22 51 37.6**	**+1.8**
JCZ	**Jackson Bay**	**4.12**	**242**	P	**Pn**	**22 51 39.9**	**+0.1**
JCZ	**Jackson Bay**	**4.12**	**242**	P	**Pn**	**22 51 40.1**	**+0.3**
HHSZ	**Highcliff Hill**	**4.30**	**212**	P	**Pn**	**22 51 41.7**	**-0.6**
WKZ	**Wanaka**	**4.35**	**232**	P	**Pn**	**22 51 42.1**	**-0.8**
EAZ	**Earnscleugh**	**4.43**	**227**	P	**Pn**	**22 51 43.2**	**-0.8**
URZ	**Urewera**	**4.72**	**33**	P	**Pn**	**22 51 52.7**	**+4.8**
TUZ	**Tuapeka**	**4.77**	**218**	P	**Pn**	**22 51 48.3**	**-0.4**
MLZ	**Mavora Lakes**	**5.18**	**231**	P	**Pn**	**22 51 53.2**	**-1.0**
AWAZ	**Awhitu Peninsu**	**5.24**	**7**	P	**Pn**	**22 51 56.9**	**+1.8**
MKAZ	**Moumakai**	**5.26**	**11**	P	**Pn**	**22 51 56.2**	**+0.8**
SYZ	**Scrubby Hill**	**5.44**	**217**	P	**Pn**	**22 51 57.5**	**-0.3**
APZ	**The Paps**	**6.19**	**221**	P	**Pn**	**22 52 07.8**	**-0.4**

TRN ***26*** *22:53:30.2, 10.88N×62.39W, h93km, MD3.4*
FUNV ***26*** *22:53:32.0, 10.87N×62.44W, h73km, MW3.0*
ISC 26 22:53:28.8±1.6, **10.87N**±0.07×**62.45W**±0.04, **h99**km±16km, **n10**, σ1**33**/19, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.80**	**256**	*e*P	**Pn**	**22 53 47.9**	**+0.9**
CRUV				*e*S	**Sn**	**22 53 59.4**	**-1.3**
TRN	**Trinidad (W)**	**1.05**	**102**	*e*P	**Pn**	**22 53 50.6**	**+0.9**
TRN				*e*S	**Sn**	**22 54 04.4**	**-1.1**
GRFF	**Grenada Fort F**	**1.37**	**31**	*e*P	**Pn**	**22 53 54.1**	**+0.7**
GRFF				*e*S	**Sn**	**22 54 11.4**	**-0.6**
TBH	**Brigand Hill**	**1.41**	**106**	*e*P	**Pn**	**22 53 55.1**	**+1.1**
GRGR	**Grenville**	**1.48**	**32**	*e*P	**Pn**	**22 53 55.2**	**+0.5**
GRGR				*e*S	**Sn**	**22 54 14.5**	**+0.1**
TPR	**Prospect**	**1.67**	**79**	*e*P	**Pn**	**22 53 58.3**	**+1.1**
TPR				*e*S	**Sn**	**22 54 18.0**	**-0.8**
GCMP	**Grenada, Carri**	**1.90**	**32**	*e*P	**Pn**	**22 54 00.2**	**+0.2**
GCMP				*e*S	**Sn**	**22 54 23.7**	**-0.1**
TOSP	**Speyside**	**1.93**	**77**	*e*P	**Pn**	**22 54 00.5**	**+0.1**
TOSP				*e*S	**Sn**	**22 54 23.3**	**-1.2**
PCRV	**Puerto La Cruz**	**2.26**	**252**	*e*P	**Pn**	**22 54 06.8**	**+2.1**
PCRV				*e*S	**Sn**	**22 54 31.1**	**-1.2**
BAUV	**El Baul**	**5.83**	**251**	*e*P	**Pn**	**22 54 54.0**	**+1.2**
BAUV				*e*S	**Sn**	**22 55 55.4**	**-3.0**

IDC ***26*** *23:03:54.2±0.9, 0.28S×132.68E, h0km, mb3.8/7, mbtmp4.1/9, ML4.7/2, MS3.1/7, Error ellipse: s-maj=15.9km s-min=13.8km az=108.0*
NEIC ***26*** *23:03:55.8±1.9, 0.26S±0.04×132.52E±0.07, h10km±1km, mb4.5/18, Error ellipse: s-maj=12.4km s-min=7.5km az=101.0*
DJA ***26*** *23:03:57.4±0.6, 0°S±6°×13°3E±°, h10km, M4.5/16, mB5.1/9, mb4.8/16, MLv4.5/12, Mw(mB)4.4/9*
ISC 26 23:03:55.6±0.6, **0.28S**±0.07×**132.58E**±0.08, **h10**km, **n77**, σ1**60**/70, **mb4.4**/17, **MS3.1**/5, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.44**	**246**	Pg	**Pn**	**23 04 21.0**	**-0.7**
	184nm,0.3s,baz=248,slow=22,SNR=361						
SIJI				Lg	Lg	23 04 42.9	
	616nm,0.3s,baz=260,slow=18,SNR=50						
RKPI	**Ransiki, Papua**	**2.01**	**127**	P	**Pb**	**23 04 32.6**	**+0.4**
FAKI	**Fak Fak**	**2.64**	**187**		**Pn**	**23 04 39.4**	**+1.1**
FAKI	**Fak Fak**	**2.64**	**187**	P	**Pn**	**23 04 40.3**	**+2.0**
FAKI	**Fak Fak**	**2.64**	**187**	P	**Pn**	**23 04 39.8**	**+1.5**
MSAI	**Masohi**	**4.75**	**230**	P	**Pn**	**23 05 11.3**	**+3.9**
BNDI	**Bandanaira**	**4.99**	**212**	P	**Pn**	**23 05 12.6**	**+2.0**
	1.6nm470nm,1.0s						
BNDI	**Bandanaira**	**4.99**	**212**	P	**Pn**	**23 05 12.6**	**+2.0**
LBMI	**Labuha**	**5.09**	**266**	P	**Pn**	**23 05 13.4**	**+1.3**
	0.3nm94nm,0.9s						
TNTI	**Ternate**	**5.32**	**281**	Pn	**Pn**	**23 05 15.0**	**-0.2**
AAI	**Ambon**	**5.54**	**232**	P	**Pn**	**23 05 20.6**	**+2.4**
	0.4nm2µm96nm,0.6s						
NLAI	**Namlea**	**6.22**	**242**	P	**Pn**	**23 05 30.2**	**+2.7**
	0.1nm7µm26nm,0.6s						
SANI	**Sanana**	**6.82**	**255**	P	**Pn**	**23 05 36.3**	**+0.5**
	0.2nm706nm33nm,0.6s						
SANI	**Sanana**	**6.82**	**255**	P	**Pn**	**23 05 36.5**	**+0.7**
SAUI	**Saumlaki**	**7.76**	**189**	Pn	**Pn**	**23 05 48.0**	**-0.7**
SAUI	**Saumlaki**	**7.76**	**189**	P	**Pn**	**23 05 50.6**	**+2.0**
	0.6nm186nm,0.7s						
LUWI	**Luwuk**	**9.84**	**266**	Pn	**Pn**	**23 06 16.0**	**-1.2**
LUWI	**Luwuk**	**9.84**	**266**	P	Pn	23 06 36.2	+19
DAV	**Davao City (W)**	**10.11**	**316**	LR	LR	23 10 34.0	
	comp=Z,46nm,19.1s,baz=198,slow=39						
APSI	**Ampana**	**10.95**	**267**	P	**Pn**	**23 06 34.2**	**+1.7**
	932nm45nm,0.5s						
KDU	**Kakadu**	**12.33**	**181**	P	**Pn**	**23 06 50.5**	**-0.8**
SOEI	**Soe**	**12.53**	**221**		**Pn**	**23 06 53.3**	**-0.9**
SOEI	**Soe**	**12.53**	**221**	P	Pn	23 06 59.3	+5.1
	27nm,0.7s						
MTN	**Manton Dam**	**12.56**	**187**	Pn	**Pn**	**23 06 53.0**	**-1.5**
MTN	**Manton Dam**	**12.56**	**187**	P	**Pn**	**23 06 53.7**	**-0.8**
BATI	**Baumata**	**13.26**	**222**	Pn	**Pn**	**23 07 06.7**	**+2.5**
	6.3nm,0.3s,baz=183,slow=1.7,SNR=13						
BATI				LR	LR	23 12 43.3	
	comp=Z,135nm,18.4s,baz=326,slow=40 29nm,0.5s						
BATI	**Baumata**	**13.26**	**222**	P	**Pn**	**23 07 07.3**	**+3.1**
	46nm,0.7s						
SPSI	**Sidrap Palu**	**13.31**	**254**	P	**Pn**	**23 07 06.9**	**+2.1**
	19nm,0.8s						
BKSI	**Bulukumba**	**13.41**	**248**	P	**Pn**	**23 07 09.9**	**+3.8**
	26nm,0.6s						
KAPI	**Kappang**	**13.65**	**250**	Pn	**P**	**23 07 13.7**	**-4.6**
	0.8nm,0.3s,baz=83,slow=5.5,SNR=13						
KAPI	**Kappang**	**13.65**	**250**	Pn	**Pn**	**23 07 09.7**	**+0.3**
KNRA	**Kununurra**	**15.76**	**194**	Pn	**Pn**	**23 07 34.4**	**-3.3**
KNRA				IAmb	IAmb	23 07 40.0	
	comp=Z,75nm,0.9s						
COEN	**Coen**	**17.16**	**143**	Pn	**Pn**	**23 07 54.1**	**-1.7**
TWSI	**Taliwang, Sumb**	**17.75**	**241**	P	**P**	**23 08 06.1**	**+2.2**
	comp=Z,739nmcomp=Z,12nm,0.7s						
WB0	**Warramunga Arr**	**19.45**	**175**	P	**P**	**23 08 22.2**	**-0.3**
WB0				IAmb	IAmb	23 08 24.8	
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**19.61**	**175**	P	**P**	**23 08 24.9**	**+0.7**
WRA	**Warramunga Arr**	**19.62**	**175**	P	**P**	**23 08 24.6**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=353,slow=12,SNR=49						
WRA				S	S	23 11 54.6	-11
	comp=Z,3.0nm,0.8s,baz=355,slow=22,SNR=5.3 comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**19.62**	**175**	P	**P**	**23 08 22.8**	**-1.6**
JAGI	**Jajag, Banyuwa**	**20.08**	**246**	P	**P**	**23 08 28.1**	**-1.4**
JAGI				IAmb	IAmb	23 08 35.0	
	comp=Z,31nm,0.9s						
JAGI	**Jajag, Banyuwa**	**20.08**	**246**	P	Pn	23 08 34.3	+3.0
QIS	**Mount Isa**	**21.29**	**162**	P	**P**	**23 08 43.6**	**+1.1**
AS31	**Alice Springs**	**23.28**	**177**	P	**P**	**23 09 03.3**	**-0.3**
ASAR	**Alice Springs**	**23.28**	**177**	P	**P**	**23 09 03.8**	**+0.1**
	comp=Z,6.4nm,0.5s,baz=359,slow=10,SNR=104						
ASAR				S	**S**	**23 13 18.6**	**+2.3**
	comp=Z,1.3nm,1.0s,baz=2.1,slow=25,SNR=4.8						
ASAR				LR	LR	23 19 44.3	
	comp=Z,59nm,18.5s,baz=346,slow=41 comp=Z,6.4nm,0.5s						
ASAR	**Alice Springs**	**23.28**	**177**	P	**P**	**23 09 03.1**	**-0.6**
AS01	**Alice Springs**	**23.28**	**177**	P	**P**	**23 09 04.2**	**+0.5**
MBWA	**Marble Bar**	**24.25**	**210**		**P**	**23 09 12.4**	**-0.6**
MBWA				IAmb	IAmb	23 09 20.4	
	comp=Z,16nm,1.1s						
MBWA	**Marble Bar**	**24.25**	**210**	P	**P**	**23 09 13.9**	**+0.9**
PSA00	**Pilbara Seismi**	**24.54**	**210**	P	**P**	**23 09 15.6**	**-0.1**
PSA00				IAmb	IAmb	23 09 18.0	
	comp=Z,18nm,0.8s						
PSA00	**Pilbara Seismi**	**24.54**	**210**	P	**P**	**23 09 16.9**	**+1.2**
WRKA	**Warakurna**	**24.96**	**189**	P	**P**	**23 09 20.6**	**+1.2**
OOD	**Oodnadatta**	**27.52**	**174**	P	**P**	**23 09 43.0**	**+0.5**
MNAI	**Manna**	**29.87**	**262**	P	**P**	**23 10 03.4**	**-0.3**
MNAI	**Manna**	**29.87**	**262**	P	**P**	**23 10 04.8**	**+1.1**
FORT	**Forrest**	**30.63**	**188**	P	**P**	**23 10 10.2**	**+0.1**
STKA	**Stephens Creek**	**32.56**	**166**	P	**P**	**23 10 26.9**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=351,slow=13,SNR=1.6 comp=Z,2.0nm,0.7s						
MORW	**Morawa**	**32.70**	**207**	P	**P**	**23 10 28.0**	**-0.3**
JNU	**Nakatsue**	**33.26**	**357**	LR	LR	23 23 01.6	
ARMA	**Armidale**	**35.02**	**151**	P	**P**	**23 10 48.3**	**-0.3**
ARMA				IAmb	IAmb	23 10 59.4	
	comp=Z,7.8nm,1.1s						
NWAO	**Narrogin (SRO)**	**35.55**	**203**	P	**P**	**23 10 53.0**	**-0.1**
MJAR	**Matsushiro Arr**	**37.01**	**8**	LR	LR	23 25 03.9	
	comp=Z,41nm,19.7s,baz=198,slow=34						
KSRS	**Korea Array**	**37.79**	**354**	LR	LR	23 27 40.2	
	comp=Z,19nm,18.2s,baz=330,slow=38						
PZH	**PanZhiHua**	**39.90**	**314**	P	**P**	**23 11 29.5**	**-0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,4.7s						
ASAJ	**Asahikawa**	**45.10**	**10**	LR	LR	23 29 04.3	
	comp=Z,23nm,21.9s,baz=322,slow=34						
HHC	**Hu-ho-hao-te**	**45.17**	**337**	*e*P	**P**	**23 12 16.0**	**+3.2**
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,6.2s						
SONM	**Songino Array**	**53.06**	**338**	P	**P**	**23 13 14.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=140,slow=6.6,SNR=2.3 comp=Z,0.3nm,0.6s						
WMQ	**Urumqi**	**59.37**	**324**	*e*P	**P**	**23 13 59.8**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MK31	**Makanchi Array**	**64.19**	**324**	P	**P**	**23 14 31.0**	**+0.4**
MK31				IAmb	IAmb	23 14 36.4	
	comp=Z,4.7nm,1.4s						
MKAR	**Makanchi Array**	**64.19**	**324**	P	**P**	**23 14 31.4**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=119,slow=7.8,SNR=15 comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**64.19**	**324**	P	**P**	**23 14 30.6**	**0.0**
MAKZ	**Makanchi**	**64.38**	**324**	P	**P**	**23 14 31.8**	**-0.1**
MAKZ				IAmb	IAmb	23 14 33.2	
	comp=Z,2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**66.83**	**332**	P	**P**	**23 14 47.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=109,slow=7.0,SNR=2.6 comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**78.78**	**174**	P	**P**	**23 15 58.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=303,slow=5.7,SNR=5.1 comp=Z,0.5nm,0.7s						
VNDA	**Vanda**	**78.78**	**174**	P	**P**	**23 15 58.5**	**+0.4**
ABKAR	**Akbulak array**	**78.94**	**320**	P	**P**	**23 15 58.8**	**-0.6**
ABKAR	**Akbulak array**	**78.94**	**320**	P	**P**	**23 15 59.3**	**-0.2**
ABKAR				IAmb	IAmb	23 16 07.3	
	comp=Z,2.8nm,1.2s						
ILAR	**Eielson Array**	**86.21**	**25**	P	**P**	**23 16 36.2**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=261,slow=5.0,SNR=2.0 comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**89.65**	**180**	P	**P**	**23 16 53.5**	**-0.2**
QSPA				IAmb	IAmb	23 17 01.0	
	comp=Z,2.6nm,1.0s						

SOME ***26*** *23:13:32.8, 39.32N×73.97E, h5km*
KRNET ***26*** *23:13:37.9±0.1, 39.15N×74.24E, mb2.9*
ISC 26 23:13:36.5±2.2, **39.1N**±0.1×**74.08E**±0.06, **h10**km, **n13**, σ1**98**/26, **8C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.73**	**325**	⇑*i*P	**Pg**	**23 14 09.4**	**-0.4**
	baz=21						
OHH				⇑*i*S	**Sg**	**23 14 32.2**	**0.0**
	baz=21						
DRK	**Karamyk**	**1.81**	**283**	⇓*i*P	**Pg**	**23 14 11.3**	**+0.1**
	baz=81						
DRK				⇓*i*S	**Sg**	**23 14 35.9**	**+1.2**
	baz=81						
BTK	**Batken**	**2.69**	**292**

MTBS	**Maitube**	**4.25**	**24**	*e*P		**Pg**	**23 17 00.6**	**-0.3**
	6.6nm,0.3s							
MTBS				*e*S		**Sg**	**23 17 56.6**	**+0.6**
	16nm,0.4s							
TNSS	**Tian-Shan**	**4.35**	**29**	*e*P		**Pg**	**23 17 02.3**	**-0.5**
	22nm,0.4s							
TNSS				*e*S		**Sg**	**23 17 59.1**	**-0.1**
	13nm,0.7s							
MDOK	**Medeo**	**4.49**	**29**	*e*P		**Pg**	**23 17 05.1**	**-0.5**
	21nm,0.3s							
MDOK				*e*S		**Sg**	**23 18 03.7**	**-0.1**
	31nm,0.7s							
KRBS	**Karabastau**	**4.58**	**15**	*e*P		**Pg**	**23 17 05.6**	**-1.7**
	6.8nm,0.6s							
KRBS				*e*S		**Sg**	**23 18 04.5**	**-2.2**
	9.3nm,0.3s							
KTBS	**Karatobe**	**4.85**	**23**	*e*P		**Pg**	**23 17 10.9**	**-1.6**
	9.9nm,0.5s							
KTBS				*e*S		**Sg**	**23 18 14.4**	**-0.9**
	22nm,1.0s							
KUU	**Kurty**	**4.92**	**20**	*e*P		**Pg**	**23 17 12.4**	**-1.4**
	7.1nm,0.7s							
KUU				*e*S		**Sg**	**23 18 16.1**	**-1.4**
	25nm,0.6s							
CHKK	**Chushkaly**	**5.08**	**25**	*e*P		**Pg**	**23 17 16.1**	**-0.7**
	6.1nm,0.5s							
CHKK				*e*S		**Sg**	**23 18 22.8**	**+0.3**
	9.2nm,0.6s							
ARXS	**Arharly**	**5.68**	**28**	*e*P		**Pg**	**23 17 27.3**	**-1.1**
	13nm,1.2s							
ARXS				*e*S		**Sg**	**23 18 41.9**	**0.0**
	21nm,0.2s							

WEL 26 23:22:00.6±0.5, 42°S±3°×17°4E±°, h9km±3km, M3.2/30, ML3.6/12, MLv3.2/30, Error ellipse: s-maj=0.0km s-min=0.0km az=123.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**235**	P	Pg	23 22 05.5	+0.6
KHZ				S	Sg	23 22 09.6	+1.7
BSWZ	**Blackbirch Sta**	**0.58**	**7**	P	Pg	23 22 12.2	+0.3
BSWZ				S	Sb	23 22 21.2	-0.3
CMWZ	**Cape Campbell**	**0.64**	**31**	P	Pb	23 22 14.5	+0.6
THZ	**Tophouse**	**0.84**	**309**	P	Pg	23 22 16.9	+0.2
GVZ	**Greta Valley S**	**0.87**	**219**	P	Pg	23 22 17.4	+0.1
GVZ				S	Sb	23 22 30.3	+0.7
TUWZ	**Tuamarina**	**0.87**	**8**	P	Pg	23 22 17.6	+0.2
NNZ	**Nelson**	**1.12**	**345**	P	Pg	23 22 21.3	-0.8
TCW	**Tory Channel**	**1.15**	**19**	P	Pb	23 22 21.2	-1.4
MRNZ	**Matariki Terra**	**1.17**	**319**	P	Pb	23 22 22.9	-0.2
AMCZ	**Amberley**	**1.21**	**223**	P	Pb	23 22 22.1	-1.6
LTZ	**Lake Taylor**	**1.21**	**246**	P	Pb	23 22 22.5	-1.2
WEL	**Wellington**	**1.25**	**37**	P	Pn	23 22 22.6	-1.7
PLWZ	**Palliser**	**1.32**	**57**	P	Pn	23 22 22.7	-2.6
TKNZ	**Takaka Hill**	**1.40**	**334**	P	Pn	23 22 26.2	-0.2
MSWZ	**Moikau Station**	**1.41**	**52**	P	Pn	23 22 24.0	-2.5
DUWZ	**D'Urville Isla**	**1.50**	**4**	P	Pn	23 22 26.8	-0.9
OKCZ	**Okains Bay**	**1.52**	**200**	P	Pn	23 22 25.7	-2.4
CAW	**Cannon Point**	**1.53**	**40**	P	Pn	23 22 26.1	-2.1
PAWZ	**Paruwai Farm**	**1.54**	**54**	P	Pn	23 22 25.5	-2.8
DSZ	**Denniston Nort**	**1.57**	**290**	P	Pn	23 22 28.7	0.0
OXZ	**Oxford**	**1.64**	**231**	P	Pn	23 22 27.4	-2.3
KIW	**Kapiti Island**	**1.67**	**31**	P	Pn	23 22 28.4	-1.6
AKCZ	**Akaroa Harbour**	**1.70**	**202**	P	Pn	23 22 28.0	-2.5
QRZ	**Quartz Range**	**1.74**	**327**	P	Pn	23 22 31.3	+0.3
OGWZ	**Otaki Gorge**	**1.81**	**36**	P	Pn	23 22 29.7	-2.2
RACZ	**Rakaia**	**1.87**	**219**	P	Pn	23 22 30.3	-2.4
HOWZ	**Holdsworth Sta**	**1.91**	**44**	P	Pn	23 22 30.8	-2.6
MHCZ	**Mount Hutt**	**2.04**	**232**	P	Pn	23 22 32.8	-2.4
MRZ	**Mangatainoka R**	**2.12**	**40**	P	Pn	23 22 33.8	-2.5
WACZ	**Wakanui South**	**2.17**	**220**	P	Pn	23 22 34.5	-2.4
RPZ	**Rata Peaks**	**2.45**	**234**	P	Pn	23 22 38.6	-2.2
WAZ	**Wanganui**	**2.70**	**20**	P	Pn	23 22 44.3	+0.1
GCSZ	**Gaunt Creek Bo**	**2.73**	**247**	P	Pn	23 22 43.7	-1.0
TMZ	**Timaru**	**2.90**	**223**	P	Pn	23 22 44.9	-2.1
FOZ	**Fox Glacier**	**3.16**	**246**	P	Pn	23 22 49.4	-1.1
VRZ	**Vera Road**	**3.25**	**14**	P	Pn	23 22 52.2	+0.3
LBZ	**Lake Benmore**	**3.35**	**230**	P	Pn	23 22 51.2	-2.0
ODZ	**Otahua Downs**	**3.56**	**218**	P	Pn	23 22 53.5	-2.6
HIZ	**Hauiti**	**3.87**	**13**	P	Pn	23 23 00.1	-0.1
EAZ	**Earnscleugh**	**4.37**	**226**	P	Pn	23 23 04.0	-3.1
MKAZ	**Moumakai**	**5.29**	**12**	P	Pn	23 23 18.9	-0.9

*IDC **26** 23:27:51.5±1.2, 51°.53N×176°.47W, h0km, mb3.4/5, mbtmp3.4/5, MS3.5/1, Error ellipse: s-maj=48.2km s-min=26.7km az=169.0*
*AEIC **26** 23:27:58.7±2.1, 51°.64N±0°.09×176°.2W±0°.1, h48km±6km, Error ellipse: s-maj=13.7km s-min=9.7km az=188.0*
*NEIC **26** 23:27:59.6±1.7, 51°.62N±0°.04×176°.3W±0°.1, h48km±7km, mb3.9/20, ML3.7(AEIC), Error ellipse: s-maj=10.8km s-min=4.2km az=117.0*

ISC 26 23:27:58.8±0.9, 51°.6N±0°.1×176°.19W±0°.07, h47km, n41, σ1§01/36, mb3.5/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.45**	**317**		**Pn**	**23 28 08.8**	**-0.5**
ADK				Sn	**Sn**	**23 28 16.3**	**-0.5**
KIWB	**Kanaga Island**	**0.67**	**297**		**Pn**	**23 28 11.9**	**-0.2**
AMKA	**Amchitka**	**2.83**	**268**	Pn	**Pn**	**23 28 41.8**	**+0.4**
AMKA				Sn	**Sn**	**23 29 15.7**	**+1.5**
UNV	**Unalaska Valle**	**6.32**	**65**	Pn	**Pn**	**23 29 29.7**	**+0.5**
OHAK	**Old Harbor**	**14.46**	**58**	Pn	**Pn**	**23 31 19.9**	**-0.5**
N19K	**Bonanza Creek**	**15.15**	**44**	Pn	**Pn**	**23 31 32.0**	**+2.4**
L19K	**White Mountain**	**15.70**	**39**		**P**	**23 31 40.1**	**+0.2**
M19K	**Big River Lodg**	**15.73**	**40**		**P**	**23 31 41.4**	**+1.1**
M19K				IAmb	IAmb	23 32 02.1	
	comp=Z,11nm,1.4s						
CNPM	**China Poot**	**16.14**	**51**	Pn	**Pn**	**23 31 43.4**	**+1.3**
M20K	**Styx River**	**16.24**	**42**		**P**	**23 31 46.0**	**+0.1**
SKT	**Skwentna**	**16.95**	**42**	P	**Pn**	**23 31 53.4**	**+1.0**
SKT				IAmb	IAmb	23 32 22.2	
	comp=Z,11nm,1.4s						
J20K	**Nowinta River**	**17.11**	**34**		**P**	**23 31 56.3**	**+0.8**
PPLA	**Purkeypile**	**17.13**	**39**	P	**P**	**23 31 57.9**	**+2.1**
PPLA				IAmb	IAmb	23 32 27.2	
	comp=Z,11nm,1.1s						
SEW	**Seward**	**17.17**	**50**	Pn	**Pn**	**23 31 53.6**	**-1.4**
CAST	**Castle Rocks**	**17.44**	**38**		**P**	**23 32 00.5**	**+1.4**
CAST				IAmb	IAmb	23 32 06.1	
	comp=Z,9.6nm,1.4s						
PWL	**Port Wells**	**17.94**	**48**		**P**	**23 32 04.5**	**-0.1**
PWL				IAmb	IAmb	23 32 06.6	
	comp=Z,39nm,1.4s						
KTH	**Kantishna Hill**	**17.95**	**38**		**P**	**23 32 05.3**	**+0.5**
KTH				IAmb	IAmb	23 32 25.5	
	comp=Z,7.6nm,1.1s						
TRF	**Thorofare Moun**	**18.15**	**39**		**P**	**23 32 07.8**	**+0.7**
TRF				IAmb	IAmb	23 32 36.1	
	comp=Z,11nm,1.3s						
H21K	**Melozitna Rive**	**18.48**	**31**	P	**Pn**	**23 32 11.8**	**+0.8**
MLY	**Manley**	**18.81**	**34**	P	**P**	**23 32 14.8**	**+0.7**
SUCK	**Suckling Hills**	**19.92**	**52**	P	**P**	**23 32 27.4**	**+1.1**
IL31		**20.09**	**38**	P	**P**	**23 32 28.1**	**0.0**
ILAR	**Eielson Array**	**20.09**	**38**	P	**P**	**23 32 28.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=226,slow=11,SNR=22						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**20.09**	**38**	P	**P**	**23 32 29.2**	**+1.1**
SCRK	**Sand Creek**	**20.92**	**41**	P	**P**	**23 32 36.2**	**-0.9**
SCRK				IAmb	IAmb	23 32 38.2	
	comp=Z,6.3nm,0.9s						
I26K	**Coal Creek Min**	**21.75**	**38**	P	**P**	**23 32 45.9**	**-0.1**
I26K				IAmb	IAmb	23 33 08.8	
	comp=Z,6.2nm,1.5s						
EGAK	**Eagle**	**22.35**	**40**	P	**P**	**23 32 51.6**	**-0.8**
EGAK				IAmb	IAmb	23 33 10.0	
	comp=Z,6.4nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**34.43**	**209**	T	T	00 11 26.1	
	baz=18,slow=76,SNR=153						
H11N3	**WAKE ISLAND Hy**	**34.44**	**209**	T	T	00 11 15.1	
	baz=18,slow=76,SNR=147						
H11N1	**WAKE ISLAND Hy**	**34.45**	**209**	T	T	00 11 27.0	
	baz=18,slow=76,SNR=177						
H11S1	**WAKE ISLAND Hy**	**35.64**	**209**	T	T	00 12 45.2	
	baz=18,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**35.66**	**209**	T	T	00 12 46.3	
	baz=18,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**35.66**	**209**	T	T	00 12 46.4	
	baz=18,slow=76,SNR=40						
PDAR	**Pinedale Array**	**44.69**	**74**	P	**P**	**23 36 07.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=328,slow=4.4,SNR=7.5						
	comp=Z,0.6nm,0.6s						
JOW	**Kunigami**	**48.21**	**261**	LR	LR	23 53 32.5	
	comp=Z,52nm,21.8s,baz=323,slow=32						
TXAR	**Lajitas Array**	**57.01**	**83**	P	**P**	**23 37 39.8**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=305,slow=4.4,SNR=4.2						
	comp=Z,0.3nm,0.8s						
KURK	**Kurchatov**	**60.07**	**315**	P	**P**	**23 38 00.2**	**-0.4**
MKAR	**Makanchi Array**	**61.19**	**310**	P	**P**	**23 38 06.4**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=35,slow=5.0,SNR=4.5						
	comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**61.19**	**310**	P	**P**	**23 38 07.6**	**-0.8**
WRA	**Warramunga Arr**	**83.30**	**226**	P	**P**	**23 40 19.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=30,slow=5.7,SNR=1.7						
	comp=Z,0.3nm,0.8s						
BOSA	**Boshof**	**152.02**	**317**	PKPbc	**PKiKP**	**23 47 48.5**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=12,slow=3.6,SNR=8.2						

IDC 26 23:29:44.8±4.5, 30°.34N×141°.64E, h0km, mb3.5/4, mbtmp3.5/5, ML2.3/1, Error ellipse: s-maj=174.9km s-min=23.5km az=71.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.82**	**336**	Pn	Pn	23 31 25.8	-0.2
	0.1nm,0.3s,baz=159,slow=11,SNR=5.0						
MJAR				Sn	Sn	23 32 40.2	-4.2
	baz=133,slow=25,SNR=4.0						
	1.3nm,0.5s						
SONM	**Songino Array**	**32.10**	**313**	P	P	23 36 14.0	+0.3
	0.4nm,0.6s,baz=94,slow=10,SNR=2.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**48.09**	**307**	P	P	23 38 25.7	-0.5
	0.4nm,0.6s,baz=83,slow=6.9,SNR=5.9						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**50.49**	**189**	P	P	23 38 44.5	-0.1
	1.3nm,0.7s,baz=8.1,slow=7.9,SNR=12						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**54.21**	**189**	P	P	23 39 12.4	0.0
	0.1nm,0.3s,baz=8.9,slow=6.6,SNR=2.4						
	0.1nm,0.3s						

*IDC **26** 23:38:51.1±3.9, 0°.25S×132°.64E, h0km, mb3.7/2, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=222.8km s-min=21.1km az=76.0*
*DJA **26** 23:38:51.3±1.1, 0°.5±12°×13°3E±°, h10km, M4.3/6, mb4.7/3, MLv4.1/6*

ISC 26 23:38:53.0±1.5, 0°.2S±0°.1×132°.6E±0°.1, h10km, n9, σ1§32/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.02**	**129**	P	**Pn**	**23 39 27.4**	**+0.3**
FAKI	**Fak Fak**	**2.69**	**188**	P	**Pn**	**23 39 36.0**	**-0.4**
BNDI	**Bandanaira**	**5.05**	**212**	P	**Pn**	**23 40 09.4**	**+0.6**
	0.6nm174nm,1.0s						
WRA	**Warramunga Arr**	**19.66**	**175**	P	**P**	**23 43 21.1**	**-1.2**
	0.4nm,0.3s,baz=353,slow=12,SNR=23						
WRA				S	S	23 46 51.5	-13
	0.9nm,0.9s,baz=9.0,slow=22,SNR=3.5						
	2.7nm,0.6s						
ASAR	**Alice Springs**	**23.33**	**177**	P	**P**	**23 44 00.6**	**-1.0**
	2.4nm,0.8s,baz=359,slow=10,SNR=27						
ASAR				S	**S**	**23 48 16.4**	**+2.0**
	0.5nm,0.9s,baz=358,slow=27,SNR=3.2						
	2.4nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**39.00**	**57**	T	T	00 27 50.1	
	baz=244,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.01**	**57**	T	T	00 27 51.0	
	baz=244,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**39.02**	**57**	T	T	00 28 08.3	
	baz=244,slow=75,SNR=8.6						
MKAR	**Makanchi Array**	**64.17**	**324**	P	**P**	**23 49 27.9**	**+0.1**
	0.6nm,0.7s,baz=114,slow=7.9,SNR=5.0						
	0.6nm,0.7s						

WEL 26 23:41:37.1±0.3, 43°S±2°×17°2E±°, h5km, M3.4/24, ML3.6/16, MLv3.4/24, Error ellipse: s-maj=0.0km s-min=0.0km az=64.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.23**	**331**	P	Pg	23 41 41.6	+0.1
LTZ				S	Sg	23 41 44.9	+0.5
AMCZ	**Amberley**	**0.26**	**139**	P	Pg	23 41 42.9	+0.8
AMCZ				S	Sb	23 41 47.6	-1.4
OXZ	**Oxford**	**0.44**	**219**	P	Pb	23 41 46.6	-0.8
GVZ	**Greta Valley S**	**0.45**	**89**	P	Pg	23 41 46.4	+0.6
MQZ	**McQueen's Vall**	**0.74**	**167**	P	Pg	23 41 51.8	+0.5
RACZ	**Rakaia**	**0.77**	**195**	P	Pb	23 41 52.8	-0.2
MHCZ	**Mount Hutt**	**0.83**	**228**	P	Pb	23 41 53.9	-0.2
OKCZ	**Okains Bay**	**0.88**	**148**	P	Pg	23 41 54.1	+0.2
AKCZ	**Akaroa Harbour**	**0.96**	**158**	P	Pg	23 41 55.1	-0.4
KHZ	**Kahutara**	**1.00**	**56**	P	Pg	23 41 56.4	+0.2
WACZ	**Wakanui South**	**1.05**	**204**	P	Pg	23 41 56.6	-0.6
RPZ	**Rata Peaks**	**1.24**	**233**	P	Pg	23 41 59.6	-1.1
WVZ	**Waitaha Valley**	**1.24**	**265**	P	Pg	23 42 00.5	-0.3
THZ	**Tophouse**	**1.27**	**17**	P	Pg	23 42 00.5	-0.9
DSZ	**Denniston Nort**	**1.32**	**340**	P	Pn	23 42 02.0	-0.1
ARCZ	**Arundel**	**1.32**	**223**	P	Pn	23 42 00.6	-1.7
GCSZ	**Gaunt Creek Bo**	**1.57**	**257**	P	Pn	23 42 05.6	+0.1
MRNZ	**Matariki Terra**	**1.60**	**9**	P	Pn	23 42 06.5	+0.5
BSWZ	**Blackbirch Sta**	**1.66**	**41**	P	Pn	23 42 06.4	-0.4
TMZ	**Timaru**	**1.74**	**216**	P	Pn	23 42 06.7	-1.2
NNZ	**Nelson**	**1.90**	**22**	P	Pn	23 42 10.5	+0.3
TUWZ	**Tuamarina**	**1.92**	**37**	P	Pn	23 42 10.9	+0.5
FOZ	**Fox Glacier**	**1.98**	**253**	P	Pn	23 42 11.4	+0.2
TKNZ	**Takaka Hill**	**1.99**	**12**	P	Pn	23 42 12.0	+0.6
LBZ	**Lake Benmore**	**2.15**	**228**	P	Pn	23 42 12.4	-1.1
QRZ	**Quartz Range**	**2.15**	**2**	P	Pn	23 42 14.7	+1.1
TCW	**Tory Channel**	**2.25**	**39**	P	Pn	23 42 15.9	+1.0
MSWZ	**Moikau Station**	**2.62**	**54**	P	Pn	23 42 20.2	+0.1
JCZ	**Jackson Bay**	**2.86**	**246**	P	Pn	23 42 22.6	-0.8
OGWZ	**Otaki Gorge**	**2.98**	**44**	P	Pn	23 42 23.3	-1.7
EAZ	**Earnscleugh**	**3.17**	**224**	P	Pn	23 42 26.5	-1.2
VRZ	**Vera Road**	**4.24**	**25**	P	Pn	23 42 47.0	+4.7
HIZ	**Hauiti**	**4.83**	**23**	P	Pn	23 42 54.0	+3.6

*NIC **26** 23:42:17.3±0.0, 37°.12N×35°.43E, h18km±4km, Ml3.1/5*

ISK 26 23:42:18.3, 36°.43N×35°.89E, h12km, ML2.8/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAHT	**Tahtakopru-Hat**	**0.24**	**104**	PG	Pg	23 42 23.8	+0.4
TAHT				SG	Sg	23 42 27.8	+1.0
YAYL	**Yayladag**	**0.43**	**156**	PG	Pg	23 42 27.4	+0.5
KOZT	**Kozan**	**1.05**	**357**	PG	Pg	23 42 38.6	+0.1
KOZT				SG	Sn	23 42 54.3	+0.9
KARA	**Karaisali**	**1.06**	**321**	PG	Pb	23 42 36.5	-2.2
GAZ	**Gaziantep**	**1.29**	**55**	PN	Pb	23 42 42.8	+0.2
GAZ				SN	Sg	23 43 00.6	+0.7
GAZ	**Gaziantep**	**1.29**	**55**	P	Pb	23 42 42.5	-0.1
GAZ				S	Sg	23 43 01.3	+1.4
GAZ				AML	AML	23 43 02.6	
	0.7nm,0.3s						
GAZ				AML	AML	23 43 02.6	
	0.7nm,0.3s						
GAZ				AML	AML	23 43 06.1	
	0.5nm,0.6s						
GAZ				AML	AML	23 43 06.1	
	0.5nm,0.6s						
KMRS	**Kahramanmaras**	**1.34**	**37**	PN	Pb	23 42 43.7	+0.3
KIZK	**Mersin**	**1.41**	**272**	PN	Pb	23 42 44.7	+0.1
CMRD	**Camardi-Nigde**	**1.42**	**330**	PN	Pn	23 42 44.1	0.0
SILI	**Silifke-Mersin**	**1.59**	**268**	PN	Pb	23 42 47.1	-0.5
EREN	**Erenkoy**	**1.66**	**238**	PN	Pb	23 42 48.5	-0.4
KEBE	**Keben-Mersin**	**1.76**	**271**	PN	Pb	23 42 49.8	-0.7
KARG	**Kargicak-Mersi**	**1.78**	**263**	PN	Pb	23 42 49.9	-0.9
IKL	**Isikli**	**1.79**	**264**	PN	Pb	23 42 50.2	-0.9
TISA	**Tisan-Mersin**	**1.81**	**262**	PN	Pn	23 42 50.1	+0.8
YESI	**Yesilovacik-Me**	**1.83**	**263**	PN	Pb	23 42 50.8	-1.0
AKKU	**Akkuyu-Mersin**	**1.91**	**262**	PN	Pn	23 42 51.9	+1.2
AKK1	**Akkuyu-Mersin**	**1.92**	**262**	PN	Pb	23 42 52.2	-1.1
TEVE	**Tevekalti-Mers**	**1.98**	**271**	PN	Pn	23 42 52.0	+0.3
SARI	**SarD1z-Kayseri**	**2.01**	**12**	PN	Pn	23 42 53.1	+0.8
PARAL	**Paralimni**	**2.08**	**227**	P	Pb	23 42 55.5	-0.5
PARAL				AML	AML	23 43 29.0	
	0.5nm,1.0s						
PARAL				AML	AML	23 43 29.7	
	0.4nm,1.4s						
HWQ	**Hawqa**	**2.15**	**179**	*e*P	Pb	23 42 56.5	-0.8
BERE	**Bereket-Mersin**	**2.15**	**269**	PN	Pn	23 42 55.1	+0.9
YESY	**Yesilyurt**	**2.18**	**309**	PN	Pn	23 42 55.4	+0.8
KRMN	**Karaman**	**2.24**	**290**	PN	Pn	23 42 56.4	+1.1
LFK	**Lefkose**	**2.24**	**240**	PN	Pn	23 42 56.5	+1.3
TEKE	**Tekeli-Mersin**	**2.26**	**263**	PN	Pn	23 42 56.4	+0.9
GULA	**Gulagac**	**2.32**	**326**	PN	Pn	23 42 57.3	+0.9
MVOU	**Mavrovouni**	**2.32**	**233**	P	Pn	23 42 57.4	+1.1
MVOU				S	Sb	23 43 30.6	+1.9
MVOU				AML	AML	23 43 35.8	
	0.2nm,0.6s						
MVOU				AML	AML	23 43 35.8	
	0.2nm,0.6s						
MVOU				AML	AML	23 43 35.8	
	0.2nm,0.7s						
MVOU				AML	AML	23 43 35.8	
	0.2nm,0.7s						
ATHAL	**Athalassa**	**2.40**	**238**	S	Sb	23 43 30.5	-0.6
BNN	**Bunyan**	**2.42**	**359**	PN	Pn	23 42 58.7	+0.9
DARE	**Darende-Malaty**	**2.48**	**30**	PN	Pn	23 42 59.9	+1.2
BHL	**Bhannes**	**2.53**	**184**	*e*P	Pn	23 43 01.1	+1.8
CSS	**Mathiatis**	**2.55**	**236**	PN	Pn	23 43 00.8	+1.3
CSS	**Mathiatis**	**2.55**	**236**	P	Pn	23 43 00.2	+0.7
ZAHL	**Zahle**	**2.57**	**180**	*e*P	Pb	23 43 03.7	-0.7
SULT	**Sultanhani-AKS**	**2.59**	**314**	PN	Pn	23 43 01.3	+1.2
ASGA	**Asgata**	**2.71**	**233**	P	Pn	23 43 03.4	+1.7
ASGA				S	Sb	23 43 38.8	-1.1
ASGA				AML	AML	23 43 48.1	
	0.1nm,0.8s						
ASGA				AML	AML	23 43 48.1	
	0.1nm,0.8s						
ASGA				AML	AML	23 43 50.6	
	0.2nm,0.7s						
ASGA				AML	AML	23 43 50.6	
	0.2nm,0.7s						
DQRL	**Deir Qamar**	**2.73**	**186**	*e*P	Pn	23 43 03.6	+1.5
LEF	**Lefka**	**2.77**	**243**	PN	Pn	23 43 04.0	+1.5
HDMB	**Hadim**	**2.79**	**282**	PN	Pn	23 43 03.3	+0.3
TROD	**Troodos**	**2.88**	**240**	S	Sn	23 43 41.2	+2.4
GAZI	**Gazipasa**	**2.90**	**267**	PN	Pn	23 43 05.7	+1.4
ALFC	**Alefka**	**2.96**	**246**	P	Pn	23 43 05.2	0.0
ALFC				S	Sn	23 43 40.7	-0.1
ALFC				AML	AML	23 43 40.7	
	0.1nm,0.7s						
ALFC				AML	AML	23 43 40.7	
	0.1nm,0.7s						
ALFC				AML	AML	23 43 44.6	
	0.2nm,0.5s						
ALFC				AML	AML	23 43 44.6	
	0.2nm,0.5s						
SZAC	**Souni**	**2.97**	**237**	S	Sn	23 43 43.6	+2.7
YAYX	**Yaylak**	**3.00**	**327**	PN	Pn	23 43 07.1	+1.4
CHBY	**Cihanbeyli**	**3.21**	**313**	PN	Pn	23 43 09.9	+1.2
KAMT	**Kaman**	**3.40**	**330**	PN	Pn	23 43 12.9	+1.6
BRTR	**Keskin Array B**	**3.74**	**332**	PN	Pn	23 43 17.6	+1.6
AFSR	**Afar-Bala (An**	**3.75**	**324**	PN	Pn	23 43 17.8	+1.8
KIZT	**Kizilcal**	**4.01**	**309**	PN	Pn	23 43 21.4	+1.7

ROM 26 23:43:51.5±0.1, 42°.518N±0°.004×13°.264E±0°.005, h12km±1km, ML1.6/10, 9C-7D, Error ellipse: s-maj=0.4km s-min=0.2km az=39.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.04**	**257**	P	Pg	23 43 54.1	+0.2
RM33	**Pellescritta (**	**0.04**	**257**	P	Pg	23 43 54.2	+0.2
RM33				S	Sg	23 43 55.8	+0.1
RM33				AML	AML		
	comp=E,1710μm,1.2s						
RM33				AML	AML		
	comp=E,1650μm,1.2s						
RM33				AML	AML		
	comp=N,998μm,0.2s						
RM33				AML	AML		
	comp=E,1645μm,1.2s						
RM33				AML	AML		
	comp=N,998μm,0.2s						
RM33				AML	AML		
	comp=N,964μm,0.2s						
RM33				AML	AML		
	comp=E,1710μm,1.1s						
RM33	**Pellescritta (**	**0.04**	**257**	P	Pg	23 43 54.1	+0.2
RM33				S	Sg	23 43 55.8	+0.1
RM33				AML	AML		
	comp=E,1715μm,1.2s						
RM33				AML	AML		
	comp=N,964μm,0.2s						
RM33				AML	AML		
	comp=E,1645μm,1.2s						
RM33				AML	AML		
	comp=N,998μm,0.2s						
RM33				AML	AML		
	comp=E,1710μm,1.1s						
RM33				AML	AML		
	comp=N,964μm,0.2s						
RM33				AML	AML		
	comp=E,1645μm,1.2s						
RM33				AML	AML		
	comp=N,998μm,0.2s						
RM33				AML	AML		
	comp=N,964μm,0.2s						
RM33		

LNSS				AML	AML			
	comp=E,217μm,0.1s							
LNSS	**Leonessa**	**0.19**	**297**	AML	AML			
	comp=E,217μm,0.2s							
LNSS				AML	AML			
	comp=N,687μm,0.9s							
LNSS				AML	AML			
	comp=E,603μm,0.3s							
LNSS				AML	AML			
	comp=N,1460μm,0.1s							
LNSS				AML	AML			
	comp=N,1455μm,0.1s							
LNSS				AML	AML			
	comp=E,603μm,0.3s							
T1218	**Civita (PG)**	**0.19**	**324**	⇑P	Pg	23 43 56.1	+0.2	
T1218				S	Sg	23 43 59.1	+0.3	
T1218				AML	AML			
	comp=E,8075μm,0.4s							
T1218				AML	AML			
	comp=N,7800μm,0.2s							
T1218				AML	AML			
	comp=E,7505μm,0.4s							
T1218				AML	AML			
	comp=N,7795μm,0.2s							
T1218	**Civita (PG)**	**0.19**	**324**	AML	AML			
	comp=E,140μm,0.9s							
T1218				AML	AML			
	comp=N,358μm,0.2s							
T1218				AML	AML			
	comp=E,8075μm,0.4s							
T1218				AML	AML			
	comp=N,7800μm,0.2s							
T1218				AML	AML			
	comp=E,7505μm,0.4s							
T1218				AML	AML			
	comp=N,7785μm,0.2s							
T1218				AML	AML			
	comp=E,7505μm,0.4s							
T1218				AML	AML			
	comp=N,7800μm,0.2s							
T1218				AML	AML			
	comp=N,7785μm,0.2s							
T1218				AML	AML			
	comp=E,8075μm,0.4s							
T1243	**Rocca Santa Ma**	**0.23**	**37**	P	Pg	23 43 56.7	+0.2	
T1243				S	Sg	23 44 00.3	+0.6	
T1243	**Rocca Santa Ma**	**0.23**	**37**	P	Pg	23 43 56.6	+0.1	
T1243				S	Sg	23 44 00.2	+0.5	
GIGS	**Gran Sasso**	**0.24**	**107**	⇑P	Pg	23 43 56.9	+0.3	
GIGS				S	Sg	23 44 00.7	+0.7	
GIGS				AML	AML			
	comp=N,37μm,0.2s							
GIGS				AML	AML			
	comp=E,44μm,0.6s							
GIGS	**Gran Sasso**	**0.24**	**107**	P	Pg	23 43 56.9	+0.3	
GIGS				S	Sg	23 44 00.7	+0.6	
GIGS				AML	AML			
	comp=E,44μm,0.6s							
GIGS				AML	AML			
	comp=N,37μm,0.2s							
GIGS				AML	AML			
	comp=E,44μm,0.6s							
GIGS				AML	AML			
	comp=N,37μm,0.2s							
GIGS				AML	AML			
	comp=E,44μm,0.6s							
GIGS				AML	AML			
	comp=N,37μm,0.2s							
FIAM	**Fiamignano**	**0.27**	**204**	⇑P	Pg	23 43 57.7	+0.5	
FIAM				S	Sb	23 44 02.0	-1.0	
FIAM				AML	AML			
	comp=E,136μm,0.3s							
FIAM				AML	AML			
	comp=N,61μm,0.6s							
FIAM				AML	AML			
	comp=E,136μm,0.3s							
FIAM				AML	AML			
	comp=N,61μm,0.6s							
FIAM	**Fiamignano**	**0.27**	**204**	P	Pg	23 43 57.5	+0.3	
FIAM				S	Sb	23 44 02.1	-0.9	
FIAM				AML	AML			
	comp=E,136μm,0.3s							
FIAM				AML	AML			
	comp=N,54μm,1.4s							
FIAM				AML	AML			
	comp=E,136μm,0.3s							
FIAM				AML	AML			
	comp=N,61μm,0.6s							
FIAM				AML	AML			
	comp=E,136μm,0.3s							
FIAM				AML	AML			
	comp=N,61μm,0.6s							
TERO	**Teramo**	**0.27**	**67**	⇑P	Pg	23 43 57.4	+0.2	
TERO				S	Sg	23 44 01.6	+0.6	
TERO				AML	AML			
	comp=E,178μm,0.8s							
TERO				AML	AML			
	comp=N,142μm,0.2s							
TERO				AML	AML			
	comp=E,217μm,0.3s							
TERO				AML	AML			
	comp=N,262μm,0.1s							
TERO				AML	AML			
	comp=E,163μm,0.1s							
TERO				AML	AML			
	comp=N,134μm,0.0s							
TERO	**Teramo**	**0.27**	**67**	P	Pg	23 43 57.4	+0.2	
TERO				AML	AML			
	comp=E,179μm,0.8s							
TERO				AML	AML			
	comp=N,142μm,0.2s							
TERO				AML	AML			
	comp=E,218μm,0.3s							
TERO				AML	AML			
	comp=N,262μm,0.1s							
TERO				AML	AML			
	comp=N,262μm,0.1s							
TERO				AML	AML			
	comp=E,218μm,0.3s							
FAGN	**Fagnano**	**0.35**	**137**	P	Pb	23 43 59.5	-0.2	
FAGN				AML	AML			
	comp=E,97μm,0.3s							
FAGN				AML	AML			
	comp=N,84μm,0.3s							
FAGN				AML	AML			
	comp=E,143μm,0.6s							
FAGN				AML	AML			
	comp=N,122μm,0.7s							
FAGN				AML	AML			
	comp=E,93μm,0.0s							
FAGN				AML	AML			
	comp=N,84μm,0.3s							
FAGN	**Fagnano**	**0.35**	**137**	S	Sb	23 44 04.8	-0.2	
FAGN				AML	AML			
	comp=E,97μm,0.3s							
FAGN				AML	AML			
	comp=N,84μm,0.3s							
FAGN				AML	AML			
	comp=E,143μm,0.6s							
FAGN				AML	AML			
	comp=N,122μm,0.7s							
FAGN				AML	AML			
	comp=E,143μm,0.6s							
FAGN				AML	AML			
	comp=N,122μm,0.7s							
ARRO	**Arrone**	**0.37**	**280**	⇑P	Pg	23 43 59.1	+0.1	
ARRO				S	Sg	23 44 04.7	+0.7	
ARRO				AML	AML			
	comp=E,109μm,0.2s							
ARRO				AML	AML			
	comp=N,105μm,0.9s							
ARRO				AML	AML			
	comp=E,43μm,0.2s							
ARRO				AML	AML			
	comp=N,78μm,0.2s							
ARRO	**Arrone**	**0.37**	**280**	P	Pg	23 43 59.1	+0.1	
ARRO				S	Sg	23 44 04.6	+0.6	
ARRO				AML	AML			
	comp=E,110μm,0.2s							
ARRO				AML	AML			
	comp=N,105μm,0.9s							
ARRO				AML	AML			
	comp=E,110μm,0.2s							
ARRO				AML	AML			
	comp=N,105μm,0.9s							
T1215	**Vallo di Nera,**	**0.41**	**314**	⇑P	Pg	23 43 59.8	+0.1	
T1215	**Vallo di Nera,**	**0.41**	**314**	AML	AML			
	comp=N,415μm,0.3s							
T1215				AML	AML			
	comp=E,552μm,0.1s							
T1215				AML	AML			
	comp=N,398μm,0.3s							
T1215				AML	AML			
	comp=E,544μm,0.1s							
T1215				AML	AML			
	comp=E,552μm,0.1s							
T1215				AML	AML			
	comp=N,415μm,0.3s							
T1215				AML	AML			
	comp=N,398μm,0.3s							
T1215				AML	AML			
	comp=E,544μm,0.1s							
T1216	**Preci, Frazion**	**0.41**	**334**	⇓P	Pg	23 43 60.0	+0.2	
T1216				S	Sb	23 44 07.1	0.0	
T1216	**Preci, Frazion**	**0.41**	**334**	AML	AML			
	comp=E,360μm,0.8s							
T1216				AML	AML			
	comp=E,361μm,0.8s							
T1216				AML	AML			
	comp=N,442μm,1.0s							
T1216				AML	AML			
	comp=N,442μm,1.0s							
VCEL	**Villa Celiera**	**0.44**	**106**	P	Pb	23 44 01.1	-0.3	
VCEL				S	Sb	23 44 08.4	+0.5	
VCEL	**Villa Celiera**	**0.44**	**106**	S	Sg	23 44 07.0	+0.7	
VCEL				AML	AML			
	comp=E,87μm,1.6s							
VCEL				AML	AML			
	comp=N,80μm,1.1s							
VCEL				AML	AML			
	comp=E,87μm,1.6s							
VCEL				AML	AML			
	comp=N,80μm,1.1s							
T0110	**Collepietro**	**0.48**	**127**	⇓P	Pg	23 44 01.4	+0.4	
T0110				AML	AML			
	comp=E,60μm,0.3s							
T0110				AML	AML			
	comp=N,59μm,0.7s							
T0110				AML	AML			
	comp=E,57μm,1.7s							
T0110				AML	AML			
	comp=N,57μm,4.9s							
T0110	**Collepietro**	**0.48**	**127**	P	Pg	23 44 01.2	+0.2	
T0110				AML	AML			
	comp=E,60μm,0.3s							
T0110				AML	AML			
	comp=N,59μm,0.7s							
T0110				AML	AML			
	comp=E,60μm,0.3s							
T0110				AML	AML			
	comp=N,59μm,0.7s							
T1256	**Bolognola (MC)**	**0.49**	**357**	P	Pb	23 44 01.9	-0.3	
T1256				AML	AML			
	comp=E,310μm,0.3s							
T1256				AML	AML			
	comp=N,272μm,0.9s							
T1256	**Bolognola (MC)**	**0.49**	**357**	AML	AML			
	comp=E,309μm,0.3s							
T1256				AML	AML			
	comp=E,310μm,0.6s							
T1256				AML	AML			
	comp=N,336μm,0.8s							
T1256				AML	AML			
	comp=N,272μm,0.9s							
T1256				AML	AML			
	comp=E,308μm,0.6s							
T1256				AML	AML			
	comp=N,336μm,0.8s							
T1256				AML	AML			
	comp=E,309μm,0.3s							
T1256				AML	AML			
	comp=N,272μm,0.9s							
OFFI	**Offida**	**0.52**	**37**	⇓P	Pb	23 44 02.7	+0.1	
OFFI				AML	AML			
	comp=E,373μm,1.6s							
OFFI				AML	AML			
	comp=N,344μm,0.4s							
OFFI	**Offida**	**0.52**	**37**	AML	AML			
	comp=E,373μm,1.6s							
OFFI				AML	AML			
	comp=E,373μm,1.6s							
OFFI				AML	AML			
	comp=N,344μm,0.4s							
OFFI				AML	AML			
	comp=N,344μm,0.4s							
FDMO	**Fiordimonte**	**0.54**	**346**	P	Pg	23 43 59.6	-2.4	
GUMA	**Gualdo di Mace**	**0.55**	**5**	⇓P	Pg	23 44 02.6	+0.4	
GUMA				AML	AML			
	comp=E,758μm,0.8s							
GUMA				AML	AML			
	comp=N,742μm,1.5s							
GUMA				AML	AML			
	comp=E,828μm,0.3s							
GUMA				AML	AML			
	comp=N,824μm,0.6s							
GUMA				AML	AML			
	comp=E,86μm,1.1s							
GUMA				AML	AML			
	comp=N,58μm,0.5s							
GUMA	**Gualdo di Mace**	**0.55**	**5**	AML	AML			
	comp=E,828μm,0.3s							
GUMA				AML	AML			
	comp=E,756μm,0.8s							
GUMA				AML	AML			
	comp=N,738μm,1.5s							
GUMA				AML	AML			
	comp=E,828μm,0.3s							
GUMA				AML	AML			
	comp=N,824μm,0.6s							
GUMA				AML	AML			
	comp=E,756μm,0.8s							
GUMA				AML	AML			
	comp=N,824μm,0.6s							
GUMA				AML	AML			
	comp=N,738μm,1.5s							
CERT	**Cerreto**	**0.61**	**200**	P	Pg	23 44 03.1	-0.2	
CERT				AML	AML			
	comp=E,43μm,1.4s							
CERT				AML	AML			
	comp=N,36μm,0.9s							
CERT				AML	AML			
	comp=N,22μm,8.7s							
CERT				AML	AML			
	comp=E,17μm,0.3s							
CERT	**Cerreto**	**0.61**	**200**	⇓P	Pg	23 44 03.4	0.0	
CERT				AML	AML			
	comp=E,43μm,1.4s							
CERT				AML	AML			
	comp=N,36μm,0.9s							
CERT				AML	AML			
	comp=N,36μm,0.9s							
CERT				AML	AML			
	comp=E,43μm,1.4s							
ATMI	**Monte Miggiano**	**1.10**	**318**	⇓P	Pb	23 44 11.9	-0.5	
ATMI				AML	AML			
	comp=E,68μm,0.7s							
ATMI				AML	AML			
	comp=N,59μm,0.3s							
ATMI	**Monte Miggiano**	**1.10**	**318**	AML	AML			
	comp=N,59μm,0.3s							
ATMI				AML	AML			
	comp=E,68μm,0.7s							
ATMI				AML	AML			
	comp=E,68μm,0.7s							
ATMI				AML	AML			
	comp=N,59μm,0.3s							

SOME ***26*** *23:47:46.5, 39°.33N×73°.47E, h5km*
KRNET ***26*** *23:47:49.2±0.1, 39°.35N×74°.04E, mb3.0*
ISC 26 23:47:47.4±2.2, 39°.20N±0°.10×74°.28E±0°.10, h10km, n12, σ1§80/24, 4C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.76**	**320**	⇑*i*	P		**Pn**	**23 48 17.2**	**-0.8**
	baz=21								
OHH				⇑*i*	S		**Sn**	**23 48 37.8**	**-2.7**
	baz=21								
DRK	**Karamyk**	**1.94**	**279**	⇓*i*	P		**Pn**	**23 48 21.2**	**+0.4**
	baz=75								
DRK				⇓*i*	S		**Sn**	**23 48 44.6**	**-0.8**
	baz=75								
ARLS	**Aral**	**2.66**	**1**	⇓*i*	P		**Pn**	**23 48 32.5**	**+1.9**
	baz=5.0								
ARLS				⇓*i*	S		**Sn**	**23 49 04.1**	**+1.1**
	baz=5.0								
BTK	**Batken**	**2.81**	**289**	⇓*i*	P		**Pn**	**23 48 33.5**	**+1.0**
	baz=87								
BTK				⇓*i*	S		**Sn**	**23 49 05.7**	**-0.7**
	baz=87								
GAR	**Garm**	**3.09**	**268**	⇓*i*	P		**Pn**	**23 48 38.1**	**+1.7**
	baz=64								
GAR				⇓*i*	S		**Sn**	**23 49 13.8**	**+0.4**
	baz=64								
ARK	**Arkit**	**3.14**	**327**	⇓*i*	P		**Pn**	**23 48 38.1**	**+1.0**
	baz=28								
ARK				⇓*i*	S		**Sn**	**23 49 13.9**	**-0.8**
	baz=28								
TRKS	**Terek-Say**	**3.34**	**315**	⇑*i*	P		**Pn**	**23 48 39.9**	**0.0**
	baz=15								
TRKS				⇑*i*	S		**Sn**	**23 49 16.9**	**-2.9**
	baz=15								
MRKS	**Merke**	**3.63**	**348**	*e*	P		**Pb**	**23 48 51.4**	**-0.4**
	4.5nm,0.3s								
MRKS				*e*	S		**Sb**	**23 49 38.8**	**+2.8**
	8.2nm,0.1s								
DGS	**Degeres**	**4.20**	**15**	*e*	P		**Pg**	**23 49 06.0**	**-1.8**
	8.2nm,0.4s								
DGS				*e*	S		**Sg**	**23 50 03.2**	**+1.0**
	4.5nm,0.1s								
IUG	**Iuzhnay**	**4.37**	**314**	*e*	P		**Pn**	**23 48 57.0**	**+3.0**
	7.0nm,0.1s								
IUG				*e*	S		**Sn**	**23 49 47.7**	**+2.7**
	9.4nm,0.2s								
KRBS	**Karabastau**	**4.62**	**13**	*e*	P		**Pg**	**23 49 13.6**	**-2.3**
	2.0nm,0.1s								
KRBS				*e*	S		**Sg**	**23 50 16.1**	**+0.5**
	2.9nm,0.6s								
KTBS	**Karatobe**	**4.86**	**21**	*e*	P		**Pg**	**23 49 18.1**	**-2.4**
	1.5nm,0.3s								
KTBS				*e*	S		**Sg**	**23 50 23.7**	**+0.3**
	7.1nm,0.5s								

SOME ***27*** *00:03:33.6, 39°.25N×74°.13E, h0km*
KRNET ***27*** *00:03:37.1±0.1, 39°.30N×74°.20E, mb3.4*
NNC ***27*** *00:03:38.0±2.2, 39°.35N×74°.22E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=16.5km s-min=8.2km az=171.0
ISC 27 00:03:39.0±1.7, 39°.05N±0°.07×74°.07E±0°.03, h25km±15km, n48, σ2§53/76, 17C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.77**	**327**	⇑*i*	P		**Pn**	**00 04 07.9**	**-0.2**
	baz=19								
OHH				⇑*i*	S		**Sn**	**00 04 30.1**	**+0.2**
	baz=19								
DRK	**Karamyk**	**1.81**	**284**	⇑*i*	P		**Pb**	**00 04 11.8**	**+0.2**
	baz=77								
DRK				⇑*i*	P		**Sb**	**00 04 37.4**	**+3.4**
	baz=77								
BTK	**Batken**	**2.70**	**293**	⇑*e*	P		**Pb**	**00 04 23.9**	**-2.8**
	baz=87								
BTK				⇑*i*	S		**Sb**	**00 04 58.5**	**-1.0**
	baz=87								
NRN	**Naryn**	**2.80**	**31**	⇑*e*	P		**Pn**	**00 04 21.4**	**-1.1**
	baz=32								
NRN				⇑*i*	S		**Sn**	**00 04 53.8**	**-1.8**
	baz=32								
ARLS	**Aral**	**2.81**	**4**	⇑*e*	P		**Pn**	**00 04 21.9**	**-0.6**
	baz=2.0								
ARLS				⇑*i*	S		**Sn**	**00 04 54.5**	**-1.2**
	baz=2.0								
GAR	**Garm**	**2.92**	**270**	⇑*e*	P		**Pb**	**00 04 28.4**	**-2.0**
	baz=66								
GAR				⇑*i*	S		**Sb**	**00 05 05.8**	**+0.1**
	baz=66								
ARK	**Arkit**	**3.18**	**330**	⇑*i*	P		**Pn**	**00 04 28.3**	**+0.8**
	baz=27								
ARK				⇑*i*	S		**Sn**	**00 05 05.7**	**+1.1**
	baz=27								
TRKS	**Terek-Say**	**3.34**	**319**	⇓*i*	P		**Pn**	**00 04 30.4**	**+0.7**
	baz=14								
TRKS				⇓*i*	S		**Sn**	**00 05 09.4**	**+0.8**
	baz=14								
MRKS	**Merke**	**3.75**	**350**	*e*	P		**Pb**	**00 04 40.9**	**-3.5**
	9.1nm,0.6s								
MRKS				*e*	S		**Sb**	**00 05 29.3**	**-0.1**
	17nm,0.9s								
KST	**Kastek**	**4.24**	**19**	*e*	P		**Pb**	**00 04 49.2**	**-3.7**
	17nm,0.7s								
KST				*e*	S		**Sb**	**00 05 44.1**	**+0.5**
	42nm,1.2s								
KST	**Kastek**	**4.24**	**19**	Pg		Pg	**Pb**	**00 04 49.1**	**-3.7**
	5.1nm,0.4s								
KST				Lg		Lg		00 05 44.1	
	42nm,1.2s								
IUG	**Iuzhnay**	**4.36**	**316**	*e*	P		**Pb**	**00 04 52.9**	**-2.1**
	6.9nm,0.8s								
IUG				*e*	S		**Sb**	**00 05 50.0**	**+2.9**
	21nm,1.8s								
IUG	**Iuzhnay**	**4.36**	**316**	Pg			**Pb**	**00 04 52.8**	**-2.1**
	11nm,0.6s								
IUG				Lg			Lg	00 05 50.2	
	18nm,0.7s								
DZA	**Taraz**	**4.36**	**333**	*e*	P		**Pb**	**00 04 52.8**	**-2.1**
	12nm,0.1s								
DZA				*e*	S		**Sb**	**00 05 49.9**	**+2.8**
	24nm,0.3s								
DGS	**Degeres**	**4.38**	**17**	*e*	P		**Pb**	**00 04 52.3**	**-3.0**
	9.9nm,0.5s								
DGS				*e*	S		**Sb**	**00 05 49.0**	**+1.3**
	12nm,0.7s								
DGS	**Degeres**	**4.38**	**17**	Pg			**Pb**	**00 04 52.0**	**-3.3**
	9.9nm,0.5s								
DGS				Lg			Lg	00 05 49.5	
	12nm,0.7s								
SGDS	**Sogindy**	**4.42**	**5**	*e*	P		**Pb**	**00 04 53.9**	**-2.1**
	4.9nm,0.3s								
SGDS				*e*	S		**Sb**	**00 05 51.5**	**+2.8**
	7.6nm,0.3s								
SGDS	**Sogindy**	**4.42**	**5**	Pg			**Pb**	**00 04 53.8**	**-2.1**
	5.1nm,0.5s								
SGDS				Lg			Lg	00 05 51.6	
	9.7nm,1.0s								
MTBS	**Maitube**	**4.45**	**23**	*e*	P		**Pb**	**00 04 53.5**	**-2.9**
	6.2nm,0.5s								
MTBS				*e*	S		**Sb**	**00 05 50.9**	**+1.2**
	3.7nm,0.6s								
MTBS	**Maitube**	**4.45**	**23**	Pg			**Pb**	**00 04 53.5**	**-2.9**
	6.2nm,0.5s								
MTBS				Lg			Lg	00 05 50.8	
	3.7nm,0.6s								
TNSS	**Tian-Shan**	**4.54**	**28**	*e*	P		**Pb**	**00 04 55.4**	**-2.7**
	6.9nm,0.4s								
TNSS				*e*	S		**Sb**	**00 05 54.2**	**+1.7**
	7.7nm,0.6s								
TNSS	**Tian-Shan**	**4.54**	**28**	Pg			**Pb**	**00 04 55.4**	**-2.7**
	6.9nm,0.4s								
TNSS				Lg			Lg	00 05 54.2	
	7.7nm,0.6s								
MDOK	**Medeo**	**4.69**	**28**	*e*	P		**Pb**	**00 04 57.4**	**-3.2**
	5.1nm,0.7s								
MDOK				*e*	S		**Sb**	**00 05 57.7**	**+1.2**
	9.7nm,0.7s								
MDOK	**Medeo**	**4.69**	**28**	Pg			**Pb**	**00 04 57.3**	**-3.2**
	5.1nm,0.7s								
MDOK				⇓Pg			Pn	00 04 57.9	+10
	23nm,1.2s								
MDOK				⇓Lg			Lg	00 05 53.3	
	37nm,1.1s								
MDOK				Lg			Lg	00 05 57.7	
	9.7nm,0.7s								
CHM	**Chimkent**	**4.71**	**315**	*e*	P		**Pb**	**00 04 59.4**	**-1.4**
	54nm,0.1s								
CHM				*e*	S		**Sb**	**00 06 00.8**	**+3.7**
	47nm,0.1s								
KOTS	**Kotyrbulak**	**4.77**	**28**	*e*	P		**Pb**	**00 04 59.2**	**-2.7**
	5.6nm,0.5s								
KOTS				*e*	S		**Sb**	**00 06 00.8**	**+1.9**
	29nm,0.7s								
KOTS	**Kotyrbulak**	**4.77**	**28**	Pg			**Pb**	**00 04 58.7**	**-3.3**
	14nm,1.4s								
KOTS				Lg			Lg	00 06 00.8	
	29nm,0.7s								
KRBS	**Karabastau**	**4.80**	**14**	*e*	P		**Pb**	**00 04 59.9**	**-2.4**
	3.7nm,0.4s								
KRBS				*e*	S		**Sb**	**00 06 02.1**	**+2.5**
	5.9nm,0.7s								
KRBS	**Karabastau**	**4.80**	**14**	Pg			**Pb**	**00 04 59.9**	**-2.4**
	3.7nm,0.4s								
KRBS				Lg			Lg	00 06 02.2	

	5.9nm,0.7s								
KK31	**Karatay Array**	**4.86**	**328**	⇓Pn		**Pn**	**00 04 50.7**	**+0.3**
	0.5nm,0.3s,baz=133,slow=13,SNR=9.1								
KK31				⇑Sn		**Sn**	**00 05 45.4**	**-0.4**
	1.9nm,0.5s								
KK31				⇑Lg		Lg	00 06 06.5		
	2.8nm,0.5s,baz=134,slow=28								
KTBS	**Karatobe**	**5.06**	**22**	*eP*		**Pb**	**00 05 04.9**	**-1.9**
	4.1nm,0.4s								
KTBS				*eS*		**Sb**	**00 06 10.7**	**+3.6**
	19nm,1.2s								
KTBS	**Karatobe**	**5.06**	**22**	Pg		**Pb**	**00 05 04.9**	**-1.9**
	7.3nm,0.7s								
KTBS				Lg		Lg	00 06 10.9		
	16nm,0.8s								
SATY	**Saty**	**5.18**	**38**	*eP*		**Pb**	**00 05 06.9**	**-2.0**
	2.1nm,0.4s								
SATY				*eS*		**Sb**	**00 06 14.3**	**+3.7**
	10nm,0.9s								
SATY	**Saty**	**5.18**	**38**	Pg		**Pb**	**00 05 06.9**	**-2.0**
	2.1nm,0.4s								
SATY				Lg		Lg	00 06 14.3		
	10nm,0.9s								
CHKK	**Chushkaly**	**5.28**	**24**	*eP*		**Pb**	**00 05 09.1**	**-1.4**
	2.5nm,0.3s								
CHKK				*eS*		**Sb**	**00 06 17.9**	**+4.5**
	6.6nm,0.3s								
CHKK	**Chushkaly**	**5.28**	**24**	Pg		**Pb**	**00 05 08.5**	**-2.0**
CHKK				Lg		Lg	00 06 17.9		
KURS	**Kuram**	**5.41**	**34**	*eP*		**Pb**	**00 05 10.1**	**-2.6**
	2.5nm,1.0s								
KURS				*eS*		**Sb**	**00 06 19.5**	**+2.4**
	5.2nm,0.5s								
KURS	**Kuram**	**5.41**	**34**	Pg		**Pb**	**00 05 10.0**	**-2.6**
	2.5nm,1.0s								
KURS				Lg		Lg	00 06 19.5		
	5.2nm,0.5s								
UZB	**Uzynbulak**	**5.55**	**41**	*eP*		**Pb**	**00 05 13.2**	**-2.0**
	1.7nm,0.3s								
UZB				*eS*		**Sb**	**00 06 24.7**	**+3.4**
	5.0nm,0.5s								
UZB	**Uzynbulak**	**5.55**	**41**	Pg		**Pb**	**00 05 13.2**	**-2.0**
	1.7nm,0.3s								
UZB				Lg		Lg	00 06 24.7		
	5.0nm,0.5s								
KPKS	**Kokpek**	**5.62**	**37**	*eP*		**Pb**	**00 05 13.0**	**-3.4**
	15nm,0.8s								
KPKS				*eS*		**Sb**	**00 06 24.9**	**+1.6**
	29nm,1.7s								
KPKS	**Kokpek**	**5.62**	**37**	Pg		**Pb**	**00 05 13.0**	**-3.4**
	15nm,0.8s								
KPKS				Lg		Lg	00 06 24.9		
	29nm,1.7s								
SHLS	**Shalkode**	**5.78**	**43**	*eP*		**Pb**	**00 05 21.8**	**+2.6**
	2.8nm,0.4s								
SHLS				*eS*		Sb	00 06 39.4	+11	
	5.4nm,0.7s								
SHLS	**Shalkode**	**5.78**	**43**	Pg		**Pb**	**00 05 21.8**	**+2.6**
	2.8nm,0.4s								
SHLS				Lg		Lg	00 06 39.4		
	5.4nm,0.7s								
PDGK	**Podgornoye**	**5.92**	**42**	Pg		**Pb**	**00 05 17.4**	**-4.1**
	1.3nm,0.7s								
PDGK				Lg		Lg	00 06 31.9		
	3.7nm,0.8s								
PDGK	**Podgornoye**	**5.92**	**42**	⇑Pg		**Pb**	**00 05 20.8**	**-0.7**
	7.3nm,0.8s								
PDGK				⇓Lg		Lg	00 06 34.0		
	11nm,1.2s								
BLB	**Baldybastay**	**6.03**	**32**	*eP*		**Pb**	**00 05 23.1**	**-0.3**
	4.5nm,0.0s								
BLB				*eS*		**Sb**	**00 06 41.6**	**+6.5**
	9.2nm,0.9s								
BLB	**Baldybastay**	**6.03**	**32**	Pg		**Pb**	**00 05 22.6**	**-0.8**
	7.9nm,0.5s								
BLB				Lg		Lg	00 06 41.6		
	9.2nm,0.9s								

*IDC **27** 00:05:19.2±1.4, 30°.34N×141°.51E, h0km, mb3.5/6, mbtmp3.5/9, ML3.1/3, Error ellipse: s-maj=54.4km s-min=17.8km az=71.0*

ISC 27 00:05:23.1±1.0, 30°.3N±0°.1×141°.5E±0°.3, h28km, n15, σ1s04/11, mb3.6/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.12**	**333**	Pn	**Pn**	**00 06 09.3**	**-1.1**
	8.1nm,0.3s,baz=107,slow=19,SNR=1.7						
JHJ				Sn	**Sn**	**00 06 45.7**	**-1.1**
	7.7nm,0.3s,baz=84,slow=17,SNR=1.3						
	82nm,0.8s						
JCJ	**Chichijima**	**3.29**	**169**	Pn	**Pn**	**00 06 12.8**	**0.0**
	4.5nm,0.3s,baz=24,slow=20,SNR=1.8						
JCJ				Sn	**Sn**	**00 06 49.4**	**-1.6**
	3.8nm,0.3s,baz=277,slow=21,SNR=1.2						
	56nm,0.6s						
MJAR	**Matsushiro Arr**	**6.76**	**337**	Pn	**Pn**	**00 06 59.2**	**-1.2**
	0.1nm,0.3s,baz=159,slow=11,SNR=7.7						
	1.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**25.29**	**109**	T	T	00 37 25.8	
	baz=302,slow=74						
H11N1	**WAKE ISLAND Hy**	**25.29**	**109**	T	T	00 37 28.2	
	baz=302						
H11N3	**WAKE ISLAND Hy**	**25.30**	**109**	T	T	00 37 28.4	
	baz=302,slow=74						
H11S3	**WAKE ISLAND Hy**	**25.75**	**111**	T	T	00 38 02.6	
	baz=304,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**25.75**	**111**	T	T	00 38 02.9	
	baz=304,slow=75,SNR=37						
H11S2	**WAKE ISLAND Hy**	**25.76**	**111**	T	T	00 38 04.4	
	baz=304,slow=75,SNR=35						
SONM	**Songino Array**	**32.00**	**313**	P	**P**	**00 11 48.2**	**+1.2**
	0.2nm,0.3s,baz=99,slow=9.2,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**47.97**	**307**	P	**P**	**00 13 59.9**	**+0.6**
	0.3nm,0.6s,baz=82,slow=9.0,SNR=5.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**50.36**	**313**	P	**P**	**00 14 17.7**	**+0.3**
	0.3nm,0.4s,baz=94,slow=9.5,SNR=5.1						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**50.46**	**189**	P	**P**	**00 14 18.6**	**+0.1**
	1.4nm,0.8s,baz=7.2,slow=7.8,SNR=14						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**54.19**	**189**	P	**P**	**00 14 46.5**	**+0.4**
	0.5nm,0.7s,baz=10,slow=7.6,SNR=6.4						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**94.15**	**53**	P	**P**	**00 18 40.2**	**+0.6**
	0.1nm,0.6s,baz=308,slow=4.5,SNR=1.6						
	0.1nm,0.6s						

*NOU **27** 00:16:52.6, 42°.74S×173°.24E, h10km, MLv4.4/8, South Island, New Zealand*

*WEL **27** 00:16:53.8±0.3, 43°.S±2°.×17°.3E±°, h5km, M3.4/25, ML3.6/16, MLv3.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=123.0*

ISC 27 00:16:53.9±0.9, 42°.64S±0°.03×173°.13E±0°.04, h15km, n52, σ0s98/54, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.33**	**192**	P	**Pg**	**00 17 01.9**	**+1.1**
GVZ				S	**Sg**	**00 17 08.0**	**+2.5**
KHZ	**Kahutara**	**0.38**	**53**	P	**Pg**	**00 17 01.2**	**-0.4**
KHZ	**Kahutara**	**0.38**	**53**	P	**Pg**	**00 17 01.2**	**-0.4**
KHZ				S	**Sg**	**00 17 06.6**	**-0.2**
AMCZ	**Amberley**	**0.64**	**213**	P	**Pg**	**00 17 07.6**	**+1.1**
LTZ	**Lake Taylor**	**0.65**	**257**	P	**Pg**	**00 17 06.3**	**-0.4**
THZ	**Tophouse**	**0.90**	**349**	P	**Pg**	**00 17 09.7**	**-1.6**
OXZ	**Oxford**	**1.05**	**229**	P	**Pb**	**00 17 13.2**	**-0.7**
BSWZ	**Blackbirch Sta**	**1.08**	**31**	P	**Pb**	**00 17 13.9**	**-0.5**
OKCZ	**Okains Bay**	**1.08**	**183**	P	**Pb**	**00 17 14.2**	**-0.1**
MQZ	**McQueen's Vall**	**1.12**	**198**	P	**Pn**	**00 17 13.5**	**-1.6**
CMWZ	**Cape Campbell**	**1.20**	**42**	P	**Pb**	**00 17 17.1**	**+0.7**
AKCZ	**Akaroa Harbour**	**1.24**	**187**	P	**Pn**	**00 17 15.8**	**-0.9**
INZ	**Inchbonnie**	**1.25**	**266**	P	**Pn**	**00 17 16.3**	**-0.5**
MRNZ	**Matariki Terra**	**1.27**	**347**	P	**Pn**	**00 17 16.5**	**-0.7**
RACZ	**Rakaia**	**1.30**	**213**	P	**Pn**	**00 17 16.7**	**-0.9**
DSZ	**Denniston Nort**	**1.33**	**312**	P	**Pn**	**00 17 18.1**	**+0.1**
TUWZ	**Tuamarina**	**1.36**	**27**	P	**Pn**	**00 17 18.2**	**-0.1**
NNZ	**Nelson**	**1.44**	**8**	P	**Pn**	**00 17 19.0**	**-0.4**
MHCZ	**Mount Hutt**	**1.45**	**232**	P	**Pn**	**00 17 18.6**	**-1.0**
WACZ	**Wakanui South**	**1.60**	**216**	P	**Pn**	**00 17 20.9**	**-0.9**
TKNZ	**Takaka Hill**	**1.61**	**355**	P	**Pn**	**00 17 22.1**	**+0.2**
TCW	**Tory Channel**	**1.67**	**31**	P	**Pn**	**00 17 22.0**	**-0.6**
WVZ	**Waitaha Valley**	**1.81**	**255**	P	**Pn**	**00 17 24.4**	**-0.1**
RPZ	**Rata Peaks**	**1.86**	**234**	P	**Pn**	**00 17 24.5**	**-0.8**
RPZ	**Rata Peaks**	**1.86**	**234**	P	**Pn**	**00 17 24.5**	**-0.8**
QRZ	**Quartz Range**	**1.87**	**346**	P	**Pn**	**00 17 26.1**	**+0.7**
QRZ	**Quartz Range**	**1.87**	**346**	P	**Pn**	**00 17 26.0**	**+0.6**
PLWZ	**Palliser**	**1.91**	**57**	P	**Pn**	**00 17 25.1**	**-0.8**
DUWZ	**D'Urville Isla**	**1.93**	**18**	P	**Pn**	**00 17 26.9**	**+0.6**
CAW	**Cannon Point**	**2.11**	**44**	P	**Pn**	**00 17 27.7**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.17**	**251**	P	**Pn**	**00 17 29.5**	**+0.1**
TMZ	**Timaru**	**2.33**	**221**	P	**Pn**	**00 17 30.7**	**-1.0**
FOZ	**Fox Glacier**	**2.59**	**249**	P	**Pn**	**00 17 35.5**	**+0.3**
LBZ	**Lake Benmore**	**2.76**	**230**	P	**Pn**	**00 17 36.8**	**-0.9**
ODZ	**Otahua Downs**	**3.00**	**216**	P	**Pn**	**00 17 39.6**	**-1.3**
ODZ	**Otahua Downs**	**3.00**	**216**	P	**Pn**	**00 17 39.7**	**-1.3**
WAZ	**Wanganui**	**3.21**	**26**	P	**Pn**	**00 17 45.2**	**+1.4**
JCZ	**Jackson Bay**	**3.48**	**244**	P	**Pn**	**00 17 46.8**	**-0.8**
JCZ	**Jackson Bay**	**3.48**	**244**	P	**Pn**	**00 17 46.9**	**-0.6**
PKE	**Pukeiti**	**3.51**	**11**	P	**Pn**	**00 17 50.3**	**+2.4**
WKZ	**Wanaka**	**3.69**	**232**	P	**Pn**	**00 17 49.0**	**-1.4**
VRZ	**Vera Road**	**3.73**	**20**	P	**Pn**	**00 17 51.3**	**+0.5**
EAZ	**Earnscleugh**	**3.78**	**226**	P	**Pn**	**00 17 50.5**	**-1.2**
WNVZ	**Wahianoa**	**3.80**	**30**	P	**Pn**	**00 17 52.6**	**+0.5**
TUZ	**Tuapeka**	**4.16**	**216**	P	**Pn**	**00 17 55.7**	**-1.1**
BKZ	**Black Stump Fm**	**4.31**	**37**	P	**Pn**	**00 17 58.0**	**-1.0**
HIZ	**Hauiti**	**4.33**	**18**	P	**Pn**	**00 18 00.0**	**+0.8**
HIZ	**Hauiti**	**4.33**	**18**	P	**Pn**	**00 17 59.7**	**+0.5**
MLZ	**Mavora Lakes**	**4.53**	**231**	P	**Pn**	**00 18 00.3**	**-1.6**
SYZ	**Scrubby Hill**	**4.83**	**215**	P	**Pn**	**00 18 05.0**	**-1.0**
SYZ	**Scrubby Hill**	**4.83**	**215**	P	**Pn**	**00 18 05.0**	**-1.0**
MKAZ	**Moumakai**	**5.75**	**16**	P	**Pn**	**00 18 18.4**	**-0.3**

*MOS **27** 00:18:36.8±1.1, 37°.07S×178°.84E, h10km, mb4.9/10, Error ellipse: s-maj=13.1km s-min=12.1km az=120.0*

*NEIC **27** 00:18:38.2±2.3, 37°.01S±0°.06×178°.99E±0°.08, h10km±1km, mb5.1/49, Error ellipse: s-maj=14.0km s-min=5.9km az=313.0*

*WEL **27** 00:18:39.1±0.9, 37°.S±4°.×17°.9E±°, h33km, M5.1/93, ML5.3/66, MLv5.1/93, Error ellipse: s-maj=0.0km s-min=0.0km az=83.7*

*NOU **27** 00:18:41.7, 37°.24S×179°.05E, h42km, mb5.0/36, Off E. Coast of N. Island, N.Z.*

*IDC **27** 00:18:49.5±2.1, 37°.04S×178°.81E, h102km±18km, mb4.3/18, mbtmp4.6/20, MS4.1/29, Error ellipse: s-maj=16.0km s-min=12.5km az=58.0*

ISC 27 00:18:43.8±1.1, 37°.15S±0°.05×178°.94E±0°.07, h56km±8km, n355, σ1s50/338, mb5.0/52, MS4.0/28, 3D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.66**	**231**	Pg	**Pn**	**00 18 54.4**	**-2.8**
MXZ				Sg	**Sn**	**00 19 03.5**	**-3.6**
MXZ	**Matakaoa Point**	**0.66**	**231**	P	**Pn**	**00 18 54.5**	**-2.8**
MXZ	**Matakaoa Point**	**0.66**	**231**	P	**Pn**	**00 18 54.5**	**-2.8**
WMGZ	**Waiomatatini S**	**0.79**	**212**	P	**Pn**	**00 18 58.2**	**-0.8**
WMGZ				S	**Sn**	**00 19 11.5**	**+1.4**
PKGZ	**Pakihiroa**	**1.01**	**223**	P	**Pn**	**00 19 01.6**	**-0.3**
PKGZ				S	**Sn**	**00 19 17.0**	**+1.7**
PUZ	**Puketiti**	**1.07**	**210**	P	**Pn**	**00 19 01.9**	**-0.8**
PUZ				S	**Sn**	**00 19 18.6**	**+1.9**
HAZ	**Te Kaha**	**1.11**	**236**	P	**Pn**	**00 19 03.6**	**+0.5**
HAZ				S	**Sn**	**00 19 19.7**	**+2.3**
TWGZ	**Tauwhareparae**	**1.28**	**216**	P	**Pn**	**00 19 05.2**	**-0.3**
RUGZ	**Raukumara Rang**	**1.30**	**231**	P	**Pn**	**00 19 05.4**	**-0.3**
RUGZ				S	**Sn**	**00 19 25.0**	**+2.8**
WIZ	**White Island**	**1.45**	**254**	P	**Pn**	**00 19 05.8**	**-1.9**
WSRZ	**White Island S**	**1.46**	**255**	P	**Pn**	**00 19 06.1**	**-1.7**
CNGZ	**Carnagh Statio**	**1.46**	**203**	P	**Pn**	**00 19 07.3**	**-0.5**
TKGZ	**Te Karaka**	**1.56**	**214**	P	**Pn**	**00 19 08.2**	**-0.9**
TKGZ				S	**Sn**	**00 19 30.2**	**+2.0**
MWZ	**Matawai**	**1.63**	**223**	P	**Pn**	**00 19 09.8**	**-0.4**
URZ	**Urewera**	**1.83**	**232**	P	**Pn**	**00 19 11.9**	**-1.0**
SNGZ	**Shannon Statio**	**2.07**	**217**	P	**Pn**	**00 19 15.2**	**-0.9**
SNGZ				S	**Sn**	**00 19 42.0**	**+1.2**
KNZ	**Kokohu**	**2.12**	**208**	P	**Pn**	**00 19 14.9**	**-1.9**
RTZ	**Ruatahuna**	**2.14**	**226**			**00 19 16.5**	**-0.6**
RTZ	**Ruatahuna**	**2.14**	**226**	P	**Pn**	**00 19 17.1**	**0.0**
MHGZ	**Mahia Peninsul**	**2.16**	**202**	P	**Pn**	**00 19 15.9**	**-1.5**
MUGZ	**Murupara**	**2.17**	**232**	P	**Pn**	**00 19 17.3**	**-0.3**
MKRZ	**Makatiti**	**2.20**	**243**	P	**Pn**	**00 19 18.5**	**+0.5**
LIRZ	**Lichensteins R**	**2.21**	**246**	P	**Pn**	**00 19 18.2**	**+0.2**
TGRZ	**Tauranga**	**2.21**	**254**	P	**Pn**	**00 19 16.6**	**-1.5**
TARZ	**Mount Tarawera**	**2.22**	**240**	P	**Pn**	**00 19 16.8**	**+0.7**
OMRZ	**Omania**	**2.26**	**244**	P	**Pn**	**00 19 18.8**	**+0.1**
RRRZ	**Republican Roa**	**2.27**	**238**	P	**Pn**	**00 19 19.0**	**+0.2**
RAHZ	**Arahi**	**2.30**	**219**	P	**Pn**	**00 19 18.6**	**-0.6**
KARZ	**Kaharoa**	**2.32**	**247**	P	**Pn**	**00 19 19.0**	**-0.5**
HLRZ	**Highlands Stat**	**2.33**	**241**	P	**Pn**	**00 19 20.1**	**+0.3**
WHHZ	**Waihua**	**2.35**	**214**	P	**Pn**	**00 19 18.9**	**-1.1**
MTHZ	**Maungataniwha**	**2.38**	**224**	P	**Pn**	**00 19 20.2**	**-0.2**
UTU	**Utuhina**	**2.41**	**244**	P	**Pn**	**00 19 22.2**	**+1.4**
PRRZ	**Plateau Road**	**2.43**	**235**	P	**Pn**	**00 19 20.5**	**-0.5**
HSRZ	**Hossack Road**	**2.44**	**241**	P	**Pn**	**00 19 21.5**	**+0.4**
HRRZ	**Handcock Road**	**2.45**	**239**	P	**Pn**	**00 19 21.3**	**-0.1**
ALRZ	**Allen Road**	**2.50**	**235**	P	**Pn**	**00 19 21.8**	**-0.2**
GRRZ	**Galatos Road**	**2.55**	**241**	P	**Pn**	**00 19 23.3**	**+0.6**
NMHZ	**Naumai**	**2.58**	**220**	P	**Pn**	**00 19 22.8**	**-0.3**
ARHZ	**Aropaoanui**	**2.61**	**215**	P	**Pn**	**00 19 22.5**	**-1.1**
MRHZ	**Matea Rd**	**2.61**	**229**	P	**Pn**	**00 19 23.3**	**-0.3**
KUZ	**Kuaotunu**	**2.61**	**278**	P	**Pn**	**00 19 21.5**	**-2.1**
KUZ	**Kuaotunu**	**2.61**	**278**	P	**Pn**	**00 19 21.4**	**-2.1**
BKZ	**Black Stump Fm**	**2.79**	**223**	Pn	**Pn**	**00 19 24.8**	**-1.3**
BKZ	**Black Stump Fm**	**2.79**	**223**	P	**Pn**	**00 19 24.4**	**-1.7**
BKZ	**Black Stump Fm**	**2.79**	**223**	P	**Pn**	**00 19 25.0**	**-1.1**
TOZ	**Tahuroa Road**	**2.80**	**257**	P	**Pn**	**00 19 24.9**	**-1.2**
WHTZ	**Whakaora**	**2.81**	**236**	P	**Pn**	**00 19 27.1**	**+0.8**
HATZ	**Hinemaiaia**	**2.85**	**231**	P	**Pn**	**00 19 26.7**	**-0.1**
MCHZ	**McNeill Hill**	**2.90**	**217**	P	**Pn**	**00 19 26.1**	**-1.3**
CKHZ	**Cape Kidnapper**	**2.91**	**210**	P	**Pn**	**00 19 25.4**	**-2.2**
GRZ	**Great Barrier**	**2.94**	**287**	P	**Pn**	**00 19 26.5**	**-1.5**
TLZ	**Tolley Road**	**2.95**	**245**	P	**Pn**	**00 19 28.8**	**+0.7**
WATZ	**Wairara**	**2.98**	**237**	P	**Pn**	**00 19 29.3**	**+0.7**
KWHZ	**Kaweka Forest**	**3.02**	**220**	P	**Pn**	**00 19 27.3**	**-1.9**
MKAZ	**Moumakai**	**3.02**	**270**	P	**Pn**	**00 19 27.8**	**-1.3**
RATZ	**Rangitukua**	**3.04**	**235**	P	**Pn**	**00 19 29.4**	**-0.1**
RITZ	**Rihia Road**	**3.04**	**232**	P	**Pn**	**00 19 29.3**	**-0.2**
WIAZ	**Waiheke Island**	**3.07**	**275**	P	**Pn**	**00 19 28.5**	**-1.3**
KAHZ	**Kahuranaki**	**3.10**	**211**	P	**Pn**	**00 19 28.0**	**-2.3**
KATZ	**Kataramea**	**3.15**	**234**	P	**Pn**	**00 19 31.9**	**+0.9**
ETAZ	**East Tamaki Re**	**3.22**	**272**	P	**Pn**	**00 19 31.0**	**-0.9**
TMVZ	**Te Maari**	**3.22**	**231**	P	**Pn**	**00 19 31.5**	**-0.6**
NTVZ	**North Tongarir**	**3.23**	**232**	P	**Pn**	**00 19 31.8**	**-0.3**
ETVZ	**East Tongariro**	**3.23**	**231**	P	**Pn**	**00 19 31.5**	**-0.6**
BHHZ	**Black Hill Sta**	**3.26**	**223**	P	**Pn**	**00 19 31.2**	**-1.2**
MBAZ	**Motutapu North**	**3.26**	**275**	P	**Pn**	**00 19 31.7**	**-0.7**
OTVZ	**Oturere**	**3.28**	**231**	P	**Pn**	**00 19 32.2**	**-0.6**
NNVZ	**North Ngauruho**	**3.29**	**232**	P	**Pn**	**00 19 33.0**	**0.0**
WTVZ	**West Tongariro**	**3.30**	**232**	P	**Pn**	**00 19 32.8**	**-0.2**
SNVZ	**South Ngauruho**	**3.31**	**231**	P	**Pn**	**00 19 32.9**	**-0.4**
PXZ	**Pawanui**	**3.31**	**209**	P	**Pn**	**00 19 30.2**	**-2.9**
NGZ	**Ngauruhoe**	**3.32**	**231**	P	**Pn**	**00 19 33.2**	**-0.2**
ABAZ	**Army Bay**	**3.34**	**278**	P	**Pn**	**00 19 33.1**	**-0.5**
TUVZ	**Tukino**	**3.35**	**230**	P	**Pn**	**00 19 33.4**	**-0.3**
TWVZ	**Taurewa**	**3.37**	**234**	P	**Pn**	**00 19 34.4**	**+0.4**
EPAZ	**Eden Park BICE**	**3.37**	**273**	P	**Pn**	**00 19 33.6**	**-0.3**
MOVZ	**Moawhango**	**3.38**	**227**	P	**Pn**	**00 19 32.0**	**-1.6**
HBAZ	**Herne Bay Bore**	**3.39**	**274**	P	**Pn**	**00 19 33.9**	**-0.2**
WHVZ	**Whangaehu Hut**	**3.40**	**230**	P	**Pn**	**00 19 33.6**	**-0.9**
FWVZ	**Far West T-bar**	**3.40**	**231**	P	**Pn**	**00 19 33.7**	**-0.8**
DRZ	**Dome Shelter**	**3.41**	**230**	P	**Pn**	**00 19 32.4**	**-2.3**
WNVZ	**Wahianoa**	**3.42**	**229**	P	**Pn**	**00 19 33.7**	**-1.1**
TRVZ	**Turoa**	**3.43**	**230**	P	**Pn**	**00 19 34.0**	**-0.9**
AWAZ	**Awhitu Peninsu**	**3.44**	**270**	P	**Pn**	**00 19 34.3**	**-0.6**
PNHZ	**Pukenui**	**3.50**	**217**	P	**Pn**	**00 19 32.9**	**-2.9**
WTAZ	**Waiatarua**	**3.50**	**272**	P	**Pn**	**00 19 35.4**	**-0.3**
WPHZ	**Waipukurau**	**3.51**	**213**	P	**Pn**	**00 19 33.3**	**-2.6**
HIZ	**Hauiti**	**3.51**	**246**	P	**Pn**	**00 19 36.3**	**+0.4**
HIZ	**Hauiti**	**3.51**	**246**	P	**Pn**	**00 19 36.7**	**+0.8**
RVAZ	**Riverhead Bore**	**3.52**	**275**	P	**Pn**	**00 19 35.5**	**-0.4**
MTVZ	**Mangateitei**	**3.53**	**230**	P	**Pn**	**00 19 36.2**	**+0.1**
PKVZ	**Pokaka**	**3.55**	**232**	P	**Pn**	**00 19 36.6**	**+0.2**
PRHZ	**Porangahau**	**3.60**	**209**	P	**Pn**	**00 19 34.7**	**-2.3**
TSZ	**Takapari Road**	**3.73**	**218**	P	**Pn**	**00 19 35.7**	**-3.2**
DVHZ	**Dannevirke**	**3.83**	**214**	P	**Pn**	**00 19 37.0**	**-3.1**
ANWZ	**Angora Road**	**3.83**	**209**	P	**Pn**	**00 19 38.1**	**-2.1**
VRZ	**Vera Road**	**3.85**	**238**	P	**Pn**	**00 19 40.9**	**+0.5**
WCZ	**Waipu Caves**	**3.90**	**287**	P	**Pn**	**00 19 40.2**	**-0.9**
WAZ	**Wanganui**	**4.05**	**229**	P	**Pn**	**00 19 42.5**	**-0.8**
POWZ	**Post Office Ro**	**4.08**	**216**	P	**Pn**	**00 19 40.5**	**-3.2**
BFZ	**Birch Farm**	**4.11**	**210**	P	**Pn**	**00 19 40.1**	**-4.0**
PRWZ	**Pori Road**	**4.12**	**213**	P	**Pn**	**00 19 41.2**	**-3.0**
MHEZ	**Mangahewa**	**4.12**	**241**	P	Pn	00 19 49.5	+5.2
OHWZ	**Ohakea**	**4.17**	**222**	P	**Pn**	**00 19 43.9**	**-1.0**
LREZ	**Lake Rotokare**	**4.25**	**236**	P	**Pn**	**00 19 47.1**	**+1.1**
CPWZ	**Castlepoint**	**4.32**	**209**	P	**Pn**	**00 19 43.4**	**-3.6**
NEZ	**North Egmont**	**4.37**	**239**	P	**Pn**	**00 19 49.6**	**+1.9**
MRZ	**Mangatainoka R**	**4.38**	**216**	Pn	**Pn**	**00 19 43.7**	**-4.1**
PKE	**Pukeiti**	**4.41**	**241**	P	**Pn**	**00 19 50.2**	**+2.0**
KHEZ	**Kahui Hut**	**4.43**	**240**	P	**Pn**	**00 19 47.0**	**-1.6**
KHEZ	**Kahui Hut**	**4.43**	**240**	P	**Pn**	**00 19 50.8**	**+2.2**
NBEZ	**Newall Road No**	**4.53**	**241**	P	**Pn**	**00 19 51.6**	**+1.9**
NMEZ	**Namu Road**	**4.58**	**239**	P	Pn	00 19 53.7	+3.1
OUZ	**Omahuta**	**4.73**	**292**	Pn	**Pn**	**00 19 52.0**	**-0.6**
OUZ	**Omahuta**	**4.73**	**292**	P	**Pn**	**00 19 52.4**	**-0.2**
OUZ	**Omahuta**	**4.73**	**292**	P	**Pn**	**00 19 52.0**	**-0.6**
DUWZ	**D'Urville Isla**	**5.35**	**225**	P	**Pn**	**00 19 58.1**	**-3.0**
CMWZ	**Cape Campbell**	**5.88**	**217**	P	**Pn**	**00 20 09.8**	**+1.6**
CTZ	**Chatham Island**	**7.40**	**154**	P	**Pn**	**00 20 26.0**	**-3.1**
CTZ	**Chatham Island**	**7.40**	**154**	P	**Pn**	**00 20 26.3**	**-2.8**
RAO	**Raoul Island**	**8.30**	**19**	P	Pn	00 20 48.6	+7.2
	188nm,0.3s,baz=217,slow=20,SNR=1.6						
RAO				LR	LR	00 23 16.8	
	comp=Z,544nm,21.2s,baz=186,slow=32						
WVZ	**Waitaha Valley**	**8.63**	**224**	P	**Pn**	**00 20 43.4**	**-2.6**
RPZ	**Rata Peaks**	**8.90**	**220**	P	Pn	00 20 44.3	-5.4
	29nm,0.4s,baz=341,slow=1.0,SNR=8.5						
RPZ				S	Sn	00 22 19.5	-8.9
	120nm,0.4s,baz=94,slow=23,SNR=17						
RPZ				LR	LR	00 25 12.7	
	comp=Z,2µm,20.6s,baz=47,slow=43						
RPZ	**Rata Peaks**	**8.90**	**220**	Pn	**Pn**	**00 20 45.0**	**-4.6**
RPZ	**Rata Peaks**	**8.90**	**220**	P	**Pn**	**00 20 47.8**	**-1.8**
GCSZ	**Gaunt Creek Bo**	**9.02**	**224**	P	**Pn**	**00 20 49.2**	**-2.0**
ODZ	**Otahua Downs**	**10.07**	**216**	P	**Pn**	**00 21 01.7**	**-3.9**
JCZ	**Jackson Bay**	**10.36**	**225**	P	**Pn**	**00 21 07.4**	**-2.3**
MLZ	**Mavora Lakes**	**11.56**	**221**	P	**Pn**	**00 21 23.4**	**-2.6**
SYZ	**Scrubby Hill**	**11.89**	**215**	P	**Pn**	**00 21 27.8**	**-2.6**
DZM	**Mont Dzumac**	**18.51**	**321**	*e*LR	LR	00 27 14.0	
	comp=Z,2µm,24.2s						
DZM	**Mont Dzumac**	**18.51**	**321**	P	**Pn**	**00 22 58.2**	**+1.8

ASAR ScP **ScP** **00 32 02.1 -2.6**
comp=Z,0.9nm,1.0s,baz=119,slow=4.3,SNR=2.2
ASAR S **S** **00 32 22.6 -3.5**
comp=Z,3.2nm,0.7s,baz=121,slow=14,SNR=15
ASAR LR LR 00 42 29.7
comp=Z,246nm,21.7s,baz=144,slow=35
comp=Z,13nm,0.5s
RABL Rabaul 40.97 317 P **P** **00 26 20.7 -0.6**
SBA Scott Base 41.14 184 P **P** **00 26 23.8 +1.8**
SBA Scott Base 41.14 184 P **P** **00 26 23.8 +1.8**
SBA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 41.15 186 P **P** **00 26 24.0 +2.0**
comp=Z,0.7nm,0.6s,baz=20,slow=9.6,SNR=8.5
VNDA LR LR 00 40 02.2
comp=Z,125nm,21.5s,baz=23,slow=31
comp=Z,0.7nm,0.6s
VNDA Vanda 41.15 186 P **P** **00 26 23.5 +1.5**
VNDA Vanda 41.15 186 P **P** **00 26 23.5 +1.5**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
WR0 Warramunga Arr 42.18 281 P **P** **00 26 30.3 -0.9**
WR0 IAmb IAmb 00 26 44.0
comp=Z,17nm,0.7s
FORT Forrest 42.27 263 P **P** **00 26 31.0 -0.8**
baz=42,SNR=16
FORT Forrest 42.27 263 P **P** **00 26 31.0 -0.8**
FORT Forrest 42.27 263 P **P** **00 26 31.1 -0.7**
WB1 Warramunga Ar. 42.33 281 P **P** **00 26 31.9 -0.5**
WB2 Warramunga Arr 42.34 281 P **P** **00 26 31.8 -0.7**
baz=42
WB2 Warramunga Arr 42.34 281 P **P** **00 26 31.7 -0.7**
WB2 IAmb IAmb 00 26 45.2
comp=Z,33nm,0.6s
WRAB Tennant Creek 42.34 281 P **P** **00 26 31.6 -0.9**
WRAB Tennant Creek 42.34 281 *i* P **P** **00 26 31.3 -1.2**
WRAB pmax pmax
comp=Z,19nm,0.6s
WRA Warramunga Arr 42.35 281 P **P** **00 26 31.9 -0.7**
comp=Z,19nm,0.5s,baz=121,slow=7.7,SNR=328
WRA PcP **PcP** **00 28 25.5 +0.3**
comp=Z,2.5nm,0.7s,baz=120,slow=3.0,SNR=4.4
WRA ScP **ScP** **00 32 07.0 -4.1**
comp=Z,0.3nm,0.5s,baz=115,slow=3.5,SNR=1.9
WRA S **S** **00 32 43.8 -6.1**
comp=Z,1.4nm,1.1s,baz=132,slow=12,SNR=4.9
WRA LR LR 00 44 33.4
comp=Z,272nm,19.5s,baz=104,slow=37
comp=Z,19nm,0.5s
WRA Warramunga Arr 42.35 281 P **P** **00 26 30.8 -1.8**
WRA Warramunga Arr 42.35 281 P **P** **00 26 30.8 -1.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WB0 Warramunga Arr 42.40 282 P **P** **00 26 32.3 -0.7**
WB0 IAmb IAmb 00 26 45.7
comp=Z,40nm,0.6s
WRKA Warakurna 44.55 271 P **P** **00 26 48.4 -1.9**
baz=44,SNR=7.0
WRKA Warakurna 44.55 271 P **P** **00 26 48.9 -1.4**
TAOE Nuku Hiva Isla 46.47 63 *e*LR LR 00 40 08.0
comp=Z,221nm,25.3s
CASY Casey 48.02 210 P **P** **00 27 17.2 +0.3**
CASY IAmb IAmb 00 27 36.3
comp=Z,29nm,1.1s
KDU Kakadu 48.07 288 P **P** **00 27 17.6 -0.3**
baz=48,SNR=4.6
MTN Manton Dam 48.99 287 P **P** **00 27 24.1 -0.9**
baz=49,SNR=4.3
MTN Manton Dam 48.99 287 P **P** **00 27 24.0 -1.0**
MTN IAmb IAmb 00 27 43.1
comp=Z,13nm,0.6s
KNRA Kununurra 49.13 282 P **P** **00 27 25.8 -0.2**
baz=49,SNR=7.1
KNRA Kununurra 49.13 282 P **P** **00 27 25.1 -1.0**
KNRA IAmb IAmb 00 27 43.0
comp=Z,21nm,0.6s
NWAO Narrogin (SRO) 49.93 255 P **P** **00 27 30.7 -1.3**
comp=Z,6.2nm,0.6s,baz=90,slow=1.0,SNR=6.3
comp=Z,6.2nm,0.6s
NWAO Narrogin (SRO) 49.93 255 P **P** **00 27 30.3 -1.7**
baz=50,SNR=5.1
NWAO P **P** **00 27 30.3 -1.7**
baz=50,SNR=5.1
NWAO Narrogin (SRO) 49.93 255 P **P** **00 27 30.1 -1.9**
NWAO IAmb IAmb 00 28 02.5
comp=Z,33nm,1.4s
NWAO Narrogin (SRO) 49.93 255 P **P** **00 27 30.7 -1.3**
NWAO Narrogin (SRO) 49.93 255 P **P** **00 27 30.1 -1.9**
NWAO pmax pmax
comp=Z,33nm,1.4s
KLBR Kellerberrin 50.05 257 P **P** **00 27 31.5 -1.5**
baz=50,SNR=7.9
KLBR Kellerberrin 50.05 257 P **P** **00 27 31.7 -1.3**
MUN Mundaring 51.10 256 P **P** **00 27 39.8 -1.0**
baz=51,SNR=4.1
MUN Mundaring 51.10 256 P **P** **00 27 40.3 -0.5**
BLDU Ballidu 51.27 258 P **P** **00 27 40.5 -1.7**
baz=51,SNR=10.0
BLDU Ballidu 51.27 258 P **P** **00 27 41.2 -1.0**
MEEK Meekatharra 51.53 263 P **P** **00 27 42.6 -1.5**
baz=51,SNR=14
MEEK Meekatharra 51.53 263 P **P** **00 27 44.1 0.0**
MORW Morawa 52.47 259 P **P** **00 27 49.7 -1.4**
baz=52,SNR=4.6
MORW Morawa 52.47 259 P **P** **00 27 49.3 -1.7**
MORW IAmb IAmb 00 28 04.6
comp=Z,14nm,0.8s
MORW Morawa 52.47 259 P **P** **00 27 49.8 -1.3**
QSPA South Pole Qui 52.98 180 P **P** **00 27 56.3 +1.9**
comp=Z,22nm,0.9s,baz=28,slow=1.0,SNR=90
QSPA LR LR 00 46 46.9
comp=Z,151nm,22.0s,baz=38,slow=32
comp=Z,22nm,0.9s
QSPA South Pole Qui 52.98 180 P **P** **00 27 56.5 +2.1**
QSPA IAmb IAmb 00 27 58.3
comp=Z,29nm,1.0s
PSA00 Pilbara Seismi 53.00 270 P **P** **00 27 53.8 -1.3**
PSA00 IAmb IAmb 00 28 01.5
comp=Z,16nm,0.9s
PSA00 Pilbara Seismi 53.00 270 P **P** **00 27 56.2 +1.1**
MBWA Marble Bar 53.31 270 P **P** **00 27 56.0 -1.4**
MBWA IAmb IAmb 00 28 02.5
comp=Z,50nm,1.4s
FAKI Fak Fak 54.71 297 P **P** **00 28 05.6 -2.0**
FAKI IAmb IAmb 00 28 20.8
comp=Z,12nm,0.7s
SOEI Soe 56.18 285 P **P** **00 28 19.0 +0.7**
SOEI IAmb IAmb 00 28 37.2
comp=Z,40nm,1.1s
BATI Baumata 56.37 284 P **P** **00 28 19.7 +0.2**
comp=Z,8.7nm,0.5s,baz=113,slow=13,SNR=3.8
BATI LR LR 00 53 34.0
comp=Z,443nm,18.5s,baz=160,slow=37
comp=Z,8.7nm,0.5s
SIJI Sorong 56.84 298 P **P** **00 28 22.6 -0.3**
baz=250,slow=23,SNR=11
SIJI LR LR 00 53 10.0
comp=Z,149nm,20.4s,baz=147,slow=36
GIRL Giralia 56.94 265 P **P** **00 28 23.0 -0.5**
MMRI Maumere 58.44 284 P **P** **00 28 32.9 -1.2**
GUMO Guam 59.79 321 LR LR 00 51 21.2
comp=Z,46nm,21.8s,baz=110,slow=33
TWSI Taliwang, Sumb 62.56 280 P **P** **00 29 00.3 -1.9**
comp=Z,29nm,1.1s
KAPI Kappang 62.62 286 P **P** **00 29 04.0 +1.4**
comp=Z,1.5nm,0.3s,baz=165,slow=20,SNR=2.3
KAPI LR LR 00 57 08.4
comp=Z,139nm,19.8s,baz=140,slow=37
comp=Z,1.5nm,0.3s
KAPI Kappang 62.62 286 P **P** **00 29 02.4 -0.2**
KAPI IAmb IAmb 00 29 20.6
comp=Z,12nm,1.1s
KAPI Kappang 62.62 286 P **P** **00 29 02.4 -0.2**
KAPI pmax pmax
comp=Z,13nm,1.2s
BNSI Bone 62.74 286 P **P** **00 29 01.2 -2.2**
comp=Z,9.8nm,1.1s
LUWI Luwuk 62.90 291 P **P** **00 29 03.9 -0.5**
BELA Belgrano 2 63.45 172 P **P** **00 29 07.7 +0.5**
APSI Ampana 63.82 290 P **P** **00 29 08.1 -2.4**
comp=Z,30nm,1.1s
MAW Mawson 65.11 202 P **P** **00 29 20.5 +2.3**
comp=Z,3.8nm,0.8s,baz=109,slow=1.1,SNR=3.6
MAW LR LR 00 58 08.4
comp=Z,126nm,18.3s,baz=94,slow=36
comp=Z,3.8nm,0.8s
MAW Mawson 65.11 202 P **P** **00 29 19.9 +1.7**
MAW Mawson 65.11 202 P **P** **00 29 19.9 +1.7**
MAW pmax pmax
comp=Z,6.0nm,1.7s
GMJI Gumukmas 65.55 278 P **P** **00 29 22.5 +0.7**
comp=Z,37nm,0.8s
PWJI Pagerwojo 67.00 278 P **P** **00 29 31.6 +0.5**
comp=Z,44nm,0.7s
BBKI Banjar Baru 67.39 283 P **P** **00 29 31.7 -1.9**
UGM Wanagama 68.08 277 P **P** **00 29 37.5 -0.4**
LEM Lembang 71.03 276 LR LR 01 03 28.2
comp=Z,144nm,18.9s,baz=30,slow=38
TROLL Troll, Antarti 71.11 181 P **P** **00 29 57.0 +1.1**
SNAA Sanae 71.48 179 P **P** **00 29 59.1 +1.1**
comp=Z,6.0nm,1.0s,baz=199,slow=9.5,SNR=7.2
SNAA LR LR 00 57 58.6
comp=Z,85nm,21.8s,baz=185,slow=33
comp=Z,6.0nm,1.0s
VNA3 Neumayer Olymp 71.74 177 P **P** **00 30 00.6 +1.1**
VNA2 Neumayer--Watz 72.14 178 P **P** **00 30 03.0 +1.0**
baz=190,slow=6.0
KKM Kota Kinabalu 72.47 292 P **P** **00 30 03.7 -1.1**
KKM IAmb IAmb 00 30 11.2
comp=Z,14nm,1.0s
KSM Kuching 74.00 284 P **P** **00 30 12.5 -1.3**
KSM IAmb IAmb 00 30 19.0
comp=Z,10.0nm,0.8s
EFI East Falkland 78.49 148 P **P** **00 30 38.5 -0.1**
EFI East Falkland 78.49 148 P **P** **00 30 38.5 -0.1**
EFI pmax pmax
comp=Z,151nm,1.8s
LL04 Puerto Octay 78.55 133 P **P** **00 30 39.2 0.0**
LL04 IAmb IAmb 00 30 41.6
comp=Z,12nm,1.1s
H03S2 Juan Fernandez 78.84 124 T T 01 57 16.2
baz=231,slow=74,SNR=84
H03S1 Juan Fernandez 78.85 124 T T 01 57 19.5
baz=231,slow=74,SNR=85
H03S3 Juan Fernandez 78.86 124 T T 01 57 18.5
baz=231,slow=74,SNR=80
JHJ Hachijo jima 2 78.87 327 LR LR 01 00 16.0
comp=Z,65nm,21.9s,baz=85,slow=32
H03N3 Juan Fernandez 79.07 124 T T 01 57 27.5
baz=235,slow=72,SNR=190
H03N2 Juan Fernandez 79.08 124 T T 01 57 26.3
baz=235,slow=72,SNR=141
H03N1 Juan Fernandez 79.09 124 T T 01 57 22.7
baz=235,slow=72,SNR=134
PLCA Paso Flores 79.74 134 P **P** **00 30 47.7 +1.9**
comp=Z,4.6nm,0.7s,baz=240,slow=5.5,SNR=16
comp=Z,4.6nm,0.7s
PLCA Paso Flores 79.74 134 P **P** **00 30 46.6 +0.8**
PLCA Paso Flores 79.74 134 P **P** **00 30 46.6 +0.8**
PLCA pmax pmax
comp=Z,8.0nm,0.8s
JNU Nakatsue 83.04 321 LR LR 01 02 50.8
comp=Z,58nm,20.5s,baz=154,slow=32
BO02 Sierra Bellavi 83.47 129 P **P** **00 31 06.5 +0.8**
PSI Prapat 83.73 278 LR LR 01 09 48.2
comp=Z,189nm,20.1s,baz=120,slow=37
MT01 Popeta 83.79 128 P **P** **00 31 08.1 +1.0**
MT09 Talagante 84.01 128 P **P** **00 31 09.3 +0.8**
MT09 IAmb IAmb 00 31 28.2
comp=Z,27nm,1.4s
MT02 Curacav 84.25 128 P **P** **00 31 10.7 +1.1**
CO03 El Pedregal 86.13 126 P **P** **00 31 20.2 +1.2**
TRQA Tornquist 86.41 136 P **P** **00 31 20.8 +0.5**
TRQA IAmb IAmb 00 31 54.4
comp=Z,27nm,1.7s
TRQA Tornquist 86.41 136 P **P** **00 31 20.8 +0.5**
TRQA pmax pmax
comp=Z,27nm,1.7s
CFA Coronel Fontan 87.18 128 P **P** **00 31 25.2 +1.1**
comp=Z,2.4nm,0.8s,baz=223,slow=4.0,SNR=4.8
comp=Z,2.4nm,0.8s
KSRS Korea Array 87.94 322 P **P** **00 31 27.5 +0.2**
comp=Z,1.2nm,0.8s,baz=125,slow=5.5,SNR=3.2
comp=Z,1.2nm,0.8s
NJ2 Nanjing 88.81 313 *e*P **P** **00 31 33.3 +1.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PETK Petropavlovsk- 91.76 347 P **P** **00 31 45.5 +0.8**
comp=Z,9.0nm,1.0s,baz=200,slow=3.8,SNR=4.6
comp=Z,9.0nm,1.0s
CMAR Chiang Mai Arr 93.30 291 P **P** **00 31 52.5 -0.3**
comp=Z,1.3nm,0.4s,baz=144,slow=4.0,SNR=7.0
CMAR LR LR 01 19 08.5
comp=Z,19nm,18.1s,baz=125,slow=39
comp=Z,1.3nm,0.4s
NNA Nana 93.89 108 LR LR 01 06 26.2
comp=Z,116nm,18.3s,baz=204,slow=30
ATAH Atahualpa 95.72 103 LR LR 01 07 01.9
comp=Z,126nm,19.6s,baz=214,slow=30
PZH PanZhiHua 96.22 298 P **P** **00 32 08.0 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.4s
CMIG Matias Romero 97.16 74 LR LR 01 05 37.7
comp=Z,32nm,19.4s,baz=198,slow=29
LPAZ La Paz 97.55 117 LR LR 01 04 38.5
comp=Z,106nm,20.3s,baz=147,slow=28
HHC Hu-ho-hao-te 99.13 315 *e*P **Pdif** **00 32 21.5 +2.7**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,240nm,6.5s
ANMO Albuquerque 99.70 53 *i* P **Pdif** **00 32 20.9 -0.8**
ANMO pmax pmax
comp=Z,14nm,4.6s
WMQ Urumqi 115.31 307 *e*P **PKiKP** **00 37 20.3 +1.5**
DGZ Jazzator, Alta 118.10 313 *i* PKIKP **PKPdf** **00 37 22.7 -1.4**
MKAR Makanchi Array 120.03 308 PKP **PKPdf** **00 37 26.3 -1.4**
comp=Z,0.6nm,0.5s,baz=148,slow=1.4,SNR=14
ZALV Zalesovo Beam 121.26 316 PKP **PKPdf** **00 37 27.7 -2.0**
comp=Z,0.6nm,0.4s,baz=146,slow=8.7,SNR=5.2
KURK Kurchatov 123.72 311 PKIKP **PKPdf** **00 37 33.6 -1.0**
KURBB Kurchatov Arra 123.75 311 PKP **PKPdf** **00 37 33.6 -1.0**
comp=Z,1.8nm,0.4s,baz=114,slow=2.0,SNR=26
NRIK Norilsk 124.68 334 PKP **PKPdf** **00 37 35.5 -0.4**
comp=Z,5.2nm,0.7s,baz=94,slow=6.0,SNR=12
KMBO Kilima Mbogo 127.96 232 PKP **PKiKP** **00 37 45.0 +0.2**
comp=Z,1.4nm,0.9s,baz=120,slow=2.2,SNR=6.7
KMBO Kilima Mbogo 127.96 232 *i* PKIKP **PKiKP** **00 37 46.0 +1.2**
BVAR Borovoye Array 129.26 312 PKP **PKPdf** **00 37 44.6 -0.5**
comp=Z,1.8nm,0.6s,baz=126,slow=2.0,SNR=7.4
ARU Arti 136.42 316 PKP **PKPdf** **00 37 58.3 -0.2**
comp=Z,1.5nm,0.4s,baz=108,slow=20,SNR=3.8
ARU Arti 136.42 316 *i* PKIKP **PKPdf** **00 37 58.6 +0.1**
ARU 00 40 37.7
ARU SS SS 00 58 36.8 -1.6
BELG Belogornoye 142.98 310 PKP **PKPdf** **00 38 09.4 -1.1**
comp=Z,8.0nm,0.8s,baz=73,slow=2.8,SNR=6.0
ARA0 ARCESS Array S 144.51 344 *e*PKPdf **PKPab** **00 38 11.2 -0.1**
ARCES ARCESS Array B 144.51 344 PKP PKPbc 00 38 11.4 -0.1
comp=Z,2.9nm,0.5s,baz=35,slow=2.9,SNR=40
KLMR Klimovskoe 145.23 326 *e*PKPdf **PKPbc** **00 38 12.3 -1.7**
KLMR AMP 00 38 14.5
comp=Z,31nm,1.5s
KLMR Klimovskoe 145.23 326 *e*PKP2 **PKPbc** **00 38 12.3 -1.7**
KLMR pmax pmax
comp=Z,31nm,1.5s
ZEI Tsey 145.41 294 *i* PKHKP PKPpre 00 38 10.0
ZEI pmax pmax
comp=Z,5.0nm,0.6s
KTK1 Kautokeino 145.41 345 *e*PKPbc **PKPbc** **00 38 13.3 -1.1**
KTK1 IAmb IAmb 00 38 14.3
comp=Z,18nm,1.0s
JETT Jettan, Norway 145.51 347 *e*PKPab **PKPab** **00 38 15.8 +0.7**
JETT IAmb IAmb 00 38 26.8
comp=Z,81nm,1.5s
NCK Nalchik 145.70 295 *i* PKIKP **PKPdf** **00 38 15.2 -0.4**
TRO Tromso 145.70 348 *e*PKPdf **PKPdf** **00 38 14.1 -0.6**
TRO IAmb IAmb 00 38 22.3
comp=Z,121nm,1.4s
ONI Oni 145.71 293 **PKPdf** **00 38 15.8 +0.1**
ONI Oni 145.71 293 PKIKP **PKPdf** **00 38 15.8 +0.1**
KARS Kars 145.74 290 **PKPab** **00 38 17.0 +0.1**
KARS Kars 145.74 290 PKIKP **PKPab** **00 38 17.0 +0.1**
KBZ Khabaz 146.22 295 PKPbc **PKPdf** **00 38 15.8 -0.6**
comp=Z,0.9nm,0.8s,baz=148,slow=9.5,SNR=2.9
KBZ Khabaz 146.22 295 *i* PKP2 **PKPab** **00 38 18.4 0.0**
NEY Neytrino 146.31 294 *i* PKP2 **PKPbc** **00 38 17.7 -0.5**
KIV Kislovodsk 146.39 296 *e*PKP2 **PKiKP** **00 38 20.6 -0.6**
KIV pmax pmax
comp=Z,5.0nm,1.1s
MARD Mardin 146.89 283 **PKPdf** **00 38 18.4 +0.4**
STEI Steigen 147.84 349 *e*PKPbc **PKPbc** **00 38 21.3 -0.1**
MOS Moscow 148.06 318 *e*PKP2 **PKPab** **00 38 26.4 +1.1**
MOS pmax pmax
comp=Z,29nm,1.2s
VORR Voronezh 148.23 310 *e*PKP2 **PKPbc** **00 38 22.6 -0.3**
VORR pmax pmax
comp=Z,20nm,0.4s
FAUS Fauske 148.33 348 *e*PKPdf **PKPdf** **00 38 19.3 +0.1**
FAUS IAmb IAmb 00 38 21.3
comp=Z,180nm,2.1s
ASF Jabal al Asfar 148.53 272 PKPbc **PKPbc** **00 38 23.6 -0.9**
comp=Z,2.6nm,0.8s,baz=119,slow=2.8,SNR=4.1
OBN Obninsk 148.84 317 PKPbc **PKPbc** **00 38 23.1 -1.2**
comp=Z,2.1nm,0.4s,baz=74,slow=16,SNR=2.9
OBN Obninsk 148.84 317 *e*PKIKP **PKPdf** **00 38 22.3 +1.9**
OBN *i* 00 38 29.6
OBN *e* 00 41 57.2
OBN *e*PPP PPP 00 45 12.8
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN pmax pmax
comp=Z,6.0nm,0.5s
LIC Lamto 149.01 172↓ *e*PKIKP **PKPbc** **00 38 26.6 +0.5**
comp=Z,75nm,0.7s
EIL Elat 149.17 267 PKPbc **PKPbc** **00 38 26.0 0.0**
comp=Z,5.4nm,0.7s,baz=115,slow=19,SNR=4.8
KIC Kosan Boka 149.17 173↓ *e*PKIKP **PKPbc** **00 38 27.1 +0.6**
comp=Z,9.8nm,0.5s
TIC Toumodi 149.43 172↓ *i*PKIKP **PKPbc** **00 38 27.4 +0.2**
comp=Z,26nm,0.9s
KONS Konsvik 149.48 349 *e*pPKPdf **PKPbc** **00 38 24.8 -0.8**
MMAI Mount Meron Ar 150.00 273 PKPbc **PKPbc** **00 38 27.9 -0.2**
comp=Z,4.1nm,0.5s,baz=95,slow=7.8,SNR=7.6
FINES FINESS Array B 150.34 334 PKPbc **PKPbc** **00 38 26.8 -1.1**
comp=Z,7.1nm,0.5s,baz=45,slow=4.5,SNR=41
NSS Namsos 151.50 348 *e*PKPbc **PKPbc** **00 38 29.9 -0.6**
BRTR Keskin Array B 152.80 286 PKPbc **PKPbc** **00 38 33.4 -1.1**
comp=Z,1.6nm,0.7s,baz=102,slow=6.3,SNR=11
AKASG Malin Array Be 154.53 312 PKPbc **PKPbc** **00 38 36.4 -1.2**
comp=Z,0.7nm,0.4s,baz=54,slow=2.6,SNR=7.2
NB2 NORSAR Subarra 154.86 346 PKPdf **PKPbc** **00 38 37.6 -0.4**
baz=32,slow=2.9
NB2 NORSAR Subarra 154.86 346 PKP **PKPbc** **00 38 37.6 -0.4**
comp=Z,0.6nm,0.6s,baz=32,slow=2.9
NOA NORSAR Array B 154.86 346 PKPbc **PKPbc** **00 38 36.6 -1.5**
comp=Z,2.3nm,1.0s,baz=30,slow=2.1,SNR=3.5
VYHS Vyhne 161.58 314 *e*PKP2 **PKPab** **00 39 23.6 +0.6**
CLL Collm 162.67 329 *e*(PKPab) **PKPab** **00 39 33.0 +5.4**
CLL Collm 162.67 329 *e*PKP2 **PKPab** **00 39 33.0 +5.4**

IDC ***27*** *00:21:03.1±1.2,39.°11N×74.°20E,h0km,mb3.7/11, mbtmp3.7/17,ML2.4/4,MS3.5/2,Error ellipse: s-maj=19.5km s-min=12.8km az=123.0*
SOME ***27*** *00:21:06.4,39.°47N×73.°97E,h0km*
KRNET ***27*** *00:21:08.1±0.1,39.°43N×73.°94E,mb4.2*
NNC ***27*** *00:21:08.9±1.1,39.°42N×74.°04E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=8.3km s-min=4.4km az=175.0*

ISC 27 00:21:03.1±0.5,39.°13N±0.°03×74.°25E±0.°04,h10km,n93, σ2s33/119,mb3.7/10,24C-11D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.79**	**322**	↑ *e*P	**Pn**	**00 21 34.5**	**+0.3**
OHH	baz=21			↑ *i*S	**Sn**	**00 21 53.7**	**-3.4**
DRK	**Karamyk**	**1.93**	**281**	↑ *i*P	**Pb**	**00 21 39.0**	**+0.4**
DRK	baz=72			↑ *i*S	**Sn**	**00 22 01.6**	**+0.8**
NRN	**Naryn**	**2.67**	**30**	↑ *e*P	**Pg**	**00 21 52.2**	**-2.0**
NRN	baz=37			↑ *i*S	**Sg**	**00 22 24.5**	**-4.3**
ARLS	**Aral**	**2.73**	**1**	↑ *e*P	**Pb**	**00 21 51.1**	**-1.1**
ARLS	baz=7.0			↑ *i*S	**Sb**	**00 22 22.4**	**-3.4**
BTK	**Batken**	**2.81**	**290**	↑ *e*P	**Pb**	**00 21 51.7**	**-1.7**
BTK	baz=86			↑ *i*S	**Sn**	**00 22 23.5**	**+1.4**
GAR	**Garm**	**3.06**	**269**	↑ *e*P	**Pb**	**00 21 56.5**	**-1.3**
GAR	baz=62			↑ *i*S	**Sn**	**00 22 32.1**	**+3.6**
ARK	**Arkit**	**3.19**	**328**	↓ *e*P	**Pn**	**00 21 56.0**	**+2.6**
ARK	baz=28			↓ *i*S	**Sn**	**00 22 31.0**	**-0.5**
TRKS	**Terek-Say**	**3.38**	**316**	↓ *i*P	**Pn**	**00 21 57.9**	**+1.8**
TRKS	baz=15			↓ *i*S	**Sn**	**00 22 34.0**	**-2.3**
AAK	**Ala-Archa**	**3.51**	**3**	Pn	**Pb**	**00 22 03.2**	**-2.3**
AAK	98nm,0.4s,baz=166,slow=7.0,SNR=222			Pg	**Pg**	**00 22 07.9**	**-2.5**
AAK	37nm,0.3s,baz=173,slow=9.4,SNR=46			Sn	**Sb**	**00 22 45.8**	**-2.4**
AAK	4.1nm,0.3s,baz=158,slow=13,SNR=1.1			Lg	Lg	00 22 55.3	
MRKS	**Merke**	**3.70**	**348**	*e*P	**Pb**	**00 22 10.1**	**+1.5**
MRKS	21nm,0.3s,baz=119,slow=14,SNR=6.9 77nm,0.6s			*e*S	**Sb**	**00 22 56.5**	**+3.1**
MRKS	**Merke**	**3.70**	**348**	Pg	**Pb**	**00 22 10.1**	**+1.5**
MRKS	123nm,0.5s 77nm,0.6s			Lg	Lg	00 22 56.6	
CHGR	**Chuyangaron**	**4.00**	**265**	↑ *e*P	**Pb**	**00 22 09.7**	**-4.0**
CHGR	baz=60			↑ *i*S	**Sn**	**00 22 54.9**	**+3.4**
KST	**Kastek**	**4.12**	**18**	*e*P	**Pg**	**00 22 19.5**	**-2.6**
KST	123nm,0.5s 98nm,0.9s			*e*S	**Sg**	**00 23 12.2**	**-3.2**
DGS	**Degeres**	**4.27**	**15**	*e*P	**Pg**	**00 22 22.7**	**-2.2**
DGS	43nm,0.6s 64nm,0.4s			*e*S	**Sg**	**00 23 17.8**	**-2.4**
DGS	**Degeres**	**4.27**	**15**	Pg	**Pg**	**00 22 23.6**	**-1.3**
DGS	43nm,0.5s 63nm,0.4s			Lg	Lg	00 23 19.1	
MTBS	**Maitube**	**4.32**	**22**	*e*P	**Pg**	**00 22 24.3**	**-1.6**
MTBS	46nm,0.6s 77nm,0.5s			*e*S	**Sg**	**00 23 20.5**	**-1.5**
MTBS	**Maitube**	**4.32**	**22**	Pg	**Pg**	**00 22 24.3**	**-1.6**
MTBS	46nm,0.6s 77nm,0.5s			Lg	Lg	00 23 20.5	
SGDS	**Sogindy**	**4.33**	**4**	*e*P	**Pg**	**00 22 22.1**	**-4.0**
SGDS	48nm,0.6s 44nm,0.8s			*e*S	**Sg**	**00 23 17.2**	**-4.9**
SGDS	**Sogindy**	**4.33**	**4**	Pg	**Pg**	**00 22 22.1**	**-4.0**
SGDS	48nm,0.6s 44nm,0.8s			Lg	Lg	00 23 17.2	
DZA	**Taraz**	**4.36**	**331**	*e*P	**Pb**	**00 22 20.6**	**+0.8**
DZA	49nm,0.3s 203nm,0.5s			*e*S	**Sb**	**00 23 14.2**	**+1.6**
DZA	**Taraz**	**4.36**	**331**	Pg	**Pb**	**00 22 20.6**	**+0.8**
DZA	83nm,0.4s 189nm,0.5s			Lg	Lg	00 23 14.0	
IUG	**Iuzhnay**	**4.40**	**315**	*e*P	**Pb**	**00 22 21.0**	**+0.3**
IUG	60nm,0.6s 259nm,0.4s			*e*S	**Sb**	**00 23 15.2**	**+1.4**
TNSS	**Tian-Shan**	**4.41**	**27**	*e*P	**Pg**	**00 22 25.7**	**-1.9**
TNSS	57nm,0.4s 66nm,0.8s			*e*S	**Sg**	**00 23 23.2**	**-1.4**
TNSS	**Tian-Shan**	**4.41**	**27**	Pg	**Pg**	**00 22 25.7**	**-1.9**
TNSS	57nm,0.4s 66nm,0.8s			Lg	Lg	00 23 23.2	
AAA	**Alma-Ata**	**4.55**	**25**	*e*P	**Pg**	**00 22 28.8**	**-1.5**
AAA	54nm,0.3s 158nm,0.7s			*e*S	**Sg**	**00 23 27.9**	**-1.2**

AAA	**Alma-Ata**	**4.55**	**25**	Pg	**Pg**	**00 22 28.8**	**-1.5**
	54nm,0.3s						
AAA				Lg	Lg	00 23 27.9	
	158nm,0.7s						
MDOK	**Medeo**	**4.55**	**27**	*eP*	**Pg**	**00 22 28.4**	**-1.9**
	34nm,0.6s						
MDOK				*eS*	**Sg**	**00 23 28.1**	**-1.1**
	61nm,0.7s						
MDOK	**Medeo**	**4.55**	**27**	Pg	**Pg**	**00 22 28.4**	**-1.9**
	34nm,0.6s						
MDOK				⇑Pg	Pb	00 22 28.6	+5.4
	44nm,0.9s						
MDOK				Lg	Lg	00 23 28.1	
	61nm,0.7s						
MDOK				Lg	Lg	00 23 29.2	
	179nm,1.3s						
KNDC	**Almaty**	**4.57**	**26**	⇑Pg	**Pg**	**00 22 28.5**	**-2.2**
	52nm,0.5s						
KNDC				⇑Lg	Lg	00 23 29.4	
	244nm,0.8s						
KOTS	**Kotyrbulak**	**4.64**	**27**	*eP*	**Pg**	**00 22 30.4**	**-1.6**
	31nm,0.6s						
KOTS				*eS*	**Sg**	**00 23 31.0**	**-1.0**
	146nm,0.7s						
KOTS	**Kotyrbulak**	**4.64**	**27**	Pg	**Pg**	**00 22 30.4**	**-1.6**
	31nm,0.6s						
KOTS				Lg	Lg	00 23 31.0	
	146nm,0.7s						
KRBS	**Karabastau**	**4.69**	**13**	*eP*	**Pg**	**00 22 29.2**	**-3.7**
	31nm,0.6s						
KRBS				*eS*	**Sg**	**00 23 29.4**	**-4.3**
	45nm,0.7s						
KRBS	**Karabastau**	**4.69**	**13**	Pg	**Pg**	**00 22 29.2**	**-3.7**
	31nm,0.6s						
KRBS				Lg	Lg	00 23 29.4	
	45nm,0.7s						
CHM	**Chimkent**	**4.75**	**314**	*eP*	**Pb**	**00 22 27.2**	**+0.6**
	35nm,0.2s						
CHM				*eS*	**Sb**	**00 23 25.3**	**+1.4**
	146nm,0.4s						
KK31	**Karatay Array**	**4.87**	**326**	Pn	**Pn**	**00 22 19.1**	**+2.6**
	4.4nm,0.3s,baz=130,slow=12,SNR=162						
KK31				⇓Pg	**Pb**	**00 22 29.0**	**+0.4**
	6.2nm,0.3s,baz=146,slow=14,SNR=8.9						
KK31				⇑Sn	**Sn**	**00 23 15.2**	**+2.2**
	19nm,0.5s,baz=142,slow=24,SNR=4.2						
KK31				⇑Lg	Lg	00 23 33.1	
	40nm,0.5s,baz=130,slow=27,SNR=2.8						
KTBS	**Karatobe**	**4.93**	**21**	*eP*	**Pg**	**00 22 34.7**	**-2.9**
	30nm,0.7s						
KTBS				*eS*	**Sg**	**00 23 38.9**	**-2.6**
	102nm,0.7s						
KTBS	**Karatobe**	**4.93**	**21**	Pg	**Pg**	**00 22 34.7**	**-2.9**
	30nm,0.7s						
KTBS				Lg	Lg	00 23 38.9	
	102nm,0.7s						
SATY	**Saty**	**5.03**	**37**	*eP*	**Pg**	**00 22 38.4**	**-1.0**
	44nm,1.3s						
SATY				*eS*	**Sg**	**00 23 44.7**	**+0.1**
	68nm,1.4s						
SATY	**Saty**	**5.03**	**37**	Pg	**Pg**	**00 22 38.4**	**-1.0**
	44nm,1.3s						
SATY				Lg	Lg	00 23 44.7	
	68nm,1.4s						
ZHN	**Zhinishke**	**5.13**	**37**	*eP*	**Pg**	**00 22 39.5**	**-1.8**
	11nm,0.3s						
ZHN				*eS*	**Sg**	**00 23 47.0**	**-0.7**
	42nm,0.7s						
ZHN	**Zhinishke**	**5.13**	**37**	Pg	**Pg**	**00 22 39.5**	**-1.8**
	11nm,0.3s						
ZHN				Lg	Lg	00 23 47.0	
	42nm,0.7s						
CHKK	**Chushkaly**	**5.15**	**23**	*eP*	**Pg**	**00 22 39.4**	**-2.3**
	20nm,0.6s						
CHKK				*eS*	**Sg**	**00 23 46.1**	**-2.3**
	45nm,0.8s						
CHKK	**Chushkaly**	**5.15**	**23**	Pg	**Pg**	**00 22 39.4**	**-2.3**
	20nm,0.6s						
CHKK				Lg	Lg	00 23 46.1	
	45nm,0.8s						
KURS	**Kuram**	**5.26**	**33**	*eP*	**Pg**	**00 22 42.8**	**-1.1**
	19nm,1.3s						
KURS				*eS*	**Sg**	**00 23 52.2**	**+0.1**
	49nm,1.6s						
KURS	**Kuram**	**5.26**	**33**	Pg	**Pg**	**00 22 42.8**	**-1.1**
	19nm,1.3s						
KURS				Lg	Lg	00 23 52.2	
	49nm,1.6s						
UZB	**Uzynbulak**	**5.39**	**40**	*eP*	**Pg**	**00 22 45.7**	**-0.7**
	11nm,0.6s						
UZB				*eS*	**Sg**	**00 23 57.7**	**+1.4**
	42nm,0.8s						
UZB	**Uzynbulak**	**5.39**	**40**	Pg	**Pg**	**00 22 44.0**	**-2.4**
	11nm,0.6s						
UZB				Lg	Lg	00 23 55.0	
	42nm,1.1s						
KPKS	**Kokpek**	**5.47**	**36**	*eP*	**Pg**	**00 22 45.4**	**-2.5**
	12nm,0.5s						
KPKS				*eS*	**Sg**	**00 23 56.3**	**-2.5**
	94nm,0.6s						
KPKS	**Kokpek**	**5.47**	**36**	Pg	**Pg**	**00 22 45.4**	**-2.5**
	12nm,0.5s						
KPKS				Lg	Lg	00 23 56.3	
	94nm,0.6s						
CHCP	**Chirah Chowk**	**5.52**	**189**	P	Pb	00 22 33.8	-5.8
CEP	**Cherat**	**5.62**	**200**	P	Pb	00 22 35.1	-6.3
CEP				S	**Sb**	**00 23 43.0**	**-5.8**
SHLS	**Shalkode**	**5.63**	**43**	*eP*	Pg	00 22 54.0	+3.0
	24nm,0.6s						
SHLS				*eS*	Sg	00 24 11.2	+7.4
	43nm,1.2s						
SHLS	**Shalkode**	**5.63**	**43**	Pg	Pg	00 22 54.0	+3.0
	24nm,0.6s						
SHLS				Lg	Lg	00 24 11.2	
	43nm,1.2s						
PDGK	**Podgornoye**	**5.76**	**42**	Pg	**Pg**	**00 22 51.3**	**-2.2**
	9.5nm,0.9s						
PDGK				Lg	Lg	00 24 06.7	
	21nm,1.1s						
PDGK	**Podgornoye**	**5.76**	**42**	⇓Pn	Pb	00 22 36.6	-7.3
	14nm,1.2s						
PDGK				⇑Pg	**Pg**	**00 22 50.9**	**-2.6**
	14nm,0.6s						
PDGK				⇑Lg	Lg	00 24 10.2	
	78nm,1.1s						
BLB	**Baldybastay**	**5.89**	**31**	*eP*	**Pg**	**00 22 53.3**	**-2.6**
	21nm,0.5s						
BLB				*eS*	**Sg**	**00 24 10.1**	**-2.0**
	44nm,0.7s						
BLB	**Baldybastay**	**5.89**	**31**	Pg	**Pg**	**00 22 51.4**	**-4.5**
	30nm,0.7s						
BLB				Lg	Lg	00 24 06.8	
	32nm,0.6s						
BTLS	**Baital**	**5.91**	**359**	*eP*	**Pg**	**00 22 51.9**	**-4.4**
	9.2nm,0.6s						
BTLS				*eS*	**Sg**	**00 24 08.0**	**-4.8**
	13nm,0.7s						
TDK	**Taldyqorghan**	**6.63**	**26**	*eP*	**Pg**	**00 23 07.0**	**-3.2**
	33nm,0.4s						
TDK				*eS*	**Sg**	**00 24 34.2**	**-1.8**
	61nm,0.4s						
TDK	**Taldyqorghan**	**6.63**	**26**	Pg	**Pg**	**00 23 07.0**	**-3.2**
	33nm,0.4s						
TDK				Lg	Lg	00 24 34.2	
	61nm,0.4s						
THW	**Thamme Wali**	**6.64**	**199**	P	Pb	00 22 49.5	-9.2
DJR	**Jarkent**	**6.65**	**37**	*eP*	**Pg**	**00 23 08.1**	**-2.3**
	7.1nm,0.5s						
DJR				*eS*	**Sg**	**00 24 35.2**	**-1.2**
	15nm,1.1s						
DJR	**Jarkent**	**6.65**	**37**	Pg	**Pg**	**00 23 08.1**	**-2.3**
	7.1nm,0.5s						
DJR				Lg	Lg	00 24 35.2	
	15nm,1.1s						
OTUK	**Ortayu**	**9.22**	**352**	⇓Pn	**Pn**	**00 23 18.8**	**+2.7**
	4.8nm,0.7s						
OTUK				⇓Lg	Lg	00 25 51.3	
	23nm,0.9s						
MK31	**Makanchi Array**	**9.66**	**35**	⇑Pn	Pn	00 23 29.5	+7.3
	2.4nm,0.9s,baz=219,slow=14,SNR=4.1						
MK31				⇑Lg	Lg	00 26 14.5	
	7.2nm,1.1s						
MKAR	**Makanchi Array**	**9.66**	**35**	Pn	**Pn**	**00 23 25.0**	**+2.8**
	baz=181,slow=17,SNR=1.5						
MKAR				Lg	Lg	00 26 08.7	
	0.1nm,0.3s,baz=219,slow=28,SNR=2.9						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**11.89**	**13**	Pn	**Pn**	**00 23 53.7**	**+1.1**
	baz=202,slow=12,SNR=2.5						
KURBB				Lg	Lg	00 27 13.8	
	baz=103,slow=26,SNR=4.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**11.89**	**13**	⇓Lg	Lg	00 27 22.4	
	29nm,1.2s						
KURK	**Kurchatov**	**11.99**	**13**	⇑Lg	Lg	00 27 22.4	
	21nm,1.2s						
GEYT	**Alibeck**	**12.69**	**270**	Pn	**Pn**	**00 24 02.2**	**-1.5**
	1.4nm,0.5s,baz=98,slow=11,SNR=6.4						
GKN	**Gorkha**	**14.06**	**139**	*eP*	P	00 24 24.9	-5.6
	5.1nm,0.3s						
BVAR	**Borovoye Array**	**14.15**	**350**	Pn	**Pn**	**00 24 23.5**	**0.0**
	0.1nm,0.3s,baz=160,slow=13,SNR=11						
BVAR				Lg	Lg	00 28 30.9	
	baz=148,slow=25,SNR=3.9						
	2.7nm,0.6s						
AB31	**Akbulak array**	**14.39**	**319**	⇓Pn	**Pn**	**00 24 27.6**	**+0.8**
	2.2nm,0.7s,baz=127,slow=14,SNR=25						
GUN	**Gumba**	**14.79**	**136**	*eP*	**P**	**00 24 36.7**	**-2.0**
	4.6nm,0.4s						
PKI	**Pulchoki**	**14.81**	**138**	*eP*	**Pn**	**00 24 33.1**	**+0.1**
	3.6nm,0.3s						
JIRN	**Jiri**	**15.16**	**135**	*eP*	**P**	**00 24 40.1**	**-2.7**
	11nm,0.4s						
RAMN	**Ramite**	**15.94**	**136**	*eP*	**P**	**00 24 49.8**	**-1.6**
	2.7nm,0.3s						
AKTO	**Aktyubinsk**	**16.10**	**320**	⇓Pn	**P**	**00 24 52.2**	**-0.6**
	6.7nm,1.4s						
TAPN	**Taplejung**	**16.25**	**132**	*eP*	**P**	**00 24 53.8**	**-1.1**
	1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**16.48**	**22**	Pn	**P**	**00 24 56.5**	**-0.4**
	0.2nm,0.3s,baz=203,slow=14,SNR=5.5						
ZALV				Lg	Lg	00 29 36.3	
	0.1nm,0.3s,baz=240,slow=20,SNR=2.3						
	0.9nm,0.5s						
ARU	**Arti**	**20.18**	**334**	P	Pn	00 25 39.1	-0.4
	1.0nm,0.4s,baz=143,slow=20,SNR=3.8						
	1.0nm,0.4s						
BELG	**Belogornoye**	**22.67**	**315**	P	**P**	**00 26 06.1**	**+1.7**
	2.2nm,0.3s,baz=93,slow=19,SNR=3.5						
	2.2nm,0.3s						
GNI	**Garni**	**22.70**	**282**	P	**P**	**00 26 05.7**	**+0.6**
	3.8nm,0.8s,baz=155,slow=20,SNR=2.5						
	3.8nm,0.8s						
KBZ	**Khabaz**	**23.87**	**291**	P	**P**	**00 26 19.1**	**+2.5**
	0.7nm,0.6s,baz=120,slow=20,SNR=1.4						
	0.7nm,0.6s						
SONM	**Songino Array**	**24.75**	**59**	P	**P**	**00 26 25.7**	**+0.8**
	0.1nm,0.3s,baz=268,slow=10,SNR=1.6						
	0.1nm,0.3s						
BRTR	**Keskin Array B**	**31.19**	**284**	P	**P**	**00 27 24.2**	**+1.7**
	0.8nm,0.7s,baz=75,slow=7.3,SNR=5.9						
	0.8nm,0.7s						
FINES	**FINESS Array B**	**36.83**	**323**	P	**P**	**00 28 11.9**	**+0.9**
	3.4nm,1.0s,baz=124,slow=12,SNR=7.8						
	3.4nm,1.0s						
ARCES	**ARCESS Array B**	**39.76**	**336**	P	**P**	**00 28 36.6**	**+1.0**
	9.9nm,1.2s,baz=102,slow=8.6,SNR=4.0						
	9.9nm,1.2s						
KSRS	**Korea Array**	**41.65**	**75**	LR	LR	00 47 41.6	
	comp=Z,18nm,19.4s,baz=120,slow=38						
GERES	**GERESS Array B**	**43.57**	**303**	P	**P**	**00 29 09.2**	**+1.9**
	0.2nm,0.5s,baz=73,slow=3.3,SNR=1.4						
	0.2nm,0.5s						
ESDC	**Sonseca Array**	**58.51**	**298**	P	**P**	**00 30 59.1**	**-0.5**
	0.8nm,1.2s,baz=59,slow=6.2,SNR=1.6						
	0.8nm,1.2s						
DLBC	**Dease Lake**	**80.70**	**13**	LR	LR	01 13 06.7	
	comp=Z,74nm,20.4s,baz=262,slow=39						
WRA	**Warramunga Arr**	**81.27**	**124**	P	**P**	**00 33 22.1**	**+2.5**
	0.3nm,0.7s,baz=333,slow=5.7,SNR=1.9						
	0.3nm,0.7s						

*GRAL **27** 00:29:19.9±0.3, 33°.25N×35°.43E, h7km±2km, MD3.0*
*GII **27** 00:29:19.1±0.2, 33°.23N×35°.42E, h4km, MD1.8/4, Mm1.8/5*
ISC 27 00:29:18.8±0.9**, 33°.25N**±0°.03×**35°.43E**±0°.04**, h17**km±7km**,**
n17,σ0°.48/31**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.20**	**100**	Pg		**Pb**	**Pb**	**00 29 23.9**	**-0.2**
GEM				Sg		**Sg**	**Sg**	**00 29 27.4**	**+0.5**
MMA0B	**Mount Meron ar**	**0.23**	**185**	Pg		**Pb**	**Pb**	**00 29 24.2**	**-0.4**
MMA0B				Sg		**Sg**	**Sg**	**00 29 27.8**	**0.0**
NATI	**Neve Ativ**	**0.26**	**86**	Pg		**Pb**	**Pb**	**00 29 24.7**	**-0.4**
NATI				Sg		**Sg**	**Sb**	**00 29 28.9**	**-0.4**
HNTI	**Hanita**	**0.27**	**233**	Pg		**Pg**	**Pg**	**00 29 24.4**	**-0.3**
HNTI				Sg		**Sg**	**Sg**	**00 29 28.8**	**+0.1**
KSHT	**Keshet**	**0.42**	**129**	Pg		**Pb**	**Pb**	**00 29 28.2**	**+0.4**
RCY	**Rachaya**	**0.42**	**54**	*eP*		**Pg**	**Pg**	**00 29 27.4**	**-0.1**
RCY				*eS*		**Sg**	**Sg**	**00 29 33.3**	**-0.1**
DQRL	**Deir Qamar**	**0.47**	**15**	*eP*		**Pg**	**Pg**	**00 29 28.3**	**-0.1**
DQRL				*eS*		**Sg**	**Sg**	**00 29 34.8**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.55**	**201**	Pg		**Pb**	**Pb**	**00 29 29.8**	**-0.2**
BLGI				Sg		**Sb**	**Sb**	**00 29 38.4**	**+0.8**
BHL	**Bhannes**	**0.68**	**16**	*eP*		**Pg**	**Pg**	**00 29 32.1**	**-0.2**
ZAHL	**Zahle**	**0.72**	**32**	*eP*		**Pb**	**Pb**	**00 29 33.0**	**-0.1**
OFRI	**`Ofer**	**0.72**	**211**	Pg		**Pb**	**Pb**	**00 29 33.0**	**-0.1**
OFRI				Sg		**Sb**	**Sb**	**00 29 43.4**	**+0.7**
MMLI	**Mount Malkishu**	**0.81**	**180**	Pg		**Pb**	**Pb**	**00 29 34.6**	**+0.2**
MMLI				Sg		**Sb**	**Sb**	**00 29 45.4**	**+0.4**
HMDT	**Nahal Hemdat**	**0.99**	**175**	Pg		**Pb**	**Pb**	**00 29 37.8**	**+0.2**
HMDT				Sg		**Sn**	**Sn**	**00 29 51.6**	**-0.1**
SLTI	**Sal'it**	**1.05**	**198**	Pg		**Pn**	**Pn**	**00 29 39.2**	**+0.3**
SLTI				Sg		**Sn**	**Sn**	**00 29 53.6**	**+0.4**
HWQ	**Hawqa**	**1.12**	**23**	*eP*		**Pb**	**Pb**	**00 29 39.6**	**-0.2**
HWQ				*eS*		**Sb**	**Sb**	**00 29 54.2**	**+0.1**
DSI	**Dead Sea**	**1.67**	**181**	Pn		**Pb**	**Pb**	**00 29 49.1**	**-0.1**
DSI				Sn		**Sg**	**Sg**	**00 30 11.3**	**-1.4**
AMAZ	**Amatzia**	**1.76**	**194**	Pn		**Pb**	**Pb**	**00 29 50.6**	**-0.1**
AMAZ				Sn		**Sg**	**Sg**	**00 30 14.4**	**-1.2**

*SOME **27** 00:29:24.7, 39°.27N×74°.18E, h0km*
*IDC **27** 00:29:25.1±1.1, 39°.05N×74°.31E, h0km, mb3.7/6, mbtmp3.6/12, ML2.9/6, MS4.3/2, Error ellipse: s-maj=21.8km s-min=14.4km az=110.0*
*KRNET **27** 00:29:26.0±0.1, 39°.24N×74°.30E, mb3.8*
*NNC **27** 00:29:29.6±1.3, 39°.29N×74°.34E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=10.3km s-min=5.3km az=171.0*
*NEIC **27** 00:29:31.1±2.2, 39°.26N±0°.02×74°.13E±0°.09, h10km±2km, mb4.2/2, Error ellipse: s-maj=11.3km s-min=3.5km az=97.0*
ISC 27 00:29:25.1±0.9**, 39°.32N**±0°.04×**74°.12E**±0°.02**, h2**km±6km**,**
n86,σ2°.05/110**, mb3.7/7, 17C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.58**	**320**	⇑*i*	P		**Pg**	**00 29 58.5**	**+3.0**
	baz=18								
OHH				⇑*i*	S		**Sg**	**00 30 21.9**	**+5.9**
	baz=18								
DRK	**Karamyk**	**1.81**	**276**	⇑*i*	P		**Pg**	**00 30 02.4**	**+2.7**
	baz=78								
DRK				⇑*i*	S		**Sg**	**00 30 28.9**	**+5.8**
	baz=78								
DRK	**Karamyk**	**1.81**	**276**				**Pg**	**00 30 00.5**	**+0.7**
ARLS	**Aral**	**2.54**	**3**	⇓*e*	P		**Pb**	**00 30 11.6**	**0.0**
	baz=1.0								
ARLS				⇓*i*	S		**Sb**	**00 30 45.0**	**+1.6**
	baz=1.0								
NRN	**Naryn**	**2.55**	**34**	⇓*i*	P		**Pb**	**00 30 10.5**	**-1.4**
	baz=30								
NRN				⇓*i*	S		**Sb**	**00 30 43.1**	**-0.8**
	baz=30								
NRN	**Naryn**	**2.55**	**34**				**Pg**	**00 30 13.3**	**-0.8**
BTK	**Batken**	**2.65**	**287**	⇑	*eP*		**Pg**	**00 30 14.4**	**-1.6**
	baz=88								
BTK				⇑*i*	S		**Sg**	**00 30 49.6**	**-0.8**
	baz=88								
BTK	**Batken**	**2.65**	**287**				**Pg**	**00 30 15.2**	**-0.7**
ARK	**Arkit**	**2.97**	**327**	⇑*i*	P		**Pb**	**00 30 18.5**	**-0.4**
	baz=26								
ARK				⇑*i*	S		**Sb**	**00 30 57.2**	**+1.5**
	baz=26								
GAR	**Garm**	**2.97**	**265**	⇑	*eP*		**Pb**	**00 30 18.3**	**-0.7**
	baz=67								
GAR				⇑*i*	S		**Sg**	**00 30 56.8**	**-3.9**
	baz=67								
GAR	**Garm**	**2.97**	**265**				**Pb**	**00 30 18.2**	**-0.7**
TRKS	**Terek-Say**	**3.17**	**315**	⇓*i*	P		**Pb**	**00 30 20.7**	**-1.6**
	baz=14								
TRKS				⇓*e*	S		**Sb**	**00 31 00.5**	**-0.9**
	baz=14								

AAK	**Ala-Archa**	**3.33**	**5**	Pn			**Pb**	**00 30 25.2**	**+0.2**
	6.3nm,0.3s,baz=161,slow=7.9,SNR=60								
AAK				Sn			**Sg**	**00 31 09.6**	**-2.4**
	1.0nm,0.3s,baz=136,slow=23,SNR=1.3								
AAK				Lg			Lg	00 31 17.1	
	2.2nm,0.3s,baz=286,slow=23,SNR=3.7								
AAK				LR			LR	00 31 36.8	
	comp=Z,53nm,19.2s,baz=310,slow=37								
	21nm,0.4s								
AAK	**Ala-Archa**	**3.33**	**5**				**Pb**	**00 30 25.6**	**+0.6**
BOOM	**Boomskoye usch**	**3.46**	**23**				**Pb**	**00 30 25.9**	**-1.2**
MRKS	**Merke**	**3.49**	**349**	*eP*			**Pg**	**00 30 30.6**	**-1.4**
	14nm,0.5s								
MRKS				*eS*			**Sg**	**00 31 16.4**	**-0.8**
	37nm,0.5s								
TARG	**Taragay, Kyrgy**	**3.70**	**48**				**Pb**	**00 30 30.2**	**-1.2**
CHGR	**Chuyangaron**	**3.92**	**262**				**Pb**	**00 30 31.2**	**-3.9**
KST	**Kastek**	**3.97**	**20**	*eP*			**Pg**	**00 30 40.0**	**-1.3**
	16nm,0.5s								
KST				*eS*			**Sg**	**00 31 32.0**	**-0.7**
	74nm,0.8s								
DGS	**Degeres**	**4.11**	**17**	*eP*			**Pg**	**00 30 43.7**	**-0.2**
	20nm,0.5s								
DGS				*eS*			**Sg**	**00 31 38.9**	**+1.7**
	27nm,0.8s								
DGS	**Degeres**	**4.11**	**17**	Pg			**Pg**	**00 30 43.7**	**-0.2**
	20nm,0.5s								
DGS				Lg			Lg	00 31 38.9	
	27nm,0.8s								
DZA	**Taraz**	**4.14**	**330**	*eP*			**Pg**	**00 30 43.4**	**-1.2**
	36nm,0.4s								
DZA				*eS*			**Sg**	**00 31 38.2**	**-0.1**
	65nm,1.1s								
SGDS	**Sogindy**	**4.15**	**5**	*eP*			**Pg**	**00 30 43.5**	**-1.1**
	18nm,0.6s								
SGDS				*eS*			**Sg**	**00 31 38.2**	**-0.1**
	24nm,0.8s								
MTBS	**Maitube**	**4.19**	**24**	*eP*			**Pg**	**00 30 45.5**	**+0.1**
	18nm,0.6s								
MTBS				*eS*			**Sg**	**00 31 41.9**	**+2.3**
	29nm,0.7s								
MTBS	**Maitube**	**4.19**	**24**	Pg			**Pg**	**00 30 45.5**	**+0.1**
	18nm,0.6s								
MTBS				Lg			Lg	00 31 41.9	
	29nm,0.7s								
IUG	**Iuzhnay**	**4.20**	**314**	*eP*			**Pg**	**00 30 44.9**	**-0.7**
	22nm,0.6s								
IUG				*eS*			**Sg**	**00 31 40.7**	**+0.7**
	61nm,0.5s								
TNSS	**Tian-Shan**	**4.28**	**29**	*eP*			**Pg**	**00 30 46.3**	**-1.0**
	26nm,0.6s								
TNSS				*eS*			**Sg**	**00 31 43.9**	**+1.2**
	15nm,0.8s								
TNSS	**Tian-Shan**	**4.28**	**29**	Pg			**Pg**	**00 30 46.3**	**-1.0**
	26nm,0.6s								
TNSS				Lg			Lg	00 31 43.9	
	15nm,0.8s								
AAA	**Alma-Ata**	**4.42**	**28**	*eP*			**Pg**	**00 30 50.2**	**+0.4**
	24nm,0.3s								
AAA				*eS*			**Sg**	**00 31 50.3**	**+3.2**
	35nm,0.1s								
AAA	**Alma-Ata**	**4.42**	**28**	Pg			**Pg**	**00 30 50.2**	**+0.4**
	24nm,0.3s								
AAA				Lg			Lg	00 31 50.3	
	35nm,0.1s								
MDOK	**Medeo**	**4.43**	**29**	*eP*			**Pg**	**00 30 49.0**	**-1.0**
	24nm,0.7s								
MDOK				*eS*			**Sg**	**00 31 48.0**	**+0.6**
	36nm,0.8s								
MDOK	**Medeo**	**4.43**	**29**	⇑Pg			**Pg**	**00 30 48.1**	**-1.9**
	29nm,0.7s								
MDOK				Pg			Pb	00 30 49.0	+5.3
	24nm,0.7s								
MDOK				Lg			Lg	00 31 48.0	
	36nm,0.8s								
MDOK				⇑Lg			Lg	00 31 48.5	
	31nm,0.7s								
KOTS	**Kotyrbulak**	**4.51**	**29**	*eP*			**Pg**	**00 30 50.9**	**-0.8**
	32nm,0.9s								
KOTS				*eS*			**Sg**	**00 31 51.0**	**+0.9**
	100nm,0.7s								
KOTS	**Kotyrbulak**	**4.51**	**29**	Pg			**Pg**	**00 30 50.9**	**-0.8**
	32nm,0.9s								
KOTS				Lg			Lg	00 31 51.0	
	100nm,0.7s								
KRBS	**Karabastau**	**4.53**	**14**	*eP*			**Pg**	**00 30 51.7**	**-0.2**
	7.2nm,0.5s								
KRBS				*eS*			**Sg**	**00 31 53.2**	**+2.7**
	16nm,0.7s								
KRBS	**Karabastau**	**4.53**	**14**	Pg			**Pg**	**00 30 51.7**	**-0.2**
	7.2nm,0.5s								
KRBS				Lg			Lg	00 31 53.2	
	16nm,0.7s								
CHM	**Chimkent**	**4.55**	**313**	*eP*			**Pg**	**00 30 50.4**	**-1.9**
	33nm,0.2s								
CHM				*eS*			**Sg**	**00 31 50.0**	**-1.4**
	61nm,0.6s								
KK31	**Karatay Array**	**4.66**	**325**				Pb	00 30 42.3	-5.2
KK31	**Karatay Array**	**4.66**	**325**	Pn			**Pb**	**00 30 42.9**	**-4.6**
	4.2nm,0.6s,baz=127,slow=12,SNR=37								
KK31				⇑Pg			**Pg**	**00 30 54.2**	**-0.2**
	3.1nm,0.5s,baz=143,slow=16,SNR=6.2								
KK31				⇑Sn			**Sb**	**00 31 41.6**	**-2.5**
	10nm,0.6s,baz=143,slow=24,SNR=4.7								
KK31				⇑Lg			Lg	00 32 02.5	
	15nm,0.7s,baz=117,slow=29,SNR=4.0								
KKAR	**Karatay Array**	**4.66**	**325**				Pb	00 30 42.2	-5.3
KKAR	**Karatay Array**	**4.66**	**325**				Pb	00 30 42.4	-5.2
KTBS	**Karatobe**	**4.79**	**23**	*eP*			**Pg**	**00 30 56.2**	**-0.7**
	27nm,0.6s								
KTBS				*eS*			**Sg**

SHLS	**Shalkode**	**5.56**	**45**	Pg		**Pg**	**00 31 14.1**	**+2.5**
	9.5nm,0.5s								
SHLS				Lg		Lg	00 32 30.6		
	30nm,0.9s								
PDGK	**Podgornoye**	**5.69**	**44**	Pg		**Pg**	**00 31 11.0**	**-3.2**
	6.5nm,0.5s								
PDGK				Lg		Lg	00 32 25.2		
	12nm,0.8s								
PDGK	**Podgornoye**	**5.69**	**44**	⇑Pg		**Pg**	**00 31 10.9**	**-3.2**
	24nm,0.9s								
PDGK				⇑Lg		Lg	00 32 25.1		
	42nm,1.0s								
NIL	**Nilore**	**5.70**	**187**			Pn	00 30 54.9	+4.0	
BTLS	**Baital**	**5.72**	**359**	*eP*		**Pg**	**00 31 13.5**	**-1.1**	
	1.4nm,0.5s								
BTLS				*e*S		**Sg**	**00 32 30.1**	**+1.4**	
	6.5nm,0.5s								
BTLS	**Baital**	**5.72**	**359**	Pg		**Pg**	**00 31 13.0**	**-1.6**	
	3.2nm,0.4s								
BTLS				Lg		Lg	00 32 30.1		
	6.5nm,0.5s								
BLB	**Baldybastay**	**5.78**	**33**	*e*P		**Pg**	**00 31 14.5**	**-1.3**	
	10.0nm,0.3s								
BLB				*e*S		**Sg**	**00 32 31.6**	**+0.8**	
	18nm,0.6s								
BLB	**Baldybastay**	**5.78**	**33**	Pg		**Pg**	**00 31 13.0**	**-2.8**	
	10.0nm,0.3s								
BLB				Lg		Lg	00 32 29.2		
	18nm,0.6s								
KBL	**Kabul**	**6.27**	**222**			Pn	00 31 03.5	+4.7	
DJR	**Jarkent**	**6.56**	**38**	*e*P		**Pg**	**00 31 28.8**	**-2.0**	
	4.6nm,1.1s								
DJR				*e*S		**Sg**	**00 32 56.8**	**+1.1**	
	15nm,1.4s								
DJR	**Jarkent**	**6.56**	**38**	Pg		**Pg**	**00 31 28.8**	**-2.0**	
	4.6nm,1.1s								
DJR				Lg		Lg	00 32 56.7		
	15nm,1.4s								
OTUK	**Ortayu**	**9.02**	**352**	⇓Pn		Pn	00 31 41.8	+5.5	
	3.6nm,1.1s								
OTUK				⇓Lg		Lg	00 34 15.7		
	7.3nm,1.2s								
MKAR	**Makanchi Array**	**9.56**	**36**	Pn		**Pn**	**00 31 45.2**	**+1.4**	
	0.1nm,0.3s,baz=191,slow=16,SNR=5.0								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**11.72**	**14**	Pn		Pn	00 32 17.6	+4.3	
	baz=204,slow=11,SNR=2.0								
KURBB				Lg		Lg	00 35 39.7		
	baz=203,slow=28,SNR=4.5								
	0.1nm,0.2s								
GEYT	**Alibeck**	**12.60**	**269**	Pn		**Pn**	**00 32 25.8**	**+0.5**	
	0.2nm,0.3s,baz=99,slow=8.9,SNR=2.5								
	1.3nm,0.8s								
BVAR	**Borovoye Array**	**13.95**	**351**	Pn		**P**	**00 32 47.5**	**-4.6**	
	baz=170,slow=13,SNR=4.6								
	2.3nm,0.8s								
BRVK	**Borovoye**	**13.99**	**350**			**P**	**00 32 50.4**	**-2.1**	
ABKAR	**Akbulak array**	**14.18**	**319**	Pn		P	00 32 49.9	-4.7	
ZALV	**Zalesovo Beam**	**16.34**	**23**	Pn		**P**	**00 33 18.4**	**-0.1**	
	0.1nm,0.3s,baz=209,slow=13,SNR=7.7								
	1.7nm,0.7s								
ZALV	**Zalesovo Beam**	**16.34**	**23**	Pn		**P**	**00 33 19.7**	**+1.2**	
WSAR	**Wadi Sarin**	**20.74**	**224**	P		Pn	00 34 07.3	-2.1	
	5.8nm,0.8s,baz=37,slow=7.6,SNR=4.2								
	5.8nm,0.8s								
GNI	**Garni**	**22.57**	**282**	P		**P**	**00 34 30.1**	**+3.3**	
GNI				IAmb		IAmb	00 34 40.3		
	comp=Z,8.8nm,0.9s								
ONI	**Oni**	**23.33**	**288**	P		**P**	**00 34 38.6**	**+4.0**	
ONI				IAmb		IAmb	00 34 43.0		
	comp=Z,6.9nm,1.1s								
SONM	**Songino Array**	**24.74**	**59**	P		**P**	**00 34 50.0**	**+2.0**	
	comp=Z,0.4nm,0.7s,baz=270,slow=5.8,SNR=3.7								
	comp=Z,0.4nm,0.7s								
BRTR	**Keskin Array B**	**31.05**	**284**	P		**P**	**00 35 47.4**	**+2.9**	
	comp=Z,0.6nm,0.7s,baz=89,slow=11,SNR=2.4								
	comp=Z,0.6nm,0.7s								
FINES	**FINESS Array B**	**36.62**	**323**	P		**P**	**00 36 34.6**	**+2.2**	
	comp=Z,2.9nm,0.8s,baz=108,slow=8.9,SNR=4.4								
	comp=Z,2.9nm,0.8s								
ESDC	**Sonseca Array**	**58.34**	**297**	P		**P**	**00 39 22.9**	**+1.1**	
	comp=Z,0.6nm,0.9s,baz=51,slow=5.8,SNR=2.6								
	comp=Z,0.6nm,0.9s								
ILAR	**Eielson Array**	**71.38**	**17**	LR		LR	01 18 17.0		
	comp=Z,108nm,18.4s,baz=226,slow=41								
WRA	**Warramunga Arr**	**81.46**	**124**	P		**P**	**00 41 42.0**	**-2.0**	
	comp=Z,0.3nm,0.7s,baz=325,slow=4.7,SNR=5.4								
	comp=Z,0.3nm,0.7s								
HNR	**Honiara**	**92.70**	**100**	LR		LR	01 26 30.1		
	comp=Z,224nm,18.3s,baz=108,slow=37								

NEIC ***27*** *00:31:23.6±1.8,30.˚32S±0.˚04×72.˚23W±0.˚04,h11km±5km, mb4.3/2,ML3.8(GUC),Error ellipse: s-maj=6.8km s-min=2.3km az=218.0*

IDC ***27*** *00:31:23.1±1.0,30.˚34S×72.˚23W,h0km,mb4.0/5, mbtmp3.9/9,ML3.6/4,MS3.2/3,Error ellipse: s-maj=29.1km s-min=19.8km az=88.0*

GUC ***27*** *00:31:24.4±0.6,30.˚38S×72.˚25W,h34km±2km,ML3.8*

ISC 27 00:31:23.3±1.6,30.˚34S±0.˚04×72.˚27W±0.˚05,h7km±10km, n74,σ0s94/85,mb4.2/6,3C-8D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.64**	**122**		**Pg**	**00 31 35.8**	**+0.2**
CO06					**Sg**	**00 31 44.1**	**+0.1**
CO06	**Fray Jorge**	**0.64**	**122**	⇓*i*P	**Pg**	**00 31 35.9**	**+0.2**
CO05	**La Serena**	**0.98**	**65**		**Pg**	**00 31 42.1**	**-0.1**
CO05				Sn	**Sb**	**00 31 55.0**	**-0.8**
CO05	**La Serena**	**0.98**	**65**	⇓*i*P	**Pg**	**00 31 42.1**	**-0.1**
CO05				*i* S	**Sb**	**00 31 55.5**	**-0.3**
CO05				IAML		00 32 00.5	
	comp=E,4μm,0.8s						
GO04	**Tololo Observa**	**1.28**	**83**		**Pn**	**00 31 46.7**	**-1.1**
GO04	**Tololo Observa**	**1.28**	**83**	⇓*i*P	**Pn**	**00 31 46.7**	**-1.1**
GO04				*i* S	**Sn**	**00 32 04.2**	**-1.2**
CO02	**Combarbal**	**1.39**	**129**		**Pn**	**00 31 48.1**	**-1.1**
CO02	**Combarbal**	**1.39**	**129**	⇓*i*P	**Pn**	**00 31 48.3**	**-1.0**
CO02				*i* S	**Sb**	**00 32 05.8**	**-1.9**
CO02				IAML		00 32 11.4	
	comp=N,3μm,0.6s						
CO03	**El Pedregal**	**1.45**	**111**		**Pn**	**00 31 49.1**	**-1.0**
CO03	**El Pedregal**	**1.45**	**111**	⇓*i*P	**Pn**	**00 31 48.8**	**-1.2**
CO03				*i* S	**Sn**	**00 32 07.6**	**-1.7**
CO03				IAML		00 32 11.9	
	comp=N,2μm,0.6s						
LCO	**Las Campanas**	**1.90**	**46**		**Pn**	**00 31 55.7**	**-0.6**
CO01	**Juntas del Tor**	**1.92**	**80**		**Pn**	**00 31 56.3**	**-0.3**
CO01	**Juntas del Tor**	**1.92**	**80**	*i* P	**Pn**	**00 31 56.9**	**+0.3**
CO01				*i* S	**Sb**	**00 32 21.4**	**-1.5**
AC05	**El Transito**	**2.29**	**50**		**Pn**	**00 32 01.7**	**0.0**
AC05	**El Transito**	**2.29**	**50**	⇑*i*P	**Pn**	**00 32 02.0**	**+0.4**
AC05				*e*S	**Sn**	**00 32 30.6**	**+0.4**
AC05				IAML		00 32 42.8	
	comp=N,368nm,0.7s						
VA06	**Catapilco**	**2.37**	**160**		**Pn**	**00 32 01.7**	**-0.8**
VA06	**Catapilco**	**2.37**	**160**	⇑*i*P	**Pn**	**00 32 01.8**	**-0.8**
VA06				IAML		00 32 44.1	
	comp=E,576nm,0.3s						
AC04	**Llanos de Chal**	**2.37**	**26**		**Pn**	**00 32 01.2**	**-1.4**
AC04	**Llanos de Chal**	**2.37**	**26**	*i* P	**Pn**	**00 32 01.5**	**-1.1**
VA01	**Torpederas**	**2.73**	**169**		**Pn**	**00 32 06.1**	**-1.4**
VA03	**San Esteban**	**2.83**	**149**		**Pn**	**00 32 08.5**	**-0.5**
VA03	**San Esteban**	**2.83**	**149**	⇑*i*P	**Pn**	**00 32 09.3**	**+0.3**
VA03				*i* S	**Sn**	**00 32 42.4**	**-0.9**
VA03				IAML		00 32 56.9	
	comp=E,518nm,0.5s						
ROCH	**El Roble**	**2.84**	**158**	⇓*i*P	**Pn**	**00 32 09.0**	**-0.2**
ROCH				IAML		00 33 07.2	
	comp=N,346nm,0.4s						
ROC1	**El Roble**	**2.84**	**158**		**Pn**	**00 32 08.3**	**-1.0**
MT02	**Curacav**	**3.07**	**162**		**Pn**	**00 32 11.0**	**-1.2**
MT02	**Curacav**	**3.07**	**162**	*e*P	**Pn**	**00 32 11.9**	**-0.2**
MT02				*e*S	**Sn**	**00 32 47.8**	**-1.4**
PEL	**Peldehue**	**3.10**	**155**	*i* P	**Pn**	**00 32 12.7**	**0.0**
PEL				*i* S	**Sn**	**00 32 49.6**	**-0.5**
PEL				IAML		00 33 23.1	
	comp=N,194nm,0.7s						
GO03	**Copiap**	**3.26**	**34**		**Pn**	**00 32 13.6**	**-1.4**
GO03	**Copiap**	**3.26**	**34**	*e*P	**Pn**	**00 32 14.8**	**-0.1**
GO03				IAML		00 33 14.6	
	comp=E,131nm,0.7s						
ZON	**Zonda**	**3.31**	**112**		**Pn**	**00 32 15.1**	**-0.5**
MT05	**Renca**	**3.31**	**157**	Pn	**Pn**	**00 32 14.4**	**-1.2**
MT05	**Renca**	**3.31**	**157**	*e*P	**Pn**	**00 32 15.8**	**+0.2**
MT05				IAML		00 33 16.0	
	comp=E,344nm,0.3s						
AC06	**Mina Casimiro**	**3.41**	**30**		**Pn**	**00 32 16.7**	**-0.3**
FCH	**Farellones**	**3.42**	**151**	⇓*i*P	**Pn**	**00 32 17.8**	**+0.4**
FCH				*e*S	**Sn**	**00 32 58.0**	**-0.3**
FCH				IAML		00 33 13.5	
	comp=E,96nm,0.5s						
MT03	**Universidad Ad**	**3.48**	**155**		**Pn**	**00 32 17.6**	**-0.4**
MT03	**Universidad Ad**	**3.48**	**155**	⇓*i*P	**Pn**	**00 32 18.3**	**+0.3**
MT03				IAML		00 33 24.9	
	comp=E,211nm,0.6s						
MT09	**Talagante**	**3.59**	**163**		**Pn**	**00 32 19.6**	**0.0**
MT09	**Talagante**	**3.59**	**163**	*i* P	**Pn**	**00 32 19.8**	**+0.2**
MT09				IAML		00 33 21.9	
	comp=N,129nm,0.7s						
MT01	**Popeta**	**3.62**	**166**		**Pn**	**00 32 19.2**	**-0.6**
MT01	**Popeta**	**3.62**	**166**	*e*P	**Pn**	**00 32 18.9**	**-0.8**
CFA	**Coronel Fontan**	**3.68**	**111**	Pn	**Pn**	**00 32 22.5**	**+1.8**
	comp=N,5.8nm,0.3s,baz=298,slow=13,SNR=56						
CFA				Sn	**Sn**	**00 33 04.2**	**-0.2**
	comp=N,5.7nm,0.3s,baz=269,slow=12,SNR=3.7						
CFA				LR	LR	00 33 42.0	
	comp=N,111nm,21.7s,baz=290,slow=38						
	comp=N,18nm,0.4s						
BO04	**La Punta**	**3.90**	**159**		**Pn**	**00 32 23.7**	**-0.1**
BO04	**La Punta**	**3.90**	**159**	*e*P	**Pn**	**00 32 23.4**	**-0.3**
LMEL	**Las Melosas**	**3.91**	**154**		**Pn**	**00 32 24.6**	**+0.6**
BO01	**Tunca**	**4.16**	**166**		**Pn**	**00 32 26.8**	**-0.5**
AC01	**Pan de Azucar**	**4.43**	**20**	Pn	**Pn**	**00 32 28.8**	**-2.1**
AC02	**Maricunga**	**4.45**	**39**		**Pn**	**00 32 31.2**	**-0.4**
BO02	**Sierra Bellavi**	**4.62**	**165**		**Pn**	**00 32 32.2**	**-1.3**
GO02	**Mina Guanaco**	**5.67**	**25**		**Pn**	**00 32 46.6**	**-1.7**
H03N1	**Juan Fernandez**	**6.44**	**240**	Pn	**Pn**	**00 32 57.2**	**-1.1**
	baz=278,slow=76						
H03N1				T	T	00 40 07.3	
	baz=70,slow=72,SNR=228						
H03N2	**Juan Fernandez**	**6.46**	**240**	Pn	**Pn**	**00 32 57.6**	**-0.9**
	baz=278,slow=76						
H03N2				T	T	00 40 04.6	
	baz=70,slow=72,SNR=258						
H03N3	**Juan Fernandez**	**6.46**	**240**	Pn	**Pn**	**00 32 57.4**	**-1.2**
	baz=278,slow=76						
H03N3				T	T	00 40 04.0	
	baz=70,slow=72,SNR=254						
H03S3	**Juan Fernandez**	**6.62**	**237**	Pn	**Pn**	**00 32 60.0**	**-0.8**
	baz=247,slow=74						
H03S1	**Juan Fernandez**	**6.63**	**236**	Pn	**Pn**	**00 32 59.6**	**-1.2**
H03S2	**Juan Fernandez**	**6.64**	**237**	Pn	**Pn**	**00 33 00.1**	**-0.9**
	baz=53,slow=74						
PB02	**IPOC Station P**	**9.23**	**14**	Pn	**Pn**	**00 33 36.2**	**-0.8**
GO06	**Curarrehue**	**9.25**	**176**	Pn	**Pn**	**00 33 37.6**	**+0.4**
PLCA	**Paso Flores**	**10.46**	**173**	Pn	**Pn**	**00 33 55.7**	**+1.9**
	comp=N,0.1nm,0.3s,baz=18,slow=14,SNR=2.2						
	comp=N,1.3nm,0.7s						
PLCA	**Paso Flores**	**10.46**	**173**	Pn	**Pn**	**00 33 52.9**	**-0.9**
TRQA	**Tornquist**	**11.47**	**135**	Pn	**Pn**	**00 34 07.7**	**+0.1**
CPUP	**Villa Florida**	**13.75**	**77**	LR	LR	00 40 16.0	
	comp=N,49nm,18.9s,baz=242,slow=39						
LPAZ	**La Paz**	**14.49**	**16**	Pn	**Pn**	**00 34 51.6**	**+2.1**
	comp=N,0.1nm,0.3s,baz=175,slow=5.2,SNR=6.5						
	comp=N,1.2nm,0.6s						
LPAZ	**La Paz**	**14.49**	**16**	Pn	**Pn**	**00 34 50.6**	**+1.2**
SIV	**San Ignacio**	**17.58**	**38**	P	**P**	**00 35 29.5**	**-0.6**
	baz=223,slow=10,SNR=13						
	comp=N,3.8nm,1.0s						
BDFB	**Brasilia**	**26.61**	**62**	P	**P**	**00 37 02.4**	**-0.3**
	comp=N,1.3nm,0.6s,baz=266,slow=13,SNR=3.5						
	comp=N,1.3nm,0.6s						
RPN	**Rapa Nui**	**32.57**	**266**	LR	LR	00 47 40.2	
	comp=N,201nm,19.2s,baz=295,slow=30						
BOAV	**Boa Vista**	**34.43**	**21**	P	**P**	**00 38 10.7**	**-0.8**
BOAV				IAmb	IAmb	00 38 20.7	
	comp=Z,5.6nm,1.4s						
PMSA	**Palmer Station**	**34.84**	**174**	P	**P**	**00 38 15.4**	**+0.8**
	comp=Z,7.8nm,0.6s,baz=314,slow=13,SNR=5.9						
	comp=Z,7.8nm,0.6s						
SNAA	**Sanae**	**55.05**	**159**	P	**P**	**00 40 55.9**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=250,slow=11,SNR=5.7						
	comp=Z,2.3nm,0.9s						
QSPA	**South Pole Qui**	**59.89**	**180**	P	**P**	**00 41 30.1**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=191,slow=6.1,SNR=3.6						
	comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**59.89**	**180**	P	**P**	**00 41 30.0**	**+0.4**
QSPA				IAmb	IAmb	00 41 45.7	
	comp=Z,4.2nm,1.4s						
TXAR	**Lajitas Array**	**66.46**	**330**	P	**P**	**00 42 14.8**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=157,slow=4.1,SNR=4.2						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**66.46**	**330**	P	**P**	**00 42 14.4**	**+0.9**
ZALV	**Zalesovo Beam**	**151.17**	**29**	PKPbc	**PKiKP**	**00 51 17.5**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=290,slow=3.3,SNR=10						

IDC 27 00:38:15.4±5.0,21.˚25S×147.˚88E,h0km,mbtmp2.9/2, ML2.7/2,Error ellipse: s-maj=40.4km s-min=29.7km az=64.0,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**1.91**	**307**	Pn	Pn	00 38 49.1	-0.2
	7.4nm,0.3s,baz=134,slow=20,SNR=86						
CTA				Lg	Lg	00 39 16.0	
	33nm,0.3s,baz=211,slow=22,SNR=32						
WRA	**Warramunga Arr**	**12.74**	**273**	Pn	Pn	00 41 17.7	-0.4
	baz=94,slow=14,SNR=2.2						
WRA				Lg	Lg	00 45 01.5	
	0.1nm,0.3s,baz=102,slow=28,SNR=6.9						
	0.3nm,0.8s						
I07AU	**WARRAMUNGA INF**	**12.76**	**273**	I		02 00 30.0	
	baz=94,slow=318,SNR=1.1						
ASAR	**Alice Springs**	**13.14**	**257**	Pn	Pn	00 41 23.8	+0.3
	0.1nm,0.3s,baz=81,slow=15,SNR=1.5						
ASAR				Lg	Lg	00 45 15.7	
	0.1nm,0.3s,baz=76,slow=26,SNR=5.0						
	0.1nm,0.4s						

ROM 27 00:45:28.2±0.1,42.˚931N±0.˚003×13.˚164E±0.˚003, h12km,ML1.8/5,10C-5D,Error ellipse: s-maj=0.3km s-min=0.1km az=338.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1245	**Castelsantange**	**0.08**	**167**	P	Pg	00 45 31.2	+0.4
T1245				S	Sg	00 45 33.3	+0.5
T1245				AML	AML		
	comp=E,793μm,0.2s						
T1245				AML	AML		
	comp=N,1302μm,0.6s						
T1245				AML	AML		
	comp=N,1340μm,0.6s						
T1245				AML	AML		
	comp=E,826μm,1.1s						
T1245	**Castelsantange**	**0.08**	**167**	P	Pg	00 45 31.2	+0.3
T1245				S	Sg	00 45 33.3	+0.5
T1245				AML	AML		
	comp=E,827μm,1.1s						
T1245				AML	AML		
	comp=N,1340μm,0.6s						
T1245				AML	AML		
	comp=E,793μm,0.2s						
T1245				AML	AML		
	comp=N,1302μm,0.6s						
T1245				AML	AML		
	comp=N,1302μm,0.6s						
T1245				AML	AML		
	comp=E,826μm,1.1s						
T1245				AML	AML		
	comp=E,793μm,0.2s						
T1245				AML	AML		
	comp=N,1340μm,0.6s						
T1256	**Bolognola (MC)**	**0.09**	**31**	P	Pg	00 45 31.2	+0.2
T1256				S	Sg	00 45 33.1	+0.1
T1256				AML	AML		
	comp=E,934μm,0.1s						
T1256				AML	AML		
	comp=N,555μm,0.6s						
T1256				AML	AML		
	comp=E,924μm,0.1s						
T1256				AML	AML		
	comp=E,924μm,0.1s						
T1256				AML	AML		
	comp=E,934μm,0.1s						
T1256				AML	AML		
	comp=N,496μm,0.6s						
T1256				AML	AML		
	comp=N,556μm,0.6s						
T1256	**Bolognola (MC)**	**0.09**	**31**	P	Pg	00 45 31.1	+0.1
T1256				S	Sg	00 45 33.1	0.0
T1256				AML	AML		
	comp=E,935μm,0.1s						
T1256				AML	AML		
	comp=N,556μm,0.6s						
T1256				AML	AML		
	comp=E,924μm,0.1s						
T1256				AML	AML		
	comp=N,495μm,0.6s						
T1256				AML	AML		
	comp=E,934μm,0.1s						
T1256				AML	AML		
	comp=N,556μm,0.6s						
T1256				AML	AML		
	comp=E,924μm,0.1s						
T1256				AML	AML		
	comp=N,496μm,0.6s						
T1256				AML	AML		
	comp=N,556μm,0.6s						
T1256				AML	AML		
	comp=E,934μm,0.1s						
T1256				AML	AML		
	comp=E,924μm,0.1s						
T1256				AML	AML		
	comp=N,496μm,0.6s						
FEMA	**Monte Fema**	**0.09**	**290**	⇓P	Pg	00 45 31.3	+0.4
FEMA				S	Sg	00 45 33.4	+0.4
FEMA	**Monte Fema**	**0.09**	**290**	S	Sg	00 45 33.4	+0.4
NRCA	**Norcia**	**0.10**	**200**	P	Pg	00 45 31.2	+0.2
NRCA				S	Sg	00 45 33.6	+0.4
NRCA				AML	AML		
	comp=E,642μm,0.1s						
NRCA				AML	AML		
	comp=N,946μm,0.1s						
NRCA	**Norcia**	**0.10**	**200**	P	Pg	00 45 31.1	0.0
NRCA				S	Sg	00 45 33.6	+0.4
NRCA				AML	AML		
	comp=E,1703μm,1.5s						
NRCA				AML	AML		
	comp=N,1226μm,1.6s						
NRCA				AML	AML		
	comp=E,642μm,0.1s						
NRCA				AML	AML		
	comp=N,946μm,0.1s						
NRCA				AML	AML		
	comp=N,946μm,0.1s						
NRCA				AML	AML		
	comp=E,642μm,0.1s						
NRCA				AML	AML		
	comp=E,1703μm,1.5s						
NRCA				AML	AML		
	comp=N,1226μm,1.6s						
MMO1	**Montemonaco**	**0.12**	**105**	⇑P	Pg	00 45 31.7	+0.3
MMO1				S	Sg	00 45 34.1	+0.4
MMO1	**Montemonaco**	**0.12**	**105**	S	Sg	00 45 34.1	+0.5
GUMA	**Gualdo di Mace**	**0.18**	**44**	⇑P	Pg	00 45 32.8	+0.6
GUMA				S	Sg	00 45 36.2	+1.2
GUMA				AML	AML		
	comp=N,470μm,0.5s						
GUMA				AML	AML		
	comp=E,350μm,0.4s						
GUMA	**Gualdo di Mace**	**0.18**	**44**	S	Sg	00 45 36.2	+1.2
GUMA				AML	AML		
	comp=E,350μm,0.4s						
GUMA				AML	AML		
	comp=N,470μm,0.5s						
GUMA				AML	AML		
	comp=N,470μm,0.5s						
GUMA				AML	AML		
	comp=E,350μm,0.4s						
CESI	**CESI - Serrava**	**0.20**	**291**	P	Pg	00 45 33.0	+0.4
CESI				S	Sg	00 45 36.6	+1.0
CESI				AML	AML		
	comp=E,144μm,0.8s						
CESI				AML	AML		
	comp=N,279μm,0.3s						
CESI	**CESI - Serrava**	**0.20**	**291**	AML	AML		
	comp=E,144μm,0.8s						
CESI				AML	AML		
	comp=N,278μm,0.3s						
T1241	**Roccafluvione,**	**0.21**	**111**	⇑P	Pg	00 45 33.1	+0.4
T1241				S	Sg	00 45 36.8	+1.0
T1241				AML	AML		
	comp=N,369μm,0.2s						
T1241				AML	AML		
	comp=E,456μm,0.3s						
T1241				AML	AML		
	comp=N,368μm,0.2s						
T1241	**Roccafluvione,**	**0.21**	**111**	P	Pg	00 45 33.0	+0.3
T1241				S	Sg	00 45 36.8	+1.0
T1241				AML	AML		
	comp=E,456μm,0.3s						
T1241				AML	AML		
	comp=N,368μm,0.2s						
T1241				AML	AML		
	comp=E,456μm,0.3s						
T1241				AML	AML		
	comp=N,368μm,0.2s						
T1241				AML	AML		
	comp=E,456μm,0.3s						
T1241				AML	AML		
	comp=N,368μm,0.2s						
T1215	**Vallo di Nera,**	**0.25**	**239**	⇑P	Pg	00 45 33.9	+0.5
T1215				S	Sg	00 45 38.0	+1.0
T1215	**Vallo di Nera,**	**0.25**	**239**	P	Pg	00 45 33.9	+0.4
T1215				S	Sg	00 45 38.0	+1.0
T1218	**Civita (PG)**	**0.26**	**188**	⇑P	Pb	00 45 35.0	+0.1
T1243	**Rocca Santa Ma**	**0.31**	**138**	⇑P	Pg	00 45 34.9	+0.3
T1243	**Rocca Santa Ma**	**0.31**	**138**	S	Sb	00 45 40.0	-1.0
SMA1	**SAN MARTINO**	**0.33**	**157**	⇓P	Pg	00 45 35.2	+0.4
SMA1	**SAN MARTINO**	**0.33**	**157**	P	Pg	00 45 34.8	0.0
SMA1				S	Sb	00 46 15.3	+34
SNTG	**Esanatoglia**	**0.36**	**333**	AML	AML		
	comp=E,36μm,0.8s						
SNTG				AML	AML		
	comp=N,37μm,0.6s						
SNTG	**Esanatoglia**	**0.36**	**333**	AML	AML		
	comp=N,37μm,0.6s						
SNTG				AML	AML		
	comp=E,36μm,0.8s						
ASSB	**Assisi San Ben**	**0.39**	**287**	⇑P	Pg	00 45 36.1	+0.2
ASSB				AML	AML		
	comp=E,49μm,1.3s						
ASSB				AML	AML		
	comp=N,47μm,1.3s						
ASSB	**Assisi San Ben**	**0.39**	**287**	S	Sb	00 45 42.2	-0.8
ASSB				AML	AML		
	comp=E,49μm,1.3s						
ASSB				AML	AML		
	comp=N,47μm,1.3s						
ASSB				AML	AML		
	comp=E,49μm,1.3s						
ASSB				AML	AML		
	comp=N,47μm,1.3s						
EL6	**Elcito**	**0.40**	**354**	⇓P	Pg	00 45 34.6	-1.5
EL6	**Elcito**	**0.40**	**354**	P	Pg	00 45 29.9	-6.2
EL6				S	Sb	00 45 43.1	-0.4
CING	**Cingoli**	**0.45**	**3**	⇑P	Pg	00 45 36.8	-0.2
CING	**Cingoli**	**0.45**	**3**	P	Pg	00 45 36.5	-0.4
CING			

ARVD				AML	AML	
	comp=E,17μm,1.4s					
ARVD				AML	AML	
	comp=N,14μm,1.6s					
ARVD	**Arcevia**	**0.59**	**344**	P	Pg	00 45 39.8 +0.1
ARVD				S	Sb	00 45 48.9 0.0
ARVD				AML	AML	
	comp=E,17μm,1.4s					
ARVD				AML	AML	
	comp=N,14μm,1.6s					
ARVD				AML	AML	
	comp=N,14μm,1.6s					
ARVD				AML	AML	
	comp=E,17μm,1.4s					

SJA ***27*** *00:54:50.8±0.7,30°.31S×72°.65W,h9km,ML4.4,MW4.5*
NEIC ***27*** *00:54:55.4,30°.36S×72°.32W,h11km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr7.08; Mθθ0.72; Mϕϕ-7.81; Mrθ1.15; Mrϕ0.12; Mθϕ-1.01; Fault plane solution: M=7.63000×10^15^ NP1:ϑs169.74000°, δ49.71000°,λ77.31000°. NP2:ϑs8.94000°,δ41.91000°, λ104.53000°. Principal axes: T 7.3486, Plg80.0000°, Azm21.0000°; N 0.5298, Plg10.0000°, Azm178.0000°; P -7.8784, Plg4.0000°, Azm269.0000°;*
IDC ***27*** *00:54:55.6±1.1,30°.36S×72°.28W,h0km,mb3.9/3, mbtmp4.0/8,ML4.1/5,MS3.9/12 Error ellipse: s-maj=29.3km s-min=23.0km az=32.0*
NEIC ***27*** *00:54:55.8±2.3,30°.32S±0°.04×72°.29W±0°.04,h10km±1km, mb4.7/19,Mwr4.5/60,ML4.1(GUC),Error ellipse: s-maj=7.7km s-min=6.1km az=196.0*
GUC ***27*** *00:54:56.7±0.6,30°.39S×72°.20W,h36km±5km,ML4.1*
VAO ***27*** *00:55:21.8±3.5,29°.75S×71°.12W,h172km±23km,mb4.0*

ISC 27 00:54:55.5±1.4,30°.36S±0°.02×72°.34W±0°.04,h6km±9km, n153,σ1§76/163,mb4.6/12,MS4.0/13,5C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.68**	**117**			**Pg**	**00 55 08.7**	**0.0**
CO06					Sg	**Sg**	**00 55 17.3**	**-0.2**
CO06	**Fray Jorge**	**0.68**	**117**	⇓	*i*P	**Pg**	**00 55 08.6**	**0.0**
CO06					*i* S	**Sg**	**00 55 17.5**	**0.0**
CO06					IAML		00 55 21.9	
	comp=E,10μm,0.3s							
CO05	**La Serena**	**1.05**	**66**			**Pg**	**00 55 14.9**	**-0.7**
CO05						**Sg**	**00 55 28.5**	**-0.7**
CO05	**La Serena**	**1.05**	**66**	⇓	*i*P	**Pg**	**00 55 14.9**	**-0.7**
CO05					*i* S	**Sg**	**00 55 28.4**	**-0.9**
CO05					IAML		00 55 33.7	
	comp=E,9μm,0.5s							
GO04	**Tololo Observa**	**1.34**	**82**			**Pn**	**00 55 19.4**	**-1.5**
GO04	**Tololo Observa**	**1.34**	**82**	⇓	*i*P	**Pn**	**00 55 19.5**	**-1.5**
GO04					*i* S	**Sb**	**00 55 37.5**	**-1.3**
GO04	**Tololo Observa**	**1.34**	**82**		*e*P	Pn	00 55 14.1	-6.9
GO04					*e*P		00 55 19.5	
CO02	**Combarbal**	**1.43**	**127**			**Pn**	**00 55 21.0**	**-1.0**
CO02	**Combarbal**	**1.43**	**127**	⇓	*i*P	**Pn**	**00 55 21.0**	**-1.0**
CO02					*i* S	**Sn**	**00 55 39.1**	**-2.1**
CO02	**Combarbal**	**1.43**	**127**		*e*P	**Pn**	**00 55 21.2**	**-0.8**
CO02					*e*S	**Sn**	**00 55 40.4**	**-0.7**
CO02					IAML		00 55 44.6	
	comp=E,4μm,1.1s							
CO03	**El Pedregal**	**1.50**	**109**			**Pn**	**00 55 21.6**	**-1.4**
CO03	**El Pedregal**	**1.50**	**109**	⇓	*i*P	**Pn**	**00 55 21.7**	**-1.4**
CO03					*i* S	**Sn**	**00 55 40.8**	**-2.1**
CO03					IAML		00 55 46.0	
	comp=E,4μm,0.3s							
LCO	**Las Campanas**	**1.96**	**47**		Pn	**Pn**	**00 55 28.9**	**-0.5**
LCO	**Las Campanas**	**1.96**	**47**	⇑	*i*P	**Pn**	**00 55 28.9**	**-0.5**
LCO					*i* S	**Sn**	**00 55 53.9**	**-0.5**
CO01	**Juntas del Tor**	**1.98**	**79**			**Pn**	**00 55 29.5**	**-0.2**
CO01	**Juntas del Tor**	**1.98**	**79**	⇑	*i*P	**Pn**	**00 55 29.7**	**0.0**
CO01					*i* S	**Sn**	**00 55 52.6**	**-2.4**
CO01					IAML		00 56 05.5	
	comp=N,1μm,0.6s							
CO01	**Juntas del Tor**	**1.98**	**79**		*e*P	**Pn**	**00 55 30.1**	**+0.3**
CO01					*e*S	**Sb**	**00 55 57.5**	**+0.4**
CO01					IAML		00 55 59.1	
	comp=Z,2μm,1.5s							
AC05	**El Transito**	**2.35**	**50**			**Pn**	**00 55 34.8**	**0.0**
AC05	**El Transito**	**2.35**	**50**	⇑	*i*P	**Pn**	**00 55 34.8**	**0.0**
AC05					IAML		00 56 22.3	
	comp=E,1μm,0.6s							
AC05	**El Transito**	**2.35**	**50**		*e*P	**Pn**	**00 55 34.9**	**+0.1**
AC05					*e*S	**Sn**	**00 56 06.1**	**+2.1**
AC05					IAML		00 56 12.6	
	comp=Z,1μm,1.4s							
VA06	**Catapilco**	**2.37**	**158**		Pn	**Pn**	**00 55 34.4**	**-0.4**
VA06	**Catapilco**	**2.37**	**158**	⇑	*i*P	**Pn**	**00 55 34.5**	**-0.3**
VA06					*i* S	**Sn**	**00 56 02.1**	**-2.0**
VA06					IAML		00 56 19.4	
	comp=E,2μm,0.3s							
AC04	**Llanos de Chal**	**2.41**	**28**		Pn	**Pn**	**00 55 34.4**	**-1.1**
AC04	**Llanos de Chal**	**2.41**	**28**	⇑	*i*P	**Pn**	**00 55 34.4**	**-1.1**
AC04					IAML		00 56 29.7	
	comp=N,2μm,1.1s							
AC04	**Llanos de Chal**	**2.41**	**28**		*e*P	**Pn**	**00 55 34.4**	**-1.1**
AC04					*e*S	**Sb**	**00 56 11.1**	**+1.7**
AC04					*e*S		00 56 13.6	
AROD	**Rodeo**	**2.49**	**86**		*e*P	**Pn**	**00 55 38.0**	**+1.2**
AROD					*e*S	**Sb**	**00 56 13.6**	**+1.9**
VA01	**Torpederas**	**2.72**	**168**			**Pn**	**00 55 39.3**	**-0.4**
ACCO	**Cerro Coronel**	**2.83**	**95**		*e*P	**Pn**	**00 55 44.0**	**+2.4**
ACCO					*e*S	**Sb**	**00 56 25.6**	**+3.8**
ROCH	**El Roble**	**2.84**	**157**		*e*P	**Pn**	**00 55 41.6**	**0.0**
VA03	**San Esteban**	**2.84**	**148**			**Pn**	**00 55 41.8**	**+0.4**
VA03	**San Esteban**	**2.84**	**148**		IAML		00 56 31.1	
	comp=E,2μm,0.2s							
ROC1	**El Roble**	**2.84**	**157**			**Pn**	**00 55 41.4**	**-0.2**
ROC1	**El Roble**	**2.84**	**157**		*e*P	**Pn**	**00 55 41.0**	**-0.6**
MT02	**Curacav**	**3.07**	**161**			**Pn**	**00 55 44.6**	**+0.1**
MT02	**Curacav**	**3.07**	**161**		*e*P	**Pn**	**00 55 44.5**	**+0.1**
MT02					IAML		00 56 44.5	
	comp=E,290nm,0.1s							
MT02	**Curacav**	**3.07**	**161**		*e*P	**Pn**	**00 55 44.0**	**-0.5**
MT02					IAML		00 56 43.8	
	comp=Z,688nm,1.1s							
GO03	**Copiap**	**3.31**	**34**			**Pn**	**00 55 47.1**	**-0.8**
GO03	**Copiap**	**3.31**	**34**		*e*P	**Pn**	**00 55 47.9**	**0.0**
GO03					*e*S	**Sn**	**00 56 28.6**	**+0.9**
MT05	**Renca**	**3.32**	**156**		Pn	**Pn**	**00 55 48.0**	**+0.1**
MT05	**Renca**	**3.32**	**156**		*e*P	**Pn**	**00 55 48.8**	**+0.9**
MT05					*e*S	**Sb**	**00 56 34.1**	**-1.3**
MT05					*e*S		00 56 35.6	
MT05					IAML		00 56 47.4	
	comp=Z,2μm,1.5s							
ZON	**Zonda**	**3.36**	**112**			**Pn**	**00 55 50.0**	**+1.5**
ZON	**Zonda**	**3.36**	**112**		*e*P	**Pn**	**00 55 51.0**	**+2.5**
ZON					*e*S	**Sb**	**00 56 35.6**	**-1.0**
ZON					IAML		00 56 41.6	
	comp=Z,852nm,1.6s							
FCH	**Farellones**	**3.43**	**150**		*e*P	**Pn**	**00 55 50.5**	**+0.7**
FCH					IAML		00 56 57.4	
	comp=N,386nm,0.8s							
AC06	**Mina Casimiro**	**3.46**	**31**		Pn	**Pn**	**00 55 49.2**	**-0.7**
RTLL	**Cerro Villicun**	**3.46**	**107**		*e*P	**Pn**	**00 55 52.0**	**+2.1**
RTLL					*e*S	**Sb**	**00 56 37.1**	**-2.4**
MT03	**Universidad Ad**	**3.49**	**154**			**Pn**	**00 55 50.8**	**+0.4**
MT03	**Universidad Ad**	**3.49**	**154**		*e*P	**Pn**	**00 55 51.0**	**+0.6**
MT03					*e*S	**Sb**	**00 56 45.6**	**+5.2**
MT03					IAML		00 57 03.4	
	comp=Z,1μm,1.2s							
MT09	**Talagante**	**3.59**	**162**			**Pn**	**00 55 52.3**	**+0.5**
MT01	**Popeta**	**3.61**	**165**			**Pn**	**00 55 51.7**	**-0.3**
MT01	**Popeta**	**3.61**	**165**		*e*P	**Pn**	**00 55 51.9**	**-0.1**
MT01					*e*P		00 55 52.0	
MT01					*e*S	**Sb**	**00 56 41.6**	**-2.3**
MT01					IAML		00 56 53.7	
	comp=Z,400nm,1.2s							
CFA	**Coronel Fontan**	**3.73**	**110**		Pn	**Pn**	**00 55 55.5**	**+1.8**
	comp=Z,18nm,0.3s,baz=291,slow=17,SNR=146							
CFA					Sn	**Sn**	**00 56 40.7**	**+2.7**
	comp=Z,13nm,0.3s,baz=288,slow=8.3,SNR=4.4							
	comp=Z,39nm,0.3s							
BO04	**La Punta**	**3.91**	**158**			**Pn**	**00 55 56.5**	**+0.4**
LMEL	**Las Melosas**	**3.92**	**153**			**Pn**	**00 55 57.5**	**+1.1**
BO01	**Tunca**	**4.16**	**166**		Pn	**Pn**	**00 55 59.1**	**-0.3**
BO01	**Tunca**	**4.16**	**166**		*e*P	**Pn**	**00 55 59.5**	**0.0**
BO01					*e*S	**Sb**	**00 57 05.6**	**+6.1**
BO01					IAML		00 57 15.2	
	comp=Z,302nm,1.1s							
AC01	**Pan de Azucar**	**4.47**	**21**			**Pn**	**00 56 01.8**	**-2.0**
AC01	**Pan de Azucar**	**4.47**	**21**		*e*P	**Pn**	**00 56 01.9**	**-1.9**
AC01					*e*S	**Sb**	**00 57 14.1**	**+5.6**
AC01					IAML		00 57 37.8	
	comp=Z,186nm,1.4s							
AC02	**Maricunga**	**4.50**	**40**		Pn	**Pn**	**00 56 04.8**	**+0.1**
AC02	**Maricunga**	**4.50**	**40**		*e*P	**Pn**	**00 56 04.8**	**+0.1**
AC02					*e*S	**Sb**	**00 57 14.6**	**+4.6**
AC02					IAML		00 57 22.8	
	comp=Z,387nm,1.6s							
BO02	**Sierra Bellavi**	**4.61**	**164**			**Pn**	**00 56 05.9**	**+0.1**
BO02	**Sierra Bellavi**	**4.61**	**164**		*e*P	**Pn**	**00 56 06.0**	**+0.2**
BO02					*e*P		00 56 06.1	
BO02					*e*S	**Sn**	**00 57 00.1**	**+0.4**
BO02					IAML		00 57 32.4	
	comp=Z,519nm,0.9s							
GO05	**Huala**	**4.65**	**176**			**Pn**	**00 56 05.1**	**-1.1**
GO05	**Huala**	**4.65**	**176**		*e*P	**Pn**	**00 56 05.7**	**-0.5**
GO05					*e*S	**Sb**	**00 57 20.1**	**+6.4**
ML02	**Panimavida**	**5.44**	**172**			**Pn**	**00 56 16.5**	**-0.6**
GO02	**Mina Guanaco**	**5.72**	**26**		Pn	**Pn**	**00 56 19.6**	**-1.7**
H03N1	**Juan Fernandez**	**6.38**	**240**		T	T	01 03 36.9	
	baz=70,slow=72,SNR=119							
H03N2	**Juan Fernandez**	**6.39**	**240**		T	T	01 03 39.7	
	baz=70,slow=72,SNR=164							
H03N3	**Juan Fernandez**	**6.39**	**239**		T	T	01 03 38.4	
	baz=70,slow=72,SNR=163							
BI05	**Punta Hualpn**	**6.41**	**186**		Pn	**Pn**	**00 56 28.6**	**-1.8**
VA04	**Juan Fernndez**	**6.41**	**238**		Pn	**Pn**	**00 56 30.7**	**+0.3**
H03S3	**Juan Fernandez**	**6.56**	**237**		Pn	**Pn**	**00 56 33.4**	**+1.2**
	baz=5.5,slow=20							
H03S3					Sn	**Sn**	**00 57 44.0**	**-3.2**
	baz=135,slow=22							
H03S1	**Juan Fernandez**	**6.57**	**236**		Pn	**Pn**	**00 56 32.3**	**0.0**
	baz=5.5,slow=20							
H03S1					Sn	**Sn**	**00 57 42.8**	**-4.5**
	baz=135,slow=22							
H03S2	**Juan Fernandez**	**6.58**	**236**		Pn	**Pn**	**00 56 32.8**	**+0.4**
	baz=5.5,slow=20							
H03S2					Sn	**Sn**	**00 57 42.0**	**-5.6**
	baz=135,slow=22							
PB10	**IPOC Station P**	**7.00**	**14**		Pn	**Pn**	**00 56 36.7**	**-1.9**
PB15	**IPOC Station P**	**7.57**	**20**		Pn	**Pn**	**00 56 44.5**	**-2.0**
LVC	**Limon Verde**	**8.31**	**22**		Pn	**Pn**	**00 56 54.3**	**-2.5**
PB03	**IPOC Station P**	**8.60**	**16**		Pn	**Pn**	**00 56 59.1**	**-1.5**
GO06	**Curarrehue**	**9.23**	**176**			**Pn**	**00 57 08.3**	**-0.9**
LR04	**Corral**	**9.54**	**185**		Pn	**Pn**	**00 57 12.9**	**-0.4**
PLCA	**Paso Flores**	**10.45**	**172**		Pn	**Pn**	**00 57 26.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=338,slow=11,SNR=21							
	comp=Z,3.1nm,0.6s							
PLCA	**Paso Flores**	**10.45**	**172**		Pn	**Pn**	**00 57 25.7**	**-0.2**
LL04	**Puerto Octay**	**10.53**	**180**		Pn	**Pn**	**00 57 26.8**	**-0.1**
PSGCX	**Pisagua**	**10.90**	**11**		Pn	Pn	00 57 28.9	-3.3
TRQA	**Tornquist**	**11.50**	**135**			**Pn**	**00 57 38.7**	**-1.5**
ITQB	**Itaqui**	**13.64**	**91**		Pn	**Pn**	**00 58 09.2**	**-0.2**
CPUP	**Villa Florida**	**13.81**	**77**		Pn	**Pn**	**00 58 13.7**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=257,slow=18,SNR=3.4							
CPUP					Sn	**Sn**	**01 00 42.9**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=264,slow=15,SNR=2.6							
CPUP					LR	LR	01 03 11.9	
	comp=Z,309nm,22.0s,baz=256,slow=36							
	comp=Z,1.1nm,0.6s							
CPUP	**Villa Florida**	**13.81**	**77**		Pn	**Pn**	**00 58 13.0**	**+1.2**
LPAZ	**La Paz**	**14.53**	**16**		Pn	**Pn**	**00 58 24.2**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=186,slow=6.0,SNR=11							
	comp=Z,2.2nm,0.7s							
LPAZ	**La Paz**	**14.53**	**16**			**Pn**	**00 58 19.4**	**-2.8**
BBSD	**Serra de San D**	**16.93**	**42**		*e*P	**P**	**00 58 56.0**	**+1.0**
SIV	**San Ignacio**	**17.64**	**38**		P	**Pn**	**00 59 02.3**	**+0.3**
	baz=223,slow=13,SNR=25							
SIV					LR	LR	01 06 11.4	
	comp=Z,389nm,20.9s,baz=251,slow=38							
	comp=Z,6.9nm,0.9s							
AQDB	**Aquidauana**	**17.95**	**61**			**Pn**	**00 59 03.1**	**-2.6**
AQDB	**Aquidauana**	**17.95**	**61**		*e*P	**Pn**	**00 59 06.0**	**+0.3**
ITAB	**Concordia**	**17.98**	**85**			**Pn**	**00 59 07.2**	**+1.1**
ITAB					IAmb	IAmb	00 59 28.0	
	comp=Z,80nm,1.5s							
PANT	**Pantanal (Braz**	**18.20**	**55**		*e*P	**Pn**	**00 59 08.7**	**-0.2**
PTLB	**Pontes e Lacer**	**19.16**	**42**			**P**	**00 59 17.6**	**-2.0**
PTLB					IAmb	IAmb	00 59 34.6	
	comp=Z,8.1nm,1.0s							
PTLB	**Pontes e Lacer**	**19.16**	**42**		*e*P	**P**	**00 59 19.3**	**-0.3**
VILB	**Vilhena**	**20.64**	**36**		P	**P**	**00 59 33.6**	**-2.3**
VILB					IAmb	IAmb	01 00 05.5	
	comp=Z,23nm,0.9s							
VILB	**Vilhena**	**20.64**	**36**		*e*P	**P**	**00 59 35.0**	**-0.9**
PCMB	**Pacembu**	**20.83**	**70**		*e*P	**P**	**00 59 36.5**	**-1.4**
SALV	**Santo Antonio**	**20.97**	**50**		*e*P	**P**	**00 59 38.7**	**-0.7**
ETMB	**Extrema**	**21.22**	**17**		P	**P**	**00 59 41.8**	**-0.3**
ETMB					IAmb	IAmb	00 59 47.8	
	comp=Z,23nm,1.3s							
ETMB	**Extrema**	**21.22**	**17**		*e*P	**P**	**00 59 45.1**	**+3.0**
CZSB	**Cruzeiro do Su**	**22.52**	**359**		P	**P**	**00 59 56.0**	**0.0**
CZSB					IAmb	IAmb	01 00 23.2	
	comp=Z,46nm,1.3s							
CZSB	**Cruzeiro do Su**	**22.52**	**359**		*e*P	**P**	**01 00 01.8**	**+5.8**
ITRB	**Iturama**	**22.52**	**67**		*e*P	**P**	**00 59 54.8**	**-1.3**
BB19B	**Bebedouro**	**23.32**	**72**		*e*P	**P**	**01 00 04.5**	**0.0**
PDRB	**Porto dos Gac**	**23.62**	**41**		*e*P	**P**	**01 00 07.3**	**-0.1**
ARAG	**Araguaiana, MT**	**23.81**	**57**		*e*P	**P**	**01 00 07.9**	**-1.3**
CLDB	**Colider**	**24.75**	**42**		*e*P	**P**	**01 00 16.9**	**-1.1**
IPMB	**Ipameri, GO**	**25.16**	**66**		*e*P	**P**	**01 00 20.4**	**-1.3**
TBTG	**Tabatinga, AM**	**26.13**		**6**	P	**P**	**01 00 28.7**	**-1.8**
TBTG					IAmb	IAmb	01 00 43.4	
	comp=Z,24nm,0.7s							
BDFB	**Brasilia**	**26.68**	**62**		P	**P**	**01 00 34.5**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=230,slow=8.3,SNR=8.6							
	comp=Z,2.8nm,0.5s							
BDFB	**Brasilia**	**26.68**	**62**		P	**P**	**01 00 34.1**	**-1.4**
BDFB	**Brasilia**	**26.68**	**62**		*e*P	**P**	**01 00 34.4**	**-1.1**
NPGB	**Novo Progresso**	**28.14**	**38**		*e*P	**P**	**01 00 47.9**	**-0.6**
JANB	**Januaria**	**29.89**	**66**		*e*P	**P**	**01 01 03.4**	**-0.7**
SMTB	**Santa Maria do**	**31.50**	**52**		*e*P	**P**	**01 01 16.7**	**-1.6**
PTGA	**Pitinga**	**31.73**	**24**		LR	LR	01 15 21.8	
	comp=Z,222nm,19.6s,baz=192,slow=39							
RPN	**Rapa Nui**	**32.51**	**266**		LR	LR	01 10 56.3	
	comp=Z,286nm,21.2s,baz=50,slow=30							
BOAV	**Boa Vista**	**34.47**	**21**		P	**P**	**01 01 43.4**	**-0.8**
BOAV					IAmb	IAmb	01 01 57.9	
	comp=Z,6.6nm,1.1s							
PMSA	**Palmer Station**	**34.82**	**174**		LR	LR	01 16 16.6	
	comp=Z,203nm,18.5s,baz=327,slow=37							
BAUV	**El Baul**	**39.29**		**7**	P	**P**	**01 02 25.2**	**0.0**
BAUV					IAmb	IAmb	01 02 46.5	
	comp=Z,24nm,1.2s							
TEIG	**Tepich**	**52.58**	**341**		P	**P**	**01 04 09.0**	**-0.9**
TROLL	**Troll, Antarti**	**56.76**	**159**		P	**P**	**01 04 40.8**	**+0.9**
QSPA	**South Pole Qui**	**59.87**	**180**		P	**P**	**01 05 02.9**	**+1.2**
QSPA					IAmb	IAmb	01 05 14.7	
	comp=Z,10nm,1.3s							
JCT	**Junction City**	**65.90**	**334**		P	**P**	**01 05 41.5**	**-0.6**
JCT					IAmb	IAmb	01 05 53.4	
	comp=Z,5.1nm,0.8s							
TXAR	**Lajitas Array**	**66.45**	**330**		P	**P**	**01 05 48.0**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=148,slow=8.6,SNR=8.2							
	comp=Z,0.4nm,0.5s							
TXAR	**Lajitas Array**	**66.45**	**330**		P	**P**	**01 05 46.7**	**+0.9**
TX32	**Lajitas Array**	**66.45**	**330**		P	**P**	**01 05 45.7**	**0.0**
TX32					IAmb	IAmb	01 05 59.0	
	comp=Z,4.8nm,1.4s							
TAOE	**Nuku Hiva Isla**	**66.45**	**273**		*e*LR	LR	01 25 43.3	
	comp=Z,72nm,25.3s							
TKL	**Tuckaleechee C**	**66.54**	**350**		P	**P**	**01 05 46.1**	**0.0**
TKL					IAmb	IAmb	01 05 51.6	
	comp=Z,8.7nm,1.1s							
V52A	**Sevierville**	**66.70**	**350**		P	**P**	**01 05 47.9**	**+0.9**
LCAR	**Lake Charles**	**68.40**	**344**		P	**P**	**01 05 58.4**	**+0.5**
LCAR					IAmb	IAmb	01 06 08.3	
	comp=Z,5.2nm,1.0s							
PPT2	**Papeete2**	**70.54**	**261**		*e*LR	LR	01 27 36.0	
	comp=Z,98nm,26.0s							
PPT2					*e*LR	LR	01 27 36.1	
	comp=Z,125nm,24.2s							
P40A	**Paris**	**71.91**	**344**		P	**P**	**01 06 19.8**	**+0.5**
MAW	**Mawson**	**76.73**	**164**		LR	LR	01 39 52.7	
	comp=Z,78nm,20.5s,baz=226,slow=35							
MAW	**Mawson**	**76.73**	**164**		P	**P**	**01 06 48.0**	**+0.8**
SUR	**Sutherland**	**76.83**	**120**		LR	LR	01 38 14.5	
	comp=Z,32nm,18.1s,baz=223,slow=34							
RAR	**Rarotonga**	**77.47**	**253**		LR	LR	01 33 18.0	
	comp=Z,44nm,19.1s,baz=137,slow=30							
PDAR	**Pinedale Array**	**80.41**	**333**		P	**P**	**01 07 08.7**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=138,slow=9.6,SNR=2.5							
	comp=Z,0.5nm,0.8s							
TSUM	**Tsumeb**	**80.47**	**107**		LR	LR	01 38 05.0	
	comp=Z,79nm,19.5s,baz=208,slow=32							
LBTB	**Lobatse**	**84.08**	**115**		LR	LR	01 39 57.4	
	comp=Z,66nm,19.9s,baz=206,slow=32							
AFI	**Afiamalu**	**91.00**	**253**		LR	LR	01 38 38.6	
	comp=Z,52nm,21.0s,baz=92,slow=29							
LSZ	**Lusaka**	**91.19**	**108**		LR	LR	01 43 50.3	
	comp=Z,53nm,20.4s,baz=196,slow=32							
DZM	**Mont Dzumac**	**103.16**	**235**		*e*LR	LR	01 42 43.4	
	comp=Z,63nm,23.3s							
WRA	**Warramunga Arr**	**123.78**	**211**		PKP	**PKPdf**	**01 13 55.3**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=135,slow=1.6,SNR=1.9							
H11S2	**WAKE ISLAND Hyl**	**25.48**	**272**		T	T	03 32 51.7	
	baz=115,slow=74							
H11S1	**WAKE ISLAND Hyl**	**25.50**	**272**		T	T	03 32 53.2	
	baz=115							
H11S3	**WAKE ISLAND Hyl**	**25.50**	**272**		T	T	03 32 53.2	
	baz=115,slow=74							
ZALV	**Zalesovo Beam**	**151.22**	**28**		PKPbc	**PKiKP**	**01 14 50.5**	**+0.7**
	comp=Z,2.8nm,0.5s,baz=304,slow=3.8,SNR=19							
MKAR	**Makanchi Array**	**154.42**	**43**		PKPbc	**PKiKP**	**01 14 57.7**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=343,slow=2.2,SNR=2.6							
PZH	**PanZhiHua**	**173.53**	**125**		PKP	**PKPdf**	**01 15 04.3**	**-2.0**

IDC ***27*** *01:09:20.1±1.8,17°.71S×179°.96E,h0km,mb3.7/4, mbtmp3.7/4,ML6.0/1,MS3.6/23,Error ellipse: s-maj=41.2km s-min=29.2km az=172.0*

ISC 27 01:09:25.3±1.4,17°.8S±0°.2×180°.0E±0°.1,h35km,n26, σ1§26/7,mb3.6/4,MS3.6/22,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.85**	**273**		Pn	**Pn**	**01 09 54.3**	**-0.3**
	39nm,0.3s,baz=348,slow=4.9,SNR=46							
MSVF					Sn	**Sn**	**01 10 17.3**	**+0.5**
	149nm,0.3s,baz=284,slow=23,SNR=10							
MSVF					LR	LR	01 10 34.4	
	comp=Z,454nm,20.6s,baz=19,slow=41							
RAO	**Raoul Island**	**11.52**	**171**		Pn	**Pn**	**01 12 07.1**	**-0.1**
	92nm,0.3s,baz=75,slow=20,SNR=4.1							
DZM	**Mont Dzumac**	**13.41**	**250**		LR	LR	01 16 06.6	
	comp=Z,214nm,21.2s,baz=23,slow=30							
KRVT	**Keravat (AS076**	**30.50**	**293**		LR	LR	01 26 00.7	
	comp=Z,93nm,19.0s,baz=245,slow=33							
STKA	**Stephens Creek**	**37.33**	**241**		P	**P**	**01 16 36.0**	**+1.6**
	1.0nm,0.6s,baz=77,slow=13,SNR=2.9							
STKA					LR	LR	01 29 30.9	
	comp=Z,80nm,21.7s,baz=30,slow=32							
	1.0nm,0.6s							
WRA	**Warramunga Arr**	**43.14**	**260**		P	**P**	**01 17 21.4**	**-1.3**
	0.8nm,1.1s,baz=87,slow=8.3,SNR=1.6							
WRA					LR	LR	01 33 26.9	
	comp=Z,77nm,20.1s,baz=104,slow=34							
	0.8nm,1.1s							
ASAR	**Alice Springs**	**43.34**	**254**		P	**P**	**01 17 23.1**	**-1.3**
	0.6nm,0.8s,baz=82,slow=9.2,SNR=11							
	0.6nm,0.8s							
NWAO	**Narrogin (SRO)**	**57.90**	**242**		LR	LR	01 41 40.9	
	comp=Z,85nm,20.9s,baz=174,slow=34							
DAV	**Davao City (W)**	**59.14**	**290**		LR	LR	01 40 08.9	
	comp=Z,27nm,21.8s,baz=338,slow=31							
MJAR	**Matsushiro Arr**	**66.96**	**324**		LR	LR	01 42 45.5	
	comp=Z,34nm,20.9s,baz=178,slow=30							
JNU	**Nakatsue**	**69.05**	**317**		LR	LR	01 47 58.3	
	comp=Z,25nm,19.0s,baz=126,slow=34							
ASAJ	**Asahikawa**	**70.50**	**332**		LR	LR	01 45 33.0	
	comp=Z,24nm,20.4s,baz=152,slow=31							
KSRS	**Korea Array**	**73.65**	**319**		LR	LR	01 46 56.9	
	comp=Z,24nm,21.5

	4.4nm,0.6s							
DGS					Lg	Lg	01 13 42.6	
	6.8nm,0.7s							
SGDS	**Sogindy**	**4.07**	**6**	*e*P		**Pb**	**01 12 45.1**	**+0.6**
	4.2nm,0.4s							
SGDS					*e*S	**Sg**	**01 13 42.2**	**-1.0**
	9.8nm,0.8s							
SGDS	**Sogindy**	**4.07**	**6**	Pg		**Pb**	**01 12 45.1**	**+0.6**
	2.9nm,0.3s							
SGDS					Lg	Lg	01 13 42.1	
	8.5nm,1.0s							
IUG	**Iuzhnay**	**4.08**	**313**	*e*P		Pn	01 12 40.5	+5.0
	7.6nm,0.2s							
IUG					*e*S	**Sb**	**01 13 34.2**	**-0.2**
	25nm,0.8s							
IUG	**Iuzhnay**	**4.08**	**313**	Pg		**Pn**	**01 12 36.2**	**+0.8**
	15nm,0.7s							
IUG					Lg	Lg	01 13 27.0	
	25nm,0.6s							
MTBS	**Maitube**	**4.14**	**25**	*e*P		**Pb**	**01 12 47.3**	**+1.6**
	5.4nm,0.5s							
MTBS					*e*S	**Sg**	**01 13 45.9**	**+0.4**
	6.9nm,0.5s							
MTBS	**Maitube**	**4.14**	**25**	Pg		**Pb**	**01 12 47.3**	**+1.6**
	5.4nm,0.5s							
MTBS					Lg	Lg	01 13 45.9	
	6.9nm,0.5s							
TNSS	**Tian-Shan**	**4.25**	**30**	*e*P		**Pb**	**01 12 50.1**	**+2.4**
	12nm,0.9s							
TNSS					*e*S	**Sg**	**01 13 50.6**	**+1.7**
	8.0nm,0.8s							
TNSS	**Tian-Shan**	**4.25**	**30**	Pg		**Pb**	**01 12 49.6**	**+1.9**
	10nm,0.8s							
TNSS					Lg	Lg	01 13 50.7	
	4.0nm,0.8s							
MDOK	**Medeo**	**4.39**	**30**	*e*P		**Pb**	**01 12 51.6**	**+1.5**
	8.7nm,0.5s							
MDOK					*e*S	**Sg**	**01 13 53.3**	**-0.2**
	5.4nm,0.8s							
MDOK	**Medeo**	**4.39**	**30**	⇑Pg		**Pb**	**01 12 49.0**	**-1.1**
	14nm,0.9s							
MDOK					Pg	Pg	01 12 51.6	-5.0
	8.7nm,0.5s							
MDOK					⇓Lg	Lg	01 13 46.8	
	28nm,1.4s							
MDOK					Lg	Lg	01 13 53.3	
	5.4nm,0.8s							
CHM	**Chimkent**	**4.44**	**312**	*e*P		Pn	01 12 46.6	+6.4
	28nm,0.4s							
CHM					*e*S	**Sb**	**01 13 44.5**	**+0.1**
	72nm,0.2s							
KRBS	**Karabastau**	**4.46**	**16**	*e*P		**Pb**	**01 12 53.7**	**+2.5**
	3.0nm,0.8s							
KRBS					*e*S	**Sg**	**01 13 56.6**	**+0.8**
	6.0nm,0.6s							
KRBS	**Karabastau**	**4.46**	**16**	Pg		**Pb**	**01 12 52.8**	**+1.6**
	4.1nm,0.6s							
KRBS					Lg	Lg	01 13 56.6	
	6.0nm,0.6s							
KOTS	**Kotyrbulak**	**4.48**	**30**	*e*P		**Pb**	**01 12 53.5**	**+2.0**
	17nm,0.6s							
KOTS					*e*S	**Sg**	**01 13 56.7**	**+0.4**
	19nm,0.9s							
KOTS	**Kotyrbulak**	**4.48**	**30**	Pg		**Pb**	**01 12 53.5**	**+2.0**
	17nm,0.6s							
KOTS					Lg	Lg	01 13 56.7	
	19nm,0.9s							
KK31	**Karatay Array**	**4.54**	**326**	⇓Pn		**Pn**	**01 12 41.9**	**+0.3**
	0.7nm,0.3s,baz=135,slow=14,SNR=20							
KK31					Pg	**Pb**	**01 12 53.7**	**+1.1**
	0.7nm,0.3s,baz=152,slow=16,SNR=6.1							
KK31					⇑Sn	**Sn**	**01 13 39.5**	**+4.7**
	1.2nm,0.3s							
KK31					⇑Lg	Lg	01 13 56.6	
	1.3nm,0.3s,baz=132,slow=28,SNR=4.0							
KTBS	**Karatobe**	**4.75**	**24**	*e*P		**Pb**	**01 12 58.3**	**+2.3**
	4.1nm,0.5s							
KTBS					*e*S	**Sg**	**01 14 04.9**	**+0.1**
	6.2nm,0.5s							
KTBS	**Karatobe**	**4.75**	**24**	Pg		**Pb**	**01 12 58.3**	**+2.3**
	4.1nm,0.5s							
KTBS					Lg	Lg	01 14 04.9	
	6.2nm,0.5s							
CHKK	**Chushkaly**	**4.97**	**26**	*e*P		**Pb**	**01 13 02.2**	**+2.3**
	1.2nm,0.2s							
CHKK					*e*S	**Sg**	**01 14 11.4**	**-0.6**
	6.0nm,0.3s							
CHKK	**Chushkaly**	**4.97**	**26**	Pg		**Pb**	**01 13 01.7**	**+1.9**
	6.5nm,0.4s							
CHKK					Lg	Lg	01 14 11.4	
	6.1nm,0.5s							
KURS	**Kuram**	**5.14**	**36**	*e*P		**Pb**	**01 13 04.5**	**+1.9**
	3.7nm,0.7s							
KURS					*e*S	**Sg**	**01 14 15.7**	**-1.7**
	2.3nm,0.8s							
KURS	**Kuram**	**5.14**	**36**	Pg		**Pb**	**01 13 04.5**	**+1.9**
	3.7nm,0.7s							
KURS					Lg	Lg	01 14 15.7	
	2.3nm,0.8s							
UZB	**Uzynbulak**	**5.31**	**44**	*e*P		**Pb**	**01 13 08.5**	**+2.8**
	1.7nm,0.5s							
UZB					*e*S	**Sg**	**01 14 22.1**	**-0.8**
	2.4nm,0.5s							
UZB	**Uzynbulak**	**5.31**	**44**	Pg		**Pb**	**01 13 08.5**	**+2.8**
	1.7nm,0.5s							
UZB					Lg	Lg	01 14 22.1	
	2.4nm,0.5s							
KPKS	**Kokpek**	**5.36**	**39**	*e*P		**Pb**	**01 13 09.8**	**+3.3**
	6.0nm,0.6s							
KPKS					*e*S	**Sg**	**01 14 24.9**	**+0.3**
	9.9nm,1.5s							
KPKS	**Kokpek**	**5.36**	**39**	Pg		**Pb**	**01 13 08.7**	**+2.1**
	3.6nm,0.6s							
KPKS					Lg	Lg	01 14 22.6	
	5.3nm,0.5s							
SHLS	**Shalkode**	**5.55**	**46**	*e*P		**Pg**	**01 13 17.2**	**-1.6**
	2.1nm,0.4s							
SHLS					*e*S	**Sg**	**01 14 37.1**	**+6.3**
	3.1nm,0.3s							
SHLS	**Shalkode**	**5.55**	**46**	Pg		**Pg**	**01 13 17.2**	**-1.6**
	2.1nm,0.4s							
SHLS					Lg	Lg	01 14 37.1	
	3.1nm,0.3s							
BTLS	**Baital**	**5.63**	**0**	*e*P		**Pb**	**01 13 14.2**	**+3.2**
	0.8nm,0.8s							
BTLS					*e*S	**Sg**	**01 14 31.9**	**-1.4**
	3.2nm,1.2s							
BTLS	**Baital**	**5.63**	**0**	Pg		**Pb**	**01 13 13.7**	**+2.6**
	0.7nm,0.3s							
BTLS					Lg	Lg	01 14 31.9	
	2.4nm,0.6s							
PDGK	**Podgornoye**	**5.68**	**45**	Pg		Pb	01 13 17.0	+5.0
	1.4nm,0.8s							
PDGK					Lg	Lg	01 14 36.8	
	1.6nm,0.8s							
PDGK	**Podgornoye**	**5.68**	**45**	⇑Pg		**Pb**	**01 13 11.1**	**-0.9**
	10nm,1.1s							
PDGK					⇑Lg	Lg	01 14 25.9	
	14nm,1.4s							
BLB	**Baldybastay**	**5.75**	**34**	*e*P		**Pb**	**01 13 17.1**	**+3.9**
	2.7nm,0.3s							
BLB					*e*S	**Sg**	**01 14 36.7**	**-0.4**
	4.8nm,0.6s							
BLB	**Baldybastay**	**5.75**	**34**	Pg		**Pb**	**01 13 16.4**	**+3.2**
	3.6nm,0.5s							
BLB					Lg	Lg	01 14 36.8	
	3.0nm,0.7s							

*OTT **27** 01:14:52.7±0.1,71˚41N×70˚02W,h18km,MN3.9/5,*
117km northwest from Clyde River, Nu Eastern Arctic
Background Seismic Zone.
*DNK **27** 01:14:56.0±5.5,71˚68N×69˚68W,h40km,ML2.3*
ISC 27 01:14:48.3±0.8,**71˚45N**±0.05×**69˚88W**±0.06,**h10**km,**n17,**
σ**2**s**89**/**27**,**Baffin Bay**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	**Clyde River**	**1.07**	**156**	PG	**Pn**	**01 15 12.0**	**+2.7**
CLRN				SG	**Sn**	**01 15 25.7**	**+1.5**
CLRN				Trac		01 15 27.3	
	comp=Z,2µm,0.1s						
UPNV	**Upernavik**	**4.44**	**66**	*i* P	**Pn**	**01 15 58.7**	**+3.1**
UPNV				*i* S	**Sn**	**01 16 45.5**	**-1.6**
UPNV				IAML		01 16 52.8	
	comp=Z,25nm,0.4s						
ILON	**Igloolik, Nuna**	**4.53**	**248**	PN	**Pn**	**01 15 58.5**	**+1.7**
ILON				SN	**Sn**	**01 16 48.5**	**-0.9**
ILON				Trac		01 17 09.9	
	comp=Z,147nm,0.5s						
ILON				LG	Lg	01 17 11.0	
KULLO	**Kullorsuaq**	**4.85**	**44**	*i* P	**Pn**	**01 16 04.5**	**+3.3**
KULLO				*i* S	**Sn**	**01 16 54.7**	**-2.6**
KULLO				IAML		01 16 59.4	
	comp=Z,30nm,0.4s						
TULEG	**Thule**	**5.12**	**3**	*e*	**Pn**	**01 16 06.0**	**+1.2**
	baz=196,slow=8.6						
TULEG				*i* P	Pb	01 16 07.4	-10
TULEG				*i*		01 16 08.4	
TULEG				*i* S	**Sn**	**01 17 02.0**	**-1.9**
TULEG				IAML		01 17 06.2	
	comp=Z,26nm,0.3s						
NUUG	**Nuugaatsiaq**	**5.31**	**81**	*i* P	**Pn**	**01 16 10.9**	**+3.5**
NUUG				IAML		01 17 12.7	
	comp=Z,6.9nm,0.3s						
FRB	**Frobisher Bay**	**7.76**	**176**	PN	**Pn**	**01 16 43.2**	**+2.1**
FRB				SN	**Sn**	**01 18 05.1**	**-3.8**
FRB				Trac		01 18 54.3	
	comp=Z,54nm,0.3s						
FRB				LG	Lg	01 18 55.9	
NEEM	**North Greenlan**	**7.80**	**31**	*i* P	**Pn**	**01 16 44.4**	**+2.5**
NEEM				*i*		01 18 08.3	
NEEM				IAML		01 18 11.2	
	comp=Z,14nm,0.4s						
RES	**Resolute Bay**	**7.94**	**306**	PN	**Pn**	**01 16 46.1**	**+2.6**
RES				SN	**Sn**	**01 18 11.5**	**-1.8**
RES				LG	Lg	01 19 01.7	
RES				Trac		01 19 14.4	
	comp=Z,24nm,0.8s						
SFJD	**Kangerlussuaq**	**8.15**	**114**	*i* P	**Pn**	**01 16 48.5**	**+2.1**
SFJD				IAML		01 18 34.1	
	comp=Z,1.8nm,0.3s						
EUNU	**Eureka**	**9.49**	**343**	PN	**Pn**	**01 17 06.9**	**+2.2**
EUNU				SN	**Sn**	**01 18 47.8**	**-3.4**
EUNU				Trac		01 18 59.2	
	comp=Z,756nm,4.5s						
SUMG	**Summit**	**9.71**	**69**	*i* P	**Pn**	**01 17 10.0**	**+1.8**
SUMG				*i* S	**Sn**	**01 18 54.4**	**-2.9**
KNGQ	**Kangiqsujuaq**	**9.95**	**186**	PN	**Pn**	**01 17 12.6**	**+1.5**
KNGQ				SN	**Sn**	**01 18 55.1**	**-7.4**
KNGQ				LG	Lg	01 20 00.3	
KNGQ				Trac		01 20 04.3	
	comp=Z,19nm,0.2s						
ICESG	**Greenland Ices**	**10.41**	**88**	*i* P	**Pn**	**01 17 21.3**	**+3.6**
DBG	**Daneborg**	**14.53**	**56**	*i* P	**Pn**	**01 18 12.6**	**-0.9**
DBG				*i*		01 20 42.7	
DBG				IAML		01 20 51.0	
	comp=Z,1.3nm,0.4s						
NOR	**Nord**	**15.13**	**27**	*e*P	**Pn**	**01 18 20.9**	**-0.8**
NOR				*i*		01 20 58.0	
SCO	**Scoresbysund**	**15.34**	**71**	*i* P	**Pn**	**01 18 24.5**	**+0.1**

*KRNET **27** 01:49:07.1±0.1,39˚38N×73˚51E,mb3.7*
*IDC **27** 01:49:07.5±1.0,39˚33N×73˚37E,h0km,mb3.5/10,*
mbtmp3.5/17,ML2.7/7,Error ellipse: s-maj=18.0km
s-min=14.0km az=133.0
*SOME **27** 01:49:08.6,39˚53N×73˚37E,h0km*
*NNC **27** 01:49:13.8±2.8,39˚65N×73˚63E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=21.3km s-min=11.2km az=173.0
ISC 27 01:49:09.7±0.7,**39˚30N**±0.05×**73˚30E**±0.03,**h10**km,**n63,**
σ**2**s**51**/**93**,**mb3.4**/**10**,**17C-10D,Tajikistan-Xinjiang border**
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.17**	**279**	⇑*i* P	**Pb**	**01 49 32.2**	**-0.1**
	baz=75						
DRK				⇑*i* S	**Sn**	**01 49 50.3**	**+1.6**
	baz=75						
OHH	**Osh**	**1.28**	**342**	⇑*i* P	**Pn**	**01 49 31.0**	**-2.8**
	baz=34						
OHH				⇑*i* S	**Sb**	**01 49 48.7**	**-1.9**
	baz=34						
BTK	**Batken**	**2.06**	**292**	⇑*e* P	**Pb**	**01 49 46.5**	**-0.7**
	baz=89						
BTK				⇑*i* S	**Sg**	**01 50 15.1**	**-0.7**
	baz=89						
GAR	**Garm**	**2.34**	**264**	⇑*i* P	**Pb**	**01 49 50.8**	**-1.2**
	baz=62						
GAR				⇑*i* S	**Sg**	**01 50 23.0**	**-1.8**
	baz=62						
ARLS	**Aral**	**2.67**	**17**	⇑*i* P	**Pn**	**01 49 51.6**	**-1.4**
	baz=14						
ARLS				⇑*i* S	**Sn**	**01 50 24.4**	**-1.1**
	baz=14						
ARK	**Arkit**	**2.69**	**338**	⇑*i* P	**Pn**	**01 49 53.6**	**+0.4**
	baz=35						
ARK				⇑*i* S	**Sn**	**01 50 27.4**	**+1.5**
	baz=35						
TRKS	**Terek-Say**	**2.77**	**324**	⇑*e* P	**Pn**	**01 49 54.4**	**+0.1**
	baz=20						
TRKS				⇑*i* S	**Sn**	**01 50 28.9**	**+1.0**
	baz=20						
NRN	**Naryn**	**2.97**	**43**	⇓*e* P	**Pn**	**01 49 54.8**	**-2.4**
	baz=42						
NRN				⇓*i* S	**Sn**	**01 50 30.1**	**-2.9**
	baz=42						
MRKS	**Merke**	**3.44**	**359**	*e*P	**Pb**	**01 50 08.4**	**-2.4**
	9.2nm,0.3s						
MRKS				*e*S	**Sb**	**01 50 51.5**	**-1.2**
	32nm,0.3s						
MRKS	**Merke**	**3.44**	**359**	Pg	**Pb**	**01 50 08.4**	**-2.4**
	9.2nm,0.3s						
MRKS				Lg	Lg	01 50 51.5	
	32nm,0.3s						
AAK	**Ala-Archa**	**3.45**	**15**	Pn	**Pn**	**01 50 04.8**	**+1.1**
	4.9nm,0.3s,baz=169,slow=10,SNR=77						
AAK				Sn	**Sn**	**01 50 47.9**	**+3.1**
	2.9nm,0.3s,baz=137,slow=18,SNR=1.8						
	29nm,0.7s						
IUG	**Iuzhnay**	**3.77**	**320**	*e*P	**Pb**	**01 50 16.7**	**+0.3**
	26nm,0.5s						
IUG				*e*S	**Sb**	**01 51 05.7**	**+3.5**
	121nm,0.0s						
DZA	**Taraz**	**3.88**	**338**	*e*P	**Pb**	**01 50 16.9**	**-1.4**
	29nm,0.1s						
DZA				*e*S	**Sb**	**01 51 05.6**	**+0.2**
	77nm,0.3s						
CHM	**Chimkent**	**4.11**	**318**	*e*P	**Pb**	**01 50 23.1**	**+0.8**
	94nm,0.4s						
CHM				*e*S	**Sb**	**01 51 17.0**	**+5.0**
	166nm,0.3s						
KST	**Kastek**	**4.25**	**27**	*e*P	**Pb**	**01 50 23.9**	**-0.6**
	8.3nm,0.6s						
KST				*e*S	**Sb**	**01 51 18.3**	**+2.4**
	22nm,0.8s						
KST	**Kastek**	**4.25**	**27**	Pg	**Pb**	**01 50 23.9**	**-0.6**
	8.3nm,0.6s						
KST				Lg	Lg	01 51 18.3	
	22nm,0.8s						
SGDS	**Sogindy**	**4.27**	**13**	*e*P	**Pb**	**01 50 23.7**	**-1.1**
	2.2nm,0.6s						
SGDS				*e*S	**Sb**	**01 51 18.2**	**+1.8**
	11nm,0.5s						
SGDS	**Sogindy**	**4.27**	**13**	Pg	**Pb**	**01 50 23.6**	**-1.3**
	3.9nm,0.4s						
SGDS				Lg	Lg	01 51 18.1	
	8.7nm,0.4s						
KK31	**Karatay Array**	**4.34**	**332**	⇑Pn	**Pn**	**01 50 17.3**	**+1.5**
	2.3nm,0.4s,baz=132,slow=12,SNR=80						
KK31				⇓Pg	**Pb**	**01 50 28.0**	**+1.9**
	5.8nm,0.5s,baz=138,slow=13,SNR=7.8						
KK31				⇓Sn	**Sn**	**01 51 11.2**	**+4.8**
	6.0nm,0.3s,baz=154,slow=21,SNR=6.4						
KK31				⇓Lg	Lg	01 51 23.5	
	18nm,0.6s,baz=135,slow=32						
DGS	**Degeres**	**4.36**	**25**	*e*P	**Pb**	**01 50 26.8**	**+0.4**
	8.0nm,0.4s						
DGS				*e*S	**Sb**	**01 51 23.3**	**+4.2**
	26nm,0.9s						
DGS	**Degeres**	**4.36**	**25**	Pg	**Pb**	**01 50 26.8**	**+0.4**
	8.0nm,0.4s						
DGS				Lg	Lg	01 51 23.3	
	26nm,0.9s						
MTBS	**Maitube**	**4.50**	**31**	*e*P	**Pb**	**01 50 28.7**	**-0.1**
	7.9nm,0.5s						
MTBS				*e*S	**Sb**	**01 51 26.1**	**+3.1**
	9.6nm,0.5s						
MTBS	**Maitube**	**4.50**	**31**	Pg	**Pb**	**01 50 28.7**	**-0.1**
	7.9nm,0.5s						
MTBS				Lg	Lg	01 51 26.1	
	9.6nm,0.5s						
KRBS	**Karabastau**	**4.74**	**21**	*e*P	**Pb**	**01 50 33.4**	**+0.5**
	5.1nm,0.4s						
KRBS				*e*S	**Sb**	**01 51 34.5**	**+4.5**
	15nm,0.8s						
KRBS	**Karabastau**	**4.74**	**21**	Pg	**Pb**	**01 50 32.8**	**-0.1**
KRBS				Lg	Lg	01 51 34.3	
MDOK	**Medeo**	**4.78**	**35**	*e*P	**Pb**	**01 50 34.9**	**+1.1**
	6.8nm,0.5s						
MDOK				*e*S	**Sb**	**01 51 37.0**	**+5.6**
	11nm,0.8s						
MDOK	**Medeo**	**4.78**	**35**	⇓Pg	**Pb**	**01 50 33.4**	**-0.3**
	32nm,1.2s						
MDOK				Pg	Pg	01 50 34.9	-6.5
	6.8nm,0.5s						
MDOK				⇓Lg	Lg	01 51 30.0	
	29nm,0.9s						
MDOK				Lg	Lg	01 51 37.0	
	11nm,0.8s						
KOTS	**Kotyrbulak**	**4.87**	**35**	*e*P	**Pb**	**01 50 34.8**	**-0.4**
	10nm,0.7s						
KOTS				*e*S	**Sb**	**01 51 36.9**	**+3.1**
	55nm,0.8s						
KOTS	**Kotyrbulak**	**4.87**	**35**	Pg	**Pb**	**01 50 34.8**	**-0.4**
	10nm,0.7s						
KOTS				Lg	Lg	01 51 36.9	
	55nm,0.8s						
KTBS	**Karatobe**	**5.09**	**29**	*e*P	**Pb**	**01 50 38.8**	**-0.1**
	5.8nm,0.5s						
KTBS				*e*S	**Sb**	**01 51 43.8**	**+3.8**
	26nm,0.4s						
KTBS	**Karatobe**	**5.09**	**29**	Pg	**Pb**	**01 50 38.8**	**-0.1**
	5.8nm,0.5s						
KTBS				Lg	Lg	01 51 43.8	
	26nm,0.4s						
KUU	**Kurty**	**5.12**	**25**	*e*P	**Pb**	**01 50 39.5**	**+0.1**
	5.9nm,0.5s						
KUU				*e*S	**Sb**	**01 51 44.8**	**+3.8**
	20nm,0.7s						
KUU	**Kurty**	**5.12**	**25**	Pg	**Pb**	**01 50 39.6**	**+0.1**
	5.9nm,0.5s						
KUU				Lg	Lg	01 51 44.8	
	20nm,0.7s						
CHKK	**Chushkaly**	**5.32**	**30**	*e*P	**Pb**	**01 50 42.8**	**-0.1**
	3.6nm,0.4s						
CHKK				*e*S	**Sb**	**01 51 51.1**	**+4.3**
	12nm,0.3s						
CHKK	**Chushkaly**	**5.32**	**30**	Pg	**Pb**	**01 50 42.8**	**-0.1**
	3.6nm,0.4s						
CHKK				Lg	Lg	01 51 51.2	
	12nm,0.3s						
SATY	**Saty**	**5.38**	**44**	*e*P	**Pb**	**01 50 45.1**	**+1.2**
	6.4nm,0.7s						
SATY				*e*S	**Sb**	**01 51 54.8**	**+6.2**
	11nm,0.6s						
SATY	**Saty**	**5.38**	**44**	Pg	**Pb**	**01 50 45.1**	**+1.2**
	6.4nm,0.7s						
SATY				Lg	Lg	01 51 54.8	
	11nm,0.6s						
BTLS	**Baital**	**5.76**	**5**	*e*P	**Pb**	**01 50 51.4**	**+1.1**
	1.6nm,0.7s						
BTLS				*e*S	**Sb**	**01 52 05.2**	**+5.8**
	4.2nm,0.7s						
BTLS	**Baital**	**5.76**	**5**	Pg	**Pb**	**01 50 49.8**	**-0.4**
	1.7nm,0.2s						
BTLS				Lg	Lg	01 52 03.2	
	2.5nm,0.4s						
KPKS	**Kokpek**	**5.81**	**43**	*e*P	**Pb**	**01 50 52.9**	**+1.8**
	5.2nm,0.4s						
KPKS				*e*S	**Sb**	**01 52 08.1**	**+7.3**
	9.8nm,0.4s						
KPKS	**Kokpek**	**5.81**	**43**	Pg	**Pb**	**01 50 50.9**	**-0.2**
	6.2nm,0.6s						
KPKS				Lg	Lg	01 52 04.6	
	9.3nm,0.6s						
PDGK	**Podgornoye**	**6.16**	**47**	Pg	**Pb**	**01 51 01.7**	**+4.5**
	2.0nm,0.7s						
PDGK				Lg	Lg	01 52 22.6	
	3.9nm,0.7s						
PDGK	**Podgornoye**	**6.16**	**47**	⇓Pg	**Pb**	**01 50 58.7**	**+1.6**
	5.2nm,0.7s						
PDGK				⇑Lg	Lg	01 52 14.4	
	15nm,0.9s						
DJR	**Jarkent**	**6.98**	**42**	*e*P	**Pb**	**01 51 15.0**	**+3.9**
	1.6nm,0.6s						
DJR				*e*S	**Sg**	**01 52 46.0**	**-7.8**
	3.6nm,0.7s						
DJR	**Jarkent**	**6.98**	**42**	Pg	**Pb**	**01 51 15.0**	**+3.9**
	1.6nm,0.6s						
DJR				Lg	Lg	01 52 46.0	
	3.6nm,0.7s						
OTUK	**Ortayu**	**8.97**	**356**	⇑Pn	**Pn**	**01 51 19.2**	**0.0**
	5.0nm,1.2s						
OTUK				⇓Lg	Lg	01 53 44.7	
	12nm,1.1s						
MKAR	**Makanchi Array**	**9.96**	**38**	Pn	**Pn**	**01 51 34.0**	**+1.1**
	baz=204,slow=17,SNR=1.4						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**11.91**	**16**	Pn	**Pn**	**01 51 57.5**	**-1.9**
	baz=210,slow=9.2,SNR=2.7						
KURBB				Lg	Lg	01 55 20.9	
	baz=240,slow=42,SNR=4.4						
	0.2nm,0.7s						
GEYT	**Alibeck**	**11.96**	**268**	Pn	**Pn**	**01 52 01.1**	**+0.9**
	0.2nm,0.3s,baz=90,slow=7.8,SNR=1.7						
GEYT				Sn	**Sn**	**01 54 13.9**	**+0.3**
	0.2nm,0.3s,baz=74,slow=16,SNR=5.4						
	0.4nm,0.3s						
AB31	**Akbulak array**	**13.78**	**321**	⇓Pn	**Pn**	**01 52 27.5**	**+2.5**
	0.5nm,0.6s,baz=134,slow=13,SNR=10						
BVAR	**Borovoye Array**	**13.87**	**353**	Pn	**Pn**	**01 52 23.0**	**-3.2**
	baz=170,slow=26,SNR=4.3						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**16.62**	**24**	Pn	**Pn**	**01 53 01.9**	**-0.7**
	0.2nm,0.3s,baz=208,slow=12,SNR=4.8						
	0.8nm,0.5s						
ARU	**Arti**	**19.71**	**335**	P	**P**	**01 53 38.8**	**-0.3**
	baz=144,slow=19,SNR=3.1						
	0.9nm,0.4s						
BELG	**Belogornoye**	**22.02**	**315**	P	**P**	**01 54 04.2**	**+0.2**
	6.4nm,0.9s,baz=253,slow=14,SNR=3.3						
	6.4nm,0.9s						
SONM	**Songino Array**	**25.30**	**59**	P	**P**	**01 54 36.0**	**-0.4**
	0.4nm,0.8s,baz=283,slow=7.1,SNR=2.4						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**30.43**	**284**	P	**P**	**01 55 23.3**	**+0.9**
	0.4nm,0.6s,baz=69,slow=9.4,SNR=2.6						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**32.72**	**305**	P	**P**	**01 55 41.3**	**-0.9**
	0.1nm,0.3s,baz=77,slow=7.4,SNR=4.1						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**36.25**	**323**	P	**P**	**01 56 11.8**	**-0.9**
	2.8nm,0.9s,baz=111,slow=7.9,SNR=6.9						
	2.8nm,0.9s						
NOA	**NORSAR Array B**	**43.29**	**321**	P	**P**	**01 57 10.5**	**-0.8**
	0.7nm,0.6s,baz=92,slow=7.9,SNR=1.9						
	0.7nm,0.6s						
ESDC	**Sonseca Array**	**57.78**	**297**	P	**P**	**01 59 00.7**	**-0.4**
	0.3nm,0.5s,baz=60,slow=7.0,SNR=5.5						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**71.58**	**17**	P	**P**	**02 00 28.1**	**-2.6**
	0.2nm,0.7s,baz=318,slow=4.9,SNR=2.8						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**81.98**	**124**	P	**P**	**02 01 29.3**	**-0.7**
	0.2nm,0.6s,baz=330,slow=5.0,SNR=4.7						
	0.2nm,0.6s						
**ASA

PMR	**Palmer**	**16.48**	**44**	Pn		**Pn**	**02 09 34.1**	**+0.1**
GHO	**Glory Hole Cre**	**16.65**	**43**	Pn		**Pn**	**02 09 35.4**	**-0.8**
KTH	**Kantishna Hill**	**16.76**	**36**			**Pn**	**02 09 38.5**	**+1.0**
KTH				IAmb		IAmb	02 10 02.4	
	comp=Z,8.8nm,1.3s							
SCM	**Sheep Creek Mo**	**17.37**	**44**	Pn		**Pn**	**02 09 44.0**	**-1.2**
M24K	**Tolsona, Glenn**	**17.98**	**44**			**Pn**	**02 09 51.7**	**-0.9**
HDA	**Harding Lake**	**18.70**	**37**	P		**P**	**02 09 59.7**	**-1.1**
HDA				IAmb		IAmb	02 10 11.4	
	comp=Z,5.0nm,0.7s							
IL31		**18.91**	**36**	P		**P**	**02 10 03.0**	**0.0**
ILAR	**Eielson Array**	**18.91**	**36**	P		**Pn**	**02 10 04.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=226,slow=8.8,SNR=16							
	comp=Z,0.5nm,0.6s							
H24K	**Noodor Dome**	**19.15**	**33**	P		**P**	**02 10 05.5**	**-0.2**
H24K				IAmb		IAmb	02 10 14.0	
	comp=Z,4.6nm,1.2s							
J25K	**Salcha River,**	**19.40**	**38**	P		**P**	**02 10 06.5**	**-1.9**
SCRK	**Sand Creek**	**19.65**	**40**	P		**P**	**02 10 10.1**	**-1.1**
J26L	**Joseph Creek**	**20.04**	**39**	P		**P**	**02 10 14.9**	**-0.6**
J26L				IAmb		IAmb	02 10 29.8	
	comp=Z,3.1nm,0.8s							
L27K	**Beaver Creek,**	**20.20**	**44**	P		**P**	**02 10 17.4**	**+0.2**
L27K				IAmb		IAmb	02 10 29.3	
	comp=Z,3.4nm,1.5s							
BCAR	**Beaver Creek A**	**20.22**	**44**	P		Pn	02 10 19.9	+0.4
K27K	**Chicken**	**20.44**	**41**	P		**P**	**02 10 21.2**	**+1.5**
K27K				IAmb		IAmb	02 10 27.8	
	comp=Z,7.2nm,1.3s							
I26K	**Coal Creek Min**	**20.55**	**37**	P		**P**	**02 10 20.2**	**-0.8**
EGAK	**Eagle**	**21.10**	**39**	P		**P**	**02 10 26.4**	**-0.4**
EGAK				IAmb		IAmb	02 10 32.3	
	comp=Z,4.5nm,0.9s							
P29M	**Windy Craggy**	**21.36**	**54**	P		**P**	**02 10 30.5**	**+0.8**
P29M				IAmb		IAmb	02 11 13.6	
	comp=Z,5.4nm,1.0s							
DLBC	**Dease Lake**	**25.32**	**58**	P		**P**	**02 11 10.3**	**+1.4**
DLBC				IAmb		IAmb	02 11 28.0	
	comp=Z,5.1nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**35.47**	**213**	T		T	02 50 38.0	
	baz=21							
H11N3	**WAKE ISLAND Hy**	**35.48**	**213**	T		T	02 50 40.2	
	baz=21,slow=74							
H11N1	**WAKE ISLAND Hy**	**35.49**	**213**	T		T	02 50 40.9	
	baz=21,slow=74							
H11S1	**WAKE ISLAND Hy**	**36.68**	**213**	T		T	02 51 55.3	
	baz=20,slow=76,SNR=8.1							
H11S2	**WAKE ISLAND Hy**	**36.69**	**213**	T		T	02 51 56.3	
	baz=20,slow=76,SNR=7.5							
H11S3	**WAKE ISLAND Hy**	**36.69**	**213**	T		T	02 51 58.1	
	baz=20,slow=76,SNR=3.5							
PDAR	**Pinedale Array**	**42.94**	**76**	P		**P**	**02 13 41.9**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=323,slow=3.0,SNR=8.7							
	comp=Z,0.5nm,0.5s							
TXAR	**Lajitas Array**	**55.23**	**85**	P		**P**	**02 15 14.8**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=279,slow=4.2,SNR=5.7							
	comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**88.12**	**227**	P		**P**	**02 18 32.3**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=42,slow=5.1,SNR=1.9							
	comp=Z,0.2nm,0.7s							

NNC 27 02:08:58.5±2.3, 38°09N×76°90E, h0km, mb4.0, mpv3.6, 3C-4D, Error ellipse: s-maj=16.3km s-min=10.7km az=156.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**4.94**	**0**	Pg	Pg	02 10 29.7	-3.5
TNSS	7.5nm,0.4s			Lg	Lg	02 11 35.7	
	4.4nm,0.5s						
KST	**Kastek**	**5.00**	**352**	Pg	Pg	02 10 32.6	-1.8
KST	3.5nm,0.6s			Lg	Lg	02 11 41.5	
	7.9nm,0.5s						
MDOK	**Medeo**	**5.07**	**1**	⇓Pg	Pb	02 10 31.1	+2.9
MDOK	15nm,0.8s			Pg	Pg	02 10 32.0	-3.7
	6.8nm,0.5s						
MDOK				⇓Lg	Lg	02 11 39.4	
	25nm,1.0s						
MDOK				Lg	Lg	02 11 40.8	
	12nm,0.5s						
SATY	**Saty**	**5.09**	**12**	Pg	Pb	02 10 29.8	+1.2
SATY	4.7nm,0.4s			Lg	Lg	02 11 35.9	
	11nm,0.4s						
KOTS	**Kotyrbulak**	**5.14**	**2**	Pg	Pg	02 10 33.8	-3.3
KOTS	11nm,0.7s			Lg	Lg	02 11 42.8	
	29nm,0.5s						
UZB	**Uzynbulak**	**5.30**	**17**	Pg	Pb	02 10 35.5	+3.3
UZB	2.9nm,0.6s			Lg	Lg	02 11 45.5	
	6.2nm,0.4s						
SHLS	**Shalkode**	**5.42**	**20**	Pg	Pg	02 10 39.8	-2.6
SHLS	6.4nm,0.5s			Lg	Lg	02 11 53.0	
	13nm,0.5s						
MRKS	**Merke**	**5.43**	**330**	Pg	Pg	02 10 39.4	-3.2
MRKS	1.9nm,0.3s			Lg	Lg	02 11 53.5	
	5.8nm,0.5s						
KURS	**Kuram**	**5.48**	**10**	Pg	Pg	02 10 39.4	-4.1
KURS	3.6nm,0.5s			Lg	Lg	02 11 52.4	
	4.7nm,0.6s						
KPKS	**Kokpek**	**5.54**	**14**	Pg	Pb	02 10 38.6	+2.4
KPKS	5.1nm,0.3s			Lg	Lg	02 11 51.5	
	26nm,0.5s						
PDGK	**Podgornoye**	**5.59**	**20**	Pg	Pb	02 10 40.0	+3.0
PDGK	2.9nm,0.5s			Lg	Lg	02 11 53.4	
	3.7nm,0.5s						
PDGK	**Podgornoye**	**5.59**	**20**	⇓Pg	Pb	02 10 37.3	+0.3
PDGK	5.6nm,0.7s			⇑Lg	Lg	02 11 58.2	
	8.6nm,0.7s						
SGDS	**Sogindy**	**5.63**	**343**	Pg	Pg	02 10 43.3	-3.1
SGDS	2.4nm,0.7s			Lg	Lg	02 11 58.9	
	3.8nm,0.4s						
KRBS	**Karabastau**	**5.68**	**351**	Pg	Pg	02 10 43.3	-4.0
KRBS	2.6nm,0.5s			Lg	Lg	02 11 59.1	
	5.5nm,0.5s						
KUU	**Kurty**	**5.81**	**356**	Pg	Pg	02 10 45.6	-4.3
KUU	2.6nm,1.0s			Lg	Lg	02 12 03.9	
	5.4nm,0.5s						
BLB	**Baldybastay**	**6.12**	**11**	Pg	Pb	02 10 49.4	+3.3
BLB	5.1nm,0.3s			Lg	Lg	02 12 10.0	
	12nm,0.3s						
DJR	**Jarkent**	**6.61**	**18**	Pg	Pg	02 11 00.4	-4.7
DJR	1.6nm,0.4s			Lg	Lg	02 12 28.4	
	3.5nm,0.4s						
IUG	**luzhnay**	**6.64**	**310**	Pg	Pg	02 11 01.2	-4.6
IUG	2.2nm,0.3s			Lg	Lg	02 12 31.0	
	6.2nm,0.6s						
KK31	**Karatay Array**	**6.98**	**318**	⇑Pn	Pn	02 10 40.1	-1.9
KK31	0.3nm,0.3s,baz=130,slow=13,SNR=6.5			⇑Sn	Sn	02 12 00.0	-2.1
	0.5nm,0.4s,baz=139,slow=31						
KK31				⇓Lg	Lg	02 12 38.2	
	1.2nm,0.6s,baz=134,slow=30						
BTLS	**Baital**	**7.27**	**344**	Pg	Pg	02 11 12.7	-5.0
BTLS	0.7nm,0.3s			Lg	Lg	02 12 50.0	
	2.6nm,0.7s						

*IDC **27** 02:20:13.3±2.2, 33°75S×72°41W, h0km, mb3.8/2, mbtmp3.9/5, ML4.0/3, MS3.2/7, Error ellipse: s-maj=62.6km s-min=29.6km az=104.0*
*GUC **27** 02:20:17.4±0.8, 33°85S×72°04W, h43km±2km, ML3.9*
ISC 27 02:20:16.6±1.2, 33°82S±0°03×72°09W±0°04, h20km±4km, n34, σ0°65/53, MS3.4/4, 7C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.69**	**171**	*eP*	**Pg**	**02 20 30.1**	**-0.2**
BO03				*eS*	**Sg**	**02 20 39.6**	**+0.1**
	comp=N,9μm,0.5s				IAML	02 20 41.4	
MT01	**Popeta**	**0.70**	**94**	⇓*eP*	**Pg**	**02 20 30.5**	**0.0**
MT01				*eS*	**Sg**	**02 20 39.8**	**-0.2**
MT01					IAML	02 20 40.5	
	comp=N,13μm,0.3s						
VA01	**Torpederas**	**0.87**	**25**	⇑*eP*	**Pn**	**02 20 33.8**	**0.0**
VA01				*eS*	**Sn**	**02 20 45.9**	**0.0**
MT09	**Talagante**	**0.92**	**88**	⇓*eP*	**Pb**	**02 20 33.9**	**-0.1**
MT09				*eS*	**Sb**	**02 20 46.0**	**+0.1**
MT09					IAML	02 20 46.8	
	comp=N,8μm,0.1s						
MT02	**Curacav**	**0.97**	**55**	*eP*	**Pn**	**02 20 34.7**	**-0.5**
MT02				*eS*	**Sg**	**02 20 48.0**	**-0.4**
MT02					IAML	02 20 49.3	
	comp=N,3μm,0.4s						
BO01	**Tunca**	**1.02**	**125**	*eP*	**Pb**	**02 20 34.6**	**-0.9**
BO01				*eS*	**Sb**	**02 20 48.1**	**-0.4**
GO05	**Huala**	**1.20**	**174**	⇑*eP*	**Pn**	**02 20 37.9**	**-0.4**
GO05				*eS*	**Sb**	**02 20 53.0**	**-0.9**
GO05					IAML	02 20 58.8	
	comp=E,2μm,0.4s						
MT05	**Renca**	**1.21**	**70**	*eP*	**Pn**	**02 20 38.2**	**-0.3**
MT05				*eS*	**Sb**	**02 20 53.6**	**-0.5**
MT05					IAML	02 21 03.5	
	comp=E,5μm,0.4s						
ROCH	**El Roble**	**1.24**	**47**	⇓*eP*	**Pb**	**02 20 39.2**	**-0.3**
ROCH				⇑*eP*	**Pb**	**02 20 39.1**	**-0.3**
ROCH				*eS*	**Sn**	**02 20 55.5**	**+0.2**
ROCH				*eS*	**Sg**	**02 20 55.7**	**-1.1**
ROCH					IAML	02 21 00.7	
	comp=E,4μm,0.5s						
ROCH					IAML	02 21 00.8	
	comp=N,5μm,0.3s						
BO04	**La Punta**	**1.25**	**98**	*eP*	**Pb**	**02 20 39.0**	**-0.6**
BO04				*eS*	**Sn**	**02 20 54.7**	**-0.6**
BO04					IAML	02 21 02.6	
	comp=N,3μm,0.2s						
PEL	**Peldehue**	**1.35**	**61**	⇓*eP*	**Pb**	**02 20 41.2**	**-0.2**
PEL				*eS*	**Sb**	**02 20 58.0**	**-0.3**
PEL					IAML	02 21 06.0	
	comp=N,4μm,0.4s						
MT03	**Universidad Ad**	**1.36**	**77**	*eP*	**Pb**	**02 20 40.7**	**-0.7**
MT03				*eS*	**Sb**	**02 20 58.4**	**-0.1**
MT03					IAML	02 21 01.6	
	comp=E,5μm,0.3s						
VA06	**Catapilco**	**1.42**	**28**	⇑*eP*	**Pb**	**02 20 41.3**	**-1.1**
VA06				*eS*	**Sb**	**02 20 59.7**	**-0.3**
VA06					IAML	02 21 08.5	
	comp=E,5μm,0.5s						
BO02	**Sierra Bellavi**	**1.46**	**132**	*eP*	**Pn**	**02 20 41.8**	**-0.2**
BO02				*eS*	**Sn**	**02 21 00.4**	**-0.2**
BO02					IAML	02 21 07.0	
	comp=E,6μm,0.3s						
LMEL	**Las Melosas**	**1.57**	**92**	⇑*eP*	**Pn**	**02 20 43.5**	**-0.2**
LMEL				*eS*	**Sn**	**02 21 03.0**	**-0.5**
LMEL					IAML	02 21 08.5	
	comp=E,4μm,0.2s						
FCH	**Farellones**	**1.58**	**73**	*eP*	**Pb**	**02 20 44.6**	**-0.8**
FCH				*eS*	**Sb**	**02 21 05.4**	**+0.2**
FCH					IAML	02 21 11.4	
	comp=E,4μm,0.3s						
VA03	**San Esteban**	**1.66**	**51**	⇑*eP*	**Pb**	**02 20 46.0**	**-0.7**
VA03				*eS*	**Sb**	**02 21 06.8**	**-0.5**
VA03					IAML	02 21 13.3	
	comp=E,5μm,0.3s						
ML02	**Panimavida**	**2.02**	**164**	⇑*eP*	**Pn**	**02 20 50.4**	**+0.7**
ML02				*eS*	**Sn**	**02 21 14.4**	**+0.1**
ML02					IAML	02 21 24.6	
	comp=N,3μm,0.5s						
CFA	**Coronel Fontan**	**3.93**	**57**	Pn		**Pn**	**02 21 18.1**	**+2.2**
	comp=N,3.0nm,0.3s,baz=235,slow=13,SNR=54							
CFA				Sn		**Sb**	**02 22 12.7**	**+0.3**
	comp=N,23nm,0.3s,baz=356,slow=11,SNR=6.4							
CFA				LR		LR	02 23 02.1	
	comp=N,404nm,18.1s,baz=292,slow=41							
	comp=N,11nm,0.3s							
H03S1	**Juan Fernandez**	**5.67**	**268**	Pn		**Pn**	**02 21 39.0**	**-0.5**
	baz=84,slow=13							
H03S1				T		T	02 27 34.2	
	baz=90,slow=74,SNR=1762							
H03S3	**Juan Fernandez**	**5.67**	**268**	Pn		**Pn**	**02 21 39.5**	**-0.1**
	baz=84,slow=13							
H03S3				T		T	02 27 37.4	
	baz=90,slow=74,SNR=1562							
H03S2	**Juan Fernandez**	**5.69**	**268**	Pn		**Pn**	**02 21 39.3**	**-0.4**
	baz=84,slow=13							
H03S2				T		T	02 27 40.9	
	baz=90,slow=74,SNR=1702							
H03N1	**Juan Fernandez**	**5.70**	**272**	Pn		**Pn**	**02 21 40.8**	**+0.9**
H03N1				T		T	02 27 46.6	
	baz=98,slow=74,SNR=17							
H03N3	**Juan Fernandez**	**5.71**	**272**	Pn		**Pn**	**02 21 41.0**	**+0.9**
H03N3				T		T	02 27 40.5	
	baz=98,slow=74,SNR=36							
H03N2	**Juan Fernandez**	**5.72**	**272**	Pn		**Pn**	**02 21 41.2**	**+1.0**
H03N2				T		T	02 27 44.8	
	baz=98,slow=74,SNR=42							
PLCA	**Paso Flores**	**7.01**	**170**	Pn		**Pn**	**02 21 59.4**	**+1.1**
	comp=N,0.8nm,0.3s,baz=331,slow=12,SNR=24							
PLCA				LR		LR	02 25 02.1	
	comp=N,122nm,18.1s,baz=348,slow=40							
	comp=N,2.0nm,0.4s							
CPUP	**Villa Florida**	**14.79**	**64**	Pn		**P**	**02 23 50.6**	**+0.1**
	comp=N,0.2nm,0.3s,baz=243,slow=18,SNR=3.4							
CPUP				LR		LR	02 28 52.9	
	comp=N,24nm,21.6s,baz=233,slow=35							
LPAZ	**La Paz**	**17.81**	**13**	P		**P**	**02 24 24.8**	**+0.1**
	comp=N,0.2nm,0.3s,baz=190,slow=6.8,SNR=12							
	comp=N,1.7nm,0.6s							
SIV	**San Ignacio**	**20.34**	**32**	P		**P**	**02 24 51.2**	**-0.6**
	comp=N,1.5nm,0.7s,baz=204,slow=10,SNR=11							
SIV				LR		LR	02 33 47.5	
	comp=N,67nm,20.9s,baz=268,slow=40							
	comp=N,1.5nm,0.7s							
BDFB	**Brasilia**	**28.27**	**56**	P		**P**	**02 26 10.2**	**+1.3**
	comp=N,1.8nm,0.7s,baz=207,slow=9.7,SNR=3.2							
BDFB				LR		LR	02 38 37.3	
	comp=N,151nm,21.3s,baz=200,slow=39							
	comp=N,1.8nm,0.7s							
PTGA	**Pitinga**	**34.82**	**22**	LR		LR	02 43 30.0	
	comp=N,48nm,18.1s,baz=236,slow=40							
ELK	**Elko**	**84.18**	**329**	LR		LR	03 07 07.3	
	comp=N,18nm,20.6s,baz=261,slow=34							
ZALV	**Zalesovo Beam**	**154.09**	**32**	PKPbc		**PKiKP**	**02 40 14.5**	**+0.1**
	comp=N,1.1nm,0.6s,baz=260,slow=2.6,SNR=4.9							
MKAR	**Makanchi Array**	**156.68**	**49**	PKPab		**PKPab**	**02 40 39.4**	**0.0**
	comp=N,0.3nm,0.6s,baz=287,slow=4.1,SNR=2.4							

IDC 27 02:23:03.2±79.0, 18°66S×165°69E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1309.0km s-min=118.7km az=72.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.39**	**234**	P	P	02 28 32.5	+0.2
	1.2nm,0.8s,baz=52,slow=12,SNR=2.9						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**29.60**	**262**	P	P	02 29 11.6	+1.3
	0.6nm,1.1s,baz=91,slow=9.0,SNR=3.3						
	0.6nm,1.1s						
ASAR	**Alice Springs**	**30.02**	**255**	P	P	02 29 12.8	-1.3
	0.6nm,0.8s,baz=80,slow=9.1,SNR=6.2						
	0.6nm,0.8s						

IDC 27 02:24:55.0±22.0, 25°11S×179°55E, h462km±212km, mb3.4/5, mbtmp4.3/5, Error ellipse: s-maj=146.0km s-min=32.2km az=55.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.09**	**272**	P	P	02 30 34.9	+0.5
	6.5nm,0.4s,baz=102,slow=11,SNR=20						
	6.5nm,0.4s						
STKA	**Stephens Creek**	**33.90**	**250**	P	P	02 30 59.3	+1.1
	1.7nm,0.4s,baz=88,slow=11,SNR=14						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**41.44**	**262**	P	P	02 31 59.8	-0.6
	1.5nm,0.6s,baz=96,slow=7.9,SNR=25						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**41.93**	**268**	P	P	02 32 02.7	-1.5
	3.9nm,0.6s,baz=104,slow=8.1,SNR=36						
	3.9nm,0.6s						
QSPA	**South Pole Qui**	**64.98**	**180**	P	P	02 34 47.6	-0.4
	0.9nm,0.6s,baz=4.0,slow=2.4,SNR=5.2						
	0.9nm,0.6s						
BRTR	**Keskin Array B**	**147.96**	**305**	PKPbc	PKPbc	02 43 48.3	+0.4
	0.4nm,0.6s,baz=98,slow=5.7,SNR=4.0						

*IDC **27** 02:27:50.6±3.0, 37°12N×141°63E, h0km, mb3.3/3, mbtmp3.2/4, ML2.3/1, MS2.9/1, Error ellipse: s-maj=70.8km s-min=33.9km az=48.0*
*NIED **27** 02:27:52.6, 37°18N×141°52E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.26; $M_{\theta\theta}$=1.24; $M_{\phi\phi}$=3.50; $M_{r\theta}$=0.82; $M_{r\phi}$=2.28; $M_{\theta\phi}$=2.48; Fault plane solution: M_0=4.58000×10^{14} NP1:ϕ_s58.00000°, δ43.00000°, λ=-29.00000°. NP2:ϕ_s170.00000°, δ70.00000°, λ=-129.00000°.*
*JMA **27** 02:27:52.6±0.2, 37°2N×140°4×14°2E, h30km±1km, MV3.5/40, E OFF FUKUSHIMA PREF.*
ISC 27 02:27:53.0±1.8, 37°19N±0°04×141°51E±0°07, h19km±5km, n20, σ0°75/23, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**289**	*i* P	**Pb**	**02 28 03.1**	**-0.6**
JFK				S	**Sb**	**02 28 10.9**	**0.0**
JMST	**Minamisoumatoc**	**0.72**	**317**	*i* P	**Pb**	**02 28 06.3**	**-0.6**
JMST				S	**Sg**	**02 28 16.9**	**-0.1**
JFFD	**Fukushimafurud**	**0.76**	**263**	*i* P	**Pb**	**02 28 07.0**	**-0.6**
JFFD				S	**Sb**	**02 28 17.2**	**-0.4**
JMM	**Marumori**	**0.88**	**320**	*i* P	**Pb**	**02 28 09.0**	**-0.6**
JMM				S	**Sb**	**02 28 20.9**	**0.0**
JHO	**Hitachi**	**0.95**	**233**	P	**Pb**	**02 28 09.4**	**-1.4**
JHO				*e*S	**Sb**	**02 28 22.1**	**-0.9**
JIO	**Ouri**	**1.27**	**354**	P	**Pn**	**02 28 15.2**	**-0.4**
JIO				*e*S	**Sn**	**02 28 31.4**	**-0.7**
JSB	**Shiboa**	**1.29**	**260**	P	**Pn**	**02 28 16.1**	**+0.2**
JSB				*e*S	**Sg**	**02 28 34.0**	**-0.8**
JOU	**Okura**	**1.35**	**331**	P	**Pn**	**02 28 16.9**	**+0.2**
JOU				S	**Sg**	**02 28 35.7**	**-1.0**
JFY	**Yanaizu**	**1.45**	**279**	*i* P	**Pb**	**02 28 18.9**	**-0.5**
JFY				S	**Sb**	**02 28 38.1**	**+0.6**
MJAR	**Matsushiro Arr**	**2.72**	**257**	Pn	**Pn**	**02 28 36.4**	**+0.8**
	0.5nm,0.3s,baz=83,slow=16,SNR=21						
MJAR				Sn	**Sb**	**02 29 14.5**	**+0.5**
	0.5nm,0.3s,baz=330,slow=18,SNR=2.9						
	4.1nm,0.4s						
KSRS	**Korea Array**	**10.82**	**275**	LR	LR	02 34 25.6	
	comp=Z,57nm,19.1s,baz=90,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	03 03 11.1	
	baz=314,slow=75,SNR=107						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	03 03 11.2	
	baz=314,slow=75,SNR=135						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	03 03 12.5	
	baz=314,slow=75,SNR=93						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	03 04 04.6	
	baz=316,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	03 04 04.7	
	baz=316,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	03 04 04.5	
	baz=316,slow=76,SNR=36						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**02 36 01.3**	**+1.5**
	0.3nm,0.7s,baz=91,slow=7.2,SNR=2.3						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**57.23**	**188**	P	**P**	**02 37 39.0**	**+0.1**
	0.3nm,0.5s,baz=6.1,slow=7.5,SNR=7.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**60.95**	**188**	P	**P**	**02 38 05.4**	**+0.6**
	0.2nm,0.7s,baz=4.2,slow=5.0,SNR=2.9						
	0.2nm,0.7s						

*WEL **27** 02:42:49.9±0.2, 40°S×175°5E, h5km, M3.9/69, ML4.2/49, MLv3.9/69, Error ellipse: s-maj=0.0km s-min=0.0km az=101.2*
*NOU **27** 02:42:51.2, 40°47S×175°33E, h21km, MLv4.0/7, North Island, New Zealand*
*IDC **27** 02:42:56.2±3.2, 39°68S×174°05E, h0km, mb3.7/2, mbtmp3.8/3, ML4.1/1, MS3.3/2, Error ellipse: s-maj=64.6km s-min=44.9km az=96.0*
ISC 27 02:42:50.3±3.1, 40°47S±0°02×175°26E±0°02, h17km±24km, n119, σ1°17/124, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.27**	**9**	P	**Pb**	**02 42 55.1**	**-1.6**
OHWZ				S	**Sb**	**02 42 59.4**	**-1.6**
MRZ	**Mangatainoka R**	**0.31**	**128**	P	**Pb**	**02 42 56.7**	**-0.6**
MRZ				S	**Sb**	**02 43 01.5**	**-0.6**
OGWZ	**Otaki Gorge**	**0.35**	**191**	P	**Pb**	**02 42 57.3**	**-0.8**
POWZ	**Post Office Ro**	**0.40**	**78**	P	**Pb**	**02 42 57.9**	**-1.0**
POWZ				S	**Sb**	**02 43 03.6**	**-1.1**
HOWZ	**Holdsworth Sta**	**0.47**	**155**	P	**Pb**	**02 42 59.8**	**-0.3**
HOWZ				S	**Sb**	**02 43 06.6**	**-0.2**
KIW	**Kapiti Island**	**0.47**	**214**	P	**Pb**	**02 42 58.9**	**-1.3**
PRWZ	**Pori Road**	**0.55**	**99**	P	**Pb**	**02 43 01.3**	**-0.1**
TIWZ	**Tintock**	**0.56**	**123**	P	**Pb**	**02 43 01.8**	**0.0**
TIWZ				S	**Sb**	**02 43 10.3**	**+0.8**
CAW	**Cannon Point**	**0.65**	**193**	P	**Pb**	**02 43 02.5**	**-0.7**
TSZ	**Takapari Road**	**0.68**	**53**	P	**Pb**	**02 43 02.5**	**-1.2**
MTW	**Mount Morrison**	**0.71**	**165**	P	**Pb**	**02 43 04.9**	**+0.7**
DVHZ	**Dannevirke**	**0.71**	**76**	P	**Pb**	**02 43 03.8**	**-0.5**
DVHZ				S	**Sb**	**02 43 13.7**	**-0.1**
WAZ	**Wanganui**	**0.75**	**344**	P	**Pb**	**02 43 03.9**	**-1.0**
BFZ	**Birch Farm**	**0.78**	**106**	P	**Pb**	**02 43 05.6**	**+0.2**
BFZ	**Birch Farm**	**0.78**	**106**	P	**Pn**	**02 43 05.8**	**-0.7**
TMWZ	**Te Maipa**	**0.79**	**143**	P	**Pn**	**02 43 06.4**	**-0.3**
CPWZ	**Castlepoint**	**0.84**	**122**	P	**Pn**	**02 43 07.8**	**+0.5**
WEL	**Wellington**	**0.89**	**205**	P	**Pb**	**02 43 06.5**	**-0.8**
PNHZ	**Pukenui**	**0.91**	**52**	P	**Pb**	**02 43 06.5**	**-1.2**
PAWZ	**Paruwai Farm**	**0.92**	**172**	P	**Pn**	**02 43 08.4**	**-0.1**
ANWZ	**Angora Road**	**0.93**	**90**	P	**Pn**	**02 43 08.6**	**0.0**
SNZO	**South Karori**	**0.94**	**207**	P	**Pn**	**02 43 09.3**	**+0.6**
MSWZ	**Moikau Station**	**0.94**	**180**	P	**Pn**	**02 43 08.8**	**0.0**
TRWZ	**Traveller**	**0.98**	**161**	P	**Pn**	**02 43 10.1**	**+0.8**
WPHZ	**Waipukurau**	**0.99**	**66**	P	**Pn**	**02 43 09.1**	**-0.3**
TCW	**Tory Channel**	**1.05**	**225**	P	**Pb**	**02 43 08.2**	**-1.8**
DUWZ	**D'Urville Isla**	**1.07**	**252**	P	**Pn**	**02 43 08.9**	**-1.6**
PRHZ	**Porangahau**	**1.07**	**79**	P	**Pn**	**02 43 11.2**	**+

RATZ	**Rangitukua**	**1.65**	**14**	P		**Pb**	**02 43 19.8**	**-0.5**
WATZ	**Wairara**	**1.80**	**12**	P		**Pb**	**02 43 22.2**	**-0.6**
ARHZ	**Aropaoanui**	**1.80**	**48**	P		**Pb**	**02 43 23.1**	**+0.2**
NMHZ	**Naumai**	**1.82**	**41**	P		**Pb**	**02 43 23.7**	**+0.5**
TKNZ	**Takaka Hill**	**1.83**	**252**	P		**Pn**	**02 43 22.5**	**+1.5**
MRHZ	**Matea Rd**	**1.87**	**29**	P		**Pn**	**02 43 22.2**	**+0.7**
HIZ	**Hauiti**	**1.98**	**351**	P		**Pn**	**02 43 23.1**	**0.0**
HIZ	**Hauiti**	**1.98**	**351**	P		**Pn**	**02 43 23.1**	**0.0**
MTHZ	**Maungataniwha**	**2.03**	**38**	P		**Pn**	**02 43 24.9**	**+1.1**
WPRZ	**Whakapapatarin**	**2.07**	**20**	P		**Pb**	**02 43 30.2**	**+2.7**
ALRZ	**Allen Road**	**2.08**	**24**	P		**Pn**	**02 43 25.2**	**+0.7**
RAHZ	**Arahi**	**2.10**	**43**	P		**Pb**	**02 43 29.8**	**+1.9**
QRZ	**Quartz Range**	**2.11**	**260**	P		**Pn**	**02 43 25.9**	**+1.1**
QRZ	**Quartz Range**	**2.11**	**260**	P		**Pn**	**02 43 25.3**	**+0.5**
MRNZ	**Matariki Terra**	**2.11**	**243**	P		**Pn**	**02 43 26.3**	**+1.4**
TLZ	**Tolley Road**	**2.15**	**6**	P		**Pb**	**02 43 28.3**	**-0.6**
PRRZ	**Plateau Road**	**2.16**	**24**	P		**Pn**	**02 43 26.5**	**+1.0**
THZ	**Tophouse**	**2.20**	**233**	P		**Pn**	**02 43 27.2**	**+1.1**
HRRZ	**Handcock Road**	**2.23**	**21**	P		**Pb**	**02 43 31.1**	**+1.0**
MUGZ	**Murupara**	**2.31**	**31**	P		**Pn**	**02 43 28.8**	**+1.2**
SNGZ	**Shannon Statio**	**2.33**	**44**	P		**Pb**	**02 43 31.0**	**-0.9**
KHZ	**Kahutara**	**2.33**	**213**	P		**Pn**	**02 43 28.1**	**+0.2**
RRRZ	**Republican Roa**	**2.34**	**25**	P		**Pb**	**02 43 32.5**	**+0.4**
KNZ	**Kokohu**	**2.36**	**53**	P		**Pn**	**02 43 27.5**	**-0.7**
URZ	**Urewera**	**2.64**	**34**	P		**Pn**	**02 43 31.7**	**-0.3**
TOZ	**Tahuroa Road**	**2.75**	**4**	P		**Pn**	**02 43 34.3**	**+0.7**
MWZ	**Matawai**	**2.77**	**40**	P		**Pn**	**02 43 36.0**	**+2.1**
DSZ	**Denniston Nort**	**2.90**	**243**	P		**Pn**	**02 43 36.8**	**+1.0**
GVZ	**Greta Valley S**	**3.00**	**213**	P		**Pn**	**02 43 36.8**	**-0.2**
LTZ	**Lake Taylor**	**3.21**	**223**	P		**Pn**	**02 43 40.1**	**0.0**
HAZ	**Te Kaha**	**3.35**	**37**	P		**Pn**	**02 43 42.0**	**+0.2**
MKAZ	**Moumakai**	**3.37**	**359**	P		**Pn**	**02 43 43.7**	**+1.6**
AWAZ	**Awhitu Peninsu**	**3.44**	**352**	P		**Pn**	**02 43 45.6**	**+2.5**
ETAZ	**East Tamaki Re**	**3.52**	**356**	P		**Pn**	**02 43 45.9**	**+1.7**
WTAZ	**Waiatarua**	**3.58**	**351**	P		**Pn**	**02 43 47.9**	**+2.9**
OKCZ	**Okains Bay**	**3.64**	**206**	P		**Pn**	**02 43 44.5**	**-1.3**
RVAZ	**Riverhead Bore**	**3.74**	**352**	P		**Pn**	**02 43 49.6**	**+2.5**
KUZ	**Kuaotunu**	**3.74**	**6**	P		**Pn**	**02 43 47.4**	**+0.2**
MQZ	**McQueen's Vall**	**3.77**	**210**	P		**Pn**	**02 43 45.6**	**-1.9**
WVZ	**Waitaha Valley**	**4.26**	**231**	P		**Pn**	**02 43 59.0**	**+4.5**
RPZ	**Rata Peaks**	**4.50**	**223**	Pn		**Pb**	**02 44 07.2**	**-1.7**
	9.2nm,0.3s,baz=341,slow=4.9,SNR=10							
RPZ				Sn		**Sn**	**02 44 48.2**	**-1.5**
	baz=330,slow=20							
	21nm,0.6s							
WCZ	**Waipu Caves**	**4.58**	**351**	P		**Pn**	**02 44 00.3**	**+1.5**
JCZ	**Jackson Bay**	**6.00**	**231**	P		**Pn**	**02 44 22.9**	**+4.5**
CTA	**Charters Tower**	**32.02**	**301**	LR		LR	03 01 46.7	
	comp=Z,39nm,18.5s,baz=263,slow=37							
ASAR	**Alice Springs**	**38.45**	**283**	P		**P**	**02 50 10.5**	**-0.9**
	0.6nm,0.6s,baz=126,slow=7.4,SNR=14							
	0.6nm,0.6s							
WRA	**Warramunga Arr**	**40.40**	**288**	P		**P**	**02 50 26.7**	**-0.9**
	0.8nm,0.5s,baz=127,slow=8.0,SNR=30							
	0.8nm,0.5s							
KLR	**Kul'dur**	**97.21**	**333**	LR		LR	03 36 49.4	
	comp=Z,19nm,21.7s,baz=183,slow=34							
ARCES	**ARCESS Array B**	**146.83**	**341**	PKPbc		**PKiKP**	**03 02 35.2**	**+2.2**
	3.1nm,0.9s,baz=56,slow=2.3,SNR=3.9							

*SOME **27** 02:47:32.8, 39.62N×73.35E, h0km*
*KRNET **27** 02:47:33.9±0.1, 39.53N×73.49E, mb3.1*
*NNC **27** 02:47:36.6±1.4, 39.57N×73.69E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=10.7km s-min=5.3km az=175.0
ISC 27 02:47:38.1±1.1, 39.73N±0.05×73.36E±0.03, h10km, n45,
σ1s92/73, 18C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.91**	**331**	⇑*iP*	**Pg**	**02 47 55.4**	**-0.2**
	baz=32						
OHH				⇑*iS*	**Sn**	**02 48 11.4**	**+1.2**
	baz=32						
DRK	**Karamyk**	**1.23**	**259**	⇑*iP*	Pn	02 47 58.9	-2.8
	baz=69						
DRK				⇑*iS*	**Sb**	**02 48 16.9**	**-0.8**
	baz=69						
BTK	**Batken**	**1.98**	**280**	⇑*iP*	**Pn**	**02 48 12.6**	**+0.8**
	baz=85						
BTK				⇑*iS*	**Sb**	**02 48 40.9**	**+1.7**
	baz=85						
ARLS	**Aral**	**2.25**	**19**	⇑*eP*	**Pn**	**02 48 16.6**	**+1.0**
	baz=15						
ARLS				⇑*iS*	**Sg**	**02 48 48.1**	**-2.3**
	baz=15						
ARK	**Arkit**	**2.32**	**333**	⇑*iP*	**Pn**	**02 48 18.6**	**+2.1**
	baz=34						
ARK				⇑*iS*	**Sg**	**02 48 51.3**	**-1.4**
	baz=34						
TRKS	**Terek-Say**	**2.47**	**317**	⇑*iP*	**Pn**	**02 48 19.7**	**+1.1**
	baz=18						
TRKS				⇑*iS*	**Sb**	**02 48 52.8**	**-0.4**
	baz=18						
GAR	**Garm**	**2.47**	**254**	⇑*iP*	**Pn**	**02 48 18.1**	**-0.5**
	baz=59						
GAR				⇑*iS*	**Sn**	**02 48 50.3**	**+1.4**
	baz=59						
NRN	**Naryn**	**2.63**	**49**	⇑*eP*	**Pn**	**02 48 20.4**	**-0.6**
	baz=44						
NRN				⇑*iS*	**Sn**	**02 48 54.5**	**+1.4**
	baz=44						
MRKS	**Merke**	**3.01**	**358**	*eP*	**Pb**	**02 48 31.5**	**-0.5**
	8.9nm,0.3s						
MRKS				*eS*	**Sg**	**02 49 13.7**	**-1.2**
	27nm,0.4s						
IUG	**Iuzhnay**	**3.49**	**315**	*eP*	**Pb**	**02 48 39.4**	**-0.7**
	6.4nm,0.3s						
IUG				*eS*	**Sg**	**02 49 27.3**	**-2.9**
	26nm,0.4s						
DZA	**Taraz**	**3.51**	**335**	*eP*	**Pb**	**02 48 39.8**	**-0.6**
	38nm,0.2s						
DZA				*eS*	**Sg**	**02 49 28.2**	**-2.6**
	62nm,0.3s						
SGDS	**Sogindy**	**3.84**	**14**	*eP*	**Pb**	**02 48 46.9**	**+0.9**
	1.5nm,0.3s						
SGDS				*eS*	**Sg**	**02 49 40.0**	**-1.4**
	8.4nm,0.5s						
SGDS	**Sogindy**	**3.84**	**14**	Pg	**Pb**	**02 48 47.0**	**+1.1**
	2.6nm,0.5s						
SGDS				Lg	Lg	02 49 41.2	
	7.2nm,0.8s						
KST	**Kastek**	**3.84**	**30**	*eP*	**Pb**	**02 48 47.0**	**+0.9**
	1.7nm,0.2s						
KST				*eS*	**Sg**	**02 49 40.5**	**-1.0**
	18nm,0.8s						
KST	**Kastek**	**3.84**	**30**	Pg	**Pb**	**02 48 47.0**	**+0.9**
	1.7nm,0.2s						
KST				Lg	Lg	02 49 40.5	
	18nm,0.8s						
DGS	**Degeres**	**3.95**	**27**	*eP*	**Pb**	**02 48 48.2**	**+0.3**
	4.5nm,0.4s						
DGS				*eS*	**Sg**	**02 49 42.7**	**-2.2**
	18nm,0.7s						
DGS	**Degeres**	**3.95**	**27**	Pg	**Pb**	**02 48 48.2**	**+0.3**
	4.5nm,0.4s						
DGS				Lg	Lg	02 49 42.7	
	18nm,0.7s						
KK31	**Karatay Array**	**3.99**	**328**	Pn		**Pn**	**02 48 43.4**	**+4.0**
	0.1nm,0.2s,baz=140,slow=12,SNR=17							
KK31				⇓Pg		**Pg**	**02 48 53.3**	**-1.3**
	1.7nm,0.5s,baz=133,slow=14,SNR=12							
KK31				⇑Sn		**Sb**	**02 49 35.6**	**-1.4**
	3.4nm,0.5s,baz=140,slow=23,SNR=5.5							
KK31				⇑Lg	Lg		02 49 50.2	
	4.1nm,0.5s							
MTBS	**Maitube**	**4.10**	**33**	*eP*	**Pb**	**02 48 51.3**	**+0.8**
	1.7nm,0.2s							
MTBS				*eS*	**Sg**	**02 49 47.7**	**-2.2**
	8.2nm,0.4s							
MTBS	**Maitube**	**4.10**	**33**	Pg	**Pb**	**02 48 51.3**	**+0.8**
	1.7nm,0.2s							
MTBS				Lg	Lg	02 49 47.7		
	8.2nm,0.4s							
TNSS	**Tian-Shan**	**4.26**	**38**	*eP*	**Pb**	**02 48 54.6**	**+1.1**
	4.5nm,0.5s							
TNSS				*eS*	**Sg**	**02 49 53.3**	**-1.8**
	7.1nm,0.5s							
TNSS	**Tian-Shan**	**4.26**	**38**	Pg	**Pb**	**02 48 55.1**	**+1.7**
	3.3nm,0.4s							
TNSS				Lg	Lg	02 49 55.2		
	6.4nm,0.5s							
KRBS	**Karabastau**	**4.32**	**23**	*eP*	**Pb**	**02 48 55.2**	**+0.9**
	2.1nm,0.5s							
KRBS				*eS*	**Sg**	**02 49 54.5**	**-2.4**
	9.5nm,0.7s							
KRBS				Lg	Lg	02 49 54.5		
	9.5nm,0.7s							
MDOK	**Medeo**	**4.41**	**38**	*eP*	**Pb**	**02 48 56.8**	**+1.1**
	2.2nm,0.5s							
MDOK				*eS*	**Sg**	**02 49 57.2**	**-2.5**
	7.2nm,0.6s							
MDOK	**Medeo**	**4.41**	**38**	Pg	**Pb**	**02 48 56.8**	**+1.1**
	2.2nm,0.5s							
MDOK				Lg	Lg	02 49 57.2		
	7.2nm,0.6s							
KOTS	**Kotyrbulak**	**4.49**	**38**	*eP*	**Pb**	**02 48 58.9**	**+1.7**
	1.5nm,0.4s							
KOTS				*eS*	**Sg**	**02 50 01.1**	**-1.3**
	15nm,0.7s							
KOTS	**Kotyrbulak**	**4.49**	**38**	Pg	**Pb**	**02 48 58.9**	**+1.7**
	1.5nm,0.4s							
KOTS				Lg	Lg	02 50 01.1		
	15nm,0.7s							
KTBS	**Karatobe**	**4.69**	**31**	*eP*	**Pb**	**02 49 01.6**	**+1.2**
	2.5nm,0.9s							
KTBS				*eS*	**Sg**	**02 50 05.5**	**-3.1**
	19nm,0.7s							
KTBS	**Karatobe**	**4.69**	**31**	Pg	**Pb**	**02 49 01.6**	**+1.2**
	2.5nm,0.9s							
KTBS				Lg	Lg	02 50 05.5		
	19nm,0.7s							
KUU	**Kurty**	**4.72**	**27**	*eP*	**Pb**	**02 49 02.4**	**+1.5**
	2.7nm,0.5s							
KUU				*eS*	**Sg**	**02 50 06.8**	**-2.7**
	13nm,0.6s							
KUU	**Kurty**	**4.72**	**27**	Pg	**Pb**	**02 49 02.3**	**+1.5**
	2.7nm,0.5s							
KUU				Lg	Lg	02 50 06.8		
	13nm,0.6s							
CHKK	**Chushkaly**	**4.93**	**32**	*eP*	**Pb**	**02 49 06.9**	**+2.4**
	1.4nm,0.1s							
CHKK				*eS*	**Sg**	**02 50 14.8**	**-1.6**
	13nm,0.7s							
CHKK	**Chushkaly**	**4.93**	**32**	Pg	**Pb**	**02 49 06.9**	**+2.4**
CHKK				Lg	Lg	02 50 15.1		
	13nm,0.5s							
SATY	**Saty**	**5.04**	**47**	*eP*	**Pb**	**02 49 08.0**	**+1.4**
	2.7nm,0.7s							
SATY				*eS*	**Sg**	**02 50 16.4**	**-3.7**
	3.0nm,0.1s							
SATY	**Saty**	**5.04**	**47**	Pg	**Pb**	**02 49 08.0**	**+1.4**
	2.7nm,0.7s							
SATY				Lg	Lg	02 50 16.4		
	3.0nm,0.1s							
BTLS	**Baital**	**5.33**	**5**	*eP*	**Pb**	**02 49 14.2**	**+2.9**
	1.0nm,0.6s							
BTLS				*eS*	**Sg**	**02 50 27.7**	**-1.5**
	2.0nm,0.7s							
BTLS	**Baital**	**5.33**	**5**	Pg	**Pb**	**02 49 14.3**	**+2.9**
	1.0nm,0.6s							
BTLS				Lg	Lg	02 50 27.7		
	2.0nm,0.7s							
UZB	**Uzunbulak**	**5.45**	**49**	*eP*	**Pb**	**02 49 16.2**	**+2.7**
	2.8nm,0.6s							
UZB				*eS*	**Sg**	**02 50 30.4**	**-2.8**
	4.8nm,0.3s							
UZB	**Uzunbulak**	**5.45**	**49**	Pg	**Pb**	**02 49 15.5**	**+2.0**
	1.5nm,0.5s							
UZB				Lg	Lg	02 50 30.4		
	3.0nm,0.7s							
KPKS	**Kokpek**	**5.46**	**45**	*eP*	**Pb**	**02 49 14.6**	**+0.9**
	1.1nm,0.3s							
KPKS				*eS*	**Sg**	**02 50 28.0**	**-5.5**
	5.9nm,0.6s							
KPKS	**Kokpek**	**5.46**	**45**	Pg	**Pb**	**02 49 14.6**	**+0.9**
	1.1nm,0.3s							
KPKS				Lg	Lg	02 50 28.0		
	5.9nm,0.6s							
BLB	**Baldybastay**	**5.79**	**40**	*eP*	**Pb**	**02 49 22.7**	**+3.4**
	2.0nm,0.5s							
BLB				*eS*	**Sg**	**02 50 41.8**	**-2.3**
	6.6nm,1.0s							
BLB	**Baldybastay**	**5.79**	**40**	Pg	**Pb**	**02 49 19.7**	**+0.4**
	4.6nm,0.5s							
BLB				Lg	Lg	02 50 37.6		
	6.7nm,0.6s							
PDGK	**Podgornoye**	**5.84**	**50**	Pg	**Pb**	**02 49 22.1**	**+2.0**
	0.9nm,0.6s							
PDGK				Lg	Lg	02 50 40.5		
	2.3nm,0.8s							

WEL 27 02:53:18.9±0.3, 42.5S±2.×17.4E±., h5km, M3.0/19,
ML3.1/12, MLv3.0/19, Error ellipse: s-maj=0.0km
s-min=0.0km az=116.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.23**	**178**	P	Pg	02 53 24.0	+0.6
KHZ				S	Sg	02 53 27.8	+1.3
BSWZ	**Blackbirch Sta**	**0.53**	**29**	P	Pg	02 53 29.2	+0.1
BSWZ				S	Sg	02 53 37.1	+1.1
THZ	**Tophouse**	**0.63**	**312**	P	Pg	02 53 31.3	+0.3
CMWZ	**Cape Campbell**	**0.67**	**50**	P	Pb	02 53 32.5	-0.6
TUWZ	**Tuamarina**	**0.81**	**22**	P	Pg	02 53 34.6	+0.1
GVZ	**Greta Valley S**	**0.86**	**205**	P	Pb	02 53 36.2	-0.2
NNZ	**Nelson**	**0.97**	**353**	P	Pg	02 53 37.1	-0.4
MRNZ	**Matariki Terra**	**0.97**	**323**	P	Pg	02 53 37.6	0.0
LTZ	**Lake Taylor**	**1.11**	**237**	P	Pg	02 53 39.5	-0.7
TCW	**Tory Channel**	**1.12**	**30**	P	Pg	02 53 39.5	-0.9
AMCZ	**Amberley**	**1.19**	**213**	P	Pg	02 53 41.1	-0.5
TKNZ	**Takaka Hill**	**1.23**	**339**	P	Pg	02 53 42.1	-0.3
DSZ	**Denniston Nort**	**1.36**	**288**	P	Pn	02 53 44.7	+0.1
DUWZ	**D'Urville Isla**	**1.41**	**12**	P	Pn	02 53 44.7	-0.6
PLWZ	**Palliser**	**1.43**	**65**	P	Pn	02 53 43.0	-2.5
MSWZ	**Moikau Station**	**1.50**	**60**	P	Pn	02 53 44.0	-2.5
QRZ	**Quartz Range**	**1.55**	**331**	P	Pn	02 53 47.4	+0.3
CAW	**Cannon Point**	**1.57**	**47**	P	Pn	02 53 46.2	-1.3
OKCZ	**Okains Bay**	**1.58**	**193**	P	Pn	02 53 45.2	-2.4
OXZ	**Oxford**	**1.58**	**223**	P	Pn	02 53 45.2	-2.5
MQZ	**McQueen's Vall**	**1.65**	**203**	P	Pn	02 53 45.4	-3.2
AKCZ	**Akaroa Harbour**	**1.75**	**195**	P	Pn	02 53 47.1	-2.8
TRWZ	**Traveller**	**1.79**	**65**	P	Pg	02 53 54.8	+1.5
RACZ	**Rakaia**	**1.85**	**213**	P	Pn	02 53 48.5	-2.7
MHCZ	**Mount Hutt**	**1.98**	**226**	P	Pn	02 53 50.6	-2.5
TMWZ	**Te Maipa**	**2.07**	**59**	P	Pn	02 53 51.0	-3.3
WACZ	**Wakanui South**	**2.15**	**215**	P	Pn	02 53 52.6	-2.8
RPZ	**Rata Peaks**	**2.38**	**229**	P	Pn	02 53 56.6	-2.0
KHEZ	**Kahui Hut**	**2.91**	**7**	P	Pn	02 54 02.7	-3.2
ODZ	**Otahua Downs**	**3.54**	**215**	P	Pn	02 54 11.4	-3.1

IDC 27 03:04:40.4±4.0, 16.38S×179.65W, h445km, 35km,
mb2.7/2, mbtmp3.4/3, Error ellipse: s-maj=288.5km
s-min=66.5km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.58**	**238**	P	P	03 05 44.2	+0.1
	6.7nm,0.4s,baz=112,slow=11,SNR=13						
WRA	**Warramunga Arr**	**43.76**	**258**	P	P	03 12 05.1	-0.2
	0.3nm,0.9s,baz=92,slow=7.1,SNR=7.4						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**44.08**	**253**	P	P	03 12 07.6	-0.2
	1.2nm,0.6s,baz=86,slow=8.0,SNR=31						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**131.40**	**344**	PKP	PKPdf	03 23 00.5	-0.2
	5.6nm,1.1s,baz=56,slow=3.4,SNR=6.9						

IDC 27 03:10:00.4±5.9, 23.08S×178.43W, h0km, mb4.2/2,
mbtmp4.2/2, Error ellipse: s-maj=272.5km
s-min=49.2km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.59**	**259**	P	P	03 18 06.5	-0.2
	1.9nm,0.7s,baz=92,slow=7.3,SNR=26						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**43.91**	**265**	P	P	03 18 08.8	-0.4
	2.7nm,0.5s,baz=103,slow=8.3,SNR=158						
	2.7nm,0.5s						
HFS	**Hagfors**	**142.00**	**350**	PKhKP	PKPpre	03 29 28.5	
	2.0nm,0.8s,baz=45,slow=4.4,SNR=7.8						
AKASG	**Malin Array Be**	**145.03**	**329**	PKPbc	PKPbc	03 29 36.8	-2.1
	0.4nm,0.4s,baz=46,slow=4.6,SNR=5.7						
BRTR	**Keskin Array B**	**148.21**	**309**	PKPbc	PKiKP	03 29 49.8	-0.7
	0.3nm,0.5s,baz=57,slow=3.5,SNR=4.7						

*JMA **27** 03:22:06.6±0.5, 34.2N×2.2×13.8E±., h325km±4km, MV2.7/47,*
ENSYUNADA
*IDC **27** 03:22:08.7±1.2, 34.35N×138.44E, h333km±23km, mb2.7/4,*
mbtmp3.4/5, Error ellipse: s-maj=81.6km s-min=18.4km
az=63.0
ISC 27 03:22:08.6±0.9, 34.2N±0.1×137.81E±0.08, h309km±9km,
n21, σ0s70/26, mb2.8/4, Near south coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HMMJ	**Hamamatsu 2**	**0.67**	**354**	P	**Pn**	**03 22 48.9**	**+0.2**
JIE	**Ise**	**0.93**	**283**	P	**Pn**	**03 22 49.4**	**-0.2**
JAO	**Obara**	**1.17**	**337**	P	**Pn**	**03 22 51.0**	**+0.2**
JNY	**Yasuok**	**1.17**	**2**	P	**Pn**	**03 22 51.1**	**+0.3**
JYTA	**Yamagatataniai**	**1.66**	**328**	P	**Pn**	**03 22 53.6**	**0.0**
JHJ	**Hachijo jima 2**	**1.96**	**122**	P	**Pn**	**03 22 56.7**	**+0.7**
	160nm,1.1s,baz=320,slow=19,SNR=2.2						
JRY	**Ryogami san**	**2.04**	**26**	P	**Pn**	**03 22 57.4**	**+1.0**
JRY				S	**S**	**03 23 35.4**	**+0.8**
JHU	**Hanno**	**2.06**	**36**	P	**Pn**	**03 22 56.9**	**+0.4**
JHU				*eS*	**S**	**03 23 33.0**	**-1.9**
BSO4	**Boso 4**	**2.24**	**68**	P	**Pn**	**03 22 58.5**	**+0.6**
BSO4				S	**S**	**03 23 36.9**	**-0.4**
JWT	**Wachi**	**2.26**	**300**	P	**Pn**	**03 22 57.8**	**-0.4**
BSO3	**Boso 3**	**2.31**	**74**	P	**Pn**	**03 22 58.0**	**-0.3**
BSO3				S	**S**	**03 23 38.1**	**-0.1**
MJAR	**Matsushiro Arr**	**2.37**	**8**	P	**Pn**	**03 22 59.2**	**+0.1**
	13nm,0.5s,baz=173,slow=8.8,SNR=84						
MAT	**Matsushiro**	**2.37**	**8**	P	**Pn**	**03 22 59.2**	**0.0**
JKG	**Kaga**	**2.41**	**330**	P	**Pn**	**03 22 59.2**	**-0.2**
JAG	**Ashikaga**	**2.61**	**31**	P	**Pn**	**03 23 00.7**	**-0.5**
BSO1	**Boso 1**	**2.66**	**79**	P	**Pn**	**03 23 00.8**	**-0.3**
BSO1				S	**S**	**03 23 43.5**	**+0.3**
JHO	**Hitachi**	**3.31**	**42**	P	**Pn**	**03 23 07.6**	**-0.4**
SONM	**Songino Array**	**27.13**	**310**	P	**P**	**03 27 25.4**	**+1.4**
	0.4nm,0.7s,baz=106,slow=9.2,SNR=3.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**43.21**	**304**	P	**P**	**03 29 40.1**	**+0.3**
	0.3nm,0.6s,baz=83,slow=12,SNR=3.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**53.93**	**184**	P	**P**	**03 31 00.1**	**-0.9**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=9.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**57.65**	**184**	P	**P**	**03 31 26.6**	**-0.6**
	0.1nm,0.3s,baz=10.0,slow=15,SNR=4.6						
	0.1nm,0.3s						

*MDD **27** 03:25:49.5±0.6, 35.71N×2.43W, h0km, mb_Lg2.0/4, Error*
ellipse: s-maj=6.4km s-min=3.2km az=96.0
*SFS **27** 03:25:50.0, 35.59N×2.38W, h7km, ML2.1, ALBORAN*
SUR
*CNRM **27** 03:25:58.6, 35.18N×2.76W, h0km, ml2.5*
ISC 27 03:25:49.5±1.6, 35.64N±0.03×2.38W±0.05, h21km±5km,
n12, σ1s24/24, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHAS	**Isla Isabel II**	**0.46**	**185**	P	**Pb**	**03 25 58.7**	**-0.1**
CHAS				S	**Sb**	**03 26 04.0**	**-1.1**
WMELI	**Melilla**	**0.57**	**235**	P	**Pb**	**03 26 00.9**	**+0.1**
WMELI				S	**Sb**	**03 26 07.8**	**-0.7**
EMEL	**Melilla**	**0.58**	**234**	Pg	**Pb**	**03 26 00.9**	**-0.2**
EMEL				Sg	**Sb**	**03 26 08.0**	**-0.9**
EALB	**Alboran**	**0.61**	**299**	Pg	**Pn**	**03 26 02.4**	**-0.5**
EALB				Sg	**Sb**	**03 26 08.1**	**-1.6**
EALB				*i* Vmb_Lg		03 26 12.0	
JBK	**JBK**	**1.31**	**187**	P	**Pb**	**03 26 15.0**	**+1.5**
JBK				S	**Sb**	**03 26 30.0**	**-0.1**
EBER	**Berja**	**1.32**	**342**	Pn	**Pb**	**03 26 13.5**	**-0.1**
EBER				Sn	**Sn**	**03 26 29.5**	**-0.4**
EBER				*i* Vmb_Lg		03 26 32.4	
ENIJ	**Nijar**	**1.33**	**6**	Pn	**Pn**	**03 26 13.0**	**+0.1**
ENIJ				Sn	**Sn**	**03 26 29.9**	**-0.2**
ENIJ				*i* Vmb_Lg		03 26 36.2	
PALE	**Palemas**	**1.34**	**252**	P	**Pb**	**03 26 17.8**	**+3.9**
PALE				S	**Sb**	**03 26 31.6**	**+0.9**
ELGU	**Los Guajares,**	**1.58**	**321**	Pn	**Pn**	**03 26 16.2**	**-0.2**
ELGU				Sn	**Sn**	**03 26 35.6**	**-0.7**
ELGU				*i* Vmb_Lg		03 26 39.0	
AKLM	**AKL**	**1.66**	**228**	P	**Pb**	**03 26 20.1**	**+0.7**
AKLM				S	**Sn**	**03 26 36.3**	**-1.8**
EQES	**Quesada**	**2.23**	**346**	Pg	**Pb**	**03 26 29.0**	**-0.1**
EQES				Sn	**Sn**	**03 26 52.6**	**+0.4**
EQES				Sg	**Sb**	**03 26 56.3**	**+0.1**
EMUR	**La Murta**	**2.38**	**22**	Sn	**Sn**	**03 26 57.5**	**+1.6**

*IDC **27** 03:26:04.6±13.0, 13.44S×167.20E, h170km±114km,*
mb3.3/6, mbtmp3.7/6, Error ellipse: s-maj=77.1km
s-min=37.2km az=119.0
ISC 27 03:26:04.5±2.0, 13.5S±0.4×167.3E±0.4, h170km, n6,
σ0s83/8, mb3.3/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.81**	**228**	P	**P**	**03 31 56.6**	**+1.0**

WRA	**Warramunga Arr** 3.9nm,0.8s,baz=96,slow=7.7,SNR=57 3.9nm,0.8s	**44.54**	**262**	P	**P**	03 50 39.0	-0.3
NVAR	**Mina Array Bea** 2.1nm,1.0s,baz=229,slow=6.5,SNR=7.7 2.1nm,1.0s	**80.92**	**43**	P	**P**	03 54 34.5	+0.8
TXAR	**Lajitas Array** 0.9nm,0.8s,baz=217,slow=6.6,SNR=11 0.9nm,0.8s	**87.01**	**57**	P	**P**	03 55 04.3	+0.6
ILAR	**Eielson Array** 1.0nm,0.8s,baz=216,slow=5.9,SNR=12 1.0nm,0.8s	**88.11**	**13**	P	**P**	03 55 08.2	+0.2
PDAR	**Pinedale Array** 1.1nm,0.8s,baz=230,slow=2.8,SNR=11 1.1nm,0.8s	**88.86**	**43**	P	**P**	03 55 12.3	0.0
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=357,slow=2.4,SNR=3.6	**110.97**	**313**	PKiKP	**PKiKP**	04 00 46.9	-0.4
AKASG	**Malin Array Be** 2.1nm,0.7s,baz=41,slow=4.5,SNR=15	**142.77**	**331**	PKP	**PKPdf**	04 01 44.5	-2.6
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=138,slow=4.5,SNR=5.4	**146.62**	**312**	PKPbc	**PKPbc**	04 01 57.0	+0.2
GERES	**GERESS Array B** 1.3nm,0.8s,baz=96,slow=1.3,SNR=3.7	**149.96**	**344**	PKPbc	**PKPbc**	04 02 05.2	+0.4

*ROM **27** 03:57:07.4±0.0, 42.802N±0.002×13.211E±0.004, h10km, ML3.4/66, Error ellipse: s-maj=0.3km s-min=0.1km az=78.0*
*LDG **27** 03:57:07.4±0.1, 42.80N×13.18E, h9km, Md3.5/1, Ml2.9/30, Error ellipse: s-maj=1.7km s-min=1.1km az=25.0*
*PRU **27** 03:57:10.3±0.0, 42.85N×13.41E, h10km*
*BGR **27** 03:57:11.1±0.6, 42.85N×13.49E, h10km, ML3.5/4, Error ellipse: s-maj=11.1km s-min=10.0km az=154.0*

ISC 27 03:57:07.9±0.7, **42.78N**±0.01×**13.17E**±0.02, **h15**km±4km, **n222, σ2s54/277, 34C-9D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
T1213	**Norcia, Frazio**	**0.06**	**209**		↑P		**Pg**	**03 57 10.3**	**-0.6**
T1202	**Accumoli, Fraz**	**0.09**	**150**		↑P		**Pg**	**03 57 10.5**	**-0.7**
T1202					S		**Sg**	**03 57 12.8**	**-0.5**
T1212	**Cascia, Frazio**	**0.09**	**253**		↑P		**Pg**	**03 57 11.0**	**-0.2**
T1212					S		**Sg**	**03 57 13.6**	**+0.3**
T1244	**Arquata del Tr**	**0.10**	**103**		P		**Pg**	**03 57 10.1**	**-1.2**
T1244					S		**Sg**	**03 57 11.9**	**-1.5**
T1218	**Civita (PG)**	**0.12**	**199**		↑P		**Pg**	**03 57 11.3**	**-0.2**
T1218					S		**Sg**	**03 57 14.4**	**+0.6**
T1218	comp=N,43600μm,0.3s				AML	AML			
T1218	comp=E,27400μm,0.9s				AML	AML			
T1218	comp=E,26400μm,0.5s				AML	AML			
T1218	comp=E,27400μm,0.9s				AML	AML			
T1218	comp=E,26400μm,0.5s				AML	AML			
T1218	comp=N,43150μm,0.3s				AML	AML			
T1218	comp=N,43100μm,0.3s				AML	AML			
T1218	comp=N,43600μm,0.3s				AML	AML			
MC2	**Monte Cornacci**	**0.14**	**8**		↑P		**Pg**	**03 57 10.5**	**-1.4**
T1201	**Domo (RI)**	**0.14**	**153**		↑P		**Pg**	**03 57 11.5**	**-0.2**
T1201					S		**Sg**	**03 57 14.6**	**+0.4**
T1204	**Amatrice, Fraz**	**0.15**	**133**		↓P		**Pg**	**03 57 11.3**	**-0.7**
T1216	**Preci, Frazion**	**0.15**	**316**		P		**Pg**	**03 57 11.4**	**-0.5**
T1216	comp=N,27600μm,0.3s				AML	AML			
T1216	comp=E,34550μm,0.3s				AML	AML			
T1216	comp=E,34550μm,0.3s				AML	AML			
T1217	**Poggiodomo (PG**	**0.19**	**249**		↑P		**Pg**	**03 57 12.6**	**+0.2**
SMA1	**SAN MARTINO**	**0.19**	**140**		↓P		**Pg**	**03 57 12.0**	**-0.5**
SMA1					S		**Sg**	**03 57 15.5**	**-0.1**
SMA1	comp=E,23100μm,0.9s				AML	AML			
SMA1	comp=N,20550μm,0.5s				AML	AML			
LNSS	**Leonessa**	**0.20**	**208**		↑P		**Pg**	**03 57 12.8**	**+0.2**
LNSS					S		**Sg**	**03 57 17.5**	**+1.7**
LNSS	comp=N,25450μm,0.2s				AML	AML			
LNSS	comp=E,11550μm,0.2s				AML	AML			
FEMA	**Monte Fema**	**0.20**	**335**		P		**Pg**	**03 57 12.1**	**-0.6**
FEMA					S		**Sg**	**03 57 15.5**	**-0.4**
FEMA	comp=E,27250μm,0.2s				AML	AML			
FEMA	comp=N,20850μm,0.6s				AML	AML			
T1241	**Roccafluvione,**	**0.21**	**68**		↑P		**Pg**	**03 57 11.6**	**-1.2**
T1241					S		**Sg**	**03 57 14.6**	**-1.4**
T1241	comp=E,54950μm,0.3s				AML	AML			
T1241	comp=N,24250μm,0.4s				AML	AML			
T1215	**Vallo di Nera,**	**0.22**	**276**		↑P		**Pg**	**03 57 13.0**	**+0.1**
T1215					S		**Sg**	**03 57 17.4**	**+1.1**
T1215	comp=E,6170μm,0.4s				AML	AML			
T1215	comp=E,6460μm,0.4s				AML	AML			
T1215	comp=N,6105μm,1.0s				AML	AML			
T1215	comp=E,6460μm,0.4s				AML	AML			
T1215	comp=N,6100μm,1.0s				AML	AML			
T1215	comp=N,6255μm,1.0s				AML	AML			
T1215	comp=E,6170μm,0.4s				AML	AML			
T1243	**Rocca Santa Ma**	**0.22**	**112**		↓P		**Pg**	**03 57 12.1**	**-0.9**
T1243					S		**Sg**	**03 57 15.5**	**-0.9**
T1256	**Bolognola (MC)**	**0.23**	**11**		↑P		**Pg**	**03 57 12.1**	**-1.1**
T1256					S		**Sg**	**03 57 15.9**	**-0.8**
T1256	comp=N,19650μm,1.2s				AML	AML			
T1256	comp=E,16400μm,1.1s				AML	AML			
T1256	comp=N,19350μm,1.2s				AML	AML			
T1256	comp=E,16600μm,1.1s				AML	AML			
AM05	**Amandola Campo**	**0.24**	**35**		↑P		**Pg**	**03 57 12.2**	**-1.0**
AM05					S		**Sg**	**03 57 15.7**	**-1.2**
T1221	**Campello sul C**	**0.25**	**289**		↑P		**Pg**	**03 57 13.5**	**+0.1**
T1221					S		**Sg**	**03 57 18.2**	**+1.1**
FDMO	**Fiordimonte**	**0.26**	**347**		↑P		**Pg**	**03 57 12.9**	**-0.8**
FDMO					S		**Sg**	**03 57 17.2**	**-0.3**
FDMO	comp=E,14550μm,0.5s				AML	AML			
FDMO	comp=N,22000μm,1.0s				AML	AML			
RM33	**Pellescritta (**	**0.27**	**172**		↑P		**Pg**	**03 57 13.9**	**+0.1**
RM33					S		**Sg**	**03 57 18.8**	**+1.0**
RM33	comp=E,15350μm,0.9s				AML	AML			
RM33	comp=N,8840μm,0.9s				AML	AML			
RM33	comp=N,8740μm,0.9s				AML	AML			
RM33	comp=N,8840μm,0.9s				AML	AML			
RM33	comp=E,15050μm,0.9s				AML	AML			
RM33	comp=E,15350μm,1.0s				AML	AML			
CESI	**CESI - Serrava**	**0.30**	**320**		↑P		**Pg**	**03 57 13.9**	**-0.3**
CESI					S		**Sg**	**03 57 19.2**	**+0.7**
CESI	comp=E,11500μm,0.5s				AML	AML			
CESI	comp=N,21700μm,0.4s				AML	AML			
T1219	**Muccia, Frazio**	**0.30**	**337**		↑P		**Pg**	**03 57 13.7**	**-0.6**
T1219					S		**Sg**	**03 57 18.6**	**0.0**
CAMP	**Campotosto**	**0.30**	**144**		↓P		**Pg**	**03 57 13.8**	**-0.5**
CAMP					S		**Sg**	**03 57 18.7**	**0.0**
CAMP	comp=E,5290μm,0.7s				AML	AML			
CAMP	comp=N,5865μm,0.6s				AML	AML			
GUMA	**Gualdo di Mace**	**0.31**	**24**		↑P		**Pg**	**03 57 13.7**	**-0.7**
GUMA					S		**Sg**	**03 57 18.6**	**-0.3**
GUMA	comp=E,49950μm,0.3s				AML	AML			
GUMA	comp=N,43050μm,0.4s				AML	AML			
GUMA	comp=N,44300μm,0.5s				AML	AML			
GUMA	comp=E,51250μm,0.3s				AML	AML			
T1246	**Crognaleto (TE**	**0.31**	**129**		↓P		**Pg**	**03 57 13.8**	**-0.6**
T1246					S		**Sg**	**03 57 18.9**	**0.0**
CSP1	**Cessapalombo**	**0.31**	**5**		↑P		**Pg**	**03 57 13.6**	**-0.9**
CSP1					S		**Sg**	**03 57 18.5**	**-0.6**
CSP1	comp=E,33700μm,0.2s				AML	AML			
CSP1	comp=N,41400μm,0.4s				AML	AML			
CSP1	comp=N,41450μm,0.4s				AML	AML			
T1211	**Morro Reatino**	**0.34**	**223**		↑P		**Pg**	**03 57 15.2**	**+0.3**
T1211					S		**Sg**	**03 57 21.7**	**+2.0**
T1211	comp=E,6535μm,0.8s				AML	AML			
T1211	comp=N,9190μm,0.3s				AML	AML			
T1211	comp=E,6360μm,1.6s				AML	AML			
T1211	comp=N,9195μm,0.3s				AML	AML			
T1211	comp=N,9250μm,0.3s				AML	AML			
T1211	comp=E,6540μm,0.8s				AML	AML			
T1220	**Camerino, Fraz**	**0.34**	**350**		↑P		**Pg**	**03 57 14.2**	**-0.7**
T1220					S		**Sg**	**03 57 19.7**	**+0.1**
T1247	**Pizzolo (AQ)**	**0.35**	**164**		↑P		**Pg**	**03 57 15.2**	**0.0**
T1247					S		**Sg**	**03 57 21.2**	**+1.1**
T1247	comp=N,9965μm,1.1s				AML	AML			
T1247	comp=E,11100μm,0.7s				AML	AML			
ARRO	**Arrone**	**0.36**	**236**		↑P		**Pg**	**03 57 15.6**	**+0.3**
ARRO	comp=N,4900μm,0.2s				AML	AML			
ARRO	comp=E,5870μm,0.2s				AML	AML			
TERO	**Teramo**	**0.36**	**116**		↓P		**Pg**	**03 57 14.4**	**-0.9**
TERO					S		**Sg**	**03 57 19.9**	**-0.4**
TERO	comp=E,7790μm,0.6s				AML	AML			
TERO	comp=N,8070μm,0.5s				AML	AML			
TERO	comp=E,8385μm,0.6s				AML	AML			
TERO	comp=E,7805μm,0.6s				AML	AML			
TERO	comp=N,8075μm,0.5s				AML	AML			
TERO	comp=N,8515μm,0.5s				AML	AML			
SEF1	**Sefro**	**0.40**	**336**		↓P		**Pg**	**03 57 15.6**	**-0.5**
SEF1					S		**Sg**	**03 57 22.0**	**+0.4**
SEF1	comp=N,14850μm,0.3s				AML	AML			
SEF1	comp=E,14600μm,0.3s				AML	AML			
OFFI	**Offida**	**0.41**	**68**		↑P		**Pg**	**03 57 16.1**	**-0.2**
OFFI	comp=N,18450μm,0.5s				AML	AML			
OFFI	comp=E,17100μm,0.3s				AML	AML			
MDAR	**Monte D'Aria**	**0.41**	**358**		P		**Pg**	**03 57 15.5**	**-0.8**
MDAR					S		**Sg**	**03 57 21.9**	**-0.1**
MDAR	comp=E,12150μm,0.5s				AML	AML			
MDAR	comp=N,17400μm,0.5s				AML	AML			
PIO1	**Pioraco**	**0.42**	**342**		P		**Pg**	**03 57 16.0**	**-0.5**
PIO1					S		**Sg**	**03 57 22.7**	**+0.5**
MNTP	**Montappone**	**0.42**	**32**		P		**Pg**	**03 57 16.1**	**-0.3**
MNTP	comp=E,14100μm,0.2s				AML	AML			
MNTP	comp=N,10380μm,0.5s				AML	AML			
GIGS	**Gran Sasso**	**0.44**	**138**		P		**Pg**	**03 57 16.1**	**-0.8**
GIGS					S		**Sg**	**03 57 23.2**	**+0.3**
GIGS	comp=N,1220μm,0.4s				AML	AML			
GIGS	comp=E,1194μm,0.4s				AML	AML			
FIU1	**Fiuminata**	**0.44**	**337**		P		**Pg**	**03 57 16.6**	**-0.3**
FIU1					S		**Sg**	**03 57 23.6**	**+0.7**
SSM1	**San Severino M**	**0.45**	**1**		P		**Pg**	**03 57 16.2**	**-0.7**
ASSB	**Assisi San Ben**	**0.46**	**305**		AML	AML			
ASSB	comp=E,4785μm,0.2s				AML	AML			
ASSB	comp=N,5180μm,1.2s				AML	AML			
AQU	**L'Aquila**	**0.46**	**158**		↓P		**Pg**	**03 57 16.8**	**-0.3**
AQU	comp=N,4635μm,1.2s				AML	AML			
AQU	comp=E,5860μm,1.0s				AML	AML			
AQU	comp=E,5940μm,1.1s				AML	AML			
AQU	comp=N,4420μm,1.2s				AML	AML			
CESX	**Cesi**	**0.46**	**249**		↑P		**Pg**	**03 57 17.3**	**+0.1**
CESX	comp=E,3435μm,1.4s				AML	AML			
CESX	comp=N,3565μm,1.3s				AML	AML			
GAG1	**Gagliole**	**0.46**	**351**		P		**Pg**	**03 57 16.8**	**-0.5**
SNTG	**Esanatoglia**	**0.50**	**341**		↑P		**Pg**	**03 57 17.2**	**-0.8**
SNTG					S		**Sg**	**03 57 25.2**	**+0.5**
SNTG	comp=E,4415μm,0.6s				AML	AML			
SNTG	comp=N,5420μm,0.2s				AML	AML			
SNTG	comp=N,5860μm,0.2s				AML	AML			
SNTG	comp=E,4275μm,0.6s				AML	AML			
SNTG	comp=N,5420μm,0.2s				AML	AML			
SNTG	comp=E,4415μm,0.6s				AML	AML			
FIAM	**Fiamignano**	**0.51**	**184**		↑P		**Pg**	**03 57 18.0**	**-0.1**
FIAM					S		**Sg**	**03 57 26.5**	**+1.5**
FIAM	comp=E,3790μm,0.7s				AML	AML			
FIAM	comp=N,3110μm,0.6s				AML	AML			
TRTR	**Tortoreto Alta**	**0.55**	**87**		↓P		**Pg**	**03 57 19.0**	**+0.2**
TRTR	comp=N,7640μm,0.4s				AML	AML			
TRTR	comp=E,7650μm,1.3s				AML	AML			
EL6	**Elcito**	**0.55**	**355**		↑P		**Pg**	**03 57 17.9**	**-1.0**
EL6					S		**Sg**	**03 57 27.1**	**+0.8**
EL6	comp=N,8120μm,0.4s				AML	AML			
EL6	comp=N,8115μm,0.4s				AML	AML			
EL6	comp=E,9515μm,1.0s				AML	AML			
ATCC	**AVT- Casa Cast**	**0.56**	**317**		↑P		**Pg**	**03 57 18.7**	**-0.3**
ATCC					S		**Sb**	**03 57 27.6**	**+0.2**
ATCC	comp=E,5845μm,0.9s				AML	AML			
ATCC	comp=N,5310μm,0.9s				AML	AML			
FOSV	**Fossato di Vic**	**0.59**	**330**		↑P		**Pg**	**03 57 19.0**	**-0.6**
FOSV					S		**Sg**	**03 57 28.4**	**+0.8**
FOSV	comp=E,3860μm,1.0s				AML	AML			
FOSV	comp=N,19115μm,0.4s				AML	AML			
CING	**Cingoli**	**0.60**	**2**		↑P		**Pg**	**03 57 18.6**	**-1.1**
CING					S		**Sg**	**03 57 28.2**	**+0.6**
CING	comp=E,3785μm,0.5s				AML	AML			
CING	comp=N,4195μm,0.3s				AML	AML			
FAGN	**Fagnano**	**0.60**	**149**		P		**Pg**	**03 57 19.0**	**-0.7**
FAGN	comp=N,4245μm,0.3s				AML	AML			
CADA	**Capodarco di F**	**0.60**	**46**		P		**Pg**	**03 57 20.3**	**+0.5**
VCEL	**Villa Celiera**	**0.63**	**127**		AML	AML			
VCEL	comp=N,3435μm,0.9s				AML	AML			
VCEL	comp=E,3680μm,0.9s				AML	AML			
MURB	**Monte Urbino**	**0.68**	**316**		P		**Pg**	**03 57 20.8**	**-0.4**
MURB	comp=E,7485μm,1.5s				AML	AML			
MURB	comp=N,8510μm,0.3s				AML	AML			
MURB	comp=N,8070μm,1.0s				AML	AML			
MURB	comp=E,8720μm,1.5s				AML	AML			
PP3	**Marolino**	**0.68**	**28**		P		**Pg**	**03 57 20.9**	**-0.3**
PP3	comp=N,16600μm,1.3s				AML	AML			
PP3	comp=E,9780μm,0.4s				AML	AML			
PP3	comp=E,8835μm,0.4s				AML	AML			
PP3	comp=N,16700μm,1.3s				AML	AML			
SSFR	**Montelago di S**	**0.71**	**337**		↑P		**Pg**	**03 57 21.0**	**-0.9**
SSFR					S		**Sg**	**03 57 32.2**	**+0.8**
SSFR	comp=E,6550μm,0.3s				AML	AML			
SSFR	comp=E,5995μm,0.3s				AML	AML			
SSFR	comp=N,7505μm,0.2s				AML	AML			
SSFR	comp=N,6295μm,1.3s				AML	AML			
T0110	**Collepietro**	**0.71**	**140**		AML	AML			
T0110	comp=N,4220μm,1.6s				AML	AML			
T0110	comp=E,3445μm,0.5s				AML	AML			
ATFO	**Monte Foce - G**	**0.73**	**324**		P		**Pg**	**03 57 21.5**	**-0.7**
ATFO					S		**Sb**	**03 57 33.0**	**+0.7**
ATSC	**Scheggia e Pas**	**0.73**	**332**		P		**Pg**	**03 57 21.6**	**-0.7**
ARVD	**Arcevia**	**0.74**	**347**		AML	AML			
ARVD	comp=E,1685μm,1.0s				AML	AML			
ARVD	comp=N,1520μm,0.8s				AML	AML			
ATLO	**AVT- Montelove**	**0.77**	**314**		↑P		**Pg**	**03 57 22.3**	**-0.7**
ATLO					S		**Sb**	**03 57 34.3**	**+0.8**
PTQR	**Pietraquaria**	**0.78**	**167**		AML	AML			
PTQR	comp=N,776μm,1.3s				AML	AML			
PTQR	comp=E,1030μm,0.7s				AML	AML			
MGAB	**Montegabbione**	**0.79**	**280**		P		**Pg**	**03 57 23.0**	**-0.2**
MGAB	comp=N,3275μm,0.6s				AML	AML			
MGAB	comp=E,2130μm,0.7s				AML	AML			
MGAB	comp=N,3280μm,0.5s				AML	AML			
MGAB	comp=E,2050μm,0.7s				AML	AML			
FRON	**Frontone**	**0.81**	**337**		AML	AML			
FRON	comp=N,3950μm,0.3s				AML	AML			
FRON	comp=E,2150μm,1.5s				AML	AML			
TB01	**Gubbio**	**0.81**	**319**		P		**Pg**	**03 57 23.0**	**-0.6**
TB01					S		**Sb**	**03 57 35.4**	**+1.0**
TB02	**Pietralunga**	**0.81**	**317**		↑P		**Pg**	**03 57 22.9**	**-0.8**
ATVA	**AVT- Monte Val**	**0.82**	**308**		P		**Pg**	**03 57 23.5**	**-0.3**
MTCE	**Montecelio**	**0.82**	**203**		P		**Pg**	**03 57 23.0**	**-0.8**
MTCE	comp=E,2350μm,0.4s				AML	AML			
MTCE	comp=N,1165μm,1.3s				AML	AML			
ATVO	**AVT- Monte Val**	**0.82**	**318**		P		**Pg**	**03 57 23.1**	**-0.8**
ATVO	comp=E,1180μm,0.7s				AML	AML			
ATVO	comp=N,1352μm,0.5s				AML	AML			
TB03	**Pietralunga**	**0.83**	**319**		P		**Pg**	**03 57 23.5**	**-0.6**
AOI	**Ancona**	**0.83**	**22**		AML	AML			
AOI	comp=N,2355μm,0.4s				AML	AML			
AOI	comp=E,2640μm,1.4s				AML	AML			
CERT	**Cerreto**	**0.84**	**189**		P		**Pg**	**03 57 23.3**	**-1.0**
CERT	comp=E,3165μm,0.6s				AML	AML			
CERT	comp=N,2220μm,1.2s				AML	AML			
ATMI	**Monte Miggiano**	**0.86**	**310**		P		**Pg**	**03 57 24.3**	**-0.4**
ATMI	comp=E,2600μm,0.3s				AML	AML			
ATMI	comp=N,2745μm,0.5s				AML	AML			
COR1	**Corinaldo**	**0.86**	**352**		AML	AML			
COR1	comp=E,2560μm,0.6s				AML	AML			
COR1	comp=N,3590μm,0.5s				AML	AML			
ATPI	**Pietralunga -**	**0.87**	**320**		AML	AML			
ATPI	comp=E,1250μm,0.5s				AML	AML			
ATPI	comp=N,1265μm,0.5s				AML	AML			
PIEI	**Pieia**	**0.89**	**329**		AML	AML			
PIEI	comp=E,1305μm,0.8s				AML	AML			
PIEI	comp=N,865μm,0.4s				AML	AML			
MPAG	**Monte Paganucc**	**0.90**	**341**		AML	AML			
MPAG	comp=N,1955μm,0.6s				AML	AML			
MPAG	comp=N,1725μm,0.6s				AML	AML			
MPAG	comp=E,2750μm,0.3s				AML	AML			
MPAG	comp=E,2775μm,0.4s				AML	AML			
SACS	**San Casciano d**	**0.93**	**275**		P		**Pg**	**03 57 25.7**	**-0.2**
SACS	comp=N,1435μm,1.1s				AML	AML			
SACS	comp=E,856μm,1.5s				AML	AML			
NARO	**Abbazia di Nar**	**0.94**	**333**		AML	AML			
NARO	comp=E,961μm,0.7s				AML	AML			
NARO	comp=N,943μm,0.9s				AML	AML			
INTR	**Introdacqua**	**0.94**	**144**		AML	AML			
INTR	comp=N,2μm,0.8s				AML	AML			
INTR	comp=N,2935μm,0.8s				AML	AML			
INTR	comp=E,1μm,0.8s				AML	AML			
INTR	comp=E,1430μm,0.8s				AML	AML			
RCAV	**Rocca di Cave**	**0.95**	**190**		AML	AML			
RCAV	comp=E,3310μm,0.4s				AML	AML			
RCAV	comp=N,2855μm,1.4s				AML	AML			
APEC	**Apecchio**	**0.95**	**325**		AML	AML			
APEC	comp=E,1255μm,0.6s				AML	AML			
APEC	comp=N,1870μm,0.6s				AML	AML			
FSSB	**Fossombrone**	**0.96**	**343**		AML	AML			
FSSB	comp=N,6025μm,0.4s				AML	AML			
FSSB	comp=E,4010μm,0.4s				AML	AML			
VVLD	**Villa Vallelon**	**0.97**	**159**		P		**Pg**	**03 57 25.4**	**-1.3**
VVLD	comp=E,1190μm,1.0s				AML	AML			
VVLD	comp=N,1485μm,0.8s				AML	AML			
BADI	**Badiali**	**0.99**	**318**		AML	AML			
BADI	comp=E,86μm,0.6s				AML	AML			
BADI	comp=N,1040μm,0.7s				AML	AML			
RMP	**Rome, Mte Porz**	**1.03**	**200**		AML	AML			
RMP	comp=E,1930μm,0.9s				AML	AML			
RMP	comp=N,2475μm,0.6s				AML	AML			
CAFR	**Castel Frentan**	**1.03**	**122**		AML	AML			
CAFR	comp=E,866μm,0.4s				AML	AML			
CAFR	comp=N,932μm,0.7s				AML	AML			
PE3	**Peglio**	**1.04**	**332**		AML	AML			
PE3	comp=E,9μm,0.4s				AML	AML			
PE3	comp=N,10μm,0.4s				AML	AML			
MA9	**Marino**	**1.08**	**201**		AML	AML			
MA9	comp=E,2265μm,0.6s				AML	AML			

MA9				AML	AML			
	comp=N,2135µm,0.5s							
MCIV	**Monte Civitell**	**1.10**	**270**	AML	AML			
	comp=E,536µm,0.9s							
MCIV				AML	AML			
	comp=N,446µm,0.5s							
SSP9	**Sansepolcro**	**1.10**	**317**	P	**Pg**	**03 57 28.6**	**-0.5**	
SF04	**Casetta**	**1.11**	**273**	AML	AML			
	comp=E,462µm,1.1s							
SF04				AML	AML			
	comp=N,488µm,0.7s							
TOLF	**Tolfa**	**1.12**	**231**	AML	AML			
	comp=N,645µm,0.4s							
TOLF				AML	AML			
	comp=E,730µm,0.5s							
POFI	**Posta Fibreno**	**1.14**	**159**	P	**Pg**	**03 57 28.4**	**-1.4**	
LAV9	**Lanuvio**	**1.15**	**198**	AML	AML			
	comp=E,2970µm,0.4s							
LAV9				AML	AML			
	comp=N,1930µm,1.2s							
LAV9				AML	AML			
	comp=N,2060µm,1.1s							
LAV9				AML	AML			
	comp=E,2940µm,0.5s							
LRP	**Arpino**	**1.17**	**164**	P	**Pg**	**03 57 29.9**	**-0.7**	
LRP				AML	AML			
	comp=E,592µm,0.9s							
LRP				AML	AML			
	comp=N,154µm,0.5s							
PESA	**Pesaro**	**1.19**	**349**	AML	AML			
	comp=N,2470µm,0.6s							
PESA				AML	AML			
	comp=E,2960µm,1.3s							
CPGN	**Carpegna, Ital**	**1.19**	**329**	AML	AML			
	comp=N,1450µm,0.8s							
CPGN				AML	AML			
	comp=E,1835µm,0.9s							
CPGN				AML	AML			
	comp=N,1350µm,0.7s							
CPGN				AML	AML			
	comp=E,1670µm,1.2s							
GIUL	**Giuliano Di Ro**	**1.22**	**177**	P	**Pb**	**03 57 30.3**	**-0.5**	
GIUL				AML	AML			
	comp=E,613µm,0.7s							
GIUL				AML	AML			
	comp=N,1040µm,0.7s							
CRE	**Caprese Michel**	**1.22**	**314**	P	**Pg**	**03 57 30.9**	**-0.7**	
CRE				AML	AML			
	comp=E,577µm,1.4s							
CRE				AML	AML			
	comp=N,664µm,0.7s							
FRES	**Fresagrandinar**	**1.37**	**125**	P	**Pn**	**03 57 34.3**	**+1.7**	
FRES				AML	AML			
	comp=E,528µm,0.9s							
FRES				AML	AML			
	comp=N,403µm,0.8s							
MIDA	**Miranda**	**1.40**	**144**	P	**Pn**	**03 57 32.2**	**-0.7**	
MIDA				AML	AML			
	comp=N,482µm,1.6s							
MIDA				AML	AML			
	comp=E,480µm,1.6s							
MIDA				AML	AML			
	comp=N,472µm,1.3s							
MIDA				AML	AML			
	comp=E,503µm,1.6s							
ASQU	**Asqua**	**1.43**	**316**	P	**Pn**	**03 57 34.4**	**+1.0**	
SFI	**Santa Sofia**	**1.48**	**320**	P	**Pn**	**03 57 35.5**	**+1.4**	
FROS	**Frosini**	**1.54**	**287**	P	**Pn**	**03 57 35.2**	**+0.3**	
CSNT	**Castellina Chi**	**1.54**	**297**	P	**Pn**	**03 57 35.9**	**+0.9**	
VAGA	**Valle Agricola**	**1.58**	**149**	P	**Pn**	**03 57 36.4**	**+0.9**	
VAGA				AML	AML			
	comp=E,347µm,0.8s							
VAGA				AML	AML			
	comp=N,380µm,1.5s							
VAGA				AML	AML			
	comp=N,381µm,1.5s							
VAGA				AML	AML			
	comp=E,344µm,0.8s							
OSSC	**Osservatorio P**	**1.59**	**299**	P	**Pn**	**03 57 36.8**	**+1.2**	
BSSO	**Busso**	**1.63**	**139**	P	**Pn**	**03 57 38.5**	**+2.3**	
CASP	**Castiglione de**	**1.69**	**271**	P	**Pn**	**03 57 37.8**	**+0.8**	
CASP				AML	AML			
	comp=N,67µm,1.1s							
CASP				AML	AML			
	comp=E,74µm,1.3s							
CIGN	**Sant'Elia a Pi**	**1.71**	**130**	P	**Pn**	**03 57 39.4**	**+2.1**	
CIGN				AML	AML			
	comp=N,246µm,0.9s							
CIGN				AML	AML			
	comp=E,238µm,1.2s							
PIGN	**Pignataro Magg**	**1.75**	**154**	P	**Pn**	**03 57 39.8**	**+2.0**	
PIGN				AML	AML			
	comp=N,202µm,0.8s							
PIGN				AML	AML			
	comp=E,187µm,1.4s							
MELA	**Melanico ??? S**	**1.81**	**126**	P	**Pn**	**03 57 40.3**	**+1.7**	
MELA				AML	AML			
	comp=N,621µm,1.2s							
MELA				AML	AML			
	comp=E,466µm,0.6s							
MELA				AML	AML			
	comp=N,646µm,0.6s							
MELA				AML	AML			
	comp=E,569µm,0.9s							
CRMI	**Carmignano**	**1.90**	**303**	P	**Pn**	**03 57 41.0**	**+1.2**	
MPPT	**Montemurlo**	**1.92**	**309**	P	**Pn**	**03 57 41.6**	**+1.5**	
MTCR	**Monte La Croce**	**2.01**	**309**	P	**Pn**	**03 57 42.5**	**+1.0**	
MTCR				AML	AML			
	comp=E,234µm,0.4s							
MTCR				AML	AML			
	comp=N,263µm,1.1s							
SGRT	**San Giovanni R**	**2.17**	**117**	P	**Pn**	**03 57 45.0**	**+1.3**	
SGRT				AML	AML			
	comp=E,263µm,0.8s							
SGRT				AML	AML			
	comp=N,285µm,0.7s							
CELB	**S.Piero in Cam**	**2.18**	**270**	AML	AML			
	comp=E,41µm,1.5s							
CELB				AML	AML			
	comp=N,28µm,1.0s							
MSAG	**Monte S. Angel**	**2.30**	**117**	P	**Pn**	**03 57 46.9**	**+1.5**	
MSAG				AML	AML			
	comp=E,347µm,0.5s							
MSAG				AML	AML			
	comp=E,366µm,0.5s							
MSAG				AML	AML			
	comp=N,568µm,1.1s							
MSAG				AML	AML			
	comp=N,548µm,1.1s							
VULT	**Monte Vulture**	**2.58**	**134**	P	**Pn**	**03 57 51.4**	**+2.1**	
VULT				AML	AML			
	comp=E,195µm,0.4s							
VULT				AML	AML			
	comp=N,222µm,0.6s							
PALZ	**Palazzo San Ge**	**2.78**	**130**	P	**Pn**	**03 57 53.6**	**+1.7**	
PALZ				AML	AML			
	comp=N,262µm,1.3s							
PALZ				AML	AML			
	comp=E,233µm,1.0s							
SKDS	**Skadanscina**	**2.83**	**12**	*i* Pn	**Pn**	**03 57 52.7**	**0.0**	
SKDS				*i* Sn	**Sn**	**03 58 27.0**	**+0.4**	
SKDS				IAML		03 58 27.8		
	comp=Z,44nm,0.3s							
A050A	**Klekovaca**	**2.98**	**54**	*e*Pn	**Pn**	**03 57 55.8**	**+1.1**	
PGF	**Pioggiola**	**3.08**	**267**	*e*P	**Pn**	**03 57 57.8**	**+1.6**	
PGF				*e*Sn	**Sn**	**03 58 29.5**	**-3.3**	
	comp=Z,5.1nm,0.3s							
CEY	**Cerknica**	**3.09**	**17**	*e*Pn	**Pn**	**03 57 57.4**	**+1.1**	
AMUR	**Altamura**	**3.18**	**125**	P	**Pn**	**03 57 59.0**	**+1.6**	
AMUR				AML	AML			
	comp=E,69µm,1.0s							
AMUR				AML	AML			
	comp=N,75µm,0.5s							
SRKY	**Kupres RS**	**3.19**	**65**	*e*Pn	**Pn**	**03 57 59.4**	**+1.8**	
SABO	**M.te Sabotino**	**3.21**	**5**	P	**Pn**	**03 57 58.3**	**+0.3**	
SABO				AML	AML			
	comp=E,216µm,1.5s							
SABO				AML	AML			
	comp=N,1165µm,0.7s							
SABO				AML	AML			
	comp=N,302µm,0.7s							
SABO				AML	AML			
	comp=E,930µm,1.5s							
MIGL	**Miglionico**	**3.28**	**130**	P	**Pn**	**03 58 01.0**	**+2.2**	
MGRS	**Mrkonjic Grad**	**3.28**	**59**	*e*Pn	**Pn**	**03 58 00.9**	**+2.0**	
STON	**Ston**	**3.34**	**87**	*e*Pn	**Pn**	**03 57 59.4**	**-0.2**	
STON	**Ston**	**3.34**	**87**	AML	AML			
	comp=E,34µm,0.6s							
STON				AML	AML			
	comp=N,41µm,0.8s							
LJU	**Ljubljana**	**3.41**	**16**	AML	AML			
	comp=N,1108µm,0.8s							
LJU				AML	AML			
	comp=E,812µm,0.9s							
DOSS	**Dosso del Somm**	**3.41**	**336**	P	**Pn**	**03 58 03.1**	**+2.3**	
CTI	**Castel Tesino**	**3.44**	**342**	P	**Pn**	**03 58 02.9**	**+1.7**	
CTI				AML	AML			
	comp=N,136µm,0.6s							
CTI				AML	AML			
	comp=E,120µm,0.3s							
CRES	**Cresnjev**	**3.46**	**28**	*e*Pn	**Pn**	**03 58 01.8**	**+0.5**	
MPRI	**Monte Prat**	**3.46**	**358**	P	**Pn**	**03 58 02.2**	**+0.8**	
MPRI				AML	AML			
	comp=N,188µm,0.7s							
MPRI				AML	AML			
	comp=E,168µm,0.6s							
MPRI				AML	AML			
	comp=N,227µm,0.7s							
MPRI				AML	AML			
	comp=E,156µm,0.6s							
LTRZ	**Laterza**	**3.49**	**127**	P	**Pn**	**03 58 03.5**	**+1.7**	
A051A	**Mrakovica**	**3.51**	**49**	*e*Pn	**Pn**	**03 58 02.3**	**+0.3**	
BLY	**Banja Luka**	**3.51**	**55**	*e*Pn	**Pn**	**03 58 04.8**	**+2.8**	
LUSI	**Trento, Gardas**	**3.56**	**334**	P	**Pn**	**03 58 05.0**	**+2.3**	
GAGG	**Gaggia**	**3.66**	**335**	P	**Pn**	**03 58 06.8**	**+2.6**	
ACOM	**Acomizza, Ital**	**3.78**	**4**	P	**Pn**	**03 58 06.8**	**+0.9**	
ACOM				AML	AML			
	comp=E,151µm,0.7s							
ACOM				AML	AML			
	comp=N,144µm,1.2s							
ACOM				AML	AML			
	comp=E,140µm,0.8s							
ACOM				AML	AML			
	comp=N,151µm,0.8s							
ZOU	**Zoufplan**	**3.78**	**358**	P	**Pn**	**03 58 06.4**	**+0.5**	
ZOU				AML	AML			
	comp=E,126µm,1.2s							
ZOU				AML	AML			
	comp=E,111µm,1.2s							
ZOU				AML	AML			
	comp=N,134µm,0.8s							
ZOU				AML	AML			
	comp=N,116µm,0.9s							
TREB	**Trebinje**	**3.82**	**89**	*e*Pn	**Pn**	**03 58 07.2**	**+1.0**	
OBKA	**Obir**	**3.86**	**14**	*e*Pn	**Pn**	**03 58 06.6**	**-0.3**	
	comp=N,0.4nm,0.2s							
OBKA	**Obir**	**3.86**	**14**	*e*Pn	**Pn**	**03 58 08.0**	**+1.1**	
OBKA				*e*Pg	**Pg**	**03 58 20.6**	**-1.2**	
OBKA				*e*Sn	**Sn**	**03 58 48.6**	**-3.4**	
OBKA				*e*Sg	**Sg**	**03 59 08.9**	**-2.9**	
MYKA	**Terra Mystica**	**3.87**	**5**	*e*Pn	**Pn**	**03 58 07.8**	**+0.9**	
	comp=N,2.3nm,0.4s							
KOSI	**Kohlern**	**3.90**	**342**	P	**Pn**	**03 58 10.0**	**+2.5**	
HCY	**Herceg Novi**	**3.95**	**93**	*e*Pn	**Pn**	**03 58 08.9**	**+0.9**	
BRY	**Bratogost**	**3.95**	**86**	*e*Pn	**Pn**	**03 58 09.5**	**+1.3**	
ABTA	**Abfaltersbach**	**4.00**	**354**	*e*Pn	**Pn**	**03 58 10.1**	**+1.4**	
	comp=N,4.5nm,0.3s,SNR=26							
SOKA	**Soboth**	**4.12**	**18**	*e*Pn	**Pn**	**03 58 11.6**	**+1.1**	
	comp=N,0.6nm,0.2s							
KBA	**Koelnbreinsper**	**4.30**	**2**	*e*Pn	**Pn**	**03 58 14.8**	**+1.8**	
KBA				*e*Sn	**Sn**	**03 59 04.3**	**+1.3**	
SBF	**Sospel**	**4.32**	**286**	*e*P	**Pn**	**03 58 15.0**	**+1.8**	
SBF				*e*Sn	**Sn**	**03 58 59.3**	**-4.0**	
	comp=N,6.4nm,0.4s							
VSL	**Villasalto**	**4.35**	**222**	P	**Pn**	**03 58 15.9**	**+2.3**	
HAPS	**Han Pijesak,Bl**	**4.41**	**71**	*e*Pn	**Pn**	**03 58 16.3**	**+1.8**	
DRME	**Dracevica, Mon**	**4.49**	**96**	*e*Pn	**Pn**	**03 58 17.0**	**+1.6**	
FETA	**Feichten**	**4.58**	**339**	*e*Pn	**Pn**	**03 58 19.8**	**+2.9**	
	comp=N,3.6nm,0.6s							
RUDO	**Rudo**	**4.61**	**77**	*e*Pn	**Pn**	**03 58 17.7**	**+0.6**	
WTTA	**Wattenberg**	**4.61**	**347**	*i* Pn	**Pn**	**03 58 20.4**	**+3.1**	
	comp=N,1.6nm,0.3s,SNR=7.0							
WTTA	**Wattenberg**	**4.61**	**347**	*e*Pn	**Pn**	**03 58 20.4**	**+3.1**	
WTTA				*e*Sn	**Sn**	**03 59 15.0**	**+4.3**	
SQTA	**Sankt Quirin**	**4.65**	**343**	*i* Pn	**Pn**	**03 58 21.0**	**+3.2**	
	comp=N,3.1nm,0.2s,SNR=12							
BBLS	**Lazići**	**4.68**	**74**	*e*Pn	**Pn**	**03 58 19.5**	**+1.4**	
WATA	**Walderalm**	**4.69**	**347**	*e*Pn	**Pn**	**03 58 22.0**	**+3.7**	
	comp=N,4.5nm,0.3s,SNR=13							
ARSA	**Arzberg**	**4.77**	**20**	*e*Pn	**Pn**	**03 58 19.6**	**+0.2**	
	comp=N,0.9nm,0.3s							
ARSA	**Arzberg**	**4.77**	**20**	*e*Pn	**Pn**	**03 58 19.7**	**+0.4**	
ARSA				*e*Sn	**Sn**	**03 59 12.2**	**-2.2**	
MOTA	**Moosalm**	**4.79**	**343**	*i* Pn	**Pn**	**03 58 22.7**	**+2.9**	
	comp=N,2.2nm,0.4s,SNR=8.0							
LMR	**La Mourre**	**4.91**	**279**	*e*P	**Pn**	**03 58 22.6**	**+1.4**	
LMR				*e*Sn	**Sn**	**03 59 13.4**	**-4.3**	
	comp=N,1.2nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.92**	**4**	*e*Pn	**Pn**	**03 58 21.9**	**+0.4**	
	comp=N,2.0nm,0.2s,SNR=6.5							
PART	**Garmisch-Parte**	**4.94**	**344**	*e*Pn	**Pn**	**03 58 25.5**	**+3.8**	
PART				*e*Sn	**Sn**	**03 59 24.2**	**+5.8**	
RJOB	**Jochberg**	**4.96**	**357**	*e*Pn	**Pn**	**03 58 25.4**	**+3.4**	
RJOB				*e*Sn	**Sn**	**03 59 22.7**	**+3.5**	
RETA	**Reutte**	**5.00**	**341**	*e*Pn	**Pn**	**03 58 25.4**	**+2.8**	
	comp=N,1.9nm,0.3s							
MBDF	**Montbardon**	**5.03**	**295**	*e*P	**Pn**	**03 58 25.3**	**+2.4**	
MBDF				*e*Sn	**Sn**	**03 59 16.2**	**-4.6**	
	comp=N,1.4nm,0.3s							
PLONS	**Plons/SG**	**5.04**	**329**	*e*Pn	**Pn**	**03 58 27.2**	**+4.1**	
PLONS				*e*Sn	**Sn**	**03 59 26.5**	**+5.3**	
OBER	**Oberstdorf**	**5.05**	**337**	*e*Pn	**Pn**	**03 58 27.4**	**+4.1**	
OBER				*e*Sn	**Sn**	**03 59 26.1**	**+4.7**	
DAVA	**Damuels**	**5.07**	**334**	*e*Pn	**Pn**	**03 58 26.7**	**+3.1**	
	comp=N,2.3nm,0.3s							
DAVA	**Damuels**	**5.07**	**334**	*e*Pn	**Pn**	**03 58 27.2**	**+3.6**	
DAVA				*e*Sn	**Sn**	**03 59 27.9**	**+5.9**	
MOA	**Molln**	**5.13**	**8**	*e*Pn	**Pn**	**03 58 25.4**	**+1.1**	
	comp=N,1.5nm,0.3s							
MOA	**Molln**	**5.13**	**8**	*e*Pn	**Pn**	**03 58 26.1**	**+1.8**	
MOA				*e*Sn	**Sn**	**03 59 23.9**	**+0.7**	
DIVS	**Divibare**	**5.14**	**73**	*e*Pn	**Pn**	**03 58 23.3**	**-1.2**	
UBR	**Ueberruh**	**5.36**	**337**	*e*Pn	Pn	03 58 32.1	+4.7	
UBR				*e*Sn	**Sn**	**03 59 31.2**	**+2.4**	
LPL	**La Plagne**	**5.38**	**303**	*e*P	**Pn**	**03 58 30.3**	**+2.5**	
LPL				*e*Sn	**Sn**	**03 59 24.5**	**-5.1**	
	comp=N,2.5nm,0.3s							
CONA	**Conrad Observa**	**5.49**	**19**	*e*Pn	**Pn**	**03 58 30.2**	**+1.0**	
	comp=N,0.6nm,0.2s							
WILA	**Wila**	**5.53**	**328**	*e*Pn	**Pn**	**03 58 33.8**	**+4.1**	
WILA				*e*Sn	**Sn**	**03 59 36.4**	**+3.3**	
SMRF	**Simiane la Rot**	**5.66**	**285**	*e*P	**Pn**	**03 58 34.4**	**+2.8**	
SMRF				*e*Sn	**Sn**	**03 59 31.3**	**-5.0**	
	comp=N,0.6nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.69**	**295**	*e*P	**Pn**	**03 58 34.6**	**+2.6**	
ORIF				*e*Sn	**Sn**	**03 59 31.9**	**-5.1**	
	comp=N,0.7nm,0.3s							
SULZ	**Cheisacher**	**5.94**	**325**	*e*Pn	Pn	03 58 40.5	+5.1	
SULZ				*e*Sn	**Sn**	**03 59 45.7**	**+2.5**	
EMING	**Emmingen-Lipti**	**5.95**	**331**	*e*Pn	Pn	03 58 40.5	+5.0	
EMING				*e*Sn	**Sn**	**03 59 44.5**	**+1.0**	
SLE	**Schleitheim**	**5.98**	**328**	*e*Pn	**Pn**	**03 58 39.1**	**+3.2**	
SLE				*e*Sn	**Sn**	**03 59 45.6**	**+1.5**	
GEC2	**GERESS Array S**	**6.08**	**3**	*e*Sn	**Sn**	**03 59 45.8**	**-0.9**	
CKRC	**Cesky Krumlov**	**6.09**	**7**	*e*SN	**Sn**	**03 59 44.6**	**-2.3**	
BERGE	**Lenzkirch (DE)**	**6.19**	**327**	*e*Pn	**Pn**	**03 58 42.1**	**+3.3**	
BERGE				*e*Sn	**Sn**	**03 59 48.7**	**-0.6**	
CABF	**La Chapelle**	**6.33**	**310**	*e*P	**Pn**	**03 58 43.5**	**+2.7**	
CABF				*e*Sn	**Sn**	**03 59 47.2**	**-5.8**	
	comp=N,1.1nm,0.4s							
KHC	**Kasperske Hory**	**6.36**	**2**	*e*PN	**Pn**	**03 58 41.7**	**+0.6**	
KHC				*e*SN	**Sn**	**03 59 52.0**	**-1.5**	
WET	**Wettzell**	**6.37**	**358**	*e*Pn	**Pn**	**03 58 44.0**	**+2.7**	
WET				*e*Sn	**Sn**	**03 59 51.7**	**-2.0**	
VIVF	**Saint-Julien-l**	**6.49**	**292**	*e*P	**Pn**	**03 58 45.6**	**+2.7**	
VIVF				*e*Sn	**Sn**	**03 59 51.0**	**-5.6**	
	comp=N,0.8nm,0.3s							
BFO	**Black Forest**	**6.51**	**330**	*e*Pn	**Pn**	**03 58 47.3**	**+4.2**	
BFO				*e*Sn	**Sn**	**03 59 57.4**	**+0.3**	
HINF	**Hinteralfeld**	**6.72**	**321**	*e*P	**Pn**	**03 58 48.8**	**+2.7**	
HINF				*e*Sn	**Sn**	**03 59 56.2**	**-6.2**	
	comp=N,5.4nm,0.4s							
ECH	**Echery**	**6.88**	**324**	*e*Pn	**Pn**	**03 58 50.4**	**+2.1**	
ECH				*e*Sn	**Sn**	**04 00 06.3**	**-0.1**	
LASF	**Ste Croix**	**6.90**	**284**	*e*P	**Pn**	**03 58 51.3**	**+2.7**	
LASF				*e*Sn	**Sn**	**04 00 00.9**	**-5.9**	
	comp=N,0.4nm,0.3s							
CDF	**Champ du Feu**	**6.98**	**326**	*e*P	**Pn**	**03 58 51.2**	**+1.4**	
CDF				*e*Sn	**Sn**	**04 00 02.4**	**-6.5**	
	comp=N,2.6nm,0.4s							
ROTZ	**Rotzenmuhle**	**7.02**	**355**	*e*Sn	**Sn**	**04 00 06.4**	**-3.3**	
GRF	**Grafenberg Arr**	**7.04**	**350**	*e*Sn	**Sn**	**04 00 08.8**	**-1.5**	
HAU	**Haudompre**	**7.09**	**320**	*e*P	**Pn**	**03 58 53.2**	**+2.0**	
HAU				*e*Sn	**Sn**	**04 00 05.1**	**-6.5**	
	comp=N,7.7nm,0.3s							
PRU	**Pruhonice**	**7.27**	**7**	*e*SN	**Sn**	**04 00 13.1**	**-2.8**	
SMF	**Signal de Mont**	**7.68**	**303**	*e*P	**Pn**	**03 59 02.3**	**+3.0**	
SMF				*e*Sn	**Sn**	**04 00 19.4**	**-6.7**	
	comp=N,1.5nm,0.4s							
PAGF	**Fort de Pagny**	**7.78**	**321**	*e*P	**Pn**	**03 59 03.7**	**+3.1**	
PAGF				*e*Sn	**Sn**	**04 00 21.4**	**-6.9**	
	comp=N,1.4nm,0.3s							
SFTF	**Sexfontaines**	**7.87**	**316**	*e*P	**Pn**	**03 59 05.0**	**+3.1**	
SFTF				*e*Sn	**Sn**	**04 00 23.8**	**-6.9**	
	comp=N,1.9nm,0.4s							
LOR	**Lormes**	**7.97**	**307**	*e*P	**Pn**	**03 59 06.5**	**+3.2**	
	baz=123							
LOR				*e*Sn	**Sn**	**04 00 26.2**	**-7.0**	
	comp=N,1.8nm,0.3s							
MTLF	**Montolieu**	**8.04**	**278**	*e*P	**Pn**	**03 59 07.4**	**+3.2**	
MTLF				*e*Sn	**Sn**	**04 00 28.2**	**-6.6**	
	comp=N,0.9nm,0.4s							
AVF	**Avril sur Loir**	**8.05**	**303**	*e*P	**Pn**	**03 59 07.7**	**+3.4**	
AVF				*e*Sn	**Sn**	**04 00 28.1**	**-6.9**	
	comp=N,0.3nm,0.3s							
MEZF	**Maizieres J'vi**	**8.06**	**318**	*e*P	**Pn**	**03 59 07.1**	**+2.6**	
MEZF				*e*Sn	**Sn**	**04 00 28.3**	**-7.0**	
	comp=N,1.7nm,0.3s							
SSF	**Saint Saulge**	**8.08**	**305**	*e*P	**Pn**	**03 59 08.0**	**+3.3**	
SSF				*e*Sn	**Sn**	**04 00 28.8**	**-7.0**	
	comp=N,0.8nm,0.4s							
SAVF	**Savonnieres en**	**8.11**	**319**	*e*P	**Pn**	**03 59 08.2**	**+3.2**	
SAVF				*e*Sn	**Sn**	**04 00 29.2**	**-7.2**	
	comp=N,1.2nm,0.4s							
BGF	**Bois d'Agland**	**8.27**	**301**	*e*P	**Pn**	**03 59 10.7**	**+3.4**	
BGF				*e*Sn	**Sn**	**04 00 33.4**	**-7.0**	
	comp=N,1.3nm,0.3s							
CAF	**Calviac**	**8.31**	**289**	*e*P	**Pn**	**03 59 11.1**	**+3.2**	
CAF				*e*Sn	**Sn**	**04 00 34.5**	**-6.9**	
	comp=N,0.6nm,0.2s							
CLL	**Collm**	**8.53**	**359**	*e*Pn	**Pn**	**03 59 09.0**	**-1.9**	
CLL				*e*(Sn)	Sn	04 00 33.0	-14	
CLL				*ex*	x	04 00 54.0		
CLL				*ex*	x	04 01 29.0		
CLL				*e*Sg	Sg	04 01 37.0	-4.5	
TCF	**Toulx Ste Croi**	**8.58**	**298**	*e*P	**Pn**	**03 59 15.0**	**+3.5**	
TCF				*e*Sn	Sn	04 00 40.8	-7.2	
	comp=N,0.5nm,0.3s							
RJF	**Les Rejaudoux**	**8.76**	**291**	*e*P	**Pn**	**03 59 17.7**	**+3.6**	
RJF				*e*Sn	Sn	04 00 45.4	-7.2	
	comp=N,0.2nm,0.2s							
ETSF	**Etsaut**	**10.09**	**275**	*e*P	**Pn**	**03 59 36.1**	**+3.8**	
ETSF				*e*Sn	Sn	04 01 17.2	-8.0	
	comp=N,1.6nm,0.3s							

*SNET **27** 04:25:24.8±1.1, 12°.12N×88°.80W, h17km±6km, ML3.4*
*INET **27** 04:25:28.4±0.6, 12°.13N×88°.43W, h15km, MW3.8*
ISC 27 04:25:20.6±4.0, **11°.98N**±0°.08×**88°.75W**±0°.10, **h7**km±22km, **n18**,σ1°09/22, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.35**	**7**	*e*P		**Pn**	**04 25 46.3**	**+0.3**
ALJI				*e*S		**Sb**	**04 26 03.0**	**-0.9**
COEB	**Comit de Eme**	**1.52**	**8**	*e*P		**Pn**	**04 25 49.5**	**+1.0**
COEB				IAML			04 26 16.7	
	comp=Z,452nm,0.3s							
PACA	**Pacayal**	**1.54**	**16**	*e*P		**Pn**	**04 25 50.5**	**+1.8**
LCND	**La Caada**	**1.56**	**32**	*e*P		**Pn**	**04 25 49.8**	**+0.9**
LCND				*e*S		**Sg**	**04 26 10.4**	**-0.7**
LCND				IAML			04 26 20.8	
	comp=Z,571nm,0.3s							
COEG	**Centro de Oper**	**1.64**	**356**	*e*P		**Pn**	**04 25 50.6**	**+0.6**
COEG				IAML			04 26 17.8	
	comp=Z,624nm,0.4s							
SJTE	**Alcalda de S**	**1.65**	**351**	*e*P		**Pn**	**04 25 50.7**	**+0.6**
PQSS	**Presa 15 de Se**	**1.65**	**6**	*e*P		**Pn**	**04 25 50.7**	**+0.6**
PQSS				*e*S		**Sn**	**04 26 12.0**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.71**	**1**	*e*P		**Pn**	**04 25 52.5**	**+1.5**
PAVA	**Las Pavas**	**1.73**	**354**	*e*P		**Pn**	**04 25 52.4**	**+1.0**
PAVA				*e*S		**Sn**	**04 26 12.7**	**-1.1**
PAVA				IAML			04 26 18.2	
	comp=Z,591nm,0.3s							
JAYA	**Jayaque - finc**	**1.80**	**338**	*e*P		**Pn**	**04 25 53.2**	**+0.9**
JAYA				*e*S		**Sn**	**04 26 14.3**	**-1.2**
JAYA				IAML			04 26 18.3	
	comp=Z,882nm,0.2s							
NUBE	**Las Nubes**	**2.16**	**332**	IAML			04 26 26.9	
	comp=Z,138nm,0.2s							
MOMN	**Momotombo**	**2.20**	**79**	*e*P		**Pn**	**04 25 58.3**	**+0.6**
MGAN	**Managua**	**2.45**	**86**	*e*P		**Pn**	**04 26 02.3**	**+1.1**
WILN	**Americas 2**	**2.51**	**86**	*e*P		**Pn**	**04 26 02.8**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.52**	**35**	*e*P		**Pn**	**04 26 04.0**	**+1.9**
HUEN		**2.54**	**82**	*e*P		**Pn**	**04 26 03.4**	**+1.0**
MATN	**Matagalpa**	**2.92**	**71**	*e*P		**Pn**	**04 26 07.3**	**-0.3**
DUNO	**Dulce Nombre,**	**3.71**	**120**	*e*P		**Pn**	**04 26 18.7**	**+0.3**

*IDC **27** 04:29:48.0±1.3, 29°.04S×178°.85W, h334km±15km, mb2.6/3, mbtmp3.3/3, Error ellipse: s-maj=45.3km s-min=27.7km az=46.0*
ISC 27 04:29:48.6±1.0, **29°.5S**±0°.2×**179°.4W**±0°.2, **h300**km, **n7**, σ0.88/6, **mb2.7**/3, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC

COLC					eS		Sn	04 41 44.3	+1.2
CUI	**Cuipilapa**	**1.10**	**72**	⇑	*i*P		**Pn**	**04 41 28.3**	**-0.7**
CUI					eS		Sn	04 41 45.2	+1.3
MESS	**Mesas**	**1.10**	**67**	⇑	*i*P		**Pn**	**04 41 28.2**	**-0.7**
MESS					eS		Sn	04 41 44.9	+0.9
HORNC	**Hornillas**	**1.10**	**69**	⇑	*i*P		**Pb**	**04 41 28.2**	**-0.6**
HORNC					eS		Sn	04 41 44.8	+0.7
VMAR	**Armenia, Volca**	**1.20**	**65**		*e*P		**Pb**	**04 41 29.8**	**-0.6**
ACAL	**Aguas Claras**	**1.21**	**75**	⇑	*i*P		**Pb**	**04 41 30.0**	**-0.7**
ACAL					eS		**Sg**	**04 41 48.7**	**+1.6**
JTS	**Las Juntas de**	**1.25**	**91**		Pg		**Pn**	**04 41 30.2**	**-0.8**
	19nm,0.3s,baz=356,slow=19,SNR=58								
JTS					Lg		Lg	04 41 45.8	
	85nm,0.3s,baz=17,slow=22,SNR=7.4								
JTS	**Las Juntas de**	**1.25**	**91**		*e*P		**Pn**	**04 41 30.2**	**-0.8**
JTS	**Las Juntas de**	**1.25**	**91**		*e*P		**Pn**	**04 41 30.2**	**-0.8**
CONN	**Concepcion**	**1.38**	**25**		*e*P		**Pb**	**04 41 32.3**	**-1.1**
LAFE	**Finca La Fe, P**	**1.39**	**111**		*e*P		**Pn**	**04 41 31.3**	**-1.6**
VERA	**Finca Concepci**	**1.44**	**68**		*e*P		**Pb**	**04 41 33.6**	**-0.9**
PACM	**Arenal**	**1.44**	**83**		*e*P		Pn	04 41 25.7	-8.0
CASO	**Castillo**	**1.47**	**85**		*e*P		**Pb**	**04 41 34.1**	**-0.9**
CASO					eS		**Sg**	**04 41 57.1**	**+1.8**
CEDE	**Laguna Cedeo**	**1.51**	**83**	⇑	*e*P		**Pb**	**04 41 35.0**	**-0.7**
FORC	**Fortuna**	**1.54**	**84**	⇑	*e*P		**Pb**	**04 41 35.3**	**-0.9**
JACO	**JACO, Garabito**	**1.67**	**113**		*e*P		**Pg**	**04 41 39.2**	**-0.8**
COVE	**Coope Vega, Sa**	**1.84**	**77**		*e*P		**Pn**	**04 41 39.3**	**+0.2**
WILN	**Americas 2**	**1.84**	**1**		*e*P		**Pn**	**04 41 38.8**	**-0.2**
ACON	**Acoyapa**	**1.94**	**32**		*e*P		**Pn**	**04 41 39.9**	**-0.6**
HUEN		**2.01**	**1**		*e*P		**Pn**	**04 41 41.2**	**-0.2**
HDC	**Heredia**	**2.10**	**98**		*e*P		**Pg**	**04 41 47.1**	**-1.1**
MOMN	**Momotombo**	**2.11**	**352**		*e*P		**Pn**	**04 41 42.3**	**-0.5**
BOAB	**BOACO BROADBAN**	**2.19**	**14**		*e*P		**Pn**	**04 41 43.5**	**-0.4**
LCR2	**La Lucha 2**	**2.26**	**104**		*e*P		**Pn**	**04 41 46.1**	**+1.1**
HAYA	**Volcan Irazu**	**2.37**	**98**		*e*P		**Pn**	**04 41 47.5**	**+0.8**
CDM	**Cerro de Muert**	**2.54**	**107**		*e*P		**Pn**	**04 41 49.5**	**+0.4**
MATN	**Matagalpa**	**2.62**	**6**		*e*P		**Pn**	**04 41 48.6**	**-1.3**
ESPN	**Las Esperanzas**	**2.66**	**45**		*e*P		**Pn**	**04 41 48.9**	**-1.4**
PEZE	**Perez Zeledon,**	**2.67**	**110**		*e*P		**Pg**	**04 41 57.6**	**-1.5**
TGUH	**Tegucigalpa,Un**	**3.86**	**345**		*e*P		**Pn**	**04 42 07.5**	**+0.5**
TXAR	**Lajitas Array**	**24.98**	**322**		P		**P**	**04 46 32.1**	**+0.7**
	1.3nm,0.7s,baz=140,slow=9.8,SNR=15								
	1.3nm,0.7s								
PDAR	**Pinedale Array**	**38.21**	**332**		P		**P**	**04 48 25.4**	**-2.2**
	0.2nm,0.6s,baz=124,slow=11,SNR=2.5								
	0.2nm,0.6s								
NVAR	**Mina Array Bea**	**40.10**	**320**		P		**P**	**04 48 46.0**	**+2.5**
	0.8nm,0.6s,baz=141,slow=7.5,SNR=8.1								
	0.8nm,0.6s								

SOME ***27*** *05:06:39.3,39°.22N×73°.93E,h0km,MS3.8*
KRNET ***27*** *05:06:41.6±0.1,39°.24N×74°.02E,mb4.6*
BJI ***27*** *05:06:42.0±0.0,39°.19N×73°.94E,h7km,mb4.3/25, mB4.8/11,ML3.9/6,Ms3.8/5,Ms7 3.6/7*
NEIC ***27*** *05:06:43.4±2.2,39°.39N±0°.06×74°.05E±0°.06,h10km±1km, mb4.5/23,Error ellipse: s-maj=10.8km s-min=7.1km az=151.0*
IDC ***27*** *05:06:44.4±4.4,39°.24N×74°.15E,h28km±30km,mb3.9/16, mbtmp4.0/21,ML3.4/5,MS3.4/19,Error ellipse: s-maj=18.7km s-min=13.9km az=164.0*
NNC ***27*** *05:06:45.1±1.2,39°.41N×74°.02E,h0km,mb4.9,mpv4.6, Error ellipse: s-maj=9.5km s-min=5.1km az=174.0*
ISC 27 05:06:42.5±1.0,**39°.29N**±0°.03×**74°.03E**±0°.03,**h9**km±6km, **n169**,σ**2**s**52**/189,**mb4.3**/29,**MS3.4**/13,**29C-14D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.52**	**81**	Pg	Pn	05 07 02.0	-8.2
KSH				Sg	Sn	05 07 17.8	-12
KSH				smax	smax		
	comp=N,1μm,0.8s						
KSH				smax	smax		
	comp=E,2μm,0.7s						
OHH	**Osh**	**1.56**	**323**	⇓	*i*P	**Pn**	**05 07 11.0**	**+0.4**
	baz=24						
OHH				⇓	*i*S	**Sn**	**05 07 33.0**	**+1.9**
	baz=24						
DRK	**Karamyk**	**1.74**	**277**	⇑	*i*P	**Pn**	**05 07 13.6**	**+0.4**
	baz=79						
DRK				⇑	*i*S	**Sn**	**05 07 37.4**	**+1.7**
	baz=79						
DRK	**Karamyk**	**1.74**	**277**			**Pn**	**05 07 13.0**	**-0.3**
ARLS	**Aral**	**2.58**	**5**	⇑	*e*P	**Pn**	**05 07 26.7**	**+2.0**
	baz=5.0						
ARLS				⇑	*i*S	**Sn**	**05 07 59.5**	**+3.2**
	baz=5.0						
BTK	**Batken**	**2.59**	**288**	⇑	*i*P	**Pn**	**05 07 26.6**	**+1.8**
	baz=89						
BTK				⇑	*i*S	**Sn**	**05 07 59.2**	**+2.7**
	baz=89						
BTK	**Batken**	**2.59**	**288**			**Pn**	**05 07 25.7**	**+0.9**
NRN	**Naryn**	**2.62**	**34**	⇓	*i*P	**Pn**	**05 07 27.0**	**+1.6**
	baz=34						
NRN				⇓	*i*S	**Sn**	**05 08 00.5**	**+3.0**
	baz=34						
NRN	**Naryn**	**2.62**	**34**	Pn		**Pn**	**05 07 26.4**	**+1.0**
GAR	**Garm**	**2.90**	**265**			**Pn**	**05 07 31.3**	**+2.3**
ARK	**Arkit**	**2.96**	**329**	⇑	*i*P	**Pn**	**05 07 32.0**	**+2.1**
	baz=29						
ARK				⇑	*i*S	**Sn**	**05 08 08.7**	**+3.1**
	baz=29						
TRKS	**Terek-Say**	**3.14**	**316**	⇓	*i*P	**Pn**	**05 07 33.5**	**+1.1**
	baz=17						
TRKS				⇓	*i*S	**Sn**	**05 08 11.3**	**+1.1**
	baz=17						
AAK	**Ala-Archa**	**3.37**	**6**	Pn		**Pn**	**05 07 38.4**	**+2.9**
	26nm,0.3s,baz=166,slow=6.7,SNR=123						
AAK				Lg		Lg	05 08 30.5	
	24nm,0.3s,baz=269,slow=15,SNR=8.8						
AAK				LR		LR	05 09 14.4	
	comp=Z,325nm,21.6s,baz=201,slow=44							
	54nm,0.3s							
AAK	**Ala-Archa**	**3.37**	**6**	Pn		**Pn**	**05 07 36.0**	**+0.5**
MRKS	**Merke**	**3.51**	**350**		*e*P	**Pb**	**05 07 46.9**	**+2.0**
	176nm,0.7s						
MRKS					eS	**Sb**	**05 08 32.3**	**+4.6**
	273nm,0.6s						
BOOM	**Boomskoye usch**	**3.51**	**24**	⇑	*i*P	**Pn**	**05 07 39.6**	**+2.1**
	baz=24						
BOOM				⇑	*i*S	**Sn**	**05 08 22.3**	**+3.0**
	baz=24						
BOOM	**Boomskoye usch**	**3.51**	**24**			**Pn**	**05 07 37.2**	**-0.4**
FRU1	**Bishkek**	**3.55**	**7**	⇑	*i*P	**Pn**	**05 07 40.3**	**+2.4**
	baz=7.0						
FRU1				⇑	*i*S	**Sn**	**05 08 23.6**	**+3.5**
	baz=7.0						
TARG	**Taragay, Kyrgy**	**3.77**	**49**			**Pn**	**05 07 40.5**	**-0.8**
CHGR	**Chuyangaron**	**3.85**	**262**			**Pn**	**05 07 43.7**	**+1.6**
KST	**Kastek**	**4.03**	**21**		*e*P	**Pb**	**05 07 56.9**	**+3.2**
	73nm,0.6s						
KST					eS	**Sg**	**05 08 49.5**	**-2.4**
	208nm,2.0s						
DZA	**Taraz**	**4.14**	**331**		*e*P	**Pb**	**05 07 56.5**	**+0.9**
	138nm,0.5s						
DZA					eS	**Sb**	**05 08 48.2**	**+2.5**
	326nm,0.5s						
DZA	**Taraz**	**4.14**	**331**		Pg	**Pb**	**05 07 56.5**	**+0.9**
	138nm,0.5s						
DZA					Lg	Lg	05 08 48.2	
	326nm,0.5s						
TAS	**Tashkent**	**4.15**	**301**	⇑	*i*P	**Pn**	**05 07 48.1**	**+1.9**
	baz=2.0						
TAS				⇑	*i*S	**Sn**	**05 08 36.6**	**+1.7**
	baz=2.0						
TAS	**Tashkent**	**4.15**	**301**			**Pn**	**05 07 46.7**	**+0.6**
DGS	**Degeres**	**4.16**	**18**		*e*P	**Pb**	**05 07 58.7**	**+2.6**
	79nm,0.5s						
DGS					eS	**Sb**	**05 08 52.0**	**+5.5**
	167nm,0.6s						
DGS	**Degeres**	**4.16**	**18**		Pg	Pb	05 08 00.6	+4.5
	215nm,0.7s						
DGS					Lg	Lg	05 08 56.3	
	167nm,0.6s						
IUG	**Iuzhnay**	**4.17**	**315**		*e*P	**Pb**	**05 07 57.4**	**+1.3**
	153nm,0.8s						
IUG					eS	**Sb**	**05 08 50.0**	**+3.3**
	859nm,1.7s						
SGDS	**Sogindy**	**4.19**	**6**		*e*P	**Pb**	**05 07 58.0**	**+1.6**
	133nm,0.4s						
SGDS					eS	**Sb**	**05 08 50.8**	**+3.7**
	106nm,1.2s						
SGDS	**Sogindy**	**4.19**	**6**		Pg	**Pb**	**05 07 58.3**	**+1.9**
	133nm,0.7s						
SGDS					Lg	Lg	05 08 50.8	
	103nm,0.8s						
IZV	**Izvestkoviy**	**4.22**	**27**		*e*P	**Pb**	**05 07 59.7**	**+2.6**
	105nm,0.6s						
IZV					eS	**Sb**	**05 08 54.3**	**+6.0**
	146nm,0.8s						
IZV	**Izvestkoviy**	**4.22**	**27**		Pg	**Pb**	**05 07 59.7**	**+2.6**
	105nm,0.6s						
IZV					Lg	Lg	05 08 54.3	
	146nm,0.8s						
MTBS	**Maitube**	**4.25**	**24**		*e*P	**Pb**	**05 08 00.6**	**+3.2**
	177nm,0.8s						
MTBS					eS	**Sg**	**05 08 57.2**	**-1.6**
	164nm,1.0s						
MTBS	**Maitube**	**4.25**	**24**		Pg	**Pb**	**05 08 01.4**	**+4.0**
	177nm,0.8s						
MTBS					Lg	Lg	05 08 57.2	
	164nm,1.0s						
AAA	**Alma-Ata**	**4.48**	**28**		*e*P	**Pb**	**05 08 05.8**	**+4.4**
	100nm,0.5s						
AAA					eS	**Sg**	**05 09 04.1**	**-2.3**
	372nm,0.6s						
MDOK	**Medeo**	**4.49**	**29**		*e*P	**Pb**	**05 08 05.6**	**+3.9**
	88nm,0.5s						
MDOK					eS	**Sg**	**05 09 04.0**	**-2.7**
	190nm,0.9s						
MDOK	**Medeo**	**4.49**	**29**	⇓	Pn	**Pn**	**05 07 55.3**	**+4.3**
	26nm,0.8s						
MDOK				⇑	Pg	**Pb**	**05 08 04.3**	**+2.6**
	130nm,0.7s						
MDOK					Pg	Pg	05 08 04.8	-3.8
	122nm,0.8s						
MDOK					Lg	Lg	05 09 03.7	
	190nm,0.8s						
MDOK					Lg	Lg	05 09 04.3	
	158nm,0.8s						
KNDC	**Almaty**	**4.51**	**28**	⇑	Pg	**Pb**	**05 08 05.1**	**+3.2**
	383nm,0.7s						
KNDC				⇓	Lg	Lg	05 09 04.1	
	832nm,0.9s						
CHM	**Chimkent**	**4.52**	**313**		*e*P	**Pb**	**05 08 04.3**	**+2.2**
	190nm,0.2s						
CHM					eS	**Sb**	**05 09 01.6**	**+4.8**
	237nm,0.4s						
KRBS	**Karabastau**	**4.58**	**15**		*e*P	**Pb**	**05 08 07.3**	**+4.3**
	76nm,0.5s						
KRBS					eS	**Sg**	**05 09 07.5**	**-1.9**
	126nm,0.7s						
KRBS	**Karabastau**	**4.58**	**15**		Pg	**Pb**	**05 08 07.3**	**+4.3**
	76nm,0.5s						
KRBS					Lg	Lg	05 09 07.5	
	126nm,0.7s						
KOTS	**Kotyrbulak**	**4.58**	**30**		*e*P	**Pb**	**05 08 07.1**	**+3.9**
	90nm,0.7s						
KOTS					eS	**Sg**	**05 09 06.5**	**-3.0**
	338nm,1.0s						
KOTS	**Kotyrbulak**	**4.58**	**30**		Pg	**Pg**	**05 08 08.7**	**-1.5**
	130nm,0.6s						
KOTS					Lg	Lg	05 09 09.6	
	339nm,0.8s						
KK31	**Karatay Array**	**4.64**	**326**		Pn	**Pn**	**05 07 52.5**	**-0.4**
KK31	**Karatay Array**	**4.64**	**326**	⇓	Pn	**Pn**	**05 07 55.6**	**+2.7**
	6.2nm,0.3s,baz=140,slow=12,SNR=298							
KK31				⇑	Pg	**Pb**	**05 08 06.7**	**+2.5**
	28nm,0.5s,baz=142,slow=15,SNR=19							
KK31				⇑	Sn	**Sn**	**05 08 51.3**	**+4.3**
	58nm,0.7s							
KK31				⇑	Lg	Lg	05 09 09.8	
	75nm,0.6s,baz=144,slow=28							
KKAR	**Karatay Array**	**4.64**	**326**	⇑	*i*P	**Pn**	**05 07 55.1**	**+2.2**
	baz=27						
KKAR				⇑	*i*S	**Sn**	**05 08 48.9**	**+1.9**
	baz=27						
KKAR	**Karatay Array**	**4.64**	**326**		Pn	**Pn**	**05 07 52.4**	**-0.5**
KTBS	**Karatobe**	**4.85**	**23**		*e*P	**Pb**	**05 08 12.0**	**+4.3**
	141nm,0.7s						
KTBS					eS	**Sg**	**05 09 15.4**	**-2.8**
	276nm,1.1s						
KTBS	**Karatobe**	**4.85**	**23**		Pg	**Pb**	**05 08 12.0**	**+4.3**
	141nm,0.7s						
KTBS					Lg	Lg	05 09 15.4	
	276nm,1.1s						
KUU	**Kurty**	**4.92**	**20**		*e*P	Pb	05 08 13.3	+4.5
	62nm,0.8s						
KUU					eS	**Sg**	**05 09 17.2**	**-3.2**
	196nm,0.8s						
KUU	**Kurty**	**4.92**	**20**		Pg	**Pb**	**05 08 12.5**	**+3.7**
	62nm,0.8s						
KUU					Lg	Lg	05 09 17.2	
	199nm,0.7s						
SATY	**Saty**	**5.01**	**40**		*e*P	**Pb**	**05 08 14.8**	**+4.3**
	36nm,0.4s						
SATY					eS	**Sg**	**05 09 19.9**	**-3.5**
	174nm,0.9s						
SATY	**Saty**	**5.01**	**40**		Pg	**Pb**	**05 08 14.8**	**+4.3**
	74nm,0.6s						
SATY					Lg	Lg	05 09 19.9	
	145nm,1.3s						
CHKK	**Chushkaly**	**5.07**	**25**		*e*P	Pb	05 08 16.6	+5.1
	72nm,0.6s						
CHKK					eS	**Sg**	**05 09 23.2**	**-2.2**
	48nm,0.6s						
CHKK	**Chushkaly**	**5.07**	**25**		Pg	Pb	05 08 16.6	+5.1
	72nm,0.6s						
CHKK					Lg	Lg	05 09 23.2	
	48nm,0.6s						
KURS	**Kuram**	**5.23**	**35**		*e*P	Pb	05 08 18.6	+4.5
	29nm,0.9s						
KURS					eS	**Sg**	**05 09 27.0**	**-3.3**
	90nm,2.0s						
KURS	**Kuram**	**5.23**	**35**		Pg	**Pb**	**05 08 18.5**	**+4.4**
	41nm,0.8s						
KURS					Lg	Lg	05 09 27.0	
	88nm,1.8s						
UZB	**Uzynbulak**	**5.39**	**43**		*e*P	**Pg**	**05 08 23.2**	**-2.5**
	30nm,0.5s						
UZB					eS	**Sg**	**05 09 34.4**	**-1.2**
	72nm,1.0s						
UZB	**Uzynbulak**	**5.39**	**43**		Pg	Pb	05 08 21.8	+4.8
	30nm,0.6s						
UZB					Lg	Lg	05 09 31.0	
	72nm,0.8s						
KPKS	**Kokpek**	**5.45**	**38**		*e*P	**Pb**	**05 08 22.3**	**+4.4**
	50nm,0.6s						
KPKS					eS	**Sg**	**05 09 33.0**	**-4.5**
	108nm,0.5s						
KPKS	**Kokpek**	**5.45**	**38**		Pg	**Pb**	**05 08 21.0**	**+3.0**
	53nm,0.5s						
KPKS					Lg	Lg	05 09 31.1	
	100nm,0.7s						
SHLS	**Shalkode**	**5.63**	**45**		*e*P	**Pg**	**05 08 32.2**	**+1.8**
	37nm,0.3s						
SHLS					eS	**Sg**	**05 09 50.2**	**+6.9**
	82nm,1.7s						
SHLS	**Shalkode**	**5.63**	**45**		Pg	**Pg**	**05 08 30.5**	**+0.1**
	36nm,0.4s						
SHLS					Lg	Lg	05 09 46.9	
	182nm,0.8s						
CHCP	**Chirah Chowk**	**5.65**	**186**		P	**Pn**	**05 08 09.9**	**+3.1**
NIL	**Nilore**	**5.66**	**187**		Pn	**Pn**	**05 08 09.7**	**+2.7**
CEP	**Cherat**	**5.71**	**198**		P	Pn	05 08 13.5	+5.7
CEP					S	**Sn**	**05 09 19.0**	**+5.4**
BTLS	**Baital**	**5.75**	**0**		*e*P	Pb	05 08 27.9	+4.9
	21nm,0.7s						
BTLS					eS	**Sg**	**05 09 42.6**	**-4.4**
	30nm,0.8s						
BTLS	**Baital**	**5.75**	**0**		Pg	Pb	05 08 27.9	+4.9
	21nm,0.7s						
BTLS					Lg	Lg	05 09 42.6	
	30nm,0.8s						
PDGK	**Podgornoye**	**5.76**	**44**		Pg	**Pb**	**05 08 27.5**	**+4.1**
	20nm,0.6s						
PDGK					Lg	Lg	05 09 42.1	
	54nm,1.4s						
PDGK	**Podgornoye**	**5.76**	**44**	⇑	Pn	**Pn**	**05 08 10.0**	**+1.6**
	14nm,0.7s						
PDGK				⇑	Pg	**Pb**	**05 08 26.7**	**+3.3**
	38nm,0.7s						
PDGK				⇓	Lg	Lg	05 09 45.4	
	217nm,1.1s						
KBL	**Kabul**	**6.20**	**222**		Pn	**Pn**	**05 08 16.9**	**+2.4**
JMU	**Jammu**	**6.59**	**174**		eS	**Sn**	**05 09 36.7**	**+1.6**
DJR	**Jarkent**	**6.63**	**39**		*e*P	Pg	05 08 45.1	-4.3
	18nm,0.6s						
DJR					eS	**Sg**	**05 10 11.9**	**-3.3**
	31nm,0.8s						
DJR	**Jarkent**	**6.63**	**39**		Pg	Pg	05 08 45.1	-4.3
	18nm,0.6s						
DJR					Lg	Lg	05 10 11.9	
	31nm,0.8s						
THW	**Thamme Wali**	**6.74**	**197**		P	**Pn**	**05 08 25.2**	**+3.5**
THN	**Thein Dam**	**6.97**	**168**		*e*P	**Pn**	**05 08 27.1**	**+2.1**
THN					eS	**Sn**	**05 09 46.4**	**+2.0**
BHK	**Bhakra**	**8.09**	**165**		*e*P	**Pn**	**05 08 42.7**	**+2.4**
SMLA	**Simla**	**8.54**	**162**		*e*P	**Pn**	**05 08 46.9**	**+0.6**
SMLA					eS	**Sn**	**05 10 18.4**	**-4.4**
SMLA					IAML		05 10 23.3	
	comp=E,82nm,0.4s							
OTUK	**Ortayu**	**9.04**	**353**	⇓	Pn	**Pn**	**05 08 54.6**	**+1.3**
	comp=E,7.5nm,0.6s							
OTUK				⇓	Lg	Lg	05 11 27.4	
	comp=E,27nm,1.1s							
MAKZ	**Makanchi**	**9.50**	**35**		Pn	**Pn**	**05 09 00.0**	**+0.4**
MK31	**Makanchi Array**	**9.63**	**36**		Pn	**Pn**	**05 09 01.8**	**+0.5**
MK31	**Makanchi Array**	**9.63**	**36**	⇑	Pn	**Pn**	**05 09 03.8**	**+2.4**
	comp=E,4.4nm,0.8s,baz=206,slow=12,SNR=11							
MK31				⇑	Lg	Lg	05 11 48.6	
	comp=E,15nm,1.1s							
MKAR	**Makanchi Array**	**9.63**	**36**		Pn	**Pn**	**05 09 03.3**	**+2.0**
	comp=E,0.2nm,0.3s,baz=208,slow=14,SNR=13							
MKAR					Lg	Lg	05 11 46.5	
	comp=E,0.2nm,0.3s,baz=218,slow=27,SNR=1.7							
MKAR					LR	LR	05 13 12.4	
	comp=E,177nm,20.4s,baz=281,slow=40							
	comp=E,3.0nm,0.9s							
MKAR	**Makanchi Array**	**9.63**	**36**		Pn	**Pn**	**05 09 02.4**	**+1.1**
HRA	**Herat**	**10.63**	**246**		Pn	**Pn**	**05 09 14.6**	**-0.7**
WMQ	**Urumqi**	**11.20**	**62**		*e*P	**Pn**	**05 09 23.5**	**+0.7**
WMQ					pP		05 09 27.5	
WMQ					pmax	pmax		
	comp=E,19nm,0.7s							
SONA	**Sohna**	**11.30**	**166**		*e*P	**Pn**	**05 09 24.4**	**+0.2**
KUDL	**Kundal**	**11.30**	**169**		*e*P	**Pn**	**05 09 23.4**	**-0.8**
KUDL					eS	Sn	05 11 21.1	-10
KURBB	**Kurchatov Arra**	**11.77**	**14**		Pn	**Pn**	**05 09 29.4**	**-1.2**
	comp=E,0.1nm,0.3s,baz=203,slow=12,SNR=6.8							
KURBB					Lg	Lg	05 12 50.0	
	comp=E,0.1nm,0.3s,baz=200,slow=29,SNR=7.5							
	comp=E,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**11.77**	**14**	⇑	Lg	Lg	05 12 57.3	
	comp=E,7.1nm,1.1s							
KURK	**Kurchatov**	**11.88**	**14**	⇑	Lg	Lg	05 12 59.7	
	comp=E,61nm,1.2s							
GEYT	**Alibeck**	**12.52**	**269**		Pn	Pn	05 09 38.4	-2.5
	comp=E,0.7nm,0.3s,baz=102,slow=9.2,SNR=4.6							
GEYT					LR	LR	05 15 10.2	
	comp=E,98nm,21.4s,baz=28,slow=40							
GEYT	**Alibeck**	**12.52**	**269**		Pn	Pn	05 09 39.0	-2.0
DANN	**Dangsing**	**13.57**	**141**		*e*P	**Pn**	**05 09 53.2**	**-2.3**
	comp=E,17nm,0.4s							
BVAR	**Borovoye Array**	**13.97**	**351**		Pn	**Pn**	**05 09 59.4**	**-1.2**
	comp=E,0.2nm,0.3s,baz=162,slow=14,SNR=17							
BVAR					Lg	Lg	05 14 00.4	
	baz=163,slow=25,SNR=4.0							
BVAR					LR	LR	05 15 43.5	
	comp=E,100nm,20.8s,baz=167,slow=38							
	comp=E,4.4nm,0.6s							
KOLN	**Koldanda**	**13.98**	**142**		*e*P	**Pn**	**05 09 58.3**	**-2.7**
BRVK	**Borovoye**	**14.01**	**351**		Pn	**Pn**	**05 10 00.8**	**-0.4**
AB31	**Akbulak array**	**14.16**	**319**	⇑	Pn	**Pn**	**05 10 02.5**	**-0.7**
	comp=E,3.3nm,0.6s,baz=129,slow=13,SNR=12							
AB31				⇓	Sn	**Sn**	**05 12 41.5**	**+1.1**
	comp=E,1.9nm,0.6s							
ABKAR	**Akbulak array**	**14.16**	**319**		Pn	**Pn**	**05 10 02.3**	**-0.9**
GKN	**Gorkha**	**14.29**	**139**		*e*P	**Pn**	**05 10 03.5**	**-1.8**
JHNI	**Jhansi**	**14.30**	**163**		*e*P	**Pn**	**05 10 02.1**	**-3.1**
JHNI					eS	Sn	05 12 34.4	-10
DMN	**Daman**	**14.86**	**138**		*e*P	**Pn**	**05 10 10.6**	**-2.5**
PKIN	**Phulchoki**	**15.03**	**138**		*e*P	**Pn**	**05 10 12.5**	**-3.0**
PKI	**Pulchoki**	**15.04**	**138**		*e*P	**Pn**	**05 10 12.5**	**-3.2**
	comp=E,10nm,0.5s							
JIRN	**Jiri**	**15.39**	**135**		*e*P	**Pn**	**05 10 17.6**	**-2.7**
	comp=E,26nm,0.5s							
AKTO	**Aktyubinsk**	**15.87**	**320**	⇑	Pn	**Pn**	**05 10 26.2**	**+0.1**
	comp=E,5.8nm,0.8s							
AKTO				⇓	Sn	**Sn**	**05 13 24.0**	**+2.0**
	comp=E,5.0nm,1.1s							
RAMN	**Ramite**	**16.17**	**136**		*e*P	**Pn**	**05 10 26.3**	**-4.1**
BHPL	**Bhopal**	**16.26**	**169**		*e*P	**Pn**	**05 10 28.2**	**-3.0**
BHPL					eS	Sn	05 13 19.9	-12
ZAA0	**Zalesovo Array**	**16.40**	**23**			**Pn**	**05 10 32.1**	**-0.8**
ZALV	**Zalesovo Beam**	**16.40**	**23**		Pn	**Pn**	**05 10 31.3**	**-1.5**
	comp=E,0.5nm,0.3s,baz=209,slow=11,SNR=11							
ZALV					LR	LR	05 17 13.6	
	comp=E,109nm,18.4s,baz=164,slow=38							
	comp=E,2.6nm,0.5s							
ZALV	**Zalesovo Beam**	**16.40**	**23**			**Pn**	**05 10 31.7**	**-1.2**
GTA	**Gaotai**	**19.93**	**81**		*e*P	**Pn**	**05 11 20.8**	**+4.4**
GTA					sP	sP	05 11 26.8	+6.9
GTA					pmax	pmax		
	comp=E,8.0nm,1.0s							
GTA					pmax	pmax		
	comp=E,85nm,5.5s							
GTA					LR	LR		
	comp=E,110nm,12.7s							
GTA					LR	LR		
	comp=E,130nm,12.0s							
GTA					LR	LR		
	comp=E,160nm,17.1s							
ARU	**Arti**	**

EIL	**Elat**	**33.39**	**265**	LR	LR	05 29 41.0		
	comp=Z,56nm,18.2s,baz=58,slow=41							
MLR	**Muntele Rosu**	**35.62**	**296**	LR	LR	05 32 06.3		
	comp=Z,75nm,18.9s,baz=12,slow=43							
MLR	**Muntele Rosu**	**35.62**	**296**	P	**P**	**05 13 41.3**	**+0.7**	
MLR				IAmb	IAmb	05 13 45.7		
	comp=Z,4.4nm,0.9s							
BURAR	**Bucovina Array**	**35.89**	**300**	P	**P**	**05 13 42.8**	**-0.1**	
FINES	**FINESS Array B**	**36.60**	**323**	P	**P**	**05 13 48.3**	**-0.4**	
	comp=Z,4.4nm,0.8s,baz=112,slow=9.2,SNR=12							
	comp=Z,4.4nm,0.8s							
NJ2	**Nanjing**	**36.83**	**87**	*e*P	**P**	**05 13 50.3**	**-0.7**	
NJ2				pmax	pmax			
	comp=Z,15nm,0.6s							
HEH	**HeiHe**	**38.67**	**56**	*e*P	**P**	**05 14 06.0**	**-0.4**	
HEH				pmax	pmax			
	comp=Z,4.0nm,0.8s							
HEH				pmax	pmax			
	comp=Z,110nm,5.7s							
ARCES	**ARCESS Array B**	**39.54**	**336**	P	**P**	**05 14 12.9**	**-0.6**	
	comp=Z,4.7nm,0.9s,baz=104,slow=8.9,SNR=7.4							
	comp=Z,4.7nm,0.9s							
ARCES	**ARCESS Array B**	**39.54**	**336**	P	**P**	**05 14 13.6**	**+0.1**	
ARCES				IAmb	IAmb	05 14 36.1		
	comp=Z,22nm,1.4s							
KLR	**Kul'dur**	**41.59**	**57**	LR	LR	05 33 41.0		
	comp=Z,33nm,18.8s,baz=252,slow=39							
KSRS	**Korea Array**	**41.77**	**75**	LR	LR	05 34 45.2		
	comp=Z,36nm,18.5s,baz=280,slow=40							
TIXI	**Tiksi**	**42.29**	**23**	P	**P**	**05 14 35.0**	**-1.1**	
GERES	**GERESS Array B**	**43.34**	**303**	P	**P**	**05 14 44.0**	**-1.0**	
NB2	**NORSAR Subarra**	**43.66**	**321**	P	**P**	**05 14 46.1**	**-1.2**	
	comp=Z,1.4nm,0.7s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**43.66**	**321**	P	**P**	**05 14 46.4**	**-0.9**	
	comp=Z,1.4nm,0.7s,baz=91,slow=8.0,SNR=3.3							
NOA				LR	LR	05 32 17.4		
	comp=Z,24nm,19.3s,baz=330,slow=35							
	comp=Z,1.4nm,0.7s							
CUC	**Castrocucco**	**44.13**	**290**	P	**P**	**05 14 52.0**	**+0.6**	
CUC				IAmb	IAmb	05 15 04.2		
	comp=Z,4.3nm,0.8s							
ASAJ	**Asahikawa**	**50.08**	**61**	LR	LR	05 38 41.3		
	comp=Z,56nm,19.3s,baz=356,slow=38							
MBAR	**Mbarara**	**56.06**	**236**	P	**P**	**05 16 21.3**	**-1.0**	
	comp=Z,1.9nm,0.2s,baz=13,slow=13,SNR=3.8							
MBAR				LR	LR	05 43 23.9		
	comp=Z,35nm,18.5s,baz=312,slow=39							
	comp=Z,1.9nm,0.2s							
ESDC	**Sonseca Array**	**58.29**	**297**	P	**P**	**05 16 37.1**	**-0.7**	
	comp=Z,0.5nm,0.8s,baz=248,slow=19,SNR=4.6							
	comp=Z,0.5nm,0.8s							
EUNU	**Eureka**	**60.40**	**356**	P	**P**	**05 16 51.6**	**-0.2**	
TOLK	**Toolik Lake Re**	**67.61**	**16**	P	**P**	**05 17 38.3**	**-0.9**	
TOLK				IAmb	IAmb	05 17 38.8		
	comp=Z,3.2nm,0.8s							
A36M	**Sachs Harbour**	**68.19**	**6**	P	**P**	**05 17 41.9**	**-0.9**	
A36M				IAmb	IAmb	05 17 42.4		
	comp=Z,3.5nm,0.8s							
IMAR	**Indian Mountai**	**68.78**	**19**	P	**P**	**05 17 45.3**	**-1.3**	
BMAR	**Burnt Mountain**	**69.66**	**15**	P	**P**	**05 17 51.6**	**-0.4**	
H23K	**Yukon River**	**69.93**	**18**	P	**P**	**05 17 53.4**	**-0.4**	
INK	**Inuvik**	**70.75**	**10**	P	**P**	**05 17 57.8**	**-0.8**	
	comp=Z,1.4nm,0.5s,baz=337,slow=4.6,SNR=18							
	comp=Z,1.4nm,0.5s							
INK	**Inuvik**	**70.75**	**10**	P	**P**	**05 17 57.8**	**-0.8**	
INK				IAmb	IAmb	05 18 03.9		
	comp=Z,6.7nm,1.2s							
C36M	**Paulatuk**	**70.86**	**7**	P	**P**	**05 17 57.9**	**-1.3**	
MDM	**Murphy Dome**	**70.96**	**18**	P	**P**	**05 17 59.2**	**-0.8**	
MDM				IAmb	IAmb	05 18 22.3		
	comp=Z,6.1nm,1.5s							
ILAR	**Eielson Array**	**71.43**	**17**	P	**P**	**05 18 00.9**	**-1.9**	
	comp=Z,1.2nm,0.8s,baz=317,slow=4.8,SNR=14							
ILAR				LR	LR	05 55 33.7		
	comp=Z,72nm,19.3s,baz=235,slow=41							
	comp=Z,1.2nm,0.8s							
YKA	**Yellowknife Ar**	**78.33**	**4**	P	**P**	**05 18 41.5**	**-1.2**	
	comp=Z,1.2nm,0.8s,baz=340,slow=2.3,SNR=5.3							
	comp=Z,1.2nm,0.8s							
WB0	**Warramunga Arr**	**81.41**	**124**	P	**P**	**05 18 59.4**	**-0.7**	
WB0				IAmb	IAmb	05 19 00.9		
	comp=Z,3.0nm,1.1s							
WRA	**Warramunga Arr**	**81.50**	**124**	P	**P**	**05 18 58.3**	**-2.2**	
	comp=Z,0.6nm,0.7s,baz=330,slow=5.1,SNR=8.0							
	comp=Z,0.6nm,0.7s							
WB2	**Warramunga Arr**	**81.51**	**124**	P	**P**	**05 18 58.6**	**-2.0**	
WB2				IAmb	IAmb	05 19 23.2		
	comp=Z,5.7nm,1.4s							
ASAR	**Alice Springs**	**83.95**	**127**	P	**P**	**05 19 10.7**	**-2.6**	
	comp=Z,0.4nm,0.8s,baz=312,slow=4.8,SNR=6.8							
	comp=Z,0.4nm,0.8s							

*IDC **27** 05:33:10.8±0.8,2°.27N×125°.68E,h0km,mb4.1/8, mbtmp4.1/8,Error ellipse: s-maj=69.4km s-min=15.5km az=73.0*
*DJA **27** 05:33:19.9±0.3,2°N±3°×12°6E±°,h80km±6km,M4.4/10, mB6.0/3,mb4.7/6,MLv4.1/10,Mw(mB)5.7/3*
*NEIC **27** 05:33:19.7±1.4,2°.39N±0°.10×126°.24E±0°.04,h69km±11km, mb4.4/15,Error ellipse: s-maj=14.1km s-min=5.4km az=183.0*

ISC 27 05:33:19.8±0.6,2°.36N±0°.06×126°.20E±0°.09,h69km,n41, σ1s58/45,mb4.2/18,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.48**	**333**	P	**Pn**	**05 33 44.2**	**-0.3**
SGSI				S	**Sn**	**05 34 02.5**	**-0.6**
TNTI	**Ternate**	**1.96**	**143**		**Pn**	**05 33 50.8**	**-0.1**
TNTI	**Ternate**	**1.96**	**143**	P	**Pn**	**05 33 52.5**	**+1.6**
LBMI	**Labuha**	**3.25**	**156**	P	**Pn**	**05 34 09.8**	**+1.4**
GTOI	**Gorontalo**	**3.62**	**242**	P	**Pn**	**05 34 14.8**	**+1.4**
SANI	**Sanana**	**4.38**	**183**	P	**Pn**	**05 34 24.6**	**+0.7**
MRSI	**Marisa**	**4.65**	**246**	P	**Pn**	**05 34 29.6**	**+2.1**
KCP	**Kidapawan**	**4.75**	**347**	*e*P	**Pn**	**05 34 33.3**	**+4.2**
KCP				*i* S	**Sn**	**05 35 24.8**	**+1.9**
CTBH	**Cotabato--PC H**	**5.21**	**338**	*e*P	**Pn**	**05 34 36.6**	**+1.4**
CTBH				*i* S	**Sn**	**05 35 35.5**	**+1.5**
TOLI2	**Tolitoli**	**5.55**	**257**	Pn	**Pn**	**05 34 40.2**	**+0.3**
APSI	**Ampana**	**5.59**	**235**	P	**Pn**	**05 34 45.0**	**+4.6**
	0.4nm59nm,0.7s						
MPSI	**Mapaga**	**6.61**	**252**	P	**Pn**	**05 34 56.9**	**+2.5**
	1.4nm18µm109nm,0.5s						
MYLDM	**Lahad Datu**	**8.18**	**290**		**Pn**	**05 35 16.2**	**+0.4**
KKM	**Kota Kinabalu**	**10.61**	**291**	Pn	**Pn**	**05 35 48.8**	**-0.3**
MTN	**Manton Dam**	**15.88**	**162**	Pn	**Pn**	**05 36 57.8**	**-1.4**
COEN	**Coen**	**23.37**	**134**	P	**P**	**05 38 21.7**	**-0.9**
COEN				IAmb	IAmb	05 38 41.1	
	comp=Z,6.0nm,1.1s						
WB0	**Warramunga Arr**	**23.41**	**160**	P	**P**	**05 38 22.6**	**-0.4**
WB0				IAmb	IAmb	05 38 23.0	
	comp=Z,9.4nm,0.5s						
WRAB	**Tennant Creek**	**23.55**	**160**	P	**P**	**05 38 23.9**	**-0.4**
WRAB				IAmb	IAmb	05 38 24.6	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**23.56**	**161**	P	**P**	**05 38 23.8**	**-0.5**
	comp=Z,4.0nm,0.4s,baz=338,slow=10,SNR=107						
	comp=Z,4.0nm,0.4s						
WRA	**Warramunga Arr**	**23.56**	**161**	P	**P**	**05 38 22.7**	**-1.6**
WB2	**Warramunga Arr**	**23.56**	**161**	P	**P**	**05 38 23.4**	**-1.0**
WB2				IAmb	IAmb	05 38 24.6	
	comp=Z,6.6nm,0.8s						
WR0	**Warramunga Arr**	**23.64**	**160**	P	**P**	**05 38 24.3**	**-0.7**
WR0				IAmb	IAmb	05 38 25.4	
	comp=Z,7.5nm,0.9s						
AS31	**Alice Springs**	**26.93**	**164**	P	**P**	**05 38 54.4**	**-0.5**
ASAR	**Alice Springs**	**26.93**	**164**	P	**P**	**05 38 54.8**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=342,slow=7.7,SNR=66						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**26.93**	**164**	P	**P**	**05 38 55.2**	**+0.4**
JGF	**Kuroka**	**34.66**	**16**	P	**P**	**05 40 01.1**	**-1.8**
KSRS	**Korea Array**	**34.96**	**2**	P	**P**	**05 40 06.1**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=184,slow=11,SNR=7.3						
	comp=Z,2.3nm,0.8s						
BBOO	**Buckleboo**	**36.20**	**166**	P	**P**	**05 40 16.6**	**+0.6**
STKA	**Stephens Creek**	**37.05**	**158**	P	**P**	**05 40 23.7**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=323,slow=10,SNR=6.8						
	comp=Z,2.4nm,0.5s						
SHL	**Shillong**	**40.28**	**308**	P	**P**	**05 40 50.2**	**-0.4**
SHL				IAmb	IAmb	05 40 50.8	
	comp=Z,6.5nm,0.7s						
KLR	**Kul'dur**	**46.94**	**5**	P	**P**	**05 41 43.8**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=212,slow=4.5,SNR=4.5						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**48.43**	**342**	P	**P**	**05 41 54.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=151,slow=8.5,SNR=4.6						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**58.38**	**326**	P	**P**	**05 43 06.7**	**-1.4**
MK31				IAmb	IAmb	05 43 08.3	
	comp=Z,1.8nm,0.4s						
MKAR	**Makanchi Array**	**58.38**	**326**	P	**P**	**05 43 07.0**	**-1.2**
	comp=Z,2.2nm,0.4s,baz=122,slow=7.8,SNR=34						
MKAR				PcP	**PcP**	**05 43 58.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=122,slow=4.6,SNR=4.2						
	comp=Z,2.2nm,0.4s						
MKAR	**Makanchi Array**	**58.38**	**326**	P	**P**	**05 43 06.9**	**-1.2**
MAKZ	**Makanchi**	**58.56**	**326**	P	**P**	**05 43 08.7**	**-0.8**
MAKZ				IAmb	IAmb	05 43 09.8	
	comp=Z,2.4nm,0.5s						
ZALV	**Zalesovo Beam**	**61.57**	**334**	P	**P**	**05 43 27.6**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=115,slow=6.9,SNR=2.7						
	comp=Z,0.4nm,0.3s						
GAR	**Garm**	**62.47**	**313**	P	**P**	**05 43 34.8**	**-1.4**
GAR				IAmb	IAmb	05 43 59.5	
	comp=Z,7.0nm,1.3s						
KURK	**Kurchatov**	**62.61**	**328**	P	**P**	**05 43 35.6**	**-1.2**
KKAR	**Karatay Array**	**63.88**	**318**	P	**P**	**05 43 44.7**	**-0.7**
ARCES	**ARCESS Array B**	**91.55**	**340**	P	**P**	**05 46 22.0**	**+3.4**
	comp=Z,6.7nm,1.0s,baz=64,slow=6.2,SNR=3.9						

*IDC **27** 05:34:50.8±0.9,2°.31N×125°.79E,h0km,mb4.0/7, mbtmp4.0/7,Error ellipse: s-maj=76.0km s-min=16.9km az=73.0*

ISC 27 05:35:03.1±0.9,2°.3N±0°.2×126°.0E±0°.5,h105km,n7, σ0s50/8,mb3.9/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.59**	**160**	P	**P**	**05 40 03.9**	**-0.7**
	3.4nm,0.5s,baz=336,slow=11,SNR=11						
	3.4nm,0.5s						
ASAR	**Alice Springs**	**26.96**	**164**	P	**P**	**05 40 34.8**	**-0.2**
	0.6nm,0.3s,baz=342,slow=8.8,SNR=8.7						
	0.6nm,0.3s						
KSRS	**Korea Array**	**35.00**	**3**	P	**P**	**05 41 45.3**	**-0.1**
	1.0nm,0.6s,baz=180,slow=10,SNR=4.1						
	1.0nm,0.6s						
STKA	**Stephens Creek**	**37.10**	**158**	P	**P**	**05 42 03.8**	**+0.4**
	1.5nm,0.5s,baz=333,slow=12,SNR=3.3						
	1.5nm,0.5s						
KLR	**Kul'dur**	**46.98**	**5**	P	**P**	**05 43 23.6**	**+0.1**
	0.9nm,0.4s,baz=219,slow=6.5,SNR=2.6						
	0.9nm,0.4s						
SONM	**Songino Array**	**48.40**	**342**	P	**P**	**05 43 34.4**	**-0.2**
	0.7nm,0.6s,baz=151,slow=8.3,SNR=4.1						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**58.30**	**326**	P	**P**	**05 44 46.8**	**-0.1**
	1.3nm,0.4s,baz=121,slow=7.8,SNR=14						
MKAR				PcP	**PcP**	**05 45 37.7**	**+0.7**
	0.3nm,0.6s,baz=138,slow=4.5,SNR=4.1						
	1.3nm,0.4s						

*ROM **27** 05:38:35.7±0.1,43°.914N±0°.008×13°.25E±0°.01, h20km±1km,ML2.7/37,Error ellipse: s-maj=0.9km s-min=0.3km az=5.0*
*PRU **27** 05:38:39.0±0.0,44°.14N×13°.48E,h10km*

ISC 27 05:38:36.2±0.9,43°.89N±0°.02×13°.21E±0°.02,h24km±7km, n110,σ1s04/115,2C-12D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SENI	**Senigallia**	**0.19**	**174**	⇓P	**Pb**	**05 38 41.0**	**-0.6**
SENI				S	**Sb**	**05 38 45.4**	**+0.1**
SENI				AML	AML		
	comp=E,27650µm,0.1s						
SENI				AML	AML		
	comp=E,8195µm,0.2s						
SENI				AML	AML		
	comp=N,5285µm,0.9s						
SENI				AML	AML		
	comp=E,27650µm,0.2s						
SENI				AML	AML		
	comp=E,8190µm,0.2s						
SENI				AML	AML		
	comp=N,5290µm,0.9s						
SENI				AML	AML		
	comp=E,27600µm,0.1s						
SENI				AML	AML		
	comp=N,31350µm,0.2s						
SENI				AML	AML		
	comp=N,31350µm,1.8s						
SENI				AML	AML		
	comp=E,27600µm,1.9s						
SENI				AML	AML		
	comp=N,5285µm,1.1s						
PESA	**Pesaro**	**0.27**	**280**	⇑P	**Pb**	**05 38 42.6**	**-0.1**
PESA				AML	AML		
	comp=E,1800µm,1.1s						
PESA				AML	AML		
	comp=N,1500µm,0.6s						
PESA				AML	AML		
	comp=E,1800µm,0.9s						
PESA				AML	AML		
	comp=N,1500µm,1.4s						
COR1	**Corinaldo**	**0.30**	**210**	⇓P	**Pb**	**05 38 42.9**	**-0.3**
COR1				S	**Sn**	**05 38 49.0**	**-1.9**
COR1				AML	AML		
	comp=N,4490µm,1.2s						
COR1				AML	AML		
	comp=E,3235µm,0.2s						
COR1				AML	AML		
	comp=N,2090µm,1.2s						
COR1				AML	AML		
	comp=E,1620µm,0.3s						
COR1				AML	AML		
	comp=N,4485µm,1.2s						
FSSB	**Fossombrone**	**0.37**	**237**	⇓P	**Pb**	**05 38 43.7**	**-0.6**
FSSB				S	**Sb**	**05 38 50.1**	**+0.4**
FSSB				AML	AML		
	comp=N,7755µm,0.6s						
FSSB				AML	AML		
	comp=E,5440µm,0.3s						
PCRO	**Pietralacroce**	**0.37**	**140**	P	**Pb**	**05 38 43.6**	**-0.6**
MPAG	**Monte Paganucc**	**0.42**	**231**	⇓P	**Pb**	**05 38 44.3**	**-0.8**
MPAG				S	**Sb**	**05 38 51.4**	**+0.3**
MPAG				AML	AML		
	comp=E,726µm,1.4s						
MPAG				AML	AML		
	comp=N,880µm,0.7s						
MPAG				AML	AML		
	comp=N,879µm,0.7s						
MPAG				AML	AML		
	comp=N,879µm,1.3s						
MPAG				AML	AML		
	comp=E,726µm,0.6s						
ARVD	**Arcevia**	**0.44**	**206**	⇓P	**Pb**	**05 38 44.5**	**-0.9**
ARVD				S	**Sb**	**05 38 51.6**	**0.0**
ARVD				AML	AML		
	comp=N,601µm,0.2s						
ARVD				AML	AML		
	comp=E,454µm,1.5s						
ARVD				AML	AML		
	comp=E,454µm,0.5s						
AOI	**Ancona**	**0.45**	**140**	P	**Pb**	**05 38 44.8**	**-0.7**
AOI				S	**Sb**	**05 38 52.6**	**+0.7**
AOI				AML	AML		
	comp=E,954µm,1.1s						
AOI				AML	AML		
	comp=N,1040µm,0.9s						
AOI				AML	AML		
	comp=E,954µm,0.9s						
FRON	**Frontone**	**0.51**	**223**	⇓P	**Pb**	**05 38 46.0**	**-0.7**
FRON				S	**Sn**	**05 38 54.6**	**-1.6**
FRON				AML	AML		
	comp=N,750µm,0.6s						
FRON				AML	AML		
	comp=E,514µm,0.4s						
FRON				AML	AML		
	comp=E,514µm,1.6s						
FRON				AML	AML		
	comp=N,750µm,1.4s						
CING	**Cingoli**	**0.52**	**181**	⇓P	**Pb**	**05 38 45.8**	**-0.9**
CING				S	**Sn**	**05 38 55.1**	**-1.2**
CING				AML	AML		
	comp=E,442µm,0.5s						
CING				AML	AML		
	comp=N,656µm,0.3s						
NARO	**Abbazia di Nar**	**0.54**	**238**	P	**Pb**	**05 38 46.5**	**-0.5**
NARO				S	**Sn**	**05 38 55.4**	**-1.3**
NARO				AML	AML		
	comp=N,509µm,1.0s						
NARO				AML	AML		
	comp=E,405µm,1.6s						
NARO				AML	AML		
	comp=E,405µm,0.4s						
PE3	**Peglio**	**0.55**	**249**	P	**Pb**	**05 38 47.3**	**0.0**
PE3				AML	AML		
	comp=E,8µm,0.2s						
PE3				AML	AML		
	comp=N,12µm,0.1s						
PE3				AML	AML		
	comp=E,8µm,0.2s						
PE3				AML	AML		
	comp=N,12µm,0.1s						
SSFR	**Montelago di S**	**0.55**	**214**	⇓P	**Pb**	**05 38 46.5**	**-0.9**
SSFR				S	**Sn**	**05 38 56.5**	**-0.7**
SSFR				AML	AML		
	comp=N,1370µm,1.2s						
SSFR				AML	AML		
	comp=N,1217µm,0.2s						
SSFR				AML	AML		
	comp=E,1455µm,0.3s						
SSFR				AML	AML		
	comp=E,1715µm,0.3s						
SSFR				AML	AML		
	comp=E,1455µm,1.7s						
SSFR				AML	AML		
	comp=E,1715µm,1.7s						
SSFR				AML	AML		
	comp=N,1370µm,1.2s						
EL6	**Elcito**	**0.57**	**188**	⇑P	**Pb**	**05 38 46.9**	**-0.8**
BLLA	**Bellaria**	**0.59**	**295**	P	**Pn**	**05 38 49.7**	**+0.6**
PP3	**Marolino**	**0.59**	**150**	P	**Pb**	**05 38 48.0**	**0.0**
PP3				AML	AML		
	comp=E,782µm,0.4s						
PP3				AML	AML		
	comp=N,904µm,0.5s						
PP3				AML	AML		
	comp=N,902µm,0.5s						
PP3				AML	AML		
	comp=E,857µm,0.4s						
ATSC	**Scheggia e Pas**	**0.60**	**219**	P	**Pb**	**05 38 47.6**	**-0.6**
PIEI	**Pieia**	**0.60**	**234**	P	**Pb**	**05 38 47.6**	**-0.6**
PIEI				S	**Sn**	**05 38 57.4**	**-1.0**
PIEI				AML	AML		
	comp=E,674µm,0.4s						
PIEI				AML	AML		
	comp=N,603µm,0.2s						
CPGN	**Carpegna, Ital**	**0.65**	**262**	P	**Pn**	**05 38 49.8**	**-0.2**
CPGN				AML	AML		
	comp=E,346µm,0.4s						
CPGN				AML	AML		
	comp=N,218µm,0.5s						
CPGN				AML	AML		
	comp=E,346µm,0.4s						
APEC	**Apecchio**	**0.66**	**240**	P	**Pb**	**05 38 49.1**	**0.0**
APEC				S	**Sn**	**05 38 59.6**	**-0.2**
GAG1	**Gagliole**	**0.66**	**189**	P	**Pb**	**05 38 48.1**	**-1.1**
SNTG	**Esanatoglia**	**0.67**	**197**	P	**Pb**	**05 38 48.3**	**-0.9**
SNTG				S	**Sn**	**05 38 59.7**	**-0.3**
CIMA	**Civitanova Mar**	**0.68**	**150**	P	**Pn**	**05 38 50.2**	**-0.1**
FOSV	**Fossato di Vic**	**0.68**	**209**	P	**Pb**	**05 38 48.7**	**-0.8**
ATPC	**Poggio Castell**	**0.68**	**233**	P	**Pb**	**05 38 49.3**	**-0.2**
ATFO	**Monte Foce - G**	**0.70**	**221**	P	**Pb**	**05 38 49.4**	**-0.5**
ATFO				S	**Sn**	**05 39 00.3**	**-0.6**
ATFO				AML	AML		
	comp=E,730µm,0.8s						
ATFO				AML	AML		
	comp=N,506µm,1.5s						
ATFO				AML	AML		
	comp=N,506µm,0.5s						
ATPI	**Pietralunga -**	**0.73**	**233**	⇓P	**Pb**	**05 38 50.0**	**-0.3**
ATPI				S	**Sn**	**05 39 01.7**	**0.0**
ATPI				AML	AML		
	comp=N,580µm,0.5s						
ATPI				AML	AML		
	comp=E,499µm,0.4s						
TB01	**Gubbio**	**0.76**	**228**	⇓P	**Pb**	**05 38 50.4**	**-0.4**
TB01				S	**Sn**	**05 39 02.0**	**-0.2**
TB03	**Pietralunga**	**0.76**	**230**	P	**Pb**	**05 38 50.6**	**-0.2**
TB03				S	**Sn**	**05 39 02.1**	**-0.2**
ATVO	**AVT- Monte Val**	**0.78**	**229**	P	**Pb**	**05 38 50.6**	**-0.4**
ATVO				S	**Sn**	**05 39 02.7**	**+0.1**
ATVO				AML	AML		
	comp=N,386µm,0.4s						
ATVO				AML	AML		
	comp=E,444µm,0.8s						
ATVO				AML	AML		
	comp=N,386µm,1.6s						
TB02	**Pietralunga**	**0.78**	**228**	P	**Pb**	**05 38 50.9**	**-0.3**
TB02				S	**Sn**	**05 39 02.7**	**-0.1**
CSP1	**Cessapalombo**	**0.80**	**180**	P	**Pb**	**05 38 51.0**	**-0.6**
CSP1				S	**Sn**	**05 39 03.9**	**+0.5**
CSP1				AML	AML		
	comp=N,942µm,0.3s						
CSP1				AML	AML		
	comp=N,942µm,0.3s						
CSP1				AML	AML		
	comp=E,757µm,0.3s						
CSP1				AML	AML		
	comp=N,942µm,1.7s						
MURB	**Monte Urbino**	**0.80**	**218**	P	**Pb**	**05 38 51.2**	**-0.4**
MURB				S	**Sn**	**05 39 04.0**	**+0.6**
ATLO	**AVT- Montelove**	**0.82**	**225**	⇓P	**Pb**	**05 38 51.4**	**-0.4**
ATLO				S	**Sn**	**05 39 04.0**	**+0.3**
SSP9	**Sansepolcro**	**0.84**	**248**	P	**Pn**	**05 38 52.6**	**0.0**
SSP9				AML	AML		
	comp=E,155µm,0.7s						
SSP9				AML	AML		
	comp=N,164µm,0.6s						
T1219	**Muccia, Frazio**	**0.85**	**190**	P	**Pb**	**05 38 51.8**	**-0.5**
T1219				S	**Sn**	**05 39 05.5**	**+1.0**
T1219				AML	AML		
	comp=E,792µm,0.2s						
T1219				AML	AML		
	comp=N,1105µm,0.2s						
T1219				AML	AML		
	comp=N,1130µm,0.3s						
T1219				AML	AML		
	comp=E,786µm,1.5s						
T1219				AML	AML		
	comp=N,1105µm,0.3s						
T1219				AML	AML		
	comp=N,1130µm,0.3s						
T1219				AML	AML		
	comp=E,792µm,0.2s						
ATMI	**Monte Miggiano**	**0.88**	**231**	AML	AML		
	comp=N,507µm,0.4s						
ATMI				AML	AML		
	comp=E,406µm,1.0s						
T1256	**Bolognola (MC)**	**0.89**	**179**	⇓P	**Pb**	**05 38 52.4**	**-0.6**
T1256				S	**Sn**	**05 39 06.3**	**+0.7**
T1256				AML	AML		
	comp=N,898µm,1.3s						
T1256				AML	AML		
	comp=N,898µm,1.2s						
T1256				AML	AML		
	comp=E,506µm,0.3s						
T1256				AML	AML		
	comp=E,559µm,1.2s						
T1256				AML	AML		
	comp=N,812µm,1.3s						
T1256				AML	AML		
	comp=N,894µm,1.2s						
T1256				AML	AML		
	comp=E,506µm,1.7s						
CESI	**CESI - Serrava**	**0.92**	**194**	P	**Pb**	**05 38 52.8**	**-0.7**
CESI				S	**Sn**	**05 39 07.8**	**+1.7**
CESI				AML	AML		
	comp=N,1205µm,0.3s						
CESI				AML	AML		
	comp=E,1150µm,0.3s						
CRE	**Caprese Michel**	**0.95**	**254**	AML	AML		
	comp=E,170µm,0.4s						
CRE				AML	AML		
	comp=N,214µm,0.4s						
CRE				AML	AML		
	comp=E,170µm,1.6s						
CRE				AML	AML		
	comp=N,214µm,1.6s						
MC2	**Monte Cornacci**	**0.98**	**181**	P	**Pb**	**05 38 54.3

T1216 Preci, Frazion 1.01 188 P **Pb** 05 38 54.6 -0.5
T1216 S **Sn** 05 39 10.5 +2.0
T1216 AML AML
comp=E,550µm,0.6s
T1216 AML AML
comp=N,586µm,1.5s
T1216 AML AML
comp=E,550µm,0.6s
T1216 AML AML
comp=E,550µm,1.4s
T1216 AML AML
comp=N,586µm,0.5s
ASQU Asqua 1.03 265 P **Pn** 05 38 55.9 +0.7
ASQU AML AML
comp=E,115µm,0.8s
ASQU AML AML
comp=N,81µm,0.9s
T1241 Roccafluvione, 1.05 171 P **Pb** 05 38 55.4 -0.4
T1241 AML AML
comp=N,327µm,1.2s
T1241 AML AML
comp=E,374µm,0.5s
T1241 AML AML
comp=N,327µm,0.8s
BRJN Brijuni 1.08 21 *e*Pg **Pn** 05 38 56.2 +0.4
BRJN Sg **Sb** 05 39 09.5 -0.5
BRJN Brijuni 1.08 21 P **Pn** 05 38 56.3 +0.4
LMD Lutirano 1.10 280 P **Pn** 05 38 57.3 +1.2
LMD AML AML
comp=N,126µm,1.3s
LMD AML AML
comp=E,142µm,0.3s
T1215 Vallo di Nera, 1.12 193 P **Pn** 05 38 56.1 -0.3
T1215 AML AML
comp=E,233µm,0.3s
T1215 AML AML
comp=N,246µm,1.5s
T1215 AML AML
comp=E,234µm,0.3s
T1215 AML AML
comp=N,246µm,1.5s
T1215 AML AML
comp=N,246µm,0.5s
TRTR Tortoreto Alta 1.20 154 AML AML
comp=E,367µm,0.9s
TRTR AML AML
comp=N,444µm,0.5s
T1218 Civita (PG) 1.23 183 AML AML
comp=E,244µm,0.7s
T1218 AML AML
comp=E,268µm,0.6s
T1218 AML AML
comp=N,320µm,0.9s
T1218 AML AML
comp=E,244µm,0.7s
T1218 AML AML
comp=N,294µm,0.3s
T1218 AML AML
comp=E,244µm,1.3s
BRIS BRISIGHELLA 1.25 282 P **Pn** 05 38 57.8 -0.4
BRIS AML AML
comp=E,95µm,0.9s
BRIS AML AML
comp=N,140µm,0.5s
MGAB Montegabbione 1.27 219 AML AML
comp=N,257µm,0.5s
MGAB AML AML
comp=E,280µm,0.6s
MGAB AML AML
comp=N,266µm,0.5s
MGAB AML AML
comp=E,320µm,0.3s
MGAB AML AML
comp=N,266µm,1.5s
MGAB AML AML
comp=N,257µm,1.5s
LNSS Leonessa 1.30 185 AML AML
comp=N,310µm,1.0s
LNSS AML AML
comp=E,118µm,0.2s
SMRN Sveta Marina 1.33 30 *e*Pg **Pn** 05 38 59.5 +0.3
SMRN Sg **Sn** 05 39 15.6 -0.6
DUGI Dugi Otok 1.34 85 *e*Pg **Pn** 05 38 59.8 +0.4
DUGI Sg **Sn** 05 39 14.9 -1.6
SEI Scarperia 1.35 277 AML AML
comp=E,97µm,0.4s
SEI AML AML
comp=N,201µm,0.4s
SEI AML AML
comp=N,201µm,1.6s
CAMP Campotosto 1.37 174 AML AML
comp=E,184µm,0.5s
CAMP AML AML
comp=N,157µm,0.4s
NVLJ Novalja 1.37 60 *e*Pg **Pn** 05 39 00.1 +0.2
NVLJ Sg **Sn** 05 39 17.5 +0.3
RM33 Pellescritta (1.39 180 AML AML
comp=N,176µm,0.3s
RM33 AML AML
comp=E,282µm,0.8s
RM33 AML AML
comp=N,187µm,0.5s
RM33 AML AML
comp=E,179µm,0.3s
RM33 AML AML
comp=N,187µm,1.5s
VIRC Vir 1.39 73 *e*Pg **Pn** 05 38 59.9 -0.2
VIRC Sg **Sn** 05 39 15.9 -1.8
RABC Rab 1.42 52 *i* Pg **Pn** 05 39 01.2 +0.7
RABC Sg **Sn** 05 39 19.4 +1.0
T1247 Pizzolo (AQ) 1.45 177 AML AML
comp=E,229µm,1.1s
T1247 AML AML
comp=N,226µm,0.5s
OSSC Osservatorio P 1.47 256 AML AML
comp=N,40µm,0.8s
OSSC AML AML
comp=E,40µm,0.7s
OSSC AML AML
comp=E,40µm,1.3s
VCEL Villa Celiera 1.57 163 AML AML
comp=N,144µm,1.5s
VCEL AML AML
comp=E,120µm,0.8s
VCEL AML AML
comp=E,120µm,1.2s
VCEL AML AML
comp=N,144µm,0.5s
CRMI Carmignano 1.62 267 AML AML
comp=N,24µm,0.5s
CRMI AML AML
comp=E,25µm,0.8s
CRMI AML AML
comp=N,24µm,1.5s
FIAM Fiamignano 1.63 182 AML AML
comp=E,106µm,0.5s
FIAM AML AML
comp=N,76µm,0.7s
FIAM AML AML
comp=N,76µm,1.3s
ARCI Arcidosso 1.64 231 AML AML
comp=N,20µm,0.7s
ARCI AML AML
comp=E,19µm,0.4s
FAGN Fagnano 1.65 170 AML AML
comp=E,164µm,0.5s
FAGN AML AML
comp=N,154µm,0.5s
FAGN AML AML
comp=N,154µm,1.5s
RIY Rijeka 1.70 32 Sg **Sb** 05 39 27.4 -0.2
T0110 Collepietro 1.72 166 AML AML
comp=E,130µm,0.7s
T0110 AML AML
comp=N,92µm,0.3s
T0110 AML AML
comp=N,92µm,1.7s
MORI Morici 1.81 90 *i* Pn **Pn** 05 39 06.8 +0.9
MORI Sn **Sn** 05 39 28.8 +0.8
UDBI Udbina 1.94 70 Sn **Sn** 05 39 33.5 +1.9
CERT Cerreto 1.95 185 AML AML
comp=E,49µm,0.7s
CERT AML AML
comp=N,52µm,0.7s
PLIT Plitvice 1.99 60 *e*Pn **Pn** 05 39 10.5 +2.1
PLIT Sn **Sn** 05 39 34.0 +1.3
SABO M.te Sabotino 2.10 7 AML AML
comp=N,605µm,0.4s
SABO AML AML
comp=N,165µm,0.5s
SABO AML AML
comp=E,124µm,0.7s
SABO AML AML
comp=E,532µm,0.7s
CGRP Cima Grappa 2.22 334 P **Pn** 05 39 12.1 +0.3
CGRP AML AML
comp=N,77µm,0.6s
CGRP AML AML
comp=E,70µm,0.6s
CGRP AML AML
comp=E,70µm,1.4s
CGRP AML AML
comp=N,77µm,1.4s
LJU Ljubljana 2.34 23 AML AML
comp=N,644µm,0.6s
LJU AML AML
comp=E,452µm,0.5s
MPRI Monte Prat 2.35 356 P **Pn** 05 39 14.2 +0.8
MPRI AML AML
comp=E,64µm,0.7s
MPRI AML AML
comp=N,112µm,0.5s
STAL STALIGIAL 2.39 352 P **Pn** 05 39 14.3 +0.3
STAL AML AML
comp=N,84µm,0.7s
STAL AML AML
comp=N,242µm,1.5s
STAL AML AML
comp=E,460µm,1.6s
STAL AML AML
comp=E,105µm,0.2s
STAL AML AML
comp=N,242µm,0.5s
STAL AML AML
comp=E,460µm,0.4s
CTI Castel Tesino 2.42 333 P **Pn** 05 39 15.0 +0.6
CTI AML AML
comp=E,135µm,0.9s
CTI AML AML
comp=N,152µm,1.2s
CTI AML AML
comp=E,135µm,1.1s
DOSS Dosso del Somm 2.45 325 AML AML
comp=N,64µm,0.3s
DOSS AML AML
comp=E,58µm,0.5s
CIMO Cimolais 2.48 348 AML AML
comp=E,25µm,1.6s
CIMO AML AML
comp=N,28µm,0.3s
CIMO AML AML
comp=N,28µm,1.7s
CIMO AML AML
comp=E,25µm,0.4s
PTCC Patocco-Chiusa 2.51 2 AML AML
comp=E,39µm,0.7s
PTCC AML AML
comp=N,33µm,0.7s
PTCC AML AML
comp=N,33µm,1.3s
CLUD Cludinico 2.57 355 AML AML
comp=N,30µm,1.4s
CLUD AML AML
comp=N,30µm,0.6s
CLUD AML AML
comp=E,37µm,0.7s
SALO Salr 2.57 313 P **Pn** 05 39 17.1 +0.6
ACOM Acomizza, Ital 2.66 5 AML AML
comp=N,57µm,1.6s
ACOM AML AML
comp=E,68µm,0.3s
ACOM AML AML
comp=N,57µm,0.4s
FVI Forni Avoltri 2.72 354 AML AML
comp=N,39µm,1.5s
FVI AML AML
comp=E,41µm,0.6s
FVI AML AML
comp=N,39µm,0.5s
MYKA Terra Mystica 2.75 6 *e*Pn **Pn** 05 39 19.9 +0.9
comp=N,0.9nm,0.2s
OBKA Obir 2.78 19 Pn **Pn** 05 39 20.0 +0.6
comp=N,0.3nm,0.1s
ABTA Abfaltersbach 2.90 350 *e*Pn **Pn** 05 39 22.4 +1.5
comp=N,0.9nm,0.1s,SNR=11
APPI Appiano 2.94 332 AML AML
comp=N,60µm,0.8s
APPI AML AML
comp=E,46µm,1.1s
APPI AML AML
comp=N,60µm,1.2s
APPI AML AML
comp=E,46µm,0.9s
BRES Bressanone 2.99 340 AML AML
comp=N,65µm,0.3s
BRES AML AML
comp=E,56µm,1.4s
BRES AML AML
comp=E,56µm,0.6s
SOKA Soboth 3.07 24 *e*Pn **Pn** 05 39 23.7 +0.5
comp=E,0.2nm,0.2s
RISI Rein 3.15 346 AML AML
comp=E,62µm,0.5s
RISI AML AML
comp=N,70µm,0.3s
KBA Koelnbreinsper 3.19 2 *e*Pn **Pn** 05 39 26.0 +1.0
comp=N,0.5nm,0.1s
ROSI Rosskopf 3.29 338 AML AML
comp=N,59µm,0.9s
ROSI AML AML
comp=E,54µm,0.4s
STON Ston 3.43 106 AML AML
comp=E,19µm,1.6s
STON AML AML
comp=N,24µm,1.6s
STON AML AML
comp=N,24µm,0.4s
WTTA Wattenberg 3.54 342 *i* Pn **Pn** 05 39 32.1 +2.2
comp=N,0.9nm,0.1s,SNR=5.9
FETA Feichten 3.58 332 *i* Pn **Pn** 05 39 32.8 +2.4
comp=N,0.6nm,0.2s
SQTA Sankt Quirin 3.61 338 *i* Pn **Pn** 05 39 33.0 +2.2
comp=N,1.3nm,0.1s,SNR=8.2
WATA Walderalm 3.63 342 *e*Pn **Pn** 05 39 33.2 +2.2
comp=N,0.9nm,0.2s,SNR=7.0
ARSA Arzberg 3.73 25 *e*Pn **Pn** 05 39 32.2 -0.1
comp=N,0.3nm,0.2s
MOTA Moosalm 3.75 338 *e*Pn **Pn** 05 39 35.1 +2.3
comp=N,0.7nm,0.2s,SNR=5.3
BIOA Bad Ischl, Aus 3.81 4 *e*Pn **Pn** 05 39 34.8 +1.4
comp=N,1.4nm,0.2s
MOA Molln 4.02 10 *e*Pn **Pn** 05 39 37.3 +1.0
comp=N,0.3nm,0.1s
DAVA Damuels 4.12 327 *e*Pn **Pn** 05 39 40.5 +2.7
comp=N,0.7nm,0.3s
CONA Conrad Observa 4.44 24 *e*Pn **Pn** 05 39 42.4 +0.3
comp=N,0.3nm,0.3s
CKRC Cesky Krumlov 4.99 8 *e*PN **Pn** 05 39 49.2 -0.4
CKRC *e*SN **Sn** 05 40 43.4 -3.0
KHC Kasperske Hory 5.24 3 *e*PN **Pn** 05 39 53.2 +0.1
KHC *e*SN **Sn** 05 40 49.4 -3.4

NEIC ***27*** *05:41:52.1±1.8,2.02N±0.03×121.02E±0.07,h30km±5km, mb4.4/20, Error ellipse: s-maj=10.6km s-min=4.7km az=94.0*
DJA ***27*** *05:41:53.6±0.3,2.1N±3.3×12.1E±.9,h46km±6km,M4.6/17, mb4.6/17,mB5.2/6,MLv4.6/15,Mw(mB)4.5/6,MwMwp5.0/1, Mwp5.3/1*
IDC ***27*** *05:41:53.5±3.5,2.05N×121.14E,h51km±31km,mb3.8/10, mbtmp4.1/12,ML3.9/2,MS3.1/8, Error ellipse: s-maj=34.4km s-min=16.5km az=65.0*

ISC 27 05:41:52.6±0.4,2.04N±0.05×121.08E±0.06,h41km,n73,
σ1.15/70,mb4.3/20,MS3.0/5,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**0.97**	**198**	Pn	**Pn**	**05 42 09.0**	**-0.8**
TOLI2				Sn	**Sn**	**05 42 21.2**	**-1.1**
MRSI	**Marisa**	**1.77**	**151**	P	**Pn**	**05 42 21.5**	**+0.7**
MRSI				S	**Sn**	**05 42 42.7**	**+0.5**
MPSI	**Mapaga**	**2.06**	**215**	P	**Pn**	**05 42 23.2**	**-1.6**
APSI	**Ampana**	**2.98**	**169**	P	**Pn**	**05 42 38.5**	**+1.0**

LUWI Luwuk 3.50 151 Pn **Pn** 05 42 45.8 +1.2
LUWI Luwuk 3.50 151 P **Pn** 05 42 47.0 +2.5
MYLDM Lahad Datu 4.04 321 Pn **Pn** 05 42 52.0 0.0
SGSI Sangihe 4.74 70 P **Pn** 05 43 03.4 +1.8
SPSI Sidrap Palu 6.10 192 P **Pn** 05 43 22.3 +1.9
0.1nm3µm27nm,0.8s
KKM Kota Kinabalu 6.27 310 **Pn** 05 43 22.6 -0.2
KCP Kidapawan 6.35 39 *i* S **Sn** 05 44 34.2 -1.1
SANI Sanana 6.37 130 P **Pn** 05 43 23.6 -0.4
0.5nm2µm95nm,0.8s
TNTI Ternate 6.41 101 Pn **Pn** 05 43 26.0 +1.4
TNTI Ternate 6.41 101 P **Pn** 05 43 26.8 +2.2
0.2nm50nm,0.9s
BNSI Bone 6.47 189 P **Pn** 05 43 27.4 +2.0
0.1nm23nm,0.8s
DAV Davao City (W) 6.72 42 LR LR 05 46 03.9
comp=Z,143nm,19.4s,baz=174,slow=38
LBMI Labuha 6.95 112 P **Pn** 05 43 32.5 +0.5
0.4nm148nm,0.8s
KAPI Kappang 7.13 191 P **Pn** 05 43 35.1 +0.7
0.8nm,0.3s,baz=5.7,slow=10,SNR=2.4
KAPI LR LR 05 46 45.0
comp=Z,155nm,19.3s,baz=0.5,slow=41
2.6nm,0.3s
KAPI Kappang 7.13 191 Pn **Pn** 05 43 34.8 +0.4
NLAI Namlea 7.98 131 P **Pn** 05 43 47.3 +1.1
SBUM Sibu 8.86 273 **Pn** 05 43 59.0 +0.8
AAI Ambon 9.11 129 P **Pn** 05 44 03.0 +1.4
93nm,0.6s
MSAI Masohi 9.50 124 P **Pn** 05 44 08.8 +1.9
94.4nm15nm,0.7s
SWI Sorong 10.58 106 P **Pn** 05 44 23.3 +1.5
48nm,1.1s
SIJI Sorong 10.59 106 P **Pn** 05 44 23.1 +1.2
1.9nm,0.3s,baz=313,slow=10.0,SNR=14
16nm,0.6s
FAKI Fak Fak 12.21 114 Pn **Pn** 05 44 43.0 -1.0
FAKI Fak Fak 12.21 114 P **Pn** 05 44 43.7 -0.3
391nm20nm,0.9s
BATI Baumata 12.43 168 LR LR 05 50 37.3
comp=Z,165nm,18.6s,baz=280,slow=42
MTN Manton Dam 17.84 146 P **Pn** 05 45 56.6 -1.3
MTN IAmb IAmb 05 46 07.9
comp=Z,16nm,0.5s
KNRA Kununurra 19.17 157 **P** 05 46 12.8 -0.1
KNRA IAmb IAmb 05 46 22.8
comp=Z,12nm,0.5s
MBWA Marble Bar 23.09 183 P **P** 05 46 54.0 -1.0
PSA00 Pilbara Seismi 23.50 183 P **P** 05 46 58.0 -0.9
PSA00 IAmb IAmb 05 46 59.0
comp=Z,17nm,1.2s
WB0 Warramunga Arr 25.31 150 P **P** 05 47 14.6 -1.0
WB0 IAmb IAmb 05 47 24.8
comp=Z,14nm,1.1s
WRAB Tennant Creek 25.43 150 P **P** 05 47 14.4 -2.3
WRAB IAmb IAmb 05 47 26.1
comp=Z,16nm,1.4s
WRA Warramunga Arr 25.43 150 P **P** 05 47 15.6 -1.1
comp=Z,2.9nm,0.9s,baz=326,slow=11,SNR=39
comp=Z,2.9nm,0.9s
WRA Warramunga Arr 25.43 150 P **P** 05 47 15.9 -0.8
WB2 Warramunga Arr 25.43 150 P **P** 05 47 16.1 -0.6
WB2 IAmb IAmb 05 47 26.1
comp=Z,6.3nm,0.7s
WR0 Warramunga Arr 25.54 149 P **P** 05 47 17.1 -0.6
JOW Kunigami 25.60 15 LR LR 05 56 40.1
comp=Z,68nm,21.7s,baz=71,slow=35
CMAR Chiang Mai Arr 27.15 308 LR LR 05 59 49.8
comp=Z,40nm,18.2s,baz=145,slow=40
AS31 Alice Springs 28.44 155 P **P** 05 47 43.1 -0.6
ASAR Alice Springs 28.44 155 P **P** 05 47 43.1 -0.7
comp=Z,1.0nm,0.6s,baz=344,slow=14,SNR=46
ASAR PcP **PcP** 05 50 54.9 -0.5
comp=Z,1.2nm,0.7s,baz=346,slow=2.1,SNR=8.5
comp=Z,1.0nm,0.6s
PZH PanZhiHua 30.60 324 P **P** 05 48 03.5 +0.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,4.7s
JHJ Hachijo jima 2 35.55 28 LR LR 06 03 21.1
comp=Z,22nm,18.5s,baz=56,slow=36
KSRS Korea Array 35.80 9 LR LR 06 02 22.2
comp=Z,12nm,21.1s,baz=230,slow=34
MJAR Matsushiro Arr 37.81 23 LR LR 06 02 30.0
comp=Z,19nm,20.2s,baz=230,slow=33
STKA Stephens Creek 38.95 152 P **P** 05 49 15.4 +0.6
comp=Z,2.5nm,0.5s,baz=325,slow=11,SNR=7.3
comp=Z,2.5nm,0.5s
STKA Stephens Creek 38.95 152 P **P** 05 49 15.2 +0.4
HHC Hu-ho-hao-te 39.58 349 *e*P **P** 05 49 23.3 +3.2
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,190nm,4.8s
GTA Gaotai 41.94 335 *e*P P 05 49 48.0 +8.4
GTA pP pwP 05 49 56.3 +0.3
GTA sP sP 05 49 59.8 +5.9
GTA pmax pmax
comp=Z,3.0nm,0.9s
CAN Canberra 45.43 147 P **P** 05 50 08.2 +0.6
SONM Songino Array 47.36 347 PcP **PcP** 05 51 52.3 -0.7
comp=Z,0.6nm,0.6s,baz=162,slow=3.9,SNR=2.8
WMQ Urumqi 51.07 329 *e*P **P** 05 50 53.8 +2.7
MK31 Makanchi Array 55.88 329 P **P** 05 51 26.8 +0.5
MK31 IAmb IAmb 05 51 44.5
comp=Z,3.7nm,1.4s
MKAR Makanchi Array 55.88 329 P **P** 05 51 26.9 +0.6
comp=Z,0.8nm,0.6s,baz=128,slow=8.4,SNR=7.6
MKAR pP **pwP** 05 51 42.8 -0.4
comp=Z,0.5nm,0.4s,baz=128,slow=8.6,SNR=4.7
MKAR PcP **PcP** 05 52 24.0 -0.7
comp=Z,0.6nm,0.7s,baz=131,slow=4.9,SNR=2.5
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 55.88 329 P **P** 05 51 26.8 +0.5
ZAA0 Zalesovo Array 59.68 336 P **P** 05 51 51.6 -1.1
ZALV Zalesovo Beam 59.68 336 P **P** 05 51 52.6 -0.1
comp=Z,0.6nm,0.4s,baz=134,slow=6.4,SNR=5.5
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 59.68 336 P **P** 05 51 51.9 -0.9
KURK Kurchatov 60.26 330 P **P** 05 51 56.5 -0.3
KK31 Karatay Array 60.73 320 P **P** 05 52 00.3 +0.1
KK31 IAmb IAmb 05 52 01.8
comp=Z,4.4nm,1.3s
KKAR Karatay Array 60.73 320 P **P** 05 52 00.4 +0.2
TIXI Tiksi 69.69 3 P **P** 05 52 57.3 -0.4
TIXI IAmb IAmb 05 53 13.4
comp=Z,2.7nm,0.8s
ABKAR Akbulak array 69.95 322 P **P** 05 52 59.6 -0.1
VOI Vohitsoka 76.22 247 P **P** 05 53 36.9 -0.6
MAW Mawson 80.26 199 P **P** 05 53 59.1 +0.3
comp=Z,2.3nm,0.6s,baz=13,slow=2.2,SNR=3.7
comp=Z,2.3nm,0.6s
VNDA Vanda 82.52 172 P **P** 05 54 10.6 0.0
comp=Z,1.4nm,0.7s,baz=321,slow=6.5,SNR=15
comp=Z,1.4nm,0.7s
VNDA Vanda 82.52 172 P **P** 05 54 10.5 -0.1
VNDA IAmb IAmb 05 54 11.2
comp=Z,2.0nm,0.8s
SBA Scott Base 83.49 171 P **P** 05 54 17.4 +1.8
KMBO Kilima Mbogo 83.87 269 P **P** 05 54 19.4 +0.2
comp=Z,1.5nm,0.6s,baz=93,slow=3.0,SNR=4.9
comp=Z,1.5nm,0.6s
BRTR Keskin Array B 86.74 309 P **P** 05 54 32.1 -0.8
comp=Z,0.7nm,0.7s,baz=134,slow=5.3,SNR=4.8
comp=Z,0.7nm,0.7s
ILAR Eielson Array 89.04 25 P **P** 05 54 41.7 -1.4
comp=Z,0.1nm,0.6s,baz=244,slow=5.4,SNR=1.4
comp=Z,0.1nm,0.6s
CFA Coronel Fontan 149.31 164 PKPbc **PKPbc** 06 01 37.7 -0.1
comp=Z,2.2nm,0.6s,baz=239,slow=4.2,SNR=8.2

TAP ***27*** *05:44:14.4,23.81N×122.90E,h38km±1km,ML2.8,D*
JMA ***27*** *05:44:15.8±0.4,24.1N±1.1×12.3E±.5,h48km,MV2.1/8,NEAR ISHIGAKIJIMA ISLAND*

ISC 27 05:44:12.4±3.0,23.71N±0.03×122.83E±0.03,h14km±22km,
n58,σ0.73/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.77**	**12**	P	**Pb**	**05 44 27.4**	**-0.2**
	baz=8.0						
YOJ				S	**Sb**	**05 44 37.1**	**-0.8**
	baz=8.0						
YOJ	**Yonaguni jima**	**0.77**	**12**	P	**Pb**	**05 44 27.8**	**+0.3**

YOJ				*e*S	**Sb**	**05 44 36.2**	**-1.7**
HATJ	**Hateruma jima**	**0.95**	**69**	P	**Pn**	**05 44 31.8**	**+0.4**
HATJ				*e*S	**Sb**	**05 44 44.0**	**+0.7**
IRIF	**Iriomote-Funau**	**1.03**	**53**	P	**Pb**	**05 44 32.5**	**+0.5**
IRIF				S	**Sb**	**05 44 44.7**	**-0.7**
JKRS	**Kuro-shima**	**1.20**	**64**	P	**Pb**	**05 44 35.5**	**+0.6**
EWUT	**Wuta**	**1.21**	**307**	P	**Pn**	**05 44 33.6**	**-1.4**
	baz=301						
EWUT				S	**Sb**	**05 44 49.8**	**-0.9**
	baz=301						
ENA	**Nanau**	**1.23**	**306**	*i* P	**Pn**	**05 44 35.8**	**+0.6**
	baz=300						
ENA				*i* S	**Sb**	**05 44 51.8**	**+0.7**
	baz=300						
ETM	**Tongmen**	**1.25**	**282**	P	**Pn**	**05 44 35.0**	**-0.5**
	baz=269						
ETM				S	**Sb**	**05 44 51.0**	**-0.9**
	baz=269						
TWC	**Suao**	**1.27**	**315**	P	**Pn**	**05 44 36.4**	**+0.6**
	baz=309						
TWC				*e*S	**Sn**	**05 44 53.7**	**+1.1**
	baz=309						
ESL	**Shilin**	**1.29**	**275**	S	**Sb**	**05 44 51.9**	**-1.0**
	baz=261						
EGFH	**Guangfu**	**1.29**	**269**	S	**Sb**	**05 44 52.9**	**0.0**
	baz=264						
HGSD	**Ruisui**	**1.31**	**261**	P	**Pn**	**05 44 36.6**	**+0.3**
	baz=257						
HGSD				S	**Sn**	**05 44 53.0**	**-0.6**
	baz=257						
ETLH	**Xiulin Townshi**	**1.33**	**292**	P	**Pn**	**05 44 37.0**	**+0.2**
	baz=276						
ETLH				S	**Sn**	**05 44 53.1**	**-1.2**
	baz=276						
JIJ	**Ishigaki jima**	**1.36**	**61**	P	**Pn**	**05 44 37.2**	**+0.1**
EHY	**Hungye**	**1.40**	**262**	*i* P	**Pb**	**05 44 38.3**	**-0.1**
	baz=258						
EHY				*i* S	**Sn**	**05 44 55.7**	**-0.2**
	baz=258						
EYUL	**Yuli**	**1.44**	**256**	*i* P	**Pn**	**05 44 38.6**	**+0.6**
	baz=253						
EYUL				S	**Sn**	**05 44 56.9**	**+0.1**
	baz=253						
YULB	**Yu-li**	**1.44**	**258**	P	**Pb**	**05 44 39.1**	**-0.1**
	baz=255						
YULB				S	**Sn**	**05 44 57.0**	**+0.1**
	baz=255						
LATG	**Datong**	**1.45**	**305**	P	**Pn**	**05 44 38.6**	**+0.2**
	baz=300						
TWE	**Neicheng**	**1.47**	**314**	*i* P	**Pn**	**05 44 39.3**	**+0.8**
	baz=309						
CHKT	**Chengkung**	**1.48**	**246**	S	**Sn**	**05 44 57.0**	**-0.8**
	baz=244						
WHF	**Hehuan Shan**	**1.50**	**287**	*i* P	**Pn**	**05 44 39.6**	**+0.3**
	baz=272						
WHF				S	**Sn**	**05 44 58.1**	**-0.8**
	baz=272						
FULB	**Fuli**	**1.50**	**251**	*i* P	**Pn**	**05 44 39.5**	**+0.5**
	baz=248						
FULB				*i* S	**Sn**	**05 44 57.8**	**-0.6**
	baz=248						
NNSB	**Datong**	**1.51**	**299**	P	**Pn**	**05 44 39.9**	**+0.7**
	baz=283						
NNSB				*e*S	**Sn**	**05 44 59.6**	**+1.0**
	baz=283						
FUSB	**Fushanzhiwuyua**	**1.54**	**313**	P	**Pn**	**05 44 40.6**	**+1.0**
	baz=309						
FUSS	**Fushou**	**1.55**	**291**	*i* P	**Pn**	**05 44 40.5**	**+0.7**
	baz=286						
VWDT	**VWDT**	**1.55**	**272**	P	**Pn**	**05 44 40.4**	**+0.7**
	baz=260						
TIPB	**Shuangxi**	**1.56**	**324**	*i* P	**Pn**	**05 44 39.7**	**0.0**
	baz=332						
TIPB				S	**Sn**	**05 44 58.6**	**-1.2**
	baz=332						
CHGB	**Renai**	**1.56**	**283**	P	**Pn**	**05 44 40.5**	**+0.6**
	baz=271						
CHGB				S	**Sn**	**05 45 00.7**	**+0.6**
	baz=271						
EDH	**Donghe**	**1.58**	**243**	*i* S	**Sn**	**05 44 59.5**	**-1.0**
	baz=233						
WUSB	**Renai**	**1.60**	**281**	P	**Pn**	**05 44 41.1**	**+0.7**
	baz=269						
WUSB				S	**Sn**	**05 45 01.1**	**+0.2**
	baz=269						
JISG	**Ishigakijimahi**	**1.61**	**57**	P	**Pn**	**05 44 39.9**	**-0.5**
NWLT	**Wulai**	**1.61**	**311**	P	**Pn**	**05 44 40.9**	**+0.4**
	baz=321						
LDUT	**Ludao**	**1.62**	**231**	P	**Pb**	**05 44 42.8**	**+0.6**
	baz=230						
LDUT				S	**Sn**	**05 45 00.5**	**-0.9**
	baz=230						
YHNB	**Yeheng**	**1.64**	**306**	P	**Pn**	**05 44 41.6**	**+0.7**
	baz=290						
NSK	**Sanguang**	**1.66**	**306**	*i* P	**Pn**	**05 44 40.8**	**-0.3**
	baz=290						
SSLB	**Suanglung**	**1.72**	**273**	P	**Pn**	**05 44 43.1**	**+1.1**
	baz=269						
SSLB				*e*S	**Sb**	**05 45 05.2**	**-0.3**
	baz=269						
ELDTW	**Lidau**	**1.75**	**253**	*i* P	**Pn**	**05 44 43.3**	**+0.9**
	baz=251						
ELDTW				*i* S	**Sn**	**05 45 03.5**	**-1.1**
	baz=251						
LONT	**Longtian**	**1.76**	**243**	P	**Pb**	**05 44 44.7**	**+0.3**
	baz=235						
LONT				*i* S	**Sb**	**05 45 05.8**	**-0.6**
	baz=235						
SMLT	**Sun Moon Lake**	**1.78**	**276**	*i* P	**Pb**	**05 44 44.4**	**-0.5**
	baz=272						
SMLT				*e*S	**Sn**	**05 45 06.0**	**+0.6**
	baz=272						
WCS	**Beigang Elemen**	**1.79**	**282**	P	**Pn**	**05 44 43.5**	**+0.6**
	baz=271						
WCS				S	**Sn**	**05 45 06.6**	**+1.0**
	baz=271						
WHYT	**Xinyi Township**	**1.81**	**270**	*i* P	**Pb**	**05 44 45.0**	**-0.5**
	baz=267						
WHYT				S	**Sb**	**05 45 08.1**	**0.0**
	baz=267						
NFF	**Wufeng Townshi**	**1.82**	**301**	P	**Pn**	**05 44 44.2**	**+0.9**
	baz=296						
NFF				S	**Sn**	**05 45 06.2**	**0.0**
	baz=296						
WHP	**Taichung City**	**1.82**	**289**	*i* P	**Pb**	**05 44 45.7**	**+0.2**
	baz=276						
TYC	**Yuchr**	**1.82**	**277**	*i* P	**Pb**	**05 44 45.5**	**0.0**
	baz=273						
TYC				*e*S	**Sn**	**05 45 06.9**	**+0.6**
	baz=273						
TWGBT	**Beinan**	**1.84**	**242**	P	**Pb**	**05 44 44.9**	**-1.0**
	baz=232						
TWGBT				S	**Sn**	**05 45 07.0**	**+0.2**
	baz=232						
TWG	**Pinlang**	**1.84**	**242**	*i* P	**Pn**	**05 44 44.9**	**+1.2**
	baz=232						
TWG				*i* S	**Sn**	**05 45 07.3**	**+0.4**
	baz=232						
ALS	**Alishan**	**1.87**	**264**	*i* P	**Pb**	**05 44 46.4**	**-0.2**
	baz=262						
WJS	**Zhushan**	**1.93**	**274**	*i* P	**Pb**	**05 44 48.2**	**+0.8**
	baz=262						
WJS				S	**Sb**	**05 45 12.1**	**+0.7**
	baz=262						
STYH	**Taoyuan**	**1.96**	**255**	*i* P	**Pn**	**05 44 46.5**	**+1.2**
	baz=246						
STYH				S	**Sn**	**05 45 10.3**	**+0.5**
	baz=246						
LYUB	**Lan-yu**	**2.05**	**214**	S	**Sn**	**05 45 11.3**	**-0.7**
	baz=225						
TPUB	**Ta-pu**	**2.06**	**259**	P	**Pb**	**05 44 49.4**	**-0.3**
	baz=251						
TPUB				S	**Sb**	**05 45 14.8**	**-0.4**
	baz=251						
WTP	**Ta-pu**	**2.09**	**258**	*i* P	**Pb**	**05 44 49.8**	**-0.4**
	baz=256						
WDLH	**Douliu**	**2.10**	**270**	P	**Pb**	**05 44 50.4**	**0.0**
	baz=267						
CHN1	**Nanshi**	**2.18**	**257**	*i* P	**Pb**	**05 44 51.6**	**-0.1**
	baz=255						
CHN1				*i* S	**Sb**	**05 45 18.4**	**-0.2**
	baz=255						
TWK	**Hsinying**	**2.20**	**259**	*i* P	**Pb**	**05 44 51.5**	**-0.5**
	baz=257						
TWK				S	**Sb**	**05 45 20.1**	**+1.0**
	baz=257						
TSMG	**Majia**	**2.25**	**244**	P	**Pb**	**05 44 51.9**	**-0.9**
	baz=235						
MASBT	**Mashibuluo**	**2.30**	**242**	P	**Pb**	**05 44 52.3**	**-1.4**
	baz=235						
MASBT				S	**Sn**	**05 45 19.3**	**+1.2**
	baz=235						
SCZT	**Fangliau**	**2.43**	**237**	P	**Pb**	**05 44 54.7**	**-1.3**
	baz=237						

MAN 27 05:52:55.9, 8.93N×127.05E, h32km, mb3.6, ML2.3, MS1.8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.00**	**223**	*i* P	Pb	05 53 14.6	-0.2
BIPH				*i* S	Sb	05 53 27.6	-0.1

IDC ***27*** *06:07:44.1±2.7, 17.85S×178.07W, h462km±22km, mb3.2/5, mbtmp4.1/6, Error ellipse: s-maj=59.8km s-min=24.2km az=144.0*

ISC 27 06:07:42.7±1.5, 17.9S±0.4×178.0W±0.2, h450km, n7, σ0 87/7, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.82**	**272**	P	**P**	**06 08 57.6**	**+1.2**
	46nm,0.5s,baz=131,slow=6.7,SNR=89						
STKA	**Stephens Creek**	**39.02**	**241**	P	**P**	**06 14 29.0**	**-0.2**
	1.6nm,0.7s,baz=87,slow=7.9,SNR=4.8						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**45.07**	**259**	P	**P**	**06 15 16.5**	**-0.8**
	1.3nm,0.5s,baz=98,slow=6.9,SNR=41						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**45.22**	**254**	P	**P**	**06 15 18.4**	**-0.1**
	7.4nm,0.4s,baz=90,slow=8.4,SNR=160						
	7.4nm,0.4s						
MJAR	**Matsushiro Arr**	**68.17**	**323**	P	**P**	**06 17 56.5**	**-0.4**
	0.8nm,0.6s,baz=161,slow=5.5,SNR=3.1						
	0.8nm,0.6s						
TXAR	**Lajitas Array**	**85.62**	**57**	P	**P**	**06 19 33.5**	**+0.5**
	0.4nm,0.9s,baz=232,slow=8.7,SNR=4.4						
	0.4nm,0.9s						
GERES	**GERESS Array B**	**147.72**	**346**	PKPbc	**PKPbc**	**06 26 35.2**	**-0.7**
	0.5nm,0.5s,baz=25,slow=2.6,SNR=3.7						

NEIC ***27*** *06:10:58.7±1.6, 19.63S±0.09×175.20W±0.07, h35km±1km, mb5.1/173, Error ellipse: s-maj=15.1km s-min=10.8km az=173.0*

MOS ***27*** *06:10:58.6±2.3, 19.47S×175.46W, h35km, mb5.3/19, Error ellipse: s-maj=10.8km s-min=10.3km az=62.8*

IDC ***27*** *06:11:02.0±2.5, 19.53S×175.19W, h70km±22km, mb4.7/22, mbtmp5.0/23, MS3.6/35, Error ellipse: s-maj=16.7km s-min=12.1km az=138.0*

NOU ***27*** *06:11:06.3, 19.78S×174.56W, h144km, mb5.1/66, Tonga Islands*

GCMT ***27*** *06:11:08.7±0.2, 19.65S±0.02×174.73W±0.02, h58km±2km, MW5.1/102, Moment Tensor Solution. s19,c22; s102,c138; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.41±.28; Mθθ-4.78±.30; Mϕϕ5.19±.28; Mrθ-0.69±.14; Mθϕ-0.33±.23; Mϕr-3.70±.12; Best double couple: M=6.01200×10^16 NP1:ϕ224.00000°, δ82.00000°, λ29.00000°. NP2:ϕ129.00000°, δ61.00000°, λ170.00000°. Principal axes: T 7.0310, Plg26.0000°, Azm90.0000°; N -2.0350, Plg60.0000°, Azm238.0000°; P -4.9930, Plg14.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 06:10:59.4±0.5, 19.63S±0.06×175.12W±0.05, h53km±4km, h54km: pP-P, n645, σ1 38/543, mb5.1/141, MS3.8/36, 56C-13D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.76**	**291**	P	Pn	06 12 08.2	+13
NIUE	**Niue**	**4.94**	**84**		**Pn**	**06 12 10.2**	**-0.8**
NIUE				Sn	**Sn**	**06 13 01.9**	**-5.0**
NIUE	**Niue**	**4.94**	**84**	P	**Pn**	**06 12 13.4**	**+2.3**
TAVE	**Taveuni**	**5.40**	**302**	P	Pn	06 12 32.2	+15
DGTI	**Dogotuki**	**5.91**	**303**	P	Pn	06 12 39.1	+15
AFI	**Afiamalu**	**6.53**	**30**	P	**Pn**	**06 12 33.7**	**+0.7**
	168nm,0.5s,baz=226,slow=1.9,SNR=47						
AFI				S	Sn	06 13 40.0	-6.3
	197nm,0.4s,baz=230,slow=20,SNR=7.4						
AFI	**Afiamalu**	**6.53**	**30**		Pn	06 12 31.8	-1.3
AFI	**Afiamalu**	**6.53**	**30**	P	**Pn**	**06 12 35.2**	**+2.1**
MSVF	**Nonsavu**	**6.74**	**285**	P	Pn	06 12 48.9	+13
	142nm,0.9s,baz=126,slow=16,SNR=64						
MSVF				LR	LR	06 15 02.5	
	comp=Z,1μm,21.8s,baz=68,slow=36						
MSVF	**Nonsavu**	**6.74**	**285**	Pn	Pn	06 12 33.1	-2.8
MSVF	**Nonsavu**	**6.74**	**285**	P	Pn	06 12 49.2	+13
MSVF	**Nonsavu**	**6.74**	**285**	*i* P	Pn	06 12 47.8	+12
RAR	**Rarotonga**	**14.48**	**99**	P	**Pn**	**06 14 20.9**	**-0.4**
	48nm,0.5s,baz=264,slow=9.9,SNR=16						
RAR				LR	LR	06 19 19.3	
	comp=Z,238nm,20.1s,baz=276,slow=34						
RAR	**Rarotonga**	**14.48**	**99**	Pn	**Pn**	**06 14 21.1**	**-0.3**
RAR	**Rarotonga**	**14.48**	**99**	P	Pn	06 14 17.9	-3.5
RAR	**Rarotonga**	**14.48**	**99**	P	**Pn**	**06 14 21.1**	**-0.3**
RTV	**Rentapao**	**15.69**	**274**	P	P	06 14 48.3	+8.0
MARNC	**Mare, Loyalty**	**15.89**	**260**		**Pn**	**06 14 37.8**	**-1.9**
MARNC	**Mare, Loyalty**	**15.89**	**260**	P	**P**	**06 14 49.0**	**+6.6**
DVP	**Devils Point**	**15.93**	**274**	P	P	06 14 50.6	+7.7
LIFNC	**LIFOU**	**16.60**	**263**		**Pn**	**06 14 45.5**	**-3.1**
LIFNC	**LIFOU**	**16.60**	**263**	P	**P**	**06 14 55.7**	**+5.4**
YATNC	**Mamie plateau,**	**16.98**	**259**	P	P	06 15 02.3	+7.7
OUENC	**Ouen Island, N**	**17.07**	**257**	P	**Pn**	**06 14 53.6**	**-0.9**
OUENC				IAmb	IAmb	06 15 03.6	
	comp=Z,171nm,1.2s						
OUENC	**Ouen Island, N**	**17.07**	**257**	P	**P**	**06 15 01.9**	**+6.4**
DZM	**Mont Dzumac**	**17.40**	**259**	*e*Pn	**P**	**06 15 04.4**	**+5.1**
	comp=Z,200nm,0.8s						
DZM				*e*LR	LR	06 19 06.0	
	comp=Z,942nm,28.9s						
DZM	**Mont Dzumac**	**17.40**	**259**	P	**P**	**06 15 05.2**	**+5.8**
	comp=Z,89nm,0.6s,baz=83,slow=16,SNR=57						
DZM				LR	LR	06 20 02.4	
	comp=Z,231nm,19.2s,baz=124,slow=31						
DZM	**Mont Dzumac**	**17.40**	**259**	P	**Pn**	**06 14 58.2**	**-0.4**
DZM	**Mont Dzumac**	**17.40**	**259**	P	**P**	**06 15 05.9**	**+6.6**
ONTNC	**Ouen Toro**	**17.41**	**258**	P	**Pn**	**06 14 58.0**	**-0.6**
ONTNC	**Ouen Toro**	**17.41**	**258**	P	**P**	**06 15 06.3**	**+7.0**
KUZ	**Kuaotunu**	**18.84**	**203**	P	**Pn**	**06 15 18.2**	**+2.2**
KOUNC	**Koumac, New Ca**	**19.36**	**264**	P	**P**	**06 15 20.9**	**+0.1**
KOUNC				IAmb	IAmb	06 15 32.2	
	comp=Z,153nm,1.0s						
KOUNC	**Koumac, New Ca**	**19.36**	**264**	P	**Pn**	**06 15 27.8**	**+5.5**
URZ	**Urewera**	**19.75**	**198**	P	**Pn**	**06 15 26.3**	**-0.4**
HIZ	**Hauiti**	**20.72**	**203**	P	Pn	06 15 37.0	-1.3
BKZ	**Black Stump Fm**	**20.77**	**199**	P	**P**	**06 15 35.4**	**-0.6**
BKZ	**Black Stump Fm**	**20.77**	**199**	P	**P**	**06 15 36.1**	**+0.1**
TBI	**Tubuai**	**24.15**	**103**	*e*P	**P**	**06 16 12.5**	**+1.8**
	comp=Z,457nm,25.8s						
TBI				*e*LR	LR	06 22 11.4	
	comp=Z,4μm,26.5s						
TBI				*e*LR	LR	06 22 12.0	
	comp=Z,2μm,32.2s						
TBI	**Tubuai**	**24.15**	**103**	*e*T	T	06 40 33.0	
	comp=Z,23nm,0.3s						
PAE	**Paea**	**24.27**	**90**	*e*P	**P**	**06 16 11.9**	**+0.1**
	comp=Z,20nm,1.1s						
PAE	**Paea**	**24.27**	**90**	*e*T	T	06 40 28.3	
	comp=Z,8.3nm,0.3s						
PPT2	**Papeete2**	**24.29**	**89**	*e*P	**P**	**06 16 12.5**	**+0.4**
	comp=Z,115nm,1.2s						
PPT2	**Papeete2**	**24.29**	**89**	*e*P	**P**	**06 16 13.8**	**+1.7**
	comp=Z,102nm,25.2s						
PPT2				*e*LR	LR	06 22 16.2	
	comp=Z,389nm,24.8s						
PPT2	**Papeete2**	**24.29**	**89**	*e*T	T	06 40 30.5	
	comp=Z,6.7nm,0.3s						
PPT	**Papeete**	**24.29**	**89**	P	**P**	**06 16 13.5**	**+1.4**
	comp=Z,95nm,1.0s,baz=304,slow=5.2,SNR=4.8						
PPT				LR	LR	06 23 31.8	
	comp=Z,227nm,19.2s,baz=274,slow=31						
	comp=Z,95nm,1.0s						
PPTF	**Pamatai, Papee**	**24.30**	**89**	P	**P**	**06 16 12.7**	**+0.5**
TIAR	**Tiarei**	**24.51**	**89**	*e*P	**P**	**06 16 15.4**	**+1.4**
	comp=Z,17nm,1.1s						
LTZ	**Lake Taylor**	**25.41**	**202**	P	**P**	**06 16 21.8**	**-0.2**
LTZ				IAmb	IAmb	06 16 34.9	
	comp=Z,152nm,1.8s						
MEH	**Mehetia**	**25.67**	**91**	*e*T	T	06 42 26.4	
	comp=Z,33nm,0.2s						
OXZ	**Oxford**	**25.97**	**202**	P	**P**	**06 16 26.7**	**-0.3**
OXZ				IAmb	IAmb	06 16 31.6	
	comp=Z,70nm,1.0s						
RPZ	**Rata Peaks**	**26.66**	**203**	P	**P**	**06 16 36.7**	**+3.4**
	comp=Z,35nm,0.8s,baz=339,slow=2.7,SNR=11						
	comp=Z,35nm,0.8s						
RPZ	**Rata Peaks**	**26.66**	**203**	P	**P**	**06 16 32.0**	**-1.3**
XMAS	**Kiritimati**	**27.67**	**41**	P	**P**	**06 16 43.1**	**+0.6**
EIDS	**Eidsvold**	**31.68**	**253**	P	**P**	**06 17 18.4**	**+0.3**
EIDS				IAmb	IAmb	06 17 21.3	
	comp=Z,24nm,0.7s						
EIDS	**Eidsvold**	**31.68**	**253**	P	**P**	**06 17 19.8**	**+1.7**
ARMA	**Armidale**	**31.88**	**244**	P	**P**	**06 17 18.9**	**-1.0**
ARMA				IAmb	IAmb	06 17 26.4	
	comp=Z,38nm,1.6s						
MGCD	**Mangrove Creek**	**32.97**	**239**	P	**P**	**06 17 30.4**	**+1.2**
CNB	**Canberra Magne**	**34.95**	**236**	P	**P**	**06 17 47.6**	**+1.1**
	comp=Z,18nm,0.9s						
CAN	**Canberra**	**35.24**	**236**	P	**P**	**06 17 48.6**	**-0.3**
CAN				IAmb	IAmb	06 19 02.5	
	comp=Z,59nm,1.6s						
CAN	**Canberra**	**35.24**	**236**	P	**P**	**06 17 49.3**	**+0.4**
CAN	**Canberra**	**35.24**	**236**	P	**P**	**06 17 48.6**	**-0.3**
CAN				pmax	pmax		
	comp=Z,59nm,1.6s						
CAN	**Canberra**	**35.24**	**236**	P	**P**	**06 17 49.1**	**+0.1**
CAN				pP	pP	06 17 54.5	-7.6
KRVT	**Keravat (AS076**	**35.46**	**291**	LR	LR	06 33 03.9	
	comp=Z,103nm,18.2s,baz=242,slow=37						
TAOE	**Nuku Hiva Isla**	**35.48**	**77**	*e*LR	LR	06 27 25.9	
	comp=Z,163nm,23.8s						
TAOE	**Nuku Hiva Isla**	**35.48**	**77**	*e*T	T	06 54 15.4	
	comp=Z,45nm,0.2s						
TV1H	**Townsville Har**	**35.86**	**264**	P	**P**	**06 17 55.6**	**+1.2**
CTA	**Charters Tower**	**36.27**	**263**	LR	LR	06 31 32.6	
	comp=Z,58nm,19.7s,baz=85,slow=34						
CTA	**Charters Tower**	**36.27**	**263**	P	**P**	**06 17 59.2**	**+1.2**
CMSA	**Cobar Meteorol**	**37.09**	**243**	P	**P**	**06 18 04.9**	**+0.1**
PMG	**Port Moresby**	**37.82**	**280**	P	**P**	**06 18 10.1**	**-1.0**
PMG	**Port Moresby**	**37.82**	**280**	*ce*P	**P**	**06 18 11.9**	**+0.8**
PMG				pmax	pmax		
	comp=Z,81nm,1.0s						
PMG	**Port Moresby**	**37.82**	**280**	P	**P**	**06 18 12.0**	**+0.8**
PMG				sP	**pP**	**06 18 20.9**	**-3.3**
QLP	**Quilpie**	**37.90**	**252**	P	**P**	**06 18 12.9**	**+1.2**
MTSU	**Mount Surprise**	**38.34**	**265**	P	**P**	**06 18 16.6**	**+1.0**
TOO	**Toolangi**	**38.59**	**234**	P	**P**	**06 18 17.4**	**0.0**
TOO	**Toolangi**	**38.59**	**234**	P	**P**	**06 18 17.6**	**+0.2**
TOO	**Toolangi**	**38.59**	**234**	P	**P**	**06 18 17.4**	**0.0**
TOO				pmax	pmax		
	comp=Z,13nm,0.9s						
COEN	**Coen**	**40.25**	**271**	P	**P**	**06 18 30.8**	**-0.7**
COEN	**Coen**	**40.25**	**271**	P	**P**	**06 18 32.5**	**+1.1**
STKA	**Stephens Creek**	**40.60**	**244**	P	**P**	**06 18 33.9**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=95,slow=11,SNR=16						
STKA				LR	LR	06 33 32.6	
	comp=Z,26nm,18.3s,baz=55,slow=33						
	comp=Z,6.1nm,0.8s						
STKA	**Stephens Creek**	**40.60**	**244**	P	**P**	**06 18 34.0**	**-0.1**
STKA	**Stephens Creek**	**40.60**	**244**	P	**P**	**06 18 34.5**	**+0.4**
STKA	**Stephens Creek**	**40.60**	**244**	P	**P**	**06 18 34.0**	**-0.1**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MANU	**Manus Island**	**40.62**	**291**	P	**P**	**06 18 33.8**	**-0.7**
INKA	**Innaminka**	**41.04**	**250**	P	**P**	**06 18 40.4**	**+2.6**
QIS	**Mount Isa**	**42.42**	**261**	P	**P**	**06 18 49.9**	**+0.7**
HTT	**Hallett**	**43.02**	**242**	P	**P**	**06 18 53.6**	**-0.4**
LCRK	**Leigh Creek**	**43.36**	**246**	P	**P**	**06 18 57.2**	**+0.5**
BBOO	**Buckleboo**	**45.35**	**243**	P	**P**	**06 19 11.9**	**-0.7**
BBOO				IAmb	IAmb	06 20 16.5	
	comp=Z,48nm,1.8s						
BBOO	**Buckleboo**	**45.35**	**243**	P	**P**	**06 19 11.9**	**-0.7**
OOD	**Oodnadatta**	**45.52**	**250**	P	**P**	**06 19 14.5**	**+0.6**
GENI	**Genyem**	**46.83**	**285**	P	**P**	**06 19 25.2**	**+0.8**
	comp=Z,3μmcomp=Z,120nm,1.4s						
MULG	**Mulgathing**	**46.95**	**247**	P	**P**	**06 19 24.8**	**-0.3**
WR0	**Warramunga Arr**	**47.21**	**261**	P	**P**	**06 19 26.4**	**-1.0**
WR0				IAmb	IAmb	06 20 58.9	
	comp=Z,12nm,0.8s						
AS01	**Alice Springs**	**47.31**	**256**	P	**P**	**06 19 28.3**	**+0.2**
AS31	**Alice Springs**	**47.35**	**256**	P	**P**	**06 19 29.2**	**+0.8**
ASAR	**Alice Springs**	**47.35**	**256**	P	**P**	**06 19 27.9**	**-0.5**
	comp=Z,22nm,0.6s,baz=84,slow=8.3,SNR=4.6						
ASAR				PcP	**PcP**	**06 20 58.3**	**-0.4**
	comp=Z,11nm,0.7s,baz=101,slow=4.1,SNR=15						
ASAR				ScP	**ScP**	**06 24 46.1**	**-2.2**
	comp=Z,1.3nm,0.8s,baz=95,slow=3.9,SNR=5.1						
ASAR				S	**S**	**06 26 10.9**	**-7.9**
	comp=Z,2.3nm,1.0s,baz=93,slow=16,SNR=10						
ASAR				LR	LR	06 37 56.8	
	comp=Z,81nm,18.5s,baz=94,slow=34						
	comp=Z,22nm,0.6s						
ASAR	**Alice Springs**	**47.35**	**256**	P	**P**	**06 19 28.8**	**+0.4**
ASAR	**Alice Springs**	**47.35**	**256**	P	**P**	**06 19 28.8**	**+0.4**
WB0	**Warramunga Arr**	**47.38**	**261**	P	**P**	**06 19 28.2**	**-0.5**
WB2	**Warramunga Arr**	**47.39**	**261**	P	**P**	**06 19 28.3**	**-0.5**
WB2				IAmb	IAmb	06 19 31.2	
	comp=Z,33nm,0.9s						
WRAB	**Tennant Creek**	**47.40**	**261**	P	**P**	**06 19 28.0**	**-0.8**
WRAB				IAmb	IAmb	06 19 31.1	
	comp=Z,30nm,1.0s						
WRAB	**Tennant Creek**	**47.40**	**261**	P	**P**	**06 19 27.9**	**-0.9**
WRAB	**Tennant Creek**	**47.40**	**261**	P	**P**	**06 19 28.0**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,30nm,1.0s						
WRAB	**Tennant Creek**	**47.40**	**261**	P	**P**	**06 19 28.0**	**-0.8**
WRAB				pP	pP	06 19 33.9	-8.4
WRAB				sP	pwP	06 19 36.7	-8.2
WRA	**Warramunga Arr**	**47.40**	**261**	P	**P**	**06 19 28.1**	**-0.8**
	comp=Z,11nm,0.5s,baz=96,slow=8.3,SNR=77						
WRA				PcP	**PcP**	**06 20 58.7**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=94,slow=3.6,SNR=6.6						
WRA				S	**S**	**06 26 11.7**	**-7.8**
	comp=Z,1.9nm,0.8s,baz=99,slow=13,SNR=9.5						
WR

comp=Z,144nm,0.9s
BATI Baumata 59.63 269 P **P 06 21 00.4 +1.8**
comp=Z,52nm,0.7s,baz=294,slow=12,SNR=3.8
comp=Z,52nm,0.7s
BATI Baumata 59.63 269 P **P 06 21 00.0 +1.4**
comp=Z,59nm,0.8s
TNTI Ternate 59.88 283 P **P 06 20 59.9 -0.4**
TNTI Ternate 59.88 283 P **P 06 21 02.0 +1.8**
comp=Z,81nm,0.9s
SANI Sanana 60.09 279 P **P 06 21 01.4 -0.3**
comp=Z,64nm,0.9s
RPN Rapa Nui 60.26 111 LR LR 06 40 57.2
comp=Z,109nm,22.0s,baz=32,slow=30
PSA00 Pilbara Seismi 60.50 256 P **P 06 21 03.7 -0.7**
PSA00 Pilbara Seismi 60.50 256 P **P 06 21 03.7 -0.7**
MBWA Marble Bar 60.68 256 P **P 06 21 04.4 -1.2**
MBWA Marble Bar 60.68 256 P **P 06 21 04.8 -0.9**
MBWA Marble Bar 60.68 256 P **P 06 21 04.5 -1.1**
MEEK Meekatharra 60.76 250 P **P 06 21 05.1 -1.0**
NWAO Narrogin (SRO) 61.17 343 LR LR 06 44 14.4
comp=Z,77nm,20.8s,baz=1.5,slow=33
BLDU Ballidu 61.87 245 P **P 06 21 12.8 -0.8**
MORW Morawa 62.66 247 P **P 06 21 17.8 -1.0**
LUWI Luwuk 63.45 279 P **P 06 21 24.4 +0.1**
LUWI Luwuk 63.45 279 P **P 06 21 24.7 +0.4**
comp=Z,71nm,1.1s
GTOI Gorontalo 63.85 281 P **P 06 21 28.1 +1.2**
comp=Z,18nm,0.5s
CCD Concordia, Ant 63.98 195 P **P 06 21 28.2 +0.9**
CCD pP pP 06 21 35.5 -6.1
CCD sP sP 06 21 39.8 -7.6
DAV Davao City (W) 64.10 288 LR LR 06 45 56.9
comp=Z,33nm,21.9s,baz=138,slow=33
APSI Ampana 64.55 279 P **P 06 21 32.0 +0.5**
comp=Z,56nm,1.1s
KAPI Kappang 64.91 274 P **P 06 21 32.3 -1.5**
comp=Z,2.6nm,0.4s,baz=120,slow=3.6,SNR=4.8
comp=Z,2.6nm,0.4s
KAPI Kappang 64.91 274 P **P 06 21 34.0 +0.1**
KAPI Kappang 64.91 274 *i*P **P 06 21 32.4 -1.5**
KAPI pmax pmax
comp=Z,9.0nm,1.1s
GIRL Giralia 65.39 253 P **P 06 21 37.6 +0.7**
PLAI Plampang 65.58 269 P **P 06 21 37.6 -0.6**
comp=Z,49nm,0.9s
PLAI Plampang 65.58 269 P **P 06 21 37.8 -0.4**
CASY Casey 65.90 205 P **P 06 21 40.5 +1.1**
TOLI2 Tolitoli 66.09 280 P **P 06 21 41.4 -0.1**
TOLI2 IAmb IAmb 06 21 43.3
comp=Z,24nm,1.0s
TOLI2 Tolitoli 66.09 280 P **P 06 21 42.7 +1.2**
TWSI Taliwang, Sumb 66.45 269 P **P 06 21 43.3 -0.5**
comp=Z,31nm,0.9s
MPSI Mapaga 66.63 279 P **P 06 21 44.8 -0.1**
comp=Z,8µmcomp=Z,37nm,0.9s
QSPA South Pole Qui 70.43 180 LR LR 06 48 50.4
comp=Z,18nm,21.1s,baz=42,slow=32
QSPA South Pole Qui 70.43 180 P **P 06 22 09.2 +1.3**
QSPA South Pole Qui 70.43 180 P **P 06 22 09.1 +1.1**
QSPA sP **pP 06 22 21.2 -1.7**
JGF Kuroka 71.02 321 P **P 06 22 12.3 +0.5**
JGF Kuroka 71.02 321 P **P 06 22 12.3 +0.5**
INU Inuyama 71.06 320 IAmb IAmb 06 22 14.5
comp=Z,45nm,1.5s
INU Inuyama 71.06 320 P **P 06 22 13.6 +1.6**
INU Inuyama 71.06 320 P **P 06 22 13.5 +1.6**
INU sP **pP 06 22 25.5 -0.8**
MJAR Matsushiro Arr 71.16 322 P **P 06 22 12.9 +0.2**
comp=Z,31nm,0.6s,baz=158,slow=6.3,SNR=75
MJAR LR LR 06 48 05.2
comp=Z,32nm,20.8s,baz=146,slow=31
comp=Z,31nm,0.6s
MAJO Matsushiro 71.17 322 P **P 06 22 13.3 +0.6**
MAJO Matsushiro 71.17 322 P **P 06 22 13.3 +0.6**
MAJO Matsushiro 71.17 322 *i*P **P 06 22 12.6 0.0**
MAJO pmax pmax
comp=Z,40nm,0.6s
MAJO Matsushiro 71.17 322 P **P 06 22 13.1 +0.5**
MAJO sP **pP 06 22 25.8 -1.1**
JMN Monobe 71.95 317 P **P 06 22 18.6 +1.1**
JSD Sado 72.17 323 P **P 06 22 19.1 +0.5**
JSD Sado 72.17 323 P **P 06 22 18.6 0.0**
KKM Kota Kinabalu 72.17 283 P **P 06 22 18.7 -0.6**
KKM IAmb IAmb 06 22 21.3
comp=Z,17nm,0.7s
SHEM Shemya Is, Ala 72.66 353 LR LR 06 49 23.9
comp=Z,27nm,19.9s,baz=130,slow=32
JHS Saijyo 73.25 318 P **P 06 22 26.2 +1.1**
JHS Saijyo 73.25 318 P **P 06 22 26.7 +1.6**
JNU Nakatsue 73.54 315 P **P 06 22 27.7 +0.8**
ASAJ Asahikawa 74.30 330 LR LR 06 50 30.0
comp=Z,29nm,20.7s,baz=154,slow=32
SBUM Sibu 74.54 278 P **P 06 22 33.1 -0.1**
LEM Lembang 75.77 268 P **P 06 22 40.4 -0.1**
comp=Z,64nm,0.9s,baz=316,slow=11,SNR=7.0
comp=Z,64nm,0.9s
KSM Kuching 75.98 277 P **P 06 22 41.4 -0.1**
KSM IAmb IAmb 06 22 43.8
comp=Z,26nm,0.8s
PETK Petropavlovsk- 76.17 344 P **P 06 22 42.0 +0.5**
comp=Z,9.5nm,0.8s,baz=127,slow=8.2,SNR=5.6
PETK LR LR 06 49 38.5
comp=Z,50nm,20.9s,baz=170,slow=30
comp=Z,9.5nm,0.8s
YSS Yuzh-Sakhalins 76.37 332 P **P 06 22 43.5 +0.6**
YSS Yuzh-Sakhalins 76.37 332 *e*P **P 06 22 43.7 +0.8**
YSS pmax pmax
comp=Z,30nm,0.8s
VES Vestal, Richgr 76.52 44 P **P 06 22 45.0 +1.0**
baz=233,SNR=5.2
BFSC Mount Baldy Ra 76.53 46 P **P 06 22 45.0 +0.7**
baz=235
EDW2 Edwards Air Fo 76.68 45 P **P 06 22 46.1 +1.1**
baz=234
IKP In-Ko-Pah, Jac 76.70 48 P **P 06 22 46.7 +1.5**
baz=236
ISA Isabella, Lake 76.81 44 P **P 06 22 47.0 +1.3**
baz=234
CWC Cottonwood Cre 77.53 44 P **P 06 22 51.0 +1.1**
baz=234
OMMB Old Mammoth Mi 77.63 42 IAmb IAmb 06 22 49.6
comp=Z,13nm,0.8s
MPMC Manual Prospec 77.69 44 P **P 06 22 51.8 +0.9**
baz=234,SNR=8.1
HEC Hector,Ludlow 77.77 46 P **P 06 22 51.9 +0.7**
baz=236,SNR=6.6
YBH Yreka Blue Hor 77.95 37 LR LR 06 50 46.8
comp=Z,44nm,19.8s,baz=221,slow=31
KSRS Korea Array 78.07 317 P **P 06 22 54.2 +1.7**
comp=Z,6.0nm,0.6s,baz=135,slow=5.1,SNR=15
KSRS LR LR 06 52 04.0
comp=Z,19nm,21.7s,baz=125,slow=32
comp=Z,6.0nm,0.6s
KSAR Wonju Array Be 78.08 317 P **P 06 22 53.3 +0.6**
KSAR Wonju Array Be 78.08 317 P **P 06 22 53.3 +0.6**
GMRC Granite Mounta 78.20 46 P **P 06 22 54.4 +0.8**
baz=236
IRM Iron Mountain 78.20 47 P **P 06 22 54.9 +1.4**
baz=236
GRAC Grapevine Rang 78.32 44 IAmb IAmb 06 22 56.5
comp=Z,33nm,1.4s
GRAC Grapevine Rang 78.32 44 P **P 06 22 55.6 +1.5**
baz=234,SNR=5.2
LHV Little Huntoon 78.32 42 IAmb IAmb 06 23 11.7
comp=Z,18nm,1.3s
RYN Ryan 78.54 42 IAmb IAmb 06 22 57.3
comp=Z,21nm,1.7s
NVAR Mina Array Bea 78.56 42 P **P 06 22 55.9 +0.4**
comp=Z,6.6nm,0.9s,baz=223,slow=9.1,SNR=31
comp=Z,6.6nm,0.9s
PDMCI Parker Dam,Lak 78.98 48 P **P 06 22 59.2 +1.5**
baz=237
Q17K Contact Creek 79.23 10 P **P 06 22 59.0 +0.4**
baz=198
TYV Tymovskoe 79.40 334 *e*P **P 06 23 00.2 +0.6**
TYV pmax pmax
comp=Z,100nm,3.6s
TYV pmax pmax
comp=Z,17nm,0.8s
SHPR Sheep Range 79.50 45 P **P 06 23 02.0 +1.3**
K05A Summer Lake 79.62 37 P **P 06 23 02.1 +0.9**
K05A IAmb IAmb 06 23 03.3
comp=Z,23nm,1.0s
Q18K Katmai Hardscr 79.75 11 P **P 06 23 01.7 +0.2**
baz=199
USRK Ussuriysk Ar. 79.81 324 P **P 06 23 03.4 +1.4**
comp=Z,3.1nm,0.6s,baz=135,slow=5.2,SNR=3.6
comp=Z,3.1nm,0.6s
BELA Belgrano 2 80.05 172 P **P 06 23 03.3 +0.4**
BELA IAmb IAmb 06 23 03.7
comp=Z,12nm,0.8s
PINE Pine Mountain 80.26 37 IAmb IAmb 06 23 06.8
comp=Z,15nm,0.8s
TUC Tucson 80.33 51 P **P 06 23 07.0 +1.8**
baz=239
P18K Big Mountain, 80.41 10 P **P 06 23 05.1 +0.2**
WVOR Wild Horse Val 80.75 39 IAmb IAmb 06 23 09.0
comp=Z,14nm,1.1s
319A Douglas 80.97 52 IAmb IAmb 06 23 11.9
comp=Z,15nm,1.0s
PMSA Palmer Station 80.99 156 LR LR 06 53 30.2
comp=Z,46nm,18.2s,baz=298,slow=31
U15A North Rim 81.39 47 P **P 06 23 12.3 +1.3**
MDJ Mudanjiang 81.40 324 P **P 06 23 11.3 +0.8**
MDJ IAmb IAmb 06 23 14.4
comp=Z,30nm,1.1s
MDJ Mudanjiang 81.40 324 P **P 06 23 12.0 +1.5**
MDJ pmax pmax
comp=Z,21nm,1.0s
MDJ pmax pmax
comp=Z,210nm,5.7s
J08A Circle Bar Ran 81.40 38 P **P 06 23 11.1 +0.4**
J08A IAmb IAmb 06 23 12.4
comp=Z,14nm,1.2s
SPR3 Spring Creek 3 81.43 43 IAmb IAmb 06 23 16.6
comp=Z,18nm,1.9s
DUN6 Lazy B Ranch 81.69 51 IAmb IAmb 06 23 15.4
comp=Z,61nm,1.1s
ELK Elko 81.83 42 LR LR 06 51 36.7
comp=Z,45nm,19.4s,baz=249,slow=30
G08A Pilot Rock 82.31 36 IAmb IAmb 06 23 17.1
comp=Z,11nm,0.9s
ZAIG Zacatecas 82.40 63 P **P 06 23 17.3 +0.7**
121A Cookes Peak, D 82.64 52 P **P 06 23 18.3 +0.7**
baz=241
121A Cookes Peak, D 82.64 52 P **P 06 23 19.5 +1.9**
baz=241
HAWA Hanford 82.67 35 IAmb IAmb 06 23 18.9
comp=Z,12nm,1.1s
E08A Dider Farm, El 82.99 35 IAmb IAmb 06 23 25.6
comp=Z,29nm,1.8s
DUG Dugway, Tooele 83.06 43 P **P 06 23 20.7 +1.2**
baz=237
KLR Kul'dur 83.19 328 *ce*P **P 06 23 20.3 +0.5**
KLR pmax pmax
comp=Z,10.0nm,2.5s
MAW Mawson 83.28 199 P **P 06 23 21.3 +1.3**
comp=Z,8.7nm,0.7s,baz=140,slow=9.3,SNR=19
comp=Z,8.7nm,0.7s
MAW Mawson 83.28 199 P **P 06 23 21.1 +1.1**
CN2 Changchun 83.30 321 P **P 06 23 21.5 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
BNX BinXian 83.31 324 ⇓P **P 06 23 21.0 +0.6**
BNX pmax pmax
comp=Z,19nm,1.0s
BNX pmax pmax
comp=Z,75nm,5.2s
D08A Wollman Farm, 83.41 35 IAmb IAmb 06 23 22.6
comp=Z,11nm,0.9s
E09A Wood Farm, Sta 83.50 36 IAmb IAmb 06 23 23.4
comp=Z,31nm,1.7s
KNK Knik Glacier 83.55 13 P **P 06 23 21.7 +0.3**
baz=205
TMUT Trail Mountain 83.63 45 IAmb IAmb 06 23 25.0
comp=Z,11nm,0.9s
TTA Tatalina 83.66 9 P **P 06 23 22.8 +0.9**
baz=198
F10A Beach Ranch, E 83.69 36 IAmb IAmb 06 23 23.6
comp=Z,16nm,0.8s
MA2 Magadan 83.70 343 LR LR 06 54 24.5
comp=Z,56nm,20.3s,baz=146,slow=31
PLID Pearl Lake 83.86 38 P **P 06 23 24.1 +0.5**
DIV Divide 83.88 14 P **P 06 23 23.1 0.0**
DIV IAmb IAmb 06 23 24.1
comp=Z,18nm,0.8s
Y22A Socorro 83.92 51 P **P 06 23 24.9 +0.8**
baz=242
HLID Hailey 83.92 40 IAmb IAmb 06 23 25.8
comp=Z,11nm,0.8s
HLID Hailey 83.92 40 P **P 06 23 24.8 +0.9**
baz=206,SNR=16
SRU San Rafael Swe 83.99 45 IAmb IAmb 06 23 26.2
comp=Z,9.1nm,0.8s
B08A Colville Reser 84.00 34 IAmb IAmb 06 23 25.3
comp=Z,23nm,1.8s
SCM Sheep Creek Mo 84.17 13 P **P 06 23 25.1 +0.5**
baz=206
C09A Chrisman Ranch 84.21 35 IAmb IAmb 06 23 27.1
comp=Z,14nm,1.4s
H03S2 Juan Fernandez 84.23 124 T T 07 56 10.7
baz=249,slow=75,SNR=270
H03S1 Juan Fernandez 84.25 124 T T 07 56 11.7
baz=249,slow=75,SNR=337
H03S3 Juan Fernandez 84.25 124 T T 07 56 10.5
baz=249,slow=75,SNR=426
TX31 Lajitas Ar. Si 84.32 56 P **P 06 23 26.7 +0.5**
baz=244
TX32 Lajitas Array 84.32 56 IAmb IAmb 06 23 28.6
comp=Z,16nm,1.1s
TXAR Lajitas Array 84.32 56 P **P 06 23 27.2 +1.1**
comp=Z,9.5nm,1.0s,baz=212,slow=4.4,SNR=56
TXAR PKKP **PKKPdf 06 41 31.0 -0.5**
comp=Z,0.3nm,0.9s,baz=153,slow=0.8,SNR=3.8
comp=Z,9.5nm,1.0s
K20K Telida 84.35 9 P **P 06 23 26.2 +0.9**
baz=200
H03N2 Juan Fernandez 84.36 123 T T 07 56 10.6
baz=257,slow=71,SNR=91
H03N3 Juan Fernandez 84.36 123 T T 07 56 12.1
baz=257,slow=71,SNR=73
H03N1 Juan Fernandez 84.38 123 T T 07 56 12.0
baz=257,slow=71,SNR=74
N25K Chitina, Valde 84.56 14 IAmb IAmb 06 23 27.9
comp=Z,14nm,0.8s
N25K Chitina, Valde 84.56 14 P **P 06 23 27.1 +0.5**
baz=209
CAST Castle Rocks 84.73 10 P **P 06 23 26.1 -1.2**
baz=202
WAT6 Susitna Watana 84.76 12 P **P 06 23 27.7 +0.1**
baz=206
ANMO Albuquerque 84.77 50 *ce*P **P 06 23 25.9 -2.5**
ANMO pmax pmax
comp=Z,16nm,1.3s
WAT1 Susitna Watana 84.82 12 P **P 06 23 27.9 +0.1**
baz=205
COYC Coyhaique 84.93 137 P **P 06 23 29.3 +0.4**
COYC IAmb IAmb 06 23 31.2
comp=Z,16nm,1.1s
O28M Mount Upton 84.94 16 P **P 06 23 29.5 +0.8**
baz=213
PLBC Pleasant Camp 84.94 19 P **P 06 23 29.3 +0.9**
baz=216
O29M Mount Kennedy 84.99 17 P **P 06 23 29.7 +0.9**
baz=214
TRF Thorofare Moun 85.06 11 P **P 06 23 29.0 -0.2**
TRF IAmb IAmb 06 23 29.8
comp=Z,19nm,0.8s
TRF Thorofare Moun 85.06 11 P **P 06 23 28.7 -0.5**
baz=203
NEW Newport 85.11 35 LR LR 06 55 00.2
comp=Z,32nm,18.1s,baz=202,slow=31
NEW Newport 85.11 35 P **P 06 23 29.9 +0.3**
baz=233
J20K Nowinta River 85.11 9 IAmb IAmb 06 23 30.7
comp=Z,25nm,1.4s
J20K Nowinta River 85.11 9 P **P 06 23 29.6 +0.5**
baz=200
CHUM Lake Minchumin 85.12 10 P **P 06 23 29.0 -0.2**
baz=202
DHY Denali Highway 85.28 12 P **P 06 23 30.4 +0.2**
baz=206
GCSA Galena City Sc 85.28 8 P **P 06 23 31.2 +1.2**
baz=197
RND Reindeer 85.29 12 IAmb IAmb 06 23 31.9
comp=Z,18nm,0.9s
S34M Telegraph Cree 85.44 22 P **P 06 23 32.3 +1.4**
baz=221
YUK8 Steele Glacier 85.48 16 P **P 06 23 32.3 +0.9**
baz=213
AHID Auburn Hatcher 85.52 42 IAmb IAmb 06 24 25.6
comp=Z,11nm,1.4s
MCK McKinley 85.57 11 P **P 06 23 31.1 -0.4**
MCK McKinley 85.57 11 P **P 06 23 31.4 -0.1**
baz=205,SNR=7.4
MCK McKinley 85.57 11 P **P 06 23 31.1 -0.4**
MCK pmax pmax
comp=Z,24nm,0.9s
PAX Paxson 85.58 13 IAmb IAmb 06 23 32.0
comp=Z,10nm,1.0s
PAX Paxson 85.58 13 P **P 06 23 31.5 -0.1**
baz=208
M26K Nabesna, AK 85.63 14 P **P 06 23 32.6 +0.8**
baz=210
IPM Ipoh 85.71 276 P **P 06 23 33.6 +0.2**
YUK3 Moose Creek 85.72 16 P **P 06 23 33.3 +0.8**
baz=212,SNR=5.7
S22A 4UR Ranch, Cre 85.83 48 IAmb IAmb 06 23 35.9
comp=Z,16nm,1.6s
S22A 4UR Ranch, Cre 85.83 48 P **P 06 23 34.5 +0.7**
baz=241
YUK4 Talbot Arm 85.83 17 P **P 06 23 34.4 +1.3**
baz=214
Q32M Nakina River 85.85 21 P **P 06 23 34.5 +1.2**
baz=220
M27K Edge Creek, AK 85.86 15 P **P 06 23 34.2 +1.0**
baz=211
MENT Mentasta 85.93 14 IAmb IAmb 06 23 35.5
comp=Z,21nm,1.2s
LL02 Futaleuf 86.01 134 P **P 06 23 34.8 +0.4**
LL02 IAmb IAmb 06 23 36.1
comp=Z,9.4nm,0.8s
HEH HeiHe 86.03 327 *e*P **P 06 23 34.5 +0.5**
HEH pmax pmax
comp=Z,8.0nm,1.3s
HEH pmax pmax
comp=Z,190nm,4.8s
O20A White River Ci 86.03 45 P **P 06 23 35.6 +1.1**
baz=240
O30N Mendenhall 86.08 18 P **P 06 23 35.1 +1.0**
baz=216
L26K Log Cabin Wild 86.09 14 IAmb IAmb 06 23 35.4
comp=Z,7.4nm,0.7s
L26K Log Cabin Wild 86.09 14 P **P 06 23 34.8 +0.7**
baz=210
BVCY Beaver Creek 86.16 15 P **P 06 23 35.4 +0.9**
baz=212,SNR=8.5
SEY Seymchan 86.18 346 *ce*P **P 06 23 30.7 -3.8**
SEY pmax pmax
comp=Z,38nm,2.5s
IMW Indian Meadow 86.22 41 IAmb IAmb 06 24 07.5
comp=Z,13nm,1.6s
K24K Donnelly Dome 86.25 13 P **P 06 23 35.9 +1.0**
baz=208
NEA2 Nenana 86.33 11 P **P 06 23 35.0 -0.2**
baz=204
KULM Kulim 86.34 277 P **P 06 23 36.7 +0.2**
KULM IAmb IAmb 06 23 38.9
comp=Z,8.8nm,0.8s
WHY Whitehorse 86.35 19 P **P 06 23 36.6 +1.0**
baz=218
I21K Tanana 86.39 10 IAmb IAmb 06 23 36.7
comp=Z,11nm,1.0s
I21K Tanana 86.39 10 P **P 06 23 35.9 +0.4**
baz=202
MLY Manley 86.45 10 P **P 06 23 35.6 -0.2**
baz=203
L27K Beaver Creek, 86.48 15 P **P 06 23 36.6 +0.6**
baz=211
DOT Dot Lake 86.48 13 P **P 06 23 36.2 +0.3**
DOT IAmb IAmb 06 23 36.8
comp=Z,11nm,0.7s
PD31 Pinedale Array 86.49 42 IAmb IAmb 06 26 13.9
comp=Z,14nm,1.9s
PDAR Pinedale Array 86.49 42 P **P 06 23 36.4 -0.4**
comp=Z,0.5nm,0.5s,baz=188,slow=3.5,SNR=5.8
PDAR PKKPbc **PKKPbc 06 41 33.1 -1.7**
comp=Z,0.5nm,1.0s,baz=76,slow=6.3,SNR=4.0
PDAR LR LR 06 53 20.8
comp=Z,32nm,19.9s,baz=213,slow=29
HDA Harding Lake 86.56 12 IAmb IAmb 06 23 37.1
comp=Z,11nm,0.8s
HDA Harding Lake 86.56 12 P **P 06 23 36.3 0.0**
baz=206,SNR=5.6
YHL Hebgen Lake 86.57 40 IAmb IAmb 06 24 09.9
comp=Z,21nm,1.5s
CCB Clear Creek Bu 86.61 11 IAmb IAmb 06 23 37.3
comp=Z,15nm,1.0s
R33M Jennings River 86.62 21 P **P 06 23 38.2 +1.3**
baz=221
BOZ Bozeman (W) 86.70 39 P **P 06 23 38.7 +1.0**
baz=238
H21K Melozitna Rive 86.71 9 P **P 06 23 37.8 +0.7**
baz=201
SDCO Great Sand Dun 86.76 48 P **P 06 23 38.4 +0.1**
baz=242
SCRK Sand Creek 86.78 13 P **P 06 23 37.5 -0.1**
SCRK IAmb IAmb 06 24 43.3
comp=Z,18nm,1.5s
SCRK Sand Creek 86.78 13 P **P 06 23 38.2 +0.6**
baz=209
I23K Minto, Yukon-K 86.79 11 P **P 06 23 37.1 -0.3**
baz=204
M29M Somme Creek 86.79 16 P **P 06 23 38.3 +0.6**
baz=214
TCOL CIGO, UAF Yank 86.81 11 IAmb IAmb 06 23 38.3
comp=Z,20nm,0.9s
TCOL CIGO, UAF Yank 86.81 11 P **P 06 23 37.3 -0.2**
baz=206
COLA College 86.81 11 P **P 06 23 37.3 -0.2**
COLA IAmb IAmb 06 23 38.3
comp=Z,17nm,0.8s
COLA College 86.81 11 P **P 06 23 37.4 -0.1**
baz=206
COLA College 86.81 11 ⇑P **P 06 23 37.1 -0.4**
IL31 86.90 12 IAmb IAmb 06 23 58.0
comp=Z,11nm,1.1s
ILAR Eielson Array 86.90 12 P **P 06 23 37.3 -0.7**
comp=Z,7.1nm,1.1s,baz=200,slow=5.4,SNR=19
comp=Z,7.1nm,1.1s
HNS HongShan 86.98 311 ⇑P **P 06 23 40.5 +1.5**
HNS pmax pmax
comp=Z,10.0nm,0.6s
MSTX Muleshoe 87.03 52 IAmb IAmb 06 23 41.3
comp=Z,20nm,1.1s
MSTX Muleshoe 87.03 52 P **P 06 23 40.3 +0.8**
baz=244
MSTX Muleshoe 87.03 52 P **P 06 23 40.6 +1.1**
baz=244
J25K Salcha River, 87.06 12 P **P 06 23 39.2 +0.4**
baz=208
RPSI Rantau Prapat 87.09 274 P **P 06 23 39.3 -0.8**
RPSI IAmb IAmb 06 23 41.6
comp=Z,7.6nm,0.8s
PSI Prapat 87.12 274 P **P 06 23 39.3 -1.1**
comp=Z,6.5nm,0.8s,baz=155,slow=2.6,SNR=9.0
comp=Z,6.5nm,0.8s
PSI Prapat 87.12 274 P **P 06 23 39.3 -1.1**
PSI pmax pmax
comp=Z,8.0nm,0.8s
H22K Ishtalitna Cre 87.14 10 P **P 06 23 39.5 +0.3**
baz=202
HRY Holter Researc 87.18 38 P **P 06 23 40.6 +0.7**
BJI Beijing 87.20 314 P **P 06 23 41.0 +1.0**
BJI pmax pmax
comp=Z,16nm,1.6s
K27K Chicken 87.25 14 P **P 06 23 41.1 +1.4**
baz=211
833A Chaparral WMA, 87.30 59 IAmb IAmb 06 23 42.3
comp=Z,14nm,0.9s
833A Chaparral WMA, 87.30 59 P **P 06 23 40.9 +0.1**
baz=246
833A Chaparral WMA, 87.30 59 P **P 06 23 41.5 +0.8**
baz=246
WALA Waterton Lakes 87.31 35 IAmb IAmb 06 23 41.7
comp=Z,9.5nm,1.0s
J26L Joseph Creek 87.33 13 IAmb IAmb 06 23 42.2
comp=Z,16nm,0.8s
J26L Joseph Creek 87.33 13 P **P 06 23 41.5 +1.3**
baz=210,SNR=14
LYN LuoYang 87.33 308 ⇑P **P 06 23 42.3 +1.5**
LYN pmax pmax
comp=Z,20nm,0.7s
M30M Minto, Yukon 87.35 17 IAmb IAmb 06 23 41.6
comp=Z,8.9nm,1.1s
M30M Minto, Yukon 87.35 17 P **P 06 23 40.6 +0.4**
baz=216,SNR=5.7
G21K Allakaket 87.41 8 P **P 06 23 40.9 +0.4**
baz=200
L29M L29M 87.43 16 P **P 06 23 41.5 +0.8**
baz=215
PLCA Paso Flores 87.89 133 P **P 06 23 44.0 +0.4**

comp=Z,2.0nm,0.8s,baz=254,slow=7.5,SNR=4.5
PLCA LR LR 06 57 32.2
comp=Z,31nm,18.1s,baz=242,slow=32
comp=Z,2.0nm,0.8s
DAWY Dawson 87.91 15 IAmb IAmb 06 23 44.2
comp=Z,7.8nm,0.8s
DAWY Dawson 87.91 15 P **P 06 23 43.6 +0.7**
baz=213,SNR=7.5
EGAK Eagle 88.10 14 IAmb IAmb 06 23 45.3
comp=Z,12nm,1.1s
EGAK Eagle 88.10 14 P **P 06 23 44.6 +0.9**
baz=212,SNR=5.8
I26K Coal Creek Min 88.12 13 P **P 06 23 44.6 +0.8**
baz=210
K29M Barlow Dome 88.19 16 P **P 06 23 45.4 +1.1**
baz=215
ZEA Zeya 88.22 330 *e*P **P 06 23 45.5 +1.0**
ZEA *e* 06 23 56.6
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.9s
WAPA Wapiti River 88.30 28 IAmb IAmb 06 23 46.6
comp=Z,14nm,0.8s
BILL Bilibino 88.48 353 *e*P **P 06 23 44.4 -1.1**
BILL pmax pmax
comp=Z,23nm,3.7s
BILL MLR MLR
comp=Z,66nm,15.0s
J29M Klondike Camp 88.52 15 IAmb IAmb 06 23 47.6
comp=Z,12nm,0.7s
F22K John River 88.53 9 P **P 06 23 46.0 +0.3**
baz=202
COLD Coldfoot 88.56 9 IAmb IAmb 06 23 47.6
comp=Z,4.8nm,0.8s
COLD Coldfoot 88.56 9 P **P 06 23 47.0 +1.1**
baz=203
TROLL Troll, Antarti 88.58 179 P **P 06 23 46.0 -0.3**
SNAA Sanae 88.78 178 LR LR 07 02 09.1
comp=Z,21nm,18.5s,baz=202,slow=34
VNA3 Neumayer Olymp 88.80 175 P **P 06 23 46.8 -0.4**
ABTX Abilene, Hawle 88.84 55 IAmb IAmb 06 23 50.4
comp=Z,15nm,1.2s
ABTX Abilene, Hawle 88.84 55 P **P 06 23 48.7 +0.6**
baz=246
EGMT Eagleton 89.07 38 P **P 06 23 49.7 +0.9**
baz=239
XLT XiLinHaoTe 89.10 318 ⇓*i*P **P 06 23 49.8 +0.7**
XLT pmax pmax
comp=Z,24nm,1.0s
XLT pmax pmax
comp=Z,120nm,5.1s
E22K Anaktuvuk Pass 89.17 9 P **P 06 23 49.0 +0.2**
baz=202
F24K Squaw Lake 89.20 10 P **P 06 23 49.6 +0.7**
baz=206
I29M Ogilvie Camp, 89.25 15 IAmb IAmb 06 23 50.4
comp=Z,5.2nm,0.7s
I29M Ogilvie Camp, 89.25 15 P **P 06 23 48.9 -0.3**
baz=214
H27K Steamboat Moun 89.26 13 P **P 06 23 50.9 +1.7**
baz=211
VNA2 Neumayer--Watz 89.28 176 P **P 06 23 49.4 -0.1**
baz=183,slow=4.0
E23K Chandalar 89.42 9 P **P 06 23 50.7 +0.7**
baz=204
G26K Porcupine Rive 89.43 12 P **P 06 23 51.0 +1.1**
baz=209
VNA1 Neumayer--Stat 89.49 176 P **P 06 23 50.4 0.0**
KOTAN Kotaneelee Air 89.58 23 P **P 06 23 52.0 +1.2**
baz=227
E24K Your Creek 89.61 10 P **P 06 23 51.6 +0.8**
baz=205
G27K Doyon Strip 89.73 13 P **P 06 23 52.0 +0.6**
baz=211
XAN Xi'an 89.78 306 ⇑*i*P **P 06 23 54.0 +1.5**
XAN pP PcP 06 23 59.5 +5.8
XAN pmax pmax
comp=Z,31nm,1.1s
EDM Edmonton 89.93 32 IAmb IAmb 06 25 44.7
comp=Z,24nm,1.5s
D23K Nanushuk River 90.10 9 P **P 06 23 54.0 +0.9**
baz=203
MT01 Popeta 90.16 126 P **P 06 23 54.3 0.0**
MT01 IAmb IAmb 06 23 55.6
comp=Z,14nm,0.8s
EPYK Eagle Plains 90.45 15 P **P 06 23 55.6 +0.8**
baz=216
LAO LASA Array 90.50 40 IAmb IAmb 06 23 58.1
comp=Z,9.6nm,1.0s
LAO LASA Array 90.50 40 P **P 06 23 56.6 +1.1**
baz=242
LAO LASA Array 90.50 40 P **P 06 23 57.0 +1.5**
baz=242
RSSD Black Hills 90.67 43 P **P 06 23 56.8 +0.3**
baz=243
RSSD Black Hills 90.67 43 P **P 06 23 57.4 +0.8**
baz=243
HHC Hu-ho-hao-te 90.71 313 *e*P **P 06 23 58.0 +1.3**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,240nm,5.4s
C23K Itkillik River 90.91 8 P **P 06 23 57.4 +0.6**
baz=203
E27K Coleen River 90.92 12 P **P 06 23 59.1 +2.2**
baz=211
G30M tAoh Zraii Nji 91.07 14 P **P 06 23 58.3 +0.6**
baz=216
KAN16 Harper SW Stat 91.87 51 IAmb IAmb 06 26 46.8
comp=Z,4.6nm,0.8s
R32A Long Quarter, 91.88 50 P **P 06 24 01.8 -0.3**
R32A Long Quarter, 91.88 50 P **P 06 24 02.5 +0.4**
baz=246
F31M Tsiigehtchic 92.02 15 P **P 06 24 02.3 +0.4**
baz=218
OK030 Cody Creek RV 92.32 53 IAmb IAmb 06 24 05.3
comp=Z,12nm,1.0s
YAK Yakutsk 92.35 337 LR LR 07 00 49.5
comp=Z,21nm,19.4s,baz=88,slow=32
CMAR Chiang Mai Arr 92.39 289 P **P 06 24 06.3 +1.5**
comp=Z,3.0nm,0.4s,baz=119,slow=2.9,SNR=24
comp=Z,3.0nm,0.4s
CHTO Chiang Mai 92.51 289 P **P 06 24 05.6 +0.2**
CHTO IAmb IAmb 06 24 07.8
comp=Z,8.7nm,0.8s
CHTO Chiang Mai 92.51 289 P **P 06 24 05.6 +0.2**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
DGMT Dagmar 92.54 39 P **P 06 24 06.0 +1.1**
baz=243
DGMT Dagmar 92.54 39 P **P 06 24 06.0 +1.1**
baz=243
CD2 Chengdu 92.62 302 *e*P **P 06 24 06.5 +0.8**
PZH PanZhiHua 92.71 297 P **P 06 24 07.0 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,150nm,4.7s
INK Inuvik 92.75 14 P **P 06 24 05.3 0.0**
INK IAmb IAmb 06 24 06.4
comp=Z,15nm,1.4s
INK Inuvik 92.75 14 P **P 06 24 05.6 +0.3**
baz=219
INK Inuvik 92.75 14 P **P 06 24 05.3 0.0**
INK pmax pmax
comp=Z,15nm,1.5s
CFA Coronel Fontan 93.41 125 LR LR 07 00 14.1
comp=Z,37nm,18.2s,baz=338,slow=32
K31A O'Neill 93.52 46 P **P 06 24 10.9 +1.3**
baz=247
JTS Las Juntas de 93.56 80 LR LR 06 58 17.8
comp=Z,42nm,18.7s,baz=6.0,slow=30
KSU1 Kansas State U 93.66 50 P **P 06 24 11.3 +1.1**
baz=248
NNA Nana 93.66 104 LR LR 06 58 30.0
comp=Z,31nm,18.9s,baz=246,slow=30
ATAH Atahualpa 93.92 99 LR LR 06 58 42.8
comp=Z,66nm,18.4s,baz=282,slow=30
LZH Lanzhou 94.41 307 *e*P **P 06 24 15.3 +1.3**
LZH pP PcP 06 24 20.8 +6.4
LZH sP pP 06 24 25.0 -3.8
LZH pmax pmax
comp=Z,13nm,1.0s
YKA Yellowknife Ar 94.61 24 P **P 06 24 14.0 0.0**
comp=Z,2.6nm,0.8s,baz=243,slow=4.6,SNR=11
comp=Z,2.6nm,0.8s

ECSD EROS Data Cent 95.39 46 P **P 06 24 17.9 -0.2**
baz=248
ECSD EROS Data Cent 95.39 46 P **P 06 24 18.2 +0.1**
baz=248
SONM Songino Array 96.89 318 P **P 06 24 26.7 +1.7**
comp=Z,1.3nm,0.8s,baz=110,slow=3.1,SNR=6.1
comp=Z,1.3nm,0.8s
A36M Sachs Harbour 97.38 14 IAmb IAmb 06 24 29.7
comp=Z,5.9nm,0.9s
A36M Sachs Harbour 97.38 14 P **P 06 24 26.8 +0.4**
baz=227
ULM Lac du Bonnet 98.23 40 LR LR 07 00 31.0
comp=Z,96nm,19.3s,baz=190,slow=30
TIXI Tiksi 98.62 345 *ce*P **P 06 24 30.9 -1.1**
TIXI pmax pmax
comp=Z,10.0nm,3.1s
LPAZ La Paz 99.87 111 LR LR 07 02 23.4
comp=Z,37nm,18.2s,baz=290,slow=31
ZALV Zalesovo Beam 111.51 321 PKiKP **PKiKP 06 29 25.8 -1.7**
comp=Z,1.2nm,0.5s,baz=132,slow=2.5,SNR=6.9
MKAR Makanchi Array 112.57 313 PKiKP **PKiKP 06 29 28.2 -1.7**
comp=Z,0.9nm,0.6s,baz=76,slow=2.0,SNR=9.1
BRVK Borovoye 120.20 321 *i* PKIKP **PKPdf 06 29 41.9 -2.3**
KK31 Karatay Array 120.81 309 PKPdf **PKPdf 06 29 44.7 -1.1**
KK31 Karatay Array 120.81 309 PKIKP **PKPdf 06 29 44.7 -1.1**
KKAR Karatay Array 120.81 309 **PKPdf 06 29 44.7 -1.1**
KKAR Karatay Array 120.81 309 PKIKP **PKPdf 06 29 44.7 -1.1**
ARU Arti 126.00 326 **PKPdf 06 29 55.0 -0.3**
ARU Arti 126.00 326 *i* PKIKP **PKPdf 06 29 54.4 -0.9**
ARU 06 31 49.9
ARU 06 36 51.2
BOSA Boshof 128.15 203 PKP **PKiKP 06 30 00.7 -0.4**
comp=Z,3.5nm,0.7s,baz=145,slow=2.1,SNR=6.1
ARCES ARCESS Array B 128.53 351 PKP **PKPdf 06 29 59.0 -0.7**
comp=Z,2.2nm,0.5s,baz=9.6,slow=1.7,SNR=22
BELG Belogornoye 133.48 325 *i* PKIKP **PKPdf 06 30 08.5 -1.0**
FINES FINESS Array B 135.66 346 PKhKP PKPpre 06 30 09.5
comp=Z,5.7nm,0.8s,baz=64,slow=4.4,SNR=9.5
OBN Obninsk 137.24 334 *e*PKIKP **PKPdf 06 30 13.7 -2.8**
OBN *e* 06 33 00.7
OBN *e*PPP PPP 06 36 01.6
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,32nm,6.0s
NOA NORSAR Array B 138.39 355 PKP **PKPdf 06 30 18.3 -0.2**
comp=Z,1.9nm,0.8s,baz=13,slow=4.0,SNR=3.7
KIV Kislovodsk 140.25 316 *e*PKIKP **PKPdf 06 30 22.0 -0.5**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 142.13 241 PKhKP PKPpre 06 30 23.0
comp=Z,0.7nm,0.4s,baz=236,slow=2.3,SNR=4.0
KMBO SKPbc **SKPbc 06 33 55.9 -4.4**
comp=Z,0.7nm,0.4s,baz=93,slow=1.4,SNR=3.4
AKASG Malin Array Be 143.50 334 PKhKP PKPpre 06 30 24.2
comp=Z,5.2nm,0.5s,baz=41,slow=4.1,SNR=36
AKASG SKPbc **SKPbc 06 33 57.6 -4.5**
comp=Z,0.3nm,0.4s,baz=50,slow=2.8,SNR=4.4
MARD Mardin 144.13 307 PKPdf PKPbc 06 30 28.0 +0.1
HPK Haverah Park 145.38 7 *e*P **PKPdf 06 30 30.8 -0.4**
SORM Soroca 145.81 332 ⇑P **PKPdf 06 30 32.2 +0.2**
SORM Soroca 145.81 332 ⇑PKP2 **PKPdf 06 30 32.2 +0.2**
LLW Llanuwychllyn 146.19 9 *e*P **PKPdf 06 30 32.7 +0.2**
FOEL Foel Wylfa 146.22 9 *e*P **PKPdf 06 30 31.8 -0.8**
LVV L'vov 146.22 338 *e*PKIKP **PKPbc 06 30 33.9 +0.1**
MILM Milestii Mici 146.49 330 ⇑P **PKPdf 06 30 33.8 +0.6**
MILM Milestii Mici 146.49 330 *e*PKP **PKPdf 06 30 34.0 +0.8**
MILM Milestii Mici 146.49 330 ⇑PKIKP **PKPdf 06 30 33.8 +0.6**
CWF Charnwood Fore 146.61 7 *e*P **PKPdf 06 30 32.9 -0.3**
LPW Lampeter 146.84 10 *e*P **PKPdf 06 30 34.7 +1.1**
MCH1 Michaelchurch 147.12 9 *e*P **PKPdf 06 30 35.0 +0.9**
VASR Vaslui 147.17 330 P **PKPbc 06 30 37.1 +0.5**
MONM Monmouth 147.30 9 *e*P **PKPdf 06 30 35.9 +1.4**
STHS Stebnicka Huta 147.52 340 *e*PKP **PKPbc 06 30 37.9 +0.3**
STHS Stebnicka Huta 147.52 340 *e*PKP2 **PKPbc 06 30 37.9 +0.3**
BURAR Bucovina Array 147.56 334 ⇑P **PKPbc 06 30 39.1 +1.3**
BURAR Bucovina Array 147.56 334 ⇑PKP2 **PKPbc 06 30 39.1 +1.3**
KOLS Kolonicke sedl 147.59 338 *e*PKP **PKPbc 06 30 38.9 +1.1**
KOLS Kolonicke sedl 147.59 338 *e*PKP2 **PKPbc 06 30 38.9 +1.1**
MBAR Mbarara 147.63 235 **PKPbc 06 30 39.8 +0.6**
MBAR Mbarara 147.63 235 PKP2 **PKPbc 06 30 39.8 +0.6**
CLL Collm 147.75 350 **PKPbc 06 30 38.2 +0.2**
CLL Collm 147.75 350 *i* PKPbc **PKPbc 06 30 37.8 -0.3**
comp=Z,24nm,0.8s
CLL *i* PKPab **PKiKP 06 30 40.7 +0.6**
comp=Z,12nm,1.0s
CLL *e*pPKPbc **pPKPdf 06 30 53.0 +2.1**
CLL *ex* x 06 31 02.0
CLL *e*SKPdf **SKPbc 06 34 05.0 -6.8**
CLL Collm 147.75 350 *i* PKIKP **PKPbc 06 30 37.8 -0.3**
CLL *i* 06 30 40.7
CLL pmax pmax
comp=Z,24nm,0.8s
CLL pmax pmax
comp=Z,12nm,1.0s
GHRR 147.78 330 ⇓P **PKPbc 06 30 38.8 +0.5**
TESR Tescani 147.79 331 ⇑P **PKPbc 06 30 38.4 0.0**
UZH Uzhgorod 147.84 338 ⇑*i* PKIKP **PKPbc 06 30 38.5 +0.1**
UZH *i* 06 30 47.0
OSTC Ostas 147.86 346 *e*PKP **PKPbc 06 30 38.6 +0.1**
CRVS Cervenica-Dubn 147.89 339 *e*PKP2 **PKPab 06 30 41.9 +0.7**
CRVS Cervenica-Dubn 147.89 339 *e*PKP Pn 06 30 41.9 -3.4
UPC Upice 147.95 347 *e*PKP **PKPbc 06 30 38.7 0.0**
UPC Upice 147.95 347 *e*PKIKP **PKPbc 06 30 38.7 0.0**
BRG Berggiesshubel 148.01 349 Amp 06 30 40.1
comp=Z,13nm,0.9s
BRG Berggiesshubel 148.01 349 *i* PKIKP **PKPbc 06 30 38.8 0.0**
BRG pmax pmax
comp=Z,13nm,0.9s
BRG Berggiesshubel 148.01 349 *i* PKP Pn 06 30 38.9 -3.3
DPC Dobruska-Polom 148.03 346 *e*PKP **PKPbc 06 30 38.6 -0.4**
DPC *ep*PKP **pPKPdf 06 30 53.7 +2.2**
DPC Dobruska-Polom 148.03 346 *e*PKIKP **PKPbc 06 30 38.6 -0.4**
DPC *e* 06 30 53.7
OKC Ostrava-Krasne 148.05 344 *e*PKP **PKPbc 06 30 39.0 0.0**
OKC Ostrava-Krasne 148.05 344 *e*PKIKP **PKPbc 06 30 39.0 0.0**
CFR Carcaliu 148.06 328 ⇑P **PKPbc 06 30 39.4 +0.3**
CFR Carcaliu 148.06 328 ⇑PKP2 **PKPbc 06 30 39.4 +0.3**
TPGR Topolog 148.15 327 P Pn 06 30 37.8 +10
TRPA Tarpa 148.18 337 ⇑P Pn 06 30 39.7 -6.0
KRLC Kraliky 148.18 345 *e*PKP **PKPbc 06 30 39.0 -0.4**
KRLC Kraliky 148.18 345 *e*PKIKP **PKPbc 06 30 39.0 -0.4**
BR131 Keskin Array S 148.20 315 **PKPbc 06 30 39.8 -0.1**
BR131 Keskin Array S 148.20 315 PKP2 **PKPbc 06 30 39.8 -0.1**
BRTR Keskin Array B 148.20 315 PKP **PKPdf 06 30 35.5 -1.0**
comp=Z,9.0nm,0.9s,baz=160,slow=3.9,SNR=16
BRTR PKPbc **PKPbc 06 30 39.3 -0.6**
comp=Z,9.3nm,0.9s,baz=126,slow=3.5,SNR=30
BRTR Keskin Array B 148.20 315 PKPdf **PKPdf 06 30 35.7 -0.8**
BRTR PKPbc **PKPbc 06 30 40.0 +0.1**
BRTR Keskin Array B 148.20 315 *i* PKIKP **PKPdf 06 30 37.0 +0.5**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
PVCC Panska Ves 148.23 348 *e*PKP **PKPbc 06 30 39.3 -0.1**
PVCC Panska Ves 148.23 348 *e*PKIKP **PKPbc 06 30 39.3 -0.1**
VRI Vrincioaia 148.24 330 ⇑P **PKPbc 06 30 39.6 0.0**
VRI Vrincioaia 148.24 330 ⇑PKIKP **PKPbc 06 30 39.6 0.0**
MORC Moravsky Berou 148.27 344 ⇑P Pn 06 30 40.2 +5.1
MORC Moravsky Berou 148.27 344 *e*PKP Pn 06 30 39.9 +4.8
MORC Moravsky Berou 148.27 344 ⇑PKP2 **PKPbc 06 30 40.2 +0.6**
PLOR Plostina 148.28 330 ⇑P **PKPbc 06 30 39.5 -0.3**
PLOR Plostina 148.28 330 ⇑PKIKP **PKPbc 06 30 39.5 -0.3**
COVR Voineasa-Covas 148.50 331 ⇑P **PKPbc 06 30 38.9 -1.4**
OZUR 148.50 332 ⇑P **PKPbc 06 30 39.5 -0.9**
HARR Harsova 148.51 328 ⇑P Pn 06 30 40.6 +4.5
HARR Harsova 148.51 328 ⇑PKP2 **PKPbc 06 30 40.6 +0.3**
MAUC Maruska 148.57 344 *e*PKP **PKPbc 06 30 40.9 +0.5**
PRU Pruhonice 148.75 348 *e*PKP **PKPbc 06 30 40.4 -0.4**
PRU *ex* x 06 30 44.1
PRU Pruhonice 148.75 348 *e*PKIKP **PKPbc 06 30 40.4 -0.4**
PRU *e* 06 30 44.1
NEHR Nehoiu 148.77 330 ⇑P **PKPbc 06 30 41.2 +0.2**
DOPR Dopca 148.77 332 ⇑P **PKPbc 06 30 41.9 +0.9**
NKC Novy Kostel 148.88 351 *e*PKP **PKPbc 06 30 41.4 +0.3**
NKC *ex* x 06 30 44.9
NKC Novy Kostel 148.88 351 *e*PKIKP **PKPbc 06 30 41.4 +0.3**
NKC *e* 06 30 44.9
MLR Muntele Rosu 148.88 331 P **PKPbc 06 30 41.4 0.0**
MLR Muntele Rosu 148.88 331 PKPdf **PKPdf 06 30 36.3 -1.1**
MLR **PKPbc 06 30 41.5 0.0**
MLR Muntele Rosu 148.88 331 PKHKP PKPpre 06 30 36.3
MLR 06 30 41.5
VRAC Vranov 148.94 345 *e*PKP Pb 06 30 41.4 -4.2

CJR Cluj-Napoca 148.94 335 ⇑P Pn 06 30 41.2 -2.9
CJR Cluj-Napoca 148.94 335 ⇑PKIKP **PKPbc 06 30 41.2 -0.2**
MEM Membach 149.08 359 *d*PKP **PKPbc 06 30 41.3 -0.3**
VYHS Vyhne 149.08 342 *e*PKP Pb 06 30 41.9 -3.2
VYHS Vyhne 149.08 342 *e*PKIKP **PKPbc 06 30 41.9 +0.2**
BTNL Ternell 149.10 358 *d*PKP **PKPbc 06 30 41.0 -0.6**
BSTI Sart Tilman 149.11 359 *d*PKP **PKPbc 06 30 41.6 -0.1**
MARR Marisel-Cluj 149.16 335 P Pn 06 30 42.2 +2.4
SNF Seneffe 149.19 1 *d*PKP **PKPbc 06 30 41.7 -0.2**
TREC Trest 149.21 346 *e*PKP **PKPbc 06 30 42.1 +0.1**
TREC Trest 149.21 346 *e*PKIKP **PKPbc 06 30 42.1 +0.1**
KRUC Moravsky 149.21 345 *e*PKP Pb 06 30 41.5 +0.6
DRGR 149.23 336 ⇑P Pn 06 30 42.7 +5.5
DRGR 149.23 336 ⇑PKP2 **PKPbc 06 30 42.7 +0.5**
PSZ Piszkesteto 149.26 340 ⇑P Pb 06 30 41.8 -3.4
PSZ Piszkesteto 149.26 340 ⇑PKIKP **PKPbc 06 30 41.8 -0.4**
VOIR 149.33 332 ⇑P Pn 06 30 42.6 -8.6
VOIR 149.33 332 ⇑PKIKP **PKPbc 06 30 42.6 +0.1**
MDUB Mudurnu 149.37 318 PKPdf **PKPdf 06 30 37.2 -1.1**
MDUB **PKPbc 06 30 41.9 -0.9**
BMRD Maredsous 149.40 0 *d*PKP **PKPbc 06 30 42.1 -0.2**
SMOL Smolenice 149.46 343 *e*PKHKP PKPpre 06 30 42.9
RCHB Rochefort 149.54 360 *d*PKP **PKPbc 06 30 42.5 -0.3**
ARR Arges 149.57 332 ⇑P Pn 06 30 44.3 -2.7
DOU Dourbes 149.60 0 *d*PKP **PKPbc 06 30 42.6 -0.2**
DOU *d*PKPab **PKPab 06 30 47.7 -0.3**
MODS Modra-Piesok 149.62 344 *e*PKHKP PKPpre 06 30 43.6
MODS Modra-Piesok 149.63 344 *e*PKP Pg 06 30 43.6 -1.8
KHC Kasperske Hory 149.75 349 PKPdf **PKPdf 06 30 38.5 -0.1**
KHC PKPbc **PKPbc 06 30 43.8 +0.4**
KHC Kasperske Hory 149.75 349 *e*PKP **PKPdf 06 30 38.5 -0.1**
KHC *ex* x 06 30 42.9
KHC *e*pPKP **pPKPdf 06 30 56.5 +2.2**
KHC Kasperske Hory 149.75 349 PKHKP PKPpre 06 30 43.8
ZST Bratislava 149.84 344 *e*PKP Pg 06 30 44.5 +3.1
ZST Bratislava 149.84 344 *e*PKP2 **PKiKP 06 30 44.5 0.0**
SRO Srobarova 149.84 342 *e*PKP2 **PKiKP 06 30 44.4 -0.1**
SRO Srobarova 149.84 342 *e*PKP Pg 06 30 44.4 +1.1
DEV Deva 149.90 334 ⇑P Pb 06 30 45.0 -10
DEV Deva 149.90 334 ⇑PKP2 **PKiKP 06 30 45.0 +0.3**
CKRC Cesky Krumlov 149.91 348 *e*PKP **PKPdf 06 30 38.3 -0.5**
CKRC *ex* x 06 30 43.5
JSA Saint Aubin 149.98 9 *e*P **PKPbc 06 30 43.2 -0.6**
GEC2 GERESS Array S 150.00 348 **PKPbc 06 30 43.9 -0.2**
GERES GERESS Array B 150.00 348 PKP **PKPdf 06 30 38.6 -0.4**
comp=Z,6.4nm,1.0s,baz=94,slow=4.1,SNR=4.5
GERES PKPbc **PKPbc 06 30 43.9 -0.2**
comp=Z,7.0nm,0.8s,baz=45,slow=2.1,SNR=42
GERES GERESS Array B 150.00 348 PKPdf **PKPdf 06 30 38.7 -0.4**
GERES **PKPbc 06 30 44.3 +0.3**
GERES GERESS Array B 150.00 348 PKIKP **PKPdf 06 30 38.7 -0.4**
GERES 06 30 44.3
WLF Walferdange 150.02 358 *d*PKP **PKPbc 06 30 44.0 +0.1**
RAZG Razgrad 150.03 328 ⇑P Pb 06 30 44.3 +3.2
BORA Eskisehir 150.18 318 PKPdf **PKPdf 06 30 39.5 -0.2**
BORA **PKPbc 06 30 44.8 0.0**
SURR Surduc 150.31 335 ⇑P Pb 06 30 44.7 -0.8
GZR Gura Zlata 150.34 334 ⇑P Pb 06 30 44.8 -5.7
GZR Gura Zlata 150.34 334 ⇑PKIKP **PKPbc 06 30 44.8 -0.1**
CONA Conrad Observa 150.40 345 *i* P **PKPbc 06 30 45.2 +0.1**
comp=Z,19nm,0.8s,SNR=8.8
RONA Rosalia, Austr 150.50 344 *i* P **PKPbc 06 30 45.3 +0.1**
comp=Z,21nm,0.7s,SNR=7.7
CSS Mathiatis 150.60 307 **PKPbc 06 30 45.6 -0.2**
BZS Buzias 150.63 336 ⇑P Pg 06 30 45.1 -5.8
BZS Buzias 150.63 336 ⇑PKIKP **PKPbc 06 30 45.1 -0.4**
SRE Strehaia 150.75 333 ⇑P Pb 06 30 46.4 -5.6
SRE Strehaia 150.75 333 ⇑PKIKP **PKPbc 06 30 46.4 +0.6**
MOA Molln 150.84 347 *i* P **PKPbc 06 30 45.6 -0.4**
comp=Z,7.9nm,0.7s,SNR=5.2
HERR Herculane 150.91 334 ⇑P Pb 06 30 46.2 +2.5
PLVB Pleven 151.09 329 ⇑P Pb 06 30 46.6 +0.1
ARSA Arzberg 151.12 345 *i* P **PKPbc 06 30 46.0 -0.6**
comp=Z,1.7nm,0.6s
BIOA Bad Ischl, Aus 151.12 348 *i* P **PKPbc 06 30 46.0 -0.7**
comp=Z,5.4nm,0.7s,SNR=5.2
MORH Mrgy, Hungar 151.17 340 ⇑P **PKPbc 06 30 46.2 -0.5**
BFO Black Forest 151.24 355 **PKPbc 06 30 47.0 +0.1**
BFO Black Forest 151.24 355 PKIKP **PKPbc 06 30 47.0 +0.1**
MDVR Moldovita 151.28 335 ⇓P Pg 06 30 46.7 +0.2
FRGS Fruska Gora 151.69 337 *e*P **PKPbc 06 30 47.4 -0.6**
KBA Koelnbreinsper 151.76 348 *i* P **PKPbc 06 30 47.3 -1.0**
comp=Z,11nm,0.7s
SOKA Soboth 151.77 345 *i* P **PKPbc 06 30 47.3 -0.9**
comp=Z,12nm,0.9s,SNR=9.0
PERS Pernice 151.79 345 *i* PKPbc **PKPbc 06 30 47.4 -0.9**
RETA Reutte 151.81 352 *i* P **PKPbc 06 30 47.7 -0.6**
comp=Z,5.9nm,0.7s
WATA Walderalm 151.83 350 *i* P **PKPbc 06 30 47.8 -0.6**
comp=Z,7.3nm,0.6s,SNR=7.0
WTTA Wattenberg 151.89 350 *e*P **PKPbc 06 30 48.2 -0.4**
comp=Z,29nm,0.7s,SNR=11
MOTA Moosalm 151.90 351 *e*P **PKPbc 06 30 48.1 -0.6**
comp=Z,13nm,0.9s,SNR=6.6
SQTA Sankt Quirin 152.00 351 *i* P **PKPbc 06 30 48.3 -0.5**
comp=Z,14nm,0.7s,SNR=7.2
OBKA Obir 152.04 346 *e*P **PKPbc 06 30 47.6 -1.3**
OBKA Obir 152.04 346 *i* P **PKPbc 06 30 47.8 -1.1**
comp=Z,5.4nm,0.7s
DAVA Damuels 152.12 353 *e*P **PKPbc 06 30 49.1 -0.1**
comp=Z,13nm,0.9s,SNR=7.1
MYKA Terra Mystica 152.13 347 *i* P **PKPbc 06 30 47.8 -1.3**
comp=Z,11nm,0.6s,SNR=7.1
ABTA Abfaltersbach 152.24 349 *i* P **PKPbc 06 30 48.3 -1.0**
comp=Z,12nm,0.6s,SNR=10
RDO Rodhopi 152.25 325 PKPdf **PKPdf 06 30 43.0 +0.4**
RDO **PKPbc 06 30 48.6 -0.8**
RDO PKPab **PKPab 06 30 59.2 -0.1**
FETA Feichten 152.27 351 *i* P **PKPbc 06 30 49.1 -0.3**
comp=Z,12nm,0.9s,SNR=5.1
TEKS Tekeris 152.32 337 *e*P **PKPdf 06 30 43.6 +0.9**
VTS Vitosha 152.34 330 ⇑P Pb 06 30 49.6 +0.2
VTS Vitosha 152.34 330 **PKPbc 06 30 49.5 -0.2**
VTS PKPab **PKPab 06 30 59.1 -0.7**
VTS Vitosha 152.34 330 ⇑PKIKP **PKPbc 06 30 49.6 -0.2**
CLUD Cludinico 152.45 348 **PKPbc 06 30 48.7 -1.0**
CRES Cresnjev 152.46 344 *e*P **PKPbc 06 30 48.8 -0.9**
LJU Ljubljana 152.49 345 *i* PKPbc **PKPbc 06 30 49.2 -0.6**
CRNS Crni Vrh 152.51 346 *i* PKPdf **PKPdf 06 30 42.3 -0.6**
CRNS *i* PKPbc **PKPbc 06 30 49.0 -0.9**
DIVS Divibare 152.53 336 **PKPbc 06 30 49.9 -0.1**
DIVS PKPab **PKPab 06 31 01.1 +0.6**
DIVS Divibare 152.53 336 *e*P **PKPbc 06 30 49.2 -0.8**
STAL STALIGIAL 152.67 348 **PKPdf 06 30 42.6 -0.6**
STAL PKPbc **PKPbc 06 30 49.2 -1.0**
FUORN Ofenpass-Fuorn 152.72 352 **PKPbc 06 30 50.6 0.0**
SABO M.te Sabotino 152.76 347 **PKPbc 06 30 50.0 -0.5**
A051A Mrakovica 152.79 341 *e*P **PKPbc 06 30 49.6 -1.0**
CEY Cerknica 152.80 345 *e*P **PKPbc 06 30 49.7 -0.8**
HAPS Han Pijesak,BI 152.93 337 *e*P **PKPbc 06 30 50.7 -0.3**
BLY Banja Luka 152.94 340 *e*P **PKPbc 06 30 50.8 0.0**
BBLS Lazi?i 152.95 336 *e*P **PKPbc 06 30 49.0 -2.0**
RUDO Rudo 153.17 336 *e*P **PKPbc 06 30 50.2 -1.2**
SENIN Lac Senin/Sane 153.27 356 **PKPbc 06 30 51.9 +0.2**
A050A Klekovaca 153.38 341 *e*P **PKPbc 06 30 50.7 -1.2**
TREB Trebinje 154.33 337 *e*P **PKPbc 06 30 52.7 -1.2**
ESDC Sonseca Array 158.62 19 PKP **PKPdf 06 30 51.4 +0.1**
comp=Z,1.1nm,1.0s,baz=352,slow=1.3,SNR=4.6
ESDC PKPab **PKPab 06 31 27.2 +0.6**
comp=Z,1.7nm,0.8s,baz=330,slow=4.0,SNR=9.1

ROM 27 06:28:41.2±0.1, 42°540N±0'.004×13°233E±0'.005, h11km, ML1.4/13, 10C-5D, Error ellipse: s-maj=0.4km s-min=0.3km az=219.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.12**	**40**	⇑P		Pg	06 28 44.9	+0.6
SMA1					S	Sg	06 28 47.2	+0.8
SMA1					AML	AML		
	comp=N,584μm,0.5s							
SMA1					AML	AML		
	comp=E,397μm,0.2s							
CAMP	**Campotosto**	**0.13**	**92**	⇑P		Pg	06 28 45.0	+0.6
CAMP					S	Sg	06 28 47.3	+0.6
CAMP					AML	AML		
	comp=E,108μm,0.7s							
CAMP					AML	AML		
	comp=N,112μm,0.6s							
LNSS	**Leonessa**	**0.16**	**294**	⇑P		Pg	06 28 45.3	+0.5
LNSS					S	Sg	06 28 48.0	+0.6

LNSS					AML	AML		
	comp=E,184μm,0.4s							
LNSS					AML	AML		
	comp=N,598μm,0.5s							
T1218	**Civita (PG)**	**0.16**	**326**	⇑P	Pg		06 28 45.3	+0.4
T1218				S	Sg		06 28 48.0	+0.6
T1218				AML	AML			
	comp=E,173μm,0.5s							
T1218				AML	AML			
	comp=N,313μm,0.3s							
T1218				AML	AML			
	comp=E,316μm,0.1s							
T1218				AML	AML			
	comp=E,326μm,0.1s							
T1218				AML	AML			
	comp=N,296μm,0.3s							
T1243	**Rocca Santa Ma**	**0.22**	**45**	⇑P	Pg		06 28 46.4	+0.5
T1243				S	Sg		06 28 50.2	+1.0
AQU	**L'Aquila**	**0.22**	**146**	P	Pb		06 28 46.9	-0.5
AQU				AML	AML			
	comp=E,80μm,0.5s							
AQU				AML	AML			
	comp=N,87μm,1.2s							
GIGS	**Gran Sasso**	**0.26**	**110**	P	Pg		06 28 47.2	+0.5
GIGS				S	Sg		06 28 51.2	+0.9
GIGS				AML	AML			
	comp=E,22μm,0.5s							
GIGS				AML	AML			
	comp=N,18μm,0.7s							
T1211	**Morro Reatino**	**0.28**	**269**	⇓P	Pg		06 28 47.4	+0.4
T1211				AML	AML			
	comp=E,30600μm,1.3s							
T1211				AML	AML			
	comp=N,1655μm,1.1s							
FIAM	**Fiamignano**	**0.28**	**198**	⇑P	Pg		06 28 47.5	+0.5
FIAM				S	Sb		06 28 52.2	-1.0
FIAM				AML	AML			
	comp=E,78μm,0.4s							
FIAM				AML	AML			
	comp=N,71μm,0.7s							
TERO	**Teramo**	**0.29**	**73**	⇑P	Pg		06 28 47.4	+0.4
TERO				S	Sg		06 28 52.0	+1.0
TERO				AML	AML			
	comp=E,93μm,0.9s							
TERO				AML	AML			
	comp=N,84μm,1.1s							
NRCA	**Norcia**	**0.31**	**343**	⇓P	Pg		06 28 47.9	+0.4
NRCA				S	Sg		06 28 52.6	+1.0
NRCA				AML	AML			
	comp=N,370μm,0.1s							
NRCA				AML	AML			
	comp=E,484μm,0.4s							
T1241	**Roccafluvione,**	**0.35**	**25**	P	Pg		06 28 48.6	+0.3
T1241				S	Sb		06 28 54.0	-1.1
T1241				AML	AML			
	comp=E,43μm,0.3s							
T1241				AML	AML			
	comp=N,41μm,1.5s							
T1241				AML	AML			
	comp=N,88μm,0.8s							
T1241				AML	AML			
	comp=E,84μm,0.2s							
MMO1	**Montemonaco**	**0.37**	**11**	⇑P	Pg		06 28 49.0	+0.5
MMO1				S	Sb		06 28 54.8	-0.9
MC2	**Monte Cornacci**	**0.37**	**355**	⇑P	Pg		06 28 49.2	+0.5
MC2				S	Sb		06 28 55.4	-0.6
T1215	**Vallo di Nera,**	**0.38**	**314**	⇑P	Pg		06 28 49.1	+0.3
T1215				AML	AML			
	comp=E,54μm,1.4s							
T1215				AML	AML			
	comp=N,65μm,0.1s							
T1216	**Preci, Frazion**	**0.39**	**336**	⇓P	Pg		06 28 49.3	+0.4
T1216				S	Sb		06 28 55.4	-0.8
T1216				AML	AML			
	comp=N,94μm,0.9s							
T1216				AML	AML			
	comp=E,72μm,0.5s							
T1256	**Bolognola (MC)**	**0.47**	**359**	P	Pb		06 28 51.2	-0.4
T1256				AML	AML			
	comp=E,40μm,1.2s							
T1256				AML	AML			
	comp=N,43μm,0.5s							
VCEL	**Villa Celiera**	**0.47**	**108**	⇓P	Pb		06 28 51.6	0.0
VCEL				AML	AML			
	comp=E,73μm,0.8s							
VCEL				AML	AML			
	comp=N,73μm,1.2s							
FDMO	**Fiordimonte**	**0.51**	**348**	P	Pg		06 28 51.5	+0.4
FDMO				S	Sb		06 28 60.0	+0.3
FDMO				AML	AML			
	comp=N,28μm,0.5s							
FDMO				AML	AML			
	comp=E,29μm,0.3s							
T1219	**Muccia, Frazio**	**0.54**	**342**	⇓P	Pg		06 28 52.0	+0.2
T1219				S	Sb		06 29 01.0	+0.3
T1219				AML	AML			
	comp=E,54μm,0.2s							
T1219				AML	AML			
	comp=N,83μm,0.1s							
CSP1	**Cessapalombo**	**0.55**	**358**	P	Pg		06 28 52.2	+0.2
CSP1				S	Sb		06 29 02.0	+1.0
ASSB	**Assisi San Ben**	**0.66**	**320**	S	Sb		06 29 05.0	+1.0
FRON	**Frontone**	**1.05**	**339**	S	Sg		06 29 14.0	-1.0

*ISK **27** 06:29:25.3, 39°.33N×27°.65E, h5km, ML2.4/15*
*DDA **27** 06:29:25.3±0.0, 39°.32N×27°.62E, h14km±1km, ML1.8*
ISC 27 06:29:25.6±0.9, **39°.32N**±0°.02×**27°.63E**±0°.03, **h14**km±6km, **n22**, σ0**§38**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.09**	**51**	P	**Pg**	**06 29 28.6**	**-0.1**
STEP				S	**Sg**	**06 29 30.8**	**+0.1**
BALY	**Balya**	**0.42**	**359**	P	**Pg**	**06 29 33.5**	**-0.5**
BALY				*i* AML	AML	06 29 39.0	
	comp=E,237nm,0.6s						
BALY				S	**Sg**	**06 29 39.8**	**+0.1**
BALY				*i* AML	AML	06 29 40.0	
	comp=N,180nm,0.5s						
AKHS	**Akhisar**	**0.46**	**162**	P	**Pg**	**06 29 35.0**	**+0.2**
AKHS				S	**Sb**	**06 29 41.7**	**-0.6**
AKHS				*i* AML	AML	06 29 44.0	
	comp=E,95nm,0.5s						
AKS	**Akhisar**	**0.46**	**162**	PG	**Pb**	**06 29 35.1**	**-0.5**
AKS				SG	**Sb**	**06 29 41.8**	**-0.5**
BUHA	**Balikesir, Bur**	**0.46**	**293**	P	**Pb**	**06 29 35.0**	**-0.5**
BUHA				*i* AML	AML	06 29 41.0	
	comp=N,47nm,0.5s						
BUHA				*i* AML	AML	06 29 41.0	
	comp=E,60nm,0.3s						
BUHA				S	**Sb**	**06 29 41.7**	**-0.6**
ZEDA	**zmir-Bergama**	**0.56**	**231**	P	**Pg**	**06 29 36.5**	**0.0**
ZEDA				S	**Sb**	**06 29 44.5**	**-0.4**
ZEDA				*i* AML	AML	06 29 45.0	
	comp=E,41nm,0.5s						
ZEDA				*i* AML	AML	06 29 46.0	
	comp=N,50nm,0.2s						
GONE	**Gonen-Balikesi**	**0.73**	**3**	PG	**Pg**	**06 29 39.6**	**-0.1**
GONE				SG	**Sb**	**06 29 49.9**	**0.0**
AYVA	**Ayvalik**	**0.73**	**269**	P	**Pb**	**06 29 40.0**	**-0.1**
AYVA				S	**Sb**	**06 29 50.1**	**+0.3**
AYVA				*i* AML	AML	06 29 52.0	
	comp=N,79nm,0.2s						
AYVA				*i* AML	AML	06 29 53.0	
	comp=E,44nm,0.3s						
FOCM	**Foa**	**0.93**	**229**	PG	**Pb**	**06 29 43.7**	**+0.3**
EDC	**Edincik**	**1.04**	**10**	PG	**Pb**	**06 29 45.4**	**0.0**
BLCB	**Balcova**	**1.04**	**206**	PG	**Pb**	**06 29 45.6**	**+0.2**
SIMA	**Simav-Kutahya**	**1.08**	**102**	PG	**Pb**	**06 29 46.3**	**+0.2**
SIMA				SG	**Sn**	**06 30 01.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.10**	**347**	PN	**Pn**	**06 29 46.7**	**+0.1**
EZN	**Ezine**	**1.13**	**297**	PN	**Pn**	**06 29 47.8**	**+0.9**
KULA	**Kula-Manisa**	**1.14**	**135**	PN	**Pn**	**06 29 47.5**	**+0.3**
LPK	**Lapseki**	**1.25**	**328**	PN	**Pg**	**06 29 49.5**	**-0.1**
BOZC	**Bozcaada**	**1.32**	**294**	PN	**Pg**	**06 29 51.1**	**0.0**
SIGR	**SIGRI**	**1.38**	**266**	PN	**Pg**	**06 29 52.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.39**	**171**	PN	**Pg**	**06 29 51.9**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.40**	**321**	PN	**Pg**	**06 29 51.9**	**-0.5**
CHOS	**Chios island**	**1.54**	**233**	PN	**Pg**	**06 29 54.7**	**-0.5**
GADA	**Gvkgeada**	**1.59**	**304**	PN	**Pb**	**06 29 54.8**	**0.0**

WEL 27 06:31:50.9±0.3, **42°S**±3°×**17°4E**±°, **h12**km, **M3.8**/40,
ML4.0/23, **MLv3.8**/40, **Error ellipse: s-maj=0.0km s-min=0.0km az=154.5, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.19**	**244**	P	Pg	06 31 55.6	+0.6
CMWZ				S	Sg	06 32 00.0	+2.0
BSWZ	**Blackbirch Sta**	**0.43**	**263**	P	Pb	06 31 59.9	-0.5
BSWZ				S	Sb	06 32 06.4	-0.4
TUWZ	**Tuamarina**	**0.44**	**302**	P	Pb	06 32 00.4	-0.2
TUWZ				S	Sb	06 32 07.1	-0.1
WEL	**Wellington**	**0.45**	**33**	P	Pb	06 32 00.7	-0.1
TCW	**Tory Channel**	**0.47**	**345**	P	Pb	06 32 01.0	-0.1
TCW				S	Sb	06 32 07.8	-0.2
PLWZ	**Palliser**	**0.62**	**81**	P	Pb	06 32 04.2	+0.6
MSWZ	**Moikau Station**	**0.66**	**68**	P	Pb	06 32 04.6	+0.3
CAW	**Cannon Point**	**0.73**	**40**	P	Pb	06 32 05.4	-0.1
PAWZ	**Paruwai Farm**	**0.79**	**69**	P	Pb	06 32 06.8	+0.2
KIW	**Kapiti Island**	**0.88**	**24**	P	Pb	06 32 08.0	0.0
NNZ	**Nelson**	**0.92**	**299**	P	Pb	06 32 08.7	0.0
MTW	**Mount Morrison**	**0.94**	**58**	P	Pb	06 32 09.2	0.0
DUWZ	**D'Urville Isla**	**0.95**	**335**	P	Pb	06 32 09.4	+0.1
TRWZ	**Traveller**	**0.97**	**74**	P	Pg	06 32 09.2	-0.4
KHZ	**Kahutara**	**1.01**	**222**	P	Pb	06 32 09.3	-1.0
OGWZ	**Otaki Gorge**	**1.01**	**33**	P	Pb	06 32 10.2	-0.1
HOWZ	**Holdsworth Sta**	**1.11**	**47**	P	Pb	06 32 11.7	-0.4
THZ	**Tophouse**	**1.16**	**265**	P	Pb	06 32 12.7	-0.1
THZ				S	Sn	06 32 29.1	+0.4
TMWZ	**Te Maipa**	**1.22**	**63**	P	Pn	06 32 12.5	-1.3
TKNZ	**Takaka Hill**	**1.28**	**299**	P	Pb	06 32 14.9	0.0
MRNZ	**Matariki Terra**	**1.29**	**281**	P	Pn	06 32 14.9	+0.2
MRZ	**Mangatainoka R**	**1.32**	**41**	P	Pn	06 32 14.7	-0.4
TIWZ	**Tintock**	**1.41**	**51**	P	Pn	06 32 15.2	-1.2
CPWZ	**Castlepoint**	**1.52**	**61**	P	Pb	06 32 19.1	0.0
OHWZ	**Ohakea**	**1.60**	**25**	P	Pb	06 32 20.4	0.0
PRWZ	**Pori Road**	**1.60**	**47**	P	Pn	06 32 18.1	-0.9
POWZ	**Post Office Ro**	**1.62**	**39**	P	Pn	06 32 18.7	-0.6
GVZ	**Greta Valley S**	**1.67**	**218**	P	Pn	06 32 20.0	0.0
QRZ	**Quartz Range**	**1.67**	**300**	P	Pb	06 32 21.2	-0.3
BFZ	**Birch Farm**	**1.68**	**55**	P	Pn	06 32 18.5	-1.6
DVHZ	**Dannevirke**	**1.89**	**44**	P	Pn	06 32 21.5	-1.4
WAZ	**Wanganui**	**1.95**	**12**	P	Pb	06 32 25.9	-0.5
LTZ	**Lake Taylor**	**1.96**	**235**	P	Pn	06 32 23.0	-1.0
TSZ	**Takapari Road**	**1.98**	**36**	P	Pn	06 32 23.4	-0.8
DSZ	**Denniston Nort**	**1.98**	**267**	P	Pb	06 32 25.6	-1.2
PRHZ	**Porangahau**	**2.17**	**51**	P	Pn	06 32 25.0	-1.9
PNHZ	**Pukenui**	**2.20**	**38**	P	Pn	06 32 26.3	-1.0
WPHZ	**Waipukurau**	**2.20**	**44**	P	Pn	06 32 26.0	-1.3
LREZ	**Lake Rotokare**	**2.20**	**359**	P	Pb	06 32 31.5	+0.8
NMEZ	**Namu Road**	**2.29**	**349**	P	Pb	06 32 32.9	+0.7
OKCZ	**Okains Bay**	**2.29**	**206**	P	Pn	06 32 25.6	-3.0
KHEZ	**Kahui Hut**	**2.39**	**352**	P	Pb	06 32 33.4	-0.6
NEZ	**North Egmont**	**2.41**	**354**	P	Pb	06 32 33.8	-0.4
MTVZ	**Mangateitei**	**2.41**	**19**	P	Pb	06 32 35.3	+1.0
MQZ	**McQueen's Vall**	**2.43**	**212**	P	Pn	06 32 24.8	-5.5
NBEZ	**Newall Road No**	**2.44**	**349**	P	Pb	06 32 33.3	-1.3
MOVZ	**Moawhango**	**2.47**	**24**	P	Pn	06 32 30.9	0.0
PKVZ	**Pokaka**	**2.47**	**16**	P	Pb	06 32 34.5	-0.8
DREZ	**Durham Road**	**2.48**	**356**	P	Pn	06 32 30.4	-0.7
PKE	**Pukeiti**	**2.49**	**352**	P	Pb	06 32 35.0	-0.6
WNVZ	**Wahianoa**	**2.50**	**21**	P	Pn	06 32 32.1	+0.6
BHHZ	**Black Hill Sta**	**2.50**	**30**	P	Pn	06 32 31.3	-0.1
TRVZ	**Turoa**	**2.51**	**20**	P	Pn	06 32 32.7	+1.0
WHVZ	**Whangaehu Hut**	**2.54**	**21**	P	Pn	06 32 32.8	+0.7
DRZ	**Dome Shelter**	**2.54**	**20**	P	Pb	06 32 34.7	-1.8
VRZ	**Vera Road**	**2.55**	**6**	P	Pn	06 32 33.9	+1.9
FWVZ	**Far West T-bar**	**2.55**	**20**	P	Pn	06 32 33.5	+1.2
TUVZ	**Tukino**	**2.57**	**21**	P	Pn	06 32 33.0	+0.6
NGZ	**Ngauruhoe**	**2.64**	**20**	P	Pn	06 32 34.5	+1.0
SNVZ	**South Ngauruho**	**2.64**	**21**	P	Pb	06 32 38.6	+0.4
OTVZ	**Oturere**	**2.67**	**21**	P	Pn	06 32 34.6	+0.8
NNVZ	**North Ngauruho**	**2.69**	**20**	P	Pn	06 32 35.1	+1.1
WTVZ	**West Tongariro**	**2.69**	**19**	P	Pn	06 32 35.2	+1.0
TWVZ	**Taurewa**	**2.70**	**17**	P	Pn	06 32 34.4	+0.2
ETVZ	**East Tongariro**	**2.71**	**21**	P	Pn	06 32 35.0	+0.7
TMVZ	**Te Maari**	**2.72**	**21**	P	Pn	06 32 35.0	+0.4
KRVZ	**Karewarewa**	**2.73**	**20**	P	Pn	06 32 35.5	+0.9
NTVZ	**North Tongarir**	**2.73**	**21**	P	Pn	06 32 35.4	+0.7
KATZ	**Kakaramea**	**2.85**	**20**	P	Pb	06 32 40.2	-1.6
RITZ	**Rihia Road**	**2.90**	**22**	P	Pn	06 32 38.1	+1.3
RATZ	**Rangitukua**	**2.98**	**20**	P	Pb	06 32 43.1	-0.8
HIZ	**Hauiti**	**3.17**	**6**	P	Pn	06 32 42.2	+1.7
URZ	**Urewera**	**3.97**	**32**	P	Pn	06 32 49.8	-1.8
RUGZ	**Raukumara Rang**	**4.46**	**35**	P	Pn	06 32 55.9	-2.5
MKAZ	**Moumakai**	**4.59**	**7**	P	Pn	06 33 00.8	+0.7
AWAZ	**Awhitu Peninsu**	**4.60**	**2**	P	Pn	06 33 01.8	+1.7
HAZ	**Te Kaha**	**4.68**	**34**	P	Pn	06 32 59.0	-2.3
ETAZ	**East Tamaki Re**	**4.72**	**5**	P	Pn	06 33 03.4	+1.5

*IDC **27** 06:44:19.1±1.3, 25°.88S×179°.47E, h485km±14km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=20.2km s-min=18.3km az=162.0*
*NEIC **27** 06:44:20.1±1.6, 26°.05S±0°.1×179°.7E±0°.2, h503km±4km, mb4.2/16, Error ellipse: s-maj=23.0km s-min=16.3km az=79.0*
ISC 27 06:44:20.1±0.7, **25°.93S**±0°.09×**179°.6E**±0°.1, **h503**km, **n36**, σ1**§10**/37, **mb4.1**/16, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.98**	**147**	P	**P**	**06 45 38.6**	**+0.1**
	725nm,0.2s,baz=342,slow=23,SNR=12						
RAO	**Raoul Island**	**3.98**	**147**	P	**P**	**06 45 38.8**	**+0.3**
	comp=Z,1.6nm,0.6s						
MSVF	**Nonsavu**	**8.28**	**350**	P	**P**	**06 46 17.6**	**-2.2**
	18nm,0.8s,baz=172,slow=12,SNR=14						
MSVF	**Nonsavu**	**8.28**	**350**	P	**P**	**06 46 18.0**	**-1.7**
MXZ	**Matakaoa Point**	**11.65**	**185**	P	**P**	**06 46 54.6**	**-0.1**
DZM	**Mont Dzumac**	**12.61**	**285**	P	**P**	**06 47 05.7**	**+0.4**
	7.9nm,0.9s,baz=84,slow=16,SNR=4.4						
DZM	**Mont Dzumac**	**12.61**	**285**	P	**P**	**06 47 06.0**	**+0.7**
RTZ	**Ruatahuna**	**12.84**	**189**	P	**P**	**06 47 06.0**	**-1.5**
EIDS	**Eidsvold**	**25.68**	**265**	P	**P**	**06 49 09.8**	**+0.2**
EIDS				IAmb	IAmb	06 49 10.5	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**33.66**	**251**	P	**P**	**06 50 18.5**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=92,slow=8.2,SNR=4.4						
	comp=Z,1.6nm,0.6s						
STKA	**Stephens Creek**	**33.66**	**251**	P	**P**	**06 50 19.0**	**+0.4**
COEN	**Coen**	**36.12**	**282**	P	**P**	**06 50 40.0**	**+0.6**
COEN				IAmb	IAmb	06 50 40.4	
	comp=Z,7.8nm,0.8s						
BBOO	**Buckleboo**	**38.34**	**249**	P	**P**	**06 50 56.4**	**-1.0**
BBOO				IAmb	IAmb	06 51 24.5	
	comp=Z,9.2nm,1.3s						
AS31	**Alice Springs**	**41.37**	**263**	P	**P**	**06 51 21.8**	**-0.2**
AS31				IAmb	IAmb	06 51 22.6	
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**41.37**	**263**	P	**P**	**06 51 21.4**	**-0.6**
	comp=Z,7.9nm,0.8s,baz=104,slow=8.3,SNR=76						
ASAR				ScP	**ScP**	**06 56 13.1**	**+2.7**
	comp=Z,0.7nm,0.9s,baz=111,slow=5.0,SNR=4.6						
	comp=Z,7.9nm,0.8s						
ASAR	**Alice Springs**	**41.37**	**263**	P	**P**	**06 51 21.2**	**-0.8**
WR0	**Warramunga Arr**	**41.75**	**269**	P	**P**	**06 51 24.2**	**-0.8**
WR0				IAmb	IAmb	06 51 24.8	
	comp=Z,8.8nm,1.0s						
WB2	**Warramunga Arr**	**41.92**	**269**	P	**P**	**06 51 25.6**	**-0.8**
WB2				IAmb	IAmb	06 51 26.2	
	comp=Z,8.9nm,0.7s						
WRA	**Warramunga Arr**	**41.93**	**269**	P	**P**	**06 51 25.4**	**-1.1**
	comp=Z,7.2nm,0.7s,baz=106,slow=7.7,SNR=68						
WRA				ScP	**ScP**	**06 56 16.1**	**+3.4**
	comp=Z,1.5nm,1.1s,baz=100,slow=3.8,SNR=6.5						
	comp=Z,7.2nm,0.7s						
WRA	**Warramunga Arr**	**41.93**	**269**	P	**P**	**06 51 25.5**	**-0.9**
WB0	**Warramunga Arr**	**41.94**	**269**	P	**P**	**06 51 25.6**	**-0.9**
FORT	**Forrest**	**45.28**	**251**	P	**P**	**06 51 51.7**	**-0.6**
MTN	**Manton Dam**	**47.27**	**276**	P	**P**	**06 52 06.9**	**-0.8**
MTN				IAmb	IAmb	06 52 13.4	
	comp=Z,4.5nm,0.8s						
KNRA	**Kununurra**	**48.34**	**272**	P	**P**	**06 52 15.6**	**-0.1**
VNDA	**Vanda**	**52.33**	**185**	P	**P**	**06 52 43.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=346,slow=5.9,SNR=3.9						
	comp=Z,0.4nm,0.8s						
VNDA	**Vanda**	**52.33**	**185**	P	**P**	**06 52 44.1**	**+0.1**
QSPA	**South Pole Qui**	**64.16**	**180**	P	**P**	**06 54 04.5**	**+0.1**
BELA	**Belgrano 2**	**74.47**	**173**	P	**P**	**06 55 05.5**	**-0.6**
BELA				IAmb	IAmb	06 55 05.6	
	comp=Z,3.7nm,0.6s						
MAW	**Mawson**	**75.72**	**201**	P	**P**	**06 55 13.8**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=155,slow=6.9,SNR=6.5						
MAW	**Mawson**	**75.72**	**201**	P	**P**	**06 55 13.9**	**+0.7**
KSRS	**Korea Array**	**79.56**	**321**	P	**P**	**06 55 35.0**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=140,slow=6.9,SNR=4.5						
	comp=Z,1.1nm,0.7s						
TROLL	**Troll, Antarti**	**82.30**	**181**	P	**P**	**06 55 47.5**	**-0.8**
VNA3	**Neumayer Olymp**	**82.88**	**177**	P	**P**	**06 55 50.0**	**-1.0**
NVAR	**Mina Array Bea**	**86.47**	**44**	P	**P**	**06 56 10.2**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=218,slow=6.6,SNR=5.7						
	comp=Z,1.4nm,0.9s						
TXAR	**Lajitas Array**	**91.82**	**58**	P	**P**	**06 56 34.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=202,slow=6.2,SNR=4.5						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**144.45**	**348**	PKP	PKPbc	07 02 57.1	-1.0
	comp=Z,10nm,1.1s,baz=68,slow=3.2,SNR=7.9						

WEL 27 06:46:10.7±0.5, **42°S**±3°×**17°4E**±°, **h10**km±3km, **M2.2**/12, **ML2.4**/13, **MLv2.2**/12, **Error ellipse: s-maj=0.0km s-min=0.0km az=153.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.14**	**310**	P	Pb	06 46 14.8	-0.6
BSWZ				S	Sg	06 46 17.7	+1.5
CMWZ	**Cape Campbell**	**0.16**	**68**	P	Pb	06 46 15.2	-0.5
CMWZ				S	Sg	06 46 19.0	+2.4
TUWZ	**Tuamarina**	**0.38**	**351**	P	Pb	06 46 18.9	-0.6
TCW	**Tory Channel**	**0.63**	**18**	P	Pg	06 46 22.9	0.0
KHZ	**Kahutara**	**0.71**	**210**	P	Pb	06 46 25.4	+0.3
NNZ	**Nelson**	**0.76**	**321**	P	Pg	06 46 25.6	+0.2
WEL	**Wellington**	**0.77**	**47**	P	Pb	06 46 26.0	-0.1
THZ	**Tophouse**	**0.83**	**273**	P	Pb	06 46 27.2	-0.1
PLWZ	**Palliser**	**0.95**	**76**	P	Pg	06 46 28.6	-0.5
MSWZ	**Moikau Station**	**1.00**	**67**	P	Pg	06 46 29.3	-0.6
DUWZ	**D'Urville Isla**	**1.01**	**356**	P	Pg	06 46 29.7	-0.4
CAW	**Cannon Point**	**1.05**	**49**	P	Pg	06 46 30.7	-0.2
OGWZ	**Otaki Gorge**	**1.31**	**42**	P	Pn	06 46 34.4	-0.7
MRZ	**Mangatainoka R**	**1.64**	**46**	P	Pn	06 46 37.4	-2.2
DVHZ	**Dannevirke**	**2.21**	**48**	P	Pn	06 46 45.4	-2.2

*NOU **27** 06:46:44.8, 42°.51S×173°.54E, h5km, MLv4.2/10, South Island, New Zealand*
*WEL **27** 06:46:45.8±0.3, 42°S±2°×17°4E±°, h8km±3km, M3.7/32, ML4.0/14, MLv3.7/32, Error ellipse: s-maj=0.0km s-min=0.0km az=124.0*
ISC 27 06:46:44.0±1.0, **42°.49S**±0°.03×**173°.64E**±0°.04, **h12**km±7km, **n67**, σ1**§16**/71, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.11**	**313**	P	**Pg**	**06 46 47.3**	**+0.4**
KHZ	**Kahutara**	**0.11**	**313**	P	**Pg**	**06 46 47.4**	**+0.5**
KHZ				S	**Sg**	**06 46 48.9**	**-0.1**
GVZ	**Greta Valley S**	**0.66**	**223**	P	**Pn**	**06 46 59.9**	**+0.7**
GVZ				S	**Sn**	**06 47 10.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.79**	**13**	P	**Pb**	**06 46 59.7**	**0.0**
CMWZ	**Cape Campbell**	**0.85**	**30**	P	**Pn**	**06 47 02.3**	**+0.4**
THZ	**Tophouse**	**0.91**	**323**	P	**Pg**	**06 47 01.0**	**-0.6**
THZ				S	**Sg**	**06 47 12.6**	**-0.9**
AMCZ	**Amberley**	**1.00**	**226**	P	**Pn**	**06 47 04.9**	**+1.0**
LTZ	**Lake Taylor**	**1.05**	**253**	P	**Pn**	**06 47 05.3**	**+0.6**
TUWZ	**Tuamarina**	**1.08**	**12**	P	**Pn**	**06 47 05.2**	**+0.2**
TUWZ				S	**Sg**	**06 47 18.9**	**+0.1**
MRNZ	**Matariki Terra**	**1.27**	**328**	P	**Pn**	**06 47 07.6**	**0.0**
NNZ	**Nelson**	**1.28**	**351**	P	**Pn**	**06 47 07.7**	**-0.1**
OKCZ	**Okains Bay**	**1.31**	**199**	P	**Pg**	**06 47 09.0**	**-0.1**
TCW	**Tory Channel**	**1.36**	**21**	P	**Pn**	**06 47 08.9**	**+0.1**
MQZ	**McQueen's Vall**	**1.42**	**210**	P	**Pn**	**06 47 09.5**	**-0.1**
SNZO	**South Karori**	**1.42**	**34**	P	**Pg**	**06 47 11.8**	**+0.6**
OXZ	**Oxford**	**1.45**	**234**	P	**Pn**	**06 47 09.9**	**-0.1**
WEL	**Wellington**	**1.47**	**35**	P	**Pb**	**06 47 10.7**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.48**	**201**	P	**Pb**	**06 47 11.0**	**-0.5**
PLWZ	**Palliser**	**1.51**	**53**	P	**Pn**	**06 47 11.3**	**+0.4**
TKNZ	**Takaka Hill**	**1.54**	**340**	P	**Pb**	**06 47 12.0**	**-0.4**
DSZ	**Denniston Nort**	**1.56**	**298**	P	**Pn**	**06 47 12.1**	**+0.5**
MSWZ	**Moikau Station**	**1.61**	**49**	P	**Pn**	**06 47 12.2**	**0.0**
INZ	**Inchbonnie**	**1.64**	**261**	P	**Pn**	**06 47 13.4**	**+0.7**
RACZ	**Rakaia**	**1.66**	**221**	P	**Pn**	**06 47 13.0**	**+0.1**
DUWZ	**D'Urville Isla**	**1.70**	**7**	P	**Pn**	**06 47 14.1**	**+0.7**
PAWZ	**Paruwai Farm**	**1.73**	**51**	P	**Pn**	**06 47 13.8**	**-0.1**
CAW	**Cannon Point**	**1.74**	**38**	P	**Pn**	**06 47 14.1**	**0.0**
MHCZ	**Mount Hutt**	**1.85**	**235**	P	**

MSVF Nonsavu 3.36 273 P P 06 50 55.6 +1.8
FUTU Fugatoga 3.64 5 P P 06 50 57.1 +1.5
AFI Afiamalu 7.56 59 P P 06 51 26.0 -2.0
351nm,0.8s,baz=356,slow=4.0,SNR=33
AFI S S 06 52 57.0 -5.2
130nm,0.6s,baz=26,slow=19,SNR=5.0
AFI Afiamalu 7.56 59 P P 06 51 26.1 -1.9
NIUE Niue 8.14 99 P P 06 51 33.4 0.0
FUNA Funafuti 9.65 346 P P 06 51 47.7 -0.6
RAO Raoul Island 11.26 178 S S 06 54 04.7 -3.5
639nm,0.5s,baz=80,slow=22,SNR=6.7
DVP Devils Point 12.75 269 P P 06 52 19.1 -0.2
MARNC Mare, Loyalty 13.22 252 P P 06 52 22.4 -1.7
LIFNC LIFOU 13.81 256 P P 06 52 28.2 -1.9
LIFNC LIFOU 13.81 256 P P 06 52 29.0 -1.1
YATNC Mamie plateau, 14.39 251 P P 06 52 35.3 -0.4
OUENC Ouen Island, N 14.52 250 P P 06 52 35.3 -1.6
OUENC Ouen Island, N 14.52 250 P P 06 52 36.6 -0.3
DZM Mont Dzumac 14.79 251 ePn P 06 52 38.8 -0.8
267nm,1.6s
DZM eS S 06 55 08.2 -3.8
2µm,24.1s
DZM Mont Dzumac 14.79 251 P P 06 52 38.8 -0.8
27nm,0.5s,baz=124,slow=8.5,SNR=58
DZM Mont Dzumac 14.79 251 P P 06 52 39.2 -0.3
DZM Mont Dzumac 14.79 251 P P 06 52 39.5 -0.1
ONTNC Ouen Toro 14.84 251 P P 06 52 40.1 +0.2
ONTNC Ouen Toro 14.84 251 P P 06 52 40.4 +0.5
KOUNC Koumac, New Ca 16.52 258 P P 06 52 56.4 +1.0
KOUNC Koumac, New Ca 16.52 258 P P 06 52 56.6 +1.2
OUZ Omahuta 18.60 201 P P 06 53 16.9 +2.7
OUZ Omahuta 18.60 201 P P 06 53 16.1 +1.9
KUZ Kuaotunu 19.42 194 P P 06 53 22.9 +1.4
HIZ Hauiti 21.31 195 P P 06 53 38.8 +0.2
OXZ Oxford 26.55 196 P P 06 54 23.8 -1.1
PAE Paea 27.46 94 eT T 07 19 54.9
3.8nm,0.3s
PPT2 Papeete2 27.47 94 eS S 06 58 36.0 +2.2
151nm,25.0s
PPT2 Papeete2 27.47 94 eT T 07 19 56.4
2.0nm,0.2s
TBI Tubuai 27.61 106 eS S 06 58 37.9 +2.2
587nm,35.0s
TBI Tubuai 27.61 106 eT T 07 19 59.3
7.7nm,0.3s
LBZ Lake Benmore 28.04 198 P P 06 54 36.0 -1.9
JCZ Jackson Bay 28.18 200 P P 06 54 38.1 -1.1
140nm,1.3s
ODZ Otahua Downs 28.52 196 P P 06 54 40.4 -1.6
EIDS Eidsvold 29.23 250 P P 06 54 48.0 -0.5
EIDS Eidsvold 29.23 250 P P 06 54 47.8 -0.7
MLZ Mavora Lakes 29.55 199 P P 06 54 51.4 +0.4
ARMA Armidale 29.90 240 P P 06 54 55.0 +0.7
ARMA Armidale 29.90 240 P P 06 54 54.9 +0.6
MGCD Mangrove Creek 31.25 235 P P 06 55 06.5 +0.8
RMQ Roma 31.47 248 P P 06 55 08.1 +0.4
RABL Rabaul 31.86 292 P P 06 55 09.7 -1.5
RABL Rabaul 31.86 292 P P 06 55 09.6 -1.5
KRVT Keravat (AS076 31.93 292 P P 06 55 10.9 -0.9
208nm,0.6s,baz=322,slow=2.4,SNR=4.3
208nm,0.6s
TV1H Townsville Har 32.95 262 P P 06 55 19.8 -0.5
CNB Canberra Magne 33.38 232 P P 06 55 24.5 +0.7
CTA Charters Tower 33.42 261 P P 06 55 23.8 -0.4
CAN Canberra 33.66 233 P P 06 55 26.7 +0.6
CAN Canberra 33.66 233 P P 06 55 26.5 +0.4
CAN Canberra 33.66 233 P P 06 55 26.2 +0.2
CAN pP pP 06 57 03.5 +1.3
PATS Pohnpei 33.68 315 P P 06 55 27.1 +0.7
MILA Mila 34.24 230 P P 06 55 31.3 +0.4
PMG Port Moresby 34.45 280 P P 06 55 33.5 +0.6
274nm,0.8s,baz=76,slow=5.9,SNR=94
274nm,0.8s
PMG Port Moresby 34.45 280 P P 06 55 33.8 +0.9
PMG Port Moresby 34.45 280 P P 06 55 33.2 +0.4
PMG Port Moresby 34.45 280 P P 06 55 33.3 +0.4
PMG Port Moresby 34.45 280 P P 06 55 33.4 +0.6
CMSA Cobar Meteorol 35.11 240 P P 06 55 37.9 -0.2
QLP Quilpie 35.50 249 P P 06 55 41.2 -0.2
JOHN Johnston Islan 35.56 15 P P 06 55 41.9 0.0
GLAD Gladstone 36.80 224 P P 06 55 52.0 +0.1
COEN Coen 37.09 270 P P 06 55 55.0 +0.5
COEN Coen 37.09 270 P P 06 55 55.1 +0.5
MANU Manus Island 37.10 291 P P 06 55 55.5 +0.8
TOO Toolangi 37.12 231 P P 06 55 55.4 +0.8
TOO Toolangi 37.12 231 P P 06 55 54.9 +0.2
TAU Tasmania Unive 38.19 222 P P 06 56 03.6 +0.4
TAU Tasmania Unive 38.19 222 P P 06 56 03.1 0.0
TAOE Nuku Hiva Isla 38.25 81 P P 06 56 05.1 +0.9
TAOE Nuku Hiva Isla 38.25 81 P P 06 56 04.6 +0.4
BRAT Ballarat 38.27 232 P P 06 56 05.0 +1.1
STKA Stephens Creek 38.59 241 P P 06 56 07.1 +0.5
46nm,0.5s,baz=92,slow=10,SNR=183
46nm,0.5s
STKA Stephens Creek 38.59 241 P P 06 56 07.1 +0.5
STKA IAmb IAmb 06 56 08.3
comp=Z,63nm,1.5s
STKA Stephens Creek 38.59 241 P P 06 56 07.0 +0.5
INKA Innaminka 38.71 248 P P 06 56 08.4 +0.8
ARPS Mount Arapiles 39.61 234 P P 06 56 14.5 -0.1
QIS Mount Isa 39.63 259 P P 06 56 14.1 -1.0
HTT Hallett 41.12 240 P P 06 56 26.6 -0.1
LCRK Leigh Creek 41.22 244 P P 06 56 27.3 -0.2
WHYH Whyalla 42.14 240 P P 06 56 35.0 +0.3
OOD Oodnadatta 43.18 248 P P 06 56 43.5 +0.6
GENI Genyem 43.36 286 P P 06 56 44.4 -0.1
comp=Z,11µmcomp=Z,482nm,0.6s
GENI Genyem 43.36 286 P P 06 56 45.4 +0.9
BBOO Buckleboo 43.37 241 P P 06 56 44.3 0.0
BBOO Buckleboo 43.37 241 P P 06 56 44.3 0.0
KHLU Kahalu`u 43.38 32 P P 06 56 45.0 +0.4
HMH Humu'ula Sheep 43.60 32 P P 06 56 47.0 +0.5
POHA Pohakuloa 43.70 32 P P 06 56 47.4 +0.2
POHA Pohakuloa 43.70 32 P P 06 56 47.1 -0.1
POHA sP sP 06 59 33.1 -2.7
HPAH Hawaii Prepara 43.85 32 P P 06 56 48.6 +0.4
WR0 Warramunga Arr 44.41 260 P P 06 56 51.5 -1.1
WR0 IAmb IAmb 06 56 52.7
comp=Z,53nm,0.8s
WB0 Warramunga Arr 44.57 260 P P 06 56 53.0 -0.8
WB2 Warramunga Arr 44.59 260 P P 06 56 52.9 -1.1
WRAB Tennant Creek 44.59 260 P P 06 56 52.9 -1.0
WRAB Tennant Creek 44.59 260 P P 06 56 53.1 -0.8
WRAB Tennant Creek 44.59 260 P P 06 56 52.8 -1.2
WB1 Warramunga Ar. 44.60 260 P P 06 56 53.1 -0.9
WRA Warramunga Arr 44.60 260 P P 06 56 52.7 -1.4
comp=Z,86nm,0.5s,baz=95,slow=7.1,SNR=1137
comp=Z,86nm,0.5s
WRA Warramunga Arr 44.60 260 P P 06 56 53.0 -1.1
AS01 Alice Springs 44.72 254 P P 06 56 54.7 -0.2
AS31 Alice Springs 44.76 254 P P 06 56 54.7 -0.5
ASAR Alice Springs 44.76 254 P P 06 56 54.8 -0.4
comp=Z,428nm,0.5s,baz=88,slow=8.5,SNR=6071
ASAR PcP PcP 06 58 24.0 -0.4
comp=Z,14nm,0.5s,baz=92,slow=5.7,SNR=4.5
ASAR pP pP 06 58 40.0 +0.8
comp=Z,14nm,0.9s,baz=85,slow=8.6,SNR=3.0
ASAR ScP ScP 07 01 22.1 +1.3
comp=Z,4.9nm,1.0s,baz=98,slow=4.8,SNR=3.2
ASAR S S 07 02 47.3 -2.9
comp=Z,6.0nm,0.7s,baz=89,slow=15,SNR=17
MULG Mulgathing 44.77 245 P P 06 56 55.1 -0.1
SMPI Sarmi 44.93 286 P P 06 56 56.0 -0.6
KDU Kakadu 47.54 269 P P 06 57 15.5 -0.7
GUMO Guam 47.89 308 P P 06 57 18.6 -0.2
comp=Z,253nm,0.7s,baz=138,slow=7.2,SNR=13
comp=Z,253nm,0.7s
GUMO Guam 47.89 308 P P 06 57 19.0 +0.2
GUMO Guam 47.89 308 P P 06 57 18.6 -0.2
GUMO Guam 47.89 308 P P 06 57 18.4 -0.4
MTN Manton Dam 48.78 268 P P 06 57 24.7 -0.7
RKPI Ransiki, Papua 49.29 284 P P 06 57 29.3 +0.1
comp=Z,137nm,0.6s
WRKA Warakurna 49.81 252 P P 06 57 32.5 -0.5
FORT Forrest 49.97 245 P P 06 57 33.4 -0.5
FORT Forrest 49.97 245 P P 06 57 32.9 -1.1
KNRA Kununurra 50.46 264 P P 06 57 37.1 -0.7
KNRA Kununurra 50.46 264 P P 06 57 36.9 -0.8
FAKI Fak Fak 50.57 281 P P 06 57 38.2 -0.3
FAKI Fak Fak 50.57 281 P P 06 57 37.6 -1.0
comp=Z,1µmcomp=Z,94nm,1.6s
FAKI Fak Fak 50.57 281 P P 06 57 37.9 -0.7
BNDI Bandanaira 52.22 278 P P 06 57 49.7 -0.7
comp=Z,16µmcomp=Z,320nm,0.5s
BNDI Bandanaira 52.22 278 P P 06 57 50.1 -0.3
SIJI Sorong 52.23 283 P P 06 57 50.4 -0.1
comp=Z,263nm,0.6s,baz=93,slow=5.9,SNR=103
MSAI Masohi 53.53 279 P P 06 57 58.7 -1.0
comp=Z,473nmcomp=Z,31nm,0.6s
AAI Ambon 54.11 279 P P 06 58 02.8 -1.0
comp=Z,5µmcomp=Z,300nm,0.5s
KMBL Kambalda 55.27 244 P P 06 58 10.7 -1.0
NLAI Namlea 55.28 279 P P 06 58 11.5 -0.5
comp=Z,3µmcomp=Z,129nm,0.7s
DRV Dumont d'Urvil 55.62 199 P P 06 58 13.4 +0.1
DRV pP pwP 07 00 07.6 -1.0
LBMI Labuha 55.81 282 P P 06 58 15.6 0.0
comp=Z,3µmcomp=Z,204nm,0.8s
SOEI Soe 56.05 270 P P 06 58 18.5 +1.0
SOEI Soe 56.05 270 P P 06 58 18.2 +0.8
comp=Z,4µmcomp=Z,326nm,0.8s
SOEI Soe 56.05 270 P P 06 58 18.4 +1.0
TNTI Ternate 56.45 283 P P 06 58 19.4 -0.6
comp=Z,2µmcomp=Z,153nm,0.9s
BATI Baumata 56.51 269 P P 06 58 20.7 +0.2
comp=Z,1µmcomp=Z,103nm,0.7s
SANI Sanana 56.73 280 P P 06 58 21.0 -0.9
comp=Z,2µmcomp=Z,189nm,0.8s
SANI Sanana 56.73 280 P P 06 58 21.5 -0.4
PSA00 Pilbara Seismi 57.88 255 P P 06 58 29.0 -0.6
PSA00 Pilbara Seismi 57.88 255 P P 06 58 29.0 -0.6
MBWA Marble Bar 58.04 256 P P 06 58 30.1 -0.6
MBWA IAmb IAmb 06 58 31.2
comp=Z,65nm,0.6s
MBWA Marble Bar 58.04 256 P P 06 58 30.0 -0.8
MBWA Marble Bar 58.04 256 ⇓P P 06 58 29.9 -0.9
MBWA pP pP 07 00 24.4 +0.7
MMRI Maumere 58.28 271 P P 06 58 31.9 -0.6
MMRI Maumere 58.28 271 P P 06 58 31.3 -1.1
comp=Z,156nm,0.7s
MEEK Meekatharra 58.40 249 P P 06 58 32.1 -1.0
KLBR Kellerberrin 58.79 244 P P 06 58 35.0 -0.6
JCJ Chichijima 58.86 319 P P 06 58 36.0 0.0
NWAO Narrogin (SRO) 59.17 242 P P 06 58 37.8 -0.4
NWAO IAmb IAmb 06 58 38.8
comp=Z,41nm,0.7s
NWAO Narrogin (SRO) 59.17 242 P P 06 58 37.5 -0.6
NWAO IAmb IAmb 06 58 38.8
comp=Z,32nm,0.7s
NWAO Narrogin (SRO) 59.17 242 P P 06 58 37.4 -0.7
NWAO Narrogin (SRO) 59.17 242 P P 06 58 37.5 -0.7
RKGY Rocky Gully 59.33 240 P P 06 58 39.0 -0.2
BLDU Ballidu 59.74 245 P P 06 58 41.0 -1.0
MUN Mundaring 60.09 243 P P 06 58 43.7 -0.5
LUWI Luwuk 60.09 279 P P 06 58 44.5 -0.1
LUWI Luwuk 60.09 279 P P 06 58 44.3 -0.2
comp=Z,6µmcomp=Z,174nm,1.6s
LUWI Luwuk 60.09 279 P P 06 58 45.0 +0.5
SBA Scott Base 60.37 184 P P 06 58 46.4 +1.1
SBA Scott Base 60.37 184 P P 06 58 47.4 +2.2
SBA pP pP 07 00 42.7 +2.5
VNDA Vanda 60.40 185 P P 06 58 46.5 +1.0
comp=Z,1.1nm,0.7s,baz=348,slow=6.9,SNR=13
VNDA pP pP 07 00 43.6 +3.2
comp=Z,4.1nm,1.0s,baz=17,slow=6.1,SNR=7.3
VNDA Vanda 60.40 185 P P 06 58 46.8 +1.3
VNDA Vanda 60.40 185 P P 06 58 46.3 +0.9
VNDA pP pP 07 00 43.6 +3.2
MORW Morawa 60.44 246 P P 06 58 46.1 -0.6
MORW IAmb IAmb 06 58 47.0
comp=Z,29nm,0.7s
MORW Morawa 60.44 246 P P 06 58 45.7 -0.9
GTOI Gorontalo 60.45 281 P P 06 58 47.0 +0.1
comp=Z,494nmcomp=Z,42nm,0.5s
BSSI Bau Bau, Buton 60.64 273 P P 06 58 47.3 -0.8
comp=Z,988nmcomp=Z,85nm,1.5s
APSI Ampana 61.19 279 P P 06 58 52.0 +0.3
comp=Z,3µmcomp=Z,257nm,1.3s
BKSI Bulukumba 61.23 274 P P 06 58 50.6 -1.4
comp=Z,632nmcomp=Z,41nm,0.8s
MRSI Marisa 61.40 281 P P 06 58 52.1 -1.0
comp=Z,1µmcomp=Z,85nm,1.0s
BNSI Bone 61.52 275 P P 06 58 53.2 -0.7
comp=Z,577nmcomp=Z,56nm,1.4s
KAPI Kappang 61.68 274 P P 06 58 54.4 -0.5
comp=Z,18nm,0.5s,baz=140,slow=3.3,SNR=15
KAPI PP PP 07 01 15.6 -5.3
comp=Z,2.3nm,0.2s,baz=102,slow=8.0,SNR=4.1
comp=Z,18nm,0.5s
KAPI Kappang 61.68 274 P P 06 58 54.5 -0.3
KAPI IAmb IAmb 06 58 55.7
comp=Z,156nm,1.9s
KAPI Kappang 61.68 274 P P 06 58 54.6 -0.3
KAPI Kappang 61.68 274 P P 06 58 54.3 -0.6
SPSI Sidrap Palu 61.98 275 P P 06 58 55.4 -1.5
comp=Z,63nm,0.8s
PLAI Plampang 62.47 269 P P 06 58 59.0 -1.1
comp=Z,2µmcomp=Z,160nm,1.1s
PLAI Plampang 62.47 269 P P 06 58 59.0 -1.1
TOLI2 Tolitoli 62.70 281 P P 06 59 01.6 +0.1
TOLI2 IAmb IAmb 06 59 04.8
comp=Z,35nm,0.7s
TOLI2 Tolitoli 62.70 281 P P 06 59 01.8 +0.3
GIRL Giralia 62.86 253 P P 06 59 03.0 +0.6
GIRL Giralia 62.86 253 P P 06 59 02.8 +0.4
MPSI Mapaga 63.26 280 P P 06 59 04.4 -0.7
comp=Z,1µmcomp=Z,110nm,0.7s
TWSI Taliwang, Sumb 63.35 269 P P 06 59 04.4 -1.3
comp=Z,2µmcomp=Z,236nm,0.9s
JHJ2 Mitsune 64.57 322 P P 06 59 12.6 -0.3
CCD Concordia, Ant 64.82 194 P P 06 59 14.5 +0.1
CCD pP pP 07 01 12.1 +1.0
IGBI Denpasar 64.98 268 P P 06 59 15.1 -0.9
comp=Z,205nm,0.7s
SRBI Singaraja 65.11 269 P P 06 59 15.5 -1.3
comp=Z,2µmcomp=Z,94nm,0.9s
JAGI Jajag, Banyuwa 66.02 269 P P 06 59 20.9 -1.6
JAGI Jajag, Banyuwa 66.02 269 P P 06 59 20.6 -1.9
comp=Z,2µmcomp=Z,226nm,0.7s
JAGI Jajag, Banyuwa 66.02 269 P P 06 59 20.7 -1.8
CASY Casey 66.09 205 P P 06 59 22.3 +0.4
CASY IAmb IAmb 07 01 24.6
comp=Z,25nm,0.9s
ABJI Asem Bagus 66.12 269 P P 06 59 22.1 -1.0
comp=Z,67nm,0.6s
MYLDM Lahad Datu 66.30 284 P P 06 59 25.9 +1.7
GMJI Gumukmas 66.75 269 P P 06 59 25.4 -1.5
comp=Z,2µmcomp=Z,126nm,0.5s
BBKI Banjar Baru 66.81 274 P P 06 59 27.5 +0.1
comp=Z,6µmcomp=Z,6µmcomp=Z,106nm,1.3s
JGF Kuroka 67.76 322 P P 06 59 32.5 -0.2
JGF IAmb IAmb 06 59 33.0
comp=Z,14nm,0.6s
JGF Kuroka 67.76 322 P P 06 59 32.5 -0.2
MJAR Matsushiro Arr 67.93 323 P P 06 59 32.9 -0.8
comp=Z,16nm,0.6s,baz=153,slow=5.9,SNR=49
comp=Z,16nm,0.6s
MAJO Matsushiro 67.93 323 P P 06 59 33.5 -0.2
MAJO IAmb IAmb 06 59 33.6
comp=Z,24nm,0.6s
MAJO Matsushiro 67.93 323 P P 06 59 33.2 -0.5
MAJO Matsushiro 67.93 323 P P 06 59 32.9 -0.8
MJB9 Matsu-Tunnel 67.94 323 P P 06 59 34.3 +0.6
MJB9 IAmb IAmb 06 59 34.6
comp=Z,24nm,0.5s
JOW Kunigami 68.23 310 P P 06 59 36.3 +0.6
comp=Z,38nm,0.8s,baz=140,slow=16,SNR=5.1
comp=Z,38nm,0.8s
JOW Kunigami 68.23 310 P P 06 59 36.5 +0.8
JOW IAmb IAmb 07 00 47.0
comp=Z,95nm,1.3s
JOW Kunigami 68.23 310 P P 06 59 36.3 +0.6
KKM Kota Kinabalu 68.73 284 P P 06 59 38.9 -0.2
KKM IAmb IAmb 06 59 39.3
comp=Z,41nm,0.6s
JSD Sado 68.97 325 P P 06 59 40.0 +0.2
JSD IAmb IAmb 07 00 44.4
comp=Z,86nm,1.4s
JSD Sado 68.97 325 P P 06 59 39.8 -0.1
JSU Suzuyama 69.45 315 P P 06 59 43.1 +0.2
ADK Adak 69.56 1 P P 06 59 42.7 -0.3
ADK Adak 69.56 1 P P 06 59 42.3 -0.7
UGM Wanagama 69.62 268 P P 06 59 44.0 -0.4
UGM Wanagama 69.62 268 P P 06 59 43.7 -0.7
comp=Z,4µmcomp=Z,349nm,0.6s
UGM Wanagama 69.62 268 P P 06 59 43.6 -0.8
JHS Saijyo 69.92 319 P P 06 59 46.1 +0.4
JHS IAmb IAmb 06 59 46.8
comp=Z,52nm,0.7s
JHS Saijyo 69.92 319 P P 06 59 45.9 +0.2
SMRI Semarang 69.94 269 P P 06 59 46.0 -0.3
comp=Z,170nm,0.7s
SBUM Sibu 71.19 279 P P 06 59 54.1 +0.5
JKA Kamikawa-asahi 71.31 331 P P 06 59 54.9 +1.3
JKA IAmb IAmb 07 00 43.1
comp=Z,40nm,1.4s
JTU Tsushima 71.99 317 P P 06 59 58.0 +0.3
JTU Tsushima 71.99 317 P P 06 59 57.5 -0.2
QSPA South Pole Qui 72.10 180 P P 06 59 58.9 +0.8
QSPA IAmb IAmb 07 02 06.0
comp=Z,88nm,1.7s
UNV Unalaska Valle 72.24 7 P P 06 59 57.5 -1.2
UNV Unalaska Valle 72.24 7 P P 06 59 57.3 -1.4
BBJI Bungbulang 72.48 268 P P 06 59 59.9 -1.3
KSM Kuching 72.67 277 P P 07 00 02.7 +0.6
KSM Kuching 72.67 277 P P 07 00 01.6 -0.5
LEM Lembang 72.69 268 P P 07 00 02.2 -0.3
comp=Z,224nm,0.9s
CBJI Citeko 73.54 268 P P 07 00 05.9 -1.2
comp=Z,182nm,0.6s
PEA0B Petropavlovsk- 73.72 345 P P 07 00 07.3 +0.1
PETK Petropavlovsk- 73.72 345 P P 07 00 06.6 -0.6
comp=Z,2.6nm,0.6s,baz=119,slow=7.0,SNR=15
comp=Z,2.6nm,0.6s
PETK Petropavlovsk- 73.72 345 P P 07 00 07.5 +0.3
CGJI Cibinong 74.59 268 P P 07 00 11.5 -1.5
comp=Z,3µmcomp=Z,281nm,0.6s
KSRS Korea Array 74.72 318 P P 07 00 13.8 +0.6
comp=Z,5.2nm,0.6s,baz=130,slow=6.4,SNR=23
comp=Z,5.2nm,0.6s
KSAR Wonju Array Be 74.74 318 P P 07 00 13.2 -0.1
PPBI Pangkal Pinang 75.48 272 P P 07 00 18.1 +0.1
comp=Z,75nm,0.6s
KASI Kota Agung 76.04 269 P P 07 00 19.5 -1.5
comp=Z,2µmcomp=Z,167nm,0.8s
SAO San Andreas Ge 76.47 44 P P 07 00 24.3 +1.3
SAO IAmb IAmb 07 00 24.8
comp=Z,29nm,0.7s
PMPB Monarch Peak 76.59 45 P P 07 00 24.6 +1.0
PMPB IAmb IAmb 07 00 25.3
comp=Z,28nm,0.7s
LWLI Liwa 76.60 269 P P 07 00 22.9 -1.4
SMMC Simmler 76.63 46 P P 07 00 25.2 +1.4
baz=236
USA0B Ussuriysk Arra 76.64 326 P P 07 00 24.9 +1.3
USRK Ussuriysk Ar. 76.64 326 P P 07 00 24.3 +0.6
comp=Z,5.8nm,0.6s,baz=118,slow=4.3,SNR=11
comp=Z,5.8nm,0.6s
USRK Ussuriysk Ar. 76.64 326 P P 07 00 25.2 +1.5
HOPS Hopland Field 76.72 41 P P 07 00 25.2 +1.0
BCW Bitter Crk WRg 76.83 46 P P 07 00 26.2 +1.2
BCW IAmb IAmb 07 00 26.7
comp=Z,30nm,0.8s
FMP Fort Macarthur 76.95 48 P P 07 00 26.9 +1.3
baz=238
SII Sitkinak Islan 76.97 13 P P 07 00 25.1 -0.1
KMRM Mail Ridge 77.06 40 IAmb IAmb 07 00 27.9
comp=Z,63nm,0.8s
DECC Green Verdugo 77.21 47 P P 07 00 27.4 +0.4
baz=238
PASC Pasadena Art C 77.27 48 IAmb IAmb 07 00 28.2
comp=Z,24nm,0.6s
ARVC Arvin 77.33 46 P P 07 00 28.5 +0.9
baz=237,SNR=6.1
109C Camp Elliot, M 77.36 49 P P 07 00 28.9 +1.0
109C Camp Elliot, M 77.36 49 P P 07 00 28.4 +0.6
baz=239
DSRI Dabo 77.48 274 P P 07 00 28.3 -0.6
comp=Z,2µmcomp=Z,52nm,1.5s
ELS Elsinore Mount 77.53 48 P P 07 00 29.6 +0.8
VES Vestal, Richgr 77.54 46 P P 07 00 29.2 +0.5
baz=237,SNR=13
TKX Tecate 77.56 50 IAmb IAmb 07 01 51.9
comp=Z,20nm,0.6s
MURC Murrieta 77.67 48 P P 07 00 30.1 +0.6
baz=239,SNR=6.5
BFSC Mount Baldy Ra 77.67 48 P P 07 00 30.0 +0.4
baz=238,SNR=8.0
EDW2 Edwards Air Fo 77.78 47 P P 07 00 30.9 +0.8
baz=238,SNR=20
MNAI Manna 77.85 269 P P 07 00 30.7 -0.2
MNAI Manna 77.85 269 P P 07 00 30.9 0.0
MONP2 Monument Peak 77.86 49 P P 07 00 31.7 +0.9
baz=239,SNR=10.0
ISA Isabella, Lake 77.86 46 P P 07 00 31.7 +1.1
ISA Isabella, Lake 77.86 46 P P 07 00 31.4 +0.9
baz=237,SNR=16
CMB Columbia Colle 77.89 43 P P 07 00 31.1 +0.5
NJ2 Nanjing 77.95 309 ⇓P P 07 00 31.5 +0.5
NJ2 pmax pmax
comp=Z,29nm,0.7s
IKP In-Ko-Pah, Jac 77.96 50 P P 07 00 32.3 +1.1
baz=239,SNR=6.4
TPRI Tanjung Pinang 77.96 275 P P 07 00 31.9 +0.4
comp=Z,68nm,0.7s
PFO Pinyon Flats O 78.20 49 P P 07 00 33.3 +0.9
comp=Z,5.0nm,0.6s,baz=228,slow=5.0,SNR=6.2
comp=Z,5.0nm,0.6s
PFO Pinyon Flats O 78.20 49 P P 07 00 33.4 +0.9
PFO IAmb IAmb 07 00 34.7
comp=Z,82nm,2.0s
MDJ Mudanjiang 78.21 325 IAmb IAmb 07 00 33.8
comp=Z,25nm,0.8s
MDJ Mudanjiang 78.21 325 P P 07 00 32.5 +0.4
MDJ S S 07 09 42.0 +2.8
MDJ pmax pmax
comp=Z,38nm,0.8s
MDJ pmax pmax
comp=Z,280nm,4.5s
PMD Palm Desert 78.28 49 P P 07 00 33.5 +0.8
PMD IAmb IAmb 07 00 33.9
comp=Z,6.7nm,0.8s
SWSC Sam W. Stewart 78.34 50 P P 07 00 33.9 +0.9
baz=240
CWC Cottonwood Cre 78.55 46 P P 07 00 34.9 +0.6
baz=238
OMMB Old Mammoth Mi 78.56 44 IAmb IAmb 07 00 36.6
comp=Z,74nm,1.8s
YBH Yreka Blue Hor 78.57 39 P P 07 00 35.1 +0.8
comp=Z,20nm,0.6s,baz=194,slow=2.2,SNR=81
comp=Z,20nm,0.6s
YBH Yreka Blue Hor 78.57 39 IAmb IAmb 07 00 35.8
comp=Z,23nm,0.6s
SLBS Sierra La Lagu 78.60 60 P P 07 00 36.2 +1.5
SLBS IAmb IAmb 07 00 36.8
comp=Z,23nm,0.7s
MLAC Mammoth, Mammo 78.68 44 P P 07 00 36.2 +1.0
baz=237
Q18K Katmai Hardscr 78.72 12 P P 07 00 34.2 -0.4
baz=203
MPMC Manual Prospec 78.75 46 P P 07 00 36.1 +0.6
baz=238,SNR=14
WAKR Walker 78.77 43 IAmb IAmb 07 00 37.0
comp=Z,28nm,0.8s
TIN Tinemaha, Big 78.78 45 P P 07 00 36.3 +0.9
baz=237
MPK Martis Peak 78.83 42 P P 07 00 36.9 +1.0
MPK IAmb IAmb 07 00 37.2
comp=Z,52nm,0.6s
GSC Goldstone, Bar 78.83 47 P P 07 00 36.6 +0.9
baz=238
HEC Hector,Ludlow 78.91 48 P P 07 00 36.7 +0.5
baz=239,SNR=5.3
BEKR Beckworth 78.94 42 IAmb IAmb 07 00 37.4
comp=Z,26nm,0.6s
BC3 Big Chuckawall 78.94 49 P P 07 00 37.8 +1.4
baz=240
P17K Kvichak River 78.95 11 P P 07 00 35.0 -0.6
baz=201,SNR=7.0
PNTR Pine Nut 78.99 43 IAmb IAmb 07 00 38.5
comp=Z,42nm,0.8s
GLA Glamis 79.10 50 P P 07 00 38.4 +1.2
baz=240
LHV Little Huntoon 79.24 44 IAmb IAmb 07 00 39.4
comp=Z,28nm,0.9s
GRAC Grapevine Rang 79.33 45 P P 07 00 39.3 +1.0
baz=238,SNR=16
GMRC Granite Mounta 79.37 48 P P 07 00 39.2 +0.6
baz=239,SNR=7.4
P18K Big Mountain, 79.37 12 IAmb IAmb 07 00 37.6
comp=Z,37nm,0.7s
P18K Big Mountain, 79.37 12 P P 07 00 37.0 -0.9
baz=202
FURC Furnace Creek, 79.39 46 P P 07 00 39.3 +0.7
baz=238,SNR=6.5

IRM	**Iron Mountain**	79.42	49	P	P	07 00 39.8	+1.0		
	baz=240,SNR=8.8								
NVAR	**Mina Array Bea**	79.47	44	P	P	07 00 39.9	+0.6		
	comp=Z,14nm,0.7s,baz=224,slow=8.8,SNR=118								
NVAR				pP	pwP	07 02 44.9	-1.1		
	comp=Z,6.9nm,1.1s,baz=224,slow=8.8,SNR=7.9								
	comp=Z,14nm,0.7s								
TUQ	**Turquoise Moun**	79.51	47	P	P	07 00 39.8	+0.4		
	baz=239								
GMN	**Gold Mountain**	79.56	45	IAmb	IAmb	07 00 41.8			
	comp=Z,85nm,1.9s								
O18K	**Koktuh Hills**	79.80	12	P	P	07 00 39.6	-0.5		
O18K				IAmb	IAmb	07 00 40.1			
	comp=Z,47nm,0.7s								
O18K	**Koktuh Hills**	79.80	12	P	P	07 00 39.8	-0.4		
	baz=202,SNR=6.4								
CN2	**Changchun**	80.05	322	P	P	07 00 42.0	+0.2		
CN2				S	S	07 09 58.0	-0.1		
CN2				pmax	pmax				
	comp=Z,20nm,0.7s								
214A	**Organ Pipe Nat**	80.06	52	P	P	07 00 43.5	+1.2		
	baz=242								
TPNV	**Topopah Spring**	80.07	46	IAmb	IAmb	07 00 44.6			
	comp=Z,109nm,1.9s								
TPNV	**Topopah Spring**	80.07	46	P	P	07 00 43.0	+0.7		
	baz=239,SNR=8.7								
BNX	**BinXian**	80.12	325	⇓P	P	07 00 42.0	-0.1		
BNX				S	S	07 10 04.5	+5.7		
BNX				pmax	pmax				
	comp=Z,29nm,0.8s								
BNX				pmax	pmax				
	comp=Z,150nm,3.8s								
HSIG		80.13	55	IAmb	IAmb	07 00 44.9			
	comp=Z,85nm,1.9s								
MOD	**Modoc Plateau**	80.13	40	IAmb	IAmb	07 00 43.7			
	comp=Z,32nm,0.7s								
KLR	**Kul'dur**	80.14	329	P	P	07 00 42.6	+0.4		
	comp=Z,1.8nm,0.5s,baz=92,slow=4.9,SNR=7.5								
	comp=Z,1.8nm,0.5s								
PDMCI	**Parker Dam,Lak**	80.21	49	P	P	07 00 43.8	+0.9		
	baz=240,SNR=8.3								
K05A	**Summer Lake**	80.25	39	IAmb	IAmb	07 00 44.7			
	comp=Z,37nm,0.7s								
O19K	**Port Alsworth**	80.29	12	IAmb	IAmb	07 00 42.4			
	comp=Z,46nm,0.7s								
O19K	**Port Alsworth**	80.29	12	P	P	07 00 41.9	-0.7		
	baz=203,SNR=7.1								
ILSW	**Iliamna Southw**	80.33	13	IAmb	IAmb	07 00 43.0			
	comp=Z,34nm,0.8s								
SDSI	**Sungai Dareh**	80.33	272	P	P	07 00 42.7	-1.3		
	comp=Z,2µmcomp=Z,32nm,1.0s								
SHPR	**Sheep Range**	80.59	47	P	P	07 00 45.5	+0.5		
SHPR				IAmb	IAmb	07 00 47.5			
	comp=Z,52nm,1.9s								
BRSE	**Bradley Lake S**	80.64	14	P	P	07 00 44.6	+0.1		
	baz=207								
H04A	**Detroit Lake**	80.64	37	IAmb	IAmb	07 00 45.5			
	comp=Z,34nm,0.6s								
S11A	**Rachel**	80.77	46	IAmb	IAmb	07 00 47.1			
	comp=Z,22nm,0.8s								
PINE	**Pine Mountain**	80.84	38	IAmb	IAmb	07 00 47.8			
	comp=Z,40nm,0.8s								
PRN	**Pahroc Range**	81.12	46	IAmb	IAmb	07 00 49.4			
	comp=Z,28nm,0.7s								
R11A	**Troy Canyon, C**	81.24	45	P	P	07 00 48.6	+0.2		
	baz=239,SNR=16								
BMN	**Battle Mountai**	81.25	43	IAmb	IAmb	07 00 49.6			
	comp=Z,26nm,0.8s								
TIA	**Tai'an**	81.27	312	⇓P	P	07 00 48.0	-0.3		
TIA				pmax	pmax				
	comp=Z,11nm,0.7s								
WVOR	**Wild Horse Val**	81.45	40	IAmb	IAmb	07 00 50.6			
	comp=Z,28nm,0.8s								
O22K	**Cooper Landing**	81.53	14	P	P	07 00 48.7	-0.3		
	baz=208								
TUC	**Tucson**	81.74	52	P	P	07 00 52.0	+1.1		
TUC				IAmb	IAmb	07 00 53.8			
	comp=Z,82nm,1.8s								
TUC	**Tucson**	81.74	52	P	P	07 00 52.3	+1.4		
	baz=243								
M19K	**Big River Lodg**	81.85	11	P	P	07 00 50.2	-0.5		
	baz=203								
I07A	**Izee**	81.86	39	P	P	07 00 51.7	+0.4		
I07A				IAmb	IAmb	07 00 52.6			
	comp=Z,30nm,0.8s								
L19K	**White Mountain**	82.03	11	IAmb	IAmb	07 00 54.2			
	comp=Z,37nm,1.3s								
L19K	**White Mountain**	82.03	11	P	P	07 00 52.3	+0.8		
	baz=203								
J08A	**Circle Bar Ran**	82.07	40	IAmb	IAmb	07 00 53.5			
	comp=Z,24nm,0.7s								
BELA	**Belgrano 2**	82.12	173	P	P	07 00 51.9	0.0		
SUA	**Susitna One**	82.18	13	P	P	07 00 51.5	-1.0		
	baz=206								
PWL	**Port Wells**	82.19	14	P	P	07 00 51.4	-1.0		
	baz=209								
CCUT	**Cedar City**	82.36	47	IAmb	IAmb	07 00 56.7			
	comp=Z,126nm,2.0s								
BBB	**Bella Bella**	82.37	29	P	P	07 00 53.5	+0.1		
	comp=Z,13nm,0.8s,baz=266,slow=4.4,SNR=14								
	comp=Z,13nm,0.8s								
IPM	**Ipoh**	82.41	277	P	P	07 00 55.0	+0.4		
SPR3	**Spring Creek 3**	82.42	45	IAmb	IAmb	07 00 56.1			
	comp=Z,103nm,1.9s								
319A	**Douglas**	82.47	54	IAmb	IAmb	07 00 56.9			
	comp=Z,31nm,0.7s								
KNB	**Kanab**	82.47	47	IAmb	IAmb	07 00 56.2			
	comp=Z,20nm,0.7s								
PSUT	**Pine Spring**	82.50	46	IAmb	IAmb	07 00 56.3			
	comp=Z,18nm,0.6s								
TTA	**Tatalina**	82.52	10	P	P	07 00 54.2	+0.1		
	baz=202								
U15A	**North Rim**	82.56	48	IAmb	IAmb	07 00 57.0			
	comp=Z,34nm,0.7s								
SZCU	**Shurtz Canyon**	82.57	47	IAmb	IAmb	07 00 57.5			
	comp=Z,88nm,1.8s								
M22K	**Willow**	82.58	13	P	P	07 00 53.4	-0.8		
	baz=207								
F07A	**Phinny Hill Vi**	82.64	37	IAmb	IAmb	07 00 56.0			
	comp=Z,18nm,0.7s								
KNK	**Knik Glacier**	82.65	14	IAmb	IAmb	07 00 54.6			
	comp=Z,20nm,0.8s								
KNK	**Knik Glacier**	82.65	14	P	P	07 00 54.3	-0.4		
	baz=209								
PMR	**Palmer**	82.65	14	P	P	07 00 53.9	-0.8		
	baz=208								
ELK	**Elko**	82.70	43	P	P	07 00 56.3	+0.5		
	comp=Z,10nm,0.8s,baz=252,slow=4.5,SNR=40								
	comp=Z,10nm,0.8s								
WUAZ	**Wupatki**	82.79	49	P	P	07 00 57.4	+1.1		
	baz=242								
GHO	**Glory Hole Cre**	82.86	14	IAmb	IAmb	07 00 56.0			
	comp=Z,41nm,0.6s								
KULM	**Kulim**	83.02	278	IAmb	IAmb	07 00 58.4			
	comp=Z,17nm,0.7s								
SML	**Sawmill**	83.02	14	P	P	07 00 55.7	-0.9		
	baz=209								
DIV	**Divide**	83.05	15	IAmb	IAmb	07 00 56.6			
	comp=Z,24nm,0.7s								
CUT	**Chulitna**	83.13	13	IAmb	IAmb	07 00 56.6			
	comp=Z,42nm,0.6s								
CUT	**Chulitna**	83.13	13	P	P	07 00 56.1	-0.9		
	baz=207								
DUN6	**Lazy B Ranch**	83.13	53	IAmb	IAmb	07 01 00.8			
	comp=Z,171nm,1.6s								
M23K	**Glacier View**	83.15	14	P	P	07 00 56.6	-0.6		
	baz=209								
HAWA	**Hanford**	83.15	37	IAmb	IAmb	07 00 58.7			
	comp=Z,25nm,0.7s								
BMRM	**Bremner River**	83.21	16	IAmb	IAmb	07 00 57.5			
	comp=Z,22nm,0.6s								
BMRM	**Bremner River**	83.21	16	P	P	07 00 57.0	-0.6		
	baz=212								
K20K	**Telida**	83.25	11	IAmb	IAmb	07 00 57.8			
	comp=Z,23nm,0.8s								
K20K	**Telida**	83.25	11	P	P	07 00 57.6	-0.1		
	baz=203								
MESA	**MESA**	83.27	17	P	P	07 00 58.1	+0.1		
	baz=215								
SCM	**Sheep Creek Mo**	83.28	14	IAmb	IAmb	07 00 57.9			
	comp=Z,40nm,0.6s								
SCM	**Sheep Creek Mo**	83.28	14	P	P	07 00 57.4	-0.5		
	baz=210,SNR=7.8								
HPIG		83.47	59	IAmb	IAmb	07 01 01.4			
	comp=Z,49nm,1.7s								
E08A	**Dider Farm, El**	83.48	37	IAmb	IAmb	07 01 01.1			
	comp=Z,26nm,0.7s								
HNS	**HongShan**	83.54	313	⇑P	P	07 01 00.5	+0.9		
HNS				pmax	pmax				
	comp=Z,13nm,0.9s								
MVU	**Marysvale**	83.61	46	IAmb	IAmb	07 01 03.8			
	comp=Z,52nm,1.1s								
CAST	**Castle Rocks**	83.68	12	IAmb	IAmb	07 00 58.9			
	comp=Z,24nm,0.8s								
CAST	**Castle Rocks**	83.68	12	P	P	07 00 58.0	-1.8		
	baz=205,SNR=14								
MFID	**Camas Ranch**	83.72	41	IAmb	IAmb	07 01 02.4			
	comp=Z,104nm,1.9s								
N25K	**Chitina, Valde**	83.75	16	IAmb	IAmb	07 01 00.4			
	comp=Z,30nm,0.6s								
N25K	**Chitina, Valde**	83.75	16	P	P	07 01 00.1	-0.1		
	baz=212,SNR=8.2								
M24K	**Tolsona, Glenn**	83.79	15	IAmb	IAmb	07 01 01.6			
	comp=Z,31nm,0.6s								
M24K	**Tolsona, Glenn**	83.79	15	P	P	07 01 00.4	-0.1		
	baz=211								
BJI	**Beijing**	83.80	315	P	P	07 01 01.0	+0.1		
BJI				pmax	pmax				
	comp=Z,16nm,0.8s								
MAW	**Mawson**	83.81	200	P	P	07 01 01.2	+0.7		
	comp=Z,5.0nm,0.5s,baz=147,slow=4.3,SNR=31								
MAW				pP	pwP	07 03 08.0	-0.4		
	comp=Z,7.8nm,1.0s,baz=90,slow=6.6,SNR=6.5								
	comp=Z,5.0nm,0.5s								
MAW	**Mawson**	83.81	200	P	P	07 01 01.0	+0.5		
GLB	**Gilahina Butte**	83.81	16	IAmb	IAmb	07 01 00.9			
	comp=Z,19nm,0.6s								
RPSI	**Rantau Prapat**	83.83	275	IAmb	IAmb	07 01 02.0			
	comp=Z,35nm,0.8s								
WAT6	**Susitna Watana**	83.84	14	P	P	07 01 00.2	-0.6		
	baz=209,SNR=7.1								
LYN	**LuoYang**	83.84	309	⇓P	P	07 01 01.8	+0.6		
LYN				pmax	pmax				
	comp=Z,30nm,0.6s								
WAT1	**Susitna Watana**	83.87	13	P	P	07 00 59.9	-0.9		
	baz=208								
D08A	**Wollman Farm,**	83.88	36	IAmb	IAmb	07 01 02.2			
	comp=Z,21nm,0.7s								
MCARA	**McCarthy VSAT**	83.97	16	P	P	07 01 02.6	+1.3		
	baz=214								
J20K	**Nowinta River**	84.00	10	P	P	07 01 01.1	-0.2		
	baz=203								
E09A	**Wood Farm, Sta**	84.01	37	IAmb	IAmb	07 01 04.1			
	comp=Z,76nm,1.9s								
KTH	**Kantishna Hill**	84.03	12	IAmb	IAmb	07 01 01.4			
	comp=Z,17nm,0.9s								
DUG	**Dugway, Tooele**	84.03	45	P	P	07 01 02.4	+0.1		
	baz=241								
CHUM	**Lake Minchumin**	84.06	11	P	P	07 01 00.5	-1.1		
	baz=205,SNR=6.6								
TRF	**Thorofare Moun**	84.06	12	IAmb	IAmb	07 01 02.1			
	comp=Z,38nm,0.8s								
TRF	**Thorofare Moun**	84.06	12	P	P	07 01 00.6	-1.3		
	baz=207,SNR=15								
BARN	**Barnard Glacie**	84.08	17	IAmb	IAmb	07 01 02.3			
	comp=Z,26nm,0.9s								
P29M	**Windy Craggy**	84.10	19	IAmb	IAmb	07 01 02.9			
	comp=Z,19nm,0.8s								
P29M	**Windy Craggy**	84.10	19	P	P	07 01 02.6	+0.7		
	baz=219								
121A	**Cookes Peak, D**	84.12	53	P	P	07 01 04.1	+1.2		
	baz=244								
F10A	**Beach Ranch, E**	84.25	38	P	P	07 01 03.1	0.0		
F10A				IAmb	IAmb	07 01 04.2			
	comp=Z,33nm,1.0s								
O28M	**Mount Upton**	84.26	18	P	P	07 01 03.0	0.0		
	baz=216,SNR=5.2								
ENH	**Enshi**	84.28	304	P	P	07 01 03.7	+0.2		
ENH				IAmb	IAmb	07 01 04.6			
	comp=Z,48nm,0.8s								
RND	**Reindeer**	84.32	13	IAmb	IAmb	07 01 03.3			
	comp=Z,19nm,0.7s								
DHY	**Denali Highway**	84.35	14	IAmb	IAmb	07 01 05.4			
	comp=Z,60nm,1.8s								
DHY	**Denali Highway**	84.35	14	P	P	07 01 02.6	-0.7		
	baz=210,SNR=5.8								
B08A	**Colville Reser**	84.39	35	IAmb	IAmb	07 01 03.9			
	comp=Z,20nm,0.7s								
PLBC	**Pleasant Camp**	84.40	20	P	P	07 01 04.0	+0.6		
	baz=220								
TSI	**Tuntungan**	84.43	275	P	P	07 01 04.4	-0.2		
	comp=Z,28nm,0.6s								
ZAIG	**Zacatecas**	84.45	64	P	P	07 01 05.5	+0.6		
PLID	**Pearl Lake**	84.50	39	P	P	07 01 04.2	-0.4		
Q16A	**Castle Valley**	84.53	46	IAmb	IAmb	07 01 07.3			
	comp=Z,83nm,1.9s								
MCK	**McKinley**	84.59	13	P	P	07 01 03.1	-1.1		
	baz=208,SNR=6.8								
C09A	**Chrisman Ranch**	84.66	36	IAmb	IAmb	07 01 05.6			
	comp=Z,16nm,0.7s								
HLID	**Hailey**	84.68	41	IAmb	IAmb	07 01 06.8			
	comp=Z,14nm,0.8s								
HLID	**Hailey**	84.68	41	P	P	07 01 06.1	+0.8		
	baz=239,SNR=32								
GSI	**Gunungsitoli**	84.69	273	P	P	07 01 06.5	+0.7		
	comp=Z,112nm,1.0s								
GSI	**Gunungsitoli**	84.69	273	P	P	07 01 06.6	+0.7		
PAX	**Paxson**	84.70	14	P	P	07 01 03.9	-1.0		
	baz=211								
P30M	**Million Dollar**	84.73	19	P	P	07 01 05.5	+0.4		
	baz=219								
YUK8	**Steele Glacier**	84.80	18	P	P	07 01 05.6	-0.1		
	baz=217								
M26K	**Nabesna, AK**	84.83	16	IAmb	IAmb	07 01 05.7			
	comp=Z,30nm,1.2s								
M26K	**Nabesna, AK**	84.83	16	P	P	07 01 05.6	+0.1		
	baz=214								
YUK3	**Moose Creek**	85.00	17	P	P	07 01 06.5	0.0		
	baz=216,SNR=9.9								
SRU	**San Rafael Swe**	85.06	46	IAmb	IAmb	07 01 09.3			
	comp=Z,14nm,0.7s								
P17A	**Butcher Ranch,**	85.08	46	IAmb	IAmb	07 01 09.8			
	comp=Z,40nm,1.9s								
M27K	**Edge Creek, AK**	85.09	16	IAmb	IAmb	07 01 08.1			
	comp=Z,39nm,1.4s								
M27K	**Edge Creek, AK**	85.09	16	P	P	07 01 06.8	0.0		
	baz=215								
S34M	**Telegraph Cree**	85.09	23	P	P	07 01 07.5	+0.7		
	baz=225,SNR=9.6								
YUK4	**Talbot Arm**	85.17	18	P	P	07 01 07.6	+0.2		
	baz=218								
KCSI	**Kotacane, Aceh**	85.19	275	P	P	07 01 07.5	-0.8		
	comp=Z,40nm,0.8s								
L26K	**Log Cabin Wild**	85.26	15	P	P	07 01 07.1	-0.4		
	baz=213								
I21K	**Tanana**	85.30	11	P	P	07 01 07.1	-0.5		
	baz=205								
K24K	**Donnelly Dome**	85.34	14	P	P	07 01 07.9	-0.1		
	baz=211,SNR=5.8								
MLY	**Manley**	85.39	11	IAmb	IAmb	07 01 14.1			
	comp=Z,40nm,1.9s								
MLY	**Manley**	85.39	11	P	P	07 01 06.9	-1.3		
	baz=206								
P32M	**Atlin**	85.39	21	P	P	07 01 09.2	+0.9		
	baz=222								
BVCY	**Beaver Creek**	85.41	17	P	P	07 01 08.2	-0.1		
	baz=216,SNR=5.5								
WRH	**Wood River Hil**	85.42	13	IAmb	IAmb	07 01 08.5			
	comp=Z,68nm,1.6s								
Q32M	**Nakina River**	85.43	22	P	P	07 01 09.1	+0.5		
	baz=224								
O30N	**Mendenhall**	85.50	19	P	P	07 01 08.8	0.0		
	baz=220,SNR=5.6								
NEW	**Newport**	85.56	36	P	P	07 01 09.1	-0.3		
	comp=Z,6.6nm,0.6s,baz=230,slow=5.1,SNR=24								
	comp=Z,6.6nm,0.6s								
NEW	**Newport**	85.56	36	P	P	07 01 09.0	-0.3		
	baz=237,SNR=11								
H21K	**Melozitna Rive**	85.59	10	IAmb	IAmb	07 01 10.0			
	comp=Z,37nm,1.8s								
H21K	**Melozitna Rive**	85.59	10	P	P	07 01 08.6	-0.4		
	baz=204								
HDA	**Harding Lake**	85.61	13	IAmb	IAmb	07 01 10.7			
	comp=Z,76nm,1.8s								
HDA	**Harding Lake**	85.61	13	P	P	07 01 08.0	-1.2		
	baz=210,SNR=9.0								
DOT	**Dot Lake**	85.61	15	IAmb	IAmb	07 04 00.1			
	comp=Z,57nm,1.8s								
MVCO	**Mesa Verde**	85.62	49	P	P	07 01 10.5	+0.3		
	baz=244								
XLT	**XiLinHaoTe**	85.77	319	⇑P	P	07 01 11.0	+0.5		
XLT				pmax	pmax				
	comp=Z,20nm,0.9s								
XLT				pmax	pmax				
	comp=Z,140nm,4.0s								
MDM	**Murphy Dome**	85.82	12	IAmb	IAmb	07 01 10.9			
	comp=Z,45nm,1.7s								
TCOL	**CIGO, UAF Yank**	85.82	13	IAmb	IAmb	07 01 09.4			
	comp=Z,16nm,0.7s								
TCOL	**CIGO, UAF Yank**	85.82	13	P	P	07 01 08.8	-1.2		
	baz=209,SNR=5.1								
COLA	**College**	85.82	13	P	P	07 01 09.5	-0.5		
COLA				IAmb	IAmb	07 01 11.1			
	comp=Z,90nm,1.9s								
COLA	**College**	85.82	13	P	P	07 01 09.2	-0.9		
PV11	**David Mesa, Pa**	85.84	48	IAmb	IAmb	07 02 32.5			
	comp=Z,10nm,0.6s								
DLBC	**Dease Lake**	85.88	23	P	P	07 01 11.0	+0.4		
	baz=226								
SCRK	**Sand Creek**	85.91	14	P	P	07 01 10.2	-0.5		
	baz=213								
IL31		85.94	13	IAmb	IAmb	07 01 10.4			
	comp=Z,62nm,1.8s								
ILAR	**Eielson Array**	85.94	13	P	P	07 01 09.3	-1.3		
	comp=Z,3.5nm,0.5s,baz=221,slow=5.1,SNR=120								
ILAR				pP	pwP	07 03 19.2	-0.7		
	comp=Z,5.1nm,1.2s,baz=224,slow=5.7,SNR=3.9								
	comp=Z,3.5nm,0.5s								
TX31	**Lajitas Ar. Si**	86.04	58	P	P	07 01 13.9	+1.8		
TXAR	**Lajitas Array**	86.04	58	P	P	07 01 13.6	+1.5		
	comp=Z,15nm,0.7s,baz=218,slow=6.1,SNR=239								
TXAR				pP	pwP	07 03 20.6	-1.2		
	comp=Z,1.3nm,0.9s,baz=217,slow=3.9,SNR=4.4								
TXAR				PKKPbc	PKKPbc	07 19 08.0	-0.3		
	comp=Z,0.1nm,0.5s,baz=126,slow=2.7,SNR=4.0								
	comp=Z,15nm,0.7s								
H22K	**Ishtalitna Cre**	86.05	11	P	P	07 01 10.8	-0.4		
	baz=206								
M29M	**Somme Creek**	86.10	17	P	P	07 01 11.6	0.0		
	baz=218								
POKR	**Poker Plat Res**	86.12	13	IAmb	IAmb	07 01 11.6			
	comp=Z,18nm,1.1s								
POKR	**Poker Plat Res**	86.12	13	P	P	07 01 10.1	-1.4		
	baz=209,SNR=5.3								
J25K	**Salcha River,**	86.13	14	P	P	07 01 11.2	-0.5		
	baz=211								
N31M	**Braeburn, Yuko**	86.15	19	P	P	07 01 11.8	0.0		
	baz=220								
R33M	**Jennings River**	86.21	22	P	P	07 01 12.6	+0.3		
	baz=225								
G21K	**Allakaket**	86.26	10	P	P	07 01 11.6	-0.6		
	baz=204								
XAN	**Xi'an**	86.27	307	P	P	07 01 13.5	+0.4		
XAN				pmax	pmax				
	comp=Z,38nm,1.0s								
RDMU	**Red Mountain**	86.39	45	IAmb	IAmb	07 01 16.6			
	comp=Z,40nm,1.7s								
AHID	**Auburn Hatcher**	86.39	43	IAmb	IAmb	07 01 14.6			
	comp=Z,30nm,1.5s								
J26L	**Joseph Creek**	86.45	14	IAmb	IAmb	07 01 14.7			
	comp=Z,14nm,0.7s								
J26L	**Joseph Creek**	86.45	14	P	P	07 01 13.1	-0.1		
	baz=213								
MSO	**Missoula**	86.63	38	P	P	07 01 14.0	-0.5		
	baz=239,SNR=9.8								
M30M	**Minto, Yukon**	86.68	18	IAmb	IAmb	07 01 14.6			
	comp=Z,14nm,0.7s								
M30M	**Minto, Yukon**	86.68	18	P	P	07 01 14.1	-0.2		
	baz=219								
MLSI	**Meulaboh, Aceh**	86.71	276	P	P	07 01 15.4	-0.1		
L29M	**L29M**	86.72	17	P	P	07 01 14.6	+0.1		
	baz=218,SNR=10								
TPAW	**Teton Pass**	86.83	42	IAmb	IAmb	07 01 17.0			
	comp=Z,12nm,0.8s								
REDW	**Red Top Meadow**	86.84	42	IAmb	IAmb	07 01 18.5			
	comp=Z,27nm,1.1s								
SNOW	**Snow King Moun**	86.95	42	IAmb	IAmb	07 01 17.6			
	comp=Z,19nm,0.7s								
G22K	**Bettles**	86.96	10	P	P	07 01 15.2	-0.2		
	baz=206								
IMW	**Indian Meadow**	87.03	42	IAmb	IAmb	07 01 18.1			
	comp=Z,20nm,0.8s								
S22A	**4UR Ranch, Cre**	87.05	49	P	P	07 01 17.7	+0.8		
	baz=245								
MOOW	**Moose Ponds**	87.09	42	IAmb	IAmb	07 01 19.0			
	comp=Z,51nm,1.9s								
O20A	**White River Ci**	87.10	46	P	P	07 01 17.4	+0.4		
	baz=244								
LOHW	**Long Hollow**	87.11	42	IAmb	IAmb	07 01 18.1			
	comp=Z,12nm,0.7s								
DAWY	**Dawson**	87.14	16	IAmb	IAmb	07 01 30.3			
	comp=Z,42nm,2.0s								
DAWY	**Dawson**	87.14	16	P	P	07 01 16.5	+0.1		
	baz=217								
I26K	**Coal Creek Min**	87.22	14	IAmb	IAmb	07 01 31.5			
	comp=Z,54nm,1.9s								
I26K	**Coal Creek Min**	87.22	14	P	P	07 01 16.4	-0.3		
	baz=213								
EGAK	**Eagle**	87.26	15	IAmb	IAmb	07 01 17.9			
	comp=Z,57nm,1.8s								
EGAK	**Eagle**	87.26	15	P	P	07 01 16.8	-0.1		
	baz=215,SNR=6.2								
FLWY	**Flagg Ranch**	87.27	42	IAmb	IAmb	07 01 19.4			
	comp=Z,17nm,0.7s								
YHB	**Horse Butte**	87.28	41	IAmb	IAmb	07 01 19.5			
	comp=Z,16nm,0.9s								
HHC	**Hu-ho-hao-te**	87.29	314	eP	P	07 01 18.3	+0.5		
HHC				S	S	07 11 11.5	+2.4		
HHC				pmax	pmax				
	comp=Z,32nm,1.0s								
HHC				pmax	pmax				
	comp=Z,230nm,5.0s								
YPP	**Pitchstone Pla**	87.30	42	IAmb	IAmb	07 01 21.5			
	comp=Z,26nm,1.6s								
F

	baz=213							
E24K	**Your Creek**	**88.52**	**11**	P	**P**	07 01 22.5	-0.3	
	baz=208							
MSTX	**Muleshoe**	**88.53**	**54**	IAmb	IAmb	07 01 24.5		
	comp=Z,20nm,0.7s							
MSTX	**Muleshoe**	**88.53**	**54**	P	**P**	**07 01 23.9**	**+0.2**	
	baz=247							
F25K	**Christian Rive**	**88.64**	**12**	P	**P**	**07 01 23.5**	**+0.1**	
	baz=211							
TGTN	**Hyland Airport**	**88.66**	**22**	P	**P**	**07 01 24.3**	**+0.7**	
	baz=227,SNR=6.8							
RLMT	**Red Lodge**	**88.66**	**41**	IAmb	IAmb	07 01 25.5		
	comp=Z,10nm,1.0s							
RLMT	**Red Lodge**	**88.66**	**41**	P	**P**	**07 01 25.3**	**+1.1**	
	baz=243,SNR=8.0							
Q24A	**Divide**	**88.76**	**48**	IAmb	IAmb	07 01 26.8		
	comp=Z,35nm,1.6s							
G27K	**Doyon Strip**	**88.82**	**14**	P	**P**	**07 01 24.0**	**-0.2**	
	baz=215							
TOLK	**Toolik Lake Re**	**88.83**	**10**	IAmb	IAmb	07 02 20.1		
	comp=Z,36nm,1.9s							
TOLK	**Toolik Lake Re**	**88.83**	**10**	P	**P**	**07 01 24.2**	**-0.1**	
	baz=207							
CMAR	**Chiang Mai Arr**	**88.88**	**290**	P	**P**	**07 01 26.1**	**+0.6**	
	comp=Z,4.3nm,0.3s,baz=115,slow=2.8,SNR=39							
	comp=Z,4.3nm,0.3s							
D23K	**Nanushuk River**	**88.94**	**10**	P	**P**	**07 01 24.6**	**-0.1**	
	baz=206							
CHTO	**Chiang Mai**	**89.00**	**290**	P	**P**	**07 01 25.9**	**-0.1**	
CHTO				IAmb	IAmb	07 01 27.1		
	comp=Z,14nm,0.8s							
N23A	**Red Feather La**	**89.00**	**46**	IAmb	IAmb	07 01 27.2		
	comp=Z,11nm,0.8s							
N23A	**Red Feather La**	**89.00**	**46**	P	**P**	**07 01 26.8**	**+0.8**	
	baz=245							
E25K	**Arctic Village**	**89.10**	**12**	P	**P**	**07 01 25.5**	**+0.1**	
	baz=211							
833A	**Chaparral WMA,**	**89.14**	**60**	P	**P**	**07 01 27.2**	**+0.7**	
	baz=249							
PZH	**PanZhiHua**	**89.16**	**298**	P	**P**	**07 01 27.3**	**+0.5**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,110nm,5.7s							
CMIG	**Matias Romero**	**89.26**	**72**	P	**P**	**07 01 28.0**	**+0.7**	
	comp=Z,4.4nm,0.7s,baz=278,slow=5.2,SNR=6.4							
	comp=Z,4.4nm,0.7s							
KOTAN	**Kotaneelee Air**	**89.30**	**24**	P	**P**	**07 01 26.7**	**+0.3**	
	baz=231							
PHWY	**Pilot Hill**	**89.51**	**46**	IAmb	IAmb	07 01 29.0		
	comp=Z,8.6nm,0.8s							
JCT	**Junction City**	**89.58**	**58**	IAmb	IAmb	07 01 30.3		
	comp=Z,11nm,0.8s							
JCT	**Junction City**	**89.58**	**58**	P	**P**	**07 01 28.7**	**+0.2**	
	baz=249							
EPYK	**Eagle Plains**	**89.65**	**16**	P	**P**	**07 01 27.5**	**-0.5**	
	baz=219							
C23K	**Itkillik River**	**89.74**	**9**	P	**P**	**07 01 28.3**	**0.0**	
	baz=206							
C24K	**Franklin Bluff**	**89.94**	**10**	P	**P**	**07 01 29.2**	**-0.1**	
	baz=208							
E27K	**Coleen River**	**89.97**	**13**	P	**P**	**07 01 29.7**	**+0.3**	
	baz=215							
G30M	**tAoh Zraii Nji**	**90.25**	**15**	P	**P**	**07 01 30.4**	**-0.4**	
	baz=220,SNR=8.1							
TROLL	**Troll, Antarti**	**90.26**	**180**	P	**P**	**07 01 30.5**	**-0.6**	
TROLL	**Troll, Antarti**	**90.26**	**180**	pP	pP	07 03 40.3	+1.1	
ABTX	**Abilene, Hawle**	**90.47**	**56**	P	**P**	**07 01 33.0**	**+0.3**	
	baz=249							
VNA3	**Neumayer Olymp**	**90.69**	**176**	P	**P**	**07 01 32.0**	**-1.0**	
VNA3	**Neumayer Olymp**	**90.69**	**176**	pP	pP	07 03 44.1	+3.0	
C27K	**Jago River**	**90.74**	**12**	P	**P**	**07 01 32.6**	**-0.3**	
	baz=213							
C26K	**Camden Bay**	**90.77**	**11**	P	**P**	**07 01 33.4**	**+0.3**	
	baz=212							
LZH	**Lanzhou**	**90.90**	**308**	*e*P	**P**	**07 01 35.5**	**+0.8**	
LZH				S	**S**	**07 11 46.8**	**+4.6**	
LZH				SS	**SS**	**07 18 06.0**	**+1.5**	
LZH				pmax	pmax			
	comp=Z,29nm,1.0s							
VNA2	**Neumayer--Watz**	**91.13**	**177**	pP	pP	07 03 44.1	+1.0	
F31M	**Tsiigehtchic**	**91.23**	**16**	P	**P**	**07 01 34.7**	**-0.5**	
	baz=222,SNR=15							
LAO	**LASA Array**	**91.26**	**41**	P	**P**	**07 01 36.9**	**+1.0**	
	baz=245,SNR=8.1							
VNA1	**Neumayer--Stat**	**91.36**	**177**	P	**P**	**07 01 34.6**	**-1.3**	
435B	**Jarrell**	**91.47**	**58**	IAmb	IAmb	07 01 38.3		
	comp=Z,8.0nm,0.6s							
435B	**Jarrell**	**91.47**	**58**	P	**P**	**07 01 37.8**	**+0.6**	
	baz=250							
RSSD	**Black Hills**	**91.61**	**44**	P	**P**	**07 01 37.8**	**-0.1**	
RSSD				IAmb	IAmb	07 01 38.2		
	comp=Z,9.2nm,0.8s							
RSSD	**Black Hills**	**91.61**	**44**	P	**P**	**07 01 37.6**	**-0.2**	
	baz=246							
INK	**Inuvik**	**91.93**	**15**	P	**P**	**07 01 37.4**	**-1.0**	
	comp=Z,5.3nm,0.7s,baz=229,slow=3.3,SNR=44							
	comp=Z,5.3nm,0.7s							
INK	**Inuvik**	**91.93**	**15**	P	**P**	**07 01 38.0**	**-0.4**	
INK	**Inuvik**	**91.93**	**15**	P	**P**	**07 01 37.8**	**-0.6**	
	baz=222,SNR=6.9							
WHTX	**Lake Whitney,**	**91.98**	**57**	IAmb	IAmb	07 01 41.9		
	comp=Z,10nm,0.9s							
FNO	**Franklin**	**93.13**	**54**	IAmb	IAmb	07 01 47.0		
	comp=Z,12nm,0.7s							
DGMT	**Dagmar**	**93.24**	**40**	P	**P**	**07 01 45.5**	**+0.6**	
	baz=246,SNR=8.7							
SONM	**Songino Array**	**93.57**	**319**	P	**P**	**07 01 45.6**	**-1.0**	
	comp=Z,1.8nm,0.6s,baz=129,slow=4.1,SNR=13							
	comp=Z,1.8nm,0.6s							
T35A	**Sooner Cattle**	**94.36**	**53**	IAmb	IAmb	07 01 51.8		
	comp=Z,12nm,0.8s							
YKA	**Yellowknife Ar**	**94.38**	**25**	P	**P**	**07 01 49.1**	**-0.7**	
	comp=Z,2.0nm,0.5s,baz=239,slow=4.8,SNR=22							
	comp=Z,2.0nm,0.5s							
BGNE	**Belgrade**	**94.64**	**48**	P	**P**	**07 01 52.2**	**+0.7**	
	baz=250							
KSU1	**Kansas State U**	**95.00**	**51**	P	**P**	**07 01 53.8**	**+0.7**	
	baz=251							
C36M	**Paulatuk**	**95.14**	**17**	IAmb	IAmb	07 01 53.4		
	comp=Z,5.0nm,0.7s							
C36M	**Paulatuk**	**95.14**	**17**	P	**P**	**07 01 52.5**	**-0.5**	
	baz=231							
ECSD	**EROS Data Cent**	**96.48**	**46**	P	**P**	**07 01 59.6**	**-0.1**	
	baz=251							
A36M	**Sachs Harbour**	**96.53**	**15**	IAmb	IAmb	07 02 00.9		
	comp=Z,6.1nm,0.8s							
A36M	**Sachs Harbour**	**96.53**	**15**	P	**P**	**07 01 59.0**	**-0.2**	
	baz=230							
JFWS	**Jewell Farm**	**100.70**	**48**	P	**Pdif**	**07 02 19.5**	**+1.0**	
	baz=256							
ZALV	**Zalesovo Beam**	**108.26**	**322**	PKiKP	**PKiKP**	**07 06 52.6**	**-1.6**	
	comp=Z,1.4nm,0.6s,baz=168,slow=0.5,SNR=7.5							
MKAR	**Makanchi Array**	**109.15**	**314**	Pdiff	**Pdif**	**07 02 57.4**	**+1.4**	
	comp=Z,0.3nm,0.5s,baz=87,slow=5.4,SNR=4.2							
MKAR				PKiKP	**PKiKP**	**07 06 54.7**	**-1.5**	
	comp=Z,1.8nm,0.5s,baz=213,slow=0.7,SNR=26							
BVAR	**Borovoye Array**	**116.87**	**321**	PKP	**PKPdf**	**07 07 09.5**	**-1.3**	
	comp=Z,6.2nm,0.5s,baz=90,slow=2.0,SNR=21							
BRVK	**Borovoye**	**116.93**	**321**	PKPdf	**PKPdf**	**07 07 09.6**	**-1.2**	
ARU	**Arti**	**122.88**	**326**	PKP	**PKPdf**	**07 07 21.5**	**-0.7**	
	comp=Z,6.7nm,0.5s,baz=149,slow=2.1,SNR=16							
HRA	**Herat**	**123.91**	**300**		**PKPdf**	**07 07 24.4**	**-0.7**	
ARCES	**ARCESS Array B**	**126.36**	**350**	PKP	**PKPdf**	**07 07 27.9**	**-0.7**	
	comp=Z,3.2nm,0.7s,baz=355,slow=6.1,SNR=5.8							
GEYT	**Alibeck**	**127.05**	**304**	PKP	**PKPdf**	**07 07 30.5**	**-0.4**	
	comp=Z,2.9nm,0.7s,baz=132,slow=2.2,SNR=7.0							
GEYT				PP	**PP**	**07 09 36.5**	**-2.8**	
	comp=Z,2.3nm,0.3s,baz=28,slow=10,SNR=4.3							
GEYT	**Alibeck**	**127.05**	**304**	PKPdf	**PKPdf**	**07 07 30.3**	**-0.5**	
FINES	**FINESS Array B**	**133.23**	**344**	PKhKP	PKPpre	07 07 38.4		
	comp=Z,5.0nm,0.9s,baz=82,slow=2.0,SNR=5.8							
FINES				SKPbc	**SKPbc**	**07 10 14.7**	**-0.3**	
	comp=Z,4.9nm,0.9s,baz=129,slow=2.7,SNR=4.4							
NB2	**NORSAR Subarra**	**136.42**	**353**	PKP	PKPpre	07 07 40.6		
	comp=Z,0.6nm,0.6s,baz=16,slow=3.1							
NOA	**NORSAR Array B**	**136.42**	**353**	PKhKP	PKPpre	07 07 39.6		
	comp=Z,0.7nm,0.6s,baz=341,slow=4.2,SNR=4.2							
HFS	**Hagfors**	**136.97**	**351**	PKhKP	PKPpre	07 07 41.9		
	comp=Z,1.4nm,0.4s,baz=72,slow=4.8,SNR=11							
KMBO	**Kilima Mbogo**	**140.09**	**245**	PKhKP	PKPpre	07 07 50.2		
	comp=Z,1.0nm,0.4s,baz=226,slow=8.1,SNR=4.6							
AKASG	**Malin Array Be**	**140.59**	**332**	PKhKP	PKPpre	07 07 48.5		
	comp=Z,1.0nm,0.3s,baz=46,slow=4.3,SNR=12							
AKASG				SKPbc	**SKPbc**	**07 10 37.2**	**+0.4**	
	comp=Z,0.5nm,0.4s,baz=40,slow=4.0,SNR=4.2							
EKA	**Eskdalemuir Ar**	**142.51**	**4**	PKhKP	PKPpre	07 07 54.8		
	comp=Z,1.1nm,0.6s,baz=356,slow=2.1,SNR=4.3							

SORM	**Soroca**	**142.82**	**330**	⇓P	**PKPdf**	**07 07 56.4**	**-3.2**	
GAZ	**Gaziantep**	**143.35**	**309**		PKPbc	07 07 59.7	-0.1	
MILM	**Milestii Mici**	**143.44**	**328**	⇑P	PKPab	07 07 59.4	0.0	
BZK	**Bozkurt**	**143.45**	**318**	⇑P	PKPab	07 07 58.0	-1.6	
BNN	**Bunyan**	**143.67**	**312**		PKPbc	07 07 59.3	-1.4	
LODK	**Lodwar**	**143.89**	**250**		PKPab	07 08 02.4	+0.2	
ILGA	**Ilgaz**	**144.09**	**317**		**PKPdf**	**07 08 02.3**	**-0.1**	
VASR	**Vaslui**	**144.14**	**329**	⇑P	**PKPab**	**07 08 02.1**	**0.0**	
BUR08	**Bucovina Ar. S**	**144.63**	**332**	PKPdf	PKPbc	07 08 03.2	-0.1	
BUR08				PKPbc	**PKPab**	**07 08 04.6**	**+0.5**	
BURAR	**Bucovina Array**	**144.64**	**332**	⇑P	**PKPab**	**07 08 04.2**	**+0.1**	
BURAR	**Bucovina Array**	**144.64**	**332**		**PKPab**	**07 08 04.5**	**+0.3**	
SCTR	**Scanteiesti**	**144.70**	**327**	⇑P	**PKPab**	**07 08 03.9**	**-0.3**	
GHRR		**144.73**	**328**	⇑P	**PKPab**	**07 08 04.6**	**+0.2**	
TESR	**Tescani**	**144.79**	**329**	⇑P	**PKPdf**	**07 08 03.3**	**+0.2**	
BR131	**Keskin Array S**	**144.80**	**315**	PKPdf	**PKPdf**	**07 08 02.6**	**-1.0**	
BRTR	**Keskin Array B**	**144.80**	**315**	PKP	**PKPdf**	**07 08 03.5**	**-0.1**	
	comp=Z,8.4nm,0.5s,baz=125,slow=4.2,SNR=60							
BRTR				pPKP	**pPKPdf**	**07 10 20.9**	**-0.1**	
	comp=Z,0.3nm,0.4s,baz=32,slow=31,SNR=1.1							
BRTR	**Keskin Array B**	**144.80**	**315**	PKPdf	**PKPdf**	**07 08 02.9**	**-0.7**	
BRTR				PKPbc	PKPbc	07 08 04.1	-0.1	
STHS	**Stebnicka Huta**	**144.82**	**338**	*e*PKP	**PKPdf**	**07 08 03.1**	**0.0**	
KOLS	**Kolonicke sedl**	**144.84**	**336**	*e*PKP	PKPbc	07 08 04.1	+0.3	
IZVR	**Izvoarele**	**144.91**	**327**	⇑P	**PKPab**	**07 08 05.8**	**+0.7**	
CFR	**Carcaliu**	**144.96**	**327**	⇑P	**PKPdf**	**07 08 03.3**	**-0.2**	
TPGR	**Topolog**	**145.03**	**326**	⇑P	**PKPbc**	**07 08 04.8**	**+0.3**	
ODBI	**Odobesti**	**145.12**	**328**	⇑P	**PKPab**	**07 08 05.7**	**-0.1**	
CRVS	**Cervenica-Dubn**	**145.17**	**337**	*e*PKP	**PKPab**	**07 08 05.0**	**+0.2**	
VRI	**Vrincioaia**	**145.21**	**329**	⇑P	**PKPbc**	**07 08 05.1**	**+0.1**	
PLOR	**Plostina**	**145.26**	**329**	⇑P	**PKPbc**	**07 08 05.2**	**0.0**	
ANTO	**Ankara**	**145.30**	**316**	⇑P	**PKPbc**	**07 08 05.7**	**+0.1**	
ANTO	**Ankara**	**145.30**	**316**	PKPdf	**PKPdf**	**07 08 03.6**	**-0.8**	
ANTO					**PKPbc**	**07 08 05.7**	**+0.1**	
ANTO				PKPab	**PKiKP**	**07 08 08.6**	**0.0**	
BR231	**Keskin MP Arra**	**145.32**	**315**		**PKPbc**	**07 08 05.8**	**+0.1**	
BMR	**Baia Mare**	**145.35**	**334**	⇑P	**PKPbc**	**07 08 05.6**	**+0.3**	
TRPA	**Tarpa**	**145.38**	**335**	⇑P	**PKPbc**	**07 08 05.6**	**+0.2**	
HARR	**Harsova**	**145.40**	**326**	⇑P	**PKPbc**	**07 08 05.8**	**+0.2**	
OSTC	**Ostas**	**145.43**	**343**	*e*PKP	**PKPbc**	**07 08 05.0**	**-0.5**	
TLBR	**Topalu**	**145.43**	**326**	⇑P	**PKPbc**	**07 08 05.1**	**-0.6**	
COVR	**Voineasa-Covas**	**145.48**	**329**	⇑P	**PKPbc**	**07 08 05.5**	**-0.4**	
OZUR		**145.50**	**330**	⇑P	**PKPbc**	**07 08 06.3**	**+0.4**	
CLL	**Collm**	**145.50**	**347**	PKPdf	**PKPdf**	**07 08 04.6**	**+0.4**	
CLL	**Collm**	**145.50**	**347**	*i* PKPbc	**PKPbc**	**07 08 05.4**	**-0.3**	
	comp=Z,11nm,0.9s							
CLL				*i* x	x	07 08 14.7		
CLL				*i* x	x	07 08 21.4		
CLL				*i* x	x	07 08 28.0		
CLL				*e*pPKPdf	**pPKPdf**	**07 10 22.0**	**+0.4**	
CLL				*i* x	x	07 10 30.7		
CLL				*e*SKPdf	**SKPdf**	**07 10 44.0**	**+1.2**	
CLL				*es*PKiKP	**sPKiKP**	**07 11 21.0**	**-1.3**	
CLL				*e*PP	**PP**	**07 11 33.0**	**+1.6**	
UPC	**Upice**	**145.53**	**344**	*e*PKP	**PKPbc**	**07 08 05.4**	**-0.4**	
DPC	**Dobruska-Polom**	**145.59**	**343**	*e*PKP	**PKPbc**	**07 08 06.0**	**0.0**	
DPC				*ep*PKP	**pPKPdf**	**07 10 24.5**	**+2.4**	
BRG	**Berggiesshubel**	**145.71**	**346**	*e*PKP	**PKPbc**	**07 08 06.4**	**+0.2**	
BRG				Amp		07 08 07.1		
	comp=Z,8.9nm,1.1s							
BRG				*ex*	x	07 08 14.6		
BRG				Amp		07 08 16.3		
	comp=Z,9.1nm,1.0s							
BRG				pPKP	**pPKPdf**	**07 10 27.4**	**+5.4**	
BRG				Amp		07 10 33.6		
	comp=Z,19nm,1.4s							
KRLC	**Kraliky**	**145.71**	**343**	*e*PKP	**PKPbc**	**07 08 06.2**	**-0.2**	
MORC	**Moravsky Berou**	**145.75**	**342**	⇑P	**PKPbc**	**07 08 06.9**	**+0.4**	
MORC	**Moravsky Berou**	**145.75**	**342**		**PKPbc**	**07 08 06.6**	**+0.2**	
MORC	**Moravsky Berou**	**145.75**	**342**	*e*PKP	**PKPbc**	**07 08 06.5**	**0.0**	
DOPR	**Dopca**	**145.79**	**330**	⇓P	**PKPab**	**07 08 08.4**	**-0.2**	
MLR	**Muntele Rosu**	**145.86**	**329**	⇑P	**PKPab**	**07 08 08.0**	**-1.0**	
MLR	**Muntele Rosu**	**145.86**	**329**	PKPdf	**PKPdf**	**07 08 05.9**	**+0.7**	
MLR				PKPbc	**PKPbc**	**07 08 07.4**	**+0.3**	
PVCC	**Panska Ves**	**145.88**	**345**	*e*PKP	**PKPbc**	**07 08 06.9**	**+0.1**	
MAUC	**Maruska**	**146.02**	**341**	*e*PKP	**PKPbc**	**07 08 07.3**	**0.0**	
MAUC				*ex*	x	07 10 25.1		
CBBR	**Cluj-Babes-Bol**	**146.03**	**333**	⇑P	**PKPbc**	**07 08 08.0**	**+0.7**	
MDUB	**Mudurnu**	**146.03**	**318**		**PKPbc**	**07 08 06.7**	**-1.0**	
CJR	**Cluj-Napoca**	**146.05**	**332**	⇑P	**PKPbc**	**07 08 07.9**	**+0.4**	
SECR		**146.12**	**328**	⇑P	**PKPbc**	**07 08 07.3**	**-0.3**	
VOIR		**146.34**	**330**	⇑P	**PKPbc**	**07 08 08.1**	**-0.2**	
DRGR		**146.37**	**333**	⇑P	**PKPbc**	**07 08 08.4**	**+0.1**	
PRU	**Pruhonice**	**146.38**	**345**	*e*PKP	**PKPbc**	**07 08 08.1**	**-0.1**	
PRU				*ex*	x	07 10 33.5		
VRAC	**Vranov**	**146.45**	**342**	*e*PKP	**PKPbc**	**07 08 08.7**	**+0.3**	
VYHS	**Vyhne**	**146.45**	**339**	*e*PKP	**PKPbc**	**07 08 08.7**	**+0.3**	
ARR	**Arges**	**146.59**	**330**	⇑P	**PKiKP**	**07 08 10.6**	**-0.4**	
NKC	**Novy Kostel**	**146.63**	**347**	*e*PKP	**PKPbc**	**07 08 08.9**	**0.0**	
KRUC	**Moravsky**	**146.73**	**342**	*e*PKP	**PKPbc**	**07 08 08.9**	**-0.2**	
BORA	**Eskisehir**	**146.83**	**317**		**PKPbc**	**07 08 09.4**	**-0.4**	
BORA				PKPab	**PKPab**	**07 08 14.0**	**+0.9**	
LOT	**Lotru**	**146.93**	**331**	⇑P	**PKPdf**	**07 08 08.3**	**+1.3**	
MODS	**Modra-Piesok**	**147.07**	**341**	*e*PKP	**PKPbc**	**07 08 10.8**	**+0.7**	
CSS	**Mathiatis**	**147.09**	**307**		**PKPbc**	**07 08 09.8**	**-0.8**	
CSS				PKPab	**PKPab**	**07 08 13.4**	**-0.7**	
KHC	**Kasperske Hory**	**147.41**	**345**	*e*PKP	**PKPbc**	**07 08 10.8**	**-0.2**	
KHC				*ex*	x	07 08 19.9		
KHC				*ex*	x	07 10 29.4		
GZR	**Gura Zlata**	**147.43**	**332**	⇓P	**PKPbc**	**07 08 10.6**	**-0.6**	
SURR	**Surduc**	**147.44**	**333**	⇑P	**PKPbc**	**07 08 11.0**	**-0.1**	
CKRC	**Cesky Krumlov**	**147.52**	**344**	*e*PKP	**PKPbc**	**07 08 11.0**	**-0.2**	
CKRC				*ex*	x	07 08 15.0		
CKRC				*ex*	x	07 10 29.5		
GEC2	**GERESS Array S**	**147.65**	**345**		**PKPbc**	**07 08 11.6**	**-0.1**	
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	**PKPbc**	**07 08 11.4**	**-0.2**	
	comp=Z,4.2nm,0.6s,baz=31,slow=3.0,SNR=30							
GERES				pPKPbc	**pPKPab**	**07 10 29.8**	**+2.3**	
	comp=Z,2.1nm,0.8s,baz=29,slow=3.0,SNR=6.4							
GERES	**GERESS Array B**	**147.65**	**345**		**PKPbc**	**07 08 11.8**	**+0.2**	
BZS	**Buzias**	**147.76**	**333**	⇑P	**PKPbc**	**07 08 11.8**	**-0.1**	
CONA	**Conrad Observa**	**147.90**	**342**	*e*P	**PKPbc**	**07 08 12.4**	**+0.1**	
	comp=Z,5.7nm,0.7s,SNR=6.1							
CONA				*e*P	**pPKPab**	**07 10 31.2**	**+2.9**	
	comp=Z,7.3nm,1.2s							
RONA	**Rosalia, Austr**	**147.97**	**341**	*e*P	**PKPbc**	**07 08 12.7**	**+0.2**	
	comp=Z,7.5nm,0.7s							
HERR	**Herculane**	**147.99**	**331**	⇑P	**PKPbc**	**07 08 12.4**	**-0.1**	
PLVB	**Pleven**	**148.02**	**327**	⇓P	**PKPbc**	**07 08 12.6**	**0.0**	
MDVR	**Moldovita**	**148.38**	**332**	⇑P	**PKPbc**	**07 08 12.6**	**-1.0**	
MOA	**Molln**	**148.42**	**344**	*e*P	**PKPbc**	**07 08 13.3**	**-0.3**	
	comp=Z,19nm,1.5s							
MOA				*e*P	**pPKPab**	**07 10 31.9**	**+1.9**	
	comp=Z,3.8nm,1.1s							
MORH	**Mrgy, Hungar**	**148.47**	**337**	⇑P	**PKPbc**	**07 08 13.4**	**-0.2**	
ARSA	**Arzberg**	**148.61**	**342**	*e*P	**PKPbc**	**07 08 13.3**	**-0.7**	
	comp=Z,2.7nm,0.8s							
ARSA				*e*P	**pPKPab**	**07 10 33.3**	**+2.5**	
	comp=Z,3.2nm,1.2s							
BIOA	**Bad Ischl, Aus**	**148.74**	**344**	*e*P	pPKPab	07 10 32.4	+1.2	
	comp=Z,2.6nm,0.7s							
ELL	**Elmali**	**148.81**	**313**		**PKPbc**	**07 08 14.6**	**-0.4**	
ELL				PKPab	**PKPab**	**07 08 22.4**	**+1.1**	
RDO	**Rodhopi**	**149.06**	**323**		**PKPbc**	**07 08 14.4**	**-0.9**	
RDO				PKPab	**PKPab**	**07 08 22.3**	**+0.3**	
SOKA	**Soboth**	**149.27**	**342**	*i* P	**PKPbc**	**07 08 14.7**	**-1.0**	
	comp=Z,5.2nm,1.0s							
VTS	**Vitosha**	**149.28**	**328**	⇑P	**PKPbc**	**07 08 15.6**	**-0.4**	
VTS	**Vitosha**	**149.28**	**328**		**PKPbc**	**07 08 15.7**	**-0.4**	
KBA	**Koelnbreinsper**	**149.38**	**344**	*i* P	**PKPbc**	**07 08 14.9**	**-1.2**	
	comp=Z,6.2nm,1.0s							
KBA				*e*P	**pPKPab**	**07 10 35.1**	**+1.4**	
WATA	**Walderalm**	**149.56**	**347**	*e*P	**PKPbc**	**07 08 15.8**	**-0.7**	
	comp=Z,3.0nm,0.6s							
WATA				*e*P	**pPKPab**	**07 10 34.9**	**+0.5**	
	comp=Z,5.1nm,1.4s							
OBKA	**Obir**	**149.57**	**342**	*i* P	**PKPbc**	**07 08 15.4**	**-1.0**	
	comp=Z,4.2nm,1.0s							
WTTA	**Wattenberg**	**149.62**	**346**	*i* P	**PKPbc**	**07 08 16.1**	**-0.5**	
	comp=Z,10.0nm,0.6s,SNR=5.9							
WTTA				*e*P	**pPKPab**	**07 10 35.1**	**+0.5**	
	comp=Z,4.2nm,0.8s							
MOTA	**Moosalm**	**149.66**	**347**	*i* P	**PKPbc**	**07 08 16.0**	**-0.7**	
	comp=Z,6.2nm,0.8s							
MYKA	**Terra Mystica**	**149.71**	**343**	*i* P	**PKPbc**	**07 08 15.8**	**-0.9**	
	comp=Z,5.2nm,0.5s							
SQTA	**Sankt Quirin**	**149.75**	**347**	*e*P	**PKPbc**	**07 08 16.4**	**-0.5**	
	comp=Z,6.6nm,0.6s,SNR=5.5							
SQTA				*e*P	**pPKPab**	**07 10 36.0**	**+0.9**	
	comp=Z,5.4nm,1.3s							
ABTA	**Abfaltersbach**	**149.90**	**345**	*e*P	**PKPbc**	**07 08 16.2**	**-1.0**	
	comp=Z,11nm,0.7s,SNR=8.0							

ABTA				*e*P	**pPKPab**	**07 10 35.0**	**-0.7**	
	comp=Z,4.6nm,1.0s							
DAVA	**Damuels**	**149.96**	**349**	*e*P	pPKPab	07 10 37.7	+1.8	
	comp=Z,5.9nm,1.0s							
LJU	**Ljubljana**	**150.00**	**342**	*i* PKPbc	**PKPbc**	**07 08 16.9**	**-0.4**	
FETA	**Feichten**	**150.04**	**347**	*e*P	**PKPbc**	**07 08 17.5**	**-0.2**	
	comp=Z,6.0nm,0.8s							
FETA				*e*P	**pPKPab**	**07 10 37.8**	**+1.5**	
	comp=Z,9.7nm,1.3s							
VISS	**Visnje**	**150.12**	**341**	*i* PKPbc	**PKPbc**	**07 08 17.2**	**-0.5**	
VISS				*i* PKPab	**PKPab**	**07 08 25.6**	**-0.7**	
VISS				*ep*PKPbc	**pPKPbc**	**07 10 33.7**	**-0.1**	
STAL	**STALIGIAL**	**150.30**	**344**		**PKPbc**	**07 08 17.3**	**-0.8**	
STAL				PKPab	**PKPab**	**07 08 27.1**	**+0.1**	
GBRS	**Gornja Briga**	**150.37**	**341**	*i* PKPbc	**PKPbc**	**07 08 17.9**	**-0.4**	
GBRS				*i* PKPab	**PKPab**	**07 08 26.9**	**-0.4**	
STIP	**Stip**	**150.49**	**328**	*e*P	**PKPbc**	**07 08 17.1**	**-1.6**	
FUORN	**Ofenpass-Fuorn**	**150.52**	**348**		**PKiKP**	**07 08 19.2**	**-0.1**	
FUORN				PKPab	**PKPab**	**07 08 28.5**	**+0.3**	
SKO	**Skopje**	**150.66**	**329**	*e*P	**PKPbc**	**07 08 18.4**	**-0.6**	
PDG	**Podgorica**	**151.33**	**332**	⇑P	**PKPbc**	**07 08 20.0**	**-0.5**	
TEOL	**Teolo**	**151.40**	**345**		**PKiKP**	**07 08 20.7**	**-0.2**	
FNA	**Florina**	**151.57**	**327**		**PKPbc**	**07 08 20.2**	**-0.9**	
PBRG	**Braganca**	**155.19**	**15**	*e*PKPab	**PKPab**	**07 08 47.9**	**-0.1**	
POLO	**Lamas de Olo**	**155.31**	**17**	*e*PKPdf	**PKPdf**	**07 08 17.5**	**-2.1**	
POLO	**Lamas de Olo**	**155.31**	**17**	*e*PKPab	**PKPab**	**07 08 48.2**	**-0.4**	
PVRL	**Vila Real**	**155.43**	**17**	*e*PKPab	**PKPab**	**07 08 48.5**	**-0.5**	
MVO	**Moncorvo**	**155.72**	**16**	*e*PKPab	**PKPab**	**07 08 50.3**	**0.

TWT	**Tachien** baz=285	**1.62 288**	*e*P	**Pn**	**07 02 48.1**	**+0.4**
NWF	**Wu-fen Shan** baz=321	**1.63 323**	*e*P	**Pn**	**07 02 49.9**	**+2.1**
NWF	baz=321		*e*S	**Sn**	**07 03 07.0**	**-1.0**
YHNB	**Yeheng** baz=302	**1.63 304**	⇓P	**Pn**	**07 02 48.4**	**+0.7**
YHNB	baz=302		*e*S	**Sn**	**07 03 06.5**	**-1.5**
EDH	**Donghe** baz=239	**1.64 242**	P	**Pn**	**07 02 47.8**	**0.0**
EDH	baz=239		*i* S	**Sn**	**07 03 06.3**	**-1.8**
NSK	**Sanguang** baz=301	**1.65 304**	*e*P	**Pn**	**07 02 47.6**	**-0.3**
LDUT	**Ludao** baz=229	**1.69 230**	*e*S	**Sn**	**07 03 07.8**	**-1.5**
SSLB	**Suanglung** baz=268	**1.76 271**	P	**Pn**	**07 02 49.8**	**+0.4**
YUS	**Yu-Shan** baz=259	**1.78 261**	*i* P	**Pn**	**07 02 50.9**	**+0.8**
YUS	baz=259		S	**Sn**	**07 03 11.6**	**-0.6**
ELDTW	**Lidau** baz=249	**1.80 252**	P	**Pn**	**07 02 50.0**	**+0.1**
ELDTW	baz=249		*i* S	**Sn**	**07 03 10.7**	**-1.4**
SMLT	**Sun Moon Lake** baz=261	**1.81 274**	*i* P	**Pn**	**07 02 51.1**	**+0.9**
LONT	**Longtian** baz=240	**1.81 242**	*e*P	**Pn**	**07 02 50.3**	**+0.2**
LONT	baz=240		*e*S	**Sn**	**07 03 11.9**	**-0.5**
WCS	**Beigang Elemen** baz=277	**1.82 280**	*e*P	**Pn**	**07 02 52.5**	**+2.4**
NFF	**Wufeng Townshi** baz=297	**1.82 299**	*e*P	**Pn**	**07 02 50.7**	**+0.5**
NFF	baz=297		*e*S	**Sn**	**07 03 12.0**	**-0.5**
WHP	**Taichung City** baz=274	**1.83 286**	*e*P	**Pn**	**07 02 52.6**	**+2.2**
TYC	**Yuchr** baz=262	**1.85 275**	*e*P	**Pn**	**07 02 51.7**	**+1.2**
WHYT	**Xinyi Township** baz=256	**1.85 268**	P	**Pn**	**07 02 51.9**	**+1.3**
WHYT	baz=256		*e*S	**Sn**	**07 03 13.1**	**-0.2**
TWGBT	**Beinan** baz=230	**1.90 240**	P	**Pn**	**07 02 52.0**	**+0.7**
TWGBT	baz=230		S	**Sn**	**07 03 14.1**	**-0.3**
TWG	**Pinlang** baz=230	**1.90 241**	P	**Pn**	**07 02 51.9**	**+0.6**
TWG	baz=230		S	**Sn**	**07 03 13.7**	**-0.9**
LIOB	**Emei** baz=296	**1.91 298**	*e*P	**Pn**	**07 02 53.0**	**+1.6**
NSTT	**Nanjuang** baz=295	**1.91 297**	*e*P	**Pn**	**07 02 51.8**	**+0.3**
STYH	**Taoyuan** baz=243	**2.01 253**	*e*P	**Pn**	**07 02 53.2**	**+0.3**
STYT	**Tauyuan** baz=242	**2.03 253**	*e*P	**Pn**	**07 02 54.2**	**+1.0**
WCKO	**Fanlu** baz=259	**2.10 262**	*e*P	**Pn**	**07 02 55.8**	**+1.7**
TPUB	**Ta-pu** baz=246	**2.11 258**	*e*P	**Pn**	**07 02 55.6**	**+1.4**
LYUB	**Lan-yu** baz=224	**2.12 214**	*e*P	**Pn**	**07 02 54.7**	**+0.4**
CHN4	**Tsaushan** baz=248	**2.13 259**	*e*P	**Pn**	**07 02 56.0**	**+1.6**
CHN1	**Nanshi** baz=254	**2.23 255**	*e*P	**Pn**	**07 02 58.4**	**+2.5**
CHN1	baz=254		*e*S	**Sn**	**07 03 26.2**	**+3.6**
TWK	**Hsinying** baz=255	**2.24 258**	*e*P	**Pn**	**07 02 56.3**	**+0.3**
SSD	**Sandimen** baz=236	**2.30 244**	*e*P	**Pn**	**07 02 58.4**	**+1.6**
TSMG	**Majia** baz=241	**2.30 243**	*e*P	**Pn**	**07 02 59.2**	**+2.3**
EAST	**Anshuo** baz=242	**2.32 234**	*e*P	**Pn**	**07 02 57.9**	**+0.8**
MASBT	**Mashibuluo** baz=233	**2.36 241**	*e*P	**Pn**	**07 02 59.2**	**+1.6**
SCZT	**Fangliau** baz=235	**2.50 237**	*e*P	**Pn**	**07 03 00.9**	**+1.5**
SMST	**Manzhou Townsh** baz=227	**2.56 228**	*e*P	**Pn**	**07 03 00.8**	**+0.5**
PTMZ	**Houxiangcun** baz=288	**3.65 291**	*e*P	**Pn**	**07 03 15.4**	**+0.1**

ROM ***27*** *07:16:17.0±0.1, 42.°904N±0.°003×13.°188E±0.°004, h8km, ML2.8/56, Error ellipse: s-maj=0.3km s-min=0.1km az=63.0*

PRU ***27*** *07:16:19.2±0.0, 42.°92N×13.°72E, h10km*

ISC 27 07:16:17.1±0.8, **42.°90N**±0.°01×**13.°22E**±0.°02, **h8**km±4km, **n83**, σ**1**.**21**/128, **13C-15D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.02**	**304**	P		**Pg**		**07 16 18.5**	**-0.3**
MC2				S		**Sg**		**07 16 19.2**	**-0.9**
MMO1	**Montemonaco**	**0.08**	**91**	⇑P		**Pg**		**07 16 19.9**	**+0.6**
MMO1				S		**Sg**		**07 16 21.7**	**+0.9**
NRCA	**Norcia**	**0.10**	**228**	P		**Pg**		**07 16 19.9**	**+0.4**
NRCA				S		**Sg**		**07 16 21.7**	**+0.5**
NRCA				AML		AML			
	comp=E,29650μm,0.2s								
NRCA				AML		AML			
	comp=N,36900μm,0.2s								
NRCA				AML		AML			
	comp=N,36950μm,0.2s								
NRCA				AML		AML			
	comp=E,31050μm,0.1s								
NRCA				AML		AML			
	comp=E,29650μm,0.1s								
NRCA				AML		AML			
	comp=N,38550μm,0.2s								
T1256	**Bologna (MC)**	**0.11**	**4**	⇓P		**Pg**		**07 16 19.7**	**0.0**
T1256				S		**Sg**		**07 16 21.4**	**-0.2**
T1256				AML		AML			
	comp=E,31850μm,1.0s								
T1256				AML		AML			
	comp=N,30850μm,0.3s								
T1256				AML		AML			
	comp=E,31800μm,0.9s								
T1256				AML		AML			
	comp=N,29600μm,0.3s								
FEMA	**Monte Fema**	**0.14**	**297**	P		**Pg**		**07 16 20.2**	**+0.1**
FEMA				S		**Sg**		**07 16 22.2**	**0.0**
FEMA				AML		AML			
	comp=E,13300μm,0.8s								
FEMA				AML		AML			
	comp=N,13850μm,1.5s								
FEMA				AML		AML			
	comp=E,13350μm,0.7s								
FEMA				AML		AML			
	comp=N,13800μm,1.5s								
T1216	**Preci, Frazion**	**0.14**	**266**	P		**Pg**		**07 16 20.5**	**+0.3**
T1216				S		**Sg**		**07 16 22.9**	**+0.6**
T1216				AML		AML			
	comp=N,12150μm,0.3s								
T1216				AML		AML			
	comp=E,27550μm,0.4s								
T1216				AML		AML			
	comp=N,12200μm,0.3s								
T1216				AML		AML			
	comp=E,27550μm,0.3s								
T1216				AML		AML			
	comp=N,12200μm,0.3s								
FDMO	**Fiordimonte**	**0.17**	**325**	P		**Pg**		**07 16 20.6**	**0.0**
FDMO				S		**Sg**		**07 16 23.1**	**+0.2**
FDMO				AML		AML			
	comp=N,5870μm,0.3s								
FDMO				AML		AML			
	comp=E,8080μm,0.3s								
T1241	**Roccafluvione,**	**0.17**	**105**	P		**Pg**		**07 16 21.5**	**+0.9**
T1241				S		**Sg**		**07 16 24.7**	**+1.8**
T1241				AML		AML			
	comp=E,6060μm,0.6s								
T1241				AML		AML			
	comp=N,8960μm,0.8s								
T1241				AML		AML			
	comp=N,8960μm,0.7s								
T1241				AML		AML			
	comp=N,9180μm,0.7s								
T1241				AML		AML			
	comp=E,6055μm,0.6s								
T1241				AML		AML			
	comp=E,6225μm,0.6s								
GUMA	**Gualdo di Mace**	**0.18**	**28**	⇑P		**Pg**		**07 16 21.7**	**+0.8**
GUMA				S		**Sg**		**07 16 25.2**	**+1.7**
GUMA				AML		AML			
	comp=E,27450μm,0.2s								
GUMA				AML		AML			
	comp=E,20900μm,1.4s								
GUMA				AML		AML			
	comp=N,33750μm,1.6s								
GUMA				AML		AML			
	comp=N,34100μm,0.4s								
T1219	**Muccia, Frazio**	**0.22**	**316**	P		**Pg**		**07 16 21.6**	**+0.1**
T1219				S		**Sg**		**07 16 24.8**	**+0.3**
T1219				AML		AML			
	comp=E,3900μm,0.3s								
T1219				AML		AML			
	comp=E,3905μm,0.3s								
T1219				AML		AML			
	comp=N,5020μm,0.3s								
T1219				AML		AML			
	comp=N,5155μm,0.3s								
T1219				AML		AML			
	comp=E,3905μm,0.3s								
T1219				AML		AML			
	comp=N,5025μm,0.3s								
T1219				AML		AML			
	comp=N,5150μm,0.3s								
T1219				AML		AML			
	comp=E,3895μm,0.3s								
T1218	**Civita (PG)**	**0.24**	**198**	⇓P		**Pg**		**07 16 22.6**	**+0.7**
T1218				S		**Sg**		**07 16 27.2**	**+2.0**
T1218				AML		AML			
	comp=N,4785μm,1.5s								
T1218				AML		AML			
	comp=N,4715μm,1.5s								
T1218				AML		AML			
	comp=E,3820μm,0.9s								
T1218				AML		AML			
	comp=N,4790μm,1.5s								
T1218				AML		AML			
	comp=E,3760μm,0.9s								
T1218				AML		AML			
	comp=N,4720μm,1.5s								
CESI	**CESI - Serrava**	**0.25**	**295**	⇑P		**Pg**		**07 16 22.3**	**+0.2**
CESI				S		**Sg**		**07 16 26.4**	**+0.9**
CESI				AML		AML			
	comp=N,9020μm,0.5s								
CESI				AML		AML			
	comp=N,9015μm,0.5s								
CESI				AML		AML			
	comp=E,5910μm,0.4s								
T1243	**Rocca Santa Ma**	**0.27**	**140**	⇓P		**Pg**		**07 16 23.3**	**+0.9**
T1243				S		**Sg**		**07 16 28.1**	**+2.1**
T1215	**Vallo di Nera,**	**0.27**	**249**	⇑P		**Pg**		**07 16 22.9**	**+0.4**
T1215				S		**Sg**		**07 16 27.3**	**+1.1**
T1215				AML		AML			
	comp=E,2645μm,0.4s								
T1215				AML		AML			
	comp=N,1695μm,0.4s								
T1215				AML		AML			
	comp=E,2785μm,0.4s								
T1215				AML		AML			
	comp=E,2645μm,0.4s								
T1215				AML		AML			
	comp=E,2790μm,0.4s								
T1215				AML		AML			
	comp=N,1530μm,0.7s								
T1215				AML		AML			
	comp=N,1700μm,0.4s								
SMA1	**SAN MARTINO**	**0.28**	**162**	⇓P		**Pb**		**07 16 23.5**	**-0.9**
SMA1				S		**Sb**		**07 16 28.6**	**-0.8**
SMA1				AML		AML			
	comp=E,4385μm,0.7s								
SMA1				AML		AML			
	comp=N,3855μm,0.7s								
MNTP	**Montappone**	**0.30**	**38**	P		**Pg**		**07 16 24.2**	**+1.2**
MNTP				S		**Sg**		**07 16 30.5**	**+3.4**
LNSS	**Leonessa**	**0.32**	**204**	⇑P		**Pg**		**07 16 24.1**	**+0.6**
LNSS				S		**Sg**		**07 16 29.8**	**+2.0**
LNSS				AML		AML			
	comp=N,8575μm,0.4s								
LNSS				AML		AML			
	comp=E,2905μm,0.4s								
OFFI	**Offida**	**0.35**	**84**	⇑P		Pg		07 16 25.6	+1.7
OFFI				S		Sg		07 16 33.0	+4.5
OFFI				AML		AML			
	comp=N,3800μm,0.6s								
OFFI				AML		AML			
	comp=E,3475μm,0.8s								
CAMP	**Campotosto**	**0.39**	**159**	⇓P		**Pb**		**07 16 25.3**	**-1.0**
CAMP				S		**Sb**		**07 16 31.9**	**-0.6**
CAMP				AML		AML			
	comp=N,1740μm,0.3s								
CAMP				AML		AML			
	comp=E,1225μm,1.0s								
RM33	**Pellescritta (**	**0.39**	**180**	⇓P		**Pb**		**07 16 25.4**	**-0.9**
RM33				S		**Sb**		**07 16 32.1**	**-0.4**
RM33				AML		AML			
	comp=E,1910μm,0.5s								
RM33				AML		AML			
	comp=N,2555μm,0.9s								
RM33				AML		AML			
	comp=N,2435μm,0.9s								
RM33				AML		AML			
	comp=E,1910μm,0.5s								
RM33				AML		AML			
	comp=E,1945μm,0.5s								
RM33				AML		AML			
	comp=N,2555μm,0.8s								
TERO	**Teramo**	**0.40**	**134**	⇑P		**Pb**		**07 16 25.5**	**-0.9**
TERO				S		**Sb**		**07 16 32.3**	**-0.4**
TERO				AML		AML			
	comp=E,4680μm,1.3s								
TERO				AML		AML			
	comp=N,6930μm,0.3s								
SNTG	**Esanatoglia**	**0.41**	**331**	⇓P		**Pg**		**07 16 25.0**	**-0.1**
SNTG				S		**Sg**		**07 16 31.4**	**+1.0**
SNTG				AML		AML			
	comp=E,1255μm,1.1s								
SNTG				AML		AML			
	comp=N,1390μm,0.3s								
SNTG				AML		AML			
	comp=E,1200μm,1.1s								
SNTG				AML		AML			
	comp=N,1440μm,0.2s								
ASSB	**Assisi San Ben**	**0.43**	**289**	⇑P		**Pg**		**07 16 25.5**	**0.0**
ASSB				S		**Sg**		**07 16 32.1**	**+0.9**
ASSB				AML		AML			
	comp=E,1660μm,0.5s								
ASSB				AML		AML			
	comp=N,1505μm,0.8s								
EL6	**Elcito**	**0.44**	**349**	P		**Pg**		**07 16 25.6**	**0.0**
EL6				S		**Sb**		**07 16 32.8**	**-1.0**
EL6				AML		AML			
	comp=E,2870μm,1.1s								
EL6				AML		AML			
	comp=E,2865μm,1.1s								
EL6				AML		AML			
	comp=N,2645μm,0.5s								
T1211	**Morro Reatino**	**0.45**	**216**	⇓P		**Pg**		**07 16 26.2**	**+0.3**
T1211				S		**Sg**		**07 16 33.4**	**+1.6**
T1211				AML		AML			
	comp=E,1196μm,0.4s								
T1211				AML		AML			
	comp=N,2855μm,0.2s								
T1211				AML		AML			
	comp=E,1022μm,0.4s								
T1211				AML		AML			
	comp=N,2820μm,0.3s								
T1211				AML		AML			
	comp=E,1021μm,0.4s								
T1211				AML		AML			
	comp=N,2815μm,0.3s								
T1211				AML		AML			
	comp=N,2855μm,0.3s								
T1211				AML		AML			
	comp=E,1200μm,0.4s								
T1211				AML		AML			
	comp=E,1020μm,0.4s								
ARRO	**Arrone**	**0.46**	**226**	P		**Pg**		**07 16 26.3**	**+0.3**
ARRO				S		**Sg**		**07 16 34.2**	**+2.2**
ARRO				AML		AML			
	comp=E,994μm,0.2s								
ARRO				AML		AML			
	comp=E,994μm,0.2s								
ARRO				AML		AML			
	comp=N,868μm,0.3s								
T1247	**Pizzolo (AQ)**	**0.46**	**172**	⇓P		**Pb**		**07 16 26.7**	**-0.8**
T1247				S		**Sb**		**07 16 34.7**	**+0.1**
T1247				AML		AML			
	comp=E,1970μm,0.5s								
T1247				AML		AML			
	comp=N,2000μm,0.3s								
CING	**Cingoli**	**0.47**	**358**	P		**Pb**		**07 16 26.3**	**-1.4**
CING				S		**Sb**		**07 16 34.2**	**-0.8**
CING				AML		AML			
	comp=N,1450μm,0.2s								
CING				AML		AML			
	comp=E,1720μm,0.5s								
ATCC	**AVT- Casa Cast**	**0.51**	**304**	⇑P		**Pg**		**07 16 26.9**	**0.0**
ATCC				S		**Sg**		**07 16 35.2**	**+1.6**
ATCC				AML		AML			
	comp=N,1700μm,0.5s								
ATCC				AML		AML			
	comp=E,1645μm,0.4s								
FOSV	**Fossato di Vic**	**0.52**	**320**	P		**Pg**		**07 16 26.9**	**-0.1**
FOSV				S		**Sg**		**07 16 35.1**	**+1.3**
FOSV				AML		AML			
	comp=E,854μm,0.6s								
FOSV				AML		AML			
	comp=N,1450μm,1.6s								
GIGS	**Gran Sasso**	**0.52**	**150**	P		**Pb**		**07 16 27.2**	**-1.3**
GIGS				S		**Sb**		**07 16 36.2**	**0.0**
GIGS				AML		AML			
	comp=E,588μm,0.2s								
GIGS				AML		AML			
	comp=N,514μm,0.6s								
TRTR	**Tortoreto Alta**	**0.52**	**100**	⇑P		**Pn**		**07 16 29.2**	**-1.6**
TRTR				S		**Sb**		**07 16 39.6**	**+3.4**
TRTR				AML		AML			
	comp=E,4150μm,0.9s								
TRTR				AML		AML			
	comp=N,6870μm,0.3s								
CESX	**Cesi**	**0.55**	**238**	P		**Pg**		**07 16 27.7**	**0.0**
CESX				S		**Sg**		**07 16 36.0**	**+1.1**
CESX				AML		AML			
	comp=E,1048μm,1.3s								
CESX				AML		AML			
	comp=N,1330μm,0.4s								
AQU	**L'Aquila**	**0.56**	**166**	⇓P		**Pb**		**07 16 28.3**	**-0.9**
AQU				S		**Sb**		**07 16 37.1**	**-0.3**
AQU				AML		AML			
	comp=N,772μm,1.1s								
AQU				AML		AML			
	comp=N,764μm,0.6s								
AQU				AML		AML			
	comp=E,781μm,1.6s								
AQU				AML		AML			
	comp=E,741μm,1.1s								
MURB	**Monte Urbino**	**0.62**	**306**	P		**Pg**		**07 16 29.0**	**-0.1**
MURB				S		**Sg**		**07 16 39.0**	**+1.8**
MURB				AML		AML			
	comp=E,2180μm,0.3s								
MURB				AML		AML			
	comp=N,2080μm,0.3s								
MURB				AML		AML			
	comp=N,2105μm,0.3s								
MURB				AML		AML			
	comp=E,2350μm,0.3s								
MURB				AML		AML			
	comp=N,2110μm,0.3s								
SSFR	**Montelago di S**	**0.62**	**330**	P		**Pg**		**07 16 28.9**	**-0.2**
SSFR				S		**Sb**		**07 16 38.7**	**-0.4**
SSFR				AML		AML			
	comp=E,1360μm,1.2s								
SSFR				AML		AML			
	comp=E,1440μm,0.2s								
SSFR				AML		AML			
	comp=N,1280μm,1.6s								
SSFR				AML		AML			
	comp=N,1246μm,0.8s								
ARVD	**Arcevia**	**0.63**	**342**	P		**Pg**		**07 16 29.0**	**-0.2**
ARVD				S		**Sb**		**07 16 39.2**	**-0.1**
ARVD				AML		AML			
	comp=E,612μm,0.5s								
ARVD				AML		AML			
	comp=N,359μm,1.6s								
FIAM	**Fiamignano**	**0.64**	**187**	⇓P		**Pg**		**07 16 29.4**	**+0.1**
FIAM				S		**Sb**		**07 16 39.5**	**-0.1**
FIAM				AML		AML			
	comp=E,599μm,0.7s								
FIAM				AML		AML			
	comp=N,544μm,1.0s								
ATFO	**Monte Foce - G**	**0.66**	**315**	P		**Pg**		**07 16 29.8**	**-0.1**
ATFO				S		**Sg**		**07 16 39.7**	**+1.2**
ATFO				AML		AML			
	comp=N,444μm,1.6s								
ATFO				AML		AML			
	comp=E,572μm,0.4s								
VCEL	**Villa Celiera**	**0.68**	**137**	P		**Pb**		**07 16 30.8**	**-0.5**
VCEL				S		**Sn**		**07 16 42.2**	**-1.8**
VCEL				AML		AML			
	comp=N,1145μm,1.0s								
VCEL				AML		AML			
	comp=E,1080μm,1.5s								
FAGN	**Fagnano**	**0.69**	**157**	P		**Pb**		**07 16 30.5**	**-0.8**
FAGN				AML		AML			
	comp=E,1235μm,0.4s								
FAGN				AML		AML			
	comp=N,1300μm,0.6s								
AOI	**Ancona**	**0.71**	**23**	P		**Pn**		**07 16 31.0**	**-2.4**
AOI				S		**Sn**		**07 16 43.1**	**-1.5**
AOI				AML		AML			
	comp=E,616μm,0.3s								
AOI				AML		AML			
	comp=N,529μm,0.4s								
FRON	**Frontone**	**0.71**	**330**	P		**Pg**		**07 16 30.4**	**-0.4**
FRON				S		**Sb**		**07 16 41.7**	**0.0**
FRON				AML		AML			
	comp=E,513μm,0.9s								
FRON				AML		AML			
	comp=N,939μm,1.0s								
COR1	**Corinaldo**	**0.75**	**348**	P		**Pb**		**07 16 32.1**	**-0.3**
COR1				S		**Sn**		**07 16 45.7**	**+0.2**
COR1				AML		AML			
	comp=E,647μm,0.6s								
COR1				AML		AML			
	comp=N,1064μm,0.8s								
ATVO	**AVT- Monte Val**	**0.76**	**309**	P		**Pg**		**07 16 31.3**	**-0.5**
ATVO				S		**Sg**		**07 16 42.4**	**+0.7**
ATVO				AML		AML			
	comp=E,330μm,1.4s								
ATVO				AML		AML			
	comp=N,390μm,0.4s								
T0110	**Collepietro**	**0.79**	**148**	⇓P		**Pb**		**07 16 32.3**	**-0.8**
T0110				AML		AML			
	comp=E,1058μm,0.7s								
T0110				AML		AML			
	comp=N,1455μm,1.2s								
MPAG	**Monte Paganucc**	**0.80**	**336**	P		**Pg**		**07 16 32.3**	**-0.2**
MPAG				S		**Sb**		**07 16 45.1**	**+0.8**
MPAG				AML		AML			
	comp=E,446μm,0.4s								
MPAG				AML		AML			
	comp=N,424μm,0.9s								
PIEI	**Pieia**	**0.81**	**322**	P		**Pg**		**07 16 32.1**	**-0.5**
PIEI				AML		AML			
	comp=E,316μm,0.3s								
PIEI				AML		AML			
	comp=N,257μm,0.3s								
ATPI	**Pietralunga -**	**0.81**	**313**	P		**Pg**		**07 16 32.2**	**-0.5**
ATPI				AML		AML			
	comp=E,446μm,0.6s								
ATPI				AML		AML			
	comp=N,286μm,0.5s								
MGAB	**Montegabbione**	**0.81**	**271**	⇓P		**Pg**		**07 16 32.6**	**-0.1**
MGAB				AML		AML			
	comp=E,504μm,0.4s								
MGAB				AML		AML			
	comp=N,910μm,0.5s								
ATMI	**Monte Miggiano**	**0.82**	**302**	P		**Pg**		**07 16 33.5**	**+0.7**
ATMI				AML		AML			
	comp=N,989μm,0.4s								
ATMI				AML		AML			
	comp=E,792μm,0.4s								
NARO	**Abbazia di Nar**	**0.85**	**327**	P		**Pg**		**07 16 32.8**	**-0.6**
NARO				AML		AML			

comp=E,316μm,0.5s
NARO AML AML
comp=N,236μm,0.6s
FSSB Fossombrone 0.85 338 P **Pg** **07 16 33.2 -0.2**
FSSB S **Sb** **07 16 47.1 +1.3**
FSSB AML AML
comp=E,1175μm,0.3s
FSSB AML AML
comp=N,1690μm,1.3s
FSSB AML AML
comp=E,1180μm,0.3s
BADI Badiali 0.94 311 P **Pg** **07 16 34.7 -0.4**
SACS San Casciano d 0.96 267 ⇓P **Pg** **07 16 35.5 0.0**
SACS AML AML
comp=E,269μm,0.6s
SACS AML AML
comp=E,259μm,0.6s
SACS AML AML
comp=N,272μm,0.5s
SACS AML AML
comp=N,282μm,0.6s
INTR Introdacqua 1.02 150 P **Pb** **07 16 35.9 -1.2**
INTR AML AML
comp=E,373μm,0.7s
INTR AML AML
comp=N,892μm,0.5s
INTR AML AML
comp=N,652nm,0.5s
INTR AML AML
comp=E,383nm,0.7s
SSP9 Sansepolcro 1.04 311 ⇑P **Pn** **07 16 38.6 +0.7**
SSP9 AML AML
comp=E,172μm,1.2s
SSP9 AML AML
comp=N,205μm,1.6s
PESA Pesaro 1.08 345 P **Pn** **07 16 37.7 -0.7**
PESA AML AML
comp=E,636μm,1.2s
PESA AML AML
comp=N,560μm,1.2s
CPGN Carpegna, Ital 1.11 324 P **Pn** **07 16 39.0 -0.1**
CPGN AML AML
comp=N,438μm,0.8s
CPGN AML AML
comp=E,501μm,0.8s
CPGN AML AML
comp=E,368μm,0.5s
CPGN AML AML
comp=N,447μm,0.6s
SF04 Casetta 1.15 267 ⇓P **Pg** **07 16 38.6 -0.4**
SF04 AML AML
comp=E,135μm,1.4s
SF04 AML AML
comp=N,158μm,1.5s
CRE Caprese Michel 1.17 308 ⇑P **Pn** **07 16 40.8 +1.0**
CRE AML AML
comp=E,119μm,0.4s
CRE AML AML
comp=N,140μm,1.4s
SAMA S.Maria delle 1.21 203 S **Sg** **07 16 55.0 -1.0**
LRP Arpino 1.28 167 P **Pb** **07 16 41.2 -0.3**
LRP AML AML
comp=E,102μm,0.8s
LRP AML AML
comp=N,37μm,0.7s
CERA Filignano 1.43 155 P **Pg** **07 16 45.2 +0.7**
MIDA Miranda 1.48 148 P **Pg** **07 16 44.2 -1.1**
SGRT San Giovanni R 2.20 121 ⇑P **Pg** **07 16 55.9 -3.3**
SGRT AML AML
comp=E,127μm,0.9s
SGRT AML AML
comp=N,136μm,0.4s
MSAG Monte S. Angel 2.33 120 P **Pb** **07 16 58.0 -1.2**
MCRV Calabrutti - M 2.57 145 P **Pg** **07 17 07.3 +1.0**
OBKA Obir 3.73 14 *e*Pn **Pn** **07 17 16.1 +1.1**
comp=N,0.3nm,0.2s
MYKA Terra Mystica 3.74 5 *e*Pn **Pn** **07 17 16.7 +1.5**
comp=N,1.3nm,0.4s
ABTA Abfaltersbach 3.88 353 *e*Pn **Pn** **07 17 18.6 +1.5**
comp=N,3.1nm,0.3s
SOKA Soboth 3.99 18 *e*Pn **Pn** **07 17 20.2 +1.6**
comp=N,0.4nm,0.2s
KBA Koelnbreinsper 4.18 1 *e*Pn **Pn** **07 17 24.1 +2.9**
comp=N,4.7nm,0.6s
FETA Feichten 4.48 338 *e*Pn **Pn** **07 17 28.0 +2.6**
comp=N,1.5nm,0.4s
WTTA Wattenberg 4.50 346 *e*Pn **Pn** **07 17 28.5 +2.7**
comp=N,1.7nm,0.3s
SQTA Sankt Quirin 4.55 342 *e*Pn **Pn** **07 17 28.1 +1.8**
comp=N,2.1nm,0.4s
WATA Walderalm 4.58 346 *e*Pn **Pn** **07 17 29.5 +2.7**
comp=N,2.0nm,0.4s
MOTA Moosalm 4.69 342 *e*Pn **Pn** **07 17 30.7 +2.5**
comp=N,0.6nm,0.2s
BIOA Bad Ischl, Aus 4.80 3 *e*Pn **Pn** **07 17 30.6 +1.0**
comp=N,3.9nm,0.3s
DAVA Damuels 4.98 333 *e*Pn **Pn** **07 17 33.7 +1.5**
comp=N,1.2nm,0.3s
MOA Molln 5.00 8 *e*Pn **Pn** **07 17 33.9 +1.5**
comp=N,0.2nm,0.2s
CONA Conrad Observa 5.36 19 *i* Pn **Pn** **07 17 38.2 +0.8**
comp=N,0.5nm,0.3s
KHC Kasperske Hory 6.24 2 *e*PN **Pn** **07 17 49.5 +0.1**
KHC *e*SN **Sn** **07 18 59.0 -1.9**

WEL 27 07:20:15.5±0.3,**43°S**±2″×**17°3E**±°,**h7**km±2km,**M3.6**/31,
ML3.8/21,**MLv3.6**/31,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=126.9,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.09**	**103**	P	Pg	07 20 17.8	+0.2
GVZ				S	Sg	07 20 19.8	+0.8
AMCZ	**Amberley**	**0.30**	**221**	P	Pb	07 20 22.6	-0.6
AMCZ				S	Sb	07 20 27.7	-0.7
LTZ	**Lake Taylor**	**0.51**	**289**	P	Pg	07 20 25.6	+0.4
LTZ				S	Sg	07 20 33.0	+1.1
KHZ	**Kahutara**	**0.70**	**41**	P	Pb	07 20 29.6	-0.4
OXZ	**Oxford**	**0.75**	**239**	P	Pb	07 20 30.7	-0.1
OXZ				S	Sb	07 20 41.6	+0.3
OKCZ	**Okains Bay**	**0.78**	**173**	P	Pb	07 20 31.4	0.0
MQZ	**McQueen's Vall**	**0.78**	**194**	P	Pg	07 20 30.6	+0.1
AKCZ	**Akaroa Harbour**	**0.92**	**181**	P	Pg	07 20 33.2	0.0
RACZ	**Rakaia**	**0.96**	**216**	P	Pg	07 20 33.9	-0.1
INZ	**Inchbonnie**	**1.11**	**281**	P	Pg	07 20 36.5	-0.2
MHCZ	**Mount Hutt**	**1.15**	**239**	P	Pg	07 20 36.5	-1.0
THZ	**Tophouse**	**1.19**	**359**	P	Pg	07 20 37.7	-0.6
THZ				S	Sg	07 20 52.8	-0.8
WACZ	**Wakanui South**	**1.27**	**218**	P	Pn	07 20 38.1	-1.5
BSWZ	**Blackbirch Sta**	**1.42**	**30**	P	Pn	07 20 41.4	-0.3
DSZ	**Denniston Nort**	**1.46**	**325**	P	Pn	07 20 42.0	-0.3
CMWZ	**Cape Campbell**	**1.53**	**39**	P	Pg	07 20 45.1	+0.2
MRNZ	**Matariki Terra**	**1.55**	**355**	P	Pn	07 20 43.8	+0.3
RPZ	**Rata Peaks**	**1.56**	**240**	P	Pn	07 20 42.4	-1.3
WVZ	**Waitaha Valley**	**1.61**	**265**	P	Pn	07 20 43.8	-0.4
ARCZ	**Arundel**	**1.62**	**231**	P	Pn	07 20 43.1	-1.4
TUWZ	**Tuamarina**	**1.70**	**27**	P	Pn	07 20 44.8	-0.7
NNZ	**Nelson**	**1.76**	**11**	P	Pn	07 20 46.5	0.0
TKNZ	**Takaka Hill**	**1.91**	**1**	P	Pn	07 20 49.0	+0.5
GCSZ	**Gaunt Creek Bo**	**1.94**	**258**	P	Pn	07 20 48.6	-0.2
TMZ	**Timaru**	**2.00**	**223**	P	Pn	07 20 48.4	-1.3
TCW	**Tory Channel**	**2.01**	**31**	P	Pn	07 20 49.1	-0.7
QRZ	**Quartz Range**	**2.14**	**352**	P	Pn	07 20 52.0	+0.3
PLWZ	**Palliser**	**2.21**	**52**	P	Pn	07 20 51.2	-1.5
DUWZ	**D'Urville Isla**	**2.27**	**20**	P	Pn	07 20 53.3	-0.2
MSWZ	**Moikau Station**	**2.31**	**49**	P	Pn	07 20 52.0	-2.0
FOZ	**Fox Glacier**	**2.34**	**255**	P	Pn	07 20 54.5	+0.1
CAW	**Cannon Point**	**2.44**	**42**	P	Pn	07 20 54.1	-1.6
LBZ	**Lake Benmore**	**2.45**	**233**	P	Pn	07 20 54.9	-1.1
ODZ	**Otahua Downs**	**2.66**	**217**	P	Pn	07 20 57.3	-1.5
OGWZ	**Otaki Gorge**	**2.71**	**39**	P	Pn	07 20 57.8	-1.7
MRZ	**Mangatainoka R**	**3.03**	**42**	P	Pn	07 21 01.9	-1.9
JCZ	**Jackson Bay**	**3.21**	**248**	P	Pn	07 21 05.8	-0.6
WKZ	**Wanaka**	**3.39**	**235**	P	Pn	07 21 08.0	-0.8
EAZ	**Earnscleugh**	**3.46**	**228**	P	Pn	07 21 08.2	-1.6
PNHZ	**Pukenui**	**3.91**	**40**	P	Pn	07 21 13.8	-2.2
VRZ	**Vera Road**	**4.07**	**21**	P	Pn	07 21 18.6	+0.6
WNVZ	**Wahianoa**	**4.14**	**30**	P	Pn	07 21 20.2	+0.9
MLZ	**Mavora Lakes**	**4.22**	**233**	P	Pn	07 21 18.8	-1.4
HIZ	**Hauiti**	**4.67**	**19**	P	Pn	07 21 26.4	+0.1
TOZ	**Tahuroa Road**	**5.57**	**22**	P	Pn	07 21 38.7	0.0
AWAZ	**Awhitu Peninsu**	**6.02**	**13**	P	Pn	07 21 44.9	-0.1
MKAZ	**Moumakai**	**6.08**	**17**	P	Pn	07 21 45.3	-0.5

WEL 27 07:24:56.4±0.4,**43°S**±3″×**17°3E**±°,**h5**km±2km,**M2.8**/17,
ML2.8/13,**MLv2.8**/17,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=142.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.09**	**99**	P	Pg	07 24 58.4	0.0
GVZ				S	Sg	07 25 00.3	+0.6
AMCZ	**Amberley**	**0.29**	**220**	P	Pb	07 25 03.3	-0.8
LTZ	**Lake Taylor**	**0.50**	**290**	P	Pg	07 25 06.3	+0.3
LTZ				S	Sg	07 25 13.6	+1.1
KHZ	**Kahutara**	**0.71**	**41**	P	Pb	07 25 10.8	-0.4
OXZ	**Oxford**	**0.74**	**239**	P	Pb	07 25 11.4	-0.3
OXZ				S	Sb	07 25 21.7	-0.4
MQZ	**McQueen's Vall**	**0.78**	**194**	P	Pg	07 25 11.4	+0.2
OKCZ	**Okains Bay**	**0.78**	**172**	P	Pb	07 25 12.4	0.0
AKCZ	**Akaroa Harbour**	**0.92**	**180**	P	Pg	07 25 13.9	-0.1
RACZ	**Rakaia**	**0.96**	**216**	P	Pg	07 25 14.7	0.0
MHCZ	**Mount Hutt**	**1.14**	**239**	P	Pg	07 25 17.3	-0.9
THZ	**Tophouse**	**1.19**	**360**	P	Pg	07 25 18.5	-0.6
WACZ	**Wakanui South**	**1.26**	**218**	P	Pg	07 25 18.9	-1.7
BSWZ	**Blackbirch Sta**	**1.43**	**30**	P	Pn	07 25 22.1	-0.8
DSZ	**Denniston Nort**	**1.46**	**325**	P	Pn	07 25 22.7	-0.7
RPZ	**Rata Peaks**	**1.55**	**240**	P	Pn	07 25 23.1	-1.6
MRNZ	**Matariki Terra**	**1.56**	**356**	P	Pn	07 25 24.6	-0.1
WVZ	**Waitaha Valley**	**1.60**	**265**	P	Pn	07 25 24.8	-0.5
NNZ	**Nelson**	**1.77**	**12**	P	Pn	07 25 27.2	-0.4
TMZ	**Timaru**	**1.99**	**223**	P	Pn	07 25 29.5	-1.1
QRZ	**Quartz Range**	**2.14**	**352**	P	Pn	07 25 33.6	+0.8

*NOU **27** 07:25:27.7,43°.16S×173°.10E,h0km,MLv4.4/8,Off E.*
Coast of S. Island, N.Z.
*WEL **27** 07:25:29.2±0.3,43°S±2″×17°3E±°,h6km±2km,M3.9/37,*
ML4.1/19,MLv3.9/37,Error ellipse: s-maj=0.0km
s-min=0.0km az=134.5
ISC 27 07:25:28.6±0.9,**42°96S**±0°.03×**172°95E**±0°.03,**h10**km±7km,
n80,σ1§54/84,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.06**	**100**	P	**Pg**	**07 25 30.9**	**+0.1**
GVZ				S	**Sg**	**07 25 32.5**	**+0.2**
AMCZ	**Amberley**	**0.31**	**225**	P	**Pb**	**07 25 36.8**	**+0.5**
AMCZ				S	**Sb**	**07 25 42.6**	**+1.1**
LTZ	**Lake Taylor**	**0.53**	**289**	P	**Pb**	**07 25 39.7**	**-0.4**
LTZ				S	**Sb**	**07 25 47.1**	**-0.8**
KHZ	**Kahutara**	**0.69**	**39**	P	**Pb**	**07 25 42.5**	**-0.2**
OXZ	**Oxford**	**0.77**	**241**	P	**Pn**	**07 25 45.0**	**-0.5**
OXZ				S	**Sn**	**07 25 56.1**	**-1.0**
OKCZ	**Okains Bay**	**0.77**	**174**	P	**Pn**	**07 25 45.3**	**-0.3**
MQZ	**McQueen's Vall**	**0.78**	**196**	P	**Pb**	**07 25 44.6**	**+0.3**
AKCZ	**Akaroa Harbour**	**0.92**	**182**	P	**Pb**	**07 25 46.8**	**+0.2**
RACZ	**Rakaia**	**0.97**	**217**	P	**Pn**	**07 25 47.8**	**-0.6**
INZ	**Inchbonnie**	**1.13**	**281**	P	**Pn**	**07 25 50.9**	**+0.3**
MHCZ	**Mount Hutt**	**1.16**	**240**	P	**Pb**	**07 25 50.5**	**-0.3**
THZ	**Tophouse**	**1.19**	**358**	P	**Pg**	**07 25 51.3**	**-0.3**
WACZ	**Wakanui South**	**1.28**	**219**	P	**Pn**	**07 25 52.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.42**	**29**	P	**Pb**	**07 25 54.8**	**-0.4**
DSZ	**Denniston Nort**	**1.48**	**324**	P	**Pb**	**07 25 55.7**	**-0.5**
DSZ				S	**Sb**	**07 26 15.3**	**+0.2**
CMWZ	**Cape Campbell**	**1.53**	**38**	P	**Pg**	**07 25 59.5**	**+1.6**
MRNZ	**Matariki Terra**	**1.56**	**355**	P	**Pb**	**07 25 57.4**	**-0.2**
RPZ	**Rata Peaks**	**1.58**	**241**	P	**Pn**	**07 25 56.4**	**-0.3**
RPZ	**Rata Peaks**	**1.58**	**241**	P	**Pn**	**07 25 56.5**	**-0.3**
ARCZ	**Arundel**	**1.63**	**232**	P	**Pn**	**07 25 57.0**	**-0.4**
WVZ	**Waitaha Valley**	**1.63**	**265**	P	**Pb**	**07 25 58.2**	**-0.6**
TUWZ	**Tuamarina**	**1.69**	**26**	P	**Pb**	**07 25 59.2**	**-0.7**
NNZ	**Nelson**	**1.77**	**10**	P	**Pb**	**07 26 00.2**	**-0.9**
TKNZ	**Takaka Hill**	**1.92**	**0**	P	**Pb**	**07 26 02.8**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**1.96**	**259**	P	**Pn**	**07 26 02.2**	**+0.4**
TCW	**Tory Channel**	**2.00**	**30**	P	**Pn**	**07 26 03.1**	**+0.6**
TMZ	**Timaru**	**2.01**	**224**	P	**Pn**	**07 26 02.6**	**0.0**
SNZO	**South Karori**	**2.10**	**39**	P	**Pn**	**07 26 04.7**	**+0.9**
WEL	**Wellington**	**2.15**	**40**	P	**Pn**	**07 26 05.1**	**+0.6**
QRZ	**Quartz Range**	**2.15**	**351**	P	**Pn**	**07 26 03.0**	**-1.6**
PLWZ	**Palliser**	**2.20**	**52**	P	**Pn**	**07 26 04.9**	**-0.3**
DUWZ	**D'Urville Isla**	**2.27**	**19**	P	**Pn**	**07 26 07.3**	**+1.0**
MSWZ	**Moikau Station**	**2.30**	**49**	P	**Pn**	**07 26 05.2**	**-1.3**
FOZ	**Fox Glacier**	**2.36**	**255**	P	**Pn**	**07 26 08.8**	**+1.3**
PAWZ	**Paruwai Farm**	**2.42**	**50**	P	**Pn**	**07 26 07.9**	**-0.4**
CAW	**Cannon Point**	**2.43**	**41**	P	**Pn**	**07 26 08.4**	**+0.1**
LBZ	**Lake Benmore**	**2.46**	**234**	P	**Pn**	**07 26 08.8**	**-0.1**
KIW	**Kapiti Island**	**2.55**	**36**	P	**Pn**	**07 26 10.6**	**+0.5**
TRWZ	**Traveller**	**2.56**	**53**	P	**Pn**	**07 26 10.2**	**0.0**
MTW	**Mount Morrison**	**2.61**	**47**	P	**Pn**	**07 26 09.6**	**-1.3**
ODZ	**Otahua Downs**	**2.67**	**218**	P	**Pn**	**07 26 11.0**	**-0.7**
ODZ	**Otahua Downs**	**2.67**	**218**	P	**Pn**	**07 26 11.3**	**-0.3**
OGWZ	**Otaki Gorge**	**2.70**	**38**	P	**Pn**	**07 26 09.8**	**-2.4**
MRZ	**Mangatainoka R**	**3.02**	**41**	P	**Pn**	**07 26 16.5**	**0.0**
JCZ	**Jackson Bay**	**3.23**	**248**	P	**Pn**	**07 26 19.9**	**+0.4**
JCZ	**Jackson Bay**	**3.23**	**248**	P	**Pn**	**07 26 08.8**	**+0.4**
BFZ	**Birch Farm**	**3.35**	**48**	P	**Pn**	**07 26 21.1**	**0.0**
HHSZ	**Highcliff Hill**	**3.38**	**209**	P	**Pn**	**07 26 21.1**	**-0.3**
WKZ	**Wanaka**	**3.40**	**235**	P	**Pn**	**07 26 21.3**	**-0.5**
EAZ	**Earnscleugh**	**3.47**	**228**	P	**Pn**	**07 26 22.0**	**-0.8**
WAZ	**Wanganui**	**3.55**	**26**	P	**Pn**	**07 26 26.2**	**+2.5**
NMEZ	**Namu Road**	**3.61**	**11**	P	**Pb**	**07 26 28.8**	**-3.7**
TSZ	**Takapari Road**	**3.67**	**39**	P	**Pn**	**07 26 28.7**	**+3.2**
KHEZ	**Kahui Hut**	**3.75**	**13**	P	**Pn**	**07 26 30.0**	**+3.4**
KHEZ	**Kahui Hut**	**3.75**	**13**	P	**Pn**	**07 26 29.8**	**+3.3**
NBEZ	**Newall Road No**	**3.75**	**11**	P	**Pn**	**07 26 29.5**	**+3.0**
NEZ	**North Egmont**	**3.78**	**14**	P	**Pb**	**07 26 33.2**	**-2.4**
TUZ	**Tuapeka**	**3.83**	**217**	P	**Pn**	**07 26 27.1**	**-0.4**
PKE	**Pukeiti**	**3.84**	**12**	P	**Pn**	**07 26 30.8**	**+3.0**
DREZ	**Durham Road**	**3.88**	**14**	P	**Pb**	**07 26 33.2**	**-4.0**
VRZ	**Vera Road**	**4.07**	**20**	P	**Pn**	**07 26 33.1**	**+2.3**
MOVZ	**Moawhango**	**4.13**	**32**	P	**Pn**	**07 26 33.0**	**+1.2**
WNVZ	**Wahianoa**	**4.14**	**30**	P	**Pn**	**07 26 33.4**	**+1.3**
TRVZ	**Turoa**	**4.15**	**29**	P	**Pn**	**07 26 34.4**	**+4.2**
WHVZ	**Whangaehu Hut**	**4.17**	**29**	P	**Pn**	**07 26 34.5**	**+1.9**
MLZ	**Mavora Lakes**	**4.23**	**234**	P	**Pn**	**07 26 32.5**	**-0.7**
OTVZ	**Oturere**	**4.31**	**29**	P	**Pn**	**07 26 37.0**	**+2.6**
SYZ	**Scrubby Hill**	**4.49**	**216**	P	**Pn**	**07 26 35.5**	**-1.2**
SYZ	**Scrubby Hill**	**4.49**	**216**	P	**Pn**	**07 26 36.8**	**+0.1**
BKZ	**Black Stump Fm**	**4.64**	**36**	P	**Pn**	**07 26 41.0**	**+2.2**
HIZ	**Hauiti**	**4.67**	**19**	P	**Pn**	**07 26 40.7**	**+1.6**
HIZ	**Hauiti**	**4.67**	**19**	P	**Pn**	**07 26 40.8**	**+1.6**
TLZ	**Tolley Road**	**5.02**	**24**	P	Pn	07 26 49.4	+5.3
APZ	**The Paps**	**5.24**	**221**	P	**Pn**	**07 26 46.1**	**-0.9**
TOZ	**Tahuroa Road**	**5.57**	**21**	P	**Pn**	**07 26 52.1**	**+0.5**
URZ	**Urewera**	**5.66**	**35**	P	**Pn**	**07 26 51.8**	**-0.9**
AWAZ	**Awhitu Peninsu**	**6.03**	**13**	P	**Pn**	**07 26 59.6**	**+1.8**
MKAZ	**Moumakai**	**6.09**	**17**	P	**Pn**	**07 26 59.7**	**+1.1**
ETAZ	**East Tamaki Re**	**6.18**	**15**	P	**Pn**	**07 27 01.6**	**+1.6**
MBAZ	**Motutapu North**	**6.36**	**14**	P	**Pn**	**07 27 05.6**	**+3.3**

*SNET **27** 07:26:58.3±1.4,12°.06N×89°.03W,h15km±8km,ML3.4*
*INET **27** 07:26:59.4±1.1,12°.02N×88°.95W,h16km,MW3.6*
ISC 27 07:26:57.4±4.8,**12°0N**±0°.2×**89°02W**±0°.09,**h18**km±29km,
n30,σ0§52/37,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.42**	**18**	*e*P	**Pn**	**07 27 22.1**	**-0.3**
ALJI				*e*S	**Sn**	**07 27 39.6**	**-1.1**
COEB	**Comit de Eme**	**1.60**	**17**	*e*P	**Pn**	**07 27 24.5**	**-0.4**
COEB				*e*S	**Sn**	**07 27 45.2**	**+0.1**
SJTE	**Alcalda de S**	**1.64**	**0**	*e*P	**Pn**	**07 27 24.7**	**-0.7**
SJTE				IAML		07 27 51.7	
comp=Z,132nm,0.3s							
PACA	**Pacayal**	**1.64**	**24**	*e*P	**Pn**	**07 27 25.6**	**+0.1**
PACA				IAML		07 27 52.1	
comp=Z,5μm,0.2s							
PACA	**Pacayal**	**1.64**	**24**	*e*P	**Pn**	**07 27 25.7**	**+0.1**
LFRS	**El Faro**	**1.65**	**359**	*e*P	**Pn**	**07 27 25.4**	**-0.2**
COEG	**Centro de Oper**	**1.65**	**5**	*e*P	**Pn**	**07 27 25.2**	**-0.4**
COEG				*e*S	**Sb**	**07 27 48.0**	**+0.1**
COEG				IAML		07 27 51.2	
comp=Z,258nm,0.3s							
PQSS	**Presa 15 de Se**	**1.71**	**15**	*e*P	**Pn**	**07 27 26.1**	**-0.2**
PQSS				IAML		07 27 51.4	
comp=Z,162nm,0.2s							
SNET	**Serv Nac Est T**	**1.72**	**353**	*e*P	**Pn**	**07 27 26.0**	**-0.6**
SNET	**Serv Nac Est T**	**1.72**	**353**	*e*P	**Pn**	**07 27 26.2**	**-0.4**
JAYA	**Jayaque - finc**	**1.73**	**346**	*e*P	**Pn**	**07 27 26.5**	**-0.3**
JAYA				IAML		07 27 49.6	
comp=Z,1μm,0.1s							
LCND	**La Caada**	**1.73**	**39**	*e*P	**Pn**	**07 27 26.2**	**-0.4**
LCND				*e*S	**Sn**	**07 27 48.7**	**+0.4**
PAVA	**Las Pavas**	**1.74**	**3**	*e*P	**Pn**	**07 27 26.2**	**-0.7**
PAVA				IAML		07 27 49.9	
comp=Z,242nm,0.6s							
CNCH	**Conchagua**	**1.74**	**42**	*e*P	**Pn**	**07 27 26.5**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.75**	**9**	*e*P	**Pn**	**07 27 26.9**	**0.0**
SCLA				IAML		07 27 55.4	
comp=Z,78nm,0.3s							
UEES	**Universidad Ev**	**1.75**	**353**	*e*P	**Pn**	**07 27 26.8**	**-0.2**
UEES				*e*S	**Sn**	**07 27 49.5**	**+0.5**
UEES				IAML		07 27 54.1	
comp=Z,507nm,0.2s							
CEDA	**San Andres**	**1.86**	**349**	*e*P	**Pn**	**07 27 28.5**	**0.0**
CEDA				IAML		07 28 00.4	
comp=Z,648nm,0.4s							
CEVE	**Cerro Verde**	**1.94**	**342**	*e*P	**Pn**	**07 27 29.9**	**+0.1**
CEVE				IAML		07 28 03.5	
comp=Z,822nm,0.3s							
SBLS	**San Blas**	**1.95**	**343**	*e*P	**Pn**	**07 27 30.0**	**+0.1**
SBLS				*e*S	**Sn**	**07 27 53.9**	**-0.2**
RTR	**El Retiro**	**2.01**	**342**	*e*P	**Pn**	**07 27 30.9**	**+0.1**
P5NO	**Presa 5 de nov**	**2.02**	**7**	*e*P	**Pn**	**07 27 30.8**	**+0.2**
CRIN	**San Cristobal**	**2.06**	**69**	*e*P	**Pn**	**07 27 31.2**	**0.0**
NUBE	**Las Nubes**	**2.06**	**339**	*e*P	**Pn**	**07 27 30.9**	**-0.4**
NUBE				IAML		07 27 57.4	
comp=Z,332nm,0.2s							
SLOZ	**Alcaldia de Sa**	**2.18**	**340**	*e*P	**Pn**	**07 27 32.9**	**0.0**
CNGN	**Cerro Negro**	**2.33**	**77**	*e*P	**Pn**	**07 27 35.8**	**+0.9**
MTO3	**Montecristo**	**2.44**	**352**	*e*P	**Pn**	**07 27 37.1**	**+0.5**
MTO3	**Montecristo**	**2.44**	**352**	*e*P	**Pn**	**07 27 37.3**	**+0.7**
MOMN	**Momotombo**	**2.47**	**79**	*e*P	**Pn**	**07 27 35.8**	**-1.0**
ESQI	**Esquipulas**	**2.60**	**353**	*e*P	**Pn**	**07 27 39.7**	**+1.0**
ESQI				*e*S	**Sn**	**07 28 09.6**	**-0.2**
ESQI				IAML		07 28 14.1	
comp=Z,81nm,0.4s							
TGUH	**Tegucigalpa,Un**	**2.69**	**39**	*e*P	**Pn**	**07 27 40.8**	**+0.9**

WEL 27 07:27:49.6±0.3,**43°S**±2″×**17°3E**±°,**h6**km±2km,**M3.7**/29,
ML3.9/17,**MLv3.7**/29,**Error ellipse: s-maj=0.0km**
s-min=0.0km az=129.2,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.07**	**117**	P	Pg	07 27 51.3	0.0
GVZ				S	Sg	07 27 53.0	+0.6
AMCZ	**Amberley**	**0.33**	**223**	P	Pb	07 27 57.3	-0.6
AMCZ				S	Sb	07 28 03.2	-0.2
LTZ	**Lake Taylor**	**0.53**	**287**	P	Pg	07 28 00.2	+0.4
LTZ				S	Sg	07 28 07.9	+1.2
KHZ	**Kahutara**	**0.68**	**40**	P	Pg	07 28 02.9	+0.3
KHZ				S	Sb	07 28 12.7	-0.7
OXZ	**Oxford**	**0.78**	**240**	P	Pb	07 28 05.4	-0.2
OKCZ	**Okains Bay**	**0.79**	**175**	P	Pb	07 28 05.7	-0.2
MQZ	**McQueen's Vall**	**0.80**	**196**	P	Pg	07 28 05.0	0.0
AKCZ	**Akaroa Harbour**	**0.94**	**182**	P	Pg	07 28 07.2	-0.4
RACZ	**Rakaia**	**0.99**	**217**	P	Pg	07 28 08.2	-0.4
INZ	**Inchbonnie**	**1.13**	**280**	P	Pb	07 28 11.8	+0.2
MHCZ	**Mount Hutt**	**1.18**	**239**	P	Pg	07 28 11.1	-1.0
THZ	**Tophouse**	**1.18**	**358**	P	Pg	07 28 11.7	-0.4
WACZ	**Wakanui South**	**1.29**	**219**	P	Pn	07 28 12.5	-1.7
BSWZ	**Blackbirch Sta**	**1.40**	**29**	P	Pn	07 28 15.2	-0.5
DSZ	**Denniston Nort**	**1.47**	**324**	P	Pn	07 28 16.2	-0.5
CMWZ	**Cape Campbell**	**1.51**	**39**	P	Pg	07 28 18.8	+0.2
MRNZ	**Matariki Terra**	**1.54**	**354**	P	Pn	07 28 17.9	+0.2
RPZ	**Rata Peaks**	**1.59**	**240**	P	Pn	07 28 16.9	-1.5
WVZ	**Waitaha Valley**	**1.63**	**264**	P	Pn	07 28 18.4	-0.5
ARCZ	**Arundel**	**1.64**	**231**	P	Pn	07 28 17.4	-1.7
TUWZ	**Tuamarina**	**1.68**	**26**	P	Pn	07 28 19.7	+0.1
NNZ	**Nelson**	**1.75**	**11**	P	Pn	07 28 20.6	+0.1
TKNZ	**Takaka Hill**	**1.90**	**0**	P	Pn	07 28 23.0	+0.4
GCSZ	**Gaunt Creek Bo**	**1.96**	**258**	P	Pn	07 28 23.0	-0.4
TCW	**Tory Channel**	**1.99**	**30**	P	Pn	07 28 23.6	-0.2
TMZ	**Timaru**	**2.02**	**224**	P	Pn	07 28 23.1	-1.2
WEL	**Wellington**	**2.13**	**40**	P	Pn	07 28 24.6	-1.2
QRZ	**Quartz Range**	**2.13**	**351**	P	Pn	07 28 26.2	+0.4
DUWZ	**D'Urville Isla**	**2.25**	**19**	P	Pn	07 28 28.6	+1.1
MSWZ	**Moikau Station**	**2.28**	**49**	P	Pn	07 28 26.3	-1.6
FOZ	**Fox Glacier**	**2.37**	**254**	P	Pn	07 28 29.6	+0.6
LBZ	**Lake Benmore**	**2.48**	**233**	P	Pn	07 28 29.3	-1.2
MTW	**Mount Morrison**	**2.60**	**48**	P	Pn	07 28 31.6	-0.7
ODZ	**Otahua Downs**	**2.69**	**218**	P	Pn	07 28 31.7	-1.7
OGWZ	**Otaki Gorge**	**2.69**	**39**	P	Pn	07 28 33.2	-0.2
MRZ	**Mangatainoka R**	**3.00**	**42**	P	Pn	07 28 37.0	-0.8
HHSZ	**Highcliff Hill**	**3.40**	**209**	P	Pn	07 28 41.6	-1.6
**EAZ

MURC	**Murrieta** baz=119	**1.72**	**301**	Sb	**Sb**	**07 42 54.1**	**+2.2**
PDMCI	**Parker Dam,Lak** baz=215	**1.90**	**34**	Sb	**Sb**	**07 42 58.5**	**+1.2**
GMRC	**Granite Mounta** baz=175	**2.06**	**355**	Sb	**Sb**	**07 43 04.4**	**+2.5**
214A	**Organ Pipe Nat** baz=291	**2.35**	**109**	P	**Pn**	**07 42 37.3**	**+0.2**

*MEX **27** 07:45:03.7±0.6, 32.93N×115.30W, h8km, MD2.5*
*ANF **27** 07:45:04.2±0.5, 32.76N×115.42W, h10km, ML2.5/10, Error ellipse: s-maj=4.8km s-min=2.3km az=175.0*
ISC 27 07:45:04.6±1.0, **32.75N**±0.04×**115.42W**±0.03, **h25**km±12km, **n12**, σ0**79**/20, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart** baz=119,SNR=12	**0.37**	**302**	P		**Pb**	**07 45 12.4**	**-0.4**
SWSC	baz=119			S		**Sb**	**07 45 17.8**	**-0.5**
MBIG	**Mexicali**	**0.39**	**151**	*e*P		**Pb**	**07 45 12.8**	**-0.2**
MBIG				*e*P		**Pn**	**07 45 14.2**	**-0.5**
MBIG				*e*S		**Sb**	**07 45 20.4**	**+1.7**
MBIG				*i* S		**Sn**	**07 45 20.9**	**-0.4**
GLA	**Glamis** baz=242,SNR=25	**0.58**	**59**	P		**Pb**	**07 45 16.1**	**-0.2**
GLA	baz=242			S		**Sb**	**07 45 23.9**	**-0.4**
IKP	**In-Ko-Pah, Jac** baz=77,SNR=11	**0.59**	**260**	P		**Pb**	**07 45 16.4**	**0.0**
IKP	baz=77			S		**Sb**	**07 45 24.1**	**-0.3**
MONP2	**Monument Peak** baz=98	**0.85**	**280**	P		**Pb**	**07 45 20.5**	**-0.4**
MONP2	baz=98			S		**Sb**	**07 45 32.0**	**-0.1**
BC3	**Big Chuckawall** baz=179,SNR=15	**0.90**	**358**	P		**Pn**	**07 45 21.2**	**-0.7**
TJIG	**Tijuana**	**1.10**	**254**	*e*P		**Pn**	**07 45 24.8**	**+0.3**
TJIG				*e*S		**Sb**	**07 45 39.1**	**+0.1**
TPFO	**Pinon Flats** baz=134	**1.22**	**315**	S		**Sb**	**07 45 43.2**	**+0.9**
PFO	**Pinyon Flats O** baz=134	**1.22**	**315**	S		**Sb**	**07 45 43.4**	**+0.9**
IRM	**Iron Mountain** baz=190,SNR=8.1	**1.42**	**9**	P		**Pb**	**07 45 31.2**	**+0.6**
MURC	**Murrieta** baz=119	**1.71**	**300**	Sb		**Sb**	**07 45 58.3**	**+1.8**
214A	**Organ Pipe Nat** baz=291	**2.35**	**109**	P		**Pn**	**07 45 41.7**	**0.0**

*SOME **27** 07:52:47.9, 39.45N×74.03E, h5km*
*NNC **27** 07:52:49.8±1.8, 39.42N×74.29E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=13.3km s-min=7.5km az=170.0*
*KRNET **27** 07:52:49.9±0.1, 39.26N×74.15E, mb3.5*
ISC 27 07:52:45.6±1.3, **39.43N**±0.05×**74.12E**±0.03, **h10**km, **n47**, σ1**973**/74, **21C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHH	**Osh** baz=21	**1.50**	**317**	⇑	*i*P	Pg	07 53 19.7	+5.4
OHH	baz=21			⇑	*i*S	**Sg**	**07 53 41.8**	**+8.1**
DRK	**Karamyk** baz=78	**1.79**	**272**	⇑	*i*P	**Pg**	**07 53 23.0**	**+2.9**
DRK	baz=78			⇑	*i*S	**Sg**	**07 53 46.9**	**+3.5**
ARLS	**Aral** baz=3.0	**2.43**	**4**	⇑	*e*P	**Pg**	**07 53 33.4**	**+1.2**
ARLS	baz=3.0			⇑	*i*S	**Sg**	**07 54 05.3**	**+1.6**
NRN	**Naryn** baz=32	**2.46**	**35**	⇑	*i*P	**Pg**	**07 53 32.9**	**+0.1**
NRN	baz=32			⇑	*i*S	**Sg**	**07 54 04.4**	**-0.3**
BTK	**Batken** baz=88	**2.62**	**285**	⇑	*e*P	**Pg**	**07 53 34.7**	**-1.1**
BTK	baz=88			⇑	*i*S	**Sg**	**07 54 07.3**	**-2.5**
ARK	**Arkit** baz=27	**2.88**	**326**	⇑	*i*P	**Pg**	**07 53 39.5**	**-1.2**
ARK	baz=27			⇑	*i*S	**Sg**	**07 54 15.6**	**-2.4**
GAR	**Garm** baz=66	**2.98**	**263**	⇑	*i*P	**Pb**	**07 53 38.8**	**-0.1**
GAR	baz=66			⇑	*i*S	**Sb**	**07 54 14.5**	**-1.0**
TRKS	**Terek-Say** baz=15	**3.09**	**314**	⇑	*i*P	**Pb**	**07 53 41.5**	**+0.8**
TRKS	baz=15			⇑	*i*S	**Sb**	**07 54 19.0**	**+0.4**
MRKS	**Merke** 7.2nm,0.4s	**3.38**	**349**		*e*P	**Pg**	**07 53 49.9**	**-0.4**
MRKS	18nm,0.6s				*e*S	**Sg**	**07 54 34.2**	**+0.2**
MRKS	**Merke** 7.2nm,0.4s	**3.38**	**349**		Pg	**Pg**	**07 53 49.9**	**-0.4**
MRKS	18nm,0.6s				Lg	Lg	07 54 34.2	
KST	**Kastek** 10.0nm,0.4s	**3.87**	**20**		*e*P	**Pg**	**07 53 59.7**	**0.0**
KST	21nm,0.8s				*e*S	**Sg**	**07 54 51.0**	**+1.3**
KST	**Kastek** 10.0nm,0.4s	**3.87**	**20**		Pg	**Pg**	**07 53 59.7**	**0.0**
KST	21nm,0.8s				Lg	Lg	07 54 51.0	
DGS	**Degeres** 15nm,0.5s	**4.00**	**18**		*e*P	**Pg**	**07 54 03.0**	**+0.7**
DGS	14nm,0.8s				*e*S	**Sg**	**07 54 56.8**	**+2.6**
DGS	**Degeres** 15nm,0.5s	**4.00**	**18**		Pg	**Pg**	**07 54 03.0**	**+0.7**
DGS	14nm,0.8s				Lg	Lg	07 54 56.8	
SGDS	**Sogindy** 1.6nm,0.6s	**4.03**	**5**		*e*P	**Pg**	**07 54 02.2**	**-0.7**
SGDS	12nm,0.9s				*e*S	**Sg**	**07 54 55.6**	**+0.5**
SGDS	**Sogindy** 5.7nm,0.4s	**4.03**	**5**		Pg	**Pg**	**07 54 05.0**	**+2.2**
SGDS	12nm,0.9s				Lg	Lg	07 55 00.4	
DZA	**Taraz** 90nm,0.5s	**4.05**	**330**		*e*P	**Pg**	**07 54 01.8**	**-1.3**
DZA	56nm,0.6s				*e*S	**Sg**	**07 54 54.8**	**-0.7**
IZV	**Izvestkoviy** 8.1nm,0.5s	**4.06**	**27**		*e*P	**Pg**	**07 54 02.4**	**-1.0**
IZV	20nm,0.8s				*e*S	**Sg**	**07 54 56.0**	**0.0**
IZV	**Izvestkoviy** 8.1nm,0.5s	**4.06**	**27**		Pg	**Pg**	**07 54 02.4**	**-1.0**
IZV	20nm,0.8s				Lg	Lg	07 54 56.0	
MTBS	**Maitube** 11nm,0.5s	**4.08**	**24**		*e*P	**Pg**	**07 54 03.7**	**-0.1**
MTBS	8.9nm,0.7s				*e*S	**Sg**	**07 54 58.3**	**+1.6**
MTBS	**Maitube** 11nm,0.5s	**4.08**	**24**		Pg	**Pg**	**07 54 03.7**	**-0.1**
MTBS	8.9nm,0.7s				Lg	Lg	07 54 58.3	
IUG	**Iuzhnay** 10nm,0.6s	**4.12**	**312**		*e*P	**Pg**	**07 54 02.7**	**-1.8**
IUG	21nm,0.7s				*e*S	**Sg**	**07 54 56.1**	**-1.8**
IUG	**Iuzhnay** 11nm,0.3s	**4.12**	**312**		Pg	**Pb**	**07 53 58.8**	**+0.5**
IUG	36nm,0.6s				Lg	Lg	07 54 49.7	
TNSS	**Tian-Shan** 20nm,0.6s	**4.18**	**30**		*e*P	**Pg**	**07 54 05.1**	**-0.7**
TNSS	7.9nm,0.7s				*e*S	**Sg**	**07 55 00.6**	**+0.6**
TNSS	**Tian-Shan** 9.6nm,0.6s	**4.18**	**30**		Pg	**Pg**	**07 54 07.1**	**+1.3**
TNSS	7.3nm,0.7s				Lg	Lg	07 55 03.9	
MDOK	**Medeo** 11nm,0.5s	**4.33**	**30**		*e*P	**Pg**	**07 54 08.3**	**-0.3**
MDOK	13nm,0.8s				*e*S	**Sg**	**07 55 06.3**	**+1.6**
MDOK	**Medeo** 12nm,0.6s	**4.33**	**30**	⇑	Pg	**Pg**	**07 54 07.0**	**-1.6**
MDOK	11nm,0.5s				Pg	Pb	07 54 08.3	+6.4
MDOK	20nm,0.9s				Lg	Lg	07 55 05.9	
MDOK	13nm,0.8s				Lg	Lg	07 55 06.3	
KOTS	**Kotyrbulak** 6.1nm,1.1s	**4.42**	**30**		*e*P	**Pg**	**07 54 10.1**	**-0.1**
KOTS	31nm,0.7s				*e*S	**Sg**	**07 55 08.9**	**+1.5**
KOTS	**Kotyrbulak** 12nm,1.0s	**4.42**	**30**		Pg	**Pg**	**07 54 11.2**	**+1.0**
KOTS	31nm,0.7s				Lg	Lg	07 55 10.7	
KRBS	**Karabastau** 5.1nm,0.5s	**4.42**	**15**		*e*P	**Pg**	**07 54 09.6**	**-0.6**
KRBS	12nm,0.9s				*e*S	**Sg**	**07 55 08.8**	**+1.4**
KRBS	**Karabastau** 5.1nm,0.5s	**4.42**	**15**		Pg	**Pg**	**07 54 09.6**	**-0.6**
KRBS	12nm,0.9s				Lg	Lg	07 55 08.8	
CHM	**Chimkent** 91nm,0.1s	**4.47**	**312**		*e*P	**Pg**	**07 54 08.8**	**-2.5**
CHM	128nm,0.4s				*e*S	**Sg**	**07 55 06.8**	**-2.5**
KK31	**Karatay Array** 2.4nm,0.7s,baz=129,slow=12,SNR=21	**4.56**	**325**	⇑	Pn	Pb	07 54 00.7	-5.1
KK31	2.6nm,0.6s,baz=136,slow=15,SNR=2.6			⇑	Pg	**Pg**	**07 54 12.9**	**-0.1**
KK31	2.3nm,0.5s			⇑	Sn	**Sb**	**07 54 59.2**	**-1.7**
KK31	3.8nm,0.5s,baz=130,slow=29,SNR=3.6			⇑	Lg	Lg	07 55 16.4	
KTBS	**Karatobe** 17nm,0.4s	**4.69**	**23**		*e*P	**Pg**	**07 54 13.9**	**-1.5**
KTBS	22nm,0.7s				*e*S	**Sg**	**07 55 16.1**	**+0.1**
KTBS	**Karatobe** 17nm,0.4s	**4.69**	**23**		Pg	**Pg**	**07 54 13.9**	**-1.5**
KTBS	22nm,0.7s				Lg	Lg	07 55 16.1	
KUU	**Kurty** 3.8nm,0.7s	**4.76**	**20**		*e*P	**Pg**	**07 54 15.6**	**-1.1**
KUU	7.7nm,0.6s				*e*S	**Sg**	**07 55 18.3**	**0.0**
KUU	**Kurty**	**4.76**	**20**		Pg	**Pg**	**07 54 15.6**	**-1.1**
KUU					Lg	Lg	07 55 18.3	
CHKK	**Chushkaly** 5.3nm,0.3s	**4.91**	**25**		*e*P	**Pg**	**07 54 18.7**	**-0.9**
CHKK	8.1nm,0.6s				*e*S	**Sg**	**07 55 24.1**	**+0.9**
CHKK	**Chushkaly** 5.3nm,0.3s	**4.91**	**25**		Pg	**Pg**	**07 54 18.7**	**-0.9**
CHKK	8.1nm,0.6s				Lg	Lg	07 55 24.1	
KPKS	**Kokpek** 7.4nm,0.5s	**5.29**	**39**		*e*P	**Pg**	**07 54 25.4**	**-1.6**
KPKS	21nm,0.7s				*e*S	**Sg**	**07 55 35.7**	**+0.2**
KPKS	**Kokpek** 7.4nm,0.5s	**5.29**	**39**		Pg	**Pg**	**07 54 24.5**	**-2.4**
KPKS	21nm,0.7s				Lg	Lg	07 55 34.5	
BTLS	**Baital** 1.1nm,0.3s	**5.61**	**359**		*e*P	**Pg**	**07 54 32.4**	**-0.5**
BTLS	4.2nm,0.7s				*e*S	**Sg**	**07 55 47.7**	**+2.2**
BTLS	**Baital** 1.1nm,0.3s	**5.61**	**359**		Pg	**Pg**	**07 54 32.4**	**-0.5**
BTLS	4.2nm,0.7s				Lg	Lg	07 55 47.7	
PDGK	**Podgornoye** 2.2nm,0.9s	**5.61**	**44**		Pg	**Pg**	**07 54 32.3**	**-0.7**
PDGK	7.2nm,0.8s				Lg	Lg	07 55 46.8	
PDGK	**Podgornoye** 4.5nm,0.6s	**5.61**	**44**	⇓	Pg	**Pg**	**07 54 29.0**	**-4.1**
PDGK	14nm,0.9s			⇓	Lg	Lg	07 55 43.7	
BLB	**Baldybastay** 10nm,0.7s	**5.69**	**34**		*e*P	**Pg**	**07 54 34.2**	**-0.2**
BLB	11nm,1.0s				*e*S	**Sg**	**07 55 51.1**	**+3.0**
BLB	**Baldybastay** 10nm,0.7s	**5.69**	**34**		Pg	**Pg**	**07 54 34.2**	**-0.2**
BLB	11nm,1.0s				Lg	Lg	07 55 51.1	

*WEL **27** 07:53:29.7±0.3, 42.05S×174.08E±, h15km±2km, M3.5/34, ML3.6/21, MLv3.5/34, Error ellipse: s-maj=0.0km s-min=0.0km az=140.0*
*NOU **27** 07:53:30.5, 42.05S×174.11E, h24km, MLv4.1/9, Off E. Coast of S. Island, N.Z.*
ISC 27 07:53:29.5±1.3, **41.98S**±0.04×**174.08E**±0.03, **h21**km±2km, **n91**, σ1**933**/93, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.25**	**23**	P		**Pb**	**07 53 36.1**	**+0.4**
CMWZ				S		**Sb**	**07 53 40.9**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.31**	**330**	P		**Pb**	**07 53 35.4**	**-1.0**
BSWZ				S		**Sb**	**07 53 39.2**	**-1.8**
TUWZ	**Tuamarina**	**0.56**	**349**	P		**Pb**	**07 53 39.9**	**-0.8**
KHZ	**Kahutara**	**0.59**	**223**	P		**Pn**	**07 53 43.1**	**+0.4**
KHZ	**Kahutara**	**0.59**	**223**	P		**Pn**	**07 53 42.6**	**-0.1**
TCW	**Tory Channel**	**0.79**	**11**	P		**Pb**	**07 53 43.9**	**-0.6**
SNZO	**South Karori**	**0.82**	**35**	P		**Pb**	**07 53 45.8**	**+0.8**
WEL	**Wellington**	**0.87**	**37**	P		**Pb**	**07 53 46.7**	**+0.8**
THZ	**Tophouse**	**0.91**	**284**	P		**Pn**	**07 53 46.3**	**-0.8**
NNZ	**Nelson**	**0.93**	**325**	P		**Pn**	**07 53 46.1**	**-1.3**
PLWZ	**Palliser**	**0.97**	**65**	P		**Pb**	**07 53 47.9**	**+0.3**
MSWZ	**Moikau Station**	**1.04**	**57**	P		**Pb**	**07 53 48.9**	**+0.1**
CAW	**Cannon Point**	**1.14**	**41**	P		**Pb**	**07 53 50.4**	**-0.1**
MRNZ	**Matariki Terra**	**1.15**	**300**	P		**Pn**	**07 53 50.6**	**+0.1**
PAWZ	**Paruwai Farm**	**1.17**	**60**	P		**Pn**	**07 53 50.5**	**-0.2**
DUWZ	**D'Urville Isla**	**1.19**	**354**	P		**Pn**	**07 53 50.4**	**-0.5**
GVZ	**Greta Valley S**	**1.25**	**218**	P		**Pn**	**07 53 52.7**	**+0.8**
TKNZ	**Takaka Hill**	**1.27**	**318**	P		**Pn**	**07 53 51.7**	**-0.3**
KIW	**Kapiti Island**	**1.28**	**29**	P		**Pb**	**07 53 52.6**	**-0.4**
TRWZ	**Traveller**	**1.34**	**65**	P		**Pn**	**07 53 52.7**	**-0.3**
MTW	**Mount Morrison**	**1.35**	**53**	P		**Pn**	**07 53 52.7**	**-0.4**
OGWZ	**Otaki Gorge**	**1.42**	**35**	P		**Pn**	**07 53 54.2**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.53**	**45**	P		**Pn**	**07 53 55.0**	**-0.7**
LTZ	**Lake Taylor**	**1.56**	**239**	P		**Pn**	**07 53 56.8**	**+0.7**
AMCZ	**Amberley**	**1.59**	**221**	P		**Pn**	**07 53 57.0**	**+0.5**
TMWZ	**Te Maipa**	**1.61**	**58**	P		**Pn**	**07 53 56.2**	**-0.6**
QRZ	**Quartz Range**	**1.64**	**314**	P		**Pb**	**07 53 58.3**	**-0.8**
QRZ	**Quartz Range**	**1.64**	**314**	P		**Pn**	**07 53 58.1**	**+0.9**
DSZ	**Denniston Nort**	**1.72**	**277**	P		**Pn**	**07 53 59.3**	**+1.0**
MRZ	**Mangatainoka R**	**1.73**	**41**	P		**Pn**	**07 53 58.1**	**-0.4**
OKCZ	**Okains Bay**	**1.90**	**203**	P		**Pn**	**07 54 00.8**	**+0.1**
OHWZ	**Ohakea**	**2.00**	**28**	P		**Pb**	**07 54 03.5**	**-1.7**
PRWZ	**Pori Road**	**2.02**	**46**	P		**Pn**	**07 54 02.2**	**-0.1**
MQZ	**McQueen's Vall**	**2.02**	**211**	P		**Pn**	**07 54 01.6**	**-0.7**
OXZ	**Oxford**	**2.02**	**228**	P		**Pn**	**07 54 02.0**	**-0.3**
POWZ	**Post Office Ro**	**2.04**	**39**	P		**Pn**	**07 54 02.3**	**-0.3**
AKCZ	**Akaroa Harbour**	**2.08**	**204**	P		**Pn**	**07 54 03.0**	**-0.2**
RACZ	**Rakaia**	**2.25**	**219**	P		**Pn**	**07 54 05.0**	**-0.5**
DVHZ	**Dannevirke**	**2.30**	**44**	P		**Pn**	**07 54 05.0**	**-1.3**
WAZ	**Wanganui**	**2.33**	**17**	P		**Pn**	**07 54 08.3**	**+1.7**
TSZ	**Takapari Road**	**2.39**	**37**	P		**Pn**	**07 54 06.8**	**-0.7**
MHCZ	**Mount Hutt**	**2.41**	**229**	P		**Pn**	**07 54 07.7**	**-0.1**
LREZ	**Lake Rotokare**	**2.53**	**6**	P		**Pb**	**07 54 13.4**	**-0.8**
WACZ	**Wakanui South**	**2.56**	**219**	P		**Pn**	**07 54 09.6**	**-0.1**
NMEZ	**Namu Road**	**2.57**	**356**	P		**Pb**	**07 54 14.4**	**-0.5**
PNHZ	**Pukenui**	**2.62**	**39**	P		**Pn**	**07 54 09.6**	**-1.0**
KHEZ	**Kahui Hut**	**2.69**	**359**	P		**Pn**	**07 54 13.6**	**+2.0**
KHEZ	**Kahui Hut**	**2.69**	**359**	P		**Pn**	**07 54 14.1**	**+2.5**
WVZ	**Waitaha Valley**	**2.70**	**245**	P		**Pn**	**07 54 13.2**	**+1.4**
NEZ	**North Egmont**	**2.71**	**0**	P		**Pb**	**07 54 15.3**	**-2.1**
NBEZ	**Newall Road No**	**2.72**	**356**	P		**Pb**	**07 54 15.5**	**-1.9**
PKE	**Pukeiti**	**2.79**	**358**	P		**Pb**	**07 54 16.0**	**-2.7**
DREZ	**Durham Road**	**2.79**	**2**	P		**Pn**	**07 54 15.6**	**+2.6**
RPZ	**Rata Peaks**	**2.82**	**231**	P		**Pn**	**07 54 13.6**	**+0.2**
RPZ	**Rata Peaks**	**2.82**	**231**	P		**Pn**	**07 54 13.4**	**0.0**
PKVZ	**Pokaka**	**2.86**	**20**	P		**Pn**	**07 54 15.2**	**+1.2**
MOVZ	**Moawhango**	**2.87**	**27**	P		**Pn**	**07 54 14.0**	**-0.1**
WNVZ	**Wahianoa**	**2.89**	**24**	P		**Pn**	**07 54 15.3**	**+0.8**
VRZ	**Vera Road**	**2.90**	**10**	P		**Pn**	**07 54 16.2**	**+1.7**
TRVZ	**Turoa**	**2.90**	**23**	P		**Pn**	**07 54 15.8**	**+1.1**
BHHZ	**Black Hill Sta**	**2.91**	**32**	P		**Pn**	**07 54 13.8**	**-0.9**
DRZ	**Dome Shelter**	**2.93**	**23**	P		**Pb**	**07 54 21.9**	**+0.7**
WHVZ	**Whangaehu Hut**	**2.93**	**24**	P		**Pn**	**07 54 16.2**	**+1.1**
FWVZ	**Far West T-bar**	**2.94**	**23**	P		**Pn**	**07 54 16.4**	**+1.1**
TUVZ	**Tukino**	**2.96**	**24**	P		**Pn**	**07 54 16.5**	**+1.0**
NGZ	**Ngauruhoe**	**3.03**	**23**	P		**Pn**	**07 54 16.9**	**+0.5**
SNVZ	**South Ngauruho**	**3.03**	**24**	P		**Pn**	**07 54 17.8**	**+1.4**
OTVZ	**Oturere**	**3.06**	**24**	P		**Pn**	**07 54 17.6**	**+0.7**
GCSZ	**Gaunt Creek Bo**	**3.08**	**243**	P		**Pn**	**07 54 20.3**	**+3.4**
NNVZ	**North Ngauruho**	**3.08**	**23**	P		**Pn**	**07 54 19.0**	**+1.9**
WTVZ	**West Tongariro**	**3.08**	**22**	P		**Pn**	**07 54 18.3**	**+1.2**
ETVZ	**East Tongariro**	**3.10**	**24**	P		**Pn**	**07 54 18.1**	**+0.7**
TMVZ	**Te Maari**	**3.12**	**24**	P		**Pn**	**07 54 18.3**	**+0.8**
KRVZ	**Karewarewa**	**3.12**	**23**	P		**Pn**	**07 54 20.5**	**+2.9**
NTVZ	**North Tongarir**	**3.13**	**23**	P		**Pb**	**07 54 21.9**	**-2.6**
TMZ	**Timaru**	**3.29**	**222**	P		**Pn**	**07 54 19.5**	**-0.3**
BKZ	**Black Stump Fm**	**3.36**	**34**	P		**Pn**	**07 54 22.3**	**+1.5**
BKZ	**Black Stump Fm**	**3.36**	**34**	P		**Pn**	**07 54 23.9**	**+3.0**
FOZ	**Fox Glacier**	**3.50**	**242**	P		**Pn**	**07 54 25.7**	**+3.0**
HIZ	**Hauiti**	**3.52**	**10**	P		**Pn**	**07 54 24.4**	**+1.5**
HIZ	**Hauiti**	**3.52**	**10**	P		**Pn**	**07 54 24.7**	**+1.7**
LBZ	**Lake Benmore**	**3.73**	**229**	P		**Pn**	**07 54 26.3**	**+0.5**
ODZ	**Otahua Downs**	**3.95**	**218**	P		**Pn**	**07 54 28.7**	**-0.2**
ODZ	**Otahua Downs**	**3.95**	**218**	P		**Pn**	**07 54 28.3**	**-0.7**
NGRZ	**Ngongotaha**	**4.20**	**23**	P		**Pn**	**07 54 33.1**	**+0.7**
URZ	**Urewera**	**4.38**	**33**	P		**Pn**	**07 54 36.6**	**+1.8**
TOZ	**Tahuroa Road**	**4.38**	**15**	P		**Pn**	**07 54 35.5**	**+0.7**
JCZ	**Jackson Bay**	**4.41**	**240**	P		**Pn**	**07 54 38.3**	**+3.0**
AWAZ	**Awhitu Peninsu**	**4.93**	**5**	P		**Pn**	**07 54 44.6**	**+2.2**
MKAZ	**Moumakai**	**4.94**	**10**	P		**Pn**	**07 54 43.6**	**+1.1**
ETAZ	**East Tamaki Re**	**5.06**	**8**	P		**Pn**	**07 54 46.2**	**+2.0**

*SKO **27** 07:55:59.0, 40.84N×20.74E, h15km*
*TIR **27** 07:55:59.6, 40.84N×20.71E, h0km±1km, Md2.9, Ml2.7*
*ATH **27** 07:56:00.2, 40.92N×20.74E, h10km±31km, ML3.0/3, Error ellipse: s-maj=31.6km s-min=2.4km az=0.0*
*THE **27** 07:56:00.8, 40.84N×20.76E, h3km±1km, ML2.6/9, Error ellipse: s-maj=1.6km s-min=0.7km az=135.0*
*PDG **27** 07:56:00.8±0.4, 40.83N×20.76E, h12km±1km, ML3.0/10, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*BEO **27** 07:56:01.7±0.5, 40.88N×20.80E, h13km±2km, ML2.5/7*
ISC 27 07:56:00.7±0.9, **40.84N**±0.01×**20.74E**±0.02, **h9**km±7km, **n84**, σ1**904**/131, **7C-3D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.21**	**170**	P		**Pg**	**07 56 04.9**	**-0.2**
KBN	3µm,0.4s			S		**Sg**	**07 56 08.2**	**+0.1**
KBN	**Korca** baz=163	**0.21**	**170**	P		**Pg**	**07 56 04.8**	**-0.2**
KBN	baz=163			S		**Sg**	**07 56 08.4**	**+0.3**
KBN	comp=E,11nm,0.5s,baz=163			AMP				
OHR	**Ohrid**	**0.28**	**10**	*e*P		**Pg**	**07 56 06.3**	**0.0**
OHR				*e*S		**Sb**	**07 56 11.5**	**-1.3**
OHR	**Ohrid**	**0.28**	**10**	*i* P		**Pg**	**07 56 06.4**	**0.0**
OHR				*i* S		**Sb**	**07 56 11.4**	**-1.3**
OHR	comp=E,824nm,0.5s			*e*Lg		Lg	07 56 11.6	
OHR	comp=N,655nm,0.3s			*e*Lg		Lg	07 56 12.6	
NEST	**Nestorio**	**0.48**	**150**	P		**Pg**	**07 56 10.1**	**0.0**
NEST	comp=N,952nm,0.3s			S		**Sg**	**07 56 17.0**	**+0.6**
NEST	**Nestorio**	**0.48**	**150**	P		**Pg**	**07 56 09.8**	**-0.2**
NEST				S		**Sb**	**07 56 18.3**	**-0.3**
NEST	comp=E,2291µm,0.4s			AML	AML	07 56 20.9		
NEST	comp=N,2287µm,0.2s			AML	AML	07 56 21.6		
FNA	**Florina**	**0.49**	**96**	P		**Pg**	**07 56 10.1**	**-0.1**
FNA	comp=N,4µm,0.2s			S		**Sb**	**07 56 17.8**	**-0.9**
FNA	**Florina**	**0.49**	**96**	*e*P		**Pg**	**07 56 10.0**	**-0.1**
FNA				*e*Sg		**Sb**	**07 56 18.8**	**+0.1**
FNA	**Florina**	**0.49**	**96**	⇑ *i*P		**Pg**	**07 56 10.1**	**-0.1**
FNA				*i* Sg		**Sb**	**07 56 18.8**	**+0.1**
FNA	**Florina** baz=95	**0.49**	**96**	P		**Pg**	**07 56 10.1**	**-0.1**
FNA	baz=95			S		**Sb**	**07 56 18.4**	**-0.3**
FNA	**Florina**	**0.49**	**96**	P		**Pg**	**07 56 10.1**	**-0.1**
FNA				S		**Sb**	**07 56 17.5**	**-1.2**
FNA	comp=N,5940µm,0.2s			AML	AML	07 56 20.7		
FNA	comp=E,9979µm,0.2s			AML	AML	07 56 21.1		
LSK	**Leskovik**	**0.69**	**189**	P		**Pg**	**07 56 13.4**	**-0.6**
LSK	comp=E,735nm,0.5s			S		**Sb**	**07 56 24.1**	**-0.5**
LSK	**Leskovik** baz=187	**0.69**	**189**	P		**Pg**	**07 56 13.8**	**-0.3**
LSK	baz=187			S		**Sb**	**07 56 24.6**	**0.0**
LSK	comp=E,1.7nm,0.6s,baz=187			AMP				
PENT	**Pentalofos**	**0.71**	**154**	P		**Pg**	**07 56 14.1**	**-0.2**
PENT				S		**Sg**	**07 56 23.5**	**-0.1**
PENT	**Pentalofos**	**0.71**	**154**	P		**Pg**	**07 56 14.2**	**-0.2**
PENT				S		**Sb**	**07 56 26.1**	**+1.0**
TIR	**Tirane**	**0.83**	**308**	*e*P		**Pg**	**07 56 16.8**	**+0.1**
TIR				*e*Sg		**Sb**	**07 56 29.5**	**+0.9**
TIR	**Tirane**	**0.83**	**308**	*i* Pg		**Pg**	**07 56 16.0**	**-0.7**
TIR				*i* Sg		**Sb**	**07 56 29.7**	**+1.1**
TIR	**Tirane** baz=309	**0.83**	**308**	P		**Pg**	**07 56 16.1**	**-0.7**
TIR	baz=309			S		**Sb**	**07 56 28.8**	**+0.2**
TIR	comp=N,0.8nm,0.7s,baz=309			AMP				
KZN	**Kozani**	**0.95**	**124**	P		**Pg**	**07 56 18.1**	**-0.8**
KZN	comp=N,812nm,0.4s			S		**Sb**	**07 56 31.8**	**-0.1**
KZN	**Kozani**	**0.95**	**124**	P		**Pg**	**07 56 18.2**	**-0.8**
KZN				S		**Sn**	**07 56 33.2**	**-0.7**
KZN	comp=E,1837µm,0.5s			AML	AML	07 56 36.2		
KZN	comp=N,1514µm,0.4s			AML	AML	07 56 36.9		
VLO	**Vlora** baz=249	**1.01**	**249**	P		**Pb**	**07 56 19.3**	**-1.0**
SRN	**Sarande** baz=210	**1.11**	**211**	P		**Pg**	**07 56 22.4**	**+0.4**
SRN	baz=210			S		**Sn**	**07 56 38.2**	**+0.5**
SRN	comp=N,0.6nm,0.6s,baz=210			AMP				
JAN	**Janina**	**1.18**	**176**	P		**Pn**	**07 56 22.9**	**-0.4**
JAN				S		**Sn**	**07 56 40.0**	**+0.5**
SKO	**Skopje**	**1.25**	**25**	*i* Pg		**Pg**	**07 56 25.0**	**+0.3**
SKO				*i* Sg		**Sg**	**07 56 42.3**	**+1.4**
GRG	**Griva**	**1.27**	**84**	P		**Pn**	**07 56 23.7**	**-0.8**
GRG				S		**Sg**	**07 56 42.8**	**+1.4**
GRG	**Griva**	**1.27**	**84**	*i* Pg		**Pn**	**07 56 23.6**	**-1.0**

KNT	**Kendrikon**	**1.67**	**78**	P		**Pn**	**07 56 29.3**	**-0.7**
KNT				S		**Sb**	**07 56 51.7**	**-0.9**
	comp=N,105nm,0.7s							
KNT	**Kendrikon**	**1.67**	**78**	*i* Pn		**Pn**	**07 56 29.4**	**-0.6**
KNT				*e*Sn		**Sn**	**07 56 51.3**	**-0.2**
DRME	**Dracevica, Mon**	**1.78**	**320**	*e*Pn		**Pb**	**07 56 32.9**	**-0.6**
DRME	**Dracevica, Mon**	**1.78**	**320**	⇑*i*Pn		**Pb**	**07 56 32.8**	**-0.7**
DRME				*i* Sn		**Sg**	**07 56 58.2**	**+0.2**
PVY	**Plav**	**1.85**	**342**	*e*Pn		**Pn**	**07 56 33.5**	**+0.8**
PVY				*i* Sn		**Sg**	**07 56 59.6**	**-0.6**
TTG	**Podgorica**	**1.94**	**326**	⇓*i*Pn		**Pn**	**07 56 34.9**	**+1.1**
TTG				*i* Sn		**Sg**	**07 57 02.0**	**-1.1**
SOH	**Sokhos**	**1.99**	**90**	*i* Pn		**Pn**	**07 56 35.3**	**+0.9**
SOH				eSn		**Sb**	**07 57 00.5**	**-1.3**
BUM	**Brajici-Budva**	**2.01**	**317**	⇑*i*Pn		**Pn**	**07 56 36.0**	**+1.2**
BUM				*i* Sn		**Sb**	**07 57 03.7**	**+1.1**
IVA	**Berane**	**2.13**	**343**	⇑*i*Pn		**Pn**	**07 56 37.4**	**+0.9**
IVA				*i* Sn		**Sb**	**07 57 06.2**	**+0.2**
BARS	**Barje**	**2.14**	**22**	*e*Pn		**Pn**	**07 56 36.2**	**-0.3**
BARS	**Barje**	**2.14**	**22**	*i* Pn		**Pn**	**07 56 36.4**	**-0.1**
SRS	**Serrai**	**2.18**	**82**	*e*Pn		**Pn**	**07 56 36.9**	**-0.2**
AGG	**Agios Georgios**	**2.19**	**145**	P		**Pn**	**07 56 37.3**	**+0.1**
AGG				S		**Sn**	**07 57 05.4**	**+1.1**
	comp=N,68nm,0.5s							
CEME	**Cevo**	**2.19**	**322**	⇑*i*Pn		**Pn**	**07 56 38.3**	**+1.1**
CEME				*i* Sn		**Sb**	**07 57 07.8**	**+0.2**
KOME	**Kolasin**	**2.21**	**336**	*e*Pn		**Pn**	**07 56 38.6**	**+1.0**
KOME				*i* Sn		**Sb**	**07 57 08.3**	**0.0**
HCY	**Herceg Novi**	**2.33**	**315**	*e*Pn		**Pn**	**07 56 40.3**	**+1.2**
HCY	**Herceg Novi**	**2.33**	**315**	⇑*i*Pn		**Pn**	**07 56 40.3**	**+1.2**
HCY				*i* Sn		**Sb**	**07 57 11.4**	**-0.2**
NKME	**Niksic**	**2.35**	**326**	⇑*i*Pn		**Pn**	**07 56 40.5**	**+1.1**
NKME				*i* Sn		**Sb**	**07 57 11.6**	**-0.6**
SELS	**Selova**	**2.40**	**7**	*e*Pn		**Pn**	**07 56 39.7**	**-0.4**
SJES	**Sjenica**	**2.49**	**347**	*e*Pn		**Pn**	**07 56 41.4**	**0.0**
SJES				*e*Sn		**Sn**	**07 57 12.4**	**+0.4**
VTS	**Vitosha**	**2.58**	**46**	*i* Pn		**Pn**	**07 56 43.3**	**+0.6**
TREB	**Trebinje**	**2.59**	**317**	*e*Pn		**Pn**	**07 56 41.9**	**-0.8**
BRY	**Bratogost**	**2.64**	**322**	*e*Pn		**Pn**	**07 56 44.6**	**+1.1**
BRY	**Bratogost**	**2.64**	**322**	⇓*i*Pn		**Pn**	**07 56 44.6**	**+1.1**
BRY				*i* Sn		**Sb**	**07 57 18.6**	**-2.1**
IVAS	**Ivanjica**	**2.77**	**351**	*e*Pn		**Pn**	**07 56 44.9**	**-0.4**
IVAS				eSn		**Sn**	**07 57 18.6**	**-0.3**
RUDO	**Rudo**	**2.96**	**340**	*e*Pn		**Pn**	**07 56 46.2**	**-1.6**
STON	**Ston**	**3.05**	**313**	*e*Pn		**Pn**	**07 56 48.1**	**-0.8**
GRUS	**Gruza**	**3.05**	**360**	*e*Pn		**Pn**	**07 56 49.4**	**+0.4**
ZAGS	**Zajecar**	**3.17**	**20**	*e*Pn		**Pn**	**07 56 48.9**	**-0.8**
BBLS	**Lazići**	**3.19**	**342**	*e*Pn		**Pb**	**07 56 54.7**	**-2.7**
BBLS	**Lazići**	**3.19**	**342**	*e*Pn		**Pn**	**07 56 52.0**	**+1.1**
DIVS	**Divibare**	**3.31**	**351**	*e*Pn		**Pn**	**07 56 51.6**	**-1.0**
DIVS	**Divibare**	**3.31**	**351**	*e*Pn		**Pn**	**07 56 51.9**	**-0.7**
TRUS	**Trudelj**	**3.40**	**356**	*e*Pn		**Pn**	**07 56 54.1**	**+0.3**
HAPS	**Han Pijesak,BI**	**3.51**	**338**	*e*Pn		**Pn**	**07 56 56.1**	**+0.7**
SRKY	**Kupres RS**	**4.17**	**322**	*e*Pn		**Pn**	**07 57 05.3**	**+0.7**
FRGS	**Fruska Gora**	**4.37**	**351**	*e*Pn		**Pn**	**07 57 06.3**	**-0.9**
BLY	**Banja Luka**	**4.70**	**327**	*e*Pn		**Pn**	**07 57 12.5**	**+0.8**
A050A	**Klekovaca**	**4.79**	**321**	*e*Pn		**Pn**	**07 57 13.7**	**+0.8**
A051A	**Mrakovica**	**5.03**	**327**	*e*Pn		**Pn**	**07 57 16.4**	**+0.1**
CRES	**Cresnjev**	**6.30**	**324**	*e*Pn		**Pn**	**07 57 34.0**	**+0.3**
CEY	**Cerknica**	**6.72**	**319**	*e*Pn		**Pn**	**07 57 39.2**	**-0.3**
SOKA	**Soboth**	**7.15**	**327**	*i* Pn		**Pn**	**07 57 45.8**	**+0.4**
	comp=N,1.2nm,0.3s							
OBKA	**Obir**	**7.23**	**324**	*e*Pn		**Pn**	**07 57 43.2**	**-3.3**
ABTA	**Abfaltersbach**	**8.38**	**318**	*e*Pn		**Pn**	**07 58 02.8**	**+0.5**
	comp=N,0.5nm,0.2s							
MOA	**Molln**	**8.40**	**329**	*e*Pn		**Pn**	**07 58 03.6**	**+1.1**
	comp=N,1.1nm,0.6s							
WTTA	**Wattenberg**	**9.17**	**317**	*e*Pn		**Pn**	**07 58 13.3**	**0.0**
	comp=N,0.6nm,0.2s							
WATA	**Walderalm**	**9.25**	**318**	*e*Pn		**Pn**	**07 58 15.0**	**+0.8**
	comp=N,0.8nm,0.3s							

WEL 27 07:56:16.3±0.5, 42°S±4°×17°4E±°, h13km±5km, M2.2/8, ML2.7/13, MLv2.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=153.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**207**	P	Pb	07 56 20.2	-0.2
BSWZ	**Blackbirch Sta**	**0.31**	**257**	P	Pb	07 56 24.0	+0.3
TUMZ	**Tuamarina**	**0.33**	**310**	P	Pb	07 56 24.5	+0.4
TCW	**Tory Channel**	**0.43**	**359**	P	Pb	07 56 25.7	-0.1
WEL	**Wellington**	**0.51**	**45**	P	Pb	07 56 27.0	-0.1
WEL				S	Sb	07 56 34.2	-0.3
PLWZ	**Palliser**	**0.73**	**84**	P	Pb	07 56 30.9	0.0
MSWZ	**Moikau Station**	**0.76**	**73**	P	Pg	07 56 31.2	+0.1
CAW	**Cannon Point**	**0.80**	**48**	P	Pg	07 56 31.7	-0.1
DUWZ	**D'Urville Isla**	**0.89**	**342**	P	Pn	07 56 35.1	+0.7
PAWZ	**Paruwai Farm**	**0.90**	**73**	P	Pb	07 56 34.0	+0.3
MTW	**Mount Morrison**	**1.04**	**62**	P	Pn	07 56 36.5	-0.1
OGWZ	**Otaki Gorge**	**1.06**	**39**	P	Pn	07 56 37.2	+0.4
TMWZ	**Te Maipa**	**1.32**	**67**	P	Pn	07 56 39.8	-0.7

SOME ***27*** *08:02:56.9, 39°.28N×74°.28E, h0km*
IDC ***27*** *08:02:56.5±0.9, 39°.13N×74°.46E, h0km, mb3.6/14, mbtmp3.7/19, ML3.2/5, MS3.3/14, Error ellipse: s-maj=17.4km s-min=15.0km az=111.0*
KRNET ***27*** *08:02:58.7±0.1, 39°.33N×74°.37E, mb4.2*
NNC ***27*** *08:02:59.2±1.6, 39°.17N×74°.50E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=13.0km s-min=7.7km az=166.0*

ISC 27 08:02:56.9±0.6, 38°.96N±0°.04×74°.20E±0°.03, h10km, n99, σ2s31/123, mb3.5/13, MS3.2/10, 31C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.91**	**326**	⇑*i*P	**Pb**	**08 03 30.6**	**-1.2**
	baz=15						
OHH				⇑*i*S	**Sb**	**08 03 54.3**	**-1.4**
	baz=15						
DRK	**Karamyk**	**1.94**	**286**	⇑*e*P	**Pg**	**08 03 35.9**	**+1.8**
	baz=75						
DRK				⇑*i*S	**Sg**	**08 04 03.0**	**+3.8**
	baz=75						
NRN	**Naryn**	**2.83**	**29**	⇑*i*P	**Pn**	**08 03 41.8**	**-0.7**
	baz=30						
NRN				⇑*i*S	**Sn**	**08 04 13.2**	**-3.6**
	baz=30						
BTK	**Batken**	**2.84**	**294**	⇑*i*P	**Pb**	**08 03 47.6**	**-0.1**
	baz=86						
BTK				⇑*i*S	**Sg**	**08 04 23.2**	**-4.8**
	baz=86						
GAR	**Garm**	**3.03**	**272**	⇑*e*P	**Pg**	**08 03 52.1**	**-2.8**
	baz=65						
GAR				⇑*i*S	**Sg**	**08 04 31.1**	**-3.0**
	baz=65						
ARK	**Arkit**	**3.31**	**330**	⇑*i*P	**Pn**	**08 03 51.0**	**+2.1**
	baz=24						
ARK				⇑*i*S	**Sn**	**08 04 28.9**	**+0.5**
	baz=24						
TRKS	**Terek-Say**	**3.48**	**319**	⇑*e*P	**Pn**	**08 03 53.1**	**+1.9**
	baz=12						
TRKS				⇑*i*S	**Sn**	**08 04 33.0**	**+0.5**
	baz=12						
AAK	**Ala-Archa**	**3.68**	**3**	Pn	**Pn**	**08 03 56.1**	**+2.0**
	8.0nm,0.3s,baz=178,slow=9.1,SNR=88						
AAK				Lg	Lg	08 04 48.4	
	8.6nm,0.3s,baz=292,slow=23,SNR=8.1						
AAK				LR	LR	08 05 24.5	
	comp=Z,308nm,19.6s,baz=198,slow=42 58nm,0.6s						
BOOM	**Boomskoye usch**	**3.77**	**20**	⇑*e*P	**Pn**	**08 03 55.0**	**-0.3**
	baz=20						
BOOM				⇑*i*S	**Sn**	**08 04 35.9**	**-3.8**
	baz=20						
MRKS	**Merke**	**3.85**	**349**	*e*P	**Pb**	**08 04 02.7**	**-2.4**
	40nm,0.4s						
MRKS				*e*S	**Sb**	**08 04 50.1**	**-1.7**
	72nm,0.6s						
MRKS	**Merke**	**3.85**	**349**	Pg	**Pb**	**08 04 03.5**	**-1.6**
	36nm,0.6s						
TARG	**Taragay, Kyrgy**	**3.91**	**44**	⇑*e*P	**Pn**	**08 03 57.5**	**+0.1**
	baz=46						
TARG				⇑*i*S	**Sn**	**08 04 40.3**	**-3.2**
	baz=46						
KST	**Kastek**	**4.29**	**18**	*e*P	**Pn**	**08 04 06.1**	**+3.7**
	60nm,0.5s						
KST				*e*S	**Sn**	**08 04 55.0**	**+2.4**
	154nm,0.6s						
DGS	**Degeres**	**4.44**	**15**	*e*P	**Pb**	**08 04 15.3**	**+0.2**
	75nm,0.9s						
DGS				*e*S	**Sb**	**08 05 10.4**	**+1.7**
	148nm,0.9s						
DGS	**Degeres**	**4.44**	**15**	Pg	**Pb**	**08 04 16.0**	**+0.9**
	36nm,0.5s						
DGS				Lg	Lg	08 05 10.5	
	148nm,0.9s						
IZV	**Izvestkoviy**	**4.46**	**23**	*e*P	**Pb**	**08 04 15.4**	**-0.1**
	23nm,0.4s						
IZV				*e*S	**Sb**	**08 05 09.4**	**0.0**
	96nm,0.8s						
IZV	**Izvestkoviy**	**4.46**	**23**	Pg	**Pb**	**08 04 16.6**	**+1.1**
	23nm,0.4s						
IZV				Lg	Lg	08 05 11.1	
	96nm,0.8s						
DZA	**Taraz**	**4.49**	**332**	*e*P	**Pb**	**08 04 18.2**	**+2.3**
	56nm,0.1s						
DZA				*e*S	**Sb**	**08 05 13.8**	**+3.8**
	75nm,0.4s						
MTBS	**Maitube**	**4.50**	**21**	*e*P	**Pb**	**08 04 16.4**	**+0.4**
	31nm,0.5s						
MTBS				*e*S	**Sb**	**08 05 11.2**	**+0.9**
	85nm,0.9s						
MTBS	**Maitube**	**4.50**	**21**	Pg	**Pb**	**08 04 16.4**	**+0.4**
	31nm,0.5s						
MTBS				Lg	Lg	08 05 11.2	
	85nm,0.9s						
IUG	**Iuzhnay**	**4.50**	**316**	*e*P	**Pg**	**08 04 20.6**	**-2.5**
	66nm,0.4s						
IUG				*e*S	**Sg**	**08 05 18.1**	**-3.2**
	167nm,0.7s						
SGDS	**Sogindy**	**4.50**	**4**	*e*P	**Pb**	**08 04 16.9**	**+0.8**
	12nm,0.4s						
SGDS				*e*S	**Sb**	**08 05 11.9**	**+1.5**
	75nm,0.9s						
SGDS	**Sogindy**	**4.50**	**4**	Pg	**Pb**	**08 04 18.2**	**+2.1**
	29nm,0.6s						
SGDS				Lg	Lg	08 05 14.6	
	75nm,0.9s						
TNSS	**Tian-Shan**	**4.57**	**26**	*e*P	**Pb**	**08 04 16.8**	**-0.7**
	58nm,0.5s						
TNSS				*e*S	**Sb**	**08 05 12.3**	**-0.5**
	58nm,1.1s						
TNSS	**Tian-Shan**	**4.57**	**26**	Pg	**Pb**	**08 04 16.8**	**-0.7**
	58nm,0.5s						
TNSS				Lg	Lg	08 05 12.3	
	58nm,1.1s						
MDOK	**Medeo**	**4.72**	**26**	*e*P	**Pb**	**08 04 19.0**	**-0.8**
	35nm,0.7s						
MDOK				*e*S	**Sb**	**08 05 15.8**	**-1.0**
	151nm,1.3s						
MDOK	**Medeo**	**4.72**	**26**	⇑Pg	**Pb**	**08 04 19.0**	**-0.8**
	79nm,1.0s						
MDOK				Pg	**Pb**	**08 04 19.0**	**-0.8**
	35nm,0.7s						
MDOK				Lg	Lg	08 05 15.8	
	151nm,1.3s						
MDOK				⇓Lg	Lg	08 05 21.6	
	268nm,1.2s						
KNDC	**Almaty**	**4.74**	**25**	⇑Pg	**Pb**	**08 04 20.1**	**0.0**
	98nm,0.7s						
KNDC				⇓Lg	Lg	08 05 23.0	
	433nm,1.0s						
KOTS	**Kotyrbulak**	**4.80**	**26**	*e*P	**Pb**	**08 04 21.0**	**-0.3**
	27nm,0.5s						
KOTS				*e*S	**Sb**	**08 05 19.1**	**-0.1**
	187nm,0.8s						
KOTS	**Kotyrbulak**	**4.80**	**26**	Pg	**Pb**	**08 04 21.0**	**-0.3**
	27nm,0.5s						
KOTS				Lg	Lg	08 05 19.1	
	187nm,0.8s						
CHM	**Chimkent**	**4.85**	**315**	*e*P	**Pg**	**08 04 25.9**	**-3.8**
	101nm,0.2s						
CHM				*e*S	**Sg**	**08 05 27.4**	**-5.0**
	170nm,0.4s						
KRBS	**Karabastau**	**4.86**	**13**	*e*P	**Pb**	**08 04 22.8**	**+0.6**
	24nm,0.5s						
KRBS				*e*S	**Sb**	**08 05 22.1**	**+1.3**
	53nm,0.8s						
KRBS	**Karabastau**	**4.86**	**13**	Pg	**Pb**	**08 04 22.8**	**+0.6**
	24nm,0.5s						
KRBS				Lg	Lg	08 05 22.1	
	53nm,0.8s						
KK31	**Karatay Array**	**4.99**	**327**	⇑Pn	**Pn**	**08 04 13.6**	**+1.7**
	3.2nm,0.5s,baz=133,slow=13,SNR=60						
KK31				⇓Pg	**Pb**	**08 04 27.5**	**+3.1**
	15nm,0.6s,baz=144,slow=15,SNR=12						
KK31				⇑Sn	**Sb**	**08 05 17.0**	**-7.5**
	16nm,0.7s						
KK31				⇓Lg	Lg	08 05 40.6	
	64nm,0.9s,baz=146,slow=28						
KTBS	**Karatobe**	**5.10**	**21**	*e*P	**Pb**	**08 04 27.7**	**+1.4**
	31nm,0.6s						
KTBS				*e*S	**Sb**	**08 05 30.7**	**+3.0**
	112nm,1.1s						
KTBS	**Karatobe**	**5.10**	**21**	Pg	**Pb**	**08 04 27.7**	**+1.4**
	31nm,0.6s						
KTBS				Lg	Lg	08 05 30.7	
	112nm,1.1s						
KUU	**Kurty**	**5.18**	**17**	*e*P	**Pb**	**08 04 28.5**	**+0.8**
	16nm,0.4s						
KUU				*e*S	**Sb**	**08 05 32.1**	**+2.1**
	75nm,1.3s						
KUU	**Kurty**	**5.18**	**17**	Pg	**Pb**	**08 04 28.5**	**+0.8**
	16nm,0.4s						
KUU				Lg	Lg	08 05 32.1	
	75nm,1.3s						
SATY	**Saty**	**5.19**	**37**	*e*P	**Pb**	**08 04 28.5**	**+0.7**
	42nm,0.7s						
SATY				*e*S	**Sb**	**08 05 32.5**	**+2.3**
	134nm,1.4s						
SATY	**Saty**	**5.19**	**37**	Pg	**Pb**	**08 04 28.5**	**+0.7**
	42nm,0.7s						
SATY				Lg	Lg	08 05 32.4	
	134nm,1.4s						
ZHN	**Zhinishke**	**5.29**	**36**	*e*P	**Pb**	**08 04 30.4**	**+1.0**
	9.6nm,0.4s						
ZHN				*e*S	**Sb**	**08 05 35.0**	**+2.0**
	57nm,1.1s						
ZHN	**Zhinishke**	**5.29**	**36**	Pg	**Pb**	**08 04 30.4**	**+1.0**
	9.6nm,0.4s						
ZHN				Lg	Lg	08 05 35.0	
	57nm,1.1s						
CHKK	**Chushkaly**	**5.32**	**22**	*e*P	**Pb**	**08 04 31.1**	**+1.1**
	17nm,0.6s						
CHKK				*e*S	**Sb**	**08 05 36.7**	**+2.8**
	54nm,0.7s						
CHKK	**Chushkaly**	**5.32**	**22**	Pg	**Pb**	**08 04 31.1**	**+1.1**
	17nm,0.6s						
CHKK				Lg	Lg	08 05 36.7	
	54nm,0.7s						
CHCP	**Chirah Chowk**	**5.34**	**188**	P	Pb	08 04 25.1	-5.3
CEP	**Cherat**	**5.45**	**201**	P	**Pb**	**08 04 28.7**	**-3.6**
UZB	**Uzynbulak**	**5.55**	**40**	*e*P	**Pb**	**08 04 35.4**	**+1.4**
	15nm,0.6s						
UZB				*e*S	**Sb**	**08 05 44.0**	**+3.4**
	68nm,1.3s						
UZB	**Uzynbulak**	**5.55**	**40**	Pg	**Pb**	**08 04 35.4**	**+1.4**
	15nm,0.6s						
UZB				Lg	Lg	08 05 44.0	
	68nm,1.3s						
KPKS	**Kokpek**	**5.63**	**35**	*e*P	**Pb**	**08 04 36.4**	**+1.1**
	48nm,1.1s						
KPKS				*e*S	**Sb**	**08 05 45.2**	**+2.3**
	117nm,0.6s						
KPKS	**Kokpek**	**5.63**	**35**	Pg	**Pb**	**08 04 36.4**	**+1.1**
	48nm,1.1s						
KPKS				Lg	Lg	08 05 45.2	
	117nm,0.6s						
SHLS	**Shalkode**	**5.78**	**42**	*e*P	Pb	08 04 43.3	+5.4
	61nm,0.9s						
SHLS				*e*S	**Sg**	**08 05 57.9**	**-4.6**
	64nm,0.6s						
SHLS	**Shalkode**	**5.78**	**42**	Pg	Pb	08 04 43.3	+5.4
	61nm,0.9s						
SHLS				Lg	Lg	08 05 57.9	
	64nm,0.6s						
PDGK	**Podgornoye**	**5.92**	**41**	Pg	**Pb**	**08 04 41.7**	**+1.5**
	10nm,0.7s						
PDGK				Lg	Lg	08 05 54.9	
	37nm,1.2s						
PDGK	**Podgornoye**	**5.92**	**41**	⇓Pn	**Pn**	**08 04 24.8**	**+0.1**
	9.8nm,0.7s						
PDGK				⇓Pg	**Pb**	**08 04 41.4**	**+1.1**
	31nm,0.8s						
PDGK				⇑Lg	Lg	08 06 00.6	
	112nm,1.1s						
BLB	**Baldybastay**	**6.05**	**31**	*e*P	**Pb**	**08 04 44.6**	**+2.0**
	35nm,0.5s						
BLB				*e*S	**Sb**	**08 04 59.4**	**+4.3**
	47nm,0.5s						
BLB	**Baldybastay**	**6.05**	**31**	Pg	**Pb**	**08 04 42.9**	**+0.4**
	35nm,0.5s						
BLB				Lg	Lg	08 05 57.2	
	34nm,0.8s						
BTLS	**Baital**	**6.08**	**359**	*e*P	**Pb**	**08 04 45.3**	**+2.4**
	7.6nm,0.7s						
BTLS				*e*S	**Sb**	**08 06 01.3**	**+5.6**
	18nm,1.4s						
TDK	**Taldyqorghan**	**6.80**	**26**	*e*P	**Pb**	**08 04 58.1**	**+2.9**
	15nm,0.2s						
TDK				*e*S	**Sb**	**08 06 23.1**	**+6.5**
	85nm,0.7s						
TDK	**Taldyqorghan**	**6.80**	**26**	Pg	Pb	08 05 00.7	+5.5
	39nm,0.6s						
TDK				Lg	Lg	08 06 26.7	
	86nm,1.3s						
DJR	**Jarkent**	**6.81**	**36**	*e*P	**Pb**	**08 04 58.6**	**+3.3**
	7.9nm,0.5s						
DJR				*e*S	**Sb**	**08 06 24.2**	**+7.5**
	29nm,1.4s						
DJR	**Jarkent**	**6.81**	**36**	Pg	**Pb**	**08 04 58.6**	**+3.3**
	7.9nm,0.5s						
DJR				Lg	Lg	08 06 24.2	
	29nm,1.4s						
OTUK	**Ortayu**	**9.38**	**352**	⇓Pn	**Pn**	**08 05 12.2**	**+0.1**
	3.3nm,0.7s						
OTUK				⇑Lg	Lg	08 07 53.6	
	14nm,0.9s						
MAKZ	**Makanchi**	**9.70**	**34**	⇑Pn	**Pn**	**08 05 16.6**	**+0.1**
	4.4nm,1.2s						
MAKZ				⇑Pg		08 05 51.7	
	6.1nm,1.1s						
MAKZ				⇓Lg	Lg	08 08 02.3	
	15nm,1.4s						
MK31	**Makanchi Array**	**9.82**	**35**	⇑Pn	**Pn**	**08 05 19.1**	**+0.9**
	7.3nm,1.4s						
MK31				⇑Lg	Lg	08 08 04.8	
	10.0nm,1.2s,baz=218,slow=26,SNR=4.4						
MKAR	**Makanchi Array**	**9.82**	**35**	Pn	**Pn**	**08 05 17.4**	**-0.8**
	0.2nm,0.3s,baz=210,slow=14,SNR=10						
MKAR				Lg	Lg	08 07 58.8	
	0.1nm,0.3s,baz=225,slow=24,SNR=3.0						
MKAR				LR	LR	08 09 24.1	
	comp=Z,94nm,21.4s,baz=214,slow=40 2.3nm,1.0s						
WMQ	**Urumqi**	**11.24**	**60**	*e*P	**Pn**	**08 05 36.3**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ				smax	smax		
	comp=N,41nm,1.1s						
WMQ				smax	smax		
	comp=E,41nm,0.9s						
WMQ				LR	LR		
	comp=Z,66nm,21.7s						
KURBB	**Kurchatov Arra**	**12.06**	**13**	Lg	Lg	08 09 09.5	
	comp=Z,0.1nm,0.3s,baz=196,slow=30,SNR=8.2						
KURBB	**Kurchatov Arra**	**12.06**	**13**	⇑Lg	Lg	08 09 17.4	
	comp=Z,47nm,1.4s						
KURK	**Kurchatov**	**12.16**	**13**	⇑Lg	Lg	08 09 20.1	
	comp=Z,48nm,1.5s						
GEYT	**Alibeck**	**12.65**	**270**	Pn	Pn	08 06 00.9	+4.0
	comp=Z,0.1nm,0.3s,baz=108,slow=9.3,SNR=1.9						
GEYT				Sn	**Sn**	**08 08 18.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=135,slow=55,SNR=1.4						
GEYT				LR	LR	08 11 40.0	
	comp=Z,71nm,20.6s,baz=342,slow=41 comp=Z,0.6nm,0.3s						
PYUN	**Piuthan**	**13.07**	**143**	*e*P	**Pn**	**08 06 02.6**	**-0.3**
	comp=Z,32nm,0.6s						
DANN	**Dangsing**	**13.23**	**140**	*e*P	**Pn**	**08 06 05.0**	**-0.2**
GKN	**Gorkha**	**13.96**	**138**	*e*P	**Pn**	**08 06 14.5**	**-0.5**
BVAR	**Borovoye Array**	**14.31**	**351**	Pn	**Pn**	**08 06 17.2**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=162,slow=13,SNR=11						
BVAR				Lg	Lg	08 10 23.0	
	baz=160,slow=31,SNR=2.0						
BVAR				LR	LR	08 11 53.5	
	comp=Z,99nm,18.2s,baz=174,slow=38 comp=Z,2.0nm,0.6s						
AB31	**Akbulak array**	**14.49**	**320**	⇓Pn	**Pn**	**08 06 22.5**	**+0.5**
	comp=Z,5.8nm,0.8s,baz=127,slow=11,SNR=40						
DMN	**Daman**	**14.52**	**138**	*e*P	**Pn**	**08 06 21.5**	**-1.3**
	comp=Z,12nm,0.4s						
RAMN	**Ramite**	**15.85**	**135**	*e*P	**Pn**	**08 06 38.6**	**-1.8**
AKTO	**Aktyubinsk**	**16.21**	**320**	⇑Pn	**Pn**	**08 06 44.7**	**0.0**
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**16.65**	**22**	Pn	**Pn**	**08 06 47.1**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=214,slow=9.7,SNR=5.0 comp=Z,1.1nm,0.5s						
ARU	**Arti**	**20.32**	**334**	P	**P**	**08 07 32.8**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=191,slow=11,SNR=3.4						
ARU				LR	LR	08 16 05.6	
	comp=Z,72nm,18.5s,baz=178,slow=39 comp=Z,1.1nm,0.4s						
KVAR	**Kislovodsk Arr**	**24.05**	**292**	LR	LR	08 19 36.6	
	comp=Z,82nm,21.6s,baz=98,slow=41						
SONM	**Songino Array**	**24.87**	**59**	P	**P**	**08 08 19.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=269,slow=11,SNR=2.4						
SONM				LR	LR	08 19 11.3	
	comp=Z,84nm,20.5s,baz=265,slow=40 comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**31.19**	**284**	P	P	08 09 20.2	+3.9
	comp=Z,0.8nm,0.8s,baz=84,slow=7.4,SNR=3.8 comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**33.49**	**305**	P	**P**	**08 09 36.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=79,slow=7.5,SNR=4.1 comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**36.94**	**323**	P	**P**	**08 10 05.5**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=123,slow=7.0,SNR=6.1						
FINES				LR	LR	08 25 38.2	

TNTI	**Ternate**	**2.23**	210	P	**Pn**	08 06 16.3	-1.6
TNTI				S	**S**	08 06 50.0	-3.2
SGSI	**Sangihe**	**3.08**	288	P	**Pn**	08 06 24.5	-2.1
LBMI	**Labuha**	**3.48**	196	P	**Pn**	08 06 30.4	-0.7
SIJI	**Sorong**	**4.54**	142	P	**Pn**	08 06 41.7	-1.8
	9.0nm,0.4s,baz=268,slow=23,SNR=4.7						
SANI	**Sanana**	**5.36**	208	P	**Pn**	08 06 50.8	-2.6
	0.7nm3µm164nm,0.7s						
KCP	**Kidapawan**	**5.42**	322	*iP*	**Pn**	08 06 52.9	-1.4
GTOI	**Gorontalo**	**5.84**	249	P	**Pn**	08 06 59.7	+0.3
	0.1nm187nm14nm,0.7s						
NLAI	**Namlea**	**6.08**	193	P	**Pn**	08 07 01.3	-1.1
	0.1nm13µm19nm,0.6s						
FAKI	**Fak Fak**	**6.77**	146	Pn	**Pn**	08 07 10.8	-0.2
FAKI	**Fak Fak**	**6.77**	146	P	**Pn**	08 07 09.9	-1.1
	0.0nm8.5nm,0.9s						
LUWI	**Luwuk**	**6.82**	237	Pn	**Pn**	08 07 12.8	+1.2
LUWI	**Luwuk**	**6.82**	237	P	**Pn**	08 07 10.6	-1.0
	0.4nm2µm28nm,0.5s						
APSI	**Ampana**	**7.72**	242	P	**Pn**	08 07 22.3	-0.7
BATI	**Baumata**	**13.71**	200	P	**P**	08 08 39.2	+0.2
	15nm,0.4s,baz=0.0,slow=1.0,SNR=2.0						
MTN	**Manton Dam**	**15.70**	170		**P**	08 09 00.5	-0.3
WB0	**Warramunga Arr**	**23.10**	166	P	**P**	08 10 17.6	+0.2
WRA	**Warramunga Arr**	**23.26**	166	P	**P**	08 10 18.2	-0.5
	2.1nm,0.4s,baz=346,slow=10,SNR=5.0						
	2.1nm,0.4s						
WB2	**Warramunga Arr**	**23.26**	166	P	**P**	08 10 20.1	+1.3
WB2				IAmb	IAmb	08 10 20.5	
	comp=Z,6.4nm,0.3s						
WR0	**Warramunga Arr**	**23.32**	165	P	**P**	08 10 21.0	+1.6
WR0				IAmb	IAmb	08 10 21.2	
	comp=Z,4.5nm,0.5s						
JOW	**Kunigami**	**23.97**	360	P	**P**	08 10 25.3	+0.1
	comp=Z,33nm,0.9s,baz=91,slow=4.8,SNR=3.8						
	comp=Z,33nm,0.9s						
MBWA	**Marble Bar**	**25.24**	199	P	**P**	08 10 36.0	-0.7
MBWA				IAmb	IAmb	08 10 43.6	
	comp=Z,13nm,1.4s						
PSA00	**Pilbara Seismi**	**25.59**	199	P	**P**	08 10 40.1	+0.3
PSA00				IAmb	IAmb	08 10 40.8	
	comp=Z,5.7nm,0.6s						
AS31	**Alice Springs**	**26.77**	169	P	**P**	08 10 50.8	+0.4
ASAR	**Alice Springs**	**26.77**	169	P	**P**	08 10 50.1	-0.2
	comp=Z,2.1nm,0.3s,baz=352,slow=7.4,SNR=47						
	comp=Z,2.1nm,0.3s						
ASAR	**Alice Springs**	**26.77**	169	P	**P**	08 10 50.7	+0.3
CMAR	**Chiang Mai Arr**	**32.87**	300	P	**P**	08 11 46.1	+2.0
	comp=Z,1.4nm,0.3s,baz=112,slow=7.0,SNR=9.5						
	comp=Z,1.4nm,0.3s						
FORT	**Forrest**	**33.32**	181	P	**P**	08 11 48.1	+0.3
MORW	**Morawa**	**33.79**	200	P	**P**	08 11 52.3	+0.4
MORW				IAmb	IAmb	08 11 57.3	
	comp=Z,18nm,1.4s						
KSRS	**Korea Array**	**34.56**	359	P	**P**	08 11 58.4	+0.1
	comp=Z,6.7nm,1.0s,baz=177,slow=9.6,SNR=9.9						
	comp=Z,6.7nm,1.0s						
MJAR	**Matsushiro Arr**	**34.83**	14	P	**P**	08 11 58.9	-1.8
	comp=Z,4.2nm,0.7s,baz=173,slow=8.7,SNR=6.5						
	comp=Z,4.2nm,0.7s						
MAJO	**Matsushiro**	**34.83**	14	P	**P**	08 11 59.2	-1.5
MAJO				IAmb	IAmb	08 12 00.8	
	comp=Z,8.1nm,0.8s						
MJB9	**Matsu-Tunnel**	**34.83**	14	P	**P**	08 12 00.1	-0.6
MJB9				IAmb	IAmb	08 12 01.8	
	comp=Z,7.9nm,0.8s						
BBOO	**Buckleboo**	**36.07**	169	P	**P**	08 12 11.5	+0.2
BBOO				IAmb	IAmb	08 12 11.7	
	comp=Z,8.1nm,0.8s						
STKA	**Stephens Creek**	**36.61**	161	P	**P**	08 12 15.4	-0.4
	comp=Z,2.7nm,0.3s,baz=332,slow=8.5,SNR=11						
	comp=Z,2.7nm,0.3s						
STKA	**Stephens Creek**	**36.61**	161	P	**P**	08 12 16.4	+0.6
NWAO	**Narrogin (SRO)**	**37.02**	196	P	**P**	08 12 20.1	+0.8
	comp=Z,3.6nm,0.4s,baz=240,slow=7.1,SNR=7.2						
	comp=Z,3.6nm,0.4s						
NWAO	**Narrogin (SRO)**	**37.02**	196	P	**P**	08 12 20.2	+0.9
NWAO				IAmb	IAmb	08 12 39.3	
	comp=Z,14nm,1.1s						
NWAO	**Narrogin (SRO)**	**37.02**	196	P	**P**	08 12 20.1	+0.8
NWAO				IAmb	IAmb	08 12 39.3	
	comp=Z,11nm,1.1s						
USRK	**Ussuriysk Ar.**	**41.41**	4	P	**P**	08 12 55.1	-0.2
	comp=Z,2.1nm,0.6s,baz=171,slow=6.2,SNR=4.9						
	comp=Z,2.1nm,0.6s						
TAPN	**Taplejung**	**46.00**	306	*eP*	**P**	08 13 32.9	+0.4
KLR	**Kul'dur**	**46.41**	3	P	**P**	08 13 35.0	+0.2
	comp=Z,0.9nm,0.5s,baz=180,slow=8.1,SNR=2.5						
	comp=Z,0.9nm,0.5s						
RAMN	**Ramite**	**46.74**	305	*eP*	**P**	08 13 39.7	+1.6
	comp=Z,23nm,0.5s						
JIRN	**Jiri**	**47.36**	306	*eP*	**P**	08 13 44.4	+1.4
	comp=Z,16nm,0.4s						
GUN	**Gumba**	**47.71**	306	*eP*	**P**	08 13 47.1	+1.4
	comp=Z,22nm,0.5s						
PKI	**Pulchoki**	**47.96**	305	*eP*	**P**	08 13 48.2	+0.6
	comp=Z,4.3nm,0.3s						
PKIN	**Phulchoki**	**47.97**	305	*eP*	**P**	08 13 48.6	+1.0
	comp=Z,4.9nm,0.3s						
DMN	**Daman**	**48.22**	305	*eP*	**P**	08 13 50.9	+1.4
	comp=Z,13nm,0.5s						
SONM	**Songino Array**	**48.80**	340	P	**P**	08 13 53.7	+0.3
	comp=Z,1.3nm,0.7s,baz=152,slow=7.0,SNR=5.0						
	comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**48.80**	340	P	**P**	08 13 54.5	+1.0
KOLN	**Koldanda**	**49.52**	305	*eP*	**P**	08 14 00.6	+1.4
DANN	**Dangsing**	**49.60**	305	*eP*	**P**	08 14 01.2	+1.2
	comp=Z,29nm,0.5s						
PYUN	**Piuthan**	**50.14**	305	*eP*	**P**	08 14 05.3	+1.4
	comp=Z,17nm,0.5s						
PETK	**Petropavlovsk-**	**55.72**	21	P	**P**	08 14 43.7	-0.1
	comp=Z,2.3nm,0.6s,baz=191,slow=6.3,SNR=7.0						
	comp=Z,2.3nm,0.6s						
YAK	**Yakutsk**	**59.17**	1	P	**P**	08 15 07.7	+0.1
	comp=Z,5.5nm,0.3s,baz=193,slow=3.6,SNR=4.4						
	comp=Z,5.5nm,0.3s						
MK31	**Makanchi Array**	**59.36**	325	P	**P**	08 15 06.1	-3.2
MKAR	**Makanchi Array**	**59.36**	325	P	**P**	08 15 06.2	-3.1
MAKZ	**Makanchi**	**59.55**	325	P	**P**	08 15 07.9	-2.7
LBZ	**Lake Benmore**	**59.89**	147	P	**P**	08 15 12.4	-0.5
BKZ	**Black Stump Fm**	**60.69**	138	P	**P**	08 15 18.4	-0.1
ZALV	**Zalesovo Beam**	**62.26**	333	P	**P**	08 15 28.0	-0.7
	comp=Z,1.3nm,0.3s,baz=122,slow=6.4,SNR=4.2						
	comp=Z,1.3nm,0.3s						
SEY	**Seymchan**	**62.63**	12	P	**P**	08 15 31.6	+0.8
	comp=Z,2.4nm,0.8s,baz=238,slow=9.4,SNR=5.0						
	comp=Z,2.4nm,0.8s						
KURK	**Kurchatov**	**63.51**	327	P	**P**	08 15 37.6	+0.7
KURK				IAmb	IAmb	08 15 38.0	
	comp=Z,5.3nm,0.8s						
GAR	**Garm**	**63.87**	313	P	**P**	08 15 40.5	+0.8
GAR				IAmb	IAmb	08 15 40.9	
	comp=Z,5.4nm,0.9s						
KKAR	**Karatay Array**	**65.14**	317	P	**P**	08 15 48.2	+0.6
TIXI	**Tiksi**	**68.82**	0	P	**P**	08 16 10.1	0.0
TIXI				IAmb	IAmb	08 16 10.6	
	comp=Z,3.7nm,0.4s						
BRVK	**Borovoye**	**69.17**	327	P	**P**	08 16 13.1	+0.4
BRVK				IAmb	IAmb	08 16 13.4	
	comp=Z,3.5nm,0.6s						
ABKAR	**Akbulak array**	**74.02**	321	P	**P**	08 16 42.0	+0.4
TTA	**Tatalina**	**81.01**	27	P	**P**	08 17 21.3	+1.3
OHAK	**Old Harbor**	**81.35**	33	P	**P**	08 17 23.0	+1.2
VNDA	**Vanda**	**82.23**	173	P	**P**	08 17 26.7	+0.7
	comp=Z,0.3nm,0.4s,baz=317,slow=6.4,SNR=3.9						
	comp=Z,0.3nm,0.4s						
VNDA	**Vanda**	**82.23**	173	P	**P**	08 17 26.7	+0.7
SKT	**Skwentna**	**82.90**	28	P	**P**	08 17 29.7	-0.1
SKT				IAmb	IAmb	08 17 48.1	
	comp=Z,18nm,1.4s						
ILAR	**Eielson Array**	**85.26**	25	P	**P**	08 17 40.4	-1.2
	comp=Z,0.8nm,1.2s,baz=253,slow=4.6,SNR=1.6						
	comp=Z,0.8nm,1.2s						
ARCES	**ARCESS Array B**	**91.98**	340	P	**P**	08 18 12.4	-0.8
	comp=Z,0.9nm,0.4s,baz=79,slow=4.9,SNR=7.7						
	comp=Z,0.9nm,0.4s						
FINES	**FINESS Array B**	**93.53**	332	P	**P**	08 18 19.6	-0.8
	comp=Z,3.7nm,0.9s,baz=109,slow=7.5,SNR=2.1						
	comp=Z,3.7nm,0.9s						
NOA	**NORSAR Array B**	**100.44**	334	P	**Pdif**	08 18 50.5	-1.3
	comp=Z,0.9nm,0.8s,baz=39,slow=6.1,SNR=3.5						

NIED ***27*** *08:06:57.9, 37.°35N×141.°63E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.07; $M_{\theta\theta}$=0.81; $M_{\phi\phi}$=0.26; $M_{r\theta}$=0.46; $M_{\theta\phi}$=1.15; $M_{\phi r}$=-0.58;*

Fault plane solution: M_0=1.67000×10^{15} NP1:ϕ_s=21.00000°, δ=55.00000°, λ=-137.00000°. NP2:ϕ_s=263.00000°, δ=56.00000°, λ=-43.00000°.

JMA ***27*** *08:06:57.9±0.2, 37.°4N×0.°4×141.°6E±0.°8, h33km±1km, MD4.4/38, MV4.4/38, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

IDC ***27*** *08:07:01.9±3.1, 37.°30N×141.°46E, h40km±28km, mb3.8/19, mbtmp4.1/21, ML3.4/2, MS3.3/12, Error ellipse: s-maj=18.8km s-min=15.5km az=81.0*

ISC 27 08:06:59.3±1.9, 37.°37N±0.°04×141.°51E±0.°07, h23km±12km, n109, σ1§08/41, mb4.0/19, MS3.4/6, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.50**	270	⇓P		**Pn**	**08 07 09.8**	**-1.4**
JFK				⇓S		**Sb**	**08 07 18.0**	**+1.5**
JFK	**Kawauchi**	**0.50**	270	A		A	08 07 09.8	
	comp=E,61nm,0.5s,comp=E,53nm,0.9s							
JMST	**Minamisoumatoc**	**0.61**	306	P		**Pn**	**08 07 11.1**	**-1.5**
JMST				S		**Sn**	**08 07 20.5**	**-1.1**
JMST	**Minamisoumatoc**	**0.61**	306	A		A	08 07 11.1	
	comp=E,39nm,0.9s,comp=E,24nm,0.6s							
JMM	**Marumori**	**0.75**	312	*i* P		**Pn**	**08 07 13.4**	**-1.2**
JMM				S		**Sn**	**08 07 24.5**	**-0.8**
JMM	**Marumori**	**0.75**	312	A		A	08 07 13.4	
	comp=E,12nm,1.8s,comp=E,10.0nm,2.5s							
JFFD	**Fukushimafurud**	**0.80**	250	⇓*i*P		**Pn**	**08 07 14.1**	**-1.3**
JFFD				⇓S		**Sn**	**08 07 25.3**	**-1.3**
JFFD	**Fukushimafurud**	**0.80**	250	A		A	08 07 14.1	
	comp=E,6.0nm,1.3s,comp=E,7.0nm,2.5s							
JIKH	**Ishinomakikobu**	**0.94**	358	A		A	08 07 15.4	
	comp=E,9.0nm,2.3s,comp=E,6.0nm,8.1s							
JHO	**Hitachi**	**1.06**	225	*i* P		**Pn**	**08 07 17.3**	**-1.6**
JHO				S		**Sn**	**08 07 31.9**	**-1.1**
JHO	**Hitachi**	**1.06**	225	A		A	08 07 17.3	
	comp=E,4.0nm,11.1s,comp=E,4.0nm,4.2s							
JIO	**Ouri**	**1.09**	354	*i* P		**Pn**	**08 07 17.6**	**-1.7**
JIO				S		**Sn**	**08 07 32.4**	**-1.3**
JIO	**Ouri**	**1.09**	354	A		A	08 07 17.6	
	comp=E,6.0nm,11.3s,comp=E,3.0nm,11.9s							
JOU	**Okura**	**1.20**	326	P		**Pb**	**08 07 20.7**	**-0.7**
JOU				S		**Sb**	**08 07 37.0**	**+0.6**
JOU	**Okura**	**1.20**	326	A		A	08 07 20.7	
	comp=E,16nm,0.8s,comp=E,28nm,1.0s							
JYAR	**Yonezawaarcadi**	**1.21**	297	A		A	08 07 20.5	
	comp=E,39nm,1.4s,comp=E,39nm,0.4s							
JHYU	**Hitachinakayam**	**1.26**	216	A		A	08 07 20.5	
	comp=E,5.0nm,2.7s,comp=E,8.0nm,2.3s							
JOFO	**Osakifurukawao**	**1.32**	339	A		A	08 07 21.5	
	comp=E,33nm,2.2s,comp=E,30nm,1.6s							
JSB	**Shiboa**	**1.33**	253	A		A	08 07 22.2	
	comp=E,25nm,1.0s,comp=E,19nm,1.3s							
JYS	**Shirataka**	**1.42**	307	⇓*i*P		**Pb**	**08 07 24.9**	**-0.3**
JYS	**Shirataka**	**1.42**	307	A		A	08 07 24.9	
	comp=E,14nm,0.6s,comp=E,13nm,1.8s							
JFY	**Yanaizu**	**1.44**	272	*i* P		**Pb**	**08 07 24.7**	**-0.7**
JFY	**Yanaizu**	**1.44**	272	A		A	08 07 24.7	
	comp=E,8.0nm,0.6s,comp=E,9.0nm,0.8s							
JKMT	**Kesennumamotoy**	**1.44**	359	A		A	08 07 22.9	
	comp=E,5.0nm,1.2s,comp=E,3.0nm,9.6s							
JYT	**Yasato**	**1.55**	223	A		A	08 07 24.9	
	comp=E,7.0nm,0.4s,comp=E,5.0nm,7.5s							
JMK	**Ichinoseki**	**1.60**	352	A		A	08 07 25.4	
	comp=E,8.0nm,1.6s,comp=E,4.0nm,6.0s							
JIHU	**Itakohorinouch**	**1.61**	210	A		A	08 07 25.4	
	comp=E,27nm,1.7s,comp=E,28nm,2.7s							
OFUJ	**Ofunato**	**1.71**	4	A		A	08 07 26.7	
	comp=E,6.0nm,2.1s,comp=E,3.0nm,7.0s							
CHOJ	**Chosi**	**1.74**	198	A		A	08 07 27.0	
	comp=E,4.0nm,6.3s,comp=E,4.0nm,1.6s							
JYK	**Kaneyama**	**1.79**	330	A		A	08 07 28.7	
	comp=E,6.0nm,0.8s,comp=E,11nm,0.9s							
JNS	**Sasagawa**	**1.79**	285	A		A	08 07 29.2	
	comp=E,3.0nm,0.8s,comp=E,4.0nm,3.5s							
JYA	**Atsumi**	**1.87**	311	A		A	08 07 30.1	
	comp=E,8.0nm,0.8s,comp=E,8.0nm,0.8s							
JAG	**Ashikaga**	**1.90**	241	A		A	08 07 30.2	
	comp=E,3.0nm,1.4s,comp=E,4.0nm,1.5s							
JSMT	**Sammumatsuo**	**1.92**	207	A		A	08 07 29.9	
	comp=E,15nm,2.0s,comp=E,17nm,2.9s							
JUON	**Uonuma**	**1.96**	266	A		A	08 07 31.5	
	comp=E,3.0nm,4.8s,comp=E,4.0nm,5.0s							
JYYZ	**Yamagatayuza**	**2.06**	323	A		A	08 07 32.6	
	comp=E,13nm,2.0s,comp=E,12nm,2.4s							
JAW	**Awa shima**	**2.09**	302	A		A	08 07 33.3	
	comp=E,5.0nm,10.8s,comp=E,3.0nm,1.8s							
JOM	**Ohasama**	**2.11**	356	A		A	08 07 32.6	
	comp=E,3.0nm,3.8s,comp=E,2.0nm,7.6s							
JRG	**Rokugo**	**2.14**	342	A		A	08 07 33.4	
	comp=E,5.0nm,3.7s,comp=E,4.0nm,4.2s							
JIZZ	**Izumozaki**	**2.23**	275	A		A	08 07 35.4	
	comp=E,11nm,1.5s,comp=E,13nm,0.7s							
JHU	**Hanno**	**2.34**	230	A		A	08 07 36.5	
	comp=E,2.0nm,1.2s,comp=E,2.0nm,1.7s							
JYW	**Yuwa**	**2.40**	335	A		A	08 07 37.2	
	comp=E,11nm,1.3s,comp=E,8.0nm,1.2s							
JSZI	**Iwateshizukuis**	**2.41**	350	A		A	08 07 37.0	
	comp=E,7.0nm,2.8s,comp=E,8.0nm,2.8s							
JGK	**Kuni**	**2.43**	252	A		A	08 07 38.1	
	comp=E,4.0nm,4.5s,comp=E,3.0nm,2.8s							
JTH	**Tanohata**	**2.58**	6	A		A	08 07 39.1	
	comp=E,5.0nm,11.7s,comp=E,4.0nm,22.0s							
JKZ	**Kuzumaki**	**2.62**	357	A		A	08 07 39.9	
	comp=E,5.0nm,7.0s,comp=E,4.0nm,6.1s							
JSD	**Sado**	**2.66**	286	A		A	08 07 41.6	
	comp=E,3.0nm,5.2s,comp=E,2.0nm,3.1s							
TATJ	**Tateyama 2**	**2.67**	210	A		A	08 07 40.7	
	comp=E,6.0nm,9.5s,comp=E,7.0nm,4.1s							
JJN	**Nakama**	**2.68**	265	A		A	08 07 41.8	
	comp=E,4.0nm,2.2s,comp=E,3.0nm,1.9s							
MJAR	**Matsushiro Arr**	**2.77**	254	P		**Pn**	**08 07 43.0**	**+0.7**
	2.2nm,0.3s,baz=195,slow=21,SNR=69							
MJAR				S		**Sb**	**08 08 22.6**	**+1.0**
	29nm,0.4s,baz=63,slow=34,SNR=2.0							
	12nm,0.4s							
JKEN	**Kujiedanarisaw**	**2.84**	3	A		A	08 07 42.8	
	comp=E,6.0nm,0.9s,comp=E,7.0nm,3.7s							
JOD2	**Odawara 2**	**2.87**	224	A		A	08 07 43.8	
	comp=E,2.0nm,4.3s,comp=E,2.0nm,5.1s							
JNG	**Nsakai**	**2.89**	252	A		A	08 07 44.7	
	comp=E,1.0nm,3.7s,comp=E,2.0nm,9.1s							
JAH	**Hinai**	**2.90**	347	A		A	08 07 44.1	
	comp=E,4.0nm,16.0s,comp=E,3.0nm,8.0s							
JANG	**Nango**	**3.00**	0	A		A	08 07 45.3	
	comp=E,3.0nm,5.0s,comp=E,2.0nm,3.5s							
JNTW	**Noshirotokiwa**	**3.08**	341	A		A	08 07 46.9	
	comp=E,11nm,3.2s,comp=E,9.0nm,4.1s							
JHTM	**Izuhatsuma**	**3.14**	221	A		A	08 07 47.6	
	comp=E,7.0nm,16.0s,comp=E,5.0nm,4.4s							
JOG3	**Oga3**	**3.18**	324	A		A	08 07 44.0	
	comp=E,5.0nm,5.1s,comp=E,5.0nm,2.2s							
JIZS	**Izushimoda**	**3.40**	220	A		A	08 07 51.2	
	comp=E,3.0nm,30.8s,comp=E,2.0nm,9.3s							
JHHS	**Hirosakihyakuz**	**3.40**	345	A		A	08 07 51.2	
	comp=E,6.0nm,3.7s,comp=E,6.0nm,6.4s							
JIW	**Iwasaki**	**3.42**	341	A		A	08 07 51.7	
	comp=E,3.0nm,4.7s							
JTT	**Ttatey**	**3.43**	258	A		A	08 07 52.3	
	comp=E,3.0nm,2.3s,comp=E,4.0nm,2.9s							
JTM	**Tenmabayashi**	**3.43**	354	A		A	08 07 51.5	
	comp=E,3.0nm,28.1s,comp=E,3.0nm,6.7s							
JNY	**Yasuok**	**3.56**	237	A		A	08 07 53.9	
	comp=E,2.0nm,6.3s,comp=E,2.0nm,5.1s							
JARK	**Aomorikokkasho**	**3.64**	358	A		A	08 07 54.3	
	comp=E,2.0nm,10.0s,comp=E,4.0nm,7.7s							
JAHD	**Aomorihigashid**	**3.89**	358	A		A	08 07 57.9	
	comp=E,5.0nm,2.2s,comp=E,5.0nm,1.0s							
JAO	**Obara**	**4.02**	240	A		A	08 08 00.4	
	comp=E,2.0nm,3.6s,comp=E,1.0nm,11.3s							
JOT	**Ohata**	**4.02**	355	A		A	08 07 59.9	
	comp=E,2.0nm,12.4s,comp=E,1.0nm,8.5s							
JHJ	**Hachijo jima 2**	**4.47**	199	P		**Pn**	**08 08 05.3**	**-0.4**
	20nm,0.3s,baz=332,slow=22,SNR=11							
JHJ				S		**Sn**	**08 08 55.4**	**-1.6**
	116nm,0.3s,baz=240,slow=23,SNR=9.5							
	82nm,0.6s							
ASAJ	**Asahikawa**	**6.79**	7	LR		LR	08 11 54.5	
	comp=Z,156nm,19.2s,baz=192,slow=43							
JNU	**Nakatsue**	**9.67**	247	LR		LR	08 13 13.5	
	comp=Z,176nm,20.0s,baz=42,slow=39							
USRK	**Ussuriysk Ar.**	**9.93**	316	P		Pn	08 09 25.4	+4.8
	3.5nm,0.7s,baz=128,slow=13,SNR=6.0							
USRK				LR		LR	08 12 55.9	
	comp=Z,157nm,19.8s,baz=93,slow=36							
JCJ	**Chichijima**	**10.26**	177	LR		LR	08 13 29.8	
	comp=Z,183nm,21.2s,baz=127,slow=38							
KSRS	**Korea Array**	**10.81**	275	P		Pn	08 09 37.8	+5.1
	3.2nm,0.9s,baz=90,slow=13,SNR=6.6							
KSRS				LR		LR	08 13 10.1	
	comp=Z,104nm,20.0s,baz=95,slow=34							
KLR	**Kul'dur**	**13.80**	332	LR		LR	08 15 27.6	
	comp=Z,118nm,18.0s,baz=136,slow=36							
YAK	**Yakutsk**	**25.76**	347	P		**P**	**08 12 28.3**	**+0.3**
	4.3nm,0.3s,baz=82,slow=0.9,SNR=1.5							
YAK				LR		LR	08 22 39.0	
	comp=Z,43nm,20.5s,baz=252,slow=36							
	4.3nm,0.3s							
SEY	**Seymchan**	**26.45**	11	P		**P**	**08 12 35.8**	**+1.5**
	1.4nm,0.8s,baz=185,slow=12,SNR=1.7							
	1.4nm,0.8s							
SONM	**Songino Array**	**27.66**	303	P		**P**	**08 12 45.4**	**-0.1**
	2.3nm,0.7s,baz=99,slow=9.0,SNR=11							
	2.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.26**	121	T		T	08 42 13.9	
	baz=314,slow=75,SNR=337							
H11N1	**WAKE ISLAND Hy**	**28.27**	121	T		T	08 42 14.4	
	baz=314,slow=75,SNR=354							
H11N3	**WAKE ISLAND Hy**	**28.27**	121	T		T	08 42 14.6	
	baz=314,slow=75,SNR=239							
H11S1	**WAKE ISLAND Hy**	**28.98**	124	T		T	08 43 08.4	
	baz=316,slow=76,SNR=184							
H11S3	**WAKE ISLAND Hy**	**28.98**	124	T		T	08 43 08.5	
	baz=316,slow=76,SNR=138							
H11S2	**WAKE ISLAND Hy**	**29.00**	124	T		T	08 43 11.0	
	baz=316,slow=76,SNR=136							
CMAR	**Chiang Mai Arr**	**41.65**	255	P		**P**	**08 14 46.7**	**+0.5**
	1.1nm,0.3s,baz=46,slow=5.5,SNR=4.3							
	1.1nm,0.3s							
ZALV	**Zalesovo Beam**	**41.74**	312	P		**P**	**08 14 47.0**	**+0.5**
	4.2nm,0.8s,baz=90,slow=7.4,SNR=14							
	4.2nm,0.8s							
MKAR	**Makanchi Array**	**44.00**	302	P		**P**	**08 15 05.6**	**+0.6**
	4.6nm,0.7s,baz=89,slow=9.9,SNR=45							
	4.6nm,0.7s							
ILAR	**Eielson Array**	**49.17**	33	P		**P**	**08 15 45.6**	**+0.5**
	0.5nm,0.7s,baz=263,slow=5.8,SNR=5.2							
	0.5nm,0.7s							
AAK	**Ala-Archa**	**50.40**	298	LR		LR	08 38 07.3	
	comp=Z,56nm,19.3s,baz=124,slow=37							
BVAR	**Borovoye Array**	**50.40**	312	LR		LR	08 36 26.6	
	comp=Z,32nm,18.6s,baz=146,slow=35							
INK	**Inuvik**	**54.05**	27	P		**P**	**08 16 22.6**	**+1.1**
	0.9nm,0.8s,baz=261,slow=4.2,SNR=2.5							
	0.9nm,0.8s							
ARU	**Arti**	**56.16**	318	P		**P**	**08 16 37.3**	**+0.3**
	3.4nm,0.4s,baz=21,slow=4.2,SNR=8.3							
	3.4nm,0.4s							
WRA	**Warramunga Arr**	**57.40**	188	P		**P**	**08 16 45.2**	**-0.9**
	1.3nm,0.8s,baz=4.6,slow=7.3,SNR=11							
	1.3nm,0.8s							
KIRV	**Kirov**	**60.03**	323	LR		LR	08 43 43.3	
	comp=Z,53nm,18.4s,baz=15,slow=37							
ASAR	**Alice Springs**	**61.13**	188	P		**P**	**08 17 11.6**	**-0.3**
	0.7nm,0.8s,baz=10.0,slow=6.8,SNR=8.9							
	0.7nm,0.8s							
ARCES	**ARCESS Array B**	**63.71**	339	LR		LR	08 49 34.8	
	comp=Z,23nm,21.3s,baz=22,slow=40							
GEYT	**Alibeck**	**63.74**	299	P		**P**	**08 17 29.8**	**+0.4**
	2.4nm,0.7s,baz=64,slow=3.4,SNR=6.4							
	2.4nm,0.7s							
FINES	**FINESS Array B**	**68.55**	332	P		**P**	**08 17 59.9**	**+0.1**
	2.5nm,0.8s,baz=35,slow=7.0,SNR=8.6							
	2.5nm,0.8s							
NB2	**NORSAR

NNVZ	**North Ngauruho**	**2.74**	**21**	P		Pb	08 22 04.1	+1.6
WTVZ	**West Tongariro**	**2.75**	**20**	P		Pb	08 22 04.0	+1.4
ETVZ	**East Tongariro**	**2.77**	**22**	P		Pb	08 22 02.8	-0.1
TMVZ	**Te Maari**	**2.78**	**22**	P		Pb	08 22 03.7	+0.5
KRVZ	**Karewarewa**	**2.78**	**21**	P		Pb	08 22 03.7	+0.6
WACZ	**Wakanui South**	**2.90**	**219**	P		Pn	08 21 57.0	-2.6
WVZ	**Waitaha Valley**	**3.01**	**242**	P		Pn	08 22 00.4	-0.6
RPZ	**Rata Peaks**	**3.16**	**229**	P		Pn	08 22 01.2	-1.9
HIZ	**Hauiti**	**3.21**	**7**	P		Pb	08 22 07.5	-2.8
TMZ	**Timaru**	**3.63**	**221**	P		Pn	08 22 06.9	-2.7
URZ	**Urewera**	**4.04**	**33**	P		Pb	08 22 19.9	-4.6
TOZ	**Tahuroa Road**	**4.06**	**13**	P		Pn	08 22 19.6	+4.0
LBZ	**Lake Benmore**	**4.07**	**227**	P		Pn	08 22 13.7	-1.9
ODZ	**Otahua Downs**	**4.30**	**218**	P		Pn	08 22 15.7	-3.0
JCZ	**Jackson Bay**	**4.73**	**238**	P		Pn	08 22 25.1	+0.4

*NOU **27** 08:23:49.7, 14°.32S×167°.53E, h144km, MLv4.7/12, Vanuatu Islands*
*IDC **27** 08:23:57.1±9.2, 14°.97S×167°.32E, h129km±59km, mb3.6/4, mbtmp4.0/5, Error ellipse: s-maj=82.3km s-min=35.1km az=39.0*
ISC 27 08:23:56.9±2.0, 14°.9S±0°.2×167°.4E±0°.2, h129km, n14, σ1§14/15, mb3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.88**	**164**	P			**Pn**	**08 24 42.9**	**+0.9**
RTV	**Rentapao**	**3.01**	**161**	P			**Pn**	**08 24 43.9**	**+0.2**
LIFNC	**LIFOU**	**5.81**	**181**	P			**Pn**	**08 25 21.9**	**+1.0**
KOUNC	**Koumac, New Ca**	**6.31**	**207**	P			**Pn**	**08 25 29.0**	**+1.4**
MARNC	**Mare, Loyalty** 0.6nm,0.9s	**6.54**	**175**	P			**Pn**	**08 25 32.3**	**+1.6**
YATNC	**Mamie plateau,**	**7.10**	**184**	P			**Pn**	**08 25 38.5**	**+0.2**
DZM	**Mont Dzumac** 4.5nm,0.3s,baz=116,slow=17,SNR=32	**7.15**	**187**	P			**Pn**	**08 25 39.5**	**+0.5**
DZM				S			**Sn**	**08 26 57.3**	**-1.6**
	5.7nm,0.4s,baz=149,slow=19,SNR=2.2								
DZM	**Mont Dzumac**	**7.15**	**187**	P			**Pn**	**08 25 39.8**	**+0.8**
ONTNC	**Ouen Toro**	**7.38**	**187**	P			**Pn**	**08 25 43.2**	**+1.1**
OUENC	**Ouen Island, N**	**7.46**	**184**	P			**Pn**	**08 25 44.2**	**+1.1**
STKA	**Stephens Creek** 3.2nm,0.4s,baz=54,slow=8.7,SNR=33	**28.94**	**230**	P			**P**	**08 29 45.1**	**+1.0**
	3.2nm,0.4s								
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=84,slow=8.0,SNR=6.8	**31.88**	**256**	P			**P**	**08 30 09.0**	**-1.2**
	0.6nm,0.9s								
ASAR	**Alice Springs** 1.9nm,0.5s,baz=78,slow=9.3,SNR=38	**32.70**	**249**	P			**P**	**08 30 16.5**	**-0.8**
	1.9nm,0.5s								
VNDA	**Vanda** 0.4nm,0.6s,baz=358,slow=5.9,SNR=3.7	**62.66**	**181**	P			**P**	**08 34 06.9**	**-0.4**
	0.4nm,0.6s								

*VAO **27** 08:29:28.6±2.6, 22°.39S×68°.37W, h58km±15km, mb4.1*
*GUC **27** 08:29:34.1±0.8, 21°.93S×68°.56W, h128km±4km, ML3.7*
ISC 27 08:29:33.2±0.9, 21°.91S±0°.04×68°.57W±0°.08, h134km±10km, n31, σ1§42/47, 7C-8D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.64**	**280**	⇑*i*P			**Pn**	**08 29 53.9**	**+0.2**
PB09				*i* S			**Sn**	**08 30 08.8**	**-0.4**
AF01	**San Pedro de A**	**1.09**	**161**	⇓*i*P			**Pn**	**08 29 57.8**	**+0.2**
PB03	**IPOC Station P**	**1.11**	**263**	⇑*i*P			**Pn**	**08 29 57.6**	**0.0**
PB03				*i* S			**Sn**	**08 30 15.3**	**-0.8**
PB03				IAML				08 30 16.4	
	comp=E,809nm,0.3s								
PB01	**IPOC Station P**	**1.22**	**315**	⇓*i*P			**Pn**	**08 29 58.7**	**0.0**
PB01				*i* S			**Sn**	**08 30 17.4**	**-0.6**
PB01				IAML				08 30 19.2	
	comp=E,2μm,0.2s								
PB06	**IPOC Station P**	**1.22**	**230**	⇑*i*P			**Pn**	**08 29 58.9**	**+0.2**
PB06				*i* S			**Sn**	**08 30 17.9**	**-0.2**
PB06				IAML				08 30 18.7	
	comp=N,2μm,0.3s								
PB07	**IPOC Station P**	**1.24**	**278**	⇑*i*P			**Pn**	**08 29 59.1**	**+0.1**
PB07				*i* S			**Sn**	**08 30 18.1**	**-0.4**
PB07				IAML				08 30 19.0	
	comp=N,1μm,0.2s								
PB02	**IPOC Station P**	**1.37**	**295**	⇑*i*P			**Pn**	**08 30 00.3**	**+0.1**
PB02				*i* S			**Sn**	**08 30 20.0**	**-0.8**
PB04	**IPOC Station P**	**1.53**	**254**	⇑*i*P			**Pn**	**08 30 02.0**	**+0.1**
PB04				*e*S			**Sn**	**08 30 23.9**	**0.0**
PB04				IAML				08 30 29.2	
	comp=N,521nm,0.2s								
PB15	**IPOC Station P**	**1.54**	**213**	⇑*i*P			**Pn**	**08 30 02.4**	**+0.2**
PB15				*i* S			**Sn**	**08 30 24.2**	**-0.1**
PATCX	**Punta Patache**	**1.84**	**306**	⇓*i*P			**Pn**	**08 30 05.7**	**+0.3**
PATCX				*i* S			**Sn**	**08 30 29.4**	**-0.8**
PATCX				IAML				08 30 33.4	
	comp=N,912nm,0.2s								
PB08	**IPOC Station P**	**1.85**	**343**	⇓*i*P			**Pn**	**08 30 07.0**	**+1.0**
PB08				*i* S			**Sn**	**08 30 31.6**	**+0.7**
PB08				IAML				08 30 33.0	
	comp=E,389nm,0.3s								
TA01	**Diego Aracena**	**2.02**	**311**	*i* P			**Pn**	**08 30 07.5**	**-0.1**
TA01				*i* S			**Sn**	**08 30 32.7**	**-1.1**
TA01				IAML				08 30 35.4	
	comp=N,489nm,0.2s								
HMBC	**Humberstone**	**2.04**	**323**	⇓*i*P			**Pn**	**08 30 07.5**	**-0.5**
HMBC				*i* S			**Sn**	**08 30 34.0**	**-0.7**
HMBC				IAML				08 30 35.5	
	comp=E,980nm,0.2s								
TA02	**Huaiquique**	**2.19**	**318**	*e*S			**Sn**	**08 30 37.0**	**-0.7**
GO01	**Chusmiza**	**2.31**	**345**	⇓*i*P			**Pn**	**08 30 12.2**	**+0.5**
PB11	**IPOC Station P**	**2.37**	**334**	⇓*i*P			**Pn**	**08 30 12.0**	**-0.1**
PB11				*i* S			**Sn**	**08 30 41.5**	**-0.5**
PB11				IAML				08 30 42.8	
	comp=N,618nm,0.3s								
PB10	**IPOC Station P**	**2.43**	**229**	*i* P			**Pn**	**08 30 12.2**	**-0.5**
PB10				*i* S			**Sn**	**08 30 40.5**	**-2.5**
PB10				IAML				08 30 44.8	
	comp=N,183nm,0.2s								
PSGC	**Pisagua**	**2.73**	**327**	*i* P			**Pn**	**08 30 15.3**	**-1.2**
PSGC				*i* S			**Sn**	**08 30 46.8**	**-3.1**
PSGC				IAML				08 30 50.7	
	comp=N,174nm,0.3s								
MNMC	**Minye Minye**	**2.93**	**341**	⇓*i*P			**Pn**	**08 30 19.4**	**+0.1**
MNMC				*i* S			**Sn**	**08 30 54.2**	**-0.7**
MNMC				IAML				08 30 57.9	
	comp=E,383nm,0.3s								
GO02	**Mina Guanaco**	**3.37**	**196**	*i* P			**Pn**	**08 30 24.5**	**-0.5**
GO02				*i* S			**Sn**	**08 31 04.1**	**-0.9**
PB16	**IPOC Station P**	**3.67**	**346**	*i* P			**Pn**	**08 30 30.2**	**+1.0**
PB12	**IPOC Station P**	**3.68**	**333**	*i* P			**Pn**	**08 30 27.4**	**-1.5**
LPAZ	**La Paz**	**5.61**	**4**	*e*P			**Pn**	**08 30 57.0**	**+1.8**
BBSD	**Serra de San D**	**8.85**	**59**	*e*P			**Pn**	**08 31 34.8**	**-3.4**
BBRB	**Robore, Bolivi**	**8.99**	**68**	*e*P			**Pn**	**08 31 35.2**	**-4.7**
MURT	**Porto Murtinho**	**10.19**	**91**	*e*P			Pn	08 31 49.2	-6.7
PTLB	**Pontes e Lacer**	**11.01**	**56**	*e*P			**Pn**	**08 32 05.3**	**-1.7**
CLDB	**Colider**	**16.44**	**50**	*e*P			**P**	**08 33 18.0**	**+1.5**
TBTG	**Tabatinga, AM**	**17.67**	**356**	*e*P			**Pn**	**08 33 35.0**	**+3.9**
BB19B	**Bebedouro**	**18.67**	**91**	*e*P			**P**	**08 33 40.6**	**-0.5**
IPMB	**Ipameri, GO**	**19.53**	**82**	*e*P			**P**	**08 33 50.6**	**+0.2**

*IDC **27** 08:31:03.2±1.8, 40°.69S×174°.83E, h0km, mb3.9/2, mbtmp3.9/3, ML3.6/1, MS3.1/1, Error ellipse: s-maj=54.1km s-min=40.4km az=153.0*
*WEL **27** 08:31:11.4±0.3, 41°.5±4°×17°.5E±°, h27km±3km, M4.5/41, ML4.9/23, MLv4.5/41, Error ellipse: s-maj=0.0km s-min=0.0km az=161.5*
*NEIC **27** 08:31:11.4±2.0, 40°.90S±0°.05×174°.66E±0°.06, h54km±3km, mb4.3/12, ML4.6(WEL), Error ellipse: s-maj=7.2km s-min=5.6km az=144.0*
*NOU **27** 08:31:11.5, 40°.96S×174°.68E, h45km, MLv4.6/15, Cook Strait, New Zealand*
ISC 27 08:31:11.1±0.7, 40°.95S±0°.03×174°.59E±0°.03, h52km±5km, n171, σ1§28/185, mb4.3/9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.26**	**71**	P			**Pn**	**08 31 20.0**	**-0.2**
KIW				S			**Sn**	**08 31 25.7**	**-1.0**
TCW	**Tory Channel**	**0.35**	**221**				**Pn**	**08 31 20.9**	**-0.1**
TCW					Sn		**Sn**	**08 31 27.6**	**-0.5**
TCW	**Tory Channel**	**0.35**	**221**	P			**Pn**	**08 31 21.1**	**+0.1**
TCW				S			**Sn**	**08 31 27.3**	**-0.7**
WEL	**Wellington**	**0.36**	**158**	P			**Pn**	**08 31 21.7**	**+0.6**
WEL				S			**Sn**	**08 31 29.1**	**+0.8**
SNZO	**South Karori**	**0.38**	**166**	P			**Pn**	**08 31 21.9**	**+0.7**
SNZO					Sn		**Sn**	**08 31 28.8**	**+0.4**
SNZO	**South Karori**	**0.38**	**166**	P			**Pn**	**08 31 21.8**	**+0.7**
CAW	**Cannon Point**	**0.40**	**114**	P			**Pn**	**08 31 22.0**	**+0.6**
CAW				S			**Sn**	**08 31 29.6**	**+0.7**
OGWZ	**Otaki Gorge**	**0.46**	**74**	P			**Pn**	**08 31 22.5**	**+0.4**
OGWZ				S			**Sn**	**08 31 29.9**	**-0.1**
DUWZ	**D'Urville Isla**	**0.52**	**286**	P			**Pn**	**08 31 22.6**	**-0.3**
DUWZ				S			**Sn**	**08 31 30.3**	**-1.0**
TUWZ	**Tuamarina**	**0.69**	**225**				**Pn**	**08 31 25.3**	**+0.5**
TUWZ	**Tuamarina**	**0.69**	**225**	P			**Pn**	**08 31 25.4**	**+0.5**
TUWZ				S			**Sn**	**08 31 35.5**	**+0.8**
MSWZ	**Moikau Station**	**0.69**	**133**				**Pn**	**08 31 25.9**	**+1.1**
MSWZ					Sn		**Sn**	**08 31 38.0**	**+3.2**
MSWZ	**Moikau Station**	**0.69**	**133**	P			**Pn**	**08 31 25.8**	**+0.9**
HOWZ	**Holdsworth Sta**	**0.71**	**86**	P			**Pn**	**08 31 25.9**	**+0.9**
HOWZ				S			**Sn**	**08 31 36.7**	**+1.5**
MTW	**Mount Morrison**	**0.72**	**107**	P			**Pn**	**08 31 26.0**	**+0.8**
PAWZ	**Paruwai Farm**	**0.77**	**125**	P			**Pn**	**08 31 26.7**	**+0.8**
PLWZ	**Palliser**	**0.80**	**141**				**Pn**	**08 31 27.1**	**+0.7**
PLWZ	**Palliser**	**0.80**	**141**	P			**Pn**	**08 31 27.1**	**+0.7**
MRZ	**Mangatainoka R**	**0.81**	**70**				**Pn**	**08 31 26.9**	**+0.6**
MRZ	**Mangatainoka R**	**0.81**	**70**	P			**Pn**	**08 31 27.1**	**+0.7**
CMWZ	**Cape Campbell**	**0.85**	**199**				**Pn**	**08 31 29.2**	**+2.2**
CMWZ	**Cape Campbell**	**0.85**	**199**	P			**Pn**	**08 31 29.4**	**+2.5**
OHWZ	**Ohakea**	**0.92**	**37**	P			**Pn**	**08 31 28.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.94**	**215**				**Pn**	**08 31 29.3**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.94**	**215**	P			**Pn**	**08 31 29.4**	**+1.3**
TRWZ	**Traveller**	**0.95**	**119**	P			**Pn**	**08 31 28.9**	**+0.6**
NNZ	**Nelson**	**0.95**	**253**				**Pn**	**08 31 28.8**	**+0.5**
NNZ	**Nelson**	**0.95**	**253**	P			**Pn**	**08 31 28.8**	**+0.5**
TIWZ	**Tintock**	**1.00**	**81**	P			**Pn**	**08 31 29.5**	**+0.5**
TMWZ	**Te Maipa**	**1.00**	**100**	P			**Pn**	**08 31 29.4**	**+0.4**
POWZ	**Post Office Ro**	**1.05**	**59**	P			**Pn**	**08 31 30.0**	**+0.4**
PRWZ	**Pori Road**	**1.12**	**70**	P			**Pn**	**08 31 31.1**	**+0.6**
CPWZ	**Castlepoint**	**1.22**	**89**	P			**Pn**	**08 31 32.7**	**+0.8**
WAZ	**Wanganui**	**1.23**	**15**	P			**Pn**	**08 31 33.1**	**+1.0**
TKNZ	**Takaka Hill**	**1.23**	**265**				**Pn**	**08 31 33.2**	**+1.2**
TKNZ	**Takaka Hill**	**1.23**	**265**	P			**Pn**	**08 31 33.3**	**+1.2**
BFZ	**Birch Farm**	**1.29**	**79**				**Pn**	**08 31 32.7**	**-0.1**
BFZ	**Birch Farm**	**1.29**	**79**	P			**Pn**	**08 31 33.0**	**+0.2**
BFZ	**Birch Farm**	**1.29**	**79**	P			**Pn**	**08 31 32.8**	**-0.1**
DVHZ	**Dannevirke**	**1.36**	**62**	P			**Pn**	**08 31 33.7**	**-0.2**
TSZ	**Takapari Road**	**1.37**	**50**	P			**Pn**	**08 31 34.2**	**+0.2**
MRNZ	**Matariki Terra**	**1.45**	**251**				**Pn**	**08 31 36.9**	**+1.9**
MRNZ	**Matariki Terra**	**1.45**	**251**	P			**Pn**	**08 31 36.7**	**+1.7**
LREZ	**Lake Rotokare**	**1.49**	**355**	P			**Pn**	**08 31 36.6**	**+1.0**
THZ	**Tophouse**	**1.51**	**237**				**Pn**	**08 31 37.0**	**+1.2**
THZ	**Tophouse**	**1.51**	**237**	P			**Pn**	**08 31 37.0**	**+1.2**
ANWZ	**Angora Road**	**1.52**	**72**	P			**Pn**	**08 31 35.7**	**-0.2**
QRZ	**Quartz Range**	**1.56**	**274**				**Pn**	**08 31 37.3**	**+0.8**
QRZ	**Quartz Range**	**1.56**	**274**	P			**Pn**	**08 31 37.6**	**+1.1**
QRZ	**Quartz Range**	**1.56**	**274**	P			**Pn**	**08 31 37.4**	**+0.8**
PNHZ	**Pukenui**	**1.61**	**51**	P			**Pn**	**08 31 37.0**	**-0.1**
NMEZ	**Namu Road**	**1.62**	**340**	P			**Pn**	**08 31 38.5**	**+1.1**
WPHZ	**Waipukurau**	**1.67**	**59**	P			**Pn**	**08 31 37.7**	**-0.3**
KHZ	**Kahutara**	**1.67**	**208**				**Pn**	**08 31 39.1**	**+1.1**
KHZ	**Kahutara**	**1.67**	**208**	P			**Pn**	**08 31 39.2**	**+1.3**
KHZ	**Kahutara**	**1.67**	**208**	P			**Pn**	**08 31 39.0**	**+1.1**
MTVZ	**Mangateitei**	**1.70**	**24**	P			**Pn**	**08 31 40.0**	**+1.5**
PRHZ	**Porangahau**	**1.70**	**67**	P			**Pn**	**08 31 38.2**	**-0.2**
KHEZ	**Kahui Hut**	**1.71**	**345**	P			**Pn**	**08 31 40.1**	**+1.5**
KHEZ	**Kahui Hut**	**1.71**	**345**	P			**Pn**	**08 31 39.7**	**+1.1**
NEZ	**North Egmont**	**1.77**	**347**	P			**Pn**	**08 31 39.8**	**+1.1**
PKEZ	**Pokaka**	**1.75**	**20**	P			**Pn**	**08 31 40.3**	**+1.1**
NBEZ	**Newall Road No**	**1.76**	**342**	P			**Pn**	**08 31 40.3**	**+1.1**
MOVZ	**Moawhango**	**1.78**	**31**	P			**Pn**	**08 31 39.9**	**+0.4**
DREZ	**Durham Road**	**1.78**	**350**	P			**Pn**	**08 31 40.9**	**+1.4**
WNVZ	**Wahianoa**	**1.79**	**26**	P			**Pn**	**08 31 40.9**	**+1.0**
TRVZ	**Turoa**	**1.80**	**24**	P			**Pn**	**08 31 41.4**	**+1.3**
PKE	**Pukeiti**	**1.81**	**345**	P			**Pn**	**08 31 41.0**	**+1.1**
VRZ	**Vera Road**	**1.82**	**4**	P			**Pn**	**08 31 41.3**	**+1.2**
DRZ	**Dome Shelter**	**1.83**	**25**	P			**Pn**	**08 31 42.3**	**+1.8**
WHVZ	**Whangaehu Hut**	**1.83**	**25**	P			**Pn**	**08 31 41.5**	**+1.1**
BHHZ	**Black Hill Sta**	**1.84**	**38**	P			**Pn**	**08 31 40.8**	**+0.3**
FWVZ	**Far West T-bar**	**1.84**	**24**	P			**Pn**	**08 31 42.0**	**+1.5**
TUVZ	**Tukino**	**1.86**	**26**	P			**Pn**	**08 31 42.1**	**+1.3**
MHEZ	**Mangahewa**	**1.88**	**354**	P			**Pn**	**08 31 42.6**	**+1.8**
NGZ	**Ngauruhoe**	**1.93**	**24**	P			**Pn**	**08 31 42.9**	**+1.2**
SNVZ	**South Ngauruho**	**1.93**	**25**	P			**Pn**	**08 31 43.0**	**+1.2**
PXZ	**Pawanui**	**1.96**	**63**	P			**Pn**	**08 31 41.2**	**-0.7**
OTVZ	**Oturere**	**1.96**	**25**	P			**Pn**	**08 31 43.5**	**+1.3**
NNVZ	**North Ngauruho**	**1.96**	**24**	P			**Pn**	**08 31 43.7**	**+1.4**
TWVZ	**Tarawa**	**1.98**	**20**	P			**Pn**	**08 31 43.2**	**+0.9**
WTVZ	**West Tongariro**	**1.98**	**23**	P			**Pn**	**08 31 43.6**	**+1.2**
ETVZ	**East Tongariro**	**2.00**	**26**	P			**Pn**	**08 31 43.8**	**+1.1**
KRVZ	**Karewarewa**	**2.02**	**24**	P			**Pn**	**08 31 44.1**	**+1.2**
TMVZ	**Te Maari**	**2.02**	**26**	P			**Pn**	**08 31 44.0**	**+1.1**
NTVZ	**North Tongarir**	**2.03**	**25**	P			**Pn**	**08 31 44.3**	**+1.3**
KWHZ	**Kaweka Forest**	**2.07**	**43**	P			**Pn**	**08 31 43.8**	**+0.3**
KAHZ	**Kahuranaki**	**2.09**	**57**	P			**Pn**	**08 31 43.2**	**-0.6**
KATZ	**Kakaramea**	**2.15**	**24**	P			**Pn**	**08 31 46.8**	**+2.2**
MCHZ	**McNeill Hill**	**2.21**	**48**	P			**Pn**	**08 31 45.3**	**0.0**
DSZ	**Denniston Nort**	**2.24**	**248**				**Pn**	**08 31 46.9**	**+1.1**
DSZ	**Denniston Nort**	**2.24**	**248**	P			**Pn**	**08 31 46.7**	**+0.9**
RATZ	**Rangitukua**	**2.27**	**24**	P			**Pn**	**08 31 48.4**	**+2.2**
CKHZ	**Cape Kidnapper**	**2.30**	**57**	P			**Pn**	**08 31 45.5**	**-1.0**
BKZ	**Black Stump Fm**	**2.30**	**40**				**Pn**	**08 31 46.3**	**-0.4**
BKZ	**Black Stump Fm**	**2.30**	**40**	P			**Pn**	**08 31 46.3**	**-0.4**
BKZ	**Black Stump Fm**	**2.30**	**40**	P			**Pn**	**08 31 46.2**	**-0.5**
GVZ	**Greta Valley S**	**2.33**	**209**				**Pn**	**08 31 47.5**	**+0.5**
HATZ	**Hinemaiaia**	**2.36**	**30**	P			**Pn**	**08 31 50.6**	**+3.2**
WATZ	**Wairara**	**2.40**	**22**	P			**Pn**	**08 31 49.5**	**+1.4**
HIZ	**Hauiti**	**2.44**	**5**				**Pn**	**08 31 50.0**	**+1.5**
HIZ	**Hauiti**	**2.44**	**5**	P			**Pn**	**08 31 50.0**	**+1.5**
HIZ	**Hauiti**	**2.44**	**5**	P			**Pn**	**08 31 49.7**	**+1.2**
ARHZ	**Aropaoanui**	**2.50**	**49**	P			**Pn**	**08 31 48.5**	**-0.8**
WHTZ	**Whakaora**	**2.51**	**25**	P			**Pn**	**08 31 53.5**	**+4.0**
NMHZ	**Naumai**	**2.51**	**43**	P			**Pn**	**08 31 49.0**	**-0.6**
LTZ	**Lake Taylor**	**2.52**	**223**				**Pn**	**08 31 50.2**	**+0.6**
LTZ	**Lake Taylor**	**2.52**	**223**	P			**Pn**	**08 31 49.7**	**0.0**
MRHZ	**Matea Rd**	**2.54**	**34**	P			**Pn**	**08 31 49.2**	**-0.7**
AMCZ	**Amberley**	**2.65**	**212**		Pn		**Pn**	**08 31 51.4**	**-0.1**
AMCZ	**Amberley**	**2.65**	**212**	P			**Pn**	**08 31 51.4**	**-0.1**
WPRZ	**Whakapapatarin**	**2.71**	**27**	P			**Pn**	**08 31 55.0**	**+2.7**
TLZ	**Tolley Road**	**2.71**	**16**	P			**Pn**	**08 31 53.1**	**+0.8**
MTHZ	**Maungataniwha**	**2.72**	**40**	P			**Pn**	**08 31 51.9**	**-0.5**
ALLZ	**Allen Road**	**2.74**	**30**	P			**Pn**	**08 31 52.0**	**-0.6**
WHHZ	**Waihua**	**2.76**	**48**	P			**Pn**	**08 31 52.1**	**-0.8**
RAHZ	**Arahi**	**2.79**	**44**	P			**Pn**	**08 31 52.3**	**-1.1**
PRRZ	**Plateau Road**	**2.81**	**30**	P			**Pn**	**08 31 53.1**	**-0.5**
GRRZ	**Galatos Road**	**2.85**	**25**	P			**Pn**	**08 31 57.8**	**+3.6**
HRRZ	**Handcock Road**	**2.87**	**28**	P			**Pn**	**08 31 54.8**	**+0.3**
HSRZ	**Hossack Road**	**2.93**	**26**	P			**Pn**	**08 31 57.2**	**+2.0**
INZ	**Inchbonnie**	**2.94**	**232**				**Pn**	**08 31 56.0**	**+0.5**
RTZ	**Ruatahuna**	**2.97**	**39**				**Pn**	**08 31 56.6**	**+0.7**
MUGZ	**Murupara**	**2.99**	**35**	P			**Pn**	**08 31 54.5**	**-1.5**
RRRZ	**Republican Roa**	**3.00**	**30**	P			**Pn**	**08 31 59.7**	**+3.5**
SNGZ	**Shannon Statio**	**3.03**	**45**	P			**Pn**	**08 31 55.0**	**-1.6**
OXZ	**Oxford**	**3.04**	**218**				**Pn**	**08 31 55.9**	**-0.8**
OXZ	**Oxford**	**3.04**	**218**	P			**Pn**	**08 31 55.9**	**-0.8**
KNZ	**Kokohu**	**3.05**	**52**	P			**Pn**	**08 31 54.5**	**-2.4**
MQZ	**McQueen's Vall**	**3.11**	**207**				**Pn**	**08 31 56.6**	**-1.1**
MQZ	**McQueen's Vall**	**3.11**	**207**	P			**Pn**	**08 31 56.3**	**-1.3**
MHGZ	**Mahia Peninsul**	**3.12**	**56**	P			**Pn**	**08 31 55.9**	**-1.9**
AKCZ	**Akaroa Harbour**	**3.18**	**202**	P			**Pn**	**08 31 57.8**	**-0.8**
TOZ	**Tahuroa Road**	**3.29**	**13**	P			**Pn**	**08 32 00.8**	**+0.7**
RIGZ	**Rimuhau**	**3.31**	**49**	P			**Pn**	**08 31 58.3**	**-2.2**
URZ	**Urewera**	**3.32**	**37**	P			**Pn**	**08 31 58.6**	**-1.9**
URZ	**Urewera**	**3.32**	**37**	P			**Pn**	**08 31 58.5**	**-2.0**
RPZ	**Rata Peaks**	**3.81**	**222**	Pn			**Pn**	**08 32 07.0**	**-0.3**
	3.5nm,0.3s,baz=23,slow=2.1,SNR=10								
RPZ					Sn		**Sn**	**08 32 47.0**	**-3.8**
	22nm,0.3s,baz=341,slow=5.5,SNR=7.9								
RPZ					LR		LR	08 33 55.8	
	comp=Z,247nm,20.9s,baz=153,slow=42 20nm,0.5s								
RPZ	**Rata Peaks**	**3.81**	**222**				**Pn**	**08 32 08.5**	**+1.2**
RPZ	**Rata Peaks**	**3.81**	**222**	P			**Pn**	**08 32 09.0**	**+1.7**
KUZ	**Kuaotunu**	**4.29**	**12**	P			**Pn**	**08 32 14.0**	**+0.2**
FOZ	**Fox Glacier**	**4.38**	**232**				**Pn**	**08 32 15.0**	**-0.2**
MXZ	**Matakaoa Point**	**4.44**	**42**				**Pn**	**08 32 13.3**	**-2.7**
MXZ	**Matakaoa Point**	**4.44**	**42**	P			**Pn**	**08 32 15.1**	**-0.9**
LBZ	**Lake Benmore**	**4.73**	**222**	Pn			**Pn**	**08 32 19.9**	**0.0**
ODZ	**Otahua Downs**	**5.01**	**214**	Pn			**Pn**	**08 32 23.0**	**-0.7**
ODZ	**Otahua Downs**	**5.01**	**214**	P			**Pn**	**08 32 23.3**	**-0.5**
JCZ	**Jackson Bay**	**5.30**	**232**	P			**Pn**	**08 32 27.9**	**0.0**
OUZ	**Omahuta**	**5.77**	**352**				**Pn**	**08 32 34.6**	**+0.5**
OUZ	**Omahuta**	**5.77**	**352**	P			**Pn**	**08 32 34.7**	**+0.5**
MLZ	**Mavora Lakes**	**6.47**	**225**	Pn			**Pn**	**08 32 44.7**	**+0.9**
CTZ	**Chatham Island**	**7.09**	**116**	P			**Pn**	**08 32 52.2**	**0.0**
EIDS	**Eidsvold**	**24.96**	**301**	P			**P**	**08 36 27.2**	**-2.5**
EIDS				IAmb			IAmb	08 36 54.0	
	comp=Z,12nm,1.3s								
BBOO	**Buckleboo**	**31.67**	**272**	P			**P**	**08 37 27.4**	**-2.1**
VNDA	**Vanda**	**37.07**	**185**	P			**P**	**08 38 16.9**	**+1.2**
AS31	**Alice Springs**	**38.07**	**284**	P			**P**	**08 38 24.4**	**-0.4**
ASAR	**Alice Springs**	**38.07**	**284**	P			**P**	**08 38 24.3**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=121,slow=7.2,SNR=22								
ASAR					PcP		**PcP**	**08 40 40.3**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=119,slow=3.3,SNR=3.0 comp=Z,0.9nm,0.6s								
ASAR	**Alice Springs**	**38.07**	**284**	P			**P**	**08 38 24.5**	**-0.2**
COEN	**Coen**	**38.36**	**305**	P			**P**	**08 38 26.5**	**-0.8**
WB2	**Warramunga Arr**	**40.06**	**289**	P			**P**	**08 38 41.2**	**-0.2**
WB2				IAmb			IAmb	08 38 58.2	
	comp=Z,2.4nm,0.7s								
WRA	**Warramunga Arr**	**40.07**	**289**	P			**P**	**08 38 40.9**	**-0.6**
	comp=Z,1.3

	9.4nm,0.6s							
KOTS					*e*S		**Sb**	**08 38 23.1 +4.2**
	31nm,0.7s							
KOTS	**Kotyrbulak**	**4.78**	**29**		Pg		**Pb**	**08 37 22.7 +1.4**
	9.4nm,0.6s							
KOTS					Lg		Lg	08 38 23.1
	31nm,0.7s							
KRBS	**Karabastau**	**4.79**	**15**	*e*P			**Pb**	**08 37 21.5 +0.3**
	7.1nm,0.5s							
KRBS					*e*S		**Sb**	**08 38 21.5 +2.7**
	10nm,0.8s							
KRBS	**Karabastau**	**4.79**	**15**		Pg		**Pb**	**08 37 21.5 +0.3**
	7.1nm,0.5s							
KRBS					Lg		Lg	08 38 21.5
	10nm,0.8s							
KTBS	**Karatobe**	**5.06**	**23**	*e*P			**Pb**	**08 37 26.5 +0.6**
	5.8nm,0.8s							
KTBS					*e*S		**Sb**	**08 38 30.2 +3.5**
	34nm,0.8s							
KTBS	**Karatobe**	**5.06**	**23**		Pg		**Pb**	**08 37 26.5 +0.6**
	5.8nm,0.8s							
KTBS					Lg		Lg	08 38 30.2
	34nm,0.8s							
KUU	**Kurty**	**5.13**	**20**	*e*P			**Pb**	**08 37 28.0 +1.0**
	3.7nm,0.3s							
KUU					*e*S		**Sb**	**08 38 32.5 +3.9**
	16nm,0.7s							
KUU	**Kurty**	**5.13**	**20**		Pg		**Pb**	**08 37 28.0 +1.0**
	3.7nm,0.3s							
KUU					Lg		Lg	08 38 32.5
	16nm,0.7s							
CHKK	**Chushkaly**	**5.28**	**25**	*e*P			**Pb**	**08 37 30.9 +1.3**
	2.2nm,0.2s							
CHKK					*e*S		**Sb**	**08 38 37.3 +4.2**
	8.2nm,0.3s							
CHKK	**Chushkaly**	**5.28**	**25**		Pg		**Pb**	**08 37 30.9 +1.3**
	2.2nm,0.2s							
CHKK					Lg		Lg	08 38 37.3
	8.2nm,0.3s							
KPKS	**Kokpek**	**5.65**	**38**	*e*P			**Pb**	**08 37 37.1 +1.2**
	3.2nm,0.4s							
KPKS					*e*S		**Sb**	**08 38 48.3 +4.7**
	13nm,0.8s							
KPKS	**Kokpek**	**5.65**	**38**		Pg		**Pb**	**08 37 37.1 +1.2**
	3.2nm,0.4s							
KPKS					Lg		Lg	08 38 48.3
	13nm,0.8s							
PDGK	**Podgornoye**	**5.95**	**43**		Pg		**Pb**	**08 37 41.6 +0.4**
	1.1nm,0.6s							
PDGK					Lg		Lg	08 38 55.6
	4.9nm,1.1s							
PDGK	**Podgornoye**	**5.95**	**43**	⇑	Pg		**Pb**	**08 37 44.1 +2.9**
	10nm,1.1s							
PDGK				⇑	Lg		Lg	08 38 57.0
	9.5nm,0.8s							
BLB	**Baldybastay**	**6.05**	**33**	*e*P			**Pb**	**08 37 44.3 +1.5**
	6.6nm,0.6s							
BLB					*e*S		**Sb**	**08 39 00.2 +4.9**
	6.4nm,0.7s							
BLB	**Baldybastay**	**6.05**	**33**		Pg		**Pb**	**08 37 44.3 +1.5**
	6.6nm,0.6s							
BLB					Lg		Lg	08 39 00.2
	6.4nm,0.7s							

*THE **27** 08:36:27.9, 40˚.59N×21˚.61E, h10km±2km, ML2.0/4, Error ellipse: s-maj=2.1km s-min=0.7km az=233.0*
*ATH **27** 08:36:28.2, 40˚.59N×21˚.60E, h10km±3km, ML2.1/4, Error ellipse: s-maj=3.6km s-min=1.1km az=278.0*
*SKO **27** 08:36:28.2, 40˚.64N×21˚.62E, h13km*
ISC 27 08:36:28.0±1.0, **40˚.57N**±0˚.02×**21˚.60E**±0˚.02, **h7**km±9km, **n24**,σ1¶**25**/**42**, **Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
FNA	**Florina**	**0.27**	**321**	P		**Pg**	**08 36 33.2**	**-0.1**
FNA				S		**Sg**	**08 36 36.5**	**-0.4**
	1μm,0.2s							
FNA	**Florina**	**0.27**	**321**	*i* Pg		**Pg**	**08 36 33.2**	**-0.1**
FNA				*i* Sg		**Sg**	**08 36 36.7**	**-0.3**
FNA	**Florina**	**0.27**	**321**	P		**Pg**	**08 36 33.1**	**-0.1**
FNA				S		**Sg**	**08 36 36.6**	**-0.3**
FNA				AML	AML		08 36 37.9	
	comp=E,2505μm,0.2s							
FNA				AML	AML		08 36 40.5	
	comp=N,2118μm,0.4s							
KZN	**Kozani**	**0.30**	**154**	P		**Pg**	**08 36 34.1**	**+0.3**
KZN				S		**Sg**	**08 36 38.6**	**+0.9**
	comp=N,445nm,0.4s							
KZN	**Kozani**	**0.30**	**154**	P		**Pg**	**08 36 34.2**	**+0.3**
KZN				S		**Sg**	**08 36 39.2**	**+1.4**
KZN				AML	AML		08 36 41.6	
	comp=N,881μm,0.4s							
KZN				AML	AML		08 36 43.2	
	comp=E,900μm,0.4s							
NEST	**Nestorio**	**0.45**	**250**	P		**Pg**	**08 36 36.9**	**+0.2**
NEST				S		**Sb**	**08 36 44.4**	**-0.9**
	comp=E,198nm,0.4s							
NEST	**Nestorio**	**0.45**	**250**	P		**Pg**	**08 36 36.7**	**+0.1**
NEST				S		**Sb**	**08 36 44.3**	**-0.9**
NEST				AML	AML		08 36 45.2	
	comp=E,497μm,0.2s							
NEST				AML	AML		08 36 45.2	
	comp=N,492μm,0.6s							
PENT	**Pentalofos**	**0.52**	**223**	P		**Pg**	**08 36 37.6**	**-0.3**
PENT	**Pentalofos**	**0.52**	**223**	P		**Pg**	**08 36 38.4**	**+0.4**
PENT				S		**Sg**	**08 36 45.9**	**+1.3**
KBN	**Korca**	**0.62**	**275**	P		**Pg**	**08 36 39.6**	**-0.3**
KBN				S		**Sg**	**08 36 49.1**	**+1.1**
KBN	**Korca**	**0.62**	**275**	P		**Sn**	**08 36 56.8**	**+3.2**
GRG	**Griva**	**0.72**	**58**	P		**Pg**	**08 36 41.8**	**0.0**
GRG	**Griva**	**0.72**	**58**	*i* Pg		**Pg**	**08 36 41.9**	**0.0**
GRG				*i* Sg		**Sb**	**08 36 52.4**	**-0.7**
GRG	**Griva**	**0.72**	**58**	P		**Pb**	**08 36 41.9**	**-1.0**
OHR	**Ohrid**	**0.81**	**312**	*i* Pg		**Pg**	**08 36 43.6**	**0.0**
OHR				*i* Sg		**Sb**	**08 36 55.9**	**+0.2**
OHR				*e*Lg		Lg	08 36 58.4	
	comp=E,59nm,0.3s							
OHR				*e*Lg		Lg	08 36 58.5	
	comp=N,79nm,0.5s							
THE	**Thessaloniki**	**1.04**	**86**	*i* Pg		**Pn**	**08 36 48.7**	**-0.3**
THE				*i* Sg		**Sn**	**08 37 05.1**	**+1.3**
THL	**Klokotos Trika**	**1.06**	**162**	P		**Pg**	**08 36 47.8**	**-0.4**
THL				S		**Sg**	**08 37 02.4**	**+0.5**
THL				AML	AML		08 37 06.7	
	comp=E,82μm,0.4s							
THL				AML	AML		08 37 09.4	
	comp=N,154μm,0.6s							
HORT	**Hortiatis**	**1.14**	**88**	P		**Pn**	**08 36 50.0**	**-0.5**
KNT	**Kendrikon**	**1.15**	**59**	P		**Pb**	**08 36 49.1**	**-1.1**
KNT				S		**Sn**	**08 37 05.0**	**-1.5**
	comp=N,30nm,0.3s							
KNT	**Kendrikon**	**1.15**	**59**	*i* Pg		**Pb**	**08 36 49.1**	**-1.1**
KNT				*i* Sg		**Sn**	**08 37 05.4**	**-1.1**
KNT	**Kendrikon**	**1.15**	**59**	P		**Pb**	**08 36 49.0**	**-1.1**
KNT				S		**Sn**	**08 37 05.4**	**-1.1**
KNT	**Kendrikon**	**1.15**	**59**	P		**Sn**	**08 37 05.6**	**-0.9**
STIP	**Stip**	**1.21**	**21**	*i* Pg		**Pg**	**08 36 53.6**	**+2.5**
STIP				*i* Sg		**Sn**	**08 37 11.8**	**+3.8**
STIP				*e*Lg		Lg	08 37 15.0	
	comp=E,7.2nm,0.5s							
STIP				*e*Lg		Lg	08 37 16.0	
	comp=N,7.1nm,0.4s							
SOH	**Sokhos**	**1.36**	**79**	*i* Pg		**Pg**	**08 36 54.1**	**+0.1**
SOH				*i* Sg		**Sg**	**08 37 14.2**	**+2.6**

*IDC **27** 08:36:45.4±1.7, 9˚.54N×126˚.39E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=183.0km s-min=25.0km az=69.0*
*MAN **27** 08:36:50.1, 9˚.62N×126˚.57E, h18km, mb4.5, ML3.3, MS3.1*
ISC 27 08:36:45.4±2.2, **9˚.59N**±0˚.05×**126˚.50E**±0˚.07, **h1**km±12km, **n16**,σ1¶**53**/**24**, **mb3.5**/5, **4C-6D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SCPH	**Surigao**	**1.01**	**281**	*e*P		**Pn**	**08 37 09.4**	**+2.6**
SCPH				*i* S		**Sn**	**08 37 22.1**	**+0.5**
BIPH	**Bislig**	**1.41**	**186**	⇓*e*P		**Pg**	**08 37 14.1**	**+1.6**
BIPH				*i* S		**Sb**	**08 37 30.5**	**-0.4**
CGP	**Cagayan de Oro**	**2.11**	**238**	⇓*e*P		Pg	08 37 34.4	+8.5
CGP				*e*S		**Sg**	**08 37 52.2**	**-1.1**
GHBP	**Garcia Hernand**	**2.15**	**271**	⇑*e*P		**Pg**	**08 37 27.0**	**+0.3**
GHBP				*e*S		**Sg**	**08 37 54.7**	**+0.2**
TABP	**Talibon, Bohol**	**2.19**	**283**	⇑*e*P		**Pg**	**08 37 27.3**	**-0.2**
TABP				*e*S		**Sg**	**08 37 56.4**	**+0.5**
BUKP	**Musuan**	**2.22**	**220**	⇑*e*P		**Pg**	**08 37 28.4**	**+0.4**
BUKP				*i* S		**Sg**	**08 37 59.5**	**+2.7**
LLP	**Lapu-Lapu**	**2.60**	**286**	⇓*i* P		**Pg**	**08 37 34.6**	**-0.7**
LLP				*i* S		**Sb**	**08 38 06.9**	**+1.7**
TBP	**Tagbilaran**	**2.60**	**272**	⇓*e*P		**Pb**	**08 37 33.0**	**+0.1**
TBP				*i* S		**Sb**	**08 38 06.1**	**+0.8**
KCP	**Kidapawan**	**2.92**	**209**	⇓*i* P		**Pb**	**08 37 35.8**	**-2.6**
KCP				*i* S		**Sb**	**08 38 12.8**	**-1.8**
DCPH	**Dipolog City**	**3.27**	**252**	⇓*e*P		**Pn**	**08 37 36.7**	**-1.0**
RCP	**Roxas**	**4.18**	**298**	⇓*e*P		**Pb**	**08 37 56.6**	**-3.1**
WRA	**Warramunga Arr**	**30.35**	**165**	P		**P**	**08 42 59.4**	**+0.5**
	0.4nm,1.0s,baz=349,slow=9.7,SNR=1.9 0.4nm,1.0s							
ASAR	**Alice Springs**	**33.84**	**168**	P		**P**	**08 43 28.8**	**-0.8**
	0.1nm,0.3s,baz=345,slow=7.4,SNR=1.5 0.1nm,0.3s							
MKAR	**Makanchi Array**	**52.70**	**323**	P		**P**	**08 46 01.3**	**-0.3**
	0.3nm,0.5s,baz=117,slow=6.9,SNR=4.6 0.3nm,0.5s							
ARCES	**ARCESS Array B**	**84.90**	**340**	P		**P**	**08 49 23.2**	**+1.4**
	2.3nm,0.8s,baz=73,slow=6.0,SNR=1.4 2.3nm,0.8s							
FINES	**FINESS Array B**	**86.59**	**332**	P		**P**	**08 49 29.9**	**-0.3**
	6.7nm,1.0s,baz=72,slow=4.8,SNR=6.1 6.7nm,1.0s							

*THE **27** 08:37:44.9, 40˚.60N×21˚.60E, h14km±1km, ML2.4/5, Error ellipse: s-maj=1.2km s-min=0.5km az=282.0*
*SKO **27** 08:37:44.9, 40˚.64N×21˚.62E, h15km*
*ATH **27** 08:37:45.1, 40˚.60N×21˚.60E, h11km±3km, ML2.5/3, Error ellipse: s-maj=4.1km s-min=1.2km az=272.0*
ISC 27 08:37:45.0±1.0, **40˚.58N**±0˚.02×**21˚.57E**±0˚.02, **h9**km±8km, **n25**,σ1¶**00**/**44**, **Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
FNA	**Florina**	**0.25**	**324**	P		**Pg**	**08 37 50.2**	**+0.1**
FNA				S		**Sg**	**08 37 53.4**	**-0.2**
	2μm,0.2s							
FNA	**Florina**	**0.25**	**324**	*i* Pg		**Pg**	**08 37 50.2**	**+0.1**
FNA				*i* Sg		**Sg**	**08 37 54.2**	**+0.5**
FNA	**Florina**	**0.25**	**324**	P		**Pg**	**08 37 50.2**	**+0.1**
FNA				S		**Sg**	**08 37 53.2**	**-0.4**
FNA				AML	AML		08 37 55.0	
	comp=E,4997μm,0.2s							
FNA				AML	AML		08 37 55.9	
	comp=N,4551μm,0.2s							
KZN	**Kozani**	**0.31**	**150**	P		**Pg**	**08 37 51.3**	**+0.1**
KZN				S		**Sg**	**08 37 56.3**	**+1.0**
	comp=N,1μm,0.2s							
KZN	**Kozani**	**0.31**	**150**	P		**Pg**	**08 37 51.3**	**+0.1**
KZN				S		**Sg**	**08 37 56.3**	**+1.0**
KZN				AML	AML		08 37 58.7	
	comp=N,1885μm,0.3s							
KZN				AML	AML		08 37 59.0	
	comp=E,2354μm,0.2s							
NEST	**Nestorio**	**0.43**	**248**	P		**Pg**	**08 37 53.7**	**+0.3**
NEST				S		**Sb**	**08 38 01.5**	**+0.1**
	comp=E,490nm,0.2s							
NEST	**Nestorio**	**0.43**	**248**	P		**Pg**	**08 37 53.7**	**+0.3**
NEST				S		**Sb**	**08 38 01.2**	**-0.2**
NEST				AML	AML		08 38 02.3	
	comp=N,1253μm,0.3s							
NEST				AML	AML		08 38 04.2	
	comp=E,1437μm,0.2s							
PENT	**Pentalofos**	**0.50**	**221**	P		**Pg**	**08 37 55.1**	**+0.3**
PENT				S		**Sb**	**08 38 03.4**	**-0.1**
PENT	**Pentalofos**	**0.50**	**221**	P		**Pg**	**08 37 55.1**	**+0.3**
PENT				S		**Sb**	**08 38 03.4**	**-0.1**
KBN	**Korca**	**0.60**	**275**	S		**Sb**	**08 38 05.7**	**-0.6**
KPRO	**Kipourio**	**0.64**	**194**	P		**Pg**	**08 37 57.7**	**+0.3**
KPRO				S		**Sb**	**08 38 07.0**	**-0.5**
	comp=E,372nm,0.5s							
KPRO	**Kipourio**	**0.64**	**194**	P		**Pg**	**08 37 57.6**	**+0.3**
GRG	**Griva**	**0.74**	**59**	P		**Pg**	**08 37 58.8**	**-0.4**
GRG				S		**Sg**	**08 38 08.9**	**+0.1**
GRG	**Griva**	**0.74**	**59**	*i* Pg		**Pg**	**08 37 58.8**	**-0.4**
GRG				*i* Sg		**Sb**	**08 38 10.1**	**-0.1**
GRG	**Griva**	**0.74**	**59**	P		**Pg**	**08 37 58.8**	**-0.4**
OHR	**Ohrid**	**0.79**	**313**	*i* Pg		**Pg**	**08 38 00.3**	**0.0**
OHR				*i* Sg		**Sn**	**08 38 13.1**	**-1.3**
OHR				*e*Lg		Lg	08 38 15.5	
	comp=E,138nm,0.3s							
OHR				*e*Lg		Lg	08 38 15.6	
	comp=N,180nm,0.5s							
THE	**Thessaloniki**	**1.06**	**87**	*i* Pg		**Pb**	**08 38 05.4**	**-0.1**
THE				*i* Sg		**Sn**	**08 38 22.1**	**+1.1**
THL	**Klokotos Trika**	**1.07**	**161**	P		**Pg**	**08 38 04.8**	**-0.7**
THL				S		**Sn**	**08 38 20.4**	**-0.6**
	comp=N,128nm,0.4s							
THL	**Klokotos Trika**	**1.07**	**161**	P		**Pg**	**08 38 04.9**	**-0.6**
KNT	**Kendrikon**	**1.16**	**59**	S		**Sb**	**08 38 21.0**	**-1.5**
KNT	**Kendrikon**	**1.16**	**59**	*i* Pg		**Pb**	**08 38 05.8**	**-1.4**
KNT				*i* Pg		**Pg**	**08 38 06.1**	**-1.3**
KNT				*i* Sg		**Sg**	**08 38 22.4**	**0.0**
KNT	**Kendrikon**	**1.16**	**59**	P		**Pb**	**08 38 05.9**	**-1.4**
HORT	**Hortiatis**	**1.17**	**88**	P		**Pb**	**08 38 06.7**	**-0.6**
STIP	**Stip**	**1.21**	**22**	*i* Pg		**Pg**	**08 38 10.1**	**+1.9**
STIP				*i* Sg		**Sn**	**08 38 28.4**	**+3.8**
STIP				*e*Lg		Lg	08 38 33.0	
	comp=N,12nm,0.4s							
STIP				*e*Lg		Lg	08 38 33.9	
	comp=E,14nm,0.5s							
SOH	**Sokhos**	**1.38**	**79**	*i* Pg		**Pb**	**08 38 10.8**	**-0.2**
SOH				*i* Sg		**Sg**	**08 38 31.7**	**+2.4**

*IDC **27** 08:39:06.2±0.7, 12˚.99N×144˚.42E, h247km±11km, mb3.1/6, mbtmp3.7/6, Error ellipse: s-maj=58.6km s-min=17.1km az=80.0*
ISC 27 08:39:06.5±1.1, **13˚.0N**±0˚.2×**144˚.4E**±0˚.3, **h250**km, **n8**, σ0¶**81**/**9**, **mb3.4**/**7**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GUMO	**Guam**	**0.77**	**39**	P		**Pn**	**08 39 40.6**	**+0.2**
	34nm,0.3s,baz=207,slow=21,SNR=12							
GUMO				S		**S**	**08 40 06.4**	**-0.7**
	63nm,0.3s,baz=5.5,slow=23,SNR=15							
WRA	**Warramunga Arr**	**34.18**	**197**	P		**P**	**08 45 27.5**	**-1.2**
	0.5nm,0.9s,baz=17,slow=9.0,SNR=3.5 0.5nm,0.9s							
ASAR	**Alice Springs**	**37.84**	**196**	P		**P**	**08 46 00.6**	**+1.0**
	0.1nm,0.4s,baz=15,slow=11,SNR=4.2 0.1nm,0.4s							
SONM	**Songino Array**	**46.95**	**325**	P		**P**	**08 47 11.9**	**-0.6**
	0.4nm,0.5s,baz=145,slow=8.5,SNR=2.2 0.4nm,0.5s							
MKAR	**Makanchi Array**	**61.59**	**316**	P		**P**	**08 48 57.4**	**-0.3**
	0.6nm,0.6s,baz=97,slow=7.6,SNR=6.7 0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**64.77**	**320**	P		**P**	**08 49 18.6**	**+0.1**
	0.7nm,0.4s,baz=102,slow=7.0,SNR=11 0.7nm,0.4s							
BVAR	**Borovoye Array**	**70.10**	**322**	P		**P**	**08 49 52.1**	**+0.4**
	3.0nm,0.5s,baz=104,slow=7.2,SNR=16 3.0nm,0.5s							
FINES	**FINESS Array B**	**91.50**	**335**	P		**P**	**08 51 45.1**	**+0.7**
	12nm,1.1s,baz=72,slow=4.5,SNR=4.7							

*WEL **27** 08:42:00, 41˚.73S×174˚.24E, h14km, ML4.8, Mw4.8, Moment Tensor Solution. s6 Moment tensor: Scale 10^16 Nm; Mrr0.51; Mθθ1.90; Mϕϕ-2.40; Mrθ0.01; Mϕθ-0.37; Mϕr-0.46; Fault plane solution: Mo2.22000×10^16 NP1: ϕs=50.00000°, δ83.00000°, λ-175.00000°. NP2: ϕs=320.00000°, δ85.00000°, λ-7.00000°. Principal axes: T -2501.7800, Plg1.0000°, Azm5.0000°; N 1928.9500, Plg81.0000°, Azm104.0000°; P 572.8200, Plg8.0000°, Azm275.0000°;*
*NEIC **27** 08:42:15.8±1.4, 41˚.80S±0˚.03×174˚.28E±0˚.02, h10km±1km, mb4.8/20, ML4.8(WEL) Error ellipse: s-maj=5.2km s-min=2.9km az=161.0*
*NOU **27** 08:42:15.5, 41˚.94S×174˚.56E, h12km, MLv5.3/15, Cook Strait, New Zealand*
*WEL **27** 08:42:16.3±0.3, 42˚.3S×17˚.4E±˚, h9km±2km, M4.9/41, ML5.1/19, MLv4.9/41, Error ellipse: s-maj=0.0km s-min=0.0km az=135.9*
*IDC **27** 08:42:16.6±0.7, 41˚.88S×173˚.98E, h0km, mb4.4/15, mbtmp4.4/16, ML4.3/1, MS4.0/25, Error ellipse: s-maj=21.7km s-min=15.7km az=72.0*
ISC 27 08:42:15.9±0.8, **41˚.83S**±0˚.03×**174˚.29E**±0˚.02, **h8**km±4km, **n182**,σ1¶**47**/**177**, **mb4.7**/**24**, **MS4.1**/**28**, **2C-1D**, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CMWZ	**Cape Campbell**	**0.10**	**322**			**Pg**	**08 42 18.6**	**+0.4**
CMWZ	**Cape Campbell**	**0.10**	**322**	P		**Pg**	**08 42 18.9**	**+0.7**
CMWZ				S		**Sg**	**08 42 20.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.33**	**289**			**Pg**	**08 42 22.5**	**+0.1**
BSWZ				Sg		**Sg**	**08 42 27.4**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.33**	**289**	P		**Pg**	**08 42 22.5**	**+0.1**
BSWZ				S		**Sg**	**08 42 27.1**	**+0.3**
TUWZ	**Tuamarina**	**0.47**	**326**			**Pg**	**08 42 24.5**	**-0.5**
TUWZ				Sg		**Sg**	**08 42 30.5**	**-0.8**
TUWZ	**Tuamarina**	**0.47**	**326**	P		**Pg**	**08 42 24.6**	**-0.5**
TUWZ				S		**Sg**	**08 42 30.7**	**-0.6**
SNZO	**South Karori**	**0.60**	**31**			**Pg**	**08 42 27.9**	**+0.4**
SNZO	**South Karori**	**0.60**	**31**	P		**Pg**	**08 42 27.7**	**+0.2**
TCW	**Tory Channel**	**0.61**	**359**			**Pg**	**08 42 27.0**	**-0.8**
TCW				Sg		**Sg**	**08 42 35.1**	**-0.6**
TCW	**Tory Channel**	**0.61**	**359**	P		**Pg**	**08 42 27.0**	**-0.8**
TCW				S		**Sg**	**08 42 34.9**	**-0.9**
WEL	**Wellington**	**0.65**	**34**	P		**Pg**	**08 42 28.7**	**+0.3**
WEL				S		**Sg**	**08 42 37.6**	**+0.8**
PLWZ	**Palliser**	**0.77**	**71**			**Pb**	**08 42 32.0**	**+0.5**
PLWZ	**Palliser**	**0.77**	**71**	P		**Pb**	**08 42 32.0**	**+0.5**
KHZ	**Kahutara**	**0.81**	**223**			**Pn**	**08 42 33.7**	**+0.1**
KHZ	**Kahutara**	**0.81**	**223**	P		**Pn**	**08 42 33.9**	**+0.3**
KHZ	**Kahutara**	**0.81**	**223**	P		**Pn**	**08 42 33.6**	**-0.1**
MSWZ	**Moikau Station**	**0.83**	**61**			**Pb**	**08 42 32.8**	**+0.3**
MSWZ	**Moikau Station**	**0.83**	**61**	P		**Pb**	**08 42 32.9**	**+0.4**
NNZ	**Nelson**	**0.92**	**311**			**Pg**	**08 42 32.5**	**-1.0**
NNZ	**Nelson**	**0.92**	**311**	P		**Pg**	**08 42 32.4**	**-1.0**
CAW	**Cannon Point**	**0.92**	**39**	P		**Pg**	**08 42 33.5**	**-0.1**
PAWZ	**Paruwai Farm**	**0.96**	**63**	P		**Pb**	**08 42 34.6**	**-0.2**
THZ	**Tophouse**	**1.04**	**273**			**Pg**	**08 42 35.5**	**-0.3**
THZ	**Tophouse**	**1.04**	**273**	P		**Pb**	**08 42 35.7**	**-0.5**
DUVZ	**Urville Isla**	**1.06**	**345**	P		**Pg**	**08 42 34.7**	**-1.6**
KIW	**Kapiti Island**	**1.07**	**26**	P		**Pg**	**08 42 35.6**	**-0.8**
MTW	**Mount Morrison**	**1.13**	**54**	P		**Pg**	**08 42 36.8**	**-0.7**
TRWZ	**Traveller**	**1.13**	**68**	P		**Pg**	**08 42 36.7**	**-0.9**
OGWZ	**Otaki Gorge**	**1.21**	**34**	P		**Pb**	**08 42 38.1**	**-0.9**
MRNZ	**Matariki Terra**	**1.23**	**290**			**Pb**	**08 42 38.9**	**-0.5**
MRNZ	**Matariki Terra**	**1.23**	**290**	P		**Pb**	**08 42 38.8**	**-0.5**
TKNZ	**Takaka Hill**	**1.28**	**308**			**Pn**	**08 42 39.3**	**-0.7**
TKNZ	**Takaka Hill**	**1.28**	**308**	P		**Pn**	**08 42 39.0**	**-1.0**
HOWZ	**Holdsworth Sta**	**1.31**	**45**	P		**Pn**	**08 42 39.4**	**-1.0**
TMWZ	**Te Maipa**	**1.40**	**60**	P		**Pn**	**08 42 40.3**	**-1.4**
GVZ	**Greta Valley S**	**1.47**	**219**			**Pn**	**08 42 42.2**	**-0.5**
GVZ	**Greta Valley S**	**1.47**	**219**	P		**Pn**	**08 42 42.5**	**-0.2**
MRZ	**Mangatainoka R**	**1.52**	**40**	Pn		**Pn**	**08 42 42.3**	**-1.0**
MRZ	**Mangatainoka R**	**1.52**	**40**	P		**Pn**	**08 42 42.3**	**-1.0**
TIWZ	**Tintock**	**1.59**	**49**	P		**Pn**	**08 42 43.3**	**-1.1**
QRZ	**Quartz Range**	**1.66**	**306**			**Pn**	**08 42 45.4**	**+0.1**
QRZ	**Quartz Range**	**1.66**	**306**	P		**Pb**	**08 42 46.2**	**-0.5**
QRZ	**Quartz Range**	**1.66**	**306**	P		**Pn**	**08 42 45.4**	**+0.1**
CPWZ	**Castlepoint**	**1.70**	**58**	P		**Pn**	**08 42 44.8**	**-1.0**
LTZ	**Lake Taylor**	**1.78**	**237**	Pn		**Pn**	**08 42 46.7**	**-0.2**
LTZ	**Lake Taylor**	**1.78**	**237**	P		**Pn**	**08 42 46.8**	**-0.2**
PRWZ	**Pori Road**	**1.79**	**45**	P		**Pn**	**08 42 45.8**	**-1.3**
OHWZ	**Ohakea**	**1.79**	**26**	P		**Pn**	**08 42 47.9**	**+0.8**
AMCZ	**Amberley**	**1.81**	**221**			**Pn**	**08 42 46.6**	**-0.8**
AMCZ	**Amberley**	**1.81**	**221**	P		**Pn**	**08 42 46.8**	**-0.6**
POWZ	**Post Office Ro**	**1.81**	**38**	P		**Pn**	**08 42 46.3**	**-1.1**
DSZ	**Denniston Nort**	**1.86**	**272**	Pn		**Pn**	**08 42 48.5**	**+0.3**
DSZ	**Denniston Nort**	**1.86**	**272**	P		**Pn**	**08 42 48.7**	**+0.5**
BFZ	**Birch Farm**	**1.86**	**53**			**Pn**	**08 42 47.5**	**-0.6**
BFZ	**Birch Farm**	**1.86**	**53**	P		**Pn**	**08 42 45.9**	**-2.2**
BFZ	**Birch Farm**	**1.86**	**53**	P		**Pn**	**08 42 46.0**	**-2.1**
DVHZ	**Dannevirke**	**2.08**	**44**	P		**Pn**	**08 42 49.3**	**-1.8**
DVHZ				P		**Pn**	**08 42 49.3**	**-1.8**
WAZ	**Wanganui**	**2.13**	**14**	P		**Pn**	**08 42 53.2**	**+1.3**
ANWZ	**Angora Road**	**2.14**	**51**	P		**Pn**	**08 42 49.7**	**-2.1**
TSZ	**Takapari Road**	**2.17**	**36**	P		**Pn**	**08 42 51.0**	**-1.3**
MQZ	**McQueen's Vall**	**2.23**	**212**			**Pn**	**08 42 51.4**	**-1.8**
MQZ	**McQueen's Vall**	**2.23**	**212**	P		**Pn**	**08 42 51.4**	**-1.8**
OXZ	**Oxford**	**2.24**	**227**			**Pn**	**08 42 51.9**	**-1.4**
OXZ	**Oxford**	**2.24**	**227**	P		**Pn**	**08 42 51.9**	**-1.4**
AKCZ	**Akaroa Harbour**	**2.28**	**206**	P		**Pn**	**08 42 52.5**	**-1.4**
INZ	**Inchbonnie**	**2.30**	**246**	Pn		**Pn**	**08 42 53.6**	**-0.5**
INZ	**Inchbonnie**	**2.30**	**246**	P		**Pn**	**08 42

5.8nm,0.9s,baz=120,slow=9.8,SNR=3.5
5.8nm,0.9s
TBI Tubuai 35.33 70 eLR LR 08 58 38.3
comp=Z,2µm,25.5s
TBI eLR LR 08 58 38.4
comp=Z,7µm,24.0s
VNDA Vanda 36.17 185 P **P** **08 49 19.1 +0.8**
1.3nm,1.0s,baz=358,slow=6.1,SNR=4.3
1.3nm,1.0s
VNDA Vanda 36.17 185 P **P** **08 49 19.5 +1.2**
SBA Scott Base 36.27 183 P **P** **08 49 19.4 +0.3**
SBA IAmb IAmb 08 49 23.4
comp=Z,16nm,1.2s
ASAR Alice Springs 38.08 286 P **P** **08 49 36.2 +1.1**
comp=Z,3.1nm,0.5s,baz=124,slow=6.5,SNR=12
ASAR LR LR 09 04 15.9
comp=Z,241nm,21.5s,baz=120,slow=35
comp=Z,3.1nm,0.5s
FORT Forrest 38.44 271 P **P** **08 49 33.8 -4.3**
FORT IAmb IAmb 08 49 54.8
comp=Z,21nm,0.9s
COEN Coen 38.70 307 P **P** **08 49 38.5 -1.9**
COEN IAmb IAmb 08 49 47.4
comp=Z,12nm,0.8s
PPT2 Papeete2 39.16 63 eLR LR 09 00 24.5
comp=Z,277nm,29.0s
PPT2 eLR LR 09 00 25.3
comp=Z,391nm,26.8s
PPT Papeete 39.18 63 LR LR 09 04 13.6
comp=Z,340nm,19.6s,baz=236,slow=33
WR0 Warramunga Arr 40.01 291 P **P** **08 49 49.1 -2.1**
WB2 Warramunga Arr 40.15 290 P **P** **08 49 50.1 -2.4**
WB2 IAmb IAmb 08 49 58.4
comp=Z,16nm,0.8s
WRAB Tennant Creek 40.16 291 P **P** **08 49 50.2 -2.3**
WRAB IAmb IAmb 08 49 58.4
comp=Z,17nm,0.8s
WRA Warramunga Arr 40.16 290 P **P** **08 49 50.8 -1.7**
comp=Z,7.3nm,0.8s,baz=128,slow=8.3,SNR=18
WRA PcP **PcP** **08 51 58.7 +1.8**
comp=Z,1.4nm,0.7s,baz=128,slow=3.1,SNR=4.6
WRA LR LR 09 06 52.9
comp=Z,323nm,18.6s,baz=118,slow=37
comp=Z,7.3nm,0.8s
WRA Warramunga Arr 40.16 290 P **P** **08 49 50.5 -2.0**
PMG Port Moresby 40.16 316 P **P** **08 49 54.1 +1.5**
comp=Z,12nm,0.7s,baz=118,slow=5.9,SNR=7.1
comp=Z,12nm,0.7s
PMG Port Moresby 40.16 316 P **P** **08 49 50.5 -2.0**
PMG IAmb IAmb 08 50 01.4
comp=Z,36nm,1.1s
WB0 Warramunga Arr 40.24 291 P **P** **08 49 50.2 -3.0**
CASY Casey 42.16 213 P **P** **08 50 07.6 -0.8**
CASY IAmb IAmb 08 50 13.8
comp=Z,29nm,1.1s
NWAO Narrogin (SRO) 45.47 262 LR LR 09 06 10.3
comp=Z,85nm,22.0s,baz=272,slow=32
NWAO Narrogin (SRO) 45.47 262 P **P** **08 50 34.8 -0.7**
KNRA Kununurra 46.94 290 P **P** **08 50 45.7 -1.5**
QSPA South Pole Qui 48.30 180 P **P** **08 50 59.1 +1.7**
comp=Z,12nm,1.0s,baz=36,slow=3.1,SNR=20
QSPA LR LR 09 09 18.4
comp=Z,239nm,21.3s,baz=43,slow=34
comp=Z,12nm,1.0s
QSPA South Pole Qui 48.30 180 P **P** **08 50 57.1 -0.3**
PSA00 Pilbara Seismi 49.66 277 P **P** **08 51 06.1 -2.0**
PSA00 IAmb IAmb 08 51 13.3
comp=Z,13nm,0.7s
MBWA Marble Bar 49.99 277 P **P** **08 51 08.4 -2.3**
TAOE Nuku Hiva Isla 51.77 64 eLR LR 09 06 15.0
comp=Z,361nm,25.4s
FAKI Fak Fak 53.99 304 P **P** **08 51 39.0 -1.6**
FAKI IAmb IAmb 08 51 43.5
comp=Z,8.9nm,0.6s
SOEI Soe 54.19 291 P **P** **08 51 41.0 -1.1**
BELA Belgrano 2 59.27 173 P **P** **08 52 17.1 -0.2**
BELA IAmb IAmb 08 52 41.2
comp=Z,10nm,1.1s
MAW Mawson 59.40 204 P **P** **08 52 19.3 +1.0**
comp=Z,1.9nm,0.9s,baz=140,slow=7.9,SNR=2.6
MAW LR LR 09 17 31.1
comp=Z,480nm,18.2s,baz=106,slow=36
comp=Z,1.9nm,0.9s
RPN Rapa Nui 62.73 103 LR LR 09 15 52.2
comp=Z,155nm,18.3s,baz=224,slow=32
PMSA Palmer Station 64.39 156 LR LR 09 15 20.8
comp=Z,138nm,20.2s,baz=286,slow=31
SNAA Sanae 66.79 181 LR LR 09 20 53.9
comp=Z,200nm,20.9s,baz=191,slow=35
VNA3 Neumayer Olymp 67.20 179 P **P** **08 53 07.4 -2.6**
VNA2 Neumayer--Watz 67.55 179 P **P** **08 53 10.0 -2.2**
baz=176,slow=7.0
LEM Lembang 68.14 281 LR LR 09 24 07.4
comp=Z,99nm,19.4s,baz=157,slow=37
PLCA Paso Flores 79.02 136 P **P** **08 54 22.9 +2.5**
comp=Z,1.1nm,0.7s,baz=288,slow=6.4,SNR=1.6
PLCA LR LR 09 22 38.4
comp=Z,58nm,19.3s,baz=202,slow=31
comp=Z,1.1nm,0.7s
RPSI Rantau Prapat 80.94 282 P **P** **08 54 32.5 +1.4**
PSI Prapat 81.01 282 P **P** **08 54 32.5 +0.9**
comp=Z,2.6nm,0.3s,baz=198,slow=2.5,SNR=5.1
PSI LR LR 09 30 19.4
comp=Z,106nm,20.7s,baz=167,slow=36
comp=Z,2.6nm,0.3s
CFA Coronel Fontan 87.00 131 P **P** **08 55 06.3 +4.4**
comp=Z,1.4nm,0.6s,baz=177,slow=3.1,SNR=1.7
comp=Z,1.4nm,0.6s
KSRS Korea Array 89.54 325 P **P** **08 55 16.2 +2.8**
comp=Z,4.7nm,0.8s,baz=145,slow=5.3,SNR=12
comp=Z,4.7nm,0.8s
CMAR Chiang Mai Arr 91.70 293 P **P** **08 55 23.8 -0.2**
comp=Z,4.4nm,0.8s,baz=150,slow=3.3,SNR=15
CMAR LR LR 09 41 06.6
comp=Z,33nm,18.3s,baz=140,slow=39
comp=Z,4.4nm,0.8s
LPIG La Paz 95.60 63 LR LR 09 32 38.0
comp=Z,137nm,18.0s,baz=206,slow=32
NNA Nana 95.70 111 LR LR 09 31 58.9
comp=Z,182nm,18.1s,baz=237,slow=31
PALK Pallekele 97.47 273 LR LR 09 41 17.1
comp=Z,23nm,18.2s,baz=246,slow=36
ATAH Atahualpa 97.97 107 LR LR 09 31 26.1
comp=Z,65nm,19.1s,baz=247,slow=30
PFO Pinyon Flats O 98.34 52 LR LR 09 34 55.6
comp=Z,97nm,18.2s,baz=220,slow=32
LPAZ La Paz 98.46 121 LR LR 09 30 25.9
comp=Z,25nm,20.5s,baz=272,slow=29
BRDH Bariadhala 99.58 292 LR LR 09 48 24.9
comp=Z,60nm,18.0s,baz=96,slow=40
HHC Hu-ho-hao-te 99.97 317 *eP* **Pdif** **08 56 02.0 +0.8**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,180nm,5.6s
HHC LR LR
comp=N,280nm,17.8s
HHC LR LR
comp=Z,360nm,17.8s
XLT XiLinHaoTe 100.05 321 *eP* **Pdif** **08 56 01.5 +0.1**
XLT pmax pmax
comp=Z,9.0nm,1.3s
XLT pmax pmax
comp=Z,140nm,4.7s
MKAR Makanchi Array 120.05 308 PKP **PKiKP** **09 01 08.9 +2.3**
comp=Z,0.4nm,0.5s,baz=209,slow=1.8,SNR=6.4
LIC Lamto 144.54 181⇓*e*PKP1 **PKiKP** **09 01 58.3 +1.3**
comp=Z,27nm,0.8s
KIC Kosan Boka 144.67 182⇑*e*PKP1 **PKiKP** **09 01 59.0 +1.7**
comp=Z,10.0nm,0.7s
KBZ Khabaz 144.68 290 PKP **PKPdf** **09 01 53.6 +1.0**
comp=Z,3.3nm,0.9s,baz=135,slow=7.1,SNR=2.7
TIC Toumodi 144.96 181⇑*e*PKP1 **PKiKP** **09 01 59.8 +1.9**
comp=Z,22nm,0.9s
ARCES ARCESS Array B 147.86 340 PKPbc **PKiKP** **09 02 01.7 -0.5**
comp=Z,6.5nm,1.0s,baz=90,slow=1.2,SNR=6.3
BRTR Keskin Array B 150.31 279 PKPbc **PKiKP** **09 02 07.7 -0.6**
comp=Z,4.1nm,0.8s,baz=157,slow=4.5,SNR=8.6
FINES FINESS Array B 152.61 327 PKPbc **PKiKP** **09 02 11.9 -0.2**
comp=Z,4.0nm,0.9s,baz=56,slow=3.7,SNR=1.9
ESDC Sonseca Array 177.47 212 PKP **PKPdf** **09 02 29.2 +2.6**
comp=Z,1.4nm,1.0s,baz=7.1,slow=4.1,SNR=4.4
ESDC PKPab **sPKPab** **09 04 14.7 -1.1**
comp=Z,1.1nm,1.0s,baz=154,slow=1.8,SNR=3.7

*IDC **27** 08:44:29.1±0.9,2°.43S×141°.03E,h0km,mb4.2/10,*

mbtmp4.2/11,ML3.9/1,MS3.4/8,Error ellipse: s-maj=32.4km s-min=18.8km az=83.0
ISC 27 08:44:33.9±0.9,2°.5S±0°.1×141°.0E±0°.2,h31km,n23,
σ0s64/13,mb4.2/10,MS3.4/6,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.24**	**139**	LR	LR	08 51 06.5	
	comp=Z,131nm,18.1s,baz=302,slow=43						
GUMO	**Guam**	**16.40**	**14**	LR	LR	08 53 23.7	
	comp=Z,54nm,19.6s,baz=192,slow=33						
WRA	**Warramunga Arr**	**18.55**	**200**	P	**P**	**08 48 47.7**	**-0.6**
	0.4nm,0.3s,baz=24,slow=12,SNR=27						
	2.0nm,0.5s						
AS31	**Alice Springs**	**22.17**	**197**	P	P	08 49 26.9	-8.0
ASAR	**Alice Springs**	**22.17**	**197**	P	P	08 49 27.1	-7.8
ASAR	**Alice Springs**	**22.17**	**197**	P	**P**	**08 49 27.2**	**-0.4**
	1.9nm,0.7s,baz=25,slow=11,SNR=21						
	1.9nm,0.7s						
STKA	**Stephens Creek**	**29.27**	**179**	P	**P**	**08 50 33.8**	**+0.3**
	7.7nm,1.2s,baz=9.4,slow=8.8,SNR=3.0						
	7.7nm,1.2s						
JOW	**Kunigami**	**31.60**	**338**	LR	LR	09 00 29.8	
	comp=Z,96nm,21.5s,baz=28,slow=30						
JHJ	**Hachijo jima 2**	**35.40**	**358**	LR	LR	09 03 08.0	
	comp=Z,50nm,18.4s,baz=183,slow=32						
JNU	**Nakatsue**	**36.65**	**346**	LR	LR	09 06 50.2	
	comp=Z,61nm,18.4s,baz=122,slow=37						
KSRS	**Korea Array**	**41.52**	**344**	LR	LR	09 07 31.8	
	comp=Z,41nm,20.7s,baz=170,slow=33						
PSI	**Prapat**	**42.36**	**277**	P	**P**	**08 52 25.7**	**-0.2**
	4.4nm,0.5s,baz=96,slow=7.1,SNR=5.6						
	4.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**46.30**	**298**	P	**P**	**08 52 57.5**	**+0.3**
	1.7nm,0.3s,baz=112,slow=6.9,SNR=5.2						
	1.7nm,0.3s						
ASAJ	**Asahikawa**	**46.39**	**2**	LR	LR	09 10 47.6	
	comp=Z,20nm,21.6s,baz=164,slow=34						
KLR	**Kul'dur**	**52.10**	**352**	P	**P**	**08 53 40.3**	**-0.7**
	1.6nm,0.9s,baz=129,slow=4.4,SNR=3.6						
	1.6nm,0.9s						
MKAR	**Makanchi Array**	**70.99**	**322**	P	**P**	**08 55 49.5**	**+0.8**
	2.7nm,1.0s,baz=118,slow=7.3,SNR=11						
	2.7nm,1.0s						
ZALV	**Zalesovo Beam**	**72.87**	**329**	P	**P**	**08 55 59.1**	**-0.8**
	0.4nm,0.3s,baz=101,slow=7.5,SNR=2.2						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**80.41**	**325**	P	**P**	**08 56 42.0**	**-0.5**
	2.4nm,0.9s,baz=128,slow=6.2,SNR=6.1						
	2.4nm,0.9s						
ILAR	**Eielson Array**	**84.67**	**24**	P	**P**	**08 57 04.7**	**+0.2**
	0.7nm,0.8s,baz=266,slow=4.7,SNR=5.8						
	0.7nm,0.8s						
GEYT	**Alibeck**	**85.87**	**308**	P	**P**	**08 57 12.1**	**+1.0**
	1.6nm,0.4s,baz=43,slow=6.5,SNR=3.6						
	1.6nm,0.4s						
NEW	**Newport**	**99.75**	**42**	LR	LR	09 40 42.4	
	comp=Z,127nm,18.6s,baz=240,slow=34						
LPAZ	**La Paz**	**145.73**	**124**	PKPbc	**PKPdf**	**09 04 10.9**	**-0.4**
	1.8nm,1.0s,baz=216,slow=6.1,SNR=6.0						
CPUP	**Villa Florida**	**146.35**	**149**	PKPbc	**PKPdf**	**09 04 11.7**	**+0.4**
	2.8nm,1.1s,baz=248,slow=3.9,SNR=3.8						

*IDC **27** 08:46:39.0±1.0,0°.34N×129°.66E,h0km,mb4.0/7, mbtmp4.0/8,ML3.8/1,Error ellipse: s-maj=48.1km s-min=15.6km az=56.0*
*DJA **27** 08:46:42.0±1.3,1°.N±6°×13°.0E±°,h21km±12km,M3.8/8, MLv3.8/8*
ISC 27 08:46:44.2±0.9,0°.41N±0°.09×129°.74E±0°.07,h35km,n15,
σ0s98/16,mb4.0/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.98**	**130**	Pn	**Pn**	**08 47 15.0**	**-0.3**
	34nm,0.3s,baz=312,slow=11,SNR=22						
SIJI				Sn	**Sn**	**08 47 41.0**	**+2.0**
	17nm,0.3s,baz=197,slow=22,SNR=18						
	64nm,0.3s						
TNTI	**Ternate**	**2.40**	**279**	P	**Pn**	**08 47 21.5**	**+0.5**
LBMI	**Labuha**	**2.47**	**245**	P	**Pn**	**08 47 22.2**	**+0.2**
MSAI	**Masohi**	**3.82**	**192**	P	**Pn**	**08 47 41.0**	**+0.5**
FAKI	**Fak Fak**	**4.15**	**143**	P	**Pn**	**08 47 44.9**	**-0.2**
AAI	**Ambon**	**4.35**	**201**	P	**Pn**	**08 47 48.8**	**+0.9**
SANI	**Sanana**	**4.48**	**237**	P	**Pn**	**08 47 48.6**	**-1.0**
NLAI	**Namlea**	**4.49**	**216**	P	**Pn**	**08 47 50.0**	**+0.3**
WRA	**Warramunga Arr**	**20.72**	**168**	P	**P**	**08 51 19.6**	**-2.1**
	3.2nm,1.0s,baz=347,slow=12,SNR=4.8						
	3.2nm,1.0s						
ASAR	**Alice Springs**	**24.27**	**171**	P	**P**	**08 51 57.9**	**-0.5**
	4.4nm,0.8s,baz=350,slow=9.5,SNR=12						
	4.4nm,0.8s						
STKA	**Stephens Creek**	**34.02**	**162**	P	**P**	**08 53 24.5**	**-0.4**
	1.4nm,0.8s,baz=336,slow=12,SNR=3.7						
	1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**35.16**	**302**	P	**P**	**08 53 35.5**	**+0.6**
	1.6nm,0.3s,baz=112,slow=6.9,SNR=6.3						
	1.6nm,0.3s						
SONM	**Songino Array**	**51.40**	**340**	P	**P**	**08 55 46.1**	**+0.4**
	0.8nm,0.8s,baz=142,slow=7.3,SNR=4.5						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**61.98**	**325**	P	**P**	**08 57 00.2**	**-0.6**
	0.9nm,0.9s,baz=118,slow=7.0,SNR=2.7						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**66.14**	**327**	P	**P**	**08 57 28.0**	**0.0**
	1.5nm,0.2s,baz=127,slow=5.9,SNR=1.6						
	1.5nm,0.2s						

*IDC **27** 08:55:24.1±1.0,17°.99S×167°.61E,h0km,mb4.1/10, mbtmp4.1/11,ML3.6/1,MS3.7/4,Error ellipse: s-maj=30.9km s-min=20.4km az=129.0*
*NOU **27** 08:55:25.8,17°.92S×167°.51E,h12km,MLv4.6/15, Vanuatu Islands*
*NEIC **27** 08:55:31.8±1.6,18°.2S±0°.1×167°.35E±0°.06,h29km±8km, mb4.3/11,Error ellipse: s-maj=17.6km s-min=3.4km az=152.0*
ISC 27 08:55:26.5±0.5,17°.98S±0°.07×167°.46E±0°.06,h10km,n48,
σ1s06/48,mb4.3/15,MS3.7/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.73**	**70**	P	**Pg**	**08 55 39.8**	**-0.9**
RTV	**Rentapao**	**0.93**	**79**	P	**Pg**	**08 55 43.0**	**-1.5**
LIFNC	**LIFOU**	**2.79**	**184**	Pn	**Pn**	**08 56 10.0**	**-1.3**
LIFNC	**LIFOU**	**2.79**	**184**	P	**Pn**	**08 56 10.2**	**-1.0**
MARNC	**Mare, Loyalty**	**3.52**	**171**		**Pn**	**08 56 21.8**	**+0.5**
MARNC	**Mare, Loyalty**	**3.52**	**171**	P	**Pn**	**08 56 21.8**	**+0.5**
KOUNC	**Koumac, New Ca**	**3.94**	**229**	Pn	**Pn**	**08 56 27.1**	**-0.1**
KOUNC	**Koumac, New Ca**	**3.94**	**229**	P	**Pn**	**08 56 27.3**	**+0.2**
YATNC	**Mamie plateau,**	**4.09**	**187**	P	**Pn**	**08 56 28.2**	**-1.0**
DZM	**Mont Dzumac**	**4.18**	**193**	Pn	**Pn**	**08 56 30.0**	**-0.4**
	3.3nm,0.3s,baz=64,slow=6.7,SNR=44						
DZM				Sn	**Sn**	**08 57 17.1**	**-2.4**
	13nm,0.3s,baz=311,slow=19,SNR=3.6						
	13nm,0.3s						
DZM	**Mont Dzumac**	**4.18**	**193**	Pn	**Pn**	**08 56 30.2**	**-0.3**
DZM	**Mont Dzumac**	**4.18**	**193**	P	**Pn**	**08 56 30.1**	**-0.4**
ONTNC	**Ouen Toro**	**4.41**	**192**	Pn	**Pn**	**08 56 33.9**	**+0.4**
ONTNC	**Ouen Toro**	**4.41**	**192**	P	**Pn**	**08 56 33.6**	**+0.1**
OUENC	**Ouen Island, N**	**4.45**	**187**		**Pn**	**08 56 34.1**	**0.0**
OUENC	**Ouen Island, N**	**4.45**	**187**	P	**Pn**	**08 56 35.2**	**+1.1**
MSVF	**Nonsavu**	**10.08**	**90**	Pn	**Pn**	**08 57 54.7**	**+3.1**
	0.3nm,0.3s,baz=262,slow=13,SNR=9.5						
MSVF	**Nonsavu**	**10.08**	**90**	Pn	Pn	08 57 55.7	+4.1
CTA	**Charters Tower**	**20.16**	**261**	P	**P**	**09 00 02.9**	**+1.6**
	8.9nm,1.0s,baz=75,slow=12,SNR=2.5						
	8.9nm,1.0s						
BKZ	**Black Stump Fm**	**22.52**	**161**	P	**P**	**09 00 26.6**	**+0.1**
BKZ				IAmb	IAmb	09 00 38.5	
	comp=Z,16nm,1.1s						
QRZ	**Quartz Range**	**23.18**	**170**	P	**P**	**09 00 34.0**	**+0.6**
STKA	**Stephens Creek**	**27.15**	**234**	P	**P**	**09 01 10.7**	**+0.6**
	comp=Z,7.0nm,0.9s,baz=60,slow=7.6,SNR=15						
STKA				LR	LR	09 11 18.1	
	comp=Z,112nm,18.8s,baz=32,slow=35						
	comp=Z,7.0nm,0.9s						
WR0	**Warramunga Arr**	**31.17**	**261**	P	**P**	**09 01 46.6**	**+0.6**
WR0				IAmb	IAmb	09 01 57.7	
	comp=Z,3.7nm,0.8s						
WB0	**Warramunga Arr**	**31.32**	**261**	P	**P**	**09 01 47.2**	**0.0**
WB0				IAmb	IAmb	09 01 56.2	
	comp=Z,4.8nm,0.8s						
WB2	**Warramunga Arr**	**31.35**	**261**	P	**P**	**09 01 47.2**	**-0.3**
WB2				IAmb	IAmb	09 01 57.0	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**31.36**	**261**	P	**P**	**09 01 46.2**	**-1.4**
	comp=Z,2.5nm,0.9s,baz=90,slow=8.9,SNR=19						
WRA				PcP	**PcP**	**09 04 42.0**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=63,slow=3.2,SNR=3.2						
	comp=Z,2.5nm,0.9s						
WRA	**Warramunga Arr**	**31.36**	**261**	P	**P**	**09 01 47.0**	**-0.7**
AS31	**Alice Springs**	**31.82**	**254**	P	**P**	**09 01 51.0**	**-0.7**
ASAR	**Alice Springs**	**31.82**	**254**	P	**P**	**09 01 50.6**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=82,slow=8.4,SNR=45						
ASAR				PcP	**PcP**	**09 04 43.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=89,slow=4.7,SNR=2.6						
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**31.82**	**254**	P	**P**	**09 01 50.9**	**-0.9**
FORT	**Forrest**	**37.89**	**243**	P	**P**	**09 02 44.6**	**+0.6**
PPT	**Papeete**	**40.84**	**96**	LR	LR	09 19 08.7	
	comp=Z,50nm,18.3s,baz=226,slow=35						
VNDA	**Vanda**	**59.63**	**181**	P	**P**	**09 05 29.6**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=4.9,slow=8.5,SNR=4.2						
	comp=Z,1.0nm,1.0s						
VNDA	**Vanda**	**59.63**	**181**	P	**P**	**09 05 31.6**	**+1.2**
VNDA				IAmb	IAmb	09 05 39.8	
	comp=Z,1.7nm,1.1s						
SBA	**Scott Base**	**59.90**	**180**	P	**P**	**09 05 33.6**	**+1.4**
SBA				IAmb	IAmb	09 05 35.7	
	comp=Z,3.9nm,1.1s						
PETK	**Petropavlovsk-**	**71.30**	**354**	P	**P**	**09 06 46.1**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=161,slow=9.2,SNR=1.6						
PETK				LR	LR	09 36 24.5	
	comp=Z,61nm,18.1s,baz=150,slow=34						
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**09 06 51.4**	**+0.7**
QSPA				IAmb	IAmb	09 07 08.6	
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**76.45**	**295**	P	**P**	**09 07 18.8**	**+1.8**
	comp=Z,2.2nm,0.5s,baz=128,slow=4.0,SNR=8.6						
	comp=Z,2.2nm,0.5s						
MA2	**Magadan**	**78.47**	**351**	LR	LR	09 37 56.9	
	comp=Z,61nm,21.6s,baz=146,slow=32						
SONM	**Songino Array**	**85.21**	**324**	P	**P**	**09 08 02.7**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=146,slow=2.8,SNR=2.0						
	comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**89.24**	**49**	P	**P**	**09 08 21.7**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=218,slow=7.6,SNR=5.4						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**89.55**	**18**	P	**P**	**09 08 21.3**	**-2.4**
	comp=Z,0.6nm,0.8s,baz=233,slow=4.5,SNR=9.0						
	comp=Z,0.6nm,0.8s						
TROLL	**Troll, Antarti**	**89.65**	**185**	P	**P**	**09 08 24.6**	**+0.1**
ABTA	**Abfaltersbach**	**144.66**	**330**	*eP*	**PKPab**	**09 15 01.7**	**-0.6**
	comp=Z,1.7nm,0.6s						
MOTA	**Moosalm**	**144.87**	**332**	*eP*	**PKPab**	**09 15 02.9**	**-0.2**
	comp=Z,0.7nm,0.4s						
SQTA	**Sankt Quirin**	**144.92**	**331**	*eP*	**PKPab**	**09 15 03.0**	**-0.3**
	comp=Z,1.6nm,0.5s						
FETA	**Feichten**	**145.29**	**332**	*eP*	**PKPbc**	**09 15 04.6**	**+0.1**
	comp=Z,4.0nm,0.7s						
DAVA	**Damuels**	**145.46**	**333**	*i* P	**PKPdf**	**09 15 04.9**	**-0.2**
	comp=Z,2.5nm,0.7s						

*PRU **27** 08:59:27.2±0.0,42°.85N×13°.95E,h10km*
*ROM **27** 08:59:27.7±0.1,42°.949N±0°.003×13°.136E±0°.004, h8km,ML2.5/39,Error ellipse: s-maj=0.3km s-min=0.1km az=62.0*
ISC 27 08:59:27.5±0.8,42°.92N±0°.02×13°.14E±0°.02,h14km±4km,
n54,σ0s84/93,12C-3D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**102**	P	**Pg**	**08 59 30.0**	**-0.4**
FEMA	**Monte Fema**	**0.07**	**303**	⇑P	**Pg**	**08 59 29.9**	**-0.6**
FEMA				S	**Sg**	**08 59 31.2**	**-1.3**
FEMA				AML	AML		
	comp=E,22550µm,0.2s						
FEMA				AML	AML		
	comp=E,22600µm,0.2s						
FEMA				AML	AML		
	comp=N,33250µm,0.3s						
FEMA				AML	AML		
	comp=E,22600µm,0.2s						
NRCA	**Norcia**	**0.09**	**190**	P	**Pg**	**08 59 31.0**	**+0.4**
NRCA				S	**Sg**	**08 59 33.4**	**+0.7**
NRCA				AML	AML		
	comp=E,11700µm,0.4s						
NRCA				AML	AML		
	comp=N,9035µm,0.5s						
NRCA				AML	AML		
	comp=N,9040µm,0.5s						
NRCA				AML	AML		
	comp=E,12250µm,0.4s						
NRCA				AML	AML		
	comp=N,9455µm,0.2s						
T1216	**Preci, Frazion**	**0.09**	**250**	⇑P	**Pg**	**08 59 30.7**	**+0.1**
T1216				S	**Sg**	**08 59 32.7**	**+0.1**
T1216				AML	AML		
	comp=E,5725µm,0.9s						
T1216				AML	AML		
	comp=E,5720µm,0.9s						
T1216				AML	AML		
	comp=N,10120µm,0.5s						
T1256	**Bolognola (MC)**	**0.11**	**38**	⇑P	**Pg**	**08 59 30.4**	**-0.5**
T1256				S	**Sg**	**08 59 31.9**	**-1.3**
T1256				AML	AML		
	comp=E,8845µm,1.4s						
T1256				AML	AML		
	comp=N,12540µm,0.2s						
T1256				AML	AML		
	comp=E,8835µm,1.4s						
T1256				AML	AML		
	comp=N,13300µm,0.2s						
T1256				AML	AML		
	comp=E,8925µm,1.4s						
T1256				AML	AML		
	comp=N,13250µm,0.2s						
T1256				AML	AML		
	comp=E,8840µm,1.4s						
FDMO	**Fiordimonte**	**0.12**	**343**	⇑P	**Pg**	**08 59 30.2**	**-0.7**
FDMO				S	**Sg**	**08 59 31.9**	**-1.3**
FDMO				AML	AML		
	comp=E,11015µm,1.0s						
FDMO				AML	AML		
	comp=N,15900µm,0.2s						
MMO1	**Montemonaco**	**0.14**	**99**	P	**Pb**	**08 59 31.5**	**-0.6**
MMO1				S	**Sb**	**08 59 34.4**	**-0.8**
T1219	**Muccia, Frazio**	**0.16**	**325**	P	**Pg**	**08 59 31.2**	**-0.4**
T1219				S	**Sg**	**08 59 33.5**	**-0.8**
T1219				AML	AML		
	comp=E,4380µm,0.2s						
T1219				AML	AML		
	comp=E,4710µm,0.3s						
T1219				AML	AML		
	comp=N,7210µm,0.2s						
T1219				AML	AML		
	comp=N,7310µm,0.2s						
T1219				AML	AML		
	comp=N,7205µm,0.2s						
CSP1	**Cessapalombo**	**0.18**	**17**	⇑P	**Pg**	**08 59 31.4**	**-0.4**
CSP1				S	**Sg**	**08 59 34.1**	**-0.6**
CSP1				AML	AML		
	comp=E,6675µm,0.5s						
CSP1				AML	AML		
	comp=N,9005µm,0.3s						
CESI	**CESI - Serrava**	**0.19**	**296**	⇑P	**Pg**	**08 59 32.0**	**+0.1**
CESI				S	**Sg**	**08 59 35.2**	**+0.3**
CESI				AML	AML		
	comp=E,4050µm,0.6s						
CESI				AML	AML		
	comp=N,7390µm,0.3s						
GUMA	**Gualdo di Mace**	**0.20**	**46**	⇑P	**Pg**	**08 59 32.5**	**+0.3**
GUMA				S	**Sg**	**08 59 35.2**	**-0.1**
GUMA				AML	AML		
	comp=E,6455µm,1.6s						
GUMA				AML	AML		
	comp=N,7365µm,0.4s						
GUMA				AML	AML		
	comp=N,9380µm,0.6s						
GUMA				AML	AML		
	comp=E,8240µm,0.5s						
T1241	**Roccafluvione,**	**0

T1241				AML	AML			
	comp=N,1615μm,0.6s							
T1241				AML	AML			
	comp=E,1435μm,0.6s							
T1241				AML	AML			
	comp=N,1520μm,0.6s							
T1215	**Vallo di Nera,**	**0.23**	**239**	⇑P	**Pb**	**08 59 33.3**	**-0.2**	
T1215				S	**Sb**	**08 59 37.6**	**0.0**	
T1215				AML	AML			
	comp=E,908μm,0.5s							
T1215				AML	AML			
	comp=N,1200μm,1.0s							
T1215				AML	AML			
	comp=N,1205μm,1.0s							
T1215				AML	AML			
	comp=E,909μm,0.5s							
T1215				AML	AML			
	comp=E,844μm,0.5s							
T1215				AML	AML			
	comp=N,1205μm,1.0s							
T1215				AML	AML			
	comp=N,1205μm,1.0s							
T1218	**Civita (PG)**	**0.25**	**183**	P	**Pb**	**08 59 33.9**	**0.0**	
T1218				S	**Sb**	**08 59 39.0**	**+0.7**	
T1218				AML	AML			
	comp=E,1510μm,0.2s							
T1218				AML	AML			
	comp=N,1350μm,0.6s							
T1218				AML	AML			
	comp=E,1455μm,0.2s							
T1218				AML	AML			
	comp=N,1385μm,0.6s							
T1218				AML	AML			
	comp=E,1505μm,0.2s							
T1218				AML	AML			
	comp=E,1455μm,0.2s							
T1243	**Rocca Santa Ma**	**0.32**	**134**	P	**Pb**	**08 59 35.0**	**-0.2**	
T1243				S	**Sb**	**08 59 41.0**	**+0.7**	
LNSS	**Leonessa**	**0.33**	**192**	P	**Pb**	**08 59 35.4**	**+0.2**	
LNSS				S	**Sb**	**08 59 41.5**	**+1.1**	
LNSS				AML	AML			
	comp=E,448μm,0.4s							
LNSS				AML	AML			
	comp=N,1270μm,0.4s							
SMA1	**SAN MARTINO**	**0.33**	**153**	⇓P	**Pb**	**08 59 35.2**	**0.0**	
SMA1				S	**Sb**	**08 59 41.0**	**+0.6**	
SMA1				AML	AML			
	comp=E,1100μm,0.9s							
SMA1				AML	AML			
	comp=N,1210μm,0.6s							
SNTG	**Esanatoglia**	**0.36**	**337**	P	**Pg**	**08 59 34.6**	**-0.3**	
SNTG				S	**Sg**	**08 59 40.5**	**+0.6**	
SNTG				AML	AML			
	comp=E,1130μm,0.1s							
SNTG				AML	AML			
	comp=E,1145μm,0.2s							
SNTG				AML	AML			
	comp=N,850μm,0.5s							
SNTG				AML	AML			
	comp=N,928μm,0.8s							
ASSB	**Assisi San Ben**	**0.37**	**289**	⇑P	**Pg**	**08 59 35.2**	**+0.2**	
ASSB				S	**Sb**	**08 59 41.2**	**-0.4**	
ASSB				AML	AML			
	comp=N,1650μm,0.6s							
ASSB				AML	AML			
	comp=E,1395μm,0.5s							
OFFI	**Offida**	**0.41**	**88**	P	**Pb**	**08 59 37.3**	**+0.7**	
OFFI				S	**Sn**	**08 59 45.2**	**-1.2**	
OFFI				AML	AML			
	comp=E,1014μm,0.5s							
OFFI				AML	AML			
	comp=N,1140μm,0.5s							
RM33	**Pellescritta (**	**0.42**	**172**	⇓P	**Pb**	**08 59 36.8**	**+0.1**	
RM33				S	**Sn**	**08 59 44.2**	**-2.6**	
RM33				AML	AML			
	comp=E,538μm,0.5s							
RM33				AML	AML			
	comp=N,556μm,0.5s							
RM33				AML	AML			
	comp=E,462μm,0.4s							
RM33				AML	AML			
	comp=E,538μm,0.5s							
RM33				AML	AML			
	comp=N,496μm,0.5s							
CAMP	**Campotosto**	**0.43**	**152**	P	**Pb**	**08 59 37.0**	**-0.1**	
CAMP				S	**Sb**	**08 59 44.5**	**+0.9**	
CAMP				AML	AML			
	comp=E,794μm,0.2s							
CAMP				AML	AML			
	comp=N,360μm,0.2s							
ARRO	**Arrone**	**0.44**	**219**	P	**Pb**	**08 59 37.2**	**+0.1**	
ARRO				S	**Sn**	**08 59 44.8**	**-2.4**	
ARRO				AML	AML			
	comp=E,555μm,0.2s							
ARRO				AML	AML			
	comp=N,470μm,0.2s							
ARRO				AML	AML			
	comp=E,554μm,0.2s							
ATCC	**AVT- Casa Cast**	**0.45**	**306**	P	**Pg**	**08 59 36.6**	**+0.1**	
ATCC				S	**Sb**	**08 59 43.8**	**-0.1**	
ATCC				AML	AML			
	comp=E,1745μm,0.2s							
ATCC				AML	AML			
	comp=N,1365μm,0.6s							
CING	**Cingoli**	**0.46**	**6**	⇑P	**Pg**	**08 59 36.4**	**-0.2**	
CING				S	**Sg**	**08 59 43.5**	**+0.8**	
CING				AML	AML			
	comp=E,922μm,1.0s							
CING				AML	AML			
	comp=N,536μm,1.2s							
TERO	**Teramo**	**0.46**	**131**	P	**Pb**	**08 59 37.2**	**-0.2**	
TERO				S	**Sb**	**08 59 45.1**	**+1.0**	
TERO				AML	AML			
	comp=E,560μm,0.2s							
TERO				AML	AML			
	comp=N,576μm,0.5s							
FOSV	**Fossato di Vic**	**0.46**	**324**	P	**Pg**	**08 59 36.6**	**-0.1**	
FOSV				S	**Sb**	**08 59 43.9**	**-0.4**	
FOSV				AML	AML			
	comp=E,568μm,0.7s							
FOSV				AML	AML			
	comp=N,1036μm,0.2s							
CESX	**Cesi**	**0.51**	**233**	P	**Pb**	**08 59 38.2**	**-0.2**	
CESX				S	**Sb**	**08 59 46.6**	**+0.9**	
CESX				AML	AML			
	comp=N,754μm,0.5s							
CESX				AML	AML			
	comp=E,570μm,0.5s							
MURB	**Monte Urbino**	**0.56**	**308**	P	**Pg**	**08 59 38.7**	**+0.1**	
MURB				S	**Sb**	**08 59 47.9**	**+0.7**	
MURB				AML	AML			
	comp=N,1435μm,0.2s							
MURB				AML	AML			
	comp=N,1435μm,0.3s							
MURB				AML	AML			
	comp=E,1960μm,0.3s							
MURB				AML	AML			
	comp=E,1795μm,0.4s							
MURB				AML	AML			
	comp=N,1345μm,1.6s							
GIGS	**Gran Sasso**	**0.57**	**146**	P	**Pb**	**08 59 39.3**	**-0.1**	
GIGS				S	**Sn**	**08 59 48.7**	**-1.9**	
GIGS				AML	AML			
	comp=E,84μm,0.6s							
GIGS				AML	AML			
	comp=E,84μm,0.6s							
GIGS				AML	AML			
	comp=N,101μm,1.4s							
PP3	**Marolino**	**0.57**	**37**	P	**Pb**	**08 59 39.8**	**+0.4**	
PP3				S	**Sn**	**08 59 50.2**	**-0.4**	
PP3				AML	AML			
	comp=E,994μm,0.4s							
PP3				AML	AML			
	comp=N,880μm,1.0s							
PP3				AML	AML			
	comp=E,992μm,0.4s							
PP3				AML	AML			
	comp=N,877μm,1.0s							
PP3				AML	AML			
	comp=E,952μm,0.4s							
PP3				AML	AML			
	comp=N,852μm,0.6s							
SSFR	**Montelago di S**	**0.58**	**334**	P	**Pg**	**08 59 38.6**	**-0.3**	
SSFR				S	**Sb**	**08 59 48.0**	**+0.4**	
SSFR				AML	AML			
	comp=E,1420μm,0.5s							
SSFR				AML	AML			
	comp=E,1385μm,0.5s							
SSFR				AML	AML			
	comp=N,1240μm,0.2s							
SSFR				AML	AML			
	comp=N,1300μm,0.2s							
TRTR	**Tortoreto Alta**	**0.58**	**101**	⇑P	**Pn**	**08 59 41.0**	**-0.5**	
TRTR				S	**Sn**	**08 59 52.0**	**+1.2**	
TRTR				AML	AML			
	comp=N,1175μm,0.5s							
TRTR				AML	AML			
	comp=E,1106μm,0.6s							
ARVD	**Arcevia**	**0.59**	**346**	P	**Pg**	**08 59 38.8**	**-0.4**	
ARVD				S	**Sb**	**08 59 48.2**	**+0.1**	
ARVD				AML	AML			
	comp=E,460μm,0.8s							
ARVD				AML	AML			
	comp=N,384μm,0.8s							
ATFO	**Monte Foce - G**	**0.61**	**317**	P	**Pg**	**08 59 39.4**	**-0.1**	
ATFO				S	**Sb**	**08 59 48.8**	**+0.3**	
ATFO				AML	AML			
	comp=N,308μm,0.5s							
ATFO				AML	AML			
	comp=E,305μm,1.4s							
FIAM	**Fiamignano**	**0.65**	**181**	P	**Pb**	**08 59 40.8**	**0.0**	
FIAM				S	**Sn**	**08 59 51.4**	**-1.3**	
FIAM				AML	AML			
	comp=N,157μm,0.5s							
FIAM				AML	AML			
	comp=E,234μm,1.0s							
FRON	**Frontone**	**0.67**	**334**	P	**Pg**	**08 59 40.1**	**-0.5**	
FRON				S	**Sb**	**08 59 50.8**	**+0.6**	
FRON				AML	AML			
	comp=N,540μm,0.3s							
FRON				AML	AML			
	comp=E,356μm,1.0s							
FRON				AML	AML			
	comp=N,540μm,0.3s							
ATVO	**AVT- Monte Val**	**0.70**	**311**	P	**Pg**	**08 59 41.0**	**-0.3**	
ATVO				S	**Sb**	**08 59 52.2**	**+1.0**	
ATVO				AML	AML			
	comp=E,226μm,0.3s							
ATVO				AML	AML			
	comp=N,233μm,0.4s							
VCEL	**Villa Celiera**	**0.74**	**135**	⇑P	**Pn**	**08 59 42.7**	**-1.0**	
VCEL				S	**Sn**	**08 59 55.1**	**+0.2**	
VCEL				AML	AML			
	comp=N,240μm,0.9s							
VCEL				AML	AML			
	comp=E,323μm,0.4s							
PIEI	**Pieia**	**0.76**	**325**	P	**Pg**	**08 59 42.1**	**-0.1**	
PIEI				AML	AML			
	comp=E,210μm,0.3s							
PIEI				AML	AML			
	comp=N,150μm,1.2s							
PIEI				AML	AML			
	comp=N,150μm,1.2s							
NARO	**Abbazia di Nar**	**0.80**	**330**	P	**Pg**	**08 59 42.5**	**-0.6**	
NARO				AML	AML			
	comp=E,192μm,0.5s							
NARO				AML	AML			
	comp=N,146μm,1.2s							
FSSB	**Fossombrone**	**0.81**	**341**	P	**Pg**	**08 59 43.3**	**-0.1**	
FSSB				S	**Sn**	**08 59 56.1**	**-0.5**	
FSSB				AML	AML			
	comp=N,1195μm,0.3s							
FSSB				AML	AML			
	comp=E,773μm,0.3s							
T0110	**Collepietro**	**0.84**	**145**	P	**Pn**	**08 59 44.0**	**-1.1**	
T0110				AML	AML			
	comp=E,310μm,0.5s							
T0110				AML	AML			
	comp=N,394μm,0.4s							
BADI	**Badiali**	**0.88**	**312**	P	**Pb**	**08 59 44.4**	**-0.2**	
SACS	**San Casciano d**	**0.90**	**266**	P	**Pn**	**08 59 46.2**	**+0.3**	
PESA	**Pesaro**	**1.04**	**348**	P	**Pg**	**08 59 47.8**	**+0.1**	
PESA				AML	AML			
	comp=E,514μm,1.3s							
PESA				AML	AML			
	comp=N,333μm,0.8s							
CPGN	**Carpegna, Ital**	**1.06**	**326**	P	**Pg**	**08 59 48.2**	**+0.2**	
ZCCA	**Zocca**	**2.12**	**313**	P	**Pb**	**09 00 04.7**	**-1.1**	
BIOG	**Biogem**	**2.27**	**138**	P	**Pn**	**09 00 05.8**	**+1.0**	
OBKA	**Obir**	**3.73**	**15**	*e*Pn	**Pn**	**09 00 26.8**	**+2.0**	
	comp=N,0.2nm,0.2s							
ABTA	**Abfaltersbach**	**3.85**	**354**	*e*Pn	**Pn**	**09 00 28.4**	**+1.9**	
	comp=N,1.6nm,0.4s							
SQTA	**Sankt Quirin**	**4.51**	**343**	*e*Pn	Pn	09 00 39.3	+3.7	
	comp=N,0.9nm,0.2s							
MOA	**Molln**	**4.99**	**9**	*e*Pn	**Pn**	**09 00 44.0**	**+1.9**	
	comp=N,0.2nm,0.2s							
KHC	**Kasperske Hory**	**6.22**	**3**	*e*PN	**Pn**	**09 00 59.3**	**+0.3**	
KHC				*e*SN	**Sn**	**09 02 08.0**	**-1.9**	

WEL 27 09:00:02.7±0.3, 43°S±2°×17°3E±°, h5km, M2.9/18, ML3.0/16, MLv2.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=124.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.32**	**67**	P	Pg	09 00 08.8	-0.1
KHZ				S	Sg	09 00 14.1	+0.9
GVZ	**Greta Valley S**	**0.43**	**190**	P	Pg	09 00 11.8	+0.7
GVZ				S	Sb	09 00 19.2	-0.4
LTZ	**Lake Taylor**	**0.68**	**249**	P	Pg	09 00 15.9	0.0
AMCZ	**Amberley**	**0.73**	**209**	P	Pb	09 00 17.5	-0.3
THZ	**Tophouse**	**0.80**	**347**	P	Pg	09 00 17.6	-0.4
BSWZ	**Blackbirch Sta**	**0.99**	**34**	P	Pg	09 00 21.7	0.0
OXZ	**Oxford**	**1.12**	**226**	P	Pg	09 00 23.3	-0.9
MRNZ	**Matariki Terra**	**1.18**	**346**	P	Pn	09 00 25.9	+0.1
OKCZ	**Okains Bay**	**1.18**	**183**	P	Pg	09 00 23.9	-1.5
MQZ	**McQueen's Vall**	**1.22**	**197**	P	Pg	09 00 23.6	-2.4
INZ	**Inchbonnie**	**1.26**	**261**	P	Pg	09 00 26.6	-0.3
TUWZ	**Tuamarina**	**1.27**	**29**	P	Pg	09 00 26.4	-0.6
DSZ	**Denniston Nort**	**1.27**	**308**	P	Pg	09 00 26.6	-0.5
NNZ	**Nelson**	**1.34**	**8**	P	Pn	09 00 27.6	-0.4
AKCZ	**Akaroa Harbour**	**1.34**	**187**	P	Pn	09 00 25.9	-2.2
RACZ	**Rakaia**	**1.39**	**211**	P	Pn	09 00 26.9	-1.9
TKNZ	**Takaka Hill**	**1.52**	**355**	P	Pn	09 00 30.1	-0.4
MHCZ	**Mount Hutt**	**1.52**	**229**	P	Pn	09 00 28.9	-1.6
TCW	**Tory Channel**	**1.58**	**33**	P	Pn	09 00 30.4	-0.9
WACZ	**Wakanui South**	**1.69**	**214**	P	Pn	09 00 31.1	-1.8
WEL	**Wellington**	**1.75**	**45**	P	Pn	09 00 32.6	-1.1
QRZ	**Quartz Range**	**1.78**	**345**	P	Pn	09 00 34.7	+0.7
DUWZ	**D'Urville Isla**	**1.84**	**19**	P	Pb	09 00 36.6	-0.1
WVZ	**Waitaha Valley**	**1.84**	**252**	P	Pn	09 00 34.6	-0.4
RPZ	**Rata Peaks**	**1.92**	**232**	P	Pn	09 00 34.6	-1.5
MSWZ	**Moikau Station**	**1.94**	**55**	P	Pn	09 00 34.3	-1.9
CAW	**Cannon Point**	**2.03**	**46**	P	Pn	09 00 36.2	-1.5
OGWZ	**Otaki Gorge**	**2.30**	**42**	P	Pn	09 00 40.0	-1.3
TMZ	**Timaru**	**2.41**	**219**	P	Pn	09 00 41.0	-1.8
LBZ	**Lake Benmore**	**2.83**	**228**	P	Pn	09 00 47.2	-1.4
ODZ	**Otahua Downs**	**3.08**	**215**	P	Pn	09 00 49.9	-2.1
SNVZ	**South Ngauruho**	**3.85**	**30**	P	Pn	09 01 01.9	-0.9

WEL ***27*** *09:05:00, 41°.72S×174°.22E, h21km, ML4.1, Mw4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15} Nm; M_{rr}0.17; $M_{\theta\theta}$1.82; $M_{\phi\phi}$-1.98; $M_{r\theta}$0.18; $M_{\theta\phi}$0.36; $M_{\phi r}$0.25; Fault plane solution: M_o1.96000×10^{15} NP1: ϕ_s130.00000°, δ81.00000°, λ1.00000°. NP2: ϕ_s40.00000°, δ89.00000°, λ171.00000°. Principal axes: T 187.5900, Plg7.0000°, Azm355.0000°; N -204.1600, Plg81.0000°, Azm213.0000°; P 16.5700, Plg6.0000°, Azm85.0000°;*

NOU ***27*** *09:05:31.6, 41°.97S×174°.52E, h8km, MLv4.5/9, Cook Strait, New Zealand*

WEL ***27*** *09:05:33.3±0.3, 42°S±3°×17°4E±°, h7km±2km, M3.9/30, ML4.2/24, MLv3.9/30, Error ellipse: s-maj=0.0km s-min=0.0km az=139.0*

ISC 27 09:05:32.7±1.0, 41°.80S±0°.03×174°.29E±0°.03, h12km±7km, n103, σ1§31/108, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**313**	P	**Pg**	**09 05 35.3**	**0.0**
CMWZ				S	**Sg**	**09 05 37.2**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.32**	**286**	P	**Pg**	**09 05 39.0**	**-0.2**
BSWZ				S	**Sg**	**09 05 43.8**	**+0.1**
TUWZ	**Tuamarina**	**0.45**	**325**	P	**Pg**	**09 05 41.3**	**-0.3**
TUWZ				S	**Sg**	**09 05 47.4**	**-0.3**
SNZO	**South Karori**	**0.58**	**33**	P	**Pb**	**09 05 45.1**	**+0.3**
TCW	**Tory Channel**	**0.59**	**359**	P	**Pg**	**09 05 43.9**	**-0.3**
TCW				S	**Sb**	**09 05 52.0**	**-1.3**
WEL	**Wellington**	**0.63**	**35**	P	**Pb**	**09 05 45.9**	**+0.3**
WEL				S	**Sb**	**09 05 55.4**	**+1.0**
PLWZ	**Palliser**	**0.76**	**72**	P	**Pb**	**09 05 49.2**	**+1.3**
MSWZ	**Moikau Station**	**0.82**	**62**	P	**Pb**	**09 05 50.0**	**+1.1**
KHZ	**Kahutara**	**0.83**	**222**	P	**Pb**	**09 05 50.0**	**+0.9**
NNZ	**Nelson**	**0.90**	**310**	P	**Pg**	**09 05 49.4**	**-0.7**
CAW	**Cannon Point**	**0.91**	**40**	P	**Pb**	**09 05 50.8**	**+0.4**
PAWZ	**Paruwai Farm**	**0.95**	**64**	P	**Pg**	**09 05 51.9**	**+0.8**
DUWZ	**D'Urville Isla**	**1.04**	**344**	P	**Pg**	**09 05 51.6**	**-1.2**
THZ	**Tophouse**	**1.04**	**272**	P	**Pg**	**09 05 52.3**	**-0.5**
KIW	**Kapiti Island**	**1.05**	**27**	P	**Pg**	**09 05 52.8**	**-0.2**
MTW	**Mount Morrison**	**1.11**	**55**	P	**Pg**	**09 05 54.1**	**-0.1**
TRWZ	**Traveller**	**1.12**	**69**	P	**Pg**	**09 05 53.9**	**-0.4**
OGWZ	**Otaki Gorge**	**1.19**	**34**	P	**Pg**	**09 05 55.3**	**-0.3**
MRNZ	**Matariki Terra**	**1.22**	**289**	P	**Pg**	**09 05 55.5**	**-0.7**
TKNZ	**Takaka Hill**	**1.26**	**307**	P	**Pb**	**09 05 55.8**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.29**	**46**	P	**Pn**	**09 05 56.8**	**+0.3**
TMWZ	**Te Maipa**	**1.39**	**61**	P	**Pn**	**09 05 57.7**	**-0.2**
GVZ	**Greta Valley S**	**1.49**	**218**	P	**Pn**	**09 06 00.2**	**+0.9**
MRZ	**Mangatainoka R**	**1.50**	**41**	P	**Pn**	**09 05 59.3**	**-0.1**
QRZ	**Quartz Range**	**1.65**	**306**	P	**Pb**	**09 06 02.7**	**-0.3**
QRZ	**Quartz Range**	**1.65**	**306**	P	**Pb**	**09 06 02.4**	**-0.6**
CPWZ	**Castlepoint**	**1.69**	**59**	P	**Pn**	**09 06 03.0**	**+0.9**
OHWZ	**Ohakea**	**1.77**	**26**	P	**Pn**	**09 06 04.6**	**+1.4**
PRWZ	**Pori Road**	**1.78**	**46**	P	**Pn**	**09 06 03.0**	**-0.3**
LTZ	**Lake Taylor**	**1.79**	**236**	P	**Pn**	**09 06 03.7**	**+0.2**
POWZ	**Post Office Ro**	**1.80**	**39**	P	**Pn**	**09 06 03.6**	**+0.1**
BFZ	**Birch Farm**	**1.85**	**53**	P	**Pn**	**09 06 03.5**	**-0.8**
DSZ	**Denniston Nort**	**1.86**	**271**	P	**Pn**	**09 06 05.7**	**+1.2**
WAZ	**Wanganui**	**2.11**	**15**	P	**Pb**	**09 06 10.0**	**-0.9**
ANWZ	**Angora Road**	**2.13**	**52**	P	**Pn**	**09 06 07.7**	**-0.4**
TSZ	**Takapari Road**	**2.15**	**37**	P	**Pn**	**09 06 08.3**	**-0.2**
INZ	**Inchbonnie**	**2.31**	**245**	P	**Pn**	**09 06 12.0**	**+1.5**
LREZ	**Lake Rotokare**	**2.34**	**2**	P	**Pb**	**09 06 14.0**	**-0.8**
PNHZ	**Pukenui**	**2.38**	**38**	P	**Pn**	**09 06 11.0**	**-0.6**
WPHZ	**Waipukurau**	**2.38**	**44**	P	**Pn**	**09 06 11.9**	**+0.4**
NMEZ	**Namu Road**	**2.41**	**352**	P	**Pb**	**09 06 16.6**	**+0.7**
RACZ	**Rakaia**	**2.49**	**219**	P	**Pn**	**09 06 11.9**	**-1.1**
KHEZ	**Kahui Hut**	**2.51**	**355**	P	**Pb**	**09 06 16.5**	**-1.3**
KHEZ	**Kahui Hut**	**2.51**	**355**	P	**Pb**	**09 06 16.3**	**-1.6**
NEZ	**North Egmont**	**2.53**	**357**	P	**Pb**	**09 06 17.7**	**-0.5**
NBEZ	**Newall Road No**	**2.55**	**353**	P	**Pb**	**09 06 17.3**	**-1.1**
MTVZ	**Mangateitei**	**2.58**	**21**	P	**Pn**	**09 06 16.4**	**+2.1**
DREZ	**Durham Road**	**2.61**	**358**	P	**Pb**	**09 06 18.1**	**-1.4**
PKE	**Pukeiti**	**2.62**	**355**	P	**Pn**	**09 06 17.3**	**+2.5**
PKVZ	**Pokaka**	**2.64**	**18**	P	**Pn**	**09 06 16.9**	**+1.8**
MOVZ	**Moawhango**	**2.64**	**25**	P	**Pn**	**09 06 16.0**	**+0.8**
MHCZ	**Mount Hutt**	**2.65**	**228**	P	**Pn**	**09 06 14.7**	**-0.6**
WNVZ	**Wahianoa**	**2.67**	**22**	P	**Pn**	**09 06 17.1**	**+1.5**
BHHZ	**Black Hill Sta**	**2.67**	**31**	P	**Pn**	**09 06 16.4**	**+0.7**
TRVZ	**Turoa**	**2.68**	**21**	P	**Pn**	**09 06 17.7**	**+1.9**
DRZ	**Dome Shelter**	**2.70**	**21**	P	**Pb**	**09 06 21.6**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.70**	**22**	P	**Pn**	**09 06 17.9**	**+1.6**
FWVZ	**Far West T-bar**	**2.72**	**21**	P	**Pn**	**09 06 18.4**	**+2.0**
MHEZ	**Mangahewa**	**2.72**	**1**	P	**Pb**	**09 06 19.9**	**-1.4**
TUVZ	**Tukino**	**2.74**	**23**	P	**Pg**	**09 06 23.8**	**-1.4**
WACZ	**Wakanui South**	**2.80**	**219**	P	**Pn**	**09 06 16.5**	**-0.8**
KAHZ	**Kahuranaki**	**2.81**	**45**	P	**Pn**	**09 06 16.2**	**-1.2**
NGZ	**Ngauruhoe**	**2.81**	**21**	P	**Pn**	**09 06 19.3**	**+1.7**
SNVZ	**South Ngauruho**	**2.81**	**22**	P	**Pb**	**09 06 23.4**	**+0.5**
NNVZ	**North Ngauruho**	**2.85**	**21**	P	**Pn**	**09 06 20.7**	**+2.5**
WTVZ	**West Tongariro**	**2.86**	**21**	P	**Pn**	**09 06 20.4**	**+2.2**
TWVZ	**Taurewa**	**2.87**	**18**	P	**Pn**	**09 06 20.6**	**+2.3**
ETVZ	**East Tongariro**	**2.88**	**23**	P	**Pn**	**09 06 20.0**	**+1.6**
KWHZ	**Kaweka Forest**	**2.88**	**35**	P	**Pn**	**09 06 25.7**	**+1.7**
TMVZ	**Te Maari**	**2.89**	**22**	P	**Pn**	**09 06 20.2**	**+1.5**
KRVZ	**Karewarewa**	**2.89**	**21**	P	**Pb**	**09 06 24.6**	**+0.3**
NTVZ	**North Tongarir**	**2.90**	**22**	P	**Pb**	**09 06 25.4**	**+1.0**
WVZ	**Waitaha Valley**	**2.92**	**243**	P	**Pn**	**09 06 21.4**	**+2.4**
MCHZ	**McNeill Hill**	**2.98**	**39**	P	**Pn**	**09 06 19.1**	**-0.7**
RPZ	**Rata Peaks**	**3.06**	**230**	P	**Pn**	**09 06 20.5**	**-0.3**
RPZ	**Rata Peaks**	**3.06**	**230**	P	**Pn**	**09 06 20.4**	**-0.5**
BKZ	**Black Stump Fm**	**3.12**	**33**	P	**Pn**	**09 06 21.3**	**-0.5**
BKZ	**Black Stump Fm**	**3.12**	**33**	P	**Pn**	**09 06 20.8**	**-1.0**
RATZ	**Rangitukua**	**3.14**	**22**	P	**Pb**	**09 06 29.4**	**+0.9**
GCSZ	**Gaunt Creek Bo**	**3.30**	**241**	P	**Pn**	**09 06 27.1**	**+3.0**
HIZ	**Hauiti**	**3.31**	**8**	P	**Pn**	**09 06 26.3**	**+1.9**
HIZ	**Hauiti**	**3.31**	**8**	P	**Pn**	**09 06 26.2**	**+1.8**
TMZ	**Timaru**	**3.53**	**222**	P	**Pn**	**09 06 26.6**	**-0.7**
TLZ	**Tolley Road**	**3.60**	**16**	P	**Pb**	**09 06 32.9**	**-3.4**
FOZ	**Fox Glacier**	**3.73**	**241**	P	**Pn**	**09 06 31.8**	**+1.8**
MUGZ	**Murupara**	**3.83**	**31**	P	**Pn**	**09 06 31.5**	**+0.1**
LBZ	**Lake Benmore**	**3.96**	**228**	P	**Pn**	**09 06 33.0**	**0.0**
URZ	**Urewera**	**4.15**	**32**	P	**Pn**	**09 06 35.5**	**-0.3**
URZ	**Urewera**	**4.15**	**32**	P	**Pn**	**09 06 34.8**	**-1.0**
TOZ	**Tahuroa Road**	**4.17**	**13**	P	**Pn**	**09 06 37.2**	**+1.0**
ODZ	**Otahua Downs**	**4.19**	**218**	P	**Pn**	**09 06 35.2**	**-1.2**
ODZ	**Otahua Downs**	**4.19**	**218**	P	**Pn**	**09 06 35.1**	**-1.3**
MWZ	**Matawai**	**4.26**	**37**	P	**Pn**	**09 06 35.7**	**-1.7**
RUGZ	**Raukumara Rang**	**4.63**	**35**	P	**Pn**	**09 06 41.4**	**-1.2**
JCZ	**Jackson Bay**	**4.63**	**239**	P	**Pn**	**09 06 43.3**	**+0.7**
JCZ	**Jackson Bay**	**4.63**	**239**	P	**Pn**	**09 06 44.3**	**+1.7**
AWAZ	**Awhitu Peninsu**	**4.74**	**3**	P	**Pn**	**09 06 46.0**	**+2.0**
MKAZ	**Moumakai**	**4.74**	**8**	P	**Pn**	**09 06 45.0**	**+1.0**
ETAZ	**East Tamaki Re**	**4.87**	**6**	P	**Pn**	**09 06 47.5**	**+1.8**
WTAZ	**Waiatarua**	**4.87**	**3**	P	**Pn**	**09 06 48.5**	**+2.8**
RVAZ	**Riverhead Bore**	**5.03**	**3**	P	**Pn**	**09 06 49.2**	**+1.3**
MBAZ	**Motutapu North**	**5.05**	**6**	P	**Pn**	**09 06 50.9**	**+2.7**
WCZ	**Waipu Caves**	**5.86**	**0**	P	**Pn**	**09 07 02.0**	**+2.7**

WEL 27 09:06:04.5±0.6, 42°S±3°×17°4E±°, h16km±4km, M3.8/13, ML4.1/5, MLv3.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=45.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.01**	**104**	P	Pg	09 06 07.8	+0.5
CMWZ				S	Sg	09 06 09.9	+0.8
BSWZ	**Blackbirch Sta**	**0.24**	**277**	P	Pb	09 06 11.4	+0.9

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.32**	**336**	P	**Pb**	**09 13 00.9**	**-0.8**
SRPI				S	**Sb**	**09 13 18.2**	**0.0**
RKPI	**Ransiki, Papua**	**3.03**	**301**	P	**Pb**	**09 13 26.7**	**-4.1**
GENI	**Genyem**	**3.43**	**82**	P	**Pn**	**09 13 29.5**	**+0.4**
FAKI	**Fak Fak**	**4.52**	**272**		**Pn**	**09 13 46.9**	**+2.8**
FAKI	**Fak Fak**	**4.52**	**272**	P	**Pn**	**09 13 46.8**	**+2.6**
SIJI	**Sorong**	**5.92**	**292**	Pn	**Pn**	**09 14 05.2**	**+1.6**
	21nm,0.3s,baz=77,slow=9.8,SNR=33						
SIJI				Sn	**Sn**	**09 15 09.2**	**-1.3**
	21nm,0.3s,baz=142,slow=19,SNR=12						
BNDI	**Bandanaira**	**7.00**	**258**	P	**Pn**	**09 14 21.4**	**+3.2**
	4.5nm26µm206nm,0.8s						
SAUI	**Saumlaki**	**7.30**	**228**	P	**Pn**	**09 14 26.2**	**+3.8**
	1.3nm10µm270nm,0.8s						
MSAI	**Masohi**	**7.83**	**268**	P	**Pn**	**09 14 33.1**	**+3.4**
	0.1nm12nm,0.5s						
SANI	**Sanana**	**10.82**	**275**	P	**Pn**	**09 15 13.0**	**+2.3**
	820nm45nm,0.6s						
MTN	**Manton Dam**	**11.19**	**210**	Pn	**Pn**	**09 15 17.7**	**+2.0**
PMG	**Port Moresby**	**12.08**	**122**	Pn	**Pn**	**09 15 29.5**	**+1.5**
	1.7nm,0.3s,baz=324,slow=11,SNR=26						
PMG				Sn	**Sn**	**09 17 42.6**	**+0.8**
	2.1nm,0.3s,baz=245,slow=19,SNR=1.9						
PMG				LR	LR	09 20 40.7	
	comp=Z,666nm,20.6s,baz=266,slow=40						
	76nm,0.9s						
PMG	**Port Moresby**	**12.08**	**122**		**Pn**	**09 15 29.3**	**+1.4**
PMG	**Port Moresby**	**12.08**	**122**	*d i* P	**Pn**	**09 15 30.1**	**+2.1**
PMG				pmax	pmax		
	comp=Z,111nm,1.0s						
COEN	**Coen**	**12.52**	**150**		**Pn**	**09 15 33.8**	**-0.1**
SOEI	**Soe**	**14.08**	**241**	Pn	**Pn**	**09 15 57.1**	**+1.7**
SOEI	**Soe**	**14.08**	**241**	P	**Pn**	**09 15 57.9**	**+2.5**
	comp=Z,1µmcomp=Z,98nm,1.3s						
LUWI	**Luwuk**	**14.14**	**278**		**P**	**09 15 59.5**	**-3.8**
LUWI	**Luwuk**	**14.14**	**278**	P	**Pn**	**09 15 59.2**	**+3.2**
	comp=Z,5µmcomp=Z,56nm,0.5s						
GTOI	**Gorontalo**	**14.24**	**285**	P	**P**	**09 16 03.8**	**-0.7**
	comp=Z,16nm,0.9s						
KNRA	**Kununurra**	**14.79**	**212**	Pn	**Pn**	**09 16 05.4**	**+0.4**
BATI	**Baumata**	**14.81**	**241**	Pn	**P**	**09 16 08.6**	**-2.3**
	comp=Z,6.2nm,0.3s,baz=65,slow=7.0,SNR=2.4						
BATI				Sn	**Sn**	**09 18 50.6**	**+2.0**
	comp=Z,3.6nm,0.3s,baz=90,slow=20,SNR=2.5						
MRSI	**Marisa**	**15.24**	**283**	P	**P**	**09 16 14.9**	**-0.7**
APSI	**Ampana**	**15.27**	**278**	P	**P**	**09 16 14.7**	**-1.2**
	comp=Z,2µmcomp=Z,168nm,1.1s						
TOLI2	**Tolitoli**	**16.52**	**284**		**P**	**09 16 32.4**	**+2.6**
BKSI	**Bulukumba**	**16.75**	**262**	P	**P**	**09 16 35.4**	**+3.0**
	comp=Z,10nm,0.8s						
WRAB	**Tennant Creek**	**16.91**	**188**	P	**P**	**09 16 34.0**	**-0.1**
WRAB	**Tennant Creek**	**16.91**	**188**	P	**P**	**09 16 34.0**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,29nm,0.7s						
WR0	**Warramunga Arr**	**16.91**	**187**		**Pn**	**09 16 32.5**	**+0.2**
WB2	**Warramunga Arr**	**16.92**	**188**	Pn	**Pn**	**09 16 32.5**	**+0.1**
WRA	**Warramunga Arr**	**16.92**	**188**	P	**Pn**	**09 16 30.0**	**-2.5**
	comp=Z,2.3nm,0.4s,baz=3.7,slow=13,SNR=24						
WRA				S	Sn	09 19 27.9	-12
	comp=Z,21nm,0.8s,baz=12,slow=21,SNR=8.4						
WRA				LR	LR	09 23 47.8	
	comp=Z,642nm,19.9s,baz=2.5,slow=40						
SPSI	**Sidrap Palu**	**16.99**	**267**	P	**P**	**09 16 38.1**	**+3.0**
	comp=Z,18nm,0.9s						
KAPI	**Kappang**	**17.08**	**263**	P	**P**	**09 16 38.7**	**+2.6**
	comp=Z,4.2nm,0.3s,baz=96,slow=13,SNR=1.3						
KAPI	**Kappang**	**17.08**	**263**	*e*P	**P**	**09 16 37.0**	**+0.9**
KAPI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MPSI	**Mapaga**	**17.20**	**281**	P	**P**	**09 16 38.7**	**+1.3**
	comp=Z,672nmcomp=Z,18nm,1.0s						
GUMO	**Guam**	**18.41**	**26**	LR	LR	09 23 13.0	
	comp=Z,75nm,19.3s,baz=210,slow=35						
CTA	**Charters Tower**	**19.27**	**152**	P	**Pn**	**09 17 01.2**	**0.0**
	comp=Z,33nm,0.8s,baz=330,slow=12,SNR=23						
CTA				S	**Sn**	**09 20 30.9**	**-5.8**
	comp=Z,1.9nm,0.6s,baz=9.8,slow=14,SNR=1.1						
CTA				LR	LR	09 24 23.7	
	comp=Z,602nm,21.0s,baz=333,slow=37						
PLAI	**Plampang**	**19.73**	**252**	P	**Pn**	**09 17 06.8**	**0.0**
	comp=Z,33nm,0.9s						
MYLDM	**Lahad Datu**	**20.01**	**294**	P	**P**	**09 17 08.7**	**+0.4**
MYLDM				IAmb	IAmb	09 17 25.6	
	comp=Z,51nm,1.3s						
AS31	**Alice Springs**	**20.65**	**187**		Pn	09 17 16.7	-0.8
ASAR	**Alice Springs**	**20.65**	**187**	P	**P**	**09 17 16.3**	**+1.2**
	comp=Z,15nm,0.7s,baz=10,slow=12,SNR=137						
ASAR				S	**S**	**09 20 59.4**	**-5.3**
	comp=Z,5.6nm,0.7s,baz=8.9,slow=30,SNR=5.9						
ASAR				LR	LR	09 25 54.8	
	comp=Z,703nm,19.2s,baz=2.5,slow=39						
	comp=Z,15nm,0.7s						
ASAR	**Alice Springs**	**20.65**	**187**	P	Pn	09 17 16.7	-0.8
ASAR	**Alice Springs**	**20.65**	**187**	P	Pn	09 17 16.7	-0.9
BBKI	**Banjar Baru**	**21.90**	**268**	P	**P**	**09 17 33.7**	**+5.0**
HNR	**Honiara**	**23.87**	**106**	P	**P**	**09 17 48.4**	**-0.6**
	comp=Z,2µm,0.8s,baz=128,slow=5.5,SNR=4.2						
HNR				LR	LR	09 27 54.8	
	comp=Z,3µm,19.8s,baz=274,slow=38						
MBWA	**Marble Bar**	**24.45**	**221**	P	**P**	**09 17 55.6**	**+1.4**
MBWA				IAmb	IAmb	09 18 09.8	
	comp=Z,46nm,1.4s						
PSA00	**Pilbara Seismi**	**24.67**	**220**	P	**P**	**09 17 57.4**	**+1.2**
PSA00				IAmb	IAmb	09 18 26.6	
	comp=Z,16nm,0.8s						
EIDS	**Eidsvold**	**26.09**	**149**	P	**P**	**09 18 10.9**	**+1.9**
FORT	**Forrest**	**28.75**	**196**	P	**P**	**09 18 33.1**	**+0.3**
FORT				IAmb	IAmb	09 19 38.8	
	comp=Z,34nm,0.8s						
STKA	**Stephens Creek**	**29.00**	**172**	P	**P**	**09 18 34.6**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=344,slow=11,SNR=4.7						
STKA				LR	LR	09 29 17.9	
	comp=Z,201nm,21.9s,baz=346,slow=34						
	comp=Z,1.6nm,0.6s						
STKA	**Stephens Creek**	**29.00**	**172**	P	**P**	**09 18 33.6**	**-1.4**
STKA	**Stephens Creek**	**29.00**	**172**	P	**P**	**09 18 33.6**	**-1.4**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BBOO	**Buckleboo**	**29.58**	**181**	P	**P**	**09 18 41.3**	**+1.1**
BBOO				IAmb	IAmb	09 19 28.9	
	comp=Z,15nm,1.0s						
JCJ	**Chichijima**	**30.45**	**10**	LR	LR	09 30 31.6	
	comp=Z,87nm,18.5s,baz=138,slow=36						
JOW	**Kunigami**	**30.85**	**345**	LR	LR	09 32 03.0	
	comp=Z,128nm,18.9s,baz=322,slow=38						
CAN	**Canberra**	**34.02**	**162**	P	**P**	**09 19 19.8**	**+0.6**
CAN	**Canberra**	**34.02**	**162**	P	**P**	**09 19 19.8**	**+0.6**
CAN				pmax	pmax		
	comp=Z,65nm,1.7s						
DZM	**Mont Dzumac**	**34.44**	**126**	*e*LR	LR	09 28 35.5	
	comp=Z,363nm,28.6s						
NWAO	**Narrogin (SRO)**	**34.88**	**209**	LR	LR	09 34 27.6	
	comp=Z,319nm,21.8s,baz=285,slow=38						
JHJ	**Hachijo jima 2**	**36.12**	**4**	LR	LR	09 31 33.7	
	comp=Z,172nm,21.9s,baz=116,slow=32						
JNU	**Nakatsue**	**36.44**	**352**	LR	LR	09 32 32.8	
	comp=Z,144nm,21.0s,baz=148,slow=33						
NJ2	**Nanjing**	**38.87**	**335**	*e*P	**P**	**09 20 01.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MJAR	**Matsushiro Arr**	**39.44**	**2**	P	**P**	**09 20 03.9**	**-1.5**
	comp=Z,2.4nm,0.7s,baz=180,slow=9.2,SNR=3.5						
MJAR				PcP	**PcP**	**09 22 12.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=174,slow=3.3,SNR=2.9						
MJAR				LR	LR	09 34 17.2	
	comp=Z,91nm,20.4s,baz=176,slow=33						
	comp=Z,2.4nm,0.7s						
MAJO	**Matsushiro**	**39.45**	**2**	*e*P	**P**	**09 20 04.6**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**39.45**	**2**	P	**P**	**09 20 04.7**	**-0.6**
WHN	**Wuhan**	**39.70**	**329**	P	**P**	**09 20 09.3**	**+1.8**
TJN	**Taejon**	**40.23**	**348**	*de*P	**P**	**09 20 10.9**	**-0.9**
KSAR	**Wonju Array Be**	**41.16**	**349**	P	**P**	**09 20 20.0**	**+0.6**
KSAR	**Wonju Array Be**	**41.16**	**349**	P	**P**	**09 20 20.0**	**+0.6**
KSRS	**Korea Array**	**41.16**	**349**	P	**P**	**09 20 18.9**	**-0.6**
	comp=Z,5.4nm,0.9s,baz=169,slow=9.6,SNR=14						
KSRS				PcP	**PcP**	**09 22 18.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=186,slow=2.4,SNR=1.8						
KSRS				LR	LR	09 38 04.5	
	comp=Z,70nm,19.5s,baz=165,slow=37						
	comp=Z,5.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**42.96**	**301**	P	**P**	**09 20 34.5**	**0.0**
	comp=Z,6.9nm,0.8s,baz=126,slow=6.6,SNR=37						
	comp=Z,6.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**42.96**	**301**	P	**P**	**09 20 34.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.96**	**301**	*i* P	**P**	**09 20 35.7**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MSVF	**Nonsavu**	**43.00**	**113**	P	**P**	**09 20 37.4**	**+2.5**
	comp=Z,3.5nm,0.8s,baz=305,slow=12,SNR=2.5						
MSVF				LR	LR	09 37 44.5	
	comp=Z,152nm,18.4s,baz=327,slow=35						
	comp=Z,3.5nm,0.8s						
MSVF	**Nonsavu**	**43.00**	**113**	*e*P	**P**	**09 20 34.8**	**-0.1**
MSVF				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHTO	**Chiang Mai**	**43.12**	**302**	P	**P**	**09 20 36.0**	**+0.2**
CHTO	**Chiang Mai**	**43.12**	**302**	P	**P**	**09 20 36.0**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TIA	**Tai'an**	**43.19**	**337**	*e*P	**P**	**09 20 31.3**	**-4.8**
TIA				pmax	pmax		
	comp=Z,9.0nm,2.0s						
KMI	**Kunming**	**43.31**	**312**	P	**P**	**09 20 39.3**	**+1.8**
KMI				pmax	pmax		
	comp=Z,30nm,0.6s						
LYN	**LuoYang**	**43.86**	**331**	P	**P**	**09 20 41.8**	**+0.3**
PZH	**PanZhiHua**	**44.84**	**313**	P	**P**	**09 20 50.3**	**+0.6**
PZH				pmax	pmax		
	comp=Z,20nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,6.0s						
HNS	**HongShan**	**45.20**	**335**	P	**P**	**09 20 52.0**	**-0.1**
HNS				pmax	pmax		
	comp=Z,23nm,1.0s						
XAN	**Xi'an**	**45.30**	**327**	*i* P	**P**	**09 20 53.0**	**-0.1**
XAN				pP	pP	09 21 01.3	-0.5
XAN				pmax	pmax		
	comp=Z,27nm,1.1s						
XAN	**Xi'an**	**45.30**	**327**	P	**P**	**09 20 52.7**	**-0.4**
XAN				pP	**sP**	**09 21 03.2**	**-2.1**
XAN				sP	**pP**	**09 21 06.8**	**+5.0**
TNCH	**TengChong**	**46.46**	**309**	*e*P	**P**	**09 21 05.0**	**+2.5**
TNCH				pP	sP	09 21 14.0	-0.8
TNCH				pmax	pmax		
	comp=Z,36nm,0.5s						
BJI	**Beijing**	**46.89**	**338**	P	**P**	**09 21 05.0**	**-0.4**
BJI				pmax	pmax		
	comp=Z,13nm,1.1s						
USA0B	**Ussuriysk Arra**	**47.27**	**355**	*de*P	**P**	**09 21 08.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**47.27**	**355**	P	**P**	**09 21 08.0**	**-0.3**
	comp=Z,8.5nm,0.7s,baz=191,slow=10.0,SNR=16						
USRK				LR	LR	09 37 36.5	
	comp=Z,115nm,21.8s,baz=157,slow=32						
	comp=Z,8.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**47.27**	**355**	P	**P**	**09 21 07.5**	**-0.8**
USRK	**Ussuriysk Ar.**	**47.27**	**355**	P	**P**	**09 21 07.5**	**-0.8**
ASAJ	**Asahikawa**	**47.28**	**6**	LR	LR	09 39 20.5	
	comp=Z,78nm,21.7s,baz=187,slow=34						
ASAJ	**Asahikawa**	**47.28**	**6**	P	**P**	**09 21 08.1**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,46nm,1.1s						
JKA	**Kamikawa-asahi**	**47.28**	**6**	P	**P**	**09 21 08.1**	**-0.3**
CN2	**Changchun**	**47.77**	**349**	P	**P**	**09 21 11.5**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MDJ	**Mudanjiang**	**47.92**	**353**	P	**P**	**09 21 12.7**	**-0.7**
MDJ	**Mudanjiang**	**47.92**	**353**	P	**P**	**09 21 13.0**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.8s						
MDJ	**Mudanjiang**	**47.92**	**353**	P	**P**	**09 21 13.5**	**+0.1**
MDJ				pP	**sP**	**09 21 23.6**	**-1.9**
KUR	**Kuril'sk**	**49.11**	**10**	*e*P	**P**	**09 21 21.5**	**-1.0**
KUR				pmax	pmax		
	comp=Z,202nm,1.2s						
BNX	**BinXian**	**49.32**	**351**	P	**P**	**09 21 23.8**	**-0.3**
BNX				pmax	pmax		
	comp=Z,31nm,1.1s						
BNX				pmax	pmax		
	comp=Z,110nm,4.1s						
HHC	**Hu-ho-hao-te**	**49.42**	**335**	*e*P	**P**	**09 21 28.5**	**+3.4**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,4.4s						
LZH	**Lanzhou**	**49.64**	**325**	*e*P	**P**	**09 21 27.0**	**0.0**
LZH				pP	sP	09 21 35.8	-3.5
LZH				sP	pP	09 21 39.0	+3.3
LZH				pmax	pmax		
	comp=Z,35nm,1.1s						
YSS	**Yuzh-Sakhalins**	**50.10**	**5**	*e*P	**P**	**09 21 29.1**	**-0.9**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
RPZ	**Rata Peaks**	**50.58**	**148**	LR	LR	09 40 34.2	
	comp=Z,156nm,21.1s,baz=294,slow=33						
AFI	**Afiamalu**	**51.90**	**105**	LR	LR	09 44 04.4	
	comp=Z,48nm,18.0s,baz=269,slow=36						
KLR	**Kul'dur**	**52.28**	**356**	P	**P**	**09 21 46.5**	**+0.1**
	comp=Z,31nm,0.6s,baz=185,slow=4.7,SNR=116						
KLR				LR	LR	09 40 44.0	
	comp=Z,129nm,21.8s,baz=192,slow=32						
	comp=Z,31nm,0.6s						
KLR	**Kul'dur**	**52.28**	**356**	*d i* P	**P**	**09 21 46.3**	**-0.1**
KLR				pmax	pmax		
	comp=Z,20nm,0.8s						
HEH	**HeiHe**	**53.74**	**353**	*e*P	**P**	**09 21 55.5**	**-1.6**
HEH				pmax	pmax		
	comp=Z,15nm,1.2s						
TYV	**Tymovskoe**	**53.97**	**5**	*e*P	**P**	**09 21 58.6**	**-0.2**
TYV				*e*S	**S**	**09 29 32.8**	**+0.1**
TYV				pmax	pmax		
	comp=Z,100nm,3.7s						
TYV				pmax	pmax		
	comp=Z,16nm,0.8s						
TYV				smax	smax		
	comp=E,400nm,4.1s						
GTA	**Gaotai**	**54.24**	**325**	*e*P	**P**	**09 22 02.0**	**+0.8**
GTA				pP	sP	09 22 11.0	-2.5
GTA				pmax	pmax		
	comp=E,13nm,1.0s						
GTA				pmax	pmax		
	comp=E,150nm,5.5s						
GTA				LR	LR		
	comp=E,82nm,14.5s						
GTA				LR	LR		
	comp=E,84nm,20.0s						
GOMU	**GeErMu**	**55.30**	**319**	P	P	09 22 18.8	+10
GOMU				pmax	pmax		
	comp=Z,2µm,0.9s						
TAPN	**Taplejung**	**56.11**	**306**	*e*P	**P**	**09 22 15.8**	**+0.7**
	comp=Z,24nm,0.6s						
ODAN	**Odare**	**56.17**	**305**	*e*P	**P**	**09 22 16.1**	**+0.7**
	comp=Z,5.5nm,0.7s						
RAMN	**Ramite**	**56.85**	**305**	*e*P	**P**	**09 22 20.9**	**+0.6**
	comp=Z,52nm,0.9s						
PALK	**Pallekele**	**56.89**	**281**	*e*P	**P**	**09 22 19.0**	**-1.6**
PALK				pmax	pmax		
	comp=Z,87nm,2.8s						
ULN	**Ulaanbaatar**	**57.01**	**337**	P	**P**	**09 22 21.0**	**0.0**
ZEA	**Zeya**	**57.18**	**353**	*e*P	**P**	**09 22 21.6**	**-0.2**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.3s						
SONM	**Songino Array**	**57.25**	**336**	P	**P**	**09 22 22.5**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=158,slow=8.2,SNR=15						
SONM				LR	LR	09 45 59.8	
	comp=Z,146nm,21.9s,baz=149,slow=35						
	comp=Z,2.6nm,0.6s						
JIRN	**Jiri**	**57.47**	**306**	*e*P	**P**	**09 22 25.4**	**+0.6**
	comp=Z,22nm,0.6s						
GUN	**Gumba**	**57.82**	**306**	*e*P	**P**	**09 22 27.8**	**+0.5**
PKI	**Pulchoki**	**58.07**	**305**	*e*P	**P**	**09 22 28.8**	**-0.2**
DMN	**Daman**	**58.33**	**305**	*e*P	**P**	**09 22 31.4**	**+0.7**
PEA0B	**Petropavlovsk-**	**58.69**	**15**	*e*P	**P**	**09 22 31.0**	**-1.4**
PETK	**Petropavlovsk-**	**58.69**	**15**	P	**P**	**09 22 32.7**	**+0.3**
	comp=Z,6.3nm,0.6s,baz=180,slow=5.7,SNR=32						
	comp=Z,6.3nm,0.6s						
GKN	**Gorkha**	**58.87**	**305**	*e*P	**P**	**09 22 35.0**	**+0.6**
	comp=Z,28nm,0.5s						
KOLN	**Koldanda**	**59.63**	**305**	*e*P	**P**	**09 22 39.9**	**+0.2**
PYUN	**Piuthan**	**60.25**	**305**	*e*P	**P**	**09 22 44.5**	**+0.5**
ZAK	**Zakamensk**	**60.52**	**336**	*e*P	**P**	**09 22 41.7**	**-3.5**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BOD	**Bodaibo**	**63.41**	**347**	*e*P	**P**	**09 23 04.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,23nm,1.3s						
MA2	**Magadan**	**63.44**	**8**	P	**P**	**09 23 03.3**	**-1.2**
	comp=Z,9.6nm,0.8s,baz=239,slow=15,SNR=3.0						
	comp=Z,9.6nm,0.8s						
DRV	**Dumont d'Urvil**	**63.50**	**179**	P	**P**	**09 23 04.6**	**-0.2**
DRV				pP	**sP**	**09 23 15.4**	**-1.9**
WMQ	**Urumqi**	**64.11**	**323**	*e*P	**P**	**09 23 10.0**	**+0.6**
WMQ				pP	sP	09 23 19.8	-2.1
WMQ				PcP	**PcP**	**09 23 45.3**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				LR	LR		
	comp=Z,99nm,18.9s						
YAK	**Yakutsk**	**65.16**	**356**	P	**P**	**09 23 15.5**	**-0.2**
	comp=Z,34nm,0.6s,baz=207,slow=0.7,SNR=23						
	comp=Z,34nm,0.6s						
YAK	**Yakutsk**	**65.16**	**356**	*e*P	**P**	**09 23 15.4**	**-0.3**
YAK				*e**PP	**sP**	**09 23 25.0**	**-3.2**
YAK				*e*		09 23 46.3	
YAK				*e*		09 25 39.1	
YAK				*e*PPP	PPP	09 27 11.0	
YAK				*e*S	**S**	**09 31 57.5**	**+0.9**
YAK				*e**SS	**sS**	**09 32 16.3**	**+4.8**
YAK				*e*		09 33 05.8	
YAK				*e*SS	**SS**	**09 36 11.9**	**+2.3**
YAK				pmax	pmax		
	comp=Z,48nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,223nm,5.4s						
YAK				pmax	pmax		
	comp=N,101nm,4.8s						
YAK				pmax	pmax		
	comp=E,59nm,4.8s						
YAK				smax	smax		
	comp=E,92nm,4.3s						
YAK				smax	smax		
	comp=N,83nm,3.5s						
YAK	**Yakutsk**	**65.16**	**356**	P	**P**	**09 23 15.4**	**-0.3**
YAK				sP	**sP**	**09 23 30.7**	**+2.5**
SEY	**Seymchan**	**66.89**	**8**	P	**P**	**09 23 26.8**	**-0.1**
	comp=N,9.2nm,0.9s,baz=195,slow=5.1,SNR=16						
	comp=N,9.2nm,0.9s						
SEY	**Seymchan**	**66.89**	**8**	*e*P	**P**	**09 23 27.3**	**+0.4**
SEY				pmax	pmax		
	comp=Z,42nm,2.5s						
DGZ	**Jazzator, Alta**	**67.55**	**328**	*e*P	**P**	**09 23 31.7**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIP	**Kipapa**	**68.25**	**66**	*e*P	**P**	**09 23 35.5**	**-0.7**
KIP				pmax	pmax		
	comp=Z,87nm,1.3s						
MK31	**Makanchi Array**	**68.91**	**323**	P	**P**	**09 23 39.5**	**-0.5**
MK31	**Makanchi Array**	**68.91**	**323**	*d i* P	**P**	**09 23 39.7**	**-0.3**
MKAR	**Makanchi Array**	**68.91**	**323**	P	**P**	**09 23 39.4**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=106,slow=8.2,SNR=50						
	comp=Z,2.7nm,0.5s						
MKAR	**Makanchi Array**	**68.91**	**323**	P	**P**	**09 23 39.7**	**-0.3**
MKAR	**Makanchi Array**	**68.91**	**323**	*i* P	**P**	**09 23 39.9**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MAKZ	**Makanchi**	**69.11**	**323**	P	**P**	**09 23 40.9**	**-0.2**
MAKZ				IAmb	IAmb	09 23 42.1	
	comp=Z,7.5nm,0.6s						
MAKZ	**Makanchi**	**69.11**	**323**	P	**P**	**09 23 40.9**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAKZ	**Makanchi**	**69.11**	**323**	P	**P**	**09 23 41.0**	**-0.2**
MAKZ				pP	**sP**	**09 23 52.0**	**-1.7**
NIL	**Nilore**	**70.00**	**307**	P	**P**	**09 23 46.9**	**-0.1**
NIL				IAmb	IAmb	09 23 48.0	
	comp=Z,13nm,0.7s						
NIL	**Nilore**	**70.00**	**307**	P	**P**	**09 23 46.9**	**-0.1**
NIL				pmax	pmax		
	comp=Z,13nm,0.7s						
ZALV	**Zalesovo Beam**	**71.30**	**331**	P	**P**	**09 23 53.0**	**-1.3**
	comp=Z,5.2nm,0.5s,baz=120,slow=6.3,SNR=24						
ZALV				LR	LR	09 54 17.7	
	comp=Z,48nm,21.7s,baz=94,slow=35						
	comp=Z,5.2nm,0.5s						
AAK	**Ala-Archa**	**72.14**	**317**	P	**P**	**09 23 59.6**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=93,slow=6.9,SNR=4.5						
AAK				LR	LR	09 58 09.1	
	comp=Z,67nm,21.1s,baz=118,slow=38						
	comp=Z,3.9nm,0.7s						
AAK	**Ala-Archa**	**72.14**	**317**	*e*P	**P**	**09 24 00.4**	**+0.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KURK	**Kurchatov**	**72.92**	**326**	P	**P**	**09 24 03.5**	**-0.6**
KURK				IAmb	IAmb	09 24 04.5	
	comp=Z,13nm,1.3s						
KURK	**Kurchatov**	**72.92**	**326**	P	**P**	**09 24 03.5**	**-0.6**
KURK				pmax	pmax		
	comp=Z,13nm,1.3s						
KURBB	**Kurchatov Arra**	**72.93**	**325**	P	**P**	**09 24 03.5**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=118,slow=4.8,SNR=32						
	comp=Z,3.1nm,0.7s						
PPT2	**Papeete2**	**73.49**	**107**	*e*LR	LR	09 46 40.4	
	comp=Z,175nm,29.0s						
TBI	**Tubuai**	**73.88**	**113**	*e*LR	LR	09 46 50.8	
	comp=Z,477nm,30.2s						
BILL	**Bilibino**	**73.89**	**11**	*e*P	**P**	**09 24 09.2**	**-0.4**
BILL				*e*		09 24 25.8	
BILL				*e*PPP	PPP	09 28 38.9	
BILL				p

GCSA	Galena City Sc	82.90	23	P		P	09 25 01.5	+2.2
	baz=247							
GEYT	Alibeck	82.95	309	P		P	09 24 59.1	-1.2
	comp=Z,4.7nm,0.6s,baz=101,slow=2.9,SNR=8.6							
GEYT				LR		LR	10 05 30.3	
	comp=Z,59nm,18.6s,baz=108,slow=38							
	comp=Z,4.7nm,0.6s							
GEYT	Alibeck	82.95	309	P		P	09 24 58.7	-1.6
GEYT				IAmb		IAmb	09 25 00.9	
	comp=Z,5.7nm,0.7s							
ABKAR	Akbulak array	83.76	320	P		P	09 25 03.0	-1.1
ABKAR				IAmb		IAmb	09 25 04.1	
	comp=Z,14nm,1.2s							
ABKAR	Akbulak array	83.76	320	P		P	09 25 03.6	-0.5
CHUM	Lake Minchumin	84.46	25	P		P	09 25 07.8	+0.4
	baz=251							
H21K	Melozitna Rive	84.83	23	P		P	09 25 09.7	+0.4
	baz=251							
G21K	Allakaket	84.85	22	P		P	09 25 10.7	+1.4
	baz=250							
I21K	Tanana	85.00	24	P		P	09 25 11.8	+1.7
	baz=252							
SVE	Sverdlovsk	85.01	328	*e*P		P	09 25 09.9	-0.4
MLY	Manley	85.46	24	P		P	09 25 12.3	-0.2
MLY	Manley	85.46	24	P		P	09 25 12.3	-0.2
	baz=253							
F22K	John River	85.67	21	P		P	09 25 14.5	+1.1
	baz=251							
G22K	Bettles	85.74	22	P		P	09 25 13.7	0.0
	baz=252							
WAT1	Susitna Watana	85.78	26	P		P	09 25 14.1	0.0
	baz=255							
MCK	McKinley	85.85	25	P		P	09 25 14.6	+0.3
	baz=254							
M23K	Glacier View	85.89	27	P		P	09 25 15.1	+0.5
	baz=256							
E22K	Anaktuvuk Pass	86.00	21	P		P	09 25 15.7	+0.6
	baz=252							
NEA2	Nenana	86.02	25	P		P	09 25 15.9	+0.7
	baz=254							
ARU	Arti	86.05	327	P		P	09 25 13.8	-1.7
	comp=Z,2.0nm,0.3s,baz=112,slow=5.4,SNR=7.9							
ARU				LR		LR	10 07 09.3	
	comp=Z,20nm,18.3s,baz=100,slow=38							
	comp=Z,2.0nm,0.3s							
ARU	Arti	86.05	327	*c i*P		P	09 25 13.8	-1.7
ARU				S		S	09 35 36.4	-11
ARU				pmax		pmax		
	comp=Z,13nm,1.1s							
SCM	Sheep Creek Mo	86.08	27	P		P	09 25 15.4	-0.2
	baz=256							
SCM	Sheep Creek Mo	86.08	27	pmax		pmax		
	comp=Z,33nm,1.1s							
H23K	Yukon River	86.17	23	P		P	09 25 16.1	+0.2
H23K				IAmb		IAmb	09 25 17.8	
	comp=Z,30nm,1.7s							
H23K	Yukon River	86.17	23	P		P	09 25 16.2	+0.3
	baz=254							
G23K	Bananza Creek	86.23	22	P		P	09 25 16.9	+0.7
	baz=253							
COLD	Coldfoot	86.32	22	P		P	09 25 17.2	+0.6
	baz=253							
DHY	Denali Highway	86.36	26	P		P	09 25 17.1	0.0
DHY				IAmb		IAmb	09 25 18.5	
	comp=Z,14nm,0.9s							
DHY	Denali Highway	86.36	26	P		P	09 25 17.2	+0.1
	baz=256							
CCB	Clear Creek Bu	86.56	25	P		P	09 25 17.1	-0.7
CCB				IAmb		IAmb	09 25 18.2	
	comp=Z,8.5nm,0.8s							
D23K	Nanushuk River	86.66	20	P		P	09 25 19.6	+1.3
	baz=252							
M24K	Tolsona, Glenn	86.67	27	P		P	09 25 18.3	-0.3
E23K	Chandalar	86.77	21	P		P	09 25 19.5	+0.6
	baz=254							
H24K	Noodor Dome	86.83	24	P		P	09 25 19.3	0.0
	baz=255							
QSPA	South Pole Qui	86.86	180	LR		LR	10 05 20.0	
	comp=Z,129nm,18.2s,baz=360,slow=36							
QSPA	South Pole Qui	86.86	180	P		P	09 25 19.3	-0.2
QSPA				IAmb		IAmb	09 25 36.6	
	comp=Z,13nm,1.3s							
C23K	Itkillik River	86.94	19	P		P	09 25 19.2	-0.4
	baz=252							
TOLK	Toolik Lake Re	86.95	21	P		P	09 25 19.5	-0.2
TOLK	Toolik Lake Re	86.95	21	P		P	09 25 19.7	0.0
	baz=254							
IL31		86.97	25	P		P	09 25 18.1	-1.7
IL31				IAmb		IAmb	09 25 19.3	
	comp=Z,24nm,1.6s							
ILAR	Eielson Array	86.97	25	P		P	09 25 18.2	-1.6
	comp=Z,3.7nm,0.9s,baz=264,slow=4.4,SNR=20							
	comp=Z,3.7nm,0.9s							
ILAR	Eielson Array	86.97	25	P		P	09 25 17.7	-2.2
ILAR	Eielson Array	86.97	25	P		P	09 25 17.7	-2.2
PAX	Paxson	87.18	27	P		P	09 25 21.8	+0.8
	baz=258							
G24K	Hadweenzic Riv	87.21	23	P		P	09 25 21.3	+0.3
	baz=256							
F24K	Squaw Lake	87.26	22	P		P	09 25 21.7	+0.5
	baz=255							
J25K	Salcha River,	87.58	25	P		P	09 25 21.4	-1.4
	baz=258							
GLB	Gilahina Butte	87.64	28	P		P	09 25 23.6	+0.4
G25K	Bearman Lake	87.75	23	P		P	09 25 24.9	+1.4
	baz=257							
SCRK	Sand Creek	88.04	26	P		P	09 25 23.7	-1.4
	baz=259							
F25K	Christian Rive	88.11	22	P		P	09 25 25.9	+0.6
	baz=257							
E25K	Arctic Village	88.26	21	P		P	09 25 26.8	+0.8
	baz=257							
J26L	Joseph Creek	88.32	25	P		P	09 25 26.4	-0.1
J26L				IAmb		IAmb	09 25 27.2	
	comp=Z,12nm,1.0s							
J26L	Joseph Creek	88.32	25	P		P	09 25 26.6	+0.2
	baz=259							
BMAR	Burnt Mountain	88.48	22	P		P	09 25 27.8	+0.8
G26K	Porcupine Rive	88.69	23	P		P	09 25 28.6	+0.7
	baz=259							
M27K	Edge Creek, AK	88.70	27	P		P	09 25 28.8	+0.5
	baz=261							
L27K	Beaver Creek,	88.83	27	P		P	09 25 29.3	+0.5
L27K				IAmb		IAmb	09 25 30.0	
	comp=Z,11nm,0.9s							
L27K	Beaver Creek,	88.83	27	P		P	09 25 29.4	+0.6
	baz=261							
BCAR	Beaver Creek A	88.85	27	P		P	09 25 29.2	+0.3
K27K	Chicken	88.88	26	P		P	09 25 29.9	+0.9
K27K	Chicken	88.88	26	P		P	09 25 30.2	+1.3
	baz=261							
BVCY	Beaver Creek	89.17	27	P		P	09 25 31.1	+0.7
	baz=262							
C27K	Jago River	89.22	20	P		P	09 25 30.2	-0.2
	baz=259							
I27K	Kandik River	89.32	24	P		P	09 25 31.5	+0.4
	baz=261							
EGAK	Eagle	89.39	25	P		P	09 25 30.8	-0.5
H27K	Steamboat Moun	89.45	24	P		P	09 25 32.2	+0.5
	baz=261							
DAWY	Dawson	90.05	26	P		P	09 25 35.2	+0.7
DAWY				IAmb		IAmb	09 25 35.8	
	comp=Z,5.5nm,0.9s							
DAWY	Dawson	90.05	26	P		P	09 25 35.1	+0.6
	baz=263							
M29M	Somme Creek	90.28	28	P		P	09 25 36.2	+0.5
	baz=264							
L29M	L29M	90.50	27	P		P	09 25 37.7	+1.0
	baz=264							
HYT	Haines Junctio	90.58	29	P		P	09 25 37.9	+0.7
N30M	Aishikik Lake	90.84	29	P		P	09 25 39.1	+0.8
	baz=265							
KIRV	Kirov	91.22	328	LR		LR	10 06 45.2	
	comp=Z,52nm,21.3s,baz=59,slow=36							
KIRV	Kirov	91.22	328	*i* P		P	09 25 38.0	-2.0
N31M	Braeburn, Yuko	91.47	29	P		P	09 25 41.1	0.0
BELG	Belogornoye	91.90	322	*i* P		P	09 25 40.6	-2.6
GNI	Garni	93.52	310	LR		LR	10 12 55.6	
	comp=Z,22nm,18.7s,baz=106,slow=39							
DLBC	Dease Lake	94.29	32	LR		LR	10 07 04.2	
	comp=Z,46nm,18.5s,baz=286,slow=35							
KBZ	Khabaz	94.92	313	⇑*e*P		P	09 25 55.8	-1.5
KBZ				pmax		pmax		
	comp=Z,4.0nm,1.4s							
A36M	Sachs Harbour	95.39	18	P		P	09 25 57.9	-0.9
	baz=277							
BBB	Bella Bella	95.56	38	LR		LR	09 59 13.8	
	comp=Z,33nm,21.1s,baz=258,slow=29							
MOS	Moscow	97.69	326	*e*P		Pdif	09 26 16.2	+6.5
OBN	Obninsk	98.36	325	*e*P		P	09 26 10.9	-1.8
OBN				*e*			09 30 12.7	
OBN				*e*PPP		PPP	09 32 17.6	
OBN				pmax		pmax		
	comp=Z,6.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,87nm,18.0s							
YBH	Yreka Blue Hor	99.90	48	LR		LR	10 01 55.0	
	comp=Z,45nm,21.2s,baz=320,slow=30							
ARCES	ARCESS Array B	100.22	341	P		Pdif	09 26 19.5	-1.2
	comp=Z,6.7nm,1.0s,baz=88,slow=6.4,SNR=5.0							
CPUP	Villa Florida	147.73	156	PKPbc		PKPbc	09 32 21.1	+0.7
	comp=Z,4.9nm,0.9s,baz=236,slow=3.6,SNR=6.6							
LPAZ	La Paz	148.75	129	PKPbc		PKiKP	09 32 25.9	+0.4
	comp=Z,2.2nm,0.7s,baz=246,slow=1.9,SNR=9.0							
ROSC	El Rosal	148.94	86	PKPbc		PKiKP	09 32 25.6	-0.1
	comp=Z,2.7nm,0.4s,baz=134,slow=19,SNR=1.7							

IDC ***27*** *09:16:04.2±0.7,29.°52N×138.°95E,h434km±9km,mb3.3/18, mbtmp4.1/23,Error ellipse: s-maj=17.7km s-min=9.5km az=72.0*

NEIC ***27*** *09:16:06.0±1.7,29.°53N±0.°10×138.°9E±0.°2,h444km±9km, mb4.2/26,Error ellipse: s-maj=23.1km s-min=14.3km az=81.0*

JMA ***27*** *09:16:07.8±0.4,30.°N±3.°×14.°0E±.°,h467km,MV3.8/60, NEAR TORISHIMA IS*

ISC 27 09:16:05.4±0.5,29.°58N±0.°05×139.°07E±0.°09,h445km,n92, σ1$20/99,mb4.0/30,1D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	Aogashimamukai	2.93	12	*e*P	P	09 17 12.9	+1.5
JHCJ	Hachijojimakas	3.53	10	P	P	09 17 16.9	+0.8
JHJ2	Mitsune	3.58	10	P	P	09 17 16.9	+0.5
JHJ2	Mitsune	3.58	10	P	P	09 17 17.0	+0.5
JHJ2				*e*S	S	09 18 11.4	-2.9
JHJ	Hachijo jima 2	3.58	10	P	P	09 17 16.8	+0.3
	102nm,0.3s,baz=221,slow=20,SNR=33						
JHJ				S	S	09 18 13.1	-1.3
	47nm,0.3s,baz=228,slow=15,SNR=1.6						
JCJ	Chichijima	3.70	131	P	P	09 17 16.1	-1.5
	70nm,0.8s,baz=330,slow=20,SNR=30						
JCJ				S	S	09 18 13.6	-2.8
	59nm,0.4s,baz=270,slow=20,SNR=5.8						
JCJ	Chichijima	3.70	131	P	P	09 17 15.8	-1.8
JMKN	Mikurajimanish	4.32	6	P	P	09 17 22.7	-0.2
JMKN				*e*S	S	09 18 22.1	-4.1
TK02	Tokai 2	4.49	346	P	P	09 17 26.3	+2.1
JKO	Kozu shima	4.59	1	P	P	09 17 25.5	+0.1
JIZS	Izushimoda	5.12	358	P	P	09 17 30.7	+0.1
JIM2	Oshima 3	5.13	3	*e*P	P	09 17 30.7	+0.1
JIE	Ise	5.20	338	P	P	09 17 33.6	+2.3
BSO1	Boso 1	5.31	17	P	P	09 17 32.1	+0.4
BSO1				S	S	09 18 40.9	-1.5
BSO3	Boso 3	5.34	13	P	P	09 17 32.3	-0.1
BSO3				*e*S	S	09 18 41.6	-2.0
HMMJ	Hamamatsu 2	5.38	348	*e*P	P	09 17 34.2	+1.1
BSO4	Boso 4	5.50	11	P	P	09 17 34.6	+0.5
BSO4				*e*S	S	09 18 46.4	-0.3
JOD2	Odawara 2	5.66	0	P	P	09 17 35.5	-0.5
JNY	Yasuok	5.85	350	P	P	09 17 40.2	+2.3
INU	Inuyama	6.00	344	P	P	09 17 40.8	+1.4
JMN	Monobe	6.05	314	P	P	09 17 41.0	+1.0
JGF	Kuroka	6.17	347	P	P	09 17 42.5	+1.4
JHU	Hanno	6.25	2	P	P	09 17 40.9	-1.0
JRY	Ryogami san	6.42	359	P	P	09 17 43.4	-0.3
JYT	Yasato	6.69	8	P	P	09 17 45.1	-1.5
JAG	Ashikaga	6.83	3	*i* P	P	09 17 46.5	-1.6
MJAR	Matsushiro Arr	6.98	354	P	P	09 17 48.9	-0.7
	2.9nm,0.5s,baz=167,slow=12,SNR=14						
MJAR				S	S	09 19 14.4	-0.7
	1.6nm,0.6s,baz=158,slow=19,SNR=2.9						
MAJO	Matsushiro	6.98	354	P	P	09 17 49.6	0.0
MJB9	Matsu-Tunnel	6.98	354	P	P	09 17 50.6	+1.0
JHO	Hitachi	7.12	10	P	P	09 17 50.4	-0.7
JHS	Saijyo	7.38	319	P	P	09 17 55.0	+0.9
JFK	Kawauchi	7.91	11	P	P	09 17 59.6	0.0
JSD	Sado	8.46	356	P	P	09 18 05.0	-0.5
KSRS	Korea Array	12.16	313	P	P	09 18 45.5	-0.4
	1.3nm,0.7s,baz=123,slow=14,SNR=4.2						
USA0B	Ussuriysk Arra	15.64	341	P	P	09 19 23.1	-0.1
USA0B				IAmb	IAmb	09 19 24.2	
	comp=Z,10nm,0.8s						
USRK	Ussuriysk Ar.	15.64	341	P	P	09 19 23.4	+0.1
	comp=Z,9.2nm,0.7s,baz=144,slow=11,SNR=22						
SNY	Shenyang	17.50	318	⇓P	P	09 19 44.0	+1.0
SNY				pmax	pmax		
	comp=Z,70nm,0.7s						
KLR	Kul'dur	20.40	346	P	P	09 20 11.3	+0.9
	comp=Z,3.9nm,0.7s,baz=159,slow=7.6,SNR=15						
	comp=Z,3.9nm,0.7s						
HEH	HeiHe	22.45	340	*e*P	P	09 20 29.3	+0.3
HEH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HEH				pmax	pmax		
	comp=Z,78nm,5.0s						
SONM	Songino Array	31.02	315	P	P	09 21 44.3	-0.7
	comp=Z,1.0nm,0.5s,baz=128,slow=9.5,SNR=11						
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	31.02	315	P	P	09 21 44.2	-0.7
FAKI	Fak Fak	32.97	193	P	P	09 22 01.6	-0.2
FAKI				IAmb	IAmb	09 22 24.6	
	comp=Z,9.0nm,1.2s						
MTN	Manton Dam	42.87	191	P	P	09 23 22.9	-0.1
MTN				IAmb	IAmb	09 23 24.4	
	comp=Z,16nm,1.1s						
COEN	Coen	43.47	174	P	P	09 23 28.0	+0.2
COEN				IAmb	IAmb	09 23 30.5	
	comp=Z,12nm,1.3s						
ZALV	Zalesovo Beam	45.81	318	P	P	09 23 44.8	-0.8
	comp=Z,0.6nm,0.4s,baz=96,slow=11,SNR=6.0						
	comp=Z,0.6nm,0.4s						
ZALV	Zalesovo Beam	45.81	318	P	P	09 23 44.8	-0.8
MKAR	Makanchi Array	46.78	308	P	P	09 23 52.8	-0.3
	comp=Z,1.6nm,0.6s,baz=101,slow=7.2,SNR=5.0						
	comp=Z,1.6nm,0.6s						
WB0	Warramunga Arr	49.27	186	P	P	09 24 11.4	-0.6
KURBB	Kurchatov Arra	49.34	313	P	P	09 24 11.4	-0.8
	comp=Z,2.4nm,0.7s,baz=91,slow=7.7,SNR=16						
	comp=Z,2.4nm,0.7s						
WRAB	Tennant Creek	49.44	186	P	P	09 24 12.7	-0.6
WRAB				IAmb	IAmb	09 24 13.6	
	comp=Z,34nm,1.4s						
WB2	Warramunga Arr	49.45	186	P	P	09 24 12.8	-0.6
WB2				IAmb	IAmb	09 24 22.3	
	comp=Z,22nm,1.1s						
WR0	Warramunga Arr	49.45	186	P	P	09 24 12.5	-0.8
WR0				IAmb	IAmb	09 24 34.9	
	comp=Z,37nm,1.4s						
WRA	Warramunga Arr	49.45	186	P	P	09 24 13.1	-0.3
	comp=Z,2.0nm,0.2s,baz=0.3,slow=7.7,SNR=12						
	comp=Z,2.0nm,0.2s						
WRA	Warramunga Arr	49.45	186	P	P	09 24 12.5	-0.8
AS31	Alice Springs	53.17	186	P	P	09 24 40.8	+0.2
ASAR	Alice Springs	53.18	186	P	P	09 24 40.0	-0.6
	comp=Z,0.8nm,0.4s,baz=1.2,slow=8.7,SNR=1.3						
	comp=Z,0.8nm,0.4s						
K20K	Telida	53.65	31	P	P	09 24 46.2	+2.8
J20K	Nowinta River	53.70	30	P	P	09 24 46.0	+2.3
J20K				IAmb	IAmb	09 25 05.9	
	comp=Z,8.4nm,1.0s						
BVAR	Borovoye Array	54.36	316	P	P	09 24 48.1	-0.5
	comp=Z,5.1nm,0.5s,baz=96,slow=7.2,SNR=9.9						
	comp=Z,5.1nm,0.5s						
KK31	Karatay Array	55.41	304	P	P	09 24 55.9	-0.4
KK31				IAmb	IAmb	09 24 56.0	
	comp=Z,3.9nm,0.6s						
KKAR	Karatay Array	55.41	304	P	P	09 24 55.9	-0.4
MDM	Murphy Dome	56.31	29	P	P	09 25 03.7	+1.6
MDM				IAmb	IAmb	09 25 45.1	
	comp=Z,7.3nm,1.4s						
SCM	Sheep Creek Mo	56.70	33	P	P	09 25 06.8	+1.9
SCM	Sheep Creek Mo	56.70	33	P	P	09 25 06.8	+1.9
ILAR	Eielson Array	56.88	29	P	P	09 25 06.4	+0.4
	comp=Z,0.4nm,0.6s,baz=259,slow=5.7,SNR=5.8						
	comp=Z,0.4nm,0.6s						
ARU	Arti	60.78	321	P	P	09 25 31.5	-1.0
	comp=Z,3.2nm,0.4s,baz=108,slow=20,SNR=5.3						
	comp=Z,3.2nm,0.4s						
FORT	Forrest	60.94	191	P	P	09 25 33.7	-0.1
EPYK	Eagle Plains	60.99	27	P	P	09 25 35.7	+1.8
EPYK				IAmb	IAmb	09 25 36.5	
	comp=Z,6.9nm,0.7s						
EPYK	Eagle Plains	60.99	27	P	P	09 25 36.1	+2.3
	baz=266						
STKA	Stephens Creek	61.17	178	P	P	09 25 36.5	+1.1
ABKAR	Akbulak array	61.40	313	P	P	09 25 36.3	-0.5
M30M	Minto, Yukon	61.54	32	P	P	09 25 39.7	+2.1
M30M				IAmb	IAmb	09 25 40.3	
	comp=Z,12nm,1.4s						
INK	Inuvik	61.92	25	P	P	09 25 40.6	+0.8
	comp=Z,1.1nm,0.4s,baz=273,slow=4.9,SNR=13						
	comp=Z,1.1nm,0.4s						
INK	Inuvik	61.92	25	P	P	09 25 40.3	+0.5
INK				IAmb	IAmb	09 25 48.2	
	comp=Z,10nm,1.5s						
INK	Inuvik	61.92	25	P	P	09 25 40.7	+0.8
C36M	Paulatuk	65.02	23	P	P	09 26 00.5	+0.7
C36M				IAmb	IAmb	09 26 01.1	
	comp=Z,5.7nm,0.7s						
C36M	Paulatuk	65.02	23	P	P	09 26 00.7	+0.9
	baz=277						
NWAO	Narrogin (SRO)	65.53	200	P	P	09 26 03.2	-0.2
EUNU	Eureka	67.82	8	P	P	09 26 19.4	+2.1
ARCES	ARCESS Array B	70.29	340	P	P	09 26 32.2	0.0
	comp=Z,1.6nm,0.5s,baz=64,slow=8.1,SNR=11						
	comp=Z,1.6nm,0.5s						
ARCES	ARCESS Array B	70.29	340	P	P	09 26 32.7	+0.5
YKA	Yellowknife Ar	71.26	28	P	P	09 26 38.9	+0.8
	comp=Z,0.6nm,0.7s,baz=282,slow=5.7,SNR=3.1						
	comp=Z,0.6nm,0.7s						
KBZ	Khabaz	74.31	312	P	P	09 26 55.8	-0.3
	comp=Z,2.4nm,0.8s,baz=68,slow=19,SNR=5.1						
	comp=Z,2.4nm,0.8s						
FIA1	FINESS Array S	74.50	333	P	P	09 26 56.5	-0.3
FINES	FINESS Array B	74.50	333	P	P	09 26 56.4	-0.4
	comp=Z,2.2nm,0.6s,baz=66,slow=5.3,SNR=11						
	comp=Z,2.2nm,0.6s						
FINES	FINESS Array B	74.50	333	P	P	09 26 56.5	-0.3
CMWZ	Cape Campbell	78.04	154		pP	09 28 53.4	0.0
AKASG	Malin Array Be	78.99	322	P	P	09 27 21.0	-0.8
	comp=Z,0.5nm,0.4s,baz=52,slow=6.0,SNR=3.4						
	comp=Z,0.5nm,0.4s						
NB201	NORSAR Array S	80.24	337	P	P	09 27 27.9	-0.4
NB2	NORSAR Subarra	80.28	337	P	P	09 27 27.7	-0.7
	comp=Z,1.3nm,0.5s,baz=46,slow=5.1						
NOA	NORSAR Array B	80.28	337	P	P	09 27 27.9	-0.6
	comp=Z,0.6nm,0.5s,baz=53,slow=6.6,SNR=4.8						
	comp=Z,0.6nm,0.5s						
BRTR	Keskin Array B	82.30	311	P	P	09 27 39.1	-0.4
	comp=Z,1.1nm,0.7s,baz=79,slow=5.6,SNR=6.3						
	comp=Z,1.1nm,0.7s						

IDC ***27*** *09:30:35.0±2.4,37.°17N×141.°74E,h0km,mb3.2/3, mbtmp3.2/4,ML2.3/1,Error ellipse: s-maj=51.0km s-min=30.9km az=38.0*

JMA ***27*** *09:30:37.1±0.2,37.°3N±0.°4×14.°2E±.°,h27km±1km, MV3.2/33,E OFF FUKUSHIMA PREF*

ISC 27 09:30:37.4±1.6,37.°25N±0.°05×141.°5E±0.°1,h19km±6km, n16,σ1$06/17,mb3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.54	283	P	Pb	09 30 47.4	-0.8
JFK				S	Sb	09 30 54.9	-0.5
JMST	Minamisoumatoc	0.70	313	P	Pb	09 30 50.4	-0.5
JMST				S	Sb	09 31 00.2	+0.1
JFFD	Fukushimafurud	0.79	259	P	Pb	09 30 51.8	-0.7
JFFD				S	Sb	09 31 02.0	-0.7
JMM	Marumori	0.85	317	P	Pb	09 30 52.9	-0.6
JMM				S	Sb	09 31 04.5	-0.1
JHO	Hitachi	1.00	231	P	Pb	09 30 54.5	-1.5
JHO				S	Sb	09 31 07.7	-1.0
JIO	Ouri	1.21	353	P	Pg	09 30 59.5	-1.4
JIO				*e*S	Sn	09 31 14.2	-1.0
MJAR	Matsushiro Arr	2.75	256	Pn	Pn	09 31 21.6	+1.1
	0.5nm,0.3s,baz=86,slow=7.6,SNR=12						
MJAR				Sn	Sb	09 32 00.1	+0.8
	0.3nm,0.3s,baz=79,slow=14,SNR=4.8						
	3.0nm,0.4s						
H11N2	WAKE ISLAND Hy	28.18	121	T	T	10 05 56.0	
	baz=314,slow=75,SNR=50						
H11N1	WAKE ISLAND Hy	28.19	121	T	T	10 05 57.6	
	baz=314,slow=75,SNR=33						
H11N3	WAKE ISLAND Hy	28.20	121	T	T	10 05 58.3	
	baz=314,slow=75,SNR=39						
H11S1	WAKE ISLAND Hy	28.90	123	T	T	10 06 50.5	
	baz=316,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	28.90	123	T	T	10 06 49.5	
	baz=316,slow=76,SNR=35						
H11S2	WAKE ISLAND Hy	28.91	123	T	T	10 06 49.6	
	baz=316,slow=76,SNR=36						
MKAR	Makanchi Array	44.08	302	P	P	09 38 46.1	+2.0
	0.3nm,0.7s,baz=77,slow=9.1,SNR=3.3						
	0.3nm,0.7s						
WRA	Warramunga Arr	57.28	188	P	P	09 40 24.3	+0.5
	0.2nm,0.5s,baz=5.0,slow=7.2,SNR=7.6						
	0.2nm,0.5s						
ASAR	Alice Springs	61.01	188	P	P	09 40 49.5	-0.1
	0.2nm,0.8s,baz=0.6,slow=8.8,SNR=2.5						
	0.2nm,0.8s						

JMA ***27*** *09:32:02.8±0.2,37.°3N±0.°4×14.°2E±.°,h27km±1km, MV3.2/35,E OFF FUKUSHIMA PREF*

IDC ***27*** *09:32:02.0±2.4,37.°02N×141.°61E,h0km,mb3.5/3, mbtmp3.4/4,ML1.7/1,Error ellipse: s-maj=48.0km s-min=33.9km az=53.0*

ISC 27 09:32:01.3±3.0,37.°22N±0.°06×141.°6E±0.°1,h2km±16km, n16,σ1$64/17,mb3.4/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.57	285	P	Pg	09 32 12.8	+0.6
JFK				S	Sg	09 32 20.4	+0.8
JMST	Minamisoumatoc	0.74	313	P	Pg	09 32 15.9	+0.5
JMST				S	Sg	09 32 25.7	+0.7
JFFD	Fukushimafurud	0.81	261	P	Pg	09 32 17.2	+

baz=231
TWC Suao 0.17 21 P Pg 09 43 11.8 +0.4
baz=24
TWC S Sg 09 43 14.4 +0.3
baz=24
LATG Datong 0.25 290 *eP* Pb 09 43 13.6 -0.5
baz=290
LATG *eS* Sg 09 43 17.3 +0.9
baz=290
ENTT Nioudou 0.27 314 *eP* Pg 09 43 13.0 -0.3
baz=314
ENTT *eS* Sg 09 43 17.2 +0.2
baz=314
FUSB Fushanzhiwuyua 0.35 330 P Pg 09 43 15.3 +0.5
baz=322
FUSB S Sb 09 43 20.7 -0.8
baz=322
NNSB Datong 0.36 267 *eP* Pb 09 43 15.6 -0.5
baz=267
NNSB *eS* Sb 09 43 21.0 -0.9
baz=267
ETLH Xiulin Townshi 0.37 229 *eP* Pg 09 43 14.5 -0.4
baz=229
ETLH *eS* Sb 09 43 21.3 -0.5
baz=229
NNS Nan Shan 0.37 268 *eP* Pg 09 43 15.5 +0.4
baz=268
NNS *eS* Sg 09 43 19.9 -0.2
baz=268
YHNB Yeheng 0.43 300 P Pb 09 43 17.2 0.0
baz=307
YHNB S Sb 09 43 23.4 -0.2
baz=307
NSK Sanguang 0.45 300 *eP* Pg 09 43 16.4 -0.1
baz=300
NSK *eS* Sb 09 43 23.6 -0.5
baz=300
FUSS Fushou 0.53 248 *eP* Pg 09 43 18.1 +0.1
baz=248
FUSS *eS* Sg 09 43 25.6 +0.4
baz=248

JMA 27 09:43:16.4±0.1,25°N±1°×123.4E±0.4, h108km±2km, MV2.7/13, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.58**	**218**	P	Pn	09 43 33.7	+0.1
YOJ				*eS*	Sn	09 43 47.0	+0.5
IRIF	**Iriomote-Funau**	**0.66**	**153**	P	Pn	09 43 34.1	-0.1
IRIF				*eS*	Sn	09 43 47.8	+0.2
JIJ	**Ishigaki jima**	**0.88**	**129**	*i* P	Pn	09 43 36.2	0.0
JIJ				S	Sn	09 43 50.8	-0.2
JKRS	**Kuro-shima**	**0.88**	**141**	P	Pn	09 43 36.5	+0.3
JKRS				S	Sn	09 43 51.7	+0.6
JISG	**Ishigakijimahi**	**0.89**	**112**	*i* P	Pn	09 43 36.5	+0.1
JISG				S	Sn	09 43 51.6	+0.2
HATJ	**Hateruma jima**	**0.94**	**157**	P	Pn	09 43 37.0	+0.2
HATJ				*eS*	Sn	09 43 52.7	+0.6
JTJ	**Tarama**	**1.22**	**103**	P	Pn	09 43 40.2	+0.5
JTJ				S	Sn	09 43 58.4	+0.9
JIRB	**Irabujima**	**1.61**	**93**	P	Pn	09 43 44.8	+0.4
JIRB				S	Sn	09 44 06.5	+0.7
JIKM	**Ikemajima**	**1.68**	**90**	S	Sn	09 44 07.9	+0.7
JMJ2	**Miyako jima3**	**1.76**	**96**	P	Pn	09 43 47.0	+0.8
JMJ2				S	Sn	09 44 10.2	+1.2

*WEL **27** 09:54:46.0, 31°.78S×178°.82W, h90km, M4.8/22, mB5.0/8, ML5.2/15, MLv5.2/22, Mw(mB)4.4/8*
*NEIC **27** 09:54:46.4±0.9, 31°.78S±0°.09×178°.8W±0°.1, h90km±7km, mb4.4/16, Error ellipse: s-maj=15.7km s-min=12.2km az=83.0*
*IDC **27** 09:54:47.7±2.4, 31°.68S×179°.00W, h100km±20km, mb3.8/9, mbtmp4.1/9, MS3.0/5, Error ellipse: s-maj=22.0km s-min=15.8km az=170.0*

ISC 27 09:54:47.6±0.6, 32°.17S±0°.07×178°.79W±0°.08, h100km, n80, σ2.9s 103/83, mb4.2/16, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.99**	**15**	P	Pn	09 55 23.3	-10
GLKZ				S	Sn	09 55 54.7	-14
RAO	**Raoul Island**	**3.00**	**15**	LR	LR	09 56 24.5	
	comp=Z,189nm,20.9s,baz=280,slow=37						
RAO	**Raoul Island**	**3.00**	**15**	Pn	Pn	09 55 27.2	-6.2
MXZ	**Matakaoa Point**	**5.89**	**203**	Pn	**Pn**	**09 56 14.2**	**+2.0**
MXZ	**Matakaoa Point**	**5.89**	**203**	P	**Pn**	**09 56 12.6**	**+0.3**
MXZ				S	**Sn**	**09 57 19.5**	**+1.1**
WMGZ	**Waiomatatini S**	**6.09**	**201**	P	**Pn**	**09 56 13.6**	**-1.4**
WMGZ				S	**Sn**	**09 57 20.7**	**-2.5**
HAZ	**Te Kaha**	**6.25**	**206**	P	**Pn**	**09 56 15.6**	**-1.5**
PKGZ	**Pakihiroa**	**6.26**	**203**	P	**Pn**	**09 56 16.7**	**-1.7**
PKGZ				S	**Sn**	**09 57 23.9**	**-3.6**
PUZ	**Puketiti**	**6.37**	**201**	P	**Pn**	**09 56 16.0**	**-2.9**
PUZ				S	**Sn**	**09 57 27.1**	**-3.0**
KUZ	**Kuaotunu**	**6.43**	**223**	P	**Pn**	**09 56 22.6**	**+2.9**
RUGZ	**Raukumara Rang**	**6.47**	**206**	P	**Pn**	**09 56 20.4**	**+0.1**
CNGZ	**Carnagh Statio**	**6.76**	**200**	P	**Pn**	**09 56 25.7**	**+1.6**
WCZ	**Waipu Caves**	**6.83**	**235**	P	**Pn**	**09 56 27.0**	**+2.0**
OPRZ	**Ohinepanea**	**6.83**	**213**	P	**Pn**	**09 56 26.6**	**+1.5**
TKGZ	**Te Karaka**	**6.83**	**203**	P	**Pn**	**09 56 26.0**	**+0.9**
MWZ	**Matawai**	**6.85**	**205**	P	**Pn**	**09 56 23.3**	**-2.1**
URZ	**Urewera**	**6.94**	**208**	P	**Pn**	**09 56 23.7**	**-2.9**
URZ				S	**Sn**	**09 57 45.5**	**+1.6**
MKAZ	**Moumakai**	**7.01**	**224**	P	**Pn**	**09 56 25.4**	**-2.1**
OUZ	**Omahuta**	**7.04**	**242**	Pn	**Pn**	**09 56 30.2**	**+2.3**
OUZ	**Omahuta**	**7.04**	**242**	P	**Pn**	**09 56 29.9**	**+2.0**
RIGZ	**Rimuhau**	**7.10**	**202**	P	**Pn**	**09 56 28.7**	**-0.2**
RIGZ				S	**Sn**	**09 57 46.1**	**-1.9**
MUGZ	**Murupara**	**7.26**	**209**	P	**Pn**	**09 56 27.9**	**-3.1**
MUGZ				S	**Sn**	**09 57 53.2**	**+1.3**
RTZ	**Ruatahuna**	**7.30**	**207**	Pn	**Pn**	**09 56 32.4**	**+0.8**
SNGZ	**Shannon Statio**	**7.32**	**204**	P	**Pn**	**09 56 29.6**	**-2.1**
SNGZ				S	**Sn**	**09 57 52.7**	**-0.5**
KNZ	**Kokohu**	**7.42**	**202**	P	**Pn**	**09 56 34.2**	**+1.1**
KNZ				S	**Sn**	**09 57 51.6**	**-4.1**
PRRZ	**Plateau Road**	**7.44**	**211**	P	**Pn**	**09 56 33.6**	**+0.2**
MHGZ	**Mahia Peninsul**	**7.47**	**200**	P	**Pn**	**09 56 30.8**	**-3.0**
RAHZ	**Arahi**	**7.53**	**205**	P	**Pn**	**09 56 35.0**	**+0.5**
MTHZ	**Maungataniwha**	**7.56**	**207**	P	**Pn**	**09 56 35.9**	**+0.8**
WHHZ	**Waihua**	**7.62**	**204**	P	**Pn**	**09 56 34.3**	**-1.5**
NMHZ	**Naumai**	**7.79**	**206**	P	**Pn**	**09 56 38.2**	**0.0**
ARHZ	**Aropaoanui**	**7.87**	**205**	P	**Pn**	**09 56 36.9**	**-2.2**
BKZ	**Black Stump Fm**	**7.97**	**207**	Pn	**Pn**	**09 56 42.7**	**+2.1**
BKZ	**Black Stump Fm**	**7.97**	**207**	P	**Pn**	**09 56 39.6**	**-1.0**
MCHZ	**McNeill Hill**	**8.13**	**206**	P	**Pn**	**09 56 41.6**	**-1.2**
CKHZ	**Cape Kidnapper**	**8.19**	**203**	P	**Pn**	**09 56 42.3**	**-1.3**
CKHZ				S	**Sn**	**09 58 11.3**	**-3.1**
KAHZ	**Kahuranaki**	**8.38**	**204**	P	**Pn**	**09 56 44.8**	**-1.4**
BFZ	**Birch Farm**	**9.39**	**204**	P	**Pn**	**09 56 56.6**	**-3.3**
BFZ				S	**Sn**	**09 58 40.1**	**-3.4**
MRNZ	**Matariki Terra**	**11.43**	**214**	Pn	**Pn**	**09 57 30.5**	**+3.0**
DZM	**Mont Dzumac**	**16.53**	**304**	LR	LR	10 02 31.7	
	comp=Z,97nm,19.0s,baz=151,slow=29						
RAR	**Rarotonga**	**20.16**	**62**	P	**P**	**09 59 14.4**	**+0.4**
	12nm,0.4s,baz=202,slow=16,SNR=1.7						
RAR				LR	LR	10 08 04.3	
	comp=Z,28nm,18.5s,baz=202,slow=40						
	12nm,0.4s						
STKA	**Stephens Creek**	**33.46**	**260**	P	**P**	**10 01 18.1**	**+1.0**
	0.8nm,0.5s,baz=94,slow=10,SNR=4.3						
	0.8nm,0.5s						
STKA	**Stephens Creek**	**33.46**	**260**	P	**P**	**10 01 18.1**	**+1.0**
CTA	**Charters Tower**	**33.46**	**282**	LR	LR	10 12 42.4	
	comp=Z,22nm,20.8s,baz=97,slow=32						
BBOO	**Buckleboo**	**37.87**	**257**	P	**P**	**10 01 54.5**	**-0.4**
COEN	**Coen**	**39.15**	**289**	P	**P**	**10 02 04.8**	**-0.9**
COEN				IAmb	IAmb	10 02 06.4	
	comp=Z,3.6nm,0.8s						
AS31	**Alice Springs**	**42.37**	**269**	P	**P**	**10 02 30.8**	**-1.4**
ASAR	**Alice Springs**	**42.37**	**269**	P	**P**	**10 02 30.5**	**-1.7**
	comp=Z,2.3nm,0.6s,baz=106,slow=7.3,SNR=33						
ASAR				ScP	**ScP**	**10 08 04.7**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=114,slow=4.0,SNR=3.3						
ASAR				S	**S**	**10 08 45.0**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=131,slow=15,SNR=3.3						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**42.37**	**269**	P	**P**	**10 02 31.4**	**-0.8**
WR0	**Warramunga Arr**	**43.34**	**275**	P	**P**	**10 02 38.3**	**-1.8**
WR0				IAmb	IAmb	10 02 48.9	
	comp=Z,4.6nm,1.2s						
WB2	**Warramunga Arr**	**43.51**	**274**	P	**P**	**10 02 39.4**	**-2.0**
WB2				IAmb	IAmb	10 02 41.1	
	comp=Z,4.4nm,0.5s						
WRA	**Warramunga Arr**	**43.52**	**274**	P	**P**	**10 02 39.4**	**-2.1**
	comp=Z,2.5nm,0.3s,baz=113,slow=7.6,SNR=127						
WRA				ScP	**ScP**	**10 08 09.1**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=110,slow=4.1,SNR=5.8						
WRA				S	**S**	**10 09 00.1**	**-3.0**
	comp=Z,0.6nm,1.0s,baz=134,slow=19,SNR=3.9						
	comp=Z,2.5nm,0.3s						
WRA	**Warramunga Arr**	**43.52**	**274**	P	**P**	**10 02 39.7**	**-1.8**
WB0	**Warramunga Arr**	**43.55**	**275**	P	**P**	**10 02 40.4**	**-1.3**
WB0				IAmb	IAmb	10 02 41.4	
	comp=Z,10nm,1.2s						
FORT	**Forrest**	**44.97**	**257**	P	**P**	**10 02 52.2**	**-0.6**
SBA	**Scott Base**	**46.23**	**184**	P	**P**	**10 03 05.8**	**+3.6**
SBA				IAmb	IAmb	10 03 26.6	
	comp=Z,4.9nm,1.3s						
VNDA	**Vanda**	**46.27**	**186**	P	**P**	**10 03 06.3**	**+3.8**
	comp=Z,0.6nm,0.8s,baz=24,slow=7.7,SNR=5.3						
	comp=Z,0.6nm,0.8s						
VNDA	**Vanda**	**46.27**	**186**	P	**P**	**10 03 05.4**	**+2.9**
MTN	**Manton Dam**	**49.62**	**281**	P	**P**	**10 03 27.1**	**-2.0**
MTN				IAmb	IAmb	10 03 29.5	
	comp=Z,4.6nm,0.7s						
KNRA	**Kununurra**	**50.19**	**276**	P	**P**	**10 03 31.8**	**-1.6**
QSPA	**South Pole Qui**	**57.95**	**180**	P	**P**	**10 04 32.5**	**+3.2**
	comp=Z,2.7nm,0.7s,baz=51,slow=4.2,SNR=17						
	comp=Z,2.7nm,0.7s						
QSPA	**South Pole Qui**	**57.95**	**180**	P	**P**	**10 04 32.4**	**+3.1**
BELA	**Belgrano 2**	**68.13**	**172**	P	**P**	**10 05 37.8**	**+1.5**
BELA				IAmb	IAmb	10 06 09.3	
	comp=Z,5.9nm,1.4s						
MAW	**Mawson**	**70.42**	**201**	P	**P**	**10 05 52.8**	**+2.3**
	comp=Z,1.7nm,0.8s,baz=57,slow=20,SNR=2.4						
	comp=Z,1.7nm,0.8s						
SNAA	**Sanae**	**76.41**	**179**	LR	LR	10 37 45.0	
	comp=Z,15nm,20.8s,baz=188,slow=34						
H03S2	**Juan Fernandez**	**80.05**	**124**	T	T	11 35 24.5	
	baz=236,slow=74,SNR=23						
H03S1	**Juan Fernandez**	**80.06**	**124**	T	T	11 35 25.5	
	baz=236,slow=74,SNR=26						
H03S3	**Juan Fernandez**	**80.07**	**124**	T	T	11 35 23.9	
	baz=236,slow=74,SNR=28						
H03N3	**Juan Fernandez**	**80.26**	**123**	T	T	11 35 35.7	
	baz=241,slow=72,SNR=24						
H03N2	**Juan Fernandez**	**80.26**	**123**	T	T	11 35 34.4	
	baz=241,slow=72,SNR=19						
H03N1	**Juan Fernandez**	**80.27**	**123**	T	T	11 35 37.1	
	baz=241,slow=72,SNR=65						
PLCA	**Paso Flores**	**81.80**	**133**	P	**P**	**10 06 56.8**	**+1.2**
PLCA				IAmb	IAmb	10 06 58.1	
	comp=Z,6.4nm,1.1s						
NVAR	**Mina Array Bea**	**89.99**	**43**	P	**P**	**10 07 35.1**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=219,slow=7.0,SNR=4.9						
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**93.91**	**58**	P	**P**	**10 07 53.6**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=238,slow=3.1,SNR=2.6						
	comp=Z,0.3nm,0.9s						
KURBB	**Kurchatov Array**	**121.80**	**313**	PKP	**PKPdf**	**10 13 27.3**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=120,slow=2.3,SNR=4.9						
FINES	**FINESS Array B**	**146.55**	**338**	PKPbc	**PKPdf**	**10 14 13.9**	**-1.0**
	comp=Z,2.6nm,0.5s,baz=41,slow=4.3,SNR=21						
NB2	**NORSAR Subarra150.38**	**350**		PKP	**PKPbc**	**10 14 24.6**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B150.38**	**350**		PKPbc	**PKPbc**	**10 14 24.3**	**-2.3**
	comp=Z,0.9nm,0.6s,baz=18,slow=4.1,SNR=3.5						
AKASG	**Malin Array Be**	**152.25**	**320**	PKPbc	**PKPbc**	**10 14 30.3**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=65,slow=1.5,SNR=2.3						
BRTR	**Keskin Array B**	**152.79**	**295**	PKPbc	**PKiKP**	**10 14 33.0**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=148,slow=3.4,SNR=4.3						

*IDC **27** 10:01:27.8±6.4, 36°.29N×70°.69E, h87km±60km, mb3.3/1, mbtmp3.7/4, ML3.5/3, MS3.5/2, Error ellipse: s-maj=76.7km s-min=21.3km az=152.0*
*NNC **27** 10:01:36.4±5.3, 37°.09N×69°.63E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=45.0km s-min=37.7km az=126.0*

ISC 27 10:01:34.3±2.0, 36°.8N±0°.1×70°.44E±0°.09, h150km, n9, σ1.9 64/11, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.33**	**0**	⇓P	**Pn**	**10 03 06.7**	**+1.4**
	3.6nm,0.4s,baz=179,slow=11,SNR=79						
KK31				⇑S	**Sn**	**10 04 18.4**	**+1.7**
	5.7nm,0.4s,baz=351,slow=64,SNR=4.5						
AAK	**Ala-Archa**	**6.65**	**27**	P	**Pn**	**10 03 08.9**	**-0.7**
	2.9nm,0.3s,baz=198,slow=9.2,SNR=23						
AAK				S	**Sn**	**10 04 24.2**	**-0.1**
	4.2nm,0.4s,baz=197,slow=17,SNR=9.1						
	6.7nm,0.4s						
GEYT	**Alibeck**	**9.88**	**280**	P	**Pn**	**10 03 52.0**	**-0.6**
	1.0nm,0.3s,baz=113,slow=11,SNR=8.7						
GEYT				S	**Sn**	**10 05 42.1**	**0.0**
	1.8nm,0.3s,baz=144,slow=17,SNR=2.3						
	1.7nm,0.3s						
MKAR	**Makanchi Array**	**13.35**	**38**	P	**Pn**	**10 04 36.9**	**-0.9**
	baz=215,slow=12,SNR=1.7						
	0.2nm,0.7s						
AB31	**Akbulak array**	**14.63**	**332**	P	**P**	**10 04 57.8**	**+1.6**
	1.0nm,0.6s,baz=153,slow=12,SNR=26						
AB31				⇑S	**Sn**	**10 07 32.9**	**-3.3**
	3.9nm,0.7s,baz=152,slow=23,SNR=9.7						
AKTO	**Aktyubinsk**	**16.33**	**331**	⇑S	**S**	**10 08 16.4**	**+0.4**
	2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**19.87**	**26**	P	**Pn**	**10 05 55.6**	**-1.0**
	1.5nm,0.5s,baz=229,slow=11,SNR=6.5						
	1.5nm,0.5s						
SONM	**Songino Array**	**28.56**	**56**	LR	LR	10 19 10.3	
	comp=Z,62nm,20.1s,baz=193,slow=37						
JMIC	**Jan Mayen**	**52.16**	**336**	LR	LR	10 32 13.0	
	comp=Z,63nm,19.8s,baz=230,slow=35						

JMA 27 10:08:37.5±0.1, 34°.0N±0°.3×133°.1E±0°.6, h8km±3km, MV0.2/12, HIUCHINADA SETONAIKAI, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JET	**Tanbara**	**0.26**	**187**	*eP*	Pg	10 08 42.8	+0.1
JET				*eS*	Sg	10 08 46.0	-0.1
JHM	**Kurahashi**	**0.47**	**283**	*eS*	Sg	10 08 52.7	-0.3

*MOS **27** 10:08:55.1±1.0, 33°.60N×135°.84E, h413km, mb4.4/24, Error ellipse: s-maj=8.5km s-min=5.2km az=100.9*
*NIED **27** 10:08:56.3, 33°.67N×135°.85E, h415km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr 0.21; Mθθ 0.93; Mφφ -1.14; Mrθ 0.03; Mθφ 0.22; Mφr -0.59; Fault plane solution: Mo 1.17000×10^16 NP1: φs 307.00000°, δ 73.00000°, λ -12.00000°. NP2: φs 40.00000°, δ 78.00000°, λ -163.00000°.*
*NEIC **27** 10:08:56.7±1.6, 33°.61N±0°.06×135°.85E±0°.09, h404km±6km, mb4.3/84 Error ellipse: s-maj=12.2km s-min=7.8km az=122.0*
*IDC **27** 10:08:56.6±0.5, 33°.56N×135°.78E, h415km±5km, mb3.7/29, mbtmp4.5/35, Error ellipse: s-maj=9.0km s-min=6.7km az=94.0*
*JMA **27** 10:08:56.3±0.1, 33°.7N±0°.6×135°.9E±0°.5, h415km±1km, MD4.7/39, MV4.2/39, SOUTHERN WAKAYAMA PREF*

ISC 27 10:08:56.2±0.4, 33°.62N±0°.04×135°.79E±0°.04, h409km±3km, h410km pP-P, n458, σ1.9 26/477, mb4.3/102, 18C-24D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTNC	**Tanabenakahech**	**0.25**	**324**	*eP*	**P**	**10 09 47.7**	**+0.9**
JTNC				*eS*	**S**	**10 10 28.2**	**+0.7**
JMMH	**Miemihama**	**0.28**	**44**	⇓P	**P**	**10 09 47.5**	**+0.7**
JMMH				⇓S	**S**	**10 10 27.6**	**+0.2**
JWY	**Kouya**	**0.62**	**345**	P	**P**	**10 09 48.5**	**+1.1**
JWY				*eS*	**S**	**10 10 28.9**	**+0.3**
TTO1	**TONANKAI O.B.S**	**0.83**	**89**	P	**P**	**10 09 48.8**	**+1.3**
JIE	**Ise**	**1.09**	**44**	⇓P	**P**	**10 09 49.6**	**+1.0**
JIE				⇓S	**S**	**10 10 31.2**	**+0.4**
JIE	**Ise**	**1.09**	**44**	A	A	10 09 49.6	
	comp=E,4.0nm,2.3s,comp=E,2.0nm,1.5s						
JAI	**Aioi**	**1.13**	**279**	P	**P**	**10 09 49.9**	**+1.2**
JAI				*eS*	**S**	**10 10 31.4**	**+0.3**
JAA	**Atsumi**	**1.51**	**48**	A	A	10 09 51.0	
	comp=E,4.0nm,2.4s,comp=E,2.0nm,3.8s						

JMN	**Monobe**	**1.59**	**275**	Pn	**P**	**10 09 51.2**	**+0.4**
JMN	**Monobe**	**1.59**	**275**	P	**P**	**10 09 52.3**	**+1.5**
JMN	**Monobe**	**1.59**	**275**	P	**P**	**10 09 52.1**	**+1.3**
JMN				*eS*	**S**	**10 10 36.2**	**+1.3**
JEG	**Eigenji**	**1.60**	**18**	A	A	10 09 51.4	
	comp=E,4.0nm,2.3s,comp=E,4.0nm,2.6s						
TK02	**Tokai 2**	**1.67**	**78**	⇓P	**P**	**10 09 51.8**	**+1.0**
JWT	**Wachi**	**1.69**	**349**	P	**P**	**10 09 52.1**	**+1.0**
JWT				*eS*	**S**	**10 10 35.9**	**+0.2**
JFM	**Mihama**	**1.92**	**5**	A	A	10 09 53.0	
	comp=E,4.0nm,1.6s,comp=E,1.0nm,3.9s						
INU	**Inuyama**	**2.00**	**30**	Pn	**P**	**10 09 53.6**	**+0.6**
INU	**Inuyama**	**2.00**	**30**	P	**P**	**10 09 53.9**	**+1.0**
JAO	**Obara**	**2.05**	**36**	A	A	10 09 53.8	
	comp=E,5.0nm,3.1s,comp=E,2.0nm,2.9s						
JKY	**Yasaka**	**2.09**	**345**	A	A	10 09 54.3	
	comp=E,2.0nm,1.5s,comp=E,2.0nm,1.9s						
JYTA	**Yamagatataniai**	**2.12**	**21**	⇓P	**P**	**10 09 54.5**	**+0.9**
JYTA				⇓*e*S	**S**	**10 10 39.6**	**-0.7**
JGF	**Kuroka**	**2.37**	**33**	Pn	**P**	**10 09 55.6**	**+0.3**
JGF	**Kuroka**	**2.37**	**33**	P	**P**	**10 09 56.1**	**+0.8**
JGF	**Kuroka**	**2.37**	**33**	A	A	10 09 55.8	
	comp=E,3.0nm,3.6s,comp=E,2.0nm,5.9s						
JNY	**Yasuok**	**2.44**	**44**	A	A	10 09 56.3	
	comp=E,4.0nm,1.8s,comp=E,3.0nm,2.1s						
SHZ3	**Shizuoka 3**	**2.47**	**54**	A	A	10 09 56.5	
	comp=E,3.0nm,3.3s,comp=E,4.0nm,1.8s						
JHS	**Saijyo**	**2.61**	**303**	Pn	**P**	**10 09 58.0**	**+1.1**
JHS	**Saijyo**	**2.61**	**303**	P	**P**	**10 09 58.1**	**+1.1**
JHS	**Saijyo**	**2.61**	**303**	P	**P**	**10 09 58.0**	**+1.1**
JHS				*eS*	**S**	**10 10 46.8**	**+0.4**
JTO	**Tosashimizu**	**2.61**	**254**	⇓P	**P**	**10 09 58.4**	**+1.3**
JTO				⇓*eS*	**S**	**10 10 46.9**	**+0.4**
JKG	**Kaga**	**2.69**	**9**	P	**P**	**10 09 57.9**	**+0.4**
JKG				*eS*	**S**	**10 10 46.7**	**-0.7**
JNA	**Nagahama**	**2.76**	**270**	*eP*	**P**	**10 09 59.8**	**+1.6**
JNA				*eS*	**S**	**10 10 49.8**	**+1.4**
JIZS	**Izushimoda**	**2.79**	**66**	A	A	10 09 58.8	
	comp=E,2.0nm,3.7s,comp=E,5.0nm,2.1s						
JFNN	**Fujinakano**	**2.87**	**56**	*eP*	**P**	**10 09 59.2**	**+0.3**
JHT	**Toyohira**	**2.98**	**291**	P	**P**	**10 10 00.9**	**+1.1**
JHT				*eS*	**S**	**10 10 52.6**	**+1.0**
JGT2	**ShimaneMisato**	**3.07**	**299**	P	**P**	**10 10 01.3**	**+0.8**
JGT2				*eS*	**S**	**10 10 52.9**	**0.0**
JOD2	**Odawara 2**	**3.19**	**58**	P	**P**	**10 10 01.6**	**+0.2**
JTT	**Ttatey**	**3.24**	**23**	A	A	10 10 02.4	
	comp=E,5.0nm,3.2s,comp=E,2.0nm,2.6s						
JHJ	**Hachijo jima 2**	**3.38**	**97**	P	**P**	**10 10 04.0**	**+0.9**
	658nm,0.7s,baz=227,slow=20,SNR=22						
JHJ				S	**S**	**10 11 05.0**	**+7.3**
	84nm,0.4s,baz=80,slow=22,SNR=1.1						
JOI	**OKI**	**3.39**	**323**	P	**P**	**10 10 03.9**	**+0.8**
JHJ2	**Mitsune**	**3.41**	**97**	Pn	**P**	**10 10 03.7**	**+0.4**
JHJ2	**Mitsune**	**3.41**	**97**	P	**P**	**10 10 04.0**	**+0.6**
JHJ2	**Mitsune**	**3.41**	**97**	P	**P**	**10 10 03.8**	**+0.4**
JRY	**Ryogami san**	**3.51**	**46**	⇓P	**P**	**10 10 04.5**	**+0.3**
JRY				⇓*e*S	**S**	**10 10 57.8**	**-1.8**
MAJO	**Matsushiro**	**3.53**	**34**	Pn	**P**	**10 10 05.2**	**+0.9**
MAJO	**Matsushiro**	**3.53**	**34**	P	**P**	**10 10 05.3**	**+0.9**
MAJO	**Matsushiro**	**3.53**	**34**	*ce*P	**P**	**10 10 04.2**	**-0.2**
MAT	**Matsushiro**	**3.53**	**34**	P	**P**	**10 10 04.8**	**+0.4**
MAT				*eS*	**S**	**10 10 58.4**	**-1.6**
MJAR	**Matsushiro Arr**	**3.53**	**34**	P	**P**	**10 10 05.5**	**+1.1**
	83nm,0.5s,baz=172,slow=5.6,SNR=166						
MJAR				S	**S**	**10 10 59.0**	**-1.0**
	82nm,0.8s,baz=332,slow=33,SNR=9.2						
MJB9	**Matsu-Tunnel**	**3.53**	**33**	Pn	**P**	**10 10 06.3**	**+1.9**
JJN	**Nakama**	**3.98**	**28**	A	A	10 10 08.8	
	comp=E,3.0nm,3.2s,comp=E,3.0nm,2.3s						
JHGM	**Hagimishima**	**4.02**	**288**	A	A	10 10 10.2	
	comp=E,3.0nm,2.0s,comp=E,2.0nm,3.2s						
JNU	**Nakatsue**	**4.14**	**265**	Pn	**P**	**10 10 11.4**	**+1.4**
JNU	**Nakatsue**	**4.14**	**265**	P	**P**	**10 10 11.5**	**+1.5**
JSD	**Sado**	**4.85**	**24**	Pn	**P**	**10 10 17.3**	**+0.5**
JSD	**Sado**	**4.85**	**24**	P	**P**	**10 10 17.3**	**+0.5**
JSU	**Suzuyama**	**4.97**	**246**	Pn	**P**	**10 10 19.5**	**+1.3**
JSU	**Suzuyama**	**4.97**	**246**	P	**P**	**10 10 19.8**	**+1.6**
	353nm,1.0s						
JTU	**Tsushima**	**5.38**	**281**	Pn	**P**	**10 10 23.6**	**+1.3**
JTU	**Tsushima**	**5.38**	**281**	P	**P**	**10 10 23.6**	**+1.3**
JYS	**Shirataka**	**5.76**	**36**	A	A	10 10 26.7	
	comp=E,5.0nm,2.2s,comp=E,6.0nm,2.8s						
JMST	**Minamisoumatoc**	**5.83**	**44**	A	A	10 10 27.4	
	comp=E,5.0nm,0.6s,comp=E,4.0nm,1.6s						
JMM	**Marumori**	**5.88**	**42**	Pn	**P**	**10 10 26.7**	**-0.7**
JMM	**Marumori**	**5.88**	**42**	P	**P**	**10 10 26.8**	**-0.7**
JYA	**Atsumi**	**5.90**	**31**	A	A	10 10 28.1	
	comp=E,5.0nm,2.0s,comp=E,3.0nm,1.3s						
JOU	**Okura**	**6.17**	**38**	A	A	10 10 31.1	
	comp=E,5.0nm,1.8s,comp=E,7.0nm,2.9s						
JOFO	**Osakifur

KLR **Kul'dur** 15.89 350*c i*P P 10 12 16.5 -1.2
KLR pmax pmax
comp=Z,8.0nm,0.6s
UGL **Uglegorsk** 16.14 15 *e*P P 10 12 21.4 +1.0
UGL pmax pmax
comp=Z,120nm,1.0s
BJT **Baijiatuau** 16.95 298 P P 10 12 29.5 +0.4
BJT **Baijiatuau** 16.95 298 P P 10 12 29.6 +0.4
BJT **Baijiatuau** 16.95 298 P P 10 12 29.5 +0.4
BJT pmax pmax
comp=Z,72nm,0.8s
BJI **Beijing** 16.95 298 Pg P 10 12 29.3 +0.2
BJI smax smax
comp=N,28nm,0.7s
BJI smax smax
comp=E,47nm,0.8s
GRNR **Gornyy** 17.15 1⇑*i*P P 10 12 30.6 -0.5
GRNR pmax pmax
comp=Z,30nm,0.7s
HNS **HongShan** 17.57 288 ⇑P P 10 12 35.5 -0.2
HNS pmax pmax
comp=Z,29nm,1.4s
HEH **HeiHe** 17.73 342 *e*P P 10 12 36.0 -1.3
HEH pmax pmax
comp=Z,17nm,1.4s
HEH pmax pmax
comp=Z,170nm,5.9s
HEH LR LR
comp=N,200nm,14.1s
HEH LR LR
comp=E,210nm,15.1s
HEH LR LR
comp=Z,290nm,14.7s
TYV **Tymovskoe** 17.96 14 *e*P P 10 12 40.6 +1.0
TYV *e*S S 10 15 40.3 -3.9
TYV pmax pmax
comp=Z,100nm,3.1s
TYV pmax pmax
comp=Z,13nm,0.9s
TYV smax smax
comp=E,200nm,4.4s
WHN **Wuhan** 18.42 266 ⇓P P 10 12 45.0 +0.2
WHN pmax pmax
comp=Z,390nm,0.9s
LYN **LuoYang** 19.33 279 *e*P P 10 12 52.5 -1.4
LYN pmax pmax
comp=Z,10.0nm,1.3s
HIA **Hailar** 19.66 327*ce*P P 10 12 57.3 +0.5
HIA pmax pmax
comp=Z,29nm,1.8s
ZEA **Zeya** 21.01 346 *e*P P 10 13 10.3 +1.3
ZEA *e*S S 10 16 35.2 +0.2
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,30nm,0.6s
ZEA pmax pmax
comp=Z,50nm,0.6s
ZEA smax smax
comp=E,100nm,7.9s
GUMO **Guam** 21.58 155 P P 10 13 14.1 -0.5
comp=E,99nm,0.8s,baz=175,slow=20,SNR=2.2
comp=E,99nm,0.8s
XAN **Xi'an** 22.30 279⇓*i*P P 10 13 21.0 -0.1
XAN pmax pmax
comp=Z,47nm,0.9s
XAN AMB AMB
comp=Z,120nm,8.8s
ENH **Enshi** 22.55 269 P P 10 13 23.3 +0.1
ENH **Enshi** 22.55 269 P P 10 13 23.4 +0.1
PEA0B **Petropavlovsk-** 24.99 32 P P 10 13 45.0 +0.2
PEA0B **Petropavlovsk-** 24.99 32 P P 10 13 45.1 +0.2
PEA0B pmax pmax
comp=Z,50nm,1.3s
PETK **Petropavlovsk-** 24.99 32 P P 10 13 45.5 +0.6
comp=Z,2.7nm,0.6s,baz=258,slow=21,SNR=15
comp=Z,2.7nm,0.6s
PETK **Petropavlovsk-** 24.99 32 P P 10 13 45.3 +0.4
PETK **Petropavlovsk-** 24.99 32 P P 10 13 45.3 +0.4
ULN **Ulaanbaatar** 25.83 312 P P 10 13 54.0 +1.4
ULN lAmb lAmb 10 13 55.0
comp=Z,10nm,0.8s
ULN **Ulaanbaatar** 25.83 312 P P 10 13 54.0 +1.4
ULN pmax pmax
comp=Z,10.0nm,0.8s
SONM **Songino Array** 26.23 312 P P 10 13 57.5 +1.5
comp=Z,5.8nm,0.7s,baz=114,slow=8.6,SNR=25
SONM pP **pwP** 10 15 07.5 -0.6
comp=Z,3.3nm,1.1s,baz=120,slow=8.5,SNR=1.9
SONM ScP **ScP** 10 20 09.6 -0.7
comp=Z,1.2nm,0.8s,baz=150,slow=3.8,SNR=6.4
comp=Z,5.8nm,0.7s
SONM **Songino Array** 26.23 312 P P 10 13 57.6 +1.6
LZH **Lanzhou** 26.27 284 *e*P P 10 13 56.5 -0.1
LZH pmax pmax
comp=Z,22nm,1.2s
MA2 **Magadan** 27.80 16 P P 10 14 09.7 +0.1
comp=Z,11nm,0.8s,baz=218,slow=9.0,SNR=5.8
comp=Z,11nm,0.8s
MA2 **Magadan** 27.80 16 P P 10 14 09.9 +0.3
MA2 lAmb lAmb 10 14 16.8
comp=Z,33nm,1.3s
MA2 **Magadan** 27.80 16⇑*e*P P 10 14 08.8 -0.8
MA2 pmax pmax
comp=Z,15nm,0.8s
YAK **Yakutsk** 28.70 354 P P 10 14 17.2 -0.3
comp=Z,3.3nm,0.3s,baz=105,slow=2.1,SNR=4.3
comp=Z,3.3nm,0.3s
YAK **Yakutsk** 28.70 354 *e*P P 10 14 16.2 -1.3
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.3s
GTA **Gaotai** 29.35 292 *e*P P 10 14 24.0 +0.3
GTA pmax pmax
comp=Z,11nm,1.0s
PZH **PanZhiHua** 30.21 266 P P 10 14 31.0 -0.4
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.3s
SEY **Seymchan** 31.15 15 P P 10 14 39.3 +0.5
comp=Z,3.3nm,0.7s,baz=224,slow=9.4,SNR=7.3
comp=Z,3.3nm,0.7s
SEY **Seymchan** 31.15 15⇓*e*P P 10 14 38.9 +0.1
SEY pmax pmax
comp=Z,3.0nm,0.6s
GOMU **GeErMu** 33.53 286 P P 10 14 58.8 -1.3
GOMU pmax pmax
comp=Z,28nm,0.6s
CRAI **Chiangrai** 34.10 256 P P 10 15 05.3 +0.6
GTOI **Gorontalo** 34.93 203 P P 10 15 10.4 -1.3
comp=Z,10nm,0.9s
PHRA **Phrae** 35.11 254 P P 10 15 13.9 +0.6
TOLI2 **Tolitoli** 35.27 207 P P 10 15 14.2 -0.3
TOLI2 lAmb lAmb 10 15 22.8
comp=Z,8.8nm,0.8s
TOLI2 **Tolitoli** 35.27 207 P P 10 15 13.7 -0.9
MRSI **Marisa** 35.44 204 P P 10 15 16.4 +0.4
comp=Z,25nm,0.9s
CHTO **Chiang Mai** 35.98 255 P P 10 15 20.9 +0.3
CHTO lAmb lAmb 10 15 21.8
comp=Z,24nm,1.0s
CHTO **Chiang Mai** 35.98 255 P P 10 15 20.9 +0.3
CHTO pmax pmax
comp=Z,24nm,1.0s
CMAR **Chiang Mai Arr** 36.17 255 P P 10 15 22.6 +0.4
comp=Z,7.8nm,0.6s,baz=46,slow=7.3,SNR=34
comp=Z,7.8nm,0.6s
CMAR **Chiang Mai Arr** 36.17 255 P P 10 15 22.4 +0.2
CMAR **Chiang Mai Arr** 36.17 255 P P 10 15 22.4 +0.2
MPSI **Mapaga** 36.31 208 P P 10 15 23.0 -0.3
comp=Z,9.2nm,0.9s
FAKI **Fak Fak** 36.49 186 P P 10 15 24.7 -0.2
FAKI **Fak Fak** 36.49 186 P P 10 15 24.6 -0.2
comp=Z,2μmcomp=Z,222nm,0.7s
FAKI **Fak Fak** 36.49 186 P P 10 15 24.5 -0.3
SANI **Sanana** 36.66 197 P P 10 15 24.2 -2.0
comp=Z,30nm,0.5s
SANI **Sanana** 36.66 197 P P 10 15 24.7 -1.5
MSAI **Masohi** 37.33 191 P P 10 15 33.1 +1.3
comp=Z,14nm,0.8s
AAI **Ambon** 37.79 192 P P 10 15 36.2 +0.6
comp=Z,62nm,0.8s

TIXI **Tiksi** 38.27 356 P P 10 15 38.6 -0.3
comp=Z,5.6nm,0.6s,baz=270,slow=23,SNR=28
comp=Z,5.6nm,0.6s
TIXI **Tiksi** 38.27 356 P P 10 15 38.8 -0.1
TIXI lAmb lAmb 10 15 39.7
comp=Z,7.4nm,0.8s
BNDI **Bandanaira** 38.34 189 P P 10 15 39.6 -0.5
comp=Z,53nm,0.7s
BILL **Bilibino** 38.64 18 P P 10 15 42.9 +1.0
BILL lAmb lAmb 10 15 44.0
comp=Z,39nm,1.2s
BILL **Bilibino** 38.64 18*c i*P P 10 15 39.8 -2.1
BILL pmax pmax
comp=Z,23nm,1.0s
DGZ **Jazzator, Alta** 38.82 309⇓*e*P P 10 15 44.8 +0.9
DGZ pmax pmax
comp=Z,8.0nm,1.0s
RABL **Rabaul** 40.67 154 P P 10 15 57.8 -1.3
ZALV **Zalesovo Beam** 40.97 316 P P 10 16 01.6 +0.6
comp=Z,0.8nm,0.3s,baz=97,slow=6.8,SNR=4.3
ZALV PcP **PcP** 10 17 51.6 -0.4
comp=Z,3.0nm,0.7s,baz=86,slow=2.9,SNR=11
ZALV ScP **ScP** 10 20 59.9 -2.0
comp=Z,0.9nm,0.5s,baz=116,slow=3.4,SNR=3.6
comp=Z,0.8nm,0.3s
ZALV **Zalesovo Beam** 40.97 316 P P 10 16 01.0 0.0
TAPN **Taplejung** 41.60 275 *e*P P 10 16 06.7 -0.2
comp=Z,11nm,0.4s
MK31 **Makanchi Array** 42.15 305 P P 10 16 11.2 +0.6
MK31 **Makanchi Array** 42.15 305*d i*P P 10 16 10.9 +0.3
MKAR **Makanchi Array** 42.15 305 P P 10 16 11.1 +0.5
comp=Z,4.3nm,0.6s,baz=88,slow=10,SNR=44
MKAR PcP **PcP** 10 17 55.9 -0.2
comp=Z,0.6nm,0.6s,baz=103,slow=2.5,SNR=3.3
MKAR ScP **ScP** 10 21 05.7 -1.2
comp=Z,2.8nm,0.6s,baz=85,slow=6.1,SNR=18
comp=Z,4.3nm,0.6s
MAKZ **Makanchi** 42.36 305 P P 10 16 12.8 +0.5
MAKZ **Makanchi** 42.36 305 P P 10 16 12.8 +0.5
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
RAMN **Ramite** 42.67 275 *e*P P 10 16 15.0 -0.3
JIRN **Jiri** 42.76 276 *e*P P 10 16 16.5 +0.4
comp=Z,38nm,0.6s
GUN **Gumba** 42.93 276 *e*P P 10 16 17.7 +0.3
IPM **Ipoh** 43.43 236 P P 10 16 21.9 +0.8
IPM lAmb lAmb 10 16 22.4
comp=Z,26nm,1.4s
PKI **Pulchoki** 43.44 276 *e*P P 10 16 20.8 -0.6
PKIN **Phulchoki** 43.45 276 *e*P P 10 16 21.0 -0.4
comp=Z,14nm,0.6s
DMN **Daman** 43.68 276 *e*P P 10 16 22.8 -0.4
GKN **Gorkha** 43.93 277 *e*P P 10 16 24.9 -0.2
comp=Z,8.2nm,0.3s
KURK **Kurchatov** 44.52 310 P P 10 16 29.1 -0.1
KURK **Kurchatov** 44.52 310*de*P P 10 16 28.9 -0.2
KURK pmax pmax
comp=Z,5.0nm,0.9s
DANN **Dangsing** 44.53 278 *e*P P 10 16 30.3 +0.3
KURBB **Kurchatov Arra** 44.58 310 P P 10 16 29.5 -0.1
comp=Z,1.3nm,0.4s,baz=91,slow=9.5,SNR=26
KURBB PcP **PcP** 10 18 03.5 -0.7
comp=Z,1.0nm,0.6s,baz=90,slow=4.0,SNR=6.7
comp=Z,1.3nm,0.4s
KOLN **Koldanda** 44.87 277 *e*P P 10 16 32.6 +0.1
comp=Z,9.3nm,1.5s
PYUN **Piuthan** 45.26 278 *e*P P 10 16 35.8 +0.3
PLAI **Plampang** 45.55 205 P P 10 16 35.7 -1.8
TARG **Taragay, Kyrgy** 45.85 298 P P 10 16 41.9 +1.8
TARG lAmb lAmb 10 16 42.0
comp=Z,14nm,1.2s
TARG **Taragay, Kyrgy** 45.85 298 P P 10 16 41.9 +1.8
TARG pmax pmax
comp=Z,14nm,1.2s
PSI **Prapat** 46.08 236 P P 10 16 41.5 -0.4
comp=Z,3.9nm,0.6s,baz=118,slow=4.5,SNR=3.1
comp=Z,3.9nm,0.6s
KDU **Kakadu** 46.15 184 P P 10 16 41.5 -0.6
MTN **Manton Dam** 46.41 186 P P 10 16 43.4 -0.7
MTN **Manton Dam** 46.41 186 P P 10 16 43.5 -0.6
ANM **Nome** 46.88 30 P P 10 16 48.7 +1.6
ANM **Nome** 46.88 30 P P 10 16 48.7 +1.6
ANM pmax pmax
comp=Z,60nm,1.4s
SDSI **Sungai Dareh** 47.17 230 P P 10 16 50.2 +0.2
comp=Z,4μmcomp=Z,16nm,1.5s
KSH **Kashi** 47.64 295 P P 10 16 56.8 +3.3
KSH pmax pmax
comp=Z,10.0nm,0.7s
COEN **Coen** 47.83 170 P P 10 16 55.3 +0.4
COEN lAmb lAmb 10 16 56.1
comp=Z,25nm,0.9s
COEN **Coen** 47.83 170 P P 10 16 55.2 +0.3
GSI **Gunungsitoli** 48.09 236 P P 10 16 57.5 +0.5
GSI **Gunungsitoli** 48.09 236 P P 10 16 57.1 +0.1
comp=Z,45nm,1.2s
AAK **Ala-Archa** 48.11 300 P P 10 16 56.5 -0.6
comp=Z,2.1nm,0.7s,baz=166,slow=5.8,SNR=5.4
comp=Z,2.1nm,0.7s
AAK **Ala-Archa** 48.11 300⇑*e*P P 10 16 55.4 -1.6
AAK pmax pmax
comp=Z,7.0nm,1.5s
LEM **Lembang** 48.28 219 P P 10 16 58.6 0.0
comp=Z,24nm,0.6s,baz=137,slow=21,SNR=3.5
comp=Z,24nm,0.6s
KNRA **Kununurra** 49.47 189 P P 10 17 07.1 -0.1
KNRA **Kununurra** 49.47 189 P P 10 17 06.9 -0.3
BRVK **Borovoye** 49.59 314 P P 10 17 08.4 +0.7
BRVK **Borovoye** 49.59 314*ce*P P 10 17 07.9 +0.2
BRVK pmax pmax
comp=Z,2.0nm,0.9s
GCSA **Galena City Sc** 50.53 31 P P 10 17 15.3 +0.9
baz=266
TTA **Tatalina** 50.82 33 P P 10 17 17.4 +0.6
TTA **Tatalina** 50.82 33 P P 10 17 17.4 +0.6
KK31 **Karatay Array** 50.89 301 P P 10 17 17.8 +0.2
KK31 **Karatay Array** 50.89 301 P P 10 17 17.8 +0.2
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KKAR **Karatay Array** 50.89 301 P P 10 17 17.6 +0.1
KKAR **Karatay Array** 50.89 301 P P 10 17 17.8 +0.2
KKAR lAmb lAmb 10 17 18.6
comp=Z,6.4nm,1.1s
KKAR **Karatay Array** 50.89 301 P P 10 17 17.6 +0.1
O18K **Koktuh Hills** 51.20 37 P P 10 17 22.1 +2.6
baz=271
NIL **Nilore** 51.32 289 P P 10 17 21.5 +0.7
NIL lAmb lAmb 10 17 22.4
comp=Z,8.4nm,0.7s
NIL **Nilore** 51.32 289 P P 10 17 21.5 +0.7
NIL pmax pmax
comp=Z,8.0nm,0.7s
L19K **White Mountain** 51.34 34 P P 10 17 22.1 +1.5
A21K **Barrow** 51.38 22 P P 10 17 21.3 +0.7
A21K lAmb lAmb 10 17 22.4
comp=Z,9.9nm,0.6s
A21K **Barrow** 51.38 22 P P 10 17 22.3 +1.7
baz=261
J20K **Nowinta River** 51.69 32 P P 10 17 24.7 +1.8
J20K lAmb lAmb 10 17 25.2
comp=Z,8.8nm,0.7s
J20K **Nowinta River** 51.69 32 P P 10 17 24.9 +2.0
baz=269
K20K **Telida** 51.71 33 P P 10 17 24.9 +1.8
K20K lAmb lAmb 10 17 25.9
comp=Z,14nm,0.8s
K20K **Telida** 51.71 33 P P 10 17 25.3 +2.1
baz=270
L20K **Farewell, AK** 51.80 34 P P 10 17 25.8 +2.0
baz=270
IMAR **Indian Mountai** 51.90 29 P P 10 17 26.2 +1.6
F21K **Alatna River** 52.06 28 P P 10 17 27.0 +1.3
baz=267
M20K **Styx River** 52.16 35 P P 10 17 28.7 +2.1
H21K **Melozitna Rive** 52.28 30 P P 10 17 29.2 +2.0
H21K **Melozitna Rive** 52.28 30 P P 10 17 29.3 +2.0
baz=269
RSO **Redoubt South** 52.40 36 P P 10 17 28.9 +0.4
CHUM **Lake Minchumin** 52.49 32 P P 10 17 30.8 +2.0
baz=271
PPLA **Purkeypile** 52.57 33 P P 10 17 31.2 +1.6
PPLA lAmb lAmb 10 17 37.5
comp=Z,37nm,1.5s
PPLA **Purkeypile** 52.57 33 P P 10 17 31.6 +2.0
baz=272
F22K **John River** 52.58 27 P P 10 17 31.3 +1.9
baz=268
CAST **Castle Rocks** 52.60 33 P P 10 17 31.4 +1.8
CAST **Castle Rocks** 52.60 33 P P 10 17 31.5 +1.8
baz=271
I21K **Tanana** 52.62 30 P P 10 17 31.8 +2.0
I21K lAmb lAmb 10 17 32.6
comp=Z,10nm,0.8s
I21K **Tanana** 52.62 30 P P 10 17 32.1 +2.4
baz=270
E22K **Anaktuvuk Pass** 52.74 27 P P 10 17 32.3 +1.7
baz=268
G22K **Bettles** 52.83 28 P P 10 17 32.6 +1.4
baz=269
H22K **Ishtalitna Cre** 52.88 29 P P 10 17 33.6 +2.0
baz=270
CHGR **Chuyangaron** 52.99 296 P P 10 17 33.5 +0.5
CHGR **Chuyangaron** 52.99 296 P P 10 17 33.5 +0.5
CHGR pmax pmax
comp=Z,37nm,1.0s
WB0 **Warramunga Arr** 53.10 182 P P 10 17 33.4 -0.3
WB0 lAmb lAmb 10 17 34.1
comp=Z,18nm,0.9s
MLY **Manley** 53.15 31 P P 10 17 35.3 +1.7
baz=271
CNPM **China Poot** 53.23 37 P P 10 17 34.2 0.0
C23K **Itkillik River** 53.23 25 P P 10 17 35.8 +1.7
baz=268
WRAB **Tennant Creek** 53.27 182 P P 10 17 34.5 -0.5
WRAB lAmb lAmb 10 17 35.3
comp=Z,50nm,1.5s
WRAB **Tennant Creek** 53.27 182 P P 10 17 34.6 -0.3
WRAB **Tennant Creek** 53.27 182*c i*P P 10 17 34.3 -0.6
WRAB pmax pmax
comp=Z,14nm,1.1s
WB2 **Warramunga Arr** 53.28 182 P P 10 17 34.5 -0.5
WB2 lAmb lAmb 10 17 35.3
comp=Z,34nm,1.3s
WRA **Warramunga Arr** 53.28 182 P P 10 17 34.4 -0.6
comp=Z,8.2nm,0.3s,baz=354,slow=7.8,SNR=89
WRA PcP **PcP** 10 18 36.0 -0.5
comp=Z,1.1nm,0.4s,baz=355,slow=4.4,SNR=2.7
WRA ScP **ScP** 10 21 53.5 -0.6
comp=Z,0.5nm,0.7s,baz=355,slow=4.5,SNR=3.1
WRA S **S** 10 24 31.3 -3.1
comp=Z,0.4nm,0.6s,baz=360,slow=12,SNR=5.5
comp=Z,8.2nm,0.3s
WRA **Warramunga Arr** 53.28 182 P P 10 17 33.3 -1.7
WR0 **Warramunga Arr** 53.29 181 P P 10 17 34.7 -0.4
WB1 **Warramunga Ar.** 53.29 182 P P 10 17 34.7 -0.4
SUA **Susitna One** 53.32 35 P P 10 17 35.3 +0.4
BRLK **Bradley Lake** 53.38 37 P P 10 17 35.5 +0.2
TRF **Thorofare Moun** 53.41 33 P P 10 17 37.0 +1.4
TRF lAmb lAmb 10 17 46.6
comp=Z,13nm,1.4s
G23K **Bananza Creek** 53.41 28 P P 10 17 37.2 +1.7
baz=271
E23K **Chandalar** 53.56 27 P P 10 17 38.7 +2.1
baz=270
TOLK **Toolik Lake Re** 53.58 26 P P 10 17 37.6 +1.0
TOLK lAmb lAmb 10 17 53.3
comp=Z,14nm,1.4s
TOLK **Toolik Lake Re** 53.58 26 P P 10 17 38.2 +1.6
baz=270
TV1H **Townsville Har** 53.62 167 P P 10 17 37.4 0.0
H23K **Yukon River** 53.63 30 P P 10 17 39.3 +2.3
baz=272
I23K **Minto, Yukon-K** 53.73 30 P P 10 17 39.5 +1.8
baz=272
NEA2 **Nenana** 53.88 31 P P 10 17 40.4 +1.6
baz=273
C24K **Franklin Bluff** 53.90 25 P P 10 17 40.2 +1.4
baz=270
E24K **Your Creek** 53.99 27 P P 10 17 41.7 +2.1
baz=271
QIS **Mount Isa** 53.99 176 P P 10 17 39.9 -0.2
MCK **McKinley** 54.00 32 P P 10 17 40.9 +1.2
baz=274
RND **Reindeer** 54.06 33 P P 10 17 41.2 +1.0
RND lAmb lAmb 10 17 42.2
comp=Z,20nm,1.3s
RND **Reindeer** 54.06 33 P P 10 17 41.2 +1.0
RND pmax pmax
comp=Z,20nm,1.3s
PMR **Palmer** 54.08 35 P P 10 17 40.7 +0.5
baz=275
GHO **Glory Hole Cre** 54.16 35 P P 10 17 42.0 +1.1
GHO lAmb lAmb 10 18 07.4
comp=Z,27nm,1.4s
F24K **Squaw Lake** 54.23 27 P P 10 17 43.0 +1.7
baz=272
H24K **Noodor Dome** 54.31 30 P P 10 17 43.7 +1.8
H24K **Noodor Dome** 54.31 30 P P 10 17 43.8 +1.8
baz=273
CTA **Charters Tower** 54.33 168 P P 10 17 42.2 -0.3
COLA **College** 54.39 31 P P 10 17 44.3 +2.0
baz=274
COLA **College** 54.39 31 P P 10 17 44.5 +2.2
COLA **College** 54.39 31⇑*e*P P 10 17 40.8 -1.5
KNK **Knik Glacier** 54.42 35 P P 10 17 43.8 +1.1
baz=276
G24K **Hadweenzic Riv** 54.43 28 P P 10 17 44.8 +2.1
baz=273
PWL **Port Wells** 54.54 36 P P 10 17 44.4 +0.8
baz=276
POKR **Poker Plat Res** 54.55 30 P P 10 17 45.5 +1.9
POKR lAmb lAmb 10 17 46.1
comp=Z,23nm,1.2s
POKR **Poker Plat Res** 54.55 30 P P 10 17 45.2 +1.7
baz=274
WAT6 **Susitna Watana** 54.63 34 P P 10 17 45.4 +1.0
baz=276
D25K **Kavik River** 54.72 25 P P 10 17 46.3 +1.6
baz=272
IL31 **Eielson Array** 54.81 31 P P 10 17 45.7 +0.4
ILAR **Eielson Array** 54.81 31 P P 10 17 45.4 0.0
comp=Z,1.8nm,0.6s,baz=255,slow=5.7,SNR=43
ILAR PcP **PcP** 10 18 41.0 -0.8
comp=Z,0.5nm,0.8s,baz=267,slow=5.4,SNR=2.4
ILAR pP **pP** 10 19 11.6 +1.9
comp=Z,0.7nm,0.7s,baz=264,slow=5.0,SNR=5.1
comp=Z,1.8nm,0.6s
HDA **Harding Lake** 54.81 31 P P 10 17 45.9 +0.5
baz=275
SCM **Sheep Creek Mo** 54.91 34 P P 10 17 47.6 +1.4
baz=277
G25K **Bearman Lake** 54.97 28 P P 10 17 48.6 +2.2
baz=274
E25K **Arctic Village** 55.08 27 P P 10 17 49.4 +2.1
baz=274
F25K **Christian Rive** 55.09 27 P P 10 17 49.8 +2.5
baz=274
K24K **Donnelly Dome** 55.39 32 P P 10 17 50.5 +1.0
baz=277
BMAR **Burnt Mountain** 55.51 27 P P 10 17 52.1 +1.8
C27K **Jago River** 55.64 25 P P 10 17 53.1 +1.9
baz=274
F26K **Sheenjek River** 55.65 27 P P 10 17 54.1 +2.8
baz=275
HARP **HAARP** 55.85 34 P P 10 17 54.6 +1.9
baz=278
ARU **Arti** 55.90 319*d i*P P 10 17 52.3 -0.8
ARU 10 18 40.9
ARU S **S** 10 25 09.0 +0.8
ARU pmax pmax
comp=Z,14nm,2.1s
SCRK **Sand Creek** 56.15 32 P P 10 17 55.8 +0.9
SCRK lAmb lAmb 10 17 57.1
comp=Z,16nm,1.2s
SCRK **Sand Creek** 56.15 32 P P 10 17 55.9 +0.9
baz=278,SNR=14
DOT **Dot Lake** 56.16 32 P P 10 17 55.8 +0.9
DOT lAmb lAmb 10 17 56.3
comp=Z,11nm,0.9s
N25K **Chitina, Valde** 56.23 34 P P 10 17 56.5 +1.1
N25K lAmb lAmb 10 18 22.1
comp=Z,26nm,1.4s
N25K **Chitina, Valde** 56.23 34 P P 10 17 57.0 +1.6
baz=279,SNR=5.3
BMRM **Bremner River** 56.33 35 P P 10 17 57.5 +1.4
baz=280
MENT **Mentasta** 56.42 33 P P 10 17 58.8 +2.0
MENT lAmb lAmb 10 17 59.2
comp=Z,14nm,0.7s
E27K **Coleen River** 56.55 26 P P 10 17 59.4 +1.8
baz=277
L26K **Log Cabin Wild** 56.58 33 P P 10 17 59.3 +1.5

L26K					IAmb	IAmb	10 18 00.3		
	comp=Z,13nm,0.9s								
L26K	**Log Cabin Wild**	**56.58**	**33**	P	**P**		**10 17 59.5**	**+1.7**	
	baz=279								
MBWA	**Marble Bar**	**56.58**	**198**	P	**P**		**10 17 57.8**	**-0.4**	
MBWA					IAmb	IAmb	10 17 58.5		
	comp=Z,13nm,0.9s								
MBWA	**Marble Bar**	**56.58**	**198**	P	**P**		**10 17 58.1**	**-0.2**	
ABKAR	**Akbulak array**	**56.63**	**310**	P	**P**		**10 17 58.2**	**-0.1**	
ABKAR	**Akbulak array**	**56.63**	**310**	P	**P**		**10 17 58.3**	**-0.1**	
ABKAR					IAmb	IAmb	10 17 58.9		
	comp=Z,6.6nm,0.5s								
M26K	**Nabesna, AK**	**56.84**	**33**	P	**P**		**10 18 01.4**	**+1.7**	
M26K					IAmb	IAmb	10 18 01.7		
	comp=Z,13nm,0.6s								
M26K	**Nabesna, AK**	**56.84**	**33**	P	**P**		**10 18 01.4**	**+1.7**	
	baz=280,SNR=9.6								
H27K	**Steamboat Moun**	**56.85**	**29**	P	**P**		**10 18 01.7**	**+2.0**	
	baz=279								
I27K	**Kandik River**	**56.91**	**29**	P	**P**		**10 18 02.6**	**+2.5**	
	baz=279								
K27K	**Chicken**	**56.97**	**31**	P	**P**		**10 18 02.2**	**+1.7**	
K27K	**Chicken**	**56.97**	**31**	P	**P**		**10 18 02.4**	**+1.9**	
	baz=280								
AS01	**Alice Springs**	**56.99**	**182**	P	**P**		**10 18 00.7**	**-0.4**	
AS31	**Alice Springs**	**56.99**	**182**	P	**P**		**10 18 01.1**	**-0.1**	
ASAR	**Alice Springs**	**56.99**	**182**	P	**P**		**10 18 00.8**	**-0.3**	
	comp=Z,7.1nm,0.6s,baz=20,slow=11,SNR=94								
ASAR				S		**S**	**10 25 20.7**	**-2.4**	
	comp=Z,0.1nm,0.6s,baz=6.4,slow=14,SNR=1.3								
	comp=Z,7.1nm,0.6s								
ASAR	**Alice Springs**	**56.99**	**182**	P	**P**		**10 18 01.1**	**-0.1**	
MCARA	**McCarthy VSAT**	**57.01**	**35**	P	**P**		**10 18 02.4**	**+1.6**	
	baz=280,SNR=14								
EGAK	**Eagle**	**57.24**	**30**	P	**P**		**10 18 02.9**	**+0.6**	
L27K	**Beaver Creek,**	**57.25**	**32**	P	**P**		**10 18 04.5**	**+1.9**	
L27K					IAmb	IAmb	10 18 05.0		
	comp=Z,8.1nm,0.9s								
L27K	**Beaver Creek,**	**57.25**	**32**	P	**P**		**10 18 04.2**	**+1.7**	
	baz=280								
BCAR	**Beaver Creek A**	**57.27**	**32**	P	**P**		**10 18 04.2**	**+1.6**	
M27K	**Edge Creek, AK**	**57.36**	**33**	P	**P**		**10 18 04.8**	**+1.4**	
	baz=281								
BVCY	**Beaver Creek**	**57.81**	**33**	P	**P**		**10 18 08.0**	**+1.6**	
	baz=282,SNR=5.9								
DAWY	**Dawson**	**58.13**	**31**	P	**P**		**10 18 08.2**	**-0.3**	
DAWY					IAmb	IAmb	10 18 32.8		
	comp=Z,12nm,1.4s								
YUK3	**Moose Creek**	**58.13**	**34**	P	**P**		**10 18 10.1**	**+1.3**	
	baz=282,SNR=13								
YUK8	**Steele Glacier**	**58.57**	**34**	P	**P**		**10 18 13.7**	**+1.9**	
	baz=283,SNR=16								
EPYK	**Eagle Plains**	**58.73**	**28**	P	**P**		**10 18 14.0**	**+1.4**	
EPYK					IAmb	IAmb	10 18 14.4		
	comp=Z,14nm,0.5s								
EPYK	**Eagle Plains**	**58.73**	**28**	P	**P**		**10 18 14.0**	**+1.4**	
	baz=283								
WRKA	**Warakurna**	**58.76**	**188**	P	**P**		**10 18 13.3**	**0.0**	
G30M	**tAoh Zraii Nji**	**58.79**	**27**	P	**P**		**10 18 14.1**	**+1.1**	
	baz=283								
L29M	**L29M**	**58.89**	**32**	P	**P**		**10 18 15.9**	**+2.2**	
	baz=284								
M29M	**Somme Creek**	**58.90**	**33**	P	**P**		**10 18 16.1**	**+2.3**	
	baz=284								
K29M	**Barlow Dome**	**58.98**	**31**	P	**P**		**10 18 16.2**	**+1.7**	
	baz=284								
YUK4	**Talbot Arm**	**59.08**	**34**	P	**P**		**10 18 17.0**	**+1.8**	
	baz=284								
YUK6	**Outpost Mounta**	**59.31**	**34**	P	**P**		**10 18 18.9**	**+2.1**	
	baz=284								
O29M	**Mount Kennedy**	**59.37**	**35**	P	**P**		**10 18 19.2**	**+2.1**	
	baz=285								
INK	**Inuvik**	**59.48**	**26**	P	**P**		**10 18 18.1**	**+0.5**	
	comp=Z,2.2nm,0.4s,baz=290,slow=6.2,SNR=30								
	comp=Z,2.2nm,0.4s								
INK	**Inuvik**	**59.48**	**26**	P	**P**		**10 18 18.5**	**+0.9**	
INK	**Inuvik**	**59.48**	**26**	P	**P**		**10 18 18.4**	**+0.9**	
	baz=284								
M30M	**Minto, Yukon**	**59.62**	**32**	P	**P**		**10 18 20.6**	**+2.0**	
	baz=285								
HYT	**Haines Junctio**	**59.75**	**34**	P	**P**		**10 18 20.6**	**+1.0**	
HYT					IAmb	IAmb	10 18 22.6		
	comp=Z,16nm,1.2s								
HYT	**Haines Junctio**	**59.75**	**34**	P	**P**		**10 18 21.7**	**+2.1**	
	baz=285								
KIRV	**Kirov**	**60.19**	**323**⇑	*e*P	**P**		**10 18 22.9**	**+0.5**	
P30M	**Million Dollar**	**60.20**	**35**	P	**P**		**10 18 24.9**	**+2.4**	
	baz=286								
QLP	**Quilpie**	**60.40**	**171**	P	**P**		**10 18 23.8**	**-0.4**	
EIDS	**Eidsvold**	**60.44**	**164**	P	**P**		**10 18 24.6**	**+0.1**	
PLBC	**Pleasant Camp**	**60.67**	**36**	P	**P**		**10 18 27.5**	**+1.8**	
	baz=287								
M31M	**Drury Creek, Y**	**60.79**	**32**	P	**P**		**10 18 28.0**	**+1.5**	
	baz=287								
RMQ	**Roma**	**61.03**	**167**	P	**P**		**10 18 29.2**	**+0.8**	
WHY	**Whitehorse**	**61.03**	**34**	P	**P**		**10 18 29.9**	**+1.8**	
	baz=288								
OOD	**Oodnadatta**	**61.07**	**180**	P	**P**		**10 18 28.5**	**-0.2**	
A36M	**Sachs Harbour**	**61.10**	**21**	P	**P**		**10 18 29.6**	**+1.3**	
A36M	**Sachs Harbour**	**61.10**	**21**	P	**P**		**10 18 29.6**	**+1.3**	
	baz=290								
INKA	**Innaminka**	**61.20**	**175**	P	**P**		**10 18 29.8**	**+0.3**	
MEEK	**Meekatharra**	**62.10**	**197**	P	**P**		**10 18 34.6**	**-0.9**	
C36M	**Paulatuk**	**62.41**	**23**	P	**P**		**10 18 37.8**	**+0.9**	
C36M	**Paulatuk**	**62.41**	**23**	P	**P**		**10 18 37.9**	**+0.9**	
	baz=292								
DZM	**Mont Dzumac**	**62.61**	**148**	P	**P**		**10 18 40.4**	**+1.4**	
YATNC	**Mamie plateau,**	**62.80**	**147**	P	**P**		**10 18 40.2**	**+0.1**	
MULG	**Mulgathing**	**63.57**	**182**	P	**P**		**10 18 44.8**	**-0.2**	
TGTN	**Hyland Airport**	**63.75**	**32**	P	**P**		**10 18 47.5**	**+1.7**	
	baz=292								
LCRK	**Leigh Creek**	**63.76**	**178**	P	**P**		**10 18 47.0**	**+0.8**	
NOR	**Nord**	**64.14**	**356**	*i* P	**P**		**10 18 47.0**	**-0.9**	
NOR					IAmb	IAmb	10 18 48.4		
	comp=Z,1.5nm,0.7s								
FORT	**Forrest**	**64.46**	**187**	P	**P**		**10 18 50.7**	**0.0**	
FORT	**Forrest**	**64.46**	**187**	P	**P**		**10 18 50.6**	**0.0**	
MSVF	**Nonsavu**	**65.05**	**135**	P	**P**		**10 18 55.4**	**+0.6**	
STKA	**Stephens Creek**	**65.37**	**175**	P	**P**		**10 18 56.6**	**+0.1**	
	comp=Z,5.1nm,0.5s,baz=337,slow=6.3,SNR=17								
	comp=Z,5.1nm,0.5s								
STKA	**Stephens Creek**	**65.37**	**175**	P	**P**		**10 18 56.7**	**+0.3**	
STKA	**Stephens Creek**	**65.37**	**175**	P	**P**		**10 18 56.7**	**+0.3**	
ARMA	**Armidale**	**65.43**	**165**	P	**P**		**10 18 57.7**	**+0.7**	
ARMA					IAmb	IAmb	10 18 58.6		
	comp=Z,6.1nm,0.8s								
ARMA	**Armidale**	**65.43**	**165**	P	**P**		**10 18 57.6**	**+0.7**	
CMSA	**Cobar Meteorol**	**65.47**	**171**	P	**P**		**10 18 57.8**	**+0.7**	
ARCES	**ARCESS Array B**	**65.54**	**339**	P	**P**		**10 18 57.4**	**+0.3**	
	comp=Z,2.7nm,0.5s,baz=61,slow=8.5,SNR=28								
	comp=Z,2.7nm,0.5s								
ARCES	**ARCESS Array B**	**65.54**	**339**	P	**P**		**10 18 57.0**	**0.0**	
LIRD	**Liard River Hi**	**65.59**	**34**	P	**P**		**10 18 59.6**	**+2.1**	
	baz=295								
BBOO	**Buckleboo**	**66.07**	**180**	P	**P**		**10 19 00.9**	**0.0**	
BBOO					IAmb	IAmb	10 19 01.5		
	comp=Z,13nm,0.9s								
BBOO	**Buckleboo**	**66.07**	**180**	P	**P**		**10 19 00.8**	**0.0**	
BLDU	**Ballidu**	**66.38**	**198**	P	**P**		**10 19 02.3**	**-0.5**	
HTT	**Hallett**	**66.76**	**177**	P	**P**		**10 19 05.8**	**+0.6**	
RES	**Resolute Bay**	**67.00**	**13**	P	**P**		**10 19 06.9**	**+0.8**	
RES					IAmb	IAmb	10 19 07.7		
	comp=Z,8.7nm,0.9s								
RES	**Resolute Bay**	**67.00**	**13**	P	**P**		**10 19 06.9**	**+0.8**	
RES					pmax	pmax			
	comp=Z,9.0nm,0.9s								
OBN	**Obninsk**	**68.02**	**322**	*e*P	**P**		**10 19 08.1**	**-4.6**	
OBN				*e**PP	**pP**		**10 20 34.9**	**-6.4**	
OBN				*e**SP	**sP**		**10 21 20.5**	**-4.6**	
OBN				*e*			10 21 51.0		
OBN					pmax	pmax			
	comp=Z,5.0nm,0.8s								
NWAO	**Narrogin (SRO)**	**68.45**	**197**	P	**P**		**10 19 15.5**	**-0.1**	
NWAO	**Narrogin (SRO)**	**68.45**	**197**	P	**P**		**10 19 15.1**	**-0.5**	
DAG	**Danmarks Havn**	**68.72**	**354**	*i* P	**P**		**10 19 16.5**	**-0.2**	
DAG					IAmb	IAmb	10 19 17.0		
	comp=Z,2.5nm,0.9s								
YKA	**Yellowknife Ar**	**69.02**	**28**	P	**P**		**10 19 18.9**	**+0.1**	
	baz=303,slow=6.5								
NEEM	**North Greenlan**	**69.12**	**2**	*i* P	**P**		**10 19 18.5**	**-1.0**	
NEEM					IAmb	IAmb	10 19 20.8		
	comp=Z,9.0nm,0.7s								
KBZ	**Khabaz**	**69.57**	**309**	P	**P**		**10 19 22.7**	**+0.4**	
	comp=Z,1.8nm,0.8s,baz=42,slow=3.7,SNR=3.5								
KBZ					pP	**pP**	**10 20 51.7**	**+0.5**	
	comp=Z,2.4nm,0.8s,baz=200,slow=7.9,SNR=3.5								
	comp=Z,1.8nm,0.8s								
KIV	**Kislovodsk**	**69.60**	**310**	*e*P	**P**		**10 19 23.7**	**+1.0**	
KIV					pmax	pmax			
	comp=Z,6.0nm,1.0s								
FINES	**FINESS Array B**	**69.63**	**331**	P	**P**		**10 19 22.4**	**0.0**	
	comp=Z,5.0nm,0.4s,baz=56,slow=6.1,SNR=63								
	comp=Z,5.0nm,0.4s								
FINES	**FINESS Array B**	**69.63**	**331**	*i* P	**P**		**10 19 22.3**	**-0.1**	
FINES					pmax	pmax			
	comp=Z,5.0nm,0.4s								
ARPS	**Mount Arapiles**	**70.25**	**175**	P	**P**		**10 19 26.8**	**+0.4**	
TOO	**Toolangi**	**71.40**	**172**	P	**P**		**10 19 33.8**	**+0.6**	
TOO					IAmb	IAmb	10 19 57.8		
	comp=Z,12nm,1.2s								
TOO	**Toolangi**	**71.40**	**172**	P	**P**		**10 19 33.8**	**+0.6**	
TOO					pmax	pmax			
	comp=Z,12nm,1.2s								
SUMG	**Summit**	**74.02**	**358**	*i* P	**P**		**10 19 49.3**	**+0.8**	
SUMG					IAmb	IAmb	10 19 50.0		
	comp=Z,5.3nm,0.6s								
AKASG	**Malin Array Be**	**74.10**	**321**	P	**P**		**10 19 48.0**	**-0.8**	
	comp=Z,0.7nm,0.4s,baz=51,slow=6.1,SNR=9.7								
AKASG					pP	**pP**	**10 21 18.7**	**-0.4**	
	comp=Z,0.8nm,0.6s,baz=49,slow=8.1,SNR=1.9								
	comp=Z,0.7nm,0.4s								
AKASG	**Malin Array Be**	**74.10**	**321**	*i* P	**P**		**10 19 48.5**	**-0.3**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
NB2	**NORSAR Subarra**	**75.47**	**336**	P	**P**		**10 19 56.3**	**-0.2**	
	comp=Z,7.7nm,0.7s,baz=44,slow=5.9								
NOA	**NORSAR Array B**	**75.47**	**336**	P	**P**		**10 19 56.3**	**-0.2**	
	comp=Z,5.1nm,0.8s,baz=46,slow=5.6,SNR=12								
	comp=Z,5.1nm,0.8s								
NEW	**Newport**	**75.75**	**41**	P	**P**		**10 19 59.3**	**+1.0**	
	baz=305								
PINE	**Pine Mountain**	**76.04**	**47**	P	**P**		**10 20 01.2**	**+1.0**	
RAO	**Raoul Island**	**76.35**	**139**	P	**P**		**10 20 00.9**	**-0.8**	
BR131	**Keskin Array S**	**77.56**	**309**⇑	*e*P	**P**		**10 20 08.6**	**0.0**	
BRTR	**Keskin Array B**	**77.56**	**309**	P	**P**		**10 20 09.1**	**+0.4**	
	comp=Z,1.8nm,0.7s,baz=122,slow=4.6,SNR=10								
BRTR					pP	**pP**	**10 21 39.8**	**+0.1**	
	comp=Z,1.1nm,1.0s,baz=92,slow=7.7,SNR=3.6								
	comp=Z,1.8nm,0.7s								
BRTR	**Keskin Array B**	**77.56**	**309**	P	**P**		**10 20 09.4**	**+0.7**	
BUR08	**Bucovina Ar. S**	**78.02**	**320**	P	**P**		**10 20 11.8**	**+0.9**	
BUR08					IAmb	IAmb	10 20 12.2		
	comp=Z,5.2nm,1.3s								
BURAR	**Bucovina Array**	**78.03**	**320**	⇑P	**P**		**10 20 11.7**	**+0.8**	
BURAR	**Bucovina Array**	**78.03**	**320**	P	**P**		**10 20 11.2**	**+0.2**	
ARR	**Arges**	**79.72**	**318**	⇑P	**P**		**10 20 21.3**	**+1.3**	
HLID	**Hailey**	**80.04**	**44**	P	**P**		**10 20 23.2**	**+1.3**	
	baz=307								
BOZ	**Bozeman (W)**	**80.36**	**41**	P	**P**		**10 20 24.4**	**+0.8**	
	baz=309								
NVAR	**Mina Array Bea**	**80.71**	**50**	P	**P**		**10 20 26.2**	**+0.6**	
	comp=Z,1.2nm,0.6s,baz=291,slow=5.5,SNR=12								
	comp=Z,1.2nm,0.6s								
NVAR	**Mina Array Bea**	**80.71**	**50**	P	**P**		**10 20 27.0**	**+1.4**	
VYHS	**Vyhne**	**80.80**	**323**	pmax	pmax				
	comp=N,20nm,0.3s								
CLL	**Collm**	**81.64**	**328**	*i* P	**P**		**10 20 30.0**	**+0.1**	
	comp=Z,7.0nm,0.7s								
CLL	**Collm**	**81.64**	**328**	*i* P	**P**		**10 20 30.0**	**+0.1**	
CLL					pmax	pmax			
	comp=Z,7.0nm,0.7s								
BKZ	**Black Stump Fm**	**81.65**	**149**	P	**P**		**10 20 29.9**	**-0.1**	
RLMT	**Red Lodge**	**81.95**	**40**	P	**P**		**10 20 33.1**	**+1.2**	
	baz=310								
R11A	**Troy Canyon, C**	**82.48**	**49**	P	**P**		**10 20 35.6**	**+0.9**	
R11A	**Troy Canyon, C**	**82.48**	**49**	P	**P**		**10 20 35.7**	**+1.1**	
	baz=307								
MPMC	**Manual Prospec**	**82.63**	**51**	P	**P**		**10 20 36.4**	**+0.9**	
	baz=306								
NKC	**Novy Kostel**	**82.65**	**327**	*e*P	**P**		**10 20 35.7**	**+0.6**	
NKC	**Novy Kostel**	**82.65**	**327**	*e*P	**P**		**10 20 35.7**	**+0.6**	
CKRC	**Cesky Krumlov**	**82.79**	**325**	*e*P	**P**		**10 20 35.9**	**+0.1**	
FURC	**Furnace Creek,**	**82.79**	**51**	P	**P**		**10 20 37.3**	**+1.3**	
	baz=307								
KHC	**Kasperske Hory**	**82.92**	**326**	*e*P	**P**		**10 20 36.6**	**+0.1**	
KHC	**Kasperske Hory**	**82.92**	**326**	*e*P	**P**		**10 20 36.6**	**+0.1**	
DUG	**Dugway, Tooele**	**83.05**	**46**	P	**P**		**10 20 38.8**	**+1.3**	
	baz=309								
GERES	**GERESS Array B**	**83.06**	**326**	P	**P**		**10 20 37.2**	**-0.1**	
	comp=Z,1.1nm,0.5s,baz=45,slow=5.8,SNR=8.2								
	comp=Z,1.1nm,0.5s								
BW06	**Boulder Array**	**83.31**	**42**	P	**P**		**10 20 39.2**	**+0.3**	
	baz=310								
PDAR	**Pinedale Array**	**83.31**	**42**	P	**P**		**10 20 39.2**	**+0.4**	
	comp=Z,1.6nm,0.7s,baz=292,slow=1.6,SNR=15								
	comp=Z,1.6nm,0.7s								
PDAR	**Pinedale Array**	**83.31**	**42**	P	**P**		**10 20 38.6**	**-0.3**	
LBZ	**Lake Benmore**	**83.71**	**156**	P	**P**		**10 20 41.2**	**+0.9**	
PFO	**Pinyon Flats O**	**84.76**	**53**	P	**P**		**10 20 46.6**	**+0.5**	
	baz=307								
TPFO	**Pinon Flats**	**84.77**	**53**	P	**P**		**10 20 46.8**	**+0.7**	
	baz=307								
PMD	**Palm Desert**	**84.80**	**53**	P	**P**		**10 20 46.2**	**+0.1**	
PMD					IAmb	IAmb	10 20 46.6		
	comp=Z,5.2nm,1.0s								
SRU	**San Rafael Swe**	**85.10**	**46**	P	**P**		**10 20 48.9**	**+1.1**	
SRU					IAmb	IAmb	10 20 49.4		
	comp=Z,6.8nm,1.2s								
SRU	**San Rafael Swe**	**85.10**	**46**	P	**P**		**10 20 48.9**	**+1.1**	
SRU					pmax	pmax			
	comp=Z,7.0nm,1.2s								
ANMO	**Albuquerque**	**90.29**	**47**⇑	*e*P	**P**		**10 21 13.5**	**+1.1**	
ANMO					pmax	pmax			
	comp=Z,2.0nm,1.0s								
TXAR	**Lajitas Array**	**95.84**	**49**	P	**P**		**10 21 37.6**	**-0.1**	
	comp=Z,0.9nm,0.8s,baz=268,slow=2.4,SNR=10								
TXAR					pP	**pP**	**10 23 14.1**	**+1.9**	
	comp=Z,0.5nm,0.8s,baz=316,slow=4.1,SNR=4.5								
	comp=Z,0.9nm,0.8s								
ETMB	**Extrema**	**148.86**	**46**			**PKPbc**	**10 27 56.3**	**-0.7**	
LPAZ	**La Paz**	**152.40**	**57**	PKPbc		**PKPbc**	**10 28 05.3**	**-0.7**	
	comp=Z,2.5nm,0.9s,baz=86,slow=3.6,SNR=7.5								

GUC 27 10:12:15.2±0.6, 21°.17S×68°.86W, h113km±3km, ML3.5, 4C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PB01	**IPOC Station P**	**0.60**	**282**	⇓*i* P	Pn		10 12 32.4	-0.7
PB01				*i* S	Sn		10 12 46.0	-0.7
PB01				IAML			10 12 46.6	
	comp=E,2μm,0.1s							
PB09	**IPOC Station P**	**0.71**	**210**⇑	*i* P	Pn		10 12 34.1	-0.1
PB09				*i* S	Sn		10 12 48.4	-0.1
PB02	**IPOC Station P**	**0.97**	**261**	⇓*i* P	Pn		10 12 35.9	-0.6
PB02				*i* S	Sn		10 12 51.8	-0.8
PB02				IAML			10 12 52.8	
	comp=E,3μm,0.2s							
PB08	**IPOC Station P**	**1.06**	**345**	⇓*i* P	Pn		10 12 37.6	-0.1
PB08				*i* S	Sn		10 12 54.6	-0.1
PB08				IAML			10 12 55.7	
	comp=E,1μm,0.8s							
PB07	**IPOC Station P**	**1.10**	**240**	*i* P	Pn		10 12 37.3	-0.6
PB07				*i* S	Sn		10 12 54.3	-0.8
PB07				IAML			10 12 55.0	
	comp=N,1μm,0.2s							
PB03	**IPOC Station P**	**1.20**	**223**⇑	*i* P	Pn		10 12 38.4	-0.6
PB03				*i* S	Sn		10 12 55.8	-1.2
PB03				IAML			10 12 57.2	
	comp=E,970nm,0.2s							
PATCX	**Punta Patache**	**1.25**	**286**	⇓*i* P	Pn		10 12 38.9	-0.5
PATCX				*i* S	Sn		10 12 57.2	-0.7
PATCX				IAML			10 12 58.9	
	comp=E,3μm,0.2s							
TA01	**Diego Aracena**	**1.37**	**296**	⇓*i* P	Pn		10 12 39.8	-0.9
TA01				*i* S	Sn		10 12 59.0	-1.1
TA01				IAML			10 13 00.1	
	comp=E,942nm,0.4s							
TA02	**Huaiquique**	**1.49**	**307**	*e*P	Pn		10 12 41.1	-1.0
GO01	**Chusmiza**	**1.53**	**348**	*i* P	Pn		10 12 42.9	-0.2
PB11	**IPOC Station P**	**1.59**	**332**	*i* P	Pn		10 12 42.7	-0.8
PB11				*i* S	Sn		10 13 04.0	-0.9
PB11				IAML			10 13 05.9	
	comp=E,816nm,0.1s							
PB06	**IPOC Station P**	**1.66**	**203**⇑	*i* P	Pn		10 12 44.0	-0.3
PB06				*i* S	Sn		10 13 06.3	-0.2
PB06				IAML			10 13 10.0	
	comp=E,400nm,0.1s							
PB04	**IPOC Station P**	**1.66**	**226**⇑	*i* P	Pn		10 12 43.6	-0.7
PB04				*i* S	Sn		10 13 05.2	-1.3
PB04				IAML			10 13 09.6	
	comp=N,500nm,0.3s							
PSGC	**Pisagua**	**1.96**	**323**	⇓*i* P	Pn		10 12 46.5	-1.5
PSGC				*i* S	Sn		10 13 11.0	-2.0
PSGC				IAML			10 13 13.7	
	comp=N,243nm,0.3s							
PB15	**IPOC Station P**	**2.10**	**195**	*e*P	Pn		10 12 49.9	0.0
PB15				*e*S	Sn		10 13 16.5	+0.2
MNMC	**Minye Minye**	**2.15**	**341**	*i* P	Pn		10 12 50.1	-0.4
MNMC				*i* S	Sn		10 13 17.1	-0.2
MNMC				IAML			10 13 20.8	
	comp=N,646nm,0.2s							
PB16	**IPOC Station P**	**2.89**	**348**	*i* P	Pn		10 13 00.6	+0.2
PB16				*i* S	Sn		10 13 35.4	+0.3
PB12	**IPOC Station P**	**2.90**	**331**	*e*P	Pn		10 12 58.1	-1.9
PB12				*e*S	Sn		10 13 31.6	-3.0
PB12				IAML			10 13 41.4	
	comp=E,95nm,0.3s							
GO02	**Mina Guanaco**	**4.03**	**189**	*e*P	Pn		10 13 14.0	-1.2

SKHL 27 10:13:16.0±0.3, 42°.50N×144°.40E, h52km±3km, mb4.4/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
AKK	**Akkeshi**	**0.61**	**32**	*e*P	Pn		10 13 27.9	-0.8
AKK					AMB	AMB	10 13 28.2	
	80nm,0.2s							
AKK				*e*S	Sn		10 13 37.1	-0.8
AKK				A	A		10 13 41.8	
	370nm,0.3s							
AKK				A	A		10 13 41.8	
	670nm,0.3s							
NMR	**Nemuro--Hokkai**	**1.31**	**48**	*e*P	Pn		10 13 37.2	-0.7
NMR					AMB	AMB	10 13 37.5	
	100nm,0.2s							
NMR				*e*S	Sn		10 13 53.7	-0.5
NMR				A	A		10 13 59.1	
	2μm,0.7s							
NMR				A	A		10 13 59.1	
	2μm,0.7s							
YUK	**Yuzh-Kuril'sk**	**1.87**	**34**	*e*P	Pn		10 13 45.5	0.0
YUK					AMB	AMB	10 13 47.1	
	100nm,0.2s							
YUK				*e*S	Sn		10 14 07.1	-0.8
YUK				A	A		10 14 09.7	
	380nm,0.6s							
YUK				A	A		10 14 09.7	
	570nm,0.6s							
KUR	**Kuril'sk**	**3.71**	**41**	*e*S	Sn		10 14 51.7	-1.4
KUR				A	A		10 14 57.5	
	40nm,0.4s							
KUR				A	A		10 14 57.5	
	60nm,0.4s							
KUR	**Kuril'sk**	**3.71**	**41**	*e*S	Sn		10 14 51.4	-1.7

MOS ***27*** *10:17:52.9±1.0, 37°.26N×141°.29E, h18km, mb4.7/24, Error ellipse: s-maj=9.3km s-min=6.1km az=96.6*
IDC ***27*** *10:17:52.1±0.5, 37°.26N×141°.26E, h0km, mb4.4/32, mbtmp4.4/37, ML3.0/5, MS3.4/27, Error ellipse: s-maj=13.9km s-min=10.5km az=94.0*
NIED ***27*** *10:17:53.9, 37°.25N×141°.40E, h24km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.10; Mθθ=0.97; Mφφ 1.13; Mrθ=0.22; Mθφ 0.99; Mφr=0.02; Fault plane solution: M=2.09000×10^15 NP1:φs38.00000°, δ43.00000°, λ-97.00000°. NP2:φs227.00000°, δ47.00000°, λ-84.00000°.*
JMA ***27*** *10:17:53.9±0.2, 37°.3N±0°.3×141°.4E±0°.9, h24km±1km, MD4.5/40, MW4.2/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
NEIC ***27*** *10:17:55.5±1.7, 37°.36N±0°.05×141°.34E±0°.08, h17km±4km, mb4.6/35, Error ellipse: s-maj=9.2km s-min=6.5km az=61.0*

ISC 27 10:17:56.2±1.3, 37°.28N±0°.04×141°.36E±0°.05, h28km±9km, n235, σ1$23/192, mb4.5/67, MS3.6/20, 23C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JFK	**Kawauchi**	**0.40**	**283**	*i* P	Pb		10 18 02.5	-2.5
JFK				*i* S	**Sb**		**10 18 08.8**	**-2.1**
JFK	**Kawauchi**	**0.40**	**283**	A	A		10 18 02.5	
	comp=E,24nm,5.5s,comp=E,16nm,7.6s							
JMST	**Minamisoumatoc**	**0.59**

2.9nm,0.3s,baz=78,slow=15,SNR=104
MJAR Sn Sb 10 19 15.0 +0.4
6.6nm,0.3s,baz=185,slow=30,SNR=3.0
MJAR LR LR 10 19 26.8
comp=Z,128nm,19.3s,baz=91,slow=37
32nm,0.7s
MAJO Matsushiro 2.63 255 Pn **Pn 10 18 37.3 +0.5**
MAJO Matsushiro 2.63 255 P **Pn 10 18 37.6 +0.8**
MAJO Matsushiro 2.63 255*d* iP **Pn 10 18 37.1 +0.3**
MJB9 Matsu-Tunnel 2.63 255 **Pn 10 18 38.4 +1.5**
JOD2 Odawara 2 2.72 223 A A 10 18 37.5
comp=E,4.0nm,2.2s,comp=E,4.0nm,4.5s
JNTW Noshirotokiwa 3.14 343 A A 10 18 43.9
comp=E,11nm,3.3s,comp=E,12nm,5.0s
JTT Ttatey 3.30 260 A A 10 18 46.1
comp=E,5.0nm,2.0s,comp=E,6.0nm,1.6s
JTM Tenmabayashi 3.51 356 Pn **Pn 10 18 48.7 -0.1**
JTM Tenmabayashi 3.51 356 P **Pn 10 18 49.6 +0.7**
JGF Kuroka 3.64 244 Pn **Pn 10 18 51.7 +1.1**
JGF Kuroka 3.64 244 P **Pn 10 18 52.1 +1.5**
INU Inuyama 4.00 243 Pn **Pn 10 18 56.8 +1.2**
INU Inuyama 4.00 243 P **Pn 10 18 56.8 +1.2**
JHJ2 Mitsune 4.34 197 Pn **Pn 10 19 01.7 +1.4**
JHJ2 Mitsune 4.34 197 P **Pn 10 19 01.3 +1.0**
JHJ Hachijo jima 2 4.34 198 Pn **Pn 10 18 58.1 -2.2**
20nm,0.3s,baz=39,slow=14,SNR=1.9
JHJ Sn **Sn 10 19 47.8 -2.2**
38nm,0.3s,baz=267,slow=23,SNR=1.7
43nm,0.3s
ERM Erimo 4.93 16 Pn **Pn 10 19 07.8 -0.6**
ERM Erimo 4.93 16 P **Pn 10 19 08.0 -0.3**
ERM Erimo 4.93 16⇑*e*P **Pn 10 19 07.6 -0.7**
JEM Erimo 4.93 16 P **Pn 10 19 08.1 -0.2**
ASAJ Asahikawa 6.90 7 LR LR 10 22 27.9
comp=Z,92nm,20.7s,baz=328,slow=40
ASAJ Asahikawa 6.90 7 P **Pn 10 19 34.7 -0.6**
JKA Kamikawa-asahi 6.90 7 Pn **Pn 10 19 34.6 -0.7**
JHS Saijyo 7.05 254 Pn **Pn 10 19 39.4 +1.9**
JHS Saijyo 7.05 254 P **Pn 10 19 39.6 +2.1**
104nm,0.8s
JMN Monobe 7.05 242 P **Pn 10 19 39.4 +1.8**
52nm,2.3s
YUK Yuzh-Kuril'sk 7.57 25⇑*e*P **Pn 10 19 46.7 +2.2**
KUR Kuril'sk 9.33 30 P Pn 10 20 04.6 -4.1
KUR eS **Sn 10 21 47.9 -4.8**
JNU Nakatsue 9.53 247 LR LR 10 24 27.6
comp=Z,88nm,18.3s,baz=42,slow=42
YSS Yuzh-Sakhalins 9.73 6 *e*P **Pn 10 20 11.3 -2.8**
YSS MLR MLR
comp=Z,200nm,10.0s
YSS MLR MLR
comp=E,200nm,14.0s
USA0B Ussuriysk Arra 9.92 317⇑*e*P **Pn 10 20 20.0 +3.3**
USRK Ussuriysk Ar. 9.92 317 Pn **Pn 10 20 15.5 -1.2**
baz=126,slow=13,SNR=1.4
USRK LR LR 10 23 49.6
comp=E,324nm,19.4s,baz=154,slow=36
JCJ Chichijima 10.17 176 Pn **Pn 10 20 18.5 -1.8**
comp=E,165nm,1.1s,baz=258,slow=19,SNR=2.5
JCJ Sn Sn 10 22 04.8 -8.6
comp=E,6.3nm,0.3s,baz=100,slow=23,SNR=1.1
JCJ LR LR 10 24 41.3
comp=E,185nm,19.1s,baz=128,slow=40
KSRS Korea Array 10.70 275 Pn **Pn 10 20 26.8 -0.6**
baz=94,slow=15
KSRS LR LR 10 24 03.3
comp=E,208nm,21.9s,baz=80,slow=35
KLR Kul'dur 13.84 333 Pn **Pn 10 21 10.7 +0.4**
comp=E,0.1nm,0.3s,baz=292,slow=20,SNR=2.4
KLR LR LR 10 26 24.3
comp=E,204nm,18.7s,baz=128,slow=37
comp=E,0.4nm,0.3s
KLR Kul'dur 13.84 333⇑*e*P **Pn 10 21 14.3 +4.0**
KLR pmax pmax
comp=Z,7.0nm,2.0s
ZEA Zeya 19.14 334 *e*P **Pn 10 22 22.4 +4.4**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 19.50 31 P **P 10 22 21.2 +0.3**
comp=Z,0.1nm,0.3s,baz=226,slow=17,SNR=2.6
PETK LR LR 10 30 00.4
comp=Z,29nm,19.5s,baz=69,slow=37
comp=Z,4.0nm,0.9s
MA2 Magadan 23.13 12 P **P 10 22 59.4 -0.3**
comp=Z,8.6nm,0.7s,baz=199,slow=18,SNR=4.2
comp=Z,8.6nm,0.7s
GUMO Guam 23.80 172 LR LR 10 30 43.3
comp=Z,28nm,21.4s,baz=83,slow=32
YAK Yakutsk 25.83 347 P **P 10 23 24.9 +0.2**
comp=Z,4.1nm,0.4s,baz=31,slow=0.7,SNR=1.8
YAK LR LR 10 33 12.5
comp=Z,70nm,18.2s,baz=95,slow=36
comp=Z,4.1nm,0.4s
YAK Yakutsk 25.83 347 *e*P **P 10 23 25.2 +0.5**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.3s
SEY Seymchan 26.56 11 P **P 10 23 32.6 +1.3**
comp=E,7.6nm,1.0s,baz=194,slow=9.9,SNR=6.5
comp=E,7.6nm,1.0s
SEY Seymchan 26.56 11⇓*e*P **P 10 23 33.4 +2.0**
SEY pmax pmax
comp=Z,33nm,2.5s
SONM Songino Array 27.62 304 P **P 10 23 40.9 -0.3**
comp=Z,2.6nm,0.6s,baz=106,slow=9.0,SNR=17
SONM LR LR 10 34 27.4
comp=Z,71nm,18.9s,baz=140,slow=36
comp=Z,2.6nm,0.6s
H11N2 WAKE ISLAND Hy 28.31 121 T T 10 53 17.3
baz=314,slow=75,SNR=274
H11N1 WAKE ISLAND Hy 28.31 121 T T 10 53 17.8
baz=314,slow=75,SNR=364
H11N3 WAKE ISLAND Hy 28.32 121 T T 10 53 18.5
baz=314,slow=75,SNR=316
H11S1 WAKE ISLAND Hy 29.02 123 T T 10 54 13.5
baz=316,slow=76,SNR=169
H11S3 WAKE ISLAND Hy 29.02 123 T T 10 54 13.8
baz=316,slow=76,SNR=123
H11S2 WAKE ISLAND Hy 29.04 123 T T 10 54 15.8
baz=316,slow=76,SNR=94
DAV Davao City (W) 33.32 209 LR LR 10 35 40.4
comp=Z,31nm,20.4s,baz=51,slow=32
BILL Bilibino 33.81 17 *e*P **P 10 24 35.5 +0.1**
BILL *e* 10 25 53.6
BILL pmax pmax
comp=Z,15nm,2.3s
TIXI Tiksi 35.05 353 P **P 10 24 45.4 -0.7**
comp=Z,0.8nm,0.5s,baz=271,slow=22,SNR=4.0
TIXI LR LR 10 39 03.1
comp=Z,88nm,18.3s,baz=356,slow=36
comp=Z,0.8nm,0.5s
TIXI Tiksi 35.05 353⇑*e*P **P 10 24 44.9 -1.1**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
DGZ Jazzator, Alta 40.22 306⇑*e*P **P 10 25 30.3 0.0**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 41.52 255 P **P 10 25 40.5 -0.7**
comp=Z,0.8nm,0.3s,baz=50,slow=7.2,SNR=1.1
comp=Z,0.8nm,0.3s
ZALV Zalesovo Beam 41.72 312 P **P 10 25 41.9 -0.5**
comp=Z,4.5nm,0.8s,baz=79,slow=7.5,SNR=12
ZALV LR LR 10 43 57.5
comp=Z,70nm,18.6s,baz=52,slow=38
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 41.72 312 *i* P **P 10 25 42.7 +0.3**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 43.96 302 P **P 10 25 59.8 -0.8**
MK31 Makanchi Array 43.96 302*c i*P **P 10 26 00.6 0.0**
MKAR Makanchi Array 43.96 302 P **P 10 26 00.1 -0.6**
comp=Z,3.0nm,0.8s,baz=91,slow=10,SNR=10
MKAR LR LR 10 44 10.7
comp=Z,44nm,18.8s,baz=105,slow=36
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 43.96 302 P **P 10 26 00.2 -0.4**
MKAR Makanchi Array 43.96 302 *i* P **P 10 26 00.8 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 45.75 308 P **P 10 26 14.5 -0.3**
KURK IAmb IAmb 10 26 24.5
comp=Z,12nm,0.9s
KURK Kurchatov 45.75 308*c i*P **P 10 26 15.0 +0.2**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 45.82 308 P **P 10 26 14.7 -0.6**
comp=Z,5.9nm,0.8s,baz=83,slow=8.2,SNR=23
comp=Z,5.9nm,0.8s
KAPI Kappang 46.65 210 P **P 10 26 22.8 +0.6**
comp=Z,5.3nm,0.4s,baz=28,slow=8.1,SNR=4.7
KAPI LR LR 10 46 13.3
comp=Z,30nm,20.0s,baz=270,slow=36
comp=Z,5.3nm,0.4s
IL31 49.31 32 P **P 10 26 43.3 +1.0**
IL31 IAmb IAmb 10 27 01.5
comp=Z,6.5nm,1.2s
ILAR Eielson Array 49.31 32 P **P 10 26 42.9 +0.6**
comp=Z,2.7nm,0.8s,baz=267,slow=6.5,SNR=29
comp=Z,2.7nm,0.8s
ILAR Eielson Array 49.31 32 P **P 10 26 41.8 -0.5**
BATI Baumata 50.07 203 P **P 10 26 48.7 +0.1**
comp=Z,19nm,0.5s,baz=333,slow=5.3,SNR=2.2
comp=Z,19nm,0.5s
AAK Ala-Archa 50.34 298 LR LR 10 49 19.5
comp=Z,126nm,18.4s,baz=108,slow=38
BVAR Borovoye Array 50.38 312 P **P 10 26 50.6 0.0**
comp=Z,1.4nm,0.5s,baz=69,slow=9.2,SNR=4.6
BVAR PcP **PcP 10 28 09.2 +0.5**
comp=Z,2.5nm,0.7s,baz=70,slow=1.7,SNR=5.6
comp=Z,1.4nm,0.5s
BRVK Borovoye 50.44 312⇑*e*P **P 10 26 51.9 +0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
MTN Manton Dam 50.77 193 P **P 10 26 53.8 0.0**
MTN IAmb IAmb 10 26 59.2
comp=Z,15nm,1.4s
PSI Prapat 51.88 239 P **P 10 27 04.9 +2.4**
comp=Z,4.2nm,0.6s,baz=0.0,slow=10,SNR=1.9
I29M Ogilvie Camp, 52.87 31 P **P 10 27 09.4 +0.4**
I29M IAmb IAmb 10 27 11.2
comp=Z,9.2nm,1.0s
KK31 Karatay Array 52.97 300 P **P 10 27 09.2 -0.9**
KK31 IAmb IAmb 10 27 14.7
comp=Z,14nm,1.5s
KK31 Karatay Array 52.97 300 P **P 10 27 09.2 -0.9**
KK31 pmax pmax
comp=Z,14nm,1.5s
KKAR Karatay Array 52.97 300 P **P 10 27 09.6 -0.5**
KKAR IAmb IAmb 10 27 14.7
comp=Z,14nm,1.5s
KKAR Karatay Array 52.97 300 P **P 10 27 09.6 -0.5**
KKAR pmax pmax
comp=Z,14nm,1.5s
EPYK Eagle Plains 53.34 30 P **P 10 27 14.1 +1.6**
KNRA Kununurra 53.99 195 P **P 10 27 18.0 +0.3**
M30M Minto, Yukon 54.06 34 P **P 10 27 18.6 +0.8**
M30M IAmb IAmb 10 27 49.5
comp=Z,14nm,1.5s
INK Inuvik 54.19 27 P **P 10 27 20.2 +1.7**
INK IAmb IAmb 10 27 20.9
comp=Z,4.6nm,1.1s
INK Inuvik 54.19 27 P **P 10 27 20.2 +1.7**
INK pmax pmax
comp=Z,5.0nm,1.1s
A36M Sachs Harbour 56.05 22 P **P 10 27 33.8 +1.9**
A36M IAmb IAmb 10 27 34.5
comp=Z,5.9nm,0.8s
ARU Arti 56.15 318 P **P 10 27 32.5 -0.5**
comp=Z,1.9nm,0.3s,baz=304,slow=23,SNR=2.0
ARU LR LR 10 53 28.2
comp=Z,57nm,18.6s,baz=78,slow=38
comp=Z,1.9nm,0.3s
ARU Arti 56.15 318*d i*P **P 10 27 31.4 -1.5**
ARU S **S 10 35 17.6 -2.5**
ARU pmax pmax
comp=Z,5.0nm,0.8s
WB0 Warramunga Arr 57.12 188 P **P 10 27 39.5 -0.6**
WB0 IAmb IAmb 10 27 43.8
comp=Z,14nm,1.4s
C36M Paulatuk 57.23 25 P **P 10 27 39.8 -0.6**
C36M IAmb IAmb 10 27 42.3
comp=Z,3.3nm,0.8s
CTA Charters Tower 57.24 175 P **P 10 27 41.8 +0.8**
comp=Z,3.3nm,0.8s,baz=24,slow=10.0,SNR=1.6
CTA LR LR 10 52 55.6
comp=Z,18nm,18.3s,baz=258,slow=37
comp=Z,3.3nm,0.8s
WRAB Tennant Creek 57.28 188⇑*e*P **P 10 27 40.0 -1.3**
WRAB pmax pmax
comp=Z,3.0nm,0.7s
WR0 Warramunga Arr 57.29 188 P **P 10 27 40.8 -0.5**
WR0 IAmb IAmb 10 27 56.9
comp=Z,7.5nm,1.3s
WB2 Warramunga Arr 57.29 188 P **P 10 27 41.0 -0.3**
WB2 IAmb IAmb 10 27 44.7
comp=Z,4.2nm,0.8s
WRA Warramunga Arr 57.29 188 P **P 10 27 40.4 -1.0**
comp=Z,2.7nm,0.6s,baz=4.4,slow=7.4,SNR=56
comp=Z,2.7nm,0.6s
WRA Warramunga Arr 57.29 188 P **P 10 27 40.6 -0.8**
WRA Warramunga Arr 57.29 188 P **P 10 27 40.6 -0.8**
EUNU Eureka 59.95 9 P **P 10 27 59.7 +0.4**
KIRV Kirov 60.03 323 P **P 10 28 00.3 +0.3**
comp=Z,9.1nm,0.7s,baz=53,slow=4.5,SNR=2.4
comp=Z,9.1nm,0.7s
KIRV Kirov 60.03 323*ce*P **P 10 28 00.1 +0.1**
AS31 Alice Springs 61.02 188 P **P 10 28 06.7 -0.4**
ASAR Alice Springs 61.02 188 P **P 10 28 06.9 -0.3**
comp=Z,1.7nm,0.7s,baz=16,slow=6.1,SNR=26
comp=Z,1.7nm,0.7s
ASAR Alice Springs 61.02 188 P **P 10 28 07.2 0.0**
ASAR Alice Springs 61.02 188 P **P 10 28 07.2 0.0**
RES Resolute Bay 62.38 14 P **P 10 28 16.1 +0.4**
comp=Z,1.2nm,0.5s,baz=16,slow=13,SNR=2.7
comp=Z,1.2nm,0.5s
DZM Mont Dzumac 63.59 154 LR LR 10 57 26.4
comp=Z,44nm,18.1s,baz=40,slow=37
BELG Belogornoye 63.60 317⇑*e*P **P 10 28 23.9 -0.2**
BELG pmax pmax
comp=Z,4.0nm,1.6s
YKA Yellowknife Ar 63.62 30 P **P 10 28 24.9 +0.8**
comp=Z,1.1nm,0.7s,baz=301,slow=6.7,SNR=5.6
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 63.76 339 P **P 10 28 24.7 -0.2**
comp=Z,3.0nm,0.8s,baz=35,slow=6.5,SNR=8.3
ARCES LR LR 10 59 13.7
comp=Z,53nm,18.2s,baz=260,slow=39
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 63.76 339 P **P 10 28 24.9 -0.1**
ARCES ARCESS Array B 63.76 339 P **P 10 28 24.9 -0.1**
ARCES pmax pmax
comp=Z,31nm,1.4s
WAPA Wapiti River 65.20 39 P **P 10 28 36.0 +1.3**
OBN Obninsk 67.88 323 *e*P **P 10 28 51.4 -0.2**
OBN *e* 10 31 21.2
OBN *e*PPP PPP 10 32 59.6
OBN pmax pmax
comp=Z,6.0nm,0.9s
FIA1 FINESS Array S 68.58 332 P **P 10 28 55.8 -0.1**
FINES FINESS Array B 68.58 332 P **P 10 28 56.0 +0.1**
comp=Z,6.8nm,0.7s,baz=28,slow=8.6,SNR=11
FINES LR LR 11 02 08.8
comp=Z,48nm,19.0s,baz=357,slow=39
comp=Z,6.8nm,0.7s
FINES FINESS Array B 68.58 332 P **P 10 28 56.1 +0.1**
FINES FINESS Array B 68.58 332 *i* P **P 10 28 56.5 +0.5**
FINES pmax pmax
comp=Z,7.0nm,0.7s
STKA Stephens Creek 68.80 180 P **P 10 28 57.6 +0.2**
comp=Z,2.1nm,0.7s,baz=351,slow=5.1,SNR=6.0
comp=Z,2.1nm,0.7s
STKA Stephens Creek 68.80 180 P **P 10 28 57.8 +0.2**
STKA Stephens Creek 68.80 180⇑*e*P **P 10 28 56.1 -1.4**
FORT Forrest 68.84 192 P **P 10 28 58.5 +0.7**
PINE Pine Mountain 70.21 50 P **P 10 29 07.6 +0.9**
KBZ Khabaz 70.72 311 P **P 10 29 09.5 +0.1**
comp=Z,4.4nm,0.9s,baz=5.3,slow=2.0,SNR=5.0
comp=Z,4.4nm,0.9s
KBZ Khabaz 70.72 311⇑*e*P **P 10 29 10.0 +0.6**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 70.72 311 *e*P **P 10 29 10.8 +1.2**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,30nm,18.0s
K05A Summer Lake 70.82 51 P **P 10 29 11.9 +1.6**
WALA Waterton Lakes 71.28 42 P **P 10 29 13.4 +0.4**
WALA IAmb IAmb 10 29 15.2
comp=Z,3.5nm,0.8s
BMO Blue Mountains 71.80 47 P **P 10 29 16.7 +0.6**
BMO pmax pmax
comp=Z,3.0nm,0.8s
PLID Pearl Lake 72.42 46 P **P 10 29 20.5 +0.4**
NACGM Naroch 72.50 327 *e*P **P 10 29 21.0 +1.0**
comp=Z,21nm,0.8s,baz=49
SOC Sochi 72.71 312 *e*P **P 10 29 19.3 -2.1**
SOC *e* 10 32 01.2
SOC *e*PPP PPP 10 33 46.1
SOC *e*S **S 10 38 40.3 -4.6**
SOC *e*SSS SSS 10 46 42.1
SOC pmax pmax
comp=Z,31nm,0.7s
NC405 NORSAR Array S 73.74 337 P **P 10 29 27.7 +0.5**
NB2 NORSAR Subarra 73.95 337 P **P 10 29 28.6 +0.1**
comp=Z,1.8nm,0.5s,baz=40,slow=6.2
NOA NORSAR Array B 73.95 337 P **P 10 29 28.9 +0.4**
comp=Z,3.7nm,0.8s,baz=39,slow=5.9,SNR=10
NOA LR LR 11 04 20.6
comp=Z,40nm,21.2s,baz=290,slow=38
comp=Z,3.7nm,0.8s
LRM Limekiln Ridge 74.00 44 P **P 10 29 31.1 +1.7**
AKASG Malin Array Be 74.08 322 P **P 10 29 29.3 -0.1**
comp=Z,3.5nm,0.5s,baz=46,slow=6.2,SNR=29
AKASG LR LR 11 03 21.1
comp=Z,62nm,18.3s,baz=33,slow=37
comp=Z,3.5nm,0.5s
AKASG Malin Array Be 74.08 322 P **P 10 29 29.6 +0.2**
AKBB Malin Array Si 74.08 322 P **P 10 29 29.4 0.0**
AKBB IAmb IAmb 10 29 30.1
comp=Z,7.9nm,0.7s
AKBB Malin Array Si 74.08 322⇑*e*P **P 10 29 29.6 +0.2**
BOZ Bozeman (W) 74.60 44 P **P 10 29 33.7 +1.0**
BOZ IAmb IAmb 10 29 35.0
comp=Z,4.3nm,0.8s
BOZ Bozeman (W) 74.60 44 P **P 10 29 33.7 +1.0**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 74.88 53 P **P 10 29 36.1 +1.5**
comp=Z,1.9nm,0.8s,baz=294,slow=5.3,SNR=12
comp=Z,1.9nm,0.8s
NVAR Mina Array Bea 74.88 53 P **P 10 29 35.0 +0.4**
YMR Madison River 75.54 45 P **P 10 29 38.9 +0.7**
YMR IAmb IAmb 10 29 40.9
comp=Z,2.9nm,0.7s
PD31 Pinedale Array 77.53 45 P **P 10 29 50.7 +1.1**
PDAR Pinedale Array 77.53 45 P **P 10 29 50.5 +0.9**
comp=Z,1.3nm,0.6s,baz=279,slow=2.4,SNR=14
comp=Z,1.3nm,0.6s
PDAR Pinedale Array 77.53 45 P **P 10 29 50.7 +1.1**
BURAR Bucovina Array 78.10 322⇑P **P 10 29 52.7 +0.3**
BURAR Bucovina Array 78.10 322 P **P 10 29 53.0 +0.5**
BURAR IAmb IAmb 10 29 54.2
comp=Z,3.3nm,0.8s
TESR Tescani 78.12 320⇑P **P 10 29 52.2 -0.3**
BRTR Keskin Array B 78.66 311 P **P 10 29 55.8 0.0**
comp=Z,0.7nm,0.7s,baz=96,slow=3.7,SNR=4.5
comp=Z,0.7nm,0.7s
TRPA Tarpa 79.04 323⇑P **P 10 29 58.7 +1.2**
MLR Muntele Rosu 79.17 320 LR LR 11 08 17.5
comp=Z,75nm,18.7s,baz=100,slow=38
SRU San Rafael Swe 79.28 49 P **P 10 30 00.2 +0.9**
SRU IAmb IAmb 10 30 05.6
comp=Z,5.9nm,1.1s
SRU San Rafael Swe 79.28 49 P **P 10 30 00.2 +0.9**
SRU pmax pmax
comp=Z,6.0nm,1.1s
ARR Arges 79.93 320⇑P **P 10 30 04.3 +1.8**
MORC Moravsky Berou 80.13 327⇑P **P 10 30 03.5 0.0**
DPC Dobruska-Polom 80.23 328 *e*P **P 10 30 03.6 -0.4**
DPC Dobruska-Polom 80.23 328 *e*P **P 10 30 03.6 -0.4**
KRLC Kraliky 80.24 327 *e*P **P 10 30 04.2 +0.1**
KRLC Kraliky 80.24 327 *e*P **P 10 30 04.2 +0.1**
VYHS Vyhne 80.50 325 *e*P **P 10 30 06.6 +1.1**
VYHS Vyhne 80.50 325 *e*P **P 10 30 06.6 +1.1**
GZR Gura Zlata 80.85 321⇑P **P 10 30 07.5 0.0**
CLL Collm 80.87 330 *i* P **P 10 30 07.7 +0.4**
comp=Z,6.0nm,0.9s
CLL Collm 80.87 330 *i* P **P 10 30 07.7 +0.4**
CLL pmax pmax
comp=Z,6.0nm,0.9s
PRU Pruhonice 81.25 328 *e*P **P 10 30 10.2 +0.8**
PRU Pruhonice 81.25 328 *e*P **P 10 30 10.2 +0.8**
MODS Modra-Piesok 81.29 326 *e*P **P 10 30 10.2 +0.5**
MODS Modra-Piesok 81.29 326 *e*P **P 10 30 10.2 +0.5**
MDVR Moldovita 81.82 321⇑P **P 10 30 12.7 +0.2**
CKRC Cesky Krumlov 82.25 328 *e*P **P 10 30 14.9 +0.2**
CONA Conrad Observa 82.25 326 *e*P **P 10 30 15.3 +0.5**
comp=Z,3.9nm,0.7s
KHC Kasperske Hory 82.32 328 *e*P **P 10 30 15.3 +0.2**
KHC Kasperske Hory 82.32 328 *e*P **P 10 30 15.3 +0.2**
GERES GERESS Array B 82.48 328 P **P 10 30 16.3 +0.3**
comp=Z,1.1nm,0.5s,baz=44,slow=6.4,SNR=8.6
comp=Z,1.1nm,0.5s
SOKA Soboth 83.57 326 *e*P **P 10 30 22.0 +0.3**
comp=Z,2.0nm,0.6s
ANMO Albuquerque 84.46 50⇑*e*P **P 10 30 27.7 +1.1**
ANMO pmax pmax
comp=Z,15nm,4.8s
RETA Reutte 84.77 329 *e*P **P 10 30 28.0 +0.2**
comp=Z,2.8nm,0.6s
FETA Feichten 85.16 329 *e*P **P 10 30 29.8 0.0**
comp=Z,3.1nm,1.1s
DAVOX Davos/Dischmat 85.70 329 LR LR 11 13 47.4
comp=Z,37nm,18.5s,baz=292,slow=39
IDI Anoyia 86.79 313 P **P 10 30 36.8 -1.2**
comp=Z,4.2nm,0.8s,baz=68,slow=22,SNR=2.0
comp=Z,4.2nm,0.8s
TXAR Lajitas Array 90.01 52 P **P 10 30 54.2 +0.7**
comp=Z,1.4nm,0.6s,baz=302,slow=3.4,SNR=19
comp=Z,1.4nm,0.6s
ESDC Sonseca Array 97.06 334 LR LR 11 18 45.6
comp=Z,24nm,18.1s,baz=350,slow=38
LPAZ La Paz 146.60 59 PKPbc **PKPbc 10 37 36.9 +0.7**
comp=Z,2.4nm,0.5s,baz=7.4,slow=2.2,SNR=14
H03N2 Juan Fernandez 147.09 96 T T 13 21 51.9
baz=291,slow=76,SNR=33
H03N3 Juan Fernandez 147.10 96 T T 13 21 57.5
baz=291,slow=76,SNR=43
H03N1 Juan Fernandez 147.10 96 T T 13 21 53.2
baz=291,slow=76,SNR=30

PRU ***27*** *10:19:47.5±0.0,50.15N×19.23E,h0km*
ISC 27 10:19:45.7±0.9,50.22N±0.05×19.31E±0.02,h10km,n30,
σ0s80/44,2C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.31**	**89**	*e*Pg	**Pg**	**10 19 51.1**	**-0.8**
OJC				*e*Sg	**Sg**	**10 19 56.1**	**0.0**
OKC	**Ostrava-Krasne**	**0.84**	**244**	*e*PG	**Pg**	**10 20 01.9**	**0.0**
OKC				*e*SG	**Sb**	**10 20 13.7**	**-0.1**
	comp=Z,22nm,0.4s						
MORC	**Moravsky Berou**	**1.23**	**250**	⇑P	**Pg**	**10 20 09.4**	**+0.2**
MORC	**Moravsky Berou**	**1.23**	**250**	*e*PG	**Pg**	**10 20 09.2**	**0.0**
MORC				*e*SG	**Sb**	**10 20 24.8**	**0.0**
MAUC	**Maruska**	**1.29**	**229**	*e*PG	**Pn**	**10 20 09.5**	**-0.2**
MAUC				*e*SG	**Sg**	**10 20 26.8**	**-0.2**
	comp=Z,49nm,0.5s						
STHS	**Stebnicka Huta**	**1.48**	**122**	*e*PN	**Pg**	**10 20 14.3**	**+0.1**
STHS				*e*SN	**Sg**	**10 20 35.9**	**+2.5**
STHS				*e*LG	Lg	10 20 43.8	
STHS	**Stebnicka Huta**	**1.48**	**122**	*e*P	**Pg**	**10 20 14.3**	**+0.1**
KRLC	**Kraliky**	**1.64**	**266**	*e*PG	**Pb**	**10 20 15.5**	**-0.4**
KRLC				*e*SG	**Sg**	**10 20 37.8**	**-0.4**
	comp=Z,13nm,0.5s						
KRLC	**Kraliky**	**1.64**	**266**	*e*P	**Pb**	**10 20 15.5**	**-0.4**
VYHS	**Vyhne**	**1.75**	**190**	*e*PN	**Pn**	**10 20 16.2**	**+0.1**
VYHS				*e*SN	**Sn**	**10 20 37.5**	**-1.0**
VYHS				*e*LG	Lg	10 20 40.4	
VYHS	**Vyhne**	**1.75**	**190**	*e*P	**Pn**	**10 20 16.2**	**+0.1**
KECS	**Kecovo**	**1.90**	**156**	*e*SN	**Sb**	**10 20 43.6**	**-0.5**
DPC	**Dobruska-Polom**	**1.92**	**275**	*e*PG	**Pb**	**10 20 21.2**	**+0.3**
DPC				*e*SG	**Sg**	**10 20 48.0**	**+0.5**
	comp=Z,15nm,0.4s						
DPC	**Dobruska-Polom**	**1.92**	**275**	*e*P	**Pb**	**10 20 21.2**	**+0.3**
VRAC	**Vranov**	**1.98**	**244**	⇑P	**Pb**	**10 20 22.5**	**+0.6**
VRAC	**Vranov**	**1.98**	**244**	*e*PN	**Pn**	**10 20 20.1**	**+0.8**
VRAC				*e*SG	**Sb**	**10 20 47.5**	**+0.9**
OSTC	**Ostas**	**2.01**	**281**	*e*PG	**Pg**	**10 20 23.6**	**-0.6**
OSTC				*e*SG	**Sg**	**10 20 51.7**	**+1.4**
KSP	**Ksiaz**	**2.03**	**289**	*e*Pg	**Pg**	**10 20 24.3**	**-0.2**
KSP				*e*Sg	**Sg**	**10 20 50.2**	**-0.6**
UPC	**Upice**	**2.13**	**279**	*e*PG	**Pb**	**10 20 25.2**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPC				eSG	Sg	10 20 55.0	+0.8
	comp=Z,8.2nm,0.5s						
UPC	Upice	2.13	279	eP	Pb	10 20 25.2	+0.8
KRUC	Moravsky	2.22	240	ePN	Pn	10 20 23.7	+1.1
KRUC				eSG	Sb	10 20 54.0	+0.6
KOLS	Kolonicke sedl	2.32	123	eSN	Sb	10 20 54.5	-1.7
KOLS				eLG	Lg	10 21 02.1	
GOPC	GO Pecny, Ondr	2.93	266	eSG	Sg	10 21 18.7	-1.1
	comp=Z,4.0nm,0.2s						
PRU	Pruhonice	3.08	268	eSG	Sg	10 21 23.5	-1.1
BRG	Berggiesshubel	3.49	283	Sg	Sg	10 21 37.9	+0.3
BRG				Amp		10 21 44.0	
	comp=Z,3.3nm,0.4s						
CKRC	Cesky Krumlov	3.55	249	eSG	Sg	10 21 38.3	-1.2
KHC	Kasperske Hory	3.88	256	ePG	Pg	10 21 00.0	0.0
KHC				eSG	Sg	10 21 49.2	-1.0
	comp=Z,4.7nm,0.7s						
CLL	Collm	4.15	288	eSg	Sg	10 21 58.0	-0.9
NKC	Novy Kostel	4.41	273	eSG	Sg	10 22 07.5	+0.4
	comp=Z,2.6nm,0.3s						
NKC	Novy Kostel	4.41	273	e	Sg	10 22 07.5	+0.4

*IDC **27** 10:20:58.7±1.2, 36°.25N×71°.25E, h0km, mb3.9/10, mbtmp4.0/15, ML4.4/3, Error ellipse: s-maj=23.9km s-min=20.0km az=53.0*
*NNC **27** 10:21:08.5±3.3, 37°.04N×70°.54E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=32.1km s-min=20.9km az=156.0*
*NEIC **27** 10:21:11.5±2.5, 36°.84N±0°.05×71°.01E±0°.10, h94km±13km, mb4.0/2, Error ellipse: s-maj=11.1km s-min=7.4km az=89.0*
ISC 27 10:21:09.4±0.6**, 36°.67N**±0°.05×**70°.90E**±0°.06**, h100km, n70, σ2s.68**/78**, mb3.6**/9**, 3C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAR	Garm	2.38	349		Pn	10 21 47.3	+0.3
CHGR	Chuyangaron	2.42	326		Pn	10 21 48.0	+0.5
KBL	Kabul	2.60	216	Pn	Pn	10 21 56.5	+6.4
DRK	Karamyk	2.90	14		Pn	10 21 53.9	-0.2
CEP	Cherat	2.95	163	P	Pn	10 22 00.6	+5.9
CEP				S	Sn	10 22 37.0	+7.5
BTK	Batken	3.39	359		Pn	10 22 01.6	+1.3
CHCP	Chirah Chowk	3.57	146	P	Pn	10 22 07.1	+4.3
NIL	Nilore	3.57	147	Pn	Pn	10 22 07.4	+4.5
THW	Thamme Wali	3.92	170	P	Pn	10 22 12.3	+4.7
KSH	Kashi	4.91	53	Pn	Pn	10 22 16.3	-4.6
KSH				Sn	Sn	10 23 00.0	-17
KSH				pmax	pmax		
	comp=Z,130nm,0.4s						
KSH				smax	smax		
	comp=N,480nm,0.5s						
KSH				smax	smax		
	comp=E,290nm,0.4s						
SARP	Sargodha	4.96	162	P	Pn	10 22 24.4	+2.9
THN	Thein Dam	5.80	135	eP	Pn	10 22 35.6	+2.7
THN				eS	Sn	10 23 38.5	+0.4
NRN	Naryn	6.20	38	Pn	Pn	10 22 38.1	-0.4
KK31	Karatay Array	6.44	357		Pn	10 22 41.5	0.0
KK31	Karatay Array	6.44	357	⇓P	Pn	10 22 41.2	-0.3
	comp=E,14nm,0.5s,baz=180,slow=12,SNR=315						
KK31				S	Sn	10 23 50.2	-3.3
	comp=E,22nm,0.5s,baz=190,slow=23,SNR=5.6						
KKAR	Karatay Array	6.44	357		Pn	10 22 41.2	-0.3
KKAR	Karatay Array	6.44	357		Pn	10 22 41.5	0.0
AAK	Ala-Archa	6.58	24	Pn	Pn	10 22 43.6	+0.1
	comp=E,12nm,0.3s,baz=169,slow=5.4,SNR=59						
AAK				Sn	Sn	10 23 54.1	-3.0
	comp=E,3.2nm,0.3s,baz=2.6,slow=17,SNR=1.7						
AAK				Lg	Lg	10 24 29.7	
	comp=E,2.5nm,0.3s,baz=220,slow=23,SNR=1.8						
	comp=E,22nm,0.3s						
AAK	Ala-Archa	6.58	24		Pn	10 22 44.2	+0.6
BHK	Bhakra	6.96	137	eP	Pn	10 22 48.9	+0.3
BHK				eS	Sn	10 24 03.2	-3.0
BOOM	Boomskoye usch	7.00	32		Pn	10 22 50.1	+0.8
TARG	Taragay, Kyrgy	7.37	45		Pn	10 22 55.5	+1.0
SMLA	Simla	7.59	135	eP	Pn	10 22 58.2	+1.0
SMLA				eS	Sn	10 24 18.4	-3.2
SMLA				IAML		10 24 21.1	
	comp=N,147nm,0.2s						
SMLA				IAML		10 24 22.1	
	comp=E,123nm,0.3s						
MDOK	Medeo	8.03	34	P	Pn	10 23 04.9	+1.6
	comp=E,13nm,0.6s						
PDGK	Podgornoye	9.36	42	⇓P	Pn	10 23 21.0	-0.4
	comp=E,13nm,0.7s						
KHET	Khetri	9.52	153	eP	Pn	10 23 23.5	0.0
KHET				eS	Sn	10 25 03.7	-5.0
KUDL	Kundal	9.72	149	eP	Pn	10 23 26.0	-0.2
KUDL				eS	Sn	10 25 07.7	-5.9
GEYT	Alibeck	10.26	281	Pn	Pn	10 23 33.2	-0.4
	comp=E,2.7nm,0.3s,baz=127,slow=11,SNR=15						
GEYT				Sn	Sn	10 25 21.1	-5.6
	comp=E,3.3nm,0.3s,baz=106,slow=18,SNR=4.0						
	comp=E,3.8nm,0.4s						
GEYT	Alibeck	10.26	281		Pn	10 23 34.0	+0.3
GYA0B	ALIBECK ARRAY	10.26	281	Pn	Pn	10 23 34.8	+1.1
GYA0B	ALIBECK ARRAY	10.26	281	⇓P	Pn	10 23 33.7	+0.1
GYA0B				⇓S	Sn	10 25 23.0	-3.7
PTH	Pithoragarh	10.55	130	eP	Pn	10 23 37.5	-0.2
LGTI	Lohaghat	10.64	130	eP	Pn	10 23 37.0	-1.7
JHNI	Jhansi	12.94	148	eP	Pn	10 24 09.5	+0.1
JHNI				eS	Sn	10 26 23.5	-8.2
MAKZ	Makanchi	13.07	36		Pn	10 24 09.9	-1.1
MK31	Makanchi Array	13.21	36		Pn	10 24 12.1	-0.7
MKAR	Makanchi Array	13.21	36	Pn	Pn	10 24 11.9	-0.9
	comp=E,1.0nm,0.3s,baz=227,slow=14,SNR=59						
	comp=E,8.1nm,0.7s						
MKAR	Makanchi Array	13.21	36		Pn	10 24 11.6	-1.2
PYUN	Piuthan	13.31	126	eP	Pn	10 24 12.6	-1.9
	comp=E,51nm,0.3s						
PYUN				eS	Sn	10 26 26.3	-15
DANN	Dangsing	13.65	124	eP	Pn	10 24 16.7	-2.3
	comp=E,34nm,0.3s						
KOLN	Koldanda	13.93	126	eP	Pn	10 24 21.0	-1.5
	comp=E,2.3nm,0.3s						
GKN	Gorkha	14.46	123	eP	Pn	10 24 27.7	-1.7
AB31	Akbulak array	14.90	331	⇑P	Pn	10 24 33.4	-1.3
	comp=E,2.0nm,0.4s,baz=140,slow=13,SNR=78						
AB31				⇓S	Sn	10 27 12.5	-6.4
	comp=E,1.1nm,0.4s,baz=149,slow=24,SNR=4.2						
ABKAR	Akbulak array	14.90	331		Pn	10 24 33.3	-1.3
ABKAR	Akbulak array	14.90	331		Pn	10 24 33.3	-1.3
KURBB	Kurchatov Arra	14.99	19	Pn	Pn	10 24 34.0	-1.8
	comp=E,0.5nm,0.7s,baz=205,slow=10,SNR=2.1						
KURBB				Lg	Lg	10 28 52.6	
	baz=209,slow=23,SNR=1.4						
DMN	Daman	15.03	123	eP	Pn	10 24 35.0	-1.7
	comp=E,17nm,0.2s						
PKIN	Phulchoki	15.25	122	eP	Pn	10 24 37.9	-1.6
	comp=E,9.4nm,0.2s						
PKI	Pulchoki	15.26	122	eP	Pn	10 24 37.9	-1.8
GUN	Gumba	15.37	120	eP	Pn	10 24 38.3	-2.8
	comp=E,10nm,0.3s						
JIRN	Jiri	15.74	120	eP	Pn	10 24 43.1	-2.7
	comp=E,22nm,0.4s						
BVAR	Borovoye Array	16.36	359	Pn	Pn	10 24 52.4	-0.5
	comp=E,0.5nm,0.3s,baz=170,slow=12,SNR=4.5						
BVAR				Lg	Lg	10 29 46.6	
	baz=176,slow=23,SNR=1.2						
BRVK	Borovoye	16.40	359	Pn	Pn	10 24 52.0	-1.3
BRVK				IAmb	IAmb	10 25 19.9	
	comp=Z,7.0nm,1.2s						
RAMN	Ramite	16.47	122	eP	Pn	10 24 52.6	-2.1
	comp=Z,16nm,0.3s						
AKTO	Aktyubinsk	16.60	330	⇑P	P	10 24 59.8	+3.2
	comp=Z,5.3nm,0.9s						
AKTO				⇑S	Sn	10 27 59.7	-0.1
	comp=Z,5.1nm,1.4s						
TAPN	Taplejung	17.00	118	eP	Pn	10 24 59.6	-1.6
ODAN	Odare	17.07	120	eP	Pn	10 25 01.7	-0.4
	comp=Z,3.1nm,0.6s						
GOMU	GeErMu	19.24	84	P	Pn	10 25 36.5	+8.4
GOMU				pmax	pmax		
	comp=Z,36nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,290nm,5.0s						
ZAA0	Zalesovo Array	19.80	25	P	P	10 25 32.1	+0.5
ZAA0				IAmb	IAmb	10 25 36.3	
	comp=Z,7.2nm,0.5s						
ZALV	Zalesovo Beam	19.80	25	P	P	10 25 32.0	+0.4
	comp=Z,4.5nm,0.4s,baz=216,slow=10,SNR=22						
	comp=Z,4.5nm,0.4s						
ZALV	Zalesovo Beam	19.80	25	P	P	10 25 31.9	+0.3
ARU	Arti	21.45	341	P	P	10 25 53.6	+4.3
	comp=Z,1.6nm,0.4s,baz=18,slow=13,SNR=3.4						
	comp=Z,1.6nm,0.4s						
SONM	Songino Array	28.31	56	P	P	10 26 54.9	+1.4
	comp=Z,0.8nm,0.7s,baz=260,slow=9.7,SNR=4.8						
	comp=Z,0.8nm,0.7s						
FINES	FINESS Array B	37.30	326	P	P	10 28 16.1	+4.7
	comp=Z,3.6nm,0.9s,baz=99,slow=6.4,SNR=4.3						
	comp=Z,3.6nm,0.9s						
ARCES	ARCESS Array B	40.96	338	P	P	10 28 45.6	+3.8
	comp=Z,12nm,1.2s,baz=113,slow=6.9,SNR=2.5						
	comp=Z,12nm,1.2s						
NOA	NORSAR Array B	44.20	323	P	P	10 29 14.0	+5.9
	comp=Z,1.0nm,1.0s,baz=102,slow=6.0,SNR=1.2						
	comp=Z,1.0nm,1.0s						
KLR	Kul'dur	45.11	54	P	P	10 29 16.9	+1.4
	comp=Z,0.5nm,0.4s,baz=294,slow=22,SNR=1.7						
	comp=Z,0.5nm,0.4s						
YKA	Yellowknife Ar	81.08	3	P	P	10 33 16.4	+3.4
	comp=Z,0.6nm,0.7s,baz=348,slow=5.3,SNR=2.3						
	comp=Z,0.6nm,0.7s						
WRA	Warramunga Arr	82.15	122	P	P	10 33 18.6	-0.6
	comp=Z,0.3nm,0.7s,baz=327,slow=4.7,SNR=6.5						
	comp=Z,0.3nm,0.7s						
ASAR	Alice Springs	84.42	125	P	P	10 33 31.6	+0.8
	comp=Z,0.2nm,0.6s,baz=309,slow=4.9,SNR=5.4						
	comp=Z,0.2nm,0.6s						

*INMG **27** 10:36:27.7±2.0, 43°.02N×7°.11W, h12km±5km, ML1.9, Error ellipse: s-maj=4.3km s-min=2.7km az=97.0*
MDD 27 10:36:27.4±0.4**, 43°.02N×7°.16W, h12km**±4km**, mb_Lg2.6**/7**, Error ellipse: s-maj=3.3km s-min=2.4km az=166.0, Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EPON	Pontenova	0.30	1	Pg	Pg	10 36 33.6	0.0
EPON				Sg	Sg	10 36 37.4	-0.3
EPON				i Vmb_Lg		10 36 38.5	
EAGO	Agolada(Pontev	0.72	252	Pg	Pg	10 36 41.1	-0.3
EAGO				Sg	Sg	10 36 50.3	-0.6
EAGO				i Vmb_Lg		10 36 51.7	
ECAL	Calabor	1.12	164	Pg	Pb	10 36 48.2	-0.6
ECAL				Sg	Sb	10 37 01.7	-1.7
ECAL				i Vmb_Lg		10 37 03.2	
PBRG	Braganca	1.26	166	eP	Pn	10 36 50.8	0.0
PBRG				eS	Sb	10 37 05.4	-1.7
PBRG				A	A	10 37 10.7	
	9.0nm,0.4s						
ELOB	Lobios	1.34	210	Pg	Pn	10 36 51.3	-0.7
ELOB				Sg	Sb	10 37 08.9	-0.6
ELOB				i Vmb_Lg		10 37 12.1	
EMAZ	Mazaricos	1.34	267	Pg	Pn	10 36 49.5	-2.4
EMAZ				Sg	Sb	10 37 08.8	-0.7
EMAZ				i Vmb_Lg		10 37 10.9	
PGAV	Gavieira, Arco	1.34	218	ePn	Pn	10 36 49.6	-2.4
PGAV	Gavieira, Arco	1.34	218	ePg	Pb	10 36 52.3	-0.2
PGAV				eSn	Sb	10 37 09.3	-0.3
PGAV				A	A	10 37 09.7	
	10nm,0.2s						
EZAM	Zamans	1.44	233	Pg	Pb	10 36 53.6	-0.4
EZAM				Sg	Sn	10 37 11.2	-0.8
EARI	Arriondas	1.45	78	Pn	Pn	10 36 52.2	-1.2
EARI				Pg	Pb	10 36 53.1	-1.2
EARI				Sg	Sn	10 37 11.6	-0.8
EARI				i Vmb_Lg		10 37 17.4	
PCAB	Cabril	1.46	207	ePn	Pn	10 36 51.3	-2.3
PCAB				eSg	Sg	10 37 14.1	-0.4
POLO	Lamas de Olo	1.72	196	ePn	Pn	10 36 55.9	-1.2
POLO	Lamas de Olo	1.72	196	ePg	Pb	10 36 59.2	+0.3
POLO				eSn	Sn	10 37 16.2	-2.8
POLO				eSg	Sb	10 37 21.5	+1.1
POLO				A	A	10 37 24.3	
	2.8nm,0.4s						
PVRL	Vila Real	1.80	194	ePn	Pn	10 36 56.5	-1.7
PVRL	Vila Real	1.80	194	ePg	Pg	10 37 01.5	-0.3
PVRL				eSn	Sn	10 37 17.5	-3.4
PVRL				eSg	Sb	10 37 23.7	+1.0
PVRL				A	A	10 37 27.1	
	12nm,0.1s						
MVO	Moncorvo	1.86	177	ePn	Pn	10 36 58.4	-0.7
MVO	Moncorvo	1.86	177	ePg	Pb	10 37 02.2	+0.9
MVO				eSn	Sn	10 37 20.1	-2.5
MVO				eSg	Sb	10 37 24.8	+0.2
MVO				A	A	10 37 26.9	
	9.4nm,0.3s						
PVIS	Viseu	2.37	194	eSn	Sn	10 37 30.6	-4.5
PVIS				eSg	Sb	10 37 41.0	+1.7
PVIS				A	A	10 37 42.8	
	5.4nm,0.4s						
MTE	Manteigas	2.64	186	eSg	Sg	10 37 51.5	-0.6
MTE				A	A	10 37 52.3	
	4.1nm,0.6s						
ELAN	Lanestosa	2.73	84	Sg	Sb	10 37 51.5	+1.9
ELAN				i Vmb_Lg		10 38 00.6	
EPLA	Plasencia	3.06	164	Sn	Sn	10 37 50.4	-1.8
EPLA				Sg	Sb	10 38 00.5	+1.3
PCAS	Casmilo, Conde	3.13	199	eSg	Sg	10 38 07.4	-0.7
PCAS				A	A	10 38 10.1	
	2.6nm,0.7s						
PCBR	Castelo Branco	3.19	184	eSg	Sg	10 38 07.3	-2.5
GUD	Guadarrama	3.27	136	Pg	Pb	10 37 26.5	+1.1
GUD				Sn	Sn	10 37 54.7	-2.7
GUD				Sg	Sb	10 38 07.3	+2.1
PMRV	Marv??o	3.60	183	eSg	Sg	10 38 19.9	-3.0
PMTG	Montargil	4.03	192	eSn	Sn	10 38 12.2	-3.8
PMTG				eSg	Sg	10 38 33.6	-3.3
PAB	San Pablo	4.07	148	Sn	Sn	10 38 19.5	+2.5
PAB				Sg	Sb	10 38 31.7	+3.6
PESTR	Estremoz	4.17	185	eSg	Sg	10 38 37.3	-3.8
EBAD	Badajoz	4.27	179	Sg	Sb	10 38 35.3	+1.6
ETOR	Torete	4.40	118	Pg	Pg	10 37 48.8	-2.8

*UCR **27** 10:37:21.4±0.7, 11°.31N×86°.09W, h98km±4km, MW3.5*
*INET **27** 10:37:21.7±0.4, 11°.35N×86°.06W, h97km±9km, MW3.1*
ISC 27 10:37:21.3±2.4**, 11°.33N**±0°.07×**86°.1W**±0°.1**, h101km**±23km**, n19, σ0s.37**/27**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GBS2	Las Lilas	0.80	128	eP	Pn	10 37 39.4	-0.3
GBS2				eS	Sn	10 37 53.5	-0.1
WILN	Americas 2	0.83	354	eP	Pn	10 37 39.6	-0.4
GB1A	Borinquen Arri	0.85	127	eP	Pn	10 37 40.4	0.0
GB1A				eS	Sn	10 37 54.1	-0.6
BUEV	Buena Vista	0.86	128	eP	Pn	10 37 40.4	-0.1
BUEV				eS	Sn	10 37 54.8	0.0
GPS3	Bodega del ICE	0.92	129	eP	Pn	10 37 41.1	+0.1
GPS3				eS	Sn	10 37 56.1	+0.3
MESS	Mesas	1.06	124	eP	Pn	10 37 42.1	-0.5
MESS				eS	Sn	10 37 59.5	+0.9
HORNC	Hornillas	1.09	124	eP	Pn	10 37 43.0	+0.2
HORNC				eS	Sn	10 37 59.4	+0.3
ACON	Acoyapa	1.10	55	eP	Pn	10 37 42.5	-0.4
CUI	Cuipilapa	1.13	126	eP	Pn	10 37 43.3	0.0
CUI				eS	Sn	10 38 00.3	+0.4
ORTG	Ortega, Santa	1.15	147	eP	Pn	10 37 43.7	+0.1
MOMN	Momotombo	1.16	338	eP	Pn	10 37 43.4	-0.2
BOAB	BOACO BROADBAN	1.19	21	eP	Pn	10 37 43.9	0.0
ACAL	Aguas Claras	1.25	124	eP	Pn	10 37 44.6	-0.1
ACAL				eS	Sn	10 38 02.9	+0.5
CNGN	Cerro Negro	1.30	333	eP	Pn	10 37 45.7	+0.4
SAJU	San Juanillo,	1.31	163	eP	Pn	10 37 45.2	-0.2
JTS	Las Juntas de	1.53	133	eP	Pn	10 37 47.5	-0.4
INDI	Punta indio, G	1.57	158	eP	Pn	10 37 48.1	-0.4
CRIN	San Cristobal	1.65	325	eP	Pn	10 37 49.4	-0.2
LAFE	Finca La Fe, P	1.91	142	eP	Pn	10 37 52.6	-0.2

NOU 27 10:42:47.2, 19°.91S×133°.86E, h0km, MLv4.0/12**, Northern Territory, Australia, Northern Territory**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	0.46	93	P	Pg	10 42 56.1	0.0
AS01	Alice Springs	3.74	179	P	Pn	10 43 48.1	+1.9
QIS	Mount Isa	5.43	98	P	Pn	10 44 10.3	+0.8
KNRA	Kununurra	6.43	310	P	Pn	10 44 23.8	+0.6
KDU	Kakadu	7.30	349	P	Pn	10 44 34.7	-0.5
MTN	Manton Dam	7.50	339	P	Pn	10 44 37.7	-0.2
OOD	Oodnadatta	8.03	168	P	Pn	10 44 45.2	+0.1
INKA	Innaminka	10.02	142	P	Pn	10 45 11.9	-0.6
MULG	Mulgathing	10.33	179	P	Pn	10 45 16.8	+0.1
LCRK	Leigh Creek	11.21	160	P	Pn	10 45 27.5	-1.2
FORT	Forrest	12.02	205	P	Pn	10 45 39.0	-0.9
BBOO	Buckleboo	13.00	172	P	Pn	10 45 52.0	-1.2

WEL 27 10:50:53.6±0.2**, 42°S**±2°×**17°4E**±°**, h12km, M3.4**/35**, ML3.5**/21**, MLv3.4**/35**, Error ellipse: s-maj=0.0km s-min=0.0km az=128.6, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.37	16	P	Pb	10 51 01.8	-0.2
BSWZ				S	Sb	10 51 07.7	-0.1
KHZ	Kahutara	0.38	203	P	Pb	10 51 02.0	-0.3
KHZ				S	Sb	10 51 08.3	+0.2
CMWZ	Cape Campbell	0.47	48	P	Pb	10 51 04.5	+0.6
CMWZ				S	Sb	10 51 12.1	+1.2
TUWZ	Tuamarina	0.66	13	P	Pb	10 51 07.1	+0.1
TUWZ				S	Sb	10 51 16.5	+0.5
THZ	Tophouse	0.69	296	P	Pb	10 51 07.7	0.0
NNZ	Nelson	0.89	342	P	Pb	10 51 11.1	0.0
TCW	Tory Channel	0.94	25	P	Pg	10 51 11.8	0.0
MRNZ	Matariki Terra	0.99	312	P	Pn	10 51 13.3	-0.1
GVZ	Greta Valley S	1.04	210	P	Pn	10 51 13.9	-0.1
WEL	Wellington	1.10	45	P	Pn	10 51 14.8	0.0
TKNZ	Takaka Hill	1.19	330	P	Pg	10 51 16.4	0.0
PLWZ	Palliser	1.23	67	P	Pn	10 51 16.0	-0.8
DUWZ	D'Urville Isla	1.27	6	P	Pb	10 51 17.5	0.0
MSWZ	Moikau Station	1.30	61	P	Pn	10 51 16.9	-0.8
LTZ	Lake Taylor	1.30	236	P	Pb	10 51 18.0	0.0
AMCZ	Amberley	1.37	216	P	Pn	10 51 18.1	-0.4
CAW	Cannon Point	1.38	46	P	Pn	10 51 18.4	-0.3
PAWZ	Paruwai Farm	1.44	62	P	Pn	10 51 18.6	-0.9
DSZ	Denniston Nort	1.48	282	P	Pg	10 51 22.1	0.0
KIW	Kapiti Island	1.49	36	P	Pn	10 51 20.6	+0.4
QRZ	Quartz Range	1.54	323	P	Pb	10 51 22.4	+0.3
MTW	Mount Morrison	1.60	56	P	Pn	10 51 20.8	-1.0
TRWZ	Traveller	1.60	66	P	Pn	10 51 20.5	-1.2
OGWZ	Otaki Gorge	1.65	41	P	Pn	10 51 22.2	-0.2
OKCZ	Okains Bay	1.73	197	P	Pn	10 51 22.4	-1.2
HOWZ	Holdsworth Sta	1.77	49	P	Pb	10 51 25.7	-0.3
OXZ	Oxford	1.78	224	P	Pn	10 51 23.2	-1.0
MQZ	McQueen's Vall	1.82	206	P	Pn	10 51 23.0	-1.8
INZ	Inchbonnie	1.82	248	P	Pn	10 51 25.8	+1.0
TMWZ	Te Maipa	1.88	60	P	Pn	10 51 24.3	-1.2
AKCZ	Akaroa Harbour	1.91	198	P	Pn	10 51 24.7	-1.2
MRZ	Mangatainoka R	1.97	45	P	Pn	10 51 26.1	-0.7
RACZ	Rakaia	2.04	215	P	Pn	10 51 26.3	-1.4
MHCZ	Mount Hutt	2.17	227	P	Pn	10 51 28.5	-1.1
WACZ	Wakanui South	2.34	216	P	Pn	10 51 30.5	-1.4
BFZ	Birch Farm	2.34	55	P	Pg	10 51 37.6	-0.9
WVZ	Waitaha Valley	2.44	245	P	Pn	10 51 33.9	+0.6
WAZ	Wanganui	2.50	23	P	Pb	10 51 36.9	-1.5
RPZ	Rata Peaks	2.57	229	P	Pn	10 51 34.2	-0.9
TSZ	Takapari Road	2.62	41	P	Pn	10 51 34.9	-0.8
LREZ	Lake Rotokare	2.65	11	P	Pb	10 51 40.4	-0.7
KHEZ	Kahui Hut	2.78	4	P	Pb	10 51 43.8	+0.5
NBEZ	Newall Road No	2.80	2	P	Pb	10 51 45.2	+1.7
GCSZ	Gaunt Creek Bo	2.81	242	P	Pn	10 51 39.3	+0.9
DREZ	Durham Road	2.90	7	P	Pb	10 51 45.4	+0.2
PKVZ	Pokaka	3.03	24	P	Pb	10 51 48.4	+0.8
TMZ	Timaru	3.06	220	P	Pn	10 51 40.6	-1.2
MOVZ	Moawhango	3.06	31	P	Pb	10 51 45.8	-2.3
WNVZ	Wahianoa	3.08	28	P	Pb	10 51 46.8	-1.6
WHVZ	Whangaehu Hut	3.12	27	P	Pb	10 51 47.8	-1.3
BHHZ	Black Hill Sta	3.12	35	P	Pb	10 51 49.1	0.0
FWVZ	Far West T-bar	3.13	27	P	Pb	10 51 48.6	-0.7
NGZ	Ngauruhoe	3.22	27	P	Pb	10 51 50.4	-0.3
SNVZ	South Ngauruho	3.22	27	P	Pb	10 51 50.7	-0.1
FOZ	Fox Glacier	3.24	242	P	Pn	10 51 45.3	+1.0
NNVZ	North Ngauruho	3.26	27	P	Pb	10 51 51.5	-0.1
WTVZ	West Tongariro	3.27	26	P	Pb	10 51 50.4	-1.2
TMVZ	Te Maari	3.31	28	P	Pb	10 51 52.0	-0.3
LBZ	Lake Benmore	3.48	227	P	Pn	10 51 46.9	-0.8
HIZ	Hauiti	3.65	14	P	Pn	10 51 53.8	+3.9
ODZ	Otahua Downs	3.73	216	P	Pn	10 51 49.4	-1.7
EAZ	Earnscleugh	4.51	224	P	Pn	10 52 00.5	-1.3
TOZ	Tahuroa Road	4.54	18	P	Pn	10 52 05.9	+3.8
TUZ	Tuapeka	4.89	216	P	Pn	10 52 05.6	-1.3
ETAZ	East Tamaki Re	5.19	11	P	Pn	10 52 14.6	+3.5

IDC 27 10:51:50.8±1.7**, 16°.25S×178°.11E, h0km, mb3.8**/4**, mbtmp3.8**/4**, Error ellipse: s-maj=39.5km s-min=23.4km az=91.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.48	182	Pn	Pn	10 52 18.9	+0.1
	144nm,0.3s,baz=248,slow=15,SNR=458						
MSVF				Sn	Sn	10 52 39.7	+0.8
	173nm,0.3s,baz=255,slow=22,SNR=7.6						
STKA	Stephens Creek	36.59	238	P	P	10 58 58.4	-0.4
	1.5nm,0.8s,baz=12,slow=12,SNR=3.5						
	1.5nm,0.8s						
WRA	Warramunga Arr	41.69	258	P	P	10 59 41.6	0.0
	1.0nm,1.0s,baz=88,slow=8.4,SNR=5.5						
	1.0nm,1.0s						
ASAR	Alice Springs	42.07	253	P	P	10 59 44.8	0.0
	1.6nm,0.9s,baz=82,slow=8.8,SNR=16						
	1.6nm,0.9s						
ILAR	Eielson Array	85.06	14	P	P	11 04 28.0	0.0
	0.4nm,0.8s,baz=227,slow=4.6,SNR=5.6						
	0.4nm,0.8s						

IDC 27 10:52:40.6±2.9**, 46°.33N×152°.97E, h0km, mb3.8**/3**, mbtmp3.8**/4**, ML2.2**/1**, Error ellipse: s-maj=72.6km s-min=47.3km az=8.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.44	23	Pn	Pn	10 54 30.4	0.0
	0.2nm,0.3s,baz=155,slow=4.8,SNR=8.5						
PETK				Sn	Sn	10 56 01.5	+6.0
	0.1nm,0.3s,baz=146,slow=11,SNR=2.0						
	4.3nm,0.9s						
FINES	FINESS Array B	64.38	335	P	P	11 03 17.8	-0.1
	2.6nm,0.9s,baz=29,slow=6.3,SNR=4.2						
	2.6nm,0.9s						
AKASG	Malin Array Be	71.84	326	P	P	11 04 04.9	+0.1
	0.4nm,0.4s,baz=33,slow=6.4,SNR=2.8						
	0.4nm,0.4s						
TXAR	Lajitas Array	77.79	60	P	P	11 04 39.9	0.0
	0.2nm,0.5s,baz=316,slow=5.0,SNR=5.2						
	0.2nm,0.5s						

*IDC **27** 10:53:49.5±1.1, 13°.37N×144°.96E, h48km±16km, mb3.2/3, mbtmp3.4/3, Error ellipse: s-maj=29.1km s-min=18.2km az=152.0*
*NEIC **27** 10:53:50.0±1.3, 13°.3N±0°.1×145°.19E±0°.06, h38km±6km, mb3.4/3, Error ellipse: s-maj=15.9km s-min=6.3km az=202.0*
ISC 27 10:53:45.9±1.3**, 13°.4N**±0°.2×**145°.5E**±0°.1**, h35km, n12, σ1s.01**/11**, mb3.4**/5**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.67	284	P	Pn	10 53 59.8	+1.0
	984nm,0.3s,baz=153,slow=17,SNR=232						
GUMO				S	Sn	10 54 06.4	-1.7
	3μm,0.3s,baz=142,slow=24,SNR=33						
GUMO	Guam	0.67	284		Pn	10 54 00.2	+1.4
GUMO				Sn	Sn	10 54 07.0	-1.1
PATS	Pohnpei	14.18	116	Pn	P	10 57 10.7	-0.6
H11N1	WAKE ISLAND Hy	21.39	70	T	T	11 21 31.4	
	baz=257,slow=75,SNR=22						
H11N2	WAKE ISLAND Hy	21.40	70	T	T	11 21 42.0	
	baz=257,slow=75,SNR=9.0						
H11N3	WAKE ISLAND Hy	21.41	70	T	T	11 21 32.4	
	baz=257,slow=75,SNR=19						
WR0	Warramunga Arr	34.90	198	P	P	11 00 34.4	+0.1
WR0				IAmb	IAmb	11 00 59.5	
	comp=Z,5.2nm,1.2s						
WRA	Warramunga Arr	34.95	199	P	P	11 00 34.2	-0.6
	comp=Z,0.7nm,0.9s,baz=20,slow=9.7,SNR=8.8						
	comp=Z,0.7nm,0.9s						
WRA	Warramunga Arr	34.95	199	P	P	11 00 34.9	+0.2
WRA				IAmb	IAmb	11 01 02.8	

comp=Z,0.2nm,1.3s
AS31 Alice Springs 38.58 197 P **P** **11 01 06.5 +0.8**
AS31 IAmb IAmb 11 01 09.0
comp=Z,0.4nm,0.9s
ASAR Alice Springs 38.59 197 P **P** **11 01 05.9 +0.2**
comp=Z,0.3nm,0.5s,baz=20,slow=11,SNR=12
comp=Z,0.3nm,0.5s
MKAR Makanchi Array 62.05 316 P **P** **11 04 03.1 +0.1**
comp=Z,0.2nm,0.4s,baz=90,slow=8.6,SNR=2.0
comp=Z,0.2nm,0.4s

---

*NNC **27** 10:55:41.2±3.7, 44.°27N×83.°21E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=31.0km s-min=12.1km az=126.0*
*SOME **27** 10:55:44.9, 44.°10N×83.°02E, h15km*
ISC 27 10:55:45.1±1.9, **44.°07N**±0.°10×**83.°13E**±0.°09, **h10**km, **n13, σ1s04/20, 2C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DJR	**Jarkent**	**2.41**	**277**	*eP*		**Pb**	**10 56 27.5**	**-1.2**
	2.6nm,0.3s							
DJR				*eS*		**Sb**	**10 56 58.4**	**-0.1**
	2.8nm,0.3s							
DJR	**Jarkent**	**2.41**	**277**	Pg		**Pb**	**10 56 27.5**	**-1.2**
	2.6nm,0.3s							
DJR				Lg		Lg	10 56 58.4	
	2.8nm,0.3s							
MK31	**Makanchi Array**	**2.79**	**348**	⇓Pg		**Pn**	**10 56 30.2**	**+0.4**
	0.1nm,0.2s,baz=168,slow=14,SNR=44							
MK31				⇑Lg		Lg	10 57 02.1	
	0.6nm,0.3s,baz=160,slow=27,SNR=9.6							
SHLS	**Shalkode**	**2.81**	**252**	*eP*		**Pn**	**10 56 30.3**	**+0.1**
	5.8nm,0.2s							
SHLS				*eS*		**Sn**	**10 57 03.0**	**-1.3**
	6.2nm,0.3s							
SHLS	**Shalkode**	**2.81**	**252**	Pg		**Pn**	**10 56 30.3**	**+0.1**
	5.5nm,0.2s							
SHLS				Lg		Lg	10 57 03.0	
	8.5nm,0.5s							
MAKZ	**Makanchi**	**2.85**	**344**	⇑Pg		**Pn**	**10 56 29.9**	**-0.8**
	2.5nm,1.0s							
MAKZ				⇓Lg		Lg	10 57 05.5	
	0.5nm,0.4s							
UZB	**Uzynbulak**	**3.12**	**254**	*eP*		**Pb**	**10 56 40.7**	**-0.1**
	1.0nm,0.1s							
UZB				*eS*		**Sb**	**10 57 20.6**	**+1.7**
	2.2nm,0.8s							
KPKS	**Kokpek**	**3.27**	**261**	*eP*		**Pb**	**10 56 43.0**	**-0.3**
	1.7nm,0.2s							
KPKS				*eS*		**Sb**	**10 57 24.9**	**+1.6**
	5.2nm,0.4s							
KPKS	**Kokpek**	**3.27**	**261**	Pg		**Pb**	**10 56 42.4**	**-0.9**
	2.2nm,0.2s							
KPKS				Lg		Lg	10 57 24.0	
	5.3nm,0.3s							
BLB	**Baldybastay**	**3.35**	**272**	*eP*		**Pb**	**10 56 44.1**	**-0.5**
	2.1nm,0.2s							
BLB				*eS*		**Sb**	**10 57 26.6**	**+1.2**
	2.7nm,0.3s							
BLB	**Baldybastay**	**3.35**	**272**	Pg		**Pb**	**10 56 44.1**	**-0.5**
	2.1nm,0.2s							
BLB				Lg		Lg	10 57 26.6	
	2.7nm,0.3s							
TDK	**Taldyqorghan**	**3.50**	**287**	*eP*		**Pb**	**10 56 46.9**	**-0.2**
	14nm,0.3s							
TDK				*eS*		**Sb**	**10 57 31.4**	**+1.7**
	24nm,0.3s							
ZSN	**Zaisan**	**3.59**	**19**	*eP*		**Pb**	**10 56 48.2**	**-0.4**
	1.3nm,0.2s							
ZSN				*eS*		**Sb**	**10 57 33.6**	**+1.3**
	3.1nm,0.3s							

---

*IDC **27** 11:00:19.9±0.5, 9.°46N×126.°17E, h0km, mb4.1/25, mbtmp4.2/28, ML4.1/3, MS3.3/17, Error ellipse: s-maj=21.9km s-min=11.5km az=81.0*
*DJA **27** 11:00:23.7±2.7, 10.°N±7.°×12.°7E±.°, h22km±18km, M4.7/16, mb4.5/16, MLv4.9/1*
*MAN **27** 11:00:25.0, 9.°57N×126.°54E, h23km, mb5.1, ML4.0, MS4.1*
*NEIC **27** 11:00:28.4±1.5, 9.°63N±0.°09×126.°6E±0.°1, h62km±7km, mb4.5/34, Error ellipse: s-maj=17.8km s-min=12.3km az=75.0*
ISC 27 11:00:24.4±1.6, **9.°57N**±0.°04×**126.°54E**±0.°06, **h30**km±11km, **n122, σ1s80/121, mb4.3/42, MS3.2/13, 6C-7D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.05**	**282**	*eP*		**Pn**	**11 00 43.3**	**+0.1**
SCPH				*eS*		**Sb**	**11 00 55.5**	**-2.1**
BIPH	**Bislig**	**1.39**	**187**	⇑*eP*		**Pn**	**11 00 47.9**	**+0.1**
BIPH				*i* S		**Sn**	**11 01 03.8**	**-1.4**
CGP	**Cagayan de Oro**	**2.13**	**239**	⇑*eP*		**Pn**	**11 00 59.4**	**+1.4**
CGP				*eS*		**Sn**	**11 01 25.1**	**+1.6**
GHBP	**Garcia Hernand**	**2.19**	**272**	⇓*eP*		**Pn**	**11 01 00.2**	**+1.4**
GHBP				*eS*		**Sb**	**11 01 28.6**	**-1.4**
BUKP	**Musuan**	**2.22**	**221**	⇓*eP*		**Pn**	**11 01 01.6**	**+2.3**
BUKP				*eS*		**Sb**	**11 01 30.8**	**-0.3**
TABP	**Talibon, Bohol**	**2.23**	**284**	⇓*eP*		**Pn**	**11 01 01.1**	**+1.7**
TABP				*eS*		**Sn**	**11 01 29.2**	**+3.1**
LLP	**Lapu-Lapu**	**2.64**	**287**	⇑*eP*		**Pn**	**11 01 07.7**	**+2.7**
LLP				*eS*		**Sb**	**11 01 40.8**	**-2.3**
TBP	**Tagbilaran**	**2.64**	**273**	⇓*eP*		**Pn**	**11 01 07.0**	**+2.0**
TBP				*i* S		**Sn**	**11 01 39.3**	**+3.2**
DAV	**Davao City (W)**	**2.66**	**201**	Pn		**Pn**	**11 01 02.0**	**-3.3**
	16nm,0.3s,baz=27,slow=13,SNR=1.7							
DAV					Sn	**Sn**	**11 01 39.1**	**+2.6**
	45nm,0.3s,baz=280,slow=23,SNR=4.0							
DAV					LR	LR	11 02 07.3	
	comp=Z,673nm,20.2s,baz=356,slow=44							
	68nm,0.4s							
DAV	**Davao City (W)**	**2.66**	**201**			**Pb**	**11 01 09.4**	**-1.9**
LSIP	**Lazi, Siquijor**	**2.90**	**262**	⇑*eP*		**Pn**	**11 01 10.6**	**+1.9**
LSIP				*eS*		**Sn**	**11 01 45.7**	**+3.2**
KCP	**Kidapawan**	**2.92**	**209**	⇓*iP*		**Pn**	**11 01 11.4**	**+2.4**
KCP				*i* S		**Sn**	**11 01 47.1**	**+4.0**
CTBH	**Cotabato--PC H**	**3.25**	**224**	⇓*iP*		**Pn**	**11 01 15.9**	**+2.4**
CTBH				*i* S		**Sn**	**11 01 56.9**	**+5.7**
SNPH	**Sibulan**	**3.26**	**266**	⇑*eP*		**Pn**	**11 01 16.4**	**+2.7**
SNPH				*eS*		**Sb**	**11 01 57.4**	**-3.7**
DCPH	**Dipolog City**	**3.29**	**253**	⇑*eP*		**Pn**	**11 01 16.0**	**+2.0**
RCP	**Roxas**	**4.22**	**298**	⇓*eP*		**Pn**	**11 01 30.5**	**+3.7**
MYLDM	**Lahad Datu**	**9.08**	**242**	Pn		Pn	11 02 39.0	+5.4
GTOI	**Gorontalo**	**9.54**	**202**	P		**Pn**	**11 02 43.0**	**+3.1**
	10nm,1.0s							
LBMI	**Labuha**	**10.18**	**175**	P		Pn	11 02 56.2	+7.5
	51nm,0.8s							
SIJI	**Sorong**	**11.39**	**155**	Pn		**Pn**	**11 03 05.6**	**+0.4**
	1.0nm,0.3s,baz=232,slow=22,SNR=2.7							
SIJI					Sn	Sn	11 05 03.7	-7.8
	0.2nm,0.3s,baz=221,slow=22,SNR=1.9							
SIJI					LR	LR	11 08 13.8	
	comp=Z,89nm,18.7s,baz=332,slow=41							
	3.8nm,0.4s							
APSI	**Ampana**	**11.49**	**205**	P		Pn	11 03 13.1	+6.5
	24nm,1.0s							
SANI	**Sanana**	**11.55**	**183**	P		**Pn**	**11 03 08.4**	**+0.9**
	11nm,0.9s							
FAKI	**Fak Fak**	**13.65**	**155**			**Pn**	**11 03 37.4**	**+1.3**
FAKI	**Fak Fak**	**13.65**	**155**	P		**Pn**	**11 03 39.8**	**+3.7**
	10nm,0.8s							
SPSI	**Sidrap Palu**	**15.04**	**207**	P		**P**	**11 04 00.3**	**+0.2**
	15nm,1.1s							
BNSI	**Bone**	**15.28**	**205**	P		**P**	**11 04 03.5**	**+0.7**
	10.0nm,1.2s							
KAPI	**Kappang**	**15.99**	**205**	LR		LR	11 10 47.0	
	comp=Z,100nm,21.1s,baz=58,slow=40							
JOW	**Kunigami**	**17.25**	**5**	LR		LR	11 09 53.3	
	comp=Z,102nm,20.9s,baz=244,slow=33							
GUMO	**Guam**	**18.40**	**76**	LR		LR	11 11 54.7	
	comp=Z,73nm,18.4s,baz=214,slow=37							
SOEI	**Soe**	**19.33**	**187**			**Pn**	**11 04 50.8**	**+2.0**
SOEI					IAmb	IAmb	11 05 16.1	
	comp=Z,31nm,0.8s							
SOEI	**Soe**	**19.33**	**187**	P		**Pn**	**11 04 53.5**	**+4.7**
	comp=Z,43nm,0.9s							
BATI	**Baumata**	**19.85**	**188**	P		**P**	**11 04 51.4**	**-1.8**
	comp=Z,1.8nm,0.3s,baz=279,slow=21,SNR=2.8							
	comp=Z,30nm,0.6s							
BATI	**Baumata**	**19.85**	**188**	P		**P**	**11 04 55.0**	**+1.8**
	comp=Z,68nm,0.8s							
MTN	**Manton Dam**	**22.73**	**168**	P		**P**	**11 05 25.8**	**+1.6**
MTN					IAmb	IAmb	11 05 58.8	
	comp=Z,10nm,0.9s							
JNU	**Nakatsue**	**23.78**	**9**	LR		LR	11 14 34.9	
	comp=Z,43nm,21.9s,baz=210,slow=36							
KNRA	**Kununurra**	**25.18**	**175**	P		**P**	**11 05 48.2**	**+0.7**
KNRA					IAmb	IAmb	11 06 24.8	
	comp=Z,10nm,0.7s							
KSRS	**Korea Array**	**27.79**	**2**	P		**P**	**11 06 11.7**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=184,slow=9.2,SNR=1.9							
KSRS					LR	LR	11 19 30.8	
	comp=Z,61nm,18.6s,baz=205,slow=41							
	comp=Z,0.9nm,0.7s							
TIA	**Tai'an**	**27.87**	**344**	*eP*		**P**	**11 06 12.0**	**+0.4**
TIA					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**28.16**	**291**	P		**P**	**11 06 11.8**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=83,slow=8.4,SNR=3.1							
CMAR					LR	LR	11 18 50.2	
	comp=Z,51nm,18.3s,baz=120,slow=40							
	comp=Z,0.6nm,0.3s							
PSI	**Prapat**	**28.25**	**258**	P		**P**	**11 06 12.4**	**-3.0**
	comp=Z,4.0nm,0.7s,baz=39,slow=9.3,SNR=1.3							
	comp=Z,4.0nm,0.7s							
MJAR	**Matsushiro Arr**	**28.87**	**20**	LR		LR	11 19 08.8	
	comp=Z,45nm,18.1s,baz=166,slow=39							
GSI	**Gunungsitoli**	**29.95**	**256**	P		**P**	**11 06 31.2**	**+0.8**
WB0	**Warramunga Arr**	**30.16**	**165**	P		**P**	**11 06 31.9**	**-0.2**
WB0					IAmb	IAmb	11 07 13.6	
	comp=Z,8.2nm,1.4s							
WRA	**Warramunga Arr**	**30.31**	**165**	P		**P**	**11 06 31.8**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=348,slow=9.4,SNR=4.2							
WRA					PcP	**PcP**	**11 09 32.0**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=350,slow=3.3,SNR=2.2							
WRA					S	S	11 11 24.5	-7.4
	comp=Z,0.5nm,1.1s,baz=343,slow=15,SNR=3.0							
	comp=Z,0.4nm,0.5s							
WRA	**Warramunga Arr**	**30.31**	**165**	P		**P**	**11 06 33.5**	**0.0**
WB2	**Warramunga Arr**	**30.32**	**165**	P		**P**	**11 06 34.8**	**+1.3**
WR0	**Warramunga Arr**	**30.38**	**165**	P		**P**	**11 06 35.0**	**+0.9**
AS31	**Alice Springs**	**33.81**	**168**	P		**P**	**11 07 05.2**	**+1.0**
ASAR	**Alice Springs**	**33.81**	**168**	P		**P**	**11 07 03.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=346,slow=7.2,SNR=29							
ASAR					PcP	**PcP**	**11 09 43.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=354,slow=2.8,SNR=6.8							
ASAR					S	**S**	**11 12 21.2**	**-5.2**
	comp=Z,0.2nm,0.6s,baz=355,slow=21,SNR=2.4							
	comp=Z,0.5nm,0.3s							
ASAR	**Alice Springs**	**33.81**	**168**	P		**P**	**11 07 05.4**	**+1.3**
USRK	**Ussuriysk Ar.**	**34.83**	**7**	P		**P**	**11 07 14.9**	**+2.2**
	comp=Z,3.2nm,0.7s,baz=207,slow=9.2,SNR=5.6							
	comp=Z,3.2nm,0.7s							
CTA	**Charters Tower**	**35.29**	**147**	LR		LR	11 23 45.0	
	comp=Z,22nm,18.0s,baz=286,slow=40							
BRDH	**Bariadhala**	**35.86**	**296**	LR		LR	11 23 25.0	
	comp=Z,114nm,18.1s,baz=109,slow=39							
SHL	**Shillong**	**36.52**	**300**	P		**P**	**11 07 27.5**	**-0.3**
ASAJ	**Asahikawa**	**37.14**	**19**	LR		LR	11 23 25.9	
	comp=Z,38nm,19.4s,baz=190,slow=37							
HNR	**Honara**	**38.24**	**119**	LR		LR	11 20 12.5	
	comp=Z,960nm,21.0s,baz=315,slow=31							
MORW	**Morawa**	**39.72**	**194**	P		**P**	**11 07 54.9**	**+0.5**
MORW					IAmb	IAmb	11 07 55.6	
	comp=Z,12nm,1.1s							
KLR	**Kul'dur**	**39.77**	**5**	P		**P**	**11 07 55.9**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=187,slow=6.3,SNR=6.5							
KLR					LR	LR	11 25 54.6	
	comp=Z,31nm,18.8s,baz=238,slow=38							
	comp=Z,1.1nm,0.5s							
FORT	**Forrest**	**40.14**	**178**	P		**P**	**11 07 58.2**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**40.23**	**71**	T		T	11 51 27.7	
	baz=265,slow=74,SNR=20							
H11N2	**WAKE ISLAND Hy**	**40.24**	**71**	T		T	11 51 29.9	
	baz=265,slow=74,SNR=16							
H11N3	**WAKE ISLAND Hy**	**40.25**	**71**	T		T	11 51 24.7	
	baz=265,slow=74,SNR=16							
HEH	**HeiHe**	**40.57**	**1**	*eP*		**P**	**11 08 02.0**	**+0.9**
HEH					pmax	pmax		
	comp=Z,5.0nm,1.2s							
HEH					pmax	pmax		
	comp=Z,130nm,5.4s							
TAPN	**Taplejung**	**40.63**	**301**	*eP*		**P**	**11 08 02.4**	**0.0**
	comp=Z,16nm,0.3s							
RAMN	**Ramite**	**41.46**	**300**	*eP*		**P**	**11 08 08.7**	**-0.4**
	comp=Z,16nm,0.6s							
SONM	**Songino Array**	**41.77**	**340**	P		**P**	**11 08 09.9**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=144,slow=9.2,SNR=3.0							
	comp=Z,0.6nm,0.8s							
JIRN	**Jiri**	**42.01**	**301**	*eP*		**P**	**11 08 13.8**	**0.0**
	comp=Z,28nm,0.5s							
GUN	**Gumba**	**42.35**	**301**	*eP*		**P**	**11 08 16.6**	**0.0**
	comp=Z,30nm,0.7s							
PKI	**Pulchoki**	**42.65**	**300**	*eP*		**P**	**11 08 18.6**	**-0.4**
	comp=Z,9.8nm,0.5s							
BBOO	**Buckleboo**	**43.11**	**168**	P		**P**	**11 08 23.5**	**+1.3**
BBOO					IAmb	IAmb	11 09 02.5	
	comp=Z,18nm,1.4s							
NWAO	**Narrogin (SRO)**	**43.18**	**191**	P		**P**	**11 08 23.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**43.18**	**191**	P		**P**	**11 08 23.4**	**+0.8**
STKA	**Stephens Creek**	**43.66**	**161**	P		**P**	**11 08 26.9**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=353,slow=8.6,SNR=6.3							
	comp=Z,0.9nm,0.4s							
STKA	**Stephens Creek**	**43.66**	**161**	P		**P**	**11 08 26.9**	**+0.3**
KOLN	**Koldanda**	**44.25**	**300**	*eP*		**P**	**11 08 30.6**	**-1.1**
DANN	**Dangsing**	**44.27**	**301**	*eP*		**P**	**11 08 32.0**	**0.0**
	comp=Z,19nm,0.5s							
PYUN	**Piuthan**	**44.85**	**300**	*eP*		**P**	**11 08 35.8**	**-0.8**
PETK	**Petropavlovsk-**	**50.17**	**24**	P		**P**	**11 09 19.2**	**+2.0**
	comp=Z,3.4nm,0.9s,baz=205,slow=8.6,SNR=1.5							
	comp=Z,3.4nm,0.9s							
MK31	**Makanchi Array**	**52.74**	**323**	P		**P**	**11 09 36.2**	**-0.4**
MKAR	**Makanchi Array**	**52.74**	**323**	P		**P**	**11 09 35.8**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=122,slow=8.0,SNR=30							
MKAR					PcP	**PcP**	**11 10 45.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=114,slow=4.3,SNR=2.4							
	comp=Z,1.8nm,0.5s							
MKAR	**Makanchi Array**	**52.74**	**323**	P		**P**	**11 09 36.1**	**-0.6**
MAKZ	**Makanchi**	**52.94**	**323**	P		**P**	**11 09 37.3**	**-0.8**
NIL	**Nilore**	**54.34**	**305**	P		**P**	**11 09 47.5**	**-1.1**
ZALV	**Zalesovo Beam**	**55.36**	**331**	P		**P**	**11 09 54.5**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=116,slow=6.7,SNR=8.2							
	comp=Z,1.8nm,0.7s							
ZALV	**Zalesovo Beam**	**55.36**	**331**	P		**P**	**11 09 53.4**	**-2.2**
AAK	**Ala-Archa**	**56.01**	**315**	LR		LR	11 36 28.5	
	comp=Z,64nm,19.0s,baz=98,slow=39							
SEY	**Seymchan**	**56.43**	**14**	P		**P**	**11 10 06.2**	**+3.1**
	comp=Z,1.5nm,0.6s,baz=167,slow=23,SNR=1.8							
	comp=Z,1.5nm,0.6s							
KURK	**Kurchatov**	**56.79**	**326**	P		**P**	**11 10 04.6**	**-1.3**
KURK					IAmb	IAmb	11 10 06.1	
	comp=Z,3.8nm,1.0s							
KK31	**Karatay Array**	**58.93**	**315**	P		**P**	**11 10 20.4**	**-0.7**
KK31					IAmb	IAmb	11 10 20.9	
	comp=Z,3.2nm,0.7s							
KKAR	**Karatay Array**	**58.93**	**315**	P		**P**	**11 10 20.1**	**-1.0**
KKAR	**Karatay Array**	**58.93**	**315**	P		**P**	**11 10 20.0**	**-1.0**
KKAR					IAmb	IAmb	11 10 20.9	
	comp=Z,3.2nm,0.7s							
TIXI	**Tiksi**	**62.05**	**1**	P		**P**	**11 10 42.7**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=90,slow=22,SNR=9.1							
	comp=Z,2.5nm,0.6s							
TIXI	**Tiksi**	**62.05**	**1**	P		**P**	**11 10 42.6**	**+0.9**
TIXI					IAmb	IAmb	11 10 46.8	
	comp=Z,3.6nm,0.8s							
AFI	**Afiamalu**	**65.49**	**110**	LR		LR	11 34 10.4	
	comp=Z,40nm,21.8s,baz=289,slow=31							
BKZ	**Black Stump Fm**	**67.08**	**140**	P		**P**	**11 11 15.2**	**-0.1**
GEYT	**Alibeck**	**67.17**	**307**	P		**P**	**11 11 15.0**	**-0.9**
	comp=Z,2.6nm,0.8s,baz=152,slow=6.7,SNR=4.8							
GEYT					LR	LR	11 44 39.8	
	comp=Z,44nm,19.7s,baz=171,slow=40							
	comp=Z,2.6nm,0.8s							
ABKAR	**Akbulak array**	**67.58**	**319**	P		**P**	**11 11 17.5**	**-0.7**
ABKAR	**Akbulak array**	**67.58**	**319**	P		**P**	**11 11 17.5**	**-0.7**
ABKAR					IAmb	IAmb	11 11 18.2	
	comp=Z,3.8nm,0.8s							
ARU	**Arti**	**69.95**	**327**	P		**P**	**11 11 32.3**	**-0.6**
ARU					IAmb	IAmb	11 11 32.6	
	comp=Z,4.0nm,0.6s							
RAYN	**Ar Rayn**	**78.08**	**292**	P		**P**	**11 12 20.1**	**-1.0**
RAYN					IAmb	IAmb	11 12 21.0	
	comp=Z,5.0nm,0.7s							
KBZ	**Khabaz**	**78.88**	**313**	P		**P**	**11 12 24.9**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=158,slow=8.0,SNR=4.0							
	comp=Z,1.7nm,0.8s							
TOLK	**Toolik Lake Re**	**78.92**	**22**	P		**P**	**11 12 26.3**	**+1.4**
ILAR	**Eielson Array**	**79.95**	**26**	P		**P**	**11 12 31.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=242,slow=6.3,SNR=7.2							
	comp=Z,0.8nm,0.7s							
KLMR	**Klimovskoe**	**80.26**	**330**	*eP*		P	11 12 27.8	-4.4
KLMR					AMP		11 12 39.8	
	comp=Z,31nm,2.2s							
BMAR	**Burnt Mountain**	**80.81**	**23**	P		**P**	**11 12 36.1**	**+1.0**
EGAK	**Eagle**	**82.40**	**26**	P		**P**	**11 12 45.4**	**+1.9**
EGAK					IAmb	IAmb	11 13 11.5	
	comp=Z,7.1nm,1.3s							
INK	**Inuvik**	**84.84**	**22**	P		**P**	**11 12 55.8**	**-0.1**
INK					IAmb	IAmb	11 13 35.1	
	comp=Z,6.5nm,1.4s							
ARCES	**ARCESS Array B**	**84.94**	**340**	P		**P**	**11 12 56.5**	**+0.1**
	comp=Z,5.9nm,0.7s,baz=79,slow=6.3,SNR=14							
	comp=Z,5.9nm,0.7s							
ARCES	**ARCESS Array B**	**84.94**	**340**	P		**P**	**11 12 55.8**	**-0.6**
BRTR	**Keskin Array B**	**86.18**	**309**	P		**P**	**11 13 02.2**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=103,slow=3.9,SNR=5.4							
BRTR					LR	LR	11 57 23.9	
	comp=Z,44nm,18.1s,baz=102,slow=40							
	comp=Z,1.3nm,0.8s							
A36M	**Sachs Harbour**	**86.50**	**17**	P		**P**	**11 13 04.5**	**+0.4**
A36M					IAmb	IAmb	11 13 08.7	
	comp=Z,5.7nm,0.8s							
FIA1	**FINESS Array S**	**86.63**	**332**	P		**P**	**11 13 03.5**	**-1.4**
FINES	**FINESS Array B**	**86.63**	**332**	P		**P**	**11 13 04.3**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=80,slow=4.8,SNR=31							
	comp=Z,2.5nm,0.5s							
FINES	**FINESS Array B**	**86.63**	**332**	P		**P**	**11 13 04.1**	**-0.8**
AKASG	**Malin Array Be**	**87.27**	**321**	P		**P**	**11 13 06.7**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=68,slow=5.9,SNR=4.1							
	comp=Z,2.0nm,0.3s							
VNDA	**Vanda**	**89.20**	**173**	P		**P**	**11 13 17.1**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=304,slow=8.8,SNR=4.1							
	comp=Z,0.7nm,0.9s							
VNDA	**Vanda**	**89.20**	**173**	P		**P**	**11 13 16.8**	**-0.1**
VNDA					IAmb	IAmb	11 13 44.8	
	comp=Z,1.7nm,0.9s							
KMBO	**Kilima Mbogo**	**89.48**	**269**	P		**P**	**11 13 19.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=82,slow=2.8,SNR=5.0							
	comp=Z,0.5nm,0.3s							
BURAR	**Bucovina Array**	**90.54**	**318**	P		**P**	**11 13 22.0**	**-1.9**
BURAR					IAmb	IAmb	11 13 25.9	
	comp=Z,1.1nm,0.7s							
NOA	**NORSAR Array B**	**93.50**	**334**	P		**P**	**11 13 35.6**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=66,slow=4.4,SNR=2.7							
	comp=Z,1.1nm,0.8s							
YKA	**Yellowknife Ar**	**94.29**	**24**	P		**P**	**11 13 42.2**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=301,slow=5.6,SNR=5.5							
	comp=Z,1.1nm,0.7s							
PLCA	**Paso Flores**	**145.46**	**157**	PKPbc		**PKPbc**	**11 20 00.1**	**0.0**
	comp=Z,2.9nm,0.8s,baz=228,slow=1.8,SNR=8.2							

---

*NIC **27** 11:10:34.1±0.0, 34.°15N×33.°72E, h14km±1km, MI3.1/9*
*GII **27** 11:10:37.6±0.5, 33.°96N×33.°62E, h60km, Mm3.0/2*
*ISK **27** 11:10:49.6, 35.°31N×33.°18E, h0km, ML2.3/9, Suspected Mining explosion.*
ISC 27 11:10:33.2±1.3, **34.°12N**±0.°03×**33.°76E**±0.°04, **h11**km±11km, **n25, σ0s85/38, 1C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASGA	**Asgata**	**0.78**	**328**	P		**Pg**	**11 10 48.4**	**0.0**
ASGA				S		**Sb**	**11 10 59.1**	**-0.4**
ASGA					AML	AML	11 11 02.1	
	3.9nm,0.4s							
ASGA					AML	AML	11 11 02.1	
	3.9nm,0.4s							
ASGA					AML	AML	11 11 08.6	
	2.0nm,0.3s							
ASGA					AML	AML	11 11 08.6	
	2.0nm,0.3s							
MVOU	**Mavrovouni**	**0.90**	**354**	P		**Pg**	**11 10 50.4**	**-0.2**
MVOU				S		**Sg**	**11 11 02.1**	**-0.2**
MVOU					AML	AML	11 11 08.4	
	0.9nm,0.3s							
MVOU					AML	AML	11 11 08.4	
	0.9nm,0.3s							
MVOU					AML	AML	11 11 09.8	
	1.1nm,0.9s							
MVOU					AML	AML	11 11 09.8	
	1.1nm,0.9s							
PARAL	**Paralimni**	**0.90**	**15**	P		**Pg**	**11 10 50.1**	**-0.5**
PARAL				S		**Sn**	**11 11 04.3**	**-0.5**
PARAL					AML	AML	11 11 07.2	
	1.3nm,1.1s							
PARAL					AML	AML	11 11 07.2	
	1.3nm,1.1s		

MBRI Sn **Sn** **11 12 30.6 -1.3**

MAN 27 11:25:12.8, 13°.77N×120°.47E, h34km, **mb3.8**, ML2.6, MS2.1, Mindoro

ROM 27 11:30:18.5±0.1, 43°.017N±0°.003×13°.075E±0°.004, h10km, ML0.9/5, Error ellipse: s-maj=0.2km s-min=0.2km az=14.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1219	**Muccia, Frazio**	**0.06**	**308**	P	Pg	11 30 20.9	+0.3
T1219				S	Sg	11 30 22.3	+0.1
T1219				AML	AML		
	comp=E,122μm,0.2s						
T1219				AML	AML		
	comp=N,112μm,0.3s						
T1219				AML	AML		
	comp=E,123μm,0.2s						
T1219				AML	AML		
	comp=N,112μm,0.3s						
T1256	**Bolognola (MC)**	**0.11**	**95**	P	Pg	11 30 21.7	+0.3
T1256				S	Sg	11 30 23.8	+0.5
T1256				AML	AML		
	comp=E,89μm,0.2s						
T1256				AML	AML		
	comp=E,89μm,0.2s						
T1256				AML	AML		
	comp=N,50μm,1.0s						
CSP1	**Cessapalombo**	**0.12**	**52**	P	Pg	11 30 21.9	+0.4
CSP1				S	Sg	11 30 24.2	+0.7
CSP1				AML	AML		
	comp=E,56μm,1.1s						
CSP1				AML	AML		
	comp=N,58μm,0.5s						
CSP1				AML	AML		
	comp=E,55μm,1.1s						
CSP1				AML	AML		
	comp=N,58μm,0.5s						
CESI	**CESI - Serrava**	**0.12**	**265**	P	Pg	11 30 22.1	+0.6
CESI				S	Sg	11 30 24.6	+1.0
CESI				AML	AML		
	comp=E,86μm,0.5s						
CESI				AML	AML		
	comp=N,63μm,0.4s						
CESI				AML	AML		
	comp=N,63μm,0.4s						
T1216	**Preci, Frazion**	**0.13**	**198**	P	Pg	11 30 22.0	+0.5
T1216				S	Sg	11 30 24.5	+0.8
T1216				AML	AML		
	comp=E,99μm,0.2s						
T1216				AML	AML		
	comp=N,64μm,0.2s						
MC2	**Monte Cornacci**	**0.14**	**141**	P	Pg	11 30 22.1	+0.4
MC2				S	Sg	11 30 24.8	+0.8
SNTG	**Esanatoglia**	**0.26**	**338**	P	Pg	11 30 24.4	+0.6
SNTG				S	Sb	11 30 28.9	-0.9
T1215	**Vallo di Nera,**	**0.26**	**215**	P	Pg	11 30 24.4	+0.6
T1215				S	Sb	11 30 28.9	-1.0
VCEL	**Villa Celiera**	**0.84**	**138**	S	Sn	11 30 55.0	+6.0
VIVA	**Pratoni del Vi**	**1.29**	**190**	P	Pn	11 30 40.3	-2.2
VIVA				AML	AML		
	comp=E,827μm,1.0s						
VIVA				AML	AML		
	comp=N,560μm,0.9s						
ORI	**Oriolo Calabro**	**3.89**	**138**	P	Pb	11 31 29.6	+2.5
VARE	**Varese**	**4.20**	**314**	S	Sn	11 32 04.0	-7.8

MAN 27 11:39:59.2, 9°.56N×126°.56E, h30km, **mb3.7**, ML2.5, MS2.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.08**	**282**	*eP*	Pn	11 40 18.4	+0.1
SCPH				*i* S	Sn	11 40 31.5	-0.8
BIPH	**Bislig**	**1.38**	**188**	⇓*i*P	Pn	11 40 22.1	-0.4
BIPH				*i* S	Sn	11 40 38.9	-0.8

*SOME **27** 11:44:36.9, 39°.02N×74°.43E, h5km*
*KRNET **27** 11:44:40.0±0.1, 39°.19N×74°.44E, mb3.9*
*IDC **27** 11:44:40.4±2.0, 39°.19N×74°.06E, h0km, mb3.8/2, mbtmp3.6/4, ML2.6/2, Error ellipse: s-maj=39.9km s-min=29.3km az=120.0*
*NNC **27** 11:44:42.4±1.8, 39°.21N×74°.50E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=13.3km s-min=6.8km az=170.0*
ISC 27 11:44:38.5±1.3, 39°.21N±0°.06×74°.42E±0°.03, h10km, n52, σ2s16/79, 13C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.82**	**317**	⇓*eP*	**Pg**	**11 45 14.0**	**+0.6**
	baz=17						
OHH				⇓*iS*	**Sg**	**11 45 39.0**	**+2.0**
	baz=17						
DRK	**Karamyk**	**2.05**	**279**	⇑*eP*	**Pg**	**11 45 17.5**	**-0.3**
	baz=79						
DRK				⇑*iS*	**Sg**	**11 45 44.8**	**+0.5**
	baz=79						
NRN	**Naryn**	**2.53**	**28**	⇑*eP*	**Pb**	**11 45 23.6**	**-0.7**
	baz=27						
NRN				⇑*iS*	**Sb**	**11 45 55.5**	**-0.1**
	baz=27						
ARLS	**Aral**	**2.65**	**358**	⇓*eP*	**Pb**	**11 45 25.7**	**-0.5**
	baz=58						
ARLS				⇓*iS*	**Sb**	**11 45 58.9**	**0.0**
	baz=58						
BTK	**Batken**	**2.91**	**288**	⇑*iP*	**Pb**	**11 45 29.2**	**-1.3**
	baz=88						
BTK				⇑*iS*	**Sb**	**11 46 05.3**	**-0.8**
	baz=88						
TRKS	**Terek-Say**	**3.41**	**314**	⇑*eP*	**Pb**	**11 45 35.6**	**-3.6**
	baz=13						
TRKS				⇑*iS*	**Sn**	**11 46 16.2**	**+3.6**
	baz=13						
BOOM	**Boomskoye usch**	**3.48**	**19**	⇑*eP*	**Pb**	**11 45 37.2**	**-3.1**
	baz=19						
BOOM				⇑*iS*	**Sb**	**11 46 19.0**	**-3.7**
	baz=19						
TARG	**Taragay, Kyrgy**	**3.61**	**45**	⇓*eP*	**Pb**	**11 45 38.7**	**-4.0**
	baz=44						
TARG				⇓*eS*	**Sb**	**11 46 22.1**	**-4.6**
	baz=44						
MRKS	**Merke**	**3.65**	**346**	*eP*	**Pb**	**11 45 45.6**	**+2.5**
	28nm,0.4s						
MRKS				*eS*	**Sg**	**11 46 32.9**	**-2.8**
	39nm,0.6s						
KST	**Kastek**	**4.01**	**16**	*eP*	**Pg**	**11 45 53.8**	**-1.5**
	18nm,0.5s						
KST				*eS*	**Sg**	**11 46 47.8**	**+0.6**
	80nm,0.8s						
KST	**Kastek**	**4.01**	**16**	Pg	**Pg**	**11 45 56.1**	**+0.8**
	18nm,0.5s						
KST				Lg	Lg	11 46 49.3	
	80nm,0.8s						
DGS	**Degeres**	**4.16**	**14**	*eP*	**Pg**	**11 45 57.4**	**-0.8**
	23nm,0.6s						
DGS				*eS*	**Sg**	**11 46 54.2**	**+2.1**
	74nm,0.9s						
DGS	**Degeres**	**4.16**	**14**	Pg	**Pg**	**11 45 58.7**	**+0.5**
	23nm,0.6s						
DGS				Lg	Lg	11 46 54.0	
	74nm,0.9s						
MTBS	**Maitube**	**4.20**	**21**	*eP*	**Pg**	**11 45 59.2**	**+0.2**
	15nm,0.4s						
MTBS				*eS*	**Sg**	**11 46 55.8**	**+2.3**
	31nm,0.7s						
MTBS	**Maitube**	**4.20**	**21**	Pg	**Pg**	**11 45 59.2**	**+0.2**
	15nm,0.4s						
MTBS				Lg	Lg	11 46 54.7	
	31nm,0.7s						
SGDS	**Sogindy**	**4.25**	**2**	*eP*	**Pg**	**11 45 58.6**	**-1.2**
	6.9nm,0.7s						
SGDS				*eS*	**Sg**	**11 46 55.9**	**+1.1**
	22nm,0.6s						
SGDS	**Sogindy**	**4.25**	**2**	Pg	**Pg**	**11 45 59.8**	**0.0**
	11nm,0.5s						
SGDS				Lg	Lg	11 46 55.3	
	25nm,0.8s						
TNSS	**Tian-Shan**	**4.28**	**26**	*eP*	**Pg**	**11 46 00.1**	**-0.4**
	11nm,0.4s						
TNSS				*eS*	**Sg**	**11 46 58.1**	**+2.2**
	36nm,0.8s						
TNSS	**Tian-Shan**	**4.28**	**26**	Pg	**Pg**	**11 46 00.1**	**-0.4**
	11nm,0.4s						
TNSS				Lg	Lg	11 46 56.3	
	36nm,0.8s						
MDOK	**Medeo**	**4.42**	**26**	*eP*	**Pg**	**11 46 02.5**	**-0.7**
	8.1nm,0.6s						
MDOK				*eS*	**Sg**	**11 47 01.7**	**+1.2**
	37nm,0.5s						
IUG	**luzhnay**	**4.44**	**313**	*eP*	**Pg**	**11 46 04.8**	**+1.1**
	90nm,0.6s						
IUG				*eS*	**Sg**	**11 47 05.8**	**+4.6**
	108nm,0.7s						
IUG	**luzhnay**	**4.44**	**313**	Pg	**Pg**	**11 46 02.4**	**-1.2**
	90nm,0.6s						
IUG				Lg	Lg	11 46 60.0	
	90nm,0.7s						
KOTS	**Kotyrbulak**	**4.51**	**26**	*eP*	**Pg**	**11 46 04.4**	**-0.4**
	9.3nm,0.5s						
KOTS				*eS*	**Sg**	**11 47 03.9**	**+0.7**
	128nm,1.1s						
KOTS	**Kotyrbulak**	**4.51**	**26**	Pg	**Pg**	**11 46 04.4**	**-0.4**
	9.3nm,0.5s						
KOTS				Lg	Lg	11 47 03.9	
	128nm,1.1s						
KRBS	**Karabastau**	**4.58**	**12**	*eP*	**Pg**	**11 46 05.9**	**-0.4**
	13nm,0.7s						
KRBS				*eS*	**Sg**	**11 47 06.5**	**+0.9**
	31nm,0.7s						
KRBS	**Karabastau**	**4.58**	**12**	Pg	**Pg**	**11 46 05.9**	**-0.4**
	13nm,0.7s						
KRBS				Lg	Lg	11 47 06.5	
	31nm,0.7s						
CHM	**Chimkent**	**4.80**	**312**	*eP*	**Pg**	**11 46 07.0**	**-3.4**
	91nm,0.2s						
CHM				*eS*	**Sg**	**11 47 08.7**	**-3.9**
	114nm,0.3s						
KTBS	**Karatobe**	**4.81**	**20**	*eP*	**Pg**	**11 46 10.6**	**-0.1**
	11nm,0.4s						
KTBS				*eS*	**Sg**	**11 47 14.7**	**+1.7**
	44nm,0.9s						
KTBS	**Karatobe**	**4.81**	**20**	Pg	**Pg**	**11 46 10.6**	**-0.1**
	11nm,0.4s						
KTBS				Lg	Lg	11 47 14.7	
	44nm,0.9s						
KK31	**Karatay Array**	**4.88**	**324**	⇑Pn	Pn	11 45 56.4	+4.4
	1.6nm,0.3s,baz=133,slow=13,SNR=53						
KK31				⇓Pg	**Pg**	**11 46 09.0**	**-3.0**
	8.6nm,0.6s,baz=145,slow=15,SNR=9.4						
KK31				⇑Sn	**Sb**	**11 46 59.2**	**-3.7**
	7.2nm,0.5s						
KK31				⇑Lg	Lg	11 47 19.6	
	20nm,0.8s,baz=141,slow=27,SNR=3.6						
CHKK	**Chushkaly**	**5.03**	**22**	*eP*	**Pg**	**11 46 14.4**	**-0.4**
	8.7nm,0.5s						
CHKK				*eS*	**Sg**	**11 47 21.2**	**+1.3**
	29nm,0.7s						
CHKK	**Chushkaly**	**5.03**	**22**	Pg	**Pg**	**11 46 14.4**	**-0.4**
	8.7nm,0.5s						
CHKK				Lg	Lg	11 47 21.2	
	29nm,0.7s						
UZB	**Uzynbulak**	**5.25**	**40**	*eP*	**Pg**	**11 46 17.5**	**-1.6**
	1.5nm,0.1s						
UZB				*eS*	**Sg**	**11 47 26.0**	**-1.0**
	19nm,0.6s						
UZB	**Uzynbulak**	**5.25**	**40**	Pg	**Pg**	**11 46 17.5**	**-1.6**
UZB				Lg	Lg	11 47 26.0	
KPKS	**Kokpek**	**5.33**	**36**	*eP*	**Pg**	**11 46 18.6**	**-2.0**
	15nm,0.5s						
KPKS				*eS*	**Sg**	**11 47 27.9**	**-1.8**
	33nm,0.6s						
KPKS	**Kokpek**	**5.33**	**36**	Pg	**Pg**	**11 46 18.6**	**-2.0**
	15nm,0.5s						
KPKS				Lg	Lg	11 47 27.9	
	33nm,0.6s						
SHLS	**Shalkode**	**5.48**	**42**	*eP*	**Pg**	**11 46 26.8**	**+3.3**
	9.3nm,0.5s						
SHLS				*eS*	**Sg**	**11 47 42.2**	**+7.7**
	23nm,0.8s						
SHLS	**Shalkode**	**5.48**	**42**	Pg	**Pg**	**11 46 26.8**	**+3.3**
	9.3nm,0.5s						
SHLS				Lg	Lg	11 47 42.2	
	23nm,0.8s						
PDGK	**Podgornoye**	**5.62**	**41**	Pg	**Pg**	**11 46 24.4**	**-1.7**
	4.0nm,0.6s						
PDGK				Lg	Lg	11 47 38.1	
	13nm,1.0s						
PDGK	**Podgornoye**	**5.62**	**41**	⇓Pg	**Pg**	**11 46 22.8**	**-3.3**
	8.9nm,0.8s						
PDGK				⇓Lg	Lg	11 47 38.5	
	38nm,0.9s						
BLB	**Baldybastay**	**5.76**	**31**	*eP*	**Pg**	**11 46 27.1**	**-1.7**
	9.3nm,0.3s						
BLB				*eS*	**Sg**	**11 47 42.8**	**-0.4**
	31nm,1.1s						
BLB	**Baldybastay**	**5.76**	**31**	Pg	**Pg**	**11 46 27.0**	**-1.7**
	9.3nm,0.3s						
BLB				Lg	Lg	11 47 42.8	
	31nm,1.1s						
BTLS	**Baital**	**5.84**	**357**	*eP*	**Pg**	**11 46 29.0**	**-1.3**
	4.5nm,0.9s						
BTLS				*eS*	**Sg**	**11 47 45.9**	**0.0**
	5.8nm,0.8s						
BTLS	**Baital**	**5.84**	**357**	Pg	**Pg**	**11 46 28.1**	**-2.2**
	4.5nm,0.8s						
BTLS				Lg	Lg	11 47 44.8	
	11nm,0.9s						
TDK	**Taldyqorghan**	**6.51**	**26**	*eP*	**Pg**	**11 46 42.9**	**-0.2**
	29nm,0.2s						
TDK				*eS*	**Sg**	**11 48 09.7**	**+2.5**
	33nm,0.7s						
TDK	**Taldyqorghan**	**6.51**	**26**	Pg	**Pg**	**11 46 42.9**	**-0.2**
	29nm,0.2s						
TDK				Lg	Lg	11 48 09.7	
	33nm,0.7s						
DJR	**Jarkent**	**6.51**	**36**	*eP*	**Pg**	**11 46 41.5**	**-1.6**
	1.8nm,0.3s						
DJR				*eS*	**Sg**	**11 48 07.2**	**-0.1**
	12nm,1.2s						
DJR	**Jarkent**	**6.51**	**36**	Pg	**Pg**	**11 46 41.5**	**-1.6**
	1.8nm,0.3s						
DJR				Lg	Lg	11 48 07.2	
	12nm,1.2s						
MKAR	**Makanchi Array**	**9.52**	**35**	Pn	Pn	11 47 02.9	+7.2
	0.1nm,0.3s,baz=219,slow=13,SNR=3.7						
MKAR				Lg	Lg	11 49 45.2	
	0.1nm,0.3s,baz=225,slow=29,SNR=3.6						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**16.36**	**22**	Pn	**P**	**11 48 33.6**	**+2.7**
	0.1nm,0.3s,baz=215,slow=12,SNR=4.6						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**36.84**	**323**	P	**P**		
	3.1nm,0.9s,baz=116,slow=9.4,SNR=3.4						
	3.1nm,0.9s						
WRA	**Warramunga Arr**	**81.21**	**125**	P	P	11 56 59.2	+4.5
	0.2nm,0.7s,baz=331,slow=5.6,SNR=2.5						
	0.2nm,0.7s						

IDC 27 11:46:32.4±1.7, 0°.40N×129°.24E, h0km, **mb3.3**/3, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=56.9km s-min=26.5km az=57.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.38**	**122**	Pn	Pn	11 47 11.9	-0.8
	5.0nm,0.3s,baz=107,slow=11,SNR=82						
SIJI				Sn	Sn	11 47 39.9	-2.8
	3.7nm,0.3s,baz=181,slow=22,SNR=4.1						
	11nm,0.3s						
WRA	**Warramunga Arr**	**20.82**	**166**	P	P	11 51 15.7	0.0
	0.4nm,0.3s,baz=345,slow=11,SNR=14						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**24.34**	**170**	P	P	11 51 52.6	+0.3
	0.5nm,0.6s,baz=352,slow=10,SNR=12						
	0.5nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**41.56**	**60**	T	T	12 37 45.6	
	baz=246						
H11N2	**WAKE ISLAND Hy**	**41.57**	**60**	T	T	12 37 52.0	
	baz=246						
H11N3	**WAKE ISLAND Hy**	**41.58**	**60**	T	T	12 37 46.9	
	baz=246						
MKAR	**Makanchi Array**	**61.71**	**325**	P	P	11 56 52.5	0.0
	0.3nm,0.8s,baz=122,slow=6.7,SNR=2.1						
	0.3nm,0.8s						

*UCR **27** 11:50:00.7±1.7, 10°.73N×86°.43W, h2km±11km, MW3.8*

*INET **27** 11:50:00.0±0.7, 10°.72N×86°.50W, h16km±10km, MW3.7*
ISC 27 11:50:00.2±1.6, 10°.80N±0°.04×86°.51W±0°.07, h21km±5km, n45, σ0s94/60, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBS3	**Finca Las Img**	**1.03**	**91**	*eP*	**Pb**	**11 50 18.7**	**-0.7**
GBS3				*eS*	**Sn**	**11 50 33.4**	**+0.1**
GBS2	**Las Lilas**	**1.04**	**88**	*eP*	**Pb**	**11 50 19.1**	**-0.4**
GBS2				*eS*	**Sn**	**11 50 34.0**	**+0.6**
LAPC	**Finca la Perla**	**1.05**	**92**	⇑*iP*	**Pb**	**11 50 18.8**	**-1.0**
LAPC				*eS*	**Sn**	**11 50 33.5**	**-0.4**
SAJU	**San Juanillo,**	**1.07**	**133**	*eP*	**Pn**	**11 50 18.7**	**-1.3**
SAJU				*eS*	**Sb**	**11 50 31.9**	**-1.8**
BUEV	**Buena Vista**	**1.08**	**90**	*eP*	**Pb**	**11 50 19.6**	**-0.7**
GB1A	**Borinquen Arri**	**1.09**	**89**	*eP*	**Pb**	**11 50 20.0**	**-0.4**
ORTG	**Ortega, Santa**	**1.12**	**113**	*eP*	**Pn**	**11 50 19.9**	**-0.8**
VRLE	**La Escondida,**	**1.12**	**91**	*eP*	**Pn**	**11 50 20.3**	**-0.5**
VRLE				*eS*	**Sn**	**11 50 35.9**	**+0.3**
GPS3	**Bodega del ICE**	**1.12**	**92**	*eP*	**Pn**	**11 50 20.2**	**-0.6**
GPS3				*eS*	**Sn**	**11 50 35.6**	**0.0**
CONN	**Concepcion**	**1.15**	**49**	*eP*	**Pn**	**11 50 20.3**	**-0.8**
BUAI	**Buenos Aires**	**1.16**	**86**	*eP*	**Pb**	**11 50 22.1**	**+0.5**
DUNO	**Dulce Nombre,**	**1.23**	**126**	*eP*	**Pn**	**11 50 21.7**	**-0.4**
DUNO				*eS*	**Sb**	**11 50 36.5**	**-1.7**
NICO	**Nicoya**	**1.24**	**122**	*eP*	**Pn**	**11 50 22.6**	**+0.3**
GUAB	**Guayabo de Bag**	**1.26**	**94**	*eP*	**Pn**	**11 50 22.5**	**-0.2**
GUAB				*eS*	**Sn**	**11 50 39.4**	**+0.4**
COLC	**Colonia**	**1.29**	**96**	*eP*	**Pn**	**11 50 21.6**	**-1.4**
COLC				*eS*	**Sb**	**11 50 40.0**	**+0.1**
MESS	**Mesas**	**1.29**	**93**	*eP*	**Pn**	**11 50 22.9**	**-0.2**
MESS				*eS*	**Sb**	**11 50 40.4**	**+0.4**
HORNC	**Hornillas**	**1.31**	**94**	*eP*	**Pn**	**11 50 22.9**	**-0.4**
CUI	**Cuipilapa**	**1.33**	**96**	*eP*	**Pn**	**11 50 23.1**	**-0.4**
CUI				*eS*	**Sb**	**11 50 41.5**	**+0.5**
INDI	**Punta indio, G**	**1.36**	**133**	*eP*	**Pb**	**11 50 26.4**	**+1.5**
MGAN	**Managua**	**1.36**	**11**	*eP*	**Pn**	**11 50 23.9**	**-0.1**
VMAR	**Armenia, Volca**	**1.36**	**90**	*eP*	**Pb**	**11 50 24.5**	**-0.6**
VMAR				*eS*	**Sb**	**11 50 43.0**	**+1.5**
WILN	**Americas 2**	**1.38**	**13**	*eP*	**Pn**	**11 50 24.0**	**-0.3**
WILN				*eS*	**Sb**	**11 50 42.9**	**+0.3**
POPE	**POPE, Guanacas**	**1.43**	**121**	*eP*	**Pn**	**11 50 24.5**	**-0.4**
ACAL	**Aguas Claras**	**1.46**	**97**	*eP*	**Pn**	**11 50 25.6**	**+0.3**
PTEN	**Parque Tenorio**	**1.50**	**93**	*eP*	**Pb**	**11 50 27.0**	**-0.3**
MOMN	**Momotombo**	**1.59**	**359**	*eP*	**Pn**	**11 50 27.1**	**-0.1**
VERA	**Finca Concepci**	**1.61**	**88**	*eP*	**Pb**	**11 50 28.5**	**-0.7**
VERA				*eS*	**Sb**	**11 50 51.5**	**+2.4**
JTS	**Las Juntas de**	**1.61**	**108**	*eP*	**Pn**	**11 50 27.8**	**+0.4**
CNGN	**Cerro Negro**	**1.70**	**354**	*eP*	**Pn**	**11 50 28.7**	**0.0**
ACON	**Acoyapa**	**1.75**	**48**	*eP*	**Pn**	**11 50 28.4**	**-0.9**
ACON	**Acoyapa**	**1.75**	**48**	*eP*	**Pn**	**11 50 28.8**	**-0.5**
ARE1	**Arenal 1**	**1.79**	**101**	*eP*	**Pb**	**11 50 31.4**	**-0.9**
CEDE	**Laguna Cedeo**	**1.80**	**100**	*eP*	**Pb**	**11 50 32.2**	**-0.3**
CEDE				*eS*	**Sb**	**11 50 55.9**	**+1.2**
VACR	**Volcan Arenal**	**1.83**	**100**	*eP*	**Pn**	**11 50 31.6**	**+1.2**
FORC	**Furtuna**	**1.84**	**100**	*eP*	**Pb**	**11 50 32.7**	**-0.4**
LAFE	**Finca La Fe, P**	**1.86**	**122**	*eP*	**Pn**	**11 50 29.6**	**-1.2**
CRIN	**San Cristobal**	**1.96**	**344**	*eP*	**Pn**	**11 50 32.3**	**0.0**
CRIN	**San Cristobal**	**1.96**	**344**	*eP*	**Pn**	**11 50 32.6**	**+0.3**
COVE	**Coope Vega, Sa**	**2.07**	**92**	*eP*	**Pb**	**11 50 35.6**	**-1.5**
JACO	**JACO, Garabito**	**2.14**	**122**	*eP*	**Pb**	**11 50 38.7**	**+0.4**
MATN	**Matagalpa**	**2.19**	**15**	*eP*	**Pn**	**11 50 35.4**	**-0.1**
ESPN	**Las Esperanzas**	**2.57**	**57**	*eP*	**Pn**	**11 50 40.3**	**-0.3**
RIFO	**Rio Frio, Sara**	**2.59**	**101**	*eP*	**Pb**	**11 50 44.1**	**-1.8**
LCR2	**La Lucha 2**	**2.68**	**113**	*eP*	**Pn**	**11 50 43.2**	**+0.9**
MRVA	**Moravia de Chi**	**3.17**	**108**	*eP*	**Pn**	**11 50 51.9**	**+2.9**

*WEL **27** 11:52:34.8±0.3, 42°.5s3°×17°.4E±°, h8km±3km, M3.5/36, ML3.7/19, MLv3.5/36, Error ellipse: s-maj=0.0km s-min=0.0km az=140.7*
*NOU **27** 11:52:34.2, 41°.91S×174°.49E, h12km, MLv4.1/9, Cook Strait, New Zealand*
ISC 27 11:52:34.3±0.9, 41°.79S±0°.03×174°.30E±0°.03, h16km±6km, n87, σ1s17/91, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**299**	P	**Pg**	**11 52 37.2**	**-0.2**
CMWZ				S	**Sg**	**11 52 39.4**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.32**	**282**	P	**Pg**	**11 52 41.1**	**0.0**
BSWZ				S	**Sg**	**11 52 45.8**	**0.0**
TUWZ	**Tuamarina**	**0.44**	**323**	P	**Pg**	**11 52 43.0**	**-0.2**
TUWZ				S	**Sb**	**11 52 48.9**	**-1.2**
SNZO	**South Karori**	**0.56**	**33**	P	**Pb**	**11 52 46.2**	**+0.4**
TCW	**Tory Channel**	**0.57**	**358**	P	**Pg**	**11 52 45.5**	**-0.2**
TCW				S	**Sb**	**11 52 52.9**	**-1.0**
WEL	**Wellington**	**0.61**	**35**	P	**Pb**	**11 52 47.1**	**+0.5**
PLWZ	**Palliser**	**0.75**	**74**	P	**Pb**	**11 52 50.5**	**+1.5**
MSWZ	**Moikau Station**	**0.80**	**63**	P	**Pb**	**11 52 51.3**	**+1.5**
KHZ	**Kahutara**	**0.85**	**222**	P	**Pb**	**11 52 52.2**	**+1.6**
KHZ	**Kahutara**	**0.85**	**222**	P	**Pb**	**11 52 52.1**	**+1.5**
CAW	**Cannon Point**	**0.89**	**41**	P	**Pb**	**11 52 51.9**	**+0.6**
NNZ	**Nelson**	**0.89**	**309**	P	**Pg**	**11 52 51.0**	**-0.7**
PAWZ	**Paruwai Farm**	**0.94**	**65**	P	**Pg**	**11 52 52.8**	**+0.4**
DUWZ	**D'Urville Isla**	**1.02**	**344**	P	**Pg**	**11 52 53.2**	**-0.8**
KIW	**Kapiti Island**	**1.03**	**27**	P	**Pg**	**11 52 54.1**	**-0.2**
THZ	**Tophouse**	**1.04**	**271**	P	**Pg**	**11 52 54.4**	**-0.1**
MTW	**Mount Morrison**	**1.10**	**56**	P	**Pg**	**11 52 55.3**	**-0.2**
TRWZ	**Traveller**	**1.11**	**70**	P	**Pg**	**11 52 55.2**	**-0.6**
OGWZ	**Otaki Gorge**	**1.17**	**34**	P	**Pg**	**11 52 56.6**	**-0.2**
MRNZ	**Matariki Terra**	**1.22**	**288**	P	**Pg**	**11 52 57.5**	**-0.3**
TKNZ	**Takaka Hill**	**1.26**	**306**	P	**Pb**	**11 52 57.4**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.27**	**46**	P	**Pn**	**11 52 57.8**	**+0.3**
TMWZ	**Te Maipa**	**1.38**	**61**	P	**Pn**	**11 52 58.8**	**-0.1**
MRZ	**Mangatainoka R**	**1.48**	**41**	P	**Pn**	**11 53 00.7**	**+0.5**
GVZ	**Greta Valley S**	**1.51**	**218**	P	**Pn**	**11 53 01.3**	**+0.6**
TIWZ	**Tintock**	**1.56**	**50**	P	**Pn**	**11 53 02.1**	**+0.7**
QRZ	**Quartz Range**	**1.64**	**305**	P	**Pb**	**11 53 04.3**	**+0.1**
QRZ	**Quartz Range**	**1.64**	**305**	P	**Pb**	**11 53 04.1**	**-0.1**
OHWZ	**Ohakea**	**1.75**	**26**	P	**Pb**	**11 53 06.5**	**+0.4**
PRWZ	**Pori Road**	**1.76**	**46**	P	**Pn**	**11 53 04.2**	**+0.1**
POWZ	**Post Office Ro**	**1.78**	**39**	P	**Pn**	**11 53 04.8**	**+0.4**
LTZ	**Lake Taylor**	**1.81**	**236**	P	**Pn**	**11 53 05.3**	**+0.5**
BFZ	**Birch Farm**	**1.84**	**54**	P	**Pn**	**11 53 04.7**	**-0.5**
BFZ	**Birch Farm**	**1.84**	**54**	P	**Pn**	**11 53 04.7**	**-0.5**
AMCZ	**Amberley**	**1.85**	**221**	P	**Pn**	**11 53 05.3**	**0.0**
DSZ	**Denniston Nort**	**1.87**	**270**	P	**Pn**	**11 53 07.1**	**+1.5**
WAZ	**Wanganui**	**2.09**	**15**	P	**Pb**	**11 53

LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	**11 53 34.5**	**-0.2**
URZ	**Urewera**	**4.13**	**32**	P	**Pn**	**11 53 36.4**	**-0.3**
TOZ	**Tahuroa Road**	**4.15**	**13**	P	**Pb**	**11 53 43.0**	**-4.0**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	**11 53 37.8**	**+0.1**
ODZ	**Otahua Downs**	**4.21**	**218**	P	**Pn**	**11 53 36.7**	**-1.1**
JCZ	**Jackson Bay**	**4.65**	**239**	P	**Pn**	**11 53 45.3**	**+1.4**
JCZ	**Jackson Bay**	**4.65**	**239**	P	**Pn**	**11 53 46.1**	**+2.1**
MKAZ	**Moumakai**	**4.72**	**8**	P	**Pn**	**11 53 46.3**	**+1.5**
ETAZ	**East Tamaki Re**	**4.85**	**6**	P	**Pn**	**11 53 49.0**	**+2.4**

UCR ***27*** *11:54:59.5±2.0, 10°.80N×86°.46W, h6km±11km, MW4.1*
INET ***27*** *11:55:05.3±0.8, 11°.11N×86°.28W, h42km±19km, MW3.4*
ISC 27 11:54:58.1±1.7, 10°.84N±0°.05×86°.46W±0°.06, h6km±13km, n47, σ0°60/58, 7C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBS3	**Finca la Lma**	**0.99**	**93**	⇑*i*	**P**	**g**	**11 55 17.6**	**+0.5**
GBS3				*e*	**S**	**n**	**11 55 32.4**	**-0.6**
GBS2	**Las Lilas**	**0.99**	**90**	*e*	**P**	**b**	**11 55 17.9**	**+0.2**
GBS2				⇑*e*	**S**	**n**	**11 55 32.9**	**0.0**
LAPC	**Finca la Perla**	**1.01**	**94**	⇑*i*	**P**	**g**	**11 55 17.7**	**+0.2**
LAPC				*e*	**S**	**b**	**11 55 31.5**	**-0.1**
BUEV	**Buena Vista**	**1.04**	**92**	⇑*e*	**P**	**g**	**11 55 18.4**	**+0.4**
BUEV				*e*	**S**	**n**	**11 55 34.7**	**+0.5**
GB1A	**Borinquen Arri**	**1.04**	**91**	*e*	**P**	**b**	**11 55 18.8**	**+0.1**
GB1A				*e*	**S**	**n**	**11 55 34.3**	**-0.1**
SAJU	**San Juanillo,**	**1.06**	**136**	*e*	**P**	**g**	**11 55 17.8**	**-0.7**
GPS3	**Bodega del ICE**	**1.08**	**94**	*e*	**P**	**g**	**11 55 19.2**	**+0.4**
GPS3				*e*	**S**	**b**	**11 55 33.4**	**-0.3**
ORTG	**Ortega, Santa**	**1.09**	**115**	*e*	**P**	**g**	**11 55 18.8**	**-0.2**
CONN	**Concepcion**	**1.09**	**49**	*e*	**P**	**b**	**11 55 19.2**	**-0.2**
GPS1	**Guardaparques**	**1.09**	**93**	⇑*i*	**P**	**g**	**11 55 19.3**	**+0.2**
BUAI	**Buenos Aires**	**1.11**	**88**	*e*	**P**	**b**	**11 55 20.2**	**+0.5**
BUAI				*e*	**S**	**n**	**11 55 36.5**	**+0.6**
LIM1	**Limonal**	**1.20**	**96**	*e*	**P**	**g**	**11 55 20.9**	**-0.1**
DUNO	**Dulce Nombre,**	**1.21**	**128**	*e*	**P**	**g**	**11 55 21.3**	**-0.1**
GUAB	**Guayabo de Bag**	**1.22**	**96**	*e*	**P**	**g**	**11 55 21.0**	**-0.4**
GUAB				*e*	**S**	**n**	**11 55 38.3**	**-0.3**
NICO	**Nicoya**	**1.22**	**125**	*e*	**P**	**g**	**11 55 22.4**	**+0.9**
COLC	**Colonia**	**1.25**	**98**	*e*	**P**	**g**	**11 55 21.9**	**-0.1**
COLC				*e*	**S**	**n**	**11 55 39.3**	**-0.1**
MESS	**Mesas**	**1.25**	**94**	⇑*i*	**P**	**g**	**11 55 21.6**	**-0.4**
HORNC	**Hornillas**	**1.27**	**95**	⇑*i*	**P**	**g**	**11 55 21.8**	**-0.6**
HORNC				*e*	**S**	**n**	**11 55 39.5**	**-0.4**
CUI	**Cuipilapa**	**1.29**	**98**	*e*	**P**	**g**	**11 55 21.9**	**-0.9**
CUI				*e*	**S**	**n**	**11 55 40.4**	**+0.1**
VMAR	**Armenia, Volca**	**1.32**	**91**	*e*	**P**	**n**	**11 55 23.1**	**-0.1**
MGAN	**Managua**	**1.32**	**9**	*e*	**P**	**b**	**11 55 23.2**	**0.0**
WILN	**Americas 2**	**1.34**	**11**	*e*	**P**	**n**	**11 55 23.1**	**-0.3**
INDI	**Punta indio, G**	**1.35**	**136**	*e*	**P**	**n**	**11 55 22.8**	**-0.7**
POPE	**POPE, Guanacas**	**1.41**	**123**	*e*	**P**	**n**	**11 55 24.7**	**+0.4**
ACAL	**Aguas Claras**	**1.42**	**98**	*e*	**P**	**n**	**11 55 24.5**	**0.0**
PTEN	**Parque Tenorio**	**1.45**	**95**	*e*	**P**	**n**	**11 55 24.3**	**-0.7**
MOMN	**Momotombo**	**1.56**	**357**	*e*	**P**	**n**	**11 55 26.4**	**-0.1**
VERA	**Finca Concepci**	**1.56**	**89**	*e*	**P**	**n**	**11 55 26.5**	**+0.1**
JTS	**Las Juntas de**	**1.58**	**110**	*e*	**P**	**n**	**11 55 26.6**	**-0.1**
CNGN	**Cerro Negro**	**1.67**	**352**	*e*	**P**	**n**	**11 55 28.5**	**+0.6**
ACON	**Acoyapa**	**1.69**	**48**	*e*	**P**	**n**	**11 55 27.5**	**-0.7**
CASO	**Castillo**	**1.74**	**103**	*e*	**P**	**n**	**11 55 30.0**	**+1.0**
ARE1	**Arenal 1**	**1.75**	**102**	*e*	**P**	**n**	**11 55 30.3**	**+1.2**
CEDE	**Laguna Cedeo**	**1.76**	**101**	*e*	**P**	**n**	**11 55 31.0**	**+0.1**
VACR	**Volcan Arenal**	**1.79**	**101**	*e*	**P**	**n**	**11 55 30.8**	**+1.2**
FORC	**Fortuna**	**1.80**	**102**	*e*	**P**	**b**	**11 55 31.7**	**+0.2**
LAFE	**Finca La Fe, P**	**1.84**	**124**	*e*	**P**	**n**	**11 55 28.7**	**-1.5**
CRIN	**San Cristobal**	**1.94**	**343**	*e*	**P**	**n**	**11 55 31.6**	**-0.1**
CRIN	**San Cristobal**	**1.94**	**343**	*e*	**P**	**n**	**11 55 33.1**	**+1.4**
COVE	**Coope Vega, Sa**	**2.03**	**93**	*e*	**P**	**n**	**11 55 34.3**	**+1.5**
JACO	**JACO, Garabito**	**2.12**	**123**	*e*	**P**	**b**	**11 55 37.0**	**0.0**
MATN	**Matagalpa**	**2.15**	**14**	*e*	**P**	**n**	**11 55 34.0**	**-0.6**
ESPN	**Las Esperanzas**	**2.51**	**57**	*e*	**P**	**n**	**11 55 39.3**	**-0.2**
ESPN	**Las Esperanzas**	**2.51**	**57**	*e*	**P**	**n**	**11 55 39.3**	**-0.2**
LCR2	**La Lucha 2**	**2.65**	**114**	*e*	**P**	**n**	**11 55 41.5**	**-0.1**
RIMA	**Rio Macho**	**2.77**	**112**	*e*	**P**	**n**	**11 55 43.6**	**+0.4**
CDM	**Cerro de Muert**	**2.95**	**115**	*e*	**P**	**n**	**11 55 46.8**	**+0.9**

SOME ***27*** *11:59:20.7, 39°.37N×73°.68E, h5km*
KRNET ***27*** *11:59:22.7±0.1, 39°.36N×73°.67E, mb3.3*
NNC ***27*** *11:59:24.6±3.5, 39°.47N×73°.98E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=25.4km s-min=13.5km az=170.0
ISC 27 11:59:16.0±2.0, 39°.27N±0°.09×73°.76E±0°.03, h10km, n32, σ1§49/52, 13C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.46**	**329**	⇑*i*	**P**	**g**	**11 59 48.2**	**+4.3**
	baz=30							
OHH				⇑*i*	**S**	**g**	**12 00 07.1**	**+4.3**
	baz=30							
BTK	**Batken**	**2.40**	**290**	⇑*e*	**P**	**g**	**12 00 04.2**	**+2.3**
	baz=89							
BTK				⇑*i*	**S**	**g**	**12 00 34.3**	**+1.3**
	baz=89							
ARLS	**Aral**	**2.62**	**9**	⇑*i*	**P**	**g**	**12 00 07.4**	**+1.2**
	baz=11							
ARLS				⇑*i*	**S**	**g**	**12 00 40.1**	**-0.1**
	baz=11							
NRN	**Naryn**	**2.76**	**38**	⇑*e*	**P**	**g**	**12 00 09.8**	**+1.0**
	baz=40							
NRN				⇑*i*	**S**	**g**	**12 00 44.0**	**-0.5**
	baz=40							
TRKS	**Terek-Say**	**3.01**	**319**	⇑*e*	**P**	**g**	**12 00 11.5**	**-2.2**
	baz=19							
TRKS				⇑*i*	**S**	**b**	**12 00 47.1**	**+0.4**
	baz=19							
MRKS	**Merke**	**3.49**	**354**	*e*	**P**	**g**	**12 00 23.7**	**+0.8**
	5.7nm,0.2s							
MRKS				*e*	**S**	**g**	**12 01 09.2**	**+1.1**
	21nm,0.5s							
MRKS	**Merke**	**3.49**	**354**	Pg	**P**	**g**	**12 00 23.7**	**+0.8**
	5.7nm,0.2s							
MRKS				Lg	Lg		12 01 09.2	
	21nm,0.5s							
IUG	**Iuzhnay**	**4.03**	**317**	*e*	**P**	**g**	**12 00 33.7**	**+0.5**
	9.3nm,0.3s							
IUG				*e*	**S**	**g**	**12 01 26.2**	**+0.8**
	29nm,0.8s							
IUG	**Iuzhnay**	**4.03**	**317**	Pg	**P**	**g**	**12 00 32.6**	**-0.6**
	10nm,0.3s							
IUG				Lg	Lg		12 01 24.6	
	33nm,0.7s							
DZA	**Taraz**	**4.05**	**334**	*e*	**P**	**g**	**12 00 33.2**	**-0.4**
	67nm,0.2s							
DZA				*e*	**S**	**g**	**12 01 25.2**	**-0.9**
	55nm,0.5s							
KST	**Kastek**	**4.12**	**23**	*e*	**P**	**g**	**12 00 35.3**	**+0.4**
	4.0nm,0.5s							
KST				*e*	**S**	**g**	**12 01 29.1**	**+0.8**
	12nm,0.6s							
KST	**Kastek**	**4.12**	**23**	Pg	**P**	**g**	**12 00 36.7**	**+1.8**
	5.0nm,0.6s							
KST				Lg	Lg		12 01 31.6	
	16nm,1.2s							
SGDS	**Sogindy**	**4.23**	**9**	*e*	**P**	**g**	**12 00 37.3**	**+0.4**
	6.2nm,0.7s							
SGDS				*e*	**S**	**g**	**12 01 32.3**	**+0.6**
	7.0nm,0.9s							
SGDS	**Sogindy**	**4.23**	**9**	Pg	**P**	**g**	**12 00 37.3**	**+0.4**
	6.2nm,0.7s							
SGDS				Lg	Lg		12 01 32.3	
	7.0nm,0.9s							
DGS	**Degeres**	**4.25**	**20**	*e*	**P**	**g**	**12 00 38.0**	**+0.7**
	5.9nm,0.5s							
DGS				*e*	**S**	**g**	**12 01 33.8**	**+1.4**
	9.8nm,1.0s							
DGS	**Degeres**	**4.25**	**20**	Pg	**P**	**g**	**12 00 38.0**	**+0.7**
	5.9nm,0.5s							
DGS				Lg	Lg		12 01 33.8	
	9.8nm,1.0s							
TNSS	**Tian-Shan**	**4.47**	**32**	*e*	**P**	**g**	**12 00 43.0**	**+1.4**
	4.2nm,0.5s							
TNSS				*e*	**S**	**g**	**12 01 42.1**	**+2.7**
	7.7nm,1.2s							
TNSS	**Tian-Shan**	**4.47**	**32**	Pg	**P**	**g**	**12 00 43.0**	**+1.4**
	4.2nm,0.5s							
TNSS				Lg	Lg		12 01 42.1	
	7.7nm,1.2s							
KK31	**Karatay Array**	**4.54**	**328**	Pn	**Pb**	**12 00 33.2**	**-2.6**
	1.0nm,0.5s,baz=131,slow=13,SNR=23							
KK31				⇑Pg	**P**	**g**	**12 00 43.3**	**+0.4**
	4.4nm,0.8s,baz=146,slow=14,SNR=7.4							
KK31				⇑Sn	**S**	**b**	**12 01 28.5**	**-2.0**
	1.4nm,0.3s							
KK31				⇑Lg	Lg		12 01 43.4	
	2.6nm,0.5s,baz=137,slow=28							
KRBS	**Karabastau**	**4.65**	**17**	*e*	**P**	**g**	**12 00 45.5**	**+0.5**
	3.2nm,0.6s							
KRBS				*e*	**S**	**g**	**12 01 46.6**	**+1.4**
	5.1nm,0.7s							
KRBS	**Karabastau**	**4.65**	**17**	Pg	**P**	**g**	**12 00 44.2**	**-0.8**
	3.0nm,0.5s							
KRBS				Lg	Lg		12 01 44.5	
	5.1nm,0.7s							
KOTS	**Kotyrbulak**	**4.70**	**32**	*e*	**P**	**g**	**12 00 45.9**	**0.0**
	4.3nm,0.6s							
KOTS				*e*	**S**	**g**	**12 01 47.2**	**+0.5**
	16nm,0.9s							
KOTS	**Kotyrbulak**	**4.70**	**32**	Pg	**P**	**g**	**12 00 45.9**	**0.0**
	4.3nm,0.6s							
KOTS				Lg	Lg		12 01 47.2	
	16nm,0.9s							
KTBS	**Karatobe**	**4.95**	**25**	*e*	**P**	**g**	**12 00 50.8**	**0.0**
	2.7nm,0.3s							
KTBS				*e*	**S**	**g**	**12 01 55.6**	**+0.8**
	14nm,0.9s							
KTBS	**Karatobe**	**4.95**	**25**	Pg	**P**	**g**	**12 00 50.8**	**0.0**
	2.7nm,0.3s							
KTBS				Lg	Lg		12 01 55.6	
	14nm,0.9s							
SATY	**Saty**	**5.16**	**41**	*e*	**P**	**g**	**12 00 55.4**	**+0.7**
	3.2nm,0.6s							
SATY				*e*	**S**	**g**	**12 02 03.3**	**+1.7**
	11nm,1.1s							
CHKK	**Chushkaly**	**5.18**	**27**	*e*	**P**	**g**	**12 00 56.0**	**+0.9**
	1.1nm,0.1s							
CHKK				*e*	**S**	**g**	**12 02 04.6**	**+2.4**
	9.2nm,0.6s							
CHKK	**Chushkaly**	**5.18**	**27**	Pg	**P**	**g**	**12 00 56.0**	**+0.9**
	1.1nm,0.1s							
CHKK				Lg	Lg		12 02 04.6	
	9.2nm,0.6s							
UZB	**Uzynbulak**	**5.54**	**44**	*e*	**P**	**g**	**12 01 02.8**	**+0.7**
	1.4nm,0.3s							
UZB				*e*	**S**	**g**	**12 02 16.2**	**+2.3**
	2.9nm,0.6s							
KPKS	**Kokpek**	**5.59**	**40**	*e*	**P**	**g**	**12 01 03.2**	**+0.1**
	2.4nm,0.2s							
KPKS				*e*	**S**	**g**	**12 02 16.8**	**+1.3**
	10nm,0.4s							
PDGK	**Podgornoye**	**5.92**	**45**	Pg	**Pg**	**12 01 08.7**	**-0.6**
	1.2nm,0.5s							
PDGK				Lg	Lg		12 02 26.2	
	2.9nm,1.1s							
PDGK	**Podgornoye**	**5.92**	**45**	Pg	**Pg**		12 01 05.7	-3.7
	7.0nm,1.3s							
PDGK				Lg	Lg		12 02 16.0	
	10nm,1.1s							

IDC 27 12:11:59.8±5.0, 5°.96S×128°.01E, h401km±76km, mb3.0/1, mbtmp3.9/4, Error ellipse: s-maj=111.3km s-min=17.2km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.01**	**33**	P	P	12 13 33.3	+0.9
	3.0nm,0.4s,baz=229,slow=20,SNR=8.8						
SIJI				S	S	12 14 48.2	-0.2
	4.2nm,0.2s,baz=243,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**15.20**	**157**	P	P	12 15 14.7	+0.2
	1.6nm,0.3s,baz=335,slow=11,SNR=42						
ASAR	**Alice Springs**	**18.50**	**163**	P	P	12 15 49.5	-0.2
	0.8nm,0.3s,baz=343,slow=11,SNR=41						
MKAR	**Makanchi Array**	**66.28**	**328**	P	P	12 22 06.7	0.0
	0.4nm,0.4s,baz=128,slow=7.4,SNR=11						
	0.4nm,0.4s						

WEL 27 12:16:58.5±0.2, 43°.5S±2°.×17°.3E±°, h8km±2km, M3.0/27, ML3.2/21, MLv3.0/27, Error ellipse: s-maj=0.0km s-min=0.0km az=128.3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.36**	**191**	P	Pb	12 17 06.8	-0.4
GVZ				S	Sb	12 17 12.9	-0.1
KHZ	**Kahutara**	**0.36**	**57**	P	Pg	12 17 05.9	+0.2
KHZ				S	Sg	12 17 10.9	+0.5
LTZ	**Lake Taylor**	**0.65**	**255**	P	Pb	12 17 11.7	-0.5
AMCZ	**Amberley**	**0.66**	**212**	P	Pb	12 17 12.7	+0.4
THZ	**Tophouse**	**0.87**	**349**	P	Pg	12 17 15.0	-0.3
BSWZ	**Blackbirch Sta**	**1.06**	**32**	P	Pg	12 17 18.9	0.0
OXZ	**Oxford**	**1.07**	**228**	P	Pg	12 17 18.5	-0.6
OKCZ	**Okains Bay**	**1.11**	**183**	P	Pg	12 17 18.7	-1.1
MQZ	**McQueen's Vall**	**1.15**	**197**	P	Pg	12 17 18.5	-2.0
CMWZ	**Cape Campbell**	**1.18**	**43**	P	Pn	12 17 21.7	+0.4
MRNZ	**Matariki Terra**	**1.25**	**347**	P	Pn	12 17 21.7	-0.5
INZ	**Inchbonnie**	**1.25**	**264**	P	Pn	12 17 21.9	-0.3
DSZ	**Denniston Nort**	**1.31**	**311**	P	Pb	12 17 23.5	+0.1
RACZ	**Rakaia**	**1.33**	**213**	P	Pn	12 17 22.1	-1.3
TUWZ	**Tuamarina**	**1.33**	**27**	P	Pn	12 17 23.4	0.0
NNZ	**Nelson**	**1.41**	**8**	P	Pn	12 17 24.2	-0.2
MHCZ	**Mount Hutt**	**1.47**	**231**	P	Pn	12 17 24.1	-1.2
TKNZ	**Takaka Hill**	**1.58**	**355**	P	Pn	12 17 27.2	+0.3
WACZ	**Wakanui South**	**1.63**	**215**	P	Pn	12 17 26.1	-1.4
TCW	**Tory Channel**	**1.64**	**32**	P	Pn	12 17 27.3	-0.4
WVZ	**Waitaha Valley**	**1.82**	**255**	P	Pn	12 17 30.2	+0.1
QRZ	**Quartz Range**	**1.84**	**346**	P	Pn	12 17 31.3	+0.8
RPZ	**Rata Peaks**	**1.87**	**233**	P	Pn	12 17 29.8	-1.1
PLWZ	**Palliser**	**1.90**	**57**	P	Pn	12 17 29.5	-1.7
DUWZ	**D'Urville Isla**	**1.91**	**18**	P	Pn	12 17 32.1	+0.8
MSWZ	**Moikau Station**	**1.98**	**54**	P	Pn	12 17 30.9	-1.5
CAW	**Cannon Point**	**2.09**	**45**	P	Pn	12 17 32.9	-0.9
TMZ	**Timaru**	**2.35**	**220**	P	Pn	12 17 36.1	-1.3
LBZ	**Lake Benmore**	**2.78**	**229**	P	Pn	12 17 42.4	-0.9
ODZ	**Otahua Downs**	**3.02**	**216**	P	Pn	12 17 45.1	-1.5
BKZ	**Black Stump Fm**	**4.29**	**38**	P	Pb	12 18 09.6	-4.6
TOZ	**Tahuroa Road**	**5.21**	**21**	P	Pn	12 18 18.9	+2.3
WIAZ	**Waiheke Island**	**6.02**	**16**	P	Pn	12 18 30.8	+3.0

NEIC ***27*** *12:31:50.8±1.3, 8°.1S±0°.1×120°.3E±0°.1, h194km±5km, mb4.1/16, Error ellipse: s-maj=21.2km s-min=14.4km az=66.0*
IDC ***27*** *12:31:52.5±2.0, 7°.98S×120°.60E, h213km±15km, mb3.4/5, mbtmp3.9/8, Error ellipse: s-maj=73.3km s-min=8.7km az=54.0*
DJA ***27*** *12:31:53.0±0.4, 8°.S±4°.×12°.0E±°, h166km±8km, M4.0/12, mb4.3/3, mB5.5/1, MLv3.8/12, Mw(mB)5.0/1*
ISC 27 12:31:51.3±0.6, 8°.21S±0°.05×120°.26E±0°.06, h200km, n64, σ1§15/66, mb4.1/14, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**2.00**	**102**	Pn	**Pn**	**12 32 28.6**	**-1.1**
MMRI	**Maumere**	**2.00**	**102**	P	**Pn**	**12 32 29.3**	**-0.5**
MMRI	**Maumere**	**2.00**	**102**	P	**Pn**	**12 32 29.9**	**+0.1**
BASI	**Baing, Sumba**	**2.02**	**171**	P	**Pn**	**12 32 30.0**	**-0.1**
BSSI	**Bau Bau, Buton**	**2.06**	**6**	P	**Pn**	**12 32 29.8**	**-0.7**
PLAI	**Plampang**	**2.54**	**256**	P	**Pn**	**12 32 34.9**	**-0.7**
PLAI	**Plampang**	**2.54**	**256**	P	**Pn**	**12 32 35.3**	**-0.3**
BKSI	**Bulukumba**	**2.87**	**357**	P	**Pn**	**12 32 39.1**	**-0.3**
KAPI	**Kappang**	**3.21**	**351**	P	**Pn**	**12 32 43.9**	**+0.4**
	26nm,0.5s,baz=185,slow=10,SNR=16						
TWSI	**Taliwang, Sumb**	**3.39**	**261**	P	**Pn**	**12 32 45.0**	**-0.6**
BNSI	**Bone**	**3.78**	**358**	P	**Pn**	**12 32 52.5**	**+2.1**
BATI	**Baumata**	**3.90**	**121**	P	**Pn**	**12 32 52.5**	**+0.6**
	24nm,0.3s,baz=302,slow=1.0,SNR=14						
BATI				S	**Sn**	**12 33 37.7**	**-1.7**
	59nm,0.3s,baz=167,slow=24,SNR=11						
BATI	**Baumata**	**3.90**	**121**	P	**Pn**	**12 32 52.3**	**+0.4**
SOEI	**Soe**	**4.24**	**112**	Pn	**Pn**	**12 32 56.8**	**+0.5**
SOEI	**Soe**	**4.24**	**112**	P	**Pn**	**12 32 56.9**	**+0.6**
SOEI	**Soe**	**4.24**	**112**	P	**Pn**	**12 32 57.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**6.05**	**267**	P	**Pn**	**12 33 20.3**	**+1.0**
	0.2nm22nm,1.0s						
GMJI	**Gumukmas**	**6.75**	**269**	P	**Pn**	**12 33 30.1**	**+1.8**
	0.1nm23nm,1.5s						
TOLI2	**Tolitoli**	**9.27**	**3**	P	Pn	12 33 49.1	-12
	11nm,0.9s						
BNDI	**Bandanaira**	**10.26**	**70**	P	**Pn**	**12 34 17.2**	**+3.3**
KNRA	**Kununurra**	**11.14**	**133**		**Pn**	**12 34 24.2**	**-1.2**
KNRA	**Kununurra**	**11.14**	**133**	P	**Pn**	**12 34 24.1**	**-1.2**
	14nm,1.0s						
MTN	**Manton Dam**	**11.64**	**114**	Pn	**Pn**	**12 34 31.0**	**-0.6**
MTN	**Manton Dam**	**11.64**	**114**	P	**Pn**	**12 34 30.5**	**-1.1**
	28nm,0.7s						
KDU	**Kakadu**	**12.80**	**111**	P	**Pn**	**12 34 45.3**	**-1.1**
	5.0nm,0.6s						
FAKI	**Fak Fak**	**13.03**	**67**	Pn	**Pn**	**12 34 47.6**	**-1.6**
GIRL	**Giralia**	**15.48**	**201**	P	**P**	**12 35 21.2**	**+1.7**
	114nm,1.4s						
WB0	**Warramunga Arr**	**17.87**	**131**	P	**P**	**12 35 46.0**	**+0.2**
WB0				IAmb	IAmb	12 35 48.3	
	comp=Z,4.2nm,0.6s						
WRA	**Warramunga Arr**	**17.94**	**132**	P	**P**	**12 35 46.7**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=307,slow=13,SNR=75						
WRA				S	**S**	**12 39 01.1**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=311,slow=23,SNR=9.9						
WRA	**Warramunga Arr**	**17.94**	**132**		**P**	**12 35 46.3**	**-0.3**
WRAB	**Tennant Creek**	**17.94**	**132**		**P**	**12 35 46.5**	**-0.1**
WRAB				IAmb	IAmb	12 35 49.5	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**17.94**	**132**	P	**P**	**12 35 46.8**	**+0.2**
	comp=Z,4.2nm,0.7s						
WB2	**Warramunga Arr**	**17.95**	**132**	P	**P**	**12 35 47.0**	**+0.3**
WB2				IAmb	IAmb	12 35 47.2	
	comp=Z,3.4nm,0.5s						
WR0	**Warramunga Arr**	**18.10**	**132**	P	**P**	**12 35 48.8**	**+0.5**
WR0				IAmb	IAmb	12 35 51.0	
	comp=Z,7.1nm,0.8s						
MEEK	**Meekatharra**	**18.40**	**185**	P	**P**	**12 35 53.3**	**+1.8**
	comp=Z,20nm,2.3s						
WRKA	**Warakurna**	**18.41**	**156**	P	**P**	**12 35 53.3**	**+1.6**
	comp=Z,13nm,0.7s						
AS31	**Alice Springs**	**20.18**	**141**	P	**P**	**12 36 11.3**	**+0.6**
AS31				IAmb	IAmb	12 36 14.1	
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**20.18**	**141**	P	**P**	**12 36 11.2**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=326,slow=12,SNR=77						
ASAR				S	**S**	**12 39 44.9**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=329,slow=25,SNR=3.5						
	comp=Z,1.5nm,0.3s						
ASAR	**Alice Springs**	**20.18**	**141**	P	**P**	**12 36 11.7**	**+0.9**
AS01	**Alice Springs**	**20.21**	**141**	P	**P**	**12 36 11.5**	**+0.5**
	comp=Z,4.1nm,1.0s						
MORW	**Morawa**	**21.13**	**190**	P	**P**	**12 36 21.6**	**+0.9**
MORW	**Morawa**	**21.13**	**190**	P	**P**	**12 36 21.6**	**+0.9**
	comp=Z,14nm,3.0s						
QIS	**Mount Isa**	**22.37**	**125**	P	**P**	**12 36 33.6**	**+0.5**
	comp=Z,7.4nm,0.7s						
BLDU	**Ballidu**	**22.54**	**188**	P	**P**	**12 36 35.1**	**+0.6**
	comp=Z,13nm,2.3s						
COEN	**Coen**	**23.19**	**106**	P	**P**	**12 36 41.5**	**+0.9**
COEN				IAmb	IAmb	12 36 47.1	
	comp=Z,9.4nm,1.1s						
KLBR	**Kellerberrin**	**23.39**	**185**	P	**P**	**12 36 43.5**	**+1.4**
	comp=Z,16nm,0.8s						
FORT	**Forrest**	**23.61**	**163**	P	**P**	**12 36 43.7**	**-0.5**
FORT	**Forrest**	**23.61**	**163**	P	**P**	**12 36 44.9**	**+0.7**
	comp=Z,17nm,0.9s						
OOD	**Oodnadatta**	**24.34**	**145**	P	**P**	**12 36 52.0**	**+1.2**
	comp=Z,11nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.76**	**186**	P	**P**	**12 36 57.3**	**+2.7**
MULG	**Mulgathing**	**25.48**	**151**	P	**P**	**12 37 01.4**	**+0.2**
	comp=Z,4.4nm,2.1s						
BBOO	**Buckleboo**	**28.52**	**151**	P	**P**	**12 37 28.8**	**+0.6**
BBOO				IAmb	IAmb	12 37 44.8	
	comp=Z,16nm,1.4s						
BBOO	**Buckleboo**	**28.52**	**151**	P	**P**	**12 37 28.9**	**+0.6**
	comp=Z,5.1nm,0.8s						
STKA	**Stephens Creek**	**30.80**	**143**	P	**P**	**12 37 48.9**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=311,slow=19,SNR=5.8						
	comp=Z,1.7nm,0.4s						
SONM	**Songino Array**	**57.13**	**349**	P	**P**	**12 41 17.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=161,slow=7.0,SNR=2.9						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**57.13**	**349**	P	**P**	**12 41 17.9**	**+0.7**
BKZ	**Black Stump Fm**	**58.87**	**131**	P	**P**	**12 41 29.8**	**+0.5**
MK31	**Makanchi Array**	**64.33**	**332**	P	**P**	**12 42 04.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.31**	**19**	P	Pb	12 38 32.7	-0.1
CMWZ	**Cape Campbell**	**0.43**	**54**	P	Pn	12 38 35.9	-0.8
KHZ	**Kahutara**	**0.44**	**200**	P	Pb	12 38 28.2	-6.7
TUWZ	**Tuamarina**	**0.59**	**15**	P	Pb	12 38 38.0	+0.4
THZ	**Tophouse**	**0.67**	**291**	P	Pb	12 38 39.4	+0.5
NNZ	**Nelson**	**0.83**	**341**	P	Pn	12 38 42.0	-0.2
TCW	**Tory Channel**	**0.89**	**27**	P	Pn	12 38 43.0	0.0
MRNZ	**Matariki Terra**	**0.95**	**309**	P	Pn	12 38 44.7	+0.8
WEL	**Wellington**	**1.05**	**47**	P	Pb	12 38 46.9	+1.5
GVZ	**Greta Valley S**	**1.09**	**208**	P	Pb	12 38 47.6	+1.6
TKNZ	**Takaka Hill**	**1.14**	**329**	P	Pb	12 38 47.4	+0.6
DUWZ	**D'Urville Isla**	**1.21**	**6**	P	Pb	12 38 48.7	+0.6
PLWZ	**Palliser**	**1.21**	**69**	P	Pb	12 38 48.2	+0.1
MSWZ	**Moikau Station**	**1.27**	**63**	P	Pb	12 38 49.1	0.0
LTZ	**Lake Taylor**	**1.34**	**234**	P	Pb	12 38 51.4	+1.2
CAW	**Cannon Point**	**1.34**	**48**	P	Pb	12 38 50.5	+0.3
AMCZ	**Amberley**	**1.42**	**214**	P	Pb	12 38 51.8	+0.1
KIW	**Kapiti Island**	**1.44**	**38**	P	Pb	12 38 52.5	+0.5
DSZ	**Denniston Nort**	**1.47**	**280**	P	Pb	12 38 54.3	+1.8
QRZ	**Quartz Range**	**1.49**	**322**	P	Pb	12 38 53.6	+0.8
MTW	**Mount Morrison**	**1.57**	**58**	P	Pn	12 38 53.2	+0.8
OGWZ	**Otaki Gorge**	**1.60**	**43**	P	Pb	12 38 54.2	-0.5
OKCZ	**Okains Bay**	**1.79**	**196**	P	Pn	12 38 49.3	-6.1
OKCZ				P	Pb	12 38 56.6	-1.3
OXZ	**Oxford**	**1.82**	**223**	P	Pn	12 38 56.8	+1.0
INZ	**Inchbonnie**	**1.85**	**246**	P	Pb	12 38 59.5	+0.6
MQZ	**McQueen's Vall**	**1.88**	**205**	P	Pn	12 38 56.7	+0.1
MRZ	**Mangatainoka R**	**1.93**	**46**	P	Pn	12 38 58.2	+0.9
AKCZ	**Akaroa Harbour**	**1.96**	**198**	P	Pn	12 38 58.9	+1.1
RACZ	**Rakaia**	**2.08**	**214**	P	Pn	12 39 00.3	+0.9
WACZ	**Wakanui South**	**2.39**	**215**	P	Pn	12 39 04.3	+0.7
MOVZ	**Moawhango**	**3.01**	**31**	P	Pb	12 39 19.0	+0.2
WNVZ	**Wahianoa**	**3.02**	**28**	P	Pb	12 39 20.8	+1.7
TMZ	**Timaru**	**3.11**	**219**	P	Pn	12 39 14.8	+1.3
WTVZ	**West Tongariro**	**3.21**	**27**	P	Pb	12 39 23.7	+1.5
ETVZ	**East Tongariro**	**3.23**	**28**	P	Pb	12 39 22.7	+0.1
WIAZ	**Waiheke Island**	**5.32**	**12**	P	Pn	12 39 46.8	+2.9

NEIC ***27*** *12:40:31.9±1.9, 32°.77N±0°.02×115°.44W±0°.01, h20km±2km, Error ellipse: s-maj=2.8km s-min=0.9km az=159.0*
ANF ***27*** *12:40:31.5±0.7, 32°.82N×115°.45W, h10km, ML2.6/11, Error ellipse: s-maj=6.3km s-min=3.7km az=164.0*
PAS ***27*** *12:40:32.6±3.3, 32°.766N±0°.007×115°.437W±0°.010, h11km±2km, ML3.1/18, ML2.7/42(NEIC), Error ellipse: s-maj=1.5km s-min=0.6km az=48.0*
MEX ***27*** *12:40:33.1±1.1, 31°.98N×115°.38W, h16km±999km, MD2.9*
ECX ***27*** *12:40:33.2±0.7, 32°.76N×115°.46W, h12km±5km, MD2.8, ML3.1*

ISC 27 12:40:31.7±0.9, 32°.75N±0°.02×115°.45W±0°.01, h18km±2km, n122, σ0.89/163, 16C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DREC	**Desert Rsrch C**	**0.06**	**4**		**Pg**	**12 40 34.8**	**-0.1**
DREC					**Sg**	**12 40 37.4**	**+0.2**
DREC	**Desert Rsrch C**	**0.06**	**4**	⇓*i*P	**Pg**	**12 40 34.8**	**-0.1**
UABX	**UABC, Campus M**	**0.11**	**175**		**Pg**	**12 40 36.2**	**+0.8**
UABX				IAML		12 40 40.4	
	comp=N,3μm,0.2s						
UABX				IAML		12 40 40.4	
	comp=E,4μm,0.3s						
UABX	**UABC, Campus M**	**0.11**	**175**	⇓*i*P	**Pg**	**12 40 36.2**	**+0.8**
SNR	**Schaffner Ranc**	**0.12**	**6**		**Pg**	**12 40 35.6**	**+0.1**
SNR					**Sg**	**12 40 38.8**	**+0.7**
IMPE	**Imperial**	**0.18**	**329**		**Pg**	**12 40 37.0**	**+0.7**
IMPE					**Sg**	**12 40 41.0**	**+1.5**
WESC	**Westside Schoo**	**0.24**	**273**		**Sg**	**12 40 43.1**	**+2.2**
WESC	**Westside Schoo**	**0.24**	**273**	⇑*i*P	**Pg**	**12 40 38.2**	**+1.1**
SGL	**Mount Signal**	**0.25**	**247**		**Sg**	**12 40 42.3**	**+1.1**
COA	**Coachella**	**0.30**	**67**		**Pg**	**12 40 38.7**	**+0.5**
COA					**Sb**	**12 40 43.8**	**+0.7**
WEMD	**Westmorland, C**	**0.31**	**339**		**Pb**	**12 40 39.2**	**+0.5**
WEMD					**Sb**	**12 40 44.9**	**+1.4**
WEMD	**Westmorland, C**	**0.31**	**339**	⇓*i*P	**Pb**	**12 40 39.2**	**+0.5**
CPBX	**Cerro Prieto**	**0.35**	**159**		**Sn**	**12 40 47.5**	**-0.9**
CPBX	**Cerro Prieto**	**0.35**	**159**	Pg	**Pb**	**12 40 40.1**	**+0.7**
CPBX	**Cerro Prieto**	**0.35**	**159**	IAML		12 40 49.7	
	comp=N,4μm,0.2s						
CPBX				IAML		12 40 51.9	
	comp=E,4μm,0.2s						
CPBX	**Cerro Prieto**	**0.35**	**159**	⇓*e*P	**Pb**	**12 40 40.0**	**+0.6**
CPBX				*e*S	**Sb**	**12 40 45.5**	**+0.9**
CPBX				⇓*e*		12 40 49.7	
CPBX				IAML		12 40 49.7	
	comp=N,6μm,0.2s						
CPBX				IAML		12 40 51.9	
	comp=E,6μm,0.2s						
CPBX				⇑*e*		12 40 51.9	
SWSC	**Sam W. Stewart**	**0.35**	**304**		**Pb**	**12 40 39.9**	**+0.4**
SWSC	**Sam W. Stewart**	**0.35**	**304**	P	**Pg**	**12 40 39.6**	**+0.5**
	baz=120,SNR=55						
SWSC	**Sam W. Stewart**	**0.35**	**304**	⇑*i*P	**Pg**	**12 40 39.6**	**+0.5**
SWSC				*e*S	**Sg**	**12 40 44.9**	**+0.7**
SWSC				⇓*e*		12 40 45.7	
SWSC				IAML		12 40 45.7	
	comp=E,988nm,0.5s						
CTLX	**Tlaxcala, TLX**	**0.38**	**136**	⇓*i*P	**Pn**	**12 40 41.7**	**-0.5**
EMSC	**East Mesa**	**0.39**	**91**		**Pg**	**12 40 40.6**	**+0.8**
EMSC	**East Mesa**	**0.39**	**91**	⇑*e*P	**Pg**	**12 40 40.5**	**+0.8**
MBIG	**Mexicali**	**0.40**	**148**	*e*P	**Pb**	**12 40 41.2**	**+0.9**
MBIG	**Mexicali**	**0.40**	**148**	*e*P	**Pg**	**12 40 39.8**	**-0.1**
MBIG				*e*P	**Pb**	**12 40 41.2**	**+0.9**
MBIG				*e*S	**Sb**	**12 40 47.2**	**+1.1**
MBIG				*e*S	**Sn**	**12 40 48.8**	**-0.9**
YUH	**Yuha Desert**	**0.41**	**256**		**Sb**	**12 40 46.6**	**+0.3**
YUH	**Yuha Desert**	**0.41**	**256**	Pg	**Pg**	**12 40 40.4**	**+0.4**
YUH	**Yuha Desert**	**0.41**	**256**	IAML		12 40 47.2	
	comp=N,450nm,0.2s						
YUH				IAML		12 40 47.3	
	comp=E,503nm,0.1s						
YUH2	**Yuha Desert**	**0.41**	**256**	⇑*i*P	**Pg**	**12 40 40.6**	**+0.6**
YUH2				*i* S	**Sb**	**12 40 46.6**	**+0.3**
CRR	**Carrizo Plain**	**0.46**	**288**		**Pg**	**12 40 41.5**	**+0.5**
CRR					**Sb**	**12 40 48.4**	**+0.7**
RUN	**Ruthven**	**0.46**	**60**		**Pg**	**12 40 40.9**	**-0.1**
RUN					**Sg**	**12 40 47.2**	**0.0**
ERRC	**Elmore Ranch**	**0.48**	**320**		**Pb**	**12 40 42.5**	**+0.8**
GUVIX	**Guadalupe Vict**	**0.54**	**144**		**Pg**	**12 40 43.5**	**+0.9**
RMX	**La Rumorosa**	**0.55**	**255**		**Sb**	**12 40 50.2**	**-0.3**
RMX	**La Rumorosa**	**0.55**	**255**	Pg	**Pb**	**12 40 42.4**	**-0.5**
RMX	**La Rumorosa**	**0.55**	**255**	IAML		12 40 50.4	
	comp=E,593nm,0.3s						
RMX				IAML		12 40 51.4	
	comp=N,685nm,0.4s						
IKP	**In-Ko-Pah, Jac**	**0.56**	**260**	P	**Pg**	**12 40 43.5**	**+0.6**
	baz=78,SNR=14						
IKP				S	**Sg**	**12 40 51.2**	**+0.7**
	baz=78						
IKP	**In-Ko-Pah, Jac**	**0.56**	**260**	⇑*i*P	**Pg**	**12 40 43.5**	**+0.6**
	comp=Z,242nm,0.3s						
IKP				*e*S	**Sg**	**12 40 51.2**	**+0.7**
GLA	**Glamis**	**0.61**	**60**		**Pb**	**12 40 43.4**	**-0.4**
GLA					**Sb**	**12 40 51.2**	**-0.9**
GLA	**Glamis**	**0.61**	**60**	IAML		12 40 52.8	
	comp=N,1μm,0.4s						
GLA				IAML		12 40 52.9	
	comp=E,2μm,0.3s						
GLA	**Glamis**	**0.61**	**60**	P	**Pb**	**12 40 43.5**	**-0.4**
	baz=241,SNR=22						
GLA				S	**Sb**	**12 40 51.2**	**-0.9**
	baz=241						
GLA	**Glamis**	**0.61**	**60**	⇑*e*P	**Pb**	**12 40 43.5**	**-0.4**
GLA				IAML		12 40 52.9	
	comp=N,1μm,0.5s						
GLA				⇑*e*		12 40 52.9	
GLA				IAML		12 40 52.9	
	comp=E,2μm,0.4s						
GLA				⇑*e*		12 40 52.9	
RHX	**Rio Hardy**	**0.62**	**167**	⇓*i*P	**Pb**	**12 40 44.2**	**+0.2**
RHX				*i* S	**Sg**	**12 40 53.3**	**+0.9**
SLRCX	**San Luis Rio C**	**0.69**	**114**		**Pg**	**12 40 45.9**	**+0.6**
SLRCX					**Sn**	**12 40 56.4**	**-0.5**
SALN	**Salton City**	**0.70**	**320**		**Pb**	**12 40 45.0**	**-0.4**
SALN					**Sg**	**12 40 55.6**	**+0.9**
SLH	**Sleepy Hollow**	**0.81**	**304**		**Sb**	**12 40 58.3**	**+0.4**
SLH	**Sleepy Hollow**	**0.81**	**304**	*e*P	**Pb**	**12 40 47.1**	**-0.1**
MONP2	**Monument Peak**	**0.83**	**280**		**Pb**	**12 40 47.8**	**0.0**
MONP2					**Sg**	**12 40 59.5**	**+0.5**
MONP2	**Monument Peak**	**0.83**	**280**	P	**Pb**	**12 40 47.8**	**0.0**
	baz=98						
MONP2				S	**Sg**	**12 40 59.5**	**+0.5**
	baz=98						
MONP2	**Monument Peak**	**0.83**	**280**	⇑*e*P	**Pb**	**12 40 47.7**	**0.0**
MONP2				*e*S	**Sg**	**12 40 59.4**	**+0.5**
ESJX	**Sierra Juarez**	**0.85**	**210**		**Pb**	**12 40 48.5**	**+0.4**
ESJX					**Sg**	**12 41 00.1**	**+0.6**
ESJX	**Sierra Juarez**	**0.85**	**210**	IAML		12 41 00.7	
	comp=E,353nm,0.2s						
ESJX				IAML		12 41 00.8	
	comp=N,280nm,0.1s						
BC3	**Big Chuckawall**	**0.91**	**360**		**Pb**	**12 40 48.5**	**-0.5**
BC3					**Sb**	**12 41 00.4**	**-0.4**
BC3	**Big Chuckawall**	**0.91**	**360**	P	**Pb**	**12 40 48.5**	**-0.5**
	baz=179,SNR=53						
BC3				S	**Sb**	**12 41 00.2**	**-0.6**
	baz=179						
BORC	**Borrego Spring**	**0.96**	**303**		**Pb**	**12 40 49.1**	**-0.8**
BORC					**Sb**	**12 41 02.1**	**-0.3**
HAY	**Hayfield**	**0.98**	**349**		**Pb**	**12 40 49.7**	**-0.5**
TKX	**Tecate**	**0.99**	**260**		**Pn**	**12 40 50.9**	**+0.2**
TKX					**Sb**	**12 41 03.7**	**+0.6**
TKX	**Tecate**	**0.99**	**260**	IAML		12 41 06.7	
	comp=E,418nm,0.2s						
CTW	**Cottonwood Mou**	**0.99**	**339**		**Pb**	**12 40 50.0**	**-0.4**
JUEM	**Julian Eagle M**	**1.02**	**289**		**Pb**	**12 40 50.6**	**-0.3**
JUEM					**Sb**	**12 41 04.2**	**+0.2**
BAR	**Barrett**	**1.03**	**267**		**Sg**	**12 41 04.8**	**-0.5**
BAR	**Barrett**	**1.03**	**267**	⇑*e*P	**Pb**	**12 40 50.9**	**-0.2**
BAR				*e*S	**Sb**	**12 41 04.5**	**+0.3**
BAR				IAML		12 41 05.8	
	comp=E,453nm,0.2s						
BAR				⇑*e*		12 41 05.8	
BAR				⇑*e*		12 41 05.9	
BAR				IAML		12 41 05.9	
	comp=N,443nm,0.2s						
SJX	**San Joaquin**	**1.07**	**204**	⇓*e*P	**Pb**	**12 40 48.5**	**-3.2**
SJX				*e*S	**Sb**	**12 41 00.1**	**-5.2**
SJX				⇓*e*		12 41 00.7	
SJX				IAML		12 41 00.7	
	comp=E,464nm,0.2s						
SJX				⇓*e*		12 41 00.8	
SJX				IAML		12 41 00.8	
	comp=N,389nm,0.1s						
TJIG	**Tijuana**	**1.08**	**254**	*e*P	**Pb**	**12 40 52.1**	**+0.3**
TJIG				*e*S	**Sb**	**12 41 05.4**	**-0.2**
MATG	**Mataguay Scout**	**1.10**	**295**		**Pb**	**12 40 51.7**	**-0.6**
MATG					**Sb**	**12 41 06.2**	**-0.2**
MATG	**Mataguay Scout**	**1.10**	**295**	⇑*i*P	**Pb**	**12 40 51.7**	**-0.6**
DUZA	**Dulzura**	**1.12**	**263**		**Pn**	**12 40 52.6**	**0.0**
DUZA					**Sb**	**12 41 07.2**	**+0.2**
EML	**El Monte Cty P**	**1.18**	**277**		**Pn**	**12 40 52.9**	**-0.5**
EML					**Sb**	**12 41 08.3**	**-0.3**
EML	**El Monte Cty P**	**1.18**	**277**	⇑*e*P	**Pn**	**12 40 52.8**	**-0.5**
EML				*e*S	**Sb**	**12 41 08.5**	**-0.1**
PMD	**Palm Desert**	**1.19**	**319**		**Pn**	**12 40 52.2**	**-1.2**
PMD				IAML		12 41 10.3	
	comp=E,92nm,0.3s						
PMD				IAML		12 41 10.9	
	comp=N,80nm,0.6s						
PMD	**Palm Desert**	**1.19**	**319**		**Sb**	**12 41 07.2**	**-1.6**
PMD	**Palm Desert**	**1.19**	**319**	Pn	**Pn**	**12 40 52.8**	**-0.7**
TPFO	**Pinon Flats**	**1.20**	**316**	S	**Sb**	**12 41 07.7**	**-1.6**
	baz=134						
XPFO	**Pion Flat**	**1.21**	**316**		**Pn**	**12 40 52.6**	**-1.2**
XPFO					**Sb**	**12 41 08.1**	**-1.4**
PFO	**Pinyon Flats O**	**1.21**	**316**		**Pn**	**12 40 52.8**	**-1.0**
PFO				IAML		12 41 11.3	
	comp=N,118nm,0.7s						
PFO	**Pinyon Flats O**	**1.21**	**316**		**Pn**	**12 40 53.2**	**-0.6**
PFO					**Sb**	**12 41 08.1**	**-1.4**
PFO	**Pinyon Flats O**	**1.21**	**316**	P	**Pn**	**12 40 52.9**	**-0.9**
	baz=134,SNR=15						
PFO				S	**Sb**	**12 41 08.0**	**-1.4**
	baz=134						
FRD	**Ford Ranch, An**	**1.22**	**308**		**Pn**	**12 40 53.1**	**-0.9**
FRD	**Ford Ranch, An**	**1.22**	**308**		**Pn**	**12 40 53.1**	**-0.9**
FRD					**Sg**	**12 41 11.4**	**+0.1**
OLP	**Otay Lakes Par**	**1.25**	**264**		**Pn**	**12 40 54.3**	**0.0**
OLP					**Sb**	**12 41 10.6**	**0.0**
SDRC	**San Diego Road**	**1.26**	**270**		**Pn**	**12 40 54.2**	**-0.2**
SDRC					**Sb**	**12 41 10.5**	**-0.2**
SDRC	**San Diego Road**	**1.26**	**270**	⇑*e*P	**Pn**	**12 40 54.2**	**-0.2**
BZNA	**Buzz No.'s Pla**	**1.26**	**306**		**Pn**	**12 40 53.9**	**-0.7**
BZNA					**Sb**	**12 41 10.1**	**-0.9**
SNDA	**J Saunders Pla**	**1.26**	**310**		**Pn**	**12 40 54.1**	**-0.5**
SNDA					**Sb**	**12 41 11.0**	**-0.1**
BLYC	**Blythe**	**1.27**	**38**		**Sn**	**12 41 11.0**	**-0.2**
BLYC	**Blythe**	**1.27**	**38**	Pn	**Pn**	**12 40 54.3**	**-0.3**
BLYC	**Blythe**	**1.27**	**38**	IAML		12 41 20.2	
	comp=E,147nm,0.5s						
BLYC				IAML		12 41 20.9	
	comp=N,130nm,0.4s						
DPP	**Dos Picos Cty**	**1.28**	**282**		**Pn**	**12 40 54.1**	**-0.6**
DPP					**Sn**	**12 41 11.4**	**-0.1**
DNR	**Dunn Ranch,Anz**	**1.28**	**310**		**Pb**	**12 40 56.1**	**+0.7**
DNR					**Sb**	**12 41 11.1**	**-0.6**
PLM	**Palomar**	**1.33**	**297**		**Pn**	**12 40 55.0**	**-0.6**
PLM					**Sn**	**12 41 12.8**	**-0.1**
CCX	**Cicese**	**1.35**	**230**	Pn	**Pn**	**12 40 56.7**	**+0.2**
CRY	**Cary Ranch**	**1.35**	**308**		**Pn**	**12 40 55.5**	**-0.3**
TJX	**Tijuana**	**1.37**	**261**	Pn	**Pb**	**12 40 57.5**	**+0.7**
109C	**Camp Elliot, M**	**1.40**	**276**		**Pn**	**12 40 57.0**	**+0.6**
109C				IAML		12 41 16.9	
	comp=E,213nm,0.3s						
109C	**Camp Elliot, M**	**1.40**	**276**	S	**Sb**	**12 41 15.7**	**+0.8**
	baz=95						
CPE	**Camp Elliot**	**1.40**	**276**		**Pn**	**12 40 56.1**	**-0.3**
CPE					**Sb**	**12 41 15.4**	**+0.6**
113A	**Mohawk Valley,**	**1.42**	**89**		**Pn**	**12 40 57.3**	**+0.7**
113A				IAML		12 41 16.2	
	comp=N,79nm,0.2s						
SDMC	**San Diego Miss**	**1.42**	**272**		**Sb**	**12 41 15.5**	**0.0**
IRM	**Iron Mountain**	**1.43**	**10**		**Pn**	**12 40 56.1**	**-0.7**
IRM	**Iron Mountain**	**1.43**	**10**	P	**Pn**	**12 40 56.4**	**-0.5**
	baz=190,SNR=43						
GORC	**Green Oak Ranc**	**1.55**	**286**		**Pn**	**12 40 58.0**	**-0.4**
GORC					**Sn**	**12 41 17.9**	**-0.1**
POB	**Polly Butte**	**1.55**	**308**		**Pn**	**12 40 58.4**	**-0.1**
DGR	**Domenigoni Val**	**1.59**	**305**		**Sg**	**12 41 22.6**	**-0.3**
SFX	**San Felipe**	**1.78**	**163**		**Pb**	**12 41 04.2**	**+0.4**
ELS	**Elsinore Mount**	**1.89**	**299**		**Pn**	**12 41 03.1**	**0.0**
NEE2	**Needles Airpor**	**2.13**	**19**	P	**Pn**	**12 41 06.5**	**0.0**
	baz=199						
214A	**Organ Pipe Nat**	**2.37**	**109**		**Pn**	**12 41 09.5**	**-0.3**
214A				IAML		12 41 56.1	
	comp=N,30nm,0.5s						
214A				IAML		12 42 01.8	
	comp=E,32nm,0.6s						
214A	**Organ Pipe Nat**	**2.37**	**109**	P	**Pn**	**12 41 08.7**	**-1.0**
	baz=291						
CBCC	**Caltech Broad**	**2.63**	**303**		**Pn**	**12 41 15.2**	**+1.9**
W13A	**Hualapai Mount**	**2.69**	**29**		**Pn**	**12 41 14.8**	**+0.6**
PASC	**Pasadena Art C**	**2.69**	**303**	Pn	**Pn**	**12 41 15.5**	**+1.3**
PASC				IAML		12 42 22.0	
	comp=E,21nm,2.8s						
PASC				IAML		12 42 59.7	
	comp=N,22nm,3.8s						
GSC	**Goldstone, Bar**	**2.79**	**337**		**Pn**	**12 41 17.0**	**+1.5**
GSC				IAML		12 42 21.6	
	comp=E,21nm,1.4s						
SHPR	**Sheep Range**	**3.76**	**4**		**Pn**	**12 41 30.9**	**+2.0**
ABL	**Mount Abel**	**3.78**	**305**		**Pn**	**12 41 29.2**	**0.0**
TUC	**Tucson**	**3.97**	**95**	IAML		12 42 55.6	
	comp=E,6.7nm,2.2s						
TUC				IAML		12 42 56.0	
	comp=E,7.0nm,2.8s						
TUC	**Tucson**	**3.97**	**95**	Pn	**Pn**	**12 41 32.2**	**+0.5**
WCT	**Wildcat Mounta**	**4.15**	**347**	Pn	**Pn**	**12 41 35.1**	**+0.8**
TPNV	**Topopah Spring**	**4.25**	**351**	Pn	**Pn**	**12 41 36.4**	**+0.7**
U15A	**North Rim**	**4.50**	**34**	Pn	**Pn**	**12 41 40.7**	**+1.4**
LCMT	**Little Creek M**	**4.63**	**22**		**Pn**	**12 41 42.2**	**+1.3**
PRN	**Pahroc Range**	**4.66**	**4**		**Pn**	**12 41 42.5**	**+1.1**
KNB	**Kanab**	**4.78**	**26**	Pn	**Pn**	**12 41 44.2**	**+1.3**
CCUT	**Cedar City**	**5.09**	**19**		**Pn**	**12 41 49.4**	**+2.1**

KRSC 27 12:42:26.5±1.9, 54°.92N×167°.14E, h30km±16km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.73**	**293**	*e*P	**Pb**	12 42 41.2	+0.5
BKI				*e*S	Sn	12 42 50.9	+0.1
KBTR	**Krutoberegovo**	**2.77**	**299**	*e*P	Pn	12 43 09.9	+1.1
KBTR				*e*S	Sn	12 43 44.8	+3.6
MKZ	**Mys Kozlova**	**3.16**	**266**	*e*P	Pn	12 43 17.7	+3.6
MKZ				S	Sn	12 43 54.8	+4.1
SMKR	**Semkarok**	**3.61**	**300**	*e*P	Pn	12 43 23.8	+3.4
KMNR	**Kamenistaya**	**4.03**	**285**	*e*P	Pn	12 43 31.1	+4.9
KMNR				S	Sb	12 44 19.1	-6.0
TUMR	**Tumrok**	**4.04**	**278**	*e*P	Pn	12 43 30.8	+4.5
TUMR				*e*S	Sb	12 44 19.1	-6.1
KPT	**Kopyto**	**4.08**	**288**	*e*P	Pn	12 43 30.9	+4.1
SPN	**Mys Shipunski**	**4.58**	**249**	*e*P	Pn	12 43 37.7	+4.1
SPN				*e*S	Sn	12 44 28.9	+3.1
SDLR	**Sedlovina**	**5.13**	**255**	S	Sn	12 44 44.6	+5.1
SMAR	**Somma**	**5.18**	**255**	*e*P	Pn	12 43 47.6	+5.5
UGLR	**Uglovaya**	**5.19**	**254**	*e*P	Pn	12 43 47.6	+5.5
KRER	**Koryakskii**	**5.20**	**255**	P	Pn	12 43 47.3	+5.0
KRER				S	Sn	12 44 45.4	+4.1
KOK	**Koryaka**	**5.27**	**255**	P	Pn	12 43 48.6	+5.5
DALK	**Dalny**	**5.30**	**252**	S	Sn	12 44 47.6	+4.1
GNL	**Ganaly**	**5.53**	**261**	P	Pn	12 43 52.2	+5.5
RUS	**Russkaya**	**5.70**	**248**	P	Pn	12 43 53.3	+4.3
MTVR	**Mutnovka**	**5.86**	**249**	P	Pn	12 43 56.5	+5.2
MTVR				S	Sn	12 45 01.6	+4.2

WEL 27 12:49:53.7±0.3, 42°.S±2°×17°.4E±°, h8km±2km, M3.7/37, ML3.9/23, MLv3.7/37, Error ellipse: s-maj=0.0km s-min=0.0km az=138.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**252**	P	Pg	12 49 56.0	+0.7
CMWZ				S	Sg	12 49 58.2	+1.8
BSWZ	**Blackbirch Sta**	**0.28**	**275**	P	Pg	12 49 59.7	+0.4
BSWZ				S	Sg	12 50 04.1	+1.1
TUWZ	**Tuamarina**	**0.39**	**324**	P	Pg	12 50 01.8	+0.6
TUWZ				S	Sb	12 50 07.9	-1.0
TCW	**Tory Channel**	**0.53**	**2**	P	Pg	12 50 04.4	+0.5
TCW				S	Sb	12 50 12.0	-1.0
WEL	**Wellington**	**0.60**	**41**	P	Pb	12 50 06.2	-0.2
WEL				S	Sb	12 50 15.0	-0.1
PLWZ	**Palliser**	**0.78**	**78**	P	Pb	12 50 09.7	+0.2
MSWZ	**Moikau Station**	**0.82**	**67**	P	Pb	12 50 10.4	+0.2
NNZ	**Nelson**	**0.84**	**308**	P	Pg	12 50 09.7	-0.1
KHZ	**Kahutara**	**0.86**	**218**	P	Pb	12 50 10.7	-0.1
CAW	**Cannon Point**	**0.88**	**44**	P	Pb	12 50 11.0	-0.3
PAWZ	**Paruwai Farm**	**0.96**	**68**	P	Pg	12 50 12.2	+0.1
DUWZ	**D'Urville Isla**	**0.97**	**345**	P	Pg	12 50 12.1	-0.3
THZ	**Tophouse**	**1.00**	**268**	P	Pg	12 50 13.0	0.0
KIW	**Kapiti Island**	**1.01**	**30**	P	Pg	12 50 13.1	0.0
MTW	**Mount Morrison**	**1.11**	**59**	P	Pg	12 50 14.4	-0.6
TRWZ	**Traveller**	**1.13**	**73**	P	Pg	12 50 14.6	-0.9
OGWZ	**Otaki Gorge**	**1.16**	**37**	P	Pb	12 50 15.6	-0.3
MRNZ	**Matariki Terra**	**1.17**	**287**	P	Pb	12 50 16.1	0.0
TKNZ	**Takaka Hill**	**1.20**	**306**	P	Pb	12 50 16.2	-0.5
HOWZ	**Holdsworth Sta**	**1.27**	**49**	P	Pb	12 50 17.0	-0.7
TMWZ	**Te Maipa**	**1.39**	**63**	P	Pn	12 50 18.0	-1.4
MRZ	**Mangatainoka R**	**1.48**	**43**	P	Pn	12 50 19.7	-0.8
GVZ	**Greta Valley S**	**1.52**	**216**	P	Pn	12 50 19.8	-1.3
QRZ	**Quartz Range**	**1.58**	**305**	P	Pb	12 50 22.7	-0.5
PRWZ	**Pori Road**	**1.76**	**48**	P	Pn	12 50 24.0	-0.5
POWZ	**Post Office Ro**	**1.77**	**41**	P	Pn	12 50 24.4	-0.2
LTZ	**Lake Taylor**	**1.80**	**234**	P	Pn	12 50 24.0	-1.0
DSZ	**Denniston Nort**	**1.83**	**269**	P	Pb	12 50 26.4	-1.0
BFZ	**Birch Farm**	**1.84**	**56**	P	Pn	12 50 25.2	-0.3
AMCZ	**Amberley**	**1.86**	**219**	P	Pn	12 50 24.0	-1.7
DVHZ	**Dannevirke**	**2.05**	**46**	P	Pn	12 50 26.8	-1.6
WAZ	**Wanganui**	**2.06**	**16**	P	Pb	12 50 31.2	-0.1
**TSZ

JMM **Marumori** 0.76 311 ⇓P **Pb** 12 50 31.9 0.0
JMM ⇓S **Sb** 12 50 42.7 +0.6
JMM Marumori 0.76 311 A A 12 50 31.9
comp=E,52nm,0.4s,comp=E,60nm,0.4s
JFFD Fukushimafurud 0.81 250 ⇓*i*P **Pg** 12 50 32.2 -0.6
JFFD ⇓S **Sg** 12 50 43.0 -0.5
JFFD Fukushimafurud 0.81 250 A A 12 50 32.2
comp=E,10.0nm,4.1s,comp=E,10.0nm,0.8s
JHO Hitachi 1.07 226 P **Pb** 12 50 34.9 -2.3
JHO *e*S **Sb** 12 50 49.0 -2.0
JIO Ouri 1.09 353 P **Pb** 12 50 36.3 -1.2
JIO *e*S **Sb** 12 50 50.7 -0.9
JOU Okura 1.20 326 ⇓P **Pg** 12 50 39.5 -0.7
JOU Okura 1.20 326 A A 12 50 39.5
comp=E,22nm,0.6s,comp=E,21nm,2.0s
JYAR Yonezawaarcadi 1.22 297 A A 12 50 38.8
comp=E,49nm,0.6s,comp=E,47nm,1.4s
JHYU Hitachinakayam 1.27 216 A A 12 50 38.5
comp=E,8.0nm,3.9s,comp=E,8.0nm,0.9s
JOFO Osakifurukawao 1.32 339 A A 12 50 40.3
comp=E,56nm,0.8s,comp=E,50nm,2.0s
JSB Shiboa 1.34 253 A A 12 50 40.2
comp=E,21nm,1.2s,comp=E,20nm,1.1s
JYS Shirataka 1.43 307 A A 12 50 42.0
comp=E,15nm,1.5s,comp=E,19nm,1.0s
JFY Yanaizu 1.45 272 A A 12 50 42.0
comp=E,6.0nm,0.4s,comp=E,9.0nm,0.9s
JYT Yasato 1.56 223 A A 12 50 42.9
comp=E,18nm,0.3s,comp=E,11nm,0.3s
JMK Ichinoseki 1.60 352 A A 12 50 44.3
comp=E,12nm,2.3s,comp=E,4.0nm,2.1s
JIHU Itakohorinouch 1.61 210 A A 12 50 43.5
comp=E,36nm,1.0s,comp=E,28nm,2.0s
OFUJ Ofunato 1.71 4 A A 12 50 45.8
comp=E,5.0nm,0.8s,comp=E,5.0nm,0.8s
JYK Kaneyama 1.80 330 A A 12 50 47.3
comp=E,9.0nm,1.4s,comp=E,6.0nm,0.9s
JYA Atsumi 1.88 311 A A 12 50 48.5
comp=E,14nm,0.9s,comp=E,9.0nm,0.7s
JSMT Sammumatsuo 1.93 207 A A 12 50 48.0
comp=E,18nm,3.1s,comp=E,16nm,2.5s
JYYZ Yamagatayuza 2.07 323 A A 12 50 51.2
comp=E,11nm,2.3s,comp=E,10.0nm,2.8s
JRG Rokugo 2.14 341 A A 12 50 52.2
comp=E,5.0nm,3.7s,comp=E,5.0nm,3.3s
JCN Nagara 2.22 209 A A 12 50 52.2
comp=E,15nm,3.0s,comp=E,13nm,1.8s
JIZZ Izumozaki 2.24 275 A A 12 50 53.5
comp=E,12nm,1.2s,comp=E,17nm,0.6s
JYW Yuwa 2.40 335 A A 12 50 56.0
comp=E,10.0nm,1.6s,comp=E,14nm,1.7s
JSZI Iwateshizukuis 2.41 350 A A 12 50 55.9
comp=E,6.0nm,1.1s,comp=E,8.0nm,1.4s
JGK Kuni 2.44 252 A A 12 50 56.1
comp=E,5.0nm,5.4s,comp=E,4.0nm,3.0s
JSD Sado 2.67 285 Pn **Pn** 12 50 59.2 -0.2
JSD Sado 2.67 285 P **Pn** 12 51 00.3 +0.9
TATJ Tateyama 2 2.68 210 A A 12 50 58.8
comp=E,6.0nm,4.6s,comp=E,5.0nm,4.0s
MJAR Matsushiro Arr 2.78 254 Pn **Pn** 12 51 01.0 +0.1
5.1nm,0.3s,baz=64,slow=14,SNR=68
MJAR Sn **Sb** 12 51 39.9 -0.3
7.6nm,0.3s,baz=38,slow=26,SNR=2.5
28nm,0.4s
MJAR Matsushiro Arr 2.78 254 P **Pn** 12 51 01.0 +0.1
MAJO Matsushiro 2.78 254 Pn **Pn** 12 51 01.8 +0.8
MAJO Matsushiro 2.78 254 *d*iP **Pn** 12 51 01.9 +1.0
MJB9 Matsu-Tunnel 2.78 254 **Pn** 12 51 03.1 +2.2
JKEN Kujiedanarisaw 2.84 3 A A 12 51 01.9
comp=E,9.0nm,1.6s,comp=E,9.0nm,0.6s
JANG Nango 3.00 360 A A 12 51 04.3
comp=E,4.0nm,2.7s,comp=E,2.0nm,1.0s
JNTW Noshirotokiwa 3.09 340 A A 12 51 05.6
comp=E,8.0nm,3.0s,comp=E,8.0nm,3.4s
JOG3 Oga3 3.18 324 A A 12 51 02.7
comp=E,5.0nm,2.1s,comp=E,5.0nm,2.6s
JTM Tenmabayashi 3.43 354 Pn **Pn** 12 51 10.6 +0.8
JGF Kuroka 3.79 244 Pn **Pn** 12 51 16.2 +1.3
JGF Kuroka 3.79 244 P **Pn** 12 51 16.4 +1.5
INU Inuyama 4.16 242 Pn **Pn** 12 51 21.0 +1.1
INU Inuyama 4.16 242 P **Pn** 12 51 21.6 +1.8
JHJ2 Mitsune 4.47 199 Pn **Pn** 12 51 24.1 -0.1
JHJ2 Mitsune 4.47 199 P **Pn** 12 51 24.7 +0.5
JHJ Hachijo jima 2 4.47 199 Pn **Pn** 12 51 24.1 -0.1
40nm,0.3s,baz=278,slow=23,SNR=16
JHJ Sn **Sn** 12 52 15.4 -0.6
70nm,0.3s,baz=71,slow=22,SNR=7.6
JHJ LR LR 12 53 20.8
comp=Z,112nm,20.6s,baz=98,slow=42
75nm,0.3s
ERM Erimo 4.81 15 Pn **Pn** 12 51 27.8 -1.0
ERM Erimo 4.81 15 P **Pn** 12 51 30.3 +1.5
ERM Erimo 4.81 15⇑*e*P **Pn** 12 51 29.0 +0.2
JEM Erimo 4.81 15 P **Pn** 12 51 30.4 +1.6
ASAJ Asahikawa 6.79 7 P **Pn** 12 51 55.5 -0.5
JKA Kamikawa-asahi 6.79 7 Pn **Pn** 12 51 55.5 -0.5
NMR Nemuro--Hokkai 6.80 27 *e*P **Pn** 12 51 53.3 -2.8
NMR *e*S **Sn** 12 53 07.4 -5.8
JHS Saijyo 7.20 253 P **Pn** 12 52 04.3 +2.7
JMN Monobe 7.21 242 Pn **Pn** 12 52 01.3 -0.5
JMN Monobe 7.21 242 P **Pn** 12 52 04.3 +2.5
RUSJ Misakicho 7.30 22 *e*P **Pn** 12 52 01.1 -1.9
RUSJ *e*S **Sn** 12 53 20.5 -5.0
YUK Yuzh-Kuril'sk 7.43 25 *e*P **Pn** 12 52 01.5 -3.3
YUK *e*S **Sn** 12 53 22.0 -6.7
YUK pmax pmax
comp=Z,85nm,0.3s
YSS Yuzh-Sakhalins 9.62 5 Pn **Pn** 12 52 35.7 +0.9
YSS Yuzh-Sakhalins 9.62 5 *e*P **Pn** 12 52 34.2 -0.6
YSS *e*S **Sn** 12 54 21.8 -0.8
YSS MLR MLR
comp=Z,300nm,12.0s
YSS MLR MLR
comp=N,300nm,14.0s
JNU Nakatsue 9.68 247 LR LR 12 56 31.7
comp=N,200nm,19.0s,baz=54,slow=39
USRK Ussuriysk Ar. 9.94 316 Pn **Pn** 12 52 39.7 +0.5
comp=N,0.3nm,0.3s,baz=127,slow=13,SNR=9.5
USRK LR LR 12 55 18.6
comp=N,55nm,20.2s,baz=173,slow=31
comp=N,1.1nm,0.7s
JCJ Chichijima 10.26 177 P **Pn** 12 52 45.5 +1.9
comp=N,129nm,1.5s
KSRS Korea Array 10.82 275 Pn **Pn** 12 52 52.1 +0.9
comp=N,0.1nm,0.3s,baz=88,slow=14,SNR=3.1
KSRS LR LR 12 56 44.8
comp=N,93nm,18.2s,baz=80,slow=36
comp=N,1.9nm,0.8s
MDJ Mudanjiang 11.55 313 P Pn 12 53 06.5 +5.2
MDJ pmax pmax
comp=N,15nm,1.2s
MDJ pmax pmax
comp=N,190nm,4.6s
CN2 Changchun 13.79 303 P **P** 12 53 40.5 +0.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,200nm,9.0s
CN2 LR LR
comp=E,200nm,9.0s
CN2 LR LR
comp=Z,200nm,10.0s
KLR Kul'dur 13.81 332 Pn **P** 12 53 37.0 -3.5
comp=Z,0.2nm,0.3s,baz=159,slow=6.9,SNR=4.6
KLR LR LR 12 58 42.3
comp=Z,68nm,18.6s,baz=196,slow=37
ZEA Zeya 19.12 333 *e*P **P** 12 54 39.1 -0.1
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,100nm,13.0s
PETK Petropavlovsk- 19.36 30 P **Pn** 12 54 44.7 +1.8
comp=Z,0.1nm,0.3s,baz=238,slow=8.3,SNR=1.8
comp=Z,5.6nm,1.1s
TIA Tai'an 19.57 274 *e*P **P** 12 54 41.8 -2.4
TIA pmax pmax
comp=Z,6.0nm,0.5s
TIA pmax pmax
comp=Z,170nm,5.0s
TIA LR LR
comp=Z,130nm,6.4s
TIA LR LR
comp=Z,160nm,7.1s
XLT XiLinHaoTe 20.34 297⇑*i*P **P** 12 54 50.8 -1.8
XLT pP Pn 12 54 54.8 +0.1
XLT pmax pmax
comp=Z,12nm,1.2s
XLT pmax pmax
comp=Z,110nm,4.7s
HNS HongShan 21.29 278 ⇑P **P** 12 55 00.5 -2.3
HNS S **S** 12 58 50.8 -8.1
HNS pmax pmax
comp=Z,15nm,1.3s
HNS LR LR
comp=Z,410nm,11.4s
HNS LR LR
comp=Z,280nm,12.8s
MA2 Magadan 23.01 12 P **P** 12 55 22.9 +1.8
comp=Z,3.7nm,0.7s,baz=57,slow=18,SNR=1.4
comp=Z,3.7nm,0.7s
HHC Hu-ho-hao-te 23.45 288 *e*P **P** 12 55 25.0 -0.8
HHC pmax pmax
comp=Z,44nm,1.0s
HHC pmax pmax
comp=Z,180nm,5.7s
YAK Yakutsk 25.76 347 P **P** 12 55 47.1 +0.3
comp=Z,20nm,0.6s,baz=0.4,slow=0.8,SNR=11
comp=Z,20nm,0.6s
YAK Yakutsk 25.76 347 *e*P **P** 12 55 47.2 +0.5
YAK *e**PP **pP** 12 55 50.2 -1.1
YAK *e* 12 56 22.2
YAK *e*S **S** 13 00 15.4 +0.3
YAK *e**SS **sS** 13 00 23.4 +0.9
YAK pmax pmax
comp=Z,28nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,73nm,4.3s
YAK pmax pmax
comp=N,53nm,2.3s
YAK pmax pmax
comp=E,63nm,3.7s
YAK smax smax
comp=E,25nm,2.3s
YAK smax smax
comp=N,12nm,2.3s
SEY Seymchan 26.45 11 P **P** 12 55 53.9 +1.0
comp=N,3.4nm,0.7s,baz=207,slow=11,SNR=7.1
comp=N,3.4nm,0.7s
SEY Seymchan 26.45 11⇑*e*P **P** 12 55 55.5 +2.6
SEY pmax pmax
comp=Z,20nm,1.7s
SONM Songino Array 27.67 303 P **P** 12 56 03.3 -1.0
comp=Z,5.5nm,0.8s,baz=111,slow=8.1,SNR=33
comp=Z,5.5nm,0.8s
SONM Songino Array 27.67 303 P **P** 12 56 04.6 +0.3
SONM Songino Array 27.67 303 P **P** 12 56 04.6 +0.3
SONM pmax pmax
comp=Z,4.0nm,0.9s
H11N2 WAKE ISLAND Hy 28.25 121 T T 13 25 33.7
baz=316,SNR=176
H11N1 WAKE ISLAND Hy 28.25 121 T T 13 25 35.9
baz=316,slow=74,SNR=249
H11N3 WAKE ISLAND Hy 28.27 121 T T 13 25 35.4
baz=316,slow=74,SNR=378
H11S1 WAKE ISLAND Hy 28.97 124 T T 13 26 38.4
baz=317,SNR=306
H11S3 WAKE ISLAND Hy 28.97 124 T T 13 26 27.7
baz=317,slow=74,SNR=295
H11S2 WAKE ISLAND Hy 28.99 124 T T 13 26 29.9
baz=317,slow=74,SNR=198
GTA Gaotai 32.55 287 *e*P **P** 12 56 47.3 -0.3
GTA pP pP 12 56 50.5 -1.6
GTA sP sP 12 56 53.3 -0.7
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,48nm,7.2s
GTA LR LR
comp=Z,120nm,13.5s
GTA LR LR
comp=Z,71nm,13.1s
BILL Bilibino 33.68 16 *e*P **P** 12 56 58.6 +1.7
BILL *e* 12 58 12.4
BILL *e* 12 59 36.2
BILL pmax pmax
comp=Z,2.0nm,1.1s
TIXI Tiksi 34.97 353 P **P** 12 57 07.2 -0.8
comp=Z,2.0nm,0.7s,baz=271,slow=24,SNR=11
comp=Z,2.0nm,0.7s
PZH PanZhiHua 35.22 264 P **P** 12 57 10.0 -0.9
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.7s
GOMU GeErMu 37.13 283 P **P** 12 57 30.5 +3.1
GOMU pP sP 12 57 34.5 +0.6
GOMU sP pP 12 57 36.8 +4.8
GOMU pmax pmax
comp=Z,50nm,0.7s
TNCH TengChong 38.48 264 P **P** 12 57 39.0 +0.3
TNCH sP sP 12 57 43.5 -1.6
TNCH pmax pmax
comp=Z,12nm,0.5s
DGZ Jazzator, Alta 40.27 306*de*P **P** 12 57 54.3 +1.0
DGZ pmax pmax
comp=Z,12nm,0.8s
WMQ Urumqi 40.77 297 *e*P **P** 12 58 00.0 +2.6
WMQ sP sP 12 58 07.3 +3.4
WMQ pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 41.66 255 P **P** 12 58 04.3 -0.7
comp=Z,0.5nm,0.3s,baz=46,slow=4.8,SNR=4.8
comp=Z,0.5nm,0.3s
ZAA0 Zalesovo Array 41.75 312 P **P** 12 58 05.2 -0.1
ZAA0 lAmb lAmb 12 58 06.6
comp=Z,8.7nm,0.7s
ZALV Zalesovo Beam 41.75 312 P **P** 12 58 05.5 +0.2
comp=Z,7.1nm,0.6s,baz=86,slow=7.1,SNR=26
comp=Z,7.1nm,0.6s
MK31 Makanchi Array 44.01 302 P **P** 12 58 24.1 +0.3
MK31 lAmb lAmb 12 58 24.8
comp=Z,6.9nm,0.8s
MK31 Makanchi Array 44.01 302 *d*iP **P** 12 58 23.7 -0.1
MKAR Makanchi Array 44.01 302 P **P** 12 58 24.2 +0.4
comp=Z,6.7nm,0.7s,baz=88,slow=9.9,SNR=80
comp=Z,6.7nm,0.7s
MKAR Makanchi Array 44.01 302 P **P** 12 58 23.6 -0.2
MAKZ Makanchi 44.22 302 P **P** 12 58 25.7 +0.2
MAKZ lAmb lAmb 12 58 26.5
comp=Z,8.0nm,0.8s
MAKZ Makanchi 44.22 302 P **P** 12 58 25.7 +0.2
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 45.79 308 P **P** 12 58 37.7 -0.2
KURK Kurchatov 45.79 308*d*iP **P** 12 58 37.6 -0.2
KURK pmax pmax
comp=Z,26nm,1.3s
K20K Telida 46.00 34 P **P** 12 58 40.5 +1.2
TAPN Taplejung 46.00 274 *e*P **P** 12 58 40.1 -0.1
comp=Z,11nm,0.4s
IMAR Indian Mountai 46.32 31 P **P** 12 58 42.4 +0.6
RAMN Ramite 47.07 274 *e*P **P** 12 58 48.2 -0.3
comp=Z,18nm,0.7s
JIRN Jiri 47.07 275 *e*P **P** 12 58 48.6 -0.1
GUN Gumba 47.21 275 *e*P **P** 12 58 49.8 +0.1
comp=Z,8.3nm,0.4s
SRIT Nakonsritamara 47.47 244 P **P** 12 58 52.1 +0.7
MLY Manley 47.52 32 P **P** 12 58 52.6 +1.4
GKN Gorkha 48.15 276 *e*P **P** 12 58 56.7 -0.1
DANN Dangsing 48.69 277 *e*P **P** 12 59 01.3 +0.2
comp=Z,41nm,0.8s
ILAR Eielson Array 49.17 33 P **P** 12 59 04.5 +0.7
comp=Z,1.2nm,0.7s,baz=266,slow=6.3,SNR=19
comp=Z,1.2nm,0.7s
PYUN Piuthan 49.41 277 *e*P **P** 12 59 06.3 -0.2
BRVK Borovoye 50.47 312 P **P** 12 59 13.7 -0.2
BRVK Borovoye 50.47 312*ce*P **P** 12 59 13.6 -0.3
BRVK pmax pmax
comp=Z,10.0nm,2.5s
PSI Prapat 52.04 239 P **P** 12 59 26.2 -0.1
comp=Z,3.2nm,0.4s,baz=114,slow=7.1,SNR=3.8
comp=Z,3.2nm,0.4s
KK31 Karatay Array 53.03 300 P **P** 12 59 33.8 +0.5
KK31 Karatay Array 53.03 300 P **P** 12 59 33.8 +0.5
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 53.03 300 P **P** 12 59 33.1 -0.2
KKAR Karatay Array 53.03 300 P **P** 12 59 33.1 -0.2
KKAR pmax pmax
comp=Z,3.0nm,0.9s
EPYK Eagle Plains 53.19 30 P **P** 12 59 35.4 +1.3
INK Inuvik 54.05 27 P **P** 12 59 41.7 +1.5
comp=Z,1.4nm,0.6s,baz=301,slow=6.4,SNR=10
comp=Z,1.4nm,0.6s
NIL Nilore 54.59 288 P **P** 12 59 45.1 +0.2
NIL Nilore 54.59 288 P **P** 12 59 45.1 +0.2
NIL pmax pmax
comp=Z,7.0nm,0.6s
SVE Sverdlovsk 54.95 318 *e*P **P** 12 59 48.0 +1.0
SVE pmax pmax
comp=Z,11nm,1.0s
A36M Sachs Harbour 55.92 22 P **P** 12 59 55.0 +1.3
A36M lAmb lAmb 13 00 09.9
comp=Z,8.0nm,1.1s
ARU Arti 56.17 318 P **P** 12 59 56.0 +0.2
ARU Arti 56.17 318*d*iP **P** 12 59 55.8 0.0
ARU 13 00 50.8
ARU 13 02 04.1
ARU S **S** 13 07 45.8 +1.5
ARU SS **SS** 13 11 30.7 +0.5
ARU pmax pmax
comp=Z,20nm,1.2s
WB0 Warramunga Arr 57.22 188 P **P** 13 00 03.7 +0.1
WB0 lAmb lAmb 13 00 09.0
comp=Z,4.4nm,0.8s
WRAB Tennant Creek 57.39 188 P **P** 13 00 04.7 -0.1
WRAB lAmb lAmb 13 00 10.3
comp=Z,5.0nm,0.8s
WRAB Tennant Creek 57.39 188 *i*P P 13 00 09.9 +5.1
WR0 Warramunga Arr 57.40 188 P **P** 13 00 04.5 -0.3
WR0 lAmb lAmb 13 00 10.3
comp=Z,3.5nm,0.7s
WB2 Warramunga Arr 57.40 188 P **P** 13 00 05.0 +0.1
WB2 lAmb lAmb 13 00 10.3
comp=Z,4.1nm,0.8s
WRA Warramunga Arr 57.40 188 P **P** 13 00 04.2 -0.6
comp=Z,1.6nm,0.7s,baz=6.2,slow=7.3,SNR=21
comp=Z,1.6nm,0.7s
WRA Warramunga Arr 57.40 188 P **P** 13 00 04.3 -0.6
ABKAR Akbulak array 57.79 310 P **P** 13 00 07.1 -0.3
ABKAR Akbulak array 57.79 310 P **P** 13 00 07.3 -0.1
ABKAR lAmb lAmb 13 00 07.9
comp=Z,6.1nm,0.6s
EUNU Eureka 59.84 9 P **P** 13 00 21.3 0.0
EUNU lAmb lAmb 13 00 26.8
comp=Z,2.4nm,0.8s
KIRV Kirov 60.03 323*ce*P **P** 13 00 23.3 +0.5
ASAR Alice Springs 61.13 188 P **P** 13 00 30.8 +0.1
comp=Z,1.1nm,0.8s,baz=6.1,slow=5.5,SNR=13
comp=Z,1.1nm,0.8s
ASAR Alice Springs 61.13 188 P **P** 13 00 30.6 -0.1
YKA Yellowknife Ar 63.48 30 P **P** 13 00 46.9 +1.0
comp=Z,1.0nm,0.7s,baz=324,slow=8.6,SNR=1.6
comp=Z,1.0nm,0.7s
KLMR Klimovskoe 63.52 328 *e*P **P** 13 00 44.6 -1.7
KLMR AMP 13 00 57.3
comp=Z,25nm,2.2s
KLMR Klimovskoe 63.52 328 *e*P **P** 13 00 44.5 -1.7
KLMR pmax pmax
comp=Z,25nm,2.2s
BELG Belogornoye 63.61 317*d*iP **P** 13 00 46.8 -0.2
BELG pmax pmax
comp=Z,3.0nm,1.1s
ARCES ARCESS Array B 63.71 339 P **P** 13 00 47.6 +0.1
comp=Z,4.9nm,0.8s,baz=68,slow=8.0,SNR=8.3
comp=Z,4.9nm,0.8s
ARCES ARCESS Array B 63.71 339 P **P** 13 00 47.5 +0.1
GEYT Alibeck 63.75 299 P **P** 13 00 47.3 -0.9
comp=Z,6.2nm,0.9s,baz=29,slow=3.4,SNR=9.7
comp=Z,6.2nm,0.9s
GEYT Alibeck 63.75 299 P **P** 13 00 48.1 -0.1
GYA0B ALIBECK ARRAY 63.75 299 P **P** 13 00 48.3 +0.1
OBN Obninsk 67.88 323 *e*P **P** 13 01 13.1 -1.3
OBN *e* 13 01 42.3
OBN *e* 13 03 42.6
OBN *e*PPP PPP 13 05 20.5
OBN pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 68.56 332 P **P** 13 01 18.7 +0.1
comp=Z,7.3nm,0.9s,baz=32,slow=11,SNR=10
comp=Z,7.3nm,0.9s
STKA Stephens Creek 68.89 180 P **P** 13 01 20.7 -0.2
comp=Z,1.7nm,0.8s,baz=22,slow=11,SNR=3.4
comp=Z,1.7nm,0.8s
ZEI Tsey 70.65 309 *e*P **P** 13 01 30.7 -1.5
ZEI pmax pmax
comp=Z,6.0nm,1.4s
KBZ Khabaz 70.75 311 P **P** 13 01 33.2 +0.8
comp=Z,5.2nm,1.0s,baz=64,slow=3.7,SNR=8.7
comp=Z,5.2nm,1.0s
KBZ Khabaz 70.75 311*ce*P **P** 13 01 33.1 +0.7
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.75 311 *e*P **P** 13 01 33.9 +1.3
KIV pmax pmax
comp=Z,13nm,1.1s
WSAR Wadi Sarin 70.86 285 LR LR 13 34 52.6
comp=Z,43nm,18.3s,baz=146,slow=38
NWAO Narrogin (SRO) 73.51 201 P **P** 13 01 48.4 -0.5
comp=Z,5.0nm,0.7s,baz=34,slow=7.3,SNR=2.0
comp=Z,5.0nm,0.7s
NB2 NORSAR Subarra 73.91 337 P **P** 13 01 51.1 0.0
comp=Z,1.1nm,0.4s,baz=36,slow=6.2
NOA NORSAR Array B 73.91 337 P **P** 13 01 51.3 +0.2
comp=Z,1.3nm,0.5s,baz=39,slow=5.9,SNR=6.1
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 74.08 322 P **P** 13 01 51.9 -0.3
comp=Z,2.5nm,0.5s,baz=46,slow=6.1,SNR=19
comp=Z,2.5nm,0.5s
BOZ Bozeman (W) 74.44 44 P **P** 13 01 54.6 0.0
BOZ lAmb lAmb 13 02 02.4
comp=Z,3.3nm,0.9s
BOZ Bozeman (W) 74.44 44 P **P** 13 01 54.6 0.0
BOZ pmax pmax
comp=Z,3.0nm,1.0s
NVAR Mina Array Bea 74.72 53 P **P** 13 01 58.0 +1.5
comp=Z,1.3nm,0.8s,baz=292,slow=5.1,SNR=7.8
comp=Z,1.3nm,0.8s
NVAR Mina Array Bea 74.72 53 P **P** 13 01 57.5 +1.1
H17A Grant Village 75.77 45 P **P** 13 02 04.0 +1.5
H17A lAmb lAmb 13 02 12.6
comp=Z,7.7nm,1.1s
PDAR Pinedale Array 77.37 46 P **P** 13 02 12.3 +0.9
comp=Z,0.7nm,0.6s,baz=281,slow=2.1,SNR=7.8
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 78.69 312 P **P** 13 02 19.0 +0.2
comp=Z,0.9nm,0.7s,baz=336,slow=2.7,SNR=4.4
comp=Z,0.9nm,0.7s
STHS Stebnicka Huta 78.73 325 *e*P **P** 13 02 20.3 +1.6
STHS Stebnicka Huta 78.73 325 *e*P **P** 13 02 20.3 +1.6
DPC Dobruska-Polom 80.22 328 *e*P **P** 13 02 27.8 +1.0
DPC Dobruska-Polom 80.22 328 *e*P **P** 13 02 27.8 +1.0
CLL Collm 80.85 330 *e*PcP **PcP** 13 02 37.0 +0.4
CLL Collm 80.85 330 *e*P **P** 13 02 30.0 0.0
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 80.85 330 *e*P **P** 13 02 30.0 0.0
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 82.30 328 *e*P **P** 13 02 38.5 +0.7
KHC Kasperske Hory 82.30 328 *e*P **P** 13 02 38.5 +0.7
GERES GERESS Array B 82.47 328 P **P** 13 02 39.0 +0.2
comp=Z,1.6nm,0.9s,baz=46,slow=5.8,SNR=8.7
comp=Z,1.6nm,0.9s
GERES GERESS Array B 82.47 328 P **P** 13 02 39.0 +0.2
FUORN Ofenpass-Fuorn 85.66 329 P **P** 13 02 55.9 +0.7
FUORN lAmb lAmb 13 02 56.4
comp=Z,3.2nm,0.9s
TXAR Lajitas Array 89.85 52 P **P** 13 03 16.4 +0.8
comp=Z,0.7nm,0.6s,baz=305,slow=2.9,SNR=13
comp=Z,0.7nm,0.6s
LPAZ La Paz 146.45 59 PKPbc **PKPbc** 13 09 59.0 +0.4
comp=Z,0.8nm,0.5s,baz=218,slow=3.5,SNR=7.2
H03N2 Juan Fernandez 146.97 96 T T 15 54 04.9
baz=291,slow=76,SNR=42
H03N3 Juan Fernandez 146.98 96 T T 15 54 19.6
baz=291,slow=76,SNR=40
H03N1 Juan Fernandez 146.99 96 T T 15 54 22.5
baz=291,slow=76,SNR=40

DNK ***27*** *12:59:54.3±0.5, 58°.93N×17°.99E, h0km, ML1.6(UPP), Explosion*

UPP 27 12:59:54.0±0.1, 58°.94N×17°.98E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.07**	**9**	P	Pg	12 59 55.6	+0.3
NYNU				S	Sg	12 59 56.7	+0.6
NYNU	**Nynaeshamn**	**0.07**	**9**	P	Pg	12 59 55.6	+0.3
NYNU				S	Sg	12 59 56.7	+0.6
VIKU	**Vikbolandet**	**0.80**	**237**	P	Pg	13 00 09.2	-0.1
VIKU	**Vikbolandet**	**0.80**	**237**	P	Pg	13 00 09.2	-0.1
NRTU	**Norrtaelje**	**0.81**	**24**	P	Pg	13 00 09.2	-0.3
NRTU	**Norrtaelje**	**0.81**	**24**	P	Pg	13 00 09.2	-0.3
ESKU	**Eskilstuna**	**0.87**	**290**	P	Pg	13 00 10.1	-0.6
ESKU	**Eskilstuna**	**0.87**	**290**	P	Pg	13 00 10.1	-0.6
FIBU	**Brunna**	**1.02**	**342**	P	Pg	13 00 13.1	-0.4
FIBU	**Brunna**	**1.02**	**342**	P	Pg	13 00 13.1	-0.4
BACU	**Backbrunna**	**1.02**	**334**	P	Pg	13 00 13.0	-0.5
BACU				S	Sg	13 00 27.2	+0.5
BACU	**Backbrunna**	**1.02**	**334**	P	Pg	13 00 13.0	-0.5
BACU				S	Sg	13 00 27.2	+0.5
FLYU	**Flymyra**	**1.19**	**358**	P	Pg	13 00 16.4	-0.5
FLYU				S	Sg	13 00 31.9	-0.4
FLYU	**Flymyra**	**1.19**	**358**	P	Pg	13 00 16.4	-0.5
FLYU				S	Sg	13 00 31.9	-0.4
GOTU	**Gotland**	**1.29**	**166**	P	Pg	13 00 17.7	-1.1
GOTU	**Gotland**	**1.29**	**166**	P	Pg	13 00 17.7	-1.1
OSTU	**Oestervaala**	**1.36**	**342**	P	Pg	13 00 19.4	-0.7
OSTU	**Oestervaala**	**1.36**	**342**	P	Pg	13 00 19.4	-0.7
GRAU	**Graesoe**	**1.43**	**11**	P	Pn	13 00 20.5	-0.7
GRAU	**Graesoe**	**1.43**	**11**	P	Pn	13 00 20.5	-0.7
AAL	**Aland**	**1.61**	**39**	P	Pn	13 00 23.5	-0.1

*KRNET **27** 13:02:06.6±0.1, 39.°19N×74.°46E, mb3.6*
*SOME **27** 13:02:07.1, 39.°38N×74.°27E, h0km*
*NNC **27** 13:02:08.8±3.4, 39.°30N×74.°63E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=26.5km s-min=14.0km az=169.0*
ISC 27 13:02:07.7±1.8, 39°42N±0.°07×74°32E±0.°04, h6km±14km, n26, σ2s16/46, 12C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.61**	**314**	⇑*i*P	**Pg**	**13 02 40.6**	**+2.0**
	baz=17						
OHH				⇑*i*S	**Sg**	**13 03 05.4**	**+5.9**
	baz=17						
DRK	**Karamyk**	**1.95**	**273**	⇑e P	**Pg**	**13 02 43.8**	**-1.3**
	baz=79						
DRK				⇑*i*S	**Sg**	**13 03 10.9**	**+0.6**
	baz=79						
NRN	**Naryn**	**2.39**	**32**	⇑e P	**Pb**	**13 02 49.8**	**-1.5**
	baz=27						
NRN				⇑*i*S	**Sb**	**13 03 21.3**	**+0.2**
	baz=27						
ARLS	**Aral**	**2.44**	**0**	⇑e P	**Pb**	**13 02 52.0**	**0.0**
	baz=58						
ARLS				⇑*i*S	**Sg**	**13 03 25.1**	**-1.0**
	baz=58						
BTK	**Batken**	**2.77**	**284**	⇓e P	**Pb**	**13 02 55.6**	**-2.1**
	baz=88						
BTK				⇓*i*S	**Sb**	**13 03 31.4**	**-0.5**
	baz=88						
TRKS	**Terek-Say**	**3.21**	**312**	⇑e P	**Pb**	**13 03 02.0**	**-3.2**
	baz=13						
TRKS				⇑e S	**Sb**	**13 03 42.3**	**-2.3**
	baz=13						
BOOM	**Boomskoye usch**	**3.30**	**21**	⇓e P	**Pb**	**13 03 03.4**	**-3.4**
	baz=18						
BOOM				⇓*i*S	**Sb**	**13 03 44.7**	**-2.6**
	baz=18						
MRKS	**Merke**	**3.42**	**346**	*e*P	**Pg**	**13 03 11.9**	**-1.3**
	27nm,0.3s						
MRKS				*e*S	**Sg**	**13 03 58.7**	**+1.0**
	20nm,0.6s						
CHMS	**Chumysh**	**3.59**	**5**	Pg	Pg	13 03 27.2	+11
	86nm,0.1s						
CHMS				Lg	Lg	13 04 23.4	
	207nm,0.2s						
KST	**Kastek**	**3.83**	**18**	*e*P	**Pb**	**13 03 17.4**	**+1.8**
	9.0nm,0.4s						
KST				*e*S	**Sg**	**13 04 07.3**	**-3.3**
	42nm,0.6s						
KST	**Kastek**	**3.83**	**18**	Pg	**Pb**	**13 03 18.4**	**+2.7**
	9.0nm,0.4s						
KST				Lg	Lg	13 04 08.5	
	42nm,0.6s						
DGS	**Degeres**	**3.97**	**16**	*e*P	**Pg**	**13 03 21.4**	**-2.4**
	17nm,0.1s						
DGS				*e*S	**Sg**	**13 04 16.6**	**+1.3**
	28nm,0.4s						
MTBS	**Maitube**	**4.03**	**23**	*e*P	**Pg**	**13 03 23.0**	**-2.0**
	12nm,0.5s						
MTBS				*e*S	**Sg**	**13 04 18.3**	**+1.0**
	16nm,0.4s						
MTBS	**Maitube**	**4.03**	**23**	Pg	**Pg**	**13 03 24.8**	**-0.1**
	6.4nm,0.6s						
MTBS				Lg	Lg	13 04 19.7	
	16nm,0.4s						
SGDS	**Sogindy**	**4.04**	**3**	*e*P	**Pg**	**13 03 23.1**	**-1.9**
	3.6nm,0.4s						
SGDS				*e*S	**Sg**	**13 04 19.4**	**+2.1**
	15nm,0.6s						
TNSS	**Tian-Shan**	**4.12**	**28**	*e*P	**Pb**	**13 03 23.5**	**+2.6**
	8.8nm,0.5s						
TNSS				*e*S	**Sg**	**13 04 21.1**	**+0.9**
	12nm,1.1s						
TNSS	**Tian-Shan**	**4.12**	**28**	Pg	**Pg**	**13 03 26.7**	**0.0**
	7.3nm,0.3s						
TNSS				Lg	Lg	13 04 22.9	
	12nm,1.1s						
MDOK	**Medeo**	**4.27**	**28**	*e*P	**Pb**	**13 03 25.5**	**+2.3**
	8.5nm,0.6s						
MDOK				*e*S	**Sg**	**13 04 23.9**	**-0.9**
	24nm,0.8s						
MDOK	**Medeo**	**4.27**	**28**	Pg	**Pb**	**13 03 25.0**	**+1.7**
	8.7nm,0.6s						
MDOK				Pg	**Pg**	**13 03 28.0**	**-1.5**
	5.5nm,0.2s						
MDOK				Lg	Lg	13 04 23.3	
	31nm,0.8s						
MDOK				Lg	Lg	13 04 25.1	
	24nm,0.8s						
KOTS	**Kotyrbulak**	**4.35**	**28**	*e*P	**Pb**	**13 03 27.4**	**+2.8**
	6.3nm,0.6s						
KOTS				*e*S	**Sg**	**13 04 27.0**	**-0.5**
	67nm,1.2s						
KOTS	**Kotyrbulak**	**4.35**	**28**	Pg	**Pg**	**13 03 29.9**	**-1.2**
	6.3nm,0.6s						
KOTS				Lg	Lg	13 04 28.4	
	67nm,1.2s						
KRBS	**Karabastau**	**4.39**	**13**	*e*P	**Pg**	**13 03 29.9**	**-2.0**
	7.2nm,0.0s						
KRBS				*e*S	**Sg**	**13 04 29.9**	**+1.1**
	14nm,0.8s						
KTBS	**Karatobe**	**4.64**	**22**	*e*P	**Pg**	**13 03 33.8**	**-2.8**
	8.5nm,0.4s						
KTBS				*e*S	**Sg**	**13 04 37.8**	**+1.1**
	36nm,0.1s						
KTBS	**Karatobe**	**4.64**	**22**	Pg	**Pg**	**13 03 35.4**	**-1.2**
	8.5nm,0.4s						
KTBS				Lg	Lg	13 04 37.8	
	36nm,0.1s						
KK31	**Karatay Array**	**4.67**	**323**	Pn	**Pn**	**13 03 22.1**	**+3.5**
	1.5nm,0.4s,baz=136,slow=13,SNR=17						
KK31				⇓Pg	**Pg**	**13 03 35.3**	**-1.7**
	3.1nm,0.5s,baz=141,slow=17,SNR=8.4						
KK31				⇓Sn	**Sb**	**13 04 23.6**	**-2.7**
	6.0nm,0.7s						
KK31				⇑Lg	Lg	13 04 42.8	
	4.4nm,0.6s,baz=135,slow=27						
PDGK	**Podgornoye**	**5.51**	**43**	⇑Pn	**Pn**	**13 03 31.1**	**+0.7**
	4.8nm,0.9s						
PDGK				Pg	**Pb**	**13 03 45.8**	**+1.4**
	13nm,0.8s						
PDGK				Lg	Lg	13 05 00.4	
	42nm,1.4s						

MAN 27 13:12:14.6, 13.°58N×120.°63E, h114km, mb3.5, ML2.2, MS1.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**292**	⇑e P	Pn	13 12 33.2	+1.9
LUBP				e S	Sn	13 12 46.6	+2.7

*GUC **27** 13:15:22.3±0.8, 21.°13S×67.°48W, h193km±9km, ML3.3*

*SCB **27** 13:15:23.7±0.9, 21.°12S×67.°43W, h178km±8km, ML3.1/4, Error ellipse: s-maj=3.6km s-min=2.3km az=0.0*
*IDC **27** 13:15:23.2±8.4, 20.°88S×67.°04W, h205km±72km, mbtmp3.7/2, Error ellipse: s-maj=119.2km s-min=33.1km az=176.0*
ISC 27 13:15:20.4±1.0, 21°08S±0.°04×67°37W±0.°05, h184km±9km, n36, σ1s70/58, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.62**	**96**	P	**Pn**	**13 15 56.1**	**+1.7**
MOCB				S	**Sn**	**13 16 20.0**	**-0.6**
MOCB				IAML		13 16 22.7	
	202nm,0.4s						
PB09	**IPOC Station P**	**1.89**	**247**	*e*P	**Pn**	**13 15 58.2**	**+1.5**
PB09				*i*S	**Sn**	**13 16 26.0**	**+1.1**
PB08	**IPOC Station P**	**1.91**	**299**	⇑*i*P	**Pn**	**13 15 58.8**	**+1.6**
PB08				*i*S	**Sn**	**13 16 27.2**	**+1.5**
PB08				IAML		13 16 31.1	
	comp=E,79nm,0.5s						
PB01	**IPOC Station P**	**1.98**	**271**	*e*P	**Pn**	**13 15 58.4**	**+0.8**
PB01				*i*S	**Sn**	**13 16 26.1**	**-0.3**
PB01				IAML		13 16 29.4	
	comp=E,71nm,0.3s						
YJA	**Yavi**	**2.04**	**123**	P	**Pn**	**13 16 00.0**	**+1.3**
LVC	**Limon Verde**	**2.09**	**223**	*e*P	**Pn**	**13 16 00.2**	**+1.1**
LVC				*i*S	**Sn**	**13 16 29.0**	**-0.2**
LVC	**Limon Verde**	**2.09**	**223**	P	**Pn**	**13 16 00.4**	**+1.3**
GO01	**Chusmiza**	**2.21**	**309**	*e*P	**Pn**	**13 16 01.8**	**+1.2**
GO01				*i*S	**Sn**	**13 16 33.2**	**+1.5**
GO01				IAML		13 16 41.4	
GO01	**Chusmiza**	**2.21**	**309**	P	**Pn**	**13 16 01.7**	**+1.1**
PB02	**IPOC Station P**	**2.37**	**264**	*e*P	**Pn**	**13 16 02.7**	**+0.8**
PB02				*i*S	**Sn**	**13 16 33.3**	**-0.9**
PB02				IAML		13 16 34.8	
	comp=N,144nm,0.4s						
PB02	**IPOC Station P**	**2.37**	**264**	P	**Pn**	**13 16 02.7**	**+0.8**
PB02				S	**Sn**	**13 16 30.7**	**-3.5**
PB02				IAML		13 16 34.6	
	comp=N,102nm,0.4s						
PB03	**IPOC Station P**	**2.42**	**246**	*e*P	**Pn**	**13 16 03.1**	**+0.5**
PB03				*i*S	**Sn**	**13 16 34.2**	**-1.2**
PB03				IAML		13 16 35.0	
	comp=E,74nm,0.4s						
PB07	**IPOC Station P**	**2.43**	**254**	*e*P	**Pn**	**13 16 03.5**	**+0.8**
PB07				*i*S	**Sn**	**13 16 34.3**	**-1.3**
PB07				IAML		13 16 36.7	
	comp=E,72nm,0.3s						
PB11	**IPOC Station P**	**2.51**	**301**	⇑*i*P	**Pn**	**13 16 04.2**	**+0.6**
PB11				*i*S	**Sn**	**13 16 36.8**	**-0.4**
PB06	**IPOC Station P**	**2.61**	**231**	P	**Pn**	**13 16 05.0**	**+0.2**
PB06				S	**Sn**	**13 16 35.3**	**-4.0**
PB06				IAML		13 16 39.9	
	comp=E,46nm,0.6s						
PATCX	**Punta Patache**	**2.61**	**275**	*e*P	**Pn**	**13 16 05.4**	**+0.7**
PATCX				*i*S	**Sn**	**13 16 37.9**	**-1.3**
PATCX				IAML		13 16 39.6	
	comp=E,117nm,0.3s						
TA01	**Diego Aracena**	**2.68**	**280**	*e*P	**Pn**	**13 16 05.4**	**0.0**
TA01				*i*S	**Sn**	**13 16 38.6**	**-1.8**
TA01				IAML		13 16 40.0	
	comp=E,154nm,0.3s						
TA01	**Diego Aracena**	**2.68**	**280**	P	**Pn**	**13 16 05.6**	**+0.2**
TA02	**Huaiquique**	**2.71**	**287**	P	**Pn**	**13 16 06.4**	**+0.7**
MNMC	**Minye Minye**	**2.85**	**312**	⇑*i*P	**Pn**	**13 16 08.9**	**+1.2**
MNMC				*i*S	**Sn**	**13 16 44.8**	**+0.2**
PB04	**IPOC Station P**	**2.87**	**244**	*e*P	**Pn**	**13 16 07.9**	**+0.1**
PB04				*i*S	**Sn**	**13 16 42.5**	**-2.3**
PB04				IAML		13 16 45.5	
	comp=E,51nm,0.7s						
PB04	**IPOC Station P**	**2.87**	**244**	P	**Pn**	**13 16 09.1**	**+1.2**
PB04				S	**Sn**	**13 16 40.6**	**-4.2**
PB04				IAML		13 16 46.0	
	comp=E,29nm,0.2s						
PB15	**IPOC Station P**	**2.88**	**222**	*e*P	**Pn**	**13 16 09.3**	**+1.3**
PB15				*i*S	**Sn**	**13 16 44.3**	**-0.9**
PB15	**IPOC Station P**	**2.88**	**222**	P	**Pn**	**13 16 08.4**	**+0.4**
PSGC	**Pisagua**	**2.97**	**299**	*e*P	**Pn**	**13 16 08.8**	**-0.3**
PSGC				*i*S	**Sn**	**13 16 44.6**	**-2.3**
PSGC				IAML		13 16 47.5	
	comp=E,89nm,0.4s						
PB16	**IPOC Station P**	**3.39**	**323**	⇑*i*P	**Pn**	**13 16 16.5**	**+1.8**
PB16				*i*S	**Sn**	**13 16 58.8**	**+1.9**
PB16				IAML		13 17 00.6	
	comp=E,71nm,0.4s						
PB12	**IPOC Station P**	**3.71**	**311**	*e*P	**Pn**	**13 16 17.0**	**-1.1**
PB12				*i*S	**Sn**	**13 16 59.8**	**-3.4**
SOEJ	**Jacaque**	**4.15**	**349**	P	**Pn**	**13 16 25.5**	**+1.4**
GO02	**Mina Guanaco**	**4.55**	**206**	P	**Pn**	**13 16 28.9**	**-0.1**
BBOD	**La Paz, Gloria**	**4.57**	**345**	P	**Pn**	**13 16 31.0**	**+1.6**
LPAZ	**La Paz**	**4.82**	**351**	P	**Pn**	**13 16 34.4**	**+1.6**
	comp=E,4.4nm,0.4s,baz=168,slow=6.6,SNR=51						
LPAZ	**La Paz**	**4.82**	**351**	P	**Pn**	**13 16 34.5**	**+1.8**
SIV	**San Ignacio**	**7.83**	**51**	P	**Pn**	**13 17 09.6**	**-1.9**
	comp=E,2.2nm,0.4s,baz=245,slow=9.8,SNR=18						
SIV				S	**Sn**	**13 18 34.4**	**-5.1**
	comp=E,1.2nm,0.6s,baz=247,slow=5.1,SNR=3.7						
ASAR	**Alice Springs**	**130.94**	**206**	PKP	**PKPdf**	**13 34 11.0**	**+0.1**
	comp=E,0.1nm,0.5s,baz=147,slow=2.2,SNR=1.3						
WRA	**Warramunga Arr**	**134.03**	**209**	PKP	**PKPdf**	**13 34 16.8**	**+0.1**
	comp=E,0.3nm,1.0s,baz=146,slow=1.8,SNR=2.4						
MKAR	**Makanchi Array**	**144.44**	**37**	PKP	**PKPab**	**13 34 34.1**	**+0.5**
	comp=E,0.7nm,0.6s,baz=328,slow=2.5,SNR=10						

WEL 27 13:22:16.9±0.3, 43.°3S±2.°×17.°3E±.°, h5km, M3.5/29, ML3.8/16, MLv3.5/29, Error ellipse: s-maj=0.0km s-min=0.0km az=131.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**62**	P	Pg	13 22 20.8	+0.4
KHZ				S	Sg	13 22 23.8	+0.9
GVZ	**Greta Valley S**	**0.51**	**204**	P	Pb	13 22 27.8	-0.6
GVZ				S	Sb	13 22 35.7	-0.4
THZ	**Tophouse**	**0.80**	**337**	P	Pg	13 22 32.7	+0.5
THZ				S	Sg	13 22 42.9	+0.3
LTZ	**Lake Taylor**	**0.82**	**250**	P	Pb	13 22 33.2	-0.5
LTZ				S	Sg	13 22 44.1	+0.8
AMCZ	**Amberley**	**0.83**	**216**	P	Pb	13 22 33.4	-0.5
BSWZ	**Blackbirch Sta**	**0.89**	**28**	P	Pb	13 22 34.3	-0.4
TUWZ	**Tuamarina**	**1.17**	**24**	P	Pg	13 22 39.1	-0.1
MRNZ	**Matariki Terra**	**1.18**	**339**	P	Pg	13 22 39.5	+0.1
OKCZ	**Okains Bay**	**1.24**	**189**	P	Pg	13 22 38.5	-2.0
OXZ	**Oxford**	**1.25**	**228**	P	Pg	13 22 38.9	-2.0
NNZ	**Nelson**	**1.28**	**2**	P	Pn	13 22 41.1	-0.4
MQZ	**McQueen's Vall**	**1.30**	**202**	P	Pn	13 22 38.7	-2.9
DSZ	**Dennisten Nort**	**1.36**	**303**	P	Pn	13 22 42.0	-0.5
AKCZ	**Akaroa Harbour**	**1.40**	**192**	P	Pn	13 22 40.6	-2.5
INZ	**Inchbonnie**	**1.40**	**260**	P	Pn	13 22 41.9	-1.2
TCW	**Tory Channel**	**1.47**	**29**	P	Pn	13 22 42.7	-1.3
TKNZ	**Takaka Hill**	**1.49**	**349**	P	Pn	13 22 44.4	+0.1
RACZ	**Rakaia**	**1.50**	**215**	P	Pn	13 22 41.9	-2.5
WEL	**Wellington**	**1.63**	**42**	P	Pn	13 22 44.9	-1.3
MHCZ	**Mount Hutt**	**1.65**	**231**	P	Pn	13 22 44.3	-2.2
PLWZ	**Palliser**	**1.72**	**58**	P	Pn	13 22 45.0	-2.5
DUWZ	**D'Urville Isla**	**1.76**	**15**	P	Pn	13 22 47.8	-0.2
QRZ	**Quartz Range**	**1.78**	**340**	P	Pn	13 22 48.7	+0.5
MSWZ	**Moikau Station**	**1.80**	**54**	P	Pn	13 22 46.1	-2.5
WACZ	**Wakanui South**	**1.80**	**216**	P	Pn	13 22 46.0	-2.5
CAW	**Cannon Point**	**1.91**	**44**	P	Pn	13 22 48.0	-2.0
PAWZ	**Paruwai Farm**	**1.93**	**55**	P	Pn	13 22 47.6	-2.7
WVZ	**Waitaha Valley**	**1.99**	**252**	P	Pn	13 22 50.2	-0.9
KIW	**Kapiti Island**	**2.03**	**37**	P	Pn	13 22 50.5	-1.9
RPZ	**Rata Peaks**	**2.06**	**233**	P	Pn	13 22 49.9	-2.2
TRWZ	**Traveller**	**2.08**	**59**	P	Pn	13 22 50.5	-1.9
MTW	**Mount Morrison**	**2.11**	**51**	P	Pn	13 22 50.4	-2.4
OGWZ	**Otaki Gorge**	**2.18**	**40**	P	Pn	13 22 52.0	-1.8
GCSZ	**Gaunt Creek Bo**	**2.34**	**249**	P	Pn	13 22 55.3	-0.7
TMWZ	**Te Maipa**	**2.37**	**55**	P	Pn	13 22 55.4	-1.1
MRZ	**Mangatainoka R**	**2.50**	**43**	P	Pn	13 22 56.3	-1.9
TMZ	**Timaru**	**2.53**	**221**	P	Pn	13 22 56.1	-2.4
FOZ	**Fox Glacier**	**2.77**	**247**	P	Pn	13 23 02.0	+0.2
BFZ	**Birch Farm**	**2.85**	**51**	P	Pn	13 22 58.8	-4.2
LBZ	**Lake Benmore**	**2.96**	**229**	P	Pn	13 23 02.5	-2.0
WAZ	**Wanganui**	**3.02**	**25**	P	Pn	13 23 06.4	+1.1
ODZ	**Otahua Downs**	**3.20**	**216**	P	Pn	13 23 05.0	-2.7
KHEZ	**Kahui Hut**	**3.25**	**10**	P	Pb	13 23 12.9	-2.1
NBEZ	**Newall Road No**	**3.26**	**8**	P	Pb	13 23 12.8	-2.3
PRHZ	**Porangahau**	**3.35**	**49**	P	Pn	13 23 10.1	+0.3
PNHZ	**Pukenui**	**3.38**	**41**	P	Pn	13 23 10.8	+0.5
WPHZ	**Waipukurau**	**3.38**	**45**	P	Pn	13 23 09.5	-0.8
MOVZ	**Moawhango**	**3.60**	**32**	P	Pb	13 23 17.9	-3.1
WNVZ	**Wahianoa**	**3.61**	**29**	P	Pn	13 23 14.2	+0.6
TRVZ	**Turoa**	**3.62**	**29**	P	Pb	13 23 18.1	-3.4
WHVZ	**Whangaehu Hut**	**3.65**	**29**	P	Pb	13 23 19.1	-2.8
BHHZ	**Black Hill Sta**	**3.66**	**36**	P	Pn	13 23 14.4	+0.3
JCZ	**Jackson Bay**	**3.67**	**243**	P	Pn	13 23 13.2	-1.1
NGZ	**Ngauruhoe**	**3.75**	**28**	P	Pn	13 23 17.9	+2.5
OTVZ	**Oturere**	**3.78**	**29**	P	Pn	13 23 16.6	+0.7
NNVZ	**North Ngauruho**	**3.79**	**28**	P	Pn	13 23 20.0	+3.9
WTVZ	**West Tongariro**	**3.79**	**28**	P	Pb	13 23 20.6	-3.8
HIZ	**Hauiti**	**4.15**	**17**	P	Pn	13 23 21.4	+0.5
MRHZ	**Matea Rd**	**4.36**	**34**	P	Pn	13 23 20.5	-3.2
ALRZ	**Allen Road**	**4.56**	**31**	P	Pn	13 23 24.0	-2.5
MLZ	**Mavora Lakes**	**4.72**	**231**	P	Pn	13 23 26.6	-2.1
TOZ	**Tahuroa Road**	**5.05**	**20**	P	Pn	13 23 32.3	-0.8
AWAZ	**Awhitu Peninsu**	**5.53**	**11**	P	Pn	13 23 40.1	+0.4
MKAZ	**Moumakai**	**5.57**	**15**	P	Pn	13 23 40.3	-0.1
ETAZ	**East Tamaki Re**	**5.68**	**13**	P	Pn	13 23 42.0	+0.1
MBAZ	**Motutapu North**	**5.85**	**13**	P	Pn	13 23 46.0	+1.7

ROM 27 13:36:29.3±0.2, 42.°751N±0.°008×13.°10E±0.°02, h11km±3km, ML1.3/4, 3C-6D, Error ellipse: s-maj=1.2km s-min=1.2km az=251.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1218	**Civita (PG)**	**0.08**	**174**	AML	AML		
	comp=E,216μm,0.6s						
T1218				AML	AML		
	comp=N,446μm,0.2s						
T1218				AML	AML		
	comp=E,190μm,0.2s						
T1218				AML	AML		
	comp=N,462μm,0.2s						
NRCA	**Norcia**	**0.08**	**5**	⇓P	Pg	13 36 32.4	+0.5
NRCA				S	Sg	13 36 34.2	+0.4
NRCA				AML	AML		
	comp=E,1335μm,0.1s						
NRCA				AML	AML		
	comp=N,768μm,1.5s						
NRCA				AML	AML		
	comp=E,1335μm,0.1s						
NRCA				AML	AML		
	comp=N,768μm,1.5s						
NRCA				AML	AML		
	comp=E,1335μm,0.1s						
NRCA				AML	AML		
	comp=N,768μm,1.5s						
T1216	**Preci, Frazion**	**0.15**	**336**	P	Pb	13 36 33.6	-0.6
T1216				AML	AML		
	comp=E,296μm,0.2s						
T1216				AML	AML		
	comp=N,254μm,0.1s						
T1216				AML	AML		
	comp=E,296μm,0.2s						
LNSS	**Leonessa**	**0.15**	**198**	P	Pb	13 36 34.3	0.0
LNSS				S	Sg	13 36 37.6	+2.2
LNSS				AML	AML		
	comp=E,54μm,1.2s						
LNSS				AML	AML		
	comp=E,54μm,1.2s						
LNSS				AML	AML		
	comp=N,177μm,1.5s						
MC2	**Monte Cornacci**	**0.17**	**22**	P	Pg	13 36 33.6	+0.3
MC2				S	Sg	13 36 36.9	+0.9
T1215	**Vallo di Nera,**	**0.18**	**287**	⇓P	Pg	13 36 32.3	-1.0
T1215				AML	AML		
	comp=E,119μm,1.5s						
T1215				AML	AML		
	comp=N,95μm,0.8s						
T1215				AML	AML		
	comp=E,120μm,1.5s						
T1215				AML	AML		
	comp=N,95μm,0.8s						
SMA1	**SAN MARTINO**	**0.21**	**125**	P	Pg	13 36 34.2	+0.4
SMA1				S	Sg	13 36 37.6	+0.8
SMA1				AML	AML		
	comp=E,151μm,1.2s						
SMA1				AML	AML		
	comp=N,119μm,0.2s						
MMO1	**Montemonaco**	**0.22**	**48**	P	Pg	13 36 34.0	0.0
MMO1				S	Sg	13 36 37.4	+0.2
RM33	**Pellescritta (**	**0.26**	**161**	P	Pb	13 36 35.3	-0.6
RM33				S	Sb	13 36 39.9	-0.6
RM33				AML	AML		
	comp=E,64μm,0.6s						
RM33				AML	AML		
	comp=N,66μm,0.2s						
RM33				AML	AML		
	comp=N,66μm,0.2s						
T1243	**Rocca Santa Ma**	**0.26**	**102**	P	Pg	13 36 34.6	0.0
T1256	**Bolognola (MC)**	**0.27**	**19**	⇑P	Pg	13 36 35.1	+0.2
T1256	**Bolognola (MC)**	**0.27**	**19**	⇑P	Pg	13 36 35.1	+0.2
T1256				S	Sg	13 36 39.1	+0.4
T1256				AML	AML		
	comp=E,91μm,0.7s						
T1256				AML	AML		
	comp=N,80μm,0.8s						
T1256				AML	AML		
	comp=E,91μm,0.7s						
T1256				AML	AML		
	comp=N,80μm,0.8s						
T1256				AML	AML		
	comp=N,80μm,0.8s						
T1256				AML	AML		
	comp=E,91μm,0.7s						
T1211	**Morro Reatino**	**0.28**	**220**	P	Pb	13 36 36.6	+0.2
FDMO	**Fiordimonte**	**0.29**	**358**	⇓P	Pg	13 36 35.5	+0.4
FDMO	**Fiordimonte**	**0.29**	**358**	⇓P	Pg	13 36 35.5	+0.4
FDMO				S	Sg	13 36 40.0	+1.0
FDMO	**Fiordimonte**	**0.29**	**358**	AML	AML		
	comp=E,158μm,0.1s						
FDMO				AML	AML		
	comp=E,158μm,0.1s						
FDMO				AML	AML		
	comp=N,190μm,0.2s						
CESI	**CESI - Serrava**	**0.29**	**330**	P	Pb	13 36 36.0	-0.7
CESI				S	Sb	13 36 40.8	-0.8
CESI				AML	AML		
	comp=E,76μm,1.4s						
CESI				AML	AML		
	comp

	comp=E,102µm,1.1s							
TERO				AML	AML			
	comp=N,121µm,0.1s							
GIGS	**Gran Sasso**	**0.46**	**131**	P	Pg	13 36 38.3	0.0	
OFFI	**Offida**	**0.47**	**67**	P	Pg	13 36 39.0	+0.5	
OFFI				S	Sb	13 36 47.3	+0.9	
T0110	**Collepietro**	**0.72**	**136**	S	Sb	13 36 54.0	+0.1	
T0110	**Collepietro**	**0.72**	**136**	S	Sb	13 36 54.0	+0.1	
PE3	**Peglio**	**1.04**	**335**	S	Sn	13 37 05.0	+0.5	
PE3	**Peglio**	**1.04**	**335**	S	Sn	13 37 05.0	+0.5	

MAN ***27*** *13:36:48.6, 4.°59N× 126.°27E, h4km, mb4.8, ML3.7, MS3.6*
IDC ***27*** *13:36:50.0±2.7, 4.°57N× 126.°06E, h64km±25km, mb3.6/12, mbtmp3.9/13, ML4.4/1, MS2.2/2, Error ellipse: s-maj=42.2km s-min=13.1km az=69.0*
NEIC ***27*** *13:36:51.9±1.5, 4.°64N±0.°09× 126.°25E±0.°08, h72km±8km, mb4.3/20, Error ellipse: s-maj=14.4km s-min=10.4km az=207.0*
DJA ***27*** *13:36:53.1±0.5, 5.°1N±4.°× 12.°6E±.°, h49km±15km, M4.3/12, mb4.4/12, mB4.9/6, MLv4.3/12, Mw(mB)4.2/6*
ISC 27 13:36:53.7±0.5, **4.°53N**±0.°05× **126.°13E**±0.°07, **h100**km, **n57, σ1°56/63, mb4.1**/21, **4C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.03**	**216**	P	**Pn**	**13 37 13.3**	**-1.2**
GSPH	**General Santos**	**1.94**	**323**	⇑*i*P	**Pn**	**13 37 22.8**	**-2.9**
GSPH				*i*S	**Sn**	**13 37 48.1**	**-2.0**
DAV	**Davao City (W)**	**2.58**	**348**	P	**Pn**	**13 37 33.5**	**-0.5**
	99nm,0.4s,baz=50,slow=9.9,SNR=1.3						
DAV				LR	LR	13 37 59.6	
	comp=Z,23nm,20.8s,baz=180,slow=28						
KCP	**Kidapawan**	**2.67**	**337**	⇑*i*P	**Pn**	**13 37 34.1**	**-1.1**
KCP				*i*S	**Sn**	**13 38 10.1**	**+3.0**
BUKP	**Musuan**	**3.49**	**342**	⇑*e*P	**Pn**	**13 37 45.0**	**-1.1**
BUKP				*i*S	**Sn**	**13 38 30.4**	**+3.8**
BIPH	**Bislig**	**3.64**	**4**	⇑*i*P	**Pn**	**13 37 47.1**	**-0.9**
BIPH				*i*S	**Sn**	**13 38 34.0**	**+3.9**
TNTI	**Ternate**	**3.93**	**162**		**Pn**	**13 37 50.4**	**-1.6**
TNTI	**Ternate**	**3.93**	**162**	P	**Pn**	**13 37 51.0**	**-1.1**
GTOI	**Gorontalo**	**4.97**	**219**	P	**Pn**	**13 38 06.8**	**+0.7**
	0.1nm278nm12nm,0.4s						
LBMI	**Labuha**	**5.31**	**165**	P	**Pn**	**13 38 10.3**	**-0.5**
	0.3nm878nm26nm,0.4s						
TABP	**Talibon, Bohol**	**5.80**	**342**	⇓*e*P	**Pn**	**13 38 16.7**	**-0.7**
MRSI	**Marisa**	**5.81**	**226**	P	**Pn**	**13 38 19.4**	**+1.9**
	0.6nm2µm96nm,0.4s						
TOLI2	**Tolitoli**	**6.33**	**238**		**Pn**	**13 38 25.0**	**+0.4**
SANI	**Sanana**	**6.54**	**181**	P	**Pn**	**13 38 24.8**	**-2.6**
	0.1nm1µm12nm,0.5s						
APSI	**Ampana**	**7.02**	**220**	P	Pn	13 38 38.8	+4.8
	0.2nm38nm,0.6s						
SIJI	**Sorong**	**7.42**	**136**	P	**Pn**	**13 38 37.1**	**-2.3**
	6.0nm,0.3s,baz=333,slow=13,SNR=29						
SIJI				LR	LR	13 41 09.8	
	comp=Z,37nm,21.6s,baz=14,slow=35						
	25nm,0.5s						
MPSI	**Mapaga**	**7.49**	**236**	P	**Pn**	**13 38 41.9**	**+1.5**
	0.1nm7.5nm,0.5s						
MYLDM	**Lahad Datu**	**7.63**	**275**	Pn	**Pn**	**13 38 40.9**	**-1.4**
NLAI	**Namlea**	**7.78**	**173**	P	**Pn**	**13 38 42.5**	**-1.8**
AAI	**Ambon**	**8.42**	**166**	P	**Pn**	**13 38 52.3**	**-0.7**
	14nm,0.6s						
FAKI	**Fak Fak**	**9.60**	**140**		**Pn**	**13 39 06.8**	**-2.2**
FAKI	**Fak Fak**	**9.60**	**140**	P	**Pn**	**13 39 07.6**	**-1.5**
KSM	**Kuching**	**16.09**	**260**	Pn	**P**	**13 40 35.0**	**-0.7**
MTN	**Manton Dam**	**17.96**	**164**	P	**P**	**13 40 54.5**	**-1.9**
KNRA	**Kununurra**	**20.25**	**173**	P	**P**	**13 41 22.0**	**+0.8**
KNRA				IAmb	IAmb	13 41 23.2	
	comp=Z,32nm,1.4s						
MNAI	**Manna**	**24.78**	**249**	P	**P**	**13 42 06.1**	**-0.4**
COEN	**Coen**	**24.97**	**138**	P	**P**	**13 42 08.6**	**+0.4**
COEN				IAmb	IAmb	13 42 50.8	
	comp=Z,8.7nm,1.1s						
WB0	**Warramunga Arr**	**25.48**	**162**	P	**P**	**13 42 14.4**	**+1.6**
WB0				IAmb	IAmb	13 42 37.5	
	comp=Z,6.1nm,0.8s						
WRAB	**Tennant Creek**	**25.62**	**162**	P	**P**	**13 42 15.8**	**+1.8**
WRA	**Warramunga Arr**	**25.62**	**162**	P	**P**	**13 42 14.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=337,slow=10,SNR=30						
	comp=Z,1.3nm,0.6s						
WB2	**Warramunga Arr**	**25.63**	**162**	P	**P**	**13 42 15.7**	**+1.6**
MBWA	**Marble Bar**	**26.29**	**194**	P	**P**	**13 42 21.2**	**+1.1**
MBWA				IAmb	IAmb	13 42 21.5	
	comp=Z,6.8nm,0.8s						
PSA00	**Pilbara Seismi**	**26.66**	**193**	P	**P**	**13 42 24.2**	**+0.8**
PSA00				IAmb	IAmb	13 42 25.5	
	comp=Z,21nm,1.4s						
ASAR	**Alice Springs**	**29.03**	**165**	P	**P**	**13 42 44.3**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=344,slow=6.8,SNR=12						
ASAR				PcP	**PcP**	**13 45 52.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=2.9,slow=2.5,SNR=4.5						
ASAR				ScP	**ScP**	**13 49 27.7**	**+4.3**
	comp=Z,0.3nm,0.9s,baz=2.6,slow=4.1,SNR=4.4						
	comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.96**	**300**	P	**P**	**13 42 52.5**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=115,slow=7.8,SNR=4.1						
	comp=Z,0.6nm,0.5s						
PATS	**Pohnpei**	**32.10**	**84**	P	**P**	**13 43 10.1**	**-1.6**
KSRS	**Korea Array**	**32.81**	**3**	P	**P**	**13 43 17.4**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=180,slow=9.8,SNR=6.3						
	comp=Z,0.5nm,0.4s						
NWAO	**Narrogin (SRO)**	**38.20**	**192**	P	**P**	**13 44 05.1**	**+1.3**
BBOO	**Buckleboo**	**38.31**	**166**	P	**P**	**13 44 05.3**	**+0.6**
STKA	**Stephens Creek**	**39.09**	**159**	P	**P**	**13 44 11.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=326,slow=9.5,SNR=3.7						
	comp=Z,1.1nm,0.5s						
STKA	**Stephens Creek**	**39.09**	**159**	P	**P**	**13 44 11.3**	**+0.1**
KLR	**Kul'dur**	**44.79**	**5**	P	**P**	**13 44 56.7**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=191,slow=7.9,SNR=4.5						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**46.35**	**342**	P	**P**	**13 45 09.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=155,slow=9.3,SNR=1.9						
SONM				PcP	**PcP**	**13 46 43.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=156,slow=4.4,SNR=4.2						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**56.56**	**325**	PcP	**PcP**	**13 47 21.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=103,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**56.56**	**325**	P	**P**	**13 46 25.1**	**-0.9**
ZALV	**Zalesovo Beam**	**59.61**	**333**	P	**P**	**13 46 46.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=112,slow=6.4,SNR=1.9						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**60.75**	**327**	P	**P**	**13 46 54.3**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=130,slow=6.3,SNR=12						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**60.75**	**328**	P	**P**	**13 46 53.0**	**-1.8**
KURK				IAmb	IAmb	13 46 57.7	
	comp=Z,2.1nm,0.6s						
BVAR	**Borovoye Array**	**66.33**	**327**	P	**P**	**13 47 31.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=126,slow=9.1,SNR=4.3						
	comp=Z,0.4nm,0.3s						
TIXI	**Tiksi**	**67.06**	**1**	P	**P**	**13 47 35.3**	**-0.5**
TIXI				IAmb	IAmb	13 47 57.7	
	comp=Z,4.9nm,1.4s						
ARU	**Arti**	**73.94**	**328**	P	**P**	**13 48 17.2**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=128,slow=19,SNR=3.4						
	comp=Z,1.4nm,0.5s						
PMR	**Palmer**	**83.53**	**29**	P	**P**	**13 49 10.4**	**0.0**
H23K	**Yukon River**	**83.56**	**24**	P	**P**	**13 49 11.3**	**+0.7**
H23K				IAmb	IAmb	13 49 42.0	
	comp=Z,5.9nm,1.3s						
TOLK	**Toolik Lake Re**	**83.72**	**22**	P	**P**	**13 49 12.4**	**+1.1**
TOLK				IAmb	IAmb	13 49 19.9	
	comp=Z,2.7nm,1.1s						
H24K	**Noodor Dome**	**84.25**	**24**	P	**P**	**13 49 15.7**	**+1.6**
H24K				IAmb	IAmb	13 49 47.2	
	comp=Z,5.4nm,1.3s						
BMAR	**Burnt Mountain**	**85.57**	**23**	P	**P**	**13 49 21.6**	**+1.0**
ARCES	**ARCESS Array B**	**89.50**	**340**	P	**P**	**13 49 38.5**	**-0.9**
	comp=Z,6.1nm,0.9s,baz=50,slow=6.5,SNR=5.4						
	comp=Z,6.1nm,0.9s						

IDC ***27*** *14:02:47.8±2.3, 1.°80N× 128.°76E, h0km, mb3.2/3, mbtmp3.2/3, MS2.3/1, Error ellipse: s-maj=149.7km s-min=26.3km az=68.0*
DJA ***27*** *14:02:50.6±0.9, 2.°N±9.°× 12.°9E±.°, h10km, M3.5/7, mb3.8/2, mB5.9/1, MLv3.4/7, Mw(mB)5.5/1*
ISC 27 14:02:55.1±1.5, **1.°6N**±0.°2× **128.°6E**±0.°1, **h61**km, **n8, σ1°76/7, mb3.0/3, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.48**	**238**	P	**Pn**	**14 03 18.4**	**-1.1**
LBMI	**Labuha**	**2.46**	**207**	P	**Pn**	**14 03 32.0**	**-0.8**
SIJI	**Sorong**	**3.59**	**132**	LR	LR	14 05 25.1	
	comp=Z,44nm,19.6s,baz=168,slow=43						
NLAI	**Namlea**	**5.01**	**198**	P	**Pn**	**14 04 07.2**	**-0.5**
	0.1nm13µm4.3nm,0.6s						
FAKI	**Fak Fak**	**5.75**	**141**	P	**Pn**	**14 04 16.6**	**-1.3**
WRA	**Warramunga Arr**	**22.10**	**166**	P	**P**	**14 07 45.5**	**+0.1**
	0.3nm,0.5s,baz=346,slow=11,SNR=7.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**25.60**	**169**	P	**P**	**14 08 21.8**	**+2.9**
	0.4nm,0.8s,baz=352,slow=12,SNR=7.2						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**60.40**	**325**	P	**P**	**14 12 58.2**	**0.0**
	0.2nm,0.5s,baz=133,slow=7.3,SNR=5.5						
	0.2nm,0.5s						

IDC ***27*** *14:05:21.6±1.7, 39.°01N× 73.°91E, h0km, mb3.6/3, mbtmp3.5/5, ML2.7/2, MS2.6/1, Error ellipse: s-maj=40.0km s-min=27.8km az=93.0*
SOME ***27*** *14:05:24.3, 39.°22N× 74.°37E, h5km*
KRNET ***27*** *14:05:26.4±0.1, 39.°27N× 74.°11E, mb3.5*
NNC ***27*** *14:05:29.5±2.4, 39.°46N× 74.°46E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=18.0km s-min=9.2km az=166.0*
ISC 27 14:05:23.8±1.1, **39.°33N**±0.°06× **74.°36E**±0.°03, **h10**km, **n40, σ1°59/59, mb3.4/3, 12C-12D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.70**	**315**	⇑*i*P	**Pg**	**14 05 56.3**	**-0.1**
	baz=21						
OHH				⇑*i*S	**Sg**	**14 06 18.5**	**+0.1**
	baz=21						
NRN	**Naryn**	**2.44**	**30**	⇓*i*P	**Pg**	**14 06 10.9**	**+0.2**
	baz=33						
NRN				⇓*i*S	**Sg**	**14 06 43.7**	**+1.3**
	baz=33						
ARLS	**Aral**	**2.52**	**359**	⇓*i*P	**Pg**	**14 06 11.0**	**-1.2**
	baz=4.0						
ARLS				⇓*i*S	**Sg**	**14 06 43.9**	**-1.1**
	baz=4.0						
BTK	**Batken**	**2.83**	**286**	⇑*i*P	**Pb**	**14 06 12.4**	**-2.0**
	baz=88						
BTK				⇑*i*S	**Sn**	**14 06 45.6**	**+2.4**
	baz=88						
TRKS	**Terek-Say**	**3.29**	**313**	⇑*i*P	**Pb**	**14 06 19.0**	**-3.4**
	baz=15						
TRKS				⇑*i*S	**Sn**	**14 06 57.3**	**+2.4**
	baz=15						
AAK	**Ala-Archa**	**3.30**	**2**	LR	LR	14 07 60.0	
	comp=Z,77nm,20.3s,baz=201,slow=43						
BOOM	**Boomskoye usch**	**3.37**	**20**	⇑*i*P	**Pb**	**14 06 24.0**	**+0.2**
	baz=23						
BOOM				⇑*i*S	**Sb**	**14 07 05.8**	**+0.8**
	baz=23						
MRKS	**Merke**	**3.51**	**346**	*e*P	**Pg**	**14 06 30.2**	**-0.9**
	12nm,0.4s						
MRKS				*e*S	**Sg**	**14 07 16.1**	**-0.6**
	32nm,0.4s						
MRKS	**Merke**	**3.51**	**346**	Pg	**Pg**	**14 06 30.2**	**-0.9**
	12nm,0.4s						
MRKS				Lg	Lg	14 07 16.1	
	32nm,0.4s						
TARG	**Taragay, Kyrgy**	**3.55**	**47**	⇑*i*P	**Pb**	**14 06 27.4**	**+0.4**
	baz=48						
TARG				⇑*i*S	**Sb**	**14 07 11.4**	**+1.0**
	baz=48						
KST	**Kastek**	**3.90**	**18**	*e*P	**Pg**	**14 06 37.9**	**-0.6**
	7.8nm,0.0s						
KST				*e*S	**Sg**	**14 07 29.1**	**+0.1**
	26nm,0.5s						
KST	**Kastek**	**3.90**	**18**	Pg	**Pg**	**14 06 37.9**	**-0.6**
	7.8nm,0.0s						
KST				Lg	Lg	14 07 29.1	
	26nm,0.5s						
DGS	**Degeres**	**4.05**	**15**	*e*P	**Pg**	**14 06 40.4**	**-0.9**
	13nm,0.7s						
DGS				*e*S	**Sg**	**14 07 33.4**	**-0.3**
	20nm,1.2s						
DGS	**Degeres**	**4.05**	**15**	Pg	**Pg**	**14 06 40.4**	**-0.9**
	13nm,0.7s						
DGS				Lg	Lg	14 07 33.4	
	20nm,1.2s						
MTBS	**Maitube**	**4.10**	**22**	*e*P	**Pg**	**14 06 41.7**	**-0.7**
	4.0nm,1.0s						
MTBS				*e*S	**Sg**	**14 07 35.3**	**-0.2**
	11nm,0.9s						
MTBS	**Maitube**	**4.10**	**22**	Pg	**Pg**	**14 06 41.7**	**-0.7**
	4.0nm,1.0s						
MTBS				Lg	Lg	14 07 35.3	
	11nm,0.9s						
SGDS	**Sogindy**	**4.12**	**3**	*e*P	**Pg**	**14 06 43.6**	**+0.9**
	5.0nm,0.7s						
SGDS				*e*S	**Sg**	**14 07 39.1**	**+3.0**
	12nm,0.8s						
SGDS	**Sogindy**	**4.12**	**3**	Pg	**Pg**	**14 06 43.6**	**+0.9**
	5.0nm,0.7s						
SGDS				Lg	Lg	14 07 39.1	
	12nm,0.8s						
TNSS	**Tian-Shan**	**4.18**	**27**	*e*P	**Pg**	**14 06 42.5**	**-1.5**
	23nm,0.6s						
TNSS				*e*S	**Sg**	**14 07 37.0**	**-1.2**
	11nm,0.9s						
TNSS	**Tian-Shan**	**4.18**	**27**	Pg	**Pg**	**14 06 42.5**	**-1.5**
	23nm,0.6s						
TNSS				Lg	Lg	14 07 37.0	
	11nm,0.9s						
DZA	**Taraz**	**4.23**	**328**	*e*P	**Pg**	**14 06 44.4**	**-0.4**
	56nm,0.1s						
DZA				*e*S	**Sg**	**14 07 40.0**	**+0.5**
	67nm,0.2s						
IUG	**Iuzhnay**	**4.32**	**312**	*e*P	**Pg**	**14 06 47.8**	**+1.1**
	16nm,0.4s						
IUG				*e*S	**Sg**	**14 07 45.9**	**+3.2**
	45nm,1.4s						
IUG	**Iuzhnay**	**4.32**	**312**	Pg	**Pg**	**14 06 47.8**	**+1.1**
	16nm,0.4s						
IUG				Lg	Lg	14 07 45.9	
	45nm,1.4s						
MDOK	**Medeo**	**4.33**	**27**	*e*P	**Pg**	**14 06 46.0**	**-0.7**
	14nm,0.8s						
MDOK				*e*S	**Sg**	**14 07 42.9**	**+0.1**
	21nm,0.1s						
MDOK	**Medeo**	**4.33**	**27**	⇓Pg	**Pg**	**14 06 45.7**	**-1.0**
	11nm,0.6s						
MDOK				Pg	Pb	14 06 46.0	+5.9
	14nm,0.8s						
MDOK				Lg	Lg	14 07 42.9	
	21nm,0.1s						
MDOK				⇓Lg	Lg	14 07 43.7	
	27nm,0.8s						
KOTS	**Kotyrbulak**	**4.42**	**27**	*e*P	**Pg**	**14 06 48.3**	**-0.1**
	13nm,0.3s						
KOTS				*e*S	**Sg**	**14 07 46.9**	**+1.4**
	66nm,0.6s						
KOTS	**Kotyrbulak**	**4.42**	**27**	Pg	**Pg**	**14 06 48.3**	**-0.1**
	13nm,0.3s						
KOTS				Lg	Lg	14 07 46.9	
	66nm,0.6s						
KRBS	**Karabastau**	**4.47**	**12**	*e*P	**Pg**	**14 06 49.9**	**+0.4**
	7.9nm,0.4s						
KRBS				*e*S	**Sg**	**14 07 49.5**	**+2.2**
	10nm,0.9s						
KRBS	**Karabastau**	**4.47**	**12**	Pg	**Pg**	**14 06 49.9**	**+0.4**
	7.9nm,0.4s						
KRBS				Lg	Lg	14 07 49.6	
	10nm,0.9s						
CHM	**Chimkent**	**4.68**	**311**	*e*P	**Pg**	**14 06 54.3**	**+0.9**
	36nm,0.1s						
CHM				*e*S	**Sg**	**14 07 57.3**	**+3.2**
	96nm,0.4s						
KTBS	**Karatobe**	**4.71**	**21**	*e*P	**Pg**	**14 06 52.7**	**-1.3**
	6.1nm,1.5s						
KTBS				*e*S	**Sg**	**14 07 54.4**	**-0.6**
	18nm,1.1s						
KTBS	**Karatobe**	**4.71**	**21**	Pg	**Pg**	**14 06 52.7**	**-1.3**
	6.1nm,1.5s						
KTBS				Lg	Lg	14 07 54.4	
	18nm,1.1s						
KK31	**Karatay Array**	**4.75**	**324**	⇑Pn	Pn	14 06 40.1	+4.5
	0.9nm,0.3s,baz=132,slow=12,SNR=26						
KK31				⇑Pg	**Pg**	**14 06 53.4**	**-1.5**
	1.2nm,0.3s,baz=136,slow=14,SNR=7.4						
KK31				⇓Sn	**Sb**	**14 07 39.2**	**-5.3**
	9.6nm,0.7s						
KK31				⇓Lg	Lg	14 07 57.4	
	4.1nm,0.4s,baz=133,slow=29						
KKAR	**Karatay Array**	**4.75**	**324**	⇓*i*P	Pn	14 06 40.2	+4.7
	baz=26						
KKAR				⇓*i*S	**Sn**	**14 07 34.6**	**+3.9**
	baz=26						
PDGK	**Podgornoye**	**5.55**	**42**	⇓Pg	**Pg**	**14 07 08.8**	**-1.4**
	6.4nm,0.7s						
PDGK				⇓Lg	Lg	14 08 21.2	
	12nm,0.8s						
MKAR	**Makanchi Array**	**9.45**	**35**	Pn	Pn	14 07 46.9	+7.0
	0.1nm,0.3s,baz=221,slow=15,SNR=6.2						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**16.26**	**23**	Pn	**P**	**14 09 15.0**	**-0.2**
	0.1nm,0.3s,baz=210,slow=17,SNR=1.8						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**36.71**	**323**	P	**P**	**14 12 30.5**	**-0.2**
	3.8nm,1.0s,baz=101,slow=13,SNR=1.6						
	3.8nm,1.0s						
WRA	**Warramunga Arr**	**81.32**	**125**	P	**P**	**14 17 40.7**	**+0.1**
	0.3nm,0.8s,baz=328,slow=5.2,SNR=4.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**83.78**	**127**	P	**P**	**14 17 53.1**	**-0.2**
	0.1nm,0.7s,baz=305,slow=5.5,SNR=1.8						
	0.1nm,0.7s						

SOME ***27*** *14:12:32.3, 39.°40N× 74.°12E, h5km*
KRNET ***27*** *14:12:34.8±0.1, 39.°38N× 74.°39E, mb3.6*
ISC 27 14:12:30.7±2.2, **39.°25N**±0.°10× **74.°50E**±0.°05, **h10**km, **n20, σ1°68/40, 8C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.84**	**315**	⇑*e*P	**Pg**	**14 13 06.2**	**+0.3**
	baz=13						
OHH				⇑*i*S	**Sb**	**14 13 29.3**	**+1.8**
	baz=13						
NRN	**Naryn**	**2.47**	**27**	⇓*i*P	**Pg**	**14 13 16.9**	**-1.1**
	baz=30						
NRN				⇓*i*S	**Sb**	**14 13 47.8**	**+1.9**
	baz=30						
ARLS	**Aral**	**2.62**	**357**	⇑*i*P	**Pb**	**14 13 18.5**	**+0.7**
	baz=59						
ARLS				⇑*i*S	**Sb**	**14 13 50.1**	**+0.1**
	baz=59						
BTK	**Batken**	**2.96**	**287**	⇑*e*P	**Pb**	**14 13 23.6**	**+0.1**
	baz=85						
BTK				⇑*i*S	**Sb**	**14 13 59.0**	**-0.8**
	baz=85						
TRKS	**Terek-Say**	**3.44**	**313**	⇑*e*P	**Pb**	**14 13 28.7**	**-3.0**
	baz=11						
TRKS				⇑*e*S	**Sn**	**14 14 08.3**	**+3.0**
	baz=11						
MRKS	**Merke**	**3.63**	**345**	*e*P	**Pb**	**14 13 35.2**	**+0.3**
	3.1nm,0.6s						
MRKS				*e*S	**Sb**	**14 14 21.1**	**+2.0**
	12nm,0.3s						
KST	**Kastek**	**3.95**	**16**	*e*P	**Pg**	**14 13 43.6**	**-2.8**
	4.6nm,0.4s						
KST				*e*S	**Sg**	**14 14 35.0**	**-2.6**
	22nm,0.6s						
DGS	**Degeres**	**4.11**	**13**	*e*P	**Pg**	**14 13 47.3**	**-2.0**
	11nm,0.7s						
DGS				*e*S	**Sg**	**14 14 41.3**	**-1.2**
	16nm,0.6s						
MTBS	**Maitube**	**4.14**	**20**	*e*P	**Pg**	**14 13 48.9**	**-1.2**
	4.3nm,0.3s						
MTBS				*e*S	**Sg**	**14 14 43.9**	**+0.1**
	8.8nm,0.4s						
SGDS	**Sogindy**	**4.20**	**1**	*e*P	**Pg**	**14 13 48.8**	**-2.4**
	1.3nm,0.5s						
SGDS				*e*S	**Sg**	**14 14 43.9**	**-1.8**
	11nm,0.2s						
TNSS	**Tian-Shan**	**4.21**	**25**	*e*P	**Pg**	**14 13 51.0**	**-0.4**
	4.3nm,0.8s						
TNSS				*e*S	**Sg**	**14 14 47.5**	**+1.5**
	6.2nm,1.7s						
MDOK	**Medeo**	**4.36**	**25**	*e*P	**Pg**	**14 13 53.0**	**-1.2**
	4.4nm,0.6s						
MDOK				*e*S	**Sg**	**14 14 50.7**	**0.0**
	10.0nm,0.9s						
DZA	**Taraz**	**4.36**	**328**	*e*P	**Pb**	**14 13 48.3**	**+0.9**
	38nm,0.3s						
DZA				*e*S	**Sb**	**14 14 43.4**	**+3.3**
	50nm,0.3s						
KOTS	**Kotyrbulak**	**4.44**	**25**	*e*P	**Pg**	**14 13 53.8**	**-2.0**
	4.3nm,0.6s						
KOTS				*e*S	**Sg**	**14 14 52.5**	**-0.8**
	37nm,0.8s						
IUG	**Iuzhnay**	**4.47**	**312**	*e*P	**Pb**	**14 13 49.2**	**-0.1**
	7.3nm,0.3s						
IUG				*e*S	**Sb**	**14 14 44.8**	**+1.6**
	30nm,1.2s						
KRBS	**Karabastau**	**4.53**	**11**	*e*P	**Pg**	**14 13 55.5**	**-2.0**
	2.7nm,0.7s						
KRBS				*e*S	**Sg**	**14 14 55.4**	**-0.8**
	9.7nm,1.1s						
KTBS	**Karatobe**	**4.75**	**19**	*e*P	**Pg**	**14 14 00.4**	**-1.3**
	3.6nm,0.2s						
KTBS				*e*S	**Sg**	**14 15 03.6**	**+0.4**
	20nm,0.3s						
SATY	**Saty**	**4.82**	**36**	*e*P	**Pg**	**14 14 01.9**	**-1.0**
	8.8nm,0.7s						
SATY				*e*S	**Sg**	**14 15 06.4**	**+1.1**
	13nm,0.8s						
CHM	**Chimkent**	**4.82**	**311**	*e*P	**Pb**	**14 13 54.9**	**-0.4**
	66nm,0.3s						
CHM				*e*S	**Sb**	**14 14 54.2**	**+0.8**
	94nm,0.2s						
BTLS	**Baital**	**5.80**	**357**	*e*P	**Pg**	**14 14 18.9**	**-2.9**
	1.6nm,0.8s						
BTLS				*e*S	**Sg**	**14 15 35.7**	**-1.1**
	4.7nm,1.2s						

NEIC ***27*** *14:34:46.9±0.6, 36.°74N±0.°01× 97.°61W±0.°02, h5km±6km, Error ellipse: s-maj=2.0km s-min=1.4km az=55.0*
ANF ***27*** *14:34:47.2±0.4, 36.°71N× 97.°60W, h5km, ML4.0/11, Error ellipse: s-maj=5.4km s-min=3.3km az=0.0*
TUL ***27*** *14:34:47±1.1, 36.°77N±0.°01× 97.°60W±0.°02, h8km±7km, ML3.6, mb_Lg3.4/92(NEI

U32A Winter Ranch, 1.18 252 Pg **Pg** **14 35 08.9 -0.8**
U32A Winter Ranch, 1.18 252 P **Pg** **14 35 09.0 -0.8**
baz=72
U32A S **Sg** **14 35 25.2 +0.1**
baz=72
OK025 Westminster Rd 1.18 169 **Pg** **14 35 09.2 -0.6**
DEOK Depew 1.27 135 **Pg** **14 35 10.4 -1.1**
CSTR Hydro, Custer 1.40 219 **Pn** **14 35 12.8 -0.3**
FNO Franklin 1.50 173 **Pn** **14 35 14.5 +0.2**
ELIS Ellis County 1.61 246 **Pn** **14 35 16.0 +0.1**
TUL1 Leonard 1.69 119 Pn **Pn** **14 35 17.4 +0.4**
TUL1 IAmb_Lg 14 35 41.9
comp=Z,304nm,1.0s
TUL1 Leonard 1.69 119 P **Pn** **14 35 17.6 +0.7**
baz=300
TUL1 S **Sb** **14 35 40.1 +0.3**
baz=300
TUL1 Leonard 1.69 119 P **Pn** **14 35 17.5 +0.6**
baz=300
TUL1 S **Sb** **14 35 40.2 +0.4**
baz=300
R32A Long Quarter, 1.89 333 **Pn** **14 35 20.3 +0.6**
R32A Long Quarter, 1.89 333 P **Pn** **14 35 20.7 +1.0**
baz=152
R32A S **Sb** **14 35 45.5 -0.2**
baz=152
X34A Smith Ranch, M 2.15 185 **Pn** **14 35 23.5 +0.2**
RLO Rose Lookout 2.16 105 **Pn** **14 35 23.8 +0.3**
WMOK Wichita Mounta 2.22 206 Pn **Pn** **14 35 24.6 +0.4**
WMOK Wichita Mounta 2.22 206 P **Pn** **14 35 24.8 +0.5**
baz=25
WMOK Wichita Mounta 2.22 206 P **Pn** **14 35 24.8 +0.5**
baz=25
WMOK Sb **Sb** **14 35 56.1 +1.0**
baz=25
KSU1 Kansas State U 2.48 18 Pn **Pn** **14 35 28.3 +0.5**
KSU1 Kansas State U 2.48 18 P **Pn** **14 35 28.4 +0.5**
baz=199
KSU1 Kansas State U 2.48 18 P **Pn** **14 35 28.4 +0.5**
baz=199
KSU1 Sb **Sb** **14 36 03.6 +1.0**
baz=199
U38A Gravette 2.61 96 Pn **Pn** **14 35 30.2 +0.5**
U38A Gravette 2.61 96 P **Pn** **14 35 30.5 +0.8**
baz=278
CBKS Cedar Bluff 2.67 321 Pn **Pn** **14 35 30.8 +0.3**
CBKS Cedar Bluff 2.67 321 P **Pn** **14 35 30.9 +0.4**
baz=140
CBKS S **Sb** **14 36 09.2 +1.1**
baz=140
CBKS Cedar Bluff 2.67 321 Sb **Sb** **14 36 09.1 +1.1**
baz=140
LOOK Love County 2.77 173 Pn **Pn** **14 35 32.1 +0.3**
LOOK IAmb_Lg 14 36 19.4
comp=Z,68nm,0.7s
X37A Clayton 2.82 139 IAmb_Lg 14 36 21.9
comp=Z,88nm,0.8s
HHAR Hobbs 2.99 98 **Pn** **14 35 35.1 +0.2**
HHAR IAmb_Lg 14 36 30.5
comp=Z,142nm,0.8s
HHAR Hobbs 2.99 98 P **Pn** **14 35 35.9 +1.0**
baz=280
Z35A Perchaven, San 3.42 175 Pn **Pn** **14 35 40.5 -0.3**
S39A Bolivar 3.55 73 Pn **Pn** **14 35 43.0 +0.5**
FW02 City of Haslet 3.79 177 Pn **Pn** **14 35 45.6 -0.3**
AMTX Amarillo 3.79 242 IAmb_Lg 14 36 56.2
comp=Z,105nm,1.0s
MIAR Mount Ida 3.95 123 **Pn** **14 35 47.8 -0.3**
MIAR IAmb_Lg 14 36 53.2
comp=Z,80nm,0.8s
MIAR Mount Ida 3.95 123 P **Pb** **14 35 58.3 +1.3**
baz=305
N33A J Bar K, Exete 3.99 2 Pn **Pn** **14 35 48.4 -0.2**
Z38A Mt. Pleasant 4.09 147 Pn **Pn** **14 35 49.2 -0.8**
Z38A IAmb_Lg 14 37 05.4
comp=Z,104nm,1.0s
MGMO Mountain Grove 4.30 83 **Pn** **14 35 52.6 -0.2**
MGMO IAmb_Lg 14 37 00.9
comp=Z,111nm,0.8s
P38A Dawn 4.31 47 Pn **Pn** **14 35 52.9 -0.1**
P38A IAmb_Lg 14 37 03.8
comp=Z,97nm,0.8s
N35A Tabor 4.39 20 Pn **Pn** **14 35 54.2 +0.2**
N35A Tabor 4.39 20 P **Pn** **14 35 54.8 +0.8**
baz=201
ABTX Abilene, Hawle 4.44 203 Pn **Pn** **14 35 54.7 -0.2**
ABTX Abilene, Hawle 4.44 203 P **Pn** **14 35 55.7 +0.8**
baz=22
FCAR Ozark Folk Cen 4.51 99 Pn **Pn** **14 35 55.9 +0.1**
R40A Maddies Statio 4.52 68 **Pn** **14 35 56.0 +0.1**
R40A IAmb_Lg 14 37 19.5
comp=Z,75nm,0.7s
R40A Maddies Statio 4.52 68 P **Pn** **14 35 55.9 +0.1**
baz=252
WHAR Wooly Hollow 4.55 107 Pn **Pn** **14 35 56.0 -0.3**
WHAR IAmb_Lg 14 37 10.5
comp=Z,55nm,0.8s
KSCO Kaye Shedlock' 4.57 301 Pn **Pn** **14 35 56.2 -0.5**
KSCO IAmb_Lg 14 37 13.1
comp=Z,65nm,0.7s
KSCO Kaye Shedlock' 4.57 301 P **Pn** **14 35 57.3 +0.6**
baz=118
BGNE Belgrade 4.67 355 Pn **Pn** **14 35 57.8 -0.3**
BGNE Belgrade 4.67 355 P **Pn** **14 35 58.4 +0.4**
baz=175
WHTX Lake Whitney, 4.75 178 Pn **Pn** **14 35 59.1 +0.1**
WLAR White Oak Lake 4.78 128 Pn **Pn** **14 35 59.5 0.0**
WLAR IAmb_Lg 14 37 32.0
comp=Z,64nm,1.0s
237A Washetta, Mont 4.96 162 Pn **Pn** **14 36 01.9 -0.1**
237A IAmb_Lg 14 37 38.4
comp=Z,55nm,0.7s
P40A Paris 5.19 56 Pn **Pn** **14 36 05.1 0.0**
P40A IAmb_Lg 14 37 34.9
comp=Z,65nm,0.7s
CCM Cathedral Cave 5.23 74 Pn **Pn** **14 36 05.8 +0.1**
CCM IAmb_Lg 14 37 37.7
comp=Z,99nm,1.0s
CCM Cathedral Cave 5.23 74 P **Pn** **14 36 05.9 +0.2**
baz=257
LCAR Lake Charles 5.25 95 Pn **Pn** **14 36 05.9 0.0**
LCAR IAmb_Lg 14 37 36.7
comp=Z,44nm,0.8s
N38A Joes South For 5.29 39 **Pn** **14 36 06.1 -0.4**
L34A Svendsen Farm, 5.30 10 Pn **Pn** **14 36 06.5 -0.1**
L34A IAmb_Lg 14 37 36.4
comp=Z,72nm,0.8s
OGNE Ogallala 5.43 322 Pn **Pn** **14 36 08.5 0.0**
OGNE IAmb_Lg 14 37 51.9
comp=Z,76nm,0.7s
T25A Trinidad 5.46 276 IAmb_Lg 14 37 47.9
comp=Z,40nm,0.9s
NATX Nacogdoches 5.54 153 IAmb_Lg 14 37 54.6
comp=Z,74nm,1.0s
CCAR Cane Creek 5.54 119 Pn **Pn** **14 36 09.9 0.0**
CCAR IAmb_Lg 14 37 57.5
comp=Z,42nm,0.9s
HBAR Harrisburg 5.75 100 IAmb_Lg 14 37 50.9
comp=Z,80nm,0.8s
PBMO Poplar Bluff 5.76 88 IAmb_Lg 14 37 46.5
comp=Z,66nm,0.8s
FVM French Village 5.85 76 Pn **Pn** **14 36 14.1 -0.1**
FVM IAmb_Lg 14 37 50.5
comp=Z,81nm,0.8s
435B Jarrell 5.95 180 **Pn** **14 36 15.3 -0.2**
435B IAmb_Lg 14 38 01.5
comp=Z,54nm,0.9s
435B Jarrell 5.95 180 P **Pn** **14 36 15.6 +0.1**
baz=360
SLM Saint Louis 6.14 70 IAmb_Lg 14 37 59.5
comp=Z,65nm,0.8s
SCIA State Center 6.18 32 IAmb_Lg 14 38 11.1
comp=Z,81nm,0.8s
CGM3 Cape Girardeau 6.38 83 IAmb_Lg 14 38 07.0
comp=Z,61nm,0.9s
BRIGG Briggsdale 6.50 308 IAmb_Lg 14 38 19.2
comp=Z,52nm,0.9s
JCT Junction City 6.51 197 Pn **Pn** **14 36 22.6 -0.7**
JCT IAmb_Lg 14 38 27.0
comp=Z,46nm,1.1s
HALT Halls 6.73 95 IAmb_Lg 14 38 20.8
comp=Z,59nm,0.8s
S44A Carbondale 6.73 79 Pn **Pn** **14 36 26.6 +0.4**
K38A Parkersburg 6.97 31 IAmb_Lg 14 38 41.9
comp=Z,61nm,0.8s
W45A Hickory Valley 7.01 101 IAmb_Lg 14 38 39.0
comp=Z,57nm,1.0s
ECSD EROS Data Cent 7.02 6 **Pn** **14 36 29.1 -1.1**
Y45A Yeager Farm, C 7.19 111 IAmb_Lg 14 38 41.5
comp=Z,31nm,1.0s
L40A Anamosa 7.25 41 **Pn** **14 36 32.5 -0.9**
L40A IAmb_Lg 14 38 36.2
comp=Z,44nm,0.8s
HDIL Hopedale 7.54 57 Pn **Pn** **14 36 36.9 -0.3**
PHWY Pilot Hill 7.62 309 Pn **Pn** **14 36 37.8 -0.9**
N23A Red Feather La 7.71 305 Pn **Pn** **14 36 39.9 -0.1**
N23A IAmb_Lg 14 39 04.9
comp=Z,40nm,0.8s
SUSD Miller 7.76 353 IAmb_Lg 14 38 54.3
comp=Z,45nm,0.8s
735A Kenedy 7.87 181 IAmb_Lg 14 39 12.4
comp=Z,38nm,1.1s
Y22D IRIS PASSCAL I 8.06 253 IAmb_Lg 14 39 25.0
comp=Z,60nm,0.8s
L42A Oliver, Polo 8.09 47 Pn **Pn** **14 36 44.3 -0.5**
L42A IAmb_Lg 14 39 09.5
comp=Z,54nm,0.8s
JFWS Jewell Farm 8.37 40 Pn **Pn** **14 36 47.5 -1.1**
JFWS IAmb_Lg 14 39 30.6
comp=Z,36nm,0.7s
M44A Midewin, Midew 8.76 55 IAmb_Lg 14 39 26.9
comp=Z,39nm,0.8s
RSSD Black Hills 8.85 328 IAmb_Lg 14 39 28.0
comp=Z,23nm,1.0s
I40A Norwalk 8.91 35 IAmb_Lg 14 39 30.8
comp=Z,30nm,0.9s
TX31 Lajitas Ar. Si 8.97 216 Pn **Pn** **14 36 56.6 -0.5**
TX32 Lajitas Array 8.97 216 Pn **Pn** **14 36 56.1 -1.0**
TXAR Lajitas Array 8.97 216 Pn **Pn** **14 36 56.6 -0.5**
SPMN Marine on St. 9.21 22 Pn **Pn** **14 37 00.4 +0.1**
K43A Burlington 9.30 47 Pn **Pn** **14 37 00.7 -0.7**
K43A IAmb_Lg 14 39 40.6
comp=Z,45nm,0.8s
I42A Draeger Farm, 9.74 40 Pn **Pn** **14 37 07.0 -0.5**
I42A IAmb_Lg 14 39 58.3
comp=Z,19nm,0.8s

IDC 27 14:38:38.8±50.0, 16°.28S×178°.36W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=912.0km s-min=165.1km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.47**	**239**	P	P	14 46 09.0	-2.1
	1.1nm,0.7s,baz=68,slow=11,SNR=2.8						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**44.99**	**258**	P	P	14 46 57.5	+1.2
	0.5nm,0.5s,baz=87,slow=8.2,SNR=32						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**45.29**	**253**	P	P	14 46 58.5	-0.3
	1.5nm,0.6s,baz=90,slow=8.1,SNR=49						
	1.5nm,0.6s						

*NEIC **27** 14:42:14.7±1.2, 18°.9S±0°.1×168°.90E±0°.10, h132km±19km, mb4.1/4, Error ellipse: s-maj=21.6km s-min=8.2km az=213.0*
*IDC **27** 14:42:16.1±8.6, 18°.50S×168°.00E, h90km±82km, mb3.7/3, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=176.0km s-min=58.6km az=106.0*
*NOU **27** 14:42:17.9, 18°.99S×168°.49E, h15km, MLv4.2/12, Vanuatu Islands*

ISC 27 14:42:14.4±1.8, 18°.94S±0°.06×168°.8E±0°.2, h100km, n23, σ2§68/24, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**1.19**	**344**	P	**Pn**	**14 42 39.7**	**+2.8**
DVP	**Devils Point**	**1.33**	**335**	P	**Pn**	**14 42 41.5**	**+3.0**
LIFNC	**LIFOU**	**2.33**	**218**		**Pn**	**14 42 52.8**	**+1.6**
LIFNC	**LIFOU**	**2.33**	**218**	P	**Pn**	**14 42 52.9**	**+1.7**
MARNC	**Mare, Loyalty**	**2.62**	**195**	Pn	**Pn**	**14 42 56.2**	**+1.0**
YATNC	**Mamie plateau,**	**3.57**	**209**	P	**Pn**	**14 43 09.0**	**+1.2**
DZM	**Mont Dzumac**	**3.80**	**215**	P	**Pn**	**14 43 13.4**	**+2.4**
	4.1nm,0.3s,baz=52,slow=8.4,SNR=173						
DZM				S	**Sn**	**14 43 57.7**	**+2.9**
	32nm,0.3s,baz=315,slow=24,SNR=13						
	16nm,0.5s						
DZM	**Mont Dzumac**	**3.80**	**215**		**Pn**	**14 43 13.2**	**+2.2**
DZM	**Mont Dzumac**	**3.80**	**215**	P	**Pn**	**14 43 13.4**	**+2.4**
OUENC	**Ouen Island, N**	**3.90**	**207**	Pn	**Pn**	**14 43 15.2**	**+2.9**
OUENC	**Ouen Island, N**	**3.90**	**207**	P	**Pn**	**14 43 15.4**	**+3.1**
ONTNC	**Ouen Toro**	**3.99**	**212**	Pn	**Pn**	**14 43 16.1**	**+2.7**
ONTNC	**Ouen Toro**	**3.99**	**212**	P	**Pn**	**14 43 16.8**	**+3.4**
KOUNC	**Koumac, New Ca**	**4.51**	**248**	Pn	**Pn**	**14 43 23.1**	**+2.5**
KOUNC	**Koumac, New Ca**	**4.51**	**248**	P	**Pn**	**14 43 22.2**	**+1.7**
STKA	**Stephens Creek**	**27.63**	**237**	P	**P**	**14 47 51.9**	**-0.8**
	1.6nm,1.0s,baz=65,slow=12,SNR=3.2						
	1.6nm,1.0s						
WB2	**Warramunga Arr**	**32.44**	**262**	P	**P**	**14 48 32.1**	**-3.2**
WB2				IAmb	IAmb	14 49 02.1	
	comp=Z,4.1nm,1.3s						
WRA	**Warramunga Arr**	**32.45**	**262**	P	**P**	**14 48 32.2**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=90,slow=8.4,SNR=12						
	comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**32.45**	**262**	P	**P**	**14 48 32.4**	**-3.0**
AS31	**Alice Springs**	**32.77**	**256**	P	**P**	**14 48 35.6**	**-2.5**
AS31				IAmb	IAmb	14 48 36.5	
	comp=Z,2.1nm,0.6s						
ASAR	**Alice Springs**	**32.77**	**256**	P	**P**	**14 48 36.0**	**-2.2**
	comp=Z,3.4nm,0.5s,baz=82,slow=8.8,SNR=98						
	comp=Z,3.4nm,0.5s						
ASAR	**Alice Springs**	**32.77**	**256**	P	**P**	**14 48 35.7**	**-2.5**
KNRA	**Kununurra**	**38.27**	**269**	P	**P**	**14 49 22.4**	**-2.9**

*IDC **27** 14:47:36.3±1.6, 37°.25N×141°.58E, h0km, mb3.8/9, mbtmp3.7/12, ML3.1/2, Error ellipse: s-maj=41.6km s-min=20.3km az=76.0*
*NEIC **27** 14:47:38.2±1.9, 37°.23N±0°.02×141°.55E±0°.08, h10km±2km, mb4.0/2, Error ellipse: s-maj=11.1km s-min=3.2km az=86.0*
*JMA **27** 14:47:39.2±0.2, 37°.2N±0°.3×141°.5E±0°.9, h35km±1km, MV3.8/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 27 14:47:40.9±2.1, 37°.26N±0°.04×141°.38E±0°.08, h28km±13km, n29, σ1§19/38, mb3.7/11, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.41**	**285**	⇓*iP*	**Pn**	**14 47 49.5**	**-1.6**
JFK				⇓S	**Sb**	**14 47 56.8**	**+0.8**
JMST	**Minamisoumatoc**	**0.60**	**320**	⇓*iP*	**Pn**	**14 47 52.1**	**-1.5**
JMST				⇓S	**Sn**	**14 48 01.5**	**-1.0**
JFFD	**Fukushimafurud**	**0.68**	**255**	*i* P	**Pn**	**14 47 53.3**	**-1.4**
JFFD				S	**Sn**	**14 48 03.2**	**-1.1**
JMM	**Marumori**	**0.76**	**322**		**Pn**	**14 47 54.4**	**-1.4**
JMM					**Sn**	**14 48 05.8**	**-0.6**
JMM	**Marumori**	**0.76**	**322**	⇓*iP*	**Pn**	**14 47 54.6**	**-1.3**
JMM				⇓S	**Sb**	**14 48 06.2**	**+0.6**
JHO	**Hitachi**	**0.92**	**225**	P	**Pn**	**14 47 56.1**	**-1.9**
JHO				S	**Sn**	**14 48 08.8**	**-1.5**
JIO	**Ouri**	**1.19**	**359**	*i* P	**Pn**	**14 48 00.1**	**-1.7**
JIO				S	**Sn**	**14 48 15.5**	**-1.4**
JSD	**Sado**	**2.59**	**288**	Pn	**Pn**	**14 48 20.9**	**-0.1**
MJAR	**Matsushiro Arr**	**2.64**	**255**	Pn	**Pn**	**14 48 23.1**	**+1.4**
	0.6nm,0.3s,baz=82,slow=15,SNR=22						
MJAR				Sn	**Sb**	**14 48 57.2**	**-2.3**
	0.9nm,0.3s,baz=190,slow=21,SNR=6.2						
	3.2nm,0.3s						
JTM	**Tenmabayashi**	**3.53**	**356**		**Pn**	**14 48 34.3**	**+0.5**
JGF	**Kuroka**	**3.64**	**244**	Pn	**Pn**	**14 48 37.0**	**+1.5**
INU	**Inuyama**	**4.01**	**243**	Pn	**Pn**	**14 48 42.3**	**+1.8**
JHJ2	**Mitsune**	**4.33**	**198**	Pn	**Pn**	**14 48 45.0**	**0.0**
JHJ	**Hachijo jima 2**	**4.34**	**198**	Pn	**Pn**	**14 48 44.5**	**-0.5**
	12nm,0.3s,baz=90,slow=20,SNR=2.1						
JHJ				Sn	**Sn**	**14 49 33.6**	**-1.0**
	9.7nm,0.3s,baz=77,slow=22,SNR=1.4						
	134nm,0.9s						
ERM	**Erimo**	**4.94**	**16**	Pn	**Pn**	**14 48 52.7**	**-0.5**
JKA	**Kamikawa-asahi**	**6.91**	**7**	Pn	**Pn**	**14 49 19.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**9.93**	**317**	Pn	**Pn**	**14 50 01.7**	**-0.1**
	0.7nm,0.7s,baz=108,slow=12,SNR=0.7						
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**14 53 25.2**	**-1.0**
	0.5nm,0.6s,baz=89,slow=7.4,SNR=3.0						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.53**	**255**	P	**P**	**14 55 26.8**	**+0.8**
	0.4nm,0.3s,baz=83,slow=12,SNR=4.1						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**14 55 27.6**	**+0.3**
	0.7nm,0.3s,baz=111,slow=6.5,SNR=4.5						
	0.7nm,0.3s						
MK31	**Makanchi Array**	**43.97**	**302**	P	**P**	**14 55 46.1**	**+0.5**
MK31				IAmb	IAmb	14 56 17.5	
	comp=Z,3.4nm,1.4s						
MKAR	**Makanchi Array**	**43.97**	**302**	P	**P**	**14 55 46.2**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=76,slow=10,SNR=5.0						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**43.97**	**302**	P	**P**	**14 55 45.9**	**+0.3**
KURBB	**Kurchatov Arra**	**45.84**	**308**	P	**P**	**14 56 00.3**	**-0.1**
	comp=Z,1.1nm,0.2s,baz=82,slow=7.9,SNR=2.6						
	comp=Z,1.1nm,0.2s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**14 57 25.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=6.1,slow=7.3,SNR=2.1						
	comp=Z,0.2nm,0.5s						
ABKAR	**Akbulak array**	**57.77**	**310**	P	**P**	**14 57 29.1**	**-0.2**
ABKAR				IAmb	IAmb	14 58 07.5	
	comp=Z,2.3nm,1.1s						
ASAR	**Alice Springs**	**61.01**	**188**	P	**P**	**14 57 51.2**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=197,slow=12,SNR=4.2						
	comp=Z,0.2nm,0.7s						
FINES	**FINESS Array B**	**68.60**	**332**	P	**P**	**14 58 41.4**	**+0.5**
	comp=Z,5.5nm,1.1s,baz=323,slow=2.9,SNR=1.9						
	comp=Z,5.5nm,1.1s						
AKASG	**Malin Array Be**	**74.10**	**322**	P	**P**	**14 59 16.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=46,slow=6.9,SNR=1.6						
	comp=Z,0.2nm,0.3s						

*SOME **27** 14:47:59.6, 39°.15N×74°.47E, h5km*
*IDC **27** 14:47:59.9±1.4, 39°.14N×74°.47E, h0km, mb3.7/8, mbtmp3.6/13, ML2.7/5, MS2.9/5, Error ellipse: s-maj=24.8km s-min=16.8km az=118.0*
*KRNET **27** 14:48:00.6±0.1, 39°.15N×74°.53E, mb4.1*
*NNC **27** 14:48:02.3±1.0, 39°.23N×74°.65E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=7.4km s-min=4.4km az=172.0*

ISC 27 14:48:00.9±0.9, 39°.22N±0°.06×74°.79E±0°.03, h10km, n72, σ1§84/101, mb3.8/7, 18C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**2.02**	**311**	⇑*iP*	**Pb**	**14 48 36.5**	**-1.2**
	baz=16						
OHH				⇑*i*S	**Sb**	**14 49 02.7**	**-0.2**
	baz=16						
NRN	**Naryn**	**2.40**	**22**	⇓*iP*	**Pg**	**14 48 45.2**	**-1.6**
	baz=25						
NRN				⇓*i*S	**Sg**	**14 49 17.3**	**-0.6**
	baz=25						
ARLS	**Aral**	**2.66**	**352**	⇑*iP*	**Pb**	**14 48 47.4**	**-1.3**
	baz=57						
ARLS				⇑*i*S	**Sb**	**14 49 22.0**	**+0.5**
	baz=57						
BTK	**Batken**	**3.18**	**287**	⇑*iP*	**Pn**	**14 48 51.9**	**+0.9**
	baz=89						
BTK				⇑*i*S	**Sn**	**14 49 29.2**	**+0.2**
	baz=89						
TARG	**Taragay, Kyrgy**	**3.40**	**42**	⇑*iP*	**Pb**	**14 48 59.9**	**-1.6**
	baz=43						
TARG				⇑*i*S	**Sb**	**14 49 43.2**	**+0.1**
	baz=43						
AAK	**Ala-Archa**	**3.42**	**356**	Pn	**Pb**	**14 48 58.4**	**-3.3**
	3.4nm,0.3s,baz=167,slow=7.4,SNR=32						
AAK				Lg	Lg	14 49 50.2	
	2.6nm,0.3s,baz=90,slow=22,SNR=10						
AAK				LR	LR	14 50 29.1	
	comp=Z,167nm,20.1s,baz=198,slow=43						
	15nm,0.5s						
TRKS	**Terek-Say**	**3.62**	**311**	⇓*iP*	**Pn**	**14 48 57.7**	**+0.6**
	baz=13						
TRKS				⇓*i*S	**Sn**	**14 49 39.6**	**-0.4**
	baz=13						
MRKS	**Merke**	**3.72**	**342**	*e*P	**Pb**	**14 49 06.4**	**-0.2**
	37nm,0.3s						
MRKS				*e*S	**Sb**	**14 49 53.5**	**+1.7**
	48nm,1.0s						
MRKS	**Merke**	**3.72**	**342**	Pg	**Pg**	**14 49 09.0**	**-3.1**
	23nm,0.4s						
MRKS				Lg	Lg	14 49 58.3	
	48nm,1.0s						
KST	**Kastek**	**3.92**	**13**	*e*P	**Pg**	**14 49 14.2**	**-1.8**
	20nm,0.6s						
KST				*e*S	**Sg**	**14 50 07.2**	**+0.4**
	105nm,0.7s						
DGS	**Degeres**	**4.09**	**10**	*e*P	**Pg**	**14 49 17.6**	**-1.6**
	26nm,0.6s						
DGS				*e*S	**Sg**	**14 50 13.1**	**+1.0**
	98nm,1.0s						
DGS	**Degeres**	**4.09**	**10**	Pg	**Pg**	**14 49 17.6**	**-1.6**
	26nm,0.6s						
DGS				Lg	Lg	14 50 13.1	
	98nm,1.0s						
MTBS	**Maitube**	**4.10**	**17**	*e*P	**Pg**	**14 49 18.1**	**-1.3**
	20nm,0.7s						
MTBS				*e*S	**Sg**	**14 50 13.2**	**+0.7**
	49nm,1.2s						
MTBS	**Maitube**	**4.10**	**17**	Pg	**Pg**	**14 49 18.1**	**-1.3**
	20nm,0.7s						
MTBS				Lg	Lg	14 50 13.2	
	49nm,1.2s						
TNSS	**Tian-Shan**	**4.15**	**22**	*e*P	**Pg**	**14 49 18.7**	**-1.7**
	16nm,0.8s						
TNSS				*e*S	**Sg**	**14 50 14.9**	**+0.8**
	34nm,1.1s						
TNSS	**Tian-Shan**	**4.15**	**22**	Pg	**Pg**	**14 49 18.7**	**-1.7**
	16nm,0.8s						
TNSS				Lg	Lg	14 50 14.9	
	34nm,1.1s						
SGDS	**Sogindy**	**4.23**	**358**	*e*P	**Pg**	**14 49 19.2**	**-2.7**
	18nm,0.6s						
SGDS				*e*S	**Sg**	**14 50 15.3**	**-1.4**
	44nm,1.2s						
SGDS	**Sogindy**	**4.23**	**358**	Pg	**Pg**	**14 49 19.2**	**-2.7**
	18nm,0.6s						
SGDS				Lg	Lg	14 50 15.3	
	44nm,1.2s						
MDOK	**Medeo**	**4.29**	**23**	*e*P	**Pg**	**14 49 21.2**	**-1.9**
	17nm,0.8s						
MDOK				*e*S	**Sg**	**14 50 19.1**	**+0.4**
	83nm,0.9s						
MDOK	**Medeo**	**4.29**	**23**	⇑Pg	**Pg**	**14 49 21.0**	**-2.1**
	19nm,0.6s						
MDOK				Pg	Pb	14 49 21.2	+4.7
	17nm,0.8s						
MDOK				Lg	Lg	14 50 19.1	
	83nm,0.9s						
MDOK				Lg	Lg	14 50 20.1	
	115nm,0.9s						
KNDC	**Almaty**	**4.32**	**22**	⇓Pg	**Pg**	**14 49 22.2**	**-1.4**
	67nm,0.8s						
KNDC				⇑Lg	Lg	14 50 20.7	
	246nm,0.9s						
KOTS	**Kotyrbulak**	**4.38**	**23**	*e*P	**Pg**	**14 49 23.1**	**-1.6**
	16nm,0.7s						
KOTS				*e*S	**Sg**	**14 50 22.2**	**+0.8**
	218nm,1.1s						
KOTS	**Kotyrbulak**	**4.38**	**23**	Pg	**Pg**	**14 49 23.1**	**-1.6**
	16nm,0.7s						
KOTS				Lg	Lg	14 50 22.2	
	218nm,1.1s						
DZA	**Taraz**	**4.50**	**326**	*e*P	**Pb**	**14 49 20.2**	**+0.2**
	34nm,0.3s						
DZA				*e*S	**Sb**	**14 50 17.0**	**+2.6**
	59nm,0.4s						
KRBS	**Karabastau**	**4.52**	**8**	*e*P	**Pg**	**14 49 25.2**	**-2.3**
	12nm,0.4s						
KRBS				*e*S	**Sg**	**14 50 25.9**	**-0.1**
	49nm,1.2s						
KRBS	**Karabastau**	**4.52**	**8**	Pg	**Pg**	**14 49 25.2**	**-2.3**
	12nm,0.4s						
KRBS				Lg	Lg	14 50 25.9	
	49nm,1.2s						
IUG	**Iuzhnay**	**4.65**	**310**	*e*P	**Pb**	**14 49 21.9**	**-0.7**
	49nm,0.5s						
IUG				*e*S	**Sb**	**14 50 20.1**	**+1.4**
	91nm,0.0s						
KTBS	**Karatobe**	**4.71**	**17**	*e*P	**Pg**	**14 49 28.9**	**-2.2**
	14nm,0.6s						
KTBS				*e*S	**Sg**	**14 50 32.5**	**+0.4**
	106nm,1.2s						
KTBS	**Karatobe**	**4.71**	**17**	Pg	**Pg**	**14 49 28.9**	**-2.2**
	14nm,0.6s						
KTBS				Lg	Lg	14 50 32.5	
	106nm,1.2s						
SATY	**Saty**	**4.71**	**34**	*e*P	**Pg**	**14 49 29.2**	**-1.8**

31nm,0.8s
SATY eS Sg 14 50 33.0 +1.0
88nm,1.9s
SATY Saty 4.71 34 Pg Pg 14 49 29.2 -1.8
31nm,0.8s
SATY Lg Lg 14 50 33.0
88nm,1.9s
ZHN Zhinishke 4.81 34 eP Pg 14 49 31.5 -1.4
5.6nm,0.3s
ZHN eS Sg 14 50 36.5 +1.2
42nm,1.1s
ZHN Zhinishke 4.81 34 Pg Pg 14 49 31.5 -1.4
5.6nm,0.3s
ZHN Lg Lg 14 50 36.5
42nm,1.1s
KUU Kurty 4.81 13 eP Pg 14 49 30.6 -2.4
13nm,0.7s
KUU eS Sg 14 50 34.9 -0.4
95nm,0.8s
KUU Kurty 4.81 13 Pg Pg 14 49 30.6 -2.4
13nm,0.7s
KUU Lg Lg 14 50 34.9
95nm,0.8s
CHKK Chushkaly 4.92 19 eP Pg 14 49 33.0 -2.0
28nm,0.9s
CHKK eS Sg 14 50 39.4 +0.7
45nm,0.8s
CHKK Chushkaly 4.92 19 Pg Pg 14 49 33.0 -2.0
28nm,0.9s
CHKK Lg Lg 14 50 39.3
45nm,0.8s
KURS Kuram 4.97 30 eP Pg 14 49 34.4 -1.5
25nm,0.9s
KURS eS Sg 14 50 41.4 +1.2
39nm,1.3s
KURS Kuram 4.97 30 Pg Pg 14 49 32.4 -3.5
25nm,0.9s
KURS Lg Lg 14 50 38.4
39nm,1.3s
CHM Chimkent 5.01 310 eP Pb 14 49 29.0 +0.4
46nm,0.2s
CHM eS Sb 14 50 32.2 +3.4
121nm,0.2s
KK31 Karatay Array 5.05 322 ⇑Pn Pn 14 49 17.1 +0.5
3.9nm,0.4s,baz=132,slow=13,SNR=83
KK31 ⇓Pg Pb 14 49 31.1 +1.9
16nm,0.6s,baz=138,slow=16,SNR=14
KK31 ⇑Sn Sn 14 50 18.7 +3.7
12nm,0.6s
KK31 ⇑Lg Lg 14 50 38.3
17nm,0.6s,baz=145,slow=28,SNR=4.3
KKAR Karatay Array 5.05 322 ⇑*i*P Pn 14 49 18.6 +2.0
baz=24
KKAR ⇑*i*S Sn 14 50 16.4 +1.4
baz=24
UZB Uzynbulak 5.06 38 eP Pg 14 49 35.7 -2.0
13nm,0.9s
UZB eS Sg 14 50 43.7 +0.4
46nm,0.7s
UZB Uzynbulak 5.06 38 Pg Pg 14 49 34.4 -3.3
13nm,1.1s
UZB Lg Lg 14 50 41.8
45nm,1.5s
KPKS Kokpek 5.16 33 eP Pg 14 49 37.4 -2.2
26nm,0.7s
KPKS eS Sg 14 50 46.8 +0.4
40nm,0.7s
KPKS Kokpek 5.16 33 Pg Pg 14 49 37.4 -2.2
26nm,0.7s
KPKS Lg Lg 14 50 46.8
40nm,0.7s
SHLS Shalkode 5.28 40 eP Pg 14 49 46.0 +4.0
21nm,0.7s
SHLS eS Sg 14 51 01.5 +11
48nm,1.3s
SHLS Shalkode 5.28 40 Pg Pg 14 49 44.5 +2.5
36nm,1.0s
SHLS Lg Lg 14 50 59.3
58nm,2.1s
PDGK Podgornoye 5.42 39 Pg Pg 14 49 42.2 -2.5
12nm,0.8s
PDGK Lg Lg 14 50 54.9
24nm,1.4s
PDGK Podgornoye 5.42 39 ⇑Pn Pn 14 49 25.2 +3.4
5.8nm,0.7s
PDGK ⇑Pg Pg 14 49 40.2 -4.5
25nm,0.8s
PDGK ⇑Lg Lg 14 50 56.5
123nm,1.4s
ARXS Arharly 5.48 24 eP Pg 14 49 44.8 -1.0
19nm,1.0s
ARXS eS Sg 14 50 59.7 +2.9
25nm,0.4s
ARXS Arharly 5.48 24 Pg Pg 14 49 44.8 -1.0
19nm,1.0s
ARXS Lg Lg 14 50 59.7
25nm,0.4s
BLB Baldybastay 5.60 28 eP Pg 14 49 46.9 -1.3
14nm,0.5s
BLB eS Sg 14 51 03.0 +2.3
32nm,1.1s
BLB Baldybastay 5.60 28 Pg Pg 14 49 44.8 -3.3
12nm,0.8s
BLB Lg Lg 14 50 59.6
26nm,0.9s
DJR Jarkent 6.33 35 eP Pg 14 50 00.8 -1.3
7.1nm,0.7s
DJR eS Sg 14 51 26.6 +2.6
17nm,1.7s
DJR Jarkent 6.33 35 Pg Pg 14 50 00.8 -1.3
7.1nm,0.7s
DJR Lg Lg 14 51 26.6
17nm,1.7s
TDK Taldyqorghan 6.37 24 eP Pg 14 50 00.4 -2.5
7.2nm,0.1s
TDK eS Sg 14 51 26.5 +1.1
92nm,1.2s
TDK Taldyqorghan 6.37 24 Pg Pg 14 50 00.4 -2.5
7.2nm,0.1s
TDK Lg Lg 14 51 26.5
92nm,1.2s
MKAR Makanchi Array 9.35 34 Pn Pn 14 50 20.0 +4.3
0.1nm,0.3s,baz=210,slow=14,SNR=9.0
MKAR Lg Lg 14 53 01.6
baz=222,slow=25,SNR=2.4
MKAR LR LR 14 53 34.5
comp=Z,30nm,18.4s,baz=211,slow=35
1.5nm,0.9s
KURBB Kurchatov Arra 11.71 12 Pn Pn 14 50 50.3 +2.5
baz=202,slow=11,SNR=2.7
KURBB Lg Lg 14 54 12.4
0.1nm,0.3s,baz=203,slow=30,SNR=9.3
0.1nm,0.3s
GEYT Alibeck 13.11 270 LR LR 14 56 45.0
comp=Z,58nm,20.4s,baz=88,slow=41
BVAR Borovoye Array 14.14 349 Pn Pn 14 51 20.5 -0.5
0.1nm,0.3s,baz=159,slow=13,SNR=9.5
BVAR LR LR 14 57 00.4
comp=Z,66nm,20.3s,baz=147,slow=38
1.7nm,0.6s
ZALV Zalesovo Beam 16.24 22 Pn P 14 51 51.9 -0.1
0.1nm,0.3s,baz=210,slow=15,SNR=4.0
0.5nm,0.4s
ARU Arti 20.29 333 P Pn 14 52 37.7 -0.7
3.4nm,0.6s,baz=155,slow=11,SNR=7.8
3.4nm,0.6s
KIRV Kirov 25.30 328 LR LR 15 04 10.1
comp=Z,65nm,18.7s,baz=158,slow=38
BRTR Keskin Array B 31.57 284 P P 14 54 23.6 -0.1
0.8nm,0.7s,baz=97,slow=7.8,SNR=5.6
0.8nm,0.7s
FINES FINESS Array B 37.01 323 P P 14 55 09.1 -1.1
0.7nm,0.4s,baz=157,slow=6.2,SNR=5.6
0.7nm,0.4s
ARCES ARCESS Array B 39.85 335 P P 14 55 33.4 -0.8
1.5nm,0.6s,baz=72,slow=4.0,SNR=5.8
1.5nm,0.6s
GERES GERESS Array B 43.87 303 P P 14 56 06.7 -0.7
0.2nm,0.5s,baz=46,slow=3.9,SNR=3.4
0.2nm,0.5s
NOA NORSAR Array B 44.08 321 P P 14 56 07.2 -1.6
1.3nm,0.9s,baz=91,slow=7.7,SNR=2.2
1.3nm,0.9s
ESDC Sonseca Array 58.84 298 P P 14 57 59.4 -0.2
0.5nm,0.7s,baz=62,slow=7.0,SNR=5.1
0.5nm,0.7s
ASAR Alice Springs 83.44 128 P P 15 00 29.8 +1.1
0.2nm,0.8s,baz=308,slow=5.4,SNR=1.6
0.2nm,0.8s

*KRSC **27** 14:51:05.5±2.8, 52°.26N×171°.99E, h59km±48km, ML4.7*
*IDC **27** 14:51:05.3±0.6, 52°.66N×172°.18E, h0km, mb4.5/30, mbtmp4.5/32, ML4.3/2, MS3.6/27, Error ellipse: s-maj=18.3km s-min=9.7km az=0.0*
*BJI **27** 14:51:07.0±0.0, 52°.89N×171°.95E, h22km, mb4.7/39, mB4.9/17, Ms4.5/5, Ms7 4.3/5*
*MOS **27** 14:51:07.8±0.9, 52°.48N×172°.10E, h34km, mb4.9/46, Error ellipse: s-maj=6.5km s-min=4.1km az=120.3*
*NEIC **27** 14:51:10.4±1.2, 52°.7N±0°.1×172°.14E±0°.08, h34km±5km, mb4.7/202, Error ellipse: s-maj=16.2km s-min=7.2km az=176.0*

ISC 27 14:51:08.7±0.4, 52°.47N±0°.07×172°.09E±0°.04, h28km, n599, σ1ᵍ31/601, mb4.7/179, MS3.7/35, 30C-9D, Near Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.25**	**77**	Pn		**Pn**	**Sn**	**14 51 29.4**	**-0.9**
	2µm,0.3s,baz=157,slow=2.9,SNR=805								
SHEM				Sn		**Sn**		**14 51 44.8**	**-1.4**
	3µm,0.3s,baz=226,slow=21,SNR=117								
SHEM				LR		LR		14 51 57.6	
	comp=Z,493nm,19.4s,baz=274,slow=45								
SMY	**Shemya**	**1.25**	**77**			**Pn**	**Pn**	**14 51 29.3**	**-1.0**
SMY					Sn	**Sn**	**Sn**	**14 51 44.2**	**-2.0**
SMY	**Shemya**	**1.25**	**77**	*eP*		**Pn**	**Pn**	**14 51 29.4**	**-0.9**
SMY				*eS*		**Sn**	**Sn**	**14 51 44.7**	**-1.5**
SMY	**Shemya**	**1.25**	**77**	P		**Pn**	**Pn**	**14 51 29.4**	**-0.9**
SMY				S		**Sn**	**Sn**	**14 51 44.8**	**-1.5**
BKI	**Bering**	**4.54**	**309**	S		**Sn**	**Sn**	**14 53 05.0**	**-2.1**
BKI	**Bering**	**4.54**	**309**	P		**Pn**	**Pn**	**14 52 17.0**	**+1.6**
AMKA	**Amchitka**	**4.60**	**101**			**Pn**	**Pn**	**14 52 17.0**	**+0.7**
MKZ	**Mys Kozlova**	**6.52**	**293**	*eP*		**Pn**	**Pn**	**14 52 42.5**	**-0.1**
MKZ				*eS*		**Sn**	**Sn**	**14 53 51.6**	**-4.3**
MKZ	**Mys Kozlova**	**6.52**	**293**	P		**Pn**	**Pn**	**14 52 42.5**	**-0.1**
KBTR	**Krutoberegovo**	**6.58**	**308**	*eP*		**Pn**	**Pn**	**14 52 43.9**	**+0.5**
KBTR	**Krutoberegovo**	**6.58**	**308**	P		**Pn**	**Pn**	**14 52 44.0**	**+0.5**
GSTR	**Great Sitkin T**	**7.28**	**88**	Pn		**Pn**	**Pn**	**14 52 53.8**	**+0.7**
SMKR	**Semkarok**	**7.42**	**308**	*eP*		**Pn**	**Pn**	**14 52 56.8**	**+1.8**
SMKR				*eS*		**Sn**	**Sn**	**14 54 20.8**	**+2.6**
SMKR	**Semkarok**	**7.42**	**308**	P		**Pn**	**Pn**	**14 52 56.2**	**+1.2**
SMKR				S		**Sn**	**Sn**	**14 54 19.2**	**+1.0**
TUMD	**Tumrok D**	**7.43**	**296**	*eP*		**Pn**	**Pn**	**14 52 56.4**	**+1.2**
BDR	**Baidarnaya**	**7.54**	**307**	*eP*		**Pn**	**Pn**	**14 52 58.7**	**+2.0**
TUMR	**Tumrok**	**7.60**	**296**	*eP*		**Pn**	**Pn**	**14 52 59.3**	**+1.8**
TUMR				*eS*		**Sn**	**Sn**	**14 54 22.6**	**0.0**
TUMR	**Tumrok**	**7.60**	**296**	P		**Pn**	**Pn**	**14 52 59.2**	**+1.8**
SRKR	**Sorokina**	**7.60**	**308**	*eP*		**Pn**	**Pn**	**14 52 59.5**	**+2.0**
SRKR	**Sorokina**	**7.60**	**308**	P		**Pn**	**Pn**	**14 52 59.5**	**+2.0**
BZMR	**Bezymyannaya**	**7.63**	**302**	*eP*		**Pn**	**Pn**	**14 53 00.5**	**+2.5**
BZMR	**Bezymyannaya**	**7.63**	**302**	P		**Pn**	**Pn**	**14 53 00.5**	**+2.5**
BZWR	**Bezymyannyi-We**	**7.64**	**302**	*eP*		**Pn**	**Pn**	**14 53 00.7**	**+2.6**
BZWR	**Bezymyannyi-We**	**7.64**	**302**	P		**Pn**	**Pn**	**14 53 01.0**	**+2.9**
KMNR	**Kamenistaya**	**7.70**	**300**	*eP*		**Pn**	**Pn**	**14 53 01.9**	**+3.0**
KMNR	**Kamenistaya**	**7.70**	**300**	P		**Pn**	**Pn**	**14 53 01.4**	**+2.5**
KLY	**Klyuchi**	**7.70**	**304**	*eP*		**Pn**	**Pn**	**14 52 58.7**	**-0.1**
KLY				*eS*		**Sn**	**Sn**	**14 54 22.0**	**-3.0**
KLY	**Klyuchi**	**7.70**	**304**	P		**Pn**	**Pn**	**14 52 58.9**	**+0.1**
KRSR	**Krestovskiy**	**7.70**	**304**	*eP*		**Pn**	**Pn**	**14 53 00.3**	**+1.3**
KRSR				*eS*		**Sn**	**Sn**	**14 54 26.9**	**+1.7**
KRSR	**Krestovskiy**	**7.70**	**304**	P		**Pn**	**Pn**	**14 53 00.2**	**+1.3**
KIRR	**Kirishev**	**7.71**	**301**	*eP*		**Pn**	**Pn**	**14 53 01.8**	**+2.7**
KIRR				*eS*		**Sn**	**Sn**	**14 54 26.6**	**+1.0**
KIRR	**Kirishev**	**7.71**	**301**	P		**Pn**	**Pn**	**14 53 01.8**	**+2.7**
NLC	**Nalytchevo**	**7.75**	**280**	S		**Sn**	**Sn**	**14 54 19.3**	**-7.0**
KPT	**Kopyto**	**7.78**	**301**	*eP*		**Pn**	**Pn**	**14 53 02.6**	**+2.5**
KPT	**Kopyto**	**7.78**	**301**	P		**Pn**	**Pn**	**14 53 02.5**	**+2.5**
KOZ	**Kozyrevsk**	**8.00**	**301**	*eP*		**Pn**	**Pn**	**14 53 04.6**	**+1.6**
KOZ				*eS*		**Sn**	**Sn**	**14 54 35.1**	**+2.7**
KOZ	**Kozyrevsk**	**8.00**	**301**	P		**Pn**	**Pn**	**14 53 04.5**	**+1.6**
SDLR	**Sedlovina**	**8.03**	**281**	*eP*		**Pn**	**Pn**	**14 53 04.1**	**+0.6**
SDLR	**Sedlovina**	**8.03**	**281**	P		**Pn**	**Pn**	**14 53 05.2**	**+1.7**
UGLR	**Uglovaya**	**8.07**	**280**	*eP*		**Pn**	**Pn**	**14 53 05.0**	**+1.1**
UGLR	**Uglovaya**	**8.07**	**280**	P		**Pn**	**Pn**	**14 53 04.6**	**+0.7**
SMAR	**Somma**	**8.08**	**281**	P		**Pn**	**Pn**	**14 53 06.7**	**+2.5**
DALK	**Dalny**	**8.11**	**279**	*eP*		**Pn**	**Pn**	**14 53 05.5**	**+1.1**
DALK				*eS*		**Sn**	**Sn**	**14 54 29.6**	**-5.5**
DALK	**Dalny**	**8.11**	**279**	P		**Pn**	**Pn**	**14 53 05.6**	**+1.1**
KRER	**Koryakskii**	**8.11**	**281**	*eP*		**Pn**	**Pn**	**14 53 05.5**	**+0.8**
KRER				*eS*		**Sn**	**Sn**	**14 54 33.2**	**-2.2**
KRER	**Koryakskii**	**8.11**	**281**	P		**Pn**	**Pn**	**14 53 05.4**	**+0.8**
PET	**Petropavlovsk**	**8.17**	**279**	Pn		**Pn**	**Pn**	**14 53 06.1**	**+0.9**
PET	**Petropavlovsk**	**8.17**	**279**	*eP*		**Pn**	**Pn**	**14 53 06.6**	**+1.3**
PET				*eS*		**Sn**	**Sn**	**14 54 31.7**	**-4.9**
PET	**Petropavlovsk**	**8.17**	**279**	*eP*		**Pn**	**Pn**	**14 53 07.1**	**+1.8**
PET				*eS*		**Sn**	**Sn**	**14 54 32.1**	**-4.5**
PET				MLR		MLR			
	comp=Z,300nm,12.0s								
SRDR	**Sredinnyy**	**8.18**	**303**	*eP*		**Pn**	**Pn**	**14 53 07.2**	**+1.8**
KOK	**Koryaka**	**8.18**	**281**	*eP*		**Pn**	**Pn**	**14 53 06.0**	**+0.6**
KOK	**Koryaka**	**8.18**	**281**	P		**Pn**	**Pn**	**14 53 06.1**	**+0.6**
RUS	**Russkaya**	**8.29**	**275**	*eP*		**Pn**	**Pn**	**14 53 07.2**	**+0.3**
RUS				*eS*		**Sn**	**Sn**	**14 54 31.9**	**-7.7**
RUS	**Russkaya**	**8.29**	**275**	P		**Pn**	**Pn**	**14 53 07.8**	**+0.9**
OSSR	**Ossora**	**8.47**	**327**	*eP*		**Pn**	**Pn**	**14 53 12.7**	**+3.4**
OSSR	**Ossora**	**8.47**	**327**	P		**Pn**	**Pn**	**14 53 12.2**	**+2.9**
MTVR	**Mutnovka**	**8.49**	**276**	*eP*		**Pn**	**Pn**	**14 53 10.4**	**+0.6**
MTVR				*eS*		**Sn**	**Sn**	**14 54 38.1**	**-6.5**
MTVR	**Mutnovka**	**8.49**	**276**	P		**Pn**	**Pn**	**14 53 11.2**	**+1.4**
KRMR	**Karymshinskiy**	**8.50**	**278**	*eP*		**Pn**	**Pn**	**14 53 10.4**	**+0.7**
KRMR				*eS*		**Sn**	**Sn**	**14 54 40.6**	**-3.9**
KRMR	**Karymshinskiy**	**8.50**	**278**	P		**Pn**	**Pn**	**14 53 10.5**	**+0.7**
ESO	**Esso**	**8.57**	**299**	*eP*		**Pn**	**Pn**	**14 53 12.3**	**+1.5**
ESO	**Esso**	**8.57**	**299**	P		**Pn**	**Pn**	**14 53 11.8**	**+1.0**
GNL	**Ganaly**	**8.60**	**284**	*eP*		**Pn**	**Pn**	**14 53 12.8**	**+1.5**
GNL	**Ganaly**	**8.60**	**284**	P		**Pn**	**Pn**	**14 53 12.8**	**+1.5**
TILK	**Tilichiki**	**8.64**	**340**	P		**Pn**	**Pn**	**14 53 13.8**	**+2.2**
TILK	**Tilichiki**	**8.64**	**340**	P		**Pn**	**Pn**	**14 53 13.9**	**+2.3**
KDTR	**Khodutka, Kamc**	**8.65**	**271**	*eP*		**Pn**	**Pn**	**14 53 12.0**	**+0.3**
KDTR				*eS*		**Sn**	**Sn**	**14 54 40.0**	**-8.2**
KDTR	**Khodutka, Kamc**	**8.65**	**271**	P		**Pn**	**Pn**	**14 53 11.7**	**0.0**
PEA0B	**Petropavlovsk-**	**8.75**	**280**	Pn		**Pn**	**Pn**	**14 53 14.4**	**+1.3**
PEA0B	**Petropavlovsk-**	**8.75**	**280**	‖*eP*		**Pn**	**Pn**	**14 53 13.9**	**+0.8**
PETK	**Petropavlovsk-**	**8.75**	**280**	Pn		**Pn**	**Pn**	**14 53 14.1**	**+0.9**
	comp=Z,4.2nm,0.3s,baz=104,slow=18,SNR=99								
PETK					Sn	**Sn**	**Sn**	**14 54 51.4**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=94,slow=22,SNR=6.1								
PETK					LR	LR		14 56 29.1	
	comp=Z,186nm,21.6s,baz=90,slow=37								
	comp=Z,24nm,0.8s								
PETK	**Petropavlovsk-**	**8.75**	**280**	Pn		**Pn**	**Pn**	**14 53 14.0**	**+0.8**
KMSK	**Kamenskaya**	**10.50**	**345**	*eP*		**Pn**	**Pn**	**14 53 38.4**	**+1.3**
KMSK	**Kamenskaya**	**10.50**	**345**	P		**Pn**	**Pn**	**14 53 38.7**	**+1.6**
UNV	**Unalaska Valle**	**12.91**	**75**	Pn		**Pn**	**Pn**	**14 54 11.8**	**+1.7**
MA2	**Magadan**	**13.84**	**309**	Pn		**Pn**	**Pn**	**14 54 24.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=177,slow=18,SNR=1.8								
MA2					LR	LR		14 59 31.3	
	comp=Z,335nm,20.7s,baz=114,slow=37								
	comp=Z,6.0nm,0.9s								
MA2	**Magadan**	**13.84**	**309**	‖*eP*		**Pn**	**Pn**	**14 54 18.3**	**-4.3**
MA2				pmax		pmax	pmax		
	comp=Z,26nm,1.2s								
SEY	**Seymchan**	**14.78**	**323**	Pn		**Pn**	**Pn**	**14 54 35.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=176,slow=23,SNR=2.4								
SEY	**Seymchan**	**14.78**	**323**	⇑*eP*		**Pn**	**Pn**	**14 54 34.4**	**-1.1**
BILL	**Bilibino**	**15.87**	**352**			**P**	**Pn**	**14 54 52.3**	**-0.9**
BILL	**Bilibino**	**15.87**	**352**	*eP*		**Pn**	**Pn**	**14 54 49.5**	**-0.2**
BILL				pmax		pmax	pmax		
	comp=Z,15nm,1.0s								
BILL				MLR		MLR	MLR		
	comp=Z,194nm,17.0s								
TNA	**Tin City**	**16.56**	**30**	P		**P**	**Pn**	**14 54 59.8**	**-1.0**
ANM	**Nome**	**16.76**	**35**	P		**P**	**Pn**	**14 55 02.3**	**-0.8**
ANM				IAmb		IAmb	IAmb	14 55 44.2	
	comp=Z,60nm,1.5s								
ANM	**Nome**	**16.76**	**35**	P		**P**	**Pn**	**14 55 02.3**	**-0.8**
ANM				pmax		pmax	pmax		
	comp=Z,60nm,1.5s								
SVW2	**Sparrevohn**	**19.51**	**51**	P		**P**	**Pn**	**14 55 33.5**	**+0.1**
TTA	**Tatalina**	**19.77**	**46**	P		**Pn**	**Pn**	**14 55 36.8**	**-1.2**
TTA	**Tatalina**	**19.77**	**46**	P		**Pn**	**Pn**	**14 55 37.5**	**-0.5**
	baz=253								
TTA	**Tatalina**	**19.77**	**46**	P		**Pn**	**Pn**	**14 55 36.8**	**-1.2**
TTA				pmax		pmax	pmax		
	comp=Z,11nm,0.9s								
N19K	**Bonanza Creek**	**19.99**	**52**	Pn		**Pn**	**Pn**	**14 55 39.8**	**-0.7**
GCSA	**Galena City Sc**	**20.04**	**40**	P		**P**	**Pn**	**14 55 39.5**	**+0.5**
	baz=247,SNR=5.6								
L19K	**White Mountain**	**20.09**	**48**	Pn		Pn	Pn	14 55 40.3	-1.3
M19K	**Big River Lodg**	**20.24**	**49**	Pn		**P**	**Pn**	**14 55 41.9**	**+0.6**
OHAK	**Old Harbor**	**20.34**	**63**	P		**P**	**Pn**	**14 55 41.4**	**-1.1**
OHAK				IAmb		IAmb	IAmb	14 55 56.4	
	comp=Z,58nm,1.1s								
ILSW	**Iliamna Southw**	**20.53**	**55**	P		**P**	**P**	**14 55 43.4**	**-1.3**
ILSW				IAmb		IAmb	IAmb	14 55 58.1	
	comp=Z,32nm,1.0s								
K20K	**Telida**	**20.74**	**45**	P		**P**	**P**	**14 55 47.3**	**+0.6**
	baz=254								
RSO	**Redoubt South**	**20.78**	**54**	P		**P**	**P**	**14 55 47.4**	**0.0**
M20K	**Styx River**	**20.82**	**49**	Pn		**P**	**P**	**14 55 48.5**	**+0.8**
J20K	**Nowinta River**	**20.95**	**43**	P		**P**	**P**	**14 55 48.8**	**-0.1**
J20K				IAmb		IAmb	IAmb	14 55 49.8	
	comp=Z,29nm,0.8s								
J20K	**Nowinta River**	**20.95**	**43**	P		**P**	**P**	**14 55 49.3**	**+0.3**
	baz=252								
ASAJ	**Asahikawa**	**21.21**	**259**	LR		LR	LR	15 03 32.7	
	comp=Z,52nm,20.3s,baz=89,slow=35								
SPU	**Mount Spurr**	**21.21**	**52**	P		**P**	**P**	**14 55 52.3**	**+0.4**
PPLA	**Purkeypile**	**21.46**	**47**	P		**P**	**P**	**14 55 55.1**	**+0.5**
PPLA				IAmb		IAmb	IAmb	14 56 22.3	
	comp=Z,36nm,1.3s								
CNPM	**China Poot**	**21.46**	**56**	P		**P**	**P**	**14 55 54.7**	**+0.2**
CNPM				IAmb		IAmb	IAmb	14 56 16.8	
	comp=Z,62nm,1.2s								
SKT	**Skwentna**	**21.58**	**50**	P		**P**	**P**	**14 55 56.4**	**+0.6**
CAST	**Castle Rocks**	**21.62**	**46**	P		**P**	**P**	**14 55 56.3**	**+0.1**
CAST	**Castle Rocks**	**21.62**	**46**	P		**P**	**P**	**14 55 56.7**	**+0.5**
	baz=256,SNR=5.8								
CHUM	**Lake Minchumin**	**21.64**	**44**	P		**P**	**P**	**14 55 57.0**	**+0.7**
	baz=255								
BRLK	**Bradley Lake**	**21.65**	**56**	P		**P**	**P**	**14 55 55.3**	**-1.2**
BRLK				IAmb		IAmb	IAmb	14 56 30.9	
	comp=Z,41nm,1.2s								
IMAR	**Indian Mountai**	**21.73**	**38**	P		**P**	**P**	**14 55 55.4**	**-1.9**
SUA	**Susitna One**	**21.88**	**51**	P		**P**	**P**	**14 55 58.5**	**-0.6**
SUA				IAmb		IAmb	IAmb	14 56 01.5	
	comp=Z,35nm,1.4s								
H21K	**Melozitna Rive**	**21.97**	**40**	P		**P**	**P**	**14 55 59.3**	**-0.6**
H21K				IAmb		IAmb	IAmb	14 56 02.6	
	comp=Z,18nm,0.8s								
H21K	**Melozitna Rive**	**21.97**	**40**	P		**P**	**P**	**14 55 59.8**	**-0.1**
	baz=250,SNR=19								
G21K	**Allakaket**	**22.02**	**37**	P		**P**	**P**	**14 55 59.7**	**-0.7**
	baz=247								
ERM	**Erimo**	**22.11**	**253**	‖*eP*		**P**	**P**	**14 56 05.6**	**+4.1**
ERM				pmax		pmax	pmax		
	comp=Z,29nm,1.4s								
KTH	**Kantishna Hill**	**22.16**	**46**	P		**P**	**P**	**14 56 01.6**	**-0.4**
KTH				IAmb		IAmb	IAmb	14 56 03.7	
	comp=Z,29nm,1.2s								
CUT	**Chulitna**	**22.24**	**49**	P		**P**	**P**	**14 56 02.7**	**0.0**
CUT				IAmb		IAmb	IAmb	14 56 17.5	
	comp=Z,22nm,1.2s								
BPAW	**Bear Paw Mtn.**	**22.26**	**44**	P		**P**	**P**	**14 56 02.5**	**-0.6**
BPAW	**Bear Paw Mtn.**	**22.26**	**44**	P		**P**	**P**	**14 56 03.5**	**+0.4**
	baz=256								
RC01	**Rabbit Creek A**	**22.32**	**52**	P		**P**	**P**	**14 56 03.5**	**-0.1**
RC01				IAmb		IAmb	IAmb	14 56 35.6	
	comp=Z,36nm,1.4s								
SEW	**Seward**	**22.39**	**55**	P		**P**	**P**	**14 56 04.3**	**-0.1**
SEW				IAmb		IAmb	IAmb	14 56 47.5	
	comp=Z,34nm,1.2s								
TRF	**Thorofare Moun**	**22.42**	**46**	P		**P**	**P**	**14 56 04.6**	**-0.3**
TRF	**Thorofare Moun**	**22.42**	**46**	P		**P**	**P**	**14 56 05.2**	**+0.3**
	baz=258								
MLY	**Manley**	**22.61**	**42**	P		**P**	**P**	**14 56 06.1**	**-0.7**
MLY	**Manley**	**22.61**	**42**	P		**P**	**P**	**14 56 06.5**	**-0.3**
	baz=254,SNR=7.8								
H22K	**Ishtalitna Cre**	**22.61**	**39**	P		**P**	**P**	**14 56 06.6**	**-0.2**
	baz=251								
PMR	**Palmer**	**22.66**	**51**	P		**P**	**P**	**14 56 05.2**	**-2.1**
PMR	**Palmer**	**22.66**	**51**	P		**P**	**P**	**14 56 05.2**	**-2.1**
PMR				pmax		pmax	pmax		
	comp=Z,23nm,1.4s								
GHO	**Glory Hole Cre**	**22.78**	**51**	P		**P**	**P**	**14 56 07.4**	**-1.2**
G22K	**Bettles**	**22.91**	**37**	P		**P**	**P**	**14 56 08.8**	**-1.1**
	baz=249								
BWN	**Browne**	**22.93**	**44**	P		**P**	**P**	**14 56 10.2**	**+0.1**
KNK	**Knik Glacier**	**22.96**	**52**	P		**P**	**P**	**14 56 09.4**	**-1.1**
KNK				IAmb		IAmb	IAmb	14 56 43.3	
	comp=Z,58nm,1.4s								
KNK	**Knik Glacier**	**22.96**	**52**	P		**P**	**P**	**14 56 09.8**	**-0.7**
	baz=265								
PWL	**Port Wells**	**22.98**	**53**	P		**P**	**P**	**14 56 09.2**	**-1.5**
PWL				IAmb		IAmb	IAmb	14 56 25.4	
	comp=Z,50nm,1.3s								
PWL	**Port Wells**	**22.98**	**53**	P		**P**	**P**	**14 56 11.5**	**+0.7**
	baz=267								
RND	**Reindeer**	**23.04**	**46**	P		**P**	**P**	**14 56 10.9**	**-0.5**
RND	**Reindeer**	**23.04**	**46**	P		**P**	**P**	**14 56 10.9**	**-0.5**
RND				pmax		pmax	pmax		
	comp=Z,9.0nm,1.1s								
SML	**Sawmill**	**23.06**	**51**	P		**P**	**P**	**14 56 11.2**	**-0.4**
SML				IAmb		IAmb	IAmb	14 56 27.2	
	comp=Z,63nm,1.4s								
SML	**Sawmill**	**23.06**	**51**	P		**P**	**P**	**14 56 11.2**	**-0.4**
	baz=264								
MCK	**McKinley**	**23.07**	**46**	P		**P**	**P**	**14 56 11.0**	**-0.5**
MCK				IAmb		IAmb	IAmb	14 56 14.9	
	comp=Z,14nm,0.7s								
MCK	**McKinley**	**23.07**	**46**	P		**P**	**P**	**14 56 11.1**	**-0.5**
	baz=259								
MCK	**McKinley**	**23.07**	**46**	P		**P**	**P**	**14 56 11.0**	**-0.5**
MCK				pmax		pmax	pmax		
	comp=Z,14nm,0.7s								
NEA2	**Nenana**	**23.19**	**43**	P		**P**	**P**	**14 56 11.8**	**-0.9**
NEA2	**Nenana**	**23.19**	**43**	P		**P**	**P**	**14 56 12.5**	**-0.3**
	baz=257								
I23K	**Minto, Yukon-K**	**23.20**	**42**	P		**P**	**P**	**14 56 12.0**	**-0.8**
I23K				IAmb		IAmb	IAmb	14 56 14.3	
	comp=

HDA IAmb IAmb 14 56 24.2
comp=Z,26nm,1.3s
HDA Harding Lake 24.05 44 P **P** **14 56 20.3 -0.7**
baz=260
M24K Tolsona, Glenn 24.10 50 P **P** **14 56 21.1 -0.5**
M24K IAmb IAmb 14 56 28.8
comp=Z,53nm,1.2s
IL31 24.14 43 P **P** **14 56 20.2 -1.6**
IL31 IAmb IAmb 14 56 22.3
comp=Z,26nm,0.9s
ILAR Eielson Array 24.14 43 P **P** **14 56 20.5 -1.4**
comp=Z,17nm,0.9s,baz=250,slow=6.8,SNR=98
ILAR LR LR 15 05 52.6
comp=Z,117nm,18.9s,baz=270,slow=37
comp=Z,17nm,0.9s
ILAR Eielson Array 24.14 43 P **P** **14 56 20.2 -1.6**
ILAR Eielson Array 24.14 43 P **P** **14 56 20.3 -1.6**
KLU Klutina 24.18 52 P **P** **14 56 21.3 -1.1**
KLU IAmb IAmb 14 56 47.2
comp=Z,31nm,1.4s
TOLK Toolik Lake Re 24.24 34 P **P** **14 56 21.8 -1.0**
TOLK Toolik Lake Re 24.24 34 P **P** **14 56 21.8 -1.0**
baz=248,SNR=8.5
C23K Itkillik River 24.39 31 P **P** **14 56 23.1 -1.0**
baz=244
E24K Your Creek 24.41 35 P **P** **14 56 24.0 -0.3**
baz=250
YAK Yakutsk 24.41 310 P **P** **14 56 23.7 -0.6**
comp=Z,22nm,0.5s,baz=84,slow=1.2,SNR=29
YAK LR LR 15 05 56.2
comp=Z,156nm,20.7s,baz=90,slow=37
comp=Z,22nm,0.5s
YAK Yakutsk 24.41 310 P **P** **14 56 23.3 -1.0**
YAK Yakutsk 24.41 310*ce*P **P** **14 56 23.3 -1.0**
YAK pmax pmax
comp=Z,40nm,0.8s
K24K Donnelly Dome 24.46 46 P **P** **14 56 24.0 -0.8**
baz=262
PAX Paxson 24.50 48 P **P** **14 56 24.5 -0.8**
PAX Paxson 24.50 48 P **P** **14 56 25.1 -0.2**
baz=265,SNR=6.0
PAX Paxson 24.50 48 P **P** **14 56 24.5 -0.8**
PAX pmax pmax
comp=Z,12nm,1.0s
J25K Salcha River, 24.76 44 P **P** **14 56 25.7 -1.8**
baz=261
BMRM Bremner River 24.81 53 P **P** **14 56 27.2 -0.8**
N25K Chitina, Valde 24.82 51 P **P** **14 56 28.7 +0.5**
baz=268
PRP Porcupine Dome 24.85 42 P **P** **14 56 26.6 -1.9**
PRP IAmb IAmb 14 56 29.6
comp=Z,12nm,0.8s
PRP Porcupine Dome 24.85 42 P **P** **14 56 27.9 -0.6**
baz=259,SNR=8.0
RIDG Independent Ri 24.86 46 P **P** **14 56 27.1 -1.5**
RIDG IAmb IAmb 14 56 29.0
comp=Z,50nm,1.5s
RIDG Independent Ri 24.86 46 P **P** **14 56 27.7 -0.9**
baz=264,SNR=5.5
C24K Franklin Bluff 24.95 32 P **P** **14 56 28.0 -1.1**
baz=246
HMT Hamilton 24.98 54 P **P** **14 56 29.5 -0.1**
FYU Fort Yukon 25.19 40 P **P** **14 56 30.4 -0.9**
FYU IAmb IAmb 14 56 33.5
comp=Z,28nm,0.8s
GLB Gilahina Butte 25.20 52 P **P** **14 56 31.3 -0.3**
GLB IAmb IAmb 14 56 42.7
comp=Z,9.9nm,0.7s
DOT Dot Lake 25.20 47 P **P** **14 56 30.4 -1.2**
DOT IAmb IAmb 14 56 31.9
comp=Z,12nm,0.8s
BERG Berg Lake 25.26 54 P **P** **14 56 32.0 -0.1**
SCRK Sand Creek 25.27 46 P **P** **14 56 30.8 -1.4**
SCRK IAmb IAmb 14 56 33.5
comp=Z,18nm,0.8s
SCRK Sand Creek 25.27 46 P **P** **14 56 31.8 -0.4**
baz=264,SNR=11
F25K Christian Rive 25.29 37 P **P** **14 56 32.4 +0.1**
baz=254
VRDI Verde Repeater 25.37 52 P **P** **14 56 31.9 -1.4**
VRDI IAmb IAmb 14 57 10.0
comp=Z,30nm,1.3s
KLR Kul'dur 25.44 279 P **P** **14 56 34.5 +0.8**
comp=Z,8.7nm,0.8s,baz=72,slow=8.7,SNR=22
KLR LR LR 15 07 37.5
comp=Z,68nm,18.5s,baz=58,slow=39
comp=Z,8.7nm,0.8s
KLR Kul'dur 25.44 279*ce*P **P** **14 56 35.5 +1.8**
KLR pmax pmax
comp=Z,16nm,1.3s
E25K Arctic Village 25.46 36 P **P** **14 56 34.3 +0.5**
baz=254,SNR=17
L26K Log Cabin Wild 25.47 48 P **P** **14 56 35.7 +1.7**
baz=266
J26L Joseph Creek 25.51 45 P **P** **14 56 32.8 -1.6**
J26L IAmb IAmb 14 56 35.2
comp=Z,26nm,1.2s
J26L Joseph Creek 25.51 45 P **P** **14 56 33.3 -1.1**
baz=263,SNR=14
D25K Kavik River 25.56 33 P **P** **14 56 34.0 -0.8**
baz=250
MCARA McCarthy VSAT 25.57 52 P **P** **14 56 34.4 -0.5**
MCARA IAmb IAmb 14 56 50.2
comp=Z,26nm,0.9s
BMAR Burnt Mountain 25.64 38 P **P** **14 56 35.1 -0.4**
WAX Waxell Ridge 25.68 54 P **P** **14 56 35.0 -0.9**
G26K Porcupine Rive 25.83 39 P **P** **14 56 37.4 +0.2**
baz=258,SNR=17
K27K Chicken 26.11 46 P **P** **14 56 39.7 -0.1**
baz=266
L27K Beaver Creek, 26.17 48 P **P** **14 56 39.7 -0.6**
L27K Beaver Creek, 26.17 48 P **P** **14 56 42.3 +2.0**
baz=268
BCAR Beaver Creek A 26.19 48 P **P** **14 56 40.6 +0.1**
BARN Barnard Glacie 26.24 53 P **P** **14 56 41.1 -0.1**
BARN IAmb IAmb 14 56 52.9
comp=Z,20nm,0.8s
C26K Camden Bay 26.24 32 P **P** **14 56 41.5 +0.7**
baz=251
C27K Jago River 26.55 33 P **P** **14 56 42.9 -0.7**
baz=253
EGAK Eagle 26.57 44 P **P** **14 56 42.4 -1.4**
EGAK IAmb IAmb 14 56 45.9
comp=Z,16nm,0.7s
EGAK Eagle 26.57 44 P **P** **14 56 42.8 -1.1**
baz=265,SNR=11
H27K Steamboat Moun 26.59 41 P **P** **14 56 42.8 -1.4**
baz=262
ZEA Zeya 26.61 291 *e*P **P** **14 56 44.6 +0.3**
ZEA *e*S **S** **15 01 13.0 -4.2**
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA smax smax
comp=E,100nm,8.6s
ZEA MLR MLR
comp=Z,100nm,11.0s
G27K Doyon Strip 26.63 40 P **P** **14 56 44.1 -0.4**
baz=260
TIXI Tiksi 26.93 331 P **P** **14 56 46.1 -0.9**
comp=Z,10nm,0.9s,baz=90,slow=24,SNR=33
TIXI LR LR 15 07 02.3
comp=Z,91nm,20.2s,baz=210,slow=36
comp=Z,10nm,0.9s
TIXI Tiksi 26.93 331 P **P** **14 56 46.1 -0.9**
TIXI Tiksi 26.93 331*ce*P **P** **14 56 46.9 -0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.7s
DAWY Dawson 27.30 46 P **P** **14 56 49.9 -0.6**
DAWY IAmb IAmb 14 57 02.1
comp=Z,9.1nm,0.7s
DAWY Dawson 27.30 46 P **P** **14 56 50.6 +0.1**
baz=268
JSD Sado 27.54 252 P **P** **14 56 54.9 +2.1**
HEH HeiHe 27.65 283 *e*P **P** **14 56 53.8 +0.1**
HEH pmax pmax
comp=Z,10.0nm,0.9s
HEH pmax pmax
comp=Z,160nm,5.7s
HEH LR LR
comp=Z,170nm,14.5s
HEH LR LR
comp=Z,210nm,15.0s
K29M Barlow Dome 28.12 46 P **P** **14 56 58.1 +0.2**
baz=270
HYT Haines Junctio 28.28 53 P **P** **14 56 59.0 -0.4**
HYT IAmb IAmb 14 57 03.3
comp=Z,28nm,1.5s
EPYK Eagle Plains 28.54 41 P **P** **14 57 00.8 -0.7**
EPYK IAmb IAmb 14 57 07.0
comp=Z,11nm,1.1s
EPYK Eagle Plains 28.54 41 P **P** **14 57 01.0 -0.5**
baz=266
MAJO Matsushiro 28.60 250 pmax pmax
comp=Z,202nm,0.7s
MJAR Matsushiro Arr 28.60 250 LR LR 15 08 21.2
comp=Z,12nm,20.8s,baz=74,slow=36
F31M Tsiigehtchic 29.77 39 P **P** **14 57 12.0 -0.4**
baz=267
INK Inuvik 29.91 37 P **P** **14 57 13.1 -0.5**
comp=Z,2.2nm,0.5s,baz=265,slow=7.2,SNR=18
INK LR LR 15 11 04.4
comp=Z,84nm,18.4s,baz=197,slow=40
comp=Z,2.2nm,0.5s
INK Inuvik 29.91 37 P **P** **14 57 12.3 -1.2**
INK Inuvik 29.91 37 P **P** **14 57 13.6 +0.1**
baz=266
INK Inuvik 29.91 37 P **P** **14 57 12.3 -1.2**
INK pmax pmax
comp=Z,6.0nm,1.1s
JIS Juneau Island 30.26 57 P **P** **14 57 17.2 +0.5**
BOD Bodaibo 32.72 303 *e*P **P** **14 57 37.7 -0.7**
BOD pmax pmax
comp=Z,14nm,1.5s
H11N2 WAKE ISLAND Hy 32.93 189 T T 15 33 06.3
baz=6.2,slow=76,SNR=179
H11N3 WAKE ISLAND Hy 32.94 189 T T 15 33 08.4
baz=6.2,slow=76,SNR=197
A36M Sachs Harbour 32.94 31 P **P** **14 57 39.9 -0.3**
A36M IAmb IAmb 14 58 14.2
comp=Z,9.9nm,1.4s
H11N1 WAKE ISLAND Hy 32.95 189 T T 15 33 09.8
baz=6.2,slow=76,SNR=28
JMN Monobe 33.09 251 P **P** **14 57 41.2 -0.8**
C36M Paulatuk 33.35 35 P **P** **14 57 42.5 -1.2**
C36M IAmb IAmb 14 57 57.9
comp=Z,6.7nm,0.8s
C36M Paulatuk 33.35 35 P **P** **14 57 43.1 -0.6**
baz=273
H11S1 WAKE ISLAND Hy 34.16 189 T T 15 34 38.5
baz=6.1,slow=76,SNR=100
H11S3 WAKE ISLAND Hy 34.17 189 T T 15 34 39.0
baz=6.1,slow=76,SNR=434
H11S2 WAKE ISLAND Hy 34.17 189 T T 15 34 39.2
baz=6.1,slow=76,SNR=61
JNU Nakatsue 35.27 253 LR LR 15 11 51.9
comp=Z,36nm,20.9s,baz=58,slow=35
JNU Nakatsue 35.27 253 P **P** **14 58 02.5 +1.6**
YKA Yellowknife Ar 38.53 46 P **P** **14 58 28.0 -0.2**
comp=Z,6.0nm,0.6s,baz=288,slow=7.7,SNR=39
comp=Z,6.0nm,0.6s
YKA Yellowknife Ar 38.53 46 P **P** **14 58 27.5 -0.7**
YKA Yellowknife Ar 38.53 46 P **P** **14 58 27.5 -0.7**
HILA High Level 38.86 52 P **P** **14 58 31.1 +0.1**
WAPA Wapiti River 39.13 58 P **P** **14 58 33.7 +0.3**
WAPA IAmb IAmb 14 58 34.9
comp=Z,7.7nm,0.8s
CLRS Cowichan Lake 39.44 69 P **P** **14 58 36.6 +0.6**
CLRS IAmb IAmb 14 59 04.8
comp=Z,28nm,1.3s
LLLB Lillooet 39.82 65 P **P** **14 58 39.8 +0.6**
LLLB IAmb IAmb 14 59 00.8
comp=Z,11nm,1.3s
BRLDA Berland Lookou 40.58 59 P **P** **14 58 45.9 +0.4**
BRLDA IAmb IAmb 14 58 46.7
comp=Z,11nm,0.7s
EUNU Eureka 40.73 15 P **P** **14 58 46.1 -0.2**
SONM Songino Array 41.04 291 P **P** **14 58 50.6 +1.2**
comp=Z,5.5nm,0.6s,baz=60,slow=7.8,SNR=39
SONM LR LR 15 17 38.3
comp=Z,104nm,18.1s,baz=132,slow=39
comp=Z,5.5nm,0.6s
SONM Songino Array 41.04 291 P **P** **14 58 50.4 +1.0**
SONM Songino Array 41.04 291 P **P** **14 58 50.4 +1.0**
SONM pmax pmax
comp=Z,4.0nm,0.6s
TIA Tai'an 41.47 269 *e*P **P** **14 58 54.5 +1.6**
TIA pmax pmax
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 41.95 279 *e*P **P** **14 58 58.0 +1.1**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,230nm,4.8s
HNS HongShan 42.18 273 ⇓P **P** **14 59 01.5 +2.9**
HNS pmax pmax
comp=Z,16nm,0.8s
B08A Colville Reser 42.40 67 P **P** **14 59 00.6 +0.2**
EDM Edmonton 43.11 58 P **P** **14 59 06.0 -0.1**
EDM IAmb IAmb 14 59 07.2
comp=Z,19nm,0.9s
EDM Edmonton 43.11 58 P **P** **14 59 06.0 -0.1**
EDM pmax pmax
comp=Z,19nm,0.9s
HAWA Hanford 43.37 70 P **P** **14 59 08.5 +0.3**
NEW Newport 43.69 66 P **P** **14 59 10.6 -0.2**
NEW Newport 43.69 66 P **P** **14 59 11.0 +0.1**
baz=304
NEW Newport 43.69 66 P **P** **14 59 10.6 -0.2**
NEW pmax pmax
comp=Z,4.0nm,0.9s
GUMO Guam 44.47 219 LR LR 15 15 38.0
comp=Z,19nm,20.4s,baz=127,slow=33
WALA Waterton Lakes 45.03 63 P **P** **14 59 21.7 0.0**
WALA IAmb IAmb 14 59 22.7
comp=Z,12nm,0.8s
BMO Blue Mountains 45.53 70 P **P** **14 59 25.6 0.0**
BMO Blue Mountains 45.53 70 P **P** **14 59 25.6 0.0**
BMO pmax pmax
comp=Z,2.0nm,0.9s
TULEG Thule 45.62 17 P **P** **14 59 25.4 -0.4**
TULEG IAmb IAmb 14 59 27.9
comp=Z,6.1nm,0.8s
PLID Pearl Lake 46.14 69 P **P** **14 59 29.8 -0.8**
WVOR Wild Horse Val 46.21 74 P **P** **14 59 30.5 -0.5**
WVOR Wild Horse Val 46.21 74 P **P** **14 59 30.5 -0.5**
WVOR pmax pmax
comp=Z,7.0nm,1.5s
MSO Missoula 46.28 66 P **P** **14 59 31.1 -0.4**
MSO IAmb IAmb 14 59 40.2
comp=Z,9.9nm,1.4s
MSO Missoula 46.28 66 P **P** **14 59 31.3 -0.2**
baz=306
YOJ Yonaguni jima 46.30 252 P **P** **14 59 32.5 +0.8**
YOJ Yonaguni jima 46.30 252 P **P** **14 59 32.5 +0.8**
YOJ pmax pmax
comp=Z,174nm,1.0s
WHN Wuhan 47.02 266 ⇓P **P** **14 59 39.0 +1.7**
HRY Holter Researc 47.53 65 P **P** **14 59 39.9 -1.4**
NEEM North Greenlan 47.60 12 *i*P **P** **14 59 38.8 -2.9**
LRM Limekiln Ridge 47.71 66 P **P** **14 59 42.4 -0.5**
PNTR Pine Nut 47.73 78 P **P** **14 59 43.0 0.0**
PNTR IAmb IAmb 15 00 03.0
comp=Z,7.6nm,0.8s
EGMT Eagleton 47.89 62 P **P** **14 59 43.7 -0.3**
baz=306
HLID Hailey 47.97 70 P **P** **14 59 45.0 +0.2**
HLID Hailey 47.97 70 P **P** **14 59 45.3 +0.5**
baz=308
BCYI Bear Canyon 48.09 68 P **P** **14 59 44.8 -0.9**
MCMT McKenzie Canyo 48.09 68 P **P** **14 59 45.2 -0.6**
BOZ Bozeman (W) 48.31 66 P **P** **14 59 46.9 -0.4**
BOZ IAmb IAmb 14 59 48.0
comp=Z,4.3nm,0.8s
BOZ Bozeman (W) 48.31 66 P **P** **14 59 47.1 -0.3**
baz=308,SNR=6.8
BOZ Bozeman (W) 48.31 66 P **P** **14 59 46.9 -0.4**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 48.77 354 P **P** **14 59 49.2 -1.1**
SPITS pmax pmax
comp=Z,64nm,1.4s
SPB2 Spitsbergen Ar 48.77 354 P **P** **14 59 49.2 -1.1**
NVAR Mina Array Bea 48.92 78 P **P** **14 59 53.2 +0.9**
comp=Z,0.4nm,0.5s,baz=297,slow=8.3,SNR=3.1
comp=Z,0.4nm,0.5s
YHL Hebgen Lake 49.01 67 P **P** **14 59 52.2 -0.8**
YHL IAmb IAmb 14 59 54.5
comp=Z,10nm,1.2s
ZALV Zalesovo Beam 49.05 309 P **P** **14 59 51.8 -1.0**
comp=Z,1.2nm,0.6s,baz=56,slow=7.9,SNR=5.2
ZALV PcP **PcP** **15 01 16.9 +0.8**
comp=Z,1.1nm,0.6s,baz=349,slow=1.5,SNR=4.6
comp=Z,1.2nm,0.6s
ZALV Zalesovo Beam 49.05 309 *i* P **P** **14 59 51.4 -1.4**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
YHB Horse Butte 49.07 67 P **P** **14 59 53.3 0.0**
YHB IAmb IAmb 15 00 03.5
comp=Z,7.0nm,0.8s
FCC Fort Churchill 49.16 43 P **P** **14 59 53.2 -0.3**
FCC Fort Churchill 49.16 43 P **P** **14 59 53.2 -0.3**
FCC pmax pmax
comp=Z,26nm,1.3s
LZH Lanzhou 49.64 279 *e*P **P** **14 59 59.5 +1.8**
LZH sP pwP 15 00 15.0 +4.0
LZH pmax pmax
comp=Z,19nm,1.0s
FLWY Flagg Ranch 49.76 67 P **P** **14 59 59.0 +0.4**
FLWY IAmb IAmb 15 00 02.6
comp=Z,6.5nm,0.8s
GTA Gaotai 49.87 285 ⇑P **P** **15 00 00.8 +1.4**
GTA pP sP 15 00 08.8 -0.4
GTA sP pwP 15 00 12.5 +0.1
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,24nm,5.0s
GTA LR LR
comp=Z,76nm,16.4s
GTA LR LR
comp=Z,140nm,16.0s
RLMT Red Lodge 49.91 65 P **P** **14 59 59.8 0.0**
RLMT IAmb IAmb 15 00 01.6
comp=Z,4.5nm,0.9s
RLMT Red Lodge 49.91 65 P **P** **15 00 00.5 +0.8**
baz=309
HVU Hansel Valley 50.02 71 P **P** **15 00 00.9 +0.3**
HVU Hansel Valley 50.02 71 P **P** **15 00 00.9 +0.3**
HVU pmax pmax
comp=Z,2.0nm,0.6s
R11A Troy Canyon, C 50.59 76 P **P** **15 00 04.8 -0.1**
DUG Dugway, Tooele 51.02 72 P **P** **15 00 08.5 +0.4**
DUG Dugway, Tooele 51.02 72 P **P** **15 00 08.5 +0.4**
DUG pmax pmax
comp=Z,6.0nm,1.2s
BW06 Boulder Array 51.23 68 P **P** **15 00 09.4 -0.4**
BW06 Boulder Array 51.23 68 P **P** **15 00 10.0 +0.2**
baz=310
PD31 Pinedale Array 51.23 68 P **P** **15 00 09.2 -0.6**
PD31 IAmb IAmb 15 00 11.0
comp=Z,8.2nm,1.3s
PDAR Pinedale Array 51.23 68 P **P** **15 00 09.9 +0.1**
comp=Z,1.6nm,0.5s,baz=320,slow=2.2,SNR=27
comp=Z,1.6nm,0.5s
PDAR Pinedale Array 51.23 68 P **P** **15 00 09.4 -0.4**
MSU Marysvale 52.50 73 P **P** **15 00 19.9 +0.7**
MSU Marysvale 52.50 73 P **P** **15 00 19.9 +0.7**
TMUT Trail Mountain 52.54 72 P **P** **15 00 19.6 -0.1**
TMUT IAmb IAmb 15 00 33.9
comp=Z,5.8nm,0.8s
RDMU Red Mountain 52.65 70 P **P** **15 00 20.6 +0.3**
RDMU IAmb IAmb 15 00 31.1
comp=Z,4.4nm,0.7s
ULM Lac du Bonnet 53.66 53 P **P** **15 00 27.1 -0.2**
comp=Z,5.9nm,0.7s,baz=310,slow=7.4,SNR=5.8
comp=Z,5.9nm,0.7s
ULM Lac du Bonnet 53.66 53 P **P** **15 00 26.7 -0.6**
ULM IAmb IAmb 15 00 27.9
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 53.66 53 P **P** **15 00 26.7 -0.6**
ULM pmax pmax
comp=Z,6.0nm,0.9s
O20A White River Ci 53.70 69 P **P** **15 00 28.5 +0.4**
WMQ Urumqi 53.91 297 *e*P **P** **15 00 30.5 +1.2**
WMQ sP pwP 15 00 46.8 +4.7
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,95nm,18.5s
KURK Kurchatov 54.05 308 P **P** **15 00 29.4 -0.7**
KURK Kurchatov 54.05 308*ce*P **P** **15 00 29.7 -0.4**
KURK pmax pmax
comp=Z,23nm,1.3s
PV18 Skein Mesa, Pa 54.58 72 P **P** **15 00 34.1 -0.4**
PV18 IAmb IAmb 15 00 45.0
comp=Z,4.9nm,0.6s
PV13 Radium Mtn., P 54.69 72 P **P** **15 00 35.4 0.0**
PV13 IAmb IAmb 15 00 45.9
comp=Z,8.9nm,0.6s
MK31 Makanchi Array 54.81 303 P **P** **15 00 34.8 -1.0**
MK31 Makanchi Array 54.81 303*c i*P **P** **15 00 34.9 -0.9**
MKAR Makanchi Array 54.81 303 P **P** **15 00 35.0 -0.9**
comp=Z,1.5nm,0.5s,baz=54,slow=6.4,SNR=28
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 54.81 303 P **P** **15 00 34.9 -0.9**
MKAR Makanchi Array 54.81 303 P **P** **15 00 34.9 -0.9**
AGMN Agassiz Nation 54.95 55 P **P** **15 00 35.9 -0.8**
AGMN IAmb IAmb 15 00 37.3
comp=Z,7.6nm,0.8s
AGMN Agassiz Nation 54.95 55 P **P** **15 00 36.6 -0.1**
baz=312
MAKZ Makanchi 54.96 303 P **P** **15 00 35.8 -1.1**
MAKZ IAmb IAmb 15 00 37.5
comp=Z,4.5nm,0.9s
MAKZ Makanchi 54.96 303 P **P** **15 00 35.8 -1.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
LVZ Lovozero 55.82 342 P **P** **15 00 42.0 -0.7**
LVZ Lovozero 55.82 342 P **P** **15 00 42.1 -0.7**
LVZ pmax pmax
comp=Z,89nm,1.5s
ARCES ARCESS Array B 55.88 346 P **P** **15 00 42.2 -0.9**
comp=Z,5.9nm,0.8s,baz=28,slow=7.6,SNR=14
ARCES LR LR 15 27 00.3
comp=Z,79nm,18.2s,baz=33,slow=39
comp=Z,5.9nm,0.8s
ARCES ARCESS Array B 55.88 346 P **P** **15 00 42.4 -0.7**
ARCES IAmb IAmb 15 01 16.3
comp=Z,16nm,1.5s
BVAR Borovoye Array 56.25 315 P **P** **15 00 46.0 0.0**
comp=Z,14nm,0.7s,baz=52,slow=7.7,SNR=51
comp=Z,14nm,0.7s
BRVK Borovoye 56.27 315 P **P** **15 00 46.0 -0.1**
BRVK Borovoye 56.27 315*ce*P **P** **15 00 46.1 -0.1**
BRVK pmax pmax
comp=Z,14nm,0.8s
SFJD Kangerlussuaq 56.58 19 LR LR 15 26 47.4
comp=Z,75nm,20.6s,baz=2.0,slow=38
SFJD Kangerlussuaq 56.58 19 P **P** **15 00 47.2 -0.9**
SFJD IAmb IAmb 15 01 20.1
comp=Z,15nm,1.2s
SFJD Kangerlussuaq 56.58 19 P **P** **15 00 47.2 -0.9**
SFJD pmax pmax
comp=Z,15nm,1.2s
KTK1 Kautokeino 56.68 347 *e*P **P** **15 00 48.2 -0.6**
KTK1 IAmb IAmb 15 00 51.4
comp=Z,186nm,2.1s
EYMN Ely 57.34 53 P **P** **15 00 53.6 -0.2**
EYMN IAmb IAmb 15 00 54.6
comp=Z,7.7nm,0.7s
EYMN Ely 57.34 53 P **P** **15 00 53.9 +0.1**
baz=314
PZH PanZhiHua 57.62 272 P **P** **15 00 57.8 +1.6**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,130nm,4.6s
F36A Milaca 57.78 55 P **P** **15 00 56.5 -0.4**
E38A The Farm, Brul 58.24 54 P **P** **15 00 59.7 -0.5**
ANMO Albuquerque 58.28 73⇓*e*P **P** **15 01 01.0 +0.1**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
ARU Arti 58.52 323 P **P** **15 01 02.0 0.0**
comp=Z,6.0nm,0.5s,baz=2.1,slow=4.8,SNR=12
ARU LR LR 15 28 04.1
comp=Z,101nm,19.5s,baz=56,slow=38
comp=Z,6.0nm,0.5s
ARU Arti 58.52 323 P **P** **15 01 01.1 -0.8**
ARU IAmb IAmb 15 01 02.4
comp=Z,7.3nm,0.7s
ARU Arti 58.52 323*c i*P **P** **15 01 01.9 0.0**
ARU 15 01 51.4
ARU 15 03 09.1
ARU S **S** **15 09 06.4 +3.0**
ARU pmax pmax
comp=Z,8.0nm,0.7s
PRGR Permogore 58.57 333 *e*P **P** **15 00 58.9 -3.3**

PRGR pmax pmax
comp=Z,6.0nm,1.1s
STEI Steigen 58.67 350 *eP* **P 15 01 02.7 -0.1**
STEI lAmb lAmb 15 01 16.7
comp=Z,68nm,1.4s
FAUS Fauske 59.20 350 *eP* **P 15 01 06.2 -0.3**
FAUS lAmb lAmb 15 01 07.9
comp=Z,14nm,0.8s
KIRV Kirov 59.94 329 P **P 15 01 12.8 +1.1**
comp=Z,11nm,0.7s,baz=58,slow=2.3,SNR=5.4
KIRV LR LR 15 30 15.9
comp=Z,83nm,18.6s,baz=33,slow=39
comp=Z,11nm,0.7s
MOR8 Moi Rana 60.46 350 *eP* **P 15 01 14.0 -1.2**
MOR8 lAmb lAmb 15 01 17.8
comp=Z,24nm,1.1s
E43A Lone Tree Farm 60.62 51 P **P 15 01 16.5 -0.1**
E43A lAmb lAmb 15 01 31.1
comp=Z,7.0nm,0.9s
KLMR Klimovskoe 60.84 336 *eP* **P 15 01 17.0 -0.9**
KLMR AMP 15 01 19.3
comp=Z,27nm,1.2s
KLMR Klimovskoe 60.84 336 *eP* **P 15 01 16.9 -0.9**
KLMR pmax pmax
comp=Z,27nm,1.2s
I42A Draeger Farm, 61.49 54 P **P 15 01 22.4 -0.1**
I42A lAmb lAmb 15 01 53.1
comp=Z,14nm,1.1s
H43A Windswept, Lux 61.63 53 P **P 15 01 23.1 -0.4**
AAK Ala-Archa 61.69 304 P **P 15 01 23.7 -0.4**
AAK lAmb lAmb 15 01 25.5
comp=Z,7.1nm,1.1s
AAK Ala-Archa 61.69 304 P **P 15 01 23.7 -0.4**
AAK pmax pmax
comp=Z,7.0nm,1.1s
KAN14 Manchester OK 61.71 65 P **P 15 01 23.9 -0.2**
NSS Namsos 62.32 350 *eP* **P 15 01 27.2 -0.5**
SCHQ Schefferville 62.45 34 P **P 15 01 27.9 -0.8**
comp=Z,8.7nm,0.7s,baz=336,slow=7.4,SNR=8.6
comp=Z,8.7nm,0.7s
SCHQ Schefferville 62.45 34 P **P 15 01 28.2 -0.6**
KSH Kashi 63.19 300 P **P 15 01 37.8 +3.7**
KSH pP pwP 15 01 49.3 +2.2
KSH pmax pmax
comp=Z,10.0nm,0.8s
FIA1 FINESS Array S 63.25 342 P **P 15 01 33.4 -0.5**
FINES FINESS Array B 63.25 342 P **P 15 01 33.8 -0.2**
comp=Z,8.2nm,0.7s,baz=21,slow=8.3,SNR=20
comp=Z,8.2nm,0.7s
FINES FINESS Array B 63.25 342 P **P 15 01 33.5 -0.4**
KK31 Karatay Array 63.34 307 P **P 15 01 34.5 -0.3**
KK31 lAmb lAmb 15 01 35.9
comp=Z,5.6nm,0.8s
KK31 Karatay Array 63.34 307 P **P 15 01 34.6 -0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 63.34 307 P **P 15 01 34.6 -0.3**
KKAR Karatay Array 63.34 307 P **P 15 01 34.6 -0.3**
ABKAR Akbulak array 63.48 317 P **P 15 01 35.6 0.0**
LPIG La Paz 63.82 84 LR LR 15 27 08.9
comp=Z,36nm,18.1s,baz=231,slow=34
TX31 Lajitas Ar. Si 63.95 75 P **P 15 01 39.5 +0.2**
TX31 lAmb lAmb 15 01 49.3
comp=Z,9.7nm,0.9s
TX32 Lajitas Array 63.95 75 P **P 15 01 39.5 +0.2**
TXAR Lajitas Array 63.95 75 P **P 15 01 40.0 +0.7**
comp=Z,0.7nm,0.5s,baz=307,slow=3.9,SNR=16
comp=Z,0.7nm,0.5s
TXAR Lajitas Array 63.95 75 P **P 15 01 39.4 +0.1**
TXAR Lajitas Array 63.95 75 P **P 15 01 39.4 +0.1**
DOMB Dombas 65.04 351 *eP* **P 15 01 45.1 -0.6**
DOMB lAmb lAmb 15 01 46.4
comp=Z,16nm,0.9s
FVM French Village 65.05 60 P **P 15 01 47.1 +0.9**
FVM lAmb lAmb 15 02 00.1
comp=Z,8.2nm,0.8s
FVM French Village 65.05 60 P **P 15 01 47.1 +0.9**
FVM pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 65.06 269 P **P 15 01 46.9 +0.4**
CHTO lAmb lAmb 15 01 48.4
comp=Z,3.5nm,0.8s
CHTO Chiang Mai 65.06 269 P **P 15 01 46.9 +0.4**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 65.33 268 P **P 15 01 50.2 +1.9**
comp=Z,1.7nm,0.6s,baz=24,slow=7.2,SNR=14
comp=Z,1.7nm,0.6s
CMAR Chiang Mai Arr 65.33 268 P **P 15 01 49.2 +1.0**
CMAR Chiang Mai Arr 65.33 268 P **P 15 01 49.3 +1.0**
BTK Batken 65.46 304 P **P 15 01 48.8 -0.1**
BTK lAmb lAmb 15 01 50.3
comp=Z,10nm,0.9s
BTK Batken 65.46 304 P **P 15 01 48.8 -0.1**
BTK pmax pmax
comp=Z,10.0nm,1.0s
TAPN Taplejung 65.49 283 *eP* **P 15 01 50.6 +1.0**
comp=Z,17nm,0.6s
BELG Belogornoye 65.60 326 P **P 15 01 50.3 +0.8**
comp=Z,25nm,1.0s,baz=124,slow=6.7,SNR=5.9
comp=Z,25nm,1.0s
BELG Belogornoye 65.60 326⇓ *eP* **P 15 01 50.1 +0.6**
BELG pmax pmax
comp=Z,5.0nm,1.0s
NC303 NORSAR Array S 65.61 350 P **P 15 01 48.9 -0.5**
NC204 NORSAR Array S 65.62 350 P **P 15 01 49.2 -0.4**
NC405 NORSAR Array S 65.68 350 P **P 15 01 49.4 -0.5**
NB201 NORSAR Array S 65.79 350 P **P 15 01 50.2 -0.4**
NB2 NORSAR Subarra 65.81 350 P **P 15 01 50.6 -0.2**
baz=12,slow=6.5
NB2 NORSAR Subarra 65.81 350 P **P 15 01 50.6 -0.2**
comp=Z,5.3nm,0.5s,baz=12,slow=6.5
NOA NORSAR Array B 65.81 350 P **P 15 01 50.5 -0.3**
comp=Z,7.8nm,0.6s,baz=12,slow=6.5,SNR=26
NOA LR LR 15 31 39.3
comp=Z,21nm,20.0s,baz=280,slow=37
comp=Z,7.8nm,0.6s
NAO01 NORSAR Array S 66.03 350 P **P 15 01 51.3 -0.9**
NC602 NORSAR Array S 66.07 350 *eP* **P 15 01 52.2 -0.2**
HYA Hoyanger 66.15 353 *eP* **P 15 01 52.9 +0.1**
GUN Gumba 66.16 285 *eP* **P 15 01 54.8 +0.9**
JIRN Jiri 66.16 285 *eP* **P 15 01 55.0 +1.0**
comp=Z,30nm,0.7s
HFS Hagfors 66.41 348 LR LR 15 30 05.0
comp=Z,41nm,21.7s,baz=16,slow=35
RAMN Ramite 66.45 284 *eP* **P 15 01 56.6 +0.9**
comp=Z,37nm,0.5s
SKAR Skarslia 66.45 351 *eP* **P 15 01 54.9 0.0**
SKAR lAmb lAmb 15 02 14.7
comp=Z,912nm,3.2s
KKN Kakani 66.60 285 *eP* **P 15 01 57.6 +1.0**
OBN Obninsk 66.62 334 *eP* **P 15 01 55.6 -0.4**
OBN *e* 15 02 27.1
OBN *e* 15 04 20.5
OBN *e*PPP PPP 15 05 56.5
OBN pmax pmax
comp=Z,12nm,0.9s
OBN MLR MLR
comp=Z,77nm,17.0s
PKI Pulchoki 66.69 285 *eP* **P 15 01 58.1 +0.8**
comp=Z,34nm,0.8s
PKIN Phulchoki 66.69 285 *eP* **P 15 01 58.0 +0.8**
comp=Z,27nm,0.8s
GKN Gorkha 66.82 286 *eP* **P 15 01 58.6 +0.7**
DMN Daman 66.84 285 *eP* **P 15 01 59.2 +1.0**
DANN Dangsing 67.08 287 *eP* **P 15 02 00.5 +0.8**
comp=Z,36nm,0.9s
KONO Kongsberg 67.34 350 *eP* **P 15 02 00.7 +0.2**
ODD1 Odda 67.36 352 *eP* **P 15 02 00.8 +0.1**
AFI Afiamalu 67.57 163 LR LR 15 26 28.3
comp=Z,82nm,21.3s,baz=305,slow=31
PYUN Piuthan 67.72 287 *eP* **P 15 02 04.3 +0.6**
comp=Z,29nm,0.9s
O52A Adamsville 67.80 53 P **P 15 02 03.1 -0.6**
BLS5 Blasjo 67.85 352 *eP* **P 15 02 04.2 +0.4**
BLS5 lAmb lAmb 15 02 08.6
comp=Z,96nm,1.6s
E62A Clayton Lake 68.12 41 P **P 15 02 04.9 -0.8**
M55A Ridgway 68.22 50 P **P 15 02 05.9 -0.5**
M55A lAmb lAmb 15 02 09.6
comp=Z,12nm,0.9s
L56A Greenwood 68.25 49 P **P 15 02 05.7 -0.9**
PLAL Pickwick Lake 68.55 60 P **P 15 02 07.6 -0.9**
J59A Piesco 68.57 46 P **P 15 02 07.1 -1.4**
HOMB Homborsund 68.81 351 *eP* **P 15 02 09.8 +0.1**

VORR Voronezh 68.91 331 *eP* **P 15 02 15.2 +4.7**
VORR pmax pmax
comp=Z,40nm,0.4s
BATG Bathurst New B 68.93 38 P **P 15 02 10.1 -0.6**
NIL Nilore 69.03 298 P **P 15 02 11.8 +0.3**
NIL lAmb lAmb 15 02 13.2
comp=Z,13nm,0.9s
NIL Nilore 69.03 298 P **P 15 02 11.9 +0.3**
NIL pmax pmax
comp=Z,13nm,1.0s
LBNH Lisbon 69.06 44 P **P 15 02 10.7 -0.9**
LBNH Lisbon 69.06 44 P **P 15 02 10.7 -0.9**
LBNH pmax pmax
comp=Z,30nm,1.5s
M57A Sunshine Farm, 69.08 49 P **P 15 02 10.8 -0.9**
NACGM Naroch 69.18 339 *eP* **P 15 02 12.7 +0.6**
comp=Z,22nm,1.1s,baz=22
PABE Paberze 69.20 341 P **P 15 02 12.4 +0.2**
F64A Sherman 69.21 41 P **P 15 02 10.8 -1.6**
SSPA Standing Stone 69.28 50 P **P 15 02 12.0 -1.0**
SSPA Standing Stone 69.28 50 P **P 15 02 12.7 -0.3**
baz=322
L59A Walton 69.35 47 P **P 15 02 12.4 -1.1**
N58A Sunbury 69.66 49 P **P 15 02 14.7 -0.6**
MSVF Nonsavu 70.10 174 LR LR 15 28 47.3
comp=Z,39nm,19.3s,baz=15,slow=32
TKL Tuckaleechee C 70.28 57 LR LR 15 33 58.3
comp=Z,32nm,18.2s,baz=336,slow=37
KBL Kabul 70.58 301 P **P 15 02 20.2 -1.1**
KBL lAmb lAmb 15 02 21.4
comp=Z,11nm,0.8s
KBL Kabul 70.58 301 P **P 15 02 20.2 -1.1**
KBL pmax pmax
comp=Z,11nm,0.9s
ESK Eskdalemuir 72.50 357 P **P 15 02 31.9 -0.3**
ESK lAmb lAmb 15 03 02.8
comp=Z,17nm,1.1s
ESK Eskdalemuir 72.50 357 P **P 15 02 32.0 -0.3**
ESK pmax pmax
comp=Z,17nm,1.1s
AKASG Malin Array Be 72.52 336 P **P 15 02 32.0 -0.4**
comp=Z,5.8nm,0.5s,baz=27,slow=6.2,SNR=19
comp=Z,5.8nm,0.5s
AKASG Malin Array Be 72.52 336 P **P 15 02 32.5 +0.1**
AKBB Malin Array Si 72.52 336 P **P 15 02 32.2 -0.2**
AKBB lAmb lAmb 15 02 33.7
comp=Z,14nm,1.1s
AKBB Malin Array Si 72.52 336 P **P 15 02 32.2 -0.2**
AKBB pmax pmax
comp=Z,14nm,1.1s
AK05 Malin Array Si 72.60 336 P **P 15 02 33.0 +0.1**
AK05 lAmb lAmb 15 02 34.2
comp=Z,15nm,1.0s
GEYT Alibeck 73.28 311 P **P 15 02 38.0 +0.8**
comp=Z,2.8nm,0.8s,baz=86,slow=2.2,SNR=7.1
GEYT LR LR 15 37 12.9
comp=Z,75nm,18.6s,baz=87,slow=38
comp=Z,2.8nm,0.8s
TAOE Nuku Hiva Isla 73.42 130 *e*LR LR 15 25 12.4
comp=Z,100nm,22.4s
DZM Mont Dzumac 74.39 185 *e*LR LR 15 25 42.9
comp=Z,109nm,24.4s
KIV Kislovodsk 74.53 325 *eP* **P 15 02 44.5 0.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
DSB Dublin 74.64 359 P **P 15 02 45.0 +0.2**
KBZ Khabaz 74.65 324 P **P 15 02 46.6 +1.5**
comp=Z,7.8nm,0.8s,baz=357,slow=1.2,SNR=19
comp=Z,7.8nm,0.8s
KBZ Khabaz 74.65 324 *ce*P **P 15 02 46.3 +1.2**
AKT Akhty 74.77 320 *eP* **P 15 02 47.1 +1.1**
AKT *e* 15 03 01.2
AKT pmax pmax
comp=Z,14nm,1.3s
CLL Collm 75.10 347 *eP* **P 15 02 47.0 -0.5**
comp=Z,10.0nm,1.4s
CLL *ep*P **sP 15 02 57.0 -0.9**
CLL *es*P **PcP 15 03 02.0 +0.9**
CLL Collm 75.10 347 *eP* **P 15 02 47.0 -0.5**
CLL *e**PP **sP 15 02 57.0 -0.9**
CLL pmax pmax
comp=Z,10.0nm,1.4s
ZEI Tsey 75.10 323 *eP* **P 15 02 44.1 -3.9**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
SORM Soroca 75.11 336⇓ P **P 15 02 48.2 +0.6**
SORM Soroca 75.11 336⇓ P **P 15 02 48.2 +0.6**
UPC Upice 75.42 344 *eP* **P 15 02 49.8 +0.4**
UPC Upice 75.42 344 *eP* **P 15 02 49.8 +0.4**
STHS Stebnicka Huta 75.51 341 *eP* **P 15 02 51.0 +1.0**
STHS Stebnicka Huta 75.51 341 *eP* **P 15 02 51.0 +1.0**
DPC Dobruska-Polom 75.52 344 *eP* **P 15 02 50.5 +0.5**
DPC Dobruska-Polom 75.52 344 *eP* **P 15 02 50.5 +0.5**
KRLC Kraliky 75.70 344 *eP* **P 15 02 51.6 +0.5**
KRLC Kraliky 75.70 344 *eP* **P 15 02 51.6 +0.5**
KOLS Kolonicke sedl 75.76 340 *eP* **P 15 02 52.5 +1.1**
KOLS Kolonicke sedl 75.76 340 *eP* **P 15 02 52.5 +1.1**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 75.86 343 P **P 15 02 52.1 +0.1**
MORC lAmb lAmb 15 02 56.1
comp=Z,9.1nm,1.3s
MORC Moravsky Berou 75.86 343 *eP* **P 15 02 52.6 +0.6**
MORC Moravsky Berou 75.86 343 P **P 15 02 52.1 +0.1**
MORC pmax pmax
comp=Z,9.0nm,1.3s
CRVS Cervenica-Dubn 75.95 341 *eP* **P 15 02 53.4 +0.9**
CRVS Cervenica-Dubn 75.95 341 *eP* **P 15 02 53.4 +0.9**
PRU Pruhonice 76.15 345 *eP* **P 15 02 53.8 +0.2**
PRU Pruhonice 76.15 345 *eP* **P 15 02 53.8 +0.2**
MAUC Maruska 76.21 343 *eP* **P 15 02 55.0 +1.0**
NKC Novy Kostel 76.22 347 *eP* **P 15 02 55.0 +0.9**
NKC Novy Kostel 76.22 347 *eP* **P 15 02 55.0 +0.9**
BUR08 Bucovina Ar. S 76.33 338 P **P 15 02 55.6 +0.8**
BUR08 lAmb lAmb 15 02 56.5
comp=Z,11nm,0.8s
BURAR Bucovina Array 76.35 338⇑ P **P 15 02 56.2 +1.3**
BURAR Bucovina Array 76.35 338 P **P 15 02 55.7 +0.8**
BURAR Bucovina Array 76.35 338⇑ P **P 15 02 56.2 +1.3**
TRPA Tarpa 76.46 340⇑ P **P 15 02 56.7 +1.3**
VRAC Vranov 76.48 344⇑ P **P 15 02 56.3 +0.8**
VRAC Vranov 76.48 344 LR LR 15 39 48.1
comp=Z,32nm,19.3s,baz=2.5,slow=38
VRAC Vranov 76.48 344 *eP* **P 15 02 56.3 +0.8**
VRAC Vranov 76.48 344⇑ P **P 15 02 56.3 +0.8**
KRUC Moravsky 76.75 344 *eP* **P 15 02 57.8 +0.8**
VYHS Vyhne 76.86 342 *eP* **P 15 02 58.8 +1.1**
VYHS Vyhne 76.86 342 *eP* **P 15 02 58.8 +1.1**
VYHS pmax pmax
comp=Z,10.0nm,1.1s
SMOL Smolenice 77.10 343 *eP* **P 15 03 00.1 +1.1**
KHC Kasperske Hory 77.14 346 P **P 15 02 59.9 +0.6**
KHC lAmb lAmb 15 03 01.2
comp=Z,7.8nm,1.2s
KHC Kasperske Hory 77.14 346 *eP* **P 15 02 59.7 +0.5**
KHC *ex* x 15 03 06.7
KHC Kasperske Hory 77.14 346 *eP* **P 15 02 59.7 +0.5**
KHC *e* 15 03 06.7
MODS Modra-Piesok 77.26 343 *eP* **P 15 03 01.3 +1.4**
MODS Modra-Piesok 77.26 343 *eP* **P 15 03 01.3 +1.4**
MODS pmax pmax
comp=Z,27nm,1.1s
PPT2 Papeete2 77.29 143 *e*LR LR 15 27 01.6
comp=Z,96nm,22.2s
CKRC Cesky Krumlov 77.33 345 *eP* **P 15 03 00.5 +0.2**
GEC2 GERESS Array S 77.39 346 P **P 15 03 00.9 +0.1**
GEC2 lAmb lAmb 15 03 01.6
comp=Z,3.5nm,0.6s
GERES GERESS Array B 77.39 346 P **P 15 03 01.3 +0.5**
comp=Z,2.4nm,0.6s,baz=28,slow=6.2,SNR=27
comp=Z,2.4nm,0.6s
GERES GERESS Array B 77.39 346 P **P 15 03 00.8 +0.1**
GERES GERESS Array B 77.39 346 P **P 15 03 00.9 +0.1**
DRGR 77.69 339⇑ P **P 15 03 03.7 +1.3**
DRGR 77.69 339⇑ P **P 15 03 03.7 +1.3**
COVR Voineasa-Covas 77.78 336⇑ P **P 15 03 03.7 +0.9**
CONA Conrad Observa 77.94 344 *eP* **P 15 03 05.0 +1.2**
comp=Z,5.4nm,0.8s
RONA Rosalia, Austr 78.08 344 *eP* **P 15 03 06.0 +1.5**
comp=Z,5.3nm,1.1s
MLR Muntele Rosu 78.17 336⇑ P **P 15 03 06.1 +0.9**
MLR Muntele Rosu 78.17 336⇑ P **P 15 03 06.1 +0.9**
MOA Molln 78.28 345 *eP* **P 15 03 06.2 +0.6**
comp=Z,4.4nm,1.1s

VOIR 78.44 337⇑ P **P 15 03 08.1 +1.5**
VOIR 78.44 337⇑ P **P 15 03 08.1 +1.5**
CMIG Matias Romero 78.45 77 LR LR 15 35 39.8
comp=Z,31nm,18.9s,baz=350,slow=34
ARSA Arzberg 78.65 344 *eP* **P 15 03 08.8 +1.1**
comp=Z,5.2nm,1.1s
SURR Surduc 78.81 339⇑ P **P 15 03 09.9 +1.4**
GZR Gura Zlata 79.01 339⇑ P **P 15 03 10.3 +0.6**
GZR Gura Zlata 79.01 339⇑ P **P 15 03 10.3 +0.6**
BZS Buzias 79.05 339⇑ P **P 15 03 10.3 +0.5**
BZS Buzias 79.05 339⇑ P **P 15 03 10.3 +0.5**
KBA Koelnbreinsper 79.17 345 *eP* **P 15 03 12.1 +1.3**
comp=Z,18nm,0.9s,SNR=8.1
WATA Walderalm 79.18 347 *i* P **P 15 03 11.3 +0.6**
comp=Z,8.0nm,1.1s
WB2 Warramunga Arr 79.23 216 P **P 15 03 12.8 +1.7**
WRA Warramunga Arr 79.23 216 P **P 15 03 12.2 +1.2**
comp=Z,0.4nm,0.7s,baz=28,slow=5.9,SNR=5.5
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 79.23 216 P **P 15 03 11.9 +0.9**
WRA Warramunga Arr 79.23 216 P **P 15 03 12.0 +0.9**
MOTA Moosalm 79.24 347 *i* P **P 15 03 11.5 +0.5**
comp=Z,9.8nm,1.1s
WTTA Wattenberg 79.24 347 *i* P **P 15 03 11.9 +0.8**
comp=Z,7.0nm,0.7s
SOKA Soboth 79.29 344 *i* P **P 15 03 12.6 +1.3**
comp=Z,3.8nm,0.6s,SNR=8.6
SQTA Sankt Quirin 79.34 347 *i* P **P 15 03 12.3 +0.7**
comp=Z,6.0nm,0.8s
GROS Grobnik 79.42 344 *i* P **P 15 03 12.8 +0.8**
OBKA Obir 79.53 344 *eP* **P 15 03 13.3 +0.7**
comp=Z,9.2nm,0.8s,SNR=5.7
FETA Feichten 79.61 347 *i* P **P 15 03 13.6 +0.5**
comp=Z,3.2nm,0.7s
ABTA Abfaltersbach 79.62 346 *eP* **P 15 03 13.8 +0.7**
comp=Z,9.6nm,1.1s,SNR=6.1
CLUD Cludinico 79.85 346 P **P 15 03 14.4 +0.2**
CIMO Cimolais 80.06 346 P **P 15 03 15.2 -0.1**
CIMO lAmb lAmb 15 03 16.4
comp=Z,4.2nm,1.2s
FUORN Ofenpass-Fuorn 80.06 347 P **P 15 03 15.9 +0.2**
FUORN lAmb lAmb 15 03 17.5
comp=Z,7.0nm,1.1s
CTI Castel Tesino 80.43 346 P **P 15 03 17.3 -0.2**
CTI lAmb lAmb 15 03 18.4
comp=Z,6.5nm,1.1s
CTI Castel Tesino 80.43 346 P **P 15 03 17.3 -0.2**
CTI pmax pmax
comp=Z,7.0nm,1.1s
GBRS Gornja Briga 80.44 344 *i* P **P 15 03 17.9 +0.5**
DIVS Divibare 80.84 340 P **P 15 03 19.9 +0.2**
DIVS lAmb lAmb 15 03 21.6
comp=Z,5.7nm,1.0s
SALO Salr 81.01 347 P **P 15 03 20.0 -0.5**
SALO lAmb lAmb 15 03 21.6
comp=Z,9.3nm,0.7s
TEOL Teolo 81.10 346 P **P 15 03 21.4 +0.5**
BR131 Keskin Array S 81.34 329 P **P 15 03 22.5 0.0**
BR131 lAmb lAmb 15 03 24.2
comp=Z,12nm,0.8s
BR131 Keskin Array S 81.34 329 P **P 15 03 22.5 0.0**
BR131 pmax pmax
comp=Z,12nm,0.8s
BRTR Keskin Array B 81.34 329 P **P 15 03 23.4 +0.8**
comp=Z,6.4nm,0.7s,baz=62,slow=3.1,SNR=43
BRTR LR LR 15 42 37.0
comp=Z,43nm,19.1s,baz=32,slow=38
comp=Z,6.4nm,0.7s
BRTR Keskin Array B 81.34 329 P **P 15 03 22.9 +0.4**
BRTR Keskin Array B 81.34 329 *ce*P **P 15 03 23.3 +0.8**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BNN Bunyan 81.42 327 P **P 15 03 22.9 0.0**
VTS Vitosha 81.53 337⇑ P **P 15 03 23.7 +0.3**
VTS Vitosha 81.53 337 P **P 15 03 23.2 -0.3**
VTS Vitosha 81.53 337 P **P 15 03 23.2 -0.3**
VTS pmax pmax
comp=Z,4.0nm,0.9s
BORA Eskisehir 82.17 331 P **P 15 03 27.2 +0.4**
BORA lAmb lAmb 15 03 28.3
comp=Z,10nm,0.9s
RDO Rodhopi 82.35 335 P **P 15 03 28.2 +0.6**
RDO lAmb lAmb 15 03 29.4
comp=Z,11nm,0.9s
MSSA Maissana 82.42 347 P **P 15 03 27.8 -0.2**
MSSA lAmb lAmb 15 03 36.8
comp=Z,8.1nm,0.9s
PDG Podgorica 82.59 340⇑ P **P 15 03 27.8 -1.0**
PDG Podgorica 82.59 340 P **P 15 03 29.0 +0.2**
PDG lAmb lAmb 15 03 29.9
comp=Z,10nm,1.0s
TBI Tubuai 82.62 145 *e*LR LR 15 29 28.8
comp=Z,2μm,25.0s
TBI *e*LR LR 15 29 29.6
comp=Z,458nm,26.8s
ASAR Alice Springs 82.81 215 P **P 15 03 32.5 +2.5**
comp=Z,0.4nm,0.7s,baz=23,slow=4.9,SNR=14
comp=Z,0.4nm,0.7s
OSSC Osservatorio P 82.96 346 P **P 15 03 30.8 0.0**
OSSC lAmb lAmb 15 03 32.1
comp=Z,11nm,1.0s
MURB Monte Urbino 83.02 345 P **P 15 03 31.4 +0.3**
NRCA Norcia 83.34 345 P **P 15 03 33.3 +0.4**
CASP Castiglione de 83.73 346 P **P 15 03 33.9 -0.8**
CASP lAmb lAmb 15 03 35.4
comp=Z,4.4nm,0.8s
LATE Laterza 83.77 345 P **P 15 03 34.8 -0.2**
CSS Mathiatis 85.78 327 P **P 15 03 45.9 +0.6**
KARP Karpathos 87.15 332 P **P 15 03 51.0 -0.9**
STKA Stephens Creek 88.13 206 LR LR 15 40 52.8
comp=Z,42nm,19.6s,baz=20,slow=34
ESDC Sonseca Array 88.16 357 P **P 15 03 56.2 -0.5**
comp=Z,0.9nm,0.8s,baz=353,slow=4.9,SNR=6.0
ESDC LR LR 15 43 34.9
comp=Z,16nm,18.1s,baz=343,slow=36
comp=Z,0.9nm,0.8s
BOSA Boshof 145.80 301 PKPbc **PKPbc 15 10 45.1 +0.2**
comp=Z,0.8nm,0.4s,baz=44,slow=4.4,SNR=5.6

IDC ***27*** *14:56:11.2₀±1.3, 37.34N×141.41E, h0km, mb4.0/12, mbtmp3.9/16, ML3.1/4, MS3.1/4, Error ellipse: s-maj=29.4km s-min=19.6km az=156.0*
NIED ***27*** *14:56:11.9, 37.25N×141.54E, h26km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=6.54; Mθθ=0.12; Mφφ=6.42; Mrθ=-0.23; Mθφ=0.53; Mφr=3.09; Fault plane solution: M₀7.20000×10¹⁴ NP1:φ₀9.00000°, δ33.00000°, λ-84.00000°. NP2:φ₀181.00000°, δ58.00000°, λ-94.00000°.*
JMA ***27*** *14:56:11.9₀±0.2, 37.3N±0.3×141.5E±0.8, h26km±1km, MD4.2/35, MV4.1/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NEIC ***27*** *14:56:12.6₀±0.8, 37.29N±0.05×141.44E±0.06, h13km±5km, mb4.3/11, Error ellipse: s-maj=9.9km s-min=1.8km az=48.0*
ISC 27 14:56:11.1±2.0, 37.25N±0.04×141.50E±0.06, h6km±11km, n73, σ0s90/57, mb4.1/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**283**	P		**Pb**	**14 56 22.3**	**-0.3**
JFK				S		**Sb**	**14 56 29.9**	**-0.5**
JFK	**Kawauchi**	**0.52**	**283**	A		A	14 56 22.3	
	comp=E,7.0nm,3.4s,comp=E,5.0nm,2.1s							
JMST	**Minamisoumatoc**	**0.68**	**314**	P		**Pb**	**14 56 25.2**	**-0.2**
JMST				S		**Sb**	**14 56 34.9**	**-0.2**
JMST	**Minamisoumatoc**	**0.68**	**314**	A		A	14 56 25.2	
	comp=E,10.0nm,1.0s,comp=E,12nm,0.3s							
JFFD	**Fukushimafurud**	**0.77**	**258**	P		**Pg**	**14 56 26.7**	**+0.8**
JFFD				S		**Sb**	**14 56 37.0**	**-0.6**
JFFD	**Fukushimafurud**	**0.77**	**258**	A		A	14 56 26.7	
	comp=E,8.0nm,0.5s,comp=E,8.0nm,0.7s							
JMM	**Marumori**	**0.83**	**318**	Pg		**Pg**	**14 56 27.6**	**+0.5**
JMM				Sg		**Sg**	**14 56 37.8**	**-0.2**
JMM	**Marumori**	**0.83**	**318**	P		**Pg**	**14 56 27.6**	**+0.5**
JMM				S		**Sb**	**14 56 39.1**	**-0.4**
JMM	**Marumori**	**0.83**	**318**	A		A	14 56 27.6	
	comp=E,4.0nm,1.7s,comp=E,6.0nm,0.7s							
JHO	**Hitachi**	**0.98**	**230**	P		**Pb**	**14 56 29.4**	**-1.1**
JIO	**Ouri**	**1.21**	**354**	P		**Pb**	**14 56 33.3**	**-1.1**
JIO				S		**Sb**	**14 56 49.3**	**-1.0**
JYAR	**Yonezawaarcadi**	**1.27**	**302**	A		A	14 56 34.5	

comp=E,18nm,0.6s,comp=E,16nm,1.3s
JOU Okura 1.30 329 A A 14 56 34.9
comp=E,12nm,0.4s,comp=E,21nm,0.7s
JSB Shiboa 1.30 258 A A 14 56 35.1
comp=E,16nm,3.1s,comp=E,12nm,1.1s
JOFO Osakifurukawao 1.43 341 A A 14 56 36.8
comp=E,23nm,1.9s,comp=E,16nm,3.1s
JFY Yanaizu 1.44 277 A A 14 56 37.3
comp=E,5.0nm,0.5s,comp=E,4.0nm,2.5s
JYT Yasato 1.47 226 A A 14 56 37.5
comp=E,5.0nm,0.4s,comp=E,3.0nm,4.9s
JYS Shirataka 1.50 311 A A 14 56 38.0
comp=E,14nm,0.6s,comp=E,11nm,1.5s
JYA Atsumi 1.95 314 A A 14 56 44.6
comp=E,5.0nm,0.6s,comp=E,5.0nm,1.4s
JIZZ Izumozaki 2.24 278 A A 14 56 49.0
comp=E,7.0nm,0.9s,comp=E,6.0nm,4.1s
MJAR Matsushiro Arr 2.73 256 Pn **Pn 14 56 56.0 +0.4**
1.1nm,0.3s,baz=79,slow=16,SNR=47
MJAR Sn **Sb 14 57 31.4 -2.8**
1.3nm,0.3s,baz=273,slow=31,SNR=6.5
MJAR LR LR 14 58 14.0
comp=Z,353nm,18.9s,baz=72,slow=46
14nm,0.5s
MJAR Matsushiro Arr 2.73 256 P **Pn 14 56 56.0 +0.4**
MAJO Matsushiro 2.73 256 P **Pn 14 56 56.8 +1.2**
MAJO Matsushiro 2.73 256 P **Pn 14 56 56.8 +1.2**
MJB9 Matsu-Tunnel 2.74 256 P **Pn 14 56 57.5 +1.9**
JTM Tenmabayashi 3.55 355 Pn 14 57 07.2 +0.4
JGF Kuroka 3.73 245 Pn 14 57 10.7 +1.5
INU Inuyama 4.09 244 Pn 14 57 14.8 +0.6
JHJ Hachijo jima 2 4.36 199 Pn **Pn 14 57 17.9 0.0**
8.9nm,0.3s,baz=52,slow=23,SNR=2.0
JHJ Sn **Sn 14 58 09.0 0.0**
6.9nm,0.3s,baz=268,slow=14,SNR=2.2
70nm,0.6s
JHJ Hachijo jima 2 4.36 199 Pn 14 57 17.9 0.0
ERM Erimo 4.93 14 Pn **Pn 14 57 25.8 +0.2**
JKA Kamikawa-asahi 6.91 7 Pn **Pn 14 57 52.6 -0.3**
JNU Nakatsue 9.62 248 LR LR 15 02 25.4
comp=Z,105nm,18.2s,baz=42,slow=39
USRK Ussuriysk Ar. 10.01 317 Pn **Pn 14 58 33.0 -2.4**
0.2nm,0.3s,baz=147,slow=19,SNR=3.8
2.0nm,0.6s
KSRS Korea Array 10.81 275 Pn **Pn 14 58 48.5 +2.0**
0.1nm,0.3s,baz=84,slow=14,SNR=0.9
KSRS LR LR 15 02 54.5
comp=Z,82nm,18.4s,baz=60,slow=38
0.8nm,0.8s
YAK Yakutsk 25.88 347 P **P 15 01 43.0 -0.3**
YAK IAmb IAmb 15 01 48.4
comp=Z,11nm,0.8s
SEY Seymchan 26.57 11 P **P 15 01 50.1 +0.5**
comp=Z,1.2nm,0.6s,baz=192,slow=20,SNR=2.2
comp=Z,1.2nm,0.6s
SEY Seymchan 26.57 11 P **P 15 01 50.1 +0.5**
SONM Songino Array 27.73 304 P **P 15 02 00.2 -0.2**
comp=Z,1.6nm,0.9s,baz=98,slow=10,SNR=3.0
comp=Z,1.6nm,0.9s
H11N2 WAKE ISLAND Hy 28.20 121 T T 15 31 30.4
baz=313
H11N1 WAKE ISLAND Hy 28.20 121 T T 15 31 32.8
baz=313
H11N3 WAKE ISLAND Hy 28.21 121 T T 15 31 32.5
baz=319
H11S1 WAKE ISLAND Hy 28.92 123 T T 15 32 22.5
baz=316
H11S3 WAKE ISLAND Hy 28.92 123 T T 15 32 25.4
baz=316
H11S2 WAKE ISLAND Hy 28.93 123 T T 15 32 26.4
baz=316
KIWB Kanaga Island 32.40 50 P **P 15 02 41.5 0.0**
TIXI Tiksi 35.08 353 P **P 15 03 04.4 -0.2**
comp=Z,0.7nm,0.5s,baz=90,slow=24,SNR=2.6
comp=Z,0.7nm,0.5s
TIXI Tiksi 35.08 353 P **P 15 03 04.8 +0.2**
CMAR Chiang Mai Arr 41.62 255 LR LR 15 21 38.8
comp=Z,20nm,20.0s,baz=205,slow=37
ZALV Zalesovo Beam 41.82 312 P **P 15 04 01.4 -0.1**
comp=Z,1.5nm,0.6s,baz=101,slow=6.3,SNR=8.7
comp=Z,1.5nm,0.6s
MKAR Makanchi Array 44.06 302 P **P 15 04 19.8 0.0**
comp=Z,1.4nm,0.7s,baz=90,slow=8.6,SNR=8.0
comp=Z,1.4nm,0.7s
MKAR Makanchi Array 44.06 302 P **P 15 04 19.5 -0.3**
MAKZ Makanchi 44.27 302 P **P 15 04 21.0 -0.5**
MAKZ IAmb IAmb 15 04 25.9
comp=Z,2.0nm,0.8s
K20K Telida 46.11 34 P **P 15 04 37.3 +1.5**
K20K IAmb IAmb 15 04 50.8
comp=Z,2.4nm,1.1s
IMAR Indian Mountai 46.43 31 P **P 15 04 38.3 +0.1**
P19K Oil Pt 46.47 40 P **P 15 04 38.7 0.0**
KTH Kantishna Hill 47.53 34 P **P 15 04 47.8 +0.8**
ILAR Eielson Array 49.27 32 P **P 15 05 00.8 +0.5**
comp=Z,0.7nm,0.8s,baz=264,slow=6.1,SNR=6.4
comp=Z,0.7nm,0.8s
INK Inuvik 54.16 27 P **P 15 05 38.0 +1.3**
comp=Z,1.7nm,1.0s,baz=245,slow=3.6,SNR=2.8
comp=Z,1.7nm,1.0s
INK Inuvik 54.16 27 P **P 15 05 38.0 +1.3**
INK IAmb IAmb 15 06 09.9
comp=Z,3.8nm,1.2s
ABKAR Akbulak array 57.85 310 P **P 15 06 02.9 -0.6**
EUNU Eureka 59.96 9 P **P 15 06 17.8 0.0**
EUNU IAmb IAmb 15 06 52.2
comp=Z,1.5nm,1.0s
PSA00 Pilbara Seismi 61.97 203 P **P 15 06 31.7 -0.3**
PSA00 IAmb IAmb 15 07 10.1
comp=Z,12nm,1.2s
RES Resolute Bay 62.37 14 P **P 15 06 34.0 -0.1**
RES IAmb IAmb 15 07 08.1
comp=Z,7.1nm,1.5s
GEYT Alibeck 63.79 299 P **P 15 06 44.8 +0.6**
comp=Z,2.7nm,0.8s,baz=236,slow=5.0,SNR=5.4
comp=Z,2.7nm,0.8s
ARCES ARCESS Array B 63.82 339 P **P 15 06 44.2 +0.4**
comp=Z,2.4nm,0.8s,baz=47,slow=8.8,SNR=5.8
comp=Z,2.4nm,0.8s
FINES FINESS Array B 68.66 332 P **P 15 07 15.2 +0.3**
comp=Z,4.2nm,0.8s,baz=40,slow=10,SNR=3.8
comp=Z,4.2nm,0.8s
AKASG Malin Array Be 74.17 322 P **P 15 07 48.0 -0.3**
comp=Z,1.4nm,0.6s,baz=48,slow=6.1,SNR=4.6
comp=Z,1.4nm,0.6s
TXAR Lajitas Array 89.93 52 P **P 15 09 11.6 0.0**
comp=Z,0.1nm,0.6s,baz=328,slow=3.2,SNR=2.2
comp=Z,0.1nm,0.6s
LPAZ La Paz 146.52 59 PKPbc **PKPab 15 15 56.5 +0.9**
comp=Z,0.9nm,0.7s,baz=343,slow=5.3,SNR=3.2
H03N2 Juan Fernandez 146.97 96 T T 18 00 02.3
baz=291,slow=76,SNR=13
H03N3 Juan Fernandez 146.99 96 T T 18 00 05.1
baz=291,slow=76,SNR=15
H03N1 Juan Fernandez 146.99 96 T T 18 00 03.8
baz=291,slow=76,SNR=14

*IDC **27** 14:58:29.4±2.2,21.°55N×143.°27E,h305km±21km, mb3.4/16,mbtmp4.1/18,Error ellipse: s-maj=16.7km s-min=10.9km az=91.0*
*NEIC **27** 14:58:29.4±1.4,21.°51N±0.°08×143.°2E±0.°1,h300km±8km, mb4.2/89,Error ellipse: s-maj=18.2km s-min=12.0km az=84.0*
ISC 27 14:58:30.3±0.5,21.°56N±0.°07×143.°2E±0.°1,h311km,n127, σ0.971/130,mb4.2/57,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.59**	**351**	P	**Pn**	**14 59 53.9**	**-1.1**
	73nm,0.3s,baz=111,slow=18,SNR=14						
JCJ				S	**S**	**15 01 01.1**	**-2.1**
	72nm,0.4s,baz=269,slow=23,SNR=7.4						
JCJ	**Chichijima**	**5.59**	**351**	Pn	**Pn**	**14 59 54.3**	**-0.7**
JMN	**Monobe**	**14.66**	**328**	Pn	**Pn**	**15 01 45.5**	**+1.1**
INU	**Inuyama**	**14.77**	**340**	P	**Pn**	**15 01 45.4**	**-0.2**
JGF	**Kuroka**	**14.89**	**341**	P	**P**	**15 01 44.7**	**-0.9**
MJAR	**Matsushiro Arr**	**15.55**	**345**	P	**P**	**15 01 52.8**	**+0.1**
	1.8nm,0.3s,baz=160,slow=11,SNR=16						
MAJO	**Matsushiro**	**15.55**	**345**	P	**P**	**15 01 53.0**	**+0.3**
MAJO				IAmb	IAmb	15 02 23.2	
	comp=Z,9.8nm,0.9s						
MJB9	**Matsu-Tunnel**	**15.55**	**345**	P	**P**	**15 01 53.1**	**+0.3**
MJB9				IAmb	IAmb	15 02 24.2	
	comp=Z,9.4nm,0.9s						
JMM	**Marumori**	**16.38**	**353**	P	**P**	**15 02 03.2**	**+1.4**
JSD	**Sado**	**16.96**	**347**	P	**P**	**15 02 07.6**	**-0.4**
KSRS	**Korea Array**	**20.63**	**323**	P	**P**	**15 02 47.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=150,slow=8.5,SNR=4.2						
	comp=Z,1.4nm,0.7s						
KLR	**Kul'dur**	**29.07**	**344**	P	**P**	**15 04 03.0**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=139,slow=12,SNR=4.5						
	comp=Z,0.9nm,0.4s						
SBUM	**Sibu**	**35.63**	**242**	P	**P**	**15 05 00.3**	**+0.7**
MTN	**Manton Dam**	**36.19**	**200**	P	**P**	**15 05 03.1**	**-1.1**
MTN				IAmb	IAmb	15 05 15.3	
	comp=Z,6.1nm,1.0s						
SONM	**Songino Array**	**39.45**	**321**	P	**P**	**15 05 31.2**	**0.0**
	comp=Z,0.4nm,0.4s,baz=128,slow=6.6,SNR=4.3						
	comp=Z,0.4nm,0.4s						
KNRA	**Kununurra**	**39.63**	**202**	P	**P**	**15 05 31.8**	**-1.0**
KNRA				IAmb	IAmb	15 05 50.7	
	comp=Z,10nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.60**	**274**	P	**P**	**15 05 49.8**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=79,slow=6.1,SNR=8.2						
	comp=Z,0.5nm,0.3s						
WB0	**Warramunga Arr**	**41.97**	**192**	P	**P**	**15 05 51.4**	**-0.4**
WR0	**Warramunga Arr**	**42.13**	**192**	P	**P**	**15 05 52.4**	**-0.6**
WRAB	**Tennant Creek**	**42.14**	**192**	P	**P**	**15 05 52.7**	**-0.4**
WB2	**Warramunga Arr**	**42.15**	**192**	P	**P**	**15 05 52.8**	**-0.5**
WRA	**Warramunga Arr**	**42.15**	**192**	P	**P**	**15 05 52.8**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=13,slow=8.8,SNR=53						
	comp=Z,0.3nm,0.3s						
KULM	**Kulim**	**44.25**	**255**	P	**P**	**15 06 11.0**	**+0.9**
KULM				IAmb	IAmb	15 06 11.4	
	comp=Z,14nm,1.4s						
ASAR	**Alice Springs**	**45.86**	**192**	P	**P**	**15 06 21.6**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=10,slow=6.6,SNR=7.6						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**45.86**	**192**	P	**P**	**15 06 21.9**	**-0.6**
BILL	**Bilibino**	**48.65**	**11**	P	**P**	**15 06 43.7**	**+0.6**
GSI	**Gunungsitoli**	**48.77**	**252**	P	**P**	**15 06 44.8**	**-0.2**
UNV	**Unalaska Valle**	**49.70**	**37**	P	**P**	**15 06 51.4**	**+0.1**
UNV				IAmb	IAmb	15 07 07.5	
	comp=Z,27nm,1.0s						
TIXI	**Tiksi**	**50.78**	**354**	P	**P**	**15 06 59.5**	**+0.5**
STKA	**Stephens Creek**	**53.16**	**182**	P	**P**	**15 07 16.1**	**0.0**
STKA	**Stephens Creek**	**53.16**	**182**	P	**P**	**15 07 15.9**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=339,slow=8.5,SNR=3.7						
	comp=Z,1.5nm,0.8s						
ZAA0	**Zalesovo Array**	**54.33**	**322**	P	**P**	**15 07 24.8**	**-0.4**
ZALV	**Zalesovo Beam**	**54.33**	**322**	P	**P**	**15 07 24.8**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=105,slow=7.4,SNR=6.0						
ZALV				PcP	**PcP**	**15 08 23.7**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=126,slow=5.6,SNR=5.5						
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**54.33**	**322**	P	**P**	**15 07 24.5**	**-0.7**
MK31	**Makanchi Array**	**54.80**	**313**	P	**P**	**15 07 28.5**	**-0.2**
MKAR	**Makanchi Array**	**54.80**	**313**	P	**P**	**15 07 28.8**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=90,slow=8.7,SNR=18						
MKAR				PcP	**PcP**	**15 08 26.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=76,slow=4.9,SNR=6.3						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**54.80**	**313**	P	**P**	**15 07 28.5**	**-0.2**
CHGN	**Chignik**	**54.87**	**35**	P	**P**	**15 07 29.2**	**+0.2**
MAKZ	**Makanchi**	**55.02**	**313**	P	**P**	**15 07 30.2**	**0.0**
N18K	**Kilae Creek**	**57.26**	**31**	P	**P**	**15 07 46.8**	**+1.0**
N18K				IAmb	IAmb	15 07 57.3	
	comp=Z,22nm,1.5s						
SVW2	**Sparrevohn**	**57.51**	**30**	P	**P**	**15 07 48.4**	**+0.9**
SVW2				IAmb	IAmb	15 07 58.3	
	comp=Z,24nm,1.4s						
KURK	**Kurchatov**	**57.59**	**317**	P	**P**	**15 07 47.9**	**-0.3**
L19K	**White Mountain**	**58.12**	**29**	P	**P**	**15 07 52.1**	**+0.4**
K20K	**Telida**	**58.77**	**28**	P	**P**	**15 07 56.8**	**+0.7**
K20K				IAmb	IAmb	15 08 08.6	
	comp=Z,7.6nm,1.5s						
J20K	**Nowinta River**	**58.95**	**27**	P	**P**	**15 07 58.7**	**+1.4**
J20K				IAmb	IAmb	15 08 10.0	
	comp=Z,5.8nm,1.2s						
PPLA	**Purkeypile**	**59.49**	**29**	P	**P**	**15 08 01.6**	**+0.4**
PPLA				IAmb	IAmb	15 08 13.1	
	comp=Z,10.0nm,1.3s						
BRLK	**Bradley Lake**	**59.51**	**32**	P	**P**	**15 08 00.8**	**-0.5**
IMAR	**Indian Mountai**	**59.60**	**25**	P	**P**	**15 08 02.4**	**+0.7**
SKT	**Skwentna**	**59.60**	**30**	P	**P**	**15 08 01.8**	**0.0**
SKT				IAmb	IAmb	15 08 32.0	
	comp=Z,13nm,1.4s						
CAST	**Castle Rocks**	**59.65**	**28**	P	**P**	**15 08 02.2**	**+0.1**
CAST				IAmb	IAmb	15 08 03.9	
	comp=Z,4.4nm,0.9s						
SUA	**Susitna One**	**59.87**	**30**	P	**P**	**15 08 03.4**	**-0.3**
SUA				IAmb	IAmb	15 08 24.8	
	comp=Z,20nm,1.3s						
H21K	**Melozitna Rive**	**59.89**	**26**	P	**P**	**15 08 04.8**	**+1.2**
I21K	**Tanana**	**60.10**	**26**	P	**P**	**15 08 06.3**	**+1.2**
I21K				IAmb	IAmb	15 08 11.2	
	comp=Z,6.9nm,1.4s						
KTH	**Kantishna Hill**	**60.19**	**28**	P	**P**	**15 08 06.2**	**+0.3**
BPAW	**Bear Paw Mtn.**	**60.28**	**27**	P	**P**	**15 08 07.0**	**+0.7**
BPAW				IAmb	IAmb	15 08 12.9	
	comp=Z,11nm,1.4s						
RC01	**Rabbit Creek A**	**60.29**	**31**	P	**P**	**15 08 06.1**	**-0.3**
RC01				IAmb	IAmb	15 08 10.3	
	comp=Z,18nm,1.2s						
A21K	**Barrow**	**60.33**	**19**	P	**P**	**15 08 07.0**	**+0.5**
A21K				IAmb	IAmb	15 08 35.7	
	comp=Z,8.3nm,0.9s						
TRF	**Thorofare Moun**	**60.45**	**28**	P	**P**	**15 08 07.5**	**-0.2**
TRF				IAmb	IAmb	15 08 39.7	
	comp=Z,17nm,1.4s						
MLY	**Manley**	**60.58**	**26**	P	**P**	**15 08 09.1**	**+0.7**
PMR	**Palmer**	**60.66**	**30**	P	**P**	**15 08 08.9**	**+0.1**
PMR				IAmb	IAmb	15 08 20.2	
	comp=Z,13nm,1.3s						
GHO	**Glory Hole Cre**	**60.78**	**30**	P	**P**	**15 08 10.0**	**+0.2**
PWL	**Port Wells**	**60.93**	**31**	P	**P**	**15 08 10.8**	**+0.1**
PWL				IAmb	IAmb	15 08 17.6	
	comp=Z,17nm,1.0s						
KNK	**Knik Glacier**	**60.95**	**31**	P	**P**	**15 08 11.3**	**+0.4**
SML	**Sawmill**	**61.06**	**30**	P	**P**	**15 08 12.1**	**+0.4**
I23K	**Minto, Yukon-K**	**61.18**	**26**	P	**P**	**15 08 13.8**	**+1.5**
NEA2	**Nenana**	**61.19**	**27**	P	**P**	**15 08 13.5**	**+1.0**
NEA2				IAmb	IAmb	15 08 56.5	
	comp=Z,7.1nm,1.4s						
H23K	**Yukon River**	**61.24**	**26**	P	**P**	**15 08 13.7**	**+0.9**
SCM	**Sheep Creek Mo**	**61.54**	**30**	P	**P**	**15 08 15.1**	**+0.2**
MDM	**Murphy Dome**	**61.61**	**27**	P	**P**	**15 08 15.3**	**+0.1**
DHY	**Denali Highway**	**61.69**	**29**	P	**P**	**15 08 16.2**	**+0.3**
DHY				IAmb	IAmb	15 08 53.9	
	comp=Z,14nm,1.5s						
CCB	**Clear Creek Bu**	**61.74**	**27**	P	**P**	**15 08 15.7**	**-0.3**
TOLK	**Toolik Lake Re**	**61.84**	**23**	P	**P**	**15 08 18.1**	**+1.5**
TOLK				IAmb	IAmb	15 08 19.4	
	comp=Z,4.5nm,1.1s						
H24K	**Noodor Dome**	**61.91**	**26**	P	**P**	**15 08 17.9**	**+0.7**
M24K	**Tolsona, Glenn**	**62.11**	**30**	P	**P**	**15 08 19.6**	**+1.0**
IL31		**62.15**	**27**	P	**P**	**15 08 17.6**	**-1.1**
IL31				IAmb	IAmb	15 08 55.9	
	comp=Z,9.6nm,1.4s						
ILAR	**Eielson Array**	**62.15**	**27**	P	**P**	**15 08 17.9**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=261,slow=5.3,SNR=16						
	comp=Z,1.2nm,0.6s						
KLU	**Klutina**	**62.16**	**31**	P	**P**	**15 08 19.5**	**+0.5**
BMRM	**Bremner River**	**62.75**	**31**	P	**P**	**15 08 23.7**	**+0.9**
J25K	**Salcha River,**	**62.77**	**27**	P	**P**	**15 08 21.9**	**-1.1**
N25K	**Chitina, Valde**	**62.81**	**31**	P	**P**	**15 08 23.8**	**+0.5**
BRVK	**Borovoye**	**62.85**	**320**	P	**P**	**15 08 23.6**	**0.0**
BRVK				IAmb	IAmb	15 08 24.4	
	comp=Z,4.2nm,0.5s						
HMT	**Hamilton**	**62.87**	**32**	P	**P**	**15 08 24.0**	**+0.4**
RIDG	**Independent Ri**	**62.90**	**28**	P	**P**	**15 08 23.5**	**-0.2**
RIDG				IAmb	IAmb	15 08 37.6	
	comp=Z,12nm,1.5s						
KK31	**Karatay Array**	**63.15**	**308**	P	**P**	**15 08 25.7**	**-0.1**
KKAR	**Karatay Array**	**63.15**	**308**	P	**P**	**15 08 25.8**	**0.0**
SCRK	**Sand Creek**	**63.30**	**28**	P	**P**	**15 08 26.8**	**+0.3**
SCRK				IAmb	IAmb	15 09 02.9	
	comp=Z,8.0nm,1.5s						
BMAR	**Burnt Mountain**	**63.46**	**24**	P	**P**	**15 08 28.7**	**+1.4**
J26L	**Joseph Creek**	**63.54**	**28**	P	**P**	**15 08 27.8**	**-0.2**
J26L				IAmb	IAmb	15 08 50.7	
	comp=Z,3.9nm,1.3s						
K27K	**Chicken**	**64.15**	**28**	P	**P**	**15 08 32.2**	**+0.4**
K27K				IAmb	IAmb	15 09 04.6	
	comp=Z,12nm,1.4s						
BCAR	**Beaver Creek A**	**64.22**	**29**	P	**P**	**15 08 32.9**	**+0.6**
EGAK	**Eagle**	**64.59**	**27**	P	**P**	**15 08 34.8**	**+0.2**
EGAK				IAmb	IAmb	15 09 15.4	
	comp=Z,9.4nm,1.4s						
DAWY	**Dawson**	**65.33**	**28**	P	**P**	**15 08 39.9**	**+0.4**
DAWY				IAmb	IAmb	15 08 53.5	
	comp=Z,7.5nm,1.4s						
HYT	**Haines Junctio**	**66.22**	**32**	P	**P**	**15 08 46.5**	**+1.3**
EPYK	**Eagle Plains**	**66.48**	**26**	P	**P**	**15 08 47.6**	**+0.9**
EPYK				IAmb	IAmb	15 08 48.0	
	comp=Z,3.1nm,0.7s						
INK	**Inuvik**	**67.68**	**24**	P	**P**	**15 08 54.2**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=268,slow=2.4,SNR=7.1						
	comp=Z,2.6nm,1.1s						
INK	**Inuvik**	**67.68**	**24**	P	**P**	**15 08 54.0**	**-0.1**
ARU	**Arti**	**69.38**	**324**	P	**P**	**15 09 04.2**	**-0.6**
ARU				IAmb	IAmb	15 09 04.7	
	comp=Z,3.3nm,0.4s						
ABKAR	**Akbulak array**	**69.66**	**316**	P	**P**	**15 09 06.0**	**-0.6**
A36M	**Sachs Harbour**	**70.16**	**19**	P	**P**	**15 09 09.4**	**+0.3**
A36M				IAmb	IAmb	15 09 14.0	
	comp=Z,4.8nm,1.0s						
C36M	**Paulatuk**	**70.98**	**22**	P	**P**	**15 09 13.8**	**-0.3**
C36M				IAmb	IAmb	15 09 14.3	
	comp=Z,2.7nm,0.7s						
EUNU	**Eureka**	**75.23**	**8**	P	**P**	**15 09 38.9**	**+0.1**
YKA	**Yellowknife Ar**	**76.56**	**28**	P	**P**	**15 09 46.5**	**0.0**
	comp=Z,2.8nm,0.7s,baz=292,slow=6.2,SNR=15						
	comp=Z,2.8nm,0.7s						
YKA	**Yellowknife Ar**	**76.56**	**28**	P	**P**	**15 09 46.1**	**-0.4**
WAPA	**Wapiti River**	**76.75**	**36**	P	**P**	**15 09 47.8**	**0.0**
WAPA				IAmb	IAmb	15 10 23.0	
	comp=Z,2.9nm,0.9s						
RES	**Resolute Bay**	**77.20**	**13**	P	**P**	**15 09 50.0**	**+0.2**
RES				IAmb	IAmb	15 10 25.4	
	comp=Z,7.9nm,1.4s						
KEV	**Kevo**	**78.49**	**341**	P	**P**	**15 09 57.3**	**+0.4**
ARCES	**ARCESS Array B**	**79.05**	**342**	P	**P**	**15 10 00.1**	**0.0**
	comp=Z,2.8nm,0.5s,baz=69,slow=7.8,SNR=18						
	comp=Z,2.8nm,0.5s						
ARCES	**ARCESS Array B**	**79.05**	**342**	P	**P**	**15 10 00.2**	**+0.2**
PINE	**Pine Mountain**	**79.44**	**47**	P	**P**	**15 10 03.9**	**+1.0**
K05A	**Summer Lake**	**79.83**	**48**	P	**P**	**15 10 06.1**	**+1.0**
TULEG	**Thule**	**80.19**	**7**	P	**P**	**15 10 06.0**	**0.0**
NEW	**Newport**	**80.37**	**42**	P	**P**	**15 10 07.9**	**+0.4**
NEW				IAmb	IAmb	15 10 28.8	
	comp=Z,3.0nm,1.3s						
KBZ	**Khabaz**	**82.47**	**314**	P	**P**	**15 10 18.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=81,slow=3.6,SNR=4.0						
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**83.21**	**51**	P	**P**	**15 10 22.1**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=279,slow=4.9,SNR=7.5						
	comp=Z,1.2nm,0.7s						
FIA1	**FINESS Array S**	**83.31**	**334**	P	**P**	**15 10 21.2**	**-1.2**
FINES	**FINESS Array B**	**83.31**	**334**	P	**P**	**15 10 21.3**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=74,slow=5.4,SNR=27						
	comp=Z,2.1nm,0.4s						
FINES	**FINESS Array B**	**83.31**	**334**	P	**P**	**15 10 21.0**	**-1.4**
LRM	**Limekiln Ridge**	**84.27**	**43**	P	**P**	**15 10 28.4**	**+0.5**
HRY	**Holter Researc**	**84.28**	**42**	P	**P**	**15 10 28.4**	**+0.6**
BCYI	**Bear Canyon**	**84.28**	**45**	P	**P**	**15 10 29.2**	**+1.2**
ELK	**Elko**	**84.50**	**48**	P	**P**	**15 10 29.9**	**+0.7**
ELK				IAmb	IAmb	15 10 31.5	
	comp=Z,2.1nm,1.0s						
BOZ	**Bozeman (W)**	**84.88**	**43**	P	**P**	**15 10 31.4**	**+0.6**
GWY	**Greenwater Val**	**85.27**	**53**	P	**P**	**15 10 33.0**	**+0.1**
GWY				IAmb	IAmb	15 10 37.9	
	comp=Z,5.4nm,1.3s						
RLMT	**Red Lodge**	**86.58**	**43**	P	**P**	**15 10 40.8**	**+1.5**
RLMT				IAmb	IAmb	15 10 41.1	
	comp=Z,2.1nm,0.6s						
V12A	**Nelson**	**86.81**	**53**	P	**P**	**15 10 41.2**	**+0.8**
V12A				IAmb	IAmb	15 10 55.5	
	comp=Z,2.7nm,1.0s						
RDMU	**Red Mountain**	**88.47**	**47**	P	**P**	**15 10 47.6**	**-0.7**
RDMU				IAmb	IAmb	15 10 51.1	
	comp=Z,6.1nm,1.5s						
PLCA	**Paso Flores**	**145.65**	**132**	PKPbc	**PKPbc**	**15 17 32.8**	**-0.2**
	comp=Z,5.0nm,0.9s,baz=228,slow=2.9,SNR=14						

*ROM **27** 15:08:01.9±0.1,43.°016N±0.°003×13.°072E±0.°004, h8km,ML2.8/44,Error ellipse: s-maj=0.3km s-min=0.1km az=108.0*
*PRU **27** 15:08:03.8±0.0,43.°09N×13.°63E,h0km*
ISC 27 15:08:00.7±0.9,43.°04N±0.°02×13.°08E±0.°02,h13km±2km, n68,σ1.°04/88,27C-15D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.01**	**158**	P	**Pb**	**15 08 03.3**	**+0.3**
FDMO				S	**Sb**	**15 08 04.1**	**-0.6**
T1219	**Muccia, Frazio**	**0.06**	**283**	⇑P	**Pb**	**15 08 04.0**	**+0.6**
T1219				S	**Sb**	**15 08 05.4**	**+0.1**
T1219				AML	AML		
	comp=E,26500μm,0.1s						
T1219				AML	AML		
	comp=N,56900μm,0.2s						
T1219				AML	AML		
	comp=N,57150μm,0.2s						
T1219				AML	AML		
	comp=E,22300μm,0.1s						
FEMA	**Monte Fema**	**0.08**	**197**	⇑P	**Pb**	**15 08 04.0**	**+0.3**
FEMA				S	**Sb**	**15 08 05.5**	**-0.3**
FEMA				AML	AML		
	comp=N,56600μm,0.4s						
FEMA				AML	AML		
	comp=E,97300μm,1.0s						
FEMA				AML	AML		
	comp=N,56650μm,0.4s						
FEMA				AML	AML		
	comp=E,97300μm,0.9s						
CSP1	**Cessapalombo**	**0.10**	**61**	P	**Pb**	**15 08 05.0**	**+0.4**
CSP1				S	**Sb**	**15 08 07.3**	**+0.2**
T1256	**Bolognola (MC)**	**0.11**	**109**	⇑P	**Pb**	**15 08 04.8**	**+0.1**
T1256				S	**Sb**	**15 08 07.0**	**-0.4**
T1256				AML	AML		
	comp=E,8455μm,0.6s						
T1256				AML	AML		
	comp=N,6200μm,0.7s						
T1256				AML	AML		
	comp=E,8375μm,0.8s						
T1256				AML	AML		
	comp=N,6045μm,0.7s						
T1256				AML	AML		
	comp=E,8465μm,0.6s						
T1256				AML	AML		
	comp=N,6200μm,0.7s						
T1256				AML	AML		
	comp=E,8460μm,0.6s						
CESI	**CESI - Serrava**	**0.14**	**254**	⇑P

comp=N,10435µm,0.2s
NRCA AML AML
comp=E,11125µm,1.1s
NRCA AML AML
comp=N,10415µm,0.2s
NRCA AML AML
comp=E,11140µm,1.1s
NRCA AML AML
comp=N,10405µm,0.2s
NRCA AML AML
comp=E,11625µm,1.1s
NRCA AML AML
comp=E,11130µm,1.1s
NRCA AML AML
comp=N,10405µm,0.2s
NRCA AML AML
comp=N,11450µm,0.2s
MMO1 Montemonaco 0.23 129 P **Pb 15 08 06.7 0.0**
MMO1 S **Sb 15 08 10.5 -0.3**
SNTG Esanatoglia 0.24 334 ⇓P **Pb 15 08 07.4 +0.6**
SNTG AML AML
comp=E,2195µm,0.8s
SNTG AML AML
comp=N,2435µm,0.2s
SNTG AML AML
comp=N,2265µm,0.2s
SNTG AML AML
comp=E,2180µm,0.8s
EL6 Elcito 0.29 3 ⇑P **Pb 15 08 08.5 +0.7**
EL6 AML AML
comp=E,4710µm,0.7s
EL6 AML AML
comp=N,5690µm,0.2s
EL6 AML AML
comp=E,4715µm,0.7s
T1215 Vallo di Nera, 0.29 213 ⇑P **Pb 15 08 07.6 -0.1**
T1215 S **Sb 15 08 12.0 -0.4**
T1215 AML AML
comp=N,2560µm,0.3s
T1215 AML AML
comp=E,1815µm,1.5s
T1215 AML AML
comp=N,2245µm,0.3s
T1215 AML AML
comp=E,2190µm,0.7s
T1215 AML AML
comp=N,2565µm,0.3s
T1215 AML AML
comp=E,1810µm,1.5s
ASSB Assisi San Ben 0.31 270 ⇑P **Pb 15 08 08.3 +0.2**
ASSB AML AML
comp=E,5235µm,0.3s
ASSB AML AML
comp=N,5820µm,0.4s
T1241 Roccafluviove, 0.32 126 S **Sb 15 08 14.0 +0.8**
CING Cingoli 0.34 14 ⇑P **Pn 15 08 09.5 -1.9**
CING AML AML
comp=N,2080µm,1.5s
CING AML AML
comp=E,3175µm,1.2s
FOSV Fossato di Vic 0.34 317 ⇑P **Pb 15 08 09.3 +0.6**
FOSV AML AML
comp=N,4865µm,0.3s
FOSV AML AML
comp=E,1068µm,0.4s
ATCC AVT- Casa Cast 0.35 294 ⇑P **Pb 15 08 09.4 +0.5**
ATCC AML AML
comp=E,8145µm,0.2s
ATCC AML AML
comp=N,5030µm,0.3s
T1218 Civita (PG) 0.37 176 P **Pb 15 08 08.5 -0.7**
T1218 AML AML
comp=E,4055µm,0.2s
T1218 AML AML
comp=N,4595µm,0.2s
T1218 AML AML
comp=E,3815µm,0.2s
T1218 AML AML
comp=N,4600µm,0.2s
T1218 AML AML
comp=N,4600µm,0.2s
T1218 AML AML
comp=E,3820µm,0.2s
T1243 Rocca Santa Ma 0.44 142 ⇑P **Pb 15 08 10.2 -0.1**
LNSS Leonessa 0.44 184 ⇓P **Pb 15 08 10.3 -0.1**
LNSS AML AML
comp=N,2610µm,0.6s
LNSS AML AML
comp=E,1325µm,0.3s
SSFR Montelago di S 0.45 331 P **Pn 15 08 11.3 -1.6**
SSFR S **Sn 15 08 20.0 -0.9**
SSFR AML AML
comp=E,4385µm,0.2s
SSFR AML AML
comp=E,3985µm,0.2s
SSFR AML AML
comp=N,3370µm,0.2s
SSFR AML AML
comp=N,3775µm,0.2s
SMA1 SAN MARTINO 0.45 156 ⇓P **Pb 15 08 10.3 -0.2**
SMA1 AML AML
comp=E,1675µm,0.5s
SMA1 AML AML
comp=N,1510µm,0.5s
OFFI Offida 0.46 104 ⇑P **Pn 15 08 12.0 -0.9**
OFFI AML AML
comp=N,2625µm,0.5s
OFFI AML AML
comp=E,1680µm,0.4s
MURB Monte Urbino 0.47 298 ⇑P **Pb 15 08 11.4 +0.7**
MURB AML AML
comp=E,4285µm,0.4s
MURB AML AML
comp=N,2600µm,0.3s
MURB AML AML
comp=E,4335µm,1.6s
MURB AML AML
comp=N,2715µm,1.4s
ARVD Arcevia 0.47 347 ⇑P **Pn 15 08 11.7 -1.4**
ARVD S **Sn 15 08 20.0 -1.2**
ARVD AML AML
comp=N,656µm,0.3s
ARVD AML AML
comp=E,935µm,1.1s
ATFO Monte Foce - G 0.49 311 ⇑P **Pn 15 08 12.0 -1.5**
ATFO AML AML
comp=E,706µm,0.6s
ATFO AML AML
comp=N,864µm,0.6s
ARRO Arrone 0.52 207 P **Pb 15 08 11.8 +0.2**
ARRO S **Sb 15 08 20.0 +1.0**
ARRO AML AML
comp=E,1665µm,0.2s
ARRO AML AML
comp=N,1365µm,0.2s
T1211 Morro Reatino 0.54 198 ⇑P **Pb 15 08 11.9 -0.1**
T1211 S **Sb 15 08 21.0 +1.4**
T1211 AML AML
comp=E,1645µm,1.1s
T1211 AML AML
comp=N,2230µm,0.6s
T1211 AML AML
comp=E,1560µm,1.1s
T1211 AML AML
comp=N,2230µm,0.6s
T1211 AML AML
comp=N,2235µm,0.6s
T1211 AML AML
comp=N,2235µm,0.6s
FRON Frontone 0.54 331 ⇓P **Pn 15 08 13.3 -0.9**
FRON AML AML
comp=E,663µm,0.3s
FRON AML AML
comp=N,1225µm,0.8s
RM33 Pellescritta (0.54 170 ⇑P **Pb 15 08 12.0 -0.1**
RM33 S **Sb 15 08 21.0 +1.2**
RM33 AML AML
comp=E,888µm,1.4s
RM33 AML AML
comp=N,996µm,0.4s
RM33 AML AML
comp=E,845µm,1.1s
RM33 AML AML
comp=E,888µm,1.4s
RM33 AML AML
comp=N,976µm,0.4s
RM33 AML AML
comp=N,996µm,0.4s
TERO Teramo 0.57 137 ⇑P **Pb 15 08 12.5 0.0**
TERO S **Sn 15 08 22.0 -1.7**
TERO AML AML
comp=E,1310µm,1.0s
TERO AML AML
comp=N,1028µm,0.4s
CESX Cesi 0.57 221 P **Pb 15 08 12.4 -0.1**
CESX S **Sb 15 08 22.0 +1.5**
CESX AML AML
comp=E,1470µm,0.4s
CESX AML AML
comp=N,1550µm,0.3s
ATVO AVT- Monte Val 0.60 305 ⇑P **Pn 15 08 13.7 -1.2**
ATVO S **Sn 15 08 24.0 -0.5**
ATVO AML AML
comp=N,608µm,0.4s
ATVO AML AML
comp=E,568µm,0.3s
MPAG Monte Paganucc 0.63 338 ⇓P **Pn 15 08 14.8 -0.6**
MPAG S **Sn 15 08 26.0 +0.6**
MPAG AML AML
comp=E,1304µm,1.6s
MPAG AML AML
comp=N,1321µm,1.1s
MPAG AML AML
comp=N,623µm,0.3s
MPAG AML AML
comp=E,1302µm,1.6s
MPAG AML AML
comp=E,538µm,0.6s
MPAG AML AML
comp=N,1328µm,1.0s
PIEI Pieia 0.64 321 P **Pn 15 08 14.4 -1.0**
PIEI S **Sn 15 08 25.0 -0.4**
PIEI AML AML
comp=E,540µm,0.3s
PIEI AML AML
comp=N,574µm,0.2s
ATPI Pietralunga - 0.64 310 ⇑P **Pn 15 08 14.6 -0.9**
ATPI S **Sn 15 08 26.0 +0.4**
ATPI AML AML
comp=E,578µm,0.4s
ATPI AML AML
comp=N,394µm,0.3s
TRTR Tortoreto Alta 0.65 111 ⇓P Pn 15 08 15.8 +0.2
TRTR AML AML
comp=E,1995µm,0.6s
TRTR AML AML
comp=N,1645µm,0.6s
NARO Abbazia di Nar 0.68 327 S **Sn 15 08 27.0 +0.6**
FSSB Fossombrone 0.69 341 ⇑P **Pn 15 08 16.1 0.0**
FSSB AML AML
comp=N,2550µm,0.3s
FSSB AML AML
comp=E,2285µm,0.4s
GIGS Gran Sasso 0.69 149 ⇓P **Pb 15 08 14.7 +0.1**
GIGS S **Sn 15 08 26.0 -0.8**
GIGS AML AML
comp=E,208µm,1.0s
GIGS AML AML
comp=N,184µm,0.3s
MGAB Montegabbione 0.72 260 P **Pb 15 08 15.6 +0.4**
MGAB AML AML
comp=E,646µm,0.2s
MGAB AML AML
comp=E,775µm,0.2s
MGAB AML AML
comp=N,1050µm,0.3s
MGAB AML AML
comp=N,1115µm,0.3s
MGAB AML AML
comp=E,647µm,0.2s
BADI Badiali 0.77 308 ⇓P **Pn 15 08 17.0 -0.2**
FIAM Fiamignano 0.78 178 ⇑P **Pb 15 08 16.5 +0.5**
FIAM AML AML
comp=E,406µm,0.7s
FIAM AML AML
comp=N,288µm,0.8s
PE3 Peglio 0.78 327 ⇑P **Pb 15 08 14.7 -1.5**
VCEL Villa Celiera 0.85 139 P **Pn 15 08 18.1 -0.4**
VCEL S **Sn 15 08 31.0 +0.1**
VCEL AML AML
comp=E,776µm,1.0s
VCEL AML AML
comp=N,708µm,0.3s
FAGN Fagnano 0.86 154 ⇓P **Pn 15 08 18.1 -0.4**
FAGN AML AML
comp=E,898µm,0.5s
FAGN AML AML
comp=N,692µm,0.5s
SACS San Casciano d 0.88 258 ⇓P **Pn 15 08 19.2 +0.4**
SACS AML AML
comp=N,266µm,0.8s
SACS AML AML
comp=E,222µm,0.8s
SACS AML AML
comp=E,246µm,0.8s
SACS AML AML
comp=N,258µm,0.8s
PESA Pesaro 0.92 349 ⇓P Pn 15 08 21.4 +2.2
CPGN Carpegna, Ital 0.94 324 P **Pn 15 08 20.5 +0.8**
CPGN AML AML
comp=E,342µm,1.2s
CPGN AML AML
comp=N,412µm,0.5s
T0110 Collepietro 0.96 148 ⇓P **Pn 15 08 19.6 -0.3**
T0110 AML AML
comp=E,526µm,1.5s
T0110 AML AML
comp=N,686µm,0.5s
CRE Caprese Michel 1.01 305 ⇑P **Pn 15 08 21.7 +1.1**
CRE AML AML
comp=N,208µm,0.3s
CRE AML AML
comp=E,164µm,0.6s
INTR Introdacqua 1.20 149 ⇑P **Pb 15 08 23.6 +0.3**
INTR AML AML
comp=E,184nm,0.4s
INTR AML AML
comp=E,175µm,0.5s
INTR AML AML
comp=N,352nm,1.0s
INTR AML AML
comp=N,441µm,0.9s
LRP Arpino 1.44 165 P **Pb 15 08 29.4 +2.0**
ZCCA Zocca 2.01 311 ⇓P **Pb 15 08 36.4 -0.7**
SGRT San Giovanni R 2.35 122 S **Sb 15 09 12.0 +0.1**
OBKA Obir 3.62 16 *e*Pn **Pn 15 08 59.2 +2.7**
comp=N,0.5nm,0.1s
ABTA Abfaltersbach 3.73 354 *e*Pn **Pb 15 09 01.6 -4.8**
comp=N,1.0nm,0.2s
KBA Koelnbreinsper 4.04 3 *e*Pn Pb 15 09 06.0 -5.7
comp=N,2.6nm,0.5s
FETA Feichten 4.31 338 *e*Pn Pn 15 09 10.2 +4.1
comp=N,0.6nm,0.4s
WTTA Wattenberg 4.34 347 *e*Pn Pn 15 09 10.4 +3.9
comp=N,0.5nm,0.2s
SQTA Sankt Quirin 4.38 343 *e*Pn Pn 15 09 11.1 +4.1
comp=N,1.0nm,0.2s
WATA Walderalm 4.42 347 *e*Pn Pb 15 09 12.3 -5.9
comp=N,0.6nm,0.2s
MOA Molln 4.88 9 *e*Pn **Pn 15 09 17.0 +3.3**
comp=N,0.5nm,0.2s
KHC Kasperske Hory 6.10 3 *e*PN Pn 15 09 34.0 +3.5
KHC *e*SN **Sn 15 10 41.3 +1.2**

*IDC **27** 15:28:57.0±2.9, 37.°26N×141.°74E, h0km, mb3.3/3, mbtmp3.2/4, ML1.9/1, MS3.2/1, Error ellipse: s-maj=67.6km s-min=34.3km az=53.0*
*JMA **27** 15:28:59.8±0.2, 37.°3N±0.°4×141.°6E±0.°9, h33km±1km, MV3.5/32, E OFF FUKUSHIMA PREF*
ISC 27 15:29:00.5±2.3, 37.°31N±0.°05×141.°5E±0.°1, h25km±14km, n18, σt=17/18, mb3.3/3, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.51**	**276**	*i* P	**Pb**	**15 29 10.7**	**-0.2**
JFK				S	**Sb**	**15 29 18.3**	**+0.4**
JMST	**Minamisoumatoc**	**0.64**	**310**	⇓*i* P	**Pn**	**15 29 12.8**	**-1.2**
JMST				⇓S	**Sb**	**15 29 22.4**	**+0.8**
JFFD	**Fukushimafurud**	**0.79**	**254**	*i* P	**Pn**	**15 29 14.8**	**-1.1**
JFFD				S	**Sn**	**15 29 25.6**	**-1.3**
JMM	**Marumori**	**0.79**	**314**	*i* P	**Pn**	**15 29 15.1**	**-0.9**
JMM				S	**Sn**	**15 29 26.0**	**-1.0**
JHO	**Hitachi**	**1.03**	**227**	*i* P	**Pn**	**15 29 17.9**	**-1.4**
JHO				*e*S	**Sn**	**15 29 31.4**	**-1.4**
JIO	**Ouri**	**1.15**	**354**	*i* P	**Pn**	**15 29 20.0**	**-0.9**
JIO				*e*S	**Sn**	**15 29 35.1**	**-0.6**
JOU	**Okura**	**1.25**	**328**	P	**Pb**	**15 29 22.8**	**-0.5**
JOU				S	**Sb**	**15 29 39.7**	**+0.8**
MJAR	**Matsushiro Arr**	**2.75**	**255**	Pn	**Pn**	**15 29 44.5**	**+1.5**
	0.2nm,0.3s,baz=78,slow=17,SNR=11 1.2nm,0.4s						
SONM	**Songino Array**	**27.69**	**304**	LR	LR	15 46 01.9	
	comp=Z,48nm,18.1s,baz=91,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	16 04 18.7	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	16 04 17.3	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	16 04 18.0	
	baz=317						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	16 05 09.9	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	16 05 10.1	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	16 05 10.9	
	baz=318						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**15 37 07.4**	**+1.5**
	0.3nm,0.7s,baz=83,slow=9.6,SNR=2.6 0.3nm,0.7s						
WRA	**Warramunga Arr**	**57.35**	**188**	P	**P**	**15 38 46.0**	**-0.5**
	0.4nm,1.0s,baz=6.8,slow=7.2,SNR=1.8 0.4nm,1.0s						
ASAR	**Alice Springs**	**61.07**	**188**	P	**P**	**15 39 13.4**	**+1.1**
	0.2nm,0.8s,baz=21,slow=6.0,SNR=2.2 0.2nm,0.8s						

*IDC **27** 15:29:33.4±0.8, 37.°22N×141.°49E, h0km, mb3.7/12, mbtmp3.8/16, ML3.1/3, MS2.8/5, Error ellipse: s-maj=21.1km s-min=18.3km az=79.0*
*NEIC **27** 15:29:35.3±1.0, 37.°24N±0.°04×141.°39E±0.°07, h10km±1km, mb4.3/12, Error ellipse: s-maj=12.0km s-min=2.9km az=52.0*
*NIED **27** 15:29:36.0, 37.°27N×141.°45E, h26km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.88; $M_{\theta\theta}$=1.55; $M_{\phi\phi}$=2.32; $M_{r\theta}$=1.93; $M_{\theta\phi}$=1.85; $M_{r\phi}$=2.59; Fault plane solution: M_0=5.03000×10^{14} NP1:ϕ_s=41.00000°, δ25.00000°, λ-87.00000°. NP2:ϕ_s=218.00000°, δ65.00000°, λ-91.00000°*
*JMA **27** 15:29:36.0±0.2, 37.°3N±0.°3×141.°5E±0.°8, h26km±1km, MV3.7/32, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF.
ISC 27 15:29:34.9±1.7, 37.°24N±0.°04×141.°47E±0.°07, h10km±10km, n51, σt=81/49, mb3.9/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**285**	*i* P	**Pb**	**15 29 45.4**	**-0.3**
JFK				S	**Sb**	**15 29 52.2**	**-0.7**
JMST	**Minamisoumatoc**	**0.67**	**316**	*i* P	**Pg**	**15 29 48.2**	**+0.4**
JMST				S	**Sg**	**15 29 57.5**	**+0.9**
JFFD	**Fukushimafurud**	**0.74**	**258**	*i* P	**Pg**	**15 29 49.6**	**+0.4**
JFFD				S	**Sb**	**15 29 59.7**	**-0.4**
JMM	**Marumori**	**0.82**	**319**		**Pg**	**15 29 50.5**	**-0.2**
JMM				Sg	**Sg**	**15 30 00.8**	**-0.7**
JMM	**Marumori**	**0.82**	**319**	P	**Pg**	**15 29 50.7**	**-0.1**
JMM				*e*S	**Sg**	**15 30 01.8**	**+0.3**
JHO	**Hitachi**	**0.96**	**229**	*e*P	**Pb**	**15 29 53.7**	**+0.1**
JHO				*e*S	**Sg**	**15 30 05.6**	**-0.2**
JIO	**Ouri**	**1.21**	**356**	P	**Pn**	**15 29 57.0**	**-0.8**
JIO				*e*S	**Sb**	**15 30 11.6**	**-2.0**
MJAR	**Matsushiro Arr**	**2.71**	**256**	Pn	**Pn**	**15 30 19.1**	**+0.7**
	0.7nm,0.3s,baz=80,slow=16,SNR=8.5						
MJAR				Sn	**Sb**	**15 30 55.3**	**-1.4**
	1.2nm,0.3s,baz=74,slow=40,SNR=4.6						
MJAR				LR	LR	15 31 00.9	
	comp=Z,25nm,19.2s,baz=46,slow=32 18nm,0.8s						
MAJO	**Matsushiro**	**2.71**	**256**	Pn	**Pn**	**15 30 18.3**	**-0.2**
MJB9	**Matsu-Tunnel**	**2.71**	**256**	Pn	**Pn**	**15 30 18.1**	**-0.4**
JTM	**Tenmabayashi**	**3.55**	**355**		**Pn**	**15 30 31.2**	**+1.2**
JHJ	**Hachijo jima 2**	**4.34**	**199**	Pn	**Pn**	**15 30 42.0**	**+1.1**
	7.9nm,0.3s,baz=64,slow=22,SNR=2.2 122nm,0.9s						
ERM	**Erimo**	**4.94**	**15**	Pn	**Pn**	**15 30 49.1**	**0.0**
USRK	**Ussuriysk Ar.**	**10.00**	**317**	Pn	**Pn**	**15 32 00.4**	**+1.9**
	0.2nm,0.3s,baz=143,slow=12,SNR=4.7						
USRK				LR	LR	15 35 31.8	
	comp=Z,62nm,19.4s,baz=77,slow=36 2.8nm,0.7s						
JCJ	**Chichijima**	**10.14**	**176**	Pn	**Pn**	**15 31 58.5**	**-2.0**
	48nm,0.7s,baz=54,slow=23,SNR=1.4						
KSRS	**Korea Array**	**10.79**	**275**	LR	LR	15 36 18.2	
	comp=Z,27nm,18.4s,baz=120,slow=37						
MA2	**Magadan**	**23.14**	**12**	P	**P**	**15 34 41.4**	**+0.4**
MA2				IAmb	IAmb	15 35 05.7	
	comp=Z,42nm,1.5s						
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**15 35 23.5**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=106,slow=7.5,SNR=4.8 comp=Z,1.1nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	16 04 55.2	
	baz=314,slow=75,SNR=94						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	16 04 56.0	
	baz=314,slow=75,SNR=79						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	16 04 56.7	
	baz=314,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	16 05 51.0	
	baz=316,slow=76,SNR=90						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	16 05 50.1	
	baz=316,slow=76,SNR=81						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	16 05 51.3	
	baz=316,slow=76,SNR=56						
ZAA0	**Zalesovo Array**	**41.81**	**312**	P	**P**	**15 37 24.2**	**-0.3**
ZAA0				IAmb	IAmb	15 37 30.9	
	comp=Z,4.0nm,1.1s						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**15 37 24.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=90,slow=5.9,SNR=7.9 comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**15 37 23.9**	**-0.5**
MK31	**Makanchi Array**	**44.05**	**302**	P	**P**	**15 37 42.2**	**-0.5**
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**15 37 42.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=88,slow=10.0,SNR=9.4						
MKAR				LR	LR	15 55 24.7	
	comp=Z,31nm,19.1s,baz=126,slow=35 comp=Z,1.1nm,0.7s						
MAKZ	**Makanchi**	**44.26**	**302**	P	**P**	**15 37 44.4**	**0.0**
MAKZ				IAmb	IAmb	15 37 44.9	
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**15 37 57.0**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=81,slow=7.7,SNR=4.8 comp=Z,2.5nm,0.8s						
SEW	**Seward**	**48.37**	**39**	P	**P**	**15 38 17.6**	**+1.1**
ILAR	**Eielson Array**	**49.29**	**32**	P	**P**	**15 38 23.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=271,slow=6.0,SNR=3.2 comp=Z,0.6nm,0.8s						
BVAR	**Borovoye Array**	**50.46**	**312**	P	**P**	**15 38 32.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=67,slow=11,SNR=2.7						
BVAR				LR	LR	16 01 37.6	
	comp=Z,37nm,18.4s,baz=153,slow=38 comp=Z,0.4nm,0.4s						
BMRM	**Bremner River**	**50.66**	**37**	P	**P**	**15 38 35.8**	**+1.7**
PCA	**Pinnacle**	**52.93**	**38**	P	**P**	**15 38 51.8**	**+0.8**
WR0	**Warramunga Arr**	**57.27**	**188**	P	**P**	**15 39 21.9**	**-0.8**
WR0				IAmb	IAmb	15 40 01.7	
	comp=Z,4.3nm,1.3s						
WB2	**Warramunga Arr**	**57.27**	**188**	P	**P**	**15 39 22.1**	**-0.6**
WB2				IAmb	IAmb	15 39 44.6	
	comp=Z,7.1nm,1.5s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**15 39 22.4**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=6.0,slow=7.3,SNR=2.5 comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**15 39 22.0**	**-0.7**
KBL	**Kabul**	**57.38**	**291**	P	**P**	**15 39 22.8**	**-0.9**
KBL				IAmb	IAmb	15 39 23.7	
	comp=Z,2.5nm,0.5s						
ABKAR	**Akbulak array**	**57.84**	**310**	P	**P**	**15 39 26.0**	**-0.4**
EUNU	**Eureka**	**59.97**	**9**	P	**P**	**15 39 41.1**	**+0.2**
EUNU				IAmb	IAmb	15 40 16.7	
	comp=Z,2.1nm,1.2s						
ASAR	**Alice Springs**	**61.00**	**188**	P	**P**	**15 39 48.2**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=6.8,slow=9.3,SNR=3.1 comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**63.60**	**30**	P	**P**	**15 40 05.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=300,slow=6.4,SNR=3.1						

comp=Z,0.6nm,0.6s
AKASG Malin Array Be 74.16 322 P **P** **15 41 11.6 +0.2**
comp=Z,1.2nm,0.6s,baz=44,slow=6.3,SNR=2.2
comp=Z,1.2nm,0.6s
PDAR Pinedale Array 77.49 46 P **P** **15 41 31.8 +0.9**
comp=Z,0.3nm,0.7s,baz=245,slow=2.5,SNR=3.6
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 89.96 52 P **P** **15 42 34.9 +0.1**
comp=Z,0.1nm,0.5s,baz=350,slow=4.6,SNR=2.0
comp=Z,0.1nm,0.5s
H03N2 Juan Fernandez 147.00 96 T T 18 33 32.4
baz=291,slow=76,SNR=7.5
H03N3 Juan Fernandez 147.01 96 T T 18 33 33.6
baz=291,slow=76,SNR=5.9
H03N1 Juan Fernandez 147.02 96 T T 18 33 33.4
baz=291,slow=76,SNR=5.7

IDC ***27*** *15:46:47.3±1.9,36.97N×141.62E,h0km,mb3.4/4, mbtmp3.3/5,ML2.4/1,Error ellipse: s-maj=45.4km s-min=26.4km az=51.0*
JMA ***27*** *15:46:48.7±0.2,37.2N±0.4×14.1E±.,h32km±1km, MV3.5/32,E OFF FUKUSHIMA PREF*
ISC 27 15:46:49.1±1.8,37.25N±0.06×141.4E±0.2,h21km±7km, **n16,σ1§70/15,mb3.4/4,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**286**	*i* P			**Pb**	**15 46 58.4**	**0.0**
JFK				S			**Sb**	**15 47 05.0**	**+0.3**
JMST	**Minamisoumatoc**	**0.64**	**318**	*i* P			**Pn**	**15 47 01.3**	**-1.6**
JMST				S			**Sb**	**15 47 10.7**	**+0.5**
JFFD	**Fukushimafurud**	**0.71**	**258**	*i* P			**Pn**	**15 47 02.4**	**-1.5**
JFFD				*e*S			**Sb**	**15 47 12.2**	**+0.2**
JMM	**Marumori**	**0.80**	**321**	*i* P			**Pn**	**15 47 03.8**	**-1.3**
JMM				*e*S			**Sn**	**15 47 14.1**	**-2.2**
JHO	**Hitachi**	**0.93**	**227**	P			**Pn**	**15 47 05.2**	**-1.8**
JHO				S			**Sn**	**15 47 17.3**	**-2.4**
MJAR	**Matsushiro Arr**	**2.67**	**256**	Pn			**Pn**	**15 47 32.1**	**+1.2**
	0.7nm,0.3s,baz=84,slow=7.1,SNR=34								
MJAR				Sn			**Sb**	**15 48 09.4**	**+0.9**
	0.6nm,0.3s,baz=185,slow=25,SNR=5.2								
	3.0nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T		T	T	16 22 07.9	
	baz=314,slow=76,SNR=28								
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T		T	T	16 22 08.5	
	baz=314,slow=76,SNR=20								
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T		T	T	16 22 09.3	
	baz=314,slow=76,SNR=24								
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	T	16 23 03.3	
	baz=316,slow=76,SNR=19								
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	T	16 23 01.8	
	baz=316,slow=76,SNR=14								
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T		T	T	16 23 03.6	
	baz=316,slow=76,SNR=14								
MKAR	**Makanchi Array**	**44.01**	**302**	P		**P**	**15 54 57.9**	**+2.8**	
	0.3nm,0.8s,baz=74,slow=11,SNR=2.6								
	0.3nm,0.8s								
KURBB	**Kurchatov Arra**	**45.88**	**308**	P		P	15 55 14.1	+4.3	
	0.4nm,0.3s,baz=82,slow=8.5,SNR=4.9								
	0.4nm,0.3s								
WRA	**Warramunga Arr**	**57.27**	**188**	P		**P**	**15 56 34.5**	**-0.6**	
	0.2nm,0.5s,baz=5.0,slow=7.2,SNR=11								
	0.2nm,0.5s								
ASAR	**Alice Springs**	**61.00**	**188**	P		**P**	**15 57 01.4**	**+0.4**	
	0.2nm,0.7s,baz=1.0,slow=5.6,SNR=2.0								
	0.2nm,0.7s								

IDC 27 15:49:01.2±4.3,29.44N×70.66E,h0km,mb3.4/3, mbtmp3.3/4,ML3.0/1,MS3.2/2,Error ellipse: s-maj=155.6km s-min=31.3km az=77.0,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.55**	**24**	P			P	15 53 30.6	+0.1
	baz=218,slow=11,SNR=3.1								
	0.4nm,0.7s								
BVAR	**Borovoye Array**	**23.57**	**360**	P			P	15 54 13.3	0.0
	0.3nm,0.4s,baz=190,slow=7.3,SNR=2.3								
	0.3nm,0.4s								
KBZ	**Khabaz**	**26.32**	**310**	LR			LR	16 08 03.8	
	comp=Z,38nm,18.3s,baz=20,slow=43								
EIL	**Elat**	**30.99**	**279**	LR			LR	16 11 29.1	
	comp=Z,54nm,18.6s,baz=60,slow=44								
WRA	**Warramunga Arr**	**78.57**	**121**	P			P	16 01 05.3	+0.3
	0.3nm,0.8s,baz=320,slow=5.1,SNR=5.1								
	0.3nm,0.8s								
ASAR	**Alice Springs**	**80.51**	**124**	P			P	16 01 15.3	-0.2
	0.3nm,0.7s,baz=318,slow=5.4,SNR=8.6								
	0.3nm,0.7s								

MAN 27 16:03:19.0,9.37N×126.27E,h32km,mb4.0,ML2.8,MS2.4, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.87**	**298**	*e*P			Pb	16 03 35.8	+0.1
SCPH				*i* S			Sb	16 03 47.2	+0.2
BIPH	**Bislig**	**1.18**	**175**	⇑ *i* P			Pb	16 03 47.8	+7.0
BIPH				*i* S			Sn	16 03 53.4	-0.9
CGP	**Cagayan de Oro**	**1.80**	**240**	⇓ *e*P			Pb	16 03 54.6	+3.3
CGP				*e*S			Sn	16 04 09.9	+0.3

IDC ***27*** *16:13:51.9±0.5,16.44S×43.03E,h0km,mb4.2/20, mbtmp4.3/24,ML4.6/4,MS3.9/29,Error ellipse: s-maj=16.6km s-min=14.4km az=93.0*
BJI ***27*** *16:13:52.9±0.0,16.24S×43.19E,h6km,mb4.6/20, mB5.1/12,Ms4.9/2,Ms7 4.7/2*
NEIC ***27*** *16:13:54.8±1.9,16.42S±0.09×43.1E±0.1,h14km±3km, mb4.7/31,Error ellipse: s-maj=16.0km s-min=13.5km az=74.0*
GCMT ***27*** *16:13:56.8±0.5,16.20S±0.03×42.87E±0.03,h28km±2km, MW4.8/61,Moment Tensor Solution. s20,c21; s61,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.43±.16; Mθθ=-1.41±.10; Mφφ 1.84±.12; Mrθ 0.54±.17; Mθφ=-0.91±.09; Mφr 0.16±.18; Best double couple: Mo1.97300×10^16 NP1:φ208.00000°,δ75.00000°,λ=-16.00000°. NP2: φ302.00000°,δ75.00000°,λ=-165.00000°. Principal axes: T 2.0780, Plg0.0000°, Azm255.0000°; N -0.2120, Plg69.0000°, Azm346.0000°; P -1.8680, Plg21.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 16:13:53.5±0.3,16.44S±0.05×43.00E±0.06,h10km, **n171,** σ2§15/139, **mb4.6/60,MS3.9/26,3C-4D,Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**4.53**	**119**	Pn			**Pn**	**16 15 02.9**	**+0.6**
	10nm,0.3s,baz=287,slow=13,SNR=694								
OPO				Sn			**Sn**	**16 15 52.6**	**-2.5**
	57nm,0.3s,baz=23,slow=23,SNR=28								
	299nm,0.5s								
ABPO	**Ambohimpanom**	**4.78**	**123**				**Pn**	**16 15 06.7**	**+0.9**
VOI	**Vohitsoka**	**6.51**	**147**				**Pn**	**16 15 28.9**	**-0.7**
VOI	**Vohitsoka**	**6.51**	**147**	*e*P			**Pn**	**16 15 27.9**	**-1.7**
VOI	**Vohitsoka**	**6.51**	**147**	P			**Pn**	**16 15 29.5**	**-0.1**
SBV	**Sambava**	**7.32**	**67**	*e*P			**Pn**	**16 15 39.4**	**-1.0**
MOPA	**Mopani**	**12.98**	**235**	*e*P			**Pn**	**16 16 55.7**	**-2.4**
MOPA	**Mopani**	**12.98**	**235**	*i* P			**Pn**	**16 16 54.5**	**-3.5**
MOPA	**Mopani**	**12.98**	**235**	*i* P			**Pn**	**16 16 54.5**	**-3.5**
MUSN	**Musina, Limpop**	**13.69**	**243**	*e*P			**Pn**	**16 17 03.7**	**-4.2**
MUSN	**Musina, Limpop**	**13.69**	**243**	*i* P			**Pn**	**16 17 05.3**	**-2.5**
MUSN	**Musina, Limpop**	**13.69**	**243**	*i* P			**Pn**	**16 17 05.3**	**-2.5**
CNG	**Changalane**	**14.05**	**224**	*e*P			**Pn**	**16 17 11.2**	**-1.4**
KIBK	**Kibwezi**	**14.83**	**340**	Pn			**Pn**	**16 17 21.2**	**-2.3**
POGA	**Pongola**	**15.08**	**222**	Pn			**Pn**	**16 17 25.2**	**-1.5**
POGA				IAmb			IAmb	16 17 54.0	
	comp=Z,18nm,0.7s								
POGA	**Pongola**	**15.08**	**222**	*e*P			**Pn**	**16 17 25.4**	**-1.3**
CRLN	**Carolina, Mapu**	**15.38**	**230**	*e*P			**Pn**	**16 17 29.3**	**-1.5**
CRLN				IAmb			IAmb	16 17 48.0	
	comp=Z,25nm,0.8s								
LEPH	**Lephalale, Lim**	**16.06**	**240**	*e*P			**Pn**	**16 17 34.5**	**-5.2**
LEPH				IAmb			IAmb	16 17 38.1	
	comp=Z,59nm,0.7s								
KMBO	**Kilima Mbogo**	**16.23**	**339**	Pn			**Pn**	**16 17 40.3**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=163,slow=13,SNR=26								
KMBO				Sn			**Sn**	**16 20 42.7**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=223,slow=22,SNR=4.4								
KMBO				LR			LR	16 23 16.6	
	comp=Z,377nm,21.7s,baz=104,slow=35								
	comp=Z,14nm,0.8s								
KMBO	**Kilima Mbogo**	**16.23**	**339**	Pn			**Pn**	**16 17 39.8**	**-2.3**
KMBO	**Kilima Mbogo**	**16.23**	**339**	*e*P			**Pn**	**16 17 39.6**	**-2.5**
KMBO				IAmb			IAmb	16 17 58.8	
	comp=Z,107nm,2.2s								
NWCL	**Newcastle**	**16.54**	**225**	*e*P			**Pn**	**16 17 45.1**	**-0.6**
NWCL				IAmb			IAmb	16 17 47.2	
	comp=Z,29nm,0.7s								
SLR	**Silverton**	**16.55**	**234**	*e*P			**Pn**	**16 17 44.1**	**-1.8**
SLR				IAmb			IAmb	16 18 04.3	
	comp=Z,42nm,0.8s								
MSEY	**Mahe Island**	**16.93**	**48**	Pn			**Pn**	**16 17 50.3**	**-0.4**
MSEY				IAmb			IAmb	16 17 55.2	
	comp=Z,33nm,0.7s								
HRAO	**HartRAO**	**17.09**	**234**	*e*P			**Pn**	**16 17 51.4**	**-1.4**
PRYS	**Parys**	**17.87**	**232**	*e*P			**Pn**	**16 18 01.3**	**-1.3**
PRYS				IAmb			IAmb	16 18 14.9	
	comp=Z,42nm,1.0s								
SNKL	**Senekal, Frees**	**18.34**	**227**	*e*P			**P**	**16 18 08.8**	**+0.5**
LBTB	**Lobatse**	**18.36**	**239**	P			**Pn**	**16 18 07.1**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=43,slow=12,SNR=35								
LBTB				S			Sn	16 21 19.9	-14
	comp=Z,9.7nm,0.6s,baz=157,slow=21,SNR=2.7								
LBTB				LR			LR	16 25 39.7	
	comp=Z,436nm,18.6s,baz=59,slow=38								
	comp=Z,51nm,0.9s								
LBTB	**Lobatse**	**18.36**	**239**	P			**Pn**	**16 18 05.5**	**-3.0**
LBTB				IAmb			IAmb	16 18 10.9	
	comp=Z,90nm,1.2s								
LBTB	**Lobatse**	**18.36**	**239**	*e*P			**Pn**	**16 18 05.7**	**-2.8**
LBTB				IAmb			IAmb	16 18 10.5	
	comp=Z,90nm,1.2s								
LBTB	**Lobatse**	**18.36**	**239**	*i* P			**Pn**	**16 18 06.6**	**-1.9**
LBTB	**Lobatse**	**18.36**	**239**	*i* P			**Pn**	**16 18 06.6**	**-1.9**
KSTD	**Kokstad**	**18.86**	**219**	*e*P			**Pn**	**16 18 17.0**	**+2.4**
KSTD				IAmb			IAmb	16 18 20.5	
	comp=Z,341nm,2.8s								
MBAR	**Mbarara**	**19.84**	**321**	P			**P**	**16 18 25.4**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=126,slow=15,SNR=15								
MBAR				LR			LR	16 26 03.9	
	comp=Z,356nm,19.5s,baz=132,slow=37								
	comp=Z,5.7nm,0.5s								
BOSA	**Boshof**	**20.35**	**230**	P			**P**	**16 18 30.2**	**-0.2**
	comp=Z,5.2nm,0.6s,baz=56,slow=11,SNR=13								
BOSA				LR			LR	16 26 25.4	
	comp=Z,395nm,18.9s,baz=65,slow=37								
	comp=Z,5.2nm,0.6s								
BOSA	**Boshof**	**20.35**	**230**	P			**P**	**16 18 29.9**	**-0.4**
BOSA				IAmb			IAmb	16 18 41.9	
	comp=Z,28nm,0.8s								
BOSA	**Boshof**	**20.35**	**230**	*e*P			**P**	**16 18 28.9**	**-1.4**
BOSA				IAmb			IAmb	16 18 41.5	
	comp=Z,27nm,0.8s								
BOSA	**Boshof**	**20.35**	**230**	*i* P			Pn	16 18 32.2	-0.2
BOSA	**Boshof**	**20.35**	**230**	*i* P			Pn	16 18 32.2	-0.2
HVD	**Gariep Dam**	**21.32**	**225**	*e*P			**P**	**16 18 41.7**	**+0.9**
HVD				IAmb			IAmb	16 18 56.4	
	comp=Z,112nm,1.4s								
GRAF	**Camdeboo Natio**	**23.03**	**223**	*e*P			**P**	**16 19 03.2**	**+4.3**
GRAF				IAmb			IAmb	16 19 16.5	
	comp=Z,39nm,1.1s								
BFON	**Badsfontein, M**	**23.28**	**225**	*e*P			**P**	**16 19 05.0**	**+3.5**
BFON				IAmb			IAmb	16 19 26.2	
	comp=Z,26nm,0.9s								
ROOI	**Rooidraai Farm**	**23.79**	**224**	*e*P			**P**	**16 19 11.7**	**+5.1**
ROOI				IAmb			IAmb	16 19 38.9	
	comp=Z,56nm,1.3s								
BRAK	**Brakfontein**	**23.81**	**226**	*e*P			**P**	**16 19 10.2**	**+3.4**
BRAK				IAmb			IAmb	16 19 35.5	
	comp=Z,35nm,0.9s								
TSUM	**Tsumeb**	**24.34**	**260**	P			**P**	**16 19 11.8**	**-0.1**
	comp=Z,16nm,0.7s,baz=89,slow=7.7,SNR=36								
	comp=Z,16nm,0.7s								
TSUM	**Tsumeb**	**24.34**	**260**	P			**P**	**16 19 11.2**	**-0.7**
GRAN	**Grantham**	**24.61**	**226**	*e*P			**P**	**16 19 15.8**	**+1.6**
GRAN				IAmb			IAmb	16 19 37.0	
	comp=Z,16nm,0.8s								
FRAZ	**Fraserburg**	**24.94**	**228**	*e*P			**P**	**16 19 17.4**	**+0.2**
FRAZ				IAmb			IAmb	16 19 48.1	
	comp=Z,21nm,0.8s								
SUR	**Sutherland**	**25.61**	**228**	P			**P**	**16 19 22.8**	**-0.6**
	comp=Z,9.0nm,0.8s,baz=150,slow=0.8,SNR=4.2								
SUR				LR			LR	16 29 23.4	
	comp=Z,295nm,18.8s,baz=61,slow=36								
	comp=Z,9.0nm,0.8s								
SUR	**Sutherland**	**25.61**	**228**	P			**P**	**16 19 23.0**	**-0.4**
CVNA	**Calvinia**	**25.91**	**230**	*e*P			**P**	**16 19 24.2**	**-1.7**
CVNA				IAmb			IAmb	16 19 52.4	
	comp=Z,65nm,1.2s								
CER	**Ceres**	**27.22**	**227**	*e*P			P	16 19 46.3	+8.6
CER				IAmb			IAmb	16 20 31.2	
	comp=Z,8.3nm,0.9s								
PAF	**Port-aux-Franc**	**39.57**	**152**	P			**P**	**16 21 23.2**	**-1.6**
RAYN	**Ar Rayn**	**39.79**	**4**	P			**P**	**16 21 27.8**	**+0.9**
WSAR	**Wadi Sarin**	**42.29**	**22**	LR			LR	16 37 00.9	
	comp=Z,155nm,19.7s,baz=202,slow=33								
PALK	**Pallekele**	**44.12**	**61**	LR			LR	16 36 48.4	
	comp=Z,98nm,18.4s,baz=62,slow=31								
EIL	**Elat**	**46.49**	**350**	LR			LR	16 40 19.8	
	comp=Z,112nm,21.5s,baz=226,slow=34								
ASF	**Jabal al Asfar**	**48.69**	**353**	P			**P**	**16 22 41.1**	**+3.0**
	comp=Z,4.3nm,0.9s,baz=170,slow=8.6,SNR=3.6								
MMAI	**Mount Meron Ar**	**49.71**	**352**	LR			LR	16 44 01.2	
	comp=Z,86nm,18.6s,baz=62,slow=36								
DBIC	**Dimbokro**	**52.61**	**292**	P			**P**	**16 23 07.5**	**-0.5**
MAW	**Mawson**	**52.73**	**171**	P			**P**	**16 23 08.0**	**-0.1**
	comp=Z,5.8nm,0.8s,baz=331,slow=8.7,SNR=10.0								
MAW				LR			LR	16 42 55.1	
	comp=Z,79nm,18.6s,baz=2.5,slow=33								
	comp=Z,5.8nm,0.8s								
MAW	**Mawson**	**52.73**	**171**	P			**P**	**16 23 08.7**	**+0.6**
IDI	**Anoyia**	**54.24**	**342**	LR			LR	16 47 07.0	
	comp=Z,68nm,21.1s,baz=133,slow=37								
GEYT	**Alibeck**	**55.91**	**14**	P			**P**	**16 23 30.4**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=177,slow=8.7,SNR=1.7								
	comp=Z,0.8nm,0.6s								
GNI	**Garni**	**56.32**	**2**	LR			LR	16 50 21.7	
	comp=Z,55nm,18.2s,baz=157,slow=39								
BRTR	**Keskin Array B**	**56.55**	**351**	P			**P**	**16 23 35.9**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=205,slow=6.1,SNR=4.0								
	comp=Z,0.8nm,1.0s								
PSI	**Prapat**	**58.44**	**76**	LR			LR	16 44 46.9	
	comp=Z,234nm,20.6s,baz=191,slow=32								
PYUN	**Piuthan**	**58.82**	**42**	*e*P			**P**	**16 23 51.5**	**-1.1**
	comp=Z,6.7nm,0.7s								
DANN	**Dangsing**	**59.48**	**42**	*e*P			**P**	**16 23 56.6**	**-0.7**
GKN	**Gorkha**	**59.81**	**43**	*e*P			**P**	**16 23 58.2**	**-1.3**
DMN	**Daman**	**59.86**	**43**	*e*P			**P**	**16 23 59.3**	**-0.6**
PKIN	**Phulchoki**	**60.03**	**44**	*e*P			**P**	**16 23 59.9**	**-1.2**
	comp=Z,6.9nm,0.6s								
PKI	**Pulchoki**	**60.03**	**44**	*e*P			**P**	**16 23 59.9**	**-1.3**
TROLL	**Troll, Antarti**	**60.38**	**193**	P			**P**	**16 24 04.5**	**+1.8**
RAMN	**Ramite**	**60.43**	**45**	*e*P			**P**	**16 24 03.0**	**-0.8**
	comp=Z,1.9nm,0.4s								
GUN	**Gumba**	**60.57**	**44**	*e*P			**P**	**16 24 03.6**	**-1.3**
JIRN	**Jiri**	**60.61**	**44**	*e*P			**P**	**16 24 04.0**	**-1.2**
KEST	**Kesra**	**60.89**	**329**	LR			LR	16 52 32.4	
	comp=Z,164nm,18.1s,baz=325,slow=38								
SNAA	**Sanae**	**61.42**	**195**	LR			LR	16 44 30.7	
	comp=Z,44nm,21.6s,baz=11,slow=30								
BRDH	**Bariadhala**	**61.46**	**52**	LR			LR	16 48 38.5	
	comp=Z,122nm,19.6s,baz=240,slow=34								
CFR	**Carcaliu**	**62.79**	**348**	⇑ P			P	16 24 23.9	+4.8
VNA3	**Neumayer Olymp**	**62.98**	**197**	P			**P**	**16 24 21.1**	**+1.0**
MLR	**Muntele Rosu**	**63.55**	**347**	⇓ P			**P**	**16 24 28.7**	**+4.4**
VOIR		**63.70**	**346**	⇑ P			**P**	**16 24 29.9**	**+4.7**
ARR	**Arges**	**63.73**	**346**	P			P	16 24 30.6	+5.2
VRI	**Vrincioaia**	**63.73**	**347**	⇓ P			P	16 24 30.5	+5.1
LEM	**Lembang**	**63.79**	**90**	LR			LR	16 45 40.1	
	comp=Z,111nm,21.5s,baz=216,slow=30								
HERR	**Herculane**	**63.84**	**344**	⇓ P			P	16 24 31.0	+5.0
GZR	**Gura Zlata**	**64.22**	**344**	⇑ P			P	16 24 34.5	+5.9
KK31	**Karatay Array**	**64.41**	**22**	P			**P**	**16 24 28.9**	**-1.0**
KKAR	**Karatay Array**	**64.41**	**22**	P			**P**	**16 24 28.9**	**-1.0**
SURR	**Surduc**	**64.72**	**344**	P			P	16 24 36.9	+5.1
BZS	**Buzias**	**64.73**	**344**	⇓ P			P	16 24 37.2	+5.3
CMAR	**Chiang Mai Arr**	**65.06**	**60**	P			**P**	**16 24 34.2**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=244,slow=7.9,SNR=8.9								
	comp=Z,1.9nm,1.0s								
CMAR	**Chiang Mai Arr**	**65.06**	**60**	P			**P**	**16 24 32.3**	**-2.3**
CHTO	**Chiang Mai**	**65.24**	**60**	P			**P**	**16 24 33.1**	**-2.6**
CHTO				IAmb			IAmb	16 24 50.5	
	comp=Z,6.3nm,1.0s								
BURAR	**Bucovina Array**	**65.72**	**347**	P			P	16 24 43.6	+5.2
BURAR	**Bucovina Array**	**65.72**	**347**	P			**P**	**16 24 38.7**	**+0.3**
BURAR				IAmb			IAmb	16 24 52.1	
	comp=Z,3.9nm,0.9s								
BBTS	**Babate**	**66.41**	**294**	LR			LR	16 52 52.6	
	comp=Z,186nm,21.4s,baz=92,slow=35								
MDT	**Midelt**	**66.85**	**317**	LR			LR	16 54 07.3	
	comp=Z,76nm,19.1s,baz=6.5,slow=36								
ABKAR	**Akbulak array**	**67.11**	**12**	P			**P**	**16 24 45.7**	**-1.3**
SOKA	**Soboth**	**67.69**	**340**	*e*P			**P**	**16 24 55.7**	**+4.7**
	comp=Z,2.7nm,0.9s								
OBKA	**Obir**	**67.70**	**339**	*e*P			P	16 24 56.6	+5.6
	comp=Z,4.6nm,1.0s								
CRVS	**Cervenica-Dubn**	**67.81**	**345**	*e*P			P	16 24 58.8	+7.2
AKASG	**Malin Array Be**	**67.94**	**351**	P			**P**	**16 24 52.8**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=171,slow=5.7,SNR=3.1								
	comp=Z,0.6nm,0.6s								
ARSA	**Arzberg**	**68.03**	**340**	*e*P			**P**	**16 24 57.8**	**+4.8**
	comp=Z,2.1nm,0.7s								
VYHS	**Vyhne**	**68.13**	**343**	*e*P			**P**	**16 24 58.0**	**+4.4**
RONA	**Rosalia, Austr**	**68.18**	**341**	*e*P			P	16 24 58.8	+4.8
	comp=Z,14nm,1.2s								
CONA	**Conrad Observa**	**68.52**	**341**	*e*P			**P**	**16 25 00.7**	**+4.6**
	comp=Z,5.1nm,1.1s								
ABTA	**Abfaltersbach**	**68.62**	**338**	*e*P			**P**	**16 25 01.6**	**+4.8**
	comp=Z,4.4nm,1.7s								
MOA	**Molln**	**68.97**	**340**	*e*P			**P**	**16 25 03.3**	**+4.5**
	comp=Z,4.2nm,0.8s								
WTTA	**Wattenberg**	**69.38**	**338**	*e*P			**P**	**16 25 05.9**	**+4.2**
	comp=Z,5.3nm,1.0s								
SQTA	**Sankt Quirin**	**69.50**	**337**	*e*P			**P**	**16 25 07.0**	**+4.7**
	comp=Z,4.9nm,1.2s								
FETA	**Feichten**	**69.51**	**337**	*e*P			**P**	**16 25 07.0**	**+4.6**
	comp=Z,3.8nm,0.9s								
VRAC	**Vranov**	**69.52**	**342**	LR			LR	16 58 28.6	
	comp=Z,48nm,18.6s,baz=101,slow=38								
DAVOX	**Davos/Dischmat**	**69.63**	**336**	LR			LR	16 57 42.5	
	comp=Z,46nm,18.6s,baz=96,slow=38								
MOTA	**Moosalm**	**69.64**	**337**	*e*P			**P**	**16 25 07.3**	**+4.0**
	comp=Z,4.2nm,1.0s								
RETA	**Reutte**	**69.89**	**337**	*e*P			**P**	**16 25 09.2**	**+4.6**
	comp=Z,3.8nm,1.1s								
GERES	**GERESS Array B**	**70.02**	**340**	P			**P**	**16 25 07.2**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=157,slow=7.2,SNR=8.6								
	comp=Z,1.8nm,0.8s								
GERES	**GERESS Array B**	**70.02**	**340**	P			**P**	**16 25 06.2**	**+0.8**
DAVA	**Damuels**	**70.05**	**337**	*e*P			**P**	**16 25 10.3**	**+4.6**
	comp=Z,11nm,1.4s								
ESDC	**Sonseca Array**	**70.93**	**323**	P			**P**	**16 25 11.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=136,slow=5.4,SNR=1.9								
ESDC				LR			LR	16 57 33.8	
	comp=Z,109nm,20.4s,baz=132,slow=37								
	comp=Z,0.6nm,0.8s								
PZH	**PanZhiHua**	**71.25**	**54**	P			**P**	**16 25 13.0**	**-0.5**
PZH				pmax			pmax		
	comp=Z,10.0nm,1.2s								
PZH				pmax			pmax		
	comp=Z,130nm,5.1s								
BELA	**Belgrano 2**	**71.44**	**193**	P			**P**	**16 25 14.2**	**+0.5**
BELA				IAmb			IAmb	16 25 15.6	
	comp=Z,11nm,1.1s								
GOMU	**GeErMu**	**71.67**	**42**	P			P	16 25 27.5	+11
GOMU				pP			PcP	16 25 30.8	-4.5
GOMU				sP			pwP	16 25 31.5	+10
GOMU				pmax			pmax		
	comp=Z,22nm,0.5s								
ECH	**Echery**	**71.87**	**336**	P			**P**	**16 25 18.1**	**+1.5**
ECH				IAmb			IAmb	16 25 30.8	
	comp=Z,6.2nm,1.2s								
MAKZ	**Makanchi**	**72.06**	**27**	P			**P**	**16 25 16.8**	**-1.0**
MAKZ				IAmb			IAmb	16 25 36.7	
	comp=Z,5.3nm,0.9s								
MK31	**Makanchi Array**	**72.18**	**27**	P			**P**	**16 25 17.6**	**-0.9**
MKAR	**Makanchi Array**	**72.18**	**27**	P			**P**	**16 25 17.5**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=217,sl

comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,120nm,3.6s
CTA Charters Tower 96.36 113 LR LR 17 09 28.9
comp=Z,36nm,18.4s,baz=258,slow=35
ILAR Eielson Array 131.24 6 PKP **PKiKP 16 33 06.7 +0.3**
comp=Z,0.3nm,0.6s,baz=327,slow=3.2,SNR=5.7
YKA Yellowknife Ar 131.38 346 PKP **PKiKP 16 33 06.3 -0.4**
comp=Z,0.6nm,0.6s,baz=19,slow=1.7,SNR=1.4
PDAR Pinedale Array 144.83 324 PKP **PKPab 16 33 30.1 -0.1**
comp=Z,1.2nm,0.8s,baz=92,slow=3.7,SNR=6.8
TXAR Lajitas Array 146.84 299 PKPbc **PKPbc 16 33 36.7 0.0**
comp=Z,0.9nm,0.9s,baz=132,slow=1.3,SNR=1.6
MSU Marysvale 149.06 320 PKPdf **PKPdf 16 33 37.6 -0.9**
ELK Elko 149.32 326 **PKPbc 16 33 42.7 -0.5**
NVAR Mina Array Bea 152.62 327 PKPbc **PKiKP 16 33 51.4 +0.2**
comp=Z,0.6nm,0.5s,baz=45,slow=0.5,SNR=1.8

PRU **27** *16:16:38.2±0.0, 42.˚94N× 13.˚52E, h0km*
LDG **27** *16:16:39.3±0.1, 43.˚01N× 13.˚09E, h10km, Ml2.9/18, Error ellipse: s-maj=2.5km s-min=1.7km az=50.0*
ROM **27** *16:16:39.8±0.1, 43.˚014N±0.˚003× 13.˚075E±0.˚004, h10km, ML3.3/55, Error ellipse: s-maj=0.3km s-min=0.3km az=354.0*
IDC **27** *16:16:41.4±2.5, 43.˚15N× 13.˚36E, h0km, mbtmp3.6/4, ML3.1/4, Error ellipse: s-maj=48.6km s-min=21.3km az=100.0*
ISC 27 16:16:40.1±0.8, 42.˚99N±0.˚01× 13.˚09E±0.˚02, h9km±4km, n118, σ1s51/146, 34C-19D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res	ISC
FEMA	**Monte Fema**	**0.04**	**228**	⇑P		**Pg**	**16 16 42.1**	**0.0**	
FEMA				S		**Sg**	**16 16 43.7**	**+0.3**	
FEMA				AML		AML			
FEMA				AML		AML			
FEMA				AML		AML			
FEMA				AML		AML			
FDMO	**Fiordimonte**	**0.05**	**357**	P		**Pg**	**16 16 41.4**	**-0.7**	
FDMO				AML		AML			
FDMO				AML		AML			
T1219	**Muccia, Frazio**	**0.09**	**318**	P		**Pg**	**16 16 42.2**	**-0.4**	
T1219				S		**Sg**	**16 16 43.6**	**-0.7**	
T1219				AML		AML			
	comp=E,61700μm,0.1s								
T1219				AML		AML			
	comp=N,67150μm,0.3s								
T1219				AML		AML			
	comp=E,56000μm,0.2s								
T1219				AML		AML			
	comp=N,72250μm,0.3s								
T1219				AML		AML			
	comp=E,61700μm,0.2s								
T1219				AML		AML			
	comp=N,67150μm,0.3s								
T1256	**Bolognola (MC)**	**0.10**	**80**	⇓P		**Pg**	**16 16 42.9**	**+0.2**	
T1256				AML		AML			
	comp=E,33100μm,0.9s								
T1256				AML		AML			
	comp=N,19950μm,1.2s								
T1256				AML		AML			
	comp=N,17900μm,1.2s								
T1256				AML		AML			
	comp=E,33050μm,0.9s								
T1256				AML		AML			
	comp=N,20000μm,1.2s								
T1256				AML		AML			
	comp=E,33100μm,0.9s								
MC2	**Monte Cornacci**	**0.11**	**136**	P		**Pg**	**16 16 43.5**	**+0.7**	
T1216	**Preci, Frazion**	**0.11**	**208**	P		**Pg**	**16 16 43.4**	**+0.5**	
T1216				AML		AML			
	comp=E,45400μm,0.4s								
T1216				AML		AML			
	comp=N,25650μm,0.4s								
T1216				AML		AML			
	comp=E,45400μm,0.4s								
T1216				AML		AML			
	comp=N,25650μm,0.4s								
CSP1	**Cessapalombo**	**0.13**	**39**	P		**Pg**	**16 16 43.1**	**-0.1**	
CSP1				S		**Sg**	**16 16 45.6**	**+0.2**	
CSP1				AML		AML			
	comp=N,55650μm,0.7s								
CSP1				AML		AML			
	comp=E,37300μm,0.7s								
CESI	**CESI - Serrava**	**0.14**	**277**	⇑P		**Pg**	**16 16 43.4**	**+0.2**	
CESI				S		**Sg**	**16 16 45.9**	**+0.5**	
CESI				AML		AML			
	comp=E,37800μm,0.2s								
CESI				AML		AML			
	comp=N,38000μm,0.3s								
NRCA	**Norcia**	**0.16**	**173**	P		**Pg**	**16 16 44.3**	**+0.7**	
NRCA				S		**Sg**	**16 16 47.7**	**+1.8**	
NRCA				AML		AML			
	comp=E,24600μm,1.5s								
NRCA				AML		AML			
	comp=N,21550μm,0.7s								
NRCA				AML		AML			
	comp=N,22350μm,0.2s								
NRCA				AML		AML			
	comp=E,26700μm,1.5s								
NRCA				AML		AML			
	comp=N,21600μm,0.7s								
SEF1	**Sefro**	**0.19**	**327**	P		**Pg**	**16 16 43.9**	**-0.2**	
SEF1				S		**Sg**	**16 16 47.1**	**+0.3**	
SEF1				AML		AML			
	comp=E,48450μm,0.2s								
SEF1				AML		AML			
	comp=N,48150μm,0.2s								
SEF1				AML		AML			
	comp=E,48400μm,0.2s								
GUMA	**Gualdo di Mace**	**0.19**	**68**	⇑P		**Pg**	**16 16 44.8**	**+0.6**	
GUMA				S		**Sg**	**16 16 48.6**	**+1.7**	
GUMA				AML		AML			
	comp=N,56400μm,0.5s								
GUMA				AML		AML			
	comp=N,37800μm,0.6s								
GUMA				AML		AML			
	comp=E,43600μm,0.4s								
GUMA				AML		AML			
	comp=E,63850μm,0.4s								
MMO1	**Montemonaco**	**0.20**	**117**	P		**Pg**	**16 16 44.9**	**+0.6**	
MMO1				S		**Sg**	**16 16 48.6**	**+1.6**	
MDAR	**Monte D'Aria**	**0.21**	**11**	P		**Pg**	**16 16 44.3**	**-0.2**	
MDAR				AML		AML			
	comp=E,8525μm,0.4s								
MDAR				AML		AML			
	comp=E,8505μm,0.4s								
MDAR				AML		AML			
	comp=N,17450μm,0.6s								
SSM1	**San Severino M**	**0.25**	**15**	P		**Pg**	**16 16 45.6**	**+0.4**	
T1215	**Vallo di Nera,**	**0.25**	**221**	P		**Pg**	**16 16 45.8**	**+0.6**	
T1215				AML		AML			
	comp=N,3855μm,1.6s								
T1215				AML		AML			
	comp=N,3905μm,1.5s								
T1215				AML		AML			
	comp=E,5215μm,0.9s								
T1215				AML		AML			
	comp=N,3910μm,1.5s								
T1215				AML		AML			
	comp=E,5150μm,0.6s								
T1215				AML		AML			
	comp=N,3860μm,1.6s								
T1215				AML		AML			
	comp=E,5220μm,0.9s								
T1241	**Roccafluvione,**	**0.28**	**118**	P		**Pg**	**16 16 46.5**	**+0.7**	
T1241				S		**Sg**	**16 16 51.8**	**+2.2**	
T1241				AML		AML			
	comp=N,5710μm,0.7s								
T1241				AML		AML			
	comp=E,5265μm,0.4s								
T1241				AML		AML			
	comp=N,5715μm,0.7s								
T1241				AML		AML			
	comp=E,5335μm,0.3s								
T1241				AML		AML			
	comp=N,5585μm,0.8s								
MNTP	**Montappone**	**0.32**	**62**	⇑P		**Pb**	**16 16 47.4**	**-0.6**	
MNTP				AML		AML			
	comp=E,12050μm,0.7s								
MNTP				AML		AML			
	comp=N,8450μm,1.1s								
T1218	**Civita (PG)**	**0.32**	**177**	⇑P		**Pb**	**16 16 47.2**	**-0.9**	
T1218				AML		AML			
	comp=E,6475μm,0.6s								
T1218				AML		AML			
	comp=N,7545μm,0.6s								
T1218				AML		AML			
	comp=E,6295μm,0.7s								
T1218				AML		AML			
	comp=N,7735μm,0.6s								
T1218				AML		AML			
	comp=E,6295μm,0.6s								
T1218				AML		AML			
	comp=N,7730μm,0.6s								
ASSB	**Assisi San Ben**	**0.32**	**280**	⇓P		**Pg**	**16 16 46.5**	**0.0**	
ASSB				AML		AML			
	comp=E,16450μm,0.3s								
ASSB				AML		AML			
	comp=N,17450μm,0.4s								
EL6	**Elcito**	**0.34**	**1**	⇑P		**Pg**	**16 16 46.6**	**-0.3**	
EL6				AML		AML			
	comp=N,24250μm,0.3s								
EL6				AML		AML			
	comp=E,17850μm,0.8s								
ATCC	**AVT- Casa Cast**	**0.38**	**301**	⇓P		**Pg**	**16 16 47.6**	**-0.1**	
ATCC				AML		AML			
	comp=E,13100μm,0.2s								
ATCC				AML		AML			
	comp=N,12000μm,0.3s								
LNSS	**Leonessa**	**0.39**	**185**	⇑P		**Pb**	**16 16 48.4**	**-0.9**	
LNSS				AML		AML			
	comp=N,6970μm,0.8s								
LNSS				AML		AML			
	comp=E,2385μm,0.7s								
FOSV	**Fossato di Vic**	**0.39**	**322**	S		**Sg**	**16 16 54.0**	**+1.0**	
CING	**Cingoli**	**0.39**	**11**	⇑P		**Pg**	**16 16 47.6**	**-0.3**	
CING				AML		AML			
	comp=N,5820μm,0.2s								
CING				AML		AML			
	comp=E,10210μm,1.2s								
T1243	**Rocca Santa Ma**	**0.39**	**138**	P		**Pb**	**16 16 48.4**	**-1.0**	
SMA1	**SAN MARTINO**	**0.40**	**153**	⇑P		**Pb**	**16 16 48.5**	**-0.9**	
SMA1				AML		AML			
	comp=N,8170μm,0.8s								
SMA1				AML		AML			
	comp=E,6850μm,0.5s								
OFFI	**Offida**	**0.44**	**97**	⇑P		**Pn**	**16 16 50.2**	**-2.4**	
OFFI				AML		AML			
	comp=E,4435μm,0.5s								
OFFI				AML		AML			
	comp=N,6080μm,0.6s								
MMUR	**Monte Murano**	**0.46**	**351**	⇓P		**Pg**	**16 16 48.9**	**-0.2**	
MMUR				AML		AML			
	comp=E,15050μm,0.2s								
MMUR				AML		AML			
	comp=N,12700μm,1.6s								
MMUR				AML		AML			
	comp=E,15050μm,0.3s								
MMUR				AML		AML			
	comp=N,12700μm,1.6s								
ARRO	**Arrone**	**0.47**	**210**	P		**Pb**	**16 16 49.8**	**-0.8**	
ARRO				S		**Sb**	**16 16 57.9**	**+0.1**	
RM33	**Pellescritta (**	**0.49**	**169**	⇑P		**Pb**	**16 16 50.0**	**-0.9**	
RM33				AML		AML			
	comp=E,2445μm,1.3s								
RM33				AML		AML			
	comp=N,1775μm,0.5s								
RM33				AML		AML			
	comp=E,2440μm,1.3s								
RM33				AML		AML			
	comp=N,1780μm,0.5s								
RM33				AML		AML			
	comp=N,1750μm,0.5s								
RM33				AML		AML			
	comp=E,2360μm,1.3s								
T1211	**Morro Reatino**	**0.49**	**201**	⇑P		**Pb**	**16 16 50.1**	**-0.8**	
T1211				AML		AML			
	comp=E,2210μm,0.4s								
T1211				AML		AML			
	comp=E,2145μm,0.4s								
T1211				AML		AML			
	comp=N,3655μm,0.4s								
T1211				AML		AML			
	comp=E,2215μm,0.4s								
T1211				AML		AML			
	comp=N,3595μm,0.4s								
MURB	**Monte Urbino**	**0.50**	**304**	P		**Pg**	**16 16 49.7**	**-0.1**	
MURB				AML		AML			
	comp=E,10495μm,0.4s								
MURB				AML		AML			
	comp=N,5980μm,0.2s								
MURB				AML		AML			
	comp=E,10695μm,0.3s								
MURB				AML		AML			
	comp=N,5985μm,0.2s								
MURB				AML		AML			
	comp=E,10495μm,0.4s								
SSFR	**Montelago di S**	**0.50**	**333**	⇑P		**Pg**	**16 16 49.5**	**-0.4**	
SSFR				S		**Sg**	**16 16 58.0**	**+1.5**	
SSFR				AML		AML			
	comp=E,10900μm,0.2s								
SSFR				AML		AML			
	comp=N,12650μm,0.3s								
SSFR				AML		AML			
	comp=E,9990μm,0.2s								
SSFR				AML		AML			
	comp=N,9380μm,0.2s								
CAMP	**Campotosto**	**0.51**	**152**	⇑P		**Pb**	**16 16 50.4**	**-1.0**	
CAMP				AML		AML			
	comp=N,1600μm,1.6s								
CAMP				AML		AML			
	comp=E,2400μm,0.9s								
ARVD	**Arcevia**	**0.52**	**348**	⇑P		**Pg**	**16 16 49.8**	**-0.5**	
ARVD				S		**Sg**	**16 16 59.0**	**+1.9**	
ARVD				AML		AML			
	comp=E,6095μm,0.2s								
ARVD				AML		AML			
	comp=N,4765μm,0.2s								
TERO	**Teramo**	**0.53**	**134**	⇑P		**Pb**	**16 16 50.6**	**-0.9**	
TERO				AML		AML			
	comp=E,2870μm,0.7s								
TERO				AML		AML			
	comp=N,3985μm,0.6s								
TERO				AML		AML			
	comp=N,4090μm,0.6s								
TERO				AML		AML			
	comp=E,2865μm,0.7s								
TERO				AML		AML			
	comp=E,2965μm,0.7s								
CESX	**Cesi**	**0.53**	**225**	⇑P		**Pg**	**16 16 50.6**	**+0.2**	
CESX				AML		AML			
	comp=E,5390μm,0.4s								
CESX				AML		AML			
	comp=N,5125μm,0.5s								
ATFO	**Monte Foce - G**	**0.54**	**315**	⇓P		**Pg**	**16 16 50.2**	**-0.3**	
ATFO				AML		AML			
	comp=E,2700μm,0.7s								
ATFO				AML		AML			
	comp=N,2590μm,0.5s								
PP3	**Marolino**	**0.54**	**44**	P		**Pb**	**16 16 51.6**	**-0.2**	
PP3				AML		AML			
	comp=E,4230μm,0.7s								
PP3				AML		AML			
	comp=N,3335μm,1.0s								
PP3				AML		AML			
	comp=N,3340μm,1.0s								
PP3				AML		AML			
	comp=N,3500μm,0.5s								
PP3				AML		AML			
	comp=E,4225μm,0.7s								
PP3				AML		AML			
	comp=E,4275μm,0.7s								
T1247	**Pizzolo (AQ)**	**0.57**	**164**	⇓P		**Pb**	**16 16 51.6**	**-0.7**	
T1247				AML		AML			
	comp=E,2765μm,0.6s								
T1247				AML		AML			
	comp=N,2940μm,0.6s								
TRTR	**Tortoreto Alta**	**0.63**	**106**	⇑P		**Pn**	**16 16 54.1**	**-1.1**	
TRTR				AML		AML			
	comp=N,4595μm,1.2s								
TRTR				AML		AML			
	comp=E,4005μm,1.3s								
ATVO	**AVT- Monte Val**	**0.64**	**308**	⇓P		**Pg**	**16 16 51.9**	**-0.5**	
ATVO				S		**Sg**	**16 17 03.0**	**+2.2**	
ATVO				AML		AML			
	comp=E,1260μm,0.7s								
ATVO				AML		AML			
	comp=N,1240μm,0.5s								
GIGS	**Gran Sasso**	**0.64**	**147**	⇑P		**Pb**	**16 16 52.6**	**-1.0**	
GIGS				S		**Sn**	**16 17 04.0**	**-1.9**	
GIGS				AML		AML			
	comp=E,666μm,0.6s								
GIGS				AML		AML			
	comp=N,436μm,0.8s								
COR1	**Corinaldo**	**0.65**	**354**	P		**Pg**	**16 16 52.9**	**+0.3**	
COR1				AML		AML			
	comp=E,6605μm,0.5s								
COR1				AML		AML			
	comp=N,6700μm,1.2s								
COR1				AML		AML			
	comp=E,6605μm,0.5s								
AOI	**Ancona**	**0.67**	**34**	⇑P		**Pb**	**16 16 53.2**	**-0.9**	
AOI				S		**Sn**	**16 17 05.0**	**-1.6**	
AOI				AML		AML			
	comp=N,1675μm,0.3s								
AOI				AML		AML			
	comp=E,1285μm,0.4s								
PIEI	**Pieia**	**0.68**	**324**	⇓P		**Pg**	**16 16 52.5**	**-0.8**	
PIEI				S		**Sg**	**16 17 04.0**	**+1.8**	
PIEI				AML		AML			
	comp=E,1315μm,0.7s								
PIEI				AML		AML			
	comp=N,1290μm,1.1s								
ATPI	**Pietralunga -**	**0.68**	**313**	⇓P		**Pg**	**16 16 52.8**	**-0.5**	
ATPI				S		**Sg**	**16 17 04.0**	**+1.7**	
ATPI				AML		AML			
	comp=E,1155μm,0.6s								
ATPI				AML		AML			
	comp=N,1530μm,0.6s								
MPAG	**Monte Paganucc**	**0.68**	**339**	⇓P		**Pg**	**16 16 52.8**	**-0.5**	
MPAG				S		**Sg**	**16 17 04.0**	**+1.7**	
MPAG				AML		AML			
	comp=E,2685μm,0.7s								
MPAG				AML		AML			
	comp=E,2495μm,0.6s								
MPAG				AML		AML			
	comp=N,3365μm,0.6s								
MPAG				AML		AML			
	comp=N,3960μm,0.5s								
ATMI	**Monte Miggiano**	**0.69**	**300**	⇑P		**Pg**	**16 16 53.4**	**-0.2**	
ATMI				S		**Sg**	**16 17 05.0**	**+2.4**	
ATMI				AML		AML			
	comp=N,3050μm,0.5s								
ATMI				AML		AML			
	comp=E,2170μm,0.7s								
FIAM	**Fiamignano**	**0.72**	**178**	⇑P		**Pb**	**16 16 53.9**	**-1.0**	
FIAM				S		**Sn**	**16 17 06.0**	**-1.8**	
FIAM				AML		AML			
	comp=E,1130μm,0.7s								
FIAM				AML		AML			
	comp=N,1390μm,0.7s								
MGAB	**Montegabbione**	**0.72**	**264**	⇑P		**Pg**	**16 16 54.0**	**-0.1**	
MGAB				AML		AML			
	comp=N,2680μm,0.5s								
MGAB				AML		AML			
	comp=E,2100μm,1.2s								
FSSB	**Fossombrone**	**0.74**	**342**	⇓P		**Pg**	**16 16 53.9**	**-0.5**	
FSSB				S		**Sg**	**16 17 06.0**	**+1.9**	
FSSB				AML		AML			
	comp=E,9240μm,0.3s								
FSSB				AML		AML			
	comp=N,19450μm,0.4s								
BADI	**Badiali**	**0.81**	**310**	⇑P		**Pg**	**16 16 55.3**	**-0.4**	
BADI				AML		AML			
	comp=E,62μm,0.6s								
BADI				AML		AML			
	comp=N,1002μm,0.5s								
FAGN	**Fagnano**	**0.81**	**153**	⇑P		**Pn**	**16 16 55.8**	**-2.0**	
FAGN				S		**Sn**	**16 17 10.0**	**+0.1**	
FAGN				AML		AML			
	comp=N,2210μm,0.5s								
FAGN				AML		AML			
	comp=E,3015μm,0.6s								
VCEL	**Villa Celiera**	**0.81**	**137**	⇑P		**Pn**	**16 16 56.0**	**-1.8**	
VCEL				S		**Sn**	**16 17 11.0**	**+0.9**	
VCEL				AML		AML			
	comp=N,2270μm,1.0s								
VCEL				AML		AML			
	comp=E,2220μm,1.0s								
PE3	**Peglio**	**0.83**	**329**	⇑P		**Pg**	**16 16 55.9**	**-0.2**	
SACS	**San Casciano d**	**0.88**	**261**	⇑P		**Pg**	**16 16 55.8**	**-1.2**	
SACS				AML		AML			
	comp=E,912μm,0.9s								
SACS				AML		AML			
	comp=N,1715μm,0.6s								
SACS				AML		AML			
	comp=E,898μm,0.9s								
SACS				AML		AML			
	comp=N,1715μm,0.6s								
SSP9	**Sansepolcro**	**0.91**	**310**	⇓P		**Pg**	**16 16 57.6**	**0.0**	
SSP9				AML		AML			
	comp=E,633μm,1.5s								
SSP9				AML		AML			
	comp=N,680μm,1.6s								
T0110	**Collepietro**	**0.92**	**146**	⇓P		**Pn**	**16 16 57.5**	**-1.8**	
T0110				AML		AML			
	comp=N,1875μm,0.6s								
T0110				AML		AML			
	comp=E,1795μm,0.5s								
PESA	**Pesaro**	**0.97**	**349**	⇑P		**Pg**	**16 16 58.9**	**+0.1**	
PESA				AML		AML			
	comp=E,3095μm,0.4s								
PESA				AML		AML			
	comp=N,2055μm,1.4s								
CERT	**Cerreto**	**1.04**	**184**	⇓P		**Pn**	**16 17 00.1**	**-0.9**	
CERT				AML		AML			
	comp=N,618μm,1.0s								
CERT				AML		AML			
	comp=E,1125μm,0.6s								
CRE	**Caprese Michel**	**1.04**	**308**	⇑P		**Pg**	**16 16 59.6**	**-0.6**	
CRE				AML		AML			
	comp=N,608μm,0.3s								
CRE				AML		AML			
	comp=E,376μm,0.5s								
MCIV	**Monte Civitell**	**1.06**	**259**	⇓P		**Pg**	**16 17 01.6**	**+1.1**	
MCIV				AML		AML			
	comp=N,332μm,0.6s								
MCIV				AML		AML			
	comp=E,450μm,0.9s								
SF01	**Poggio Pratacc**	**1.14**	**262**	⇓P		**Pn**	**16 17 03.5**	**+1.2**	
INTR	**Introdacqua**	**1.15**	**148**	⇑P		**Pn**	**16 17 01.6**	**-0.9**	
INTR				AML		AML			
	comp=E,744μm,0.5s								
INTR				AML		AML			
	comp=N,1510μm,0.7s								
INTR				AML		AML			
	comp=E,776nm,1.5s								
INTR				AML		AML			
	comp=N,1μm,0.7s								
GUAR	**Guarcino**	**1.21**	**172**	P		**Pn**	**16 17 05.2**	**+2.0**	
TOLF	**Tolfa**	**1.23**	**221**	⇑P		**Pg**	**16 17 03.4**	**-0.3**	
TOLF				AML		AML			
	comp=E,464μm,0.8s								
TOLF				AML		AML			
	comp=N,378μm,0.5s								
ASQU	**Asqua**	**1.25**	**311**	P		**Pn**	**16 17 03.3**	**-0.5**	
ASQU				AML		AML			
	comp=E,359μm,0.8s								
ASQU				AML		AML			
	comp=N,384μm,0.5s								
LAV9	**Lanuvio**	**1.34**	**193**	S		**Sn**	**16 17 23.0**	**0.0**	
GIUL	**Giuliano Di Ro**	**1.44**	**175**	⇓P		**Pg**	**16 17 08.7**	**+1.1**	
FRES	**Fresagrandinar**	**1.55**	**130**	⇓P		**Pg**	**16 17 11.1**	**+1.3**	
BRIS	**BRISIGHELLA**	**1.63**	**316**	⇑P		**Pn**	**16 17 10.8**	**+1.8**	
VAGA	**Valle Agricola**	**1.79**	**151**	⇑P		**Pg**	**16 17 15.4**	**+1.0**	
BRJN	**Brijuni**	**1.98**	**14**	⇓P		**Pn**	**16 17 14.3**	**+0.5**	
SKDS	**Skadanscina**	**2.64**	**14**	*i* Pn		**Pn**	**16 17 22.9**	**-0.1**	
SKDS				*i* Sn		**Sn**	**16 17 55.1**	**0.0**	
SKDS				IAML			16 18 12.0		
	comp=Z,86nm,0.8s								
GRAM	**Graiana**	**2.66**	**305**	P		**Pb**	**16 17 29.2**	**+1.3**	
PGF	**Pioggiola**	**3.04**	**263**	*e*P		**Pn**	**16 17 29.2**	**+0.7**	
PGF				*e*Sn		**Sn**	**16 18 00.5**	**-4.6**	
	comp=Z,8.3nm,0.7s								
MYKA	**Terra Mystica**	**3.66**	**6**	*e*Pn		**Pn**	**16 17 37.7**	**+0.7**	
	comp=Z,8.6nm,0.5s,SNR=7.7								
OBKA	**Obir**	**3.67**	**16**	*e*Pn		**Pn**	**16 17 38.0**	**+0.9**	
	comp=Z,1.0nm,0.2s,SNR=5.6								
ABTA	**Abfaltersbach**	**3.78**	**354**	*i* Pn		**Pn**	**16 17 39.6**	**+0.9**	
	comp=Z,2.6nm,0.2s,SNR=26								
SOKA	**Soboth**	**3.94**	**20**	*e*Pn		**Pn**	**16 17 41.3**	**+0.4**	
	comp=Z,1.2nm,0.5s								
KBA	**Koelnbreinsper**	**4.09**	**2**	*e*Pn		**Pn**	**16 17 43.5**	**+0.5**	
	comp=Z,11nm,0.6s								
SBF	**Sospel**	**4.21**	**284**	*e*P		**Pn**	**16 17 45.7**	**+1.2**	
SBF				*e*Sn		**Sn**	**16 18 28.0**	**-5.9**	

comp=Z,10nm,0.5s
FETA Feichten 4.37 338 *e*Pn **Pn 16 17 48.9 +2.2**
comp=Z,6.0nm,0.6s,SNR=14
WTTA Wattenberg 4.40 347 *e*Pn **Pn 16 17 49.2 +2.0**
comp=Z,1.0nm,0.2s,SNR=7.1
DAVOX Davos/Dischmat 4.42 330 Pn **Pn 16 17 50.2 +2.6**
comp=Z,2.9nm,0.3s,baz=156,slow=20,SNR=24
DAVOX Sn **Sn 16 18 42.8 +3.5**
comp=Z,0.9nm,0.3s,baz=97,slow=14,SNR=3.8
comp=Z,6.5nm,0.4s
SQTA Sankt Quirin 4.44 343 *e*Pn **Pn 16 17 49.8 +2.1**
comp=Z,1.5nm,0.1s,SNR=7.7
WATA Walderalm 4.48 347 *e*Pn **Pn 16 17 50.5 +2.3**
comp=Z,2.0nm,0.2s,SNR=7.9
MOTA Moosalm 4.58 343 *e*Pn **Pn 16 17 51.7 +2.1**
comp=Z,2.5nm,0.3s,SNR=7.5
ARSA Arzberg 4.60 21 *e*Pn **Pn 16 17 50.1 +0.3**
comp=Z,1.9nm,0.3s,SNR=4.3
BIOA Bad Ischl, Aus 4.72 5 *e*Pn **Pn 16 17 52.5 +1.0**
comp=Z,7.7nm,0.3s,SNR=10
RETA Reutte 4.79 341 *e*Pn **Pn 16 17 54.3 +1.8**
comp=Z,1.4nm,0.2s
LMR La Mourre 4.83 276 *e*P **Pn 16 17 54.4 +1.5**
LMR *e*Sn **Sn 16 18 42.8 -6.1**
comp=Z,0.6nm,0.3s
DAVA Damuels 4.86 333 *e*Pn **Pn 16 17 55.2 +1.6**
comp=Z,5.7nm,0.7s,SNR=7.6
MBDF Montbardon 4.89 293 *e*P **Pn 16 17 55.2 +1.3**
MBDF *e*Sn Sn 16 18 44.4 -6.3
comp=Z,0.7nm,0.3s
MOA Molln 4.93 9 *e*Pn **Pn 16 17 54.8 +0.4**
comp=Z,2.6nm,0.3s,SNR=8.5
LPL La Plagne 5.22 301 *e*P **Pn 16 18 00.1 +1.6**
LPL *e*Sn Sn 16 18 52.3 -6.6
comp=Z,3.3nm,0.5s
CONA Conrad Observa 5.31 21 *e*Pn **Pn 16 18 00.5 +0.8**
comp=Z,1.8nm,0.2s,SNR=5.5
ORIF Oris-en-Rattie 5.55 293 *e*P **Pn 16 18 04.4 +1.4**
ORIF *e*Sn Sn 16 19 00.1 -6.8
comp=Z,2.8nm,0.5s
SMRF Simiane la Rot 5.56 283 *e*P **Pn 16 18 04.5 +1.5**
SMRF *e*Sn Sn 16 19 00.4 -6.6
comp=Z,2.8nm,0.5s
GERES GERESS Array B 5.87 4 Pn **Pn 16 18 07.2 -0.1**
comp=Z,0.4nm,0.3s,baz=175,slow=13,SNR=11
GERES Sn **Sn 16 19 13.8 -1.1**
comp=Z,0.9nm,0.3s,baz=184,slow=26,SNR=6.9
comp=Z,0.7nm,0.4s
CKRC Cesky Krumlov 5.89 8 *e*PN **Pn 16 18 07.0 -0.6**
CKRC *e*SN **Sn 16 19 13.2 -2.0**
KHC Kasperske Hory 6.15 3 *e*PN **Pn 16 18 10.8 -0.4**
KHC *e*SN **Sn 16 19 19.4 -2.2**
CABF La Chapelle 6.16 308 *e*P **Pn 16 18 13.0 +1.7**
CABF *e*Sn Sn 16 19 14.4 -7.5
comp=Z,2.5nm,0.6s
HINF Hinteralfeld 6.52 320 *e*P **Pn 16 18 16.9 +0.6**
HINF *e*Sn Sn 16 19 23.3 -7.5
comp=Z,5.8nm,0.5s
CDF Champ du Feu 6.78 325 *e*P **Pn 16 18 20.4 +0.6**
CDF *e*Sn Sn 16 19 29.5 -7.7
comp=Z,5.9nm,0.7s
HAU Haudompre 6.90 319 *e*P **Pn 16 18 22.0 +0.6**
HAU *e*Sn Sn 16 19 32.2 -7.8
comp=Z,7.8nm,0.5s
PRU Pruhonice 7.07 8 *e*SN **Sn 16 19 40.6 -3.6**
SMF Signal de Mont 7.52 302 *e*P **Pn 16 18 32.1 +2.1**
PAGF Fort de Pagny 7.58 320 *e*P **Pn 16 18 32.1 +1.4**
PAGF *e*Sn Sn 16 19 48.4 -8.3
comp=Z,3.8nm,0.5s
SFTF Sexfontaines 7.69 316 *e*P **Pn 16 18 34.4 +2.2**
SFTF *e*Sn Sn 16 19 50.8 -8.5
comp=Z,2.1nm,0.4s
LOR Lormes 7.80 306 *e*P **Pn 16 18 35.8 +2.0**
baz=120
LOR *e*Sn Sn 16 19 54.0 -8.2
comp=Z,97nm,2.0s
KEST Kesra 7.80 203 Pn Pn 16 18 39.5 +5.6
comp=Z,0.3nm,0.3s,baz=228,slow=4.8,SNR=4.3
comp=Z,2.9nm,0.7s
MEZF Maizieres J'vi 7.87 317 *e*P **Pn 16 18 36.9 +2.2**
MEZF *e*Sn Sn 16 19 55.3 -8.6
comp=Z,1.8nm,0.4s
AVF Avril sur Loir 7.89 302 *e*P **Pn 16 18 36.2 +1.2**
BRG Berggiesshubel 7.91 4 *ex* x 16 19 59.9
BRG *ex* x 16 20 59.7
BRG Amp 16 21 10.9
comp=Z,9.3nm,1.5s
SAVF Savonnieres en 7.91 318 *e*P **Pn 16 18 37.6 +2.3**
FINES FINESS Array B 20.05 18 P Pn 16 21 14.7 -0.3
comp=Z,0.1nm,0.3s,baz=202,slow=6.9,SNR=1.6
comp=Z,3.0nm,0.8s

IDC 27 16:25:12.0±2.9, 6°82S×120°47E, h424km±27km, mb2.5/2, mbtmp3.4/4, Error ellipse: s-maj=181.4km s-min=25.5km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.62**	**137**	P	P	16 26 31.1	-0.3
	14nm,0.7s,baz=316,slow=12,SNR=5.6						
BATI				S	S	16 27 36.7	+0.6
	10nm,0.6s,baz=224,slow=6.9,SNR=2.1						
WRA	**Warramunga Arr**	**18.75**	**135**	P	P	16 29 03.4	0.0
	0.6nm,0.6s,baz=312,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**21.15**	**144**	P	P	16 29 25.5	-0.1
	0.4nm,0.5s,baz=321,slow=8.5,SNR=9.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**63.21**	**332**	P	P	16 34 57.2	0.0
	0.1nm,0.4s,baz=121,slow=5.6,SNR=1.8						
	0.1nm,0.4s						

*KRNET **27** 16:29:18.3±0.1, 39°.16N×74°.49E, mb3.1*
*SOME **27** 16:29:21.5, 39°.40N×74°.18E, h5km*
*NNC **27** 16:29:23.3±3.3, 39°.43N×74°.48E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=24.6km s-min=12.8km az=167.0*
ISC 27 16:29:22.6±1.7, 39°.49N±0°.06×74°.20E±0°.03, h6km±13km, n30, σ2s64/51, 18C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.50**	**314**	⇑*i*P	**Pg**	**16 29 53.7**	**+2.4**
	baz=17						
OHH				⇑*i*S	**Sg**	**16 30 19.7**	**+8.9**
	baz=17						
DRK	**Karamyk**	**1.86**	**271**	⇑*i*P	**Pg**	**16 29 57.1**	**-1.1**
	baz=80						
DRK				⇑*i*S	**Sg**	**16 30 25.7**	**+3.5**
	baz=80						
ARLS	**Aral**	**2.37**	**2**	⇓*i*P	**Pb**	**16 30 05.3**	**-0.5**
	baz=57						
ARLS				⇓*i*S	**Sg**	**16 30 39.8**	**+1.0**
	baz=57						
NRN	**Naryn**	**2.38**	**35**	⇑*i*P	**Pn**	**16 30 02.8**	**+0.4**
	baz=26						
NRN				⇑*i*S	**Sb**	**16 30 35.3**	**-0.5**
	baz=26						
BTK	**Batken**	**2.67**	**283**	⇑*i*P	**Pb**	**16 30 09.3**	**-1.5**
	baz=89						
BTK				⇑*i*S	**Sg**	**16 30 46.3**	**-1.9**
	baz=89						
ARK	**Arkit**	**2.87**	**324**	⇑*i*P	**Pb**	**16 30 13.1**	**-1.1**
	baz=25						
ARK				⇑*i*S	**Sg**	**16 30 53.6**	**-1.1**
	baz=25						
TRKS	**Terek-Say**	**3.10**	**312**	⇑*i*P	**Pb**	**16 30 15.5**	**-2.7**
	baz=13						
TRKS				⇑*i*S	**Sb**	**16 30 57.0**	**+0.7**
	baz=13						
MRKS	**Merke**	**3.34**	**348**	*e*P	**Pb**	**16 30 24.1**	**+2.0**
	7.5nm,0.5s						
MRKS				*e*S	**Sg**	**16 31 08.5**	**-1.2**
	6.3nm,0.6s						
MRKS	**Merke**	**3.34**	**348**	Pg	**Pb**	**16 30 24.3**	**+2.1**
	7.0nm,0.3s						
MRKS				Lg	Lg	16 31 08.8	
	10nm,0.9s						
TARG	**Taragay, Kyrgy**	**3.54**	**50**	⇓*i*P	**Pn**	**16 30 18.3**	**-0.2**
	baz=43						
TARG				⇓*i*S	**Sn**	**16 31 01.3**	**+0.4**
	baz=43						
KST	**Kastek**	**3.79**	**20**	*e*P	**Pg**	**16 30 33.7**	**-1.5**
	2.2nm,0.3s						
KST				*e*S	**Sg**	**16 31 25.0**	**+0.7**
	14nm,0.7s						
KST	**Kastek**	**3.79**	**20**	Pg	**Pg**	**16 30 33.7**	**-1.5**
	2.2nm,0.3s						
KST				Lg	Lg	16 31 25.0	
	14nm,0.7s						
DGS	**Degeres**	**3.93**	**17**	*e*P	**Pg**	**16 30 35.9**	**-2.0**
	6.1nm,0.7s						
DGS				*e*S	**Sg**	**16 31 28.7**	**-0.1**
	8.7nm,0.8s						
DGS	**Degeres**	**3.93**	**17**	Pg	**Pg**	**16 30 37.1**	**-0.8**
	6.1nm,0.9s						
DGS				Lg	Lg	16 31 30.7	
	8.7nm,0.8s						
SGDS	**Sogindy**	**3.97**	**5**	*e*P	**Pg**	**16 30 37.5**	**-1.2**
	2.2nm,1.1s						
SGDS				*e*S	**Sg**	**16 31 31.7**	**+1.5**
	4.4nm,0.5s						
TNSS	**Tian-Shan**	**4.11**	**29**	*e*P	**Pb**	**16 30 38.8**	**+3.3**
	2.8nm,0.4s						
TNSS				*e*S	**Sg**	**16 31 33.7**	**-0.7**
	4.5nm,0.7s						
TNSS	**Tian-Shan**	**4.11**	**29**	Pg	**Pb**	**16 30 38.8**	**+3.3**
	2.8nm,0.4s						
TNSS				Lg	Lg	16 31 33.7	
	4.5nm,0.7s						
IUG	**luzhnay**	**4.13**	**311**	*e*P	**Pg**	**16 30 39.4**	**-2.2**
	4.2nm,0.4s						
IUG				*e*S	**Sg**	**16 31 34.6**	**-0.6**
	6.5nm,1.1s						
IUG	**luzhnay**	**4.13**	**311**	Pg	**Pb**	**16 30 34.6**	**-1.1**
	3.8nm,0.4s						
IUG				Lg	Lg	16 31 26.5	
	10nm,0.7s						
MDOK	**Medeo**	**4.25**	**29**	*e*P	**Pb**	**16 30 41.2**	**+3.4**
	1.6nm,0.4s						
MDOK				*e*S	**Sg**	**16 31 37.6**	**-1.5**
	7.4nm,0.9s						
MDOK	**Medeo**	**4.25**	**29**	Pg	**Pb**	**16 30 40.1**	**+2.2**
	1.2nm,0.3s						
MDOK				Lg	Lg	16 31 35.7	
	7.4nm,0.9s						
KOTS	**Kotyrbulak**	**4.34**	**29**	*e*P	**Pb**	**16 30 42.4**	**+3.1**
	1.6nm,0.3s						
KOTS				*e*S	**Sg**	**16 31 39.9**	**-2.0**
	23nm,0.6s						
KOTS	**Kotyrbulak**	**4.34**	**29**	Pg	**Pb**	**16 30 42.4**	**+3.1**
	1.6nm,0.3s						
KOTS				Lg	Lg	16 31 39.9	
	23nm,0.6s						
KRBS	**Karabastau**	**4.35**	**14**	*e*P	**Pg**	**16 30 43.5**	**-2.3**
	2.8nm,0.5s						
KRBS				*e*S	**Sg**	**16 31 41.9**	**-0.3**
	3.4nm,0.7s						
KRBS	**Karabastau**	**4.35**	**14**	Pg	**Pg**	**16 30 43.5**	**-2.3**
	2.8nm,0.5s						
KRBS				Lg	Lg	16 31 41.9	
	3.4nm,0.7s						
KK31	**Karatay Array**	**4.56**	**324**	⇑Pn	**Pn**	**16 30 34.6**	**+2.6**
	0.4nm,0.4s,baz=128,slow=12,SNR=8.2						
KK31				⇑Pg	**Pg**	**16 30 46.8**	**-3.1**
	0.8nm,0.5s,baz=136,slow=16,SNR=5.6						
KK31				⇓Sn	**Sb**	**16 31 33.6**	**-4.5**
	1.0nm,0.5s						
KK31				⇑Lg	Lg	16 31 55.4	
	1.1nm,0.5s,baz=135,slow=28						
KKAR	**Karatay Array**	**4.56**	**324**	⇑*i*P	**Pn**	**16 30 36.4**	**+4.4**
	baz=24						
KKAR				⇑*i*S	**Sb**	**16 31 33.8**	**-4.3**
	baz=24						
KTBS	**Karatobe**	**4.61**	**23**	*e*P	**Pb**	**16 30 47.9**	**+4.0**
	1.7nm,0.3s						
KTBS				*e*S	**Sg**	**16 31 49.2**	**-1.4**
	10.0nm,0.8s						
KTBS	**Karatobe**	**4.61**	**23**	Pg	**Pb**	**16 30 47.9**	**+4.0**
	1.7nm,0.3s						
KTBS				Lg	Lg	16 31 49.2	
	10.0nm,0.8s						
PDGK	**Podgornoye**	**5.53**	**44**	⇑Pg	**Pb**	**16 30 58.7**	**-0.8**
	4.4nm,0.8s						
PDGK				⇓Lg	Lg	16 32 09.6	
	9.0nm,0.9s						

*IDC **27** 16:43:34.7±0.8, 39°.09N×74°.51E, h0km, mb3.9/19, mbtmp3.9/25, ML3.2/6, MS3.5/15, Error ellipse: s-maj=15.2km s-min=14.2km az=153.0*
*SOME **27** 16:43:35.6, 39°.18N×74°.48E, h0km, MS3.7*
*BJI **27** 16:43:35.0±0.0, 39°.12N×74°.47E, h5km, mb4.1/22, mB4.3/5, ML3.8/6, Ms3.8/9, Ms7 3.6/10*
*MOS **27** 16:43:36.8±1.2, 39°.07N×74°.54E, h19km, mb4.3/14, Error ellipse: s-maj=7.4km s-min=4.4km az=84.6*
*KRNET **27** 16:43:36.9±0.1, 39°.23N×74°.44E, mb4.3*
*NEIC **27** 16:43:37.5±2.1, 39°.24N±0°.07×74°.52E±0°.09, h10km±1km, mb4.6/31, Error ellipse: s-maj=12.7km s-min=12.1km az=222.0*
*NNC **27** 16:43:39.0±1.0, 39°.28N×74°.59E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=7.6km s-min=4.8km az=173.0*
ISC 27 16:43:36.0±0.8, 39°.02N±0°.03×74°.43E±0°.02, h8km±4km, n237, σ2s14/279, mb4.4/42, MS3.5/15, 24C-26D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.96**	**320**	⇓*i*P	**Pn**	**16 44 10.8**	**+1.1**
	baz=16						
OHH				⇓*i*S	**Sn**	**16 44 35.7**	**+1.1**
	baz=16						
DRK	**Karamyk**	**2.09**	**284**	⇑*i*P	**Pb**	**16 44 14.9**	**+0.6**
	baz=78						
DRK				⇑*i*S	**Sg**	**16 44 43.0**	**-0.2**
	baz=78						
DRK	**Karamyk**	**2.09**	**284**		**Pb**	**16 44 13.8**	**-0.6**
NRN	**Naryn**	**2.70**	**26**	⇓*i*P	**Pn**	**16 44 20.7**	**+0.7**
	baz=28						
NRN				⇓*i*S	**Sn**	**16 44 53.5**	**+0.5**
	baz=28						
NRN	**Naryn**	**2.70**	**26**	Pn	**Pn**	**16 44 20.7**	**+0.7**
NRN	**Naryn**	**2.70**	**26**	PN	**Pn**	**16 44 20.7**	**+0.7**
ARLS	**Aral**	**2.84**	**358**	⇓*i*P	**Pn**	**16 44 22.8**	**+1.0**
	baz=58						
ARLS				⇓*i*S	**Sn**	**16 44 56.2**	**-0.1**
	baz=58						
BTK	**Batken**	**2.98**	**292**	⇑*i*P	**Pb**	**16 44 26.9**	**-2.4**
	baz=88						
BTK				⇑*i*S	**Sb**	**16 45 03.5**	**-2.4**
	baz=88						
BTK	**Batken**	**2.98**	**292**		**Pb**	**16 44 27.8**	**-1.5**
BTK	**Batken**	**2.98**	**292**	PN	**Pb**	**16 44 27.8**	**-1.5**
ARK	**Arkit**	**3.35**	**327**	⇑*i*P	**Pn**	**16 44 30.9**	**+2.1**
	baz=25						
ARK				⇑*i*S	**Sn**	**16 45 10.2**	**+1.3**
	baz=25						
TRKS	**Terek-Say**	**3.55**	**316**	⇑*i*P	**Pn**	**16 44 32.7**	**+1.1**
	baz=13						
TRKS				⇑*i*S	**Sn**	**16 45 14.0**	**+0.2**
	baz=13						
AAK	**Ala-Archa**	**3.62**	**1**	*d*iPN	**Pn**	**16 44 34.2**	**+1.8**
	7.0nm,0.3s,baz=170,slow=8.3,SNR=51						
AAK				Lg	Lg	16 45 26.6	
	9.5nm,0.3s,baz=88,slow=22,SNR=9.7						
AAK				LR	LR	16 46 05.6	
	comp=Z,520nm,19.0s,baz=217,slow=42						
	23nm,0.5s						
AAK	**Ala-Archa**	**3.62**	**1**	*d*iPN	**Pn**	**16 44 34.5**	**+2.0**
TARG	**Taragay, Kyrgy**	**3.74**	**43**	⇓*i*P	**Pn**	**16 44 36.2**	**+1.8**
	baz=45						
TARG				⇓*i*S	**Sn**	**16 45 19.6**	**+0.8**
	baz=45						
MRKS	**Merke**	**3.83**	**347**	*e*P	**Pb**	**16 44 43.0**	**-0.9**
	122nm,0.4s						
MRKS				*e*S	**Sb**	**16 45 30.1**	**-0.4**
	167nm,0.7s						
MRKS	**Merke**	**3.83**	**347**	Pg	**Pb**	**16 44 44.1**	**+0.2**
	122nm,0.4s						
MRKS				Lg	Lg	16 45 32.1	
	167nm,0.7s						
KST	**Kastek**	**4.18**	**16**	*e*P	**Pb**	**16 44 50.0**	**+0.1**
	43nm,0.8s						
KST				*e*S	**Sb**	**16 45 42.1**	**+1.4**
	294nm,1.1s						
KST	**Kastek**	**4.18**	**16**	Pg	**Pb**	**16 44 50.0**	**+0.1**
	43nm,0.8s						
KST				Lg	Lg	16 45 42.1	
	294nm,1.1s						
DGS	**Degeres**	**4.34**	**13**	*e*P	**Pb**	**16 44 53.4**	**+0.8**
	67nm,0.5s						
DGS				*e*S	**Sb**	**16 45 47.9**	**+2.8**
	227nm,0.8s						
DGS	**Degeres**	**4.34**	**13**	Pg	**Pb**	**16 44 53.5**	**+0.9**
	67nm,0.5s						
DGS				Lg	Lg	16 45 47.9	
	227nm,0.8s						
MTBS	**Maitube**	**4.38**	**20**	*e*P	**Pb**	**16 44 53.2**	**0.0**
	26nm,0.0s						
MTBS				*e*S	**Sb**	**16 45 47.4**	**+1.2**
	121nm,0.8s						
MTBS	**Maitube**	**4.38**	**20**	Pg	**Pb**	**16 44 54.8**	**+1.6**
	42nm,0.6s						
MTBS				Lg	Lg	16 45 50.1	
	121nm,0.8s						
SGDS	**Sogindy**	**4.43**	**2**	*e*P	**Pb**	**16 44 55.6**	**+1.5**
	44nm,0.7s						
SGDS				*e*S	**Sb**	**16 45 51.7**	**+4.0**
	76nm,0.8s						
SGDS	**Sogindy**	**4.43**	**2**	*e*Pn	**Pn**	**16 44 46.4**	**+2.8**
	baz=0.6						
SGDS				*i* Pg	**Pb**	**16 44 57.0**	**+2.9**
	baz=0.6						
SGDS	**Sogindy**	**4.43**	**2**	Pg	**Pb**	**16 44 55.6**	**+1.5**
	44nm,0.7s						
SGDS				Lg	Lg	16 45 51.7	
	76nm,0.8s						
SGDS	**Sogindy**	**4.43**	**2**	*e*PN	**Pn**	**16 44 46.3**	**+2.8**
SGDS				*i*		16 44 56.9	
TNSS	**Tian-Shan**	**4.44**	**25**	*e*P	**Pb**	**16 44 55.1**	**+0.5**
	43nm,0.6s						
TNSS				*e*S	**Sb**	**16 45 51.4**	**+3.0**
	88nm,1.0s						
TNSS	**Tian-Shan**	**4.44**	**25**	*e*Pn	**Pn**	**16 44 45.6**	**+1.5**
	baz=24						
TNSS				*i* Pg	**Pb**	**16 44 55.0**	**+0.5**
	baz=24						
TNSS				*e*Lg	Lg	16 45 52.6	
	baz=24						
TNSS	**Tian-Shan**	**4.44**	**25**	Pg	**Pb**	**16 44 55.1**	**+0.5**
	43nm,0.6s						
TNSS				Lg	Lg	16 45 51.4	
	88nm,1.0s						
TNSS	**Tian-Shan**	**4.44**	**25**	*e*PN	**Pn**	**16 44 45.5**	**+1.5**
TNSS				*i*		16 44 55.0	
DZA	**Taraz**	**4.52**	**330**	*e*P	**Pb**	**16 44 57.6**	**+1.9**
	57nm,0.1s						
DZA				*e*S	**Sb**	**16 45 55.0**	**+4.6**
	282nm,1.0s						
IUG	**luzhnay**	**4.58**	**314**	*e*P	**Pg**	**16 45 00.7**	**-3.0**
	236nm,0.8s						
IUG				*e*S	**Sg**	**16 46 00.9**	**-2.0**
	230nm,0.7s						
IUG	**luzhnay**	**4.58**	**314**	*i* Pn	**Pn**	**16 44 47.9**	**+2.2**
	baz=312						
IUG				*i* Pg	**Pg**	**16 45 03.1**	**-0.6**
	baz=312						
IUG	**luzhnay**	**4.58**	**314**	*i* PN	**Pn**	**16 44 47.8**	**+2.2**
IUG				*i*		16 45 03.0	
AAA	**Alma-Ata**	**4.59**	**23**	*e*Pg	**Pb**	**16 44 58.2**	**+1.4**
	baz=23						
AAA	**Alma-Ata**	**4.59**	**23**	*e*PN	**Pb**	**16 44 58.2**	**+1.4**
MDOK	**Medeo**	**4.59**	**25**	*e*P	**Pb**	**16 44 57.3**	**+0.4**
	44nm,1.0s						
MDOK				*e*S	**Sb**	**16 45 54.7**	**+2.4**
	192nm,1.3s						
MDOK	**Medeo**	**4.59**	**25**	*e*Pn	**Pn**	**16 44 47.5**	**+1.7**
	baz=25						
MDOK				*i* Pg	**Pb**	**16 44 57.2**	**+0.4**
	baz=25						
MDOK				*e*Lg	Lg	16 45 56.2	
	baz=25						
MDOK	**Medeo**	**4.59**	**25**	Pg	**Pb**	**16 44 57.0**	**+0.2**
	48nm,0.7s						
MDOK				Pg	Pg	16 44 57.3	-6.6
	44nm,1.0s						
MDOK				Lg	Lg	16 45 54.7	
	192nm,1.3s						
MDOK				Lg	Lg	16 45 56.7	
	257nm,0.9s						
MDOK	**Medeo**	**4.59**	**25**	*e*PN	**Pn**	**16 44 47.5**	**+1.7**
MDOK				*i*		16 44 57.2	
MDOK				*e*		16 45 56.2	
KNDC	**Almaty**	**4.61**	**24**	⇓Pg	**Pb**	**16 44 58.1**	**+0.9**
	178nm,0.7s						
KNDC				⇑Lg	Lg	16 45 58.1	
	823nm,0.8s						
KRBS	**Karabastau**	**4.77**	**11**	*e*P	**Pb**	**16 45 01.6**	**+1.8**
	35nm,0.4s						
KRBS				*e*S	**Sb**	**16 46 01.7**	**+4.3**
	78nm,1.0s						
KRBS	**Karabastau**	**4.77**	**11**	Pg	**Pb**	**16 45 01.6**	**+1.8**
	35nm,0.4s						
KRBS				Lg	Lg	16 46 01.7	
	78nm,1.0s						
CHM	**Chimkent**	**4.93**	**313**	*e*P	**Pg**	**16 45 08.0**	**-2.4**
	48nm,0.1s						
CHM				*e*S	**Sg**	**16 46 13.2**	**-1.0**
	377nm,0.7s						
KTBS	**Karatobe**	**4.99**	**19**	*e*P	**Pb**	**16 45 05.5**	**+1.9**
	37nm,0.4s						
KTBS				*e*S	**Sb**	**16 46 09.0**	**+5.3**
	235nm,1.2s						
KTBS	**Karatobe**	**4.99**	**19**	Pg	**Pb**	**16 45 05.5**	**+1.9**
	37nm,0.4s						
KTBS				Lg	Lg	16 46 09.0	
	235nm,1.2s						
SATY	**Saty**	**5.03**	**35**	*e*P	**Pb**	**16 45 05.7**	**+1.3**
	66nm,0.7s						
SATY				*e*S	**Sb**	**16 46 09.1**	**+4.0**
	243nm,1.5s						
SATY	**Saty**	**5.03**	**35**	*e*Pn	**Pn**	**16 44 52.9**	**+0.9**
	baz=36						
SATY				*e*Pg	**Pb**	**16 45 06.3**	**+2.0**
	baz=36						
SATY				*e*Lg	Lg	16 46 12.1	
	baz=36						
SATY	**Saty**	**5.03**	**35**	Pg	**Pb**	**16 45 05.7**	**+1.3**
	66nm,0.7s						
SATY				Lg	Lg	16 46 09.1	
	243nm,1.5s						
SATY	**Saty**	**5.03**	**35**	*e*PN	**Pn**	**16 44 52.8**	**+0.9**
SATY				*e*		16 45 06.3	
KK31	**Karatay Array**	**5.04**	**325**	Pn	**Pn**	**16 44 52.4**	**+0.5**
KK31	**Karatay Array**	**5.04**	**325**	⇓Pn	**Pn**	**16 44 53.2**	**+1.3**
	11nm,0.5s,baz=132,slow=12,SNR=80						
KK31				⇓Pg	**Pb**	**16 45 05.6**	**+1.2**
	44nm,0.8s,baz=132,slow=15,SNR=12						
KK31				⇑Sn	**Sn**	**16 45 53.9**	**+3.6**
	23nm,0.6s						
KK31				⇑Lg	Lg	16 46 16.6	
	39nm,0.6s,baz=141,slow=28,SNR=4.2						
KK31	**Karatay Array**	**5.04**	**325**	PN	**Pn**	**16 44 52.4**	**+0.5**
KKAR	**Karatay Array**	**5.04**	**325**	⇓*i*P	**Pn**	**16 44 53.5**	**+1.6**
	baz=24						
KKAR				⇓*i*S	**Sn**	**16 45 50.3**	**0.0**
	baz=24						
KKAR	**Karatay Array**	**5.04**	**325**	Pn	**Pn**	**16 44 52.7**	**+0.8**
KKAR	**Karatay Array**	**5.04**	**325**		**Pn**	**16 44 52.3**	**+0.4**
KKAR	**Karatay Array**	**5.04**	**325**	PN	**Pn**	**16 44 52.7**	**+0.8**
KUU	**Kurty**	**5.08**	**16**	*e*Pn	**Pn**	**16 44 54.1**	**+1.7**
	baz=15						
KUU				*e*Pg	**Pb**	**16 45 06.4**	**+1.3**
	baz=15						
KUU	**Kurty**	**5.08**	**16**	*e*PN	**Pn**	**16 44 54.1**	**+1.7**
KUU				*e*		16 45 06.3	
ZHN	**Zhinishke**	**5.13**	**35**	*e*P	**Pb**	**16 45 07.7**	**+1.6**
	13nm,0.3s						
ZHN				*e*S	**Sb**	**16 46 12.3**	**+4.3**
	125nm,0.7s						
ZHN	**Zhinishke**	**5.13**	**35**	Pg	**Pb**	**16 45 07.6**	**+1.6**
	13nm,0.3s						
ZHN				Lg	Lg	16 46 12.3	
	125nm,0.7s						
CHKK	**Chushkaly**	**5.20**	**21**	*e*P	**Pb**	**16 45 09.6**	**+2.4**
	67nm,0.8s						
CHKK				*e*S	**Sb**	**16 46 15.7**	**+5.9**
	86nm,0.6s						
CHKK	**Chushkaly**	**5.20**	**21**	*e*Pg	**Pb**	**16 45 09.3**	**+2.1**
	baz=21						
CHKK	**Chushkaly**	**5.20**	**21**	Pg	**Pb**	**16 45 09.6**	**+2.4**
	67nm,0.8s						
CHKK				Lg	Lg	16 46 15.7	
	86nm,0.6s						
KURS	**Kuram**	**5.28**	**31**	*e*P	**Pb**	**16 45 10

KURS Lg Lg 16 46 18.3
110nm,1.2s
UZB Uzynbulak 5.39 39 *e*P **Pb 16 45 10.7 +0.2**
27nm,0.6s
UZB *e*S **Sb 16 46 17.9 +2.5**
112nm,0.9s
UZB Uzynbulak 5.39 39 *e*Pn **Pn 16 44 59.0 +2.1**
baz=39
UZB *e*Pg **Pb 16 45 11.7 +1.2**
baz=39
UZB Uzynbulak 5.39 39 Pg **Pb 16 45 10.7 +0.2**
27nm,0.6s
UZB Lg Lg 16 46 17.9
112nm,0.9s
UZB Uzynbulak 5.39 39 *e*PN **Pn 16 44 58.9 +2.1**
UZB *e* 16 45 11.6
CHCP Chirak Chowk 5.43 190 P Pn 16 45 03.7 +6.4
NIL Nilore 5.44 190 Pn 16 45 02.5 +5.1
NIL Nilore 5.44 190 PN Pn 16 45 02.5 +5.1
KPKS Kokpek 5.48 34 *e*P **Pb 16 45 13.1 +1.1**
63nm,0.6s
KPKS *e*S **Sb 16 46 22.2 +4.3**
106nm,0.7s
KPKS Kokpek 5.48 34 *e*Pn **Pn 16 44 59.0 +0.9**
baz=35
KPKS *e*Pg **Pb 16 45 14.1 +2.1**
baz=35
KPKS Kokpek 5.48 34 Pg **Pb 16 45 13.1 +1.1**
63nm,0.6s
KPKS Lg Lg 16 46 22.2
106nm,0.7s
KPKS Kokpek 5.48 34 *e*PN **Pn 16 44 58.9 +0.9**
KPKS *e* 16 45 14.0
CEP Cherat 5.57 202 P Pn 16 45 06.3 +7.0
CEP S **Sg 16 46 34.0 -0.7**
SHLS Shalkode 5.62 41 *e*P **Pg 16 45 20.8 -2.7**
82nm,0.8s
SHLS *e*S **Sg 16 46 35.3 -1.0**
84nm,1.7s
SHLS Shalkode 5.62 41 *e*Pn **Pn 16 45 04.6 +4.7**
baz=44
SHLS *i* Pg **Pg 16 45 20.7 -2.9**
baz=44
SHLS Shalkode 5.62 41 Pg **Pg 16 45 20.8 -2.7**
82nm,0.8s
SHLS Lg Lg 16 46 35.3
84nm,1.7s
SHLS Shalkode 5.62 41 *e*PN **Pn 16 45 04.6 +4.7**
SHLS *i* 16 45 20.6
PDGK Podgornoye 5.76 40 Pg **Pb 16 45 18.7 +2.0**
28nm,0.7s
PDGK Lg Lg 16 46 31.1
68nm,1.2s
PDGK Podgornoye 5.76 40 ⇑Pn **Pn 16 45 02.7 +0.9**
16nm,0.6s
PDGK ⇑Pg **Pb 16 45 16.4 -0.3**
55nm,0.7s
PDGK ⇓Lg Lg 16 46 31.2
204nm,1.0s
PDGK Podgornoye 5.76 40 PN **Pn 16 45 02.7 +0.9**
PDGK P **Pb 16 45 16.4 -0.3**
ARXS Arharly 5.78 25 *e*P **Pb 16 45 20.7 +3.6**
49nm,0.9s
ARXS *e*S **Sg 16 46 35.1 -6.4**
73nm,0.6s
ARXS Arharly 5.78 25 Pg **Pb 16 45 20.7 +3.6**
49nm,0.9s
ARXS Lg Lg 16 46 35.2
73nm,0.6s
BLB Baldybastay 5.91 30 *e*P **Pb 16 45 21.2 +1.8**
42nm,0.3s
BLB *e*S **Sb 16 46 36.1 +5.7**
109nm,1.1s
BLB Baldybastay 5.91 30 Pg **Pb 16 45 21.2 +1.8**
42nm,0.3s
BLB Lg Lg 16 46 36.1
109nm,1.1s
BTLS Baital 6.02 357 *e*P **Pb 16 45 25.9 +4.7**
12nm,0.6s
BTLS *e*S **Sg 16 46 43.8 -5.5**
40nm,1.0s
BTLS Baital 6.02 357 *e*Pn **Pn 16 45 08.6 +3.2**
baz=356
BTLS *e*Pg Pb 16 45 26.1 +4.9
baz=356
BTLS Baital 6.02 357 Pg **Pb 16 45 23.4 +2.2**
8.4nm,0.7s
BTLS Lg Lg 16 46 39.2
40nm,1.0s
BTLS Baital 6.02 357 *e*PN **Pn 16 45 08.6 +3.2**
BTLS *e* 16 45 26.0
KBL Kabul 6.21 226 **Pn 16 45 10.5 +2.3**
KBL Kabul 6.21 226 PN **Pn 16 45 10.5 +2.3**
JMU Jammu 6.30 176 *e*P Pn 16 45 15.6 +6.4
JMU *e*S **Sn 16 46 29.8 +8.4**
THW Thamme Wali 6.58 200 P Pn 16 45 20.3 +7.2
DJR Jarkent 6.66 35 *e*P Pb 16 45 37.0 +5.0
9.9nm,0.9s
DJR *e*S **Sg 16 47 03.2 -6.3**
43nm,0.8s
DJR Jarkent 6.66 35 Pg **Pb 16 45 33.9 +1.9**
10nm,0.5s
DJR Lg Lg 16 46 57.6
48nm,1.4s
TDK Taldyqorghan 6.67 25 *e*P **Pb 16 45 36.0 +3.8**
36nm,0.6s
TDK *e*S Sb 16 47 01.4 +9.3
212nm,1.1s
TDK Taldyqorghan 6.67 25 *e*Pg **Pb 16 45 36.1 +3.8**
baz=25
TDK Taldyqorghan 6.67 25 Pg **Pb 16 45 36.0 +3.8**
36nm,0.6s
TDK Lg Lg 16 47 01.4
212nm,1.1s
BHK Bhakra 7.76 167 *e*P Pn 16 45 39.3 +10
BHK *e*S **Sn 16 47 03.4 +6.1**
SMLA Simla 8.19 163 *e*P **Pn 16 45 37.0 +2.0**
SMLA *e*S **Sn 16 47 10.8 +3.1**
SMLA IAML 16 47 17.7
comp=N,57nm,0.6s
SMLA IAML 16 47 21.8
comp=E,56nm,0.6s
OTUK Ortayu 9.35 351 ⇓Pn **Pn 16 45 52.2 +1.3**
comp=E,6.2nm,0.8s
OTUK ⇓Lg Lg 16 48 27.8
comp=E,53nm,1.1s
OTUK Ortayu 9.35 351 P **Pn 16 45 52.2 +1.3**
MAKZ Makanchi 9.55 33 Pn **Pn 16 45 52.4 -1.3**
MAKZ Makanchi 9.55 33 ⇓Pn **Pn 16 45 53.7 0.0**
comp=E,3.2nm,0.8s
MAKZ ⇓Pg 16 46 29.0
comp=E,6.2nm,1.2s
MAKZ ⇓Lg Lg 16 48 37.2
comp=E,9.9nm,1.0s
MAKZ Makanchi 9.55 33 P **Pn 16 45 52.4 -1.3**
MK31 Makanchi Array 9.67 34 Pn **Pn 16 45 54.5 -0.9**
MK31 Makanchi Array 9.67 34 ⇑Pn **Pn 16 45 56.3 +0.8**
comp=E,4.1nm,0.7s,baz=199,slow=12,SNR=19
MK31 ⇓Pg 16 46 32.6
comp=E,4.7nm,0.7s
MK31 ⇓Lg Lg 16 48 36.9
comp=E,15nm,1.1s
MK31 Makanchi Array 9.67 34 *de*P **Pn 16 45 56.9 +1.4**
MKAR Makanchi Array 9.67 34 Pn **Pn 16 45 55.6 +0.2**
comp=E,0.2nm,0.3s,baz=213,slow=14,SNR=16
MKAR Lg Lg 16 48 34.8
comp=E,0.2nm,0.3s,baz=226,slow=24,SNR=2.4
comp=E,3.2nm,0.8s
MKAR Makanchi Array 9.67 34 Pn **Pn 16 45 54.2 -1.2**
MKAR Makanchi Array 9.67 34 P **Pn 16 45 54.3 -1.2**
PTH Pithoragarh 10.59 151 *e*P **Pn 16 46 11.2 +3.0**
LGTI Lohaghat 10.69 152 *e*P **Pn 16 46 11.2 +1.8**
LGTI *e*S **Sn 16 48 06.2 -3.0**
KUDL Kundal 10.98 170 *e*P **Pn 16 46 14.7 +1.3**
WMQ Urumqi 11.05 60 *e*P **Pn 16 46 14.0 -0.4**
WMQ pmax pmax
comp=E,27nm,0.7s
WMQ LR LR
comp=E,290nm,11.1s
WMQ LR LR
comp=E,280nm,12.1s
KURBB Kurchatov Arra 11.96 13 Pn **Pn 16 46 25.9 -0.8**
baz=197,slow=18,SNR=1.3
KURBB Lg Lg 16 49 47.3
comp=E,0.1nm,0.3s,baz=202,slow=29,SNR=10
comp=E,0.2nm,0.2s

KURBB Kurchatov Arra 11.96 13 ⇑Lg Lg 16 49 53.1
comp=E,95nm,1.2s
KURK Kurchatov 12.06 13 ⇑Lg Lg 16 49 54.5
comp=E,82nm,1.3s
KURK Kurchatov 12.06 13⇑ *e*P **Pn 16 46 27.6 -0.5**
KURK pmax pmax
comp=Z,1.0nm,1.0s
GEYT Alibeck 12.83 270 Pn **Pn 16 46 38.3 -0.4**
comp=Z,0.5nm,0.3s,baz=96,slow=12,SNR=4.1
GEYT Sn **Sn 16 49 04.4 +2.7**
comp=Z,0.5nm,0.3s,baz=93,slow=18,SNR=5.1
comp=Z,1.1nm,0.4s
GEYT Alibeck 12.83 270 Pn **Pn 16 46 37.1 -1.6**
GYA0 ALIBECK ARRAY 12.83 270 P **Pn 16 46 37.4 -1.3**
GYA0B ALIBECK ARRAY 12.83 270 Pn **Pn 16 46 37.4 -1.3**
PYUN Piuthan 13.01 144 *e*P **Pn 16 46 38.8 -2.6**
comp=Z,34nm,0.6s
DANN Dangsing 13.17 141 *e*P **Pn 16 46 42.6 -1.0**
comp=Z,26nm,0.7s
KOLN Koldanda 13.58 143 *e*P **Pn 16 46 46.0 -3.1**
comp=Z,3.8nm,1.0s
GKN Gorkha 13.89 139 *e*P **Pn 16 46 52.3 -1.0**
comp=Z,12nm,0.4s
DGZ Jazzator, Alta 14.14 37⇑ *e*P **Pn 16 46 55.8 -0.8**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 14.28 350 Pn **Pn 16 46 56.5 -1.9**
comp=Z,0.1nm,0.3s,baz=160,slow=13,SNR=22
BVAR Lg Lg 16 51 09.2
baz=158,slow=28,SNR=5.2
BVAR LR LR 16 52 36.2
comp=Z,130nm,20.9s,baz=199,slow=38
comp=Z,4.9nm,0.7s
BRVK Borovoye 14.33 350 Pn **Pn 16 46 58.1 -1.0**
BRVK Borovoye 14.33 350 *de*P **Pn 16 46 58.4 -0.6**
BRVK pmax pmax
comp=Z,15nm,1.7s
DMN Daman 14.45 139 *e*P **Pn 16 46 59.6 -1.5**
comp=Z,12nm,0.6s
ABKAR Akbulak array 14.56 319 Pn **Pn 16 47 00.1 -2.2**
GUN Gumba 14.62 136 *e*P **Pn 16 47 03.5 +0.1**
PKI Pulchoki 14.64 138 *e*P **Pn 16 47 02.0 -1.7**
comp=Z,12nm,0.8s
JIRN Jiri 14.98 136 *e*P **Pn 16 47 07.3 -1.1**
comp=Z,16nm,0.5s
RAMN Ramite 15.77 136 *e*P **Pn 16 47 15.2 -3.4**
GOMU GeErMu 16.40 94 P **Pn 16 47 21.0 -5.8**
GOMU pP P 16 47 24.5 -5.2
GOMU sP pP 16 47 25.3 -7.6
GOMU pmax pmax
comp=Z,46nm,0.6s
ZAA0 Zalesovo Array 16.53 22 Pn **Pn 16 47 27.2 -0.9**
ZALV Zalesovo Beam 16.53 22 Pn **Pn 16 47 26.3 -1.7**
comp=Z,0.2nm,0.3s,baz=219,slow=11,SNR=5.3
comp=Z,1.5nm,0.7s
ZALV Zalesovo Beam 16.53 22 Pn **Pn 16 47 26.5 -1.5**
ZALV Zalesovo Beam 16.53 22 *i* P **Pn 16 47 28.8 +0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
GTA Gaotai 19.66 81 ⇑P **Pn 16 48 06.8 0.0**
GTA pP pP 16 48 09.5 +0.9
GTA sP sP 16 48 12.8 +2.7
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,64nm,6.4s
GTA LR LR
comp=Z,100nm,13.5s
GTA LR LR
comp=Z,130nm,13.4s
GTA LR LR
comp=Z,190nm,13.8s
ARU Arti 20.34 334 P **P 16 48 11.8 -0.7**
comp=Z,9.2nm,0.7s,baz=153,slow=6.9,SNR=21
comp=Z,9.2nm,0.7s
ARU Arti 20.34 334 **P 16 48 13.4 +0.9**
ARU Arti 20.34 334*c i* P Pn 16 48 14.2 -0.3
ARU 16 48 30.8
ARU S Sn 16 52 03.2 -0.4
ARU SS **SnSn 16 52 22.6 +4.5**
ARU pmax pmax
comp=Z,10.0nm,0.7s
GROC Groznyy 21.92 290 *e*P **P 16 48 30.3 +0.6**
GROC *e* 16 48 52.3
GROC pmax pmax
comp=Z,94nm,1.1s
BELG Belogornoye 22.84 315 P **P 16 48 38.8 -0.6**
comp=Z,5.5nm,0.7s,baz=282,slow=22,SNR=2.6
BELG LR LR 16 58 39.2
comp=Z,95nm,18.5s,baz=99,slow=40
comp=Z,5.5nm,0.7s
BELG Belogornoye 22.84 315⇑ *e*P **P 16 48 38.9 -0.5**
BELG pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 22.86 282 *de*P **P 16 48 43.3 +3.4**
GNI pmax pmax
comp=Z,18nm,1.1s
ZEI Tsey 23.31 289 *e*P **P 16 48 46.2 +1.6**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 23.46 88 *e*P **P 16 48 48.5 +2.4**
LZH pP sP 16 48 52.5 +1.7
LZH pmax pmax
comp=Z,12nm,1.1s
LZH LR LR
comp=Z,130nm,15.1s
ONI Oni 23.65 289 P **P 16 48 49.5 +1.7**
ONI IAmb IAmb 16 48 58.9
comp=Z,11nm,0.8s
ONI Oni 23.65 289 P **P 16 48 49.5 +1.7**
ONI pmax pmax
comp=Z,11nm,0.8s
KBZ Khabaz 24.04 291 P **P 16 48 51.6 +0.2**
comp=Z,1.5nm,0.8s,baz=6.8,slow=12,SNR=2.2
comp=Z,1.5nm,0.8s
KIV Kislovodsk 24.20 292 *e*P **P 16 48 53.9 +0.9**
KIV pmax pmax
comp=Z,3.0nm,1.0s
TNCH TengChong 24.64 117 *e*P **P 16 48 59.0 +1.7**
TNCH pP sP 16 49 07.8 +5.7
TNCH pmax pmax
comp=Z,8.0nm,0.5s
SONM Songino Array 24.69 59 P **P 16 48 56.4 -1.1**
comp=Z,0.4nm,0.5s,baz=269,slow=8.6,SNR=4.6
comp=Z,0.4nm,0.5s
SONM Songino Array 24.69 59 P **P 16 48 58.0 +0.5**
KIRV Kirov 25.32 329 P **P 16 49 02.2 -0.7**
comp=Z,5.7nm,0.5s,baz=139,slow=13,SNR=3.6
KIRV LR LR 16 59 29.5
comp=Z,130nm,18.8s,baz=123,slow=38
comp=Z,5.7nm,0.5s
KIRV Kirov 25.32 329⇑ *e*P **P 16 49 04.0 +1.1**
PZH PanZhiHua 26.04 110 P **P 16 49 11.0 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.9s
HHC Hu-ho-hao-te 28.40 74 *e*P **P 16 49 30.8 -0.2**
CMAR Chiang Mai Arr 29.53 127 LR LR 17 01 47.9
comp=Z,34nm,21.7s,baz=190,slow=37
OBN Obninsk 29.94 315 *e*P **P 16 49 45.7 +1.4**
OBN *e* 16 50 39.6
OBN pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 31.35 284 P **P 16 49 58.8 +1.6**
BR131 IAmb IAmb 16 50 01.2
comp=Z,4.4nm,0.8s
BR131 Keskin Array S 31.35 284⇓ *e*P **P 16 49 59.3 +2.2**
BRTR Keskin Array B 31.35 284 P **P 16 49 58.5 +1.4**
comp=Z,2.3nm,0.7s,baz=92,slow=7.4,SNR=14
comp=Z,2.3nm,0.7s
BRTR Keskin Array B 31.35 284*ce*P **P 16 49 59.4 +2.3**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
PALK Pallekele 32.11 168 LR LR 17 03 27.0
comp=Z,123nm,18.5s,baz=137,slow=37
AKASG Malin Array Be 33.60 305 P **P 16 50 16.3 -0.2**
comp=Z,0.4nm,0.4s,baz=78,slow=7.5,SNR=2.1
AKASG LR LR 17 04 49.3
comp=Z,72nm,19.2s,baz=54,slow=38
comp=Z,0.4nm,0.4s
EIL Elat 33.68 266 LR LR 17 05 57.7
comp=Z,51nm,20.7s,baz=61,slow=40
MNK Minsk 34.73 312 *i* P **P 16 50 25.4 -0.9**
comp=E,2.0nm,0.8s
MNK *i* P **P 16 50 25.4 -0.9**
comp=N,23nm,0.8s
MNK *i* P **PnPn 16 51 41.6 -0.4**
comp=Z,5.0nm,0.8s,baz=97
MNK *i* PP PPP 16 51 53.2
MNK *i* S **S 16 55 53.8 -2.7**
MNK *i* SS **SnSn 16 58 09.2 +0.2**
MNK *i* LQ LQ 17 02 13.6
MNK *i* LR LR 17 04 32.7
MNK *i* LRM MLR 17 05 43.5
comp=E,13nm,16.3s
MNK *i* LRM MLR 17 06 25.9
comp=Z,73nm,16.4s
MNK *i* LRM MLR 17 06 26.6
comp=N,329nm,16.4s
MNK Minsk 34.73 312 *i* P **P 16 50 25.4 -0.9**
MNK *i* 16 51 41.6
MNK *i* 16 52 57.2
MNK *i* S **S 16 55 53.8 -2.7**
MNK *i* SS **SnSn 16 58 09.2 +0.2**
MNK *i* 17 00 42.3
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,23nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=E,13nm,16.0s
MNK MLR MLR
comp=Z,73nm,16.0s
MNK MLR MLR
comp=N,329nm,16.0s
BURAR Bucovina Array 36.29 300 P **P 16 50 40.8 +0.9**
NJ2 Nanjing 36.53 87 *e*P **P 16 50 41.0 -1.0**
NJ2 pmax pmax
comp=N,6.0nm,0.6s
FIA1 FINESS Array S 37.00 323 P **P 16 50 45.3 -0.3**
FIA1 IAmb IAmb 16 50 48.8
comp=Z,34nm,1.3s
FINES FINESS Array B 37.00 323 P **P 16 50 44.4 -1.2**
comp=Z,1.4nm,0.4s,baz=111,slow=10.0,SNR=12
FINES LR LR 17 06 30.9
comp=Z,105nm,18.1s,baz=104,slow=37
comp=Z,1.4nm,0.4s
FINES FINESS Array B 37.00 323 P **P 16 50 45.2 -0.5**
FINES FINESS Array B 37.00 323 *i* P **P 16 50 45.5 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 39.91 336 P **P 16 51 09.6 -0.5**
comp=Z,1.9nm,0.5s,baz=101,slow=5.1,SNR=17
comp=Z,1.9nm,0.5s
ARCES ARCESS Array B 39.91 336 P **P 16 51 09.5 -0.6**
ARCES IAmb IAmb 16 51 46.5
comp=Z,28nm,1.4s
KLR Kul'dur 41.48 56 P **P 16 51 22.6 -0.7**
comp=Z,0.6nm,0.5s,baz=232,slow=17,SNR=1.7
KLR LR LR 17 10 56.4
comp=Z,77nm,19.5s,baz=242,slow=40
comp=Z,0.6nm,0.5s
KSRS Korea Array 41.54 75 LR LR 17 11 13.3
comp=Z,46nm,19.6s,baz=295,slow=40
TIXI Tiksi 42.42 22 P **P 16 51 29.0 -1.6**
comp=Z,0.7nm,0.6s,baz=270,slow=23,SNR=2.6
comp=Z,0.7nm,0.6s
TIXI Tiksi 42.42 22 P **P 16 51 29.0 -1.6**
HFS Hagfors 42.82 320 LR LR 17 09 27.5
comp=Z,70nm,18.0s,baz=89,slow=36
GERES GERESS Array B 43.75 304 P **P 16 51 42.0 +0.1**
comp=Z,0.7nm,0.6s,baz=64,slow=9.1,SNR=7.2
comp=Z,0.7nm,0.6s
GERES GERESS Array B 43.75 304 P **P 16 51 42.2 +0.4**
GERES GERESS Array B 43.75 304 P **P 16 51 42.0 +0.1**
KHC Kasperske Hory 43.78 304 P **P 16 51 43.1 +1.1**
KHC Kasperske Hory 43.78 304 *e*P **P 16 51 43.9 +1.9**
KHC Kasperske Hory 43.78 304⇑ *e*P **P 16 51 43.0 +1.1**
KHC pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 43.78 307 *e*Px Px 16 51 45.0
CLL *ex* x 16 51 51.0
CLL *e*PP **PP 16 53 25.0 +1.4**
CLL *e*PcP **PcP 16 53 31.0 +2.5**
CLL *ex* x 16 53 45.0
CLL Collm 43.78 307 *e*P **P 16 51 45.0 +3.1**
CLL *e**PP **sP 16 51 51.0 +4.1**
NC405 NORSAR Array S 43.82 321 P **P 16 51 41.6 -0.5**
NC303 NORSAR Array S 43.98 322 P **P 16 51 43.5 +0.1**
NC303 IAmb IAmb 16 52 24.0
comp=Z,23nm,1.3s
NB2 NORSAR Subarra 44.06 321 P **P 16 51 43.6 -0.5**
comp=Z,2.9nm,0.7s,baz=91,slow=8.6
NOA NORSAR Array B 44.06 321 P **P 16 51 43.2 -0.9**
comp=Z,1.2nm,0.6s,baz=91,slow=7.9,SNR=3.8
comp=Z,1.2nm,0.6s
NAO01 NORSAR Array S 44.22 321 P **P 16 51 44.5 -0.9**
NBO00 NORSAR Array S 44.27 321 P **P 16 51 45.1 -0.7**
FUORN Ofenpass-Fuorn 46.51 301 P **P 16 52 04.2 +0.2**
FUORN IAmb IAmb 16 52 23.0
comp=Z,5.9nm,1.5s
MJAR Matsushiro Arr 49.54 72 LR LR 17 15 07.0
comp=Z,41nm,18.7s,baz=258,slow=38
ASAJ Asahikawa 49.94 61 LR LR 17 14 56.5
comp=Z,44nm,19.6s,baz=291,slow=38
BILL Bilibino 55.14 27 *e*P **P 16 53 05.3 -3.1**
BILL *e* 16 54 07.7
BILL *e* 16 55 12.9
BILL pmax pmax
comp=Z,2.0nm,1.1s
MBAR Mbarara 56.17 236 LR LR 17 18 23.7
comp=Z,30nm,18.2s,baz=40,slow=37
ESDC Sonseca Array 58.69 298 P **P 16 53 35.2 +1.2**
comp=Z,0.6nm,0.7s,baz=59,slow=6.8,SNR=7.2
comp=Z,0.6nm,0.7s
ESDC Sonseca Array 58.69 298 P **P 16 53 35.1 +1.0**
TOLK Toolik Lake Re 67.78 16 P **P 16 54 33.4 -0.5**
A36M Sachs Harbour 68.43 6 P **P 16 54 37.0 -0.8**
A36M IAmb IAmb 16 54 43.0
comp=Z,3.5nm,0.9s
IMAR Indian Mountai 68.93 19 P **P 16 54 39.9 -1.2**
BMAR Burnt Mountain 69.83 15 P **P 16 54 46.5 -0.2**
K20K Telida 70.92 21 P **P 16 54 53.2 -0.2**
K20K IAmb IAmb 16 55 27.4
comp=Z,5.4nm,1.4s
INK Inuvik 70.96 11 P **P 16 54 53.0 -0.5**
comp=Z,1.2nm,0.5s,baz=348,slow=6.2,SNR=13
comp=Z,1.2nm,0.5s
INK Inuvik 70.96 11 P **P 16 54 53.1 -0.3**
INK IAmb IAmb 16 55 06.9
comp=Z,3.5nm,1.0s
INK Inuvik 70.96 11 P **P 16 54 53.1 -0.3**
INK pmax pmax
comp=Z,4.0nm,1.0s
C36M Paulatuk 71.09 7 P **P 16 54 53.0 -1.2**
C36M IAmb IAmb 16 55 12.0
comp=Z,12nm,1.5s
ILAR Eielson Array 71.59 17 P **P 16 54 55.9 -1.5**
comp=Z,0.4nm,0.8s,baz=323,slow=4.7,SNR=4.8
comp=Z,0.4nm,0.8s
L19K White Mountain 71.62 22 P **P 16 54 56.0 -1.6**
L19K IAmb IAmb 16 54 57.8
comp=Z,15nm,1.4s
PPLA Purkeypile 71.80 21 P **P 16 54 57.5 -1.3**
SKT Skwentna 72.72 21 P **P 16 55 02.9 -1.3**
SKT IAmb IAmb 16 55 14.4
comp=Z,18nm,1.4s
GHO Glory Hole Cre 73.60 20 P **P 16 55 08.4 -1.1**
RC01 Rabbit Creek A 73.95 21 P **P 16 55 10.3 -1.1**
SCM Sheep Creek Mo 73.97 19 P **P 16 55 10.7 -0.9**
SCM Sheep Creek Mo 73.97 19 P **P 16 55 10.7 -0.9**
SCM pmax pmax
comp=Z,40nm,1.5s
L27K Beaver Creek, 74.21 16 P **P 16 55 13.1 +0.1**
L27K IAmb IAmb 16 55 53.0
comp=Z,9.2nm,1.4s
BCAR Beaver Creek A 74.22 16 P **P 16 55 12.8 -0.2**
HYT Haines Junctio 77.14 15 P **P 16 55 29.8 -0.1**
HYT IAmb IAmb 16 55 35.7
comp=Z,7.8nm,1.1s
YKA Yellowknife Ar 78.57 4 P **P 16 55 37.1 -0.5**
comp=Z,0.5nm,0.4s,baz=352,slow=9.1,SNR=5.2
comp=Z,0.5nm,0.4s
WRA Warramunga Arr 81.09 125 P **P 16 55 51.6 -0.3**
comp=Z,0.4nm,0.7s,baz=328,slow=5.1,SNR=2.7
comp=Z,0.4nm,0.7s
WB2 Warramunga Arr 81.10 125 P **P 16 55 52.5 +0.6**
WB2 IAmb IAmb 16 56 24.6

comp=Z,5.6nm,1.4s
ASAR Alice Springs 83.54 127 P **P** **16 56 05.0 +0.4**
comp=Z,0.4nm,0.7s,baz=321,slow=4.7,SNR=6.8
comp=Z,0.4nm,0.7s

IDC ***27*** *16:50:17.9±2.1,36°.81N×135°.45E,h351km±72km,mb2.6/3, mbtmp3.3/5,Error ellipse: s-maj=174.5km s-min=19.2km az=58.0*
JMA ***27*** *16:50:17.4±0.2,37°.N±2°×13°.5E±°,h354km,MV2.7/19,NW OFF HOKURIKU DISTRICT*
ISC 27 16:50:17.8±1.0,36°.8N±0°.1×135°.5E±0°.1,h350km,n13, σ0°70/14,mb2.8/3,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JKG	**Kaga**	**0.87**	**130**	P		**Pn**	**16 51 03.6**	**+0.5**
JWT	**Wachi**	**1.56**	**183**	P		**Pn**	**16 51 07.0**	**+0.6**
JYTA	**Yamagatataniai**	**1.59**	**141**	P		**Pn**	**16 51 07.2**	**+0.6**
MAT	**Matsushiro**	**2.19**	**97**	P		**Pn**	**16 51 11.2**	**+0.7**
MJAR	**Matsushiro Arr**	**2.19**	**97**	P		**Pn**	**16 51 11.6**	**+1.1**
	10nm,0.7s,baz=284,slow=8.6,SNR=40							
JSD	**Sado**	**2.49**	**61**	*eP*		**Pn**	**16 51 13.2**	**+0.5**
JRY	**Ryogami san**	**2.86**	**106**	P		**Pn**	**16 51 17.1**	**+1.1**
BSO1	**Boso 1**	**4.95**	**115**	P		**Pn**	**16 51 36.3**	**-0.1**
BSO1				*eS*		**S**	**16 52 39.5**	**-0.5**
JMK	**Ichinoseki**	**4.98**	**63**	P		**Pn**	**16 51 37.3**	**+0.2**
USRK	**Ussuriysk Ar.**	**7.82**	**341**	P		**Pn**	**16 52 09.4**	**-0.3**
	1.5nm,0.5s,baz=151,slow=11,SNR=8.6							
MKAR	**Makanchi Array**	**40.20**	**302**	P		**P**	**16 57 21.2**	**-0.1**
	0.3nm,0.5s,baz=84,slow=9.6,SNR=5.6							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**56.49**	**181**	P		**P**	**16 59 23.8**	**-0.8**
	0.3nm,0.3s,baz=356,slow=7.6,SNR=14							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**60.20**	**182**	P		**P**	**16 59 50.4**	**+0.4**
	0.2nm,0.8s,baz=15,slow=12,SNR=1.7							
	0.2nm,0.8s							

IDC 27 16:51:24.3±2.7,5°.89S×154°.59E,h160km±22km,mb3.0/3, mbtmp3.7/5,Error ellipse: s-maj=35.9km s-min=24.0km az=57.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	**Keravat (AS076**	**3.00**	**301**	P		Pn	16 52 12.7	+0.5
	83nm,0.7s,baz=99,slow=10,SNR=3.5							
KRVT				S		Sn	16 52 49.5	+0.3
	58nm,0.4s,baz=286,slow=23,SNR=12							
DZM	**Mont Dzumac**	**19.75**	**146**	P		P	16 55 41.8	-0.2
	4.8nm,0.6s,baz=305,slow=16,SNR=2.0							
WRA	**Warramunga Arr**	**24.14**	**233**	P		P	16 56 25.7	0.0
	0.4nm,0.4s,baz=58,slow=9.9,SNR=15							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**26.62**	**226**	P		P	16 56 48.0	-0.1
	0.4nm,0.7s,baz=55,slow=9.4,SNR=6.1							
	0.4nm,0.7s							
MKAR	**Makanchi Array**	**82.32**	**319**	P		P	17 03 28.4	+0.2
	0.3nm,0.6s,baz=107,slow=4.8,SNR=4.9							
	0.3nm,0.6s							

ARE ***27*** *16:53:08.1±5.9,8°.25S±0°.07×80°.13W±0°.08,h12km±4km, Error ellipse: s-maj=11.9km s-min=9.1km az=64.0*
IDC ***27*** *16:53:08.5±0.8,8°.46S×80°.15W,h0km,mb4.0/10, mbtmp4.1/13,ML3.7/3,MS3.9/30,Error ellipse: s-maj=16.4km s-min=14.8km az=82.0*
NEIC ***27*** *16:53:14.4±1.4,8°.33S±0°.04×79°.99W±0°.08,h35km±2km, mb4.7/64,ML4.7(ARE),Error ellipse: s-maj=15.0km s-min=3.0km az=65.0*
VAO ***27*** *16:53:22.2±2.2,8°.14S×79°.33W,h66km±12km,mb4.6*
ISC 27 16:53:14.2±0.5,8°.30S±0°.06×79°.90W±0°.07,h35km,n157, σ1°92/125,mb4.7/37,MS3.9/29,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATAH	**Atahualpa**	**1.89**	**52**	Pn		**Pn**	**16 53 48.4**	**+4.1**
	114nm,0.3s,baz=234,slow=4.9,SNR=302							
ATAH				Lg		Lg	16 54 19.2	
	351nm,0.3s,baz=324,slow=20,SNR=9.0							
	789nm,0.5s							
MCRA	**Macar, Loja**	**3.90**	**359**	Pn		**Pn**	**16 54 11.6**	**-0.1**
ARNL	**Arenillas**	**4.72**	**358**	Pn		**Pn**	**16 54 23.3**	**+0.4**
NNA	**Nana**	**4.75**	**141**	Pn		**Pn**	**16 54 23.1**	**-0.3**
	3.6nm,0.3s,baz=334,slow=9.7,SNR=10							
NNA				Lg		Lg	16 55 38.3	
	47nm,0.3s,baz=122,slow=20,SNR=8.5							
NNA				LR		LR	16 56 27.2	
	comp=Z,1μm,18.2s,baz=309,slow=42							
	12nm,0.2s							
NNA	**Nana**	**4.75**	**141**	Pn		**Pn**	**16 54 23.4**	**+0.1**
BOSC	**San Juan Bosco**	**5.30**	**15**	Pn		**Pn**	**16 54 31.7**	**+0.7**
COHC	**Cochancay**	**5.83**	**6**	Pn		**Pn**	**16 54 40.2**	**+2.0**
CHSH	**Refugio Sur-Vo**	**6.83**	**9**	Pn		**Pn**	**16 54 54.0**	**+1.5**
PORT	**Chimborazo Vol**	**6.88**	**9**	Pn		**Pn**	**16 54 55.2**	**+2.1**
CZSB	**Cruzeiro do Su**	**7.15**	**86**			**Pn**	**16 54 56.7**	**+0.4**
CZSB	**Cruzeiro do Su**	**7.15**	**86**	*eP*		**Pn**	**16 54 56.9**	**+0.6**
SLOR	**San Lorenzo -**	**7.64**	**11**	Pn		**Pn**	**16 55 04.8**	**+1.3**
PAYG	**Puerto Ayora**	**12.82**	**306**	Pn		**Pn**	**16 56 15.8**	**+1.7**
ETMB	**Extrema**	**13.60**	**97**	Pn		**Pn**	**16 56 21.1**	**-3.7**
ROSC	**El Rosal**	**14.19**	**23**	LR		LR	17 02 07.8	
	comp=Z,633nm,18.2s,baz=234,slow=37							
PB16	**IPOC Station P**	**14.20**	**136**	P		**P**	**16 56 38.4**	**-2.0**
PSGCX	**Pisagua**	**14.70**	**141**	P		**P**	**16 56 45.6**	**+0.1**
PB11	**IPOC Station P**	**15.11**	**140**	Pn		**Pn**	**16 56 46.7**	**+1.4**
SGCB	**SÞo Gabriel d**	**15.18**	**58**	*eP*		**Pn**	**16 56 42.9**	**-3.2**
GO01	**Chusmiza**	**15.34**	**139**	Pn		**Pn**	**16 56 50.2**	**+1.5**
TEFE	**Tefe**	**15.91**	**74**	*eP*		**Pn**	**16 56 56.6**	**+1.0**
PB02	**IPOC Station P**	**16.15**	**144**	P		**P**	**16 57 02.0**	**+0.4**
SAML	**Samuel**	**16.54**	**93**			**Pn**	**16 57 01.3**	**-2.4**
LVC	**Limon Verde**	**17.73**	**145**	P		**P**	**16 57 20.7**	**+1.4**
LVC	**Limon Verde**	**17.73**	**145**	*eP*		**P**	**16 57 22.6**	**+3.3**
JTS	**Las Juntas de**	**19.14**	**345**	LR		LR	17 04 09.2	
	comp=Z,264nm,18.6s,baz=230,slow=34							
SDV	**Santo Domingo**	**19.41**	**29**	P		**Pn**	**16 57 39.0**	**+0.1**
	0.6nm,0.3s,baz=212,slow=10,SNR=4.8							
SDV				LR		LR	17 06 48.9	
	comp=Z,430nm,18.1s,baz=216,slow=42							
	5.2nm,0.6s							
SDV	**Santo Domingo**	**19.41**	**29**			**Pn**	**16 57 38.7**	**-0.3**
SDV	**Santo Domingo**	**19.41**	**29**	*eP*		**Pn**	**16 57 39.1**	**+0.1**
GO02	**Mina Guanaco**	**19.45**	**151**			**Pn**	**16 57 40.9**	**+1.3**
MACA	**Manacapuru-AM**	**19.78**	**76**	P		**P**	**16 57 40.8**	**-0.9**
MACA				IAmb		IAmb	16 57 53.5	
	comp=Z,49nm,0.8s							
MACA	**Manacapuru-AM**	**19.78**	**76**	*eP*		**P**	**16 57 40.1**	**-1.5**
VILB	**Vilhena**	**19.90**	**105**	P		**P**	**16 57 44.1**	**+1.1**
VILB				IAmb		IAmb	16 57 55.2	
	comp=Z,27nm,0.9s							
VILB	**Vilhena**	**19.90**	**105**	*eP*		**P**	**16 57 43.7**	**+0.7**
SIV	**San Ignacio**	**19.92**	**114**	P		**P**	**16 57 42.3**	**-0.8**
	comp=Z,4.8nm,1.0s,baz=296,slow=14,SNR=16							
	comp=Z,4.8nm,1.0s							
BBSD	**Serra de San D**	**20.77**	**117**	*eP*		**P**	**16 57 52.6**	**+0.2**
BAUV	**El Baul**	**20.80**	**35**			**P**	**16 57 53.1**	**+0.4**
PTGA	**Pitinga**	**21.23**	**70**	P		**P**	**16 57 57.8**	**+0.5**
	comp=Z,21nm,0.8s,baz=246,slow=11,SNR=63							
PTGA				LR		LR	17 07 08.4	
	comp=Z,766nm,20.2s,baz=261,slow=39							
	comp=Z,21nm,0.8s							
URIC	**Uribia, Colomb**	**21.37**	**22**	P		**P**	**16 57 58.3**	**-0.3**
PTLB	**Pontes e Lacer**	**21.52**	**111**			**P**	**16 58 00.6**	**+0.2**
PTLB				IAmb		IAmb	16 58 17.1	
	comp=Z,28nm,1.1s							
PTLB	**Pontes e Lacer**	**21.52**	**111**	*eP*		**P**	**16 58 01.0**	**+0.7**
BOAV	**Boa Vista**	**22.05**	**62**	P		**P**	**16 58 06.8**	**+0.7**
BOAV				IAmb		IAmb	16 58 17.2	
	comp=Z,16nm,1.1s							
BOAV	**Boa Vista**	**22.05**	**62**	*eP*		**P**	**16 58 06.8**	**+0.7**
PDRB	**Porto dos Gac**	**23.06**	**100**	*eP*		**P**	**16 58 16.3**	**-0.5**
CLDB	**Colider**	**23.90**	**98**	*eP*		**P**	**16 58 24.8**	**-0.2**
ITTB	**Itaituba**	**24.33**	**82**	*eP*		**P**	**16 58 28.9**	**0.0**
NPGB	**Novo Progresso**	**24.35**	**89**	*eP*		**P**	**16 58 28.6**	**-0.6**
SALV	**Santo Antonio**	**24.83**	**110**	*eP*		**P**	**16 58 34.5**	**+1.1**
H03N2	**Juan Fernandez**	**25.04**	**178**	T		T	17 24 43.6	
	baz=357,slow=75,SNR=256							
H03N1	**Juan Fernandez**	**25.04**	**178**	T		T	17 24 44.4	
	baz=357,slow=75,SNR=266							
H03N3	**Juan Fernandez**	**25.05**	**178**	T		T	17 24 43.3	
	baz=357,slow=75,SNR=165							
CFA	**Coronel Fontan**	**25.61**	**156**	P		**P**	**16 58 40.9**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=23,slow=15,SNR=4.2							
CFA				LR		LR	17 07 26.3	
	comp=Z,77nm,18.4s,baz=144,slow=34							
	comp=Z,3.2nm,0.8s							
MALB	**Monte Alegre**	**26.31**	**77**	*eP*		**P**	**16 58 47.4**	**+0.5**
AQDB	**Aquidauana**	**26.34**	**120**	*eP*		**P**	**16 58 48.6**	**+1.5**
CPUP	**Villa Florida**	**27.95**	**133**	P		**P**	**16 59 02.8**	**+1.3**
	comp=Z,3.0nm,1.0s,baz=326,slow=12,SNR=3.1							
CPUP				LR		LR	17 12 16.0	
	comp=Z,218nm,19.4s,baz=318,slow=41							
	comp=Z,3.0nm,1.0s							
CPUP	**Villa Florida**	**27.95**	**133**	P		**P**	**16 59 02.2**	**+0.7**
ARAG	**Araguaiana, MT**	**28.42**	**108**	*eP*		**P**	**16 59 06.1**	**+0.3**
MCPB	**Macapa, AP**	**28.84**	**76**	*eP*		**P**	**16 59 09.9**	**+0.3**
CMIG	**Matias Romero**	**29.25**	**330**	LR		LR	17 08 32.9	
	comp=Z,94nm,21.4s,baz=192,slow=32							
SJG	**San Juan**	**29.54**	**27**	LR		LR	17 12 42.7	
	comp=Z,151nm,19.6s,baz=232,slow=39							
PRPB	**Parauapebas**	**29.92**	**88**	*eP*		**P**	**16 59 19.1**	**-0.1**
SMTB	**Santa Maria do**	**31.95**	**93**	*eP*		**P**	**16 59 37.7**	**+0.6**
BDFB	**Brasilia**	**32.01**	**106**	P		**P**	**16 59 38.3**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=282,slow=12,SNR=4.5							
BDFB				LR		LR	17 13 15.8	
	comp=Z,586nm,19.6s,baz=309,slow=38							
	comp=Z,2.3nm,0.6s							
TMAB	**Tom-Au,PA,Br**	**32.19**	**81**	*eP*		**P**	**16 59 39.8**	**+0.6**
IPMB	**Ipameri, GO**	**32.28**	**111**	*eP*		**P**	**16 59 40.0**	**0.0**
PLCA	**Paso Flores**	**33.36**	**167**	P		**P**	**16 59 47.5**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=329,slow=13,SNR=3.5							
	comp=Z,1.3nm,0.8s							
RPN	**Rapa Nui**	**33.57**	**232**	LR		LR	17 09 26.9	
	comp=Z,250nm,20.1s,baz=42,slow=29							
TRQA	**Tornquist**	**33.77**	**154**	P		**P**	**16 59 53.5**	**+0.9**
SDBA	**SAO DESIDERIO**	**34.65**	**100**	*eP*		**P**	**17 00 00.6**	**-0.1**
JANB	**Januaria**	**35.46**	**104**	*eP*		**P**	**17 00 07.6**	**-0.1**
ROSB	**Rosrio**	**35.99**	**84**	*eP*		**P**	**17 00 12.3**	**+0.1**
RCBR	**Riachuelo**	**43.72**	**90**	LR		LR	17 20 36.3	
	comp=Z,504nm,18.4s,baz=46,slow=38							
TXAR	**Lajitas Array**	**43.86**	**329**	P		**P**	**17 01 18.2**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=151,slow=8.2,SNR=2.4							
	comp=Z,0.2nm,0.8s							
TKL	**Tuckaleechee C**	**43.87**	**355**	LR		LR	17 18 36.5	
	comp=Z,108nm,22.0s,baz=140,slow=35							
WHAR	**Wooly Hollow**	**44.90**	**346**	P		**P**	**17 01 26.0**	**+0.5**
WHAR				IAmb		IAmb	17 01 33.8	
	comp=Z,13nm,1.0s							
X37A	**Clayton**	**45.09**	**342**	P		**P**	**17 01 27.7**	**+0.7**
X37A				IAmb		IAmb	17 01 41.0	
	comp=Z,9.9nm,0.9s							
FCAR	**Ozark Folk Cen**	**45.43**	**346**	P		**P**	**17 01 28.8**	**-0.9**
OK048	**Pawnee Station**	**47.27**	**341**	P		**P**	**17 01 44.4**	**+0.3**
SRIG	**Santa Rosalia**	**47.27**	**320**	P		**P**	**17 01 43.8**	**-0.5**
CCM	**Cathedral Cave**	**47.31**	**348**	P		**P**	**17 01 44.4**	**0.0**
CCM				IAmb		IAmb	17 01 56.5	
	comp=Z,8.1nm,0.8s							
S39A	**Bolivar**	**47.44**	**346**	P		**P**	**17 01 44.8**	**-0.7**
S39A				IAmb		IAmb	17 01 57.6	
	comp=Z,10.0nm,0.8s							
R40A	**Maddies Statio**	**47.76**	**347**	P		**P**	**17 01 47.1**	**-0.8**
SADO	**Sadowa**	**52.82**	**1**	LR		LR	17 26 21.5	
	comp=Z,78nm,19.2s,baz=200,slow=38							
RDMU	**Red Mountain**	**55.79**	**333**	P		**P**	**17 02 46.9**	**-1.2**
RDMU				IAmb		IAmb	17 02 52.0	
	comp=Z,9.3nm,1.4s							
HWUT	**Hardware Ranch**	**57.53**	**332**	P		**P**	**17 03 00.2**	**-0.1**
HWUT				IAmb		IAmb	17 03 17.4	
	comp=Z,8.3nm,1.4s							
BW06	**Boulder Array**	**57.56**	**334**	P		**P**	**17 03 00.6**	**-0.1**
BW06				IAmb		IAmb	17 03 09.1	
	comp=Z,6.6nm,0.6s							
PD31	**Pinedale Array**	**57.56**	**334**	P		**P**	**17 03 00.8**	**+0.1**
PD31				IAmb		IAmb	17 03 09.1	
	comp=Z,5.8nm,0.7s							
AGMN	**Agassiz Nation**	**58.08**	**348**	P		**P**	**17 03 03.7**	**-0.2**
AGMN				IAmb		IAmb	17 03 04.1	
	comp=Z,5.1nm,0.7s							
ELK	**Elko**	**58.65**	**329**	LR		LR	17 26 33.4	
	comp=Z,71nm,19.1s,baz=84,slow=34							
RLMT	**Red Lodge**	**59.38**	**336**	P		**P**	**17 03 13.1**	**-0.1**
LKWY	**Lake**	**59.38**	**335**	P		**P**	**17 03 13.1**	**-0.2**
LKWY				IAmb		IAmb	17 03 34.5	
	comp=Z,5.0nm,0.8s							
BBTS	**Babate**	**66.84**	**70**	LR		LR	17 32 10.0	
	comp=Z,111nm,19.9s,baz=239,slow=35							
TBI	**Tubuai**	**68.03**	**248**	*eLR*		LR	17 24 44.8	
	comp=Z,751nm,28.2s							
TBI	**Tubuai**	**68.03**	**248**	*eT*		T	18 17 55.0	
	comp=Z,5.7nm,0.3s							
PPT2	**Papeete2**	**68.23**	**254**	*eLR*		LR	17 24 50.3	
	comp=Z,119nm,25.2s							
BELA	**Belgrano 2**	**73.30**	**171**	P		**P**	**17 04 41.9**	**+0.2**
M31M	**Drury Creek, Y**	**81.78**	**337**	P		**P**	**17 05 29.9**	**+0.7**
M31M				IAmb		IAmb	17 06 07.5	
	comp=Z,15nm,1.4s							
QSPA	**South Pole Qui**	**81.81**	**180**	LR		LR	17 36 28.8	
	comp=Z,44nm,18.5s,baz=183,slow=32							
QSPA	**South Pole Qui**	**81.81**	**180**	P		**P**	**17 05 30.1**	**+0.6**
MDT	**Midelt**	**82.28**	**55**	LR		LR	17 40 24.5	
	comp=Z,54nm,19.6s,baz=342,slow=34							
RES	**Resolute Bay**	**83.34**	**356**	LR		LR	17 45 35.1	
	comp=Z,51nm,18.0s,baz=30,slow=38							
ESDC	**Sonseca Array**	**84.58**	**49**	P		**P**	**17 05 45.4**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=264,slow=6.0,SNR=9.2							
ESDC				LR		LR	17 41 42.4	
	comp=Z,72nm,18.9s,baz=258,slow=34							
	comp=Z,1.9nm,0.9s							
ESDC	**Sonseca Array**	**84.58**	**49**	P		**P**	**17 05 45.1**	**+0.9**
ESDC				IAmb		IAmb	17 05 59.5	
	comp=Z,5.4nm,1.4s							
DAWY	**Dawson**	**84.71**	**338**	P		**P**	**17 05 43.7**	**-0.6**
DAWY				IAmb		IAmb	17 06 05.1	
	comp=Z,7.6nm,1.4s							
BORG	**Borgarnes**	**84.73**	**22**	LR		LR	17 41 30.4	
	comp=Z,35nm,20.4s,baz=289,slow=34							
BORG	**Borgarnes**	**84.73**	**22**	P		**P**	**17 05 44.0**	**-0.2**
M27K	**Edge Creek, AK**	**84.83**	**336**	P		**P**	**17 05 45.3**	**+0.2**
INK	**Inuvik**	**85.11**	**343**	P		**P**	**17 05 46.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=150,slow=6.6,SNR=6.8							
	comp=Z,1.3nm,0.7s							
INK	**Inuvik**	**85.11**	**343**	P		**P**	**17 05 45.8**	**-0.3**
INK				IAmb		IAmb	17 06 14.1	
	comp=Z,5.9nm,1.4s							
BCAR	**Beaver Creek A**	**85.14**	**336**	P		**P**	**17 05 46.6**	**+0.1**
L27K	**Beaver Creek,**	**85.15**	**336**	P		**P**	**17 05 46.3**	**-0.2**
L27K				IAmb		IAmb	17 05 54.7	
	comp=Z,6.2nm,1.1s							
GLB	**Gilahina Butte**	**85.21**	**334**	P		**P**	**17 05 46.8**	**-0.1**
A36M	**Sachs Harbour**	**85.40**	**347**	P		**P**	**17 05 46.7**	**-0.8**
A36M				IAmb		IAmb	17 05 47.3	
	comp=Z,3.6nm,0.7s							
EGAK	**Eagle**	**85.73**	**338**	P		**P**	**17 05 49.0**	**-0.3**
EGAK				IAmb		IAmb	17 05 57.1	
	comp=Z,6.7nm,0.9s							
KLU	**Klutina**	**86.15**	**334**	P		**P**	**17 05 51.7**	**+0.1**
KLU				IAmb		IAmb	17 06 22.7	
	comp=Z,11nm,1.4s							
DOT	**Dot Lake**	**86.32**	**336**	P		**P**	**17 05 52.5**	**+0.2**
DOT				IAmb		IAmb	17 06 21.0	
	comp=Z,10nm,1.4s							
SCRK	**Sand Creek**	**86.44**	**337**	P		**P**	**17 05 52.8**	**-0.2**
SCRK				IAmb		IAmb	17 06 03.3	
	comp=Z,4.1nm,1.2s							
J26L	**Joseph Creek**	**86.51**	**337**	P		**P**	**17 05 53.1**	**-0.2**
J26L				IAmb		IAmb	17 05 54.1	
	comp=Z,5.8nm,0.8s							
M24K	**Tolsona, Glenn**	**86.52**	**334**	P		**P**	**17 05 53.6**	**+0.3**
RIDG	**Independent Ri**	**86.67**	**336**	P		**P**	**17 05 53.8**	**-0.2**
RIDG				IAmb		IAmb	17 06 09.0	
	comp=Z,8.0nm,1.2s							
SCM	**Sheep Creek Mo**	**86.90**	**334**	P		**P**	**17 05 54.7**	**-0.5**
SCO	**Scoresbysund**	**87.62**	**17**	P		**P**	**17 05 59.3**	**+0.9**
PRP	**Porcupine Dome**	**87.71**	**338**	P		**P**	**17 05 59.0**	**-0.1**
HDA	**Harding Lake**	**87.79**	**336**	P		**P**	**17 05 59.1**	**-0.3**
HDA				IAmb		IAmb	17 06 06.9	
	comp=Z,6.9nm,1.2s							
VNDA	**Vanda**	**87.82**	**191**	LR		LR	17 37 04.5	
	comp=Z,44nm,19.3s,baz=110,slow=30							
IL31		**87.92**	**337**	P		**P**	**17 05 59.5**	**-0.4**
ILAR	**Eielson Array**	**87.92**	**337**	P		**P**	**17 05 59.1**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=153,slow=3.0,SNR=14							
ILAR				LR		LR	17 46 12.4	
	comp=Z,52nm,18.5s,baz=176,slow=36							
	comp=Z,1.2nm,0.8s							
ILAR	**Eielson Array**	**87.92**	**337**	P		**P**	**17 05 59.3**	**-0.6**
BMAR	**Burnt Mountain**	**88.21**	**340**	P		**P**	**17 06 01.6**	**+0.2**
CCB	**Clear Creek Bu**	**88.23**	**336**	P		**P**	**17 06 01.1**	**-0.4**
CCB				IAmb		IAmb	17 06 01.9	
	comp=Z,4.6nm,1.0s							
POKR	**Poker Plat Res**	**88.27**	**337**	P		**P**	**17 06 01.3**	**-0.4**
EUNU	**Eureka**	**88.29**	**359**	P		**P**	**17 06 01.3**	**-0.3**
MDM	**Murphy Dome**	**88.52**	**337**	P		**P**	**17 06 02.3**	**-0.5**
BWN	**Browne**	**88.71**	**336**	P		**P**	**17 06 03.4**	**-0.4**
NEA2	**Nenana**	**88.71**	**336**	P		**P**	**17 06 03.4**	**-0.4**
H24K	**Noodor Dome**	**88.73**	**338**	P		**P**	**17 06 04.0**	**+0.1**
H24K				IAmb		IAmb	17 06 12.1	
	comp=Z,6.9nm,1.2s							
TRF	**Thorofare Moun**	**88.78**	**335**	P		**P**	**17 06 04.3**	**0.0**
TRF				IAmb		IAmb	17 06 08.0	
	comp=Z,4.1nm,1.0s							
I23K	**Minto, Yukon-K**	**89.03**	**337**	P		**P**	**17 06 05.0**	**-0.1**
KTH	**Kantishna Hill**	**89.08**	**335**	P		**P**	**17 06 04.5**	**-1.1**
KTH				IAmb		IAmb	17 06 43.3	
	comp=Z,4.1nm,1.0s							
CAST	**Castle Rocks**	**89.53**	**335**	P		**P**	**17 06 06.8**	**-0.8**
CAST				IAmb		IAmb	17 06 20.6	
	comp=Z,7.0nm,1.2s							
MLY	**Manley**	**89.53**	**336**	P		**P**	**17 06 07.3**	**-0.4**
MLY				IAmb		IAmb	17 06 07.9	
	comp=Z,6.9nm,1.1s							
AFI	**Afiamalu**	**89.84**	**256**	LR		LR	17 37 58.1	
	comp=Z,42nm,18.2s,baz=49,slow=30							
JMIC	**Jan Mayen**	**91.83**	**18**	LR		LR	17 46 09.1	
	comp=Z,13nm,19.6s,baz=254,slow=34							
TSUM	**Tsumeb**	**94.30**	**110**	LR		LR	17 47 06.9	
	comp=Z,100nm,19.4s,baz=301,slow=34							
SUR	**Sutherland**	**94.55**	**123**	LR		LR	17 45 35.0	
	comp=Z,38nm,19.1s,baz=310,slow=33							
DAVOX	**Davos/Dischmat**	**95.83**	**44**	LR		LR	17 50 26.1	
	comp=Z,43nm,18.5s,baz=302,slow=36							
MSVF	**Nonsavu**	**98.83**	**251**	LR		LR	17 41 55.5	
	comp=Z,36nm,19.6s,baz=10,slow=30							
BOSA	**Boshof**	**99.16**	**121**	LR		LR	17 50 37.9	
	comp=Z,62nm,18.1s,baz=204,slow=35							
DZM	**Mont Dzumac**	**108.35**	**244**	*eLR*		LR	17 43 25.3	
	comp=Z,88nm,23.9s							
H11N3	**WAKE ISLAND Hyl**	**114.53**	**288**	T		T	19 16 09.7	
	baz=91,slow=75,SNR=6.0							
H11N2	**WAKE ISLAND Hyl**	**114.54**	**288**	T		T	19 16 24.4	
	baz=91,slow=75,SNR=5.3							
H11N1	**WAKE ISLAND Hyl**	**114.55**	**288**	T		T	19 16 10.1	
	baz=91,slow=75,SNR=7.4							
ZALV	**Zalesovo Beam**	**132.84**	**12**	PKP		**PKPdf**	**17 12 25.2**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=259,slow=3.0,SNR=4.1							
ASAR	**Alice Springs**	**134.17**	**225**	PKP		**PKPdf**	**17 12 28.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=128,slow=2.5,SNR=11							
WRA	**Warramunga Arr**	**136.15**	**230**	PKP		**PKPdf**	**17 12 32.0**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=121,slow=2.1,SNR=11							
GTA	**Gaotai**	**149.02**	**0**	*e*PKPbc		**PKPbc**	**17 12 58.3**	**-0.8**
GTA				pPKP		PKPab	17 13 02.8	-0.4
PZH	**PanZhiHua**	**161.82**	**355**	PKP		**PKPdf**	**17 13 10.8**	**-1.8**

MAN 27 16:55:57.7,6°.56N×126°.55E,h30km,mb4.0,ML2.7,MS2.3, Mindanao

---

IDC ***27*** *16:56:05.2±2.4,5°.19S×146°.14E,h114km±25km,mb3.7/14, mbtmp4.1/17,Error ellipse: s-maj=21.5km s-min=15.1km az=87.0*
NEIC ***27*** *16:56:06.1±1.1,5°.14S±0°.07×146°.01E±0°.08,h118km±7km, mb4.5/64,Error ellipse: s-maj=13.5km s-min=7.9km az=46.0*
ISC 27 16:56:04.3±0.5,5°.12S±0°.06×145°.97E±0°.08,h100km,n107, σ1°06/109,mb4.4/43,Eastern New Guinea region

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

TIXI Tiksi 77.44 355 P P 17 07 47.1 -1.0
comp=Z,0.6nm,0.5s,baz=267,slow=23,SNR=5.8
comp=Z,0.6nm,0.5s
ZALV Zalesovo Beam 77.72 328 P P 17 07 49.5 -0.5
comp=Z,0.4nm,0.4s,baz=105,slow=4.9,SNR=2.2
comp=Z,0.4nm,0.4s
ILSW Iliamna Southw 80.38 26 P P 17 08 03.9 -0.7
ILSW IAmb IAmb 17 08 23.0
comp=Z,18nm,1.3s
L19K White Mountain 80.72 24 P P 17 08 06.8 +0.5
CNPM China Poot 81.03 27 P P 17 08 07.9 0.0
J20K Nowinta River 82.00 22 P P 17 08 13.3 +0.5
J20K IAmb IAmb 17 08 52.1
comp=Z,7.7nm,1.4s
SUA Susitna One 82.11 26 P P 17 08 12.9 -0.8
RC01 Rabbit Creek A 82.39 26 P P 17 08 14.4 -0.6
CAST Castle Rocks 82.44 24 P P 17 08 14.6 -0.7
CAST IAmb IAmb 17 08 16.5
comp=Z,6.3nm,1.2s
MAW Mawson 82.66 203 P P 17 08 16.1 -0.3
PMR Palmer 82.86 26 P P 17 08 16.8 -0.6
PWL Port Wells 82.91 27 P P 17 08 17.1 -0.6
KTH Kantishna Hill 82.96 24 P P 17 08 16.6 -1.4
KTH IAmb IAmb 17 08 49.4
comp=Z,12nm,1.3s
GHO Glory Hole Cre 83.03 26 P P 17 08 17.8 -0.6
IMAR Indian Mountai 83.03 21 P P 17 08 18.4 +0.1
TRF Thorofare Moun 83.17 24 P P 17 08 18.1 -1.1
TRF IAmb IAmb 17 08 22.5
comp=Z,7.1nm,1.2s
BPAW Bear Paw Mtn. 83.18 23 P P 17 08 17.9 -1.2
BPAW IAmb IAmb 17 08 42.2
comp=Z,7.3nm,1.4s
I21K Tanana 83.30 22 P P 17 08 18.9 -0.7
I21K IAmb IAmb 17 08 34.8
comp=Z,5.6nm,1.3s
SML Sawmill 83.30 26 P P 17 08 19.3 -0.5
MLY Manley 83.70 22 P P 17 08 21.4 -0.3
MLY IAmb IAmb 17 08 22.3
comp=Z,5.3nm,0.8s
SCM Sheep Creek Mo 83.75 26 P P 17 08 21.8 -0.3
MCK McKinley 83.84 24 P P 17 08 21.5 -1.0
MCK IAmb IAmb 17 08 22.1
comp=Z,4.5nm,0.8s
EYAK Cordova Ski Ar 83.97 27 P P 17 08 22.9 -0.2
DHY Denali Highway 84.22 25 P P 17 08 24.3 -0.2
DHY IAmb IAmb 17 08 30.2
comp=Z,9.3nm,1.3s
I23K Minto, Yukon-K 84.27 23 P P 17 08 24.1 -0.5
M24K Tolsona, Glenn 84.35 26 P P 17 08 25.1 0.0
M24K IAmb IAmb 17 08 25.7
comp=Z,7.4nm,0.8s
WRH Wood River Hil 84.48 23 P P 17 08 24.1 -1.5
H23K Yukon River 84.50 22 P P 17 08 24.9 -0.9
H23K IAmb IAmb 17 09 02.7
comp=Z,8.9nm,1.5s
BMRM Bremner River 84.64 27 P P 17 08 26.2 -0.4
CCB Clear Creek Bu 84.67 23 P P 17 08 24.9 -1.6
CCB IAmb IAmb 17 08 25.8
comp=Z,4.7nm,0.8s
QSPA South Pole Qui 84.84 180 P P 17 08 25.4 -2.3
QSPA IAmb IAmb 17 08 27.0
comp=Z,3.8nm,1.0s
COLD Coldfoot 84.87 21 P P 17 08 27.8 +0.3
COLD IAmb IAmb 17 08 28.5
comp=Z,8.9nm,1.4s
HDA Harding Lake 84.91 24 P P 17 08 26.1 -1.7
HDA IAmb IAmb 17 08 57.0
comp=Z,6.7nm,1.4s
IL31 85.08 23 P P 17 08 26.9 -1.7
IL31 IAmb IAmb 17 08 27.7
comp=Z,5.2nm,0.7s
ILAR Eielson Array 85.08 23 P P 17 08 26.9 -1.8
comp=Z,4.3nm,0.7s,baz=251,slow=5.2,SNR=52
comp=Z,4.3nm,0.7s
H24K Noodor Dome 85.12 22 P P 17 08 28.8 -0.1
GLB Gilahina Butte 85.17 27 P P 17 08 29.2 -0.1
GLB IAmb IAmb 17 09 01.9
comp=Z,10.0nm,1.2s
VRDI Verde Repeater 85.26 27 P P 17 08 29.5 -0.3
J25K Salcha River, 85.62 24 P P 17 08 30.7 -0.7
J25K IAmb IAmb 17 08 31.7
comp=Z,5.7nm,0.8s
TOLK Toolik Lake Re 85.70 19 P P 17 08 31.8 +0.1
TOLK IAmb IAmb 17 08 54.8
comp=Z,8.2nm,1.5s
DOT Dot Lake 85.81 25 P P 17 08 32.3 0.0
SCRK Sand Creek 85.96 25 P P 17 08 32.4 -0.8
SCRK IAmb IAmb 17 08 40.6
comp=Z,7.3nm,1.5s
BARN Barnard Glacie 86.03 28 P P 17 08 32.9 -0.7
J26L Joseph Creek 86.31 24 P P 17 08 34.5 -0.3
J26L IAmb IAmb 17 09 17.1
comp=Z,7.4nm,1.5s
M27K Edge Creek, AK 86.33 26 P P 17 08 35.0 -0.1
BCAR Beaver Creek A 86.59 26 P P 17 08 36.3 0.0
I26K Coal Creek Min 86.75 23 P P 17 08 36.9 0.0
K27K Chicken 86.77 25 P P 17 08 37.4 +0.4
K27K IAmb IAmb 17 08 38.4
comp=Z,5.1nm,0.9s
BMAR Burnt Mountain 86.95 21 P P 17 08 38.1 +0.2
EGAK Eagle 87.38 24 P P 17 08 39.6 -0.3
EGAK IAmb IAmb 17 08 40.7
comp=Z,5.9nm,1.2s
P29M Windy Craggy 87.50 30 P P 17 08 40.9 +0.2
HYT Haines Junctio 87.91 28 P P 17 08 42.2 -0.5
DAWY Dawson 87.91 25 P P 17 08 42.5 -0.1
DAWY IAmb IAmb 17 08 43.3
comp=Z,3.9nm,0.9s
M30M Minto, Yukon 88.66 27 P P 17 08 46.2 +0.1
M30M IAmb IAmb 17 09 08.7
comp=Z,9.0nm,1.4s
EPYK Eagle Plains 89.59 23 P P 17 08 50.3 -0.1
EPYK IAmb IAmb 17 09 27.0
comp=Z,8.7nm,1.4s

WEL 27 17:05:42.2,42°S±7°×17°4E±1°,1,h30km±18km,M2.8/3, mB4.7/1,ML2.8/12,MLv2.8/3,Mw(mB)3.9/1,Error ellipse: s-maj=0.0km s-min=0.0km az=93.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.31**	**212**	P	Pb	17 05 49.7	-0.1
CMWZ	**Cape Campbell**	**0.52**	**40**	P	Pn	17 05 55.1	+1.4
TUWZ	**Tuamarina**	**0.73**	**11**	P	Pb	17 05 51.7	-4.8
THZ	**Tophouse**	**0.75**	**301**	P	Pn	17 05 56.9	+0.1
GVZ	**Greta Valley S**	**0.98**	**213**	P	Pb	17 06 02.4	+1.8
TCW	**Tory Channel**	**1.01**	**22**	P	Pb	17 06 01.1	-0.1
MRNZ	**Matariki Terra**	**1.06**	**315**	P	Pb	17 06 02.9	+0.9
LTZ	**Lake Taylor**	**1.27**	**240**	P	Pb	17 06 06.8	+1.2
MSWZ	**Moikau Station**	**1.33**	**57**	P	Pb	17 06 05.7	-0.9
CAW	**Cannon Point**	**1.43**	**44**	P	Pb	17 06 07.4	-0.8
DSZ	**Denniston Nort**	**1.52**	**285**	P	Pb	17 06 11.2	+1.4
OKCZ	**Okains Bay**	**1.66**	**198**	P	Pb	17 06 11.0	-1.1
MQZ	**McQueen's Vall**	**1.76**	**207**	P	Pn	17 06 11.6	+1.0
WACZ	**Wakanui South**	**2.28**	**218**	P	Pn	17 06 19.5	+1.7
MCHZ	**McNeill Hill**	**3.50**	**40**	P	Pn	17 06 34.1	-0.5
PUZ	**Puketiti**	**5.33**	**42**	P	Pn	17 07 00.8	+1.0
WIAZ	**Waiheke Island**	**5.45**	**12**	P	Pn	17 07 02.1	+0.7

*JMA **27** 17:10:59.6±0.2,37°.4N±0°.4×141°.6E±1°.0,h33km±2km, MV3.1/32,E OFF FUKUSHIMA PREF*
*IDC **27** 17:11:02.4±2.4,37°.86N×141°.09E,h0km,mb3.4/3, mbtmp3.3/4,ML2.1/1,Error ellipse: s-maj=44.1km s-min=32.5km az=86.0*
ISC 27 17:11:00.6±2.6,37°.37N±0°.06×141°.6E±0°.1,h27km±13km, n16,σ1s07/16,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.54**	**270**	*i* P	**Pb**	**17 11 11.4**	**-0.1**
JFK				S	**Sb**	**17 11 19.8**	**+0.9**
JMST	**Minamisoumatoc**	**0.64**	**305**	*i* P	**Pn**	**17 11 13.0**	**-0.8**
JMST				S	**Sb**	**17 11 22.2**	**+0.6**
JMM	**Marumori**	**0.78**	**310**	*i* P	**Pn**	**17 11 15.3**	**-0.5**
JMM				S	**Sn**	**17 11 26.1**	**-0.5**
JFFD	**Fukushimafurud**	**0.83**	**251**	*i* P	**Pn**	**17 11 15.6**	**-0.9**
JFFD				*eS*	**Sn**	**17 11 27.2**	**-0.7**
JHO	**Hitachi**	**1.09**	**226**	*i* P	**Pn**	**17 11 19.2**	**-0.8**
JHO				*eS*	**Sn**	**17 11 33.7**	**-0.5**
JIO	**Ouri**	**1.10**	**352**	P	**Pn**	**17 11 19.4**	**-0.8**
JIO				S	**Sn**	**17 11 33.5**	**-0.9**
MJAR	**Matsushiro Arr**	**2.80**	**254**	Pn	**Pn**	**17 11 44.9**	**+1.3**
	0.3nm,0.3s,baz=90,slow=16,SNR=24						
MJAR				Sn	**Sb**	**17 12 21.9**	**-1.8**
	0.2nm,0.3s,baz=61,slow=16,SNR=4.1						
	1.8nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	17 46 15.7	
	baz=314,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.23**	**122**	T	T	17 46 21.6	
	baz=314,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	17 46 22.9	
	baz=314,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	17 47 14.7	
	baz=316,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	17 47 10.8	
	baz=316,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	17 47 19.1	
	baz=316,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**17 19 07.2**	**+1.4**
	0.6nm,0.7s,baz=93,slow=9.7,SNR=7.3						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.88**	**308**	P	**P**	**17 19 21.3**	**+0.9**
	0.5nm,0.5s,baz=82,slow=9.5,SNR=1.7						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**57.40**	**188**	P	P	17 20 56.1	+9.4
	0.2nm,0.7s,baz=13,slow=7.1,SNR=1.3						
	0.2nm,0.7s						

*NIED **27** 17:11:50.8,41°.48N×141°.99E,h63km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.23; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-4.07; $M_{r\theta}$1.91; $M_{\theta\phi}$-0.83; $M_{\phi r}$2.91; Fault plane solution: $M_0$5.48000×10^{14} NP1: ϕ_s179.00000°,δ27.00000°,λ67.00000°. NP2:ϕ_s25.00000°, δ65.00000°,λ101.00000°.*
*JMA **27** 17:11:50.8±0.1,41°.5N±0°.4×142°.0E±0°.7,h63km±1km, MV3.6/34,E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*IDC **27** 17:11:53.9±3.7,41°.44N×141°.93E,h91km±33km,mb3.6/11, mbtmp3.9/13,Error ellipse: s-maj=21.9km s-min=18.3km az=88.0*
ISC 27 17:11:51.2±0.8,41°.47N±0°.04×142°.00E±0°.04,h62km±7km, n40,σ0s92/50,mb4.0/11,16D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.54**	**248**	⇓*i* P	**Pn**	**17 12 03.6**	**0.0**
JAHD				⇓S	**Sn**	**17 12 13.1**	**+0.4**
JARK	**Aomorirokkasho**	**0.66**	**226**	⇓*i* P	**Pn**	**17 12 04.6**	**-0.4**
JARK				⇓S	**Sn**	**17 12 14.4**	**-0.8**
JOT	**Ohata**	**0.72**	**264**	⇓*i* P	**Pn**	**17 12 05.3**	**-0.4**
JOT				⇓S	**Sn**	**17 12 16.2**	**-0.2**
JKB	**Kayabe**	**0.84**	**301**	⇓*i* P	**Pn**	**17 12 06.4**	**-0.8**
JKB				⇓*eS*	**Sn**	**17 12 18.1**	**-0.8**
JTM	**Tenmabayashi**	**0.98**	**226**	*i* P	**Pn**	**17 12 09.0**	**0.0**
JTM				S	**Sn**	**17 12 22.1**	**0.0**
JNBK	**Urakawa-nobuka**	**0.99**	**35**	P	**Pn**	**17 12 08.3**	**-0.9**
JNBK				*eS*	**Sn**	**17 12 20.8**	**-1.6**
JEM	**Erimo**	**1.03**	**57**	*i* P	**Pn**	**17 12 09.2**	**-0.4**
JEM				*eS*	**Sn**	**17 12 23.5**	**+0.2**
JANG	**Nango**	**1.15**	**199**	*i* P	**Pn**	**17 12 11.0**	**-0.2**
JANG				S	**Sn**	**17 12 25.4**	**-0.8**
JIAM	**Iburiatsuma**	**1.16**	**357**	P	**Pn**	**17 12 11.6**	**+0.3**
JIAM				*eS*	**Sn**	**17 12 27.4**	**+1.0**
JSR	**Shiriuchi**	**1.19**	**274**	*i* P	**Pn**	**17 12 11.4**	**-0.3**
JSR				S	**Sn**	**17 12 27.1**	**+0.1**
JNB	**Noboribetsu**	**1.23**	**325**	⇓*i* P	**Pn**	**17 12 11.2**	**-1.1**
JNB				⇓S	**Sn**	**17 12 26.7**	**-1.4**
JBT2	**Biratori 2**	**1.34**	**12**	P	**Pn**	**17 12 13.7**	**0.0**
JBT2				*eS*	**Sn**	**17 12 30.4**	**-0.3**
JYM2	**Yakumo 2**	**1.38**	**299**	⇓*i* P	**Pn**	**17 12 14.2**	**0.0**
JYM2				⇓*eS*	**Sn**	**17 12 31.5**	**-0.1**
JEW	**Eniwo**	**1.43**	**344**	⇓*i* P	**Pn**	**17 12 14.8**	**-0.2**
JEW				⇓S	**Sn**	**17 12 32.6**	**-0.2**
JOMM	**Oshimamatsumae**	**1.50**	**273**	*i* P	**Pn**	**17 12 15.4**	**-0.4**
JOMM				*eS*	**Sn**	**17 12 33.6**	**-0.8**
JCH	**Churui**	**1.53**	**41**	⇓P	**Pn**	**17 12 16.6**	**+0.3**
JCH				⇓*eS*	**Sn**	**17 12 36.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**7.85**	**294**	P	**Pn**	**17 13 43.2**	**+0.6**
	2.8nm,0.5s,baz=98,slow=14,SNR=7.6						
KSRS	**Korea Array**	**11.59**	**254**	P	**Pn**	**17 14 37.4**	**+3.7**
	1.7nm,0.5s,baz=66,slow=14,SNR=4.9						
SONM	**Songino Array**	**25.95**	**296**	P	**P**	**17 17 17.6**	**-0.1**
	0.8nm,0.6s,baz=89,slow=8.7,SNR=5.7						
	0.8nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**30.28**	**128**	T	T	17 50 25.1	
	baz=321,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**30.29**	**128**	T	T	17 50 25.1	
	baz=321,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**30.30**	**128**	T	T	17 50 23.6	
	baz=321,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**31.13**	**130**	T	T	17 51 27.3	
	baz=322,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**31.13**	**130**	T	T	17 51 24.8	
	baz=322,slow=76,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	17 51 24.7	
	baz=322,slow=76,SNR=7.0						
ZALV	**Zalesovo Beam**	**39.39**	**308**	P	**P**	**17 19 14.2**	**-0.3**
	1.4nm,0.5s,baz=80,slow=9.2,SNR=7.7						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**42.29**	**298**	P	**P**	**17 19 38.1**	**-0.3**
	0.9nm,0.5s,baz=82,slow=13,SNR=12						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**43.75**	**304**	P	**P**	**17 19 49.7**	**-0.5**
	2.7nm,0.4s,baz=77,slow=8.8,SNR=8.9						
	2.7nm,0.4s						
ILAR	**Eielson Array**	**45.55**	**35**	P	**P**	**17 20 04.4**	**+0.1**
	0.5nm,0.7s,baz=283,slow=8.8,SNR=7.5						
	0.5nm,0.7s						
TAPN	**Taplejung**	**46.24**	**270**	*eP*	**P**	**17 20 11.1**	**+0.5**
JIRN	**Jiri**	**47.21**	**271**	*eP*	**P**	**17 20 19.6**	**+1.3**
RAMN	**Ramite**	**47.28**	**270**	*eP*	**P**	**17 20 18.5**	**-0.2**
GUN	**Gumba**	**47.31**	**272**	*eP*	**P**	**17 20 20.5**	**+1.4**
	16nm,0.6s						
BVAR	**Borovoye Array**	**48.01**	**310**	P	**P**	**17 20 23.9**	**+0.2**
	1.3nm,0.4s,baz=79,slow=9.0,SNR=8.5						
	1.3nm,0.4s						
DANN	**Dangsing**	**48.67**	**274**	*eP*	**P**	**17 20 31.1**	**+1.6**
	18nm,0.5s						
INK	**Inuvik**	**50.26**	**29**	P	**P**	**17 20 41.0**	**+0.4**
	1.8nm,0.5s,baz=293,slow=6.0,SNR=16						
	1.8nm,0.5s						
WRA	**Warramunga Arr**	**61.51**	**188**	P	**P**	**17 22 00.5**	**-1.1**
	0.3nm,0.5s,baz=6.0,slow=6.9,SNR=6.2						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**65.12**	**332**	P	**P**	**17 22 24.1**	**-0.9**
	3.1nm,0.8s,baz=61,slow=9.0,SNR=9.3						
	3.1nm,0.8s						
ASAR	**Alice Springs**	**65.23**	**188**	P	**P**	**17 22 25.6**	**-0.5**
	0.5nm,1.0s,baz=1.8,slow=5.9,SNR=5.2						
	0.5nm,1.0s						
AKASG	**Malin Array Be**	**71.09**	**322**	P	**P**	**17 23 01.6**	**-1.0**
	0.7nm,0.4s,baz=43,slow=6.6,SNR=10						
	0.7nm,0.4s						

*IDC **27** 17:12:46.6±1.0,3°.77S×151°.92E,h269km±12km,mb3.1/7, mbtmp3.8/8,Error ellipse: s-maj=57.1km s-min=16.0km az=109.0*
*NEIC **27** 17:12:47.3±1.5,3°.9S±0°.1×152°.0E±0°.2,h271km±8km, mb4.2/14,Error ellipse: s-maj=26.1km s-min=16.3km az=71.0*
ISC 27 17:12:46.8±0.8,3°.8S±0°.1×152°.0E±0°.1,h271km,n26, σ1s54/27,mb4.0/15,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.42**	**150**	Pn	**Pn**	**17 13 21.9**	**0.0**
KRVT	**Keravat (AS076**	**0.49**	**171**	P	**Pn**	**17 13 22.1**	**0.0**
	109nm,0.3s,baz=282,slow=0.9,SNR=34						
KRVT				S	**S**	**17 13 56.7**	**+6.7**
	101nm,0.7s,baz=253,slow=22,SNR=1.9						
COEN	**Coen**	**13.28**	**220**		**Pn**	**17 15 45.3**	**-0.3**
CTA	**Charters Tower**	**17.10**	**199**	P	**P**	**17 16 29.7**	**+1.3**
	4.2nm,0.5s,baz=34,slow=15,SNR=7.7						
FAKI	**Fak Fak**	**19.69**	**272**	P	**P**	**17 16 56.0**	**-0.4**
FAKI				IAmb	IAmb	17 17 15.8	
	comp=Z,6.3nm,0.7s						
LIFNC	**LIFOU**	**22.48**	**140**	P	**P**	**17 17 22.3**	**-1.3**
DZM	**Mont Dzumac**	**22.95**	**143**	P	**P**	**17 17 28.2**	**+0.3**
DZM				IAmb	IAmb	17 17 43.7	
	comp=Z,6.5nm,0.9s						
WB0	**Warramunga Arr**	**23.34**	**226**	P	**P**	**17 17 31.6**	**+0.3**
WB0				IAmb	IAmb	17 17 32.4	
	comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**23.36**	**225**	P	**P**	**17 17 31.9**	**+0.4**
WR0				IAmb	IAmb	17 17 33.0	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**23.48**	**226**	P	**P**	**17 17 32.9**	**+0.2**
WB2	**Warramunga Arr**	**23.48**	**226**	P	**P**	**17 17 33.0**	**+0.3**
WRA	**Warramunga Arr**	**23.49**	**226**	P	**P**	**17 17 32.9**	**+0.1**
	comp=Z,6.0nm,0.3s,baz=52,slow=11,SNR=151						
WRA	**Warramunga Arr**	**23.49**	**226**	P	**P**	**17 17 32.0**	**-0.8**
KNRA	**Kununurra**	**25.67**	**241**	P	**P**	**17 17 52.8**	**+0.3**
KNRA				IAmb	IAmb	17 17 57.1	
	comp=Z,5.3nm,1.0s						
AS31	**Alice Springs**	**26.32**	**220**	P	**P**	**17 17 58.5**	**+0.2**
ASAR	**Alice Springs**	**26.33**	**220**	P	**P**	**17 17 57.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=49,slow=8.7,SNR=19						
	comp=Z,0.6nm,0.7s						
TOO	**Toolangi**	**34.11**	**189**	P	**P**	**17 19 05.8**	**-0.4**
TOO				IAmb	IAmb	17 19 25.4	
	comp=Z,4.8nm,1.1s						
BKZ	**Black Stump Fm**	**41.65**	**151**	P	**P**	**17 20 07.4**	**-1.7**
BKZ				IAmb	IAmb	17 20 14.8	
	comp=Z,17nm,1.1s						
MORW	**Morawa**	**42.31**	**230**	P	**P**	**17 20 13.6**	**-1.0**
MORW				IAmb	IAmb	17 20 13.9	
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**65.05**	**328**	P	**P**	**17 22 59.0**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=134,slow=4.2,SNR=1.5						
	comp=Z,0.2nm,0.7s						
SONM	**Songino Array**	**65.05**	**328**	P	**P**	**17 22 59.3**	**+0.8**
MKAR	**Makanchi Array**	**79.04**	**319**	P	**P**	**17 24 21.2**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=112,slow=6.5,SNR=3.7						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**79.88**	**326**	P	**P**	**17 24 24.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=116,slow=5.7,SNR=3.9						
	comp=Z,0.4nm,0.3s						
ILAR	**Eielson Array**	**81.58**	**22**	P	**P**	**17 24 33.9**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=247,slow=5.6,SNR=4.1						
	comp=Z,0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**82.51**	**322**	P	**P**	**17 24 39.1**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=116,slow=4.3,SNR=3.4						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**87.96**	**323**	P	**P**	**17 25 05.5**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=86,slow=8.8,SNR=2.5						
	comp=Z,1.6nm,0.8s						

IDC 27 17:15:57.1±1.3,27°.16N×101°.59E,h0km,mb3.2/4, mbtmp3.2/5,ML3.8/1,Error ellipse: s-maj=41.1km s-min=20.6km az=85.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.00**	**196**	Pn	Pn	17 18 10.1	+1.8
	0.3nm,0.3s,baz=8.7,slow=13,SNR=1.5						
CMAR				Pg	Pg	17 18 41.0	-8.4
	0.2nm,0.3s,baz=359,slow=17,SNR=8.7						
CMAR				Lg	Lg	17 20 41.0	
	0.1nm,0.3s,baz=18,slow=33,SNR=6.4						
	0.4nm,0.3s						
SONM	**Songino Array**	**20.98**	**9**	P	Pn	17 20 43.4	-1.1
	0.3nm,0.8s,baz=192,slow=13,SNR=2.9						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**24.81**	**327**	P	P	17 21 19.3	-1.6
	0.3nm,0.6s,baz=128,slow=12,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**56.56**	**142**	P	P	17 25 42.0	+0.4
	0.5nm,0.7s,baz=330,slow=7.9,SNR=7.2						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**59.39**	**145**	P	P	17 26 01.1	-0.4
	0.2nm,0.6s,baz=326,slow=6.8,SNR=6.6						
	0.2nm,0.6s						

KRSC 27 17:40:47.5±1.2,56°.06N×163°.30E,h6km±11km,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.30**	**299**	*eP*	Pb	17 40 54.9	-0.4
KBTR				*eS*	Sg	17 40 58.7	+1.2
KBG	**Krutoberegovo**	**0.38**	**301**	*eP*	Pb	17 40 55.9	-0.7
KBG				*eS*	Sg	17 41 00.6	+0.7
SMKR	**Semkarok**	**1.15**	**298**	*eP*	Pg	17 41 08.7	-0.7
SMKR				*eS*	Sg	17 41 23.3	-0.9
BDR	**Baidarnaya**	**1.27**	**294**	*eP*	Pn	17 41 11.0	-0.8
BDR				*eS*	Sn	17 41 29.1	0.0
SRKR	**Sorokina**	**1.32**	**298**	*eP*	Pn	17 41 11.7	-0.8
SRKR				*eS*	Sn	17 41 30.4	-0.1
ZLN	**Zelenaya**	**1.40**	**269**	*eP*	Pg	17 41 14.4	+0.1
CIRR	**Tsirk**	**1.43**	**273**	*eP*	Pb	17 41 14.5	0.0
BZGR	**Bezymyannyi-Gr**	**1.47**	**266**	*eP*	Pb	17 41 15.1	0.0
KLY	**Klyuchi**	**1.50**	**281**	*eP*	Pn	17 41 13.0	-1.8
KLY				*eS*	Sn	17 41 31.7	-2.9
KRSR	**Krestovskiy**	**1.54**	**277**	*eP*	Pn	17 41 15.5	+0.1
BZWR	**Bezymyannyi-We**	**1.57**	**268**	*eP*	Pb	17 41 17.0	0.0
BZMR	**Bezymyannaya**	**1.58**	**267**	*eP*	Pb	17 41 17.2	+0.1
KIRR	**Kirishev**	**1.66**	**267**	*eP*	Pb	17 41 18.5	0.0
KPT	**Kopyto**	**1.73**	**268**	*eP*	Pb	17 41 19.4	-0.2
BKI	**Bering**	**1.74**	**118**	*eP*	Pb	17 41 19.7	-0.1
BKI				*eS*	Sb	17 41 42.0	+0.1
KMNR	**Kamenistaya**	**1.75**	**261**	*eP*	Pb	17 41 20.2	+0.2
MKZ	**Mys Kozlova**	**1.75**	**211**	*eP*	Pn	17 41 18.9	+0.6
TUMD	**Tumrok D**	**1.85**	**244**	*eP*	Pb	17 41 21.6	-0.1
TUMR	**Tumrok**	**1.95**	**248**	*eP*	Pb	17 41 23.3	0.0
TUMR				*eS*	Sb	17 41 48.5	+0.6
SRDR	**Sredinnyy**	**2.02**	**279**	*eP*	Pb	17 41 23.3	-1.2
SRDR				*eS*	Sn	17 41 48.6	+1.1
ESO	**Esso**	**2.59**	**269**	*eP*	Pb	17 41 32.3	-1.9
OSSR	**Ossora**	**3.20**	**358**	*eP*	Pn	17 41 38.4	+0.2
SMAR	**Somma**	**3.83**	**225**	*eP*	Pn	17 41 49.4	+2.4
UGLR	**Uglovaya**	**3.86**	**224**	*eP*	Pn	17 41 50.1	+2.7
KOK	**Koryaka**	**3.88**	**226**	*eP*	Pn	17 41 51.3	+3.7
DALK	**Dalny**	**4.03**	**223**	*eP*	Pn	17 41 51.1	+1.6
RUS	**Russkaya**	**4.59**	**220**	*eP*	Pn	17 41 59.1	+1.8

IDC 27 18:16:48.8±5.8,4°.39S×152°.87E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=177.0km s-min=33.2km az=106.0,New Britain region

| Code | Station Name

15nm,0.5s,baz=148,slow=6.4,SNR=4.8
DZM Mont Dzumac 13.01 278 P **P 18 40 56.0 +1.0**
16nm,0.8s,baz=57,slow=17,SNR=8.2
CTA Charters Tower 31.79 271 P **P 18 43 49.0 -0.1**
7.8nm,0.4s,baz=92,slow=11,SNR=24
7.8nm,0.4s
STKA Stephens Creek 34.76 249 P **P 18 44 13.3 -0.8**
1.3nm,0.4s,baz=92,slow=10,SNR=8.7
1.3nm,0.4s
ASAR Alice Springs 42.23 261 P **P 18 45 14.1 -1.1**
1.6nm,0.4s,baz=91,slow=6.8,SNR=50
1.6nm,0.4s
WRA Warramunga Arr 42.67 267 P **P 18 45 17.1 -1.5**
3.6nm,0.5s,baz=99,slow=6.9,SNR=130
WRA ScP **ScP 18 50 08.6 +5.0**
0.4nm,0.8s,baz=98,slow=3.9,SNR=5.0
3.6nm,0.5s
AKASG Malin Array Be 145.70 327 PKPbc **PKPbc 18 56 48.8 -0.1**
0.6nm,0.4s,baz=44,slow=4.4,SNR=7.6
BRTR Keskin Array B 148.23 306 PKPbc **PKPbc 18 56 56.5 +0.3**
0.7nm,0.9s,baz=19,slow=4.9,SNR=2.4

ROM 27 18:38:09.6±0.1, 43.017N±0.004×13.132E±0.004, h9km, ML1.7/20, 13C-5D, Error ellipse: s-maj=0.3km s-min=0.2km az=208.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
FDMO	**Fiordimonte**	**0.04**	**301**	P	Pg	18 38 11.2	-0.2
FDMO				S	Sg	18 38 12.4	-0.3
FDMO				AML	AML		
	comp=E,3270μm,0.2s						
FDMO				AML	AML		
	comp=N,2620μm,0.2s						
T1256	**Bolognola (MC)**	**0.07**	**98**	⇑P	Pg	18 38 12.0	+0.2
T1256				AML	AML		
	comp=E,1033μm,0.3s						
T1256				AML	AML		
	comp=N,1145μm,0.4s						
T1256				AML	AML		
	comp=N,1027μm,0.4s						
T1256				AML	AML		
	comp=E,1034μm,0.3s						
T1256				AML	AML		
	comp=E,1045μm,0.2s						
T1256				AML	AML		
	comp=N,1150μm,0.4s						
CSP1	**Cessapalombo**	**0.09**	**35**	⇑P	Pg	18 38 12.5	+0.4
CSP1				S	Sg	18 38 14.2	+0.4
CSP1				AML	AML		
	comp=E,790μm,0.4s						
CSP1				AML	AML		
	comp=N,1515μm,0.4s						
T1219	**Muccia, Frazio**	**0.10**	**293**	P	Pg	18 38 12.5	+0.4
T1219				S	Sg	18 38 14.5	+0.6
T1219				AML	AML		
	comp=E,1295μm,0.3s						
T1219				AML	AML		
	comp=N,1870μm,0.2s						
T1219				AML	AML		
	comp=N,1865μm,0.2s						
T1219				AML	AML		
	comp=E,1405μm,0.3s						
T1219				AML	AML		
	comp=E,1290μm,0.3s						
T1219				AML	AML		
	comp=N,1925μm,0.2s						
MC2	**Monte Cornacci**	**0.11**	**158**	⇑P	Pg	18 38 12.8	+0.4
MC2				S	Sg	18 38 15.0	+0.5
T1216	**Preci, Frazion**	**0.15**	**214**	⇑P	Pg	18 38 13.5	+0.6
T1216				S	Sg	18 38 16.1	+0.9
T1216				AML	AML		
	comp=E,799μm,0.3s						
T1216				AML	AML		
	comp=N,998μm,0.3s						
T1216				AML	AML		
	comp=N,996μm,0.3s						
CESI	**CESI - Serrava**	**0.17**	**266**	⇑P	Pg	18 38 13.9	+0.7
CESI				S	Sg	18 38 17.1	+1.4
CESI				AML	AML		
	comp=E,770μm,0.5s						
CESI				AML	AML		
	comp=N,794μm,0.2s						
NRCA	**Norcia**	**0.18**	**184**	P	Pg	18 38 14.1	+0.6
NRCA				S	Sg	18 38 17.4	+1.3
NRCA				AML	AML		
	comp=N,422μm,1.5s						
NRCA				AML	AML		
	comp=E,480μm,0.8s						
MMO1	**Montemonaco**	**0.18**	**129**	⇓P	Pg	18 38 14.0	+0.5
MMO1				S	Sg	18 38 17.2	+1.0
T1241	**Roccafluvione,**	**0.27**	**126**	⇓P	Pg	18 38 15.8	+0.8
T1241				S	Sb	18 38 20.5	-0.9
T1241				AML	AML		
	comp=N,129μm,0.7s						
T1241				AML	AML		
	comp=E,118μm,1.1s						
SNTG	**Esanatoglia**	**0.28**	**330**	⇓P	Pb	18 38 16.0	-0.7
SNTG				AML	AML		
	comp=E,85μm,0.7s						
SNTG				AML	AML		
	comp=N,100μm,1.1s						
T1215	**Vallo di Nera,**	**0.29**	**222**	⇑P	Pg	18 38 16.0	+0.7
T1215				S	Sb	18 38 20.7	-1.2
T1215				AML	AML		
	comp=E,123μm,0.4s						
T1215				AML	AML		
	comp=N,128μm,0.3s						
T1215				AML	AML		
	comp=N,128μm,0.3s						
EL6	**Elcito**	**0.31**	**356**	⇓P	Pg	18 38 16.6	+0.7
ASSB	**Assisi San Ben**	**0.35**	**274**	⇑P	Pg	18 38 17.1	+0.6
ASSB				AML	AML		
	comp=N,236μm,0.9s						
ASSB				AML	AML		
	comp=E,436μm,0.3s						
CING	**Cingoli**	**0.36**	**7**	⇑P	Pg	18 38 17.4	+0.7
CING				AML	AML		
	comp=E,136μm,0.8s						
CING				AML	AML		
	comp=N,99μm,0.2s						
FOSV	**Fossato di Vic**	**0.39**	**316**	P	Pb	18 38 18.3	-0.4
FOSV				AML	AML		
	comp=N,118μm,0.3s						
FOSV				AML	AML		
	comp=E,85μm,1.2s						
T1243	**Rocca Santa Ma**	**0.40**	**144**	⇓P	Pg	18 38 18.1	+0.7
ATCC	**AVT- Casa Cast**	**0.40**	**295**	⇑P	Pb	18 38 18.2	-0.6
ATCC				AML	AML		
	comp=N,176μm,0.3s						
ATCC				AML	AML		
	comp=E,355μm,0.6s						
SMA1	**SAN MARTINO**	**0.41**	**159**	⇑P	Pg	18 38 18.2	+0.6
SMA1				AML	AML		
	comp=N,100μm,0.2s						
SMA1				AML	AML		
	comp=E,83μm,0.5s						
SSFR	**Montelago di S**	**0.49**	**329**	⇑P	Pg	18 38 19.7	+0.6
SSFR				AML	AML		
	comp=N,150μm,0.2s						
SSFR				AML	AML		
	comp=E,154μm,1.6s						
ARVD	**Arcevia**	**0.50**	**344**	P	Pb	18 38 20.2	-0.4
ARVD				S	Sb	18 38 29.0	+1.0
ARVD				AML	AML		
	comp=E,71μm,0.2s						
ARVD				AML	AML		
	comp=N,50μm,0.1s						
CAMP	**Campotosto**	**0.52**	**157**	⇑P	Pg	18 38 20.0	+0.3
CAMP				AML	AML		
	comp=E,40μm,1.6s						
CAMP				AML	AML		
	comp=N,42μm,0.3s						
TERO	**Teramo**	**0.53**	**138**	⇑P	Pg	18 38 20.2	+0.5
TERO				AML	AML		
	comp=N,63μm,0.8s						
TERO				AML	AML		
	comp=E,71μm,1.0s						
PIEI	**Pieia**	**0.68**	**320**	P	Pg	18 38 23.1	+0.4
PIEI				AML	AML		
	comp=E,21μm,1.1s						
PIEI				AML	AML		
	comp=N,16μm,1.3s						

SOME ***27*** *18:39:09.0, 39.°28N×73.°75E, h5km*
KRNET ***27*** *18:39:11.7±0.1, 39.°35N×74.°15E, mb2.9*
NNC ***27*** *18:39:12.7±1.2, 39.°30N×74.°08E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=9.3km s-min=4.7km az=169.0*
ISC 27 18:39:17.3±1.5, 39.50N±0.07×73.94E±0.04, h10km, n29, σ1§65/48, 15C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
OHH	**Osh**	**1.35**	**319**	⇓*i*P	**Pn**	**18 39 41.5**	**-0.8**
	baz=19						
OHH				⇓*i*S	**Sn**	**18 40 03.2**	**+2.9**
	baz=19						
DRK	**Karamyk**	**1.65**	**270**	⇑*i*P	**Pn**	**18 39 45.8**	**-0.8**
	baz=75						
DRK				⇑*i*S	**Sg**	**18 40 10.7**	**+0.2**
	baz=75						
ARLS	**Aral**	**2.37**	**7**	⇑*i*P	**Pn**	**18 39 56.2**	**-0.2**
	baz=3.0						
ARLS				⇑*i*S	**Sb**	**18 40 28.6**	**-1.0**
	baz=3.0						
BTK	**Batken**	**2.47**	**284**	⇑*i*P	**Pn**	**18 39 57.6**	**0.0**
	baz=87						
BTK				⇑*i*S	**Sb**	**18 40 31.9**	**-0.3**
	baz=87						
NRN	**Naryn**	**2.49**	**39**	⇑*i*P	**Pn**	**18 39 55.9**	**-2.3**
	baz=33						
NRN				⇑*i*S	**Sn**	**18 40 28.2**	**-0.6**
	baz=33						
ARK	**Arkit**	**2.74**	**327**	⇓*i*P	**Pn**	**18 40 02.2**	**+0.8**
	baz=27						
ARK				⇓*i*S	**Sb**	**18 40 39.5**	**-0.6**
	baz=27						
TRKS	**Terek-Say**	**2.94**	**314**	⇑*i*P	**Pn**	**18 40 03.6**	**-0.6**
	baz=14						
TRKS				⇑*i*S	**Sn**	**18 40 42.4**	**+2.7**
	baz=14						
MRKS	**Merke**	**3.28**	**351**	*e*P	**Pb**	**18 40 13.8**	**-1.8**
	2.4nm,0.3s						
MRKS				*e*S	**Sg**	**18 41 00.5**	**-2.3**
	12nm,0.7s						
KST	**Kastek**	**3.85**	**23**	*e*P	**Pb**	**18 40 25.3**	**-0.1**
	1.8nm,0.3s						
KST				*e*S	**Sg**	**18 41 20.2**	**-0.7**
	9.8nm,0.9s						
KST	**Kastek**	**3.85**	**23**	Pg	**Pb**	**18 40 25.3**	**-0.1**
	1.8nm,0.3s						
KST				Lg	Lg	18 41 20.2	
	9.8nm,0.9s						
IUG	**Iuzhnay**	**3.97**	**313**	*e*P	**Pb**	**18 40 23.3**	**-4.1**
	6.5nm,0.4s						
IUG				*e*S	**Sb**	**18 41 16.9**	**+1.4**
	16nm,0.5s						
IUG	**Iuzhnay**	**3.97**	**313**	Pg	**Pb**	**18 40 23.3**	**-4.1**
	6.5nm,0.4s						
IUG				Lg	Lg	18 41 16.9	
	16nm,0.5s						
SGDS	**Sogindy**	**3.98**	**7**	*e*P	**Pb**	**18 40 27.4**	**-0.2**
	2.1nm,0.6s						
SGDS				*e*S	**Sg**	**18 41 23.8**	**-1.3**
	6.0nm,1.2s						
SGDS	**Sogindy**	**3.98**	**7**	Pg	**Pb**	**18 40 28.7**	**+1.1**
	4.1nm,0.5s						
SGDS				Lg	Lg	18 41 25.9	
	6.1nm,1.1s						
DGS	**Degeres**	**3.98**	**20**	*e*P	**Pb**	**18 40 28.0**	**+0.4**
	3.7nm,0.7s						
DGS				*e*S	**Sg**	**18 41 25.0**	**-0.2**
	5.8nm,1.1s						
DGS	**Degeres**	**3.98**	**20**	Pg	**Pb**	**18 40 28.0**	**+0.4**
	3.7nm,0.7s						
DGS				Lg	Lg	18 41 25.0	
	5.8nm,1.1s						
TNSS	**Tian-Shan**	**4.20**	**32**	*e*P	**Pb**	**18 40 30.9**	**-0.5**
	3.6nm,0.5s						
TNSS				*e*S	**Sg**	**18 41 30.0**	**-2.1**
	3.4nm,0.6s						
TNSS	**Tian-Shan**	**4.20**	**32**	Pg	**Pb**	**18 40 30.9**	**-0.5**
	3.6nm,0.5s						
TNSS				Lg	Lg	18 41 30.0	
	3.4nm,0.6s						
MDOK	**Medeo**	**4.34**	**32**	*e*P	**Pb**	**18 40 33.8**	**+0.1**
	4.3nm,0.7s						
MDOK				*e*S	**Sg**	**18 41 35.0**	**-1.7**
	6.9nm,1.0s						
MDOK	**Medeo**	**4.34**	**32**	Pg	**Pb**	**18 40 33.4**	**-0.4**
	5.6nm,0.8s						
MDOK				Pg	Pg	18 40 33.8	-6.6
	4.3nm,0.7s						
MDOK				Lg	Lg	18 41 35.0	
	6.9nm,1.0s						
MDOK				⇑Lg	Lg	18 41 35.8	
	8.7nm,0.8s						
KRBS	**Karabastau**	**4.39**	**17**	*e*P	**Pb**	**18 40 34.7**	**+0.2**
	1.4nm,0.4s						
KRBS				*e*S	**Sg**	**18 41 36.5**	**-1.7**
	2.6nm,0.8s						
KRBS	**Karabastau**	**4.39**	**17**	Pg	**Pb**	**18 40 34.7**	**+0.2**
	1.4nm,0.4s						
KRBS				Lg	Lg	18 41 36.5	
	2.6nm,0.8s						
KK31	**Karatay Array**	**4.43**	**325**	⇑Pn	**Pn**	**18 40 24.9**	**+0.4**
	0.3nm,0.3s,baz=140,slow=14,SNR=3.7						
KK31				⇓Pg	**Pb**	**18 40 37.3**	**+2.2**
	0.4nm,0.3s,baz=148,slow=16,SNR=4.0						
KK31				⇑Sn	**Sn**	**18 41 20.6**	**+4.5**
	2.5nm,0.7s						
KK31				⇓Lg	Lg	18 41 38.8	
	1.7nm,0.5s,baz=143,slow=28						
KOTS	**Kotyrbulak**	**4.43**	**32**	*e*P	**Pb**	**18 40 36.6**	**+1.4**
	4.4nm,0.4s						
KOTS				*e*S	**Sg**	**18 41 39.7**	**+0.3**
	10nm,1.1s						
KOTS	**Kotyrbulak**	**4.43**	**32**	Pg	**Pb**	**18 40 36.6**	**+1.4**
	4.4nm,0.4s						
KOTS				Lg	Lg	18 41 39.7	
	10nm,1.1s						
KTBS	**Karatobe**	**4.68**	**25**	*e*P	**Pb**	**18 40 41.2**	**+1.7**
	3.4nm,0.9s						
KTBS				*e*S	**Sg**	**18 41 47.4**	**-0.1**
	6.6nm,0.8s						
KTBS	**Karatobe**	**4.68**	**25**	Pg	**Pb**	**18 40 41.2**	**+1.7**
	3.4nm,0.9s						
KTBS				Lg	Lg	18 41 47.4	
	6.6nm,0.8s						
PDGK	**Podgornoye**	**5.66**	**46**	Pg	**Pb**	**18 40 57.2**	**+1.0**
	0.7nm,0.8s						
PDGK				Lg	Lg	18 42 15.0	
	1.9nm,0.9s						
PDGK	**Podgornoye**	**5.66**	**46**	⇑Pg	**Pb**	**18 40 57.9**	**+1.7**
	3.5nm,0.8s						
PDGK				⇑Lg	Lg	18 42 16.2	
	5.1nm,1.0s						

VIE ***27*** *18:39:47.3±0.3, 47.°00N×17.°24E, h14km, mb1.6/3, ml1.9/6, Error ellipse: s-maj=2.4km s-min=1.2km az=100.0 54 km ESE of Szombathely*
KRSZO ***27*** *18:39:47.7±0.8, 47.°01N×17.°22E, h11km±4km, ML2.1/15, Error ellipse: s-maj=2.9km s-min=2.6km az=25.0*
PRU ***27*** *18:39:54.0±0.0, 47.°53N×17.°38E, h13km*
ISC 27 18:39:47.6±1.0, 47.02N±0.02×17.19E±0.02, h9km±7km, n38, σ0§85/58, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
A261A	**Ohid**	**0.07**	**205**	Pg	**Pg**	**18 39 49.9**	**+0.2**
	comp=Z,8.2nm,SNR=116						
A261A				Lg	Lg	18 39 51.9	
MPLH	**Magyarpolny**	**0.28**	**57**	Pb	**Pg**	**18 39 53.3**	**+0.1**
	comp=Z,1.8nm,SNR=34						
MPLH				Sg	**Sb**	**18 39 58.5**	**-1.2**
MPLH	**Magyarpolny**	**0.28**	**57**	P	**Pg**	**18 39 53.3**	**+0.1**
MPLH				S	**Sb**	**18 39 58.5**	**-1.2**
A263A	**Hollad**	**0.39**	**167**	Lg	Lg	18 40 02.2	
EGYH	**Egyhazaskeszo**	**0.41**	**13**	Pg	**Pb**	**18 39 56.7**	**-0.4**
	comp=Z,0.3nm,SNR=5.6						
EGYH				Lg	Lg	18 40 03.7	
EGYH	**Egyhazaskeszo**	**0.41**	**13**	P	**Pb**	**18 39 56.7**	**-0.4**
EGYH				S	**Sb**	**18 40 03.7**	**+0.2**
A262A	**Szaknyer**	**0.48**	**252**	Pg	**Pg**	**18 39 57.7**	**+0.7**
	comp=Z,0.3nm,SNR=5.2						
A262A				Lg	Lg	18 40 07.1	
TIH	**Tihany**	**0.49**	**104**	Pg	**Pb**	**18 39 58.0**	**-0.5**
	comp=Z,0.7nm,SNR=6.1						
TIH	**Tihany**	**0.49**	**104**	P	**Pb**	**18 39 58.0**	**-0.5**
A268A	**Rede**	**0.65**	**50**	Pg	**Pg**	**18 40 00.7**	**+0.5**
	comp=Z,0.2nm,SNR=8.4						
A268A				Sn	**Sn**	**18 40 12.4**	**-1.0**
A265A	**Kaposfured**	**0.72**	**145**	Pn	**Pn**	**18 40 03.9**	**-0.1**
	comp=Z,0.3nm,SNR=3.9						
A265A				Sn	**Sn**	**18 40 15.5**	**+0.3**
A010A	**Fuerstenfeld**	**0.76**	**275**	Pg	**Pb**	**18 40 03.9**	**+0.7**
	comp=Z,0.1nm,SNR=3.3						
A010A				Sn	**Sn**	**18 40 15.6**	**-0.7**
SOP	**Sopron**	**0.79**	**327**	Sg	**Sb**	**18 40 15.7**	**+1.2**
SOP	**Sopron**	**0.79**	**327**	S	**Sb**	**18 40 15.7**	**+1.2**
CSKK	**Cskako**	**0.81**	**64**	Pn	**Pb**	**18 40 03.6**	**-0.2**
	comp=Z,0.1nm,SNR=3.8						
CSKK	**Cskako**	**0.81**	**64**	P	**Pb**	**18 40 03.6**	**-0.2**
KOGS	**Kog**	**0.86**	**229**	*i* Pg	**Pg**	**18 40 04.5**	**+0.2**
KOGS				*i* Sg	**Sb**	**18 40 17.3**	**+0.8**
RONA	**Rosalia, Austr**	**0.92**	**319**	*i* Pg	**Pg**	**18 40 05.5**	**+0.3**
	comp=Z,0.6nm,0.1s,SNR=5.1						
RONA				*e*Sg	**Sb**	**18 40 18.7**	**+0.7**
	comp=Z,4.0nm,0.2s						
A021A	**Deutsch Goritz**	**0.97**	**255**	Pn	**Pg**	**18 40 06.3**	**-0.1**
	comp=Z,0.1nm,SNR=3.7						
A021A				Sn	**Sb**	**18 40 20.0**	**+0.4**
A009A	**Wartmannstette**	**1.00**	**312**	Pn	**Pn**	**18 40 07.6**	**-0.3**
	comp=Z,0.1nm,SNR=1.8						
A009A				Sn	**Sn**	**18 40 21.9**	**-0.3**
SRO	**Srobarova**	**1.10**	**43**	*e*PG	**Pn**	**18 40 09.3**	**+0.1**
SRO				*e*SG	**Sn**	**18 40 27.3**	**+2.7**
SRO				*e*LG	Lg	18 40 30.8	
KOVH	**Kovagotottos**	**1.12**	**146**	Pg	**Pn**	**18 40 10.3**	**+0.8**
	SNR=2.9						
KOVH				Lg	Lg	18 40 23.1	
KOVH	**Kovagotottos**	**1.12**	**146**	P	**Pn**	**18 40 10.3**	**+0.8**
KOVH				S	**Sg**	**18 40 23.1**	**-0.6**
ARSA	**Arzberg**	**1.16**	**282**	*e*Pn	**Pb**	**18 40 09.5**	**-0.5**
	comp=Z,0.7nm,0.1s						
ARSA				*e*Sn	**Sg**	**18 40 24.7**	**-0.4**
	comp=Z,3.1nm,0.3s						
MORH	**Mrgy, Hungar**	**1.28**	**128**	Pn	**Pn**	**18 40 10.9**	**-0.9**
	comp=Z,0.1nm,SNR=2.2						
MORH				Lg	Lg	18 40 30.3	
MORH	**Mrgy, Hungar**	**1.28**	**128**	P	**Pn**	**18 40 10.9**	**-0.9**
MORH				S	**Sn**	**18 40 30.3**	**+1.3**
CONA	**Conrad Observa**	**1.28**	**316**	*e*Pn	**Pn**	**18 40 11.5**	**-0.4**
	comp=Z,0.3nm,0.1s						
CONA				*e*Sn	**Sg**	**18 40 29.1**	**+0.2**
	comp=Z,0.8nm,0.2s						
CONA	**Conrad Observa**	**1.28**	**316**	Pg	**Pg**	**18 40 12.8**	**+0.6**
	SNR=1.4						
A020A	**Lannach**	**1.30**	**268**	Pn	**Pn**	**18 40 11.4**	**-0.6**
	comp=Z,0.1nm,SNR=1.9						
DOBS	**Dobrina**	**1.47**	**234**	*i* Pn	**Pn**	**18 40 13.3**	**-1.0**
PERS	**Pernice**	**1.48**	**256**	*i* Pn	**Pn**	**18 40 14.5**	**0.0**
PERS				*i* Sn	**Sg**	**18 40 34.8**	**-0.3**
PERS				IAML		18 40 38.0	
	comp=Z,9.1nm,0.3s						
GOLS	**Golise**	**1.48**	**228**	*i* Pn	**Pn**	**18 40 13.4**	**-1.1**
SOKA	**Soboth**	**1.52**	**258**	*e*Pn	**Pn**	**18 40 15.0**	**-0.1**
	comp=Z,1.6nm,0.3s,SNR=6.8						
SOKA				Sn	**Sn**	**18 40 34.1**	**-1.0**
	comp=Z,1.8nm,0.3s						
VYHS	**Vyhne**	**1.85**	**36**	*e*PN	**Pb**	**18 40 22.0**	**+0.4**
VYHS				*e*SN	**Sg**	**18 40 48.8**	**+1.8**
OBKA	**Obir**	**1.89**	**255**	Pn	**Pn**	**18 40 19.8**	**-0.4**
	comp=Z,0.3nm,0.2s						
OBKA				Sn	**Sn**	**18 40 44.9**	**+0.7**
	comp=Z,1.4nm,0.3s						
KRUC	**Moravsky**	**2.11**	**346**	*e*PN	**Pn**	**18 40 22.1**	**-1.1**
KRUC				*e*SG	**Sn**	**18 40 47.7**	**-1.9**
MOA	**Molln**	**2.15**	**294**	*e*Pn	**Pn**	**18 40 23.9**	**+0.1**
	comp=Z,0.1nm,0.1s						
MOA				*e*Sn	**Sn**	**18 40 51.1**	**+0.5**
	comp=Z,0.8nm,0.3s						
KHC	**Kasperske Hory**	**3.22**	**312**	*e*SG	**Sg**	**18 41 29.5**	**-1.4**

GUC ***27*** *18:59:48.3±0.7, 22.°07S×67.°64W, h222km±7km, ML3.7*
SCB ***27*** *18:59:51.6±1.1, 22.°11S×67.°32W, h164km±1km, ML3.7/2, MW3.5, Error ellipse: s-maj=4.9km s-min=3.7km az=0.0*
ISC 27 18:59:47.4±2.0, 22.08S±0.05×67.34W±0.05, h186km±17km, n27, σ1§47/43, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
LVC	**Limon Verde**	**1.54**	**250**	P	**Pn**	**19 00 22.1**	**+1.4**
YJA	**Yavi**	**1.70**	**93**	P	**Pn**	**19 00 23.0**	**+0.7**
MOCB	**Mochara**	**1.79**	**63**	P	**Pn**	**19 00 23.9**	**+0.7**
MOCB				S	**Sn**	**19 00 47.5**	**-3.3**
MOCB				IAML		19 00 51.0	
	214nm,0.4s						
PB09	**IPOC Station P**	**1.79**	**279**	*e*P	**Pn**	**19 00 24.2**	**+1.3**
PB09				*i* S	**Sn**	**19 00 51.7**	**+1.4**
PB06	**IPOC Station P**	**2.16**	**253**	*e*P	**Pn**	**19 00 27.4**	**+0.6**
PB06				*i* S	**Sn**	**19 00 57.2**	**-0.1**
PB06				IAML		19 00 59.5	
	comp=E,214nm,0.1s						
PB06	**IPOC Station P**	**2.16**	**253**	P	**Pn**	**19 00 28.4**	**+1.6**
PB03	**IPOC Station P**	**2.24**	**270**	*e*P	**Pn**	**19 00 28.2**	**+0.6**
PB03				*i* S	**Sn**	**19 00 58.4**	**-0.6**
PB03				IAML		19 00 59.4	
	comp=N,231nm,0.1s						
PB01	**IPOC Station P**	**2.25**	**297**	⇓*e*P	**Pn**	**19 00 28.4**	**+0.6**
PB01				*i* S	**Sn**	**19 00 59.1**	**+0.1**
PB01				IAML		19 01 00.1	
	comp=N,292nm,0.3s						
PB15	**IPOC Station P**	**2.27**	**240**	*e*P	**Pn**	**19 00 28.7**	**+0.7**
PB15				*i* S	**Sn**	**19 01 00.0**	**+0.4**
PB15	**IPOC Station P**	**2.27**	**240**	P	**Pn**	**19 00 29.4**	**+1.4**
PB07	**IPOC Station P**	**2.39**	**278**	*e*P	**Pn**	**19 00 30.2**	**+0.8**
PB07				*i* S	**Sn**	**19 01 01.2**	**-0.8**
PB07				IAML		19 01 03.5	
	comp=N,234nm,0.2s						
PB02	**IPOC Station P**	**2.49**	**287**	*e*P	**Pn**	**19 00 31.0**	**+0.4**
PB02				*i* S	**Sn**	**19 01 02.8**	**-1.2**
PB02				IAML		19 01 04.0	
	comp=N,387nm,0.2s						
PB02	**IPOC Station P**	**2.49**	**287**	P	**Pn**	**19 00 31.4**	**+0.9**
PB02				S	**Sn**	**19 01 01.3**	**-2.7**
PB02				IAML		19 01 04.2	
	comp=N,421nm,0.3s						
PB08	**IPOC Station P**	**2.57**	**318**	*e*P	**Pn**	**19 00 33.5**	**+1.8**
PB08				*i* S	**Sn**	**19 01 06.9**	**+0.9**
PB04	**IPOC Station P**	**2.62**	**264**	P	**Pn**	**19 00 33.3**	**+1.3**
PATCX	**Punta Patache**	**2.91**	**295**	*e*P	**Pn**	**19 00 35.4**	**+0.1**
PATCX				*i* S	**Sn**	**19 01 11.1**	**-1.5**
GO01	**Chusmiza**	**2.96**	**324**	P	**Pn**	**19 00 37.9**	**+1.5**
HMBC	**Humberstone**	**2.98**	**307**	*e*P	**Pn**	**19 00 36.3**	**0.0**
HMBC				*i* S	**Sn**	**19 01 12.8**	**-1.5**
TA01	**Diego Aracena**	**3.05**	**299**	*e*P	**Pn**	**19 00 36.8**	**-0.1**
TA01				*i* S	**Sn**	**19 01 13.6**	**-2.0**
TA01	**Diego Aracena**	**3.05**	**299**	P	**Pn**	**19 00 37.7**	**+0.8**
PB11	**IPOC Station P**	**3.17**	**316**	*e*P	**Pn**	**19 00 38.8**	**+0.2**
PB11				*i* S	**Sn**	**19 01 17.4**	**-1.0**
PB10	**IPOC Station P**	**3.29**	**244**	*e*P	**Pn**	**19 00 39.8**	**-0.1**
PB10				*i* S	**Sn**	**19 01 19.0**	**-1.9**
GO02	**Mina Guanaco**	**3.70**	**213**	P	**Pn**	**19 00 46.0**	**+0.8**
PB12	**IPOC Station P**	**4.45**	**320**	*e*P	**Pn**	**19 00 53.4**	**-1.2**
PB12				*i* S	**Sn**	**19 01 44.3**	**-2.9**
SOEJ	**Jacaque**	**5.14**	**351**	P	**Pn**	**19 01 06.1**	**+2.1**
BBOE	**La Paz, Chanca**	**5.28**	**353**	P	**Pn**	**19 01 08.5**	**+2.8**
BBOD	**La Paz, Gloria**	**5.54**	**347**	P	**Pn**	**19 01 11.4**	**+2.2**

NOU ***27*** *19:03:25.7, 20.°89S×169.°47E, h0km, MLv4.1/12, Vanuatu Islands*
IDC ***27*** *19:03:26.3±7.7, 21.°53S×169.°78E, h69km±51km, mb3.1/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=151.9km s-min=44.8km az=158.0*
ISC 27 19:03:23.9±1.8, 21.0S±0.1×169.8E±0.2, h35km, n14, σ2§03/15, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
MARNC	**Mare, Loyal

ONTNC Ouen Toro 3.37 247 P Pn 19 04 16.4 +2.4
RTV Rentapao 3.45 338 P Pn 19 04 17.7 +2.4
DVP Devils Point 3.60 335 P Pn 19 04 19.0 +1.7
KOUNC Koumac, New Ca 5.18 274 P Pn 19 04 41.3 +2.4
WRA Warramunga Arr 33.19 265 P P 19 09 56.7 -1.0
0.4nm,1.0s,baz=102,slow=8.0,SNR=2.4
0.4nm,1.0s
ASAR Alice Springs 33.25 259 P P 19 09 57.1 -1.1
0.3nm,0.5s,baz=89,slow=9.0,SNR=10
0.3nm,0.5s
EKA Eskdalemuir Ar 145.32 353 PKPbc PKPbc 19 22 55.5 -2.1
0.5nm,0.4s,baz=2.8,slow=2.3,SNR=9.0
GERES GERESS Array B 146.29 331 PKPbc PKPdf 19 22 59.7 -0.1
0.3nm,0.8s,baz=48,slow=2.0,SNR=5.2

---

*LDG **27** 19:09:19.3±0.1, 43.̊01N×13.̊08E, h10km, Ml3.0/26, Error ellipse: s-maj=3.3km s-min=2.0km az=45.0*
*ROM **27** 19:09:19.5±0.0, 43.̊013N±0.̊002×13.̊079E±0.̊003, h9km, ML3.5/64, Error ellipse: s-maj=0.2km s-min=0.0km az=65.0*
*BGR **27** 19:09:21.8±0.7, 42.̊98N×13.̊25E, h10km, ML3.6/5, Error ellipse: s-maj=14.5km s-min=12.2km az=167.0*
*IDC **27** 19:09:21.9±1.9, 43.̊21N×13.̊15E, h0km, mb3.6/1, mbtmp3.6/4, ML3.5/3, MS2.8/4, Error ellipse: s-maj=36.2km s-min=18.8km az=89.0*
*PRU **27** 19:09:22.5±0.0, 43.̊08N×13.̊48E, h10km*
*GEN **27** 19:09:37.9, 43.̊67N×11.̊68E, h21km±6km, Ml1.3*
ISC 27 19:09:19.8±0.7, **43.̊00N**±0.̊01×**13.̊02E**±0.̊02, **h11**km±3km, **n239**, σ**2.̊32**/317, **41C-8D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.04**	**150**	⇑P	**Pg**	**19 09 21.7**	**-0.5**
FEMA				S	**Sg**	**19 09 23.2**	**-0.6**
FEMA				AML	AML		
FEMA				AML	AML		
T1219	**Muccia, Frazio**	**0.06**	**351**	⇑P	**Pg**	**19 09 21.7**	**-0.5**
T1219				S	**Sg**	**19 09 23.0**	**-0.9**
T1219				AML	AML		
	comp=E,87200µm,0.3s						
T1219				AML	AML		
T1219				AML	AML		
	comp=E,88350µm,0.3s						
T1219				AML	AML		
FDMO	**Fiordimonte**	**0.06**	**54**	P	**Pg**	**19 09 20.9**	**-1.2**
FDMO				S	**Sg**	**19 09 22.0**	**-1.9**
CESI	**CESI - Serrava**	**0.08**	**273**	⇑P	**Pg**	**19 09 23.0**	**+0.5**
CESI				S	**Sg**	**19 09 25.4**	**+1.0**
CESI				AML	AML		
	comp=E,91450µm,0.5s						
CESI				AML	AML		
	comp=N,67650µm,0.3s						
T1216	**Preci, Frazion**	**0.11**	**180**	⇑P	**Pg**	**19 09 23.0**	**+0.2**
T1216				S	**Sg**	**19 09 25.6**	**+0.7**
T1216				AML	AML		
	comp=E,73250µm,0.3s						
T1216				AML	AML		
	comp=E,73250µm,0.4s						
T1216				AML	AML		
	comp=N,55400µm,0.3s						
T1220	**Camerino, Fraz**	**0.12**	**25**	⇑P	**Pg**	**19 09 22.3**	**-0.6**
T1220				S	**Sg**	**19 09 24.5**	**-0.7**
T1256	**Bolognola (MC)**	**0.15**	**88**	⇑P	**Pg**	**19 09 22.6**	**-0.8**
T1256				S	**Sg**	**19 09 24.7**	**-1.3**
T1256				AML	AML		
	comp=N,66800µm,0.6s						
T1256				AML	AML		
T1256				AML	AML		
	comp=N,71200µm,0.6s						
T1256				AML	AML		
MC2	**Monte Cornacci**	**0.15**	**125**	P	**Pg**	**19 09 23.1**	**-0.4**
MC2				S	**Sg**	**19 09 25.8**	**-0.3**
SEF1	**Sefro**	**0.16**	**340**	P	**Pg**	**19 09 23.4**	**0.0**
SEF1				S	**Sg**	**19 09 27.0**	**+1.1**
SEF1				AML	AML		
SEF1				AML	AML		
	comp=N,86300µm,0.3s						
CSP1	**Cessapalombo**	**0.16**	**56**	⇑P	**Pg**	**19 09 22.7**	**-0.9**
CSP1				S	**Sg**	**19 09 25.2**	**-1.1**
CSP1				AML	AML		
CSP1				AML	AML		
	comp=N,86150µm,0.3s						
CSP1				AML	AML		
	comp=N,86200µm,0.3s						
NRCA	**Norcia**	**0.18**	**157**	⇑P	**Pg**	**19 09 23.9**	**+0.1**
NRCA				S	**Sg**	**19 09 27.4**	**+0.8**
NRCA				AML	AML		
	comp=E,92800µm,0.7s						
NRCA				AML	AML		
	comp=N,92350µm,0.2s						
NRCA				AML	AML		
	comp=E,99700µm,0.7s						
NRCA				AML	AML		
	comp=N,97300µm,0.2s						
PIO1	**Pioraco**	**0.18**	**352**	P	**Pg**	**19 09 23.7**	**-0.1**
T1221	**Campello sul C**	**0.19**	**222**	⇑P	**Pb**	**19 09 24.9**	**-0.4**
T1221				S	**Sg**	**19 09 29.1**	**+2.3**
FIU1	**Fiuminata**	**0.20**	**341**	P	**Pg**	**19 09 24.2**	**+0.1**
MDAR	**Monte D'Aria**	**0.21**	**25**	P	**Pg**	**19 09 23.8**	**-0.6**
MDAR				S	**Sg**	**19 09 27.5**	**0.0**
MDAR				AML	AML		
	comp=E,14350µm,1.3s						
MDAR				AML	AML		
	comp=E,14350µm,1.2s						
MDAR				AML	AML		
	comp=N,30750µm,0.3s						
T1215	**Vallo di Nera,**	**0.23**	**209**	⇑P	**Pb**	**19 09 25.4**	**-0.6**
T1215				S	**Sg**	**19 09 30.2**	**+2.4**
T1215				AML	AML		
	comp=E,10585µm,0.5s						
T1215				AML	AML		
	comp=N,9200µm,1.6s						
T1215				AML	AML		
	comp=N,9035µm,1.6s						
T1215				AML	AML		
	comp=E,10420µm,0.5s						
T1215				AML	AML		
	comp=N,9035µm,1.6s						
T1215				AML	AML		
	comp=N,9200µm,1.6s						
GUMA	**Gualdo di Mace**	**0.24**	**75**	⇑P	**Pg**	**19 09 24.4**	**-0.4**
GUMA				S	**Sg**	**19 09 28.3**	**+0.1**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
AM05	**Amandola Campo**	**0.25**	**95**	P	**Pg**	**19 09 24.5**	**-0.4**
AM05				S	**Sg**	**19 09 27.7**	**-0.7**
MMO1	**Montemonaco**	**0.25**	**114**	P	**Pg**	**19 09 24.6**	**-0.4**
MMO1				S	**Sg**	**19 09 28.2**	**-0.2**
T1212	**Cascia, Frazio**	**0.25**	**176**	⇑P	**Pg**	**19 09 25.4**	**+0.4**
T1212				S	**Sb**	**19 09 30.2**	**+1.7**
SSM1	**San Severino M**	**0.26**	**27**	P	**Pg**	**19 09 24.6**	**-0.5**
SSM1				S	**Sg**	**19 09 28.9**	**+0.2**
SNTG	**Esanatoglia**	**0.26**	**347**	P	**Pg**	**19 09 25.3**	**0.0**
SNTG				S	**Sg**	**19 09 29.8**	**+0.9**
SNTG				AML	AML		
	comp=E,28550µm,0.2s						
SNTG				AML	AML		
	comp=N,33000µm,0.2s						
SNTG				AML	AML		
	comp=E,28500µm,0.2s						
SNTG				AML	AML		
	comp=N,31650µm,0.2s						
ASSB	**Assisi San Ben**	**0.27**	**279**	⇓P	**Pb**	**19 09 26.1**	**-0.5**
ASSB				AML	AML		
	comp=E,32950µm,0.6s						
ASSB				AML	AML		
	comp=N,38250µm,0.4s						
T1213	**Norcia, Frazio**	**0.29**	**164**	P	**Pg**	**19 09 25.9**	**+0.3**
T1213				S	**Sg**	**19 09 31.0**	**+1.4**
T1217	**Poggiodomo (PG**	**0.29**	**193**	⇑P	**Pg**	**19 09 26.4**	**+0.6**
T1217				S	**Sb**	**19 09 32.2**	**+0.2**
T1244	**Arquata del Tr**	**0.32**	**140**	⇑P	**Pg**	**19 09 26.2**	**-0.1**
T1244				S	**Sg**	**19 09 31.6**	**+1.0**
T1202	**Accumoli, Fraz**	**0.33**	**153**	⇑P	**Pg**	**19 09 26.6**	**0.0**
T1202				S	**Sg**	**19 09 32.4**	**+1.4**
ATCC	**AVT- Casa Cast**	**0.33**	**304**	P	**Pb**	**19 09 27.2**	**-0.6**
ATCC				S	**Sb**	**19 09 33.7**	**+0.6**
ATCC				AML	AML		
	comp=N,27300µm,0.2s						
ATCC				AML	AML		
	comp=E,27350µm,0.2s						
EL6	**Elcito**	**0.33**	**10**	⇑P	**Pg**	**19 09 26.2**	**-0.4**
EL6				S	**Sg**	**19 09 31.6**	**+0.4**
EL6				AML	AML		
	comp=E,22350µm,0.9s						
EL6				AML	AML		
	comp=N,26350µm,0.3s						
T1241	**Roccafluvione,**	**0.34**	**115**	P	**Pg**	**19 09 26.1**	**-0.4**
T1241				S	**Sg**	**19 09 31.4**	**+0.4**
T1241				AML	AML		
T1241				AML	AML		
	comp=N,11755µm,0.4s						
T1241				AML	AML		
	comp=E,13360µm,1.3s						
T1241				AML	AML		
	comp=N,11785µm,0.4s						
T1241				AML	AML		
	comp=N,11380µm,0.4s						
T1241				AML	AML		
T1218	**Civita (PG)**	**0.34**	**168**	⇑P	**Pg**	**19 09 26.7**	**+0.1**
T1218				S	**Sb**	**19 09 32.7**	**-0.5**
T1218				AML	AML		
	comp=E,18950µm,0.9s						
T1218				AML	AML		
	comp=N,24900µm,0.2s						
T1218				AML	AML		
	comp=E,18100µm,0.9s						
T1218				AML	AML		
	comp=N,25250µm,0.2s						
FOSV	**Fossato di Vic**	**0.35**	**327**	⇓P	**Pg**	**19 09 27.1**	**+0.2**
FOSV				S	**Sb**	**19 09 33.4**	**-0.2**
FOSV				AML	AML		
	comp=E,14450µm,0.5s						
FOSV				AML	AML		
	comp=N,16950µm,0.4s						
MNTP	**Montappone**	**0.36**	**67**	⇑P	**Pg**	**19 09 26.8**	**-0.1**
MNTP				AML	AML		
	comp=N,26350µm,0.5s						
MNTP				AML	AML		
	comp=E,25650µm,0.2s						
T1201	**Domo (RI)**	**0.38**	**154**	⇑P	**Pg**	**19 09 27.6**	**+0.2**
T1201				S	**Sb**	**19 09 34.5**	**0.0**
T1204	**Amatrice, Fraz**	**0.39**	**146**	⇑P	**Pg**	**19 09 27.5**	**-0.1**
T1204				S	**Sg**	**19 09 34.0**	**+1.2**
CING	**Cingoli**	**0.40**	**19**	⇑P	**Pg**	**19 09 27.2**	**-0.5**
CING				S	**Sg**	**19 09 33.6**	**+0.6**
CING				AML	AML		
	comp=E,10260µm,0.8s						
CING				AML	AML		
	comp=N,11000µm,0.9s						
LNSS	**Leonessa**	**0.40**	**178**	⇑P	**Pg**	**19 09 27.9**	**+0.2**
LNSS				S	**Sb**	**19 09 35.2**	**+0.2**
LNSS				AML	AML		
	comp=E,6725µm,0.6s						
LNSS				AML	AML		
	comp=N,14450µm,0.8s						
SMA1	**SAN MARTINO**	**0.44**	**148**	⇑P	**Pg**	**19 09 28.2**	**-0.2**
SMA1				S	**Sg**	**19 09 35.3**	**+1.1**
SMA1				AML	AML		
	comp=N,11700µm,1.5s						
SMA1				AML	AML		
	comp=E,12950µm,1.0s						
T1243	**Rocca Santa Ma**	**0.44**	**134**	P	**Pg**	**19 09 27.9**	**-0.5**
T1243				S	**Sg**	**19 09 34.9**	**+0.6**
MMUR	**Monte Murano**	**0.44**	**358**	P	**Pg**	**19 09 28.6**	**+0.1**
MMUR				AML	AML		
	comp=N,20000µm,0.6s						
MMUR				AML	AML		
	comp=E,21700µm,1.2s						
MURB	**Monte Urbino**	**0.45**	**306**	P	**Pb**	**19 09 29.2**	**-0.5**
MURB				S	**Sb**	**19 09 37.1**	**+0.6**
MURB				AML	AML		
	comp=N,14400µm,1.0s						
MURB				AML	AML		
	comp=N,13100µm,0.2s						
MURB				AML	AML		
	comp=E,20350µm,1.3s						
MURB				AML	AML		
	comp=E,19500µm,0.4s						
ARRO	**Arrone**	**0.46**	**204**	⇑P	**Pb**	**19 09 29.4**	**-0.5**
ARRO				S	**Sb**	**19 09 36.8**	**+0.1**
ARRO				AML	AML		
	comp=E,6075µm,0.2s						
ARRO				AML	AML		
	comp=N,6310µm,0.2s						
SSFR	**Montelago di S**	**0.47**	**338**	⇑P	**Pg**	**19 09 29.1**	**0.0**
SSFR				AML	AML		
	comp=N,23400µm,1.3s						
SSFR				AML	AML		
	comp=E,24050µm,1.4s						
SSFR				AML	AML		
	comp=N,21700µm,0.2s						
SSFR				AML	AML		
	comp=E,23300µm,0.2s						
ATSC	**Scheggia e Pas**	**0.49**	**330**	⇓P	**Pg**	**19 09 29.4**	**0.0**
ATSC				S	**Sb**	**19 09 37.5**	**-0.1**
ATFO	**Monte Foce - G**	**0.49**	**318**	⇓P	**Pg**	**19 09 29.8**	**+0.3**
ATFO				S	**Sb**	**19 09 37.9**	**+0.2**
ATFO				AML	AML		
	comp=N,3980µm,1.3s						
ATFO				AML	AML		
	comp=E,5900µm,0.7s						
OFFI	**Offida**	**0.49**	**97**	P	**Pg**	**19 09 29.8**	**+0.3**
OFFI				AML	AML		
	comp=N,16550µm,0.5s						
OFFI				AML	AML		
	comp=E,14300µm,0.3s						
ARVD	**Arcevia**	**0.50**	**353**	P	**Pg**	**19 09 29.5**	**-0.2**
ARVD				S	**Sb**	**19 09 37.5**	**-0.4**
ARVD				AML	AML		
	comp=N,4815µm,0.2s						
ARVD				AML	AML		
	comp=E,10105µm,0.6s						
CESX	**Cesi**	**0.51**	**220**	⇑P	**Pb**	**19 09 30.2**	**-0.5**
CESX				S	**Sb**	**19 09 38.9**	**+0.9**
CESX				AML	AML		
	comp=E,12400µm,0.5s						
CESX				AML	AML		
	comp=N,13000µm,0.4s						
RM33	**Pellescritta (**	**0.51**	**164**	⇑P	**Pg**	**19 09 29.7**	**-0.1**
RM33				S	**Sb**	**19 09 38.2**	**-0.1**
RM33				AML	AML		
	comp=E,6130µm,0.7s						
RM33				AML	AML		
	comp=N,4100µm,0.4s						
RM33				AML	AML		
	comp=N,4115µm,0.4s						
RM33				AML	AML		
	comp=E,6040µm,0.7s						
T1246	**Crognaleto (TE**	**0.54**	**140**	⇑P	**Pg**	**19 09 29.8**	**-0.6**
T1246				S	**Sg**	**19 09 38.2**	**+0.6**
CAMP	**Campotosto**	**0.55**	**148**	P	**Pg**	**19 09 29.9**	**-0.5**
CAMP				S	**Sg**	**19 09 38.5**	**+0.8**
CAMP				AML	AML		
	comp=E,6495µm,0.9s						
CAMP				AML	AML		
	comp=N,4415µm,0.2s						
ATLO	**AVT- Montelove**	**0.55**	**305**	⇓P	**Pg**	**19 09 30.8**	**+0.3**
FRON	**Frontone**	**0.56**	**338**	⇑P	**Pg**	**19 09 30.6**	**-0.2**
FRON				S	**Sb**	**19 09 39.8**	**+0.2**
FRON				AML	AML		
	comp=E,5315µm,1.3s						
FRON				AML	AML		
	comp=N,8535µm,1.4s						
TB01	**Gubbio**	**0.57**	**312**	P	**Pg**	**19 09 31.2**	**+0.3**
TERO	**Teramo**	**0.57**	**131**	P	**Pg**	**19 09 30.3**	**-0.7**
TERO				S	**Sg**	**19 09 39.0**	**+0.5**
TERO				AML	AML		
	comp=N,5325µm,0.3s						
TERO				AML	AML		
	comp=E,5730µm,0.6s						
TERO				AML	AML		
	comp=N,5320µm,0.3s						
TERO				AML	AML		
	comp=N,5560µm,0.3s						
TERO				AML	AML		
	comp=E,5375µm,0.5s						
TB02	**Pietralunga**	**0.58**	**310**	P	**Pg**	**19 09 31.4**	**+0.3**
ATVO	**AVT- Monte Val**	**0.59**	**311**	⇓P	**Pg**	**19 09 31.5**	**+0.2**
ATVO				AML	AML		
	comp=E,2720µm,1.5s						
ATVO				AML	AML		
	comp=N,2465µm,0.7s						
T1247	**Pizzolo (AQ)**	**0.59**	**160**	⇑P	**Pg**	**19 09 31.1**	**-0.3**
T1247				AML	AML		
	comp=E,6300µm,1.4s						
T1247				AML	AML		
	comp=N,5710µm,0.6s						
TB03	**Pietralunga**	**0.60**	**312**	P	**Pb**	**19 09 31.8**	**-0.5**
ATVA	**AVT- Monte Val**	**0.60**	**298**	P	**Pb**	**19 09 32.4**	**0.0**
ATVA				S	**Sb**	**19 09 41.9**	**+1.0**
ATPC	**Poggio Castell**	**0.63**	**320**	P	**Pb**	**19 09 32.6**	**-0.3**
COR1	**Corinaldo**	**0.63**	**359**	P	**Pg**	**19 09 32.1**	**+0.1**
COR1				AML	AML		
	comp=N,6885µm,1.0s						
COR1				AML	AML		
	comp=N,6890µm,1.0s						
COR1				AML	AML		
	comp=E,4045µm,0.6s						
ATPI	**Pietralunga -**	**0.64**	**315**	⇓P	**Pg**	**19 09 32.4**	**+0.2**
ATPI				AML	AML		
	comp=N,2760µm,1.4s						
ATPI				AML	AML		
	comp=E,3755µm,0.6s						
PIEI	**Pieia**	**0.64**	**327**	P	**Pg**	**19 09 32.4**	**+0.1**
PIEI				AML	AML		
	comp=E,4300µm,1.4s						
PIEI				AML	AML		
	comp=N,3150µm,0.2s						
ATMI	**Monte Miggiano**	**0.64**	**302**	P	**Pb**	**19 09 33.5**	**+0.5**
ATMI				AML	AML		
	comp=E,4590µm,1.6s						
ATMI				AML	AML		
	comp=N,6495µm,0.6s						
MPAG	**Monte Paganucc**	**0.66**	**343**	P	**Pg**	**19 09 32.4**	**-0.2**
MPAG				AML	AML		
	comp=E,3405µm,0.2s						
MPAG				AML	AML		
	comp=E,3580µm,0.4s						
MPAG				AML	AML		
	comp=N,4170µm,0.7s						
MPAG				AML	AML		
	comp=N,4175µm,1.5s						
MGAB	**Montegabbione**	**0.67**	**263**	P	**Pb**	**19 09 33.7**	**+0.2**
MGAB				AML	AML		
	comp=E,4880µm,0.4s						
MGAB				AML	AML		
	comp=N,9005µm,0.4s						
GIGS	**Gran Sasso**	**0.68**	**143**	P	**Pg**	**19 09 32.0**	**-1.0**
GIGS				S	**Sg**	**19 09 42.1**	**+0.1**
GIGS				AML	AML		
	comp=E,1420µm,1.0s						
GIGS				AML	AML		
	comp=N,1335µm,1.5s						
TRTR	**Tortoreto Alta**	**0.69**	**106**	AML	AML		
	comp=E,13850µm,1.3s						
TRTR				AML	AML		
	comp=N,10535µm,0.4s						
NARO	**Abbazia di Nar**	**0.69**	**332**	P	**Pg**	**19 09 32.9**	**-0.2**
NARO				AML	AML		
	comp=E,2700µm,0.9s						
NARO				AML	AML		
	comp=N,2040µm,0.7s						
AOI	**Ancona**	**0.69**	**38**	P	**Pg**	**19 09 32.7**	**-0.6**
AOI				AML	AML		
	comp=E,3305µm,0.3s						
AOI				AML	AML		
	comp=N,2650µm,0.4s						
AQU	**L'Aquila**	**0.70**	**156**	⇑P	**Pg**	**19 09 32.9**	**-0.5**
AQU				AML	AML		
	comp=E,4690µm,1.3s						
AQU				AML	AML		
	comp=N,3500µm,1.6s						
AQU				AML	AML		
	comp=E,4660µm,1.2s						
AQU				AML	AML		
	comp=N,3540µm,1.2s						
AQU				AML	AML		
	comp=E,4685µm,1.3s						
APEC	**Apecchio**	**0.71**	**322**	P	**Pb**	**19 09 33.9**	**-0.3**
APEC				AML	AML		
	comp=N,3040µm,0.4s						
APEC				AML	AML		
	comp=E,3220µm,0.6s						
APEC				AML	AML		
	comp=N,3220µm,0.6s						
APEC				AML	AML		
	comp=E,3165µm,0.8s						
APEC				AML	AML		
	comp=E,3220µm,0.6s						
FSSB	**Fossombrone**	**0.71**	**346**	P	**Pg**	**19 09 33.4**	**-0.2**
FSSB				AML	AML		
	comp=N,17350µm,0.3s						
FSSB				AML	AML		
	comp=E,7390µm,0.4s						
SENI	**Senigallia**	**0.72**	**12**	AML	AML		
	comp=E,2965µm,0.8s						
SENI				AML	AML		
	comp=E,11830µm,0.3s						
SENI				AML	AML		
	comp=N,10790µm,0.3s						
SENI				AML	AML		
	comp=N,2650µm,0.9s						
SENI				AML	AML		
	comp=E,11805µm,0.3s						
SENI				AML	AML		
	comp=N,2645µm,0.9s						
SENI				AML	AML		
	comp=E,2970µm,0.8s						
SENI				AML	AML		
	comp=N,10790µm,0.3s						
FIAM	**Fiamignano**	**0.73**	**174**	⇑P	**Pg**	**19 09 33.5**	**-0.6**
FIAM				AML	AML		
	comp=E,2540µm,0.7s						
FIAM				AML	AML		
	comp=N,2820µm,0.5s						
BADI	**Badiali**	**0.76**	**312**	AML	AML		
	comp=E,120µm,0.5s						
BADI				AML	AML		
	comp=E,120µm,0.5s						
BADI				AML	AML		
	comp=N,1420µm,1.6s						
PE3	**Peglio**	**0.79**	**331**	P	**Pb**	**19 09 35.6**	**0.0**
SACS	**San Casciano d**	**0.83**	**260**	P	**Pn**	**19 09 36.8**	**-0.6**
SACS				AML	AML		
	comp=E,2065µm,0.6s						
SACS				AML	AML		
	comp=E,2045µm,0.7s						
SACS				AML	AML		
	comp=N,3095µm,0.7s						
SACS				AML	AML		
	comp=N,3065µm,0.7s						
FAGN	**Fagnano**	**0.84**	**150**	P	**Pg**	**19 09 35.0**	**-1.1**
FAGN				AML	AML		
	comp=E,6100µm,0.3s						
FAGN				AML	AML		
	comp=N,4660µm,0.7s						
VCEL	**Villa Celiera**	**0.86**	**135**	⇑P	**Pg**	**19 09 35.6**	**-0.7**
VCEL				AML	AML		
	comp=N,5150µm,1.4s						
VCEL				AML	AML		
	comp=E,4505µm,0.5s						
CPGN	**Carpegna, Ital**	**0.95**	**328**	P	**Pb**	**19 09 38.6**	**+0.3**
CPGN				AML	AML		
	comp=E,2175µm,1.3s						
CPGN				AML	AML		
	comp=N,3395µm,0.6s						
CPGN				AML	AML		
	comp=N,2055µm,0.6s						
CPGN				AML	AML		
	comp=E,2735µm,0.6s						
PESA	**Pesaro**	**0.95**	**352**	P	**Pg**	**19 09 37.3**	**-0.8**
PESA				AML	AML		
	comp=E,4280µm,1.2s						
PESA				AML	AML		
	comp=N,3545µm,0.4s						
T0110	**Collepietro**	**0.95**	**144**	⇑P	**Pg**	**19 09 36.9**	**-1.3**
T0110				AML	AML		
	comp=N,6165µm,0.5s						
T0110				AML	AML		
	comp=E,4345µm,0.5s						
CRE	**Caprese Michel**	**1.00**	**309**	P	**Pg**	**19 09 38.9**	**-0.1**
MCIV	**Monte Civitell**	**1.01**	**258**	P	**Pn**	**19 09 40.1**	**+0.1**
MCIV				AML	AML		
	comp=N,896µm,0.8s						
MCIV				AML	AML		
	comp=E,1223µm,0.9s						
SF04	**Casetta**	**1.01**	**261**	AML	AML		
	comp=E,1053µm,1.2s						
SF04				AML	AML		
	comp=N,834µm,0.9s						
PTQR	**Pietraquaria**	**1.02**	**164**	P	**Pb**	**19 09 38.7**	**-0.8**

PTQR				AML	AML			
	comp=E,1085µm,1.0s							
PTQR				AML	AML			
	comp=N,886µm,0.7s							
RSM	**Repubblica di**	**1.02**	**336**	P	**Pb**	**19 09 39.0**	**-0.4**	
CERT	**Cerreto**	**1.05**	**182**	P	**Pb**	**19 09 39.5**	**-0.5**	
CERT				AML	AML			
	comp=N,1780µm,1.3s							
CERT				AML	AML			
	comp=E,1955µm,0.4s							
ARCI	**Arcidosso**	**1.14**	**263**	AML	AML			
	comp=E,332µm,1.6s							
ARCI				AML	AML			
	comp=N,429µm,1.2s							
RCAV	**Rocca di Cave**	**1.15**	**183**	P	**Pb**	**19 09 40.8**	**-1.0**	
RCAV				AML	AML			
	comp=E,1256µm,1.3s							
RCAV				AML	AML			
	comp=N,1645µm,0.8s							
INTR	**Introdacqua**	**1.19**	**146**	P	**Pn**	**19 09 40.7**	**-1.7**	
INTR				AML	AML			
	comp=N,3590µm,0.6s							
INTR				AML	AML			
	comp=E,2µm,1.0s							
INTR				AML	AML			
	comp=N,2µm,0.8s							
INTR				AML	AML			
	comp=E,1490µm,1.0s							
ASQU	**Asqua**	**1.20**	**312**	P	**Pg**	**19 09 43.0**	**+0.1**	
ASQU				S	Sb	19 09 45.0	-13	
ASQU	**Asqua**	**1.20**	**312**	P	**Pb**	**19 09 42.4**	**-0.2**	
ASQU				AML	AML			
	comp=E,786µm,0.5s							
ASQU				AML	AML			
	comp=N,564µm,1.6s							
TOLF	**Tolfa**	**1.20**	**219**	P	**Pb**	**19 09 42.6**	**+0.1**	
TOLF				AML	AML			
	comp=E,1350µm,0.9s							
TOLF				AML	AML			
	comp=N,778µm,0.7s							
RMP	**Rome, Mte Porz**	**1.21**	**191**	P	**Pn**	**19 09 42.4**	**-0.2**	
RMP				AML	AML			
	comp=E,1575µm,1.1s							
RMP				AML	AML			
	comp=N,2135µm,0.7s							
VVLD	**Villa Vallelon**	**1.21**	**158**	P	**Pn**	**19 09 42.0**	**-0.7**	
VVLD				AML	AML			
	comp=E,1485µm,0.7s							
VVLD				AML	AML			
	comp=N,1300µm,1.1s							
GUAR	**Guarcino**	**1.22**	**170**	P	**Pn**	**19 09 42.9**	**+0.1**	
GUAR				AML	AML			
	comp=N,1485µm,0.6s							
GUAR				AML	AML			
	comp=E,1955µm,0.7s							
SFI	**Santa Sofia**	**1.24**	**317**	P	**Pb**	**19 09 43.4**	**+0.1**	
SFI				AML	AML			
	comp=N,732µm,1.1s							
SFI				AML	AML			
	comp=E,541µm,1.5s							
CAFR	**Castel Frentan**	**1.25**	**128**	P	**Pn**	**19 09 42.2**	**-0.9**	
CAFR				AML	AML			
	comp=E,1245µm,0.6s							
CAFR				AML	AML			
	comp=N,1125µm,0.7s							
CSNT	**Castellina Chi**	**1.35**	**291**	P	**Pn**	**19 09 44.1**	**-0.4**	
FROS	**Frosini**	**1.38**	**279**	P	**Pb**	**19 09 45.4**	**-0.2**	
FROS				AML	AML			
	comp=N,540µm,1.6s							
FROS				AML	AML			
	comp=E,692µm,0.6s							
POFI	**Posta Fibreno**	**1.38**	**158**	P	**Pn**	**19 09 44.7**	**-0.3**	
OSSC	**Osservatorio P**	**1.40**	**293**	P	**Pg**	**19 09 46.3**	**-0.3**	
OSSC	**Osservatorio P**	**1.40**	**293**	P	**Pb**	**19 09 45.9**	**0.0**	
OSSC				AML	AML			
	comp=N,410µm,0.5s							
OSSC				AML	AML			
	comp=N,342µm,0.9s							
OSSC				AML	AML			
	comp=E,390µm,1.4s							
OSSC				AML	AML			
	comp=E,358µm,0.8s							
LMD	**Lutirano**	**1.44**	**319**	P	**Pg**	**19 09 47.6**	**+0.2**	
LMD	**Lutirano**	**1.44**	**319**	P	**Pb**	**19 09 46.6**	**0.0**	
LMD				AML	AML			
	comp=E,527µm,0.6s							
LMD				AML	AML			
	comp=N,474µm,1.1s							
GIUL	**Giuliano Di Ro**	**1.45**	**173**	P	**Pb**	**19 09 46.9**	**0.0**	
RNI2	**Rionero Sannit**	**1.54**	**147**	P	**Pn**	**19 09 47.1**	**-0.2**	
BRIS	**BRISIGHELLA**	**1.59**	**317**	P	**Pn**	**19 09 48.4**	**+0.6**	
FRES	**Fresagrandinar**	**1.59**	**130**	P	**Pn**	**19 09 48.7**	**+0.8**	
CASP	**Castiglione de**	**1.60**	**263**	P	**Pn**	**19 09 48.2**	**+0.3**	
CASP				AML	AML			
	comp=E,110µm,1.0s							
CASP				AML	AML			
	comp=N,128µm,1.0s							
SEI	**Scarperia**	**1.60**	**312**	P	**Pb**	**19 09 49.3**	**-0.1**	
CRMI	**Carmignano**	**1.69**	**299**	P	**Pb**	**19 09 50.5**	**-0.3**	
CRMI	**Carmignano**	**1.69**	**299**	P	**Pb**	**19 09 50.3**	**-0.6**	
MTCR	**Monte La Croce**	**1.79**	**306**	P	**Pn**	**19 09 51.5**	**+0.7**	
FNVD	**Fontana Vidola**	**1.81**	**311**	P	**Pb**	**19 09 51.9**	**-1.0**	
BRJN	**Brijuni**	**1.98**	**15**	P	**Pn**	**19 09 53.6**	**+0.5**	
TREM	**Isole Tremiti**	**2.04**	**115**	P	**Pn**	**19 09 55.0**	**+1.0**	
GATE	**Gambatesa**	**2.04**	**136**	P	**Pn**	**19 09 53.8**	**-0.3**	
MAIM	**Mastiano**	**2.06**	**297**	P	**Pn**	**19 09 55.3**	**+1.1**	
MAIM				AML	AML			
	comp=N,136µm,0.5s							
MAIM				AML	AML			
	comp=E,134µm,0.6s							
BDI	**Bagni Di Lucca**	**2.06**	**302**	P	**Pn**	**19 09 55.2**	**+0.9**	
SGRT	**San Giovanni R**	**2.37**	**121**	P	**Pn**	**19 09 58.5**	**-0.2**	
EQUI	**Equi**	**2.39**	**300**	P	**Pn**	**19 10 00.3**	**+1.5**	
PLMA	**Palmaria, Port**	**2.53**	**296**	P	**Pn**	**19 10 01.8**	**+1.1**	
GRAM	**Graiana**	**2.61**	**306**	P	**Pn**	**19 10 02.7**	**+0.8**	
SKDS	**Skadanscina**	**2.64**	**15**	⇑*i* Pn	**Pn**	**19 10 02.8**	**+0.4**	
SKDS				*e*Sn	**Sn**	**19 10 34.4**	**0.0**	
SKDS				IAML		19 10 35.9		
	comp=Z,50nm,0.2s							
CEY	**Cerknica**	**2.92**	**20**	*e*Pn	**Pn**	**19 10 06.5**	**+0.4**	
A050A	**Klekovaca**	**2.94**	**59**	*e*Pn	**Pn**	**19 10 07.8**	**+1.3**	
PGF	**Pioggiola**	**2.99**	**263**	*e*P	**Pn**	**19 10 08.8**	**+1.6**	
PGF				*e*Sn	**Sn**	**19 10 40.1**	**-3.0**	
	comp=Z,20nm,0.8s							
SABO	**M.te Sabotino**	**3.01**	**8**	P	**Pn**	**19 10 07.9**	**+0.6**	
SABO				AML	AML			
	comp=E,458µm,0.6s							
SABO				AML	AML			
	comp=N,418µm,1.3s							
SABO				AML	AML			
	comp=N,1625µm,1.3s							
SABO				AML	AML			
	comp=E,1765µm,0.6s							
DOSS	**Dosso del Somm**	**3.17**	**336**	P	**Pn**	**19 10 10.7**	**+1.0**	
SRKY	**Kupres RS**	**3.20**	**69**	*e*Pn	**Pn**	**19 10 10.3**	**+0.3**	
CTI	**Castel Tesino**	**3.20**	**343**	P	**Pn**	**19 10 10.5**	**+0.4**	
STAL	**STALIGIAL**	**3.27**	**356**	P	**Pn**	**19 10 11.6**	**+0.7**	
STAL				AML	AML			
	comp=N,218µm,1.3s							
STAL				AML	AML			
	comp=E,278µm,1.5s							
MGRS	**Mrkonjic Grad**	**3.27**	**63**	*e*Pn	**Pn**	**19 10 11.6**	**+0.6**	
LUSI	**Trento, Gardas**	**3.31**	**334**	P	**Pn**	**19 10 12.4**	**+0.8**	
CIMO	**Cimolais**	**3.33**	**353**	P	**Pn**	**19 10 12.4**	**+0.5**	
CIMO				AML	AML			
	comp=E,110µm,1.4s							
CIMO				AML	AML			
	comp=E,102µm,1.4s							
CIMO				AML	AML			
	comp=N,92µm,1.0s							
CIMO				AML	AML			
	comp=N,76µm,1.1s							
PTCC	**Patocco-Chiusa**	**3.41**	**4**	P	**Pn**	**19 10 13.4**	**+0.4**	
PTCC				AML	AML			
	comp=E,108µm,0.9s							
PTCC				AML	AML			
	comp=N,80µm,1.6s							
STON	**Ston**	**3.44**	**91**	*e*Pn	**Pn**	**19 10 13.1**	**-0.1**	
STON	**Ston**	**3.44**	**91**	AML	AML			
	comp=E,54µm,1.5s							
STON				AML	AML			
	comp=N,64µm,1.3s							
A051A	**Mrakovica**	**3.45**	**53**	*e*Pn	**Pn**	**19 10 15.2**	**+1.7**	
BLY	**Banja Luka**	**3.48**	**58**	*e*Pn	**Pn**	**19 10 14.7**	**+0.9**	
MATE	**Matera**	**3.62**	**129**	⇑P	**Pn**	**19 10 19.3**	**+3.6**	
KOSI	**Kohlern**	**3.66**	**342**	P	**Pn**	**19 10 17.4**	**+1.0**	
MYKA	**Terra Mystica**	**3.66**	**7**	*e*Pn	**Pn**	**19 10 17.4**	**+1.1**	
	comp=N,4.7nm,0.2s,SNR=7.5							
OBKA	**Obir**	**3.67**	**17**	*e*Pn	**Pn**	**19 10 16.8**	**+0.2**	
OBKA	**Obir**	**3.67**	**17**	*i* Pn	**Pn**	**19 10 17.5**	**+1.0**	
	comp=N,1.4nm,0.2s							
OBKA	**Obir**	**3.67**	**17**	*e*Pn	**Pn**	**19 10 17.6**	**+1.0**	
ABTA	**Abfaltersbach**	**3.76**	**355**	*e*Pn	**Pn**	**19 10 19.4**	**+1.6**	
	comp=N,16nm,0.4s,SNR=19							
SOKA	**Soboth**	**3.95**	**21**	*e*Pn	**Pn**	**19 10 21.4**	**+1.1**	
	comp=N,0.8nm,0.2s							
BRY	**Bratogost**	**4.05**	**90**	*e*Pn	**Pn**	**19 10 23.2**	**+1.4**	
HCY	**Herceg Novi**	**4.07**	**96**	*e*Pn	**Pn**	**19 10 23.0**	**+1.1**	
KBA	**Koelnbreinsper**	**4.08**	**3**	*e*Pn	**Pn**	**19 10 24.2**	**+1.9**	
	comp=N,5.2nm,0.3s,SNR=5.1							
KBA	**Koelnbreinsper**	**4.08**	**3**	*e*Pn	**Pn**	**19 10 24.5**	**+2.2**	
KBA				*e*Sn	**Sn**	**19 11 10.7**	**+0.6**	
SBF	**Sospel**	**4.16**	**284**	*e*P	**Pn**	**19 10 25.0**	**+1.8**	
SBF				*e*Sn	**Sn**	**19 11 07.8**	**-4.0**	
	comp=N,12nm,0.4s							
UPM	**Unac-Piva**	**4.32**	**85**	*e*Pn	**Pn**	**19 10 28.0**	**+2.5**	
FETA	**Feichten**	**4.34**	**339**	*e*Pn	**Pn**	**19 10 28.4**	**+2.6**	
	comp=N,8.7nm,0.7s							
WTTA	**Wattenberg**	**4.37**	**348**	*e*Pn	**Pn**	**19 10 28.7**	**+2.5**	
	comp=N,2.3nm,0.2s							
WTTA	**Wattenberg**	**4.37**	**348**	*e*Pn	**Pn**	**19 10 29.1**	**+2.8**	
WTTA				*e*Sn	**Sn**	**19 11 21.3**	**+4.0**	
DAVOX	**Davos/Dischmat**	**4.39**	**331**	Pn	**Pn**	**19 10 30.0**	**+3.5**	
	comp=N,5.0nm,0.3s,baz=149,slow=16,SNR=32							
DAVOX				Sn	**Sn**	**19 11 20.9**	**+3.2**	
	comp=N,1.0nm,0.3s,baz=131,slow=20,SNR=1.6							
	comp=N,12nm,0.3s							
SQTA	**Sankt Quirin**	**4.41**	**344**	*e*Pn	**Pn**	**19 10 29.1**	**+2.4**	
	comp=N,8.1nm,0.2s,SNR=9.2							
WATA	**Walderalm**	**4.45**	**347**	*e*Pn	**Pn**	**19 10 30.3**	**+3.0**	
	comp=N,5.2nm,0.2s,SNR=9.6							
MOTA	**Moosalm**	**4.55**	**343**	*e*Pn	**Pn**	**19 10 31.2**	**+2.5**	
	comp=N,2.6nm,0.2s,SNR=7.7							
ARSA	**Arzberg**	**4.60**	**22**	*e*Pn	**Pn**	**19 10 29.4**	**+0.1**	
	comp=N,1.3nm,0.3s							
ARSA	**Arzberg**	**4.60**	**22**	*e*Pn	**Pn**	**19 10 30.3**	**+1.0**	
ARSA				*e*Sn	**Sn**	**19 11 20.5**	**-2.2**	
DRME	**Dracevica, Mon**	**4.62**	**98**	*e*Pn	**Pn**	**19 10 30.6**	**+1.1**	
PDG	**Podgorica**	**4.63**	**95**	⇑P	**Pn**	**19 10 31.7**	**+2.1**	
BIOA	**Bad Ischl, Aus**	**4.71**	**5**	*e*Pn	**Pn**	**19 10 32.3**	**+1.5**	
	comp=N,16nm,0.3s,SNR=16							
BBLS	**Lazići**	**4.73**	**77**	*e*Pn	**Pn**	**19 10 32.4**	**+1.3**	
RJOB	**Jochberg**	**4.74**	**358**	*e*Pn	**Pn**	**19 10 35.1**	**+3.9**	
RJOB				*e*Sn	**Sn**	**19 11 29.7**	**+3.5**	
RETA	**Reutte**	**4.76**	**341**	*i* Pn	**Pn**	**19 10 34.3**	**+2.9**	
	comp=N,1.5nm,0.2s							
KOVH	**Kovagotottos**	**4.77**	**48**	P	**Pn**	**19 10 31.3**	**-0.2**	
KOVH				S	**Sn**	**19 11 22.8**	**-3.9**	
LMR	**La Mourre**	**4.77**	**276**	*e*P	**Pn**	**19 10 32.7**	**+1.1**	
LMR				*e*Sn	**Sn**	**19 11 22.7**	**-4.2**	
	comp=N,1.4nm,0.4s							
PLONS	**Plons/SG**	**4.80**	**329**	*e*Pn	Pn	19 10 36.8	+4.8	
PLONS				*e*Sn	**Sn**	**19 11 32.9**	**+5.2**	
OBER	**Oberstdorf**	**4.81**	**337**	*e*Pn	**Pn**	**19 10 36.4**	**+4.2**	
OBER				*e*Sn	**Sn**	**19 11 32.6**	**+4.8**	
DAVA	**Damuels**	**4.83**	**334**	*e*Pn	**Pn**	**19 10 36.5**	**+4.0**	
	comp=N,5.0nm,0.5s							
DAVA	**Damuels**	**4.83**	**334**	*e*Pn	**Pn**	**19 10 36.7**	**+4.3**	
MBDF	**Montbardon**	**4.84**	**293**	*e*P	**Pn**	**19 10 35.0**	**+2.4**	
MBDF				*e*Sn	**Sn**	**19 11 24.0**	**-4.6**	
	comp=N,7.0nm,0.6s							
MOA	**Molln**	**4.93**	**10**	*e*Pn	**Pn**	**19 10 35.1**	**+1.4**	
	comp=N,4.4nm,0.3s							
MOA	**Molln**	**4.93**	**10**	*e*Pn	**Pn**	**19 10 35.6**	**+1.8**	
MOA				*e*Sn	**Sn**	**19 11 31.7**	**+1.0**	
UBR	**Ueberruh**	**5.11**	**337**	*e*Pn	Pn	19 10 41.1	+4.8	
UBR				*e*Sn	**Sn**	**19 11 39.2**	**+4.0**	
MORH	**Mrgy, Hungar**	**5.14**	**49**	⇑P	**Pn**	**19 10 40.7**	**+4.1**	
LPL	**La Plagne**	**5.17**	**301**	*e*P	**Pn**	**19 10 40.0**	**+2.8**	
LPL				*e*Sn	**Sn**	**19 11 31.9**	**-5.0**	
	comp=N,5.5nm,0.4s							
DIVS	**Divibare**	**5.18**	**75**	*e*Pn	**Pn**	**19 10 35.0**	**-2.3**	
RONA	**Rosalia, Austr**	**5.24**	**25**	*e*Pn	**Pn**	**19 10 39.2**	**+1.2**	
	comp=N,0.9nm,0.3s							
CONA	**Conrad Observa**	**5.32**	**21**	*e*Pn	**Pn**	**19 10 39.9**	**+0.7**	
	comp=N,1.4nm,0.3s							
FRGS	**Fruska Gora**	**5.35**	**64**	*e*Pn	Pn	19 10 32.1	-7.4	
TIR	**Tirane**	**5.35**	**106**	⇑P	**Pn**	**19 10 38.8**	**-0.7**	
ORIF	**Oris-en-Rattie**	**5.50**	**293**	*e*P	**Pn**	**19 10 44.5**	**+2.9**	
ORIF				*e*Sn	**Sn**	**19 11 39.7**	**-5.2**	
	comp=N,3.2nm,0.5s							
SMRF	**Simiane la Rot**	**5.50**	**283**	*e*P	**Pn**	**19 10 44.3**	**+2.6**	
SMRF				*e*Sn	**Sn**	**19 11 39.8**	**-5.1**	
	comp=N,1.4nm,0.4s							
SLE	**Schleitheim**	**5.73**	**328**	*e*Pn	**Pn**	**19 10 46.4**	**+1.6**	
BALST	**Balsthal**	**5.74**	**321**	*e*Pn	**Pn**	**19 10 46.6**	**+1.7**	
BALST				*e*Sn	**Sn**	**19 11 51.3**	**+0.6**	
GEC2	**GERESS Array S**	**5.87**	**4**	*e*Pn	**Pn**	**19 10 47.8**	**+1.1**	
GEC2				*e*Sn	**Sn**	**19 11 53.0**	**-0.9**	
GERES	**GERESS Array B**	**5.87**	**4**	Pn	**Pn**	**19 10 46.9**	**+0.2**	
	comp=N,1.1nm,0.3s,baz=179,slow=13,SNR=32							
GERES				Sn	**Sn**	**19 11 53.2**	**-0.7**	
	comp=N,2.7nm,0.3s,baz=186,slow=26,SNR=9.6							
	comp=N,1.6nm,0.4s							
CKRC	**Cesky Krumlov**	**5.89**	**8**	*e*PN	**Pn**	**19 10 47.3**	**+0.4**	
CKRC				*e*SN	**Sn**	**19 11 52.7**	**-1.7**	
BERGE	**Lenzkirch (DE)**	**5.94**	**327**	*e*Pn	**Pn**	**19 10 49.8**	**+2.0**	
BERGE				*e*Sn	**Sn**	**19 11 54.5**	**-1.3**	
OHR	**Ohrid**	**6.09**	**105**	*i* Pn	**Pn**	**19 10 52.3**	**+2.5**	
CABF	**La Chapelle**	**6.11**	**309**	*e*P	**Pn**	**19 10 52.6**	**+2.6**	
CABF				*e*Sn	**Sn**	**19 11 54.2**	**-5.7**	
	comp=N,9.1nm,0.8s							
KHC	**Kasperske Hory**	**6.14**	**3**	*e*PN	**Pn**	**19 10 51.1**	**+0.7**	
KHC				*e*SN	**Sn**	**19 11 58.4**	**-2.3**	
MODS	**Modra-Piesok**	**6.14**	**28**	*e*PN	**Pn**	**19 10 53.5**	**+3.1**	
MODS				*e*SN	**Sn**	**19 11 54.8**	**-5.9**	
BFO	**Black Forest**	**6.26**	**330**	*e*Pn	**Pn**	**19 10 55.0**	**+3.0**	
BFO				*e*Sn	**Sn**	**19 12 03.5**	**-0.1**	
VIVF	**Saint-Julien-l**	**6.31**	**290**	*e*P	**Pn**	**19 10 55.6**	**+2.9**	
HINF	**Hinteralfeld**	**6.48**	**320**	*e*P	**Pn**	**19 10 56.2**	**+1.1**	
HINF				*e*Sn	**Sn**	**19 12 02.8**	**-6.2**	
	comp=N,12nm,0.6s							
ECH	**Echery**	**6.64**	**324**	*e*Pn	**Pn**	**19 10 58.7**	**+1.5**	
BZS	**Buzias**	**6.70**	**64**	⇑P	**Pn**	**19 10 59.2**	**+1.2**	
CDF	**Champ du Feu**	**6.74**	**325**	*e*P	**Pn**	**19 11 00.0**	**+1.3**	
CDF				*e*Sn	**Sn**	**19 12 08.8**	**-6.6**	
	comp=N,9.8nm,0.6s							
LASF	**Ste Croix**	**6.75**	**282**	*e*Pn	**Pn**	**19 10 56.8**	**-1.9**	
LASF				*e*Sn	**Sn**	**19 12 09.6**	**-5.9**	
	comp=N,0.2nm,0.2s							
VRAC	**Vranov**	**6.78**	**20**	LR	LR	19 14 11.9		
	comp=N,54nm,18.1s,baz=167,slow=44							
ROTZ	**Rotzenmuhle**	**6.79**	**356**	*e*Pn	**Pn**	**19 11 01.2**	**+1.9**	
ROTZ				*e*Sn	**Sn**	**19 12 12.1**	**-4.5**	
VYHS	**Vyhne**	**6.83**	**35**	*e*PN	**Pn**	**19 11 02.2**	**+2.3**	
VYHS				*e*SN	Sn	19 12 07.9	-10	
HAU	**Haudompre**	**6.86**	**319**	*e*P	**Pn**	**19 11 01.3**	**+1.1**	
HAU				*e*Sn	**Sn**	**19 12 11.6**	**-6.6**	
	comp=N,13nm,0.4s							
STIP	**Stip**	**6.92**	**98**	*i* Pn	**Pn**	**19 11 04.2**	**+3.2**	
PRU	**Pruhonice**	**7.07**	**8**	*e*SN	**Sn**	**19 12 19.4**	**-3.9**	
NKC	**Novy Kostel**	**7.25**	**357**	*e*SN	**Sn**	**19 12 25.3**	**-2.5**	
GZR	**Gura Zlata**	**7.41**	**68**	⇓P	**Pn**	**19 11 08.1**	**+0.3**	
SMF	**Signal de Mont**	**7.47**	**302**	*e*P	**Pn**	**19 11 11.7**	**+3.0**	
SMF				*e*Sn	**Sn**	**19 12 26.7**	**-6.6**	
	comp=N,3.3nm,0.5s							
VTS	**Vitosha**	**7.52**	**89**	⇑P	**Pn**	**19 11 08.2**	**-1.3**	
PAGF	**Fort de Pagny**	**7.54**	**320**	*e*P	**Pn**	**19 11 12.6**	**+3.1**	
PAGF				*e*Sn	**Sn**	**19 12 27.7**	**-7.2**	
	comp=N,12nm,0.7s							
LOR	**Lormes**	**7.75**	**307**	*e*P	**Pn**	**19 11 15.2**	**+2.7**	
	baz=120							
LOR				*e*Sn	**Sn**	**19 12 33.3**	**-7.0**	
	comp=N,6.1nm,0.5s							
KEST	**Kesra**	**7.79**	**203**	Pn	Pn	19 11 19.8	+6.7	
	comp=N,0.3nm,0.3s,baz=324,slow=8.7,SNR=7.7							
	comp=N,2.1nm,0.6s							
MEZF	**Maizieres J'vi**	**7.83**	**317**	*e*P	**Pn**	**19 11 17.1**	**+3.6**	
MEZF				*e*Sn	**Sn**	**19 12 35.1**	**-6.9**	
	comp=N,53nm,1.4s							
AVF	**Avril sur Loir**	**7.84**	**302**	*e*P	**Pn**	**19 11 17.3**	**+3.6**	
AVF				*e*Sn	**Sn**	**19 12 35.4**	**-6.9**	
	comp=N,1.7nm,0.7s							
SSF	**Saint Saulge**	**7.87**	**304**	*e*P	**Pn**	**19 11 17.5**	**+3.5**	
SSF				*e*Sn	**Sn**	**19 12 36.1**	**-6.9**	
	comp=N,1.4nm,0.4s							
SAVF	**Savonnieres en**	**7.87**	**318**	*e*P	**Pn**	**19 11 17.8**	**+3.8**	
SAVF				*e*Sn	**Sn**	**19 12 35.8**	**-7.2**	
	comp=N,5.6nm,0.7s							
MTLF	**Montolieu**	**7.91**	**276**	*e*P	**Pn**	**19 11 18.1**	**+3.5**	
BGF	**Bois d'Agland**	**8.06**	**300**	*e*P	**Pn**	**19 11 20.1**	**+3.4**	
BGF				*e*Sn	**Sn**	**19 12 41.0**	**-6.8**	
	comp=N,4.8nm,0.5s							
CAF	**Calviac**	**8.13**	**287**	*e*P	**Pn**	**19 11 20.3**	**+2.5**	
CAF				*e*Sn	**Sn**	**19 12 42.8**	**-6.9**	
	comp=N,0.6nm,0.3s							
CLL	**Collm**	**8.31**	**360**	*e*Pn	**Pn**	**19 11 22.0**	**+1.9**	
CLL				*e*Sn	Sn	19 12 37.0	-17	
CLL				*ex*	x	19 13 09.0		
CLL				*e*Sg	**Sg**	**19 13 43.0**	**-3.3**	
	comp=Z,22nm,1.6s							
CLL				LmH		19 14 00.0		
	comp=N,100nm,18.8s							
CLL				LmH		19 14 00.0		
	comp=E,100nm,18.1s							
TCF	**Toulx Ste Croi**	**8.38**	**297**	*e*P	**Pn**	**19 11 24.7**	**+3.6**	
TCF				*e*Sn	**Sn**	**19 12 48.4**	**-7.2**	
	comp=E,0.6nm,0.3s							
RJF	**Les Rejaudoux**	**8.59**	**289**	*e*P	**Pn**	**19 11 27.4**	**+3.5**	
RJF				*e*Sn	**Sn**	**19 12 53.5**	**-7.2**	
	comp=E,0.3nm,0.2s							
LFF	**La Frestale**	**9.07**	**287**	*e*P	**Pn**	**19 11 33.9**	**+3.4**	
EPF	**Esparros**	**9.29**	**275**	*e*P	**Pn**	**19 11 35.8**	**+2.2**	
GRR	**Gorron**	**11.10**	**304**	*e*P	**Pn**	**19 12 01.6**	**+3.3**	
BRTR	**Keskin Array B**	**15.82**	**95**	LR	LR	19 18 55.7		
	comp=E,44nm,19.3s,baz=324,slow=36							
MDT	**Midelt**	**17.20**	**240**	LR	LR	19 20 13.1		
	comp=E,32nm,20.5s,baz=2.5,slow=37							
NOA	**NORSAR Array B**	**18.10**	**357**	LR	LR	19 20 30.6		
	comp=E,31nm,18.6s,baz=290,slow=37							
MKAR	**Makanchi Array**	**47.77**	**60**	P		**19 17 59.6**	**+2.8**	
	comp=E,0.7nm,0.8s,baz=286,slow=5.8,SNR=5.0							
	comp=E,0.7nm,0.8s							

LDG ***27*** *19:34:28.5±0.1,42°.99N×13°.07E,h10km,Ml3.3/26,Error ellipse: s-maj=2.7km s-min=1.9km az=50.0*
ROM ***27*** *19:34:28.5±0.0,43°.012N±0°.001×13°.074E±0°.003, h9km,ML3.6/100,Error ellipse: s-maj=0.2km s-min=0.1km az=65.0*
IDC ***27*** *19:34:31.0±1.9,43°.21N×13°.32E,h0km,mb3.5/1, mbtmp3.6/6,ML3.5/5,MS2.9/7,Error ellipse: s-maj=33.6km s-min=18.9km az=89.0*
BEO ***27*** *19:34:30.7±0.8,42°.86N×12°.98E,h34km±6km,ML3.7/8*
PRU ***27*** *19:34:30.0±0.0,42°.99N×13°.59E,h10km*
BGR ***27*** *19:34:31.2±0.6,43°.00N×13°.22E,h10km,ML3.6/6,Error ellipse: s-maj=14.5km s-min=12.2km az=3.0*
GEN ***27*** *19:34:56.4,43°.88N×10°.99E,h15km±12km,Ml1.3*

ISC 27 19:34:28.6±0.7,43°.00N±0°.01×13°.05E±0°.01,h11km±3km, n313,σ2ş18/404,34C-20D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.04**	**184**	⇑P	**Pg**	**19 34 30.7**	**-0.2**
FEMA				S	**Sg**	**19 34 32.5**	**0.0**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FDMO	**Fiordimonte**	**0.04**	**35**	⇓P	**Pg**	**19 34 30.1**	**-0.8**
FDMO				AML	AML		
FDMO				AML	AML		
T1219	**Muccia, Frazio**	**0.06**	**328**	P	**Pg**	**19 34 30.8**	**-0.2**
T1219				S	**Sg**	**19 34 32.3**	**-0.5**
CESI	**CESI - Serrava**	**0.11**	**272**	⇑P	**Pg**	**19 34 32.0**	**+0.4**
CESI				S	**Sg**	**19 34 34.7**	**+1.0**
CESI				AML	AML		
CESI				AML	AML		
	comp=N,98650µm,1.1s						
T1220	**Camerino, Fraz**	**0.11**	**13**	⇑P	**Pg**	**19 34 31.3**	**-0.3**
T1220				S	**Sg**	**19 34 33.7**	**0.0**
T1216	**Preci, Frazion**	**0.11**	**193**	⇑P	**Pg**	**19 34 31.9**	**+0.4**
T1216				S	**Sg**	**19 34 34.7**	**+1.0**
T1256	**Bolognola (MC)**	**0.13**	**88**	⇑P	**Pg**	**19 34 31.6**	**-0.3**
T1256				S	**Sg**	**19 34 33.9**	**-0.3**
T1256				AML	AML		
	comp=N,61600µm,0.4s						
T1256				AML	AML		
	comp=N,60550µm,0.4s						
T1256				AML	AML		
	comp=E,86800µm,1.0s						
T1256				AML	AML		
	comp=E,92300µm,1.1s						
MC2	**Monte Cornacci**	**0.13**	**

EL6	**Elcito**	**0.33**	**6**	⇑P	**Pg**	**19 34 35.3 -0.1**
EL6				S	**Sg**	**19 34 41.0 +1.2**
EL6				AML	AML	
	comp=E,25000µm,0.9s					
EL6				AML	AML	
	comp=E,24950µm,0.9s					
EL6				AML	AML	
	comp=N,32600µm,0.8s					
MNTP	**Montappone**	**0.33**	**66**	P	**Pg**	**19 34 35.8 +0.5**
MNTP				AML	AML	
	comp=E,25900µm,1.0s					
MNTP				AML	AML	
	comp=N,23100µm,0.9s					
MNTP				AML	AML	
	comp=N,23100µm,0.9s					
T1218	**Civita (PG)**	**0.33**	**172**	⇑P	**Pg**	**19 34 35.7 +0.3**
T1218				S	**Sg**	**19 34 41.4 +1.5**
T1218				AML	AML	
	comp=N,52850µm,0.6s					
T1218				AML	AML	
	comp=N,52700µm,0.6s					
T1218				AML	AML	
	comp=E,49950µm,0.2s					
T1218				AML	AML	
	comp=E,47150µm,0.2s					
T1218				AML	AML	
	comp=N,52700µm,0.6s					
T1218				AML	AML	
	comp=N,52850µm,0.6s					
ATCC	**AVT- Casa Cast**	**0.35**	**301**	⇓P	**Pg**	**19 34 36.2 +0.5**
ATCC				S	**Sg**	**19 34 42.4 +1.9**
ATCC				AML	AML	
	comp=E,36250µm,0.8s					
ATCC				AML	AML	
	comp=N,21400µm,0.3s					
FOSV	**Fossato di Vic**	**0.36**	**324**	⇓P	**Pg**	**19 34 36.1 +0.2**
FOSV				S	**Sg**	**19 34 42.1 +1.3**
FOSV				AML	AML	
	comp=E,7375µm,0.6s					
FOSV				AML	AML	
	comp=N,18050µm,0.4s					
T1201	**Domo (RI)**	**0.37**	**157**	⇑P	**Pg**	**19 34 36.5 +0.5**
T1201				S	**Sb**	**19 34 43.0 -0.1**
T1204	**Amatrice, Fraz**	**0.38**	**149**	P	**Pg**	**19 34 36.4 +0.2**
CING	**Cingoli**	**0.39**	**15**	⇑P	**Pg**	**19 34 36.3 -0.1**
CING				S	**Sg**	**19 34 42.4 +0.8**
CING				AML	AML	
	comp=E,10720µm,0.9s					
CING				AML	AML	
	comp=N,9750µm,0.8s					
LNSS	**Leonessa**	**0.40**	**181**	⇓P	**Pg**	**19 34 37.0 +0.4**
LNSS				S	**Sg**	**19 34 43.3 +1.4**
LNSS				AML	AML	
	comp=N,39050µm,0.6s					
LNSS				AML	AML	
	comp=E,14850µm,1.1s					
T1243	**Rocca Santa Ma**	**0.42**	**136**	P	**Pg**	**19 34 37.1 +0.2**
T1243				S	**Sg**	**19 34 43.8 +1.2**
SMA1	**SAN MARTINO**	**0.42**	**151**	P	**Pg**	**19 34 37.3 +0.3**
SMA1				AML	AML	
	comp=N,19100µm,1.5s					
SMA1				AML	AML	
	comp=E,17850µm,0.6s					
MMUR	**Monte Murano**	**0.44**	**355**	P	**Pg**	**19 34 37.5 +0.1**
MMUR				AML	AML	
	comp=E,24900µm,0.3s					
MMUR				AML	AML	
	comp=N,14200µm,0.5s					
MMUR				AML	AML	
	comp=E,24850µm,0.3s					
MMUR				AML	AML	
	comp=N,14200µm,0.5s					
MURB	**Monte Urbino**	**0.47**	**304**	⇓P	**Pg**	**19 34 38.3 +0.4**
MURB				AML	AML	
	comp=E,21600µm,0.3s					
MURB				AML	AML	
	comp=N,21950µm,0.4s					
MURB				AML	AML	
	comp=E,21650µm,0.3s					
MURB				AML	AML	
	comp=E,24300µm,0.3s					
MURB				AML	AML	
	comp=N,19500µm,0.5s					
OFFI	**Offida**	**0.47**	**98**	P	**Pg**	**19 34 38.6 +0.8**
OFFI				AML	AML	
	comp=E,13400µm,1.6s					
OFFI				AML	AML	
	comp=N,21050µm,0.5s					
ARRO	**Arrone**	**0.47**	**207**	P	**Pg**	**19 34 38.4 +0.5**
ARRO				AML	AML	
	comp=E,11410µm,0.2s					
ARRO				AML	AML	
	comp=N,12700µm,0.3s					
SSFR	**Montelago di S**	**0.48**	**336**	P	**Pg**	**19 34 38.2 +0.2**
SSFR				AML	AML	
	comp=N,17250µm,1.3s					
SSFR				AML	AML	
	comp=E,28800µm,0.2s					
SSFR				AML	AML	
	comp=N,18100µm,0.3s					
SSFR				AML	AML	
	comp=E,30950µm,0.6s					
ATSC	**Scheggia e Pas**	**0.50**	**328**	⇓P	**Pg**	**19 34 38.5 0.0**
ATSC				S	**Sg**	**19 34 46.7 +1.6**
ARVD	**Arcevia**	**0.50**	**351**	P	**Pg**	**19 34 38.5 0.0**
ARVD				AML	AML	
	comp=E,6430µm,0.7s					
ARVD				AML	AML	
	comp=N,6030µm,0.7s					
RM33	**Pellescritta (**	**0.51**	**166**	P	**Pg**	**19 34 38.7 +0.2**
RM33				AML	AML	
	comp=E,10080µm,1.4s					
RM33				AML	AML	
	comp=N,11875µm,0.5s					
RM33				AML	AML	
	comp=E,9915µm,1.3s					
RM33				AML	AML	
	comp=N,11895µm,0.5s					
RM33				AML	AML	
	comp=N,11875µm,0.5s					
RM33				AML	AML	
	comp=E,10080µm,1.3s					
ATFO	**Monte Foce - G**	**0.51**	**316**	P	**Pg**	**19 34 38.5 0.0**
ATFO				AML	AML	
	comp=N,5610µm,0.5s					
ATFO				AML	AML	
	comp=E,5180µm,0.5s					
CESX	**Cesi**	**0.52**	**222**	⇑P	**Pg**	**19 34 39.2 +0.3**
CESX				S	**Sg**	**19 34 47.5 +1.7**
CESX				AML	AML	
	comp=E,30550µm,0.4s					
CESX				AML	AML	
	comp=N,23800µm,0.4s					
T1246	**Crognaleto (TE**	**0.53**	**142**	P	**Pg**	**19 34 38.9 -0.1**
T1246				S	**Sb**	**19 34 47.3 -0.3**
CAMP	**Campotosto**	**0.53**	**150**	P	**Pg**	**19 34 39.0 -0.1**
CAMP				S	**Sg**	**19 34 47.2 +1.0**
CAMP				AML	AML	
	comp=N,5955µm,0.3s					
CAMP				AML	AML	
	comp=E,7870µm,0.2s					
CIMA	**Civitanova Mar**	**0.55**	**56**	P	**Pg**	**19 34 39.6 +0.3**
CADA	**Capodarco di F**	**0.55**	**69**	P	**Pb**	**19 34 40.6 +0.3**
PP3	**Marolino**	**0.55**	**47**	AML	AML	
	comp=N,9385µm,1.2s					
PP3				AML	AML	
	comp=N,9695µm,1.2s					
PP3				AML	AML	
	comp=E,7265µm,1.4s					
PP3				AML	AML	
	comp=E,7465µm,0.4s					
TERO	**Teramo**	**0.55**	**133**	P	**Pg**	**19 34 39.3 -0.2**
TERO				S	**Sb**	**19 34 48.1 -0.2**
TERO				AML	AML	
	comp=E,8945µm,1.0s					
TERO				AML	AML	
	comp=N,10030µm,0.6s					
TERO				AML	AML	
	comp=E,8995µm,1.0s					
TERO				AML	AML	
	comp=E,9465µm,1.0s					
TERO				AML	AML	
	comp=N,9575µm,0.6s					
ATLO	**AVT- Montelove**	**0.57**	**304**	⇓P	**Pg**	**19 34 39.8 +0.1**
ATLO				S	**Sg**	**19 34 48.8 +1.6**
FRON	**Frontone**	**0.57**	**335**	⇓P	**Pg**	**19 34 39.6 -0.1**
FRON				AML	AML	
	comp=E,4410µm,0.6s					
FRON				AML	AML	
	comp=N,7260µm,0.3s					
T1247	**Pizzolo (AQ)**	**0.59**	**162**	P	**Pg**	**19 34 40.2 +0.1**
T1247				S	**Sb**	**19 34 49.3 0.0**
T1247				AML	AML	
	comp=E,9390µm,1.6s					
T1247				AML	AML	
	comp=N,9840µm,0.5s					
TB01	**Gubbio**	**0.59**	**310**	⇓P	**Pg**	**19 34 40.3 +0.2**
TB01				S	**Sg**	**19 34 49.4 +1.4**
TB02	**Pietralunga**	**0.60**	**308**	⇓P	**Pg**	**19 34 40.4 +0.1**
TB02				S	**Sg**	**19 34 49.6 +1.4**
ATVO	**AVT- Monte Val**	**0.61**	**309**	⇓P	**Pg**	**19 34 40.5 +0.1**
ATVO				AML	AML	
	comp=N,2995µm,0.7s					
ATVO				AML	AML	
	comp=E,3405µm,0.3s					
TB03	**Pietralunga**	**0.62**	**311**	P	**Pg**	**19 34 40.8 +0.1**
ATVA	**AVT- Monte Val**	**0.63**	**297**	P	**Pg**	**19 34 41.1 +0.3**
COR1	**Corinaldo**	**0.63**	**357**	P	**Pg**	**19 34 41.4 +0.4**
COR1				AML	AML	
COR1				AML	AML	
COR1				AML	AML	
	comp=E,4510µm,1.6s					
COR1				AML	AML	
	comp=E,4515µm,1.6s					
COR1				AML	AML	
	comp=N,8525µm,1.1s					
ATPC	**Poggio Castell**	**0.65**	**318**	P	**Pg**	**19 34 41.2 0.0**
ATPI	**Pietralunga -**	**0.66**	**314**	⇓P	**Pg**	**19 34 41.4 +0.1**
ATPI				AML	AML	
	comp=E,2560µm,1.5s					
ATPI				AML	AML	
	comp=N,2140µm,0.5s					
PIEI	**Pieia**	**0.66**	**325**	P	**Pg**	**19 34 41.2 -0.2**
PIEI				AML	AML	
	comp=N,3635µm,0.2s					
PIEI				AML	AML	
	comp=E,4190µm,1.5s					
TRTR	**Tortoreto Alta**	**0.66**	**107**	P	**Pg**	**19 34 41.9 +0.5**
TRTR				AML	AML	
	comp=E,26000µm,1.0s					
TRTR				AML	AML	
	comp=N,17350µm,0.6s					
MPAG	**Monte Paganucc**	**0.66**	**341**	P	**Pg**	**19 34 41.5 0.0**
MPAG				AML	AML	
	comp=E,4655µm,1.6s					
MPAG				AML	AML	
	comp=N,4960µm,1.6s					
MPAG				AML	AML	
	comp=E,3745µm,0.8s					
MPAG				AML	AML	
	comp=N,4135µm,0.8s					
MPAG				AML	AML	
	comp=E,4655µm,1.6s					
MPAG				AML	AML	
	comp=N,4965µm,1.6s					
ATMI	**Monte Miggiano**	**0.66**	**300**	P	**Pg**	**19 34 41.9 +0.4**
ATMI				AML	AML	
	comp=E,8535µm,0.9s					
ATMI				AML	AML	
	comp=N,9335µm,0.7s					
GIGS	**Gran Sasso**	**0.67**	**145**	P	**Pg**	**19 34 41.2 -0.4**
GIGS				AML	AML	
	comp=E,1960µm,0.5s					
GIGS				AML	AML	
	comp=N,1305µm,0.5s					
AOI	**Ancona**	**0.68**	**36**	⇑P	**Pg**	**19 34 41.7 -0.2**
AOI				AML	AML	
	comp=E,2540µm,0.4s					
AOI				AML	AML	
	comp=N,3545µm,0.4s					
AQU	**L'Aquila**	**0.70**	**158**	P	**Pg**	**19 34 41.7 -0.4**
AQU				AML	AML	
	comp=E,5490µm,1.1s					
AQU				AML	AML	
	comp=E,5585µm,1.1s					
AQU				AML	AML	
	comp=N,5015µm,1.2s					
AQU				AML	AML	
	comp=N,5110µm,1.2s					
AQU				AML	AML	
	comp=E,5495µm,1.1s					
MGAB	**Montegabbione**	**0.70**	**263**	P	**Pg**	**19 34 42.3 +0.2**
MGAB				AML	AML	
	comp=E,9815µm,0.9s					
MGAB				AML	AML	
	comp=N,13350µm,0.7s					
NARO	**Abbazia di Nar**	**0.70**	**331**	P	**Pg**	**19 34 41.9 -0.3**
NARO				AML	AML	
	comp=E,3395µm,0.6s					
NARO				AML	AML	
	comp=N,1755µm,0.8s					
PCRO	**Pietralacroce**	**0.70**	**30**	P	**Pg**	**19 34 42.5 +0.3**
PCRO				AML	AML	
	comp=N,8240µm,0.5s					
PCRO				AML	AML	
	comp=E,10200µm,0.5s					
SENI	**Senigallia**	**0.72**	**10**	P	**Pg**	**19 34 43.0 +0.5**
SENI				AML	AML	
	comp=E,15700µm,0.6s					
SENI				AML	AML	
	comp=E,4160µm,0.5s					
SENI				AML	AML	
	comp=N,3010µm,0.8s					
SENI				AML	AML	
	comp=N,11700µm,0.3s					
SENI				AML	AML	
	comp=E,4165µm,0.5s					
FSSB	**Fossombrone**	**0.72**	**344**	P	**Pg**	**19 34 42.2 -0.4**
FSSB				AML	AML	
	comp=N,14350µm,0.4s					
FSSB				AML	AML	
	comp=E,10250µm,0.3s					
APEC	**Apecchio**	**0.72**	**321**	P	**Pg**	**19 34 42.8 +0.1**
FIAM	**Fiamignano**	**0.73**	**176**	P	**Pg**	**19 34 42.6 -0.3**
FIAM				AML	AML	
	comp=E,6085µm,0.7s					
FIAM				AML	AML	
	comp=N,5315µm,0.6s					
ATMC	**Monte Cedrone**	**0.77**	**306**	P	**Pg**	**19 34 43.5 -0.1**
BADI	**Badiali**	**0.78**	**311**	⇑P	**Pg**	**19 34 43.9 +0.1**
BADI				S	**Sb**	**19 34 57.0 +2.2**
BADI				AML	AML	
	comp=N,1905µm,0.5s					
BADI				AML	AML	
	comp=E,151µm,0.4s					
PE3	**Peglio**	**0.81**	**330**	P	**Pg**	**19 34 44.6 +0.4**
FAGN	**Fagnano**	**0.83**	**152**	P	**Pg**	**19 34 44.6 -0.1**
FAGN				AML	AML	
	comp=E,12550µm,0.4s					
FAGN				AML	AML	
	comp=N,12000µm,0.6s					
VCEL	**Villa Celiera**	**0.84**	**136**	⇑P	**Pg**	**19 34 44.8 -0.1**
VCEL				AML	AML	
	comp=E,7570µm,1.2s					
VCEL				AML	AML	
	comp=N,7145µm,0.4s					
SACS	**San Casciano d**	**0.85**	**260**	P	**Pg**	**19 34 45.7 +0.6**
SACS				AML	AML	
	comp=E,3675µm,0.8s					
SACS				AML	AML	
	comp=N,3995µm,1.1s					
SACS				AML	AML	
	comp=E,3455µm,0.8s					
SACS				AML	AML	
	comp=N,3720µm,1.1s					
SSP9	**Sansepolcro**	**0.88**	**311**	P	**Pg**	**19 34 45.8 +0.1**
SSP9				AML	AML	
	comp=E,1800µm,1.3s					
SSP9				AML	AML	
	comp=N,1940µm,0.6s					
SSP9				AML	AML	
	comp=N,1935µm,0.6s					
T0110	**Collepietro**	**0.94**	**145**	P	**Pg**	**19 34 46.2 -0.5**
T0110				AML	AML	
	comp=N,7605µm,1.3s					
T0110				AML	AML	
	comp=E,8170µm,0.5s					
PESA	**Pesaro**	**0.95**	**351**	P	**Pg**	**19 34 47.3 +0.3**
PESA				AML	AML	
	comp=E,4580µm,0.2s					
PESA				AML	AML	
	comp=N,3430µm,1.5s					
CPGN	**Carpegna, Ital**	**0.96**	**327**	P	**Pg**	**19 34 47.4 +0.2**
LATE	**Laterza**	**1.00**	**248**	P	**Pg**	**19 34 48.1 +0.3**
MTCE	**Montecelio**	**1.00**	**193**	P	**Pg**	**19 34 47.4 -0.5**
MTCE				AML	AML	
	comp=N,3790µm,0.6s					
MTCE				AML	AML	
	comp=E,3980µm,0.6s					
PTQR	**Pietraquaria**	**1.01**	**165**	P	**Pg**	**19 34 47.8 -0.4**
PTQR				AML	AML	
	comp=E,1860µm,1.5s					
PTQR				AML	AML	
	comp=N,2185µm,0.5s					
CRE	**Caprese Michel**	**1.01**	**308**	P	**Pg**	**19 34 47.7 -0.5**
SF11	**Podere del Sol**	**1.02**	**263**	P	**Pg**	**19 34 47.7 -0.5**
SF03	**Valle Cupa**	**1.02**	**259**	P	**Pg**	**19 34 48.4 +0.1**
RSM	**Repubblica di**	**1.03**	**335**	P	**Pg**	**19 34 48.4 0.0**
MCIV	**Monte Civitell**	**1.04**	**258**	P	**Pg**	**19 34 48.4 -0.2**
MCIV				AML	AML	
	comp=E,1405µm,0.9s					
MCIV				AML	AML	
	comp=N,1260µm,0.6s					
SF04	**Casetta**	**1.04**	**261**	P	**Pg**	**19 34 48.6 0.0**
SF04				AML	AML	
	comp=E,1620µm,1.5s					
SF04				AML	AML	
	comp=N,1700µm,0.3s					
CERT	**Cerreto**	**1.05**	**183**	P	**Pg**	**19 34 48.5 -0.4**
CERT				AML	AML	
	comp=N,3525µm,1.1s					
CERT				AML	AML	
	comp=E,4500µm,0.4s					
SF13	**Bagnolo**	**1.07**	**261**	P	**Pg**	**19 34 48.8 -0.4**
SF14	**Selvena**	**1.09**	**257**	P	**Pb**	**19 34 49.5 +0.1**
SF01	**Poggio Pratacc**	**1.11**	**261**	P	**Pb**	**19 34 50.3 +0.4**
SF01				AML	AML	
	comp=N,2170µm,0.9s					
SF01				AML	AML	
	comp=E,1615µm,0.8s					
RCAV	**Rocca di Cave**	**1.16**	**184**	P	**Pb**	**19 34 50.5 -0.1**
RCAV				AML	AML	
	comp=E,2955µm,0.5s					
RCAV				AML	AML	
	comp=N,2800µm,0.7s					
ARCI	**Arcidosso**	**1.17**	**263**	P	**Pb**	**19 34 50.5 -0.4**
ARCI				AML	AML	
	comp=N,534µm,1.2s					
ARCI				AML	AML	
	comp=E,579µm,1.6s					
INTR	**Introdacqua**	**1.17**	**147**	P	**Pb**	**19 34 49.9 -1.0**
INTR				AML	AML	
	comp=E,3µm,0.5s					
INTR				AML	AML	
	comp=N,6490µm,0.5s					
INTR				AML	AML	
	comp=N,4µm,0.7s					
INTR				AML	AML	
	comp=E,3075µm,0.5s					
VVLD	**Villa Vallelon**	**1.21**	**159**	P	**Pb**	**19 34 51.3 -0.2**
VVLD				AML	AML	
	comp=E,3010µm,0.5s					
VVLD				AML	AML	
	comp=N,2940µm,0.8s					
ASQU	**Asqua**	**1.22**	**311**	P	**Pn**	**19 34 51.9 +0.2**
ASQU	**Asqua**	**1.22**	**311**	P	**Pn**	**19 34 51.5 -0.1**
ASQU				AML	AML	
	comp=E,773µm,0.6s					
ASQU				AML	AML	
	comp=N,641µm,0.9s					
RMP	**Rome, Mte Porz**	**1.22**	**192**	P	**Pn**	**19 34 51.3 -0.2**
RMP				AML	AML	
	comp=N,3955µm,1.4s					
RMP				AML	AML	
	comp=E,3165µm,1.1s					
TOLF	**Tolfa**	**1.22**	**220**	P	**Pn**	**19 34 51.6 +0.1**
TOLF				AML	AML	
	comp=N,1755µm,0.4s					
TOLF				AML	AML	
	comp=E,1685µm,0.7s					
GUAR	**Guarcino**	**1.22**	**171**	P	**Pn**	**19 34 51.7 0.0**
CAFR	**Castel Frentan**	**1.23**	**129**	P	**Pn**	**19 34 51.6 -0.1**
CAFR				AML	AML	
	comp=E,1955µm,0.6s					
CAFR				AML	AML	
	comp=N,2125µm,0.6s					
SFI	**Santa Sofia**	**1.26**	**316**	P	**Pn**	**19 34 51.9 -0.3**
SFI				AML	AML	
	comp=E,774µm,0.8s					
SFI				AML	AML	
	comp=N,937µm,1.2s					
SAMA	**S.Maria delle**	**1.27**	**196**	P	**Pn**	**19 34 52.2 0.0**
CSNT	**Castellina Chi**	**1.37**	**291**	P	**Pn**	**19 34 53.7 -0.1**
CSNT				AML	AML	
	comp=N,684µm,0.6s					
CSNT				AML	AML	
	comp=E,522µm,0.5s					
POFI	**Posta Fibreno**	**1.37**	**159**	P	**Pn**	**19 34 54.0 +0.3**
FROS	**Frosini**	**1.41**	**279**	P	**Pn**	**19 34 54.8 +0.6**
FROS	**Frosini**	**1.41**	**279**	P	**Pn**	**19 34 54.5 +0.3**
FROS				AML	AML	
	comp=N,748µm,1.6s					
FROS				AML	AML	
	comp=E,1049µm,0.7s					
LRP	**Arpino**	**1.41**	**164**	P	**Pn**	**19 34 54.5 +0.3**
OSSC	**Osservatorio P**	**1.42**	**292**	P	**Pn**	**19 34 55.4 +1.0**
OSSC	**Osservatorio P**	**1.42**	**292**	P	**Pn**	**19 34 54.4 0.0**
OSSC				AML	AML	
	comp=E,538µm,1.4s					
OSSC				AML	AML	
	comp=N,476µm,1.3s					
OSSC				AML	AML	
	comp=E,454µm,1.3s					
OSSC				AML	AML	
	comp=N,463µm,1.4s					
GIUL	**Giuliano Di Ro**	**1.45**	**174**	P	**Pn**	**19 34 55.6 +0.8**
GIUL				AML	AML	
	comp=E,1125µm,0.9s					
GIUL				AML	AML	
	comp=N,1890µm,0.6s					
LMD	**Lutirano**	**1.45**	**318**	P	**Pb**	**19 34 56.5 +0.7**
LMD	**Lutirano**	**1.45**	**318**	P	**Pn**	**19 34 54.8 0.0**
LMD				AML	AML	
	comp=N,738µm,1.2s					
LMD				AML	AML	
	comp=E,634µm,1.3s					
LATB	**Latina**	**1.51**	**183**	P	**Pn**	**19 34 56.0 +0.4**
MAON	**Monte Argentar**	**1.53**	**249**	P	**Pn**	**19 34 56.6 +0.8**
MAON				AML	AML	
	comp=E,466µm,0.7s					
MAON				AML	AML	
	comp=N,428µm,1.0s					
RNI2	**Rionero Sannit**	**1.53**	**148**	P	**Pn**	**19 34 56.4 +0.4**
CERA	**Filignano**	**1.57**	**153**	P	**Pn**	**19 34 57.2 +0.7**
CERA				AML	AML	
	comp=E,1700µm,1.1s					
CERA				AML	AML	
	comp=N,2080µm,0.8s					
CERA				AML	AML	
	comp=N,2040µm,0.8s					
CERA				AML	AML	
	comp=E,1680µm,0.9s					
FRES	**Fresagrandinar**	**1.58**	**130**	P	**Pn**	**19 34 57.4 +0.9**
FRES				AML	AML	
	comp=N,743µm,0.8s					
FRES				AML	AML	
	comp=E,989µm,0.7s					
TRIF	**Trifonti**	**1.58**	**275**	⇓P	**Pn**	**19 34 57.5 +0.9**
TRIF				AML	AML	
	comp=N,404µm,0.9s					
TRIF				AML	AML	
	comp=E,438µm,0.7s					
BRIS	**BRISIGHELLA**	**1.60**	**316**	P	**Pn**	**19 34 56.6 -0.3**
CASP	**Castiglione de**	**1.62**	**263**	P	**Pn**	**19 34 57.1 0.0**
CASP				AML	AML	
	comp=E,177µm,1.0s					
CASP				AML	AML	
	comp=N,166µm,1.6s					
MIDA	**Miranda**	**1.62**	**146**	P	**Pn**	**19 34 58.0 +0.7**
MIDA				AML	AML	
	comp=N,780µm,1.6s					
MIDA				AML	AML	
	comp=E,1112µm,1.0s					
TRIV	**Trivento**	**1.66**	**138**	⇑P	**Pg**	**19 35 00.7 +0.2**
TRIV				AML	AML	
	comp=N,870µm,1.2s					
TRIV				AML	AML	
	comp=E,1172µm,1.1s					

CRMI	**Carmignano**	**1.71**	**298**	P	**Pn**	**19 34 59.9**	**+1.5**
CRMI	**Carmignano**	**1.71**	**298**	P	**Pn**	**19 34 59.0**	**+0.6**
MPPT	**Montemurlo**	**1.72**	**304**	P	**Pn**	**19 34 59.0**	**+0.5**
VAGA	**Valle Agricola**	**1.81**	**151**	P	**Pn**	**19 35 00.9**	**+1.1**
VAGA				AML	AML		
	comp=E,544µm,0.8s						
VAGA				AML	AML		
	comp=E,562µm,0.8s						
VAGA				AML	AML		
	comp=N,688µm,0.5s						
VAGA				AML	AML		
	comp=N,720µm,0.5s						
MTCR	**Monte La Croce**	**1.81**	**305**	P	**Pn**	**19 35 00.5**	**+0.6**
MTCR	**Monte La Croce**	**1.81**	**305**	P	**Pn**	**19 35 00.5**	**+0.6**
MTCR				AML	AML		
	comp=E,364µm,0.9s						
MTCR				AML	AML		
	comp=N,662µm,0.8s						
FNVD	**Fontana Vidola**	**1.82**	**310**	P	**Pn**	**19 35 00.7**	**+0.7**
CIGN	**Sant'Elia a Pi**	**1.92**	**134**	P	**Pn**	**19 35 02.3**	**+1.0**
MODR	**Mondragone**	**1.95**	**161**	P	**Pn**	**19 35 02.8**	**+1.1**
BRJN	**Brijuni**	**1.97**	**15**	P	**Pn**	**19 35 02.4**	**+0.5**
PIGN	**Pignataro Magg**	**1.98**	**155**	P	**Pn**	**19 35 03.5**	**+1.4**
MELA	**Melanico ??? S**	**2.01**	**129**	P	**Pn**	**19 35 03.0**	**+0.5**
MELA				AML	AML		
	comp=N,1885µm,0.6s						
MELA				AML	AML		
	comp=N,1955µm,0.6s						
MELA				AML	AML		
	comp=E,1790µm,0.6s						
MELA				AML	AML		
	comp=E,1635µm,0.8s						
TREM	**Isole Tremiti**	**2.02**	**115**	P	**Pn**	**19 35 03.1**	**+0.6**
TREM				AML	AML		
	comp=N,2440µm,0.7s						
TREM				AML	AML		
	comp=E,1585µm,0.8s						
BDI	**Bagni Di Lucca**	**2.08**	**302**	P	**Pn**	**19 35 03.9**	**+0.4**
CARD	**Cardoso**	**2.13**	**300**	P	**Pn**	**19 35 04.8**	**+0.7**
PSB1	**Pescosannita**	**2.21**	**143**	P	**Pn**	**19 35 06.4**	**+1.2**
APRC	**Apricena**	**2.22**	**123**	P	**Pn**	**19 35 06.0**	**+0.5**
APRC				AML	AML		
	comp=E,670µm,0.6s						
APRC				AML	AML		
SARO	**Sassorosso**	**2.26**	**302**	⇓P	**Pn**	**19 35 06.6**	**+0.6**
SARO				AML	AML		
	comp=N,546µm,0.6s						
SARO				AML	AML		
	comp=E,420µm,0.7s						
SGRT	**San Giovanni R**	**2.35**	**121**	P	**Pn**	**19 35 08.8**	**+1.5**
SGRT				AML	AML		
	comp=N,1001µm,0.5s						
SGRT				AML	AML		
	comp=E,860µm,0.9s						
EQUI	**Equi**	**2.41**	**300**	AML	AML		
	comp=E,106µm,0.5s						
EQUI				AML	AML		
	comp=N,144µm,0.9s						
MSAG	**Monte S. Angel**	**2.48**	**120**	P	**Pn**	**19 35 09.1**	**+0.1**
MSAG				AML	AML		
	comp=N,1390µm,0.7s						
MSAG				AML	AML		
	comp=E,912µm,1.3s						
MSAG				AML	AML		
	comp=N,1385µm,0.7s						
MSAG				AML	AML		
	comp=E,954µm,1.3s						
HVAR	**Hvar**	**2.49**	**85**	⇑P	**Pn**	**19 35 10.9**	**+1.8**
SKDS	**Skadanscina**	**2.64**	**15**	⇓*i* Pn	**Pn**	**19 35 11.4**	**+0.2**
SKDS				*e*Sn	**Sn**	**19 35 44.1**	**+1.0**
SKDS				IAML		19 35 48.5	
	comp=Z,52nm,0.3s						
CEY	**Cerknica**	**2.91**	**19**	*e*Pn	**Pn**	**19 35 15.4**	**+0.5**
A050A	**Klekovaca**	**2.92**	**58**	*e*Pn	**Pn**	**19 35 17.0**	**+1.9**
ROVR	**Rover Verones**	**3.00**	**332**	P	**Pn**	**19 35 17.4**	**+1.1**
ROVR				AML	AML		
	comp=E,70µm,1.1s						
ROVR				AML	AML		
	comp=N,95µm,0.7s						
SABO	**M.te Sabotino**	**3.00**	**7**	P	**Pn**	**19 35 16.6**	**+0.4**
SABO				AML	AML		
	comp=E,1720µm,0.6s						
SABO				AML	AML		
	comp=E,398µm,0.6s						
SABO				AML	AML		
	comp=N,2510µm,0.7s						
SABO				AML	AML		
	comp=N,633µm,0.7s						
CGRP	**Cima Grappa**	**3.02**	**343**	P	**Pn**	**19 35 16.7**	**+0.2**
CGRP				AML	AML		
	comp=E,463µm,0.5s						
CGRP				AML	AML		
	comp=E,500µm,0.6s						
CGRP				AML	AML		
	comp=N,521µm,0.7s						
CGRP				AML	AML		
	comp=N,476µm,0.6s						
PGF	**Pioggiola**	**3.02**	**263**	*e*P	**Pn**	**19 35 17.8**	**+1.4**
PGF				*e*Sn	**Sn**	**19 35 49.3**	**-3.3**
	comp=N,24nm,0.7s						
PGF	**Pioggiola**	**3.02**	**263**	⇑P	**Pn**	**19 35 17.9**	**+1.4**
PGF				AML	AML		
	comp=N,25µm,1.2s						
PGF				AML	AML		
	comp=E,27µm,1.0s						
DOSS	**Dosso del Somm**	**3.17**	**336**	P	**Pn**	**19 35 18.9**	**+0.3**
DOSS				AML	AML		
	comp=N,236µm,0.5s						
DOSS				AML	AML		
	comp=E,182µm,1.3s						
DOSS				AML	AML		
	comp=N,182µm,1.3s						
DOSS				AML	AML		
	comp=E,232µm,0.5s						
SRKY	**Kupres RS**	**3.17**	**69**	*e*Pn	**Pn**	**19 35 20.1**	**+1.5**
SALO	**Salr**	**3.18**	**326**	P	**Pn**	**19 35 19.8**	**+1.1**
SALO				AML	AML		
	comp=E,196µm,1.4s						
SALO				AML	AML		
	comp=N,291µm,1.4s						
SALO				AML	AML		
	comp=E,220µm,0.8s						
SALO				AML	AML		
	comp=N,306µm,1.3s						
CTI	**Castel Tesino**	**3.21**	**342**	P	**Pn**	**19 35 19.6**	**+0.5**
CTI				AML	AML		
	comp=E,276µm,0.5s						
CTI				AML	AML		
	comp=N,200µm,0.2s						
LJU	**Ljubljana**	**3.22**	**19**	⇑P	**Pn**	**19 35 20.7**	**+1.6**
LJU				AML	AML		
	comp=E,1610µm,0.5s						
LJU				AML	AML		
	comp=N,1495µm,1.2s						
MPRI	**Monte Prat**	**3.24**	**359**	P	**Pn**	**19 35 20.3**	**+0.8**
MPRI				AML	AML		
	comp=E,256µm,0.8s						
MPRI				AML	AML		
	comp=N,316µm,1.6s						
MPRI				AML	AML		
	comp=N,416µm,1.6s						
MPRI				AML	AML		
	comp=E,320µm,0.8s						
MGRS	**Mrkonjic Grad**	**3.25**	**63**	*e*Pn	**Pn**	**19 35 21.5**	**+2.0**
STAL	**STALIGIAL**	**3.27**	**356**	P	**Pn**	**19 35 20.5**	**+0.7**
STAL				AML	AML		
	comp=E,363µm,0.8s						
STAL				AML	AML		
	comp=N,254µm,1.5s						
STAL				AML	AML		
	comp=E,394µm,0.8s						
STAL				AML	AML		
	comp=N,350µm,0.7s						
CIMO	**Cimolais**	**3.34**	**353**	P	**Pn**	**19 35 21.5**	**+0.8**
CIMO				AML	AML		
	comp=E,91µm,0.6s						
CIMO				AML	AML		
	comp=E,85µm,0.6s						
CIMO				AML	AML		
	comp=N,74µm,0.7s						
CIMO				AML	AML		
	comp=N,75µm,0.7s						
AMUR	**Altamura**	**3.38**	**127**	P	**Pn**	**19 35 22.3**	**+1.0**
AMUR				AML	AML		
	comp=E,176µm,0.7s						
AMUR				AML	AML		
	comp=N,216µm,0.7s						
STON	**Ston**	**3.41**	**91**	*e*Pn	**Pn**	**19 35 21.2**	**-0.6**
STON	**Ston**	**3.41**	**91**	*e*Pn	**Pn**	**19 35 21.7**	**-0.1**
STON				*e*Sn	**Sn**	**19 36 01.7**	**-0.5**
STON	**Ston**	**3.41**	**91**	P	**Pn**	**19 35 21.8**	**+0.1**
STON				AML	AML		
	comp=N,98µm,0.5s						
STON				AML	AML		
	comp=E,83µm,0.4s						
GAGG	**Gaggia**	**3.43**	**335**	⇑P	**Pn**	**19 35 24.9**	**+2.8**
GAGG				AML	AML		
	comp=E,214µm,0.9s						
GAGG				AML	AML		
	comp=E,266µm,1.0s						
GAGG				AML	AML		
	comp=N,184µm,0.7s						
GAGG				AML	AML		
	comp=N,265µm,1.0s						
A051A	**Mrakovica**	**3.43**	**53**	*e*Pn	**Pn**	**19 35 23.7**	**+1.6**
BLY	**Manja Luka**	**3.46**	**58**	*e*Pn	**Pn**	**19 35 24.9**	**+2.5**
MABI	**Malga Bissina**	**3.55**	**330**	P	**Pn**	**19 35 24.6**	**+0.8**
MABI				AML	AML		
	comp=N,68µm,1.2s						
MABI				AML	AML		
	comp=E,65µm,0.5s						
ZOU	**Zoufplan**	**3.56**	**359**	P	**Pn**	**19 35 24.7**	**+0.7**
ZOU				AML	AML		
	comp=E,246µm,0.8s						
ZOU				AML	AML		
	comp=N,200µm,1.2s						
ZOU				AML	AML		
	comp=N,184µm,1.2s						
ZOU				AML	AML		
	comp=E,262µm,0.8s						
FVI	**Forni Avoltri**	**3.60**	**357**	P	**Pn**	**19 35 25.3**	**+0.9**
FVI				AML	AML		
	comp=N,143µm,0.8s						
FVI				AML	AML		
	comp=E,122µm,1.5s						
MATE	**Matera**	**3.60**	**130**	⇑P	**Pn**	**19 35 27.1**	**+2.8**
MYKA	**Tenuta Mystica**	**3.65**	**6**	*e*Pn	**Pn**	**19 35 26.5**	**+1.4**
	comp=E,14nm,0.4s,SNR=16						
KOSI	**Kohlern**	**3.66**	**342**	P	**Pn**	**19 35 26.0**	**+0.7**
KOSI				AML	AML		
	comp=N,207µm,1.0s						
KOSI				AML	AML		
	comp=E,194µm,1.6s						
MDI	**Monti di Nese**	**3.67**	**320**	P	**Pn**	**19 35 25.5**	**+0.2**
MDI				AML	AML		
	comp=E,81µm,1.3s						
MDI				AML	AML		
	comp=N,137µm,0.4s						
OBKA	**Obir**	**3.67**	**16**	*e*Pn	**Pn**	**19 35 25.7**	**+0.4**
OBKA	**Obir**	**3.67**	**16**	*e*Pn	**Pn**	**19 35 26.0**	**+0.7**
	comp=N,2.2nm,0.2s						
OBKA	**Obir**	**3.67**	**16**	*e*Pn	**Pn**	**19 35 26.1**	**+0.7**
APPI	**Appiano**	**3.71**	**340**	P	**Pn**	**19 35 26.3**	**+0.3**
APPI				AML	AML		
	comp=E,157µm,0.4s						
APPI				AML	AML		
	comp=N,143µm,0.5s						
ABTA	**Abfaltersbach**	**3.77**	**354**	*e*Pn	**Pn**	**19 35 28.5**	**+1.8**
	comp=N,27nm,0.5s,SNR=28						
BRES	**Bressanone**	**3.81**	**346**	⇓P	**Pn**	**19 35 30.0**	**+2.5**
BRES				AML	AML		
	comp=N,168µm,0.3s						
BRES				AML	AML		
	comp=E,165µm,1.3s						
SOKA	**Soboth**	**3.94**	**20**	*e*Pn	**Pn**	**19 35 30.1**	**+1.0**
	comp=E,2.0nm,0.3s						
RISI	**Rein**	**4.01**	**350**	P	**Pn**	**19 35 30.3**	**+0.2**
RISI				AML	AML		
	comp=N,422µm,0.4s						
RISI				AML	AML		
	comp=E,352µm,1.5s						
BRY	**Bratogost**	**4.03**	**90**	*e*Pn	**Pn**	**19 35 32.3**	**+1.9**
HCY	**Herceg Novi**	**4.05**	**96**	*e*Pn	**Pn**	**19 35 30.6**	**+0.1**
KBA	**Koelnbreinsper**	**4.08**	**3**	*e*Pn	**Pn**	**19 35 33.0**	**+1.8**
	comp=E,13nm,0.4s,SNR=8.0						
KBA	**Koelnbreinsper**	**4.08**	**3**	*e*Pn	**Pn**	**19 35 32.9**	**+1.8**
KBA				*e*Sn	**Sn**	**19 36 20.0**	**+1.0**
MUGIO	**Muggio**	**4.09**	**317**	P	**Pn**	**19 35 31.7**	**+0.5**
ROSI	**Rosskopf**	**4.10**	**344**	P	**Pn**	**19 35 32.6**	**+1.3**
SBF	**Sospel**	**4.18**	**284**	*e*P	**Pn**	**19 35 34.1**	**+1.7**
SBF				*e*Sn	**Sn**	**19 36 17.0**	**-4.3**
	comp=E,18nm,0.6s						
VARE	**Varese**	**4.20**	**315**	P	**Pn**	**19 35 33.2**	**+0.5**
ENR	**Entracque**	**4.27**	**289**	P	**Pb**	**19 35 42.1**	**-1.7**
UPM	**Unac-Piva**	**4.29**	**85**	*e*Pn	**Pn**	**19 35 36.0**	**+2.0**
FETA	**Feichten**	**4.34**	**339**	*e*Pn	**Pn**	**19 35 37.9**	**+3.1**
	comp=E,7.2nm,0.4s,SNR=6.0						
WTTA	**Wattenberg**	**4.38**	**347**	*e*Pn	**Pn**	**19 35 37.5**	**+2.3**
	comp=E,2.7nm,0.3s,SNR=10						
WTTA	**Wattenberg**	**4.38**	**347**	*e*Pn	**Pn**	**19 35 38.1**	**+2.9**
WTTA				*e*Sn	**Sn**	**19 36 31.4**	**+5.1**
WTTA	**Wattenberg**	**4.38**	**347**	P	**Pn**	**19 35 36.6**	**+1.4**
DAVOX	**Davos/Dischmat**	**4.40**	**330**	Pn	**Pn**	**19 35 39.3**	**+3.8**
	comp=E,7.6nm,0.3s,baz=160,slow=17,SNR=87						
DAVOX				Sn	**Sn**	**19 36 29.8**	**+3.0**
	comp=E,2.4nm,0.3s,baz=125,slow=23,SNR=4.5						
DAVOX				LR	LR	19 37 37.7	
	comp=E,71nm,20.0s,baz=110,slow=43						
	comp=E,20nm,0.5s						
SQTA	**Sankt Quirin**	**4.42**	**343**	*e*Pn	**Pn**	**19 35 38.4**	**+2.7**
	comp=E,3.5nm,0.2s						
WATA	**Walderalm**	**4.46**	**347**	*e*Pn	**Pn**	**19 35 39.0**	**+2.7**
	comp=E,8.1nm,0.3s,SNR=16						
VSL	**Villasalto**	**4.46**	**220**	P	**Pn**	**19 35 37.5**	**+1.2**
VSL				AML	AML		
	comp=E,38µm,0.9s						
VSL				AML	AML		
	comp=N,38µm,0.7s						
MOTA	**Moosalm**	**4.56**	**343**	*e*Pn	**Pn**	**19 35 40.8**	**+3.1**
	comp=N,1.3nm,0.2s						
IACL	**Alicudi**	**4.57**	**167**	P	**Pb**	**19 35 45.7**	**-3.1**
ARSA	**Arzberg**	**4.59**	**22**	*e*Pn	**Pn**	**19 35 38.8**	**+0.7**
	comp=N,7.4nm,0.5s,SNR=5.4						
ARSA	**Arzberg**	**4.59**	**22**	*e*Pn	**Pn**	**19 35 39.0**	**+0.9**
ARSA				*e*Sn	**Sn**	**19 36 30.7**	**-0.7**
ARSA	**Arzberg**	**4.59**	**22**	P	**Pn**	**19 35 38.8**	**+0.7**
ARSA				AML	AML		
	comp=E,45µm,1.5s						
ARSA				AML	AML		
	comp=N,27µm,1.5s						
DRME	**Dracevica, Mon**	**4.60**	**98**	*e*Pn	**Pn**	**19 35 39.7**	**+1.6**
PDG	**Podgorica**	**4.61**	**95**	⇓P	**Pn**	**19 35 40.0**	**+1.9**
FUSIO	**Fusio**	**4.66**	**319**	P	**Pn**	**19 35 40.3**	**+1.3**
PART	**Garmisch-Parte**	**4.70**	**344**	*e*Pn	**Pn**	**19 35 43.6**	**+4.1**
PART				*e*Sn	**Sn**	**19 36 40.8**	**+6.8**
BBLS	**Lazići**	**4.71**	**77**	*e*Pn	**Pn**	**19 35 41.9**	**+2.3**
BBLS	**Lazići**	**4.71**	**77**	*e*Pn	**Pn**	**19 35 41.4**	**+1.8**
BBLS				*e*Sn	**Sn**	**19 36 32.2**	**-2.0**
BIOA	**Bad Ischl, Aus**	**4.71**	**5**	*e*Pn	**Pn**	**19 35 41.2**	**+1.6**
	comp=N,28nm,0.4s,SNR=25						
RJOB	**Jochberg**	**4.74**	**358**	*e*Pn	**Pn**	**19 35 42.0**	**+1.9**
RJOB				*e*Sn	**Sn**	**19 36 36.9**	**+1.9**
KOVH	**Kovagotottos**	**4.75**	**48**	P	**Pn**	**19 35 40.3**	**+0.2**
KOVH				S	**Sn**	**19 36 33.2**	**-1.8**
RETA	**Reutte**	**4.77**	**341**	*e*Pn	**Pn**	**19 35 43.4**	**+3.0**
	comp=N,5.6nm,0.3s,SNR=5.4						
LMR	**La Mourre**	**4.80**	**276**	*e*P	**Pn**	**19 35 41.6**	**+0.8**
LMR				*e*Sn	**Sn**	**19 36 31.8**	**-4.5**
	comp=N,13nm,0.9s						
PLONS	**Plons/SG**	**4.81**	**329**	*e*Pn	Pn	19 35 46.0	+4.9
PLONS				*e*Sn	**Sn**	**19 36 38.0**	**+1.2**
OBER	**Oberstdorf**	**4.82**	**337**	*e*Pn	**Pn**	**19 35 45.4**	**+4.2**
OBER				*e*Sn	**Sn**	**19 36 40.5**	**+3.5**
DAVA	**Damuels**	**4.84**	**333**	*e*Pn	**Pn**	**19 35 45.0**	**+3.5**
	comp=N,3.1nm,0.2s,SNR=7.7						
DAVA	**Damuels**	**4.84**	**333**	*e*Pn	**Pn**	**19 35 45.0**	**+3.5**
DAVA				*e*Sn	**Sn**	**19 36 43.5**	**+5.9**
MBDF	**Montbardon**	**4.86**	**293**	*e*P	**Pn**	**19 35 44.1**	**+2.3**
MBDF				*e*Sn	**Sn**	**19 36 33.3**	**-4.8**
	comp=N,14nm,0.7s						
MOA	**Molln**	**4.92**	**10**	*e*Pn	**Pn**	**19 35 43.4**	**+0.9**
MOA				*e*Sn	**Sn**	**19 36 40.1**	**+0.6**
MOA	**Molln**	**4.92**	**10**	*e*Pn	**Pn**	**19 35 44.0**	**+1.5**
	comp=N,16nm,0.6s,SNR=6.1						
MOA	**Molln**	**4.92**	**10**	*e*Pn	**Pn**	**19 35 44.1**	**+1.5**
MOA				*e*Sn	**Sn**	**19 36 41.1**	**+1.7**
SJES	**Sjenica**	**5.07**	**85**	*e*Pn	**Pn**	**19 35 45.7**	**+1.0**
SJES				*e*Sn	**Sn**	**19 36 42.1**	**-1.2**
UBR	**Ueberruh**	**5.12**	**337**	*e*Pn	**Pn**	**19 35 49.9**	**+4.6**
UBR				*e*Sn	**Sn**	**19 36 48.0**	**+3.6**
MORH	**Mrgy, Hungar**	**5.12**	**49**	⇑P	**Pn**	**19 35 48.2**	**+3.0**
DIVS	**Divibare**	**5.16**	**75**	*e*Pn	**Pn**	**19 35 47.5**	**+1.6**
DIVS	**Divibare**	**5.16**	**75**	*e*Pn	**Pn**	**19 35 46.3**	**+0.4**
LPL	**La Plagne**	**5.19**	**301**	*e*P	**Pn**	**19 35 48.8**	**+2.4**
LPL				*e*Sn	**Sn**	**19 36 41.0**	**-5.3**
	comp=N,12nm,0.6s						
IVAS	**Ivanjica**	**5.21**	**81**	*e*Pn	**Pn**	**19 35 47.7**	**+1.1**
IVAS				*e*Sn	**Sn**	**19 36 44.6**	**-2.1**
RONA	**Rosalia, Austr**	**5.22**	**25**	*e*Pn	**Pn**	**19 35 48.3**	**+1.6**
	comp=N,4.3nm,0.6s						
CONA	**Conrad Observa**	**5.31**	**21**	*e*Pn	**Pn**	**19 35 48.7**	**+0.8**
	comp=N,3.0nm,0.3s						
FRGS	**Fruska Gora**	**5.32**	**64**	*e*Pn	**Pn**	**19 35 48.8**	**+0.7**
FRGS	**Fruska Gora**	**5.32**	**64**	*e*Pn	**Pn**	**19 35 48.7**	**+0.7**
TIR	**Tirane**	**5.32**	**106**	⇑P	**Pn**	**19 35 49.6**	**+1.6**
TRUS	**Trudelj**	**5.48**	**75**	*e*Pn	**Pn**	**19 35 51.6**	**+1.5**
ORIF	**Oris-en-Rattie**	**5.52**	**293**	*e*P	**Pn**	**19 35 54.0**	**+3.2**
ORIF				*e*Sn	**Sn**	**19 36 49.1**	**-5.2**
	comp=N,3.5nm,0.4s						
SMRF	**Simiane la Rot**	**5.53**	**283**	*e*P	**Pn**	**19 35 53.6**	**+2.7**
SMRF				*e*Sn	**Sn**	**19 36 49.1**	**-5.3**
	comp=N,1.7nm,0.4s						
GRUS	**Gruza**	**5.65**	**78**	*e*Pn	**Pn**	**19 35 53.7**	**+1.2**
SULZ	**Cheisacher**	**5.71**	**324**	*e*Pn	**Pn**	**19 35 56.9**	**+3.5**
SULZ				*e*Sn	**Sn**	**19 36 59.9**	**+1.0**
EMING	**Emmingen-Lipti**	**5.72**	**330**	*e*Pn	**Pn**	**19 35 57.4**	**+4.0**
EMING				*e*Sn	**Sn**	**19 37 00.9**	**+1.8**
SLE	**Schleitheim**	**5.74**	**328**	*e*Pn	**Pn**	**19 35 57.0**	**+3.2**
BALST	**Balsthal**	**5.75**	**321**	*e*Pn	**Pn**	**19 35 56.8**	**+2.8**
BALST				*e*Sn	**Sn**	**19 37 00.5**	**+0.4**
GEC2	**GERESS Array S**	**5.86**	**4**	*e*Pn	**Pn**	**19 35 56.3**	**+0.8**
GEC2				*e*Sn	**Sn**	**19 37 02.1**	**-0.6**
GERES	**GERESS Array B**	**5.86**	**4**	Pn	**Pn**	**19 35 56.0**	**+0.5**
	comp=N,0.9nm,0.3s,baz=188,slow=13,SNR=23						
GERES				Sn	**Sn**	**19 37 01.6**	**-1.1**
	comp=N,3.2nm,0.3s,baz=182,slow=24,SNR=9.5						
	comp=N,1.4nm,0.4s						
CKRC	**Cesky Krumlov**	**5.88**	**8**	*e*PN	**Pn**	**19 35 56.0**	**+0.3**
CKRC				*e*SN	**Sn**	**19 37 01.4**	**-1.8**
SELS	**Selova**	**5.91**	**85**	*e*Pn	**Pn**	**19 35 56.4**	**+0.3**
BERGE	**Lenzkirch (DE)**	**5.96**	**327**	*e*Pn	**Pn**	**19 35 59.0**	**+2.3**
BERGE				*e*Sn	**Sn**	**19 37 04.0**	**-1.0**
OHR	**Ohrid**	**6.07**	**106**	*i* Pn	**Pn**	**19 36 01.4**	**+3.1**
OHR				*i* Sn	**Sn**	**19 37 09.8**	**+2.1**
SRN	**Sarande**	**6.08**	**119**	P	**Pb**	**19 36 15.6**	**+1.0**
CABF	**La Chapelle**	**6.13**	**308**	*e*P	**Pn**	**19 36 01.7**	**+2.5**
CABF				*e*Sn	**Sn**	**19 37 03.3**	**-6.0**
	comp=N,29nm,1.1s						
MODS	**Modra-Piesok**	**6.13**	**27**	*e*PN	**Pn**	**19 36 01.8**	**+2.7**
MODS				*e*SN	**Sn**	**19 37 06.8**	**-2.4**
KHC	**Kasperske Hory**	**6.14**	**3**	*e*PN	**Pn**	**19 35 59.9**	**+0.6**
KHC				*e*SN	**Sn**	**19 37 07.4**	**-2.1**
BFO	**Black Forest**	**6.27**	**330**	*e*Pn	**Pn**	**19 36 04.4**	**+3.3**
BFO				*e*Sn	**Sn**	**19 37 09.7**	**-3.0**
VIVF	**Saint-Julien-l**	**6.33**	**290**	*e*P	**Pn**	**19 36 04.8**	**+2.9**
BARS	**Barje**	**6.44**	**89**	*e*Pn	**Pn**	**19 36 03.5**	**+0.2**
KRUC	**Moravsky**	**6.49**	**20**	*e*PN	**Pn**	**19 36 03.7**	**-0.3**
HINF	**Hinteralfeld**	**6.50**	**320**	*e*P	**Pn**	**19 36 05.7**	**+1.5**
HINF				*e*Sn	**Sn**	**19 37 12.0**	**-6.3**
	comp=N,26nm,0.7s						
ECH	**Echery**	**6.65**	**324**	*e*Pn	**Pn**	**19 36 07.9**	**+1.7**
ECH				*e*Sn	**Sn**	**19 37 20.5**	**-1.6**
BZS	**Buzias**	**6.68**	**64**	⇑P	**Pn**	**19 36 05.1**	**-1.4**
CDF	**Champ du Feu**	**6.75**	**325**	*e*P	**Pn**	**19 36 09.3**	**+1.6**
CDF				*e*Sn	**Sn**	**19 37 18.1**	**-6.5**
	comp=N,15nm,0.6s						
LASF	**Ste Croix**	**6.77**	**282**	*e*P	**Pn**	**19 36 11.0**	**+3.1**
LASF				*e*Sn	**Sn**	**19 37 18.9**	**-6.1**
	comp=N,1.8nm,0.5s						
ROTZ	**Rotzenmuhle**	**6.79**	**355**	*e*Pn	**Pn**	**19 36 09.5**	**+1.3**
ROTZ				*e*Sn	**Sn**	**19 37 21.6**	**-3.8**
GRF	**Grafenberg Arr**	**6.81**	**350**	*e*Sn	**Sn**	**19 37 21.7**	**-4.2**
VYHS	**Vyhne**	**6.82**	**34**	*e*PN	Pn	19 36 14.4	+5.8
HAU	**Haudompre**	**6.87**	**319**	*e*P	**Pn**	**19 36 11.0**	**+1.7**
HAU				*e*Sn	**Sn**	**19 37 21.0**	**-6.4**
	comp=N,28nm,0.4s						
STIP	**Stip**	**6.89**	**98**	*i* Pn	**Pn**	**19 36 13.1**	**+3.5**
STIP				*i* Sn	**Sn**	**19 37 30.7**	**+2.8**
ZAPS	**Zavoj**	**7.01**	**85**	*e*Pn	**Pn**	**19 36 10.7**	**-0.6**
ZAPS				*e*Sn	**Sn**	**19 37 27.3**	**-3.7**
HERR	**Herculane**	**7.01**	**71**	⇑P	**Pn**	**19 36 12.1**	**+0.8**
PRU	**Pruhonice**	**7.06**	**8**	*e*PN	**Pn**	**19 36 11.8**	**-0.1**
PRU				*e*SN	**Sn**	**19 37 28.6**	**-3.5**
NKC	**Novy Kostel**	**7.25**	**357**	*e*SN	**Sn**	**19 37 36.1**	**-0.6**
SMF	**Signal de Mont**	**7.49**	**302**	*e*P	**Pn**	**19 36 20.4**	**+2.6**
SMF				*e*Sn	**Sn**	**19 37 36.0**	**-6.7**
	comp=N,13nm,0.8s						
VTS	**Vitosha**	**7.50**	**89**	⇑P	**Pn**	**19 36 20.2**	**+2.2**
PAGF	**Fort de Pagny**	**7.55**	**320**	*e*P	**Pn**	**19 36 21.8**	**+3.2**
PAGF				*e*Sn	**Sn**	**19 37 37.1**	**-7.1**
	comp=N,16nm,0.7s						
SFTF	**Sexfontaines**	**7.66**	**316**	*e*P	**Pn**	**19 36 22.8**	**+2.8**
SFTF				*e*Sn	**Sn**	**19 37 39.8**	**-6.9**
	comp=N,5.2nm,0.4s						
LOR	**Lormes**	**7.77**	**306**	*e*P	**Pn**	**19 36 24.4**	**+2.7**
	baz=121						
LOR				*e*Sn	**Sn**	**19 37 42.7**	**-6.9**
	comp=N,7.1nm,0.6s						
KEST	**Kesra**	**7.81**	**203**	Pn	Pn	19 36 29.6	+7.4
	comp=N,0.6nm,0.3s,baz=18,slow=2.6,SNR=8.6						
KEST				LR	LR	19 39 28.3	
	comp=N,86nm,21.7s,baz=235,slow=37						
	comp=N,3.6nm,0.7s						
MEZF	**Maizieres J'vi**	**7.84**	**317**	*e*P	**Pn**	**19 36 25.8**	**+3.2**
MEZF				*e*Sn	**Sn**	**19 37 44.3**	**-7.0**
	comp=N,2.4nm,0.3s						
AVF	**Avril sur Loir**	**7.86**	**302**	*e*P	**Pn**	**19 36 25.5**	**+2.7**
AVF				*e*Sn	**Sn**	**19 37 44.7**	**-7.0**
	comp=N,46nm,1.7s						
SAVF	**Savonnieres en**	**7.88**	**318**	*e*P	**Pn**	**19 36 26.5**	**+3.4**

s-min=18.8km az=116.0
*NIED **27** 19:37:15.8,37.92N×144.11E,h53km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.81; $M_{\theta\theta}$2.22; $M_{\phi\phi}$0.60; $M_{r\theta}$0.59; $M_{\theta\phi}$0.14; $M_{\phi r}$-0.36; Fault plane solution: $M_0$2.61000×10^{14} NP1:ϕ_s79.00000°, δ39.00000°,λ-100.00000°. NP2:ϕ_s272.00000°, δ52.00000°,λ-82.00000°.*
*JMA **27** 19:37:15.8±0.2,37.9N±0.7×144.1E±0.9,h53km,MV4.0/31, FAR E OFF NORTH HONSHU*
ISC 27 19:37:18.3±1.0,37.95N±0.05×144.07E±0.09,h50km,n27, σ2s23/40,mb3.8/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.09**	**281**	P	**Pn**		**19 37 49.8**	**-1.0**
JIKH				S	**Sn**		**19 38 14.8**	**-0.8**
OFUJ	**Ofunato**	**2.20**	**302**	P	**Pn**		**19 37 51.5**	**-0.9**
OFUJ				S	**Sn**		**19 38 18.0**	**-0.4**
JIO	**Ouri**	**2.21**	**284**	P	**Pn**		**19 37 51.6**	**-0.8**
JIO				S	**Sn**		**19 38 18.0**	**-0.5**
JKMT	**Kesennumamotoy**	**2.22**	**294**	P	**Pn**		**19 37 51.6**	**-1.0**
JKMT				S	**Sn**		**19 38 18.3**	**-0.5**
JMK	**Ichinoseki**	**2.45**	**295**	P	**Pn**		**19 37 55.4**	**-0.5**
JMK				S	**Sn**		**19 38 24.2**	**-0.4**
JOM	**Ohasama**	**2.66**	**306**	P	**Pn**		**19 37 58.3**	**-0.4**
JOM				S	**Sn**		**19 38 30.0**	**+0.4**
JYK	**Kaneyama**	**3.07**	**290**	P	**Pn**		**19 38 04.2**	**-0.1**
JYK				S	**Sn**		**19 38 40.9**	**+1.0**
JANG	**Nango**	**3.13**	**321**	P	**Pn**		**19 38 04.5**	**-0.8**
JANG				S	**Sn**		**19 38 40.0**	**-1.4**
JOT	**Ohata**	**4.15**	**327**	P	**Pn**		**19 38 18.7**	**-0.4**
JOT				*e*S	**Sn**		**19 39 04.1**	**-2.2**
JRY	**Ryogami san**	**4.56**	**247**	P	**Pn**		**19 38 23.7**	**-1.2**
JRY				S	**Sn**		**19 39 14.5**	**-2.1**
JCH	**Churui**	**4.70**	**354**	P	**Pn**		**19 38 23.8**	**-2.8**
JCH				S	**Sn**		**19 39 15.4**	**-4.4**
JOD2	**Odawara 2**	**4.82**	**238**	P	**Pn**		**19 38 27.5**	**-0.8**
JOD2				*e*S	**Sn**		**19 39 19.4**	**-3.6**
MJAR	**Matsushiro Arr**	**4.88**	**255**	Pn	**Pn**		**19 38 29.4**	**+0.2**
	0.5nm,0.3s,baz=71,slow=9.5,SNR=47							
MJAR				Sn	**Sn**		**19 39 25.9**	**+1.4**
	0.3nm,0.3s,baz=76,slow=24,SNR=5.8 3.4nm,0.3s							
NEM2	**Nemuro 2**	**5.56**	**13**	P	Pn		19 38 33.5	-5.0
NEM2				*e*S	Sn		19 39 31.8	-9.2
JHJ	**Hachijo jima 2**	**5.95**	**217**	Pn	**Pn**		**19 38 40.6**	**-3.3**
	5.9nm,0.3s,baz=26,slow=13,SNR=1.7							
JHJ				Sn	**Sn**		**19 39 44.9**	**-5.7**
	30nm,0.3s,baz=101,slow=23,SNR=6.8 156nm,1.0s							
JTKR	**Abashiri--Toko**	**6.02**	**359**	P	**Pn**		**19 38 41.6**	**-3.1**
JTKR				S	**Sn**		**19 39 45.5**	**-6.8**
JHR	**Hokuryu**	**6.06**	**344**	P	**Pn**		**19 38 45.1**	**-0.2**
JHR				*e*S	**Sn**		**19 39 51.4**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**26.88**	**126**	T	T		20 10 45.8	
	baz=320,SNR=2.8							
H11N1	**WAKE ISLAND Hy**	**26.89**	**126**	T	T		20 10 15.1	
	baz=320							
H11N3	**WAKE ISLAND Hy**	**26.90**	**126**	T	T		20 10 46.9	
	baz=320							
ZALV	**Zalesovo Beam**	**42.88**	**312**	P	**P**		**19 45 13.8**	**+2.3**
	0.4nm,0.4s,baz=96,slow=5.8,SNR=2.8							
ZALV				PcP	**PcP**		**19 47 02.8**	**+1.2**
	0.9nm,0.5s,baz=90,slow=4.9,SNR=4.5 0.4nm,0.4s							
MKAR	**Makanchi Array**	**45.43**	**302**	P	**P**		**19 45 34.2**	**+2.1**
	1.0nm,0.6s,baz=85,slow=9.6,SNR=12 1.0nm,0.6s							
ILAR	**Eielson Array**	**47.59**	**33**	P	**P**		**19 45 48.9**	**+0.2**
	0.8nm,0.8s,baz=261,slow=6.9,SNR=9.5 0.8nm,0.8s							
INK	**Inuvik**	**52.60**	**28**	P	**P**		**19 46 27.3**	**+0.8**
	1.1nm,0.6s,baz=303,slow=5.1,SNR=7.6 1.1nm,0.6s							
WRA	**Warramunga Arr**	**58.30**	**191**	P	**P**		**19 47 06.7**	**-1.3**
	1.4nm,0.6s,baz=11,slow=7.3,SNR=19 1.4nm,0.6s							
ASAR	**Alice Springs**	**62.02**	**191**	P	**P**		**19 47 32.9**	**-0.7**
	0.3nm,0.6s,baz=12,slow=8.4,SNR=7.5 0.3nm,0.6s							
GEYT	**Alibeck**	**65.23**	**300**	P	**P**		**19 47 56.7**	**+1.9**
	1.1nm,0.6s,baz=48,slow=2.1,SNR=3.1 1.1nm,0.6s							

*NIED **27** 19:44:01.2,37.37N×141.59E,h29km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.39; $M_{\theta\theta}$-0.38; $M_{\phi\phi}$0.76; $M_{r\theta}$0.51; $M_{\theta\phi}$1.47; $M_{\phi r}$-0.49; Fault plane solution: $M_0$1.76000×10^{14} NP1: ϕ_s256.00000°,δ69.00000°,λ-18.00000°. NP2: ϕ_s353.00000°,δ74.00000°,λ-158.00000°.*
JMA 27 19:44:01.2±0.2,37.4N±0.3×141.6E±0.8,h29km±1km, MV3.7/40,E OFF FUKUSHIMA PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**270**	P	Pb		19 44 12.4	-0.4
JFK				S	Sb		19 44 20.1	-0.6
JMST	**Minamisoumatoc**	**0.66**	**303**	*i* P	Pb		19 44 13.8	-0.5
JMST				*e*S	Sb		19 44 23.0	-0.2
JMM	**Marumori**	**0.81**	**309**	P	Pn		19 44 16.0	-0.7
JMM				S	Sb		19 44 26.9	-0.3
JFFD	**Fukushimafurud**	**0.86**	**252**	P	Pn		19 44 17.0	-0.5
JFFD				*e*S	Sb		19 44 28.4	-0.5
JIO	**Ouri**	**1.10**	**350**	P	Pn		19 44 20.7	0.0
JIO				S	Sb		19 44 35.6	-0.1
JHO	**Hitachi**	**1.11**	**228**	*i* P	Pn		19 44 20.2	-0.6
JHO				*e*S	Sn		19 44 34.7	-0.5
JOU	**Okura**	**1.24**	**324**	*i* P	Pb		19 44 23.7	-0.3
JOU				S	Sb		19 44 40.4	+0.8
JYS	**Shirataka**	**1.48**	**306**	*i* P	Pb		19 44 27.8	-0.3
JYS				S	Sb		19 44 47.5	+1.1
JFY	**Yanaizu**	**1.50**	**272**	P	Pb		19 44 27.7	-0.8
JFY				S	Sb		19 44 47.7	+0.6

*NOU **27** 19:58:37.2,42.39Sx173.78E,h16km,MLv3.6/6,South Island, New Zealand*
*WEL **27** 19:58:38.3±0.3,42.2S±2.2×17.4E±.1°,h5km,M3.0/24, ML3.2/12,MLv3.0/24,Error ellipse: s-maj=0.0km s-min=0.0km az=106.4*
ISC 27 19:58:37.2±0.9,42.24S±0.03×173.64E±0.04,h10km,n39, σ1s05/42,South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**202**	P	**Pg**		**19 58 42.9**	**+1.6**
KHZ	**Kahutara**	**0.20**	**202**	P	**Pg**		**19 58 42.9**	**+1.6**
KHZ				S	**Sg**		**19 58 46.2**	**+2.1**
BSWZ	**Blackbirch Sta**	**0.55**	**19**	P	**Pb**		**19 58 49.1**	**+0.2**
BSWZ				S	**Sb**		**19 58 57.2**	**+0.4**
CMWZ	**Cape Campbell**	**0.65**	**42**	P	**Pn**		**19 58 52.2**	**-0.3**
THZ	**Tophouse**	**0.72**	**311**	P	**Pb**		**19 58 51.6**	**-0.3**
THZ				S	**Sg**		**19 59 00.6**	**0.0**
TUWZ	**Tuamarina**	**0.84**	**16**	P	**Pn**		**19 58 54.2**	**-0.8**
GVZ	**Greta Valley S**	**0.86**	**211**	P	**Pn**		**19 58 54.7**	**-0.7**
NNZ	**Nelson**	**1.04**	**349**	P	**Pb**		**19 58 57.2**	**0.0**
MRNZ	**Matariki Terra**	**1.06**	**322**	P	**Pn**		**19 58 57.9**	**-0.2**
TCW	**Tory Channel**	**1.13**	**25**	P	**Pn**		**19 58 58.9**	**-0.1**
LTZ	**Lake Taylor**	**1.15**	**241**	P	**Pb**		**19 58 58.7**	**-0.4**
AMCZ	**Amberley**	**1.19**	**217**	P	**Pb**		**19 58 59.2**	**-0.7**
SNZO	**South Karori**	**1.22**	**41**	P	**Pg**		**19 59 00.4**	**-0.2**
TKNZ	**Takaka Hill**	**1.30**	**337**	P	**Pb**		**19 59 01.8**	**0.0**
PLWZ	**Palliser**	**1.38**	**62**	P	**Pn**		**19 59 01.8**	**-0.7**
DUWZ	**D'Urville Isla**	**1.45**	**9**	P	**Pb**		**19 59 04.0**	**-0.2**
DSZ	**Denniston Nort**	**1.45**	**289**	P	**Pg**		**19 59 04.6**	**-0.5**
MSWZ	**Moikau Station**	**1.46**	**56**	P	**Pn**		**19 59 02.8**	**-0.8**
OKCZ	**Okains Bay**	**1.55**	**196**	P	**Pn**		**19 59 03.7**	**-1.2**
CAW	**Cannon Point**	**1.56**	**44**	P	**Pn**		**19 59 04.5**	**-0.4**
PAWZ	**Paruwai Farm**	**1.59**	**58**	P	**Pn**		**19 59 04.4**	**-1.0**
OXZ	**Oxford**	**1.60**	**227**	P	**Pn**		**19 59 04.0**	**-1.6**
QRZ	**Quartz Range**	**1.64**	**329**	P	**Pb**		**19 59 07.6**	**+0.1**
QRZ	**Quartz Range**	**1.64**	**329**	P	**Pb**		**19 59 07.6**	**+0.1**
MQZ	**McQueen's Vall**	**1.64**	**206**	P	**Pn**		**19 59 04.1**	**-2.0**
INZ	**Inchbonnie**	**1.69**	**253**	P	**Pn**		**19 59 06.6**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.72**	**198**	P	**Pn**		**19 59 05.9**	**-1.3**
OGWZ	**Otaki Gorge**	**1.83**	**40**	P	**Pn**		**19 59 08.1**	**-0.6**
RACZ	**Rakaia**	**1.85**	**216**	P	**Pn**		**19 59 07.3**	**-1.7**
MRZ	**Mangatainoka R**	**2.15**	**43**	P	**Pn**		**19 59 12.1**	**-0.9**
WACZ	**Wakanui South**	**2.16**	**217**	P	**Pn**		**19 59 11.6**	**-1.6**
WVZ	**Waitaha Valley**	**2.30**	**248**	P	**Pn**		**19 59 14.9**	**-0.2**
RPZ	**Rata Peaks**	**2.40**	**231**	P	**Pn**		**19 59 15.3**	**-1.4**
RPZ	**Rata Peaks**	**2.40**	**231**	P	**Pn**		**19 59 15.2**	**-1.4**
GCSZ	**Gaunt Creek Bo**	**2.67**	**245**	P	**Pn**		**19 59 20.2**	**0.0**
TMZ	**Timaru**	**2.88**	**221**	P	**Pn**		**19 59 22.3**	**-0.8**
ODZ	**Otahua Downs**	**3.55**	**217**	P	**Pn**		**19 59 30.5**	**-1.8**
ODZ	**Otahua Downs**	**3.55**	**217**	P	**Pn**		**19 59 30.3**	**-2.0**
JCZ	**Jackson Bay**	**4.00**	**241**	P	**Pn**		**19 59 39.1**	**+0.5**

*NEIC **27** 20:13:00.3±2.3,18.61S±0.09×169.03E±0.10,h155km±6km, mb4.6/43,Error ellipse: s-maj=13.5km s-min=12.1km az=63.0*
*NOU **27** 20:13:00.6,18.76S×169.25E,h165km,mb4.9/42, Vanuatu Islands*
*IDC **27** 20:13:02.3±1.4,18.72S×168.72E,h156km±12km, mb3.9/11,mbtmp4.3/13,MS3.0/2,Error ellipse: s-maj=17.7km s-min=10.8km az=142.0*
ISC 27 20:13:00.2±0.4,18.76S±0.05×169.02E±0.07,h150km, n157,σ1s51/163,mb4.5/45,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.11**	**329**	P	Pn		20 13 29.2	+3.2
DVP	**Devils Point**	**1.30**	**322**	P	**Pn**		**20 13 30.8**	**+3.0**
LIFNC	**LIFOU**	**2.62**	**220**	Pn	**Pn**		**20 13 43.1**	**+0.3**
LIFNC	**LIFOU**	**2.62**	**220**	P	**Pn**		**20 13 43.6**	**+0.8**
MARNC	**Mare, Loyalty**	**2.86**	**199**		**Pn**		**20 13 46.5**	**+0.6**
MARNC	**Mare, Loyalty**	**2.86**	**199**	P	**Pn**		**20 13 46.8**	**+0.9**
YATNC	**Mamie plateau,**	**3.84**	**211**	P	**Pn**		**20 14 00.8**	**+2.3**
DZM	**Mont Dzumac**	**4.08**	**216**	P	**Pn**		**20 14 03.2**	**+1.5**
	55nm,0.3s,baz=72,slow=8.8,SNR=235							
DZM				S	**Sn**		**20 14 47.6**	**-1.9**
	248nm,0.4s,baz=152,slow=22,SNR=11							
DZM	**Mont Dzumac**	**4.08**	**216**	P	**Pn**		**20 14 04.0**	**+2.3**
OUENC	**Ouen Island, N**	**4.17**	**209**		**Pn**		**20 14 04.8**	**+2.0**
OUENC	**Ouen Island, N**	**4.17**	**209**	P	**Pn**		**20 14 05.5**	**+2.7**
ONTNC	**Ouen Toro**	**4.27**	**214**		**Pn**		**20 14 06.3**	**+2.2**
ONTNC	**Ouen Toro**	**4.27**	**214**	P	**Pn**		**20 14 06.7**	**+2.7**
KOUNC	**Koumac, New Ca**	**4.80**	**247**	Pn	**Pn**		**20 14 12.8**	**+1.7**
KOUNC	**Koumac, New Ca**	**4.80**	**247**	P	**Pn**		**20 14 14.4**	**+3.3**
MSVF	**Nonsavu**	**8.64**	**85**	P	Pn		20 15 06.9	+4.5
	3.5nm,0.7s,baz=249,slow=17,SNR=3.1							
LHI	**Lord Howe Isla**	**15.57**	**213**	Pn	**Pn**		**20 16 29.9**	**-1.8**
EIDS	**Eidsvold**	**17.87**	**245**	Pn	**Pn**		**20 17 00.9**	**+1.3**
EIDS				IAmb	IAmb		20 17 01.6	
	comp=Z,24nm,0.6s							
EIDS	**Eidsvold**	**17.87**	**245**	P	**Pn**		**20 17 01.1**	**+1.5**
AFI	**Afiamalu**	**19.05**	**78**	LR	LR		20 23 40.7	
	comp=Z,41nm,20.5s,baz=320,slow=33							
ARMA	**Armidale**	**19.59**	**230**	P	**P**		**20 17 17.9**	**+1.0**
ARMA				IAmb	IAmb		20 17 26.2	
	comp=Z,19nm,1.1s							
ARMA	**Armidale**	**19.59**	**230**	P	**P**		**20 17 18.5**	**+1.6**
RMQ	**Roma**	**20.20**	**244**	P	**P**		**20 17 25.7**	**+2.2**
NTLH	**Newcastle Hard**	**20.96**	**224**	P	**P**		**20 17 31.8**	**+0.3**
TV1H	**Townsville Har**	**21.02**	**265**	P	**P**		**20 17 34.7**	**+2.5**
BKZ	**Black Stump Fm**	**21.34**	**164**	P	**P**		**20 17 36.2**	**+0.6**
BKZ				IAmb	IAmb		20 17 44.1	
	comp=Z,9.7nm,0.5s							
CTA	**Charters Tower**	**21.51**	**263**	P	**P**		**20 17 39.2**	**+1.7**
	comp=Z,19nm,0.5s,baz=89,slow=11,SNR=56							
CTA	**Charters Tower**	**21.51**	**263**	P	**P**		**20 17 39.4**	**+1.9**
AULRC	**Lightning Ridg**	**21.91**	**237**	P	**P**		**20 17 42.9**	**+1.3**
	comp=Z,50nm,0.8s							
SNZO	**South Karori**	**23.00**	**169**	P	**P**		**20 17 50.2**	**-1.6**
PMG	**Port Moresby**	**23.13**	**291**	P	**P**		**20 17 54.1**	**+0.7**
	comp=Z,12nm,0.8s,baz=120,slow=9.3,SNR=4.4 comp=Z,12nm,0.8s							
THZ	**Tophouse**	**23.17**	**173**	P	**P**		**20 17 56.5**	**+3.0**
THZ	**Tophouse**	**23.17**	**173**	P	**P**		**20 17 56.5**	**+3.0**
MSWZ	**Moikau Station**	**23.20**	**168**	P	**P**		**20 17 55.1**	**+1.4**
MSWZ	**Moikau Station**	**23.20**	**168**	P	**P**		**20 17 55.3**	**+1.5**
PLWZ	**Palliser**	**23.35**	**168**	P	**P**		**20 17 54.8**	**-0.3**
PLWZ	**Palliser**	**23.35**	**168**	P	**P**		**20 17 55.2**	**+0.1**
MTSU	**Mount Surprise**	**23.44**	**268**	P	**P**		**20 17 57.7**	**+1.5**
CNB	**Canberra Magne**	**23.98**	**223**	P	**P**		**20 18 00.4**	**-0.6**
QLP	**Quilpie**	**24.13**	**247**	P	**P**		**20 18 03.4**	**+1.0**
CAN	**Canberra**	**24.21**	**223**	P	**P**		**20 18 04.1**	**+0.9**
CAN				IAmb	IAmb		20 18 05.0	
	comp=Z,14nm,1.1s							
GVZ	**Greta Valley S**	**24.37**	**173**	P	**P**		**20 18 04.5**	**+0.2**
GVZ	**Greta Valley S**	**24.37**	**173**	P	**P**		**20 18 04.7**	**+0.3**
CMSA	**Cobar Meteorol**	**24.59**	**234**	P	**P**		**20 18 07.6**	**+1.1**
COEN	**Coen**	**25.24**	**277**	P	**P**		**20 18 11.4**	**-1.1**
COEN				IAmb	IAmb		20 18 14.3	
	comp=Z,9.9nm,1.0s							
INKA	**Innaminka**	**27.42**	**246**	P	**P**		**20 18 33.1**	**+1.1**
QIS	**Mount Isa**	**27.74**	**261**	P	**P**		**20 18 35.7**	**+0.7**
STKA	**Stephens Creek**	**27.93**	**237**	P	**P**		**20 18 37.0**	**+0.5**
	comp=Z,14nm,0.6s,baz=73,slow=9.4,SNR=49 comp=Z,14nm,0.6s							
STKA	**Stephens Creek**	**27.93**	**237**	P	**P**		**20 18 36.0**	**-0.5**
STKA				PcP	**PcP**		**20 21 49.2**	**+1.0**
STKA	**Stephens Creek**	**27.93**	**237**	P	**P**		**20 18 37.4**	**+0.9**
LCRK	**Leigh Creek**	**30.23**	**241**	P	**P**		**20 18 57.4**	**+0.5**
HTT	**Hallett**	**30.59**	**235**	P	**P**		**20 19 00.9**	**+0.8**
OOD	**Oodnadatta**	**31.83**	**247**	P	**P**		**20 19 11.9**	**+0.9**
WR0	**Warramunga Arr**	**32.52**	**262**	P	**P**		**20 19 15.9**	**-1.2**
WR0				IAmb	IAmb		20 19 16.6	
	comp=Z,5.1nm,0.7s							
WR0				PcP	**PcP**		**20 22 00.2**	**-0.3**
BBOO	**Buckleboo**	**32.66**	**238**	P	**P**		**20 19 18.2**	**0.0**
BBOO				IAmb	IAmb		20 19 19.5	
	comp=Z,25nm,1.0s							
BBOO	**Buckleboo**	**32.66**	**238**	P	**P**		**20 19 18.5**	**+0.3**
WB0	**Warramunga Arr**	**32.67**	**262**	P	**P**		**20 19 17.3**	**-1.2**
WB0				IAmb	IAmb		20 19 18.4	
	comp=Z,11nm,0.6s							
WB2	**Warramunga Arr**	**32.70**	**262**	P	**P**		**20 19 17.6**	**-1.1**
WB2				IAmb	IAmb		20 19 18.7	
	comp=Z,9.2nm,1.0s							
WRAB	**Tennant Creek**	**32.70**	**262**	P	**P**		**20 19 16.3**	**-2.4**
WRAB				IAmb	IAmb		20 19 18.7	
	comp=Z,9.6nm,1.1s							
WRAB	**Tennant Creek**	**32.70**	**262**	P	**P**		**20 19 17.8**	**-0.9**
WRA	**Warramunga Arr**	**32.71**	**262**	P	**P**		**20 19 17.8**	**-1.0**
	comp=Z,5.3nm,0.7s,baz=95,slow=8.3,SNR=98							
WRA				S	**S**		**20 24 18.9**	**-5.5**
	comp=Z,0.4nm,0.9s,baz=98,slow=17,SNR=2.7							
WRA				ScP	**ScP**		**20 25 31.0**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=82,slow=3.7,SNR=7.0							
WRA				PKiKP	**PKiKP**		**20 29 26.6**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=34,slow=0.3,SNR=6.2 comp=Z,5.3nm,0.7s							
WRA	**Warramunga Arr**	**32.71**	**262**	P	**P**		**20 19 16.0**	**-2.7**
AS01	**Alice Springs**	**33.00**	**255**	P	**P**		**20 19 21.1**	**-0.2**
AS31	**Alice Springs**	**33.04**	**255**	P	**P**		**20 19 19.7**	**-2.0**
ASAR	**Alice Springs**	**33.04**	**255**	P	**P**		**20 19 21.4**	**-0.2**
	comp=Z,33nm,0.5s,baz=82,slow=8.8,SNR=581							
ASAR				pP	**pP**		**20 19 53.1**	**+0.8**
	comp=Z,3.7nm,0.7s,baz=83,slow=8.6,SNR=2.1							
ASAR				S	**S**		**20 24 25.9**	**-3.6**
	comp=Z,1.0nm,0.9s,baz=84,slow=18,SNR=5.3							
ASAR				ScP	**ScP**		**20 25 32.3**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=103,slow=2.9,SNR=5.6							
ASAR	**Alice Springs**	**33.04**	**255**	P	**P**		**20 19 20.7**	**-1.0**
MULG	**Mulgathing**	**33.68**	**243**	P	**P**		**20 19 27.5**	**+0.4**
MTN	**Manton Dam**	**36.87**	**274**	P	**P**		**20 19 53.8**	**-0.8**
MTN	**Manton Dam**	**36.87**	**274**	P	**P**		**20 19 54.9**	**+0.4**
WRKA	**Warakurna**	**38.19**	**253**	P	**P**		**20 20 05.5**	**-0.1**
KNRA	**Kununurra**	**38.52**	**268**	P	**P**		**20 20 07.9**	**-0.5**
KNRA	**Kununurra**	**38.52**	**268**	P	**P**		**20 20 08.1**	**-0.2**
FORT	**Forrest**	**38.87**	**244**	P	**P**		**20 20 10.2**	**-0.9**
FAKI	**Fak Fak**	**39.27**	**289**	P	**P**		**20 20 12.9**	**-1.7**
FAKI				IAmb	IAmb		20 20 15.2	
	comp=Z,15nm,0.9s							
FAKI	**Fak Fak**	**39.27**	**289**	P	**P**		**20 20 14.0**	**-0.6**
	comp=Z,20nm,0.8s							
FAKI	**Fak Fak**	**39.27**	**289**	P	**P**		**20 20 14.6**	**0.0**
SIJI	**Sorong**	**41.07**	**291**	LR	LR		20 35 57.1	
	comp=Z,30nm,21.6s,baz=332,slow=34							
SOEI	**Soe**	**44.18**	**275**	P	**P**		**20 20 55.9**	**+1.2**
	comp=Z,15nm,0.9s							
BATI	**Baumata**	**44.63**	**274**	P	**P**		**20 20 59.5**	**+1.4**
	comp=Z,34nm,0.9s							
SANI	**Sanana**	**45.29**	**286**	P	**P**		**20 21 03.6**	**+0.3**
	comp=Z,9.0nm,1.6s							
PSA00	**Pilbara Seismi**	**46.10**	**258**	P	**P**		**20 21 09.7**	**0.0**
PSA00				IAmb	IAmb		20 21 10.7	
	comp=Z,19nm,0.7s							
PSA00	**Pilbara Seismi**	**46.10**	**258**	P	**P**		**20 21 10.4**	**+0.8**
MBWA	**Marble Bar**	**46.24**	**258**	P	**P**		**20 21 09.9**	**-0.9**
MBWA				IAmb	IAmb		20 21 11.5	
	comp=Z,14nm,0.5s							
MBWA	**Marble Bar**	**46.24**	**258**	P	**P**		**20 21 11.3**	**+0.5**
MMRI	**Maumere**	**46.43**	**276**	P	**P**		**20 21 11.9**	**-0.4**
	comp=Z,38nm,1.0s							
MEEK	**Meekatharra**	**46.91**	**251**	P	**P**		**20 21 16.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**48.25**	**242**	P	**P**		**20 21 22.7**	**-3.4**
NWAO				IAmb	IAmb		20 21 26.5	
	comp=Z,18nm,0.9s							
MORW	**Morawa**	**49.16**	**248**	P	**P**		**20 21 32.4**	**-0.7**
MORW				IAmb	IAmb		20 21 47.1	
	comp=Z,12nm,1.1s							
BKSI	**Bulukumba**	**49.48**	**279**	P	**P**		**20 21 35.5**	**-0.2**
	comp=Z,15nm,1.1s							
PLAI	**Plampang**	**50.58**	**274**	P	**P**		**20 21 44.3**	**+0.2**
GIRL	**Giralia**	**51.16**	**256**	P	**P**		**20 21 45.6**	**-2.6**
TWSI	**Taliwang, Sumb**	**51.45**	**274**	P	**P**		**20 21 49.7**	**-0.9**
	comp=Z,16nm,1.1s							
JAGI	**Jajag, Banyuwa**	**54.11**	**273**	P	**P**		**20 22 09.0**	**-1.1**
VNDA	**Vanda**	**58.90**	**182**	P	**P**		**20 22 45.6**	**+2.6**
	comp=Z,0.9nm,0.6s,baz=357,slow=8.2,SNR=11 comp=Z,0.9nm,0.6s							
VNDA	**Vanda**	**58.90**	**182**	P	**P**		**20 22 43.8**	**+0.9**
SBA	**Scott Base**	**59.14**	**181**	P	**P**		**20 22 45.4**	**+0.8**
SBA				IAmb	IAmb		20 22 49.5	
	comp=Z,5.1nm,0.7s							
CASY	**Casey**	**60.48**	**203**	P	**P**		**20 22 53.1**	**-0.8**
MJAR	**Matsushiro Arr**	**62.23**	**332**	P	**P**		**20 23 06.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=165,slow=6.7,SNR=4.2 comp=Z,0.9nm,0.5s							
JNU	**Nakatsue**	**63.16**	**324**	P	**P**		**20 23 09.2**	**-3.1**
JNU				IAmb	IAmb		20 23 26.5	
	comp=Z,23nm,1.1s							
JHS	**Saijyo**	**63.41**	**327**	P	**P**		**20 23 11.3**	**-2.7**
JHS				IAmb	IAmb		20 23 26.4	
	comp=Z,14nm,1.0s							
QSPA	**South Pole Qui**	**71.29**	**180**	P	**P**		**20 24 04.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**72.23**	**353**	P	**P**		**20 24 05.6**	**-3.1**
PEA0B				IAmb	IAmb		20 24 17.1	
	comp=Z,28nm,1.1s							
PETK	**Petropavlovsk-**	**72.23**	**353**	P	**P**		**20 24 09.2**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=134,slow=6.4,SNR=6.6 comp=Z,4.1nm,0.8s							
PETK	**Petropavlovsk-**	**72.23**	**353**	P	**P**		**20 24 08.1**	**-0.6**
UNV	**Unalaska Valle**	**75.31**	**15**	P	**P**		**20 24 23.9**	**-2.6**
CMAR	**Chiang Mai Arr**	**78.12**	**294**	P	**P**		**20 24 44.8**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=137,slow=4.5,SNR=7.8							
CMAR				pP	**pP**		**20 25 22.4**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=134,slow=5.1,SNR=2.2 comp=Z,1.0nm,0.7s							
MAW	**Mawson**	**78.80**	**202**	P	**P**		**20 24 48.7**	**+2.7**
	comp=Z,1.4nm,0.7s,baz=108,slow=13,SNR=3.5 comp=Z,1.4nm,0.7s							
MAW	**Mawson**	**78.80**	**202**	P	**P**		**20 24 47.0**	**+1.0**
PZH	**PanZhiHua**	**79.27**	**303**	P	**P**		**20 24 51.8**	**+2.3**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,110nm,5.1s							
HHC	**Hu-ho-hao-te**	**79.72**	**319**	*e*P	**P**		**20 24 52.8**	**+1.2**
HHC				pmax	pmax			
	comp=Z,14nm,0.9s							
HHC				pmax	pmax			
	comp=

WEL	**Wellington**	**0.61**	**48**	P	Pb	20 17 51.4	+0.5
NNZ	**Nelson**	**0.76**	**309**	P	Pb	20 17 53.4	0.0
KHZ	**Kahutara**	**0.86**	**213**	P	Pn	20 17 55.7	-0.3
CAW	**Cannon Point**	**0.90**	**49**	P	Pg	20 17 56.3	+0.3
DUWZ	**D'Urville Isla**	**0.91**	**348**	P	Pb	20 17 56.1	0.0
PAWZ	**Paruwai Farm**	**1.00**	**72**	P	Pb	20 17 55.5	-2.1
KIW	**Kapiti Island**	**1.01**	**34**	P	Pg	20 17 57.9	-0.1
MRNZ	**Matariki Terra**	**1.09**	**285**	P	Pg	20 17 59.7	0.0
TKNZ	**Takaka Hill**	**1.12**	**306**	P	Pg	20 18 00.3	+0.1
MTW	**Mount Morrison**	**1.14**	**62**	P	Pb	20 17 59.7	-0.2
OGWZ	**Otaki Gorge**	**1.16**	**41**	P	Pg	20 18 00.8	-0.1
TMWZ	**Te Maipa**	**1.43**	**66**	P	Pn	20 18 03.4	-0.6
MRZ	**Mangatainoka R**	**1.49**	**46**	P	Pn	20 18 04.8	+0.1
QRZ	**Quartz Range**	**1.51**	**305**	P	Pb	20 18 06.5	+0.4
CPWZ	**Castlepoint**	**1.73**	**64**	P	Pg	20 18 14.1	+2.4
DSZ	**Denniston Nort**	**1.77**	**268**	P	Pb	20 18 10.3	-0.3
LTZ	**Lake Taylor**	**1.77**	**232**	P	Pn	20 18 08.6	-0.2
AMCZ	**Amberley**	**1.85**	**217**	P	Pg	20 18 15.8	+1.6
OKCZ	**Okains Bay**	**2.18**	**201**	P	Pn	20 18 12.6	-1.7
INZ	**Inchbonnie**	**2.27**	**242**	P	Pb	20 18 18.3	-0.8
KHEZ	**Kahui Hut**	**2.40**	**357**	P	Pb	20 18 22.7	+1.2
MOVZ	**Moawhango**	**2.59**	**28**	P	Pb	20 18 25.2	+0.6

*LDG **27** 20:40:18.1±0.1, 43°.01N×13°.11E, h10km, Ml2.7/14, Error ellipse: s-maj=3.1km s-min=1.8km az=67.0*
*ROM **27** 20:40:18.6±0.1, 43°.015N±0°.003×13°.069E±0°.004, h10km, ML3.4/5, Error ellipse: s-maj=0.3km s-min=0.3km az=71.0*
*PRU **27** 20:40:21.0±0.0, 43°.07N×13°.84E, h10km*

ISC 27 20:40:18.2±0.8, **43°.04N**±0°.02×**13°.03E**±0°.03, **h16**km±5km, **n56**, σ2s**60**/75, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1219	**Muccia, Frazio**	**0.02**	**320**	P	**Pg**	**20 40 21.0**	**-0.1**
T1219				S	**Sg**	**20 40 22.4**	**-0.6**
T1219				AML	AML		
	comp=E,28500μm,0.2s						
T1219				AML	AML		
	comp=N,56100μm,0.2s						
T1219				AML	AML		
	comp=N,55850μm,0.2s						
T1219				AML	AML		
	comp=N,56100μm,0.2s						
T1219				AML	AML		
	comp=E,33300μm,0.3s						
FDMO	**Fiordimonte**	**0.04**	**93**	P	**Pg**	**20 40 20.3**	**-0.8**
FDMO				AML	AML		
	comp=E,46350μm,0.5s						
FDMO				AML	AML		
	comp=N,92550μm,0.5s						
FEMA	**Monte Fema**	**0.08**	**168**	P	**Pg**	**20 40 21.0**	**-0.5**
CESI	**CESI - Serrava**	**0.10**	**249**	P	**Pg**	**20 40 22.2**	**+0.7**
SEF1	**Sefro**	**0.12**	**332**	P	**Pb**	**20 40 22.8**	**+0.6**
CSP1	**Cessapalombo**	**0.14**	**68**	P	**Pb**	**20 40 22.0**	**-0.5**
T1216	**Preci, Frazion**	**0.15**	**182**	P	**Pb**	**20 40 22.2**	**-0.4**
T1216				S	**Sg**	**20 40 24.8**	**0.0**
T1216				AML	AML		
	comp=E,40650μm,0.2s						
T1216				AML	AML		
	comp=N,27400μm,0.6s						
T1216				AML	AML		
	comp=E,40650μm,0.2s						
T1256	**Bolognola (MC)**	**0.15**	**102**	P	**Pb**	**20 40 21.8**	**-0.9**
T1256				S	**Sg**	**20 40 23.9**	**-1.1**
MC2	**Monte Cornacci**	**0.17**	**136**	P	**Pb**	**20 40 22.2**	**-0.9**
MC2				S	**Sg**	**20 40 25.1**	**-0.6**
MDAR	**Monte D'Aria**	**0.18**	**29**	P	**Pb**	**20 40 23.2**	**+0.1**
NRCA	**Norcia**	**0.21**	**163**	P	**Pb**	**20 40 22.2**	**-0.5**
NRCA				S	**Sg**	**20 40 26.4**	**-0.2**
NRCA				AML	AML		
	comp=N,21850μm,1.5s						
NRCA				AML	AML		
	comp=N,22550μm,0.2s						
NRCA				AML	AML		
	comp=E,25400μm,0.1s						
NRCA				AML	AML		
	comp=N,23400μm,1.5s						
NRCA				AML	AML		
	comp=E,23450μm,0.1s						
SNTG	**Esanatoglia**	**0.23**	**344**	P	**Pb**	**20 40 24.5**	**+0.6**
SNTG				S	**Sb**	**20 40 29.1**	**+1.3**
GUMA	**Gualdo di Mace**	**0.23**	**84**	P	**Pb**	**20 40 23.7**	**-0.3**
GUMA				S	**Sg**	**20 40 27.6**	**+0.7**
MMO1	**Montemonaco**	**0.26**	**122**	P	**Pb**	**20 40 23.7**	**-0.8**
MMO1				S	**Sg**	**20 40 27.5**	**-0.3**
T1215	**Vallo di Nera,**	**0.26**	**206**	P	**Pb**	**20 40 24.7**	**+0.1**
T1215				S	**Sg**	**20 40 29.0**	**+1.2**
T1215				AML	AML		
	comp=E,4110μm,1.5s						
T1215				AML	AML		
	comp=N,4900μm,0.3s						
T1215				AML	AML		
	comp=E,4200μm,1.5s						
T1215				AML	AML		
	comp=N,5250μm,0.3s						
T1215				AML	AML		
	comp=N,4905μm,0.3s						
T1215				AML	AML		
	comp=E,4200μm,1.5s						
T1215				AML	AML		
	comp=N,5245μm,0.3s						
T1215				AML	AML		
	comp=N,5245μm,0.3s						
T1215				AML	AML		
	comp=N,4905μm,0.3s						
T1215				AML	AML		
	comp=E,4115μm,1.5s						
ASSB	**Assisi San Ben**	**0.27**	**271**	S	**Sg**	**20 40 26.0**	**-2.1**
ELS	**Elcito**	**0.30**	**11**	S	**Sg**	**20 40 26.0**	**-2.9**
ATCC	**AVT - Casa Cast**	**0.32**	**297**	S	**Sg**	**20 40 27.0**	**-2.5**
FOSV	**Fossato di Vic**	**0.32**	**323**	S	**Sg**	**20 40 27.0**	**-2.6**
MNTP	**Montappone**	**0.34**	**73**	P	**Pb**	**20 40 26.1**	**+0.3**
T1241	**Roccafluvione,**	**0.35**	**121**	P	**Pb**	**20 40 25.3**	**-0.8**
T1218	**Civita (PG)**	**0.37**	**170**	P	**Pb**	**20 40 26.1**	**-0.4**
T1218				S	**Sb**	**20 40 31.9**	**-0.2**
T1218				AML	AML		
	comp=E,8215μm,0.2s						
T1218				AML	AML		
	comp=N,9025μm,0.7s						
T1218				AML	AML		
	comp=E,7635μm,0.1s						
T1218				AML	AML		
	comp=N,9160μm,0.7s						
T1218				AML	AML		
	comp=E,7640μm,0.1s						
T1218				AML	AML		
	comp=N,9025μm,0.7s						
T1218				AML	AML		
	comp=N,9165μm,0.7s						
LNSS	**Leonessa**	**0.44**	**179**	P	**Pb**	**20 40 27.3**	**-0.3**
T1243	**Rocca Santa Ma**	**0.46**	**138**	P	**Pb**	**20 40 27.3**	**-0.7**
SMA1	**SAN MARTINO**	**0.47**	**151**	P	**Pb**	**20 40 27.5**	**-0.6**
PGF	**Pioggiola**	**3.00**	**262**	*eP*	**Pn**	**20 41 07.7**	**+2.5**
PGF				*eSn*	**Sn**	**20 41 39.4**	**-1.6**
	comp=N,4.1nm,0.6s						
MYKA	**Terra Mystica**	**3.62**	**7**	*ePn*	**Pn**	**20 41 16.1**	**+2.5**
	comp=N,1.5nm,0.2s						
OBKA	**Obir**	**3.63**	**17**	*ePn*	**Pn**	**20 41 16.4**	**+2.5**
	comp=N,0.4nm,0.1s						
ABTA	**Abfaltersbach**	**3.73**	**355**	*ePn*	**Pn**	**20 41 18.5**	**+3.4**
	comp=N,2.3nm,0.4s						
SOKA	**Soboth**	**3.91**	**21**	*ePn*	**Pn**	**20 41 19.2**	**+1.5**
	comp=N,0.5nm,0.2s						
SBF	**Sospel**	**4.15**	**283**	*eP*	**Pn**	**20 41 24.3**	**+3.3**
SBF				*eSn*	**Sn**	**20 42 07.1**	**-2.1**
	comp=N,4.7nm,0.5s						
FETA	**Feichten**	**4.30**	**339**	*ePn*	Pb	20 41 28.2	-5.3
	comp=N,0.9nm,0.3s						
WTTA	**Wattenberg**	**4.34**	**347**	*ePn*	**Pn**	**20 41 27.9**	**+4.3**
	comp=N,0.4nm,0.2s						
SQTA	**Sankt Quirin**	**4.38**	**344**	*ePn*	Pn	20 41 28.9	+4.8
	comp=N,0.6nm,0.1s						
WATA	**Walderalm**	**4.42**	**347**	*ePn*	Pn	20 41 29.3	+4.6
	comp=N,1.1nm,0.2s						
MOTA	**Moosalm**	**4.51**	**343**	*ePn*	**Pn**	**20 41 30.3**	**+4.3**
	comp=N,0.4nm,0.2s						
ARSA	**Arzberg**	**4.57**	**22**	*ePn*	**Pn**	**20 41 28.5**	**+1.9**
	comp=N,1.3nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.67**	**5**	*ePn*	**Pn**	**20 41 31.1**	**+3.0**
	comp=N,1.4nm,0.3s						
RETA	**Reutte**	**4.73**	**341**	*ePn*	Pn	20 41 33.6	+4.7
	comp=N,0.9nm,0.3s						
LMR	**La Mourre**	**4.78**	**276**	*eP*	**Pn**	**20 41 31.6**	**+2.2**
LMR				*eSn*	**Sn**	**20 42 21.7**	**-2.7**
	comp=N,0.7nm,0.3s						
MBDF	**Montbardon**	**4.83**	**293**	*eP*	**Pn**	**20 41 34.4**	**+4.1**
MBDF				*eSn*	**Sn**	**20 42 23.3**	**-2.6**
	comp=N,0.5nm,0.3s						
MOA	**Molln**	**4.89**	**10**	*ePn*	**Pn**	**20 41 34.0**	**+3.0**
	comp=N,0.5nm,0.2s						
LPL	**La Plagne**	**5.15**	**301**	*eP*	**Pn**	**20 41 39.0**	**+4.1**
LPL				*eSn*	**Sn**	**20 42 30.3**	**-3.8**
	comp=N,1.3nm,0.3s						
CONA	**Conrad Observa**	**5.28**	**21**	*ePn*	**Pn**	**20 41 38.5**	**+2.1**
	comp=N,0.8nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.49**	**292**	*eP*	**Pn**	**20 41 43.4**	**+4.1**
ORIF				*eSn*	**Sn**	**20 42 38.8**	**-3.4**
	comp=N,2.5nm,0.6s						
SMRF	**Simiane la Rot**	**5.50**	**282**	*eP*	**Pn**	**20 41 43.6**	**+4.1**
SMRF				*eSn*	**Sn**	**20 42 39.2**	**-3.2**
	comp=N,0.7nm,0.3s						
CKRC	**Cesky Krumlov**	**5.85**	**8**	*ePN*	**Pn**	**20 41 45.0**	**+0.8**
CKRC				*eSN*	**Sn**	**20 42 50.5**	**-0.5**
CABF	**La Chapelle**	**6.09**	**308**	*eP*	**Pn**	**20 41 52.0**	**+4.4**
CABF				*eSn*	**Sn**	**20 42 53.5**	**-3.5**
	comp=N,0.7nm,0.3s						
KHC	**Kasperske Hory**	**6.11**	**3**	*ePN*	**Pn**	**20 41 50.3**	**+2.6**
KHC				*eSN*	**Sn**	**20 42 56.5**	**-0.8**
HINF	**Hinteralfeld**	**6.46**	**320**	*eP*	**Pn**	**20 41 57.0**	**+4.4**
HINF				*eSn*	**Sn**	**20 43 02.1**	**-3.8**
	comp=N,5.2nm,0.5s						
CDF	**Champ du Feu**	**6.71**	**325**	*eP*	**Pn**	**20 41 59.2**	**+3.1**
CDF				*eSn*	**Sn**	**20 43 08.3**	**-4.0**
	comp=N,2.5nm,0.5s						
LASF	**Ste Croix**	**6.74**	**282**	*eP*	**Pn**	**20 42 00.6**	**+4.1**
HAU	**Haudompre**	**6.83**	**319**	*eP*	**Pn**	**20 42 01.6**	**+3.9**
HAU				*eSn*	**Sn**	**20 43 11.1**	**-4.0**
	comp=N,8.3nm,0.5s						
SMF	**Signal de Mont**	**7.46**	**302**	*eP*	Pn	20 42 11.3	+5.0
SMF				*eSn*	**Sn**	**20 43 26.1**	**-4.4**
	comp=N,1.0nm,0.4s						
LOR	**Lormes**	**7.74**	**306**	*eP*	Pn	20 42 16.8	+6.7
LOR				*eSn*	**Sn**	**20 43 32.6**	**-4.8**
	comp=N,13nm,1.1s						
MTLF	**Montolieu**	**7.91**	**276**	*eP*	**Pn**	**20 42 16.6**	**+4.2**

IDC 27 20:42:57.6±62.0, **22°.09S**×**177°.43W**, **h0**km, **mb4.0**/3, **mbtmp4.0**/3, **Error ellipse: s-maj=1135.0km s-min=165.2km az=85.0**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.61**	**246**	P	P	20 50 13.1	-1.1
	0.5nm,0.2s,baz=104,slow=12,SNR=4.5 0.5nm,0.2s						
ASAR	**Alice Springs**	**44.70**	**258**	P	P	20 51 12.4	-0.2
	0.9nm,0.7s,baz=94,slow=7.3,SNR=14 0.9nm,0.7s						
WRA	**Warramunga Arr**	**44.93**	**263**	P	P	20 51 15.2	+0.7
	1.7nm,0.4s,baz=96,slow=8.2,SNR=60 1.7nm,0.4s						

*NEIC **27** 20:49:56.5±2.1, 51°.80S±0°.06×16°.3E±0°.6, h10km±2km, mb4.5/9, Error ellipse: s-maj=61.0km s-min=8.7km az=273.0*
*IDC **27** 20:49:59.4±0.9, 52°.18S×16°.40E, h0km, mb4.1/9, mbtmp4.1/9, MS3.4/5, Error ellipse: s-maj=32.2km s-min=20.3km az=91.0*

ISC 27 20:49:58.1±0.7, **51°.90S**±0°.09×**16°.4E**±0°.2, **h10**km, **n30**, σ2s**45**/22, **mb4.1**/10, **MS3.3**/4, **Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**19.77**	**11**	P	**Pn**	**20 54 34.1**	**+4.2**
	12nm,0.9s,baz=175,slow=14,SNR=2.8						
SUR				LR	LR	21 00 41.7	
	comp=Z,90nm,19.6s,baz=175,slow=32 12nm,0.9s						
SUR	**Sutherland**	**19.77**	**11**	P	**P**	**20 54 25.2**	**-3.2**
SUR				IAmb	IAmb	20 54 38.9	
	comp=Z,42nm,1.4s						
SOE	**Somerset East**	**20.30**	**23**	P	**P**	**20 54 30.8**	**-3.2**
TROLL	**Troll, Antarti**	**21.10**	**192**	P	**P**	**20 54 42.7**	**+0.2**
SNAA	**Sanae**	**21.62**	**196**	P	**P**	**20 54 47.8**	**-0.2**
	comp=Z,10nm,0.9s,baz=30,slow=9.5,SNR=22 comp=Z,10nm,0.9s						
VNA3	**Neumayer Olymp**	**22.67**	**202**	P	**P**	**20 54 58.2**	**-0.9**
BOSA	**Boshof**	**24.18**	**19**	P	**P**	**20 55 20.0**	**+5.3**
	comp=Z,1.8nm,0.7s,baz=202,slow=17,SNR=3.7						
BOSA				LR	LR	21 03 09.5	
	comp=Z,71nm,20.5s,baz=189,slow=32 comp=Z,1.8nm,0.7s						
BOSA	**Boshof**	**24.18**	**19**	P	**P**	**20 55 11.7**	**-2.9**
BOSA				IAmb	IAmb	20 55 16.9	
	comp=Z,16nm,1.4s						
POGA	**Pongola**	**27.09**	**31**	P	**P**	**20 55 38.8**	**-2.1**
MAW	**Mawson**	**27.32**	**143**	P	**P**	**20 55 43.2**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=319,slow=11,SNR=3.2 comp=Z,2.2nm,0.9s						
MAW	**Mawson**	**27.32**	**143**	P	**P**	**20 55 40.9**	**-1.6**
LBTB	**Lobatse**	**27.74**	**18**	LR	LR	21 05 56.5	
	comp=Z,78nm,18.2s,baz=174,slow=34						
BELA	**Belgrano 2**	**31.84**	**198**	P	**P**	**20 56 19.7**	**-2.8**
TSUM	**Tsumeb**	**32.64**	**2**	LR	LR	21 08 50.3	
	comp=Z,44nm,18.1s,baz=152,slow=34						
TSUM	**Tsumeb**	**32.64**	**2**	P	**P**	**20 56 28.1**	**-2.1**
TSUM				IAmb	IAmb	20 56 55.6	
	comp=Z,5.7nm,1.2s						
QSPA	**South Pole Qui**	**38.34**	**180**	P	**P**	**20 57 19.1**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=239,slow=4.2,SNR=19 comp=Z,5.8nm,0.7s						
QSPA	**South Pole Qui**	**38.34**	**180**	P	**P**	**20 57 18.6**	**-0.2**
QSPA				IAmb	IAmb	20 57 20.2	
	comp=Z,10.0nm,1.0s						
OPO	**Ambohidratompo**	**41.11**	**48**	LR	LR	21 12 48.0	
	comp=Z,61nm,18.2s,baz=242,slow=33						
VNDA	**Vanda**	**49.08**	**171**	P	**P**	**20 58 45.7**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=236,slow=7.1,SNR=14 comp=Z,1.6nm,0.8s						
VNDA	**Vanda**	**49.08**	**171**	P	**P**	**20 58 44.8**	**+0.1**
SBA	**Scott Base**	**49.23**	**172**	P	**P**	**20 58 46.3**	**+0.4**
SBA				IAmb	IAmb	20 58 48.9	
	comp=Z,7.5nm,1.4s						
H10S2	**ASCENSION HYDR**	**49.76**	**318**	T	T	21 52 32.8	
	baz=154,slow=74,SNR=26						
H10S3	**ASCENSION HYDR**	**49.78**	**318**	T	T	21 52 33.6	
	baz=66,slow=74,SNR=81						
H01W2	**Cape Leeuwin H**	**67.76**	**118**	T	T	22 15 34.4	
	baz=221,slow=75,SNR=4.3						
H01W3	**Cape Leeuwin H**	**67.77**	**118**	T	T	22 15 31.3	
	baz=221,slow=75,SNR=4.7						
H01W1	**Cape Leeuwin H**	**67.78**	**118**	T	T	22 15 35.3	
	baz=221,slow=75,SNR=4.2						
LPAZ	**La Paz**	**74.01**	**264**	P	**P**	**21 01 37.3**	**+2.6**
	comp=Z,1.2nm,0.6s,baz=106,slow=6.0,SNR=5.7 comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**87.08**	**125**	P	**P**	**21 02 46.3**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=206,slow=4.5,SNR=7.1 comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**90.40**	**124**	P	**P**	**21 03 01.8**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=217,slow=4.6,SNR=2.1 comp=Z,0.4nm,0.9s						
NVAR	**Mina Aray Bea**	**145.91**	**265**	PKPbc	**PKiKP**	**21 09 40.0**	**-0.9**
	comp=Z,5.7nm,0.7s,baz=137,slow=4.4,SNR=25						

*IDC **27** 20:52:00.5±1.3, 41°.67S×88°.68E, h0km, mb3.8/7, mbtmp3.8/7, MS4.0/34, Error ellipse: s-maj=39.2km s-min=26.8km az=96.0*

ISC 27 20:52:02.0±1.1, **41°.7S**×**88°.7E**±0°.3, **h10**km, **n38**, σ0s**42**/8, **mb3.9**/7, **MS4.0**/34, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**21.05**	**80**	T	T	21 18 27.5	
	baz=243,slow=74,SNR=81						
H01W3	**Cape Leeuwin H**	**21.06**	**80**	T	T	21 18 28.2	
	baz=243,slow=74,SNR=69						
H01W1	**Cape Leeuwin H**	**21.07**	**80**	T	T	21 18 28.8	
	baz=243,slow=74,SNR=78						
NWAO	**Narrogin (SRO)**	**24.25**	**78**	LR	LR	21 04 54.8	
	comp=Z,305nm,19.8s,baz=159,slow=32						
MAW	**Mawson**	**29.50**	**200**	LR	LR	21 07 18.8	
	comp=Z,380nm,21.5s,baz=32,slow=31						
LEM	**Lembang**	**38.58**	**31**	LR	LR	21 13 13.1	
	comp=Z,123nm,19.4s,baz=204,slow=33						

ASAR	**Alice Springs**	**41.57**	**79**	P		**P**	**20 59 50.0**	**0.0**
	2.3nm,0.9s,baz=227,slow=7.2,SNR=17						
ASAR				PcP		**PcP**	**21 01 47.7**	**+0.5**
	0.8nm,0.8s,baz=217,slow=2.2,SNR=7.9						
ASAR				LR	LR	21 15 01.6	
	comp=Z,416nm,21.2s,baz=248,slow=33 2.3nm,0.9s						
STKA	**Stephens Creek**	**42.91**	**95**	LR	LR	21 14 09.6	
	comp=Z,245nm,21.9s,baz=211,slow=31						
WRA	**Warramunga Arr**	**44.18**	**75**	P		**P**	**21 00 10.8**	**-0.4**
	3.2nm,1.0s,baz=231,slow=8.1,SNR=16						
WRA				LR	LR	21 16 48.4	
	comp=Z,164nm,20.1s,baz=226,slow=34 3.2nm,1.0s						
PSI	**Prapat**	**45.24**	**14**	LR	LR	21 14 46.2	
	comp=Z,342nm,21.4s,baz=226,slow=30						
VNDA	**Vanda**	**46.07**	**163**	P		**P**	**21 00 25.6**	**+0.1**
	0.6nm,0.7s,baz=295,slow=7.7,SNR=3.0 0.6nm,0.7s						
QSPA	**South Pole Qui**	**48.47**	**180**	P		**P**	**21 00 44.3**	**-0.2**
	0.8nm,0.2s,baz=270,slow=6.9,SNR=2.0						
QSPA				LR	LR	21 19 33.2	
	comp=Z,223nm,18.7s,baz=302,slow=34 0.8nm,0.2s						
PALK	**Pallekele**	**49.26**	**350**	LR	LR	21 16 25.9	
	comp=Z,115nm,21.1s,baz=257,slow=30						
SNAA	**Sanae**	**51.52**	**204**	LR	LR	21 20 57.1	
	comp=Z,53nm,18.8s,baz=12,slow=34						
BOSA	**Boshof**	**52.39**	**263**	LR	LR	21 18 37.5	
	comp=Z,242nm,21.2s,baz=176,slow=30						
CTA	**Charters Tower**	**52.87**	**84**	LR	LR	21 20 45.6	
	comp=Z,84nm,21.2s,baz=260,slow=33						
SUR	**Sutherland**	**53.71**	**257**	LR	LR	21 18 37.4	
	comp=Z,122nm,21.7s,baz=148,slow=30						
LBTB	**Lobatse**	**54.11**	**267**	LR	LR	21 20 50.4	
	comp=Z,140nm,18.5s,baz=180,slow=32						
RPZ	**Rata Peaks**	**58.11**	**122**	LR	LR	21 21 24.9	
	comp=Z,136nm,19.5s,baz=272,slow=30						
PMG	**Port Moresby**	**60.40**	**75**	LR	LR	21 27 20.4	
	comp=Z,214nm,18.1s,baz=246,slow=35						
CMAR	**Chiang Mai Arr**	**60.59**	**11**	P		**P**	**21 02 12.8**	**+0.1**
	0.6nm,0.3s,baz=207,slow=7.1,SNR=4.7						
CMAR				LR	LR	21 23 11.3	
	comp=Z,66nm,21.3s,baz=175,slow=31 0.6nm,0.3s						
TSUM	**Tsumeb**	**63.52**	**267**	LR	LR	21 26 01.4	
	comp=Z,150nm,19.9s,baz=151,slow=32						
BRDH	**Bariadhala**	**64.09**	**3**	LR	LR	21 26 17.0	
	comp=Z,288nm,20.1s,baz=144,slow=32						
MBAR	**Mbarara**	**66.14**	**292**	LR	LR	21 27 11.2	
	comp=Z,68nm,19.7s,baz=118,slow=32						
DZM	**Mont Dzumac**	**66.75**	**99**	LR	LR	21 28 54.4	
	comp=Z,62nm,18.2s,baz=50,slow=33						
KRVT	**Keravat (AS076**	**67.39**	**75**	LR	LR	21 30 59.4	
	comp=Z,102nm,19.8s,baz=16,slow=35						
HNR	**Honiara**	**69.81**	**85**	LR	LR	21 30 26.4	
	comp=Z,727nm,21.1s,baz=226,slow=33						
WSAR	**Wadi Sarin**	**70.34**	**331**	LR	LR	21 28 30.9	
	comp=Z,128nm,18.0s,baz=145,slow=31						
PMSA	**Palmer Station**	**71.74**	**192**	LR	LR	21 33 24.4	
	comp=Z,116nm,19.1s,baz=108,slow=35						
MSVF	**Nonsavu**	**77.97**	**103**	LR	LR	21 32 22.9	
	comp=Z,85nm,18.9s,baz=187,slow=31						
GEYT	**Alibeck**	**84.00**	**336**	LR	LR	21 36 51.3	
	comp=Z,57nm,19.6s,baz=176,slow=32						
AAK	**Ala-Archa**	**84.91**	**350**	LR	LR	21 40 23.8	
	comp=Z,109nm,18.5s,baz=187,slow=34						
MKAR	**Makanchi Array**	**88.28**	**356**	P		**P**	**21 04 52.6**	**-0.5**
	0.3nm,0.8s,baz=189,slow=5.5,SNR=2.5						
MKAR				LR	LR	21 40 57.7	
	comp=Z,66nm,21.9s,baz=128,slow=33 0.3nm,0.8s						
MMAI	**Mount Meron Ar**	**89.02**	**318**	LR	LR	21 38 57.5	
	comp=Z,56nm,20.3s,baz=154,slow=32						
SONM	**Songino Array**	**90.51**	**12**	P		**P**	**21 05 04.1**	**+0.4**
	0.2nm,0.7s,baz=201,slow=2.8,SNR=1.4						
SONM				LR	LR	21 44 10.8	
	comp=Z,54nm,20.5s,baz=185,slow=35 0.2nm,0.7s						
GNI	**Garni**	**90.69**	**328**	LR	LR	21 40 51.2	
	comp=Z,62nm,20.6s,baz=140,slow=32						
ZALV	**Zalesovo Beam**	**95.31**	**358**	LR	LR	21 45 01.4	
	comp=Z,36nm,21.5s,baz=98,slow=33						
BVAR	**Borovoye Array**	**95.65**	**349**	LR	LR	21 45 29.7	
	comp=Z,56nm,20.5s,baz=180,slow=34						

*IDC **27** 21:13:58.5±2.1, 37°.21N×141°.61E, h0km, mb3.4/4, mbtmp3.3/5, ML2.3/1, MS3.6/1, Error ellipse: s-maj=42.2km s-min=28.6km az=64.0*
*JMA **27** 21:14:01.8±0.2, 37°.2N±0°.3×141°.4E±0°.9, h29km±1km, MV3.3/32, E OFF FUKUSHIMA PREF*

ISC 27 21:14:00.6±2.5, **37°.22N**±0°.06×**141°.5E**±0°.1, **h12**km±12km, **n17**, σ1s**09**/16, **mb3.3**/4, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.52**	**287**	*i* P	**Pg**	**21 14 11.2**	**+0.3**
JFK				S	**Sg**	**21 14 18.0**	**+0.1**
JMST	**Minamisoumatoc**	**0.71**	**316**	*i* P	**Pb**	**21 14 14.5**	**-0.4**
JMST				S	**Sg**	**21 14 24.1**	**+0.4**
JFFD	**Fukushimafurud**	**0.76**	**261**	*i* P	**Pb**	**21 14 15.4**	**-0.4**
JFFD				S	**Sb**	**21 14 25.0**	**-1.2**
JMM	**Marumori**	**0.86**	**319**	*i* P	**Pb**	**21 14 17.0**	**-0.5**
JMM				*eS*	**Sb**	**21 14 26.5**	**-2.4**
JHO	**Hitachi**	**0.96**	**231**	P	**Pb**	**21 14 18.3**	**-0.9**
JHO				*eS*	**Sb**	**21 14 30.5**	**-1.3**
MJAR	**Matsushiro Arr**	**2.73**	**257**	Pn	**Pn**	**21 14 44.9**	**+0.7**
	0.4nm,0.3s,baz=91,slow=31,SNR=20						
MJAR				Sn	**Sn**	**21 15 18.6**	**+1.6**
	0.4nm,0.3s,baz=73,slow=24,SNR=5.8 4.0nm,0.5s						
SONM	**Songino Array

SMRF				*e*Sn		**Sn**	**21 35 59.9 +0.8**
	1.1nm,0.4s							
LASF	**Ste Croix**	**8.92**	**349**	*e*Pn		**Pn**	**21 34 25.6 +0.3**
LASF				*e*Sn		**Sn**	**21 36 06.4 +0.5**
	1.5nm,0.3s							
EPF	**Esparros**	**8.95**	**331**	*e*Pn		**Pn**	**21 34 27.9 +2.3**
EPF				*e*Sn		**Sn**	**21 36 06.3 -0.2**
	4.1nm,0.5s							
ETSF	**Etsaut**	**9.21**	**327**	*e*Pn		**Pn**	**21 34 29.4 0.0**
ETSF				*e*Sn		**Sn**	**21 36 12.1 -1.0**
	5.4nm,0.7s							
MBDF	**Montbardon**	**9.39**	**2**	*e*Sn		**Sn**	**21 36 17.8 +0.2**
	3.2nm,0.6s							
ORIF	**Oris-en-Rattie**	**9.58**	**358**	*e*Pn		**Pn**	**21 34 35.0 +0.6**
ORIF				*e*Sn		**Sn**	**21 36 22.3 +0.2**
	2.6nm,0.7s							
VIVF	**Saint-Julien-l**	**9.59**	**353**	*e*Pn		**Pn**	**21 34 33.8 -0.6**
VIVF				*e*Sn		**Sn**	**21 36 22.4 +0.2**
	1.2nm,0.3s							
SJPF	**Ste Jean**	**9.69**	**326**	*e*Pn		**Pn**	**21 34 37.0 +1.3**
SJPF				*e*Sn		**Sn**	**21 36 23.2 -1.4**
	0.9nm,0.4s							
CAF	**Calviac**	**10.10**	**343**	*e*Pn		**Pn**	**21 34 42.3 +0.9**
LPL	**La Plagne**	**10.18**	**2**	*e*Pn		**Pn**	**21 34 43.0 +0.3**
LPL				*e*Sn		**Sn**	**21 36 36.8 -0.2**
	1.8nm,0.5s							
LFF	**La Frestale**	**10.47**	**338**	*e*Pn		**Pn**	**21 34 47.2 +0.7**
LFF				*e*Sn		**Sn**	**21 36 43.0 -0.9**
	2.1nm,0.5s							
RJF	**Les Rejaudoux**	**10.59**	**342**	*e*Pn		**Pn**	**21 34 47.5 -0.6**
ROSF	**Rostrenen**	**14.79**	**334**	*e*Pn		**Pn**	**21 35 45.9 +0.5**

*NNC **27** 21:33:13.8±0.9, 44.°96N×79.°35E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=7.3km s-min=5.5km az=135.0*
*SOME **27** 21:33:15.1, 44.°92N×79.°33E, h15km*
ISC 27 21:33:14.1±1.3, 44.°95N±0.°04×79.°37E±0.°03, h7km±16km, n21, σ0°68/38, 2C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.68**	**274**	*e*P		**Pg**	**21 33 27.4**		**+0.2**
	6.9nm,0.1s								
TDK				*e*S		**Sg**	**21 33 36.1**		**0.0**
	11nm,0.1s								
DJR	**Jarkent**	**0.69**	**154**	*e*P		**Pg**	**21 33 27.5**		**+0.1**
	2.2nm,0.2s								
DJR				*e*S		**Sg**	**21 33 36.3**		**-0.1**
	8.3nm,0.3s								
DJR	**Jarkent**	**0.69**	**154**	P		**Pg**	**21 33 27.3**		**-0.1**
	2.2nm,0.2s								
DJR				S		**Sg**	**21 33 36.3**		**-0.1**
	9.9nm,0.4s								
BLB	**Baldybastay**	**1.06**	**217**	*e*P		**Pg**	**21 33 34.3**		**-0.2**
	1.1nm,0.1s								
BLB				*e*S		**Sg**	**21 33 48.3**		**-0.1**
	8.8nm,0.3s								
BLB	**Baldybastay**	**1.06**	**217**	P		**Pg**	**21 33 34.3**		**-0.2**
	1.1nm,0.1s								
BLB				S		**Sg**	**21 33 48.3**		**-0.1**
	8.8nm,0.3s								
ARXS	**Arharly**	**1.32**	**237**	*e*P		**Pn**	**21 33 38.8**		**-0.3**
	1.8nm,0.4s								
ARXS				*e*S		**Sg**	**21 33 56.4**		**-0.3**
	5.4nm,0.3s								
ARXS	**Arharly**	**1.32**	**237**	P		**Pn**	**21 33 38.8**		**-0.3**
	1.8nm,0.4s								
ARXS				S		**Sg**	**21 33 56.4**		**-0.3**
	5.4nm,0.3s								
KPKS	**Kokpek**	**1.56**	**198**	*e*P		**Pg**	**21 33 44.0**		**-0.1**
	2.6nm,0.2s								
KPKS				*e*S		**Sg**	**21 34 05.3**		**+0.9**
	6.6nm,0.2s								
KPKS	**Kokpek**	**1.56**	**198**	P		**Pg**	**21 33 44.0**		**-0.1**
	2.6nm,0.2s								
KPKS				S		**Sg**	**21 34 05.3**		**+0.9**
	6.6nm,0.2s								
PDGK	**Podgornoye**	**1.63**	**177**	P		**Pb**	**21 33 44.5**		**0.0**
	1.0nm,0.2s								
PDGK				S		**Sg**	**21 34 05.9**		**-0.4**
	1.3nm,0.4s								
SHLS	**Shalkode**	**1.80**	**178**	*e*P		**Pg**	**21 33 48.5**		**-0.1**
	1.1nm,0.2s								
SHLS				*e*S		**Sg**	**21 34 12.5**		**+0.7**
	3.3nm,0.2s								
UZB	**Uzynbulak**	**1.82**	**188**	*e*P		**Pb**	**21 33 48.2**		**+0.4**
	0.6nm,0.1s								
UZB				*e*S		**Sg**	**21 34 12.1**		**-0.5**
	3.9nm,0.4s								
UZB	**Uzynbulak**	**1.82**	**188**	P		**Pb**	**21 33 48.2**		**+0.4**
	0.6nm,0.1s								
UZB				S		**Sg**	**21 34 12.1**		**-0.5**
	3.9nm,0.4s								
ZHN	**Zhinishke**	**1.91**	**201**	*e*P		**Pb**	**21 33 49.9**		**+0.6**
	3.3nm,0.4s								
ZHN				*e*S		**Sg**	**21 34 15.1**		**-0.2**
	12nm,0.2s								
SATY	**Saty**	**2.02**	**200**	*e*P		**Pb**	**21 33 51.6**		**+0.4**
	1.1nm,0.2s								
SATY				*e*S		**Sg**	**21 34 17.8**		**-1.1**
	5.2nm,0.3s								
KTBS	**Karatobe**	**2.29**	**238**	*e*P		**Pb**	**21 33 56.3**		**+0.5**
	0.5nm,0.1s								
KTBS				*e*S		**Sg**	**21 34 26.3**		**-1.4**
	11nm,0.3s								
KTBS	**Karatobe**	**2.29**	**238**	Pg		**Pb**	**21 33 56.3**		**+0.5**
	0.5nm,0.1s								
KTBS				Lg		Lg	21 34 26.3		
	11nm,0.3s								
KOTS	**Kotyrbulak**	**2.36**	**224**	*e*P		**Pb**	**21 33 58.1**		**+1.0**
	0.7nm,0.2s								
KOTS				*e*S		**Sg**	**21 34 29.1**		**-0.9**
	6.2nm,0.5s								
KOTS	**Kotyrbulak**	**2.36**	**224**	Pg		**Pb**	**21 33 58.1**		**+1.0**
	0.7nm,0.2s								
KOTS				Lg		Lg	21 34 29.1		
	6.2nm,0.5s								
MAKZ	**Makanchi**	**2.60**	**44**	⇑Pg		**Pb**	**21 34 02.9**		**+1.8**
	2.3nm,1.3s								
MAKZ				⇓Lg		Lg	21 34 35.7		
	0.8nm,0.3s								
MK31	**Makanchi Array**	**2.75**	**47**	Pg		**Pb**	**21 34 02.3**		**-1.3**
	0.4nm,0.6s,baz=230,slow=17,SNR=6.2								
MK31				⇑Lg		Lg	21 34 39.3		
	0.4nm,0.4s,baz=226,slow=27,SNR=8.1								

WEL 27 21:39:29.5±0.2, 42.°S±3.°×17.°4E±.°, h20km±2km, M3.5/37, ML3.8/24, MLv3.5/37, Error ellipse: s-maj=0.0km s-min=0.0km az=135.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**177**	P		Pg	21 39 35.5		+1.6
CMWZ				S		Sg	21 39 40.0		+3.1
TUWZ	**Tuamarina**	**0.27**	**312**	P		Pg	21 39 36.8		+1.2
TUWZ				S		Sn	21 39 41.9		-2.0
BSWZ	**Blackbirch Sta**	**0.27**	**246**	P		Pg	21 39 36.7		+1.0
BSWZ				S		Sg	21 39 41.3		+1.4
TCW	**Tory Channel**	**0.40**	**8**	P		Pb	21 39 39.0		+1.0
TCW				S		Sb	21 39 45.2		+1.5
WEL	**Wellington**	**0.53**	**53**	P		Pn	21 39 41.6		-0.4
NNZ	**Nelson**	**0.73**	**302**	P		Pg	21 39 44.3		+0.3
PLWZ	**Palliser**	**0.79**	**88**	P		Pg	21 39 45.1		+0.1
MSWZ	**Moikau Station**	**0.81**	**77**	P		Pn	21 39 45.7		-0.1
CAW	**Cannon Point**	**0.82**	**53**	P		Pn	21 39 46.3		+0.3
DUWZ	**D'Urville Isla**	**0.83**	**345**	P		Pn	21 39 46.1		-0.1
KIW	**Kapiti Island**	**0.92**	**36**	P		Pg	21 39 47.5		+0.1
PAWZ	**Paruwai Farm**	**0.95**	**77**	P		Pb	21 39 47.3		0.0
KHZ	**Kahutara**	**0.95**	**211**	P		Pb	21 39 47.1		-0.2
THZ	**Tophouse**	**0.99**	**261**	P		Pb	21 39 47.7		-0.3
MTW	**Mount Morrison**	**1.07**	**66**	P		Pb	21 39 49.1		-0.3
OGWZ	**Otaki Gorge**	**1.07**	**43**	P		Pg	21 39 50.0		-0.4
TKNZ	**Takaka Hill**	**1.10**	**301**	P		Pg	21 39 50.1		+0.2
MRNZ	**Matariki Terra**	**1.11**	**280**	P		Pb	21 39 50.3		+0.3
TRWZ	**Traveller**	**1.13**	**80**	P		Pn	21 39 49.6		-0.7
HOWZ	**Holdsworth Sta**	**1.22**	**55**	P		Pn	21 39 51.2		-0.2
TMWZ	**Te Maipa**	**1.36**	**69**	P		Pn	21 39 52.7		-0.8
MRZ	**Mangatainoka R**	**1.40**	**48**	P		Pn	21 39 54.1		+0.1
QRZ	**Quartz Range**	**1.49**	**301**	P		Pb	21 39 56.5		0.0
TIWZ	**Tintock**	**1.52**	**57**	P		Pn	21 39 55.1		-0.5
GVZ	**Greta Valley S**	**1.61**	**212**	P		Pn	21 39 55.8		-1.1
CPWZ	**Castlepoint**	**1.66**	**66**	P		Pg	21 40 03.6		+2.1
POWZ	**Post Office Ro**	**1.70**	**45**	P		Pn	21 39 58.1		0.0
PRWZ	**Pori Road**	**1.70**	**52**	P		Pn	21 39 57.9		-0.2
BFZ	**Birch Farm**	**1.80**	**60**	P		Pn	21 39 58.3		-1.2
DSZ	**Denniston Nort**	**1.80**	**265**	P		Pn	21 40 00.2		+0.6
LTZ	**Lake Taylor**	**1.85**	**230**	P		Pn	21 39 59.6		-0.6
WAZ	**Wanganui**	**1.94**	**18**	P		Pg	21 40 07.0		0.0
AMCZ	**Amberley**	**1.94**	**216**	P		Pn	21 40 00.1		-1.4
DVHZ	**Dannevirke**	**1.98**	**49**	P		Pn	21 40 01.1		-0.9
TSZ	**Takapari Road**	**2.04**	**41**	P		Pn	21 40 02.5		-0.4
PNHZ	**Pukenui**	**2.27**	**42**	P		Pn	21 40 05.4		-0.6
OKCZ	**Okains Bay**	**2.28**	**201**	P		Pn	21 40 04.0		-2.1
KHEZ	**Kahui Hut**	**2.32**	**356**	P		Pb	21 40 10.8		+0.1
INZ	**Inchbonnie**	**2.34**	**241**	P		Pn	21 40 06.4		-0.5
OXZ	**Oxford**	**2.35**	**222**	P		Pn	21 40 05.1		-1.9
MQZ	**McQueen's Vall**	**2.39**	**208**	P		Pn	21 40 04.8		-2.7
PKVZ	**Pokaka**	**2.47**	**21**	P		Pb	21 40 13.7		+0.3
MOVZ	**Moawhango**	**2.50**	**29**	P		Pb	21 40 14.0		+0.2
WNVZ	**Wahianoa**	**2.51**	**25**	P		Pb	21 40 14.5		+0.4
BHHZ	**Black Hill Sta**	**2.55**	**34**	P		Pb	21 40 16.3		+1.7
WHVZ	**Whangaehu Hut**	**2.55**	**25**	P		Pb	21 40 15.6		+0.8
OTVZ	**Oturere**	**2.69**	**25**	P		Pb	21 40 17.8		+0.8
WTVZ	**West Tongariro**	**2.71**	**23**	P		Pb	21 40 18.7		+1.3
MHCZ	**Mount Hutt**	**2.74**	**224**	P		Pn	21 40 11.4		-1.0
WVZ	**Waitaha Valley**	**2.96**	**239**	P		Pn	21 40 17.1		+1.7
HIZ	**Hauiti**	**3.13**	**9**	P		Pb	21 40 21.9		-2.7
RPZ	**Rata Peaks**	**3.14**	**227**	P		Pb	21 40 22.4		-2.2
ARCZ	**Arundel**	**3.23**	**223**	P		Pn	21 40 17.5		-1.7
ODZ	**Otahua Downs**	**4.31**	**216**	P		Pn	21 40 32.0		-1.9
MKAZ	**Moumakai**	**4.56**	**10**	P		Pn	21 40 40.9		+3.5
JCZ	**Jackson Bay**	**4.69**	**236**	P		Pn	21 40 38.7		-0.5

*MED_RC **27** 21:41:14.0±0.5, 43.°02N×13.°07E, h10km, MW4.2/10, Moment Tensor Solution. Mantle waves: s10, c12; Duration: 1s0 Moment tensor: Scale 10^15^Nm; Mrr-1.74±.13; Mθθ0.88±.13; Mϕϕ0.86±.09; Mrθ1.74±.36; Mθϕ-0.81±.12; Mϕr-1.38±.27; Best double couple: M◎2.80000×10^15^ NP1:ϕs310.00000°, δ71.00000°, λ-93.00000°. NP2:ϕs139.00000°, δ19.00000°, λ-81.00000°. Principal axes: T 2.7700, Plg26.0000°, Azm42.0000°; N 0.0700, Plg3.0000°, Azm311.0000°; P -2.8400, Plg64.0000°, Azm215.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*PDG **27** 21:41:14.7±0.6, 43.°02N×13.°07E, h11km, ML4.0/13 Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*LDG **27** 21:41:14.9±0.1, 42.°92N×12.°95E, h10km, Ml3.3/32, Error ellipse: s-maj=5.2km s-min=2.7km az=40.0*
*ROM **27** 21:41:14.1±0.0, 43.°013N±0.°001×13.°067E±0.°003, h8km, ML3.9/122, Mw3.9, Error ellipse: s-maj=0.2km s-min=0.0km az=73.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-7.80; Mθθ3.99; Mϕϕ3.81; Mrθ-1.34; Mθϕ-3.90; Mϕr0.11; Fault plane solution: M◎7.91472×10^14^ NP1:ϕs320.00000°, δ42.00000°, λ-81.00000°. NP2:ϕs128.00000°, δ49.00000°, λ-98.00000°.*
*IDC **27** 21:41:15.7±1.1, 43.°25N×13.°54E, h0km, mb3.6/7, mbtmp3.7/18, ML3.4/10, MS3.2/14 Error ellipse: s-maj=19.0km s-min=11.0km az=69.0*
*BGR **27** 21:41:15.1±0.6, 42.°89N×13.°13E, h10km, ML4.2/5, Error ellipse: s-maj=12.2km s-min=10.0km az=9.0*
*PRU **27** 21:41:16.9±0.0, 43.°10N×13.°23E, h10km*
*BEO **27** 21:41:18.7±0.7, 43.°06N×13.°28E, h17km±8km, ML3.9/8*
*GEN **27** 21:41:30.8, 43.°57N×11.°84E, h24km±3km, Ml2.1*
ISC 27 21:41:14.5±0.6, 43.°01N±0.°01×13.°05E±0.°01, h11km±3km, n376, σ2.°20/499, mb3.8/7, MS3.2/6, 48C-16D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.04**	**44**	⇓P		**Pg**	**21 41 15.6**		**-1.0**
FDMO				S		**Sg**	**21 41 16.5**		**-1.7**
FEMA	**Monte Fema**	**0.04**	**177**	⇑P		**Pg**	**21 41 16.4**		**-0.4**
FEMA				S		**Sg**	**21 41 17.9**		**-0.5**
FEMA				AML		AML			
FEMA				AML		AML			
FEMA				AML		AML			
T1219	**Muccia, Frazio**	**0.06**	**330**	P		**Pg**	**21 41 16.2**		**-0.6**
T1219				S		**Sg**	**21 41 17.7**		**-0.9**
CESI	**CESI - Serrava**	**0.10**	**270**	⇑P		**Pg**	**21 41 17.5**		**+0.1**
CESI				S		**Sg**	**21 41 20.1**		**+0.7**
CESI				AML		AML			
CESI				AML		AML			
T1220	**Camerino, Fraz**	**0.11**	**16**	⇑P		**Pg**	**21 41 16.8**		**-0.6**
T1220				S		**Sg**	**21 41 19.3**		**-0.2**
T1216	**Preci, Frazion**	**0.12**	**190**	⇑P		**Pg**	**21 41 17.6**		**+0.1**
T1216				S		**Sg**	**21 41 20.2**		**+0.6**
T1216				AML		AML			
T1216				AML		AML			
T1256	**Bolognola (MC)**	**0.13**	**90**	⇑P		**Pg**	**21 41 17.2**		**-0.6**
T1256				S		**Sg**	**21 41 19.3**		**-0.9**
T1256				AML		AML			
T1256				AML		AML			
T1256				AML		AML			
T1256				AML		AML			
T1256				AML		AML			
MC2	**Monte Cornacci**	**0.14**	**131**	P		**Pg**	**21 41 17.8**		**-0.2**
MC2				S		**Sg**	**21 41 20.4**		**0.0**
CSP1	**Cessapalombo**	**0.14**	**53**	⇑P		**Pg**	**21 41 17.4**		**-0.6**
CSP1				S		**Sg**	**21 41 19.8**		**-0.6**
CSP1				AML		AML			
CSP1				AML		AML			
SEF1	**Sefro**	**0.16**	**333**	P		**Pg**	**21 41 17.9**		**-0.2**
SEF1				S		**Sg**	**21 41 21.3**		**+0.6**
SEF1				AML		AML			
SEF1				AML		AML			
NRCA	**Norcia**	**0.18**	**164**	⇑P		**Pg**	**21 41 18.6**		**+0.1**
NRCA				S		**Sg**	**21 41 21.9**		**+0.7**
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
PIO1	**Pioraco**	**0.18**	**345**	P		**Pg**	**21 41 18.2**		**-0.2**
MDAR	**Monte D'Aria**	**0.20**	**21**	⇑P		**Pg**	**21 41 18.4**		**-0.5**
MDAR				S		**Sg**	**21 41 21.8**		**0.0**
MDAR				AML		AML			
	comp=N,73200μm,0.7s								
MDAR				AML		AML			
	comp=E,56650μm,0.5s								
MDAR				AML		AML			
	comp=N,73250μm,0.7s								
MDAR				AML		AML			
	comp=E,56650μm,0.6s								
FIU1	**Fiuminata**	**0.20**	**335**	P		**Pg**	**21 41 18.6**		**-0.2**
T1221	**Campello sul C**	**0.21**	**225**	⇑P		**Pg**	**21 41 19.4**		**+0.5**
T1221				S		**Sg**	**21 41 23.5**		**+1.5**
GUMA	**Gualdo di Mace**	**0.22**	**75**	⇑P		**Pg**	**21 41 19.0**		**-0.1**
GUMA				S		**Sg**	**21 41 23.0**		**+0.7**
GUMA				AML		AML			
GUMA				AML		AML			
GUMA				AML		AML			
GUMA				AML		AML			
AM05	**Amandola Campo**	**0.23**	**97**	⇑P		**Pg**	**21 41 19.1**		**-0.2**
AM05				S		**Sg**	**21 41 22.8**		**+0.3**
GAG1	**Gagliole**	**0.23**	**4**	P		**Pg**	**21 41 19.3**		**-0.1**
T1215	**Vallo di Nera,**	**0.24**	**213**	⇑P		**Pg**	**21 41 19.9**		**+0.4**
T1215				S		**Sg**	**21 41 24.4**		**+1.5**
T1215				AML		AML			
	comp=E,27100μm,0.8s								
T1215				AML		AML			
	comp=N,31200μm,1.0s								
T1215				AML		AML			
	comp=E,26350μm,0.6s								
T1215				AML		AML			
	comp=N,32050μm,1.0s								
T1215				AML		AML			
	comp=E,27050μm,0.8s								
T1215				AML		AML			
	comp=N,32050μm,1.0s								
T1215				AML		AML			
	comp=E,27100μm,0.8s								
T1215				AML		AML			
	comp=E,26350μm,0.6s								
SSM1	**San Severino M**	**0.24**	**23**	P		**Pg**	**21 41 19.2**		**-0.4**
SSM1				S		**Sg**	**21 41 23.3**		**+0.3**
T1212	**Cascia, Frazio**	**0.25**	**180**	⇑P		**Pg**	**21 41 20.1**		**+0.3**
T1212				S		**Sb**	**21 41 24.7**		**-0.8**
SNTG	**Esanatoglia**	**0.26**	**343**	P		**Pg**	**21 41 19.8**		**-0.1**
SNTG				S		**Sg**	**21 41 24.3**		**+0.8**
SNTG				AML		AML			
	comp=E,48350μm,0.7s								
SNTG				AML		AML			
	comp=N,40150μm,0.4s								
SNTG				AML		AML			
	comp=E,47200μm,0.7s								
SNTG				AML		AML			
	comp=N,43150μm,0.4s								
T1213	**Norcia, Frazio**	**0.29**	**168**	P		**Pg**	**21 41 20.5**		**+0.2**
T1213				S		**Sb**	**21 41 25.5**		**-1.0**
ASSB	**Assisi San Ben**	**0.29**	**278**	AML		AML			
	comp=E,40000μm,0.3s								
ASSB				AML		AML			
	comp=N,39900μm,1.4s								
T1217	**Poggiodomo (PG**	**0.30**	**196**	⇑P		**Pg**	**21 41 21.1**		**+0.4**
T1217				S		**Sb**	**21 41 26.5**		**-0.5**
T1244	**Arquata del Tr**	**0.31**	**143**	P		**Pg**	**21 41 20.9**		**+0.1**
T1244				S		**Sb**	**21 41 26.3**		**-0.8**
T1241	**Roccafluvione,**	**0.32**	**118**	P		**Pg**	**21 41 20.8**		**-0.1**
T1241				S		**Sg**	**21 41 26.1**		**+0.9**
T1241				AML		AML			
	comp=E,56150μm,1.4s								
T1241				AML		AML			
	comp=N,49450μm,0.6s								
EL6	**Elcito**	**0.33**	**7**	⇑P		**Pg**	**21 41 20.7**		**-0.4**
EL6				S		**Sg**	**21 41 26.2**		**+0.7**
EL6				AML		AML			
	comp=E,73300μm,0.7s								
EL6				AML		AML			
	comp=N,84600μm,0.8s								
T1202	**Accumoli, Fraz**	**0.33**	**156**	P		**Pg**	**21 41 21.4**		**+0.2**
T1202				S		**Sb**	**21 41 27.1**		**-0.6**
MNTP	**Montappone**	**0.34**	**67**	P		**Pg**	**21 41 21.5**		**+0.3**
MNTP				S		**Sb**	**21 41 27.7**		**-0.2**
MNTP				AML		AML			
	comp=N,73050μm,0.5s								
MNTP				AML		AML			
	comp=E,93200μm,0.8s								
MNTP				AML		AML			
	comp=N,73050μm,0.5s								
T1218	**Civita (PG)**	**0.34**	**171**	⇑P		**Pg**	**21 41 21.4**		**+0.1**
T1218				S		**Sb**	**21 41 27.2**		**-0.8**
T1218				AML		AML			
	comp=N,76350μm,0.6s								
T1218				AML		AML			
	comp=E,41100μm,0.6s								
T1218				AML		AML			
	comp=N,75900μm,0.7s								
T1218				AML		AML			
	comp=E,43200μm,0.6s								
T1218				AML		AML			
	comp=E,41100μm,0.6s								
T1218				AML		AML			
	comp=N,75900μm,0.7s								
T1218				AML		AML			
	comp=N,76350μm,0.7s								
ATCC	**AVT- Casa Cast**	**0.35**	**301**	P		**Pg**	**21 41 21.7**		**+0.2**
ATCC				S		**Sb**	**21 41 27.9**		**-0.3**
ATCC				AML		AML			
	comp=E,40150μm,0.9s								
ATCC				AML		AML			
	comp=N,26450μm,1.4s								
FOSV	**Fossato di Vic**	**0.36**	**324**	⇓P		**Pg**	**21 41 21.6**		**-0.1**
FOSV				S		**Sb**	**21 41 27.9**		**-0.6**
FOSV				AML		AML			
	comp=E,28200μm,0.4s								
FOSV				AML		AML			
	comp=N,36200μm,0.3s								
T1201	**Domo (RI)**	**0.38**	**157**	P		**Pg**	**21 41 22.4**		**+0.4**
T1201				S		**Sb**	**21 41 29.0**		**-0.1**
T1204	**Amatrice, Fraz**	**0.38**	**149**	P		**Pg**	**21 41 22.2**		**+0.1**
T1204				S		**Sb**	**21 41 28.6**		**-0.8**
CING	**Cingoli**	**0.39**	**16**	P		**Pg**	**21 41 21.8**		**-0.4**
CING				S		**Sg**	**21 41 28.0**		**+0.7**
CING				AML		AML			
	comp=N,21100μm,0.7s								
CING				AML		AML			
	comp=E,31750μm,0.3s								
LNSS	**Leonessa**	**0.40**	**181**	⇑P		**Pg**	**21 41 22.5**		**+0.1**
LNSS				S		**Sb**	**21 41 29.4**		**-0.4**
LNSS				AML		AML			
	comp=N,49300μm,0.6s								
LNSS				AML		AML			
	comp=E,17800μm,1.0s								
T1243	**Rocca Santa Ma**	**0.43**	**136**	⇑P		**Pg**	**21 41 22.6**		**-0.4**
T1243				S		**Sg**	**21 41 29.5**		**+0.9**
SMA1	**SAN MARTINO**	**0.43**	**150**	⇑P		**Pg**	**21 41 22.8**		**-0.2**
SMA1				S		**Sb**	**21 41 29.9**		**-0.8**
SMA1				AML		AML			
	comp=N,42400μm,0.6s								
SMA1				AML		AML			
	comp=E,50950μm,0.7s								
MMUR	**Monte Murano**	**0.44**	**355**	P		**Pg**	**21 41 22.9**		**-0.2**
MMUR				S		**Sb**	**21 41 30.2**		**-0.7**
MMUR				AML		AML			
	comp=E,50450μm,0.6s								
MMUR				AML		AML			
	comp=N,34650μm,1.6s								
MURB	**Monte Urbino**	**0.46**	**304**	P		**Pg**	**21 41 23.8**		**+0.2**
MURB				S		**Sb**	**21 41 31.9**		**+0.4**
MURB				AML		AML			
	comp=N,26150μm,1.0s								
MURB				AML		AML			
	comp=E,28500μm,0.9s								
MURB				AML		AML			
	comp=N,26150μm,1.0s								
MURB				AML		AML			
	comp=E,25650μm,0.4s								
MURB				AML		AML			
	comp=N,26200μm,0.3s								
SSFR	**Montelago di S**	**0.47**	**336**	P		**Pg**	**21 41 23.5**		**-0.2**
SSFR				S		**Sb**	**21 41 31.9**		**0.0**
SSFR				AML		AML			
	comp=N,31950μm,0.2s								
SSFR				AML		AML			
	comp=E,26950μm,0.2s								
SSFR				AML		AML			
	comp=N,29950μm,0.7s								
SSFR				AML		AML			
	comp=E,29500μm,0.8s								
ARRO	**Arrone**	**0.47**	**206**	⇑P		**Pg**	**21 41 24.0**		**+0.2**
ARRO				S		**Sb**	**21 41 31.9**		**+0.1**
ARRO				AML		AML			
	comp=E,13395μm,0.2s								
ARRO				AML		AML			
	comp=N,8855μm,0.7s	

comp=E,20450µm,0.9s
CIMA Civitanova Mar 0.55 56 P **Pb** **21 41 25.6 -0.4**
PP3 Marolino 0.56 48 P **Pb** **21 41 25.7 -0.5**
PP3 AML AML
comp=N,31650µm,1.0s
PP3 AML AML
comp=E,25200µm,0.8s
PP3 AML AML
comp=N,32000µm,1.0s
PP3 AML AML
comp=E,25300µm,0.9s
CADA Capodarco di F 0.56 70 P **Pb** **21 41 26.2 0.0**
ATLO AVT- Montelove 0.56 304 P **Pg** **21 41 25.3 -0.1**
ATLO S **Sb** **21 41 34.9 +0.5**
TERO Teramo 0.56 133 P **Pg** **21 41 24.9 -0.5**
TERO S **Sb** **21 41 33.9 -0.4**
TERO AML AML
comp=N,18000µm,0.4s
TERO AML AML
comp=N,17350µm,1.3s
TERO AML AML
comp=E,23500µm,0.8s
TERO AML AML
comp=E,24200µm,0.8s
FRON Frontone 0.56 335 ⇓P **Pg** **21 41 25.0 -0.5**
FRON S **Sb** **21 41 34.6 +0.2**
FRON AML AML
comp=N,16700µm,1.0s
FRON AML AML
comp=E,15200µm,0.6s
TB01 Gubbio 0.58 310 P **Pg** **21 41 25.9 0.0**
TB02 Pietralunga 0.59 308 P **Pg** **21 41 25.9 -0.1**
T1247 Pizzolo (AQ) 0.59 162 P **Pg** **21 41 25.7 -0.4**
T1247 AML AML
comp=N,16950µm,0.5s
T1247 AML AML
comp=E,18600µm,1.1s
ATVO AVT- Monte Val 0.60 309 P **Pg** **21 41 26.0 -0.2**
ATVO AML AML
comp=E,5860µm,1.2s
ATVO AML AML
comp=N,5560µm,0.6s
TB03 Pietralunga 0.61 311 P **Pg** **21 41 26.2 -0.2**
ATVA AVT- Monte Val 0.62 296 P **Pg** **21 41 26.5 -0.1**
COR1 Corinaldo 0.63 357 ⇑P **Pb** **21 41 27.0 -0.5**
COR1 AML AML
comp=E,26900µm,0.5s
COR1 AML AML
comp=N,20900µm,0.8s
COR1 AML AML
comp=N,20300µm,0.5s
COR1 AML AML
comp=E,13900µm,0.5s
ATPC Poggio Castell 0.64 318 P **Pg** **21 41 26.9 0.0**
ATPI Pietralunga - 0.65 314 P **Pg** **21 41 26.9 -0.2**
ATPI AML AML
comp=N,8920µm,0.7s
ATPI AML AML
comp=E,8155µm,0.6s
PIEI Pieia 0.65 325 P **Pg** **21 41 26.7 -0.4**
PIEI AML AML
comp=N,5570µm,0.5s
PIEI AML AML
comp=E,7115µm,0.6s
ATMI Monte Miggiano 0.66 300 P **Pb** **21 41 27.6 -0.4**
ATMI AML AML
comp=E,9810µm,0.5s
ATMI AML AML
comp=N,11650µm,0.5s
MPAG Monte Paganucc 0.66 342 P **Pg** **21 41 26.9 -0.3**
MPAG S **Sb** **21 41 37.8 +0.6**
MPAG AML AML
comp=E,10770µm,0.7s
MPAG AML AML
comp=N,13900µm,0.5s
MPAG AML AML
comp=E,11070µm,0.7s
MPAG AML AML
comp=N,13900µm,0.5s
MPAG AML AML
comp=E,10770µm,0.6s
MPAG AML AML
comp=N,14050µm,0.5s
TRTR Tortoreto Alta 0.67 107 P **Pb** **21 41 28.3 +0.2**
TRTR AML AML
comp=E,59400µm,0.6s
TRTR AML AML
comp=N,42300µm,0.6s
GIGS Gran Sasso 0.68 145 P **Pg** **21 41 26.8 -0.8**
GIGS S **Sg** **21 41 36.9 +0.4**
GIGS AML AML
comp=E,5690µm,0.5s
GIGS AML AML
comp=N,4040µm,0.4s
AOI Ancona 0.68 36 P **Pg** **21 41 27.2 -0.4**
AOI AML AML
comp=E,6620µm,0.6s
AOI AML AML
comp=N,7850µm,1.2s
AOI AML AML
comp=E,6615µm,0.6s
MGAB Montegabbione 0.69 263 P **Pg** **21 41 27.9 0.0**
MGAB AML AML
comp=E,6140µm,0.5s
MGAB AML AML
comp=N,7705µm,1.5s
NARO Abbazia di Nar 0.69 331 P **Pg** **21 41 27.4 -0.6**
NARO S **Sb** **21 41 38.6 +0.4**
NARO AML AML
comp=N,4155µm,0.7s
NARO AML AML
comp=E,6240µm,0.6s
PCRO Pietralacroce 0.70 30 P **Pb** **21 41 28.3 -0.4**
AQU L'Aquila 0.70 158 ⇑P **Pg** **21 41 27.6 -0.5**
AQU AML AML
comp=E,14350µm,1.3s
AQU AML AML
comp=N,9770µm,1.6s
AQU AML AML
comp=E,13650µm,1.3s
AQU AML AML
comp=N,9565µm,1.1s
SENI Senigallia 0.71 11 P **Pb** **21 41 29.0 +0.1**
SENI AML AML
comp=N,10400µm,0.8s
SENI AML AML
comp=E,18400µm,0.8s
FSSB Fossombrone 0.71 344 P **Pg** **21 41 27.9 -0.4**
FSSB AML AML
comp=E,30150µm,0.3s
FSSB AML AML
comp=N,48900µm,0.4s
APEC Apecchio 0.72 321 P **Pg** **21 41 28.3 -0.1**
APEC AML AML
comp=E,8260µm,0.9s
APEC AML AML
comp=N,8315µm,0.7s
APEC AML AML
comp=E,8255µm,0.8s
APEC AML AML
comp=N,8330µm,0.6s
FIAM Fiamignano 0.74 176 ⇑P **Pg** **21 41 28.2 -0.5**
FIAM AML AML
comp=E,8965µm,0.8s
FIAM AML AML
comp=N,7605µm,1.0s
ATMC Monte Cedrone 0.76 306 P **Pg** **21 41 29.4 +0.1**
BADI Badiali 0.77 311 AML AML
comp=N,4020µm,0.8s
BADI AML AML
comp=E,246µm,1.1s
BADI AML AML
comp=E,246µm,1.1s
PE3 Peglio 0.80 330 P **Pg** **21 41 30.0 +0.1**
PE3 AML AML
comp=N,55µm,0.5s
PE3 AML AML
comp=E,55µm,0.5s
FAGN Fagnano 0.84 152 P **Pg** **21 41 29.7 -1.0**
FAGN AML AML
comp=N,16850µm,0.6s
FAGN AML AML
comp=E,25100µm,0.5s
VCEL Villa Celiera 0.85 136 AML AML
comp=E,17300µm,0.7s
VCEL AML AML

comp=N,16100µm,0.7s
SACS San Casciano d 0.85 260 P **Pb** **21 41 31.4 +0.2**
SSP9 Sansepolcro 0.88 311 P **Pg** **21 41 31.4 0.0**
SSP9 AML AML
comp=E,3980µm,1.6s
SSP9 AML AML
comp=N,4360µm,1.6s
PESA Pesaro 0.95 351 P **Pb** **21 41 32.8 -0.1**
PESA AML AML
comp=E,10810µm,0.4s
PESA AML AML
comp=N,11120µm,0.5s
T0110 Collepietro 0.95 145 ⇑P **Pg** **21 41 31.7 -1.1**
T0110 AML AML
comp=E,14800µm,0.8s
T0110 AML AML
comp=N,15700µm,0.5s
CPGN Carpegna, Ital 0.95 327 P **Pb** **21 41 33.2 0.0**
CPGN AML AML
comp=E,7400µm,0.8s
CPGN AML AML
comp=N,11650µm,0.7s
CPGN AML AML
comp=E,9630µm,0.8s
CPGN AML AML
comp=N,7995µm,0.7s
LATE Laterza 0.99 247 P **Pg** **21 41 33.4 -0.2**
CRE Caprese Michel 1.01 308 P **Pg** **21 41 33.5 -0.4**
CRE AML AML
comp=E,1930µm,1.0s
CRE AML AML
comp=N,2365µm,0.6s
MTCE Montecelio 1.01 193 ⇑P **Pg** **21 41 32.9 -1.0**
MTCE AML AML
comp=N,4710µm,0.6s
MTCE AML AML
comp=E,4545µm,1.2s
PTQR Pietraquaria 1.02 165 P **Pg** **21 41 33.1 -1.0**
PTQR AML AML
comp=E,3555µm,1.1s
PTQR AML AML
comp=N,4485µm,0.8s
RSM Repubblica di 1.02 335 P **Pn** **21 41 34.8 0.0**
MCIV Monte Civitell 1.03 258 P **Pg** **21 41 33.5 -0.8**
MCIV AML AML
comp=E,1960µm,0.9s
MCIV AML AML
comp=N,1810µm,1.1s
SF04 Casetta 1.03 261 P **Pb** **21 41 34.7 +0.3**
SF04 AML AML
comp=E,1645µm,1.1s
SF04 AML AML
comp=N,1825µm,1.2s
CERT Cerreto 1.06 183 P **Pg** **21 41 33.4 -1.5**
CERT AML AML
comp=E,6880µm,0.6s
CERT AML AML
comp=N,5405µm,1.6s
SF01 Poggio Pratacc 1.11 260 P **Pn** **21 41 35.9 0.0**
SF01 AML AML
comp=E,1940µm,1.4s
SF01 AML AML
comp=N,2425µm,1.1s
RCAV Rocca di Cave 1.16 184 P **Pb** **21 41 35.6 -1.0**
RCAV AML AML
comp=E,5020µm,0.6s
RCAV AML AML
comp=N,4120µm,0.9s
ARCI Arcidosso 1.16 263 P **Pn** **21 41 36.9 +0.1**
ARCI AML AML
comp=E,853µm,0.8s
ARCI AML AML
comp=N,872µm,1.1s
INTR Introdacqua 1.18 147 P **Pb** **21 41 35.3 -1.6**
INTR AML AML
comp=E,7µm,0.7s
INTR AML AML
comp=N,14950µm,0.8s
INTR AML AML
comp=E,6540µm,0.7s
INTR AML AML
comp=N,10µm,0.8s
ASQU Asqua 1.21 311 P **Pb** **21 41 37.4 -0.1**
ASQU Asqua 1.21 311 P **Pb** **21 41 37.4 -0.1**
ASQU AML AML
comp=N,2405µm,0.9s
ASQU AML AML
comp=E,2025µm,0.7s
VVLD Villa Vallelon 1.21 159 P **Pb** **21 41 36.6 -0.8**
VVLD AML AML
comp=E,4495µm,0.7s
VVLD AML AML
comp=N,6005µm,0.8s
BLLA Bellaria 1.21 340 P **Pg** **21 41 38.4 +0.6**
BLLA AML AML
comp=E,8360µm,1.4s
BLLA AML AML
comp=N,6635µm,1.3s
CAFR Castel Frentan 1.23 129 P **Pn** **21 41 36.9 -0.8**
CAFR AML AML
comp=E,5375µm,0.7s
CAFR AML AML
comp=N,4770µm,0.7s
SFI Santa Sofia 1.25 316 P **Pb** **21 41 38.2 0.0**
SFI AML AML
comp=N,1740µm,0.6s
SFI AML AML
comp=E,1505µm,0.6s
CSNT Castellina Chi 1.36 291 P **Pb** **21 41 40.1 0.0**
CSNT Castellina Chi 1.36 291 P **Pn** **21 41 39.7 +0.2**
CSNT AML AML
comp=E,714µm,0.6s
CSNT AML AML
comp=N,1106µm,0.7s
POFI Posta Fibreno 1.38 159 P **Pn** **21 41 39.4 -0.3**
POFI AML AML
comp=E,3095µm,1.2s
POFI AML AML
comp=N,3475µm,1.0s
POFI AML AML
comp=N,3430µm,1.0s
POFI AML AML
comp=E,3315µm,1.2s
FROS Frosini 1.40 279 P **Pn** **21 41 40.1 +0.1**
FROS Frosini 1.40 279 P **Pn** **21 41 40.0 +0.1**
FROS AML AML
comp=E,1672µm,1.2s
FROS AML AML
comp=N,1700µm,1.2s
OSSC Osservatorio P 1.41 292 P **Pb** **21 41 40.6 -0.2**
OSSC Osservatorio P 1.41 292 P **Pb** **21 41 40.8 -0.1**
OSSC AML AML
comp=E,1080µm,0.8s
OSSC AML AML
comp=E,1063µm,0.8s
OSSC AML AML
comp=N,1095µm,0.8s
OSSC AML AML
comp=N,1058µm,0.9s
LRP Arpino 1.42 163 P **Pg** **21 41 41.7 0.0**
LMD Lutirano 1.45 318 P **Pb** **21 41 41.7 +0.2**
LMD Lutirano 1.45 318 P **Pb** **21 41 41.7 +0.2**
LMD AML AML
comp=N,1445µm,1.5s
LMD AML AML
comp=E,1690µm,0.8s
GIUL Giuliano Di Ro 1.45 174 P **Pn** **21 41 41.0 +0.3**
GIUL AML AML
comp=N,2630µm,0.6s
GIUL AML AML
comp=E,2300µm,0.9s
MAON Monte Argentar 1.52 248 P **Pn** **21 41 41.6 -0.1**
MAON AML AML
comp=N,556µm,1.0s
MAON AML AML
comp=E,486µm,0.8s
CERA Filignano 1.58 153 P **Pn** **21 41 42.6 +0.1**
CERA AML AML
comp=N,4175µm,0.9s
CERA AML AML
comp=E,3870µm,0.7s
CERA AML AML
comp=N,4245µm,1.0s
CERA AML AML
comp=E,3950µm,0.7s
FRES Fresagrandinar 1.58 130 P **Pb** **21 41 44.1 +0.4**

BRIS BRISIGHELLA 1.60 316 P **Pb** **21 41 44.2 +0.2**
CASP Castiglione de 1.62 263 P **Pn** **21 41 42.4 -0.5**
CASP AML AML
comp=E,324µm,0.8s
CASP AML AML
comp=N,310µm,1.0s
MIDA Miranda 1.63 146 P **Pn** **21 41 43.2 0.0**
MIDA AML AML
comp=E,2645µm,1.2s
MIDA AML AML
comp=N,2090µm,0.6s
MIDA AML AML
comp=E,2665µm,1.2s
MIDA AML AML
comp=N,1990µm,1.2s
CRMI Carmignano 1.71 298 P **Pb** **21 41 45.1 -0.7**
CRMI Carmignano 1.71 298 P **Pb** **21 41 45.1 -0.7**
MPPT Montemurlo 1.71 304 P **Pn** **21 41 45.2 +0.9**
MPPT AML AML
comp=E,1078µm,0.8s
MPPT AML AML
comp=N,792µm,1.5s
MTCR Monte La Croce 1.81 305 P **Pn** **21 41 45.8 +0.1**
MTCR Monte La Croce 1.81 305 P **Pn** **21 41 45.8 +0.1**
MTCR AML AML
comp=N,900µm,0.9s
MTCR AML AML
comp=E,806µm,0.8s
VAGA Valle Agricola 1.82 151 P **Pb** **21 41 47.9 +0.1**
BSSO Busso 1.86 141 P **Pb** **21 41 49.2 +0.8**
CIGN Sant'Elia a Pi 1.93 134 P **Pb** **21 41 49.4 -0.3**
CIGN AML AML
comp=E,1620µm,1.3s
CIGN AML AML
comp=N,1530µm,0.8s
BRJN Brijuni 1.97 15 P **Pn** **21 41 47.8 +0.1**
MELA Melanico ??? S 2.02 129 P **Pn** **21 41 49.5 +1.1**
MELA AML AML
comp=E,4275µm,0.6s
MELA AML AML
comp=N,3655µm,0.6s
MELA AML AML
comp=N,3845µm,0.6s
MELA AML AML
comp=E,4415µm,0.6s
TREM Isole Tremiti 2.02 115 P **Pn** **21 41 49.9 +1.5**
TREM AML AML
comp=N,7570µm,1.0s
TREM AML AML
comp=E,3515µm,1.5s
GATE Gambatesa 2.03 137 P **Pb** **21 41 51.8 +0.4**
MAIM Mastiano 2.07 297 P **Pn** **21 41 49.9 +0.7**
MAIM Mastiano 2.07 297 P **Pn** **21 41 49.6 +0.5**
MAIM AML AML
comp=E,488µm,0.8s
MAIM AML AML
comp=N,426µm,0.5s
BDI Bagni Di Lucca 2.07 302 P **Pn** **21 41 49.6 +0.4**
CARD Cardoso 2.13 300 P **Pn** **21 41 50.0 +0.1**
APRC Apricena 2.23 123 P **Pn** **21 41 52.6 +1.2**
APRC AML AML
comp=E,1895µm,0.6s
APRC AML AML
comp=N,1710µm,0.6s
VLC Villacollemand 2.25 302 P **Pn** **21 41 52.4 +0.7**
VLC AML AML
comp=E,312µm,1.0s
VLC AML AML
comp=E,318µm,0.9s
VLC AML AML
comp=N,396µm,0.9s
VLC AML AML
comp=N,396µm,1.0s
SARO Sassorosso 2.25 302 AML AML
comp=E,624µm,0.6s
SARO AML AML
comp=N,1090µm,0.7s
MOCO Biccari - m.te 2.27 135 P **Pb** **21 41 54.5 -0.9**
SGRT San Giovanni R 2.36 121 P **Pn** **21 41 54.3 +1.1**
SGRT AML AML
comp=E,2570µm,0.7s
SGRT AML AML
comp=N,2855µm,0.6s
MSAG Monte S. Angel 2.48 120 P **Pn** **21 41 56.3 +1.4**
MSAG AML AML
comp=N,3925µm,1.3s
MSAG AML AML
comp=E,3545µm,0.6s
MSAG AML AML
comp=N,3845µm,1.3s
MSAG AML AML
comp=E,3315µm,0.6s
RIY Rijeka 2.54 24 *e*Pn **Pn** **21 41 56.6 +1.0**
SGTA Sant Agata di 2.54 137 P **Pn** **21 41 57.9 +2.2**
PLMA Palmaria, Port 2.55 295 AML AML
comp=N,209µm,0.9s
PLMA AML AML
comp=E,136µm,0.7s
TEOL Teolo 2.55 338 P **Pn** **21 41 56.5 +0.7**
TEOL AML AML
comp=E,2780µm,0.7s
TEOL AML AML
comp=N,2945µm,0.9s
SKDS Skadanscina 2.63 15 ⇑*i*Pn **Pn** **21 41 57.1 +0.2**
SKDS *e*Sn **Sn** **21 42 29.1 +0.2**
SKDS IAML 21 42 49.1
comp=Z,219nm,0.5s
CAPA Cerignola FG 2.77 131 P **Pn** **21 42 00.9 +2.2**
VULT Monte Vulture 2.81 136 P **Pn** **21 42 01.2 +1.8**
CEY Cerknica 2.91 19 *e*Pn **Pn** **21 42 01.1 +0.4**
CEY Cerknica 2.91 19 *e*Pn **Pn** **21 42 01.2 +0.5**
CEY *e*Sn **Sn** **21 42 37.7 +2.1**
A050A Klekovaca 2.92 59 *e*Pn **Pn** **21 42 02.4 +1.4**
PALZ Palazzo San Ge 2.99 132 P **Pn** **21 42 03.3 +1.5**
PALZ AML AML
comp=E,1895µm,1.1s
PALZ AML AML
comp=N,2075µm,1.2s
SABO M.te Sabotino 3.00 7 P **Pn** **21 42 02.2 +0.3**
SABO AML AML
comp=N,6945µm,0.8s
SABO AML AML
comp=E,5270µm,0.9s
SABO AML AML
comp=N,1910µm,0.8s
SABO AML AML
comp=E,1260µm,1.5s
CGRP Cima Grappa 3.01 343 P **Pn** **21 42 03.0 +0.8**
CGRP AML AML
comp=N,1016µm,0.7s
CGRP AML AML
comp=N,984µm,0.7s
CGRP AML AML
comp=E,1270µm,1.5s
CGRP AML AML
comp=E,1370µm,1.5s
PGF Pioggiola 3.02 263 *e*P **Pn** **21 42 03.2 +1.0**
PGF *e*Sn **Sn** **21 42 34.5 -3.9**
comp=E,8.5nm,0.3s
MRVN Minervino Murg 3.05 129 P **Pn** **21 42 03.9 +1.3**
VARN Col Varnada, M 3.06 348 P **Pn** **21 42 03.6 +0.8**
VARN AML AML
comp=E,1280µm,0.6s
VARN AML AML
comp=N,1032µm,0.7s
VARN AML AML
comp=E,1300µm,0.6s
VARN AML AML
comp=N,1064µm,0.7s
DOSS Dosso del Somm 3.17 336 P **Pn** **21 42 05.5 +1.1**
DOSS AML AML
comp=N,704µm,0.6s
DOSS AML AML
comp=E,706µm,0.7s
DOSS AML AML
comp=E,640µm,0.6s
DOSS AML AML
comp=N,631µm,0.6s
SRKY Kupres RS 3.18 69 *e*Pn **Pn** **21 42 06.4 +1.9**
SALO Salr 3.18 326 P **Pn** **21 42 06.2 +1.8**
SALO AML AML
comp=E,712µm,0.8s
SALO AML AML
comp=N,955µm,1.0s
SALO AML AML
comp=E,849µm,0.8s

SALO AML AML
comp=N,1085µm,0.9s
CTI Castel Tesino 3.20 342 P **Pn 21 42 05.8 +1.0**
CTI AML AML
comp=E,715µm,1.1s
CTI AML AML
comp=N,642µm,1.2s
LJU Ljubljana 3.22 19 *e*Pn **Pn 21 42 06.0 +1.1**
LJU *e*Sn **Sn 21 42 43.1 -0.1**
LJU Ljubljana 3.22 19 AML AML
comp=N,4860µm,0.8s
LJU AML AML
comp=E,3205µm,0.6s
MPRI Monte Prat 3.24 359 P **Pn 21 42 06.2 +1.0**
MPRI AML AML
comp=N,880µm,1.0s
MPRI AML AML
comp=E,1125µm,1.0s
MPRI AML AML
comp=N,1165µm,1.0s
MPRI AML AML
comp=E,884µm,1.0s
MGRS Mrkonjic Grad 3.25 63 *e*Pn **Pn 21 42 06.9 +1.5**
STAL STALIGIAL 3.26 356 P **Pn 21 42 06.0 +0.4**
STAL AML AML
comp=E,841µm,1.0s
STAL AML AML
comp=E,1045µm,1.0s
STAL AML AML
comp=N,756µm,0.8s
STAL AML AML
comp=N,880µm,1.2s
PRIJ Prijedor 3.30 52 *e*Pn **Pn 21 42 06.9 +0.9**
CIMO Cimolais 3.33 353 P **Pn 21 42 06.9 +0.3**
CIMO AML AML
comp=E,298µm,1.0s
CIMO AML AML
comp=E,289µm,1.0s
CIMO AML AML
comp=N,343µm,0.7s
CIMO AML AML
comp=N,344µm,0.7s
AMUR Altamura 3.38 127 P **Pn 21 42 08.5 +1.3**
AMUR AML AML
comp=N,582µm,0.4s
AMUR AML AML
comp=E,542µm,0.6s
PTCC Patocco-Chiusa 3.41 4 P **Pn 21 42 07.8 +0.2**
PTCC AML AML
comp=E,408µm,0.7s
PTCC AML AML
comp=N,388µm,0.7s
STON Ston 3.42 91 *e*Pn **Pn 21 42 07.1 -0.6**
STON Ston 3.42 91 *e*Pn **Pn 21 42 07.4 -0.3**
STON *e*Sn **Sn 21 42 47.0 -1.1**
STON Ston 3.42 91 AML AML
comp=N,242µm,1.0s
STON AML AML
comp=E,200µm,0.6s
GAGG Gaggia 3.42 335 P **Pn 21 42 09.4 +1.5**
GAGG AML AML
comp=N,968µm,1.0s
GAGG AML AML
comp=E,1003µm,1.1s
GAGG AML AML
comp=E,719µm,1.2s
GAGG AML AML
comp=N,676µm,1.2s
A051A Mrakovica 3.43 53 *e*Pn **Pn 21 42 09.1 +1.2**
CLUD Cludinico 3.45 358 P **Pn 21 42 08.7 +0.5**
CLUD AML AML
comp=E,814µm,0.8s
CLUD AML AML
comp=E,787µm,0.8s
CLUD AML AML
comp=N,594µm,1.0s
CLUD AML AML
comp=N,588µm,1.0s
BLY Banja Luka 3.46 58 *e*Pn **Pn 21 42 10.4 +2.1**
BLY Banja Luka 3.46 58 *e*Pn **Pn 21 42 11.7 +3.4**
ZONE Zone 3.47 324 P **Pn 21 42 09.8 +1.4**
ZONE AML AML
comp=E,296µm,0.8s
ZONE AML AML
comp=N,332µm,0.7s
MIGL Miglionico 3.49 132 P **Pn 21 42 11.3 +2.6**
ZOU Zoufplan 3.55 359 P **Pn 21 42 10.6 +0.9**
ZOU AML AML
comp=E,731µm,1.1s
ZOU AML AML
comp=N,740µm,1.6s
ZOU AML AML
comp=E,733µm,1.2s
ZOU AML AML
comp=N,681µm,1.6s
FVI Forni Avoltri 3.60 357 P **Pn 21 42 11.1 +0.9**
FVI AML AML
comp=N,476µm,0.6s
FVI AML AML
comp=E,428µm,1.2s
MATE Matera 3.61 130 ⇓P **Pn 21 42 13.9 +3.7**
MATE ⇑S **Sn 21 42 55.7 +2.9**
MYKA Terra Mystica 3.65 6 *i* Pn **Pn 21 42 12.1 +1.2**
comp=E,29nm,0.4s,SNR=24
KOSI Kohlern 3.66 342 P **Pn 21 42 13.2 +2.1**
QLNO Quiliano 3.66 293 P **Pn 21 42 11.8 +0.9**
QLNO AML AML
comp=N,90µm,0.9s
QLNO AML AML
comp=E,57µm,0.7s
MDI Monti di Nese 3.66 320 P **Pn 21 42 12.5 +1.4**
MDI AML AML
comp=N,185µm,0.9s
MDI AML AML
comp=E,196µm,1.0s
OBKA Obir 3.66 16 *e*Pn **Pn 21 42 11.4 +0.3**
OBKA Obir 3.66 16 *i* Pn **Pn 21 42 11.5 +0.4**
comp=E,4.8nm,0.2s,SNR=15
OBKA Obir 3.66 16 *e*Pn **Pn 21 42 11.6 +0.4**
CANO Canova, Maglio 3.69 291 P **Pn 21 42 12.2 +0.7**
CANO AML AML
comp=E,403µm,1.0s
CANO AML AML
comp=N,138µm,0.7s
LTRZ Laterza 3.70 129 P **Pn 21 42 13.2 +1.6**
APPI Appiano 3.71 340 P **Pn 21 42 13.1 +1.4**
APPI AML AML
comp=E,380µm,0.8s
APPI AML AML
comp=N,428µm,1.1s
NOCI Noci 3.73 125 P **Pn 21 42 13.2 +1.2**
NOCI AML AML
comp=N,494µm,0.6s
NOCI AML AML
comp=E,462µm,0.9s
ABTA Abfaltersbach 3.76 354 *i* Pn **Pn 21 42 13.8 +1.4**
comp=E,58nm,0.5s,SNR=65
BRES Bressanone 3.81 346 AML AML
comp=N,582µm,1.5s
BRES AML AML
comp=E,544µm,1.1s
TREB Trebinje 3.91 92 *e*Pn **Pn 21 42 15.6 +1.2**
SOKA Soboth 3.93 20 *i* Pn **Pn 21 42 15.4 +0.5**
comp=E,2.6nm,0.3s,SNR=5.0
RISI Rein 4.00 350 P **Pn 21 42 17.6 +1.8**
RISI AML AML
comp=E,934µm,0.6s
RISI AML AML
comp=N,1035µm,0.5s
BRY Bratogost 4.03 90 *e*Pn **Pn 21 42 17.4 +1.1**
BRY Bratogost 4.03 90 ⇓*i*Pn **Pn 21 42 17.4 +1.1**
BRY *i* Sn **Sn 21 43 05.4 +1.9**
HCY Herceg Novi 4.05 96 *e*Pn **Pn 21 42 17.4 +1.0**
HCY Herceg Novi 4.05 96 ⇓*i*Pn **Pn 21 42 17.6 +1.2**
HCY *i* Sn **Sn 21 43 05.7 +1.9**
KBA Koelnbreinsper 4.08 3 *i* Pn **Pn 21 42 18.6 +1.7**
comp=N,55nm,0.6s,SNR=19
KBA Koelnbreinsper 4.08 3 *e*Pn **Pn 21 42 18.5 +1.5**
KBA *e*Sn **Sn 21 43 05.6 +0.9**
MUGIO Muggio 4.09 317 P **Pn 21 42 18.0 +1.1**
MUGIO AML AML
comp=E,90µm,1.6s
MUGIO AML AML
comp=N,95µm,0.3s
ROSI Rosskopf 4.09 344 P **Pn 21 42 19.1 +2.0**
SBF Sospel 4.18 284 *e*P **Pn 21 42 19.1 +0.9**
SBF *e*Sn **Sn 21 43 01.9 -5.1**
comp=N,21nm,0.4s
UPM Unac-Piva 4.29 85 *e*Pn **Pn 21 42 22.3 +2.4**
UPM Unac-Piva 4.29 85 ⇓*i*Pn **Pn 21 42 21.1 +1.2**
UPM *i* Sn **Sn 21 43 11.7 +1.7**
FETA Feichten 4.34 339 *i* Pn **Pn 21 42 23.0 +2.5**
comp=N,45nm,0.8s,SNR=34
CEME Cevo 4.35 94 ⇑*i*Pn **Pn 21 42 21.7 +1.2**
CEME *i* Sn **Sn 21 43 12.9 +1.8**
NKME Niksic 4.35 91 ⇓*i*Pn **Pn 21 42 21.8 +1.3**
NKME *i* Sn **Sn 21 43 12.9 +1.8**
BUM Brajici-Budva 4.37 97 ⇑*i*Pn **Pn 21 42 22.0 +1.2**
BUM *i* Sn **Sn 21 43 13.3 +1.6**
WTTA Wattenberg 4.37 347 *e*Pn **Pn 21 42 23.0 +2.1**
comp=N,12nm,0.4s,SNR=22
WTTA Wattenberg 4.37 347 *e*Pn **Pn 21 42 23.3 +2.3**
WTTA *e*Sn **Sn 21 43 16.6 +4.6**
WTTA Wattenberg 4.37 347 P **Pn 21 42 23.2 +2.3**
DAVOX Davos/Dischmat 4.39 330 Pn **Pn 21 42 24.3 +3.0**
comp=N,4.9nm,0.3s,baz=150,slow=17,SNR=49
DAVOX Sn **Sn 21 43 15.2 +2.7**
comp=N,4.4nm,0.3s,baz=297,slow=22,SNR=4.6
DAVOX LR LR 21 44 38.2
comp=N,197nm,20.4s,baz=132,slow=46
comp=N,27nm,0.6s
DAVOX Davos/Dischmat 4.39 330 P **Pn 21 42 24.6 +3.3**
SQTA Sankt Quirin 4.41 343 *i* Pn **Pn 21 42 24.1 +2.6**
comp=N,24nm,0.3s,SNR=33
WATA Walderalm 4.45 347 *e*Pn **Pn 21 42 24.7 +2.6**
comp=N,7.0nm,0.2s,SNR=25
MOTA Moosalm 4.55 343 *e*Pn **Pn 21 42 25.9 +2.5**
comp=N,5.7nm,0.2s,SNR=24
ARSA Arzberg 4.59 22 *i* Pn **Pn 21 42 24.3 +0.5**
comp=N,3.4nm,0.2s,SNR=7.4
ARSA Arzberg 4.59 22 *e*Pn **Pn 21 42 24.4 +0.5**
ARSA *e*Sn **Sn 21 43 16.7 -0.4**
ARSA Arzberg 4.59 22 P **Pn 21 42 24.2 +0.5**
ARSA AML AML
comp=N,77µm,1.2s
ARSA AML AML
comp=E,128µm,1.5s
DRME Dracevica, Mon 4.60 98 *e*Pn **Pn 21 42 25.6 +1.6**
DRME Dracevica, Mon 4.60 98 ⇓*i*Pn **Pn 21 42 25.3 +1.3**
DRME *i* Sn **Sn 21 43 19.1 +1.7**
PDG Podgorica 4.61 95 ⇑P **Pn 21 42 26.2 +2.1**
PDG ⇑S **Sn 21 43 17.7 +0.1**
PDG Podgorica 4.61 95 *e*Pn **Pn 21 42 25.8 +1.8**
PDG Podgorica 4.61 95 P **Pn 21 42 26.0 +2.0**
TTG Podgorica 4.61 95 ⇑*i*Pn **Pn 21 42 25.4 +1.4**
TTG *i* Sn **Sn 21 43 19.2 +1.7**
PLE Pljevlja 4.65 84 *e*Pn **Pn 21 42 26.0 +1.3**
PLE *i* Sn **Sn 21 43 20.2 +1.5**
FUSIO Fusio 4.65 319 P **Pn 21 42 26.4 +1.6**
RUDO Rudo 4.66 80 *e*Pn **Pn 21 42 26.2 +1.5**
PART Garmisch-Parte 4.69 344 *e*Pn **Pn 21 42 28.5 +3.3**
PART *e*Sn **Sn 21 43 24.3 +4.6**
ULC Ulcinj 4.70 101 *e*Pn **Pn 21 42 26.5 +1.2**
ULC *i* Sn **Sn 21 43 21.3 +1.5**
BIOA Bad Ischl, Aus 4.71 5 *i* Pn **Pn 21 42 26.7 +1.3**
comp=E,25nm,0.4s,SNR=46
BBLS Lazići 4.71 77 *e*Pn **Pn 21 42 27.8 +2.3**
BBLS Lazići 4.71 77 *e*Pn **Pn 21 42 27.0 +1.5**
RJOB Jochberg 4.74 358 *e*Pn **Pn 21 42 27.9 +2.1**
RJOB *e*Sn **Sn 21 43 24.6 +3.9**
MMK Mattmark 4.74 312 P **Pn 21 42 27.7 +1.6**
TIP Timpagrande 4.74 143 ⇑P **Pn 21 42 30.5 +4.6**
KOVH Kovagototos 4.75 48 P **Pn 21 42 25.7 -0.2**
KOVH S **Sn 21 43 18.7 -2.2**
KOME Kolasin 4.75 90 ⇑*i*Pn **Pn 21 42 27.4 +1.3**
KOME *i* Sn **Sn 21 43 22.7 +1.5**
RETA Reutte 4.76 341 *e*Pn **Pn 21 42 28.6 +2.4**
comp=E,7.9nm,0.3s,SNR=19
LMR La Mourre 4.79 276 *e*P **Pn 21 42 26.8 +0.2**
LMR *e*Sn **Sn 21 43 16.8 -5.3**
comp=E,3.2nm,0.4s
PLONS Plons/SG 4.81 329 *e*Pn **Pn 21 42 30.4 +3.6**
PLONS *e*Sn **Sn 21 43 25.8 +3.3**
OBER Oberstdorf 4.81 337 *e*Pn **Pn 21 42 30.5 +3.6**
OBER *e*Sn **Sn 21 43 24.3 +1.7**
DAVA Damuels 4.83 333 *e*Pn **Pn 21 42 29.9 +2.7**
comp=E,11nm,0.5s,SNR=19
DAVA Damuels 4.83 333 *e*Pn **Pn 21 42 30.0 +2.7**
DAVA *e*Sn **Sn 21 43 27.9 +4.7**
MBDF Montbardon 4.85 293 *e*P **Pn 21 42 29.3 +1.8**
MBDF *e*Sn **Sn 21 43 18.3 -5.5**
comp=E,6.0nm,0.4s
MOA Molln 4.92 10 *e*Pn **Pn 21 42 29.5 +1.2**
MOA *e*Sn **Sn 21 43 26.2 +1.0**
MOA Molln 4.92 10 *e*Pn **Pn 21 42 29.4 +1.0**
comp=E,6.5nm,0.3s,SNR=15
MOA Molln 4.92 10 *e*Pn **Pn 21 42 29.5 +1.2**
MOA *e*Sn **Sn 21 43 26.9 +1.7**
TEKS Tekeris 4.94 70 *e*Pn **Pb 21 42 40.2 -0.8**
TEKS Tekeris 4.94 70 *e*Pn **Pn 21 42 29.9 +1.3**
IVA Berane 5.03 89 ⇓*i*Pn **Pn 21 42 31.2 +1.3**
IVA *i* Sn **Sn 21 43 29.3 +1.3**
BNALP Bannalp 5.07 321 P **Pn 21 42 33.3 +2.8**
SJES Sjenica 5.08 85 *e*Pn **Pn 21 42 32.6 +2.0**
SJES *e*Sn **Sn 21 43 24.8 -4.4**
PVY Plav 5.10 92 ⇑*i*Pn **Pn 21 42 32.2 +1.3**
PVY *i* Sn **Sn 21 43 31.1 +1.2**
UBR Ueberruh 5.11 337 *e*Pn **Pn 21 42 33.8 +2.7**
UBR *e*Sn **Sn 21 43 32.8 +2.7**
MORH Mrgy, Hungar 5.12 49 P **Pn 21 42 32.5 +1.4**
DIVS Divibare 5.16 75 *e*Pn **Pn 21 42 32.9 +1.1**
DIVS Divibare 5.16 75 *e*Pn **Pn 21 42 32.9 +1.1**
LPL La Plagne 5.18 301 *e*P **Pn 21 42 34.1 +2.0**
LPL *e*Sn **Sn 21 43 26.2 -5.8**
comp=E,10nm,0.4s
IVAS Ivanjica 5.22 81 *e*Pn **Pn 21 42 33.4 +0.9**
IVAS *e*Sn **Sn 21 43 27.9 -4.7**
RONA Rosalia, Austr 5.22 25 *e*Pn **Pn 21 42 33.2 +0.7**
comp=E,4.3nm,0.3s,SNR=8.5
MPLH Magyarpolny 5.24 36 P **Pn 21 42 35.3 +2.6**
WILA Wila 5.29 328 *e*Pn **Pn 21 42 35.8 +2.3**
WILA *e*Sn **Sn 21 43 34.6 +0.2**
SOP Sopron 5.29 27 P **Pn 21 42 34.3 +0.9**
SOP S **Sn 21 43 31.2 -3.1**
CONA Conrad Observa 5.31 21 *i* Pn **Pn 21 42 34.3 +0.6**
comp=E,5.1nm,0.3s,SNR=11
FRGS Fruska Gora 5.33 64 *e*Pn **Pn 21 42 32.5 -1.4**
FRGS Fruska Gora 5.33 64 *e*Pn **Pn 21 42 33.5 -0.4**
TIR Tirane 5.33 106 ⇑P **Pn 21 42 35.5 +1.5**
TIR ⇑S **Sn 21 43 35.4 +0.1**
TRUS Trudelj 5.48 75 *e*Pn **Pn 21 42 36.7 +0.7**
WALHA Wallhausen, DE 5.49 331 *e*Pn **Pn 21 42 38.9 +2.8**
ORIF Oris-en-Rattie 5.51 293 *e*P **Pn 21 42 39.5 +2.9**
ORIF *e*Sn **Sn 21 43 34.1 -5.9**
comp=E,5.6nm,0.4s
SMRF Simiane la Rot 5.52 283 *e*P **Pn 21 42 38.6 +2.0**
SMRF *e*Sn **Sn 21 43 34.2 -5.9**
comp=E,2.0nm,0.4s
GRUS Gruza 5.65 78 *e*Pn **Pn 21 42 39.5 +1.1**
SULZ Cheisacher 5.71 324 *e*Pn **Pn 21 42 41.6 +2.4**
SULZ *e*Sn **Sn 21 43 46.7 +2.0**
SLE Schleitheim 5.74 328 *e*Pn **Pn 21 42 41.0 +1.4**
SLE *e*Sn **Sn 21 43 43.2 -2.2**
BALST Balsthal 5.75 321 *e*Pn **Pn 21 42 41.9 +2.1**
BALST *e*Sn **Sn 21 43 46.6 +0.9**
METMA Mettma DE 5.79 326 *e*Pn **Pn 21 42 41.7 +1.4**
METMA *e*Sn **Sn 21 43 45.8 -0.9**
GEC2 GERESS Array S 5.86 4 *e*Pn **Pn 21 42 41.8 +0.6**
GEC2 *e*Sn **Sn 21 43 47.5 -1.0**
GERES GERESS Array B 5.86 4 Pn **Pn 21 42 40.9 -0.4**
comp=E,1.7nm,0.3s,baz=173,slow=13,SNR=47
GERES Sn **Sn 21 43 44.5 -4.0**
comp=E,4.4nm,0.3s,baz=176,slow=21,SNR=7.6
comp=E,2.6nm,0.3s
CKRC Cesky Krumlov 5.88 8 *e*PN **Pn 21 42 41.5 0.0**
CKRC *e*SN **Sn 21 43 47.0 -1.9**
SELS Selova 5.91 85 *e*Pn **Pn 21 42 42.9 +0.9**
ZST Bratislava 5.92 27 *e*PN **Pn 21 42 43.0 +1.0**
ZST *e*SN **Sn 21 43 46.2 -3.6**
BERGE Lenzkirch (DE) 5.95 327 *e*Pn **Pn 21 42 43.7 +1.2**
BERGE *e*Sn **Sn 21 43 50.5 -0.1**
OHR Ohrid 6.07 106 *i* Pn **Pn 21 42 46.9 +2.6**
OHR *i* Sn **Sn 21 43 53.3 -0.4**
CABF La Chapelle 6.12 308 *e*P **Pn 21 42 46.6 +1.7**
CABF *e*Sn **Sn 21 43 48.6 -6.4**
comp=E,4.4nm,0.4s
MODS Modra-Piesok 6.13 27 *e*PN **Pn 21 42 46.5 +1.5**
MODS *e*SN **Sn 21 43 53.1 -1.9**

KHC Kasperske Hory 6.14 3 *e*PN **Pn 21 42 45.0 -0.1**
KHC *e*SN **Sn 21 43 52.2 -3.0**
BFO Black Forest 6.27 330 *e*Pn **Pn 21 42 47.7 +0.9**
BFO *e*Sn **Sn 21 43 55.3 -3.1**
VIVF Saint-Julien-l 6.32 290 *e*P **Pn 21 42 49.8 +2.2**
VIVF *e*Sn **Sn 21 43 53.4 -6.4**
comp=E,1.3nm,0.3s
BOVS Bovan 6.35 81 *e*Pn **Pn 21 42 48.4 +0.5**
BARS Barje 6.44 89 *e*Pn **Pn 21 42 50.3 +1.1**
KRUC Moravsky 6.49 20 *e*PN **Pn 21 42 50.0 +0.1**
KRUC *e*SN **Sn 21 44 02.6 -1.2**
HINF Hinteralfeld 6.49 320 *e*P **Pn 21 42 50.6 +0.7**
HINF *e*Sn **Sn 21 43 57.3 -6.6**
comp=E,14nm,0.4s
MDVR Moldovita 6.51 71 ⇑P **Pn 21 42 52.7 +2.5**
ECH Echery 6.65 324 *e*Pn **Pn 21 42 53.0 +1.0**
ECH *e*Sn **Sn 21 44 06.1 -1.7**
BZS Buzias 6.68 64 ⇑P **Pn 21 42 54.6 +2.1**
BZS ⇑S **Sn 21 44 07.3 -1.2**
ZAGS Zajecar 6.74 80 *e*Pn **Pn 21 42 54.8 +1.5**
CDF Champ du Feu 6.75 325 *e*P **Pn 21 42 54.7 +1.2**
CDF *e*Sn **Sn 21 44 03.3 -7.0**
comp=E,5.4nm,0.3s
LASF Ste Croix 6.76 282 *e*P **Pn 21 42 55.4 +1.7**
LASF *e*Sn **Sn 21 44 03.9 -6.8**
comp=E,0.7nm,0.3s
VRAC Vranov 6.77 20 Pn **Pn 21 42 51.2 -2.5**
comp=E,0.3nm,0.3s,baz=207,slow=14,SNR=2.7
VRAC Sn **Sn 21 44 06.4 -4.3**
comp=E,0.6nm,0.3s,baz=295,slow=13,SNR=2.3
VRAC LR LR 21 45 57.1
comp=E,140nm,21.5s,baz=196,slow=44
comp=E,1.5nm,0.5s
VRAC Vranov 6.77 20 *e*PN **Pn 21 42 53.7 0.0**
VYHS Vyhne 6.82 34 *e*PN **Pn 21 42 58.1 +3.7**
HAU Haudompre 6.87 319 *e*P **Pn 21 42 56.0 +1.0**
HAU *e*Sn **Sn 21 44 06.0 -7.1**
comp=E,25nm,0.4s
STIP Stip 6.90 98 *i* Pn **Pn 21 42 58.4 +2.9**
STIP *i* Sn **Sn 21 44 15.7 +1.8**
ZAPS Zavoj 7.02 85 *e*Pn **Pn 21 42 58.7 +1.5**
PRU Pruhonice 7.06 8 *e*PN **Pn 21 42 57.8 +0.1**
PRU *e*SN **Sn 21 44 14.0 -3.9**
NKC Novy Kostel 7.24 357 *e*PN **Pn 21 43 01.0 +0.8**
NKC *e*SN **Sn 21 44 18.5 -3.9**
GZR Gura Zlata 7.39 68 ⇑P **Pn 21 43 05.2 +2.9**
MORC Moravsky Berou 7.45 23 *e*PN **Pn 21 43 03.6 +0.5**
SMF Signal de Mont 7.49 302 *e*P **Pn 21 43 05.1 +1.5**
SMF *e*Sn **Sn 21 44 21.1 -7.3**
comp=E,5.1nm,0.4s
VTS Vitosha 7.50 89 ⇓P **Pn 21 43 05.3 +1.4**
VTS ⇓S **Sn 21 44 27.1 -1.9**
VTS Vitosha 7.50 89 *i* P **Pn 21 43 05.1 +1.2**
KKB Krupnik 7.51 95 *i* P **Pn 21 43 05.9 +2.0**
PAGF Fort de Pagny 7.55 320 *e*P **Pn 21 43 06.8 +2.4**
PAGF *e*Sn **Sn 21 44 22.3 -7.6**
comp=E,7.6nm,0.4s
DEV Deva 7.62 64 ⇑P **Pn 21 43 07.7 +2.4**
SFTF Sexfontaines 7.65 316 *e*P **Pn 21 43 08.1 +2.3**
SFTF *e*Sn **Sn 21 44 24.6 -7.8**
comp=E,5.7nm,0.3s
LOR Lormes 7.77 306 *e*P **Pn 21 43 09.1 +1.7**
LOR *e*Sn **Sn 21 44 27.6 -7.7**
comp=E,4.0nm,0.3s
KEST Kesra 7.81 203 Pn **Pn 21 43 14.3 +6.3**
comp=E,1.0nm,0.3s,baz=265,slow=3.6,SNR=13
KEST LR LR 21 46 22.8
comp=E,270nm,18.1s,baz=342,slow=38
comp=E,7.4nm,0.6s
MPEP Malo Peshtene 7.82 84 *i* P Pn 21 43 14.3 +6.1
MEZF Maizieres J'vi 7.84 317 *e*P **Pn 21 43 10.6 +2.3**
MEZF *e*Sn **Sn 21 44 29.3 -7.7**
comp=E,4.5nm,0.4s
AVF Avril sur Loir 7.85 302 *e*P **Pn 21 43 09.8 +1.2**
AVF *e*Sn **Sn 21 44 29.5 -7.9**
comp=E,1.1nm,0.4s
OSTC Ostas 7.86 15 *e*PN **Pn 21 43 08.5 -0.2**
SAVF Savonnieres en 7.88 318 *e*P **Pn 21 43 11.1 +2.2**
SAVF *e*Sn **Sn 21 44 30.1 -7.9**
comp=E,4.2nm,0.4s
SSF Saint Saulge 7.88 304 *e*P **Pn 21 43 10.1 +1.2**
SSF *e*Sn **Sn 21 44 31.3 -6.7**
comp=E,2.8nm,0.4s
BRG Berggiesshubel 7.89 4 *e*P **Pn 21 43 09.3 +0.2**
BRG Amp 21 43 11.5
comp=Z,2.0nm,0.5s
BRG *ex* x 21 44 34.3
BRG *ex* x 21 45 31.7
BRG Amp 21 45 53.9
comp=Z,21nm,1.0s
MTLF Montolieu 7.92 276 *e*P **Pn 21 43 12.3 +2.7**
MTLF *e*Sn **Sn 21 44 31.7 -7.5**
comp=Z,0.8nm,0.5s
MARR Marisel-Cluj 8.04 59 ⇓P **Pn 21 43 13.4 +2.2**
MMP Musomiste 8.04 97 *i* P **Pn 21 43 13.3 +2.1**
BGF Bois d'Agland 8.08 300 *e*P **Pn 21 43 13.6 +1.9**
BGF *e*Sn **Sn 21 44 35.2 -7.7**
comp=Z,3.8nm,0.4s
CAF Calviac 8.15 287 *e*P **Pn 21 43 15.2 +2.5**
CLL Collm 8.31 360 *e*Pn **Pn 21 43 15.0 +0.3**
CLL *e*Pg **Pg 21 43 50.0 -3.4**
CLL *e*Sn Sn 21 44 30.0 -18
CLL *ex* x 21 44 45.0
CLL *ex* x 21 45 10.0
CLL *ex* x 21 45 22.0
CLL *e*Sg **Sg 21 45 37.0 -3.8**
comp=Z,48nm,1.1s
CLL LmH 21 46 00.0
comp=N,100nm,19.7s
CLL LmH 21 46 00.0
comp=E,300nm,19.6s
CLL LmV 21 47 00.0
comp=Z,100nm,18.0s
CLL Lmax 21 47 00.0
TCF Toulx Ste Croi 8.39 297 *e*P **Pn 21 43 18.7 +2.7**
TCF *e*Sn **Sn 21 44 42.8 -7.9**
comp=Z,1.1nm,0.3s
PLVB Pleven 8.47 83 ⇑P **Pn 21 43 18.8 +1.8**
STHS Stebnicka Huta 8.56 39 *e*PN **Pn 21 43 25.4 +7.1**
RJF Les Rejaudoux 8.60 289 *e*P **Pn 21 43 22.3 +3.4**
ARR Arges 8.65 70 ⇑P **Pn 21 43 22.7 +3.0**
GIVF Givet 9.08 324 *e*P **Pn 21 43 29.4 +4.1**
GIVF *e*Sn **Sn 21 45 00.1 -7.3**
comp=Z,58nm,1.2s
LFF La Frestale 9.08 286 *e*P **Pn 21 43 29.9 +4.5**
DOU Dourbes 9.17 324 *d*P **Pn 21 43 25.5 -1.1**
DOU *d*S **Sn 21 45 09.0 -0.7**
EPF Esparros 9.31 274 *e*P **Pn 21 43 32.6 +4.0**
BAIF Baives 9.32 322 *e*P **Pn 21 43 31.4 +2.8**
BAIF *e*Sn **Sn 21 45 07.9 -5.4**
comp=Z,61nm,1.4s
MLR Muntele Rosu 9.59 71 Pn **Pn 21 43 29.6 -2.8**
comp=Z,0.2nm,0.3s,baz=268,slow=20,SNR=1.3
MLR LR LR 21 47 42.4
comp=Z,147nm,18.0s,baz=259,slow=42
comp=Z,1.0nm,0.3s
ETSF Etsaut 9.98 274 *e*P **Pn 21 43 41.8 +4.0**
MFF Saint Martin d 10.04 296 *e*P **Pn 21 43 41.6 +3.0**
MFF *e*Sn Sn 21 45 22.1 -9.0
comp=Z,0.6nm,0.3s
SJPF Ste Jean 10.45 275 *e*Pn **Pn 21 43 41.3 -2.9**
IDI Anoyia 11.99 126 Pn **Pn 21 44 06.2 +0.9**
comp=Z,0.1nm,0.3s,baz=307,slow=18,SNR=2.0
IDI Sn **Sn 21 46 12.3 -6.7**
comp=Z,0.3nm,0.3s,baz=308,slow=11,SNR=1.5
comp=Z,9.1nm,1.1s
ESDC Sonseca Array 13.21 261 Pn **P 21 44 35.1 +3.2**
baz=64,slow=11,SNR=7.0
ESDC LR LR 21 49 00.9
comp=Z,72nm,20.2s,baz=109,slow=34
BRTR Keskin Array B 15.80 95 Pn **Pn 21 44 55.7 -1.3**
comp=Z,0.1nm,0.3s,baz=296,slow=13,SNR=1.2
BRTR LR LR 21 52 08.5
comp=Z,90nm,19.3s,baz=312,slow=42
comp=Z,0.2nm,0.3s
EKA Eskdalemuir Ar 16.21 325 Pn **P 21 45 04.8 -0.4**
baz=134,slow=14
comp=Z,0.7nm,0.5s
HFS Hagfors 17.16 1 Pn **P 21 45 15.4 -0.2**
comp=Z,0.1nm,0.3s,baz=157,slow=19,SNR=2.4
HFS LR LR 21 52 21.8
comp=Z,70nm,22.0s,baz=89,slow=39
NOA NORSAR Array B 18.10 357 P **P 21 45 26.5 +0.5**
baz=176,slow=11,SNR=4.0

NOA LR LR 21 52 57.9
comp=Z,57nm,18.1s,baz=160,slow=39
comp=Z,1.4nm,1.0s

FINES FINESS Array B 20.05 18 P **P 21 45 46.9 -0.3**
comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=5.3
comp=Z,2.5nm,0.7s

MMAI Mount Meron Ar 20.19 112 P Pn 21 45 50.5 -0.5
comp=Z,4.0nm,0.9s,baz=308,slow=7.1,SNR=3.8

KVAR Kislovodsk Arr 21.49 77 LR LR 21 55 35.2
comp=Z,26nm,18.4s,baz=250,slow=41

KBZ Khabaz 21.66 78 P **P 21 46 03.9 -1.0**
comp=Z,1.7nm,0.9s,baz=275,slow=8.6,SNR=2.5
comp=Z,1.7nm,0.9s

ASF Jabal al Asfar 21.70 112 P **P 21 46 06.8 +1.3**
comp=Z,1.3nm,0.8s,baz=322,slow=13,SNR=1.8
comp=Z,1.3nm,0.8s

KIRV Kirov 27.34 43 LR LR 21 59 16.0
comp=Z,58nm,18.3s,baz=201,slow=40

ARU Arti 31.72 49 LR LR 22 00 21.6
comp=Z,55nm,18.8s,baz=182,slow=37

AAK Ala-Archa 44.16 68 LR LR 22 12 09.9
comp=Z,61nm,18.0s,baz=94,slow=42

ZALV Zalesovo Beam 46.86 50 P **P 21 49 44.4 +0.1**
comp=Z,0.3nm,0.4s,baz=284,slow=5.8,SNR=1.9

ZALV LR LR 22 09 54.6
comp=Z,25nm,21.7s,baz=360,slow=37
comp=Z,0.3nm,0.4s

MKAR Makanchi Array 47.75 60 P **P 21 49 50.8 -0.5**
comp=Z,0.5nm,0.6s,baz=296,slow=6.3,SNR=5.0

MKAR LR LR 22 14 01.2
comp=Z,49nm,18.9s,baz=92,slow=42
comp=Z,0.5nm,0.6s

SONM Songino Array 61.75 50 P **P 21 51 32.8 -0.1**
comp=Z,1.0nm,0.9s,baz=310,slow=9.0,SNR=6.9
comp=Z,1.0nm,0.9s

CMAR Chiang Mai Arr 74.71 79 P **P 21 52 55.6 +1.2**
comp=Z,0.8nm,0.6s,baz=302,slow=7.4,SNR=9.1
comp=Z,0.8nm,0.6s

TXAR Lajitas Array 87.52 309 P **P 21 54 05.7 +3.1**
comp=Z,0.3nm,0.7s,baz=27,slow=6.1,SNR=3.2
comp=Z,0.3nm,0.7s

IDC ***27*** *22:03:42.2±2.5, 16°.05S×174°.21W, h114km±22km, mb3.6/5, mbtmp4.1/6, MS3.5/2, Error ellipse: s-maj=93.1km s-min=17.9km az=144.0*

NEIC ***27*** *22:03:43.8± 1.3, 16°.05S±0°.04×174°.10W±0°.10, h133km±11km, mb4.5/14, Error ellipse: s-maj=14.0km s-min=4.2km az=77.0*

ISC 27 22:03:42.0±0.6, 16°.1S±0°.1×174°.22W±0°.10, h115km, n27, σ0s85/26, mb4.4/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.19**	**48**	P		**Pn**	**22 04 32.7**	**+2.0**
	397nm,0.4s,baz=21,slow=1.9,SNR=84							
AFI				S		**Sn**	**22 05 08.2**	**0.0**
	950nm,0.4s,baz=8.0,slow=24,SNR=14							
AFI	**Afiamalu**	**3.19**	**48**	Pn		**Pn**	**22 04 31.9**	**+1.2**
AFI				Sn		**Sn**	**22 05 06.2**	**-2.1**
NIUE	**Niue**	**5.08**	**127**	Pn		**Pn**	**22 04 57.0**	**+1.0**
MSVF	**Nonsavu**	**7.58**	**256**	P		Pn	22 05 39.9	+10
	36nm,0.9s,baz=92,slow=11,SNR=26							
MSVF				LR		LR	22 07 38.4	
	comp=Z,124nm,20.1s,baz=33,slow=31							
MSVF	**Nonsavu**	**7.58**	**256**	Pn		Pn	22 05 39.8	+10
MARNC	**Mare, Loyalty**	**17.64**	**249**	P		**P**	**22 07 40.0**	**+0.1**
BKZ	**Black Stump Fm**	**24.42**	**198**	P		**P**	**22 08 49.8**	**0.0**
BKZ				IAmb		IAmb	22 09 11.0	
	comp=Z,42nm,1.5s							
STKA	**Stephens Creek**	**43.02**	**240**	P		**P**	**22 11 30.8**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=74,slow=8.5,SNR=9.0							
	comp=Z,5.1nm,0.9s							
STKA	**Stephens Creek**	**43.02**	**240**			**P**	**22 11 29.8**	**-0.6**
BBOO	**Buckleboo**	**47.80**	**240**	P		**P**	**22 12 07.4**	**-0.6**
BBOO				IAmb		IAmb	22 12 39.4	
	comp=Z,12nm,1.3s							
WB0	**Warramunga Arr**	**48.89**	**258**	P		**P**	**22 12 16.3**	**-0.2**
WB0				IAmb		IAmb	22 12 17.9	
	comp=Z,5.7nm,1.2s							
WB2	**Warramunga Arr**	**48.91**	**257**	P		**P**	**22 12 16.6**	**-0.1**
WB2				IAmb		IAmb	22 12 58.5	
	comp=Z,7.5nm,1.4s							
WRA	**Warramunga Arr**	**48.92**	**257**	P		**P**	**22 12 16.6**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=93,slow=6.8,SNR=14							
	comp=Z,0.8nm,0.5s							
WRA	**Warramunga Arr**	**48.92**	**257**	P		**P**	**22 12 16.3**	**-0.5**
AS31	**Alice Springs**	**49.15**	**252**	P		**P**	**22 12 17.5**	**-1.1**
AS31				IAmb		IAmb	22 12 19.9	
	comp=Z,1.5nm,0.6s							
ASAR	**Alice Springs**	**49.16**	**252**	P		**P**	**22 12 18.6**	**0.0**
	comp=Z,5.4nm,0.7s,baz=88,slow=8.2,SNR=75							
	comp=Z,5.4nm,0.7s							
ASAR	**Alice Springs**	**49.16**	**252**	P		**P**	**22 12 18.3**	**-0.3**
MTN	**Manton Dam**	**52.89**	**266**	P		**P**	**22 12 47.6**	**+1.1**
MTN				IAmb		IAmb	22 12 48.5	
	comp=Z,7.2nm,0.8s							
FORT	**Forrest**	**54.41**	**243**	P		**P**	**22 12 57.0**	**-0.4**
KNRA	**Kununurra**	**54.69**	**262**	P		**P**	**22 12 59.8**	**+0.1**
KNRA				IAmb		IAmb	22 13 01.1	
	comp=Z,7.4nm,0.9s							
PSA00	**Pilbara Seismi**	**62.26**	**254**	P		**P**	**22 13 52.2**	**0.0**
PSA00				IAmb		IAmb	22 13 52.9	
	comp=Z,6.4nm,0.7s							
MBWA	**Marble Bar**	**62.42**	**254**	P		**P**	**22 13 53.4**	**+0.1**
TXAR	**Lajitas Array**	**81.63**	**56**	P		**P**	**22 15 47.6**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=226,slow=7.2,SNR=3.7							
	comp=Z,0.7nm,0.9s							
ILAR	**Eielson Array**	**83.24**	**11**	P		**P**	**22 15 55.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=203,slow=5.2,SNR=4.5							
	comp=Z,0.3nm,0.6s							
PD31	**Pinedale Array**	**83.28**	**42**	P		**P**	**22 15 55.0**	**-1.2**
PMSA	**Palmer Station**	**83.90**	**156**	LR		LR	22 53 08.4	
	comp=Z,80nm,18.2s,baz=140,slow=35							
BRTR	**Keskin Array B**	**146.15**	**320**	PKPbc		**PKPab**	**22 23 10.3**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=124,slow=2.5,SNR=6.0							

IDC ***27*** *22:08:18.1±0.5, 49°.64S×115°.13W, h0km, mb4.4/17, mbtmp4.4/17, MS4.9/50, Error ellipse: s-maj=20.5km s-min=14.3km az=152.0*

MOS ***27*** *22:08:19.8±2.1, 50°.10S×114°.83W, h10km, mb5.3/11, Error ellipse: s-maj=23.0km s-min=13.6km az=71.3*

BJI ***27*** *22:08:20.0±0.0, 50°.50S×114°.70W, h10km, mb5.5/2, Ms5.3/4, Ms7 5.1/4*

NEIC ***27*** *22:08:20.3±1.9, 50°.3S±0°.2×115°.0W±0°.2, h10km±1km, mb5.1/48, Mwb5.4/15, Error ellipse: s-maj=31.9km s-min=19.7km az=159.0*

NEIC ***27*** *22:08:20.3, 50°.38S×114°.74W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.07; Mθθ=0.61; Mφφ=0.68; Mrθ=-0.15; Mrφ=1.24; Mθφ=0.18; Fault plane solution: M0=1.42000×10^17 NP1:φs=194.13000°, δ82.70000°, λ=-174.97000°. NP2:φs=103.49000°, δ85.01000°, λ=-7.32000°. Principal axes: T 1.3653, Plg2.0000°, Azm149.0000°; N 0.1023, Plg81.0000°, Azm249.0000°; P -1.4675, Plg9.0000°, Azm59.0000°;*

GCMT ***27*** *22:08:24.3±0.1, 49°.83S±0°.01×115°.08W±0°.01, h12km, MW5.4/134, Moment Tensor Solution. s122,c200; s134,c242; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.03±.02; Mθθ=0.58±.02; Mφφ=-0.55±.02; Mrθ=0.05±.05; Mrφ=1.65±.02; Mθφ=0.18±.05; Best double couple: M0=1.75400×10^17 NP1:φs=9.00000°, δ89.00000°, λ=174.00000°. NP2:φs=100.00000°, δ84.00000°, λ=1.00000°. Principal axes: T 1.7730, Plg5.0000°, Azm324.0000°; N -0.0380, Plg84.0000°, Azm184.0000°; P -1.7360, Plg4.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 22:08:20.3±0.3, 50°.29S±0°.09×114°.65W±0°.06, h10km, n227, σ1s58/177, mb5.0/42, MS5.1/55, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**23.48**	**12**	LR		LR	22 20 18.1	
USHA	**Ushuaia**	**28.05**	**117**	LR		LR	22 22 56.5	
	comp=Z,5μm,18.8s,baz=258,slow=31							
COYC	**Coyhaique**	**28.61**	**97**	P		**P**	**22 14 17.3**	**+0.7**
COYC				IAmb		IAmb	22 14 24.3	
	comp=Z,38nm,1.3s							
PMSA	**Palmer Station**	**29.82**	**138**	LR		LR	22 23 24.6	
	comp=Z,5μm,19.0s,baz=273,slow=30							
H03S2	**Juan Fernandez**	**30.84**	**71**	T		T	22 47 03.1	
	baz=226,slow=74,SNR=1379							
H03S1	**Juan Fernandez**	**30.84**	**72**	T		T	22 47 04.4	
	baz=226,slow=74,SNR=1830							
H03S3	**Juan Fernandez**	**30.85**	**71**	T		T	22 47 03.4	
	baz=226,slow=74,SNR=1592							
H03N3	**Juan Fernandez**	**31.10**	**71**	T		T	22 47 22.0	
	baz=229,slow=71,SNR=2807							
H03N2	**Juan Fernandez**	**31.10**	**71**	T		T	22 47 20.8	
	baz=229,slow=71,SNR=3879							
H03N1	**Juan Fernandez**	**31.11**	**71**	T		T	22 47 18.6	
	baz=229,slow=71,SNR=2359							
PLCA	**Paso Flores**	**31.93**	**90**	P		**P**	**22 14 48.2**	**+2.2**
	comp=Z,3.1nm,0.8s,baz=249,slow=9.1,SNR=5.4							
PLCA				LR		LR	22 24 40.9	
	comp=Z,1μm,18.2s,baz=236,slow=30							
	comp=Z,3.1nm,0.8s							
PLCA	**Paso Flores**	**31.93**	**90**	P		**P**	**22 14 47.5**	**+1.4**
PLCA				IAmb		IAmb	22 14 53.9	
	comp=Z,37nm,1.6s							
PLCA	**Paso Flores**	**31.93**	**90**	P		**P**	**22 14 47.5**	**+1.4**
PLCA				pmax		pmax		
	comp=Z,37nm,1.7s							
VA03	**San Esteban**	**36.74**	**79**	P		**P**	**22 15 28.0**	**+0.1**
VA03				IAmb		IAmb	22 15 55.2	
	comp=Z,30nm,1.1s							
TBI	**Tubuai**	**38.15**	**302**	*e*S		**S**	**22 21 37.0**	**+4.2**
	comp=Z,1μm,32.0s							
TBI				*e*SS		**SS**	**22 24 25.6**	**+5.2**
	comp=Z,2μm,23.2s							
TBI				*e*LR		LR	22 25 51.0	
	comp=Z,76μm,23.0s							
TBI				*e*LR		LR	22 26 00.0	
	comp=Z,12μm,22.0s							
CFA	**Coronel Fontan**	**38.98**	**79**	P		**P**	**22 15 47.1**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=229,slow=9.4,SNR=5.3							
CFA				LR		LR	22 27 54.0	
	comp=Z,2μm,20.3s,baz=230,slow=30							
	comp=Z,2.1nm,0.5s							
QSPA	**South Pole Qui**	**39.91**	**180**	P		P	22 15 59.9	+5.7
	comp=Z,35nm,0.9s,baz=114,slow=3.0,SNR=38							
QSPA				LR		LR	22 30 56.8	
	comp=Z,2μm,19.4s,baz=99,slow=34							
	comp=Z,35nm,0.9s							
VNDA	**Vanda**	**40.13**	**200**	P		P	22 16 01.0	+5.3
	comp=Z,1.6nm,1.1s,baz=101,slow=5.2,SNR=5.0							
VNDA				LR		LR	22 28 52.2	
	comp=Z,515nm,21.1s,baz=102,slow=30							
	comp=Z,1.6nm,1.1s							
VNDA	**Vanda**	**40.13**	**200**	P		P	22 16 01.0	+5.3
AC02	**Maricunga**	**41.75**	**73**	P		**P**	**22 16 11.2**	**+1.0**
PAE	**Paea**	**42.88**	**307**	*e*T		T	23 00 57.9	
	comp=Z,3.1nm,0.3s							
PPT2	**Papeete2**	**42.94**	**307**	*e*S		**S**	**22 22 48.4**	**+4.0**
	comp=Z,162nm,22.0s							
PPT2				*e*SS		**SS**	**22 26 02.0**	**+6.0**
	comp=Z,715nm,29.5s							
PPT2				*e*LR		LR	22 28 10.0	
	comp=Z,4μm,21.5s							
PPT2				*e*LR		LR	22 28 18.6	
	comp=Z,2μm,22.8s							
PPT2	**Papeete2**	**42.94**	**307**	*e*T		T	23 00 55.2	
	comp=Z,3.5nm,0.3s							
PPT	**Papeete**	**42.96**	**307**	LR		LR	22 29 23.4	
	comp=Z,3μm,18.2s,baz=140,slow=30							
LVC	**Limon Verde**	**45.02**	**69**	P		**P**	**22 16 37.3**	**+0.9**
LVC				IAmb		IAmb	22 16 43.9	
	comp=Z,22nm,1.2s							
LVC	**Limon Verde**	**45.02**	**69**	P		**P**	**22 16 37.3**	**+0.9**
LVC				pmax		pmax		
	comp=Z,23nm,1.2s							
RAR	**Rarotonga**	**45.71**	**293**	LR		LR	22 30 53.3	
	comp=Z,682nm,19.6s,baz=138,slow=30							
TAOE	**Nuku Hiva Isla**	**46.41**	**324**	*e*S		**S**	**22 23 39.2**	**+4.3**
	comp=Z,274nm,21.4s							
TAOE				*e*LR		LR	22 29 57.6	
	comp=Z,3μm,21.4s							
MNMC	**Minye Minye**	**47.29**	**66**	P		**P**	**22 16 54.6**	**+0.4**
VNA3	**Neumayer Olymp**	**47.76**	**155**	P		**P**	**22 16 59.3**	**+2.3**
PB16	**IPOC Station P**	**47.96**	**65**	P		**P**	**22 17 00.2**	**+0.4**
RPZ	**Rata Peaks**	**49.14**	**247**	LR		LR	22 33 22.6	
	comp=Z,1μm,19.4s,baz=110,slow=31							
NNA	**Nana**	**49.14**	**52**	LR		LR	22 32 22.0	
	comp=Z,3μm,21.4s,baz=212,slow=30							
SNAA	**Sanae**	**49.28**	**157**	P		**P**	**22 17 12.4**	**+3.7**
SNAA	**Sanae**	**49.28**	**157**	P		**P**	**22 17 12.5**	**+3.7**
	comp=Z,6.7nm,1.2s,baz=198,slow=2.1,SNR=5.8							
SNAA				LR		LR	22 35 34.6	
	comp=Z,2μm,21.9s,baz=204,slow=33							
	comp=Z,6.7nm,1.2s							
CPUP	**Villa Florida**	**49.52**	**83**	P		**P**	**22 17 10.6**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=251,slow=7.7,SNR=6.2							
CPUP				LR		LR	22 34 38.8	
	comp=Z,2μm,21.3s,baz=233,slow=32							
	comp=Z,2.7nm,0.8s							
TROLL	**Troll, Antarti**	**50.35**	**159**	P		P	22 17 21.2	+4.3
LPAZ	**La Paz**	**50.38**	**65**	P		**P**	**22 17 18.9**	**+0.5**
	comp=Z,9.6nm,0.9s,baz=190,slow=4.6,SNR=27							
LPAZ				LR		LR	22 33 34.2	
	comp=Z,1μm,19.2s,baz=223,slow=30							
	comp=Z,9.6nm,0.9s							
LPAZ	**La Paz**	**50.38**	**65**	P		**P**	**22 17 18.7**	**+0.3**
LPAZ				IAmb		IAmb	22 17 24.6	
	comp=Z,27nm,1.2s							
LPAZ	**La Paz**	**50.38**	**65**	P		**P**	**22 17 18.7**	**+0.3**
LPAZ				pmax		pmax		
	comp=Z,27nm,1.3s							
RAO	**Raoul Island**	**51.31**	**269**	LR		LR	22 34 34.8	
	comp=Z,232nm,20.2s,baz=159,slow=31							
ATAH	**Atahualpa**	**52.56**	**48**	LR		LR	22 34 27.2	
	comp=Z,2μm,19.6s,baz=213,slow=30							
NVL	**N'lazarevskaya**	**53.32**	**161**	*e*P		**P**	**22 17 40.2**	**+1.3**
NVL				*e*S		**S**	**22 25 15.8**	**+5.8**
NVL				pmax		pmax		
	comp=Z,9.0nm,0.7s							
NVL				MLR		MLR		
	comp=Z,2μm,17.0s							
AQDB	**Aquidauana**	**54.76**	**80**	P		**P**	**22 17 50.1**	**-0.1**
SIV	**San Ignacio**	**54.81**	**71**	LR		LR	22 37 15.8	
	comp=Z,1μm,22.0s,baz=261,slow=32							
COHC	**Cochancay**	**56.28**	**44**	P		**P**	**22 18 00.5**	**-0.5**
PTLB	**Pontes e Lacer**	**56.41**	**73**	P		**P**	**22 18 01.3**	**-0.6**
PTLB				IAmb		IAmb	22 18 04.0	
	comp=Z,31nm,1.8s							
ETMB	**Extrema**	**56.68**	**62**	P		**P**	**22 18 03.4**	**-0.5**
ETMB				IAmb		IAmb	22 18 09.9	
	comp=Z,14nm,1.1s							
CHSH	**Refugio Sur-Vo**	**57.31**	**44**	P		**P**	**22 18 08.9**	**-0.2**
CHSH				IAmb		IAmb	22 18 16.8	
	comp=Z,46nm,1.4s							
PORT	**Chimborazo Vol**	**57.38**	**44**	P		**P**	**22 18 09.7**	**+0.1**
PORT				IAmb		IAmb	22 18 57.3	
	comp=Z,42nm,1.6s							
VILB	**Vilhena**	**57.70**	**70**	P		**P**	**22 18 10.7**	**-0.4**
VILB				IAmb		IAmb	22 18 14.5	
	comp=Z,21nm,0.9s							
AFI	**Afiamalu**	**58.58**	**287**	LR		LR	22 39 44.6	
	comp=Z,310nm,18.1s,baz=145,slow=32							
MSVF	**Nonsavu**	**62.08**	**276**	P		**P**	**22 18 37.1**	**-4.2**
	comp=Z,4.4nm,0.7s,baz=303,slow=22,SNR=1.8							
MSVF				LR		LR	22 43 20.5	
	comp=Z,144nm,18.0s,baz=155,slow=34							
	comp=Z,4.4nm,0.7s							
MAW	**Mawson**	**62.42**	**179**	P		**P**	**22 18 46.7**	**+4.0**
	comp=Z,11nm,0.9s,baz=185,slow=7.3,SNR=16							
MAW				LR		LR	22 44 55.3	
	comp=Z,2μm,18.8s,baz=176,slow=35							
	comp=Z,11nm,0.9s							
BDFB	**Brasilia**	**63.22**	**82**	P		**P**	**22 18 47.9**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=232,slow=4.0,SNR=6.4							
BDFB				LR		LR	22 43 35.6	
	comp=Z,1μm,20.2s,baz=206,slow=33							
	comp=Z,3.0nm,0.7s							
ROSC	**El Rosal**	**64.98**	**45**	P		**P**	**22 18 59.2**	**-1.7**
	comp=Z,5.0nm,0.5s,baz=144,slow=22,SNR=1.7							
	comp=Z,5.0nm,0.5s							
MACA	**Manacapuru-AM**	**65.24**	**63**	P		**P**	**22 19 01.5**	**-0.6**
MACA				IAmb		IAmb	22 19 04.2	
	comp=Z,16nm,0.7s							
JTS	**Las Juntas de**	**65.66**	**32**	LR		LR	22 40 59.0	
	comp=Z,1μm,18.7s,baz=260,slow=30							
DZM	**Mont Dzumac**	**66.35**	**264**	*e*S		**S**	**22 27 59.6**	**+0.4**
	comp=Z,368nm,24.8s							
DZM				*e*SS		**SS**	**22 32 16.8**	**+1.6**
	comp=Z,237nm,26.9s							
DZM				*e*LR		LR	22 38 24.5	
	comp=Z,2μm,23.4s							
DZM	**Mont Dzumac**	**66.35**	**264**	LR		LR	22 41 01.8	
	comp=Z,897nm,21.3s,baz=152,slow=30							
PTGA	**Pitinga**	**67.64**	**62**	LR		LR	22 43 55.9	
	comp=Z,1μm,21.7s,baz=211,slow=32							
TOO	**Toolangi**	**67.76**	**238**	P		**P**	**22 19 17.1**	**-0.9**
TOO	**Toolangi**	**67.76**	**238**	P		**P**	**22 19 17.1**	**-0.9**
TOO				pmax		pmax		
	comp=Z,70nm,1.9s							
CMIG	**Matias Romero**	**69.31**	**20**	LR		LR	22 42 23.8	
	comp=Z,544nm,21.7s,baz=186,slow=30							
BOAV	**Boa Vista**	**69.90**	**60**	P		**P**	**22 19 32.6**	**+1.1**
BOAV				IAmb		IAmb	22 19 37.0	
	comp=Z,41nm,1.8s							
SDV	**Santo Domingo**	**70.24**	**47**	LR		LR	22 47 18.7	
	comp=Z,1μm,18.4s,baz=196,slow=33							
STKA	**Stephens Creek**	**74.13**	**239**	P		**P**	**22 19 55.8**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=146,slow=4.7,SNR=5.3							
STKA				LR		LR	22 47 26.0	
	comp=Z,1μm,19.1s,baz=150,slow=32							
	comp=Z,2.4nm,0.8s							
STKA	**Stephens Creek**	**74.13**	**239**	P		**P**	**22 19 56.0**	**-0.8**
STKA	**Stephens Creek**	**74.13**	**239**	P		**P**	**22 19 56.0**	**-0.8**
STKA				pmax		pmax		
	comp=Z,3.0nm,1.5s							
LPIG	**La Paz**	**74.16**	**4**	LR		LR	22 45 08.5	
	comp=Z,1μm,20.1s,baz=203,slow=30							
PCRV	**Puerto La Cruz**	**74.27**	**52**	LR		LR	22 48 37.2	
	comp=Z,3μm,20.6s,slow=33							
MDP	**Montagnes des**	**76.58**	**65**	LR		LR	22 50 21.4	
	comp=Z,584nm,19.5s,baz=222,slow=33							
RCBR	**Riachuelo**	**78.35**	**85**	LR		LR	22 52 18.4	
	comp=Z,2μm,21.2s,baz=356,slow=34							
TX31	**Lajitas Ar. Si**	**79.87**	**10**	P		**P**	**22 20 29.6**	**+0.7**
TX32	**Lajitas Array**	**79.87**	**10**	P		**P**	**22 20 29.8**	**+0.8**
TXAR	**Lajitas Array**	**79.87**	**10**	P		**P**	**22 20 25.5**	**-3.4**
	comp=Z,0.4nm,0.7s,baz=190,slow=6.1,SNR=3.7							
TXAR				LR		LR	22 48 39.5	
	comp=Z,465nm,21.4s,baz=181,slow=30							
	comp=Z,0.4nm,0.7s							
TXAR	**Lajitas Array**	**79.87**	**10**	P		**P**	**22 20 29.5**	**+0.6**
TXAR	**Lajitas Array**	**79.87**	**10**	P		**P**	**22 20 29.5**	**+0.6**
HNR	**Honiara**	**79.88**	**267**	LR		LR	22 49 49.1	
	comp=Z,3μm,19.3s,baz=136,slow=31							
SJG	**San Juan**	**80.38**	**46**	LR		LR	22 52 24.2	
	comp=Z,401nm,19.4s,baz=231,slow=33							
CTA	**Charters Tower**	**80.41**	**250**	P		**P**	**22 20 30.6**	**-1.6**
JCT	**Junction City**	**81.48**	**13**	P		**P**	**22 20 35.1**	**-2.4**
JCT				IAmb		IAmb	22 20 43.8	
	comp=Z,35nm,1.5s							
JCT	**Junction City**	**81.48**	**13**	P		**P**	**22 20 35.1**	**-2.4**
JCT				pmax		pmax		
	comp=Z,35nm,1.5s							
TUC	**Tucson**	**82.31**	**3**	P		**P**	**22 20 42.8**	**+1.0**
TUC	**Tucson**	**82.31**	**3**	P		**P**	**22 20 42.8**	**+1.0**
TUC				pmax		pmax		
	comp=Z,12nm,1.4s							
PFO	**Pinyon Flats O**	**83.55**	**358**	LR		LR	22 50 08.8	
	comp=Z,691nm,19.1s,baz=208,slow=30							
X18A	**Snowflake**	**84.55**	**4**	P		**P**	**22 20 51.9**	**-1.6**
X18A				IAmb		IAmb	22 20 59.5	
	comp=Z,18nm,1.4s							
ASAR	**Alice Springs**	**84.77**	**239**	P		**P**	**22 20 53.1**	**-1.7**
	comp=Z,5.1nm,1.0s,baz=145,slow=4.4,SNR=21							
	comp=Z,5.1nm,1.0s							
ASAR	**Alice Springs**	**84.77**	**239**	P		**P**	**22 20 52.1**	**-2.7**
ASAR	**Alice Springs**	**84.77**	**239**	P		**P**	**22 20 52.2**	**-2.7**
AS31	**Alice Springs**	**84.77**	**239**	P		**P**	**22 20 52.7**	**-2.2**
H01W1	**Cape Leeuwin H**	**84.86**	**218**	T		T	23 56 00.1	
	baz=151,slow=76,SNR=106							
H01W2	**Cape Leeuwin H**	**84.86**	**218**	T		T	23 56 00.4	
	baz=151,slow=76,SNR=106							
H01W3	**Cape Leeuwin H**	**84.88**	**218**	T		T	23 56 01.3	
	baz=151,slow=76,SNR=100							
W13A	**Hualapai Mount**	**85.02**	**1**	P		**P**	**22 20 57.0**	**+1.2**
W13A				IAmb		IAmb	22 21 01.7	
	comp=Z,20nm,1.8s							
ANMO	**Albuquerque**	**85.17**	**7**	P		**P**	**22 20 57.6**	**+1.0**
NWAO	**Narrogin (SRO)**	**85.29**	**222**	LR		LR	22 50 44.8	
	comp=Z,703nm,18.6s,baz=44,slow=30							
U15A	**North Rim**	**86.37**	**2**	P		**P**	**22 21 03.5**	**+1.0**
U15A				IAmb		IAmb	22 21 19.6	
	comp=Z,29nm,1.6s							
SHPR	**Sheep Range**	**86.42**	**360**	P		**P**	**22 21 01.8**	**-0.9**
MVCO	**Mesa Verde**	**87.29**	**5**	P		**P**	**22 21 07.1**	**+0.1**
MVCO				IAmb		IAmb	22 21 12.6	
	comp=Z,18nm,1.4s							
CCUT	**Cedar City**	**87.47**	**1**	P		**P**	**22 21 08.8**	**+0.9**
CCUT				IAmb		IAmb	22 21 20.4	
	comp=Z,17nm,1.7s							
WRA	**Warramunga Arr**	**87.49**	**242**	P		**P**	**22 21 06.0**	**-2.4**
	comp=Z,1.5nm,0.9s,baz=143,slow=4.9,SNR=6.8							
WRA				LR		LR	22 57 03.0	
	comp=Z,713nm,18.2s,baz=122,slow=33							
	comp=Z,1.5nm,0.9s							
SZCU	**Shurtz Canyon**	**87.52**	**1**	P		**P**	**22 21 08.6**	**+0.5**
SZCU				IAmb		IAmb	22 21 20.6	
	comp=Z,16nm,1.6s							
T25A	**Trinidad**	**87.52**	**8**	P		**P**	**22 21 08.6**	**+0.5**
T25A				IAmb		IAmb	22 21 14.8	
	comp=Z,24nm,1.6s							
PMG	**Port Moresby**	**88.03**	**258**	P		**P**	**22 21 10.8**	**-0.2**
	comp=Z,6.4nm,0.4s,baz=42,slow=2.7,SNR=3.7							
PMG				LR		LR	22 52 58.6	
	comp=Z,684nm,21.5s,baz=123,slow=30							
	comp=Z,6.4nm,0.4s							
R11A	**Troy Canyon, C**	**88.27**	**359**	P		**P**	**22 21 12.

baz=142,slow=75,SNR=52
NEW Newport 98.19 358 LR LR 22 59 00.2
comp=Z,964nm,18.1s,baz=184,slow=31
TSUM Tsumeb 99.01 135 LR LR 22 59 53.6
comp=Z,298nm,19.6s,baz=254,slow=31
SADO Sadowa 99.58 25 LR LR 23 02 10.1
comp=Z,462nm,20.2s,baz=189,slow=33
NJ2 Nanjing 136.81 266 *e*PKP **PKiKP 22 27 43.5 -0.9**
CMAR Chiang Mai Arr 138.47 232 PKP **PKPdf 22 27 46.7 +0.5**
comp=Z,1.4nm,0.3s,baz=165,slow=3.7,SNR=4.1
ZCCA Zocca 143.37 78 **PKPdf 22 27 54.0 -0.2**
PZH PanZhiHua 143.44 243 PKP **PKPdf 22 27 54.3 -0.7**
FUORN Ofenpass-Fuorn 143.99 74 PKPdf PKPbc 22 27 53.6 +0.1
DAVA Damuels 144.05 73 *e*P PKPbc 22 27 53.9 +0.4
comp=Z,7.9nm,1.1s
INTR Introdacqua 144.05 83 PKPdf **PKPdf 22 27 54.6 -1.0**
TNCH TengChong 144.08 238 *e*PKP **PKPdf 22 27 55.0 -1.3**
TNCH pPKP PKiKP 22 27 59.8 0.0
TEOL Teolo 144.28 77 **PKPab 22 27 53.5 -0.2**
XAN Xi'an 144.43 260 PKP **PKPab 22 27 54.0 -0.7**
XAN pPKP PKiKP 22 28 02.3 +2.2
FETA Feichten 144.45 74 *e*P **PKPdf 22 27 55.5 -0.7**
comp=Z,14nm,1.1s,SNR=15
CTI Castel Tesino 144.59 76 PKPbc 22 27 55.5 +0.3
CTI Castel Tesino 144.59 76 PKIKP PKPbc 22 27 55.5 +0.3
RETA Reutte 144.67 73 *e*P PKPbc 22 27 55.3 0.0
MOTA Moosalm 144.82 73 *e*P **PKPdf 22 27 56.3 -0.5**
comp=Z,23nm,1.3s,SNR=11
SQTA Sankt Quirin 144.83 74 *e*P **PKPdf 22 27 56.4 -0.4**
comp=Z,28nm,1.7s,SNR=9.2
TIXI Tiksi 144.91 330 PKP PKPbc 22 27 52.2 -3.0
comp=Z,8.0nm,0.9s,baz=269,slow=23,SNR=29
SGRT San Giovanni R 145.09 85 **PKPab 22 27 56.8 -0.1**
WATA Walderalm 145.11 74 *e*P **PKPbc 22 27 56.5 -0.4**
comp=Z,19nm,1.4s,SNR=12
WTTA Wattenberg 145.11 74 *e*P **PKPbc 22 27 56.7 -0.2**
comp=Z,27nm,1.4s,SNR=13
CIMO Cimolais 145.20 76 **PKPbc 22 27 56.0 -1.0**
STAL STALIGIAL 145.34 76 **PKPbc 22 27 56.1 -1.4**
ABTA Abfaltersbach 145.43 75 *e*P **PKPab 22 27 57.9 -0.2**
comp=Z,18nm,1.3s
XLT XiLinHaoTe 145.44 279⇑ *i*PKPbc **PKPab 22 27 58.0 -0.2**
XLT SS SS 22 50 16.5 +5.4
XLT AMB AMB
comp=Z,200nm,4.2s
XLT LR LR
comp=Z,190nm,17.5s
XLT LR LR
comp=Z,220nm,19.0s
CD2 Chengdu 145.50 251 *e*PKPbc **PKPdf 22 27 57.8 -0.6**
HIA Hailar 145.52 290 **PKPdf 22 27 55.5 -2.3**
HIA Hailar 145.52 290 PKP2 **PKPdf 22 27 55.5 -2.3**
CLUD Cludinico 145.53 76 PKPdf **PKPab 22 27 58.3 0.0**
SABO M.te Sabotino 145.77 77 PKPdf **PKPbc 22 27 58.8 -0.1**
MYKA Terra Mystica 146.08 76 *e*P **PKPab 22 28 00.1 -0.4**
comp=Z,8.0nm,1.2s
CEY Cerknica 146.18 78 *i* PKPdf **PKPdf 22 27 58.4 -0.7**
CEY *i* PKPbc PKPab 22 28 00.8 0.0
CEY *i* PKPab pPKPab 22 28 02.9 -0.3
LJU Ljubljana 146.38 77 *i* PKPab **PKiKP 22 28 03.6 -0.1**
BIOA Bad Ischl, Aus 146.53 74 *e*P **PKPbc 22 28 01.1 +0.1**
comp=Z,9.3nm,1.1s
BOJS Bojanci 146.59 78 *i* PKPab **PKPab 22 28 01.9 -0.5**
OBKA Obir 146.60 76 *e*P **PKPbc 22 28 01.5 +0.1**
comp=Z,12nm,1.1s,SNR=13
PDKS Podkum 146.68 77 *i* PKPab **PKiKP 22 28 04.8 +0.4**
HHC Hu-ho-hao-te 146.78 272 *e*PKPbc **PKPdf 22 27 57.3 -3.0**
SOKA Soboth 146.97 76 *e*P **PKPbc 22 28 02.6 +0.1**
comp=Z,12nm,1.3s,SNR=8.2
MOA Molln 146.98 74 *e*P **PKPbc 22 28 01.9 -0.5**
comp=Z,11nm,1.1s
GEC2 GERESS Array S 147.02 72 **PKPdf 22 28 01.2 +0.7**
GERES GERESS Array B 147.02 72 PKPbc **PKPbc 22 28 01.5 -1.0**
comp=Z,2.4nm,0.9s,baz=232,slow=4.8,SNR=9.1
GERES GERESS Array B 147.02 72 **PKPdf 22 28 01.1 +0.7**
GERES GERESS Array B 147.02 72 PKIKP **PKPdf 22 28 01.1 +0.7**
KHC Kasperske Hory 147.06 72 PKPdf **PKPdf 22 28 00.9 +0.5**
KHC Kasperske Hory 147.06 72 *e*PKP **PKPbc 22 28 02.2 -0.3**
KHC *e*pPKP **sPKPab 22 28 08.5 +1.2**
KHC Kasperske Hory 147.06 72 *e*PKP2 **PKPbc 22 28 02.2 -0.3**
CKRC Cesky Krumlov 147.38 72 *e*PKP **PKPbc 22 28 03.0 -0.4**
CLL Collm 147.48 68 *e*PKPdf **PKPbc 22 28 03.0 -0.6**
CLL *e*PKPbc **PKiKP 22 28 05.0 -0.7**
comp=Z,21nm,1.4s
CLL *e*PP **PP 22 31 30.0 -0.6**
CLL *e*SS SS 22 50 36.0 +2.3
CLL LmV 23 29 00.0
comp=Z,200nm,20.4s
CLL Collm 147.48 68 *e*PKP2 **PKPbc 22 28 03.0 -0.6**
CLL pmax pmax
comp=Z,21nm,1.4s
ARSA Arzberg 147.51 76 *e*P **PKPbc 22 28 04.2 +0.3**
comp=Z,5.1nm,1.1s
BTO Baotou 147.64 270 *e*PKPbc **PKiKP 22 28 05.3 -1.2**
BRG Berggiesshubel 147.89 69 *e*PKP **PKPbc 22 28 05.4 +0.7**
BRG Amp 22 28 07.8
comp=Z,11nm,1.3s
BRG *ex* x 22 28 10.9
BRG Amp 22 28 12.7
comp=Z,13nm,1.4s
BRG Berggiesshubel 147.89 69 *e*PKP2 **PKPbc 22 28 05.4 +0.7**
BRG pmax pmax
comp=Z,11nm,1.3s
BRG pmax pmax
comp=Z,13nm,1.4s
BRG MLR MLR
comp=E,307nm,18.4s
BRG MLR MLR
comp=Z,443nm,17.9s
BRG MLR MLR
comp=N,170nm,13.8s
SHL Shillong 147.95 230 **PKPdf 22 28 03.0 +0.1**
SHL Shillong 147.95 230 PKIKP **PKPdf 22 28 03.0 +0.1**
OHR Ohrid 147.99 89 *i* P **PKiKP 22 28 07.3 +0.1**
CONA Conrad Observa 148.00 75 *e*P **PKPbc 22 28 05.3 +0.1**
comp=N,8.5nm,1.4s
FNA Florina 148.18 90 PKPdf **PKPdf 22 28 03.0 +0.4**
FNA Florina 148.18 90 PKIKP **PKPdf 22 28 03.0 +0.4**
KRUC Moravsky 148.75 73 *e*PKP **PKPbc 22 28 07.3 +0.3**
SKO Skopje 148.84 88 *i* P **PKiKP 22 28 08.3 -0.5**
LZH Lanzhou 148.93 258 *e*PKPbc **PKPab 22 28 10.8 -1.4**
LZH pPKP sPKPab 22 28 17.3 +2.0
LZH sPKP 22 28 22.5
DIVS Divibare 148.96 84 PKPdf **PKPdf 22 28 04.9 +1.1**
VRAC Vranov 148.96 73 *e*PKP **PKPbc 22 28 07.6 0.0**
MODS Modra-Piesok 149.04 75 *e*PKP **PKPbc 22 28 07.4 -0.4**
MODS Modra-Piesok 149.04 75 *e*PKP2 **PKPbc 22 28 07.4 -0.4**
RAYN Ar Rayn 149.12 143 PKPdf **PKPdf 22 28 04.9 +0.3**
RAYN Ar Rayn 149.12 143 PKIKP **PKPdf 22 28 04.9 +0.3**
DPC Dobruska-Polom 149.15 71 *e*PKP **PKiKP 22 28 09.8 +0.5**
DPC Dobruska-Polom 149.15 71 *e*PKP2 **PKiKP 22 28 09.8 +0.5**
OSTC Ostas 149.15 70 *e*PKP **PKiKP 22 28 08.8 -0.4**
STIP Stip 149.18 89 *i* P **PKiKP 22 28 09.9 +0.3**
MORC Moravsky Berou 149.70 72 *e*PKP **PKiKP 22 28 10.4 0.0**
VYHS Vyhne 150.05 75 *e*PKP **PKPbc 22 28 10.3 0.0**
VYHS Vyhne 150.05 75 *e*PKIKP **PKPbc 22 28 10.3 0.0**
BOD Bodaibo 151.02 304 *e*PKIKP **PKPbc 22 28 09.4 -2.8**
BOD pmax pmax
comp=Z,28nm,1.4s
SONM Songino Array 153.23 281 PKPbc **PKPbc 22 28 17.5 -0.2**
comp=Z,1.4nm,0.8s,baz=135,slow=3.3,SNR=9.9
GTA Gaotai 153.48 259 *e*PKPbc **PKiKP 22 28 22.0 +3.3**
GTA pPKP PKPab 22 28 27.3 -3.7
GTA sPKP 22 28 30.3
BRTR Keskin Array B 155.40 103 PKP **PKPdf 22 28 14.6 +1.0**
comp=Z,0.7nm,0.8s,baz=146,slow=1.0,SNR=4.8
BRTR PKPab **pPKPab 22 28 40.4 -1.2**
comp=Z,12nm,1.0s,baz=217,slow=4.4,SNR=19
BRTR Keskin Array B 155.40 103 PKPdf **PKPdf 22 28 14.3 +0.8**
BRTR PKPab **PKPab 22 28 40.0 +0.9**
BRTR Keskin Array B 155.40 103 P **PKPab 22 28 40.0 +0.9**
ZAK Zakamensk 155.96 285 *e*PKP2 **PKPab 22 28 38.0 -3.2**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
AKASG Malin Array Be 157.15 75 PKP **PKPdf 22 28 15.4 +0.1**
comp=Z,1.1nm,0.7s,baz=291,slow=1.4,SNR=3.0
WMQ Urumqi 163.49 256 *e*PKP **PKPdf 22 28 22.5 -0.2**
ZALV Zalesovo Beam 167.49 295 PKPab **PKPab 22 29 28.1 -3.3**
comp=Z,1.6nm,0.8s,baz=90,slow=5.9,SNR=5.1
ZALV Zalesovo Beam 167.49 295 PKPab **PKPab 22 29 29.9 -1.5**
ZALV Zalesovo Beam 167.49 295 PKP2 **PKPab 22 29 29.9 -1.5**
MKAR Makanchi Array 168.24 259 PKP **PKPdf 22 28 26.4 +0.1**
comp=Z,0.4nm,0.8s,baz=225,slow=0.2,SNR=2.7
MKAR PKPab **PKPab 22 29 33.3 -1.7**
comp=Z,1.3nm,0.9s,baz=101,slow=6.0,SNR=5.5
ABKAR Akbulak array 176.35 104 **PKPab 22 30 10.4 -0.5**
ABKAR Akbulak array 176.35 104 **PKPab 22 30 10.6 -0.2**

IDC 27 22:12:49.8±4.8, 18°.26S×176°.88W, h391km±36km, mb2.8/5, mbtmp3.6/6, Error ellipse: s-maj=121.2km s-min=24.2km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.85**	**275**	P	Pn	22 14 10.1	+0.1
	7.6nm,0.4s,baz=228,slow=22,SNR=17						
WRA	**Warramunga Arr**	**46.00**	**260**	P	P	22 20 34.9	-1.4
	0.1nm,0.4s,baz=91,slow=7.3,SNR=2.1						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**46.10**	**254**	P	P	22 20 37.3	+0.3
	1.1nm,0.5s,baz=83,slow=8.4,SNR=16						
	1.1nm,0.5s						
TXAR	**Lajitas Array**	**84.96**	**57**	P	P	22 24 41.7	-0.8
	0.3nm,0.7s,baz=250,slow=4.7,SNR=2.5						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**85.90**	**12**	P	P	22 24 47.2	+1.0
	0.2nm,0.4s,baz=218,slow=5.6,SNR=6.0						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**86.61**	**43**	P	P	22 24 50.2	-0.3
	0.2nm,0.5s,baz=258,slow=4.5,SNR=2.3						
	0.2nm,0.5s						

MAN 27 22:12:59.0, 4°.24N×126°.60E, h41km, mb4.5, ML3.4, MS3.2, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**3.13**	**331**⇓	*e*P	Pn	22 13 50.1	+4.0
KCP				*i* S	Sn	22 14 25.0	+2.7
BUKP	**Musuan**	**3.93**	**337**⇑	*e*P	Pn	22 13 59.4	+2.5
BUKP				*e*S	Sn	22 14 43.3	+1.5

*IDC **27** 22:16:50.3±0.5, 37°.18N×141°.36E, h0km, mb4.3/22, mbtmp4.3/27, ML3.5/4, MS3.0/5, Error ellipse: s-maj=15.4km s-min=11.8km az=100.0*
*MOS **27** 22:16:52.4±1.0, 37°.26N×141°.40E, h26km, mb4.9/15, Error ellipse: s-maj=11.3km s-min=7.3km az=103.5*
*JMA **27** 22:16:53.2±0.2, 37°.2N±0°.3×141°.4E±0°.9, h33km±1km, MD4.3/40, MV4.4/40, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
*NIED **27** 22:16:53.2, 37°.20N×141°.39E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.61; Mθθ0.61; Mφφ 1.01; Mrθ-0.39; Mθφ 0.90; Mφr-0.36; Fault plane solution: M0 1.75000×10^15 NP1: φs216.00000°, δ36.00000°, λ-95.00000°. NP2:φs42.00000°, δ54.00000°, λ-86.00000°.*
*NEIC **27** 22:16:55.1±1.2, 37°.32N±0°.06×141°.3E±0°.1, h22km±3km, mb4.6/15 Error ellipse: s-maj=11.9km s-min=8.3km az=96.0*

ISC 27 22:16:53.6±1.3, 37°.23N±0°.03×141°.37E±0°.05, h24km±8km, n137, σ1§17/123, mb4.5/42, 5C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.42**	**290**	*i* P	**Pb**	**22 17 02.6**	**+0.1**
JFK				S	**Sb**	**22 17 08.8**	**+0.3**
JFK	**Kawauchi**	**0.42**	**290**	A	A	22 17 02.6	
	comp=E,41nm,0.7s,comp=E,19nm,0.7s						
JMST	**Minamisoumatoc**	**0.63**	**323**	*i* P	**Pn**	**22 17 05.8**	**-1.2**
JMST				S	**Sb**	**22 17 14.8**	**+0.4**
JMST	**Minamisoumatoc**	**0.63**	**323**	A	A	22 17 05.8	
	comp=E,25nm,1.1s,comp=E,38nm,1.0s						
JFFD	**Fukushimafurud**	**0.66**	**259**⇓	*i* P	**Pn**	**22 17 06.1**	**-1.4**
JFFD				⇓S	**Sn**	**22 17 15.2**	**-1.9**
JFFD	**Fukushimafurud**	**0.66**	**259**	A	A	22 17 06.1	
	comp=E,16nm,1.1s,comp=E,12nm,0.6s						
JMM	**Marumori**	**0.79**	**325**		**Pn**	**22 17 08.2**	**-1.0**
JMM				Sn	**Sn**	**22 17 18.6**	**-1.6**
JMM	**Marumori**	**0.79**	**325**	P	**Pn**	**22 17 08.4**	**-0.8**
JMM	**Marumori**	**0.79**	**325**	*i* P	**Pn**	**22 17 08.3**	**-1.0**
JMM				S	**Sn**	**22 17 19.0**	**-1.3**
JMM	**Marumori**	**0.79**	**325**	A	A	22 17 08.3	
	comp=E,6.0nm,1.2s,comp=E,9.0nm,2.5s						
JHO	**Hitachi**	**0.89**	**227**	⇓P	**Pn**	**22 17 08.5**	**-2.1**
JHO				⇓S	**Sn**	**22 17 20.3**	**-2.4**
JHO	**Hitachi**	**0.89**	**227**	A	A	22 17 08.5	
	comp=E,7.0nm,0.2s,comp=E,5.0nm,3.3s						
JHYU	**Hitachinakayam**	**1.08**	**216**	A	A	22 17 12.2	
	comp=E,7.0nm,0.4s,comp=E,11nm,0.4s						
JSB	**Shiboa**	**1.19**	**258**	*i* P	**Pb**	**22 17 15.3**	**-0.2**
JSB				S	**Sb**	**22 17 31.3**	**+0.9**
JSB	**Shiboa**	**1.19**	**258**	A	A	22 17 15.3	
	comp=E,28nm,1.7s,comp=E,16nm,1.8s						
JYAR	**Yonezawaarcadi**	**1.19**	**306**	A	A	22 17 14.5	
	comp=E,38nm,0.8s,comp=E,52nm,0.9s						
JIO	**Ouri**	**1.23**	**359**	*i* P	**Pn**	**22 17 14.6**	**-0.7**
JIO				*e*S	**Sn**	**22 17 30.5**	**-0.6**
JOU	**Okura**	**1.27**	**334**⇓	*i* P	**Pb**	**22 17 16.3**	**-0.6**
JOU				⇓S	**Sb**	**22 17 33.0**	**+0.2**
JOU	**Okura**	**1.27**	**334**	A	A	22 17 16.3	
	comp=E,10.0nm,1.0s,comp=E,14nm,2.0s						
JFY	**Yanaizu**	**1.34**	**278**⇓	*i* P	**Pb**	**22 17 17.5**	**-0.6**
JFY				⇓S	**Sb**	**22 17 35.3**	**+0.5**
JFY	**Yanaizu**	**1.34**	**278**	A	A	22 17 17.5	
	comp=E,8.0nm,0.8s,comp=E,7.0nm,0.5s						
JYT	**Yasato**	**1.37**	**224**	A	A	22 17 16.6	
	comp=E,13nm,0.5s,comp=E,8.0nm,0.5s						
JOFO	**Osakifurukawao**	**1.42**	**345**	A	A	22 17 17.9	
	comp=E,35nm,1.2s,comp=E,33nm,2.3s						
JYS	**Shirataka**	**1.43**	**314**	A	A	22 17 18.2	
	comp=E,17nm,1.4s,comp=E,20nm,1.7s						
JYA	**Atsumi**	**1.89**	**317**	A	A	22 17 24.8	
	comp=E,10.0nm,1.1s,comp=E,12nm,1.2s						
JRG	**Rokugo**	**2.24**	**345**	A	A	22 17 29.9	
	comp=Z,3.0nm,6.1s,comp=E,4.0nm,5.6s						
JYW	**Yuwa**	**2.48**	**339**	A	A	22 17 33.3	
	comp=E,8.0nm,1.1s,comp=E,9.0nm,1.2s						
JSD	**Sado**	**2.60**	**289**	Pn	**Pn**	**22 17 34.5**	**+0.4**
JSD	**Sado**	**2.60**	**289**	P	**Pn**	**22 17 34.8**	**+0.7**
MJAR	**Matsushiro Arr**	**2.62**	**256**	Pn	**Pn**	**22 17 35.4**	**+0.9**
	5.3nm,0.3s,baz=80,slow=16,SNR=125						
MJAR				Sn	**Sn**	**22 18 07.1**	**+1.5**
	4.5nm,0.3s,baz=253,slow=42,SNR=2.1						
MJAR				LR	LR	22 18 46.7	
	comp=Z,322nm,20.1s,baz=80,slow=45						
	28nm,0.4s						
MAJO	**Matsushiro**	**2.62**	**256**	Pn	**Pn**	**22 17 34.8**	**+0.3**
MAJO	**Matsushiro**	**2.62**	**256**	P	**Pn**	**22 17 36.1**	**+1.6**
MAJO	**Matsushiro**	**2.62**	**256** *d*	iP	**Pn**	**22 17 35.9**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.63**	**256**		**Pn**	**22 17 35.6**	**+1.0**
JTM	**Tenmabayashi**	**3.56**	**356**	Pn	**Pn**	**22 17 48.3**	**+0.8**
JTM	**Tenmabayashi**	**3.56**	**356**	P	**Pn**	**22 17 48.6**	**+1.2**
JGF	**Kuroka**	**3.62**	**245**	Pn	**Pn**	**22 17 50.0**	**+1.7**
JGF	**Kuroka**	**3.62**	**245**	P	**Pn**	**22 17 50.2**	**+2.0**
INU	**Inuyama**	**3.98**	**243**		**Pn**	**22 17 54.5**	**+1.3**
INU	**Inuyama**	**3.98**	**243**	P	**Pn**	**22 17 55.2**	**+2.0**
JHJ2	**Mitsune**	**4.30**	**198**	P	**Pn**	**22 17 57.9**	**+0.4**
JHJ	**Hachijo jima 2**	**4.30**	**198**	Pn	**Pn**	**22 17 57.3**	**-0.2**
	54nm,0.3s,baz=337,slow=16,SNR=22						
JHJ				Sn	**Sn**	**22 18 45.9**	**-0.9**
	121nm,0.3s,baz=238,slow=23,SNR=11						
	104nm,0.2s						
ERM	**Erimo**	**4.98**	**16**	P	**Pn**	**22 18 06.8**	**0.0**
ERM	**Erimo**	**4.98**	**16**⇑	*e*P	**Pn**	**22 18 06.9**	**+0.1**
JEM	**Erimo**	**4.98**	**16**	P	**Pn**	**22 18 06.9**	**0.0**
JHS	**Saijyo**	**7.04**	**254**	Pn	**Pn**	**22 18 37.0**	**+1.7**
JNU	**Nakatsue**	**9.51**	**248**	LR	LR	22 23 02.7	
	comp=Z,134nm,19.4s,baz=50,slow=39						
USRK	**Ussuriysk Ar.**	**9.96**	**317**	Pn	Pn	22 19 19.8	+4.7
	0.5nm,0.3s,baz=125,slow=14,SNR=8.2						
JCJ	**Chichijima**	**10.12**	**176**	Pn	**Pn**	**22 19 14.7**	**-2.8**
	45nm,0.4s,baz=266,slow=20,SNR=2.2						
JCJ				Sn	Sn	22 20 59.5	-11
	9.8nm,0.3s,baz=279,slow=23,SNR=2.1						
JCJ				LR	LR	22 23 20.8	
	comp=Z,92nm,21.1s,baz=124,slow=39						
KSRS	**Korea Array**	**10.71**	**275**	Pn	**Pn**	**22 19 28.5**	**+3.1**
	0.2nm,0.3s,baz=90,slow=14,SNR=2.7						
KSRS				LR	LR	22 23 26.7	
	comp=Z,90nm,18.8s,baz=95,slow=37						
KLR	**Kul'dur**	**13.88**	**333**	Pn	**Pn**	**22 20 09.9**	**+1.1**
	0.2nm,0.3s,baz=310,slow=15,SNR=2.2						
KLR				LR	LR	22 25 12.4	
	comp=Z,52nm,21.9s,baz=168,slow=36						
	0.4nm,0.3s						
KLR	**Kul'dur**	**13.88**	**333**⇓	*e*P	**Pn**	**22 20 04.5**	**-4.3**
KLR				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ZEA	**Zeya**	**19.19**	**334**	*e*P	**Pn**	**22 21 15.3**	**-1.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA				MLR	MLR		
	comp=Z,100nm,17.0s						
PETK	**Petropavlovsk-**	**19.54**	**30**	P	**Pn**	**22 21 19.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=249,slow=11,SNR=3.2						
	comp=Z,4.6nm,0.9s						
MA2	**Magadan**	**23.18**	**12**	P	**P**	**22 21 58.8**	**+0.6**
	comp=Z,6.2nm,0.5s,baz=212,slow=10,SNR=2.0						
	comp=Z,6.2nm,0.5s						
YAK	**Yakutsk**	**25.88**	**347**	P	**P**	**22 22 22.6**	**-0.6**
	comp=Z,3.4nm,0.3s,baz=319,slow=2.9,SNR=5.0						
	comp=Z,3.4nm,0.3s						
YAK	**Yakutsk**	**25.88**	**347**	*e*P	**P**	**22 22 22.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
SEY	**Seymchan**	**26.61**	**11**	P	**P**	**22 22 31.5**	**+1.7**
	comp=E,7.4nm,0.9s,baz=210,slow=6.1,SNR=10.0						
	comp=E,7.4nm,0.9s						
SEY	**Seymchan**	**26.61**	**11**⇓	*e*P	**P**	**22 22 32.1**	**+2.3**
SEY				pmax	pmax		
	comp=Z,31nm,2.5s						
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**22 22 40.5**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=102,slow=9.0,SNR=20						
	comp=Z,3.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	22 52 15.0	
	baz=314,slow=75,SNR=557						
H11N1	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	22 52 12.1	
	baz=314,slow=75,SNR=378						
H11N3	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	22 52 16.3	
	baz=314,slow=75,SNR=369						
H11S1	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	22 53 11.3	
	baz=315,slow=75,SNR=178						
H11S3	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	22 53 10.6	
	baz=315,slow=75,SNR=166						
H11S2	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	22 53 12.4	
	baz=315,slow=75,SNR=133						
BILL	**Bilibino**	**33.85**	**17**	*e*P	**P**	**22 23 33.8**	**0.0**
BILL				*e*		22 24 46.4	
BILL				*e*		22 26 16.3	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	**Tiksi**	**35.10**	**353**	P	**P**	**22 23 43.4**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=269,slow=24,SNR=5.5						
	comp=Z,0.7nm,0.4s						
DGZ	**Jazzator, Alta**	**40.25**	**306**⇑	*e*P	**P**	**22 24 29.6**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,14nm,1.6s						
ZAA0	**Zalesovo Array**	**41.76**	**312**	P	**P**	**22 24 41.3**	**+0.6**
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**22 24 41.3**	**+0.5**
	comp=Z,4.5nm,0.6s,baz=92,slow=6.8,SNR=22						
ZALV				PcP	**PcP**	**22 26 36.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=96,slow=2.9,SNR=3.5						
	comp=Z,4.5nm,0.6s						
MK31	**Makanchi Array**	**43.99**	**302**	P	**P**	**22 24 59.1**	**+0.2**
MK31	**Makanchi Array**	**43.99**	**302** *c*	iP	**P**	**22 24 59.4**	**+0.5**
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**22 24 59.5**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=88,slow=9.7,SNR=30						
	comp=Z,3.1nm,0.7s						
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**22 24 59.7**	**+0.8**
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**22 24 59.7**	**+0.8**
MAKZ	**Makanchi**	**44.20**	**302**	P	**P**	**22 25 01.0**	**+0.4**
MAKZ				IAmb	IAmb	22 25 02.0	
	comp=Z,5.8nm,1.0s						
MAKZ	**Makanchi**	**44.20**	**302**	P	**P**	**22 25 01.0**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**45.79**	**308**	P	**P**	**22 25 13.3**	**+0.2**
KURK				IAmb	IAmb	22 25 14.8	
	comp=Z,10.0nm,0.8s						
KURK	**Kurchatov**	**45.79**	**308**	P	**P**	**22 25 13.4**	**+0.2**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RAMN	**Ramite**	**46.95**	**274**	*e*P	**P**	**22 25 23.0**	**+0.1**
	comp=Z,5.8nm,0.4s						
JIRN	**Jiri**	**46.96**	**275**	*e*P	**P**	**22 25 24.1**	**+0.9**
GUN	**Gumba**	**47.10**	**275**	*e*P	**P**	**22 25 24.6**	**+0.4**
GKN	**Gorkha**	**48.05**	**276**	*e*P	**P**	**22 25 31.5**	**+0.2**
	comp=Z,9.1nm,0.5s						
DANN	**Dangsing**	**48.59**	**277**	*e*P	**P**	**22 25 36.3**	**+0.6**
	comp=Z,27nm,0.7s						
MDM	**Murphy Dome**	**48.77**	**32**	P	**P**	**22 25 37.9**	**+1.6**
MDM				IAmb	IAmb	22 25 39.6	
	comp=Z,6.3nm,1.2s						
PYUN	**Piuthan**	**49.31**	**277**	*e*P	**P**	**22 25 41.1**	**0.0**
	comp=Z,8.1nm,0.4s						
IL31		**49.35**	**32**	P	**P**	**22 25 41.3**	**+0.7**
IL31				IAmb	IAmb	22 25 42.4	
	comp=Z,5.0nm,0.8s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**22 25 41.7**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=266,slow=5.9,SNR=39						
	comp=Z,3.3nm,0.7s						
BRVK	**Borovoye**	**50.47**	**312**⇑	*e*P	**P**	**22 25 49.3**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**54.23**	**27**	P	**P**	**22 26 17.9**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=271,slow=6.8,SNR=9.8						
	comp=Z,2.9nm,0.7s						
NIL	**Nilore**	**54.52**	**288**	P	**P**	**22 26 20.2**	**+0.5**
NIL	**Nilore**	**54.52**	**288**	P	**P**	**22 26 20.2**	**+0.5**
NIL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SVE	**Sverdlovsk**	**54.98**	**319**	*e*P	**P**	**22 26 23.1**	**+0.5**
SVE				pmax	pmax		
	comp=Z,12nm,1.0s						
A36M	**Sachs Harbour**	**56.09**	**22**	P	**P**	**22 26 31.8**	**+1.4**
A36M				IAmb	IAmb	22 26 33.6	
	comp=

VORR	**Voronezh**	**68.49**	**319**	*e*P		**P**	**22 27 54.3**	**+0.6**
VORR				pmax		pmax		
	comp=Z,10.0nm,0.4s							
FINES	**FINESS Array B**	**68.63**	**332**	P		**P**	**22 27 54.5**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=42,slow=8.9,SNR=6.9							
	comp=Z,5.5nm,0.8s							
STKA	**Stephens Creek**	**68.74**	**180**	P		**P**	**22 27 55.3**	**0.0**
	comp=Z,1.7nm,0.7s,baz=323,slow=6.5,SNR=4.4							
	comp=Z,1.7nm,0.7s							
KBZ	**Khabaz**	**70.75**	**311**	P		**P**	**22 28 08.7**	**+1.0**
	comp=Z,4.8nm,0.7s,baz=12,slow=3.3,SNR=10							
	comp=Z,4.8nm,0.7s							
KIV	**Kislovodsk**	**70.75**	**311**	P		**P**	**22 28 08.2**	**+0.3**
KIV	**Kislovodsk**	**70.75**	**311**	*e*P		**P**	**22 28 09.3**	**+1.4**
KIV				pmax		pmax		
	comp=Z,13nm,1.1s							
NB2	**NORSAR Subarra**	**74.00**	**337**	P		**P**	**22 28 27.1**	**+0.2**
	comp=Z,16nm,1.4s,baz=38,slow=5.9							
NOA	**NORSAR Array B**	**74.00**	**337**	P		**P**	**22 28 27.5**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=39,slow=5.7,SNR=5.4							
	comp=Z,2.3nm,0.9s							
AKASG	**Malin Array Be**	**74.12**	**322**	P		**P**	**22 28 27.8**	**+0.1**
	comp=Z,4.1nm,0.5s,baz=46,slow=6.2,SNR=26							
	comp=Z,4.1nm,0.5s							
AKBB	**Malin Array Si**	**74.12**	**322**	⇓*e*P		**P**	**22 28 27.9**	**+0.2**
BOZ	**Bozeman (W)**	**74.63**	**44**	P		**P**	**22 28 31.5**	**+0.5**
BOZ				IAmb		IAmb	22 28 33.2	
	comp=Z,2.8nm,0.8s							
BOZ	**Bozeman (W)**	**74.63**	**44**	P		**P**	**22 28 31.5**	**+0.5**
BOZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
NVAR	**Mina Array Bea**	**74.90**	**53**	P		**P**	**22 28 34.3**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=297,slow=4.0,SNR=3.3							
	comp=Z,1.6nm,0.5s							
PDAR	**Pinedale Array**	**77.56**	**45**	P		**P**	**22 28 49.0**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=278,slow=2.5,SNR=11							
	comp=Z,0.8nm,0.6s							
GERES	**GERESS Array B**	**82.53**	**328**	P		**P**	**22 29 14.9**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=52,slow=7.2,SNR=5.6							
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**90.03**	**52**	P		**P**	**22 29 52.2**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=269,slow=2.6,SNR=9.3							
	comp=Z,0.8nm,0.7s							
ESDC	**Sonseca Array**	**97.10**	**334**	LR		LR	23 20 43.9	
	comp=Z,233nm,18.4s,baz=224,slow=40							
VNDA	**Vanda**	**115.17**	**175**	PKP		**PKPdf**	**22 35 31.8**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=152,slow=5.0,SNR=13							
LPAZ	**La Paz**	**146.63**	**59**	PKPbc		**PKiKP**	**22 36 35.1**	**-2.2**
	comp=Z,2.4nm,0.6s,baz=324,slow=1.8,SNR=15							
H03N2	**Juan Fernandez**	**147.08**	**96**	T		T	01 21 14.7	
	baz=292,slow=74							
H03N3	**Juan Fernandez**	**147.09**	**96**	T		T	01 21 13.4	
	baz=292							
H03N1	**Juan Fernandez**	**147.09**	**96**	T		T	01 20 54.7	
	baz=292,slow=74							

ROM 27 22:21:24.6±0.1, 42°.891N±0°.003×13°.170E±0°.004, h13km, ML1.4/14, 8C-6D, Error ellipse: s-maj=0.3km s-min=0.1km az=255.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.03**	**35**	P		Pg	22 21 27.4	+0.1
MC2				S		Sg	22 21 29.3	+0.2
NRCA	**Norcia**	**0.07**	**215**	⇑P		Pg	22 21 27.6	+0.2
NRCA				S		Sg	22 21 29.6	+0.2
NRCA				AML		AML		
	comp=E,1100μm,0.2s							
NRCA				AML		AML		
	comp=N,1185μm,0.8s							
NRCA				AML		AML		
	comp=N,1210μm,0.8s							
NRCA				AML		AML		
	comp=N,1190μm,0.8s							
NRCA				AML		AML		
	comp=E,1205μm,0.2s							
NRCA				AML		AML		
	comp=E,1105μm,0.2s							
T1216	**Preci, Frazion**	**0.11**	**270**	⇑P		Pg	22 21 28.1	+0.4
T1216				AML		AML		
	comp=E,216μm,0.2s							
T1216				AML		AML		
	comp=N,347μm,0.1s							
MMO1	**Montemonaco**	**0.12**	**86**	P		Pg	22 21 28.0	+0.1
MMO1				S		Sg	22 21 30.5	+0.3
T1256	**Bolognola (MC)**	**0.12**	**20**	⇓P		Pg	22 21 28.3	+0.2
T1256				S		Sg	22 21 30.9	+0.4
T1256				AML		AML		
	comp=N,115μm,0.2s							
T1256				AML		AML		
	comp=E,102μm,1.2s							
FDMO	**Fiordimonte**	**0.16**	**337**	⇓P		Pg	22 21 28.8	+0.3
FDMO				AML		AML		
	comp=N,1074μm,0.2s							
FDMO				AML		AML		
	comp=E,709μm,0.1s							
T1241	**Roccafluvione,**	**0.20**	**100**	P		Pg	22 21 29.2	+0.2
T1241				AML		AML		
	comp=N,51μm,1.2s							
T1241				AML		AML		
	comp=E,77μm,0.4s							
CSP1	**Cessapalombo**	**0.20**	**7**	⇓P		Pg	22 21 29.5	+0.3
CSP1				S		Sg	22 21 33.1	+0.8
CSP1				AML		AML		
	comp=N,82μm,0.3s							
CSP1				AML		AML		
	comp=E,98μm,0.5s							
T1219	**Muccia, Frazio**	**0.20**	**324**	⇑P		Pg	22 21 29.2	+0.1
T1219				S		Sg	22 21 33.1	+0.8
T1219				AML		AML		
	comp=N,219μm,1.4s							
T1219				AML		AML		
	comp=N,188μm,0.2s							
T1219				AML		AML		
	comp=E,144μm,0.6s							
T1219				AML		AML		
	comp=E,130μm,0.1s							
GUMA	**Gualdo di Mace**	**0.21**	**35**	⇑P		Pb	22 21 29.9	-0.4
GUMA				AML		AML		
	comp=E,328μm,1.5s							
GUMA				AML		AML		
	comp=N,244μm,0.4s							
GUMA				AML		AML		
	comp=E,250μm,1.1s							
GUMA				AML		AML		
	comp=N,328μm,0.4s							
T1218	**Civita (PG)**	**0.23**	**190**	⇓P		Pg	22 21 30.0	+0.4
T1218				AML		AML		
	comp=E,89μm,1.1s							
T1218				AML		AML		
	comp=N,143μm,1.0s							
T1218				AML		AML		
	comp=N,144μm,1.0s							
T1218				AML		AML		
	comp=E,89μm,1.0s							
CESI	**CESI - Serrava**	**0.23**	**300**	⇓P		Pg	22 21 30.0	+0.5
CESI				AML		AML		
	comp=E,94μm,0.2s							
CESI				AML		AML		
	comp=N,172μm,0.3s							
T1215	**Vallo di Nera,**	**0.24**	**248**	⇑P		Pg	22 21 30.1	+0.4
T1243	**Rocca Santa Ma**	**0.28**	**133**	⇑P		Pg	22 21 30.9	+0.3
SMA1	**SAN MARTINO**	**0.29**	**155**	⇑P		Pg	22 21 31.0	+0.4
RM33	**Pellescritta (**	**0.38**	**175**	P		Pg	22 21 32.6	+0.3
SNTG	**Esanatoglia**	**0.40**	**335**	⇑P		Pb	22 21 33.5	-0.1
SNTG				AML		AML		
	comp=E,24μm,1.0s							
SNTG				AML		AML		
	comp=N,22μm,0.2s							
ASSB	**Assisi San Ben**	**0.41**	**292**	⇓P		Pb	22 21 33.2	-0.4
ASSB				AML		AML		
	comp=E,40μm,0.2s							
ASSB				AML		AML		
	comp=N,48μm,0.2s							
TERO	**Teramo**	**0.42**	**130**	P		Pg	22 21 33.1	+0.2

*GEN **27** 22:21:30.6, 43°.83N×7°.86E, h8km±1km, Ml1.2*
*LDG **27** 22:21:30.3±0.1, 43°.80N×7°.92E, h8km, Md2.0/2, Ml2.0/10, Error ellipse: s-maj=2.0km s-min=1.6km az=167.0*
*STR **27** 22:21:30.2±0.9, 44°.N±3°×°±°, h5km±3km, MLv1.8/21, Error ellipse: s-maj=0.0km s-min=0.0km az=94.2, preliminary*
ROM 27 22:21:30.4±0.2, 43°.827N±0°.010×7°.85E±0°.01, h8km, ML1.4/9, 1C-2D, Error ellipse: s-maj=1.1km
s-min=0.7km az=325.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BURY	**Giardini Botan**	**0.22**	**258**	P		Pg	22 21 35.5	+0.8
BURY				S		Sg	22 21 39.0	+1.3
BURY	**Giardini Botan**	**0.22**	**258**	P		Pg	22 21 35.5	+0.7
BURY				S		Sg	22 21 38.9	+1.2
MGRO	**Montegrosso**	**0.22**	**352**	P		Pg	22 21 35.8	+1.0
MGRO				S		Sg	22 21 39.3	+1.4
MGRO	**Montegrosso**	**0.22**	**352**	P		Pg	22 21 35.8	+0.9
MGRO				S		Sg	22 21 39.3	+1.3
MGRO				AML		AML		
	comp=E,284μm,0.3s							
MGRO				AML		AML		
	comp=N,124μm,0.3s							
SAOF	**Saorge**	**0.27**	**307**	P		Pg	22 21 36.4	+0.7
SAOF				S		Sb	22 21 40.8	-1.3
SAOF	**Saorge**	**0.27**	**307**	P		Pg	22 21 36.4	+0.7
SAOF				S		Sb	22 21 40.8	-1.3
SAOF				AML		AML		
	comp=N,216μm,0.1s							
SAOF				AML		AML		
	comp=E,140μm,1.4s							
SAOF	**Saorge**	**0.27**	**307**	Pg		Pg	22 21 36.4	+0.7
SAOF				Sg		Sg	22 21 40.5	+1.2
SBF	**Sospel**	**0.30**	**277**	*e*Pg		Pb	22 21 37.5	-0.5
SBF				*e*Sg		Sb	22 21 42.3	-0.9
	comp=E,99nm,0.3s							
MON	**Monaco**	**0.32**	**253**	P		Pb	22 21 38.3	0.0
MON				S		Sb	22 21 43.2	-0.4
MON	**Monaco**	**0.32**	**253**	Pg		Pb	22 21 37.6	-0.7
MON				Sg		Sb	22 21 42.6	-1.0
RORO	**Rocca Rossa**	**0.33**	**29**	P		Pg	22 21 37.5	+0.7
RORO				S		Sg	22 21 42.1	+1.0
RORO	**Rocca Rossa**	**0.33**	**29**	P		Pg	22 21 37.4	+0.6
RORO				S		Sg	22 21 42.0	+0.9
RORO				AML		AML		
	comp=N,72μm,1.1s							
RORO				AML		AML		
	comp=E,125μm,0.1s							
ESCA	**l'Escarene**	**0.34**	**271**	P		Pb	22 21 38.8	+0.1
ESCA				S		Sb	22 21 44.0	-0.3
ESCA	**l'Escarene**	**0.34**	**271**	Pg		Pb	22 21 38.2	-0.5
ESCA				Sg		Sb	22 21 43.5	-0.8
TURF	**col de Turini**	**0.36**	**294**	P		Pb	22 21 38.4	-0.8
TURF				S		Sb	22 21 43.8	-1.2
TURF	**col de Turini**	**0.36**	**294**	Pg		Pb	22 21 38.3	-0.8
TURF				Sg		Sb	22 21 43.8	-1.2
CANO	**Canova, Maglio**	**0.47**	**36**	P		Pg	22 21 40.1	+0.5
CANO				S		Sg	22 21 46.4	+0.7
CANO	**Canova, Maglio**	**0.47**	**36**	⇑P		Pg	22 21 40.0	+0.5
CANO				AML		AML		
	comp=N,108μm,0.3s							
CANO				AML		AML		
	comp=E,78μm,1.3s							
SPIF	**crte de Spivo**	**0.50**	**298**	Pg		Pb	22 21 40.8	-0.6
SPIF				Sg		Sb	22 21 48.0	-0.9
ENR	**Entracque**	**0.51**	**322**	P		Pb	22 21 41.0	-0.6
ENR				S		Sb	22 21 48.1	-1.0
ENR	**Entracque**	**0.51**	**322**	⇓P		Pb	22 21 41.0	-0.6
ENR				S		Sb	22 21 48.0	-1.0
ENR				AML		AML		
	comp=E,69μm,1.1s							
ENR				AML		AML		
	comp=N,71μm,0.4s							
MVIF	**Mont Vial**	**0.51**	**278**	P		Pb	22 21 41.7	+0.1
MVIF				S		Sb	22 21 49.1	-0.1
MVIF	**Mont Vial**	**0.51**	**278**	Pg		Pb	22 21 41.1	-0.5
MVIF				Sg		Sb	22 21 48.5	-0.7
STV	**Sant Anna di V**	**0.56**	**318**	P		Pg	22 21 41.8	+0.5
STV				S		Sg	22 21 49.7	+0.9
STV	**Sant Anna di V**	**0.56**	**318**	P		Pb	22 21 42.0	-0.6
STV				AML		AML		
	comp=E,47μm,0.1s							
STV				AML		AML		
	comp=N,37μm,0.9s							
STV				AML		AML		
	comp=N,37μm,0.9s							
EILF	**Villa Eilenroc**	**0.59**	**242**	S		Sb	22 21 51.0	-0.3
EILF	**Villa Eilenroc**	**0.59**	**242**	Pg		Pb	22 21 42.7	-0.2
QLNO	**Quiliano**	**0.61**	**36**	P		Pb	22 21 50.9	-0.5
QLNO	**Quiliano**	**0.61**	**36**	P		Pg	22 21 42.7	+0.5
QLNO				AML		AML		
	comp=E,38μm,0.7s							
QLNO				AML		AML		
	comp=N,36μm,0.4s							
CALF	**Calern**	**0.68**	**264**	Pg		Pb	22 21 44.3	-0.1
CALF				Sg		Sb	22 21 53.5	-0.5
ISO	**Isola**	**0.68**	**302**	P		Pb	22 21 44.6	+0.2
ISO	**Isola**	**0.68**	**302**	Pg		Pb	22 21 44.1	-0.3
ISO				Sg		Sb	22 21 53.3	-0.7
PZZ	**Stroppo**	**0.86**	**322**	P		Pb	22 21 47.5	-0.1
PZZ				S		Sb	22 21 59.0	-0.4
PZZ	**Stroppo**	**0.86**	**322**	P		Pb	22 21 47.5	-0.1
PZZ				S		Sb	22 21 59.0	-0.3
PZZ				AML		AML		
	comp=N,31μm,0.9s							
PZZ				AML		AML		
	comp=E,29μm,0.8s							
PZZ				AML		AML		
	comp=E,29μm,1.2s							
PCP	**Piancastagn**	**0.87**	**35**	P		Pg	22 21 47.3	+0.2
PCP				S		Sg	22 21 58.1	-0.3
PCP	**Piancastagn**	**0.87**	**35**	P		Pg	22 21 47.3	+0.2
PCP				AML		AML		
	comp=E,38μm,0.4s							
PCP				AML		AML		
	comp=N,18μm,1.3s							
SURF	**Saint Ours**	**0.99**	**312**	P		Pb	22 21 50.0	+0.2
SURF				S		Sb	22 22 03.0	-0.2
SURF	**Saint Ours**	**0.99**	**312**	Pg		Pb	22 21 50.0	+0.2
SURF				Sg		Sb	22 22 03.9	+0.7
JAUF	**Jausiers**	**0.99**	**308**	Pg		Pb	22 21 50.0	+0.1
JAUF				Sg		Sb	22 22 03.4	+0.2
RNCA	**Ronca, Sant'Ol**	**1.02**	**51**	P		Pg	22 21 49.8	-0.2
TRIGF	**Trigance**	**1.05**	**266**	Pg		Pb	22 21 50.9	+0.1
LMR	**La Mourre**	**1.09**	**244**	*e*Pn		Pg	22 21 50.0	-1.3
LMR				*e*Sn		Sg	22 22 04.6	-0.9
	comp=N,8.4nm,0.2s							
BHB	**Bricherasio**	**1.10**	**338**	P		Pg	22 21 50.6	-0.9
BHB	**Bricherasio**	**1.10**	**338**	P		Pg	22 21 50.5	-1.0
BHB				AML		AML		
	comp=E,25μm,0.6s							
BHB				AML		AML		
	comp=N,18μm,1.6s							
BHB				AML		AML		
	comp=N,18μm,0.4s							
CREF	**Crivoux**	**1.14**	**310**	Pg		Pb	22 21 52.6	+0.2
CREF				Sg		Sn	22 22 08.3	-0.3
OGDI	**Digne**	**1.15**	**285**	Pn		Pn	22 21 54.4	+1.6
OGDI				Sn		Sn	22 22 11.5	+2.8
MBDF	**Montbardon**	**1.19**	**320**	*e*Pg		Pg	22 21 52.9	-0.3
MBDF	**Montbardon**	**1.19**	**320**	*e*P		Pn	22 21 54.0	+0.6
MBDF				*e*Sg		Sn	22 22 09.8	+0.1
	comp=N,2.5nm,0.2s							
FLAF	**Flassans-sur-l**	**1.24**	**250**	Pn		Pg	22 21 54.7	+0.5
BLAF	**les Blancs**	**1.31**	**276**	Pn		Pg	22 21 56.0	+0.5
BLAF				Sn		Sn	22 22 14.5	+1.9
ARTF	**Artigues**	**1.50**	**262**	Pn		Pb	22 21 58.6	+0.2
ARTF				Sn		Sg	22 22 19.3	+0.7
MLYF	**Mely**	**1.51**	**277**	Pn		Pb	22 21 58.8	+0.1
MLYF				Sn		Sg	22 22 18.9	-0.1
PGF	**Pioggiola**	**1.53**	**146**	*e*Pn		Pn	22 21 54.9	-3.1
PGF				*e*Sn		Sn	22 22 12.8	-5.3
	comp=N,1.8nm,0.3s							
PGF	**Pioggiola**	**1.53**	**146**	Pn		Pn	22 21 55.0	-3.0
LEPF	**PUYLOUBIER**	**1.59**	**260**	Pn		Pb	22 21 59.8	-0.1
BSTF	**la Bastide-des**	**1.60**	**273**	Pn		Pb	22 22 00.0	0.0
SMRF	**Simiane la Rot**	**1.65**	**276**	*e*P		Pb	22 22 00.4	-0.6
SMRF				*e*Sn		Sn	22 22 19.1	-1.9
SMRF				*e*Sg		Sg	22 22 24.0	+0.6
	comp=N,12nm,0.4s							
RUSF	**Rustrel**	**1.71**	**275**	Pn		Pn	22 22 01.2	+0.7
RUSF				Sn		Sb	22 22 24.1	+0.4
ORIF	**Oris-en-Rattie**	**1.79**	**308**	*e*Pg		Pg	22 22 04.3	-0.3
ORIF				*e*Sg		Sg	22 22 28.7	+1.0
	comp=N,1.9nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.79**	**308**	Sn		Sb	22 22 25.4	-0.5
ORIF	**Oris-en-Rattie**	**1.79**	**308**	Pn		Pb	22 22 02.6	-0.8
LPL	**La Plagne**	**1.87**	**335**	*e*Pn		Pn	22 22 01.7	-1.1
LPL	**La Plagne**	**1.87**	**335**	*e*Pg		Pg	22 22 05.9	-0.3
LPL				*e*Sg		Sg	22 22 30.5	+0.1
	comp=N,0.6nm,0.2s							
VIVF	**Saint-Julien-l**	**2.50**	**295**	*e*P		Pn	22 22 12.9	+1.6
VIVF				*e*Sn		Sn	22 22 39.8	-2.2
	comp=N,0.9nm,0.2s							
VIVF				*e*Sg		Sg	22 22 50.9	+0.2
	comp=N,1.0nm,0.2s							
CSNT	**Castellina Chi**	**2.52**	**97**	⇓P		Pn	22 22 11.1	-0.5
LASF	**Ste Croix**	**2.90**	**276**	*e*P		Pn	22 22 18.5	+1.8
LASF				*e*Sn		Sn	22 22 49.5	-2.2
	comp=N,0.2nm,0.2s							
APEC	**Apecchio**	**3.33**	**93**	P		Pn	22 22 25.2	+2.6
FSSB	**Fossombrone**	**3.57**	**90**	P		Pb	22 22 34.7	+1.0
FDMO	**Fiordimonte**	**3.90**	**100**	S		Sb	22 23 22.0	-4.5
PTRJ	**Pietraroja**	**5.51**	**114**	P		Pg	22 23 12.9	-3.0

WEL 27 22:36:18.0±0.3, 43°.S±2°×17°.3E±°, h7km±2km, M3.7/26, ML3.9/18, MLv3.7/26, Error ellipse: s-maj=0.0km s-min=0.0km az=132.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.07**	**100**	P		Pg	22 36 20.4	+0.5
GVZ				S		Sg	22 36 22.3	+1.1
AMCZ	**Amberley**	**0.30**	**223**	P		Pb	22 36 25.6	-0.2
AMCZ				S		Sb	22 36 31.3	+0.3
LTZ	**Lake Taylor**	**0.52**	**289**	P		Pg	22 36 28.6	+0.6
LTZ				S		Sb	22 36 36.2	-1.0
KHZ	**Kahutara**	**0.70**	**40**	P		Pg	22 36 31.8	+0.4
OXZ	**Oxford**	**0.76**	**240**	P		Pb	22 36 33.7	+0.2
OKCZ	**Okains Bay**	**0.77**	**173**	P		Pb	22 36 33.8	0.0
MQZ	**McQueen's Vall**	**0.78**	**195**	P		Pg	22 36 33.3	+0.3
AKCZ	**Akaroa Harbour**	**0.92**	**181**	P		Pg	22 36 35.6	0.0
RACZ	**Rakaia**	**0.97**	**217**	P		Pg	22 36 36.4	-0.2
INZ	**Inchbonnie**	**1.12**	**281**	P		Pg	22 36 39.5	0.0
MHCZ	**Mount Hutt**	**1.16**	**240**	P		Pg	22 36 39.3	-0.9
THZ	**Tophouse**	**1.19**	**359**	P		Pg	22 36 40.0	-0.9
WACZ	**Wakanui South**	**1.27**	**219**	P		Pn	22 36 40.7	-1.5
BSWZ	**Blackbirch Sta**	**1.42**	**30**	P		Pn	22 36 43.4	-0.8
DSZ	**Denniston Nort**	**1.47**	**325**	P		Pn	22 36 44.5	-0.5
MRNZ	**Matariki Terra**	**1.56**	**355**	P		Pn	22 36 46.2	+0.1
RPZ	**Rata Peaks**	**1.57**	**240**	P		Pn	22 36 45.4	-1.0
WVZ	**Waitaha Valley**	**1.62**	**265**	P		Pn	22 36 46.8	-0.1
ARCZ	**Arundel**	**1.62**	**232**	P		Pn	22 36 45.7	-1.4
NNZ	**Nelson**	**1.77**	**11**	P		Pn	22 36 48.7	-0.2
TKNZ	**Takaka Hill**	**1.92**	**1**	P		Pn	22 36 51.3	+0.2
GCSZ	**Gaunt Creek Bo**	**1.94**	**258**	P		Pn	22 36 52.1	+0.6
TMZ	**Timaru**	**2.00**	**224**	P		Pn	22 36 51.6	-0.7
TCW	**Tory Channel**	**2.01**	**30**	P		Pn	22 36 50.8	-1.5
QRZ	**Quartz Range**	**2.15**	**352**	P		Pn	22 36 54.5	+0.2
FOZ	**Fox Glacier**	**2.35**	**255**	P		Pn	22 36 57.5	+0.5
LBZ	**Lake Benmore**	**2.46**	**233**	P		Pn	22 36 57.8	-0.7
TRWZ	**Traveller**	**2.57**	**54**	P		Pn	22 36 57.7	-2.4
ODZ	**Otahua Downs**	**2.67**	**218**	P		Pn	22 36 59.8	-1.5
JCZ	**Jackson Bay**	**3.22**	**248**	P		Pn	22 37 08.6	-0.5
BFZ	**Birch Farm**	**3.36**	**49**	P		Pn	22 37 07.9	-2.9
WKZ	**Wanaka**	**3.40**	**235**	P		Pn	22 37 10.3	-1.2
EAZ	**Earnscleugh**	**3.47**	**228**	P		Pn	22 37 11.9	-0.5
KHEZ	**Kahui Hut**	**3.75**	**13**	P		Pn	22 37 17.6	+1.3
NBEZ	**Newall Road No**	**3.75**	**11**	P		Pn	22 37 17.1	+0.8
WNVZ	**Wahianoa**	**4.14**	**30**	P		Pn	22 37 21.3	-0.5
WHVZ	**Whangaehu Hut**	**4.18**	**30**	P		Pn	22 37 21.5	-0.9
MLZ	**Mavora Lakes**	**4.22**	**234**	P		Pn	22 37 21.9	-0.9
HIZ	**Hauiti**	**4.67**	**19**	P		Pn	22 37 28.5	-0.4
MKAZ	**Moumakai**	**6.09**	**17**	P		Pn	22 37 47.4	-1.0

*IDC **27** 22:37:00.7±0.7, 18°.81S×169°.01E, h171km±5km, mb4.1/13, mbtmp4.7/17, MS4.3/7, Error ellipse: s-maj=13.5km s-min=10.1km az=131.0*
*NEIC **27** 22:37:01.4±1.6, 18°.9S±0°.1×169°.0E±0°.1, h176km±8km, mb4.8/48, Error ellipse: s-maj=16.8km s-min=11.7km az=140.0*
*NOU **27** 22:37:01.6, 18°.78S×168°.95E, h173km, mb5.0/66, Vanuatu Islands*
ISC 27 22:37:01.4±0.5, 18°.84S±0°.05×168°.97E±0°.05, h179km±4km, h180km; pP-P, n248, σ1§27/248, mb4.7/50, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTV	**Rentapao**	**1.16**	**333**	P		**Pn**	**22 37 29.4**	**-1.0**
DVP	**Devils Point**	**1.34**	**326**	P		**Pn**	**22 37 31.2**	**-0.6**
LIFNC	**LIFOU**	**2.53**	**220**	Pn		**Pn**	**22 37 42.4**	**-1.9**
LIFNC				Sn		**Sn**	**22 38 11.8**	**-6.0**
LIFNC	**LIFOU**	**2.53**	**220**	P		**Pn**	**22 37 44.1**	**-0.2**
MARNC	**Mare, Loyalty**	**2.77**	**198**			**Pn**	**22 37 45.0**	**-2.3**
MARNC	**Mare, Loyalty**	**2.77**	**198**	P		**Pn**	**22 37 47.2**	**-0.1**
YATNC	**Mamie plateau,**	**3.75**	**211**	P		**Pn**	**22 37 59.2**	**-0.2**
DZM	**Mont Dzumac**	**4.00**	**216**	P		**Pn**	**22 38 02.2**	**-0.3**
	67nm,0.3s,baz=86,slow=7.9,SNR=82							
DZM				S		**Sn**	**22 38 49.5**	**-0.9**
	475nm,0.6s,baz=131,slow=22,SNR=12							
DZM	**Mont Dzumac**	**4.00**	**216**			**Pn**	**22 38 01.7**	**-0.8**
DZM					Sn	**Sn**	**22 38 48.9**	**-1.5**
DZM	**Mont Dzumac**	**4.00**	**216**	P		**Pn**	**22 38 03.3**	**+0.8**
OUENC	**Ouen Island, N**	**4.08**	**209**			**Pn**	**22 38 02.8**	**-0.8**
OUENC	**Ouen Island, N**	**4.08**	**209**	P		**Pn**	**22 38 04.2**	**+0.7**
ONTNC	**Ouen Toro**	**4.18**	**214**			**Pn**	**22 38 04.6**	**-0.2**
ONTNC	**Ouen Toro**	**4.18**	**214**	P		**Pn**	**22 38 05.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**4.73**	**248**	P		**Pn**	**22 38 12.8**	**+0.9**
MSVF	**Nonsavu**	**8.69**	**84**	P		**Pn**	**22 39 04.5**	**+0.6**
	15nm,1.0s,baz=245,slow=10,SNR=10							
MSVF	**Nonsavu**	**8.69**	**84**			**Pn**	**22 39 04.3**	**+0.

BFZ	Birch Farm	22.65	166	P	P	22 41 47.0	-0.3	
HOWZ	Holdsworth Sta	22.69	167	P	P	22 41 48.1	+0.4	
TUWZ	Tuamarina	22.91	170	P	P	22 41 49.4	-0.3	
MTW	Mount Morrison	22.94	167	P	P	22 41 44.1	-5.8	
TMWZ	Te Maipa	22.97	167	P	P	22 41 51.1	+0.9	
THZ	Tophouse	23.09	172	P	P	22 41 54.3	+2.9	
PMG	Port Moresby	23.11	291	P	P	22 41 52.6	+0.9	
	33nm,0.5s,baz=122,slow=6.6,SNR=13							
	33nm,0.5s							
PMG	Port Moresby	23.11	291	P	P	22 41 51.9	+0.2	
PMG	Port Moresby	23.11	291	P	P	22 41 52.8	+1.0	
MSWZ	Moikau Station	23.13	168	P	P	22 41 51.3	-0.4	
MSWZ	Moikau Station	23.13	168	P	P	22 41 51.9	+0.2	
PAWZ	Paruwai Farm	23.14	168	P	P	22 41 51.7	0.0	
TRWZ	Traveller	23.21	167	P	P	22 41 52.9	+0.6	
PLWZ	Palliser	23.28	168	P	P	22 41 53.0	0.0	
PLWZ	Palliser	23.28	168	P	P	22 41 53.1	0.0	
MTSU	Mount Surprise	23.39	268	P	P	22 41 55.7	+1.4	
	baz=24,SNR=113							
MTSU	Mount Surprise	23.39	268	P	P	22 41 55.5	+1.2	
CNB	Canberra Magne	23.89	223	P	P	22 42 00.5	+1.8	
LTZ	Lake Taylor	24.03	174	P	P	22 42 00.4	+0.5	
QLP	Quilpie	24.06	247	P	P	22 42 00.9	+0.7	
	baz=24,SNR=43							
QLP	Quilpie	24.06	247	P	P	22 42 01.1	+0.8	
CAN	Canberra	24.13	223	P	P	22 42 01.4	+0.6	
CAN				IAmb	IAmb	22 42 04.5		
	comp=Z,39nm,1.0s							
CAN	Canberra	24.13	223	P	P	22 42 02.2	+1.3	
CMSA	Cobar Meteorol	24.51	234	P	P	22 42 05.2	+0.9	
	baz=25,SNR=60							
CMSA	Cobar Meteorol	24.51	234	P	P	22 42 04.9	+0.6	
RPZ	Rata Peaks	24.86	176	P	P	22 42 08.4	+1.0	
	comp=Z,15nm,0.7s,baz=34,slow=18,SNR=2.4							
	comp=Z,15nm,0.7s							
COEN	Coen	25.21	277	P	P	22 42 11.8	+1.0	
	baz=25,SNR=6.8							
COEN	Coen	25.21	277	P	P	22 42 10.5	-0.3	
COEN				IAmb	IAmb	22 42 12.4		
	comp=Z,20nm,0.9s							
COEN	Coen	25.21	277	P	P	22 42 11.6	+0.8	
INKA	Innaminka	27.35	246	P	P	22 42 30.6	+0.7	
QIS	Mount Isa	27.69	262	P	P	22 42 33.4	+0.4	
	baz=28,SNR=6.6							
QIS	Mount Isa	27.69	262	P	P	22 42 33.4	+0.4	
TOO	Toolangi	27.74	223	P	P	22 42 34.4	+1.2	
	baz=28,SNR=4.3							
TOO	Toolangi	27.74	223	P	P	22 42 33.8	+0.6	
TOO	Toolangi	27.74	223	P	P	22 42 34.3	+1.0	
STKA	Stephens Creek	27.85	237	P	P	22 42 35.4	+1.0	
	comp=Z,21nm,0.6s,baz=70,slow=9.2,SNR=90							
STKA				ScP	ScP	22 49 11.7	+2.0	
	comp=Z,1.6nm,0.8s,baz=208,slow=6.8,SNR=3.6							
	comp=Z,21nm,0.6s							
STKA	Stephens Creek	27.85	237	P	P	22 42 35.3	+1.0	
	baz=28,SNR=31							
STKA	Stephens Creek	27.85	237	P	P	22 42 35.3	+1.0	
STKA	Stephens Creek	27.85	237	P	P	22 42 35.5	+1.2	
GLAD	Gladstone	28.45	215	P	P	22 42 41.0	+1.5	
ARPS	Mount Arapiles	29.76	228	P	P	22 42 52.6	+1.4	
	baz=30,SNR=15							
ARPS	Mount Arapiles	29.76	228	P	P	22 42 52.4	+1.2	
LCRK	Leigh Creek	30.15	242	P	P	22 42 55.6	+0.9	
HTT	Hallett	30.51	236	P	P	22 42 58.6	+0.8	
	baz=31,SNR=15							
HTT	Hallett	30.51	236	P	P	22 42 58.8	+0.9	
WHYH	Whyalla	31.44	237	P	P	22 43 06.1	+0.2	
OOD	Oodnadatta	31.76	247	P	P	22 43 09.8	+1.0	
WR0	Warramunga Arr	32.47	262	P	P	22 43 14.2	-0.9	
WR0				IAmb	IAmb	22 43 14.6		
	comp=Z,11nm,0.7s							
GENI	Genyem	32.49	296	P	P	22 43 16.2	+0.9	
	comp=Z,3µmcomp=Z,158nm,0.7s							
GENI	Genyem	32.49	296	P	P	22 43 16.3	+0.9	
BBOO	Buckleboo	32.58	238	P	P	22 43 16.0	+0.1	
	baz=33,SNR=23							
BBOO	Buckleboo	32.58	238	P	P	22 43 16.3	+0.3	
BBOO				IAmb	IAmb	22 43 17.3		
	comp=Z,22nm,0.8s							
BBOO	Buckleboo	32.58	238	P	P	22 43 16.2	+0.3	
WB0	Warramunga Arr	32.62	263	P	P	22 43 15.7	-0.7	
WB2	Warramunga Arr	32.64	262	P	P	22 43 15.8	-0.8	
WB2				IAmb	IAmb	22 43 18.7		
	comp=Z,14nm,0.6s							
WRAB	Tennant Creek	32.65	262	P	P	22 43 15.7	-1.0	
WRAB	Tennant Creek	32.65	262	⇓P	P	22 43 15.6	-1.0	
WB1	Warramunga Ar.	32.65	262	P	P	22 43 15.6	-1.1	
WRA	Warramunga Arr	32.66	262	P	P	22 43 15.8	-1.0	
	comp=Z,8.4nm,0.5s,baz=97,slow=8.2,SNR=97							
WRA				S	S	22 48 15.9	-3.8	
	comp=Z,0.5nm,0.8s,baz=98,slow=17,SNR=2.9							
WRA				ScP	ScP	22 49 27.4	+1.8	
	comp=Z,2.0nm,0.8s,baz=87,slow=3.6,SNR=10.0							
	comp=Z,8.4nm,0.5s							
WRA	Warramunga Arr	32.66	262	P	P	22 43 14.5	-2.3	
AS01	Alice Springs	32.94	255	P	P	22 43 18.9	-0.3	
	baz=33,SNR=90							
AS01	Alice Springs	32.94	255	P	P	22 43 19.2	0.0	
AS31	Alice Springs	32.98	255	P	P	22 43 19.6	0.0	
ASAR	Alice Springs	32.98	255	P	P	22 43 19.5	-0.1	
	comp=Z,58nm,0.4s,baz=83,slow=8.8,SNR=695							
ASAR				S	S	22 48 23.4	-1.3	
	comp=Z,2.4nm,0.8s,baz=85,slow=18,SNR=12							
ASAR				ScP	ScP	22 49 28.6	+1.9	
	comp=Z,0.8nm,0.7s,baz=116,slow=3.9,SNR=5.5							
MULG	Mulgathing	33.61	243	P	P	22 43 25.4	+0.5	
KDU	Kakadu	35.61	274	P	P	22 43 41.9	-0.2	
	baz=36,SNR=11							
KDU	Kakadu	35.61	274	P	P	22 43 42.0	-0.2	
MTN	Manton Dam	36.84	274	P	P	22 43 52.6	0.0	
	baz=37,SNR=21							
MTN	Manton Dam	36.84	274	P	P	22 43 52.5	-0.1	
MTN	Manton Dam	36.84	274	P	P	22 43 52.5	-0.1	
WRKA	Warakurna	38.13	253	P	P	22 44 03.3	-0.2	
	baz=38,SNR=163							
WRKA	Warakurna	38.13	253	P	P	22 44 03.3	-0.2	
KNRA	Kununurra	38.47	268	P	P	22 44 06.1	-0.2	
	baz=39,SNR=32							
KNRA	Kununurra	38.47	268	P	P	22 44 06.1	-0.2	
KNRA	Kununurra	38.47	268	P	P	22 44 06.1	-0.2	
FORT	Forrest	38.79	244	P	P	22 44 08.9	0.0	
	baz=39,SNR=16							
FORT	Forrest	38.79	244	P	P	22 44 09.1	+0.2	
FORT				IAmb	IAmb	22 44 09.7		
	comp=Z,26nm,0.9s							
FORT	Forrest	38.79	244	P	P	22 44 08.7	-0.1	
FAKI	Fak Fak	39.25	289	P	P	22 44 12.5	-0.3	
FAKI	Fak Fak	39.25	289	P	P	22 44 12.2	-0.6	
	comp=Z,51nm,0.9s							
FAKI	Fak Fak	39.25	289	P	P	22 44 12.4	-0.4	
	comp=Z,51nm,0.9s							
NLAI	Namlea	43.77	286	P	P	22 44 49.6	0.0	
	comp=Z,13µmcomp=Z,11nm,1.1s							
KMBL	Kambalda	44.12	244	P	P	22 44 52.0	-0.2	
	baz=44,SNR=4.4							
SOEI	Soe	44.15	275	P	P	22 44 53.4	+0.7	
	comp=Z,27nm,1.0s							
SOEI	Soe	44.15	275	P	P	22 44 53.2	+0.5	
BATI	Baumata	44.59	275	LR	LR	23 05 19.3		
	comp=Z,1µm,18.3s,baz=168,slow=38							
BATI	Baumata	44.59	275	P	P	22 44 57.5	+1.4	
	comp=Z,826nmcomp=Z,75nm,0.9s							
SANI	Sanana	45.27	286	P	P	22 45 01.4	0.0	
	comp=Z,16nm,1.8s							
SANI	Sanana	45.27	286	P	P	22 45 01.5	0.0	
PSA00	Pilbara Seismi	46.04	258	P	P	22 45 07.8	+0.3	
PSA00	Pilbara Seismi	46.04	258	P	P	22 45 07.9	+0.5	
MBWA	Marble Bar	46.19	258	P	P	22 45 09.0	+0.4	
MBWA				IAmb	IAmb	22 45 09.7		
	comp=Z,28nm,0.8s							
MBWA	Marble Bar	46.19	258	P	P	22 45 08.8	+0.2	
MBWA	Marble Bar	46.19	258	P	P	22 45 08.8	+0.2	
MMRI	Maumere	46.39	276	P	P	22 45 09.8	-0.5	
	comp=Z,49nm,0.8s							
MEEK	Meekatharra	46.85	251	P	P	22 45 13.7	0.0	
	baz=47,SNR=33							
MEEK	Meekatharra	46.85	251	P	P	22 45 13.7	0.0	
KLBR	Kellerberrin	47.66	244	P	P	22 45 19.3	-0.5	
	baz=48,SNR=11							
KLBR	Kellerberrin	47.66	244	P	P	22 45 19.4	-0.5	
NWAO	Narrogin (SRO)	48.17	242	P	P	22 45 23.4	-0.4	
MORW	Morawa	49.09	248	P	P	22 45 30.5	-0.3	
	baz=49,SNR=4.6							
GTOI	Gorontalo	49.10	288	P	P	22 45 31.4	+0.4	
	comp=Z,9.7nm,0.9s							
KAPI	Kappang	49.90	280	LR	LR	23 09 10.3		
	comp=Z,679nm,18.3s,baz=162,slow=39							
KAPI	Kappang	49.90	280	P	P	22 45 37.3	+0.1	
PLAI	Plampang	50.54	274	P	P	22 45 41.5	-0.5	
PLAI	Plampang	50.54	274	P	P	22 45 42.1	+0.1	
GIRL	Giralia	51.10	256	P	P	22 45 45.2	-0.8	
	baz=51,SNR=3.5							
TOLI2	Tolitoli	51.31	287	P	P	22 45 47.5	-0.2	
TOLI2				IAmb	IAmb	22 45 48.0		
	comp=Z,14nm,0.8s							
TOLI2	Tolitoli	51.31	287	P	P	22 45 47.4	-0.3	
TWSI	Taliwang, Sumb	51.41	274	P	P	22 45 48.8	+0.3	
	comp=Z,24nm,1.2s							
MPSI	Mapaga	51.79	286	P	P	22 45 51.3	0.0	
VNDA	Vanda	58.82	182	P	P	22 46 40.6	+0.1	
	comp=Z,2.0nm,0.5s,baz=357,slow=8.0,SNR=28							
	comp=Z,2.0nm,0.5s							
VNDA	Vanda	58.82	182	P	P	22 46 40.8	+0.3	
VNDA	Vanda	58.82	182	P	P	22 46 40.5	+0.1	
SBA	Scott Base	59.06	181	P	P	22 46 43.1	+1.0	
SBA				IAmb	IAmb	22 46 46.3		
	comp=Z,14nm,0.7s							
SBA	Scott Base	59.06	181	P	P	22 46 43.4	+1.2	
SBA				pP	pwP	22 47 26.9	+1.2	
SBA				sP	sP	22 47 47.6	+5.5	
CCD	Concordia, Ant	61.23	192	P	P	22 46 57.0	-0.4	
CCD				pP	PcP	22 47 39.5	+1.2	
MJAR	Matsushiro Arr	62.28	332	LR	LR	23 11 28.8		
	comp=Z,162nm,21.4s,baz=127,slow=33							
ASAJ	Asahikawa	67.14	340	LR	LR	23 12 19.2		
	comp=Z,240nm,22.0s,baz=150,slow=32							
NJ2	Nanjing	69.75	316	eP	P	22 47 55.0	+2.9	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
QSPA	South Pole Qui	71.21	180	P	P	22 48 00.3	-0.5	
QSPA				IAmb	IAmb	22 48 03.0		
	comp=Z,10nm,0.9s							
QSPA	South Pole Qui	71.21	180	P	P	22 48 00.8	+0.1	
QSPA				pP	pP	22 48 43.9	+0.8	
USRK	Ussuriysk Ar.	71.27	333	LR	LR	23 17 13.2		
	comp=Z,166nm,21.6s,baz=119,slow=34							
PETK	Petropavlovsk-	72.31	353	P	P	22 48 07.4	+0.3	
	comp=Z,5.2nm,0.9s,baz=191,slow=2.9,SNR=3.6							
	comp=Z,5.2nm,0.9s							
KLR	Kul'dur	75.40	336	LR	LR	23 20 38.0		
	comp=Z,223nm,20.1s,baz=118,slow=35							
KMI	Kunming	77.85	302	⇑P	P	22 48 36.5	-3.2	
KMI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CMAR	Chiang Mai Arr	78.11	294	P	P	22 48 42.0	+1.0	
	comp=Z,3.1nm,0.8s,baz=133,slow=4.5,SNR=15							
CMAR				pP	pP	22 49 23.2	-1.1	
	comp=Z,2.0nm,0.8s,baz=136,slow=4.9,SNR=2.6							
	comp=Z,3.1nm,0.8s							
CMAR	Chiang Mai Arr	78.11	294	P	P	22 48 41.3	+0.3	
MAW	Mawson	78.71	202	P	P	22 48 44.8	+1.4	
	comp=Z,2.7nm,0.7s,baz=120,slow=9.2,SNR=9.5							
	comp=Z,2.7nm,0.7s							
MAW	Mawson	78.71	202	P	P	22 48 45.4	+2.0	
	baz=79,SNR=8.0							
PZH	PanZhiHua	79.28	303	P	P	22 48 47.8	+0.4	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,120nm,6.5s							
HHC	Hu-ho-hao-te	79.75	319	eP	P	22 48 51.5	+1.9	
HHC				pmax	pmax			
	comp=Z,11nm,0.8s							
HHC				pmax	pmax			
	comp=Z,160nm,4.9s							
HHC				LR	LR			
	comp=Z,300nm,15.2s							
HHC				LR	LR			
	comp=Z,300nm,15.2s							
HHC				LR	LR			
	comp=Z,430nm,14.0s							
BELA	Belgrano 2	82.52	175	P	P	22 49 02.3	-1.2	
BELA				IAmb	IAmb	22 49 04.3		
	comp=Z,13nm,0.5s							
GTA	Gaotai	86.67	314	eP	P	22 49 26.0	+0.9	
GTA				pP	pP	22 50 09.5	+0.1	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,41nm,5.3s							
GTA				LR	LR			
	comp=Z,100nm,20.7s							
GTA				LR	LR			
	comp=Z,94nm,24.0s							
GTA				LR	LR			
	comp=Z,170nm,24.4s							
SONM	Songino Array	86.75	323	P	P	22 49 26.0	+0.7	
	comp=Z,1.5nm,0.8s,baz=147,slow=5.4,SNR=12							
SONM				pP	pP	22 50 08.6	-0.8	
	comp=Z,2.6nm,0.8s,baz=153,slow=6.1,SNR=7.8							
	comp=Z,1.5nm,0.8s							
AFDM	Forest Hills D	87.08	47	P	P	22 49 25.0	-1.9	
CMB	Columbia Colle	87.08	48	P	P	22 49 25.2	-1.8	
CMB				IAmb	IAmb	22 49 27.3		
	comp=Z,37nm,1.9s							
NVAR	Mina Array Bea	88.73	49	P	P	22 49 35.1	+0.1	
	comp=Z,0.6nm,0.4s,baz=231,slow=9.9,SNR=3.9							
	comp=Z,0.6nm,0.4s							
NV11	Mina Array Sit	88.83	49	P	P	22 49 33.8	-1.6	
MOD	Modoc Plateau	88.86	45	P	P	22 49 35.0	-0.5	
MOD				IAmb	IAmb	22 49 37.2		
	comp=Z,12nm,1.1s							
TROLL	Troll, Antarti	88.91	184	P	P	22 49 34.5	-0.7	
KVN	Kaiserville	89.13	48	P	P	22 49 36.3	-0.5	
SNAA	Sanae	89.55	183	P	P	22 49 37.0	-1.1	
SNAA	Sanae	89.55	183	P	P	22 49 36.4	-1.7	
ILAR	Eielson Array	89.93	17	P	P	22 49 37.9	-1.8	
	comp=Z,0.7nm,0.5s,baz=237,slow=4.8,SNR=12							
	comp=Z,0.7nm,0.5s							
VNA3	Neumayer Olymp	90.15	180	P	P	22 49 39.7	-1.2	
WVOR	Wild Horse Val	90.21	45	P	P	22 49 38.8	-2.9	
WVOR				IAmb	IAmb	22 49 43.1		
	comp=Z,10nm,1.2s							
BMN	Battle Mountai	90.33	47	P	P	22 49 39.0	-3.4	
I07A	Izee	90.36	43	P	P	22 49 42.1	-0.2	
I07A				IAmb	IAmb	22 49 43.6		
	comp=Z,8.5nm,1.0s							
PRN	Pahroc Range	90.65	51	P	P	22 49 44.7	+0.8	
PRN				IAmb	IAmb	22 49 46.0		
	comp=Z,11nm,1.1s							
HSIG		90.69	60	P	P	22 49 43.8	-0.3	
HSIG				IAmb	IAmb	22 49 46.0		
	comp=Z,11nm,1.1s							
J08A	Circle Bar Ran	90.71	44	P	P	22 49 44.1	+0.1	
J08A				IAmb	IAmb	22 49 45.2		
	comp=Z,11nm,1.1s							
G08A	Pilot Rock	91.23	42	P	P	22 49 47.0	+0.6	
G08A				IAmb	IAmb	22 49 47.5		
	comp=Z,11nm,1.1s							
HAWA	Hanford	91.35	41	P	P	22 49 47.2	+0.5	
LCMT	Little Creek M	91.83	52	P	P	22 49 49.0	-0.3	
CCUT	Cedar City	91.95	51	P	P	22 49 50.0	0.0	
TUC	Tucson	92.00	57	P	P	22 49 50.0	-0.1	
TUC				IAmb	IAmb	22 49 51.8		
	comp=Z,6.9nm,1.2s							
KNB	Kanab	92.15	52	P	P	22 49 50.5	-0.3	
KNB				IAmb	IAmb	22 49 52.4		
	comp=Z,9.5nm,1.3s							
U15A	North Rim	92.32	52	P	P	22 49 51.5	-0.3	
U15A				IAmb	IAmb	22 49 53.3		
	comp=Z,4.8nm,0.9s							
319A	Douglas	92.87	58	P	P	22 49 53.9	-0.4	
MCMT	McKenzie Canyo	95.02	44	P	P	22 50 02.0	-1.9	
LENM	Lemitar	95.63	56	P	P	22 50 06.7	-0.3	
WMQ	Urumqi	96.75	314	eP	P	22 50 13.8	+2.2	
WMQ				LR	LR			
	comp=Z,180nm,22.1s							
TXAR	Lajitas Array	96.80	61	P	P	22 50 12.4	+0.2	
	comp=Z,1.0nm,0.8s,baz=202,slow=6.5,SNR=6.7							
	comp=Z,1.0nm,0.8s							
K22A	Casper	98.61	48	P	P	22 50 19.6	-0.6	
MKAR	Makanchi Array	101.28	316	P	Pdif	22 50 32.6	+0.9	
	comp=Z,0.4nm,0.8s,baz=101,slow=7.5,SNR=2.7							
MKAR				pP	pP	22 51 15.9	-0.8	
	comp=Z,0.3nm,0.6s,baz=91,slow=7.4,SNR=2.6							
MKAR				PKKPbc	PKKPbc	23 06 38.7	-3.6	
	comp=Z,0.3nm,0.6s,baz=257,slow=4.0,SNR=5.8							
BOSA	Boshof	121.22	217	PKP	PKPdf	22 55 33.7	-0.1	
	comp=Z,3.6nm,1.1s,baz=68,slow=2.1,SNR=7.3							
ARCES	ARCESS Array B	124.62	345	PKP	PKPdf	22 55 37.5	-1.3	
	comp=Z,8.4nm,0.9s,baz=84,slow=3.2,SNR=7.9							
BDFB	Brasilia	130.00	131	PKP	PKPdf	22 55 49.4	-1.4	
	comp=Z,2.0nm,0.7s,baz=339,slow=14,SNR=4.5							
FINES	FINESS Array B	130.12	338	SKPbc	SKPab	22 58 55.2	-0.4	
	baz=84,slow=4.3,SNR=11							
CLL	Collm	142.45	335	ePKPdf	PKPdf	22 56 13.0	+0.4	
CLL				ex	x	22 56 21.0		
RONA	Rosalia, Austr	143.61	328	iP	PKPdf	22 56 14.2	-0.7	
	comp=Z,7.8nm,1.0s							
GERES	GERESS Array B	144.02	332	PKP	PKPab	22 56 13.6	+0.1	
	comp=Z,1.0nm,0.6s,baz=31,slow=3.1,SNR=7.3							
GERES				pPKP	pPKPdf	22 56 59.7	-2.5	
	comp=Z,0.9nm,0.8s,baz=75,slow=5.2,SNR=2.0							
GERES				SKPbc	SKPbc	22 59 37.2	-0.5	
	baz=15,slow=1.5,SNR=4.1							
ARSA	Arzberg	144.30	329	iP	PKPab	22 56 14.6	+0.1	
	comp=Z,1.5nm,0.6s							
MOA	Molln	144.49	330	eP	PKPbc	22 56 15.5	+0.1	
	comp=Z,3.6nm,0.5s,SNR=8.3							
BIOA	Bad Ischl, Aus	144.90	331	iP	PKPbc	22 56 16.2	-0.5	
	comp=Z,1.1nm,0.5s							
SOKA	Soboth	144.94	328	eP	PKPbc	22 56 16.6	-0.4	
	comp=Z,4.5nm,0.5s,SNR=12							
MYKA	Terra Mystica	145.66	329	iP	PKPdf	22 56 18.9	+0.4	
	comp=Z,2.2nm,0.4s							
WATA	Walderalm	146.10	332	iP	PKPdf	22 56 19.9	+0.6	
	comp=Z,1.4nm,0.4s							
ABTA	Abfaltersbach	146.11	330	iP	PKPdf	22 56 19.3	+0.1	
	comp=Z,2.1nm,0.5s							
WTTA	Wattenberg	146.12	332	iP	PKPbc	22 56 20.3	-0.4	
	comp=Z,2.4nm,0.9s							
MOTA	Moosalm	146.30	333	eP	PKPbc	22 56 20.7	-0.5	
	comp=Z,4.9nm,0.8s,SNR=5.2							
RETA	Reutte	146.34	333	iP	PKPbc	22 56 20.7	-0.5	
	comp=Z,1.4nm,0.5s							
SQTA	Sankt Quirin	146.35	332	iP	PKPbc	22 56 20.9	-0.4	
	comp=Z,3.2nm,0.5s							
FETA	Feichten	146.71	332	eP	PKPbc	22 56 21.9	-0.4	
	comp=Z,2.2nm,0.5s,SNR=7.3							

*IDC **27** 22:38:28.0±1.5, 12°.11N×88°.59W, h0km, mb4.1/8, mbtmp4.1/12, ML3.1/4, MS4.5/9, Error ellipse: s-maj=43.9km s-min=15.7km az=32.0*
*SNET **27** 22:38:29.2±1.1, 11°.89N×88°.70W, h17km, ML4.4*
*UCR **27** 22:38:30.3±2.1, 11°.85N×88°.68W, h37km±999km*
*INET **27** 22:38:30.8±0.8, 11°.91N×88°.70W, h15km±10km, MW4.8*
*NEIC **27** 22:38:31.6±1.9, 12°.01N±0°.08×88°.65W±0°.04, h22km±8km, mb4.5/43, Md4.4(SNET), Error ellipse: s-maj=12.2km s-min=5.2km az=192.0*

ISC 27 22:38:32.2±0.6, 11°.97N±0°.05×88°.68W±0°.05, h33km, n130, σ0°.88/126, mb4.4/27, MS4.5/9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	1.35	5	eP		Pn	22 38 54.8	0.0
ALJI				eS		Sn	22 39 13.9	+2.3
ALJI	Alcalda de J	1.35	5	eP		Pn	22 38 54.8	0.0
ALJI				eS		Sn	22 39 13.9	+2.3
COEB	Comit de Eme	1.53	6	eP		Pn	22 38 57.1	-0.2
COEB	Comit de Eme	1.53	6	eP		Pn	22 38 57.1	-0.2
PACA	Pacayal	1.53	13	eP		Pn	22 38 57.1	-0.2
PACA	Pacayal	1.53	13	eP		Pn	22 38 57.1	-0.2
PACA	Pacayal	1.53	13	eP		Pn	22 38 57.8	+0.4
COEG	Centro de Oper	1.65	353	eS		Sn	22 39 20.1	+1.0
COEG	Centro de Oper	1.65	353	eS		Sn	22 39 20.1	+1.0
LFRS	El Faro	1.69	347	eP		Pn	22 38 58.6	-0.8
LFRS	El Faro	1.69	347	eP		Pn	22 38 58.6	-0.8
CRIN	San Cristobal	1.75	65	Pn		Pn	22 39 00.1	-0.2
CRIN				Sn		Sn	22 39 22.2	+0.6
CRIN	San Cristobal	1.75	65	eP		Pn	22 39 00.2	-0.1
SNET	Serv Nac Est T	1.79	343	Pn		Pn	22 39 00.2	-0.6
JAYA	Jayaque - finc	1.84	336	eP		Pn	22 39 00.8	-0.7
JAYA	Jayaque - finc	1.84	336	eP		Pn	22 39 00.8	-0.7
BOQS	Boqueron	1.85	342	eP		Pn	22 39 01.6	-0.2
BOQS	Boqueron	1.85	342	eP		Pn	22 39 01.6	-0.2
P5NO	Presa 5 de nov	2.01	358	eS		Sn	22 39 29.6	+1.8
CNGN	Cerro Negro	2.01	75			Pn	22 39 02.8	-1.0
CNGN	Cerro Negro	2.01	75	eP		Pn	22 39 02.9	-1.0
CNGN				eS		Sn	22 39 29.2	+1.3
MOMN	Momotombo	2.14	78	eP		Pn	22 39 04.9	-0.7
MGAN	Managua	2.39	85	eP		Pn	22 39 08.4	-0.6
HUEN		2.48	81	eP		Pn	22 39 10.0	-0.2
TGUH	Tegucigalpa,Un	2.49	33			Pn	22 39 10.8	+0.2
MTO3	Montecristo	2.50	345	eP		Pn	22 39 11.1	+0.2
MATN	Matagalpa	2.86	70	eP		Pn	22 39 13.9	-1.6
MATN				eS		Sn	22 39 49.4	+0.5
BOAB	BOACO BROADBAN	2.99	80			Pn	22 39 16.5	-0.7
CONN	Concepcion	3.02	97	eP		Pn

TX32	**Lajitas Array**	**22.21**	**323**	P		**P**		**22 43 26.2**	**+0.2**
TXAR	**Lajitas Array**	**22.21**	**323**	P		**P**		**22 43 26.3**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=151,slow=12,SNR=11								
	comp=Z,1.3nm,0.7s								
MIAR	**Mount Ida**	**22.91**	**350**	P		**P**		**22 43 32.8**	**-0.5**
MIAR				IAmb		IAmb		22 43 46.5	
	comp=Z,14nm,1.0s								
HODGE	**Hodges**	**22.92**	**14**	P		**P**		**22 43 32.4**	**-1.0**
UALR	**University of**	**22.95**	**352**	P		**P**		**22 43 33.2**	**-0.4**
UALR				IAmb		IAmb		22 43 46.5	
	comp=Z,17nm,0.9s								
WHAR	**Wooly Hollow**	**23.45**	**353**	P		**P**		**22 43 39.2**	**+0.5**
BG3	**Lake Jocassee**	**23.51**	**12**	P		**P**		**22 43 38.6**	**-0.7**
PCRV	**Puerto La Cruz**	**23.66**	**92**	P		**P**		**22 43 42.4**	**+1.4**
	comp=Z,7.5nm,0.7s,baz=195,slow=5.2,SNR=5.0								
	comp=Z,7.5nm,0.7s								
BIRD	**Birdtown, Kers**	**23.78**	**17**	P		**P**		**22 43 41.7**	**-0.2**
BIRD				IAmb		IAmb		22 43 53.6	
	comp=Z,11nm,0.9s								
TKL	**Tuckaleechee C**	**24.00**	**10**	P		**P**		**22 43 43.4**	**-0.5**
	comp=Z,9.8nm,0.8s,baz=190,slow=12,SNR=10								
	comp=Z,9.8nm,0.8s								
TKL	**Tuckaleechee C**	**24.00**	**10**	P		**P**		**22 43 43.4**	**-0.5**
TKL				IAmb		IAmb		22 43 55.4	
	comp=Z,16nm,0.8s								
KMSC	**Kings Mountain**	**24.02**	**15**	P		**P**		**22 43 43.4**	**-0.6**
KMSC				IAmb		IAmb		22 43 55.9	
	comp=Z,14nm,0.9s								
FCAR	**Ozark Folk Cen**	**24.02**	**353**	P		**P**		**22 43 43.2**	**-0.8**
FCAR				IAmb		IAmb		22 43 47.7	
	comp=Z,19nm,0.8s								
WMOK	**Wichita Mounta**	**24.46**	**340**	P		**P**		**22 43 47.3**	**-0.9**
FNO	**Franklin**	**24.50**	**343**	P		**P**		**22 43 47.9**	**-0.6**
U49A	**Red Boiling Sp**	**24.58**	**6**	P		**P**		**22 43 48.0**	**-1.2**
U49A				IAmb		IAmb		22 43 59.7	
	comp=Z,16nm,1.3s								
HHAR	**Hobbs**	**24.67**	**350**	P		**P**		**22 43 49.2**	**-0.8**
HHAR				IAmb		IAmb		22 43 54.1	
	comp=Z,9.1nm,0.7s								
U38A	**Gravette**	**24.90**	**349**	P		**P**		**22 43 52.6**	**+0.5**
U38A				IAmb		IAmb		22 43 56.7	
	comp=Z,9.8nm,0.8s								
T47A	**Sharon Grove**	**24.95**	**3**	P		**P**		**22 43 51.5**	**-1.1**
V58A	**Windy Hill, Pi**	**25.25**	**18**	P		**P**		**22 43 55.8**	**+0.5**
V58A				IAmb		IAmb		22 44 05.9	
	comp=Z,11nm,0.9s								
MGMO	**Mountain Grove**	**25.29**	**353**	P		**P**		**22 43 57.0**	**+1.4**
MGMO				IAmb		IAmb		22 44 10.7	
	comp=Z,9.2nm,0.9s								
S44A	**Carbondale**	**25.62**	**359**	P		**P**		**22 43 59.9**	**+1.3**
S44A				IAmb		IAmb		22 44 04.9	
	comp=Z,8.6nm,0.8s								
AMTX	**Amarillo**	**25.69**	**335**	P		**P**		**22 43 59.5**	**+0.1**
AMTX				IAmb		IAmb		22 44 11.0	
	comp=Z,12nm,0.8s								
S39A	**Bolivar**	**25.95**	**352**	P		**P**		**22 44 02.2**	**+0.6**
CCM	**Cathedral Cave**	**26.08**	**355**	P		**P**		**22 44 02.1**	**-0.6**
CCM				IAmb		IAmb		22 44 05.5	
	comp=Z,15nm,0.8s								
WCI	**Wyandotte Cave**	**26.24**	**4**	P		**P**		**22 44 04.9**	**+0.7**
WCI				IAmb		IAmb		22 44 06.4	
	comp=Z,10nm,0.7s								
R40A	**Maddies Statio**	**26.41**	**354**	P		**P**		**22 44 06.3**	**+0.6**
Q51A	**Peebles**	**27.36**	**9**	P		**P**		**22 44 15.4**	**+1.1**
Q51A				IAmb		IAmb		22 44 25.0	
	comp=Z,13nm,0.9s								
P40A	**Paris**	**27.61**	**354**	P		**P**		**22 44 17.5**	**+0.9**
P40A				IAmb		IAmb		22 44 19.0	
	comp=Z,9.6nm,0.8s								
ETMB	**Extrema**	**31.10**	**133**	P		**P**		**22 44 47.8**	**+0.1**
ETMB				IAmb		IAmb		22 44 56.3	
	comp=Z,12nm,0.7s								
MVU	**Marysvale**	**33.73**	**326**	P		**P**		**22 45 11.5**	**+0.6**
NVAR	**Mina Array Bea**	**37.28**	**320**	P		**P**		**22 45 42.9**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=140,slow=7.8,SNR=5.3								
	comp=Z,0.9nm,0.5s								
VILB	**Vilhena**	**37.57**	**130**	P		**P**		**22 45 42.1**	**-1.7**
VILB				IAmb		IAmb		22 45 43.5	
	comp=Z,9.1nm,0.8s								
ULM	**Lac du Bonnet**	**38.63**	**353**	LR		LR		23 02 10.1	
	comp=Z,478nm,20.3s,baz=168,slow=37								
SCHQ	**Schefferville**	**46.09**	**17**	P		**P**		**22 46 51.3**	**-1.6**
	comp=Z,5.0nm,0.7s,baz=238,slow=9.6,SNR=5.5								
	comp=Z,5.0nm,0.7s								
FRB	**Frobisher Bay**	**53.62**	**11**	LR		LR		23 12 24.7	
	comp=Z,510nm,22.0s,baz=201,slow=38								
YKA	**Yellowknife Ar**	**53.77**	**345**	P		**P**		**22 47 50.3**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=138,slow=8.0,SNR=6.6								
	comp=Z,3.0nm,0.9s								
RES	**Resolute Bay**	**62.80**	**358**	LR		LR		23 16 17.5	
	comp=Z,634nm,18.5s,baz=200,slow=36								
ILAR	**Eielson Array**	**65.98**	**336**	P		**P**		**22 49 14.9**	**0.0**
	comp=Z,1.1nm,1.0s,baz=149,slow=3.7,SNR=7.1								
	comp=Z,1.1nm,1.0s								
EKA	**Eskdalemuir Ar**	**77.72**	**36**	LR		LR		23 23 52.2	
	comp=Z,235nm,18.1s,baz=247,slow=35								
ESDC	**Sonseca Array**	**78.43**	**52**	P		**P**		**22 50 30.0**	**0.0**
	comp=Z,1.2nm,0.9s,baz=275,slow=6.3,SNR=6.0								
	comp=Z,1.2nm,0.9s								
SPITS	**Spitsbergen Ar**	**81.42**	**12**	LR		LR		23 27 47.3	
	comp=Z,692nm,21.5s,baz=273,slow=36								
NOA	**NORSAR Array B**	**84.37**	**29**	LR		LR		23 28 16.0	
	comp=Z,103nm,19.7s,baz=240,slow=36								
DAVOX	**Davos/Dischmat**	**87.16**	**43**	LR		LR		23 25 23.7	
	comp=Z,280nm,20.9s,baz=252,slow=32								
VRAC	**Vranov**	**90.74**	**39**	LR		LR		23 28 53.9	
	comp=Z,113nm,19.5s,baz=290,slow=33								
MLR	**Muntele Rosu**	**98.07**	**40**	LR		LR		23 33 18.6	
	comp=Z,332nm,20.9s,baz=58,slow=34								
ASAR	**Alice Springs**	**137.97**	**248**	PKP		**PKPdf**		**22 57 53.6**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=116,slow=2.2,SNR=4.9								
WRA	**Warramunga Ar**	**137.98**	**254**	PKP		**PKPdf**		**22 57 53.6**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=100,slow=1.8,SNR=7.3								
CMAR	**Chiang Mai Arr**	**148.85**	**346**	PKPbc		**PKPbc**		**22 58 17.2**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=339,slow=3.1,SNR=13								

WEL 27 22:58:21.3±0.4, 42°S±3°×17°3E±°, h6km±3km, M3.8/31, ML4.2/12, MLv3.8/31, Error ellipse: s-maj=0.0km s-min=0.0km az=136.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.07**	**124**	P	Pg	22 58 23.4	+0.3
KHZ				S	Sg	22 58 25.3	+1.0
GVZ	**Greta Valley S**	**0.67**	**208**	P	Pb	22 58 35.3	-0.1
GVZ				S	Sb	22 58 46.3	+1.4
BSWZ	**Blackbirch Sta**	**0.73**	**25**	P	Pg	22 58 34.7	-0.6
BSWZ				S	Sb	22 58 46.3	-0.3
THZ	**Tophouse**	**0.74**	**326**	P	Pg	22 58 35.9	+0.4
CMWZ	**Cape Campbell**	**0.84**	**42**	P	Pb	22 58 38.1	-0.2
LTZ	**Lake Taylor**	**0.96**	**245**	P	Pg	22 58 39.7	-0.1
AMCZ	**Amberley**	**1.00**	**216**	P	Pb	22 58 40.7	-0.2
TUWZ	**Tuamarina**	**1.01**	**21**	P	Pg	22 58 40.0	-0.7
TUWZ				S	Sb	22 58 54.9	+0.2
MRNZ	**Matariki Terra**	**1.11**	**332**	P	Pg	22 58 42.6	+0.1
NNZ	**Nelson**	**1.16**	**357**	P	Pg	22 58 42.8	-0.7
TCW	**Tory Channel**	**1.32**	**28**	P	Pn	22 58 44.3	-1.9
OKCZ	**Okains Bay**	**1.38**	**192**	P	Pn	22 58 44.8	-2.3
DSZ	**Denniston Nort**	**1.38**	**297**	P	Pn	22 58 46.8	-0.3
TKNZ	**Takaka Hill**	**1.39**	**344**	P	Pn	22 58 47.0	-0.3
MQZ	**McQueen's Vall**	**1.45**	**204**	P	Pn	22 58 45.2	-2.9
WEL	**Wellington**	**1.47**	**42**	P	Pn	22 58 46.1	-2.1
INZ	**Inchbonnie**	**1.53**	**256**	P	Pn	22 58 48.6	-0.5
AKCZ	**Akaroa Harbour**	**1.55**	**195**	P	Pn	22 58 46.8	-2.6
PLWZ	**Palliser**	**1.56**	**60**	P	Pn	22 58 46.4	-3.2
DUWZ	**D'Urville Isla**	**1.61**	**13**	P	Pn	22 58 49.5	-0.7
MSWZ	**Moikau Station**	**1.65**	**55**	P	Pn	22 58 47.7	-3.1
RACZ	**Rakaia**	**1.66**	**215**	P	Pn	22 58 48.5	-2.4
QRZ	**Quartz Range**	**1.70**	**335**	P	Pn	22 58 51.7	+0.3
CAW	**Cannon Point**	**1.75**	**44**	P	Pn	22 58 49.7	-2.4
PAWZ	**Paruwai Farm**	**1.77**	**57**	P	Pn	22 58 48.9	-3.6
MHCZ	**Mount Hutt**	**1.81**	**230**	P	Pn	22 58 50.8	-2.2
KIW	**Kapiti Island**	**1.86**	**36**	P	Pn	22 58 52.0	-1.8
MTW	**Mount Morrison**	**1.95**	**52**	P	Pn	22 58 51.8	-3.2
WACZ	**Wakanui South**	**1.96**	**217**	P	Pn	22 58 52.8	-2.2
OGWZ	**Otaki Gorge**	**2.02**	**40**	P	Pn	22 58 53.3	-2.5
WVZ	**Waitaha Valley**	**2.12**	**250**	P	Pn	22 58 56.9	-0.3
RPZ	**Rata Peaks**	**2.21**	**232**	P	Pn	22 58 56.6	-1.9
ARCZ	**Arundel**	**2.29**	**226**	P	Pn	22 58 57.4	-2.3
MRZ	**Mangatainoka R**	**2.34**	**44**	P	Pn	22 58 57.4	-2.8
GCSZ	**Gaunt Creek Bo**	**2.49**	**247**	P	Pn	22 59 02.2	-0.1
TMZ	**Timaru**	**2.69**	**221**	P	Pn	22 59 02.8	-2.3
FOZ	**Fox Glacier**	**2.91**	**245**	P	Pn	22 59 08.2	+0.1
LBZ	**Lake Benmore**	**3.12**	**229**	P	Pn	22 59 09.2	-1.8
ODZ	**Otahua Downs**	**3.36**	**216**	P	Pn	22 59 11.6	-2.7
JCZ	**Jackson Bay**	**3.81**	**242**	P	Pn	22 59 20.4	-0.1
EAZ	**Earnscleugh**	**4.14**	**225**	P	Pn	22 59 23.0	-2.0

BUC 27 23:25:33.9±0.3, 45.62N×26.53E, h140km±2km, ml3.5/33, 98C-46D, Error ellipse: s-maj=1.8km s-min=1.5km az=147.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.15**	**121**	↑P	Pn	23 25 53.6	+0.6
BISRR	**Bisoca**	**0.15**	**121**	↑P	Pn	23 25 53.6	+0.6
PLOR	**Plostina**	**0.24**	**20**	↑P	Pn	23 25 53.5	+0.3
PLOR				↓S	Sn	23 26 08.5	+0.7
PLOR	**Plostina**	**0.24**	**20**	↑P	Pn	23 25 53.5	+0.3
PLOR				↓S	Sn	23 26 08.5	+0.7
NEHR	**Nehoiu**	**0.26**	**220**	↓P	Pn	23 25 53.6	+0.4
NEHR				↓S	Sn	23 26 08.8	+1.0
NEHR	**Nehoiu**	**0.26**	**220**	↓P	Pn	23 25 53.6	+0.4
NEHR				↓S	Sn	23 26 08.8	+1.0
VRI	**Vrincioaia**	**0.28**	**30**	↑P	Pn	23 25 53.4	+0.2
VRI				↑S	Sn	23 26 08.1	+0.1
VRI	**Vrincioaia**	**0.28**	**30**	↑P	Pn	23 25 53.4	+0.2
VRI				↑S	Sn	23 26 08.1	+0.1
COVR	**Voineasa-Covas**	**0.32**	**314**	↑P	Pn	23 25 53.2	-0.2
COVR				↑S	Sn	23 26 07.8	-0.5
COVR	**Voineasa-Covas**	**0.32**	**314**	↑P	Pn	23 25 53.2	-0.2
COVR				↑S	Sn	23 26 07.8	-0.5
MLR	**Muntele Rosu**	**0.43**	**252**	↑P	Pn	23 25 53.9	-0.1
MLR				↑S	Sn	23 26 10.2	+1.0
MLR	**Muntele Rosu**	**0.43**	**252**	↑P	Pn	23 25 53.9	-0.1
MLR				↑S	Sn	23 26 10.2	+1.0
PANC	**Panciu**	**0.50**	**60**	↓P	Pn	23 25 54.9	+0.8
PANC				↓S	Sn	23 26 10.5	+1.0
PANC	**Panciu**	**0.50**	**60**	↓P	Pn	23 25 54.9	+0.8
PANC				↓S	Sn	23 26 10.5	+1.0
ISR	**Istrita**	**0.50**	**179**	↑S	Sn	23 26 09.8	+0.1
ISR	**Istrita**	**0.50**	**179**	↑S	Sn	23 26 09.8	+0.1
SECR		**0.67**	**209**	↑S	Sn	23 26 12.3	+1.0
SECR		**0.67**	**209**	↑S	Sn	23 26 12.3	+1.0
OZUR		**0.70**	**313**	↑P	Pn	23 25 54.9	-0.6
OZUR		**0.70**	**313**	↑P	Pn	23 25 54.9	-0.6
GHRR		**0.75**	**54**	↓P	Pn	23 25 56.5	+0.8
GHRR				↓S	Sn	23 26 13.5	+1.1
GHRR		**0.75**	**54**	↓P	Pn	23 25 56.5	+0.8
GHRR				↓S	Sn	23 26 13.5	+1.1
PLAR	**PLOIESTI**	**0.79**	**207**	↑P	Pn	23 25 56.6	+0.6
PLAR				↑S	Sn	23 26 14.2	+1.4
PLAR	**PLOIESTI**	**0.79**	**207**	↑P	Pn	23 25 56.6	+0.6
PLAR				↑S	Sn	23 26 14.2	+1.4
TUDR		**0.80**	**92**	↑P	Pn	23 25 56.8	+0.7
TUDR				↑S	Sn	23 26 13.5	+0.7
TUDR		**0.80**	**92**	↑P	Pn	23 25 56.8	+0.7
TUDR				↑S	Sn	23 26 13.5	+0.7
DOPR	**Dopca**	**0.87**	**294**	↑P	Pn	23 25 55.9	-0.7
DOPR				↑S	Sn	23 26 13.4	-0.6
DOPR	**Dopca**	**0.87**	**294**	↑P	Pn	23 25 55.9	-0.7
DOPR				↑S	Sn	23 26 13.4	-0.6
SLCR	**Slobozia Conac**	**0.87**	**92**	↓S	Sn	23 26 14.3	+0.4
SLCR	**Slobozia Conac**	**0.87**	**92**	↓S	Sn	23 26 14.3	+0.4
IZVR	**Izvoarele**	**0.87**	**95**	↑P	Pn	23 25 57.2	+0.5
IZVR				↓S	Sn	23 26 13.6	-0.2
IZVR	**Izvoarele**	**0.87**	**95**	↑P	Pn	23 25 57.2	+0.5
IZVR				↓S	Sn	23 26 13.6	-0.2
TESR	**Tescani**	**0.89**	**5**	↑P	Pn	23 25 56.5	-0.4
TESR	**Tescani**	**0.89**	**5**	↑P	Pn	23 25 56.5	-0.4
SCHL	**Schela**	**0.92**	**97**	↓S	Sn	23 26 14.9	+0.3
SCHL	**Schela**	**0.92**	**97**	↓S	Sn	23 26 14.9	+0.3
SULR		**0.96**	**192**	↑P	Pn	23 25 57.8	+0.3
SULR				↑S	Sn	23 26 16.5	+1.2
SULR		**0.96**	**192**	↑P	Pn	23 25 57.8	+0.3
SULR				↑S	Sn	23 26 16.5	+1.2
VARL	**Varlezi**	**0.96**	**73**	↑P	Pn	23 25 57.9	+0.5
VARL				↑S	Sn	23 26 15.7	+0.4
VARL	**Varlezi**	**0.96**	**73**	↑P	Pn	23 25 57.9	+0.5
VARL				↑S	Sn	23 26 15.7	+0.4
BIR	**Birlad**	**1.00**	**50**	↑P	Pn	23 25 57.9	+0.2
BIR				↓S	Sn	23 26 16.0	+0.1
BIR	**Birlad**	**1.00**	**50**	↑P	Pn	23 25 57.9	+0.2
BIR				↓S	Sn	23 26 16.0	+0.1
SCTR	**Scanteiesti**	**1.03**	**87**	↑S	Sn	23 26 16.8	+0.5
SCTR	**Scanteiesti**	**1.03**	**87**	↑S	Sn	23 26 16.8	+0.5
VOIR		**1.06**	**260**	↑P	Pn	23 25 58.1	-0.3
VOIR		**1.06**	**260**	↑P	Pn	23 25 58.1	-0.3
TATR	**Tatarca**	**1.07**	**91**	↓P	Pn	23 25 58.9	+0.6
TATR				↑S	Sn	23 26 17.5	+0.6
TATR	**Tatarca**	**1.07**	**91**	↓P	Pn	23 25 58.9	+0.6
TATR				↑S	Sn	23 26 17.5	+0.6
VLDR	**Vladesti**	**1.11**	**78**	↑P	Pn	23 25 59.3	+0.6
VLDR				↑S	Sn	23 26 18.0	+0.4
VLDR	**Vladesti**	**1.11**	**78**	↑P	Pn	23 25 59.3	+0.6
VLDR				↑S	Sn	23 26 18.0	+0.4
AMRR	**Amara**	**1.16**	**150**	↓S	Sn	23 26 18.5	0.0
AMRR	**Amara**	**1.16**	**150**	↓S	Sn	23 26 18.5	0.0
LEHL	**Lehliu**	**1.17**	**170**	↓P	Pn	23 25 59.8	+0.5
LEHL				↓S	Sn	23 26 19.2	+0.6
LEHL	**Lehliu**	**1.17**	**170**	↓P	Pn	23 25 59.8	+0.5
LEHL				↓S	Sn	23 26 19.2	+0.6
CFR	**Carcaliu**	**1.22**	**111**	↓P	Pn	23 25 59.8	+0.1
CFR				↓S	Sn	23 26 19.3	-0.1
CFR	**Carcaliu**	**1.22**	**111**	↓P	Pn	23 25 59.8	+0.1
CFR				↓S	Sn	23 26 19.3	-0.1
BUC1	**Bucharest**	**1.32**	**196**	↑S	Sn	23 26 20.9	-0.5
BUC1	**Bucharest**	**1.32**	**196**	↑S	Sn	23 26 20.9	-0.5
GIRR	**Girov**	**1.33**	**359**	↑P	Pn	23 26 01.2	+0.2
GIRR	**Girov**	**1.33**	**359**	↑P	Pn	23 26 01.2	+0.2
STFAR	**Stefanesti-Arg**	**1.34**	**236**	↑S	Sn	23 26 22.5	+0.6
STFAR	**Stefanesti-Arg**	**1.34**	**236**	↑S	Sn	23 26 22.5	+0.6
VASR	**Vaslui**	**1.34**	**40**	↑P	Pn	23 26 01.2	+0.2
VASR				↑S	Sn	23 26 21.2	-0.6
VASR	**Vaslui**	**1.34**	**40**	↑P	Pn	23 26 01.2	+0.2
VASR				↑S	Sn	23 26 21.2	-0.6
ARR	**Arges**	**1.36**	**260**	↑P	Pn	23 26 01.1	-0.2
ARR	**Arges**	**1.36**	**260**	↑P	Pn	23 26 01.1	-0.2
HARR	**Harsova**	**1.36**	**133**	↑P	Pn	23 26 01.5	+0.3
HARR	**Harsova**	**1.36**	**133**	↑P	Pn	23 26 01.5	+0.3
SGRR	**Singureni**	**1.46**	**196**	↑S	Sn	23 26 23.5	-0.3
SGRR	**Singureni**	**1.46**	**196**	↑S	Sn	23 26 23.5	-0.3
LEOM	**Leova**	**1.47**	**54**	↑P	Pn	23 26 02.7	+0.4
LEOM				↑S	Sn	23 26 24.3	+0.3
LEOM	**Leova**	**1.47**	**54**	↑P	Pn	23 26 02.7	+0.4
LEOM				↑S	Sn	23 26 24.3	+0.3
TLBR	**Topalu**	**1.52**	**135**	↓P	Pn	23 26 03.3	+0.3
TLBR				↑S	Sn	23 26 24.9	-0.3
TLBR	**Topalu**	**1.52**	**135**	↓P	Pn	23 26 03.3	+0.3
TLBR				↑S	Sn	23 26 24.9	-0.3
TPGR	**Topolog**	**1.54**	**119**	↓P	Pn	23 26 03.2	0.0
TPGR				↑S	Sn	23 26 25.2	-0.4
TPGR	**Topolog**	**1.54**	**119**	↓P	Pn	23 26 03.2	0.0
TPGR				↑S	Sn	23 26 25.2	-0.4
HUMR	**Humele**	**1.55**	**226**	↓P	Pn	23 26 03.2	-0.1
HUMR	**Humele**	**1.55**	**226**	↓P	Pn	23 26 03.2	-0.1
ICOR	**Ion Corvin**	**1.76**	**149**	↑P	Pn	23 26 06.3	+0.7
ICOR				↑S	Sn	23 26 29.8	0.0
ICOR	**Ion Corvin**	**1.76**	**149**	↑P	Pn	23 26 06.3	+0.7
ICOR				↑S	Sn	23 26 29.8	0.0
TIRR	**Tirgusor**	**1.77**	**130**	↓P	Pn	23 26 06.0	+0.2
TIRR				↑S	Sn	23 26 29.8	-0.3
TIRR	**Tirgusor**	**1.77**	**130**	↓P	Pn	23 26 06.0	+0.2
TIRR				↑S	Sn	23 26 29.8	-0.3
MFTR	**Murfatlar**	**1.97**	**136**	↓P	Pn	23 26 08.4	+0.2
MFTR	**Murfatlar**	**1.97**	**136**	↓P	Pn	23 26 08.4	+0.2
MILM	**Milestii Mici**	**2.05**	**50**	↓P	Pn	23 26 09.0	0.0
MILM	**Milestii Mici**	**2.05**	**50**	↓P	Pn	23 26 09.0	0.0
BURAR	**Bucovina Array**	**2.19**	**336**	↑P	Pn	23 26 11.2	+0.4
BURAR	**Bucovina Array**	**2.19**	**336**	↑P	Pn	23 26 11.2	+0.4
PURM	**Purcari**	**2.50**	**68**	↓P	Pn	23 26 14.7	+0.2
PURM				↓S	Sn	23 26 45.6	-0.1
PURM	**Purcari**	**2.50**	**68**	↓P	Pn	23 26 14.7	+0.2
PURM				↓S	Sn	23 26 45.6	-0.1
GZR	**Gura Zlata**	**2.65**	**266**	↓P	Pn	23 26 15.8	-0.6
GZR	**Gura Zlata**	**2.65**	**266**	↓P	Pn	23 26 15.8	-0.6
SORM	**Soroca**	**2.81**	**26**	↑P	Pn	23 26 17.9	-0.5
SORM	**Soroca**	**2.81**	**26**	↑P	Pn	23 26 17.9	-0.5

NOU 27 23:26:13.7, 37.22S×179.25E, h0km, MLv4.3/7, Off E. Coast of N. Island, N.Z.

WEL 27 23:26:18.3±0.9, 37°S±6°×17°9E±°, h12km, M4.0/30, ML4.4/22, MLv4.0/30, Error ellipse: s-maj=0.0km s-min=0.0km az=121.2

ISC 27 23:26:17.8±2.8, 37.35S±0.08×179.1E±0.1, h24km±15km, n83, σ1.5 10/88, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.62**	**250**	P	Pb	**23 26 29.5**	**-0.6**
MXZ	**Matakaoa Point**	**0.62**	**250**	P	Pb	**23 26 29.7**	**-0.3**
MXZ				S	Sb	**23 26 37.0**	**-1.4**
WMGZ	**Waiomatatini S**	**0.69**	**227**	P	Pb	**23 26 32.6**	**+1.5**
WMGZ				S	Sn	**23 26 42.2**	**+0.3**
PKGZ	**Pakihiroa**	**0.94**	**235**	P	Pn	**23 26 35.8**	**+0.2**
PKGZ				S	Sn	**23 26 47.6**	**-0.7**
PUZ	**Puketiti**	**0.95**	**221**	P	Pb	**23 26 36.4**	**+0.8**
PUZ				S	Sb	**23 26 49.0**	**+1.2**
HAZ	**Te Kaha**	**1.08**	**248**	P	Pn	**23 26 37.1**	**-0.3**
HAZ				S	Sn	**23 26 51.3**	**-0.4**
TWGZ	**Tauwhareparae**	**1.18**	**225**	P	Pb	**23 26 39.8**	**+0.3**
RUGZ	**Raukumara Rang**	**1.25**	**240**	P	Pn	**23 26 40.5**	**+0.7**
RUGZ				S	Sn	**23 26 56.1**	**+0.1**
CNGZ	**Carnagh Statio**	**1.31**	**210**	P	Pb	**23 26 42.4**	**+0.6**
TKGZ	**Te Karaka**	**1.44**	**221**	P	Pn	**23 26 42.9**	**+0.5**
WIZ	**White Island**	**1.49**	**263**	P	Pn	**23 26 43.6**	**+0.5**
MWZ	**Matawai**	**1.55**	**230**	P	Pn	**23 26 44.4**	**+0.4**
RIGZ	**Rimuhau**	**1.69**	**216**	P	Pn	**23 26 46.4**	**+0.5**
WHRZ	**Whale Island**	**1.72**	**252**	P	Pn	**23 26 46.8**	**+0.6**
RAGZ	**Rawiri**	**1.72**	**228**	P	Pn	**23 26 47.4**	**+1.1**
URZ	**Urewera**	**1.78**	**239**	P	Pn	**23 26 48.1**	**+1.0**
URZ	**Urewera**	**1.78**	**239**	P	Pn	**23 26 47.9**	**+0.9**
SNGZ	**Shannon Statio**	**1.96**	**223**	P	Pn	**23 26 49.7**	**+0.1**
EDRZ	**Edgecumbe**	**1.98**	**247**	P	Pn	**23 26 50.6**	**+0.8**
MARZ	**Manawahe**	**1.98**	**251**	P	Pn	**23 26 51.5**	**+1.5**
KNZ	**Kokohu**	**1.99**	**213**	P	Pn	**23 26 49.7**	**-0.2**
MHGZ	**Mahia Peninsul**	**2.01**	**206**	P	Pn	**23 26 50.8**	**+0.6**
OPRZ	**Ohinepanea**	**2.04**	**255**	P	Pn	**23 26 50.8**	**+0.2**
RTZ	**Ruatahuna**	**2.06**	**232**	P	Pn	**23 26 51.9**	**+0.9**
MUGZ	**Murupara**	**2.12**	**237**	P	Pn	**23 26 52.3**	**+0.6**
TARZ	**Mount Tarawera**	**2.20**	**245**	P	Pn	**23 26 54.1**	**+1.2**
RAHZ	**Arahi**	**2.20**	**224**	P	Pn	**23 26 53.4**	**+0.5**
RRRZ	**Republican Roa**	**2.23**	**243**	P	Pn	**23 26 53.8**	**+0.5**
MYRZ	**Mayor Island**	**2.24**	**271**	P	Pn	**23 26 53.5**	**+0.2**
WHHZ	**Waihua**	**2.24**	**219**	P	Pn	**23 26 54.2**	**+0.8**
OMRZ	**Omania**	**2.25**	**250**	P	Pn	**23 26 54.7**	**+1.1**
**M

	44µm,0.4s										
GKN	**Gorkha**		**1.68**	**280**	*e*Pg	**Pg**	**23 35 53.1**	**0.0**
GKN					*e*Sg	**Sg**	**23 36 16.0**	**+1.1**
	54µm,0.3s										
GTK	**Tadong**		**1.90**	**101**	*e*P	**Pb**	**23 35 55.5**	**+0.2**
GTK					*e*S	**Sb**	**23 36 19.9**	**+0.9**
GTK					IAML		23 36 22.3	
	comp=E,41µm,0.3s										
GTK					IAML		23 36 22.3	
	comp=N,44µm,0.4s										
VLK	**Valmikinagar**		**2.38**	**261**	*e*P	**Pb**	**23 36 01.8**	**-1.4**
DANN	**Dangsing**		**2.51**	**285**	*e*Pn	**Pb**	**23 36 03.6**	**-2.1**
DANN	**Dangsing**		**2.51**	**285**	*e*Pg	**Pg**	**23 36 08.4**	**-0.5**
DANN					*e*Sg	**Sg**	**23 36 39.9**	**-1.6**
	comp=N,19µm,0.3s										
KOLN	**Koldanda**		**2.58**	**272**	*e*Pn	**Pb**	**23 36 04.9**	**-1.9**
KOLN	**Koldanda**		**2.58**	**272**	*e*Pg	**Pg**	**23 36 10.4**	**+0.2**
KOLN					*e*Sg	**Sg**	**23 36 42.8**	**-0.8**
	comp=N,23µm,0.3s										
KOLN					*e*Sg	**Sb**	**23 36 43.1**	**+4.7**
BOK	**Bokaro**		**3.94**	**188**	*e*P	**Pn**	**23 36 22.7**	**+1.9**
BOK					*e*S	**Sn**	**23 37 07.0**	**+0.2**
LSA	**Lhasa**		**4.54**	**63**	Pn	**Pn**	**23 36 31.4**	**+2.0**
LSA	**Lhasa**		**4.54**	**63**	Pn	**Pn**	**23 36 32.3**	**+2.9**
LSA					Pg	**Pb**	**23 36 39.0**	**-1.4**
LSA					Sn	**Sb**	**23 37 32.0**	**-3.1**
LSA					LR	LR		
	comp=N,16µm,12.8s										
LSA					LR	LR		
	comp=N,26µm,10.0s										
LSA					LR	LR		
	comp=N,37µm,15.7s										
LSA	**Lhasa**		**4.54**	**63**	*i* Pn	**Pn**	**23 36 32.5**	**+3.1**
	SNR=35										
LSA	**Lhasa**		**4.54**	**63**	P	**Pn**	**23 36 31.4**	**+2.0**
ALBI	**Allahabad**		**4.84**	**241**	*e*P	**Pn**	**23 36 33.9**	**+0.8**
ALBI					*e*S	**Sn**	**23 37 28.6**	**-0.3**
GUWA	**GUWAHATI**		**4.87**	**107**	*e*P	**Pn**	**23 36 35.5**	**+1.9**
GUWA					*e*S	**Sn**	**23 37 30.7**	**+1.0**
GUWA					IAML		23 37 35.0	
	comp=E,4µm,0.3s										
GUWA					IAML		23 37 36.2	
	comp=N,4µm,0.5s										
SHL	**Shillong**		**5.26**	**113**	Pn	**Pn**	**23 36 39.8**	**+0.6**
SHL	**Shillong**		**5.26**	**113**	*e*P	**Pn**	**23 36 39.8**	**+0.6**
SHL					*e*S	**Sn**	**23 37 38.5**	**-1.2**
SHL					IAML		23 37 42.0	
	comp=N,2µm,0.6s										
SHL	**Shillong**		**5.26**	**113**	P	**Pn**	**23 36 39.8**	**+0.6**
TEZP	**TEZPUR**		**5.71**	**100**	*e*P	**Pn**	**23 36 45.9**	**+0.8**
TEZP					*e*S	**Sn**	**23 37 49.8**	**-0.6**
LGTI	**Lohaghat**		**5.77**	**289**	*e*P	**Pn**	**23 36 49.9**	**+4.1**
LGTI					*e*P	Pb	23 36 54.8	-6.3
PTH	**Pithoragarh**		**5.82**	**290**	*e*P	**Pn**	**23 36 49.1**	**+2.2**
PTH					*e*S	**Sn**	**23 37 54.0**	**+0.6**
SILR	**SILCHAR**		**6.36**	**116**	*e*P	**Pn**	**23 36 57.5**	**+3.5**
SILR					IAML		23 38 19.0	
	comp=E,6µm,0.7s										
ITAN	**ITANAGAR**		**6.44**	**93**	*e*P	**Pn**	**23 36 56.9**	**+1.8**
ITAN					*e*S	**Sn**	**23 38 07.8**	**-0.6**
ITAN					IAML		23 38 14.0	
	comp=N,4µm,0.3s										
ZIRO	**ZIRO**		**6.52**	**90**	*e*P	**Pn**	**23 36 56.8**	**+0.5**
ZIRO					*e*S	**Sn**	**23 38 09.5**	**-1.1**
BLSP	**Bilaspur**		**6.83**	**216**	*e*P	**Pn**	**23 37 02.0**	**+1.5**
BLSP					*e*S	**Sn**	**23 38 17.3**	**-0.8**
BRDH	**Bariadhala**		**6.84**	**136**	Pn	**Pn**	**23 37 03.0**	**+2.5**
	comp=N,54nm,0.3s,baz=41,slow=5.7,SNR=48										
BRDH					Sn	**Sn**	**23 38 16.3**	**-1.9**
	comp=N,44nm,0.3s,baz=40,slow=22,SNR=1.5										
BRDH					LR	LR	23 39 49.1	
	comp=N,5µm,19.8s,baz=272,slow=39										
	comp=N,240nm,0.4s										
JORH	**JORHAT**		**6.96**	**96**	*e*P	**Pn**	**23 37 05.7**	**+3.3**
JORH					*e*S	**Sn**	**23 38 20.5**	**-0.8**
JORH					IAML		23 38 23.6	
	comp=E,4µm,0.8s										
KOHI	**KOHIMA**		**7.08**	**105**	*e*P	**Pn**	**23 37 04.8**	**+0.7**
KOHI					*e*S	**Sn**	**23 38 23.9**	**-0.5**
KOHI					IAML		23 38 28.6	
	comp=E,4µm,0.6s										
KOHI					IAML		23 38 30.2	
	comp=N,3µm,0.5s										
MOKO	**MOKOCHONG**		**7.28**	**99**	*e*P	**Pn**	**23 37 06.8**	**0.0**
MOKO					*e*S	**Sn**	**23 38 27.1**	**-2.2**
MOKO					IAML		23 38 33.8	
	comp=E,6µm,0.5s										
JBP	**Jabalpur**		**7.43**	**234**	*e*S	**Sn**	**23 38 32.4**	**-0.4**
JBP					*e*P	**Pn**	**23 37 08.5**	**-0.2**
JBP					⇓*e*P	**Pn**	**23 37 08.9**	**+0.2**
DDI	**Dehra Dun**		**7.84**	**291**	*e*P	**Pn**	**23 37 15.6**	**+1.2**
DDI					*e*S	**Sn**	**23 38 41.6**	**-1.4**
DDI					IAML		23 38 45.0	
	comp=N,6µm,0.6s										
SAIH	**SAIHA**		**7.84**	**130**	*e*P	**Pn**	**23 37 15.5**	**+1.0**
SAIH					*e*S	**Sn**	**23 38 43.0**	**-0.1**
SAIH					IAML		23 38 48.9	
	comp=E,3µm,0.7s										
NDI	**New Delhi**		**8.25**	**279**	*e*P	**Pn**	**23 37 21.7**	**+1.7**
NDI					*e*S	**Sn**	**23 38 47.3**	**-5.8**
LKP	**Lekhapani**		**8.30**	**90**	*e*P	**Pn**	**23 37 22.4**	**+1.7**
LKP					*e*S	**Sn**	**23 38 51.0**	**-3.3**
LKP					IAML		23 38 54.4	
	comp=N,85µm,0.4s										
SONA	**Sohna**		**8.35**	**276**	*e*P	**Pn**	**23 37 22.6**	**+1.3**
SONA					*e*S	**Sn**	**23 38 49.8**	**-5.6**
BHGR	**Bahadurgarh**		**8.50**	**279**	*e*S	**Sn**	**23 38 55.9**	**-3.1**
KKR	**Kurukshetra**		**8.78**	**287**	*e*P	**Pn**	**23 37 28.2**	**+0.9**
SMLA	**Simla**		**8.83**	**295**	*e*P	**Pn**	**23 37 27.3**	**-0.5**
SMLA					*e*S	**Sn**	**23 39 05.0**	**-2.0**
SMLA					IAML		23 39 10.2	
	comp=E,2µm,0.4s										
KUDL	**Kundal**		**8.87**	**275**	*e*P	**Pn**	**23 37 28.6**	**+0.2**
KUDL					*e*S	**Sn**	**23 39 03.3**	**-4.8**
BHPL	**Bhopal**		**9.33**	**244**	*e*P	**Pn**	**23 37 31.4**	**-3.4**
BHPL					*e*S	**Sn**	**23 39 11.1**	**-8.5**
BHPL					IAML		23 39 14.2	
	comp=N,1µm,0.4s										
KHET	**Khetri**		**9.47**	**275**	*e*P	**Pn**	**23 37 36.9**	**+0.1**
KHET					*e*S	**Sn**	**23 39 18.4**	**-4.6**
BHK	**Bhakra**		**9.53**	**295**	*e*P	**Pn**	**23 37 38.5**	**+1.0**
BHK					*e*S	**Sn**	**23 39 20.9**	**-3.5**
VIS	**Vishakhapatnam**		**10.36**	**197**	*e*P	**Pn**	**23 37 49.0**	**0.0**
VIS					*e*S	**Sn**	**23 39 37.5**	**-7.5**
MND	**Mandalay**		**10.40**	**121**	Pn	**Pn**	**23 37 48.6**	**-0.9**
MND	**Mandalay**		**10.40**	**121**	P	**Pn**	**23 37 50.8**	**+1.3**
AJM	**Ajmer**		**10.64**	**266**	*e*P	**Pn**	**23 37 51.9**	**-0.9**
AJM					*e*S	**Sn**	**23 39 43.3**	**-8.5**
GOMU	**GeErMu**		**11.01**	**38**	P	**Pn**	**23 38 01.0**	**+2.8**
GOMU					pP		23 38 04.8	
GOMU					sP		23 38 06.5	
GOMU					S	**Sn**	**23 40 07.0**	**+5.7**
GOMU					pmax	pmax		
	comp=N,23nm,0.7s										
GOMU					LR	LR		
	comp=N,7µm,10.6s										
GOMU					LR	LR		
	comp=N,7µm,12.2s										
TNCH	**TengChong**		**11.10**	**101**	⇓P	**Pn**	**23 38 00.5**	**+1.3**
TNCH					pP		23 38 02.8	
TNCH					S	**Sn**	**23 40 05.5**	**+2.3**
TNCH					sS		23 40 09.0	
TNCH					pmax	pmax		
	comp=N,50nm,0.6s										
TNCH					pmax	pmax		
	comp=N,150nm,4.4s										
TNCH					LR	LR		
	comp=N,2µm,8.3s										
TNCH					LR	LR		
	comp=N,2µm,8.8s										
TNCH					LR	LR		
	comp=N,2µm,12.9s										
AKL	**Akola**		**11.12**	**233**	*e*P	**Pn**	**23 37 58.0**	**-1.3**
AKL					*e*S	**Sn**	**23 39 57.1**	**-6.3**
JMU	**Jammu**		**11.21**	**299**	*e*P	**Pn**	**23 38 01.6**	**+1.1**
JMU					*e*P	**Pn**	**23 38 02.5**	**+2.0**
JMU					*e*S	**Sn**	**23 40 03.0**	**-2.5**
JMU					*e*S	**Sn**	**23 40 04.4**	**-1.1**
HYBB	**Hyderabad (bro**		**12.60**	**217**	*e*P	**Pn**	**23 38 16.9**	**-2.7**
HYBB					e		23 40 24.9	
HYB	**Hyderabad**		**12.60**	**217**	*e*P	**Pn**	**23 38 16.7**	**-2.9**
SARP	**Sargodha**		**12.72**	**293**	P	**Pn**	**23 38 18.9**	**-2.3**
CHCP	**Chirah Chowk**		**12.84**	**301**	P	**Pn**	**23 38 20.5**	**-2.4**
NIL	**Nilore**		**12.85**	**301**	Pn	**Pn**	**23 38 21.1**	**-1.8**
NIL	**Nilore**		**12.85**	**301**	P	**Pn**	**23 38 21.1**	**-1.8**
PZH	**PanZhiHua**		**13.63**	**92**	P	**Pn**	**23 38 33.0**	**-0.7**
PZH					pP	P	23 38 35.5	-7.1
PZH					PP	**PnPn**	**23 38 45.3**	**+3.7**
PZH					S	**Sn**	**23 41 05.0**	**0.0**
PZH					sS	S	23 41 08.3	-20
PZH					SS	**SnSn**	**23 41 23.0**	**+5.7**
PZH					ScS	**ScS**	**23 51 06.3**	**-3.1**
PZH					pmax	pmax		
	comp=N,60nm,0.9s										
PZH					pmax	pmax		
	comp=N,150nm,3.7s										
PZH					LR	LR		
	comp=N,9µm,20.6s										
PZH					LR	LR		
	comp=N,3µm,20.1s										
PZH					LR	LR		
	comp=N,5µm,21.4s										
THW	**Thamme Wali**		**13.73**	**295**	P	**Pn**	**23 38 31.5**	**-3.4**
CEP	**Cherat**		**13.94**	**299**	P	**Pn**	**23 38 35.5**	**-2.5**
CEP					S	Sn	23 41 03.0	-10
CHTO	**Chiang Mai**		**14.45**	**125**	Pn	**Pn**	**23 38 44.7**	**-0.2**
CHTO	**Chiang Mai**		**14.45**	**125**	P	**Pn**	**23 38 44.7**	**-0.2**
KSH	**Kashi**		**14.67**	**326**	P	**Pn**	**23 38 44.0**	**-3.9**
KSH					pP	P	23 38 48.0	-6.1
KSH					PP	**PnPn**	**23 38 54.0**	**-2.0**
KSH					pmax	pmax		
	comp=N,310nm,0.9s										
KSH					LR	LR		
	comp=N,3µm,11.7s										
KSH					LR	LR		
	comp=N,7µm,12.5s										
KSH					LR	LR		
	comp=N,6µm,18.4s										
CM31	**Chiang Mai Arr**		**14.68**	**126**		**Pn**	**23 38 48.2**	**+0.2**
CMAR	**Chiang Mai Arr**		**14.68**	**126**	Pn	**Pn**	**23 38 46.5**	**-1.6**
	comp=N,1.3nm,0.3s,baz=306,slow=12,SNR=44										
CMAR					LR	LR	23 46 17.2	
	comp=N,2µm,19.7s,baz=310,slow=45										
CMAR					ScP	**ScP**	**23 47 33.0**	**-0.9**
	comp=N,4.8nm,0.8s,baz=306,slow=3.2,SNR=13										
	comp=N,14nm,0.7s										
CMAR	**Chiang Mai Arr**		**14.68**	**126**		**Pn**	**23 38 48.3**	**+0.2**
CMAR	**Chiang Mai Arr**		**14.68**	**126**	P	**Pn**	**23 38 48.3**	**+0.2**
CRAI	**Chiangrai**		**14.69**	**117**		**Pn**	**23 38 47.5**	**-0.7**
KMI	**Kunming**		**14.77**	**96**	⇓P	**Pn**	**23 38 49.5**	**0.0**
KMI					sP	P	23 38 57.5	+2.0
KMI					S	**Sn**	**23 41 30.0**	**-3.1**
KMI					SS	**S**	**23 41 50.3**	**-1.4**
KMI					pmax	pmax		
	comp=N,28nm,1.0s										
KMI					LR	LR		
	comp=N,750nm,11.0s										
KMI					LR	LR		
	comp=N,1µm,9.6s										
KMI					LR	LR		
	comp=N,2µm,15.9s										
POO	**Poona**		**14.79**	**235**	*e*P	**Pn**	**23 38 45.9**	**-3.7**
POO					*e*S	Sn	23 41 20.8	-12
CD2	**Chengdu**		**15.39**	**74**	P	**Pn**	**23 38 56.0**	**-1.5**
CD2					S	**Sn**	**23 41 47.8**	**+0.1**
CD2					pmax	pmax		
	comp=N,410nm,6.3s										
CD2					pmax	pmax		
	comp=N,90nm,1.0s										
CD2					LR	LR		
	comp=N,3µm,9.9s										
CD2					LR	LR		
	comp=N,4µm,10.4s										
CD2					LR	LR		
	comp=N,5µm,11.9s										
PHRA	**Phrae**		**15.59**	**123**	Pn	**Pn**	**23 38 59.5**	**-0.7**
PHRA					IAmb	IAmb	23 39 05.9	
	comp=Z,210nm,0.9s										
DGPR	**DIGLIPUR**		**15.66**	**156**	*e*P	**Pn**	**23 38 59.1**	**-1.9**
DGPR					IAML		23 41 54.9	
	comp=N,147nm,1.0s										
TARG	**Taragay, Kyrgy**		**15.70**	**335**		**Pn**	**23 39 01.1**	**-0.7**
TARG	**Taragay, Kyrgy**		**15.70**	**335**	P	**Pn**	**23 39 01.1**	**-0.7**
TARG					pmax	pmax		
	comp=Z,212nm,1.4s										
MDRS	**Chennai**		**15.70**	**203**	*e*P	**Pn**	**23 39 01.2**	**-0.3**
MDRS					*e*S	**Sn**	**23 41 45.5**	**-10**
BHUJ	**Bhuj**		**15.85**	**258**	*e*P	**Pn**	**23 39 01.6**	**-1.9**
BHUJ					*e*S	Sn	23 41 47.1	-12
GTA	**Gaotai**		**16.08**	**40**	⇑P	**Pn**	**23 39 03.8**	**-2.7**
GTA					pP	P	23 39 08.0	-1.8
GTA					sP	pP	23 39 10.3	-5.1
GTA					S	**Sn**	**23 42 01.0**	**-3.6**
GTA					sS	S	23 42 14.5	-3.6
GTA					SS	**SnSn**	**23 42 28.3**	**+11**
GTA					pmax	pmax		
	comp=Z,64nm,1.2s										
GTA					pmax	pmax		
	comp=Z,250nm,6.4s										
GTA					LR	LR		
	comp=Z,4µm,13.1s										
GTA					LR	LR		
	comp=Z,4µm,13.8s										
GTA					LR	LR		
	comp=Z,6µm,13.1s										
WMQ	**Urumqi**		**16.11**	**3**	*e*P	**Pn**	**23 39 06.3**	**-0.4**
WMQ					sP	pP	23 39 14.0	-1.6
WMQ					S	**Sn**	**23 42 02.5**	**-2.6**
WMQ					SS	**S**	**23 42 23.8**	**+5.3**
WMQ					pmax	pmax		
	comp=Z,86nm,0.9s										
WMQ					pmax	pmax		
	comp=Z,820nm,5.7s										
WMQ					LR	LR		
	comp=Z,5µm,15.7s										
WMQ					LR	LR		
	comp=Z,2µm,14.1s										
WMQ					LR	LR		
	comp=Z,3µm,20.3s										
NRN	**Naryn**		**16.18**	**331**	Pn	**Pn**	**23 39 06.7**	**-1.2**
NRN	**Naryn**		**16.18**	**331**	P	**Pn**	**23 39 06.7**	**-1.2**
NRN					pmax	pmax		
	comp=Z,72nm,0.6s										
KBL	**Kabul**		**16.42**	**299**	Pn	**Pn**	**23 39 08.2**	**-2.7**
KBL					IAmb	IAmb	23 39 16.9	
	comp=Z,244nm,1.2s										
KBL	**Kabul**		**16.42**	**299**	P	**Pn**	**23 39 08.2**	**-2.7**
KBL					pmax	pmax		
	comp=Z,244nm,1.2s										
SHLS	**Shalkode**		**16.44**	**342**	*e*P	**Pn**	**23 39 09.0**	**-2.0**
	comp=Z,94nm,0.6s,baz=342										
SHLS	**Shalkode**		**16.44**	**342**	*e*P	**Pn**	**23 39 09.0**	**-2.0**
SHLS					pmax	pmax		
	comp=Z,94nm,0.6s										
UZB	**Uzynbulak**		**16.55**	**340**	*e*P	**Pn**	**23 39 13.2**	**+0.7**
	baz=340										
UZB	**Uzynbulak**		**16.55**	**340**	*e*P	**Pn**	**23 39 13.2**	**+0.7**
SATY	**Saty**		**16.66**	**339**	*e*P	**Pn**	**23 39 13.7**	**-0.3**
	baz=339										
SATY	**Saty**		**16.66**	**339**	*e*P	**Pn**	**23 39 13.6**	**-0.3**
ZHN	**Zhinishke**		**16.75**	**339**	*i* P	**Pn**	**23 39 15.2**	**+0.1**
	baz=339										
ZHN	**Zhinishke**		**16.75**	**339**	*i* P	**Pn**	**23 39 15.1**	**+0.1**
LZH	**Lanzhou**		**16.91**	**56**	⇓P	**Pn**	**23 39 16.0**	**-1.1**
LZH					pP	P	23 39 19.5	+0.4
LZH					sP	pP	23 39 23.8	-0.7
LZH					PP	**PnPn**	**23 39 26.0**	**-0.7**
LZH					S	**S**	**23 42 31.3**	**-3.9**
LZH					sS	sS	23 42 38.5	-5.4
LZH					pmax	pmax		
	comp=Z,360nm,1.0s										
LZH					pmax	pmax		
	comp=Z,760nm,4.5s										
LZH					LR	LR		
	comp=Z,7µm,13.1s										
LZH					LR	LR		
	comp=Z,5µm,10.8s										
LZH					LR	LR		
	comp=Z,7µm,13.9s										
GOA	**Goa**		**16.92**	**227**	*e*P	**Pn**	**23 39 16.6**	**-0.6**
GOA					*e*S	Sn	23 42 12.2	-13
KPKS	**Kokpek**		**16.95**	**340**	*e*P	**Pn**	**23 39 17.1**	**-0.3**
	baz=340										
KPKS	**Kokpek**		**16.95**	**340**	*e*P	**Pn**	**23 39 17.1**	**-0.3**
OHH	**Osh**		**17.07**	**322**	P	**Pn**	**23 39 16.2**	**-2.8**
TNSS	**Tian-Shan**		**17.14**	**336**	*e*P	**Pn**	**23 39 20.2**	**0.0**
	baz=336										
TNSS	**Tian-Shan**		**17.14**	**336**	*e*P	**Pn**	**23 39 20.2**	**0.0**
MDOK	**Medeo**		**17.22**	**336**	*e*P	**Pn**	**23 39 20.3**	**-0.6**
	baz=336										
MDOK	**Medeo**		**17.22**	**336**	*e*P	**Pn**	**23 39 20.3**	**-0.6**
AAA	**Alma-Ata**		**17.30**	**336**	*e*P	**P**	**23 39 23.0**	**-0.4**
	comp=Z,115nm,0.9s,baz=336										
AAA	**Alma-Ata**		**17.30**	**336**	*e*P	**P**	**23 39 22.9**	**-0.4**
AAA					pmax	pmax		
	comp=Z,115nm,0.9s										
AAK	**Ala-Archa**		**17.81**	**330**	P	**P**	**23 39 28.8**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=144,slow=9.2,SNR=62										
AAK					LR	LR	23 46 28.4	
	comp=Z,988nm,20.4s,baz=139,slow=37										
	comp=Z,121nm,0.8s										
AAK	**Ala-Archa**		**17.81**	**330**	P	**Pn**	**23 39 28.1**	**-0.1**
AAK	**Ala-Archa**		**17.81**	**330**	*i* P	**P**	**23 39 28.8**	**-0.2**
	SNR=130										
CHKK	**Chushkaly**		**17.84**	**337**	*e*P	**P**	**23 39 28.9**	**-0.3**
	baz=337										
CHKK	**Chushkaly**		**17.84**	**337**	*e*P	**P**	**23 39 28.8**	**-0.3**
ARXS	**Arharly**		**17.89**	**339**	*e*P	**Pn**	**23 39 28.6**	**-0.5**
BTK	**Batken**		**17.89**	**318**	Pn	**Pn**	**23 39 26.0**	**-3.2**
BTK	**Batken**		**17.89**	**318**	P	**Pn**	**23 39 26.0**	**-3.2**
BTK					pmax	pmax		
	comp=Z,106nm,0.6s										
KUU	**Kurty**		**18.11**	**336**	*e*P	**P**	**23 39 32.2**	**+0.1**
	baz=336										
KUU	**Kurty**		**18.11**	**336**	*e*P	**P**	**23 39 32.2**	**+0.1**
SGDS	**Sogindy**		**18.41**	**332**	*e*P	**Pn**	**23 39 35.7**	**+0.1**
	baz=332										
SGDS	**Sogindy**		**18.41**	**332**	*e*P	**Pn**	**23 39 35.6**	**+0.1**
ARK	**Arkit**		**18.41**	**324**	P	**P**	**23 39 32.8**	**-2.7**
TDK	**Taldyqorghan**		**18.43**	**342**	*e*P	**Pn**	**23 39 36.0**	**+0.2**
	comp=Z,166nm,0.9s,baz=342										
TDK	**Taldyqorghan**		**18.43**	**342**	*e*P	**Pn**	**23 39 35.9**	**+0.2**
TDK					pmax	pmax		
	comp=Z,166nm,0.9s										
NAYO	**Nakonayok**		**19.18**	**131**	P	**Pn**	**23 39 45.5**	**+0.6**
MK31	**Makanchi Array**		**19.34**	**351**		**Pn**	**23 39 46.2**	**-0.5**
MK31	**Makanchi Array**		**19.34**	**351**	P	**Pn**	**23 39 46.2**	**-0.5**
MK31					pmax	pmax		
	comp=Z,119nm,0.9s										
MKAR	**Makanchi Array**		**19.34**	**351**	P	**P**	**23 39 46.1**	**+0.5**
	comp=Z,22nm,0.3s,baz=163,slow=8.9,SNR=212										
MKAR					LR	LR	23 48 28.4	
	comp=Z,4µm,19.4s,baz=186,slow=41										
	comp=Z,91nm,0.6s										
MKAR	**Makanchi Array**		**19.34**	**351**	P	**P**	**23 39 45.8**	**+0.2**
MAKZ	**Makanchi**		**19.39**	**351**		**P**	**23 39 46.6**	**+0.4**
MAKZ					IAmb	IAmb	23 39 49.2	
	comp=Z,366nm,1.4s										
MAKZ	**Makanchi**		**19.39**	**351**	P	**P**	**23 39 46.6**	**+0.4**
MAKZ					pmax	pmax		
	comp=Z,366nm,1.5s										
DZA	**Taraz**		**19.52**	**325**	*e*P	**Pn**	**23 39 48.5**	**-0.4**
	comp=Z,70nm,0.9s,baz=325										
DZA	**Taraz**		**19.52**	**325**	*e*P	**Pn**	**23 39 48.5**	**-0.4**
DZA					pmax	pmax		
	comp=Z,70nm,0.9s										
TAS	**Tashkent**		**19.59**	**318**	P	**P**	**23 39 47.5**	**-0.8**
TAS					IAmb	IAmb	23 39 50.3	
	comp=Z,186nm,0.9s										
TAS	**Tashkent**		**19.59**	**318**	P	**P**	**23 39 47.5**	**-0.8**
TAS					pmax	pmax		
	comp=Z,186nm,0.9s										
IUG	**Iuzhnay**		**19.70**	**321**	*e*P	**P**	**23 39 49.2**	**-0.4**
	baz=321										
IUG	**Iuzhnay**		**19.70**	**321**	*e*P	**P**	**23 39 49.2**	**-0.4**
ZSN	**Zaisan**		**19.75**	**357**	*e*P	**P**	**23 39 50.8**	**+0.7**
	comp=Z,142nm,1.2s,baz=357										
ZSN	**Zaisan**		**19.75**	**357**	*e*P	**P**	**23 39 50.7**	**+0.7**
ZSN					pmax	pmax		
	comp=Z,142nm,1.2s										
BTLS	**Baital**		**19.95**	**333**	*e*P	**Pn**	**23 39 53.3**	**-0.7**
	baz=333										
BTLS	**Baital**		**19.95**	**333**	*e*P	**Pn**	**23 39 53.3**	**-0.7**
CHM	**Chimkent**		**20.05**	**321**	*e*P	Pn	23 39 54.5	-0.7
	comp=Z,73nm,0.8s,baz=321										
CHM	**Chimkent**		**20.05**	**321**	*e*P	Pn	23 39 54.4	-0.8
CHM					pmax	pmax		
	comp=Z,73nm,0.8s										
KK31	**Karatay Array**		**20.09**	**324**	P	**P**	**23 39 53.9**	**+0.1**
KK31	**Karatay Array**		**20.09**	**324**	P	**P**	**23 39 53.9**	**+0.1**
KK31					pmax	pmax		
	comp=Z,70nm,0.8s										
KKAR	**Karatay Array**		**20.09**	**324**	P	**P**	**23 39 53.9**	**+0.1**
KKAR	**Karatay Array**		**20.09**	**324**	P	**P**	**23 39 53.7**	**-0.1**
KKAR					IAmb	IAmb	23 39 58.2	
	comp=Z,70nm,0.8s										
KKAR	**Karatay Array**		**20.09**	**324**	P	**P**	**23 39 53.9**	**+0.1**
KKAR					pmax	pmax		
	comp=Z,70nm,0.8s										
XAN	**Xi'an**		**20.23**	**66**	⇓*i* P	**P**	**23 39 55.5**	**0.0**
XAN					pP	pP	23 40 00.3	-0.4
XAN					S	**S**	**23 43 38.5**	**-3.6**
XAN					pmax	pmax		
	comp=Z,120nm,1.0s										
XAN					pmax	pmax		
	comp=Z,580nm,6.9s										
XAN					LR	LR		
	comp=Z,5µm,11.0s										
XAN					LR	LR		
	comp=Z,1µm,10.3s										
XAN					LR	LR		
	comp=Z,5µm,11.8s										
ENH	**En

comp=Z,9µm,14.7s
BTO LR LR
comp=Z,13µm,16.3s
CNSH ChangSha 23.34 83 ⇑P **P 23 40 27.8 -0.8**
CNSH S **S 23 44 39.5 -1.4**
CNSH pmax pmax
comp=Z,100nm,1.3s
CNSH LR LR
comp=Z,2µm,11.5s
CNSH LR LR
comp=Z,1µm,11.7s
CNSH LR LR
comp=Z,1µm,10.0s
KURBB Kurchatov Arra 23.67 347 P **P 23 40 31.5 -0.2**
comp=Z,122nm,0.8s,baz=165,slow=9.7,SNR=341
KURBB LR LR 23 50 19.1
comp=Z,871nm,21.8s,baz=142,slow=38
comp=Z,122nm,0.8s
KURK Kurchatov 23.75 347 P **P 23 40 32.2 -0.1**
KURK pmax pmax
comp=Z,337nm,1.1s
TIY Taiyuan 23.92 59 *e*P **P 23 40 35.5 +1.2**
TIY S **S 23 44 50.5 +0.2**
TIY LR LR
comp=Z,2µm,15.1s
TIY LR LR
comp=Z,3µm,12.5s
TIY LR LR
comp=Z,4µm,16.1s
KNGR Kungurtug, Tuv 24.35 17*de*P **P 23 40 40.2 +2.0**
HHC Hu-ho-hao-te 24.41 51 *e*P **P 23 40 39.0 +0.2**
HHC sP sP 23 40 46.5 -0.9
HHC S **S 23 44 53.3 -4.8**
HHC sS pS 23 45 01.5 -3.0
HHC pmax pmax
comp=Z,110nm,1.0s
HHC pmax pmax
comp=Z,1µm,5.7s
HHC LR LR
comp=Z,6µm,12.4s
HHC LR LR
comp=Z,8µm,13.6s
HHC LR LR
comp=Z,12µm,14.0s
WHN Wuhan 24.46 77 ⇑P **P 23 40 38.5 -0.8**
WHN S **S 23 45 03.8 +4.8**
WHN pmax pmax
comp=Z,230nm,1.3s
WHN LR LR
comp=Z,5µm,12.2s
WHN LR LR
comp=Z,2µm,11.0s
WHN LR LR
comp=Z,3µm,13.3s
LHMI Lhok Sumawe 24.47 154 P **P 23 40 41.3 +2.0**
LHMI Lhok Sumawe 24.47 154 P **P 23 40 40.8 +1.4**
comp=Z,4µmcomp=Z,301nm,0.9s
BRZS Berezniki 24.63 338 *e*P **P 23 40 41.9 +1.2**
baz=338
BRZS Berezniki 24.63 338 *e*P **P 23 40 41.8 +1.2**
SONM Songino Array 25.38 32 P **P 23 40 48.0 +0.5**
comp=Z,77nm,0.9s,baz=220,slow=9.5,SNR=220
SONM LR LR 23 51 58.1
comp=Z,6µm,21.6s,baz=221,slow=39
comp=Z,77nm,0.9s
SONM Songino Array 25.38 32 P **P 23 40 47.6 +0.1**
SONM IAmb IAmb 23 40 52.1
comp=Z,74nm,0.8s
WSAR Wadi Sarin 25.53 266 P **P 23 40 50.1 +1.1**
comp=Z,5.4nm,0.8s,baz=108,slow=12,SNR=3.3
WSAR LR LR 23 51 26.7
comp=Z,534nm,19.4s,baz=98,slow=38
comp=Z,5.4nm,0.8s
HNS HongShan 25.58 61 ⇑P **P 23 40 50.0 +0.7**
HNS PP **PnPn 23 41 29.8 +4.6**
HNS S **S 23 45 21.0 +4.3**
HNS pmax pmax
comp=Z,90nm,1.2s
HNS LR LR
comp=Z,2µm,16.5s
HNS LR LR
comp=Z,4µm,18.8s
HNS LR LR
comp=Z,5µm,20.8s
ULN Ulaanbaatar 25.71 33 P **P 23 40 50.9 +0.3**
ULN IAmb IAmb 23 40 55.6
comp=Z,78nm,0.7s
ULN Ulaanbaatar 25.71 33 P **P 23 40 50.9 +0.3**
ULN pmax pmax
comp=Z,77nm,0.7s
GEYT Alibeck 25.85 300 P **P 23 40 54.0 +2.1**
comp=Z,25nm,0.8s,baz=122,slow=5.6,SNR=45
comp=Z,25nm,0.8s
GEYT Alibeck 25.85 300 P **P 23 40 53.6 +1.7**
GEYT IAmb IAmb 23 41 18.7
comp=Z,87nm,1.1s
GYA0B ALIBECK ARRAY 25.85 300 P **P 23 40 54.0 +2.2**
GYA0B IAmb IAmb 23 41 18.6
comp=Z,86nm,1.1s
ZAK Zakamensk 26.00 25 *e*P **P 23 40 53.7 +0.6**
ZAK *e* 23 41 04.2
ZAK pmax pmax
comp=Z,166nm,1.0s
KULM Kulim 26.04 146 IAmb IAmb 23 41 17.1
comp=Z,130nm,1.0s
KULM Kulim 26.04 146 P **P 23 40 56.0 +2.3**
ZAA0 Zalesovo Array 26.24 358 P **P 23 40 55.2 +0.1**
ZAA0 IAmb IAmb 23 40 57.2
comp=Z,42nm,0.7s
ZALV Zalesovo Beam 26.24 358 P **P 23 40 55.3 +0.2**
comp=Z,52nm,0.7s,baz=182,slow=10,SNR=172
ZALV LR LR 23 52 55.9
comp=Z,7µm,18.0s,baz=177,slow=40
comp=Z,52nm,0.7s
ZALV Zalesovo Beam 26.24 358 P **P 23 40 55.1 0.0**
ZALV Zalesovo Beam 26.24 358 *i* P **P 23 40 55.2 0.0**
ZALV pmax pmax
comp=Z,53nm,0.7s
MOY Mondy 26.30 21 *e*P **P 23 40 56.8 +1.0**
MOY pmax pmax
comp=Z,186nm,1.8s
KCSI Kotacane, Aceh 26.35 154 P **P 23 40 56.9 +0.5**
comp=Z,28nm,0.8s
IPM Ipoh 26.93 146 IAmb IAmb 23 41 07.1
comp=Z,149nm,1.7s
IPM Ipoh 26.93 146 P **P 23 41 04.0 +2.3**
TIA Tai'an 27.24 64 P **P 23 41 04.8 +0.4**
TIA sP **sP 23 41 13.0 +0.6**
TIA pmax pmax
comp=Z,29nm,1.1s
TIA pmax pmax
comp=Z,140nm,4.0s
TIA LR LR
comp=Z,820nm,10.7s
TIA LR LR
comp=Z,2µm,14.2s
TIA LR LR
comp=Z,2µm,14.2s
UOSS Minazif 27.27 271 P **P 23 41 05.9 +1.2**
BJT Baijiatuan 27.39 56 P **P 23 41 05.7 0.0**
BJT Baijiatuan 27.39 56 P **P 23 41 05.7 0.0**
BJT pmax pmax
comp=Z,62nm,1.5s
BJI Beijing 27.40 56 P **P 23 41 06.5 +0.8**
BJI pP **pP 23 41 09.8 -1.6**
BJI S **S 23 45 48.5 +3.1**
BJI pmax pmax
comp=Z,26nm,1.3s
BJI pmax pmax
comp=Z,280nm,4.1s
BJI LR LR
comp=Z,4µm,15.3s
BJI LR LR
comp=Z,2µm,15.5s
BJI LR LR
comp=Z,2µm,13.5s
ASHO Ashiyiah 27.45 271 *i* P **P 23 41 08.1 +1.7**
SNR=9.8
PSI Prapat 27.47 152 P **P 23 41 07.2 +0.6**
comp=Z,10nm,1.0s,baz=341,slow=15,SNR=3.6
PSI LR LR 23 54 53.0
comp=Z,605nm,18.8s,baz=322,slow=42
comp=Z,10nm,1.0s
PSI Prapat 27.47 152 P **P 23 41 08.5 +1.9**
PSI pmax pmax
comp=Z,20nm,0.9s
RPSI Rantau Prapat 27.56 152 P **P 23 41 08.5 +1.2**

IRK Irkutsk 27.88 24 *e*P **P 23 41 10.6 +0.7**
IRK pmax pmax
comp=Z,100nm,1.5s
BVAR Borovoye Array 27.98 339 P **P 23 41 11.3 +0.6**
comp=Z,19nm,0.6s,baz=144,slow=9.4,SNR=100
BVAR LR LR 23 53 27.9
comp=Z,2µm,19.7s,baz=161,slow=39
comp=Z,19nm,0.6s
BRVK Borovoye 28.04 339 P **P 23 41 11.3 0.0**
BRVK Borovoye 28.04 339*c i*P **P 23 41 11.6 +0.3**
BRVK pmax pmax
comp=Z,30nm,0.8s
JRMM Jerantut 28.17 144 P **P 23 41 17.0 +4.2**
NJ2 Nanjing 28.32 73 ⇑P **P 23 41 14.5 +0.5**
NJ2 pmax pmax
comp=Z,35nm,1.1s
NJ2 LR LR
comp=Z,860nm,11.2s
NJ2 LR LR
comp=Z,3µm,14.5s
NJ2 LR LR
comp=Z,3µm,14.1s
XLT XiLinHaoTe 28.72 48⇓*i*P **P 23 41 18.5 +0.9**
XLT sP sP 23 41 25.0 -1.2
XLT S **S 23 46 03.8 -2.5**
XLT sS sS 23 46 20.5 +4.3
XLT pmax pmax
comp=Z,100nm,1.0s
XLT pmax pmax
comp=Z,410nm,5.3s
XLT LR LR
comp=Z,3µm,15.9s
XLT LR LR
comp=Z,5µm,16.0s
MNSI Mandailing Nat 29.55 153 P **P 23 41 26.3 +1.2**
comp=Z,3µmcomp=Z,69nm,1.0s
ABKAR Akbulak array 29.66 324 P **P 23 41 26.3 +0.6**
ABKAR IAmb IAmb 23 41 28.7
comp=Z,164nm,1.5s
ABKAR Akbulak array 29.66 324 P **P 23 41 26.3 +0.6**
SSE Sheshan 30.33 75 P **P 23 41 31.0 -0.9**
SSE S **S 23 46 29.5 -2.1**
SSE pmax pmax
comp=Z,25nm,0.8s
SSE pmax pmax
comp=Z,120nm,3.9s
SSE LR LR
comp=Z,440nm,16.1s
SSE LR LR
comp=Z,730nm,16.1s
BKNI Bangkinang 30.59 150 P **P 23 41 34.1 -0.2**
BKNI Bangkinang 30.59 150 P **P 23 41 34.6 +0.3**
comp=Z,2µmcomp=Z,97nm,1.0s
DL2 Dalian 31.23 60 P **P 23 41 40.5 +0.8**
DL2 S **S 23 46 43.8 -1.8**
DL2 pmax pmax
comp=Z,170nm,1.1s
DL2 LR LR
comp=Z,2µm,17.9s
DL2 LR LR
comp=Z,4µm,17.1s
DL2 LR LR
comp=Z,5µm,15.2s
PDSI Padang 31.46 152 P **P 23 41 42.3 +0.3**
comp=Z,4µmcomp=Z,83nm,0.9s
SNY Shenyang 33.28 55 ⇓P **P 23 41 57.8 +0.1**
SNY S **S 23 47 18.3 +0.8**
SNY pmax pmax
comp=Z,120nm,1.1s
SNY pmax pmax
comp=Z,380nm,4.6s
SNY LR LR
comp=Z,2µm,13.5s
SNY LR LR
comp=Z,2µm,13.1s
SNY LR LR
comp=Z,3µm,21.6s
HIA Hailar 33.36 41 P **P 23 41 58.6 +0.2**
HIA IAmb IAmb 23 42 00.6
comp=Z,71nm,0.8s
HIA Hailar 33.36 41*c i*P **P 23 41 58.5 +0.2**
HIA pmax pmax
comp=Z,82nm,1.0s
SVE Sverdlovsk 34.42 335*de*P **P 23 42 09.2 +1.8**
SVE pmax pmax
comp=Z,111nm,1.3s
SVE MLR MLR
comp=Z,2µm,14.0s
AKT Akhty 34.45 304 *e*P **P 23 42 09.4 +1.3**
AKT *e* 23 43 22.9
AKT *e* 23 44 44.4
AKT pmax pmax
comp=Z,107nm,1.0s
KSM Kuching 34.64 135 P **P 23 42 10.7 +0.9**
SEKA Sheki 34.80 303 P **P 23 42 12.9 +1.9**
MAK Makhachkala 34.93 306 *e*P **P 23 42 07.4 -4.5**
MAK *e*S **S 23 47 36.0 -6.9**
MAK pmax pmax
comp=Z,172nm,1.3s
MAK MLR MLR
comp=Z,820nm,16.0s
ARU Arti 34.94 333 P **P 23 42 12.6 +0.7**
comp=Z,36nm,0.4s,baz=134,slow=5.1,SNR=96
ARU LR LR 23 57 44.9
comp=Z,1µm,18.3s,baz=137,slow=38
comp=Z,36nm,0.4s
ARU Arti 34.94 333 P **P 23 42 12.1 +0.2**
ARU IAmb IAmb 23 42 14.4
comp=Z,54nm,0.6s
ARU Arti 34.94 333*c i*P **P 23 42 12.3 +0.4**
ARU 23 43 24.9
ARU PPP PPP 23 43 40.9
ARU S **S 23 47 44.8 +1.9**
ARU pmax pmax
comp=Z,72nm,0.9s
ARU MLR MLR
comp=Z,1µm,17.0s
INCN Inchon 34.96 63 P **P 23 42 12.2 -0.2**
INCN IAmb IAmb 23 42 14.1
comp=Z,90nm,1.1s
INCN Inchon 34.96 63 P **P 23 42 12.2 -0.2**
INCN pmax pmax
comp=Z,91nm,1.2s
CN2 Changchun 35.08 52 P **P 23 42 13.0 -0.3**
CN2 sP pP 23 42 20.0 +0.9
CN2 S **S 23 47 43.5 -1.8**
CN2 pmax pmax
comp=Z,100nm,1.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,3µm,13.0s
CN2 LR LR
comp=Z,4µm,15.0s
SBUM Sibu 35.14 131 P **P 23 42 15.3 +1.2**
SBUM Sibu 35.14 131 P **P 23 42 17.0 +2.9**
GANJ Ganja 35.36 302 P **P 23 42 17.2 +1.4**
TJN Taejon 35.48 65*de*P **P 23 42 17.9 +1.1**
KKM Kota Kinabalu 35.49 122 P **P 23 42 18.7 +1.5**
KKM IAmb IAmb 23 42 33.5
comp=Z,50nm,1.1s
BOD Bodaibo 35.75 25 *e*P **P 23 42 19.0 +0.2**
BOD pmax pmax
comp=Z,81nm,0.9s
NAX Nakhchivan 35.80 299 P **P 23 42 21.0 +1.3**
KS19 Wonju Array Si 35.94 64 P **P 23 42 19.9 -0.9**
KS19 IAmb IAmb 23 42 22.0
comp=Z,51nm,1.4s
KSRS Korea Array 35.98 64 P **P 23 42 20.1 -1.0**
comp=Z,16nm,0.8s,baz=261,slow=7.8,SNR=27
KSRS PcP **PcP 23 44 47.4 -0.2**
comp=Z,6.0nm,0.8s,baz=246,slow=1.6,SNR=7.7
KSRS ScP **ScP 23 48 31.2 -2.2**
comp=Z,5.9nm,0.9s,baz=262,slow=2.9,SNR=9.2
KSRS LR LR 23 58 39.3
comp=Z,487nm,18.2s,baz=260,slow=39
comp=Z,16nm,0.8s
GROC Groznyy 36.20 306 *e*P **P 23 42 24.1 +1.2**
GROC *e* 23 43 45.5
GROC *e* 23 44 46.2
GROC pmax pmax
comp=Z,368nm,1.0s
GNI Garni 36.49 301 P **P 23 42 27.7 +2.1**
comp=Z,34nm,1.1s,baz=148,slow=3.5,SNR=10
comp=Z,34nm,1.1s
GNI Garni 36.49 301 P **P 23 42 27.2 +1.6**

GNI IAmb IAmb 23 43 04.1
comp=Z,75nm,1.1s
GNI Garni 36.49 301 P **P 23 42 27.7 +2.1**
SPMM Sapulut 36.56 123 P **P 23 42 29.0 +2.7**
BNX BinXian 36.92 50 ⇓P **P 23 42 29.3 +0.3**
BNX pmax pmax
comp=Z,100nm,1.0s
BNX pmax pmax
comp=Z,220nm,3.8s
JOW Kunigami 37.01 81 LR LR 23 59 24.9
comp=Z,721nm,18.5s,baz=322,slow=39
RAYN Ar Rayn 37.09 273 P **P 23 42 31.7 +0.9**
RAYN Ar Rayn 37.09 273 P **P 23 42 31.9 +1.1**
RAYN Ar Rayn 37.09 273 P **P 23 42 31.7 +0.9**
RAYN pmax pmax
comp=Z,14nm,1.2s
ZEI Tsey 37.49 305 *e*P **P 23 42 35.1 +0.9**
ZEI pmax pmax
comp=Z,80nm,1.2s
MYLDM Lahad Datu 37.78 121 P **P 23 42 38.3 +1.7**
MYLDM IAmb IAmb 23 42 57.0
comp=Z,58nm,1.1s
ONI Oni 37.78 305 P **P 23 42 38.0 +1.5**
ONI IAmb IAmb 23 42 56.1
comp=Z,64nm,1.1s
ONI Oni 37.78 305 P **P 23 42 38.0 +1.5**
ONI pmax pmax
comp=Z,64nm,1.1s
KARS Kars 37.80 301 P **P 23 42 38.1 +1.4**
KARS Kars 37.80 301 P **P 23 42 38.2 +1.4**
KARS pmax pmax
comp=Z,360nm,0.9s
NCK Nalchik 37.83 306*de*P **P 23 42 38.1 +1.3**
NCK pmax pmax
comp=Z,52nm,0.9s
BELG Belogornoye 37.96 321 P **P 23 42 37.8 +0.1**
comp=Z,25nm,0.5s,baz=21,slow=1.9,SNR=38
BELG LR LR 00 00 20.1
comp=Z,3µm,19.0s,baz=116,slow=39
comp=Z,25nm,0.5s
BELG Belogornoye 37.96 321*de*P **P 23 42 38.0 +0.3**
BELG pmax pmax
comp=Z,4.0nm,0.9s
MDJ Mudanjiang 38.17 52 P **P 23 42 39.5 -0.2**
MDJ Mudanjiang 38.17 52 P **P 23 42 39.8 +0.2**
MDJ PcP **PcP 23 44 55.0 +0.9**
MDJ S **S 23 48 32.5 +0.1**
MDJ pmax pmax
comp=Z,44nm,0.9s
MDJ pmax pmax
comp=Z,120nm,3.6s
MDJ LR LR
comp=Z,770nm,15.5s
MDJ LR LR
comp=Z,2µm,14.5s
MDJ LR LR
comp=Z,3µm,20.6s
HEH HeiHe 38.30 43 *e*P **P 23 42 40.0 -0.6**
HEH pP **pP 23 42 46.0 -0.8**
HEH sP **sP 23 42 49.0 -0.3**
HEH S **S 23 48 36.8 +2.6**
HEH sS **sS 23 48 47.8 +3.4**
HEH pmax pmax
comp=Z,82nm,1.0s
HEH pmax pmax
comp=Z,310nm,3.7s
HEH LR LR
comp=Z,1µm,12.2s
HEH LR LR
comp=Z,2µm,12.9s
HEH LR LR
comp=Z,3µm,12.1s
KBZ Khabaz 38.37 306 P **P 23 42 42.0 +0.7**
comp=Z,17nm,0.8s,baz=137,slow=6.9,SNR=31
comp=Z,17nm,0.8s
KBZ Khabaz 38.37 306*ce*P **P 23 42 41.9 +0.6**
KBZ pmax pmax
comp=Z,18nm,0.9s
NEY Neytrino 38.42 306⇓*e*P **P 23 42 44.2 +2.2**
NEY pmax pmax
comp=Z,12nm,0.7s
JNU Nakatsue 38.43 71 LR LR 23 59 43.5
comp=Z,1µm,18.6s,baz=272,slow=38
JNU Nakatsue 38.43 71 P **P 23 42 42.7 +0.7**
JNU IAmb IAmb 23 43 12.0
comp=Z,102nm,1.6s
JNU Nakatsue 38.43 71 P **P 23 42 43.7 +1.7**
GURO Guroymak-BITLI 38.45 298 P **P 23 42 43.2 +0.9**
SHA1 Shidzhatmaz 38.55 306*c i*P **P 23 42 44.0 +0.9**
KIV Kislovodsk 38.56 307 P **P 23 42 43.2 +0.1**
KIV Kislovodsk 38.56 307 *i* P **P 23 42 43.9 +0.8**
SNR=10
KIV Kislovodsk 38.56 307 *e*P **P 23 42 43.2 +0.1**
KIV *e*S **S 23 48 40.0 +1.4**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,509nm,16.0s
MARD Mardin 39.41 296 P **P 23 42 51.3 +1.0**
TBP Tagbilaran 39.45 110 *e*P **P 23 42 51.3 +0.6**
ZEA Zeya 39.55 38 *e*P **P 23 42 51.6 +0.6**
ZEA *e* 23 44 22.6
ZEA *e*S **S 23 48 49.9 -3.0**
ZEA *e*SS **SS 23 51 41.0 -6.6**
ZEA *e* 23 52 09.4
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA pmax pmax
comp=Z,100nm,4.9s
ZEA pmax pmax
comp=Z,200nm,6.3s
ZEA smax smax
comp=E,200nm,6.2s
ZEA MLR MLR
comp=N,1µm,12.0s
ZEA MLR MLR
comp=E,3µm,12.0s
ZEA MLR MLR
comp=Z,2µm,12.0s
TABP Talibon, Bohol 39.64 109⇓*e*P **P 23 42 52.5 +0.2**
KOPT Kop Dagi 39.72 300 P **P 23 42 53.6 +0.6**
USA0B Ussuriysk Arra 39.79 53 P **P 23 42 52.5 -0.6**
USA0B Ussuriysk Arra 39.79 53*c i*P **P 23 42 53.5 +0.3**
USRK Ussuriysk Ar. 39.79 53 P **P 23 42 53.1 -0.1**
comp=Z,23nm,0.6s,baz=256,slow=9.1,SNR=34
USRK LR LR 00 00 43.0
comp=Z,1µm,18.0s,baz=249,slow=38
comp=Z,23nm,0.6s
USRK Ussuriysk Ar. 39.79 53 P **P 23 42 52.8 -0.3**
LEM Lembang 39.94 146 LR LR 00 01 43.4
comp=Z,1µm,21.0s,baz=319,slow=40
KIRV Kirov 40.14 331 P **P 23 42 56.9 +1.1**
comp=Z,83nm,0.9s,baz=134,slow=1.1,SNR=26
KIRV LR LR 00 00 07.1
comp=Z,702nm,21.7s,baz=129,slow=37
comp=Z,83nm,0.9s
KIRV Kirov 40.14 331*de*P **P 23 42 56.8 +0.9**
JHS Saijyo 40.17 68 P **P 23 42 57.4 +0.8**
SOC Sochi 40.63 306 *e*P **P 23 42 59.4 -0.8**
SOC *e* 23 44 32.8
SOC *e*PPP PPP 23 45 04.7
SOC *e*S **S 23 49 10.3 +0.8**
SOC *e*SS **SS 23 52 09.4 -0.2**
SOC *e*SSS SSS 23 52 34.3
SOC pmax pmax
comp=Z,37nm,0.8s
SOC MLR MLR
comp=Z,299nm,20.0s
KLR Kul'dur 40.67 46 LR LR 00 01 36.3
comp=Z,1µm,20.4s,baz=258,slow=39
KLR Kul'dur 40.67 46*de*P **P 23 43 00.6 +0.2**
KLR pmax pmax
comp=Z,44nm,1.0s
JMN Monobe 40.89 70 P **P 23 43 02.8 +0.4**
JMN IAmb IAmb 23 43 07.7
comp=Z,60nm,0.8s
JMN Monobe 40.89 70 P **P 23 43 04.1 +1.6**
VRH Novokhopyorsk 40.94 317 *e*P **P 23 43 02.1 -0.5**
VRH *e*S **S 23 49 12.0 -1.7**
VRH pmax pmax
comp=Z,60nm,0.6s

VRH smax smax
comp=N,50nm,0.9s
VRH MLR MLR
comp=Z,2μm,17.0s
BBKI Banjar Baru 41.30 134 P **P** **23 43 08.1 +2.1**
comp=Z,5μmcomp=Z,68nm,1.1s
SMRI Semarang 41.59 143 P **P** **23 43 09.9 +1.5**
SMRI IAmb IAmb 23 43 16.1
comp=Z,100nm,0.9s
KCP Kidapawan 41.93 112⇓*e*P **P** **23 43 13.3 +2.0**
MPSI Mapaga 42.02 125 P **P** **23 43 13.3 +1.4**
comp=Z,25nm,1.4s
TOLI2 Tolitoli 42.15 123 P **P** **23 43 15.6 +2.7**
GAZ Gaziantep 42.26 296 P **P** **23 43 14.5 +0.8**
DAV Davao City (W) 42.30 112 LR LR 00 04 05.0
comp=Z,276nm,18.7s,baz=322,slow=41
ANN Anapa 42.41 307 *e*P **P** **23 43 14.6 -0.1**
ANN MLR MLR
comp=Z,1μm,12.0s
VSR Storozhevoye 42.48 317 *e*P **P** **23 43 13.7 -1.5**
VSR *e*S **S** **23 49 34.2 -2.5**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR smax smax
comp=N,70nm,1.1s
VSR MLR MLR
comp=Z,2μm,14.0s
VORR Voronezh 42.58 317 *e*P **P** **23 43 16.0 0.0**
VORR *e*S **S** **23 49 37.1 -0.9**
VORR pmax pmax
comp=Z,27nm,1.5s
VORR MLR MLR
comp=Z,4μm,22.0s
TOKA Tokat 42.81 300 P **P** **23 43 19.2 +1.0**
ASF Jabal al Asfar 42.92 288 P **P** **23 43 21.6 +2.4**
comp=Z,26nm,0.9s,baz=107,slow=3.6,SNR=28
comp=Z,26nm,0.9s
LPSR Galich'ya Gora 43.00 319 *e*P **P** **23 43 18.8 -0.6**
LPSR *e*S **S** **23 49 44.3 +0.1**
LPSR pmax pmax
comp=Z,80nm,0.9s
LPSR smax smax
comp=N,60nm,1.7s
LPSR MLR MLR
comp=Z,2μm,16.0s
INU Inuyama 43.34 67 P **P** **23 43 22.4 -0.1**
INU IAmb IAmb 23 43 41.3
comp=Z,79nm,1.5s
PRGR Permogore 43.40 333 *e*P **P** **23 43 21.4 -1.1**
PRGR *e* 23 45 09.4
PRGR *e*S **S** **23 49 48.2 -1.7**
PRGR pmax pmax
comp=Z,50nm,0.6s
JGF Kuroka 43.60 66 P **P** **23 43 25.1 +0.5**
JGF IAmb IAmb 23 43 38.5
comp=Z,177nm,2.0s
GRNR Gornyy 43.96 44⇑*i*P **P** **23 43 26.8 -0.4**
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=E,3μm,17.0s
GRNR MLR MLR
comp=N,1μm,18.0s
GRNR MLR MLR
comp=Z,740nm,11.0s
MSEY Mahe Island 43.96 228 P **P** **23 43 29.9 +2.3**
MSEY Mahe Island 43.96 228 P **P** **23 43 29.9 +2.3**
MSEY pmax pmax
comp=Z,47nm,1.6s
MMAI Mount Meron Ar 44.06 290 P **P** **23 43 30.6 +2.2**
comp=Z,11nm,0.7s,baz=80,slow=12,SNR=20
MMAI LR LR 00 03 49.4
comp=Z,433nm,19.9s,baz=292,slow=39
comp=Z,11nm,0.7s
GHAJ Ghor Haditha 44.16 287 P **P** **23 43 29.9 +0.9**
GHAJ IAmb IAmb 23 43 54.0
comp=Z,60nm,1.1s
MJB9 Matsu-Tunnel 44.21 65 P **P** **23 43 30.0 +0.5**
MJB9 IAmb IAmb 23 43 31.8
comp=Z,64nm,0.8s
MAJO Matsushiro 44.22 65 P **P** **23 43 29.2 -0.2**
MAJO IAmb IAmb 23 43 30.9
comp=Z,63nm,0.8s
MAJO Matsushiro 44.22 65 P **P** **23 43 29.3 -0.2**
MAJO Matsushiro 44.22 65*ce*P **P** **23 43 29.7 +0.2**
MAJO pmax pmax
comp=Z,72nm,1.0s
MJAR Matsushiro Arr 44.22 65 P **P** **23 43 29.5 0.0**
comp=Z,42nm,0.9s,baz=279,slow=9.9,SNR=50
MJAR PcP **PcP** **23 45 14.7 +0.6**
comp=Z,9.2nm,0.9s,baz=355,slow=1.8,SNR=5.1
MJAR LR LR 00 02 39.5
comp=Z,323nm,19.0s,baz=276,slow=37
comp=Z,42nm,0.9s
YAK Yakutsk 44.54 27 P **P** **23 43 32.1 +0.4**
comp=Z,12nm,0.5s,baz=40,slow=0.1,SNR=2.1
YAK LR LR 00 03 35.9
comp=Z,2μm,21.3s,baz=268,slow=38
comp=Z,12nm,0.5s
YAK Yakutsk 44.54 27 P **P** **23 43 31.7 0.0**
YAK IAmb IAmb 23 43 36.1
comp=Z,30nm,0.7s
YAK Yakutsk 44.54 27 *e*P **P** **23 43 31.9 +0.2**
YAK *e**PP **pP** **23 43 35.5 -2.4**
YAK *e* 23 45 15.8
YAK *e* 23 45 16.3
YAK *e*S **S** **23 50 06.9 +0.4**
YAK *e**SS **pS** **23 50 14.0 +0.4**
YAK *e*SS **SS** **23 53 22.1 -3.9**
YAK *e* 23 53 34.3
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,101nm,2.8s
YAK pmax pmax
comp=N,73nm,3.1s
YAK pmax pmax
comp=E,79nm,3.0s
YAK smax smax
comp=N,108nm,4.3s
YAK smax smax
comp=E,21nm,2.3s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,819nm,18.0s
YAK MLR MLR
comp=E,1μm,16.0s
MOS Moscow 44.67 323 *e*P **P** **23 43 32.3 -0.5**
MOS *e* 23 43 43.2
MOS *e* 23 45 25.0
MOS *e* 23 50 11.9
MOS pmax pmax
comp=Z,52nm,1.3s
MOS MLR MLR
comp=N,800nm,18.0s
MOS MLR MLR
comp=E,2μm,18.0s
MOS MLR MLR
comp=Z,2μm,18.0s
BZK Bozkurt 44.71 303⇑P **P** **23 43 32.6 -0.8**
BZK Bozkurt 44.71 303 P **P** **23 43 32.4 -0.9**
SIM Simferopol' 44.77 307 *e*P **P** **23 43 35.2 +1.4**
SIM pmax pmax
comp=Z,126nm,0.9s
SIM MLR MLR
comp=Z,380nm,19.1s
ILGA Ilgaz 44.92 301 P **P** **23 43 35.4 +0.1**
SPSI Sidrap Palu 44.94 129 P **P** **23 43 36.6 +1.1**
comp=Z,55nm,1.2s
EIL Elat 44.96 285 P **P** **23 43 37.0 +1.4**
comp=Z,5.2nm,0.8s,baz=15,slow=12,SNR=3.8
comp=Z,5.2nm,0.8s
BR131 Keskin Array S 44.99 300*c i*P **P** **23 43 35.9 +0.1**
BRTR Keskin Array B 44.99 300 P **P** **23 43 36.1 +0.3**
comp=Z,13nm,1.0s,baz=122,slow=7.0,SNR=35
comp=Z,13nm,1.0s
OBN Obninsk 45.05 322⇑P **P** **23 43 35.8 0.0**
OBN Obninsk 45.05 322 LR LR 00 04 09.1
comp=Z,602nm,18.9s,baz=95,slow=38
OBN Obninsk 45.05 322 P **P** **23 43 35.8 0.0**
OBN IAmb IAmb 23 43 46.7
comp=Z,102nm,1.4s
OBN Obninsk 45.05 322*ce*P **P** **23 43 36.0 +0.2**
OBN *e* 23 45 17.1
OBN *e* 23 45 21.5
OBN *e*PPP PPP 23 46 00.0
OBN pmax pmax
comp=Z,65nm,1.7s
OBN MLR MLR
comp=Z,2μm,18.0s
SRBI Singaraja 45.14 138 P **P** **23 43 38.0 +1.0**
comp=Z,1μmcomp=Z,94nm,1.1s
CSS Mathiatis 45.55 293 P **P** **23 43 40.6 +0.5**
KLMR Klimovskoe 45.62 330 *e*P **P** **23 43 40.6 +0.3**
KLMR AMP 23 43 43.1
comp=Z,118nm,1.5s
KLMR *e*PP **PP** **23 45 28.2 +1.2**
KLMR LQ LQ 23 59 37.0
KLMR LQ LQ 23 59 37.0
KLMR LR LR 00 02 01.7
KLMR AMP 00 04 00.3
comp=Z,853nm,12.5s
KLMR Klimovskoe 45.62 330 *e*P **P** **23 43 40.6 +0.3**
KLMR *e* 23 45 28.2
KLMR pmax pmax
comp=Z,118nm,1.5s
KLMR MLR MLR
comp=Z,853nm,13.0s
ANTO Ankara 45.64 300⇑P **P** **23 43 41.7 +0.8**
ANTO Ankara 45.64 300 P **P** **23 43 41.7 +0.8**
ANTO IAmb IAmb 23 43 43.6
comp=Z,34nm,1.0s
ANTO Ankara 45.64 300 P **P** **23 43 41.7 +0.8**
ANTO pmax pmax
comp=Z,35nm,1.0s
BR231 Keskin MP Arra 45.65 300 P **P** **23 43 41.7 +0.6**
KAPI Kappang 45.69 130 P **P** **23 43 41.5 +0.1**
comp=Z,18nm,1.0s,baz=290,slow=7.0,SNR=3.5
KAPI LR LR 00 05 09.4
comp=Z,373nm,20.3s,baz=280,slow=39
comp=Z,18nm,1.0s
KAPI Kappang 45.69 130 P **P** **23 43 42.5 +1.2**
KAPI IAmb IAmb 23 43 48.3
comp=Z,41nm,1.1s
KAPI Kappang 45.69 130*ce*P **P** **23 43 42.4 +1.0**
KAPI pmax pmax
comp=Z,21nm,1.1s
BKSI Bulukumba 46.17 130 P **P** **23 43 46.6 +1.5**
comp=Z,31nm,1.2s
JTM Tenmabayashi 46.27 59 P **P** **23 43 46.1 +0.4**
MDUB Mudurnu 46.84 301 P **P** **23 43 50.3 -0.1**
PLAI Plampang 47.28 136 P **P** **23 43 56.1 +2.2**
ASAJ Asahikawa 47.38 54 LR LR 00 05 31.4
comp=Z,969nm,18.4s,baz=276,slow=38
JKA Kamikawa-asahi 47.38 54 IAmb IAmb 23 43 58.2
comp=Z,68nm,1.2s
TNTI Ternate 47.42 117 P **P** **23 43 55.8 +0.9**
TNTI IAmb IAmb 23 44 02.5
comp=Z,22nm,0.7s
BORA Eskisehir 47.44 300 P **P** **23 43 54.4 -0.6**
BORA IAmb IAmb 23 43 56.4
comp=Z,26nm,1.1s
ADZR Andozero 47.47 333 *e*P **P** **23 43 55.0 +0.3**
ADZR *e* 23 45 46.7
ADZR pmax pmax
comp=Z,61nm,0.8s
ISP Isparta 47.53 297 P **P** **23 43 55.2 -0.5**
ISP Isparta 47.53 297 P **P** **23 43 55.2 -0.5**
ISP pmax pmax
comp=Z,15nm,0.8s
YSS Yuzh-Sakhalins 47.59 50 P **P** **23 43 56.3 +0.4**
YSS Yuzh-Sakhalins 47.59 50 *e*P **P** **23 43 56.1 +0.2**
YSS *e**SP **pP** **23 44 00.3 -1.6**
YSS *e* 23 45 26.3
YSS *e*S **S** **23 50 47.8 -3.0**
YSS *e*SSS SSS 23 55 30.2
YSS pmax pmax
comp=Z,300nm,4.1s
YSS pmax pmax
comp=Z,120nm,1.1s
YSS MLR MLR
comp=E,1μm,10.0s
YSS MLR MLR
comp=Z,1μm,10.0s
ERM Erimo 47.81 57 P **P** **23 43 57.8 +0.1**
ERM Erimo 47.81 57 P **P** **23 43 58.3 +0.6**
ERM Erimo 47.81 57*de*P **P** **23 43 58.8 +1.1**
ERM pmax pmax
comp=Z,65nm,1.0s
JEM Erimo 47.81 57 P **P** **23 43 54.2 -3.4**
JEM IAmb IAmb 23 44 08.4
comp=Z,56nm,1.0s
JEM Erimo 47.81 57 P **P** **23 43 58.4 +0.7**
TYV Tymovskoe 47.87 45 *e*P **P** **23 43 59.2 +1.1**
TYV *e*S **S** **23 50 59.0 +4.4**
TYV pmax pmax
comp=Z,29nm,1.1s
TYV pmax pmax
comp=Z,300nm,3.6s
TYV smax smax
comp=N,400nm,4.4s
AKAS Kas 48.42 295 P **P** **23 44 02.0 -0.7**
AKAS IAmb IAmb 23 44 30.4
comp=Z,40nm,1.1s
AKASG Malin Array Be 48.57 314 P **P** **23 44 02.7 -0.7**
comp=Z,2.8nm,0.3s,baz=83,slow=7.5,SNR=39
AKASG ScP **ScP** **23 49 20.4 -3.0**
comp=Z,1.1nm,0.5s,baz=82,slow=5.5,SNR=4.1
AKASG LR LR 00 07 30.3
comp=Z,1μm,19.4s,baz=79,slow=40
comp=Z,2.8nm,0.3s
AKBB Malin Array Si 48.57 314 IAmb IAmb 23 44 26.2
comp=Z,23nm,0.7s
AKBB Malin Array Si 48.57 314*ce*P **P** **23 44 02.7 -0.7**
AK05 Malin Array Si 48.57 314 P **P** **23 44 03.3 -0.2**
AK05 IAmb IAmb 23 44 15.6
comp=Z,20nm,0.7s
MILM Milestii Mici 48.58 309⇑P **P** **23 44 03.3 -0.3**
MILM Milestii Mici 48.58 309⇑*i*P **P** **23 44 03.0 -0.6**
comp=Z,40nm,0.6s
MILM *e*S **S** **23 50 58.0 -6.7**
MILM LRM MLR 00 08 24.0
comp=Z,700nm,14.0s
MILM Milestii Mici 48.58 309*c i*P **P** **23 44 03.0 -0.6**
MILM *e*S **S** **23 50 58.0 -6.7**
MILM *e* 23 51 14.0
MILM pmax pmax
comp=Z,310nm,4.9s
TPGR Topolog 48.81 307⇑P **P** **23 44 05.8 +0.3**
MFTR Murfatlar 48.81 306⇑P **P** **23 44 05.1 -0.4**
SORM Soroca 48.94 311⇑P **P** **23 44 05.9 -0.4**
LEOM Leova 48.95 309⇑P **P** **23 44 06.0 -0.5**
LEOM Leova 48.95 309 P **P** **23 44 06.0 -0.5**
MANT Manisa 49.01 298 P **P** **23 44 07.4 +0.1**
MANT IAmb IAmb 23 44 20.5
comp=Z,46nm,1.3s
CFR Carcaliu 49.02 307⇑P **P** **23 44 06.4 -0.5**
JCJ Chichijima 49.07 77 LR LR 00 06 21.6
comp=Z,309nm,18.4s,baz=320,slow=38
TLBR Topalu 49.08 306⇑P **P** **23 44 07.6 +0.2**
HARR Harsova 49.16 306⇑P **P** **23 44 08.1 0.0**
ICOR Ion Corvin 49.26 306*i*P **P** **23 44 09.5 +0.6**
VASR Vaslui 49.27 309⇑P **P** **23 44 08.7 -0.2**
PRD Provadia 49.58 304*i*P **P** **23 44 11.7 +0.4**
YUK Yuzh-Kuril'sk 49.73 54⇓*e*P **P** **23 44 12.1 -0.4**
TIXI Tiksi 49.74 16 P **P** **23 44 11.5 -0.6**
comp=Z,81nm,0.7s,baz=89,slow=24,SNR=130
TIXI LR LR 00 06 25.4
comp=Z,2μm,21.7s,baz=182,slow=38
comp=Z,81nm,0.7s
TIXI Tiksi 49.74 16 P **P** **23 44 11.2 -0.9**
MNK Minsk 49.84 319*i*P **P** **23 44 13.3 +0.2**
comp=E,1.0nm,0.8s
MNK *i* LQ LQ 00 01 32.0
MNK *i* LR LR 00 03 41.9
MNK *i* LRM MLR 00 08 20.5
comp=Z,1μm,15.2s
MNK *i* LRM MLR 00 08 24.6
comp=E,168nm,15.2s
MNK *i* LRM MLR 00 08 50.9
comp=N,652nm,15.4s
MNK *i* P **P** **23 44 13.3 +0.2**
comp=N,36nm,0.8s
MNK *i* P **P** **23 44 13.3 +0.2**
comp=Z,17nm,0.8s,baz=98
MNK *i* PcP **PcP** **23 45 33.7 +0.2**
MNK *i* PP **PP** **23 46 08.2 +0.5**
MNK *i* PPP PPP 23 47 01.7
MNK *i* S **S** **23 51 22.6 +0.4**
MNK *i* SS **SS** **23 54 56.8 +2.2**
MNK Minsk 49.84 319*i*P **P** **23 44 13.3 +0.2**
MNK *i* 23 45 33.7
MNK *i* 23 46 08.1
MNK *i* PPP PPP 23 47 01.7
MNK *i* S **S** **23 51 22.5 +0.4**
MNK *i* SS **SS** **23 54 56.7 +2.2**
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,36nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=Z,1μm,15.0s
MNK MLR MLR
comp=E,168nm,15.0s
MNK MLR MLR
comp=N,652nm,15.0s
VRI Vrincioaia 50.00 308⇑P **P** **23 44 14.4 -0.2**
MMRI Maumere 50.01 131 P **P** **23 44 15.7 +0.8**
TESR Tescani 50.06 309⇑P **P** **23 44 14.9 -0.1**
PLOR Plostina 50.06 308⇑P **P** **23 44 16.0 +1.0**
JMB Yambol 50.21 304*i*P **P** **23 44 16.8 +0.7**
RAZG Razgrad 50.21 305⇓P **P** **23 44 16.7 +0.5**
NEHR Nehoiu 50.31 307⇑P **P** **23 44 17.3 +0.4**
COVR Voineasa-Covas 50.37 308⇑P **P** **23 44 18.0 +0.6**
KARP Karpathos 50.48 295 P **P** **23 44 17.7 -0.6**
NACGM Naroch 50.52 320 LQ LQ 00 01 39.8
LVZ Lovozero 50.55 337 P **P** **23 44 18.4 0.0**
LVZ Lovozero 50.55 337*ce*P **P** **23 44 18.9 +0.5**
LVZ pmax pmax
comp=Z,155nm,1.7s
MLR Muntele Rosu 50.56 308⇑P **P** **23 44 19.4 +0.5**
MLR Muntele Rosu 50.56 308 LR LR 00 10 19.5
comp=Z,489nm,18.4s,baz=74,slow=41
MLR Muntele Rosu 50.56 308 P **P** **23 44 19.8 +0.9**
MLR IAmb IAmb 23 44 41.3
comp=Z,48nm,0.8s
MLR Muntele Rosu 50.56 308 P **P** **23 44 19.8 +0.9**
MLR pmax pmax
comp=Z,48nm,0.8s
SZH Strazhica 50.65 305*i*P **P** **23 44 19.4 0.0**
OZUR 50.66 308⇑P **P** **23 44 20.2 +0.7**
APA Apatity 50.84 337⇓*i*P **P** **23 44 18.6 -1.9**
APA pmax pmax
comp=Z,29nm,0.9s
APA MLR MLR
comp=Z,2μm,12.0s
IIGN Ignalina 50.90 320 *e*P **P** **23 44 24.6 +3.5**
IZAR Zarasai 50.94 321 *e*P **P** **23 44 23.7 +2.3**
ISAL Salakas 50.98 321 *e*P **P** **23 44 23.5 +1.8**
DIM Dimitrovgrad 51.02 303*i*P **P** **23 44 21.7 -0.5**
BURAR Bucovina Array 51.04 310⇑P **P** **23 44 22.9 +0.5**
BURAR Bucovina Array 51.04 310 P **P** **23 44 22.9 +0.5**
PVL Pavlikeni 51.09 305*i*P **P** **23 44 23.7 +1.0**
RDO Rodhopi 51.09 302 P **P** **23 44 22.9 +0.1**
VSU Vasula 51.09 324 *e*P **P** **23 44 23.0 +0.5**
VSU Vasula 51.09 324*ce*P **P** **23 44 23.1 +0.6**
VSU pmax pmax
comp=Z,77nm,1.0s
KDZ Kurdzhali 51.14 303*i*P **P** **23 44 23.8 +0.6**
VOIR 51.19 307⇑P **P** **23 44 23.2 -0.4**
ARR Arges 51.48 307⇑P **P** **23 44 26.2 +0.4**
SWI Sorong 51.49 116 P **P** **23 44 26.3 +0.2**
comp=Z,30nm,0.6s
PLVB Pleven 51.60 305⇑P **P** **23 44 25.8 -0.8**
PLD Plovdiv 51.63 303*i*P **P** **23 44 27.1 +0.3**
FIA1 FINESS Array S 51.98 328 IAmb IAmb 23 44 46.8
comp=Z,52nm,0.7s
FINES FINESS Array B 51.98 328 P **P** **23 44 29.1 0.0**
comp=Z,20nm,0.5s,baz=106,slow=7.6,SNR=81
FINES LR LR 00 08 35.7
comp=Z,1μm,19.2s,baz=82,slow=38
comp=Z,20nm,0.5s
PGB Panagyurishte 51.99 304*i*P **P** **23 44 30.4 +0.8**
SOEI Soe 52.19 130 P **P** **23 44 32.2 +0.8**
SOEI Soe 52.19 130 P **P** **23 44 31.9 +0.5**
comp=Z,2μmcomp=Z,116nm,0.9s
SOEI Soe 52.19 130 P **P** **23 44 33.0 +1.6**
PABE Paberze 52.19 320 *e*P **P** **23 44 31.2 +0.4**
BMR Baia Mare 52.20 310⇑P **P** **23 44 31.1 +0.1**
MPEP Malo Peshtene 52.24 305*i*P **P** **23 44 31.9 +0.5**
VSVD Vaisvydziai 52.26 321 *e*P **P** **23 44 32.6 +1.3**
IDI Anoyia 52.35 295⇑P **P** **23 44 32.1 -0.3**
IDI Anoyia 52.35 295 P **P** **23 44 32.1 -0.3**
comp=Z,13nm,0.6s,baz=85,slow=9.5,SNR=4.7
comp=Z,13nm,0.6s
IDI Anoyia 52.35 295 IAmb IAmb 23 45 20.0
comp=Z,106nm,1.6s
MMB Musomiste 52.40 303*i*P **P** **23 44 32.4 -0.2**
MEF Metsahovi 52.57 326 *e*P **P** **23 44 34.1 +0.6**
MTSE Matsula 52.64 324 *e*P **P** **23 44 34.8 +0.8**
VTS Vitosha 52.67 304⇑P **P** **23 44 35.1 +0.3**
VTS Vitosha 52.67 304 P **P** **23 44 35.1 +0.3**
VTS IAmb IAmb 23 44 37.5
comp=Z,41nm,0.9s
VTS Vitosha 52.67 304*i*P **P** **23 44 35.3 +0.6**
VTS Vitosha 52.67 304 P **P** **23 44 35.1 +0.3**
VTS pmax pmax
comp=Z,41nm,0.9s
DEV Deva 52.67 308⇑P **P** **23 44 35.0 +0.5**
DRGR 52.77 309⇑P **P** **23 44 36.1 +0.8**
TRPA Tarpa 52.84 311⇓P **P** **23 44 36.4 +0.7**
TRPA Tarpa 52.84 311 P **P** **23 44 36.9 +1.3**
KKB Krupnik 52.85 303*i*P **P** **23 44 35.9 -0.1**
UZH Uzhgorod 52.99 312 *e*P **P** **23 44 34.7 -2.1**
UZH *i* 23 44 37.8
KOLS Kolonicke sedl 52.99 312 *e*P **P** **23 44 38.2 +1.3**
KOLS Kolonicke sedl 52.99 312 *e*P **P** **23 44 38.2 +1.3**
KOLS pmax pmax
comp=Z,8.0nm,0.6s
HERR Herculane 53.08 307⇑P **P** **23 44 37.3 -0.2**
VADS Vadso 53.19 339 *e*P **P** **23 44 38.5 +0.5**
VADS IAmb IAmb 23 44 40.3
comp=Z,119nm,1.3s
SURR Surduc 53.23 308⇑P **P** **23 44 39.4 +0.8**
FAKI Fak Fak 53.52 117 P **P** **23 44 40.5 -0.6**
FAKI IAmb IAmb 23 44 56.0
comp=Z,35nm,0.8s
FAKI Fak Fak 53.52 117 P **P** **23 44 41.6 +0.4**
comp=Z,2μmcomp=Z,48nm,1.5s
STIP Stip 53.54 303*i*P **P** **23 44 39.4 -1.6**
MA2 Magadan 53.55 35 P **P** **23 44 40.2 -0.6**
comp=Z,22nm,0.7s,baz=268,slow=4.0,SNR=10.0
MA2 LR LR 00 09 25.5
comp=Z,3μm,19.6s,baz=260,slow=38
comp=Z,22nm,0.7s
MA2 Magadan 53.55 35 P **P** **23 44 40.2 -0.6**
MA2 IAmb IAmb 23 44 41.7
comp=Z,37nm,0.9s
MA2 Magadan 53.55 35*de*P **P** **23 44 40.5 -0.3**
MA2 pmax pmax
comp=Z,51nm,1.3s
MDVR Moldovita 53.59 307⇑P **P** **23 44 41.6 +0.3**
BZS Buzias 53.59 308⇑P **P** **23 44 41.8 +0.5**
STHS Stebnicka Huta 53.66 313 *e*P **P** **23 44 41.8 0.0**
STHS Stebnicka Huta 53.66 313 *e*P **P** **23 44 41.8 0.0**
STHS pmax pmax
comp=Z,8.0nm,1.1s
ABAH Abaujker 53.70 311 P **P** **23 44 42.1 +0.1**
KEV Kevo 53.82 338 P **P** **23 44 42.8 +0.2**
KEV Kevo 53.82 338 P **P** **23 44 42.8 +0.2**
KEV pmax pmax
comp=Z,78nm,0.9s
RAF Rauma 53.97 327 *e*P **P** **23 44 43.9 +0.2**
SKO Skopje 54.06 303*i*P **P** **23 44 44.4 -0.4**
AMBH Ambrzfalva 54.16 309 P **P** **23 44 47.6 +2.2**
ARCES ARCESS Array B 54.26 338 P **P** **23 44 45.8 0.0**
comp=Z,54nm,0.8s,baz=98,slow=5.6,SNR=53
ARCES LR LR 00 09 56.3
comp=Z,760nm,18.4s,baz=108,slow=38
comp=Z,54nm,0.8s
ARCES ARCESS Array B 54.26 338 P **P** **23 44 46.0 +0.2**
ARCES ARCESS Array B 54.26 338 P **P** **23 44 46.0 +0.2**
ARCES pmax pmax
comp=Z,78nm,1.0s
LODK Lodwar 54.36 253 P **P** **23 44 48.7 +1.3**
OJC Ojcow 54.57 314 P **P** **23 44 46.0 -2.3**
OJC Ojcow 54.57 314 P **P** **23 44 46.1 -2.3**

OJC pmax pmax
comp=Z,11nm,0.8s
PSZ Piszkesteto 54.62 311 P **P** **23 44 48.9 +0.1**
OHR Ohrid 54.65 302 *i* P **P** **23 44 48.5 -0.6**
SEY Seymchan 54.76 31 P **P** **23 44 49.3 -0.2**
comp=Z,17nm,1.1s,baz=266,slow=8.1,SNR=15
SEY LR LR 00 09 58.7
comp=Z,3µm,19.4s,baz=304,slow=38
comp=Z,17nm,1.1s
SEY Seymchan 54.76 31⇑ *e*P **P** **23 44 49.9 +0.4**
SEY pmax pmax
comp=Z,20nm,1.3s
DIVS Divíbare 54.88 306 *e*P **P** **23 44 50.5 -0.3**
KTK1 Kautokeino 54.89 337 *e*P **P** **23 44 50.6 +0.2**
KTK1 IAmb IAmb 23 44 51.6
comp=Z,41nm,0.8s
FRGS Fruska Gora 54.90 307 *e*P **P** **23 44 50.6 -0.3**
HAMF Hammerfest 55.17 339 *e*P **P** **23 44 53.2 +0.8**
HAMF IAmb IAmb 23 44 54.6
comp=Z,150nm,0.7s
KMBO Kilima Mbogo 55.28 247 P **P** **23 44 54.9 +0.7**
comp=Z,3.9nm,0.8s,baz=44,slow=11,SNR=17
KMBO LR LR 00 08 34.2
comp=Z,544nm,19.6s,baz=62,slow=36
comp=Z,3.9nm,0.8s
KMBO Kilima Mbogo 55.28 247 P **P** **23 44 54.7 +0.4**
KMBO Kilima Mbogo 55.28 247 *i* P **P** **23 44 54.9 +0.7**
SNR=8.7
VYHS Vyhne 55.29 312 *e*P **P** **23 44 53.1 -0.5**
VYHS Vyhne 55.29 312 *e*P **P** **23 44 53.1 -0.5**
VYHS pmax pmax
comp=Z,21nm,1.6s
TIR Tirane 55.31 303⇑P **P** **23 44 53.1 -0.8**
BBLS Lazići 55.32 306 *e*P **P** **23 44 53.5 -0.5**
KIBK Kibwezi 55.34 245 P **P** **23 44 55.8 +1.3**
MORH Mrgy, Hungar 55.61 309⇑P **P** **23 44 55.8 -0.1**
MORH Mrgy, Hungar 55.61 309 P **P** **23 44 55.4 -0.5**
KEK Kerkira 55.61 301 P **P** **23 44 54.7 -1.3**
KEK IAmb IAmb 23 46 04.1
comp=Z,45nm,1.0s
PDG Podgorica 55.61 304⇑P **P** **23 44 55.3 -0.7**
PDG Podgorica 55.61 304 IAmb IAmb 23 44 57.3
comp=Z,33nm,0.8s
OKC Ostrava-Krasne 55.65 313 *e*P **P** **23 44 56.4 +0.2**
OKC *ex* x 23 45 05.2
OKC Ostrava-Krasne 55.65 313 *e*P **P** **23 44 56.4 +0.2**
OKC *e* 23 45 05.2
SRO Srobarova 55.69 311 *e*P **P** **23 44 57.2 +0.7**
SRO Srobarova 55.69 311 *e*P **P** **23 44 57.2 +0.7**
DRME Dracevica, Mon 55.70 304 *e*P **P** **23 44 56.0 -0.7**
VLO Vlora 55.72 302 P **P** **23 44 56.8 0.0**
VLO Vlora 55.72 302 P **P** **23 44 56.8 0.0**
VLO pmax pmax
comp=Z,83nm,0.9s
UPM Unac-Piva 55.77 305 *e*P **P** **23 44 57.0 -0.4**
MAUC Maruska 55.89 313 *e*P **P** **23 44 58.8 +0.8**
GUMO Guam 55.93 92 LR LR 00 10 10.7
comp=Z,119nm,19.5s,baz=278,slow=37
KOVH Kovagotottos 56.00 309 P **P** **23 44 58.4 -0.4**
MORC Moravsky Berou 56.05 313⇑P **P** **23 44 58.3 -0.8**
MORC Moravsky Berou 56.05 313 *e*P **P** **23 44 58.7 -0.4**
BRY Bratogost 56.07 305 *e*P **P** **23 44 59.1 -0.4**
HCY Herceg Novi 56.17 304 *e*P **P** **23 44 59.8 -0.2**
MPLH Magyarpolny 56.27 310 P **P** **23 45 00.7 0.0**
MODS Modra-Piesok 56.33 311 *e*P **P** **23 45 01.8 +0.7**
MODS Modra-Piesok 56.33 311 *e*P **P** **23 45 01.8 +0.7**
MODS pmax pmax
comp=Z,21nm,1.2s
ZST Bratislava 56.46 311 *e*P **P** **23 45 03.0 +1.0**
ZST Bratislava 56.46 311 *e*P **P** **23 45 03.0 +1.0**
ZST pmax pmax
comp=Z,23nm,0.9s
KRLC Kraliky 56.52 314 *e*P **P** **23 45 02.2 -0.2**
KRLC Kraliky 56.52 314 *e*P **P** **23 45 02.2 -0.2**
TRO Tromso 56.52 337 *e*P **P** **23 45 03.1 +1.1**
TRO IAmb IAmb 23 45 04.1
comp=Z,63nm,1.0s
STON Ston 56.69 305 *e*P **P** **23 45 01.4 -2.3**
VRAC Vranov 56.70 313⇑P **P** **23 45 04.4 +0.7**
VRAC Vranov 56.70 313 LR LR 00 12 39.3
comp=Z,800nm,18.1s,baz=66,slow=39
VRAC Vranov 56.70 313 *e*P **P** **23 45 03.3 -0.4**
DPC Dobruska-Polom 56.79 314 *e*P **P** **23 45 04.8 +0.4**
DPC *ex* x 23 45 12.4
DPC Dobruska-Polom 56.79 314 *e*P **P** **23 45 04.8 +0.4**
DPC *e* 23 45 12.4
BLY Banja Luka 56.80 307 *e*P **P** **23 45 04.2 -0.2**
OSTC Ostas 56.84 314 *e*P **P** **23 45 04.1 -0.6**
OSTC *ex* x 23 45 14.7
KRUC Moravsky 56.85 312 *e*P **P** **23 45 04.8 0.0**
SOP Sopron 56.88 311 P **P** **23 45 05.3 +0.3**
SRKY Kupres RS 56.90 306 *e*P **P** **23 45 04.9 -0.4**
MGRS Mrkonjic Grad 56.91 307 *e*P **P** **23 45 04.3 -1.0**
A051A Mrakovica 56.96 308 *e*P **P** **23 45 04.5 -1.2**
UPC Upice 56.97 314 *e*P **P** **23 45 06.1 +0.5**
UPC Upice 56.97 314 *e*P **P** **23 45 06.1 +0.5**
RONA Rosalia, Austr 57.05 311 *e*P **P** **23 45 06.8 +0.6**
comp=Z,4.1nm,0.6s
PEA0B Petropavlovsk- 57.23 43⇓ *e*P **P** **23 45 06.5 -0.8**
PETK Petropavlovsk- 57.23 43 P **P** **23 45 06.2 -1.2**
comp=Z,10nm,0.9s,baz=222,slow=4.0,SNR=9.6
PETK LR LR 00 11 30.3
comp=Z,270nm,18.3s,baz=260,slow=38
comp=Z,10nm,0.9s
CONA Conrad Observa 57.32 311 *e*P **P** **23 45 07.6 -0.7**
comp=Z,12nm,1.1s,SNR=8.3
FAUS Fauske 57.52 334 *e*P **P** **23 45 09.1 -0.1**
FAUS IAmb IAmb 23 45 18.4
comp=Z,59nm,1.1s
STEI Steigen 57.60 335 *e*P **P** **23 45 09.8 +0.2**
ARSA Arzberg 57.63 310 *e*P **P** **23 45 10.7 +0.3**
comp=Z,4.7nm,0.8s
MOR8 Moi Rana 57.75 333 *e*P **P** **23 45 10.0 -0.9**
MOR8 IAmb IAmb 23 45 11.0
comp=Z,58nm,1.2s
MATE Matera 57.79 302⇑P **P** **23 45 11.1 -0.4**
DEL Delary 57.88 321 *i* P **P** **23 45 12.2 +0.3**
HFS Hagfors 57.89 326 LR LR 00 12 12.5
comp=Z,503nm,20.0s,baz=93,slow=38
PRU Pruhonice 57.96 314 *e*P **P** **23 45 12.8 +0.2**
PRU *ex* x 23 45 21.7
PRU Pruhonice 57.96 314 *e*P **P** **23 45 12.8 +0.2**
PRU *e* 23 45 21.7
TIP Timpagrande 58.02 301 P **P** **23 45 12.9 -0.4**
TIP IAmb IAmb 23 45 15.1
comp=Z,65nm,1.3s
SOKA Soboth 58.03 310 *e*P **P** **23 45 13.2 0.0**
comp=Z,9.7nm,1.1s,SNR=7.3
LUNU Lund 58.16 320 *i* P **P** **23 45 13.3 -0.5**
CKRC Cesky Krumlov 58.24 312 *e*P **P** **23 45 14.0 -0.6**
CKRC *ex* x 23 45 24.6
MBWA Marble Bar 58.25 143 P **P** **23 45 15.0 +0.2**
MBWA IAmb IAmb 23 45 30.2
comp=Z,37nm,1.1s
BRG Berggiesshubel 58.25 315 Amp 23 45 16.9
comp=Z,18nm,1.1s
BRG Berggiesshubel 58.25 315 *e*P **P** **23 45 14.7 +0.1**
BRG pmax pmax
comp=Z,18nm,1.1s
BRG Berggiesshubel 58.25 315 Amp 00 13 00.0
comp=N,0.3nm,13.1s
BRG Berggiesshubel 58.25 315 Amp 00 13 03.0
comp=Z,2.3nm,16.3s
BRG Berggiesshubel 58.25 315 Amp 00 13 07.0
comp=E,1.8nm,15.4s
BRG Berggiesshubel 58.25 315 *e*P **P** **23 45 14.7 +0.1**
LOF Lofoten 58.25 335 *e*P **P** **23 45 13.7 -0.6**
LOF IAmb IAmb 23 45 17.9
comp=Z,158nm,1.3s
SGRT San Giovanni R 58.30 304 P **P** **23 45 14.8 -0.4**
KONS Konsvik 58.31 333 *e*P **P** **23 45 14.8 +0.1**
KONS IAmb IAmb 23 45 16.4
comp=Z,40nm,0.8s
STOK Stokkvaagen 58.34 333 *e*P **P** **23 45 15.0 +0.1**
OBKA Obir 58.39 310 *e*P **P** **23 45 15.1 -0.6**
OBKA Obir 58.39 310 *e*P **P** **23 45 15.8 0.0**
comp=Z,8.5nm,0.9s
MOA Molln 58.40 311 *e*P **P** **23 45 15.2 -0.5**
comp=Z,9.1nm,0.9s
BORU Boraas 58.43 323 *i* P **P** **23 45 14.4 -1.3**
FABU Falkenberg 58.49 322 *i* P **P** **23 45 14.5 -1.6**
CUC Castrocucco 58.58 302 IAmb IAmb 23 45 40.9
comp=Z,58nm,1.0s
GEC2 GERESS Array S 58.64 312 P **P** **23 45 17.8 +0.3**
GERES GERESS Array B 58.64 312 P **P** **23 45 17.3 -0.2**
comp=Z,3.4nm,0.7s,baz=86,slow=5.9,SNR=22
GERES LR LR 00 13 49.1
comp=Z,498nm,18.8s,baz=67,slow=39
comp=Z,3.4nm,0.7s
PSA00 Pilbara Seismi 58.65 143 IAmb IAmb 23 45 34.1
comp=Z,43nm,1.2s
KHC Kasperske Hory 58.68 313 P **P** **23 45 17.9 +0.2**
KHC Kasperske Hory 58.68 313 *e*P **P** **23 45 17.7 0.0**
KHC *ex* x 23 45 26.6
KHC Kasperske Hory 58.68 313 *c i*P **P** **23 45 18.4 +0.7**
KHC pmax pmax
comp=Z,22nm,1.0s
NSS Namsos 58.72 331 *e*P **P** **23 45 16.8 -0.8**
NSS IAmb IAmb 23 45 19.2
comp=Z,17nm,0.5s
CLL Collm 58.79 315 P **P** **23 45 18.3 0.0**
CLL Collm 58.79 315 *i* P **P** **23 45 18.3 0.0**
comp=Z,9.0nm,1.1s
CLL Lmax 00 13 00.0
CLL *i x* x 23 45 26.3
CLL *ex* x 23 45 34.0
comp=Z,14nm,1.1s
CLL *e*PP **PP** **23 47 28.0 -0.2**
CLL *e*PPP PPP 23 48 49.0
CLL *e*S **S** **23 53 29.0 +5.9**
CLL *e*SSS SSS 23 59 48.0
CLL Lm MLR 00 13 00.0
comp=Z,2µm,18.9s
CLL Collm 58.79 315 P **P** **23 45 18.3 0.0**
CLL pmax pmax
comp=Z,12nm,1.1s
BIOA Bad Ischl, Aus 58.84 311 *e*P **P** **23 45 18.2 -0.6**
comp=Z,2.5nm,0.4s
CEL Celeste 58.87 300 P **P** **23 45 19.4 +0.2**
HSPB Hornsund (broa 58.94 346 *e*P **P** **23 45 20.9 +2.0**
NC303 NORSAR Array S 59.01 327 IAmb IAmb 23 45 21.1
comp=Z,33nm,0.7s
SPB2 Spitsbergen Ar 59.02 347 P **P** **23 45 19.5 0.0**
SPB2 IAmb IAmb 23 45 21.5
comp=Z,50nm,0.9s
SPITS Spitsbergen Ar 59.02 347 P **P** **23 45 20.0 +0.5**
comp=Z,22nm,0.7s,baz=102,slow=10,SNR=27
SPITS LR LR 00 16 38.7
comp=Z,1µm,18.2s,baz=68,slow=42
comp=Z,22nm,0.7s
NB2 NORSAR Subarra 59.09 327 P **P** **23 45 19.5 -0.8**
baz=88,slow=6.9
NB2 NORSAR Subarra 59.09 327 P **P** **23 45 19.5 -0.8**
comp=Z,34nm,0.9s,baz=88,slow=6.9
NOA NORSAR Array B 59.09 327 P **P** **23 45 19.6 -0.8**
comp=Z,19nm,0.7s,baz=87,slow=6.9,SNR=58
NOA LR LR 00 12 25.2
comp=Z,836nm,19.4s,baz=80,slow=38
comp=Z,19nm,0.7s
SABO M.te Sabotino 59.12 309 P **P** **23 45 20.5 -0.3**
SABO IAmb IAmb 23 45 34.9
comp=Z,60nm,1.4s
MTN Manton Dam 59.12 127 P **P** **23 45 21.3 +0.3**
MTN IAmb IAmb 23 45 30.4
comp=Z,55nm,1.8s
STRU Stroemstad 59.20 324 *i* P **P** **23 45 20.3 -0.7**
NKC Novy Kostel 59.27 314 *e*P **P** **23 45 22.3 +0.6**
NKC Novy Kostel 59.27 314 *e*P **P** **23 45 22.3 +0.6**
NC204 NORSAR Array S 59.30 327 P **P** **23 45 21.4 -0.4**
NC204 IAmb IAmb 23 45 23.0
comp=Z,34nm,0.6s
NBO00 NORSAR Array S 59.31 327 P **P** **23 45 21.7 -0.1**
OSL Oslo 59.38 325 *e*P **P** **23 45 22.9 +0.7**
KNRA Kununurra 59.48 131 P **P** **23 45 24.2 +0.8**
KNRA IAmb IAmb 23 45 35.0
comp=Z,49nm,1.2s
TBLU Trondheim 59.48 329 *e*P **P** **23 45 21.3 -1.6**
TBLU IAmb IAmb 23 45 22.2
comp=Z,20nm,0.8s
CLUD Cludinico 59.53 310 P **P** **23 45 22.9 -0.8**
INTR Introdacqua 59.60 304 IAmb IAmb 23 45 46.5
comp=Z,37nm,1.0s
STAL STALIGIAL 59.68 309 P **P** **23 45 23.9 -0.8**
STAL IAmb IAmb 23 45 25.2
comp=Z,24nm,0.9s
OPO Ambohidratompo 59.72 224 P **P** **23 45 26.2 +0.9**
comp=Z,8.8nm,0.9s,baz=60,slow=6.9,SNR=8.8
OPO LR LR 00 07 56.8
comp=Z,1µm,18.3s,baz=190,slow=33
comp=Z,8.8nm,0.9s
ABTA Abfaltersbach 59.74 310 *e*P **P** **23 45 24.1 -1.0**
comp=Z,3.2nm,0.9s
CIMO Cimolais 59.86 310 P **P** **23 45 25.0 -0.8**
CIMO IAmb IAmb 23 45 26.5
comp=Z,16nm,0.9s
CAMP Campotosto 59.86 305 P **P** **23 45 25.4 -0.6**
CAMP IAmb IAmb 23 45 41.2
comp=Z,23nm,0.7s
AQU L'Aquila 59.90 305 P **P** **23 45 26.7 +0.4**
AQU IAmb IAmb 23 45 56.5
comp=Z,34nm,1.0s
AQU L'Aquila 59.90 305 P **P** **23 45 26.7 +0.4**
AQU pmax pmax
comp=Z,34nm,1.0s
KONO Kongsberg 59.97 325⇑ *e*P **P** **23 45 25.7 -0.6**
KONO pmax pmax
comp=Z,25nm,1.7s
KONO Kongsberg 59.97 325 *e*P **P** **23 45 26.4 +0.1**
FDMO Fiordimonte 60.00 306 P **P** **23 45 26.4 -0.5**
NRCA Norcia 60.02 306 P **P** **23 45 26.9 -0.1**
NRCA IAmb IAmb 23 45 29.3
comp=Z,24nm,0.6s
ABPO Ambohimpanom 60.03 224 P **P** **23 45 28.5 +1.0**
ABPO Ambohimpanom 60.03 224 P **P** **23 45 28.5 +1.0**
ABPO pmax pmax
comp=Z,14nm,1.1s
KBS Kingsbay 60.04 348 P **P** **23 45 26.8 +0.3**
KBS IAmb IAmb 23 45 28.0
comp=Z,55nm,1.1s
KBS Kingsbay 60.04 348 P **P** **23 45 26.8 +0.3**
KBS pmax pmax
comp=Z,55nm,1.1s
DOMB Dombas 60.08 328 *e*P **P** **23 45 26.6 -0.5**
DOMB IAmb IAmb 23 45 27.8
comp=Z,24nm,0.8s
GRA1 Grafenberg Arr 60.13 314 P **P** **23 45 28.2 +0.5**
GRA1 IAmb IAmb 23 45 31.1
comp=Z,43nm,1.4s
GRF Grafenberg Arr 60.13 314 P **P** **23 45 28.2 +0.5**
GRF pmax pmax
comp=Z,43nm,1.4s
GRFO Grafenberg 60.13 314 P **P** **23 45 28.3 +0.7**
GRFO IAmb IAmb 23 45 31.0
comp=Z,42nm,1.4s
GRFO Grafenberg 60.13 314 P **P** **23 45 28.3 +0.7**
GRFO pmax pmax
comp=Z,42nm,1.4s
VAE Valguarnera 60.19 299 P **P** **23 45 29.9 +1.6**
WTTA Wattenberg 60.24 311 *e*P **P** **23 45 27.5 -1.2**
comp=Z,17nm,1.0s,SNR=8.8
WATA Walderalm 60.27 311 *e*P **P** **23 45 27.6 -1.3**
comp=Z,9.3nm,1.0s,SNR=6.8
RAFF Raffo Rosso 60.29 299 P **P** **23 45 29.6 +0.7**
MURB Monte Urbino 60.36 306 P **P** **23 45 30.1 +0.7**
MBAR Mbarara 60.40 252 LR LR 00 10 38.3
comp=Z,262nm,19.4s,baz=46,slow=35
MBAR Mbarara 60.40 252 P **P** **23 45 30.4 +0.2**
MBAR Mbarara 60.40 252 *ce*P **P** **23 45 31.2 +1.0**
MBAR pmax pmax
comp=Z,17nm,2.5s
CESX Cesi 60.45 305 P **P** **23 45 29.3 -0.7**
CESX IAmb IAmb 23 45 43.7
comp=Z,42nm,1.5s
CTI Castel Tesino 60.45 309 P **P** **23 45 29.4 -0.6**
CTI Castel Tesino 60.45 309 P **P** **23 45 29.4 -0.6**
SKAR Skarslia 60.54 326 *e*P **P** **23 45 30.6 +0.3**
SKAR IAmb IAmb 23 45 31.6
comp=Z,17nm,1.0s
SQTA Sankt Quirin 60.54 311 *e*P **P** **23 45 29.4 -1.2**
comp=Z,6.6nm,0.4s,SNR=8.3
TEOL Teolo 60.56 309 P **P** **23 45 30.1 -0.5**
MOTA Moosalm 60.59 311 *e*P **P** **23 45 29.7 -1.3**
comp=Z,18nm,1.0s,SNR=9.1
MOL Molde 60.75 329 *e*P **P** **23 45 30.9 -0.7**
MOL IAmb IAmb 23 45 32.6
comp=Z,27nm,0.7s
RETA Reutte 60.79 311 *e*P **P** **23 45 31.6 -0.7**
comp=Z,14nm,1.0s,SNR=5.2
BILL Bilibino 60.80 25 P **P** **23 45 31.9 0.0**
BILL IAmb IAmb 23 45 34.5
comp=Z,80nm,1.4s
BILL Bilibino 60.80 25 *ce*P **P** **23 45 32.5 +0.6**
BILL *e* 23 46 16.5
BILL *e* 23 47 45.8
BILL pmax pmax
comp=Z,52nm,1.3s
BILL MLR MLR
comp=Z,1µm,16.0s
FETA Feichten 60.90 311 *e*P **P** **23 45 31.9 -1.2**
comp=Z,12nm,0.9s,SNR=8.6
LATE Laterza 61.01 306 P **P** **23 45 32.7 -1.1**
LATE IAmb IAmb 23 45 48.1
comp=Z,29nm,1.0s
CLTB Caltabellotta 61.09 300 P **P** **23 45 33.5 -1.0**
OSSC Osservatorio P 61.22 307 P **P** **23 45 34.1 -1.1**
ZCCA Zocca 61.24 308 P **P** **23 45 35.8 +0.5**
ZCCA IAmb IAmb 23 46 03.9
comp=Z,32nm,1.0s
FUORN Ofenpass-Fuorn 61.28 310 P **P** **23 45 35.4 -0.5**
SALO Salr 61.30 309 P **P** **23 45 35.5 -0.2**
SALO IAmb IAmb 23 45 37.4
comp=Z,42nm,0.9s
SNART Snartemo 61.33 324 *i* P **P** **23 45 35.5 -0.1**
DAVA Damuels 61.42 311 *e*P **P** **23 45 35.8 -0.9**
comp=Z,24nm,0.9s,SNR=9.7
ODD1 Odda 61.44 326 P **P** **23 45 36.6 +0.2**
DAVOX Davos/Dischmat 61.51 310 LR LR 00 16 35.2
comp=Z,450nm,19.6s,baz=58,slow=40
HYA Hoyanger 61.52 327 *e*P **P** **23 45 36.7 -0.1**
HYA IAmb IAmb 23 45 39.1
comp=Z,16nm,0.8s
BLS5 Blasjo 61.59 325 *e*P **P** **23 45 38.5 +1.1**
STU Stuttgart 61.59 313 P **P** **23 45 37.7 +0.1**
STU IAmb IAmb 23 46 05.0
comp=Z,16nm,0.6s
STU Stuttgart 61.59 313 P **P** **23 45 37.7 +0.1**
STU pmax pmax
comp=Z,16nm,0.6s
PRMA PARMA 61.62 308 P **P** **23 45 38.1 +0.3**
PRMA IAmb IAmb 23 46 07.8
comp=Z,25nm,0.8s
VLC Villacollemand 61.69 307 P **P** **23 45 38.5 +0.1**
VLC IAmb IAmb 23 46 01.2
comp=Z,44nm,1.2s
TUE Stuetta 61.93 310 P **P** **23 45 40.0 -0.2**
TUE IAmb IAmb 23 46 07.1
comp=Z,14nm,0.8s
FOO Floro 62.02 328 *e*P **P** **23 45 39.9 -0.2**
BER Bergen 62.03 326 *e*P **P** **23 45 40.3 0.0**
SUE Sulen 62.22 327 *e*P **P** **23 45 41.9 +0.4**
MSSA Maissana 62.27 308 IAmb IAmb 23 45 58.4
comp=Z,22nm,0.7s
VOI Vohitsoka 62.50 222 IAmb IAmb 23 45 51.8
comp=Z,34nm,1.2s
VOI Vohitsoka 62.50 222 P P 23 45 51.6 +7.6
ECH Echery 63.03 312 P **P** **23 45 46.7 -0.6**
ECH Echery 63.03 312 P **P** **23 45 46.7 -0.6**
ECH pmax pmax
comp=Z,8.0nm,0.9s
MORW Morawa 63.15 151 P **P** **23 45 48.5 +0.4**
MORW IAmb IAmb 23 45 54.1
comp=Z,21nm,0.8s
BTNL Ternell 63.20 315 *d*P **P** **23 45 48.8 +0.5**
comp=Z,8.7nm,1.1s
BTNL *d*pP **pP** **23 45 51.6 -2.7**
MEM Membach 63.27 315 *d*P **P** **23 45 49.0 +0.2**
comp=Z,11nm,1.0s
BHOU Houvegnez 63.33 315 *d*P **P** **23 45 49.5 +0.3**
comp=Z,12nm,1.1s
WLF Walferdange 63.38 314 P **P** **23 45 49.9 +0.4**
WLF IAmb IAmb 23 45 52.0
comp=Z,26nm,1.0s
WLF Walferdange 63.38 314 *d*P **P** **23 45 50.4 +0.9**
comp=Z,16nm,1.0s
WLF Walferdange 63.38 314 P **P** **23 45 49.9 +0.4**
WLF pmax pmax
comp=Z,26nm,1.0s
BSTI Sart Tilman 63.55 315 *d*P **P** **23 45 51.1 +0.5**
BCLA Clavier 63.75 315 *d*P **P** **23 45 52.4 +0.4**
comp=Z,7.4nm,1.0s
BCLA *d*pP **pP** **23 45 55.2 -2.7**
RCHB Rochefort 63.85 315 *d*P **P** **23 45 52.1 -0.5**
comp=Z,8.7nm,1.0s
BGES Gesves 63.89 315 *d*P **P** **23 45 53.2 +0.3**
BNI Bardonecchia 64.07 309 IAmb IAmb 23 46 00.8
comp=Z,18nm,1.0s
BMRD Maredsous 64.11 315 *d*P **P** **23 45 54.7 +0.4**
comp=Z,6.2nm,1.1s
DOU Dourbes 64.27 315 *d*P **P** **23 45 55.6 +0.2**
SNF Seneffe 64.37 315 *d*P **P** **23 45 55.5 -0.5**
comp=Z,17nm,1.0s
KEST Kesra 64.58 299 P **P** **23 45 58.2 +0.5**
comp=Z,42nm,0.8s,baz=79,slow=3.4,SNR=58
comp=Z,42nm,0.8s
KEST Kesra 64.58 299 P **P** **23 45 57.8 +0.1**
NOR Nord 64.67 351 *i* P **P** **23 45 56.1 -1.4**
NOR IAmb IAmb 23 45 58.3
comp=Z,14nm,0.8s
JMIC Jan Mayen 65.69 339 LR LR 00 15 36.0
comp=Z,256nm,19.8s,baz=66,slow=37
WRA Warramunga Arr 66.23 130 P **P** **23 46 08.6 +0.1**
comp=Z,27nm,0.6s,baz=324,slow=6.5,SNR=173
WRA PKP2bc 00 14 45.5
comp=Z,1.4nm,1.0s,baz=128,slow=3.2,SNR=6.7
WRA LR LR 00 21 52.4
comp=Z,194nm,18.0s,baz=282,slow=42
comp=Z,27nm,0.6s
WRAB Tennant Creek 66.23 130 P **P** **23 46 08.9 +0.4**
WRAB Tennant Creek 66.23 130 P **P** **23 46 09.6 +1.1**
WRAB Tennant Creek 66.23 130 *c i*P **P** **23 46 08.5 0.0**
WRAB pmax pmax
comp=Z,38nm,0.6s
CLF Chambon-Foret 66.26 313 IAmb IAmb 23 46 10.0
comp=Z,44nm,1.2s
DAG Danmarks Havn 66.63 346 *i* P **P** **23 46 07.9 -2.3**
DAG IAmb IAmb 23 46 11.4
comp=Z,18nm,0.9s
MCD Coleburn Disti 66.94 324 *e*P **P** **23 46 12.4 0.0**
EDMD Edmundbyers 66.98 321 *e*P **P** **23 46 12.3 -0.5**
NWAO Narrogin (SRO) 67.00 152 P **P** **23 46 12.6 -0.5**
comp=Z,31nm,1.0s,baz=183,slow=4.7,SNR=12
NWAO LR LR 00 18 57.8
comp=Z,232nm,18.3s,baz=152,slow=39
comp=Z,31nm,1.0s
NWAO Narrogin (SRO) 67.00 152 P **P** **23 46 12.2 -0.9**
NWAO Narrogin (SRO) 67.00 152 IAmb IAmb 23 46 22.8
comp=Z,36nm,0.8s
NWAO Narrogin (SRO) 67.00 152 P **P** **23 46 13.6 +0.5**
BIGH Upper Bighouse 67.03 325 *e*P **P** **23 46 13.0 0.0**
HPK Haverah Park 67.03 320 *e*P **P** **23 46 13.5 +0.4**
ESY Stoneypath 67.05 322 *e*P **P** **23 46 12.8 -0.4**
SHEM Shemya Is, Ala 67.06 41 LR LR 00 18 24.4
comp=Z,356nm,18.8s,baz=288,slow=38
EDI Edinburgh 67.36 322 *e*P **P** **23 46 15.0 -0.2**
EDI IAmb IAmb 23 46 16.0
comp=Z,56nm,1.1s
SET Setif 67.49 300 P **P** **23 46 17.0 +0.5**
EKA Eskdalemuir Ar 67.51 322 P **P** **23 46 16.0 -0.1**
comp=Z,41nm,1.1s,baz=90,slow=7.5,SNR=25
EKA LR LR 00 18 29.3
comp=Z,1µm,19.2s,baz=73,slow=38
comp=Z,41nm,1.1s
EKA Eskdalemuir Ar 67.51 322 P **P** **23 46 16.0 -0.1**
ESK Eskdalemuir 67.54 322 *e*P **P** **23 46 15.9 -0.4**
ESK IAmb IAmb 23 46 18.1
comp=Z,47nm,1.1s
ESK Eskdalemuir 67.54 322 P **P** **23 46 16.4 +0.1**
ESK IAmb IAmb 23 46 17.8
comp=Z,38nm,1.0s
ESK Eskdalemuir 67.54 322 P **P** **23 46 16.4 +0.1**
ESK pmax pmax
comp=Z,38nm,1.0s
INVG Invergeldie, C 67.67 323 *e*P **P** **23 46 17.2 +0.1**
DBG Daneborg 67.94 344 *i* P **P** **23 46 18.0 -0.5**
DBG IAmb IAmb 23 46 19.9
comp=Z,11nm,0.9s
FOEL Foel Wylfa 68.24 319 *e*P **P** **23 46 19.8 -1.1**
FOEL IAmb IAmb 23 46 21.0
comp=Z,36nm,0.9s
KPL Plockton 68.25 324 *e*P **P** **23 46 19.7 -1.0**
MONM Monmouth 68.32 318 *e*P **P** **23 46 20.9 -0.4**
MONM IAmb IAmb 23 46 22.4
comp=Z,119nm,1.5s
MCH1 Michaelchurch 68.39 318 *e*P **P** **23 46 22.1 +0.4**

MCH1 IAmb IAmb 23 46 23.6
comp=Z,124nm,1.4s
LAWE Loch Awe, Argy 68.44 323 *e*P **P** **23 46 21.8 -0.2**
LAWE IAmb IAmb 23 46 23.1
comp=Z,27nm,1.1s
ASAR Alice Springs 68.56 134 P **P** **23 46 23.1 0.0**
comp=Z,13nm,0.6s,baz=317,slow=6.3,SNR=47
ASAR PKP2bc
comp=Z,0.6nm,1.0s,baz=122,slow=2.6,SNR=2.9
ASAR LR LR 00 21 21.1
comp=Z,149nm,18.2s,baz=307,slow=40
comp=Z,13nm,0.6s
LPW Lampeter 68.98 319 *e*P **P** **23 46 25.2 -0.2**
PMG Port Moresby 69.29 113 P **P** **23 46 27.9 0.0**
comp=Z,11nm,0.4s,baz=76,slow=0.8,SNR=3.8
comp=Z,11nm,0.4s
PMG Port Moresby 69.29 113 P **P** **23 46 28.8 +1.0**
PMG IAmb IAmb 23 46 40.8
comp=Z,52nm,1.3s
PMG Port Moresby 69.29 113 P **P** **23 46 28.8 +1.0**
PMG pmax pmax
comp=Z,52nm,1.3s
RSBS Rosebush, Pemb 69.43 319 *e*P **P** **23 46 27.9 -0.3**
SCO Scoresbysund 70.04 340 *i* P **P** **23 46 30.6 -1.0**
SCO IAmb IAmb 23 46 33.6
comp=Z,5.7nm,0.8s
AMKA Amchitka 70.53 42 P **P** **23 46 34.8 -0.2**
CART Cartagena 71.84 303 P **P** **23 46 42.2 -1.0**
CART IAmb IAmb 23 46 44.2
comp=Z,34nm,0.9s
A21K Barrow 72.02 18 IAmb IAmb 23 46 45.7
comp=Z,82nm,1.4s
A21K Barrow 72.02 18 P **P** **23 46 43.7 +0.1**
baz=304,SNR=16
NEEM North Greenlan 72.05 351 *i* P **P** **23 46 42.9 -1.2**
NEEM IAmb IAmb 23 46 46.3
comp=Z,70nm,0.8s
EUNU Eureka 72.39 359 IAmb IAmb 23 46 48.3
comp=Z,51nm,0.9s
BORG Borgarnes 72.46 335 LR LR 00 19 22.1
comp=Z,408nm,18.1s,baz=53,slow=36
ANM Nome 72.66 25 P **P** **23 46 47.8 +0.2**
ANM IAmb IAmb 23 46 50.5
comp=Z,46nm,1.2s
ANM Nome 72.66 25 P **P** **23 46 47.8 +0.2**
ANM pmax pmax
comp=Z,46nm,1.2s
ADK Adak 72.67 40 P **P** **23 46 46.4 -1.5**
comp=Z,55nm,1.1s
ESBB Sonseca Array 73.23 306 P **P** **23 46 51.1 -0.4**
ESDC Sonseca Array 73.23 306 P **P** **23 46 51.4 -0.2**
comp=Z,9.8nm,0.9s,baz=54,slow=6.3,SNR=48
ESDC LR LR 00 24 29.3
comp=Z,367nm,18.2s,baz=52,slow=40
comp=Z,9.8nm,0.9s
ESDC Sonseca Array 73.23 306 P **P** **23 46 51.3 -0.2**
SUMG Summit 73.26 345 *i* P **P** **23 46 50.8 -0.7**
SUMG IAmb IAmb 23 46 53.4
comp=Z,17nm,1.0s
PAB San Pablo 73.55 306 P **P** **23 46 53.6 +0.2**
PAB San Pablo 73.55 306 P **P** **23 46 53.6 +0.2**
PAB pmax pmax
comp=Z,19nm,1.1s
MOPA Mopani 73.62 232 *i* P **P** **23 46 55.0 +1.1**
MOPA Mopani 73.62 232 *i* P **P** **23 46 55.0 +1.1**
MUSN Musina, Limpop 73.91 234 *i* P **P** **23 46 56.4 +0.7**
MUSN Musina, Limpop 73.91 234 *i* P **P** **23 46 56.4 +0.7**
PBRG Braganca 74.36 309 *e*P **P** **23 47 00.4 +2.3**
comp=Z,20nm,1.4s
C23K Itkillik River 74.52 18 P **P** **23 46 58.9 +0.5**
baz=309
MVO Moncorvo 74.81 309 *e*P **P** **23 47 00.9 +0.2**
comp=Z,25nm,1.3s
MVO Moncorvo 74.81 309 *e*LR LR 00 23 07.5
comp=Z,277nm,20.0s
CTA Charters Tower 74.82 123 LR LR 00 24 20.7
comp=Z,109nm,19.6s,baz=278,slow=39
TULEG Thule 74.88 354 IAmb IAmb 23 47 01.5
comp=Z,38nm,0.9s
TULEG Thule 74.88 354 *i* P **P** **23 46 58.4 -1.9**
TULEG IAmb IAmb 23 47 00.9
comp=Z,22nm,0.9s
D23K Nanushuk River 75.06 18 P **P** **23 47 02.1 +0.6**
baz=310
C24K Franklin Bluff 75.10 17 P **P** **23 47 02.3 +0.5**
baz=311
PVRL Vila Real 75.24 309 *e*P **P** **23 47 03.1 -0.1**
comp=Z,15nm,1.5s
POLO Lamas de Olo 75.25 309 *e*P **P** **23 47 03.2 -0.1**
comp=Z,10nm,2.0s
KULLO Kullorsuaq 75.26 351 *i* P **P** **23 47 01.8 -0.8**
KULLO IAmb IAmb 23 47 03.7
comp=Z,22nm,1.0s
E22K Anaktuvuk Pass 75.26 19 P **P** **23 47 03.3 +0.5**
baz=309
F21K Alatna River 75.32 20 P **P** **23 47 03.6 +0.4**
baz=308
PGAV Gavieira, Arco 75.34 310 *e*LR LR 00 22 20.4
comp=Z,299nm,20.0s
MTE Manteigas 75.47 308 *e*P **P** **23 47 04.7 +0.1**
comp=Z,22nm,1.8s
MTE Manteigas 75.47 308 *e*LR LR 00 23 47.6
comp=Z,287nm,20.0s
MTE Manteigas 75.47 308 P **P** **23 47 04.0 -0.5**
F22K John River 75.54 20 P **P** **23 47 05.1 +0.7**
baz=309
TOLK Toolik Lake Re 75.57 18 P **P** **23 47 04.7 +0.1**
TOLK IAmb IAmb 23 47 06.9
comp=Z,53nm,1.1s
TOLK Toolik Lake Re 75.57 18 P **P** **23 47 05.0 +0.4**
baz=311
PVIS Viseu 75.59 309 *e*P **P** **23 47 04.8 -0.4**
comp=Z,18nm,1.6s
PCBR Castelo Branco 75.66 308 *e*P **P** **23 47 06.0 +0.5**
comp=Z,17nm,1.6s
GCSA Galena City Sc 75.67 23 P **P** **23 47 06.5 +1.3**
baz=305
G21K Allakaket 75.75 21 P **P** **23 47 05.7 +0.2**
baz=308
PMRV Marv??o 75.76 307 *e*P **P** **23 47 07.3 +1.1**
comp=Z,15nm,2.1s
PMRV Marv??o 75.76 307 *e*LR LR 00 22 19.4
comp=Z,326nm,18.0s
ICESG Greenland Ices 75.88 343 *i* P **P** **23 47 06.4 -0.3**
ICESG IAmb IAmb 23 47 09.8
comp=Z,48nm,0.9s
POGA Pongola 75.92 229 P **P** **23 47 08.0 +0.9**
POGA IAmb IAmb 23 47 18.3
comp=Z,102nm,1.9s
C26K Camden Bay 75.93 16 P **P** **23 47 07.4 +0.9**
baz=314
E23K Chandalar 75.94 19 P **P** **23 47 07.5 +0.8**
baz=311
D25K Kavik River 75.98 17 P **P** **23 47 07.7 +0.8**
baz=313
PBAR Barrancos 76.02 306 *e*P **P** **23 47 07.5 -0.2**
comp=Z,38nm,1.3s
PESTR Estremoz 76.13 307 *e*P **P** **23 47 08.3 0.0**
comp=Z,16nm,1.4s
E24K Your Creek 76.25 18 P **P** **23 47 09.0 +0.5**
baz=312
PCAS Casmilo, Conde 76.28 308 *e*P **P** **23 47 11.9 +2.8**
comp=Z,41nm,1.7s
COLD Coldfoot 76.31 20 IAmb IAmb 23 47 11.4
comp=Z,37nm,1.0s
COLD Coldfoot 76.31 20 P **P** **23 47 09.3 +0.6**
baz=310
MDT Midelt 76.41 300 P **P** **23 47 10.9 +0.8**
comp=Z,3.3nm,0.9s,baz=61,slow=9.5,SNR=4.3
MDT LR LR 00 26 04.3
comp=Z,128nm,19.6s,baz=34,slow=40
comp=Z,3.3nm,0.9s
BBOO Buckleboo 76.41 139 P **P** **23 47 10.6 +0.8**
C27K Jago River 76.43 16 P **P** **23 47 10.2 +0.8**
baz=316
PMTG Montargil 76.50 307 *e*P **P** **23 47 10.3 -0.1**
comp=Z,24nm,1.5s
H21K Melozitna Rive 76.50 22 IAmb IAmb 23 47 12.5
comp=Z,38nm,0.9s
H21K Melozitna Rive 76.50 22 P **P** **23 47 10.5 +0.6**
baz=308,SNR=23
EVO Evora 76.57 307 *e*P **P** **23 47 11.3 +0.5**
comp=Z,25nm,1.2s
PBEJ Beja 76.68 306 *e*P **P** **23 47 11.8 +0.4**
comp=Z,18nm,1.2s
G23K Bananza Creek 76.70 20 P **P** **23 47 11.7 +0.6**
baz=311

PSBE So Bento 76.72 308 *e*P **P** **23 47 11.1 -0.5**
comp=Z,42nm,1.4s
F24K Squaw Lake 76.79 19 P **P** **23 47 12.9 +1.3**
baz=312
H22K Ishtalitna Cre 76.81 21 P **P** **23 47 13.2 +1.5**
baz=310
PVAQ Vaqueiros 76.83 305 *e*P **P** **23 47 12.5 +0.2**
comp=Z,34nm,1.2s
PVAQ Vaqueiros 76.83 305 P **P** **23 47 12.4 +0.2**
J20K Nowinta River 76.97 23 P **P** **23 47 13.4 +0.9**
J20K IAmb IAmb 23 47 15.2
comp=Z,39nm,0.9s
J20K Nowinta River 76.97 23 P **P** **23 47 13.8 +1.3**
baz=308
PCVE Castro Verde 76.97 306 *e*P **P** **23 47 11.9 -1.1**
comp=Z,29nm,1.4s
MESJ Messejana 77.01 306 *e*P **P** **23 47 14.5 +1.2**
comp=Z,25nm,1.3s
E25K Arctic Village 77.02 18 P **P** **23 47 13.2 +0.4**
baz=314,SNR=36
TTA Tatalina 77.05 25 P **P** **23 47 13.9 +0.8**
TTA Tatalina 77.05 25 P **P** **23 47 14.6 +1.5**
baz=306,SNR=6.4
TTA Tatalina 77.05 25 P **P** **23 47 13.9 +0.8**
I21K Tanana 77.07 22 P **P** **23 47 13.7 +0.6**
I21K IAmb IAmb 23 47 15.3
comp=Z,22nm,0.9s
I21K Tanana 77.07 22 P **P** **23 47 14.2 +1.1**
baz=309
PNCL Nicolau / Gran 77.12 306 *e*P **P** **23 47 14.6 +0.8**
comp=Z,22nm,2.4s
PMAFR Mafra 77.30 307 *e*P **P** **23 47 16.7 +1.8**
comp=Z,108nm,1.6s
F25K Christian Rive 77.37 18 P **P** **23 47 15.9 +1.1**
baz=314
N16K Nishlik Lake 77.40 27 P **P** **23 47 16.1 +1.1**
baz=304
H23K Yukon River 77.43 20 IAmb IAmb 23 47 18.1
comp=Z,38nm,1.1s
H23K Yukon River 77.43 20 P **P** **23 47 16.0 +0.8**
baz=311
G24K Hadweenzic Riv 77.47 19 P **P** **23 47 16.6 +1.3**
baz=313
K20K Telida 77.50 24 P **P** **23 47 16.5 +1.0**
K20K IAmb IAmb 23 47 18.4
comp=Z,50nm,0.8s
K20K Telida 77.50 24 P **P** **23 47 16.9 +1.3**
baz=308
MLY Manley 77.57 21 IAmb IAmb 23 47 18.5
comp=Z,39nm,1.0s
MLY Manley 77.57 21 P **P** **23 47 16.5 +0.6**
baz=310,SNR=25
F26K Sheenjek River 77.71 18 P **P** **23 47 17.9 +1.3**
baz=316
PFVI Vila Bisbo 77.75 305 *e*P **P** **23 47 16.6 -0.8**
comp=Z,93nm,1.5s
CHUM Lake Minchumin 77.78 23 P **P** **23 47 18.0 +0.9**
baz=309
G25K Bearman Lake 77.82 19 P **P** **23 47 18.6 +1.3**
baz=314
RES Resolute Bay 77.86 0 P **P** **23 47 17.2 -0.1**
comp=Z,8.7nm,1.1s,baz=34,slow=9.4,SNR=7.5
RES LR LR 00 25 12.7
comp=Z,486nm,18.9s,baz=358,slow=38
comp=Z,8.7nm,1.1s
RES Resolute Bay 77.86 0 P **P** **23 47 17.2 -0.1**
RES Resolute Bay 77.86 0 P **P** **23 47 17.2 -0.1**
RES pmax pmax
comp=Z,18nm,1.3s
L19K White Mountain 77.93 25 P **P** **23 47 18.9 +1.0**
L19K IAmb IAmb 23 47 21.3
comp=Z,45nm,1.2s
L19K White Mountain 77.93 25 P **P** **23 47 19.5 +1.5**
baz=307
H24K Noodor Dome 77.94 20 IAmb IAmb 23 47 20.2
comp=Z,23nm,0.9s
H24K Noodor Dome 77.94 20 P **P** **23 47 19.0 +1.0**
baz=313
I23K Minto, Yukon-K 77.94 21 P **P** **23 47 18.2 +0.3**
I23K IAmb IAmb 23 47 20.6
comp=Z,85nm,1.4s
I23K Minto, Yukon-K 77.94 21 P **P** **23 47 19.1 +1.2**
baz=311,SNR=14
E27K Coleen River 78.01 17 P **P** **23 47 19.1 +0.8**
baz=318
BPAW Bear Paw Mtn. 78.09 22 P **P** **23 47 19.3 +0.4**
BPAW IAmb IAmb 23 47 21.1
comp=Z,41nm,1.0s
BPAW Bear Paw Mtn. 78.09 22 P **P** **23 47 19.3 +0.4**
baz=310,SNR=19
L20K Farewell, AK 78.11 24 P **P** **23 47 20.3 +1.3**
baz=308,SNR=19
CAST Castle Rocks 78.16 23 P **P** **23 47 20.1 +0.9**
baz=309,SNR=49
A36M Sachs Harbour 78.17 10 P **P** **23 47 19.3 +0.2**
baz=332,SNR=61
FYU Fort Yukon 78.21 19 P **P** **23 47 20.3 +0.9**
M19K Big River Lodg 78.27 25 IAmb IAmb 23 47 34.6
comp=Z,43nm,1.4s
SVW2 Sparrevohn 78.31 26 P **P** **23 47 21.0 +1.0**
SVW2 IAmb IAmb 23 47 30.0
comp=Z,51nm,1.2s
G26K Porcupine Rive 78.34 18 P **P** **23 47 21.3 +1.2**
baz=316
NEA2 Nenana 78.40 21 P **P** **23 47 20.8 +0.3**
baz=312,SNR=53
N18K Kilae Creek 78.44 26 P **P** **23 47 22.2 +1.4**
PPLA Purkeypile 78.45 24 P **P** **23 47 22.0 +1.0**
baz=309,SNR=10
KTH Kantishna Hill 78.47 23 P **P** **23 47 21.4 +0.3**
KTH IAmb IAmb 23 47 23.5
comp=Z,50nm,1.2s
O17K Koliganek Bris 78.49 28 P **P** **23 47 22.1 +1.0**
baz=306
BWN Browne 78.55 22 P **P** **23 47 22.1 +0.7**
POKR Poker Flat Res 78.56 20 P **P** **23 47 21.4 0.0**
POKR IAmb IAmb 23 47 23.8
comp=Z,51nm,0.9s
POKR Poker Flat Res 78.56 20 P **P** **23 47 22.2 +0.8**
baz=313,SNR=19
TCOL CIGO, UAF Yank 78.60 21 IAmb IAmb 23 47 23.7
comp=Z,60nm,0.9s
TCOL CIGO, UAF Yank 78.60 21 P **P** **23 47 22.1 +0.6**
baz=313,SNR=12
COLA College 78.60 21 P **P** **23 47 21.7 +0.1**
COLA IAmb IAmb 23 47 23.7
comp=Z,64nm,1.0s
COLA College 78.60 21 P **P** **23 47 22.1 +0.6**
baz=313
COLA College 78.60 21 P **P** **23 47 21.8 +0.2**
COLA College 78.60 21 P **P** **23 47 21.7 +0.1**
COLA pmax pmax
comp=Z,64nm,1.0s
LBTB Lobatse 78.66 234 P **P** **23 47 22.4 -0.2**
comp=Z,12nm,0.7s,baz=76,slow=5.4,SNR=12
LBTB LR LR 00 18 17.0
comp=Z,782nm,22.0s,baz=8.5,slow=33
comp=Z,12nm,0.7s
LBTB Lobatse 78.66 234 P **P** **23 47 23.3 +0.7**
LBTB IAmb IAmb 23 47 40.1
comp=Z,29nm,0.8s
LBTB Lobatse 78.66 234 *i* P **P** **23 47 22.1 -0.5**
LBTB Lobatse 78.66 234 *i* P **P** **23 47 22.1 -0.5**
LBTB Lobatse 78.66 234 P **P** **23 47 23.3 +0.7**
LBTB pmax pmax
comp=Z,29nm,0.9s
M20K Styx River 78.75 25 P **P** **23 47 23.2 +0.6**
M20K IAmb IAmb 23 47 38.1
comp=Z,52nm,1.2s
M20K Styx River 78.75 25 P **P** **23 47 24.2 +1.6**
baz=309
TRF Thorofare Moun 78.75 23 IAmb IAmb 23 48 42.4
comp=Z,58nm,1.8s
WRH Wood River Hil 78.80 21 IAmb IAmb 23 47 24.9
comp=Z,24nm,1.0s
PRP Porcupine Dome 78.86 20 P **P** **23 47 23.9 +0.7**
PRP IAmb IAmb 23 47 26.0
comp=Z,56nm,0.9s
PRP Porcupine Dome 78.86 20 P **P** **23 47 24.6 +1.4**
baz=315,SNR=41
N19K Bonanza Creek 78.91 26 P **P** **23 47 24.2 +0.7**
N19K IAmb IAmb 23 47 26.7
comp=Z,25nm,1.0s
IL31 78.97 21 IAmb IAmb 23 47 24.9
comp=Z,27nm,0.8s
ILAR Eielson Array 78.97 21 P **P** **23 47 23.2 -0.4**
comp=Z,35nm,1.1s,baz=302,slow=4.3,SNR=112

ILAR PP **PP** **23 50 20.6 -1.4**
comp=Z,2.1nm,0.7s,baz=314,slow=6.5,SNR=5.7
ILAR LR LR 00 26 04.0
comp=Z,701nm,18.4s,baz=306,slow=38
comp=Z,35nm,1.1s
G27K Doyon Strip 79.02 17 P **P** **23 47 24.7 +0.8**
baz=318,SNR=7.7
MCK McKinley 79.02 22 P **P** **23 47 23.9 -0.1**
MCK IAmb IAmb 23 47 26.0
comp=Z,57nm,1.3s
MCK McKinley 79.02 22 P **P** **23 47 24.4 +0.4**
baz=312,SNR=9.4
MCK McKinley 79.02 22 P **P** **23 47 23.9 -0.1**
MCK pmax pmax
comp=Z,57nm,1.3s
STKA Stephens Creek 79.13 135 P **P** **23 47 24.4 -0.6**
comp=Z,4.8nm,0.6s,baz=311,slow=5.8,SNR=12
STKA LR LR 00 27 19.9
comp=Z,308nm,19.9s,baz=297,slow=39
comp=Z,4.8nm,0.6s
STKA Stephens Creek 79.13 135 P **P** **23 47 25.4 +0.4**
STKA Stephens Creek 79.13 135 P **P** **23 47 25.4 +0.4**
STKA pmax pmax
comp=Z,5.0nm,1.2s
HDA Harding Lake 79.20 21 P **P** **23 47 24.0 -0.9**
baz=314,SNR=7.2
O18K Koktuh Hills 79.21 27 P **P** **23 47 25.3 +0.2**
O18K IAmb IAmb 23 47 40.9
comp=Z,38nm,0.9s
RND Reindeer 79.27 22 P **P** **23 47 25.3 -0.1**
RND IAmb IAmb 23 47 26.9
comp=Z,55nm,1.4s
RND Reindeer 79.27 22 P **P** **23 47 25.3 -0.1**
RND pmax pmax
comp=Z,55nm,1.4s
SKT Skwentna 79.28 24 P **P** **23 47 25.2 -0.2**
SKT Skwentna 79.28 24 P **P** **23 47 25.5 +0.1**
baz=310,SNR=27
Q16K King Salmon 79.32 28 P **P** **23 47 26.2 +0.6**
baz=306
O19K Port Alsworth 79.35 26 P **P** **23 47 26.4 +0.6**
O19K IAmb IAmb 23 47 28.7
comp=Z,94nm,1.4s
P18K Big Mountain, 79.48 27 P **P** **23 47 26.5 -0.1**
P18K Big Mountain, 79.48 27 P **P** **23 47 27.9 +1.3**
baz=308
H27K Steamboat Moun 79.48 18 P **P** **23 47 27.4 +0.9**
baz=318
SPU Mount Spurr 79.60 25 P **P** **23 47 27.1 -0.1**
I26K Coal Creek Min 79.71 19 P **P** **23 47 27.9 +0.2**
I26K IAmb IAmb 23 47 30.3
comp=Z,51nm,1.0s
I26K Coal Creek Min 79.71 19 P **P** **23 47 28.2 +0.6**
baz=317
WAT1 Susitna Watana 79.76 22 P **P** **23 47 28.0 0.0**
baz=312
RSO Redoubt South 79.79 26 P **P** **23 47 28.7 +0.3**
INK Inuvik 79.81 14 P **P** **23 47 28.2 +0.1**
comp=Z,38nm,0.9s,baz=339,slow=6.5,SNR=80
INK LR LR 00 27 01.3
comp=Z,391nm,21.8s,baz=294,slow=39
comp=Z,38nm,0.9s
INK Inuvik 79.81 14 IAmb IAmb 23 47 30.3
comp=Z,55nm,1.0s
INK Inuvik 79.81 14 P **P** **23 47 28.3 +0.2**
baz=325,SNR=38
SUA Susitna One 79.90 24 P **P** **23 47 29.0 +0.1**
SUA IAmb IAmb 23 47 31.1
comp=Z,89nm,1.3s
SUA Susitna One 79.90 24 P **P** **23 47 29.6 +0.7**
baz=311,SNR=8.6
I27K Kandik River 79.93 18 P **P** **23 47 29.7 +0.8**
baz=318,SNR=56
M22K Willow 79.93 24 P **P** **23 47 29.5 +0.6**
DHY Denali Highway 79.98 22 P **P** **23 47 29.5 +0.1**
DHY Denali Highway 79.98 22 P **P** **23 47 30.0 +0.6**
baz=313,SNR=9.2
K24K Donnelly Dome 79.99 21 P **P** **23 47 28.9 -0.4**
baz=315,SNR=36
J26L Joseph Creek 80.17 20 P **P** **23 47 30.0 -0.4**
J26L IAmb IAmb 23 47 32.2
comp=Z,34nm,0.8s
J26L Joseph Creek 80.17 20 P **P** **23 47 30.5 +0.2**
baz=316
WAT6 Susitna Watana 80.20 22 P **P** **23 47 31.1 +0.5**
baz=313,SNR=15
SFJD Kangerlussuaq 80.21 344 LR LR 00 29 09.3
comp=Z,513nm,18.8s,baz=36,slow=40
G30M tAoh Zrail Nji 80.26 16 P **P** **23 47 30.8 +0.1**
baz=322
RIDG Independent Ri 80.33 21 P **P** **23 47 30.5 -0.6**
RIDG IAmb IAmb 23 47 32.6
comp=Z,92nm,1.3s
RIDG Independent Ri 80.33 21 P **P** **23 47 30.9 -0.3**
baz=315,SNR=18
GHO Glory Hole Cre 80.34 23 P **P** **23 47 31.1 -0.1**
GHO IAmb IAmb 23 47 33.7
comp=Z,73nm,1.4s
PMR Palmer 80.39 24 P **P** **23 47 31.4 0.0**
PMR IAmb IAmb 23 47 32.9
comp=Z,41nm,0.9s
PMR Palmer 80.39 24 P **P** **23 47 31.7 +0.3**
baz=312,SNR=11
PMR Palmer 80.39 24 P **P** **23 47 31.4 0.0**
PMR pmax pmax
comp=Z,41nm,0.9s
SCRK Sand Creek 80.43 20 IAmb IAmb 23 47 33.7
comp=Z,45nm,0.7s
SCRK Sand Creek 80.43 20 P **P** **23 47 32.1 +0.4**
baz=316,SNR=38
F31M Tsiigehtchic 80.47 15 P **P** **23 47 32.1 +0.4**
baz=324,SNR=25
RC01 Rabbit Creek A 80.51 24 P **P** **23 47 32.4 +0.3**
RC01 IAmb IAmb 23 47 33.7
comp=Z,65nm,1.0s
RC01 Rabbit Creek A 80.51 24 P **P** **23 47 32.9 +0.8**
baz=312,SNR=9.3
SML Sawmill 80.53 23 P **P** **23 47 32.7 +0.5**
SML Sawmill 80.53 23 P **P** **23 47 33.1 +0.9**
baz=313,SNR=23
EPYK Eagle Plains 80.62 16 IAmb IAmb 23 47 34.3
comp=Z,48nm,0.9s
EPYK Eagle Plains 80.62 16 P **P** **23 47 32.6 0.0**
baz=322,SNR=18
DOT Dot Lake 80.64 20 P **P** **23 47 32.9 +0.1**
DOT IAmb IAmb 23 47 34.0
comp=Z,43nm,1.0s
EGAK Eagle 80.67 19 IAmb IAmb 23 47 34.9
comp=Z,34nm,1.0s
EGAK Eagle 80.67 19 P **P** **23 47 33.3 +0.4**
baz=318,SNR=22
PAX Paxson 80.68 21 P **P** **23 47 33.4 +0.3**
PAX IAmb IAmb 23 47 44.7
comp=Z,45nm,1.4s
PAX Paxson 80.68 21 P **P** **23 47 33.4 +0.3**
baz=315,SNR=17
PAX Paxson 80.68 21 P **P** **23 47 33.4 +0.3**
PAX pmax pmax
comp=Z,45nm,1.4s
C36M Paulatuk 80.70 11 IAmb IAmb 23 47 34.4
comp=Z,69nm,1.0s
C36M Paulatuk 80.70 11 P **P** **23 47 32.8 -0.1**
baz=333,SNR=44
M23K Glacier View 80.75 23 P **P** **23 47 34.0 +0.7**
baz=313,SNR=12
KNK Knik Glacier 80.75 24 P **P** **23 47 33.6 +0.2**
KNK Knik Glacier 80.75 24 P **P** **23 47 34.3 +0.9**
baz=313,SNR=12
SCM Sheep Creek Mo 80.86 23 P **P** **23 47 34.2 +0.2**
SCM Sheep Creek Mo 80.86 23 P **P** **23 47 34.8 +0.8**
baz=314,SNR=7.9
SCM Sheep Creek Mo 80.86 23 P **P** **23 47 34.2 +0.2**
SCM pmax pmax
comp=Z,58nm,0.8s
O22K Cooper Landing 80.92 25 P **P** **23 47 34.0 -0.3**
K27K Chicken 80.96 20 IAmb IAmb 23 47 37.3
comp=Z,76nm,1.2s
K27K Chicken 80.96 20 P **P** **23 47 35.6 +1.2**
baz=318
I29M Ogilvie Camp, 81.01 17 P **P** **23 47 34.8 +0.1**
baz=321,SNR=11
BRSE Bradley Lake S 81.03 26 P **P** **23 47 35.3 +0.4**
baz=311
M24K Tolsona, Glenn 81.06 22 P **P** **23 47 36.0 +0.9**
BOSA Boshof 81.11 231 P **P** **23 47 35.8 -0.1**
comp=Z,4.4nm,0.6s,baz=34,slow=4.4,SNR=16
BOSA LR LR 00 21 35.9

	comp=Z,1μm,19.1s,baz=36,slow=34						
	comp=Z,4.4nm,0.6s						
BOSA	**Boshof**	**81.11**	**231**	IAmb	IAmb	23 47 45.3	
	comp=Z,57nm,1.6s						
BOSA	**Boshof**	**81.11**	**231**	*i* P	**P**	**23 47 36.1**	**+0.3**
BOSA	**Boshof**	**81.11**	**231**	*i* P	**P**	**23 47 36.1**	**+0.3**
PWL	**Port Wells**	**81.17**	**24**	P	**P**	**23 47 36.3**	**+0.6**
	baz=313,SNR=6.5						
HARP	**HAARP**	**81.19**	**22**	P	**P**	**23 47 37.2**	**+1.5**
	baz=315,SNR=9.0						
MENT	**Mentasta**	**81.26**	**21**	P	**P**	**23 47 36.4**	**+0.2**
MENT				IAmb	IAmb	23 48 02.3	
	comp=Z,57nm,1.8s						
L26K	**Log Cabin Wild**	**81.32**	**21**	P	**P**	**23 47 36.6**	**+0.3**
L26K	**Log Cabin Wild**	**81.32**	**21**	P	**P**	**23 47 37.0**	**+0.7**
	baz=317,SNR=7.6						
TSUM	**Tsumeb**	**81.37**	**243**	LR	LR	00 21 30.1	
	comp=Z,484nm,21.4s,baz=61,slow=34						
TSUM	**Tsumeb**	**81.37**	**243**	P	**P**	**23 47 38.2**	**+0.8**
CMSA	**Cobar Meteorol**	**81.55**	**132**	P	**P**	**23 47 38.6**	**+0.7**
KLU	**Klutina**	**81.58**	**23**	P	**P**	**23 47 39.4**	**+1.6**
	baz=315,SNR=10						
DAWY	**Dawson**	**81.72**	**19**	IAmb	IAmb	23 47 40.5	
	comp=Z,40nm,1.1s						
DAWY	**Dawson**	**81.72**	**19**	P	**P**	**23 47 38.9**	**+0.4**
	baz=320,SNR=26						
J29M	**Klondike Camp**	**81.74**	**18**	P	**P**	**23 47 39.0**	**+0.4**
L27K	**Beaver Creek,**	**81.76**	**20**	P	**P**	**23 47 39.4**	**+0.7**
L27K				IAmb	IAmb	23 47 41.7	
	comp=Z,61nm,1.2s						
L27K	**Beaver Creek,**	**81.76**	**20**	P	**P**	**23 47 40.0**	**+1.2**
	baz=318						
M26K	**Nabesna, AK**	**81.89**	**21**	IAmb	IAmb	23 47 43.1	
	comp=Z,38nm,0.9s						
M26K	**Nabesna, AK**	**81.89**	**21**	P	**P**	**23 47 40.8**	**+1.4**
	baz=317,SNR=13						
DIV	**Divide**	**81.89**	**23**	P	**P**	**23 47 39.5**	**+0.1**
DIV				IAmb	IAmb	23 47 42.0	
	comp=Z,70nm,1.3s						
N25K	**Chitina, Valde**	**81.94**	**22**	P	**P**	**23 47 40.5**	**+0.8**
N25K	**Chitina, Valde**	**81.94**	**22**	P	**P**	**23 47 41.1**	**+1.4**
	baz=316,SNR=18						
M27K	**Edge Creek, AK**	**82.27**	**21**	P	**P**	**23 47 42.4**	**+0.8**
M27K				IAmb	IAmb	23 47 54.7	
	comp=Z,56nm,1.6s						
M27K	**Edge Creek, AK**	**82.27**	**21**	P	**P**	**23 47 42.7**	**+1.2**
	baz=318						
EYAK	**Cordova Ski Ar**	**82.31**	**23**	P	**P**	**23 47 43.2**	**+1.6**
	baz=315						
GLB	**Gilahina Butte**	**82.32**	**22**	P	**P**	**23 47 42.2**	**+0.5**
GLB				IAmb	IAmb	23 47 51.5	
	comp=Z,39nm,1.2s						
BMRM	**Bremner River**	**82.40**	**23**	P	**P**	**23 47 42.6**	**+0.5**
BMRM				IAmb	IAmb	23 47 44.2	
	comp=Z,39nm,0.8s						
BMRM	**Bremner River**	**82.40**	**23**	P	**P**	**23 47 43.9**	**+1.8**
	baz=316						
K29M	**Barlow Dome**	**82.41**	**18**	P	**P**	**23 47 42.7**	**+0.5**
	baz=322						
BVCY	**Beaver Creek**	**82.54**	**20**	P	**P**	**23 47 44.5**	**+1.7**
	baz=319,SNR=8.0						
VRDI	**Verde Repeater**	**82.60**	**22**	P	**P**	**23 47 43.8**	**+0.5**
VRDI				IAmb	IAmb	23 47 53.2	
	comp=Z,32nm,1.0s						
MCARA	**McCarthy VSAT**	**82.62**	**22**	P	**P**	**23 47 43.8**	**+0.6**
MCARA	**McCarthy VSAT**	**82.62**	**22**	P	**P**	**23 47 44.5**	**+1.3**
	baz=317,SNR=18						
RAGM	**Ragged Mountai**	**82.79**	**23**	P	**P**	**23 47 44.0**	**-0.2**
L29M	**L29M**	**82.81**	**19**	P	**P**	**23 47 45.1**	**+0.8**
	baz=321						
MAYO	**Mayo, Yukon**	**83.05**	**18**	P	**P**	**23 47 46.2**	**+0.7**
MAYO	**Mayo, Yukon**	**83.05**	**18**	P	**P**	**23 47 46.4**	**+1.0**
	baz=323						
M29M	**Somme Creek**	**83.24**	**19**	P	**P**	**23 47 47.8**	**+1.3**
	baz=321						
BARN	**Barnard Glacie**	**83.31**	**21**	P	**P**	**23 47 47.2**	**+0.2**
WAX	**Waxell Ridge**	**83.37**	**22**	P	**P**	**23 47 47.7**	**+0.5**
M30M	**Minto, Yukon**	**83.61**	**19**	IAmb	IAmb	23 47 51.9	
	comp=Z,23nm,1.1s						
YAH	**Yahtse**	**83.80**	**22**	P	**P**	**23 47 49.6**	**0.0**
N30M	**Aishikik Lake**	**84.42**	**19**	P	**P**	**23 47 54.1**	**+1.5**
	baz=322						
YUK6	**Outpost Mounta**	**84.44**	**20**	P	**P**	**23 47 53.7**	**+0.8**
	baz=321,SNR=5.6						
M31M	**Drury Creek, Y**	**84.58**	**18**	P	**P**	**23 47 53.6**	**+0.3**
M31M				IAmb	IAmb	23 47 55.6	
	comp=Z,48nm,1.1s						
M31M	**Drury Creek, Y**	**84.58**	**18**	P	**P**	**23 47 54.0**	**+0.7**
	baz=324						
N31M	**Braeburn, Yuko**	**84.78**	**19**	P	**P**	**23 47 54.9**	**+0.5**
N31M	**Braeburn, Yuko**	**84.78**	**19**	P	**P**	**23 47 55.4**	**+1.1**
	baz=323,SNR=25						
HYT	**Haines Junctio**	**84.79**	**20**	P	**P**	**23 47 54.5**	**0.0**
HYT	**Haines Junctio**	**84.79**	**20**	P	**P**	**23 47 55.7**	**+1.2**
	baz=322,SNR=16						
FARO	**Faro, Yukon**	**84.84**	**18**	IAmb	IAmb	23 47 56.9	
	comp=Z,82nm,1.9s						
FARO	**Faro, Yukon**	**84.84**	**18**	P	**P**	**23 47 55.1**	**+0.5**
	baz=325						
MMPY	**Sheldon Lake,**	**85.06**	**17**	P	**P**	**23 47 57.0**	**+1.3**
	baz=327						
O30N	**Mendenhall**	**85.26**	**19**	P	**P**	**23 47 57.7**	**+1.0**
	baz=323,SNR=20						
TOO	**Toolangi**	**85.29**	**137**	P	**P**	**23 47 58.0**	**+0.9**
TOO				IAmb	IAmb	23 48 07.0	
	comp=Z,17nm,0.9s						
TOO	**Toolangi**	**85.29**	**137**	P	**P**	**23 47 58.6**	**+1.5**
TOO	**Toolangi**	**85.29**	**137**	P	**P**	**23 47 58.0**	**+0.9**
TOO				pmax	pmax		
	comp=Z,17nm,0.9s						
P29M	**Windy Craggy**	**85.66**	**21**	P	**P**	**23 47 59.7**	**+1.0**
P29M				IAmb	IAmb	23 48 00.9	
	comp=Z,27nm,1.0s						
WHY	**Whitehorse**	**85.70**	**19**	P	**P**	**23 47 58.9**	**-0.1**
WHY	**Whitehorse**	**85.70**	**19**	P	**P**	**23 47 59.6**	**+0.5**
	baz=324,SNR=16						
N32M	**Quiet Lake**	**85.81**	**18**	P	**P**	**23 47 59.9**	**+0.4**
	baz=326						
MGCD	**Mangrove Creek**	**86.18**	**131**	P	**P**	**23 48 01.4**	**-0.2**
	comp=Z,24nm,1.2s						
PLBC	**Pleasant Camp**	**86.23**	**20**	P	**P**	**23 48 02.9**	**+1.3**
	baz=323,SNR=6.9						
SUR	**Sutherland**	**86.43**	**231**	LR	LR	00 24 55.5	
	comp=Z,2μm,18.2s,baz=68,slow=34						
SKAG	**Skagway**	**86.54**	**20**	P	**P**	**23 48 03.9**	**+0.9**
SKAG	**Skagway**	**86.54**	**20**	P	**P**	**23 48 04.5**	**+1.4**
	baz=324,SNR=15						
P33M	**Teslin, Yukon**	**86.66**	**18**	IAmb	IAmb	23 48 05.8	
	comp=Z,52nm,1.2s						
P33M	**Teslin, Yukon**	**86.66**	**18**	P	**P**	**23 48 04.2**	**+0.4**
	baz=326,SNR=11						
TGTN	**Hyland Airport**	**86.73**	**16**	P	**P**	**23 48 05.2**	**+1.2**
	baz=330						
FRB	**Frobisher Bay**	**86.75**	**349**	LR	LR	00 33 25.6	
	comp=Z,744nm,18.0s,baz=18,slow=40						
P32M	**Atlin**	**86.91**	**19**	P	**P**	**23 48 06.3**	**+1.3**
	baz=325,SNR=6.6						
BESE	**Bessie Mountai**	**87.40**	**20**	P	**P**	**23 48 08.4**	**+1.1**
R32K	**Eaglecrest**	**87.75**	**20**	P	**P**	**23 48 10.8**	**+1.8**
	baz=324						
JIS	**Juneau Island**	**87.79**	**20**	P	**P**	**23 48 09.7**	**+0.6**
JIS				IAmb	IAmb	23 48 22.4	
	comp=Z,37nm,1.0s						
WTLY	**Watson Lake, Y**	**87.82**	**17**	P	**P**	**23 48 09.3**	**0.0**
WTLY				IAmb	IAmb	23 48 10.7	
	comp=Z,11nm,0.8s						
WTLY	**Watson Lake, Y**	**87.82**	**17**	P	**P**	**23 48 10.1**	**+0.7**
	baz=329						
R33M	**Jennings River**	**87.86**	**18**	P	**P**	**23 48 11.0**	**+1.3**
	baz=327						
YKA	**Yellowknife Ar**	**88.53**	**10**	P	**P**	**23 48 11.7**	**-0.8**
	comp=Z,24nm,0.9s,baz=326,slow=4.6,SNR=34						
	comp=Z,24nm,0.9s						
DLBC	**Dease Lake**	**88.93**	**18**	LR	LR	00 32 40.4	
	comp=Z,510nm,19.5s,baz=318,slow=39						
DLBC	**Dease Lake**	**88.93**	**18**	P	**P**	**23 48 14.7**	**+0.1**
DLBC				IAmb	IAmb	23 48 17.0	
	comp=Z,14nm,0.9s						
DLBC	**Dease Lake**	**88.93**	**18**	P	**P**	**23 48 16.0**	**+1.4**
	baz=328,SNR=5.2						
KOTAN	**Kotaneelee Air**	**88.95**	**15**	P	**P**	**23 48 15.2**	**+0.6**
	baz=333						
S34M	**Telegraph Cree**	**89.06**	**19**	P	**P**	**23 48 16.8**	**+1.6**
	baz=327,SNR=5.9						
LIRD	**Liard River Hi**	**89.11**	**16**	P	**P**	**23 48 17.1**	**+1.7**
	baz=332						
HILA	**High Level**	**91.85**	**12**	P	**P**	**23 48 28.0**	**-0.1**

BBTS	**Babate**	**94.43**	**289**	LR	LR	00 38 00.8	
	comp=Z,181nm,18.4s,baz=58,slow=40						
WAPA	**Wapiti River**	**94.53**	**14**	P	**P**	**23 48 40.1**	**-0.5**
SCHQ	**Schefferville**	**94.65**	**345**	LR	LR	00 37 01.2	
	comp=Z,441nm,20.2s,baz=32,slow=39						
BBB	**Bella Bella**	**94.86**	**21**	LR	LR	00 34 18.1	
	comp=Z,376nm,20.3s,baz=331,slow=37						
BRLDA	**Berland Lookou**	**95.95**	**14**	P	**P**	**23 48 47.6**	**+0.4**
MAW	**Mawson**	**96.66**	**189**	P	**P**	**23 48 51.0**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=314,slow=8.5,SNR=4.0						
MAW				LR	LR	00 26 43.0	
	comp=Z,382nm,19.7s,baz=18,slow=32						
	comp=Z,2.2nm,0.8s						
MAW	**Mawson**	**96.66**	**189**	P	**P**	**23 48 51.4**	**+1.7**
EDM	**Edmonton**	**97.58**	**12**	P	**P**	**23 48 54.0**	**-0.5**
EDM	**Edmonton**	**97.58**	**12**	P	**P**	**23 48 54.0**	**-0.5**
EDM				pmax	pmax		
	comp=Z,24nm,1.1s						
NEW	**Newport**	**101.46**	**16**	P	**Pdif**	**23 49 12.3**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=354,slow=6.8,SNR=2.5						
PDAR	**Pinedale Array**	**108.33**	**12**	PP	PP	23 54 02.5	-9.3
	comp=Z,0.9nm,0.8s,baz=44,slow=1.7,SNR=5.3						
PDAR				PKKPbc	**PKKPbc**	**00 04 58.2**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=86,slow=4.7,SNR=2.3						
NVAR	**Mina Array Bea**	**110.23**	**21**	PP	PP	23 54 17.2	-8.5
	comp=Z,0.8nm,0.6s,baz=343,slow=2.8,SNR=3.6						
NVAR				PKKPbc	**PKKPbc**	**00 04 56.6**	**+2.6**
	comp=Z,0.2nm,0.4s,baz=127,slow=6.0,SNR=4.3						
TROLL	**Troll, Antarti**	**114.25**	**200**	PKPdf	**PKiKP**	**23 53 59.4**	**+0.4**
SNAA	**Sanae**	**115.82**	**201**	PKPdf	**PKPdf**	**23 54 02.4**	**+0.4**
QSPA	**South Pole Qui**	**117.51**	**180**	PKP	**PKPdf**	**23 54 04.3**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=257,slow=0.6,SNR=8.6						
QSPA				PKKPbc	**PKKPab**	**00 04 27.7**	**-1.7**
	comp=Z,2.1nm,0.9s,baz=188,slow=5.7,SNR=2.1						
QSPA	**South Pole Qui**	**117.51**	**180**		**PKiKP**	**23 54 06.3**	**+1.0**
VNA3	**Neumayer Olymp**	**117.94**	**201**	PKPdf	**PKPdf**	**23 54 05.1**	**-0.9**
TX31	**Lajitas Ar. Si**	**122.45**	**11**		**PKiKP**	**23 54 16.3**	**-0.1**
TXAR	**Lajitas Array**	**122.45**	**11**	PKP	**PKPdf**	**23 54 15.7**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=76,slow=0.7,SNR=12						
TXAR				PKKPbc	**PKKPbc**	**00 04 11.9**	**+1.0**
	comp=Z,0.1nm,0.7s,baz=102,slow=3.0,SNR=1.7						
BELA	**Belgrano 2**	**123.30**	**193**		**PKiKP**	**23 54 16.4**	**+0.1**
SDV	**Santo Domingo**	**137.42**	**325**	PKP	**PKPdf**	**23 54 42.9**	**-2.0**
	comp=Z,2.2nm,0.3s,baz=62,slow=4.4,SNR=4.1						
ROSC	**El Rosal**	**142.72**	**327**	PKP	**PKPdf**	**23 54 55.5**	**+0.6**
	comp=Z,3.8nm,0.4s,baz=158,slow=19,SNR=2.1						
PRAC	**Prado**	**143.97**	**327**		PKPab	23 54 53.8	-0.1
PLTB	**Pedras Altas**	**145.26**	**253**		**PKPdf**	**23 54 58.2**	**-0.1**
PTLB	**Pontes e Lacer**	**145.92**	**284**		**PKPdf**	**23 54 59.9**	**+0.1**
CPUP	**Villa Florida**	**147.82**	**264**	PKPbc	**PKPdf**	**23 55 03.5**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=69,slow=5.2,SNR=9.7						
SIV	**San Ignacio**	**147.82**	**284**	PKPbc	**PKPbc**	**23 55 05.0**	**-0.9**
	comp=Z,10nm,1.0s,baz=77,slow=2.6,SNR=2.2						
TRQA	**Tornquist**	**151.71**	**241**		**PKPbc**	**23 55 14.7**	**-0.2**
TRQA	**Tornquist**	**151.71**	**241**	PKIKP	**PKPbc**	**23 55 14.7**	**-0.2**
LPAZ	**La Paz**	**153.94**	**291**	PKPbc	**PKiKP**	**23 55 22.9**	**+1.6**
	comp=Z,1.9nm,1.1s,baz=32,slow=21,SNR=2.5						
LPAZ				PKPab	**PKPab**	**23 55 32.7**	**-1.7**
	comp=Z,5.1nm,0.9s,baz=24,slow=3.8,SNR=8.8						
PLCA	**Paso Flores**	**157.09**	**230**	PKP	**PKPdf**	**23 55 16.5**	**+0.4**
	comp=Z,4.5nm,1.1s,baz=5.0,slow=7.5,SNR=3.2						

*NNC **27** 23:35:38.1±4.5, 41.˚23N×78.˚54E, h0km, mb2.9, mpv2.8,*
Error ellipse: s-maj=30.7km s-min=26.8km az=151.0
*SOME **27** 23:35:39.3, 41.˚28N×78.˚57E, h10km*
ISC 27 23:35:40.6±3.5, **41.˚3N**±0.˚1×**78.˚52E**±0.˚06, **h9**km±17km, **n17**, **σ0°94/28, 2C-1D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**1.73**	**357**	*e*P	**Pg**	**23 36 13.0**	**-0.8**
	2.7nm,0.7s						
SATY				*e*S	**Sg**	**23 36 37.2**	**+1.1**
	4.4nm,0.2s						
SATY	**Saty**	**1.73**	**357**	P	**Pg**	**23 36 13.0**	**-0.8**
	1.3nm,0.1s						
SATY				S	**Sg**	**23 36 37.3**	**+1.1**
	4.2nm,0.1s						
ZHN	**Zhinishke**	**1.83**	**358**	*e*P	**Pb**	**23 36 13.5**	**-0.9**
	3.7nm,0.5s						
ZHN				*e*S	**Sb**	**23 36 38.2**	**+0.7**
	8.0nm,0.3s						
UZB	**Uzynbulak**	**1.85**	**11**	*e*P	**Pb**	**23 36 14.1**	**-0.6**
	0.4nm,0.1s						
UZB				*e*S	**Sg**	**23 36 39.3**	**-0.8**
	3.9nm,0.4s						
UZB	**Uzynbulak**	**1.85**	**11**	P	**Pb**	**23 36 14.1**	**-0.6**
	0.4nm,0.1s						
UZB				S	**Sg**	**23 36 39.3**	**-0.8**
	3.9nm,0.4s						
SHLS	**Shalkode**	**1.95**	**21**	*e*P	**Pg**	**23 36 18.2**	**+0.2**
	1.4nm,0.2s						
SHLS				*e*S	**Sg**	**23 36 46.3**	**+3.0**
	7.3nm,0.7s						
SHLS	**Shalkode**	**1.95**	**21**	Pg	**Pg**	**23 36 18.7**	**+0.6**
	1.4nm,0.2s						
SHLS				Lg	Lg	23 36 47.1	
	7.3nm,0.7s						
TNSS	**Tian-Shan**	**2.07**	**326**	*e*P	**Pb**	**23 36 18.8**	**+0.3**
	1.8nm,0.2s						
TNSS				*e*S	**Sg**	**23 36 47.3**	**+0.2**
	2.3nm,0.5s						
PDGK	**Podgornoye**	**2.12**	**19**	Pg	**Pb**	**23 36 18.8**	**-0.4**
	0.5nm,0.3s						
PDGK				Lg	Lg	23 36 47.6	
	2.6nm,0.8s						
PDGK	**Podgornoye**	**2.12**	**19**	⇑Pg	**Pn**	**23 36 15.7**	**-0.6**
	3.1nm,1.1s						
PDGK				⇑Lg	Lg	23 36 44.9	
	3.4nm,1.0s						
MDOK	**Medeo**	**2.13**	**330**	*e*P	**Pb**	**23 36 19.7**	**+0.3**
	2.5nm,0.2s						
MDOK				*e*S	**Sg**	**23 36 48.8**	**-0.4**
	3.9nm,0.6s						
MDOK	**Medeo**	**2.13**	**330**	⇓Pg	**Pn**	**23 36 16.5**	**-0.1**
	3.6nm,0.7s						
MDOK				Lg	Lg	23 36 49.1	
	3.3nm,0.6s						
KPKS	**Kokpek**	**2.13**	**3**	*e*P	**Pb**	**23 36 19.5**	**0.0**
	2.6nm,0.2s						
KPKS				*e*S	**Sg**	**23 36 48.7**	**-0.5**
	7.1nm,0.5s						
KPKS	**Kokpek**	**2.13**	**3**	Pg	**Pb**	**23 36 19.5**	**0.0**
	2.6nm,0.2s						
KPKS				Lg	Lg	23 36 48.7	
	7.1nm,0.5s						
BLB	**Baldybastay**	**2.76**	**359**	*e*P	**Pb**	**23 36 31.1**	**+0.9**
	2.1nm,0.1s						
BLB				*e*S	**Sg**	**23 37 08.2**	**-1.1**
	4.1nm,0.5s						
BLB	**Baldybastay**	**2.76**	**359**	Pg	**Pb**	**23 36 30.7**	**+0.5**
	2.1nm,0.1s						
BLB				Lg	Lg	23 37 07.7	
	4.1nm,0.5s						
CHKK	**Chushkaly**	**2.76**	**336**	*e*P	**Pb**	**23 36 31.4**	**+1.2**
	1.5nm,0.1s						
CHKK				*e*S	**Sg**	**23 37 08.7**	**-0.7**
	6.7nm,0.3s						

*WEL **27** 23:41:00, 42.˚36S×173.˚48E, h10km, ML4.6, Mw4.4,*
Moment Tensor Solution. s8 Moment tensor: Scale 10^15
Nm; Mrr1.39; Mθθ-0.34; Mφφ-1.05; Mrθ-0.09; Mrφ-3.76;
Mθφ2.15; Fault plane solution: M04.45000×10^15 NP1:
φs265.00000°, δs56.00000°, λ166.00000°. NP2:φs2.00000°,
δ78.00000°, λ34.00000°. Principal axes: T -486.0500,
Plg33.0000°, Azm229.0000°; N 82.0300, Plg54.0000°,
Azm18.0000°; P 404.0200, Plg15.0000°, Azm129.0000°;
*NOU **27** 23:41:53.1, 42.˚49S×173.˚66E, h12km, MLv4.8/15, South*
Island, New Zealand
*WEL **27** 23:41:54.3±0.3, 42.˚5±2.˚×17.˚3E±.˚, h7km±3km, M4.4/35,*
ML4.7/15, MLv4.4/35, Error ellipse: s-maj=0.0km
s-min=0.0km az=128.8
ISC 27 23:41:53.7±0.9, **42.˚41S**±0.˚03×**173.˚59E**±0.˚04, **h19**km±5km, **n118**, **σ1°36/120, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.04**	**262**	P	**Pg**	**23 41 57.2**	**+0.2**
KHZ	**Kahutara**	**0.04**	**262**	P	**Pg**	**23 41 57.1**	**0.0**
KHZ				S	**Sg**	**23 41 59.0**	**-0.2**
GVZ	**Greta Valley S**	**0.69**	**216**	P	**Pb**	**23 42 08.8**	**+1.6**
GVZ				S	**Sb**	**23 42 19.7**	**+3.5**
BSWZ	**Blackbirch Sta**	**0.73**	**17**	P	**Pg**	**23 42 07.7**	**-0.3**

CMWZ	**Cape Campbell**	**0.81**	**35**	P	**Pb**	**23 42 10.7**	**+1.5**
THZ	**Tophouse**	**0.82**	**322**	P	**Pb**	**23 42 08.6**	**-0.9**
TUWZ	**Tuamarina**	**1.02**	**15**	P	**Pg**	**23 42 13.0**	**-0.4**
AMCZ	**Amberley**	**1.03**	**222**	P	**Pg**	**23 42 14.0**	**+0.3**
LTZ	**Lake Taylor**	**1.04**	**249**	P	**Pg**	**23 42 12.7**	**-1.2**
LTZ				S	**Sg**	**23 42 25.7**	**-1.9**
MRNZ	**Matariki Terra**	**1.19**	**328**	P	**Pb**	**23 42 15.2**	**-0.4**
NNZ	**Nelson**	**1.20**	**353**	P	**Pg**	**23 42 15.4**	**-1.6**
TCW	**Tory Channel**	**1.31**	**23**	P	**Pn**	**23 42 17.2**	**+0.2**
OKCZ	**Okains Bay**	**1.37**	**196**	P	**Pn**	**23 42 18.1**	**+0.2**
SNZO	**South Karori**	**1.38**	**38**	P	**Pn**	**23 42 18.7**	**+0.7**
WEL	**Wellington**	**1.43**	**38**	P	**Pn**	**23 42 19.4**	**+0.7**
TKNZ	**Takaka Hill**	**1.45**	**341**	P	**Pb**	**23 42 19.8**	**-0.4**
OXZ	**Oxford**	**1.46**	**231**	P	**Pn**	**23 42 18.5**	**-0.6**
MQZ	**McQueen's Vall**	**1.46**	**208**	P	**Pn**	**23 42 18.4**	**-0.7**
DSZ	**Denniston Nort**	**1.48**	**296**	P	**Pn**	**23 42 20.0**	**+0.5**
PLWZ	**Palliser**	**1.50**	**56**	P	**Pn**	**23 42 19.6**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.54**	**199**	P	**Pn**	**23 42 20.2**	**-0.1**
MSWZ	**Moikau Station**	**1.59**	**52**	P	**Pn**	**23 42 20.9**	**-0.1**
INZ	**Inchbonnie**	**1.61**	**258**	P	**Pn**	**23 42 21.2**	**0.0**
DUWZ	**D'Urville Isla**	**1.63**	**9**	P	**Pn**	**23 42 22.1**	**+0.6**
RACZ	**Rakaia**	**1.69**	**218**	P	**Pn**	**23 42 21.6**	**-0.6**
CAW	**Cannon Point**	**1.71**	**41**	P	**Pn**	**23 42 22.7**	**+0.2**
PAWZ	**Paruwai Farm**	**1.72**	**54**	P	**Pn**	**23 42 22.3**	**-0.3**
QRZ	**Quartz Range**	**1.77**	**333**	P	**Pb**	**23 42 24.9**	**-0.7**
QRZ	**Quartz Range**	**1.77**	**333**	P	**Pb**	**23 42 24.6**	**-1.1**
KIW	**Kapiti Island**	**1.84**	**33**	P	**Pn**	**23 42 24.8**	**+0.5**
MHCZ	**Mount Hutt**	**1.86**	**232**	P	**Pn**	**23 42 23.9**	**-0.8**
TRWZ	**Traveller**	**1.87**	**58**	P	**Pn**	**23 42 24.2**	**-0.5**
MTW	**Mount Morrison**	**1.90**	**49**	P	**Pn**	**23 42 25.0**	**-0.2**
OGWZ	**Otaki Gorge**	**1.99**	**37**	P	**Pn**	**23 42 26.5**	**+0.2**
WAKZ	**Wakanui South**	**1.99**	**219**	P	**Pn**	**23 42 26.0**	**-0.4**
HOWZ	**Holdsworth Sta**	**2.09**	**44**	P	**Pn**	**23 42 27.9**	**+0.1**
TMWZ	**Te Maipa**	**2.16**	**54**	P	**Pn**	**23 42 28.1**	**-0.7**
WVZ	**Waitaha Valley**	**2.20**	**252**	P	**Pn**	**23 42 29.7**	**+0.4**
RPZ	**Rata Peaks**	**2.27**	**234**	P	**Pn**	**23 42 30.0**	**-0.3**
RPZ	**Rata Peaks**	**2.27**	**234**	P	**Pn**	**23 42 29.6**	**-0.7**
MRZ	**Mangatainoka R**	**2.30**	**41**	P	**Pn**	**23 42 30.4**	**-0.3**
TIWZ	**Tintock**	**2.38**	**47**	P	**Pn**	**23 42 32.0**	**+0.3**
CPWZ	**Castlepoint**	**2.47**	**53**	P	**Pn**	**23 42 32.6**	**-0.3**
OHWZ	**Ohakea**	**2.56**	**31**	P	**Pn**	**23 42 35.8**	**+1.6**
GCSZ	**Gaunt Creek Bo**	**2.56**	**248**	P	**Pn**	**23 42 34.7**	**+0.5**
PRWZ	**Pori Road**	**2.58**	**45**	P	**Pn**	**23 42 32.3**	**-2.3**
POWZ	**Post Office Ro**	**2.60**	**40**	P	**Pn**	**23 42 34.7**	**-0.1**
BFZ	**Birch Farm**	**2.64**	**50**	P	**Pn**	**23 42 34.9**	**-0.5**
BFZ	**Birch Farm**	**2.64**	**50**	P	**Pn**	**23 42 34.6**	**-0.7**
TMZ	**Timaru**	**2.72**	**223**	P	**Pn**	**23 42 36.0**	**-0.6**
WAZ	**Wanganui**	**2.86**	**22**	P	**Pn**	**23 42 40.7**	**+2.4**
DVHZ	**Dannevirke**	**2.87**	**43**	P	**Pn**	**23 42 37.8**	**-0.7**
TSZ	**Takapari Road**	**2.96**	**38**	P	**Pn**	**23 42 39.3**	**-0.4**
FOZ	**Fox Glacier**	**2.99**	**247**	P	**Pn**	**23 42 40.8**	**+0.7**
NMEZ	**Namu Road**	**3.00**	**4**	P	**Pb**	**23 42 44.9**	**-1.7**
LREZ	**Lake Rotokare**	**3.01**	**12**	P	**Pn**	**23 42 43.4**	**+3.0**
KHEZ	**Kahui Hut**	**3.13**	**6**	P	**Pn**	**23 42 44.0**	**+1.8**
KHEZ	**Kahui Hut**	**3.13**	**6**	P	**Pn**	**23 42 44.8**	**+2.6**
NBEZ	**Newall Road No**	**3.15**	**4**	P	**Pn**	**23 42 45.3**	**+2.9**
NEZ	**North Egmont**	**3.16**	**7**	P	**Pn**	**23 42 46.4**	**+3.8**
LBZ	**Lake Benmore**	**3.17**	**230**	P	**Pn**	**23 42 42.1**	**-0.5**
PNHZ	**Pukenui**	**3.18**	**39**	P	**Pn**	**23 42 42.1**	**-0.7**
PKE	**Pukeiti**	**3.23**	**6**	P	**Pn**	**23 42 46.7**	**+3.2**
DREZ	**Durham Road**	**3.25**	**8**	P	**Pn**	**23 42 42.5**	**-1.3**
ODZ	**Otahua Downs**	**3.39**	**218**	P	**Pn**	**23 42 44.8**

NRCA AML AML
comp=E,516µm,0.1s
FDMO Fiordimonte 0.14 31 P Pg 23 43 07.7 +0.5
FDMO AML AML
comp=E,7495µm,0.6s
FDMO AML AML
comp=N,6365µm,0.2s
T1219 Muccia, Frazio 0.14 5 ⇑P Pg 23 43 07.7 +0.4
T1219 S Sg 23 43 10.2 +0.6
T1219 AML AML
comp=E,3420µm,0.7s
T1219 AML AML
comp=N,5205µm,0.3s
T1219 AML AML
comp=E,3200µm,0.7s
T1219 AML AML
comp=N,5175µm,0.3s
T1219 AML AML
comp=E,3415µm,0.7s
T1219 AML AML
comp=N,5205µm,0.3s
T1219 AML AML
comp=E,3205µm,0.7s
T1219 AML AML
comp=N,5170µm,0.3s
MC2 Monte Cornacci 0.15 93 ⇑P Pg 23 43 08.0 +0.5
T1215 Vallo di Nera, 0.15 217 ⇑P Pg 23 43 07.9 +0.4
T1215 AML AML
comp=E,234µm,0.8s
T1215 AML AML
comp=E,234µm,0.8s
T1215 AML AML
comp=E,234µm,0.8s
T1215 AML AML
comp=N,302µm,0.2s
T1215 AML AML
comp=E,234µm,0.8s
T1215 AML AML
comp=N,274µm,0.2s
T1256 Bolognola (MC) 0.19 64 ⇑P Pg 23 43 08.7 +0.5
T1256 AML AML
comp=E,1945µm,0.3s
T1256 AML AML
comp=N,1437µm,0.4s
T1256 AML AML
comp=E,1985µm,0.3s
T1256 AML AML
comp=E,1945µm,0.3s
T1256 AML AML
comp=N,1438µm,0.4s
T1256 AML AML
comp=N,1296µm,1.0s
CSP1 Cessapalombo 0.23 42 ⇑P Pg 23 43 09.4 +0.5
CSP1 AML AML
comp=E,2440µm,1.1s
CSP1 AML AML
comp=N,1600µm,0.2s
MMO1 Montemonaco 0.25 95 ⇑P Pg 23 43 09.6 +0.5
ASSB Assisi San Ben 0.27 296 ⇓P Pg 23 43 09.8 +0.2
ASSB AML AML
comp=E,702µm,0.2s
ASSB AML AML
comp=N,438µm,0.4s
GUMA Gualdo di Mace 0.29 61 ⇑P Pb 23 43 10.6 -0.7
GUMA AML AML
comp=N,1480µm,0.3s
GUMA AML AML
comp=E,1665µm,0.2s
GUMA AML AML
comp=N,1580µm,1.3s
GUMA AML AML
comp=E,1260µm,0.3s
LNSS Leonessa 0.32 174 S Sb 23 43 16.0 -1.1
T1241 Roccafluvione, 0.33 101 ⇑P Pg 23 43 11.1 +0.5
T1241 AML AML
comp=E,282µm,1.4s
T1241 AML AML
comp=N,204µm,1.6s
SNTG Esanatoglia 0.34 354 ⇓P Pg 23 43 11.1 +0.3
SNTG AML AML
comp=E,429µm,0.1s
SNTG AML AML
comp=N,268µm,0.2s
ATCC AVT- Casa Cast 0.37 316 ⇓P Pg 23 43 11.6 +0.2
ATCC AML AML
comp=N,444µm,0.3s
ATCC AML AML
comp=E,376µm,0.3s
ARRO Arrone 0.38 206 P Pg 23 43 12.0 +0.4
ARRO AML AML
comp=E,126µm,0.2s
ARRO AML AML
comp=E,126µm,0.2s
ARRO AML AML
comp=N,118µm,0.2s
T1243 Rocca Santa Ma 0.40 124 ⇑P Pg 23 43 12.2 +0.2
FOSV Fossato di Vic 0.41 336 ⇑P Pg 23 43 12.3 +0.1
FOSV AML AML
comp=N,176µm,1.6s
FOSV AML AML
comp=E,144µm,0.4s
FOSV AML AML
comp=N,176µm,1.6s
EL6 Elcito 0.42 11 ⇑P Pg 23 43 12.5 +0.2
EL6 AML AML
comp=E,466µm,0.3s
EL6 AML AML
comp=N,553µm,1.3s
CESX Cesi 0.43 224 P Pg 23 43 12.2 -0.4
CESX AML AML
comp=E,185µm,0.3s
CESX AML AML
comp=N,201µm,0.3s
CING Cingoli 0.48 18 ⇑P Pg 23 43 13.6 +0.2
CING AML AML
comp=E,213µm,0.4s
CING AML AML
comp=N,206µm,0.1s
SSFR Montelago di S 0.54 343 ⇓P Pg 23 43 14.7 +0.1
SSFR AML AML
comp=N,233µm,0.3s
SSFR AML AML
comp=E,286µm,0.2s
TERO Teramo 0.54 123 ⇑P Pg 23 43 14.7 +0.1
TERO AML AML
comp=E,86µm,0.4s
TERO AML AML
comp=N,108µm,0.2s
TERO AML AML
comp=E,86µm,0.4s
ARVD Arcevia 0.58 356 ⇑P Pg 23 43 15.4 +0.1
ARVD S Sb 23 43 25.0 +0.5
ARVD AML AML
comp=E,104µm,0.9s
ARVD AML AML
comp=N,66µm,0.9s
FRON Frontone 0.63 342 ⇓P Pg 23 43 16.2 0.0
FRON AML AML
comp=E,64µm,0.4s
FRON AML AML
comp=N,89µm,0.4s
FRON AML AML
comp=E,64µm,0.4s
FRON AML AML
comp=N,89µm,0.4s
ATVO AVT- Monte Val 0.63 317 P Pg 23 43 16.2 0.0
ATVO AML AML
comp=E,39µm,0.4s
ATVO AML AML
comp=E,39µm,0.4s
ATVO AML AML
comp=N,34µm,0.6s
PIEI Pieia 0.70 332 S Sb 23 43 29.0 +1.0
FSSB Fossombrone 0.79 349 S Sn 23 43 32.0 -1.0

ROM 27 23:43:21.4±0.1, 43°.016N±0°.003×13°.082E±0°.005, h9km, ML2.0/22, 9C-5D, Error ellipse: s-maj=0.4km s-min=0.2km az=55.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.02**	**11**	P	Pg	23 43 23.2	+0.1
FDMO				S	Sg	23 43 23.9	-0.2
FDMO				AML	AML		
	comp=E,7495µm,0.6s						
FDMO				AML	AML		

comp=N,6365µm,0.2s
FEMA Monte Fema 0.06 204 ⇑P Pg 23 43 23.7 +0.3
FEMA AML AML
comp=E,7160µm,1.0s
FEMA AML AML
comp=N,6260µm,0.2s
FEMA AML AML
comp=E,7160µm,1.0s
FEMA AML AML
comp=N,6255µm,0.2s
FEMA AML AML
comp=E,7155µm,1.0s
T1219 Muccia, Frazio 0.07 306 P Pg 23 43 23.8 +0.3
T1219 S Sg 23 43 25.2 +0.3
T1219 AML AML
comp=E,3200µm,0.7s
T1219 AML AML
comp=N,5170µm,0.3s
T1219 AML AML
comp=E,3420µm,0.7s
T1219 AML AML
comp=E,3205µm,0.7s
T1219 AML AML
comp=E,3415µm,0.7s
T1219 AML AML
comp=N,5205µm,0.3s
T1256 Bolognola (MC) 0.11 95 ⇑P Pg 23 43 24.6 +0.6
T1256 AML AML
comp=E,1945µm,0.3s
T1256 AML AML
comp=N,1436µm,0.4s
T1256 AML AML
comp=N,1296µm,1.0s
T1256 AML AML
comp=N,1437µm,0.4s
T1256 AML AML
comp=E,1945µm,0.3s
T1256 AML AML
comp=N,1438µm,0.4s
T1256 AML AML
comp=E,1985µm,0.3s
T1256 AML AML
comp=N,1435µm,0.4s
CSP1 Cessapalombo 0.12 50 ⇑P Pg 23 43 24.8 +0.7
CSP1 AML AML
comp=E,2440µm,1.1s
CSP1 AML AML
comp=N,1600µm,0.2s
CSP1 AML AML
comp=E,2435µm,1.1s
CESI CESI - Serrava 0.13 265 ⇑P Pg 23 43 25.0 +0.7
CESI S Sg 23 43 27.5 +1.1
CESI AML AML
comp=N,1301µm,0.5s
CESI AML AML
comp=N,1306µm,0.5s
CESI AML AML
comp=E,1016µm,0.4s
T1216 Preci, Frazion 0.13 200 ⇑P Pg 23 43 24.9 +0.6
T1216 S Sg 23 43 27.3 +0.9
T1216 AML AML
comp=E,2235µm,0.3s
T1216 AML AML
comp=N,1555µm,0.2s
T1216 AML AML
comp=N,1555µm,0.2s
NRCA Norcia 0.18 173 ⇓P Pg 23 43 25.9 +0.7
NRCA AML AML
comp=N,1205µm,0.2s
NRCA AML AML
comp=E,1140µm,0.6s
NRCA AML AML
comp=N,1235µm,0.8s
NRCA AML AML
comp=E,1160µm,0.6s
NRCA AML AML
comp=N,1210µm,0.2s
NRCA AML AML
comp=E,1140µm,0.6s
MMO1 Montemonaco 0.21 123 ⇑P Pg 23 43 26.4 +0.6
MMO1 S Sg 23 43 30.0 +1.3
SNTG Esanatoglia 0.26 337 ⇓P Pb 23 43 27.5 -0.8
SNTG S Sb 23 43 31.9 -1.1
SNTG AML AML
comp=N,268µm,0.2s
SNTG AML AML
comp=E,429µm,0.1s
T1215 Vallo di Nera, 0.27 216 ⇑P Pg 23 43 27.3 +0.6
ASSB Assisi San Ben 0.31 275 ⇑P Pg 23 43 28.1 +0.6
ASSB AML AML
comp=E,702µm,0.2s
ASSB AML AML
comp=N,438µm,0.4s
EL6 Elcito 0.31 3 ⇓P Pg 23 43 28.4 +0.8
EL6 AML AML
comp=E,466µm,0.3s
EL6 AML AML
comp=N,553µm,1.3s
T1218 Civita (PG) 0.35 176 ⇓P Pg 23 43 28.8 +0.6
T1218 AML AML
comp=E,374µm,0.8s
T1218 AML AML
comp=N,356µm,0.2s
T1218 AML AML
comp=E,374µm,0.8s
T1218 AML AML
comp=N,356µm,0.2s
T1218 AML AML
comp=E,333µm,0.2s
T1218 AML AML
comp=N,356µm,0.2s
ATCC AVT- Casa Cast 0.36 298 ⇑P Pg 23 43 29.2 +0.7
ATCC AML AML
comp=E,376µm,0.3s
ATCC AML AML
comp=N,444µm,0.3s
FOSV Fossato di Vic 0.36 320 ⇓P Pg 23 43 29.2 +0.7
FOSV AML AML
comp=N,176µm,1.6s
FOSV AML AML
comp=E,144µm,0.4s
FOSV AML AML
comp=N,176µm,1.6s
CING Cingoli 0.37 13 AML AML
comp=N,206µm,0.1s
CING AML AML
comp=E,213µm,0.4s
OFFI Offida 0.45 100 AML AML
comp=N,230µm,0.6s
OFFI AML AML
comp=E,158µm,0.5s
MURB Monte Urbino 0.48 301 AML AML
comp=N,245µm,0.2s
MURB AML AML
comp=E,336µm,0.3s
ARRO Arrone 0.49 208 AML AML
comp=N,118µm,0.2s
ARRO AML AML
comp=E,126µm,0.2s
ARRO AML AML
comp=E,126µm,0.2s
ATFO Monte Foce - G 0.51 313 AML AML
comp=N,56µm,0.3s
ATFO AML AML
comp=E,56µm,0.6s
ATFO AML AML
comp=E,56µm,0.6s
CAMP Campotosto 0.54 153 AML AML
comp=E,43µm,0.2s
CAMP AML AML
comp=N,41µm,0.8s
CESX Cesi 0.55 222 AML AML
comp=E,185µm,0.3s
CESX AML AML
comp=N,201µm,0.3s
TERO Teramo 0.55 135 AML AML
comp=N,108µm,0.2s
TERO AML AML
comp=E,86µm,0.4s
TERO AML AML
comp=E,86µm,0.4s
ATVO AVT- Monte Val 0.61 307 AML AML
comp=E,39µm,0.4s
ATVO AML AML
comp=N,34µm,0.6s
ATVO AML AML
comp=E,39µm,0.4s

*MDD **28** 00:09:20.4±0.7, 36°.32N×10°.63W, h30km, mb_Lg3.0/17, Error ellipse: s-maj=5.4km s-min=4.0km az=67.0*
*INMG **28** 00:09:21.2±1.4, 36°.33N×10°.59W, h23km±10km, ML2.3, Error ellipse: s-maj=8.7km s-min=3.4km az=66.0*
*CNRM **28** 00:09:23.6, 36°.25N×10°.18W, h50km, ml3.5*
ISC 28 00:09:20.8±2.0, 36°.36N±0°.05×10°.46W±0°.10, h35km, n58, σ1s 54/113, 5C-2D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.52**	**59**	⇑*e*Pn	**Pn**	**00 09 46.5**	**+1.0**
PFVI				*e*Sn	**Sn**	**00 10 05.3**	**+1.3**
PFVI				A	A	00 10 10.2	
	22nm,0.5s						
PFVI	**Vila Bisbo**	**1.52**	**59**	P	**Pn**	**00 09 46.7**	**+1.3**
PFVI				S	**Sn**	**00 10 04.1**	**+0.1**
PLAGO	**Lagos**	**1.60**	**62**	*e*Sn	**Sn**	**00 10 07.9**	**+1.9**
PALJ	**Aljezur**	**1.64**	**54**	*e*Sn	**Sn**	**00 10 09.1**	**+2.2**
MORF	**Marmelete**	**1.73**	**56**	*e*P	**Pn**	**00 09 49.6**	**+1.2**
MORF				*e*S	**Sn**	**00 10 10.3**	**+1.1**
MORF				IAML		00 10 11.9	
	comp=N,46nm,0.1s						
MORF	**Marmelete**	**1.73**	**56**	⇑*i*Pn	**Pn**	**00 09 49.6**	**+1.2**
MORF				*e*Sn	**Sn**	**00 10 11.6**	**+2.4**
MORF				A	A	00 10 11.8	
	comp=N,38nm,0.1s						
PTEO	**Sao Teotonio**	**1.82**	**49**	*e*Pn	**Pn**	**00 09 50.8**	**+1.1**
PTEO				*e*Sn	**Sn**	**00 10 12.8**	**+1.3**
PTEO				A	A	00 10 18.8	
	comp=N,12nm,0.6s						
PCVE	**Castro Verde**	**2.31**	**56**	⇑*e*Pn	**Pn**	**00 09 57.8**	**+1.4**
PCVE				*e*Sn	**Sn**	**00 10 25.3**	**+1.6**
PCVE				A	A	00 10 27.8	
	comp=N,7.5nm,0.2s						
MESJ	**Messejana**	**2.32**	**50**	*e*P	**Pn**	**00 09 57.5**	**+1.1**
MESJ				*e*S	**Sn**	**00 10 24.2**	**+0.4**
MESJ				IAML		00 10 27.3	
	comp=N,9.8nm,0.2s						
MESJ	**Messejana**	**2.32**	**50**	*e*Pn	**Pn**	**00 09 57.6**	**+1.1**
MESJ				*e*Sn	**Sn**	**00 10 24.8**	**+1.0**
MESJ				A	A	00 10 26.8	
	comp=N,5.7nm,0.3s						
PNCL	**Nicolau / Gran**	**2.33**	**41**	⇑*e*Pn	**Pn**	**00 09 57.6**	**+1.0**
PNCL				*e*Sn	**Sn**	**00 10 25.2**	**+1.2**
PNCL				A	A	00 10 30.1	
	comp=N,8.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.43**	**64**	⇑*i*Pn	**Pn**	**00 09 59.4**	**+1.4**
PVAQ				*e*Sn	**Sn**	**00 10 27.5**	**+1.0**
PVAQ				A	A	00 10 31.7	
	comp=N,11nm,0.1s						
PVAQ	**Vaqueiros**	**2.43**	**64**	P	**Pn**	**00 09 59.6**	**+1.6**
PVAQ				S	**Sn**	**00 10 25.8**	**-0.7**
PMST	**Lisbon--Monsan**	**2.58**	**23**	*e*Pn	**Pn**	**00 10 00.3**	**+0.2**
PMST				*e*Sn	**Sn**	**00 10 30.3**	**+0.1**
PMST				A	A	00 10 39.4	
	comp=N,17nm,0.4s						
EGRO	**El Granado**	**2.65**	**63**	P	**Pn**	**00 10 02.3**	**+1.3**
EGRO				S	**Sn**	**00 10 33.1**	**+1.1**
EGRO				*i* Vmb_Lg		00 10 36.5	
PBEJ	**Beja**	**2.66**	**50**	*e*Pn	**Pn**	**00 10 02.0**	**+0.9**
PBEJ				*e*Sn	**Sn**	**00 10 33.2**	**+1.2**
PBEJ				A	A	00 10 34.9	
	comp=N,5.5nm,0.1s						
PACT	**Alcochete**	**2.73**	**28**	*e*Pn	**Pn**	**00 10 03.3**	**+1.2**
PACT				*e*Sn	**Sn**	**00 10 34.9**	**+1.1**
PACT				A	A	00 10 36.9	
	comp=N,12nm,0.3s						
PMAFR	**Mafra**	**2.75**	**19**	*e*Pn	**Pn**	**00 10 03.0**	**+0.5**
PMAFR				*e*Sn	**Sn**	**00 10 34.7**	**+0.2**
PMAFR				A	A	00 10 37.9	
	comp=N,19nm,0.1s						
EVO	**Evora**	**2.91**	**41**	P	**Pn**	**00 10 05.6**	**+1.0**
EVO				S	**Sn**	**00 10 38.6**	**+0.2**
EVO	**Evora**	**2.91**	**41**	*e*Pn	**Pn**	**00 10 05.9**	**+1.3**
EVO				*e*Sn	**Sn**	**00 10 39.6**	**+1.2**
EVO				A	A	00 10 42.4	
	comp=N,11nm,0.1s						
PBAR	**Barrancos**	**3.27**	**55**	*e*Pn	**Pn**	**00 10 10.9**	**+1.3**
PBAR				*e*Sn	**Sn**	**00 10 48.4**	**+1.1**
PBAR				A	A	00 10 53.1	
	comp=N,3.7nm,0.2s						
EMIN	**Mina Concepcio**	**3.34**	**64**	P	**Pn**	**00 10 11.4**	**+1.0**
EMIN				S	**Sn**	**00 10 49.5**	**+0.7**
EMIN				*i* Vmb_Lg		00 10 52.0	
PESTR	**Estremoz**	**3.38**	**41**	*e*Pn	**Pn**	**00 10 12.3**	**+1.2**
PESTR				*e*Sn	**Sn**	**00 10 50.6**	**+0.6**
PESTR				A	A	00 10 54.0	
	comp=N,1.6nm,0.2s						
PSBE	**So Bento**	**3.41**	**22**	⇓*e*Pn	**Pn**	**00 10 12.3**	**+0.8**
PSBE				*e*Sn	**Sn**	**00 10 51.2**	**+0.4**
PSBE				A	A	00 11 06.9	
	comp=N,3.8nm,0.5s						
EBAD	**Badajoz**	**3.63**	**48**	P	**Pn**	**00 10 14.9**	**+0.4**
EBAD				S	**Sn**	**00 10 56.6**	**+0.4**
EBAD				*i* Vmb_Lg		00 11 01.2	
ESPR	**Espera**	**3.73**	**81**	P	**Pn**	**00 10 17.3**	**+1.4**
ESPR				S	**Sn**	**00 10 58.9**	**+0.2**
ESPR				*i* Vmb_Lg		00 11 01.3	
PMRV	**Marv??o**	**3.91**	**37**	⇓*i*Pn	**Pn**	**00 10 19.2**	**+0.9**
PMRV				*e*Sn	**Sn**	**00 11 02.6**	**-0.4**
PMRV				A	A	00 11 05.1	
	comp=N,3.1nm,0.5s						
AVE	**Averroes**	**3.95**	**140**	P	**Pn**	**00 10 19.6**	**+0.7**
AVE				S	**Sn**	**00 11 01.7**	**-2.2**
AVE	**Averroes**	**3.95**	**140**	P	**Pn**	**00 10 19.3**	**+0.5**
AVE				S	**Sn**	**00 11 02.2**	**-1.7**
PCAS	**Casmilo, Conde**	**4.00**	**22**	*e*Pn	**Pn**	**00 10 20.2**	**+0.6**
PCAS				*e*Sn	**Sn**	**00 11 05.2**	**0.0**
PCAS				A	A	00 11 08.7	
	comp=N,3.2nm,0.4s						
PCBR	**Castelo Branco**	**4.20**	**33**	*e*Pn	**Pn**	**00 10 23.4**	**+1.1**
PCBR				*e*Sn	**Sn**	**00 11 08.5**	**-1.5**
PCBR				A	A	00 11 13.9	
	comp=N,2.1nm,0.5s						
ECAB	**El Cabril**	**4.37**	**65**	P	**Pn**	**00 10 25.9**	**+1.3**
ECAB				S	**Sn**	**00 11 13.8**	**-0.6**
ECAB				*i* Vmb_Lg		00 11 16.5	
EMIJ	**Mijas**	**4.58**	**86**	P	**Pn**	**00 10 29.4**	**+1.7**
EMIJ				S	**Sn**	**00 11 17.4**	**-2.3**
EMIJ				*i* Vmb_Lg		00 11 23.5	
MTE	**Manteigas**	**4.64**	**29**	*e*Pn	**Pn**	**00 10 29.0**	**+0.6**
MTE				*e*Sn	**Sn**	**00 11 19.6**	**-1.5**
MTE				A	A	00 11 31.7	
	comp=N,2.7nm,0.6s						
PVIS	**Viseu**	**4.79**	**24**	*e*Pn	**Pn**	**00 10 31.3**	**+0.8**
PVIS				*e*Sn	**Sn**	**00 11 23.4**	**-1.4**
PVIS				A	A	00 11 26.4	
	comp=N,4.7nm,0.3s						
EADA	**Adamuz**	**5.02**	**67**	P	**Pn**	**00 10 34.7**	**+1.1**
EADA				S	**Sn**	**00 11 29.4**	**-1.1**
EADA				*i* Vmb_Lg		00 11 34.4	
EPLA	**Plasencia**	**5.05**	**42**	P	**Pn**	**00 10 34.8**	**+0.7**
EPLA				S	**Sn**	**00 11 30.9**	**-0.4**
EPLA				*i* Vmb_Lg		00 11 35.4	
EGOR	**Sierra Gorda,**	**5.15**	**80**	P	**Pn**	**00 10 37.9**	**+2.4**
EGOR				S	**Sn**	**00 11 32.4**	**-1.4**
EGOR				*i* Vmb_Lg		00 11 38.6	
LCRM	**LCR**	**5.31**	**119**	P	**Pn**	**00 10 37.2**	**-0.5**
LCRM				S	**Sn**	**00 11 37.2**	**-0.6**
PVRL	**Vila Real**	**5.36**	**23**	*e*Pn	**Pn**	**00 10 38.3**	**+0.1**
PVRL				*e*Sn	**Sn**	**00 11 35.7**	**-3.0**
PVRL				A	A	00 11 40.7	
	comp=N,4.1nm,0.1s						
POLO	**Lamas de Olo**	**5.42**	**22**	*e*Pn	**Pn**	**00 10 39.6**	**+0.4**
POLO				*e*Sn	**Sn**	**00 11 38.7**	**-1.7**
POLO				A	A	00 11 42.0	
	comp=N,1.2nm,0.6s						
MVO	**Moncorvo**	**5.50**	**28**	*e*Pn	**Pn**	**00 10 40.5**	**+0.3**
MVO				*e*Sn	**Sn**	**00 11 39.4**	**-2.8**
MVO				A	A	00 11 42.4	
	comp=N,3.5nm,0.5s						
ELGU	**Los Guajares,**	**5.52**	**83**	P	**Pn**	**00 10 43.4**	**+2.9**
ELGU				S	**Sn**	**00 11 40.0**	**-2.7**
ELGU				*i* Vmb_Lg		00 11 51.6	
OUK	**Oukaimeden**	**5.57**	**157**	P	**Pn**	**00 10 41.0**	**-0.5**
OUK				S	**Sn**	**00 11 43.2**	**-1.2**
PAB	**San Pablo**	**5.78**	**55**	P	**Pn**	**00 10 44.7**	**+0.6**
PAB				S	**Sn**	**00 11 47.8**	**-1.4**
PAB				*i* Vmb_Lg		00 11 59.3	
ELOB	**Lobios**	**5.81**	**18**	P	**Pn**	**00 10 44.1**	**-0.4**
ELOB				S	**Sn**	**00 11 46.0**	**-3.8**

ELOB				*i* Vmb_Lg			00 11 52.2	
MD31	**MD31**	**5.85**	**125**	P		**Pn**	**00 10 44.7**	**-0.3**
MD31				S		**Sn**	**00 11 47.1**	**-3.8**
PGAV	**Gavieira, Arco**	**5.85**	**16**	*e*Pn		**Pn**	**00 10 45.0**	**-0.1**
PGAV				*e*Sn		**Sn**	**00 11 48.6**	**-2.4**
PGAV				A		A	00 11 57.0	
	comp=N,3.9nm,0.7s							
EQES	**Quesada**	**6.08**	**74**	P		**Pn**	**00 10 49.2**	**+1.0**
EQES				S		**Sn**	**00 11 55.5**	**-1.1**
EQES				*i* Vmb_Lg			00 12 03.6	
ESDC	**Sonseca Array**	**6.10**	**55**	P		**Pn**	**00 10 49.2**	**+0.7**
ESDC				S		**Sn**	**00 11 55.0**	**-2.0**
ESDC				*i* Vmb_Lg			00 12 04.2	
PBRG	**Braganca**	**6.16**	**27**	*e*Pn		**Pn**	**00 10 49.6**	**+0.3**
PBRG				*e*Sn		**Sn**	**00 11 55.7**	**-2.8**
PBRG				A		A	00 12 01.1	
	comp=N,1.2nm,0.5s							
ECAL	**Calabor**	**6.28**	**26**	P		**Pn**	**00 10 51.2**	**+0.3**
ECAL				S		**Sn**	**00 11 58.5**	**-3.0**
ECAL				*i* Vmb_Lg			00 11 59.9	
GUD	**Guadarrama**	**6.54**	**47**	P		**Pn**	**00 10 55.7**	**+1.1**
GUD				S		**Sn**	**00 12 06.5**	**-1.4**
EMAZ	**Mazaricos**	**6.68**	**9**	P		**Pn**	**00 10 55.4**	**-1.0**
EMAZ				S		**Sn**	**00 12 06.2**	**-5.1**
EMAZ				*i* Vmb_Lg			00 12 13.3	
EAGO	**Agolada(Pontev**	**6.69**	**15**	P		**Pn**	**00 10 56.6**	**+0.1**
EAGO				S		**Sn**	**00 12 08.4**	**-3.1**
UCM	**Universidad Co**	**6.90**	**53**	P		**Pn**	**00 11 00.7**	**+1.2**
ETOB	**Tobarra**	**7.44**	**69**	P		**Pn**	**00 11 07.5**	**+0.7**
ETOB				S		**Sn**	**00 12 27.6**	**-2.4**
FIGM	**Figuig**	**8.70**	**116**	P		**Pn**	**00 11 24.0**	**-0.2**
FIGM				S		**Sn**	**00 12 57.7**	**-3.4**

*KRNET **28** 00:11:38.1±0.1,39.˚20N×74.˚42E,mb3.1*
*SOME **28** 00:11:46.6,39.˚55N×74.˚65E,h5km*
ISC 28 00:11:42.3±2.2,39.˚4N±0.˚1×74.˚64E±0.˚05,h10km,n16,
σ1§90/30,8C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.82**	**309**	⇓*e*P	**Pn**	**00 12 12.4**	**-1.3**
	baz=17						
OHH				⇓*e*S	**Sn**	**00 12 37.1**	**+0.2**
	baz=17						
ARLS	**Aral**	**2.48**	**355**	⇑*e*P	**Pn**	**00 12 24.4**	**+1.5**
	baz=59						
ARLS				⇑*e*S	**Sb**	**00 12 58.2**	**+0.5**
	baz=59						
BTK	**Batken**	**3.02**	**284**	⇑*e*P	Pn	00 12 27.9	-2.3
	baz=88						
BTK				⇑*e*S	**Sn**	**00 13 04.4**	**-2.1**
	baz=88						
ARK	**Arkit**	**3.15**	**321**	⇑*e*P	**Pn**	**00 12 31.8**	**-0.3**
	baz=25						
ARK				⇑*i*S	**Sn**	**00 13 11.3**	**+1.5**
	baz=25						
TRKS	**Terek-Say**	**3.42**	**310**	⇑*e*P	**Pn**	**00 12 34.2**	**-1.6**
	baz=13						
TRKS				⇑*e*S	**Sn**	**00 13 15.0**	**-1.4**
	baz=13						
MRKS	**Merke**	**3.52**	**343**	*e*P	**Pg**	**00 12 48.9**	**-0.8**
	3.1nm,0.2s						
MRKS				*e*S	**Sg**	**00 13 33.6**	**-1.6**
	6.0nm,0.4s						
KST	**Kastek**	**3.79**	**15**	*e*P	**Pb**	**00 12 52.8**	**+3.5**
	3.1nm,0.3s						
KST				*e*S	**Sg**	**00 13 40.5**	**-3.3**
	9.8nm,0.4s						
DGS	**Degeres**	**3.94**	**12**	*e*P	**Pg**	**00 12 56.7**	**-1.1**
	5.6nm,0.4s						
DGS				*e*S	**Sg**	**00 13 47.3**	**-1.5**
	9.4nm,0.8s						
MTBS	**Maitube**	**3.97**	**19**	*e*P	**Pb**	**00 12 56.8**	**+4.4**
	1.9nm,0.1s						
MTBS				*e*S	**Sg**	**00 13 47.4**	**-2.5**
	6.5nm,0.4s						
TNSS	**Tian-Shan**	**4.04**	**25**	*e*P	**Pg**	**00 12 58.8**	**-0.8**
	2.6nm,0.2s						
TNSS				*e*S	**Sg**	**00 13 50.9**	**-1.2**
	3.9nm,0.4s						
SGDS	**Sogindy**	**4.06**	**360**	*e*P	**Pg**	**00 12 59.3**	**-0.7**
	3.0nm,0.4s						
SGDS				*e*S	**Sg**	**00 13 51.7**	**-0.9**
	4.1nm,0.5s						
MDOK	**Medeo**	**4.18**	**25**	*e*P	**Pg**	**00 13 00.9**	**-1.5**
	2.8nm,0.5s						
MDOK				*e*S	**Sg**	**00 13 54.0**	**-2.6**
	5.1nm,0.8s						
KRBS	**Karabastau**	**4.37**	**10**	*e*P	**Pg**	**00 13 05.1**	**-0.9**
	3.0nm,0.4s						
KRBS				*e*S	**Sg**	**00 14 01.7**	**-0.9**
	6.3nm,0.4s						
IUG	**Iuzhnay**	**4.45**	**310**	*e*P	**Pg**	**00 13 07.1**	**-0.4**
	10nm,0.8s						
IUG				*e*S	**Sg**	**00 14 05.0**	**-0.2**
	12nm,0.6s						
KTBS	**Karatobe**	**4.58**	**19**	*e*P	**Pg**	**00 13 08.7**	**-1.4**
	2.0nm,0.3s						
KTBS				*e*S	**Sg**	**00 14 07.8**	**-1.6**
	5.8nm,0.5s						
KPKS	**Kokpek**	**5.08**	**35**	*e*P	Pb	00 13 17.3	+6.0
	3.8nm,0.5s						
KPKS				*e*S	**Sg**	**00 14 22.6**	**-2.9**
	6.8nm,0.4s						

WEL 28 00:13:40.9±0.6,40˚S±3˚×17˚7E±˚,h13km±4km,M3.5/38,
ML3.9/19,MLv3.5/38,Error ellipse: s-maj=0.0km
s-min=0.0km az=118.3,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.21**	**332**	P	Pg	00 13 46.0	+0.5
PRHZ				S	Sb	00 13 50.0	-0.4
ANWZ	**Angora Road**	**0.22**	**267**	P	Pb	00 13 47.0	+0.2
ANWZ				S	Sb	00 13 50.5	-0.2
PXZ	**Pawanui**	**0.42**	**10**	P	Pb	00 13 50.3	0.0
PXZ				S	Sb	00 13 57.6	+1.0
BFZ	**Birch Farm**	**0.46**	**239**	P	Pb	00 13 51.6	+0.7
BFZ				S	Sn	00 14 00.0	-1.3
WPHZ	**Waipukurau**	**0.46**	**327**	P	Pb	00 13 50.9	+0.1
WPHZ				S	Sb	00 13 59.2	+1.6
DVHZ	**Dannevirke**	**0.48**	**288**	P	Pb	00 13 51.4	+0.2
DVHZ				S	Sb	00 13 59.2	+0.9
PRWZ	**Pori Road**	**0.61**	**260**	P	Pb	00 13 54.2	+0.6
CPWZ	**Castlepoint**	**0.63**	**223**	P	Pb	00 13 54.4	+0.6
KAHZ	**Kahuranaki**	**0.66**	**8**	P	Pb	00 13 54.5	+0.2
PNHZ	**Pukenui**	**0.69**	**321**	P	Pb	00 13 54.7	-0.1
PNHZ				S	Sb	00 14 05.4	+1.2
TSZ	**Takapari Road**	**0.73**	**302**	P	Pb	00 13 55.3	-0.2
TIWZ	**Tintock**	**0.74**	**244**	P	Pb	00 13 56.1	+0.3
POWZ	**Post Office Ro**	**0.76**	**274**	P	Pb	00 13 56.4	+0.3
CKHZ	**Cape Kidnapper**	**0.83**	**17**	P	Pg	00 13 57.0	+0.1
MRZ	**Mangatainoka R**	**0.93**	**256**	P	Pg	00 13 58.2	-0.6
TMWZ	**Te Maipa**	**0.93**	**225**	P	Pg	00 13 58.0	-1.0
MCHZ	**McNeill Hill**	**1.00**	**357**	P	Pb	00 14 00.1	-0.1
HOWZ	**Holdsworth Sta**	**1.05**	**244**	P	Pb	00 13 59.6	-1.4
KWHZ	**Kaweka Forest**	**1.06**	**346**	P	Pb	00 14 01.2	0.0
BHHZ	**Black Hill Sta**	**1.10**	**330**	P	Pb	00 14 01.4	-0.4
OHWZ	**Ohakea**	**1.13**	**282**	P	Pg	00 14 02.8	+0.1
ARHZ	**Aropaoanui**	**1.20**	**9**	P	Pn	00 14 02.8	-0.6
TRWZ	**Traveller**	**1.25**	**220**	P	Pn	00 14 01.7	-2.5
OGWZ	**Otaki Gorge**	**1.27**	**253**	P	Pn	00 14 02.8	-1.6
BKZ	**Black Stump Fm**	**1.30**	**351**	P	Pn	00 14 03.5	-1.4
MOVZ	**Moawhango**	**1.30**	**323**	P	Pn	00 14 04.8	-0.1
NMHZ	**Naumai**	**1.35**	**1**	P	Pn	00 14 04.5	-1.1
PAWZ	**Paruwai Farm**	**1.38**	**227**	P	Pn	00 14 03.6	-2.3
WHHZ	**Waihua**	**1.42**	**15**	P	Pg	00 14 11.3	+3.1
CAW	**Cannon Point**	**1.45**	**242**	P	Pn	00 14 04.8	-2.0
MTVZ	**Mangateitei**	**1.46**	**317**	P	Pb	00 14 08.1	+0.2
TUVZ	**Tukino**	**1.46**	**324**	P	Pb	00 14 08.3	+0.3
KIW	**Kapiti Island**	**1.47**	**253**	P	Pn	00 14 05.7	-1.4
WHVZ	**Whangaehu Hut**	**1.48**	**322**	P	Pb	00 14 08.2	-0.2
TRVZ	**Turoa**	**1.48**	**320**	P	Pb	00 14 08.3	-0.2
DRZ	**Dome Shelter**	**1.49**	**321**	P	Pb	00 14 08.6	-0.2
MSWZ	**Moikau Station**	**1.50**	**229**	P	Pn	00 14 05.0	-2.6
FWVZ	**Far West T-bar**	**1.51**	**322**	P	Pb	00 14 08.7	-0.4
WAZ	**Wanganui**	**1.53**	**296**	P	Pb	00 14 09.4	+0.2
OTVZ	**Oturere**	**1.54**	**326**	P	Pb	00 14 08.9	-0.5
ETVZ	**East Tongariro**	**1.54**	**328**	P	Pb	00 14 09.3	-0.2
RAHZ	**Arahi**	**1.55**	**9**	P	Pn	00 14 07.9	-0.4
NGZ	**Ngauruhoe**	**1.56**	**324**	P	Pb	00 14 09.3	-0.4
TMVZ	**Te Maari**	**1.56**	**328**	P	Pb	00 14 09.5	-0.3
NNVZ	**North Ngauruho**	**1.59**	**326**	P	Pb	00 14 10.0	-0.3
NTVZ	**North Tongarir**	**1.59**	**328**	P	Pb	00 14 09.9	-0.3
KNZ	**Kokohu**	**1.59**	**27**	P	Pn	00 14 06.4	-2.4
PKVZ	**Pokaka**	**1.59**	**316**	P	Pb	00 14 10.0	-0.3
MTHZ	**Maungataniwha**	**1.60**	**2**	P	Pn	00 14 07.4	-1.5
PLWZ	**Palliser**	**1.60**	**225**	P	Pn	00 14 06.5	-2.5
WTVZ	**West Tongariro**	**1.61**	**325**	P	Pb	00 14 10.1	-0.5
RITZ	**Rihia Road**	**1.63**	**334**	P	Pb	00 14 10.3	-0.6
MRHZ	**Matea Rd**	**1.64**	**350**	P	Pn	00 14 08.6	-0.9
KATZ	**Kakaramea**	**1.69**	**330**	P	Pg	00 14 13.4	+0.1
SNGZ	**Shannon Statio**	**1.72**	**15**	P	Pn	00 14 09.5	-1.2
RATZ	**Rangitukua**	**1.76**	**334**	P	Pb	00 14 13.4	+0.3
TCW	**Tory Channel**	**2.04**	**247**	P	Pn	00 14 13.1	-1.8
LREZ	**Lake Rotokare**	**2.07**	**298**	P	Pg	00 14 20.2	-0.3
DUWZ	**D'Urville Isla**	**2.19**	**260**	P	Pn	00 14 16.0	-1.1
MWZ	**Matawai**	**2.19**	**16**	P	Pn	00 14 15.4	-1.8
URZ	**Urewera**	**2.20**	**7**	P	Pn	00 14 15.4	-1.9
NEZ	**North Egmont**	**2.37**	**299**	P	Pb	00 14 23.0	-0.5
HIZ	**Hauiti**	**2.43**	**322**	P	Pg	00 14 26.4	-1.1
RUGZ	**Raukumara Rang**	**2.58**	**16**	P	Pn	00 14 20.4	-2.1
WMGZ	**Waiomatatini S**	**2.92**	**27**	P	Pn	00 14 24.4	-2.7
QRZ	**Quartz Range**	**3.24**	**262**	P	Pn	00 14 29.9	-1.7
TMZ	**Timaru**	**5.80**	**225**	P	Pn	00 15 03.9	-2.7
MSZ	**Milford Sound**	**7.77**	**234**	P	Pn	00 15 34.3	+0.6

*IDC **28** 00:14:55.6±0.8,9.˚81S×154.˚26E,h0km,mb4.1/12,*
mbtmp4.1/12,MS3.4/4,Error ellipse: s-maj=27.7km
s-min=18.0km az=102.0
ISC 28 00:14:57.2±0.8,9.˚9S±0.˚1×154.˚5E±0.˚1,h10km,n17,
σ1§51/14,mb4.1/12,MS3.5/3,D'Entrecasteaux Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**6.02**	**336**	LR	LR	00 18 16.3	
	comp=Z,271nm,21.6s,baz=292,slow=34						
PMG	**Port Moresby**	**7.22**	**273**	Pn	**Pn**	**00 16 45.4**	**+2.6**
	2.7nm,0.3s,baz=256,slow=6.1,SNR=2.1						
WRA	**Warramunga Arr**	**21.86**	**240**	P	**P**	**00 19 48.6**	**-1.6**
	3.7nm,0.8s,baz=65,slow=9.6,SNR=17						
	3.7nm,0.8s						
ASAR	**Alice Springs**	**23.96**	**232**	P	**P**	**00 20 10.3**	**-1.6**
	4.9nm,0.8s,baz=63,slow=9.4,SNR=55						
	4.9nm,0.8s						
STKA	**Stephens Creek**	**24.95**	**207**	P	**P**	**00 20 20.4**	**-0.5**
	5.5nm,0.8s,baz=5.6,slow=8.2,SNR=12						
	5.5nm,0.8s						
ASAJ	**Asahikawa**	**54.79**	**350**	LR	LR	00 47 54.1	
	comp=Z,27nm,18.3s,baz=280,slow=36						
CMAR	**Chiang Mai Arr**	**61.58**	**297**	P	**P**	**00 25 14.4**	**-0.8**
	1.8nm,0.3s,baz=131,slow=5.0,SNR=10						
	1.8nm,0.3s						
PETK	**Petropavlovsk-**	**62.77**	**2**	P	**P**	**00 25 22.8**	**+0.2**
	4.7nm,1.0s,baz=114,slow=3.6,SNR=3.1						
	4.7nm,1.0s						
VNDA	**Vanda**	**67.75**	**178**	P	**P**	**00 25 55.1**	**+0.5**
	0.5nm,0.4s,baz=322,slow=5.7,SNR=7.0						
	0.5nm,0.4s						
MA2	**Magadan**	**69.26**	**358**	LR	LR	00 56 37.6	
	comp=Z,26nm,18.8s,baz=359,slow=36						
SONM	**Songino Array**	**71.46**	**328**	P	**P**	**00 26 17.6**	**-0.5**
	1.4nm,0.8s,baz=147,slow=6.3,SNR=8.9						
SONM				LR	LR	00 56 33.5	
	comp=Z,52nm,19.7s,baz=250,slow=35						
	1.4nm,0.8s						
QSPA	**South Pole Qui**	**80.14**	**180**	P	**P**	**00 27 07.4**	**0.0**
	2.6nm,0.9s,baz=17,slow=2.6,SNR=5.5						
	2.6nm,0.9s						
MKAR	**Makanchi Array**	**85.20**	**319**	P	**P**	**00 27 32.4**	**-1.6**
	1.7nm,0.9s,baz=109,slow=5.6,SNR=9.5						
	1.7nm,0.9s						
ILAR	**Eielson Array**	**86.21**	**22**	P	**P**	**00 27 37.7**	**-0.8**
	1.0nm,0.9s,baz=234,slow=5.0,SNR=10						
	1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**86.25**	**326**	P	**P**	**00 27 37.4**	**-1.5**
	0.5nm,0.5s,baz=97,slow=6.3,SNR=3.7						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**93.89**	**52**	P	**P**	**00 28 17.9**	**+2.3**
	0.3nm,0.5s,baz=236,slow=6.4,SNR=2.9						
	0.3nm,0.5s						
BDFB	**Brasilia**	**146.28**	**138**	PKPbc	**PKPdf**	**00 34 39.1**	**+1.0**
	3.9nm,0.8s,baz=198,slow=3.9,SNR=7.5						

*IDC **28** 00:15:31.5±12.0,24.˚06S×179.˚54W,h503km±80km,*
mb3.7/3,mbtmp4.6/4,Error ellipse: s-maj=205.4km
s-min=28.9km az=142.0
*NEIC **28** 00:15:35.8±0.9,23.˚7S±0.˚2×179.˚81W±0.˚07,h540km±11km,*
mb4.1/18,Error ellipse: s-maj=24.7km s-min=5.1km
az=163.0
ISC 28 00:15:36.0±0.7,23.˚5S±0.˚1×179.˚9W±0.˚1,h550km,n33,
σ1§08/33,mb4.2/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.08**	**341**	P	**P**	**00 17 14.7**	**-0.9**
	7.3nm,0.4s,baz=216,slow=9.2,SNR=20						
MSVF	**Nonsavu**	**6.08**	**341**	P	**P**	**00 17 14.5**	**-1.0**
NIUE	**Niue**	**10.28**	**66**	P	**P**	**00 17 57.1**	**+0.3**
MARNC	**Mare, Loyalty**	**11.36**	**278**	P	**P**	**00 18 08.1**	**+0.1**
OUENC	**Ouen Island, N**	**12.29**	**273**	P	**P**	**00 18 17.9**	**+0.4**
MSWZ	**Moikau Station**	**18.30**	**192**	P	**P**	**00 19 14.5**	**-1.8**
TCW	**Tory Channel**	**18.30**	**194**	P	**P**	**00 19 15.1**	**-1.2**
PLWZ	**Palliser**	**18.45**	**192**	P	**P**	**00 19 19.1**	**+1.4**
WHZ	**Wether Hill Ro**	**24.40**	**201**	P	**P**	**00 20 10.5**	**-0.6**
EIDS	**Eidsvold**	**26.48**	**260**	P	**P**	**00 20 30.6**	**+0.8**
EIDS				IAmb	IAmb	00 20 31.8	
	comp=Z,9.8nm,1.1s						
CTA	**Charters Tower**	**31.59**	**270**	P	**P**	**00 21 15.5**	**+1.3**
	comp=Z,12nm,0.5s,baz=93,slow=11,SNR=14						
	comp=Z,12nm,0.5s						
TOO	**Toolangi**	**32.74**	**237**	P	**P**	**00 21 23.6**	**-0.2**
TOO				IAmb	IAmb	00 21 24.9	
	comp=Z,4.3nm,0.7s						
STKA	**Stephens Creek**	**34.97**	**248**	P	**P**	**00 21 42.9**	**+0.4**
BBOO	**Buckleboo**	**39.69**	**246**	P	**P**	**00 22 21.0**	**-0.2**
BBOO				IAmb	IAmb	00 22 24.4	
	comp=Z,4.9nm,1.1s						
AS31	**Alice Springs**	**42.21**	**260**	P	**P**	**00 22 41.8**	**+0.5**
AS31				IAmb	IAmb	00 22 42.8	
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**00 22 41.8**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=101,slow=7.2,SNR=21						
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**00 22 41.5**	**+0.3**
WR0	**Warramunga Arr**	**42.36**	**266**	P	**P**	**00 22 42.6**	**+0.2**
WR0				IAmb	IAmb	00 22 44.5	
	comp=Z,4.4nm,1.1s						
WB2	**Warramunga Arr**	**42.53**	**266**	P	**P**	**00 22 44.1**	**+0.2**
WB2				IAmb	IAmb	00 22 44.5	
	comp=Z,4.2nm,0.6s						
WB0	**Warramunga Arr**	**42.54**	**266**	P	**P**	**00 22 44.0**	**+0.1**
WB0				IAmb	IAmb	00 22 44.5	
	comp=Z,7.4nm,0.7s						
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**00 22 44.1**	**+0.2**
	comp=Z,4.4nm,0.5s,baz=103,slow=8.1,SNR=120						
	comp=Z,4.4nm,0.5s						
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**00 22 44.1**	**+0.2**
FORT	**Forrest**	**46.55**	**249**	P	**P**	**00 23 14.4**	**-0.1**
KNRA	**Kununurra**	**48.80**	**269**	P	**P**	**00 23 32.1**	**+0.5**
KNRA				IAmb	IAmb	00 23 33.5	
	comp=Z,4.6nm,0.5s						
MBWA	**Marble Bar**	**55.55**	**260**	P	**P**	**00 24 19.7**	**-0.2**
MORW	**Morawa**	**57.11**	**250**	P	**P**	**00 24 30.8**	**+0.2**
MORW				IAmb	IAmb	00 24 44.3	
	comp=Z,7.5nm,1.0s						
CCX	**Cicese**	**81.76**	**50**	P	**P**	**00 26 58.1**	**+0.5**
GSC	**Goldstone, Bar**	**83.59**	**47**	P	**P**	**00 27 05.7**	**-1.2**
GSC				IAmb	IAmb	00 27 15.6	
	comp=Z,4.0nm,0.9s						
SNAA	**Sanae**	**85.03**	**179**	P	**P**	**00 27 13.3**	**-0.1**
HG4B	**Hotspring**	**86.62**	**28**	P	**P**	**00 27 23.2**	**+2.2**
AKASG	**Malin Array Be**	**144.72**	**328**	PKPbc	**PKiKP**	**00 34 11.4**	**-2.7**
	comp=Z,0.4nm,0.4s,baz=45,slow=3.3,SNR=6.5						
BRTR	**Keskin Array B**	**147.44**	**308**	PKPbc	**PKPab**	**00 34 20.1**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=67,slow=3.2,SNR=2.3						
CLL	**Collm**	**150.53**	**343**	*i* PKPbc	**PKiKP**	**00 34 27.5**	**+1.5**

TAP 28 00:17:16.1,23.˚09N×120.˚35E,h18km,ML3.7,7C-13D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

CHN3	**Shinhua**	**0.02**	**139**	⇑*i*P		Pg	**00 17 19.9**	**+0.7**
	baz=142							
CHN3				*i* S		Sg	00 17 23.1	+1.9
	baz=142							
SHHT	**Tainan City**	**0.07**	**183**	⇓*i*P		Pg	**00 17 19.2**	**-0.2**
	baz=183							
SHHT				*i* S		Sg	00 17 22.6	+0.9
	baz=183							
SSHA	**Shanhua**	**0.07**	**308**	⇑*i*P		Pg	**00 17 20.2**	**+0.7**
	baz=308							
SSHA				*i* S		Sg	00 17 23.8	+2.0
	baz=308							
TAI1	**Yung-k'ang**	**0.12**	**246**	⇓*i*P		Pg	**00 17 20.6**	**+0.7**
	baz=252							
TAI1				*i* S		Sg	00 17 24.5	+2.0
	baz=252							
SCLT	**Jiali**	**0.17**	**300**	⇑*i*P		Pb	**00 17 21.1**	**+0.5**
	baz=301							
SCLT				S		Sb	00 17 25.5	+1.9
	baz=301							
TAI	**Tainan**	**0.17**	**237**	*e*P		Pb	**00 17 21.2**	**+0.5**
	baz=234							
TAI				S		Sb	00 17 24.1	+0.3
	baz=234							
CHN1	**Nanshi**	**0.19**	**60**	⇓*i*P		Pb	**00 17 21.6**	**+0.6**
	baz=60							
CHN1				*e*S		Sb	00 17 24.9	+0.6
	baz=60							
SGST	**Jiashian**	**0.21**	**92**	⇓*i*P		Pb	**00 17 21.4**	**0.0**
	baz=88							
SGST				*i* S		Sb	00 17 26.2	+1.2
	baz=88							
TWK	**Hsinying**	**0.22**	**35**	⇓*i*P		Pb	**00 17 22.3**	**+0.8**
	baz=48							
TWK				*e*S		Sb	00 17 27.3	+2.1
	baz=48							
SCST	**Cishan**	**0.24**	**147**	⇑P		Pb	**00 17 23.6**	**+1.6**
	baz=135							
SCST				S		Sb	00 17 29.1	+3.2
	baz=135							
TSCK	**Chigu Township**	**0.25**	**283**	*i* P		Pg	**00 17 21.4**	**-0.3**
	baz=293							
TSCK				*e*S		Sb	00 17 27.0	+0.8
	baz=293							
TWM1	**Shoushan**	**0.27**	**166**	*e*P		Pn	**00 17 24.2**	**-1.1**
	baz=151							
TWM1				*e*S		Sn	00 17 30.1	-1.0
	baz=151							
ICHU	**Yijhu**	**0.28**	**346**	P		Pb	**00 17 23.1**	**+0.4**
	baz=346							
ICHU				*e*S		Sb	00 17 28.9	+2.0
	baz=346							
CHN8	**Yiju**	**0.29**	**333**	⇑*i*P		Pb	**00 17 23.0**	**+0.3**
	baz=335							
CHN8				S		Sb	00 17 28.9	+1.7
	baz=335							
WTP	**Ta-pu**	**0.29**	**57**	⇓*i*P		Pb	**00 17 23.2**	**+0.4**
	baz=58							
WTP				*e*S		Sb	00 17 28.5	+1.2
	baz=58							
TPUB	**Ta-pu**	**0.33**	**51**	⇓*i*P		Pb	**00 17 23.7**	**+0.2**
	baz=51							
TPUB				S		Sb	00 17 29.4	+0.8
	baz=51							
CHN4	**Tsaushan**	**0.34**	**40**	⇓*i*P		Pg	**00 17 23.1**	**-0.2**
	baz=40							
CHN4				S		Sb	00 17 29.5	+0.6
	baz=40							
SGLT	**Jiouru**	**0.39**	**161**	*e*P		Pb	**00 17 25.2**	**+0.8**
	baz=160							
SGLT				*e*S		Sb	00 17 31.9	+1.8
	baz=160							
STYH	**Taoyuan**	**0.40**	**78**	⇓*i*P		Pg	**00 17 24.3**	**0.0**
	baz=68							
STYH				*e*S		Sg	00 17 30.2	+0.3
	baz=68							
CHY	**Chiayi**	**0.41**	**9**	*e*P		Pb	**00 17 25.6**	**+0.7**
	baz=10.0							
CHY				S		Sn	00 17 32.8	-1.6
	baz=10.0							
WCKO	**Fanlu**	**0.42**	**34**	⇓P		Pg	**00 17 24.4**	**-0.3**
	baz=34							
WCKO				*e*S		Sb	00 17 31.5	+0.4
	baz=34							
TSPT	**Pingtung City**	**0.43**	**162**	*e*P		Pn	**00 17 27.0**	**-0.5**
	baz=163							
TSPT				*e*S		Sn	00 17 33.7	-1.2
	baz=163							
WSSL	**Shuilin Townsh**	**0.45**	**345**	*e*P		Pg	**00 17 24.8**	**-0.4**
	baz=345							
WSL				*e*S		Sb	00 17 32.6	+0.7
	baz=345							
CHN2	**Minshiung**	**0.45**	**14**	P		Pb	**00 17 26.5**	**+0.9**
	baz=14							
CHN2				*e*S		Sn	00 17 34.2	-1.3
	baz=14							
WSSB	**Gushan**	**0.45**	**191**	*e*P		Pn	**00 17 27.1**	**-0.7**
	baz=202							
WSSB				*e*S		Sn	00 17 36.2	+0.7
	baz=202							
TSMG	**Majia**	**0.47**	**145**	⇑P		Pb	**00 17 26.5**	**+0.6**
	baz=137							
TSMG				*e*S		Sn	00 17 34.8	-1.0

WTCT	**Ta-ch'eng** baz=355	**0.77**	**355**	*e*P	Pg	00 17 31.4	+0.1
WTCT	baz=355			*e*S	Sn	00 17 42.6	-0.7
TTN	**Taitung** baz=114	**0.81**	**114**	*e*P	Pn	00 17 32.9	+0.3
WJS	**Zhushan** baz=25	**0.81**	**25**	⇓P	Pg	00 17 32.1	+0.2
WJS	baz=25			*e*S	Sn	00 17 44.3	+0.1
WRL	**Guolierlin Hig** baz=354	**0.81**	**2**	*e*P	Pb	00 17 31.2	-0.4
WRL	baz=354			*e*S	Sg	00 17 43.3	+0.7
PHUB	**P'eng-hu** baz=301	**0.83**	**301**	P	Pb	00 17 31.3	-0.7
PHUB	baz=301			S	Sb	00 17 42.5	-0.5
EAST	**Anshuo** baz=140	**0.84**	**147**	P	Pn	00 17 33.4	+0.3
EAST	baz=140			*e*S	Sn	00 17 46.5	+1.4
WNT	**Mingjian** baz=21	**0.84**	**21**	*e*P	Pg	00 17 32.5	0.0
WNT	baz=21			*e*S	Sn	00 17 45.2	+0.2
VCHM	**Qimei** baz=278	**0.86**	**278**	P	Pb	00 17 32.1	-0.4
VCHM	baz=278			*i* S	Sb	00 17 43.6	0.0
PNG	**Penghu** baz=303	**0.87**	**303**	P	Pb	00 17 32.3	-0.4
PNG	baz=303			S	Sb	00 17 44.1	0.0
FULB	**Fuli** baz=83	**0.87**	**83**	P	Pn	00 17 34.1	+0.5
FULB	baz=83			*e*S	Sn	00 17 47.9	+2.0
EDH	**Donghe** baz=98	**0.89**	**97**	P	Pn	00 17 34.5	+0.8
EDH	baz=98			*e*S	Sn	00 17 48.2	+2.1
TAW	**Tawu** baz=134	**0.89**	**145**	P	Pn	00 17 34.2	+0.5
TAW	baz=134			*e*S	Sn	00 17 47.6	+1.5
SSLB	**Suanglung** baz=25	**0.89**	**38**	P	Pb	00 17 33.2	+0.2
SSLB	baz=25			S	Sn	00 17 46.4	+0.1
TAWH	**Dawu Township** baz=136	**0.90**	**146**	P	Pb	00 17 33.2	+0.1
TAWH	baz=136			*e*S	Sn	00 17 46.4	+0.1
YULB	**Yu-li** baz=64	**0.92**	**71**	P	Pn	00 17 34.2	0.0
YULB	baz=64			S	Sn	00 17 47.0	0.0
EYUL	**Yuli** baz=67	**0.93**	**74**	P	Pn	00 17 34.5	+0.2
EYUL	baz=67			*e*S	Sn	00 17 47.7	+0.6
CHKT	**Chengkung** baz=82	**0.93**	**89**	P	Pn	00 17 35.2	+0.8
CHKT	baz=82			*e*S	Sn	00 17 50.6	+3.3
SMLT	**Sun Moon Lake** baz=33	**0.94**	**32**	⇓*i*P	Pg	00 17 34.1	-0.2
SMLT	baz=33			*e*S	Sn	00 17 47.9	+0.3
SLIU	**Shizi** baz=146	**0.96**	**155**	*e*P	Pg	00 17 35.1	+0.3
SLIU	baz=146			*e*S	Sn	00 17 49.7	+1.7
VWDT	**VWDT** baz=35	**0.98**	**48**	P	Pg	00 17 35.3	+0.2
VWDT	baz=35			*e*S	Sn	00 17 48.3	-0.1
EHY	**Hungye** baz=75	**0.98**	**65**	P	Pg	00 17 35.4	+0.1
EHY	baz=75			S	Sg	00 17 48.3	+0.2
WCHH	**Zhanghua** baz=22	**1.00**	**11**	*e*P	Pn	00 17 35.2	-0.1
WCHH	baz=22			*e*S	Sn	00 17 50.0	+1.0
HGSD	**Ruisui** baz=68	**1.06**	**68**	P	Pg	00 17 37.2	+0.5
HGSD	baz=68			S	Sg	00 17 53.5	+2.8
WCS	**Beigang Elemen** baz=28	**1.09**	**28**	P	Pb	00 17 36.0	-0.5
WCS	baz=28			*e*S	Sn	00 17 51.3	0.0
TCU	**Taichung** baz=16	**1.09**	**16**	*e*P	Pn	00 17 36.8	+0.2
TCU	baz=16			*e*S	Sg	00 17 52.8	+1.1
LDUT	**Ludao** baz=102	**1.11**	**112**	*e*P	Pg	00 17 38.1	+0.5
LDUT	baz=102			S	Sg	00 17 54.6	+2.4
HEN	**Hengchun** baz=162	**1.14**	**162**	*e*P	Pg	00 17 39.0	+0.8
WUSB	**Renai** baz=27	**1.14**	**38**	P	Pb	00 17 37.4	0.0
WUSB	baz=27			*e*S	Sg	00 17 53.5	+0.4
EGFH	**Guangfu** baz=48	**1.14**	**60**	P	Pg	00 17 38.0	-0.2
EGFH	baz=48			*e*S	Sg	00 17 53.5	+0.2
SMST	**Manzhou Townsh** baz=157	**1.16**	**157**	*e*P	Pg	00 17 38.3	-0.1
SMST	baz=157			*e*S	Sb	00 17 51.6	-0.6
TWKBT	**Hengchun** baz=160	**1.22**	**159**	*e*P	Pn	00 17 38.2	-0.1
CHGB	**Renai** baz=28	**1.23**	**38**	P	Pb	00 17 39.0	+0.1
CHGB	baz=28			*e*S	Sg	00 17 56.1	+0.2
ESL	**Shilin** baz=53	**1.23**	**54**	*e*P	Pn	00 17 38.5	+0.1
WDJ	**Dajia District** baz=11	**1.28**	**12**	*e*P	Pb	00 17 40.1	+0.4
WDJ	baz=11			*e*S	Sg	00 17 58.3	+0.8
WHP	**Taichung City** baz=24	**1.30**	**25**	P	Pb	00 17 40.2	+0.1
WHP	baz=24			*e*S	Sg	00 17 57.5	-0.8
TWQ1	**Liyutan** baz=17	**1.31**	**17**	P	Pb	00 17 40.5	+0.2
TWQ1	baz=17			*e*S	Sg	00 17 58.7	+0.1
WHF	**Hehuan Shan** baz=38	**1.34**	**38**	*e*P	Pg	00 17 41.7	-0.4
WHF	baz=38			*e*S	Sb	00 17 58.4	+0.2
TDCB	**Techi** baz=32	**1.37**	**32**	*e*P	Pb	00 17 41.0	-0.4
TWT	**Tachien** baz=32	**1.38**	**33**	*e*P	Pb	00 17 41.2	-0.4
TWT	baz=32			*e*S	Sb	00 17 59.7	+0.7
FUSS	**Fushou** baz=35	**1.41**	**35**	P	Pb	00 17 42.0	-0.1
FUSS	baz=35			*e*S	Sb	00 17 59.8	-0.1
NMLH	**Miaoli** baz=15	**1.50**	**16**	*e*P	Pb	00 17 43.4	0.0
NMLH	baz=15			*e*S	Sg	00 18 03.7	-0.8
TWD	**Chiawan** baz=49	**1.51**	**49**	*e*P	Pb	00 17 44.3	+0.7
TWD	baz=49			*e*S	Sg	00 18 04.6	-0.2
ETLH	**Xiulin Townshi** baz=42	**1.52**	**43**	*e*P	Pb	00 17 44.4	+0.6
ETLH	baz=42			*e*S	Sb	00 18 03.7	+0.8
LYUB	**Lan-yu** baz=134	**1.57**	**133**	*e*P	Pn	00 17 41.6	-1.5
NNSB	**Datong** baz=18	**1.63**	**35**	*e*P	Pn	00 17 44.9	+0.8
NNS	**Nan Shan** baz=18	**1.64**	**35**	*e*P	Pn	00 17 44.8	+0.6
NSTT	**Nanjuang** baz=19	**1.65**	**21**	*e*P	Pn	00 17 44.5	+0.3
LIOB	**Emei** baz=19	**1.66**	**21**	*e*P	Pn	00 17 44.4	-0.1
NFF	**Wufeng Townshi** baz=7.0	**1.69**	**24**	*e*P	Pn	00 17 45.2	+0.3
NFF	baz=7.0			*e*S	Sn	00 18 06.3	+0.3
LATG	**Datong** baz=36	**1.80**	**37**	*e*P	Pb	00 17 47.7	-0.9
LATG	baz=36			*e*S	Sb	00 18 11.6	+0.7
NSK	**Sanguang** baz=10.0	**1.83**	**30**	*e*P	Pn	00 17 47.1	+0.3
YHNB	**Yeheng** baz=10.0	**1.83**	**31**	*e*P	Pn	00 17 47.2	+0.4
ENA	**Nanau** baz=57	**1.84**	**43**	*e*P	Pb	00 17 48.8	-0.5
ENTT	**Nioudou** baz=18	**1.90**	**36**	*e*P	Pn	00 17 48.5	+0.8
FUSB	**Fushanzhiwuyua** baz=17	**2.01**	**34**	*e*P	Pn	00 17 49.8	+0.5

*HVO **28** 00:39:23.6±0.7, 19°.33N±0°.05×155°.00W±0°.03, h7km±4km, ML2.6/17, ML2.6/42(NEIC), Error ellipse: s-maj=8.0km s-min=2.3km az=206.0*

NEIC 28 00:39:23.9±1.1, 19°.44N±0°.04×155°.00W±0°.04, h6km±10km, Error ellipse: s-maj=7.6km s-min=4.3km az=219.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.11**	**242**		Pg	00 39 26.2	-0.1
JCUZ				Sg	Sg	00 39 27.8	-0.2
JCUZ				IAML		00 39 28.0	
	comp=E,2μm,0.5s						
JCUZ				IAML		00 39 28.1	
	comp=N,2μm,0.4s						
NPOC	**North of Pu'u**	**0.12**	**247**		Pg	00 39 26.5	+0.1
NPOC				Sg	Sg	00 39 28.2	+0.1
NPOC				IAML		00 39 28.4	
	comp=N,3μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.17**	**250**		Pg	00 39 27.2	-0.2
PUH	**Pauahi**	**0.22**	**253**		Pg	00 39 27.9	-0.3
PUH				Sg	Sg	00 39 30.9	-0.2
BYL	**Byron's Ledge**	**0.25**	**264**		Sg	00 39 32.4	+0.2
BYL	**Byron's Ledge**	**0.25**	**264**		Pg	00 39 29.1	+0.2
BYL				IAML		00 39 33.3	
	comp=E,431nm,0.4s						
BYL				IAML		00 39 35.5	
	comp=N,660nm,0.8s						
HATHI	**Halema'uma'u T**	**0.25**	**266**	Pg	Pg	00 39 28.7	-0.1
HATHI				IAML		00 39 36.1	
	comp=N,879nm,0.7s						
HATHI				IAML		00 39 37.0	
	comp=E,1μm,0.6s						
SBLHI	**Steaming Bluff**	**0.26**	**267**		Pg	00 39 28.9	-0.1
SBLHI					Sg	00 39 32.8	+0.4
SBLHI				IAML		00 39 35.7	
	comp=N,607nm,0.5s						
KKO	**Keanakako`i**	**0.26**	**261**		Pg	00 39 29.1	+0.1
KKO				Sg	Sg	00 39 32.7	+0.2
KKO				IAML		00 39 34.8	
	comp=N,778nm,1.3s						
RIM	**Rim**	**0.27**	**261**		Pg	00 39 29.1	0.0
RIM				IAML		00 39 36.2	
	comp=N,779nm,1.0s						
UWB	**Uwekahuna B**	**0.27**	**267**	Pg	Pg	00 39 28.2	-1.0
UWB					Sg	00 39 28.9	-3.8
RSD	**Rainshed**	**0.27**	**275**		Pg	00 39 29.7	+0.5
RSD					Sg	00 39 33.7	+1.0
UWE	**Uwekahuna**	**0.28**	**266**		Pg	00 39 28.8	-0.6
UWE				Sg	Sg	00 39 33.7	+0.5
UWE				IAML		00 39 35.4	
	comp=E,868nm,1.0s						
UWE				IAML		00 39 38.2	
	comp=N,758nm,0.6s						
SDHHI	**Sand Hill**	**0.29**	**260**		Pg	00 39 28.7	-0.8
SDHHI				IAML		00 39 36.3	
	comp=E,786nm,0.4s						
WRMHI	**West Rim**	**0.29**	**264**		Pg	00 39 30.0	+0.4
HLP	**Hilina Pali**	**0.33**	**244**	Pg	Pg	00 39 29.9	-0.4
HLP				Sg	Sg	00 39 34.3	-0.4
HLP				IAML		00 39 35.4	
	comp=N,999nm,0.2s						
HLP				IAML		00 39 35.4	
	comp=E,794nm,0.2s						
MLH	**Mauna Loa**	**0.37**	**279**		Pg	00 39 31.7	+0.5
MLH				Sg	Sg	00 39 37.3	+1.1
MLH				IAML		00 39 40.2	
	comp=N,526nm,0.2s						
HTC	**Hot Caves**	**0.43**	**242**		Pg	00 39 31.7	-0.5
AIN	**Ainahou**	**0.44**	**261**		Pg	00 39 32.4	-0.1
AIN				Sg	Sg	00 39 38.9	+0.6
HMH	**Humu'ula Sheep**	**0.49**	**290**		Pg	00 39 33.9	+0.5
HMH				Sg	Sg	00 39 41.2	+1.4
MLOA	**Mauna Loa Obse**	**0.56**	**280**	Sg	Sg	00 39 42.2	+0.2
MLOA				IAML		00 39 43.1	
	comp=E,431nm,0.2s						
MLOA				IAML		00 39 43.1	
	comp=N,430nm,0.5s						
MWH	**Moku'aweowe**	**0.57**	**275**		Pg	00 39 34.3	-0.7
MWH	**Moku'aweowe** comp=E,441nm,2.0s	**0.57**	**275**	IAML		00 39 38.6	
MWH				IAML		00 39 48.7	
	comp=N,365nm,0.6s						
POHA	**Pohakuloa**	**0.60**	**302**	Pg	Pb	00 39 37.0	+0.1
KHU	**Kahuku**	**0.62**	**252**		Pg	00 39 34.0	-1.8
KHU					Sg	00 39 43.1	-0.8
KHU	**Kahuku** comp=E,361nm,1.8s	**0.62**	**252**	IAML		00 39 48.0	
ALEP	**Alea Permanent**	**0.62**	**280**		Pg	00 39 35.1	-0.8
ALEP					Sg	00 39 44.4	+0.3
HUH	**Hualalai**	**0.83**	**287**	Pg	Pg	00 39 39.3	-0.5
KHLU	**Kahalu`u**	**0.86**	**280**		Pg	00 39 38.7	-1.8
KHLU				IAML		00 39 52.9	
	comp=E,227nm,0.5s						
KHLU				IAML		00 39 59.4	
	comp=N,182nm,0.6s						

*SOME **28** 00:48:23.8, 39°.87N×74°.45E, h5km*
*KRNET **28** 00:48:28.4±0.1, 40°.08N×74°.51E, mb2.9*

ISC 28 00:48:29.3±2.2, 40°.05N±0°.10×74°.42E±0°.07, h10km, n9, σ1§52/18, 8C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.34**	**291**	⇑*e*P	Pb	00 48 54.5	-0.1
OHH	baz=89			⇑*i*S	Sg	00 49 13.5	+1.1
ARLS	**Aral** baz=56	**1.81**	**358**	⇑*e*P	Pb	00 49 01.4	-1.2
ARLS	baz=56			⇑*e*S	Sg	00 49 25.4	-2.1
ARK	**Arkit** baz=13	**2.55**	**314**	⇑*e*P	Pb	00 49 13.1	-2.2
ARK	baz=13			⇑*e*S	Sb	00 49 45.7	-1.1
BTK	**Batken** baz=71	**2.77**	**271**	⇓*i*P	Pb	00 49 16.5	-2.4
BTK	baz=71			⇓*e*S	Sb	00 49 51.7	-1.2
MRKS	**Merke** 0.6nm,0.1s	**2.84**	**342**	*e*P	Pb	00 49 20.2	+0.1
MRKS	2.3nm,0.3s			*e*S	Sg	00 50 00.7	+0.2
TRKS	**Terek-Say** baz=0.0	**2.90**	**302**	⇑*e*P	Pn	00 49 17.4	+1.7
TRKS	baz=0.0			⇑*e*S	Sn	00 49 53.2	+2.6
KST	**Kastek** 2.9nm,0.4s	**3.20**	**21**	*e*P	Pb	00 49 26.0	-0.4
KST	5.7nm,0.7s			*e*S	Sg	00 50 10.8	-1.4
DGS	**Degeres** 1.6nm,0.5s	**3.34**	**17**	*e*P	Pb	00 49 29.0	+0.2
DGS	3.3nm,0.3s			*e*S	Sg	00 50 15.8	-0.9
KRBS	**Karabastau** 0.8nm,0.3s	**3.76**	**14**	*e*P	Pb	00 49 36.5	+0.7
KRBS	1.2nm,0.3s			*e*S	Sg	00 50 28.9	-1.2

*IDC **28** 00:50:15.3±1.8, 14°.65S×168°.25E, h0km, mb3.8/5, mbtmp3.9/6, ML4.2/1, MS3.2/2, Error ellipse: s-maj=56.7km s-min=26.4km az=124.0*

ISC 28 00:50:20.4±1.5, 14°.8S±0°.1×168°.4E±0°.3, h35km, n8, σ1§16/7, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 3.9nm,0.3s,baz=12,slow=19,SNR=31	**7.43**	**194**	Pn	Pn	00 52 06.7	+0.3
DZM	0.5nm,0.3s,baz=350,slow=18,SNR=2.3 7.5nm,0.3s			Sn	Sn	00 53 29.0	-0.7
STKA	**Stephens Creek** 1.0nm,0.5s,baz=74,slow=9.4,SNR=4.2 1.0nm,0.5s	**29.73**	**231**	P	P	00 56 24.7	+1.2
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=85,slow=8.6,SNR=8.6 0.7nm,0.7s	**32.81**	**256**	P	P	00 56 49.3	-1.5
ASAR	**Alice Springs** 2.8nm,0.7s,baz=81,slow=9.0,SNR=30 2.8nm,0.7s	**33.62**	**250**	P	P	00 56 57.4	-0.4
GUMO	**Guam** comp=Z,34nm,21.2s,baz=104,slow=33	**36.56**	**319**	LR	LR	01 10 08.5	
ASAJ	**Asahikawa** comp=Z,26nm,21.7s,baz=80,slow=30	**63.19**	**339**	LR	LR	01 21 32.8	
SONM	**Songino Array** 0.5nm,0.9s,baz=116,slow=6.6,SNR=2.8 0.5nm,0.9s	**83.19**	**323**	P	P	01 02 43.9	+0.8
ILAR	**Eielson Array** 0.3nm,0.6s,baz=239,slow=5.6,SNR=9.7 0.3nm,0.6s	**86.30**	**18**	P	P	01 02 57.5	-0.7

*IDC **28** 01:13:55.8±1.0, 55°.17N×165°.06E, h0km, mb3.6/7, mbtmp3.5/8, ML2.8/1, Error ellipse: s-maj=34.8km s-min=22.3km az=151.0*

*KRSC **28** 01:13:57.5±1.3, 55°.09N×164°.78E, h47km±23km, ML4.1*

ISC 28 01:13:59.6±1.6, 55°.11N±0°.04×164°.88E±0°.07, h27km±14km, n44, σ1§40/66, mb3.5/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.63**	**81**	*e*P	Pb	01 14 11.6	-0.5
BKI				*e*S	Sb	01 14 21.3	+0.8
KBTR	**Krutoberegovo**	**1.60**	**314**	*e*P	Pn	01 14 23.5	-2.7
KBTR				*e*S	Sn	01 14 42.3	-3.7
KBG	**Krutoberegovo**	**1.68**	**314**	*e*P	Pn	01 14 24.6	-2.6
KBG				*e*S	Sn	01 14 45.0	-2.9
MKZ	**Mys Kozlova**	**1.91**	**254**	P	Pn	01 14 29.5	-0.8
MKZ				S	Sn	01 14 51.2	-2.2
SMKR	**Semkarok**	**2.42**	**309**	*e*P	Pn	01 14 36.7	-0.8
SMKR				*e*S	Sn	01 15 05.7	-0.6
BZGR	**Bezymyannyi-Gr**	**2.52**	**291**	P	Pn	01 14 38.7	-0.2
BZGR				*e*S	Sn	01 15 08.9	+0.2
BDR	**Baidarnaya**	**2.53**	**307**	*e*P	Pn	01 14 38.8	-0.2
BDR				*e*S	Sn	01 15 09.1	+0.1
TUMD	**Tumrok D**	**2.57**	**274**	*e*P	Pn	01 14 39.3	-0.2
TUMD				*e*S	Sn	01 15 08.5	-1.4
SRKR	**Sorokina**	**2.60**	**308**	*e*P	Pn	01 14 39.7	-0.2
BZWR	**Bezymyannyi-We**	**2.63**	**291**	*e*P	Pn	01 14 41.1	+0.6
KLY	**Klyuchi**	**2.68**	**298**	*e*P	Pn	01 14 39.2	-1.7
KLY				*e*S	Sn	01 15 09.9	-2.5
KRSR	**Krestovskiy**	**2.68**	**296**	P	Pn	01 14 41.0	-0.1
KRSR				*e*S	Sn	01 15 13.0	+0.2
KIRR	**Kirishev**	**2.71**	**290**	P	Pn	01 14 41.8	+0.2
KIRR				*e*S	Sn	01 15 13.2	-0.4
TUMR	**Tumrok**	**2.72**	**276**	P	Pn	01 14 42.1	+0.5
TUMR				*e*S	Sn	01 15 13.4	-0.3
KMNR	**Kamenistaya**	**2.72**	**286**	P	Pn	01 14 42.2	+0.5
KMNR				*e*S	Sn	01 15 13.9	+0.2
KPT	**Kopyto**	**2.78**	**290**	*e*P	Pn	01 14 42.8	+0.3
KPT				*e*S	Sn	01 15 15.7	+0.5
SRDR	**Sredinnyy**	**3.16**	**295**	*e*P	Pn	01 14 48.4	+0.8
SPN	**Mys Shipunski**	**3.50**	**237**	*e*P	Pn	01 14 52.1	-0.1
SPN				*e*S	Sn	01 15 30.0	-2.7
ESO	**Esso**	**3.61**	**286**	*e*P	Pn	01 14 54.1	+0.4
NLC	**Nalytchevo**	**3.79**	**241**	*e*P	Pn	01 14 56.0	-0.2
NLC				*e*S	Sn	01 15 37.2	-2.7
SDLR	**Sedlovina**	**3.97**	**245**	*e*P	Pn	01 14 59.9	+1.1
SDLR				*e*S	Sn	01 15 43.9	-0.7
SMAR	**Somma**	**4.02**	**245**	P	Pn	01 15 00.7	+1.1
SMAR				*e*S	Sn	01 15 44.2	-1.8
KRER	**Koryakskii**	**4.03**	**246**	*e*P	Pn	01 15 00.8	+1.1
KRER				*e*S	Sn	01 15 44.7	-1.4
UGLR	**Uglovaya**	**4.04**	**244**	P	Pn	01 15 00.9	+1.2
UGLR				*e*S	Sn	01 15 44.4	-1.8
AVH	**Avacha**	**4.05**	**245**	P	Pn	01 15 01.3	+1.4
AVH				*e*S	Sn	01 15 46.0	-0.6
KOK	**Koryaka**	**4.09**	**246**	P	Pn	01 15 01.8	+1.3
KOK				*e*S	Sn	01 15 45.8	-1.8
DALK	**Dalny**	**4.17**	**242**	*e*S	Sn	01 15 46.8	-2.4
GNL	**Ganaly**	**4.30**	**254**	P	Pn	01 15 04.5	+1.2
KRMR	**Karymshinskiy**	**4.59**	**243**	*e*P	Pn	01 15 07.8	+0.5
KRMR				*e*S	Sn	01 15 57.9	-1.8
RUS	**Russkaya**	**4.63**	**237**	*e*P	Pn	01 15 07.7	-0.1
RUS				*e*S	Sn	01 15 57.0	-3.6
PETK	**Petropavlovsk-** 2.0nm,0.3s,baz=78,slow=18,SNR=35	**4.68**	**248**	Pn	Pn	01 15 08.9	+0.4
PETK	1.7nm,0.3s,baz=44,slow=26,SNR=9.1 3.3nm,0.4s			Sn	Sn	01 16 02.2	+0.4
MTVR	**Mutnovka**	**4.76**	**239**	*e*P	Pn	01 15 10.5	+0.8
MTVR				*e*S	Sn	01 16 01.4	-2.7
GRL	**Gorelyy**	**4.78**	**240**	P	Pn	01 15 11.2	+1.3
GRL				S	Sn	01 16 03.6	-0.8
APC	**Apacha**	**5.05**	**247**	S	Sn	01 16 11.0	0.0
ILAR	**Eielson Array** 0.3nm,0.6s,baz=253,slow=8.8,SNR=7.0 0.3nm,0.6s	**25.38**	**48**	P	P	01 19 23.1	-1.0
H11N2	**WAKE ISLAND Hy** baz=358,slow=76,SNR=18	**35.36**	**177**	T	T	01 58 56.3	
H11N3	**WAKE ISLAND Hy** baz=358,slow=76,SNR=11	**35.37**	**177**	T	T	01 58 42.6	
H11N1	**WAKE ISLAND Hy** baz=358,slow=76,SNR=13	**35.37**	**177**	T	T	01 58 50.8	
SONM	**Songino Array** 0.2nm,0.4s,baz=76,slow=7.6,SNR=2.2 0.2nm,0.4s	**36.18**	**283**	P	P	01 21 01.5	+1.8
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=42,slow=7.2,SNR=2.7 0.3nm,0.6s	**49.79**	**297**	P	P	01 22 48.7	-1.0
ARCES	**ARCESS Array B** 4.5nm,0.8s,baz=10,slow=6.4,SNR=2.3 4.5nm,0.8s	**52.21**	**343**	P	P	01 23 08.3	+0.8
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=293,slow=5.7,SNR=2.8 0.3nm,0.8s	**67.28**	**71**	P	P	01 24 51.4	-0.5
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=22,slow=5.9,SNR=2.3 0.4nm,0.7s	**79.16**	**209**	P	P	01 26 02.6	+0.8
ASAR	**Alice Springs** 0.6nm,0.8s,baz=17,slow=6.1,SNR=5.6 0.6nm,0.8s	**82.82**	**208**	P	P	01 26 22.6	+1.4

*IDC **28** 01:16:41.6±2.5, 23°.12S×170°.67E, h0km, mb3.6/3, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=85.9km s-min=39.5km az=173.0*

*NOU **28** 01:16:48.8, 22°.99S×170°.51E, h64km, MLv4.3/9, Southeast of Loyalty Islands*

ISC 28 01:16:48.4±1.8, 23°.1S±0°.2×170°.5E±0°.1, h35km, n13, σ0§60/14, mb3.8/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.79**	**304**	P	Pn	01 17 30.4	-0.2
OUENC	**Ouen Island, N**	**3.46**	**280**	P	Pn	01 17 40.0	+0.2
YATNC	**Mamie plateau,**	**3.50**	**286**	P	Pn	01 17 40.3	-0.1
LIFNC	**LIFOU**	**3.80**	**306**	P	Pn	01 17 44.2	-0.3
ONTNC	**Ouen Toro**	**3.83**	**280**	P	Pn	01 17 44.6	-0.3
DZM	**Mont Dzumac** 6.9nm,0.3s,baz=82,slow=6.2,SNR=252	**3.90**	**284**	Pn	Pn	01 17 46.0	+0.1
DZM	7.8nm,0.3s,baz=127,slow=20,SNR=6.3 15nm,0.3s			Sn	Sn	01 18 31.1	+0.6
DZM	**Mont Dzumac**	**3.90**	**284**	P	Pn	01 17 46.2	+0.3
RTV	**Rentapao**	**5.59**	**339**	P	Pn	01 18 09.0	-0.1
DVP	**Devils Point**	**5.74**	**337**	P	Pn	01 18 11.0	-0.1
ASAR	**Alice Springs** 0.7nm,0.6s,baz=97,slow=9.8,SNR=6.4 0.7nm,0.6s	**33.57**	**262**	P	P	01 23 24.9	-0.5
WRA	**Warramunga Arr**	**33.76**	**268**	P	P	01 23 25.6	-1.4

0.2nm,0.5s,baz=98,slow=8.2,SNR=1.5
0.2nm,0.5s
SONM Songino Array 90.97 323 P **P 01 29 49.5 +0.7**
0.5nm,0.8s,baz=120,slow=5.7,SNR=3.7
0.5nm,0.8s
GERES GERESS Array B 148.39 330 PKPbc **PKPdf 01 36 28.3 +0.6**
0.2nm,0.3s,baz=36,slow=1.8,SNR=1.6

*JMA **28** 01:18:39.7±0.3,43.6′N±1.0×14.7′E±.1, h11km±3km, MV4.2/33,E OFF HOKKAIDO*
*NIED **28** 01:18:39.7,43.59′N×147.36E,h11km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.13; Mθθ0.43; Mϕϕ -0.56; Mrθ0.98; Mθϕ -0.45; Mϕr0.22; Fault plane solution: M0 1.20000×10^15^ NP1: ϕs163.00000°,δ35.00000°,λ7.00000°. NP2:ϕs67.00000°, δ86.00000°,λ124.00000°.*
*MOS **28** 01:18:39.7±1.2,43.77′N×147.58E,h52km,mb3.9/4 Error ellipse: s-maj=10.1km s-min=8.6km az=84.7*
*SKHL **28** 01:18:40.1±0.2,43.60′N×147.60E,h57km±5km,mb5.0/9*
*NEIC **28** 01:18:43.7±1.4,44.10′N±0.07×147.3E±0.1,h52km±5km, mb4.4/34,Error ellipse: s-maj=14.1km s-min=9.5km az=94.0*
*IDC **28** 01:18:52.7±3.5,44.95′N×147.38E,h104km±31km, mb3.5/12,mbtmp3.8/14,MS3.3/5,Error ellipse: s-maj=24.7km s-min=16.8km az=167.0*
ISC 28 01:18:41.1±1.3,43.75′N±0.06×147.51E±0.06,h45km±11km, n132,σ1s26/130,mb4.3/35,MS3.4/4,4C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.23**	**284**	*i* P	**Pn**	**01 19 01.2**	**-0.6**
YUK				AMB	AMB	01 19 02.6	
	290nm,0.2s						
YUK				*e*S	**Sn**	**01 19 17.0**	**-0.2**
YUK				A	A	01 19 19.1	
	5μm,0.6s						
YUK				A	A	01 19 19.1	
	6μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.23**	**284**	*d* iPN	**Pn**	**01 19 01.2**	**-0.6**
YUK				*e*S	**Sn**	**01 19 16.4**	**-0.8**
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=N,248nm,0.1s						
YUK				pmax	pmax		
	comp=E,756nm,0.1s						
YUK				smax	smax		
	comp=E,4μm,0.3s						
YUK				smax	smax		
	comp=N,5μm,0.5s						
NEM2	**Nemuro 2**	**1.34**	**254**	*e*P	**Pn**	**01 19 02.0**	**-1.3**
NEM2				*e*S	**Sn**	**01 19 17.6**	**-2.5**
NMR	**Nemuro--Hokkai**	**1.35**	**254**	*i* P	**Pn**	**01 19 02.0**	**-1.5**
NMR				AMB	AMB	01 19 03.8	
	comp=N,100nm,0.2s						
NMR				*e*S	**Sn**	**01 19 18.6**	**-1.7**
NMR				A	A	01 19 26.1	
	comp=N,1μm,0.4s						
NMR				A	A	01 19 26.1	
	comp=N,1μm,0.4s						
NMR	**Nemuro--Hokkai**	**1.35**	**254**	⇓*i* PN	**Pn**	**01 19 01.8**	**-1.7**
NMR				*e*S	**Sn**	**01 19 17.9**	**-2.4**
KUR	**Kuril'sk**	**1.51**	**10**	*e*P	**Pn**	**01 19 05.5**	**-0.1**
KUR				AMB	AMB	01 19 08.5	
	comp=N,350nm,0.2s						
KUR				*i* S	**Sn**	**01 19 24.4**	**+0.4**
KUR				A	A	01 19 26.6	
	comp=N,2μm,0.4s						
KUR				A	A	01 19 26.6	
	comp=N,830nm,0.4s						
KUR	**Kuril'sk**	**1.51**	**10**	*e*PN	**Pn**	**01 19 05.6**	**-0.1**
KUR				*i* S	**Sn**	**01 19 24.2**	**+0.2**
KUR				pmax	pmax		
	comp=Z,349nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,833nm,0.2s						
RUSJ	**Misakicho**	**1.68**	**283**	⇓*i* PN	**Pn**	**01 19 08.2**	**+0.3**
RUSJ				*e*S	**Sn**	**01 19 28.4**	**+0.2**
JRA	**Rausu**	**1.74**	**277**	*e*P	**Pn**	**01 19 08.8**	**0.0**
JNSB	**Nemuroshibetsu**	**1.82**	**272**	*e*P	**Pn**	**01 19 10.2**	**+0.3**
JNSB				*e*S	**Sn**	**01 19 32.4**	**+0.7**
JKHN	**Kushirohamanak**	**1.84**	**250**	*e*P	**Pn**	**01 19 09.8**	**-0.4**
JNK	**Nakash**	**2.03**	**266**	*e*P	**Pn**	**01 19 12.3**	**-0.6**
AKK	**Akkeshi**	**2.08**	**250**	*e*P	**Pn**	**01 19 12.4**	**-1.1**
JAK	**Akkeshi**	**2.19**	**251**	*e*P	**Pn**	**01 19 14.1**	**-0.8**
JTKR	**Abashiri--Toko**	**2.62**	**276**	*e*P	**Pn**	**01 19 21.8**	**+0.9**
JTKR				*e*S	**Sn**	**01 19 52.4**	**+1.0**
JAR	**Ashorobuto**	**2.76**	**262**	*e*S	**Sn**	**01 19 56.3**	**+1.3**
JOB	**Onbets**	**2.81**	**254**	*e*P	**Pn**	**01 19 23.7**	**+0.1**
JOB				*e*S	**Sn**	**01 19 56.1**	**-0.2**
JMP	**Maruseppu**	**3.01**	**276**	*e*P	**Pn**	**01 19 27.4**	**+1.1**
JCH	**Churui**	**3.24**	**251**	*e*P	**Pn**	**01 19 29.8**	**+0.3**
JKK2	**Kamakawa 2**	**3.45**	**274**	*e*P	**Pn**	**01 19 34.3**	**+2.0**
JKA	**Kamikawa-asahi**	**3.57**	**278**	Pn	**Pn**	**01 19 34.6**	**+0.7**
JKA	**Kamikawa-asahi**	**3.57**	**278**	*e*P	**Pn**	**01 19 34.7**	**+0.7**
ASAJ	**Asahikawa**	**3.57**	**278**	PN	**Pn**	**01 19 34.7**	**+0.7**
JFR	**Furan**	**3.63**	**262**	*e*S	**Sn**	**01 20 17.7**	**+1.3**
ERM	**Erimo**	**3.64**	**243**	Pn	**Pn**	**01 19 36.6**	**+1.7**
ERM	**Erimo**	**3.64**	**243**	*e*PN	**Pn**	**01 19 36.8**	**+1.9**
JEM	**Erimo**	**3.64**	**243**	Pn	**Pn**	**01 19 36.3**	**+1.4**
JEM	**Erimo**	**3.64**	**243**	*e*P	**Pn**	**01 19 36.4**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.79**	**249**	*e*P	**Pn**	**01 19 37.6**	**+0.6**
JNBK				*e*S	**Sn**	**01 20 21.4**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.64**	**315**	*e*P	**Pn**	**01 19 50.1**	**+1.5**
YSS				AMB	AMB	01 19 51.0	
	comp=E,20nm,0.8s						
YSS				*e*S	**Sn**	**01 20 40.9**	**-0.2**
YSS				A	A	01 20 48.1	
	comp=E,30nm,0.4s						
YSS				A	A	01 20 48.1	
	comp=E,30nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.64**	**315**	*e*PN	**Pn**	**01 19 50.1**	**+1.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
JTM	**Tenmabayashi**	**5.62**	**240**	Pn	**Pn**	**01 20 01.8**	**-0.4**
TYV	**Tymovskoe**	**7.84**	**337**	*e*P	**Pn**	**01 20 35.1**	**+2.6**
TYV				AMB	AMB	01 20 35.9	
	comp=Z,10.0nm,0.7s						
SKR	**Severo-Kuril's**	**9.07**	**37**	*e*P	**Pn**	**01 20 50.6**	**+1.2**
SKR				AMB	AMB	01 20 51.7	
	comp=Z,50nm,0.3s						
SKR	**Severo-Kuril's**	**9.07**	**37**	⇑*e*PN	**Pn**	**01 20 49.8**	**+0.5**
PAU	**Pauzhetka**	**9.95**	**36**	*e*P	**Pn**	**01 21 01.2**	**-0.1**
PAU				AMB	AMB	01 21 04.3	
	comp=Z,20nm,0.4s						
OKH	**Okha**	**10.26**	**344**	*e*P	**Pn**	**01 21 07.8**	**+2.2**
OKH				AMB	AMB	01 21 08.0	
	comp=Z,40nm,0.5s						
GRNR	**Gornyy**	**10.29**	**317**	*e*P	**Pn**	**01 21 07.6**	**+1.5**
GRNR				AMB	AMB	01 21 09.4	
	comp=Z,10.0nm,0.2s						
USA0B	**Ussuriysk Arra**	**11.20**	**278**	ePN	**Pn**	**01 21 22.1**	**+3.6**
USRK	**Ussuriysk Ar.**	**11.20**	**278**	P	Pn	01 21 26.4	+7.9
	comp=Z,4.1nm,0.7s,baz=88,slow=13,SNR=3.5						
PEA0B	**Petropavlovsk-**	**11.54**	**32**	Pn	**Pn**	**01 21 20.9**	**-2.2**
PEA0B	**Petropavlovsk-**	**11.54**	**32**	⇑*e*PN	**Pn**	**01 21 23.3**	**+0.2**
PETK	**Petropavlovsk-**	**11.54**	**32**	P	**Pn**	**01 21 22.1**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=206,slow=13,SNR=5.8						
PETK	**Petropavlovsk-**	**11.54**	**32**	Pn	**Pn**	**01 21 22.5**	**-0.6**
PETK	**Petropavlovsk-**	**11.54**	**32**	PN	**Pn**	**01 21 22.5**	**-0.6**
KLR	**Kul'dur**	**12.16**	**302**	LR	LR	01 26 23.1	
	comp=Z,66nm,20.2s,baz=114,slow=39						
MA2	**Magadan**	**15.97**	**6**	LR	LR	01 28 01.5	
	comp=Z,65nm,19.3s,baz=107,slow=37						
SEY	**Seymchan**	**19.43**	**7**	*e*P	**P**	**01 23 03.3**	**-0.1**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BILL	**Bilibino**	**26.29**	**16**	*e*P	**P**	**01 24 12.9**	**+0.9**
BILL	**Bilibino**	**26.29**	**16**	*e*P	**P**	**01 24 12.9**	**+0.9**
BILL				*e*		01 24 53.9	
BILL				*e*PPP	PPP	01 25 04.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,48nm,14.0s						
SONM	**Songino Array**	**28.71**	**293**	P	**P**	**01 24 34.1**	**0.0**
	comp=Z,0.3nm,0.4s,baz=79,slow=8.5,SNR=1.5						
SONM				LR	LR	01 36 57.6	
	comp=Z,50nm,18.7s,baz=38,slow=38						
	comp=Z,0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.93**	**140**	T	T	01 55 14.6	
	baz=331,slow=76,SNR=220						
H11N1	**WAKE ISLAND Hy**	**28.94**	**140**	T	T	01 55 12.7	
	baz=331,slow=76,SNR=190						
H11N3	**WAKE ISLAND Hy**	**28.95**	**140**	T	T	01 55 19.4	
	baz=331,slow=76,SNR=173						
H11S1	**WAKE ISLAND Hy**	**29.90**	**141**	T	T	01 56 24.4	
	baz=332,slow=76,SNR=543						
H11S3	**WAKE ISLAND Hy**	**29.91**	**141**	T	T	01 56 26.5	
	baz=332,slow=76,SNR=380						
H11S2	**WAKE ISLAND Hy**	**29.92**	**141**	T	T	01 56 25.3	
	baz=332,slow=76,SNR=413						
J20K	**Nowinta River**	**38.18**	**37**	P	**P**	**01 25 56.7**	**+0.7**
A21K	**Barrow**	**38.43**	**25**	P	**P**	**01 25 56.0**	**-1.9**
IMAR	**Indian Mountai**	**38.50**	**34**	P	**P**	**01 25 58.8**	**+0.3**
H21K	**Melozitna Rive**	**38.86**	**35**	P	**P**	**01 26 01.9**	**+0.3**
H21K				IAmb	IAmb	01 26 30.0	
	comp=Z,5.1nm,1.4s						
CAST	**Castle Rocks**	**39.06**	**38**	P	**P**	**01 26 04.1**	**+0.7**
CAST				IAmb	IAmb	01 26 05.3	
	comp=Z,5.4nm,0.9s						
I21K	**Tanana**	**39.17**	**36**	P	**P**	**01 26 04.6**	**+0.4**
I21K				IAmb	IAmb	01 26 24.7	
	comp=Z,9.4nm,1.4s						
BPAW	**Bear Paw Mtn.**	**39.56**	**37**	P	**P**	**01 26 07.7**	**+0.1**
KTH	**Kantishna Hill**	**39.59**	**38**	P	**P**	**01 26 08.2**	**+0.4**
MLY	**Manley**	**39.69**	**36**	P	**P**	**01 26 09.1**	**+0.5**
TRF	**Thorofare Moun**	**39.87**	**38**	P	**P**	**01 26 10.8**	**+0.5**
COLD	**Coldfoot**	**40.01**	**32**	P	**P**	**01 26 11.8**	**+0.6**
COLD				IAmb	IAmb	01 26 37.3	
	comp=Z,5.3nm,1.3s						
H23K	**Yukon River**	**40.21**	**35**	P	**P**	**01 26 13.5**	**+0.6**
H23K				IAmb	IAmb	01 26 14.7	
	comp=Z,6.0nm,0.9s						
I23K	**Minto, Yukon-K**	**40.27**	**36**	P	**P**	**01 26 13.8**	**+0.5**
I23K				IAmb	IAmb	01 26 42.5	
	comp=Z,8.0nm,1.5s						
MDM	**Murphy Dome**	**40.76**	**36**	P	**P**	**01 26 17.6**	**+0.2**
MDM				IAmb	IAmb	01 26 18.6	
	comp=Z,4.0nm,0.8s						
WRH	**Wood River Hil**	**40.82**	**37**	P	**P**	**01 26 17.7**	**-0.2**
WRH				IAmb	IAmb	01 26 44.4	
	comp=Z,12nm,1.4s						
H24K	**Noodor Dome**	**40.90**	**35**	P	**P**	**01 26 19.2**	**+0.6**
HDA	**Harding Lake**	**41.32**	**37**	P	**P**	**01 26 21.4**	**-0.7**
HDA				IAmb	IAmb	01 26 22.5	
	comp=Z,12nm,1.5s						
IL31		**41.33**	**36**	P	**P**	**01 26 21.8**	**-0.2**
ILAR	**Eielson Array**	**41.33**	**36**	P	**P**	**01 26 21.0**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=272,slow=8.1,SNR=19						
	comp=Z,1.8nm,0.7s						
ILAR	**Eielson Array**	**41.33**	**36**	P	**P**	**01 26 22.1**	**0.0**
ILAR	**Eielson Array**	**41.33**	**36**	P	**P**	**01 26 22.1**	**0.0**
PRP	**Porcupine Dome**	**41.88**	**35**	P	**P**	**01 26 26.9**	**+0.2**
PRP				IAmb	IAmb	01 26 28.5	
	comp=Z,6.8nm,0.9s						
BMAR	**Burnt Mountain**	**42.19**	**32**	P	**P**	**01 26 29.4**	**+0.2**
SCRK	**Sand Creek**	**42.65**	**37**	P	**P**	**01 26 32.3**	**-0.7**
K27K	**Chicken**	**43.48**	**37**	P	**P**	**01 26 39.4**	**-0.1**
K27K				IAmb	IAmb	01 26 41.1	
	comp=Z,7.8nm,0.9s						
L27K	**Beaver Creek,**	**43.72**	**38**	P	**P**	**01 26 41.9**	**+0.4**
L27K				IAmb	IAmb	01 26 43.5	
	comp=Z,5.2nm,0.9s						
BCAR	**Beaver Creek A**	**43.73**	**38**	P	**P**	**01 26 41.8**	**+0.1**
EGAK	**Eagle**	**43.78**	**36**	P	**P**	**01 26 41.5**	**-0.4**
DAWY	**Dawson**	**44.64**	**37**	P	**P**	**01 26 47.8**	**-1.1**
MK31	**Makanchi Array**	**44.82**	**298**	*i* P	**P**	**01 26 50.1**	**-0.4**
MKAR	**Makanchi Array**	**44.82**	**298**	P	**P**	**01 26 49.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=79,slow=8.5,SNR=7.3						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**44.82**	**298**	P	**P**	**01 26 48.9**	**-1.6**
EPYK	**Eagle Plains**	**45.38**	**33**	P	**P**	**01 26 54.6**	**-0.1**
KURK	**Kurchatov**	**45.75**	**304**	*e*P	**P**	**01 27 00.3**	**+2.5**
KURK	**Kurchatov**	**45.75**	**304**	⇑*e*P	**P**	**01 27 00.3**	**+2.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HYT	**Haines Junctio**	**46.16**	**41**	P	**P**	**01 27 01.9**	**+0.9**
HYT				IAmb	IAmb	01 27 02.8	
	comp=Z,4.2nm,0.8s						
INK	**Inuvik**	**46.27**	**30**	P	**P**	**01 27 01.4**	**-0.2**
INK				IAmb	IAmb	01 27 02.9	
	comp=Z,4.6nm,0.8s						
INK	**Inuvik**	**46.27**	**30**	P	**P**	**01 27 01.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
A36M	**Sachs Harbour**	**48.26**	**25**	P	**P**	**01 27 16.4**	**-0.7**
A36M				IAmb	IAmb	01 27 17.5	
	comp=Z,2.6nm,0.8s						
C36M	**Paulatuk**	**49.36**	**28**	P	**P**	**01 27 25.1**	**-0.4**
BVAR	**Borovoye Array**	**49.71**	**309**	LR	LR	01 50 35.9	
	comp=Z,65nm,18.1s,baz=341,slow=39						
BRVK	**Borovoye**	**49.75**	**310**	*e*P	**P**	**01 27 32.1**	**+3.3**
BRVK	**Borovoye**	**49.75**	**310**	*e*P	**P**	**01 27 32.1**	**+3.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AAK	**Ala-Archa**	**51.59**	**296**	P	**P**	**01 27 42.8**	**-0.2**
AAK				IAmb	IAmb	01 27 44.5	
	comp=Z,5.1nm,1.4s						
AAK	**Ala-Archa**	**51.59**	**296**	*e*P	**P**	**01 27 44.3**	**+1.3**
AAK	**Ala-Archa**	**51.59**	**296**	⇑*e*P	**P**	**01 27 44.3**	**+1.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KKAR	**Karatay Array**	**53.95**	**298**	P	**P**	**01 27 59.3**	**-0.9**
KKAR	**Karatay Array**	**53.95**	**298**	P	**P**	**01 27 59.3**	**-0.9**
RES	**Resolute Bay**	**54.89**	**17**	P	**P**	**01 28 04.9**	**-1.6**
RES				IAmb	IAmb	01 28 45.8	
	comp=Z,7.0nm,1.5s						
RES	**Resolute Bay**	**54.89**	**17**	P	**P**	**01 28 04.9**	**-1.6**
RES				pmax	pmax		
	comp=Z,7.0nm,1.5s						
ABKAR	**Akbulak array**	**57.27**	**309**	P	**P**	**01 28 23.0**	**-0.9**
WRA	**Warramunga Arr**	**64.52**	**194**	P	P	01 29 26.6	+13
	comp=Z,0.6nm,0.8s,baz=16,slow=7.0,SNR=5.8						
	comp=Z,0.6nm,0.8s						
GEYT	**Alibeck**	**64.67**	**299**	LR	LR	01 56 59.8	
	comp=Z,54nm,21.7s,baz=350,slow=36						
FIA1	**FINESS Array S**	**64.99**	**333**	P	**P**	**01 29 14.4**	**-1.6**
FINES	**FINESS Array B**	**65.00**	**333**	P	**P**	**01 29 14.3**	**-1.7**
	comp=Z,2.6nm,0.6s,baz=40,slow=7.3,SNR=23						
	comp=Z,2.6nm,0.6s						
FINES	**FINESS Array B**	**65.00**	**333**	P	**P**	**01 29 14.1**	**-1.9**
OBN	**Obninsk**	**65.47**	**324**	*e*P	**P**	**01 29 17.1**	**-2.0**
OBN	**Obninsk**	**65.47**	**324**	*e*P	**P**	**01 29 17.1**	**-2.0**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NVAR	**Mina Array Bea**	**67.36**	**58**	P	**P**	**01 29 32.6**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=297,slow=6.0,SNR=1.9						
	comp=Z,0.3nm,0.5s						
NB201	**NORSAR Array S**	**69.67**	**339**	P	**P**	**01 29 44.2**	**-1.4**
NB2	**NORSAR Subarra**	**69.70**	**339**	P	**P**	**01 29 44.1**	**-1.7**
	comp=Z,3.5nm,0.9s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.70**	**339**	P	**P**	**01 29 43.7**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=33,slow=6.6,SNR=5.6						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**69.71**	**50**	P	**P**	**01 29 46.5**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=260,slow=4.2,SNR=3.5						
	comp=Z,0.2nm,0.3s						
KIV	**Kislovodsk**	**69.96**	**312**	*e*P	**P**	**01 29 47.0**	**-0.8**
KIV	**Kislovodsk**	**69.96**	**312**	*e*P	**P**	**01 29 47.0**	**-0.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KBZ	**Khabaz**	**70.00**	**312**	P	**P**	**01 29 48.4**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=349,slow=2.9,SNR=6.4						
	comp=Z,3.1nm,0.8s						
AKASG	**Malin Array Be**	**71.74**	**324**	P	**P**	**01 29 57.3**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=40,slow=6.3,SNR=14						
	comp=Z,1.5nm,0.5s						
BUR08	**Bucovina Ar. S**	**75.78**	**324**	P	**P**	**01 30 22.1**	**-0.2**
BUR08				IAmb	IAmb	01 30 33.2	
	comp=Z,7.8nm,1.4s						
BBOO	**Buckleboo**	**76.91**	**190**	P	**P**	**01 30 32.3**	**+3.9**
GERES	**GERESS Array B**	**79.29**	**331**	P	**P**	**01 30 40.9**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=18,slow=4.8,SNR=2.2						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**82.43**	**56**	P	**P**	**01 30 59.0**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=300,slow=3.1,SNR=6.2						
	comp=Z,0.2nm,0.6s						
TXAR	**Lajitas Array**	**82.43**	**56**	P	**P**	**01 30 58.9**	**+0.1**
H03N2	**Juan Fernandez**	**142.70**	**90**	T	T	04 17 18.0	
	baz=305,slow=77,SNR=18						
H03N3	**Juan Fernandez**	**142.71**	**90**	T	T	04 17 18.9	
	baz=305,slow=77,SNR=24						
H03N1	**Juan Fernandez**	**142.72**	**90**	T	T	04 17 19.3	
	baz=305,slow=77,SNR=21						

*MDD **28** 01:55:33.0±1.0,40.90N×16.17W,h0km,Mb4.0/11, M_mb3.3/11,Error ellipse: s-maj=8.0km s-min=6.5km az=77.0*
*INMG **28** 01:55:35.0±2.0,40.96N×16.66W,h10km,ML2.5, Error ellipse: s-maj=7.8km s-min=6.0km az=98.0*
ISC 28 01:55:34.7±3.7,40.90N±0.06×15.9W±0.2,h10km,n41, σ1s65/69,11C,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**5.47**	**109**	*e*Pn	**Pn**	**01 56 57.9**	**+1.6**
PMAFR				*e*Sn	**Sn**	**01 58 00.0**	**+0.8**
PMAFR				A	A	01 58 03.6	
	13nm,0.6s						
PTO	**Porto**	**5.55**	**85**	*e*Sn	**Sn**	**01 58 01.9**	**+0.7**
EMAZ	**Mazaricos**	**5.58**	**66**	P	**Pn**	**01 56 58.1**	**+0.3**
EMAZ				⇑*i*Vmb_V		01 56 59.5	
	126nm,SNR=0.9						
EMAZ				S	**Sn**	**01 57 59.5**	**-2.5**
PMST	**Lisbon--Monsan**	**5.63**	**110**	*e*Sn	**Sn**	**01 58 04.8**	**+1.7**
PSBE	**So Bento**	**5.64**	**102**	*e*Pn	**Pn**	**01 57 00.3**	**+1.7**
PSBE				*e*Sn	**Sn**	**01 58 03.7**	**+0.3**
PSBE				A	A	01 58 08.9	
	3.1nm,0.7s						
PCAS	**Casmilo, Conde**	**5.73**	**96**	*e*Pn	**Pn**	**01 57 01.6**	**+1.7**
PCAS				*e*Sn	**Sn**	**01 58 06.3**	**+0.6**
PCAS				A	A	01 58 09.3	
	2.0nm,0.3s						
COI	**Coimbra**	**5.77**	**94**	*e*Sn	**Sn**	**01 58 07.9**	**+1.3**
PGAV	**Gavieira, Arco**	**5.86**	**77**	*e*Pn	**Pn**	**01 57 03.4**	**+1.7**
PGAV				*e*Sn	**Sn**	**01 58 09.0**	**0.0**
PGAV				A	A	01 58 12.5	
	3.3nm,0.4s						
PACT	**Alcochete**	**5.86**	**109**	*e*Pn	**Pn**	**01 57 03.5**	**+1.8**
PACT				*e*Sn	**Sn**	**01 58 11.7**	**+2.8**
ELOB	**Lobios**	**6.00**	**78**	P	**Pn**	**01 57 05.2**	**+1.6**
ELOB				⇑*i*Vmb_V		01 57 05.7	
	136nm,SNR=1.6						
ELOB				S	**Sn**	**01 58 12.5**	**+0.1**
PCAB	**Cabril**	**6.01**	**80**	*e*Pn	**Pn**	**01 57 04.8**	**+1.1**
PCAB				*e*Sn	**Sn**	**01 58 12.4**	**-0.2**
PCAB				A	A	01 58 16.8	
	5.2nm,0.1s						
PVIS	**Viseu**	**6.10**	**89**	*e*Sn	**Sn**	**01 58 14.8**	**-0.1**
PVIS				A	A	01 58 20.2	
	3.2nm,0.1s						
EAGO	**Agolada(Pontev**	**6.16**	**69**	P	**Pn**	**01 57 07.0**	**+1.2**
EAGO				⇑*i*Vmb_V		01 57 08.5	
	174nm,SNR=1.2						
EAGO				S	**Sn**	**01 58 14.6**	**-1.7**
POLO	**Lamas de Olo**	**6.16**	**83**	*e*Pn	**Pn**	**01 57 07.7**	**+1.8**
POLO				*e*Sn	**Sn**	**01 58 16.5**	**0.0**
POLO				A	A	01 58 23.8	
	0.7nm,0.5s						
PMTG	**Montargil**	**6.20**	**105**	*e*Pn	**Pn**	**01 57 07.3**	**+1.1**
PMTG				*e*Sn	**Sn**	**01 58 17.0**	**-0.1**
PMTG				A	A	01 58 25.0	
	2.7nm,0.7s						
PVRL	**Vila Real**	**6.22**	**84**	*e*Sn	**Sn**	**01 58 18.2**	**+0.4**
PVRL				A	A	01 58 20.5	
	2.8nm,0.1s						
PNCL	**Nicolau / Gran**	**6.37**	**114**	*e*Pn	**Pn**	**01 57 10.2**	**+1.6**
PNCL				*e*Sn	**Sn**	**01 58 21.0**	**-0.3**
PNCL				A	A	01 58 48.3	
	2.3nm,0.8s						
MTE	**Manteigas**	**6.40**	**92**	*e*Sn	**Sn**	**01 58 22.6**	**+0.3**
MTE				A	A	01 58 35.7	
	2.1nm,0.6s						
PTEO	**Sao Teotonio**	**6.52**	**119**	*e*Pn	**Pn**	**01 57 11.1**	**+0.4**
PTEO				*e*Sn	**Sn**	**01 58 22.2**	**-2.9**
PTEO				A	A	01 58 23.6	
	6.6nm,0.6s						
PCBR	**Castelo Branco**	**6.54**	**97**	*e*Sn	**Sn**	**01 58 25.3**	**-0.4**
EVO	**Evora**	**6.55**	**109**	*e*Pn	**Pn**	**01 57 12.1**	**+1.0**
EVO				*e*Sn	**Sn**	**01 58 25.6**	**-0.2**
EVO				A	A	01 58 30.1	
	1.7nm,0.8s						
PFVI	**Vila Bisbo**	**6.69**	**122**	*e*Pn	**Pn**	**01 57 12.6**	**-0.4**
PFVI				*e*Sn	**Sn**	**01 58 25.1**	**-4.1**
MORF	**Marmelete**	**6.70**	**120**	*e*P	**Pn**	**01 57 12.8**	**-0.4**
MORF	**Marmelete**	**6.70**	**120**	*e*Pn	**Pn**	**01 57 13.7**	**+0.5**
MORF				*e*Sn	**Sn**	**01 58 28.1**	**-1.6**
PMRV	**Marv??o**	**6.71**	**100**	*e*Pn	**Pn**	**01 57 14.5**	**+1.2**
PMRV				*e*Sn	**Sn**	**01 58 29.3**	**-0.4**
MESJ	**Messejana**	**6.71**	**115**	*e*S	**Sn**	**01 58 28.3**	**-1.5**
MESJ				IAML		01 58 30.0	
	comp=E,1.2nm,0.2s						
MESJ	**Messejana**	**6.71**	**115**	*e*Pn	**Pn**	**01 57 13.8**	**+0.5**
MESJ				*e*Sn	**Sn**	**01 58 30.0**	**+0.2**
PESTR	**Estremoz**

0.4nm,0.5s,baz=302,slow=9.2,SNR=9.1
0.4nm,0.5s
SONM Songino Array 44.55 9 P **P 02 07 47.0 -1.8**
0.3nm,0.3s,baz=188,slow=6.0,SNR=3.7
0.3nm,0.3s
MKAR Makanchi Array 44.69 345 P **P 02 07 47.7 -2.2**
0.2nm,0.4s,baz=164,slow=8.1,SNR=6.2
0.2nm,0.4s
GEYT Alibeck 49.18 319 P **P 02 08 23.4 -1.6**
1.2nm,0.8s,baz=130,slow=6.3,SNR=2.6
1.2nm,0.8s
ZALV Zalesovo Beam 50.96 351 P **P 02 08 36.7 -1.4**
1.2nm,0.5s,baz=174,slow=5.8,SNR=4.0
1.2nm,0.5s

WEL 28 02:12:58.4±0.3, 43°S±2°×17°3E±°, h5km, M2.9/19, ML3.1/13, MLv2.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=114.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**69**	P	Pg	02 13 04.3	+0.2
KHZ				S	Sg	02 13 08.8	+0.8
GVZ	**Greta Valley S**	**0.46**	**192**	P	Pg	02 13 07.6	+0.5
GVZ				S	Sb	02 13 14.8	-1.2
LTZ	**Lake Taylor**	**0.71**	**248**	P	Pg	02 13 12.1	+0.1
LTZ				S	Sg	02 13 21.8	+0.7
AMCZ	**Amberley**	**0.76**	**210**	P	Pb	02 13 13.5	-0.5
THZ	**Tophouse**	**0.78**	**346**	P	Pg	02 13 13.6	+0.2
THZ				S	Sg	02 13 23.5	0.0
BSWZ	**Blackbirch Sta**	**0.96**	**34**	P	Pg	02 13 17.1	+0.3
OXZ	**Oxford**	**1.15**	**225**	P	Pg	02 13 19.3	-1.2
MRNZ	**Matariki Terra**	**1.16**	**345**	P	Pg	02 13 20.5	-0.1
OKCZ	**Okains Bay**	**1.20**	**184**	P	Pg	02 13 19.5	-2.0
TUWZ	**Tuamarina**	**1.24**	**28**	P	Pg	02 13 18.9	-3.2
MQZ	**McQueen's Vall**	**1.24**	**197**	P	Pg	02 13 19.5	-2.6
DSZ	**Denniston Nort**	**1.27**	**307**	P	Pg	02 13 22.7	0.0
INZ	**Inchbonnie**	**1.28**	**260**	P	Pn	02 13 22.2	-0.7
NNZ	**Nelson**	**1.31**	**7**	P	Pn	02 13 22.9	-0.5
RACZ	**Rakaia**	**1.42**	**212**	P	Pn	02 13 22.5	-2.3
TKNZ	**Takaka Hill**	**1.49**	**354**	P	Pn	02 13 25.9	0.0
MHCZ	**Mount Hutt**	**1.54**	**229**	P	Pn	02 13 24.5	-2.1
TCW	**Tory Channel**	**1.55**	**33**	P	Pn	02 13 24.2	-2.5
WACZ	**Wakanui South**	**1.72**	**214**	P	Pn	02 13 26.6	-2.3
QRZ	**Quartz Range**	**1.76**	**344**	P	Pn	02 13 30.0	+0.5
DUWZ	**D'Urville Isla**	**1.81**	**19**	P	Pn	02 13 29.9	-0.3
PLWZ	**Palliser**	**1.83**	**59**	P	Pn	02 13 28.4	-2.0
WVZ	**Waitaha Valley**	**1.87**	**252**	P	Pn	02 13 30.4	-0.6
MSWZ	**Moikau Station**	**1.91**	**55**	P	Pn	02 13 29.5	-2.1
RPZ	**Rata Peaks**	**1.95**	**232**	P	Pn	02 13 30.5	-1.7
CAW	**Cannon Point**	**2.00**	**46**	P	Pn	02 13 31.4	-1.5
ARCZ	**Arundel**	**2.03**	**225**	P	Pn	02 13 31.2	-2.1
SNVZ	**South Ngauruho**	**3.83**	**30**	P	Pn	02 13 54.7	-3.4

WEL 28 02:19:16.9±0.3, 42°S±3°×17°4E±°, h7km±3km, M3.3/30, ML3.5/18, MLv3.3/30, Error ellipse: s-maj=0.0km s-min=0.0km az=139.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**256**	P	Pg	02 19 18.9	+0.4
CMWZ				S	Sg	02 19 21.2	+1.5
BSWZ	**Blackbirch Sta**	**0.31**	**274**	P	Pg	02 19 23.2	+0.3
BSWZ				S	Sb	02 19 28.8	-1.2
TUWZ	**Tuamarina**	**0.40**	**320**	P	Pg	02 19 25.2	+0.5
TUWZ				S	Sb	02 19 31.5	-1.1
TCW	**Tory Channel**	**0.53**	**359**	P	Pg	02 19 27.5	+0.4
TCW				S	Sb	02 19 35.3	-1.0
WEL	**Wellington**	**0.58**	**39**	P	Pb	02 19 29.1	-0.3
PLWZ	**Palliser**	**0.75**	**77**	P	Pb	02 19 32.4	+0.2
MSWZ	**Moikau Station**	**0.79**	**67**	P	Pb	02 19 33.2	+0.1
NNZ	**Nelson**	**0.85**	**307**	P	Pg	02 19 33.1	-0.2
CAW	**Cannon Point**	**0.86**	**43**	P	Pg	02 19 33.8	+0.3
KHZ	**Kahutara**	**0.88**	**219**	P	Pb	02 19 34.4	-0.1
PAWZ	**Paruwai Farm**	**0.93**	**68**	P	Pb	02 19 35.1	-0.2
DUWZ	**D'Urville Isla**	**0.97**	**344**	P	Pg	02 19 35.4	-0.2
KIW	**Kapiti Island**	**0.99**	**29**	P	Pg	02 19 36.0	0.0
THZ	**Tophouse**	**1.03**	**268**	P	Pg	02 19 36.6	-0.1
MTW	**Mount Morrison**	**1.08**	**58**	P	Pg	02 19 37.4	-0.3
TRWZ	**Traveller**	**1.11**	**73**	P	Pg	02 19 37.3	-0.9
OGWZ	**Otaki Gorge**	**1.14**	**36**	P	Pg	02 19 38.6	-0.1
MRNZ	**Matariki Terra**	**1.19**	**286**	P	Pg	02 19 39.6	-0.2
TKNZ	**Takaka Hill**	**1.22**	**305**	P	Pn	02 19 39.6	-0.7
HOWZ	**Holdsworth Sta**	**1.25**	**48**	P	Pn	02 19 39.9	-1.0
TMWZ	**Te Maipa**	**1.36**	**63**	P	Pn	02 19 40.9	-1.5
MRZ	**Mangatainoka R**	**1.45**	**43**	P	Pn	02 19 42.8	-0.8
GVZ	**Greta Valley S**	**1.54**	**217**	P	Pn	02 19 43.4	-1.5
QRZ	**Quartz Range**	**1.60**	**304**	P	Pn	02 19 46.2	+0.5
CPWZ	**Castlepoint**	**1.66**	**61**	P	Pg	02 19 52.0	+3.2
PRWZ	**Pori Road**	**1.74**	**48**	P	Pg	02 19 50.1	-0.1
POWZ	**Post Office Ro**	**1.75**	**40**	P	Pn	02 19 47.6	-0.1
BFZ	**Birch Farm**	**1.82**	**55**	P	Pn	02 19 46.8	-1.8
LTZ	**Lake Taylor**	**1.82**	**234**	P	Pn	02 19 47.6	-1.2
DSZ	**Denniston Nort**	**1.85**	**269**	P	Pn	02 19 49.7	+0.5
AMCZ	**Amberley**	**1.88**	**219**	P	Pg	02 19 54.1	+1.1
WAZ	**Wanganui**	**2.05**	**15**	P	Pb	02 19 55.3	+0.9
TSZ	**Takapari Road**	**2.10**	**38**	P	Pn	02 19 50.0	-2.6
OKCZ	**Okains Bay**	**2.18**	**204**	P	Pn	02 19 51.1	-2.5
OXZ	**Oxford**	**2.30**	**225**	P	Pn	02 19 53.7	-1.5
MQZ	**McQueen's Vall**	**2.31**	**211**	P	Pn	02 19 52.3	-3.1
INZ	**Inchbonnie**	**2.33**	**244**	P	Pn	02 19 54.9	-0.7
KHEZ	**Kahui Hut**	**2.45**	**355**	P	Pb	02 20 02.1	+0.8
DREZ	**Durham Road**	**2.54**	**359**	P	Pn	02 19 58.1	-0.6
PKVZ	**Pokaka**	**2.58**	**19**	P	Pb	02 20 03.7	+0.3
MOVZ	**Moawhango**	**2.58**	**26**	P	Pb	02 20 03.4	-0.2
WNVZ	**Wahianoa**	**2.61**	**23**	P	Pn	02 20 01.4	+1.8
TRVZ	**Turoa**	**2.62**	**22**	P	Pb	02 20 05.0	+0.7
WHVZ	**Whangaehu Hut**	**2.65**	**23**	P	Pb	02 20 05.0	+0.3
FWVZ	**Far West T-bar**	**2.66**	**22**	P	Pb	02 20 05.5	+0.5
TUVZ	**Tukino**	**2.68**	**23**	P	Pb	02 20 03.1	-2.1
WTVZ	**West Tongariro**	**2.80**	**21**	P	Pb	02 20 07.9	+0.6
ETVZ	**East Tongariro**	**2.82**	**23**	P	Pb	02 20 07.4	-0.2
TMVZ	**Te Maari**	**2.83**	**23**	P	Pb	02 20 08.1	+0.2
WVZ	**Waitaha Valley**	**2.95**	**242**	P	Pb	02 20 08.0	-1.7
RITZ	**Rihia Road**	**3.01**	**24**	P	Pb	02 20 11.9	+1.1
RPZ	**Rata Peaks**	**3.09**	**229**	P	Pn	02 20 04.5	-1.7
HIZ	**Hauiti**	**3.25**	**8**	P	Pn	02 20 10.8	+2.5
TMZ	**Timaru**	**3.57**	**221**	P	Pn	02 20 10.6	-2.2
ODZ	**Otahua Downs**	**4.24**	**218**	P	Pn	02 20 19.2	-2.7
JCZ	**Jackson Bay**	**4.67**	**238**	P	Pn	02 20 30.8	+2.9

---

*NEIC **28** 02:20:01.8±1.1, 12°25N±0°.10×142°.24E±0°.02, h109km±8km, mb4.4/44, Error ellipse: s-maj=14.6km s-min=2.1km az=190.0*
*IDC **28** 02:20:03.1±1.8, 12°.31N×142°.25E, h125km±17km, mb4.0/19, mbtmp4.4/20, MS3.1/3, Error ellipse: s-maj=18.0km s-min=12.9km az=98.0*
ISC 28 02:20:00.5±0.5, 12°21N±0°.07×142°16E±0°.07, h100km, n94, σ0°85/91, mb4.5/53, 2D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.97**	**62**	P	**Pn**	**02 20 47.0**	**+1.1**
	384nm,0.3s,baz=198,slow=4.5,SNR=37						
GUMO				S	**Sn**	**02 21 22.4**	**+1.6**
	315nm,0.3s,baz=206,slow=23,SNR=4.6						
GUMO	**Guam**	**2.97**	**62**	Pn	**Pn**	**02 20 45.0**	**-0.9**
JCJ	**Chichijima**	**14.81**	**0**	P	**Pn**	**02 23 27.0**	**+2.2**
PATS	**Pohnpei**	**16.79**	**107**	P	**Pn**	**02 23 49.5**	**-0.2**
FAKI	**Fak Fak**	**17.97**	**214**	P	**P**	**02 24 03.6**	**+0.3**
PMG	**Port Moresby**	**22.04**	**167**	LR	LR	02 32 24.4	
	comp=Z,44nm,20.8s,baz=130,slow=34						
JMN	**Monobe**	**22.72**	**342**	P	**P**	**02 24 53.9**	**-0.2**
JHS	**Saijyo**	**24.13**	**342**	P	**P**	**02 25 06.1**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**24.44**	**72**	T	T	02 49 12.3	
	baz=257,slow=74						
H11S1	**WAKE ISLAND Hy**	**24.46**	**72**	T	T	02 48 51.6	
	baz=257						
H11S2	**WAKE ISLAND Hy**	**24.46**	**72**	T	T	02 49 29.4	
	baz=257,slow=74						
MJAR	**Matsushiro Arr**	**24.49**	**352**	P	**P**	**02 25 09.0**	**-1.3**
	4.5nm,0.7s,baz=173,slow=9.1,SNR=6.7						
	4.5nm,0.7s						
MAJO	**Matsushiro**	**24.49**	**352**	P	**P**	**02 25 10.7**	**+0.4**
MAJO				IAmb	IAmb	02 25 38.3	
	comp=Z,14nm,1.1s						
MJB9	**Matsu-Tunnel**	**24.49**	**352**	P	**P**	**02 25 10.8**	**+0.4**
MJB9				IAmb	IAmb	02 25 39.3	
	comp=Z,15nm,1.1s						

H11N1	**WAKE ISLAND Hy**	**24.89**	**69**	T	T	02 50 35.9	
	baz=248						
H11N2	**WAKE ISLAND Hy**	**24.90**	**69**	T	T	02 50 32.3	
	baz=248						
H11N3	**WAKE ISLAND Hy**	**24.91**	**69**	T	T	02 50 33.4	
	baz=248						
JMM	**Marumori**	**25.58**	**357**	P	**P**	**02 25 18.9**	**-1.3**
JSD	**Sado**	**25.95**	**353**	P	**P**	**02 25 22.9**	**-0.7**
KSRS	**Korea Array**	**28.19**	**336**	P	**P**	**02 25 43.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=148,slow=8.8,SNR=4.2						
	comp=Z,1.1nm,0.5s						
NJ2	**Nanjing**	**29.14**	**316**	eP	**P**	**02 25 52.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
CTA	**Charters Tower**	**32.35**	**173**	LR	LR	02 39 38.7	
	comp=Z,26nm,20.9s,baz=268,slow=36						
WB0	**Warramunga Arr**	**32.69**	**194**	P	**P**	**02 26 23.1**	**-0.4**
WB0				IAmb	IAmb	02 26 57.5	
	comp=Z,7.8nm,1.5s						
WR0	**Warramunga Arr**	**32.84**	**193**	P	**P**	**02 26 25.3**	**+0.5**
WB2	**Warramunga Arr**	**32.86**	**194**	P	**P**	**02 26 25.2**	**+0.1**
WRA	**Warramunga Arr**	**32.87**	**194**	P	**P**	**02 26 25.9**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=12,slow=9.6,SNR=23						
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**32.87**	**194**	P	**P**	**02 26 25.1**	**0.0**
USA0B	**Ussuriysk Arra**	**33.06**	**347**	P	**P**	**02 26 26.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**33.06**	**347**	P	**P**	**02 26 26.2**	**-0.2**
	comp=Z,12nm,0.6s,baz=177,slow=8.8,SNR=20						
	comp=Z,12nm,0.6s						
USRK	**Ussuriysk Ar.**	**33.06**	**347**	P	**P**	**02 26 26.0**	**-0.4**
CN2	**Changchun**	**34.62**	**338**	eP	**P**	**02 26 41.5**	**+1.5**
CN2				eS	**S**	**02 32 01.8**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,16μm,12.0s						
CN2				LR	LR		
	comp=E,13μm,12.0s						
CN2				LR	LR		
	comp=Z,19μm,14.0s						
HNS	**HongShan**	**35.12**	**320**	⇓P	**P**	**02 26 44.8**	**+0.4**
HNS				pmax	pmax		
	comp=Z,25nm,1.0s						
ASAR	**Alice Springs**	**36.56**	**193**	P	**P**	**02 26 58.3**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=18,slow=14,SNR=8.1						
ASAR				PcP	**PcP**	**02 29 18.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=349,slow=4.0,SNR=2.4						
	comp=Z,0.4nm,0.6s						
XAN	**Xi'an**	**37.24**	**311**	P	**P**	**02 27 02.5**	**-0.1**
XAN				pP	pP	02 27 14.8	-10
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
KLR	**Kul'dur**	**37.90**	**349**	P	**P**	**02 27 08.1**	**+0.1**
	comp=Z,15nm,0.6s,baz=169,slow=6.4,SNR=50						
KLR				LR	LR	02 42 16.9	
	comp=Z,40nm,18.3s,baz=243,slow=35						
	comp=Z,15nm,0.6s						
XLT	**XiLinHaoTe**	**38.74**	**329**	⇓iP	**P**	**02 27 15.5**	**+0.4**
XLT				pP	pwP	02 27 41.3	+1.1
XLT				sP	sP	02 27 53.5	+4.8
XLT				pmax	pmax		
	comp=Z,26nm,0.9s						
XLT				pmax	pmax		
	comp=Z,180nm,5.1s						
HHC	**Hu-ho-hao-te**	**39.17**	**322**	eP	**P**	**02 27 19.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,4.7s						
HEH	**HeiHe**	**39.82**	**345**	eP	**P**	**02 27 23.5**	**-0.4**
HEH				pmax	pmax		
	comp=Z,26nm,0.7s						
HEH				pmax	pmax		
	comp=Z,140nm,6.3s						
PZH	**PanZhiHua**	**40.51**	**297**	P	**P**	**02 27 30.8**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
LZH	**Lanzhou**	**41.88**	**311**	eP	**P**	**02 27 42.5**	**+1.3**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
CMAR	**Chiang Mai Arr**	**42.06**	**284**	P	**P**	**02 27 43.3**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=87,slow=5.9,SNR=6.0						
	comp=Z,0.9nm,0.4s						
BBOO	**Buckleboo**	**45.15**	**187**	P	**P**	**02 28 07.5**	**+0.2**
BBOO				IAmb	IAmb	02 28 20.7	
	comp=Z,5.2nm,1.1s						
GTA	**Gaotai**	**46.16**	**314**	eP	**P**	**02 28 16.0**	**+0.6**
GTA				pmax	pmax		
	comp=Z,16nm,0.8s						
SONM	**Songino Array**	**46.39**	**327**	P	**P**	**02 28 17.7**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=141,slow=7.6,SNR=18						
SONM				PcP	**PcP**	**02 29 49.7**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=148,slow=3.6,SNR=4.4						
	comp=Z,2.8nm,0.5s						
SONM	**Songino Array**	**46.39**	**327**	P	**P**	**02 28 17.6**	**+0.6**
SONM				IAmb	IAmb	02 28 19.3	
	comp=Z,3.1nm,0.7s						
GOMU	**GeErMu**	**48.75**	**308**	P	**P**	**02 28 38.3**	**+2.5**
GOMU				pmax	pmax		
	comp=Z,28nm,0.6s						
YAK	**Yakutsk**	**50.55**	**352**	P	**P**	**02 28 48.0**	**-0.5**
	comp=Z,9.2nm,0.4s,baz=32,slow=2.7,SNR=5.8						
	comp=Z,9.2nm,0.4s						
SEY	**Seymchan**	**51.17**	**6**	P	**P**	**02 28 53.0**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=185,slow=4.3,SNR=4.0						
	comp=Z,3.0nm,0.8s						
WMQ	**Urumqi**	**56.20**	**315**	eP	**P**	**02 29 31.3**	**+1.0**
WMQ				sP	sP	02 30 10.8	+6.5
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
MK31	**Makanchi Array**	**60.67**	**317**	P	**P**	**02 30 01.6**	**+0.3**
MK31				IAmb	IAmb	02 30 02.4	
	comp=Z,7.4nm,1.1s						
MKAR	**Makanchi Array**	**60.67**	**317**	P	**P**	**02 30 01.5**	**+0.2**
	comp=Z,6.2nm,0.6s,baz=98,slow=8.2,SNR=81						
	comp=Z,6.2nm,0.6s						
MAKZ	**Makanchi**	**60.88**	**317**	P	**P**	**02 30 02.8**	**0.0**
ZAA0	**Zalesovo Array**	**61.23**	**325**	P	**P**	**02 30 04.3**	**-0.6**
ZAA0				IAmb	IAmb	02 30 04.6	
	comp=Z,3.5nm,0.6s						
ZALV	**Zalesovo Beam**	**61.23**	**325**	P	**P**	**02 30 04.2**	**-0.6**
	comp=Z,3.6nm,0.5s,baz=110,slow=7.7,SNR=15						
ZALV				PcP	**PcP**	**02 30 45.4**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=117,slow=5.0,SNR=4.8						
	comp=Z,3.6nm,0.5s						
ZALV	**Zalesovo Beam**	**61.23**	**325**	P	**P**	**02 30 04.3**	**-0.5**
KSH	**Kashi**	**63.99**	**308**	P	**P**	**02 30 26.0**	**+2.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BTK	**Batken**	**67.99**	**308**	P	**P**	**02 30 48.8**	**-0.5**
BTK				IAmb	IAmb	02 31 30.6	
	comp=Z,7.4nm,1.4s						
PPLA	**Purkeypile**	**68.19**	**27**	P	**P**	**02 30 50.5**	**+0.3**
PPLA				IAmb	IAmb	02 30 53.4	
	comp=Z,14nm,1.3s						
KK31	**Karatay Array**	**68.38**	**312**	P	**P**	**02 30 51.1**	**-0.5**
KKAR	**Karatay Array**	**68.38**	**312**	P	**P**	**02 30 50.9**	**-0.6**
CAST	**Castle Rocks**	**68.39**	**26**	P	**P**	**02 30 51.1**	**-0.1**
CAST				IAmb	IAmb	02 30 51.8	
	comp=Z,3.9nm,0.7s						
IMAR	**Indian Mountai**	**68.49**	**23**	P	**P**	**02 30 51.8**	**0.0**
RC01	**Rabbit Creek A**	**68.84**	**29**	P	**P**	**02 30 53.2**	**-0.9**
RC01				IAmb	IAmb	02 31 28.4	
	comp=Z,16nm,1.2s						
KTH	**Kantishna Hill**	**68.93**	**26**	P	**P**	**02 30 54.1**	**-0.5**
TRF	**Thorofare Moun**	**69.17**	**26**	P	**P**	**02 30 54.9**	**-1.3**
TRF				IAmb	IAmb	02 31 01.8	
	comp=Z,15nm,1.4s						
MLY	**Manley**	**69.40**	**25**	P	**P**	**02 30 57.1**	**-0.4**
MLY				IAmb	IAmb	02 30 57.9	
	comp=Z,6.4nm,1.1s						
BRVK	**Borovoye**	**69.45**	**322**	P	**P**	**02 30 57.8**	**-0.1**
PWL	**Port Wells**	**69.46**	**29**	P	**P**	**02 30 57.1**	**-0.8**
A21K	**Barrow**	**69.47**	**18**	P	**P**	**02 30 57.9**	**+0.2**
SML	**Sawmill**	**69.66**	**28**	P	**P**	**02 30 58.2**	**-0.9**
SML				IAmb	IAmb	02 31 03.7	
	comp=Z,15nm,1.2s						
I23K	**Minto, Yukon-K**	**70.00**	**25**	P	**P**	**02 31 00.7**	**-0.4**
COLD	**Coldfoot**	**70.22**	**22**	P	**P**	**02 31 02.1**	**-0.3**
COLD				IAmb	IAmb	02 31 03.6	
	comp=Z,4.0nm,0.7s						
MDM	**Murphy Dome**	**70.42**	**25**	P	**P**	**02 31 03.9**	**+0.2**
MDM				IAmb	IAmb	02 31 04.6	
	comp=Z,5.9nm,1.2s						
H24K	**Noodor Dome**	**70.77**	**24**	P	**P**	**02 31 05.6**	**-0.2**
H24K				IAmb	IAmb	02 31 06.7	
	comp=Z,6.3nm,1.2s						
TOLK	**Toolik Lake Re**	**70.84**	**21**	P	**P**	**02 31 06.6**	**+0.4**
ILAR	**Eielson Array**	**70.94**	**25**	P	**P**	**02 31 05.0**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=247,slow=6.1,SNR=32						
	comp=Z,1.4nm,0.6s						
PAX	**Paxson**	**71.20**	**27**	P	**P**	**02 31 07.8**	**-0.7**
PAX				IAmb	IAmb	02 31 09.7	
	comp=Z,3.1nm,0.6s						
SCRK	**Sand Creek**	**72.03**	**26**	P	**P**	**02 31 13.3**	**-0.2**
L26K	**Log Cabin Wild**	**72.17**	**27**	P	**P**	**02 31 13.5**	**-0.8**
L26K				IAmb	IAmb	02 31 18.7	
	comp=Z,6.5nm,1.2s						
BMAR	**Burnt Mountain**	**72.39**	**23**	P	**P**	**02 31 15.4**	**-0.1**
BCAR	**Beaver Creek A**	**72.88**	**28**	P	**P**	**02 31 18.3**	**-0.2**
DAWY	**Dawson**	**74.05**	**27**	P	**P**	**02 31 25.3**	**-0.1**
M30M	**Minto, Yukon**	**75.12**	**28**	P	**P**	**02 31 31.4**	**-0.2**
M30M				IAmb	IAmb	02 32 09.2	
	comp=Z,6.5nm,1.4s						
ABKAR	**Akbulak array**	**75.79**	**318**	P	**P**	**02 31 34.9**	**-0.7**
INK	**Inuvik**	**76.64**	**22**	P	**P**	**02 31 39.2**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=292,slow=3.2,SNR=6.9						
	comp=Z,1.6nm,0.8s						
INK	**Inuvik**	**76.64**	**22**	P	**P**	**02 31 39.5**	**-0.5**
GEYT	**Alibeck**	**77.95**	**306**	P	**P**	**02 31 47.7**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=17,slow=1.5,SNR=7.2						
	comp=Z,2.8nm,0.8s						
A36M	**Sachs Harbour**	**79.28**	**18**	P	**P**	**02 31 54.0**	**-0.6**
A36M				IAmb	IAmb	02 31 55.1	
	comp=Z,6.9nm,0.7s						
C36M	**Paulatuk**	**80.00**	**21**	P	**P**	**02 31 57.6**	**-0.9**
EUNU	**Eureka**	**84.58**	**8**	P	**P**	**02 32 21.8**	**-0.5**
EUNU				IAmb	IAmb	02 32 22.9	
	comp=Z,4.7nm,0.8s						
YKA	**Yellowknife Ar**	**85.28**	**27**	P	**P**	**02 32 25.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=320,slow=7.0,SNR=5.0						
	comp=Z,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**87.57**	**342**	P	**P**	**02 32 35.6**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=49,slow=3.7,SNR=11						
	comp=Z,1.8nm,0.5s						
NVAR	**Mina Array Bea**	**89.83**	**51**	P	**P**	**02 32 49.1**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=266,slow=5.6,SNR=13						
	comp=Z,2.1nm,0.7s						
FINES	**FINESS Array B**	**91.28**	**334**	P	**P**	**02 32 52.1**	**-2.5**
	comp=Z,4.3nm,0.6s,baz=66,slow=4.4,SNR=25						
	comp=Z,4.3nm,0.6s						

---

*IDC **28** 02:41:43.2±2.6, 14°46S×75°.72W, h0km, mb3.2/1, mbtmp3.2/1, MS3.0/3, Error ellipse: s-maj=206.6km s-min=77.0km az=65.0*
*ARE **28** 02:41:47±2.6, 14°.48S±0°.08×75°.8W±0°.1, h53km±7km, Error ellipse: s-maj=18.0km s-min=9.5km az=61.0*
*NEIC **28** 02:41:49.8±1.1, 14°.40S±0°.08×75°.6W±0°.1, h42km±7km, mb4.1/4, ML4.3(ARE), Error ellipse: s-maj=18.3km s-min=8.6km az=64.0*
ISC 28 02:41:50.1±0.8, 14°37S±0°.08×75°5W±0°.1, h53km, n31, σ0°76/26, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.69**	**332**	LR	LR	02 43 40.8	
	comp=Z,64nm,20.1s,baz=188,slow=44						
NNA	**Nana**	**2.69**	**332**	Pn	**Pn**	**02 42 30.5**	**-0.6**
NNA				Sn	**Sn**	**02 43 02.8**	**+0.3**
PB12	**IPOC Station P**	**6.54**	**131**	Pn	**Pn**	**02 43 22.5**	**-1.3**
PB16	**IPOC Station P**	**7.00**	**125**	Pn	**Pn**	**02 43 30.2**	**-0.4**
CZSB	**Cruzeiro do Su**	**7.16**	**23**	Pn	**Pn**	**02 43 32.2**	**-0.1**
PSGCX	**Pisagua**	**7.33**	**136**	Pn	**Pn**	**02 43 34.0**	**-0.8**
MNMC	**Minye Minye**	**7.40**	**131**	Pn	**Pn**	**02 43 34.3**	**-1.5**
PB11	**IPOC Station P**	**7.76**	**134**	Pn	**Pn**	**02 43 40.0**	**-0.8**
TA01	**Diego Aracena**	**8.00**	**141**		**Pn**	**02 43 42.8**	**-1.0**
GO01	**Chusmiza**	**8.03**	**132**	Pn	**Pn**	**02 43 43.6**	**-1.0**
PB08	**IPOC Station P**	**8.37**	**134**	Pn	**Pn**	**02 43 48.9**	**-0.3**
PB02	**IPOC Station P**	**8.75**	**143**	Pn	**Pn**	**02 43 53.9**	**-0.3**
PB01	**IPOC Station P**	**8.79**	**140**	Pn	**Pn**	**02 43 54.3**	**-0.4**
PB07	**IPOC Station P**	**9.07**	**145**	Pn	**Pn**	**02 43 58.3**	**-0.4**
ETMB	**Extrema**	**10.18**	**65**	Pn	**Pn**	**02 44 14.4**	**+0.8**
LVC	**Limon Verde**	**10.32**	**143**	Pn	**Pn**	**02 44 16.1**	**+0.2**
BOSC	**San Juan Bosco**	**11.53**	**345**	Pn	**Pn**	**02 44 31.5**	**-0.7**
**

WAZ	Wanganui	2.11	15	P		Pb	02 48 46.0	+0.3	
ANWZ	Angora Road	2.12	52	P		Pn	02 48 42.9	0.0	
OKCZ	Okains Bay	2.13	205	P		Pn	02 48 42.3	-0.7	
TSZ	Takapari Road	2.15	36	P		Pn	02 48 43.6	+0.3	
MQZ	McQueen's Vall	2.26	212	P		Pn	02 48 43.4	-1.3	
OXZ	Oxford	2.26	227	P		Pn	02 48 44.1	-0.7	
AKCZ	Akaroa Harbour	2.31	206	P		Pn	02 48 44.9	-0.6	
INZ	Inchbonnie	2.31	245	P		Pn	02 48 46.1	+0.7	
LREZ	Lake Rotokare	2.34	2	P		Pb	02 48 49.9	+0.2	
PNHZ	Pukenui	2.37	38	P		Pn	02 48 45.8	-0.5	
WPHZ	Waipukurau	2.38	44	P		Pn	02 48 47.0	+0.7	
NMEZ	Namu Road	2.41	352	P		Pg	02 48 51.9	-1.7	
RACZ	Rakaia	2.50	219	P		Pn	02 48 47.6	-0.4	
KHEZ	Kahui Hut	2.51	355	P		Pb	02 48 52.8	+0.2	
KHEZ	Kahui Hut	2.51	355	P		Pb	02 48 52.6	0.0	
NEZ	North Egmont	2.53	356	P		Pb	02 48 52.5	-0.5	
NBEZ	Newall Road No	2.55	352	P		Pb	02 48 53.3	0.0	
MTVZ	Mangateitei	2.57	21	P		Pb	02 48 54.6	+1.0	
DREZ	Durham Road	2.61	358	P		Pb	02 48 53.4	-0.9	
PKE	Pukeiti	2.61	355	P		Pg	02 48 56.4	-1.3	
PKVZ	Pokaka	2.63	18	P		Pb	02 48 55.3	+0.6	
MOVZ	Moawhango	2.63	25	P		Pn	02 48 51.0	+1.0	
MHCZ	Mount Hutt	2.66	228	P		Pn	02 48 49.5	-0.7	
WNVZ	Wahianoa	2.66	22	P		Pn	02 48 52.1	+1.7	
BHHZ	Black Hill Sta	2.67	31	P		Pb	02 48 55.7	+0.3	
TRVZ	Turoa	2.67	21	P		Pb	02 48 53.2	-2.3	
DRZ	Dome Shelter	2.70	21	P		Pb	02 48 56.8	+0.8	
WHVZ	Whangaehu Hut	2.70	22	P		Pn	02 48 52.9	+1.9	
FWVZ	Far West T-bar	2.72	21	P		Pb	02 48 56.2	0.0	
MHEZ	Mangahewa	2.72	0	P		Pg	02 48 59.2	-0.5	
TUVZ	Tukino	2.73	23	P		Pn	02 48 52.9	+1.6	
KAHZ	Kahuranaki	2.80	45	P		Pn	02 48 51.2	-1.0	
WACZ	Wakanui South	2.80	219	P		Pn	02 48 51.7	-0.5	
NGZ	Ngauruhoe	2.80	21	P		Pb	02 48 57.8	+0.1	
SNVZ	South Ngauruho	2.80	22	P		Pb	02 48 57.9	+0.3	
OTVZ	Oturere	2.83	22	P		Pn	02 48 54.4	+1.7	
NNVZ	North Ngauruho	2.85	21	P		Pb	02 48 56.8	-1.7	
WTVZ	West Tongariro	2.86	21	P		Pb	02 48 58.8	+0.3	
TWVZ	Taurewa	2.86	18	P		Pb	02 48 59.0	+0.3	
ETVZ	East Tongariro	2.87	23	P		Pn	02 48 54.9	+1.7	
KWHZ	Kaweka Forest	2.87	35	P		Pb	02 49 00.4	+1.6	
TMVZ	Te Maari	2.89	22	P		Pn	02 48 54.6	+1.1	
KRVZ	Karewarewa	2.89	21	P		Pb	02 48 59.4	+0.3	
NTVZ	North Tongarir	2.90	22	P		Pb	02 48 59.5	+0.3	
WVZ	Waitaha Valley	2.93	243	P		Pn	02 48 55.0	+1.1	
KATZ	Kakaramea	3.02	21	P		Pb	02 49 01.9	+0.6	
RPZ	Rata Peaks	3.06	230	P		Pn	02 48 55.7	-0.1	
RITZ	Rihia Road	3.06	23	P		Pb	02 49 02.5	+0.5	
RATZ	Rangitukua	3.14	22	P		Pb	02 49 04.5	+1.2	
WATZ	Wairara	3.28	20	P		Pb	02 49 06.4	+0.7	
GCSZ	Gaunt Creek Bo	3.30	241	P		Pn	02 49 01.2	+2.2	
NMHZ	Naumai	3.31	36	P		Pn	02 48 59.5	+0.3	
HIZ	Hauiti	3.31	8	P		Pn	02 49 02.3	+3.1	
HIZ	Hauiti	3.31	8	P		Pn	02 49 01.6	+2.5	
TMZ	Timaru	3.53	222	P		Pn	02 49 02.0	-0.3	
TLZ	Tolley Road	3.59	16	P		Pb	02 49 08.7	-2.4	
FOZ	Fox Glacier	3.73	241	P		Pn	02 49 07.5	+2.6	
LBZ	Lake Benmore	3.97	228	P		Pn	02 49 08.8	+0.5	
URZ	Urewera	4.14	32	P		Pn	02 49 10.8	+0.2	
TOZ	Tahuroa Road	4.17	13	P		Pn	02 49 10.7	-0.2	
ODZ	Otahua Downs	4.19	218	P		Pn	02 49 11.2	-0.1	
ODZ	Otahua Downs	4.19	218	P		Pn	02 49 10.6	-0.8	
TWGZ	Tauwhareparae	4.59	39	P		Pn	02 49 16.7	-0.2	
JCZ	Jackson Bay	4.64	239	P		Pn	02 49 19.6	+2.1	
AWAZ	Awhitu Peninsu	4.74	3	P		Pn	02 49 22.1	+3.3	
MKAZ	Moumakai	4.74	8	P		Pn	02 49 23.8	+5.0	
OUZ	Omahuta	6.59	355	P		Pn	02 49 48.4	+4.1	

WEL 28 02:51:22.3±0.4,**42°S**±3°×**17°4E**±°,**h7**km±3km,**M3.3**/31, **ML3.6**/18,**MLv3.3**/31,**Error ellipse: s-maj=0.0km s-min=0.0km az=133.6,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**244**	P	Pg	02 51 24.1	+0.4
CMWZ				S	Sg	02 51 25.9	+1.2
BSWZ	**Blackbirch Sta**	**0.29**	**273**	P	Pg	02 51 28.2	+0.3
BSWZ				S	Sg	02 51 33.1	+1.4
TUWZ	**Tuamarina**	**0.38**	**322**	P	Pg	02 51 30.3	+0.5
TCW	**Tory Channel**	**0.52**	**1**	P	Pg	02 51 32.7	+0.4
WEL	**Wellington**	**0.59**	**41**	P	Pb	02 51 34.6	-0.3
PLWZ	**Palliser**	**0.76**	**78**	P	Pb	02 51 38.0	0.0
MSWZ	**Moikau Station**	**0.81**	**67**	P	Pb	02 51 38.7	-0.1
NNZ	**Nelson**	**0.84**	**308**	P	Pg	02 51 38.2	-0.2
KHZ	**Kahutara**	**0.87**	**218**	P	Pb	02 51 39.5	-0.3
CAW	**Cannon Point**	**0.87**	**44**	P	Pg	02 51 39.4	+0.3
PAWZ	**Paruwai Farm**	**0.94**	**69**	P	Pg	02 51 40.6	+0.2
DUWZ	**D'Urville Isla**	**0.96**	**345**	P	Pg	02 51 40.5	-0.4
KIW	**Kapiti Island**	**1.00**	**30**	P	Pg	02 51 41.4	-0.1
THZ	**Tophouse**	**1.01**	**268**	P	Pg	02 51 41.6	-0.1
MTW	**Mount Morrison**	**1.10**	**59**	P	Pg	02 51 42.9	-0.5
TRWZ	**Traveller**	**1.12**	**73**	P	Pg	02 51 42.8	-1.1
OGWZ	**Otaki Gorge**	**1.14**	**37**	P	Pg	02 51 44.0	-0.3
MRNZ	**Matariki Terra**	**1.17**	**266**	P	Pb	02 51 44.9	-0.1
TKNZ	**Takaka Hill**	**1.20**	**305**	P	Pb	02 51 45.1	-0.2
HOWZ	**Holdsworth Sta**	**1.26**	**49**	P	Pn	02 51 45.3	-1.2
TMWZ	**Te Maipa**	**1.38**	**64**	P	Pn	02 51 46.5	-1.6
MRZ	**Mangatainoka R**	**1.46**	**43**	P	Pn	02 51 48.2	-1.0
QRZ	**Quartz Range**	**1.59**	**304**	P	Pb	02 51 51.5	-0.5
CPWZ	**Castlepoint**	**1.68**	**61**	P	Pn	02 51 51.2	-0.9
PRWZ	**Pori Road**	**1.75**	**48**	P	Pg	02 51 56.7	+0.8
POWZ	**Post Office Ro**	**1.76**	**41**	P	Pn	02 51 52.3	-1.0
LTZ	**Lake Taylor**	**1.81**	**234**	P	Pn	02 51 52.8	-1.2
BFZ	**Birch Farm**	**1.83**	**56**	P	Pn	02 51 52.4	-1.9
DSZ	**Dennistone Nort**	**1.84**	**269**	P	Pn	02 51 55.1	+0.7
WAZ	**Wanganui**	**2.05**	**16**	P	Pb	02 52 00.4	+0.5
TSZ	**Takapari Road**	**2.11**	**38**	P	Pb	02 52 00.2	-0.8
OKCZ	**Okains Bay**	**2.18**	**204**	P	Pn	02 51 56.4	-2.7
LREZ	**Lake Rotokare**	**2.27**	**3**	P	Pb	02 52 04.0	+0.3
OXZ	**Oxford**	**2.29**	**225**	P	Pn	02 51 58.3	-2.2
MQZ	**McQueen's Vall**	**2.30**	**210**	P	Pn	02 51 57.6	-3.1
INZ	**Inchbonnie**	**2.31**	**244**	P	Pn	02 52 01.8	+0.9
PNHZ	**Pukenui**	**2.34**	**40**	P	Pn	02 51 59.7	-1.6
WPHZ	**Waipukurau**	**2.35**	**46**	P	Pg	02 52 06.9	-0.4
KHEZ	**Kahui Hut**	**2.44**	**356**	P	Pb	02 52 06.2	-0.5
TRVZ	**Turoa**	**2.62**	**22**	P	Pb	02 52 09.4	-0.4
WHVZ	**Whangaehu Hut**	**2.65**	**23**	P	Pb	02 52 10.3	+0.1

IDC ***28*** *03:39:51.2*±*0.9, 8°.27S*×*80°.20W, h0km, mb4.0/8, mbtmp4.1/11,ML3.7/3,MS3.7/14, Error ellipse: s-maj=22.3km s-min=18.4km az=92.0*

NEIC ***28*** *03:39:58.7*±*1.8, 8°.33S*±*0°.07*×*79°.87W*±*0°.10, h49km*±*8km, mb4.4/27, Error ellipse: s-maj=14.5km s-min=9.3km az=73.0*

VAO ***28*** *03:40:05.1*±*2.5, 8°.30S*×*79°.35W, h72km*±*12km, mb4.4*

ISC 28 03:39:56.5±0.6,**8°.30S**±0°.06×**80°.06W**±0°.08,**h35**km,**n85**, σ1§**67°/77**,**mb4.4**/18,**MS3.6**/10,**Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.02**	**55**	Pn	**Pn**	**03 40 30.2**	**+1.9**
	88nm,0.3s,baz=267,slow=2.7,SNR=670						
ATAH				Sn	**Sn**	**03 40 57.5**	**+4.9**
	109nm,0.3s,baz=350,slow=8.7,SNR=4.4						
	606nm,0.5s						
MCRA	**Macar, Loja**	**3.91**	**2**	Pn	**Pn**	03 40 53.4	-0.7
ARNL	**Arenillas**	**4.72**	**360**	Pn	**Pn**	03 41 07.9	+2.7
NNA	**Nana**	**4.84**	**139**	Pn	**Pn**	03 41 06.0	-1.0
	10nm,0.3s,baz=330,slow=11,SNR=13						
NNA				Sn	**Sn**	03 42 09.2	+7.2
	38nm,0.3s,baz=206,slow=16,SNR=4.3						
NNA				LR	LR	03 43 10.2	
	comp=Z,531nm,18.9s,baz=310,slow=40						
	25nm,0.4s						
BOSC	**San Juan Bosco**	**5.35**	**17**	Pn	**Pn**	03 41 13.7	-0.3
COHC	**Cochancay**	**5.85**	**8**	Pn	**Pn**	03 41 21.7	+1.0
CHSH	**Refugio Sur-Vo**	**6.86**	**10**	Pn	**Pn**	03 41 36.9	+1.6
PORT	**Chimborazo Vol**	**6.91**	**11**	Pn	**Pn**	03 41 38.3	+2.4
CZSB	**Cruzeiro do Su**	**7.30**	**86**	Pn	**Pn**	03 41 38.8	-2.0
CZSB	**Cruzeiro do Su**	**7.30**	**86**	*e*P	**Pn**	03 41 39.5	-1.3
SLOR	**San Lorenzo -**	**7.68**	**12**	Pn	**Pn**	03 41 48.6	+2.3
PULU	**Pululahua**	**8.41**	**11**	Pn	**Pn**	03 41 59.2	+2.8
IMBA	**Imbabura, San**	**8.72**	**12**	Pn	**Pn**	03 42 01.2	+0.6
TBTG	**Tabatinga, AM**	**10.88**	**69**	Pn	**Pn**	03 42 26.9	-3.0
TBTG	**Tabatinga, AM**	**10.88**	**69**	*e*P	**Pn**	03 42 29.5	-0.4
ETMB	**Extrema**	**13.76**	**97**	Pn	**Pn**	03 43 05.7	-3.5
ROSC	**El Rosal**	**14.25**	**24**	LR	LR	03 48 50.5	
	comp=Z,273nm,18.9s,baz=206,slow=38						

PB11	**IPOC Station P**	**15.21**	**140**	P		**P**	03 43 32.6	-1.0	
GO01	**Chusmiza**	**15.44**	**138**	P		**P**	03 43 36.9	+0.4	
PB01	**IPOC Station P**	**16.27**	**142**	P		**Pn**	03 43 44.0	+1.5	
JTS	**Las Juntas de**	**19.10**	**345**	LR		LR	03 50 22.8		
	comp=Z,127nm,19.1s,baz=224,slow=33								
SDV	**Santo Domingo**	**19.48**	**29**	P		**Pn**	**03 44 21.9**	**-0.3**	
	0.3nm,0.3s,baz=220,slow=7.9,SNR=3.4								
SDV				LR		LR	03 53 31.2		
	comp=Z,185nm,18.1s,baz=230,slow=42								
	2.6nm,0.4s								
SDV	**Santo Domingo**	**19.48**	**29**	*e*P		**Pn**	**03 44 22.9**	**+0.6**	
GO02	**Mina Guanaco**	**19.52**	**150**	P		**P**	**03 44 21.1**	**-0.1**	
GO02				IAmb		IAmb	03 44 52.8		
	comp=Z,26nm,1.4s								
MACA	**Manacapuru-AM**	**19.94**	**76**	P		**P**	**03 44 23.0**	**-2.6**	
MACA				IAmb		IAmb	03 44 35.9		
	comp=Z,24nm,0.8s								
MACA	**Manacapuru-AM**	**19.94**	**76**	*e*P		**P**	**03 44 23.6**	**-2.0**	
VILB	**Vilhena**	**20.05**	**105**	P		**P**	**03 44 25.8**	**-1.1**	
VILB				IAmb		IAmb	03 44 37.7		
	comp=Z,15nm,0.8s								
VILB	**Vilhena**	**20.05**	**105**	*e*P		**P**	**03 44 25.9**	**-1.0**	
SIV	**San Ignacio**	**20.06**	**114**	P		**P**	**03 44 25.0**	**-2.0**	
	comp=Z,2.1nm,0.6s,baz=293,slow=12,SNR=13								
SIV				LR		LR	03 52 30.4		
	comp=Z,272nm,18.7s,baz=293,slow=38								
BAUV	**El Baul**	**20.90**	**35**	P		**P**	**03 44 35.2**	**-0.8**	
BBSD	**Serra de San D**	**20.91**	**117**	*e*P		**P**	**03 44 35.0**	**-1.1**	
AC06	**Mina Casimiro**	**21.07**	**155**	P		**P**	**03 44 37.7**	**-0.1**	
AC06				IAmb		IAmb	03 44 40.6		
	comp=Z,14nm,0.9s								
AC02	**Maricunga**	**21.15**	**152**	P		**P**	**03 44 38.6**	**-0.6**	
PTGA	**Pitinga**	**21.38**	**70**	P		**P**	**03 44 40.2**	**-1.0**	
	comp=Z,6.4nm,0.5s,baz=243,slow=12,SNR=30								
PTGA				LR		LR	03 53 51.0		
	comp=Z,376nm,20.1s,baz=260,slow=39								
	comp=Z,6.4nm,0.5s								
URIC	**Uribia, Colomb**	**21.43**	**22**	P		**P**	**03 44 40.8**	**-0.9**	
URIC				IAmb		IAmb	03 44 53.5		
	comp=Z,24nm,1.3s								
PTLB	**Pontes e Lacer**	**21.66**	**111**	P		**P**	**03 44 43.0**	**-1.2**	
PTLB				IAmb		IAmb	03 44 58.9		
	comp=Z,30nm,1.5s								
PTLB	**Pontes e Lacer**	**21.66**	**111**	*e*P		**P**	**03 44 43.4**	**-0.8**	
BBRB	**Robore, Bolivi**	**22.04**	**119**	*e*P		**P**	**03 44 46.1**	**-2.2**	
BOAV	**Boa Vista**	**22.19**	**62**	P		**P**	**03 44 49.0**	**-0.9**	
BOAV				IAmb		IAmb	03 44 59.6		
	comp=Z,6.9nm,1.0s								
BOAV	**Boa Vista**	**22.19**	**62**	*e*P		**P**	**03 44 48.3**	**-1.6**	
PDRB	**Porto dos Gac**	**23.21**	**100**	*e*P		**P**	**03 44 58.9**	**-1.7**	
CLDB	**Colider**	**24.06**	**98**	*e*P		**P**	**03 45 07.3**	**-1.4**	
ITTB	**Itaituba**	**24.48**	**82**	*e*P		**P**	**03 45 11.5**	**-1.1**	
NPGB	**Novo Progresso**	**24.51**	**89**	*e*P		**P**	**03 45 11.3**	**-1.6**	
CFA	**Coronel Fontan**	**25.67**	**156**	P		**P**	**03 45 25.6**	**+2.3**	
	comp=Z,2nm,0.8s,baz=342,slow=6.4,SNR=3.7								
	comp=Z,2.2nm,0.8s								
MALB	**Monte Alegre**	**26.47**	**77**	*e*P		**P**	**03 45 29.4**	**-1.2**	
AQDB	**Aquidauana**	**26.47**	**120**	*e*P		**P**	**03 45 30.8**	**+0.2**	
CPUP	**Villa Florida**	**28.06**	**133**	LR		LR	03 58 58.1		
	comp=Z,102nm,19.8s,baz=322,slow=41								
SNDB	**Serra Nova Dou**	**28.54**	**100**	*e*P		**P**	**03 45 48.8**	**-0.4**	
ARAG	**Araguaiana, MT**	**28.57**	**108**	*e*P		**P**	**03 45 48.7**	**-0.8**	
MCPB	**Macapa, AP**	**28.99**	**76**	*e*P		**P**	**03 45 52.5**	**-0.8**	
CMIG	**Matias Romero**	**29.18**	**330**	LR		LR	03 55 33.1		
	comp=Z,51nm,18.4s,baz=127,slow=32								
SJG	**San Juan**	**29.62**	**28**	LR		LR	03 59 24.5		
	comp=Z,70nm,18.6s,baz=232,slow=40								
MDP	**Montagnes des**	**30.41**	**65**	LR		LR	03 59 00.4		
	comp=Z,144nm,18.9s,baz=238,slow=38								
SMTB	**Santa Maria do**	**32.11**	**93**	*e*P		**P**	**03 46 20.3**	**-0.5**	
BDFB	**Brasilia**	**32.15**	**106**	P		**P**	**03 46 21.1**	**-0.2**	
	comp=Z,1.8nm,0.5s,baz=278,slow=8.2,SNR=5.1								
	comp=Z,1.8nm,0.5s								
BDFB	**Brasilia**	**32.15**	**106**	P		**P**	**03 46 20.4**	**-0.8**	
BDFB				IAmb		IAmb	03 46 31.8		
	comp=Z,13nm,1.5s								
IPMB	**Ipameri, GO**	**32.42**	**110**	*e*P		**P**	**03 46 22.2**	**-1.4**	
ITAB	**Concordia**	**32.45**	**129**	P		**P**	**03 46 21.8**	**-1.9**	
PLCA	**Paso Flores**	**33.39**	**167**	P		**P**	**03 46 31.8**	**0.0**	
	comp=Z,1.1nm,0.8s,baz=331,slow=15,SNR=3.1								
	comp=Z,1.1nm,0.8s								
RPN	**Rapa Nui**	**33.45**	**232**	LR		LR	03 56 20.5		
	comp=Z,141nm,18.1s,baz=60,slow=30								
TRQA	**Tornquist**	**33.83**	**154**	P		**P**	**03 46 34.9**	**-0.6**	
TRQA				IAmb		IAmb	03 47 00.8		
	comp=Z,11nm,1.2s								
SDBA	**SAO DESIDERIO**	**34.80**	**100**	*e*P		**P**	**03 46 33.6**	**-0.8**	
JANB	**Januaria**	**35.61**	**104**	*e*P		**P**	**03 46 49.9**	**-1.4**	
TKL	**Tuckaleechee C**	**43.86**	**356**	LR		LR	04 04 32.9		
	comp=Z,75nm,22.0s,baz=344,slow=34								
RCBR	**Riachuelo**	**43.88**	**90**	LR		LR	04 07 19.4		
	comp=Z,228nm,18.6s,baz=53,slow=37								
MIAR	**Mount Ida**	**44.49**	**344**	P		**P**	**03 48 05.7**	**+1.1**	
MIAR				IAmb		IAmb	03 48 30.9		
	comp=Z,5.2nm,1.1s								
WHAR	**Wooly Hollow**	**44.87**	**346**	P		**P**	**03 48 08.2**	**+0.7**	
X37A	**Clayton**	**45.05**	**342**	P		**P**	**03 48 09.2**	**+0.2**	
X37A				IAmb		IAmb	03 48 26.3		
	comp=Z,9.2nm,1.1s								
LCAR	**Lake Charles**	**45.35**	**347**	P		**P**	**03 48 12.1**	**+0.7**	
LCAR				IAmb		IAmb	03 48 19.0		
	comp=Z,5.1nm,0.9s								
CCM	**Cathedral Cave**	**47.28**	**348**	P		**P**	**03 48 27.5**	**+1.0**	
S39A	**Bolivar**	**47.40**	**346**	P		**P**	**03 48 28.3**	**+0.8**	
R40A	**Maddies Statio**	**47.73**	**347**	P		**P**	**03 48 30.0**	**+0.1**	
PDAR	**Pinedale Array**	**57.50**	**335**	P		**P**	**03 49 41.8**	**-0.7**	
	comp=Z,0.1nm,0.3s,baz=168,slow=4.6,SNR=2.0								
	comp=Z,0.1nm,0.3s								
HLID	**Hailey**	**60.30**	**332**	P		**P**	**03 50 03.4**	**+1.5**	
HLID				IAmb		IAmb	03 50 43.2		
	comp=Z,6.7nm,1.5s								
BBTS	**Babate**	**66.99**	**70**	LR		LR	04 18 09.6		
	comp=Z,55nm,21.9s,baz=264,slow=34								
BELA	**Belgrano 2**	**73.32**	**171**	P		**P**	**03 51 24.1**	**0.0**	
SNAA	**Sanae**	**78.15**	**162**	P		**P**	**03 51 52.0**	**+0.1**	
SNAA				IAmb		IAmb	03 51 56.3		
	comp=Z,9.2nm,1.5s								
QSPA	**South Pole Qui**	**81.81**	**180**	P		**P**	**03 52 12.3**	**+0.6**	
	comp=Z,1.0nm,0.2s,baz=192,slow=1.8,SNR=6.7								
	comp=Z,1.0nm,0.2s								
M30M	**Minto, Yukon**	**82.86**	**337**	P		**P**	**03 52 17.3**	**+0.1**	
M30M				IAmb		IAmb	03 52 50.1		
	comp=Z,3.8nm,1.3s								
ESDC	**Sonseca Array**	**84.70**	**49**	P		**P**	**03 52 27.5**	**+0.4**	
	comp=Z,0.9nm,0.8s,baz=252,slow=4.8,SNR=6.3								
	comp=Z,0.9nm,0.8s								
ESDC	**Sonseca Array**	**84.70**	**49**	P		**P**	**03 52 27.2**	**+0.1**	
ESDC				IAmb		IAmb	03 53 06.2		
	comp=Z,3.9nm,1.5s								
ILAR	**Eielson Array**	**87.86**	**337**	P		**P**	**03 52 41.9**	**-0.1**	
	comp=Z,0.8nm,0.8s,baz=151,slow=4.4,SNR=8.8								
	comp=Z,0.8nm,0.8s								
ASAR	**Alice Springs**	**134.06**	**225**	PKP		**PKPdf**	**03 59 11.2**	**+0.1**	
	comp=Z,0.3nm,0.7s,baz=106,slow=3.0,SNR=4.2								
WRA	**Warramunga Arr**	**136.02**	**230**	PKP		**PKPdf**	**03 59 14.8**	**-0.1**	
	comp=Z,0.3nm,0.5s,baz=122,slow=2.0,SNR=10								

MDD ***28*** *03:43:01.5*±*1.2, 32°.56N*×*5°.92W, h0km, Mb3.8/5, M_mb3.1/5, Error ellipse: s-maj=10.0km s-min=8.3km az=143.0*

CNRM ***28*** *03:43:02.8, 32°.33N*×*5°.98W, h59km, ml2.9*

INMG ***28*** *03:43:02.9*±*1.1, 32°.66N*×*5°.91W, h0km, ML2.3, Error ellipse: s-maj=5.1km s-min=3.0km az=27.0*

ISC 28 03:43:02.7±1.4,**32°.52N**±0°.06×**6°.00W**±0°.04,**h32**km±14km, **n29**,σ1§**68/55**,**5C**,**Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MD31	**MD31**	**1.10**	**71**	P	**Pn**	03 43 21.5	-0.5
MD31				S	**Sn**	03 43 38.9	+2.6
AVE	**Averroes**	**1.42**	**304**	P	**Pb**	03 43 28.2	-0.4
AVE				S	**Sb**	03 43 47.0	+0.6
LCRM	**LCR**	**1.51**	**39**	P	**Pb**	03 43 29.4	-0.8
LCRM				S	**Sn**	03 43 47.9	+1.5
SRHM	**Skhour des Reh**	**1.60**	**269**	P	**Pb**	03 43 31.4	-0.4
SRHM				S	**Sb**	03 43 52.1	+0.4
OUK	**Oukaimeden**	**2.06**	**231**	P	**Pn**	03 43 34.5	-0.9
OUK				S	**Sn**	03 43 58.6	-1.5
JBK	**JBK**	**3.40**	**57**	P	**Pn**	03 43 53.9	+0.2
JBK				S	**Sn**	03 44 31.1	-1.9
TAF	**Taforalt**	**3.77**	**52**	P	**Pn**	03 43 59.7	+1.1
TAF				S	**Sn**	03 44 45.0	+3.0
PVAQ	**Vaqueiros**	**5.08**	**344**	*e*Pn	**Pn**	**03 44 17.5**	**+0.9**

PVAQ				*e*Sn		**Sn**	**03 45 13.1**	**-1.0**	
PVAQ				A		A	03 45 14.1		
	3.0nm,1.0s								
PVAQ	**Vaqueiros**	**5.08**	**344**	P		**Pn**	**03 44 17.4**	**+0.9**	
PVAQ				S		**Sn**	**03 45 20.3**	**+6.3**	
EGRO	**El Granado**	**5.15**	**347**	P		**Pn**	**03 44 18.2**	**+0.6**	
EGRO				⇑*i*Vmb_V			03 44 22.7		
	80nm,SNR=0.9								
EGRO				S		**Sn**	**03 45 14.2**	**-1.7**	
PFVI	**Vila Bisbo**	**5.16**	**334**	*e*Pn		**Pn**	**03 44 18.9**	**+1.2**	
PFVI				*e*Sn		**Sn**	**03 45 15.9**	**-0.2**	
PFVI				A		A	03 45 23.8		
	6.1nm,0.6s								
MORF	**Marmelete**	**5.25**	**336**	*e*P		**Pn**	**03 44 20.2**	**+1.2**	
MORF	**Marmelete**	**5.25**	**336**	*e*Pn		**Pn**	**03 44 20.2**	**+1.2**	
MORF				*e*Sn		**Sn**	**03 45 18.8**	**+0.4**	
MORF				A		A	03 45 32.8		
	3.5nm,0.6s								
PCVE	**Castro Verde**	**5.37**	**342**	*e*Pn		**Pn**	**03 44 22.1**	**+1.5**	
PCVE				*e*Sn		**Sn**	**03 45 21.4**	**+0.1**	
PCVE				A		A	03 45 22.3		
	1.8nm,0.9s								
PTEO	**Sao Teotonio**	**5.49**	**337**	*e*Sn		**Sn**	**03 45 23.8**	**-0.5**	
ECAB	**El Cabril**	**5.57**	**5**	P		**Pn**	**03 44 24.1**	**+0.7**	
ECAB				⇑*i*Vmb_V			03 44 26.4		
	64nm,SNR=1.1								
ECAB				S		**Sn**	**03 45 24.1**	**-2.1**	
MESJ	**Messejana**	**5.61**	**342**	*e*P		**Pn**	**03 44 25.0**	**+1.0**	
MESJ	**Messejana**	**5.61**	**342**	*e*Pn		**Pn**	**03 44 25.3**	**+1.3**	
MESJ				*e*Sn		**Sn**	**03 45 27.3**	**0.0**	
MESJ				A		A	03 45 36.4		
	2.4nm,0.7s								
PBAR	**Barrancos**	**5.71**	**352**	*e*Pn		**Pn**	**03 44 26.0**	**+0.7**	
PBAR				*e*Sn		**Sn**	**03 45 28.5**	**-1.2**	
PBAR				A		A	03 45 37.7		
	1.5nm,0.8s								
EADA	**Adamuz**	**5.76**	**11**	P		**Pn**	**03 44 26.4**	**+0.4**	
EADA				⇑*i*Vmb_V			03 44 29.0		
	38nm,SNR=0.7								
EADA				S		**Sn**	**03 45 29.6**	**-1.3**	
PNCL	**Nicolau / Gran**	**5.95**	**340**	*e*Pn		**Pn**	**03 44 29.7**	**+1.1**	
PNCL				*e*Sn		**Sn**	**03 45 34.0**	**-1.7**	
PNCL				A		A	03 45 40.9		
	1.8nm,0.6s								
EVO	**Evora**	**6.22**	**345**	*e*Pn		**Pn**	**03 44 33.8**	**+1.5**	
EVO				*e*Sn		**Sn**	**03 45 41.9**	**-0.4**	
EBAD	**Badajoz**	**6.28**	**353**	P		**Pn**	**03 44 34.6**	**+1.5**	
EBAD				⇑*i*

COEB				*e*S	**Sn**	04 11 33.2	-1.3
COEB				IAML		04 11 34.8	
	comp=Z,100nm,0.4s						
STG3	**Santiaguito 3,**	**1.90**	**321**	*e*P	**Pn**	**04 11 14.7**	**+1.3**
STG3				*e*S	Sn	04 11 33.9	-3.5

IDC ***28*** *04:12:56.5±0.7,56°.82S×141°.10W,h0km,mb4.4/9, mbtmp4.4/9,MS4.6/32,Error ellipse: s-maj=27.1km s-min=17.3km az=3.0*

NEIC ***28*** *04:12:57.5±1.4,56°.8S±0°.2×141°.1W±0°.2,h10km±1km, mb5.1/41,Mwb5.4/16,Error ellipse: s-maj=25.7km s-min=19.3km az=355.0*

NEIC ***28*** *04:12:58.1,56°.61S×140°.99W,h10km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.05; $M_{\theta\theta}$=1.27; $M_{\phi\phi}$=-1.21; $M_{r\theta}$=-0.34; $M_{\theta\phi}$=0.84; $M_{r\phi}$=-0.29; Fault plane solution: $M_0$1.56000×10^{17} NP1:ϕ_s207.50000°, δ85.49000°,λ164.84000°. NP2:ϕ_s298.72000°,δ74.89000°, λ4.68000°. Principal axes: T 1.6260, Plg14.0000°, Azm162.0000°; N -0.1325, Plg74.0000°, Azm11.0000°; P -1.4934, Plg7.0000°, Azm254.0000°;*

GCMT ***28*** *04:13:01.5±0.1,57°.15S±0°.01×140°.91W±0°.01,h18km, MW5.5/132,Moment Tensor Solution. s111,c176; s132,c227; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.04±.03; $M_{\theta\theta}$1.23±.03; $M_{\phi\phi}$-1.19±.03; $M_{r\theta}$0.03±.07; $M_{\theta\phi}$1.54±.03; $M_{\phi r}$-0.34±.06; Best double couple: $M_0$1.98800×10^{17} NP1:ϕ_s19.00000°,δ86.00000°, λ-171.00000°. NP2:ϕ_s289.00000°,δ81.00000°, λ-4.00000°. Principal axes: T 1.9860, Plg4.0000°, Azm154.0000°; N 0.0010, Plg80.0000°, Azm43.0000°; P -1.9890, Plg9.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 04:12:57.8±0.4,56.77S±0.07×140.95W±0.07,h10km, n137,σ1$6/92,mb5.1/28,MS4.7/37,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.48**	**201**	P	**P**	**04 18 44.5**	**+1.0**
VNDA	**Vanda**	**28.40**	**203**	P	**P**	**04 18 54.8**	**+3.0**
	0.5nm,0.8s,baz=66,slow=10.0,SNR=1.8						
VNDA				LR	LR	04 27 16.8	
	comp=Z,759nm,19.2s,baz=80,slow=30						
VNDA	**Vanda**	**28.40**	**203**	P	**P**	**04 18 52.7**	**+0.9**
SNZO	**South Karori**	**32.26**	**279**	P	**P**	**04 19 24.0**	**-2.2**
RPZ	**Rata Peaks**	**32.64**	**273**	LR	LR	04 29 21.4	
	comp=Z,2μm,21.9s,baz=128,slow=30						
QSPA	**South Pole Qui**	**33.39**	**180**	P	**P**	**04 19 36.2**	**+0.2**
	9.4nm,0.8s,baz=106,slow=2.9,SNR=20						
QSPA				LR	LR	04 30 29.7	
	comp=Z,3μm,21.3s,baz=70,slow=32 9.4nm,0.8s						
QSPA	**South Pole Qui**	**33.39**	**180**	P	**P**	**04 19 35.3**	**-0.7**
SMAI	**San Martin Ant**	**33.76**	**140**	P	**P**	**04 19 38.8**	**-0.2**
SMAI				IAmb	IAmb	04 19 42.7	
	comp=Z,39nm,1.4s						
TBI	**Tubuai**	**33.96**	**346**	*e*S	**S**	**04 25 05.0**	**-0.9**
	comp=Z,3μm,30.5s						
TBI				*e*LR	LR	04 28 37.5	
	comp=Z,66μm,25.5s						
TBI				*e*LR	LR	04 28 37.7	
	comp=Z,17μm,26.5s						
TBI	**Tubuai**	**33.96**	**346**	*e*T	T	04 55 03.0	
	comp=Z,75nm,0.3s						
PMSA	**Palmer Station**	**36.13**	**135**	LR	LR	04 30 41.3	
	comp=Z,1μm,20.2s,baz=291,slow=30						
RPN	**Rapa Nui**	**37.21**	**51**	LR	LR	04 32 12.3	
	comp=Z,708nm,18.7s,baz=209,slow=31						
RAO	**Raoul Island**	**37.79**	**301**	LR	LR	04 31 54.1	
	comp=Z,449nm,21.3s,baz=144,slow=30						
RAR	**Rarotonga**	**38.13**	**331**	LR	LR	04 31 42.7	
	comp=Z,1μm,19.9s,baz=170,slow=30						
BELA	**Belgrano 2**	**38.45**	**161**	P	**P**	**04 20 18.4**	**-0.6**
BELA				IAmb	IAmb	04 20 20.4	
	comp=Z,62nm,1.3s						
MEH	**Mehetia**	**39.20**	**349**	*e*T	T	05 02 01.4	
	comp=Z,30nm,0.3s						
PPT2	**Papeete2**	**39.65**	**347**	*e*P	**P**	**04 20 30.3**	**+0.6**
	comp=Z,112nm,24.5s						
PPT2				*e*S	**S**	**04 26 32.6**	**-0.2**
	comp=Z,773nm,26.2s						
PPT2				*e*LR	LR	04 31 15.8	
	comp=Z,4μm,28.5s						
PPT2				*e*LR	LR	04 31 15.9	
	comp=Z,4μm,26.0s						
PPT2	**Papeete2**	**39.65**	**347**	*e*T	T	05 02 45.2	
	comp=Z,6.4nm,0.3s						
PPT	**Papeete**	**39.67**	**347**	LR	LR	04 32 39.0	
	comp=Z,1μm,18.5s,baz=199,slow=30						
VAH	**Vaihoa**	**41.76**	**350**	*e*T	T	05 05 21.7	
	comp=Z,64nm,0.3s						
COYC	**Coyhaique**	**42.81**	**105**	P	**P**	**04 20 56.2**	**+0.8**
COYC				IAmb	IAmb	04 20 57.9	
	comp=Z,44nm,1.2s						
AY01	**Puyuhuapi**	**43.27**	**104**	P	**P**	**04 20 58.8**	**-0.3**
LL02	**Futaleuf**	**44.53**	**103**	P	**P**	**04 21 09.5**	**+0.3**
LL02				IAmb	IAmb	04 21 14.0	
	comp=Z,25nm,1.3s						
LL03	**Petrohue**	**45.64**	**100**	P	**P**	**04 21 18.3**	**+0.2**
LL03				IAmb	IAmb	04 21 34.0	
	comp=Z,32nm,1.0s						
LL04	**Puerto Octay**	**45.80**	**100**	P	**P**	**04 21 19.5**	**+0.2**
LL04				IAmb	IAmb	04 21 21.5	
	comp=Z,35nm,1.4s						
PLCA	**Paso Flores**	**46.92**	**101**	P	**P**	**04 21 29.8**	**+1.4**
	comp=Z,5.3nm,1.0s,baz=221,slow=11,SNR=6.6 comp=Z,5.3nm,1.0s						
PLCA	**Paso Flores**	**46.92**	**101**	P	**P**	**04 21 28.7**	**+0.4**
PLCA				IAmb	IAmb	04 21 30.8	
	comp=Z,44nm,1.6s						
GO06	**Curarrehue**	**47.24**	**100**	P	**P**	**04 21 31.0**	**+0.1**
GO06				IAmb	IAmb	04 21 45.8	
	comp=Z,31nm,1.5s						
H03S2	**Juan Fernandez**	**47.34**	**88**	T	T	05 12 18.2	
	baz=219,slow=74,SNR=457						
H03S1	**Juan Fernandez**	**47.35**	**88**	T	T	05 12 19.5	
	baz=219,slow=74,SNR=426						
H03S3	**Juan Fernandez**	**47.36**	**88**	T	T	05 12 18.7	
	baz=219,slow=74,SNR=354						
H03N3	**Juan Fernandez**	**47.63**	**88**	T	T	05 12 36.8	
	baz=222,slow=72,SNR=474						
H03N2	**Juan Fernandez**	**47.63**	**88**	T	T	05 12 35.8	
	baz=222,slow=72,SNR=1324						
H03N1	**Juan Fernandez**	**47.65**	**88**	T	T	05 12 41.7	
	baz=222,slow=72,SNR=559						
VNA3	**Neumayer Olymp**	**47.75**	**161**	P	**P**	**04 21 34.0**	**-0.3**
TAOE	**Nuku Hiva Isla**	**47.80**	**1**	*e*S	**S**	**04 28 31.1**	**-0.8**
	comp=Z,649nm,25.2s						
TAOE				*e*SS	**SS**	**04 32 00.8**	**+0.4**
	comp=Z,499nm,29.1s						
TAOE				*e*LR	LR	04 35 01.9	
	comp=Z,3μm,28.1s						
VNA2	**Neumayer--Watz**	**48.42**	**161**	P	**P**	**04 21 39.3**	**-0.2**
	baz=209,slow=8.0						
VNA1	**Neumayer--Stat**	**48.50**	**161**	P	**P**	**04 21 41.6**	**+1.6**
SNAA	**Sanae**	**48.53**	**164**	P	**P**	**04 21 39.2**	**-1.2**
SNAA	**Sanae**	**48.53**	**164**	P	**P**	**04 21 39.2**	**-1.2**
	comp=Z,4.6nm,0.6s,baz=227,slow=8.3,SNR=17 comp=Z,4.6nm,0.6s						
SNAA	**Sanae**	**48.53**	**164**	P	**P**	**04 21 38.6**	**-1.7**
AFI	**Afiamalu**	**48.81**	**319**	LR	LR	04 36 24.0	
	comp=Z,537nm,20.7s,baz=158,slow=29						
TROLL	**Troll, Antarti**	**49.01**	**166**	P	**P**	**04 21 43.6**	**-0.5**
MSVF	**Nonsavu**	**49.55**	**305**	LR	LR	04 38 04.7	
	comp=Z,399nm,21.2s,baz=150,slow=30						
ML02	**Panimavida**	**50.04**	**96**	P	**P**	**04 21 51.5**	**-0.8**
DZM	**Mont Dzumac**	**51.53**	**290**	*e*S	**S**	**04 29 23.9**	**-0.3**
	comp=Z,93nm,21.6s						
DZM				*e*SS	**SS**	**04 33 01.8**	**+1.8**
	comp=Z,282nm,24.6s						
DZM				*e*LR	LR	04 36 48.8	
	comp=Z,2μm,24.9s						
DZM	**Mont Dzumac**	**51.53**	**290**	LR	LR	04 39 08.9	
	comp=Z,582nm,21.5s,baz=136,slow=30						
MT01	**Popeta**	**51.54**	**95**	P	**P**	**04 22 03.9**	**+0.2**
LMEL	**Las Melosas**	**52.13**	**96**	P	**P**	**04 22 08.4**	**+0.2**
LMEL				IAmb	IAmb	04 22 15.5	
	comp=Z,26nm,1.1s						
TRQA	**Tornquist**	**53.45**	**105**	P	**P**	**04 22 17.9**	**+0.2**
MAW	**Mawson**	**54.69**	**191**	P	**P**	**04 22 26.8**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=167,slow=12,SNR=6.5						
MAW				LR	LR	04 42 51.6	
	comp=Z,888nm,20.4s,baz=158,slow=33 comp=Z,3.8nm,0.8s						
MAW	**Mawson**	**54.69**	**191**	P	**P**	**04 22 25.0**	**-1.3**
ZON	**Zonda**	**54.71**	**95**	P	**P**	**04 22 26.6**	**-0.4**
CFA	**Coronel Fontan**	**54.91**	**95**	LR	LR	04 41 08.2	
	comp=Z,363nm,18.3s,baz=228,slow=31						
AC05	**El Transito**	**55.92**	**92**	P	**P**	**04 22 36.6**	**+0.7**
AC05				IAmb	IAmb	04 22 38.0	
	comp=Z,31nm,1.1s						
STKA	**Stephens Creek**	**57.28**	**261**	P	**P**	**04 22 45.6**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=131,slow=11,SNR=8.2 comp=Z,1.4nm,0.4s						
AC02	**Maricunga**	**58.11**	**91**	P	**P**	**04 22 52.2**	**+0.3**
AC02				IAmb	IAmb	04 22 58.6	
	comp=Z,22nm,1.2s						
MNMC	**Minye Minye**	**64.00**	**85**	P	**P**	**04 23 31.6**	**0.0**
CTA	**Charters Tower**	**64.02**	**273**	LR	LR	04 47 09.5	
	comp=Z,274nm,19.2s,baz=130,slow=32						
PB16	**IPOC Station P**	**64.69**	**85**	P	**P**	**04 23 36.6**	**0.0**
PB16				IAmb	IAmb	04 23 44.1	
	comp=Z,18nm,1.3s						
CPUP	**Villa Florida**	**64.97**	**100**	P	**P**	**04 23 36.8**	**-0.8**
	comp=Z,4.3nm,0.9s,baz=225,slow=8.6,SNR=5.3						
CPUP				LR	LR	04 47 23.1	
	comp=Z,552nm,18.8s,baz=224,slow=32 comp=Z,4.3nm,0.9s						
CPUP	**Villa Florida**	**64.97**	**100**	P	**P**	**04 23 36.7**	**-0.8**
CPUP				IAmb	IAmb	04 23 41.5	
	comp=Z,22nm,1.4s						
NNA	**Nana**	**65.95**	**75**	LR	LR	04 45 37.7	
	comp=Z,467nm,21.5s,baz=238,slow=30						
LPAZ	**La Paz**	**67.12**	**85**	P	**P**	**04 23 53.3**	**+1.1**
	comp=Z,30nm,1.4s,baz=196,slow=3.8,SNR=17						
LPAZ				LR	LR	04 45 53.1	
	comp=Z,311nm,21.3s,baz=199,slow=29 comp=Z,30nm,1.4s						
LPAZ	**La Paz**	**67.12**	**85**	P	**P**	**04 23 52.3**	**+0.1**
LPAZ				IAmb	IAmb	04 23 59.7	
	comp=Z,37nm,1.5s						
ASAR	**Alice Springs**	**67.92**	**260**	P	**P**	**04 23 55.9**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=134,slow=6.5,SNR=21						
ASAR				LR	LR	04 50 11.0	
	comp=Z,262nm,19.9s,baz=155,slow=33 comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**67.92**	**260**	P	**P**	**04 23 55.5**	**-1.0**
H01W1	**Cape Leeuwin H**	**68.96**	**238**	T	T	05 40 03.3	
	baz=145,slow=76,SNR=191						
H01W2	**Cape Leeuwin H**	**68.96**	**238**	T	T	05 39 55.0	
	baz=145,slow=76,SNR=165						
H01W3	**Cape Leeuwin H**	**68.97**	**238**	T	T	05 40 04.2	
	baz=145,slow=76,SNR=138						
NWAO	**Narrogin (SRO)**	**69.10**	**242**	LR	LR	04 46 54.5	
	comp=Z,448nm,18.8s,baz=328,slow=30						
ATAH	**Atahualpa**	**69.22**	**70**	LR	LR	04 47 54.5	
	comp=Z,215nm,18.9s,baz=291,slow=30						
WB2	**Warramunga Arr**	**70.67**	**263**	P	**P**	**04 24 12.5**	**-1.1**
WRA	**Warramunga Arr**	**70.68**	**263**	P	**P**	**04 24 13.0**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=144,slow=5.6,SNR=15						
WRA				LR	LR	04 51 12.2	
	comp=Z,461nm,20.4s,baz=131,slow=32 comp=Z,1.8nm,0.9s						
WRA	**Warramunga Arr**	**70.68**	**263**	P	**P**	**04 24 11.3**	**-2.4**
MCRA	**Macar, Loja**	**70.77**	**67**	P	**P**	**04 24 13.6**	**-0.6**
MCRA				IAmb	IAmb	04 24 18.9	
	comp=Z,7.7nm,0.7s						
WB0	**Warramunga Arr**	**70.80**	**263**	P	**P**	**04 24 13.8**	**-0.6**
CZSB	**Cruzeiro do Su**	**71.71**	**76**	P	**P**	**04 24 20.2**	**+0.3**
CZSB				IAmb	IAmb	04 24 25.2	
	comp=Z,24nm,0.9s						
BOSC	**San Juan Bosco**	**72.55**	**68**	P	**P**	**04 24 24.8**	**-0.3**
BOSC				IAmb	IAmb	04 24 30.1	
	comp=Z,16nm,0.8s						
PTLB	**Pontes e Lacer**	**72.75**	**92**	P	**P**	**04 24 24.6**	**-1.5**
PTLB				IAmb	IAmb	04 24 59.9	
	comp=Z,3.8nm,1.0s						
COHC	**Cochancay**	**72.75**	**67**	P	**P**	**04 24 24.3**	**-1.8**
ETMB	**Extrema**	**73.49**	**83**	P	**P**	**04 24 29.6**	**-0.9**
ETMB				IAmb	IAmb	04 24 34.4	
	comp=Z,5.6nm,1.0s						
CHSH	**Refugio Sur-Vo**	**73.78**	**67**	P	**P**	**04 24 32.8**	**-0.1**
CHSH				IAmb	IAmb	04 24 44.0	
	comp=Z,11nm,0.8s						
VILB	**Vilhena**	**74.21**	**90**	P	**P**	**04 24 33.5**	**-1.3**
VILB				IAmb	IAmb	04 24 52.8	
	comp=Z,18nm,0.9s						
TBTG	**Tabatinga, AM**	**76.18**	**76**	P	**P**	**04 24 44.9**	**-1.2**
TBTG				IAmb	IAmb	04 27 12.8	
	comp=Z,42nm,0.2s						
MACA	**Manacapuru-AM**	**82.03**	**84**	P	**P**	**04 25 17.9**	**-0.2**
MACA				IAmb	IAmb	04 25 21.9	
	comp=Z,17nm,0.9s						
BATI	**Baumata**	**84.48**	**260**	LR	LR	04 59 16.5	
	comp=Z,686nm,21.8s,baz=164,slow=33						
BOAV	**Boa Vista**	**86.74**	**81**	P	**P**	**04 25 41.9**	**-0.1**
BOAV				IAmb	IAmb	04 26 01.6	
	comp=Z,14nm,1.2s						
SIJI	**Sorong**	**88.06**	**271**	LR	LR	05 01 44.0	
	comp=Z,341nm,22.0s,baz=101,slow=33						
SUR	**Sutherland**	**89.86**	**165**	LR	LR	05 03 52.1	
	comp=Z,343nm,18.3s,baz=180,slow=34						
KAPI	**Kappang**	**90.92**	**260**	LR	LR	05 03 01.5	
	comp=Z,572nm,21.9s,baz=158,slow=33						
PFO	**Pinyon Flats O**	**92.40**	**20**	LR	LR	04 58 34.7	
	comp=Z,468nm,19.1s,baz=188,slow=30						
BOSA	**Boshof**	**94.15**	**168**	LR	LR	05 04 38.8	
	comp=Z,393nm,20.6s,baz=188,slow=33						
LEM	**Lembang**	**95.81**	**248**	LR	LR	05 04 52.0	
	comp=Z,106nm,19.4s,baz=176,slow=33						
NVAR	**Mina Array Bea**	**96.75**	**18**	LR	LR	05 01 31.4	
	comp=Z,445nm,20.2s,baz=183,slow=30						
LBTB	**Lobatse**	**97.75**	**168**	LR	LR	05 06 03.0	
	comp=Z,296nm,21.5s,baz=180,slow=33						
YBH	**Yreka Blue Hor**	**99.33**	**14**	LR	LR	05 01 21.3	
	comp=Z,603nm,19.9s,baz=171,slow=29						
ELK	**Elko**	**99.55**	**20**	LR	LR	05 02 34.0	
	comp=Z,263nm,20.1s,baz=176,slow=30						
OK052	**Battle Ridge R**	**99.67**	**35**		**Pdif**	**04 26 40.2**	**-0.8**
H10S3	**ASCENSION HYDR**	**101.12**	**126**	T	T	06 20 00.6	
	baz=13,slow=74,SNR=41						
H10S2	**ASCENSION HYDR**	**101.12**	**126**	T	T	06 19 53.3	
	baz=207,slow=74,SNR=15						
H10N3	**ASCENSION HYDR**	**102.18**	**125**	T	T	06 21 11.0	
	baz=207,slow=74,SNR=57						
H10N1	**ASCENSION HYDR**	**102.19**	**125**	T	T	06 21 10.7	
	baz=207,slow=74,SNR=50						
H10N2	**ASCENSION HYDR**	**102.20**	**125**	T	T	06 21 11.3	
	baz=207,slow=74,SNR=50						
ILAR	**Eielson Array**	**121.30**	**357**	PKP	**PKiKP**	**04 31 49.9**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=222,slow=1.2,SNR=10.0						
NJ2	**Nanjing**	**121.57**	**281**	*e*P	**PKiKP**	**04 31 51.5**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
PZH	**PanZhiHua**	**126.64**	**263**	PKP	**PKiKP**	**04 32 01.5**	**0.0**
CN2	**Changchun**	**126.93**	**295**	PKP	**PKiKP**	**04 32 01.5**	**+0.1**
CN2				PP	**PP**	**04 34 04.0**	**+4.4**
CN2	**Changchun**	**126.93**	**295**	SS	SS	04 51 02.0	-4.7
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,100nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
HHC	**Hu-ho-hao-te**	**132.02**	**283**	*e*P	**PKPdf**	**04 32 08.8**	**-2.0**
PTEO	**Sao Teotonio**	**143.20**	**101**	*e*PKP	**PKiKP**	**04 32 37.5**	**+2.9**
PVAQ	**Vaqueiros**	**143.63**	**102**	*e*LQ	LQ	05 08 33.6	
PVAQ				*e*LR	LR	05 14 09.4	
	comp=Z,319nm,22.0s						
MESJ	**Messejana**	**143.68**	**101**	*e*PKP	**PKiKP**	**04 32 41.7**	**+6.1**
PNCL	**Nicolau / Gran**	**143.71**	**100**	*e*PKP	PKiKP	04 32 51.5	+16
EVO	**Evora**	**144.30**	**100**	*e*PKP		04 33 48.4	
PBAR	**Barrancos**	**144.56**	**102**	*e*PKP	**PKiKP**	**04 32 43.4**	**+6.0**
COI	**Coimbra**	**145.27**	**98**	*e*PKP	**PKPdf**	**04 32 36.6**	**+1.8**
PMRV	**Marv??o**	**145.28**	**100**	*e*PKP	**PKiKP**	**04 32 41.8**	**+3.0**
PMRV	**Marv??o**	**145.28**	**100**	*e*LR	LR	05 13 57.0	
	comp=Z,538nm,20.0s						
PCBR	**Castelo Branco**	**145.52**	**99**	*e*PKP	**PKiKP**	**04 32 39.7**	**+0.4**
UOSS	**Minazif**	**145.87**	**209**		**PKPdf**	**04 32 35.4**	**-1.0**
MTE	**Manteigas**	**145.88**	**98**	*e*PKP	**PKiKP**	**04 32 44.4**	**+4.3**
MTE	**Manteigas**	**145.88**	**98**	*e*LQ	LQ	05 07 35.0	
MTE				*e*LR	LR	05 13 31.4	
	comp=Z,706nm,20.0s						
PVRL	**Vila Real**	**146.40**	**97**	*e*PKP	**PKiKP**	**04 32 42.3**	**+1.2**
POLO	**Lamas de Olo**	**146.42**	**97**	*e*PKP	**PKiKP**	**04 32 42.8**	**+1.6**
PGAV	**Gavieira, Arco**	**146.56**	**96**	*e*LR	LR	05 12 55.7	
	comp=Z,682nm,20.0s						
MVO	**Moncorvo**	**146.69**	**98**	*e*PKP	**PKiKP**	**04 32 43.5**	**+1.7**
MVO	**Moncorvo**	**146.69**	**98**	*e*LR	LR	05 13 29.4	
	comp=Z,560nm,20.0s						
WMQ	**Urumqi**	**147.06**	**268**	*e*P	**PKPbc**	**04 32 39.0**	**-1.0**
WMQ				LR	LR		
	comp=N,390nm,19.1s						
WMQ				LR	LR		
	comp=E,260nm,16.7s						
WMQ				LR	LR		
	comp=Z,330nm,21.3s						
ESDC	**Sonseca Array**	**147.30**	**103**	PKPbc	**PKPab**	**04 32 41.8**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=234,slow=3.8,SNR=7.9						
ESDC	**Sonseca Array**	**147.30**	**103**		**PKPbc**	**04 32 40.7**	**-0.1**
KBL	**Kabul**	**149.86**	**235**	PKPbc	**PKPbc**	**04 32 45.6**	**-2.2**
KSH	**Kashi**	**150.40**	**250**	PKPbc	**PKPbc**	**04 32 47.0**	**-1.8**
MKAR	**Makanchi Array**	**151.90**	**268**	PKPbc	**PKPbc**	**04 32 51.7**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=36,slow=2.3,SNR=7.0						
MKAR	**Makanchi Array**	**151.90**	**268**	PKPbc	**PKPbc**	**04 32 50.2**	**-1.7**
ZALV	**Zalesovo Beam**	**154.20**	**283**	PKPbc	**PKiKP**	**04 32 57.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=135,slow=0.8,SNR=1.1						
ZALV				PKPab	**PKPab**	**04 33 10.3**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=92,slow=4.5,SNR=4.3						
CLL	**Collm**	**163.81**	**99**	*e*(PKPdf)	**PKPdf**	**04 33 03.0**	**+3.2**
	comp=Z,4.0nm,1.0s						
CLL				*ex*	x	04 33 25.0	
CLL				*e*PKPab	**PKPab**	**04 33 53.0**	**+0.5**
	comp=Z,13nm,1.5s						
CLL				*e*PPS	PPS	04 51 18.0	
CLL				*ex*	x	04 52 42.0	
CLL				*e*SS	SS	04 58 12.0	+4.8
CLL				*e*SSS	SSS	05 04 24.0	
CLL				LmV		05 55 00.0	
	comp=Z,300nm,19.6s						

MAN 28 04:22:15.7,8°.23N×126°.94E,h14km,mb4.0,ML2.8,MS2.4, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.58**	**266**	*e*P	Pg	04 22 24.1	-2.8
BIPH				*i* S	Sb	04 22 35.1	-0.5
BUKP	**Musuan**	**1.89**	**260**	*e*P	Pn	04 22 47.0	-0.6
CGP	**Cagayan de Oro**	**2.23**	**276**	*e*P	Pn	04 22 52.9	+0.6
CGP				*e*S	Sn	04 23 20.3	+0.6

IDC ***28*** *04:25:27.0±1.0,6°.87S×155°.50E,h0km,mb4.2/7, mbtmp4.2/7,MS4.5/3,Error ellipse: s-maj=36.5km s-min=23.8km az=139.0*

NEIC ***28*** *04:25:33.3±2.0,6°.8S±0°.1×155°.4E±0°.1,h40km±9km, mb4.2/13,Error ellipse: s-maj=20.1km s-min=16.3km az=128.0*

ISC 28 04:25:32.5±0.8,6°.8S±0°.1×155°.4E±0°.1,h35km,n36, σ0$75/31,mb4.2/14,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.14**	**309**	Pn	**Pn**	**04 26 32.9**	**-0.5**
HNR	**Honiara**	**5.20**	**120**	LR	LR	04 28 55.3	
	comp=Z,2μm,18.0s,baz=276,slow=41						
PMG	**Port Moresby**	**8.53**	**252**		**Pn**	**04 27 33.9**	**+0.3**
WR0	**Warramunga Arr**	**24.06**	**235**	P	**P**	**04 30 44.8**	**0.0**
WR0				IAmb	IAmb	04 30 57.2	
	comp=Z,4.9nm,0.8s						
WB0	**Warramunga Arr**	**24.09**	**236**	P	**P**	**04 30 44.5**	**-0.5**
WB0				IAmb	IAmb	04 30 46.9	
	comp=Z,9.4nm,1.4s						
WB2	**Warramunga Arr**	**24.21**	**235**	P	**P**	**04 30 46.6**	**+0.5**
WRA	**Warramunga Arr**	**24.22**	**235**	P	**P**	**04 30 46.5**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=60,slow=9.6,SNR=38						
WRA				PcP	**PcP**	**04 34 26.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=60,slow=2.6,SNR=7.8 comp=Z,1.3nm,0.4s						
WRA	**Warramunga Arr**	**24.22**	**235**	P	**P**	**04 30 45.2**	**-1.0**
SIJI	**Sorong**	**24.77**	**283**	P	**P**	**04 30 51.3**	**0.0**
	comp=Z,8.8nm,0.4s,baz=360,slow=7.4,SNR=4.6 comp=Z,8.8nm,0.4s						
ASAR	**Alice Springs**	**26.56**	**229**	P	**P**	**04 31 07.0**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=58,slow=9.4,SNR=9.4						
ASAR				PcP	**PcP**	**04 34 31.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=67,slow=2.2,SNR=4.8 comp=Z,0.4nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**27.53**	**24**	T	T	04 59 39.0	
	baz=202,slow=75,SNR=69						
H11S2	**WAKE ISLAND Hy**	**27.54**	**24**	T	T	04 59 36.9	
	baz=202,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**27.55**	**24**	T	T	04 59 35.4	
	baz=202,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**28.72**	**23**	T	T	05 01 06.1	
	baz=205,slow=74,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**28.73**	**23**	T	T	05 01 04.2	
	baz=308,slow=74,SNR=5.9						
PEA0B	**Petropavlovsk-**	**59.75**	**2**	P	**P**	**04 35 34.8**	**+1.1**
PETK	**Petropavlovsk-**	**59.75**	**2**	P	**P**	**04 35 35.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**61.06**	**295**	P	**P**	**04 35 44.8**	**+1.3**
	comp=Z,3.8nm,0.3s,baz=123,slow=5.7,SNR=9.3

ZKR				S	Sg	04 27 26.0	+0.2	
ZKR				AML	AML	04 27 26.6		
	comp=N,1476μm,0.2s							
ZKR				AML	AML	04 27 26.7		
	comp=E,5920μm,0.2s							
FRMA	**Ierapetra Chan**	**0.55**	**198**	P	**Pg**	**04 27 20.5**	**-0.2**	
FRMA				S	**Sg**	**04 27 27.9**	**-0.1**	
	comp=E,432nm,0.2s							
FRMA	**Ierapetra Chan**	**0.55**	**198**	P	**Pg**	**04 27 20.2**	**-0.5**	
FRMA				S	**Sg**	**04 27 27.6**	**-0.4**	
FRMA				AML	AML	04 27 28.1		
	comp=N,2563μm,0.2s							
FRMA				AML	AML	04 27 29.9		
	comp=E,2572μm,0.2s							
HRKL	**Herakleio**	**0.72**	**252**	PG	**Pg**	**04 27 23.9**	**0.0**	
HRKL				SG	**Sb**	**04 27 34.9**	**+1.4**	
HRKL	**Herakleio**	**0.72**	**252**	P	**Pg**	**04 27 24.0**	**0.0**	
HRKL				S	**Sb**	**04 27 34.3**	**+0.8**	
	comp=E,2μm,0.4s							
HRKL	**Herakleio**	**0.72**	**252**	P	**Pg**	**04 27 24.1**	**+0.1**	
HRKL				AML	AML	04 27 36.1		
	comp=N,11411μm,0.3s							
HRKL				AML	AML	04 27 40.3		
	comp=E,10676μm,0.5s							
IACM	**Heraklion**	**0.75**	**252**	P	**Pg**	**04 27 24.1**	**-0.3**	
IACM				S	**Sb**	**04 27 35.2**	**+0.9**	
	comp=E,7μm,0.2s							
IACM	**Heraklion**	**0.75**	**252**	P	**Pg**	**04 27 24.3**	**-0.2**	
IDI	**Anoyia**	**0.89**	**254**	PG	**Pg**	**04 27 26.5**	**-0.7**	
IDI	**Anoyia**	**0.89**	**254**	P	**Pg**	**04 27 26.6**	**-0.7**	
IDI				S	**Sb**	**04 27 39.5**	**+0.9**	
	comp=E,1μm,0.2s							
IDI	**Anoyia**	**0.89**	**254**	P	**Pg**	**04 27 26.5**	**-0.7**	
IDI				AML	AML	04 27 40.0		
	comp=N,2007μm,0.2s							
IDI				AML	AML	04 27 40.5		
	comp=E,2215μm,0.2s							
SANT	**Santorini**	**0.92**	**335**	PG	**Pg**	**04 27 26.3**	**-1.5**	
SANT	**Santorini**	**0.92**	**335**	P	**Pg**	**04 27 27.2**	**-0.6**	
SANT				S	**Sb**	**04 27 40.7**	**+1.3**	
	comp=E,925nm,0.3s							
SANT	**Santorini**	**0.92**	**335**	P	**Pg**	**04 27 27.1**	**-0.7**	
SANT				AML	AML	04 27 40.8		
	comp=E,2742μm,0.4s							
SANT				AML	AML	04 27 42.0		
	comp=N,941μm,0.2s							
THR6	**Thira Island,**	**0.93**	**332**	P	**Pg**	**04 27 27.6**	**-0.3**	
THR6	**Thira Island,**	**0.93**	**332**	P	**Pg**	**04 27 27.9**	**0.0**	
THR8	**Santorini-Mono**	**0.95**	**337**	P	**Pb**	**04 27 27.4**	**-0.4**	
THR8	**Santorini-Mono**	**0.95**	**337**	P	**Pb**	**04 27 27.3**	**-0.4**	
THR9	**Santorini-Faro**	**0.95**	**330**	P	**Pb**	**04 27 27.7**	**-0.1**	
THR3	**Thira Island,**	**0.98**	**333**	P	**Pb**	**04 27 28.1**	**-0.2**	
THR3	**Thira Island,**	**0.98**	**333**	P	**Pb**	**04 27 28.1**	**-0.2**	
SFIR	**Foira Santorin**	**0.98**	**335**	P	**Pb**	**04 27 28.0**	**-0.4**	
SFIR				S	**Sb**	**04 27 42.3**	**+1.3**	
	comp=N,2μm,0.3s							
THT2	**Imerovigli**	**0.99**	**335**	PG	**Pb**	**04 27 27.7**	**-0.9**	
KARP	**Karpathos**	**0.99**	**89**	PG	**Pb**	**04 27 28.3**	**-0.3**	
KARP	**Karpathos**	**0.99**	**89**	P	**Pb**	**04 27 28.0**	**-0.6**	
KARP				S	**Sb**	**04 27 42.2**	**+0.7**	
	comp=N,970nm,0.2s							
KARP	**Karpathos**	**0.99**	**89**	P	**Pb**	**04 27 28.0**	**-0.6**	
KARP				AML	AML	04 27 43.7		
	comp=E,1947μm,0.1s							
KARP				AML	AML	04 27 45.6		
	comp=N,1875μm,0.3s							
THR5	**Thira Island,**	**1.00**	**332**	P	**Pb**	**04 27 29.0**	**+0.2**	
THR5	**Thira Island,**	**1.00**	**332**	P	**Pb**	**04 27 28.8**	**+0.1**	
CMBO	**Columbo, Santo**	**1.03**	**335**	P	**Pb**	**04 27 29.0**	**-0.2**	
CMBO				S	**Sg**	**04 27 43.8**	**+0.5**	
	comp=N,3μm,0.5s							
CMBO	**Columbo, Santo**	**1.03**	**335**	P	**Pb**	**04 27 28.7**	**-0.5**	
CMBO				AML	AML	04 27 44.9		
	comp=E,7369μm,0.5s							
CMBO				AML	AML	04 27 44.9		
	comp=N,6006μm,0.5s							
TMBK	**Timbaki Herakl**	**1.07**	**245**	P	**Pb**	**04 27 29.4**	**-0.4**	
TMBK				S	**Sg**	**04 27 44.5**	**+0.1**	
	comp=N,652nm,0.4s							
TMBK	**Timbaki Herakl**	**1.07**	**245**	P	**Pb**	**04 27 29.5**	**-0.4**	
TMBK				AML	AML	04 27 47.5		
	comp=E,3829μm,0.5s							
TMBK				AML	AML	04 27 47.6		
	comp=N,4183μm,0.4s							
PRNS	**Prines Rethymn**	**1.19**	**262**	P	**Pn**	**04 27 32.0**	**+0.3**	
PRNS				S	**Sn**	**04 27 48.9**	**+1.5**	
	comp=N,215nm,0.4s							
NISR	**Nisiros**	**1.44**	**41**	P	**Pn**	**04 27 35.1**	**-0.1**	
NISR				S	**Sn**	**04 27 54.6**	**+0.9**	
	comp=N,750nm,1.1s							
NIS1	**Nisyros Isl.**	**1.46**	**43**	PN	**Pn**	**04 27 34.9**	**-0.6**	
CHAN	**Chania**	**1.55**	**270**	P	**Pn**	**04 27 35.7**	**-0.9**	
APE	**Apeiranthos**	**1.57**	**348**	PN	**Pn**	**04 27 35.7**	**-1.2**	
APE	**Apeiranthos**	**1.57**	**348**	P	**Pn**	**04 27 36.3**	**-0.6**	
APE				S	**Sn**	**04 27 57.5**	**+0.6**	
	comp=N,145nm,0.3s							
APE	**Apeiranthos**	**1.57**	**348**	P	**Pn**	**04 27 35.8**	**-1.1**	
IMMV	**Iera Moni Meta**	**1.60**	**268**	P	**Pn**	**04 27 37.0**	**-0.4**	
IMMV				S	**Sn**	**04 27 57.0**	**-0.7**	
	comp=N,328nm,0.3s							
IMMV	**Iera Moni Meta**	**1.60**	**268**	P	**Pn**	**04 27 36.8**	**-0.5**	
MHLO	**Agia Marina, M**	**1.70**	**313**	P	**Pn**	**04 27 38.5**	**-0.2**	
MHLO				S	**Sn**	**04 28 00.6**	**+0.6**	
	comp=N,622nm,0.4s							
DAT	**Datca**	**1.78**	**48**	PN	**Pn**	**04 27 39.6**	**-0.4**	
BODT	**Bodrum**	**1.88**	**36**	PN	**Pn**	**04 27 40.9**	**-0.4**	
ARG	**Arkhangelos**	**1.90**	**68**	PN	**Pn**	**04 27 41.5**	**0.0**	
ARG	**Arkhangelos**	**1.90**	**68**	P	**Pn**	**04 27 40.6**	**-0.9**	
TURN	**Turunc**	**2.24**	**56**	PN	**Pn**	**04 27 46.2**	**+0.1**	
TURN	**Turunc**	**2.24**	**56**	P	**Pn**	**04 27 45.4**	**-0.7**	
TURN				*i* AML	AML	04 28 11.0		
	comp=N,30nm,1.7s							
TURN				S	**Sn**	**04 28 11.1**	**-2.2**	
TURN				*i* AML	AML	04 28 21.0		
	comp=N,29nm,1.1s							
KTHA	**Kythira Island**	**2.45**	**288**	P	**Pn**	**04 27 48.3**	**-0.7**	
YER	**Yerkesik**	**2.48**	**49**	PN	**Pn**	**04 27 49.5**	**+0.1**	
KTHR	**Kythira**	**2.49**	**288**	P	**Pn**	**04 27 49.2**	**-0.4**	
DALY	**Dalyan (Mula)**	**2.54**	**59**	PN	**Pn**	**04 27 50.5**	**+0.3**	
MULA	**Mugla, Merkez-**	**2.58**	**47**	P	**Pn**	**04 27 50.3**	**-0.5**	
VLI	**Velíai**	**2.70**	**297**	P	**Pn**	**04 27 52.0**	**-0.6**	
FETY	**Fethiye**	**2.77**	**66**	PN	**Pn**	**04 27 53.7**	**+0.2**	
CHOS	**Chios island**	**2.85**	**2**	PN	**Pn**	**04 27 54.5**	**-0.1**	
AYDB	**Zeytinkoy-Aydi**	**2.87**	**32**	PN	**Pn**	**04 27 55.0**	**0.0**	
BLCB	**Balcova**	**2.98**	**17**	PN	**Pn**	**04 27 55.8**	**-0.5**	
AKAS	**Kas**	**3.06**	**76**	P	**Pn**	**04 27 56.5**	**-1.0**	
TAVA	**DENIZLI_Tavas**	**3.07**	**50**	P	**Pn**	**04 27 58.6**	**+0.9**	
TAVA				S	**Sn**	**04 28 35.5**	**+1.3**	
TAVA				*i* AML	AML	04 28 53.0		
	comp=N,11nm,1.2s							
GOLH	**Golhisar**	**3.38**	**59**	P	**Pn**	**04 28 03.5**	**+1.6**	
AKUM	**Antalya-Kumluc**	**3.66**	**76**	P	**Pn**	**04 28 05.3**	**-0.3**	
PASA	**Karahalli, USA**	**3.99**	**44**	P	**Pn**	**04 28 10.8**	**+0.4**	

*IDC **28** 04:34:41.3±0.8, 43˚.48N×127˚.07W, h0km, mb4.1/17, mbtmp4.1/24, ML4.0/7, MS4.6/69, Error ellipse: s-maj=19.2km s-min=8.5km az=40.0*

*NEIC **28** 04:34:42, 43˚.51N×127˚.52W, h22km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^17^Nm; Mrr=0.18; Mθθ=1.48; Mφφ 1.66; Mrθ=0.71; Mrφ=-1.37; Mθφ=-0.48; Fault plane solution: M0 2.26000×10^17^ NP1: φs205.00000°, δ68.00000°, λ0.00000°. NP2: φs115.00000°, δ90.00000°, λ158.00000°. Principal axes: T 2.3697, Plg16.0000°, Azm68.0000°; N -0.2445, Plg68.0000°, Azm294.0000°; P -2.1252, Plg15.0000°, Azm162.0000°;*

*NEIC **28** 04:34:42.5, 43˚.41N×127˚.12W, h34km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.14; Mθθ=0.82; Mφφ 0.96; Mrθ=0.21; Mφφ -0.79; Mθφ=-0.61; Fault plane solution: M0 1.36000×10^17^ NP1: φs206.07000°, δ76.19000°, λ16.33000°. NP2: φs112.07000°, δ74.16000°, λ165.64000°. Principal axes: T 1.5141, Plg21.0000°, Azm69.0000°; N -0.3914, Plg69.0000°, Azm245.0000°; P -1.1227, Plg1.0000°, Azm339.0000°;*

*NEIC **28** 04:34:44.9±1.8, 43˚.37N±0˚.06×127˚.02W±0˚.10, h30km±4km, mb4.8/149, ML4.3/58, Ms_20 4.8/163, Mwr5.4/57, Mww5.5 Error ellipse: s-maj=11.9km s-min=6.9km az=48.0*

*GCMT **28** 04:34:45.9±0.1, 43˚.33N±0˚.01×127˚.25W±0˚.01, h18km, MW5.5/154, Moment Tensor Solution. s110,c169; s154,c293; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr=0.20±.03; Mθθ=1.35±.03; Mφφ 1.55±.03; Mrθ=0.24±.06; Mrφ=-1.35±.03; Mθφ=-0.10±.06; Best double couple: M0 2.00100×10^17^ NP1: φs23.00000°, δ84.00000°, λ-6.00000°. NP2: φs114.00000°, δ84.00000°, λ-174.00000°. Principal axes: T 2.0810, Plg0.0000°, Azm69.0000°; N -0.1600, Plg81.0000°, Azm159.0000°; P -1.9220, Plg9.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 04:34:43.6±0.5, 43˚.38N±0˚.06×127˚.17W±0˚.05, h14km, n535, σ1§88/363, mb4.8/93, MS4.7/148, 2C, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.13**	**103**		**Pn**	**04 35 15.2**	**-3.6**
KBO	**Bosley Butte**	**2.46**	**117**	Pn	**Pn**	**04 35 20.4**	**-2.9**
DBO	**Dodson Butte**	**2.88**	**94**	Pn	**Pn**	**04 35 26.6**	**-2.5**
DBO				IAML		04 36 09.7	
	comp=E,1μm,0.9s						
DBO				IAML		04 36 13.2	
	comp=N,974nm,2.1s						
COR	**Corvallis**	**3.04**	**65**	Pn	**Pn**	**04 35 29.3**	**-1.9**
COR				IAML		04 36 12.3	
	comp=N,686nm,1.2s						
HEBO	**Mount Hebo**	**3.06**	**52**	Pn	**Pn**	**04 35 29.5**	**-2.0**
BUCK	**Buck Mountain**	**3.13**	**74**	Pn	**Pn**	**04 35 30.7**	**-1.9**
BUCK				IAML		04 36 17.4	
	comp=E,845nm,1.0s						
BUCK				IAML		04 36 17.7	
	comp=N,704nm,0.8s						
HUMO	**Hull Mountain**	**3.18**	**103**	Pn	**Pn**	**04 35 30.6**	**-2.6**
HUMO				IAML		04 36 11.3	
	comp=E,681nm,0.6s						
KRPM	**Rodgers**	**3.22**	**133**	Pn	**Pn**	**04 35 31.8**	**-2.1**
KRPM				IAML		04 36 55.1	
	comp=N,691nm,2.7s						
KRPM				IAML		04 37 27.0	
	comp=E,957nm,3.8s						
JCC	**Jacoby Creek,**	**3.47**	**137**	Pn	**Pn**	**04 35 35.7**	**-1.4**
KHMM	**Horse Mountain**	**3.58**	**133**	Pn	**Pn**	**04 35 37.6**	**-1.2**
KHMM				IAML		04 38 00.1	
	comp=E,518nm,4.5s						
YBH	**Yreka Blue Hor**	**3.68**	**115**	Pn	**Pn**	**04 35 38.9**	**-1.3**
	comp=E,10nm,0.3s,baz=304,slow=12,SNR=265						
YBH				Sn	**Sn**	**04 36 23.1**	**-0.3**
	comp=E,4.7nm,0.3s,baz=289,slow=14,SNR=5.5						
YBH				LR	LR	04 36 24.0	
	comp=E,844nm,18.1s,baz=299,slow=28						
	comp=E,58nm,0.5s						
YBH	**Yreka Blue Hor**	**3.68**	**115**	Pn	**Pn**	**04 35 38.6**	**-1.6**
YBH				IAML		04 36 24.9	
	comp=E,628nm,2.3s						
YBH				IAML		04 36 38.4	
	comp=N,415nm,2.5s						
KMPM	**Mount Pierce**	**3.73**	**141**	Pn	**Pn**	**04 35 39.3**	**-1.6**
H04A	**Detroit Lake**	**3.82**	**68**	Pn	**Pn**	**04 35 40.2**	**-1.8**
H04A				IAML		04 36 30.5	
	comp=N,386nm,0.4s						
H04A				IAML		04 36 31.5	
	comp=E,542nm,0.7s						
RADR	**Rader Ridge**	**3.87**	**37**	Pn	**Pn**	**04 35 40.9**	**-1.8**
RADR				IAML		04 36 32.7	
	comp=N,573nm,0.9s						
RADR				IAML		04 36 38.8	
	comp=E,422nm,0.8s						
E03A	**Lebam**	**4.07**	**38**	Pn	**Pn**	**04 35 42.8**	**-2.5**
KMRM	**Mail Ridge**	**4.08**	**140**	Pn	**Pn**	**04 35 44.0**	**-1.7**
HOOD	**Mount Hood Mea**	**4.40**	**62**	Pn	**Pn**	**04 35 49.1**	**-1.1**
WISH	**Wishkah**	**4.44**	**32**	Pn	**Pn**	**04 35 48.5**	**-1.9**
WISH				IAML		04 36 53.0	
	comp=E,286nm,1.0s						
PINE	**Pine Mountain**	**4.54**	**83**	Pn	**Pn**	**04 35 50.0**	**-2.0**
PINE				IAML		04 37 16.3	
	comp=N,203nm,2.8s						
PINE				IAML		04 38 21.6	
	comp=E,270nm,4.8s						
KCPM	**Cahto Peak**	**4.57**	**143**	Pn	**Pn**	**04 35 50.0**	**-2.3**
KCPM				IAML		04 37 58.6	
	comp=E,227nm,2.9s						
KCPM				IAML		04 38 22.4	
	comp=N,247nm,4.6s						
NLWA	**Neilton Lookou**	**4.63**	**29**	Pn	**Pn**	**04 35 51.5**	**-1.6**
NLWA				IAML		04 36 46.2	
	comp=N,293nm,0.8s						
NLWA				IAML		04 36 46.6	
	comp=N,339nm,0.7s						
K05A	**Summer Lake**	**4.64**	**96**	Pn	**Pn**	**04 35 52.0**	**-1.5**
C03A	**Quillayute Air**	**4.92**	**21**	Pn	**Pn**	**04 35 55.7**	**-1.3**
C03A				IAML		04 37 00.6	
	comp=N,306nm,3.7s						
C03A				IAML		04 38 28.0	
	comp=E,294nm,4.0s						
D05A	**Enumclaw**	**5.27**	**42**	Pn	**Pn**	**04 36 01.7**	**-0.3**
MOD	**Modoc Plateau**	**5.27**	**104**	Pn	**Pn**	**04 36 00.4**	**-1.7**
MOD				IAML		04 37 18.1	
	comp=E,142nm,3.2s						
MOD				IAML		04 38 21.6	
	comp=N,144nm,4.0s						
B04A	**Port Angeles**	**5.33**	**27**	Pn	**Pn**	**04 36 01.9**	**-0.9**
B04A				IAML		04 37 08.5	
	comp=E,212nm,0.5s						
HOPS	**Hopland Field**	**5.36**	**143**	Pn	**Pn**	**04 36 02.2**	**-1.0**
HOPS				IAML		04 39 13.3	
	comp=N,160nm,4.3s						
HOPS				IAML		04 39 37.5	
	comp=E,124nm,4.0s						
I07A	**Izee**	**5.60**	**80**	Pn	**Pn**	**04 36 05.1**	**-1.4**
GDXM	**Geysers**	**5.64**	**143**	Pn	**Pn**	**04 36 06.4**	**-0.7**
OZB	**Mount Ozzard**	**5.70**	**11**	Pn	**Pn**	**04 36 06.6**	**-1.2**
CLRS	**Cowichan Lake**	**5.83**	**20**	Pn	**Pn**	**04 36 07.7**	**-1.9**
PGC	**Sidney**	**5.87**	**25**	Pn	**Pn**	**04 36 09.2**	**-0.9**
LTY	**Liberty**	**6.00**	**48**	Pn	**Pn**	**04 36 11.2**	**-0.7**
MCCM	**Marconi Confer**	**6.16**	**147**	Pn	**Pn**	**04 36 13.3**	**-0.8**
G08A	**Pilot Rock**	**6.19**	**69**	Pn	**Pn**	**04 36 13.4**	**-1.2**
BEKR	**Beckworth**	**6.19**	**122**	Pn	**Pn**	**04 36 13.4**	**-1.3**
HAWA	**Hanford**	**6.20**	**58**	Pn	**Pn**	**04 36 13.9**	**-0.7**
J08A	**Circle Bar Ran**	**6.33**	**87**	Pn	**Pn**	**04 36 14.3**	**-2.3**
YERR	**Yerington**	**7.42**	**124**	Pn	**Pn**	**04 36 32.3**	**+0.7**
LLLB	**Lillooet**	**8.08**	**25**	Pn	**Pn**	**04 36 40.3**	**-0.2**
PLID	**Pearl Lake**	**8.20**	**74**		**Pn**	**04 36 40.3**	**-2.0**
MFID	**Camas Ranch**	**8.26**	**86**	Pn	**Pn**	**04 36 41.1**	**-2.0**
NVAR	**Mina Array Bea**	**8.34**	**123**	Pn	**Pn**	**04 36 46.2**	**+2.0**
	comp=E,1.3nm,0.3s,baz=298,slow=14,SNR=24						
	comp=E,3.8nm,0.6s						
NEW	**Newport**	**8.54**	**52**	Pn	**Pn**	**04 36 45.7**	**-1.1**
	comp=E,2.9nm,0.3s,baz=243,slow=14,SNR=65						
NEW				LR	LR	04 40 06.5	
	comp=E,13μm,20.8s,baz=240,slow=39						
	comp=E,32nm,0.8s						
NEW	**Newport**	**8.54**	**52**	Pn	**Pn**	**04 36 45.4**	**-1.5**
NEW	**Newport**	**8.54**	**52**	P	**Pn**	**04 36 46.0**	**-0.8**
	baz=238,SNR=25						
BBB	**Bella Bella**	**8.83**	**356**	Pn	**Pn**	**04 36 52.2**	**+1.5**
	comp=E,1.1nm,0.3s,baz=182,slow=14,SNR=7.1						
BBB				LR	LR	04 39 40.3	
	comp=E,5μm,21.6s,baz=174,slow=34						
ELK	**Elko**	**9.26**	**102**	Pn	**Pn**	**04 36 58.4**	**+1.6**
	comp=E,0.5nm,0.3s,baz=295,slow=12,SNR=23						
	comp=E,6.0nm,0.7s						
HLID	**Hailey**	**9.28**	**85**	Pn	**Pn**	**04 36 55.3**	**-1.7**
HLID	**Hailey**	**9.28**	**85**	P	**Pn**	**04 36 58.4**	**+1.3**
	baz=273,SNR=27						
VES	**Vestal, Richgr**	**9.77**	**138**	P	**Pn**	**04 37 05.8**	**+2.1**
	baz=324,SNR=34						
CWC	**Cottonwood Cre**	**9.83**	**132**	P	Pn	04 37 09.7	+5.0
	baz=318						
MSO	**Missoula**	**9.96**	**65**	Pn	**Pn**	**04 37 04.5**	**-1.9**
MSO	**Missoula**	**9.96**	**65**	P	**Pn**	**04 37 05.6**	**-0.8**
	baz=254,SNR=40						
ISA	**Isabella, Lake**	**10.22**	**136**	P	**Pn**	**04 37 13.4**	**+3.5**
	baz=322,SNR=26						
MCMT	**McKenzie Canyo**	**10.40**	**77**	Pn	**Pn**	**04 37 12.0**	**-0.5**
MPMC	**Manual Prospec**	**10.44**	**131**	P	**Pn**	**04 37 17.3**	**+4.4**
	baz=318,SNR=7.6						
ARVC	**Arvin**	**10.47**	**139**	P	**Pn**	**04 37 16.1**	**+2.9**
	baz=325,SNR=26						
FURC	**Furnace Creek,**	**10.50**	**128**	P	Pn	04 37 18.7	+5.1
	baz=315						
SPR3	**Spring Creek 3**	**10.62**	**110**	Pn	Pn	04 37 11.6	-4.0
GRNB	**Grenville Isla**	**10.63**	**351**	Pn	**Pn**	**04 37 15.8**	**+0.4**
HVU	**Hansel Valley**	**10.73**	**94**	Pn	**Pn**	**04 37 17.2**	**+0.2**
LRMC	**Laurel Mtn Rad**	**10.77**	**134**	P	**Pn**	**04 37 21.4**	**+3.9**
	baz=321,SNR=7.4						
LRM	**Limekiln Ridge**	**10.77**	**72**	Pn	**Pn**	**04 37 16.3**	**-1.3**
BGU	**Big Grassy Mou**	**10.78**	**98**		**Pn**	**04 37 17.7**	**0.0**
WALA	**Waterton Lakes**	**10.79**	**54**	Pn	**Pn**	**04 37 16.9**	**-0.8**
GWY	**Greenwater Val**	**10.80**	**128**	Pn	**Pn**	**04 37 15.7**	**-2.3**
EDW2	**Edwards Air Fo**	**11.07**	**137**	P	**Pn**	**04 37 25.0**	**+3.4**
	baz=323,SNR=11						
DUG	**Dugway, Tooele**	**11.18**	**102**	Pn	**Pn**	**04 37 22.1**	**-1.0**
DUG	**Dugway, Tooele**	**11.18**	**102**	P	**Pn**	**04 37 23.9**	**+0.8**
	baz=291,SNR=10						
BOZ	**Bozeman (W)**	**11.32**	**73**	Pn	**Pn**	**04 37 24.2**	**-0.7**
BOZ	**Bozeman (W)**	**11.32**	**73**	P	**Pn**	**04 37 24.7**	**-0.3**
	baz=264,SNR=45						
HRY	**Holter Researc**	**11.35**	**68**	Pn	**Pn**	**04 37 22.8**	**-2.6**
GSC	**Goldstone, Bar**	**11.37**	**132**	P	**Pn**	**04 37 29.8**	**+4.1**
	baz=319,SNR=7.1						
QLMT	**Earthquake Lak**	**11.41**	**77**	Pn	**Pn**	**04 37 25.9**	**-0.3**
SHPR	**Sheep Range**	**11.49**	**123**	Pn	**Pn**	**04 37 29.2**	**+1.9**
RRX	**Edison Barstow**	**11.59**	**134**	P	Pn	04 37 33.6	+5.0
	baz=321						
BFSC	**Mount Baldy Ra**	**11.75**	**138**	P	**Pn**	**04 37 33.8**	**+2.9**
	baz=324,SNR=5.9						
TUQ	**Turquoise Moun**	**11.76**	**129**	P	**Pn**	**04 37 35.6**	**+4.5**
	baz=316,SNR=24						
WTNK	**Soaring Height**	**11.78**	**123**	Pn	**Pn**	**04 37 30.6**	**-0.6**
HEC	**Hector,Ludlow**	**11.98**	**132**	P	**Pn**	**04 37 38.2**	**+4.3**
	baz=319,SNR=11						
CCUT	**Cedar City**	**12.01**	**114**	Pn	**Pn**	**04 37 33.7**	**-0.8**
H17A	**Grant Village**	**12.02**	**79**	P	**Pn**	**04 37 37.5**	**+2.9**
	baz=271,SNR=16						
V12A	**Nelson**	**12.19**	**125**	Pn	**Pn**	**04 37 36.1**	**-0.7**
MSU	**Marysvale**	**12.33**	**108**	Pn	**Pn**	**04 37 39.2**	**+0.3**
GMRC	**Granite Mounta**	**12.38**	**130**	P	**Pn**	**04 37 43.0**	**+3.5**
	baz=318,SNR=15						
BRLDA	**Berland Lookou**	**12.49**	**28**	Pn	**Pn**	**04 37 40.5**	**-0.3**
PFO	**Pinyon Flats O**	**12.85**	**136**	Pn	**Pn**	**04 37 49.0**	**+3.1**
	comp=E,0.1nm,0.3s,baz=329,slow=14,SNR=2.3						
PFO				LR	LR	04 42 35.9	
	comp=E,6μm,19.9s,baz=315,slow=37						
	comp=E,4.1nm,0.9s						
BW06	**Boulder Array**	**12.89**	**87**	P	**Pn**	**04 37 47.6**	**+1.0**
	baz=279,SNR=11						
PDAR	**Pinedale Array**	**12.89**	**87**	Pn	**Pn**	**04 37 47.7**	**+1.1**
	comp=E,0.2nm,0.3s,baz=277,slow=13,SNR=44						
PDAR				LR	LR	04 43 05.8	
	comp=E,9μm,19.7s,baz=280,slow=39						
	comp=E,7.2nm,0.9s						
RLMT	**Red Lodge**	**12.95**	**76**	P	**Pn**	**04 37 48.0**	**+0.6**
	baz=268,SNR=16						
EGMT	**Eagleton**	**13.02**	**63**	Pn	**Pn**	**04 37 46.8**	**-1.4**
EGMT	**Eagleton**	**13.02**	**63**	P	**Pn**	**04 37 46.8**	**-1.4**
	baz=255						
IRM	**Iron Mountain**	**13.13**	**131**	P	**Pn**	**04 37 52.9**	**+3.2**
	baz=319,SNR=15						
EDM	**Edmonton**	**13.45**	**38**	Pn	**Pn**	**04 37 52.3**	**-1.6**
GLA	**Glamis**	**14.14**	**133**	Pn	**Pn**	**04 38 01.1**	**-2.4**
O20A	**White River Ci**	**14.49**	**96**	P	**Pn**	**04 38 08.6**	**+0.2**
	baz=289,SNR=8.6						
WUAZ	**Wupatki**	**14.49**	**118**	P	**P**	**04 38 16.1**	**+1.0**
	baz=308,SNR=11						
PV11	**David Mesa, Pa**	**14.74**	**104**	Pn	**Pn**	**04 38 10.2**	**-1.6**
S34M	**Telegraph Cree**	**14.76**	**352**	P	**P**	**04 38 19.8**	**+2.0**
	baz=168,SNR=5.3						
K22A	**Casper**	**15.12**	**86**	Pn	**Pn**	**04 38 13.8**	**-3.0**
K22A	**Casper**	**15.12**	**86**	P	**Pn**	**04 38 15.4**	**-1.4**
	baz=280						
K22A	**Casper**	**15.12**	**86**	P	**Pn**	**04 38 16.2**	**-0.6**
	baz=280						
LAO	**LASA Array**	**15.16**	**70**	Pn	**Pn**	**04 38 14.7**	**-2.6**
LAO	**LASA Array**	**15.16**	**70**	P	**Pn**	**04 38 17.2**	**-0.1**
	baz=265,SNR=5.4						
DLBC	**Dease Lake**	**15.18**	**354**	Pn	**Pn**	**04 38 18.1**	**+0.7**
	comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=4.6						
DLBC				LR	LR	04 43 31.1	
	comp=E,3μm,18.9s,baz=172,slow=35						
	comp=E,5.6nm,0.9s						
DLBC	**Dease Lake**	**15.18**	**354**	Pn	**Pn**	**04 38 16.6**	**-0.9**
DLBC	**Dease Lake**	**15.18**	**354**	P	**P**	**04 38 22.2**	**-0.3**
	baz=172,SNR=5.8						
MVCO	**Mesa Verde**	**15.51**	**107**	Pn	**Pn**	**04 38 19.3**	**-2.7**
MVCO	**Mesa Verde**	**15.51**	**107**	P	**Pn**	**04 38 23.9**	**+1.8**
	baz=300,SNR=11						
JIS	**Juneau Island**	**15.58**	**346**	Pn	**Pn**	**04 38 22.6**	**0.0**
JIS				IAmb	IAmb	04 38 29.7	
	comp=Z,60nm,1.2s						
W18A	**Petrified Fore**	**15.80**	**116**	P	**Pn**	**04 38 27.0**	**+1.2**
W18A	**Petrified Fore**	**15

MDND IAmb IAmb 04 39 16.8
comp=Z,60nm,0.9s
MDND Maddock 19.74 67 P P 04 39 13.7 +0.9
baz=267
MDND Maddock 19.74 67 P P 04 39 14.2 +1.4
baz=267,SNR=11
WRGLY Wrigley 20.00 5 P Pn 04 39 19.0 +1.9
baz=188,SNR=11
KIDD KIDD Seismic O 20.00 119 S Sn 04 43 02.2 -0.2
baz=312
M30M Minto, Yukon 20.04 347 P P 04 39 15.6 -0.3
M30M IAmb IAmb 04 39 31.1
comp=Z,179nm,2.5s
M30M IAMs_20 IAMs_20 04 45 52.4
comp=Z,3µm,18.0s
M30M Minto, Yukon 20.04 347 P P 04 39 16.7 +0.7
baz=159
SUSD Miller 20.32 77 P P 04 39 18.2 -0.9
SUSD Miller 20.32 77 P P 04 39 19.5 +0.4
baz=277,SNR=12
MCARA McCarthy VSAT 20.36 338 P P 04 39 20.2 +0.8
baz=145
YKA Yellowknife Ar 20.51 17 P P 04 39 20.1 -0.9
comp=Z,5.1nm,0.8s,baz=210,slow=11,SNR=9.0
YKA LR LR 04 47 03.3
comp=Z,851nm,18.2s,baz=208,slow=36
comp=Z,5.1nm,0.8s
BVCY Beaver Creek 20.69 342 P P 04 39 23.6 +0.5
baz=150
K31A O'Neill 20.76 82 P P 04 39 24.5 +0.6
baz=282
L29M L29M 20.76 346 P P 04 39 25.3 +1.4
baz=157
M27K Edge Creek, AK 20.88 341 P P 04 39 23.7 -1.5
M27K Edge Creek, AK 20.88 341 P P 04 39 26.4 +1.2
baz=148
N25K Chitina, Valde 20.99 336 P P 04 39 27.4 +1.1
baz=142
CBKS Cedar Bluff 21.12 93 P P 04 39 26.6 -1.3
CBKS IAmb IAmb 04 39 41.6
comp=Z,41nm,1.1s
CBKS IAMs_20 IAMs_20 04 48 01.9
comp=Z,7µm,19.0s
CBKS Cedar Bluff 21.12 93 P P 04 39 29.4 +1.4
baz=291
GDL2 Guadalupe Moun 21.13 114 P P 04 39 29.2 +1.1
MSTX Muleshoe 21.17 108 S Sn 04 43 29.0 -1.5
baz=304
M26K Nabesna, AK 21.20 339 IAmb IAmb 04 39 40.2
comp=Z,40nm,1.4s
KLU Klutina 21.30 335 P P 04 39 30.2 +0.6
baz=140,SNR=5.3
K29M Barlow Dome 21.34 347 P P 04 39 31.2 +1.0
baz=159
AMTX Amarillo 21.45 105 IAmb IAmb 04 39 41.5
comp=Z,46nm,1.1s
AMTX Amarillo 21.45 105 P P 04 39 32.8 +1.3
baz=301
AMTX S Sn 04 43 34.9 -2.2
baz=301
AMTX Amarillo 21.45 105 P P 04 39 33.0 +1.5
baz=301
L27K Beaver Creek, 21.48 342 P P 04 39 32.7 +1.2
baz=149
D32B Dogwood Acres, 21.48 69 P P 04 39 31.9 +0.3
baz=271
BRSE Bradley Lake S 21.79 327 P P 04 39 35.1 +0.3
baz=128
L26K Log Cabin Wild 21.81 340 IAmb IAmb 04 39 46.3
comp=Z,39nm,1.4s
L26K IAMs_20 IAMs_20 04 46 21.6
comp=Z,3µm,21.0s
L26K Log Cabin Wild 21.81 340 P P 04 39 36.3 +1.2
baz=147,SNR=7.4
MENT Mentasta 21.83 339 IAmb IAmb 04 39 48.6
comp=Z,84nm,1.5s
DAWY Dawson 21.87 346 P P 04 39 34.8 -0.9
DAWY IAmb IAmb 04 39 49.0
comp=Z,49nm,1.4s
DAWY Dawson 21.87 346 P P 04 39 36.4 +0.6
baz=155,SNR=13
SCM Sheep Creek Mo 21.99 334 IAmb IAmb 04 39 40.6
comp=Z,61nm,1.0s
SCM Sheep Creek Mo 21.99 334 P P 04 39 38.8 +1.7
baz=138,SNR=5.3
R32A Long Quarter, 22.02 93 IAmb IAmb 04 39 46.7
comp=Z,45nm,1.0s
R32A Long Quarter, 22.02 93 P P 04 39 37.4 -0.1
baz=292
R32A S S **04 43 42.6 +2.6**
baz=292
J29M Klondike Camp 22.03 347 IAmb IAmb 04 39 54.8
comp=Z,73nm,1.4s
J29M Klondike Camp 22.03 347 P P 04 39 38.5 +1.1
baz=158
KNK Knik Glacier 22.06 332 IAmb IAmb 04 39 52.4
comp=Z,40nm,1.0s
KNK Knik Glacier 22.06 332 P P 04 39 38.6 +0.9
baz=135,SNR=5.3
ECSD EROS Data Cent 22.09 78 P P 04 39 37.3 -0.9
ECSD IAmb IAmb 04 39 38.8
comp=Z,24nm,0.8s
ECSD EROS Data Cent 22.09 78 P P 04 39 37.9 -0.3
baz=280
ECSD S Sn 04 43 46.2 -5.9
baz=280
ECSD EROS Data Cent 22.09 78 P P 04 39 38.1 -0.1
baz=280,SNR=25
M23K Glacier View 22.09 334 P P 04 39 38.7 +0.6
baz=137
AGMN Agassiz Nation 22.26 66 P P 04 39 39.2 -0.8
AGMN IAmb IAmb 04 39 47.1
comp=Z,55nm,0.9s
AGMN IAMs_20 IAMs_20 04 48 21.2
comp=Z,5µm,20.0s
AGMN Agassiz Nation 22.26 66 P P 04 39 39.6 -0.4
baz=269
AGMN Agassiz Nation 22.26 66 P P 04 39 39.9 -0.1
baz=269,SNR=22
SML Sawmill 22.30 333 P P 04 39 38.6 -1.8
SML IAmb IAmb 04 39 43.1
comp=Z,48nm,1.1s
SML IAMs_20 IAMs_20 04 46 12.4
comp=Z,2µm,20.0s
SML Sawmill 22.30 333 P P 04 39 42.3 +1.9
baz=136
ULM Lac du Bonnet 22.37 61 P P 04 39 40.4 -0.8
comp=Z,44nm,0.8s,baz=275,slow=9.7,SNR=14
ULM LR LR 04 48 48.2
comp=Z,5µm,18.5s,baz=270,slow=38
comp=Z,44nm,0.8s
ULM Lac du Bonnet 22.37 61 IAmb IAmb 04 39 45.3
comp=Z,60nm,0.9s
K27K Chicken 22.37 343 IAmb IAmb 04 39 44.4
comp=Z,34nm,1.2s
K27K Chicken 22.37 343 P P 04 39 41.9 +0.9
baz=150
PMR Palmer 22.41 332 P P 04 39 41.9 +0.4
baz=134
GHO Glory Hole Cre 22.47 333 IAmb IAmb 04 39 44.9
comp=Z,38nm,1.0s
ELIS Ellis County 22.49 100 IAmb IAmb 04 39 50.3
comp=Z,113nm,1.1s
L34A Svendsen Farm, 22.62 83 P P 04 39 43.4 -0.6
baz=284
U32A Winter Ranch, 22.65 98 P P 04 39 43.0 -1.2
U32A Winter Ranch, 22.65 98 S S 04 43 54.8 +3.0
baz=297
WAT6 Susitna Watana 22.68 335 P P 04 39 44.9 +0.4
baz=138,SNR=5.4
OK035 E0210 Rd and N 22.71 97 IAMs_20 IAMs_20 04 49 01.0
comp=Z,3µm,18.0s
SCRK Sand Creek 22.77 341 IAMs_20 IAMs_20 04 47 02.8
comp=Z,3µm,19.0s
SCRK Sand Creek 22.77 341 P P 04 39 45.6 +0.2
baz=147
RIDG Independent Ri 22.78 340 IAMs_20 IAMs_20 04 46 49.9
comp=Z,3µm,22.0s
EGAK Eagle 22.85 345 P P 04 39 45.6 -0.4
EGAK IAMs_20 IAMs_20 04 47 06.8
comp=Z,3µm,20.0s
EGAK Eagle 22.85 345 P P 04 39 46.6 +0.5
baz=153
M22K Willow 22.87 331 P P 04 39 47.2 +0.9
baz=133,SNR=5.8
I29M Ogilvie Camp, 22.89 348 IAMs_20 IAMs_20 04 47 23.7
comp=Z,3µm,20.0s
I29M Ogilvie Camp, 22.89 348 P P 04 39 46.7 +0.1
baz=158,SNR=6.8
SUA Susitna One 22.89 330 P P 04 39 47.9 +1.2
baz=131
DHY Denali Highway 22.95 336 IAmb IAmb 04 39 48.9
comp=Z,25nm,0.9s
DHY Denali Highway 22.95 336 P P 04 39 47.7 +0.4
baz=140,SNR=9.8
KAN08 Anthony NE Sta 23.03 96 P P 04 39 47.1 -1.1
KAN08 IAmb IAmb 04 40 06.2
comp=Z,62nm,1.1s
OK032 Salt Plains WL 23.03 97 IAmb IAmb 04 40 03.3
OK032 IAMs_20 IAMs_20 04 48 50.4
comp=Z,3µm,21.0s
J26L Joseph Creek 23.11 342 IAmb IAmb 04 40 00.1
comp=Z,43nm,1.5s
J26L IAMs_20 IAMs_20 04 47 14.9
comp=Z,3µm,19.0s
J26L Joseph Creek 23.11 342 P P 04 39 49.6 +0.7
baz=148
CSTR Hydro, Custer 23.21 100 P P 04 39 47.7 -2.4
CSTR IAmb IAmb 04 39 57.2
comp=Z,11nm,1.5s
KSU1 Kansas State U 23.30 90 IAmb IAmb 04 39 58.8
comp=Z,56nm,1.1s
KSU1 Kansas State U 23.30 90 IAMs_20 IAMs_20 04 49 28.5
comp=Z,5µm,19.0s
KSU1 Kansas State U 23.30 90 P P 04 39 51.2 +0.2
baz=290
KSU1 Kansas State U 23.30 90 P P 04 39 51.5 +0.5
baz=290
CROK Carrier 23.33 97 IAmb IAmb 04 39 58.5
comp=Z,130nm,1.2s
TX31 Lajitas Ar. Si 23.45 119 P P 04 39 53.6 +0.9
baz=313
TX32 Lajitas Array 23.45 119 IAmb IAmb 04 40 08.8
comp=Z,61nm,1.6s
TXAR Lajitas Array 23.45 119 P P 04 39 53.8 +1.1
comp=Z,3.0nm,0.8s,baz=296,slow=7.9,SNR=28
TXAR LR LR 04 48 22.1
comp=Z,2µm,21.2s,baz=303,slow=35
comp=Z,3.0nm,0.8s
O19K Port Alsworth 23.51 325 IAMs_20 IAMs_20 04 46 50.7
comp=Z,3µm,20.0s
SKT Skwentna 23.52 331 IAMs_20 IAMs_20 04 46 44.7
comp=Z,2µm,20.0s
WMOK Wichita Mounta 23.58 102 P P 04 39 53.9 +0.1
WMOK Wichita Mounta 23.58 102 P P 04 39 54.5 +0.7
baz=300
WMOK S S **04 44 06.5 -1.1**
baz=300
WMOK Wichita Mounta 23.58 102 P P 04 39 54.2 +0.3
baz=300,SNR=63
EPYK Eagle Plains 23.63 350 IAmb IAmb 04 40 09.4
comp=Z,41nm,1.1s
EPYK IAMs_20 IAMs_20 04 48 11.1
comp=Z,3µm,21.0s
EPYK Eagle Plains 23.63 350 P P 04 39 54.2 +0.2
baz=162,SNR=13
I27K Kandik River 23.67 345 P P 04 39 55.6 +1.1
baz=153
B35A Bob, Littlefor 23.69 66 IAmb IAmb 04 40 04.3
comp=Z,29nm,1.1s
LPIG La Saz 23.71 139 LR LR 04 48 27.4
comp=Z,2µm,20.1s,baz=325,slow=35
I26K Coal Creek Min 23.72 343 IAmb IAmb 04 39 57.8
comp=Z,24nm,1.1s
I26K IAMs_20 IAMs_20 04 47 32.9
comp=Z,3µm,21.0s
I26K Coal Creek Min 23.72 343 P P 04 39 55.8 +1.0
baz=150
MCK McKinley 23.91 336 IAmb IAmb 04 40 21.1
comp=Z,91nm,2.0s
MCK McKinley 23.91 336 P P 04 39 57.0 +0.4
baz=138
N19K Bonanza Creek 23.93 326 IAMs_20 IAMs_20 04 47 13.6
comp=Z,2µm,20.0s
HPIG 23.94 126 P P 04 39 54.6 -2.8
HPIG IAmb IAmb 04 40 18.7
comp=Z,80nm,2.0s
F36A Milaca 23.97 72 IAmb IAmb 04 40 04.8
comp=Z,41nm,0.9s
F36A Milaca 23.97 72 P P 04 39 57.8 +0.4
baz=276
F36A S S **04 44 15.3 +1.6**
baz=276
BCOK Bluff Creek, N 23.98 99 IAmb IAmb 04 40 05.1
comp=Z,183nm,1.6s
M20K Styx River 24.04 329 IAmb IAmb 04 40 08.6
comp=Z,18nm,0.9s
M20K IAMs_20 IAMs_20 04 47 01.4
comp=Z,2µm,21.0s
M20K Styx River 24.04 329 P P 04 39 58.4 +0.4
baz=128
ABTX Abilene, Hawle 24.10 107 S S 04 44 20.4 +4.5
baz=305
OK048 Pawnee Station 24.12 96 IAmb IAmb 04 40 08.3
comp=Z,56nm,1.2s
OK048 IAMs_20 IAMs_20 04 49 59.2
comp=Z,2µm,18.0s
ILAR Eielson Array 24.14 339 P P 04 39 58.4 -0.5
comp=Z,6.9nm,0.8s,baz=154,slow=8.7,SNR=60
ILAR LR LR 04 48 04.6
comp=Z,1µm,21.6s,baz=138,slow=33
comp=Z,6.9nm,0.8s
ILAR Eielson Array 24.14 339 P P 04 39 57.9 -1.0
OK046 Pawnee Station 24.15 96 IAMs_20 IAMs_20 04 50 00.1
comp=Z,2µm,19.0s
G30M tAoh Zraii Nji 24.16 351 P P 04 39 59.1 +0.1
baz=163
OK051 E0350 and S346 24.16 96 IAMs_20 IAMs_20 04 50 01.2
comp=Z,3µm,18.0s
OK025 Westminster Rd 24.21 99 IAmb IAmb 04 40 05.2
comp=Z,46nm,1.0s
OK025 IAMs_20 IAMs_20 04 49 58.7
comp=Z,3µm,18.0s
T35A Sooner Cattle 24.22 95 IAmb IAmb 04 40 15.3
comp=Z,39nm,1.1s
T35B Sooner Cattle 24.22 95 P P 04 39 59.2 -0.6
baz=295
T35B S S 04 44 29.0 +11
baz=295
H27K Steamboat Moun 24.22 346 P P 04 40 00.1 +0.5
baz=154
WRH Wood River Hil 24.23 338 P P 04 39 59.4 -0.2
WRH IAmb IAmb 04 40 10.0
comp=Z,22nm,1.1s
SLBS Sierra La Lagu 24.24 139 IAMs_20 IAMs_20 04 48 31.9
comp=Z,3µm,21.0s
OK033 Mehan 24.29 97 IAmb IAmb 04 40 06.1
comp=Z,29nm,1.0s
PPLA Purkeypile 24.36 332 IAmb IAmb 04 40 01.7
comp=Z,45nm,1.1s
PPLA Purkeypile 24.36 332 P P 04 40 01.5 +0.5
baz=131,SNR=6.2
F31M Tsiigehtchic 24.37 354 P P 04 40 00.5 -0.4
baz=168,SNR=5.4
QUOK Quay 24.40 97 IAmb IAmb 04 40 10.9
comp=Z,83nm,1.4s
OK031 S. Brethren Rd 24.40 97 IAMs_20 IAMs_20 04 49 43.7
comp=Z,2µm,19.0s
PRP Porcupine Dome 24.42 341 IAmb IAmb 04 40 26.6
comp=Z,32nm,1.6s
COLA College 24.48 339 P P 04 40 00.7 -1.2
COLA College 24.48 339 IAMs_20 IAMs_20 04 47 41.8
comp=Z,2µm,22.0s
TCOL CIGO, UAF Yank 24.48 339 IAMs_20 IAMs_20 04 47 41.8
comp=Z,3µm,22.0s
O17K Koliganek Bris 24.49 322 P P 04 40 02.4 +0.4
baz=118
M19K Big River Lodg 24.52 329 IAmb IAmb 04 40 03.7
comp=Z,15nm,0.8s
M19K Big River Lodg 24.52 329 P P 04 40 03.0 +0.6
baz=126
POKR Poker Plat Res 24.56 339 IAMs_20 IAMs_20 04 47 55.9
comp=Z,2µm,20.0s
POKR Poker Plat Res 24.56 339 P P 04 40 03.0 +0.3
baz=142
NEA2 Nenana 24.59 337 IAmb IAmb 04 40 05.8
comp=Z,48nm,1.2s
NEA2 Nenana 24.59 337 P P 04 40 02.8 -0.1
baz=139,SNR=16
MDM Murphy Dome 24.64 338 IAmb IAmb 04 40 25.8
comp=Z,38nm,1.4s
MDM IAMs_20 IAMs_20 04 47 44.6
comp=Z,2µm,22.0s
CAST Castle Rocks 24.67 333 IAmb IAmb 04 40 29.7
comp=Z,46nm,1.7s
CAST IAMs_20 IAMs_20 04 47 34.1
comp=Z,2µm,20.0s
CAST Castle Rocks 24.67 333 P P 04 40 03.4 -0.4
baz=132
L20K Farewell, AK 24.68 330 P P 04 40 04.0 +0.2
baz=128
G27K Doyon Strip 24.77 346 P P 04 40 05.0 +0.4
baz=154
BPAW Bear Paw Mtn. 24.80 335 IAmb IAmb 04 40 05.0
comp=Z,16nm,0.8s
BPAW Bear Paw Mtn. 24.80 335 P P 04 40 04.4 -0.4
baz=135,SNR=6.6
L19K White Mountain 24.86 329 IAmb IAmb 04 40 07.2
comp=Z,36nm,1.3s
L19K IAMs_20 IAMs_20 04 47 37.4
comp=Z,2µm,20.0s
L19K White Mountain 24.86 329 P P 04 40 06.2 +0.7
baz=126
CHUM Lake Minchumin 25.06 334 P P 04 40 06.7 -0.5
baz=133,SNR=6.5
I23K Minto, Yukon-K 25.10 338 IAmb IAmb 04 40 10.3
comp=Z,63nm,1.5s
I23K Minto, Yukon-K 25.10 338 P P 04 40 07.7 +0.2
baz=139,SNR=16
LOOK Love County 25.10 102 P P 04 40 06.3 -1.6
LOOK IAmb IAmb 04 40 15.8
comp=Z,34nm,0.9s
H25L Birch Creek 25.12 342 P P 04 40 08.8 +1.2
baz=146
TUL1 Leonard 25.18 97 IAMs_20 IAMs_20 04 50 33.2
comp=Z,3µm,22.0s
TUL1 Leonard 25.18 97 S S 04 44 39.6 +6.5
baz=297
EYMN Ely 25.20 67 IAMs_20 IAMs_20 04 50 08.8
comp=Z,5µm,19.0s
INK Inuvik 25.21 354 P P 04 40 07.3 -1.1
comp=Z,8.1nm,0.9s,baz=162,slow=12,SNR=14
INK LR LR 04 49 45.1
comp=Z,3µm,18.7s,baz=166,slow=36
comp=Z,8.1nm,0.9s
INK Inuvik 25.21 354 P P 04 40 08.0 -0.4
baz=169,SNR=8.1
FYU Fort Yukon 25.24 343 IAMs_20 IAMs_20 04 48 19.1
comp=Z,3µm,20.0s
H24K Noodor Dome 25.25 340 IAmb IAmb 04 40 11.9
comp=Z,40nm,1.2s
H24K IAMs_20 IAMs_20 04 48 17.5
comp=Z,3µm,21.0s
H24K Noodor Dome 25.25 340 P P 04 40 09.4 +0.5
baz=143
JCT Junction City 25.25 112 P P 04 40 06.7 -2.6
JCT IAMs_20 IAMs_20 04 50 16.2
comp=Z,3µm,18.0s
JCT Junction City 25.25 112 P P 04 40 09.8 +0.5
baz=308
JCT S S **04 44 42.4 +7.9**
baz=308
JCT Junction City 25.25 112 P P 04 40 10.0 +0.7
baz=308,SNR=5.4
G26K Porcupine Rive 25.28 345 P P 04 40 10.0 +0.9
baz=150
K20K Telida 25.30 331 IAmb IAmb 04 40 11.0
comp=Z,37nm,1.1s
K20K Telida 25.30 331 P P 04 40 09.6 +0.1
baz=129,SNR=13
P38A Dawn 25.37 87 P P 04 40 10.8 +0.7
baz=290
P38A S S **04 44 44.2 +8.1**
baz=290
MLY Manley 25.40 337 IAmb IAmb 04 40 12.9
comp=Z,28nm,1.0s
MLY Manley 25.40 337 P P 04 40 10.5 +0.2
baz=137,SNR=15
G25K Bearman Lake 25.60 343 P P 04 40 13.1 +1.2
baz=147
H23K Yukon River 25.67 339 P P 04 40 13.0 +0.3
baz=140
TTA Tatalina 25.74 329 IAmb IAmb 04 40 32.9
comp=Z,62nm,1.7s
TTA Tatalina 25.74 329 P P 04 40 13.6 +0.1
baz=126,SNR=7.6
G24K Hadweenzic Riv 25.85 342 P P 04 40 15.2 +0.9
baz=144,SNR=11
J20K Nowinta River 25.86 333 IAMs_20 IAMs_20 04 48 21.5
comp=Z,2µm,20.0s
J20K Nowinta River 25.86 333 P P 04 40 14.6 +0.2
baz=130
I21K Tanana 25.87 336 IAmb IAmb 04 40 15.6
comp=Z,30nm,0.9s
I21K Tanana 25.87 336 P P 04 40 15.0 +0.5
baz=135
U38A Gravette 25.96 94 P P 04 40 16.1 +0.4
baz=296
WHTX Lake Whitney, 25.98 106 S S 04 44 53.7 +7.8
baz=305
F26K Sheenjek River 26.00 345 P P 04 40 17.1 +1.4
baz=151
E27K Coleen River 26.01 348 P P 04 40 16.3 +0.5
baz=155
C36M Paulatuk 26.08 2 P P 04 40 15.1 -1.2
C36M Paulatuk 26.08 2 P P 04 40 15.6 -0.7
baz=185,SNR=7.2
X37A Clayton 26.10 99 IAmb IAmb 04 40 45.2
comp=Z,54nm,1.4s
X37A Clayton 26.10 99 P P 04 40 17.1 +0.2
baz=299
X37A S S **04 44 55.8 +8.0**
baz=299
F25K Christian Rive 26.20 344 P P 04 40 18.5 +1.0
baz=148
H22K Ishtalitna Cre 26.21 338 P P 04 40 18.3 +0.7
baz=137,SNR=12
S39A Bolivar 26.22 91 S S 04 44 58.0 +8.3
baz=293
H21K Melozitna Rive 26.45 336 IAmb IAmb 04 40 30.3
comp=Z,24nm,1.0s
H21K Melozitna Rive 26.45 336 P P 04 40 20.3 +0.5
baz=135
G23K Bananza Creek 26.48 340 P P 04 40 21.0 +1.0
baz=140
435B Jarrell 26.59 108 IAMs_20 IAMs_20 04 52 20.5
comp=Z,3µm,20.0s
E25K Arctic Village 26.64 345 P P 04 40 22.6 +1.1
baz=149
833A Chaparral WMA, 26.90 115 S S 04 45 22.7 +22
baz=312
COLD Coldfoot 26.92 340 IAmb IAmb 04 40 35.5
comp=Z,38nm,1.8s
IMAR Indian Mountai 26.96 336 P P 04 40 24.1 -0.2
COWI Conover 26.98 71 IAMs_20 IAMs_20 04 50 53.2
comp=Z,4µm,21.0s
E24K Your Creek 27.20 343 P P 04 40 27.6 +1.0
baz=144
G21K Allakaket 27.26 337 P P 04 40 27.8 +0.7
baz=135
MIAR Mount Ida 27.42 97 IAmb IAmb 04 40 41.6
comp=Z,33nm,1.4s
MIAR IAMs_20 IAMs_20 04 50 48.5
comp=Z,2µm,18.0s
E23K Chandalar 27.44 342 P P 04 40 29.9 +1.2
baz=143,SNR=8.7
CCM Cathedral Cave 27.60 89 P P 04 40 27.5 -2.8
CCM Cathedral Cave 27.60 89 IAMs_20 IAMs_20 04 51 43.1
comp=Z,3µm,21.0s
F22K John River 27.63 339 P P 04 40 31.8 +1.4
baz=138
C27K Jago River 27.64 348 P P 04 40 31.7 +1.3
baz=153
F21K Alatna River 27.76 338 P P 04 40 32.3 +0.8
baz=136
D25K Kavik River 27.83 346 P P 04 40 33.2 +1.1
baz=149
TOLK Toolik Lake Re 27.90 343 P P 04 40 33.5 +0.7
TOLK IAmb IAmb 04 40 34.9
comp=Z,26nm,1.3s
TOLK Toolik Lake Re 27.90 343 P P 04 40 34.2 +1.4
baz=143,SNR=11
E22K Anaktuvuk Pass 28.02 341 P P 04 40 34.8 +0.9
baz=139
NATX Nacogdoches 28.08 103 IAMs_20 IAMs_20 04 53 26.9
comp=Z,3µm,18.0s
C26K Camden Bay 28.10 347 P P 04 40 36.1 +1.7
baz=152
D23K Nanushuk River 28.40 342 P P 04 40 38.6 +1.4
baz=142
C24K Franklin Bluff 28.61 344 P P 04 40 39.7 +0.8
baz=146
A36M Sachs Harbour 28.70 1 P P 04 40 39.8 0.0

A36M					IAmb	IAmb	04 40 40.8		
	comp=Z,13nm,0.9s								
A36M					IAMs_20	IAMs_20	04 50 51.6		
	comp=Z,2μm,20.0s								
A36M	**Sachs Harbour**	**28.70**	**1**	P	**P**		**04 40 40.1**	**+0.4**	
	baz=183,SNR=7.1								
C23K	**Itkillik River**	**29.09**	**344**	P	**P**		**04 40 44.2**	**+0.9**	
	baz=143								
E46A	**Sault Ste Mari**	**30.25**	**69**	P	**P**		**04 40 51.6**	**-2.2**	
GLMI	**Grayling**	**30.34**	**72**	IAMs_20	IAMs_20		04 52 46.1		
	comp=Z,3μm,22.0s								
OXF	**Oxford**	**30.46**	**94**	IAMs_20	IAMs_20		04 53 29.8		
	comp=Z,3μm,20.0s								
VBMS	**Vicksburg**	**30.80**	**99**	IAMs_20	IAMs_20		04 54 24.1		
	comp=Z,2μm,19.0s								
WCI	**Wyandotte Cave**	**31.13**	**85**	P	**P**		**04 41 00.6**	**-1.1**	
WCI				pP	**sP**		**04 41 07.9**	**+1.4**	
WCI				sP	**pwP**		**04 41 11.3**	**+2.5**	
A21K	**Barrow**	**31.52**	**342**	P	**P**		**04 41 03.8**	**-0.9**	
A21K	**Barrow**	**31.52**	**342**	P	**P**		**04 41 05.6**	**+0.9**	
	baz=136,SNR=8.6								
ACSO	**Alum Creek Sta**	**32.80**	**80**	IAMs_20	IAMs_20		04 54 34.3		
	comp=Z,2μm,20.0s								
LRAL	**Lakeview Retre**	**32.93**	**95**	IAMs_20	IAMs_20		04 55 08.3		
	comp=Z,3μm,21.0s								
FPAL	**Fort Paine**	**33.21**	**91**	P	**P**		**04 41 18.5**	**-1.5**	
UNM	**Universidad Na**	**33.58**	**127**	IAMs_20	IAMs_20		04 54 00.9		
	comp=Z,1μm,21.0s								
TKL	**Tuckaleechee C**	**34.04**	**88**	LR	LR		04 55 54.4		
	comp=Z,3μm,20.0s,baz=297,slow=38								
SADO	**Sadowa**	**34.13**	**71**	LR	LR		04 55 12.4		
	comp=Z,2μm,20.8s,baz=339,slow=36								
ERPA	**Erie**	**34.31**	**76**	IAMs_20	IAMs_20		04 56 06.2		
	comp=Z,3μm,19.0s								
RES	**Resolute Bay**	**34.55**	**14**	P	**P**		**04 41 31.2**	**+0.1**	
	comp=Z,2.6nm,0.9s,baz=238,slow=10,SNR=4.3								
	comp=Z,2.6nm,0.9s								
RES	**Resolute Bay**	**34.55**	**14**	P	**P**		**04 41 29.7**	**-1.4**	
RES				IAmb	IAmb		04 41 42.1		
	comp=Z,16nm,1.2s								
GOGA	**Godfrey**	**35.31**	**91**	P	**P**		**04 41 37.6**	**-0.5**	
GOGA				IAmb	IAmb		04 41 54.9		
	comp=Z,11nm,0.9s								
GOGA	**Godfrey**	**35.31**	**91**	P	**P**		**04 41 39.1**	**+0.9**	
	baz=300								
TRQ	**Mont Tremblant**	**36.87**	**67**	P	**P**		**04 41 50.7**	**-0.8**	
CMIG	**Matias Romero**	**37.87**	**124**	LR	LR		04 58 06.8		
	comp=Z,1μm,21.2s,baz=314,slow=37								
FRB	**Frobisher Bay**	**38.57**	**38**	LR	LR		04 58 27.0		
	comp=Z,2μm,18.4s,baz=270,slow=37								
L61B	**Northampton**	**39.31**	**72**	IAMs_20	IAMs_20		04 54 36.5		
	comp=Z,1μm,20.0s								
EUNU	**Eureka**	**39.64**	**10**	P	**P**		**04 42 14.6**	**+0.2**	
EUNU				IAmb	IAmb		04 42 27.6		
	comp=Z,44nm,1.8s								
TEIG	**Tepich**	**39.81**	**113**	P	**P**		**04 42 15.3**	**-1.1**	
TEIG				pP	**sP**		**04 42 23.2**	**+2.0**	
TEIG				sP	**pwP**		**04 42 27.0**	**+3.3**	
SCHQ	**Schefferville**	**39.91**	**52**	LR	LR		04 58 55.0		
	comp=Z,4μm,18.6s,baz=280,slow=36								
SNET	**Serv Nac Est T**	**43.96**	**121**	IAMs_20	IAMs_20		05 03 07.8		
	comp=Z,1μm,18.0s								
TGUH	**Tegucigalpa,Un**	**44.92**	**118**	IAMs_20	IAMs_20		05 01 00.4		
	comp=Z,769nm,21.0s								
NEEM	**North Greenlan**	**45.08**	**17**	*i* P	**P**		**04 43 00.8**	**+1.9**	
NEEM				IAmb	IAmb		04 43 06.3		
	comp=Z,11nm,0.7s								
SFJD	**Kangerlussuaq**	**45.89**	**32**	LR	LR		05 02 52.3		
	comp=Z,997nm,18.8s,baz=279,slow=37								
BOAB	**BOAC BROADBAN**	**47.16**	**118**	IAMs_20	IAMs_20		05 02 52.5		
	comp=Z,2μm,22.0s								
DY2G	**Dye2**	**47.69**	**32**	*i* P	**P**		**04 43 18.4**	**-1.1**	
DY2G				IAmb	IAmb		04 43 28.0		
	comp=Z,12nm,0.6s								
SEY	**Seymchan**	**48.40**	**323**	P	**P**		**04 43 23.3**	**-1.4**	
	comp=Z,1.7nm,0.5s,baz=67,slow=12,SNR=4.1								
SEY				LR	LR		05 03 38.0		
	comp=Z,759nm,19.4s,baz=16,slow=36								
	comp=Z,1.7nm,0.5s								
PETK	**Petropavlovsk-**	**48.79**	**309**	P	**P**		**04 43 26.7**	**-1.2**	
	comp=Z,2.7nm,0.9s,baz=84,slow=15,SNR=2.4								
	comp=Z,2.7nm,0.9s								
ORTG	**Ortega, Santa**	**48.86**	**120**	P	P		04 43 26.1	-2.9	
SUMG	**Summit**	**48.89**	**24**	*i* P	**P**		**04 43 28.8**	**-0.1**	
SUMG				IAmb	IAmb		04 43 38.1		
	comp=Z,7.1nm,0.8s								
GTBY	**Guantanamo Bay**	**49.18**	**101**	IAMs_20	IAMs_20		05 06 07.0		
	comp=Z,2μm,20.0s								
JTS	**Las Juntas de**	**49.24**	**119**	LR	LR		05 07 38.6		
	comp=Z,422nm,18.3s,baz=12,slow=40								
ICESG	**Greenland Ices**	**49.45**	**28**	*i* P	**P**		**04 43 35.9**	**+2.8**	
ICESG				IAmb	IAmb		04 43 41.8		
	comp=Z,15nm,0.7s								
HDC	**Heredia**	**49.99**	**119**	IAMs_20	IAMs_20		05 07 53.7		
	comp=Z,695nm,19.0s								
MA2	**Magadan**	**50.18**	**319**	LR	LR		05 03 40.6		
	comp=Z,558nm,19.6s,baz=84,slow=35								
DAG	**Danmarks Havn**	**52.21**	**16**	*i* P	**P**		**04 43 52.8**	**-0.6**	
DAG				IAmb	IAmb		04 44 00.1		
	comp=Z,4.6nm,0.8s								
DBG	**Daneborg**	**53.08**	**19**	*i* P	**P**		**04 43 60.0**	**+0.1**	
DBG				IAmb	IAmb		04 44 07.0		
	comp=Z,7.3nm,0.8s								
TAOE	**Nuku Hiva Isla**	**53.31**	**196**	*e*LR	LR		04 59 24.8		
	comp=Z,231nm,21.3s								
TAOE	**Nuku Hiva Isla**	**53.31**	**196**	*e*T	T		05 41 19.3		
	comp=Z,66nm,0.3s								
TIXI	**Tiksi**	**53.60**	**338**	P	**P**		**04 44 02.1**	**-1.6**	
	comp=Z,2.7nm,0.7s,baz=90,slow=24,SNR=15								
TIXI				LR	LR		05 07 41.4		
	comp=Z,659nm,21.1s,baz=180,slow=37								
	comp=Z,2.7nm,0.7s								
TIXI	**Tiksi**	**53.60**	**338**	P	**P**		**04 44 02.4**	**-1.3**	
TIXI				IAMs_20	IAMs_20		05 07 30.5		
	comp=Z,583nm,20.0s								
TIXI	**Tiksi**	**53.60**	**338**	P	**P**		**04 44 02.0**	**-1.6**	
TIXI				pP	**pP**		**04 44 10.3**	**+3.2**	
TIXI				sP	**pwP**		**04 44 15.4**	**+4.3**	
UUPR	**Utuado, UPR, P**	**56.30**	**96**	P	P		**04 44 22.9**	**-1.1**	
SPITS	**Spitsbergen Ar**	**56.71**	**8**	LR	LR		05 09 57.9		
	comp=Z,464nm,18.7s,baz=292,slow=37								
SJG	**San Juan**	**56.81**	**96**	LR	LR		05 08 49.5		
	comp=Z,614nm,21.5s,baz=290,slow=36								
SJG	**San Juan**	**56.81**	**96**	IAMs_20	IAMs_20		05 08 25.9		
	comp=Z,782nm,21.0s								
BORG	**Borgarnes**	**57.80**	**29**	LR	LR		05 10 59.7		
	comp=Z,436nm,19.0s,baz=300,slow=38								
JMIC	**Jan Mayen**	**57.86**	**20**	LR	LR		05 09 04.1		
	comp=Z,574nm,19.6s,baz=320,slow=36								
YAK	**Yakutsk**	**58.31**	**327**	LR	LR		05 09 49.0		
	comp=Z,388nm,18.1s,baz=86,slow=36								
YAK	**Yakutsk**	**58.31**	**327**	IAMs_20	IAMs_20		05 07 28.3		
	comp=Z,571nm,22.0s								
HATO	**Hato, Curacao**	**58.73**	**104**	IAMs_20	IAMs_20		05 11 39.2		
	comp=Z,1μm,18.0s								
SMRT	**St. Maarten**	**59.08**	**94**	IAMs_20	IAMs_20		05 09 18.0		
	comp=Z,846nm,20.0s								
H11N3	**WAKE ISLAND Hy**	**59.35**	**269**	T	T		05 49 06.4		
	baz=50,slow=75,SNR=161								
H11N2	**WAKE ISLAND Hy**	**59.35**	**269**	T	T		05 49 19.1		
	baz=50,slow=75,SNR=91								
H11N1	**WAKE ISLAND Hy**	**59.37**	**269**	T	T		05 49 14.9		
	baz=50,slow=75,SNR=138								
SDV	**Santo Domingo**	**59.85**	**108**	LR	LR		05 14 28.1		
	comp=Z,566nm,18.2s,baz=322,slow=40								
SDV	**Santo Domingo**	**59.85**	**108**	P	**P**		**04 44 46.5**	**-2.6**	
SDV				IAmb	IAmb		04 44 56.2		
	comp=Z,16nm,1.2s								
ROSC	**El Rosal**	**60.25**	**114**	LR	LR		05 16 15.4		
	comp=Z,308nm,18.0s,baz=340,slow=41								
ANWB	**Willy Bob**	**60.26**	**93**	IAMs_20	IAMs_20		05 10 22.3		
	comp=Z,905nm,21.0s								
H11S1	**WAKE ISLAND Hy**	**60.27**	**268**	T	T		05 50 16.8		
	baz=50,slow=75,SNR=832								
H11S2	**WAKE ISLAND Hy**	**60.28**	**268**	T	T		05 50 28.8		
	baz=50,slow=75,SNR=1279								
H11S3	**WAKE ISLAND Hy**	**60.29**	**268**	T	T		05 50 31.0		
	baz=50,slow=75,SNR=428								
BAUV	**El Baul**	**61.62**	**105**	P	**P**		**04 44 59.0**	**-1.9**	
PORT	**Chimborazo Vol**	**62.19**	**122**	P	P		04 45 02.7	-2.7	
PORT				IAmb	IAmb		04 45 25.9		
	comp=Z,9.4nm,1.0s								
PCRV	**Puerto La Cruz**	**63.18**	**102**	LR	LR		05 15 16.1		
	comp=Z,561nm,19.9s,slow=38								
MCRA	**Macar, Loja**	**63.77**	**125**	P	**P**		**04 45 13.8**	**-1.5**	
MCRA				IAmb	IAmb		04 45 17.9		
	comp=Z,7.3nm,0.9s								
TIAR	**Tiarei**	**63.97**	**204**	*e*T	T		05 54 31.8		
	comp=Z,5.1nm,0.2s								
PPT	**Papeete**	**64.05**	**204**	LR	LR		05 06 13.8		
	comp=Z,179nm,21.0s,baz=19,slow=30								
PPT2	**Papeete2**	**64.07**	**204**	*e*LR	LR		05 04 04.0		
	comp=Z,440nm,28.2s								
PPT2				*e*LR	LR		05 04 11.0		
	comp=Z,221nm,28.5s								
ARCES	**ARCESS Array B**	**65.61**	**10**	LR	LR		05 15 24.4		
	comp=Z,405nm,19.1s,baz=330,slow=37								
HEH	**HeiHe**	**66.40**	**318**	*e*P	P		04 45 29.8	-2.1	
HEH				pmax	pmax				
	comp=Z,8.0nm,1.0s								
HEH				pmax	pmax				
	comp=Z,140nm,5.9s								
USRK	**Ussuriysk Ar.**	**67.86**	**310**	LR	LR		05 13 58.8		
	comp=Z,174nm,20.3s,baz=55,slow=35								
TBI	**Tubuai**	**69.50**	**202**	*e*LR	LR		05 06 54.9		
	comp=Z,853nm,23.5s								
TBI				*e*LR	LR		05 06 55.0		
	comp=Z,4μm,22.0s								
TBTG	**Tabatinga, AM**	**69.90**	**117**	P	**P**		**04 45 52.8**	**-1.5**	
TBTG				IAmb	IAmb		04 46 00.7		
	comp=Z,45nm,1.4s								
AFI	**Afiamalu**	**70.09**	**226**	LR	LR		05 08 22.5		
	comp=Z,386nm,20.9s,baz=31,slow=29								
NB2	**NORSAR Subarra**	**70.57**	**20**	P	P		04 46 04.2	+6.4	
	comp=Z,14nm,0.8s,baz=330,slow=6.2								
NOA	**NORSAR Array B**	**70.57**	**20**	P	P		04 46 04.6	+6.8	
	comp=Z,5.0nm,1.0s,baz=330,slow=5.8,SNR=6.2								
NOA				LR	LR		05 15 21.0		
	comp=Z,307nm,20.7s,baz=290,slow=35								
EKA	**Eskdalemuir Ar**	**70.81**	**30**	LR	LR		05 15 58.1		
	comp=Z,585nm,20.6s,baz=312,slow=35								
RAR	**Rarotonga**	**70.92**	**212**	LR	LR		05 08 43.4		
	comp=Z,398nm,20.1s,baz=34,slow=29								
NNA	**Nana**	**71.69**	**128**	LR	LR		05 14 47.2		
	comp=Z,212nm,20.7s,baz=314,slow=34								
HFS	**Hagfors**	**71.97**	**19**	LR	LR		05 16 24.4		
	comp=Z,460nm,18.1s,baz=331,slow=35								
FINES	**FINESS Array B**	**73.30**	**13**	P	**P**		**04 46 14.4**	**+0.3**	
	comp=Z,6.8nm,1.0s,baz=34,slow=5.7,SNR=2.1								
	comp=Z,6.8nm,1.0s								
PTGA	**Pitinga**	**74.11**	**107**	LR	LR		05 21 00.1		
	comp=Z,926nm,21.2s,baz=325,slow=38								
KSRS	**Korea Array**	**74.62**	**307**	LR	LR		05 16 24.8		
	comp=Z,70nm,21.6s,baz=140,slow=34								
MDP	**Montagnes des**	**75.27**	**97**	LR	LR		05 22 54.4		
	comp=Z,626nm,19.6s,baz=331,slow=38								
MACA	**Manacapuru-AM**	**75.34**	**109**	P	**P**		**04 46 24.5**	**-2.2**	
MACA				IAmb	IAmb		04 46 33.4		
	comp=Z,9.7nm,0.8s								
KLMR	**Klimovskoe**	**75.55**	**7**	*e*P	P		04 46 33.0	+5.8	
KLMR				AMP			04 46 34.8		
	comp=Z,19nm,1.2s								
ETMB	**Extrema**	**76.53**	**118**	P	**P**		**04 46 31.1**	**-2.3**	
ETMB				IAmb	IAmb		04 46 38.8		
	comp=Z,11nm,1.1s								
ULN	**Ulaanbaatar**	**77.35**	**326**	IAMs_20	IAMs_20		05 20 14.8		
	comp=Z,376nm,20.0s								
SONM	**Songino Array**	**77.64**	**326**	P	**P**		**04 46 39.2**	**-0.3**	
	comp=Z,1.3nm,0.7s,baz=55,slow=5.5,SNR=8.1								
SONM				LR	LR		05 19 36.6		
	comp=Z,426nm,21.8s,baz=32,slow=35								
	comp=Z,1.3nm,0.7s								
SONM	**Songino Array**	**77.64**	**326**	P	**P**		**04 46 38.7**	**-0.8**	
MSVF	**Nonsavu**	**78.84**	**233**	LR	LR		05 13 45.1		
	comp=Z,497nm,19.8s,baz=19,slow=30								
ZALV	**Zalesovo Beam**	**79.25**	**341**	P	**P**		**04 46 47.4**	**-0.6**	
	comp=Z,0.5nm,0.4s,baz=35,slow=5.3,SNR=1.8								
ZALV				LR	LR		05 24 58.3		
	comp=Z,114nm,19.3s,baz=20,slow=38								
	comp=Z,0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**79.25**	**341**	P	**P**		**04 46 46.7**	**-1.3**	
GUMO	**Guam**	**79.34**	**279**	LR	LR		05 14 18.1		
	comp=Z,177nm,21.3s,baz=80,slow=30								
CLL	**Collm**	**79.55**	**24**	*e*(pP)	**pP**		**04 46 55.0**	**+1.6**	
CLL				*e*S	**S**		**04 56 53.0**	**+2.3**	
CLL				*e*SS	**SS**		**05 01 54.0**	**-3.2**	
LPAZ	**La Paz**	**80.24**	**123**	P	**P**		**04 46 53.2**	**-1.4**	
	comp=Z,2.8nm,0.8s,baz=358,slow=7.9,SNR=7.8								
	comp=Z,2.8nm,0.8s								
LPAZ	**La Paz**	**80.24**	**123**	P	**P**		**04 46 52.4**	**-2.2**	
MTE	**Manteigas**	**80.41**	**42**	IAMs_20	IAMs_20		05 18 52.9		
	comp=Z,694nm,20.0s								
HHC	**Hu-ho-hao-te**	**80.86**	**319**	*e*P	**P**		**04 46 55.8**	**-1.4**	
HHC				pmax	pmax				
	comp=Z,15nm,0.8s								
HHC				pmax	pmax				
	comp=Z,250nm,5.1s								
HHC				LR	LR				
	comp=Z,530nm,15.7s								
HHC				LR	LR				
	comp=Z,770nm,18.4s								
HHC				LR	LR				
	comp=Z,560nm,18.7s								
GERES	**GERESS Array B**	**81.94**	**25**	P	**P**		**04 47 03.9**	**+1.2**	
	comp=Z,0.3nm,0.7s,baz=329,slow=5.0,SNR=3.7								
GERES				LR	LR		05 25 10.7		
	comp=Z,555nm,18.5s,baz=324,slow=37								
	comp=Z,0.3nm,0.7s								
VRAC	**Vranov**	**82.38**	**23**	LR	LR		05 23 13.6		
	comp=Z,247nm,21.1s,baz=328,slow=35								
DAVOX	**Davos/Dischmat**	**82.50**	**28**	LR	LR		05 25 35.3		
	comp=Z,379nm,18.4s,baz=320,slow=37								
PAB	**San Pablo**	**82.62**	**41**	IAMs_20	IAMs_20		05 20 34.4		
	comp=Z,546nm,20.0s								
ESDC	**Sonseca Array**	**82.70**	**41**	P	**P**		**04 47 07.5**	**+0.7**	
	comp=Z,0.5nm,1.0s,baz=300,slow=2.8,SNR=3.1								
ESDC				LR	LR		05 20 40.7		
	comp=Z,437nm,19.8s,baz=309,slow=33								
	comp=Z,0.5nm,1.0s								
BRVK	**Borovoye**	**82.77**	**349**	P	**P**		**04 47 05.8**	**-1.0**	
BRVK				IAmb	IAmb		04 47 14.6		
	comp=Z,9.4nm,0.9s								
BRVK	**Borovoye**	**82.77**	**349**	IAMs_20	IAMs_20		05 24 20.0		
	comp=Z,534nm,22.0s								
FUORN	**Ofenpass-Fuorn**	**82.77**	**28**	IAMs_20	IAMs_20		05 27 19.2		
	comp=Z,334nm,19.0s								
VILB	**Vilhena**	**82.78**	**115**	P	**P**		**04 47 06.1**	**-1.3**	
VILB				IAmb	IAmb		04 47 14.9		
	comp=Z,25nm,1.1s								
BVAR	**Borovoye Array**	**82.79**	**349**	LR	LR		05 25 42.8		
	comp=Z,330nm,21.9s,baz=18,slow=37								
KURK	**Kurchatov**	**83.63**	**344**	P	**P**		**04 47 09.6**	**-1.7**	
KURK				IAmb	IAmb		04 47 18.7		
	comp=Z,6.1nm,1.0s								
NJ2	**Nanjing**	**83.69**	**309**	*e*P	P		04 47 09.5	-2.5	
NJ2				pmax	pmax				
	comp=Z,9.0nm,0.6s								
KURBB	**Kurchatov Arra**	**83.73**	**344**	LR	LR		05 29 44.0		
	comp=Z,155nm,18.1s,baz=339,slow=40								
AKASG	**Malin Array Be**	**84.06**	**15**	P	**P**		**04 47 13.5**	**-0.1**	
	comp=Z,0.6nm,0.7s,baz=228,slow=12,SNR=2.0								
AKASG				LR	LR		05 25 54.7		
	comp=Z,328nm,18.7s,baz=337,slow=37								
	comp=Z,0.6nm,0.7s								
SFS	**San Fernando**	**84.11**	**44**	IAMs_20	IAMs_20		05 28 49.0		
	comp=Z,718nm,20.0s								
SIV	**San Ignacio**	**84.45**	**118**	LR	LR		05 27 58.9		
	comp=Z,246nm,18.2s,baz=330,slow=38								
VLC	**Villacollemand**	**84.95**	**29**	IAMs_20	IAMs_20		05 25 02.0		
	comp=Z,673nm,21.0s								
CART	**Cartagena**	**85.76**	**40**	IAMs_20	IAMs_20		05 22 03.0		
	comp=Z,471nm,20.0s								
RAO	**Raoul Island**	**85.97**	**223**	LR	LR		05 17 06.8		
	comp=Z,294nm,21.1s,baz=45,slow=30								
KRVT	**Keravat (AS076**	**86.27**	**261**	LR	LR		05 17 59.5		
	comp=Z,188nm,21.2s,baz=188,slow=30								
MKAR	**Makanchi Array**	**86.50**	**340**	P	**P**		**04 47 24.4**	**-1.4**	
	comp=Z,0.2nm,0.6s,baz=12,slow=7.5,SNR=1.8								
MKAR				LR	LR		05 29 06.9		
	comp=Z,177nm,18.9s,baz=28,slow=38								
	comp=Z,0.2nm,0.6s								
MAKZ	**Makanchi**	**86.56**	**340**	IAMs_20	IAMs_20		05 29 48.9		
	comp=Z,264nm,21.0s								
GTA	**Gaotai**	**87.28**	**325**	*e*P	P		04 47 36.0	+6.1	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.5s								
GTA				LR	LR				
	comp=N,470nm,20.7s								
GTA				LR	LR				
	comp=E,330nm,19.6s								
GTA				LR	LR				
	comp=Z,440nm,22.9s								
WHN	**Wuhan**	**87.36**	**311**	⇑P	P		04 47 37.0	+6.8	
ABKAR	**Akbulak array**	**87.53**	**355**	P	**P**		**04 47 30.1**	**-0.6**	
WMQ	**Urumqi**	**87.75**	**336**	*e*P	**P**		**04 47 31.0**	**-1.0**	
WMQ				pmax	pmax				
	comp=Z,13nm,0.7s								
WMQ				LR	LR				
	comp=Z,260nm,19.3s								
WMQ				LR	LR				
	comp=Z,260nm,17.7s								
WMQ				LR	LR				
	comp=Z,430nm,25.7s								
LZH	**Lanzhou**	**88.29**	**321**	*e*P	P		04 47 42.5	+7.6	
LZH				sP	pwP		04 47 51.3	+8.9	
LZH				pmax	pmax				
	comp=Z,18nm,1.0s								
LZH				LR	LR				
	comp=N,450nm,17.5s								
LZH				LR	LR				
	comp=E,470nm,15.5s								
LZH				LR	LR				
	comp=Z,510nm,18.4s								
MLR	**Muntele Rosu**	**88.33**	**19**	LR	LR		05 27 01.8		
	comp=Z,671nm,18.9s,baz=343,slow=36								
DZM	**Mont Dzumac**	**89.13**	**238**	*e*LR	LR		05 16 02.3		
	comp=Z,1μm,24.9s								
DZM	**Mont Dzumac**	**89.13**	**238**	LR	LR		05 18 54.9		
	comp=Z,480nm,21.9s,baz=50,slow=30								
PDG	**Podgorica**	**89.41**	**24**	IAMs_20	IAMs_20		05 29 36.7		
	comp=Z,509nm,20.0s								
CFA	**Coronel Fontan**	**92.06**	**133**	LR	LR		05 24 00.1		
	comp=Z,163nm,19.2s,baz=341,slow=32								
AAK	**Ala-Archa**	**92.18**	**344**	LR	LR		05 33 23.6		
	comp=Z,149nm,18.2s,baz=14,slow=38								
AAK	**Ala-Archa**	**92.18**	**344**	IAMs_20	IAMs_20		05 32 19.5		
	comp=Z,248nm,20.0s								
VAE	**Valguarnera**	**92.28**	**30**	LR	LR		05 29 36.2		
	comp=Z,361nm,18.4s,baz=10,slow=36								
BDFB	**Brasilia**	**92.93**	**109**	LR	LR		05 33 03.9		
	comp=Z,617nm,20.6s,baz=321,slow=38								
CPUP	**Villa Florida**	**94.38**	**122**	LR	LR		05 31 39.3		
	comp=Z,155nm,20.8s,baz=334,slow=36								
BBTS	**Babate**	**94.39**	**65**	LR	LR		05 29 26.5		
	comp=Z,610nm,18.9s,baz=275,slow=35								
RCBR	**Riachuelo**	**94.88**	**93**	LR	LR		05 35 05.3		
	comp=Z,272nm,18.1s,baz=91,slow=38								
GNI	**Garni**	**96.53**	**6**	IAMs_20	IAMs_20		05 39 20.3		
	comp=Z,319nm,20.0s								
ISP	**Isparta**	**96.67**	**18**	IAMs_20	IAMs_20		05 34 42.3		
	comp=Z,360nm,22.0s								
PZH	**PanZhiHua**	**97.22**	**317**	P	**P**		**04 48 16.5**	**+0.3**	
DAV	**Davao City (W)**	**97.53**	**287**	LR	LR		05 24 07.3		
	comp=Z,157nm,21.6s,baz=80,slow=30								
KMI	**Kunming**	**97.86**	**316**	⇑P	**P**		**04 48 21.0**	**+1.8**	
KMI				pmax	pmax				
	comp=Z,5.0nm,0.5s								
PLCA	**Paso Flores**	**98.05**	**140**	LR	LR		05 25 51.2		
	comp=Z,150nm,19.9s,baz=335,slow=31								
SIJI	**Sorong**	**99.00**	**277**	LR	LR		05 31 57.6		
	comp=Z,61nm,18.5s,baz=88,slow=35								
LSA	**Lhasa**	**99.23**	**327**	IAMs_20	IAMs_20		05 34 48.1		
	comp=Z,263nm,19.0s								
CSS	**Mathiatis**	**100.02**	**16**	IAMs_20	IAMs_20		05 43 06.6		
	comp=Z,241nm,21.0s								
TNCH	**TengChong**	**100.03**	**319**	*e*P	**Pdif**		**04 48 27.3**	**-1.5**	
TNCH				pmax	pmax				
	comp=Z,200nm,4.8s								
NIL	**Nilore**	**101.10**	**343**	IAMs_20	IAMs_20		05 37 59.4		
	comp=Z,340nm,21.0s								
GHAJ	**Ghor Haditha**	**104.01**	**15**	IAMs_20	IAMs_20		05 38 25.1		
	comp=Z,370nm,21.0s								
WRAB	**Tennant Creek**	**109.46**	**261**	IAMs_20	IAMs_20		05 32 06.8		
	comp=Z,463nm,20.0s								
KULM	**Kulim**	**115.14**	**305**	IAMs_20	IAMs_20		05 32 03.9		
	comp=Z,258nm,20.0s								
IPM	**Ipoh**	**115.56**	**305**	IAMs_20	IAMs_20		05 50 27.1		
	comp=Z,315nm,19.0s								

NOU ***28*** *04:

MBAZ	**Motutapu North**	**5.93**	**12**	P	**Pn**	**04 42 05.6**	**+0.9**
KUZ	**Kuaotunu**	**6.11**	**18**	P	**Pn**	**04 42 06.6**	**-0.7**
WCZ	**Waipu Caves**	**6.68**	**7**	P	**Pn**	**04 42 16.5**	**+1.4**

WEL 28 05:19:42.4±0.5,**42°S**±3°×**17°4E**±°,**h9**km±3km,**M3.3**/31, **ML3.6**/13,**MLv3.3**/31,**Error ellipse: s-maj=0.0km s-min=0.0km az=120.2**,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.20**	**233**	P	Pg	05 19 47.2	+0.7
KHZ				S	Sg	05 19 50.7	+1.5
BSWZ	**Blackbirch Sta**	**0.59**	**9**	P	Pg	05 19 54.0	+0.3
BSWZ				S	Sb	05 20 03.2	-0.1
CMWZ	**Cape Campbell**	**0.65**	**32**	P	Pb	05 19 55.8	0.0
THZ	**Tophouse**	**0.82**	**310**	P	Pb	05 19 58.7	-0.2
GVZ	**Greta Valley S**	**0.85**	**218**	P	Pg	05 19 59.0	+0.2
TUWZ	**Tuamarina**	**0.88**	**10**	P	Pg	05 19 59.4	+0.1
NNZ	**Nelson**	**1.11**	**345**	P	Pg	05 20 03.3	-0.4
TCW	**Tory Channel**	**1.15**	**20**	P	Pb	05 20 02.9	-1.5
MRNZ	**Matariki Terra**	**1.16**	**320**	P	Pn	05 20 04.7	-0.1
AMCZ	**Amberley**	**1.20**	**222**	P	Pb	05 20 03.6	-1.5
LTZ	**Lake Taylor**	**1.20**	**246**	P	Pb	05 20 04.3	-0.9
WEL	**Wellington**	**1.27**	**37**	P	Pn	05 20 04.2	-1.9
PLWZ	**Palliser**	**1.34**	**58**	P	Pn	05 20 04.3	-3.0
TKNZ	**Takaka Hill**	**1.39**	**335**	P	Pn	05 20 08.0	0.0
DUWZ	**D'Urville Isla**	**1.50**	**5**	P	Pn	05 20 08.2	-1.2
OKCZ	**Okains Bay**	**1.51**	**199**	P	Pn	05 20 07.5	-2.1
CAW	**Cannon Point**	**1.54**	**40**	P	Pn	05 20 07.8	-2.2
DSZ	**Denniston Nort**	**1.55**	**290**	P	Pn	05 20 10.6	+0.5
PAWZ	**Paruwai Farm**	**1.55**	**54**	P	Pn	05 20 07.2	-3.0
MQZ	**McQueen's Vall**	**1.62**	**209**	P	Pn	05 20 08.2	-2.9
OXZ	**Oxford**	**1.63**	**230**	P	Pn	05 20 09.1	-2.0
KIW	**Kapiti Island**	**1.68**	**32**	P	Pn	05 20 10.2	-1.7
TRWZ	**Traveller**	**1.70**	**59**	P	Pn	05 20 08.9	-3.3
QRZ	**Quartz Range**	**1.73**	**328**	P	Pn	05 20 13.1	+0.5
MTW	**Mount Morrison**	**1.74**	**50**	P	Pn	05 20 09.7	-3.0
INZ	**Inchbonnie**	**1.76**	**255**	P	Pn	05 20 12.3	-0.6
OGWZ	**Otaki Gorge**	**1.82**	**36**	P	Pn	05 20 11.6	-2.2
RACZ	**Rakaia**	**1.85**	**219**	P	Pn	05 20 12.1	-2.2
HOWZ	**Holdsworth Sta**	**1.93**	**44**	P	Pn	05 20 12.5	-2.8
TMWZ	**Te Maipa**	**2.00**	**54**	P	Pn	05 20 12.8	-3.4
MHCZ	**Mount Hutt**	**2.02**	**232**	P	Pn	05 20 14.5	-2.2
WACZ	**Wakanui South**	**2.16**	**220**	P	Pn	05 20 16.3	-2.2
WVZ	**Waitaha Valley**	**2.35**	**250**	P	Pn	05 20 20.6	-0.5
RPZ	**Rata Peaks**	**2.43**	**233**	P	Pn	05 20 20.5	-1.8
ARCZ	**Arundel**	**2.50**	**228**	P	Pn	05 20 21.5	-1.8
WAZ	**Wanganui**	**2.71**	**21**	P	Pn	05 20 26.2	+0.2
GCSZ	**Gaunt Creek Bo**	**2.72**	**247**	P	Pn	05 20 26.0	-0.1
TMZ	**Timaru**	**2.89**	**223**	P	Pn	05 20 26.7	-1.9
KHEZ	**Kahui Hut**	**3.01**	**4**	P	Pn	05 20 33.0	+2.8
MOVZ	**Moawhango**	**3.26**	**28**	P	Pn	05 20 31.8	-2.0
WNVZ	**Wahianoa**	**3.28**	**26**	P	Pn	05 20 33.0	-1.1
SNVZ	**South Ngauruho**	**3.42**	**25**	P	Pn	05 20 36.9	+0.9
ODZ	**Otahua Downs**	**3.55**	**218**	P	Pn	05 20 35.6	-2.0
BKZ	**Black Stump Fm**	**3.76**	**35**	P	Pn	05 20 44.2	+3.7
HIZ	**Hauiti**	**3.87**	**13**	P	Pn	05 20 42.2	+0.1
TOZ	**Tahuroa Road**	**4.75**	**17**	P	Pn	05 20 53.0	-1.1
AWAZ	**Awhitu Peninsu**	**5.27**	**8**	P	Pn	05 21 01.2	-0.1
MKAZ	**Moumakai**	**5.30**	**12**	P	Pn	05 21 00.7	-0.9

IDC ***28*** *05:22:08.6±1.6,40°.12N×19°.89E,h0km,mb3.9/8, mbtmp3.9/11,ML3.6/3,Error ellipse: s-maj=33.9km s-min=16.0km az=44.0*

TIR ***28*** *05:22:09.1,39°.96N×19°.80E,h2km,Md3.8,Ml3.8*

PDG ***28*** *05:22:09.2±0.6,40°.00N×19°.68E,h8km±1km,ML3.5/12, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*

ATH ***28*** *05:22:09.9,39°.95N×19°.79E,h8km±2km,ML3.5/14,Error ellipse: s-maj=2.8km s-min=1.3km az=234.0*

NEIC ***28*** *05:22:09.1±2.0,39°.83N±0°.04×19°.75E±0°.03,h15km±6km, mb4.4/8,ML3.8(TIR),ML3.6(THE),ML3.5(ATH),Error ellipse: s-maj=5.9km s-min=3.5km az=159.0*

BEO ***28*** *05:22:10.8±0.7,39°.94N×19°.64E,h26km±4km,ML3.3/9*

VIE ***28*** *05:22:10.1,40°.23N×20°.11E,h0km,mb4.1/4,ML3.6/2 125 km S of Tirana*

THE ***28*** *05:22:10.7,39°.93N×19°.83E,h0km±1km,ML3.6/20,Error ellipse: s-maj=1.2km s-min=0.5km az=273.0*

ISC 28 05:22:09.6±0.8,**39°.93N**±0°.02×**19°.78E**±0°.02,**h12**km±5km, **n193**,σ1**°21**/254,**mb4.3**/11,**17C-7D**,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.18**	**107**	P	**Pg**	**05 22 13.3**	**-0.3**
SRN				S	**Sg**	**05 22 16.2**	**-0.2**
	21µm,0.2s						
SRN	**Sarande**	**0.18**	**107**	P	**Pg**	**05 22 13.1**	**-0.5**
	baz=118						
SRN				S	**Sg**	**05 22 16.1**	**-0.3**
	baz=118						
SRN				AMP			
	comp=N,101nm,0.3s,baz=118						
KEK	**Kerkira**	**0.22**	**176**	Pg	**Pg**	**05 22 13.6**	**-0.7**
KEK	**Kerkira**	**0.22**	**176**	P	**Pg**	**05 22 14.6**	**+0.3**
KEK				S	**Sg**	**05 22 18.4**	**+0.9**
	comp=N,9µm,0.2s						
KEK	**Kerkira**	**0.22**	**176**	P	**Pg**	**05 22 14.3**	**0.0**
KEK				S	**Sg**	**05 22 18.6**	**+1.1**
KEK				AML	AML	05 22 21.4	
	comp=N,16579µm,0.2s						
KEK				AML	AML	05 22 25.4	
	comp=E,20456µm,0.6s						
KASA	**Kassiopi**	**0.22**	**147**	P	**Pg**	**05 22 14.4**	**+0.1**
KASA				S	**Sg**	**05 22 18.3**	**+0.8**
KASA				AML	AML	05 22 22.9	
	comp=N,19434µm,0.3s						
KASA				AML	AML	05 22 23.7	
	comp=E,17415µm,0.3s						
VLO	**Vlora**	**0.58**	**338**		**Pg**	**05 22 20.8**	**-0.2**
VLO				Sg	**Sb**	**05 22 31.4**	**+1.5**
VLO	**Vlora**	**0.58**	**338**	P	**Pg**	**05 22 21.4**	**+0.5**
VLO				S	**Sb**	**05 22 31.3**	**+1.5**
	comp=E,10µm,0.5s						
VLO	**Vlora**	**0.58**	**338**	P	**Pg**	**05 22 20.7**	**-0.2**
	baz=336						
VLO				S	**Sb**	**05 22 29.9**	**0.0**
	baz=336						
VLO				AMP			
	comp=N,39nm,0.4s,baz=336						
IGT	**Igoumenitsa**	**0.58**	**133**	P	**Pg**	**05 22 21.1**	**+0.1**
IGT				S	**Sg**	**05 22 29.5**	**+0.8**
	comp=N,4µm,0.3s						
IGT	**Igoumenitsa**	**0.58**	**133**	P	**Pg**	**05 22 21.0**	**+0.1**
	baz=136						
IGT				S	**Sb**	**05 22 30.6**	**+0.7**
	baz=136						
IGT	**Igoumenitsa**	**0.58**	**133**	P	**Pg**	**05 22 21.1**	**+0.1**
IGT				S	**Sb**	**05 22 30.0**	**+0.1**
IGT				AML	AML	05 22 36.2	
	comp=N,7781µm,0.4s						
IGT				AML	AML	05 22 38.4	
	comp=E,4840µm,0.4s						
LSK	**Leskovik**	**0.67**	**71**	P	**Pg**	**05 22 22.4**	**-0.2**
LSK				S	**Sg**	**05 22 32.2**	**+0.8**
	comp=E,9µm,0.7s						
LSK	**Leskovik**	**0.67**	**71**	P	**Pg**	**05 22 21.8**	**-0.8**
	baz=72						
LSK				S	**Sg**	**05 22 32.3**	**+0.8**
	baz=72						
LSK				AMP			
	comp=N,40nm,0.5s,baz=72						
JAN	**Janina**	**0.87**	**108**	P	**Pg**	**05 22 25.2**	**-1.2**
JAN				S	**Sb**	**05 22 39.3**	**+1.1**
	comp=N,5µm,0.4s						
JAN	**Janina**	**0.87**	**108**	P	**Pg**	**05 22 25.2**	**-1.2**
SCTE	**Santa Cesarea**	**1.02**	**278**		**Pg**	**05 22 28.9**	**-0.3**
SCTE				Sg	**Sb**	**05 22 43.1**	**+0.7**
SCTE	**Santa Cesarea**	**1.02**	**278**	P	**Pg**	**05 22 29.4**	**+0.2**
	baz=277						
SCTE				S	**Sb**	**05 22 43.7**	**+1.3**
	baz=277						
SCTE				AMP			
	comp=N,4.3nm,0.2s,baz=277						
SCTE	**Santa Cesarea**	**1.02**	**278**	P	**Pg**	**05 22 29.1**	**-0.1**
SCTE				S	**Sb**	**05 22 43.0**	**+0.5**
SCTE				AML	AML	05 22 45.0	
	comp=N,2121µm,0.3s						
SCTE				AML	AML	05 22 50.9	
	comp=E,4016µm,0.7s						
KBN	**Korca**	**1.04**	**48**		**Pg**	**05 22 29.4**	**-0.2**
KBN				Sg	**Sn**	**05 22 47.3**	**+2.8**
KBN	**Korca**	**1.04**	**48**	P	**Pb**	**05 22 30.1**	**+0.6**
KBN				S	**Sn**	**05 22 44.5**	**0.0**
	comp=E,3µm,0.5s						
KBN	**Korca**	**1.04**	**48**	P	**Pg**	**05 22 29.1**	**-0.5**
	baz=48						
KBN				S	**Sb**	**05 22 44.4**	**+1.3**
	baz=48						
KBN				AMP			
	comp=E,11nm,0.5s,baz=48						
PENT	**Pentalofos**	**1.08**	**75**	P	**Pg**	**05 22 29.9**	**-0.5**
PENT				S	**Sb**	**05 22 45.3**	**+1.0**
	comp=E,3µm,0.6s						
PENT	**Pentalofos**	**1.08**	**75**	P	**Pg**	**05 22 29.6**	**-0.7**
PENT				AML	AML	05 22 51.0	
	comp=E,8661µm,0.6s						
PENT				AML	AML	05 22 54.1	
	comp=N,2334µm,0.6s						
NEST	**Nestorio**	**1.09**	**63**	P	**Pg**	**05 22 30.2**	**-0.3**
NEST				S	**Sn**	**05 22 46.3**	**+0.6**
	comp=N,3µm,0.5s						
NEST	**Nestorio**	**1.09**	**63**	P	**Pg**	**05 22 30.6**	**0.0**
NEST				AML	AML	05 22 53.5	
	comp=N,9092µm,0.5s						
NEST				AML	AML	05 22 56.6	
	comp=E,6256µm,0.5s						
KPRO	**Kipourio**	**1.22**	**88**	P	**Pb**	**05 22 33.0**	**+0.4**
KPRO				S	**Sn**	**05 22 49.8**	**+0.9**
	comp=E,4µm,0.5s						
KPRO	**Kipourio**	**1.22**	**88**	P	**Pb**	**05 22 32.9**	**+0.4**
KPRO				AML	AML	05 22 55.7	
	comp=N,8115µm,0.5s						
KPRO				AML	AML	05 22 58.9	
	comp=E,5192µm,0.5s						
TSLK	**Tsoukalades, L**	**1.30**	**148**	P	**Pg**	**05 22 35.0**	**+0.5**
TSLK				S	**Sg**	**05 22 53.9**	**+2.5**
	comp=E,3µm,0.5s						
TSLK	**Tsoukalades, L**	**1.30**	**148**	P	**Pb**	**05 22 34.7**	**+0.8**
TSLK				S	**Sn**	**05 22 51.5**	**+0.8**
TSLK				AML	AML	05 22 58.0	
	comp=N,6129µm,0.5s						
TSLK				AML	AML	05 23 01.0	
	comp=E,4458µm,0.5s						
LKD2	**Lefkada island**	**1.33**	**149**	P	**Pg**	**05 22 35.7**	**+0.6**
LKD2				S	**Sg**	**05 22 54.0**	**+1.6**
	comp=E,3µm,0.5s						
LKD2	**Lefkada island**	**1.33**	**149**	P	**Pg**	**05 22 35.4**	**+0.3**
	baz=150						
LKD2				S	**Sg**	**05 22 54.5**	**+2.2**
	baz=150						
LKD2	**Lefkada island**	**1.33**	**149**	P	**Pb**	**05 22 35.2**	**+0.8**
LKD2				AML	AML	05 23 00.6	
	comp=N,4121µm,0.5s						
LKD2				AML	AML	05 23 05.5	
	comp=E,6179µm,0.5s						
NYDR	**Nydri-Lefkada**	**1.41**	**149**	P	**Pn**	**05 22 36.0**	**+1.0**
NYDR				S	**Sg**	**05 22 56.2**	**+1.2**
OHR	**Ohrid**	**1.41**	**33**	*i* Pn	**Pb**	**05 22 36.6**	**+0.7**
OHR				*i* Sn	**Sg**	**05 22 59.8**	**+4.7**
TIR	**Tirane**	**1.42**	**3**	⇑P	**Pn**	**05 22 35.6**	**+0.4**
TIR				⇑S	**Sg**	**05 22 56.1**	**+0.9**
TIR	**Tirane**	**1.42**	**3**		**Pb**	**05 22 36.3**	**+0.3**
TIR	**Tirane**	**1.42**	**3**	P	**Pg**	**05 22 37.0**	**+0.2**
TIR				S	**Sg**	**05 22 57.2**	**+1.9**
	comp=E,930nm,0.6s						
TIR	**Tirane**	**1.42**	**3**	*e*Pg	**Pb**	**05 22 36.6**	**+0.6**
TIR				*e*Sg	**Sg**	**05 22 56.4**	**+1.1**
TIR	**Tirane**	**1.42**	**3**	P	**Pb**	**05 22 36.5**	**+0.5**
	baz=1.0						
TIR				S	**Sg**	**05 22 55.8**	**+0.5**
	baz=1.0						
TIR				AMP			
	comp=E,3.0nm,0.6s,baz=1.0						
EVGI	**Lefkada island**	**1.47**	**152**	P	**Pb**	**05 22 37.7**	**+0.8**
EVGI				S	**Sg**	**05 22 58.1**	**+1.0**
	comp=E,1µm,0.4s						
EVGI	**Lefkada island**	**1.47**	**152**	P	**Pn**	**05 22 36.9**	**+1.0**
FNA	**Florina**	**1.49**	**55**		**Pn**	**05 22 37.2**	**+1.0**
FNA	**Florina**	**1.49**	**55**	P	**Pb**	**05 22 37.9**	**+0.7**
FNA				S	**Sg**	**05 22 58.9**	**+1.4**
	comp=E,2µm,0.5s						
FNA	**Florina**	**1.49**	**55**	*e*Pg	**Pb**	**05 22 37.9**	**+0.7**
FNA				*e*Sg	**Sg**	**05 23 01.4**	**+3.9**
FNA	**Florina**	**1.49**	**55**	P	**Pb**	**05 22 37.6**	**+0.4**
	baz=55						
FNA				S	**Sb**	**05 22 57.1**	**+1.0**
	baz=55						
FNA	**Florina**	**1.49**	**55**	P	**Pn**	**05 22 36.9**	**+0.7**
FNA				AML	AML	05 23 03.0	
	comp=E,4393µm,0.5s						
FNA				AML	AML	05 23 03.3	
	comp=N,5052µm,0.5s						
KZN	**Kozani**	**1.57**	**76**	P	**Pg**	**05 22 39.7**	**-0.1**
KZN				S	**Sg**	**05 23 00.7**	**+0.5**
	comp=N,2µm,0.5s						
KZN	**Kozani**	**1.57**	**76**	P	**Pb**	**05 22 38.9**	**+0.3**
KZN				AML	AML	05 23 09.3	
	comp=E,3559µm,0.4s						
KZN				AML	AML	05 23 09.9	
	comp=N,3338µm,0.5s						
DMLN	**Damoulianata-K**	**1.75**	**165**	P	**Pn**	**05 22 41.1**	**+1.3**
THL	**Klokotos Trika**	**1.76**	**101**	P	**Pb**	**05 22 42.4**	**+0.6**
THL				S	**Sb**	**05 23 04.9**	**+1.1**
	comp=N,1µm,0.5s						
THL	**Klokotos Trika**	**1.76**	**101**	P	**Pb**	**05 22 42.1**	**+0.3**
THL				AML	AML	05 23 10.4	
	comp=E,1990µm,0.5s						
THL				AML	AML	05 23 12.1	
	comp=N,2657µm,0.6s						
VLS	**Valsamata**	**1.86**	**160**	P	**Pn**	**05 22 41.9**	**+0.6**
EVR	**Evrytania**	**1.87**	**122**	P	**Pb**	**05 22 44.5**	**+0.8**
EVR				S	**Sb**	**05 23 07.7**	**+0.6**
	comp=N,765nm,0.5s						
EVR	**Evrytania**	**1.87**	**122**	P	**Pb**	**05 22 44.0**	**+0.3**
EVR				AML	AML	05 23 20.5	
	comp=E,1584µm,0.6s						
EVR				AML	AML	05 23 24.0	
	comp=N,1164µm,0.4s						
PVO	**Paravola**	**1.89**	**134**	P	**Pb**	**05 22 43.5**	**-0.4**
PVO				S	**Sb**	**05 23 08.4**	**+0.9**
	comp=N,2µm,0.6s						
PVO	**Paravola**	**1.89**	**134**	P	**Pb**	**05 22 43.6**	**-0.4**
PSDA	**Pessada-Kefalo**	**1.92**	**161**	P	**Pb**	**05 22 45.3**	**+0.8**
LRSO	**Larissa Observ**	**2.03**	**97**	P	**Pb**	**05 22 46.0**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.04**	**116**	P	**Pb**	**05 22 47.0**	**+0.4**
ULC	**Ulcinj**	**2.07**	**349**	⇓*i* Pn	**Pn**	**05 22 44.1**	**-0.1**
ULC				*i* Sn	**Sn**	**05 23 11.5**	**+1.6**
ANX	**Ano Chora**	**2.13**	**128**	P	**Pb**	**05 22 48.0**	**-0.2**
AGG	**Agios Georgios**	**2.17**	**114**	P	**Pb**	**05 22 48.3**	**-0.6**
EFP	**Efpalio**	**2.23**	**132**	P	**Pb**	**05 22 49.2**	**-0.6**
GRG	**Griva**	**2.25**	**62**	P	**Pb**	**05 22 48.3**	**+1.7**
GRG	**Griva**	**2.25**	**62**	P	**Pn**	**05 22 48.3**	**+1.7**
GRG				AML	AML	05 23 31.6	
	comp=E,742µm,0.5s						
GRG				AML	AML	05 23 36.8	
	comp=N,1277µm,1.0s						
RLS	**Riolos of Patr**	**2.29**	**144**	P	**Pn**	**05 22 49.4**	**+2.3**
DRME	**Dracevica, Mon**	**2.30**	**349**	*e*Pn	**Pn**	**05 22 47.4**	**+0.1**
DRME	**Dracevica, Mon**	**2.30**	**349**	⇑*i* Pn	**Pn**	**05 22 47.3**	**0.0**
DRME				*i* Sn	**Sn**	**05 23 17.1**	**+1.6**
SERG	**Sergoula**	**2.33**	**130**	P	**Pb**	**05 22 50.5**	**-1.0**
SERG	**Sergoula**	**2.33**	**130**	P	**Pb**	**05 22 50.6**	**-1.0**
SKO	**Skopje**	**2.40**	**31**	*i* Pn	**Pn**	**05 22 50.4**	**+1.7**
BCI	**Bajram Curri**	**2.44**	**5**	P	**Pn**	**05 22 50.9**	**+1.6**
	baz=4.0						
TIP	**Timpagrande**	**2.45**	**253**	⇑P	**Pn**	**05 22 48.8**	**-0.7**
TIP	**Timpagrande**	**2.45**	**253**		**Pn**	**05 22 49.3**	**-0.2**
MATE	**Matera**	**2.46**	**288**	⇑P	**Pn**	**05 22 49.6**	**+0.1**
BUM	**Brajici-Budva**	**2.46**	**345**	⇓*i* Pn	**Pn**	**05 22 49.5**	**-0.1**
BUM				*i* Sn	**Sn**	**05 23 20.9**	**+1.3**
AXAR	**Agios Charalam**	**2.52**	**117**	P	**Pn**	**05 22 52.8**	**+2.5**
PDG	**Podgorica**	**2.53**	**351**	⇑P	**Pn**	**05 22 51.1**	**+0.6**
PDG	**Podgorica**	**2.53**	**351**	Pn	**Pn**	**05 22 50.7**	**+0.3**
PDG	**Podgorica**	**2.53**	**351**	*e*Pn	**Pn**	**05 22 51.2**	**+0.8**
TTG	**Podgorica**	**2.53**	**351**	⇓*i* Pn	**Pn**	**05 22 50.5**	**+0.1**
TTG				*i* Sn	**Sn**	**05 23 22.6**	**+1.5**
STIP	**Stip**	**2.54**	**45**	*i* Pn	**Pb**	**05 22 54.2**	**-0.9**
HORT	**Hortiatis**	**2.63**	**74**	P	**Pn**	**05 22 53.4**	**+1.5**
PVY	**Plav**	**2.67**	**3**	⇓*i* Pn	**Pn**	**05 22 52.7**	**+0.2**
PVY				*i* Sn	**Sn**	**05 23 26.4**	**+1.7**
KNT	**Kendrikon**	**2.68**	**62**	P	**Pn**	**05 22 53.4**	**+0.9**
CEME	**Cevo**	**2.69**	**346**	⇑*i* Pn	**Pn**	**05 22 52.8**	**0.0**
CEME				*i* Sn	**Sn**	**05 23 26.6**	**+1.3**
XOR	**Xorichti**	**2.69**	**101**	P	**Pn**	**05 22 54.6**	**+1.8**
HCY	**Herceg Novi**	**2.69**	**339**	*e*Pn	**Pn**	**05 22 51.8**	**-0.9**
HCY	**Herceg Novi**	**2.69**	**339**	⇑*i* Pn	**Pn**	**05 22 52.7**	**0.0**
HCY				*i* Sn	**Sn**	**05 23 26.4**	**+1.1**
NEO	**Neokhori**	**2.73**	**102**	P	**Pn**	**05 22 55.2**	**+1.9**
NEO				S	**Sn**	**05 23 28.3**	**+2.1**
	comp=N,398nm,0.3s						
SOH	**Sokhos**	**2.87**	**71**	P	**Pn**	**05 22 57.5**	**+2.3**
NKME	**Niksic**	**2.90**	**348**	⇑*i* Pn	**Pn**	**05 22 55.7**	**+0.1**
NKME				*i* Sn	**Sn**	**05 23 31.7**	**+1.3**
KOME	**Kolasin**	**2.92**	**356**	⇑*i* Pn	**Pn**	**05 22 56.2**	**+0.2**
KOME				*i* Sn	**Sn**	**05 23 32.5**	**+1.4**
IVA	**Berane**	**2.94**	**2**	⇓*i* Pn	**Pn**	**05 22 56.5**	**+0.3**
IVA				*i* Sn	**Sn**	**05 23 33.0**	**+1.6**
TREB	**Trebinje**	**2.98**	**339**	*e*Pn	**Pn**	**05 22 55.7**	**-1.0**
TREB	**Trebinje**	**2.98**	**339**	*e*Pn	**Pn**	**05 22 56.0**	**-0.7**
TREB				*e*Sn	**Sn**	**05 23 29.6**	**-2.8**
PAIG	**Paliouri**	**3.00**	**89**	P	**Pn**	**05 22 58.2**	**+1.3**
CUC	**Castrocucco**	**3.05**	**272**	Pn	**Pn**	**05 22 58.2**	**+0.6**
BRY	**Bratogost**	**3.11**	**343**	*e*Pn	**Pn**	**05 22 58.7**	**+0.1**
BRY	**Bratogost**	**3.11**	**343**	⇑*i* Pn	**Pn**	**05 22 58.6**	**0.0**
BRY				*i* Sn	**Sn**	**05 23 36.7**	**+0.9**
SRS	**Serrai**	**3.14**	**67**	P	**Pn**	**05 23 00.3**	**+1.4**
SRS	**Serrai**	**3.14**	**67**	*e*Pn	**Pn**	**05 23 00.4**	**+1.6**
SRS				*e*Sn	**Sn**	**05 23 37.5**	**+1.3**
BARS	**Barje**	**3.27**	**27**	*e*Pn	**Pn**	**05 23 01.7**	**+1.1**
BOSS	**Bosilegrad**	**3.27**	**38**	*e*Pn	**Pn**	**05 23 01.9**	**+1.2**
STON	**Ston**	**3.33**	**333**	*e*Pn	**Pn**	**05 22 59.8**	**-1.6**
UPM	**Unac-Piva**	**3.33**	**349**	*e*Pn	**Pn**	**05 23 01.8**	**+0.1**
UPM				*i* Sn	**Sn**	**05 23 42.3**	**+1.0**
PLE	**Pljevlja**	**3.41**	**355**	*e*Pn	**Pn**	**05 23 02.9**	**+0.2**
PLE				*i* Sn	**Sn**	**05 23 44.2**	**+1.1**
NVR	**Nevrokopi**	**3.41**	**64**	P	**Pn**	**05 23 04.3**	**+1.6**
SELS	**Selova**	**3.44**	**17**	*e*Pn	**Pn**	**05 23 02.6**	**-0.4**
CEL	**Celeste**	**3.45**	**242**		**Pn**	**05 23 02.4**	**-0.8**
SGRT	**San Giovanni R**	**3.56**	**302**		**Pn**	**05 23 04.4**	**-0.3**
IVAS	**Ivanjica**	**3.65**	**4**	*e*Pn	**Pn**	**05 23 05.7**	**-0.3**
IVAS				*e*Sn	**Sn**	**05 23 46.6**	**-2.4**
RUDO	**Rudo**	**3.70**	**355**	*e*Pn	**Pn**	**05 23 06.0**	**-0.5**
VTS	**Vitosha**	**3.74**	**43**	⇑P	**Pn**	**05 23 08.6**	**+1.4**
VTS	**Vitosha**	**3.74**	**43**	Pn	**Pn**	**05 23 07.7**	**+0.5**
BBLS	**Lazići**	**3.94**	**356**	*e*Pn	**Pn**	**05 23 09.5**	**-0.5**
BBLS	**Lazići**	**3.94**	**356**	*e*Pn	**Pn**	**05 23 10.2**	**+0.2**
ZAPS	**Zavoj**	**3.97**	**32**	*e*Pn	**Pn**	**05 23 09.5**	**-0.8**
BOVS	**Bovan**	**3.97**	**21**	*e*Pn	**Pn**	**05 23 10.3**	**0.0**
BOVS				*e*Sn	**Sn**	**05 23 55.7**	**-1.0**
GRUS	**Gruza**	**4.02**	**10**	*e*Pn	**Pn**	**05 23 11.4**	**+0.5**
PAOL	**Paolisi**	**4.12**	**287**	Pn	**Pn**	**05 23 12.2**	**-0.3**
DIVS	**Divibare**	**4.17**	**2**	Pn	**Pn**	**05 23 12.5**	**-0.6**
DIVS	**Divibare**	**4.17**	**2**	*e*Pn	**Pn**	**05 23 12.5**	**-0.6**
DIVS	**Divibare**	**4.17**	**2**	*e*Pn	**Pn**	**05 23 12.8**	**-0.3**
DIVS				*e*Sn	**Sn**	**05 23 58.8**	**-2.9**
HAPS	**Han Pijesak,Bl**	**4.20**	**352**	*e*Pn	**Pn**	**05 23 13.4**	**-0.1**
ZAGS	**Zajecar**	**4.29**	**24**	*e*Pn	**Pn**	**05 23 15.1**	**+0.5**
TRUS	**Trudelj**	**4.32**	**6**	*e*Pn	**Pn**	**05 23 15.0**	**0.0**
TRUS				*e*Sn	**Sn**	**05 24 02.7**	**-2.5**
RDO	**Rodhopi**	**4.55**	**73**	Pn	**Pn**	**05 23 18.7**	**+0.5**
TEKS	**Tekeris**	**4.62**	**358**	*e*Pn	**Pn**	**05 23 16.7**	**-2.5**
INTR	**Introdacqua**	**4.91**	**297**	Pn	**Pn**	**05 23 23.7**	**+0.4**
MGRS	**Mrkonjic Grad**	**4.91**	**337**	*e*Pn	Pn	05 23 15.4	-7.8
PLVB	**Pleven**	**5.01**	**45**	⇓P	**Pn**	**05 23 26.3**	**+1.8**
RAFF	**Raffo Rosso**	**5.03**	**239**	Pn	**Pn**	**05 23 24.3**	**-0.5**
MDVR	**Moldovita**	**5.05**	**16**	⇑P	**Pn**	**05 23 25.3**	**+0.1**
A050A	**Klekovaca**	**5.15**	**333**	*e*Pn	**Pn**	**05 23 26.9**	**+0.4**
BLY	**Banja Luka**	**5.18**	**339**	*e*Pn	Pn	05 23 19.3	-7.3
FRGS	**Fruska Gora**	**5.22**	**0**	*e*Pn	**Pn**	**05 23 25.0**	**-2.5**
FRGS	**Fruska Gora**	**5.22**	**0**	*e*Pn	**Pn**	**05 23 26.7**	**-0.8**
AQU	**L'Aquila**	**5.39**	**299**	Pn	**Pn**	**05 23 29.9**	**+0.1**
CAMP	**Campotosto**	**5.46**	**301**		**Pn**	**05 23 30.9**	**0.0**
A051A	**Mrakovica**	**5.50**	**338**	*e*Pn	**Pn**	**05 23 31.2**	**-0.2**
**NR

ML3.8/14,**MLv3.0**/16,**Error ellipse: s-maj=0.0km s-min=0.0km az=115.3,South Island**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
KHZ	**Kahutara**	**0.24**	**177**	P Pg	05 23 07.7	+0.6
KHZ				S Sg	05 23 11.3	+1.1
BSWZ	**Blackbirch Sta**	**0.53**	**30**	P Pg	05 23 13.0	+0.4
BSWZ				S Sb	05 23 21.0	-1.2
THZ	**Tophouse**	**0.62**	**312**	P Pg	05 23 14.9	+0.6
CMWZ	**Cape Campbell**	**0.67**	**51**	P Pb	05 23 16.0	-0.6
TUWZ	**Tuamarina**	**0.81**	**23**	P Pg	05 23 18.2	+0.2
GVZ	**Greta Valley S**	**0.87**	**204**	P Pg	05 23 19.4	+0.4
MRNZ	**Matariki Terra**	**0.96**	**324**	P Pb	05 23 21.3	-0.3
NNZ	**Nelson**	**0.97**	**354**	P Pg	05 23 20.8	-0.1
LTZ	**Lake Taylor**	**1.10**	**236**	P Pg	05 23 22.9	-0.7
TCW	**Tory Channel**	**1.12**	**31**	P Pg	05 23 23.2	-0.7
AMCZ	**Amberley**	**1.19**	**212**	P Pg	05 23 24.0	-1.1
TKNZ	**Takaka Hill**	**1.22**	**340**	P Pg	05 23 25.0	-0.7
WEL	**Wellington**	**1.29**	**47**	P Pn	05 23 25.7	-1.4
DSZ	**Denniston Nort**	**1.35**	**288**	P Pb	05 23 28.1	-0.1
DUWZ	**D'Urville Isla**	**1.41**	**13**	P Pn	05 23 27.8	-0.9
PLWZ	**Palliser**	**1.43**	**65**	P Pn	05 23 26.6	-2.5
MSWZ	**Moikau Station**	**1.50**	**60**	P Pn	05 23 27.5	-2.6
QRZ	**Quartz Range**	**1.54**	**331**	P Pn	05 23 30.9	+0.3
CAW	**Cannon Point**	**1.58**	**48**	P Pn	05 23 29.2	-1.9
OKCZ	**Okains Bay**	**1.58**	**192**	P Pn	05 23 28.7	-2.5
OXZ	**Oxford**	**1.58**	**223**	P Pn	05 23 28.6	-2.5
INZ	**Inchbonnie**	**1.63**	**250**	P Pn	05 23 31.1	-0.7
MQZ	**McQueen's Vall**	**1.65**	**202**	P Pn	05 23 28.8	-3.3
KIW	**Kapiti Island**	**1.68**	**39**	P Pn	05 23 31.2	-1.2
AKCZ	**Akaroa Harbour**	**1.75**	**195**	P Pn	05 23 30.6	-2.9
OGWZ	**Otaki Gorge**	**1.84**	**43**	P Pn	05 23 32.9	-1.8
RACZ	**Rakaia**	**1.85**	**213**	P Pn	05 23 32.2	-2.6
MHCZ	**Mount Hutt**	**1.97**	**226**	P Pn	05 23 33.9	-2.6
MRZ	**Mangatainoka R**	**2.17**	**46**	P Pn	05 23 36.8	-2.4
ARZ	**Arundel**	**2.46**	**223**	P Pn	05 23 40.7	-2.5
TMZ	**Timaru**	**2.87**	**219**	P Pn	05 23 43.8	-2.0
ODZ	**Otahua Downs**	**3.54**	**215**	P Pn	05 23 54.9	-3.2

WEL 28 05:23:41.3±0.3,**42°S**±3°×**17°4E**±°,**h8**km±2km,**M3.5**/33,**ML3.7**/22,**MLv3.5**/33,**Error ellipse: s-maj=0.0km s-min=0.0km az=139.6,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.03**	**270**	P Pg	05 23 43.6	+0.8
CMWZ				S Sg	05 23 45.7	+1.8
BSWZ	**Blackbirch Sta**	**0.29**	**277**	P Pg	05 23 47.3	+0.3
BSWZ				S Sg	05 23 51.9	+1.0
TUWZ	**Tuamarina**	**0.40**	**323**	P Pg	05 23 49.5	+0.5
TUWZ				S Sb	05 23 55.6	-1.2
TCW	**Tory Channel**	**0.54**	**1**	P Pg	05 23 52.1	+0.4
WEL	**Wellington**	**0.60**	**40**	P Pb	05 23 53.9	-0.2
PLWZ	**Palliser**	**0.77**	**77**	P Pb	05 23 57.6	+0.6
NNZ	**Nelson**	**0.85**	**309**	P Pg	05 23 57.4	-0.2
KHZ	**Kahutara**	**0.85**	**219**	P Pb	05 23 58.3	-0.2
CAW	**Cannon Point**	**0.88**	**44**	P Pb	05 23 58.8	-0.1
PAWZ	**Paruwai Farm**	**0.95**	**68**	P Pb	05 24 00.1	0.0
DUWZ	**D'Urville Isla**	**0.98**	**345**	P Pg	05 23 59.8	-0.3
THZ	**Tophouse**	**1.01**	**269**	P Pg	05 24 00.7	-0.1
KIW	**Kapiti Island**	**1.01**	**29**	P Pg	05 24 00.9	+0.1
MTW	**Mount Morrison**	**1.11**	**58**	P Pg	05 24 02.2	-0.3
TRWZ	**Traveller**	**1.13**	**72**	P Pg	05 24 02.3	-0.7
OGWZ	**Otaki Gorge**	**1.16**	**33**	P Pg	05 24 03.5	0.0
MRNZ	**Matariki Terra**	**1.18**	**287**	P Pg	05 24 03.8	-0.1
TKNZ	**Takaka Hill**	**1.21**	**306**	P Pb	05 24 03.8	-0.8
HOWZ	**Holdsworth Sta**	**1.27**	**48**	P Pn	05 24 04.3	-1.2
TMWZ	**Te Maipa**	**1.39**	**63**	P Pn	05 24 05.8	-1.2
MRZ	**Mangatainoka R**	**1.48**	**43**	P Pn	05 24 07.5	-0.7
GVZ	**Greta Valley S**	**1.52**	**216**	P Pn	05 24 07.2	-1.7
QRZ	**Quartz Range**	**1.60**	**305**	P Pb	05 24 10.7	-0.4
PRWZ	**Pori Road**	**1.76**	**48**	P Pn	05 24 11.1	-1.0
POWZ	**Post Office Ro**	**1.77**	**41**	P Pn	05 24 11.5	-0.9
LTZ	**Lake Taylor**	**1.80**	**234**	P Pn	05 24 11.6	-1.1
DSZ	**Denniston Nort**	**1.84**	**269**	P Pn	05 24 13.9	+0.7
BFZ	**Birch Farm**	**1.84**	**55**	P Pb	05 24 15.4	+0.1
AMCZ	**Amberley**	**1.86**	**219**	P Pn	05 24 11.9	-1.6
DVHZ	**Dannevirke**	**2.04**	**46**	P Pn	05 24 15.8	-0.3
WAZ	**Wanganui**	**2.07**	**16**	P Pb	05 24 19.9	+0.8
TSZ	**Takapari Road**	**2.12**	**38**	P Pb	05 24 20.9	+0.8
INZ	**Inchbonnie**	**2.31**	**244**	P Pn	05 24 20.5	+0.8
PNHZ	**Pukenui**	**2.35**	**39**	P Pn	05 24 19.2	-1.1
KHEZ	**Kahui Hut**	**2.46**	**356**	P Pb	05 24 24.5	-1.3
NBEZ	**Newall Road No**	**2.50**	**353**	P Pg	05 24 28.3	-0.8
MOVZ	**Moawhango**	**2.60**	**26**	P Pb	05 24 28.1	-0.2
WNVZ	**Wahianoa**	**2.63**	**23**	P Pb	05 24 29.0	+0.3
TRVZ	**Turoa**	**2.64**	**22**	P Pb	05 24 29.6	+0.7
BHHZ	**Black Hill Sta**	**2.64**	**32**	P Pb	05 24 29.3	+0.3
WHVZ	**Whangaehu Hut**	**2.66**	**23**	P Pb	05 24 29.7	+0.3
MHCZ	**Mount Hutt**	**2.67**	**227**	P Pn	05 24 22.5	-2.2
FWVZ	**Far West T-bar**	**2.68**	**22**	P Pb	05 24 29.9	+0.2
TUVZ	**Tukino**	**2.70**	**24**	P Pb	05 24 30.9	+0.9
NGZ	**Ngauruhoe**	**2.77**	**22**	P Pb	05 24 31.7	+0.5
SNVZ	**South Ngauruho**	**2.77**	**23**	P Pb	05 24 31.6	+0.5
OTVZ	**Oturere**	**2.80**	**23**	P Pb	05 24 32.0	+0.4
NNVZ	**North Ngauruho**	**2.81**	**22**	P Pb	05 24 32.6	+0.7
WTVZ	**West Tongariro**	**2.82**	**22**	P Pb	05 24 32.6	+0.6
ETVZ	**East Tongariro**	**2.84**	**23**	P Pn	05 24 28.2	+1.1
TMVZ	**Te Maari**	**2.85**	**23**	P Pb	05 24 33.0	+0.4
RITZ	**Rihia Road**	**3.03**	**24**	P Pb	05 24 35.9	+0.4
HIZ	**Hauiti**	**3.26**	**8**	P Pb	05 24 37.6	-2.0
GCSZ	**Gaunt Creek Bo**	**3.30**	**240**	P Pn	05 24 36.2	+2.9
TOZ	**Tahuroa Road**	**4.13**	**14**	P Pb	05 24 50.4	-3.8
WCZ	**Waipu Caves**	**5.80**	**1**	P Pn	05 25 10.7	+3.0

*NNC **28** 05:27:50.0±0.5,43°.15N×76°.90E,h0km±3km,mb4.1, mpv2.5,Error ellipse: s-maj=2.7km s-min=2.2km az=16.0*
*SOME **28** 05:27:50.0,43°.17N×76°.90E,h0km*
ISC 28 05:27:50.0±1.5,**43°.13N**±0°.04×**76°.93E**±0°.03,**h7**km±11km, **n10**,σ0**s31**/19,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
MDOK	**Medeo**	**0.09**	**72**	*e*P **Pg**	**05 27 52.4**	**+0.1**
	1.2nm,0.3s					
MDOK				*e*S **Sg**	**05 27 54.2**	**+0.3**
	7.5nm,0.1s					
MDOK	**Medeo**	**0.09**	**72**	Pg **Pg**	**05 27 52.4**	**+0.1**
	1.2nm,0.3s					
MDOK				Lg Lg	05 27 54.2	
	7.5nm,0.1s					
TNSS	**Tian-Shan**	**0.10**	**171**	*e*P **Pg**	**05 27 52.4**	**-0.2**
	12nm,0.1s					
TNSS				*e*S **Sg**	**05 27 54.1**	**-0.3**
	41nm,0.1s					
TNSS	**Tian-Shan**	**0.10**	**171**	P **Pg**	**05 27 52.4**	**-0.2**
	12nm,0.1s					
TNSS				S **Sg**	**05 27 54.1**	**-0.3**
	41nm,0.1s					
IZV	**Izvestkoviy**	**0.25**	**247**	*e*P **Pg**	**05 27 55.0**	**0.0**
	1.8nm,0.1s					
IZV				*e*S **Sg**	**05 27 58.8**	**+0.4**
	16nm,0.2s					
IZV	**Izvestkoviy**	**0.25**	**247**	P **Pg**	**05 27 55.0**	**0.0**
	1.8nm,0.1s					
IZV				S **Sg**	**05 27 58.8**	**+0.4**
	16nm,0.2s					
KTBS	**Karatobe**	**0.60**	**343**	*e*P **Pg**	**05 28 01.4**	**-0.3**
	0.5nm,0.2s					
KTBS				*e*S **Sg**	**05 28 09.5**	**-0.1**
	3.2nm,0.1s					
KTBS	**Karatobe**	**0.60**	**343**	P **Pg**	**05 28 01.4**	**-0.3**
	0.5nm,0.2s					
KTBS				S **Sg**	**05 28 09.5**	**-0.1**
	3.2nm,0.1s					
KPKS	**Kokpek**	**1.33**	**75**	*e*P **Pg**	**05 28 15.1**	**-0.3**
	98nm,0.3s					
KPKS				*e*S **Sg**	**05 28 33.1**	**+0.5**
	8.2nm,0.2s					
KPKS	**Kokpek**	**1.33**	**75**	P **Pg**	**05 28 15.1**	**-0.3**
	98nm,0.3s					
KPKS				S **Sg**	**05 28 33.1**	**+0.5**
	8.2nm,0.2s					

*SOME **28** 05:45:58.5,39°.07N×73°.95E,h10km,MS3.7*
*IDC **28** 05:46:01.4±1.0,39°.03N×73°.94E,h0km,mb3.9/10, mbtmp3.8/16,ML3.3/6,Error ellipse: s-maj=18.4km s-min=16.7km az=138.0*

*MOS **28** 05:46:03.9±1.6,39°.20N×73°.98E,h10km,mb4.2/4,Error ellipse: s-maj=7.3km s-min=4.1km az=86.3*
*NNC **28** 05:46:03.6±0.9,39°.25N×73°.96E,h0km,mb4.9,mpv4.7, Error ellipse: s-maj=6.9km s-min=3.8km az=173.0*
*KRNET **28** 05:46:03.5±0.1,39°.24N×73°.98E,mb4.6*
*NEIC **28** 05:46:04.3±2.6,39°.30N±0°.05×74°.18E±0°.05,h10km±1km, mb4.6/21,Error ellipse: s-maj=8.8km s-min=6.2km az=28.0*
ISC 28 05:46:07.1±0.4,**39°.24N**±0°.02×**73°.91E**±0°.03,**h10**km,**n212**, σ2**s50**/195,**mb4.4**/25,**29C-12D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
OHH	**Osh**	**1.55**	**326**	⇑*i*P **Pn**	**05 46 33.4**	**-1.4**
	baz=25					
OHH				⇑*i*S **Sn**	**05 46 55.1**	**0.0**
	baz=25					
OHH	**Osh**	**1.55**	**326**	*i* PN **Pn**	**05 46 33.4**	**-1.4**
OHH				*i* S **Sn**	**05 46 55.1**	**0.0**
DRK	**Karamyk**	**1.66**	**279**	P*n* **Pn**	**05 46 35.2**	**-1.2**
BTK	**Batken**	**2.52**	**290**	⇑*e*P **Pn**	**05 46 48.9**	**+0.6**
	baz=89					
BTK				⇑*i*S **Sn**	**05 47 21.5**	**+2.4**
	baz=89					
BTK	**Batken**	**2.52**	**290**	**Pn**	**05 46 50.0**	**+1.7**
BTK	**Batken**	**2.52**	**290**	P*n* **Pn**	**05 46 50.0**	**+1.7**
ARLS	**Aral**	**2.64**	**7**	⇓*e*P **Pn**	**05 46 49.6**	**-0.3**
	baz=6.0					
ARLS				⇓*i*S **Sn**	**05 47 23.0**	**+1.0**
	baz=6.0					
ARLS	**Aral**	**2.64**	**7**	*i* PN **Pn**	**05 46 49.6**	**-0.3**
ARLS				*i* S **Sn**	**05 47 23.0**	**+1.0**
NRN	**Naryn**	**2.71**	**35**	⇑*i*P **Pn**	**05 46 50.0**	**-1.0**
	baz=34					
NRN				⇑*i*S **Sn**	**05 47 23.6**	**-0.5**
	baz=34					
NRN	**Naryn**	**2.71**	**35**	P*n* **Pn**	05 46 46.1	-4.9
NRN	**Naryn**	**2.71**	**35**	P*n* **Pn**	05 46 46.1	-4.9
GAR	**Garm**	**2.81**	**266**	P*n* **Pn**	**05 46 53.5**	**+1.3**
ARK	**Arkit**	**2.96**	**330**	⇑*e*P **Pn**	**05 46 54.5**	**+0.3**
	baz=30					
ARK				⇑*i*S **Sn**	**05 47 31.5**	**+1.7**
	baz=30					
ARK	**Arkit**	**2.96**	**330**	*i* PN **Pn**	**05 46 54.5**	**+0.3**
ARK				*i* S **Sn**	**05 47 31.5**	**+1.7**
TRKS	**Terek-Say**	**3.12**	**318**	⇑*e*P **Pn**	**05 46 56.1**	**-0.4**
	baz=17					
TRKS				⇑*i*S **Sn**	**05 47 34.1**	**+0.2**
	baz=17					
TRKS	**Terek-Say**	**3.12**	**318**	*i* PN **Pn**	**05 46 56.1**	**-0.4**
TRKS				*i* S **Sn**	**05 47 34.1**	**+0.2**
AAK	**Ala-Archa**	**3.42**	**7**	P*n* **Pn**	**05 47 01.3**	**+0.6**
	12nm,0.3s,baz=182,slow=6.8,SNR=90					
AAK				Lg Lg	05 47 50.8	
	12nm,0.3s,baz=336,slow=23,SNR=3.7					
	34nm,0.4s					
AAK	**Ala-Archa**	**3.42**	**7**	P*n* **Pn**	**05 46 59.9**	**-0.7**
MRKS	**Merke**	**3.54**	**352**	*e*P **Pn**	05 47 07.0	+4.8
	131nm,0.4s					
MRKS				*e*S **Sb**	**05 47 56.1**	**+3.1**
	139nm,0.8s					
MRKS	**Merke**	**3.54**	**352**	Pg P*n*	05 47 07.0	+4.8
	131nm,0.4s					
MRKS				Lg Lg	05 47 56.1	
	139nm,0.8s					
FRU1	**Bishkek**	**3.61**	**8**	⇑*e*P **Pn**	**05 47 03.3**	**+0.2**
	baz=8.0					
FRU1				⇑*i*S **Sn**	**05 47 46.7**	**+0.9**
	baz=8.0					
FRU1	**Bishkek**	**3.61**	**8**	*e*PN **Pn**	**05 47 03.3**	**+0.2**
CHGR	**Chuyangaron**	**3.75**	**263**	P*n* **Pn**	**05 47 05.9**	**+0.8**
CHGR	**Chuyangaron**	**3.75**	**263**	P*n* **Pn**	**05 47 05.9**	**+0.8**
CHMS	**Chumysh**	**3.81**	**9**	Pg **Pg**	**05 47 24.0**	**+3.9**
	122nm,0.1s					
CHMS				Lg Lg	05 48 25.9	
	442nm,0.4s					
TARG	**Taragay, Kyrgy**	**3.87**	**49**	**Pn**	05 47 03.9	-3.2
TARG	**Taragay, Kyrgy**	**3.87**	**49**	P*n* **Pn**	05 47 03.9	-3.2
TAS	**Tashkent**	**4.10**	**302**	P*n* **Pn**	**05 47 09.6**	**-0.2**
TAS	**Tashkent**	**4.10**	**302**	P*n* **Pn**	**05 47 09.6**	**-0.2**
KST	**Kastek**	**4.10**	**22**	*e*P **Pb**	**05 47 16.9**	**-2.6**
	68nm,0.4s					
KST				*e*S **Sb**	**05 48 13.2**	**+4.0**
	132nm,0.8s					
KST	**Kastek**	**4.10**	**22**	Pg **Pb**	**05 47 16.9**	**-2.6**
	68nm,0.4s					
KST				Lg Lg	05 48 13.2	
	132nm,0.8s					
DZA	**Taraz**	**4.14**	**333**	*e*P P*n*	05 47 17.5	+7.1
	215nm,0.1s					
DZA				*e*S **Sb**	**05 48 14.1**	**+4.0**
	246nm,0.3s					
DZA	**Taraz**	**4.14**	**333**	Pg P*n*	05 47 17.5	+7.1
	215nm,0.1s					
DZA				Lg Lg	05 48 14.1	
	246nm,0.3s					
IUG	**Iuzhnay**	**4.14**	**316**	*e*P P*n*	05 47 17.2	+6.8
	191nm,0.6s					
IUG				*e*S **Sb**	**05 48 13.8**	**+3.6**
	369nm,0.9s					
IUG	**Iuzhnay**	**4.14**	**316**	*i* P*n* **Pn**	**05 47 10.9**	**+0.4**
	baz=317					
IUG	**Iuzhnay**	**4.14**	**316**	Pg P*n*	05 47 17.2	+6.8
	191nm,0.6s					
IUG				Lg Lg	05 48 13.8	
	369nm,0.9s					
IUG	**Iuzhnay**	**4.14**	**316**	*i* PN **Pn**	**05 47 10.9**	**+0.4**
DGS	**Degeres**	**4.24**	**19**	*e*P **Pb**	**05 47 19.8**	**-2.0**
	106nm,0.5s					
DGS				*e*S **Sb**	**05 48 18.2**	**+5.2**
	83nm,0.9s					
DGS	**Degeres**	**4.24**	**19**	Pg **Pb**	**05 47 19.8**	**-2.0**
	106nm,0.5s					
DGS				Lg Lg	05 48 18.2	
	83nm,0.9s					
SGDS	**Sogindy**	**4.24**	**7**	*e*P **Pb**	**05 47 19.7**	**-2.2**
	73nm,0.5s					
SGDS				*e*S **Sb**	**05 48 18.6**	**+5.5**
	51nm,0.5s					
SGDS	**Sogindy**	**4.24**	**7**	*e*P P*n*	**05 47 12.1**	**+0.3**
	baz=8.9					
SGDS				*e*Pg **Pb**	**05 47 20.9**	**-1.0**
	baz=8.9					
SGDS	**Sogindy**	**4.24**	**7**	Pg **Pb**	**05 47 19.7**	**-2.2**
	73nm,0.5s					
SGDS				Lg Lg	05 48 18.6	
	51nm,0.5s					
SGDS	**Sogindy**	**4.24**	**7**	*e*PN **Pn**	**05 47 12.1**	**+0.3**
SGDS				*e*	05 47 20.8	
IZV	**Izvestkoviy**	**4.31**	**27**	*e*P **Pb**	**05 47 20.4**	**-2.6**
	84nm,0.6s					
IZV				*e*S **Sb**	**05 48 19.5**	**+4.4**
	166nm,0.6s					
IZV	**Izvestkoviy**	**4.31**	**27**	Pg **Pb**	**05 47 20.4**	**-2.6**
	84nm,0.6s					
IZV				Lg Lg	05 48 19.5	
	166nm,0.6s					
MTBS	**Maitube**	**4.33**	**25**	*e*P **Pb**	**05 47 20.8**	**-2.4**
	128nm,0.3s					
MTBS				*e*S **Sb**	**05 48 19.9**	**+4.4**
	46nm,0.3s					
MTBS	**Maitube**	**4.33**	**25**	Pg **Pb**	**05 47 20.8**	**-2.4**
	128nm,0.3s					
MTBS				Lg Lg	05 48 19.9	
	46nm,0.3s					
TNSS	**Tian-Shan**	**4.43**	**30**	*e*P **Pb**	**05 47 22.9**	**-2.4**
	122nm,0.4s					
TNSS				*e*S **Sb**	**05 48 23.2**	**+4.3**
	45nm,1.0s					
TNSS	**Tian-Shan**	**4.43**	**30**	*e*PN **Pn**	**05 47 15.6**	**+0.9**
	baz=32					
TNSS				*e*Pg **Pb**	**05 47 24.6**	**-0.7**
	baz=32					
TNSS	**Tian-Shan**	**4.43**	**30**	Pg **Pb**	**05 47 22.9**	**-2.4**
	122nm,0.4s					
TNSS				Lg Lg	05 48 23.2	
	45nm,1.0s					
TNSS	**Tian-Shan**	**4.43**	**30**	*e*PN **Pn**	**05 47 15.6**	**+0.9**
TNSS				*e*	05 47 24.5	
CHM	**Chimkent**	**4.49**	**315**	*e*P **Pb**	**05 47 24.0**	**-2.0**
	122nm,0.1s					
CHM				*e*S **Sb**	**05 48 25.9**	**+5.7**
	442nm,0.4s					
ANVS	**Anan'yevo**	**4.54**	**38**	⇑*e*P **Pn**	**05 47 15.8**	**-0.2**
	baz=37					
ANVS				⇑*i*S **Sn**	**05 48 08.1**	**-0.8**
	baz=37					
ANVS	**Anan'yevo**	**4.54**	**38**	*i* PN **Pn**	**05 47 15.8**	**-0.2**
ANVS				*i* S **Sn**	**05 48 08.1**	**-0.8**
AAA	**Alma-Ata**	**4.57**	**29**	*e*P **Pb**	**05 47 25.8**	**-1.6**
	148nm,0.6s					
AAA				*e*S **Sb**	**05 48 28.9**	**+6.4**
	228nm,0.3s					
AAA	**Alma-Ata**	**4.57**	**29**	Pg **Pb**	**05 47 25.8**	**-1.6**
	148nm,0.6s					
AAA				Lg Lg	05 48 28.9	
	228nm,0.3s					
MDOK	**Medeo**	**4.58**	**30**	*e*P **Pb**	**05 47 25.1**	**-2.5**
	79nm,0.4s					
MDOK				*e*S **Sb**	**05 48 27.4**	**+4.6**
	77nm,1.0s					
MDOK	**Medeo**	**4.58**	**30**	P*n* **Pn**	**05 47 15.4**	**-1.1**
	10nm,0.5s					
MDOK				Pg **Pb**	**05 47 25.1**	**-2.5**
	79nm,0.4s					
MDOK				Pg Pg	05 47 26.4	-8.4
	92nm,0.7s					
MDOK				Lg Lg	05 48 27.4	
	77nm,1.0s					
MDOK				⇓Lg Lg	05 48 27.8	
	159nm,1.1s					
MDOK	**Medeo**	**4.58**	**30**	PN **Pn**	**05 47 15.4**	**-1.1**
MDOK				P **Pb**	**05 47 26.4**	**-1.2**
KNDC	**Almaty**	**4.59**	**29**	⇑Pg **Pb**	**05 47 27.0**	**-0.8**
	388nm,0.8s					
KNDC				⇑Lg Lg	05 48 28.4	
	422nm,1.0s					
KK31	**Karatay Array**	**4.63**	**327**	P*n* **Pn**	**05 47 17.2**	**0.0**
KK31	**Karatay Array**	**4.63**	**327**	⇑P*n* **Pn**	**05 47 17.5**	**+0.3**
	7.9nm,0.4s,baz=142,slow=9.1,SNR=83					
KK31				⇓Pg **Pb**	**05 47 28.4**	**-0.1**
	22nm,0.6s,baz=144,slow=16,SNR=8.1					
KK31				⇑S**n** **Sn**	**05 48 11.5**	**+0.4**
	29nm,0.5s,baz=145,slow=26,SNR=4.8					
KK31				⇓Lg Lg	05 48 32.4	
	32nm,0.5s,baz=165,slow=30,SNR=4.6					
KK31	**Karatay Array**	**4.63**	**327**	P*n* **Pn**	**05 47 17.2**	**0.0**
KKAR	**Karatay Array**	**4.63**	**327**	⇑*i*P **Pn**	**05 47 17.7**	**+0.5**
	baz=27					
KKAR				⇑*i*S **Sn**	**05 48 11.7**	**+0.6**
	baz=27					
KKAR	**Karatay Array**	**4.63**	**327**	P*n* **Pn**	**05 47 17.6**	**+0.5**
KKAR	**Karatay Array**	**4.63**	**327**	P*n* **Pn**	**05 47 17.7**	**+0.5**
KRBS	**Karabastau**	**4.65**	**16**	*e*P **Pb**	**05 47 27.3**	**-1.4**
	41nm,0.3s					
KRBS				*e*S **Sb**	**05 48 31.1**	**+6.3**
	33nm,0.4s					
KRBS	**Karabastau**	**4.65**	**16**	Pg **Pb**	**05 47 27.3**	**-1.4**
	41nm,0.3s					
KRBS				Lg Lg	05 48 31.1	
	33nm,0.4s					
KOTS	**Kotyrbulak**	**4.66**	**30**	*e*P **Pb**	**05 47 27.0**	**-2.1**
	131nm,0.3s					
KOTS				*e*S **Sb**	**05 48 30.5**	**+5.2**
	172nm,0.6s					
KOTS	**Kotyrbulak**	**4.66**	**30**	Pg **Pb**	**05 47 27.0**	**-2.1**
	131nm,0.3s					
KOTS				Lg Lg	05 48 30.5	
	172nm,0.6s					
KTBS	**Karatobe**	**4.93**	**24**	*e*P **Pb**	**05 47 32.4**	**-1.2**
	99nm,0.5s					
KTBS				*e*S **Sb**	**05 48 39.7**	**+6.8**
	148nm,0.4s					
KTBS	**Karatobe**	**4.93**	**24**	Pg **Pb**	**05 47 32.4**	**-1.2**
	99nm,0.5s					
KTBS				Lg Lg	05 48 39.7	
	148nm,0.4s					
SATY	**Saty**	**5.11**	**40**	*e*P **Pb**	**05 47 36.1**	**-0.4**
	44nm,0.9s					
SATY				*e*S **Sg**	**05 48 46.9**	**-4.1**
	100nm,2.1s					
SATY	**Saty**	**5.11**	**40**	*e*P P*n*	**05 47 25.3**	**+1.6**
	baz=41					
SATY	**Saty**	**5.11**	**40**	Pg **Pb**	**05 47 36.1**	**-0.4**
	44nm,0.9s					
SATY				Lg Lg	05 48 46.9	
	100nm,2.1s					
SATY	**Saty**	**5.11**	**40**	*e*PN **Pn**	**05 47 25.3**	**+1.6**
CHKK	**Chushkaly**	**5.16**	**26**	*e*P **Pb**	**05 47 37.8**	**+0.5**
	53nm,0.4s					
CHKK				*e*S **Sg**	**05 48 49.2**	**-3.4**
	42nm,0.5s					
CHKK	**Chushkaly**	**5.16**	**26**	*e*Pg **Pb**	**05 47 37.8**	**+0.5**
	baz=27					
CHKK	**Chushkaly**	**5.16**	**26**	Pg **Pb**	**05 47 37.8**	**+0.5**
	53nm,0.4s					
CHKK				Lg Lg	05 48 49.2	
	42nm,0.5s					
ZHN	**Zhinishke**	**5.20**	**40**	*e*Pg **Pb**	**05 47 38.9**	**+0.7**
	baz=41					
KURS	**Kuram**	**5.32**	**36**	*e*P **Pb**	**05 47 39.6**	**-0.5**
	44nm,0.5s					
KURS				*e*S **Sg**	**05 48 52.9**	**-4.9**
	41nm,0.8s					
KURS	**Kuram**	**5.32**	**36**	Pg **Pb**	**05 47 39.6**	**-0.5**
	44nm,0.5s					
KURS				Lg Lg	05 48 52.8	
	41nm,0.8s					
UZB	**Uzynbulak**	**5.49**	**43**	*e*P **Pb**	**05 47 42.7**	**-0.4**
	21nm,0.7s					
UZB				*e*S **Sb**	**05 48 57.3**	**+8.4**
	54nm,0.8s					
UZB	**Uzynbulak**	**5.49**	**43**	*e*PN P*n*	**05 47 30.5**	**+1.5**
	baz=44					
UZB	**Uzynbulak**	**5.49**	**43**	Pg **Pb**	**05 47 42.7**	**-0.4**
	21nm,0.7s					
UZB				Lg Lg	05 48 57.3	
	54nm,0.8s					
UZB	**Uzynbulak**	**5.49**	**43**	*e*PN **Pn**	**05 47 30.5**	**+1.5**
KPKS	**Kokpek**	**5.54**	**39**	*e*P **Pb**	**05 47 42.7**	**-1.3**
	48nm,0.6s

PDGK	**Podgornoye**	**5.86**	**44**	⇑Pn		**Pn**	**05 47 32.4**	**-1.7**
	5.8nm,0.6s								
PDGK				⇑Pg		**Pb**	**05 47 51.5**	**+2.1**
	42nm,0.7s								
PDGK				⇓Lg		Lg	05 49 07.0		
	116nm,1.4s								
PDGK	**Podgornoye**	**5.86**	**44**	PN		**Pn**	**05 47 32.4**	**-1.7**
PDGK				P		**Pb**	**05 47 51.5**	**+2.1**
BLB	**Baldybastay**	**5.94**	**34**	*e*P		**Pb**	**05 47 51.0**	**+0.2**
	66nm,0.4s								
BLB				*e*S		**Sg**	**05 49 12.4**	**-5.2**
	47nm,0.5s								
BLB	**Baldybastay**	**5.94**	**34**	Pg		**Pb**	**05 47 51.0**	**+0.2**
	66nm,0.4s								
BLB				Lg		Lg	05 49 12.4		
	47nm,0.5s								
KBL	**Kabul**	**6.10**	**221**	Pn		**Pn**	**05 47 37.1**	**-0.4**
KBL	**Kabul**	**6.10**	**221**	PN		**Pn**	**05 47 37.1**	**-0.4**
TDK	**Taldyqorghan**	**6.66**	**29**	*e*P		**Pb**	**05 48 05.0**	**+2.1**
	121nm,0.4s								
TDK				*e*S		**Sg**	**05 49 36.6**	**-4.1**
	133nm,0.9s								
TDK	**Taldyqorghan**	**6.66**	**29**	Pg		**Pb**	**05 48 05.0**	**+2.1**
	121nm,0.4s								
TDK				Lg		Lg	05 49 36.6		
	133nm,0.9s								
THW	**Thamme Wali**	**6.67**	**196**	P		**Pn**	**05 47 46.4**	**+1.3**
DJR	**Jarkent**	**6.72**	**39**	*e*P		**Pb**	**05 48 05.9**	**+1.8**
	20nm,0.7s								
DJR				*e*S		**Sg**	**05 49 37.8**	**-5.0**
	18nm,1.3s								
DJR	**Jarkent**	**6.72**	**39**	Pg		**Pb**	**05 48 05.9**	**+1.8**
	20nm,0.7s								
DJR				Lg		Lg	05 49 37.8		
	18nm,1.3s								
THN	**Thein Dam**	**6.95**	**167**	*e*P		**Pn**	**05 47 50.2**	**+1.3**
THN				*e*S		**Sn**	**05 49 06.3**	**-1.6**
BHK	**Bhakra**	**8.07**	**165**	*e*S		**Sn**	**05 49 32.9**	**-2.8**
SMLA	**Simla**	**8.52**	**161**	*e*P		**Pn**	**05 48 10.4**	**0.0**
SMLA				*e*S		**Sn**	**05 49 41.2**	**-5.4**
SMLA				IAML			05 49 49.8		
	comp=N,55nm,0.7s								
SMLA				IAML			05 49 49.8		
	comp=E,64nm,0.5s								
OTUK	**Ortayu**	**9.07**	**353**	⇑Pn		**Pn**	**05 48 17.2**	**-0.9**
	comp=E,3.4nm,0.7s								
OTUK				⇑Lg		Lg	05 50 51.8		
	comp=E,32nm,0.9s								
OTUK	**Ortayu**	**9.07**	**353**	P		**Pn**	**05 48 17.2**	**-0.9**
MAKZ	**Makanchi**	**9.59**	**35**	Pn		Pn	05 48 20.9	-4.3
MAKZ	**Makanchi**	**9.59**	**35**	⇑Pg		Pn	05 48 58.7	+34
	comp=E,5.2nm,0.8s								
MAKZ				⇓Lg		Lg	05 51 05.9		
	comp=E,15nm,1.4s								
MAKZ	**Makanchi**	**9.59**	**35**	P		Pn	05 48 20.9	-4.3
MK31	**Makanchi Array**	**9.72**	**36**			Pn	05 48 23.6	-3.4
MK31	**Makanchi Array**	**9.72**	**36**	⇑Pn		**Pn**	**05 48 24.8**	**-2.2**
	comp=E,3.0nm,0.8s,baz=220,slow=14,SNR=8.9								
MK31				⇓Pg			05 49 01.6		
	comp=E,2.6nm,0.6s,baz=222,slow=14,SNR=4.8								
MK31				⇓Lg		Lg	05 51 09.9		
	comp=E,3.4nm,0.7s								
MK31	**Makanchi Array**	**9.72**	**36**	*i* P		**Pn**	**05 48 30.2**	**+3.2**
MKAR	**Makanchi Array**	**9.72**	**36**	Pn		**Pn**	**05 48 27.0**	**0.0**
	comp=E,0.2nm,0.3s,baz=222,slow=15,SNR=7.4								
MKAR				Lg		Lg	05 51 08.0		
	comp=E,0.3nm,0.3s,baz=230,slow=24,SNR=5.2								
	comp=E,0.5nm,0.5s								
MKAR	**Makanchi Array**	**9.72**	**36**	Pn		Pn	05 48 23.8	-3.2
MKAR	**Makanchi Array**	**9.72**	**36**	P		Pn	05 48 23.8	-3.2
BRZS	**Berezniki**	**10.78**	**356**	*e*P		Pn	05 49 22.4	+41
	comp=E,0.6nm,0.1s								
BRZS				*e*S			05 51 48.8		
	comp=E,5.8nm,0.3s								
BRZS	**Berezniki**	**10.78**	**356**	*e*Pn		**Pn**	**05 48 41.5**	**+0.1**
	baz=356								
BRZS	**Berezniki**	**10.78**	**356**	Pg		Pn	05 49 22.4	+41
	comp=E,2.4nm,0.2s								
BRZS				Lg		Lg	05 51 48.9		
	comp=E,15nm,0.8s								
BRZS	**Berezniki**	**10.78**	**356**	*e*P		**Pn**	**05 48 41.5**	**+0.1**
KUDL	**Kundal**	**11.27**	**168**	*e*P		Pn	05 48 44.9	-3.4
WMQ	**Urumqi**	**11.30**	**62**	*e*P		**Pn**	**05 48 47.3**	**-1.3**
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.7s								
WMQ				smax		smax			
	comp=N,12nm,1.3s								
WMQ				smax		smax			
	comp=E,11nm,1.3s								
ZSN	**Zaisan**	**11.43**	**41**	*e*P		Pn	05 49 28.8	+38
	comp=E,1.9nm,0.2s								
ZSN				*e*S			05 52 00.4		
	comp=E,7.2nm,0.9s								
ZSN	**Zaisan**	**11.43**	**41**	Pg		Pn	05 49 28.9	+38
	comp=E,3.7nm,0.2s								
KURBB	**Kurchatov Arra**	**11.84**	**14**	Pn		**Pn**	**05 48 54.9**	**-1.0**
	baz=199,slow=12,SNR=1.7								
KURBB				Lg		Lg	05 52 19.3		
	comp=E,0.1nm,0.3s,baz=83,slow=32,SNR=4.4								
	comp=E,0.2nm,0.5s								
KURK	**Kurchatov**	**11.95**	**15**	⇓Lg		Lg	05 52 21.5		
	comp=E,34nm,1.4s								
KURK	**Kurchatov**	**11.95**	**15**	P		**Pn**	**05 48 54.9**	**-2.5**
GEYT	**Alibeck**	**12.43**	**269**	Pn		Pn	05 49 00.3	-3.8
	comp=E,1.1nm,0.3s,baz=95,slow=10,SNR=5.4								
	comp=E,1.5nm,0.3s								
GEYT	**Alibeck**	**12.43**	**269**	Pn		**Pn**	**05 49 05.2**	**+1.1**
DANN	**Dangsing**	**13.59**	**140**	*e*P		Pn	05 49 15.5	-4.7
	comp=E,4.7nm,0.3s								
BVA0	**Borovoye Array**	**14.00**	**351**	⇓Pn		Pn	05 49 22.2	-3.2
	comp=E,5.5nm,0.7s								
BVA0	**Borovoye Array**	**14.00**	**351**	P		Pn	05 49 22.2	-3.2
BVAR	**Borovoye Array**	**14.00**	**351**	Pn		Pn	05 49 22.0	-3.4
	baz=156,slow=12,SNR=11								
BVAR				Lg		Lg	05 53 29.4		
	baz=149,slow=21,SNR=3.8								
	comp=E,2.4nm,0.6s								
BVAR	**Borovoye Array**	**14.00**	**351**	P		Pn	05 49 22.0	-3.4
BRVK	**Borovoye**	**14.05**	**351**			Pn	05 49 22.7	-3.3
BRVK	**Borovoye**	**14.05**	**351**	*i* P		**Pn**	**05 49 24.9**	**-1.1**
AB31	**Akbulak array**	**14.14**	**320**	Pn		Pn	05 49 23.2	-4.0
	comp=E,2.3nm,0.6s,baz=129,slow=11,SNR=43								
AB31	**Akbulak array**	**14.14**	**320**	P		Pn	05 49 23.3	-4.0
ABKAR	**Akbulak array**	**14.14**	**320**	Pn		Pn	05 49 24.0	-3.3
DGZ	**Jazzator, Alta**	**14.21**	**38**	*i* P		**Pn**	**05 49 31.9**	**+3.5**
GKN	**Gorkha**	**14.32**	**138**	*e*P		Pn	05 49 25.3	-4.7
	comp=E,4.4nm,0.3s								
GUN	**Gumba**	**15.05**	**135**	*e*P		**Pn**	**05 49 36.2**	**-4.0**
	comp=E,2.2nm,0.3s								
PKIN	**Phulchoki**	**15.06**	**137**	*e*P		**Pn**	**05 49 35.1**	**-5.1**
	comp=E,3.7nm,0.4s								
PKI	**Pulchoki**	**15.07**	**137**	*e*P		**Pn**	**05 49 35.8**	**-4.6**
	comp=E,4.6nm,0.5s								
JIRN	**Jiri**	**15.42**	**135**	*e*P		**Pn**	**05 49 41.3**	**-3.8**
	comp=E,8.9nm,0.5s								
AKTO	**Aktyubinsk**	**15.85**	**320**	⇓Pn		**Pn**	**05 49 47.9**	**-2.3**
	comp=E,2.0nm,0.6s								
AKTO	**Aktyubinsk**	**15.85**	**320**	P		**Pn**	**05 49 47.9**	**-2.3**
ZAA0	**Zalesovo Array**	**16.48**	**23**	P		**Pn**	**05 49 54.9**	**-3.4**
ZALV	**Zalesovo Beam**	**16.48**	**23**	Pn		**Pn**	**05 49 54.6**	**-3.6**
	comp=E,0.5nm,0.3s,baz=209,slow=11,SNR=7.1								
	comp=E,1.7nm,0.5s								
ZALV	**Zalesovo Beam**	**16.48**	**23**			**Pn**	**05 49 54.2**	**-4.1**
ZALV	**Zalesovo Beam**	**16.48**	**23**	*i* P		**Pn**	**05 49 57.2**	**-1.0**
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.5s								
GOMU	**GeErMu**	**16.81**	**94**	P		**Pn**	**05 50 05.3**	**+2.4**
GOMU				pP		pP	05 50 09.5	+0.4
GOMU				sP		sP	05 50 11.5	+0.5
GOMU				pmax		pmax			
	comp=Z,39nm,1.0s								
GTA	**Gaotai**	**20.02**	**81**	*e*P		**P**	**05 50 39.0**	**-1.2**
GTA				pP		Pn	05 50 42.5	+0.6
GTA				sP		pP	05 50 45.3	+1.1
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
WSAR	**Wadi Sarin**	**20.57**	**224**	P		**P**	**05 50 44.7**	**-1.4**
	comp=Z,13nm,1.1s,baz=53,slow=11,SNR=4.5								
ONI	**Oni**	**23.20**	**288**	P		**P**	**05 51 13.3**	**-0.8**
ONI				IAmb		IAmb	05 51 15.6		
	comp=Z,12nm,0.8s								
ONI	**Oni**	**23.20**	**288**	P		**P**	**05 51 13.3**	**-0.8**
ONI				pmax		pmax			
	comp=Z,12nm,0.8s								
KBZ	**Khabaz**	**23.59**	**291**	*i* P		**P**	**05 51 17.2**	**-0.6**
KBZ				pmax		pmax			

	comp=Z,4.0nm,1.2s								
KIV	**Kislovodsk**	**23.74**	**292**	*e*P		**P**	**05 51 16.7**	**-2.8**
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
SONM	**Songino Array**	**24.92**	**59**	P		**P**	**05 51 30.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=264,slow=9.0,SNR=7.1								
BRTR	**Keskin Array B**	**30.91**	**284**	P		**P**	**05 52 21.9**	**-2.2**
	comp=Z,1.6nm,0.8s,baz=90,slow=9.4,SNR=6.6								
	comp=E,1.6nm,0.8s								
BRTR	**Keskin Array B**	**30.91**	**284**	*i* P		**P**	**05 52 22.7**	**-1.3**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**33.14**	**305**	P		P	05 52 40.2	-3.1	
	comp=Z,0.1nm,0.2s,baz=80,slow=8.3,SNR=4.2								
	comp=Z,0.1nm,0.2s								
AKASG	**Malin Array Be**	**33.14**	**305**	*i* P		P	05 52 40.7	-2.6	
FIA1	**FINESS Array S**	**36.58**	**323**	P		**P**	**05 53 10.4**	**-2.4**	
FINES	**FINESS Array B**	**36.58**	**323**	P		P	05 53 10.1	-2.8	
	comp=Z,5.7nm,1.0s,baz=109,slow=11,SNR=14								
	comp=Z,5.7nm,1.0s								
FINES	**FINESS Array B**	**36.58**	**323**	P		**P**	**05 53 10.4**	**-2.4**	
ARCES	**ARCESS Array B**	**39.55**	**336**	P		P	05 53 34.9	-2.9	
	comp=Z,1.6nm,0.6s,baz=106,slow=9.5,SNR=10								
	comp=Z,1.6nm,0.6s								
ARCES	**ARCESS Array B**	**39.55**	**336**	P		P	05 53 33.7	-4.1	
ARCES				IAmb		IAmb	05 53 36.5		
	comp=Z,41nm,1.5s								
ARCES	**ARCESS Array B**	**39.55**	**336**	P		P	05 53 33.7	-4.1	
ARCES				pmax		pmax			
	comp=Z,41nm,1.5s								
NC405	**NORSAR Array S**	**43.40**	**321**	P		P	05 54 06.5	-3.0	
NC405				IAmb		IAmb	05 54 25.9		
	comp=Z,21nm,1.3s								
NC602	**NORSAR Array S**	**43.48**	**321**	P		P	05 54 05.5	-4.6	
NC602				IAmb		IAmb	05 54 13.0		
	comp=Z,18nm,1.2s								
NC303	**NORSAR Array S**	**43.56**	**321**	P		**P**	**05 54 08.5**	**-2.4**	
NC303				IAmb		IAmb	05 54 38.2		
	comp=Z,14nm,1.1s								
NB201	**NORSAR Array S**	**43.60**	**321**	P		P	05 54 08.5	-2.7	
NB2	**NORSAR Subarra**	**43.64**	**321**	P		P	05 54 07.9	-3.6	
	comp=Z,0.7nm,0.6s,baz=92,slow=7.9								
NOA	**NORSAR Array B**	**43.64**	**321**	P		P	05 54 08.0	-3.4	
	comp=Z,1.1nm,0.6s,baz=91,slow=7.9,SNR=5.6								
	comp=Z,1.1nm,0.6s								
NC204	**NORSAR Array S**	**43.86**	**322**	P		P	05 54 10.0	-3.3	
PETK	**Petropavlovsk-**	**56.41**	**46**	P		**P**	**05 55 46.5**	**-2.0**	
	comp=Z,0.9nm,0.4s,baz=302,slow=8.3,SNR=1.7								
	comp=Z,0.9nm,0.4s								
ESDC	**Sonseca Array**	**58.23**	**297**	P		P	05 55 58.4	-3.3	
	comp=Z,0.6nm,0.6s,baz=53,slow=7.3,SNR=9.2								
	comp=Z,0.6nm,0.6s								
TOLK	**Toolik Lake Re**	**67.68**	**16**	P		P	05 56 59.7	-4.3	
TOLK				IAmb		IAmb	05 57 07.8		
	comp=Z,4.2nm,0.9s								
A36M	**Sachs Harbour**	**68.25**	**6**	P		P	05 57 04.0	-3.4	
A36M				IAmb		IAmb	05 57 09.5		
	comp=Z,5.2nm,1.2s								
IMAR	**Indian Mountai**	**68.85**	**19**	P		P	05 57 07.1	-4.3	
BMAR	**Burnt Mountain**	**69.72**	**15**	P		P	05 57 12.5	-4.3	
J20K	**Nowinta River**	**70.18**	**20**	P		P	05 57 13.7	-5.9	
J20K				IAmb		IAmb	05 57 29.7		
	comp=Z,6.5nm,1.4s								
K20K	**Telida**	**70.85**	**21**	P		P	05 57 20.2	-3.5	
C36M	**Paulatuk**	**70.92**	**7**	P		P	05 57 19.7	-4.2	
C36M				IAmb		IAmb	05 57 23.0		
	comp=Z,3.5nm,1.0s								
MDM	**Murphy Dome**	**71.03**	**18**	P		P	05 57 20.2	-4.6	
ILAR	**Eielson Array**	**71.50**	**17**	P		P	05 57 23.4	-4.2	
	comp=Z,0.4nm,0.7s,baz=308,slow=4.4,SNR=3.2								
	comp=Z,0.4nm,0.7s								
J26L	**Joseph Creek**	**72.47**	**16**	P		P	05 57 29.6	-3.9	
SUA	**Susitna One**	**73.30**	**21**	P		P	05 57 33.7	-4.8	
BCAR	**Beaver Creek A**	**74.12**	**16**	P		P	05 57 39.8	-3.4	
PWL	**Port Wells**	**74.45**	**20**	P		P	05 57 41.1	-4.1	
KIC	**Kosan Boka**	**77.22**	**268**	⇑*e*P		P	05 57 58.3	-3.4	
	comp=Z,8.1nm,0.4s								
TIC	**Toumodi**	**77.26**	**268**	⇑*i* P		P	05 57 58.4	-3.5	
	comp=Z,8.0nm,0.6s								
LIC	**Lamto**	**77.53**	**268**	⇑*i* P		P	05 57 59.9	-3.5	
	comp=Z,11nm,0.5s								
WRA	**Warramunga Arr**	**81.55**	**124**	P		P	05 58 20.1	-5.0	
	comp=Z,0.6nm,0.7s,baz=314,slow=3.8,SNR=8.5								
	comp=Z,0.6nm,0.7s								
WRA	**Warramunga Arr**	**81.55**	**124**	P		P	05 58 20.6	-4.5	
WB2	**Warramunga Arr**	**81.56**	**124**	P		P	05 58 20.4	-4.7	
WB2				IAmb		IAmb	05 58 34.6		
	comp=Z,7.1nm,1.4s								
ASAR	**Alice Springs**	**83.99**	**127**	P		P	05 58 32.6	-5.1	
	comp=Z,0.2nm,0.3s,baz=311,slow=4.8,SNR=1.7								
	comp=Z,0.2nm,0.3s								

ROM 28 05:46:51.7±0.1, 43°017N±0°002×13°078E±0°004, h9km, Md1.6/17, Error ellipse: s-maj=0.3km s-min=0.1km az=261.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.02**	**20**	P		Pg	05 46 53.4	0.0
FDMO				S		Sg	05 46 54.1	-0.4
FDMO	**Fiordimonte**	**0.02**	**20**	P		Pg	05 46 53.4	0.0
FDMO				S		Sg	05 46 54.0	-0.6
FDMO				END				
FEMA	**Monte Fema**	**0.06**	**200**	P		Pg	05 46 54.2	+0.5
FEMA				S		Sg	05 46 55.5	+0.2
FEMA				END				
T1219	**Muccia, Frazio**	**0.06**	**307**	P		Pg	05 46 54.1	+0.3
T1219				S		Sg	05 46 55.4	+0.1
T1219				AML		AML		
	comp=E,25250μm,0.8s							
T1219				AML		AML		
	comp=N,35500μm,0.2s							
T1219				AML		AML		
	comp=E,23300μm,0.8s							
T1219				AML		AML		
	comp=N,34950μm,0.2s							
T1219				AML		AML		
	comp=E,25250μm,0.8s							
T1219				AML		AML		
	comp=N,35500μm,0.2s							
T1219				AML		AML		
	comp=E,23300μm,0.8s							
T1219				AML		AML		
	comp=N,34950μm,0.2s							
T1219				AML		AML		
	comp=E,25250μm,0.8s							
T1219				AML		AML		
	comp=E,23300μm,0.8s							
T1219				AML		AML		
	comp=N,35500μm,0.2s							
T1219				AML		AML		
	comp=N,34950μm,0.2s							
T1219	**Muccia, Frazio**	**0.06**	**307**	P		Pg	05 46 54.1	+0.3
T1219				S		Sg	05 46 55.3	0.0
T1219				END				
T1256	**Bolognola (MC)**	**0.11**	**96**	P		Pg	05 46 55.0	+0.5
T1256				S		Sg	05 46 57.1	+0.8
T1256				AML		AML		
	comp=E,3940μm,0.7s							
T1256				AML		AML		
	comp=N,5750μm,0.3s							
T1256				AML		AML		
	comp=E,3935μm,0.7s							
T1256				AML		AML		
	comp=N,5730μm,0.3s							
T1256				AML		AML		
	comp=E,3940μm,0.7s							
T1256				AML		AML		
	comp=N,5750μm,0.3s							
T1256				AML		AML		
	comp=E,3935μm,0.7s							
T1256				AML		AML		
	comp=N,5730μm,0.3s							
T1256				AML		AML		
	comp=N,5750μm,0.3s							
T1256				AML		AML		
	comp=E,3935μm,0.7s							
T1256				AML		AML		
	comp=E,3940μm,0.7s							
T1256	**Bolognola (MC)**	**0.11**	**96**	P		Pg	05 46 54.9	+0.5
T1256				S		Sg	05 46 56.9	+0.5
T1256				END				
CSP1	**Cessapalombo**	**0.12**	**51**	P		Pg	05 46 55.1	+0.6
CSP1				S		Sg	05 46 57.6	+1.0
CSP1				AML		AML		
	comp=E,10110μm,0.3s							
CSP1				AML		AML		
	comp=N,10325μm,0.5s							
CSP1				AML		AML		
	comp=E,10110μm,0.3s							
CSP1				AML		AML		
	comp=N,10280μm,0.5s							
CSP1				AML		AML		
	comp=E,10110μm,0.3s							
CSP1				AML		AML		
	comp=N,10285μm,0.5s							
CSP1				AML		AML		
	comp=E,10110μm,0.3s							
CSP1				AML		AML		
	comp=N,10285μm,0.5s							
CSP1	**Cessapalombo**	**0.12**	**51**	P		Pg	05 46 55.0	+0.4
CSP1				S		Sg	05 46 57.4	+0.8
CSP1				END				
CESI	**CESI - Serrava**	**0.13**	**265**	P		Pg	05 46 55.4	+0.7
CESI	**CESI - Serrava**	**0.13**	**265**	P		Pg	05 46 55.4	+0.7
CESI				S		Sg	05 46 58.0	+1.3
CESI				AML		AML		
	comp=E,7460μm,0.8s							
CESI				AML		AML		
	comp=N,9925μm,0.3s							
CESI				AML		AML		
	comp=E,7460μm,0.8s							
CESI				AML		AML		
	comp=N,9925μm,0.3s							
CESI				AML		AML		
	comp=E,7460μm,0.8s							
CESI				AML		AML		
	comp=N,9925μm,0.3s							
CESI				AML		AML		
	comp=N,9925μm,0.3s							
CESI				AML		AML		
	comp=E,7460μm,0.8s							
CESI	**CESI - Serrava**	**0.13**	**265**	S		Sg	05 46 57.6	+0.9
CESI				END				
MC2	**Monte Cornacci**	**0.13**	**142**	P		Pg	05 46 55.6	+0.8
MC2				S		Sg	05 46 59.0	+2.0
MC2	**Monte Cornacci**	**0.13**	**142**	P		Pg	05 46 55.4	+0.6
MC2				S		Sg	05 46 56.9	-0.1
MC2				END				
T1216	**Preci, Frazion**	**0.13**	**199**	P		Pg	05 46 55.4	+0.7
T1216				S		Sg	05 46 58.1	+1.3
T1216				AML		AML		
	comp=E,9980μm,0.5s							
T1216				AML		AML		
	comp=N,7060μm,0.6s							
T1216				AML		AML		
	comp=E,9970μm,0.5s							
T1216				AML		AML		
	comp=N,7065μm,0.6s							
T1216				AML		AML		
	comp=E,9970μm,0.5s							
T1216				AML		AML		
	comp=N,7060μm,0.6s							
T1216				AML		AML		
	comp=N,7060μm,0.6s							
T1216				AML		AML		
	comp=E,9970μm,0.5s							
T1216	**Preci, Frazion**	**0.13**	**199**	P		Pg	05 46 55.5	+0.8
T1216				S		Sg	05 46 57.9	+1.1
T1216				END				
SEF1	**Sefro**	**0.16**	**324**	P		Pg	05 46 55.8	+0.6
SEF1				S		Sg	05 46 58.8	+1.3
SEF1				END				
MDAR	**Monte D'Aria**	**0.18**	**15**	P		Pg	05 46 56.3	+0.8
MDAR				S		Sg	05 46 59.4	+1.2
MDAR				AML		AML		
	comp=E,2445μm,1.5s							
MDAR				AML		AML		
	comp=N,4300μm,0.3s							
MDAR				AML		AML		
	comp=E,2445μm,1.5s							
MDAR				AML		AML		
	comp=N,4300μm,0.3s							
MDAR				AML		AML		
	comp=E,2450μm,1.5s							
MDAR				AML		AML		
	comp=N,4305μm,0.3s							
MDAR				AML		AML		
	comp=N,4305μm,0.3s							
MDAR				AML		AML		
	comp=E,2450μm,1.5s							
MDAR	**Monte D'Aria**	**0.18**	**15**	P		Pg	05 46 56.2	+0.7
MDAR				S		Sg	05 46 59.2	+1.0
MDAR				END				
NRCA	**Norcia**	**0.19**	**172**	P		Pg	05 46 56.7	+1.1
NRCA				S		Sg	05 46 60.0	+1.7
NRCA				AML		AML		
	comp=E,3380μm,0.2s							
NRCA				AML		AML		
	comp=N,3325μm,0.3s							
NRCA				AML		AML		
	comp=E,3635μm,0.2s							
NRCA				AML		AML		
	comp=N,3505μm,0.3s							
NRCA				AML		AML		
	comp=E,3385μm,0.2s							
NRCA				AML		AML		
	comp=N,3325μm,0.3s							
NRCA				AML		AML		
	comp=N,3505μm,0.3s							
NRCA				AML		AML		
	comp=E,3635μm,0.2s							
NRCA				AML		AML		
	comp=E,3385μm,0.2s							
GUMA	**Gualdo di Mace**	**0.19**	**76**	P		Pg	05 46 56.8	+1.1
GUMA				S		Sg	05 47 00.7	+2.2
GUMA				AML		AML		
	comp=E,20800μm,0.3s							
GUMA				AML		AML		
	comp=N,17200μm,0.2s							
GUMA				AML		AML		
	comp=E,22350μm,0.3s							
GUMA				AML		AML		
	comp=N,23250μm,0.3s							
GUMA				AML		AML		
	comp=E,20750μm,0.3s							
GUMA				AML		AML		
	comp=N,17200μm,0.2s							
GUMA				AML		AML		
	comp=E,22350μm,0.3s							
GUMA				AML		AML		
	comp=N,23250μm,0.3s							
GUMA				AML		AML		
	comp=E,22350μm,0.3s							
GUMA				AML		AML		
	comp=E,20750μm,0.3s							
GUMA				AML		AML		
	comp=N,23250μm,0.3s							
GUMA				AML		AML		
	comp=N,17200μm,0.2s							
MMO1	**Montemonaco**	**0.22**	**123**	P		Pg	05 46 56.9	+0.7
MMO1				S		Sg	05 47 00.7	+1.5
MMO1	**Montemonaco**	**0.22**	**123**	P		Pg	05 46 56.9	+0.8
MMO1				S		Sg	05 47 00.7	+1.5
MMO1				END				
SNTG	**Esanatoglia**	**0.26**	**337**	P		Pb	05 46 57.8	-0.8
SNTG				S		Sb	05

SNTG					AML	AML		
	comp=N,2065µm,1.1s							
SNTG					AML	AML		
	comp=N,2280µm,1.1s							
SNTG					AML	AML		
	comp=E,1665µm,0.7s							
SNTG					AML	AML		
	comp=E,1645µm,0.7s							
SNTG	**Esanatoglia**	**0.26**	**337**		P	Pg	05 46 57.6	+0.7
SNTG					S	Sb	05 47 02.0	-1.2
SNTG					END			
T1215	**Vallo di Nera,**	**0.26**	**216**		P	Pg	05 46 57.7	+0.7
T1215					S	Sb	05 47 02.1	-1.2
T1215					AML	AML		
	comp=E,1018µm,0.5s							
T1215					AML	AML		
	comp=N,1110µm,1.0s							
T1215					AML	AML		
	comp=E,1050µm,0.5s							
T1215					AML	AML		
	comp=N,1160µm,1.1s							
T1215					AML	AML		
	comp=E,1016µm,0.5s							
T1215					AML	AML		
	comp=N,1108µm,1.0s							
T1215					AML	AML		
	comp=E,1050µm,0.5s							
T1215					AML	AML		
	comp=N,1160µm,1.1s							
T1215					AML	AML		
	comp=N,1108µm,1.0s							
T1215					AML	AML		
	comp=E,1016µm,0.5s							
T1215					AML	AML		
	comp=E,1050µm,0.5s							
T1215					AML	AML		
	comp=N,1160µm,1.1s							
T1215	**Vallo di Nera,**	**0.26**	**216**		P	Pg	05 46 57.7	+0.7
T1215					S	Sb	05 47 02.1	-1.3
T1215					END			
T1241	**Roccafluvione,**	**0.30**	**122**		P	Pg	05 46 58.6	+0.8
T1241					S	Sb	05 47 03.7	-0.8
T1241					AML	AML		
	comp=E,1125µm,0.8s							
T1241					AML	AML		
	comp=N,1480µm,0.6s							
T1241					AML	AML		
	comp=E,1165µm,0.8s							
T1241					AML	AML		
	comp=N,1485µm,0.6s							
T1241					AML	AML		
	comp=E,1130µm,0.8s							
T1241					AML	AML		
	comp=N,1480µm,0.6s							
T1241					AML	AML		
	comp=E,1165µm,0.8s							
T1241					AML	AML		
	comp=N,1485µm,0.6s							
T1241					AML	AML		
	comp=E,1165µm,0.8s							
T1241					AML	AML		
	comp=E,1130µm,0.8s							
T1241					AML	AML		
	comp=N,1480µm,0.6s							
T1241					AML	AML		
	comp=N,1485µm,0.6s							
T1241	**Roccafluvione,**	**0.30**	**122**		P	Pb	05 46 58.7	-0.7
T1241					END			
ASSB	**Assisi San Ben**	**0.31**	**275**		P	Pg	05 46 58.5	+0.6
ASSB					S	Sb	05 47 03.7	-0.9
ASSB					END			
EL6	**Elcito**	**0.31**	**3**		P	Pg	05 46 58.6	+0.7
EL6					END			
T1218	**Civita (PG)**	**0.35**	**175**		P	Pg	05 46 59.2	+0.6
T1218					S	Sb	05 47 05.0	-0.8
T1218					AML	AML		
	comp=E,1140µm,0.2s							
T1218					AML	AML		
	comp=N,1610µm,0.6s							
T1218					AML	AML		
	comp=E,1082µm,0.2s							
T1218					AML	AML		
	comp=N,1610µm,0.6s							
T1218					AML	AML		
	comp=E,1140µm,0.2s							
T1218					AML	AML		
	comp=N,1615µm,0.6s							
T1218					AML	AML		
	comp=E,1082µm,0.2s							
T1218					AML	AML		
	comp=N,1610µm,0.6s							
T1218					AML	AML		
	comp=N,1610µm,0.6s							
T1218					AML	AML		
	comp=N,1615µm,0.6s							
T1218					AML	AML		
	comp=E,1140µm,0.2s							
T1218					AML	AML		
	comp=E,1082µm,0.2s							
T1218	**Civita (PG)**	**0.35**	**175**		P	Pg	05 46 59.3	+0.7
T1218					S	Sb	05 47 05.0	-0.8
T1218					END			
CING	**Cingoli**	**0.37**	**13**		P	Pg	05 46 59.7	+0.7
LNSS	**Leonessa**	**0.41**	**184**		P	Pg	05 47 00.6	+0.7
LNSS					S	Sb	05 47 07.3	-0.4
LNSS					AML	AML		
	comp=E,581µm,0.9s							
LNSS					AML	AML		
	comp=N,1255µm,0.6s							
LNSS					AML	AML		
	comp=E,581µm,0.9s							
LNSS					AML	AML		
	comp=N,1255µm,0.6s							
LNSS					AML	AML		
	comp=E,581µm,0.9s							
LNSS					AML	AML		
	comp=N,1255µm,0.6s							
LNSS	**Leonessa**	**0.41**	**184**		S	Sb	05 47 08.0	+0.3
LNSS	**Leonessa**	**0.41**	**184**		S	Sb	05 47 08.0	+0.3
T1243	**Rocca Santa Ma**	**0.42**	**139**		S	Sg	05 47 01.0	-4.5
ARRO	**Arrone**	**0.49**	**208**		S	Sb	05 47 11.0	+1.1
RM33	**Pellescrita (**	**0.52**	**169**		S	Sb	05 47 12.0	+1.3
PP3	**Marolino**	**0.53**	**47**		S	Sg	05 47 05.0	-4.0

*IDC **28** 06:01:18.4±1.9,36°37N×69°61E, h0km, mb3.8/3, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=39.6km s-min=25.3km az=172.0*
*NNC **28** 06:01:52.9±4.0,37°45N×70°98E, h153km±44km, mb3.5, mpv4.5, Error ellipse: s-maj=37.5km s-min=22.9km az=28.0*
*SOME **28** 06:01:54.7,38°72N×73°27E, h5km*
ISC 28 06:01:46.2±1.1,37°00N±0°08×71°67E±0°09, h200km, n30, σ3§57/33, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**5.87**	**11**	*eP*	**Pn**	**06 03 11.0**	**-0.7**
	32nm,0.2s						
MRKS				*eS*	Sn	06 04 06.2	-13
	67nm,0.5s						
DZA	**Taraz**	**5.89**	**358**	*eP*	**Pn**	**06 03 15.9**	**+3.9**
	113nm,0.1s						
DZA				*eS*	**Sn**	**06 04 14.1**	**-5.9**
	199nm,0.3s						
KK31	**Karatay Array**	**6.17**	**352**	P	**Pn**	**06 03 15.0**	**-0.5**
	18nm,0.3s,baz=177,slow=13,SNR=262						
KK31				S	**Sn**	**06 04 20.1**	**-6.3**
	63nm,0.5s,baz=184,slow=24,SNR=30						
SGDS	**Sogindy**	**6.83**	**18**	*eP*	**Pn**	**06 03 23.4**	**-0.9**
	6.5nm,0.2s						
SGDS				*eS*	Sn	06 04 27.3	-15
	20nm,0.7s						
KST	**Kastek**	**6.88**	**27**	*eP*	**Pn**	**06 03 24.8**	**-0.1**
	7.0nm,0.3s						
KST				*eS*	Sn	06 04 29.8	-13
	19nm,0.6s						
DGS	**Degeres**	**6.98**	**25**	*eP*	**Pn**	**06 03 26.5**	**+0.3**
	5.5nm,0.7s						
DGS				*eS*	Sn	06 04 32.6	-13
	9.9nm,0.5s						
IZV	**Izvestkoviy**	**7.12**	**31**	*eP*	**Pn**	**06 03 27.2**	**-0.9**
	3.6nm,0.4s						
IZV				*eS*	Sn	06 04 33.9	-15
	10nm,0.8s						
MTBS	**Maitube**	**7.13**	**29**	*eP*	**Pn**	**06 03 28.1**	**0.0**
	16nm,0.4s						
MTBS				*eS*	Sn	06 04 35.1	-14
	20nm,0.7s						
TNSS	**Tian-Shan**	**7.26**	**32**	*eP*	**Pn**	**06 03 29.6**	**-0.6**
	3.8nm,0.2s						
TNSS				*eS*	Sn	06 04 37.9	-15
	3.0nm,0.3s						
KRBS	**Karabastau**	**7.36**	**23**	*eP*	**Pn**	**06 03 32.8**	**+1.8**
	3.5nm,0.6s						
KRBS				*eS*	Sn	06 04 43.5	-11
	6.2nm,0.4s						
KOTS	**Kotyrbulak**	**7.50**	**32**	*eP*	**Pn**	**06 03 34.8**	**+1.8**
	7.1nm,0.4s						
KOTS				*eS*	Sn	06 04 46.8	-11
	10nm,0.2s						
SATY	**Saty**	**7.96**	**38**	*eP*	**Pn**	**06 03 42.4**	**+3.4**
	3.1nm,0.7s						
SATY				*eS*	Sn	06 04 59.3	-9.4
	6.1nm,0.6s						
BTLS	**Baital**	**8.23**	**12**	*eP*	Pn	06 03 52.9	+10
	1.5nm,0.4s						
BTLS				*eS*	**Sn**	**06 05 17.8**	**+2.8**
	12nm,0.4s						
UZB	**Uzynbulak**	**8.33**	**40**	*eP*	Pn	06 03 49.6	+5.8
	2.4nm,0.4s						
UZB				*eS*	**Sn**	**06 05 12.4**	**-5.3**
	5.1nm,0.5s						
KPKS	**Kokpek**	**8.40**	**38**	*eP*	Pn	06 03 51.6	+7.0
	5.1nm,0.4s						
KPKS				*eS*	**Sn**	**06 05 15.8**	**-3.2**
	4.4nm,0.6s						
ARXS	**Arharly**	**8.59**	**31**	*eP*	Pn	06 03 55.3	+8.2
	3.9nm,0.7s						
ARXS				*eS*	**Sn**	**06 05 22.6**	**-1.1**
	4.2nm,0.4s						
MK31	**Makanchi Array**	**12.57**	**36**	P	**P**	**06 04 45.7**	**+3.6**
	2.4nm,0.6s,baz=211,slow=10,SNR=15						
MKAR	**Makanchi Array**	**12.57**	**36**	Pn	**Pn**	**06 04 39.3**	**+1.1**
	0.1nm,0.3s,baz=227,slow=14,SNR=6.5						
	0.8nm,0.8s						
DANN	**Dangsing**	**13.33**	**127**	*eS*	**S**	**06 07 08.0**	**-9.0**
DANN	**Dangsing**	**13.33**	**127**	*eP*	**P**	**06 04 48.5**	**-2.4**
	6.4nm,0.3s						
GKN	**Gorkha**	**14.13**	**126**	*eP*	**P**	**06 04 57.8**	**-1.9**
	22nm,0.4s						
KURBB	**Kurchatov Arra**	**14.48**	**18**	⇑P	**P**	**06 05 07.5**	**+4.3**
	5.4nm,0.7s						
DMN	**Daman**	**14.71**	**126**	*eP*	**P**	**06 05 05.8**	**-0.3**
	8.7nm,0.4s						
PKIN	**Phulchoki**	**14.92**	**125**	*eP*	**P**	**06 05 08.3**	**-0.2**
	6.2nm,0.4s						
AB31	**Akbulak array**	**14.93**	**329**	P	**P**	**06 05 08.6**	**+0.5**
	0.9nm,0.5s,baz=135,slow=14,SNR=35						
AB31				⇓S	**S**	**06 07 45.4**	**-7.5**
	1.5nm,0.5s,baz=152,slow=23,SNR=7.1						
PKI	**Pulchoki**	**14.93**	**125**	*eP*	**P**	**06 05 08.8**	**+0.1**
	2.9nm,0.2s						
GUN	**Gumba**	**15.02**	**123**	*eP*	**P**	**06 05 08.5**	**-1.2**
	8.8nm,0.4s						
ZALV	**Zalesovo Beam**	**19.24**	**24**	P	**Pn**	**06 05 59.7**	**+1.2**
	4.1nm,0.4s,baz=222,slow=11,SNR=20						
	4.1nm,0.4s						
SONM	**Songino Array**	**27.61**	**56**	P	**P**	**06 07 20.8**	**+5.8**
	0.9nm,0.7s,baz=264,slow=9.5,SNR=6.4						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**81.80**	**122**	P	**P**	**06 13 45.9**	**+3.0**
	0.4nm,0.9s,baz=318,slow=6.1,SNR=2.5						
	0.4nm,0.9s						

*OSPL **28** 06:08:58.3±0.8,20°28N×74°34W, h52km±6km, ML2.0*
*SSNC **28** 06:09:00.1±1.1,19°94N×74°33W, h31km±9km, MD2.9, ML1.9, MW2.8*
ISC 28 06:08:58.1±1.5,19°78N±0°09×74°38W±0°04, h12km±17km, n8, σ1§35/15, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**0.41**	**20**	*eP*	**Pg**	**06 09 06.3**	**0.0**
MASC				*eS*	**Sg**	**06 09 11.3**	**-0.6**
MASC				IAML		06 09 11.6	
	comp=E,360nm,0.1s						
MASC				IAML		06 09 12.0	
	comp=N,199nm,0.1s						
MASC	**Masc**	**0.41**	**20**	*i* P	**Pg**	**06 09 06.4**	**0.0**
MASC				*eS*	**Sg**	**06 09 11.5**	**-0.4**
MASC				IAML		06 09 12.4	
	comp=Z,315nm,0.1s						
GTBY	**Guantanamo Bay**	**0.70**	**282**	*eP*	**Pg**	**06 09 12.4**	**+0.7**
GTBY				*eS*	**Sg**	**06 09 21.8**	**+0.8**
GTBY				IAML		06 09 22.1	
	comp=Z,24nm,0.1s						
GTBY				IAML		06 09 23.4	
	comp=Z,28nm,0.1s						
GTBY	**Guantanamo Bay**	**0.70**	**282**	*i* P	**Pg**	**06 09 12.7**	**+1.0**
GTBY				*eS*	**Sg**	**06 09 23.1**	**+2.1**
GTBY				IAML		06 09 27.6	
	comp=Z,16nm,0.6s						
MOAC	**Moa**	**1.03**	**328**	*eP*	**Pg**	**06 09 17.4**	**-0.5**
MOAC				*eS*	**Sg**	**06 09 32.6**	**+1.2**
MOAC				IAML		06 09 35.6	
	comp=E,34nm,0.2s						
MOAC				IAML		06 09 36.2	
	comp=N,28nm,0.2s						
RCC	**Rio Carpintero**	**1.26**	**280**	*eP*	**Pg**	**06 09 20.2**	**-2.1**
RCC				*eS*	**Sg**	**06 09 36.0**	**-2.6**
RCC				IAML		06 09 39.8	
	comp=N,21nm,0.2s						
RCC				IAML		06 09 39.9	
	comp=E,19nm,0.3s						
PAPH	**Port-au-Prince**	**2.33**	**122**	*i* P	**Pn**	**06 09 36.2**	**0.0**
PAPH				*eS*	**Sn**	**06 10 05.5**	**+0.6**
LMGC	**Las Mercedes**	**2.49**	**277**	*eP*	**Pn**	**06 09 38.4**	**0.0**
LMGC				IAML		06 10 11.2	
	comp=E,4.8nm,0.1s						
LMGC				IAML		06 10 14.0	
	comp=N,8.6nm,0.1s						

*IDC **28** 06:35:48.0±1.4,9°07S×74°56W, h157km±17km, mb3.4/6, mbtmp4.0/12, Error ellipse: s-maj=18.1km s-min=12.2km az=53.0*
*VAO **28** 06:35:53.4±0.8,8°74S×73°95W, h158km±5km, mbR4.0*
ISC 28 06:35:47.2±0.6,9°02S±0°06×74°39W±0°06, h145km, n37, σ1§49/38, mb3.7/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**2.10**	**53**	*eP*	**Pn**	**06 36 25.1**	**+1.8**
NNA	**Nana**	**3.81**	**219**	P	**Pn**	**06 36 46.0**	**+1.1**
	24nm,0.3s,baz=35,slow=5.9,SNR=31						
NNA				S	**Sn**	**06 37 27.6**	**-2.2**
	207nm,0.4s,baz=202,slow=16,SNR=10						
ATAH	**Atahualpa**	**4.38**	**295**	P	**Pn**	**06 36 53.0**	**+0.2**
	52nm,0.3s,baz=100,slow=5.7,SNR=183						
ATAH				S	**Sn**	**06 37 42.2**	**-1.4**
	68nm,0.6s,baz=308,slow=11,SNR=11						
TBTG	**Tabatinga, AM**	**6.54**	**43**	*eP*	**Pn**	**06 37 21.7**	**+0.5**
ETMB	**Extrema**	**8.11**	**96**	*eP*	**Pn**	**06 37 41.4**	**-0.7**
LPAZ	**La Paz**	**9.46**	**140**	P	**Pn**	**06 38 03.0**	**+2.3**
	0.5nm,0.6s,baz=324,slow=7.8,SNR=2.8						
LPAZ	**La Paz**	**9.46**	**140**	*eP*	Pn	06 38 06.5	+5.7
TEFE	**Tefe**	**11.13**	**61**	*eP*	**Pn**	**06 38 21.4**	**-0.9**
SGCB	**S&o Gabriel d**	**11.48**	**40**	*eP*	**Pn**	**06 38 24.6**	**-2.3**
VILB	**Vilhena**	**14.47**	**107**	*eP*	**P**	**06 39 06.7**	**-1.2**
SIV	**San Ignacio**	**14.73**	**119**	P	**P**	**06 39 09.8**	**-1.0**
	4.8nm,0.6s,baz=297,slow=11,SNR=44						
MACA	**Manacapuru-AM**	**14.81**	**68**	*eP*	**P**	**06 39 09.6**	**-2.2**
BBSD	**Serra de San D**	**15.68**	**123**	*eP*	**P**	**06 39 23.0**	**+1.7**
PTLB	**Pontes e Lacer**	**16.21**	**115**	*eP*	**P**	**06 39 29.8**	**+2.5**
PTGA	**Pitinga**	**16.55**	**61**	P	**P**	**06 39 31.1**	**+0.1**
	5.0nm,0.5s,baz=224,slow=22,SNR=14						
PDRB	**Porto dos Gac**	**17.57**	**100**	*eP*	**Pn**	**06 39 43.6**	**+0.3**
BOAV	**Boa Vista**	**17.88**	**51**	*eP*	**Pn**	**06 39 46.0**	**-1.0**
SDV	**Santo Domingo**	**18.17**	**12**	P	**Pn**	**06 39 50.3**	**-0.3**
	3.9nm,0.3s,baz=312,slow=9.3,SNR=4.0						
SDV	**Santo Domingo**	**18.17**	**12**	*eP*	**Pn**	**06 39 50.7**	**+0.1**
CLDB	**Colider**	**18.41**	**97**	*eP*	**Pn**	**06 39 52.4**	**-0.9**
NPGB	**Novo Progresso**	**18.95**	**85**	*eP*	**Pn**	**06 39 57.8**	**-1.7**
ITTB	**Itaituba**	**19.09**	**77**	*eP*	**Pn**	**06 39 59.6**	**-1.6**
SALV	**Santo Antonio**	**19.49**	**112**	*eP*	**Pn**	**06 40 06.0**	**+0.2**
PANT	**Pantanal (Braz**	**19.87**	**122**	*eP*	**Pn**	**06 40 09.1**	**-1.3**
HDC	**Heredia**	**21.23**	**333**	*eP*	**P**	**06 40 26.2**	**+4.3**
MALB	**Monte Alegre**	**21.25**	**72**	*eP*	**P**	**06 40 22.6**	**+0.6**
PCRV	**Puerto La Cruz**	**21.39**	**27**	P	**P**	**06 40 25.3**	**+1.6**
	1.7nm,0.4s,baz=2.1,slow=12,SNR=1.9						
	1.7nm,0.4s						
SNDB	**Serra Nova Dou**	**22.90**	**99**	*eP*	**P**	**06 40 39.2**	**+0.6**
MCPB	**Macapa, AP**	**23.84**	**70**	*eP*	**P**	**06 40 48.0**	**+0.8**
BDFB	**Brasilia**	**26.58**	**107**	P	**P**	**06 41 12.9**	**+0.8**
	1.6nm,0.5s,baz=266,slow=12,SNR=3.1						
	1.6nm,0.5s						
RCBR	**Riachuelo**	**38.28**	**88**	*eP*	**P**	**06 42 54.3**	**+0.3**
TXAR	**Lajitas Array**	**47.43**	**325**	P	**P**	**06 44 06.9**	**-0.5**
	0.9nm,0.5s,baz=150,slow=9.1,SNR=10						
	0.9nm,0.5s						
PDAR	**Pinedale Array**	**60.70**	**331**	P	**P**	**06 45 42.3**	**-1.3**
	0.2nm,0.3s,baz=152,slow=4.0,SNR=1.8						
	0.2nm,0.3s						
YKA	**Yellowknife Ar**	**77.74**	**342**	P	**P**	**06 47 26.5**	**-1.2**
	0.7nm,0.5s,baz=151,slow=8.6,SNR=4.2						
	0.5nm,0.5s						
ESDC	**Sonseca Array**	**81.00**	**47**	P	**P**	**06 47 46.6**	**+0.5**
	0.5nm,0.8s,baz=270,slow=3.8,SNR=3.3						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**139.65**	**224**	PKP	**PKPdf**	**06 54 59.2**	**+0.5**
	0.4nm,0.4s,baz=123,slow=2.0,SNR=10						
KSRS	**Korea Array**	**145.24**	**328**	PKPbc	**PKPbc**	**06 55 06.8**	**-1.1**
	2.1nm,0.8s,baz=65,slow=5.4,SNR=4.7						

*IDC **28** 06:37:07.2±0.8, 15°54N×88°64W, h0km, mb3.9/10, mbtmp3.9/15, ML3.3/5, MS3.8/28, Error ellipse: s-maj=26.8km s-min=11.4km az=46.0*
*NEIC **28** 06:37:08.2±2.4, 15°57N±0°05×88°41W±0°05, h10km±2km, mb4.4/78, Error ellipse: s-maj=9.1km s-min=7.7km az=164.0*
*INET **28** 06:37:08.0±1.9, 16°02N×88°85W, h29km±51km, ML4.6*
*GCG **28** 06:37:09.8±3.6, 15°71N×88°35W, h30km, MD4.4*
*SNET **28** 06:37:14.2±4.9, 15°50N×88°48W, h30km, ML4.7*
ISC 28 06:37:07.4±1.7,15°60N±0°04×88°39W±0°03, h5km±12km, n180, σ1§30/172, mb4.3/21, MS3.8/25, 1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**1.34**	**248**	*eP*	**Pn**	**06 37 32.8**	**-0.3**
ESQI	**Esquipulas**	**1.38**	**222**	Pn	**Pn**	**06 37 32.7**	**-0.7**
MTO3	**Montecristo**	**1.51**	**218**		**Pn**	**06 37 34.0**	**-1.4**
MTO3	**Montecristo**	**1.51**	**218**	*eP*	**Pn**	**06 37 34.9**	**-0.6**
MTO3				*eS*	**Sg**	**06 37 56.0**	**-0.1**
MTO3	**Montecristo**	**1.51**	**218**	*eP*	**Pn**	**06 37 34.7**	**-0.7**
P5NO	**Presa 5 de nov**	**1.64**	**192**	*eP*	**Pn**	**06 37 36.6**	**-0.4**
P5NO				*eS*	**Sg**	**06 37 59.5**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.88**	**145**		**Pn**	**06 37 40.0**	**-0.4**
TGUH	**Tegucigalpa,Un**	**1.88**	**145**	*eP*	**Pb**	**06 37 41.7**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.91**	**190**	*eP*	**Pb**	**06 37 42.4**	**-0.4**
PETF	**Flores**	**1.93**	**313**	Pn	**Pn**	**06 37 40.6**	**-0.4**
PAVA	**Las Pavas**	**1.94**	**196**	*eP*	**Pb**	**06 37 42.8**	**-0.7**
PAVA				*eS*	**Sg**	**06 38 10.9**	**+0.9**
LFU	**La Fuente**	**1.96**	**201**	*eP*	**Pb**	**06 37 43.2**	**-0.6**
PQSS	**Presa 15 de Se**	**1.97**	**185**	*eP*	**Pb**	**06 37 43.0**	**-0.8**
PQSS				*eS*	**Sg**	**06 38 10.2**	**-0.5**
COEG	**Centro de Oper**	**2.02**	**194**	*eP*	**Pb**	**06 37 43.9**	**-0.8**
CEDA	**San Andres**	**2.03**	**209**	*eP*	**Pb**	**06 37 43.9**	**-0.9**
BOQS	**Boqueron**	**2.04**	**205**	*eP*	**Pb**	**06 37 44.4**	**-0.7**
SJTE	**Alcalda de S**	**2.06**	**197**	*eP*	**Pb**	**06 37 44.6**	**-0.7**
SNET	**Serv Nac Est T**	**2.06**	**203**		**Pn**	**06 37 41.7**	**-1.2**
SNET	**Serv Nac Est T**	**2.06**	**203**	*eP*	**Pb**	**06 37 44.5**	**-1.0**
LFRS	**El Faro**	**2.06**	**198**	*i* P	**Pb**	**06 37 44.9**	**-0.6**
RTR	**El Retiro**	**2.08**	**216**	*eP*	**Pb**	**06 37 45.4**	**-0.4**
SNJE	**San Jose**	**2.08**	**214**	*eP*	**Pb**	**06 37 45.2**	**-0.7**
COEB	**Comit de Eme**	**2.09**	**184**	*eP*	**Pb**	**06 37 45.0**	**-0.9**
COEB				*eS*	**Sg**	**06 38 13.9**	**-0.7**
SBLS	**San Blas**	**2.11**	**214**	*i* P	**Pb**	**06 37 45.7**	**-0.7**
PACA	**Pacayal**	**2.12**	**178**	*eP*	**Pb**	**06 37 46.6**	**+0.2**
CEVE	**Cerro Verde**	**2.12**	**214**	*i* P	**Pb**	**06 37 46.0**	**-0.5**
NBG	**Las Nubes**	**2.14**	**242**	*eP*	**Pn**	**06 37 44.6**	**+0.6**
NBG				*eS*	**Sg**	**06 38 17.6**	**+1.4**
NUBE	**Las Nubes**	**2.15**	**219**	*eP*	**Pb**	**06 37 46.2**	**-0.8**
NUBE				*eS*	**Sg**	**06 38 15.7**	**-0.9**
JAYA	**Jayaque - finc**	**2.18**	**208**	*eP*	**Pb**	**06 37 46.6**	**-1.0**
JAYA				*eS*	**Sg**	**06 38 17.1**	**-0.5**
ALJI	**Alcalda de J**	**2.26**	**184**	*i* P	**Pb**	**06 37 48.0**	**-0.8**
LCND	**La Caada**	**2.33**	**168**	*eP*	**Pb**	**06 37 48.9**	**-1.0**
LCND				*eS*	**Sg**	**06 38 20.7**	**-1.5**
CNCH	**Conchagua**	**2.37**	**167**	*eP*	**Pb**	**06 37 49.8**	**-0.9**
CNCH				*eS*	**Sb**	**06 38 21.8**	**+1.4**
PCG	**Pacaya**	**2.45**	**241**	*eP*	**Pb**	**06 37 53.1**	**+0.9**
PCG				*eS*	**Sg**	**06 38 28.3**	**+2.1**
FUG	**Fuego 3**	**2.63**	**245**	*eP*	**Pn**	**06 37 51.6**	**+0.8**
HUEH	**Huehuetenango**	**3.01**	**265**	Pn	**Pn**	**06 37 55.6**	**-0.5**
CRIN	**San Cristobal**	**3.16**	**155**		**Pn**	**06 37 58.4**	**+0.4**
CRIN	**San Cristobal**	**3.16**	**155**	*eP*	**Pb**	**06 38 03.4**	**-0.8**
CRIN				*eS*	**Sg**	**06 38 46.3**	**-2.7**
STG3	**Santiaguito 3,**	**3.19**	**254**	*eP*	**Pn**	**06 38 00.5**	**+2.0**
SULM	**Suchitepequez,**	**3.32**	**248**	*eP*	**Pn**	**06 38 02.0**	**+1.9**
RTAL	**Retalhuleu**	**3.36**	**252**	Pn	**Pn**	**06 38 01.4**	**+0.7**
CNGN	**Cerro Negro**	**3.49**	**152**	Pn	**Pn**	**06 38 02.2**	**-0.3**
CNGN	**Cerro Negro**	**3.49**	**152**	*eP*	**Pb**	**06 38 07.6**	**-2.2**
CNGN				*eS*	**Sb**	**06 38 53.4**	**+0.8**
CNGN				IAML		06 39 02.3	
	comp=N,2µm,1.2s						
MATN	**Matagalpa**	**3.57**	**138**		**Pn**	**06 38 02.5**	**-1.1**
MATN	**Matagalpa**	**3.57**	**138**	*eP*	**Pb**	**06 38 08.7**	**-2.5**
MOMN	**Momotombo**	**3.64**	**150**	*eP*	**Pb**	**06 38 11.2**	**-1.2**
MOMN				IAML		06 39 05.1	
	comp=E,274nm,1.1s						
CCIG	**Comitan**	**3.67**	**281**		**Pn**	**06 38 05.7**	**+0.7**
MGAN	**Managua**	**4.01**	**148**	*eP*	**Pb**	**06 38 16.4**	**-2.3**
TEIG	**Tepich**	**4.61**	**1**	Pn	**Pn**	**06 38 17.0**	**-0.8**
ACON	**Acoyapa**	**4.77**	**139**	Pn	**Pn**	**06 38 19.6**	**-0.6**
ACON	**Acoyapa**	**4.77**	**139**	*eP*	Pn	06 38 25.5	+5.4
ESPN	**Las Esperanzas**	**5.22**	**130**		**Pn**	**06 38 25.8**	**-0.5**
ORTG	**Ortega, Santa**	**5.94**	**151**	Pn	**Pn**	**06 38 35.9**	**-0.3**
COVE	**Coope Vega, Sa**	**6.21**	**141**	Pn	**Pn**	**06 38 38.4**	**-1.5**
JTS	**Las Juntas de**	**6.25**	**147**	Pn	**Pn**	**06 38 43.7**	**+3.3**
	comp=E,0.3nm,0.3s,baz=350,slow=18,SNR=1.5						
JTS				Sn	**Sn**	**06 39 56.5**	**+4.2**
	comp=E,2.2nm,0.3s,baz=21,slow=12,SNR=3.7						
JTS				Lg	Lg	06 40 27.0	
	comp=E,4.5nm,0.3s,baz=112,slow=16,SNR=5.3						
	comp=E,1.7nm,0.4s						
JTS	**Las Juntas de**	**6.25**	**147**	Pn	**Pn**	**06 38 38.5**	**-1

435B **Jarrell** 17.30 332 Pn **Pn** 06 41 09.2 -0.7
152A **Waverly Hall** 17.32 10 **Pn** 06 41 10.6 +0.4
LRAL **Lakeview Retre** 17.41 4 Pn **Pn** 06 41 10.7 -0.5
ROSC **El Rosal** 17.48 126 P **P** 06 41 16.1 +2.3
comp=Z,1.2nm,0.3s,baz=301,slow=4.5,SNR=6.3
ROSC LR LR 06 49 11.1
comp=Z,254nm,19.0s,baz=310,slow=41
comp=Z,3.5nm,0.3s
ROSC **El Rosal** 17.48 126 Pn **Pn** 06 41 10.5 -2.1
ROSC IAmb IAmb 06 41 19.9
comp=Z,36nm,1.4s
Z47A **Carrollton** 17.53 1 Pn **Pn** 06 41 10.8 -1.8
154A **Montrose** 17.61 15 **P** 06 41 15.7 +1.0
154A IAmb IAmb 06 41 45.6
comp=Z,48nm,1.2s
JCT **Junction City** 18.14 327 **Pn** 06 41 18.4 -1.9
GOGA **Godfrey** 18.29 13 P **P** 06 41 22.8 +0.5
WHTX **Lake Whitney,** 18.29 335 P **P** 06 41 22.7 +0.5
WHTX IAmb IAmb 06 41 33.9
comp=Z,27nm,0.7s
WLAR **White Oak Lake** 18.51 348 **Pn** 06 41 25.3 +0.5
WLAR IAmb IAmb 06 41 33.4
comp=Z,19nm,0.9s
SDV **Santo Domingo** 18.59 109 P **Pn** 06 41 30.2 +4.2
comp=Z,0.6nm,0.3s,baz=302,slow=8.4,SNR=4.7
SDV LR LR 06 49 55.2
comp=Z,244nm,18.8s,baz=267,slow=41
comp=Z,2.2nm,0.4s
Y52A **Lilburn** 18.61 11 P **Pn** 06 41 26.5 +0.6
HODGE **Hodges** 19.36 15 P **P** 06 41 34.9 +0.9
MIAR **Mount Ida** 19.44 347 **P** 06 41 34.7 -0.1
TXAR **Lajitas Array** 19.62 317 P **Pn** 06 41 38.0 -0.3
comp=Z,0.1nm,0.3s,baz=137,slow=9.4,SNR=30
TXAR S **S** 06 45 15.9 -3.1
comp=Z,0.3nm,0.6s,baz=127,slow=28,SNR=2.6
comp=Z,4.4nm,0.9s
TXAR **Lajitas Array** 19.62 317 **P** 06 41 36.7 -0.3
TX31 **Lajitas Ar. Si** 19.62 317 **P** 06 41 36.0 -1.0
TX32 **Lajitas Array** 19.62 317 P **P** 06 41 36.2 -0.8
TX32 IAmb IAmb 06 41 45.1
comp=Z,19nm,1.3s
ABTX **Abilene, Hawle** 19.79 331 P **P** 06 41 39.0 +0.2
W52A **Murphy** 19.83 11 P **P** 06 41 39.9 +0.7
W52A IAmb IAmb 06 41 57.1
comp=Z,18nm,0.7s
WHAR **Wooly Hollow** 19.92 351 **P** 06 41 38.6 -1.5
WHAR IAmb IAmb 06 41 45.7
comp=Z,16nm,1.2s
X37A **Clayton** 19.93 343 P **Pn** 06 41 41.8 0.0
X37A IAmb IAmb 06 41 48.8
comp=Z,17nm,1.1s
CPCT **Cooper Cave** 20.07 9 P Pn 06 41 43.1 -0.4
BIRD **Birdtown, Kers** 20.27 19 P Pn 06 41 45.3 -0.5
BIRD IAmb IAmb 06 41 49.4
comp=Z,19nm,1.2s
TKL **Tuckaleechee C** 20.40 11 P Pn 06 41 48.9 +1.4
comp=Z,6.5nm,0.9s,baz=200,slow=15,SNR=4.9
TKL LR LR 06 49 48.8
comp=Z,311nm,19.6s,baz=200,slow=37
comp=Z,6.5nm,0.9s
TKL **Tuckaleechee C** 20.40 11 P **P** 06 41 46.5 +1.1
TKL IAmb IAmb 06 41 52.8
comp=Z,25nm,1.2s
WVT **Waverly** 20.46 1 P **P** 06 41 46.4 +0.5
FCAR **Ozark Folk Cen** 20.48 351 P **P** 06 41 45.6 -0.7
V53A **Saluda** 20.61 13 P Pn 06 41 50.0 +0.1
V53A IAmb IAmb 06 41 52.0
comp=Z,11nm,0.8s
V52A **Sevierville** 20.61 11 P **P** 06 41 48.4 +0.7
X34A **Smith Ranch, M** 20.74 338 P **P** 06 41 49.5 +0.4
X34A IAmb IAmb 06 42 31.9
comp=Z,16nm,0.9s
BAUV **El Baul** 20.95 106 P **P** 06 41 51.2 -0.3
BAUV IAmb IAmb 06 42 03.6
comp=Z,21nm,1.2s
U49A **Red Boiling Sp** 20.96 6 P **P** 06 41 52.8 +1.4
U49A IAmb IAmb 06 42 19.2
comp=Z,20nm,1.4s
V55A **Taylorsville** 21.17 16 P **P** 06 41 54.9 +1.3
FNO **Franklin** 21.18 339 **P** 06 41 53.4 -0.4
HHAR **Hobbs** 21.19 348 P **P** 06 41 53.0 -0.9
HHAR IAmb IAmb 06 41 59.6
comp=Z,22nm,1.3s
WMOK **Wichita Mounta** 21.23 336 P **P** 06 41 53.9 -0.4
TZTN **Tazewell** 21.30 11 P **P** 06 41 55.3 +0.2
TZTN IAmb IAmb 06 41 59.9
comp=Z,31nm,1.4s
T47A **Sharon Grove** 21.34 3 P **P** 06 41 56.1 +0.6
T47A IAmb IAmb 06 42 02.9
comp=Z,21nm,1.2s
SJG **San Juan** 21.43 80 LR LR 06 49 44.4
comp=Z,88nm,21.3s,baz=265,slow=35
U54A **Nelsons Funny** 21.65 14 P **P** 06 41 59.6 +0.7
U54A IAmb IAmb 06 42 02.2
comp=Z,20nm,0.9s
MGMO **Mountain Grove** 21.75 352 P **P** 06 42 01.4 +1.5
MGMO IAmb IAmb 06 42 15.7
comp=Z,16nm,1.2s
V58A **Windy Hill, Pi** 21.76 21 P **P** 06 42 00.3 +0.3
CLNB **Carlsbad** 21.77 322 P **P** 06 41 59.7 -0.5
HTMS **Hat Mesa** 21.77 323 P **P** 06 41 59.8 -0.6
QUOK **Quay** 21.79 342 **P** 06 41 59.6 -0.7
QUOK IAmb IAmb 06 42 06.4
comp=Z,16nm,0.9s
CSTR **Hydro, Custer** 21.99 337 **P** 06 42 02.1 -0.4
CSTR IAmb IAmb 06 42 07.7
comp=Z,3.6nm,0.9s
GDL2 **Guadalupe Moun** 22.01 322 P **P** 06 42 01.0 -1.9
OK048 **Pawnee Station** 22.09 341 P **P** 06 42 01.8 -1.8
LPIG **La Paz** 22.26 295 LR LR 06 51 18.8
comp=Z,459nm,19.5s,baz=143,slow=39
USIN **University of** 22.29 2 P **P** 06 42 05.7 0.0
MSTX **Muleshoe** 22.43 327 P **P** 06 42 07.0 -0.4
T35A **Sooner Cattle** 22.43 343 **P** 06 42 07.0 -0.3
T35A IAmb IAmb 06 42 14.1
comp=Z,17nm,1.1s
ELIS **Ellis County** 22.64 336 P **P** 06 42 08.2 -1.3
ELIS IAmb IAmb 06 42 15.5
comp=Z,26nm,1.0s
OK032 **Salt Plains WL** 22.86 339 P **P** 06 42 10.7 -1.0
OLIL **Olney** 23.05 1 P **P** 06 42 13.9 +0.1
R55A **Marlinton** 23.75 16 P **P** 06 42 21.4 +0.6
R58B **Mineral** 24.14 21 P **P** 06 42 23.4 -1.1
O44A **Mansfield** 24.47 360 P **P** 06 42 26.7 -0.8
O44A IAmb IAmb 06 42 49.8
comp=Z,16nm,1.2s
KSU1 **Kansas State U** 24.50 344 P **P** 06 42 28.5 +0.7
CRNM **Carthage** 24.65 321 P **P** 06 42 29.4 -0.1
ATAH **Atahualpa** 24.66 156 LR LR 06 51 10.2
comp=Z,277nm,19.2s,baz=327,slow=34
319A **Douglas** 24.70 313 P **P** 06 42 27.5 -2.3
319A IAmb IAmb 06 42 37.9
comp=Z,9.2nm,0.8s
Q56A **Snyder Ridge,** 24.72 17 P **P** 06 42 28.2 -1.5
BNM **Barren Site** 24.72 322 P **P** 06 42 29.7 -0.4
O49A **Covington** 24.76 7 P **P** 06 42 30.6 +0.6
T25A **Trinidad** 25.74 329 P **P** 06 42 37.5 -1.7
TUC **Tucson** 26.29 313 P **P** 06 42 44.2 +0.1
S22A **4UR Ranch, Cre** 27.43 327 P **P** 06 42 52.6 -2.0
S22A IAmb IAmb 06 43 13.6
comp=Z,8.5nm,1.4s
MVCO **Mesa Verde** 27.95 324 P **P** 06 42 58.5 -0.8
MVCO IAmb IAmb 06 43 36.1
comp=Z,9.4nm,1.4s
SADO **Sadowa** 30.12 13 LR LR 06 56 00.8
comp=Z,241nm,18.3s,baz=194,slow=38
PFO **Pinyon Flats O** 31.04 310 LR LR 06 58 05.3
comp=Z,314nm,18.1s,baz=108,slow=41
PTGA **Pitinga** 32.44 117 LR LR 06 58 38.5
comp=Z,122nm,19.2s,baz=298,slow=40
PDAR **Pinedale Array** 32.59 330 P **P** 06 43 41.8 +1.5
comp=Z,0.1nm,0.3s,baz=128,slow=5.8,SNR=1.7
PDAR PcP **PcP** 06 46 26.0 -0.7
comp=Z,0.4nm,0.6s,baz=158,slow=5.8,SNR=1.7
comp=Z,0.1nm,0.3s
SNOW **Snow King Moun** 33.69 330 P **P** 06 43 50.5 +0.7
SNOW IAmb IAmb 06 43 56.2
comp=Z,8.0nm,1.2s
TPAW **Teton Pass** 33.81 330 P **P** 06 43 50.0 -0.9
NVAR **Mina Array Bea** 34.77 317 P **P** 06 44 00.5 +1.2
comp=Z,1.1nm,0.7s,baz=125,slow=7.8,SNR=8.3
comp=Z,1.1nm,0.7s
ULM **Lac du Bonnet** 35.09 352 LR LR 06 59 25.0
comp=Z,49nm,21.1s,baz=353,slow=38
MDP **Montagnes des** 36.62 103 LR LR 07 01 47.0
comp=Z,133nm,18.0s,baz=322,slow=40
LPAZ **La Paz** 37.47 147 LR LR 07 00 29.1
comp=Z,117nm,19.1s,baz=306,slow=37
SIV **San Ignacio** 41.38 138 LR LR 07 01 14.2
comp=Z,98nm,18.2s,baz=300,slow=35
SCHQ **Schefferville** 42.57 18 P **P** 06 45 04.4 +0.2
comp=Z,3.6nm,0.8s,baz=220,slow=16,SNR=3.7
comp=Z,3.6nm,0.8s
RPN **Rapa Nui** 47.08 206 LR LR 07 01 10.0
comp=Z,58nm,18.1s,baz=38,slow=31
FRB **Frobisher Bay** 50.03 11 LR LR 07 07 22.4
comp=Z,224nm,19.6s,baz=220,slow=36
YKA **Yellowknife Ar** 50.35 345 P **P** 06 46 05.8 +0.7
comp=Z,3.1nm,0.9s,baz=137,slow=7.7,SNR=5.0
comp=Z,3.1nm,0.9s
BDFB **Brasilia** 50.53 126 LR LR 07 08 25.2
comp=Z,183nm,18.7s,baz=319,slow=37
RCBR **Riachuelo** 56.17 108 LR LR 07 13 17.5
comp=Z,79nm,18.0s,baz=93,slow=38
SFJD **Kangerlussuaq** 56.97 17 LR LR 07 12 54.9
comp=Z,113nm,18.6s,baz=264,slow=38
PLCA **Paso Flores** 58.44 164 P **P** 06 47 03.9 -0.5
comp=Z,1.2nm,0.9s,baz=315,slow=11,SNR=3.5
comp=Z,1.2nm,0.9s
RES **Resolute Bay** 59.20 358 LR LR 07 13 43.7
comp=Z,113nm,19.5s,baz=218,slow=37
ILAR **Eielson Array** 62.79 336 P **P** 06 47 33.2 -0.5
comp=Z,0.7nm,1.0s,baz=112,slow=4.3,SNR=3.6
ILAR PcP **PcP** 06 48 12.9 +0.7
comp=Z,0.6nm,0.8s,baz=93,slow=5.0,SNR=2.5
comp=Z,0.7nm,1.0s
BORG **Borgarnes** 66.27 26 LR LR 07 14 08.5
comp=Z,79nm,20.5s,baz=299,slow=33
JMIC **Jan Mayen** 72.07 20 LR LR 07 18 20.6
comp=Z,54nm,21.4s,baz=184,slow=34
ESDC **Sonseca Array** 75.99 52 P **P** 06 48 56.8 +0.8
comp=Z,1.0nm,0.9s,baz=269,slow=6.0,SNR=4.6
ESDC LR LR 07 15 48.7
comp=Z,60nm,21.1s,baz=293,slow=30
comp=Z,1.0nm,0.9s
SPITS **Spitsbergen Ar** 77.83 12 LR LR 07 25 18.3
comp=Z,79nm,18.4s,baz=285,slow=37
NOA **NORSAR Array B** 81.08 29 P **P** 06 49 23.7 +0.1
comp=Z,1.0nm,0.8s,baz=287,slow=5.2,SNR=2.2
NOA LR LR 07 26 04.4
comp=Z,24nm,18.8s,baz=335,slow=36
comp=Z,1.0nm,0.8s
ARCES **ARCESS Array B** 83.52 19 LR LR 07 26 39.7
comp=Z,36nm,18.6s,baz=282,slow=36
GERES **GERESS Array B** 86.15 40 P **P** 06 49 51.9 +2.0
comp=Z,0.3nm,0.3s,baz=256,slow=4.0,SNR=1.4
comp=Z,0.3nm,0.3s
FINES **FINESS Array B** 87.56 26 LR LR 07 30 06.1
comp=Z,30nm,18.9s,baz=343,slow=36
MA2 **Magadan** 91.23 334 LR LR 07 34 52.4
comp=Z,42nm,20.1s,baz=76,slow=38
WRA **Warramunga Arr** 139.16 257 PKP **PKPdf** 06 56 35.5 -1.0
comp=Z,0.6nm,0.7s,baz=84,slow=2.0,SNR=9.0
ASAR **Alice Springs** 139.48 252 PKP **PKPdf** 06 56 36.1 -0.8
comp=Z,2.2nm,0.3s,baz=119,slow=2.7,SNR=4.4
CMAR **Chiang Mai Arr** 145.40 348 PKPbc **PKPbc** 06 56 46.8 -0.6
comp=Z,1.9nm,0.3s,baz=357,slow=2.9,SNR=4.2

*GCG **28** 06:53:46.5±2.4, 15°.55N×88°.33W, h31km, MD4.0*
*SNET **28** 06:53:51.5±5.3, 15°.27N×88°.56W, h10km, ML3.9*
ISC 28 06:53:42.4±3.1, 15°.6N±0°.1×88°.33W±0°.08, h0km±16km, n23, σ0s72/30, 1C, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.39**	**250**	*eP*		**Pg**	**06 54 08.7**	**-0.4**
MRL				*eS*		**Sn**	**06 54 27.6**	**-0.9**
CAHU	**Cacacuatique**	**1.77**	**176**	*eP*		**Pb**	**06 54 16.1**	**+0.2**
PQSS	**Presa 15 de Se**	**1.93**	**187**	*eP*		**Pb**	**06 54 18.5**	**-0.1**
LFU	**La Fuente**	**1.95**	**203**	*eP*		**Pg**	**06 54 18.9**	**-1.0**
COEG	**Centro de Oper**	**2.00**	**196**	*eP*		**Pb**	**06 54 19.4**	**-0.3**
COEG				*eS*		**Sg**	**06 54 47.5**	**+0.9**
CEDA	**San Andres**	**2.02**	**211**	*eP*		**Pb**	**06 54 19.4**	**-0.8**
CEDA				*eS*		**Sg**	**06 54 48.7**	**+1.1**
BOQS	**Boqueron**	**2.03**	**207**	*eP*		**Pb**	**06 54 19.9**	**-0.5**
SJTE	**Alcalda de S**	**2.04**	**199**	*eP*		**Pb**	**06 54 20.1**	**-0.3**
SJTE				*eS*		**Sg**	**06 54 49.0**	**+1.1**
COEB	**Comit de Eme**	**2.05**	**186**	*eP*		**Pb**	**06 54 20.5**	**-0.2**
PACA	**Pacayal**	**2.07**	**180**	*eP*		**Pb**	**06 54 21.0**	**0.0**
SLOZ	**Alcalda de Sa**	**2.07**	**223**	*eP*		**Pb**	**06 54 20.1**	**-0.8**
SNJE	**San Jose**	**2.08**	**217**	*eP*		**Pb**	**06 54 20.8**	**-0.4**
RTR	**El Retiro**	**2.08**	**218**	*eP*		**Pb**	**06 54 20.9**	**-0.4**
SBLS	**San Blas**	**2.12**	**217**	*eP*		**Pb**	**06 54 21.3**	**-0.6**
CEVE	**Cerro Verde**	**2.12**	**216**	*eP*		**Pb**	**06 54 21.7**	**-0.3**
NUBE	**Las Nubes**	**2.16**	**221**	*eP*		**Pb**	**06 54 22.0**	**-0.5**
NBG	**Las Nubes**	**2.17**	**244**	*eP*		**Pg**	**06 54 23.4**	**-0.8**
NBG				*eS*		**Sg**	**06 54 54.1**	**+1.7**
JAYA	**Jayaque - finc**	**2.18**	**210**	*eP*		**Pb**	**06 54 22.1**	**-0.7**
LCND	**La Caada**	**2.27**	**169**	*eP*		**Pb**	**06 54 24.3**	**0.0**
LCND				*eS*		**Sg**	**06 54 55.6**	**+0.1**
CNCH	**Conchagua**	**2.31**	**168**	*eP*		**Pb**	**06 54 25.3**	**+0.2**
CNCH				*eS*		**Sg**	**06 54 56.5**	**-0.3**
PCG	**Pacaya**	**2.49**	**243**	*eP*		**Pb**	**06 54 27.7**	**-0.5**
FUG	**Fuego 3**	**2.67**	**246**	*eP*		**Pn**	**06 54 27.6**	**+0.7**
STG3	**Santiaguito 3,**	**3.24**	**255**	*eP*		**Pn**	**06 54 35.7**	**+1.0**

*CNRM **28** 06:53:56.1, 35°.27N×4°.42W, h27km, ml2.8*
*INMG **28** 06:53:57.5±2.2, 35°.26N×4°.47W, h88km±7km, ML2.6, Error ellipse: s-maj=6.4km s-min=4.6km az=20.0*
*MDD **28** 06:53:57.5±0.4, 35°.22N×4°.50W, h84km±6km, Mb2.9/21, Error ellipse: s-maj=3.4km s-min=2.5km az=175.0*
ISC 28 06:53:54.8±1.0, 35°.33N±0°.03×4°.49W±0°.03, h10km, n62, σ2s27/115, 21C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ECEU	**Ceuta**	**0.92**	**308**	P		**Pn**	**06 54 17.6**	**+3.8**
ECEU				S		**Sn**	**06 54 30.6**	**+3.5**
EMEL	**Melilla**	**1.25**	**91**	P		**Pg**	**06 54 19.6**	**+0.7**
EMEL				↑*iVmb_V*			06 54 21.3	
	2µm,SNR=1.3							
EMEL				S		**Sn**	**06 54 36.1**	**+0.8**
EMIJ	**Mijas**	**1.25**	**349**	P		**Pn**	**06 54 19.8**	**+1.4**
EMIJ				↑*iVmb_V*			06 54 20.7	
	312nm,SNR=3.2							
EMIJ				S		**Sb**	**06 54 36.6**	**+1.8**
EALB	**Alboran**	**1.33**	**62**	P		**Pn**	**06 54 20.3**	**+0.9**
EALB				↑*iVmb_V*			06 54 21.0	
	858nm,SNR=1.1							
EALB				S		**Sn**	**06 54 38.1**	**+0.9**
LCRM	**LCR**	**1.67**	**191**	P		**Pn**	**06 54 23.3**	**-0.9**
LCRM				S		**Sb**	**06 54 47.4**	**+0.7**
ELGU	**Los Guajares,**	**1.69**	**24**	P		**Pn**	**06 54 25.4**	**+1.0**
ELGU				↑*iVmb_V*			06 54 27.0	
	303nm,SNR=3.3							
ELGU				S		**Sn**	**06 54 46.0**	**-0.2**
TAF	**Taforalt**	**1.78**	**106**	P		**Pn**	**06 54 24.6**	**-1.0**
TAF				S		**Sn**	**06 54 45.3**	**-3.0**
EGOR	**Sierra Gorda,**	**1.80**	**10**	P		**Pn**	**06 54 28.1**	**+2.1**
EGOR				↑*iVmb_V*			06 54 30.5	
	116nm,SNR=1.8							
EGOR				S		**Sn**	**06 54 51.0**	**+1.9**
JBK	**JBK**	**1.87**	**122**	P		**Pn**	**06 54 26.0**	**-0.9**
JBK				S		**Sn**	**06 54 45.9**	**-4.8**
ESPR	**Espera**	**1.89**	**325**	P		**Pn**	**06 54 29.5**	**+2.4**
ESPR				↑*iVmb_V*			06 54 30.1	
	216nm,SNR=2.1							
ESPR				S		**Sn**	**06 54 52.5**	**+1.4**
EBER	**Berja**	**2.03**	**39**	P		**Pn**	**06 54 30.3**	**+1.1**
EBER				S		**Sn**	**06 54 55.5**	**+0.8**
MD31	**MD31**	**2.46**	**185**	P		**Pn**	**06 54 34.0**	**-1.0**
MD31				S		**Sn**	**06 55 04.2**	**-1.1**
ENIJ	**Nijar**	**2.47**	**48**	P		**Pn**	**06 54 36.1**	**+1.0**
ENIJ				↑*iVmb_V*			06 54 36.3	
	90nm,SNR=0.8							
EQES	**Quesada**	**2.72**	**24**	P		**Pn**	**06 54 39.2**	**+0.6**
EQES				↑*iVmb_V*			06 54 40.7	
	55nm,SNR=0.8							
EQES				S		**Sn**	**06 55 15.1**	**+3.5**
EADA	**Adamuz**	**2.83**	**359**	P		**Pn**	**06 54 41.7**	**+1.6**
EADA				↑*iVmb_V*			06 54 42.8	
	243nm,SNR=4.7							
EADA				S		**Sn**	**06 55 13.7**	**-0.6**
ECAB	**El Cabril**	**2.84**	**345**	P		**Pn**	**06 54 41.1**	**+0.9**
ECAB				↑*iVmb_V*			06 54 42.5	
	153nm,SNR=2.9							
ECAB				S		**Sn**	**06 55 13.1**	**-1.5**
EMIN	**Mina Concepcio**	**3.00**	**325**	⇓P		**Pn**	**06 54 43.3**	**+0.9**
EMIN				↑*iVmb_V*			06 54 44.1	
	996nm,SNR=20							
EMIN				S		**Sn**	**06 55 16.6**	**-1.8**
PTAV	**Tavira**	**3.12**	**306**	*eS*		**Sn**	**06 55 19.8**	**-1.6**
ELOR	**Lorca, Murcia**	**3.19**	**43**	P		**Pn**	**06 54 45.8**	**+0.7**
ELOR				↑*iVmb_V*			06 54 46.0	
	979nm,SNR=1.9							
EGRO	**El Granado**	**3.27**	**313**	P		**Pn**	**06 54 46.7**	**+0.7**
EGRO				S		**Sn**	**06 55 23.0**	**-2.0**
PVAQ	**Vaqueiros**	**3.33**	**309**	⇓*eP*		**Sn**	**06 54 47.5**	**+0.6**
PVAQ				*eS*		**Sn**	**06 55 24.4**	**-2.1**
PVAQ				A		A	06 55 25.3	
	46nm,0.2s							
PVAQ	**Vaqueiros**	**3.33**	**309**	P		**Pn**	**06 54 47.6**	**+0.8**
PVAQ				S		**Sn**	**06 55 26.8**	**+0.3**
PBAR	**Barrancos**	**3.50**	**325**	*eP*		**Pn**	**06 54 50.2**	**+0.9**
PBAR				*eS*		**Sn**	**06 55 28.5**	**-2.3**
PBAR				A		A	06 55 32.2	
	10nm,0.2s							
PCVE	**Castro Verde**	**3.67**	**310**	⇓*eP*		**Pn**	**06 54 52.1**	**+0.5**
PCVE				*eS*		**Sn**	**06 55 32.4**	**-2.5**
PCVE				A		A	06 55 33.7	
	16nm,0.2s							
PBEJ	**Beja**	**3.82**	**316**	*eP*		**Pn**	**06 54 54.5**	**+0.8**
PBEJ				*eS*		**Sn**	**06 55 36.0**	**-2.7**
PBEJ				A		A	06 55 37.8	
	14nm,0.1s							
PLAGO	**Lagos**	**3.83**	**299**	*eS*		**Sn**	**06 55 36.6**	**-2.1**
MORF	**Marmelete**	**3.90**	**302**	*eP*		**Pn**	**06 54 55.0**	**+0.2**
MORF				*eS*		**Sn**	**06 55 36.9**	**-3.7**
MORF				IAML			06 55 39.3	
	comp=N,29nm,0.1s							
MORF	**Marmelete**	**3.90**	**302**	*eP*		**Pn**	**06 54 55.0**	**+0.2**
MORF				*eS*		**Sn**	**06 55 37.7**	**-2.9**
MORF				A		A	06 55 39.1	
	comp=N,30nm,0.1s							
MESJ	**Messejana**	**3.91**	**311**	*eP*		**Pn**	**06 54 55.5**	**+0.6**
MESJ				*eS*		**Sn**	**06 55 37.6**	**-3.2**
MESJ				IAML			06 55 39.3	
	comp=N,37nm,0.1s							
MESJ	**Messejana**	**3.91**	**311**	*eP*		**Pn**	**06 54 55.5**	**+0.6**
MESJ				*eS*		**Sn**	**06 55 38.0**	**-2.8**
MESJ				A		A	06 55 39.6	
	comp=N,23nm,0.3s							
PFVI	**Vila Bisbo**	**3.94**	**298**	*eP*		**Pn**	**06 54 55.7**	**+0.4**
PFVI				*eS*		**Sn**	**06 55 38.5**	**-3.1**
PFVI				A		A	06 55 40.1	
	comp=N,15nm,0.1s							
PFVI	**Vila Bisbo**	**3.94**	**298**	P		**Pn**	**06 54 55.8**	**+0.5**
PFVI				S		**Sn**	**06 55 43.7**	**+2.0**
EBAD	**Badajoz**	**3.97**	**330**	P		**Pn**	**06 54 56.7**	**+0.9**
EBAD				S		**Sn**	**06 55 39.9**	**-2.4**
SRHM	**Skhour des Reh**	**4.02**	**226**	P		**Pn**	**06 54 59.0**	**+2.5**
SRHM				S		**Sn**	**06 55 49.4**	**+5.8**
PTEO	**Sao Teotonio**	**4.07**	**304**	*eP*		**Pn**	**06 54 57.8**	**+0.8**
PTEO				*eS*		**Sn**	**06 55 42.2**	**-2.5**
PTEO				A		A	06 55 44.7	
	comp=N,15nm,0.5s							
PAB	**San Pablo**	**4.21**	**1**	P		**Pn**	**06 54 59.9**	**+0.8**
PAB				↑*iVmb_V*			06 55 00.7	
	comp=N,88nm,SNR=1.9							
PAB				S		**Sn**	**06 55 45.3**	**-3.1**
EVO	**Evora**	**4.26**	**320**	*eP*		**Pn**	**06 55 00.7**	**+0.9**
EVO				*eS*		**Sn**	**06 55 47.3**	**-2.3**
EVO				A		A	06 55 49.6	
	comp=N,20nm,0.1s							
PNCL	**Nicolau / Gran**	**4.27**	**312**	⇓*eP*		**Pn**	**06 55 00.4**	**+0.6**
PNCL				*eS*		**Sn**	**06 55 46.7**	**-3.0**
PNCL				A		A	06 55 48.4	
	comp=N,16nm,0.2s							
PESTR	**Estremoz**	**4.32**	**326**	*eP*		**Pn**	**06 55 01.3**	**+0.8**
PESTR				*eS*		**Sn**	**06 55 47.9**	**-2.9**
PESTR				A		A	06 55 50.2	
	comp=N,2.5nm,0.1s							
PMRV	**Marv??o**	**4.70**	**331**	*eP*		**Pn**	**06 55 06.6**	**+0.9**
PMRV				*eS*		**Sn**	**06 55 56.9**	**-3.4**
PMRV				A		A	06 56 11.7	
	comp=N,3.9nm,0.6s							
PMTG	**Montargil**	**4.78**	**322**	*eP*		**Pn**	**06 55 07.3**	**+0.5**
PMTG				*eS*		**Sn**	**06 55 59.2**	**-3.0**
PMTG				A		A	06 56 10.2	
	comp=N,3.6nm,0.4s							
PACT	**Alcochete**	**4.88**	**316**	*eP*		**Pn**	**06 55 09.5**	**+1.3**
PACT				*eS*		**Sn**	**06 56 02.9**	**-1.9**
PACT				A		A	06 56 03.9	
	comp=N,26nm,0.5s							
EPLA	**Plasencia**	**4.89**	**346**	P		**Pn**	**06 55 09.3**	**+0.9**
EPLA				↑*iVmb_V*			06 55 10.0	
	comp=N,90nm,SNR=1.3							
EPLA				S		**Sn**	**06 56 01.6**	**-3.5**
PCBR	**Castelo Branco**	**5.09**	**333**	*eP*		**Pn**	**06 55 12.2**	**+1.1**
PCBR				*eS*		**Sn**	**06 56 06.8**	**-3.1**
PCBR				A		A	06 56 09.3	
	comp=N,3.1nm,0.4s							
PMAFR	**Mafra**	**5.27**	**315**	*eP*		**Pn**	**06 55 14.4**	**+0.8**
PMAFR				*eS*		**Sn**	**06 56 10.8**	**-3.5**
PMAFR				A		A	06 56 16.1	
	comp=N,9.0nm,0.6s							
GUD	**Guadarrama**	**5.31**	**3**	P		**Pn**	**06 55 14.9**	**+0.7**
GUD				↑*iVmb_V*			06 55 15.9	
	comp=N,24nm,SNR=0.6							
GUD				S		**Sn**	**06 56 12.0**	**-3.6**
PSBE	**So Bento**	**5.40**	**322**	*eP*		**Pn**	**06 55 16.1**	**+0.7**
PSBE				*eS*		**Sn**	**06 56 14.7**	**-3.0**
PSBE				A		A	06 56 27.5	
	comp=N,5.1nm,0.6s							
MTE	**Manteigas**	**5.61**	**335**	*eP*		**Pn**	**06 55 19.2**	**+0.9**
MTE				*eS*		**Sn**	**06 56 20.4**	**-2.4**
MTE				A		A	06 56 24.0	
	comp=N,2.2nm,0.3s							
PCAS	**Casmilo, Conde**	**5.69**	**327**	*eP*		**Pn**	**06 55 20.5**	**+1.2**
PCAS				*eS*		**Sn**	**06 56 20.7**	**-3.9**
PCAS				A		A	06 56 25.4	
	comp=N,2.7nm,0.7s							
ETOR	**Torete**	**5.81**	**19**	P		**Pn**	**06 55 21.8**	**+0.8**
ETOR				↑*iVmb_V*			06 55 22.9	
	comp=N,62nm,SNR=0.6							
ETOR				S		**Sn**	**06 56 23.6**	**-4.1**
PVIS	**Viseu**	**6.01**	**334**	*eP*		**Pn**	**06 55 24.1**	**+0.3**
PVIS				*eS*		**Sn**	**06 56 29.1**	**-3.6**
PVIS				A		A	06 56 31.7	
	comp=N,3.1nm,0.3s							
MVO	**Moncorvo**	**6.16**	**342**	*eP*		**Pn**	**06 55 27.0**	**+1.2**
MVO				*eS*		**Sn**	**06 56 33.0**	**-3.4**
MVO				A		A	06 56 34.8	
	comp=N,1.4nm,0.3s							
PVRL	**Vila Real**	**6.46**	**338**	*eS*		**Sn**	**06 56 39.6**	**-4.0**
PVRL				A		A	06 56 43.1	
	comp=N,7.4nm,0.1s							
POLO	**Lamas de Olo**	**6.57**	**338**	*eP*		**Pn**	**06 55 32.6**	**+1.1**
POLO				*eS*		**Sn**	**06 56 42.2**	**-4.3**
POLO				A		A	06 56 46.7	
	comp=N,0.5nm,0.2s							
PBRG	**Braganca**	**6.70**	**345**	*eP*		**Pn**	**06 55 34.5**	**+1.2**
PBRG				*eS*		**Sn**	**06 56 45.4**	**-4.3**
ECAL	**Calabor**	**6.83**	**346**	P		**Pn**	**06 55 36.0**	**+0.9**
ECAL				↑*iVmb_V*			06 55 37.4	
	comp=N,62nm,SNR=0.5							
ECAL				S		**Sn**	**06 56 49.8**	**-3.2**
PCAB	**Cabril**	**6.95**	**338**	*eP*		**Pn**	**06 55 37.9**	**+1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.48**	**254**	⇑P	Pn	07 04 25.0	-1.2
	1.0nm,0.3s						
ZAA0				⇑S	Sg	07 04 45.8	0.0
	4.7nm,0.5s						
KURK	**Kurchatov**	**6.41**	**238**	⇑Pn	Pn	07 05 35.6	+1.7
	5.3nm,0.7s						
KURBB	**Kurchatov Arra**	**6.51**	**238**	⇓Pn	Pn	07 05 36.0	+0.7
	3.0nm,0.2s						
MK31	**Makanchi Array**	**8.22**	**204**	⇑Pn	Pn	07 05 58.4	-0.5
	0.1nm,0.2s,baz=29,slow=14,SNR=3.7						
BVA0	**Borovoye Array**	**10.07**	**269**	⇓Pn	Pn	07 06 25.8	+1.6
	1.1nm,0.6s						

*IDC **28** 07:26:00.5±2.7, 20°.57S×178°.80W, h601km±22km, mb3.0/9, mbtmp3.9/10, Error ellipse: s-maj=57.9km s-min=16.0km az=145.0*
ISC 28 07:26:00.4±1.0, 20°.6S±0°.2×178°.8W±0°.1, h600km, n13, σ1§41/16, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.11**	**313**	P	**P**	**07 27 27.3**	**+0.4**
	8.3nm,0.6s,baz=158,slow=3.8,SNR=9.8						
MSVF				S	**S**	**07 28 36.7**	**-0.6**
	1.2nm,0.4s,baz=180,slow=23,SNR=0.9						
CTA	**Charters Tower**	**32.73**	**265**	P	**P**	**07 31 46.0**	**+0.5**
	2.2nm,0.4s,baz=89,slow=11,SNR=5.5						
	2.2nm,0.4s						
STKA	**Stephens Creek**	**37.07**	**244**	P	**P**	**07 32 21.4**	**0.0**
	0.7nm,0.5s,baz=112,slow=12,SNR=3.7						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**43.76**	**257**	P	**P**	**07 33 14.9**	**+0.3**
	2.6nm,0.5s,baz=96,slow=7.7,SNR=48						
ASAR				PcP	**PcP**	**07 34 47.8**	**+0.1**
	0.5nm,0.6s,baz=110,slow=3.8,SNR=6.3						
	2.6nm,0.5s						
WRA	**Warramunga Arr**	**43.84**	**262**	P	**P**	**07 33 15.2**	**+0.1**
	1.1nm,0.3s,baz=97,slow=7.5,SNR=51						
WRA				PcP	**PcP**	**07 34 45.1**	**-2.8**
	0.1nm,0.4s,baz=82,slow=2.4,SNR=1.5						
	1.1nm,0.3s						
PETK	**Petropavlovsk-**	**76.17**	**346**	P	**P**	**07 36 48.5**	**+0.7**
	0.8nm,0.6s,baz=170,slow=11,SNR=1.2						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**81.61**	**44**	P	**P**	**07 37 17.2**	**0.0**
	0.4nm,0.6s,baz=228,slow=8.0,SNR=2.2						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**87.75**	**58**	P	**P**	**07 37 47.7**	**+0.7**
	0.4nm,0.9s,baz=181,slow=6.0,SNR=2.8						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**88.58**	**13**	P	**P**	**07 37 49.1**	**-0.8**
	0.3nm,0.4s,baz=217,slow=5.0,SNR=7.1						
	0.3nm,0.4s						
PDAR	**Pinedale Array**	**89.55**	**44**	P	**P**	**07 37 55.3**	**0.0**
	0.4nm,0.6s,baz=202,slow=2.4,SNR=2.8						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**118.66**	**320**	PKP	**PKPdf**	**07 43 40.4**	**-0.6**
	0.7nm,0.3s,baz=13,slow=1.1,SNR=3.1						
AKASG	**Malin Array Be**	**142.73**	**330**	PKP	**PKPdf**	**07 44 23.5**	**-2.7**
	1.5nm,0.4s,baz=42,slow=4.4,SNR=15						
BRTR	**Keskin Array B**	**146.34**	**312**	PKPbc	**PKPdf**	**07 44 35.7**	**+2.8**
	0.5nm,0.5s,baz=56,slow=3.6,SNR=2.5						

*WEL **28** 07:27:54.3±0.3, 42°.5S×173°.17'.4E±1', h7km±3km, M3.4/32, ML3.7/18, MLv3.4/32, Error ellipse: s-maj=0.0km s-min=0.0km az=132.4*
*NOU **28** 07:27:59.1, 41°.88S×173°.80E, h26km, MLv3.9/7, South Island, New Zealand*
ISC 28 07:27:54.2±0.9, 41°.78S±0°.03×174°.24E±0°.03, h13km±6km, n82, σ1§02/85, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**323**	P	**Pg**	**07 27 56.3**	**-0.2**
CMWZ				S	**Sg**	**07 27 58.3**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.28**	**283**	P	**Pg**	**07 28 00.1**	**+0.1**
BSWZ				S	**Sg**	**07 28 04.9**	**+1.0**
TUWZ	**Tuamarina**	**0.41**	**327**	P	**Pg**	**07 28 02.4**	**0.0**
TUWZ				S	**Sb**	**07 28 08.5**	**-1.1**
TCW	**Tory Channel**	**0.57**	**2**	P	**Pg**	**07 28 05.0**	**-0.3**
WEL	**Wellington**	**0.63**	**39**	P	**Pb**	**07 28 06.8**	**-0.2**
PLWZ	**Palliser**	**0.79**	**75**	P	**Pb**	**07 28 10.4**	**+0.6**
KHZ	**Kahutara**	**0.82**	**219**	P	**Pb**	**07 28 11.4**	**+1.0**
KHZ	**Kahutara**	**0.82**	**219**	P	**Pb**	**07 28 11.2**	**+0.8**
NNZ	**Nelson**	**0.86**	**311**	P	**Pg**	**07 28 10.3**	**-0.5**
CAW	**Cannon Point**	**0.91**	**43**	P	**Pb**	**07 28 11.7**	**-0.2**
PAWZ	**Paruwai Farm**	**0.97**	**66**	P	**Pb**	**07 28 12.8**	**-0.1**
THZ	**Tophouse**	**1.00**	**270**	P	**Pg**	**07 28 13.3**	**-0.1**
DUWZ	**D'Urville Isla**	**1.00**	**346**	P	**Pg**	**07 28 12.7**	**-0.8**
KIW	**Kapiti Island**	**1.04**	**29**	P	**Pg**	**07 28 13.7**	**-0.6**
MTW	**Mount Morrison**	**1.13**	**57**	P	**Pb**	**07 28 14.9**	**-0.7**
TRWZ	**Traveller**	**1.15**	**71**	P	**Pb**	**07 28 15.7**	**-0.2**
MRNZ	**Matariki Terra**	**1.18**	**288**	P	**Pb**	**07 28 16.6**	**+0.2**
OGWZ	**Otaki Gorge**	**1.19**	**36**	P	**Pb**	**07 28 16.3**	**-0.2**
TKNZ	**Takaka Hill**	**1.22**	**307**	P	**Pb**	**07 28 17.2**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.30**	**48**	P	**Pn**	**07 28 17.5**	**-0.6**
TMWZ	**Te Maipa**	**1.41**	**62**	P	**Pn**	**07 28 18.6**	**-1.0**
GVZ	**Greta Valley S**	**1.49**	**217**	P	**Pn**	**07 28 20.5**	**-0.2**
MRZ	**Mangatainoka R**	**1.50**	**42**	P	**Pn**	**07 28 20.5**	**-0.4**
TIWZ	**Tintock**	**1.59**	**52**	P	**Pn**	**07 28 21.1**	**-1.0**
QRZ	**Quartz Range**	**1.60**	**306**	P	**Pb**	**07 28 23.4**	**-0.3**
QRZ	**Quartz Range**	**1.60**	**306**	P	**Pb**	**07 28 23.4**	**-0.3**
LTZ	**Lake Taylor**	**1.77**	**235**	P	**Pn**	**07 28 24.7**	**0.0**
POWZ	**Post Office Ro**	**1.80**	**40**	P	**Pn**	**07 28 25.0**	**0.0**
DSZ	**Denniston Nort**	**1.82**	**270**	P	**Pb**	**07 28 27.0**	**-0.5**
AMCZ	**Amberley**	**1.83**	**220**	P	**Pg**	**07 28 31.8**	**+2.6**
BFZ	**Birch Farm**	**1.87**	**55**	P	**Pg**	**07 28 30.8**	**+0.9**
DVHZ	**Dannevirke**	**2.07**	**45**	P	**Pb**	**07 28 32.0**	**+0.3**
WAZ	**Wanganui**	**2.10**	**16**	P	**Pb**	**07 28 31.9**	**-0.2**
OKCZ	**Okains Bay**	**2.13**	**204**	P	**Pn**	**07 28 28.2**	**-1.3**
TSZ	**Takapari Road**	**2.15**	**38**	P	**Pn**	**07 28 31.0**	**+1.2**
OXZ	**Oxford**	**2.25**	**226**	P	**Pn**	**07 28 29.9**	**-1.2**
MQZ	**McQueen's Vall**	**2.25**	**211**	P	**Pn**	**07 28 29.3**	**-1.9**
INZ	**Inchbonnie**	**2.28**	**245**	P	**Pn**	**07 28 32.4**	**+0.8**
NMEZ	**Namu Road**	**2.38**	**353**	P	**Pn**	**07 28 33.7**	**+0.8**
PNHZ	**Pukenui**	**2.38**	**39**	P	**Pg**	**07 28 38.7**	**-1.1**
WPHZ	**Waipukurau**	**2.39**	**45**	P	**Pg**	**07 28 40.3**	**+0.3**
KHEZ	**Kahui Hut**	**2.49**	**356**	P	**Pb**	**07 28 38.7**	**-0.1**
KHEZ	**Kahui Hut**	**2.49**	**356**	P	**Pb**	**07 28 38.3**	**-0.5**
NBEZ	**Newall Road No**	**2.52**	**353**	P	**Pb**	**07 28 39.5**	**+0.1**
MTVZ	**Mangateitei**	**2.57**	**22**	P	**Pb**	**07 28 41.1**	**+1.0**
PKE	**Pukeiti**	**2.59**	**356**	P	**Pb**	**07 28 40.8**	**+0.3**
PKVZ	**Pokaka**	**2.62**	**19**	P	**Pb**	**07 28 40.8**	**-0.3**
MOVZ	**Moawhango**	**2.63**	**26**	P	**Pn**	**07 28 38.7**	**+2.2**
MHCZ	**Mount Hutt**	**2.64**	**228**	P	**Pn**	**07 28 35.8**	**-0.7**
WNVZ	**Wahianoa**	**2.66**	**23**	P	**Pb**	**07 28 39.2**	**-2.5**
TRVZ	**Turoa**	**2.67**	**22**	P	**Pb**	**07 28 41.9**	**0.0**
BHHZ	**Black Hill Sta**	**2.67**	**32**	P	**Pb**	**07 28 42.3**	**+0.3**
DRZ	**Dome Shelter**	**2.69**	**22**	P	**Pb**	**07 28 42.0**	**-0.4**
WHVZ	**Whangaehu Hut**	**2.70**	**23**	P	**Pb**	**07 28 42.3**	**-0.1**
FWVZ	**Far West T-bar**	**2.71**	**22**	P	**Pb**	**07 28 42.6**	**-0.1**
TUVZ	**Tukino**	**2.73**	**24**	P	**Pb**	**07 28 42.7**	**-0.2**
NGZ	**Ngauruhoe**	**2.80**	**22**	P	**Pb**	**07 28 42.7**	**-1.5**
SNVZ	**South Ngauruho**	**2.80**	**23**	P	**Pb**	**07 28 44.0**	**-0.2**
KAHZ	**Kahuranaki**	**2.81**	**46**	P	**Pb**	**07 28 44.7**	**+0.4**
OTVZ	**Oturere**	**2.83**	**23**	P	**Pb**	**07 28 45.3**	**+0.6**
NNVZ	**North Ngauruho**	**2.84**	**22**	P	**Pb**	**07 28 42.9**	**-2.0**
WTVZ	**West Tongariro**	**2.85**	**22**	P	**Pb**	**07 28 45.1**	**0.0**
TWVZ	**Taurewa**	**2.85**	**19**	P	**Pb**	**07 28 44.6**	**-0.5**
ETVZ	**East Tongariro**	**2.87**	**23**	P	**Pb**	**07 28 45.7**	**+0.4**
KWHZ	**Kaweka Forest**	**2.88**	**36**	P	**Pb**	**07 28 46.8**	**+1.3**
TMVZ	**Te Maari**	**2.88**	**23**	P	**Pb**	**07 28 45.3**	**-0.3**
WVZ	**Waitaha Valley**	**2.90**	**242**	P	**Pb**	**07 28 45.0**	**-0.8**
RPZ	**Rata Peaks**	**3.04**	**229**	P	**Pn**	**07 28 41.6**	**-0.5**
RPZ	**Rata Peaks**	**3.04**	**229**	P	**Pn**	**07 28 41.8**	**-0.3**
BKZ	**Black Stump Fm**	**3.12**	**34**	P	**Pb**	**07 28 50.5**	**+0.9**
BKZ	**Black Stump Fm**	**3.12**	**34**	P	**Pb**	**07 28 50.4**	**+0.8**
RATZ	**Rangitukua**	**3.13**	**22**	P	**Pb**	**07 28 50.7**	**+0.9**
WATZ	**Wairara**	**3.27**	**21**	P	**Pb**	**07 28 52.7**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**3.28**	**241**	P	**Pb**	**07 28 50.4**	**-1.8**
HIZ	**Hauiti**	**3.29**	**8**	P	**Pn**	**07 28 47.8**	**+2.3**
TMZ	**Timaru**	**3.52**	**221**	P	**Pn**	**07 28 48.1**	**-0.6**
TLZ	**Tolley Road**	**3.58**	**17**	P	**Pb**	**07 28 56.9**	**-0.6**
URZ	**Urewera**	**4.15**	**33**	P	**Pb**	**07 29 04.6**	**-2.4**
URZ	**Urewera**	**4.15**	**33**	P	**Pb**	**07 29 05.3**	**-1.7**
TOZ	**Tahuroa Road**	**4.16**	**14**	P	**Pn**	**07 29 00.7**	**+3.4**
ODZ	**Otahua Downs**	**4.19**	**218**	P	**Pn**	**07 28 57.1**	**-0.7**
MKAZ	**Moumakai**	**4.72**	**9**	P	**Pn**	**07 29 05.9**	**+0.8**

*SNET **28** 07:39:25.1±0.8, 13°.08N×89°.18W, h48km±17km, ML3.3*
*GCG **28** 07:39:26.0±1.2, 14°.83N×89°.02W, h180km±28km, MD3.7*
ISC 28 07:39:26.8±1.9, 13°.1N±0°.1×89°.12W±0°.04, h32km±12km, n23, σ1§14/31, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEG	**Centro de Oper**	**0.55**	**25**	*e*P	**Pb**	**07 39 37.7**	**-0.5**
COEG				*e*S	**Sb**	**07 39 47.4**	**+1.4**
COEG				IAML		07 39 51.4	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**0.57**	**349**	*e*P	**Pb**	**07 39 37.8**	**-0.8**
ALJI	**Alcalda de J**	**0.58**	**69**	*e*P	**Pb**	**07 39 38.2**	**-0.3**
UEES	**Universidad Ev**	**0.60**	**349**	*e*P	**Pb**	**07 39 38.2**	**-0.8**
PAVA	**Las Pavas**	**0.62**	**17**	*e*P	**Pb**	**07 39 38.6**	**-0.7**
JAYA	**Jayaque - finc**	**0.62**	**329**	*e*P	**Pb**	**07 39 38.3**	**-1.1**
LFU	**La Fuente**	**0.63**	**1**	*e*P	**Pb**	**07 39 38.9**	**-0.5**
BOQS	**Boqueron**	**0.63**	**346**	*e*P	**Pb**	**07 39 38.9**	**-0.7**
COEB	**Comit de Eme**	**0.69**	**57**	*e*P	**Pb**	**07 39 39.7**	**-0.8**
COEB				*e*S	**Sb**	**07 39 51.1**	**+1.2**
SCLA	**Alcaldia de Sa**	**0.69**	**33**	*e*P	**Pb**	**07 39 40.0**	**-0.5**
CEDA	**San Andres**	**0.73**	**339**	*e*P	**Pb**	**07 39 39.8**	**-1.3**
CEDA				*e*S	**Sb**	**07 39 51.2**	**+0.3**
CEDA				IAML		07 39 54.5	
	comp=Z,1μm,0.2s						
PQSS	**Presa 15 de Se**	**0.74**	**47**	*e*P	**Pn**	**07 39 40.5**	**-0.6**
PQSS				*e*S	**Sn**	**07 39 52.5**	**+1.2**
PACA	**Pacayal**	**0.85**	**66**	*e*P	**Pn**	**07 39 42.4**	**-0.3**
CEVE	**Cerro Verde**	**0.86**	**325**	*e*P	**Pn**	**07 39 41.5**	**-1.3**
SBLS	**San Blas**	**0.87**	**326**	*e*P	**Pn**	**07 39 41.9**	**-1.1**
P5NO	**Presa 5 de nov**	**0.93**	**22**	⇓*i*P	**Pn**	**07 39 43.0**	**-0.7**
NUBE	**Las Nubes**	**1.01**	**321**	*e*S	**Sn**	**07 39 56.1**	**-1.9**
LCND	**La Caada**	**1.22**	**81**	*e*P	**Pn**	**07 39 46.8**	**-0.7**
LCND				*e*S	**Sn**	**07 40 03.5**	**+0.5**
CNCH	**Conchagua**	**1.27**	**83**	*e*P	**Pn**	**07 39 47.0**	**-1.3**
MTO3	**Montecristo**	**1.29**	**350**	*e*P	**Pn**	**07 39 47.9**	**-1.0**
NBG	**Las Nubes**	**1.88**	**321**	*e*P	**Pn**	**07 39 57.0**	**0.0**
NBG				*e*S	**Sn**	**07 40 22.5**	**+2.7**
FUG	**Fuego 3**	**2.13**	**309**	*e*P	**Pn**	**07 40 02.1**	**+1.8**
FUG				*e*S	**Sn**	**07 40 26.8**	**+1.0**
STG3	**Santiaguito 3,**	**2.85**	**304**	*e*P	**Pn**	**07 40 10.6**	**+0.3**
STG3				*e*S	**Sn**	**07 40 43.7**	**0.0**

*ROM **28** 07:53:28.7±0.0, 43°.012N±0°.002×13°.069E±0°.003, h8km, ML3.6/76, Error ellipse: s-maj=0.2km s-min=0.1km az=70.0*
*LDG **28** 07:53:28.8±0.1, 42°.98N×13°.00E, h10km, Ml3.3/14, Error ellipse: s-maj=5.7km s-min=2.7km az=42.0*
*BGR **28** 07:53:30.9±0.7, 42°.95N×13°.10E, h10km, ML3.7/7, Error ellipse: s-maj=13.3km s-min=10.0km az=164.0*
*IDC **28** 07:53:30.8±1.6, 43°.20N×13°.33E, h0km, mb3.6/3, mbtmp3.6/7, ML3.7/4, MS2.9/3, Error ellipse: s-maj=30.1km s-min=17.6km az=79.0*
*PRU **28** 07:53:31.9±0.0, 43°.16N×13°.66E, h10km*
ISC 28 07:53:29.3±0.7, 43°.00N±0°.01×13°.04E±0°.01, h7km±4km, n254, σ1§91/350, mb3.6/3, 30C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.04**	**166**	⇑P	**Pg**	**07 53 31.0**	**0.0**
FEMA				S	**Sg**	**07 53 32.4**	**+0.3**
FEMA				AML	AML		
FEMA				AML	AML		
FDMO	**Fiordimonte**	**0.05**	**48**	⇓P	**Pg**	**07 53 30.4**	**-0.6**
FDMO				S	**Sg**	**07 53 31.2**	**-1.0**
FDMO				AML	AML		
FDMO				AML	AML		
FDMO				AML	AML		
FDMO				AML	AML		
T1219	**Muccia, Frazio**	**0.06**	**339**	⇑P	**Pg**	**07 53 31.0**	**-0.1**
T1219				S	**Sg**	**07 53 32.5**	**+0.2**
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
CESI	**CESI - Serrava**	**0.10**	**271**	⇑P	**Pg**	**07 53 32.2**	**+0.5**
CESI				S	**Sg**	**07 53 34.6**	**+1.4**
CESI				AML	AML		
	comp=N,77300μm,0.3s						
CESI				AML	AML		
	comp=E,75600μm,0.5s						
T1216	**Preci, Frazion**	**0.11**	**186**	⇑P	**Pg**	**07 53 32.2**	**+0.4**
T1216				S	**Sg**	**07 53 34.8**	**+1.2**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1220	**Camerino, Fraz**	**0.11**	**20**	⇑P	**Pg**	**07 53 31.5**	**-0.4**
T1220				S	**Sg**	**07 53 33.5**	**-0.1**
T1256	**Bolognola (MC)**	**0.14**	**89**	⇑P	**Pg**	**07 53 31.9**	**-0.5**
T1256				S	**Sg**	**07 53 34.0**	**-0.4**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
MC2	**Monte Cornacci**	**0.14**	**128**	⇑P	**Pg**	**07 53 32.3**	**-0.1**
MC2				S	**Sg**	**07 53 35.1**	**+0.5**
CSP1	**Cessapalombo**	**0.15**	**54**	⇑P	**Pg**	**07 53 32.0**	**-0.5**
CSP1				S	**Sg**	**07 53 34.3**	**-0.4**
CSP1				AML	AML		
CSP1				AML	AML		
SEF1	**Sefro**	**0.16**	**336**	⇑P	**Pg**	**07 53 32.6**	**0.0**
SEF1				S	**Sg**	**07 53 35.7**	**+0.8**
SEF1				AML	AML		
	comp=N,72600μm,0.3s						
SEF1				AML	AML		
	comp=E,80300μm,0.3s						
SEF1				AML	AML		
	comp=N,72550μm,0.3s						
SEF1				AML	AML		
	comp=E,80300μm,0.3s						
NRCA	**Norcia**	**0.18**	**161**	⇑P	**Pg**	**07 53 33.2**	**+0.2**
NRCA				S	**Sg**	**07 53 36.5**	**+1.0**
NRCA				AML	AML		
	comp=E,95550μm,0.7s						
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
	comp=E,95550μm,0.8s						
NRCA				AML	AML		
NRCA				AML	AML		
PIO1	**Pioraco**	**0.18**	**348**	P	**Pg**	**07 53 32.9**	**-0.1**
PIO1				S	**Sg**	**07 53 36.0**	**+0.5**
T1221	**Campello sul C**	**0.20**	**224**	⇑P	**Pg**	**07 53 34.1**	**+0.7**
T1221				S	**Sg**	**07 53 38.1**	**+2.0**
FIU1	**Fiuminata**	**0.20**	**338**	P	**Pg**	**07 53 33.3**	**-0.1**
FIU1				S	**Sg**	**07 53 36.9**	**+0.8**
MDAR	**Monte D'Aria**	**0.20**	**22**	⇑P	**Pg**	**07 53 33.1**	**-0.4**
MDAR				S	**Sg**	**07 53 36.2**	**-0.1**
MDAR				AML	AML		
	comp=E,24650μm,0.9s						
MDAR				AML	AML		
	comp=N,30750μm,1.4s						
MDAR				AML	AML		
	comp=E,24700μm,0.9s						
MDAR				AML	AML		
	comp=E,24700μm,0.9s						
MDAR				AML	AML		
	comp=N,30700μm,1.4s						
GUMA	**Gualdo di Mace**	**0.23**	**75**	⇑P	**Pg**	**07 53 33.8**	**-0.1**
GUMA				S	**Sg**	**07 53 37.6**	**+0.6**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
AM05	**Amandola Campo**	**0.23**	**96**	⇑P	**Pg**	**07 53 33.7**	**-0.3**
AM05				S	**Sg**	**07 53 37.4**	**+0.2**
T1215	**Vallo di Nera,**	**0.23**	**211**	⇑P	**Pg**	**07 53 34.6**	**+0.6**
T1215				S	**Sg**	**07 53 39.0**	**+1.9**
T1215				AML	AML		
	comp=E,17800μm,0.7s						
T1215				AML	AML		
	comp=N,16100μm,1.5s						
T1215				AML	AML		
	comp=E,17150μm,0.7s						
T1215				AML	AML		
	comp=N,16500μm,1.6s						
T1215				AML	AML		
	comp=E,17150μm,0.7s						
T1215				AML	AML		
	comp=E,17800μm,0.7s						
GAG1	**Gagliole**	**0.24**	**6**	P	**Pg**	**07 53 33.9**	**-0.1**
GAG1				S	**Sg**	**07 53 38.0**	**+0.7**
SSM1	**San Severino M**	**0.25**	**25**	P	**Pg**	**07 53 33.9**	**-0.4**
SSM1				S	**Sg**	**07 53 37.9**	**+0.2**
T1212	**Cascia, Frazio**	**0.25**	**178**	⇑P	**Pg**	**07 53 34.7**	**+0.4**
T1212				S	**Sg**	**07 53 39.2**	**+1.6**
SNTG	**Esanatoglia**	**0.26**	**345**	P	**Pg**	**07 53 34.4**	**-0.1**
SNTG				S	**Sg**	**07 53 39.2**	**+1.1**
SNTG				AML	AML		
	comp=N,37300μm,0.2s						
SNTG				AML	AML		
	comp=N,40650μm,0.3s						
SNTG				AML	AML		
	comp=E,23900μm,1.2s						
SNTG				AML	AML		
	comp=N,37300μm,0.3s						
SNTG				AML	AML		
	comp=E,22100μm,1.2s						
ASSB	**Assisi San Ben**	**0.28**	**278**	AML	AML		
	comp=N,25050μm,0.4s						
ASSB				AML	AML		
	comp=E,28450μm,0.5s						
T1213	**Norcia, Frazio**	**0.29**	**167**	⇑P	**Pg**	**07 53 35.2**	**+0.2**
T1213				S	**Sg**	**07 53 40.1**	**+1.3**
T1217	**Poggiodomo (PG**	**0.30**	**195**	⇑P	**Pg**	**07 53 35.7**	**+0.4**
T1217				S	**Sg**	**07 53 41.1**	**+1.9**
T1244	**Arquata del Tr**	**0.31**	**142**	⇑P	**Pg**	**07 53 35.5**	**0.0**
T1244				S	**Sg**	**07 53 41.0**	**+1.3**
T1241	**Roccafluvione,**	**0.33**	**117**	P	**Pg**	**07 53 35.4**	**-0.4**
T1241				S	**Sg**	**07 53 40.6**	**+0.6**
T1241				AML	AML		
	comp=E,28700μm,0.6s						
T1241				AML	AML		
	comp=N,29800μm,0.7s						
EL6	**Elcito**	**0.33**	**8**	⇑P	**Pg**	**07 53 35.5**	**-0.4**
EL6				S	**Sg**	**07 53 40.7**	**+0.4**
EL6				AML	AML		
	comp=E,40000μm,0.2s						
EL6				AML	AML		
	comp=E,40050μm,0.2s						
EL6				AML	AML		
	comp=N,43800μm,0.2s						
T1202	**Accumoli, Fraz**	**0.33**	**155**	⇑P	**Pg**	**07 53 36.0**	**+0.1**
T1202				S	**Sg**	**07 53 41.9**	**+1.7**
T1218	**Civita (PG)**	**0.34**	**170**	⇑P	**Pg**	**07 53 36.0**	**+0.1**
T1218				S	**Sg**	**07 53 41.8**	**+1.4**
T1218				AML	AML		
	comp=E,20850μm,0.6s						
T1218				AML	AML		
	comp=E,20500μm,0.6s						
T1218				AML	AML		
	comp=N,31150μm,0.6s						
T1218				AML	AML		
	comp=E,20500μm,0.6s						
T1218				AML	AML		
	comp=N,30300μm,0.6s						
T1218				AML	AML		
	comp=E,20850μm,0.6s						
ATCC	**AVT- Casa Cast**	**0.34**	**302**	P	**Pg**	**07 53 36.4**	**+0.3**
ATCC				S	**Sb**	**07 53 42.5**	**-1.0**
ATCC				AML	AML		
	comp=E,32200μm,0.2s						
ATCC				AML	AML		
	comp=N,25250μm,0.3s						
MNTP	**Montappone**	**0.34**	**67**	P	**Pg**	**07 53 36.1**	**0.0**
FOSV	**Fossato di Vic**	**0.35**	**326**	P	**Pg**	**07 53 36.3**	**0.0**
FOSV				S	**Sb**	**07 53 42.4**	**-1.4**
FOSV				AML	AML		
	comp=N,20150μm,0.3s						
FOSV				AML	AML		
	comp=E,11850μm,0.7s						
T1201	**Domo (RI)**	**0.38**	**155**	P	**Pg**	**07 53 37.0**	**+0.2**
T1201				S	**Sg**	**07 53 43.6**	**+1.8**
T1204	**Amatrice, Fraz**	**0.39**	**148**	⇑P	**Pg**	**07 53 36.8**	**-0.1**
T1204				S	**Sg**	**07 53 43.3**	**+1.3**
CING	**Cingoli**	**0.39**	**17**	⇑P	**Pg**	**07 53 36.5**	**-0.5**
CING				S	**Sg**	**07 53 42.7**	**+0.5**
CING				AML	AML		
	comp=E,16500μm,0.5s						
CING				AML	AML		
	comp=N,10780μm,0.9s						
LNSS	**Leonessa**	**0.40**	**180**	P	**Pg**	**07 53 37.3**	**+0.1**
LNSS				S	**Sg**	**07 53 44.0**	**+1.6**
LNSS				AML	AML		
	comp=E,9210μm,0.8s						
LNSS				AML	AML		
	comp=E,9215μm,0.8s						
LNSS				AML	AML		
	comp=N,30700μm,0.7s						
T1243	**Rocca Santa Ma**	**0.43**	**135**	⇑P	**Pg**	**07 53 37.2**	**-0.5**
T1243				S	**Sg**	**07 53 44.0**	**+0.7**
SMA1	**SAN MARTINO**	**0.43**	**149**	P	**Pg**	**07 53 37.5**	**-0.2**
SMA1				S	**Sg**	**07 53 44.5**	**+1.1**
SMA1				AML	AML		
	comp=E,28500μm,1.6s						
SMA1				AML	AML		
	comp=N,21950μm,0.5s						
MMUR	**Monte Murano**	**0.44**	**356**	P	**Pg**	**07 53 37.6**	**-0.3**
MMUR				S	**Sg**	**07 53 44.8**	**+1.1**
MMUR				AML	AML		
	comp=E,20050μm,0.2s						
MMUR				AML	AML		
	comp=N,15850μm,0.3s						
MMUR				AML	AML		
	comp=E,20050μm,0.3s						
MURB	**Monte Urbino**	**0.46**	**305**	P	**Pg**	**07 53 38.4**	**+0.2**
MURB

RM33 AML AML
comp=N,9185µm,0.5s
RM33 AML AML
comp=N,9120µm,0.5s
RM33 AML AML
comp=E,10015µm,0.3s
CESX Cesi 0.52 221 ⇑P **Pg 07 53 39.4 +0.1**
CESX S **Sb 07 53 48.1 -0.3**
CESX AML AML
comp=N,14100µm,0.4s
CESX AML AML
comp=E,15600µm,1.5s
T1246 Crognaleto (TE 0.54 141 ⇑P **Pg 07 53 39.2 -0.6**
T1246 S **Sg 07 53 47.5 +0.8**
CAMP Campotosto 0.54 149 P **Pg 07 53 39.3 -0.5**
CAMP S **Sg 07 53 47.6 +0.7**
CAMP AML AML
comp=E,9800µm,0.3s
CAMP AML AML
comp=N,5190µm,0.5s
CIMA Civitanova Mar 0.55 57 P **Pg 07 53 40.3 +0.2**
ATLO AVT- Montelove 0.56 304 P **Pg 07 53 40.0 -0.1**
ATLO S **Sb 07 53 49.2 -0.4**
FRON Frontone 0.56 336 P **Pg 07 53 39.8 -0.4**
FRON S **Sb 07 53 49.0 -0.8**
FRON AML AML
comp=E,5770µm,0.9s
FRON AML AML
comp=N,7360µm,0.4s
PP3 Marolino 0.56 48 P **Pg 07 53 40.5 +0.3**
PP3 AML AML
comp=E,10800µm,0.5s
PP3 AML AML
comp=N,15250µm,0.8s
PP3 AML AML
comp=N,15200µm,0.8s
PP3 AML AML
comp=E,10800µm,0.5s
PP3 AML AML
comp=N,15500µm,0.8s
PP3 AML AML
comp=E,10950µm,0.5s
CADA Capodarco di F 0.56 70 P **Pg 07 53 40.9 +0.7**
TERO Teramo 0.56 132 P **Pg 07 53 39.5 -0.7**
TERO S **Sg 07 53 48.4 +0.8**
TERO AML AML
comp=N,11850µm,1.4s
TERO AML AML
comp=E,10550µm,0.8s
TERO AML AML
comp=N,12450µm,1.4s
TERO AML AML
comp=E,10500µm,0.8s
TERO AML AML
comp=E,10950µm,0.8s
TERO AML AML
comp=N,11900µm,1.4s
TB01 Gubbio 0.58 311 P **Pg 07 53 40.4 -0.1**
TB02 Pietralunga 0.59 309 P **Pg 07 53 40.5 -0.1**
ATBU Serra di Buran 0.59 323 P **Pg 07 53 40.8 0.0**
T1247 Pizzolo (AQ) 0.59 161 P **Pg 07 53 40.5 -0.3**
T1247 S **Sb 07 53 50.3 -0.4**
T1247 AML AML
comp=N,10415µm,0.6s
T1247 AML AML
comp=E,9560µm,0.5s
ATVO AVT- Monte Val 0.60 310 P **Pg 07 53 40.7 -0.2**
ATVO AML AML
comp=E,3625µm,0.6s
ATVO AML AML
comp=N,3650µm,0.6s
TB03 Pietralunga 0.61 311 P **Pg 07 53 41.0 -0.1**
ATVA AVT- Monte Val 0.61 297 P **Pg 07 53 41.2 0.0**
COR1 Corinaldo 0.63 358 P **Pg 07 53 42.0 +0.5**
COR1 S **Sb 07 53 53.0 +1.3**
COR1 AML AML
comp=E,11300µm,1.5s
COR1 AML AML
comp=N,12150µm,0.5s
COR1 AML AML
comp=N,11615µm,0.5s
COR1 AML AML
comp=N,11610µm,0.5s
COR1 AML AML
comp=E,5840µm,1.5s
COR1 AML AML
comp=N,12150µm,0.5s
ATPC Poggio Castell 0.64 319 P **Pg 07 53 41.5 -0.2**
ATPI Pietralunga - 0.64 314 P **Pg 07 53 41.6 -0.2**
ATPI S **Sb 07 53 52.0 -0.2**
ATPI AML AML
comp=E,3985µm,0.7s
ATPI AML AML
comp=N,3025µm,0.6s
ATPI AML AML
comp=N,3020µm,0.6s
PIEI Pieia 0.65 326 P **Pg 07 53 41.5 -0.3**
PIEI S **Sb 07 53 52.1 -0.2**
PIEI AML AML
comp=E,3155µm,0.8s
PIEI AML AML
comp=N,3290µm,0.9s
ATMI Monte Miggiano 0.65 301 P **Pb 07 53 43.1 0.0**
ATMI AML AML
comp=N,6650µm,0.6s
ATMI AML AML
comp=E,7475µm,0.4s
MPAG Monte Paganucc 0.66 342 P **Pg 07 53 41.7 -0.4**
MPAG S **Sb 07 53 52.4 -0.2**
MPAG AML AML
comp=E,5300µm,0.6s
MPAG AML AML
comp=N,4745µm,0.6s
MPAG AML AML
comp=N,5375µm,0.6s
MPAG AML AML
comp=E,4865µm,0.3s
MPAG AML AML
comp=E,5300µm,0.6s
MPAG AML AML
comp=N,4745µm,0.6s
GIGS Gran Sasso 0.68 144 P **Pg 07 53 41.5 -0.9**
GIGS S **Sg 07 53 51.6 +0.4**
GIGS AML AML
comp=N,1860µm,1.0s
GIGS AML AML
comp=E,2600µm,0.3s
MGAB Montegabbione 0.68 263 P **Pg 07 53 42.6 +0.1**
MGAB AML AML
comp=E,3510µm,0.5s
MGAB AML AML
comp=N,6800µm,0.4s
AOI Ancona 0.69 37 P **Pg 07 53 41.9 -0.7**
AOI S **Sb 07 53 52.9 -0.4**
AOI AML AML
comp=E,3270µm,0.4s
AOI AML AML
comp=N,3145µm,0.5s
AQU L'Aquila 0.70 157 P **Pg 07 53 41.8 -1.0**
PCRO Pietralacroce 0.70 31 P **Pg 07 53 43.1 +0.2**
FSSB Fossombrone 0.71 345 P **Pg 07 53 42.7 -0.4**
FSSB S **Sb 07 53 54.6 +0.4**
FSSB AML AML
comp=N,24450µm,0.3s
FSSB AML AML
comp=E,10610µm,0.3s
APEC Apecchio 0.71 321 P **Pg 07 53 43.3 +0.2**
APEC AML AML
comp=E,4425µm,0.9s
APEC AML AML
comp=N,4675µm,0.6s
APEC AML AML
comp=N,4290µm,0.6s
APEC AML AML
comp=E,4660µm,1.6s
SENI Senigallia 0.72 12 P **Pb 07 53 44.1 0.0**
FIAM Fiamignano 0.74 175 ⇑P **Pg 07 53 42.8 -0.7**
FIAM AML AML
comp=N,4225µm,0.6s
FIAM AML AML
comp=E,4840µm,0.8s
ATMC Monte Cedrone 0.76 306 P **Pg 07 53 43.9 -0.1**
BADI Badiali 0.77 312 AML AML
comp=N,1800µm,0.7s
BADI AML AML
comp=E,137µm,0.7s

PE3 Peglio 0.80 331 P **Pg 07 53 44.5 -0.1**
PE3 AML AML
comp=N,31µm,0.5s
PE3 AML AML
comp=E,27µm,0.5s
FAGN Fagnano 0.84 151 P **Pg 07 53 45.1 -0.3**
FAGN AML AML
comp=N,8500µm,0.5s
FAGN AML AML
comp=E,13200µm,0.5s
SACS San Casciano d 0.84 260 P **Pb 07 53 46.1 -0.2**
SACS AML AML
comp=N,2955µm,1.2s
SACS AML AML
comp=E,2525µm,1.6s
SACS AML AML
comp=E,2215µm,1.6s
SACS AML AML
comp=N,3135µm,1.2s
VCEL Villa Celiera 0.85 135 AML AML
comp=E,7210µm,0.5s
VCEL AML AML
comp=N,6485µm,1.1s
VCEL AML AML
comp=E,7215µm,0.5s
SSP9 Sansepolcro 0.87 311 P **Pb 07 53 46.8 0.0**
PESA Pesaro 0.95 351 P **Pg 07 53 47.6 0.0**
PESA AML AML
comp=E,4680µm,0.3s
PESA AML AML
comp=N,4720µm,0.4s
T0110 Collepietro 0.95 144 P **Pg 07 53 46.4 -1.2**
T0110 AML AML
comp=E,7395µm,1.4s
T0110 AML AML
comp=N,8210µm,0.4s
CPGN Carpegna, Ital 0.95 327 P **Pg 07 53 47.6 0.0**
CPGN AML AML
comp=N,3475µm,0.5s
CPGN AML AML
comp=E,3785µm,0.8s
CPGN AML AML
comp=N,3470µm,0.5s
CPGN AML AML
comp=N,4065µm,0.7s
CPGN AML AML
comp=E,3555µm,0.6s
LATE Laterza 0.99 247 P **Pg 07 53 48.7 +0.4**
MTCE Montecelio 1.00 193 P **Pg 07 53 47.9 -0.7**
CRE Caprese Michel 1.00 308 P **Pg 07 53 48.6 0.0**
CRE AML AML
comp=E,1097µm,0.6s
CRE AML AML
comp=N,1280µm,1.5s
SF11 Podere del Sol 1.00 263 P **Pg 07 53 48.5 -0.1**
SF03 Valle Cupa 1.01 259 P **Pg 07 53 49.0 +0.2**
PTQR Pietraquaria 1.02 164 P **Pg 07 53 47.6 -1.3**
PTQR AML AML
comp=N,2435µm,0.7s
PTQR AML AML
comp=E,1880µm,1.1s
RSM Repubblica di 1.02 335 P **Pb 07 53 49.6 +0.3**
MCIV Monte Civitell 1.02 258 P **Pg 07 53 48.5 -0.5**
SF04 Casetta 1.02 261 P **Pb 07 53 49.5 0.0**
SF04 AML AML
comp=E,1126µm,1.0s
SF04 AML AML
comp=N,876µm,1.1s
CERT Cerreto 1.05 182 P **Pg 07 53 49.0 -0.6**
CERT AML AML
comp=E,2960µm,1.4s
CERT AML AML
comp=N,2545µm,0.5s
SF13 Bagnolo 1.06 260 P **Pg 07 53 49.7 +0.1**
SF14 Selvena 1.07 257 P **Pn 07 53 51.4 +0.6**
SF01 Poggio Pratacc 1.10 260 P **Pb 07 53 50.8 +0.1**
ARCI Arcidosso 1.16 263 P **Pb 07 53 51.9 +0.2**
ARCI AML AML
comp=N,484µm,1.0s
ARCI AML AML
comp=E,381µm,1.5s
RCAV Rocca di Cave 1.16 183 P **Pg 07 53 50.1 -1.4**
INTR Introdacqua 1.18 147 P **Pg 07 53 49.8 -2.2**
INTR AML AML
comp=E,3µm,0.7s
INTR AML AML
comp=N,6630µm,0.7s
INTR AML AML
comp=E,2845µm,0.7s
INTR AML AML
comp=N,5µm,0.7s
ASQU Asqua 1.21 312 P **Pg 07 53 51.5 -1.0**
TOLF Tolfa 1.21 220 P **Pg 07 53 52.0 -0.6**
VVLD Villa Vallelon 1.21 159 P **Pg 07 53 51.7 -0.9**
RMP Rome, Mte Porz 1.22 192 P **Pg 07 53 51.8 -0.9**
GUAR Guarcino 1.23 170 P **Pg 07 53 52.9 +0.1**
GUAR AML AML
comp=N,2650µm,1.3s
GUAR AML AML
comp=E,2800µm,0.7s
CAFR Castel Frentan 1.24 128 P **Pg 07 53 54.2 +1.1**
SFI Santa Sofia 1.25 317 P **Pg 07 53 53.2 -0.1**
SFI AML AML
comp=E,809µm,0.7s
SFI AML AML
comp=E,821µm,0.7s
SFI AML AML
comp=N,944µm,0.7s
SFI AML AML
comp=N,910µm,1.6s
SAMA S.Maria delle 1.27 195 P **Pn 07 53 53.5 +0.1**
VIVA Pratoni del Vi 1.27 189 P **Pn 07 53 53.7 +0.2**
CSNT Castellina Chi 1.36 291 P **Pn 07 53 54.8 0.0**
CSNT AML AML
comp=N,488µm,1.3s
CSNT AML AML
comp=E,364µm,0.8s
POFI Posta Fibreno 1.38 158 P **Pb 07 53 55.8 +0.3**
POFI AML AML
comp=E,1555µm,1.1s
POFI AML AML
comp=N,1525µm,1.2s
POFI AML AML
comp=N,1495µm,1.2s
POFI AML AML
comp=E,1525µm,1.1s
FROS Frosini 1.39 279 P **Pn 07 53 54.8 -0.4**
FROS AML AML
comp=E,818µm,0.7s
FROS AML AML
comp=N,836µm,1.1s
OSSC Osservatorio P 1.41 292 P **Pn 07 53 53.9 -1.5**
LRP Arpino 1.42 163 P **Pg 07 53 57.2 +0.7**
LMD Lutirano 1.45 318 P **Pn 07 53 56.0 +0.1**
LMD AML AML
comp=E,912µm,0.7s
LMD AML AML
comp=N,663µm,0.9s
GIUL Giuliano Di Ro 1.45 174 P **Pn 07 53 56.5 +0.4**
GIUL AML AML
comp=E,1030µm,1.3s
GIUL AML AML
comp=N,1620µm,0.7s
LATB Latina 1.51 182 P **Pn 07 53 56.2 -0.6**
MAON Monte Argentar 1.52 248 P **Pn 07 53 57.1 +0.2**
RNI2 Rionero Sannit 1.54 147 P **Pb 07 53 58.2 0.0**
TRIF Trifonti 1.57 275 AML AML
comp=E,390µm,1.6s
TRIF AML AML
comp=N,376µm,0.7s
CERA Filignano 1.58 152 P **Pn 07 53 57.6 -0.3**
FRES Fresagrandinar 1.59 130 P **Pb 07 53 59.0 0.0**
FRES AML AML
comp=E,1175µm,0.7s
FRES AML AML
comp=N,674µm,1.0s
BRIS BRISIGHELLA 1.59 316 P **Pg 07 53 59.5 -0.4**
CASP Castiglione de 1.61 263 P **Pn 07 53 57.3 -0.9**
SEI Scarperia 1.61 311 P **Pb 07 53 59.7 +0.3**
MIDA Miranda 1.63 146 P **Pn 07 53 58.2 -0.4**
CRMI Carmignano 1.70 298 P **Pn 07 53 59.6 +0.2**
MPPT Montemurlo 1.71 305 P **Pn 07 54 00.1 +0.5**
MTRZ Monterenzio 1.78 321 P **Pb 07 54 02.3 -0.1**
MTCR Monte La Croce 1.80 305 P **Pn 07 53 59.9 -1.0**
VAGA Valle Agricola 1.82 150 P **Pb 07 54 02.9 -0.1**

BSSO Busso 1.86 141 P **Pb 07 54 03.2 -0.5**
CIGN Sant'Elia a Pi 1.93 134 P **Pb 07 54 04.3 -0.6**
ZCCA Zocca 2.01 313 P **Pg 07 54 07.1 -0.8**
MELA Melanico ??? S 2.02 129 P **Pn 07 54 04.6 +0.8**
MAIM Mastiano 2.06 297 P **Pn 07 54 03.3 -1.1**
VITU Vitulano (BN) 2.17 146 P **Pn 07 54 07.4 +1.5**
MOCO Biccari - m.te 2.27 135 P **Pn 07 54 09.2 +1.9**
SGRT San Giovanni R 2.36 121 P **Pn 07 54 08.9 +0.3**
SGRT AML AML
comp=E,910µm,0.5s
SGRT AML AML
comp=N,1100µm,0.5s
MRB1 Monte Rocchett 2.37 142 AML AML
comp=N,885µm,0.7s
MRB1 AML AML
comp=N,842µm,0.7s
MRB1 AML AML
comp=E,538µm,1.6s
MRB1 AML AML
comp=E,528µm,0.7s
CAFE Carife 2.57 140 P **Pn 07 54 13.3 +1.9**
SNAL S. Angelo Dei 2.63 141 P **Pn 07 54 14.6 +2.3**
MCRV Calabrutti - M 2.73 144 P **Pn 07 54 14.7 +1.0**
CEY Cerknica 2.91 20 *e*Pn **Pn 07 54 14.0 -2.1**
A050A Klekovaca 2.93 59 *e*Pn **Pn 07 54 17.5 +1.1**
ROVR Rover Verones 3.00 333 P **Pn 07 54 18.1 +0.7**
PGF Pioggiola 3.01 263 *e*P **Pn 07 54 17.5 0.0**
PGF *e*Sn **Sn 07 54 49.0 -4.8**
comp=E,69nm,1.3s
DOSS Dosso del Somm 3.17 336 P **Pn 07 54 19.7 0.0**
DOSS AML AML
comp=E,288µm,1.3s
DOSS AML AML
comp=E,230µm,0.8s
DOSS AML AML
comp=N,244µm,0.6s
DOSS AML AML
comp=N,212µm,1.1s
SRKY Kupres RS 3.19 69 *e*Pn **Pb 07 54 24.3 -2.0**
CTI Castel Tesino 3.20 342 P **Pn 07 54 20.7 +0.5**
CTI AML AML
comp=E,236µm,1.3s
CTI AML AML
comp=N,280µm,0.7s
LJU Ljubljana 3.22 19 AML AML
comp=N,2385µm,0.8s
LJU AML AML
comp=E,1690µm,0.6s
MGRS Mrkonjic Grad 3.26 63 *e*Pn **Pn 07 54 21.8 +0.9**
STAL STALIGIAL 3.27 356 P **Pn 07 54 20.5 -0.4**
STAL AML AML
comp=N,328µm,1.1s
STAL AML AML
comp=E,316µm,0.8s
LUSI Trento, Gardas 3.31 334 P **Pn 07 54 22.3 +0.6**
LUSI AML AML
comp=N,253µm,0.6s
LUSI AML AML
comp=E,176µm,0.8s
CIMO Cimolais 3.33 353 P **Pn 07 54 21.3 -0.6**
CIMO AML AML
comp=E,108µm,1.0s
CIMO AML AML
comp=N,157µm,0.7s
CIMO AML AML
comp=N,148µm,0.7s
CIMO AML AML
comp=E,114µm,1.1s
GAGG Gaggia 3.42 335 P **Pn 07 54 24.4 +1.2**
STON Ston 3.43 91 *e*Pn **Pn 07 54 21.1 -2.0**
A051A Mrakovica 3.44 53 *e*Pn **Pn 07 54 23.6 +0.2**
BLY Banja Luka 3.47 58 *e*Pn **Pb 07 54 29.2 -1.9**
SARZ Sarezzano 3.52 303 AML AML
comp=E,391µm,1.5s
SARZ AML AML
comp=E,390µm,1.5s
SARZ AML AML
comp=N,402µm,0.8s
SARZ AML AML
comp=N,439µm,0.9s
ACOM Acomizza, Ital 3.56 5 P **Pn 07 54 25.9 +0.7**
ACOM AML AML
comp=N,374µm,1.1s
ACOM AML AML
comp=E,292µm,1.2s
ACOM AML AML
comp=N,358µm,1.0s
ACOM AML AML
comp=E,302µm,1.3s
FVI Forni Avoltri 3.60 357 P **Pn 07 54 25.9 +0.3**
FVI AML AML
comp=E,162µm,0.9s
FVI AML AML
comp=N,181µm,0.7s
MYKA Terra Mystica 3.65 7 *e*Pn **Pn 07 54 26.6 +0.3**
comp=N,5.4nm,0.4s
MYKA *e*Sn **Sn 07 55 10.4 +0.7**
comp=N,5.8nm,0.4s
KOSI Kohlern 3.66 342 P **Pn 07 54 27.8 +1.4**
OBKA Obir 3.67 17 *e*Pn **Pn 07 54 26.1 -0.5**
OBKA Obir 3.67 17 *e*Pn **Pn 07 54 27.0 +0.4**
comp=N,1.7nm,0.2s
OBKA *e*Sn **Sn 07 55 10.5 +0.4**
comp=N,118nm,0.7s
OBKA Obir 3.67 17 *e*Pn **Pn 07 54 26.8 +0.2**
OBKA *e*Sg **Sg 07 55 30.8 +3.7**
APPI Appiano 3.71 340 P **Pn 07 54 27.9 +0.8**
ABTA Abfaltersbach 3.76 355 *i* Pn **Pn 07 54 28.8 +1.0**
comp=N,7.8nm,0.4s,SNR=14
ABTA *e*Sn **Sn 07 55 12.4 -0.1**
comp=N,30nm,0.9s
TREB Trebinje 3.92 92 *e*Pn **Pn 07 54 27.3 -2.6**
SOKA Soboth 3.94 20 *e*Pn **Pn 07 54 30.9 +0.6**
comp=N,1.0nm,0.2s
SOKA *e*Sn **Sn 07 55 16.2 -0.6**
comp=N,14nm,0.6s
BRY Bratogost 4.04 90 *e*Pn **Pn 07 54 28.9 -2.8**
HCY Herceg Novi 4.06 96 *e*Pn **Pn 07 54 30.8 -1.1**
KBA Koelnbreinsper 4.08 3 *e*Pn **Pn 07 54 33.2 +0.9**
comp=N,12nm,0.3s
KBA *e*Sn **Sn 07 55 20.2 -0.2**
comp=N,21nm,0.4s
KBA Koelnbreinsper 4.08 3 *e*Pn **Pn 07 54 33.2 +0.9**
KBA *e*Sn **Sn 07 55 21.4 +1.0**
SBF Sospel 4.17 284 *e*P **Pn 07 54 33.8 +0.4**
SBF *e*Sn **Sn 07 55 15.3 -7.1**
comp=N,13nm,0.4s
FETA Feichten 4.34 339 *e*Pn **Pn 07 54 38.3 +2.5**
comp=N,1.3nm,0.3s
FETA *e*Sn **Sn 07 55 27.0 +0.3**
comp=N,7.7nm,0.6s
WTTA Wattenberg 4.37 347 *e*Pn **Pn 07 54 38.9 +2.5**
comp=N,0.1nm,0.1s
WTTA *e*Sn **Sn 07 55 29.0 +1.3**
comp=N,25nm,0.4s
WTTA Wattenberg 4.37 347 *e*Pn **Pn 07 54 38.9 +2.5**
WTTA *e*Sn **Sn 07 55 30.9 +3.3**
DAVOX Davos/Dischmat 4.39 330 Pn **Pn 07 54 39.0 +2.4**
comp=N,5.3nm,0.3s,baz=150,slow=20,SNR=27
DAVOX Sn **Sn 07 55 30.4 +2.3**
comp=N,2.3nm,0.3s,baz=106,slow=22,SNR=3.9
DAVOX LR LR 07 56 26.8
comp=N,72nm,18.9s,baz=102,slow=41
comp=N,15nm,0.3s
SQTA Sankt Quirin 4.41 344 *i* Pn **Pn 07 54 40.0 +3.2**
comp=N,13nm,0.3s,SNR=8.8
SQTA *e*Sn **Sn 07 55 30.1 +1.6**
comp=N,9.7nm,0.3s
HAPS Han Pijesak,Bl 4.43 74 *e*Pn **Pn 07 54 36.8 -0.3**
WATA Walderalm 4.45 347 *e*Pn **Pn 07 54 39.4 +2.0**
comp=N,2.6nm,0.2s
WATA *e*Sn **Sn 07 55 32.3 +2.7**
comp=N,11nm,0.2s
ARSA Arzberg 4.60 22 *e*Pn **Pn 07 54 38.1 -1.2**
comp=N,1.5nm,0.2s
ARSA *e*Sn **Sn 07 55 31.3 -1.6**
comp=N,8.6nm,0.5s
ARSA Arzberg 4.60 22 *e*Pn **Pn 07 54 39.0 -0.3**
ARSA *e*Sn **Sn 07 55 31.2 -1.7**
DRME Dracevica, Mon 4.61 98 *e*Pn **Pn 07 54 39.4 0.0**
RUDO Rudo 4.66 80 *e*Pn **Pn 07 54 38.3 -1.9**
BIOA Bad Ischl, Aus 4.71 5 *i* Pn **Pn 07 54 41.8 +1.0**
comp=N,11nm,0.4s,SNR=5.2
BIOA *e*Sn **Sn 07 55 37.9 +2.3**
comp=N,45nm,0.6s
BBLS Lazići 4.72 77 *e*Pn **Pn 07 54 42.1 +1.1**

KOVH	**Kovagotottos**	**4.75**	**48**	P		**Pn**	**07 54 44.0**	**+2.6**
RETA	**Reutte**	**4.76**	**341**	*e*Pn		**Pn**	**07 54 41.2**	**-0.4**
	comp=N,1.1nm,0.2s							
RETA				*e*Sn		**Sn**	**07 55 38.5**	**+1.5**
	comp=N,8.3nm,0.5s							
LMR	**La Mourre**	**4.79**	**276**	*e*P		**Pn**	**07 54 41.6**	**-0.2**
PLONS	**Plons/SG**	**4.80**	**329**	*e*Pn		**Pn**	**07 54 45.5**	**+3.4**
PLONS				*e*Sn		**Sn**	**07 55 40.5**	**+2.4**
DAVA	**Damuels**	**4.83**	**334**	*e*Pn		**Pn**	**07 54 45.8**	**+3.2**
	comp=N,5.0nm,0.4s							
DAVA				*e*Sn		**Sn**	**07 55 41.0**	**+2.1**
	comp=N,11nm,0.5s							
DAVA	**Damuels**	**4.83**	**334**	*e*Pn		**Pn**	**07 54 45.8**	**+3.2**
DAVA				*e*Sn		**Sn**	**07 55 41.4**	**+2.6**
MBDF	**Montbardon**	**4.85**	**293**	*e*P		**Pn**	**07 54 43.8**	**+1.0**
MBDF				*e*Sn		**Sn**	**07 55 34.9**	**-4.3**
	comp=N,3.3nm,0.4s							
MOA	**Molln**	**4.92**	**10**	*e*Pn		**Pn**	**07 54 44.3**	**+0.5**
	comp=N,2.2nm,0.2s							
MOA				*e*Sn		**Sn**	**07 55 40.8**	**-0.1**
	comp=N,4.1nm,0.3s							
MOA	**Molln**	**4.92**	**10**	*e*Pn		**Pn**	**07 54 44.2**	**+0.5**
MOA				*e*Sn		**Sn**	**07 55 41.1**	**+0.2**
UBR	**Ueberruh**	**5.11**	**337**	*e*Pn		**Pn**	**07 54 49.5**	**+3.1**
MORH	**Mrgy, Hungar**	**5.13**	**49**	P		**Pn**	**07 54 49.9**	**+3.4**
DIVS	**Divibare**	**5.17**	**75**	*e*Pn		**Pn**	**07 54 48.1**	**+0.9**
LPL	**La Plagne**	**5.18**	**301**	*e*Pn		**Pn**	**07 54 43.4**	**-4.0**
LPL	**La Plagne**	**5.18**	**301**	*e*P		**Pn**	**07 54 48.3**	**+0.9**
LPL				*e*Sn		**Sn**	**07 55 41.7**	**-5.8**
	comp=N,5.6nm,0.4s							
RONA	**Rosalia, Austr**	**5.23**	**25**	*e*Pn		**Pn**	**07 54 48.4**	**+0.5**
	comp=N,2.9nm,0.3s							
RONA				*e*Sn		**Sn**	**07 55 48.0**	**-0.5**
	comp=N,1.6nm,0.3s							
CONA	**Conrad Observa**	**5.31**	**21**	*e*Pn		**Pn**	**07 54 48.8**	**-0.4**
	comp=N,1.5nm,0.3s							
CONA				*e*Sn		**Sn**	**07 55 48.5**	**-2.1**
	comp=N,11nm,0.7s							
FRGS	**Fruska Gora**	**5.33**	**64**	*e*Pn		Pn	07 54 54.2	+4.8
ORIF	**Oris-en-Rattie**	**5.51**	**293**	*e*P		**Pn**	**07 54 52.9**	**+1.1**
ORIF				*e*Sn		**Sn**	**07 55 50.7**	**-4.8**
	comp=N,7.9nm,0.7s							
SMRF	**Simiane la Rot**	**5.51**	**283**	*e*P		**Pn**	**07 54 53.3**	**+1.4**
SULZ	**Cheisacher**	**5.70**	**324**	*e*Sn		**Sn**	**07 56 00.6**	**+0.4**
SLE	**Schleitheim**	**5.74**	**328**	*e*Pn		**Pn**	**07 54 55.5**	**+0.6**
SLE				*e*Sn		**Sn**	**07 55 57.9**	**-3.1**
BALST	**Balsthal**	**5.75**	**321**	*e*Pn		**Pn**	**07 54 57.3**	**+2.3**
BALST				*e*Sn		**Sn**	**07 56 02.0**	**+0.8**
METMA	**Mettma DE**	**5.79**	**326**	*e*Pn		**Pn**	**07 54 57.2**	**+1.5**
METMA				*e*Sn		**Sn**	**07 56 00.2**	**-2.1**
GEC2	**GERESS Array S**	**5.86**	**4**	*e*Sn		**Sn**	**07 56 01.8**	**-2.4**
GERES	**GERESS Array B**	**5.86**	**4**	Pn		**Pn**	**07 54 56.4**	**-0.3**
	comp=N,1.1nm,0.3s,baz=176,slow=14,SNR=14							
GERES				Sn		**Sn**	**07 56 00.5**	**-3.6**
	comp=N,3.0nm,0.3s,baz=183,slow=24,SNR=6.8							
	comp=N,1.8nm,0.3s							
CKRC	**Cesky Krumlov**	**5.89**	**8**	*e*PN		**Pn**	**07 54 56.2**	**-0.7**
CKRC				*e*SN		**Sn**	**07 55 59.7**	**-4.9**
BERGE	**Lenzkirch (DE)**	**5.95**	**327**	*e*Pn		**Pn**	**07 54 59.6**	**+1.8**
BERGE				*e*Sn		**Sn**	**07 56 02.2**	**-4.0**
OHR	**Ohrid**	**6.08**	**105**	*i* Pn		**Pn**	**07 55 01.2**	**+1.5**
OHR				*i* Sn		**Sn**	**07 56 07.7**	**-1.8**
CABF	**La Chapelle**	**6.12**	**309**	*e*P		**Pn**	**07 55 01.8**	**+1.6**
CABF				*e*Sn		**Sn**	**07 56 02.9**	**-7.6**
	comp=N,2.6nm,0.4s							
KHC	**Kasperske Hory**	**6.14**	**3**	*e*PN		**Pn**	**07 54 59.3**	**-1.2**
KHC				*e*SN		**Sn**	**07 56 06.0**	**-4.9**
BFO	**Black Forest**	**6.26**	**330**	*e*Pn		**Pn**	**07 55 05.6**	**+3.5**
BFO				*e*Sn		**Sn**	**07 56 12.0**	**-2.0**
VIVF	**Saint-Julien-l**	**6.32**	**290**	*e*Pn		**Pn**	**07 54 59.3**	**-3.6**
VIVF	**Saint-Julien-l**	**6.32**	**290**	*e*P		**Pn**	**07 55 03.4**	**+0.5**
HINF	**Hinteralfeld**	**6.49**	**320**	*e*P		**Pn**	**07 55 05.4**	**+0.2**
HINF				*e*Sn		**Sn**	**07 56 11.5**	**-8.0**
	comp=N,34nm,0.9s							
ECH	**Echery**	**6.64**	**324**	*e*Pn		**Pn**	**07 55 07.8**	**+0.4**
ECH				*e*Sn		**Sn**	**07 56 22.0**	**-1.3**
CDF	**Champ du Feu**	**6.75**	**325**	*e*P		**Pn**	**07 55 09.0**	**+0.2**
CDF				*e*Sn		**Sn**	**07 56 18.2**	**-7.7**
	comp=N,20nm,0.8s							
LASF	**Ste Croix**	**6.76**	**282**	*e*P		**Pn**	**07 55 10.6**	**+1.7**
VRAC	**Vranov**	**6.77**	**20**	LR		LR	07 58 21.4	
	comp=N,88nm,19.0s,baz=124,slow=45							
HAU	**Haudompre**	**6.86**	**319**	*e*P		**Pn**	**07 55 10.6**	**+0.3**
HAU				*e*Sn		**Sn**	**07 56 20.8**	**-7.9**
	comp=N,36nm,0.7s							
STIP	**Stip**	**6.91**	**98**	*i* Pn		**Pn**	**07 55 11.8**	**+0.8**
PRU	**Pruhonice**	**7.06**	**8**	*e*PN		**Pn**	**07 55 11.4**	**-1.7**
PRU				*e*SN		**Sn**	**07 56 26.5**	**-7.1**
NKC	**Novy Kostel**	**7.24**	**357**	*e*SN		**Sn**	**07 56 32.2**	**-5.9**
SMF	**Signal de Mont**	**7.48**	**302**	*e*P		**Pn**	**07 55 20.8**	**+2.0**
SMF				*e*Sn		**Sn**	**07 56 36.6**	**-7.3**
	comp=N,53nm,1.4s							
PAGF	**Fort de Pagny**	**7.54**	**320**	*e*P		**Pn**	**07 55 21.5**	**+1.8**
SFTF	**Sexfontaines**	**7.65**	**316**	*e*P		**Pn**	**07 55 23.9**	**+2.8**
LOR	**Lormes**	**7.76**	**306**	*e*P		**Pn**	**07 55 24.5**	**+1.8**
	baz=117							
LOR				*e*Sn		**Sn**	**07 56 42.2**	**-8.6**
	comp=N,3.5nm,0.4s							
KEST	**Kesra**	**7.80**	**203**	Pn		**Pn**	**07 55 27.9**	**+4.6**
	comp=N,0.7nm,0.3s,baz=40,slow=7.9,SNR=6.3							
	comp=N,4.8nm,0.7s							
AVF	**Avril sur Loir**	**7.85**	**302**	*e*P		**Pn**	**07 55 25.8**	**+2.0**
SAVF	**Savonnieres en**	**7.87**	**318**	*e*P		**Pn**	**07 55 25.0**	**+0.8**
SSF	**Saint Saulge**	**7.87**	**304**	*e*P		**Pn**	**07 55 26.9**	**+2.7**
BRG	**Berggiesshubel**	**7.90**	**4**	*e*P		**Pn**	**07 55 25.2**	**+0.6**
BRG				Amp			07 55 33.1	
	comp=Z,2.8nm,0.8s							
BRG				*ex*		x	07 56 50.7	
BRG				*ex*		x	07 57 46.6	
BRG				Amp			07 58 09.1	
	comp=Z,9.9nm,1.1s							
MTLF	**Montolieu**	**7.92**	**276**	*e*P		**Pn**	**07 55 27.1**	**+2.3**
BGF	**Bois d'Agland**	**8.07**	**300**	*e*P		**Pn**	**07 55 28.9**	**+2.0**
BGF				*e*Sn		**Sn**	**07 56 49.7**	**-8.7**
	comp=Z,4.5nm,0.4s							
TCF	**Toulx Ste Croi**	**8.39**	**297**	*e*P		**Pn**	**07 55 33.5**	**+2.2**
MLR	**Muntele Rosu**	**9.59**	**71**	LR		LR	08 00 53.0	
	comp=Z,113nm,19.3s,baz=254,slow=47							
GRR	**Gorron**	**11.11**	**304**	*e*P		**Pn**	**07 56 10.7**	**+2.3**
EKA	**Eskdalemuir Ar**	**16.21**	**325**	Pn		**P**	**07 57 21.1**	**+0.6**
	baz=137,slow=14							
	comp=Z,0.6nm,0.6s							
BVAR	**Borovoye Array**	**38.68**	**54**	P		**P**	**08 00 54.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=268,slow=6.9,SNR=2.3							
	comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**47.75**	**60**	P		**P**	**08 02 06.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=308,slow=6.0,SNR=2.7							
	comp=Z,0.4nm,0.7s							
SONM	**Songino Array**	**61.76**	**50**	P		**P**	**08 03 49.3**	**+0.8**
	comp=Z,0.7nm,1.0s,baz=308,slow=7.1,SNR=4.2							
	comp=Z,0.7nm,1.0s							

MOS ***28*** *08:07:20.2±1.1,41.84S×88.50E,h10km,mb5.2/27, MS5.0/4,Error ellipse: s-maj=13.0km s-min=8.5km az=87.1*

BJI ***28*** *08:07:21.2±0.0,41.90S×88.50E,h10km,mb4.9/44, mB5.4/26,Ms5.5/36,Ms7 5.3/37*

IDC ***28*** *08:07:21.0±0.5,41.83S×88.58E,h0km,mb4.5/21, mbtmp4.5/21,MS5.1/55,Error ellipse: s-maj=15.3km s-min=13.9km az=154.0*

NEIC ***28*** *08:07:21.9,41.90S×88.50E,h10km,Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.21; Mθθ=2.38; Mφφ=-2.17; Mrθ=0.14; Mrφ=0.40; Mθφ=0.37; Fault plane solution: M0=2.35000×10^17 NP1:φs=220.47000°, δ85.54000°,λ=-170.28000°. NP2:φs=129.70000°, δ80.31000°,λ=-4.52000°. Principal axes: T 2.4215, Plg4.0000°, Azm355.0000°; N -0.1580, Plg79.0000°, Azm245.0000°; P -2.2636, Plg10.0000°, Azm85.0000°;*

NEIC ***28*** *08:07:21.7±1.8,41.83S±0.09×88.5E±0.1,h10km±1km, mb5.2/70,Ms_20 5.3/97,Mwb5.5/20 Error ellipse: s-maj=15.7km s-min=14.1km az=193.0*

GCMT ***28*** *08:07:25.7±0.1,41.73S±0.01×88.57E±0.01,h14km, MW5.6/146,Moment Tensor Solution. s112,c189; s146,c288; Duration: 1!5 Moment tensor: Scale 10^17 Nm; Mrr=0.14±.04; Mθθ=3.21±.04; Mφφ=-3.07±.04; Mrθ=0.19±.08; Mθφ=0.32±.04; Mrφ=0.06±.08; Best double couple: M0=3.16300×10^17 NP1:φs=42.00000°,δ88.00000°, λ177.00000°. NP2:φs=132.00000°,δ87.00000°,λ2.00000°. Principal axes: T 3.2380, Plg3.0000°, Azm357.0000°; N*

-0.1510, Plg87.0000°, Azm194.0000°; P -3.0880, Plg1.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 28 08:07:22.9±0.3,41.94S±0.05×88.46E±0.05,h15km,n318, σ1ᵗ71/258,mb5.0/88,MS5.3/115,2C-2D,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**9.34**	**293**	Pn	**Pn**		**08 09 35.6**	**-1.3**
PAF	**Port-aux-Franc**	**14.73**	**234**	Pn	**Pn**		**08 10 50.5**	**-0.1**
PAF	**Port-aux-Franc**	**14.73**	**234**	P	**Pn**		**08 10 50.5**	**-0.1**
H01W2	**Cape Leeuwin H**	**21.26**	**79**	T	T		08 34 03.5	
	baz=242,slow=74,SNR=1061							
H01W3	**Cape Leeuwin H**	**21.27**	**79**	T	T		08 34 04.8	
	baz=242,slow=74,SNR=1181							
H01W1	**Cape Leeuwin H**	**21.28**	**79**	T	T		08 34 07.2	
	baz=242,slow=74,SNR=1104							
MUN	**Mundaring**	**24.21**	**75**	P	**P**		**08 12 38.7**	**-0.2**
	baz=24,SNR=6.1							
NWAO	**Narrogin (SRO)**	**24.47**	**78**	P	**P**		**08 12 41.7**	**+0.5**
	12nm,1.0s,baz=145,slow=6.0,SNR=5.4							
NWAO				LR	LR		08 19 58.2	
	comp=Z,9μm,21.5s,baz=91,slow=31							
	12nm,1.0s							
NWAO	**Narrogin (SRO)**	**24.47**	**78**	P	**P**		**08 12 41.7**	**+0.5**
	baz=24,SNR=4.8							
NWAO				P	**P**		**08 12 41.7**	**+0.5**
	baz=24,SNR=4.8							
NWAO	**Narrogin (SRO)**	**24.47**	**78**	P	**P**		**08 12 39.8**	**-1.4**
NWAO				IAmb	IAmb		08 12 47.6	
	comp=Z,67nm,1.4s							
NWAO	**Narrogin (SRO)**	**24.47**	**78**	IAMs_20	IAMs_20		08 19 45.7	
	comp=Z,8μm,20.0s							
NWAO	**Narrogin (SRO)**	**24.47**	**78**	P	**P**		**08 12 39.8**	**-1.4**
NWAO				pmax	pmax			
	comp=Z,67nm,1.4s							
BLDU	**Ballidu**	**25.31**	**73**	P	**P**		**08 12 48.0**	**-0.9**
	baz=25							
MORW	**Mowwa**	**25.74**	**69**	P	**P**		**08 12 52.7**	**-0.1**
CASY	**Casey**	**27.30**	**161**	IAMs_20	IAMs_20		08 21 00.2	
	comp=Z,9μm,20.0s							
MEEK	**Meekatharra**	**29.03**	**68**	P	**P**		**08 13 21.4**	**-1.0**
	baz=29,SNR=6.6							
MAW	**Mawson**	**29.20**	**200**	P	**P**		**08 13 25.0**	**+1.6**
	comp=Z,6.2nm,0.8s,baz=30,slow=11,SNR=14							
MAW				LR	LR		08 23 15.0	
	comp=Z,9μm,18.1s,baz=35,slow=32							
	comp=Z,6.2nm,0.8s							
MAW	**Mawson**	**29.20**	**200**	P	**P**		**08 13 25.3**	**+1.9**
	baz=29,SNR=8.7							
MAW	**Mawson**	**29.20**	**200**	P	**P**		**08 13 23.1**	**-0.3**
PSA00	**Pilbara Seismi**	**33.26**	**62**	P	**P**		**08 13 57.5**	**-2.1**
PSA00				IAmb	IAmb		08 14 05.9	
	comp=Z,23nm,0.9s							
MBWA	**Marble Bar**	**33.47**	**61**	P	**P**		**08 13 58.9**	**-2.6**
FORT	**Forrest**	**33.51**	**84**	P	**P**		**08 14 00.7**	**-1.0**
	baz=34,SNR=8.1							
FORT	**Forrest**	**33.51**	**84**	P	**P**		**08 14 01.6**	**-0.1**
FORT				IAmb	IAmb		08 14 08.6	
	comp=Z,27nm,0.9s							
WRKA	**Warakurna**	**36.88**	**76**	P	**P**		**08 14 30.5**	**-0.3**
	baz=37,SNR=16							
DGAR	**Diego Garcia**	**37.19**	**333**	IAMs_20	IAMs_20		08 25 49.4	
	comp=Z,7μm,19.0s							
DGAR	**Diego Garcia**	**37.19**	**333**	P	**P**		**08 14 31.3**	**-2.2**
DGAR				pmax	pmax			
	comp=Z,132nm,1.0s							
BBOO	**Buckleboo**	**38.49**	**92**	P	**P**		**08 14 44.2**	**-0.2**
	baz=39,SNR=7.2							
BBOO	**Buckleboo**	**38.49**	**92**	P	**P**		**08 14 43.8**	**-0.6**
LEM	**Lembang**	**38.88**	**31**	LR	LR		08 27 27.3	
	comp=Z,2μm,21.5s,baz=213,slow=31							
VOI	**Vohitsoka**	**40.13**	**287**	P	**P**		**08 14 58.4**	**+0.1**
VOI				IAmb	IAmb		08 15 05.9	
	comp=Z,40nm,1.0s							
VOI				IAMs_20	IAMs_20		08 27 10.3	
	comp=Z,4μm,22.0s							
VOI	**Vohitsoka**	**40.13**	**287**	*e*P	**P**		**08 14 58.4**	**+0.1**
VOI	**Vohitsoka**	**40.13**	**287**	P	**P**		**08 15 00.4**	**+2.1**
HTT	**Hallett**	**40.34**	**95**	P	**P**		**08 14 59.3**	**-0.5**
	baz=40,SNR=14							
ARPS	**Mount Arapiles**	**41.04**	**101**	P	**P**		**08 15 09.2**	**+3.6**
	baz=41,SNR=7.7							
PMBI	**Palembang**	**41.51**	**25**	IAMs_20	IAMs_20		08 28 43.0	
	comp=Z,3μm,20.0s							
ASAR	**Alice Springs**	**41.78**	**79**	P	**P**		**08 15 10.8**	**-1.1**
	comp=Z,10nm,0.7s,baz=227,slow=7.6,SNR=150							
ASAR				PcP	**PcP**		**08 17 07.2**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=214,slow=2.3,SNR=6.3							
ASAR				LR	LR		08 30 25.3	
	comp=Z,11μm,21.5s,baz=241,slow=33							
	comp=Z,10nm,0.7s							
ASAR	**Alice Springs**	**41.78**	**79**	P	**P**		**08 15 11.1**	**-0.7**
ASAR	**Alice Springs**	**41.78**	**79**	P	**P**		**08 15 11.1**	**-0.7**
AS31	**Alice Springs**	**41.78**	**79**	P	**P**		**08 15 10.8**	**-1.1**
OPO	**Ambohidratompo**	**42.04**	**291**	P	**P**		**08 15 14.4**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=232,slow=8.8,SNR=4.4							
	comp=Z,3.6nm,0.8s							
TAU	**Tasmania Unive**	**42.68**	**112**	IAMs_20	IAMs_20		08 28 21.9	
	comp=Z,4μm,21.0s							
STKA	**Stephens Creek**	**43.05**	**94**	P	**P**		**08 15 21.5**	**-0.6**
	comp=Z,5.4nm,0.8s,baz=259,slow=7.3,SNR=17							
STKA				PcP	**PcP**		**08 17 12.4**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=240,slow=2.9,SNR=2.0							
STKA				LR	LR		08 31 17.1	
	comp=Z,4μm,18.3s,baz=257,slow=33							
	comp=Z,5.4nm,0.8s							
STKA	**Stephens Creek**	**43.05**	**94**	P	**P**		**08 15 21.9**	**-0.2**
	baz=43,SNR=14							
STKA	**Stephens Creek**	**43.05**	**94**	P	**P**		**08 15 21.5**	**-0.6**
STKA	**Stephens Creek**	**43.05**	**94**	*i* P	**P**		**08 15 21.3**	**-0.8**
KNRA	**Kununurra**	**43.38**	**65**	P	**P**		**08 15 25.6**	**+0.9**
	baz=43,SNR=5.2							
KNRA	**Kununurra**	**43.38**	**65**	P	**P**		**08 15 22.3**	**-2.4**
TOO	**Toolangi**	**43.38**	**104**	P	P		08 15 29.8	+5.1
	baz=44,SNR=4.8							
TOO	**Toolangi**	**43.38**	**104**	P	**P**		**08 15 23.0**	**-1.7**
TOO	**Toolangi**	**43.38**	**104**	P	**P**		**08 15 23.0**	**-1.7**
TOO				pmax	pmax			
	comp=Z,30nm,1.3s							
BATI	**Baumata**	**44.17**	**55**	LR	LR		08 31 41.7	
	comp=Z,2μm,21.6s,baz=210,slow=33							
WRA	**Warramunga Arr**	**44.41**	**75**	P	**P**		**08 15 32.1**	**-1.0**
	comp=Z,17nm,0.9s,baz=230,slow=8.1,SNR=80							
WRA				PcP	**PP**		**08 17 15.1**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=236,slow=3.4,SNR=1.0							
WRA				LR	LR		08 32 02.2	
	comp=Z,5μm,21.7s,baz=234,slow=33							
	comp=Z,17nm,0.9s							
WRA	**Warramunga Arr**	**44.41**	**75**	P	**P**		**08 15 32.0**	**-1.1**
WB2	**Warramunga Arr**	**44.42**	**75**	P	**P**		**08 15 32.3**	**-0.8**
	baz=44							
WB2	**Warramunga Arr**	**44.42**	**75**	P	**P**		**08 15 32.3**	**-0.8**
WB2				IAmb	IAmb		08 15 39.3	
	comp=Z,47nm,0.8s							
WRAB	**Tennant Creek**	**44.42**	**75**	P	**P**		**08 15 32.0**	**-1.2**
WRAB	**Tennant Creek**	**44.42**	**75**	IAMs_20	IAMs_20		08 31 41.3	
	comp=Z,6μm,22.0s							
WRAB	**Tennant Creek**	**44.42**	**75**	P	**P**		**08 15 32.0**	**-1.2**
WRAB				pmax	pmax			
	comp=Z,54nm,0.9s							
KAAM	**Kaadhehdhoo**	**44.49**	**338**	IAMs_20	IAMs_20		08 29 32.7	
	comp=Z,5μm,19.0s							
WR0	**Warramunga Arr**	**44.54**	**75**	P	**P**		**08 15 32.6**	**-1.5**
WB0	**Warramunga Arr**	**44.56**	**75**	P	**P**		**08 15 33.2**	**-1.1**
SOEI	**Soe**	**44.89**	**55**	P	**P**		**08 15 34.7**	**-2.4**
SOEI				IAmb	IAmb		08 16 20.5	
	comp=Z,58nm,1.3s							
SOEI				IAMs_20	IAMs_20		08 32 37.4	
	comp=Z,3μm,20.0s							
PSI	**Prapat**	**45.53**	**15**	LR	LR		08 30 21.3	
	comp=Z,6μm,21.3s,baz=198,slow=30							
VNDA	**Vanda**	**45.87**	**163**	P	**P**		**08 15 44.9**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=281,slow=8.0,SNR=14							
VNDA				LR	LR		08 32 48.4	
	comp=Z,3μm,21.4s,baz=272,slow=33							
	comp=Z,2.2nm,0.7s							
VNDA	**Vanda**	**45.87**	**163**	P	**P**		**08 15 44.2**	**+0.2**
VNDA				IAmb	IAmb		08 15 48.0	
	comp=Z,42nm,1.9s							
CMSA	**Cobar Meteorol**	**46.26**	**96**	P	**P**		**08 15 48.2**	**+0.6**
	baz=46,SNR=7.5							
NVL	**N'lazarevskaya**	**46.73**	**206**	*e*P	**P**		**08 15 50.7**	**-0.1**
NVL				*e*S	**S**		**08 22 38.9**	**-0.7**
NVL				pmax	pmax			
	comp=Z,13nm,0.8s							
NVL				MLR	MLR			
	comp=Z,2μm,16.0s							
CAN	**Canberra**	**46.90**	**103**	IAMs_20	IAMs_20		08 31 23.3	
	comp=Z,3μm,20.0s							
SBA	**Scott Base**	**46.94**	**164**	P	**P**		**08 15 54.2**	**+1.8**
SBA	**Scott Base**	**46.94**	**164**	P	**P**		**08 15 54.2**	**+1.8**
SBA				pmax	pmax			
	comp=Z,16nm,1.3s							
MSEY	**Mahe Island**	**47.33**	**312**	IAMs_20	IAMs_20		08 30 50.7	
	comp=Z,3μm,20.0s							
KSM	**Kuching**	**47.53**	**30**	P	**P**		**08 15 55.2**	**-2.5**
KSM				IAmb	IAmb		08 16 10.5	
	comp=Z,22nm,1.4s							
LHMI	**Lhok Sumawe**	**47.58**	**11**	IAMs_20	IAMs_20		08 31 23.1	
	comp=Z,4μm,20.0s							
IPM	**Ipoh**	**47.60**	**17**	IAMs_20	IAMs_20		08 32 57.5	
	comp=Z,2μm,20.0s							
QLP	**Quilpie**	**47.77**	**90**	P	**P**		**08 15 59.8**	**+0.3**
	baz=48,SNR=9.8							
QIS	**Mount Isa**	**47.85**	**80**	P	**P**		**08 15 59.5**	**-0.7**
	baz=48,SNR=15							
KDU	**Kakadu**	**48.02**	**66**	P	**P**		**08 16 01.2**	**-0.2**
	baz=48,SNR=6.6							
POGA	**Pongola**	**48.08**	**269**	P	**P**		**08 16 01.9**	**0.0**
POGA				IAmb	IAmb		08 16 43.9	
	comp=Z,39nm,1.2s							
QSPA	**South Pole Qui**	**48.21**	**180**	P	**P**		**08 16 03.5**	**+0.9**
	comp=Z,6.3nm,0.7s,baz=304,slow=2.2,SNR=45							
QSPA				LR	LR		08 34 52.2	
	comp=Z,7μm,19.2s,baz=328,slow=34							
	comp=Z,6.3nm,0.7s							
QSPA	**South Pole Qui**	**48.21**	**180**	P	**P**		**08 16 03.5**	**+0.9**
SBUM	**Sibu**	**49.16**	**32**	P	**P**		**08 16 09.1**	**-1.1**
PALK	**Pallekele**	**49.48**	**350**	P	**P**		**08 16 12.9**	**+0.2**
	comp=Z,6.3nm,0.7s,baz=274,slow=9.2,SNR=2.7							
PALK				LR	LR		08 31 48.6	
	comp=Z,3μm,21.4s,baz=272,slow=30							
	comp=Z,6.3nm,0.7s							
PALK	**Pallekele**	**49.48**	**350**	P	**P**		**08 16 10.7**	**-2.0**
PALK				IAmb	IAmb		08 16 19.9	
	comp=Z,38nm,1.2s							
PALK	**Pallekele**	**49.48**	**350**	IAMs_20	IAMs_20		08 31 26.8	
	comp=Z,3μm,22.0s							
PALK	**Pallekele**	**49.48**	**350**	*i* P	**P**		**08 16 11.6**	**-1.1**
TROLL	**Troll, Antarti**	**49.51**	**204**	P	**P**		**08 16 13.5**	**+1.1**
MOPA	**Mopani**	**50.46**	**273**	*e*P	**P**		**08 16 20.7**	**+0.5**
MOPA				IAmb	IAmb		08 16 28.2	
	comp=Z,176nm,2.8s							
SNKL	**Senekal, Frees**	**50.51**	**265**	*e*P	**P**		**08 16 21.8**	**+1.1**
SNKL				IAmb	IAmb		08 16 30.0	
	comp=Z,46nm,1.1s							
SAUI	**Saumlaki**	**50.68**	**61**	IAMs_20	IAMs_20		08 34 36.8	
	comp=Z,3μm,20.0s							
GRAF	**Camdeboo Natio**	**50.86**	**259**	*e*P	**P**		**08 16 21.3**	**-1.9**
GRAF				IAmb	IAmb		08 16 25.1	
	comp=Z,2μm,4.0s							
RMQ	**Roma**	**51.20**	**93**	P	**P**		**08 16 26.2**	**+0.5**
	baz=51,SNR=14							
ARMA	**Armidale**	**51.22**	**99**	P	**P**		**08 16 26.5**	**+0.5**
	baz=51,SNR=3.7							
ARMA	**Armidale**	**51.22**	**99**	P	**P**		**08 16 24.3**	**-1.6**
ARMA				IAmb	IAmb		08 16 34.5	
	comp=Z,27nm,1.0s							
SNAA	**Sanae**	**51.22**	**204**	P	**P**		**08 16 26.4**	**+1.0**
SNAA	**Sanae**	**51.22**	**204**	P	**P**		**08 16 26.3**	**+1.0**
	comp=Z,4.1nm,0.9s,baz=134,slow=13,SNR=9.2							
	comp=Z,4.1nm,0.9s							
SNAA	**Sanae**	**51.22**	**204**	P	**P**		**08 16 24.0**	**-1.3**
SNAA	**Sanae**	**51.22**	**204**	*e*P	**P**		**08 16 26.5**	**+1.1**
ROOI	**Rooidraai Farm**	**51.44**	**258**	*e*P	**P**		**08 16 28.6**	**+1.1**
ROOI				IAmb	IAmb		08 16 37.5	

comp=Z,15nm,1.2s
PMG Port Moresby 60.62 75 LR LR 08 42 44.2
comp=Z,7μm,18.1s,baz=212,slow=35
PMG Port Moresby 60.62 75 *i* P **P 08 17 31.1 -2.2**
PMG pmax pmax
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 60.87 11 P **P 08 17 34.4 -0.4**
comp=Z,1.7nm,0.5s,baz=202,slow=7.2,SNR=10
CMAR LR LR 08 39 18.8
comp=Z,1μm,21.5s,baz=180,slow=32
comp=Z,1.7nm,0.5s
CMAR Chiang Mai Arr 60.87 11 P **P 08 17 33.9 -0.8**
PHRA Phrae 61.11 13 P **P 08 17 34.7 -1.7**
KMBO Kilima Mbogo 61.29 297 P **P 08 17 39.7 +1.6**
comp=Z,2.9nm,0.7s,baz=87,slow=3.3,SNR=8.4
KMBO LR LR 08 38 39.8
comp=Z,770nm,21.9s,baz=104,slow=31
comp=Z,2.9nm,0.7s
KMBO Kilima Mbogo 61.29 297 P **P 08 17 35.7 -2.4**
KMBO Kilima Mbogo 61.29 297 *e*P **P 08 17 39.7 +1.6**
KMBO IAmb IAmb 08 17 45.3
comp=Z,8.3nm,1.4s
KMBO Kilima Mbogo 61.29 297 *i* P **P 08 17 36.6 -1.5**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
POO Poona 61.66 344 *ex* P 08 17 33.0 -7.2
MRZ Mangatainoka R 62.57 121 IAMs_20 IAMs_20 08 40 05.4
comp=Z,3μm,18.0s
CRAI Chiangrai 62.83 13 P **P 08 17 45.5 -2.4**
TSUM Tsumeb 63.34 268 LR LR 08 40 59.3
comp=Z,5μm,21.4s,baz=144,slow=32
TSUM Tsumeb 63.34 268 *e*P **P 08 17 54.0 +2.3**
QIZ Qiongzhong 63.81 23 P **P 08 17 56.3 +1.9**
QIZ S **S 08 26 34.5 +5.6**
QIZ SS **SS 08 30 43.3 +5.7**
QIZ pmax pmax
comp=Z,35nm,2.2s
QIZ LR LR
comp=Z,1μm,22.3s
QIZ LR LR
comp=Z,1μm,22.3s
QIZ LR LR
comp=Z,1μm,28.3s
BKZ Black Stump Fm 63.98 120 IAMs_20 IAMs_20 08 41 10.7
comp=Z,2μm,19.0s
BRDH Bariadhala 64.36 3 LR LR 08 42 30.9
comp=Z,7μm,19.6s,baz=170,slow=33
MANU Manus Island 65.88 70 P **P 08 18 05.5 -2.6**
LODK Lodwar 65.94 299 P **P 08 18 06.4 -2.2**
LODK IAmb IAmb 08 18 16.9
comp=Z,20nm,1.2s
MXZ Matakaoa Point 66.06 120 IAMs_20 IAMs_20 08 42 29.8
comp=Z,2μm,19.0s
MBAR Mbarara 66.08 292 LR LR 08 42 42.1
comp=Z,1μm,19.3s,baz=124,slow=32
MBAR Mbarara 66.08 292 IAMs_20 IAMs_20 08 42 21.3
comp=Z,2μm,19.0s
MBAR Mbarara 66.08 292 *i* P **P 08 18 09.2 -0.5**
MBAR pmax pmax
comp=Z,7.0nm,1.1s
DZM Mont Dzumac 66.87 99 *e*S **S 08 27 07.0 0.0**
comp=Z,867nm,31.3s
DZM *e*S S 08 27 07.2 +0.2
comp=Z,486nm,27.4s
DZM *e*SS **SS 08 31 26.0 +1.0**
comp=Z,403nm,33.6s
DZM *e*LR LR 08 38 19.3
comp=Z,2μm,22.1s
DZM *e*LR LR 08 38 19.4
comp=Z,3μm,22.8s
DZM Mont Dzumac 66.87 99 LR LR 08 42 32.5
comp=Z,2μm,21.7s,baz=229,slow=32
SHL Shillong 67.24 3 P **P 08 18 14.8 -1.9**
SHL IAmb IAmb 08 18 27.1
comp=Z,22nm,1.0s
SHL Shillong 67.24 3 P **P 08 18 14.8 -1.9**
SHL pmax pmax
comp=Z,22nm,1.0s
TNCH TengChong 67.28 10 P P 08 18 22.0 +5.0
TNCH pP pwP 08 18 25.0 -0.1
TNCH PP **PP 08 20 53.0 +7.3**
TNCH S **S 08 27 17.5 +5.9**
TNCH ScS **SKiKP 08 28 17.0 +1.0**
TNCH pmax pmax
comp=Z,57nm,0.6s
TNCH pmax pmax
comp=Z,220nm,3.5s
TNCH LR LR
comp=Z,970nm,20.0s
TNCH LR LR
comp=Z,1μm,16.2s
TNCH LR LR
comp=Z,1μm,19.7s
KRVT Keravat (AS076 67.61 75 LR LR 08 46 23.3
comp=Z,3μm,19.5s,baz=349,slow=35
KMI Kunming 68.02 14 ⇑P P 08 18 28.3 +6.6
KMI pmax pmax
comp=Z,17nm,0.8s
KMI LR LR
comp=Z,1μm,24.7s
KMI LR LR
comp=Z,1μm,23.5s
KMI LR LR
comp=Z,3μm,23.1s
PZH PanZhiHua 69.20 13 P **P 08 18 31.0 +2.1**
PZH pP **sP 08 18 35.3 +1.1**
PZH PP **PP 08 21 08.0 +5.7**
PZH S **S 08 27 33.5 -0.8**
PZH SS **SS 08 32 03.0 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,280nm,5.3s
PZH LR LR
comp=Z,1μm,19.5s
PZH LR LR
comp=Z,1μm,18.0s
PZH LR LR
comp=Z,2μm,20.5s
HNR Honiara 70.00 85 IAMs_20 IAMs_20 08 45 25.7
comp=Z,1μm,20.0s
WSAR Wadi Sarin 70.48 331 LR LR 08 43 26.7
comp=Z,3μm,18.2s,baz=163,slow=31
LSA Lhasa 71.33 2 P **P 08 18 42.7 +0.4**
LSA IAmb IAmb 08 18 49.2
comp=Z,14nm,1.0s
LSA Lhasa 71.33 2 P **P 08 18 42.7 +0.4**
LSA pmax pmax
comp=Z,14nm,1.0s
PMSA Palmer Station 71.46 192 LR LR 08 50 27.0
comp=Z,2μm,18.5s,baz=152,slow=36
RAO Raoul Island 73.59 115 LR LR 08 44 38.5
comp=Z,1μm,21.0s,baz=202,slow=30
CD2 Chengdu 73.85 14 P **P 08 18 58.5 +1.7**
CD2 pP sP 08 19 01.8 -0.3
CD2 S **S 08 28 29.0 +1.3**
CD2 SKS **ScS 08 29 05.0 -0.8**
CD2 LR LR
comp=Z,3μm,20.6s
CD2 LR LR
comp=Z,1μm,19.1s
CD2 LR LR
comp=Z,3μm,21.1s
ENH Enshi 74.43 19 IAMs_20 IAMs_20 08 47 53.5
comp=Z,1μm,21.0s
GUMO Guam 75.77 57 LR LR 08 55 31.0
comp=Z,228nm,18.3s,baz=218,slow=38
WHN Wuhan 75.97 23 ⇓P P 08 19 15.3 +6.3
WHN S **S 08 28 53.5 +2.2**
WHN LR LR
comp=Z,4μm,22.0s
RAYN Ar Rayn 76.29 320 P **P 08 19 11.6 +0.5**
RAYN Ar Rayn 76.29 320 IAMs_20 IAMs_20 08 47 08.9
comp=Z,2μm,18.0s
RAYN Ar Rayn 76.29 320 P **P 08 19 11.6 +0.5**
RAYN pmax pmax
comp=Z,8.0nm,1.2s
NIL Nilore 76.51 347 P **P 08 19 10.8 -1.2**
NIL Nilore 76.51 347 IAMs_20 IAMs_20 08 50 04.7
comp=Z,2μm,18.0s
NIL Nilore 76.51 347 P **P 08 19 10.8 -1.2**
NIL pmax pmax
comp=Z,40nm,1.1s
JOW Kunigami 77.69 36 LR LR 08 51 39.9
comp=Z,477nm,21.0s,baz=132,slow=34
XAN Xi'an 77.91 17 P **P 08 19 23.5 +3.6**
XAN pP PcP 08 19 30.3 +0.6
XAN pmax pmax
comp=Z,12nm,0.7s
MSVF Nonsavu 78.08 103 *i* P **P 08 19 22.2 +0.8**
MSVF pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 78.17 344 P **P 08 19 21.3 -0.2**
KBL Kabul 78.17 344 P **P 08 19 21.3 -0.2**
KBL pmax pmax
comp=Z,73nm,1.1s
NJ2 Nanjing 78.77 26 *e*P P 08 19 32.3 +7.7
NJ2 pmax pmax
comp=Z,15nm,0.7s
NJ2 LR LR
comp=N,610nm,16.6s
NJ2 LR LR
comp=E,790nm,17.1s
NJ2 LR LR
comp=Z,870nm,19.9s
NJ2 Nanjing 78.77 26 *e*P **P 08 19 26.0 +1.4**
NJ2 pmax pmax
comp=Z,13nm,0.7s
LZH Lanzhou 78.92 13 *e*P P 08 19 31.5 +5.9
LZH pP PcP 08 19 37.3 +3.1
LZH sP pwP 08 19 41.0 +7.2
LZH S **S 08 29 18.8 -4.6**
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=Z,2μm,15.9s
LZH LR LR
comp=Z,2μm,15.6s
LZH LR LR
comp=Z,2μm,19.0s
HRA Herat 79.67 338 P **P 08 19 28.5 -1.3**
HRA IAmb IAmb 08 19 40.4
comp=Z,28nm,1.7s
USHA Ushuaia 81.60 193 LR LR 08 55 21.5
comp=Z,3μm,19.2s,baz=164,slow=35
GTA Gaotai 81.62 9 *e*P **P 08 19 40.0 0.0**
GTA pP pP 08 19 44.3 +0.4
GTA S **S 08 29 50.5 -1.1**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,92nm,5.9s
GTA LR LR
comp=Z,720nm,22.9s
GTA LR LR
comp=Z,1μm,20.0s
GTA LR LR
comp=Z,1μm,21.1s
KSH Kashi 81.87 350 P **P 08 19 43.0 +1.7**
KSH pP pwP 08 19 48.5 -1.1
KSH S **S 08 29 49.0 -5.1**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH LR LR
comp=Z,2μm,18.5s
KSH LR LR
comp=Z,950nm,17.2s
KSH LR LR
comp=Z,3μm,19.6s
TIA Tai'an 82.08 23 *e*P **P 08 19 46.0 +3.6**
TIA S **S 08 29 58.8 +2.6**
TIA pmax pmax
comp=Z,14nm,0.9s
TIA LR LR
comp=Z,1μm,19.0s
TIA LR LR
comp=Z,800nm,17.7s
TIA LR LR
comp=Z,1μm,23.5s
CHGR Chuyangaron 82.12 345 P **P 08 19 40.7 -1.9**
CHGR Chuyangaron 82.12 345 P **P 08 19 40.7 -1.9**
CHGR pmax pmax
comp=Z,49nm,1.1s
GAR Garm 82.23 346 P **P 08 19 41.3 -2.0**
EFI East Falkland 82.33 200 *i* P **P 08 19 42.5 -1.2**
EFI pmax pmax
comp=Z,145nm,2.6s
DRK Karamyk 82.44 347 P **P 08 19 43.3 -1.2**
DRK IAmb IAmb 08 19 50.2
comp=Z,31nm,1.2s
HNS HongShan 82.52 21 ⇓P **P 08 19 47.3 +2.7**
HNS S **S 08 30 03.8 +3.2**
HNS pmax pmax
comp=Z,280nm,7.2s
HNS LR LR
comp=Z,660nm,15.5s
HNS LR LR
comp=Z,940nm,16.9s
HNS LR LR
comp=Z,2μm,20.2s
BTK Batken 83.17 346 P **P 08 19 48.3 +0.2**
BTK IAmb IAmb 08 19 56.5
comp=Z,32nm,1.1s
BTK Batken 83.17 346 P **P 08 19 48.3 +0.2**
BTK pmax pmax
comp=Z,32nm,1.2s
NRN Naryn 83.75 351 P **P 08 19 50.5 -0.8**
NRN Naryn 83.75 351 P **P 08 19 50.5 -0.8**
NRN pmax pmax
comp=Z,8.0nm,1.0s
TARG Taragay, Kyrgy 83.84 352 P **P 08 19 50.8 -1.1**
TARG IAmb IAmb 08 20 20.8
comp=Z,13nm,1.2s
TARG Taragay, Kyrgy 83.84 352 P **P 08 19 50.8 -1.1**
TARG pmax pmax
comp=Z,13nm,1.2s
GEYT Alibeck 84.17 336 P **P 08 19 53.0 -0.1**
comp=Z,4.0nm,0.8s,baz=197,slow=4.5,SNR=4.0
GEYT LR LR 08 52 15.4
comp=Z,1μm,21.2s,baz=162,slow=32
comp=Z,4.0nm,0.8s
GEYT Alibeck 84.17 336 P **P 08 19 52.0 -1.1**
GYA0B ALIBECK ARRAY 84.17 336 P **P 08 19 52.3 -0.9**
GYA0B IAmb IAmb 08 20 04.7
comp=Z,22nm,1.1s
JNU Nakatsue 84.26 35 LR LR 08 57 38.6
comp=Z,205nm,19.6s,baz=226,slow=36
JCJ Chichijima 84.73 46 LR LR 08 52 56.2
comp=Z,209nm,20.5s,baz=232,slow=32
BOOM Boomskoye usch 84.80 351 P **P 08 19 54.1 -2.3**
BOOM IAmb IAmb 08 20 06.8
comp=Z,16nm,1.0s
BOOM Boomskoye usch 84.80 351 P **P 08 19 54.1 -2.3**
BOOM pmax pmax
comp=Z,16nm,1.0s
HHC Hu-ho-hao-te 85.02 17 *e*P **P 08 19 58.8 +1.3**
HHC S **S 08 30 25.8 -0.1**
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,320nm,5.2s
HHC LR LR
comp=Z,3μm,17.6s
HHC LR LR
comp=Z,2μm,16.4s
HHC LR LR
comp=Z,3μm,18.1s
AAK Ala-Archa 85.13 350 LR LR 08 55 55.9
comp=Z,3μm,18.2s,baz=194,slow=34
AAK Ala-Archa 85.13 350 P **P 08 19 56.4 -1.7**
AAK IAmb IAmb 08 20 05.5
comp=Z,9.7nm,0.9s
AAK Ala-Archa 85.13 350 *i* P **P 08 19 58.3 +0.2**
AAK pmax pmax
comp=Z,13nm,1.1s
WMQ Urumqi 85.38 359 *e*P **P 08 20 00.5 +1.4**
WMQ pP pwP 08 20 06.0 -1.4
WMQ PP **PP 08 23 21.3 +3.4**
WMQ S **S 08 30 27.5 -1.7**
WMQ sS sS 08 30 36.3 +0.6
WMQ SS **SS 08 36 01.5 -3.7**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,2μm,16.7s
WMQ LR LR
comp=Z,1μm,17.3s
WMQ LR LR
comp=Z,990nm,20.5s
KK31 Karatay Array 86.19 347 P **P 08 20 03.0 -0.1**
KK31 IAmb IAmb 08 20 10.5
comp=Z,32nm,1.1s
KK31 Karatay Array 86.19 347 P **P 08 20 03.0 -0.1**
KK31 pmax pmax
comp=Z,32nm,1.1s
KKAR Karatay Array 86.19 347 P **P 08 20 02.5 -0.6**
KKAR Karatay Array 86.19 347 P **P 08 20 02.5 -0.6**
EIL Elat 86.66 316 LR LR 08 52 17.7
comp=Z,1μm,21.5s,baz=146,slow=31
KSAR Wonju Array Be 86.81 30 P **P 08 20 04.2 -2.0**
KSAR Wonju Array Be 86.81 30 P **P 08 20 04.3 -2.0**
KSRS Korea Array 86.84 30 P **P 08 20 05.6 -0.8**
comp=Z,0.7nm,0.5s,baz=222,slow=6.0,SNR=2.0
comp=Z,0.7nm,0.5s
KS19 Wonju Array Si 86.86 30 P **P 08 20 04.0 -2.6**
GHAJ Ghor Haditha 87.65 317 IAMs_20 IAMs_20 08 54 24.7
comp=Z,1μm,19.0s
ASF Jabal al Asfar 87.68 318 LR LR 08 54 10.1
comp=Z,685nm,21.0s,baz=123,slow=32
AFI Afiamalu 87.93 107 LR LR 08 52 28.0
comp=Z,406nm,21.4s,baz=218,slow=31
JHJ2 Mitsune 88.34 41 P **P 08 20 12.2 -1.6**
MK31 Makanchi Array 88.52 356 P **P 08 20 13.3 -0.9**
MK31 IAmb IAmb 08 20 21.0
comp=Z,9.7nm,1.1s
MK31 Makanchi Array 88.52 356 *i* P **P 08 20 13.4 -0.9**
MKAR Makanchi Array 88.52 356 P **P 08 20 13.2 -1.1**
comp=Z,1.6nm,0.9s,baz=149,slow=5.2,SNR=8.8
MKAR LR LR 08 58 40.8
comp=Z,1μm,18.2s,baz=193,slow=35
comp=Z,1.6nm,0.9s
MKAR Makanchi Array 88.52 356 P **P 08 20 13.3 -1.0**
MKAR Makanchi Array 88.52 356 *i* P **P 08 20 16.5 +2.2**
MKAR pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 88.55 356 P **P 08 20 13.5 -0.9**
MAKZ IAmb IAmb 08 20 21.3
comp=Z,22nm,1.1s
MAKZ IAMs_20 IAMs_20 08 56 10.8
comp=Z,1μm,22.0s
MAKZ Makanchi 88.55 356 P **P 08 20 13.5 -0.9**
MAKZ pmax pmax
comp=Z,22nm,1.1s
XLT XiLinHaoTe 88.98 20 *e*P **P 08 20 15.5 -1.1**
XLT sP sP 08 20 22.5 +0.5
XLT SKS **SKSac 08 30 48.5 +3.1**
XLT S **SKKSac 08 30 57.0 0.0**
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,120nm,4.3s
XLT LR LR
comp=Z,700nm,22.6s
XLT LR LR
comp=Z,950nm,23.4s
MMAI Mount Meron Ar 89.10 318 LR LR 08 54 10.0
comp=Z,1μm,21.8s,baz=4.5,slow=32
MJAR Matsushiro Arr 90.37 38 LR LR 08 58 39.7
comp=Z,174nm,20.8s,baz=238,slow=34
SONM Songino Array 90.79 12 P **P 08 20 24.3 -0.7**
comp=Z,0.7nm,0.7s,baz=178,slow=6.6,SNR=3.6
SONM LR LR 08 59 24.1
comp=Z,1μm,21.1s,baz=182,slow=34
comp=Z,0.7nm,0.7s
GNI Garni 90.82 328 LR LR 08 56 24.6
comp=Z,2μm,21.3s,baz=147,slow=32
GNI Garni 90.82 328 IAMs_20 IAMs_20 08 56 01.2
comp=Z,2μm,21.0s
ULN Ulaanbaatar 90.92 12 IAMs_20 IAMs_20 09 03 26.4
comp=Z,1μm,18.0s
RAR Rarotonga 91.07 120 LR LR 08 53 26.1
comp=Z,195nm,21.9s,baz=256,slow=30
COYC Coyhaique 91.16 194 IAMs_20 IAMs_20 09 01 20.9
comp=Z,2μm,19.0s
DGZ Jazzator, Alta 91.26 359 *i* P **P 08 20 26.9 -0.3**
DGZ pmax pmax
comp=Z,7.0nm,1.5s
CSS Mathiatis 91.69 318 IAMs_20 IAMs_20 08 55 29.7
comp=Z,1μm,22.0s
MAK Makhachkala 92.20 331 *e*P P 08 20 26.1 -5.4
MAK *e* 08 24 11.7
MAK *e* 08 30 56.1
MAK *e*SS SS 08 37 40.2 -4.2
MAK pmax pmax
comp=Z,194nm,1.4s
MAK MLR MLR
comp=Z,612nm,20.0s
KURBB Kurchatov Arra 92.59 354 LR LR 08 59 37.6
comp=Z,2μm,20.5s,baz=160,slow=34
KURK Kurchatov 92.67 354 *i* P **P 08 20 33.2 -0.3**
KURK pmax pmax
comp=Z,5.0nm,0.9s
ZAK Zakamensk 92.85 9 *e*P **P 08 20 37.9 +3.4**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ABKAR Akbulak array 94.21 342 P **P 08 20 39.4 -1.2**
USRK Ussuriysk Ar. 94.22 30 LR LR 09 02 51.4
comp=Z,306nm,19.5s,baz=217,slow=35
KBZ Khabaz 94.58 329 LR LR 08 59 11.6
comp=Z,897nm,21.5s,baz=144,slow=33
KBZ Khabaz 94.58 329 *i* P **P 08 20 42.4 0.0**
KBZ pmax pmax
comp=Z,12nm,1.4s
KVAR Kislovodsk Arr 94.86 329 LR LR 08 59 04.8
comp=Z,476nm,21.8s,baz=66,slow=33
KIV Kislovodsk 94.86 329 IAMs_20 IAMs_20 08 59 28.1
comp=Z,786nm,21.0s
KIV Kislovodsk 94.86 329 *e*P **P 08 20 43.9 0.0**
KIV *e* 08 31 19.2
KIV *e*SS SS 08 38 24.2 +1.6
KIV pmax pmax
comp=Z,26nm,3.9s
HIA Hailar 94.90 20 *i* P **P 08 20 44.6 +0.8**
HIA pmax pmax
comp=Z,4.0nm,1.1s
BRTR Keskin Array B 95.30 321 P **P 08 20 46.3 +0.2**
comp=Z,0.7nm,0.7s,baz=155,slow=7.0,SNR=2.6
BRTR LR LR 09 00 34.0
comp=Z,1μm,18.4s,baz=132,slow=34
comp=Z,0.7nm,0.7s
PLCA Paso Flores 95.54 196 P **P 08 20 48.1 +0.7**
comp=Z,1.6nm,0.8s,baz=240,slow=6.6,SNR=3.9
PLCA LR LR 09 04 51.0
comp=Z,3μm,18.1s,baz=181,slow=36
comp=Z,1.6nm,0.8s
ZALV Zalesovo Beam 95.56 358 P **P 08 20 47.9 +1.2**
comp=Z,2.3nm,0.8s,baz=193,slow=5.9,SNR=8.6
ZALV LR LR 09 02 12.1
comp=Z,645nm,20.1s,baz=172,slow=34
comp=Z,2.3nm,0.8s
ZALV Zalesovo Beam 95.56 358 P **P 08 20 44.4 -2.2**
SOC Sochi 95.73 327 *e*P **P 08 20 45.1 -2.6**
SOC *e* 08 24 45.2
SOC *e*S **SKSac 08 31 20.8 -2.2**
SOC *e*SS **SS 08 38 32.4 -2.4**
SOC *e*SSS SSS 08 42 19.3
SOC MLR MLR
comp=Z,343nm,18.0s
TBI Tubuai 95.84 128 *e*LR LR 08 51 45.9
comp=Z,26μm,22.2s
TBI *e*LR LR 08 51 46.0
comp=Z,5μm,23.5s
BVAR Borovoye Array 95.87 349 LR LR 09 02 12.1
comp=Z,1μm,18.1s,baz=175,slow=34
BRVK Borovoye 95.91 349 *i* P **P 08 20 48.5 +0.2**
BRVK pmax pmax
comp=Z,12nm,2.9s
IDI Anoyia 96.39 313 LR LR 08 59 30.1
comp=Z,174nm,21.6s,baz=115,slow=32
KLR Kul'dur 98.44 27 LR LR 09 04 04.3
comp=Z,465nm,20.4s,baz=226,slow=35
ASAJ Asahikawa 98.46 36 LR LR 09 05 51.9
comp=Z,147nm,19.5s,baz=212,slow=36
PPT2 Papeete2 100.18 125 *e*LR LR 08 53 46.7
comp=Z,2μm,28.8s
PPT2 *e*LR LR 08 53 46.8
comp=Z,1μm,30.8s
TIRR Tirgusor 101.42 321 IAMs_20 IAMs_20 09 05 16.1
comp=Z,1μm,20.0s
MLR Muntele Rosu 103.36 320 IAMs_20 IAMs_20 09 12 30.4
comp=Z,733nm,21.0s
OBN Obninsk 106.28 332 *i* P **Pdif 08 21 35.0 +0.5**
OBN *e* 08 26 00.1
OBN *e* 08 32 58.6
OBN *e*SS SS 08 41 06.2 +5.1
OBN *e*SSS SSS 08 45 03.6
OBN pmax pmax
comp=Z,4.0nm,0.9s

OBN					MLR	MLR				
	comp=Z,856nm,20.0s									
NACGM	**Naroch**	**109.82**	**327**		*e*PP	**PP**	**08 26 20.1**	**-5.4**		
RCBR	**Riachuelo**	**110.59**	**241**		IAMs_20	IAMs_20	09 07 03.0			
	comp=Z,821nm,18.0s									
LVC	**Limon Verde**	**112.45**	**203**		IAMs_20	IAMs_20	09 17 36.0			
	comp=Z,1μm,19.0s									
TAOE	**Nuku Hiva Isla**	**112.69**	**127**		*e*LR	LR	08 59 34.4			
	comp=Z,778nm,23.2s									
CART	**Cartagena**	**113.50**	**300**		IAMs_20	IAMs_20	09 16 30.2			
	comp=Z,581nm,20.0s									
CLL	**Collm**	**113.62**	**318**		*e*PS	PS	08 36 25.0	-3.6		
CLL					*e*SS	SS	08 42 41.0	+1.2		
CLL					*e*SSS	SSS	08 46 30.0			
CLL					*e*SSSS		08 50 18.0			
CLL					LmV		09 13 00.0			
	comp=Z,400nm,19.5s									
AVE	**Averroes**	**115.32**	**293**		IAMs_20	IAMs_20	09 15 39.9			
	comp=Z,874nm,19.0s									
TIXI	**Tiksi**	**116.85**	**13**	*i*	PKIKP	**PKPdf**	**08 26 05.0**	**-0.4**		
MTE	**Manteigas**	**119.30**	**299**		IAMs_20	IAMs_20	09 17 18.8			
	comp=Z,652nm,22.0s									
COI	**Coimbra**	**119.77**	**299**		IAMs_20	IAMs_20	09 19 19.1			
	comp=Z,844nm,21.0s									
BILL	**Bilibino**	**123.90**	**26**	*e*	PKIKP	**PKiKP**	**08 26 19.3**	**0.0**		
BILL				*e*			08 28 01.7			
BILL				*e*	PPP	PPP	08 30 41.3			
BILL					pmax	pmax				
	comp=Z,2.0nm,1.3s									
ILAR	**Eielson Array**	**141.57**	**35**		PKP	**PKPdf**	**08 26 51.2**	**-1.1**		
	comp=Z,0.1nm,0.5s,baz=266,slow=2.4,SNR=3.2									
G27K	**Doyon Strip**	**143.22**	**30**		P	**PKiKP**	**08 26 58.0**	**-0.5**		
	baz=287									
H27K	**Steamboat Moun**	**143.43**	**31**		P	**PKiKP**	**08 26 57.2**	**-1.8**		
	baz=286									
EGAK	**Eagle**	**143.97**	**34**		P	**PKiKP**	**08 26 59.8**	**-0.3**		
	baz=285									
DAWY	**Dawson**	**144.90**	**35**		PKPdf	**PKPdf**	**08 26 58.5**	**+0.2**		
DAWY	**Dawson**	**144.90**	**35**		P	**PKiKP**	**08 27 02.5**	**+0.4**		
	baz=286									
I29M	**Ogilvie Camp,**	**144.96**	**32**		PKPdf	**PKPab**	**08 26 57.0**	**-0.6**		
I29M	**Ogilvie Camp,**	**144.96**	**32**		P	**PKiKP**	**08 27 02.5**	**+0.4**		
	baz=289									
EPYK	**Eagle Plains**	**145.22**	**30**		P	**PKiKP**	**08 27 03.2**	**+0.5**		
	baz=292									
O28M	**Mount Upton**	**145.29**	**40**		P	**PKiKP**	**08 27 03.6**	**+0.3**		
	baz=280									
URIC	**Uribia, Colomb**	**145.37**	**215**			**PKPdf**	**08 27 00.3**	**-0.2**		
SEUS	**St. Eustatius**	**145.52**	**234**		IAMs_20	IAMs_20	09 24 22.9			
	comp=Z,605nm,21.0s									
INK	**Inuvik**	**145.52**	**26**			**PKPdf**	**08 26 58.6**	**-0.5**		
INK	**Inuvik**	**145.52**	**26**		P	**PKPab**	**08 26 59.6**	**+0.1**		
	baz=298									
INK	**Inuvik**	**145.52**	**26**		PKIKP	**PKPdf**	**08 26 58.6**	**-0.5**		
A36M	**Sachs Harbour**	**145.68**	**18**		P	**PKPdf**	**08 26 59.3**	**0.0**		
	baz=313									
BCIP	**Isla Barro Col**	**145.77**	**201**		IAMs_20	IAMs_20	09 27 52.0			
	comp=Z,543nm,20.0s									
F31M	**Tsiigehtchic**	**145.85**	**27**		P	**PKPdf**	**08 26 59.7**	**0.0**		
	baz=297									
RES	**Resolute Bay**	**147.12**	**2**		PKPbc	**PKPbc**	**08 27 04.0**	**+0.1**		
RES	**Resolute Bay**	**147.12**	**2**		PKP2	**PKPbc**	**08 27 04.0**	**+0.1**		
C36M	**Paulatuk**	**147.75**	**21**		PKPbc	**PKPbc**	**08 27 04.9**	**-0.8**		
DUNO	**Dulce Nombre,**	**147.82**	**191**		PKPbc	**PKPdf**	**08 27 05.9**	**+1.2**		
FARO	**Faro, Yukon**	**148.08**	**36**		PKPbc	**PKPab**	**08 27 09.1**	**-0.7**		
TGUH	**Tegucigalpa,Un**	**151.97**	**189**		IAMs_20	IAMs_20	09 28 06.8			
	comp=Z,601nm,21.0s									
NVAR	**Mina Array Bea**	**159.29**	**91**		PKPab	**PKPab**	**08 27 59.9**	**+1.8**		
	comp=Z,6.7nm,0.9s,baz=226,slow=6.2,SNR=17									
NVAR	**Mina Array Bea**	**159.29**	**91**		PKPab	**PKPab**	**08 27 57.5**	**-0.6**		
NV11	**Mina Array Sit**	**159.40**	**91**		PKPab	**PKPab**	**08 27 59.4**	**+0.9**		
TXAR	**Lajitas Array**	**164.04**	**138**		PKP	**PKPdf**	**08 27 27.5**	**+1.9**		
	comp=Z,0.8nm,1.0s,baz=190,slow=4.5,SNR=4.8									
TXAR					PKPab	**pPKPab**	**08 28 21.4**	**-1.4**		
	comp=Z,0.8nm,1.0s,baz=226,slow=3.3,SNR=1.7									
PDAR	**Pinedale Array**	**166.65**	**80**		PKP	**PKPdf**	**08 27 28.6**	**+0.9**		
	comp=Z,0.1nm,0.3s,baz=270,slow=0.5,SNR=2.8									
PDAR					PKPab	**PKPab**	**08 28 29.3**	**-1.0**		
	comp=Z,0.2nm,0.5s,baz=266,slow=2.7,SNR=1.6									

*NEIC **28** 08:17:25.5±3.0, 55°.2S±0°.1×128°.51W±0°.10, h10km±1km, mb5.0/38, Error ellipse: s-maj=25.0km s-min=3.7km az=339.0*

*IDC **28** 08:17:25.7±0.6, 55°.29S×128°.55W, h0km, mb4.2/12, mbtmp4.2/12, MS4.7/19, Error ellipse: s-maj=23.7km s-min=17.0km az=151.0*

*GCMT **28** 08:17:29.5±0.2, 55°.58S±0°.01×128°.57W±0°.02, h20km±1km, MW5.2/115, Moment Tensor Solution. s47,c59; s115,c170; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.15±.03; Mθθ 0.56±.03; Mφφ-0.40±.02; Mrθ-0.22±.05; Mrφ 0.71±.02; Mθφ-0.23±.04; Best double couple: M0 0.90600×10^17 NP1:φ 197.00000°, δ87.00000°, λ163.00000°. NP2:φ 288.00000°, δ73.00000°, λ3.00000°. Principal axes: T 1.0120, Plg15.0000°, Azm151.0000°; N -0.2110, Plg72.0000°, Azm7.0000°; P -0.8000, Plg10.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 08:17:25.6±0.4, 55°.19S±0°.09×128°.48W±0°.08, h10km, n98, σ 19°36/69, mb4.9/29, MS4.8/24, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**31.31**	**34**	LR	LR	08 33 27.9	
	comp=Z,381nm,18.9s,baz=136,slow=31						
SBA	**Scott Base**	**31.52**	**201**	P	**P**	**08 23 45.9**	**-1.3**
SBA				IAmb	IAmb	08 24 55.8	
	comp=Z,27nm,1.9s						
PMSA	**Palmer Station**	**32.19**	**133**	P	**P**	**08 23 52.1**	**-1.0**
VNDA	**Vanda**	**32.55**	**202**	P	**P**	**08 23 58.7**	**+2.5**
	comp=Z,2.7nm,0.9s,baz=99,slow=7.4,SNR=12						
	comp=Z,2.7nm,0.9s						
VNDA	**Vanda**	**32.55**	**202**	P	**P**	**08 23 55.9**	**-0.3**
MG05	**Puerto Natales**	**32.77**	**108**	P	**P**	**08 23 56.8**	**-1.6**
MG05				IAmb	IAmb	08 24 56.7	
	comp=Z,52nm,1.2s						
GO10	**Punta Arenas**	**32.87**	**111**	P	**P**	**08 24 00.3**	**+1.0**
MG01	**Puerto William**	**33.88**	**115**	P	**P**	**08 24 09.2**	**+1.2**
QSPA	**South Pole Qui**	**34.99**	**180**	P	**P**	**08 24 19.0**	**+1.2**
	comp=Z,2.9nm,1.0s,baz=146,slow=1.2,SNR=8.3						
	comp=Z,2.9nm,1.0s						
QSPA	**South Pole Qui**	**34.99**	**180**	P	**P**	**08 24 18.2**	**+0.4**
QSPA				IAmb	IAmb	08 24 28.0	
	comp=Z,37nm,1.7s						
TBI	**Tubuai**	**35.42**	**325**	*e*S	**S**	**08 29 55.4**	**-0.8**
	comp=Z,703nm,32.5s						
TBI				*e*LR	LR	08 33 45.7	
	comp=Z,33μm,23.5s						
TBI				*e*LR	LR	08 33 45.9	
	comp=Z,9μm,26.2s						
TBI	**Tubuai**	**35.42**	**325**	*e*T	T	09 01 35.9	
	comp=Z,83nm,0.3s						
BELA	**Belgrano 2**	**37.57**	**160**	P	**P**	**08 24 36.5**	**-3.0**
BELA				IAmb	IAmb	08 24 41.9	
	comp=Z,46nm,1.9s						
LL05	**Los Muermos**	**38.08**	**92**	P	**P**	**08 24 41.6**	**-2.6**
PLCA	**Paso Flores**	**40.19**	**94**	P	**P**	**08 25 03.6**	**+1.7**
	comp=Z,3.6nm,1.2s,baz=269,slow=10,SNR=2.3						
	comp=Z,3.6nm,1.2s						
PLCA	**Paso Flores**	**40.19**	**94**	P	**P**	**08 25 03.0**	**+1.0**
PLCA				IAmb	IAmb	08 25 08.0	
	comp=Z,52nm,1.9s						
H03S2	**Juan Fernandez**	**40.21**	**79**	T	T	09 07 49.1	
	baz=221,slow=74,SNR=164						
H03S1	**Juan Fernandez**	**40.22**	**79**	T	T	09 07 50.4	
	baz=221,slow=74,SNR=153						
H03S3	**Juan Fernandez**	**40.23**	**79**	T	T	09 07 49.4	
	baz=221,slow=74,SNR=160						
H03N3	**Juan Fernandez**	**40.49**	**78**	T	T	09 08 05.7	
	baz=224,slow=72,SNR=131						
H03N2	**Juan Fernandez**	**40.50**	**78**	T	T	09 08 04.6	
	baz=224,slow=72,SNR=258						
H03N1	**Juan Fernandez**	**40.51**	**78**	T	T	09 08 04.5	
	baz=224,slow=72,SNR=166						
PPT2	**Papeete2**	**40.85**	**328**	*e*S	**S**	**08 31 18.3**	**-0.4**
	comp=Z,254nm,26.0s						
PPT2				eLR	LR	08 36 16.9	
	comp=Z,3μm,26.0s						
PPT2				eLR	LR	08 36 17.6	
	comp=Z,2μm,28.2s						
PPT	**Papeete**	**40.87**	**328**	LR	LR	08 37 19.7	
	comp=Z,1μm,20.6s,baz=201,slow=29						
RAR	**Rarotonga**	**41.24**	**313**	LR	LR	08 39 17.5	
	comp=Z,515nm,18.2s,baz=196,slow=32						
VAH	**Vaihoa**	**42.53**	**332**	*e*T	T	09 10 29.4	
	comp=Z,55nm,0.3s						
CO02	**Combarbal**	**46.65**	**84**	P	**P**	**08 25 54.4**	**+0.3**
CO06	**Fray Jorge**	**46.68**	**83**	P	**P**	**08 25 55.5**	**+1.3**
TAOE	**Nuku Hiva Isla**	**47.13**	**344**	*e*LR	LR	08 39 12.9	
	comp=Z,2μm,25.4s						
SNAA	**Sanae**	**47.82**	**160**	P	**P**	**08 26 01.7**	**-1.0**
SNAA	**Sanae**	**47.82**	**160**	P	**P**	**08 26 02.4**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=263,slow=16,SNR=5.3						
SNAA				LR	LR	08 45 44.3	
	comp=Z,1μm,18.5s,baz=167,slow=36						
	comp=Z,1.2nm,0.8s						
SNAA	**Sanae**	**47.82**	**160**	P	**P**	**08 26 01.6**	**-1.2**
TROLL	**Troll, Antarti**	**48.57**	**162**	P	**P**	**08 26 08.9**	**+0.3**
AC02	**Maricunga**	**51.02**	**81**	P	**P**	**08 26 25.8**	**-2.4**
AC02				IAmb	IAmb	08 26 42.7	
	comp=Z,48nm,1.6s						
LVC	**Limon Verde**	**54.44**	**78**	P	**P**	**08 26 50.6**	**-2.8**
LVC				IAmb	IAmb	08 27 03.5	
	comp=Z,23nm,1.5s						
MNMC	**Minye Minye**	**56.84**	**75**	P	**P**	**08 27 10.0**	**-0.5**
MAW	**Mawson**	**57.23**	**185**	P	**P**	**08 27 12.7**	**+0.4**
	comp=Z,3.9nm,1.0s,baz=162,slow=7.3,SNR=5.6						
MAW				LR	LR	08 49 43.2	
	comp=Z,321nm,19.1s,baz=165,slow=34						
	comp=Z,3.9nm,1.0s						
MAW	**Mawson**	**57.23**	**185**	P	**P**	**08 27 13.7**	**+1.3**
PB16	**IPOC Station P**	**57.53**	**75**	P	**P**	**08 27 14.4**	**-1.4**
PB16				IAmb	IAmb	08 27 23.1	
	comp=Z,38nm,1.8s						
DZM	**Mont Dzumac**	**57.98**	**277**	*e*LR	LR	08 44 12.0	
	comp=Z,1μm,22.9s						
CPUP	**Villa Florida**	**58.15**	**91**	P	**P**	**08 27 20.8**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=4.2,slow=2.7,SNR=3.4						
CPUP				LR	LR	08 48 54.5	
	comp=Z,702nm,18.7s,baz=190,slow=32						
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**58.15**	**91**	P	**P**	**08 27 19.7**	**+0.3**
MCRA	**Macar, Loja**	**63.85**	**56**	P	**P**	**08 27 58.1**	**-0.2**
MCRA				IAmb	IAmb	08 28 02.7	
	comp=Z,18nm,1.7s						
EIDS	**Eidsvold**	**64.20**	**262**	P	**P**	**08 27 59.0**	**-1.4**
EIDS				IAmb	IAmb	08 28 10.6	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**64.46**	**251**	P	**P**	**08 28 02.5**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=136,slow=4.6,SNR=6.7						
STKA				LR	LR	08 50 40.0	
	comp=Z,473nm,22.0s,baz=122,slow=31						
	comp=Z,2.1nm,0.8s						
STKA	**Stephens Creek**	**64.46**	**251**	P	**P**	**08 27 59.9**	**-2.1**
CZSB	**Cruzeiro do Su**	**64.59**	**65**	P	**P**	**08 28 02.8**	**-0.3**
CZSB				IAmb	IAmb	08 28 13.7	
	comp=Z,12nm,0.8s						
BOSC	**San Juan Bosco**	**65.61**	**57**	P	**P**	**08 28 09.5**	**-0.4**
BOSC				IAmb	IAmb	08 28 20.4	
	comp=Z,31nm,1.7s						
ETMB	**Extrema**	**66.31**	**72**	P	**P**	**08 28 14.1**	**-0.1**
ETMB				IAmb	IAmb	08 28 25.6	
	comp=Z,7.8nm,1.3s						
BBOO	**Buckleboo**	**66.68**	**246**	P	**P**	**08 28 17.3**	**+0.9**
BBOO				IAmb	IAmb	08 28 26.2	
	comp=Z,13nm,1.2s						
CHSH	**Refugio Sur-Vo**	**66.88**	**56**	P	**P**	**08 28 18.6**	**+0.1**
CHSH				IAmb	IAmb	08 28 22.4	
	comp=Z,19nm,1.5s						
VILB	**Vilhena**	**67.09**	**80**	P	**P**	**08 28 19.0**	**-0.2**
VILB				IAmb	IAmb	08 28 24.2	
	comp=Z,34nm,1.7s						
CTA	**Charters Tower**	**71.08**	**262**	LR	LR	08 54 50.1	
	comp=Z,314nm,20.2s,baz=32,slow=32						
ROSC	**El Rosal**	**74.58**	**57**	P	**P**	**08 29 08.1**	**+3.0**
	comp=Z,6.7nm,0.6s,baz=163,slow=0.3,SNR=6.1						
	comp=Z,6.7nm,0.6s						
ROSC	**El Rosal**	**74.58**	**57**	P	**P**	**08 29 03.2**	**-1.9**
ROSC				IAmb	IAmb	08 29 32.8	
	comp=Z,14nm,0.8s						
MACA	**Manacapuru-AM**	**74.86**	**73**	P	**P**	**08 29 07.5**	**+1.2**
MACA				IAmb	IAmb	08 29 17.1	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**75.09**	**250**	P	**P**	**08 29 08.2**	**+0.5**
ASAR	**Alice Springs**	**75.09**	**250**	P	**P**	**08 29 08.8**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=139,slow=5.5,SNR=33						
ASAR				LR	LR	08 57 55.1	
	comp=Z,537nm,19.3s,baz=94,slow=32						
	comp=Z,3.5nm,0.8s						
ASAR	**Alice Springs**	**75.09**	**250**	P	**P**	**08 29 08.1**	**+0.5**
H01W1	**Cape Leeuwin H**	**75.53**	**229**	T	T	09 52 55.5	
	baz=147,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**75.53**	**229**	T	T	09 52 52.6	
	baz=147,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**75.55**	**229**	T	T	09 52 56.7	
	baz=147,slow=76,SNR=10						
NWAO	**Narrogin (SRO)**	**75.83**	**232**	LR	LR	08 55 08.7	
	comp=Z,396nm,18.5s,baz=296,slow=30						
WB2	**Warramunga Arr**	**77.85**	**253**	P	**P**	**08 29 22.7**	**-0.6**
WRA	**Warramunga Arr**	**77.86**	**253**	P	**P**	**08 29 24.1**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=145,slow=5.1,SNR=15						
WRA				LR	LR	09 01 33.1	
	comp=Z,508nm,18.1s,baz=65,slow=34						
	comp=Z,1.6nm,1.0s						
WRA	**Warramunga Arr**	**77.86**	**253**	P	**P**	**08 29 22.5**	**-0.8**
WRAB	**Tennant Creek**	**77.86**	**253**	P	**P**	**08 29 22.4**	**-1.0**
WB0	**Warramunga Arr**	**77.97**	**253**	P	**P**	**08 29 22.0**	**-2.0**
WB0				IAmb	IAmb	08 29 37.7	
	comp=Z,19nm,1.6s						
PMG	**Port Moresby**	**79.13**	**269**	LR	LR	09 00 18.1	
	comp=Z,339nm,18.5s,baz=66,slow=32						
BOAV	**Boa Vista**	**79.57**	**70**	P	**P**	**08 29 33.3**	**+0.5**
BOAV				IAmb	IAmb	08 29 37.1	
	comp=Z,29nm,1.9s						
SDV	**Santo Domingo**	**79.87**	**58**	P	**P**	**08 29 36.2**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=140,slow=6.6,SNR=3.8						
	comp=Z,1.1nm,0.3s						
BAUV	**El Baul**	**81.20**	**60**	P	**P**	**08 29 41.7**	**+0.2**
BAUV				IAmb	IAmb	08 30 16.4	
	comp=Z,16nm,1.2s						
RCBR	**Riachuelo**	**86.74**	**95**	LR	LR	09 06 56.8	
	comp=Z,696nm,18.5s,baz=292,slow=34						
TXAR	**Lajitas Array**	**86.83**	**22**	P	**P**	**08 30 12.4**	**+2.5**
	comp=Z,1.4nm,1.0s,baz=189,slow=7.1,SNR=4.8						
	comp=Z,1.4nm,1.0s						
TXAR	**Lajitas Array**	**86.83**	**22**	P	**P**	**08 30 08.8**	**-1.1**
TX31	**Lajitas Ar. Si**	**86.84**	**22**	P	**P**	**08 30 09.0**	**-1.0**
CCX	**Cicese**	**87.30**	**10**	P	**P**	**08 30 11.2**	**-0.8**
SUR	**Sutherland**	**88.89**	**154**	LR	LR	09 02 23.2	
	comp=Z,334nm,21.8s,baz=186,slow=30						
BATI	**Baumata**	**91.65**	**250**	LR	LR	09 08 07.4	
	comp=Z,657nm,19.5s,baz=189,slow=33						
H11N3	**WAKE ISLAND Hy**	**92.47**	**302**	T	T	10 13 17.6	
	baz=148,slow=76,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**92.47**	**302**	T	T	10 13 12.6	
	baz=148,slow=76,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**92.49**	**302**	T	T	10 13 17.4	
	baz=148,slow=76,SNR=7.4						
BOSA	**Boshof**	**93.55**	**157**	LR	LR	09 09 49.4	
	comp=Z,395nm,18.9s,baz=180,slow=34						
SIJI	**Sorong**	**95.15**	**261**	LR	LR	09 09 07.1	
	comp=Z,209nm,21.8s,baz=202,slow=33						
LBTB	**Lobatse**	**97.09**	**156**	LR	LR	09 10 36.6	
	comp=Z,425nm,19.4s,baz=195,slow=33						
KAPI	**Kappang**	**98.09**	**249**	LR	LR	09 11 24.1	
	comp=Z,274nm,20.7s,baz=164,slow=33						
ILAR	**Eielson Array**	**120.46**	**351**	PKP	**PKiKP**	**08 36 17.6**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=201,slow=3.8,SNR=4.7						
NJ2	**Nanjing**	**128.34**	**273**	*e*P	**PKiKP**	**08 36 33.5**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**128.76**	**244**	PKP	**PKiKP**	**08 36 35.3**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=168,slow=1.8,SNR=1.6						
HHC	**Hu-ho-hao-te**	**138.68**	**276**	*e*P	**PKPdf**	**08 36 49.5**	**-1.6**
ESDC	**Sonseca Array**	**140.51**	**89**	PKP	**PKiKP**	**08 36 57.3**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=321,slow=1.8,SNR=2.8						
GTA	**Gaotai**	**144.45**	**264**	*e*PKPbc	**PKiKP**	**08 37 04.5**	**-0.7**
GTA				pPKP	sPKPdf	08 37 07.8	+3.8
GTA				sPKP		08 37 10.5	
KEST	**Kesra**	**145.30**	**106**	PKPbc	**PKPdf**	**08 37 04.1**	**+1.1**
	comp=Z,7.7nm,1.0s,baz=236,slow=6.9,SNR=4.4						
SONM	**Songino Array**	**145.86**	**281**	PKPbc	**PKiKP**	**08 37 06.6**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=137,slow=3.4,SNR=13						
WMQ	**Urumqi**	**154.20**	**259**	*e*P	**PKPdf**	**08 37 18.5**	**+1.7**
WMQ				LR	LR		
	comp=Z,120nm,21.3s						
MKAR	**Makanchi Array**	**159.03**	**259**	PKPab	**PKPab**	**08 38 00.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=146,slow=2.8,SNR=4.3						
BRTR	**Keskin Array B**	**160.46**	**135**	PKPab	**PKPab**	**08 38 07.7**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=228,slow=3.7,SNR=3.8						
AKASG	**Malin Array Be**	**165.85**	**99**	PKPab	**PKPab**	**08 38 30.6**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=242,slow=2.9,SNR=2.3						

*INET **28** 08:30:00.5±2.0, 16°.16N×88°.87W, h15km±29km, ML4.1*
*GCG **28** 08:30:05.0±4.3, 15°.73N×88°.33W, h32km, MD4.0*
*SNET **28** 08:30:07.0±3.5, 15°.47N×88°.51W, h10km, ML4.4*
*IDC **28** 08:30:13.0±2.6, 14°.98N×89°.25W, h55km±31km, mb3.4/2, mbtmp3.6/5, ML3.6/3, MS3.5/3, Error ellipse: s-maj=44.2km s-min=18.2km az=31.0*

ISC 28 08:30:06.0±0.9, 15°.62N±0°.07×88°.50W±0°.04, h10km, n40, σ 2°10/44, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.26**	**245**	*e*P	**Pb**	**08 30 28.1**	**-2.0**
MTO3	**Montecristo**	**1.47**	**215**	*e*P	**Pn**	**08 30 29.9**	**-3.0**
CAHU	**Cacaquatique**	**1.86**	**171**	*e*P	**Pn**	**08 30 35.6**	**-2.6**
SCLA	**Alcaldia de Sa**	**1.92**	**187**	*e*P	**Pn**	**08 30 37.0**	**-1.8**
LBRS	**Las Brisas**	**1.94**	**196**	*e*P	**Pn**	**08 30 38.0**	**-1.2**
LFU	**La Fuente**	**1.95**	**198**	*e*P	**Pn**	**08 30 38.1**	**-1.2**
TGUH	**Tegucigalpa,Un**	**1.95**	**142**	*e*P	**Pn**	**08 30 36.2**	**-3.2**
PQSS	**Presa 15 de Se**	**1.98**	**182**	*e*P	**Pn**	**08 30 37.6**	**-2.1**
SLOZ	**Alcaldia de Sa**	**2.01**	**218**	*e*P	**Pn**	**08 30 38.9**	**-1.3**
BOQS	**Boqueron**	**2.02**	**202**	*e*P	**Pn**	**08 30 39.3**	**-1.1**
COEG	**Centro de Oper**	**2.02**	**191**	*e*P	**Pn**	**08 30 38.5**	**-1.8**
RTR	**El Retiro**	**2.04**	**213**	*e*P	**Pn**	**08 30 40.2**	**-0.4**
SNJE	**San Jose**	**2.04**	**212**	*e*P	**Pn**	**08 30 39.9**	**-0.7**
SNET	**Serv Nac Est T**	**2.05**	**200**	*e*P	**Pn**	**08 30 39.5**	**-1.1**
SJTE	**Alcalda de S**	**2.05**	**194**	*e*P	**Pn**	**08 30 39.0**	**-1.7**
NBG	**Las Nubes**	**2.06**	**240**	*e*P	**Pn**	**08 30 40.0**	**-0.9**
NBG				*e*S	**Sg**	**08 31 13.6**	**+1.3**
CEVE	**Cerro Verde**	**2.09**	**212**	*e*P	**Pn**	**08 30 40.9**	**-0.4**
COEB	**Comit de Eme**	**2.11**	**181**	*e*P	**Pn**	**08 30 39.6**	**-1.9**
PACA	**Pacayal**	**2.14**	**175**	*e*P	**Pn**	**08 30 42.0**	**0.0**
JAYA	**Jayaque - finc**	**2.16**	**205**	*e*P	**Pn**	**08 30 41.2**	**-1.1**
PCG	**Pacaya**	**2.37**	**239**	*e*P	**Pb**	**08 30 48.2**	**-0.9**
PCG				*e*S	**Sg**	**08 31 24.6**	**+2.2**
CNCH	**Conchagua**	**2.42**	**164**	*e*P	**Pn**	**08 30 44.6**	**-1.2**
FUG	**Fuego 3**	**2.54**	**243**	*e*P	**Pn**	**08 30 46.6**	**-0.9**
FUG				*e*S	**Sg**	**08 31 28.9**	**+1.0**
STG3	**Santiaguito 3,**	**3.10**	**253**	*e*P	**Pg**	**08 31 05.1**	**-0.4**
CRIN	**San Cristobal**	**3.22**	**154**	*e*P	**Pn**	**08 30 58.3**	**+1.4**
CRIN				*e*S	**Sb**	**08 31 42.3**	**-0.6**
SULM	**Suchitepequez,**	**3.24**	**247**	*e*P	**Pn**	**08 30 57.0**	**+0.1**
CNGN	**Cerro Negro**	**3.56**	**150**	*e*P	**Pb**	**08 31 05.3**	**-3.9**
CNGN				*e*S	**Sb**	**08 31 51.6**	**-0.9**
CNGN				IAML		08 32 02.7	
	comp=N,681nm,0.6s						
MATN	**Matagalpa**	**3.66**	**137**	*e*P	**Pn**	**08 31 04.1**	**+1.3**
MOMN	**Momotombo**	**3.71**	**149**	*e*P	**Pn**	**08 31 05.7**	**+2.1**
HUEN		**3.97**	**145**	*e*P	**Pn**	**08 31 08.5**	**+1.5**
MGAN	**Managua**	**4.09**	**147**	*e*P	**Pn**	**08 31 09.5**	**+0.9**
CMIG	**Matias Romero**	**6.30**	**284**	P	**Pn**	**08 31 35.9**	**-3.2**
	comp=N,0.6nm,0.3s,baz=108,slow=10,SNR=9.6						
CMIG				S	Sn	08 32 43.3	-7.9
	comp=N,12nm,0.6s,baz=66,slow=20,SNR=1.9						
CMIG				LR	LR	08 34 24.0	
	comp=N,284nm,20.9s,baz=88,slow=43						
	comp=N,1.1nm,0.3s						
JTS	**Las Juntas de**	**6.32**	**146**	P	**Pn**	**08 31 43.4**	**+4.0**
	comp=N,0.3nm,0.3s,baz=356,slow=18,SNR=1.9						
JTS				S	**Sn**	**08 32 58.1**	**+6.3**
	comp=N,6.5nm,0.6s,baz=8.2,slow=23,SNR=2.2						
	comp=N,3.8nm,0.8s						
TXAR	**Lajitas Array**	**19.53**	**317**	P	**P**	**08 34 34.6**	**+0.7**
	comp=N,0.2nm,0.3s,baz=135,slow=12,SNR=18						
TXAR				S	**S**	**08 38 14.9**	**+0.2**
	baz=145,slow=25,SNR=1.1						
	comp=N,1.5nm,0.6s						
TKL	**Tuckaleechee C**	**20.40**	**11**	P	Pn	08 34 53.8	+8.

Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.93; $M_{\theta\theta}$0.11; $M_{\phi\phi}$0.82; $M_{r\theta}$0.23; $M_{r\phi}$0.74; $M_{\theta\phi}$-0.11; Fault plane solution: M_o1.18000×10^{15} NP1:ϕ_s232.05000°, δ49.48000°, λ-61.64000°. NP2:ϕ_s12.32000°, δ48.02000°, λ-119.07000°. Principal axes: T 1.2865, Plg1.0000°, Azm302.0000°; N -0.2597, Plg21.0000°, Azm33.0000°; P -1.0268, Plg69.0000°, Azm210.0000°;

NEIC ***28*** *08:46:12.0±2.1,37°.25N±0°.04×141°.42E±0°.08,h35km±2km, mb4.5/32,Mwr4.0/10 Error ellipse: s-maj=11.3km s-min=6.9km az=74.0*

ISC 28 08:46:07.7±1.7,37°.16N±0°.04×141°.56E±0°.05,h11km±10km, n187,σ1§40/157,mb4.5/57,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.58**	**291**	*i* P	**Pg**	**08 46 19.9**	**+0.8**
JFK				S	**Sb**	**08 46 27.4**	**-0.9**
JFK	**Kawauchi**	**0.58**	**291**	A	A	08 46 19.9	
	comp=E,27nm,0.3s,comp=E,10.0nm,0.7s						
JMST	**Minamisoumatoc**	**0.78**	**317**	*i* P	**Pb**	**08 46 22.6**	**-0.6**
JMST				S	**Sg**	**08 46 32.4**	**-0.5**
JMST	**Minamisoumatoc**	**0.78**	**317**	A	A	08 46 22.6	
	comp=E,10.0nm,0.3s,comp=E,26nm,0.3s						
JFFD	**Fukushimafurud**	**0.80**	**265**	*i* P	**Pb**	**08 46 23.2**	**-0.5**
JFFD				S	**Sb**	**08 46 33.0**	**-1.5**
JFFD	**Fukushimafurud**	**0.80**	**265**	A	A	08 46 23.2	
	comp=E,6.0nm,0.3s,comp=E,10.0nm,0.6s						
JMM	**Marumori**	**0.93**	**319**		**Pb**	**08 46 25.0**	**-0.8**
JMM				Sn	**Sb**	**08 46 36.4**	**-1.8**
JMM	**Marumori**	**0.93**	**319**	P	**Pb**	**08 46 24.9**	**-0.9**
JMM	**Marumori**	**0.93**	**319**	*i* P	**Pb**	**08 46 25.0**	**-0.8**
JMM				S	**Sb**	**08 46 36.4**	**-1.8**
JMM	**Marumori**	**0.93**	**319**	A	A	08 46 25.0	
	comp=E,6.0nm,1.4s,comp=E,6.0nm,1.0s						
JHO	**Hitachi**	**0.97**	**236**	P	**Pb**	**08 46 25.5**	**-1.0**
JHO				S	**Sb**	**08 46 37.3**	**-1.9**
JHO	**Hitachi**	**0.97**	**236**	A	A	08 46 25.5	
	comp=E,6.0nm,3.1s,comp=E,7.0nm,1.8s						
JHYU	**Hitachinakayam**	**1.13**	**224**	A	A	08 46 28.5	
	comp=E,6.0nm,2.9s,comp=E,9.0nm,0.7s						
JIKH	**Ishinomakikobu**	**1.15**	**356**	A	A	08 46 28.7	
	comp=E,12nm,0.6s						
JIO	**Ouri**	**1.30**	**353**	*i* P	**Pn**	**08 46 30.4**	**-1.4**
JIO				S	**Sb**	**08 46 46.3**	**-2.6**
JIO	**Ouri**	**1.30**	**353**	A	A	08 46 30.4	
	comp=E,8.0nm,0.5s,comp=E,3.0nm,3.4s						
JSB	**Shiboa**	**1.33**	**262**	A	A	08 46 31.1	
	comp=E,24nm,0.8s,comp=E,24nm,3.7s						
JYAR	**Yonezawaarcadi**	**1.35**	**304**	A	A	08 46 31.4	
	comp=E,23nm,1.9s,comp=E,29nm,1.4s						
JOU	**Okura**	**1.40**	**330**	*i* P	**Pn**	**08 46 32.9**	**-0.3**
JOU				S	**Sb**	**08 46 50.2**	**-1.5**
JOU	**Okura**	**1.40**	**330**	A	A	08 46 32.9	
	comp=E,14nm,1.9s,comp=E,14nm,0.9s						
JYT	**Yasato**	**1.44**	**230**	A	A	08 46 33.0	
	comp=E,17nm,0.4s,comp=E,15nm,0.4s						
JFY	**Yanaizu**	**1.50**	**280**	*i* P	**Pn**	**08 46 34.6**	**+0.1**
JFY				S	**Sn**	**08 46 53.4**	**-0.7**
JFY	**Yanaizu**	**1.50**	**280**	A	A	08 46 34.6	
	comp=E,7.0nm,1.1s,comp=E,7.0nm,2.9s						
JOFO	**Osakifurukawao**	**1.53**	**341**	A	A	08 46 34.2	
	comp=E,37nm,3.1s,comp=E,62nm,1.5s						
JYS	**Shirataka**	**1.59**	**312**	A	A	08 46 35.0	
	comp=E,20nm,0.8s,comp=E,21nm,1.0s						
JMK	**Ichinoseki**	**1.81**	**352**	A	A	08 46 38.4	
	comp=E,9.0nm,1.6s,comp=E,5.0nm,0.9s						
JAG	**Ashikaga**	**1.84**	**247**	A	A	08 46 38.8	
	comp=E,3.0nm,3.5s,comp=E,4.0nm,0.3s						
JNS	**Sasagawa**	**1.90**	**291**	A	A	08 46 39.5	
	comp=E,4.0nm,1.4s,comp=E,4.0nm,3.7s						
JYK	**Kaneyama**	**1.99**	**332**	A	A	08 46 40.9	
	comp=E,6.0nm,2.8s,comp=E,4.0nm,3.3s						
JUON	**Uonuma**	**2.00**	**272**	A	A	08 46 40.9	
	comp=E,3.0nm,6.2s,comp=E,7.0nm,1.4s						
JYA	**Atsumi**	**2.04**	**315**	A	A	08 46 41.6	
	comp=E,9.0nm,0.5s,comp=E,9.0nm,1.4s						
JOM	**Ohasama**	**2.32**	**355**	A	A	08 46 45.7	
	comp=E,3.0nm,0.5s,comp=E,3.0nm,1.3s						
JRG	**Rokugo**	**2.35**	**342**	A	A	08 46 46.1	
	comp=E,5.0nm,5.8s,comp=E,6.0nm,1.9s						
JGK	**Kuni**	**2.42**	**257**	A	A	08 46 47.0	
	comp=E,3.0nm,2.7s,comp=E,3.0nm,0.6s						
JYW	**Yuwa**	**2.60**	**336**	A	A	08 46 49.7	
	comp=E,12nm,1.4s,comp=E,9.0nm,3.3s						
JSZI	**Iwateshizukuis**	**2.62**	**350**	A	A	08 46 50.0	
	comp=E,7.0nm,1.6s,comp=E,9.0nm,3.0s						
MJAR	**Matsushiro Arr**	**2.76**	**258**	Pn	**Pn**	**08 46 52.7**	**+0.8**
	7.6nm,0.3s,baz=79,slow=16,SNR=271						
MJAR				Sn	**Sn**	**08 47 26.6**	**+1.4**
	12nm,0.3s,baz=91,slow=25,SNR=3.2						
	38nm,0.3s						
MAJO	**Matsushiro**	**2.76**	**258**		**Pn**	**08 46 52.4**	**+0.5**
MAJO	**Matsushiro**	**2.76**	**258**	P	**Pn**	**08 46 53.4**	**+1.5**
MAJO	**Matsushiro**	**2.76**	**258**	*i* P	**Pn**	**08 46 52.7**	**+0.8**
MJB9	**Matsu-Tunnel**	**2.76**	**258**	Pn	**Pn**	**08 46 53.4**	**+1.5**
JSD	**Sado**	**2.76**	**289**		**Pn**	**08 46 51.6**	**-0.3**
JKEN	**Kujiedanarisaw**	**3.04**	**2**	A	A	08 46 56.1	
	comp=E,7.0nm,0.9s,comp=E,5.0nm,0.9s						
JTM	**Tenmabayashi**	**3.64**	**354**	Pn	**Pn**	**08 47 03.8**	**-0.1**
JTM	**Tenmabayashi**	**3.64**	**354**	P	**Pn**	**08 47 04.7**	**+0.7**
JSG	**Sagara**	**3.70**	**229**	Pn	**Pn**	**08 47 05.0**	**+0.3**
JGF	**Kuroka**	**3.73**	**247**	Pn	**Pn**	**08 47 06.6**	**+1.3**
JGF	**Kuroka**	**3.73**	**247**	P	**Pn**	**08 47 07.3**	**+2.0**
INU	**Inuyama**	**4.09**	**245**	Pn	**Pn**	**08 47 11.2**	**+1.0**
INU	**Inuyama**	**4.09**	**245**	P	**Pn**	**08 47 12.7**	**+2.5**
JHJ2	**Mitsune**	**4.29**	**200**	Pn	**Pn**	**08 47 13.5**	**+0.6**
JHJ2	**Mitsune**	**4.29**	**200**	P	**Pn**	**08 47 14.5**	**+1.6**
JHJ	**Hachijo jima 2**	**4.29**	**200**	Pn	**Pn**	**08 47 13.4**	**+0.5**
	147nm,0.3s,baz=329,slow=20,SNR=19						
JHJ				Sn	**Sn**	**08 48 02.2**	**-0.7**
	59nm,0.3s,baz=296,slow=23,SNR=6.5						
ERM	**Erimo**	**5.00**	**14**	Pn	**Pn**	**08 47 22.7**	**0.0**
ERM	**Erimo**	**5.00**	**14**	P	**Pn**	**08 47 24.4**	**+1.8**
ERM	**Erimo**	**5.00**	**14**	P	**Pn**	**08 47 22.7**	**0.0**
JEM	**Erimo**	**5.00**	**14**	P	**Pn**	**08 47 24.6**	**+1.9**
ASAJ	**Asahikawa**	**6.99**	**6**	P	**Pn**	**08 47 49.3**	**-0.7**
JKA	**Kamikawa-asahi**	**6.99**	**6**	Pn	**Pn**	**08 47 49.3**	**-0.7**
JMN	**Monobe**	**7.14**	**244**	Pn	**Pn**	**08 47 53.0**	**+0.8**
JMN	**Monobe**	**7.14**	**244**	P	**Pn**	**08 47 55.4**	**+3.2**
JHS	**Saijyo**	**7.17**	**255**	Pn	**Pn**	**08 47 54.4**	**+1.9**
JHS	**Saijyo**	**7.17**	**255**	P	**Pn**	**08 47 55.9**	**+3.4**
JNU	**Nakatsue**	**9.63**	**248**	Pn	**Pn**	**08 48 24.8**	**-1.4**
JCJ	**Chichijima**	**10.05**	**177**	Pn	**Pn**	**08 48 29.8**	**-2.2**
	33nm,0.3s,baz=264,slow=20,SNR=7.1						
JCJ				Sn	Sn	08 50 17.9	-6.9
	13nm,0.3s,baz=257,slow=21,SNR=2.4						
JCJ	**Chichijima**	**10.05**	**177**	Pn	**Pn**	**08 48 31.8**	**-0.2**
USA0B	**Ussuriysk Arra**	**10.11**	**317**	Pn	**Pn**	**08 48 31.9**	**-0.8**
USA0B	**Ussuriysk Arra**	**10.11**	**317**	P	**Pn**	**08 48 31.9**	**-0.8**
USRK	**Ussuriysk Ar.**	**10.11**	**317**	Pn	**Pn**	**08 48 33.4**	**+0.7**
	0.3nm,0.3s,baz=122,slow=14,SNR=6.4						
	6.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**10.11**	**317**	Pn	**Pn**	**08 48 31.3**	**-1.4**
KSRS	**Korea Array**	**10.87**	**276**	Pn	**Pn**	**08 48 45.0**	**+1.9**
	0.3nm,0.3s,baz=84,slow=14,SNR=2.3						
	0.6nm,0.3s						
KLR	**Kul'dur**	**14.01**	**333**	Pn	**Pn**	**08 49 28.2**	**+2.2**
	0.1nm,0.3s,baz=104,slow=19,SNR=2.3						
	0.7nm,0.4s						
KLR	**Kul'dur**	**14.01**	**333**	*i* P	**P**	**08 49 29.8**	**-4.2**
ZEA	**Zeya**	**19.32**	**334**	*eP*	**Pn**	**08 50 39.4**	**+5.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PETK	**Petropavlovsk-**	**19.52**	**30**	P	**P**	**08 50 34.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=186,slow=9.6,SNR=1.8						
	comp=Z,1.3nm,0.8s						
MA2	**Magadan**	**23.20**	**12**	P	**P**	**08 51 15.2**	**+0.9**
	comp=Z,6.3nm,0.7s,baz=127,slow=20,SNR=2.0						
	comp=Z,6.3nm,0.7s						
YAK	**Yakutsk**	**25.97**	**347**	P	**P**	**08 51 39.2**	**-0.9**
	comp=Z,9.1nm,0.4s,baz=220,slow=2.1,SNR=3.0						
	comp=Z,9.1nm,0.4s						
YAK	**Yakutsk**	**25.97**	**347**	P	**P**	**08 51 39.1**	**-0.9**
YAK	**Yakutsk**	**25.97**	**347**	*eP*	**P**	**08 51 46.1**	**+6.1**
YAK				pmax	pmax		
	comp=Z,35nm,0.8s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
SEY	**Seymchan**	**26.64**	**11**	P	**P**	**08 51 47.7**	**+1.6**
	comp=N,2.7nm,0.7s,baz=154,slow=21,SNR=2.5						
	comp=N,2.7nm,0.7s						
SEY	**Seymchan**	**26.64**	**11**	*i* P	**P**	**08 51 46.8**	**+0.7**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SONM	**Songino Array**	**27.81**	**304**	P	**P**	**08 51 56.6**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=100,slow=8.4,SNR=10						
	comp=Z,2.6nm,0.7s						
SONM	**Songino Array**	**27.81**	**304**	P	**P**	**08 51 56.8**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	09 21 23.5	
	baz=314,slow=75,SNR=680						
H11N1	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	09 21 23.5	
	baz=314,slow=75,SNR=543						
H11N3	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	09 21 24.9	
	baz=314,slow=75,SNR=456						
H11S1	**WAKE ISLAND Hy**	**28.13**	**123**	T	T	09 22 18.4	
	baz=316,slow=76,SNR=394						
H11S3	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	09 22 21.5	
	baz=316,slow=76,SNR=356						
H11S2	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	09 22 15.8	
	baz=316,slow=76,SNR=250						
BILL	**Bilibino**	**33.87**	**16**	*e*P	**P**	**08 52 51.4**	**+1.4**
BILL				*e*		08 54 02.9	
BILL				*e*PPP	PPP	08 54 21.4	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,256nm,11.0s						
TIXI	**Tiksi**	**35.18**	**353**	P	**P**	**08 53 00.8**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=90,slow=24,SNR=1.2						
	comp=Z,0.8nm,0.4s						
TIXI	**Tiksi**	**35.18**	**353**	*i* P	**P**	**08 53 04.4**	**+3.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DGZ	**Jazzator, Alta**	**40.41**	**306**	*i* P	**P**	**08 53 46.1**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,18nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.64**	**255**	P	**P**	**08 53 56.1**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=43,slow=8.0,SNR=2.8						
	comp=Z,2.0nm,0.3s						
ZAA0	**Zalesovo Array**	**41.91**	**312**	P	**P**	**08 53 57.9**	**-0.1**
ZAA0				lAmb	lAmb	08 54 05.9	
	comp=Z,8.5nm,0.8s						
ZALV	**Zalesovo Beam**	**41.91**	**312**	P	**P**	**08 53 58.4**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=86,slow=7.7,SNR=8.9						
	comp=Z,1.5nm,0.3s						
ZALV	**Zalesovo Beam**	**41.91**	**312**	P	**P**	**08 53 57.8**	**-0.2**
ZALV	**Zalesovo Beam**	**41.91**	**312**	P	**P**	**08 53 57.8**	**-0.2**
MK31	**Makanchi Array**	**44.15**	**302**	P	**P**	**08 54 15.5**	**-0.8**
MK31				lAmb	lAmb	08 54 23.8	
	comp=Z,5.9nm,0.9s						
MK31	**Makanchi Array**	**44.15**	**302**	*i* P	**P**	**08 54 16.4**	**+0.1**
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**08 54 16.4**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=87,slow=9.3,SNR=18						
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**08 54 15.6**	**-0.7**
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**08 54 15.6**	**-0.7**
KURK	**Kurchatov**	**45.95**	**308**	P	**P**	**08 54 30.3**	**-0.1**
KURK	**Kurchatov**	**45.95**	**308**	*i* P	**P**	**08 54 30.6**	**+0.2**
KURK				pmax	pmax		
	comp=Z,19nm,0.9s						
K20K	**Telida**	**46.16**	**34**	P	**P**	**08 54 31.7**	**-0.2**
MLY	**Manley**	**47.68**	**32**	P	**P**	**08 54 45.9**	**+2.0**
MLY				lAmb	lAmb	08 54 47.6	
	comp=Z,7.9nm,1.4s						
TRF	**Thorofare Moun**	**47.86**	**34**	P	**P**	**08 54 46.3**	**+0.9**
TRF				lAmb	lAmb	08 55 00.1	
	comp=Z,7.3nm,1.4s						
H23K	**Yukon River**	**48.20**	**31**	P	**P**	**08 54 50.0**	**+2.2**
TOLK	**Toolik Lake Re**	**48.30**	**27**	P	**P**	**08 54 50.2**	**+1.6**
TOLK				lAmb	lAmb	08 55 00.4	
	comp=Z,5.0nm,1.1s						
TARG	**Taragay, Kyrgy**	**48.45**	**296**	P	**P**	**08 54 50.6**	**0.0**
TARG				lAmb	lAmb	08 55 00.1	
	comp=Z,5.6nm,0.9s						
TARG	**Taragay, Kyrgy**	**48.45**	**296**	P	**P**	**08 54 50.6**	**0.0**
TARG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MDM	**Murphy Dome**	**48.74**	**32**	P	**P**	**08 54 52.8**	**+0.7**
KNK	**Knik Glacier**	**48.78**	**37**	P	**P**	**08 54 53.6**	**+1.2**
WRH	**Wood River Hil**	**48.81**	**33**	P	**P**	**08 54 53.1**	**+0.5**
H24K	**Noodor Dome**	**48.88**	**31**	P	**P**	**08 54 55.1**	**+2.0**
H24K				lAmb	lAmb	08 55 14.0	
	comp=Z,5.8nm,1.2s						
SCM	**Sheep Creek Mo**	**49.29**	**36**	P	**P**	**08 54 57.4**	**+1.0**
SCM	**Sheep Creek Mo**	**49.29**	**36**	P	**P**	**08 54 57.4**	**+1.0**
SCM				pmax	pmax		
	comp=Z,47nm,1.5s						
IL31		**49.32**	**32**	P	**P**	**08 54 57.0**	**+0.6**
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**08 54 57.1**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=267,slow=5.8,SNR=19						
	comp=Z,1.3nm,0.7s						
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**08 54 56.4**	**-0.1**
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**08 54 56.4**	**-0.1**
BOOM	**Boomskoye usch**	**49.56**	**298**	P	**P**	**08 54 58.1**	**-0.7**
BOOM				lAmb	lAmb	08 55 07.0	
	comp=Z,4.5nm,1.0s						
BOOM	**Boomskoye usch**	**49.56**	**298**	P	**P**	**08 54 58.1**	**-0.7**
BOOM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BMAR	**Burnt Mountain**	**50.16**	**29**	P	**P**	**08 55 02.8**	**-0.1**
BVAR	**Borovoye Array**	**50.57**	**312**	P	**P**	**08 55 06.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=79,slow=7.4,SNR=5.2						
	comp=Z,1.1nm,0.5s						
BRVK	**Borovoye**	**50.63**	**312**	*i* P	**P**	**08 55 06.3**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
K27K	**Chicken**	**51.47**	**33**	P	**P**	**08 55 14.4**	**+1.7**
K27K				lAmb	lAmb	08 55 19.1	
	comp=Z,11nm,1.4s						
BCAR	**Beaver Creek A**	**51.72**	**34**	P	**P**	**08 55 15.2**	**+0.5**
EGAK	**Eagle**	**51.77**	**32**	P	**P**	**08 55 16.0**	**+1.1**
EGAK				lAmb	lAmb	08 55 18.2	
	comp=Z,7.5nm,1.4s						
KKAR	**Karatay Array**	**53.16**	**300**	P	**P**	**08 55 24.9**	**-0.7**
KKAR	**Karatay Array**	**53.16**	**300**	P	**P**	**08 55 25.0**	**-0.7**
EPYK	**Eagle Plains**	**53.36**	**30**	P	**P**	**08 55 28.7**	**+1.9**
EPYK				lAmb	lAmb	08 55 29.5	
	comp=Z,7.1nm,0.8s						
DRK	**Karamyk**	**53.50**	**295**	P	**P**	**08 55 28.4**	**-0.1**
KNRA	**Kununurra**	**53.92**	**195**	P	**P**	**08 55 31.9**	**+0.6**
INK	**Inuvik**	**54.22**	**27**	P	**P**	**08 55 34.1**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=214,slow=2.9,SNR=4.3						
	comp=Z,1.1nm,0.7s						
INK	**Inuvik**	**54.22**	**27**	P	**P**	**08 55 34.1**	**+1.2**
INK				lAmb	lAmb	08 55 42.6	
	comp=Z,7.3nm,1.4s						
INK	**Inuvik**	**54.22**	**27**	P	**P**	**08 55 34.1**	**+1.2**
INK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
SVE	**Sverdlovsk**	**55.13**	**319**	*eP*	P	08 55 48.1	+8.4
SVE				pmax	pmax		
	comp=Z,18nm,0.8s						
CHGR	**Chuyangaron**	**55.72**	**295**	P	**P**	**08 55 43.9**	**-0.5**
CHGR	**Chuyangaron**	**55.72**	**295**	P	**P**	**08 55 43.9**	**-0.5**
CHGR				pmax	pmax		
	comp=Z,24nm,0.9s						
A36M	**Sachs Harbour**	**56.09**	**22**	P	**P**	**08 55 46.1**	**-0.3**
A36M				lAmb	lAmb	08 55 59.8	
	comp=Z,5.9nm,1.1s						
WRAB	**Tennant Creek**	**57.19**	**188**	P	**P**	**08 55 54.0**	**-0.8**
WRAB				lAmb	lAmb	08 56 11.6	
	comp=Z,5.8nm,0.9s						
WRAB	**Tennant Creek**	**57.19**	**188**	P	**P**	**08 55 54.0**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WR0	**Warramunga Arr**	**57.20**	**188**	P	**P**	**08 55 54.2**	**-0.7**
WR0				lAmb	lAmb	08 55 55.2	
	comp=Z,8.0nm,1.1s						
WB2	**Warramunga Arr**	**57.20**	**188**	P	**P**	**08 55 54.6**	**-0.3**
WB2				lAmb	lAmb	08 56 12.4	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**08 55 54.4**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=0.0,slow=7.6,SNR=17						
	comp=Z,1.7nm,0.4s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**08 55 53.6**	**-1.2**
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**08 55 53.7**	**-1.2**
C36M	**Paulatuk**	**57.26**	**25**	P	**P**	**08 55 55.2**	**+0.5**
ABKAR	**Akbulak array**	**57.95**	**310**	P	**P**	**08 55 59.6**	**-0.3**
EUNU	**Eureka**	**60.04**	**9**	P	**P**	**08 56 13.9**	**-0.2**
KIRV	**Kirov**	**60.22**	**323**	*i* P	**P**	**08 56 15.2**	**-0.2**
PRGR	**Permogore**	**60.72**	**327**	*eP*	**P**	**08 56 19.4**	**+0.5**
PRGR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
AS31	**Alice Springs**	**60.93**	**188**	P	**P**	**08 56 20.3**	**-0.4**
ASAR	**Alice Springs**	**60.93**	**188**	P	**P**	**08 56 20.0**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=11,slow=6.5,SNR=8.2						
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**60.93**	**188**	P	**P**	**08 56 20.6**	**-0.1**
KLMR	**Klimovskoe**	**63.71**	**328**	*eP*	P	08 56 44.7	+5.8
KLMR				AMP		08 56 47.1	
	comp=Z,31nm,1.6s						
KLMR	**Klimovskoe**	**63.71**	**328**	*eP*	P	08 56 44.7	+5.8
KLMR				pmax	pmax		
	comp=Z,31nm,1.6s						
BELG	**Belogornoye**	**63.79**	**317**	*i* P	**P**	**08 56 40.5**	**+1.0**
BELG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GEYT	**Alibeck**	**63.88**	**299**	P	**P**	**08 56 40.9**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=55,slow=12,SNR=2.2						
	comp=Z,1.1nm,0.3s						
ARCES	**ARCESS Array B**	**63.92**	**339**	P	**P**	**08 56 38.5**	**-1.7**
	comp=Z,6.0nm,0.9s,baz=337,slow=9.1,SNR=5.6						
	comp=Z,6.0nm,0.9s						
VRH	**Novokhopyorsk**	**67.56**	**318**	*eP*	P	08 57 09.3	+5.4
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
OBN	**Obninsk**	**68.06**	**323**	*eP*	**P**	**08 57 09.4**	**+2.4**
OBN				*e*		08 57 33.7	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,215nm,16.0s						
LPSR	**Galich'ya Gora**	**68.28**	**320**	*eP*	**P**	**08 57 07.2**	**-1.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORR	**Voronezh**	**68.64**	**319**	*eP*	P	08 57 15.4	+4.7
VORR				pmax	pmax		
	comp=Z,90nm,0.4s						
FINES	**FINESS Array B**	**68.75**	**332**	P	**P**	**08 57 11.1**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=52,slow=9.0,SNR=4.0						
	comp=Z,2.5nm,0.9s						
VSR	**Storozhevoye**	**68.91**	**319**	*eP*	**P**	**08 57 15.8**	**+3.4**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKT	**Akhty**	**69.10**	**307**	*eP*	**P**	**08 57 16.1**	**+2.2**
AKT				*e*		08 57 39.6	
AKT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KBZ	**Khabaz**	**70.91**	**311**	P	**P**	**08 57 25.2**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=62,slow=8.1,SNR=2.4						
	comp=Z,1.7nm,0.7s						
KBZ	**Khabaz**	**70.91**	**311**	*i* P	**P**	**08 57 24.5**	**-0.3**
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	**Kislovodsk**	**70.91**	**311**	*eP*	**P**	**08 57 25.4**	**+0.4**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
NB2	**NORSAR Subarra**	**74.11**	**337**	P	**P**	**08 57 42.7**	**-1.0**
	comp=Z,3.8nm,0.7s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.11**	**337**	P	**P**	**08 57 42.9**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=105,slow=14,SNR=2.2						
	comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**74.27**	**322**	P	**P**	**08 57 43.9**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=44,slow=5.8,SNR=5.4						
	comp=Z,0.8nm,0.4s						
AKASG	**Malin Array Be**	**74.27**	**322**	*i* P	**P**	**08 57 43.2**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**74.27**	**322**	*i* P	**P**	**08 57 47.1**	**+2.4**
AKBB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NVAR	**Mina Array Bea**	**74.82**	**53**	P	**P**	**08 57 47.3**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=295,slow=8.9,SNR=7.2						
	comp=Z,0.8nm,0.7s						
PDAR	**Pinedale Array**	**77.49**	**46**	P	**P**	**08 58 03.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=267,slow=1.9,SNR=8.4						
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**78.85**	**312**	P	**P**	**08 58 11.8**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=44,slow=6.4,SNR=1.6						
	comp=Z,0.5nm,0.8s						
GERES	**GERESS Array B**	**82.66**	**

KHZ	Kahutara	0.23	224	P	Pg	08 51 01.1	+0.2
KHZ				S	Sg	08 51 05.2	+1.4
BSWZ	Blackbirch Sta	0.55	10	P	Pg	08 51 07.0	+0.1
BSWZ				S	Sb	08 51 15.4	-1.3
CMWZ	Cape Campbell	0.61	35	P	Pg	08 51 08.9	+0.7
CMWZ	Cape Campbell	0.61	35	P	Pg	08 51 05.5	-2.8
THZ	Tophouse	0.80	308	P	Pg	08 51 11.9	+0.1
TUWZ	Tuamarina	0.84	10	P	Pg	08 51 12.5	0.0
TUWZ				S	Sb	08 51 25.0	+0.1
NNZ	Nelson	1.07	345	P	Pg	08 51 16.4	-0.6
NNZ	Nelson	1.07	345	P	Pg	08 51 16.5	-0.5
TCW	Tory Channel	1.11	21	P	Pg	08 51 16.5	-1.4
MRNZ	Matariki Terra	1.13	319	P	Pb	08 51 18.4	-0.1
WEL	Wellington	1.23	39	P	Pg	08 51 18.1	-2.0
PLWZ	Palliser	1.31	59	P	Pn	08 51 18.1	-3.5
TKNZ	Takaka Hill	1.35	334	P	Pn	08 51 21.6	-0.4
MSWZ	Moikau Station	1.40	54	P	Pn	08 51 19.4	-3.3
DUWZ	D'Urville Isla	1.46	5	P	Pn	08 51 22.5	-0.9
CAW	Cannon Point	1.51	41	P	Pn	08 51 21.4	-2.8
PAWZ	Paruwai Farm	1.53	56	P	Pn	08 51 20.8	-3.7
DSZ	Denniston Nort	1.54	289	P	Pb	08 51 25.1	-0.4
KIW	Kapiti Island	1.64	32	P	Pn	08 51 23.9	-2.1
QRZ	Quartz Range	1.69	327	P	Pn	08 51 27.2	+0.5
MTW	Mount Morrison	1.71	51	P	Pn	08 51 23.4	-3.5
AKCZ	Akaroa Harbour	1.73	201	P	Pn	08 51 21.2	-6.0
OGWZ	Otaki Gorge	1.79	37	P	Pn	08 51 25.2	-2.8
HOWZ	Holdsworth Sta	1.90	45	P	Pn	08 51 26.6	-2.9
MRZ	Mangatainoka R	2.10	41	P	Pn	08 51 29.0	-3.4
PNHZ	Pukenui	2.98	39	P	Pn	08 51 41.8	-2.7
KRVZ	Karewarewa	3.47	25	P	Pn	08 51 48.2	-3.0
OMRZ	Omania	4.60	27	P	Pn	08 52 08.5	+1.7

WEL 28 08:51:02.9±0.6, 43°S±3°×17°3E±°, h12km, M2.9/13, ML3.0/12, MLv2.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=109.5, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.17	282	P	Pg	08 51 06.8	-0.1
GVZ				S	Sg	08 51 10.1	+0.5
AMCZ	Amberley	0.48	249	P	Pb	08 51 13.6	+0.3
AMCZ				S	Sb	08 51 21.7	+1.4
KHZ	Kahutara	0.62	19	P	Pg	08 51 15.2	+0.2
OKCZ	Okains Bay	0.73	192	P	Pb	08 51 17.9	+0.3
LTZ	Lake Taylor	0.77	287	P	Pb	08 51 18.3	+0.2
LTZ				S	Sb	08 51 29.7	+1.2
MQZ	McQueen's Vall	0.83	212	P	Pg	08 51 18.7	-0.3
AKCZ	Akaroa Harbour	0.91	197	P	Pg	08 51 20.2	-0.2
OXZ	Oxford	0.95	250	P	Pn	08 51 22.1	0.0
RACZ	Rakaia	1.09	228	P	Pb	08 51 23.4	-0.4
INZ	Inchbonnie	1.37	281	P	Pn	08 51 27.2	-0.6
WACZ	Wakanui South	1.40	227	P	Pn	08 51 27.5	-0.7
RPZ	Rata Peaks	1.76	246	P	Pn	08 51 32.7	-0.6
ARCZ	Arundel	1.79	238	P	Pn	08 51 32.6	-1.1
WVZ	Waitaha Valley	1.86	267	P	Pn	08 51 35.4	+0.9
TMZ	Timaru	2.14	229	P	Pn	08 51 38.0	-0.5
ODZ	Otahua Downs	2.78	222	P	Pn	08 51 46.3	-0.9

IDC 28 09:15:26.4±528.0, 54°40N×0°99E, h0km, Error ellipse: s-maj=307.2km s-min=153.4km az=103.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS 9.66 120 baz=307,slow=328,SNR=0.6			I		10 16 00.0	
I48TN	KESRA INFRASON 19.48 159 baz=347,slow=320,SNR=0.6			I		11 20 10.0	
I43RU	DUBNA INFRASON 20.47 69 baz=276,slow=322,SNR=0.8			I		11 20 20.0	

*NEIC **28** 09:36:16.2±0.7, 19°.23N±0°.103×155°.27W±0°.03, h36km±3km, Error ellipse: s-maj=5.7km s-min=1.4km az=129.0*

HVO 28 09:36:17.7±1.0, 19°23N±0°.10×155°25W±0°.06, h30km±8km, ML3.0/39, ML3.2/50(NEIC), Error ellipse: s-maj=14.0km s-min=7.7km az=182.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	Hilina Pali	0.09	323		Pb	09 36 22.7	-0.3
HLP					Sb	09 36 26.6	-0.1
HLP	Hilina Pali	0.09	323	IAML		09 36 26.9	
	comp=N,8μm,0.2s						
HLP				IAML		09 36 28.9	
	comp=E,5μm,0.4s						
HTC	Hot Caves	0.14	274		Pb	09 36 23.0	-0.4
HTC					Sn	09 36 27.5	0.0
PUH	Pauahi	0.15	14		Pb	09 36 22.9	-0.7
PUH					Sb	09 36 26.6	-1.0
PUH	Pauahi	0.15	14	IAML		09 36 26.8	
	comp=E,4μm,0.2s						
PUH				IAML		09 36 27.1	
	comp=N,3μm,0.3s						
SDHHI	Sand Hill	0.17	347		Pb	09 36 23.1	-0.7
SDHHI	Sand Hill	0.17	347	IAML		09 36 27.3	
	comp=E,3μm,0.2s						
SDHHI				IAML		09 36 27.9	
	comp=N,5μm,0.2s						
RIM	Rim	0.17	353		Pb	09 36 23.1	-0.7
RIM	Rim	0.17	353	IAML		09 36 27.1	
	comp=E,3μm,0.2s						
RIM				IAML		09 36 30.1	
	comp=N,3μm,0.3s						
KKO	Keanakako`i	0.17	356		Pb	09 36 23.1	-0.7
KKO					Sb	09 36 27.0	-0.9
KKO	Keanakako`i	0.17	356	IAML		09 36 27.1	
	comp=E,8μm,0.3s						
KKO				IAML		09 36 27.4	
	comp=N,3μm,0.2s						
KNHH	Kane Nui o Ham	0.17	28		Pb	09 36 23.1	-0.7
BYL	Byron's Ledge	0.18	358		Pb	09 36 23.1	-0.8
BYL					Sb	09 36 27.2	-0.9
BYL	Byron's Ledge	0.18	358	IAML		09 36 27.3	
	comp=E,4μm,0.2s						
BYL				IAML		09 36 27.4	
	comp=N,3μm,0.2s						
WRMHH	West Rim	0.18	346		Pb	09 36 23.1	-0.8
NPH	North Pit	0.18	352		Pb	09 36 23.1	-0.9
NPH					Sb	09 36 27.1	-1.1
NPH	North Pit	0.18	352	IAML		09 36 27.6	
	comp=N,2μm,0.3s						
NPH				IAML		09 36 28.4	
	comp=E,480nm,0.4s						
OBL	Observatory Le	0.19	351		Pb	09 36 23.1	-0.9
OBL	Observatory Le	0.19	351	IAML		09 36 27.7	
	comp=N,3μm,0.3s						
OBL				IAML		09 36 31.4	
	comp=E,2μm,0.5s						
HATHI	Halema'uma'u T	0.19	358		Pb	09 36 23.2	-0.8
HATHI					Sb	09 36 27.3	-1.0
HATHI	Halema'uma'u T	0.19	358	IAML		09 36 27.4	
	comp=N,3μm,0.2s						
HATHI				IAML		09 36 27.9	
	comp=E,3μm,0.6s						
UWE	Uwekahuna	0.20	349		Pb	09 36 23.2	-0.8
UWE					Sb	09 36 27.7	-0.7
UWE	Uwekahuna	0.20	349	IAML		09 36 27.7	
	comp=E,3μm,0.2s						
UWE				IAML		09 36 29.9	
	comp=N,3μm,0.3s						
UWB	Uwekahuna B	0.20	353		Pb	09 36 23.1	-1.0
UWB	Uwekahuna B	0.20	353	IAML		09 36 27.4	
	comp=N,764nm,0.7s						
UWB				IAML		09 36 27.6	
	comp=E,479nm,0.2s						
SBLHI	Steaming Bluff	0.20	356		Pb	09 36 23.2	-0.9
SBLHI	Steaming Bluff	0.20	356	IAML		09 36 27.6	
	comp=N,2μm,0.2s						
SBLHI				IAML		09 36 27.6	
	comp=E,1μm,0.3s						
JCUZ	Jacuzzi	0.21	43	Pg	Pb	09 36 23.5	-0.7
JCUZ				IAML		09 36 28.0	
	comp=E,3μm,0.2s						
JCUZ				IAML		09 36 28.0	
	comp=N,2μm,0.4s						
JCUZ	Jacuzzi	0.21	43		Sb	09 36 27.8	-0.8
NPOC	North of Pu'u	0.21	40		Pb	09 36 23.4	-0.8
NPOC					Sb	09 36 27.6	-1.0
NPOC	North of Pu'u	0.21	40	IAML		09 36 27.8	
	comp=E,2μm,0.3s						
NPOC				IAML		09 36 28.0	
	comp=N,3μm,0.6s						
RSD	Rainshed	0.23	354		Pb	09 36 23.6	-1.0
RSD	Rainshed	0.23	354	IAML		09 36 28.0	
	comp=E,896nm,0.9s						
RSD				IAML		09 36 33.1	
	comp=N,756nm,0.4s						
AIN	Ainahou	0.24	307		Pb	09 36 24.1	-0.6
AIN					Sb	09 36 29.0	-0.2
AIN	Ainahou	0.24	307	IAML		09 36 29.1	
	comp=E,4μm,0.2s						
AIN				IAML		09 36 29.3	
	comp=N,9μm,0.1s						
MLH	Mauna Loa	0.29	335		Pb	09 36 24.5	-0.8
MLH	Mauna Loa	0.29	335	IAML		09 36 30.6	
	comp=N,1μm,0.3s						
MLH				IAML		09 36 34.2	
	comp=E,1μm,0.2s						
JOKA	Jonika Flow	0.31	49		Pb	09 36 24.4	-1.0
HPO	Honuapo	0.32	244		Pb	09 36 24.3	-1.1
HPO					Sb	09 36 29.5	-1.1
KHU	Kahuku	0.34	273		Pb	09 36 24.8	-1.2
KHU					Sb	09 36 30.0	-1.6
KHU	Kahuku	0.34	273	IAML		09 36 30.2	
	comp=N,1μm,0.2s						
KHU				IAML		09 36 30.5	
	comp=E,3μm,0.4s						
MWH	Moku'aweowe	0.41	308		Pb	09 36 25.8	-1.4
MWH	Moku'aweowe	0.41	308	IAML		09 36 33.5	
	comp=E,761nm,0.2s						
MWH				IAML		09 36 35.1	
	comp=N,989nm,0.3s						
HMH	Humu'ula Sheep	0.43	330		Pb	09 36 26.4	-1.0
HMH					Sb	09 36 32.9	-1.0
HMH	Humu'ula Sheep	0.43	330	IAML		09 36 33.1	
	comp=N,4μm,0.5s						
HMH				IAML		09 36 33.2	
	comp=E,2μm,0.3s						
MLOA	Mauna Loa Obse	0.43	315		Pb	09 36 26.2	-1.2
MLOA					Sb	09 36 32.2	-1.8
MLOA	Mauna Loa Obse	0.43	315	IAML		09 36 32.7	
	comp=E,1μm,0.2s						
MLOA				IAML		09 36 32.7	
	comp=N,1μm,0.4s						
ALEP	Alea Permanent	0.48	310		Pb	09 36 26.5	-1.6
ALEP					Sb	09 36 33.0	-2.3
POHA	Pohakuloa	0.59	333	Pg	Pb	09 36 28.0	-1.8
POHA	Pohakuloa	0.59	333		Sb	09 36 35.8	-2.2
CPH	Captain Cook	0.68	293		Pb	09 36 28.7	-2.4
KHLU	Kahalu`u	0.70	301		Pb	09 36 29.3	-2.3
KHLU	Kahalu`u	0.70	301	IAML		09 36 37.9	
	comp=E,801nm,0.5s						
KHLU				IAML		09 36 38.6	
	comp=N,917nm,0.1s						
HUH	Hualalai	0.71	310		Pb	09 36 29.9	-1.9
KKH	Kailua Kona	0.84	301		Pn	09 36 30.9	-2.6
HPAH	Hawaii Prepara	0.90	332		Pn	09 36 31.9	-2.6
MHA	Mahukona	1.13	327		Pn	09 36 35.4	-2.1
MHA	Mahukona	1.13	327		Pn	09 36 35.2	-2.3
KHLH	Kahului Airpor	1.99	327	Pn	Pn	09 36 47.3	-2.1

*NEIC **28** 09:37:08.8±0.4, 19°.26N±0°.04×155°.29W±0°.03, h37km±1km, Error ellipse: s-maj=5.9km s-min=3.6km az=160.0*

HVO 28 09:37:10.2±0.6, 19°2N±0°.1×155°25W±0°.06, h29km±5km, ML2.6/27, ML2.8/46(NEIC), Error ellipse: s-maj=18.5km s-min=8.6km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	Hilina Pali	0.10	327		Pb	09 37 15.2	-0.3
HLP					Sb	09 37 19.1	0.0
HLP	Hilina Pali	0.10	327	IAML		09 37 19.4	
	comp=N,3μm,0.2s						
HLP				IAML		09 37 19.5	
	comp=E,2μm,0.4s						
HTC	Hot Caves	0.14	280		Pb	09 37 15.5	-0.2
PUH	Pauahi	0.16	12		Pb	09 37 15.4	-0.7
PUH					Sb	09 37 19.1	-0.9
PUH	Pauahi	0.16	12	IAML		09 37 19.5	
	comp=E,1μm,0.1s						
PUH				IAML		09 37 20.3	
	comp=N,1μm,0.4s						
SDHHI	Sand Hill	0.18	347		Pb	09 37 15.5	-0.7
SDHHI					Sb	09 37 19.7	-0.7
SDHHI	Sand Hill	0.18	347	IAML		09 37 19.9	
	comp=E,2μm,0.4s						
SDHHI				IAML		09 37 20.4	
	comp=N,3μm,0.3s						
KNHH	Kane Nui o Ham	0.18	25		Pb	09 37 15.5	-0.7
RIM	Rim	0.18	353		Pb	09 37 15.5	-0.7
RIM	Rim	0.18	353	IAML		09 37 19.9	
	comp=N,2μm,0.3s						
RIM				IAML		09 37 19.9	
	comp=E,2μm,0.3s						
KKO	Keanakako`i	0.18	356		Pb	09 37 15.6	-0.7
KKO					Sb	09 37 19.4	-1.0
KKO	Keanakako`i	0.18	356	IAML		09 37 19.6	
	comp=E,2μm,0.3s						
KKO				IAML		09 37 21.9	
	comp=N,2μm,0.5s						
BYL	Byron's Ledge	0.20	358		Pb	09 37 15.6	-0.8
BYL					Sb	09 37 19.5	-1.1
BYL	Byron's Ledge	0.20	358	IAML		09 37 20.0	
	comp=E,1μm,0.1s						
BYL				IAML		09 37 20.1	
	comp=N,1μm,0.4s						
WRMHH	West Rim	0.20	347		Pb	09 37 15.6	-0.9
NPH	North Pit	0.20	352		Pb	09 37 15.6	-0.9
NPH	North Pit	0.20	352	IAML		09 37 24.4	
	comp=N,793nm,1.6s						
NPH				IAML		09 37 26.4	
	comp=E,389nm,1.3s						
OBL	Observatory Le	0.20	351		Pb	09 37 15.6	-0.9
OBL	Observatory Le	0.20	351	IAML		09 37 20.5	
	comp=N,2μm,0.7s						
OBL				IAML		09 37 20.8	
	comp=E,2μm,0.4s						
HATHI	Halema'uma'u T	0.21	357		Pb	09 37 15.7	-0.9
HATHI					Sb	09 37 20.0	-0.9
HATHI	Halema'uma'u T	0.21	357	IAML		09 37 20.2	
	comp=E,1μm,0.4s						
HATHI				IAML		09 37 20.2	
	comp=N,1μm,0.2s						
UWE	Uwekahuna	0.21	349		Pb	09 37 15.7	-0.9
UWE					Sb	09 37 20.2	-0.7
UWE	Uwekahuna	0.21	349	IAML		09 37 20.4	
	comp=N,1μm,0.2s						
UWE				IAML		09 37 24.5	
	comp=E,2μm,0.6s						
UWB	Uwekahuna B	0.21	353		Pb	09 37 15.6	-1.0
UWB	Uwekahuna B	0.21	353	IAML		09 37 20.1	
	comp=N,513nm,1.1s						
UWB				IAML		09 37 21.2	
	comp=E,230nm,1.4s						
SBLHI	Steaming Bluff	0.21	356		Pb	09 37 15.6	-0.9
SBLHI	Steaming Bluff	0.21	356	IAML		09 37 20.1	
	comp=N,1μm,0.3s						
SBLHI				IAML		09 37 23.5	
	comp=E,691nm,0.8s						
NPOC	North of Pu'u	0.22	37		Pb	09 37 15.9	-0.8
NPOC					Sb	09 37 20.1	-1.0
NPOC	North of Pu'u	0.22	37	IAML		09 37 20.4	
	comp=E,1μm,0.4s						
NPOC				IAML		09 37 20.5	
	comp=N,842nm,0.4s						
RSD	Rainshed	0.25	354		Pb	09 37 16.0	-1.0
RSD	Rainshed	0.25	354	IAML		09 37 19.6	
	comp=E,300nm,3.4s						
RSD				IAML		09 37 22.5	
	comp=N,460nm,1.8s						
AIN	Ainahou	0.25	309		Pb	09 37 16.5	-0.5
AIN	Ainahou	0.25	309	IAML		09 37 21.5	
	comp=E,4μm,0.2s						
AIN				IAML		09 37 21.7	
	comp=N,11μm,0.2s						
MLH	Mauna Loa	0.31	335		Pb	09 37 17.0	-0.9
MLH	Mauna Loa	0.31	335	IAML		09 37 22.2	
	comp=E,473nm,0.3s						
MLH				IAML		09 37 22.6	
	comp=N,647nm,0.3s						
JOKA	Jonika Flow	0.32	47		Pb	09 37 16.8	-1.1
JOKA					Sb	09 37 21.7	-1.4
KHU	Kahuku	0.34	275		Pb	09 37 17.2	-1.1
KHU					Sb	09 37 22.7	-1.3
KHU	Kahuku	0.34	275	IAML		09 37 23.0	
	comp=E,1μm,0.4s						
KHU				IAML		09 37 23.1	
	comp=N,633nm,0.2s						
MWH	Moku'aweowe	0.42	310		Pb	09 37 18.3	-1.4
MWH	Moku'aweowe	0.42	310	IAML		09 37 25.1	
	comp=E,897nm,0.8s						
MWH				IAML		09 37 27.8	
	comp=N,549nm,1.8s						
HMH	Humu'ula Sheep	0.44	331		Pb	09 37 18.8	-1.1
HMH	Humu'ula Sheep	0.44	331	IAML		09 37 27.3	
	comp=N,429nm,0.1s						
HMH				IAML		09 37 33.5	
	comp=E,268nm,0.8s						
MLOA	Mauna Loa Obse	0.44	316		Pb	09 37 18.7	-1.3
MLOA					Sb	09 37 24.7	-2.0
MLOA	Mauna Loa Obse	0.44	316	IAML		09 37 25.2	
	comp=N,622nm,0.2s						
MLOA				IAML		09 37 25.4	
	comp=E,472nm,0.2s						
ALEP	Alea Permanent	0.49	311		Pb	09 37 19.0	-1.7
ALEP					Sb	09 37 25.5	-2.4
POHA	Pohakuloa	0.60	334	Pn	Pb	09 37 20.5	-1.9
POHA				IAML		09 37 29.4	
	comp=E,569nm,0.1s						
KHLU	Kahalu`u	0.71	302	Pn	Pb	09 37 21.8	-2.4
KHLU				IAML		09 37 30.9	
	comp=N,290nm,0.1s						
HPAH	Hawaii Prepara	0.92	333	Pn	Pn	09 37 24.2	-3.0
HPAH				IAML		09 37 35.1	
	comp=N,271nm,0.1s						
HPAH				IAML		09 37 35.3	
	comp=E,340nm,0.1s						

*UCR **28** 09:41:37.5±1.8, 8°.52N×83°.05W, h36km±5km, MW3.5*
*UPA **28** 09:41:37.1±0.8, 8°.54N×83°.06W, h18km±5km, MW3.1*

ISC 28 09:41:38.5±1.1, 8°.58N±0°.04×83°.01W±0°.04, h33km±4km, n26, σ1s05/38, 4C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOL	Caracol de Cor	0.17	168	↑*i*P	Pn	09 41 43.7	+0.1
CCOL				*e*S	Sb	09 41 50.0	+0.8
EDSV	San Vito	0.24	9	↓*e*P	Pb	09 41 45.6	-0.1
EDSV				*e*S	Sb	09 41 52.9	+2.2
BRU2	Volcan	0.38	56	*i* P	Pb	09 41 46.9	-0.6
BRU2				*e*S	Sn	09 41 54.7	+0.8
BRU2	Volcan	0.38	56	↓*i*P	Pb	09 41 46.9	-0.6
BRU2				*e*S	Sn	09 41 54.9	+1.0
PTAR3	Potrerillos Ar	0.52	77	*e*P	Pb	09 41 49.0	-0.4
PTAR3				*e*S	Sb	09 41 57.0	-0.1
DVD	David	0.57	104	*e*P	Pn	09 41 49.0	-1.1
DVD				*e*S	Sb	09 41 58.3	0.0
EDPN	Palmar Norte	0.58	311	↑*e*P	Pn	09 41 48.8	-1.7
EDBA	Buenos Aires	0.64	336	*e*P	Pn	09 41 50.2	-1.0
EDBA				*e*S	Sb	09 42 00.3	+0.2
PSOM3	Paja de Sombre	0.69	81	*e*P	Pn	09 41 50.9	-1.0
PSOM3				*e*S	Sn	09 42 01.5	+0.1
SRBA	San Rafael, Bu	0.74	332	↑*e*P	Pn	09 41 51.0	-1.7
SRBA				*e*S	Sn	09 42 01.5	-1.3
PEZE	Perez Zeledon,	1.04	321	*e*P	Pn	09 41 55.2	-1.6
EDDO	Dominical	1.08	309	*e*P	Pn	09 41 56.2	-1.0
EDDO				*e*S	Sn	09 42 12.1	+1.0
REME3	Remedios, Chir	1.22	107	*e*P	Pn	09 41 58.8	-0.4
REME3				*e*S	Sn	09 42 15.1	+0.7
CDM	Cerro de Muert	1.22	323	*e*P	Pn	09 41 58.1	-1.5
MRVA	Moravia de Chi	1.31	341	↑*e*P	Pn	09 42 00.0	-0.6
MRVA				*e*S	Sn	09 42 17.9	+0.9
LCR2	La Lucha 2	1.52	320	*e*P	Pn	09 42 02.2	-1.3
RAFA	San Farael, Vo	1.58	330	*e*P	Pn	09 42 04.6	+0.1
OCM	Ochomogo	1.61	324	*e*P	Pn	09 42 04.4	-0.4
HDC3	Heredia 3	1.79	323	*e*P	Pn	09 42 07.9	+0.8
HDC	Heredia	1.79	322	*e*P	Pn	09 42 07.9	+0.7
JACO	JACO, Garabito	1.95	304	*e*P	Pn	09 42 07.8	-1.5
JTS	Las Juntas de	2.56	312	*e*P	Pn	09 42 18.2	+0.5
POPE	POPE, Guanacas	2.67	304	*e*P	Pn	09 42 18.2	-0.9
CUI	Cuipilapa	2.96	314	*e*P	Pn	09 42 24.8	+1.5
ORTG	Ortega, Santa	3.00	306	*e*P	Pn	09 42 24.4	+0.7
SAJU	San Juanillo,	3.05	299	*e*P	Pn	09 42 23.6	-0.8

*IDC **28** 09:42:20.5±0.6, 55°.77N×164°.48E, h0km, mb4.3/23, mbtmp4.3/28, ML4.5/4, MS3.5/6, Error ellipse: s-maj=15.8km s-min=10.0km az=169.0*
*BJI **28** 09:42:20.8±0.0, 55°.59N×164°.83E, h34km, mb4.5/24, mB5.0/14, Ms4.5/12, Ms7 4.1/12*
*KRSC **28** 09:42:21.9±1.5, 55°.62N×164°.58E, h63km±21km, ML5.0*
*MOS **28** 09:42:23.6±0.8, 55°.66N×164°.59E, h41km, mb4.8/20, Error ellipse: s-maj=5.9km s-min=4.6km az=66.2*
*NEIC **28** 09:42:25.2±1.5, 55°.64N±0°.09×164°.6E±0°.1, h35km±8km, mb4.8/184, Error ellipse: s-maj=13.5km s-min=10.0km az=181.0*

ISC 28 09:42:25.4±0.5, 55°.64N±0°.03×164°.59E±0°.03, h36km±1km, n466, σ1s06/459, mb4.8/121, MS4.1/8, 8C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.90	119	*e*P	Pn	09 42 40.1	-1.4
BKI				*e*S	Sn	09 42 52.4	-0.9
BKI	Bering	0.90	119	PN	Pn	09 42 40.1	-1.4
BKI				S	Sn	09 42 52.4	-0.9
KBTR	Krutoberegovo	1.15	300	*e*P	Pn	09 42 42.1	-2.8
KBTR				*e*S	Sn	09 42 56.4	-2.9
KBTR	Krutoberegovo	1.15	300	PN	Pn	09 42 42.1	-2.8
KBTR				S	Sn	09 42 56.4	-2.9
KBG	Krutoberegovo	1.23	301	*e*P	Pn	09 42 43.4	-2.5
KBG				*e*S	Sn	09 42 58.1	-3.1
KBG	Krutoberegovo	1.23	301	PN	Pn	09 42 43.4	-2.5
KBG				S	Sn	09 42 58.1	-3.1
MKZ	Mys Kozlova	1.97	238	*e*P	Pn	09 42 54.6	-1.6
MKZ				*e*S	Sn	09 43 17.7	-1.9
MKZ	Mys Kozlova	1.97	238	PN	Pn	09 42 54.6	-1.6
MKZ				S	Sn	09 43 17.7	-1.9
SMKR	Semkarok	1.98	300	*e*P	Pn	09 42 55.7	-0.8
SMKR				*e*S	Sn	09 43 20.3	+0.2
SMKR	Semkarok	1.98	300	PN	Pn	09 42 55.7	-0.8
SMKR				S	Sn	09 43 20.3	+0.2
BDR	Baidarnaya	2.11	297	*e*P	Pn	09 42 57.8	-0.4
BDR				*e*S	Sn	09 43 24.5	+1.3
BDR	Baidarnaya	2.11	297	PN	Pn	09 42 57.8	-0.4
BDR				S	Sn	09 43 24.5	+1.3
SRKR	Sorokina	2.17	299	*e*P	Pn	09 42 58.5	-0.4
SRKR	Sorokina	2.17	299	PN	Pn	09 42 58.5	-0.4
ZLN	Zelenaya	2.17	282	*e*P	Pn	09 42 59.1	+0.1
ZLN	Zelenaya	2.17	282	PN	Pn	09 42 59.1	+0.1
CIRR	Tsirk	2.21	284	*e*P	Pn	09 42 59.7	0.0
CIRR				*e*S	Sn	09 43 26.0	+0.1
CIRR	Tsirk	2.21	284	PN	Pn	09 42 59.7	0.0
CIRR				S	Sn	09 43 26.0	+0.1
BZGR	Bezymyannyi-Gr	2.22	279	*e*P	Pn	09 42 59.4	-0.3
BZGR	Bezymyannyi-Gr	2.22	279	PN	Pn	09 42 59.4	-0.3
LGNR	Loginova	2.24	283	*e*P	Pn	09 43 00.5	+0.3
LGNR

KMNR S Sn 09 43 32.5 +0.5
KPT Kopyto 2.49 279 eP Pn 09 43 03.6 +0.2
KPT eS Sn 09 43 32.6 +0.1
KPT Kopyto 2.49 279 PN Pn 09 43 03.6 +0.2
KPT S Sn 09 43 32.6 +0.1
TUMR Tumrok 2.56 264 eP Pn 09 43 05.0 +0.7
TUMR eS Sn 09 43 35.5 +1.3
TUMR Tumrok 2.56 264 PN Pn 09 43 02.3 -2.0
TUMR S Sn 09 43 30.8 -3.4
SRDR Sredinnyy 2.82 286 eP Pn 09 43 08.6 +0.7
SRDR eS Sn 09 43 42.2 +1.5
SRDR Sredinnyy 2.82 286 PN Pn 09 43 08.6 +0.7
SRDR S Sn 09 43 42.2 +1.5
OSSR Ossora 3.71 348 eP Pn 09 43 18.8 -1.2
OSSR eS Sn 09 43 59.5 -2.9
OSSR Ossora 3.71 348 PN Pn 09 43 18.8 -1.2
NLC Nalytchevo 3.94 233 eP Pn 09 43 22.3 -0.9
NLC eS Sn 09 44 05.5 -2.6
NLC Nalytchevo 3.94 233 PN Pn 09 43 22.3 -0.9
SDLR Sedlovina 4.09 237 eP Pn 09 43 25.7 +0.3
SDLR eS Sn 09 44 10.0 -2.0
SDLR Sedlovina 4.09 237 PN Pn 09 43 25.7 +0.3
SMAR Somma 4.13 237 eP Pn 09 43 26.5 +0.4
SMAR eS Sn 09 44 11.5 -1.8
SMAR Somma 4.13 237 PN Pn 09 43 26.5 +0.4
KRER Koryakskii 4.13 238 eP Pn 09 43 26.5 +0.4
KRER eS Sn 09 44 11.9 -1.4
KRER Koryakskii 4.13 238 PN Pn 09 43 26.5 +0.4
UGLR Uglovaya 4.16 236 eP Pn 09 43 26.8 +0.5
UGLR Uglovaya 4.16 236 PN Pn 09 43 26.8 +0.5
AVH Avacha 4.16 238 eP Pn 09 43 27.1 +0.7
AVH eS Sn 09 44 12.6 -1.2
AVH Avacha 4.16 238 PN Pn 09 43 27.1 +0.7
KOK Koryaka 4.20 238 eP Pn 09 43 27.1 +0.2
KOK Koryaka 4.20 238 PN Pn 09 43 27.1 +0.2
PALN Palana 4.27 326 eP Pn 09 43 27.4 -0.3
PALN Palana 4.27 326 PN Pn 09 43 27.4 -0.3
DALK Dalny 4.30 235 eP Pn 09 43 28.0 -0.2
DALK eS Sn 09 44 14.0 -3.1
DALK Dalny 4.30 235 PN Pn 09 43 28.0 -0.2
GNL Ganaly 4.32 246 eP Pn 09 43 29.3 +0.7
GNL Ganaly 4.32 246 PN Pn 09 43 29.3 +0.7
PET Petropavlovsk 4.35 235 Pn 09 43 28.3 -0.6
PET Petropavlovsk 4.35 235 P Pn 09 43 29.0 +0.1
PET Petropavlovsk 4.35 235 eP Pn 09 43 29.0 +0.1
PET eS Sn 09 44 16.1 -2.2
PET Petropavlovsk 4.35 235α *i* PN Pn 09 43 28.8 -0.1
PET pmax pmax
comp=Z,448nm,0.5s
PET MLR MLR
comp=Z,400nm,13.0s
PET MLR MLR
comp=Z,600nm,13.0s
KRMR Karymshinskiy 4.72 236 eP Pn 09 43 33.9 -0.1
KRMR eS Sn 09 44 24.8 -2.6
KRMR Karymshinskiy 4.72 236 PN Pn 09 43 33.9 -0.1
PEA0B Petropavlovsk- 4.76 241 Pn Pn 09 43 34.7 +0.2
PEA0B Petropavlovsk- 4.76 241 *ce*PN Pn 09 43 35.0 +0.5
PETK Petropavlovsk- 4.76 241 Pn Pn 09 43 34.0 -0.6
comp=Z,11nm,0.3s,baz=31,slow=7.5,SNR=148
PETK Sn Sn 09 44 29.0 +0.6
comp=Z,9.4nm,0.3s,baz=200,slow=38,SNR=2.8
comp=Z,16nm,0.5s
RUS Russkaya 4.81 231 eP Pn 09 43 34.6 -0.6
RUS eS Sn 09 44 25.8 -3.8
RUS Russkaya 4.81 231 PN Pn 09 43 34.6 -0.6
TILK Tilichiki 4.89 9 eP Pn 09 43 37.0 +0.8
TILK Tilichiki 4.89 9 PN Pn 09 43 37.0 +0.8
MTVR Mutnovka 4.92 233 eP Pn 09 43 36.8 -0.1
MTVR eS Sn 09 44 31.2 -1.4
MTVR Mutnovka 4.92 233 PN Pn 09 43 36.8 -0.1
GRL Gorelyy 4.93 234 eP Pn 09 43 37.4 +0.5
GRL eS Sn 09 44 31.2 -1.5
GRL Gorelyy 4.93 234 PN Pn 09 43 37.4 +0.5
APC Apacha 5.13 241 eP Pn 09 43 40.4 +0.8
APC Apacha 5.13 241 PN Pn 09 43 40.4 +0.8
KDTR Khodutka, Kamc 5.45 228 eP Pn 09 43 43.2 -0.7
KDTR eS Sn 09 44 40.7 -4.6
KDTR Khodutka, Kamc 5.45 228 PN Pn 09 43 43.2 -0.7
PAU Pauzhetka 6.24 231 eP Pn 09 43 55.3 +0.5
PAU Pauzhetka 6.24 231 PN Pn 09 43 55.3 +0.5
SHEM Shemya Is, Ala 6.30 114 Pn Pn 09 43 57.7 +2.1
comp=Z,5.1nm,0.3s,baz=297,slow=20,SNR=2.1
SHEM Sn Sn 09 45 03.9 -2.3
comp=Z,2.8nm,0.3s,baz=185,slow=18,SNR=1.6
comp=Z,34nm,0.5s
KMSK Kamenskaya 6.90 6 eP Pn 09 44 04.3 +0.6
KMSK eS Sn 09 45 20.0 -0.8
KMSK Kamenskaya 6.90 6 PN Pn 09 44 04.3 +0.6
SKR Severo-Kuril's 7.11 229 eP Pn 09 44 06.0 -0.8
SKR Severo-Kuril's 7.11 229 ePN Pn 09 44 07.7 +0.9
SKR pmax pmax
comp=Z,154nm,0.5s
SKR MLR MLR
comp=Z,200nm,16.0s
MA2 Magadan 8.40 304 Pn Pn 09 44 22.7 -1.7
comp=Z,0.5nm,0.3s,baz=131,slow=15,SNR=2.7
MA2 LR LR 09 47 40.3
comp=Z,161nm,21.3s,baz=306,slow=39
comp=Z,14nm,1.0s
SEY Seymchan 9.60 325 Pn Pn 09 44 40.0 -0.8
comp=Z,2.1nm,0.7s,baz=133,slow=14,SNR=4.8
AMKA Amchitka 9.74 110 Pn Pn 09 44 42.9 0.0
ADK Adak 11.70 101 Pn Pn 09 45 09.4 -0.1
ADK Adak 11.70 101 P Pn 09 45 09.9 +0.4
ADK Adak 11.70 101 PN Pn 09 45 09.4 -0.1
BILL Bilibino 12.47 3 Pn Pn 09 45 21.3 +1.3
BILL Bilibino 12.47 3 ePN Pn 09 45 21.3 +1.3
BILL pmax pmax
comp=Z,8.0nm,0.7s
BILL MLR MLR
comp=Z,391nm,13.0s
OKH Okha 12.72 270 *de*PN Pn 09 45 12.0 -11
OKH MLR MLR
comp=N,600nm,14.0s
OKH MLR MLR
comp=Z,400nm,15.0s
OKH MLR MLR
comp=E,700nm,13.0s
NIKH Nikolski High 15.69 89 Pn Pn 09 46 03.9 +0.4
UNV Unalaska Valle 16.73 84 P 09 46 19.2 +0.5
UNV IAmb IAmb 09 46 22.6
comp=Z,93nm,1.1s
UNV Unalaska Valle 16.73 84 P P 09 46 19.6 +0.9
AKUT Akutan 17.06 83 P 09 46 22.4 +0.1
ANM Nome 17.27 47 P 09 46 25.9 +1.4
ANM Nome 17.27 47 P P 09 46 25.9 +1.4
ANM pmax pmax
comp=Z,85nm,1.8s
JKA Kamikawa-asahi 18.18 240 P Pn 09 46 34.0 -0.7
JKA IAmb IAmb 09 46 37.0
comp=Z,50nm,0.7s
ASAJ Asahikawa 18.18 240 LR LR 09 53 22.7
comp=Z,204nm,19.3s,baz=14,slow=36
ASAJ Asahikawa 18.18 240 P Pn 09 46 34.0 -0.7
ASAJ pmax pmax
comp=Z,50nm,0.7s
YAK Yakutsk 18.98 304 P P 09 46 40.6 -2.7
comp=Z,0.2nm,0.3s,baz=93,slow=2.1,SNR=8.1
comp=Z,12nm,0.4s
YAK Yakutsk 18.98 304 eP P 09 46 42.2 -1.1
YAK eS Sn 09 50 14.4 -0.9
YAK pmax pmax
comp=Z,50nm,1.0s
YAK pmax pmax
comp=E,28nm,1.1s
YAK smax smax
comp=E,76nm,2.8s
YAK smax smax
comp=N,65nm,2.5s
JEM Erimo 19.51 235 P P 09 46 48.8 -0.5
ERM Erimo 19.51 235 P P 09 46 49.5 +0.2
ERM Erimo 19.51 235 P P 09 46 48.8 -0.5
ERM Erimo 19.51 235 *i* P P 09 46 48.3 -1.0
O16K Kokwok River B 20.19 63 P P 09 46 57.5 +1.0
baz=275
CHGN Chignik 20.56 73 P P 09 47 00.2 -0.4
O17K Koliganek Bris 20.67 63 P P 09 47 03.0 +1.2
baz=275
GCSA Galena City Sc 20.87 49 P P 09 47 04.6 +0.7
baz=262,SNR=8.7
KLR Kul'dur 20.88 266 P P 09 47 03.2 -0.9
comp=N,2.4nm,0.6s,baz=54,slow=9.4,SNR=6.4
KLR LR LR 09 56 12.4
comp=N,332nm,18.4s,baz=54,slow=40
comp=N,2.4nm,0.6s
KLR Kul'dur 20.88 266 *i* P P 09 47 04.5 +0.4
KLR pmax pmax
comp=Z,4.0nm,0.9s
Q16K King Salmon 21.03 66 P P 09 47 07.1 +1.5
P17K Kvichak River 21.07 64 P P 09 47 07.3 +1.2
baz=277
TTA Tatalina 21.10 54 P P 09 47 07.3 +0.8
TTA IAmb IAmb 09 47 09.2
comp=Z,41nm,1.3s
TTA Tatalina 21.10 54 P P 09 47 08.3 +1.8
baz=268,SNR=12
TTA Tatalina 21.10 54 P P 09 47 07.3 +0.8
TTA pmax pmax
comp=Z,41nm,1.3s
N18K Kilae Creek 21.20 60 P P 09 47 08.4 +0.9
R17K Ugashik Creek 21.35 68 P P 09 47 10.4 +1.3
baz=281
JTM Tenmabayashi 21.45 236 P P 09 47 08.7 -1.6
JTM Tenmabayashi 21.45 236 P P 09 47 08.8 -1.5
ZEA Zeya 21.50 281 eP P 09 47 10.9 +0.2
ZEA pmax pmax
comp=Z,10.0nm,0.5s
L19K White Mountain 21.63 56 P P 09 47 12.1 -0.1
L19K IAmb IAmb 09 47 30.0
comp=Z,36nm,1.1s
L19K White Mountain 21.63 56 P P 09 47 14.5 +2.3
baz=271
P18K Big Mountain, 21.66 63 P P 09 47 13.3 +0.8
baz=278
M19K Big River Lodg 21.86 57 P P 09 47 15.0 +0.5
M19K Big River Lodg 21.86 57 P P 09 47 15.8 +1.2
baz=272
N19K Bonanza Creek 21.88 60 P P 09 47 15.4 +0.5
Q18K Katmai Hardscr 21.89 65 P P 09 47 15.6 +0.6
baz=280
J20K Nowinta River 22.00 50 P P 09 47 16.1 +0.1
J20K IAmb IAmb 09 47 18.5
comp=Z,25nm,0.8s
J20K Nowinta River 22.00 50 P P 09 47 16.6 +0.6
baz=267
K20K Telida 22.00 53 P P 09 47 16.4 +0.3
K20K Telida 22.00 53 P P 09 47 16.7 +0.6
baz=269,SNR=9.0
TIXI Tiksi 22.01 330 P P 09 47 15.9 -0.1
comp=Z,13nm,0.8s,baz=90,slow=23,SNR=28
comp=Z,13nm,0.8s
TIXI Tiksi 22.01 330 P P 09 47 15.4 -0.6
TIXI Tiksi 22.01 330 P P 09 47 15.4 -0.6
TIXI pmax pmax
comp=Z,16nm,0.9s
IMAR Indian Mountai 22.34 46 P P 09 47 19.4 -0.2
M20K Styx River 22.46 57 P P 09 47 22.0 +1.0
baz=273
G21K Allakaket 22.51 44 P P 09 47 22.6 +1.1
baz=262
F21K Alatna River 22.63 43 P P 09 47 23.8 +1.0
baz=260
H21K Melozitna Rive 22.69 47 P P 09 47 23.5 +0.1
H21K Melozitna Rive 22.69 47 P P 09 47 23.5 +0.1
baz=264
CHUM Lake Minchumin 22.79 51 P P 09 47 25.0 +0.6
baz=269,SNR=5.2
CAST Castle Rocks 22.89 53 P P 09 47 25.7 +0.1
CAST Castle Rocks 22.89 53 P P 09 47 26.1 +0.5
baz=270,SNR=12
I21K Tanana 22.99 48 P P 09 47 26.7 +0.2
baz=266
OHAK Old Harbor 23.08 69 P P 09 47 25.8 -1.6
OHAK IAmb IAmb 09 47 42.2
comp=Z,33nm,1.0s
F22K John River 23.18 42 P P 09 47 28.5 +0.1
baz=261
SKT Skwentna 23.20 56 P P 09 47 28.7 0.0
SKT Skwentna 23.20 56 P P 09 47 29.2 +0.5
baz=274
H22K Ishtalitna Cre 23.30 46 P P 09 47 29.8 +0.2
baz=265,SNR=6.8
BPAW Bear Paw Mtn. 23.38 51 P P 09 47 30.4 0.0
BPAW IAmb IAmb 09 47 31.5
comp=Z,54nm,1.4s
BPAW Bear Paw Mtn. 23.38 51 P P 09 47 30.5 0.0
baz=270,SNR=13
KTH Kantishna Hill 23.41 52 P P 09 47 30.9 +0.1
KTH IAmb IAmb 09 47 32.8
comp=Z,84nm,1.7s
E22K Anaktuvuk Pass 23.43 41 P P 09 47 30.5 -0.4
baz=260
MLY Manley 23.51 48 P P 09 47 31.0 -0.7
MLY IAmb IAmb 09 47 32.7
comp=Z,36nm,1.5s
MLY Manley 23.51 48 P P 09 47 31.6 -0.1
baz=268,SNR=11
SUA Susitna One 23.62 57 P P 09 47 32.5 -0.4
SUA Susitna One 23.62 57 P P 09 47 32.8 -0.1
baz=276,SNR=5.4
CNPM China Poot 23.66 62 P P 09 47 32.4 -0.8
CNPM IAmb IAmb 09 47 51.1
comp=Z,56nm,1.3s
TRF Thorofare Moun 23.70 52 P P 09 47 33.5 -0.1
TRF Thorofare Moun 23.70 52 P P 09 47 33.6 -0.1
baz=272,SNR=18
BRLK Bradley Lake 23.79 62 P P 09 47 32.2 -2.2
G23K Bananza Creek 23.91 44 P P 09 47 34.9 -0.6
baz=265
D23K Nanushuk River 23.99 39 P P 09 47 35.9 -0.2
baz=259
H23K Yukon River 24.04 47 IAmb IAmb 09 47 38.9
comp=Z,48nm,1.1s
H23K Yukon River 24.04 47 P P 09 47 36.9 +0.1
baz=267
BWN Browne 24.05 51 P P 09 47 37.6 +0.9
I23K Minto, Yukon-K 24.09 48 IAmb IAmb 09 47 38.7
comp=Z,40nm,0.9s
I23K Minto, Yukon-K 24.09 48 P P 09 47 37.2 +0.1
baz=269,SNR=25
C23K Itkillik River 24.20 37 P P 09 47 37.6 -0.5
baz=257,SNR=12
NEA2 Nenana 24.21 50 P P 09 47 37.6 -0.6
baz=270,SNR=27
E23K Chandalar 24.23 41 P P 09 47 38.0 -0.4
baz=262,SNR=18
MCK McKinley 24.29 52 P P 09 47 38.6 -0.5
MCK IAmb IAmb 09 47 40.9
comp=Z,22nm,0.6s
MCK McKinley 24.29 52 P P 09 47 38.7 -0.3
baz=272,SNR=13
MCK McKinley 24.29 52 P P 09 47 38.6 -0.5
MCK pmax pmax
comp=Z,23nm,0.6s
TOLK Toolik Lake Re 24.33 40 P P 09 47 39.0 -0.4
TOLK IAmb IAmb 09 47 40.5
comp=Z,58nm,1.4s
TOLK Toolik Lake Re 24.33 40 P P 09 47 38.7 -0.6
baz=261,SNR=16
RND Reindeer 24.35 52 P P 09 47 38.7 -0.9
RND IAmb IAmb 09 47 40.2
comp=Z,20nm,0.7s
RND Reindeer 24.35 52 P P 09 47 38.7 -0.9
RND pmax pmax
comp=Z,20nm,0.7s
PMR Palmer 24.38 57 P P 09 47 39.0 -0.7
PMR IAmb IAmb 09 47 40.3
comp=Z,71nm,2.0s
PMR Palmer 24.38 57 P P 09 47 39.0 -0.7
PMR pmax pmax
comp=Z,71nm,2.0s
SEW Seward 24.44 60 P P 09 47 39.4 -0.9
WAT1 Susitna Watana 24.52 54 P P 09 47 40.0 -1.2
baz=275
MDM Murphy Dome 24.57 49 IAmb IAmb 09 47 43.1
comp=Z,34nm,1.3s
E24K Your Creek 24.65 41 P P 09 47 42.1 -0.2
baz=263
H24K Noodor Dome 24.73 47 P P 09 47 43.0 0.0
baz=269,SNR=6.8
SML Sawmill 24.73 56 P P 09 47 42.5 -0.5
SML Sawmill 24.73 56 P P 09 47 42.6 -0.5
baz=277,SNR=5.9
TCOL CIGO, UAF Yank 24.73 49 IAmb IAmb 09 47 43.3
comp=Z,45nm,1.4s
TCOL CIGO, UAF Yank 24.73 49 P P 09 47 42.6 -0.3
baz=271,SNR=6.6
COLA College 24.73 49 P P 09 47 42.5 -0.5
COLA IAmb IAmb 09 47 43.3
comp=Z,22nm,1.0s
COLA College 24.73 49 P P 09 47 42.7 -0.2
COLA College 24.73 49 *i* P P 09 47 41.9 -1.0
COLA pmax pmax
comp=Z,27nm,1.3s
F24K Squaw Lake 24.82 43 P P 09 47 43.4 -0.4
baz=265
C24K Franklin Bluff 24.82 37 P P 09 47 43.6 -0.1
baz=259
PWL Port Wells 24.86 58 P P 09 47 43.2 -1.0
baz=279,SNR=5.6
POKR Poker Plat Res 24.91 48 P P 09 47 44.8 +0.2
baz=271
WAT6 Susitna Watana 24.92 54 P P 09 47 44.3 -0.6
baz=276
G24K Hadweenzic Riv 24.92 44 P P 09 47 45.0 +0.3
baz=267
DHY Denali Highway 25.04 53 IAmb IAmb 09 47 46.4
comp=Z,44nm,1.3s
DHY Denali Highway 25.04 53 P P 09 47 45.2 -0.7
baz=275,SNR=7.6
HDA Harding Lake 25.14 50 P P 09 47 45.6 -1.1
baz=273,SNR=8.8
IL31 25.15 49 P P 09 47 46.0 -0.7
ILAR Eielson Array 25.15 49 P P 09 47 45.7 -1.0
comp=Z,9.8nm,0.7s,baz=264,slow=8.3,SNR=85
comp=Z,9.8nm,0.7s
SCM Sheep Creek Mo 25.20 56 P P 09 47 47.2 -0.1
baz=278,SNR=5.7
G25K Bearman Lake 25.47 44 P P 09 47 49.7 +0.1
baz=268
D25K Kavik River 25.57 38 P P 09 47 50.0 -0.5
baz=263
F25K Christian Rive 25.68 42 P P 09 47 51.6 -0.1
baz=267,SNR=6.0
K24K Donnelly Dome 25.69 51 P P 09 47 51.1 -0.6
baz=275
M24K Tolsona, Glenn 25.70 55 P P 09 47 52.2 +0.4
baz=278,SNR=7.1
PRP Porcupine Dome 25.70 47 IAmb IAmb 09 47 52.4
comp=Z,22nm,0.9s
PRP Porcupine Dome 25.70 47 P P 09 47 51.9 0.0
baz=272,SNR=18
E25K Arctic Village 25.74 41 P P 09 47 52.2 +0.1
baz=266,SNR=8.1
FYU Fort Yukon 25.81 45 IAmb IAmb 09 47 53.6
comp=Z,19nm,0.8s
KLU Klutina 25.91 57 P P 09 47 53.5 -0.3
KLU IAmb IAmb 09 47 59.4
comp=Z,52nm,1.4s
PAX Paxson 25.91 53 P P 09 47 53.0 -0.8
PAX Paxson 25.91 53 P P 09 47 53.8 0.0
baz=277
PAX Paxson 25.91 53 P P 09 47 53.0 -0.8
PAX pmax pmax
comp=Z,24nm,1.4s
RIDG Independent Ri 26.11 51 P P 09 47 54.1 -1.4
baz=276
HARP HAARP 26.13 54 P P 09 47 55.7 0.0
baz=278
C26K Camden Bay 26.15 37 P P 09 47 55.9 +0.2
baz=263
MJB9 Matsu-Tunnel 26.18 234 P P 09 47 57.8 +1.4
MJB9 IAmb IAmb 09 48 01.5
comp=Z,24nm,0.7s
MAJO Matsushiro 26.18 234 P P 09 47 57.2 +0.8
MAJO IAmb IAmb 09 48 00.5
comp=Z,25nm,0.8s
MAJO Matsushiro 26.18 234 P P 09 47 57.3 +0.9
MAJO Matsushiro 26.18 234 P P 09 47 57.2 +0.8
MAJO pmax pmax
comp=Z,25nm,0.8s
MJAR Matsushiro Arr 26.18 234 P P 09 47 56.8 +0.4
comp=Z,10nm,0.7s,baz=24,slow=8.4,SNR=23
MJAR LR LR 09 58 05.7
comp=Z,140nm,21.1s,baz=33,slow=36
comp=Z,10nm,0.7s
F26K Sheenjek River 26.26 42 P P 09 47 57.0 +0.2
baz=268
G26K Porcupine Rive 26.39 44 P P 09 47 58.3 +0.4
baz=270
SCRK Sand Creek 26.46 51 P P 09 47 57.4 -1.3
baz=276,SNR=9.1
C27K Jago River 26.54 38 P P 09 47 59.1 -0.2
baz=265,SNR=13
MENT Mentasta 26.71 53 IAmb IAmb 09 48 09.3
comp=Z,67nm,1.9s
L26K Log Cabin Wild 26.87 53 IAmb IAmb 09 48 05.0
comp=Z,33nm,1.8s
M26K Nabesna, AK 27.12 54 P P 09 48 05.7 +1.0
baz=280
E27K Coleen River 27.23 41 P P 09 48 05.4 -0.2
baz=270
G27K Doyon Strip 27.23 44 P P 09 48 05.8 +0.2
baz=272
K27K Chicken 27.29 50 IAmb IAmb 09 48 06.3
comp=Z,16nm,0.8s
K27K Chicken 27.29 50 P P 09 48 05.8 -0.3
baz=277
H27K Steamboat Moun 27.31 46 P P 09 48 06.5 +0.2
baz=274,SNR=11
L27K Beaver Creek, 27.55 52 IAmb IAmb 09 48 09.4
comp=Z,22nm,1.0s
L27K Beaver Creek, 27.55 52 P P 09 48 08.8 +0.3
baz=279
BCAR Beaver Creek A 27.56 52 P P 09 48 08.6 0.0
EGAK Eagle 27.60 49 IAmb IAmb 09 48 08.0
comp=Z,16nm,0.9s
EGAK Eagle 27.60 49 P P 09 48 07.4 -1.4
baz=277,SNR=8.6
M27K Edge Creek, AK 27.64 54 P P 09 48 10.0 +0.6
baz=281
BVCY Beaver Creek 28.10 54 P P 09 48 14.0 +0.7
baz=281
DAWY Dawson 28.46 50 P P 09 48 16.6 +0.1
baz=279
I29M Ogilvie Camp, 28.72 47 P P 09 48 18.5 -0.4
baz=278,SNR=5.4
M29M Somme Creek 29.18 53 P P 09 48 23.7 +0.6
baz=283
L29M L29M 29.19 52 P P 09 48 23.6 +0.6
baz=282,SNR=11
EPYK Eagle Plains 29.23 45 P P 09 48 23.2 -0.2
EPYK Eagle Plains 29.23 45 P P 09 48 23.4 0.0
baz=277
K29M Barlow Dome 29.31 50 P P 09 48 23.9 -0.2
baz=281
G30M tAoh Zraii Nji 29.36 44 P P 09 48 23.9 -0.5
baz=277
INK Inuvik 30.23 41 P P 09 48 31.8 -0.2
comp=Z,5.9nm,0.5s,baz=285,slow=6.8,SNR=60
comp=Z,5.9nm,0.5s
INK Inuvik 30.23 41 IAmb IAmb 09 48 34.0
comp=Z,29nm,1.8s
INK Inuvik 30.23 41 P P 09 48 31.9 -0.2
baz=277,SNR=7.0
F31M Tsiigehtchic 30.26 42 P P 09 48 31.9 -0.5
baz=278
M31M Drury Creek, Y 31.09 53 P P 09 48 40.6 +0.8
baz=286,SNR=6.4
WHY Whitehorse 31.32 56 P P 09 48 43.1 +1.2
baz=288
FARO Faro, Yukon 31.55 52 P P 09 48 44.4 +0.6
baz=287
P33M Teslin, Yukon 32.43 56 P P 09 48 52.6 +0.9
baz=290
A36M Sachs Harbour 32.57 33 P P 09 48 52.5 -0.1
A36M IAmb IAmb 09 48 53.4
comp=Z,10nm,0.8s
A36M Sachs Harbour 32.57 33 P P 09 48 52.8 +0.2
baz=278,SNR=7.6
JCJ Chichijima 32.81 219 LR LR 10 02 24.5
comp=Z,14nm,20.4s,baz=36,slow=37
C36M Paulatuk 33.43 38 P P 09 48 59.8 -0.3
C36M Paulatuk 33.43 38 P P 09 48 59.9 -0.3
baz=283,SNR=11
R33M Jennings River 33.60 57 P P 09 49 03.4 +1.5
baz=292
TGTN Hyland Airport 34.05 52 P P 09 49 06.5 +0.8
baz=291
WTLY Watson Lake, Y 34.34 55 P P 09 49 09.2 +0.9
baz=293
DLBC Dease Lake 34.43 58 P P 09 49 10.1 +1.0
comp=Z,7.2nm,0.6s,baz=275,slow=5.7,SNR=14
comp=Z,7.2nm,0.6s
DLBC Dease Lake 34.43 58 P P 09 49 10.7 +1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=294						
LIRD	**Liard River Hi**	**35.87**	**55**	P	**P**	**09 49 22.5**	**+1.0**
	baz=295,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**35.90**	**176**	T	T	10 27 17.4	
	baz=358,slow=76,SNR=1068						
SONM	**Songino Array**	**35.90**	**282**	P	**P**	**09 49 21.5**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=62,slow=7.5,SNR=16						
	comp=Z,1.9nm,0.5s						
H11N3	**WAKE ISLAND Hy**	**35.91**	**176**	T	T	10 27 17.7	
	baz=358,slow=76,SNR=1027						
H11N1	**WAKE ISLAND Hy**	**35.91**	**176**	T	T	10 27 19.2	
	baz=358,slow=76,SNR=1102						
KOTAN	**Kotaneelee Air**	**36.50**	**53**	P	**P**	**09 49 27.8**	**+1.1**
	baz=296						
H11S1	**WAKE ISLAND Hy**	**37.10**	**177**	T	T	10 28 42.0	
	baz=359,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**37.12**	**177**	T	T	10 28 49.9	
	baz=359,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**37.12**	**177**	T	T	10 28 46.1	
	baz=359,slow=76,SNR=55						
HHC	**Hu-ho-hao-te**	**37.31**	**269**	*e*P	**P**	**09 49 35.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.5s						
EUNU	**Eureka**	**38.82**	**15**	IAmb	IAmb	09 49 47.1	
	comp=Z,9.9nm,0.8s						
YKA	**Yellowknife Ar**	**39.50**	**46**	P	**P**	**09 49 51.6**	**-0.4**
	comp=Z,6.6nm,0.5s,baz=297,slow=8.4,SNR=29						
	comp=Z,6.6nm,0.5s						
YKA	**Yellowknife Ar**	**39.50**	**46**	*ce*P	**P**	**09 49 51.5**	**-0.4**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2	**Nanjing**	**39.55**	**253**	*e*P	**P**	**09 49 50.5**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,21nm,1.6s						
RES	**Resolute Bay**	**39.95**	**24**	P	**P**	**09 49 55.1**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=302,slow=8.3,SNR=8.2						
	comp=Z,5.7nm,0.8s						
RES	**Resolute Bay**	**39.95**	**24**	P	**P**	**09 49 55.4**	**-0.1**
ZALV	**Zalesovo Beam**	**43.62**	**303**	P	**P**	**09 50 23.7**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=96,slow=2.9,SNR=1.8						
	comp=Z,0.6nm,0.3s						
DGZ	**Jazzator, Alta**	**44.90**	**296**	*i* P	**P**	**09 50 35.8**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA	**Gaotai**	**44.92**	**277**	*e*P	**P**	**09 50 35.8**	**-0.8**
GTA				pP	pP	09 50 45.5	-0.2
GTA				sP	sP	09 50 48.5	-1.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,62nm,5.2s						
GTA				LR	LR		
	comp=Z,350nm,18.9s						
GTA				LR	LR		
	comp=Z,290nm,14.9s						
LZH	**Lanzhou**	**44.97**	**271**	*e*P	P	09 50 45.0	+8.0
LZH				pP	pwP	09 50 55.5	+3.7
LZH				sP	sP	09 51 00.3	+11
LZH				pmax	pmax		
	comp=Z,20nm,0.9s						
LZH				LR	LR		
	comp=N,450nm,14.9s						
LZH				LR	LR		
	comp=E,400nm,15.2s						
LZH				LR	LR		
	comp=Z,420nm,15.9s						
SPITS	**Spitsbergen Ar**	**45.03**	**351**	P	**P**	**09 50 36.1**	**-0.7**
	comp=Z,7.1nm,0.9s,baz=38,slow=7.3,SNR=1.2						
	comp=Z,7.1nm,0.9s						
B08A	**Colville Reser**	**45.19**	**66**	IAmb	IAmb	09 50 39.7	
	comp=Z,13nm,0.9s						
E09A	**Wood Farm, Sta**	**46.99**	**67**	P	**P**	**09 50 52.7**	**+0.1**
F10A	**Beach Ranch, E**	**47.83**	**67**	IAmb	IAmb	09 51 00.1	
	comp=Z,11nm,0.9s						
BMO	**Blue Mountains**	**48.54**	**68**	IAmb	IAmb	09 51 05.7	
	comp=Z,9.0nm,0.9s						
WMQ	**Urumqi**	**48.59**	**290**	*e*P	**P**	**09 51 06.0**	**+0.9**
WMQ				pP	pP	09 51 15.0	+0.7
WMQ				sP	pwP	09 51 19.5	-0.5
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				LR	LR		
	comp=Z,470nm,20.3s						
WMQ				LR	LR		
	comp=Z,100nm,22.9s						
KURK	**Kurchatov**	**48.61**	**302**	P	**P**	**09 51 04.0**	**-1.1**
KURK				IAmb	IAmb	09 51 05.9	
	comp=Z,15nm,1.1s						
KURK	**Kurchatov**	**48.61**	**302**	*ce*P	**P**	**09 51 03.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,17nm,1.3s						
KURK	**Kurchatov**	**48.61**	**302**	P	**P**	**09 51 03.9**	**-1.2**
KURK				pP	**pP**	**09 51 14.1**	**-0.2**
KURK				sP	**sP**	**09 51 17.7**	**-0.4**
MSO	**Missoula**	**48.96**	**64**	P	**P**	**09 51 08.3**	**+0.3**
	baz=312,SNR=5.4						
PLID	**Pearl Lake**	**49.06**	**67**	IAmb	IAmb	09 51 10.0	
	comp=Z,5.8nm,0.6s						
MK31	**Makanchi Array**	**49.40**	**296**	P	**P**	**09 51 09.7**	**-1.6**
MK31	**Makanchi Array**	**49.40**	**296**	*i* P	**P**	**09 51 11.3**	**+0.1**
MKAR	**Makanchi Array**	**49.40**	**296**	P	**P**	**09 51 09.8**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=48,slow=8.9,SNR=16						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**49.40**	**296**	P	**P**	**09 51 09.9**	**-1.3**
WVOR	**Wild Horse Val**	**49.47**	**71**	IAmb	IAmb	09 51 13.4	
	comp=Z,9.3nm,1.0s						
ORV	**Oroville**	**49.91**	**76**	IAmb	IAmb	09 51 16.1	
	comp=Z,6.4nm,0.8s						
GOMU	**GeErMu**	**49.99**	**278**	P	**P**	**09 51 15.5**	**-0.8**
GOMU				pmax	pmax		
	comp=Z,44nm,0.8s						
EGMT	**Eagleton**	**50.25**	**61**	IAmb	IAmb	09 51 18.5	
	comp=Z,9.3nm,0.8s						
EGMT	**Eagleton**	**50.25**	**61**	P	**P**	**09 51 17.6**	**-0.2**
	baz=313						
BEKR	**Beckworth**	**50.32**	**75**	P	**P**	**09 51 19.1**	**+0.6**
BEKR				IAmb	IAmb	09 51 19.9	
	comp=Z,12nm,1.1s						
LRM	**Limekiln Ridge**	**50.40**	**64**	P	**P**	**09 51 19.1**	**0.0**
BRVK	**Borovoye**	**50.87**	**309**	P	**P**	**09 51 21.9**	**-0.3**
BRVK				IAmb	IAmb	09 51 22.9	
	comp=Z,8.8nm,0.7s						
BRVK	**Borovoye**	**50.87**	**309**	*ce*P	**P**	**09 51 22.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,16nm,1.7s						
BRVK	**Borovoye**	**50.87**	**309**	P	**P**	**09 51 21.9**	**-0.3**
BRVK				sP	**pwP**	**09 51 36.6**	**-0.5**
HLID	**Hailey**	**50.94**	**68**	P	**P**	**09 51 23.0**	**-0.1**
HLID	**Hailey**	**50.94**	**68**	P	**P**	**09 51 23.5**	**+0.5**
	baz=314,SNR=5.1						
BOZ	**Bozeman (W)**	**50.97**	**64**	IAmb	IAmb	09 51 24.3	
	comp=Z,6.8nm,0.8s						
BOZ	**Bozeman (W)**	**50.97**	**64**	P	**P**	**09 51 23.7**	**+0.4**
	baz=314,SNR=7.7						
SUMG	**Summit**	**51.07**	**9**	*i* P	**P**	**09 51 22.0**	**-2.0**
VCNR	**Virginia City**	**51.11**	**75**	IAmb	IAmb	09 51 26.3	
	comp=Z,11nm,0.8s						
PNTR	**Pine Nut**	**51.28**	**75**	P	**P**	**09 51 26.1**	**+0.3**
YHB	**Horse Butte**	**51.78**	**64**	IAmb	IAmb	09 51 30.7	
	comp=Z,13nm,0.8s						
YMR	**Madison River**	**51.95**	**64**	IAmb	IAmb	09 51 32.1	
	comp=Z,13nm,0.9s						
KVN	**Kaiserville**	**52.13**	**74**	IAmb	IAmb	09 51 34.0	
	comp=Z,9.1nm,0.8s						
RYN	**Ryan**	**52.20**	**75**	P	**P**	**09 51 32.8**	**+0.2**
RYN				IAmb	IAmb	09 51 34.4	
	comp=Z,8.2nm,0.9s						
YMP	**Mirror Lake Pl**	**52.32**	**64**	IAmb	IAmb	09 51 35.1	
	comp=Z,12nm,0.9s						
H17A	**Grant Village**	**52.34**	**64**	IAmb	IAmb	09 51 36.3	
	comp=Z,10nm,0.8s						
H17A	**Grant Village**	**52.34**	**64**	P	**P**	**09 51 35.9**	**+2.2**
	baz=315						
NVAR	**Mina Array Bea**	**52.47**	**75**	P	**P**	**09 51 35.8**	**+1.2**
	comp=Z,7.3nm,0.8s,baz=297,slow=7.5,SNR=52						
	comp=Z,7.3nm,0.8s						
LHV	**Little Huntoon**	**52.48**	**75**	IAmb	IAmb	09 51 37.0	
	comp=Z,13nm,1.0s						
FLWY	**Flagg Ranch**	**52.50**	**65**	IAmb	IAmb	09 51 36.8	
	comp=Z,11nm,0.8s						
RLMT	**Red Lodge**	**52.50**	**63**	P	**P**	**09 51 35.6**	**+0.8**
	baz=315,SNR=18						
NV11	**Mina Array Sit**	**52.54**	**75**	P	**P**	**09 51 35.0**	**-0.1**
NV11				IAmb	IAmb	09 51 37.2	
	comp=Z,10.0nm,0.9s						
MDPB	**Devils Postpil**	**52.61**	**76**	P	**P**	**09 51 36.2**	**+0.4**
MDPB				IAmb	IAmb	09 51 37.9	
	comp=Z,12nm,1.0s						
DGMT	**Dagmar**	**52.64**	**57**	P	**P**	**09 51 35.8**	**+0.3**
	baz=315						
FXWY	**Fox Creek**	**52.65**	**65**	P	**P**	**09 51 36.6**	**+0.7**
FXWY				IAmb	IAmb	09 51 37.5	
	comp=Z,6.6nm,0.8s						
LOHW	**Long Hollow**	**52.88**	**65**	P	**P**	**09 51 36.5**	**-1.1**
LOHW				IAmb	IAmb	09 51 39.3	
	comp=Z,7.0nm,0.8s						
LAO	**LASA Array**	**52.91**	**60**	IAmb	IAmb	09 51 39.0	
	comp=Z,14nm,0.8s						
PZH	**PanZhiHua**	**53.31**	**264**	P	**P**	**09 51 43.5**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,160nm,6.1s						
MZP	**Montezuma Peak**	**53.49**	**75**	IAmb	IAmb	09 51 47.9	
	comp=Z,9.4nm,0.9s						
TIN	**Tinemaha, Big**	**53.50**	**76**	P	**P**	**09 51 44.1**	**+2.0**
	baz=317,SNR=5.3						
LCH	**Last Change Ra**	**53.69**	**75**	IAmb	IAmb	09 51 45.7	
	comp=Z,9.5nm,1.0s						
SMMC	**Simmler**	**53.79**	**79**	P	**P**	**09 51 46.1**	**+1.9**
	baz=317						
GMN	**Gold Mountain**	**53.85**	**75**	IAmb	IAmb	09 51 47.0	
	comp=Z,8.2nm,0.9s						
GRAC	**Grapevine Rang**	**54.01**	**75**	P	**P**	**09 51 46.7**	**+0.9**
GRAC				IAmb	IAmb	09 51 48.2	
	comp=Z,13nm,1.1s						
GRAC	**Grapevine Rang**	**54.01**	**75**	P	**P**	**09 51 47.4**	**+1.6**
	baz=317						
BW06	**Boulder Array**	**54.02**	**65**	IAmb	IAmb	09 51 47.2	
	comp=Z,9.5nm,0.8s						
BW06	**Boulder Array**	**54.02**	**65**	P	**P**	**09 51 46.5**	**+0.5**
	baz=316,SNR=12						
PD31	**Pinedale Array**	**54.02**	**65**	P	**P**	**09 51 46.2**	**+0.2**
PD31				IAmb	IAmb	09 51 47.2	
	comp=Z,8.4nm,0.8s						
PDAR	**Pinedale Array**	**54.02**	**65**	P	**P**	**09 51 46.1**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=327,slow=3.0,SNR=54						
	comp=Z,6.7nm,0.8s						
PDAR	**Pinedale Array**	**54.02**	**65**	P	**P**	**09 51 45.8**	**-0.2**
CWC	**Cottonwood Cre**	**54.02**	**76**	P	**P**	**09 51 47.1**	**+1.1**
	baz=317						
DUG	**Dugway, Tooele**	**54.16**	**70**	P	**P**	**09 51 47.2**	**+0.2**
DUG				IAmb	IAmb	09 51 48.7	
	comp=Z,8.2nm,0.9s						
DUG	**Dugway, Tooele**	**54.16**	**70**	P	**P**	**09 51 48.1**	**+1.2**
	baz=316,SNR=8.5						
DUG	**Dugway, Tooele**	**54.16**	**70**	P	**P**	**09 51 47.2**	**+0.2**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SPR3	**Spring Creek 3**	**54.21**	**72**	IAmb	IAmb	09 51 50.2	
	comp=Z,15nm,0.9s						
S11A	**Rachel**	**54.43**	**74**	IAmb	IAmb	09 51 50.5	
	comp=Z,8.6nm,0.7s						
MPMC	**Manual Prospec**	**54.63**	**76**	P	**P**	**09 51 51.5**	**+1.0**
	baz=317,SNR=5.9						
FURC	**Furnace Creek,**	**54.67**	**76**	P	**P**	**09 51 52.0**	**+1.5**
	baz=317,SNR=14						
PSUT	**Pine Spring**	**54.80**	**72**	IAmb	IAmb	09 51 53.6	
	comp=Z,10nm,1.2s						
MPU	**Maple Canyon**	**54.92**	**69**	P	**P**	**09 51 53.2**	**+0.7**
MPU				IAmb	IAmb	09 51 54.4	
	comp=Z,10nm,1.0s						
LRMC	**Laurel Mtn Rad**	**54.95**	**77**	P	**P**	**09 51 53.8**	**+1.1**
	baz=318						
PRN	**Pahroc Range**	**54.98**	**73**	P	**P**	**09 51 53.6**	**+0.7**
PRN				IAmb	IAmb	09 51 55.0	
	comp=Z,12nm,1.0s						
GWY	**Greenwater Val**	**54.99**	**76**	IAmb	IAmb	09 51 54.9	
	comp=Z,14nm,1.0s						
ULM	**Lac du Bonnet**	**55.16**	**50**	P	**P**	**09 51 53.2**	**-0.6**
	comp=Z,8.6nm,0.8s,baz=293,slow=8.7,SNR=5.6						
	comp=Z,8.6nm,0.8s						
MDND	**Maddock**	**55.23**	**55**	P	**P**	**09 51 55.4**	**+0.9**
	baz=317						
SHOC	**Shoshone, Teco**	**55.41**	**76**	P	**P**	**09 51 57.6**	**+1.7**
	baz=318						
GSC	**Goldstone, Bar**	**55.56**	**76**	IAmb	IAmb	09 51 58.9	
	comp=Z,14nm,1.1s						
GSC	**Goldstone, Bar**	**55.56**	**76**	P	**P**	**09 51 58.3**	**+1.3**
	baz=318,SNR=5.4						
RDMU	**Red Mountain**	**55.60**	**67**	IAmb	IAmb	09 51 59.2	
	comp=Z,11nm,0.9s						
K22A	**Casper**	**55.65**	**63**	IAmb	IAmb	09 51 59.4	
	comp=Z,8.0nm,0.9s						
K22A	**Casper**	**55.65**	**63**	P	**P**	**09 51 58.4**	**+0.6**
	baz=317						
TMUT	**Trail Mountain**	**55.66**	**69**	IAmb	IAmb	09 51 59.9	
	comp=Z,7.6nm,0.9s						
CCUT	**Cedar City**	**55.79**	**72**	P	**P**	**09 51 59.2**	**+0.3**
RSSD	**Black Hills**	**55.83**	**60**	P	**P**	**09 51 58.6**	**-0.4**
RSSD				IAmb	IAmb	09 51 59.9	
	comp=Z,7.9nm,0.8s						
RSSD	**Black Hills**	**55.83**	**60**	P	**P**	**09 51 59.3**	**+0.3**
	baz=317						
RSSD	**Black Hills**	**55.83**	**60**	P	**P**	**09 51 58.6**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RSSD	**Black Hills**	**55.83**	**60**	P	**P**	**09 51 59.1**	**+0.1**
RSSD				pP	**pP**	**09 52 09.0**	**+0.2**
RSSD				sP	**pwP**	**09 52 13.6**	**+1.0**
TUQ	**Turquoise Moun**	**55.95**	**76**	P	**P**	**09 52 01.2**	**+1.3**
	baz=318						
Q16A	**Castle Valley**	**55.96**	**70**	IAmb	IAmb	09 52 02.0	
	comp=Z,7.8nm,1.0s						
SRU	**San Rafael Swe**	**56.16**	**69**	IAmb	IAmb	09 52 03.4	
	comp=Z,13nm,0.9s						
AAK	**Ala-Archa**	**56.27**	**297**	P	**P**	**09 52 02.3**	**+0.2**
AAK	**Ala-Archa**	**56.27**	**297**	*ce*P	**P**	**09 52 02.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**56.27**	**297**	P	**P**	**09 52 01.9**	**-0.2**
AAK				sP	**pwP**	**09 52 18.0**	**+0.9**
TNCH	**TengChong**	**56.27**	**266**	*e*P	**P**	**09 52 02.0**	**-0.4**
TNCH				pP	sP	09 52 15.3	0.0
TNCH				pmax	pmax		
	comp=Z,24nm,0.4s						
GMRC	**Granite Mounta**	**56.58**	**76**	P	**P**	**09 52 05.5**	**+1.2**
	baz=318						
O20A	**White River Ci**	**56.61**	**67**	P	**P**	**09 52 05.2**	**+0.6**
	baz=317,SNR=9.0						
N23A	**Red Feather La**	**57.23**	**64**	IAmb	IAmb	09 52 10.6	
	comp=Z,8.7nm,0.9s						
N23A	**Red Feather La**	**57.23**	**64**	P	**P**	**09 52 10.1**	**+1.0**
	baz=318,SNR=5.5						
PV11	**David Mesa, Pa**	**57.63**	**68**	P	**P**	**09 52 10.8**	**-1.1**
PV13	**Radium Mtn., P**	**57.76**	**68**	IAmb	IAmb	09 52 14.5	
	comp=Z,14nm,1.2s						
PV15	**Paradox Valley**	**57.81**	**68**	P	**P**	**09 52 13.4**	**+0.2**
PV15				IAmb	IAmb	09 52 14.8	
	comp=Z,12nm,1.2s						
KKAR	**Karatay Array**	**57.90**	**300**	P	**P**	**09 52 12.5**	**-1.0**
KKAR	**Karatay Array**	**57.90**	**300**	IAmb	IAmb	09 52 13.9	
	comp=Z,6.7nm,1.1s						
KKAR	**Karatay Array**	**57.90**	**300**	P	**P**	**09 52 12.5**	**-1.0**
ABKAR	**Akbulak array**	**58.10**	**312**	P	**P**	**09 52 13.8**	**-0.9**
ABKAR	**Akbulak array**	**58.10**	**312**	IAmb	IAmb	09 52 15.7	
	comp=Z,4.7nm,0.8s						
S22A	**4UR Ranch, Cre**	**59.12**	**67**	P	**P**	**09 52 23.7**	**+1.3**
	baz=319						
ECSD	**EROS Data Cent**	**59.69**	**56**	P	**P**	**09 52 25.9**	**0.0**
	baz=320						
SDCO	**Great Sand Dun**	**59.81**	**67**	P	**P**	**09 52 28.3**	**+1.2**
	baz=319						
SPMN	**Marine on St.**	**60.31**	**53**	P	**P**	**09 52 30.3**	**+0.3**
	baz=321						
I37A	**Lemond, Waseca**	**60.97**	**54**	P	**P**	**09 52 33.2**	**-1.4**
GUN	**Gumba**	**61.20**	**278**	*e*P	**P**	**09 52 35.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**61.24**	**261**	P	**P**	**09 52 38.1**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=23,slow=6.5,SNR=2.3						
	comp=Z,1.3nm,0.3s						
ANMO	**Albuquerque**	**61.43**	**69**	*ce*P	**P**	**09 52 39.3**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ANMO	**Albuquerque**	**61.43**	**69**	P	**P**	**09 52 38.5**	**+0.4**
ANMO				sP	**pwP**	**09 52 55.2**	**+3.1**
RAMN	**Ramite**	**61.53**	**277**	*e*P	**P**	**09 52 38.2**	**-0.7**
	comp=Z,11nm,0.4s						
PKIN	**Phulchoki**	**61.73**	**278**	*e*P	**P**	**09 52 39.9**	**-0.4**
	comp=Z,4.0nm,0.2s						
OBN	**Obninsk**	**61.73**	**329**	*e*P	**P**	**09 52 38.6**	**-0.9**
OBN				*e*		09 53 22.4	
OBN				*e*		09 54 55.4	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,214nm,21.0s						
NB2	**NORSAR Subarra**	**61.77**	**346**	P	**P**	**09 52 39.1**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.77**	**346**	P	**P**	**09 52 39.2**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=18,slow=7.3,SNR=1.8						
	comp=Z,0.7nm,0.7s						
SIMJ	**Simiganj**	**62.01**	**298**	P	**P**	**09 52 41.4**	**-0.5**
DANN	**Dangsing**	**62.05**	**280**	*e*P	**P**	**09 52 42.0**	**-0.4**
	comp=Z,18nm,0.5s						
SCHQ	**Schefferville**	**62.14**	**31**	P	**P**	**09 52 41.2**	**-1.1**
	comp=Z,4.9nm,0.8s,baz=284,slow=4.9,SNR=4.3						
	comp=Z,4.9nm,0.8s						
KOLN	**Koldanda**	**62.58**	**280**	*e*P	**P**	**09 52 45.4**	**-0.5**
KOLN	**Koldanda**	**62.58**	**280**	*e*P	**P**	**09 52 45.6**	**-0.3**
PYUN	**Piuthan**	**62.67**	**280**	*e*P	**P**	**09 52 46.0**	**-0.5**
	comp=Z,4.3nm,0.3s						
KSU1	**Kansas State U**	**63.26**	**59**	P	**P**	**09 52 49.4**	**-0.6**
KSU1	**Kansas State U**	**63.26**	**59**	P	**P**	**09 52 49.2**	**-0.9**
	baz=321						
HDIL	**Hopedale**	**65.57**	**54**	P	**P**	**09 53 04.6**	**-0.4**
	baz=323						
WMOK	**Wichita Mounta**	**65.58**	**64**	P	**P**	**09 53 04.7**	**-0.6**
WMOK				IAmb	IAmb	09 53 06.0	
	comp=Z,11nm,0.9s						
WMOK	**Wichita Mounta**	**65.58**	**64**	P	**P**	**09 53 05.5**	**+0.2**
	baz=322,SNR=9.4						
WMOK	**Wichita Mounta**	**65.58**	**64**	P	**P**	**09 53 04.7**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,11nm,0.9s						
CCM	**Cathedral Cave**	**66.66**	**56**	P	**P**	**09 53 11.7**	**-0.5**
	baz=323						
ABTX	**Abilene, Hawle**	**66.80**	**66**	IAmb	IAmb	09 53 14.4	
	comp=Z,9.7nm,1.1s						
MGMO	**Mountain Grove**	**66.90**	**58**	IAmb	IAmb	09 53 14.4	
	comp=Z,5.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**67.27**	**71**	P	**P**	**09 53 16.3**	**+0.1**
TX32	**Lajitas Array**	**67.27**	**71**	IAmb	IAmb	09 53 17.5	
	comp=Z,6.6nm,0.8s						
TXAR	**Lajitas Array**	**67.27**	**71**	P	**P**	**09 53 16.7**	**+0.5**
	comp=Z,5.6nm,0.7s,baz=299,slow=4.6,SNR=62						
	comp=Z,5.6nm,0.7s						
AKASG	**Malin Array Be**	**67.72**	**331**	P	**P**	**09 53 18.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=29,slow=6.8,SNR=3.1						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**67.72**	**331**	P	**P**	**09 53 18.0**	**-0.6**
GEYT	**Alibeck**	**67.84**	**305**	P	**P**	**09 53 20.7**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=350,slow=1.8,SNR=4.8						
	comp=Z,4.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**67.98**	**58**	IAmb	IAmb	09 53 20.1	
	comp=Z,8.5nm,0.9s						
MIAR	**Mount Ida**	**68.34**	**60**	P	**P**	**09 53 23.0**	**+0.1**
	baz=324						
JCT	**Junction City**	**68.41**	**68**	IAmb	IAmb	09 53 24.0	
	comp=Z,9.7nm,0.8s						
JCT	**Junction City**	**68.41**	**68**	P	**P**	**09 53 23.2**	**-0.1**
	baz=323,SNR=5.9						
P49A	**Miami Univ. Ec**	**68.45**	**51**	P	**P**	**09 53 22.4**	**-1.0**
	baz=325						
KBZ	**Khabaz**	**69.42**	**319**	LR	LR	10 25 54.6	
	comp=Z,94nm,18.5s,baz=356,slow=38						
P52A	**Corning**	**69.49**	**49**	P	**P**	**09 53 28.6**	**-1.3**
	baz=326						
WVT	**Waverly**	**69.82**	**55**	P	**P**	**09 53 30.0**	**-1.9**
WVT				IAmb	IAmb	09 53 32.4	
	comp=Z,9.3nm,1.0s						
WVT	**Waverly**	**69.82**	**55**	P	**P**	**09 53 31.7**	**-0.3**
	baz=325						
WVT	**Waverly**	**69.82**	**55**	P	**P**	**09 53 30.0**	**-1.9**
WVT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WVT	**Waverly**	**69.82**	**55**	P	**P**	**09 53 31.2**	**-0.8**
WVT				pP	**pP**	**09 53 42.3**	**+0.3**
V48A	**Smith Brothers**	**70.61**	**55**	IAmb	IAmb	09 53 37.0	
	comp=Z,7.7nm,0.9s						
PLAL	**Pickwick Lake**	**70.64**	**56**	P	**P**	**09 53 35.9**	**-1.1**
R53A	**Hurricane**	**70.65**	**50**	P	**P**	**09 53 35.9**	**-1.1**
CLL	**Collm**	**70.84**	**342**	*e*P	**P**	**09 53 38.0**	**+0.1**
CLL	**Collm**	**70.84**	**342**	*e*P	**P**	**09 53 38.0**	**+0.1**
SWET	**Sewanee**	**71.45**	**55**	IAmb	IAmb	09 53 41.7	
	comp=Z,11nm,0.8s						
LRAL	**Lakeview Retre**	**72.75**	**57**	P	**P**	**09 53 48.1**	**-1.6**
LRAL				IAmb	IAmb	09 53 49.1	
	comp=Z,7.4nm,0.6s						
LRAL	**Lakeview Retre**	**72.75**	**57**	P	**P**	**09 53 48.7**	**-1.0**
	baz=326,SNR=5.9						
KMSC	**Kings Mountain**	**73.59**	**51**	P	**P**	**09 53 53.7**	**-0.9**
	baz=328						
WRA	**Warramunga Arr**	**79.55**	**209**	P	**P**	**09 54 29.4**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=22,slow=5.5,SNR=3.5						
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**83.21**	**208**	P	**P**	**09 54 48.5**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=16,slow=5.4,SNR=12						
	comp=Z,0.5nm,0.6s						

IDC 28 10:03:59.8±3.9**, 2°.42S**×**141°.13E, h0**km**, mb3.5**/2**, mbtmp3.6**/3**, ML3.6**/1**, Error ellipse: s-maj=134.5km s-min=31.9km az=89.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.64**	**200**	P	P	10 08 18.6	-0.7
	0.2nm,0.3s,baz=22,slow=12,SNR=17						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**22.25**	**198**	P	P	10 08 58.5	-0.1
	1.8nm,1.0s,baz=30,slow=10,SNR=14						
	1.8nm,1.0s						
MKAR	**Makanchi Array**	**71.05**	**322**	P	P	10 15 20.2	+0.3
	0.4nm,0.8s,baz=129,slow=7.8,SNR=2.7						
	0.4nm,0.8s						

---

*KRNET **28** 10:19:43.6±0.1, 39°.24N×74°.23E, mb3.7*
*SOME **28** 10:19:44.3, 39°.45N×73°.67E, h0km*
*NNC **28** 10:19:51.5±2.2, 39°.48N×74°.00E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=17.3km s-min=10.5km az=167.0*
ISC 28 10:19:46.9±1.4**, 39°.38N**±0°.06×**74°.13E**±0°.04**, h10**km**, n46,** σ**2**s**05**/69**, 27C-7D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHH	**Osh**	**1.54**	**318**	⇑*e*P	**Pb**	**10 20 14.3**	**-1.3**
	baz=20						
OHH				⇑*e*S	**Sb**	**10 20 36.9**	**+1.7**
	baz=20						
DRK	**Karamyk**	**1.81**	**274**	⇑*e*P	**Pn**	**10 20 17.1**	**-1.3**
	baz=78						
DRK				⇑*e*S	**Sn**	**10 20 41.5**	**0.0**
	baz=78						
ARLS	**Aral**	**2.48**	**3**	⇑*e*P	**Pn**	**10 20 27.0**	**-0.6**
	baz=2.0						
ARLS				⇑*e*S	**Sn**	**10 20 58.8**	**+0.8**
	baz=2.0						
BTK	**Batken**	**2.64**	**286**	⇑*e*P	**Pn**	**10 20 29.0**	**-0.7**
	baz=88						
BTK				⇑*e*S	**Sn**	**10 21 02.2**	**+0.4**
	baz=88						
AML	**Almayashu**	**2.77**	**353**	P	**Pb**	**10 20 37.3**	**+0.6**
	SNR=19						
UCH	**Uchtor**	**2.86**	**6**	P	**Pb**	**10 20 39.0**	**+0.7**
	SNR=20						
UCH	**Uchtor**	**2.86**	**6**	⇓*e*P	**Pn**	**10 20 32.5**	**-0.5**
	baz=4.0						
UCH				⇓*e*S	**Sn**	**10 21 07.9**	**+0.2**
	baz=4.0						
TRKS	**Terek-Say**	**3.13**	**314**	⇑*e*P	**Pn**	**10 20 35.8**	**-0.7**
	baz=15						
TRKS				⇑*e*S	**Sn**	**10 21 13.6**	**-0.4**
	baz=15						
AAK	**Ala-Archa**	**3.27**	**5**	P	**Pb**	**10 20 45.0**	**0.0**
	SNR=13						
AAK	**Ala-Archa**	**3.27**	**5**	⇑*e*P	**Pn**	**10 20 37.9**	**-0.4**
	baz=3.0						
AAK				⇑*e*S	**Sn**	**10 21 17.7**	**+0.4**
	baz=3.0						
ULHL	**Ulahol**	**3.28**	**29**	P	**Pg**	**10 20 50.2**	**+0.4**
	SNR=7.9						
ULHL	**Ulahol**	**3.28**	**29**	⇑*e*P	**Pn**	**10 20 37.5**	**-1.1**
	baz=26						
ULHL				⇑*e*S	**Sn**	**10 21 17.2**	**-0.6**
	baz=26						
EKS2	**Erkin-Say**	**3.29**	**355**	P	**Pb**	**10 20 46.0**	**+0.6**
	SNR=14						
EKS2	**Erkin-Say**	**3.29**	**355**	⇑*e*P	**Pn**	**10 20 38.5**	**-0.1**
	baz=54						

EKS2				⇑eS		Sn	10 21 18.5	+0.6		
	baz=54									
KBK	Karagaybulak	3.33	10	P		Pb	10 20 46.2	0.0		
	SNR=14									
KBK	Karagaybulak	3.33	10⇑	eP		Pn	10 20 38.7	-0.5		
	baz=9.0									
KBK				⇑eS		Sn	10 21 18.8	-0.2		
	baz=9.0									
MRKS	Merke	3.43	349	eP		Pb	10 20 46.0	-1.8		
	9.3nm,0.4s									
MRKS				eS		Sb	10 21 30.4	+0.8		
	33nm,0.5s									
MRKS	Merke	3.43	349	Pg		Pb	10 20 46.2	-1.6		
	9.3nm,0.4s									
MRKS				Lg		Lg	10 21 32.0			
	33nm,0.5s									
CHMS	Chumysh	3.65	7	⇑Pn		Pb	10 20 50.1	-1.3		
	7.6nm,0.6s									
CHMS				⇑Lg		Lg	10 21 45.2			
	20nm,0.7s									
TKM2	Tokmak 2	3.71	17	⇓Pn		Pb	10 20 50.4	-2.2		
	3.8nm,0.5s									
TKM2				⇑Pg		Pg	10 21 00.3	+2.4		
	12nm,0.7s									
TKM2				⇑Lg		Lg	10 21 48.3			
	22nm,0.6s									
DGS	Degeres	4.05	17	eP		Pg	10 21 03.4	-1.2		
	8.1nm,0.6s									
DGS				eS		Sg	10 22 00.0	+3.0		
	24nm,0.8s									
DGS	Degeres	4.05	17	Pg		Pg	10 21 02.6	-2.0		
	8.1nm,0.6s									
DGS				Lg		Lg	10 21 59.8			
	24nm,0.8s									
SGDS	Sogindy	4.09	5	eP		Pg	10 21 03.0	-2.1		
	6.0nm,0.5s									
SGDS				eS		Sg	10 21 59.4	+1.3		
	21nm,0.8s									
SGDS	Sogindy	4.09	5	Pg		Pg	10 21 02.4	-2.8		
	6.0nm,0.5s									
SGDS				Lg		Lg	10 21 59.3			
	21nm,0.8s									
MTBS	Maitube	4.13	24	eP		Pg	10 21 04.0	-2.0		
	5.1nm,0.3s									
MTBS				eS		Sg	10 22 01.5	+2.0		
	18nm,0.5s									
IUG	luzhnay	4.16	313	eP		Pb	10 20 54.9	-5.4		
	19nm,0.5s									
IUG				eS		Sn	10 21 45.6	+6.3		
	37nm,0.7s									
IUG	luzhnay	4.16	313	Pg		Pn	10 20 54.4	+3.8		
	19nm,0.5s									
IUG				Lg		Lg	10 21 46.0			
	37nm,0.7s									
TNSS	Tian-Shan	4.23	29	eP		Pg	10 21 06.0	-1.9		
	8.7nm,0.6s									
TNSS				eS		Sg	10 22 05.3	+2.6		
	14nm,0.7s									
TNSS	Tian-Shan	4.23	29	Pg		Pg	10 21 06.0	-1.9		
	8.7nm,0.6s									
TNSS				Lg		Lg	10 22 05.3			
	14nm,0.7s									
MDOK	Medeo	4.37	29	eP		Pg	10 21 09.1	-1.6		
	6.7nm,0.5s									
MDOK				eS		Sg	10 22 10.2	+2.9		
	27nm,1.1s									
MDOK	Medeo	4.37	29	Pg		Pg	10 21 11.8	+1.2		
	18nm,1.4s									
MDOK				Lg		Lg	10 22 10.5			
	51nm,1.1s									
KOTS	Kotyrbulak	4.46	29	eP		Pg	10 21 11.1	-1.2		
	7.4nm,0.4s									
KOTS				eS		Sg	10 22 14.1	+4.0		
	82nm,0.7s									
KOTS	Kotyrbulak	4.46	29	Pg		Pg	10 21 11.1	-1.2		
	7.4nm,0.4s									
KOTS				Lg		Lg	10 22 14.1			
	82nm,0.7s									
KRBS	Karabastau	4.47	15	eP		Pg	10 21 08.8	-3.6		
	8.2nm,0.5s									
KRBS				eS		Sg	10 22 09.9	-0.3		
	10nm,0.9s									
KRBS	Karabastau	4.47	15	Pg		Pg	10 21 08.8	-3.6		
	8.2nm,0.5s									
KRBS				Lg		Lg	10 22 09.9			
	10nm,0.9s									
KK31	Karatay Array	4.61	325	⇓Pn		Pn	10 20 59.6	+3.0		
	5.5nm,0.8s,baz=132,slow=12,SNR=34									
KK31				⇓Pg		Pg	10 21 12.5	-2.7		
	2.4nm,0.4s,baz=137,slow=14,SNR=7.2									
KK31				⇓Sn		Sn	10 21 54.7	+4.3		
	6.8nm,0.6s,baz=330,slow=64,SNR=4.3									
KK31				⇑Lg		Lg	10 22 14.4			
	7.0nm,0.5s,baz=123,slow=29,SNR=4.5									
KTBS	Karatobe	4.73	23	eP		Pg	10 21 15.0	-2.6		
	6.2nm,0.5s									
KTBS				eS		Sg	10 22 20.5	+1.6		
	30nm,0.7s									
KTBS	Karatobe	4.73	23	Pg		Pg	10 21 15.0	-2.6		
	6.2nm,0.5s									
KTBS				Lg		Lg	10 22 20.5			
	30nm,0.7s									
SATY	Saty	4.89	40	eP		Pg	10 21 18.1	-2.5		
	4.5nm,0.7s									
SATY				eS		Sg	10 22 25.4	+1.6		
	23nm,1.3s									
CHKK	Chushkaly	4.96	25	eP		Pg	10 21 19.6	-2.2		
	1.8nm,0.1s									
CHKK				eS		Sg	10 22 28.3	+2.3		
	14nm,0.7s									
UZB	Uzynbulak	5.27	43	eP		Pg	10 21 24.3	-3.5		
	2.1nm,0.4s									
UZB				eS		Sg	10 22 36.2	+0.2		
	7.0nm,1.0s									
SHLS	Shalkode	5.51	45	eP		Pg	10 21 34.6	+2.2		
	2.3nm,0.2s									
SHLS				eS		Sg	10 22 53.9	+10		
	6.0nm,0.8s									
PDGK	Podgornoye	5.64	44	⇑Pg		Pg	10 21 33.9	-1.0		
	4.6nm,0.6s									
PDGK				⇑Lg		Lg	10 22 48.6			
	18nm,0.9s									
BTLS	Baital	5.66	359	eP		Pg	10 21 30.1	-5.2		
	0.7nm,0.2s									
BTLS				eS		Sg	10 22 46.3	-2.2		
	3.5nm,1.0s									
OTUK	Ortayu	8.96	352	⇑Pn		Pn	10 22 03.2	+6.9		
	2.1nm,0.8s									
OTUK				⇑Lg		Lg	10 24 34.4			
	6.1nm,0.5s									
AB31	Akbulak array	14.14	319	⇓Pn		Pn	10 23 09.5	+2.3		
	0.8nm,0.7s,baz=125,slow=13,SNR=6.2									

WEL 28 10:23:33.4±0.3, 42°S±2°×17°3E±°, h5km±2km, M3.5/32, ML3.8/13, MLv3.5/32, Error ellipse: s-maj=0.0km s-min=0.0km az=120.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.10	157	P	Pg	10 23 36.0	+0.5
KHZ				S	Sg	10 23 37.9	+1.0
BSWZ	Blackbirch Sta	0.68	26	P	Pg	10 23 46.5	+0.1
BSWZ				S	Sg	10 23 56.2	+1.0
THZ	Tophouse	0.71	322	P	Pg	10 23 47.6	+0.5
GVZ	Greta Valley S	0.72	207	P	Pb	10 23 48.1	-0.4
CMWZ	Cape Campbell	0.79	43	P	Pb	10 23 49.3	-0.3
TUWZ	Tuamarina	0.96	21	P	Pg	10 23 51.7	0.0
LTZ	Lake Taylor	1.01	243	P	Pg	10 23 52.2	-0.5
AMCZ	Amberley	1.05	216	P	Pg	10 23 52.8	-0.8
MRNZ	Matariki Terra	1.07	329	P	Pg	10 23 54.2	+0.2
NNZ	Nelson	1.11	356	P	Pg	10 23 54.2	-0.5
TCW	Tory Channel	1.26	28	P	Pg	10 23 56.1	-1.4
TKNZ	Takaka Hill	1.35	343	P	Pn	10 23 58.7	-0.3
DSZ	Denniston Nort	1.38	294	P	Pn	10 23 59.4	0.0
WEL	Wellington	1.42	43	P	Pn	10 23 58.2	-1.7
OKCZ	Okains Bay	1.43	192	P	Pn	10 23 57.5	-2.6
OXZ	Oxford	1.46	226	P	Pn	10 23 58.0	-2.5
MQZ	McQueen's Vall	1.51	204	P	Pn	10 23 57.8	-3.3
PLWZ	Palliser	1.52	61	P	Pn	10 23 58.7	-2.6
DUWZ	D'Urville Isla	1.56	12	P	Pn	10 24 01.0	-0.8
INZ	Inchbonnie	1.56	255	P	Pn	10 24 01.0	-0.8
MSWZ	Moikau Station	1.60	56	P	Pn	10 23 59.8	-2.6
AKCZ	Akaroa Harbour	1.60	195	P	Pn	10 23 59.6	-2.9
QRZ	Quartz Range	1.66	334	P	Pn	10 24 03.8	+0.5
CAW	Cannon Point	1.70	45	P	Pn	10 24 01.6	-2.1
RACZ	Rakaia	1.71	215	P	Pn	10 24 01.1	-2.8
PAWZ	Paruwai Farm	1.73	58	P	Pn	10 24 01.2	-3.0
KIW	Kapiti Island	1.81	37	P	Pn	10 24 03.8	-1.5
MHCZ	Mount Hutt	1.85	229	P	Pn	10 24 03.3	-2.6
TRWZ	Traveller	1.89	61	P	Pn	10 24 03.3	-3.0
MTW	Mount Morrison	1.91	53	P	Pn	10 24 04.0	-2.6
OGWZ	Otaki Gorge	1.97	41	P	Pn	10 24 05.4	-2.1
WACZ	Wakanui South	2.02	216	P	Pn	10 24 05.4	-2.7
HOWZ	Holdsworth Sta	2.09	47	P	Pn	10 24 06.7	-2.4
WVZ	Waitaha Valley	2.16	249	P	Pn	10 24 09.1	-1.0
TMWZ	Te Maipa	2.17	57	P	Pn	10 24 07.2	-3.0
RPZ	Rata Peaks	2.26	231	P	Pn	10 24 09.0	-2.5
MRZ	Mangatainoka R	2.29	44	P	Pn	10 24 09.4	-2.5
ARCZ	Arundel	2.34	225	P	Pn	10 24 10.0	-2.6
GCSZ	Gaunt Creek Bo	2.53	246	P	Pn	10 24 14.5	-0.7
PRWZ	Peri Road	2.57	47	P	Pb	10 24 18.3	-1.7
BFZ	Birch Farm	2.65	53	P	Pn	10 24 15.9	-0.9
TMZ	Timaru	2.74	220	P	Pn	10 24 15.5	-2.6
WAZ	Wanganui	2.81	24	P	Pn	10 24 19.7	+0.7
TSZ	Takapari Road	2.94	40	P	Pn	10 24 21.8	+1.0
FOZ	Fox Glacier	2.95	245	P	Pn	10 24 20.3	-0.7
KHEZ	Kahui Hut	3.06	8	P	Pn	10 24 24.5	+2.0
NBEZ	Newall Road No	3.07	6	P	Pb	10 24 28.9	+0.4
PKE	Pukeiti	3.15	7	P	Pb	10 24 29.2	-0.7
PNHZ	Pukenui	3.16	41	P	Pn	10 24 27.0	+3.1
LBZ	Lake Benmore	3.17	228	P	Pn	10 24 22.0	-2.0
MTVZ	Mangateitei	3.30	28	P	Pb	10 24 31.3	-1.2
PKVZ	Pokaka	3.35	26	P	Pn	10 24 26.0	-0.4
MOVZ	Moawhango	3.38	31	P	Pn	10 24 27.2	+0.2
WNVZ	Wahianoa	3.40	29	P	Pn	10 24 26.9	-0.3
TRVZ	Turoa	3.40	28	P	Pb	10 24 31.9	-2.5
ODZ	Otahua Downs	3.41	216	P	Pn	10 24 24.2	-3.1
NGZ	Ngauruhoe	3.53	28	P	Pb	10 24 34.1	-2.5
NNVZ	North Ngauruho	3.58	28	P	Pb	10 24 34.9	-2.4
WTVZ	West Tongariro	3.58	27	P	Pb	10 24 34.8	-2.6
ETVZ	East Tongariro	3.61	29	P	Pn	10 24 33.9	+3.8
HIZ	Hauiti	3.95	16	P	Pn	10 24 35.5	+0.8
EAZ	Earnscleugh	4.19	225	P	Pn	10 24 35.1	-2.9
TOZ	Tahuroa Road	4.84	19	P	Pn	10 24 46.1	-0.8
SYZ	Scrubby Hill	5.24	215	P	Pn	10 24 50.0	-2.3

*IDC **28** 10:24:13.9±0.7, 37°.21N×141°.47E, h0km, mb4.0/16, mbtmp4.0/20, ML3.2/4, MS3.2/1, Error ellipse: s-maj=18.4km s-min=15.4km az=101.0*
*NIED **28** 10:24:16.6, 37°.22N×141°.48E, h34km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.54; $M_{\theta\theta}$2.21; $M_{\phi\phi}$3.33; $M_{r\theta}$-2.14; $M_{\theta\phi}$3.21; $M_{\phi r}$-2.79; Fault plane solution: $M_0$6.77000×10^{14} NP1: ϕ_s222.00000°, δ29.00000°, λ-87.00000°. NP2:ϕ_s39.00000°, δ61.00000°, λ-91.00000°.*
*JMA **28** 10:24:16.6±0.2, 37°.2N±0°.4×14°1E±°, h34km±1km, MD4.0/40, MV4.2/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 28 10:24:14.7±1.7, 37°.23N±0°.04×141°.53E±0°.06, h6km±10km, n54, σ1s00/50, mb4.0/16, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.54	285	iP	Pb	10 24 26.9	+0.3
JFK				S	Sb	10 24 33.9	-0.8
JFK	Kawauchi	0.54	285	A	A	10 24 26.9	
	comp=E,15nm,0.6s,comp=E,8.0nm,0.8s						
JMST	Minamisoumatoc	0.71	314	iP	Pb	10 24 29.6	+0.1
JMST				S	Sb	10 24 38.8	-0.8
JMST	Minamisoumatoc	0.71	314	A	A	10 24 29.6	
	comp=E,8.0nm,1.4s,comp=E,9.0nm,0.4s						
JFFD	Fukushimafurud	0.78	260	⇓P	Pg	10 24 30.5	+0.7
JFFD				⇓S	Sg	10 24 40.6	+0.6
JFFD	Fukushimafurud	0.78	260	A	A	10 24 30.5	
	comp=E,5.0nm,1.6s,comp=E,4.0nm,0.9s						
JMM	Marumori	0.86	318	P	Pb	10 24 31.9	-0.2
JMM	Marumori	0.86	318	iP	Pb	10 24 32.0	-0.2
JMM				S	Sg	10 24 42.8	+0.4
JHO	Hitachi	0.99	231	P	Pg	10 24 32.8	-0.8
JIO	Ouri	1.23	353	P	Pg	10 24 37.5	-0.8
JIO				S	Sg	10 24 53.3	-0.9
JYAR	Yonezawaarcadi	1.29	302	A	A	10 24 38.5	
	comp=E,11nm,1.0s,comp=E,14nm,1.3s						
JSB	Shiboa	1.31	259	P	Pg	10 24 39.9	0.0
JSB				S	Sg	10 24 56.4	-0.5
JSB	Shiboa	1.31	259	A	A	10 24 39.9	
	comp=E,9.0nm,0.7s,comp=E,6.0nm,0.5s						
JOU	Okura	1.32	329	iP	Pg	10 24 39.9	-0.2
JOU				⇓S	Sg	10 24 56.5	-0.7
JOU	Okura	1.32	329	A	A	10 24 39.9	
	comp=E,5.0nm,0.6s,comp=E,8.0nm,2.1s						
JFY	Yanaizu	1.46	277	iP	Pn	10 24 41.8	0.0
JFY				S	Sb	10 25 00.4	-0.9
JYT	Yasato	1.47	227	A	A	10 24 40.9	
	comp=E,10.0nm,0.3s,comp=E,5.0nm,0.4s						
JYS	Shirataka	1.52	311	A	A	10 24 42.0	
	comp=E,8.0nm,0.8s,comp=E,8.0nm,2.3s						
JSD	Sado	2.71	288	P	Pn	10 24 59.6	+0.7
MJAR	Matsushiro Arr	2.75	256	Pn	Pn	10 25 00.1	+0.7
	1.6nm,0.3s,baz=85,slow=15,SNR=36						
MJAR				Sn	Sn	10 25 33.0	0.0
	3.4nm,0.3s,baz=234,slow=47,SNR=2.7 4.3nm,0.3s						
MAJO	Matsushiro	2.75	256	P	Pn	10 25 01.7	+2.3
JTM	Tenmabayashi	3.57	354	P	Pn	10 25 11.9	+1.2
JGF	Kuroka	3.74	245	P	Pn	10 25 14.6	+1.6
INU	Inuyama	4.10	244	P	Pn	10 25 20.0	+2.0
JHJ2	Mitsune	4.34	199	P	Pn	10 25 22.4	+1.1
JHJ	Hachijo jima 2	4.34	200	Pn	Pn	10 25 22.2	+0.8
	20nm,0.3s,baz=112,slow=22,SNR=12						
JHJ				Sn	Sn	10 26 10.6	-1.7
	39nm,0.3s,baz=242,slow=23,SNR=7.1 94nm,0.5s						
ERM	Erimo	4.94	14	P	Pn	10 25 31.0	+1.5
JEM	Erimo	4.94	14	P	Pn	10 25 31.1	+1.6
JHS	Saijyo	7.16	254	P	Pn	10 26 02.1	+2.0
	39nm,1.2s						
USRK	Ussuriysk Ar.	10.04	317	Pn	Pn	10 26 40.8	+1.3
	0.2nm,0.3s,baz=120,slow=14,SNR=6.7						
USRK				LR	LR	10 30 18.2	
	comp=Z,142nm,19.1s,baz=353,slow=36 1.5nm,0.6s						
KSRS	Korea Array	10.84	275	Pn	Pn	10 26 51.6	+1.2
	0.1nm,0.0s,baz=94,slow=14,SNR=1.4 1.7nm,1.0s						
SONM	Songino Array	27.75	304	P	P	10 30 02.8	-1.5
	2.3nm,0.8s,baz=96,slow=8.5,SNR=12 2.3nm,0.8s						
H11N2	WAKE ISLAND Hy	28.17	121	T	T	10 59 26.6	
	baz=314,slow=75,SNR=88						
H11N1	WAKE ISLAND Hy	28.18	121	T	T	10 59 38.1	
	baz=314,slow=75,SNR=78						
H11N3	WAKE ISLAND Hy	28.19	121	T	T	10 59 39.3	
	baz=314,slow=75,SNR=82						
H11S1	WAKE ISLAND Hy	28.89	123	T	T	11 00 37.3	
	baz=316,slow=75,SNR=100						
H11S3	WAKE ISLAND Hy	28.89	123	T	T	11 00 30.7	
	baz=316,slow=75,SNR=57						
H11S2	WAKE ISLAND Hy	28.91	123	T	T	11 00 29.5	
	baz=316,slow=75,SNR=64						
ZALV	Zalesovo Beam	41.85	312	P	P	10 32 05.2	-0.2
	1.5nm,0.4s,baz=95,slow=7.9,SNR=11 1.5nm,0.4s						
MKAR	Makanchi Array	44.09	302	P	P	10 32 23.5	-0.2
	2.4nm,0.7s,baz=86,slow=9.7,SNR=23 2.4nm,0.7s						
ILAR	Eielson Array	49.28	32	P	P	10 33 05.0	+1.0
	0.6nm,0.8s,baz=272,slow=6.6,SNR=7.7 0.6nm,0.8s						
INK	Inuvik	54.17	27	P	P	10 33 41.4	+0.9
	1.1nm,0.8s,baz=284,slow=6.4,SNR=5.0 1.1nm,0.8s						
WRA	Warramunga Arr	57.27	188	P	P	10 34 02.4	-0.9
	0.5nm,0.5s,baz=5.3,slow=7.5,SNR=16 0.5nm,0.5s						
ASAR	Alice Springs	61.00	188	P	P	10 34 28.7	-0.3
	0.3nm,0.6s,baz=8.3,slow=8.9,SNR=7.3 0.3nm,0.6s						
BELG	Belogornoye	63.72	317	P	P	10 34 46.1	-0.9
	9.1nm,0.8s,baz=93,slow=12,SNR=4.1 9.1nm,0.8s						
ARCES	ARCESS Array B	63.84	339	P	P	10 34 46.8	-0.8
	6.5nm,1.0s,baz=22,slow=6.9,SNR=4.8 6.5nm,1.0s						
FINES	FINESS Array B	68.68	332	P	P	10 35 18.4	-0.3
	3.7nm,0.8s,baz=289,slow=5.8,SNR=3.8 3.7nm,0.8s						
KBZ	Khabaz	70.84	311	P	P	10 35 32.6	+0.3
	2.3nm,0.8s,baz=216,slow=2.6,SNR=3.5 2.3nm,0.8s						
NB2	NORSAR Subarra	74.04	337	P	P	10 35 51.0	-0.2
	comp=Z,2.5nm,1.2s,baz=39,slow=6.5						
NOA	NORSAR Array B	74.04	337	P	P	10 35 50.6	-0.6
	comp=Z,1.3nm,0.9s,baz=40,slow=6.1,SNR=3.0 comp=Z,1.3nm,0.9s						
AKASG	Malin Array Be	74.20	322	P	P	10 35 51.7	-0.5
	comp=Z,0.6nm,0.4s,baz=45,slow=6.1,SNR=5.7 comp=Z,0.6nm,0.4s						
PDAR	Pinedale Array	77.46	46	P	P	10 36 12.0	+0.6
	comp=Z,0.3nm,0.7s,baz=294,slow=4.4,SNR=2.2 comp=Z,0.3nm,0.7s						
BRTR	Keskin Array B	78.79	312	P	P	10 36 19.6	+1.0
	comp=Z,0.6nm,0.6s,baz=31,slow=8.6,SNR=2.3 comp=Z,0.6nm,0.6s						
TXAR	Lajitas Array	89.93	52	P	P	10 37 16.1	+0.8
	comp=Z,0.2nm,0.8s,baz=310,slow=3.4,SNR=2.6 comp=Z,0.2nm,0.8s						

*JMA **28** 10:30:27.4±0.1, 41°.3N±0°.6×142°.7E±0°.7, h35km±3km, MV3.6/39, E OFF AOMORI PREF*
*NIED **28** 10:30:27.4, 41°.31N×142°.67E, h35km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.30; $M_{\theta\theta}$-2.68; $M_{\phi\phi}$-1.63; $M_{r\theta}$1.65; $M_{\theta\phi}$-3.50; $M_{\phi r}$6.08; Fault plane solution: $M_0$8.13000×10^{14} NP1: ϕ_s256.00000°, δ27.00000°, λ139.00000°. NP2: ϕ_s23.00000°, δ73.00000°, λ69.00000°.*
*IDC **28** 10:30:32.7±3.1, 41°.28N×142°.50E, h86km±29km, mb3.4/10, mbtmp3.7/13 Error ellipse: s-maj=22.1km s-min=19.7km az=95.0*
ISC 28 10:30:26.7±1.3, 41°.28N±0°.04×142°.72E±0°.04, h30km±9km, n37, σ1s16/45, mb3.7/10, 16D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.80	24	P	Pn	10 30 42.0	0.0
JEM				eS	Sn	10 30 53.1	+0.2
JNBK	Urakawa-nobuka	1.00	2	⇓P	Pn	10 30 44.9	+0.3
JNBK				⇓eS	Sn	10 30 57.6	-0.1
JAHD	Aomorihigashid	1.04	269	⇓iP	Pn	10 30 45.3	+0.1
JAHD				⇓eS	Sn	10 30 58.5	-0.3
JARK	Aomorirokkasho	1.06	255	⇓eP	Pb	10 30 45.8	-0.6
JARK				⇓eS	Sn	10 30 59.0	-0.2
JTHR	Tokachihiroo	1.10	23	P	Pb	10 30 46.7	-0.3
JTHR				eS	Sb	10 31 00.8	-0.2
JSHD	Hidakashinhida	1.14	351	P	Pb	10 30 47.5	-0.3
JOT	Ohata	1.26	275	⇓P	Pn	10 30 48.4	+0.2
JOT				⇓eS	Sn	10 31 03.9	-0.2
JANG	Nango	1.29	226	eP	Pn	10 30 49.1	+0.5
JTM	Tenmabayashi	1.34	249	⇓P	Pb	10 30 50.5	-0.7
JTM				⇓eS	Sb	10 31 07.4	-0.6
JKB	Kayabe	1.40	296	eP	Pn	10 30 50.1	0.0
JKB				eS	Sn	10 31 06.8	-0.8
JCH	Churui	1.42	20	eP	Pn	10 30 51.0	+0.6
JCH				eS	Sn	10 31 08.4	+0.4
JIAM	Iburiatsuma	1.47	336	⇓eP	Pb	10 30 52.6	-0.7
JIAM				⇓eS	Sb	10 31 11.0	-0.5
JBT2	Biratori 2	1.52	350	eP	Pn	10 30 52.6	+0.8
JNB	Noboribetsu	1.73	314	⇓eP	Pn	10 30 54.4	-0.2
JNB				⇓eS	Sn	10 31 14.5	-1.1
JSR	Shiriuchi	1.75	279	eP	Pn	10 30 55.8	+0.9
JSR				eS	Sn	10 31 17.5	+1.3
JEW	Eniwo	1.82	329	⇓eP	Pn	10 30 56.8	+0.8
JEW				⇓eS	Sn	10 31 19.5	+1.5
JOM	Ohasama	2.11	212	eP	Pb	10 31 02.9	-1.4
JAR	Ashorobuto	2.16	21	eP	Pn	10 31 00.7	+0.1
JAR				eS	Sn	10 31 26.1	-0.2
MJAR	Matsushiro Arr	5.90	218	P	Pn	10 31 55.8	+3.8
	2.0nm,0.4s,baz=35,slow=11,SNR=5.3						
USRK	Ussuriysk Ar.	8.42	294	P	Pn	10 32 29.7	+3.2
	2.2nm,0.7s,baz=91,slow=15,SNR=6.1						
KSRS	Korea Array	12.07	256	P	Pn	10 33 19.9	+3.3
	1.3nm,0.7s,baz=64,slow=15,SNR=2.3						
SONM	Songino Array	26.52	297	P	P	10 36 01.2	-0.4
	1.0nm,0.5s,baz=85,slow=7.8,SNR=6.8 1.0nm,0.5s						
H11N2	WAKE ISLAND Hy	29.75	129	T	T	11 07 50.8	
	baz=323,slow=75,SNR=10.0						
H11N1	WAKE ISLAND Hy	29.76	129	T	T	11 07 54.7	
	baz=323,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	29.76	129	T	T	11 07 57.7	
	baz=323,slow=75,SNR=9.2						
H11S1	WAKE ISLAND Hy	30.59	131	T	T	11 09 03.3	
	baz=324,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy	30.60	131	T	T	11 08 52.1	
	baz=324,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	30.61	131	T	T	11 09 02.6	
	baz=324,slow=76,SNR=26						
ZALV	Zalesovo Beam	39.92	309	P	P	10 37 57.0	-0.9
	1.3nm,0.4s,baz=82,slow=7.7,SNR=5.4 1.3nm,0.4s						
MKAR	Makanchi Array	42.85	299	P	P	10 38 20.8	-1.2
	1.1nm,0.6s,baz=82,slow=9.4,SNR=11 1.1nm,0.6s						
ILAR	Eielson Array	45.40	35	P	P	10 38 42.6	+0.5
	1.0nm,0.9s,baz=278,slow=7.4,SNR=6.9 1.0nm,0.9s						
INK	Inuvik	50.16	29	P	P	10 39 19.6	+0.7
	0.7nm,0.3s,baz=302,slow=12,SNR=15 0.7nm,0.3s						
WRA	Warramunga Arr	61.41	189	P	P	10 40 39.2	-0.8
	0.2nm,0.7s,baz=4.4,slow=6.7,SNR=1.9 0.2nm,0.7s		

CMWZ	**Cape Campbell**	**1.65**	**163**	P		**Pn**	**10 35 26.6**	**+2.1**
HOWZ	**Holdsworth Sta**	**1.66**	**116**	P		**Pn**	**10 35 25.8**	**+1.2**
THZ	**Tophouse**	**1.66**	**197**	P		**Pn**	**10 35 26.0**	**+1.3**
MTVZ	**Mangateitei**	**1.68**	**62**	P		**Pn**	**10 35 25.9**	**+1.0**
TRVZ	**Turoa**	**1.77**	**61**	P		**Pn**	**10 35 26.8**	**+0.9**
MTW	**Mount Morrison**	**1.78**	**124**	P		**Pn**	**10 35 26.7**	**+1.1**
MSWZ	**Moikau Station**	**1.79**	**134**	P		**Pn**	**10 35 27.0**	**+1.2**
WNVZ	**Wahianoa**	**1.79**	**62**	P		**Pn**	**10 35 27.0**	**+1.0**
FWVZ	**Far West T-bar**	**1.79**	**60**	P		**Pn**	**10 35 27.0**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.81**	**61**	P		**Pn**	**10 35 27.2**	**+0.9**
TWVZ	**Taurewa**	**1.83**	**53**	P		**Pn**	**10 35 26.9**	**+0.6**
TSZ	**Takapari Road**	**1.85**	**87**	P		**Pn**	**10 35 27.4**	**+1.0**
TUVZ	**Tukino**	**1.86**	**61**	P		**Pn**	**10 35 27.8**	**+1.2**
MOVZ	**Moawhango**	**1.86**	**66**	P		**Pn**	**10 35 27.2**	**+0.7**
PAWZ	**Paruwai Farm**	**1.86**	**131**	P		**Pn**	**10 35 27.5**	**+1.0**
NGZ	**Ngauruhoe**	**1.87**	**58**	P		**Pn**	**10 35 27.6**	**+0.9**
PRWZ	**Pori Road**	**1.89**	**102**	P		**Pn**	**10 35 28.3**	**+1.6**
SNVZ	**South Ngauruho**	**1.89**	**59**	P		**Pn**	**10 35 28.1**	**+1.1**
WTVZ	**West Tongariro**	**1.90**	**57**	P		**Pn**	**10 35 27.8**	**+0.8**
PLWZ	**Palliser**	**1.90**	**138**	P		**Pn**	**10 35 27.8**	**+1.0**
NNVZ	**North Ngauruho**	**1.90**	**57**	P		**Pn**	**10 35 28.0**	**+0.9**
KRVZ	**Karewarewa**	**1.94**	**57**	P		**Pn**	**10 35 28.3**	**+0.9**
HIZ	**Hauiti**	**1.94**	**32**	P		**Pn**	**10 35 27.8**	**+0.5**
HIZ	**Hauiti**	**1.94**	**32**	P		**Pn**	**10 35 28.0**	**+0.7**
ETVZ	**East Tongariro**	**1.96**	**59**	P		**Pn**	**10 35 28.7**	**+1.2**
TMVZ	**Te Maari**	**1.97**	**58**	P		**Pn**	**10 35 29.0**	**+1.3**
DVHZ	**Dannevirke**	**2.00**	**94**	P		**Pn**	**10 35 29.0**	**+1.1**
TMWZ	**Te Maipa**	**2.01**	**118**	P		**Pn**	**10 35 27.4**	**-0.4**
TRWZ	**Traveller**	**2.03**	**128**	P		**Pn**	**10 35 29.3**	**+1.3**
PNHZ	**Pukenui**	**2.05**	**83**	P		**Pn**	**10 35 29.5**	**+1.2**
BHHZ	**Black Hill Sta**	**2.05**	**71**	P		**Pn**	**10 35 29.0**	**+0.6**
DSZ	**Dennistoun Nort**	**2.05**	**220**	P		**Pn**	**10 35 29.5**	**+1.2**
RAZ	**Rangitukua**	**2.16**	**53**	P		**Pn**	**10 35 30.6**	**+1.2**
WPHZ	**Waipukurau**	**2.22**	**88**	P		**Pn**	**10 35 31.3**	**+1.4**
WATZ	**Wairara**	**2.24**	**50**	P		**Pn**	**10 35 31.4**	**+1.2**
KHZ	**Kahutara**	**2.24**	**180**	P		**Pn**	**10 35 31.0**	**+1.0**
PRHZ	**Porangahau**	**2.36**	**93**	P		**Pn**	**10 35 33.0**	**+1.6**
TLZ	**Tolley Road**	**2.40**	**40**	P		**Pn**	**10 35 31.9**	**-0.1**
BKZ	**Black Stump Fm**	**2.48**	**67**	P		**Pn**	**10 35 33.3**	**+0.6**
BKZ	**Black Stump Fm**	**2.48**	**67**	P		**Pn**	**10 35 33.4**	**+0.7**
MCHZ	**McNeill Hill**	**2.53**	**74**	P		**Pn**	**10 35 34.9**	**+1.7**
PXZ	**Pawanui**	**2.54**	**88**	P		**Pn**	**10 35 34.8**	**+1.5**
KAHZ	**Kahuranaki**	**2.58**	**83**	P		**Pn**	**10 35 35.4**	**+1.6**
MRHZ	**Matea Rd**	**2.59**	**60**	P		**Pn**	**10 35 34.2**	**+0.3**
ALRZ	**Allen Road**	**2.70**	**54**	P		**Pn**	**10 35 35.8**	**+0.8**
NMHZ	**Naumai**	**2.73**	**68**	P		**Pn**	**10 35 37.3**	**+1.8**
CKHZ	**Cape Kidnapper**	**2.76**	**80**	P		**Pn**	**10 35 37.3**	**+1.7**
LTZ	**Lake Taylor**	**2.78**	**200**	P		**Pn**	**10 35 36.9**	**+1.1**
ARHZ	**Aropaoanui**	**2.81**	**72**	P		**Pn**	**10 35 37.7**	**+1.5**
GVZ	**Greta Valley S**	**2.82**	**189**	P		**Pn**	**10 35 37.0**	**+0.7**
MTHZ	**Maungataniwha**	**2.87**	**64**	P		**Pn**	**10 35 38.0**	**+1.1**
INZ	**Inchbonnie**	**3.00**	**211**	P		**Pn**	**10 35 39.2**	**+1.0**
RAHZ	**Arahi**	**3.01**	**66**	P		**Pn**	**10 35 39.7**	**+1.3**
MUGZ	**Murupara**	**3.02**	**57**	P		**Pn**	**10 35 38.7**	**+0.1**
WHHZ	**Waihua**	**3.05**	**70**	P		**Pn**	**10 35 40.4**	**+1.5**
AMCZ	**Amberley**	**3.07**	**192**	P		**Pn**	**10 35 40.1**	**+1.0**
RTZ	**Ruatahuna**	**3.08**	**61**	P		**Pn**	**10 35 39.8**	**+0.5**
SNGZ	**Shannon Statio**	**3.24**	**66**	P		**Pn**	**10 35 42.2**	**+1.1**
MKAZ	**Moumakai**	**3.32**	**23**	P		**Pn**	**10 35 43.5**	**+1.5**
URZ	**Urewera**	**3.36**	**56**	P		**Pn**	**10 35 42.5**	**0.0**
URZ	**Urewera**	**3.36**	**56**	P		**Pn**	**10 35 42.4**	**-0.1**
KNZ	**Kokohu**	**3.38**	**71**	P		**Pn**	**10 35 43.8**	**+1.0**
RAGZ	**Rawiri**	**3.43**	**62**	P		**Pn**	**10 35 44.2**	**+0.7**
MHGZ	**Mahia Peninsul**	**3.51**	**74**	P		**Pn**	**10 35 45.9**	**+1.6**
OKCZ	**Okains Bay**	**3.56**	**186**	P		**Pn**	**10 35 45.1**	**+0.3**
RIGZ	**Rimuhau**	**3.57**	**67**	P		**Pn**	**10 35 46.0**	**+1.0**
MQZ	**McQueen's Vall**	**3.59**	**190**	P		**Pn**	**10 35 45.6**	**+0.5**
MWZ	**Matawai**	**3.59**	**60**	P		**Pn**	**10 35 45.4**	**+0.2**
MHCZ	**Mount Hutt**	**3.67**	**203**	P		**Pn**	**10 35 46.8**	**+0.7**
RACZ	**Rakaia**	**3.70**	**196**	P		**Pn**	**10 35 47.4**	**+1.0**
TKGZ	**Te Karaka**	**3.76**	**64**	P		**Pn**	**10 35 48.1**	**+1.0**
KUZ	**Kuaotunu**	**3.83**	**27**	P		**Pn**	**10 35 49.2**	**+1.2**
KUZ	**Kuaotunu**	**3.83**	**27**	P		**Pn**	**10 35 49.2**	**+1.2**
RUGZ	**Raukumara Rang**	**3.90**	**57**	P		**Pn**	**10 35 48.6**	**-0.3**
WACZ	**Wakanui South**	**3.97**	**198**	P		**Pn**	**10 35 51.1**	**+1.4**
TWGZ	**Tauwhareparae**	**3.98**	**61**	P		**Pn**	**10 35 50.9**	**+1.0**
CNGZ	**Carnagh Statio**	**3.98**	**66**	P		**Pn**	**10 35 51.2**	**+1.3**
RPZ	**Rata Peaks**	**4.00**	**207**	P		**Pn**	**10 35 50.9**	**+0.9**
HAZ	**Te Kaha**	**4.09**	**55**	P		**Pn**	**10 35 50.5**	**-0.7**
ARCZ	**Arundel**	**4.16**	**204**	P		**Pn**	**10 35 52.6**	**+0.6**
PKGZ	**Pakihiroa**	**4.20**	**58**	P		**Pn**	**10 35 52.7**	**+0.2**
PUZ	**Puketiti**	**4.22**	**62**	P		**Pn**	**10 35 53.0**	**+0.2**
FOZ	**Fox Glacier**	**4.36**	**219**	P		**Pn**	**10 35 55.2**	**+0.8**
WMGZ	**Waiomatatini S**	**4.46**	**60**	P		**Pn**	**10 35 55.6**	**-0.1**
MXZ	**Matakaoa Point**	**4.54**	**56**	P		**Pn**	**10 35 56.9**	**+0.3**
TMZ	**Timaru**	**4.61**	**203**	P		**Pn**	**10 35 58.9**	**+1.4**
JCZ	**Jackson Bay**	**5.27**	**221**	P		**Pn**	**10 36 06.9**	**+1.1**
ODZ	**Otahua Downs**	**5.32**	**203**	P		**Pn**	**10 36 07.9**	**+1.6**
ODZ	**Otahua Downs**	**5.32**	**203**	P		**Pn**	**10 36 07.7**	**+1.4**
WKZ	**Wanaka**	**5.73**	**214**	P		**Pn**	**10 36 11.5**	**0.0**

*NEIC **28** 11:00:23.1±0.7,54.6°S±0.1°×127.7°W±0.2,h10km±2km, mb4.9/10,Error ellipse: s-maj=24.0km s-min=6.8km az=35.0*

*IDC **28** 11:00:27.4±0.9,55.3°S×128.86°W,h0km, mb3.9/6, mbtmp3.9/6,MS4.0/23,Error ellipse: s-maj=33.0km s-min=24.0km az=143.0*

ISC 28 11:00:23.6±0.7,54.6°S±0.1°×127.9°W±0.1°,h10km,n55, σ2°s22/24,mb4.5/11,MS4.0/26,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**29.50**	**356**	**P**		**P**		**11 06 27.3**	**-0.5**
RPN	**Rapa Nui**	**30.60**	**34**	LR		LR		11 16 15.4	
	comp=Z,146nm,19.7s,baz=46,slow=30								
SBA	**Scott Base**	**32.23**	**201**	**P**		**P**		**11 06 50.4**	**-1.0**
SBA				IAmb		IAmb		11 07 04.9	
	comp=Z,12nm,1.4s								
PMSA	**Palmer Station**	**32.39**	**134**	LR		LR		11 16 05.0	
	comp=Z,320nm,20.4s,baz=271,slow=29								
VNDA	**Vanda**	**33.26**	**202**	P		**P**		**11 06 59.1**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=92,slow=13,SNR=2.2								
VNDA				LR		LR		11 15 58.8	
	comp=Z,107nm,21.3s,baz=84,slow=29								
	comp=Z,0.4nm,0.5s								
VNDA	**Vanda**	**33.26**	**202**	P		**P**		**11 07 00.3**	**-0.1**
TBI	**Tubuai**	**35.09**	**324**	eLR		LR		11 16 38.8	
	comp=Z,8μm,24.0s								
TBI				eLR		LR		11 16 39.3	
	comp=Z,3μm,30.8s								
TBI	**Tubuai**	**35.09**	**324**	*eT*		T		11 44 45.4	
	comp=Z,37nm,0.3s								
QSPA	**South Pole Qui**	**35.62**	**180**	P		**P**		**11 07 19.8**	**-1.4**
	comp=Z,4.0nm,0.9s,baz=99,slow=5.2,SNR=10								
QSPA				LR		LR		11 20 25.2	
	comp=Z,353nm,18.3s,baz=84,slow=34								
	comp=Z,4.0nm,0.9s								
QSPA	**South Pole Qui**	**35.62**	**180**	P		**P**		**11 07 20.4**	**-0.8**
QSPA				IAmb		IAmb		11 07 30.4	
	comp=Z,16nm,1.2s								
BELA	**Belgrano 2**	**38.05**	**160**	P		**P**		**11 07 40.9**	**-0.6**
BELA				IAmb		IAmb		11 07 49.4	
	comp=Z,12nm,1.3s								
AMCZ	**Amberley**	**39.57**	**261**	P		**P**		**11 07 55.0**	**+0.3**
H03S2	**Juan Fernandez**	**39.76**	**79**	T		T		11 50 49.6	
	baz=220,slow=74,SNR=42								
H03S1	**Juan Fernandez**	**39.77**	**79**	T		T		11 50 50.9	
	baz=220,slow=74,SNR=40								
H03S3	**Juan Fernandez**	**39.78**	**79**	T		T		11 50 50.0	
	baz=220,slow=74,SNR=38								
PLCA	**Paso Flores**	**39.90**	**94**	LR		LR		11 20 39.4	
	comp=Z,116nm,18.3s,baz=223,slow=30								
H03N3	**Juan Fernandez**	**40.04**	**79**	T		T		11 51 03.4	
	baz=223,slow=72,SNR=59								
H03N2	**Juan Fernandez**	**40.04**	**79**	T		T		11 51 03.7	
	baz=223,slow=72,SNR=64								
H03N1	**Juan Fernandez**	**40.05**	**79**	T		T		11 51 04.1	
	baz=223,slow=72,SNR=58								
RPZ	**Rata Peaks**	**40.16**	**260**	LR		LR		11 19 58.8	
	comp=Z,559nm,20.4s,baz=102,slow=30								
PPT2	**Papeete2**	**40.50**	**327**	*eS*		**S**		**11 14 06.4**	**-5.0**
	comp=Z,69nm,24.8s								
PPT2				eLR		LR		11 19 09.1	
	comp=Z,477nm,28.8s								
PPT2				eLR		LR		11 19 09.3	
	comp=Z,628nm,26.2s								
PPT	**Papeete**	**40.52**	**327**	LR		LR		11 20 21.5	
	comp=Z,234nm,19.6s,baz=91,slow=29								
FOZ	**Fox Glacier**	**40.98**	**259**	P		**P**		**11 08 06.0**	**-0.3**
RAR	**Rarotonga**	**41.07**	**311**	LR		LR		11 20 33.5	
	comp=Z,88nm,21.5s,baz=169,slow=29								

VAH	**Vaihoa**	**42.14**	**331**	*eT*		T		11 53 39.9	
	comp=Z,20nm,0.2s								
TAOE	**Nuku Hiva Isla**	**46.62**	**343**	*eLR*		LR		11 21 58.5	
	comp=Z,529nm,25.6s								
CFA	**Coronel Fontan**	**47.55**	**86**	LR		LR		11 24 24.8	
	comp=Z,126nm,18.6s,baz=244,slow=30								
SNAA	**Sanae**	**48.30**	**160**	P		**P**		**11 09 03.2**	**-1.2**
SNAA	**Sanae**	**48.30**	**160**	LR		LR		11 27 55.5	
	comp=Z,274nm,19.9s,baz=192,slow=34								
SNAA	**Sanae**	**48.30**	**160**	P		**P**		**11 09 03.1**	**-1.3**
SNAA				IAmb		IAmb		11 09 18.7	
	comp=Z,8.3nm,1.3s								
TROLL	**Troll, Antarti**	**49.06**	**162**	P		**P**		**11 09 08.9**	**-1.4**
AFI	**Afiamalu**	**52.99**	**303**	LR		LR		11 25 26.2	
	comp=Z,104nm,21.2s,baz=131,slow=28								
PATCX	**Punta Patache**	**54.69**	**76**	P		**P**		**11 09 50.9**	**-1.9**
PATCX				IAmb		IAmb		11 09 58.8	
	comp=Z,42nm,1.3s								
CPUP	**Villa Florida**	**57.83**	**91**	P		P		11 10 25.0	+10
	comp=Z,2.0nm,0.8s,baz=267,slow=7.5,SNR=3.5								
CPUP				LR		LR		11 32 01.9	
	comp=Z,151nm,18.3s,baz=229,slow=32								
	comp=Z,2.0nm,0.8s								
MAW	**Mawson**	**57.89**	**185**	P		**P**		**11 10 15.0**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=215,slow=9.7,SNR=3.4								
MAW				LR		LR		11 32 46.4	
	comp=Z,86nm,19.5s,baz=162,slow=34								
	comp=Z,1.4nm,0.9s								
DZM	**Mont Dzumac**	**58.24**	**276**	*eLR*		LR		11 27 18.8	
	comp=Z,137nm,23.1s								
DZM	**Mont Dzumac**	**58.24**	**276**	LR		LR		11 30 23.4	
	comp=Z,103nm,18.5s,baz=198,slow=31								
NNA	**Nana**	**58.27**	**63**	LR		LR		11 28 22.1	
	comp=Z,54nm,20.3s,baz=222,slow=28								
LPAZ	**La Paz**	**59.46**	**74**	P		P		11 10 37.7	+10
	comp=Z,1.1nm,0.8s,baz=189,slow=5.2,SNR=8.1								
LPAZ				LR		LR		11 30 23.3	
	comp=Z,58nm,19.4s,baz=228,slow=30								
	comp=Z,1.1nm,0.8s								
KOUNC	**Koumac, New Ca**	**60.67**	**276**	P		**P**		**11 10 34.9**	**0.0**
KOUNC				IAmb		IAmb		11 10 45.7	
	comp=Z,36nm,1.3s								
ATAH	**Atahualpa**	**61.60**	**59**	LR		LR		11 31 10.6	
	comp=Z,205nm,21.5s,baz=222,slow=30								
SIV	**San Ignacio**	**63.71**	**80**	LR		LR		11 33 46.7	
	comp=Z,103nm,20.0s,baz=292,slow=31								
STKA	**Stephens Creek**	**64.98**	**250**	LR		LR		11 32 57.0	
	comp=Z,156nm,21.9s,baz=174,slow=30								
ROSC	**El Rosal**	**73.95**	**57**	LR		LR		11 38 37.2	
	comp=Z,113nm,19.2s,baz=224,slow=31								
JTS	**Las Juntas de**	**74.02**	**44**	LR		LR		11 38 16.2	
	comp=Z,64nm,18.1s,baz=35,slow=30								
AS31	**Alice Springs**	**75.62**	**250**	P		**P**		**11 12 09.1**	**+0.4**
ASAR	**Alice Springs**	**75.62**	**250**	P		**P**		**11 12 09.1**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=138,slow=5.7,SNR=13								
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**75.62**	**250**	P		**P**		**11 12 08.8**	**+0.1**
PTGA	**Pitinga**	**76.76**	**72**	LR		LR		11 39 49.2	
	comp=Z,88nm,22.0s,baz=250,slow=30								
PCRV	**Puerto La Cruz**	**83.38**	**62**	LR		LR		11 46 32.4	
	comp=Z,212nm,19.2s,slow=33								
ILAR	**Eielson Array**	**119.89**	**351**	PKP		**PKiKP**		**11 19 19.2**	**+6.5**
	comp=Z,0.9nm,0.6s,baz=191,slow=4.1,SNR=13								
CMAR	**Chiang Mai Arr**	**129.34**	**244**	PKP		**PKiKP**		**11 19 36.4**	**+3.6**
	comp=Z,0.7nm,0.3s,baz=189,slow=3.6,SNR=2.6								
TIXI	**Tiksi**	**144.41**	**328**	PKP		**PKiKP**		**11 20 03.3**	**+1.4**
	comp=Z,2.2nm,0.6s,baz=270,slow=23,SNR=1.7								
SONM	**Songino Array**	**146.07**	**281**	PKPbc		**PKiKP**		**11 20 07.3**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=151,slow=3.5,SNR=4.6								
BRTR	**Keskin Array B**	**160.65**	**133**	PKPab		**PKPab**		**11 21 07.2**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=181,slow=4.6,SNR=3.5								

*GCG **28** 11:05:47.5±2.9, 16.05°N×88.24°W, h24km±999km, MD3.6*
*SNET **28** 11:05:52.9±4.1, 15.56°N×88.51°W, h10km, ML3.6*

ISC 28 11:05:46.5±2.8,15.7°N±0.1°×88.32°W±0.08,h2km±15km,n12, σ0s72/22,Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.45**	**245**	*eP*		**P**	**g**	**11 06 14.6**	**+0.3**
MRL				*eS*		**S**	**g**	**11 06 33.8**	**+0.6**
MTO3	**Montecristo**	**1.64**	**218**	*eP*		**P**	**b**	**11 06 16.5**	**-1.1**
MTO3				*eS*		**S**	**n**	**11 06 37.7**	**-0.6**
P5NO	**Presa 5 de nov**	**1.75**	**194**	*eP*		**P**	**b**	**11 06 18.5**	**-0.9**
P5NO				*eS*		**S**	**n**	**11 06 40.7**	**-0.1**
PQSS	**Presa 15 de Se**	**2.07**	**187**	*eP*		**P**	**b**	**11 06 24.1**	**-0.8**
PQSS				*eS*		**S**	**b**	**11 06 51.1**	**+0.1**
SBLS	**San Blas**	**2.23**	**215**	*eP*		**P**	**b**	**11 06 27.1**	**-0.7**
CEVE	**Cerro Verde**	**2.25**	**214**	*eP*		**P**	**b**	**11 06 27.3**	**-0.7**
NBG	**Las Nubes**	**2.25**	**241**	*eP*		**P**	**g**	**11 06 29.3**	**-0.4**
NBG				*eS*		**S**	**g**	**11 06 59.6**	**+0.8**
NUBE	**Las Nubes**	**2.27**	**219**	*eP*		**P**	**b**	**11 06 27.4**	**-1.0**
NUBE				*eS*		**S**	**b**	**11 06 57.8**	**+0.7**
JAYA	**Jayaque - finc**	**2.31**	**209**	*eP*		**P**	**b**	**11 06 28.1**	**-0.8**
JAYA				*eS*		**S**	**b**	**11 06 59.0**	**+1.0**
LCND	**La Caada**	**2.41**	**170**	*eP*		**P**	**b**	**11 06 30.2**	**-0.3**
LCND				*eS*		**S**	**b**	**11 07 00.8**	**+0.1**
CNCH	**Conchagua**	**2.45**	**169**	*eP*		**P**	**b**	**11 06 31.1**	**-0.2**
CNCH				*eS*		**S**	**b**	**11 07 02.5**	**+0.4**
FUG	**Fuego 3**	**2.74**	**243**	*eP*		**P**	**n**	**11 06 32.3**	**+0.7**
FUG				*eS*		**S**	**g**	**11 07 14.0**	**-0.5**

IDC 28 11:07:18.4±1.4,49.33S×127.14E,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=80.0km s-min=26.7km az=84.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.16**	**14**	P		P		11 12 54.2	-0.2
	3.5nm,0.6s,baz=188,slow=9.0,SNR=61								
	3.5nm,0.6s								
VNDA	**Vanda**	**31.22**	**166**	P		P		11 13 38.9	0.0
	1.3nm,0.9s,baz=316,slow=6.3,SNR=8.2								
	1.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**71.98**	**332**	P		P		11 18 44.0	+0.3
	0.4nm,0.3s,baz=190,slow=4.6,SNR=5.1								
	0.4nm,0.3s								

*IDC **28** 11:07:48.1±1.0,43.3°S×126.64°W,h0km, mb3.9/13, mbtmp3.8/19,ML3.3/6,MS3.6/10,Error ellipse: s-maj=22.0km s-min=10.5km az=43.0*

*NEIC **28** 11:07:51.1±2.3,43.2°N±0.06°×126.67°W±0.07,h24km±5km, mb4.6/107,ML3.6/64,Mwr4.2/60,Error ellipse: s-maj=8.5km s-min=7.3km az=151.0*

*NEIC **28** 11:07:54.2,43.36°N×126.58°W,h29km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.01; $M_{\theta\theta}$-2.09; $M_{\phi\phi}$2.11; $M_{r\theta}$-0.33; $M_{\theta\phi}$-1.24; $M_{\phi r}$-1.41; Fault plane solution: M_o2.84000×10^{15} NP1:ϕ_s210.25000°, δ85.41000°, λ28.91000°. NP2:ϕ_s117.72000°, δ61.19000°, λ174.76000°. Principal axes: T 2.9992, Plg23.0000°, Azm78.0000°; N -0.3618, Plg61.0000°, Azm218.0000°; P -2.6374, Plg17.0000°, Azm340.0000°;*

ISC 28 11:07:50.1±0.6,43.29N±0.08×126.54W±0.08,h10km, n320,σ1s42/303,mb4.6/70,MS3.6/8,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.67**	**104**			**Pn**		**11 08 18.7**	**-0.7**
KEBM				IAML				11 09 07.0	
	comp=E,504nm,1.1s								
KEBM				IAML				11 09 08.7	
	comp=N,499nm,1.6s								
KBO	**Bosley Butte**	**2.01**	**121**	Pn		**Pn**		**11 08 22.8**	**-1.3**
KBO				IAML				11 08 55.5	
	comp=N,304nm,2.0s								
KBO				IAML				11 09 06.5	
	comp=E,303nm,1.9s								
DBO	**Dodson Butte**	**2.41**	**93**			**Pn**		**11 08 29.1**	**-0.6**
COR	**Corvallis**	**2.67**	**60**			**Pn**		**11 08 34.3**	**+1.1**
COR				IAML				11 09 16.2	
	comp=E,212nm,1.5s								
COR				IAML				11 09 28.3	
	comp=E,285nm,2.1s								
HUMO	**Hull Mountain**	**2.71**	**103**	Pn		**Pn**		**11 08 33.6**	**-0.1**
BUCK	**Buck Mountain**	**2.73**	**69**			**Pn**		**11 08 34.3**	**+0.3**
BUCK				IAML				11 09 13.2	
	comp=N,166nm,3.4s								
BUCK				IAML				11 09 16.7	
	comp=E,300nm,2.8s								
HEBO	**Mount Hebo**	**2.78**	**45**	Pn		**Pn**		**11 08 34.4**	**-0.3**
KRPM	**Rodgers**	**2.83**	**138**	Pn		**Pn**		**11 08 34.2**	**-1.2**
KRPM				IAML				11 09 46.6	
	comp=N,190nm,1.9s								
KRPM				IAML				11 10 22.0	
	comp=E,173nm,3.2s								
JCC	**Jacoby Creek,**	**3.09**	**142**	Pn		**Pn**		**11 08 38.2**	**-0.7**
JCC				IAML				11 09 14.0	
	comp=E,117nm,2.0s								
KHMM	**Horse Mountain**	**3.19**	**138**	Pn		**Pn**		**11 08 38.1**	**-2.3**
YBH	**Yreka Blue Hor**	**3.23**	**117**	Pn		**Pn**		**11 08 41.2**	**+0.3**
	comp=E,1.2nm,0.3s,baz=292,slow=12,SNR=26								
YBH				Sn		**Sb**		**11 09 25.0**	**-1.9**
	comp=E,1.6nm,0.3s,baz=242,slow=9.9,SNR=3.5								
	comp=E,8.6nm,0.6s								
YBH	**Yreka Blue Hor**	**3.23**	**117**	Pn		**Pn**		**11 08 41.4**	**+0.5**
KMPM	**Mount Pierce**	**3.39**	**147**	Pn		**Pn**		**11 08 42.9**	**-0.2**
KMPM				IAML				11 09 09.9	
	comp=E,107nm,2.2s								
KMPM				IAML				11 09 28.8	
	comp=N,94nm,2.4s								
H04A	**Detroit Lake**	**3.44**	**65**			**Pn**		**11 08 45.5**	**+1.8**
H04A				IAML				11 09 12.1	
	comp=N,172nm,0.5s								
H04A				IAML				11 09 35.9	
	comp=E,122nm,0.6s								
RADR	**Rader Ridge**	**3.69**	**31**	Pn		**Pn**		**11 08 46.0**	**-1.1**
RADR				IAML				11 10 10.3	
	comp=E,205nm,2.1s								
RADR				IAML				11 11 08.4	
	comp=N,253nm,4.0s								
KMRM	**Mail Ridge**	**3.72**	**144**	Pn		**Pn**		**11 08 47.2**	**-0.5**
E03A	**Lebam**	**3.88**	**32**	Pn		**Pn**		**11 08 49.6**	**-0.2**
PINE	**Pine Mountain**	**4.10**	**81**			**Pn**		**11 08 54.6**	**+1.6**
PINE				IAML				11 09 49.9	
	comp=E,73nm,4.4s								
PINE				IAML				11 11 10.5	
	comp=N,60nm,4.1s								
K05A	**Summer Lake**	**4.18**	**96**	Pn		**Pn**		**11 08 55.3**	**+1.3**
K05A				IAML				11 10 11.6	
	comp=N,81nm,2.8s								
K05A				IAML				11 10 51.1	
	comp=E,67nm,4.2s								
WISH	**Wishkah**	**4.30**	**26**	Pn		**Pn**		**11 08 56.0**	**+0.5**
NLWA	**Neilton Lookou**	**4.52**	**24**	Pn		**Pn**		**11 08 57.8**	**-0.7**
NLWA				IAML				11 10 24.6	
	comp=E,68nm,3.7s								
G06A	**Carlson Farm,**	**4.67**	**63**			**Pn**		**11 09 00.6**	**0.0**
G06A				IAML				11 09 38.6	
	comp=E,47nm,3.3s								
G06A				IAML				11 09 56.1	
	comp=N,50nm,4.3s								
MOD	**Modoc Plateau**	**4.80**	**105**	Pn		**Pn**		**11 09 04.3**	**+1.7**
MOD				IAML				11 11 29.1	
	comp=E,32nm,4.1s								
**C03

LOHW Long Hollow 11.59 83 Pn **Pn** 11 10 37.6 +1.8
MPU Maple Canyon 11.62 101 Pn **Pn** 11 10 36.4 +0.3
TCRU Three Creeks R 11.63 109 Pn **Pn** 11 10 37.6 +1.3
SZCU Shurtz Canyon 11.71 114 Pn **Pn** 11 10 38.3 +0.9
MVU Marysvale 11.84 109 Pn **Pn** 11 10 40.4 +1.2
MSU Marysvale 11.86 109 Pn **Pn** 11 10 40.3 +0.8
YMP Mirror Lake Pl 11.89 77 Pn **Pn** 11 10 38.7 -1.1
LCMT Little Creek M 11.94 117 Pn **Pn** 11 10 43.3 +2.9
KNB Kanab 12.21 116 Pn **Pn** 11 10 47.2 +3.0
Q16A Castle Valley 12.38 105 Pn **Pn** 11 10 47.3 +0.8
BW06 Boulder Array 12.44 87 Pn **Pn** 11 10 48.7 +1.3
BW06 Boulder Array 12.44 87 P Pn 11 10 52.4 +5.0
baz=278
PD31 Pinedale Array 12.44 87 Pn **Pn** **11 10 48.0 +0.7**
PDAR Pinedale Array 12.44 87 Pn **Pn** **11 10 50.4 +3.0**
comp=N,0.1nm,0.3s,baz=279,slow=11,SNR=17
PDAR LR LR 11 16 24.0
comp=N,265nm,21.8s,baz=312,slow=41
comp=N,2.9nm,0.9s
PDAR Pinedale Array 12.44 87 Pn **Pn** **11 10 47.5 +0.2**
P17A Butcher Ranch, 12.46 102 Pn **Pn** **11 10 48.4 +0.9**
PFO Pinyon Flats O 12.47 137 LR LR 11 15 23.3
comp=N,419nm,18.3s,baz=358,slow=36
EGMT Eagleton 12.66 62 Pn **Pn** **11 10 51.2 +1.1**
P18A Preston Nutter 12.76 101 Pn **Pn** **11 10 51.5 -0.2**
SRU San Rafael Swe 12.76 104 Pn **Pn** **11 10 51.5 -0.1**
W13A Hualapai Mount 12.76 126 Pn **Pn** **11 10 52.4 +0.6**
WAPA Wapiti River 12.81 19 Pn **Pn** **11 10 52.6 +0.4**
U15A North Rim 12.90 117 Pn **Pn** **11 10 55.2 +1.4**
RDMU Red Mountain 12.92 96 Pn **Pn** **11 10 56.4 +2.4**
EDM Edmonton 13.24 37 Pn **Pn** **11 10 58.2 +0.1**
WUAZ Wupatki 14.04 118 Pn **Pn** **11 11 09.7 +0.4**
PV21 Cone Mtn., Par 14.09 104 Pn **Pn** **11 11 09.3 -0.6**
PV23 Carpenter Ridg 14.11 104 Pn **Pn** **11 11 09.7 -0.5**
PV02 Paradox Valley 14.41 105 Pn **Pn** **11 11 15.0 +0.7**
PV15 Paradox Valley 14.53 104 Pn **Pn** **11 11 14.1 -1.9**
SMCO Snowmass 15.28 99 P **Pn** **11 11 28.8 +2.7**
DLBC Dease Lake 15.33 353 Pn **Pn** **11 11 27.1 +0.8**
baz=158,slow=18,SNR=1.8
comp=N,3.1nm,1.1s
W18A Petrified Fore 15.35 116 P **P** **11 11 29.9 -1.8**
N23A Red Feather La 15.47 92 P **Pn** **11 11 30.5 +1.9**
N23A Red Feather La 15.47 92 P **P** **11 11 31.7 -1.4**
baz=286
X18A Snowflake 15.57 119 P **P** **11 11 32.2 -1.9**
ISCO Idaho Springs 16.04 95 P **Pn** **11 11 38.0 +2.0**
BESE Bessie Mountai 16.16 344 P **Pn** **11 11 38.9 -1.5**
DGMT Dagmar 16.38 64 P **Pn** **11 11 41.5 +1.6**
DGMT IAmb IAmb 11 11 54.1
comp=Z,29nm,0.9s
HILA High Level 16.40 18 P **Pn** **11 11 41.1 +1.0**
TUC Tucson 16.55 126 P **Pn** **11 11 43.0 +0.6**
SDCO Great Sand Dun 16.91 102 P **P** **11 11 48.5 -0.6**
SDCO Great Sand Dun 16.91 102 P **P** **11 11 50.2 +1.1**
baz=296,SNR=15
P33M Teslin, Yukon 17.38 349 P **P** **11 11 52.8 -1.1**
T25A Trinidad 17.96 103 P **P** **11 12 00.9 +0.3**
BNM Barren Site 17.98 114 P **P** **11 12 01.0 +0.1**
CRNM Carthage 18.03 115 P **Pn** **11 12 00.8 -0.1**
FARO Faro, Yukon 19.40 350 P **Pn** **11 12 16.6 -0.5**
BARN Barnard Glacie 19.98 338 P **P** **11 12 22.2 -0.3**
K31A O'Neill 20.31 82 P **P** **11 12 25.9 -0.2**
YKA Yellowknife Ar 20.48 16 P **P** **11 12 27.2 -0.5**
comp=Z,4.8nm,0.8s,baz=203,slow=11,SNR=8.3
comp=Z,4.8nm,0.8s
GDL2 Guadalupe Moun 20.67 115 **P** **11 12 30.5 +0.3**
AMTX Amarillo 20.98 105 P **P** **11 12 34.0 +0.5**
AMTX IAmb IAmb 11 12 45.5
comp=Z,20nm,0.8s
BGNE Belgrade 21.03 85 P **P** **11 12 33.9 0.0**
DIV Divide 21.26 334 P **P** **11 12 36.1 -0.2**
DIV IAmb IAmb 11 12 46.8
comp=Z,23nm,1.0s
M26K Nabesna, AK 21.45 339 P **P** **11 12 37.2 -1.1**
K29M Barlow Dome 21.54 347 P **P** **11 12 40.2 +0.9**
baz=158
F33A 5 Mile Ranch, 21.64 73 P **P** **11 12 39.4 -1.0**
F33A IAmb IAmb 11 12 57.7
comp=Z,21nm,1.0s
ECSD EROS Data Cent 21.66 78 P **P** **11 12 41.0 +0.3**
ECSD IAmb IAmb 11 12 51.3
comp=Z,18nm,1.1s
ECSD EROS Data Cent 21.66 78 P **P** **11 12 43.3 +2.6**
baz=279,SNR=6.0
BCAR Beaver Creek A 21.71 341 P **P** **11 12 39.5 -1.5**
L27K Beaver Creek, 21.71 341 P **P** **11 12 40.2 -0.9**
L27K IAmb IAmb 11 12 49.2
comp=Z,19nm,1.1s
L27K Beaver Creek, 21.71 341 P **P** **11 12 41.8 +0.7**
baz=149
N33A J Bar K, Exete 21.71 87 P **P** **11 12 41.8 +0.5**
AGMN Agassiz Nation 21.88 66 P **P** **11 12 44.1 +1.1**
AGMN IAmb IAmb 11 13 00.6
comp=Z,22nm,1.0s
ULM Lac du Bonnet 22.02 61 P **P** **11 12 44.8 +0.4**
comp=Z,17nm,1.0s,baz=264,slow=11,SNR=7.9
comp=Z,17nm,1.0s
ULM Lac du Bonnet 22.02 61 P **P** **11 12 43.3 -1.1**
ELIS Ellis County 22.02 100 P **P** **11 12 44.8 +0.1**
ELIS IAmb IAmb 11 13 02.8
comp=Z,100nm,1.3s
L26K Log Cabin Wild 22.06 339 P **P** **11 12 44.5 -0.3**
L26K IAmb IAmb 11 12 53.1
comp=Z,21nm,1.3s
L26K Log Cabin Wild 22.06 339 P **P** **11 12 45.7 +0.9**
baz=146
DAWY Dawson 22.08 345 P **P** **11 12 44.5 -0.5**
DAWY IAmb IAmb 11 12 54.9
comp=Z,17nm,1.1s
DAWY Dawson 22.08 345 P **P** **11 12 45.5 +0.5**
baz=155
MENT Mentasta 22.08 339 P **P** **11 12 44.6 -0.5**
MENT IAmb IAmb 11 12 55.1
comp=Z,24nm,1.1s
M24K Tolsona, Glenn 22.12 335 P **P** **11 12 44.7 -0.8**
M24K IAmb IAmb 11 13 08.8
comp=Z,42nm,1.1s
L34A Svendsen Farm, 22.18 83 P **P** **11 12 46.7 +0.5**
U32A Winter Ranch, 22.18 99 P **P** **11 12 45.6 -0.7**
J29M Klondike Camp 22.22 347 P **P** **11 12 45.3 -1.3**
J29M IAmb IAmb 11 12 50.8
comp=Z,30nm,1.4s
SCM Sheep Creek Mo 22.28 334 P **P** **11 12 46.8 -0.4**
SCM IAmb IAmb 11 12 56.7
comp=Z,31nm,1.0s
M23K Glacier View 22.38 333 P **P** **11 12 48.3 0.0**
baz=136
KAN12 Harper NE Stat 22.51 96 P **P** **11 12 48.7 -1.1**
KAN08 Anthony NE Sta 22.56 96 P **P** **11 12 50.1 -0.3**
OK032 Salt Plains WL 22.57 97 P **P** **11 12 49.2 -1.2**
OK032 IAmb IAmb 11 13 01.5
comp=Z,20nm,0.8s
K27K Chicken 22.61 342 P **P** **11 12 48.9 -1.7**
KSU1 Kansas State U 22.84 90 P **P** **11 12 53.4 0.0**
CROK Carrier 22.86 98 P **P** **11 12 53.2 -0.3**
CROK IAmb IAmb 11 13 04.0
comp=Z,43nm,1.2s
N35A Tabor 23.00 85 P **P** **11 12 54.0 -1.0**
TX31 Lajitas Ar. Si 23.00 120 P **P** **11 12 53.9 -1.2**
TX31 IAmb IAmb 11 13 09.4
comp=Z,37nm,1.3s
TX32 Lajitas Array 23.00 120 P **P** **11 12 53.5 -1.7**
TXAR Lajitas Array 23.00 120 P **P** **11 12 57.0 +1.8**
comp=Z,1.1nm,0.9s,baz=306,slow=8.0,SNR=8.3
TXAR LR LR 11 21 16.3
comp=Z,69nm,19.5s,baz=304,slow=35
comp=Z,1.1nm,0.9s
TXAR Lajitas Array 23.00 120 P **P** **11 12 53.2 -1.9**
RIDG Independent Ri 23.03 339 P **P** **11 12 54.3 -0.8**
WMOK Wichita Mounta 23.11 102 P **P** **11 12 55.7 -0.5**
WMOK Wichita Mounta 23.11 102 P **P** **11 12 59.6 +3.4**
baz=300,SNR=23
SUA Susitna One 23.21 330 P **P** **11 12 54.8 -2.2**
SUA IAmb IAmb 11 13 04.8
comp=Z,22nm,1.0s
DHY Denali Highway 23.22 336 P **P** **11 12 56.0 -1.2**
DHY Denali Highway 23.22 336 P **P** **11 12 58.9 +1.8**
baz=139
BLOK Blackwell 23.31 96 P **P** **11 12 57.9 -0.2**
BLOK IAmb IAmb 11 13 09.1
comp=Z,37nm,1.1s
LPIG La Paz 23.34 140 LR LR 11 21 25.1
comp=Z,179nm,18.5s,baz=322,slow=35
J26L Joseph Creek 23.35 341 P **P** **11 12 57.5 -0.8**

BCOK Bluff Creek, N 23.51 99 **P** **11 12 58.3 -1.8**
BCOK IAmb IAmb 11 13 11.3
comp=Z,44nm,0.9s
HPIG 23.51 127 P **P** **11 12 57.8 -2.6**
SPU Mount Spurr 23.52 328 P **P** **11 12 57.0 -3.1**
F36A Milaca 23.57 72 P **P** **11 12 58.0 -2.6**
F36A IAmb IAmb 11 13 12.1
comp=Z,11nm,0.9s
T35A Sooner Cattle 23.75 95 P **P** **11 13 00.9 -1.6**
T35A IAmb IAmb 11 13 12.6
comp=Z,15nm,0.8s
EPYK Eagle Plains 23.80 350 P **P** **11 13 01.0 -1.7**
EPYK IAmb IAmb 11 13 11.6
comp=Z,30nm,1.2s
EPYK Eagle Plains 23.80 350 P **P** **11 13 02.9 +0.2**
baz=162
OK033 Mehan 23.82 98 P **P** **11 13 00.9 -2.2**
OK033 IAmb IAmb 11 13 12.6
comp=Z,12nm,0.9s
SKT Skwentna 23.83 330 P **P** **11 13 03.0 0.0**
baz=130
X34A Smith Ranch, M 23.86 102 P **P** **11 13 01.4 -2.2**
X34A IAmb IAmb 11 13 15.6
comp=Z,39nm,1.3s
I27K Kandik River 23.89 345 P **P** **11 13 04.1 +0.5**
baz=152
RND Reindeer 23.92 335 P **P** **11 13 01.4 -2.6**
QUOK Quay 23.93 97 P **P** **11 13 01.9 -2.3**
QUOK IAmb IAmb 11 13 20.3
comp=Z,24nm,1.3s
OK031 S. Brethren Rd 23.93 98 P **P** **11 13 02.8 -1.4**
OK031 IAmb IAmb 11 13 13.8
comp=Z,18nm,0.9s
OK052 Battle Ridge R 23.94 98 P **P** **11 13 02.0 -2.3**
OK052 IAmb IAmb 11 13 16.4
comp=Z,17nm,0.9s
OK053 SW of W Deep R 23.94 98 P **P** **11 13 02.0 -2.3**
OK053 IAmb IAmb 11 13 13.8
comp=Z,15nm,0.8s
I26K Coal Creek Min 23.94 343 P **P** **11 13 02.1 -2.0**
I26K IAmb IAmb 11 13 13.5
comp=Z,21nm,1.2s
I26K Coal Creek Min 23.94 343 P **P** **11 13 04.4 +0.3**
baz=149
OK034 N. Norfolk Rd. 24.00 98 P **P** **11 13 04.2 -0.6**
OK034 IAmb IAmb 11 13 14.5
comp=Z,20nm,1.0s
O18K Koktuh Hills 24.05 324 P **P** **11 13 03.2 -2.0**
O18K IAmb IAmb 11 13 16.9
comp=Z,30nm,1.3s
DEOK Depew 24.23 98 **P** **11 13 05.4 -1.6**
DEOK IAmb IAmb 11 13 19.2
comp=Z,19nm,1.0s
M20K Styx River 24.36 329 P **P** **11 13 07.0 -1.0**
M20K IAmb IAmb 11 13 15.3
comp=Z,18nm,1.0s
IL31 24.40 339 P **P** **11 13 06.4 -1.8**
ILAR Eielson Array 24.40 339 P **P** **11 13 06.8 -1.5**
comp=Z,2.3nm,0.8s,baz=155,slow=8.0,SNR=19
ILAR LR LR 11 21 02.0
comp=Z,162nm,18.7s,baz=140,slow=33
comp=Z,2.3nm,0.8s
ILAR Eielson Array 24.40 339 P **P** **11 13 06.1 -2.1**
H27K Steamboat Moun 24.43 345 P **P** **11 13 08.3 -0.3**
baz=153
WRH Wood River Hil 24.49 337 P **P** **11 13 08.4 -0.7**
WRH IAmb IAmb 11 13 18.2
comp=Z,22nm,1.4s
F31M Tsiigehtchic 24.52 353 P **P** **11 13 09.0 -0.3**
baz=168
CCB Clear Creek Bu 24.55 338 P **P** **11 13 08.5 -1.1**
K38A Parkersburg 24.62 80 P **P** **11 13 08.5 -2.0**
K38A IAmb IAmb 11 13 21.5
comp=Z,21nm,0.9s
LOOK Love County 24.63 102 P **P** **11 13 08.5 -2.2**
LOOK IAmb IAmb 11 13 23.4
comp=Z,30nm,1.2s
PPLA Purkeypile 24.66 332 P **P** **11 13 09.9 -0.9**
PPLA Purkeypile 24.66 332 P **P** **11 13 10.6 -0.2**
baz=131
PRP Porcupine Dome 24.66 341 P **P** **11 13 10.8 0.0**
baz=146
BWN Browne 24.66 336 P **P** **11 13 09.1 -1.6**
BWN IAmb IAmb 11 13 17.6
comp=Z,24nm,1.1s
TUL1 Leonard 24.71 97 P **P** **11 13 08.9 -2.4**
TUL1 IAmb IAmb 11 13 24.5
comp=Z,12nm,0.9s
COLA College 24.74 338 P **P** **11 13 10.9 -0.4**
TCOL CIGO, UAF Yank 24.74 338 P **P** **11 13 09.2 -2.1**
M19K Big River Lodg 24.85 328 P **P** **11 13 10.7 -1.6**
M19K IAmb IAmb 11 13 19.6
comp=Z,15nm,0.9s
M19K Big River Lodg 24.85 328 P **P** **11 13 12.3 0.0**
baz=126
NEA2 Nenana 24.86 337 P **P** **11 13 11.1 -1.3**
NEA2 Nenana 24.86 337 P **P** **11 13 12.5 0.0**
baz=139,SNR=8.7
P38A Dawn 24.91 87 P **P** **11 13 11.8 -1.3**
P38A IAmb IAmb 11 13 26.3
comp=Z,15nm,1.1s
Z35A Perchaven, San 24.93 104 P **P** **11 13 12.5 -0.8**
Z35A IAmb IAmb 11 13 19.0
comp=Z,14nm,0.8s
CAST Castle Rocks 24.97 333 P **P** **11 13 12.5 -1.0**
baz=132
G27K Doyon Strip 24.97 346 P **P** **11 13 13.9 +0.4**
baz=153
L20K Farewell, AK 25.00 330 P **P** **11 13 13.3 -0.5**
baz=128
BPAW Bear Paw Mtn. 25.08 335 P **P** **11 13 12.7 -1.7**
BPAW IAmb IAmb 11 13 20.9
comp=Z,13nm,0.8s
BPAW Bear Paw Mtn. 25.08 335 P **P** **11 13 13.5 -0.9**
baz=135,SNR=8.8
RLO Rose Lookout 25.16 96 P **P** **11 13 11.8 -3.6**
RLO IAmb IAmb 11 13 31.1
comp=Z,23nm,1.1s
L19K White Mountain 25.19 328 P **P** **11 13 14.9 -0.5**
L19K IAmb IAmb 11 13 30.6
comp=Z,24nm,1.2s
L19K White Mountain 25.19 328 P **P** **11 13 15.3 -0.2**
baz=126
INK Inuvik 25.35 354 P **P** **11 13 15.2 -1.6**
comp=Z,3.3nm,1.0s,baz=215,slow=11,SNR=4.3
comp=Z,3.3nm,1.0s
CHUM Lake Minchumin 25.36 333 P **P** **11 13 16.3 -0.6**
baz=132
I23K Minto, Yukon-K 25.36 337 P **P** **11 13 15.1 -1.8**
I23K IAmb IAmb 11 13 24.6
comp=Z,15nm,1.1s
I23K Minto, Yukon-K 25.36 337 P **P** **11 13 16.2 -0.7**
baz=139,SNR=7.4
H24K Noodor Dome 25.50 340 P **P** **11 13 17.3 -0.9**
H24K IAmb IAmb 11 13 27.8
comp=Z,34nm,1.5s
U38A Gravette 25.50 95 P **P** **11 13 18.2 -0.3**
K20K Telida 25.61 331 P **P** **11 13 17.8 -1.4**
K20K IAmb IAmb 11 13 26.2
comp=Z,31nm,1.4s
K20K Telida 25.61 331 P **P** **11 13 19.6 +0.4**
baz=129
X37A Clayton 25.63 99 P **P** **11 13 19.7 -0.1**
X37A IAmb IAmb 11 13 31.0
comp=Z,16nm,1.1s
MLY Manley 25.67 336 P **P** **11 13 18.5 -1.4**
MLY IAmb IAmb 11 13 27.2
comp=Z,21nm,1.0s
MLY Manley 25.67 336 P **P** **11 13 19.8 -0.1**
baz=137,SNR=5.5
S39A Bolivar 25.76 91 P **P** **11 13 21.0 +0.1**
S39A IAmb IAmb 11 13 35.5
comp=Z,16nm,1.4s
HHAR Hobbs 25.89 95 P **P** **11 13 21.7 -0.4**
HHAR IAmb IAmb 11 13 33.6
comp=Z,11nm,0.8s
H23K Yukon River 25.92 338 P **P** **11 13 22.2 +0.1**
H23K Yukon River 25.92 338 P **P** **11 13 22.2 +0.1**
baz=140
P40A Paris 26.03 86 P **P** **11 13 23.0 -0.3**
P40A IAmb IAmb 11 13 42.1
comp=Z,18nm,1.1s
TTA Tatalina 26.06 329 P **P** **11 13 22.7 -0.7**
TTA IAmb IAmb 11 13 29.7
comp=Z,11nm,0.9s
BMAR Burnt Mountain 26.07 344 P **P** **11 13 22.6 -0.8**

G24K Hadweenzic Riv 26.09 341 P **P** **11 13 24.2 +0.6**
baz=144
I21K Tanana 26.14 336 P **P** **11 13 22.4 -1.7**
I21K Tanana 26.14 336 P **P** **11 13 23.8 -0.3**
baz=135
C36M Paulatuk 26.16 2 P **P** **11 13 23.4 -0.6**
C36M IAmb IAmb 11 13 34.1
comp=Z,14nm,1.4s
J20K Nowinta River 26.16 333 P **P** **11 13 22.1 -2.1**
J20K IAmb IAmb 11 13 30.6
comp=Z,11nm,0.7s
J20K Nowinta River 26.16 333 P **P** **11 13 23.7 -0.5**
baz=130
R40A Maddies Statio 26.30 89 P **P** **11 13 25.8 0.0**
R40A IAmb IAmb 11 13 37.7
comp=Z,12nm,1.1s
F25K Christian Rive 26.42 344 P **P** **11 13 27.5 +0.8**
baz=148
G23K Bananza Creek 26.73 339 P **P** **11 13 29.7 +0.4**
baz=140
H21K Melozitna Rive 26.73 336 P **P** **11 13 27.9 -1.5**
H21K IAmb IAmb 11 13 36.2
comp=Z,11nm,0.8s
H21K Melozitna Rive 26.73 336 P **P** **11 13 29.4 0.0**
baz=134
IMAR Indian Mountai 27.23 336 P **P** **11 13 32.4 -1.4**
G21K Allakaket 27.53 337 P **P** **11 13 36.8 +0.2**
baz=134
C26K Camden Bay 28.30 347 P **P** **11 13 44.7 +1.4**
baz=151
A36M Sachs Harbour 28.79 1 P **P** **11 13 46.6 -1.0**
A36M Sachs Harbour 28.79 1 P **P** **11 13 48.3 +0.7**
baz=182
A21K Barrow 31.75 342 P **P** **11 14 12.5 -1.3**
W50A Signal Mountai 32.66 90 P **P** **11 14 23.0 +0.7**
W50A IAmb IAmb 11 14 36.7
comp=Z,7.5nm,0.7s
RES Resolute Bay 34.53 14 P **P** **11 14 35.6 -2.4**
comp=Z,2.3nm,0.7s,baz=69,slow=14,SNR=2.6
RES LR LR 11 27 47.5
comp=Z,115nm,20.2s,baz=316,slow=35
comp=Z,2.3nm,0.7s
CMIG Matias Romero 37.43 124 LR LR 11 32 29.4
comp=Z,59nm,21.6s,baz=306,slow=40
SCHQ Schefferville 39.61 52 LR LR 11 32 04.9
comp=Z,228nm,19.4s,baz=226,slow=37
EUNU Eureka 39.66 10 P **P** **11 15 22.3 +0.6**
EUNU IAmb IAmb 11 15 30.6
comp=Z,5.7nm,0.8s
SDV Santo Domingo 59.38 108 LR LR 11 44 49.5
comp=Z,51nm,19.0s,baz=244,slow=37
H11N3 WAKE ISLAND Hy 59.81 269 T T 12 22 18.2
baz=50,slow=75,SNR=140
H11N2 WAKE ISLAND Hy 59.81 269 T T 12 22 16.9
baz=50,slow=75,SNR=83
H11N1 WAKE ISLAND Hy 59.83 269 T T 12 22 18.0
baz=50,slow=75,SNR=96
H11S1 WAKE ISLAND Hy 60.73 268 T T 12 23 20.4
baz=50,slow=75,SNR=888
H11S2 WAKE ISLAND Hy 60.74 268 T T 12 23 23.2
baz=50,slow=75,SNR=455
H11S3 WAKE ISLAND Hy 60.75 268 T T 12 23 23.9
baz=50,slow=75,SNR=493
USRK Ussuriysk Ar. 68.27 311 P **P** **11 18 53.9 +2.9**
comp=Z,3.6nm,0.8s,baz=61,slow=9.0,SNR=4.2
FINES FINESS Array B 73.28 13 P **P** **11 19 22.1 +1.0**
comp=Z,4.1nm,1.0s,baz=2.9,slow=8.4,SNR=2.1
comp=Z,4.1nm,1.0s
KSRS Korea Array 75.05 307 P **P** **11 19 29.6 -2.3**
comp=Z,0.9nm,0.8s,baz=39,slow=5.1,SNR=2.4
comp=Z,0.9nm,0.8s
SONM Songino Array 77.98 327 P **P** **11 19 47.8 -0.6**
comp=Z,0.2nm,0.3s,baz=32,slow=3.8,SNR=1.8
comp=Z,0.2nm,0.3s
CLL Collm 79.45 24 *e*S **S** **11 29 56.0 -1.2**
CLL *e*(SSS) 11 38 06.0
ZALV Zalesovo Beam 79.49 342 P **P** **11 19 56.5 +0.1**
comp=Z,0.5nm,0.4s,baz=359,slow=10,SNR=1.5
comp=Z,0.5nm,0.4s
LPAZ La Paz 79.81 124 P **P** **11 20 01.3 +1.9**
comp=Z,1.0nm,0.6s,baz=30,slow=8.1,SNR=1.6
comp=Z,1.0nm,0.6s
HHC Hu-ho-hao-te 81.23 319 *e*P **P** **11 20 07.0 +0.7**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,160nm,4.7s
GERES GERESS Array B 81.83 25 P **P** **11 20 09.3 0.0**
comp=Z,0.3nm,0.4s,baz=317,slow=5.3,SNR=1.8
comp=Z,0.3nm,0.4s
ESDC Sonseca Array 82.47 41 P **P** **11 20 12.6 -0.1**
comp=Z,0.5nm,0.8s,baz=314,slow=5.0,SNR=2.7
comp=Z,0.5nm,0.8s
NJ2 Nanjing 84.11 309 *e*P **P** **11 20 22.5 +1.3**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
WMQ Urumqi 88.03 336 *e*P **P** **11 20 40.5 0.0**
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ LR LR
comp=N,610nm,16.5s
WMQ LR LR
comp=E,700nm,17.9s
WMQ LR LR
comp=Z,530nm,19.3s
PZH PanZhiHua 97.60 318 P Pdif 11 21 26.3 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.9s

IDC 28 11:09:08.3±2.0, 6°69S×129°92E, h119km±24km, mb3.1/1, mbtmp3.9/5, Error ellipse: s-maj=30.1km s-min=14.5km az=115.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.94**	**13**	P			Pn	11 10 35.6	+1.6
	11nm,0.3s,baz=187,slow=16,SNR=41			S			Sn	11 11 40.3	-0.5
	20nm,0.2s,baz=228,slow=23,SNR=8.8								
BATI	**Baumata**	**7.11**	**240**	P			Pn	11 10 50.6	+0.9
	18nm,0.4s,baz=213,slow=8.5,SNR=2.2			S			Sn	11 12 08.3	-0.7
	41nm,0.5s,baz=64,slow=22,SNR=4.5								
WRA	**Warramunga Arr**	**13.85**	**162**	P			Pn	11 12 18.0	-1.6
	1.3nm,0.3s,baz=348,slow=13,SNR=34			S			Sn	11 14 44.8	-7.8
	3.0nm,0.8s,baz=329,slow=25,SNR=11								
ASAR	**Alice Springs**	**17.31**	**168**	P			Pn	11 13 03.3	+0.6
	0.8nm,0.5s,baz=342,slow=9.5,SNR=15			S			Sn	11 16 09.6	-6.2
	0.9nm,0.6s,baz=324,slow=17,SNR=5.9								
MKAR	**Makanchi Array**	**67.92**	**327**	P			P	11 19 54.1	-0.1
	0.2nm,0.3s,baz=114,slow=7.2,SNR=4.2								
	0.2nm,0.3s								

*NNC **28** 11:14:30.7±1.1, 43°36N×78°65E, h0km, mpv2.7, Error ellipse: s-maj=12.3km s-min=2.0km az=152.0*
*SOME **28** 11:14:30.6, 43°38N×78°68E, h0km*

ISC 28 11:14:28.7±2.3, 43°3N±0°2×78°58E±0°09, h35km, n6, σ1°9 07/12, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.19**	**213**	*e*P			**Pn**	**11 14 35.4**	**-0.2**
	3.7nm,0.1s								
ZHN				*e*S			**Sn**	**11 14 38.8**	**-1.5**
	106nm,0.2s								
ZHN	**Zhinishke**	**0.19**	**213**	P			**Pn**	**11 14 35.4**	**-0.2**
	3.7nm,0.1s								
ZHN				S			**Sn**	**11 14 38.8**	**-1.5**
	106nm,0.2s								
SATY	**Saty**	**0.30**	**205**	*e*P			**Pn**	**11 14 37.9**	**+1.1**
	6.1nm,0.1s								
SATY				*e*S			**Sn**	**11 14 42.6**	**+0.4**
	112nm,0.1s								
SATY	**Saty**	**0.30**	**205**	P			**Pn**	**11 14 37.9**	**+1.1**
	6.1nm,0.1s								
SATY				S			**Sn**	**11 14 42.6**	**+0.4**
	112nm,0.1s								
UZB	**Uzynbulak**	**0.37**	**119**	*e*P			**Pn**	**11 14 37.6**	**-0.1**
	2.5nm,0.1s								
UZB				*e*S			**Sn**	**11 14 42.5**	**-1.4**
	28nm,0.1s								
PDGK	**Podgornoye**	**0.67**	**90**	P			**Pn**	**11 14 42.8**	**+1.0**

	1.1nm,0.1s							
PDGK				S	**Sn**	**11 14 51.2**	**+0.1**
	1.7nm,0.2s							

NEIC ***28*** *11:17:39.4±1.5,51°.8N±0°.2×171°.3W±0°.1, h37km±23km, ML4.2/6, ML3.6(AEIC), Error ellipse: s-maj=28.8km s-min=8.5km az=158.0*
AEIC ***28*** *11:17:40.4±3.0, 52°.0N±0°.3×171°.5W±0°.2, h25km±9km, Error ellipse: s-maj=46.7km s-min=3.7km az=157.0*
IDC ***28*** *11:17:47.5±10.0, 52°.25N×171°.47W, h118km±94km, mb3.2/5, mbtmp3.5/7, ML2.9/2, Error ellipse: s-maj=57.4km s-min=26.1km az=160.0*

ISC 28 11:17:39.7±1.3, 52°.0N±0°.2×171°.4W±0°.1, h44km, n23, σ1s36/18, mb3.6/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLES	**Cleveland East**	**1.24**	**48**			**Pn**	**11 18 00.8**	**+0.3**
CLES					IAML		11 18 19.0	
	comp=N,4μm,0.3s							
CLES					IAML		11 18 21.3	
	comp=E,5μm,0.3s							
NIKH	**Nikolski High**	**1.84**	**57**			**Pn**	**11 18 08.5**	**-0.3**
NIKH						**Sn**	**11 18 30.5**	**-0.4**
GSTR	**Great Sitkin T**	**2.87**	**274**			**Pn**	**11 18 23.8**	**+0.9**
ADK	**Adak**	**3.26**	**270**			**Pn**	**11 18 28.5**	**+0.2**
ADK					IAML		11 19 14.6	
	comp=E,598nm,0.6s							
ADK					IAML		11 19 15.0	
	comp=E,487nm,0.9s							
UNV	**Unalaska Valle**	**3.50**	**56**			**Pn**	**11 18 32.2**	**+0.7**
KIWB	**Kanaga Island**	**3.55**	**270**			**Pn**	**11 18 32.6**	**+0.4**
AKUT	**Akutan**	**4.02**	**56**	Pn		**Pn**	**11 18 42.4**	**+3.7**
AKUT					IAML		11 20 48.4	
	comp=N,172nm,3.8s							
AMKA	**Amchitka**	**5.81**	**267**	Pn		**Pn**	**11 19 05.0**	**+1.8**
SDPT	**Sand Point**	**7.31**	**58**	Pn		**Pn**	**11 19 24.6**	**+0.9**
CHGN	**Chignik**	**8.76**	**55**	Pn		**Pn**	**11 19 43.7**	**+0.2**
ILAR	**Eielson Array**	**17.97**	**35**	P		**Pn**	**11 21 45.6**	**-0.2**
	comp=N,0.1nm,0.3s,baz=218,slow=9.2,SNR=5.5 comp=N,0.6nm,1.1s							
PETK	**Petropavlovsk-**	**18.74**	**286**	P		**P**	**11 21 54.7**	**+0.1**
	comp=N,0.1nm,0.3s,baz=86,slow=14,SNR=4.1 comp=N,4.1nm,1.1s							
SEY	**Seymchan**	**22.00**	**314**	P		**P**	**11 22 31.1**	**+1.4**
	comp=N,0.9nm,0.5s,baz=132,slow=14,SNR=4.3 comp=N,0.9nm,0.5s							
INK	**Inuvik**	**24.34**	**34**	P		**P**	**11 22 52.4**	**-0.6**
	comp=N,0.7nm,0.7s,baz=265,slow=6.0,SNR=6.0 comp=N,0.7nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**36.40**	**216**	T		T	12 03 13.6	
	baz=21,slow=75,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**36.41**	**216**	T		T	12 03 14.9	
	baz=21,slow=75,SNR=5.1							
H11N1	**WAKE ISLAND Hy**	**36.42**	**216**	T		T	12 03 13.9	
	baz=21,slow=75,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**37.60**	**215**	T		T	12 04 40.4	
	baz=29,slow=74,SNR=4.2							
H11S2	**WAKE ISLAND Hy**	**37.61**	**215**	T		T	12 04 43.9	
	baz=29,slow=74,SNR=5.0							
H11S3	**WAKE ISLAND Hy**	**37.62**	**215**	T		T	12 04 40.4	
	baz=29,SNR=6.5							
MKAR	**Makanchi Array**	**63.12**	**312**	P		**P**	**11 28 00.5**	**-2.1**
	comp=N,0.3nm,0.4s,baz=45,slow=6.7,SNR=4.4 comp=N,0.3nm,0.4s							
WRA	**Warramunga Arr**	**85.80**	**230**	P		**P**	**11 30 15.3**	**+1.0**
	comp=N,0.4nm,0.9s,baz=36,slow=5.8,SNR=2.0 comp=N,0.4nm,0.9s							
ASAR	**Alice Springs**	**89.20**	**228**	P		**P**	**11 30 29.9**	**-0.7**
	comp=N,0.2nm,0.5s,baz=23,slow=4.6,SNR=2.7 comp=N,0.2nm,0.5s							

IDC ***28*** *11:21:29.1±1.1, 37°.19N×141°.76E, h0km, mb3.6/7, mbtmp3.6/8, ML2.5/1, MS3.0/2, Error ellipse: s-maj=27.1km s-min=22.0km az=71.0*
JMA ***28*** *11:21:31.9±0.2, 37°.2N±0°.4×14°.2E±°, h35km±1km, MV3.8/40, E OFF FUKUSHIMA PREF*
NIED ***28*** *11:21:31.9, 37°.20N×141°.60E, h35km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.91; Mθθ-0.09; Mϕϕ4.00; Mrθ0.70; Mϕr1.87; Mϕr1.54; Fault plane solution: M₀4.64000×10¹⁴ NP1:φs19.00000°, δ34.00000°, λ-93.00000°. NP2:φs203.00000°, δ56.00000°, λ-88.00000°.*

ISC 28 11:21:29.7±2.0, 37°.20N±0°.05×141°.63E±0°.08, h4km±11km, n28, σ0s91/23, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.62**	**285**	*i* P		**Pb**	**11 21 43.7**	**+0.4**
JMST	**Minamisoumatoc**	**0.79**	**312**	P		**Pb**	**11 21 46.1**	**+0.1**
JMST				S		**Sg**	**11 21 55.9**	**+0.8**
JFFD	**Fukushimafurud**	**0.86**	**263**	*i* P		**Pb**	**11 21 47.2**	**0.0**
JMM	**Marumori**	**0.94**	**315**	*i* P		**Pb**	**11 21 48.5**	**-0.1**
JHO	**Hitachi**	**1.03**	**236**	P		**Pg**	**11 21 49.5**	**-0.1**
JHO				S		**Sg**	**11 22 02.5**	**-0.5**
JIO	**Ouri**	**1.27**	**350**	*i* P		**Pg**	**11 21 53.5**	**-0.5**
JIO				S		**Sb**	**11 22 09.1**	**-1.8**
JSB	**Shiboa**	**1.39**	**261**	P		**Pg**	**11 21 56.6**	**+0.3**
JSB				*e*S		**Sn**	**11 22 14.0**	**-0.7**
JOU	**Okura**	**1.39**	**327**	*i* P		**Pg**	**11 21 56.2**	**-0.2**
JOU				S		**Sb**	**11 22 14.1**	**-0.3**
JFY	**Yanaizu**	**1.55**	**278**	P		**Pb**	**11 21 58.5**	**-0.5**
MJAR	**Matsushiro Arr**	**2.82**	**257**	Pn		**Pn**	**11 22 16.7**	**+1.1**
	0.7nm,0.3s,baz=193,slow=23,SNR=30							
MJAR				Sn		**Sb**	**11 22 53.5**	**-2.1**
	1.3nm,0.3s,baz=53,slow=36,SNR=4.8 4.9nm,0.4s							
KSRS	**Korea Array**	**10.92**	**275**	LR		LR	11 28 41.0	
	comp=Z,41nm,18.3s,baz=100,slow=39							
PETK	**Petropavlovsk-**	**19.45**	**30**	LR		LR	11 32 32.5	
	comp=Z,65nm,19.9s,baz=69,slow=34							
SONM	**Songino Array**	**27.83**	**304**	P		**P**	**11 27 21.9**	**+1.6**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=1.7 0.4nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.09**	**121**	T		T	11 56 47.7	
	baz=314,slow=75,SNR=91							
H11N1	**WAKE ISLAND Hy**	**28.09**	**121**	T		T	11 56 48.0	
	baz=314,slow=75,SNR=97							
H11N3	**WAKE ISLAND Hy**	**28.11**	**121**	T		T	11 56 48.7	
	baz=314,slow=75,SNR=71							
H11S1	**WAKE ISLAND Hy**	**28.81**	**123**	T		T	11 57 40.4	
	baz=316,slow=76,SNR=60							
H11S3	**WAKE ISLAND Hy**	**28.81**	**123**	T		T	11 57 41.9	
	baz=316,slow=76,SNR=50							
H11S2	**WAKE ISLAND Hy**	**28.82**	**123**	T		T	11 57 43.1	
	baz=316,slow=76,SNR=46							
ZALV	**Zalesovo Beam**	**41.93**	**312**	P		**P**	**11 29 21.9**	**+0.6**
	0.4nm,0.3s,baz=73,slow=4.8,SNR=1.4 0.4nm,0.3s							
MKAR	**Makanchi Array**	**44.17**	**302**	P		**P**	**11 29 39.0**	**-0.6**
	0.3nm,0.6s,baz=90,slow=10,SNR=3.0 0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**46.03**	**308**	P		**P**	**11 29 54.8**	**+0.5**
	0.6nm,0.3s,baz=82,slow=8.0,SNR=2.4 0.6nm,0.3s							
ILAR	**Eielson Array**	**49.26**	**32**	P		**P**	**11 30 18.8**	**-0.4**
	0.4nm,0.8s,baz=274,slow=7.2,SNR=4.6 0.4nm,0.8s							
WRA	**Warramunga Arr**	**57.25**	**188**	P		**P**	**11 31 17.9**	**-0.5**
	0.9nm,0.8s,baz=4.4,slow=7.5,SNR=9.6 0.9nm,0.8s							
ASAR	**Alice Springs**	**60.98**	**188**	P		**P**	**11 31 44.6**	**+0.4**
	0.7nm,0.8s,baz=7.6,slow=6.2,SNR=9.3 0.7nm,0.8s							
H03N2	**Juan Fernandez**	**146.87**	**96**	T		T	14 25 15.3	
	baz=291,slow=76,SNR=9.6							
H03N3	**Juan Fernandez**	**146.88**	**96**	T		T	14 25 14.4	
	baz=291,slow=76,SNR=9.3							
H03N1	**Juan Fernandez**	**146.89**	**96**	T		T	14 25 15.4	
	baz=291,slow=76,SNR=10							

NOU 28 11:22:31.7, 17°.24S×167°.30E, h27km, MLv4.2/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DVP	**Devils Point**	**0.97**	**120**	P		Pn	11 22 49.7	+0.1
RTV	**Rentapao**	**1.21**	**117**	P		Pn	11 22 53.1	+0.3
LIFNC	**LIFOU**	**3.52**	**181**	P		Pn	11 23 23.5	-1.1
MARNC	**Mare, Loyalty**	**4.28**	**171**	P		Pn	11 23 35.0	0.0
KOUNC	**Koumac, New Ca**	**4.36**	**220**	P		Pn	11 23 36.3	+0.1
YATNC	**Mamie plateau,**	**4.81**	**185**	P		Pn	11 23 41.8	-0.6
DZM	**Mont Dzumac**	**4.87**	**189**	P		Pn	11 23 43.6	+0.2
ONTNC	**Ouen Toro**	**5.10**	**189**	P		Pn	11 23 46.7	+0.3
	42nm,2.9s							
OUENC	**Ouen Island, N**	**5.17**	**185**	P		Pn	11 23 48.2	+0.9
	18nm,0.8s							

KRNET ***28*** *11:23:05.6±0.1, 40°.37N×72°.13E, h35km, mb2.7*
ISU ***28*** *11:23:07, 40°.35N×72°.14E, h13km*
NNC ***28*** *11:23:18.1±2.4, 40°.96N×72°.03E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=21.2km s-min=10.0km az=168.0*
SOME ***28*** *11:23:19.7, 40°.97N×72°.15E, h20km*

ISC 28 11:23:07.0±1.0, 40°.35N±0°.03×72°.09E±0°.03, h27km±8km, n32, σ2s50/39, 14C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FRG	**Fergana**	**0.23**	**276**	P		**Pb**	**11 23 13.6**	**+0.3**
FRG				S		**Sb**	**11 23 18.0**	**+0.3**
TSTA	**Tashata**	**0.37**	**53**	P		**Pb**	**11 23 14.9**	**-0.4**
TSTA				S		**Sb**	**11 23 20.5**	**-0.5**
ANR	**Andizhan**	**0.45**	**27**	S		**Sn**	**11 23 23.7**	**-1.3**
OHH	**Osh**	**0.56**	**72**	↑*e*P		**Pb**	**11 23 17.3**	**-1.0**
	baz=73							
OHH				↑*i*S		**Sb**	**11 23 25.4**	**-0.6**
	baz=73							
OHH	**Osh**	**0.56**	**72**	P		**Pn**	**11 23 17.9**	**-1.3**
OHH				S		**Sn**	**11 23 26.3**	**-1.4**
DRK	**Karamyk**	**0.90**	**194**	↓*e*P		**Pb**	**11 23 23.2**	**-0.9**
	baz=96							
DRK				↓*e*S		**Sn**	**11 23 35.9**	**-0.4**
	baz=96							
BTK	**Batken**	**1.02**	**254**	↓*e*P		**Pb**	**11 23 25.3**	**-0.7**
	baz=53							
BTK				↓*e*S		**Sn**	**11 23 39.6**	**+0.6**
	baz=53							
TRKS	**Terek-Say**	**1.38**	**329**	↑*e*P		**Pn**	**11 23 29.1**	**-1.5**
	baz=27							
TRKS				↑*e*S		**Sn**	**11 23 46.1**	**-1.9**
	baz=27							
ARK	**Arkit**	**1.45**	**356**	↑*e*P		**Pn**	**11 23 31.0**	**-0.5**
	baz=55							
ARK				↑*e*S		**Sn**	**11 23 49.0**	**-0.7**
	baz=55							
GAR	**Garm**	**1.92**	**226**	↓*e*P		**Pn**	**11 23 37.8**	**-0.2**
	baz=26							
GAR				↓*i*S		**Sn**	**11 24 01.6**	**+0.2**
	baz=26							
ARLS	**Aral**	**2.26**	**48**	↓*e*P		**Pn**	**11 23 41.7**	**-1.1**
	baz=48							
ARLS				↓*e*S		**Sn**	**11 24 08.0**	**-1.9**
	baz=48							
IUG	**Iuzhnay**	**2.37**	**320**	*e*P		Pb	11 23 55.2	+6.2
	15nm,0.2s							
IUG				*e*S		**Sb**	**11 24 20.2**	**+2.3**
	35nm,0.5s							
IUG	**Iuzhnay**	**2.37**	**320**	P		**Pb**	**11 23 49.1**	**0.0**
	22nm,0.3s							
IUG				S		**Sn**	**11 24 10.9**	**-1.6**
	22nm,0.7s							
MRKS	**Merke**	**2.54**	**19**	*e*P		Pb	11 23 56.5	+4.6
	5.4nm,0.6s							
MRKS				*e*S		**Sb**	**11 24 23.0**	**+0.3**
	9.2nm,0.3s							
MRKS	**Merke**	**2.54**	**19**	Pg		Pb	11 23 56.5	+4.6
	5.4nm,0.6s							
MRKS				Lg		Lg	11 24 23.7	
	9.2nm,0.3s							
UCH	**Uchtor**	**2.62**	**43**	↑*e*P		**Pn**	**11 23 46.8**	**-1.1**
	baz=43							
UCH				↑*i*S		**Sn**	**11 24 16.9**	**-2.1**
	baz=43							
EKS2	**Erkin-Say**	**2.63**	**28**	↓*e*P		**Pn**	**11 23 46.9**	**-0.9**
	baz=28							
EKS2				↓*e*S		**Sn**	**11 24 17.1**	**-1.8**
	baz=28							
AAK	**Ala-Archa**	**2.91**	**38**	↑*e*P		**Pn**	**11 23 50.9**	**-0.8**
	baz=37							
AAK				↑*i*S		**Sn**	**11 24 23.9**	**-1.9**
	baz=37							
KK31	**Karatay Array**	**2.99**	**337**	↑Pn		**Pb**	**11 23 57.5**	**-2.1**
	1.1nm,0.3s,baz=148,slow=16,SNR=18							
KK31				↑Lg		Lg	11 24 35.0	
	3.6nm,0.4s,baz=150,slow=29,SNR=6.5							
KKAR	**Karatay Array**	**2.99**	**337**	↑*e*P		**Pn**	**11 23 52.3**	**-0.3**
	baz=37							
KKAR				↑*e*S		**Sn**	**11 24 26.2**	**-1.4**
	baz=37							
SGDS	**Sogindy**	**3.63**	**31**	*e*P		Pb	11 24 16.8	+6.3
	1.1nm,0.5s							
SGDS				*e*S		**Sb**	**11 24 58.3**	**+4.2**
	2.5nm,0.3s							
SGDS	**Sogindy**	**3.63**	**31**	Pg		Pb	11 24 16.8	+6.3
	1.1nm,0.5s							
SGDS				Lg		Lg	11 24 58.3	
	2.5nm,0.3s							
TKM2	**Tokmak 2**	**3.67**	**45**	↓Lg		Lg	11 25 03.1	
	3.0nm,0.5s							
KST	**Kastek**	**3.96**	**46**	*e*P		Pb	11 24 24.2	+8.2
	1.4nm,0.5s							
KST				*e*S		**Sb**	**11 25 10.8**	**+7.3**
	4.5nm,0.7s							
KST	**Kastek**	**3.96**	**46**	Pg		Pb	11 24 24.2	+8.2
	1.4nm,0.5s							
KST				Lg		Lg	11 25 10.8	
	4.5nm,0.7s							
DGS	**Degeres**	**3.99**	**42**	*e*P		Pb	11 24 23.8	+7.2
	0.9nm,0.4s							
DGS				*e*S		**Sb**	**11 25 10.1**	**+5.7**
	3.9nm,0.6s							
DGS	**Degeres**	**3.99**	**42**	Pg		Pb	11 24 23.8	+7.2
	0.9nm,0.4s							
DGS				Lg		Lg	11 25 10.1	
	3.9nm,0.6s							
KRBS	**Karabastau**	**4.28**	**37**	*e*P		Pb	11 24 28.4	+6.9
	0.6nm,0.4s							
KRBS				*e*S		**Sb**	**11 25 17.8**	**+5.1**
	1.3nm,0.4s							
KRBS	**Karabastau**	**4.28**	**37**	Pg		Pb	11 24 28.4	+6.9
	0.6nm,0.4s							
KRBS				Lg		Lg	11 25 17.8	
	1.3nm,0.4s							
TNSS	**Tian-Shan**	**4.52**	**52**	*e*P		Pb	11 24 34.8	+9.0
	2.2nm,0.8s							
TNSS				*e*S		Sb	11 25 28.8	+8.8
	1.5nm,0.4s							
TNSS	**Tian-Shan**	**4.52**	**52**	Pg		Pb	11 24 34.8	+9.0
	2.2nm,0.8s							
TNSS				Lg		Lg	11 25 28.8	
	1.5nm,0.4s							
KTBS	**Karatobe**	**4.79**	**44**	*e*P		Pb	11 24 37.8	+7.5
	0.8nm,0.5s							
KTBS				*e*S		**Sb**	**11 25 33.8**	**+6.3**
	5.7nm,0.5s							

IDC ***28*** *11:26:11.9±0.5, 14°.51N×53°.90E, h0km, mb4.2/30, mbtmp4.2/31, ML3.4/1, MS4.6/69, Error ellipse: s-maj=14.3km s-min=12.0km az=109.0*
BJI ***28*** *11:26:11.7±0.0, 14°.48N×53°.58E, h10km, mb4.4/36, mB5.1/24, Ms4.8/28, Ms7 4.6/27*
GCMT ***28*** *11:26:11.4±0.1, 14°.50N±0°.01×53°.68E±0°.01, h15km, MW5.4/130, Moment Tensor Solution. s99,c145; s130,c239; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.14±.02; Mθθ0.88±.02; Mϕϕ-0.74±.02; Mrθ0.58±.07; Mϕϕ0.86±.02; Mϕr0.52±.06; Best double couple: M₀1.38300×10¹⁷ NP1:φs22.00000°, δ85.00000°, λ151.00000°. NP2:φs115.00000°, δ61.00000°, λ5.00000°. Principal axes: T 1.5760, Plg24.0000°, Azm334.0000°; N -0.3860, Plg61.0000°, Azm193.0000°; P -1.1900, Plg16.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***28*** *11:26:12.8±1.2, 14°.52N×53°.76E, h10km, mb4.9/32, MS4.6/10 Error ellipse: s-maj=10.1km s-min=5.0km az=98.2*
OMAN ***28*** *11:26:14.4±4.7, 14°.54N×53°.76E, h3km±35km, mb5.5/16, ml4.4/4, ms4.8/3, Mwp5.3/4, Error ellipse: s-maj=8.8km s-min=2.0km az=23.0*
NEIC ***28*** *11:26:15.4±1.7, 14°.57N±0°.09×53°.74E±0°.09, h10km±1km, mb4.8/46, Mwb5.4/9, Error ellipse: s-maj=16.3km s-min=12.8km az=138.0*
NEIC ***28*** *11:26:16, 14°.67N×53°.67E, h24km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.31; Mθθ1.16; Mϕϕ-1.46; Mrθ0.19; Mϕϕ0.53; Mϕr0.38; Fault plane solution: M₀1.50000×10¹⁷ NP1:φs33.06000°, δ86.53000°, λ162.23000°. NP2:φs124.18000°, δ72.27000°, λ3.65000°. Principal axes: T 1.3303, Plg15.0000°, Azm347.0000°; N 0.2949, Plg72.0000°, Azm202.0000°; P -1.6252, Plg10.0000°, Azm80.0000°;*

ISC 28 11:26:16.0±0.3, 14°.58N±0°.04×53°.86E±0°.04, h19km, n307, σ2s15/299, mb4.7/100, MS4.6/101, 23C-10D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABTO	**Aybut**	**2.81**	**349**	P		**Pn**	**11 26 60.0**	**-0.1**
ABTO				P		**Pn**	**11 26 60.0**	**-0.1**
RBK	**Rabkut**	**2.93**	**6**	P		**Pb**	**11 27 05.1**	**-2.6**
	SNR=7.0							
DMTO	**DMTO**	**3.29**	**18**	P		**Pn**	**11 27 09.9**	**+3.4**
	SNR=13							
DOK	**Doka**	**4.03**	**4**	P		**Pn**	**11 27 17.0**	**+0.3**
	SNR=8.7							
DOK				P		**Pn**	**11 27 17.0**	**+0.3**
	SNR=8.7							
DQM	**DQM**	**6.38**	**33**	P		**Pn**	**11 27 50.5**	**+1.4**
DQM				P		**Pn**	**11 27 50.5**	**+1.4**
MHTO	**MHTO**	**7.48**	**31**	P		**Pn**	**11 28 05.2**	**+1.1**
BSY	**Bisya**	**8.72**	**21**	P		**Pn**	**11 28 22.9**	**+1.8**
JMDO	**Jabal Madar**	**8.73**	**27**	P		**Pn**	**11 28 23.2**	**+1.8**
ARQ	**Araqi**	**9.07**	**16**	P		**Pn**	**11 28 27.5**	**+1.6**
ARQ				P		**Pn**	**11 28 27.5**	**+1.6**
SMDO	**Samad**	**9.32**	**25**	P		**Pn**	**11 28 31.8**	**+2.3**
SMDO				P		**Pn**	**11 28 31.8**	**+2.3**
WBK	**Wadi Bani Khal**	**9.34**	**30**	P		**Pn**	**11 28 31.8**	**+2.0**
HOQ	**Hoqain**	**9.53**	**19**	P		**Pn**	**11 28 34.5**	**+2.1**
WSAR	**Wadi Sarin**	**9.73**	**27**	Pn		**Pn**	**11 28 35.2**	**+0.2**
	0.3nm,0.3s,baz=124,slow=10,SNR=2.9							
WSAR				Sn		Sn	11 30 14.3	-9.4
	0.4nm,0.3s,baz=70,slow=16,SNR=2.1 2.5nm,0.6s							
SOHO	**SOHO**	**9.84**	**14**	P		**Pn**	**11 28 38.9**	**+2.5**
ASUD	**Al Ashush, Dub**	**10.09**	**8**	P		**Pn**	**11 28 41.7**	**+1.7**
FAQ	**Al Faqa, Dubai**	**10.25**	**9**	P		**Pn**	**11 28 43.5**	**+1.4**
ASHO	**Ashiyiah**	**10.27**	**11**	P		**Pn**	**11 28 43.9**	**+1.5**
UOSS	**Minazif**	**10.55**	**12**	Pn		**Pn**	**11 28 47.3**	**+1.1**
UOSS	**Minazif**	**10.55**	**12**	P		**Pn**	**11 28 47.6**	**+1.4**
MASF	**Masafi**	**10.96**	**11**	P		**Pn**	**11 28 53.6**	**+1.7**
BANOM	**Banah**	**11.52**	**11**	P		**Pn**	**11 29 01.1**	**+1.6**
SHME	**Shamm**	**11.61**	**10**	P		**Pn**	**11 29 01.7**	**+1.0**
RAYN	**Ar Rayn**	**11.89**	**320**	Pn		**Pn**	**11 29 00.2**	**-4.5**
RAYN	**Ar Rayn**	**11.89**	**320**	P		**Pn**	**11 29 00.2**	**-4.5**
DESE	**Dese**	**14.29**	**258**	*e*P		Pn	11 29 32.5	-5.3
ANKE	**Ethiopia-Afar**	**14.67**	**252**	*e*P		**Pn**	**11 29 42.0**	**-1.0**
AAE	**Adis Abeba**	**15.77**	**251**	*e*P		**P**	**11 30 07.7**	**+6.4**
FURI	**Furi**	**15.89**	**251**	*e*P		**P**	**11 30 02.3**	**-0.4**
KSLA	**Kassala**	**16.85**	**275**	*i* P		**Pn**	**11 30 09.7**	**-1.4**
KSLA				↑I		I	11 30 11.6	
	comp=Z,326nm,3.7s							
KSLA				*i* S		**S**	**11 33 32.2**	**+3.9**
MQOL	**MQOL**	**17.12**	**293**	*i* P		**P**	**11 30 17.9**	**+1.9**
MQOL				*i* S		**S**	**11 33 41.3**	**+7.7**
DILA	**Dilla**	**17.31**	**244**	*e*P		**P**	**11 30 21.2**	**+3.0**
MSEY	**Mahe Island**	**19.19**	**175**	P		**P**	**11 30 37.8**	**-1.0**
MSEY	**Mahe Island**	**19.19**	**175**	P		**Pn**	**11 30 39.7**	**-0.2**
MSEY	**Mahe Island**	**19.19**	**175**	P		**P**	**11 30 37.8**	**-1.0**
MSEY				pmax		pmax		
	comp=Z,31nm,0.9s							
POO	**Poona**	**19.56**	**76**	*e*P		**P**	**11 30 39.0**	**-3.9**
SLAT	**Slait**	**20.47**	**276**	*i* P		**P**	**11 30 53.9**	**+1.1**
HRA	**Herat**	**21.13**	**20**	P		**P**	**11 31 02.6**	**+2.6**
HRA				IAmb		IAmb	11 31 19.0	
	comp=Z,73nm,1.9s							
LODK	**Lodwar**	**21.34**	**240**	P		**P**	**11 31 02.1**	**-0.2**
LODK				IAmb		IAmb	11 31 08.0	
	comp=Z,101nm,1.5s							
LODK	**Lodwar**	**21.34**	**240**	P		**P**	**11 31 03.5**	**+1.3**
	SNR=18							
PCHI	**Peechi**	**22.31**	**98**	*e*P		**P**	**11 31 09.1**	**-3.5**
PCHI				*e*S		**S**	**11 35 19.2**	**+1.9**
KMBO	**Kilima Mbogo**	**22.66**	**228**	P		**P**	**11 31 15.6**	**-1.0**
	comp=Z,14nm,0.9s,baz=40,slow=12,SNR=29							
KMBO				LR		LR	11 39 50.3	
	comp=Z,3μm,19.1s,baz=42,slow=36 comp=Z,14nm,0.9s							
KMBO	**Kilima Mbogo**	**22.66**	**228**	P		**P**	**11 31 15.6**	**-1.0**
KMBO				IAmb		IAmb	11 31 23.5	
	comp=Z,43nm,1.1s							
KMBO	**Kilima Mbogo**	**22.66**	**228**	P		**P**	**11 31 17.0**	**+0.4**
KMBO				P		**P**	**11 31 17.0**	**+0.4**
KMBO	**Kilima Mbogo**	**22.66**	**228**	P		**P**	**11 31 15.6**	**-1.0**
KMBO				pmax		pmax		
	comp=Z,43nm,1.1s							
KIBK	**Kibwezi**	**22.98**	**224**	P		**P**	**11 31 18.8**	**-0.9**
KIBK	**Kibwezi**	**22.98**	**224**	P		**P**	**11 31 20.4**	**+0.7**
	SNR=15							
EIL	**Elat**	**23.02**	**314**	P		**P**	**11 31 19.7**	**-0.3**
	comp=Z,10nm,1.0s,baz=124,slow=9.7,SNR=6.2							
EIL				LR		LR	11 39 42.4	
	comp=Z,3μm,18.5s,baz=129,slow=35 comp=Z,10nm,1.0s							
ASF	**Jabal al Asfar**	**23.38**	**321**	P		**P**	**11 31 23.4**	**-0.3**
	comp=Z,12nm,1.0s,baz=122,slow=1.9,SNR=7.6							
ASF				LR		LR	11 40 56.4	
	comp=Z,4μm,19.3s,baz=146,slow=38 comp=Z,12nm,1.0s							
GEYT	**Alibeck**	**23.57**	**8**	P		**P**	**11 31 26.0**	**+0.6**
	comp=Z,6.3nm,0.7s,baz=190,slow=7.5,SNR=13							
GEYT				LR		LR	11 41 59.9	
	comp=Z,2μm,19.2s,baz=210,slow=40 comp=Z,6.3nm,0.7s							
GEYT	**Alibeck**	**23.57**	**8**	P		**P**	**11 31 26.8**	**+1.4**
**GYA

GAR IAmb IAmb 11 33 13.1
comp=Z,19nm,0.9s
MAK Makhachkala 28.81 350 *e*P **P** **11 32 13.2 +0.4**
MAK *e*S **S** **11 37 04.4 +2.7**
MAK *e*SS **SnSn** **11 38 23.0 -0.8**
MAK pmax pmax
comp=Z,123nm,1.0s
MAK MLR MLR
comp=Z,1µm,11.0s
GROC Groznyy 29.36 348 *e*P P 11 32 24.9 +7.2
GROC *e* 11 33 12.2
ZEI Tsey 29.39 345 *e*P **P** **11 32 18.2 -0.1**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 30.53 344 LR LR 11 46 49.0
comp=Z,2µm,20.3s,baz=152,slow=40
KBZ Khabaz 30.53 344 *ce*P **P** **11 32 28.4 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,1.2s
SHA1 Shidzhatmaz 30.60 344 *i*P **P** **11 32 30.0 +1.0**
BR131 Keskin Array S 30.70 329 ⇑*i*P **P** **11 32 30.9 +1.1**
BRTR Keskin Array B 30.70 329 P **P** **11 32 29.2 -0.6**
comp=Z,1.8nm,1.0s,baz=146,slow=12,SNR=6.0
BRTR LR LR 11 46 32.3
comp=Z,2µm,18.8s,baz=120,slow=40
comp=Z,1.8nm,1.0s
ELL Elmali 30.72 320 P **P** **11 32 29.7 -0.3**
ELL Elmali 30.72 320 P **P** **11 32 29.7 -0.3**
ELL pmax pmax
comp=Z,162nm,1.3s
KVAR Kislovodsk Arr 30.80 344 LR LR 11 47 04.5
comp=Z,2µm,19.6s,baz=70,slow=41
KIV Kislovodsk 30.80 344 *e*P **P** **11 32 32.8 +2.2**
KIV *e*S **S** **11 37 37.2 +4.1**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,1µm,15.0s
SOC Sochi 31.34 340 *e*P **P** **11 32 33.5 -1.8**
SOC *e* 11 33 34.3
SOC *e*S **S** **11 37 41.4 -0.1**
SOC *e*SS **SnSn** **11 39 25.2 -0.3**
SOC pmax pmax
comp=Z,31nm,0.9s
SOC MLR MLR
comp=Z,1µm,16.0s
KKAR Karatay Array 31.82 23 P **P** **11 32 40.7 +1.1**
KKAR Karatay Array 31.82 23 P **P** **11 32 40.7 +1.1**
AAK Ala-Archa 33.13 28 LR LR 11 48 08.1
comp=Z,595nm,20.7s,baz=246,slow=40
AAK Ala-Archa 33.13 28 *i*P **P** **11 32 53.4 +2.2**
AAK pmax pmax
comp=Z,16nm,1.6s
IDI Anoyia 33.20 314 LR LR 11 48 32.8
comp=Z,818nm,20.5s,baz=97,slow=40
ANN Anapa 33.20 338 *e*P P 11 33 01.3 +10
ANN pmax pmax
comp=Z,246nm,1.5s
OPO Ambohidratompo 33.59 191 P **P** **11 32 54.4 -0.9**
comp=Z,4.0nm,0.8s,baz=118,slow=23,SNR=5.2
OPO LR LR 11 43 51.7
comp=Z,908nm,20.8s,baz=168,slow=32
comp=Z,4.0nm,0.8s
ABPO Ambohimpanom 34.02 191 P **P** **11 32 59.3 +0.2**
ABPO lAmb lAmb 11 33 00.3
comp=Z,11nm,0.8s
ABPO Ambohimpanom 34.02 191 P **P** **11 32 59.3 +0.2**
ABPO pmax pmax
comp=Z,11nm,0.8s
TARG Taragay, Kyrgy 34.09 33 P **P** **11 33 00.7 +0.9**
TARG lAmb lAmb 11 33 19.9
comp=Z,12nm,1.1s
TARG Taragay, Kyrgy 34.09 33 P **P** **11 33 00.7 +0.9**
TARG pmax pmax
comp=Z,12nm,1.1s
ABKAR Akbulak array 34.94 7 P **P** **11 33 05.8 -0.8**
ABKAR lAmb lAmb 11 33 23.3
comp=Z,15nm,0.9s
RDO Rodhopi 36.14 323 P **P** **11 33 16.9 -0.1**
RDO lAmb lAmb 11 33 40.6
comp=Z,15nm,1.1s
BRDH Bariadhala 36.62 72 LR LR 11 48 03.3
comp=Z,1µm,21.1s,baz=256,slow=36
VOI Vohitsoka 36.91 191 P **P** **11 33 24.4 +0.5**
VOI lAmb lAmb 11 33 33.4
comp=Z,18nm,0.9s
VRH Novokhopyorsk 37.82 348 *e*P **P** **11 33 29.6 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
BELG Belogornoye 38.05 354 P **P** **11 33 32.2 -0.9**
comp=Z,9.5nm,0.8s,baz=207,slow=2.3,SNR=2.7
BELG LR LR 11 54 51.6
comp=Z,512nm,18.6s,baz=145,slow=45
comp=Z,9.5nm,0.8s
VSR Storozhevoye 38.42 345 *e*P **P** **11 33 33.8 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.1s
MILM Milestii Mici 38.43 332 *e*P **P** **11 33 37.0 +0.7**
MILM *i*S **S** **11 39 30.0 -0.5**
MILM *e*L L 11 50 59.0
MILM LRM MLR 11 52 04.0
comp=Z,700nm,16.0s
MILM Milestii Mici 38.43 332 *e*P **P** **11 33 37.0 +0.7**
MILM *e* 11 35 06.0
MILM *i*S **S** **11 39 30.0 -0.5**
MILM MLR MLR
comp=Z,700nm,16.0s
MILM MLR MLR
comp=E,700nm,14.0s
MILM MLR MLR
comp=N,700nm,18.0s
VRI Vrincioaia 38.65 329 ⇑P **P** **11 33 39.7 +1.4**
VRI Vrincioaia 38.65 329 ⇑P **P** **11 33 39.7 +1.4**
PLOR Plostina 38.67 329 ⇑P **P** **11 33 40.2 +1.7**
PLOR Plostina 38.67 329 ⇑P **P** **11 33 40.2 +1.7**
MLR Muntele Rosu 38.78 328 ⇑P **P** **11 33 42.1 +2.6**
MLR Muntele Rosu 38.78 328 LR LR 11 52 30.2
comp=N,1µm,18.4s,baz=145,slow=41
MLR Muntele Rosu 38.78 328 ⇑P **P** **11 33 42.1 +2.6**
VORR Voronezh 38.83 345 *e*P P 11 33 31.4 -8.2
VORR pmax pmax
comp=Z,60nm,0.4s
TESR Tescani 39.15 330 ⇑P **P** **11 33 41.8 -0.6**
VOIR 39.20 328 ⇑P **P** **11 33 43.2 +0.2**
VOIR 39.20 328 ⇑P **P** **11 33 43.2 +0.2**
OZUR 39.28 329 ⇓P **P** **11 33 44.7 +1.1**
SORM Soroca 39.55 333 ⇑P **P** **11 33 44.7 -1.0**
SORM Soroca 39.55 333 ⇑P **P** **11 33 44.7 -1.0**
LPSR Galich'ya Gora 39.75 346 *e*P **P** **11 33 46.7 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MAKZ Makanchi 39.80 30 P **P** **11 33 48.7 +0.9**
LOT Lotru 39.88 327 ⇓P **P** **11 33 48.8 +0.1**
MK31 Makanchi Array 39.94 31 P **P** **11 33 50.1 +1.1**
MK31 Makanchi Array 39.94 31 *i*P **P** **11 33 50.2 +1.1**
MKAR Makanchi Array 39.94 31 P **P** **11 33 49.2 +0.1**
comp=Z,1.5nm,0.6s,baz=219,slow=8.0,SNR=13
MKAR LR LR 11 52 12.4
comp=Z,710nm,21.7s,baz=235,slow=39
comp=Z,1.5nm,0.6s
MKAR Makanchi Array 39.94 31 *ce*P **P** **11 33 50.2 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
HERR Herculane 40.26 325 ⇑P **P** **11 33 51.2 -0.5**
BVAR Borovoye Array 40.54 15 P **P** **11 33 53.6 -0.3**
comp=Z,4.3nm,0.6s,baz=198,slow=6.0,SNR=26
BVAR LR LR 11 53 42.1
comp=Z,787nm,18.2s,baz=211,slow=41
comp=Z,4.3nm,0.6s
BRVK Borovoye 40.54 15 P **P** **11 33 54.3 +0.4**
BRVK Borovoye 40.54 15 *ce*P **P** **11 33 54.1 +0.2**
BRVK pmax pmax
comp=Z,13nm,1.3s
BURAR Bucovina Array 40.62 330 ⇓P **P** **11 33 55.8 +1.0**
BURAR Bucovina Array 40.62 330 P **P** **11 33 53.8 -0.9**
BURAR Bucovina Array 40.62 330 ⇓P **P** **11 33 55.8 +1.0**
BUR08 Bucovina Ar. S 40.65 330 P **P** **11 33 54.5 -0.5**
ARCR ARCALIA 40.67 329 ⇓P **P** **11 33 56.2 +1.1**
WMQ Urumqi 41.00 38 *e*P **P** **11 33 58.8 +0.9**
WMQ pP sP 11 34 04.5 -0.5
WMQ PP **PnPn** **11 35 39.5 +2.5**
WMQ S **S** **11 40 11.8 +2.4**
WMQ sS sS 11 40 18.3 +0.7
WMQ SS **SS** **11 43 08.5 -3.1**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=Z,690nm,16.5s
WMQ LR LR
comp=Z,710nm,16.5s
WMQ LR LR
comp=Z,460nm,19.5s
KURBB Kurchatov Arra 41.13 24 P **P** **11 33 58.2 -0.5**
comp=Z,0.6nm,0.3s,baz=228,slow=8.0,SNR=12
KURBB LR LR 11 52 49.4
comp=Z,697nm,19.7s,baz=219,slow=39
comp=Z,0.6nm,0.3s
BZS Buzias 41.16 325 ⇑P **P** **11 33 58.0 -1.1**
BZS Buzias 41.16 325 ⇑P **P** **11 33 58.0 -1.1**
AKASG Malin Array Be 41.18 336 P **P** **11 33 57.8 -1.4**
comp=Z,0.7nm,0.4s,baz=140,slow=7.9,SNR=15
AKASG PP **PnPn** **11 35 37.0 -1.8**
comp=Z,0.4nm,0.5s,baz=137,slow=11,SNR=11
AKASG LR LR 11 53 50.5
comp=Z,610nm,19.4s,baz=158,slow=40
comp=Z,0.7nm,0.4s
AKASG Malin Array Be 41.18 336 *i*P **P** **11 33 58.7 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 41.18 336 *i*P **P** **11 33 58.4 -0.8**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 41.24 24 *ce*P **P** **11 34 00.0 +0.3**
KURK pmax pmax
comp=Z,7.0nm,1.4s
VAE Valguarnera 41.73 311 LR LR 11 52 08.0
comp=Z,363nm,18.2s,baz=142,slow=37
ARU Arti 41.92 4 *di*P **P** **11 34 04.3 -0.9**
ARU 11 35 39.9
ARU 11 35 55.3
ARU S **S** **11 40 22.9 +0.4**
ARU SS **SS** **11 43 29.9 +0.5**
ARU pmax pmax
comp=Z,10.0nm,1.4s
ARU MLR MLR
comp=Z,649nm,18.0s
TRPA Tarpa 42.29 329 P **P** **11 34 08.6 +0.3**
GOMU GeErMu 42.40 52 P **P** **11 34 12.8 +3.0**
GOMU pP sP 11 34 16.0 -0.9
GOMU sP pwP 11 34 17.3 -1.5
GOMU S **S** **11 40 33.0 +2.2**
GOMU sS sS 11 40 42.3 +2.9
GOMU SS **SS** **11 43 36.8 -3.2**
GOMU LR LR
comp=Z,460nm,13.4s
GOMU LR LR
comp=Z,240nm,14.4s
OBN Obninsk 42.62 345 *e*P **P** **11 34 12.1 +1.2**
OBN *e* 11 35 49.3
OBN pmax pmax
comp=Z,44nm,1.7s
UZH Uzhgorod 42.74 329 ⇓*i*P **P** **11 34 11.8 -0.2**
UZH *e* 11 34 16.0
MOS Moscow 42.95 347 *e*P **P** **11 34 12.6 -0.9**
MOS *e*S **S** **11 40 45.0 +7.5**
MOS MLR MLR
comp=Z,1µm,20.0s
TNCH TengChong 43.12 69 *e*P **P** **11 34 16.5 +0.9**
TNCH pP pP 11 34 19.5 -1.1
TNCH S **S** **11 40 42.5 +1.2**
TNCH SS **SS** **11 43 47.3 -6.8**
TNCH pmax pmax
comp=Z,21nm,0.4s
TNCH pmax pmax
comp=Z,140nm,4.9s
TNCH LR LR
comp=Z,250nm,15.8s
TNCH LR LR
comp=Z,320nm,19.6s
TNCH LR LR
comp=Z,600nm,31.5s
MORH Mrgy, Hungar 43.18 324 ⇑P **P** **11 34 11.0 -4.5**
MORH Mrgy, Hungar 43.18 324 P **P** **11 34 14.8 -0.7**
CMAR Chiang Mai Arr 43.31 78 P **P** **11 34 15.7 -1.4**
comp=Z,0.5nm,0.3s,baz=276,slow=8.6,SNR=10
CMAR LR LR 11 52 47.5
comp=Z,319nm,18.9s,baz=270,slow=37
comp=Z,0.5nm,0.3s
CMAR Chiang Mai Arr 43.31 78 P **P** **11 34 17.3 +0.1**
CMAR Chiang Mai Arr 43.31 78 *ce*P **P** **11 34 17.2 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CRVS Cervenica-Dubn 43.34 329 *e*P **P** **11 34 18.2 +1.4**
CRVS Cervenica-Dubn 43.34 329 *e*P **P** **11 34 18.2 +1.4**
CRVS pmax pmax
comp=Z,57nm,1.8s
VYHS Vyhne 44.42 327 *e*P **P** **11 34 25.0 -0.6**
VYHS Vyhne 44.42 327 *e*P **P** **11 34 25.0 -0.6**
VYHS pmax pmax
comp=Z,28nm,1.7s
DGZ Jazzator, Alta 44.44 31 *i*P **P** **11 34 27.0 +1.1**
DGZ pmax pmax
comp=Z,7.0nm,1.6s
MNK Minsk 44.70 339 *i*P **P** **11 34 26.1 -1.5**
comp=E,4.0nm,0.9s
MNK *i*P **P** **11 34 26.1 -1.5**
comp=N,30nm,1.1s
MNK *i*P **P** **11 34 26.1 -1.5**
comp=Z,12nm,0.7s,baz=144
MNK *i*PP PP 11 36 25.6 +14
MNK *i*PPP PPP 11 37 33.9
MNK *i*S **S** **11 41 06.0 +2.7**
MNK *i*SS SS 11 44 08.3 -15
MNK *i*SSS SSS 11 45 48.9
MNK *i*LQ LQ 11 49 53.6
MNK *i*LR LR 11 52 37.5
MNK *i*LRM MLR 11 55 41.9
comp=N,2µm,21.3s
MNK *i*LRM MLR 11 55 48.3
comp=E,187nm,18.1s
MNK *i*LRM MLR 11 56 29.6
comp=Z,578nm,17.1s
MNK Minsk 44.70 339 *i*P **P** **11 34 26.1 -1.5**
MNK *i*S **S** **11 41 05.9 +2.7**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=N,30nm,1.0s
MNK MLR MLR
comp=N,2µm,21.0s
MNK MLR MLR
comp=E,187nm,18.0s
MNK MLR MLR
comp=Z,578nm,17.0s
KEST Kesra 45.00 306 P **P** **11 34 30.0 -0.5**
comp=Z,2.2nm,0.4s,baz=350,slow=2.7,SNR=3.7
KEST LR LR 11 53 57.1
comp=Z,2µm,18.5s,baz=44,slow=37
comp=Z,2.2nm,0.4s
MODS Modra-Piesok 45.19 326 *e*P **P** **11 34 31.2 -0.5**
MODS Modra-Piesok 45.19 326 *e*P **P** **11 34 31.2 -0.5**
MODS pmax pmax
comp=Z,30nm,1.6s
RONA Rosalia, Austr 45.34 325 *e*P **P** **11 34 32.3 -0.6**
comp=Z,5.2nm,0.7s
NACGM Naroch 45.41 338 *e*P **P** **11 34 35.0 +1.8**
comp=Z,20nm,0.8s,baz=142
MAUC Maruska 45.48 327 AMS AMS 11 55 50.0
comp=Z,2µm,20.0s
SOKA Soboth 45.52 323 *e*P **P** **11 34 34.5 +0.2**
comp=Z,11nm,1.1s
ARSA Arzberg 45.54 324 *e*P **P** **11 34 34.2 -0.2**
comp=Z,8.4nm,0.8s
OKC Ostrava-Krasne 45.60 328 AMS AMS 11 56 40.0
comp=Z,800nm,20.5s
OBKA Obir 45.71 322 *e*P **P** **11 34 37.5 +1.6**
comp=Z,16nm,1.2s
CONA Conrad Observa 45.72 325 *e*P **P** **11 34 34.0 -1.9**
comp=Z,17nm,1.1s
MORC Moravsky Berou 45.88 328 ⇓P **P** **11 34 36.3 -0.8**
MORC Moravsky Berou 45.88 328 P **P** **11 34 36.2 -1.0**
MORC lAmb lAmb 11 34 37.9
comp=Z,11nm,1.1s
MORC Moravsky Berou 45.88 328 *e*P **P** **11 34 36.2 -1.0**
MORC Moravsky Berou 45.88 328 ⇓P **P** **11 34 36.3 -0.8**
PSI Prapat 45.96 100 LR LR 11 51 57.5
comp=Z,837nm,19.4s,baz=272,slow=34
KRUC Moravsky 46.06 326 *e*P **P** **11 34 38.2 -0.4**
VRAC Vranov 46.10 327 *e*P **P** **11 34 39.6 +0.7**
PZH PanZhiHua 46.14 67 P **P** **11 34 43.3 +3.6**
PZH S **S** **11 41 24.8 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,160nm,5.1s
PZH LR LR
comp=Z,380nm,17.3s
PZH LR LR
comp=Z,300nm,17.8s
PZH LR LR
comp=Z,500nm,18.1s
ZAA0 Zalesovo Array 46.17 25 P **P** **11 34 39.1 -0.2**
ZALV Zalesovo Beam 46.17 25 P **P** **11 34 37.7 -1.6**
comp=Z,2.7nm,0.7s,baz=232,slow=7.3,SNR=7.7
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 46.17 25 P **P** **11 34 38.6 -0.8**
ZALV Zalesovo Beam 46.17 25 *i*P **P** **11 34 38.7 -0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
MYKA Terra Mystica 46.31 322 *e*P **P** **11 34 40.6 -0.1**
comp=Z,7.1nm,0.9s
KRLC Kraliky 46.45 328 *e*S **S** **11 41 29.9 +1.1**
KRLC AMS AMS 11 56 00.0
comp=Z,600nm,21.4s
MOA Molln 46.58 324 *e*P **P** **11 34 41.2 -1.4**
comp=Z,13nm,1.0s
DPC Dobruska-Polom 46.85 328 *e*P **P** **11 34 44.3 -0.5**
DPC *e*S **S** **11 41 39.5 +5.0**
DPC AMS AMS 11 57 10.0
comp=Z,700nm,17.7s
DPC Dobruska-Polom 46.85 328 *e*P **P** **11 34 44.3 -0.5**
DPC *e*S **S** **11 41 39.5 +5.0**
DPC MLR MLR
comp=Z,700nm,17.7s
BIOA Bad Ischl, Aus 46.85 323 *e*P **P** **11 34 43.8 -1.0**
comp=Z,10nm,1.1s
KMI Kunming 46.94 69 ⇓P **P** **11 34 47.0 +0.9**
KMI pmax pmax
comp=Z,10.0nm,1.0s
KMI LR LR
comp=Z,450nm,17.1s
KMI LR LR
comp=Z,490nm,20.4s
KMI LR LR
comp=Z,810nm,21.7s
OSTC Ostas 47.03 328 *e*P **P** **11 34 45.6 -0.5**
OSTC AMS AMS 11 57 20.0
comp=Z,800nm,14.4s
ABTA Abfaltersbach 47.05 322 *e*P **P** **11 34 46.3 -0.1**
comp=Z,4.7nm,0.8s
CKRC Cesky Krumlov 47.07 325 *e*P **P** **11 34 45.7 -0.8**
CKRC *e*S **S** **11 41 44.2 +6.6**
CKRC AMS AMS 11 51 20.0
comp=Z,800nm,29.1s
UPC Upice 47.10 328 AMS AMS 11 57 10.0
comp=Z,800nm,15.9s
KLMR Klimovskoe 47.37 351 *e*P **P** **11 34 45.8 -2.8**
KLMR *e*P **P** **11 34 45.8 -2.8**
KLMR *e*P **P** **11 34 45.8 -2.8**
KLMR AMP 11 34 52.2
comp=Z,37nm,1.9s
KLMR S **S** **11 41 34.7 -6.7**
KLMR S **S** **11 41 34.7 -6.7**
KLMR Klimovskoe 47.37 351 *e*P **P** **11 34 45.8 -2.8**
KLMR S **S** **11 41 34.6 -6.8**
KLMR pmax pmax
comp=Z,37nm,1.9s
GOPC GO Pecny, Ondr 47.41 326 AMS AMS 11 58 10.0
comp=Z,700nm,16.3s
GEC2 GERESS Array S 47.42 325 P **P** **11 34 48.9 -0.4**
GEC2 lAmb lAmb 11 34 50.3
comp=Z,20nm,1.6s
GERES GERESS Array B 47.42 325 P **P** **11 34 47.5 -1.8**
comp=Z,1.8nm,0.7s,baz=126,slow=8.4,SNR=8.8
comp=Z,1.8nm,0.7s
GERES GERESS Array B 47.42 325 P **P** **11 34 48.2 -1.1**
GERES GERESS Array B 47.42 325 P **P** **11 34 48.2 -1.1**
PRU Pruhonice 47.58 326 *e*S **S** **11 41 47.6 +2.8**
PRU AMS AMS 11 58 20.0
comp=Z,500nm,16.5s
KHC Kasperske Hory 47.64 325 *e*P **P** **11 34 49.8 -1.2**
KHC *e*S **S** **11 41 37.2 -8.6**
KHC AMS AMS 11 55 30.0
comp=Z,800nm,20.5s
KHC Kasperske Hory 47.64 325 *e*P **P** **11 34 49.8 -1.2**
KHC *e*S **S** **11 41 37.2 -8.6**
KHC MLR MLR
comp=Z,800nm,20.5s
WTTA Wattenberg 47.82 322 *e*P **P** **11 34 49.5 -3.1**
comp=Z,7.5nm,1.0s
PVCC Panska Ves 47.87 327 AMS AMS 11 51 30.0
comp=Z,800nm,31.0s
WATA Walderalm 47.89 322 *e*P **P** **11 34 51.4 -1.7**
comp=Z,14nm,1.0s
LBTB Lobatse 48.04 215 P **P** **11 34 52.0 -2.4**
comp=Z,10.0nm,1.1s,baz=29,slow=7.5,SNR=5.3
LBTB LR LR 11 55 43.8
comp=Z,723nm,18.1s,baz=44,slow=37
comp=Z,10.0nm,1.1s
LBTB Lobatse 48.04 215 P **P** **11 34 53.1 -1.3**
LBTB Lobatse 48.04 215 P **P** **11 34 53.1 -1.3**
LBTB pmax pmax
comp=Z,67nm,1.7s
SQTA Sankt Quirin 48.06 322 *e*P **P** **11 34 53.0 -1.3**
comp=Z,11nm,1.3s
FETA Feichten 48.25 321 *e*P **P** **11 34 53.2 -2.7**
comp=Z,3.7nm,0.8s
RETA Reutte 48.45 322 *e*P **P** **11 34 55.3 -2.0**
comp=Z,7.8nm,1.0s
NKC Novy Kostel 48.85 326 AMS AMS 11 59 10.0
comp=Z,900nm,18.9s
DAVA Damuels 48.89 321 *e*P **P** **11 34 57.6 -3.2**
comp=Z,13nm,1.2s
TSUM Tsumeb 49.01 228 LR LR 11 56 51.3
comp=Z,2µm,18.6s,baz=8.5,slow=38
CLL Collm 49.13 327 *e*S **S** **11 42 01.0 -5.6**
comp=N,200nm,26.3s
CLL *e*S **S** **11 42 01.0 -5.6**
comp=E,400nm,26.9s
CLL *e*SS **SS** **11 45 42.0 +4.2**
CLL LmV 11 58 00.0
comp=Z,500nm,21.1s
LZH Lanzhou 49.39 55 *e*P **P** **11 35 06.8 +2.0**
LZH pP sP 11 35 11.8 -0.2
LZH S **S** **11 42 09.3 -1.8**
LZH pmax pmax
comp=Z,15nm,0.9s
LZH LR LR
comp=Z,490nm,14.6s
LZH LR LR
comp=Z,590nm,16.2s
LZH LR LR
comp=Z,710nm,16.8s
SDSI Sungai Dareh 49.52 104 P P 11 35 21.4 +15
BFO Black Forest 50.29 322 P **P** **11 35 09.7 -1.6**
BFO lAmb lAmb 11 35 12.2
comp=Z,16nm,1.2s
BFO Black Forest 50.29 322 P **P** **11 35 09.7 -1.6**
BFO pmax pmax
comp=Z,17nm,1.2s
FIA1 FINESS Array S 50.88 343 P **P** **11 35 15.9 +0.4**
FINES FINESS Array B 50.88 343 P **P** **11 35 13.8 -1.6**
comp=Z,3.2nm,0.7s,baz=134,slow=8.2,SNR=7.2
FINES LR LR 12 01 09.7
comp=Z,503nm,18.0s,baz=151,slow=41
comp=Z,3.2nm,0.7s
FINES FINESS Array B 50.88 343 P **P** **11 35 14.8 -0.6**
FINES FINESS Array B 50.88 343 *i*P **P** **11 35 16.7 +1.3**
FINES pmax pmax
comp=Z,3.0nm,0.6s
BOSA Boshof 51.08 213 P **P** **11 35 16.1 -1.5**
comp=Z,3.1nm,0.8s,baz=61,slow=5.8,SNR=4.7
BOSA LR LR 11 57 42.8
comp=Z,518nm,18.4s,baz=42,slow=37
comp=Z,3.1nm,0.8s
BOSA Boshof 51.08 213 P **P** **11 35 17.3 -0.3**
BOSA lAmb lAmb 11 35 31.5
comp=Z,18nm,1.2s
BOSA Boshof 51.08 213 P **P** **11 35 17.3 -0.3**
BOSA pmax pmax
comp=Z,18nm,1.2s
MOY Mondy 52.71 35 *e*P **P** **11 35 29.7 +0.3**
ZAK Zakamensk 53.46 37 *e*P P 11 35 42.5 +7.5
ZAK pmax pmax
comp=Z,4.0nm,1.1s

QIZ	Qiongzhong	53.60	77	P	P	11 35 38.8	+2.4
QIZ				S	S	11 43 11.0	+1.8
QIZ				LR	LR		
	comp=Z,410nm,23.9s						
QIZ				LR	LR		
	comp=Z,500nm,28.7s						
QIZ				LR	LR		
	comp=Z,620nm,31.9s						
HFS	Hagfors	54.07	337	LR	LR	12 02 19.6	
	comp=Z,543nm,18.0s,baz=132,slow=40						
SONM	Songino Array	54.44	41	P	P	11 35 41.9	-0.3
	comp=Z,1.3nm,0.8s,baz=249,slow=6.7,SNR=8.3						
SONM				LR	LR	12 02 03.2	
	comp=Z,433nm,18.4s,baz=230,slow=40						
	comp=Z,1.3nm,0.8s						
SONM	Songino Array	54.44	41	P	P	11 35 43.1	+0.9
SONM	Songino Array	54.44	41	P	P	11 35 43.1	+0.9
SONM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NB2	NORSAR Subarra	55.59	336	P	P	11 35 48.3	-1.9
	comp=Z,12nm,1.2s,baz=122,slow=7.9						
NOA	NORSAR Array B	55.59	336	P	P	11 35 49.4	-0.9
	comp=Z,1.1nm,0.9s,baz=125,slow=8.1,SNR=2.9						
NOA				LR	LR	12 02 14.9	
	comp=Z,547nm,21.6s,baz=130,slow=39						
	comp=Z,1.1nm,0.9s						
MDT	Midelt	55.85	300	LR	LR	12 00 51.4	
	comp=Z,1μm,18.8s,baz=104,slow=37						
ESDC	Sonseca Array	56.15	308	P	P	11 35 52.9	-1.7
	comp=Z,0.9nm,0.5s,baz=84,slow=5.9,SNR=5.4						
ESDC				LR	LR	12 01 09.2	
	comp=Z,440nm,18.2s,baz=106,slow=37						
	comp=Z,0.9nm,0.5s						
ESDC	Sonseca Array	56.15	308	P	P	11 35 54.4	-0.2
ESDC				IAmb	IAmb	11 36 02.4	
	comp=Z,10.0nm,1.2s						
HHC	Hu-ho-hao-te	56.26	50	eP	P	11 35 58.5	+3.0
HHC				sP	pwP	11 36 05.8	+1.3
HHC				S	S	11 43 47.5	+2.8
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,330nm,6.6s						
HHC				LR	LR		
	comp=Z,610nm,15.1s						
HHC				LR	LR		
	comp=Z,1μm,18.0s						
HHC				LR	LR		
	comp=Z,2μm,21.0s						
SUR	Sutherland	56.40	214	LR	LR	12 00 48.6	
	comp=Z,440nm,18.1s,baz=35,slow=37						
LEM	Lembang	57.39	108	LR	LR	11 57 29.7	
	comp=Z,396nm,19.7s,baz=276,slow=33						
ARCES	ARCESS Array B	57.74	349	P	P	11 36 04.3	-1.0
	comp=Z,3.5nm,0.8s,baz=98,slow=3.7,SNR=7.1						
ARCES				LR	LR	12 04 10.2	
	comp=Z,892nm,19.4s,baz=142,slow=39						
	comp=Z,3.5nm,0.8s						
EKA	Eskdalemuir Ar	59.58	326	LR	LR	12 06 29.9	
	comp=Z,166nm,18.0s,baz=108,slow=40						
SPITS	Spitsbergen Ar	66.23	352	LR	LR	12 11 41.7	
	comp=Z,486nm,18.4s,baz=106,slow=41						
CN2	Changchun	66.80	48	eP	P	11 37 08.8	+2.3
CN2				S	S	11 45 58.8	+0.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,15.0s						
JMIC	Jan Mayen	67.45	342	LR	LR	12 09 22.7	
	comp=Z,337nm,20.0s,baz=97,slow=38						
BBTS	Babate	67.83	280	LR	LR	12 07 52.5	
	comp=Z,1μm,18.1s,baz=64,slow=37						
HEH	HeiHe	68.42	41	eP	P	11 37 15.8	-0.8
HEH				pP	pP	11 37 19.8	-2.0
HEH				S	S	11 46 15.8	-1.5
HEH				pmax	pmax		
	comp=Z,4.0nm,1.7s						
HEH				pmax	pmax		
	comp=Z,200nm,6.8s						
HEH				LR	LR		
	comp=Z,410nm,16.8s						
HEH				LR	LR		
	comp=Z,270nm,15.8s						
HEH				LR	LR		
	comp=Z,510nm,20.8s						
KSRS	Korea Array	68.72	55	P	P	11 37 16.4	-2.3
	comp=Z,1.3nm,0.6s,baz=272,slow=6.6,SNR=5.2						
KSRS				LR	LR	12 09 13.7	
	comp=Z,159nm,18.0s,baz=270,slow=38						
	comp=Z,1.3nm,0.6s						
JOW	Kunigami	69.84	66	LR	LR	12 08 50.3	
	comp=Z,298nm,20.5s,baz=304,slow=37						
YAK	Yakutsk	70.59	29	LR	LR	12 11 28.0	
	comp=Z,667nm,19.3s,baz=266,slow=38						
YAK	Yakutsk	70.59	29	eP	P	11 37 31.2	+1.5
YAK				e*PP	pP	11 37 35.6	+0.6
YAK				e		11 37 50.8	
YAK				e		11 40 09.6	
YAK				eS	S	11 46 46.0	+3.7
YAK				e		11 47 36.8	
YAK				eSS	SS	11 51 13.9	+0.3
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,75nm,3.7s						
YAK				pmax	pmax		
	comp=E,74nm,3.7s						
YAK				pmax	pmax		
	comp=N,51nm,3.7s						
YAK				smax	smax		
	comp=E,89nm,3.9s						
YAK				smax	smax		
	comp=N,73nm,2.8s						
YAK				MLR	MLR		
	comp=Z,622nm,18.0s						
YAK				MLR	MLR		
	comp=E,405nm,18.0s						
YAK				MLR	MLR		
	comp=N,178nm,18.0s						
BORG	Borgarnes	70.60	334	LR	LR	12 12 36.0	
	comp=N,193nm,18.8s,baz=103,slow=39						
DAV	Davao City (W)	70.61	88	LR	LR	12 08 29.8	
	comp=N,172nm,19.3s,baz=305,slow=36						
KLR	Kul'dur	71.22	43	P	P	11 37 31.7	-2.1
	comp=N,1.2nm,0.8s,baz=302,slow=9.5,SNR=2.5						
KLR				LR	LR	12 11 10.5	
	comp=N,219nm,21.1s,baz=282,slow=38						
	comp=N,1.2nm,0.8s						
JNU	Nakatsue	71.43	60	LR	LR	12 11 30.1	
	comp=N,214nm,19.5s,baz=270,slow=38						
USRK	Ussuriysk Ar.	71.52	48	LR	LR	12 10 05.2	
	comp=N,228nm,20.1s,baz=278,slow=37						
TIXI	Tiksi	71.55	19	P	P	11 37 33.2	-2.1
	comp=N,0.7nm,0.3s,baz=90,slow=20,SNR=3.2						
TIXI				LR	LR	12 12 08.2	
	comp=N,392nm,19.1s,baz=0.0,slow=38						
	comp=N,0.7nm,0.3s						
SOEI	Soe	73.86	105	P	P	11 37 50.8	+0.5
	comp=N,37nm,1.1s						
H01W3	Cape Leeuwin H	75.39	132	T	T	13 00 16.3	
	baz=301,slow=75,SNR=82						
H01W2	Cape Leeuwin H	75.39	132	T	T	13 00 15.5	
	baz=301,slow=75,SNR=72						
H01W1	Cape Leeuwin H	75.41	132	T	T	13 00 17.1	
	baz=301,slow=75,SNR=85						
NWAO	Narrogin (SRO)	76.72	129	LR	LR	12 04 19.5	
	comp=N,207nm,21.4s,baz=86,slow=30						
MJAR	Matsushiro Arr	77.00	55	LR	LR	12 14 56.4	
	comp=N,148nm,18.6s,baz=268,slow=38						
JHJ	Hachijo jima 2	78.83	59	LR	LR	12 15 56.2	
	comp=N,110nm,18.2s,baz=274,slow=38						
ASAJ	Asahikawa	79.11	47	LR	LR	12 15 53.7	
	comp=N,230nm,18.4s,baz=335,slow=38						
MA2	Magadan	81.03	31	LR	LR	12 17 32.7	
	comp=N,302nm,19.3s,baz=280,slow=38						
KULLO	Kullorsuaq	81.50	345	eP	P	11 38 32.0	+0.4
MAW	Mawson	82.22	177	LR	LR	12 07 17.9	
	comp=N,370nm,21.1s,baz=348,slow=30						
SFJD	Kangerlussuaq	82.25	337	LR	LR	12 18 43.9	
	comp=N,329nm,20.5s,baz=60,slow=38						
TULEG	Thule	83.07	349	eP	P	11 38 48.4	+8.6
EUNU	Eureka	83.29	354	P	P	11 38 40.4	-0.7
EUNU				IAmb	IAmb	11 38 58.2	
	comp=Z,6.8nm,1.0s						
WB0	Warramunga Arr	86.22	111	P	P	11 38 57.3	+0.4
WRA	Warramunga Arr	86.22	112	P	P	11 38 55.5	-1.4
	comp=Z,1.1nm,0.7s,baz=297,slow=4.0,SNR=12						
WRA				LR	LR	12 12 50.2	
	comp=Z,110nm,19.8s,baz=302,slow=32						
	comp=Z,1.1nm,0.7s						
WRA	Warramunga Arr	86.22	112	P	P	11 38 56.4	-0.5
WRA	Warramunga Arr	86.22	112	P	P	11 38 56.4	-0.5
WRAB	Tennant Creek	86.23	112	P	P	11 38 56.7	-0.2
WRAB				IAmb	IAmb	11 39 12.7	
	comp=Z,5.7nm,0.8s						
WRAB	Tennant Creek	86.23	112	P	P	11 38 56.7	-0.2
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WB2	Warramunga Arr	86.24	112	P	P	11 38 56.3	-0.7
WB2				IAmb	IAmb	11 39 10.0	
	comp=Z,7.4nm,1.0s						
WR0	Warramunga Arr	86.41	112	P	P	11 38 58.0	+0.2
WR0				IAmb	IAmb	11 39 23.9	
	comp=Z,9.7nm,1.4s						
PETK	Petropavlovsk-	86.57	36	LR	LR	12 20 46.2	
	comp=Z,289nm,21.6s,baz=288,slow=38						
ASAR	Alice Springs	86.92	115	P	P	11 38 58.4	-1.9
	comp=Z,0.8nm,0.8s,baz=291,slow=4.8,SNR=19						
	comp=Z,0.8nm,0.8s						
ASAR	Alice Springs	86.92	115	P	P	11 39 02.0	+1.7
ASAR	Alice Springs	86.92	115	P	P	11 39 02.0	+1.7
AS31	Alice Springs	86.93	115	P	P	11 39 02.4	+2.1
RES	Resolute Bay	88.79	352	LR	LR	12 25 00.6	
	comp=Z,241nm,18.5s,baz=39,slow=40						
RCBR	Riachuelo	91.21	264	LR	LR	12 19 14.4	
	comp=Z,209nm,18.7s,baz=208,slow=35						
BBOO	Buckleboo	91.39	123	P	P	11 39 21.7	+0.6
SNAA	Sanae	93.96	195	LR	LR	12 13 38.2	
	comp=Z,185nm,21.9s,baz=12,slow=30						
SCHQ	Schefferville	94.70	330	LR	LR	12 25 12.2	
	comp=Z,149nm,19.4s,baz=42,slow=37						
SHEM	Shemya Is, Ala	95.63	32	LR	LR	12 27 07.0	
	comp=Z,194nm,18.6s,baz=310,slow=38						
STKA	Stephens Creek	95.68	121	LR	LR	12 16 36.1	
	comp=Z,279nm,21.6s,baz=311,slow=32						
CTA	Charters Tower	97.09	109	LR	LR	12 25 47.8	
	comp=Z,177nm,18.5s,baz=270,slow=37						
INK	Inuvik	97.17	3	LR	LR	12 30 47.2	
	comp=Z,162nm,19.6s,baz=343,slow=40						
KRVT	Keravat (AS076	98.97	92	LR	LR	12 25 45.2	
	comp=Z,51nm,18.6s,baz=34,slow=36						
ILAR	Eielson Array	99.33	9	LR	LR	12 30 38.1	
	comp=Z,251nm,19.1s,baz=262,slow=39						
DZM	Mont Dzumac	116.00	108	eLR	LR	12 20 02.0	
	comp=Z,200nm,22.8s						
PDAR	Pinedale Array	120.94	346	PKP	PKiKP	11 45 08.8	+0.9
	comp=Z,0.2nm,0.6s,baz=40,slow=1.5,SNR=1.8						
NVAR	Mina Array Bea	126.77	352	PKP	PKiKP	11 45 20.0	+0.4
	comp=Z,0.3nm,0.7s,baz=0.0,slow=1.0,SNR=2.6						
TXAR	Lajitas Array	131.25	334	PKP	PKiKP	11 45 28.2	-0.5
	comp=Z,0.2nm,0.8s,baz=90,slow=3.1,SNR=2.0						
TBI	Tubuai	156.31	115	eLR	LR	12 38 41.8	
	comp=Z,691nm,28.2s						
PPT2	Papeete2	157.29	101	eLR	LR	12 39 10.9	
	comp=Z,208nm,24.8s						

*IDC **28** 11:37:08.7±2.2, 37.25N×141.73E, h0km, mb3.5/3, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=43.6km s-min=32.4km az=59.0*
*JMA **28** 11:37:12.1±0.2, 37.2N±0.4×141.5E±0.1, h36km±1km, MV3.2/39, E OFF FUKUSHIMA PREF*
ISC 28 11:37:12.0±1.8, 37.24N±0.06×141.5E±0.1, h20km±10km, n13, σ1°18/21, mb3.4/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JFK	Kawauchi	0.52	284	*i*	P	Pb	11 37 22.5	+0.1
JFK					S	Sb	11 37 29.5	+0.1
JMST	Minamisoumatoc	0.69	315	⇓*i*	P	Pn	11 37 25.1	-1.4
JMST				⇓	S	Sb	11 37 34.3	-0.1
JFFD	Fukushimafurud	0.77	259	*i*	P	Pn	11 37 26.2	-1.5
JFFD				*e*	S	Sn	11 37 36.1	-2.5
JMM	Marumori	0.84	318	*i*	P	Pn	11 37 27.6	-1.1
JMM					S	Sn	11 37 38.4	-2.1
JHO	Hitachi	0.98	230		P	Pn	11 37 28.9	-1.6
JIO	Ouri	1.22	354		P	Pn	11 37 33.2	-0.7
JIO					S	Sn	11 37 48.8	-0.9
JOU	Okura	1.30	330		P	Pn	11 37 35.4	+0.3
JOU					eS	Sn	11 37 52.2	+0.3
JFY	Yanaizu	1.44	277	⇓	P	Pn	11 37 37.5	+0.6
JFY				⇓	S	Sn	11 37 56.0	+0.6
MJAR	Matsushiro Arr	2.73	256		Pn	Pn	11 37 55.5	+0.8
	0.2nm,0.3s,baz=79,slow=16,SNR=9.4							
MJAR					Sn	Sb	11 38 33.8	+0.6
	0.4nm,0.3s,baz=140,slow=19,SNR=5.1							
	0.9nm,0.4s							
MJAR	Matsushiro Arr	2.73	256		P	Pn	11 37 55.5	+0.8
ZALV	Zalesovo Beam	41.83	312		P	P	11 45 01.1	+0.9
	0.6nm,0.3s,baz=68,slow=9.5,SNR=1.9							
	0.6nm,0.3s							
MKAR	Makanchi Array	44.07	302		P	P	11 45 19.1	+0.6
	0.4nm,0.7s,baz=96,slow=11,SNR=3.3							
	0.4nm,0.7s							
WRA	Warramunga Arr	57.28	188		P	P	11 46 58.5	+0.3
	0.1nm,0.5s,baz=6.8,slow=7.5,SNR=5.1							
	0.1nm,0.5s							

WEL 28 11:48:32.9±0.3, 42°S±2°×17°4E±°, h5km, M3.3/34, ML3.6/14, MLv3.3/34, Error ellipse: s-maj=0.0km s-min=0.0km az=117.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KHZ	Kahutara	0.20	185	P		Pg	11 48 37.1	+0.3
KHZ				S		Sg	11 48 40.4	+1.0
BSWZ	Blackbirch Sta	0.56	25	P		Pg	11 48 43.8	+0.2
BSWZ				S		Sg	11 48 52.1	+1.2
THZ	Tophouse	0.67	313	P		Pg	11 48 46.0	+0.2
CMWZ	Cape Campbell	0.68	46	P		Pg	11 48 46.5	+0.6
GVZ	Greta Valley S	0.84	207	P		Pb	11 48 50.0	-0.1
TUWZ	Tuamarina	0.84	20	P		Pg	11 48 49.1	+0.1
NNZ	Nelson	1.01	352	P		Pg	11 48 52.0	-0.3
MRNZ	Matariki Terra	1.02	324	P		Pg	11 48 52.4	-0.1
LTZ	Lake Taylor	1.11	239	P		Pg	11 48 53.5	-0.6
TCW	Tory Channel	1.14	28	P		Pg	11 48 54.0	-0.8
AMCZ	Amberley	1.17	215	P		Pg	11 48 54.6	-0.7
TKNZ	Takaka Hill	1.27	339	P		Pg	11 48 56.6	-0.6
WEL	Wellington	1.30	44	P		Pn	11 48 56.5	-1.2
DSZ	Denniston Nort	1.39	289	P		Pb	11 48 59.4	0.0
PLWZ	Palliser	1.42	63	P		Pn	11 48 57.2	-2.3
DUWZ	D'Urville Isla	1.44	11	P		Pn	11 48 59.3	-0.4
MSWZ	Moikau Station	1.50	58	P		Pn	11 48 58.5	-2.0
OKCZ	Okains Bay	1.55	194	P		Pn	11 48 59.1	-2.0
OXZ	Oxford	1.57	225	P		Pn	11 48 59.5	-2.0
CAW	Cannon Point	1.58	46	P		Pn	11 49 00.0	-1.6
QRZ	Quartz Range	1.59	331	P		Pn	11 49 02.1	+0.3
MQZ	McQueen's Vall	1.63	204	P		Pn	11 48 59.5	-2.7
PAWZ	Paruwai Farm	1.63	60	P		Pn	11 48 59.9	-2.4
INZ	Inchbonnie	1.65	251	P		Pn	11 49 02.1	-0.4
KIW	Kapiti Island	1.69	37	P		Pn	11 49 02.2	-1.0
AKCZ	Akaroa Harbour	1.72	196	P		Pn	11 49 01.4	-2.1
TRWZ	Traveller	1.79	63	P		Pn	11 49 01.8	-2.7
MTW	Mount Morrison	1.80	54	P		Pn	11 49 02.3	-2.4
RACZ	Rakaia	1.83	214	P		Pn	11 49 02.7	-2.3
OGWZ	Otaki Gorge	1.85	41	P		Pn	11 49 03.8	-1.5
MHCZ	Mount Hutt	1.96	228	P		Pn	11 49 04.9	-2.1
HOWZ	Holdsworth Sta	1.97	49	P		Pn	11 49 05.1	-1.9
TMWZ	Te Maipa	2.07	58	P		Pn	11 49 05.6	-2.8
WACZ	Wakanui South	2.13	216	P		Pn	11 49 07.0	-2.2
MRZ	Mangatainoka R	2.17	45	P		Pn	11 49 07.7	-2.0
WVZ	Waitaha Valley	2.25	247	P		Pn	11 49 10.4	-0.4
RPZ	Rata Peaks	2.37	230	P		Pn	11 49 10.8	-1.7
ARCZ	Arundel	2.46	225	P		Pn	11 49 11.6	-2.0
GCSZ	Gaunt Creek Bo	2.62	244	P		Pn	11 49 16.0	+0.1
WAZ	Wanganui	2.69	24	P		Pn	11 49 18.3	+1.4
TSZ	Takapari Road	2.82	41	P		Pn	11 49 16.4	-2.2
TMZ	Timaru	2.85	220	P		Pn	11 49 17.3	-1.8
KHEZ	Kahui Hut	2.94	7	P		Pb	11 49 25.0	-0.9
PKE	Pukeiti	3.04	6	P		Pb	11 49 25.6	-2.0
FOZ	Fox Glacier	3.05	243	P		Pn	11 49 21.8	0.0
PKVZ	Pokaka	3.23	25	P		Pn	11 49 24.5	+0.2
WNVZ	Wahianoa	3.28	29	P		Pn	11 49 27.5	+2.5
LBZ	Lake Benmore	3.28	228	P		Pn	11 49 23.6	-1.3
TRVZ	Turoa	3.29	28	P		Pb	11 49 30.2	-1.7
TUVZ	Tukino	3.35	29	P		Pn	11 49 29.4	+3.3
ODZ	Otahua Downs	3.53	216	P		Pn	11 49 25.9	-2.4
BKZ	Black Stump Fm	3.78	37	P		Pn	11 49 30.0	-1.8
HIZ	Hauiti	3.83	15	P		Pn	11 49 36.8	+4.2
JCZ	Jackson Bay	3.95	240	P		Pn	11 49 35.5	+1.1
NMHZ	Naumai	3.98	39	P		Pn	11 49 35.1	+0.5
MKAZ	Moumakai	5.26	14	P		Pn	11 49 55.2	+3.1

*IDC **28** 11:48:57.3±4.8, 16.46N×101.74W, h0km, mb4.0/5, mbtmp3.9/6, ML2.8/2, MS3.6/10, Error ellipse: s-maj=95.3km s-min=32.0km az=16.0*
*NEIC **28** 11:49:01.9±1.6, 16.77N±0.06×101.58W±0.05, h11km±4km, mb4.2/25, Md4.2/24(MEX), Error ellipse: s-maj=9.4km s-min=7.0km az=156.0*
*MEX **28** 11:49:02.7±0.5, 16.65N×101.75W, h49km±40km, MD4.2*
ISC 28 11:48:60.0±2.5, 16.76N±0.06×101.66W±0.05, h6km±14km, n67, σ1°38/89, mb4.2/14, MS3.5/7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
UON	La Union	1.21	353	eP		Pn	11 49 20.5	-3.0
UON				eS		Sb	11 49 36.2	-3.0
ATYC	Atoyac	1.26	69	eP		Pb	11 49 23.8	-0.2
ATYC				*i* S		Sn	11 49 41.5	+0.2
CAIG	El Cayaco	1.36	78			Pn	11 49 24.8	-0.8
CAIG						Sg	11 49 43.2	-0.6
CAIG	El Cayaco	1.36	78	eP		Pn	11 49 24.8	-0.8
CAIG				*i* S		Sg	11 49 43.2	-0.6
ACP2	Acapulco	1.70	86	eP		Pn	11 49 29.6	-0.6
ACP2				eS		Sn	11 49 50.7	-1.6
DAIG	Los Arroyos	1.94	82			Pn	11 49 33.2	-0.4
DAIG						Sn	11 49 57.1	-1.1
DAIG	Los Arroyos	1.94	82	eP		Pn	11 49 33.2	-0.4
DAIG				eS		Sn	11 49 57.1	-1.1
ARIG	Puente Sto Nin	1.96	39			Pn	11 49 34.0	+0.2
ARIG						Sb	11 50 00.1	-0.7
ARIG	Puente Sto Nin	1.96	39	eP		Pn	11 49 34.0	+0.2
ARIG				eS		Sn	11 49 58.2	-0.5
MEIG	Mezcala	2.26	59			Pn	11 49 38.9	+0.8
MEIG						Sb	11 50 07.8	-1.9
MEIG	Mezcala	2.26	59	eP		Pn	11 49 38.9	+0.8
MEIG				eS		Sn	11 50 05.3	-1.0
CRIG	Cruz Grande	2.42	90			Pn	11 49 39.8	-0.3
CRIG						Sn	11 50 06.9	-3.2
CRIG	Cruz Grande	2.42	90	eP		Pn	11 49 39.8	-0.3
CRIG				eS		Sn	11 50 07.8	-2.3
PLIG	Platanillo	2.62	51			Pn	11 49 43.5	+0.6
PLIG						Sb	11 50 20.2	+0.3
PLIG	Platanillo	2.62	51	eP		Pn	11 49 43.5	+0.6
PLIG				eS		Sn	11 50 14.6	-0.5
MGIG	Malinaltepec	2.93	80			Pn	11 49 47.2	-0.1
MGIG						Sn	11 50 21.6	-1.4
MGIG	Malinaltepec	2.93	80	eP		Pn	11 49 47.2	-0.1
MGIG				eS		Sn	11 50 20.6	-2.3
MOIG	Morelia	2.93	9	Pn		Pn	11 49 47.4	0.0
MOIG	Morelia	2.93	9	eP		Pn	11 49 47.7	+0.3
MOIG				eS		Sn	11 50 21.5	-1.6
TLIG	Tlapa	3.06	74			Pn	11 49 49.6	+0.5
TLIG	Tlapa	3.06	74	eP		Pn	11 49 49.3	+0.2
TLIG				eS		Sn	11 50 25.0	-1.1
YAIG	Yautepec	3.23	49	eP		Pn	11 49 51.5	+0.1
YAIG				eS		Sn	11 50 28.6	-1.7
PNIG	Pinotepa	3.41	96			Pn	11 49 53.9	+0.2
PNIG						Sn	11 50 31.6	-2.9
PNIG	Pinotepa	3.41	96	eP		Pn	11 49 53.9	+0.2
PNIG				eS		Sn	11 50 31.6	-2.9
FTIG	Fresnillo de T	3.55	71			Pn	11 49 57.1	+1.3
FTIG						Sn	11 50 40.9	+2.6
FTIG	Fresnillo de T	3.55	71	eP		Pn	11 49 56.2	+0.3
FTIG				eS		Sn	11 50 37.5	-0.8
PPM	Popocatepetl	3.69	51	eP		Pn	11 49 58.7	+0.7
PPM				eS		Sn	11 50 41.3	-0.7
TXIG	Tlaxiaco	3.75	82			Pn	11 50 00.4	+1.7
TXIG						Sn	11 50 41.5	-2.0
TXIG	Tlaxiaco	3.75	82	eP		Pn	11 50 00.4	+1.7
TXIG				eS		Sn	11 50 41.5	-2.0
ZAIG	Zacatecas	6.04	352	Pn		Pn	11 50 30.8	+0.7
CMIG	Matias Romero	6.49	86	Pn		Pn	11 50 36.0	-0.2
	0.1nm,0.3s,baz=271,slow=14,SNR=1.7							
CMIG					Sn	Sn	11 51 51.7	+1.1
	0.4nm,0.3s,baz=324,slow=16,SNR=1.8							
CMIG				LR		LR	11 53 10.6	
	comp=Z,277nm,19.9s,baz=280,slow=38							
LPIG	La Paz	10.91	313	LR		LR	11 54 48.5	
	comp=Z,84nm,20.5s,baz=116,slow=32							
TXAR	Lajitas Array	12.65	352	Pn		Pn	11 52 03.8	+3.2
	baz=169,slow=14,SNR=3.5							
TXAR				LR		LR	11 57 22.9	
	comp=Z,381nm,19.0s,baz=168,slow=39							
	0.4nm,0.9s							
CLNB	Carlsbad	15.56	353			Pn	11 52 41.0	+0.8
GDL2	Guadalupe Moun	15.56	351			Pn	11 52 39.9	-0.3
MSTX	Muleshoe	17.16	357	P		Pn	11 53 00.4	-0.2
AMTX	Amarillo	18.05	360	P		Pn	11 53 11.7	+0.1
AMTX				IAmb		IAmb	11 53 14.3	
	comp=Z,22nm,0.9s							
WUAZ	Wupatki	20.59	337	P		P	11 53 41.8	+1.9
WUAZ				IAmb		IAmb	11 53 44.6	
	comp=Z,21nm,1.2s							
FCAR	Ozark Folk Cen	20.85	22	P		P	11 53 43.0	+0.3
FCAR				IAmb		IAmb	11 53 45.9	
	comp=Z,10nm,1.1s							
SDCO	Great Sand Dun	21.18	352	P		P	11 53 46.3	-0.1
SDCO				IAmb		IAmb	11 53 50.3	
	comp=Z,15nm,1.2s							
MVCO	Mesa Verde	21.25	345	P		P	11

comp=Z,366nm,20.9s,baz=111,slow=38
RPN Rapa Nui 44.26 190 LR LR 12 10 56.5
comp=Z,62nm,21.5s,baz=337,slow=30
ILAR Eielson Array 56.76 339 P **P** **11 58 43.9 -0.6**
comp=Z,1.1nm,0.9s,baz=146,slow=4.4,SNR=8.6
comp=Z,1.1nm,0.9s
NOA NORSAR Array B 86.03 27 LR LR 12 43 12.6
comp=Z,29nm,16.5s,baz=295,slow=38
RAO Raoul Island 86.59 238 LR LR 12 32 37.3
comp=Z,105nm,21.3s,baz=272,slow=30

*IDC **28** 11:49:56.5±0.6, 7°.13S×149°.48E, h0km, mb4.6/15, mbtmp4.7/20, ML4.6/4, MS3.8/12, Error ellipse: s-maj=17.2km s-min=12.7km az=111.0*
*DJA **28** 11:50:00.7±0.9, 7°.5S×3°×14°.9E±°, h17km±6km, M4.9/29, mB5.2/9, mb4.9/29, MLv5.3/2, Mw(mB)4.7/9*
*BJI **28** 11:50:00.6±0.0, 7°.23S×149°.67E, h50km, mb4.9/44, mB5.2/17, Ms5.0/2, Ms7 4.6/2*
*NEIC **28** 11:50:02.9±1.3, 7°.33S±0°.08×149°.63E±0°.10, h47km±7km, mb4.9/51, Error ellipse: s-maj=14.5km s-min=9.9km az=117.0*
ISC 28 11:50:02.5±0.3, 7°.23S±0°.05×149°.54E±0°.05, h42km, n169, σ0s92/174, mb4.8/51, MS3.7/9, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.20**	**227**	Pn		**Pn**		**11 50 50.4**	**+0.1**
	371nm,0.6s,baz=45,slow=5.4,SNR=170								
PMG				Sn		**Sn**		**11 51 28.2**	**+0.9**
	112nm,0.3s,baz=46,slow=23,SNR=38								
PMG				LR		LR		11 52 10.9	
	comp=Z,1μm,18.4s,baz=76,slow=42								
PMG	**Port Moresby**	**3.20**	**227**			**Pn**		**11 50 51.2**	**+0.8**
PMG	**Port Moresby**	**3.20**	**227**	P		**Pn**		**11 50 51.5**	**+1.2**
KRVT	**Keravat (AS076**	**3.81**	**41**	Pn		**Pn**		**11 50 57.9**	**-0.9**
	158nm,0.3s,baz=301,slow=1.7,SNR=102								
KRVT				Sn		**Sn**		**11 51 42.8**	**+0.4**
	60nm,0.3s,baz=218,slow=23,SNR=5.8								
KRVT				LR		LR		11 52 30.6	
	comp=Z,640nm,19.8s,baz=52,slow=41								
	586nm,0.4s								
RABL	**Rabaul**	**3.99**	**41**	Pn		**Pn**		**11 51 01.3**	**0.0**
RABL	**Rabaul**	**3.99**	**41**	P		**Pn**		**11 51 01.6**	**+0.4**
MANU	**Manus Island**	**5.59**	**337**			**Pn**		**11 51 26.1**	**+2.9**
COEN	**Coen**	**9.16**	**223**	Pn		**Pn**		**11 52 11.9**	**-0.2**
COEN	**Coen**	**9.16**	**223**	P		**Pn**		**11 52 11.8**	**-0.4**
HNR	**Honiara**	**10.53**	**103**	LR		LR		11 55 59.2	
	comp=Z,2μm,20.8s,baz=308,slow=34								
MTSU	**Mount Surprise**	**11.97**	**205**	P		**Pn**		**11 52 50.9**	**+0.1**
TV1H	**Townsville Har**	**12.26**	**192**	P		**Pn**		**11 52 55.7**	**+1.1**
CTA	**Charters Towers**	**13.18**	**194**	Pn		**Pn**		**11 53 07.2**	**+0.1**
	0.6nm,0.3s,baz=16,slow=12,SNR=7.2								
CTA				LR		LR		11 57 41.7	
	comp=Z,339nm,21.0s,baz=16,slow=35								
	12nm,0.9s								
CTA	**Charters Tower**	**13.18**	**194**	P		**Pn**		**11 53 07.9**	**+0.7**
QIS	**Mount Isa**	**16.38**	**215**	P		**Pn**		**11 53 50.5**	**+1.0**
FAKI	**Fak Fak**	**17.74**	**283**			**P**		**11 54 06.8**	**-0.2**
FAKI				IAmb		IAmb		11 54 08.8	
	comp=Z,135nm,1.1s								
FAKI	**Fak Fak**	**17.74**	**283**	P		**P**		**11 54 06.5**	**-0.6**
	comp=Z,1μmcomp=Z,139nm,1.1s								
FAKI	**Fak Fak**	**17.74**	**283**	P		**P**		**11 54 06.4**	**-0.6**
MTN	**Manton Dam**	**18.96**	**251**	P		**P**		**11 54 19.0**	**-1.4**
MTN	**Manton Dam**	**18.96**	**251**	P		**P**		**11 54 19.1**	**-1.3**
RMQ	**Roma**	**19.17**	**182**	P		**P**		**11 54 23.4**	**+0.8**
WB0	**Warramunga Arr**	**19.27**	**228**			**P**		**11 54 22.8**	**-1.0**
WB0				IAmb		IAmb		11 54 35.4	
	comp=Z,24nm,0.7s								
WR0	**Warramunga Arr**	**19.28**	**227**	P		**P**		**11 54 22.9**	**-1.0**
SIJI	**Sorong**	**19.28**	**288**	P		**P**		**11 54 21.6**	**-2.4**
	comp=Z,3.6nm,0.3s,baz=97,slow=6.9,SNR=14								
	comp=Z,51nm,0.7s								
WRAB	**Tennant Creek**	**19.41**	**228**	P		**P**		**11 54 24.1**	**-1.1**
WRAB				IAmb		IAmb		11 54 38.9	
	comp=Z,38nm,0.8s								
WRAB	**Tennant Creek**	**19.41**	**228**	P		**P**		**11 54 24.4**	**-0.9**
WB2	**Warramunga Arr**	**19.41**	**228**	P		**P**		**11 54 24.3**	**-1.0**
WB2				IAmb		IAmb		11 54 38.7	
	comp=Z,22nm,0.7s								
WRA	**Warramunga Arr**	**19.42**	**228**	P		**P**		**11 54 24.4**	**-1.1**
	comp=Z,2.3nm,0.3s,baz=51,slow=11,SNR=154								
WRA				PcP		**PcP**		**11 58 46.8**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=14,slow=1.3,SNR=4.8								
	comp=Z,15nm,0.5s								
WRA	**Warramunga Arr**	**19.42**	**228**	P		**P**		**11 54 24.6**	**-0.9**
BNDI	**Bandanaira**	**19.71**	**277**	P		**Pn**		**11 54 29.2**	**-1.2**
	comp=Z,289nm,0.7s								
BNDI	**Bandanaira**	**19.71**	**277**	P		**P**		**11 54 28.1**	**-0.6**
QLP	**Quilpie**	**19.90**	**194**	P		**Pn**		**11 54 31.8**	**-0.7**
GUMO	**Guam**	**21.20**	**347**	LR		LR		12 01 24.4	
	comp=Z,130nm,21.5s,baz=194,slow=33								
DZM	**Mont Dzumac**	**21.99**	**134**	*e*P		**P**		**11 54 53.6**	**+0.3**
	comp=Z,57nm,1.3s								
DZM				*e*LR		LR		12 00 12.0	
DZM	**Mont Dzumac**	**21.99**	**134**	P		**P**		**11 54 53.5**	**+0.3**
	comp=Z,18nm,0.7s,baz=104,slow=17,SNR=8.3								
DZM				LR		LR		12 01 41.8	
	comp=Z,281nm,21.5s,baz=33,slow=32								
	comp=Z,18nm,0.7s								
DZM	**Mont Dzumac**	**21.99**	**134**	P		**P**		**11 54 54.0**	**+0.7**
KNRA	**Kununurra**	**22.01**	**246**	P		**P**		**11 54 51.6**	**-1.9**
KNRA				IAmb		IAmb		11 55 14.3	
	comp=Z,28nm,0.7s								
KNRA	**Kununurra**	**22.01**	**246**	P		**P**		**11 54 52.1**	**-1.3**
INKA	**Innaminka**	**22.04**	**201**	P		**P**		**11 54 53.7**	**+0.1**
AS01	**Alice Springs**	**22.16**	**221**	P		**P**		**11 54 54.3**	**-0.8**
AS31	**Alice Springs**	**22.19**	**221**	P		**P**		**11 54 54.6**	**-0.7**
ASAR	**Alice Springs**	**22.19**	**221**	P		**P**		**11 54 54.6**	**-0.8**
	comp=Z,18nm,0.9s,baz=54,slow=8.7,SNR=65								
	comp=Z,18nm,0.9s								
ASAR	**Alice Springs**	**22.19**	**221**	P		**P**		**11 54 54.3**	**-1.1**
LBMI	**Labuha**	**22.93**	**286**	P		**P**		**11 55 03.8**	**+0.5**
	comp=Z,2μmcomp=Z,154nm,1.1s								
SANI	**Sanana**	**24.02**	**281**	P		**P**		**11 55 13.6**	**-0.2**
	comp=Z,593nmcomp=Z,35nm,1.0s								
OOD	**Oodnadatta**	**24.30**	**211**	P		**P**		**11 55 16.4**	**+0.2**
CMSA	**Cobar Meteorol**	**24.45**	**188**	P		**P**		**11 55 16.9**	**-0.6**
SOEI	**Soe**	**25.12**	**262**	P		**P**		**11 55 24.3**	**+0.4**
SOEI				IAmb		IAmb		11 55 37.9	
	comp=Z,68nm,0.9s								
SOEI	**Soe**	**25.12**	**262**	P		**P**		**11 55 24.5**	**+0.6**
	comp=Z,80nm,0.8s								
LCRK	**Leigh Creek**	**25.43**	**203**	P		**P**		**11 55 26.6**	**+0.2**
STKA	**Stephens Creek**	**25.62**	**196**	P		**P**		**11 55 27.8**	**-0.4**
	comp=Z,9.8nm,0.6s,baz=9.3,slow=9.6,SNR=13								
STKA				LR		LR		12 05 45.5	
	comp=Z,261nm,20.7s,baz=320,slow=37								
	comp=Z,9.8nm,0.6s								
STKA	**Stephens Creek**	**25.62**	**196**	P		**P**		**11 55 27.5**	**-0.7**
STKA	**Stephens Creek**	**25.62**	**196**	P		**P**		**11 55 28.3**	**+0.2**
BATI	**Baumata**	**25.74**	**262**	P		**P**		**11 55 28.6**	**-0.9**
	comp=Z,39nm,0.6s,baz=205,slow=2.7,SNR=6.2								
	comp=Z,39nm,0.6s								
BATI	**Baumata**	**25.74**	**262**	P		**P**		**11 55 31.0**	**+1.5**
	comp=Z,79nm,0.9s								
WRKA	**Warakurna**	**26.94**	**226**	P		**P**		**11 55 39.1**	**-1.2**
MMRI	**Maumere**	**27.07**	**265**	P		**P**		**11 55 39.6**	**-1.9**
MMRI	**Maumere**	**27.07**	**265**	P		**P**		**11 55 42.4**	**+0.9**
	comp=Z,2μmcomp=Z,114nm,0.7s								
MMRI	**Maumere**	**27.07**	**265**	P		**P**		**11 55 40.9**	**-0.6**
MULG	**Mulgathing**	**27.15**	**210**	P		**P**		**11 55 41.7**	**-0.3**
HTT	**Hallett**	**27.87**	**199**	P		**P**		**11 55 49.6**	**+1.2**
BBOO	**Buckleboo**	**28.37**	**204**	P		**P**		**11 55 51.7**	**-1.2**
BBOO	**Buckleboo**	**28.37**	**204**	P		**P**		**11 55 52.7**	**-0.2**
APSI	**Ampana**	**28.50**	**281**	P		**P**		**11 55 55.7**	**+1.4**
	comp=Z,37nm,1.0s								
BSSI	**Bau Bau, Buton**	**28.87**	**270**	P		P		11 56 05.1	+7.6
ARPS	**Mount Arapiles**	**30.23**	**192**	P		**P**		**11 56 09.6**	**+0.3**
FORT	**Forrest**	**30.88**	**218**	P		**P**		**11 56 14.8**	**-0.3**
FORT				IAmb		IAmb		11 56 17.8	
	comp=Z,18nm,0.7s								
FORT	**Forrest**	**30.88**	**218**	P		**P**		**11 56 14.8**	**-0.3**
MBWA	**Marble Bar**	**31.96**	**241**	P		**P**		**11 56 24.1**	**-0.7**
MBWA				pP		**pP**		**11 56 34.8**	**+0.4**
MBWA				sP		**sP**		**11 56 39.4**	**+0.7**
PSA00	**Pilbara Seismi**	**32.01**	**240**	P		**P**		**11 56 24.1**	**-1.1**
PSA00				IAmb		IAmb		11 56 25.5	
	comp=Z,16nm,0.9s								
MYLDM	**Lahad Datu**	**33.34**	**291**	P		**P**		**11 56 38.0**	**+1.1**
MYLDM				IAmb		IAmb		11 56 39.5	
	comp=Z,36nm,1.2s								
JCJ	**Chichijima**	**34.86**	**348**	LR		LR		12 09 06.6	
	comp=Z,102nm,21.9s,baz=218,slow=33								
MEEK	**Meekatharra**	**35.16**	**233**	P		**P**		**11 56 52.7**	**+0.1**
TAU	**Tasmania Unive**	**35.59**	**183**	P		**P**		**11 56 56.5**	**+0.5**
KLBR	**Kellerberrin**	**38.29**	**226**	P		**P**		**11 57 19.0**	**-0.2**
MORW	**Morawa**	**38.31**	**231**	P		**P**		**11 57 18.9**	**-0.5**
MORW				IAmb		IAmb		11 57 31.0	
	comp=Z,14nm,1.1s								
MORW	**Morawa**	**38.31**	**231**	P		**P**		**11 57 19.1**	**-0.2**
KSM	**Kuching**	**40.09**	**281**	P		**P**		**11 57 34.2**	**-0.1**
RPZ	**Rata Peaks**	**40.94**	**156**	LR		LR		12 13 08.8	
	comp=Z,90nm,18.4s,baz=284,slow=34								
BBJI	**Bungbulang**	**41.53**	**267**	P		**P**		**11 57 45.7**	**-0.7**
CBJI	**Citeko**	**42.38**	**268**	P		P		11 58 06.3	+13
JNU	**Nakatsue**	**43.88**	**337**	P		**P**		**11 58 04.4**	**-0.6**
JHS	**Saijyo**	**44.77**	**341**	P		**P**		**11 58 11.3**	**-0.9**
MJAR	**Matsushiro Arr**	**44.82**	**347**	P		**P**		**11 58 11.1**	**-1.4**
	comp=Z,13nm,0.9s,baz=161,slow=8.1,SNR=18								
MJAR				PcP		**PcP**		**11 59 54.3**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=176,slow=3.4,SNR=5.4								
	comp=Z,13nm,0.9s								
MAJO	**Matsushiro**	**44.82**	**347**	P		**P**		**11 58 11.5**	**-1.0**
MAJO	**Matsushiro**	**44.82**	**347**	P		**P**		**11 58 10.6**	**-1.9**
MAJO				pP		**pP**		**11 58 21.7**	**-0.6**
MAJO				sP		**sP**		**11 58 26.5**	**+0.1**
MJB9	**Matsu-Tunnel**	**44.82**	**347**	P		**P**		**11 58 12.9**	**+0.4**
SDSI	**Sungai Dareh**	**48.37**	**275**	P		**P**		**11 58 41.2**	**+0.5**
	comp=Z,14nm,1.5s								
NJ2	**Nanjing**	**48.81**	**325**	*e*P		**P**		**11 58 44.8**	**+1.0**
NJ2				pmax		pmax			
	comp=Z,15nm,1.2s								
IPM	**Ipoh**	**49.79**	**282**	P		**P**		**11 58 51.7**	**+0.1**
IPM				IAmb		IAmb		11 58 52.3	
	comp=Z,10nm,0.7s								
KULM	**Kulim**	**50.34**	**283**	P		**P**		**11 58 55.1**	**-0.7**
RAR	**Rarotonga**	**50.84**	**111**	P		**P**		**11 59 00.2**	**+0.8**
PSI	**Prapat**	**51.48**	**279**	P		**P**		**11 59 04.2**	**-0.3**
	comp=Z,6.4nm,0.7s,baz=118,slow=11,SNR=4.6								
	comp=Z,6.4nm,0.7s								
SRIT	**Nakonsritamara**	**52.20**	**287**	P		**P**		**11 59 09.9**	**+0.2**
KMI	**Kunming**	**55.74**	**307**	⇑P		**P**		**11 59 36.0**	**+0.3**
KMI				pP		sP		11 59 48.5	-1.3
KMI				pmax		pmax			
	comp=Z,19nm,1.2s								
CMAR	**Chiang Mai Arr**	**56.05**	**298**	P		**P**		**11 59 38.4**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=126,slow=5.8,SNR=26								
	comp=Z,4.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**56.05**	**298**	P		**P**		**11 59 37.7**	**0.0**
CHTO	**Chiang Mai**	**56.19**	**298**	P		**P**		**11 59 38.6**	**-0.1**
XAN	**Xi'an**	**56.24**	**319**	P		**P**		**11 59 37.5**	**-1.3**
XAN				pmax		pmax			
	comp=Z,11nm,1.2s								
PZH	**PanZhiHua**	**57.20**	**308**	P		**P**		**11 59 49.0**	**+3.1**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
TNCH	**TengChong**	**59.10**	**305**	*e*P		**P**		**12 00 01.0**	**+1.7**
TNCH				pP		pwP		12 00 15.5	-2.4
TNCH				pmax		pmax			
	comp=Z,20nm,0.4s								
HHC	**Hu-ho-hao-te**	**59.21**	**327**	*e*P		**P**		**12 00 03.3**	**+3.6**
HHC				pmax		pmax			
	comp=Z,22nm,0.9s								
HHC				pmax		pmax			
	comp=Z,410nm,5.6s								
DRV	**Dumont d'Urvil**	**59.71**	**184**	P		**P**		**12 00 02.6**	**+0.1**
DRV				pP		**pP**		**12 00 13.1**	**+0.2**
DRV				sP		**sP**		**12 00 17.6**	**+0.6**
PPT2	**Papeete2**	**60.13**	**106**	*e*LR		LR		12 17 53.2	
	comp=Z,80nm,25.0s								
PETK	**Petropavlovsk-**	**60.50**	**6**	P		**P**		**12 00 07.0**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=171,slow=6.8,SNR=10								
	comp=Z,3.0nm,0.8s								
LZH	**Lanzhou**	**60.79**	**318**	*e*P		**P**		**12 00 09.8**	**-0.9**
LZH				pP		pP		12 00 22.3	+1.4
LZH				sP		pwP		12 00 30.8	+1.8
LZH				pmax		pmax			
	comp=Z,20nm,1.0s								
SHL	**Shillong**	**64.80**	**303**	P		**P**		**12 00 37.1**	**-0.5**
SHL				IAmb		IAmb		12 00 37.9	
	comp=Z,19nm,0.9s								
GTA	**Gaotai**	**65.30**	**319**	*e*P		**P**		**12 00 40.8**	**+0.3**
GTA				pmax		pmax			
	comp=Z,11nm,0.7s								
SONM	**Songino Array**	**66.71**	**330**	P		**P**		**12 00 49.2**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=150,slow=5.6,SNR=16								
	comp=Z,2.4nm,0.6s								
SONM	**Songino Array**	**66.71**	**330**			**P**		**12 00 49.3**	**-0.1**
SONM				IAmb		IAmb		12 00 50.0	
	comp=Z,10.0nm,1.3s								
LSA	**Lhasa**	**66.99**	**306**	P		**P**		**12 00 52.4**	**+0.4**
GOMU	**GeErMu**	**67.05**	**314**	P		**P**		**12 00 53.5**	**+1.4**
GOMU				pmax		pmax			
	comp=Z,63nm,0.7s								
CCD	**Concordia, Ant**	**69.46**	**187**	P		**P**		**12 01 06.8**	**+0.2**
CCD				pP		**pP**		**12 01 17.2**	**+0.1**
CCD				sP		**sP**		**12 01 22.8**	**+1.5**
RAMN	**Ramite**	**69.72**	**302**	*e*P		**P**		**12 01 08.5**	**-0.4**
	comp=Z,4.9nm,0.4s								
JIRN	**Jiri**	**70.31**	**303**	*e*P		**P**		**12 01 11.6**	**-1.0**
	comp=Z,12nm,0.7s								
VNDA	**Vanda**	**70.56**	**177**	P		**P**		**12 01 13.2**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=319,slow=6.4,SNR=5.5								
	comp=Z,1.7nm,0.9s								
VNDA	**Vanda**	**70.56**	**177**	P		**P**		**12 01 12.7**	**-0.1**
VNDA	**Vanda**	**70.56**	**177**	P		**P**		**12 01 13.2**	**+0.5**
VNDA				pP		**pP**		**12 01 23.7**	**+0.3**
VNDA				sP		**pwP**		**12 01 29.6**	**-1.3**
GUN	**Gumba**	**70.65**	**303**	*e*P		**P**		**12 01 14.2**	**-0.4**
	comp=Z,19nm,0.4s								
PKI	**Pulchoki**	**70.93**	**302**	*e*P		**P**		**12 01 16.1**	**-0.2**
	comp=Z,5.7nm,0.5s								
DANN	**Dangsing**	**72.56**	**303**	*e*P		**P**		**12 01 25.1**	**-1.0**
	comp=Z,11nm,0.6s								
WMQ	**Urumqi**	**75.37**	**319**	*e*P		**P**		**12 01 42.5**	**+0.6**
WMQ				pP		pwP		12 01 58.5	-2.2
WMQ				pmax		pmax			
	comp=Z,16nm,1.3s								
MK31	**Makanchi Array**	**80.05**	**320**	P		**P**		**12 02 07.8**	**-0.1**
MKAR	**Makanchi Array**	**80.05**	**320**	P		**P**		**12 02 06.8**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=99,slow=8.3,SNR=24								
	comp=Z,1.6nm,0.5s								
MKAR	**Makanchi Array**	**80.05**	**320**	P		**P**		**12 02 07.4**	**-0.5**
MAKZ	**Makanchi**	**80.25**	**320**	P		**P**		**12 02 08.9**	**-0.1**
MAKZ				IAmb		IAmb		12 02 10.9	
	comp=Z,8.0nm,1.1s								
TARG	**Taragay, Kyrgy**	**81.38**	**314**	P		**P**		**12 02 15.8**	**+0.2**
ZAA0	**Zalesovo Array**	**81.39**	**327**	P		**P**		**12 02 13.1**	**-1.8**
ZALV	**Zalesovo Beam**	**81.39**	**327**	P		**P**		**12 02 13.2**	**-1.7**
	comp=Z,3.4nm,0.7s,baz=108,slow=5.8,SNR=11								
ZALV				LR		LR		12 36 48.6	
	comp=Z,68nm,20.8s,baz=40,slow=35								
	comp=Z,3.4nm,0.7s								
KSH	**Kashi**	**82.07**	**311**	P		**P**		**12 02 20.3**	**+1.4**
KSH				pmax		pmax			
	comp=Z,8.0nm,1.0s								
MAW	**Mawson**	**82.09**	**203**	LR		LR		12 36 18.8	
	comp=Z,75nm,20.4s,baz=56,slow=34								
NIL	**Nilore**	**82.69**	**305**	P		**P**		**12 02 22.4**	**+0.3**
QSPA	**South Pole Qui**	**82.75**	**180**	P		**P**		**12 02 22.1**	**+0.1**
QSPA				IAmb		IAmb		12 02 34.7	
	comp=Z,17nm,1.4s								
BOOM	**Boomskoye usch**	**82.93**	**314**	P		**P**		**12 02 23.6**	**+0.2**
BOOM				IAmb		IAmb		12 02 24.7	
	comp=Z,10nm,0.6s								
TKM2	**Tokmak 2**	**83.29**	**315**	P		**P**		**12 02 25.5**	**+0.2**
	SNR=5.1								
KURK	**Kurchatov**	**83.70**	**323**	P		**P**		**12 02 26.2**	**-0.7**
KURK				IAmb		IAmb		12 02 27.4	
	comp=Z,5.5nm,0.9s								
UCH	**Uchtor**	**83.88**	**314**	P		**P**		**12 02 29.1**	**+0.5**
	SNR=9.6								
AAK	**Ala-Archa**	**84.00**	**314**	P		**P**		**12 02 28.8**	**-0.1**
AAK				IAmb		IAmb		12 02 30.6	
	comp=Z,4.6nm,0.7s								
USP	**Ospenovka**	**84.16**	**315**	P		**P**		**12 02 30.2**	**+0.7**
	SNR=6.5								
MLY	**Manley**	**84.31**	**22**	P		**P**		**12 02 30.4**	**+0.6**
MLY				IAmb		IAmb		12 02 32.3	
	comp=Z,14nm,1.5s								
MCK	**McKinley**	**84.34**	**23**	P		**P**		**12 02 29.6**	**-0.4**
MCK				IAmb		IAmb		12 02 32.0	
	comp=Z,16nm,1.0s								
AML	**Almayashu**	**84.44**	**314**	P		**P**		**12 02 32.2**	**+0.8**
	SNR=22								
EKS2	**Erkin-Say**	**84.51**	**314**	P		**P**		**12 02 32.2**	**+0.8**
	SNR=8.0								
TCOL	**CIGO, UAF Yank**	**85.30**	**22**	P		**P**		**12 02 34.7**	**0.0**
COLA	**College**	**85.31**	**22**	P		**P**		**12 02 34.5**	**-0.2**
IL31		**85.62**	**23**	P		**P**		**12 02 36.0**	**-0.3**
IL31				IAmb		IAmb		12 02 37.8	
	comp=Z,7.8nm,1.1s								
ILAR	**Eielson Array**	**85.62**	**23**	P		**P**		**12 02 35.2**	**-1.1**
	comp=Z,2.7nm,0.6s,baz=252,slow=4.6,SNR=36								
	comp=Z,2.7nm,0.6s								
ILAR	**Eielson Array**	**85.62**	**23**	P		**P**		**12 02 35.7**	**-0.7**
BTK	**Batken**	**86.05**	**311**	P		**P**		**12 02 38.8**	**-0.4**
BTK				IAmb		IAmb		12 02 40.0	
	comp=Z,9.4nm,0.8s								
KK31	**Karatay Array**	**86.95**	**314**	P		**P**		**12 02 43.5**	**+0.1**
KKAR	**Karatay Array**	**86.95**	**314**	P		**P**		**12 02 43.1**	**-0.3**
BCAR	**Beaver Creek A**	**86.96**	**25**	P		**P**		**12 02 44.0**	**+1.0**
EGAK	**Eagle**	**87.86**	**24**	P		**P**		**12 02 48.9**	**+1.6**
HYT	**Haines Junctio**	**88.08**	**28**	P		**P**		**12 02 50.2**	**+1.6**
DAWY	**Dawson**	**88.32**	**25**	P		**P**		**12 02 49.9**	**+0.3**
DAWY				IAmb		IAmb		12 02 52.0	
	comp=Z,8.7nm,0.9s								
I29M	**Ogilvie Camp,**	**89.20**	**24**	P		**P**		**12 02 53.5**	**-0.1**
BRVK	**Borovoye**	**89.31**	**324**	P		**P**		**12 02 54.2**	**-0.2**
BRVK				IAmb		IAmb		12 02 54.3	
	comp=Z,7.2nm,1.4s								
HRA	**Herat**	**91.81**	**304**	P		**P**		**12 03 05.7**	**-1.1**
HRA				IAmb		IAmb		12 03 07.2	
	comp=Z,8.3nm,0.9s								
ABKAR	**Akbulak array**	**95.16**	**319**	P		**P**		**12 03 19.9**	**-1.6**
GEYT	**Alibeck**	**95.51**	**307**	P		**P**		**12 03 23.2**	**-0.2**
	comp=Z,6.1nm,1.0s,baz=168,slow=2.9,SNR=7.1								
	comp=Z,6.1nm,1.0s								
NVAR	**Mina Array Bea**	**96.12**	**52**	P		**P**		**12 03 27.3**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=243,slow=6.2,SNR=8.3								
	comp=Z,1.2nm,0.8s								
TROLL	**Troll, Antarti**	**98.04**	**190**	P		**P**		**12 03 33.6**	**-0.7**
SNAA	**Sanae**	**99.18**	**189**	LR		LR		12 49 48.6	
	comp=Z,73nm,18.1s,baz=12,slow=36								
PDAR	**Pinedale Array**	**102.87**	**48**	P		**Pdif**		**12 03 57.7**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=241,slow=4.9,SNR=5.2								
GERES	**GERESS Array B**	**124.33**	**326**	PKP		**PKPdf**		**12 08 57.1**	**0.0**
	comp=Z,0.8nm,0.6s,baz=70,slow=4.4,SNR=3.4								
LPAZ	**La Paz**	**136.00**	**122**	PKP		**PKiKP**		**12 09 21.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=72,slow=3.2,SNR=4.0								
SIV	**San Ignacio**	**141.91**	**127**	PKP		**PKiKP**		**12 09 32.6**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=252,slow=4.5,SNR=4.4								
MDT	**Midelt**	**145.01**	**320**	PKP		**PKPdf**		**12 09 36.0**	**0.0**
	comp=Z,6.2nm,1.0s,baz=162,slow=2.2,SNR=5.4								
BDFB	**Brasilia**	**151.39**	**143**	PKPbc		**PKiKP**		**12 09 53.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=199,slow=4.0,SNR=13								

*KMA **28** 11:57:26.9±0.0, 35°.76N×129°.19E, h19km, Error ellipse: s-maj=0.7km s-min=0.5km az=316.0*
*JMA **28** 11:57:26.7±0.3, 36°.N±1°×12°.9E±°, h29km, MV2.6/7, S KOREAN PENINSULA REG*
ISC 28 11:57:27.1±1.1, 35°.78N±0°.04×129°.11E±0°.06, h25km±11km, n17, σ0s56/19, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu**	**0.17**	**265**	P		**P**	**Pb**	**11 57 32.6**	**+0.2**
	SNR=225								
YOCB	**Yeongcheon**	**0.23**	**327**	P		**P**	**Pb**	**11 57 33.4**	**+0.3**

comp=Z,15nm,0.7s
SONM Songino Array 32.14 315 P **P** 12 15 51.0 -0.9
comp=Z,1.2nm,0.7s,baz=122,slow=8.5,SNR=7.4
comp=Z,1.2nm,0.7s
SONM Songino Array 32.14 315 P **P** 12 15 52.3 +0.4
GTA Gaotai 34.67 298 ⇓P **P** 12 16 12.5 -1.1
GTA pmax pmax
comp=Z,9.0nm,0.9s
GOMU GeErMu 38.56 293 P **P** 12 16 45.8 -0.4
GOMU pmax pmax
comp=Z,35nm,0.9s
GOMU pmax pmax
comp=Z,300nm,4.8s
TIXI Tiksi 43.29 355 P **P** 12 17 23.3 +0.1
comp=Z,0.8nm,0.3s,baz=90,slow=24,SNR=13
comp=Z,0.8nm,0.3s
KNRA Kununurra 45.59 195 P **P** 12 17 41.6 -0.2
KNRA IAmb IAmb 12 18 32.8
comp=Z,22nm,1.4s
ZALV Zalesovo Beam 46.93 318 P **P** 12 17 50.5 -1.1
comp=Z,0.9nm,0.3s,baz=79,slow=7.7,SNR=4.3
ZALV PcP **PcP** 12 19 16.0 -0.1
comp=Z,1.1nm,0.4s,baz=115,slow=5.7,SNR=3.7
comp=Z,0.9nm,0.3s
RAMN Ramite 46.94 281 *eP* **P** 12 17 52.3 -0.1
comp=Z,16nm,0.6s
JIRN Jiri 47.11 282 *eP* **P** 12 17 54.1 +0.2
comp=Z,36nm,0.6s
GUN Gumba 47.31 283 *eP* **P** 12 17 55.4 0.0
comp=Z,44nm,0.7s
PKI Pulchoki 47.80 282 *eP* **P** 12 17 58.6 -0.5
PKIN Phulchoki 47.81 282 *eP* **P** 12 17 58.6 -0.5
MK31 Makanchi Array 47.90 308 P **P** 12 17 58.8 -0.4
MKAR Makanchi Array 47.90 308 P **P** 12 17 58.7 -0.5
comp=Z,1.3nm,0.4s,baz=88,slow=10,SNR=28
MKAR PcP **PcP** 12 19 20.6 +0.7
comp=Z,0.4nm,0.5s,baz=89,slow=4.7,SNR=3.1
comp=Z,1.3nm,0.4s
MKAR Makanchi Array 47.90 308 P **P** 12 17 58.4 -0.8
DMN Daman 48.05 282 *eP* **P** 12 18 00.3 -0.6
comp=Z,18nm,0.5s
MAKZ Makanchi 48.12 308 P **P** 12 18 00.5 -0.3
GKN Gorkha 48.35 283 *eP* **P** 12 18 02.8 -0.2
comp=Z,12nm,0.3s
WB0 Warramunga Arr 48.64 187 P **P** 12 18 05.5 +0.6
WRAB Tennant Creek 48.81 187 P **P** 12 18 06.8 +0.6
WRAB IAmb IAmb 12 19 37.5
comp=Z,11nm,1.5s
WR0 Warramunga Arr 48.81 187 P **P** 12 18 06.4 +0.2
WR0 IAmb IAmb 12 18 48.4
comp=Z,19nm,1.9s
WB2 Warramunga Arr 48.82 187 P **P** 12 18 06.2 -0.1
WB2 IAmb IAmb 12 19 23.0
comp=Z,9.5nm,1.5s
WRA Warramunga Arr 48.82 187 P **P** 12 18 06.6 +0.3
comp=Z,0.8nm,0.5s,baz=1.9,slow=7.7,SNR=42
WRA PcP **PcP** 12 19 24.2 +0.8
comp=Z,0.5nm,0.7s,baz=2.3,slow=3.8,SNR=3.3
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 48.82 187 P **P** 12 18 06.9 +0.6
DANN Dangsing 49.01 284 *eP* **P** 12 18 08.1 0.0
KOLN Koldanda 49.29 283 *eP* **P** 12 18 09.8 -0.3
comp=Z,2.2nm,0.6s
KURK Kurchatov 50.41 314 P **P** 12 18 17.2 -0.6
KURK IAmb IAmb 12 18 18.0
comp=Z,8.0nm,1.1s
AS31 Alice Springs 52.54 187 P **P** 12 18 34.3 +0.6
ASAR Alice Springs 52.55 187 P **P** 12 18 35.0 +1.4
comp=Z,0.2nm,0.3s,baz=24,slow=11,SNR=14
comp=Z,0.2nm,0.3s
ASAR Alice Springs 52.55 187 P **P** 12 18 34.9 +1.3
BOOM Boomskoye usch 52.67 303 P **P** 12 18 34.9 +0.3
MBWA Marble Bar 53.44 204 P **P** 12 18 40.3 +0.2
MBWA IAmb IAmb 12 18 47.5
comp=Z,20nm,1.4s
PSA00 Pilbara Seismi 53.78 203 P **P** 12 18 42.7 +0.2
PSA00 IAmb IAmb 12 19 48.2
comp=Z,43nm,1.9s
IMAR Indian Mountai 54.35 27 P **P** 12 18 45.8 -0.2
BRVK Borovoye 55.53 317 P **P** 12 18 54.5 -0.1
KK31 Karatay Array 56.53 305 P **P** 12 19 01.9 +0.1
KK31 IAmb IAmb 12 19 02.0
comp=Z,5.7nm,0.5s
KKAR Karatay Array 56.53 305 P **P** 12 19 01.4 -0.3
KKAR Karatay Array 56.53 305 P **P** 12 19 01.4 -0.3
KKAR IAmb IAmb 12 19 02.0
comp=Z,5.7nm,0.5s
ILAR Eielson Array 57.10 29 P **P** 12 19 06.9 +1.6
comp=Z,0.5nm,0.9s,baz=260,slow=5.4,SNR=4.8
comp=Z,0.5nm,0.9s
GAR Garm 57.47 300 P **P** 12 19 08.0 -0.5
GAR IAmb IAmb 12 19 09.1
comp=Z,8.9nm,0.8s
BMAR Burnt Mountain 58.11 26 P **P** 12 19 15.6 +3.4
CHGR Chuyangaron 58.43 300 P **P** 12 19 14.9 0.0
J26L Joseph Creek 58.53 30 P **P** 12 19 15.9 +0.8
J26L IAmb IAmb 12 19 20.8
comp=Z,16nm,1.6s
EGAK Eagle 59.55 29 P **P** 12 19 23.5 +1.6
EGAK IAmb IAmb 12 21 30.2
comp=Z,26nm,1.8s
EPYK Eagle Plains 61.25 27 P **P** 12 19 36.1 +2.8
ARU Arti 61.88 321 P **P** 12 19 37.3 -0.2
INK Inuvik 62.23 25 P **P** 12 19 41.8 +2.1
comp=Z,0.6nm,0.4s,baz=261,slow=4.6,SNR=6.5
comp=Z,0.6nm,0.4s
INK Inuvik 62.23 25 P **P** 12 19 41.7 +2.1
INK IAmb IAmb 12 20 17.9
comp=Z,13nm,1.6s
ABKAR Akbulak array 62.52 313 P **P** 12 19 41.6 -0.3
ABKAR Akbulak array 62.52 313 P **P** 12 19 41.6 -0.3
ABKAR IAmb IAmb 12 19 42.0
comp=Z,3.9nm,0.6s
A36M Sachs Harbour 64.29 20 P **P** 12 19 55.6 +2.7
A36M IAmb IAmb 12 20 40.8
comp=Z,15nm,1.8s
C36M Paulatuk 65.36 23 P **P** 12 20 01.0 +1.2
EUNU Eureka 68.43 8 P **P** 12 20 20.3 +1.5
EUNU IAmb IAmb 12 21 12.8
comp=Z,18nm,1.9s
ARCES ARCESS Array B 71.26 340 P **P** 12 20 37.0 +1.2
comp=Z,2.3nm,0.5s,baz=70,slow=8.2,SNR=17
comp=Z,2.3nm,0.5s
ARCES ARCESS Array B 71.26 340 P **P** 12 20 37.0 +1.2
KBZ Khabaz 75.43 312 P **P** 12 21 01.1 +0.8
comp=Z,2.3nm,0.8s,baz=73,slow=5.4,SNR=5.8
comp=Z,2.3nm,0.8s
FIA1 FINESS Array S 75.54 333 P **P** 12 21 00.9 +0.4
FINES FINESS Array B 75.54 333 P **P** 12 21 01.0 +0.4
comp=Z,2.3nm,0.3s,baz=73,slow=4.7,SNR=28
comp=Z,2.3nm,0.3s
AKASG Malin Array Be 80.08 323 P **P** 12 21 25.5 0.0
comp=Z,0.5nm,0.3s,baz=50,slow=5.3,SNR=7.7
comp=Z,0.5nm,0.3s
NVAR Mina Array Bea 80.91 51 P **P** 12 21 33.1 +2.8
comp=Z,0.5nm,0.7s,baz=270,slow=5.9,SNR=4.5
comp=Z,0.5nm,0.7s
NC405 NORSAR Array S 81.06 337 P **P** 12 21 30.4 0.0
NB2 NORSAR Subarra 81.28 337 P **P** 12 21 31.5 -0.2
comp=Z,0.5nm,0.4s,baz=47,slow=5.1
NOA NORSAR Array B 81.28 337 P **P** 12 21 31.4 -0.2
comp=Z,0.8nm,0.5s,baz=26,slow=5.4,SNR=6.4
comp=Z,0.8nm,0.5s
PPTF Pamatai, Papee 82.15 115 P **P** 12 21 34.1 -2.7
RAYN Ar Rayn 82.72 293 P **P** 12 21 40.4 +0.7
RAYN IAmb IAmb 12 21 40.6
comp=Z,4.1nm,0.6s
BRTR Keskin Array B 83.42 312 P **P** 12 21 43.1 0.0
comp=Z,0.8nm,0.6s,baz=105,slow=2.6,SNR=4.0
comp=Z,0.8nm,0.6s

*GCG **28** 12:17:25.5±2.0, 15°.43N×87°.63W, h4km, MD3.9*
*INET **28** 12:17:42.3±2.0, 15°.46N×88°.86W, h15km±144km, ML4.1*
*SNET **28** 12:17:43.2±5.5, 15°.23N×88°.59W, h10km, ML4.0*
ISC 28 12:17:46.2±2.2, 15°.1N±0°.1×88°.62W±0°.05, h7km±11km, n27, σ2°76/29, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESQI	**Esquipulas**	**0.87**	**233**	*eP*		**Pg**	**12 18 00.6**	**-2.4**
ESQI				*eS*		**Sn**	**12 18 19.5**	**+1.5**
MTO3	**Montecristo**	**0.99**	**226**	*eP*		**Pg**	**12 18 02.8**	**-2.4**
MTO3				*eS*		**Sn**	**12 18 23.7**	**+2.6**
MTO3	**Montecristo**	**0.99**	**226**	*eP*		**Pg**	**12 18 03.2**	**-2.1**
MRL	**Marmol**	**1.02**	**270**	*eP*		Pg	12 17 50.6	-15
P5NO	**Presa 5 de nov**	**1.11**	**187**	*eP*		**Pn**	**12 18 04.1**	**-4.0**
P5NO				*eS*		**Sn**	**12 18 25.8**	**+2.1**
CAHU	**Cacacuatique**	**1.37**	**163**	*eP*		**Pn**	**12 18 07.8**	**-4.2**
PAVA	**Las Pavas**	**1.40**	**193**	*eP*		**Pn**	**12 18 09.5**	**-2.8**
PQSS	**Presa 15 de Se**	**1.46**	**178**	*eP*		**Pn**	**12 18 09.7**	**-3.2**
COEG	**Centro de Oper**	**1.48**	**190**	*eP*		**Pn**	**12 18 10.9**	**-2.5**
SLOZ	**Alcaldia de Sa**	**1.54**	**227**	*eP*		**Pn**	**12 18 11.3**	**-2.8**
RTR	**El Retiro**	**1.55**	**220**	*eP*		**Pn**	**12 18 11.7**	**-2.6**
CEVE	**Cerro Verde**	**1.59**	**218**	*eP*		**Pn**	**12 18 12.8**	**-2.1**
COEB	**Comit de Eme**	**1.59**	**177**	*eP*		**Pn**	**12 18 11.4**	**-3.4**
COEB				*eS*		**Sg**	**12 18 41.5**	**+4.3**
JAYA	**Jayaque - finc**	**1.64**	**209**	*eP*		**Pn**	**12 18 13.7**	**-1.9**
PACA	**Pacayal**	**1.64**	**170**	*eP*		**Pn**	**12 18 13.7**	**-1.9**
TGUH	**Tegucigalpa,Un**	**1.66**	**128**	*eP*		Pn	12 18 08.7	-7.1
NBG	**Las Nubes**	**1.74**	**254**	*eP*		**Pn**	**12 18 14.6**	**-2.3**
NBG				*eS*		**Sg**	**12 18 45.6**	**+3.4**
LCND	**La Caada**	**1.91**	**158**	*eP*		**Pn**	**12 18 15.5**	**-3.7**
LCND				*eS*		**Sg**	**12 18 47.0**	**-0.6**
CNCH	**Conchagua**	**1.96**	**157**	*eP*		**Pn**	**12 18 16.4**	**-3.5**
PCG	**Pacaya**	**2.04**	**250**	*eP*		Pn	12 18 15.7	-5.6
PETF	**Flores**	**2.17**	**327**	*eP*		Pn	12 18 10.9	-12
FUG	**Fuego 3**	**2.24**	**254**	*eP*		Pn	12 18 17.5	-6.3
FUG				*eS*		**Sg**	**12 18 59.8**	**+1.6**
CRIN	**San Cristobal**	**2.82**	**147**	*eP*		**Pn**	**12 18 31.5**	**-0.3**
CNGN	**Cerro Negro**	**3.18**	**144**	*eP*		**Pn**	**12 18 37.4**	**+0.7**
CNGN				IAML			12 19 30.2	
	comp=E,420nm,0.5s							
CNGN				IAML			12 19 34.6	
	comp=N,272nm,0.9s							
MOMN	**Momotombo**	**3.35**	**143**	*eP*		**Pn**	**12 18 38.4**	**-0.6**
MATN	**Matagalpa**	**3.39**	**129**	*eP*		**Pn**	**12 18 39.0**	**-0.6**
ACON	**Acoyapa**	**4.57**	**132**	*eP*		**Pn**	**12 18 55.5**	**-0.3**

*WEL **28** 12:28:00, 42°.09S×173°.75E, h6km, ML4.1, Mw4.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^15 Nm; Mrr=0.58; Mθθ 1.01; Mϕϕ-0.43; Mrθ 0.21; Mrϕ-0.76; Mθϕ-0.05; Fault plane solution: Mo 1.07000×10^15 NP1: φs158.00000°, δ75.00000°, λ-6.00000°. NP2: φ 250.00000°, δ85.00000°, λ-165.00000°. Principal axes: T 136.3900, Plg7.0000°, Azm23.0000°; N -77.0400, Plg74.0000°, Azm267.0000°; P -59.3500, Plg14.0000°, Azm115.0000°;*
*WEL **28** 12:28:06.1±0.3, 42°.5S±2°×173°.4E±°, h5km, M4.1/37, ML4.3/19, MLv4.1/37 Error ellipse: s-maj=0.0km s-min=0.0km az=130.2*
*NOU **28** 12:28:07.6, 42°.21S×173°.64E, h13km, MLv4.5/11, South Island, New Zealand*
ISC 28 12:28:05.8±0.9, 42°.14S±0°.03×173°.87E±0°.04, h17km, n132, σ1°95/129, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.37**	**222**	P		**Pg**	**12 28 13.7**	**+0.3**
KHZ	**Kahutara**	**0.37**	**222**	P		**Pg**	**12 28 13.6**	**+0.2**
KHZ				S		**Sg**	**12 28 19.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.43**	**0**	P		**Pg**	**12 28 13.8**	**-0.7**
BSWZ				S		**Sb**	**12 28 20.6**	**-0.4**
CMWZ	**Cape Campbell**	**0.47**	**33**	P		**Pg**	**12 28 16.4**	**+1.2**
TUWZ	**Tuamarina**	**0.71**	**4**	P		**Pg**	**12 28 19.3**	**-0.5**
THZ	**Tophouse**	**0.82**	**297**	P		**Pn**	**12 28 20.0**	**-1.7**
TCW	**Tory Channel**	**0.98**	**18**	P		**Pb**	**12 28 24.1**	**-0.2**
NNZ	**Nelson**	**1.00**	**338**	P		**Pb**	**12 28 23.5**	**-1.0**
GVZ	**Greta Valley S**	**1.03**	**217**	P		**Pb**	**12 28 26.2**	**+1.0**
WEL	**Wellington**	**1.09**	**38**	P		**Pn**	**12 28 27.4**	**+1.2**
MRNZ	**Matariki Terra**	**1.12**	**311**	P		**Pb**	**12 28 25.6**	**-1.1**
PLWZ	**Palliser**	**1.18**	**61**	P		**Pn**	**12 28 28.2**	**+0.7**
MSWZ	**Moikau Station**	**1.26**	**55**	P		**Pn**	**12 28 29.4**	**+0.8**
TKNZ	**Takaka Hill**	**1.30**	**328**	P		**Pn**	**12 28 28.9**	**-0.3**
DUWZ	**D'Urville Isla**	**1.34**	**2**	P		**Pn**	**12 28 29.9**	**+0.2**
LTZ	**Lake Taylor**	**1.35**	**241**	P		**Pn**	**12 28 30.1**	**+0.3**
CAW	**Cannon Point**	**1.37**	**41**	P		**Pn**	**12 28 30.9**	**+0.9**
AMCZ	**Amberley**	**1.37**	**221**	P		**Pn**	**12 28 30.6**	**+0.5**
PAWZ	**Paruwai Farm**	**1.39**	**57**	P		**Pn**	**12 28 31.0**	**+0.6**
KIW	**Kapiti Island**	**1.50**	**32**	P		**Pn**	**12 28 33.2**	**+1.3**
TRWZ	**Traveller**	**1.55**	**62**	P		**Pn**	**12 28 32.8**	**+0.2**
MTW	**Mount Morrison**	**1.57**	**52**	P		**Pn**	**12 28 33.1**	**+0.3**
DSZ	**Denniston Nort**	**1.59**	**284**	P		**Pb**	**12 28 34.6**	**-0.2**
OGWZ	**Otaki Gorge**	**1.65**	**37**	P		**Pb**	**12 28 34.7**	**+0.8**
QRZ	**Quartz Range**	**1.66**	**322**	P		**Pb**	**12 28 34.9**	**-1.0**
QRZ	**Quartz Range**	**1.66**	**322**	P		**Pb**	**12 28 34.7**	**-1.1**
OKCZ	**Okains Bay**	**1.69**	**200**	P		**Pb**	**12 28 34.8**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.75**	**45**	P		**Pn**	**12 28 35.9**	**+0.6**
OXZ	**Oxford**	**1.80**	**228**	P		**Pn**	**12 28 35.6**	**-0.4**
MQZ	**McQueen's Vall**	**1.80**	**209**	P		**Pn**	**12 28 35.3**	**-0.7**
TMWZ	**Te Maipa**	**1.83**	**56**	P		**Pn**	**12 28 36.6**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.87**	**202**	P		**Pn**	**12 28 37.0**	**+0.1**
INZ	**Inchbonnie**	**1.89**	**251**	P		**Pn**	**12 28 38.0**	**+0.7**
MRZ	**Mangatainoka R**	**1.96**	**41**	P		**Pn**	**12 28 38.6**	**+0.4**
RACZ	**Rakaia**	**2.03**	**218**	P		**Pn**	**12 28 38.8**	**-0.4**
MHCZ	**Mount Hutt**	**2.19**	**230**	P		**Pn**	**12 28 41.0**	**-0.5**
OHWZ	**Ohakea**	**2.22**	**30**	P		**Pn**	**12 28 44.3**	**+2.5**
PRWZ	**Pori Road**	**2.24**	**46**	P		**Pn**	**12 28 42.5**	**+0.4**
POWZ	**Post Office Ro**	**2.26**	**40**	P		**Pn**	**12 28 43.1**	**+0.8**
WACZ	**Wakanui South**	**2.34**	**219**	P		**Pn**	**12 28 42.9**	**-0.5**
WVZ	**Waitaha Valley**	**2.50**	**247**	P		**Pn**	**12 28 46.3**	**+0.8**
DVHZ	**Dannevirke**	**2.53**	**44**	P		**Pn**	**12 28 45.6**	**-0.4**
WAZ	**Wanganui**	**2.53**	**20**	P		**Pn**	**12 28 49.1**	**+1.6**
RPZ	**Rata Peaks**	**2.60**	**232**	P		**Pn**	**12 28 47.0**	**0.0**
RPZ	**Rata Peaks**	**2.60**	**232**	P		**Pn**	**12 28 46.5**	**-0.6**
TSZ	**Takapari Road**	**2.61**	**38**	P		**Pn**	**12 28 47.3**	**+0.1**
ARCZ	**Arundel**	**2.68**	**227**	P		**Pn**	**12 28 47.3**	**-0.8**
LREZ	**Lake Rotokare**	**2.71**	**9**	P		**Pb**	**12 28 52.5**	**-1.3**
NMEZ	**Namu Road**	**2.73**	**0**	P		**Pb**	**12 28 52.8**	**-1.3**
PNHZ	**Pukenui**	**2.84**	**39**	P		**Pn**	**12 28 50.6**	**+0.2**
WPHZ	**Waipukurau**	**2.84**	**44**	P		**Pn**	**12 28 52.7**	**+2.3**
KHEZ	**Kahui Hut**	**2.85**	**2**	P		**Pb**	**12 28 54.6**	**-1.6**
KHEZ	**Kahui Hut**	**2.85**	**2**	P		**Pb**	**12 28 54.3**	**-1.9**
GCSZ	**Gaunt Creek Bo**	**2.86**	**245**	P		**Pn**	**12 28 52.0**	**+1.4**
NBEZ	**Newall Road No**	**2.87**	**360**	P		**Pb**	**12 28 54.7**	**-1.8**
NEZ	**North Egmont**	**2.87**	**3**	P		**Pb**	**12 28 54.9**	**-1.8**
PKE	**Pukeiti**	**2.95**	**2**	P		**Pb**	**12 28 55.6**	**-2.2**
DREZ	**Durham Road**	**2.96**	**5**	P		**Pb**	**12 28 55.8**	**-2.2**
MTVZ	**Mangateitei**	**3.01**	**24**	P		**Pb**	**12 29 02.2**	**+1.3**
PKVZ	**Pokaka**	**3.06**	**22**	P		**Pn**	**12 28 55.6**	**+2.1**
TMZ	**Timaru**	**3.07**	**222**	P		**Pn**	**12 28 53.0**	**-0.4**
MHEZ	**Mangahewa**	**3.08**	**7**	P		**Pn**	**12 28 58.8**	**-1.3**
MOVZ	**Moawhango**	**3.08**	**28**	P		**Pn**	**12 28 55.4**	**+1.7**
PXZ	**Pawanui**	**3.09**	**48**	P		**Pn**	**12 28 55.8**	**+2.1**
WNVZ	**Wahianoa**	**3.10**	**26**	P		**Pn**	**12 28 56.9**	**+2.8**
TRVZ	**Turoa**	**3.11**	**25**	P		**Pn**	**12 28 56.6**	**+2.3**
BHHZ	**Black Hill Sta**	**3.13**	**33**	P		**Pn**	**12 28 56.6**	**+2.2**
DRZ	**Dome Shelter**	**3.14**	**25**	P		**Pb**	**12 28 59.9**	**-1.4**
WHVZ	**Whangaehu Hut**	**3.14**	**25**	P		**Pn**	**12 28 58.4**	**+3.7**
FWVZ	**Far West T-bar**	**3.15**	**24**	P		**Pb**	**12 28 59.7**	**-1.8**
TUVZ	**Tukino**	**3.17**	**26**	P		**Pn**	**12 28 56.8**	**+1.8**
NGZ	**Ngauruhoe**	**3.24**	**24**	P		**Pn**	**12 28 59.1**	**+3.1**
SNVZ	**South Ngauruho**	**3.25**	**25**	P		**Pb**	**12 29 00.8**	**-2.2**
OTVZ	**Oturere**	**3.27**	**25**	P		**Pb**	**12 29 01.7**	**-1.8**
NNVZ	**North Ngauruho**	**3.29**	**24**	P		**Pn**	**12 28 59.2**	**+2.6**
FOZ	**Fox Glacier**	**3.29**	**244**	P		**Pn**	**12 28 57.4**	**+0.9**
TWVZ	**Taurewa**	**3.29**	**22**	P		**Pb**	**12 29 00.9**	**-2.9**
WTVZ	**West Tongariro**	**3.29**	**24**	P		**Pb**	**12 29 01.1**	**-2.7**
ETVZ	**East Tongariro**	**3.31**	**26**	P		**Pn**	**12 29 00.5**	**+3.5**
KRVZ	**Karewarewa**	**3.33**	**24**	P		**Pb**	**12 29 04.8**	**+0.4**
TMVZ	**Te Maari**	**3.33**	**25**	P		**Pn**	**12 29 00.9**	**+3.8**
NTVZ	**North Tongarir**	**3.34**	**25**	P		**Pb**	**12 29 04.1**	**-0.4**
LBZ	**Lake Benmore**	**3.50**	**229**	P		**Pn**	**12 28 59.2**	**-0.3**
HIZ	**Hauiti**	**3.70**	**12**	P		**Pn**	**12 29 05.9**	**+3.7**
HIZ	**Hauiti**	**3.70**	**12**	P		**Pn**	**12 29 05.5**	**+3.3**
WATZ	**Wairara**	**3.71**	**23**	P		**Pb**	**12 29 08.7**	**-2.2**
ODZ	**Otahua Downs**	**3.73**	**218**	P		**Pn**	**12 29 02.2**	**-0.3**
ODZ	**Otahua Downs**	**3.73**	**218**	P		**Pn**	**12 29 01.8**	**-0.8**
MRHZ	**Matea Rd**	**3.83**	**31**	P		**Pn**	**12 29 03.3**	**-0.7**
TLZ	**Tolley Road**	**4.02**	**19**	P		Pn	12 29 11.7	+5.2
JCZ	**Jackson Bay**	**4.20**	**241**	P		**Pn**	**12 29 09.2**	**+0.2**
JCZ	**Jackson Bay**	**4.20**	**241**	P		**Pn**	**12 29 09.3**	**+0.2**
HHSZ	**Highcliff Hill**	**4.42**	**211**	P		**Pn**	**12 29 11.8**	**-0.3**
WKZ	**Wanaka**	**4.44**	**231**	P		**Pn**	**12 29 11.7**	**-0.5**
EAZ	**Earnscleugh**	**4.53**	**225**	P		**Pn**	**12 29 13.0**	**-0.5**
RAGZ	**Rawiri**	**4.54**	**38**	P		Pn	12 29 20.1	+6.4
RAGZ	**Rawiri**	**4.54**	**38**	P		Pn	12 29 20.1	+6.3
RIGZ	**Rimuhau**	**4.54**	**42**	P		**Pb**	**12 29 21.4**	**-3.5**
TOZ	**Tahuroa Road**	**4.58**	**16**	P		**Pn**	**12 29 18.2**	**+3.9**
URZ	**Urewera**	**4.60**	**34**	P		**Pn**	**12 29 18.8**	**+4.3**
URZ	**Urewera**	**4.60**	**34**	P		**Pn**	**12 29 18.9**	**+4.3**
URZ	**Urewera**	**4.60**	**34**	P		**Pn**	**12 29 18.8**	**+4.3**
MWZ	**Matawai**	**4.72**	**38**	P		**Pn**	**12 29 17.1**	**+0.9**
MWZ	**Matawai**	**4.72**	**38**	P		**Pn**	**12 29 17.1**	**+0.9**
OPRZ	**Ohinepanea**	**4.76**	**27**	P		Pb	12 29 23.5	-5.2
OPRZ	**Ohinepanea**	**4.76**	**27**	P		Pn	12 29 23.3	+6.6
TGRZ	**Tauranga**	**4.78**	**23**	P		**Pn**	**12 29 19.9**	**+2.9**
TKGZ	**Te Karaka**	**4.79**	**41**	P		**Pn**	**12 29 18.5**	**+1.4**
TKGZ	**Te Karaka**	**4.79**	**41**	P		**Pn**	**12 29 18.5**	**+1.4**
TUZ	**Tuapeka**	**4.88**	**217**	P		**Pn**	**12 29 18.0**	**-0.4**
WHRZ	**Whale Island**	**4.90**	**30**	P		**Pn**	**12 29 19.9**	**+1.3**
WHRZ	**Whale Island**	**4.90**	**30**	P		**Pn**	**12 29 20.0**	**+1.3**
CNGZ	**Carnagh Statio**	**4.93**	**44**	P		**Pn**	**12 29 20.8**	**+1.7**
CNGZ	**Carnagh Statio**	**4.93**	**44**	P		**Pn**	**12 29 20.8**	**+1.7**
AWAZ	**Awhitu Peninsu**	**5.11**	**7**	P		**Pn**	**12 29 24.8**	**+3.3**
MKAZ	**Moumakai**	**5.13**	**12**	P		**Pn**	**12 29 24.3**	**+2.6**
WTAZ	**Waiatarua**	**5.23**	**6**	P		**Pn**	**12 29 26.8**	**+3.6**
ETAZ	**East Tamaki Re**	**5.25**	**9**	P		**Pn**	**12 29 26.9**	**+3.5**
MLZ	**Mavora Lakes**	**5.27**	**230**	P		**Pn**	**12 29 23.0**	**-0.7**
RVAZ	**Riverhead Bore**	**5.39**	**6**	P		**Pn**	**12 29 28.8**	**+3.4**
MBAZ	**Motutapu North**	**5.42**	**9**	P		**Pn**	**12 29 29.8**	**+4.0**
WIAZ	**Waiheke Island**	**5.43**	**11**	P		**Pn**	**12 29 29.6**	**+3.7**
SYZ	**Scrubby Hill**	**5.55**	**216**	P		**Pn**	**12 29 27.6**	**+0.1**
SYZ	**Scrubby Hill**	**5.55**	**216**	P		**Pn**	**12 29 27.6**	**+0.1**
KUZ	**Kuaotunu**	**5.58**	**15**	P		**Pn**	**12 29 31.2**	**+3.3**
KUZ	**Kuaotunu**	**5.58**	**15**	P		**Pn**	**12 29 31.2**	**+3.3**
ABAZ	**Army Bay**	**5.58**	**8**	P		**Pn**	**12 29 31.4**	**+3.4**
WHZ	**Wether Hill Ro**	**5.68**	**227**	P		**Pn**	**12 29 29.5**	**+0.1**
WCZ	**Waipu Caves**	**6.21**	**4**	P		**Pn**	**12 29 39.6**	**+3.0**
APZ	**The Paps**	**6.30**	**220**	P		**Pn**	**12 29 37.9**	**0.0**
OUZ	**Omahuta**	**6.92**	**358**	P		**Pn**	**12 29 49.8**	**+3.5**
OUZ	**Omahuta**	**6.92**	**358**	P		**Pn**	**12 29 49.7**	**+3.4**

WEL 28 12:29:07.5±0.6, 38°S±4°×17°8E±°, h39km±7km, M2.6/15, ML2.9/13, MLv2.6/15, Error ellipse: s-maj=0.0km s-min=0.0km az=104.4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUGZ	**Raukumara Rang**	**0.05**	**13**	P		Pn	12 29 14.9	+0.9
RUGZ				S		Sn	12 29 20.8	+2.2
HAZ	**Te Kaha**	**0.28**	**20**	P		Pn	12 29 16.1	+0.5
HAZ				S		Sn	12 29 22.7	+0.9
TWGZ	**Tauwhareparae**	**0.30**	**123**	P		Pn	12 29 17.0	+1.1
TWGZ				S		Sn	12 29 24.9	+2.8
PKGZ	**Pakihiroa**	**0.35**	**69**	P		Pn	12 29 17.4	+1.0
PKGZ				S		Sn	12 29 25.2	+2.5
TKGZ	**Te Karaka**	**0.45**	**161**	S		Sn	12 29 27.8	+3.2
PUZ	**Puketiti**	**0.47**	**97**	P		Pn	12 29 18.4	+0.6
PUZ				S		Sn	12 29 27.6	+2.4
WMGZ	**Waiomatatini S**	**0.63**	**72**	P		Pn	12 29 20.6	+0.6
MXZ	**Matakaoa Point**	**0.68**	**49**	P		Pn	12 29 21.8	+1.0
MXZ				S		Sn	12 29 33.7	+3.5
MARZ	**Manawahe**	**0.78**	**272**	P		Pn	12 29 22.8	+0.7
RTZ	**Ruatahuna**	**0.80**	**222**	P		Pn	12 29 23.1	+0.6
SNGZ	**Shannon Statio**	**0.81**	**198**	P		Pn	12 29 24.0	+1.6
MUGZ	**Murupara**	**0.84**	**236**	P		Pn	12 29 23.2	+0.4
TARZ	**Mount Tarawera**	**0.94**	**256**	P		Pn	12 29 25.1	+0.8
RRRZ	**Republican Roa**	**0.96**	**250**	P		Pn	12 29 23.9	-0.6
HRRZ	**Handcock Road**	**1.15**	**251**	P		Pn	12 29 22.5	-4.6
HSRZ	**Hossack Road**	**1.16**	**255**	P		Pn	12 29 23.3	-3.9
NGRZ	**Ngongotaha**	**1.17**	**265**	P		Pn	12 29 25.4	-2.0
UTU	**Utuhina**	**1.17**	**262**	P		Pn	12 29 24.8	-2.6

*IDC **28** 12:30:27.7±51.0, 41°.68N×146°.33E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1177.0km s-min=89.1km az=159.0*
*MOS **28** 12:30:46.1±2.8, 42°.91N×144°.46E, h51km, mb4.5/1, Error ellipse: s-maj=36.1km s-min=18.1km az=57.7*
*JMA **28** 12:30:50.7±0.1, 43°.2N±0°.4×145°.1E±0°.6, h78km±1km, MV3.4/40, KUSHIRO REGION*
JMA Felt II J1 at KUSHIRO REGION .
*SKHL **28** 12:30:51.0±0.0, 43°.20N×145°.10E, h84km±2km, mb4.9/4, msha5.7/5*
**ISC 28 12:30:50.2±1.0, 43°.20N±0°.06×145°.07E±0°.04, h80km±7km, n21, σ0°57/37, mb3.5/3, 1

TUWZ	Tuamarina	0.79	357	P		Pb	12 36 25.5	-0.2
THZ	Tophouse	0.93	299	P		Pb	12 36 27.0	-1.2
GVZ	Greta Valley S	1.02	223	P		Pb	12 36 31.0	+1.3
TCW	Tory Channel	1.03	12	P		Pb	12 36 30.1	+0.2
NNZ	Nelson	1.10	335	P		Pb	12 36 30.3	-0.8
WEL	Wellington	1.10	32	P		Pb	12 36 31.9	+0.9
PLWZ	Palliser	1.15	56	P		Pn	12 36 32.3	+0.6
MRNZ	Matariki Terra	1.23	311	P		Pb	12 36 32.7	-0.6
MSWZ	Moikau Station	1.24	50	P		Pn	12 36 33.5	+0.6
PAWZ	Paruwai Farm	1.36	52	P		Pn	12 36 35.0	+0.3
AMCZ	Amberley	1.37	226	P		Pn	12 36 35.3	+0.5
CAW	Cannon Point	1.38	36	P		Pn	12 36 35.5	+0.7
LTZ	Lake Taylor	1.39	246	P		Pn	12 36 35.6	+0.5
TKNZ	Takaka Hill	1.42	327	P		Pb	12 36 35.8	-0.6
DUWZ	D'Urville Isla	1.42	358	P		Pn	12 36 36.1	+0.7
TRWZ	Traveller	1.51	58	P		Pn	12 36 36.9	+0.2
KIW	Kapiti Island	1.53	27	P		Pn	12 36 37.8	+0.9
MTW	Mount Morrison	1.55	47	P		Pn	12 36 37.4	+0.1
OKCZ	Okains Bay	1.65	204	P		Pn	12 36 39.2	+0.6
OGWZ	Otaki Gorge	1.66	33	P		Pn	12 36 39.3	+0.6
DSZ	Denniston Nort	1.70	286	P		Pb	12 36 40.4	-0.8
HOWZ	Holdsworth Sta	1.75	41	P		Pn	12 36 40.3	+0.3
QRZ	Quartz Range	1.78	321	P		Pb	12 36 41.5	-1.0
QRZ	Quartz Range	1.78	321	P		Pb	12 36 41.4	-1.0
MQZ	McQueen's Vall	1.78	213	P		Pn	12 36 40.0	-0.3
TMWZ	Te Maipa	1.81	53	P		Pn	12 36 40.7	-0.1
OXZ	Oxford	1.81	232	P		Pn	12 36 40.6	-0.3
AKCZ	Akaroa Harbour	1.83	205	P		Pn	12 36 41.4	+0.4
INZ	Inchbonnie	1.95	254	P		Pn	12 36 43.6	+0.9
MRZ	Mangatainoka R	1.96	38	P		Pn	12 36 43.1	+0.2
RACZ	Rakaia	2.03	221	P		Pn	12 36 43.5	-0.3
MHCZ	Mount Hutt	2.21	233	P		Pn	12 36 45.9	-0.4
PRWZ	Pori Road	2.24	42	P		Pn	12 36 46.7	+0.1
WACZ	Wakanui South	2.33	222	P		Pn	12 36 47.7	-0.2
DVHZ	Dannevirke	2.53	41	P		Pn	12 36 50.0	-0.6
WVZ	Waitaha Valley	2.55	249	P		Pn	12 36 51.8	+0.9
WAZ	Wanganui	2.58	17	P		Pn	12 36 53.7	+2.4
RPZ	Rata Peaks	2.62	234	P		Pn	12 36 52.1	+0.1
RPZ	Rata Peaks	2.62	234	P		Pn	12 36 51.9	-0.1
TSZ	Takapari Road	2.62	35	P		Pn	12 36 51.9	-0.2
ARCZ	Arundel	2.69	229	P		Pn	12 36 52.6	-0.3
LREZ	Lake Rotokare	2.78	7	P		Pb	12 36 59.9	+0.3
KHEZ	Kahui Hut	2.93	0	P		Pb	12 37 00.3	-1.8
KHEZ	Kahui Hut	2.93	0	P		Pb	12 37 00.5	-1.7
TMZ	Timaru	3.07	224	P		Pn	12 36 57.9	-0.2
PKVZ	Pokaka	3.11	20	P		Pn	12 37 00.2	+1.5
MOVZ	Moawhango	3.12	26	P		Pn	12 36 59.4	+0.6
WNVZ	Wahianoa	3.14	23	P		Pn	12 37 00.5	+1.2
TRVZ	Turoa	3.15	23	P		Pn	12 37 01.4	+2.0
WHVZ	Whangaehu Hut	3.18	23	P		Pn	12 37 01.4	+1.5
TUVZ	Tukino	3.21	24	P		Pn	12 37 01.7	+1.4
NGZ	Ngauruhoe	3.28	22	P		Pn	12 37 02.6	+1.4
NNVZ	North Ngauruho	3.33	22	P		Pn	12 37 03.4	+1.6
FOZ	Fox Glacier	3.33	246	P		Pn	12 37 02.8	+1.1
ETVZ	East Tongariro	3.35	24	P		Pn	12 37 04.5	+2.4
TMVZ	Te Maari	3.37	23	P		Pn	12 37 04.1	+1.8
KRVZ	Karewarewa	3.37	22	P		Pb	12 37 08.4	-1.3
LBZ	Lake Benmore	3.52	231	P		Pn	12 37 04.4	+0.1
BKZ	Black Stump Fm	3.60	33	P		Pn	12 37 04.5	-1.0
ODZ	Otahua Downs	3.72	220	P		Pn	12 37 06.9	-0.2
ODZ	Otahua Downs	3.72	220	P		Pn	12 37 06.6	-0.5
HIZ	Hauiti	3.76	10	P		Pn	12 37 10.7	+3.0
HIZ	Hauiti	3.76	10	P		Pn	12 37 10.1	+2.4
JCZ	Jackson Bay	4.23	242	P		Pn	12 37 14.4	+0.3
JCZ	Jackson Bay	4.23	242	P		Pn	12 37 14.5	+0.3
MUGZ	Murupara	4.30	30	P		Pn	12 37 15.7	+0.6
RRRZ	Republican Roa	4.33	127	P		Pb	12 37 22.9	-3.2
EAZ	Earnscleugh	4.53	227	P		Pn	12 37 17.8	+1.4
TUZ	Tuapeka	4.88	219	P		Pn	12 37 23.1	+0.2
MLZ	Mavora Lakes	5.29	232	P		Pn	12 37 28.0	-0.6
SYZ	Scrubby Hill	5.54	217	P		Pn	12 37 32.6	+0.6
SYZ	Scrubby Hill	5.54	217	P		Pn	12 37 32.6	+0.6

*JSN **28** 12:44:07.1±2.9, 17.°73N×78.°30W, h28km±34km, MD3.3*
*SSNC **28** 12:44:09.4±3.5, 18.°49N×77.°90W, h3km±29km, MD2.9, ML1.7, MW2.9*

ISC 28 12:44:05.2±1.4, **18.°60N**±0.°03×**77.°83W**±0.°06, **h3**km±15km, **n10**, σ1°**02**/17, **1C-2D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CVJ	**Coleyville**	**0.47**	**143**	∥	*iP*		**Sb**	**12 44 24.3**	**+0.8**
MTDJ	**Mount Denham**	**0.47**	**143**		*eP*		**Pn**	**12 44 17.4**	**-1.5**
MTDJ					*eS*		**Sb**	**12 44 23.7**	**+0.2**
NEJ	**Negril**	**0.59**	**233**		*i P*		**Pg**	**12 44 16.7**	**+0.2**
MCJ	**Malvern**	**0.69**	**168**	∥	*iP*		**Pg**	**12 44 18.9**	**+0.4**
MCJ					*i S*		**Sg**	**12 44 26.7**	**-0.7**
PCJ	**Portland Cotta**	**1.07**	**143**		*i P*		**Pg**	**12 44 26.2**	**+0.5**
STH	**Stony Hill**	**1.10**	**118**	∥	*iP*		**Pn**	**12 44 28.9**	**+1.3**
LMGC	**Las Mercedes**	**1.65**	**28**		*eP*		**Pg**	**12 44 37.6**	**+0.7**
LMGC					*eS*		**Sb**	**12 44 57.3**	**-0.1**
LMGC					IAML			12 44 59.1	
	comp=E,24nm,0.1s								
LMGC					IAML			12 44 59.1	
	comp=N,31nm,0.1s								
RCC	**Rio Carpintero**	**2.45**	**55**		*eP*		**Pb**	**12 44 48.8**	**-1.0**
RCC					*eS*		**Sn**	**12 45 17.5**	**+1.1**
RCC					*eSg*		**Sb**	**12 45 19.0**	**-1.4**
RCC					IAML			12 45 19.3	
	comp=E,0.8nm,0.1s								
RCC					IAML			12 45 19.3	
	comp=N,1.2nm,0.1s								
CCCC	**Cccc**	**2.58**	**1**		*eP*		**Pb**	**12 44 52.5**	**+0.3**
CCCC					*eS*		**Sb**	**12 45 23.8**	**-0.5**
CCCC					IAML			12 45 26.4	
	comp=E,1.5nm,0.2s								
CCCC					IAML			12 45 26.5	
	comp=N,2.2nm,0.2s								
GTBY	**Guantanamo Bay**	**2.89**	**62**		*eP*		**Pb**	**12 44 57.5**	**+0.2**
GTBY					*eS*		**Sb**	**12 45 31.4**	**-1.6**

*GCG **28** 12:45:47.8±2.0, 16.°14N×88.°22W, h21km, MD3.5*
*SNET **28** 12:45:53.5±3.1, 15.°58N×88.°48W, h10km, ML3.9*

ISC 28 12:45:49.6±1.5, **15.°68N**±0.°07×**88.°39W**±0.°06, **h10**km, **n16**, σ1°**19**/20, **Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.38**	**244**		*eP*		**Pb**	**12 46 16.0**	**+0.3**
ESQI	**Esquipulas**	**1.45**	**220**		*eP*		**Pn**	**12 46 16.3**	**+0.3**
ESQI					*eS*		**Sb**	**12 46 35.5**	**+0.2**
MTO3	**Montecristo**	**1.58**	**216**		*eP*		**Pn**	**12 46 17.9**	**-0.1**
P5NO	**Presa 5 de nov**	**1.73**	**192**		*eP*		**Pn**	**12 46 20.1**	**+0.3**
PETF	**Flores**	**1.87**	**311**		*eP*		**Pg**	**12 46 25.5**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.95**	**146**		*eP*		**Pb**	**12 46 24.9**	**-0.5**
SCLA	**Alcaldia de Sa**	**2.00**	**189**		*eP*		**Pb**	**12 46 25.1**	**-1.1**
PQSS	**Presa 15 de Se**	**2.05**	**185**		*eP*		**Pn**	**12 46 25.3**	**+1.0**
COEG	**Centro de Oper**	**2.11**	**193**		*eP*		**Pn**	**12 46 26.6**	**+1.5**
NBG	**Las Nubes**	**2.18**	**240**		*eP*		**Pg**	**12 46 30.6**	**-0.9**
NBG					*eS*		**Sg**	**12 47 01.2**	**+1.4**
CEVE	**Cerro Verde**	**2.20**	**213**		*eP*		**Pb**	**12 46 28.9**	**-0.8**
NUBE	**Las Nubes**	**2.22**	**217**		*eP*		**Pb**	**12 46 29.3**	**-0.7**
NUBE					*eS*		**Sb**	**12 46 58.8**	**+1.1**
JAYA	**Jayaque - finc**	**2.26**	**207**		*eP*		**Pb**	**12 46 29.4**	**-1.4**
LCND	**La Caada**	**2.41**	**168**		*eP*		**Pb**	**12 46 31.6**	**-1.6**
CNCH	**Conchagua**	**2.45**	**167**		*eP*		**Pb**	**12 46 32.3**	**-1.7**
CNCH					*eS*		**Sb**	**12 47 05.4**	**+1.1**
FUG	**Fuego 3**	**2.67**	**243**		*eP*		**Pb**	**12 46 35.3**	**-2.3**

GUC 28 12:46:47.7±0.8, **35.°71S**×**73.°81W**, **h21**km±13km, **ML3.6,**
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**1.15**	**154**		*eP*		Pn	12 47 08.4	0.0
BI05					*eS*		Sb	12 47 22.0	-1.2
BI05					IAML			12 47 32.4	
	comp=N,1μm,0.3s								
GO05	**Huala**	**1.69**	**66**		*eP*		Pn	12 47 15.6	-0.4
GO05					*i S*		Sn	12 47 37.6	+0.7
GO05					IAML			12 47 45.6	
	comp=E,695nm,0.6s								
BO03	**Pichilemu**	**1.94**	**52**		*eP*		Pn	12 47 19.4	0.0
BO03					*i S*		Sb	12 47 48.1	+2.0
BO03					IAML			12 47 58.4	
	comp=E,491nm,0.1s								
ML02	**Panimavida**	**1.94**	**92**		*eP*		Pn	12 47 19.8	+0.3
ML02					*i S*		Sn	12 47 43.8	+0.6
ML02					IAML			12 47 52.4	
	comp=N,1μm,0.7s								
BO01	**Tunca**	**2.59**	**60**		*eP*		Pn	12 47 29.3	+0.9
BO01					IAML			12 48 12.7	
	comp=N,239nm,0.7s								
BO02	**Sierra Bellavi**	**2.64**	**70**		*eP*		Pn	12 47 29.4	+0.3
BO02					IAML			12 48 14.1	
	comp=N,591nm,0.1s								
MT01	**Popeta**	**2.80**	**49**		*eP*		Pn	12 47 31.7	+0.5
MT01					IAML			12 48 29.5	
	comp=E,135nm,0.6s								
MT09	**Talagante**	**3.02**	**51**		*eP*		Pn	12 47 35.0	+0.6
MT09					IAML			12 48 29.8	
	comp=N,289nm,0.8s								
BO04	**La Punta**	**3.14**	**58**		*eP*		Pn	12 47 37.2	+1.3
BO04					*i S*		Sn	12 48 10.6	-2.3
BO04					IAML			12 48 34.8	
	comp=N,153nm,0.6s								
ROCH	**El Roble**	**3.58**	**41**		*eP*		Pn	12 47 43.6	+1.4
VA06	**Catapilco**	**3.77**	**34**		*eP*		Pn	12 47 45.4	+0.9
VA03	**San Esteban**	**3.99**	**43**		*eP*		Pn	12 47 49.2	+1.5
VA03					*i S*		Sb	12 48 55.5	+10
GO06	**Curarrehue**	**4.28**	**155**		*eP*		Pn	12 47 54.8	+3.0
CO03	**El Pedregal**	**5.52**	**29**		*eP*		Pn	12 48 09.9	+1.3

*DJA **28** 12:54:38.8±1.1, 9.°N±7.°×12.°6E±.°, h101km±9km, M4.5/18, mb4.6/18, mB5.2/4, MLv4.5/1, Mw(mB)4.6/4, MwMwp6.2/1, Mwp6.2/1*
*MAN **28** 12:54:40.0, 9.°11N×126.°03E, h93km, mb5.0, ML3.9, MS4.0*
*IDC **28** 12:54:39.8±0.7, 9.°20N×126.°10E, h102km±6km, mb4.1/25, mbtmp4.4/27, MS3.1/3, Error ellipse: s-maj=15.5km s-min=7.0km az=89.0*
*NEIC **28** 12:54:42.1±1.9, 9.°16N±0.°06×126.°12E±0.°07, h116km±7km, mb4.6/53, Error ellipse: s-maj=13.4km s-min=2.8km az=129.0*

ISC 28 12:54:40.1±0.6, **9.°15N**±0.°03×**126.°10E**±0.°05, **h105**km±5km, **n141**, σ1°**22**/164, **mb4.5**/50, **17C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.50**	**250**	∥	*eP*		**Pn**	**12 54 56.0**	**-0.5**
GLSP	**General Luna,**	**0.64**	**3**	∥	*eP*		**Pn**	**12 54 58.0**	**+0.5**
GLSP					*eS*		**Sn**	**12 55 10.6**	**+0.1**
SCPH	**Surigao**	**0.87**	**317**		*eP*		**Pn**	**12 55 00.4**	**+0.8**
SCPH					*i S*		**Sn**	**12 55 14.1**	**-0.2**
BIPH	**Bislig**	**0.99**	**165**	∥	*eP*		**Pn**	**12 55 00.3**	**-0.5**
BIPH					*i S*		**Sn**	**12 55 15.4**	**-1.0**
CGP	**Cagayan de Oro**	**1.55**	**244**	∥	*eP*		**Pn**	**12 55 06.3**	**-0.9**
CGP					*i S*		**Sn**	**12 55 25.4**	**-2.4**
BUKP	**Musuan**	**1.62**	**219**	∥	*iP*		**Pn**	**12 55 08.0**	**-0.2**
BUKP					*i S*		**Sn**	**12 55 29.4**	**-0.2**
BUKP	**Musuan**	**1.62**	**219**	∥	*eP*		**Pn**	**12 55 08.0**	**-0.2**
BUKP					*eS*		Sn	12 55 10.0	-20
GHBP	**Garcia Hernand**	**1.82**	**286**	∥	*iP*		**Pn**	**12 55 10.3**	**-0.2**
GHBP					*i S*		**Sn**	**12 55 33.0**	**-0.8**
TABP	**Talibon, Bohol**	**1.98**	**299**	∥	*iP*		**Pn**	**12 55 12.4**	**-0.2**
TABP					*i S*		**Sn**	**12 55 36.0**	**-1.5**
DAV	**Davao City (W)**	**2.12**	**194**		P		**Pn**	**12 55 15.2**	**+0.7**
	181nm,0.3s,baz=331,slow=1.8,SNR=3.9								
DAV					S		**Sn**	**12 55 42.6**	**+1.8**
	599nm,0.5s,baz=312,slow=23,SNR=26								
DAV	**Davao City (W)**	**2.12**	**194**		Pn		**Pn**	**12 55 15.6**	**+1.1**
MATI	**Mati**	**2.19**	**176**	∥	*eP*		**Pn**	**12 55 16.0**	**+0.6**
MATI					*eS*		**Sn**	**12 55 43.8**	**+1.5**
LLP	**Lapu-Lapu**	**2.40**	**299**	∥	*eP*		**Pn**	**12 55 18.5**	**+0.4**
LLP					*i S*		**Sn**	**12 55 47.4**	**+0.2**
LSIP	**Lazi, Siquijor**	**2.44**	**270**	∥	*iP*		**Pn**	**12 55 17.8**	**-0.8**
CTBH	**Cotabato--PC H**	**2.65**	**224**	∥	*iP*		**Pn**	**12 55 20.5**	**-0.8**
CTBH					*i S*		**Sn**	**12 55 51.6**	**-1.4**
DCPH	**Dipolog City**	**2.77**	**259**	∥	*iP*		**Pn**	**12 55 22.1**	**-0.8**
DDMP	**Don Marcelino,**	**3.04**	**187**	∥	*eP*		**Pn**	**12 55 27.1**	**+0.5**
DDMP					*eS*		**Sn**	**12 56 02.0**	**-0.4**
GSPH	**General Santos**	**3.24**	**201**	∥	*eP*		**Pn**	**12 55 25.7**	**-3.7**
GSPH					*i S*		**Sn**	**12 56 08.8**	**+1.4**
CNOP	**Candoni, Negro**	**3.48**	**282**	∥	*eP*		**Pn**	**12 55 32.3**	**-0.1**
CNOP					*eS*		**Sn**	**12 56 16.6**	**+3.8**
CNP	**Catarman**	**3.63**	**337**	∥	*eP*		**Pn**	**12 55 35.1**	**+0.7**
RCP	**Roxas**	**4.08**	**306**	∥	*eP*		**Pn**	**12 55 41.2**	**+0.7**
RCP					*eS*		**Sn**	**12 56 27.9**	**+0.6**
LQP	**Lukban**	**6.66**	**318**	∥	*eP*		**Pn**	**12 56 18.9**	**+3.3**
MYLDM	**Lahad Datu**	**8.50**	**243**		Pn		**Pn**	**12 56 44.9**	**+4.4**
GTOI	**Gorontalo**	**8.99**	**200**		P		**Pn**	**12 56 45.5**	**-1.7**
	162nm7.2nm,0.8s								
MRSI	**Marisa**	**9.55**	**206**		P		**Pn**	**12 56 55.1**	**+0.3**
	805nm23nm,0.5s								
LUWI	**Luwuk**	**10.65**	**198**		Pn		**Pn**	**12 57 11.9**	**+2.2**
APSI	**Ampana**	**10.93**	**204**		P		**Pn**	**12 57 14.0**	**+0.5**
	23nm,1.2s								
SIJI	**Sorong**	**11.20**	**152**		LR		LR	13 02 58.3	
	comp=Z,50nm,18.8s,baz=59,slow=44								
FAKI	**Fak Fak**	**13.46**	**153**		P		**P**	**12 57 52.8**	**+0.3**
BNSI	**Bone**	**14.72**	**204**		P		**Pn**	**12 58 03.7**	**+0.5**
	39nm,1.2s								
SBUM	**Sibu**	**15.32**	**245**				**P**	**12 58 12.8**	**-0.4**
KAPI	**Kappang**	**15.42**	**204**		P		**Pn**	**12 58 11.7**	**-0.3**
	13nm,0.8s,baz=45,slow=11,SNR=5.5								
KAPI					LR		LR	13 05 51.6	
	comp=Z,72nm,18.1s,baz=328,slow=43								
KAPI	**Kappang**	**15.42**	**204**		P		**Pn**	**12 58 12.5**	**+0.4**
KAPI					IAmb	IAmb	IAmb	12 58 14.3	
	comp=Z,19nm,0.9s								
BKSI	**Bulukumba**	**15.56**	**203**		P		**Pn**	**12 58 13.4**	**-0.3**
	comp=Z,14nm,0.9s								
KSM	**Kuching**	**17.46**	**245**				**Pn**	**12 58 40.2**	**+3.0**
KSM					IAmb	IAmb	IAmb	12 58 42.5	
	comp=Z,31nm,1.1s								
JAGI	**Jajag, Banyuwa**	**21.16**	**215**		P		**P**	**12 59 19.4**	**+2.3**
JAGI					IAmb	IAmb	IAmb	12 59 21.4	
	comp=Z,43nm,1.2s								
SMRI	**Semarang**	**22.41**	**225**		P		**P**	**12 59 30.8**	**+0.5**
MTN	**Manton Dam**	**22.41**	**167**		P		**P**	**12 59 30.6**	**+0.4**
KNRA	**Kununurra**	**24.80**	**174**		P		**P**	**12 59 52.2**	**-0.3**
KNRA					IAmb	IAmb	IAmb	12 59 56.4	
	comp=Z,13nm,0.9s								
IPM	**Ipoh**	**25.31**	**261**		P		**P**	**12 59 56.9**	**-0.4**
IPM					IAmb	IAmb	IAmb	12 59 59.3	
	comp=Z,25nm,1.0s								
JMN	**Monobe**	**25.50**	**15**		P		**P**	**12 59 59.3**	**+0.6**
JMN					IAmb	IAmb	IAmb	13 00 28.1	
	comp=Z,51nm,1.4s								
PHRA	**Phrae**	**26.75**	**293**		P		**P**	**13 00 10.1**	**-0.1**
PSI	**Prapat**	**27.74**	**259**		P		**P**	**13 00 19.8**	**+0.6**
	comp=Z,15nm,0.7s,baz=90,slow=5.6,SNR=10								
	comp=Z,15nm,0.7s								
RPSI	**Rantau Prapat**	**27.76**	**258**		P		**P**	**13 00 19.9**	**+0.6**
RPSI					IAmb	IAmb	IAmb	13 00 20.9	
	comp=Z,22nm,0.9s								
CM31	**Chiang Mai Arr**	**27.91**	**292**		P		**P**	**13 00 21.1**	**+0.5**
CM31					IAmb	IAmb	IAmb	13 00 23.1	
	comp=Z,16nm,1.2s								
CMAR	**Chiang Mai Arr**	**27.91**	**292**		P		**P**	**13 00 21.8**	**+1.2**
	comp=Z,4.9nm,1.0s,baz=109,slow=7.0,SNR=25								
CMAR					PcP		**PcP**	**13 03 34.8**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=98,slow=0.7,SNR=8.8								
	comp=Z,4.9nm,1.0s								
CMAR	**Chiang Mai Arr**	**27.91**	**292**		P		**P**	**13 00 21.3**	**+0.7**
INU	**Inuyama**	**27.93**	**19**		P		**P**	**13 00 20.1**	**-0.4**
INU					IAmb	IAmb	IAmb	13 00 21.3	
	comp=Z,12nm,0.8s								
CHTO	**Chiang Mai**	**28.01**	**293**		P		**P**	**13 00 21.1**	**-0.3**
CHTO					IAmb	IAmb	IAmb	13 00 23.9	
	comp=Z,13nm,1.5s								
KSRS	**Korea Array**	**28.23**	**3**		P		**P**	**13 00 23.2**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=180,slow=9.9,SNR=6.8								
	comp=Z,2.3nm,0.8s								
COEN	**Coen**	**28.53**	**143**		P		**P**	**13 00 26.0**	**-0.1**
MJAR	**Matsushiro Arr**	**29.41**	**20**		P		**P**	**13 00 32.5**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=174,slow=13,SNR=4.0								
	comp=Z,1.5nm,0.6s								
WB0	**Warramunga Arr**	**29.87**	**164**		P		**P**	**13 00 36.4**	**-1.5**
WRAB	**Tennant Creek**	**30.02**	**164**		P		**P**	**13 00 37.9**	**-1.3**
WRA	**Warramunga Arr**	**30.02**	**164**		P		**P**	**13 00 38.1**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=349,slow=9.7,SNR=33								
WRA					PcP		**PcP**	**13 03 38.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=341,slow=3.1,SNR=5.5								
	comp=Z,1.4nm,0.7s								
WRA	**Warramunga Arr**	**30.02**	**164**		P		**P**	**13 00 37.7**	**-1.5**
WB2	**Warramunga Arr**	**30.02**	**164**		P		**P**	**13 00 37.8**	**-1.5**
WR0	**Warramunga Arr**	**30.09**	**164**		P		**P**	**13 00 38.8**	**-1.1**
MBWA	**Marble Bar**	**30.76**	**192**		P		**P**	**13 00 46.1**	**+0.5**
MBWA					IAmb	IAmb	IAmb	13 01 01.2	
	comp=Z,13nm,1.1s								

Code	Station Name								
PSA00	**Pilbara Seismi**	**31.14**	**191**		P		**P**	**13 00 48.6**	**-0.4**
PSA00					IAmb	IAmb	IAmb	13 00 52.1	
	comp=Z,12nm,1.0s								
AS31	**Alice Springs**	**33.49**	**167**		P		**P**	**13 01 09.2**	**-0.5**
ASAR	**Alice Springs**	**33.49**	**167**		P		**P**	**13 01 09.2**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=352,slow=7.0,SNR=80								
ASAR					PcP		**PcP**	**13 03 48.5**	**0.0**
	comp=Z,1.1nm,0.7s,baz=351,slow=1.9,SNR=9.2								
ASAR					S		**S**	**13 06 19.3**	**-4.6**
	comp=Z,0.6nm,0.8s,baz=354,slow=21,SNR=4.7								
ASAR					ScP		**ScP**	**13 07 22.3**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=330,slow=2.1,SNR=4.6								
	comp=Z,1.5nm,0.4s								
ASAR	**Alice Springs**	**33.49**	**167**		P		**P**	**13 01 09.4**	**-0.3**
USA0B	**Ussuriysk Arra**	**35.30**	**7**		P		**P**	**13 01 26.1**	**+1.1**
USA0B					IAmb	IAmb	IAmb	13 01 26.6	
	comp=Z,13nm,0.7s								
USRK	**Ussuriysk Ar.**	**35.30**	**7**		P		**P**	**13 01 25.2**	**+0.3**
	comp=Z,14nm,0.7s,baz=193,slow=8.4,SNR=27								
	comp=Z,14nm,0.7s								
USRK	**Ussuriysk Ar.**	**35.30**	**7**		P		**P**	**13 01 26.0**	**+1.0**
SHL	**Shillong**	**36.36**	**301**		P		**P**	**13 01 34.5**	**-0.1**
JKA	**Kamikawa-asahi**	**37.68**	**20**		P		**P**	**13 01 46.3**	**+1.1**
GTA	**Gaotai**	**38.21**	**326**		*eP*		**P**	**13 01 50.5**	**+0.6**
GTA					sP		sP	13 02 20.8	-5.1
GTA					pmax		pmax		
	comp=Z,3.0nm,1.1s								
GOMU	**GeErMu**	**39.16**	**318**		P		**P**	**13 02 02.0**	**+3.8**
GOMU					pmax		pmax		
	comp=Z,23nm,0.6s								
GOMU					pmax		pmax		
	comp=Z,260nm,5.2s								
MORW	**Morawa**	**39.21**	**194**		P		**P**	**13 01 57.5**	**-0.6**
MORW					IAmb	IAmb	IAmb	13 02 39.2	
	comp=Z,25nm,1.4s								
FORT	**Forrest**	**39.74**	**177**		P		**P**	**13 02 02.6**	**0.0**
KLR	**Kul'dur**	**40.23**	**6**		P		**P**	**13 02 06.8**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=193,slow=6.8,SNR=22								
KLR					PcP		**PcP**	**13 04 08.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=118,slow=1.7,SNR=3.6								
	comp=Z,3.9nm,0.5s								
H11S3	**WAKE ISLAND Hy**	**40.41**	**72**		T		T	13 45 17.1	
	baz=262,slow=70,SNR=54								
H11S1	**WAKE ISLAND Hy**	**40.43**	**72**		T		T	13 45 21.2	
	baz=262,slow=70,SNR=39								
H11S2	**WAKE ISLAND Hy**	**40.43**	**72**		T		T	13 45 26.7	
	baz=262,slow=70,SNR=59								
TAPN	**Taplejung**	**40.48**	**302**		*eP*		**P**	**13 02 09.6**	**+0.4**
	comp=Z,12nm,0.5s								
ODAN	**Odare**	**40.59**	**301**		*eP*		**P**	**13 02 10.5**	**+0.4**
	comp=Z,6.6nm,0.6s		

comp=Z,4.2nm,0.5s
N31M Braeburn, Yuko 85.90 28 P P 13 07 10.0 +1.8
BRTR Keskin Array B 86.11 309 P P 13 07 08.2 -1.7
comp=Z,0.6nm,0.6s,baz=95,slow=3.1,SNR=3.6
comp=Z,0.6nm,0.6s
FIA1 FINESS Array S 86.79 332 P P 13 07 11.0 -1.5
FINES FINESS Array B 86.79 332 P P 13 07 11.6 -1.0
comp=Z,4.2nm,0.4s,baz=76,slow=4.6,SNR=59
comp=Z,4.2nm,0.4s
FINES FINESS Array B 86.79 332 P P 13 07 11.4 -1.1
FARO Faro, Yukon 86.86 27 P P 13 07 13.9 +1.0
AKASG Malin Array Be 87.32 321 P P 13 07 14.0 -1.3
comp=Z,0.6nm,0.4s,baz=62,slow=4.8,SNR=5.4
comp=Z,0.6nm,0.4s
VNDA Vanda 88.84 173 P P 13 07 22.2 +0.4
comp=Z,5.3nm,0.5s,baz=318,slow=6.4,SNR=58
comp=Z,5.3nm,0.5s
VNDA Vanda 88.84 173 P P 13 07 22.3 +0.4
VNDA IAmb IAmb 13 07 23.0
comp=Z,5.4nm,0.6s
SBA Scott Base 89.75 172 P P 13 07 26.6 +0.5
SBA IAmb IAmb 13 07 28.1
comp=Z,2.5nm,0.8s
NOA NORSAR Array B 93.69 334 P P 13 07 43.1 -1.7
comp=Z,0.6nm,0.6s,baz=76,slow=7.7,SNR=3.8
comp=Z,0.6nm,0.6s
QSPA South Pole Qui 99.02 180 P Pdif 13 08 09.4 +0.5
comp=Z,0.9nm,0.6s,baz=208,slow=0.6,SNR=12
comp=Z,0.9nm,0.6s
QSPA South Pole Qui 99.02 180 P Pdif 13 08 08.3 -0.6
QSPA IAmb IAmb 13 08 13.6
comp=Z,4.2nm,1.4s
TXAR Lajitas Array 118.69 49 PKP PKiKP 13 13 17.4 +0.5
comp=Z,0.4nm,0.6s,baz=44,slow=2.7,SNR=3.6
PLCA Paso Flores 145.24 158 PKPbc PKPab 13 14 06.4 +0.4
comp=Z,7.4nm,0.9s,baz=219,slow=4.9,SNR=14
PLCA pPKPbc pPKPab 13 14 32.8 -1.1
comp=Z,3.5nm,0.8s,baz=232,slow=4.6,SNR=3.8

---

*WEL **28** 13:00:00,42.˚08S×173.˚77E,h8km,ML4.5,Mw4.2, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}-0.72; $M_{\theta\theta}$1.65; $M_{\phi\phi}$-0.93; $M_{r\theta}$0.80; $M_{\theta\phi}$-2.18; $M_{\phi r}$0.26; Fault plane solution: M_o2.69000×10^{15} NP1: ϕ_s164.00000°,δ69.00000°,λ-9.00000°. NP2:ϕ_s257.00000°, δ82.00000°,λ-159.00000°. Principal axes: T 298.0000, Plg9.0000°, Azm29.0000°; N -240.6200, Plg67.0000°, Azm276.0000°; P -57.3800, Plg21.0000°, Azm122.0000°;*
*WEL **28** 13:00:49.9±0.3,42.˚S±2.˚×17.˚4E±.˚,h5km,M4.4/40, ML4.7/19,MLv4.4/40 Error ellipse: s-maj=0.0km s-min=0.0km az=127.4*
*NEIC **28** 13:00:49.3,42.˚14S×173.˚84E,h8km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.39; $M_{\theta\theta}$0.98; $M_{\phi\phi}$-0.59; $M_{r\theta}$1.04; $M_{\theta\phi}$-2.31; $M_{\phi r}$0.71; Fault plane solution: M_o2.77000×10^{15} NP1:ϕ_s263.23000°, δ78.16000°,λ-154.57000°. NP2:ϕ_s167.66000°, δ65.14000°,λ-13.07000°. Principal axes: T 2.7053, Plg9.0000°, Azm33.0000°; N 0.1229, Plg62.0000°, Azm287.0000°; P -2.8282, Plg26.0000°, Azm128.0000°;*
*NEIC **28** 13:00:49.2±1.8,42.˚14S±0.˚03×173.˚85E±0.˚04,h14km±4km, mb4.2/13,Mwr4.2/37 Error ellipse: s-maj=5.1km s-min=3.3km az=117.0*

ISC 28 13:00:49.2±1.0,42.˚13S±0.˚03×173.˚87E±0.˚03,h17km±7km, n164,σ1§54/168,mb4.2/7,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHZ	**Kahutara**	**0.37**	**220**			**Pg**	**13 00 57.3**	**+0.4**
KHZ	**Kahutara**	**0.37**	**220**	P		**Pg**	**13 00 57.4**	**+0.6**
KHZ				S		**Sg**	**13 01 03.3**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.42**	**1**			**Pg**	**13 00 57.5**	**-0.1**
BSWZ				Sg		**Sg**	**13 01 02.4**	**-1.0**
BSWZ	**Blackbirch Sta**	**0.42**	**1**	P		**Pg**	**13 00 57.7**	**+0.1**
BSWZ				S		**Sb**	**13 01 03.9**	**-0.3**
CMWZ	**Cape Campbell**	**0.46**	**34**	P		**Pb**	**13 01 00.2**	**+1.3**
TUWZ	**Tuamarina**	**0.70**	**5**			**Pg**	**13 01 03.0**	**0.0**
TUWZ	**Tuamarina**	**0.70**	**5**	P		**Pb**	**13 01 03.2**	**+0.2**
TUWZ				S		**Sb**	**13 01 13.1**	**+0.7**
THZ	**Tophouse**	**0.81**	**297**	Sg		**Sb**	**13 01 13.6**	**-1.8**
THZ	**Tophouse**	**0.81**	**297**	P		**Pg**	**13 01 03.9**	**-1.0**
THZ				S		**Sb**	**13 01 13.8**	**-1.7**
TCW	**Tory Channel**	**0.97**	**19**			**Pg**	**13 01 07.8**	**-0.2**
TCW	**Tory Channel**	**0.97**	**19**	P		**Pg**	**13 01 07.9**	**0.0**
NNZ	**Nelson**	**0.98**	**338**	P		**Pg**	**13 01 07.3**	**-0.9**
GVZ	**Greta Valley S**	**1.04**	**216**			**Pg**	**13 01 09.8**	**+0.6**
GVZ	**Greta Valley S**	**1.04**	**216**	P		**Pb**	**13 01 10.0**	**+1.3**
WEL	**Wellington**	**1.08**	**39**	P		**Pn**	**13 01 11.0**	**+1.5**
MRNZ	**Materiki Terra**	**1.11**	**311**			**Pg**	**13 01 09.3**	**-1.3**
MRNZ	**Materiki Terra**	**1.11**	**311**	P		**Pb**	**13 01 09.4**	**-0.5**
PLWZ	**Palliser**	**1.18**	**62**			**Pn**	**13 01 11.7**	**+0.7**
PLWZ	**Palliser**	**1.18**	**62**	P		**Pn**	**13 01 11.9**	**+1.0**
MSWZ	**Moikau Station**	**1.26**	**56**			**Pn**	**13 01 12.3**	**+0.3**
MSWZ	**Moikau Station**	**1.26**	**56**	P		**Pn**	**13 01 13.1**	**+1.1**
TKNZ	**Takaka Hill**	**1.29**	**328**			**Pb**	**13 01 12.4**	**-0.6**
TKNZ	**Takaka Hill**	**1.29**	**328**	P		**Pb**	**13 01 12.6**	**-0.4**
DUWZ	**D'Urville Isla**	**1.33**	**2**	P		**Pn**	**13 01 13.6**	**+0.6**
LTZ	**Lake Taylor**	**1.35**	**241**	P		**Pn**	**13 01 13.9**	**+0.6**
CAW	**Cannon Point**	**1.36**	**42**	P		**Pn**	**13 01 14.7**	**+1.2**
AMCZ	**Amberley**	**1.38**	**220**	P		**Pb**	**13 01 14.3**	**+0.6**
PAWZ	**Paruwai Farm**	**1.39**	**58**	P		**Pn**	**13 01 14.6**	**+0.8**
KIW	**Kapiti Island**	**1.49**	**32**	P		**Pn**	**13 01 16.7**	**+1.5**
TRWZ	**Traveller**	**1.55**	**62**	P		**Pn**	**13 01 16.6**	**+0.6**
MTW	**Mount Morrison**	**1.56**	**52**	P		**Pn**	**13 01 16.8**	**+0.6**
DSZ	**Denniston Nort**	**1.59**	**283**	Pn		**Pb**	**13 01 17.4**	**-0.6**
DSZ	**Denniston Nort**	**1.59**	**283**	P		**Pg**	**13 01 18.3**	**-1.3**
OGWZ	**Otaki Gorge**	**1.64**	**37**	P		**Pn**	**13 01 18.5**	**+1.2**
QRZ	**Quartz Range**	**1.65**	**322**			**Pb**	**13 01 18.3**	**-0.8**
QRZ	**Quartz Range**	**1.65**	**322**	P		**Pb**	**13 01 18.5**	**-0.5**
OKCZ	**Okains Bay**	**1.70**	**200**	P		**Pn**	**13 01 18.5**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.75**	**46**	P		**Pn**	**13 01 19.4**	**+0.6**
OXZ	**Oxford**	**1.80**	**228**	P		**Pn**	**13 01 19.3**	**-0.1**
MQZ	**McQueen's Vall**	**1.81**	**209**	Pn		**Pn**	**13 01 18.9**	**-0.5**
MQZ	**McQueen's Vall**	**1.81**	**209**	P		**Pn**	**13 01 19.0**	**-0.5**
TMWZ	**Te Maipa**	**1.83**	**57**	P		**Pn**	**13 01 20.3**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.88**	**202**	P		**Pn**	**13 01 20.8**	**+0.3**
INZ	**Inchbonnie**	**1.89**	**251**	Pn		**Pn**	**13 01 21.3**	**+0.7**
INZ	**Inchbonnie**	**1.89**	**251**	P		**Pn**	**13 01 21.6**	**+0.9**
MRZ	**Mangatainoka R**	**1.96**	**42**	P		**Pn**	**13 01 22.3**	**+0.8**
TIWZ	**Tintock**	**2.04**	**49**	P		**Pn**	**13 01 23.1**	**+0.4**
RACZ	**Rakaia**	**2.04**	**218**	P		**Pn**	**13 01 22.4**	**-0.3**
MHCZ	**Mount Hutt**	**2.19**	**230**	P		**Pn**	**13 01 24.6**	**-0.3**
OHWZ	**Ohakea**	**2.21**	**30**	P		**Pn**	**13 01 27.7**	**+2.5**
PRWZ	**Pori Road**	**2.23**	**46**	P		**Pn**	**13 01 25.8**	**+0.4**
POWZ	**Post Office Ro**	**2.25**	**40**	P		**Pn**	**13 01 26.5**	**+0.8**
WACZ	**Wakanui South**	**2.34**	**219**	P		**Pn**	**13 01 26.5**	**-0.3**
WVZ	**Waitaha Valley**	**2.50**	**247**	P		**Pn**	**13 01 29.9**	**+0.9**
WAZ	**Wanganui**	**2.52**	**20**	P		**Pn**	**13 01 32.5**	**+3.1**
DVHZ	**Dannevirke**	**2.52**	**44**	P		**Pn**	**13 01 29.3**	**-0.1**
ANWZ	**Angora Road**	**2.58**	**50**	P		**Pn**	**13 01 30.4**	**+0.3**
RPZ	**Rata Peaks**	**2.60**	**232**	Pn		**Pn**	**13 01 30.3**	**-0.2**
RPZ	**Rata Peaks**	**2.60**	**232**	P		**Pn**	**13 01 30.2**	**-0.2**
TSZ	**Takapari Road**	**2.61**	**38**	P		**Pn**	**13 01 31.0**	**+0.4**
ARCZ	**Arundel**	**2.68**	**226**	P		**Pn**	**13 01 31.1**	**-0.5**
LREZ	**Lake Rotokare**	**2.70**	**9**	P		**Pn**	**13 01 36.0**	**-1.1**
NMEZ	**Namu Road**	**2.72**	**0**	P		**Pb**	**13 01 36.5**	**-0.8**
PNHZ	**Pukenui**	**2.83**	**39**	P		**Pn**	**13 01 32.3**	**-1.4**
KHEZ	**Kahui Hut**	**2.84**	**2**	P		**Pb**	**13 01 38.0**	**-1.5**
WPHZ	**Waipukurau**	**2.84**	**44**	P		**Pn**	**13 01 33.6**	**-0.1**
NBEZ	**Newall Road No**	**2.86**	**0**	P		**Pb**	**13 01 37.9**	**-1.9**
GCSZ	**Gaunt Creek Bo**	**2.86**	**244**	P		**Pn**	**13 01 35.1**	**+1.0**
NEZ	**North Egmont**	**2.86**	**4**	P		**Pb**	**13 01 38.2**	**-1.7**
PKE	**Pukeiti**	**2.94**	**2**	P		**Pb**	**13 01 39.0**	**-2.0**
DREZ	**Durham Road**	**2.95**	**5**	P		**Pb**	**13 01 39.2**	**-2.1**
MTVZ	**Mangateitei**	**3.00**	**24**	P		**Pn**	**13 01 38.8**	**+2.7**
PKVZ	**Pokaka**	**3.06**	**22**	P		**Pn**	**13 01 39.1**	**+2.3**
TMZ	**Timaru**	**3.07**	**222**	P		**Pn**	**13 01 36.5**	**-0.5**
MHEZ	**Mangahewa**	**3.07**	**7**	P		**Pb**	**13 01 42.0**	**-1.4**
MOVZ	**Moawhango**	**3.08**	**28**	P		**Pn**	**13 01 38.2**	**+1.1**
PXZ	**Pawanui**	**3.09**	**48**	P		**Pn**	**13 01 36.1**	**-1.1**
WNVZ	**Wahianoa**	**3.10**	**26**	P		**Pn**	**13 01 39.4**	**+2.0**
TRVZ	**Turoa**	**3.11**	**25**	P		**Pn**	**13 01 39.8**	**+2.1**
BHHZ	**Black Hill Sta**	**3.12**	**33**	P		**Pn**	**13 01 38.6**	**+0.9**
DRZ	**Dome Shelter**	**3.13**	**25**	P		**Pb**	**13 01 42.7**	**-1.9**
WHVZ	**Whangaehu Hut**	**3.13**	**25**	P		**Pn**	**13 01 40.3**	**+2.3**
FWVZ	**Far West T-bar**	**3.15**	**25**	P		**Pn**	**13 01 40.6**	**+2.4**
TUVZ	**Tukino**	**3.17**	**26**	P		**Pn**	**13 01 40.3**	**+1.8**
NGZ	**Ngauruhoe**	**3.23**	**25**	P		**Pn**	**13 01 41.3**	**+1.9**
SNVZ	**South Ngauruho**	**3.24**	**25**	P		**Pn**	**13 01 41.7**	**+2.3**
KAHZ	**Kahuranaki**	**3.26**	**45**	P		**Pn**	**13 01 38.9**	**-0.7**
OTVZ	**Oturere**	**3.27**	**25**	P		**Pb**	**13 01 45.3**	**-1.5**
NNVZ	**North Ngauruho**	**3.28**	**25**	P		**Pn**	**13 01 42.0**	**+2.0**
TWVZ	**Taurewa**	**3.28**	**22**	P		**Pn**	**13 01 41.9**	**+1.9**
WTVZ	**West Tongariro**	**3.29**	**24**	P		**Pn**	**13 01 41.9**	**+1.8**
FOZ	**Fox Glacier**	**3.29**	**243**			**Pn**	**13 01 40.9**	**+1.0**
FOZ	**Fox Glacier**	**3.29**	**243**	P		**Pn**	**13 01 41.0**	**+1.1**
ETVZ	**East Tongariro**	**3.31**	**26**	P		**Pn**	**13 01 42.2**	**+1.9**
KRVZ	**Karewarewa**	**3.32**	**25**	P		**Pb**	**13 01 48.1**	**+0.4**
TMVZ	**Te Maari**	**3.32**	**26**	P		**Pn**	**13 01 42.2**	**+1.7**
MCHZ	**McNeill Hill**	**3.44**	**40**	P		**Pn**	**13 01 41.8**	**-0.2**
LBZ	**Lake Benmore**	**3.51**	**229**			**Pn**	**13 01 42.9**	**-0.1**
LBZ	**Lake Benmore**	**3.51**	**229**	P		**Pn**	**13 01 42.7**	**-0.2**
BKZ	**Black Stump Fm**	**3.57**	**35**	P		**Pn**	**13 01 43.5**	**-0.4**
HIZ	**Hauiti**	**3.69**	**12**	P		**Pn**	**13 01 49.3**	**+3.8**
WATZ	**Wairara**	**3.71**	**23**	P		**Pn**	**13 01 50.9**	**+5.2**
ARHZ	**Aropaoanui**	**3.73**	**41**	P		**Pn**	**13 01 45.3**	**-0.6**
ODZ	**Otahua Downs**	**3.73**	**218**	Pn		**Pn**	**13 01 45.5**	**-0.5**
ODZ	**Otahua Downs**	**3.73**	**218**	P		**Pn**	**13 01 45.5**	**-0.5**
NMHZ	**Naumai**	**3.77**	**37**	P		**Pn**	**13 01 46.8**	**+0.2**
MRHZ	**Matea Rd**	**3.83**	**31**	P		**Pn**	**13 01 47.0**	**-0.3**
MTHZ	**Maungataniwha**	**3.98**	**36**	P		**Pn**	**13 01 49.5**	**0.0**
TLZ	**Tolley Road**	**4.01**	**19**	P		**Pn**	**13 01 54.5**	**+4.6**
ALRZ	**Allen Road**	**4.04**	**29**	P		**Pn**	**13 01 50.0**	**-0.2**
RAHZ	**Arahi**	**4.04**	**38**	P		**Pn**	**13 01 50.0**	**-0.3**
PRRZ	**Plateau Road**	**4.11**	**29**	P		**Pn**	**13 01 50.9**	**-0.3**
HRRZ	**Handcock Road**	**4.17**	**27**	P		**Pn**	**13 01 55.9**	**+3.8**
JCZ	**Jackson Bay**	**4.20**	**241**	P		**Pn**	**13 01 52.5**	**0.0**
SNGZ	**Shannon Statio**	**4.27**	**40**	P		**Pn**	**13 01 52.3**	**-1.2**
MUGZ	**Murupara**	**4.27**	**32**	P		**Pn**	**13 01 52.9**	**-0.6**
HHSZ	**Highcliff Hill**	**4.43**	**211**	P		**Pn**	**13 01 55.6**	**0.0**
WKZ	**Wanaka**	**4.44**	**231**	Pn		**Pn**	**13 01 55.2**	**-0.5**
WKZ	**Wanaka**	**4.44**	**231**	P		**Pn**	**13 01 55.3**	**-0.5**
OMRZ	**Omania**	**4.46**	**26**	P		**Pb**	**13 02 03.2**	**-3.8**
EAZ	**Earnscleugh**	**4.53**	**225**	P		**Pn**	**13 01 56.3**	**-0.7**
RAGZ	**Rawiri**	**4.53**	**38**	P		**Pn**	**13 01 55.8**	**-1.3**
RIGZ	**Rimuhau**	**4.53**	**42**	P		**Pn**	**13 01 56.1**	**-1.0**
TOZ	**Tahuroa Road**	**4.57**	**16**	P		**Pn**	**13 01 59.3**	**+1.8**
URZ	**Urewera**	**4.60**	**34**	P		**Pn**	**13 01 56.5**	**-1.4**
OPRZ	**Ohinepanea**	**4.75**	**27**	P		**Pn**	**13 01 59.8**	**-0.2**
TGRZ	**Tauranga**	**4.77**	**23**	P		**Pn**	**13 02 02.1**	**+1.9**
TKGZ	**Te Karaka**	**4.78**	**41**	P		**Pn**	**13 01 59.6**	**-0.8**
TUZ	**Tuapeka**	**4.89**	**217**	P		**Pn**	**13 02 01.7**	**-0.2**
RUGZ	**Raukumara Rang**	**5.09**	**36**	P		**Pn**	**13 02 03.3**	**-1.5**
AWAZ	**Awhitu Peninsu**	**5.10**	**7**	P		**Pn**	**13 02 07.6**	**+2.8**
MKAZ	**Moumakai**	**5.12**	**12**	P		**Pn**	**13 02 07.0**	**+2.0**
WTAZ	**Waiatarua**	**5.22**	**6**	P		**Pn**	**13 02 10.8**	**+4.3**
ETAZ	**East Tamaki Re**	**5.24**	**9**	P		**Pn**	**13 02 09.6**	**+2.9**
MLZ	**Mavora Lakes**	**5.27**	**230**	Pn		**Pn**	**13 02 06.2**	**-1.0**
MLZ	**Mavora Lakes**	**5.27**	**230**	P		**Pn**	**13 02 06.4**	**-0.7**
EPAZ	**Eden Park BICE**	**5.29**	**8**	P		**Pn**	**13 02 11.8**	**+4.3**
HAZ	**Te Kaha**	**5.31**	**36**	P		**Pn**	**13 02 06.6**	**-1.0**
RVAZ	**Riverhead Bore**	**5.38**	**6**	P		**Pn**	**13 02 12.2**	**+3.5**
MBAZ	**Motutapu North**	**5.42**	**9**	P		**Pn**	**13 02 12.6**	**+3.5**
WIAZ	**Waiheke Island**	**5.42**	**11**	P		**Pn**	**13 02 13.0**	**+3.8**
SYZ	**Scrubby Hill**	**5.56**	**216**	P		**Pn**	**13 02 11.2**	**+0.1**
KUZ	**Kuaotunu**	**5.57**	**16**	P		**Pn**	**13 02 13.0**	**+1.8**
ABAZ	**Army Bay**	**5.58**	**8**	P		**Pn**	**13 02 14.8**	**+3.5**
WHZ	**Wether Hill Ro**	**5.69**	**227**	Pn		**Pn**	**13 02 12.1**	**-0.8**
WHZ	**Wether Hill Ro**	**5.69**	**227**	P		**Pn**	**13 02 11.8**	**-1.1**
WCZ	**Waipu Caves**	**6.20**	**4**	P		**Pn**	**13 02 23.4**	**+3.5**
APZ	**The Paps**	**6.30**	**220**	P		**Pn**	**13 02 21.0**	**-0.4**
OUZ	**Omahuta**	**6.91**	**358**	P		**Pn**	**13 02 33.2**	**+3.6**
CTZ	**Chatham Island**	**7.17**	**106**	P		**Pn**	**13 02 33.0**	**-0.2**
ARMA	**Armidale**	**21.34**	**296**	P		**P**	**13 05 35.4**	**-0.1**
ARMA				IAmb	IAmb		13 06 09.8	
	comp=Z,26nm,1.5s							
EIDS	**Eidsvold**	**25.15**	**304**	P		**P**	**13 06 13.5**	**0.0**
EIDS				IAmb	IAmb		13 06 41.7	
	comp=Z,8.9nm,1.2s							
SBA	**Scott Base**	**35.95**	**183**	P		**P**	**13 07 47.8**	**-0.5**
AS31	**Alice Springs**	**37.86**	**286**	P		**P**	**13 08 07.0**	**+1.7**
ASAR	**Alice Springs**	**37.86**	**286**	P		**P**	**13 08 06.6**	**+1.4**
WR0	**Warramunga Arr**	**39.82**	**291**	P		**P**	**13 08 21.6**	**0.0**
WR0				IAmb	IAmb		13 08 57.2	
	comp=Z,3.1nm,1.1s							
WB2	**Warramunga Arr**	**39.96**	**291**	P		**P**	**13 08 23.0**	**+0.1**
WB2				IAmb	IAmb		13 08 27.8	
	comp=Z,6.6nm,1.2s							
WRAB	**Tennant Creek**	**39.97**	**291**	P		**P**	**13 08 22.9**	**0.0**
WRAB				IAmb	IAmb		13 08 44.7	
	comp=Z,6.3nm,1.4s							
WB0	**Warramunga Arr**	**40.05**	**291**	P		**P**	**13 08 23.4**	**-0.2**
WB0				IAmb	IAmb		13 08 33.8	
	comp=Z,2.4nm,0.8s							
NWAO	**Narrogin (SRO)**	**45.12**	**262**	P		**P**	**13 09 04.4**	**-0.3**
MORW	**Morawa**	**47.95**	**266**	P		**P**	**13 09 28.2**	**+1.3**
QSPA	**South Pole Qui**	**48.00**	**180**	P		**P**	**13 09 27.9**	**+0.9**
QSPA				IAmb	IAmb		13 09 49.4	
	comp=Z,7.1nm,1.4s							
PSA00	**Pilbara Seismi**	**49.38**	**277**	P		**P**	**13 09 36.9**	**-1.0**
MAW	**Mawson**	**58.99**	**205**	P		**P**	**13 10 46.9**	**-0.4**

---

*IDC **28** 13:26:21.4±2.1, 12.˚47N×142.˚32E, h154km±24km, mb3.1/5, mbtmp3.5/6, Error ellipse: s-maj=29.7km s-min=18.5km az=107.0*

ISC 28 13:26:20.9±1.0,12.˚5N±0.˚2×142.˚3E±0.˚1,h150km,n6, σ0§65/7,mb3.5/5,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**2.75**	**65**	P		**Pn**	**13 27 04.6**	**-0.6**
	46nm,0.6s,baz=47,slow=20,SNR=1.7							
GUMO				S		**Sn**	**13 27 40.2**	**+0.8**
	39nm,0.3s,baz=131,slow=23,SNR=9.6							
WRA	**Warramunga Arr**	**33.13**	**194**	P		**P**	**13 32 42.7**	**-0.3**
	0.3nm,0.7s,baz=18,slow=8.8,SNR=2.0							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**36.82**	**193**	P		**P**	**13 33 15.2**	**+0.5**
	0.2nm,0.6s,baz=17,slow=10,SNR=7.5							
	0.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**42.13**	**284**	P		**P**	**13 33 58.5**	**-0.2**
	0.7nm,0.5s,baz=90,slow=6.6,SNR=6.5							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**60.58**	**317**	P		**P**	**13 36 16.1**	**+0.5**
	0.6nm,0.5s,baz=102,slow=9.1,SNR=7.3							
	0.6nm,0.5s							
ILAR	**Eielson Array**	**70.67**	**25**	P		**P**	**13 37 19.7**	**-0.3**
	0.5nm,0.6s,baz=250,slow=5.9,SNR=11							
	0.5nm,0.6s							

WEL 28 13:27:52.2±0.3,41.˚5S±3.˚×17.˚4E±.˚,h21km±3km,M3.3/33, ML3.6/18,MLv3.3/33,Error ellipse: s-maj=0.0km s-min=0.0km az=158.6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TCW	**Tory Channel**	**0.19**	**336**	P		**Pb**	**13 27 59.7**	**+1.6**
TCW				S		**Sb**	**13 28 04.0**	**+1.8**
WEL	**Wellington**	**0.31**	**72**	P		**Pn**	**13 28 01.0**	**-0.5**
WEL				S		**Sn**	**13 28 06.7**	**-0.7**
TUWZ	**Tuamarina**	**0.33**	**261**	P		**Pn**	**13 28 00.7**	**-1.0**
TUWZ				S		**Sb**	**13 28 05.9**	**+1.7**
CMWZ	**Cape Campbell**	**0.39**	**198**	P		**Pn**	**13 28 02.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.50**	**228**	P		**Pn**	**13 28 03.2**	**-0.9**
CAW	**Cannon Point**	**0.59**	**62**	P		**Pn**	**13 28 05.0**	**-0.3**
KIW	**Kapiti Island**	**0.66**	**38**	P		**Pn**	**13 28 06.1**	**-0.1**
MSWZ	**Moikau Station**	**0.66**	**93**	P		**Pn**	**13 28 05.8**	**-0.5**
DUWZ	**D'Urville Isla**	**0.67**	**329**	P		**Pn**	**13 28 06.6**	**+0.1**
PLWZ	**Palliser**	**0.69**	**106**	P		**Pb**	**13 28 05.7**	**+0.2**
NNZ	**Nelson**	**0.77**	**282**	P		**Pn**	**13 28 07.6**	**-0.2**
PAWZ	**Paruwai Farm**	**0.79**	**90**	P		**Pn**	**13 28 07.3**	**+0.1**
OGWZ	**Otaki Gorge**	**0.82**	**47**	P		**Pn**	**13 28 08.6**	**+0.1**
MTW	**Mount Morrison**	**0.88**	**76**	P		**Pn**	**13 28 08.5**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.99**	**61**	P		**Pb**	**13 28 10.2**	**-0.3**
TRWZ	**Traveller**	**0.99**	**91**	P		**Pn**	**13 28 11.0**	**+0.2**
TKNZ	**Takaka Hill**	**1.12**	**288**	P		**Pb**	**13 28 13.0**	**+0.1**
MRZ	**Mangatainoka R**	**1.16**	**52**	P		**Pn**	**13 28 13.0**	**-0.2**
THZ	**Tophouse**	**1.17**	**250**	P		**Pn**	**13 28 13.2**	**-0.2**
TMWZ	**Te Maipa**	**1.17**	**77**	P		**Pn**	**13 28 12.5**	**-0.9**
KHZ	**Kahutara**	**1.21**	**211**	P		**Pn**	**13 28 13.0**	**-0.8**
MRNZ	**Materiki Terra**	**1.22**	**269**	P		**Pb**	**13 28 14.3**	**-0.2**
OHWZ	**Ohakea**	**1.37**	**32**	P		**Pb**	**13 28 17.6**	**+0.5**
POWZ	**Post Office Ro**	**1.45**	**47**	P		**Pn**	**13 28 17.0**	**-0.1**
PRWZ	**Pori Road**	**1.46**	**56**	P		**Pn**	**13 28 16.7**	**-0.6**
QRZ	**Quartz Range**	**1.50**	**291**	P		**Pb**	**13 28 19.2**	**-0.1**
BFZ	**Birch Farm**	**1.58**	**64**	P		**Pn**	**13 28 17.4**	**-1.5**
WAZ	**Wanganui**	**1.69**	**16**	P		**Pb**	**13 28 23.2**	**+0.7**
TSZ	**Takapari Road**	**1.79**	**43**	P		**Pn**	**13 28 21.2**	**-0.6**
GVZ	**Greta Valley S**	**1.87**	**212**	P		**Pn**	**13 28 21.6**	**-1.4**
LREZ	**Lake Rotokare**	**1.92**	**1**	P		**Pb**	**13 28 26.4**	**-0.1**
DSZ	**Denniston Nort**	**1.96**	**258**	P		**Pn**	**13 28 24.5**	**+0.2**
NMEZ	**Namu Road**	**2.00**	**349**	P		**Pb**	**13 28 28.1**	**+0.2**
PNHZ	**Pukenui**	**2.02**	**44**	P		**Pb**	**13 28 29.3**	**+1.2**
WPHZ	**Waipukurau**	**2.05**	**51**	P		**Pb**	**13 28 31.6**	**+3.0**
LTZ	**Lake Taylor**	**2.10**	**228**	P		**Pn**	**13 28 25.1**	**-1.0**
KHEZ	**Kahui Hut**	**2.10**	**352**	P		**Pb**	**13 28 29.1**	**-0.6**
NEZ	**North Egmont**	**2.12**	**354**	P		**Pb**	**13 28 29.6**	**-0.3**
NBEZ	**Newall Road No**	**2.15**	**349**	P		**Pn**	**13 28 27.7**	**+1.0**
MTVZ	**Mangateitei**	**2.16**	**23**	P		**Pb**	**13 28 30.9**	**+0.3**
DREZ	**Durham Road**	**2.19**	**356**	P		**Pb**	**13 28 29.9**	**-1.2**
PKE	**Pukeiti**	**2.21**	**352**	P		**Pb**	**13 28 30.3**	**-1.1**
PKVZ	**Pokaka**	**2.22**	**20**	P		**Pb**	**13 28 31.6**	**+0.1**
MOVZ	**Moawhango**	**2.23**	**28**	P		**Pn**	**13 28 31.7**	**-0.1**
WNVZ	**Wahianoa**	**2.25**	**25**	P		**Pn**	**13 28 32.2**	**-0.1**
TRVZ	**Turoa**	**2.26**	**24**	P		**Pn**	**13 28 31.6**	**-0.9**
BHHZ	**Black Hill Sta**	**2.29**	**35**	P		**Pn**	**13 28 28.9**	**+0.2**
WHVZ	**Whangaehu Hut**	**2.29**	**24**	P		**Pb**	**13 28 32.8**	**-0.2**
FWVZ	**Far West T-bar**	**2.31**	**23**	P		**Pb**	**13 28 33.0**	**-0.1**
TUVZ	**Tukino**	**2.33**	**25**	P		**Pb**	**13 28 32.6**	**-0.9**
NGZ	**Ngauruhoe**	**2.39**	**23**	P		**Pb**	**13 28 34.2**	**-0.4**
SNVZ	**South Ngauruho**	**2.40**	**24**	P		**Pb**	**13 28 34.4**	**-0.3**
OTVZ	**Oturere**	**2.42**	**24**	P		**Pb**	**13 28 38.8**	**+3.7**
NNVZ	**North Ngauruho

RLS				S	Sb	14 14 52.5	+0.8		
PVO	Paravola	0.86	64	P	Pg	14 14 43.0	-0.6		
PVO				S	Sb	14 14 55.4	+0.6		
	comp=E,145nm,0.3s								
PVO	Paravola	0.86	64	P	Pg	14 14 42.8	-0.8		
DRO	Drossia	0.97	107	P	Pb	14 14 45.7	+0.4		
DRO				S	Sn	14 14 59.6	+0.3		
	comp=E,135nm,0.4s								
DRO	Drossia	0.97	107	P	Pg	14 14 45.2	-0.5		
DRO				AML	AML	14 15 07.0			
	comp=N,252μm,0.4s								
DRO				AML	AML	14 15 07.5			
	comp=E,293μm,0.5s								
EFP	Efpalio	1.10	80	P	Pb	14 14 47.1	-0.3		
LAKA	Lakka	1.14	90	P	Pb	14 14 47.2	-0.9		
LAKA				S	Sn	14 15 04.0	+0.6		
ANX	Ano Chora	1.15	72	P	Pb	14 14 48.3	+0.1		
ANX				AML	AML	14 15 09.4			
	comp=E,196μm,0.6s								
ANX				AML	AML	14 15 09.7			
	comp=N,316μm,0.6s								
SERG	Sergoula	1.21	81	P	Pn	14 14 49.5	+0.4		
IGT	Igoumenitsa	1.30	353	P	Pn	14 14 50.0	-0.3		
MAKR	Makrakomi, Fth	1.47	58	P	Pn	14 14 53.4	+0.8		
KEK	Kerkira	1.58	339	P	Pn	14 14 54.0	-0.1		
AGG	Agios Georgios	1.61	60	P	Pb	14 14 56.2	+0.1		
THL	Klokotos Trika	1.75	41	P	Pn	14 14 57.7	+1.1		

UPA 28 14:30:32.6±2.1,5°05N×82°36W,h0km±15km,MW4.5, 2C-1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	Azuero	3.42	37⇑	eP	Pn	14 31 26.1	-1.1
AZU				eS	Sn	14 32 06.1	-2.5
CHIT3	Chitre	3.47	34	eP	Pn	14 31 27.0	-0.9
CHIT3				eS	Sn	14 32 07.9	-1.9
VTON	El Valle, Cocl	4.18	32	eP	Pn	14 31 37.9	+0.1
VTON				eS	Sn	14 32 26.9	-0.5
CHOR3	La Chorrera	4.61	34	eP	Pn	14 31 43.7	+0.2
CHOR3				eS	Sn	14 32 37.0	-0.8
BCIP	Isla Barro Col	4.79	31	eP	Pn	14 31 46.0	-0.1
BCIP				eS	Sn	14 32 41.9	-0.5
UPA	Univ. de Panam	4.81	36⇑	eP	Pn	14 31 45.9	-0.4
UPA				eS	Sn	14 32 41.9	-0.9
UPD2	Meteti	5.54	51⇓	eP	Pn	14 31 56.5	+0.1
UPD2				eS	Sn	14 33 00.3	-0.6
JTS	Las Juntas de	5.80	334	eP	Pn	14 31 58.9	-1.1
JTS				eS	Sn	14 33 07.2	-0.1
LCBC	Los crdobas,	7.05	57	eP	Pn	14 32 19.2	+2.0
LCBC				eS	Sn	14 33 36.6	-1.5
UREC	San Jos de Ur	7.30	68	eP	Pn	14 32 20.4	-0.2
UREC				eS	Sn	14 33 40.6	-3.6

IDC 28 14:47:31.9±564.0,49°17N×153°84E,h0km,Error ellipse: s-maj=220.7km s-min=103.4km az=29.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	PETROPAVLOVSK- 4.63		30	I		15 15 32.0	
	0.9nm,1.1s,baz=214,slow=336,SNR=18						
I30JP	ISUMI INFRASON 17.06		221	I		16 35 20.0	
	0.3nm,1.4s,baz=35,slow=326,SNR=3.0						
H11N2	WAKE ISLAND Hy 31.19		156	T	T	15 26 32.6	
	baz=343,slow=76,SNR=8.2						
H11N1	WAKE ISLAND Hy 31.20		156	T	T	15 26 33.8	
	baz=343,slow=76,SNR=15						
H11N3	WAKE ISLAND Hy 31.20		156	T	T	15 26 35.1	
	baz=343,slow=76,SNR=9.9						
H11S1	WAKE ISLAND Hy 32.30		157	T	T	15 28 01.3	
	baz=343,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy 32.31		157	T	T	15 28 02.3	
	baz=343,slow=76,SNR=17						
H11S2	WAKE ISLAND Hy 32.32		157	T	T	15 28 02.9	
	baz=343,slow=76,SNR=18						
I53US	FAIRBANKS INFR 33.95		41	I		18 16 10.0	
	baz=270,slow=322,SNR=2.4						

*TRN **28** 14:52:50.6,10°.94N×62°.40W,h111km,MD3.0*
*FUNV **28** 14:52:52.7,10°.90N×62°.37W,h100km,MW3.3*
ISC 28 14:52:49.5±1.8,10°.94N±0°.09×62°.41W±0°.06, h121km±16km,n8,σ1°40/14,1C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.85	252	eP	Pn	14 53 11.4	+1.2
CRUV				eS	Sn	14 53 24.4	-1.5
TRN	Trinidad (W)	1.03	106⇑	iP	Pn	14 53 12.7	+0.8
TRN				eS	Sn	14 53 27.6	-1.2
GRGR	Grenville	1.40	32	eP	Pn	14 53 16.3	+0.5
GRGR				eS	Sn	14 53 35.6	-0.2
GCMP	Grenada, Carri	1.81	32	eP	Pn	14 53 21.0	+0.3
GCMP				eS	Sn	14 53 43.9	-0.6
TOSP	Speyside	1.87	79	eP	Pn	14 53 22.2	+0.8
TOSP				eS	Sn	14 53 45.2	-0.6
PCRV	Puerto La Cruz	2.32	251	eP	Pn	14 53 29.0	+2.0
PCRV				eS	Sn	14 53 55.4	-0.4
CACV	CAICARA DEL OR	5.28	231	eP	Pn	14 54 02.1	-4.2
CACV				eS	Sn	14 54 54.6	-11
BAUV	El Baul	5.89	251	eP	Pn	14 54 15.1	+0.6
BAUV				eS	Sn	14 55 18.1	-2.7

WEL 28 15:46:42.9,42°S±23°×17°4E±1°5,h17km±11km,M2.5/13, ML2.4/13,MLv2.5/13,Error ellipse: s-maj=0.0km s-min=0.0km az=149.5,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.04	240	P	Pg	15 46 46.3	+0.3
BSWZ	Blackbirch Sta	0.29	272	P	Pb	15 46 49.5	-0.2
TUWZ	Tuamarina	0.38	321	P	Pb	15 46 51.5	+0.2
TCW	Tory Channel	0.52	1	P	Pb	15 46 53.7	+0.2
WEL	Wellington	0.58	41	P	Pb	15 46 55.2	+0.6
PLWZ	Palliser	0.76	78	P	Pg	15 46 58.0	+0.3
MSWZ	Moikau Station	0.80	68	P	Pn	15 46 59.0	-0.5
NNZ	Nelson	0.84	307	P	Pg	15 46 59.3	+0.1
CAW	Cannon Point	0.87	45	P	Pn	15 47 00.4	0.0
KHZ	Kahutara	0.87	218	P	Pb	15 46 45.1	-15
DUWZ	D'Urville Isla	0.96	344	P	Pn	15 47 01.7	+0.1
KIW	Kapiti Island	0.99	30	P	Pg	15 47 02.3	+0.2
THZ	Tophouse	1.02	268	P	Pb	15 46 55.0	-7.1
MTW	Mount Morrison	1.09	59	P	Pb	15 47 02.8	-0.6
OGWZ	Otaki Gorge	1.14	37	P	Pb	15 47 04.2	0.0
MRNZ	Matariki Terra	1.18	286	P	Pg	15 47 05.3	-0.3
TKNZ	Takaka Hill	1.20	305	P	Pg	15 47 05.7	-0.4
TMWZ	Te Maipa	1.37	64	P	Pn	15 47 06.3	-1.0
MRZ	Mangatainoka R	1.46	43	P	Pn	15 47 08.1	-0.4
GVZ	Greta Valley S	1.54	216	P	Pn	15 46 57.7	-12

*WEL **28** 15:47:00,42°.59S×173°.06E,h9km,ML4.2,Mw3.8, Moment Tensor Solution. s6 Moment tensor: Scale 10^14 Nm; Mrr=1.35; Mθθ5.62; Mϕϕ-4.26; Mrθ0.17; Mϕθ-2.20; Mϕr-1.41; Fault plane solution: M0.66000×10^14 NP1: ϕs58.00000°,δ74.00000°,λ-169.00000°. NP2: ϕs325.00000°,δ79.00000°,λ-16.00000°. Principal axes: T 61.1300, Plg3.0000°, Azm12.0000°; N -52.0200, Plg70.0000°, Azm111.0000°; P -9.1100, Plg19.0000°, Azm281.0000°;*
*NOU **28** 15:47:50.8,42°.79S×173°.16E,h4km,MLv4.4/10,South Island, New Zealand*
*WEL **28** 15:47:51.9±0.3,43°S±2°×17°3E±°,h5km,M3.9/35, ML4.2/14,MLv3.9/35,Error ellipse: s-maj=0.0km s-min=0.0km az=129.6*
ISC 28 15:47:52.0±0.9,42°69S±0°03×173°13E±0°03,h15km,n107, σ1°58/110,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.28	194	P	Pb	15 47 59.8	+0.9
GVZ				S	Sb	15 48 05.8	+2.3
KHZ	Kahutara	0.41	48	P	Pg	15 48 00.2	-0.1
KHZ	Kahutara	0.41	48	P	Pg	15 48 00.1	-0.1
KHZ				S	Sg	15 48 06.0	+0.1
AMCZ	Amberley	0.60	216	P	Pb	15 48 05.2	+1.0
LTZ	Lake Taylor	0.64	262	P	Pg	15 48 03.9	-0.7
LTZ				S	Sg	15 48 12.7	-0.3
THZ	Tophouse	0.94	350	P	Pb	15 48 08.1	-2.0
OXZ	Oxford	1.02	231	P	Pb	15 48 10.9	-0.5
OKCZ	Okains Bay	1.03	183	P	Pb	15 48 11.6	0.0
MQZ	McQueen's Vall	1.07	199	P	Pb	15 48 11.3	-1.0
BSWZ	Blackbirch Sta	1.12	30	P	Pb	15 48 12.4	-0.7
AKCZ	Akaroa Harbour	1.19	188	P	Pn	15 48 13.5	-0.7
CMWZ	Cape Campbell	1.24	41	P	Pn	15 48 15.1	+0.3
INZ	Inchbonnie	1.24	268	P	Pn	15 48 13.8	-1.0
RACZ	Rakaia	1.26	215	P	Pn	15 48 14.4	-0.7
MRNZ	Matariki Terra	1.32	348	P	Pn	15 48 14.7	-1.2
DSZ	Denniston Nort	1.36	313	P	Pn	15 48 15.5	-1.0
TUWZ	Tuamarina	1.40	26	P	Pn	15 48 16.6	-0.3
MHCZ	Mount Hutt	1.42	233	P	Pn	15 48 16.5	-0.8
NNZ	Nelson	1.48	7	P	Pn	15 48 17.4	-0.7
WAKZ	Wakanui South	1.56	216	P	Pn	15 48 18.6	-0.7
TKNZ	Takaka Hill	1.66	356	P	Pn	15 48 20.2	-0.4
TCW	Tory Channel	1.71	30	P	Pn	15 48 20.5	-0.8
WVZ	Waitaha Valley	1.80	257	P	Pn	15 48 22.0	-0.4
RPZ	Rata Peaks	1.83	235	P	Pn	15 48 22.2	-0.7
RPZ	Rata Peaks	1.83	235	P	Pn	15 48 22.2	-0.7
WEL	Wellington	1.86	42	P	Pn	15 48 22.6	-0.8
ARCZ	Arundel	1.90	228	P	Pn	15 48 23.0	-0.9
QRZ	Quartz Range	1.92	346	P	Pn	15 48 25.4	+1.3
QRZ	Quartz Range	1.92	346	P	Pn	15 48 23.7	-0.4
PLWZ	Palliser	1.94	55	P	Pn	15 48 23.1	-1.3
DUWZ	D'Urville Isla	1.98	18	P	Pn	15 48 25.2	+0.2
MSWZ	Moikau Station	2.03	52	P	Pn	15 48 24.4	-1.3
CAW	Cannon Point	2.14	43	P	Pn	15 48 26.2	-1.0
GCSZ	Gaunt Creek Bo	2.15	252	P	Pn	15 48 27.1	-0.2
PAWZ	Paruwai Farm	2.15	53	P	Pn	15 48 25.9	-1.5
KIW	Kapiti Island	2.26	37	P	Pn	15 48 28.2	-0.7
TMZ	Timaru	2.29	222	P	Pn	15 48 28.4	-0.8
TRWZ	Traveller	2.30	57	P	Pn	15 48 28.6	-0.6
MTW	Mount Morrison	2.34	50	P	Pn	15 48 28.3	-1.7
OGWZ	Otaki Gorge	2.42	40	P	Pn	15 48 29.9	-1.0
HOWZ	Holdsworth Sta	2.53	46	P	Pn	15 48 31.0	-1.5
FOZ	Fox Glacier	2.57	250	P	Pn	15 48 32.6	-0.4
TMWZ	Te Maipa	2.60	53	P	Pn	15 48 31.6	-1.9
LBZ	Lake Benmore	2.73	231	P	Pn	15 48 34.7	-0.6
MRZ	Mangatainoka R	2.74	43	P	Pn	15 48 33.7	-1.6
ODZ	Otahua Downs	2.96	217	P	Pn	15 48 37.7	-0.8
ODZ	Otahua Downs	2.96	217	P	Pn	15 48 37.5	-0.9
PRWZ	Pori Road	3.02	46	P	Pn	15 48 42.9	+3.7
POWZ	Post Office Ro	3.03	42	P	Pn	15 48 38.2	-1.2
WAZ	Wanganui	3.25	26	P	Pn	15 48 43.4	+0.9
NMEZ	Namu Road	3.32	10	P	Pn	15 48 46.7	+3.2
LREZ	Lake Rotokare	3.37	17	P	Pn	15 48 45.7	+1.6
TSZ	Takapari Road	3.38	40	P	Pn	15 48 42.5	-1.9
JCZ	Jackson Bay	3.45	245	P	Pn	15 48 44.6	-0.7
JCZ	Jackson Bay	3.45	245	P	Pn	15 48 44.7	-0.7
KHEZ	Kahui Hut	3.46	11	P	Pn	15 48 47.5	+2.1
KHEZ	Kahui Hut	3.46	11	P	Pn	15 48 47.6	+2.1
NBEZ	Newall Road No	3.46	10	P	Pn	15 48 48.5	+3.1
NEZ	North Egmont	3.50	12	P	Pn	15 48 48.6	+2.7
PKE	Pukeiti	3.55	11	P	Pn	15 48 48.2	+1.6
DREZ	Durham Road	3.59	13	P	Pn	15 48 50.0	+2.8
PNHZ	Pukenui	3.61	41	P	Pn	15 48 45.3	-2.2
PNHZ				P	Pb	15 48 48.7	-6.9
WKZ	Wanaka	3.66	233	P	Pn	15 48 46.7	-1.5
HHSZ	Highcliff Hill	3.67	209	P	Pn	15 48 45.1	-3.2
MHEZ	Mangahewa	3.72	14	P	Pn	15 48 52.6	+3.7
EAZ	Earnscleugh	3.75	226	P	Pn	15 48 48.2	-1.1
PKVZ	Pokaka	3.79	27	P	Pn	15 48 50.1	+0.2
MOVZ	Moawhango	3.83	32	P	Pn	15 48 54.0	+3.4
WNVZ	Wahianoa	3.84	30	P	Pn	15 48 50.6	-0.1
TRVZ	Turoa	3.85	29	P	Pn	15 48 50.6	-0.3
PXZ	Pawanui	3.87	48	P	Pn	15 48 54.6	+3.7
WHWZ	Whangaehu Hut	3.88	29	P	Pn	15 48 51.0	-0.3
FWVZ	Far West T-bar	3.89	29	P	Pn	15 48 56.0	+4.5
NGZ	Ngauruhoe	3.98	29	P	Pn	15 48 52.3	-0.3
TWVZ	Taurewa	4.02	27	P	Pn	15 48 52.7	-0.4
NNVZ	North Ngauruho	4.02	29	P	Pn	15 48 52.7	-0.5
WTVZ	West Tongariro	4.03	28	P	Pn	15 48 52.7	-0.6
KAHZ	Kahuranaki	4.04	46	P	Pn	15 48 53.4	0.0
ETVZ	East Tongariro	4.05	30	P	Pn	15 48 53.0	-0.6
TMVZ	Te Maari	4.07	30	P	Pn	15 48 53.4	-0.4
TUZ	Tuapeka	4.12	216	P	Pn	15 48 53.6	-0.8
BKZ	Black Stump Fm	4.35	37	P	Pn	15 48 55.1	-2.5
HIZ	Hauiti	4.38	18	P	Pn	15 48 58.8	+0.9
HIZ	Hauiti	4.38	18	P	Pn	15 48 58.8	+0.9
MLZ	Mavora Lakes	4.49	232	P	Pn	15 48 58.0	-1.6
ARHZ	Aropaoanui	4.50	42	P	Pn	15 49 03.6	+3.9
TLZ	Tolley Road	4.73	24	P	Pn	15 49 03.5	+0.7
MTHZ	Maungataniwha	4.76	38	P	Pn	15 49 01.2	-2.0
SYZ	Scrubby Hill	4.79	215	P	Pn	15 49 03.0	-0.5
SYZ	Scrubby Hill	4.79	215	P	Pn	15 49 02.7	-0.3
RAHZ	Arahi	4.82	40	P	Pn	15 49 07.3	+3.3
WHZ	Wether Hill Ro	4.91	228	P	Pn	15 49 03.7	-1.5
SNGZ	Shannon Statio	5.05	41	P	Pn	15 49 08.3	+1.1
TOZ	Tahuroa Road	5.28	21	P	Pn	15 49 09.6	-0.7
URZ	Urewera	5.37	36	P	Pn	15 49 12.1	+0.6
URZ	Urewera	5.37	36	P	Pn	15 49 09.8	-1.8
MWZ	Matawai	5.49	39	P	Pn	15 49 10.1	-3.2
TGRZ	Tauranga	5.50	27	P	Pn	15 49 11.9	-1.6
AWAZ	Awhitu Peninsu	5.74	12	P	Pn	15 49 17.2	+0.6
MKAZ	Moumakai	5.79	16	P	Pn	15 49 16.9	-0.5
RUGZ	Raukumara Rang	5.86	38	P	Pn	15 49 17.6	-0.9
ETAZ	East Tamaki Re	5.89	14	P	Pn	15 49 19.3	+0.5
MBAZ	Motutapu North	6.07	14	P	Pn	15 49 22.7	+1.6
WIAZ	Waiheke Island	6.09	15	P	Pn	15 49 21.8	+0.3
ABAZ	Army Bay	6.22	13	P	Pn	15 49 23.7	+0.4
KUZ	Kuaotunu	6.26	19	P	Pn	15 49 23.0	-0.9
OUZ	Omahuta	7.47	3	P	Pn	15 49 42.3	+1.9

IDC 28 15:57:17.4±2.0,11°80N×126°50E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=169.1km s-min=24.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.94	161	P	P	16 02 22.8	-0.6
	0.5nm,0.3s,baz=340,slow=11,SNR=35						
	0.5nm,0.3s						
ASAR	Alice Springs	26.32	165	P	P	16 02 55.7	+0.6
	0.1nm,0.5s,baz=340,slow=7.1,SNR=8.6						
	0.1nm,0.5s						
MKAR	Makanchi Array	59.01	326	P	P	16 07 18.9	-0.1
	0.2nm,0.4s,baz=124,slow=7.3,SNR=7.7						
	0.2nm,0.4s						

IDC 28 16:00:42.9±2.6,5°01S×152°01E,h74km±22km,mb3.2/3, mbtmp3.6/4,Error ellipse: s-maj=87.7km s-min=14.7km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.69	2	P	Pn	16 00 58.5	+0.4
	341nm,0.3s,baz=321,slow=1.5,SNR=306						
KRVT				S	Sn	16 01 10.8	+1.5
	898nm,0.3s,baz=219,slow=20,SNR=16						
KRVT				LR	LR	16 01 27.8	
	comp=Z,175nm,20.2s,baz=273,slow=65						
PMG	Port Moresby	6.50	227	P	Pn	16 02 16.5	+0.5
	11nm,0.4s,baz=42,slow=11,SNR=8.8						
PMG				S	Sn	16 03 30.1	+1.4
	7.1nm,0.3s,baz=162,slow=21,SNR=5.8						
WRA	Warramunga Arr	22.72	228	P	P	16 05 38.6	-0.3
	0.5nm,0.4s,baz=54,slow=10,SNR=9.7						
	0.5nm,0.4s						
ASAR	Alice Springs	25.47	221	P	P	16 06 04.5	+0.2
	0.4nm,0.6s,baz=57,slow=9.2,SNR=17						
	0.4nm,0.6s						
ILAR	Eielson Array	82.65	22	P	P	16 12 57.9	0.0
	0.9nm,1.1s,baz=245,slow=5.6,SNR=2.5						
	0.9nm,1.1s						

*NNC **28** 16:11:30.4±4.1,41°.40N×83°.80E,h17km±10km,mb3.7, mpv3.3,Error ellipse: s-maj=34.3km s-min=22.0km az=162.0*
*SOME **28** 16:11:53.4,41°.43N×81°.73E,h15km*
ISC 28 16:11:43.9±3.3,41°4N±0°.1×82°4E±0°.1,h10km,n17, σ1°77/24,4C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	2.80	310	eP	Pb	16 12 33.6	-0.4
	12nm,0.5s						
SHLS				eS	Sn	16 13 02.6	-0.2
	68nm,0.5s						
SHLS	Shalkode	2.80	310	Pg	Pb	16 12 33.6	-0.4
	12nm,0.5s						
SHLS				Lg	Lg	16 13 02.6	
	68nm,0.5s						
PDGK	Podgornoye	2.89	313	Pg	Pg	16 12 38.9	-0.5
	5.5nm,0.6s						
PDGK				Lg	Lg	16 13 11.8	
	19nm,0.8s						
PDGK	Podgornoye	2.89	313	⇑Pn	Pn	16 12 27.4	-2.7
	2.2nm,0.6s						
PDGK				⇓Pg	Pb	16 12 38.1	+2.4
	9.8nm,0.6s						
PDGK				⇓Sn	Sb	16 13 11.1	-0.1
	12nm,0.6s						
PDGK				⇓Lg	Lg	16 13 29.1	
	36nm,0.7s						
UZB	Uzunbulak	3.05	306	eP	Pg	16 12 42.1	-0.4
	3.2nm,0.3s						
UZB				eS	Sb	16 13 17.3	+1.5
	15nm,0.7s						
UZB	Uzunbulak	3.05	306	Pg	Pg	16 12 42.1	-0.4
	3.2nm,0.3s						
UZB				Lg	Lg	16 13 17.3	
	15nm,0.7s						
SATY	Saty	3.39	301	eP	Pg	16 12 48.7	-0.3
	4.9nm,0.3s						
SATY				eS	Sb	16 13 28.3	+2.7
	16nm,0.2s						
SATY	Saty	3.39	301	Pg	Pg	16 12 48.7	-0.3
	4.9nm,0.3s						
SATY				Lg	Lg	16 13 28.3	
	16nm,0.2s						
DJR	Jarkent	3.50	328	eP	Pg	16 12 52.0	+1.0
	5.1nm,0.5s						
DJR				eS	Sg	16 13 34.0	-2.4
	15nm,0.7s						
DJR	Jarkent	3.50	328	Pg	Pg	16 12 52.0	+1.0
	5.1nm,0.5s						
DJR				Lg	Lg	16 13 34.0	
	15nm,0.7s						
MDOK	Medeo	4.34	296	eP	Pb	16 13 03.0	+2.6
	2.1nm,0.4s						
MDOK				eS	Sb	16 13 53.5	+0.6
	7.2nm,0.6s						
MDOK	Medeo	4.34	296	Pg	Pb	16 13 03.0	+2.6
	2.1nm,0.4s						
MDOK				Pg	Pg	16 13 06.9	-0.2
	3.3nm,0.5s						
MDOK				Sn	Sb	16 13 51.7	-1.1
	6.7nm,0.6s						
MDOK				Lg	Lg	16 13 53.5	
	7.2nm,0.6s						
MDOK				⇓Lg	Lg	16 14 18.8	
	17nm,0.7s						
ARXS	Arharly	4.38	311	eP	Pb	16 13 04.5	+3.4
	3.1nm,0.6s						
ARXS				eS	Sb	16 13 55.5	+1.5
	3.7nm,0.6s						
ARXS	Arharly	4.38	311	Pg	Pb	16 13 03.4	+2.4
	4.4nm,0.7s						
ARXS				Lg	Lg	16 13 54.8	
	13nm,0.7s						
MK31	Makanchi Array	5.40	359	⇑Pn	Pn	16 12 51.1	-13
	0.5nm,0.5s,baz=175,slow=12,SNR=8.1						
MK31				Pg	Pb	16 13 09.3	-9.0
	0.1nm,0.2s,baz=157,slow=15,SNR=4.3						
MK31				⇑Lg	Lg	16 14 22.6	
	9.2nm,0.5s,baz=173,slow=28,SNR=4.1						
MAKZ	Makanchi	5.42	357	⇓Lg	Lg	16 14 26.0	
	13nm,0.8s						
KURK	Kurchatov	9.68	346	⇑Lg	Lg	16 16 46.4	
	6.6nm,0.8s						

*UCR **28** 16:13:49.9±1.5,10°.30N×86°.29W,h8km±9km,MW4.1*
*INET **28** 16:13:52.1±0.4,10°.35N×86°.22W,h15km±8km,ML3.7*
*IDC **28** 16:13:54.2±34.0,11°.75N×85°.30W,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=585.0km s-min=256.2km az=153.0*
ISC 28 16:13:49.9±1.6,10°31N±0°04×86°27W±0°05,h9km±10km, n52,σ1°28/69,mb3.6/3,21C,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	San Juanillo,	0.60	113⇑	eP	Pb	16 14 02.4	-0.2
SAJU				eS	Sb	16 14 10.8	-0.4
HZTE	Horizontes, Gu	0.78	59⇑	iP	Pb	16 14 05.7	+0.1
HZTE				eS	Sb	16 14 17.4	+1.2
DUNO	Dulce Nombre,	0.80	107⇑	eP	Pg	16 14 05.3	0.0
DUNO				eS	Sg	16 14 19.9	+0.2
ORTG	Ortega, Santa	0.80	86⇑	eP	Pg	16 14 05.5	+0.1
INDI	Punta indio, G	0.88	120	eP	Pg	16 14 06.4	-0.3
GBS3	Finca Las Img	0.93	60⇑	eP	Pg	16 14 07.6	-0.2
GBS3				eS	Sb	16 14 21.1	+0.4
LAPC	Finca la Perla	0.94	61⇑	iP	Pg	16 14 07.6	-0.4
LAPC				eS	Sb	16 14 21.4	+0.4
BUEV	Buena Vista	0.98	60⇑	iP	Pg	16 14 08.2	-0.6
BUEV				eS	Sg	16 14 22.3	+0.8
GPS3	Bodega del ICE	1.00	63⇑	iP	Pg	16 14 08.6	-0.5
GPS3				eS	Sb	16 14 23.6	+1.0
GB1A	Borinquen Arri	1.00	59⇑	eP	Pg	16 14 08.6	-0.5
GB1A				eS	Sb	16 14 23.0	+0.3
GPS1	Guardaparques	1.02	63⇑	iP	Pg	16 14 08.8	-0.7
POPE	POPE, Guanacas	1.02	104⇑	iP	Pg	16 14 08.6	-1.0
POPE				eS	Sg	16 14 21.2	-1.7
LIM1	Limonal	1.07	69	eP	Pg	16 14 09.7	-0.9
GUAB	Guayabo de Bag	1.10	69⇑	eP	Pb	16 14 10.1	-1.1
GUAB				eS	Sg	16 14 25.8	+0.4
COLC	Colonia	1.11	71⇑	eP	Pb	16 14 10.1	-1.2
MICM	Guayabo	1.12	70	eP	Pb	16 14 10.7	-0.9
MESS	Mesas	1.14	68⇑	iP	Pb	16 14 10.8	-1.1
MESS				eS	Sb	16 14 26.5	-0.4
CUI	Cuipilapa	1.14	72⇑	iP	Pb	16 14 10.8	-1.0
HORNC	Hornillas	1.15	69⇑	iP	Pb	16 14 10.8	-1.2
HORNC				eS	Sb	16 14 22.0	-5.0
VMAR	Armenia, Volca

*ISU **28** 16:17:51, 39.78N×68.16E, h17km*
ISC 28 16:17:52.3±0.9, **39.84N**±0.07×**67.42E**±0.09, **h10**km, **n7**, σ1**1**2/12, **2C, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRSA	**Karasay**	**0.37**	**42**	P	**Pg**	**16 17 58.5**	**-1.2**
KRSA				S	**Sg**	**16 18 05.8**	**+1.2**
PKMR	**Pachkamar**	**1.52**	**212**	P	**Pn**	**16 18 19.1**	**-0.5**
PKMR				S	**Sg**	**16 18 42.0**	**+0.8**
NZBK	**Nazarbek**	**1.89**	**43**	S	**Sg**	**16 18 53.5**	**+0.4**
ZRB	**Zarabog**	**1.95**	**207**	P	**Pn**	**16 18 26.0**	**+0.5**
ZRB				S	**Sb**	**16 18 52.7**	**+0.3**
CHRV	**Charvak**	**2.63**	**46**	P	**Pn**	**16 18 37.0**	**+2.1**
KK31	**Karatay Array**	**4.00**	**34**	Pn	**Pn**	**16 18 52.5**	**-1.2**
	0.1nm,0.2s,baz=19,slow=9.8,SNR=11						
KK31				⇑Pg	**Pb**	**16 19 02.1**	**-0.8**
	1.2nm,0.3s,baz=206,slow=18,SNR=20						
KK31				Lg	Lg	16 19 56.0	
	7.4nm,0.3s,baz=215,slow=28,SNR=9.8						
AB31	**Akbulak array**	**10.81**	**333**	Pn	**Pn**	**16 20 27.2**	**+0.2**
	0.1nm,0.3s,baz=166,slow=12,SNR=12						
AB31				⇑Sn	**Sn**	**16 22 28.9**	**+0.9**
	0.5nm,0.6s,baz=162,slow=26,SNR=2.6						

---

*LDG **28** 16:21:42.4±0.1, 42.94N×13.10E, h10km, Ml3.1/19, Error ellipse: s-maj=4.0km s-min=2.6km az=48.0*
*ROM **28** 16:21:42.1±0.0, 43.019N±0.003×13.073E±0.004, h10km, ML3.6/71, Error ellipse: s-maj=0.3km s-min=0.2km az=81.0*
*IDC **28** 16:21:43.8±1.8, 43.18N×13.19E, h0km, mb3.6/2, mbtmp3.7/5, ML3.4/3, MS3.3/2, Error ellipse: s-maj=43.1km s-min=16.8km az=85.0*
*PRU **28** 16:21:44.7±0.0, 43.15N×13.23E, h0km*
*BGR **28** 16:21:45.6±0.6, 43.09N×13.28E, h10km, ML3.6/5, Error ellipse: s-maj=12.2km s-min=10.0km az=171.0*
ISC 28 16:21:43.1±0.7, **43.01N**±0.01×**13.05E**±0.02, **h9**km±4km, **n197**, σ2**2**06/279, **50C-32D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.04**	**43**	P	**Pg**	**16 21 43.9**	**-1.0**
FDMO				AML	AML		
FDMO				AML	AML		
T1219	**Muccia, Frazio**	**0.06**	**326**	P	**Pg**	**16 21 44.6**	**-0.5**
T1219				S	**Sg**	**16 21 45.7**	**-0.8**
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
T1219				AML	AML		
CESI	**CESI - Serrava**	**0.11**	**268**	P	**Pg**	**16 21 45.7**	**-0.1**
CESI				S	**Sg**	**16 21 48.0**	**+0.4**
CESI				AML	AML		
	comp=E,72350µm,0.3s						
CESI				AML	AML		
T1216	**Preci, Frazion**	**0.12**	**191**	⇑P	**Pg**	**16 21 45.8**	**-0.1**
T1216				S	**Sg**	**16 21 48.4**	**+0.5**
T1216				AML	AML		
T1216				AML	AML		
T1256	**Bolognola (MC)**	**0.13**	**91**	⇑P	**Pg**	**16 21 45.4**	**-0.8**
T1256				S	**Sg**	**16 21 47.4**	**-0.8**
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
T1256				AML	AML		
CSP1	**Cessapalombo**	**0.14**	**53**	P	**Pg**	**16 21 45.6**	**-0.7**
CSP1				S	**Sg**	**16 21 47.5**	**-1.0**
CSP1				AML	AML		
CSP1				AML	AML		
MC2	**Monte Cornacci**	**0.14**	**133**	P	**Pg**	**16 21 46.0**	**-0.3**
MC2				S	**Sg**	**16 21 48.4**	**-0.2**
SEF1	**Sefro**	**0.16**	**331**	⇑P	**Pg**	**16 21 46.2**	**-0.3**
SEF1				S	**Sg**	**16 21 48.9**	**0.0**
SEF1				AML	AML		
	comp=E,82550µm,0.3s						
SEF1				AML	AML		
	comp=N,63200µm,1.0s						
NRCA	**Norcia**	**0.18**	**165**	⇓P	**Pg**	**16 21 46.8**	**-0.1**
NRCA				S	**Sg**	**16 21 50.0**	**+0.5**
NRCA				AML	AML		
	comp=E,87900µm,0.8s						
NRCA				AML	AML		
	comp=N,73900µm,0.1s						
NRCA				AML	AML		
	comp=E,87950µm,0.8s						
NRCA				AML	AML		
	comp=E,94050µm,0.8s						
NRCA				AML	AML		
	comp=N,78050µm,0.1s						
MDAR	**Monte D'Aria**	**0.20**	**20**	P	**Pg**	**16 21 46.5**	**-0.7**
MDAR				S	**Sg**	**16 21 49.6**	**-0.4**
MDAR				AML	AML		
	comp=E,52350µm,0.4s						
MDAR				AML	AML		
	comp=N,46500µm,0.3s						
MDAR				AML	AML		
	comp=E,52350µm,0.4s						
MDAR				AML	AML		
	comp=N,46450µm,0.3s						
MDAR				AML	AML		
	comp=E,52400µm,0.4s						
GUMA	**Gualdo di Mace**	**0.22**	**75**	⇑P	**Pg**	**16 21 47.1**	**-0.4**
GUMA				S	**Sg**	**16 21 50.7**	**+0.2**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
MMO1	**Montemonaco**	**0.23**	**118**	P	**Pg**	**16 21 47.2**	**-0.6**
MMO1				S	**Sg**	**16 21 50.8**	**-0.2**
SSM1	**San Severino M**	**0.24**	**23**	P	**Pg**	**16 21 47.3**	**-0.7**
SSM1				S	**Sg**	**16 21 51.0**	**-0.2**
T1215	**Vallo di Nera,**	**0.25**	**213**	⇑P	**Pg**	**16 21 48.2**	**+0.1**
T1215				S	**Sg**	**16 21 52.4**	**+1.0**
T1215				AML	AML		
	comp=N,15850µm,0.4s						
T1215				AML	AML		
	comp=N,15500µm,0.1s						
T1215				AML	AML		
	comp=E,17900µm,0.4s						
T1215				AML	AML		
	comp=N,15800µm,0.4s						
T1215				AML	AML		
	comp=N,15550µm,0.1s						
T1215				AML	AML		
	comp=E,18050µm,0.4s						
SNTG	**Esanatoglia**	**0.26**	**342**	⇑P	**Pg**	**16 21 48.0**	**-0.4**
SNTG				AML	AML		
	comp=N,11150µm,0.8s						
SNTG				AML	AML		
	comp=E,8700µm,1.1s						
SNTG				AML	AML		
	comp=N,11800µm,0.8s						
SNTG				AML	AML		
	comp=N,11850µm,0.8s						
SNTG				AML	AML		
	comp=E,8720µm,1.1s						
T1241	**Roccafluvione,**	**0.32**	**118**	⇑P	**Pg**	**16 21 48.8**	**-0.6**
T1241				S	**Sg**	**16 21 54.0**	**+0.3**
T1241				AML	AML		
	comp=N,17350µm,0.8s						
T1241				AML	AML		
	comp=E,16150µm,0.4s						
T1241				AML	AML		
	comp=E,16100µm,0.4s						
T1241				AML	AML		
	comp=N,17900µm,0.8s						
EL6	**Elcito**	**0.32**	**7**	⇑P	**Pg**	**16 21 48.8**	**-0.8**
MNTP	**Montappone**	**0.33**	**67**	P	**Pg**	**16 21 49.6**	**-0.1**
MNTP				AML	AML		
	comp=E,32100µm,1.1s						
MNTP				AML	AML		
	comp=N,19400µm,0.5s						
T1218	**Civita (PG)**	**0.34**	**172**	⇓P	**Pg**	**16 21 49.6**	**-0.3**
T1218				S	**Sg**	**16 21 55.0**	**+0.6**
T1218				AML	AML		
	comp=E,23600µm,0.5s						
T1218				AML	AML		
	comp=N,22750µm,1.5s						
T1218				AML	AML		
	comp=N,22800µm,1.5s						
T1218				AML	AML		
	comp=E,23600µm,0.5s						
T1218				AML	AML		
	comp=E,22550µm,0.5s						
ATCC	**AVT- Casa Cast**	**0.35**	**301**	⇑P	**Pg**	**16 21 49.9**	**-0.2**
ATCC				AML	AML		
	comp=N,32950µm,0.3s						
ATCC				AML	AML		
	comp=E,19250µm,0.3s						
FOSV	**Fossato di Vic**	**0.36**	**324**	⇑P	**Pg**	**16 21 49.7**	**-0.4**
FOSV				AML	AML		
	comp=E,6345µm,0.8s						
FOSV				AML	AML		
	comp=N,14300µm,0.3s						
CING	**Cingoli**	**0.38**	**16**	⇑P	**Pg**	**16 21 49.8**	**-0.8**
CING				AML	AML		
	comp=N,14000µm,0.1s						
CING				AML	AML		
	comp=E,11055µm,0.5s						
LNSS	**Leonessa**	**0.41**	**181**	P	**Pg**	**16 21 50.9**	**-0.2**
LNSS				S	**Sg**	**16 21 57.0**	**+0.6**
LNSS				AML	AML		
	comp=E,7000µm,0.6s						
LNSS				AML	AML		
	comp=N,19350µm,1.0s						
T1243	**Rocca Santa Ma**	**0.43**	**137**	P	**Pg**	**16 21 50.7**	**-0.8**
T1243				S	**Sg**	**16 21 57.0**	**-0.1**
SMA1	**SAN MARTINO**	**0.43**	**151**	⇓P	**Pg**	**16 21 51.0**	**-0.6**
SMA1				S	**Sg**	**16 21 57.9**	**+0.6**
SMA1				AML	AML		
	comp=N,9905µm,0.4s						
SMA1				AML	AML		
	comp=E,9425µm,0.5s						
MMUR	**Monte Murano**	**0.43**	**355**	⇑P	**Pg**	**16 21 51.1**	**-0.6**
MMUR				AML	AML		
	comp=E,14000µm,0.2s						
MMUR				AML	AML		
	comp=N,12700µm,0.2s						
MMUR				AML	AML		
	comp=N,12700µm,0.2s						
MMUR				AML	AML		
	comp=E,14000µm,0.2s						
MURB	**Monte Urbino**	**0.46**	**304**	⇑P	**Pg**	**16 21 51.9**	**-0.2**
MURB				S	**Sb**	**16 21 60.0**	**-0.6**
MURB				AML	AML		
	comp=E,24600µm,0.4s						
MURB				AML	AML		
	comp=N,16800µm,0.2s						
MURB				AML	AML		
	comp=N,18050µm,0.2s						
MURB				AML	AML		
	comp=E,24600µm,0.4s						
MURB				AML	AML		
	comp=N,16800µm,0.3s						
MURB				AML	AML		
	comp=E,26100µm,0.4s						
SSFR	**Montelago di S**	**0.47**	**335**	⇓P	**Pg**	**16 21 51.7**	**-0.6**
SSFR				S	**Sb**	**16 21 60.0**	**-0.8**
SSFR				AML	AML		
	comp=E,12485µm,1.1s						
SSFR				AML	AML		
	comp=N,12350µm,1.0s						
SSFR				AML	AML		
	comp=E,8975µm,0.5s						
SSFR				AML	AML		
	comp=N,13450µm,0.2s						
OFFI	**Offida**	**0.47**	**99**	⇑P	**Pg**	**16 21 52.4**	**+0.1**
OFFI				AML	AML		
	comp=N,20250µm,0.4s						
OFFI				AML	AML		
	comp=E,14100µm,0.5s						
ARRO	**Arrone**	**0.48**	**206**	P	**Pg**	**16 21 51.8**	**-0.6**
ARRO				AML	AML		
	comp=N,4725µm,1.4s						
ARRO				AML	AML		
	comp=E,7060µm,0.4s						
ARVD	**Arcevia**	**0.50**	**351**	⇑P	**Pg**	**16 21 52.1**	**-0.7**
ARVD				S	**Sb**	**16 22 01.0**	**-0.5**
ARVD				AML	AML		
	comp=E,5010µm,0.3s						
ARVD				AML	AML		
	comp=N,3065µm,0.6s						
ATFO	**Monte Foce - G**	**0.50**	**316**	⇑P	**Pg**	**16 21 52.5**	**-0.4**
ATFO				AML	AML		
	comp=N,4500µm,0.6s						
ATFO				AML	AML		
	comp=E,4500µm,1.6s						
RM33	**Pellescritta (**	**0.51**	**166**	⇓P	**Pg**	**16 21 52.4**	**-0.7**
RM33				S	**Sg**	**16 22 01.0**	**+1.1**
RM33				AML	AML		
	comp=E,4965µm,0.8s						
RM33				AML	AML		
	comp=N,5170µm,0.3s						
RM33				AML	AML		
	comp=E,4965µm,0.8s						
RM33				AML	AML		
	comp=N,5170µm,0.3s						
RM33				AML	AML		
	comp=N,5120µm,0.3s						
RM33				AML	AML		
	comp=E,4835µm,0.8s						
CESX	**Cesi**	**0.53**	**221**	⇑P	**Pg**	**16 21 53.0**	**-0.4**
CESX				S	**Sb**	**16 22 02.0**	**-0.4**
CESX				AML	AML		
	comp=E,13550µm,0.4s						
CESX				AML	AML		
	comp=N,14000µm,0.4s						
PP3	**Marolino**	**0.55**	**48**	⇓P	**Pg**	**16 21 53.9**	**+0.1**
PP3				AML	AML		
	comp=N,9610µm,1.0s						
PP3				AML	AML		
	comp=E,9255µm,1.1s						
PP3				AML	AML		
	comp=N,10270µm,1.0s						
PP3				AML	AML		
	comp=E,9295µm,1.1s						
TERO	**Teramo**	**0.56**	**133**	P	**Pg**	**16 21 53.0**	**-1.0**
TERO				S	**Sb**	**16 22 03.0**	**-0.3**
TERO				AML	AML		
	comp=E,5790µm,1.5s						
TERO				AML	AML		
	comp=N,5635µm,0.6s						
TERO				AML	AML		
	comp=N,5640µm,0.6s						
TERO				AML	AML		
	comp=N,5815µm,0.6s						
TERO				AML	AML		
	comp=E,5795µm,1.5s						
TERO				AML	AML		
	comp=E,5960µm,1.5s						
FRON	**Frontone**	**0.56**	**335**	⇑P	**Pg**	**16 21 53.2**	**-0.8**
FRON				AML	AML		
	comp=E,3280µm,0.8s						
FRON				AML	AML		
	comp=N,6075µm,0.4s						
T1247	**Pizzolo (AQ)**	**0.59**	**162**	⇓P	**Pg**	**16 21 54.1**	**-0.6**
T1247				S	**Sb**	**16 22 05.0**	**+0.7**
T1247				AML	AML		
	comp=N,5605µm,0.4s						
T1247				AML	AML		
	comp=E,5300µm,0.6s						
ATVO	**AVT- Monte Val**	**0.60**	**309**	⇑P	**Pg**	**16 21 54.1**	**-0.7**
ATVO				S	**Sb**	**16 22 05.0**	**+0.5**
ATVO				AML	AML		
	comp=E,3900µm,0.3s						
ATVO				AML	AML		
	comp=N,4670µm,0.4s						
COR1	**Corinaldo**	**0.62**	**357**	P	**Pg**	**16 21 55.2**	**0.0**
COR1				AML	AML		
	comp=E,9280µm,0.5s						
COR1				AML	AML		
	comp=N,7240µm,1.1s						
COR1				AML	AML		
	comp=N,7240µm,1.1s						
COR1				AML	AML		
	comp=E,9270µm,0.5s						
ATPI	**Pietralunga -**	**0.65**	**313**	⇑P	**Pg**	**16 21 55.0**	**-0.6**
ATPI				AML	AML		
	comp=E,2815µm,0.6s						
ATPI				AML	AML		
	comp=N,2610µm,0.7s						
PIEI	**Pieia**	**0.65**	**325**	⇓P	**Pg**	**16 21 54.9**	**-0.8**
PIEI				S	**Sb**	**16 22 06.0**	**+0.1**
PIEI				AML	AML		
	comp=N,2155µm,1.6s						
PIEI				AML	AML		
	comp=E,3325µm,0.3s						
MPAG	**Monte Paganucc**	**0.66**	**341**	⇓P	**Pg**	**16 21 55.2**	**-0.7**
MPAG				S	**Sb**	**16 22 07.0**	**+0.8**
MPAG				AML	AML		
	comp=N,3055µm,0.3s						
MPAG				AML	AML		
	comp=E,3270µm,1.1s						
MPAG				AML	AML		
	comp=E,3085µm,1.1s						
MPAG				AML	AML		
	comp=N,3400µm,0.4s						
ATMI	**Monte Miggiano**	**0.66**	**300**	⇑P	**Pg**	**16 21 56.3**	**+0.5**
ATMI				AML	AML		
	comp=E,7205µm,0.4s						
ATMI				AML	AML		
	comp=N,8720µm,0.6s						
TRTR	**Tortoreto Alta**	**0.67**	**107**	P	**Pg**	**16 21 56.2**	**+0.3**
TRTR				AML	AML		
	comp=N,14000µm,0.4s						
TRTR				AML	AML		
	comp=E,19150µm,1.0s						
AOI	**Ancona**	**0.68**	**36**	⇑P	**Pg**	**16 21 55.4**	**-0.8**
AOI				AML	AML		
	comp=E,4170µm,0.4s						
AOI				AML	AML		
	comp=N,3500µm,1.2s						
GIGS	**Gran Sasso**	**0.68**	**145**	⇑P	**Pg**	**16 21 55.0**	**-1.2**
GIGS				AML	AML		
	comp=N,1034µm,0.3s						
GIGS				AML	AML		
	comp=E,1380µm,0.6s						
NARO	**Abbazia di Nar**	**0.69**	**330**	P	**Pg**	**16 21 55.6**	**-1.0**
NARO				S	**Sb**	**16 22 07.0**	**-0.1**
NARO				AML	AML		
	comp=E,1820µm,0.4s						
NARO				AML	AML		
	comp=N,1710µm,0.3s						
MGAB	**Montegabbione**	**0.70**	**262**	⇑P	**Pg**	**16 21 56.1**	**-0.4**
MGAB				AML	AML		
	comp=E,7005µm,0.4s						
MGAB				AML	AML		
	comp=N,10065µm,0.5s						
MGAB				AML	AML		
	comp=E,8210µm,0.4s						
MGAB				AML	AML		
	comp=N,9620µm,0.5s						
SENI	**Senigallia**	**0.71**	**11**	⇓P	**Pg**	**16 21 56.9**	**+0.1**
SENI				AML	AML		
	comp=E,14600µm,0.3s						
SENI				AML	AML		
	comp=N,16400µm,1.1s						
SENI				AML	AML		
	comp=N,3460µm,1.1s						
SENI				AML	AML		
	comp=N,3455µm,1.1s						
SENI				AML	AML		
	comp=E,14600µm,0.4s						
SENI				AML	AML		
	comp=E,3690µm,0.7s						
SENI				AML	AML		
	comp=N,16400µm,1.1s						
FSSB	**Fossombrone**	**0.71**	**344**	⇓P	**Pg**	**16 21 56.2**	**-0.7**
FSSB				S	**Sb**	**16 22 08.0**	**+0.3**
FSSB				AML	AML		
	comp=E,13500µm,0.3s						
FSSB				AML	AML		
	comp=N,10865µm,0.4s						
FIAM	**Fiamignano**	**0.74**	**176**	P	**Pg**	**16 21 56.5**	**-0.9**
FIAM				S	**Sb**	**16 22 09.0**	**+0.4**
FIAM				AML	AML		
	comp=E,2925µm,0.9s						
FIAM				AML	AML		
	comp=N,1955µm,0.6s						
BADI	**Badiali**	**0.77**	**311**	⇓P	**Pg**	**16 21 57.5**	**-0.5**
BADI				S	**Sb**	**16 22 11.0**	**+1.5**
BADI				AML	AML		
	comp=E,128µm,0.7s						
BADI				AML	AML		
	comp=N,1400µm,0.5s						
PE3	**Peglio**	**0.80**	**330**	⇑P	**Pg**	**16 21 58.0**	**-0.5**
PE3				AML	AML		
	comp=E,70µm,1.6s						
PE3				AML	AML		
	comp=N,41µm,0.2s						
FAGN	**Fagnano**	**0.84**	**152**	⇑P	**Pg**	**16 21 58.1**	**-1.2**
FAGN				AML	AML		
	comp=E,6325µm,0.5s						
FAGN				AML	AML		
	comp=N,6880µm,0.5s						
VCEL	**Villa Celiera**	**0.85**	**136**	⇓P	**Pg**	**16 21 58.4**	**-1.0**
VCEL				AML	AML		
	comp=E,5015µm,0.5s						
VCEL				AML	AML		
	comp=N,3665µm,1.0s						
SACS	**San Casciano d**	**0.85**	**260**	⇓P	**Pg**	**16 21 59.8**	**+0.2**
SACS				AML	AML		
	comp=E,2205µm,0.5s						
SACS				AML	AML		
	comp=N,2970µm,0.8s						
SACS				AML	AML		
	comp=N,2830µm,0.8s						
SACS				AML	AML		
	comp=E,2300µm,0.5s						
CAFI	**Castiglion Fio**	**0.86**	**292**	⇑P	**Pg**	**16 21 58.9**	**-0.7**
CAFI				AML	AML		
	comp=N,1940µm,1.4s						
CAFI				AML	AML		
	comp=E,2020µm,1.2s						
CAFI				AML	AML		
	comp=E,1995µm,1.2s						
CAFI				AML	AML		
	comp=N,2040µm,1.4s						
PESA	**Pesaro**	**0.94**	**351**	P	**Pb**	**16 22 01.6**	**-0.2**
PESA				AML	AML		
	comp=N,3630µm,0.9s						
PESA				AML	AML		
	comp=E,4855µm,0.3s						
T0110	**Collepietro**	**0.95**	**145**	⇑P	**Pg**	**16 21 59.8**	**-1.6**
T0110				AML	AML		
	comp=N,4745µm,1.5s						
T0110				AML	AML		
	comp=E,4760µm,0.8s						
CPGN	**Carpegna, Ital**	**0.95**	**326**	⇑P	**Pn**	**16 22 02.7**	**-0.3**
CPGN				AML	AML		
	comp=E,2255µm,1.0s						
CPGN				AML	AML		
	comp=N,2710µm,0.8s						
MTCE	**Montecelio**	**1.01**	**193**	P	**Pg**	**16 21 58.9**	**-3.6**
MCIV	**Monte Civitell**	**1.04**	**258**	⇓P	**Pb**	**16 22 03.9**	**+0.6**
MCIV				AML	AML		
	comp=E,1014µm,0.9s						
MCIV				AML	AML		
	comp=N,906µm,0.4s						
CERT	**Cerreto**	**1.06**	**183**	⇓P	**Pg**	**16 22 02.5**	**-1.0**
CERT				AML	AML		
	comp=E,2275µm,0.5s						
CERT				AML	AML		
	comp=N,1590µm,0.7s						
INTR	**Introdacqua**	**1.18**	**147**	⇑P	**Pg**	**16 22 02.5**	**-3.2**
INTR				AML	AML		
	comp=E,2170µm,0.7s						
INTR				AML	AML		
	comp=N,3650µm,0.7s						
INTR				AML	AML		
	comp=E,2µm,0.7s						
INTR				AML	AML		
	comp=N,2µm,0.7s						
TOLF	**Tolfa**	**1.22**	**220**	⇓P	**Pb**	**16 22 06.4**	**0.0**
TOLF				AML	AML		
	comp=N,840µm,0.5s						
TOLF				AML	AML		
	comp=E,1004µm,0.5s						
RMP	**Rome, Mte Porz**	**1.22**	**192**	⇑P	**Pb**	**16 22 03.7**	**-2.7**
RMP				AML	AML		
	comp=E,1870µm,0.6s						
RMP				AML	AML		
	comp=N,2255µm,0.8s						
CSNT	**Castellina Chi**	**1.37**	**290**	⇓P	**Pn**	**16 22 08.5**	**0.0**
CSNT				AML	AML		
	comp=E,483µm,0.6s						
CSNT				AML	AML		
	comp=N,544µm,1.6s						
POFI	**Posta Fibreno**	**1.38**	**159**	⇓P	**Pb**	**16 22 09.4**	**+0.3**
POFI				AML	AML		

	comp=E,788µm,1.4s								
POFI					AML	AML			
	comp=N,834µm,0.9s								
GIUL	**Giuliano Di Ro**	**1.46**	**174**	⇑P		**Pb**	**16 22 10.8**	**+0.4**	
TRIF	**Trifonti**	**1.58**	**275**	⇑P		**Pn**	**16 22 11.7**	**+0.3**	
TRIF					AML	AML			
	comp=N,362µm,0.6s								
TRIF					AML	AML			
	comp=E,436µm,1.4s								
MELA	**Melanico ??? S**	**2.02**	**130**	⇓P		**Pb**	**16 22 20.5**	**+0.5**	
TREM	**Isole Tremiti**	**2.02**	**115**	⇓P		**Pg**	**16 22 22.9**	**+1.1**	
MAIM	**Mastiano**	**2.07**	**297**	⇓P		**Pb**	**16 22 20.1**	**-0.9**	
SARO	**Sassorosso**	**2.25**	**302**	P		**Pn**	**16 22 22.1**	**+1.4**	
MNTV	**Mantova**	**2.69**	**323**	⇑P		**Pn**	**16 22 26.9**	**+0.3**	
MNTV					S	**Sn**	**16 22 59.0**	**-0.3**	
VULT	**Monte Vulture**	**2.81**	**136**	⇑P		**Pb**	**16 22 31.5**	**-2.0**	
CEY	**Cerknica**	**2.90**	**19**	*e*Pn		**Pn**	**16 22 28.5**	**-1.1**	
A050A	**Klekovaca**	**2.92**	**59**	*e*Pn		**Pn**	**16 22 30.1**	**+0.2**	
SABO	**M.te Sabotino**	**3.00**	**7**	⇓P		**Pn**	**16 22 30.4**	**-0.5**	
SABO					AML	AML			
	comp=N,1790µm,0.5s								
SABO					AML	AML			
	comp=E,501µm,0.6s								
SABO					AML	AML			
	comp=E,1970µm,0.7s								
SABO					AML	AML			
	comp=N,473µm,0.5s								
CGRP	**Cima Grappa**	**3.01**	**343**	⇑P		**Pn**	**16 22 32.8**	**+1.6**	
PGF	**Pioggiola**	**3.02**	**263**	*e*P		**Pn**	**16 22 31.5**	**+0.3**	
PGF				*e*Sn		**Sn**	**16 23 02.9**	**-4.7**	
	comp=N,2.4nm,0.2s								
DOSS	**Dosso del Somm**	**3.17**	**336**	⇓P		**Pn**	**16 22 32.8**	**-0.6**	
DOSS					AML	AML			
	comp=N,204µm,0.6s								
DOSS					AML	AML			
	comp=E,188µm,0.6s								
DOSS					AML	AML			
	comp=N,196µm,0.5s								
DOSS					AML	AML			
	comp=E,200µm,1.6s								
SRKY	**Kupres RS**	**3.17**	**69**	*e*Pn		**Pn**	**16 22 34.2**	**+0.8**	
LJU	**Ljubljana**	**3.21**	**19**	⇑P		**Pn**	**16 22 33.8**	**0.0**	
LJU				S		**Sn**	**16 23 10.0**	**-2.3**	
LJU					AML	AML			
	comp=E,1018µm,0.4s								
LJU					AML	AML			
	comp=N,1900µm,0.5s								
MGRS	**Mrkonjic Grad**	**3.25**	**63**	*e*Pn		**Pn**	**16 22 35.0**	**+0.7**	
STAL	**STALIGIAL**	**3.26**	**356**	⇑P		**Pn**	**16 22 34.0**	**-0.5**	
STAL					AML	AML			
	comp=E,253µm,0.8s								
STAL					AML	AML			
	comp=N,196µm,1.3s								
STAL					AML	AML			
	comp=E,299µm,0.3s								
STAL					AML	AML			
	comp=N,313µm,0.8s								
LUSI	**Trento, Gardas**	**3.31**	**334**	⇑P		**Pn**	**16 22 36.6**	**+1.3**	
CIMO	**Cimolais**	**3.33**	**353**	P		**Pn**	**16 22 34.0**	**-1.5**	
CIMO					AML	AML			
	comp=E,62µm,0.8s								
CIMO					AML	AML			
	comp=N,84µm,1.0s								
CIMO					AML	AML			
	comp=E,59µm,1.5s								
CIMO					AML	AML			
	comp=N,74µm,1.1s								
PTCC	**Patocco-Chiusa**	**3.40**	**4**	⇓P		**Pn**	**16 22 35.9**	**-0.6**	
PTCC					AML	AML			
	comp=N,106µm,0.5s								
PTCC					AML	AML			
	comp=E,120µm,0.3s								
STON	**Ston**	**3.42**	**91**	*e*Pn		**Pn**	**16 22 35.0**	**-1.6**	
A051A	**Mrakovica**	**3.43**	**53**	*e*Pn		**Pn**	**16 22 37.0**	**+0.2**	
BLY	**Banja Luka**	**3.46**	**58**	*e*Pn		**Pn**	**16 22 40.5**	**+3.3**	
ZONE	**Zone**	**3.47**	**324**	⇑P		**Pn**	**16 22 38.0**	**+0.6**	
ZONE					AML	AML			
	comp=N,127µm,0.8s								
ZONE					AML	AML			
	comp=E,122µm,0.8s								
ZOU	**Zoufplan**	**3.55**	**359**	⇓P		**Pn**	**16 22 38.8**	**+0.2**	
ZOU					AML	AML			
	comp=E,156µm,0.7s								
ZOU					AML	AML			
	comp=N,212µm,1.4s								
ZOU					AML	AML			
	comp=N,178µm,1.5s								
ZOU					AML	AML			
	comp=E,152µm,1.1s								
ACOM	**Acomizza, Ital**	**3.56**	**5**	⇑P		**Pn**	**16 22 39.0**	**+0.3**	
ACOM					AML	AML			
	comp=E,246µm,0.4s								
ACOM					AML	AML			
	comp=N,240µm,0.7s								
ACOM					AML	AML			
	comp=E,252µm,1.1s								
ACOM					AML	AML			
	comp=N,251µm,1.2s								
FVI	**Forni Avoltri**	**3.59**	**357**	⇑P		**Pn**	**16 22 40.9**	**+1.8**	
MATE	**Matera**	**3.61**	**130**	⇑P		**Pb**	**16 22 48.2**	**+1.1**	
MYKA	**Terra Mystica**	**3.65**	**6**	*e*Pn		**Pn**	**16 22 39.8**	**0.0**	
	comp=N,2.6nm,0.3s								
MYKA				*e*Sn		**Sn**	**16 23 22.2**	**-0.8**	
	comp=N,11nm,0.4s								
KOSI	**Kohlern**	**3.65**	**342**	⇓P		**Pn**	**16 22 41.9**	**+1.9**	
OBKA	**Obir**	**3.66**	**16**	*e*Pn		**Pn**	**16 22 39.0**	**-1.0**	
OBKA	**Obir**	**3.66**	**16**	*e*Pn		**Pn**	**16 22 39.4**	**-0.6**	
	comp=N,2.5nm,0.2s								
OBKA				*e*Sn		**Sn**	**16 23 23.1**	**-0.3**	
	comp=N,9.2nm,0.3s								
OBKA	**Obir**	**3.66**	**16**	*e*Pn		**Pn**	**16 22 39.6**	**-0.5**	
APPI	**Appiano**	**3.71**	**340**	⇑P		**Pn**	**16 22 42.2**	**+1.5**	
ABTA	**Abfaltersbach**	**3.76**	**354**	*i* Pn		**Pn**	**16 22 42.2**	**+0.8**	
	comp=N,0.4nm,0.1s,SNR=7.8								
ABTA				*e*Sn		**Sn**	**16 23 25.2**	**-0.7**	
	comp=N,32nm,0.5s								
TREB	**Trebinje**	**3.91**	**92**	*e*Pn		**Pn**	**16 22 43.2**	**-0.2**	
SOKA	**Soboth**	**3.93**	**20**	*e*Pn		**Pn**	**16 22 42.0**	**-1.7**	
	comp=N,0.7nm,0.2s								
SOKA				*e*Sn		**Sn**	**16 23 29.7**	**-0.4**	
	comp=N,5.7nm,0.4s								
MGRO	**Montegrosso**	**3.95**	**287**	S		**Sn**	**16 23 33.0**	**+2.3**	
RISI	**Rein**	**4.00**	**350**	⇑P		**Pn**	**16 22 47.0**	**+2.2**	
BRY	**Bratogost**	**4.03**	**90**	*e*Pn		**Pn**	**16 22 44.3**	**-0.9**	
HCY	**Herceg Novi**	**4.05**	**96**	*e*Pn		**Pn**	**16 22 45.6**	**+0.3**	
KBA	**Koelnbreinsper**	**4.08**	**3**	*e*Pn		**Pn**	**16 22 46.0**	**+0.2**	
	comp=N,7.8nm,0.2s								
KBA				*e*Sn		**Sn**	**16 23 33.1**	**-0.7**	
	comp=N,28nm,0.4s								
KBA	**Koelnbreinsper**	**4.08**	**3**	*e*Pn		**Pn**	**16 22 46.5**	**+0.7**	
KBA				*e*Sn		**Sn**	**16 23 32.6**	**-1.1**	
SBF	**Sospel**	**4.18**	**284**	*e*P		**Pn**	**16 22 48.8**	**+1.6**	
SBF				*e*Sn		**Sn**	**16 23 32.4**	**-3.7**	
	comp=N,10nm,0.3s								
FETA	**Feichten**	**4.34**	**338**	*i* Pn		**Pn**	**16 22 51.8**	**+2.4**	
	comp=N,3.6nm,0.4s,SNR=6.3								
FETA				*e*Sn		**Sn**	**16 23 44.0**	**+3.8**	
	comp=N,3.8nm,0.4s								
WTTA	**Wattenberg**	**4.37**	**347**	*e*Pn		**Pn**	**16 22 52.1**	**+2.2**	
	comp=N,3.3nm,0.2s								
WTTA				*e*Sn		**Sn**	**16 23 41.3**	**+0.2**	
	comp=N,46nm,0.7s								
WTTA	**Wattenberg**	**4.37**	**347**	*e*Pn		**Pn**	**16 22 52.1**	**+2.2**	
WTTA				*e*Sn		**Sn**	**16 23 42.2**	**+1.1**	
SQTA	**Sankt Quirin**	**4.41**	**343**	*i* Pn		**Pn**	**16 22 52.1**	**+1.8**	
	comp=N,5.4nm,0.2s,SNR=11								
SQTA				*e*Sn		**Sn**	**16 23 42.6**	**+0.7**	
	comp=N,7.6nm,0.2s								
HAPS	**Han Pijesak,BI**	**4.42**	**74**	*e*Pn		**Pn**	**16 22 49.8**	**-0.7**	
CELI	**Celico**	**4.45**	**143**	P		**Pb**	**16 22 59.5**	**-2.0**	
WATA	**Walderalm**	**4.45**	**347**	*i* Pn		**Pn**	**16 22 53.1**	**+2.2**	
	comp=N,3.5nm,0.3s,SNR=6.8								
WATA				*e*Sn		**Sn**	**16 23 45.1**	**+2.1**	
	comp=N,9.2nm,0.3s								
MOTA	**Moosalm**	**4.55**	**343**	*e*Pn		**Pn**	**16 22 55.2**	**+2.8**	
	comp=N,2.4nm,0.2s								
MOTA				*e*Sn		**Sn**	**16 23 49.0**	**+3.6**	
	comp=N,9.2nm,0.5s								
IACL	**Alicudi**	**4.58**	**167**	P		**Pb**	**16 23 01.5**	**-2.2**	
ARSA	**Arzberg**	**4.59**	**22**	*e*Pn		**Pn**	**16 22 52.2**	**-0.6**	
	comp=N,5.0nm,0.4s								
ARSA				*e*Sn		**Sn**	**16 23 44.1**	**-2.1**	
	comp=N,4.9nm,0.4s								
ARSA	**Arzberg**	**4.59**	**22**	*e*Pn		**Pn**	**16 22 52.1**	**-0.6**	
ARSA				*e*Sn		**Sn**	**16 23 43.4**	**-2.8**	
DRME	**Dracevica, Mon**	**4.60**	**98**	*e*Pn		**Pn**	**16 22 53.1**	**+0.2**	
PDG	**Podgorica**	**4.61**	**95**	⇑P		**Pn**	**16 22 53.8**	**+0.9**	
RUDO	**Rudo**	**4.65**	**80**	*e*Pn		**Pn**	**16 22 52.6**	**-1.0**	
PART	**Garmisch-Parte**	**4.69**	**344**	*e*Pn		**Pn**	**16 22 58.1**	**+3.9**	
BIOA	**Bad Ischl, Aus**	**4.70**	**5**	*i* Pn		**Pn**	**16 22 54.6**	**+0.3**	
	comp=N,11nm,0.3s,SNR=11								
BIOA				*e*Sn		**Sn**	**16 23 49.5**	**+0.5**	
	comp=N,15nm,0.4s								
BBLS	**Lazići**	**4.71**	**77**	*e*Pn		**Pn**	**16 22 54.9**	**+0.5**	
TIP	**Timpagrande**	**4.74**	**143**	⇓P		**Pg**	**16 23 12.9**	**-1.1**	
RETA	**Reutte**	**4.76**	**341**	*e*Pn		**Pn**	**16 22 57.0**	**+1.9**	
	comp=N,4.2nm,0.2s								
RETA				*e*Sn		**Sn**	**16 23 52.3**	**+1.8**	
	comp=N,0.1nm,0.1s								
LMR	**La Mourre**	**4.80**	**276**	*e*P		**Pn**	**16 22 54.6**	**-1.0**	
LMR				*e*Sn		**Sn**	**16 23 47.0**	**-4.2**	
	comp=N,1.5nm,0.3s								
PLONS	**Plons/SG**	**4.80**	**328**	*e*Pn		**Pn**	**16 22 59.2**	**+3.5**	
PLONS				*e*Sn		**Sn**	**16 23 53.5**	**+1.8**	
OBER	**Oberstdorf**	**4.81**	**337**	*e*Pn		**Pn**	**16 22 59.3**	**+3.5**	
OBER				*e*Sn		**Sn**	**16 23 53.4**	**+1.6**	
DAVA	**Damuels**	**4.83**	**333**	*e*Pn		**Pn**	**16 22 58.5**	**+2.4**	
	comp=N,4.1nm,0.4s								
DAVA				*e*Sn		**Sn**	**16 23 55.8**	**+3.4**	
	comp=N,16nm,0.5s								
DAVA	**Damuels**	**4.83**	**333**	*e*Pn		**Pn**	**16 22 58.7**	**+2.5**	
DAVA				*e*Sn		**Sn**	**16 23 55.7**	**+3.3**	
MBDF	**Montbardon**	**4.85**	**293**	*e*P		**Pn**	**16 22 58.9**	**+2.4**	
MOA	**Molln**	**4.92**	**10**	*e*Pn		**Pn**	**16 22 57.2**	**0.0**	
	comp=N,2.1nm,0.2s								
MOA				*e*Sn		**Sn**	**16 23 53.3**	**-1.0**	
	comp=N,5.5nm,0.3s								
MOA	**Molln**	**4.92**	**10**	*e*Pn		**Pn**	**16 22 57.4**	**+0.2**	
MOA				*e*Sn		**Sn**	**16 23 53.8**	**-0.5**	
MORH	**Mrgy, Hungar**	**5.12**	**49**	⇑P		**Pg**	**16 23 19.9**	**-1.2**	
DIVS	**Divibare**	**5.16**	**75**	*e*Pn		**Pn**	**16 22 59.8**	**-0.9**	
LPL	**La Plagne**	**5.18**	**301**	*e*P		**Pn**	**16 23 02.7**	**+1.6**	
LPL				*e*Sn		**Sn**	**16 23 56.7**	**-4.5**	
	comp=N,4.0nm,0.4s								
RONA	**Rosalia, Austr**	**5.22**	**25**	*e*Pn		**Pn**	**16 23 01.1**	**-0.3**	
	comp=N,1.1nm,0.2s								
RONA				*e*Sn		**Sn**	**16 24 00.6**	**-1.1**	
	comp=N,2.3nm,0.3s								
WILA	**Wila**	**5.29**	**328**	*e*Pn		**Pn**	**16 23 05.1**	**+2.7**	
CONA	**Conrad Observa**	**5.30**	**21**	*e*Pn		**Pn**	**16 23 02.1**	**-0.5**	
	comp=N,4.1nm,0.3s								
CONA				*e*Sn		**Sn**	**16 24 01.5**	**-2.4**	
	comp=N,4.3nm,0.3s								
FRGS	**Fruska Gora**	**5.32**	**64**	*e*Pn		**Pn**	**16 23 02.5**	**-0.3**	
TIR	**Tirane**	**5.33**	**106**	⇓P		**Pn**	**16 23 02.3**	**-0.5**	
ORIF	**Oris-en-Rattie**	**5.52**	**293**	*e*P		**Pn**	**16 23 08.8**	**+3.2**	
ORIF				*e*Sn		**Sn**	**16 24 04.7**	**-4.5**	
	comp=N,1.0nm,0.2s								
SMRF	**Simiane la Rot**	**5.52**	**283**	*e*P		**Pn**	**16 23 07.2**	**+1.6**	
SMRF				*e*Sn		**Sn**	**16 24 04.5**	**-4.8**	
	comp=N,1.0nm,0.2s								
SULZ	**Cheisacher**	**5.71**	**324**	*e*Pn		**Pn**	**16 23 11.7**	**+3.6**	
SULZ				*e*Sn		**Sn**	**16 24 13.7**	**0.0**	
SLE	**Schleitheim**	**5.74**	**328**	*e*Pn		**Pn**	**16 23 10.3**	**+1.8**	
BALST	**Balsthal**	**5.75**	**321**	*e*Pn		**Pn**	**16 23 10.0**	**+1.3**	
GEC2	**GERESS Array S**	**5.86**	**4**	*e*Pn		**Pn**	**16 23 09.6**	**-0.6**	
GEC2				*e*Sn		**Sn**	**16 24 15.0**	**-2.5**	
GERES	**GERESS Array B**	**5.86**	**4**	Pn		**Pn**	**16 23 09.5**	**-0.7**	
	comp=N,1.5nm,0.3s,baz=170,slow=13,SNR=28								
GERES				Sn		**Sn**	**16 24 15.0**	**-2.5**	
	comp=N,3.7nm,0.3s,baz=183,slow=25,SNR=12								
	comp=N,2.2nm,0.3s								
CKRC	**Cesky Krumlov**	**5.88**	**8**	*e*PN		**Pn**	**16 23 09.4**	**-1.1**	
CKRC				*e*SN		**Sn**	**16 24 14.8**	**-3.2**	
BERGE	**Lenzkirch (DE)**	**5.95**	**327**	*e*Pn		**Pn**	**16 23 12.8**	**+1.3**	
BERGE				*e*Sn		**Sn**	**16 24 16.6**	**-3.2**	
CABF	**La Chapelle**	**6.12**	**308**	*e*P		**Pn**	**16 23 16.5**	**+2.6**	
CABF				*e*Sn		**Sn**	**16 24 19.1**	**-5.0**	
	comp=N,0.7nm,0.2s								
MODS	**Modra-Piesok**	**6.13**	**27**	*e*PN		**Pn**	**16 23 13.2**	**-0.7**	
MODS				*e*PG		**Pg**	**16 23 39.0**	**-1.4**	
MODS				*e*SN		**Sn**	**16 24 18.3**	**-5.8**	
KHC	**Kasperske Hory**	**6.13**	**3**	*e*PN		**Pn**	**16 23 13.3**	**-0.7**	
KHC				*e*SN		**Sn**	**16 24 20.2**	**-4.1**	
WET	**Wettzell**	**6.14**	**359**	*e*Pn		**Pn**	**16 23 13.3**	**-0.7**	
WET				*e*Sn		**Sn**	**16 24 21.0**	**-3.3**	
BFO	**Black Forest**	**6.26**	**330**	*e*Sn		**Sn**	**16 24 24.5**	**-3.0**	
VIVF	**Saint-Julien-l**	**6.33**	**290**	*e*P		**Pn**	**16 23 20.2**	**+3.6**	
HINF	**Hinteralfeld**	**6.49**	**320**	*e*Pn		**Pn**	**16 23 17.2**	**-1.7**	
HINF				*e*Sn		**Sn**	**16 24 28.1**	**-5.0**	
	comp=N,7.0nm,0.3s								
ECH	**Echery**	**6.65**	**324**	*e*Pn		**Pn**	**16 23 21.3**	**+0.3**	
ECH				*e*Sn		**Sn**	**16 24 35.3**	**-1.5**	
BZS	**Buzias**	**6.67**	**64**	⇓P		**Pn**	**16 23 22.0**	**+0.7**	
CDF	**Champ du Feu**	**6.75**	**325**	*e*Pn		**Pn**	**16 23 21.5**	**-0.9**	
CDF				*e*Sn		**Sn**	**16 24 33.8**	**-5.6**	
	comp=N,5.1nm,0.3s								
LASF	**Ste Croix**	**6.77**	**282**	*e*P		**Pn**	**16 23 24.8**	**+2.1**	
ROTZ	**Rotzenmuhle**	**6.79**	**355**	*e*Pn		**Pn**	**16 23 23.7**	**+0.8**	
ROTZ				*e*Sn		**Sn**	**16 24 34.6**	**-5.6**	
HAU	**Haudompre**	**6.87**	**319**	*e*Pn		**Pn**	**16 23 22.6**	**-1.4**	
HAU				*e*Sn		**Sn**	**16 24 38.5**	**-3.7**	
	comp=N,19nm,0.3s								
HERR	**Herculane**	**7.01**	**71**	⇑P		**Pn**	**16 23 24.7**	**-1.3**	
PRU	**Pruhonice**	**7.06**	**8**	*e*PN		**Pn**	**16 23 26.8**	**+0.2**	
PRU				*e*SN		**Sn**	**16 24 42.6**	**-4.3**	
NKC	**Novy Kostel**	**7.24**	**357**	*e*SN		**Sn**	**16 24 47.0**	**-4.4**	
GZR	**Gura Zlata**	**7.38**	**68**	⇓P		**Pn**	**16 23 30.6**	**-0.5**	
MORC	**Moravsky Berou**	**7.45**	**23**	⇑P		Pn	16 23 17.1	-15	
SMF	**Signal de Mont**	**7.49**	**302**	*e*P		**Pn**	**16 23 36.3**	**+3.8**	
SMF				*e*Sn		**Sn**	**16 24 51.5**	**-6.1**	
	comp=N,3.3nm,0.3s								
VTS	**Vitosha**	**7.50**	**90**	⇑P		**Pn**	**16 23 33.8**	**+1.0**	
PAGF	**Fort de Pagny**	**7.55**	**320**	*e*Pn		**Pn**	**16 23 32.0**	**-1.3**	
	baz=141								
PAGF				*e*Sn		**Sn**	**16 24 52.9**	**-6.1**	
	comp=N,4.1nm,0.3s								
SFTF	**Sexfontaines**	**7.65**	**316**	*e*P		**Pn**	**16 23 38.0**	**+3.2**	
	baz=137								
SFTF				*e*Sn		**Sn**	**16 24 56.1**	**-5.4**	
	comp=N,3.6nm,0.3s								
DPC	**Dobruska-Polom**	**7.68**	**16**	*e*SN		**Sn**	**16 24 57.3**	**-5.0**	
LOR	**Lormes**	**7.77**	**306**	*e*P		**Pn**	**16 23 37.5**	**+1.1**	
	baz=126								
LOR				*e*Sn		**Sn**	**16 24 58.0**	**-6.5**	
	comp=N,2.6nm,0.3s								
KEST	**Kesra**	**7.81**	**203**	Pn		Pn	16 23 42.1	+5.1	
	comp=N,0.6nm,0.3s,baz=54,slow=7.6,SNR=5.6								
	comp=N,2.9nm,0.6s								
AVF	**Avril sur Loir**	**7.85**	**302**	*e*P		**Pn**	**16 23 40.5**	**+3.0**	
AVF				*e*Sn		**Sn**	**16 25 00.7**	**-5.8**	
	comp=N,1.2nm,0.3s								
SSF	**Saint Saulge**	**7.88**	**304**	*e*P		**Pn**	**16 23 40.4**	**+2.5**	
SSF				*e*Sn		**Sn**	**16 25 01.2**	**-6.0**	
	comp=N,2.6nm,0.4s								
MTLF	**Montolieu**	**7.93**	**276**	*e*P		**Pn**	**16 23 41.7**	**+3.1**	
BGF	**Bois d'Agland**	**8.08**	**300**	*e*P		**Pn**	**16 23 43.4**	**+2.8**	
CAF	**Calviac**	**8.15**	**287**	*e*Pn		**Pn**	**16 23 39.9**	**-1.8**	
CLL	**Collm**	**8.30**	**360**	*e*Pn		**Pn**	**16 23 43.0**	**-0.7**	
CLL				*e*Sn		Sn	16 24 58.0	-20	
CLL				*ex*		x	16 25 14.0		
CLL				*e*Sg		**Sg**	**16 26 06.0**	**-3.4**	
	comp=Z,11nm,1.1s								
VOIR		**8.95**	**70**	⇓P		**Pn**	**16 23 56.3**	**+3.6**	
LFF	**La Frestale**	**9.09**	**286**	*e*P		**Pn**	**16 23 56.6**	**+2.2**	
SNART	**Snartemo**	**15.78**	**349**	*i* P		**P**	**16 25 34.5**	**+5.2**	
FINES	**FINESS Array B**	**20.04**	**18**	P		Pn	16 26 17.2	-0.7	
	comp=Z,0.1nm,0.3s,baz=201,slow=10,SNR=4.0								
	comp=Z,2.3nm,0.8s								
KBZ	**Khabaz**	**21.66**	**78**	LR		LR	16 37 10.9		
	comp=Z,45nm,18.3s,baz=16,slow=43								
MKAR	**Makanchi Array**	**47.74**	**60**	P		**P**	**16 30 22.6**	**+2.2**	
	comp=Z,0.4nm,0.5s,baz=287,slow=5.9,SNR=6.1								
	comp=Z,0.4nm,0.5s								
CMAR	**Chiang Mai Arr**	**74.71**	**79**	P		**P**	**16 33 23.4**	**-0.1**	
	comp=Z,0.4nm,0.5s,baz=307,slow=7.3,SNR=5.1								
	comp=Z,0.4nm,0.5s								
CPUP	**Villa Florida**	**94.52**	**238**	LR		LR	17 14 06.2		
	comp=Z,24nm,21.2s,baz=230,slow=33								

WEL 28 16:25:37.1,42°S±5°×17°4E±°, h15km±6km, M2.5/9, ML2.4/10, MLv2.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**33**	P	Pb	16 25 41.1	-0.2
BSWZ	**Blackbirch Sta**	**0.23**	**308**	P	Pg	16 25 42.5	+0.3
TUWZ	**Tuamarina**	**0.45**	**343**	P	Pb	16 25 47.1	+0.4
TCW	**Tory Channel**	**0.66**	**10**	P	Pb	16 25 50.4	+0.1
KHZ	**Kahutara**	**0.71**	**218**	P	Pb	16 25 51.1	-0.1
NNZ	**Nelson**	**0.85**	**319**	P	Pg	16 25 53.8	+0.3
PLWZ	**Palliser**	**0.90**	**72**	P	Pg	16 25 54.6	+0.1
THZ	**Tophouse**	**0.91**	**276**	P	Pb	16 25 54.8	0.0
MSWZ	**Moikau Station**	**0.95**	**63**	P	Pb	16 25 55.4	0.0
CAW	**Cannon Point**	**1.03**	**44**	P	Pn	16 25 57.2	+0.1
DUWZ	**D'Urville Isla**	**1.06**	**352**	P	Pg	16 25 57.9	+0.2
MRNZ	**Matariki Terra**	**1.12**	**294**	P	Pg	16 26 04.6	+5.9
KIW	**Kapiti Island**	**1.16**	**31**	P	Pg	16 25 59.6	+0.1
KRVZ	**Karewarewa**	**2.99**	**23**	P	Pn	16 26 24.0	-0.2
KMRZ	**Kaimai**	**4.24**	**20**	P	Pb	16 26 47.9	-3.6

WEL 28 16:26:09.0±1.2, 38°S±10°×18°0E±°, h12km, M3.3/22, ML3.6/19, MLv3.3/22, Error ellipse: s-maj=0.0km s-min=0.0km az=20.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.95**	**265**	P	Pg	16 26 27.2	-0.1
WMGZ				S	Sn	16 26 40.9	-0.8
MXZ	**Matakaoa Point**	**1.05**	**279**	P	Pb	16 26 28.7	-0.4
MXZ				S	Sg	16 26 43.5	+0.5
PUZ	**Puketiti**	**1.12**	**253**	P	Pb	16 26 29.7	-0.6
PUZ				S	Sn	16 26 45.8	-0.1
PKGZ	**Pakihiroa**	**1.23**	**263**	P	Pn	16 26 30.9	-1.1
PKGZ				S	Sb	16 26 47.7	-0.2
CNGZ	**Carnagh Statio**	**1.33**	**236**	P	Pb	16 26 34.2	+0.3
TWGZ	**Tauwhareparae**	**1.36**	**251**	P	Pn	16 26 34.1	+0.3
TWGZ				S	Sb	16 26 51.0	-0.9
HAZ	**Te Kaha**	**1.45**	**269**	P	Pn	16 26 34.7	-0.3
RUGZ	**Raukumara Rang**	**1.55**	**261**	P	Pn	16 26 35.7	-0.7
TKGZ	**Te Karaka**	**1.56**	**243**	P	Pn	16 26 36.6	+0.1
RIGZ	**Rimuhau**	**1.75**	**236**	P	Pn	16 26 39.2	+0.1
MWZ	**Matawai**	**1.75**	**250**	P	Pn	16 26 38.3	-0.9
RAGZ	**Rawiri**	**1.89**	**246**	P	Pb	16 26 42.6	-0.8
MHGZ	**Mahia Peninsul**	**1.94**	**223**	P	Pn	16 26 41.6	-0.2
KNZ	**Kokohu**	**1.99**	**229**	P	Pn	16 26 42.1	-0.3
URZ	**Urewera**	**2.04**	**255**	P	Pn	16 26 43.5	+0.3
URZ	**Urewera**	**2.04**	**255**	P	Pn	16 26 43.0	-0.2
RTZ	**Ruatahuna**	**2.25**	**246**	P	Pn	16 26 44.8	-1.3
MUGZ	**Murupara**	**2.36**	**251**	P	Pn	16 26 48.4	+0.9
MTHZ	**Maungataniwha**	**2.45**	**242**	P	Pn	16 26 48.4	-0.3
ARHZ	**Aropaoanui**	**2.55**	**233**	P	Pn	16 26 50.6	+0.4
NMHZ	**Naumai**	**2.59**	**238**	P	Pn	16 26 51.2	+0.5
BKZ	**Black Stump Fm**	**2.83**	**239**	P	Pn	16 26 53.3	-0.8
MCHZ	**McNeill Hill**	**2.85**	**232**	P	Pn	16 26 54.2	0.0
KAHZ	**Kahuranaki**	**2.96**	**225**	P	Pn	16 26 54.5	-1.3
KUZ	**Kuaotunu**	**3.26**	**287**	P	Pn	16 26 59.3	-0.6
BHHZ	**Black Hill Sta**	**3.28**	**237**	P	Pn	16 26 59.6	-0.7
MKAZ	**Moumakai**	**3.60**	**279**	P	Pn	16 27 05.1	+0.5
TSZ	**Takapari Road**	**3.67**	**230**	P	Pn	16 27 03.7	-1.9

*

NACB	baz=337			S	Sb	16 41 19.4	-1.3
YUS	Yu-Shan baz=283	1.04	283	⇓iP	Pn	16 41 08.9	-0.1
YUS	baz=283			S	Sb	16 41 20.9	-1.2
ETLH	Xiulin Townshi baz=333	1.08	331	⇑iP	Pn	16 41 08.9	-0.3
ETLH	baz=333			eS	Sb	16 41 22.0	-1.0
EHP	Heping Village baz=347	1.09	345	eP	Pn	16 41 08.0	-1.2
WUSB	Renai baz=312	1.13	311	P	Pn	16 41 10.0	+0.1
WUSB	baz=312			eS	Sn	16 41 23.4	-1.4
CHGB	Renai baz=316	1.14	315	⇑iP	Pn	16 41 10.2	+0.2
CHGB	baz=316			eS	Sn	16 41 23.7	-1.5
SSLB	Suanglung baz=292	1.14	298	P	Pn	16 41 10.0	0.0
SSLB	baz=292			S	Sn	16 41 23.6	-1.4
WHF	Hehuan Shan baz=323	1.14	321	⇑iP	Pn	16 41 10.0	-0.3
WHF	baz=323			eS	Sn	16 41 24.0	-1.6
ALS	Alishan baz=283	1.17	283	⇓iP	Pb	16 41 11.3	+0.3
ALS	baz=283			S	Sn	16 41 25.8	-0.4
STYH	Taoyuan baz=260	1.18	266	P	Pn	16 41 09.5	-0.9
STYH	baz=260			S	Sn	16 41 24.0	-1.9
WHYT	Xinyi Township baz=298	1.19	292	⇓iP	Pb	16 41 11.4	+0.4
WHYT	baz=298			S	Sn	16 41 25.8	-0.3
STYT	Tauyuan baz=260	1.20	266	P	Pn	16 41 10.8	0.0
STYT	baz=260			eS	Sn	16 41 25.6	-0.8
ENA	Nanau baz=348	1.20	346	⇑iP	Pn	16 41 10.9	+0.1
ENA	baz=348			S	Sn	16 41 26.0	-0.4
ECL	Taimali baz=246	1.21	237	eP	Pn	16 41 10.0	-0.8
ECL	baz=246			eS	Sn	16 41 24.1	-2.4
SMLT	Sun Moon Lake baz=308	1.23	301	P	Pn	16 41 11.7	+0.4
SMLT	baz=308			S	Sn	16 41 26.5	-0.7
FUSS	Fushou baz=324	1.23	323	⇑iP	Pn	16 41 11.7	+0.3
FUSS	baz=324			S	Sn	16 41 26.2	-1.4
WPL	Puli Township baz=316	1.26	307	eP	Pb	16 41 12.1	-0.1
WPL	baz=316			eS	Sn	16 41 26.9	-0.9
TWT	Tachien baz=314	1.28	321	eP	Pb	16 41 12.6	-0.1
TWT	baz=314			eS	Sn	16 41 27.4	-1.2
TDCB	Techi baz=314	1.29	321	eP	Pn	16 41 12.6	+0.5
TDCB	baz=314			S	Sn	16 41 27.5	-1.3
DPDB	Guoxing baz=316	1.29	307	eP	Pb	16 41 12.8	0.0
DPDB	baz=316			eS	Sb	16 41 29.5	+0.5
LAY	Lan-yu baz=198	1.30	201	eP	Pn	16 41 10.7	-1.5
LAY	baz=198			eS	Sn	16 41 26.8	-2.0
CHN5	Tsauling baz=293	1.31	285	eP	Pb	16 41 13.0	-0.1
CHN5	baz=293			eS	Sb	16 41 29.6	+0.1
TPUB	Ta-pu baz=267	1.31	272	P	Pb	16 41 13.4	+0.3
TPUB	baz=267			eS	Sb	16 41 29.8	+0.3
WCS	Beigang Elemen baz=316	1.32	308	eP	Pn	16 41 12.0	-0.3
WCS	baz=316			eS	Sn	16 41 28.0	-1.3
NNSB	Datong baz=334	1.32	332	P	Pn	16 41 12.8	+0.3
NNSB	baz=334			S	Sn	16 41 29.1	-0.5
NNSH	Datong baz=333	1.32	332	P	Pn	16 41 11.8	-0.7
NNSH	baz=333			eS	Sn	16 41 27.6	-1.9
LYUB	Lan-yu baz=197	1.32	199	P	Pn	16 41 10.6	-1.8
WTP	Ta-pu baz=264	1.32	270	⇓iP	Pb	16 41 13.7	+0.3
WTP	baz=264			eS	Sb	16 41 30.6	+0.7
NNS	Nan Shan baz=334	1.33	332	⇑P	Pn	16 41 12.0	-0.7
NNS	baz=334			eS	Sn	16 41 27.8	-2.1
WJS	Zhushan baz=295	1.34	295	eP	Pb	16 41 14.3	+0.7
WJS	baz=295			eS	Sb	16 41 31.3	+0.9
WCKO	Fanlu baz=278	1.34	278	eP	Pb	16 41 13.5	-0.2
WCKO	baz=278			eS	Sn	16 41 30.1	+0.1
CHN4	Tsaushan baz=269	1.35	274	P	Pn	16 41 13.2	+0.4
CHN4	baz=269			eS	Sb	16 41 30.3	-0.2
TWC	Suao baz=354	1.36	352	⇑iP	Pn	16 41 13.6	+0.7
TWC	baz=354			eS	Sb	16 41 30.6	-0.3
LATG	Datong baz=341	1.36	339	P	Pn	16 41 13.2	+0.2
LATG	baz=341			eS	Sn	16 41 30.0	-0.6
SGST	Jiashian baz=260	1.36	263	P	Pn	16 41 13.3	+0.3
SGST	baz=260			eS	Sn	16 41 30.3	-0.1
TAW	Tawu baz=237	1.39	230	eP	Pn	16 41 12.7	-0.7
TAW	baz=237			eS	Sn	16 41 29.3	-1.8
WNT	Mingjian baz=297	1.40	297	eP	Pb	16 41 15.5	+0.8
WNT	baz=297			eS	Sb	16 41 32.2	+0.1
TSMG	Majia baz=239	1.41	247	eP	Pn	16 41 13.7	+0.1
TAWH	Dawu Township baz=237	1.41	230	P	Pn	16 41 12.4	-1.2
TAWH	baz=237			eS	Sn	16 41 28.9	-2.7
EAST	Anshuo baz=238	1.41	232	eP	Pn	16 41 13.2	-0.5
EAST	baz=238			eS	Sn	16 41 29.8	-1.9
WHP	Taichung City baz=316	1.44	315	eP	Pb	16 41 15.2	-0.1
WHP	baz=316			eS	Sn	16 41 31.2	-1.2
TWK	Hsinying baz=270	1.44	271	P	Pb	16 41 15.6	+0.3
TWK	baz=270			eS	Sb	16 41 34.2	+0.9
JYNG	Yonagunijimaku	1.44	34	P	Pn	16 41 14.8	+0.7
JYNG				S	Sn	16 41 32.5	+0.1
ENTT	Nioudou baz=344	1.45	342	P	Pn	16 41 13.8	-0.4
ENTT	baz=344			eS	Sn	16 41 31.9	-0.7
WDLH	Douliu baz=287	1.46	288	eP	Pb	16 41 16.4	+0.8
WDLH	baz=287			eS	Sb	16 41 34.0	+0.3
MASBT	Mashibuluo baz=237	1.46	244	eP	Pn	16 41 14.3	0.0
MASBT	baz=237			eS	Sn	16 41 30.8	-2.0
CHN2	Minshiung baz=281	1.48	281	eP	Pb	16 41 16.9	+1.0
SCST	Cishan baz=255	1.48	256	eP	Pb	16 41 16.7	+0.7
SCST	baz=255			eS	Sb	16 41 35.5	+1.1
YOJ	Yonaguni jima baz=48	1.49	36	P	Pn	16 41 15.3	+0.6
YOJ	baz=48			eS	Sn	16 41 32.2	-1.3
YOJ	Yonaguni jima	1.49	36	P	Pn	16 41 15.4	+0.7
YOJ				S	Sn	16 41 33.9	+0.4
TWE	Neicheng baz=339	1.50	346	⇑iP	Pn	16 41 15.8	+0.9
TWE	baz=339			eS	Sn	16 41 33.4	-0.4
CHY	Chiayi baz=279	1.52	279	eP	Pb	16 41 17.1	+0.5
CHY	baz=279			eS	Sb	16 41 36.0	+0.6
SGLT	Jiouru baz=246	1.53	250	eP	Pb	16 41 17.1	+0.2
YHNB	Yeheng baz=337	1.54	336	P	Pn	16 41 16.3	+0.8
YHNB	baz=337			S	Sn	16 41 34.6	-0.2
TCU	Taichung baz=306	1.54	305	eP	Pb	16 41 18.2	+1.1
TCU	baz=306			eS	Sb	16 41 37.4	+1.2
NSK	Sanguang baz=337	1.55	336	⇑iP	Pn	16 41 15.4	-0.2
NSK	baz=337			eS	Sn	16 41 32.9	-2.3
SLIU	Shizi baz=227	1.55	228	eP	Pn	16 41 15.3	-0.3
SLIU	baz=227			eS	Sn	16 41 33.2	-1.9
FUSB	Fushanzhiwuyua baz=345	1.56	344	P	Pn	16 41 16.3	+0.6
FUSB	baz=345			eS	Sn	16 41 35.2	-0.1
TWM1	Shoushan baz=253	1.56	254	eP	Pb	16 41 18.7	+1.2
TWM1	baz=253			eS	Sb	16 41 40.3	+3.5
CHN3	Shinhua baz=263	1.56	264	eP	Pb	16 41 19.2	+1.8
CHN3	baz=263			eS	Sb	16 41 40.2	+3.5
SHHT	Tainan City baz=261	1.59	262	eP	Pb	16 41 18.8	+1.0
SCZT	Fangliau baz=235	1.59	237	eP	Pn	16 41 16.3	+0.3
SCZT	baz=235			eS	Sn	16 41 34.4	-1.6
WTK	Tuku baz=286	1.59	286	eP	Pb	16 41 17.6	-0.2
WTK	baz=286			eS	Sb	16 41 37.2	-0.2
NWLT	Wulai baz=343	1.60	342	eP	Pn	16 41 16.0	-0.3
NWLT	baz=343			eS	Sn	16 41 35.1	-1.1
WCHH	Zhanghua baz=301	1.60	301	eP	Pb	16 41 19.2	+1.2
WCHH	baz=301			eS	Sb	16 41 38.1	+0.4
NFF	Wufeng Townshi baz=337	1.61	328	eP	Pn	16 41 16.9	+0.3
NFF	baz=337			eS	Sb	16 41 37.8	-0.5
SSHA	Shanhua baz=265	1.63	266	eP	Pb	16 41 19.3	+0.8
SSHA	baz=265			eS	Sb	16 41 41.2	+2.6
ICHU	Yijhu baz=273	1.63	274	P	Pb	16 41 18.9	+0.3
ICHU	baz=273			eS	Sb	16 41 40.0	+1.2
NSY	Sanyi baz=315	1.65	315	eP	Pb	16 41 19.3	+0.3
SMST	Manzhou Townsh baz=229	1.67	223	eP	Pn	16 41 17.0	-0.1
SMST	baz=229			eS	Sn	16 41 37.2	-0.7
WRL	Guolierlin Hig baz=293	1.67	293	eP	Pn	16 41 17.4	+0.2
WRL	baz=293			eS	Sb	16 41 39.1	-0.6
NSTT	Nanjuang baz=335	1.67	325	eP	Pb	16 41 19.3	-0.1
NSTT	baz=335			eS	Sn	16 41 38.4	+0.2
LIOB	Emei baz=335	1.68	326	eP	Pb	16 41 19.6	+0.2
LIOB	baz=335			eS	Sb	16 41 39.7	-0.4
WDJ	Dajia District baz=311	1.69	310	eP	Pb	16 41 19.9	+0.3
WDJ	baz=311			eS	Sb	16 41 42.0	+1.6
CHN8	Yiju baz=273	1.70	273	eP	Pb	16 41 19.5	-0.2
CHN8	baz=273			eS	Sb	16 41 40.9	+0.3
WSL	Shuilin Townsh baz=279	1.70	279	eP	Pn	16 41 18.3	+0.7
WSL	baz=279			eS	Sb	16 41 39.9	-0.7
TSEB	Hengchuen, Pin baz=229	1.72	219	eP	Pn	16 41 18.9	+1.1
TSEB	baz=229			eS	Sn	16 41 40.1	+0.9
NMLH	Miaoli baz=318	1.72	318	eP	Pb	16 41 19.8	-0.3
NMLH	baz=318			eS	Sb	16 41 41.6	+0.3
TIPB	Shuangxi baz=7.0	1.72	353	P	Pb	16 41 19.6	-0.6
TIPB	baz=7.0			eS	Sb	16 41 40.4	-1.0
WSF	Szhu baz=283	1.72	283	eP	Pb	16 41 19.5	-0.6
WSF	baz=283			eS	Sb	16 41 41.5	+0.1
HEN	Hengchun baz=222	1.74	225	eP	Pn	16 41 19.2	+1.0
HEN	baz=222			eS	Sn	16 41 40.7	+1.0
TWKBT	Hengchun baz=227	1.74	221	eP	Pn	16 41 18.1	0.0
TWKBT	baz=227			eS	Sn	16 41 38.5	-1.2
TWK1	Hengchun baz=219	1.74	222	eP	Pn	16 41 18.9	+0.7
TWB1	Santiao Chiao baz=359	1.75	358	eP	Pn	16 41 19.2	+1.0
TWB1	baz=359			eS	Sn	16 41 40.0	+0.1
WSSB	Gushan baz=264	1.76	250	eP	Pb	16 41 21.4	+0.6
WSSB	baz=264			eS	Sb	16 41 44.7	+2.3
NHDH	Xindian Distri baz=335	1.77	344	eP	Pb	16 41 20.1	-0.8
NHDH	baz=335			eS	Sb	16 41 41.4	-1.2
TWA	Mucha baz=338	1.77	346	eP	Pb	16 41 20.1	-0.8
TWA	baz=338			eS	Sn	16 41 40.3	-0.2
HATJ	Hateruma jima	1.79	63	P	Pn	16 41 19.6	+0.7
HATJ				S	Sn	16 41 40.3	-0.7
TSCK	Chigu Township baz=266	1.81	267	eP	Pn	16 41 20.0	+0.9
TSCK	baz=266			eS	Sn	16 41 42.1	+0.6
SBCB	Hsinchu baz=329	1.81	328	eP	Pb	16 41 21.5	-0.2
NWF	Wu-fen Shan baz=353	1.82	352	P	Pb	16 41 21.2	-0.8
NWF	baz=353			eS	Sb	16 41 44.0	-0.4
SXI1	Grass Mountain baz=9.0	1.84	355	P	Pn	16 41 20.9	+1.3
SXI1	baz=9.0			eS	Sn	16 41 42.1	-0.1
TAP	Taipei baz=336	1.84	344	eP	Pn	16 41 20.8	+1.1
TAP	baz=336			eS	Sn	16 41 43.3	+1.0
IRIF	Iriomote-Funau	1.87	55	P	Pn	16 41 21.0	+0.9
IRIF				eS	Sn	16 41 43.2	+0.2
NCUH	Zhongli baz=336	1.88	335	eP	Pb	16 41 21.9	-1.0
NCUH	baz=336			eS	Sb	16 41 44.8	-1.1
NCU	National Centr baz=337	1.88	335	eP	Pb	16 41 21.9	-0.9
TWS1	Kuangyinshan baz=343	1.93	343	eP	Pn	16 41 22.0	+1.2
TWS1	baz=343			eS	Sb	16 41 45.7	-1.6
YM01	YM01 baz=336	1.93	347	eP	Pn	16 41 22.0	+1.1
YM01	baz=336			eS	Sn	16 41 44.9	+0.3
NTST	Danshui baz=345	1.98	344	eP	Pn	16 41 23.0	+1.5
NTST	baz=345			eS	Sn	16 41 46.8	+1.2
ANP	Anpu baz=347	1.98	346	eP	Pn	16 41 22.4	+0.7
JKRS	Kuro-shima	2.04	61	P	Pn	16 41 23.4	+1.0
JKRS				eS	Sn	16 41 46.8	-0.4
JIJ	Ishigaki jima	2.21	60	P	Pn	16 41 25.3	+0.7
JIJ				S	Sn	16 41 50.3	-1.0
PHUB	P'eng-hu baz=264	2.29	277	eP	Pn	16 41 25.6	-0.2
PNG	Penghu baz=265	2.32	278	eP	Pn	16 41 26.9	+0.8
JISG	Ishigakijimahi	2.46	57	P	Pn	16 41 28.4	+0.4
JISG				eS	Sn	16 41 56.0	-1.4
JTJ	Tarama	2.79	60	P	Pn	16 41 33.7	+1.2
JTJ				S	Sn	16 42 04.7	-0.9
VWUC	VWUC baz=306	2.94	307	eP	Pn	16 41 35.1	+0.5
PTMZ	Houxiangcun baz=303	3.21	304	eP	Pn	16 41 39.0	+0.6
JIRB	Irabujima	3.25	61	P	Pn	16 41 39.8	+0.8
JIRB				eS	Sn	16 42 17.0	-0.1
JMJ2	Miyako jima3	3.34	63	P	Pn	16 41 41.2	+1.0
JMJ2				S	Sn	16 42 18.7	-0.5
JIKM	Ikemajima	3.36	60	eS	Sn	16 42 19.9	+0.2
KNMB	Chin-men Tao baz=289	3.56	290	eP	Pn	16 41 44.4	+1.2
AXDP	Jialang baz=304	4.08	295	eP	Pn	16 41 50.8	+0.5
DSXP	Dongshan baz=275	4.27	277	eP	Pn	16 41 53.6	+0.6
PACPP	Pamplona Cagay	4.82	188	⇑eP	Pn	16 42 01.0	+0.5

WEL 28 16:46:03.0±0.4**,42°S**±3°×**17°4E**±°**,h4**km±2km**,M3.6**/28**,**
ML4.0/15**,MLv3.6**/28**,Error ellipse: s-maj=0.0km**
s-min=0.0km az=136.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.08	292	P	Pg	16 46 04.3	-0.4
KHZ				S	Sg	16 46 05.9	0.0
GVZ	Greta Valley S	0.69	221	P	Pb	16 46 17.3	-0.2
BSWZ	Blackbirch Sta	0.75	13	P	Pg	16 46 17.5	+0.1
CMWZ	Cape Campbell	0.82	32	P	Pb	16 46 19.7	0.0
THZ	Tophouse	0.88	321	P	Pg	16 46 19.7	-0.1
AMCZ	Amberley	1.03	225	P	Pg	16 46 22.9	+0.1
TUWZ	Tuamarina	1.04	12	P	Pg	16 46 23.0	+0.1
LTZ	Lake Taylor	1.07	251	P	Pg	16 46 23.2	-0.2
MRNZ	Matariki Terra	1.24	327	P	Pg	16 46 26.6	-0.1
NNZ	Nelson	1.25	351	P	Pg	16 46 26.1	-0.8
TCW	Tory Channel	1.32	21	P	Pn	16 46 26.4	-1.8
OKCZ	Okains Bay	1.34	198	P	Pn	16 46 26.6	-2.1
WEL	Wellington	1.43	36	P	Pn	16 46 27.9	-1.9
MQZ	McQueen's Vall	1.45	210	P	Pn	16 46 27.3	-2.7
OXZ	Oxford	1.47	233	P	Pn	16 46 28.0	-2.3
PLWZ	Palliser	1.49	54	P	Pn	16 46 27.8	-2.8
TKNZ	Takaka Hill	1.50	340	P	Pn	16 46 30.7	0.0
AKCZ	Akaroa Harbour	1.52	200	P	Pn	16 46 28.8	-2.2
DSZ	Denniston Nort	1.54	297	P	Pn	16 46 31.0	-0.3
MSWZ	Moikau Station	1.58	50	P	Pn	16 46 29.2	-2.6
INZ	Inchbonnie	1.65	260	P	Pn	16 46 32.0	-0.7
DUWZ	D'Urville Isla	1.66	7	P	Pn	16 46 32.1	-0.8
RACZ	Rakaia	1.69	220	P	Pn	16 46 31.0	-2.3
PAWZ	Paruwai Farm	1.71	52	P	Pn	16 46 30.7	-2.9
CAW	Cannon Point	1.71	39	P	Pn	16 46 31.4	-2.2
QRZ	Quartz Range	1.82	332	P	Pn	16 46 35.3	+0.2
KIW	Kapiti Island	1.85	31	P	Pn	16 46 34.1	-1.4
TRWZ	Traveller	1.85	56	P	Pn	16 46 32.7	-2.8
MTW	Mount Morrison	1.90	48	P	Pn	16 46 33.2	-2.9
OGWZ	Otaki Gorge	1.99	36	P	Pn	16 46 35.3	-2.2
WACZ	Wakanui South	1.99	221	P	Pn	16 46 35.4	-2.1
HOWZ	Holdsworth Sta	2.09	43	P	Pn	16 46 36.6	-2.2
TMWZ	Te Maipa	2.15	52	P	Pn	16 46 36.3	-3.4
WVZ	Waitaha Valley	2.23	253	P	Pn	16 46 40.1	-0.6
RPZ	Rata Peaks	2.28	235	P	Pn	16 46 39.2	-2.3
MRZ	Mangatainoka R	2.30	40	P	Pn	16 46 39.0	-2.7
ARCZ	Arundel	2.34	229	P	Pn	16 46 40.0	-2.4
GCSZ	Gaunt Creek Bo	2.59	249	P	Pn	16 46 44.9	-0.7
TMZ	Timaru	2.73	224	P	Pn	16 46 45.7	-1.9
WAZ	Wanganui	2.88	21	P	Pb	16 46 53.6	-1.2
KHEZ	Kahui Hut	3.16	5	P	Pn	16 46 56.2	+2.5
LBZ	Lake Benmore	3.18	231	P	Pn	16 46 52.6	-1.2
NBEZ	Newall Road No	3.18	3	P	Pb	16 46 58.1	-2.0
NEZ	North Egmont	3.19	6	P	Pb	16 46 57.7	-2.6
PKE	Pukeiti	3.26	5	P	Pb	16 46 58.8	-2.7
ODZ	Otahua Downs	3.38	219	P	Pn	16 46 54.2	-2.4
MOVZ	Moawhango	3.43	28	P	Pn	16 46 58.8	+1.5
WNVZ	Wahianoa	3.45	26	P	Pn	16 47 00.4	+2.8
TRVZ	Turoa	3.46	25	P	Pn	16 46 59.2	+1.4
BHHZ	Black Hill Sta	3.48	33	P	Pn	16 47 00.0	+2.1
WHVZ	Whangaehu Hut	3.49	26	P	Pn	16 47 01.4	+3.2
TUVZ	Tukino	3.52	26	P	Pn	16 46 59.3	+0.6
NGZ	Ngauruhoe	3.59	25	P	Pn	16 47 01.8	+2.2
NNVZ	North Ngauruho	3.63	25	P	Pn	16 47 01.3	+1.1
ETVZ	East Tongariro	3.66	26	P	Pn	16 47 02.1	+1.6
TMVZ	Te Maari	3.68	26	P	Pn	16 47 02.4	+1.7
HIZ	Hauiti	4.04	14	P	Pn	16 47 06.6	+1.0
EAZ	Earnscleugh	4.19	227	P	Pn	16 47 05.6	-2.1
MWZ	Matawai	5.07	37	P	Pn	16 47 18.6	-1.2
AWAZ	Awhitu Peninsu	5.43	8	P	Pn	16 47 26.3	+1.6
MKAZ	Moumakai	5.46	13	P	Pn	16 47 24.4	-0.8

*IDC **28** 16:51:07.0±0.7, 55°.71N×164°.55E, h0km, mb3.7/16, mbtmp3.7/18, ML4.4/1, MS3.3/5, Error ellipse: s-maj=23.5km s-min=12.5km az=159.0*
*KRSC **28** 16:51:09.0±1.6, 55°.44N×164°.36E, h16km±39km, ML4.7*
*NEIC **28** 16:51:10.7±1.1, 55°.8N±0°.2×164°.5E±0°.2, h26km±7km, mb4.3/59, Error ellipse: s-maj=27.4km s-min=12.9km az=157.0*
*MOS **28** 16:51:10.6±0.9, 55°.64N×164°.59E, h45km, mb4.2/2, Error ellipse: s-maj=6.7km s-min=5.0km az=56.6*
ISC 28 16:51:10.9±1.6**, 55°.61N**±0°.04×**164°.59E**±0°.03**, h28**km±13km**,**
n186,σ**1°.22**/225**, mb4.2**/46**, MS3.6**/3**, 1D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.89	117	P	Pn	16 51 27.1	-0.3
BKI				S	Sb	16 51 38.9	-0.1
BKI	Bering	0.89	117	PN	Pn	16 51 27.1	-0.3
BKI				S	Sb	16 51 39.0	-0.1
KBTR	Krutoberegovo	1.16	302	P	Pn	16 51 29.3	-2.0
KBTR				S	Sn	16 51 43.9	-2.3
KBTR	Krutoberegovo	1.16	302	PN	Pn	16 51 29.3	-2.0
KBTR				S	Sn	16 51 42.7	-3.5
KBG	Krutoberegovo	1.24	302	P	Pn	16 51 30.5	-1.8
KBG				S	Sn	16 51 46.2	-1.9
KBG	Krutoberegovo	1.24	302	PN	Pn	16 51 30.5	-1.8
KBG				S	Sn	16 51 45.5	-2.6
SMKR	Semkarok	2.00	300	P	Pn	16 51 42.9	0.0
SMKR				S	Sn	16 52 07.3	+0.2

SMKR	**Semkarok**	**2.00**	**300**	PN	**Pn**	**16 51 42.9**	**0.0**
SMKR				S	**Sn**	**16 52 07.2**	**+0.2**
BDR	**Baidarnaya**	**2.12**	**298**	P	**Pn**	**16 51 45.1**	**+0.5**
BDR				S	**Sn**	**16 52 10.7**	**+0.7**
BDR	**Baidarnaya**	**2.12**	**298**	PN	**Pn**	**16 51 45.0**	**+0.5**
BDR				S	**Sn**	**16 52 10.3**	**+0.3**
ZLN	**Zelenaya**	**2.18**	**282**	P	**Pn**	**16 51 46.3**	**+1.0**
ZLN				S	**Sn**	**16 52 13.2**	**+1.9**
ZLN	**Zelenaya**	**2.18**	**282**	PN	**Pn**	**16 51 46.1**	**+0.8**
ZLN				S	**Sn**	**16 52 13.3**	**+1.9**
SRKR	**Sorokina**	**2.18**	**300**	P	**Pn**	**16 51 45.8**	**+0.4**
SRKR				S	**Sn**	**16 52 12.0**	**+0.5**
SRKR	**Sorokina**	**2.18**	**300**	PN	**Pn**	**16 51 45.7**	**+0.4**
SRKR				S	**Sn**	**16 52 11.9**	**+0.5**
CIRR	**Tsirk**	**2.22**	**285**	PN	**Pn**	**16 51 46.1**	**+0.1**
CIRR				S	**Sn**	**16 52 13.7**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**2.23**	**280**	P	**Pn**	**16 51 46.6**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**2.23**	**280**	PN	**Pn**	**16 51 46.3**	**+0.3**
BZGR				S	**Sn**	**16 52 13.0**	**+0.4**
KLY	**Klyuchi**	**2.32**	**289**	P	**Pn**	**16 51 46.2**	**-1.0**
KLY				S	**Sn**	**16 52 13.3**	**-1.5**
KLY	**Klyuchi**	**2.32**	**289**	PN	**Pn**	**16 51 46.0**	**-1.2**
KLY				S	**Sn**	**16 52 13.3**	**-1.5**
BZMR	**Bezymyannaya**	**2.34**	**280**	P	**Pn**	**16 51 48.1**	**+0.5**
BZMR				S	**Sn**	**16 52 17.6**	**+2.2**
BZMR	**Bezymyannaya**	**2.34**	**280**	PN	**Pn**	**16 51 47.9**	**+0.3**
BZMR				S	**Sn**	**16 52 16.4**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.34**	**280**	P	**Pn**	**16 51 48.2**	**+0.6**
BZWR				S	**Sb**	**16 52 18.5**	**-2.4**
BZWR	**Bezymyannyi-We**	**2.34**	**280**	PN	**Pn**	**16 51 48.1**	**+0.5**
BZWR				S	**Sn**	**16 52 15.6**	**+0.1**
KRSR	**Krestovskiy**	**2.35**	**287**	P	**Pn**	**16 51 47.7**	**+0.1**
KRSR				S	**Sn**	**16 52 16.3**	**+0.8**
KRSR	**Krestovskiy**	**2.35**	**287**	PN	**Pn**	**16 51 47.7**	**+0.1**
KRSR				S	**Sn**	**16 52 14.4**	**-1.1**
KIRR	**Kirishev**	**2.42**	**280**	P	**Pn**	**16 51 49.6**	**+0.9**
KIRR				S	**Sn**	**16 52 18.8**	**+1.3**
KIRR	**Kirishev**	**2.42**	**280**	PN	**Pn**	**16 51 49.4**	**+0.7**
KIRR				S	**Sn**	**16 52 18.6**	**+1.1**
TUMD	**Tumrok D**	**2.42**	**262**	P	**Pn**	**16 51 49.6**	**+1.0**
KMNR	**Kamenistaya**	**2.47**	**275**	P	**Pn**	**16 51 50.3**	**+0.9**
KMNR	**Kamenistaya**	**2.47**	**275**	PN	**Pn**	**16 51 50.2**	**+0.9**
KMNR				S	**Sn**	**16 52 19.5**	**+0.9**
KPT	**Kopyto**	**2.49**	**280**	P	**Pn**	**16 51 50.6**	**+1.0**
KPT				S	**Sn**	**16 52 21.1**	**+2.0**
KPT	**Kopyto**	**2.49**	**280**	PN	**Pn**	**16 51 50.2**	**+0.6**
KPT				S	**Sn**	**16 52 19.7**	**+0.6**
TUMR	**Tumrok**	**2.55**	**264**	P	**Pn**	**16 51 51.8**	**+1.3**
TUMR	**Tumrok**	**2.55**	**264**	PN	**Pn**	**16 51 49.2**	**-1.3**
TUMR				S	**Sn**	**16 52 18.2**	**-2.5**
KOZ	**Kozyrevsk**	**2.70**	**281**	P	**Pn**	**16 51 53.6**	**+1.2**
KOZ				S	**Sn**	**16 52 26.6**	**+2.5**
KOZ	**Kozyrevsk**	**2.70**	**281**	PN	**Pn**	**16 51 53.6**	**+1.2**
KOZ				S	**Sn**	**16 52 25.6**	**+1.5**
SRDR	**Sredinnyy**	**2.83**	**286**	P	**Pn**	**16 51 55.3**	**+1.1**
SRDR				S	**Sn**	**16 52 29.1**	**+1.7**
SRDR	**Sredinnyy**	**2.83**	**286**	PN	**Pn**	**16 51 55.1**	**+0.9**
SRDR				S	**Sn**	**16 52 26.9**	**-0.5**
ESO	**Esso**	**3.34**	**278**	PN	**Pn**	**16 52 01.7**	**+0.5**
SPN	**Mys Shipunski**	**3.67**	**229**	P	**Pn**	**16 52 05.2**	**-0.5**
SPN				S	**Sn**	**16 52 43.8**	**-4.3**
SPN	**Mys Shipunski**	**3.67**	**229**	PN	**Pn**	**16 52 05.0**	**-0.7**
OSSR	**Ossora**	**3.74**	**348**	PN	**Pn**	**16 52 06.0**	**-0.7**
NLC	**Nalytchevo**	**3.92**	**234**	P	**Pn**	**16 52 09.7**	**+0.6**
NLC				S	**Sn**	**16 52 51.9**	**-2.3**
NLC	**Nalytchevo**	**3.92**	**234**	PN	**Pn**	**16 52 09.6**	**+0.5**
SDLR	**Sedlovina**	**4.07**	**237**	P	**Pn**	**16 52 12.4**	**+1.1**
SDLR				S	**Sn**	**16 52 56.6**	**-1.4**
SDLR	**Sedlovina**	**4.07**	**237**	PN	**Pn**	**16 52 12.5**	**+1.1**
SMAR	**Somma**	**4.12**	**238**	P	**Pn**	**16 52 13.2**	**+1.1**
SMAR				S	**Sn**	**16 52 58.1**	**-1.3**
SMAR	**Somma**	**4.12**	**238**	PN	**Pn**	**16 52 13.2**	**+1.1**
KRER	**Koryakskii**	**4.12**	**238**	P	**Pn**	**16 52 13.5**	**+1.4**
KRER				S	**Sn**	**16 52 58.8**	**-0.6**
KRER	**Koryakskii**	**4.12**	**238**	PN	**Pn**	**16 52 13.1**	**+1.0**
KRER				S	**Sn**	**16 52 58.5**	**-0.9**
UGLR	**Uglovaya**	**4.14**	**237**	P	**Pn**	**16 52 13.7**	**+1.4**
UGLR	**Uglovaya**	**4.14**	**237**	PN	**Pn**	**16 52 13.6**	**+1.3**
UGLR				S	**Sn**	**16 52 59.1**	**-0.7**
AVH	**Avacha**	**4.15**	**238**	P	**Pn**	**16 52 14.1**	**+1.7**
AVH				S	**Sn**	**16 52 59.3**	**-0.6**
AVH	**Avacha**	**4.15**	**238**	PN	**Pn**	**16 52 14.0**	**+1.7**
KOK	**Koryaka**	**4.18**	**239**	P	**Pn**	**16 52 14.1**	**+1.2**
KOK	**Koryaka**	**4.18**	**239**	PN	**Pn**	**16 52 14.0**	**+1.2**
DALK	**Dalny**	**4.29**	**235**	P	**Pn**	**16 52 14.8**	**+0.7**
DALK				S	**Sn**	**16 53 00.3**	**-2.8**
DALK	**Dalny**	**4.29**	**235**	PN	**Pn**	**16 52 14.8**	**+0.7**
PALN	**Palana**	**4.29**	**326**	PN	**Pn**	**16 52 13.2**	**-1.0**
GNL	**Ganaly**	**4.31**	**246**	P	**Pn**	**16 52 16.1**	**+1.4**
GNL	**Ganaly**	**4.31**	**246**	PN	**Pn**	**16 52 16.1**	**+1.4**
PET	**Petropavlovsk**	**4.34**	**236**	Pn	**Pn**	**16 52 15.6**	**+0.8**
PET	**Petropavlovsk**	**4.34**	**236**	*i*P	**Pn**	**16 52 15.9**	**+1.1**
PET				pmax	pmax		
	comp=Z,62nm,0.6s						
PET				MLR	MLR		
	comp=Z,300nm,13.0s						
KRMR	**Karymshinskiy**	**4.71**	**236**	P	**Pn**	**16 52 21.3**	**+1.4**
KRMR				S	**Sn**	**16 53 11.5**	**-2.0**
KRMR	**Karymshinskiy**	**4.71**	**236**	PN	**Pn**	**16 52 21.0**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.75**	**241**	Pn	**Pn**	**16 52 21.6**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.75**	**241**	PN	**Pn**	**16 52 21.6**	**+1.1**
PETK	**Petropavlovsk-**	**4.75**	**241**	Pn	**Pn**	**16 52 20.8**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=78,slow=15,SNR=93						
PETK				Sn	**Sn**	**16 53 16.7**	**+2.1**
	comp=Z,5.3nm,0.3s,baz=223,slow=5.9,SNR=3.9						
PETK	**Petropavlovsk-**	**4.75**	**241**		**Pn**	**16 52 21.0**	**+0.5**
RUS	**Russkaya**	**4.79**	**231**	P	**Pn**	**16 52 21.8**	**+0.7**
RUS				S	**Sn**	**16 53 12.1**	**-3.6**
RUS	**Russkaya**	**4.79**	**231**	PN	**Pn**	**16 52 21.5**	**+0.4**
MTVR	**Mutnovka**	**4.91**	**233**	P	**Pn**	**16 52 23.9**	**+1.1**
MTVR				S	**Sn**	**16 53 17.1**	**-1.6**
MTVR	**Mutnovka**	**4.91**	**233**	PN	**Pn**	**16 52 23.7**	**+0.9**
GRL	**Gorelyy**	**4.91**	**234**	P	**Pn**	**16 52 24.6**	**+2.0**
GRL	**Gorelyy**	**4.91**	**234**	PN	**Pn**	**16 52 24.7**	**+1.8**
TILK	**Tilichiki**	**4.92**	**9**	PN	**Pn**	**16 52 23.6**	**+0.8**
APC	**Apacha**	**5.12**	**241**	P	**Pn**	**16 52 28.1**	**+2.5**
APC				S	**Sn**	**16 53 25.9**	**+2.2**
APC	**Apacha**	**5.12**	**241**	PN	**Pn**	**16 52 27.7**	**+2.1**
KDTR	**Khodutka, Kamc**	**5.43**	**228**	P	**Pn**	**16 52 30.2**	**+0.4**
KDTR				S	**Sn**	**16 53 27.7**	**-3.6**
KDTR	**Khodutka, Kamc**	**5.43**	**228**	PN	**Pn**	**16 52 30.1**	**+0.3**
PAU	**Pauzhetka**	**6.22**	**231**	PN	**Pn**	**16 52 42.4**	**+1.6**
SHEM	**Shemya Is, Ala**	**6.29**	**113**	LR	LR	16 54 43.1	
	comp=Z,110nm,19.8s,baz=278,slow=34						
KMSK	**Kamenskaya**	**6.93**	**6**	PN	**Pn**	**16 52 50.7**	**+0.3**
SKR	**Severo-Kuril's**	**7.09**	**229**	PN	**Pn**	**16 52 52.2**	**-0.5**
BILL	**Bilibino**	**12.50**	**3**	Pn	**Pn**	**16 54 08.8**	**+2.2**
NIKH	**Nikolski High**	**15.69**	**89**	Pn	**Pn**	**16 54 50.6**	**+0.9**
UNV	**Unalaska Valle**	**16.74**	**84**	P	**Pn**	**16 55 04.5**	**+1.5**
JKA	**Kamikawa-asahi**	**18.16**	**240**	P	**Pn**	**16 55 20.9**	**0.0**
JKA				IAmb	IAmb	16 55 23.8	
	comp=Z,22nm,0.9s						
ASAJ	**Asahikawa**	**18.17**	**240**	LR	LR	17 01 35.4	
	comp=Z,44nm,20.7s,baz=105,slow=34						
ASAJ	**Asahikawa**	**18.17**	**240**	P	**Pn**	**16 55 20.9**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK	**Yakutsk**	**18.99**	**304**	P	**P**	**16 55 29.2**	**-0.7**
	baz=71,slow=2.3,SNR=4.2						
	comp=Z,2.4nm,0.4s						
YAK	**Yakutsk**	**18.99**	**304**	P	**P**	**16 55 26.9**	**-3.0**
ERM	**Erimo**	**19.49**	**235**		**P**	**16 55 36.1**	**+0.7**
ERM	**Erimo**	**19.49**	**235**	P	**P**	**16 55 36.2**	**+0.7**
ERM				pmax	pmax		
	comp=Z,135nm,1.4s						
CNBA	**Chernabura Isl**	**20.32**	**77**	P	**P**	**16 55 43.6**	**-0.7**
CHGN	**Chignik**	**20.57**	**73**	P	**P**	**16 55 46.5**	**-0.5**
KLR	**Kul'dur**	**20.88**	**266**	P	**P**	**16 55 50.6**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=64,slow=10,SNR=4.9						
KLR				LR	LR	17 05 18.5	
	comp=Z,45nm,20.2s,baz=30,slow=41						
	comp=Z,0.8nm,0.4s						
TTA	**Tatalina**	**21.12**	**54**		**P**	**16 55 54.1**	**+1.0**
TTA	**Tatalina**	**21.12**	**54**	P	**P**	**16 55 54.1**	**+1.0**
TTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
N18K	**Kilae Creek**	**21.21**	**60**	P	**P**	**16 55 53.0**	**-1.1**
N18K				IAmb	IAmb	16 55 57.4	
	comp=Z,22nm,1.4s						
M19K	**Big River Lodg**	**21.88**	**57**	P	**P**	**16 56 00.6**	**-0.5**
M19K				IAmb	IAmb	16 56 39.8	
	comp=Z,9.9nm,1.1s						
J20K	**Nowinta River**	**22.02**	**50**	P	**P**	**16 56 01.7**	**-0.9**
J20K				IAmb	IAmb	16 56 14.3	
	comp=Z,11nm,1.3s						
K20K	**Telida**	**22.02**	**53**	P	**P**	**16 56 01.8**	**-0.9**
K20K				IAmb	IAmb	16 56 41.4	
	comp=Z,11nm,1.4s						
TIXI	**Tiksi**	**22.04**	**330**	P	**P**	**16 56 02.2**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=270,slow=24,SNR=14						
	comp=Z,2.3nm,0.8s						
IMAR	**Indian Mountai**	**22.36**	**46**	P	**P**	**16 56 05.7**	**-0.6**
H21K	**Melozitna Rive**	**22.71**	**47**	P	**P**	**16 56 09.2**	**-0.8**
H21K				IAmb	IAmb	16 56 12.8	
	comp=Z,7.5nm,1.4s						
SII	**Sitkinak Islan**	**22.78**	**70**	P	**P**	**16 56 09.9**	**-0.9**
PPLA	**Purkeypile**	**22.87**	**54**	P	**P**	**16 56 12.5**	**+0.6**
PPLA				IAmb	IAmb	16 56 20.8	
	comp=Z,17nm,1.4s						
CAST	**Castle Rocks**	**22.91**	**52**	P	**P**	**16 56 12.7**	**+0.5**
OHAK	**Old Harbor**	**23.09**	**68**	P	**P**	**16 56 12.6**	**-1.4**
BPAW	**Bear Paw Mtn.**	**23.40**	**51**	P	**P**	**16 56 16.6**	**-0.5**
KTH	**Kantishna Hill**	**23.43**	**52**	P	**P**	**16 56 17.1**	**-0.3**
KTH				IAmb	IAmb	16 56 34.2	
	comp=Z,18nm,1.4s						
MLY	**Manley**	**23.53**	**48**	P	**P**	**16 56 17.9**	**-0.4**
SUA	**Susitna One**	**23.64**	**57**	P	**P**	**16 56 18.8**	**-0.7**
SUA				IAmb	IAmb	16 56 56.8	
	comp=Z,22nm,1.4s						
USRK	**Ussuriysk Ar.**	**23.67**	**255**	P	**P**	**16 56 21.0**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=58,slow=12,SNR=2.0						
	comp=Z,0.7nm,0.6s						
CNPM	**China Poot**	**23.67**	**62**	P	**P**	**16 56 18.7**	**-1.0**
TRF	**Thorofare Moun**	**23.72**	**52**	P	**P**	**16 56 20.1**	**-0.3**
TRF				IAmb	IAmb	16 56 21.6	
	comp=Z,14nm,1.0s						
BRLK	**Bradley Lake**	**23.80**	**62**	P	**P**	**16 56 19.8**	**-1.2**
BRLK				IAmb	IAmb	16 56 31.0	
	comp=Z,34nm,1.4s						
COLD	**Coldfoot**	**23.92**	**43**	P	**P**	**16 56 21.1**	**-0.9**
H23K	**Yukon River**	**24.06**	**46**	P	**P**	**16 56 22.5**	**-0.9**
H23K				IAmb	IAmb	16 56 25.1	
	comp=Z,14nm,1.2s						
NEA2	**Nenana**	**24.23**	**49**	P	**P**	**16 56 24.2**	**-0.7**
NEA2				IAmb	IAmb	16 56 25.8	
	comp=Z,5.4nm,0.6s						
MCK	**McKinley**	**24.31**	**52**	P	**P**	**16 56 25.0**	**-0.7**
MCK				IAmb	IAmb	16 56 28.7	
	comp=Z,14nm,1.4s						
MCK	**McKinley**	**24.31**	**52**	P	**P**	**16 56 25.0**	**-0.7**
MCK				pmax	pmax		
	comp=Z,14nm,1.4s						
TOLK	**Toolik Lake Re**	**24.35**	**40**	P	**P**	**16 56 25.2**	**-0.8**
GHO	**Glory Hole Cre**	**24.47**	**56**	P	**P**	**16 56 26.6**	**-0.6**
GHO				IAmb	IAmb	16 56 44.4	
	comp=Z,30nm,1.4s						
MDM	**Murphy Dome**	**24.59**	**49**	P	**P**	**16 56 27.6**	**-0.6**
WRH	**Wood River Hil**	**24.66**	**50**	P	**P**	**16 56 28.2**	**-0.6**
WRH				IAmb	IAmb	16 56 30.2	
	comp=Z,4.2nm,0.6s						
KNK	**Knik Glacier**	**24.74**	**57**	P	**P**	**16 56 28.8**	**-0.8**
KNK				IAmb	IAmb	16 56 30.5	
	comp=Z,22nm,1.2s						
SML	**Sawmill**	**24.75**	**56**	P	**P**	**16 56 28.6**	**-1.1**
SML				IAmb	IAmb	16 56 38.9	
	comp=Z,23nm,1.4s						
H24K	**Noodor Dome**	**24.75**	**46**	P	**P**	**16 56 29.3**	**-0.4**
H24K				IAmb	IAmb	16 56 56.8	
	comp=Z,7.1nm,1.3s						
CCB	**Clear Creek Bu**	**24.78**	**49**	P	**P**	**16 56 28.3**	**-1.6**
CCB				IAmb	IAmb	16 56 31.5	
	comp=Z,6.4nm,1.0s						
PWL	**Port Wells**	**24.88**	**58**	P	**P**	**16 56 29.4**	**-1.4**
DHY	**Denali Highway**	**25.05**	**53**	P	**P**	**16 56 31.4**	**-1.2**
DHY				IAmb	IAmb	16 56 41.0	
	comp=Z,11nm,1.3s						
IL31		**25.17**	**49**	P	**P**	**16 56 32.6**	**-0.7**
IL31				IAmb	IAmb	16 56 50.7	
	comp=Z,8.7nm,1.4s						
ILAR	**Eielson Array**	**25.17**	**49**	P	**P**	**16 56 32.5**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=266,slow=8.5,SNR=14						
	comp=Z,1.5nm,0.6s						
ILAR	**Eielson Array**	**25.17**	**49**	P	**P**	**16 56 32.3**	**-1.1**
ILAR	**Eielson Array**	**25.17**	**49**	P	**P**	**16 56 32.3**	**-1.1**
SCM	**Sheep Creek Mo**	**25.22**	**56**	P	**P**	**16 56 33.3**	**-0.6**
SCM	**Sheep Creek Mo**	**25.22**	**56**	P	**P**	**16 56 33.3**	**-0.6**
M24K	**Tolsona, Glenn**	**25.72**	**55**	P	**P**	**16 56 38.4**	**-0.1**
PRP	**Porcupine Dome**	**25.72**	**47**	P	**P**	**16 56 38.0**	**-0.6**
BMAR	**Burnt Mountain**	**26.11**	**43**	P	**P**	**16 56 41.9**	**-0.1**
RIDG	**Independent Ri**	**26.13**	**51**	P	**P**	**16 56 41.0**	**-1.1**
RIDG				IAmb	IAmb	16 57 15.2	
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**26.17**	**234**	P	**P**	**16 56 41.7**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=74,slow=8.7,SNR=1.5						
	comp=Z,1.0nm,0.7s						
SCRK	**Sand Creek**	**26.48**	**51**	P	**P**	**16 56 44.3**	**-1.1**
K27K	**Chicken**	**27.31**	**50**	P	**P**	**16 56 51.9**	**-0.9**
K27K				IAmb	IAmb	16 56 56.0	
	comp=Z,6.2nm,1.4s						
L27K	**Beaver Creek**	**27.56**	**52**	P	**P**	**16 56 54.7**	**-0.3**
BCAR	**Beaver Creek A**	**27.58**	**52**	P	**P**	**16 56 55.1**	**-0.2**
EGAK	**Eagle**	**27.62**	**49**	P	**P**	**16 56 54.3**	**-1.1**
M27K	**Edge Creek, AK**	**27.66**	**54**	P	**P**	**16 56 56.5**	**+0.4**
M27K				IAmb	IAmb	16 57 07.6	
	comp=Z,14nm,1.4s						
INK	**Inuvik**	**30.25**	**41**	P	**P**	**16 57 17.8**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=280,slow=6.8,SNR=6.1						
	comp=Z,0.9nm,0.4s						
INK	**Inuvik**	**30.25**	**41**	P	**P**	**16 57 18.3**	**-0.5**
M31M	**Drury Creek, Y**	**31.10**	**53**	P	**P**	**16 57 25.7**	**-0.7**
M31M				IAmb	IAmb	16 57 27.6	
	comp=Z,8.2nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**35.87**	**176**	T	T	17 36 05.0	
	baz=358,slow=76,SNR=302						
H11N3	**WAKE ISLAND Hy**	**35.88**	**176**	T	T	17 36 06.1	
	baz=358,slow=76,SNR=337						
H11N1	**WAKE ISLAND Hy**	**35.88**	**176**	T	T	17 36 09.1	
	baz=358,slow=76,SNR=362						
H11S1	**WAKE ISLAND Hy**	**37.07**	**177**	T	T	17 37 37.8	
	baz=359,slow=76,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**37.09**	**177**	T	T	17 37 38.0	
	baz=359,slow=76,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**37.09**	**177**	T	T	17 37 36.0	
	baz=359,slow=76,SNR=7.7						
EUNU	**Eureka**	**38.85**	**15**	P	**P**	**16 58 32.9**	**-0.1**
YKA	**Yellowknife Ar**	**39.52**	**46**	P	**P**	**16 58 38.1**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=298,slow=8.5,SNR=5.7						
	comp=Z,1.0nm,0.5s						
BRLDA	**Berland Lookou**	**42.70**	**58**	P	**P**	**16 59 05.4**	**+0.4**
BRLDA				IAmb	IAmb	16 59 06.1	
	comp=Z,7.7nm,0.6s						
WALA	**Waterton Lakes**	**47.51**	**62**	P	**P**	**16 59 43.5**	**+0.1**
WALA				IAmb	IAmb	16 59 44.2	
	comp=Z,4.2nm,0.7s						
KURK	**Kurchatov**	**48.62**	**302**	P	**P**	**16 59 51.6**	**-0.1**
KURBB	**Kurchatov Arra**	**48.73**	**302**	P	**P**	**16 59 51.5**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=54,slow=7.9,SNR=5.6						
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**49.42**	**296**	P	**P**	**16 59 56.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=42,slow=7.3,SNR=4.4						
	comp=Z,0.2nm,0.4s						
FCC	**Fort Churchill**	**49.85**	**42**	P	**P**	**17 00 00.5**	**-0.5**
FCC	**Fort Churchill**	**49.85**	**42**	P	**P**	**17 00 00.5**	**-0.5**
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**17 00 08.5**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=40,slow=12,SNR=3.8						
	comp=Z,1.0nm,0.8s						
WAKR	**Walker**	**51.80**	**76**	P	**P**	**17 00 17.4**	**+1.3**
WAKR				IAmb	IAmb	17 00 18.4	
	comp=Z,3.1nm,0.7s						
NVAR	**Mina Array Bea**	**52.47**	**75**	P	**P**	**17 00 22.6**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=292,slow=8.1,SNR=7.6						
	comp=Z,1.5nm,0.7s						
BW06	**Boulder Array**	**54.03**	**65**	P	**P**	**17 00 32.7**	**+0.1**
BW06				IAmb	IAmb	17 00 33.8	
	comp=Z,1.5nm,0.8s						
PDAR	**Pinedale Array**	**54.03**	**65**	P	**P**	**17 00 32.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=322,slow=3.4,SNR=6.1						
	comp=Z,0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**61.24**	**261**	P	**P**	**17 01 24.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=18,slow=8.3,SNR=2.1						
	comp=Z,0.2nm,0.3s						
PMG	**Port Moresby**	**66.39**	**199**	LR	LR	17 26 00.5	
	comp=Z,38nm,20.9s,baz=107,slow=32						
TX31	**Lajitas Ar. Si**	**67.28**	**71**	P	**P**	**17 02 03.1**	**+0.2**
TX32	**Lajitas Array**	**67.28**	**71**	P	**P**	**17 02 03.2**	**+0.3**
TX32				IAmb	IAmb	17 02 03.9	
	comp=Z,1.8nm,0.8s						
TXAR	**Lajitas Array**	**67.28**	**71**	P	**P**	**17 02 03.5**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=299,slow=5.3,SNR=11						
	comp=Z,1.3nm,0.7s						
TXAR	**Lajitas Array**	**67.28**	**71**	P	**P**	**17 02 03.2**	**+0.3**
TXAR	**Lajitas Array**	**67.28**	**71**	P	**P**	**17 02 03.2**	**+0.3**
OXF	**Oxford**	**70.41**	**57**	P	**P**	**17 02 21.8**	**-0.4**
OXF	**Oxford**	**70.41**	**57**	P	**P**	**17 02 21.8**	**-0.4**
WRA	**Warramunga Arr**	**79.52**	**209**	P	**P**	**17 03 16.6**	**+1.8**
	comp=Z,0.3nm,1.0s,baz=22,slow=5.1,SNR=1.5						
	comp=Z,0.3nm,1.0s						
ASAR	**Alice Springs**	**83.18**	**208**	P	**P**	**17 03 34.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=24,slow=3.9,SNR=4.5						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**83.18**	**208**	P	**P**	**17 03 34.0**	**-0.1**
RAO	**Raoul Island**	**85.84**	**165**	LR	LR	17 36 46.7	
	comp=Z,156nm,20.2s,baz=346,slow=32						

IDC 28 17:24:41.2±7.3, 30°46S×178°47W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=300.2km s-min=59.8km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.70**	**267**	P	P	17 32 40.4	+0.2
	0.3nm,0.5s,baz=106,slow=7.2,SNR=7.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.69**	**272**	P	P	17 32 47.8	-0.4
	0.5nm,0.6s,baz=111,slow=8.1,SNR=17						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**145.06**	**340**	PKPbc	PKPbc	17 44 18.5	-0.8
	3.6nm,0.9s,baz=66,slow=3.4,SNR=4.3						

---

*IDC **28** 17:25:09.9±0.8, 67°14N×20°88E, h0km, mbtmp3.5/6, ML2.6/6, Error ellipse: s-maj=13.8km s-min=7.0km az=111.0*
*NAO **28** 17:25:09.7±0.8, 67°15N×21°03E, ML3.1*
*HEL **28** 17:25:09.8±0.1, 67°19N×20°72E, h0km, ML2.3, ML2.6(UPP), Explosion*
*BER **28** 17:25:10.8±2.1, 66°98N×21°09E, h0km≤19km, ML2.5, ML3.1(NAO), Confirmed Induced event*

ISC 28 17:25:08.6±0.6, 67°20N±0°02×20°65E±0°02, h0km, n59, σ1§20/102, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**202**	*i* P	**Pg**	**17 25 11.3**	**+1.1**
DUNU				*i* S	**Sg**	**17 25 12.7**	**+1.6**
MASU	**Masugnsbyn**	**0.59**	**63**	*i* P	**Pg**	**17 25 20.4**	**+0.5**
RATU	**Laukkuluspa**	**0.75**	**328**	*i* P	**Pg**	**17 25 23.5**	**+0.5**
RATU				*i* S	**Sb**	**17 25 34.0**	**-1.3**
SALU	**Saltoluokta**	**0.85**	**284**	*i* P	**Pb**	**17 25 25.6**	**-0.7**
SALU				*i* S	**Sb**	**17 25 37.5**	**-0.8**
ERTU	**Ertsjaerv**	**0.89**	**136**	*e*P	**Pg**	**17 25 24.7**	**-0.8**
ERTU				*e*SB	**Sg**	**17 25 37.6**	**+0.6**
NIKU	**Nikkaluokta**	**0.92**	**318**	*e*P	**Pb**	**17 25 26.6**	**-0.8**
PAJU	**Pajala**	**0.98**	**99**	*e*P	**Pg**	**17 25 27.1**	**-0.2**
LANU	**Lannavaara**	**1.00**	**30**	*e*P	**Pg**	**17 25 27.3**	**-0.4**
LANU				*e*SB	**Sb**	**17 25 42.9**	**+0.4**
HARU	**Harads**	**1.04**	**173**	*e*P	**

MSF					*e*SG		**Sb**	**17 26 59.3**	**+2.2**
KU6	**Riekki**	**3.87**	**103**		*e*P		**Pn**	**17 26 10.1**	**+0.8**
	baz=290								
KU6					*e*S		**Sn**	**17 26 57.0**	**+1.6**
VADS	**Vadso**	**4.33**	**43**		*e*P		**Pn**	**17 26 16.1**	**+0.5**
VADS					IAML			17 27 27.0	
	comp=Z,17nm,0.6s								
HEMU	**Hemsoen**	**4.67**	**195**		*e*PG		**Pb**	**17 26 31.5**	**+0.2**
	baz=16								
APA0	**Apatity Array**	**4.78**	**79**		Pn		**Pn**	**17 26 21.9**	**+0.1**
	baz=276,slow=11								
APA0					Sn		**Sn**	**17 27 15.8**	**-2.0**
	baz=280,slow=28								
APA0					Lg		Lg	17 27 35.2	
	baz=275,slow=28								
APA0	**Apatity Array**	**4.78**	**79**		Pn		**Pn**	**17 26 21.9**	**+0.1**
FIA0	**FINESS Array S**	**6.24**	**155**		Pn		**Pn**	**17 26 42.3**	**+0.6**
	baz=350,slow=16								
FIA0					Sn		**Sn**	**17 27 51.9**	**-1.7**
	baz=347,slow=28								
FIA0					Lg		Lg	17 28 21.9	
	baz=339,slow=28								
FINES	**FINESS Array B**	**6.24**	**155**		Pn		**Pn**	**17 26 41.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=347,slow=14,SNR=6.7								
FINES					Sn		**Sn**	**17 27 52.1**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=347,slow=21,SNR=10								
FINES					Lg		Lg	17 28 23.0	
	comp=Z,1.5nm,0.3s,baz=342,slow=31,SNR=8.0								
	comp=Z,3.0nm,0.6s								
NB2	**NORSAR Subarra**	**7.42**	**218**		Pn		**Pn**	**17 26 59.2**	**+1.2**
	baz=32,slow=14								
NB2					Sn		**Sn**	**17 28 19.8**	**-3.1**
	baz=34,slow=28								
NB2					Lg		Lg	17 29 00.7	
	baz=32,slow=37								
NOA	**NORSAR Array B**	**7.42**	**218**		Pn		**Pn**	**17 26 59.0**	**+0.9**
	baz=28,slow=11,SNR=5.8								
NOA					Sn		**Sn**	**17 28 19.0**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=29,slow=22,SNR=6.2								
NOA					Lg		Lg	17 28 57.1	
	comp=Z,0.1nm,0.3s,baz=173,slow=17,SNR=6.5								
	comp=Z,0.3nm,0.4s								
NRA0	**NORESS Array S**	**7.61**	**216**		Pn		**Pn**	**17 27 01.9**	**+1.2**
	baz=13,slow=14								
NRA0					Sn		**Sn**	**17 28 24.3**	**-3.2**
	baz=35,slow=22								
NRA0					Lg		Lg	17 29 09.6	
	baz=12,slow=28								
HFS	**Hagfors**	**7.73**	**207**		Pn		**Pn**	**17 27 01.8**	**-0.4**
	baz=34,slow=10								
HFS					Sn		**Sn**	**17 28 27.5**	**-2.8**
	baz=35,slow=22								
HFS	**Hagfors**	**7.73**	**207**		Pn		**Pn**	**17 27 02.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=23,slow=12,SNR=8.0								
HFS					Sn		**Sn**	**17 28 26.4**	**-3.9**
	comp=Z,0.6nm,0.3s,baz=24,slow=25,SNR=8.5								
HFS					Lg		Lg	17 29 08.0	
	comp=Z,0.8nm,0.3s,baz=32,slow=28,SNR=5.5								
	comp=Z,1.2nm,0.6s								
SPITS	**Spitsbergen Ar**	**11.11**	**355**		Pn		**Pn**	**17 27 47.9**	**-0.5**
	baz=194,slow=18								
	comp=Z,25nm,1.1s								
AKASG	**Malin Array Be**	**17.09**	**161**		P		**Pn**	**17 29 09.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=347,slow=12,SNR=4.9								
	comp=Z,0.8nm,0.6s								

*IDC **28** 17:25:30.7±0.8,6.70N×73.02W,h158km±9km,mb3.0/2, mbtmp3.7/4,Error ellipse: s-maj=35.4km s-min=7.6km az=131.0*
*RSNC **28** 17:25:32.6±0.9,6.79N×73.16W,h146km±4km,ML3.6, Mw3.8*

ISC 28 17:25:30.9±0.9,6.81N±0.03×73.14W±0.04,h153km±6km, n36,σ1♀54/67,4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**190**	⇓*i*P	**Pn**	**17 25 52.3**	**+0.3**
BARC				*e*S	**Sn**	**17 26 07.3**	**-0.7**
BARC				IAML		17 26 08.7	
	comp=Z,1μm,0.2s						
BRRC	**Barranca, Sant**	**0.64**	**298**	⇓*e*P	**Pn**	**17 25 54.2**	**+0.8**
BRRC				*e*S	**Sn**	**17 26 10.9**	**+0.4**
BRRC				IAML		17 26 15.4	
	comp=Z,678nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**40**	*e*P	**Pn**	**17 25 55.1**	**+0.8**
PAMC				*e*S	**Sn**	**17 26 12.1**	**0.0**
PAMC				IAML		17 26 14.5	
	comp=Z,2μm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*e*P	**Pn**	**17 25 58.9**	**-0.2**
PTBC				*e*S	**Sn**	**17 26 19.9**	**-0.7**
PTBC				IAML		17 26 23.1	
	comp=Z,368nm,0.1s						
TAMC	**Tame, Arauca**	**1.39**	**105**	⇓*i*P	**Pn**	**17 26 00.7**	**+1.0**
TAMC				*e*S	**Sn**	**17 26 22.2**	**+0.5**
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	*e*P	**Pn**	**17 26 04.5**	**+0.1**
ZARC				*e*S	**Sn**	**17 26 29.4**	**-0.6**
ZARC				IAML		17 26 37.1	
	comp=Z,394nm,0.3s						
NORC	**Norcasia**	**2.12**	**234**	*e*P	**Pn**	**17 26 08.4**	**+0.7**
NORC				*e*S	**Sn**	**17 26 35.7**	**-0.3**
NORC				IAML		17 26 39.0	
	comp=Z,279nm,0.2s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	**Pn**	**17 26 10.2**	**+0.6**
CHIC				*e*S	**Sn**	**17 26 39.7**	**+0.4**
CHIC				IAML		17 26 43.6	
	comp=Z,359nm,0.5s						
ROSC	**El Rosal**	**2.28**	**211**	P	**Pn**	**17 26 11.5**	**+1.5**
	comp=Z,221nm,0.3s,baz=296,slow=10,SNR=70						
ROSC				S	**Sn**	**17 26 39.9**	**-0.2**
	comp=Z,345nm,0.6s,baz=106,slow=13,SNR=12						
ROSC	**El Rosal**	**2.28**	**211**	*e*P	**Pn**	**17 26 12.1**	**+2.1**
ROSC				*e*S	**Sn**	**17 26 41.0**	**+1.0**
ROSC				IAML		17 26 46.1	
	comp=Z,608nm,0.5s						
UREC	**San Jos de Ur**	**2.55**	**292**	*e*P	**Pn**	**17 26 12.1**	**-0.7**
UREC				*e*S	**Sn**	**17 26 43.8**	**-1.4**
UREC				IAML		17 26 55.1	
	comp=Z,279nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.74**	**351**	*e*P	**Pn**	**17 26 17.1**	**+1.9**
LL1C				*e*S	**Sn**	**17 26 52.6**	**+3.1**
PTGC	**Puerto Gaitan,**	**2.78**	**159**	*e*P	**Pn**	**17 26 15.4**	**-0.4**
PTGC				*e*S	**Sn**	**17 26 48.1**	**-2.4**
PTGC				IAML		17 26 53.7	
	comp=Z,354nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*e*P	**Pn**	**17 26 20.5**	**+1.9**
CBOC				*e*S	**Sn**	**17 26 57.0**	**+1.5**
CBOC				IAML		17 27 00.6	
	comp=Z,74nm,0.2s						
DBBC	**Dabeiba**	**3.05**	**274**	*e*P	**Pn**	**17 26 19.8**	**+0.6**
DBBC				*e*S	**Sn**	**17 26 53.6**	**-2.9**
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*P	**Pn**	**17 26 23.2**	**+2.0**
ARGC				*e*S	**Sn**	**17 27 01.0**	**+0.7**
ARGC				IAML		17 27 12.5	
	comp=Z,79nm,0.2s						
ANIL	**Santa Ana**	**3.22**	**224**	⇓*e*P	**Pn**	**17 26 23.5**	**+1.9**
ANIL				*e*S	**Sn**	**17 27 03.1**	**+2.4**
SDV	**Santo Domingo**	**3.23**	**50**	P	**Pn**	**17 26 21.9**	**+0.3**
	comp=Z,59nm,0.3s,baz=235,slow=10,SNR=48						
SDV				S	**Sn**	**17 27 00.6**	**-0.2**
	comp=Z,163nm,0.5s,baz=43,slow=20,SNR=33						
PRAC	**Prado**	**3.53**	**210**	*e*P	**Pn**	**17 26 25.6**	**+0.3**
PRAC				*e*S	**Sn**	**17 27 07.6**	**+0.1**
PRAC				IAML		17 27 12.7	
	comp=Z,186nm,0.2s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P	**Pn**	**17 26 26.5**	**+0.8**
ORTC				*e*S	**Sn**	**17 27 08.9**	**+0.7**
ORTC				IAML		17 27 13.6	
	comp=Z,168nm,0.3s						
PLMC	**San Jos del P**	**3.65**	**239**	*e*P	**Pn**	**17 26 27.8**	**+0.9**
PLMC				*e*S	**Sn**	**17 27 11.8**	**+1.5**
PLMC				IAML		17 27 13.9	
	comp=Z,91nm,0.2s						
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P	**Pn**	**17 26 25.9**	**-1.1**
SJCC				*e*S	**Sn**	**17 27 07.6**	**-3.0**
SJCC				IAML		17 27 14.7	
	comp=Z,94nm,0.5s						
LCBC	**Los crdobas,**	**3.79**	**303**	*e*P	**Pn**	**17 26 28.7**	**+0.2**
LCBC				*e*S	**Sn**	**17 27 14.8**	**+1.5**
LCBC				IAML		17 27 17.1	
	comp=Z,106nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	*e*P	**Pn**	**17 26 32.6**	**-1.3**
CRJC				*e*S	**Sn**	**17 27 20.1**	**-2.8**
CRJC				IAML		17 27 27.7	
	comp=Z,130nm,0.2s						
YOTC	**Yotoco, Valle**	**4.25**	**229**	*e*P	**Pn**	**17 26 34.8**	**+0.1**
YOTC				*e*S	**Sn**	**17 27 23.4**	**-0.9**
GUVC	**San Jose del G**	**4.27**	**173**	*e*P	**Pn**	**17 26 35.1**	**+0.2**
GUVC				*e*S	**Sn**	**17 27 22.1**	**-2.6**
GUVC				IAML		17 27 27.4	
	comp=Z,116nm,0.2s						
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*P	**Pn**	**17 26 37.2**	**-0.1**
SMRC				*e*S	**Sn**	**17 27 25.3**	**-3.7**
SMRC				IAML		17 27 28.8	
	comp=Z,89nm,0.2s						
BETC	**Betania**	**4.70**	**209**	*e*P	**Pn**	**17 26 40.2**	**-0.4**
URIC	**Uribia, Colomb**	**4.99**	**13**	*e*P	**Pn**	**17 26 42.8**	**-1.5**
URIC				*e*S	**Sn**	**17 27 41.3**	**-0.3**
URIC				IAML		17 27 43.4	
	comp=Z,16nm,0.2s						
GARC	**Garzon, Huila**	**5.16**	**207**	*e*P	**Pn**	**17 26 46.4**	**-0.3**
GARC				*e*S	**Sn**	**17 27 41.0**	**-5.0**
GARC				IAML		17 27 48.8	
	comp=Z,86nm,0.2s						
FLOC	**Florencia**	**5.76**	**206**	*e*P	**Pn**	**17 26 54.9**	**+0.2**
FLOC				*e*S	**Sn**	**17 28 01.1**	**+0.9**
FLOC				IAML		17 28 26.7	
	comp=Z,9.0nm,0.4s						
BBAC	**Balboa, Cauca**	**6.28**	**221**	*e*P	**Pn**	**17 27 03.0**	**+1.4**
BBAC				*e*S	**Sn**	**17 28 10.3**	**-2.3**
BBAC				IAML		17 28 19.3	
	comp=Z,7.0nm,0.3s						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**17 32 21.9**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=133,slow=9.4,SNR=4.4						
	comp=Z,0.4nm,0.4s						
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**17 33 55.9**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=123,slow=9.8,SNR=2.5						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**149.09**	**234**	PKPbc	**PKPbc**	**17 45 00.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=118,slow=3.6,SNR=10						
WRA	**Warramunga Arr**	**150.31**	**241**	PKPbc	**PKPbc**	**17 45 03.9**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=106,slow=2.9,SNR=16						

*KRNET **28** 17:32:19.4±0.1,39.17N×74.16E,mb3.4*
*SOME **28** 17:32:23.3,39.38N×73.97E,h10km*
*NNC **28** 17:32:25.1±1.7,39.38N×74.29E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=12.6km s-min=7.3km az=167.0*

ISC 28 17:32:23.3±3.1,39.07N±0.09×74.11E±0.05,h17km±24km, n37,σ2♀28/60,17C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.77**	**325**	⇑*e*P	**Pn**	**17 32 51.0**	**-2.4**
	baz=22						
OHH				⇑*e*S	**Sn**	**17 33 14.3**	**-1.3**
	baz=22						
DRK	**Karamyk**	**1.84**	**284**	⇑*e*P	**Pn**	**17 32 53.7**	**-0.8**
	baz=81						
DRK				⇑*e*S	**Sn**	**17 33 18.5**	**+1.0**
	baz=81						
BTK	**Batken**	**2.73**	**292**	⇑*e*P	**Pn**	**17 33 05.7**	**-0.8**
	baz=90						
BTK				⇑*e*S	**Sn**	**17 33 39.5**	**+0.3**
	baz=90						
ARLS	**Aral**	**2.79**	**3**	⇓*e*P	**Pn**	**17 33 05.2**	**-2.2**
	baz=3.0						
ARLS				⇓*e*S	**Sn**	**17 33 38.4**	**-2.4**
	baz=3.0						
GAR	**Garm**	**2.96**	**270**	⇑*e*P	**Pn**	**17 33 09.4**	**-0.2**
	baz=68						
GAR				⇑*e*S	**Sn**	**17 33 46.1**	**+1.3**
	baz=68						
UCH	**Uchtor**	**3.17**	**5**	⇓*e*P	**Pn**	**17 33 10.7**	**-2.2**
	baz=5.0						
UCH				⇓*e*S	**Sn**	**17 33 48.1**	**-2.4**
	baz=5.0						
TRKS	**Terek-Say**	**3.34**	**318**	⇑*e*P	**Pn**	**17 33 12.9**	**-2.1**
	baz=16						
TRKS				⇑*e*S	**Sn**	**17 33 52.0**	**-2.5**
	baz=16						
AAK	**Ala-Archa**	**3.57**	**5**	⇓*e*P	**Pn**	**17 33 16.2**	**-2.0**
	baz=4.0						
AAK				⇓*e*S	**Sn**	**17 33 57.7**	**-2.4**
	baz=4.0						
EKS2	**Erkin-Say**	**3.59**	**356**	⇑*e*P	**Pn**	**17 33 16.4**	**-2.0**
	baz=55						
EKS2				⇑*e*S	**Sn**	**17 33 58.0**	**-2.6**
	baz=55						
KBK	**Karagaybulak**	**3.64**	**10**	⇓*e*P	**Pn**	**17 33 17.0**	**-2.1**
	baz=9.0						
KBK				⇓*e*S	**Sn**	**17 33 59.1**	**-2.6**
	baz=9.0						
MRKS	**Merke**	**3.73**	**350**	*e*P	**Pn**	**17 33 23.7**	**+3.5**
	3.7nm,0.3s						
MRKS				*e*S	**Sn**	**17 34 07.5**	**+3.6**
	18nm,0.4s						
MRKS	**Merke**	**3.73**	**350**	Pg	**Pn**	**17 33 23.7**	**+3.5**
	3.7nm,0.3s						
MRKS				Lg	Lg	17 34 07.5	
	18nm,0.4s						
TKM2	**Tokmak 2**	**4.01**	**16**	⇑Pg	Pn	17 33 30.2	+6.0
	5.5nm,0.7s						
TKM2				⇓Lg	Lg	17 34 20.9	
	23nm,1.2s						
KST	**Kastek**	**4.21**	**19**	*e*P	**Pb**	**17 33 36.2**	**-0.8**
	3.0nm,0.5s						
KST				*e*S	**Sb**	**17 34 28.4**	**+0.8**
	13nm,0.6s						
KST	**Kastek**	**4.21**	**19**	Pg	**Pb**	**17 33 36.2**	**-0.8**
	3.0nm,0.5s						
KST				Lg	Lg	17 34 28.4	
	13nm,0.6s						
DGS	**Degeres**	**4.35**	**16**	*e*P	**Pb**	**17 33 39.4**	**0.0**
	18nm,0.8s						
DGS				*e*S	**Sb**	**17 34 33.8**	**+2.1**
	11nm,0.6s						
DGS	**Degeres**	**4.35**	**16**	Pg	**Pb**	**17 33 39.4**	**0.0**
	18nm,0.8s						
DGS				Lg	Lg	17 34 33.8	
	11nm,0.6s						
IUG	**luzhnay**	**4.37**	**316**	*e*P	**Pb**	**17 33 37.9**	**-1.8**
	12nm,0.5s						
IUG				*e*S	**Sb**	**17 34 31.3**	**-0.8**
	26nm,0.6s						
IUG	**luzhnay**	**4.37**	**316**	Pg	**Pb**	**17 33 37.9**	**-1.8**
	12nm,0.5s						
IUG				Lg	Lg	17 34 31.3	
	26nm,0.6s						
SGDS	**Sogindy**	**4.39**	**5**	*e*P	**Pb**	**17 33 38.3**	**-1.8**
	4.2nm,0.7s						
SGDS				*e*S	**Sb**	**17 34 32.5**	**-0.4**
	7.3nm,0.8s						
SGDS	**Sogindy**	**4.39**	**5**	Pg	**Pb**	**17 33 38.3**	**-1.8**
	4.2nm,0.7s						
SGDS				Lg	Lg	17 34 32.5	
	7.3nm,0.8s						
MTBS	**Maitube**	**4.42**	**23**	*e*P	**Pb**	**17 33 38.8**	**-1.7**
	5.0nm,0.6s						
MTBS				*e*S	**Sb**	**17 34 33.0**	**-0.6**
	4.7nm,0.5s						
TNSS	**Tian-Shan**	**4.50**	**28**	*e*P	**Pb**	**17 33 40.6**	**-1.6**
	5.5nm,0.6s						
TNSS				*e*S	**Sb**	**17 34 36.5**	**+0.1**
	4.0nm,0.7s						
TNSS	**Tian-Shan**	**4.50**	**28**	Pg	**Pb**	**17 33 40.6**	**-1.6**
	5.5nm,0.6s						
TNSS				Lg	Lg	17 34 36.5	
	4.0nm,0.7s						
MDOK	**Medeo**	**4.65**	**28**	*e*P	**Pb**	**17 33 43.2**	**-1.3**
	3.8nm,0.4s						
MDOK				*e*S	**Sb**	**17 34 41.2**	**+0.8**
	7.9nm,1.6s						
MDOK	**Medeo**	**4.65**	**28**	Pg	**Pb**	**17 33 43.2**	**-1.3**
	3.8nm,0.4s						
MDOK				Pg	Pn	17 33 43.3	+10
	10nm,0.8s						
MDOK				Lg	Lg	17 34 41.2	
	7.9nm,1.6s						
MDOK				⇑Lg	Lg	17 34 43.2	
	13nm,1.0s						
KOTS	**Kotyrbulak**	**4.74**	**28**	*e*P	**Pb**	**17 33 45.2**	**-0.8**
	4.1nm,0.5s						
KOTS				*e*S	**Sb**	**17 34 44.1**	**+1.4**
	20nm,0.8s						
KOTS	**Kotyrbulak**	**4.74**	**28**	Pg	**Pb**	**17 33 45.2**	**-0.8**
	4.1nm,0.5s						
KOTS				Lg	Lg	17 34 44.1	
	20nm,0.8s						
KRBS	**Karabastau**	**4.77**	**14**	*e*P	**Pb**	**17 33 46.1**	**-0.4**
	3.5nm,0.3s						
KRBS				*e*S	**Sb**	**17 34 45.3**	**+1.7**
	9.5nm,0.8s						
KRBS	**Karabastau**	**4.77**	**14**	Pg	**Pb**	**17 33 46.1**	**-0.4**
	3.5nm,0.3s						
KRBS				Lg	Lg	17 34 45.3	
	9.5nm,0.8s						
KK31	**Karatay Array**	**4.86**	**327**	Pn	**Pn**	**17 33 36.8**	**+1.1**
	1.9nm,0.5s,baz=133,slow=11,SNR=24						
KK31				⇑Sn	**Sn**	**17 34 33.8**	**+2.2**
	1.1nm,0.3s						
KK31				⇑Lg	Lg	17 34 52.2	
	4.6nm,0.7s,baz=143,slow=26,SNR=4.6						
KTBS	**Karatobe**	**5.02**	**22**	*e*P	**Pb**	**17 33 51.4**	**+0.6**
	6.2nm,0.5s						
KTBS				*e*S	**Sb**	**17 34 54.6**	**+3.7**
	14nm,0.7s						
KTBS	**Karatobe**	**5.02**	**22**	Pg	**Pb**	**17 33 51.4**	**+0.6**
	6.2nm,0.5s						
KTBS				Lg	Lg	17 34 54.6	
	14nm,0.7s						
CHKK	**Chushkaly**	**5.24**	**23**	*e*P	**Pb**	**17 33 57.6**	**+3.0**
	2.9nm,0.3s						
CHKK				*e*S	**Sb**	**17 35 04.9**	**+7.7**
	6.8nm,0.3s						
CHKK	**Chushkaly**	**5.24**	**23**	Pg	**Pb**	**17 33 57.6**	**+3.0**
	2.9nm,0.3s						
CHKK				Lg	Lg	17 35 04.9	
	6.8nm,0.3s						
PDGK	**Podgornoye**	**5.88**	**42**	⇑Pg	**Pb**	**17 34 05.8**	**+0.3**
	5.4nm,1.2s						
BTLS	**Baital**	**5.97**	**360**	*e*P	**Pb**	**17 34 08.8**	**+2.0**
	1.0nm,0.4s						
BTLS				*e*S	**Sb**	**17 35 24.1**	**+6.2**
	3.3nm,0.9s						

WEL 28 17:45:39.1±0.3,43°S±3°×17°3E±°,h5km,M3.2/29, ML3.5/13,MLv3.2/29,Error ellipse: s-maj=0.0km s-min=0.0km az=138.8,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.31**	**67**	P	Pg	17 45 45.1	0.0
KHZ				S	Sg	17 45 49.5	+0.3
GVZ	**Greta Valley S**	**0.44**	**191**	P	Pg	17 45 48.1	+0.5
GVZ				S	Sb	17 45 55.0	-1.4
LTZ	**Lake Taylor**	**0.70**	**249**	P	Pg	17 45 52.5	+0.1
AMCZ	**Amberley**	**0.74**	**210**	P	Pb	17 45 53.9	-0.6
THZ	**Tophouse**	**0.79**	**346**	P	Pg	17 45 54.3	-0.1
BSWZ	**Blackbirch Sta**	**0.98**	**33**	P	Pg	17 45 57.9	0.0
CMWZ	**Cape Campbell**	**1.11**	**45**	P	Pg	17 46 00.6	+0.1
OXZ	**Oxford**	**1.14**	**226**	P	Pg	17 45 59.4	-1.6
MRNZ	**Matariki Terra**	**1.17**	**345**	P	Pg	17 46 01.3	-0.3
OKCZ	**Okains Bay**	**1.19**	**183**	P	Pg	17 46 00.0	-1.9
MQZ	**McQueen's Vall**	**1.23**	**197**	P	Pg	17 45 59.4	-3.2
TUWZ	**Tuamarina**	**1.25**	**28**	P	Pg	17 46 02.4	-0.7
INZ	**Inchbonnie**	**1.27**	**261**	P	Pg	17 46 02.9	-0.6
DSZ	**Denniston Nort**	**1.28**	**308**	P	Pg	17 46 03.0	-0.6
NNZ	**Nelson**	**1.33**	**7**	P	Pn	17 46 03.8	-0.5
AKCZ	**Akaroa Harbour**	**1.35**	**188**	P	Pn	17 46 01.7	-2.9
RACZ	**Rakaia**	**1.40**	**212**	P	Pn	17 46 02.7	-2.7
TKNZ	**Takaka Hill**	**1.51**	**354**	P	Pn	17 46 06.6	-0.2
MHCZ	**Mount Hutt**	**1.53**	**229**	P	Pn	17 46 04.7	-2.5
TCW	**Tory Channel**	**1.57**	**33**	P	Pn	17 46 03.8	-3.8
WACZ	**Wakanui South**	**1.70**	**214**	P	Pn	17 46 06.9	-2.5
QRZ	**Quartz Range**	**1.77**	**344**	P	Pn	17 46 10.5	+0.1
DUWZ	**D'Urville Isla**	**1.83**	**19**	P	Pn	17 46 11.1	-0.1
PLWZ	**Palliser**	**1.84**	**59**	P	Pn	17 46 08.7	-2.7
WVZ	**Waitaha Valley**	**1.86**	**252**	P	Pn	17 46 10.8	-0.7
MSWZ	**Moikau Station**	**1.92**	**55**	P	Pn	17 46 10.0	-2.5
RPZ	**Rata Peaks**	**1.94**	**232**	P	Pn	17 46 10.6	-2.1
ARCZ	**Arundel**	**2.02**	**225**	P	Pn	17 46 11.2	-2.6
CAW	**Cannon Point**	**2.02**	**46**	P	Pn	17 46 11.9	-2.0
PAWZ	**Paruwai Farm**	**2.05**	**57**	P	Pn	17 46 11.5	-2.8
KIW	**Kapiti Island**	**2.13**	**39**	P	Pn	17 46 13.8	-1.5
TRWZ	**Traveller**	**2.21**	**60**	P	Pn	17 46 13.7	-2.7
GCSZ	**Gaunt Creek Bo**	**2.22**	**248**	P	Pn	17 46 16.4	-0.1
MTW	**Mount Morrison**	**2.23**	**53**	P	Pn	17 46 13.9	-2.8
OGWZ	**Otaki Gorge**	**2.29**	**42**	P	Pn	17 46 15.5	-1.9
HOWZ	**Holdsworth Sta**	**2.41**	**48**	P	Pn	17 46 16.6	-2.6
TMZ	**Timaru**	**2.42**	**220**	P	Pn	17 46 16.9	-2.5
MRZ	**Mangatainoka R**	**2.61**	**45**	P	Pn	17 46 19.4	-2.6
FOZ	**Fox Glacier**	**2.64**	**247**	P	Pn	17 46 21.8	-0.5
LBZ	**Lake Benmore**	**2.84**	**228**	P	Pn	17 46 23.0	-2.1
ODZ	**Otahua Downs**	**3.10**	**215**	P	Pn	17 46 25.7	-2.9
KHEZ	**Kahui Hut**	**3.30**	**12**	P	Pn	17 46 33.1	+1.6
NBEZ	**Newall Road No**	**3.31**	**10**	P	Pn	17 46 32.4	+0.8
PKE	**Pukeiti**	**3.40**	**11**	P	Pn	17 46 34.2	+1.4
PNHZ	**Pukenui**	**3.48**	**42**	P	Pn	17 46 30.9	-3.0
EAZ	**Earnscleugh**	**3.87**	**225**	P	Pn	17 46 36.5	-2.8
KAHZ	**Kahuranaki**	**3.92**	**47**	P	Pn	17 46 39.3	-0.7
MKAZ	**Moumakai**	**5.64**	**17**	P	Pn	17 47 03.1	-0.4
WIAZ	**Waiheke Island**	**5.94**	**16**	P	Pn	17 47 07.5	-0.1

*BJI **28** 17:46:27.9±0.0,53.76N×163.91W,h13km,mb4.7/43, mB5.1/21,Ms4.8/10,Ms7 4.6/12*
*IDC **28** 17:46:27.6±0.8,53.61N×163.71W,h0km,mb4.4/28, mbtmp4.3/29,ML3.4/1,MS3.8/12,Error ellipse: s-maj=20.6km s-min=12.8km az=162.0*
*MOS **28** 17:46:30.2±1.0,53.68N×163.78W,h26km,mb5.0/40, Error ellipse: s-maj=13.2km s-min=6.5km az=101.3*
*AEIC **28** 17:46:30.9±2.6,53.5N±0.1×163.60W±0.09,h43km±6km, Error ellipse: s-maj=15.0km s-min=7.6km az=167.0*
*NEIC **28** 17:46:31.0±1.4,53.6N±0.1×163.67W±0.09,h22km±6km, mb4.7/67,ML3.9/8,ML4.0(AEIC),Error ellipse: s-maj=16.5km s-min=6.7km az=166.0*

**ISC 28 17:46:32.5±0.5,53.60N±0.

baz=219
ADK Adak 8.09 263 Pn 17 48 27.4 +0.1
ADK Adak 8.09 263 P Pn 17 48 27.7 +0.4
ADK Adak 8.09 263 P Pn 17 48 27.4 +0.1
KIWB Kanaga Island 8.37 263 Pn 17 48 30.6 -0.5
M19K Big River Lodg 9.68 27 Pn 17 48 50.2 +1.2
TTA Tatalina 10.18 20 Pn Pn 17 48 57.0 +1.1
TTA Tatalina 10.18 20 P Pn 17 48 57.0 +1.1
SKT Skwentna 10.59 33 Pn 17 49 03.3 +1.8
CAST Castle Rocks 11.54 27 Pn Pn 17 49 16.5 +2.1
J20K Nowinta River 11.68 21 Pn Pn 17 49 17.3 +1.0
KLU Klutina 12.35 43 Pn 17 49 23.6 -2.0
BPAW Bear Paw Mtn. 12.38 27 Pn Pn 17 49 27.1 +1.2
I21K Tanana 13.02 22 Pn 17 49 35.6 +1.0
MLY Manley 13.19 25 Pn Pn 17 49 37.0 0.0
GLB Gilahina Butte 13.20 46 Pn Pn 17 49 36.1 -1.1
WAX Waxell Ridge 13.21 50 Pn Pn 17 49 35.7 -1.7
H21K Melozitna Rive 13.25 20 Pn Pn 17 49 40.1 +2.3
VRDI Verde Repeater 13.26 47 Pn Pn 17 49 35.2 -3.0
PAX Paxson 13.36 38 Pn Pn 17 49 36.7 -2.6
PAX Paxson 13.36 38 P Pn 17 49 36.7 -2.6
IMAR Indian Mountai 13.36 18 Pn Pn 17 49 40.9 +1.6
SHEM Shemya Is, Ala 13.36 275 LR LR 17 54 24.4
comp=N,261nm,21.6s,baz=104,slow=36
WRH Wood River Hil 13.48 30 Pn Pn 17 49 39.8 -1.2
ISLE Juniper Island 13.50 50 Pn Pn 17 49 38.5 -2.9
MCARA McCarthy VSAT 13.51 47 Pn Pn 17 49 38.4 -3.0
I23K Minto, Yukon-K 13.63 26 Pn Pn 17 49 42.6 -0.5
YAH Yahtse 13.69 52 Pn Pn 17 49 43.6 -0.4
CCB Clear Creek Bu 13.69 30 Pn 17 49 40.7 -3.1
MDM Murphy Dome 13.80 28 Pn Pn 17 49 42.8 -2.5
COLA College 13.85 29 *i* P Pn 17 49 45.0 -0.9
BARN Barnard Glacie 13.98 49 Pn 17 49 46.3 -1.7
TABL Table Mountain 14.00 52 Pn Pn 17 49 47.7 -0.6
M26K Nabesna, AK 14.00 43 Pn 17 49 47.0 -1.2
RIDG Independent Ri 14.04 36 Pn 17 49 46.6 -2.1
IL31 14.06 31 Pn 17 49 46.0 -2.7
ILAR Eielson Array 14.06 31 Pn Pn 17 49 45.8 -3.0
comp=N,0.2nm,0.3s,baz=209,slow=12,SNR=7.7
ILAR LR LR 17 55 56.8
comp=N,562nm,18.4s,baz=210,slow=40
comp=N,0.3nm,0.5s
H23K Yukon River 14.13 24 Pn Pn 17 49 49.9 +0.1
L26K Log Cabin Wild 14.19 40 Pn 17 49 50.3 -0.3
DOT Dot Lake 14.27 37 Pn Pn 17 49 50.8 -0.9
M27K Edge Creek, AK 14.44 44 Pn 17 49 52.8 -1.3
SCRK Sand Creek 14.49 36 Pn 17 49 51.9 -3.0
H24K Noodor Dome 14.56 26 Pn Pn 17 49 53.9 -1.9
PNL Peninsula 14.62 56 P Pn 17 49 56.2 -0.3
L27K Beaver Creek, 14.80 42 Pn 17 49 57.5 -1.4
BCAR Beaver Creek A 14.82 42 Pn Pn 17 49 57.9 -1.3
J26L Joseph Creek 14.96 35 Pn 17 49 57.8 -3.3
PRP Porcupine Dome 14.99 30 Pn Pn 17 49 58.7 -2.9
COLD Coldfoot 15.14 20 Pn Pn 17 50 04.1 +0.7
COLD IAmb IAmb 17 50 09.6
comp=Z,22nm,1.0s
K27K Chicken 15.21 38 Pn Pn 17 50 04.2 -0.1
P29M Windy Craggy 15.43 57 Pn Pn 17 50 07.2 -0.1
P29M IAmb IAmb 17 50 37.9
comp=Z,37nm,1.1s
I26K Coal Creek Min 15.59 33 Pn Pn 17 50 07.5 -1.8
HYT Haines Junctio 15.82 52 Pn 17 50 12.6 +0.2
EGAK Eagle 15.96 37 Pn 17 50 12.2 -1.8
DAWY Dawson 16.24 40 Pn 17 50 17.9 +0.2
TOLK Toolik Lake Re 16.48 18 Pn 17 50 20.5 -0.2
BMAR Burnt Mountain 16.63 26 Pn Pn 17 50 21.5 -1.0
N31M Braeburn, Yuko 16.81 51 P P 17 50 25.5 -1.2
N31M IAmb IAmb 17 50 44.8
comp=Z,26nm,0.8s
J29M Klondike Camp 16.88 40 P 17 50 26.0 -1.5
J29M IAmb IAmb 17 50 32.2
comp=Z,24nm,0.5s
WHY Whitehorse 17.04 54 Pn Pn 17 50 27.7 -0.1
I29M Ogilvie Camp, 17.29 37 Pn 17 50 30.7 -0.2
MAYO Mayo, Yukon 17.44 44 P P 17 50 33.8 +0.2
MAYO IAmb IAmb 17 50 42.1
comp=Z,74nm,1.0s
M31M Drury Creek, Y 17.64 49 P P 17 50 35.5 -0.3
P33M Teslin, Yukon 17.97 56 Pn Pn 17 50 38.0 -1.2
FARO Faro, Yukon 18.11 50 Pn P 17 50 42.9 +1.8
EPYK Eagle Plains 18.38 35 P P 17 50 43.3 -0.6
BILL Bilibino 20.28 327 P Pn 17 51 04.7 -2.1
BILL IAmb IAmb 17 51 10.3
comp=Z,24nm,1.0s
BILL Bilibino 20.28 327 *e*P P 17 51 04.1 -0.5
BILL *e* 17 51 18.5
BILL pmax pmax
comp=Z,26nm,1.0s
BILL MLR MLR
comp=Z,460nm,16.0s
INK Inuvik 20.44 32 P P 17 51 04.8 -1.5
comp=Z,5.7nm,0.9s,baz=232,slow=13,SNR=12
comp=Z,5.7nm,0.9s
INK Inuvik 20.44 32 P 17 51 05.8 -0.5
INK Inuvik 20.44 32 P P 17 51 05.8 -0.5
INK pmax pmax
comp=Z,10.0nm,0.9s
PEA0B Petropavlovsk- 22.88 285 P P 17 51 32.0 -0.7
PEA0B Petropavlovsk- 22.88 285 P P 17 51 32.0 -0.7
PEA0B pmax pmax
comp=Z,75nm,1.4s
PETK Petropavlovsk- 22.88 285 P P 17 51 31.7 -1.0
comp=Z,7.9nm,0.6s,baz=94,slow=13,SNR=49
PETK LR LR 18 00 19.0
comp=Z,183nm,20.2s,baz=83,slow=36
comp=Z,7.9nm,0.6s
C36M Paulatuk 23.98 34 P P 17 51 43.1 -0.1
C36M IAmb IAmb 17 51 46.0
comp=Z,23nm,1.4s
SEY Seymchan 24.45 310 P P 17 51 46.5 -1.1
comp=Z,2.8nm,0.4s,baz=117,slow=20,SNR=4.6
comp=Z,2.8nm,0.4s
A36M Sachs Harbour 24.71 28 P P 17 51 50.1 +0.3
MA2 Magadan 25.37 302 P P 17 51 55.6 -0.4
comp=Z,6.6nm,0.7s,baz=91,slow=14,SNR=5.8
MA2 LR LR 18 01 52.4
comp=Z,83nm,18.8s,baz=112,slow=36
comp=Z,6.6nm,0.7s
MA2 Magadan 25.37 302 P P 17 51 56.3 +0.4
MA2 Magadan 25.37 302 P P 17 51 56.3 +0.4
MA2 pmax pmax
comp=Z,56nm,1.4s
YKA Yellowknife Ar 26.81 51 P P 17 52 09.7 +0.8
comp=Z,2.5nm,0.8s,baz=266,slow=8.7,SNR=7.1
comp=Z,2.5nm,0.8s
LRM Limekiln Ridge 33.38 82 P P 17 53 06.0 -1.5
TIXI Tiksi 33.49 328 P P 17 53 07.5 -0.4
comp=Z,5.3nm,0.5s,baz=270,slow=24,SNR=59
TIXI LR LR 18 08 45.5
comp=Z,183nm,19.0s,baz=181,slow=40
comp=Z,5.3nm,0.5s
TIXI Tiksi 33.49 328 P P 17 53 07.3 -0.5
TIXI IAmb IAmb 17 53 09.6
comp=Z,7.8nm,0.6s
TIXI Tiksi 33.49 328 *ce*P P 17 53 07.0 -0.8
TIXI pmax pmax
comp=Z,5.0nm,0.5s
MCMT McKenzie Canyo 33.68 84 P P 17 53 10.3 +0.2
RES Resolute Bay 33.75 26 P P 17 53 09.8 -0.3
comp=Z,4.6nm,1.0s,baz=264,slow=7.1,SNR=4.5
RES LR LR 18 08 02.3
comp=Z,157nm,18.5s,baz=318,slow=38
comp=Z,4.6nm,1.0s
RES Resolute Bay 33.75 26 P P 17 53 10.4 +0.3
RES IAmb IAmb 17 53 13.5
comp=Z,4.9nm,0.9s
NVAR Mina Array Bea 34.32 98 P P 17 53 15.7 +0.1
comp=Z,0.6nm,0.6s,baz=309,slow=7.5,SNR=1.1
comp=Z,0.6nm,0.6s
YAK Yakutsk 34.97 311 P P 17 53 20.0 -0.7
comp=Z,3.6nm,0.3s,baz=160,slow=0.5,SNR=13
YAK LR LR 18 09 12.9
comp=Z,165nm,18.9s,baz=87,slow=39
comp=Z,3.6nm,0.3s
YAK Yakutsk 34.97 311 P P 17 53 18.9 -1.8
YAK Yakutsk 34.97 311 *e*P P 17 53 19.6 -1.1
YAK *e**PP **pP** 17 53 24.7 -5.7
YAK *e*S **S** 17 58 51.6 +1.9
YAK *e**SS **sS** 17 59 01.5 -3.8
YAK *e* 18 03 35.1
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,109nm,3.5s
YAK pmax pmax
comp=E,19nm,1.9s
YAK pmax pmax
comp=N,81nm,3.8s
YAK smax smax
comp=N,105nm,3.5s
YAK smax smax
comp=E,70nm,3.8s
EUNU Eureka 35.55 17 P P 17 53 26.9 +1.2
EUNU IAmb IAmb 17 53 42.2
comp=Z,6.2nm,1.2s
K22A Casper 38.68 83 P P 17 53 53.1 +0.3
K22A IAmb IAmb 17 54 06.8
comp=Z,18nm,0.7s
KLR Kul'dur 39.28 291 *ce*P P 17 53 56.3 -1.2
KLR pmax pmax
comp=Z,9.0nm,1.2s
ZEA Zeya 39.44 299 *e*P P 17 53 58.0 -0.7
ZEA pmax pmax
comp=Z,10.0nm,1.3s
TULEG Thule 39.75 21 P P 17 54 01.1 0.0
TULEG Thule 39.75 21 *i* P P 17 54 00.5 -0.5
TULEG IAmb IAmb 17 54 02.0
comp=Z,4.1nm,0.7s
H11N2 WAKE ISLAND Hy 40.67 225 T T 18 37 45.9
baz=26,slow=76,SNR=50
H11N3 WAKE ISLAND Hy 40.68 225 T T 18 37 47.4
baz=26,slow=76,SNR=63
H11N1 WAKE ISLAND Hy 40.69 225 T T 18 37 56.2
baz=26,slow=76,SNR=50
H11S1 WAKE ISLAND Hy 41.84 225 T T 18 39 20.0
baz=26,slow=75,SNR=56
H11S2 WAKE ISLAND Hy 41.86 225 T T 18 39 08.7
baz=26,slow=75,SNR=50
H11S3 WAKE ISLAND Hy 41.86 225 T T 18 39 12.7
baz=26,slow=75,SNR=38
NEEM North Greenlan 42.83 17 *i* P P 17 54 26.5 -0.1
NEEM IAmb IAmb 17 54 28.1
comp=Z,16nm,0.8s
MAJO Matsushiro 43.16 271 P P 17 54 29.8 +0.3
MAJO IAmb IAmb 17 54 31.9
comp=Z,21nm,1.0s
MAJO Matsushiro 43.16 271 P P 17 54 29.8 +0.3
MAJO pmax pmax
comp=Z,21nm,1.0s
MJAR Matsushiro Arr 43.16 271 P P 17 54 29.3 -0.2
comp=Z,5.0nm,1.0s,baz=26,slow=6.7,SNR=5.3
comp=Z,5.0nm,1.0s
MJB9 Matsu-Tunnel 43.16 271 P P 17 54 31.6 +2.2
MJB9 IAmb IAmb 17 54 33.2
comp=Z,21nm,1.0s
FRB Frobisher Bay 45.93 38 LR LR 18 16 54.1
comp=Z,235nm,20.9s,baz=284,slow=40
DAG Danmarks Havn 48.02 10 *i* P P 17 55 06.2 -1.1
DAG IAmb IAmb 17 55 08.4
comp=Z,8.9nm,0.8s
SUMG Summit 48.54 19 *i* P P 17 55 13.6 +1.7
KSRS Korea Array 48.64 280 P P 17 55 13.8 +1.2
comp=Z,7.4nm,0.8s,baz=52,slow=7.8,SNR=21
comp=Z,7.4nm,0.8s
KSAR Wonju Array Be 48.67 280 P P 17 55 13.2 +0.3
KSAR Wonju Array Be 48.67 280 P P 17 55 13.2 +0.3
TXAR Lajitas Array 49.34 95 P P 17 55 18.8 +0.6
comp=Z,0.6nm,0.6s,baz=302,slow=6.5,SNR=5.3
comp=Z,0.6nm,0.6s
TXAR Lajitas Array 49.34 95 P P 17 55 18.3 +0.1
TXAR Lajitas Array 49.34 95 P P 17 55 18.3 +0.1
LPIG La Paz 49.37 105 LR LR 18 13 35.7
comp=Z,81nm,18.8s,baz=258,slow=33
DBG Daneborg 50.03 12 *i* P P 17 55 21.4 -1.4
ICESG Greenland Ices 50.97 23 *i* P P 17 55 30.5 +0.2
ICESG IAmb IAmb 17 55 33.5
comp=Z,7.9nm,0.8s
XLT XiLinHaoTe 51.11 294 ⇑*i* P P 17 55 33.3 +1.8
XLT S S 18 02 45.5 -1.2
XLT sS sS 18 03 03.0 +0.2
XLT SS **SS** 18 06 21.3 -0.3
XLT pmax pmax
comp=Z,170nm,5.2s
XLT LR LR
comp=Z,320nm,15.8s
XLT LR LR
comp=Z,310nm,14.9s
ULN Ulaanbaatar 53.22 303 P P 17 55 47.3 +0.1
ULN Ulaanbaatar 53.22 303 P P 17 55 47.3 +0.1
ULN pmax pmax
comp=Z,14nm,0.8s
SONM Songino Array 53.57 303 P P 17 55 50.4 +0.7
comp=Z,8.4nm,0.8s,baz=43,slow=6.7,SNR=41
comp=Z,8.4nm,0.8s
SONM Songino Array 53.57 303 P P 17 55 50.2 +0.5
SONM IAmb IAmb 17 55 51.3
comp=Z,13nm,1.0s
SONM Songino Array 53.57 303 P P 17 55 50.2 +0.5
SONM pmax pmax
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 55.64 294 *e*P P 17 56 05.0 +0.2
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,160nm,6.1s
HHC LR LR
comp=Z,510nm,16.9s
HHC LR LR
comp=Z,590nm,16.8s
HHC LR LR
comp=Z,820nm,18.0s
HNS HongShan 56.31 289 ⇓P P 17 56 10.8 +1.4
HNS S S 18 04 01.5 +4.6
HNS pmax pmax
comp=Z,17nm,0.7s
HNS LR LR
comp=Z,310nm,17.4s
HNS LR LR
comp=Z,420nm,16.3s
HNS LR LR
comp=Z,510nm,17.6s
ARCES ARCESS Array B 56.99 356 P P 17 56 13.8 0.0
comp=Z,3.8nm,0.8s,baz=20,slow=6.9,SNR=6.5
comp=Z,3.8nm,0.8s
NJ2 Nanjing 57.74 281 *e*P P 17 56 19.0 -0.6
NJ2 pmax pmax
comp=Z,17nm,0.5s
BORG Borgarnes 58.47 18 LR LR 18 23 29.9
comp=Z,58nn,19.6s,baz=330,slow=38
ZAA0 Zalesovo Array 58.77 320 P P 17 56 26.7 +0.2
ZAA0 IAmb IAmb 17 56 27.5
comp=Z,3.8nm,0.7s
ZALV Zalesovo Beam 58.77 320 P P 17 56 26.9 +0.3
comp=Z,4.2nm,0.7s,baz=38,slow=6.5,SNR=15
ZALV PcP **PcP** 17 57 16.1 +0.2
comp=Z,2.4nm,0.7s,baz=48,slow=5.0,SNR=5.3
comp=Z,4.2nm,0.7s
ZALV Zalesovo Beam 58.77 320 P P 17 56 26.6 +0.1
DGZ Jazzator, Alta 60.97 315 ⇑*i* P P 17 56 42.5 +0.6
DGZ pmax pmax
comp=Z,6.0nm,0.9s
PRGR Permogore 62.79 345 *e*P P 17 56 53.5 -0.2
PRGR pmax pmax
comp=Z,14nm,0.9s
GTA Gaotai 62.91 300 ⇓P P 17 56 55.3 +0.2
GTA pP pP 17 56 59.8 -5.3
GTA sP sP 17 57 02.5 -6.4
GTA pmax pmax
comp=Z,9.0nm,1.1s
LZH Lanzhou 63.26 295 *e*P P 17 56 58.3 +0.8
LZH pP pP 17 57 03.3 -4.2
LZH sP sP 17 57 07.0 -4.4
LZH pmax pmax
comp=Z,16nm,0.9s
KURK Kurchatov 63.66 321 P P 17 56 59.9 +0.2
KURK Kurchatov 63.66 321 *ce*P P 17 57 00.1 +0.4
KURK pmax pmax
comp=Z,11nm,1.0s
SVE Sverdlovsk 64.14 335 *e*P P 17 57 04.3 +1.6
SVE pmax pmax
comp=Z,18nm,1.0s
KLMR Klimovskoe 64.41 348 *e*P P 17 57 03.5 -0.9
KLMR AMP 17 57 06.4
comp=Z,18nm,1.3s
KLMR *e*PP **PP** 17 59 27.5 +1.9
KLMR Klimovskoe 64.41 348 *e*P P 17 57 03.4 -0.9
KLMR *e* 17 59 27.4
KLMR pmax pmax
comp=Z,18nm,1.3s
ENH Enshi 64.46 287 P P 17 57 05.2 0.0
BRVK Borovoye 64.63 327 P P 17 57 06.4 +0.4
BRVK IAmb IAmb 17 57 07.8
comp=Z,9.1nm,0.8s
BRVK Borovoye 64.63 327 *ce*P P 17 57 06.2 +0.2
BRVK pmax pmax
comp=Z,11nm,0.9s
ARU Arti 65.01 336 P P 17 57 08.4 +0.1
ARU Arti 65.01 336 *d*P P 17 57 08.7 +0.3
ARU S S 18 05 43.4 -4.1
ARU pmax pmax
comp=Z,11nm,0.7s
KIRV Kirov 65.01 342 *ce*P P 17 57 08.0 -0.3
FINES FINESS Array B 65.04 355 P P 17 57 08.2 -0.3
comp=Z,4.7nm,0.7s,baz=26,slow=6.8,SNR=15
comp=Z,4.7nm,0.7s
FINES FINESS Array B 65.04 355 *i* P P 17 57 08.1 -0.4
FINES pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 65.38 316 P P 17 57 10.8 -0.2
MK31 IAmb IAmb 17 57 11.8
comp=Z,2.5nm,0.8s
MK31 Makanchi Array 65.38 316 P P 17 57 10.8 -0.2
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 65.38 316 P P 17 57 11.1 +0.1
comp=Z,3.3nm,0.8s,baz=44,slow=6.2,SNR=20
comp=Z,3.3nm,0.8s
MKAR Makanchi Array 65.38 316 P P 17 57 10.5 -0.5
MKAR Makanchi Array 65.38 316 P P 17 57 10.5 -0.5
WMQ Urumqi 65.41 311 *eP* P 17 57 13.0 +1.7
WMQ sP sP 17 57 23.8 -1.8
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ LR LR
comp=Z,70nm,23.9s
NB2 NORSAR Subarra 65.64 3 P P 17 57 13.0 +0.6
comp=Z,1.6nm,0.7s,baz=359,slow=6.9
NOA NORSAR Array B 65.64 3 P P 17 57 13.3 +0.8
comp=Z,4.4nm,0.9s,baz=357,slow=6.6,SNR=9.7
comp=Z,4.4nm,0.9s
GOMU GeErMu 67.92 301 P P 17 57 28.0 +0.2
GOMU pP pP 17 57 32.5 -5.4
GOMU sP sP 17 57 33.5 -8.2
GOMU pmax pmax
comp=Z,27nm,0.9s
OBN Obninsk 70.37 348 *eP* P 17 57 41.2 -0.9
OBN pmax pmax
comp=Z,8.0nm,1.0s
ABKAR Akbulak array 71.10 331 P P 17 57 47.3 +0.5
ABKAR Akbulak array 71.10 331 P P 17 57 47.4 +0.7
ABKAR IAmb IAmb 17 57 48.8
comp=Z,9.2nm,0.7s
USP Ospenovka 71.41 319 P P 17 57 49.2 +0.4
SNR=7.7
PZH PanZhiHua 71.72 290 P P 17 57 51.5 +0.5
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,6.0s
KBK Karagaybulak 71.75 318 P P 17 57 52.0 +1.0
SNR=5.7
AAK Ala-Archa 71.95 319 P P 17 57 53.8 +1.6
SNR=6.9
AAK Ala-Archa 71.95 319 P P 17 57 52.9 +0.7
AAK IAmb IAmb 17 57 55.0
comp=Z,7.9nm,1.1s
AAK Ala-Archa 71.95 319 P P 17 57 52.9 +0.7
AAK pmax pmax
comp=Z,8.0nm,1.1s
EKS2 ErkinSay 72.21 319 P P 17 57 55.4 +1.7
SNR=8.4
NRN Naryn 72.36 317 P P 17 57 55.5 +0.6
NRN IAmb IAmb 17 57 57.3
comp=Z,5.7nm,1.1s
NRN Naryn 72.36 317 P P 17 57 55.5 +0.6
NRN pmax pmax
comp=Z,6.0nm,1.1s
AML Almayashu 72.69 319 P P 17 57 58.9 +2.0
SNR=7.3
KK31 Karatay Array 73.07 322 P P 17 57 59.2 +0.5
KK31 IAmb IAmb 17 58 00.9
comp=Z,3.8nm,0.8s
KK31 Karatay Array 73.07 322 P P 17 57 59.2 +0.5
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 73.07 322 P P 17 57 58.6 -0.1
KKAR Karatay Array 73.07 322 P P 17 57 58.8 +0.1
KKAR IAmb IAmb 17 58 00.9
comp=Z,3.8nm,0.8s
KKAR Karatay Array 73.07 322 P P 17 57 58.6 -0.1
VORR Voronezh 73.36 345 *eP* P 17 58 00.4 +0.2
VORR pmax pmax
comp=Z,40nm,0.4s
KSH Kashi 73.99 316 P P 17 58 08.3 +4.0
KSH sP PcP 17 58 18.5 -0.9
KSH pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 74.93 300 P P 17 58 11.7 +1.4
LSA IAmb IAmb 17 58 12.7
comp=Z,9.2nm,0.8s
LSA Lhasa 74.93 300 P P 17 58 11.7 +1.4
LSA pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 75.43 2 *i* P P 17 58 12.8 +0.6
comp=Z,6.0nm,1.0s
CLL Collm 75.43 2 *i* P P 17 58 12.8 +0.6
CLL pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 75.51 352 P P 17 58 12.6 -0.1
comp=Z,5.3nm,0.6s,baz=11,slow=5.8,SNR=24
comp=Z,5.3nm,0.6s
AKBB Malin Array Si 75.51 352 P P 17 58 12.6 0.0
AKBB IAmb IAmb 17 58 13.4
comp=Z,8.6nm,0.8s
AKBB Malin Array Si 75.51 352 *ce*P P 17 58 12.0 -0.7
AKBB pmax pmax
comp=Z,7.0nm,0.6s
BTK Batken 75.58 320 P P 17 58 14.1 +0.7
BTK IAmb IAmb 17 58 20.1
comp=Z,5.6nm,0.7s
BTK Batken 75.58 320 P P 17 58 14.1 +0.7
BTK pmax pmax
comp=Z,6.0nm,0.7s
DRK Karamyk 75.70 319 P P 17 58 14.3 -0.1
DRK IAmb IAmb 17 58 19.3
comp=Z,8.4nm,0.6s
SIJI Sorong 76.17 249 P P 17 58 17.4 +0.4
comp=Z,7.6nm,0.8s,baz=169,slow=3.4,SNR=4.1
comp=Z,7.6nm,0.8s
DPC Dobruska-Polom 76.42 0 *eP* P 17 58 19.3 +1.3
DPC Dobruska-Polom 76.42 0 *eP* P 17 58 19.3 +1.3
NKC Novy Kostel 76.49 3 *eP* P 17 58 19.8 +1.5
NKC Novy Kostel 76.49 3 *eP* P 17 58 19.8 +1.5
GAR Garm 76.69 320 P P 17 58 20.4 +0.6
GAR IAmb IAmb 17 58 25.0
comp=Z,8.5nm,0.7s
KRLC Kraliky 76.70 360 *eP* P 17 58 20.7 +1.2
KRLC Kraliky 76.70 360 *eP* P 17 58 20.7 +1.2
GOPC GO Pecny, Ondr 76.85 1 *eP* P 17 58 22.7 +2.3
GOPC GO Pecny, Ondr 76.85 1 *eP* P 17 58 22.7 +2.3
STHS Stebnicka Huta 77.28 357 *eP* P 17 58 23.7 +1.0
STHS Stebnicka Huta 77.28 357 *eP* P 17 58 23.7 +1.0
STHS pmax pmax
comp=Z,9.0nm,1.1s
CHGR Chuyangaron 77.44 320 P P 17 58 24.4 +0.5
CHGR Chuyangaron 77.44 320 P P 17 58 24.4 +0.5
CHGR pmax pmax
comp=Z,22nm,0.9s
VRAC Vranov 77.47 360 *eP* P 17 58 24.8 +1.0
KHC Kasperske Hory 77.62 2 P P 17 58 26.0 +1.3
KHC IAmb IAmb 17 58 27.1
comp=Z,4.8nm,0.9s
KHC Kasperske Hory 77.62 2 *eP* P 17 58 26.3 +1.6
KHC Kasperske Hory 77.62 2 *i* P P 17 58 26.6 +1.9
KHC pmax pmax
comp=Z,11nm,1.0s
KRUC Moravsky 77.71 360 *eP* P 17 58 26.3 +1.1
KOLS Kolonicke sedl 77.72 356 *eP* P 17 58 26.8 +1.6
KOLS Kolonicke sedl 77.72 356 *eP* P 17 58 26.8 +1.6
KOLS pmax pmax
comp=Z,4.0nm,0.9s
SHL Shillong 77.86 297 P P 17 58 25.6 -1.0
SHL Shillong 77.86 297 P P 17 58 25.6 -1.0

SHL				pmax	pmax			
	comp=Z,15nm,0.4s							
GERES	**GERESS Array B**	**77.91**	**2**	P		**P**	**17 58 27.4**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=347,slow=2.9,SNR=12							
	comp=Z,2.0nm,0.8s							
CKRC	**Cesky Krumlov**	**77.94**	**1**	*eP*		**P**	**17 58 28.0**	**+1.5**
VYHS	**Vyhne**	**78.26**	**358**	*eP*		**P**	**17 58 29.3**	**+1.1**
VYHS	**Vyhne**	**78.26**	**358**	*eP*		**P**	**17 58 29.3**	**+1.1**
VYHS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MODS	**Modra-Piesok**	**78.40**	**359**	*eP*		**P**	**17 58 30.2**	**+1.2**
MODS	**Modra-Piesok**	**78.40**	**359**	*eP*		**P**	**17 58 30.2**	**+1.2**
MODS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
TAPN	**Taplejung**	**78.60**	**301**	*eP*		**P**	**17 58 31.6**	**+0.8**
	comp=Z,26nm,1.0s							
CONA	**Conrad Observa**	**78.85**	**0**	*eP*		**P**	**17 58 32.9**	**+1.3**
	comp=Z,4.2nm,0.8s							
BUR08	**Bucovina Ar. S**	**78.85**	**354**	P		**P**	**17 58 32.5**	**+0.9**
GUN	**Gumba**	**79.07**	**302**	*eP*		**P**	**17 58 34.5**	**+1.0**
	comp=Z,42nm,0.8s							
RONA	**Rosalia, Austr**	**79.08**	**0**	*eP*		**P**	**17 58 34.9**	**+2.1**
	comp=Z,3.1nm,0.6s							
JIRN	**Jiri**	**79.12**	**302**	*eP*		**P**	**17 58 34.8**	**+1.0**
	comp=Z,47nm,0.6s							
MOTA	**Moosalm**	**79.33**	**4**	*eP*		**P**	**17 58 35.9**	**+1.6**
	comp=Z,9.1nm,0.9s							
WATA	**Walderalm**	**79.36**	**3**	*eP*		**P**	**17 58 35.8**	**+1.3**
	comp=Z,12nm,1.1s							
WTTA	**Wattenberg**	**79.43**	**3**	*eP*		**P**	**17 58 36.7**	**+1.8**
	comp=Z,9.5nm,1.0s							
SQTA	**Sankt Quirin**	**79.46**	**4**	*eP*		**P**	**17 58 36.9**	**+1.9**
	comp=Z,14nm,1.0s							
RAMN	**Ramite**	**79.49**	**301**	*eP*		**P**	**17 58 36.4**	**+0.7**
	comp=Z,36nm,0.8s							
PKI	**Pulchoki**	**79.59**	**303**	*eP*		**P**	**17 58 36.8**	**+0.5**
	comp=Z,37nm,1.0s							
PKIN	**Phulchoki**	**79.59**	**303**	*eP*		**P**	**17 58 36.8**	**+0.6**
	comp=Z,34nm,1.0s							
GKN	**Gorkha**	**79.62**	**303**	*eP*		**P**	**17 58 37.0**	**+0.8**
	comp=Z,30nm,0.8s							
CMAR	**Chiang Mai Arr**	**79.64**	**287**	P		**P**	**17 58 36.7**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=24,slow=6.0,SNR=23							
	comp=Z,3.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**79.64**	**287**	P		**P**	**17 58 36.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**79.64**	**287**	P		**P**	**17 58 36.1**	**-0.1**
FETA	**Feichten**	**79.64**	**4**	*eP*		**P**	**17 58 38.2**	**+2.1**
	comp=Z,12nm,1.0s							
KBA	**Koelnbreinsper**	**79.67**	**2**	*eP*		**P**	**17 58 38.6**	**+2.4**
	comp=Z,16nm,1.1s							
DMN	**Daman**	**79.71**	**303**	*eP*		**P**	**17 58 37.9**	**+1.1**
	comp=Z,34nm,0.9s							
DANN	**Dangsing**	**79.77**	**304**	*eP*		**P**	**17 58 38.4**	**+1.2**
	comp=Z,93nm,0.7s							
ABTA	**Abfaltersbach**	**79.98**	**3**	*eP*		**P**	**17 58 40.2**	**+2.4**
	comp=Z,7.4nm,1.1s							
SOKA	**Soboth**	**80.09**	**1**	*eP*		**P**	**17 58 39.3**	**+0.9**
	comp=Z,12nm,1.2s							
KIV	**Kislovodsk**	**80.23**	**341**	P		**P**	**17 58 40.3**	**+1.1**
KIV				IAmb	IAmb		17 58 44.1	
	comp=Z,8.8nm,0.9s							
KIV	**Kislovodsk**	**80.23**	**341**	*eP*		**P**	**17 58 40.6**	**+1.4**
KIV				pmax	pmax			
	comp=Z,11nm,1.0s							
KIV				MLR	MLR			
	comp=Z,33nm,19.0s							
OBKA	**Obir**	**80.26**	**1**	*eP*		**P**	**17 58 40.5**	**+1.2**
	comp=Z,15nm,1.0s							
PYUN	**Piuthan**	**80.35**	**305**	*eP*		**P**	**17 58 41.1**	**+0.9**
	comp=Z,67nm,0.9s							
KBZ	**Khabaz**	**80.41**	**341**	P		**P**	**17 58 42.1**	**+2.2**
	comp=Z,6.8nm,0.9s,baz=27,slow=3.3,SNR=15							
	comp=Z,6.8nm,0.9s							
KBZ	**Khabaz**	**80.41**	**341**	*ce*P		**P**	**17 58 41.7**	**+1.7**
KBZ				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KBL	**Kabul**	**81.08**	**318**	P		**P**	**17 58 43.4**	**-0.7**
KBL				IAmb	IAmb		17 58 44.4	
	comp=Z,5.6nm,0.8s							
KBL	**Kabul**	**81.08**	**318**	P		**P**	**17 58 43.4**	**-0.7**
KBL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ZEI	**Tsey**	**81.11**	**340**	*eP*		**P**	**17 58 43.8**	**-0.3**
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AKT	**Akhty**	**81.51**	**337**	*eP*		**P**	**17 58 47.7**	**+1.6**
AKT				*e*			17 58 53.9	
AKT				pmax	pmax			
	comp=Z,19nm,0.9s							
GEYT	**Alibeck**	**81.95**	**328**	P		**P**	**17 58 49.8**	**+1.5**
	comp=Z,4.6nm,0.8s,baz=305,slow=5.2,SNR=8.8							
	comp=Z,4.6nm,0.8s							
GEYT	**Alibeck**	**81.95**	**328**	P		**P**	**17 58 49.0**	**+0.6**
GEYT				IAmb	IAmb		17 58 50.5	
	comp=Z,5.5nm,0.9s							
GNI	**Garni**	**83.46**	**338**	LR	LR		18 41 00.0	
	comp=Z,39nm,19.1s,baz=9.0,slow=39							
ESDC	**Sonseca Array**	**85.46**	**16**	P		**P**	**17 59 07.5**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=340,slow=4.8,SNR=4.5							
	comp=Z,0.6nm,0.7s							
ESDC	**Sonseca Array**	**85.46**	**16**	P		**P**	**17 59 04.9**	**-1.4**
ESDC				IAmb	IAmb		17 59 19.2	
	comp=Z,6.8nm,1.4s							
BR131	**Keskin Array S**	**85.86**	**347**	P		**P**	**17 59 09.2**	**+0.8**
BR131	**Keskin Array S**	**85.86**	**347**	P		**P**	**17 59 09.2**	**+0.8**
BR131				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BRTR	**Keskin Array B**	**85.86**	**347**	P		**P**	**17 59 09.5**	**+1.1**
	comp=Z,5.2nm,0.9s,baz=32,slow=1.4,SNR=16							
	comp=Z,5.2nm,0.9s							
BRTR	**Keskin Array B**	**85.86**	**347**	P		**P**	**17 59 09.2**	**+0.8**
BRTR	**Keskin Array B**	**85.86**	**347**	P		**P**	**17 59 09.2**	**+0.8**
MARD	**Mardin**	**87.02**	**341**	P		**P**	**17 59 14.8**	**+0.7**
WRA	**Warramunga Arr**	**90.52**	**236**	P		**P**	**17 59 29.5**	**-1.0**
	comp=Z,0.7nm,1.1s,baz=36,slow=6.1,SNR=2.7							
	comp=Z,0.7nm,1.1s							
ASAR	**Alice Springs**	**93.88**	**235**	P		**P**	**17 59 45.5**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=44,slow=7.2,SNR=4.5							
	comp=Z,0.6nm,1.0s							
PTGA	**Pitinga**	**98.70**	**79**	LR		LR	18 46 01.7	
	comp=Z,60nm,18.8s,baz=146,slow=36							
BOSA	**Boshof**	**154.19**	**342**	PKPbc		**PKiKP**	**18 06 29.4**	**+0.9**
	comp=Z,3.6nm,1.0s,baz=228,slow=8.3,SNR=3.2							

*BJI **28** 17:56:37.4±0.0, 12°.19N×144°.68E, h9km, mb4.5/41, mB5.0/21, Ms4.5/11, Ms7 4.3/12*
*IDC **28** 17:56:38.4±0.7, 12°.31N×144°.61E, h0km, mb4.1/17, mbtmp4.1/17, MS3.9/32, Error ellipse: s-maj=24.9km s-min=13.5km az=101.0*
*NEIC **28** 17:56:40.2±1.4, 12°.29N±0°.08×144°.6E±0°.1, h10km±1km, mb4.8/47, Error ellipse: s-maj=21.7km s-min=13.1km az=109.0*
ISC 28 17:56:39.6±0.6, 12°.27N±0°.07×144°.6E±0°.1, h10km, n120, σ0§86/92, mb4.6/51, MS3.9/33, 5C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.33**	**10**	Pn	**Pn**	**17 57 05.7**	**+1.4**
	355nm,0.3s,baz=147,slow=14,SNR=103						
GUMO				Sn	**Sb**	**17 57 22.0**	**+0.3**
	547nm,0.3s,baz=38,slow=21,SNR=6.8						
GUMO	**Guam**	**1.33**	**10**	Pn	**Pn**	**17 57 05.5**	**+1.2**
KRVT	**Keravat (AS076**	**18.03**	**156**	LR	LR	18 06 59.8	
	comp=Z,187nm,19.8s,baz=124,slow=34						
SIJI	**Sorong**	**18.62**	**226**	LR	LR	18 07 00.1	
	comp=Z,321nm,18.5s,baz=54,slow=33						
JOW	**Kunigami**	**21.12**	**316**	LR	LR	18 08 24.5	
	comp=Z,284nm,20.3s,baz=126,slow=34						
JHJ	**Hachijo jima 2**	**21.22**	**349**	LR	LR	18 08 55.1	
	comp=Z,287nm,18.3s,baz=88,slow=35						
PMG	**Port Moresby**	**21.68**	**173**	LR	LR	18 09 25.1	
	comp=Z,233nm,19.0s,baz=307,slow=35						
H11S3	**WAKE ISLAND Hy**	**22.13**	**71**	T	T	18 24 50.8	
	baz=249,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**22.14**	**71**	T	T	18 24 53.9	
	baz=249,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**22.14**	**71**	T	T	18 24 52.4	
	baz=249,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**22.62**	**68**	T	T	18 25 23.8	
	baz=255,slow=75,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**22.63**	**68**	T	T	18 25 26.7	
	baz=255,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**22.64**	**68**	T	T	18 25 23.9	
	baz=255,slow=75,SNR=8.2						

MJAR	**Matsushiro Arr**	**24.85**	**348**	P		**P**	**18 02 01.3**	**-1.0**
	2.7nm,0.7s,baz=173,slow=9.2,SNR=4.6							
MJAR				LR	LR		18 11 30.1	
	comp=Z,417nm,18.3s,baz=148,slow=36							
	2.7nm,0.7s							
JTU	**Tsushima**	**26.13**	**330**	P		**P**	**18 02 14.5**	**+0.6**
MYLDM	**Lahad Datu**	**26.76**	**257**	P		**P**	**18 02 19.4**	**-0.5**
MYLDM				IAmb	IAmb		18 02 26.6	
	comp=Z,32nm,1.1s							
KSRS	**Korea Array**	**29.20**	**332**	P		**P**	**18 02 41.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=150,slow=12,SNR=2.6							
KSRS				LR	LR		18 13 56.0	
	comp=Z,156nm,18.3s,baz=120,slow=36							
	comp=Z,0.9nm,0.7s							
NJ2	**Nanjing**	**30.81**	**314**	*eP*		**P**	**18 02 56.0**	**+0.3**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
ASAJ	**Asahikawa**	**31.78**	**357**	LR	LR		18 16 32.2	
	comp=Z,69nm,20.5s,baz=176,slow=38							
CTA	**Charters Tower**	**32.20**	**177**	LR	LR		18 14 42.2	
	comp=Z,70nm,21.1s,baz=17,slow=34							
WB0	**Warramunga Arr**	**33.40**	**198**	P		**P**	**18 03 18.1**	**-0.5**
WB0				IAmb	IAmb		18 03 33.7	
	comp=Z,11nm,1.2s							
WR0	**Warramunga Arr**	**33.54**	**197**	P		**P**	**18 03 20.0**	**+0.2**
SBUM	**Sibu**	**33.56**	**256**	P		**P**	**18 03 18.9**	**-1.1**
WB2	**Warramunga Arr**	**33.58**	**198**	P		**P**	**18 03 20.6**	**+0.5**
WB2				IAmb	IAmb		18 03 34.2	
	comp=Z,7.8nm,0.9s							
WRA	**Warramunga Arr**	**33.58**	**198**	P		**P**	**18 03 20.6**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=22,slow=9.5,SNR=37							
WRA				LR	LR		18 18 20.0	
	comp=Z,165nm,18.3s,baz=15,slow=39							
	comp=Z,2.4nm,0.6s							
WRA	**Warramunga Arr**	**33.58**	**198**	P		**P**	**18 03 19.5**	**-0.7**
HNS	**HongShan**	**36.65**	**318**	⇑P		**P**	**18 03 47.0**	**+0.6**
HNS				pmax	pmax			
	comp=Z,13nm,1.1s							
ENH	**Enshi**	**37.13**	**304**	P		**P**	**18 03 50.4**	**-0.3**
ENH				IAmb	IAmb		18 04 05.2	
	comp=Z,34nm,1.6s							
AS31	**Alice Springs**	**37.23**	**196**	P		**P**	**18 03 51.8**	**+0.3**
ASAR	**Alice Springs**	**37.23**	**196**	P		**P**	**18 03 52.1**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=14,slow=6.9,SNR=22							
ASAR				LR	LR		18 21 03.1	
	comp=Z,101nm,18.2s,baz=14,slow=39							
	comp=Z,1.3nm,0.6s							
ASAR	**Alice Springs**	**37.23**	**196**	P		**P**	**18 03 51.4**	**-0.1**
BJT	**Baijiatuau**	**37.33**	**323**	P		**P**	**18 03 50.9**	**-1.3**
KLR	**Kul'dur**	**38.36**	**346**	LR	LR		18 18 52.5	
	comp=Z,210nm,19.3s,baz=144,slow=35							
MIDW	**Midway**	**38.82**	**60**	P		**P**	**18 04 04.1**	**-0.8**
HEH	**HeiHe**	**40.43**	**343**	*eP*		**P**	**18 04 17.0**	**-1.0**
HEH				pmax	pmax			
	comp=Z,6.0nm,1.2s							
HEH				pmax	pmax			
	comp=Z,230nm,5.9s							
HHC	**Hu-ho-hao-te**	**40.63**	**321**	*eP*		**P**	**18 04 21.3**	**+1.3**
HHC				pmax	pmax			
	comp=Z,14nm,1.0s							
HHC				pmax	pmax			
	comp=Z,220nm,5.8s							
HHC				LR	LR			
	comp=Z,480nm,15.9s							
HHC				LR	LR			
	comp=Z,570nm,16.5s							
HHC				LR	LR			
	comp=Z,820nm,17.9s							
KMI	**Kunming**	**41.52**	**294**	⇑P		**P**	**18 04 28.8**	**+1.1**
KMI				pP	sP		18 04 34.5	+5.9
KMI				pmax	pmax			
	comp=Z,12nm,1.2s							
PETK	**Petropavlovsk-**	**42.05**	**12**	P		**P**	**18 04 31.5**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=216,slow=7.1,SNR=1.6							
PETK				LR	LR		18 20 21.2	
	comp=Z,108nm,19.4s,baz=186,slow=34							
	comp=Z,1.4nm,0.7s							
PZH	**PanZhiHua**	**42.66**	**296**	P		**P**	**18 04 37.8**	**+0.9**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,120nm,4.9s							
LZH	**Lanzhou**	**43.68**	**310**	*eP*		**P**	**18 04 46.8**	**+1.8**
LZH				pP	sP		18 04 53.5	+7.6
LZH				sP	pwP		18 04 59.3	+3.0
LZH				pmax	pmax			
	comp=Z,13nm,1.0s							
LZH				LR	LR			
	comp=Z,250nm,10.2s							
LZH				LR	LR			
	comp=Z,260nm,11.7s							
LZH				LR	LR			
	comp=Z,180nm,15.1s							
KULM	**Kulim**	**43.98**	**265**	P		**P**	**18 04 48.6**	**+1.1**
KULM				IAmb	IAmb		18 04 52.0	
	comp=Z,12nm,0.7s							
STKA	**Stephens Creek**	**43.99**	**184**	P		**P**	**18 04 47.7**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=299,slow=8.2,SNR=2.8							
	comp=Z,1.4nm,0.8s							
CM31	**Chiang Mai Arr**	**44.40**	**284**	P		**P**	**18 04 50.6**	**-0.3**
CM31				IAmb	IAmb		18 04 53.3	
	comp=Z,11nm,1.1s							
CMAR	**Chiang Mai Arr**	**44.40**	**284**	P		**P**	**18 04 51.6**	**+0.7**
	comp=Z,5.3nm,0.9s,baz=82,slow=6.1,SNR=32							
CMAR				LR	LR		18 23 08.0	
	comp=Z,99nm,19.2s,baz=55,slow=36							
	comp=Z,5.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**44.40**	**284**	P		**P**	**18 04 51.9**	**+1.1**
MSVF	**Nonsavu**	**44.46**	**131**	LR	LR		18 21 26.5	
	comp=Z,79nm,21.8s,baz=34,slow=33							
TNCH	**TengChong**	**45.29**	**293**	⇓P		**P**	**18 04 59.0**	**+0.9**
TNCH				pP	sP		18 05 04.8	+5.8
TNCH				pmax	pmax			
	comp=Z,23nm,1.2s							
SHEM	**Shemya Is, Ala**	**46.75**	**24**	LR	LR		18 22 38.2	
	comp=Z,119nm,19.1s,baz=326,slow=33							
SONM	**Songino Array**	**47.68**	**326**	P		**P**	**18 05 16.4**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=151,slow=9.5,SNR=4.4							
SONM				LR	LR		18 25 51.9	
	comp=Z,266nm,19.2s,baz=124,slow=37							
	comp=Z,0.5nm,0.3s							
GTA	**Gaotai**	**47.88**	**313**	*eP*		**P**	**18 05 18.3**	**+0.1**
GTA				pP	sP		18 05 22.5	+3.4
GTA				sP	pP		18 05 25.5	+6.7
GTA				pmax	pmax			
	comp=Z,5.0nm,1.3s							
GTA				pmax	pmax			
	comp=Z,69nm,5.9s							
GTA				LR	LR			
	comp=Z,160nm,17.8s							
GTA				LR	LR			
	comp=Z,160nm,20.7s							
GTA				LR	LR			
	comp=Z,180nm,17.4s							
YAK	**Yakutsk**	**50.84**	**351**	P		**P**	**18 05 39.5**	**-0.7**
YAK				IAmb	IAmb		18 05 41.5	
	comp=Z,8.0nm,0.6s							
SHL	**Shillong**	**51.32**	**293**	P		**P**	**18 05 43.8**	**-0.9**
SHL				IAmb	IAmb		18 05 46.5	
	comp=Z,11nm,0.6s							
BRDH	**Bariadhala**	**51.37**	**289**	LR	LR		18 27 41.1	
	comp=Z,110nm,19.0s,baz=98,slow=36							
LSA	**Lhasa**	**52.40**	**298**	P		**P**	**18 05 51.3**	**-1.7**
RAO	**Raoul Island**	**54.87**	**139**	LR	LR		18 28 05.4	
	comp=Z,87nm,18.1s,baz=230,slow=34							
TAPN	**Taplejung**	**55.19**	**295**	*eP*		**P**	**18 06 14.2**	**+0.9**
	comp=Z,24nm,1.0s							
RAMN	**Ramite**	**56.15**	**294**	*eP*		**P**	**18 06 21.0**	**+0.9**
	comp=Z,10nm,0.6s							
JIRN	**Jiri**	**56.55**	**295**	*eP*		**P**	**18 06 23.7**	**+0.5**
	comp=Z,11nm,0.5s							
GUN	**Gumba**	**56.84**	**295**	*eP*		**P**	**18 06 25.8**	**+0.6**
	comp=Z,37nm,0.9s							
PKI	**Pulchoki**	**57.24**	**295**	*eP*		**P**	**18 06 28.7**	**+0.7**
	comp=Z,6.2nm,0.6s							
PKIN	**Phulchoki**	**57.25**	**295**	*eP*		**P**	**18 06 28.6**	**+0.6**
	comp=Z,6.0nm,0.4s							
BILL	**Bilibino**	**57.49**	**9**	P		**P**	**18 06 28.0**	**-0.6**
BILL				IAmb	IAmb		18 06 43.2	
	comp=Z,22nm,1.6s							
DMN	**Daman**	**57.51**	**295**	*eP*		**P**	**18 06 30.6**	**+0.8**
	comp=Z,13nm,0.8s							
WMQ	**Urumqi**	**57.88**	**314**	*eP*		**P**	**18 06 33.0**	**+1.1**
WMQ				sP	pwP		18 06 43.8	+0.7
WMQ				pmax	pmax			
	comp=Z,14nm,1.1s							
GKN	**Gorkha**	**57.94**	**295**	*eP*		**P**	**18 06 32.8**	**+0.1**
	comp=Z,12nm,0.6s							
DANN	**Dangsing**	**58.73**	**296**	*eP*		**P**	**18 06 38.5**	**+0.1**
	comp=Z,25nm,0.7s							
MK31	**Makanchi Array**	**62.28**	**317**	P		**P**	**18 07 02.3**	**+0.3**
MKAR	**Makanchi Array**	**62.28**	**317**	P		**P**	**18 07 02.4**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=93,slow=8.5,SNR=25							
	comp=Z,1.2nm,0.4s							
MKAR	**Makanchi Array**	**62.28**	**317**	P		**P**	**18 07 02.0**	**0.0**
MAKZ	**Makanchi**	**62.50**	**317**	P		**P**	**18 07 03.3**	**-0.1**
MAKZ				IAmb	IAmb		18 07 04.5	
	comp=Z,3.2nm,0.6s							
ZALV	**Zalesovo Beam**	**62.56**	**325**	P		**P**	**18 07 03.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=104,slow=6.1,SNR=2.0							
ZALV				LR	LR		18 34 52.5	
	comp=Z,131nm,19.5s,baz=59,slow=37							
	comp=Z,0.5nm,0.3s							
RAR	**Rarotonga**	**63.93**	**121**	LR	LR		18 30 07.5	
	comp=Z,82nm,21.8s,baz=198,slow=31							
KURK	**Kurchatov**	**65.44**	**320**	P		**P**	**18 07 22.1**	**-0.6**
KURK				IAmb	IAmb		18 07 23.7	
	comp=Z,5.0nm,0.9s							
KURBB	**Kurchatov Arra**	**65.48**	**320**	LR	LR		18 36 47.0	
	comp=Z,211nm,19.2s,baz=147,slow=37							
KSH	**Kashi**	**65.86**	**308**	P		**P**	**18 07 28.5**	**+2.7**
KSH				pmax	pmax			
	comp=Z,5.0nm,0.8s							
NIL	**Nilore**	**67.87**	**301**	P		**P**	**18 07 38.8**	**+0.2**
DRK	**Karamyk**	**69.09**	**308**	P		**P**	**18 07 45.9**	**-0.6**
DRK				IAmb	IAmb		18 07 46.6	
	comp=Z,6.0nm,0.9s							
IL31		**69.85**	**25**	P		**P**	**18 07 49.1**	**-1.1**
IL31				IAmb	IAmb		18 07 50.5	
	comp=Z,17nm,1.6s							
ILAR	**Eielson Array**	**69.85**	**25**	P		**P**	**18 07 48.9**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=249,slow=6.0,SNR=26							
	comp=Z,1.3nm,0.5s							
ILAR	**Eielson Array**	**69.85**	**25**	P		**P**	**18 07 49.2**	**-1.1**
BTK	**Batken**	**69.85**	**308**	P		**P**	**18 07 50.2**	**-0.7**
BTK				IAmb	IAmb		18 07 52.0	
	comp=Z,20nm,1.6s							
KK31	**Karatay Array**	**70.15**	**311**	P		**P**	**18 07 52.5**	**-0.1**
KKAR	**Karatay Array**	**70.15**	**311**	P		**P**	**18 07 52.5**	**-0.1**
KKAR	**Karatay Array**	**70.15**	**311**	P		**P**	**18 07 52.6**	**0.0**
KKAR				IAmb	IAmb		18 07 53.5	
	comp=Z,3.5nm,0.8s							
GAR	**Garm**	**70.23**	**307**	P		**P**	**18 07 53.4**	**0.0**
BVAR	**Borovoye Array**	**70.82**	**322**	LR	LR		18 40 38.0	
	comp=Z,253nm,18.7s,baz=70,slow=37							
BRVK	**Borovoye**	**70.88**	**322**	P		**P**	**18 07 56.0**	**-0.8**
FYU	**Fort Yukon**	**70.95**	**23**	P		**P**	**18 07 58.3**	**+1.4**
CHGR	**Chuyangaron**	**71.14**	**307**	P		**P**	**18 07 58.9**	**+0.1**
KBL	**Kabul**	**71.34**	**302**	P		**P**	**18 07 58.6**	**-1.7**
KBL				IAmb	IAmb		18 08 02.9	
	comp=Z,12nm,1.1s							
PPT	**Papeete**	**71.39**	**113**	LR	LR		18 34 07.3	
	comp=Z,55nm,20.5s,baz=332,slow=32							
HRA	**Herat**	**76.96**	**303**	P		**P**	**18 08 31.4**	**-1.7**
HRA				IAmb	IAmb		18 08 34.5	
	comp=Z,6.1nm,1.1s							
ABKAR	**Akbulak array**	**77.36**	**318**	P		**P**	**18 08 34.2**	**-0.6**
ABKAR	**Akbulak array**	**77.36**	**318**	P		**P**	**18 08 34.0**	**-0.8**
ARU	**Arti**	**77.72**	**325**	LR	LR		18 45 02.3	
	comp=Z,83nm,18.9s,baz=110,slow=37							
GEYT	**Alibeck**	**79.85**	**307**	P		**P**	**18 08 48.7**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=122,slow=1.9,SNR=7.5							
	comp=Z,3.3nm,0.7s							
GEYT	**Alibeck**	**79.85**	**307**	P		**P**	**18 08 48.1**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**79.85**	**307**	P		**P**	**18 08 48.1**	**-0.7**
GYA0B				IAmb	IAmb		18 08 54.8	
	comp=Z,5.7nm,0.8s							
KIRV	**Kirov**	**82.34**	**328**	LR	LR		18 48 40.8	
	comp=Z,48nm,18.3s,baz=50,slow=38							
YKA	**Yellowknife Ar**	**84.12**	**27**	P		**P**	**18 09 11.1**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=285,slow=5.3,SNR=5.4							
	comp=Z,0.9nm,0.6s							
BELG	**Belogornoye**	**84.62**	**322**	LR	LR		18 48 52.3	
	comp=Z,148nm,19.6s,baz=17,slow=37							
NEW	**Newport**	**86.36**	**42**	P		**P**	**18 09 23.2**	**+1.0**
NEW				IAmb	IAmb		18 09 24.7	
	comp=Z,7.8nm,0.9s							
BMO	**Blue Mountains**	**87.07**	**45**	P		**P**	**18 09 26.0**	**+0.1**
BMO				IAmb	IAmb		18 09 28.4	
	comp=Z,5.7nm,1.1s							
PLID	**Pearl Lake**	**87.91**	**44**	P		**P**	**18 09 30.6**	**+0.5**
NVAR	**Mina Array Bea**	**87.91**	**51**	P		**P**	**18 09 32.4**	**+2.1**
	comp=Z,0.9nm,0.4s,baz=263,slow=5.7,SNR=4.9							
	comp=Z,0.9nm,0.4s							
ARCES	**ARCESS Array B**	**88.26**	**342**	P		**P**	**18 09 31.1**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=57,slow=4.5,SNR=6.9							
ARCES				LR	LR		18 52 27.0	
	comp=Z,47nm,18

DUWZ	D'Urville Isla	1.87	16	P	Pn	17 58 09.4 +0.9
WVZ	Waitaha Valley	1.89	255	P	Pn	17 58 08.9 +0.2
MSWZ	Moikau Station	1.92	53	P	Pn	17 58 08.1 -1.0
RPZ	Rata Peaks	1.94	234	P	Pn	17 58 08.8 -0.7
RPZ	Rata Peaks	1.94	234	P	Pn	17 58 08.7 -0.7
ARCZ	Arundel	2.01	227	P	Pn	17 58 09.4 -1.0
CAW	Cannon Point	2.03	43	P	Pn	17 58 09.9 -0.7
PAWZ	Paruwai Farm	2.04	54	P	Pn	17 58 09.7 -1.2
KIW	Kapiti Island	2.15	37	P	Pn	17 58 12.0 -0.2
TRWZ	Traveller	2.19	58	P	Pn	17 58 11.7 -1.2
MTW	Mount Morrison	2.23	51	P	Pn	17 58 12.0 -1.3
GCSZ	Gaunt Creek Bo	2.24	250	P	Pn	17 58 14.5 +0.9
OGWZ	Otaki Gorge	2.30	40	P	Pn	17 58 13.7 -0.7
TMZ	Timaru	2.41	221	P	Pn	17 58 15.0 -0.9
HOWZ	Holdsworth Sta	2.41	46	P	Pn	17 58 14.9 -1.0
MRZ	Mangatainoka R	2.62	43	P	Pn	17 58 17.5 -1.2
FOZ	Fox Glacier	2.67	248	P	Pn	17 58 19.9 +0.6
LBZ	Lake Benmore	2.84	230	P	Pn	17 58 21.2 -0.6
ODZ	Otahua Downs	3.08	216	P	Pn	17 58 24.2 -0.8
ODZ	Otahua Downs	3.08	216	P	Pn	17 58 23.9 -1.1
WAZ	Wanganui	3.14	26	P	Pn	17 58 27.7 +1.8
TSZ	Takapari Road	3.27	40	P	Pn	17 58 26.3 -1.4
KHEZ	Kahui Hut	3.35	11	P	Pn	17 58 31.3 +2.4
KHEZ	Kahui Hut	3.35	11	P	Pn	17 58 31.3 +2.4
PKE	Pukeiti	3.45	10	P	Pn	17 58 32.1 +1.9
JCZ	Jackson Bay	3.56	244	P	Pn	17 58 32.6 +0.9
JCZ	Jackson Bay	3.56	244	P	Pn	17 58 31.5 -0.3
MOVZ	Moawhango	3.72	32	P	Pn	17 58 35.1 +1.1
TRVZ	Turoa	3.74	29	P	Pn	17 58 36.2 +1.9
BHHZ	Black Hill Sta	3.78	36	P	Pn	17 58 36.8 +2.1
HHSZ	Highcliff Hill	3.79	209	P	Pn	17 58 33.8 -1.0
EAZ	Earnscleugh	3.86	226	P	Pn	17 58 34.6 -1.3
NGZ	Ngauruhoe	3.87	29	P	Pn	17 58 36.8 +0.8
NNVZ	North Ngauruho	3.91	28	P	Pn	17 58 37.7 +1.0
KRVZ	Karewarewa	3.95	28	P	Pn	17 58 35.6 -1.6
TMVZ	Te Maari	3.96	29	P	Pn	17 58 37.4 +0.2
TUZ	Tuapeka	4.23	216	P	Pn	17 58 40.4 -0.4
HIZ	Hauiti	4.27	17	P	Pn	17 58 42.5 +1.1
HIZ	Hauiti	4.27	17	P	Pn	17 58 42.3 +0.9
MLZ	Mavora Lakes	4.61	231	P	Pn	17 58 44.5 -1.6
TLZ	Tolley Road	4.62	23	P	Pn	17 58 47.1 +0.9
SYZ	Scrubby Hill	4.90	215	P	Pn	17 58 49.9 -0.2
SYZ	Scrubby Hill	4.90	215	P	Pn	17 58 49.6 -0.4
TOZ	Tahuroa Road	5.17	21	P	Pn	17 58 53.9 +0.2
URZ	Urewera	5.25	36	P	Pn	17 58 57.5 +2.6
AWAZ	Awhitu Peninsu	5.63	12	P	Pn	17 59 01.2 +1.0
MKAZ	Moumakai	5.69	16	P	Pn	17 59 01.0 +0.1
WIAZ	Waiheke Island	5.98	15	P	Pn	17 59 05.8 +0.9

ROM 28 18:18:51.0±0.2, 43°.017N±0°.004×13°.070E±0°.005, h6km±1km, ML2.4/27, 10C-14D, Error ellipse: s-maj=0.4km s-min=0.4km az=10.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.02**	**33**	P	P	Pg	18 18 52.2	0.0
FDMO				S	S	Sg	18 18 52.8	-0.2
T1219	**Muccia, Frazio**	**0.06**	**310**	P	P	Pg	18 18 52.8	+0.2
T1219				S	S	Sg	18 18 54.1	+0.4
T1219					AML	AML		
	comp=E,6375μm,0.1s							
T1219					AML	AML		
	comp=E,5675μm,0.1s							
T1219					AML	AML		
	comp=E,6380μm,0.1s							
T1219					AML	AML		
	comp=N,8650μm,0.3s							
T1219					AML	AML		
	comp=N,8100μm,0.3s							
T1256	**Bolognola (MC)**	**0.12**	**95**	⇑P	P	Pg	18 18 53.8	+0.3
T1256				S	S	Sg	18 18 56.0	+0.8
T1256					AML	AML		
	comp=E,3225μm,0.4s							
T1256					AML	AML		
	comp=N,2655μm,1.0s							
T1256					AML	AML		
	comp=E,3270μm,0.4s							
T1256					AML	AML		
	comp=N,2655μm,1.0s							
T1256					AML	AML		
	comp=E,3275μm,0.4s							
T1256					AML	AML		
	comp=N,2560μm,1.4s							
T1256					AML	AML		
	comp=N,2650μm,1.0s							
CESI	**CESI - Serrava**	**0.12**	**264**	P	P	Pg	18 18 54.1	+0.5
CESI				S	S	Sg	18 18 56.5	+1.1
CESI					AML	AML		
	comp=E,3360μm,0.5s							
CESI					AML	AML		
	comp=N,2945μm,0.3s							
T1216	**Preci, Frazion**	**0.13**	**197**	⇑P	P	Pg	18 18 54.1	+0.4
T1216				S	S	Sg	18 18 56.7	+1.2
T1216					AML	AML		
	comp=E,5675μm,0.5s							
T1216					AML	AML		
	comp=N,4560μm,0.4s							
T1216					AML	AML		
	comp=E,5670μm,0.5s							
T1216					AML	AML		
	comp=E,5675μm,0.5s							
T1216					AML	AML		
	comp=N,4565μm,0.4s							
MC2	**Monte Cornacci**	**0.14**	**140**	P	P	Pg	18 18 54.2	+0.3
MC2				S	S	Sg	18 18 56.9	+1.1
SEF1	**Sefro**	**0.16**	**325**	⇓P	P	Pg	18 18 54.7	+0.5
SEF1					AML	AML		
	comp=E,5100μm,0.2s							
SEF1					AML	AML		
	comp=N,4875μm,0.3s							
SEF1					AML	AML		
	comp=E,5095μm,0.2s							
SEF1					AML	AML		
	comp=N,4870μm,0.3s							
MDAR	**Monte D'Aria**	**0.18**	**17**	P	P	Pg	18 18 55.1	+0.4
MDAR					AML	AML		
	comp=E,1545μm,1.6s							
MDAR					AML	AML		
	comp=E,1540μm,1.6s							
MDAR					AML	AML		
	comp=E,1545μm,1.6s							
MDAR					AML	AML		
	comp=N,2260μm,0.5s							
NRCA	**Norcia**	**0.19**	**170**	⇑P	P	Pg	18 18 55.1	+0.4
NRCA				S	S	Sg	18 18 58.3	+1.1
NRCA					AML	AML		
	comp=E,4250μm,0.2s							
NRCA					AML	AML		
	comp=N,5920μm,0.7s							
NRCA					AML	AML		
	comp=E,4245μm,0.2s							
NRCA					AML	AML		
	comp=N,5760μm,0.7s							
NRCA					AML	AML		
	comp=E,4505μm,0.2s							
GUMA	**Gualdo di Mace**	**0.20**	**77**	⇑P	P	Pg	18 18 55.6	+0.7
GUMA					AML	AML		
	comp=N,7690μm,0.2s							
GUMA					AML	AML		
	comp=N,5100μm,0.3s							
GUMA					AML	AML		
	comp=N,7695μm,0.2s							
GUMA					AML	AML		
	comp=E,4745μm,0.3s							
GUMA					AML	AML		
	comp=E,9490μm,0.2s							
MMO1	**Montemonaco**	**0.22**	**122**	⇓P	P	Pg	18 18 55.7	+0.3
SNTG	**Esanatoglia**	**0.26**	**338**	⇓P	P	Pg	18 18 56.3	+0.2
SNTG					AML	AML		
	comp=E,1042μm,0.5s							
SNTG					AML	AML		
	comp=N,1180μm,0.6s							
SNTG					AML	AML		
	comp=N,1064μm,0.6s							
SNTG					AML	AML		
	comp=E,962μm,0.5s							
SNTG					AML	AML		
	comp=E,1042μm,0.5s							
T1215	**Vallo di Nera,**	**0.26**	**215**	P	P	Pg	18 18 56.6	+0.4
T1215				S	S	Sg	18 19 00.9	+1.4
T1215					AML	AML		
	comp=N,454μm,0.9s							
T1215					AML	AML		
	comp=N,409μm,0.9s							
T1215					AML	AML		
	comp=E,452μm,0.2s							
T1215					AML	AML		
	comp=N,410μm,0.9s							
T1215					AML	AML		
	comp=E,440μm,0.2s							
T1215					AML	AML		
	comp=N,455μm,0.9s							
T1241	**Roccafluvione,**	**0.31**	**121**	⇓P	P	Pg	18 18 57.3	+0.3
T1241					AML	AML		
	comp=N,488μm,0.5s							
T1241					AML	AML		
	comp=N,478μm,0.7s							
T1241					AML	AML		
	comp=E,620μm,0.4s							
T1241					AML	AML		
	comp=E,614μm,0.4s							
T1241					AML	AML		
	comp=N,478μm,0.7s							
EL6	**Elcito**	**0.31**	**4**	⇑P	P	Pg	18 18 57.4	+0.3
EL6					AML	AML		
	comp=E,2830μm,0.2s							
EL6					AML	AML		
	comp=N,4140μm,0.2s							
EL6					AML	AML		
	comp=E,2835μm,0.2s							
EL6					AML	AML		
	comp=N,4135μm,0.2s							
ATCC	**AVT- Casa Cast**	**0.36**	**298**	⇓P	P	Pg	18 18 58.4	+0.4
ATCC					AML	AML		
	comp=N,1339μm,0.2s							
ATCC					AML	AML		
	comp=E,1875μm,0.2s							
FOSV	**Fossato di Vic**	**0.36**	**321**	⇓P	P	Pg	18 18 58.2	+0.3
FOSV					AML	AML		
	comp=E,468μm,0.6s							
FOSV					AML	AML		
	comp=N,669μm,0.2s							
CING	**Cingoli**	**0.37**	**14**	⇑P	P	Pg	18 18 58.5	+0.2
CING					AML	AML		
	comp=N,945μm,0.3s							
CING					AML	AML		
	comp=E,1415μm,1.3s							
LNSS	**Leonessa**	**0.41**	**183**	P	P	Pg	18 18 57.6	-1.4
LNSS				S	S	Sb	18 19 07.0	-0.5
T1243	**Rocca Santa Ma**	**0.42**	**139**	⇓P	P	Pg	18 18 59.2	0.0
SMA1	**SAN MARTINO**	**0.43**	**153**	⇑P	P	Pg	18 18 59.5	+0.1
SMA1					AML	AML		
	comp=N,528μm,1.2s							
SMA1					AML	AML		
	comp=E,596μm,0.6s							
MURB	**Monte Urbino**	**0.47**	**302**	⇓P	P	Pg	18 19 00.4	+0.3
MURB				S	S	Sb	18 19 09.0	0.0
MURB					AML	AML		
	comp=N,806μm,0.3s							
MURB					AML	AML		
	comp=E,880μm,0.4s							
SSFR	**Montelago di S**	**0.47**	**333**	P	P	Pg	18 19 00.2	+0.1
SSFR					AML	AML		
	comp=E,1230μm,0.2s							
SSFR					AML	AML		
	comp=N,962μm,0.8s							
SSFR					AML	AML		
	comp=E,1010μm,0.2s							
SSFR					AML	AML		
	comp=N,866μm,0.8s							
ARVD	**Arcevia**	**0.49**	**349**	⇓P	P	Pg	18 19 00.6	+0.1
ARVD				S	S	Sb	18 19 09.0	-0.6
ARVD					AML	AML		
	comp=E,574μm,1.0s							
ARVD					AML	AML		
	comp=N,426μm,0.2s							
ARRO	**Arrone**	**0.49**	**207**	P	P	Pg	18 19 00.7	+0.2
ARRO					AML	AML		
	comp=N,254μm,0.2s							
ARRO					AML	AML		
	comp=E,268μm,0.2s							
RM33	**Pellescritta (**	**0.52**	**168**	⇓P	P	Pg	18 19 01.0	0.0
RM33					AML	AML		
	comp=E,290μm,0.3s							
RM33					AML	AML		
	comp=N,334μm,0.3s							
RM33					AML	AML		
	comp=N,335μm,0.3s							
CESX	**Cesi**	**0.54**	**222**	⇑P	P	Pg	18 19 01.4	0.0
CESX				S	S	Sb	18 19 10.0	-1.1
CESX					AML	AML		
	comp=E,306μm,0.4s							
CESX					AML	AML		
	comp=N,308μm,1.3s							
TERO	**Teramo**	**0.56**	**135**	⇓P	P	Pg	18 19 01.5	-0.3
TERO					AML	AML		
	comp=E,320μm,0.7s							
TERO					AML	AML		
	comp=N,276μm,0.5s							
FRON	**Frontone**	**0.56**	**333**	⇓P	P	Pg	18 19 01.7	-0.1
FRON					AML	AML		
	comp=E,214μm,0.4s							
FRON					AML	AML		
	comp=N,358μm,0.4s							
ATVO	**AVT- Monte Val**	**0.61**	**307**	⇓P	P	Pg	18 19 02.7	0.0
ATVO				S	S	Sb	18 19 13.0	0.0
ATVO					AML	AML		
	comp=E,133μm,0.2s							
ATVO					AML	AML		
	comp=E,133μm,0.2s							
ATVO					AML	AML		
	comp=N,122μm,1.6s							
PIEI	**Pieia**	**0.65**	**323**	P	P	Pg	18 19 03.6	+0.1
PIEI				S	S	Sb	18 19 15.0	+0.8
PIEI					AML	AML		
	comp=N,133μm,0.2s							
PIEI					AML	AML		
	comp=E,180μm,1.4s							
MPAG	**Monte Paganucc**	**0.65**	**340**	S	S	Sb	18 19 15.0	+0.7
ATMI	**Monte Miggiano**	**0.67**	**299**	S	S	Sb	18 19 15.0	+0.3
GIGS	**Gran Sasso**	**0.68**	**147**	⇑P	P	Pg	18 19 03.7	-0.3
GIGS					AML	AML		
	comp=N,55μm,1.0s							
GIGS					AML	AML		
	comp=E,74μm,1.1s							
GIGS					AML	AML		
	comp=N,55μm,1.0s							
NARO	**Abbazia di Nar**	**0.69**	**329**	S	S	Sb	18 19 16.0	+0.6
FSSB	**Fossombrone**	**0.71**	**343**	⇓P	P	Pg	18 19 04.7	+0.1
FSSB				S	S	Sb	18 19 17.0	+1.1
FSSB					AML	AML		
	comp=E,769μm,0.2s							
FSSB					AML	AML		
	comp=N,1745μm,0.3s							
FIAM	**Fiamignano**	**0.75**	**177**	S	S	Sb	18 19 17.0	-0.1
PE3	**Peglio**	**0.80**	**329**	P	P	Pg	18 19 06.2	-0.1
T0110	**Collepietro**	**0.95**	**146**	⇑P	P	Pg	18 19 08.8	-0.4
PTRJ	**Pietraroja**	**1.98**	**146**	P	P	Pn	18 19 22.0	-3.1

*IDC **28** 18:29:50.3±1.4, 28°.75S×177°.89W, h0km, mb3.8/3, mbtmp3.8/3, MS3.1/1, Error ellipse: s-maj=36.5km s-min=14.4km az=79.0*

ISC 28 18:29:53.3±1.4, 29°.7S±0°.2×177°.4W±0°.2, h35km, n12, σ1§23/9, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.59**	**312**	Pn	P	**Pn**	**18 30 05.1**	**0.0**
	1μm,0.3s,baz=86,slow=8.3,SNR=71							
RAO				Sn	S	**Sn**	**18 30 13.8**	**+0.3**
	2μm,0.3s,baz=45,slow=22,SNR=18							
PPT	**Papeete**	**28.13**	**71**	LR	LR	LR	18 44 37.3	
	comp=Z,37nm,20.2s,baz=170,slow=31							
STKA	**Stephens Creek**	**35.14**	**256**	P	P	**P**	**18 36 44.9**	**+1.2**
	1.1nm,0.6s,baz=99,slow=13,SNR=4.7 1.1nm,0.6s							
ASAR	**Alice Springs**	**43.65**	**266**	P	P	**P**	**18 37 53.5**	**-1.3**
	0.5nm,0.4s,baz=105,slow=7.5,SNR=22 0.5nm,0.4s							
WRA	**Warramunga Arr**	**44.58**	**271**	P	P	**P**	**18 38 01.0**	**-1.2**
	0.9nm,0.6s,baz=114,slow=6.5,SNR=30 0.9nm,0.6s							
H03S2	**Juan Fernandez**	**80.46**	**123**	T	T		20 11 30.4	
	baz=239,slow=74,SNR=6.3							
H03S1	**Juan Fernandez**	**80.47**	**123**	T	T		20 11 33.6	
	baz=239,slow=74,SNR=4.8							
H03S3	**Juan Fernandez**	**80.48**	**123**	T	T		20 11 30.5	
	baz=239,slow=74,SNR=5.0							

MKAR	**Makanchi Array**	**117.67**	**310**	PKP	**PKiKP**	**18 48 37.4**	**+1.8**
	0.4nm,0.7s,baz=222,slow=1.9,SNR=2.7						
FINES	**FINESS Array B**	**144.61**	**341**	PKP	**PKPab**	**18 49 23.5**	**-0.6**
	9.3nm,1.1s,baz=54,slow=3.2,SNR=16						
NOA	**NORSAR Array B**	**148.08**	**352**	PKPbc	**PKPbc**	**18 49 34.6**	**0.0**
	0.8nm,0.7s,baz=13,slow=4.4,SNR=2.5						
AKASG	**Malin Array Be**	**151.00**	**324**	PKPbc	**PKPbc**	**18 49 41.4**	**-0.7**
	0.8nm,0.3s,baz=46,slow=3.1,SNR=10						

*IDC **28** 18:35:50.5±2.2, 17°.21N×146°.24E, h146km±20km, mb3.1/6, mbtmp3.8/8, Error ellipse: s-maj=32.0km s-min=16.5km az=99.0*

ISC 28 18:35:48.7±1.1, 17°.24N±0°.09×146°.6E±0°.2, h150km, n14, σ1§34/10, mb3.4/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.99**	**205**	P	P	**Pn**	**18 36 49.3**	**+0.4**
	69nm,0.3s,baz=176,slow=0.7,SNR=16							
GUMO				S	S	**Sn**	**18 37 33.7**	**-1.9**
	70nm,0.3s,baz=192,slow=22,SNR=2.2							
GUMO	**Guam**	**3.99**	**205**	P	P	**Pn**	**18 36 49.0**	**+0.1**
JCJ	**Chichijima**	**10.63**	**338**	P	P	**Pn**	**18 38 17.1**	**+0.2**
	28nm,0.5s,baz=79,slow=23,SNR=1.3							
H11N1	**WAKE ISLAND Hy**	**19.41**	**80**	T	T		19 01 25.5	
	baz=264,slow=74,SNR=7.6							
H11N2	**WAKE ISLAND Hy**	**19.41**	**80**	T	T		19 01 22.0	
	baz=264,slow=74,SNR=7.7							
H11N3	**WAKE ISLAND Hy**	**19.42**	**80**	T	T		19 01 26.6	
	baz=264,slow=74,SNR=7.6							
WRA	**Warramunga Arr**	**38.86**	**199**	P	**P**		**18 42 59.7**	**+0.2**
	0.5nm,0.9s,baz=20,slow=8.2,SNR=5.1 0.5nm,0.9s							
ASAR	**Alice Springs**	**42.50**	**197**	P	**P**		**18 43 31.4**	**+2.0**
	0.2nm,0.6s,baz=25,slow=7.8,SNR=6.8 0.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**45.27**	**279**	P	**P**		**18 43 51.5**	**-0.2**
	0.7nm,1.0s,baz=77,slow=6.2,SNR=4.9 0.7nm,1.0s							
STKA	**Stephens Creek**	**49.07**	**186**	P	**P**		**18 44 21.5**	**+0.8**
	0.4nm,0.4s,baz=342,slow=17,SNR=3.0 0.4nm,0.4s							
ILAR	**Eielson Array**	**64.58**	**26**	P	P		18 46 12.1	+2.5
	0.8nm,0.8s,baz=273,slow=5.1,SNR=4.8 0.8nm,0.8s							
NVAR	**Mina Array Bea**	**83.36**	**52**	P	P		18 48 05.0	+5.5
	0.3nm,0.3s,baz=259,slow=6.4,SNR=4.0 0.3nm,0.3s							
LPAZ	**La Paz**	**146.76**	**94**	PKPbc	**PKiKP**		**18 55 16.6**	**-0.7**
	2.4nm,0.7s,baz=351,slow=5.3,SNR=7.2							
PTGA	**Pitinga**	**149.14**	**61**	PKPbc	**PKPab**		**18 55 23.3**	**-1.8**
	1.7nm,0.3s,baz=240,slow=9.4,SNR=10.0							

*IDC **28** 18:49:10.1±0.8, 6°.74N×72°.93W, h160km±11km, mb2.9/1, mbtmp3.7/3, MS3.2/1, Error ellipse: s-maj=45.6km s-min=7.9km az=132.0*
*RSNC **28** 18:49:11.9±1.0, 6°.81N×73°.15W, h146km±4km, ML3.4, Mw3.8*

ISC 28 18:49:10.1±0.9, 6°.84N±0°.03×73°.12W±0°.04, h153km±7km, n34, σ1§62/63, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**195**	⇓eP	P	**Pn**	**18 49 31.4**	**+0.3**
BARC				eS	S	**Sn**	**18 49 46.4**	**-0.7**
BARC					IAML		18 49 47.9	
	comp=Z,906nm,0.2s							
PAMC	**Pamplona, Colo**	**0.65**	**39**	eP	P	**Pn**	**18 49 34.2**	**+1.0**
PAMC				eS	S	**Sn**	**18 49 51.4**	**+0.6**
PAMC					IAML		18 49 53.7	
	comp=Z,1μm,0.5s							
BRRC	**Barranca, Sant**	**0.65**	**295**	⇑eP	P	**Pn**	**18 49 33.1**	**+0.6**
BRRC				eS	S	**Sn**	**18 49 50.2**	**+0.5**
BRRC					IAML		18 49 53.3	
	comp=Z,471nm,0.1s							
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	eP	P	**Pn**	**18 49 37.8**	**-0.7**
PTBC				eS	S	**Sn**	**18 49 59.3**	**-0.9**
PTBC					IAML		18 50 02.3	
	comp=Z,283nm,0.1s							
TAMC	**Tame, Arauca**	**1.37**	**107**	eP	P	**Pn**	**18 49 39.8**	**+1.2**
TAMC				eS	S	**Sn**	**18 50 01.6**	**+1.1**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	eP	P	**Pn**	**18 49 43.7**	**0.0**
ZARC				eS	S	**Sn**	**18 50 09.2**	**-0.2**
ZARC					IAML		18 50 11.3	
	comp=Z,211nm,0.1s							
NORC	**Norcasia**	**2.15**	**234**	eP	P	**Pn**	**18 49 47.3**	**0.0**
NORC				eS	S	**Sn**	**18 50 14.9**	**-0.9**
NORC					IAML		18 50 20.8	
	comp=Z,288nm,0.3s							
ROSC	**El Rosal**	**2.32**	**211**	P	P	**Pn**	**18 49 51.0**	**+1.5**
	comp=Z,219nm,0.3s,baz=146,slow=3.9,SNR=166							
ROSC				S	S	**Sn**	**18 50 21.3**	**+1.4**
	comp=Z,275nm,0.4s,baz=122,slow=20,SNR=7.4							
ROSC	**El Rosal**	**2.32**	**211**	eP	P	**Pn**	**18 49 51.3**	**+1.8**
ROSC				eS	S	**Sn**	**18 50 22.7**	**+2.8**
ROSC					IAML		18 50 29.7	
	comp=Z,359nm,0.3s							
UREC	**San Jos de Ur**	**2.56**	**291**	eP	P	**Pn**	**18 49 51.9**	**-0.3**
UREC				eS	S	**Sn**	**18 50 24.7**	**+0.1**
UREC					IAML		18 50 32.5	
	comp=Z,155nm,0.1s							
LL1C	**La Loma 1 Cana**	**2.72**	**351**	eP	P	**Pn**	**18 49 56.3**	**+2.1**
LL1C				eS	S	**Sn**	**18 50 31.8**	**+3.6**
PTGC	**Puerto Gaitan,**	**2.79**	**159**	eP	P	**Pn**	**18 49 54.7**	**-0.4**
PTGC				eS	S	**Sn**	**18 50 27.4**	**-2.4**
PTGC					IAML		18 50 32.9	
	comp=Z,284nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.04**	**252**	eP	P	**Pn**	**18 49 59.2**	**+1.0**
CBOC				eS	S	**Sn**	**18 50 35.9**	**+0.5**
CBOC					IAML		18 50 47.0	
	comp=Z,57nm,0.5s							
DBBC	**Dabeiba**	**3.08**	**274**	eP	P	**Pn**	**18 50 00.0**	**+1.4**
DBBC				eS	S	**Sn**	**18 50 34.5**	**-1.6**
SDV	**Santo Domingo**	**3.19**	**50**	P	P	**Pn**	**18 50 01.2**	**+0.9**
	comp=Z,15nm,0.3s,baz=225,slow=8.6,SNR=18							
SDV				S	S	**Sn**	**18 50 37.8**	**-1.2**
	comp=Z,124nm,0.4s,baz=54,slow=21,SNR=49							
ARGC	**Ariguani, Magd**	**3.21**	**340**	eP	P	**Pn**	**18 50 01.6**	**+1.4**
ARGC				eS	S	**Sn**	**18 50 40.7**	**+1.6**
ARGC					IAML		18 50 51.9	
	comp=Z,65nm,0.3s							
ANIL	**Santa Ana**	**3.26**	**224**	eP	P	**Pn**	**18 50 02.6**	**+1.5**
ANIL				eS	S	**Sn**	**18 50 42.2**	**+1.5**
PRAC	**Prado**	**3.57**	**210**	eP	P	**Pn**	**18 50 05.3**	**+0.4**
PRAC				eS	S	**Sn**	**18 50 48.0**	**+0.6**
PRAC					IAML		18 50 53.7	
	comp=Z,150nm,0.6s							
ORTC	**Ortega, Tolima**	**3.60**	**216**	eP	P	**Pn**	**18 50 05.8**	**+0.5**
ORTC				eS	S	**Sn**	**18 50 48.8**	**+0.7**
ORTC					IAML		18 50 52.8	
	comp=Z,126nm,0.5s							
SJCC	**San Jacinto, C**	**3.66**	**326**	eP	P	**Pn**	**18 50 05.3**	**-0.9**
SJCC				eS	S	**Sn**	**18 50 46.7**	**-3.0**
SJCC					IAML		18 50 53.9	
	comp=Z,56nm,0.6s							
PLMC	**San Jos del P**	**3.69**	**239**	eP	P	**Pn**	**18 50 07.0**	**+0.5**
PLMC				eS	S	**Sn**	**18 50 50.9**	**+0.7**
PLMC					IAML		18 50 54.0	
	comp=Z,58nm,0.2s							
LCBC	**Los crdobas,**	**3.80**	**302**	eP	P	**Pn**	**18 50 07.4**	**-0.4**
LCBC				eS	S	**Sn**	**18 50 54.6**	**+1.9**
LCBC					IAML		18 50 56.5	
	comp=Z,53nm,0.4s							
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	⇓eP	P	**Pn**	**18 50 11.9**	**-0.8**
CRJC				eS	S	**Sn**	**18 50 59.2**	**-2.2**
CRJC					IAML		18 51 03.9	
	comp=Z,96nm,0.2s							
YOTC	**Yotoco, Valle**	**4.29**	**229**	eP	P	**Pn**	**18 50 14.1**	**-0.2**
YOTC				eS	S	**Sn**	**18 51 07.0**	**+2.7**
YOTC					IAML		18 51 16.3	
	comp=Z,17nm,0.5s							
GUVC	**San Jose del G**	**4.

GARC				IAML			18 51 31.4	
	comp=Z,87nm,0.1s							
FLOC	**Florencia**	**5.80**	**206**	*eP*	**Pn**	**18 50 34.0**	**-0.3**
FLOC				*eS*	**Sn**	**18 51 38.3**	**-1.8**
FLOC				IAML		18 52 11.4		
	comp=Z,6.9nm,0.5s							
BBAC	**Balboa, Cauca**	**6.31**	**221**	*eP*	**Pn**	**18 50 42.6**	**+1.4**
BBAC				*eS*	**Sn**	**18 51 51.5**	**-1.1**
BBAC				IAML		18 52 00.1		
	comp=Z,6.7nm,0.4s							
MDP	**Montagnes des**	**20.43**	**94**	LR	LR	19 02 53.6		
	comp=Z,58nm,18.2s,baz=135,slow=41							
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**18 56 01.5**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=121,slow=11,SNR=3.4							
	comp=Z,0.2nm,0.4s							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**19 08 40.1**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=120,slow=3.7,SNR=1.7							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**19 08 43.2**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=106,slow=3.0,SNR=8.9							

*MAN **28** 18:50:26.1, 13˚.58N×121˚.73E, h6km, mb4.5, ML3.3, MS3.1*
*IDC **28** 18:50:26.9±4.2, 13˚.25N×121˚.59E, h0km, mb3.8/5, mbtmp3.9/5, Error ellipse: s-maj=127.3km s-min=26.1km az=41.0*

ISC 28 18:50:26.1±2.3**, 13˚.56N**±0˚.05×**121˚.70E**±0˚.05**, h9**km±17km**, n12**, σ0**°90**/17**, mb3.7**/5**, 4C-3D**, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LQP	**Lukban**	**0.57**	**344**	⇑*i*P		**Pb**		**18 50 37.0**	**-1.4**
LQP				*i*S		**Sb**		**18 50 46.9**	**+0.2**
GQP	**Guinayangan**	**0.80**	**65**	⇓*e*P		**Pb**		**18 50 41.5**	**-0.8**
GQP				*e*S		**Sb**		**18 50 53.4**	**+0.2**
TGY	**Tagaytay City**	**0.92**	**306**	⇓*e*P		**Pn**		**18 50 44.9**	**-0.4**
TGY				*e*S		**Sn**		**18 50 58.3**	**-0.3**
LUBP	**Lubang**	**1.42**	**277**	⇑*e*P		**Pb**		**18 50 52.4**	**-0.5**
PCPH	**Palayan**	**2.07**	**344**	⇑*e*P		**Pn**		**18 51 02.1**	**+1.0**
PCPH				*e*S		**Sb**		**18 51 30.3**	**+0.4**
RCP	**Roxas**	**2.24**	**153**	⇓*e*P		**Pb**		**18 51 06.2**	**-0.5**
RCP				*e*S		**Sg**		**18 51 38.4**	**+0.4**
PACPP	**Pamplona Cagay**	**4.88**	**356**	⇑*i*P		**Pn**		**18 51 40.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**22.40**	**286**	P		**P**		**18 55 27.1**	**+1.9**
	1.8nm,0.7s,baz=93,slow=7.4,SNR=18								
	1.8nm,0.7s								
BATI	**Baumata**	**23.69**	**175**	P		**P**		**18 55 38.6**	**+0.1**
	9.3nm,0.6s,baz=32,slow=18,SNR=5.3								
	9.3nm,0.6s								
WRA	**Warramunga Arr**	**35.54**	**159**	P		**P**		**18 57 23.8**	**0.0**
	0.6nm,0.6s,baz=332,slow=10,SNR=13								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**38.88**	**162**	P		**P**		**18 57 52.0**	**-0.1**
	1.1nm,0.9s,baz=342,slow=6.7,SNR=11								
	1.1nm,0.9s								
STKA	**Stephens Creek**	**49.04**	**157**	P		**P**		**18 59 12.4**	**-1.2**
	0.6nm,0.5s,baz=337,slow=7.7,SNR=3.0								
	0.6nm,0.5s								

*NNC **28** 18:50:57.6±2.2, 40˚.26N×55˚.57E, h0km, mb3.5, Error ellipse: s-maj=29.7km s-min=7.8km az=75.0*
*AZER **28** 18:50:58.5±2.2, 39˚.45N×53˚.82E, h40km, Error ellipse: s-maj=24.7km s-min=16.5km az=174.0*

ISC 28 18:50:46.3±0.8**, 39˚.65N**±0˚.07×**54˚.44E**±0˚.05**, h10**km**, n23**, σ2°99/33**, 3C-4D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GYA0B	**ALIBECK ARRAY**	**3.35**	**120**	⇑Pn		**Pb**		**18 51 47.1**	**+1.3**
GYA0B				⇓Sn		**Sb**		**18 52 25.7**	**-0.8**
SIZA	**Siyzn**	**4.47**	**290**	P		**Pn**		**18 51 58.8**	**+4.7**
SIZA				S		**Sn**		**18 52 46.7**	**+0.4**
LKRN	**Lenkeran, Azer**	**4.50**	**260**	S		**Sn**		**18 52 44.2**	**-2.7**
ASTR	**Astara**	**4.53**	**258**	P		**Pn**		**18 51 57.3**	**+2.4**
ASTR				S		**Sn**		**18 52 43.9**	**-3.6**
PQL	**Pirkuli**	**4.62**	**286**	P		**Pn**		**18 52 00.7**	**+4.4**
PQL				S		**Sn**		**18 52 50.7**	**+0.6**
GLBA	**Clilabad**	**4.70**	**267**	P		**Pn**		**18 52 00.4**	**+3.1**
GLBA				S		**Sn**		**18 52 48.3**	**-3.5**
QUBA	**Quba, Azerbaij**	**4.84**	**293**	S		**Sn**		**18 52 55.1**	**-0.3**
LRK	**Lerik**	**4.85**	**260**	P		**Pn**		**18 52 02.6**	**+3.1**
LRK				S		**Sn**		**18 52 50.8**	**-4.9**
YRD	**Yardimli**	**4.86**	**263**	P		**Pn**		**18 52 02.0**	**+2.2**
YRD				S		**Sn**		18 52 47.4	-8.8
IML	**Ismayilli**	**4.92**	**285**	S		**Sn**		**18 52 57.0**	**-0.5**
XNQ	**Khinaliq**	**5.04**	**290**	P		**Pn**		**18 52 06.2**	**+4.0**
XNQ				S		**Sn**		**18 52 59.3**	**-1.4**
QSAR	**Qusar**	**5.06**	**294**	P		Pn		18 52 07.6	+5.3
QSAR				S		**Sn**		**18 53 01.5**	**+0.7**
QBL	**Gabala**	**5.21**	**287**	S		**Sn**		**18 53 02.1**	**-2.5**
AGDM	**Agdam**	**5.66**	**277**	S		**Sn**		**18 53 13.9**	**-1.7**
SEKA	**Sheki**	**5.74**	**288**	S		**Sn**		**18 53 16.1**	**-1.5**
GANJ	**Ganja**	**6.30**	**282**	S		**Sn**		**18 53 26.9**	**-4.4**
ORD	**Ordubad**	**6.59**	**266**	P		**Pn**		**18 52 26.0**	**+2.6**
ORD				S		**Sn**		**18 53 35.6**	**-2.9**
GDB	**GEDABAY**	**6.74**	**282**	P		**Pn**		**18 52 27.8**	**+2.4**
SBZ	**Shahbuz**	**6.88**	**271**	S		**Sn**		**18 53 43.4**	**-2.2**
QZX	**Qazax, Azerbai**	**7.07**	**284**	S		**Sn**		**18 53 47.4**	**-2.9**
AB31	**Akbulak array**	**10.38**	**20**	Pn		**Pn**		**18 53 16.4**	**+1.3**
	0.5nm,0.6s,baz=207,slow=12,SNR=4.3								
AB31				⇓Sn		**Sn**		**18 55 05.9**	**-5.5**
	1.4nm,0.9s,baz=206,slow=24,SNR=5.2								
AKTO	**Aktyubinsk**	**11.08**	**12**	⇑Pn		**Pn**		**18 53 25.4**	**+0.6**
	1.5nm,0.8s								
AKTO				⇑Sn		**Sn**		**18 55 24.2**	**-4.4**
	1.5nm,0.9s								
KK31	**Karatay Array**	**12.56**	**69**	⇓Pn		**Pn**		**18 53 44.8**	**-0.2**
	0.7nm,0.8s,baz=249,slow=12,SNR=4.2								
KK31				⇓Sn		Sn		18 55 51.8	-13
	0.5nm,0.5s,baz=132,slow=38,SNR=4.3								

WEL 28 18:56:25.7±0.4**, 43˚S**±3˚×**17˚3E**±˚**, h5**km**, M2.3**/6**, ML2.4**/7**, MLv2.3**/6**, Error ellipse: s-maj=0.0km s-min=0.0km az=128.3, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.35**	**183**	P		Pg		18 56 33.5	+0.9
GVZ				S		Sb		18 56 39.3	-1.1
KHZ	**Kahutara**	**0.41**	**61**	P		Pg		18 56 33.7	+0.2
KHZ				S		Sg		18 56 39.9	+1.0
LTZ	**Lake Taylor**	**0.61**	**254**	P		Pg		18 56 37.9	+0.5
LTZ				S		Sb		18 56 46.8	-0.9
THZ	**Tophouse**	**0.86**	**352**	P		Pg		18 56 42.5	+0.2
OXZ	**Oxford**	**1.03**	**226**	P		Pg		18 56 45.5	-0.1
BSWZ	**Blackbirch Sta**	**1.08**	**34**	P		Pg		18 56 46.7	+0.1
MQZ	**McQueen's Vall**	**1.13**	**195**	P		Pg		18 56 45.8	-1.6
DSZ	**Denniston Nort**	**1.28**	**313**	P		Pb		18 56 50.7	+0.4
TUWZ	**Tuamarina**	**1.36**	**29**	P		Pn		18 56 51.2	-0.1
MHCZ	**Mount Hutt**	**1.43**	**230**	P		Pn		18 56 51.0	-1.3

*WEL **28** 18:57:21.5±0.3, 42˚S±3˚×17˚4E±˚, h10km±2km, M3.9/46, ML4.2/22, MLv3.9/46, Error ellipse: s-maj=0.0km s-min=0.0km az=126.6*
*NOU **28** 18:57:23.1, 41˚.955S×174˚.47E, h38km, MLv4.2/8, Cook Strait, New Zealand*

ISC 28 18:57:20.9±1.0**, 41˚.82S**±0˚.03×**174˚.26E**±0˚.03**, h12**km±7km**, n120**, σ1°22/124**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.08**	**334**	P		**Pg**		**18 57 23.4**	**-0.1**
CMWZ				S		**Sg**		**18 57 25.4**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.31**	**290**	P		**Pg**		**18 57 27.5**	**+0.4**
BSWZ				S		**Sb**		**18 57 32.5**	**-0.7**
TUWZ	**Tuamarina**	**0.46**	**329**	P		**Pg**		**18 57 29.7**	**-0.2**
TUWZ				S		**Sg**		**18 57 36.1**	**+0.1**
TCW	**Tory Channel**	**0.61**	**1**	P		**Pg**		**18 57 32.2**	**-0.5**
TCW				S		**Sg**		**18 57 40.5**	**-0.3**
WEL	**Wellington**	**0.66**	**35**	P		**Pb**		**18 57 34.1**	**-0.2**
PLWZ	**Palliser**	**0.79**	**72**	P		**Pn**		**18 57 37.4**	**-0.4**
KHZ	**Kahutara**	**0.80**	**222**	P		**Pn**		**18 57 38.8**	**+0.9**
KHZ	**Kahutara**	**0.80**	**222**	P		**Pn**		**18 57 38.7**	**+0.9**
MSWZ	**Moikau Station**	**0.84**	**62**	P		**Pn**		**18 57 38.2**	**-0.3**
NNZ	**Nelson**	**0.90**	**312**	P		**Pg**		**18 57 37.6**	**-0.5**
CAW	**Cannon Point**	**0.94**	**41**	P		**Pg**		**18 57 38.9**	**0.0**
PAWZ	**Paruwai Farm**	**0.98**	**64**	P		**Pb**		**18 57 40.1**	**+0.3**
THZ	**Tophouse**	**1.02**	**273**	P		**Pg**		**18 57 40.8**	**+0.3**
DUWZ	**D'Urville Isla**	**1.05**	**346**	P		**Pb**		**18 57 39.9**	**-1.0**
KIW	**Kapiti Island**	**1.08**	**27**	P		**Pb**		**18 57 41.0**	**-0.4**
TRWZ	**Traveller**	**1.15**	**69**	P		**Pb**		**18 57 42.2**	**-0.4**
MRNZ	**Matariki Terra**	**1.20**	**290**	P		**Pg**		**18 57 44.0**	**0.0**
OGWZ	**Otaki Gorge**	**1.22**	**35**	P		**Pn**		**18 57 43.5**	**-0.2**
TKNZ	**Takaka Hill**	**1.26**	**308**	P		**Pn**		**18 57 44.1**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.32**	**46**	P		**Pn**		**18 57 44.7**	**-0.4**
TMWZ	**Te Maipa**	**1.42**	**60**	P		**Pn**		**18 57 45.8**	**-0.7**
GVZ	**Greta Valley S**	**1.46**	**218**	P		**Pb**		**18 57 47.9**	**-0.1**
MRZ	**Mangatainoka R**	**1.53**	**41**	P		**Pn**		**18 57 47.7**	**-0.2**
TIWZ	**Tintock**	**1.61**	**50**	P		**Pn**		**18 57 48.8**	**-0.3**
QRZ	**Quartz Range**	**1.64**	**307**	P		**Pn**		**18 57 50.9**	**-0.1**
QRZ	**Quartz Range**	**1.64**	**307**	P		**Pb**		**18 57 50.8**	**-0.1**
CPWZ	**Castlepoint**	**1.72**	**59**	P		**Pg**		**18 57 57.2**	**+3.3**
LTZ	**Lake Taylor**	**1.76**	**236**	P		**Pn**		**18 57 52.2**	**+1.0**
OHWZ	**Ohakea**	**1.80**	**27**	P		**Pb**		**18 57 53.3**	**-0.4**
AMCZ	**Amberley**	**1.80**	**221**	P		**Pb**		**18 57 53.7**	**-0.1**
PRWZ	**Pori Road**	**1.81**	**46**	P		**Pn**		**18 57 51.2**	**-0.6**
POWZ	**Post Office Ro**	**1.83**	**39**	P		**Pn**		**18 57 51.7**	**-0.3**
DSZ	**Denniston Nort**	**1.84**	**272**	P		**Pb**		**18 57 54.6**	**+0.1**
BFZ	**Birch Farm**	**1.88**	**53**	P		**Pn**		**18 57 52.8**	**+0.1**
DVHZ	**Dannevirke**	**2.10**	**44**	P		**Pn**		**18 57 54.6**	**-1.1**
OKCZ	**Okains Bay**	**2.10**	**205**	P		**Pn**		**18 57 55.7**	**-0.1**
WAZ	**Wanganui**	**2.14**	**15**	P		**Pb**		**18 57 58.6**	**-0.9**
ANWZ	**Angora Road**	**2.16**	**52**	P		**Pn**		**18 57 56.3**	**-0.3**
TSZ	**Takapari Road**	**2.18**	**37**	P		**Pn**		**18 57 56.4**	**-0.6**
MQZ	**McQueen's Vall**	**2.22**	**212**	P		**Pn**		**18 57 56.8**	**-0.7**
OXZ	**Oxford**	**2.23**	**227**	P		**Pn**		**18 57 57.5**	**-0.1**
AKCZ	**Akaroa Harbour**	**2.28**	**205**	P		**Pn**		**18 57 58.2**	**0.0**
INZ	**Inchbonnie**	**2.28**	**246**	P		**Pn**		**18 57 60.0**	**+1.8**
LREZ	**Lake Rotokare**	**2.36**	**3**	P		**Pb**		**18 58 02.3**	**-1.0**
PRHZ	**Porangahau**	**2.38**	**50**	P		**Pn**		**18 57 58.3**	**-1.3**
PNHZ	**Pukenui**	**2.41**	**38**	P		**Pn**		**18 57 59.2**	**-0.8**
WPHZ	**Waipukurau**	**2.41**	**44**	P		**Pg**		**18 58 03.8**	**-0.2**
NMEZ	**Nelson Road**	**2.42**	**353**	P		**Pb**		**18 58 03.6**	**-0.8**
RACZ	**Rakaia**	**2.46**	**219**	P		**Pn**		**18 58 00.8**	**+0.1**
KHEZ	**Kahui Hut**	**2.53**	**356**	P		**Pb**		**18 58 04.7**	**-1.6**
KHEZ	**Kahui Hut**	**2.53**	**356**	P		**Pb**		**18 58 05.5**	**-0.8**
NEZ	**North Egmont**	**2.55**	**357**	P		**Pb**		**18 58 05.4**	**-1.2**
NBEZ	**Newall Road No**	**2.57**	**353**	P		**Pb**		**18 58 05.5**	**-1.4**
MTVZ	**Mangateitei**	**2.60**	**21**	P		**Pb**		**18 58 08.1**	**+0.7**
MHCZ	**Mount Hutt**	**2.62**	**228**	P		**Pn**		**18 58 02.9**	**-0.1**
DREZ	**Durham Road**	**2.63**	**359**	P		**Pb**		**18 58 06.6**	**-1.3**
PKE	**Pukeiti**	**2.63**	**355**	P		**Pb**		**18 58 06.9**	**-1.1**
PKVZ	**Pokaka**	**2.66**	**18**	P		**Pn**		**18 58 05.5**	**+1.9**
PXZ	**Pawanui**	**2.66**	**49**	P		**Pn**		**18 58 01.6**	**-1.9**
PXZ						P		**18 58 09.9**	**+1.5**
MOVZ	**Moawhango**	**2.67**	**26**	P		**Pn**		**18 58 04.1**	**+0.4**
WNVZ	**Wahianoa**	**2.69**	**23**	P		**Pn**		**18 58 05.0**	**+0.9**
BHHZ	**Black Hill Sta**	**2.70**	**31**	P		**Pn**		**18 58 04.5**	**+0.4**
TRVZ	**Turoa**	**2.71**	**22**	P		**Pn**		**18 58 06.2**	**+1.9**
DRZ	**Dome Shelter**	**2.73**	**22**	P		**Pb**		**18 58 09.8**	**0.0**
WHVZ	**Whangaehu Hut**	**2.73**	**22**	P		**Pn**		**18 58 05.9**	**+1.2**
FWVZ	**Far West T-bar**	**2.75**	**21**	P		**Pn**		**18 58 06.2**	**+1.3**
TUVZ	**Tukino**	**2.76**	**23**	P		**Pn**		**18 58 06.0**	**+0.9**
WACZ	**Wakanui South**	**2.77**	**219**	P		**Pn**		**18 58 04.9**	**0.0**
NGZ	**Ngauruhoe**	**2.83**	**22**	P		**Pn**		**18 58 07.4**	**+1.4**
SNVZ	**South Ngauruho**	**2.83**	**22**	P		**Pb**		**18 58 11.4**	**-0.1**
KAHZ	**Kahuranaki**	**2.84**	**45**	P		**Pn**		**18 58 04.2**	**-1.8**
OTVZ	**Oturere**	**2.86**	**22**	P		**Pb**		**18 58 11.8**	**-0.2**
NNVZ	**North Ngauruho**	**2.88**	**21**	P		**Pn**		**18 58 07.9**	**+1.2**
WTVZ	**West Tongariro**	**2.89**	**21**	P		**Pb**		**18 58 09.7**	**-2.6**
TWVZ	**Taurewa**	**2.89**	**18**	P		**Pb**		**18 58 11.9**	**-0.5**
WVZ	**Waitaha Valley**	**2.89**	**243**	P		**Pb**		**18 58 10.7**	**-1.6**
ETVZ	**East Tongariro**	**2.90**	**23**	P		**Pn**		**18 58 07.9**	**+1.0**
KWHZ	**Kaweka Forest**	**2.91**	**35**	P		**Pb**		**18 58 13.9**	**+1.2**
TMVZ	**Te Maari**	**2.92**	**23**	P		**Pn**		**18 58 07.8**	**+0.7**
KRVZ	**Karewarewa**	**2.92**	**22**	P		**Pb**		**18 58 13.2**	**+0.3**
NTVZ	**North Tongarir**	**2.93**	**22**	P		**Pb**		**18 58 13.4**	**+0.4**
MCHZ	**McNeill Hill**	**3.01**	**39**	P		**Pg**		**18 58 17.6**	**-1.0**
RPZ	**Rata Peaks**	**3.02**	**230**	P		**Pn**		**18 58 08.8**	**+0.3**
RPZ	**Rata Peaks**	**3.02**	**230**	P		**Pn**		**18 58 08.6**	**+0.1**
CKHZ	**Cape Kidnapper**	**3.04**	**46**	P		**Pg**		**18 58 20.6**	**+1.4**
KATZ	**Kakaramea**	**3.05**	**22**	P		**Pb**		**18 58 15.4**	**+0.3**
RITZ	**Rihia Road**	**3.09**	**24**	P		**Pb**		**18 58 15.8**	**0.0**
ARCZ	**Arundel**	**3.11**	**226**	P		**Pn**		**18 58 09.7**	**+0.1**
BKZ	**Black Stump Fm**	**3.15**	**33**	P		**Pn**		**18 58 10.0**	**-0.3**
BKZ	**Black Stump Fm**	**3.15**	**33**	P		**Pn**		**18 58 09.3**	**-1.1**
RATZ	**Rangitukua**	**3.17**	**22**	P		**Pb**		**18 58 16.3**	**-0.9**
HATZ	**Hinemaiaia**	**3.25**	**26**	P		**Pb**		**18 58 18.4**	**0.0**
ARHZ	**Aropaoanui**	**3.30**	**40**	P		**Pg**		**18 58 23.6**	**-0.4**
WATZ	**Wairara**	**3.31**	**20**	P		**Pb**		**18 58 19.1**	**-0.4**
HIZ	**Hauiti**	**3.34**	**8**	P		**Pn**		**18 58 15.7**	**+2.9**
HIZ	**Hauiti**	**3.34**	**8**	P		**Pn**		**18 58 15.7**	**+2.9**
NMHZ	**Naumai**	**3.34**	**36**	P		**Pg**		**18 58 23.3**	**-1.6**
NMHZ	**Naumai**	**3.34**	**36**	P		**Pn**		**18 58 12.2**	**-0.8**
MRHZ	**Matea Rd**	**3.41**	**30**	P		**Pb**		**18 58 21.4**	**+0.2**
MRHZ	**Matea Rd**	**3.41**	**30**	P		**Pb**		**18 58 21.4**	**+0.2**
TMZ	**Timaru**	**3.50**	**222**	P		**Pn**		**18 58 15.7**	**+0.7**
MTHZ	**Maungataniwha**	**3.56**	**34**	P		**Pb**		**18 58 26.2**	**+2.4**
RAHZ	**Arahi**	**3.62**	**38**	P		**Pg**		**18 58 28.8**	**-1.4**
TLZ	**Tolley Road**	**3.62**	**16**	P		**Pn**		**18 58 20.9**	**+4.1**
ALRZ	**Allen Road**	**3.63**	**27**	P		**Pb**		**18 58 24.1**	**-0.7**
PRRZ	**Plateau Road**	**3.70**	**27**	P		**Pb**		**18 58 25.6**	**-0.5**
GRRZ	**Galatos Road**	**3.75**	**23**	P		**Pb**		**18 58 27.9**	**+0.9**
RTZ	**Ruatahuna**	**3.82**	**34**	P		**Pb**		**18 58 30.0**	**+1.7**
HSRZ	**Hossack Road**	**3.82**	**24**	P		**Pb**		**18 58 31.0**	**+2.8**
SNGZ	**Shannon Statio**	**3.84**	**39**	P		**Pg**		**18 58 33.9**	**-0.5**
RAGZ	**Rawiri**	**4.11**	**37**	P		**Pg**		**18 58 36.8**	**-2.7**
ODZ	**Otahua Downs**	**4.16**	**218**	P		**Pn**		**18 58 24.8**	**+0.7**
ODZ	**Otahua Downs**	**4.16**	**218**	P		**Pn**		**18 58 24.0**	**-0.1**
URZ	**Urewera**	**4.18**	**33**	P		**Pn**		**18 58 23.5**	**-0.8**
URZ	**Urewera**	**4.18**	**33**	P		**Pn**		**18 58 23.3**	**-1.1**
TOZ	**Tahuroa Road**	**4.20**	**14**	P		**Pn**		**18 58 28.0**	**+3.4**
JCZ	**Jackson Bay**	**4.61**	**239**	P		**Pn**		18 58 35.8	+5.5
AWAZ	**Awhitu Peninsu**	**4.76**	**4**	P		**Pn**		**18 58 34.7**	**+2.3**
MKAZ	**Moumakai**	**4.76**	**9**	P		**Pn**		**18 58 33.7**	**+1.3**
WIAZ	**Waiheke Island**	**5.07**	**8**	P		**Pn**		**18 58 39.8**	**+3.2**

*IDC **28** 19:00:04.9±0.9, 3˚.64S×151˚.21E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=26.1km s-min=16.7km az=45.0*

ISC 28 19:00:10.1±1.0**, 3˚.7S**±0˚.2×**151˚.2E**±0˚.1**, h35**km**, n8**, σ1°85/9**, mb4.0**/7**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.07**	**126**	Pn		**Pn**		**19 00 26.6**	**-2.0**
	143nm,0.3s,baz=254,slow=2.7,SNR=55								
KRVT				Sn		**Sn**		**19 00 44.7**	**+2.4**
	211nm,0.3s,baz=144,slow=22,SNR=26								
WRA	**Warramunga Arr**	**23.03**	**224**	P		**P**		**19 05 11.0**	**-1.4**
	0.3nm,0.5s,baz=52,slow=9.6,SNR=14								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**25.93**	**218**	P		**P**		**19 05 41.1**	**+1.8**
	0.3nm,0.3s,baz=46,slow=8.5,SNR=9.9								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**78.41**	**319**	P		**P**		**19 12 09.2**	**+1.9**
	1.0nm,0.6s,baz=111,slow=6.9,SNR=4.7								
	1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**79.32**	**327**	P		**P**		**19 12 12.8**	**+0.7**
	0.5nm,0.3s,baz=120,slow=5.7,SNR=2.3								
	0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**81.91**	**322**	P		**P**		**19 12 26.4**	**+0.3**
	0.9nm,0.5s,baz=111,slow=4.3,SNR=5.9								
	0.9nm,0.5s								
BVAR	**Borovoye Array**	**87.37**	**323**	P		**P**		**19 12 52.4**	**-1.2**
	3.2nm,0.7s,baz=100,slow=6.2,SNR=18								
	3.2nm,0.7s								
NVAR	**Mina Array Bea**	**92.69**	**52**	P		**P**		**19 13 18.9**	**-0.3**
	0.2nm,0.3s,baz=226,slow=3.3,SNR=2.2								
	0.2nm,0.3s								

*NNC **28** 19:08:17.2±0.9, 40˚.82N×77˚.66E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=6.1km s-min=4.5km az=177.0*
*SOME **28** 19:08:17.1, 40˚.80N×77˚.62E, h15km*
*KRNET **28** 19:08:18.9±0.1, 40˚.93N×77˚.49E, h16km, mb3.4*

ISC 28 19:08:18.9±1.8**, 40˚.91N**±0˚.07×**77˚.47E**±0˚.03**, h17**km±13km**, n66**, σ1°68/101**, 18C-16D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.85**	**17**	⇓*e*P		**Pg**		**19 08 34.8**	**-0.9**
	baz=16								
TARG				⇓*e*S		**Sb**		**19 08 46.9**	**0.0**
	baz=16								
ULHL	**Ulahol**	**1.62**	**326**	⇓*e*P		**Pb**		**19 08 49.1**	**+0.6**
	baz=25								
ULHL				⇓*e*S		**Sg**		**19 09 11.1**	**-0.1**
	baz=25								
ANVS	**Anan'yevo**	**1.88**	**4**	⇑*e*P		**Pb**		**19 08 53.4**	**+0.6**
	baz=4.0								
ANVS				⇑*i*S		**Sg**		**19 09 18.7**	**-0.7**
	baz=4.0								
TNSS	**Tian-Shan**	**2.16**	**350**	*e*P		**Pb**		**19 08 58.7**	**+0.9**
	43nm,0.3s								
TNSS				*e*S		**Sg**		**19 09 29.2**	**+0.7**
	50nm,0.9s								
TNSS	**Tian-Shan**	**2.16**	**350**	Pg		**Pb**		**19 08 58.7**	**+0.9**
	43nm,0.3s								
TNSS				Lg		Lg		19 09 29.2	
	50nm,0.9s								
SATY	**Saty**	**2.25**	**18**	*e*P		**Pb**		**19 08 59.5**	**+0.2**
	17nm,0.3s								
SATY				*e*S		**Sg**		**19 09 31.0**	**-0.5**
	91nm,0.4s								
SATY	**Saty**	**2.25**	**18**	Pg		**Pb**		**19 08 59.5**	**+0.2**
	17nm,0.3s								
SATY				Lg		Lg		19 09 31.0	
	91nm,0.4s								
MDOK	**Medeo**	**2.27**	**352**	*e*P		**Pg**		**19 09 01.2**	**-1.3**
	52nm,0.4s								
MDOK				*e*S		**Sg**		**19 09 33.9**	**+1.9**
	123nm,0.6s								
MDOK	**Medeo**	**2.27**	**352**	⇓Pn		**Pb**		**19 08 58.8**	**-0.8**
	28nm,0.4s								
MDOK				Pg		**Pg**		**19 09 01.2**	**-1.3**
	52nm,0.4s								
MDOK				Lg		Lg		19 09 33.9	
	123nm,0.6s								
MDOK				⇑Lg		Lg		19 09 34.2	
	164nm,0.5s								
AAA	**Alma-Ata**	**2.33**	**350**	*e*P		**Pg**		**19 09 03.2**	**-0.5**
	123nm,0.4s								
AAA				*e*S		**Sg**		**19 09 37.4**	**+3.4**
	17nm,0.2s								
AAA	**Alma-Ata**	**2.33**	**350**	Pg		**Pg**		**19 09 03.2**	**-0.5**
	123nm,0.4s								
AAA				Lg		Lg		19 09 37.4	
	17nm,0.2s								
KNDC	**Almaty**	**2.33**	**351**	⇑Pg		**Pb**		**19 08 60.0**	**-0.6**
	42nm,0.6s								
KNDC				⇑Lg		Lg		19 09 36.0	
	407nm,0.7s								
KOTS	**Kotyrbulak

	17nm,0.3s							
CHKK					Lg	Lg	19 09 54.8	
	74nm,0.4s							
KRBS	**Karabastau**	**3.08**	**335**	*e*P	**Pg**	**19 09 16.0**	**-2.0**
	14nm,0.3s							
KRBS				*e*S	**Sg**	**19 09 58.9**	**+0.9**
	36nm,0.5s							
KRBS	**Karabastau**	**3.08**	**335**	Pg	**Pg**	**19 09 16.0**	**-2.0**
	14nm,0.3s							
KRBS				Lg	Lg	19 09 58.9		
	36nm,0.5s							
AML	**Almayashu**	**3.09**	**294**	P	**Pg**	**19 09 17.9**	**-0.2**
	SNR=10							
USP	**Ospenovka**	**3.23**	**318**	P	**Pg**	**19 09 19.4**	**-1.4**
	SNR=13							
USP	**Ospenovka**	**3.23**	**318**	⇑*e*P	**Pb**	**19 09 12.7**	**-3.1**
	baz=17							
USP				⇑*e*S	**Sb**	**19 09 51.8**	**-3.0**
	baz=17							
BLB	**Baldybastay**	**3.27**	**13**	*e*P	**Pb**	**19 09 18.2**	**+1.7**
	21nm,0.4s							
BLB				*e*S	**Sg**	**19 10 02.5**	**-1.4**
	60nm,0.3s							
EKS2	**Erkin-Say**	**3.27**	**304**	P	**Pg**	**19 09 20.6**	**-0.9**
	SNR=13							
EKS2	**Erkin-Say**	**3.27**	**304**	⇑*e*P	**Pb**	**19 09 13.4**	**-3.1**
	baz=3.0							
EKS2				⇑*e*S	**Sb**	**19 09 53.2**	**-2.8**
	baz=3.0							
SGDS	**Sogindy**	**3.30**	**321**	*e*P	**Pg**	**19 09 20.3**	**-1.9**
	6.4nm,0.5s							
SGDS				*e*S	**Sg**	**19 10 06.2**	**+1.3**
	14nm,0.8s							
SGDS	**Sogindy**	**3.30**	**321**	Pg	**Pg**	**19 09 20.3**	**-1.9**
	6.5nm,0.4s							
SGDS				Lg	Lg	19 10 06.2		
	14nm,0.8s							
ARXS	**Arharly**	**3.31**	**4**	*e*P	**Pb**	**19 09 19.4**	**+2.2**
	9.1nm,0.3s							
ARXS				*e*S	**Sg**	**19 10 04.6**	**-0.6**
	38nm,0.6s							
MRKS	**Merke**	**3.66**	**301**	*e*P	**Pg**	**19 09 27.3**	**-1.8**
	4.6nm,0.5s							
MRKS				*e*S	**Sg**	**19 10 17.1**	**+0.6**
	12nm,0.8s							
MRKS	**Merke**	**3.66**	**301**	Pg	**Pb**	**19 09 26.1**	**+2.9**
	4.6nm,0.4s							
MRKS				Lg	Lg	19 10 16.2		
	8.7nm,0.5s							
DJR	**Jarkent**	**3.82**	**26**	*e*P	**Pb**	**19 09 27.7**	**+1.7**
	2.9nm,0.3s							
DJR				*e*S	**Sg**	**19 10 18.8**	**-2.8**
	20nm,0.3s							
TDK	**Taldyqorghan**	**4.14**	**9**	*e*P	**Pb**	**19 09 34.3**	**+2.9**
	11nm,0.3s							
TDK				*e*S	**Sg**	**19 10 30.1**	**-1.8**
	54nm,0.5s							
BTLS	**Baital**	**4.83**	**330**	*e*P	**Pg**	**19 09 50.5**	**-0.8**
	3.0nm,0.3s							
BTLS				*e*S	**Sg**	**19 10 58.1**	**+4.2**
	7.7nm,0.5s							
KK31	**Karatay Array**	**5.63**	**295**	⇑Pg	**Pg**	**19 10 03.8**	**-2.9**
	1.4nm,0.7s,baz=116,slow=16,SNR=5.0							
KK31				⇓Lg	Lg	19 11 20.5		
	3.7nm,0.8s,baz=111,slow=28,SNR=5.6							
IUG	**luzhnay**	**5.72**	**285**	*e*P	**Pg**	**19 10 07.6**	**-0.8**
	3.9nm,0.7s							
IUG				*e*S	**Sg**	**19 11 27.2**	**+4.8**
	14nm,0.8s							
MK31	**Makanchi Array**	**6.83**	**29**	⇑Pn	**Pn**	**19 09 58.6**	**+0.3**
	0.4nm,0.3s,baz=210,slow=12,SNR=24							
MK31				⇑Lg	Lg	19 11 53.3		
	2.3nm,0.7s							
OTUK	**Ortayu**	**8.19**	**335**	⇑Lg	Lg	19 12 41.7		
	13nm,1.3s							

IDC 28 19:10:26.6±4.5, 25°.65S×130°.24E, h0km, mbtmp2.9/3, ML2.8/3, Error ellipse: s-maj=35.8km s-min=27.1km az=83.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.87**	**60**	Pn	Pn	19 11 28.6	+1.1
	0.2nm,0.3s,baz=242,slow=12,SNR=16						
ASAR				Pg	Pg	19 11 38.4	-2.5
	0.4nm,0.3s,baz=236,slow=14,SNR=14						
ASAR				Sn	Sn	19 12 16.5	+2.8
	0.8nm,0.3s,baz=238,slow=17,SNR=11						
ASAR				Lg	Lg	19 12 30.2	
	1.1nm,0.3s,baz=239,slow=26,SNR=12						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**6.82**	**34**	Pn	Pn	19 12 07.0	-1.0
	0.2nm,0.3s,baz=216,slow=13,SNR=13						
WRA				Sn	Sn	19 13 27.6	+1.2
	0.2nm,0.3s,baz=211,slow=35,SNR=2.0						
WRA				Lg	Lg	19 13 60.0	
	0.4nm,0.3s,baz=213,slow=28,SNR=6.9						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**11.73**	**125**	Pn	Pn	19 13 14.3	-1.0
	0.1nm,0.3s,baz=304,slow=16,SNR=1.4						
	0.9nm,0.8s						

WEL 28 19:19:23.3±0.4, 42°.3S×177°.4E±°, h9km±3km, M3.4/36, ML3.8/12, MLv3.4/36, Error ellipse: s-maj=0.0km s-min=0.0km az=123.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.19**	**227**	P	Pg	19 19 27.9	+0.6
KHZ				S	Sg	19 19 31.8	+1.8
BSWZ	**Blackbirch Sta**	**0.58**	**11**	P	Pg	19 19 34.7	+0.2
CMWZ	**Cape Campbell**	**0.64**	**34**	P	Pb	19 19 36.5	-0.3
THZ	**Tophouse**	**0.81**	**310**	P	Pb	19 19 39.4	-0.1
GVZ	**Greta Valley S**	**0.85**	**217**	P	Pg	19 19 39.8	+0.1
TUWZ	**Tuamarina**	**0.87**	**11**	P	Pg	19 19 40.1	+0.1
NNZ	**Nelson**	**1.10**	**346**	P	Pg	19 19 44.0	-0.3
MRNZ	**Matariki Terra**	**1.14**	**320**	P	Pb	19 19 45.4	+0.1
TCW	**Tory Channel**	**1.15**	**21**	P	Pg	19 19 43.6	-1.7
LTZ	**Lake Taylor**	**1.19**	**245**	P	Pb	19 19 44.9	-1.1
AMCZ	**Amberley**	**1.20**	**221**	P	Pb	19 19 45.5	-0.6
WEL	**Wellington**	**1.27**	**38**	P	Pn	19 19 44.9	-2.2
PLWZ	**Palliser**	**1.34**	**58**	P	Pn	19 19 44.9	-3.4
TKNZ	**Takaka Hill**	**1.38**	**335**	P	Pn	19 19 48.7	0.0
MSWZ	**Moikau Station**	**1.43**	**53**	P	Pn	19 19 46.3	-3.2
DUWZ	**D'Urville Isla**	**1.49**	**6**	P	Pn	19 19 48.9	-1.4
OKCZ	**Okains Bay**	**1.52**	**199**	P	Pn	19 19 48.1	-2.7
DSZ	**Denniston Nort**	**1.53**	**290**	P	Pn	19 19 51.4	+0.5
CAW	**Cannon Point**	**1.54**	**41**	P	Pn	19 19 48.4	-2.6
PAWZ	**Paruwai Farm**	**1.56**	**55**	P	Pn	19 19 47.7	-3.5
OXZ	**Oxford**	**1.62**	**229**	P	Pn	19 19 50.0	-2.1
MQZ	**McQueen's Vall**	**1.63**	**209**	P	Pn	19 19 48.9	-3.3
KIW	**Kapiti Island**	**1.67**	**32**	P	Pn	19 19 50.8	-2.0
AKCZ	**Akaroa Harbour**	**1.70**	**200**	P	Pn	19 19 50.5	-2.7
TRWZ	**Traveller**	**1.71**	**60**	P	Pn	19 19 48.9	-4.4
QRZ	**Quartz Range**	**1.71**	**328**	P	Pb	19 19 54.2	-0.8
MTW	**Mount Morrison**	**1.74**	**50**	P	Pn	19 19 50.2	-3.5
INZ	**Inchbonnie**	**1.75**	**255**	P	Pn	19 19 53.2	-0.7
OGWZ	**Otaki Gorge**	**1.82**	**37**	P	Pn	19 19 52.3	-2.5
RACZ	**Rakaia**	**1.86**	**218**	P	Pn	19 19 52.6	-2.7
HOWZ	**Holdsworth Sta**	**1.93**	**45**	P	Pn	19 19 53.1	-3.2
TMWZ	**Te Maipa**	**2.00**	**55**	P	Pn	19 19 53.5	-3.8
MHCZ	**Mount Hutt**	**2.02**	**231**	P	Pn	19 19 55.2	-2.4
MRZ	**Mangatainoka R**	**2.13**	**41**	P	Pn	19 19 56.2	-3.0
WACZ	**Wakanui South**	**2.16**	**219**	P	Pn	19 19 56.9	-2.6
WVZ	**Waitaha Valley**	**2.34**	**249**	P	Pn	19 20 01.2	-0.8
PRWZ	**Pori Road**	**2.41**	**45**	P	Pn	19 19 59.6	-3.4
RPZ	**Rata Peaks**	**2.43**	**233**	P	Pn	19 20 01.4	-1.9
BFZ	**Birch Farm**	**2.48**	**51**	P	Pn	19 19 59.9	-4.0
ARCZ	**Arundel**	**2.50**	**227**	P	Pn	19 20 02.3	-1.9
WAZ	**Wanganui**	**2.70**	**21**	P	Pn	19 20 06.8	-0.1
TSZ	**Takapari Road**	**2.79**	**38**	P	Pn	19 20 04.9	-3.3
TMZ	**Timaru**	**2.89**	**223**	P	Pn	19 20 07.8	-1.8
KHEZ	**Kahui Hut**	**2.99**	**4**	P	Pn	19 20 13.5	+2.4
NBEZ	**Newall Road No**	**3.01**	**2**	P	Pn	19 20 14.9	-2.3
PNHZ	**Pukenui**	**3.02**	**39**	P	Pn	19 20 07.6	-3.7
NEZ	**North Egmont**	**3.02**	**5**	P	Pn	19 20 13.1	+1.6
PKE	**Pukeiti**	**3.09**	**4**	P	Pb	19 20 16.6	-1.9
PKVZ	**Pokaka**	**3.23**	**23**	P	Pn	19 20 13.7	-0.7
MOVZ	**Moawhango**	**3.26**	**29**	P	Pn	19 20 12.3	-2.4
WNVZ	**Wahianoa**	**3.28**	**26**	P	Pn	19 20 13.6	-1.5
TRVZ	**Turoa**	**3.29**	**25**	P	Pn	19 20 15.1	-0.1
WHVZ	**Whangaehu Hut**	**3.31**	**26**	P	Pn	19 20 14.2	-1.4
LBZ	**Lake Benmore**	**3.33**	**230**	P	Pn	19 20 17.2	+1.6
TUVZ	**Tukino**	**3.35**	**27**	P	Pn	19 20 14.7	-1.3
NNVZ	**North Ngauruho**	**3.46**	**25**	P	Pn	19 20 16.7	-0.8
ETVZ	**East Tongariro**	**3.49**	**26**	P	Pn	19 20 16.8	-1.1
TMVZ	**Te Maari**	**3.50**	**26**	P	Pn	19 20 16.4	-1.7
BKZ	**Black Stump Fm**	**3.76**	**35**	P	Pn	19 20 17.8	-3.7
HIZ	**Hauiti**	**3.86**	**13**	P	Pn	19 20 22.7	-0.2
TLZ	**Tolley Road**	**4.18**	**20**	P	Pn	19 20 26.5	-0.9
TOZ	**Tahuroa Road**	**4.75**	**17**	P	Pn	19 20 33.8	-1.2
AWAZ	**Awhitu Peninsu**	**5.26**	**8**	P	Pn	19 20 42.0	-0.1
RUGZ	**Raukumara Rang**	**5.27**	**36**	P	Pn	19 20 38.1	-4.3
MKAZ	**Moumakai**	**5.29**	**13**	P	Pn	19 20 41.4	-1.1
WIAZ	**Waiheke Island**	**5.59**	**12**	P	Pn	19 20 46.0	-0.6

*CNRM **28** 19:34:24.6, 35°.37N×4°.99W, h68km, ml2.1*
*SFS **28** 19:34:25.0, 35°.40N×4°.99W, h68km, ML2.9, ALBORAN SUR*
*MDD **28** 19:34:26.4±0.5, 35°.42N×5°.03W, h66km±7km, Mb3.0/13, Error ellipse: s-maj=4.7km s-min=2.7km az=172.0*
*INMG **28** 19:34:27.4±1.5, 35°.51N×5°.08W, h46km±12km, ML2.4, Error ellipse: s-maj=5.4km s-min=4.0km az=177.0*

ISC 28 19:34:24.4±1.2, 35°.39N±0°.03×4°.99W±0°.03, h50km, n56, σ1s86/95, 14C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHEFC	**Chefchaouen**	**0.40**	**225**	P	**Pn**	**19 34 37.6**	**+2.9**
CHEFC				S	**Sn**	**19 34 43.7**	**+1.7**
CEU	**Ceuta**	**0.59**	**328**	P	**Pn**	**19 34 39.1**	**+2.3**
CEU				S	**Sn**	**19 34 49.7**	**+4.0**
ECEU	**Ceuta**	**0.59**	**328**	P	**Pn**	**19 34 40.3**	**+3.5**
ECEU				⇑*i*Vmb_V		19 34 41.2	
	673nm,SNR=6.6						
ECEU				S	**Sn**	**19 34 50.0**	**+4.2**
EJIF	**Jimena Fronter**	**1.13**	**340**	P	**Pn**	**19 34 47.2**	**+3.3**
EMIJ	**Mijas**	**1.18**	**9**	P	**Pn**	**19 34 44.9**	**+0.3**
EMIJ				⇑*i*Vmb_V		19 34 48.9	
	226nm,SNR=2.4						
EMIJ				S	**Sn**	**19 34 58.9**	**-0.7**
AKLM	**AKL**	**1.28**	**133**	P	**Pn**	**19 34 47.8**	**+1.9**
AKLM				S	**Sn**	**19 35 02.0**	**0.0**
EMAL	**Malaga-Limoner**	**1.44**	**18**	S	**Sn**	**19 35 06.2**	**+0.3**
ESPR	**Espera**	**1.63**	**335**	S	**Sn**	**19 35 11.9**	**+1.4**
EALB	**Alboran**	**1.68**	**70**	S	**Sn**	**19 35 11.6**	**-0.2**
ELGU	**Los Guajares,**	**1.84**	**36**	P	**Pn**	**19 34 53.4**	**-0.2**
ELGU				⇑*i*Vmb_V		19 34 55.6	
	396nm,SNR=2.8						
ELGU				S	**Sn**	**19 35 14.5**	**-1.3**
EGOR	**Sierra Gorda,**	**1.86**	**22**	P	**Pn**	**19 34 55.0**	**+1.1**
EGOR				⇑*i*Vmb_V		19 34 59.1	
	110nm,SNR=1.7						
EGOR				S	**Sn**	**19 35 17.7**	**+1.4**
TAF	**Taforalt**	**2.19**	**105**	P	**Pn**	**19 34 58.9**	**+0.5**
TAF				S	**Sn**	**19 35 22.6**	**-1.7**
JBK	**JBK**	**2.25**	**117**	P	**Pn**	**19 34 59.6**	**+0.2**
JBK				S	**Sn**	**19 35 23.6**	**-2.5**
EBER	**Berja**	**2.27**	**48**	P	**Pn**	**19 35 00.5**	**+0.9**
EBER				⇑*i*Vmb_V		19 35 03.2	
	206nm,SNR=1.4						
EBER				S	**Sn**	**19 35 25.7**	**-0.7**
MD31	**MD31**	**2.53**	**176**	P	**Pn**	**19 35 03.7**	**+0.7**
MD31				S	**Sn**	**19 35 31.6**	**-1.1**
ECAB	**El Cabril**	**2.70**	**353**	P	**Pn**	**19 35 06.6**	**+1.2**
ECAB				⇑*i*Vmb_V		19 35 10.8	
	52nm,SNR=1.0						
ECAB				S	**Sn**	**19 35 35.2**	**-1.6**
EMIN	**Mina Concepcio**	**2.73**	**331**	P	**Pn**	**19 35 06.5**	**+0.8**
EMIN				⇑*i*Vmb_V		19 35 08.8	
	106nm,SNR=2.0						
EMIN				S	**Sn**	**19 35 35.7**	**-1.8**
ENIJ	**Nijar**	**2.75**	**54**	S	**Sn**	**19 35 36.7**	**-1.3**
EADA	**Adamuz**	**2.79**	**7**	P	**Pn**	**19 35 08.0**	**+1.4**
EADA				⇑*i*Vmb_V		19 35 09.3	
	76nm,SNR=1.6						
EADA				S	**Sn**	**19 35 38.0**	**-1.0**
EQES	**Quesada**	**2.86**	**32**	P	**Pn**	**19 35 10.4**	**+2.8**
EQES				⇑*i*Vmb_V		19 35 12.8	
	109nm,SNR=1.4						
EQES				S	**Sn**	**19 35 43.2**	**+2.3**
AVE	**Averroes**	**2.90**	**225**	S	**Sn**	**19 35 39.9**	**-1.7**
EGRO	**El Granado**	**2.93**	**318**	P	**Pn**	**19 35 09.4**	**+0.9**
EGRO				⇑*i*Vmb_V		19 35 13.1	
	312nm,SNR=5.0						
EGRO				S	**Sn**	**19 35 40.7**	**-1.8**
PVAQ	**Vaqueiros**	**2.98**	**313**	⇑*e*P	**Pn**	**19 35 10.0**	**+0.9**
PVAQ				*e*S	**Sn**	**19 35 42.1**	**-1.5**
PVAQ				A	A	19 35 43.3	
	17nm,0.1s						
PVAQ	**Vaqueiros**	**2.98**	**313**	P	**Pn**	**19 35 09.4**	**+0.2**
PBAR	**Barrancos**	**3.23**	**330**	*e*P	**Pn**	**19 35 13.4**	**+0.9**
PBAR				*e*S	**Sn**	**19 35 48.0**	**-1.7**
PBAR				A	A	19 35 49.3	
	11nm,0.3s						
PCVE	**Castro Verde**	**3.32**	**313**	⇓*e*P	**Pn**	**19 35 14.7**	**+0.9**
PCVE				*e*S	**Sn**	**19 35 50.1**	**-1.9**
PCVE				A	A	19 35 55.1	
	7.1nm,0.2s						
PBEJ	**Beja**	**3.50**	**320**	*e*S	**Sn**	**19 35 54.5**	**-2.0**
PBEJ				A	A	19 35 58.0	
	5.8nm,0.1s						
MORF	**Marmelete**	**3.52**	**304**	*e*P	**Pn**	**19 35 17.1**	**+0.5**
MORF				*e*S	**Sn**	**19 35 54.1**	**-2.9**
MORF				IAML		19 35 55.9	
	comp=E,12nm,0.3s						
MORF	**Marmelete**	**3.52**	**304**	*e*P	**Pn**	**19 35 17.1**	**+0.5**
MORF				*e*S	**Sn**	**19 35 55.3**	**-1.7**
MORF				A	A	19 35 58.2	
	comp=E,7.6nm,0.2s						
PFVI	**Vila Bisbo**	**3.55**	**300**	*e*P	**Pn**	**19 35 17.7**	**+0.7**
PFVI				*e*S	**Sn**	**19 35 55.7**	**-2.1**
PFVI				A	A	19 36 00.1	
	comp=E,4.6nm,0.4s						
PFVI	**Vila Bisbo**	**3.55**	**300**	P	**Pn**	**19 35 16.8**	**-0.2**
MESJ	**Messejana**	**3.57**	**314**	*e*P	**Pn**	**19 35 17.9**	**+0.7**
MESJ				*e*S	**Sn**	**19 35 55.2**	**-2.8**
MESJ				IAML		19 35 57.0	
	comp=N,8.1nm,0.1s						
MESJ	**Messejana**	**3.57**	**314**	*e*P	**Pn**	**19 35 18.2**	**+1.0**
MESJ				*e*S	**Sn**	**19 35 56.0**	**-2.1**
MESJ				A	A	19 35 59.8	
	comp=N,6.3nm,0.3s						
PTEO	**Sao Teotonio**	**3.70**	**307**	⇓*e*P	**Pn**	**19 35 20.0**	**+1.0**
PTEO				*e*S	**Sn**	**19 35 59.8**	**-1.5**
PTEO				A	A	19 36 06.3	
	comp=N,5.6nm,0.9s						
EBAD	**Badajoz**	**3.73**	**335**	P	**Pn**	**19 35 20.7**	**+1.4**
EBAD				⇑*i*Vmb_V		19 35 21.7	
	comp=N,165nm,SNR=2.6						
EBAD				S	**Sn**	**19 36 00.2**	**-1.8**
PNCL	**Nicolau / Gran**	**3.93**	**315**	*e*P	**Pn**	**19 35 23.1**	**+0.9**
PNCL				*e*S	**Sn**	**19 36 04.5**	**-2.5**
PNCL				A	A	19 36 06.0	
	comp=N,4.9nm,0.1s						
EVO	**Evora**	**3.96**	**323**	P	**Pn**	**19 35 23.7**	**+1.2**
EVO				S	**Sn**	**19 36 05.6**	**-2.1**
EVO	**Evora**	**3.96**	**323**	*e*P	**Pn**	**19 35 23.8**	**+1.2**
EVO				*e*S	**Sn**	**19 36 05.8**	**-1.9**
EVO				A	A	19 36 07.2	
	comp=N,15nm,0.1s						
PESTR	**Estremoz**	**4.04**	**330**	*e*P	**Pn**	**19 35 25.4**	**+1.7**
PESTR				*e*S	**Sn**	**19 36 07.3**	**-2.5**
PESTR				A	A	19 36 09.4	
	comp=N,3.5nm,0.2s						
PAB	**San Pablo**	**4.18**	**7**	P	**Pn**	**19 35 26.6**	**+1.0**
PAB				⇑*i*Vmb_V		19 35 27.7	
	comp=N,78nm,SNR=2.1						
PAB				S	**Sn**	**19 36 10.3**	**-2.9**
ETOB	**Tobarra**	**4.26**	**39**	P	**Pn**	**19 35 28.7**	**+2.0**
PMRV	**Marv??o**	**4.46**	**335**	*e*P	**Pn**	**19 35 31.1**	**+1.6**
PMRV				*e*S	**Sn**	**19 36 17.9**	**-2.2**
PMRV				A	A	19 36 19.8	
	comp=N,1.8nm,0.6s						
PMTG	**Montargil**	**4.49**	**326**	*e*P	**Pn**	**19 35 31.0**	**+1.2**
PMTG				*e*S	**Sn**	**19 36 17.8**	**-2.9**
PMTG				A	A	19 36 20.4	
	comp=N,3.9nm,0.1s						
EPLA	**Plasencia**	**4.74**	**350**	P	**Pn**	**19 35 34.4**	**+1.0**
EPLA				⇑*i*Vmb_V		19 35 37.3	
	comp=N,65nm,SNR=1.0						
EPLA				S	**Sn**	**19 36 24.4**	**-2.6**
OUK	**Oukaimeden**	**4.82**	**211**	P	**Pn**	**19 35 34.8**	**+0.1**
PCBR	**Castelo Branco**	**4.86**	**337**	*e*P	**Pn**	**19 35 36.3**	**+1.4**
PCBR				*e*S	**Sn**	**19 36 26.9**	**-3.0**
PMAFR	**Mafra**	**4.94**	**317**	*e*S	**Sn**	**19 36 29.6**	**-2.2**
PMAFR				A	A	19 36 53.8	
	comp=N,10nm,0.4s						
PSBE	**So Bento**	**5.11**	**325**	*e*P	**Pn**	**19 35 40.2**	**+1.8**
PSBE				*e*S	**Sn**	**19 36 34.1**	**-1.9**
PSBE				A	A	19 36 37.5	
	comp=N,7.9nm,0.5s						
GUD	**Guadarrama**	**5.28**	**7**	P	**Pn**	**19 35 42.5**	**+1.6**
MTE	**Manteigas**	**5.39**	**339**	*e*S	**Sn**	**19 36 42.0**	**-1.1**
PCAS	**Casmilo, Conde**	**5.42**	**330**	*e*S	**Sn**	**19 36 40.8**	**-2.9**
PCAS				A	A	19 36 55.6	
	comp=N,2.8nm,0.7s						
PVIS	**Viseu**	**5.79**	**338**	*e*S	**Sn**	**19 36 51.1**	**-1.7**
ETOR	**Torete**	**5.89**	**22**	P	**Pn**	**19 35 50.4**	**+1.3**
ETOR				S	**Sn**	**19 36 53.5**	**-1.9**
MVO	**Moncorvo**	**5.98**	**345**	*e*P	**Pn**	**19 35 51.6**	**+1.2**
MVO				*e*S	**Sn**	**19 36 54.9**	**-2.7**
POLO	**Lamas de Olo**	**6.37**	**341**	*e*P	**Pn**	**19 35 57.1**	**+1.4**
POLO				*e*S	**Sn**	**19 37 03.9**	**-3.1**
EALK	**Alkurruntz**	**8.27**	**18**	P	**Pn**	**19 36 24.2**	**+2.5**

MAN 28 19:40:23.2, 7°.58N×126°.39E, h6km, mb3.6, ML2.4, MS1.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.60**	**357**	⇑*i*P	Pb	19 40 35.9	-0.3
BIPH				*i* S	Sb	19 40 44.5	-0.4

*DDA **28** 19:41:40.0±0.0, 41°.10N×43°.83E, h6km±3km, ML2.5*
*TIF **28** 19:41:40.4, 41°.12N×43°.92E, h17km*
*ISK **28** 19:41:40.8, 41°.01N×43°.84E, h12km, ML2.6/4*
*NORS **28** 19:41:41.6±0.0, 41°.31N×44°.01E, h1km, MPVA3.5*

ISC 28 19:41:40.1±1.0, 41°.08N±0°.02×43°.90E±0°.02, h9km±10km, n34, σ0s55/63, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.29**	**309**	P	**Pb**	**19 41 47.2**	**-0.6**
BGD				S	**Sb**	**19 41 52.1**	**-0.8**
DMNI	**Dmanisi**	**0.33**	**41**	P	**Pg**	**19 41 47.1**	**+0.4**
DMNI				S	**Sg**	**19 41 51.8**	**+0.6**
EAK	**Akyaka**	**0.45**	**210**	P	**Pg**	**19 41 48.6**	**-0.4**
EAK				S	**Sg**	**19 41 54.5**	**-0.5**
AKH	**Akhalkalaki**	**0.45**	**317**	P	**Pg**	**19 41 49.6**	**+0.6**
AKH				S	**Sg**	**19 41 55.1**	**+0.1**
KZRT	**Kazreti**	**0.48**	**50**	P	**Pg**	**19 41 49.7**	**+0.2**
KZRT				S	**Sg**	**19 41 56.3**	**+0.3**
TRLG	**Trialeti**	**0.48**	**18**	P	**Pg**	**19 41 49.9**	**+0.3**
TRLG				S	**Sg**	**19 41 56.5**	**+0.5**
KARS	**Kars**	**0.77**	**234**	PG	**Pg**	**19 41 54.6**	**-0.4**
KARS				SG	**Sg**	**19 42 04.8**	**-0.3**
DIGO	**Kars**	**0.78**	**211**	P	**Pg**	**19 41 54.8**	**-0.4**
DIGO				S	**Sg**	**19 42 04.4**	**-0.9**
DIGO				*i* AML	AML	19 42 10.0	
	comp=N,382nm,0.7s						
SEAG	**Tbilisi Sea**	**0.96**	**44**	P	**Pg**	**19 41 58.0**	**-0.7**
SEAG				S	**Sb**	**19 42 11.5**	**-0.4**
EPOS	**Posof**	**0.98**	**296**	P	**Pg**	**19 41 58.5**	**-0.6**
EPOS				S	**Sg**	**19 42 11.1**	**-0.7**
EPOS				*i* AML	AML	19 42 12.0	
	comp=N,165nm,0.3s						
EPOS				*i* AML	AML	19 42 12.0	
	comp=E,100nm,0.3s						
ALIG	**Mtskhetisjvari**	**1.04**	**350**	P	**Pg**	**19 41 60.0**	**-0.2**
ALIG				S	**Sb**	**19 42 14.3**	**0.0**
ABS	**Abastumani**	**1.06**	**310**	P	**Pg**	**19 42 00.5**	**-0.1**
ABS				S	**Sb**	**19 42 15.2**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.12**	**167**	PG	**Pg**	**19 42 01.7**	**0.0**
TASB				SG	**Sb**	**19 42 16.9**	**+0.4**
GNI	**Garni**	**1.13**	**145**	PN	**Pn**	**19 42 02.5**	**+0.2**
GNI				SN	**Sn**	**19 42 18.4**	**+0.4**
DGRG	**David-gareji**	**1.17**	**71**	P	**Pg**	**19 42 01.6**	**-1.0**
DGRG				S	**Sg**	**19 42 17.2**	**-0.6**
IGDI	**IGDIR**	**1.22**	**174**	P	**Pb**	**19 42 02.9**	**-0.5**
IGDI				S	**Sg**	**19 42 18.9**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.29**	**247**	PN	**Pn**	**19 42 04.1**	**-0.4**
SENK				SN	**Sb**	**19 42 21.4**	**0.0**
KOTA	**Agri, Merkez-K**	**1.38**	**203**	P	**Pg**	**19 42 08.2**	**+1.5**
TKB	**Tkibuli**	**1.44**	**332**	P	**Pb**	**19 42 07.4**	**+0.2**
TKB				S	**Sg**	**19 42 26.8**	**+0.3**
DAGI	**Agillar**	**1.50**	**271**	P	**Pb**	**19 42 08.6**	**+0.3**
DAGI				S	**Sg**	**19 42 28.5**	**0.0**
DYDN	**Diyadin**	**1.54**	**186**	P	**Pb**	**19 42 09.4**	**+0.4**
ONI	**Oni**	**1.55**	**348**	P	**Pb**	**19 42 08.9**	**-0.1**
ONI				S	**Sg**	**19 42 29.6**	**-0.3**
EATA	**Eleskirt**	**1.62**	**222**	P	**Pg**	**

comp=Z,4.7nm,0.5s
WRAB Tennant Creek 41.59 267 P **P** 19 57 35.9 **-0.2**
WRAB IAmb IAmb 19 57 37.3
comp=Z,9.3nm,1.3s
WB0 Warramunga Arr 41.60 267 P **P** 19 57 35.9 **-0.2**
WB0 IAmb IAmb 19 57 36.7
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 41.60 267 P **P** 19 57 36.0 **-0.3**
comp=Z,2.8nm,0.5s,baz=97,slow=8.4,SNR=94
comp=Z,2.8nm,0.5s
WRA Warramunga Arr 41.60 267 P **P** 19 57 35.9 **-0.3**
FORT Forrest 45.42 250 P **P** 19 58 04.9 **-0.8**
FORT IAmb IAmb 19 58 05.5
comp=Z,11nm,0.7s
KNRA Kununurra 47.91 271 P **P** 19 58 24.1 **-0.5**
SIJI Sorong 51.84 289 P **P** 19 58 53.4 **-0.1**
comp=Z,8.2nm,0.6s,baz=214,slow=21,SNR=7.3
comp=Z,8.2nm,0.6s
VNDA Vanda 53.87 185 P **P** 19 59 06.4 **-0.5**
comp=Z,0.7nm,0.7s,baz=348,slow=9.0,SNR=4.7
comp=Z,0.7nm,0.7s
VNDA Vanda 53.87 185 P **P** 19 59 06.5 **-0.4**
VNDA IAmb IAmb 19 59 38.5
comp=Z,3.4nm,1.4s
MAW Mawson 77.06 201 P **P** 20 01 31.7 **-0.2**
TXAR Lajitas Array 91.33 58 P **P** 20 02 44.1 **+0.9**
comp=Z,0.5nm,0.8s,baz=203,slow=6.7,SNR=4.3
comp=Z,0.5nm,0.8s
BRTR Keskin Array B 147.22 306 PKPbc **PKiKP** 20 09 19.1 **-0.4**
comp=Z,0.9nm,0.7s,baz=125,slow=4.0,SNR=5.8
CLL Collm 151.05 342 *e*PKPbc **PKiKP** 20 09 29.0 **+2.3**

WEL 28 20:11:12.4±0.5**, 42°S**±3°×**17°4E**±°**, h5**km**, M3.4**/27**, ML3.7**/14**, MLv3.4**/27**, Error ellipse: s-maj=0.0km s-min=0.0km az=122.1, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KHZ	**Kahutara**	**0.23**	**239**	P	Pg		20 11 17.1	+0.2
BSWZ	**Blackbirch Sta**	**0.58**	**5**	P	Pg		20 11 23.7	0.0
BSWZ				S	Sg		20 11 32.4	+1.2
CMWZ	**Cape Campbell**	**0.63**	**29**	P	Pb		20 11 25.7	-0.2
THZ	**Tophouse**	**0.86**	**308**	P	Pg		20 11 28.7	-0.1
TUWZ	**Tuamarina**	**0.87**	**7**	P	Pg		20 11 29.2	+0.1
GVZ	**Greta Valley S**	**0.88**	**220**	P	Pg		20 11 29.6	+0.3
GVZ				S	Sb		20 11 42.9	+0.7
NNZ	**Nelson**	**1.12**	**343**	P	Pg		20 11 33.3	-0.7
NNZ				P	Pg		20 11 33.3	-0.7
TCW	**Tory Channel**	**1.14**	**18**	P	Pg		20 11 33.4	-0.9
MRNZ	**Matariki Terra**	**1.19**	**319**	P	Pg		20 11 35.0	-0.2
AMCZ	**Amberley**	**1.22**	**224**	P	Pg		20 11 34.4	-1.5
LTZ	**Lake Taylor**	**1.23**	**246**	P	Pg		20 11 34.8	-1.2
WEL	**Wellington**	**1.24**	**36**	P	Pg		20 11 34.7	-1.5
PLWZ	**Palliser**	**1.30**	**57**	P	Pn		20 11 34.6	-2.7
MSWZ	**Moikau Station**	**1.39**	**51**	P	Pn		20 11 35.9	-2.6
TKNZ	**Takaka Hill**	**1.41**	**333**	P	Pn		20 11 38.7	-0.1
DUWZ	**D'Urville Isla**	**1.50**	**3**	P	Pn		20 11 39.6	-0.4
CAW	**Cannon Point**	**1.52**	**39**	P	Pn		20 11 38.1	-2.1
PAWZ	**Paruwai Farm**	**1.52**	**54**	P	Pn		20 11 37.3	-2.9
OKCZ	**Okains Bay**	**1.53**	**201**	P	Pn		20 11 37.8	-2.6
DSZ	**Denniston Nort**	**1.59**	**290**	P	Pn		20 11 41.2	-0.1
MQZ	**McQueen's Vall**	**1.64**	**211**	P	Pn		20 11 38.8	-3.1
KIW	**Kapiti Island**	**1.66**	**30**	P	Pn		20 11 40.8	-1.3
OXZ	**Oxford**	**1.66**	**231**	P	Pn		20 11 39.7	-2.5
TRWZ	**Traveller**	**1.67**	**58**	P	Pn		20 11 40.3	-2.1
AKCZ	**Akaroa Harbour**	**1.71**	**202**	P	Pn		20 11 40.1	-2.7
MTW	**Mount Morrison**	**1.71**	**49**	P	Pn		20 11 39.9	-2.9
QRZ	**Quartz Range**	**1.75**	**327**	P	Pb		20 11 44.3	-0.8
INZ	**Inchbonnie**	**1.80**	**255**	P	Pn		20 11 43.1	-0.9
OGWZ	**Otaki Gorge**	**1.80**	**35**	P	Pn		20 11 42.2	-1.9
RACZ	**Rakaia**	**1.88**	**220**	P	Pn		20 11 42.5	-2.7
HOWZ	**Holdsworth Sta**	**1.90**	**43**	P	Pn		20 11 43.6	-1.8
TMWZ	**Te Maipa**	**1.96**	**53**	P	Pn		20 11 43.1	-3.2
MHCZ	**Mount Hutt**	**2.06**	**232**	P	Pn		20 11 45.2	-2.4
WACZ	**Wakanui South**	**2.19**	**220**	P	Pn		20 11 46.8	-2.6
WVZ	**Waitaha Valley**	**2.39**	**250**	P	Pn		20 11 51.2	-1.1
BFZ	**Birch Farm**	**2.44**	**49**	P	Pn		20 11 49.6	-3.3
RPZ	**Rata Peaks**	**2.46**	**234**	P	Pn		20 11 51.1	-2.2
ARCZ	**Arundel**	**2.53**	**228**	P	Pn		20 11 51.7	-2.5
TSZ	**Takapari Road**	**2.77**	**37**	P	Pn		20 11 56.8	-0.6
TMZ	**Timaru**	**2.92**	**223**	P	Pn		20 11 57.4	-2.1
KHEZ	**Kahui Hut**	**3.00**	**3**	P	Pb		20 12 04.3	-2.1
DREZ	**Durham Road**	**3.12**	**6**	P	Pn		20 11 59.9	-2.4
FOZ	**Fox Glacier**	**3.18**	**246**	P	Pn		20 12 02.8	-0.3
PKVZ	**Pokaka**	**3.22**	**22**	P	Pn		20 12 04.2	+0.5
WWZ	**Wahiarua**	**3.26**	**25**	P	Pn		20 12 06.3	+1.9
WHVZ	**Whangaehu Hut**	**3.30**	**25**	P	Pn		20 12 05.4	+0.4
LBZ	**Lake Benmore**	**3.37**	**230**	P	Pn		20 12 03.6	-2.1
NGZ	**Ngauruhoe**	**3.40**	**24**	P	Pn		20 12 06.9	+0.6
NNVZ	**North Ngauruho**	**3.45**	**24**	P	Pb		20 12 12.0	-2.0
ODZ	**Otahua Downs**	**3.58**	**219**	P	Pn		20 12 05.7	-2.8
HIZ	**Hauiti**	**3.86**	**12**	P	Pn		20 12 12.6	+0.1

IDC 28 20:32:37.2±24.0**, 27°79S×64°81E, h0**km**, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=818.4km s-min=40.7km az=51.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ASAR	**Alice Springs**	**61.65**	**103**	P	P		20 42 57.9	+0.6
	0.5nm,0.8s,baz=246,slow=6.8,SNR=4.3							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**63.34**	**100**	P	P		20 43 07.8	-0.8
	0.2nm,0.8s,baz=248,slow=11,SNR=1.3							
	0.2nm,0.8s							
MKAR	**Makanchi Array**	**75.90**	**12**	P	P		20 44 25.7	+0.3
	0.8nm,0.8s,baz=194,slow=4.6,SNR=5.4							
	0.8nm,0.8s							
ZALV	**Zalesovo Beam**	**83.22**	**12**	P	P		20 45 04.7	-0.3
	0.5nm,0.3s,baz=210,slow=5.0,SNR=2.2							
	0.5nm,0.3s							

---

*IDC **28** 20:54:34.1±3.5, 1°.40S×136°.21E, h0km, mb3.6/2, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=150.9km s-min=28.2km az=80.0*
*DJA **28** 20:54:38.5±0.4, 2°S±8°×13°5E±°, h10km, M4.1/5, mb3.8/1, MLv4.2/5*
ISC 28 20:54:38.4±1.1**, 1°.7S**±0°.1**×135°.23E**±0°.05**, h10**km**, n6, σ1°39/9, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SRPI	**Serui, Papua**	**1.03**	**101**	P	**Pg**		**20 54 57.2**	**-1.1**
SRPI				S	**Sb**		**20 55 13.2**	**+1.2**
RKPI	**Ransiki, Papua**	**1.06**	**278**	P	**Pg**		**20 54 58.1**	**-0.7**
RKPI				S	**Sb**		**20 55 14.5**	**+1.7**
FAKI	**Fak Fak**	**3.23**	**247**	P	**Pn**		**20 55 29.2**	**+0.1**
FAKI				S	**Sn**		**20 56 05.6**	**-2.1**
WRA	**Warramunga Arr**	**18.18**	**183**	P	**Pn**		**20 58 52.0**	**+0.9**
	0.1nm,0.3s,baz=4.5,slow=12,SNR=14							
	0.9nm,0.6s							
ASAR	**Alice Springs**	**21.91**	**183**	P	**P**		**20 59 32.7**	**+0.7**
	1.9nm,0.7s,baz=7.5,slow=12,SNR=28							
	1.9nm,0.7s							
MKAR	**Makanchi Array**	**66.86**	**323**	P	**P**		**21 05 30.6**	**-0.2**
	0.3nm,0.5s,baz=102,slow=9.7,SNR=4.6							
	0.3nm,0.5s							

---

*INET **28** 20:57:03.8±0.5, 11°.81N×88°.96W, h15km±2km, ML3.2*
*IDC **28** 20:57:04.5±2.8, 12°.90N×88°.14W, h0km, mb3.5/3, mbtmp3.6/4, ML3.6/1, MS3.0/2, Error ellipse: s-maj=107.5km s-min=24.1km az=41.0*
*SNET **28** 20:57:07.0±1.0, 11°.98N×88°.88W, h36km±999km, ML3.9*
*UCR **28** 20:57:07.2±0.7, 12°.00N×88°.88W, h52km±186km, ML3.8*
ISC 28 20:57:03.9±1.6**, 11°.91N**±0°.09×**88°.88W**±0°.07**, h10**km**, n39, σ0°57/41, mb3.7/3, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JUCU	**Jucuarįn**	**1.47**	**25**	*e*P	**Pn**		**20 57 30.6**	**+0.1**
JUCU	**Jucuarįn**	**1.47**	**25**	*e*P	**Pn**		**20 57 30.6**	**+0.1**
COEB	**Comit de Eme**	**1.61**	**12**	*e*P	**Pn**		**20 57 32.6**	**+0.1**
COEB	**Comit de Eme**	**1.61**	**12**	*e*P	**Pn**		**20 57 32.6**	**+0.1**
PACA	**Pacayal**	**1.64**	**19**	*e*P	**Pn**		**20 57 33.1**	**+0.1**
PACA				IAML			20 57 59.7	
	comp=Z,12µm,0.4s							
PACA	**Pacayal**	**1.64**	**19**	*e*P	**Pn**		**20 57 33.1**	**+0.1**
PACA				IAML			20 57 59.7	
	comp=Z,12µm,0.4s							

2016 NOV

LCND	**La Caada**	**1.69**	**35**	*e*P	**Pn**	**20 57 33.3**	**-0.3**
LCND	**La Caada**	**1.69**	**35**	*e*P	**Pn**	**20 57 33.3**	**-0.3**
CNCH	**Conchagua**	**1.70**	**37**	*e*P	**Pn**	**20 57 33.4**	**-0.3**
CNCH	**Conchagua**	**1.70**	**37**	*e*P	**Pn**	**20 57 33.4**	**-0.3**
LFRS	**El Faro**	**1.71**	**354**	*e*P	**Pn**	**20 57 33.5**	**-0.5**
LFRS	**El Faro**	**1.71**	**354**	*e*P	**Pn**	**20 57 33.5**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.79**	**5**	*e*P	**Pn**	**20 57 35.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.79**	**5**	*e*P	**Pn**	**20 57 35.1**	**+0.2**
PAVA	**Las Pavas**	**1.79**	**358**	*e*P	**Pn**	**20 57 34.9**	**-0.2**
PAVA	**Las Pavas**	**1.79**	**358**	*e*P	**Pn**	**20 57 34.9**	**-0.2**
JAYA	**Jayaque - finc**	**1.82**	**342**	*e*P	**Pn**	**20 57 35.3**	**-0.1**
JAYA				IAML		20 58 01.3	
	comp=Z,2µm,0.2s						
JAYA	**Jayaque - finc**	**1.82**	**342**	*e*P	**Pn**	**20 57 35.3**	**-0.1**
JAYA				IAML		20 58 01.3	
	comp=Z,2µm,0.2s						
BOQS	**Boqueron**	**1.85**	**348**	*e*P	**Pn**	**20 57 35.9**	**0.0**
BOQS				IAML		20 58 00.8	
	comp=Z,518nm,0.2s						
BOQS	**Boqueron**	**1.85**	**348**	*e*P	**Pn**	**20 57 35.9**	**0.0**
BOQS				IAML		20 58 00.8	
	comp=Z,518nm,0.2s						
CRIN	**San Cristobal**	**1.95**	**66**	*e*P	**Pn**	**20 57 36.9**	**-0.3**
CRIN				*e*S	**Sn**	**20 58 03.8**	**+2.0**
CEVE	**Cerro Verde**	**2.04**	**339**	*e*P	**Pn**	**20 57 38.5**	**0.0**
CEVE				*e*S	**Sn**	**20 58 03.6**	**-0.6**
CEVE				IAML		20 58 06.5	
	comp=Z,2µm,0.4s						
CEVE	**Cerro Verde**	**2.04**	**339**	*e*P	**Pn**	**20 57 38.5**	**0.0**
CEVE				*e*S	**Sn**	**20 58 03.6**	**-0.6**
CEVE				IAML		20 58 06.5	
	comp=Z,2µm,0.4s						
P5NO	**Presa 5 de nov**	**2.07**	**3**	*e*P	**Pn**	**20 57 39.3**	**+0.6**
NUBE	**Las Nubes**	**2.17**	**336**	*e*P	**Pn**	**20 57 39.9**	**-0.3**
NUBE	**Las Nubes**	**2.17**	**336**	*e*P	**Pn**	**20 57 39.9**	**-0.3**
CNGN	**Cerro Negro**	**2.21**	**74**	*e*P	**Pn**	**20 57 40.6**	**-0.1**
CNGN				*e*S	**Sn**	**20 58 08.1**	**0.0**
SLOZ	**Alcaldia de Sa**	**2.28**	**337**	*e*P	**Pn**	**20 57 42.1**	**+0.4**
MOMN	**Momotombo**	**2.34**	**78**	*e*P	**Pn**	**20 57 41.7**	**-0.8**
MOMN				*e*S	**Sn**	**20 58 11.5**	**+0.2**
MOMN				IAML		20 58 13.9	
	comp=E,107nm,0.5s						
WILN	**Americas 2**	**2.65**	**84**	*e*P	**Pn**	**20 57 45.8**	**-0.8**
ESQI	**Esquipulas**	**2.67**	**350**	IAML		20 58 27.6	
	comp=Z,180nm,0.5s						
HUEN		**2.68**	**81**	*e*P	**Pn**	**20 57 46.1**	**-1.1**
MATN	**Matagalpa**	**3.06**	**70**	*e*P	**Pn**	**20 57 50.8**	**-1.6**
BOAB	**BOACO BROADBAN**	**3.19**	**80**	*e*P	**Pn**	**20 57 53.6**	**-0.5**
JTS	**Las Juntas de**	**4.18**	**112**	Pn	**Pn**	**20 58 08.4**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=160,slow=21,SNR=8.8						
JTS				Sn	**Sn**	**20 58 56.9**	**+0.3**
	comp=Z,9.1nm,0.3s,baz=24,slow=20,SNR=7.2						
JTS				LR	LR	20 59 21.5	
	comp=Z,25nm,18.7s,baz=360,slow=34						
	comp=Z,6.0nm,0.3s						
TXAR	**Lajitas Array**	**22.14**	**324**	P	**P**	**21 02 00.1**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=142,slow=11,SNR=10						
	comp=Z,1.1nm,0.8s						
PDAR	**Pinedale Array**	**35.61**	**333**	LR	LR	21 22 26.8	
	comp=Z,192nm,18.1s,baz=304,slow=43						
ILAR	**Eielson Array**	**65.95**	**337**	P	P	21 07 47.0	-3.0
	comp=Z,0.8nm,0.9s,baz=111,slow=4.9,SNR=6.7						
	comp=Z,0.8nm,0.9s						
ESDC	**Sonseca Array**	**78.62**	**52**	P	P	21 09 02.6	-3.7
	comp=Z,0.6nm,0.9s,baz=296,slow=7.7,SNR=4.9						
	comp=Z,0.6nm,0.9s						

DJA 28 21:04:22.0±0.6**, 9°S**±5°×**12°4E**±°**, h125**km±9km**, M3.4**/7, mb3.6/3, MLv3.3/7, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SOEI	**Soe**	**1.33**	**153**	P	Pn		21 04 49.6	+1.6
MMRI	**Maumere**	**1.40**	**267**	P	Pn		21 04 47.2	-1.4
BATI	**Baumata**	**1.63**	**180**	P	Pn		21 04 51.9	+0.6
BATI				S	Sn		21 05 14.7	+1.1
BASI	**Baing, Sumba**	**3.45**	**241**	P	Pn		21 05 14.4	+0.1
PLAI	**Plampang**	**5.81**	**267**	P	Pn		21 05 46.0	0.0
	0.1nm9.1nm,1.3s							
TWSI	**Taliwang, Sumb**	**6.69**	**268**	P	Pn		21 05 58.1	+0.2
	0.0nm7.8nm,1.5s							

---

*ATH **28** 21:05:23.5, 40°.40N×20°.94E, h12km±1km, ML2.8/8, Error ellipse: s-maj=2.0km s-min=1.0km az=92.0*
*THE **28** 21:05:23.6, 40°.36N×20°.99E, h2km±1km, ML2.5/6, Error ellipse: s-maj=1.8km s-min=0.4km az=323.0*
*SKO **28** 21:05:24.5, 40°.39N×21°.05E, h13km*
ISC 28 21:05:23.9±0.9**, 40°.37N**±0°.02×**20°.99E**±0°.03**, h10**km±6km**, n38, σ1°44/57, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NEST	**Nestorio**	**0.07**	**43**	P	**Pg**		**21 05 26.2**	**-0.1**
NEST				S	**Sg**		**21 05 28.5**	**+0.5**
NEST				AML	AML		21 05 29.8	
	comp=N,43519µm,0.2s							
NEST				AML	AML		21 05 30.0	
	comp=E,43076µm,0.3s							
PENT	**Pentalofos**	**0.20**	**147**	P	**Pg**		**21 05 28.3**	**0.0**
PENT				S	**Sg**		**21 05 32.6**	**+1.3**
PENT				AML	AML		21 05 33.1	
	comp=E,4575µm,0.3s							
PENT				AML	AML		21 05 35.0	
	comp=N,1766µm,0.4s							
KPRO	**Kipourio**	**0.50**	**145**	P	**Pg**		**21 05 33.5**	**-0.2**
KPRO				S	**Sg**		**21 05 40.3**	**0.0**
	comp=N,1µm,0.3s							
KPRO	**Kipourio**	**0.50**	**145**	P	**Pg**		**21 05 33.5**	**-0.2**
KPRO				S	**Sb**		**21 05 41.7**	**-0.5**
KPRO				AML	AML		21 05 45.4	
	comp=E,2473µm,0.4s							
KPRO				AML	AML		21 05 45.6	
	comp=N,2167µm,0.4s							
FNA	**Florina**	**0.51**	**35**	P	**Pg**		**21 05 33.2**	**-0.7**
FNA				S	**Sb**		**21 05 40.9**	**-1.6**
	comp=N,740nm,0.3s							
FNA	**Florina**	**0.51**	**35**	*i* Pg	**Pg**		**21 05 33.1**	**-0.8**
FNA				*i* Sg	**Sb**		**21 05 41.2**	**-1.3**
FNA	**Florina**	**0.51**	**35**	P	**Pg**		**21 05 33.0**	**-0.8**
FNA				S	**Sb**		**21 05 40.7**	**-1.8**
FNA				AML	AML		21 05 42.2	
	comp=E,3930µm,0.2s							
FNA				AML	AML		21 05 43.0	
	comp=N,3461µm,0.3s							
KZN	**Kozani**	**0.60**	**96**	P	**Pg**		**21 05 35.2**	**-0.4**
KZN				S	**Sg**		**21 05 44.0**	**+0.5**
	comp=N,672nm,0.2s							
KZN	**Kozani**	**0.60**	**96**	P	**Pg**		**21 05 35.0**	**-0.6**
KZN				S	**Sb**		**21 05 44.9**	**-0.1**
KZN				AML	AML		21 05 47.1	
	comp=E,2772µm,0.2s							
KZN				AML	AML		21 05 49.7	
	comp=N,1358µm,0.3s							
OHR	**Ohrid**	**0.76**	**349**	*i* Pg	**Pg**		**21 05 37.5**	**-1.0**
OHR				*i* Sg	**Sb**		**21 05 49.3**	**-0.3**
OHR				*e*Lg	Lg		21 05 49.5	
	comp=N,182nm,0.5s							
OHR				*e*Lg	Lg		21 05 51.3	
	comp=E,430nm,0.6s							
KTI	**Kastanea**	**0.86**	**88**	P	**Pg**		**21 05 40.0**	**-0.5**
IGT	**Igoumenitsa**	**0.97**	**211**	P	**Pg**		**21 05 42.0**	**-0.7**
IGT				S	**Sg**		**21 05 55.7**	**+0.3**
	comp=E,268nm,0.5s							
IGT	**Igoumenitsa**	**0.97**	**211**	*e*Pg	**Pb**		**21 05 42.9**	**0.0**
IGT				*i* Sg	**Sn**		**21 06 00.5**	**+3.0**
IGT	**Igoumenitsa**	**0.97**	**211**	P	**Pg**		**21 05 40.8**	**-1.9**
THL	**Klokotos Trika**	**1.12**	**135**	P	**Pg**		**21 05 44.1**	**-1.3**
THL	**Klokotos Trika**	**1.12**	**135**	P	**Pb**		**21 05 43.9**	**-1.5**
THL				AML	AML		21 06 06.7	
	comp=N,572µm,0.4s							
THL				AML	AML		21 06 07.3	
	comp=E,336µm,0.4s							
KEK	**Kerkira**	**1.12**	**235**	P	**Pb**		**21 05 44.4**	**-1.0**
KEK				S	**Sn**		**21 06 00.9**	**-0.3**
	comp=E,152nm,0.7s							
KEK	**Kerkira**	**1.12**	**235**	P	**Pb**		**21 05 44.2**	**-1.2**
KEK				AML	AML		21 06 08.7	
	comp=N,313µm,0.9s							
KEK				AML	AML		21 06 09.6	
	comp=E,299µm,0.5s							
GRG	**Griva**	**1.22**	**61**	P	**Pn**		**21 05 46.5**	**-0.6**
GRG	**Griva**	**1.22**	**61**	*i* Pg	**Pn**		**21 05 46.4**	**-0.6**
GRG				*i* Sg	**Sn**		**21 06 06.0**	**+2.3**
GRG	**Griva**	**1.22**	**61**	P	**Pn**		**21 05 46.3**	**-0.8**
TIR	**Tirane**	**1.30**	**319**	*i* Pg	**Pg**		**21 05 48.2**	**-0.7**
TIR				*i* Sg	**Sg**		**21 06 09.2**	**+3.4**
THE	**Thessaloniki**	**1.53**	**79**	*i* Pg	**Pn**		**21 05 51.0**	**-0.2**
THE				*i* Sg	**Sg**		**21 06 12.2**	**-0.9**
TSLK	**Tsoukalades, L**	**1.56**	**190**	P	**Pb**		**21 05 53.3**	**+0.5**
EVR	**Evrytania**	**1.58**	**156**	P	**Pn**		**21 05 51.4**	**-0.7**
STIP	**Stip**	**1.60**	**34**	*i* Pn	**Pg**		**21 05 56.2**	**+1.5**
STIP				*i* Sn	**Sg**		**21 06 22.4**	**+6.8**
STIP				*e*Lg	Lg		21 06 23.5	
	comp=N,8.5nm,0.3s							
STIP				*e*Lg	Lg		21 06 27.2	
	comp=E,16nm,0.6s							
MAKR	**Makrakomi, Fth**	**1.61**	**147**	P	**Pn**		**21 05 52.9**	**+0.4**
MAKR				AML	AML		21 06 23.5	
	comp=E,999µm,0.6s							
MAKR				AML	AML		21 06 28.3	
	comp=N,568µm,0.4s							
HORT	**Hortiatis**	**1.62**	**81**	P	**Pn**		**21 05 52.1**	**-0.6**
SKO	**Skopje**	**1.64**	**12**	*i* Pn	**Pb**		**21 05 52.8**	**-1.4**
SKO				*i* Sn	**Sg**		**21 06 16.1**	**-0.5**
SKO				*e*Lg	Lg		21 06 19.6	
	comp=N,6.5nm,0.5s							
SKO				*e*Lg	Lg		21 06 20.4	
	comp=E,6.8nm,0.7s							
KNT	**Kendrikon**	**1.65**	**61**	*i* Pn	**Pn**		**21 05 52.0**	**-0.9**
KNT	**Kendrikon**	**1.65**	**61**	P	**Pn**		**21 05 51.8**	**-1.1**
AGG	**Agios Georgios**	**1.69**	**142**	P	**Pn**		**21 05 54.1**	**+0.5**
AGG				S	**Sb**		**21 06 16.5**	**0.0**
	comp=E,42nm,0.4s							
AGG	**Agios Georgios**	**1.69**	**142**	P	**Pn**		**21 05 53.8**	**+0.3**
EVGI	**Lefkada island**	**1.76**	**189**	P	**Pb**		**21 05 55.6**	**-0.7**
PVO	**Paravola**	**1.80**	**167**	P	**Pb**		**21 05 56.4**	**-0.4**
ANX	**Ano Chora**	**1.91**	**158**	P	**Pb**		**21 05 57.9**	**-1.0**
EFP	**Efpalio**	**2.06**	**160**	P	**Pb**		**21 06 00.6**	**-0.8**
SERG	**Sergoula**	**2.12**	**157**	P	**Pn**		**21 06 00.1**	**+0.8**

IDC 28 21:07:16.0±28.0**, 0°.47S×67°.55E, h0**km**, mb3.7/3, mbtmp3.7/3, MS3.3/11, Error ellipse: s-maj=850.4km s-min=47.7km az=75.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PALK	**Pallekele**	**15.21**	**59**	LR	LR		21 15 46.3	
	comp=Z,72nm,19.0s,baz=40,slow=34							
WSAR	**Wadi Sarin**	**25.11**	**340**	LR	LR		21 20 55.3	
	comp=Z,51nm,18.1s,baz=138,slow=33							
CMAR	**Chiang Mai Arr**	**36.13**	**57**	LR	LR		21 27 17.6	
	comp=Z,35nm,19.8s,baz=230,slow=33							
MBAR	**Mbarara**	**36.81**	**270**	LR	LR		21 27 27.2	
	comp=Z,23nm,18.9s,baz=56,slow=33							
LEM	**Lembang**	**40.46**	**100**	LR	LR		21 30 52.2	
	comp=Z,170nm,18.1s,baz=192,slow=35							
EIL	**Elat**	**43.18**	**317**	LR	LR		21 30 58.8	
	comp=Z,36nm,18.9s,baz=149,slow=33							
AAK	**Ala-Archa**	**43.36**	**7**	LR	LR		21 33 42.7	
	comp=Z,57nm,18.8s,baz=64,slow=37							
LBTB	**Lobatse**	**47.30**	**236**	LR	LR		21 33 21.4	
	comp=Z,26nm,19.1s,baz=358,slow=33							
BOSA	**Boshof**	**49.14**	**231**	LR	LR		21 34 54.9	
	comp=Z,31nm,18.1s,baz=10,slow=34							
TSUM	**Tsumeb**	**52.37**	**246**	LR	LR		21 36 40.2	
	comp=Z,21nm,19.0s,baz=134,slow=34							
SUR	**Sutherland**	**54.25**	**229**	LR	LR		21 39 13.1	
	comp=Z,41nm,18.2s,baz=46,slow=35							
SONM	**Songino Array**	**58.76**	**30**	P	P		21 17 16.0	-0.1
	0.6nm,0.8s,baz=212,slow=5.1,SNR=3.5							
	0.6nm,0.8s							
WRA	**Warramunga Arr**	**68.07**	**111**	P	P		21 18 18.2	0.0
	0.7nm,0.7s,baz=288,slow=5.6,SNR=9.2							
	0.7nm,0.7s							
ASAR	**Alice Springs**	**68.23**	**115**	P	P		21 18 19.2	+0.1
	0.4nm,0.5s,baz=282,slow=6.0,SNR=6.6							
	0.4nm,0.5s							

---

*TRN **28** 21:08:46.2, 11°.70N×62°.00W, h102km, MD3.9*
*FUNV **28** 21:08:48.3, 11°.61N×61°.95W, h88km, MW3.7*
ISC 28 21:08:45.4±1.4**, 11°.69N**±0°.04×**62°.01W**±0°.05**, h106**km±13km**, n27, σ1°27/44, 1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GRGR	**Grenville**	**0.56**	**38**	*e*P	**Pn**		**21 09 02.5**	**+0.2**
GRGR				*e*S	**Sn**		**21 09 15.0**	**+0.1**
GCMP	**Grenada, Carri**	**0.98**	**36**	*i* P	**Pn**		**21 09 06.0**	**-0.1**
GCMP				*e*S	**Sn**		**21 09 21.2**	**-0.3**
TRN	**Trinidad (W)**	**1.20**	**150**

BO04	**La Punta**	**2.91**	**214**	Pn		**Pn**	**21 42 41.0**	**+1.5**
MT09	**Talagante**	**2.94**	**221**	Pn		**Pn**	**21 42 40.2**	**+0.3**
AC05	**El Transito**	**3.06**	**333**	Pn		**Pn**	**21 42 43.8**	**+2.3**
LCO	**Las Campanas**	**3.10**	**325**	Pn		**Pn**	**21 42 43.4**	**+1.2**
MT01	**Popeta**	**3.15**	**223**	Pn		**Pn**	**21 42 42.2**	**-0.5**
BO01	**Tunca**	**3.47**	**215**	Pn		**Pn**	**21 42 46.5**	**-0.3**
BO02	**Sierra Bellavi**	**3.67**	**208**	Pn		**Pn**	**21 42 50.5**	**+0.9**
GO03	**Copiap**	**4.19**	**341**	Pn		**Pn**	**21 42 57.3**	**+0.7**
AC06	**Mina Casimiro**	**4.45**	**340**	Pn		**Pn**	**21 43 00.6**	**+0.6**
AC02	**Maricunga**	**4.74**	**355**	Pn		**Pn**	**21 43 06.3**	**+1.9**
AC01	**Pan de Azucar**	**5.66**	**342**	Pn		**Pn**	**21 43 16.2**	**-0.2**
GO02	**Mina Guanaco**	**6.43**	**353**	Pn		**Pn**	**21 43 27.0**	**-0.2**
PB14	**IPOC Station P**	**7.08**	**347**	Pn		**Pn**	**21 43 34.5**	**-1.5**
PB15	**IPOC Station P**	**8.36**	**355**	Pn		**Pn**	**21 43 52.1**	**-1.2**
TRQA	**Tornquist**	**8.49**	**141**	Pn		**Pn**	**21 43 54.5**	**-0.2**
PB06	**IPOC Station P**	**8.87**	**355**	Pn		**Pn**	**21 43 58.7**	**-1.4**
LVC	**Limon Verde**	**8.93**	**359**	Pn		**Pn**	**21 43 59.0**	**-2.1**
PLCA	**Paso Flores**	**9.27**	**189**	P		**Pn**	**21 44 04.5**	**-0.8**
	0.5nm,0.5s,baz=18,slow=16,SNR=1.5							
PB09	**IPOC Station P**	**9.75**	**357**	Pn		**Pn**	**21 44 10.3**	**-1.7**
LL04	**Puerto Octay**	**9.79**	**197**	Pn		**Pn**	**21 44 09.9**	**-2.5**
PB07	**IPOC Station P**	**9.86**	**353**	Pn		**Pn**	**21 44 10.5**	**-3.1**
PB02	**IPOC Station P**	**10.27**	**354**	Pn		**Pn**	**21 44 16.5**	**-2.5**
PB01	**IPOC Station P**	**10.51**	**356**	Pn		**Pn**	**21 44 19.4**	**-2.9**
LPAZ	**La Paz**	**15.22**	**2**	P		**P**	**21 45 27.1**	**+0.3**
	3.2nm,0.6s,baz=195,slow=6.7,SNR=12							
LPAZ	**La Paz**	**15.22**	**2**			**P**	**21 45 27.1**	**+0.3**
LPAZ				IAmb		IAmb	21 45 27.9	
	comp=Z,3.7nm,0.6s							
SIV	**San Ignacio**	**16.99**	**26**	P		**Pn**	**21 45 46.9**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=222,slow=12,SNR=6.0							
MAW	**Mawson**	**74.67**	**163**	P		**P**	**21 53 23.2**	**+1.6**
	comp=Z,2.7nm,0.9s,baz=213,slow=4.6,SNR=3.8							
	comp=Z,2.7nm,0.9s							
ULM	**Lac du Bonnet**	**84.96**	**343**	LR		LR	22 36 42.2	
	comp=Z,150nm,18.9s,baz=281,slow=39							
WRA	**Warramunga Arr**	**124.22**	**206**	PKP		**PKiKP**	**22 00 41.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=161,slow=1.8,SNR=12							
ZALV	**Zalesovo Beam**	**150.66**	**33**	PKPbc		**PKiKP**	**22 01 34.9**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=306,slow=4.0,SNR=6.1							
MKAR	**Makanchi Array**	**153.04**	**47**	PKPbc		**PKiKP**	**22 01 39.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=345,slow=1.3,SNR=1.9							

NEIC ***28*** *21:42:30.9±2.8, 23.˙16S±0.˙10×175.˙0W±0.˙1, h10km±1km, mb5.0/33, Error ellipse: s-maj=18.3km s-min=15.2km az=51.0*

BJI ***28*** *21:42:31.9±0.0, 22.˙97S×174.˙82W, h13km, mb5.3/41, mB5.6/22, Ms5.2/4, Ms7 4.8/4*

IDC ***28*** *21:42:31.2±0.6, 23.˙41S×175.˙41W, h0km, mb4.6/18, mbtmp4.6/19, ML3.9/1, MS4.2/37, Error ellipse: s-maj=19.1km s-min=17.2km az=126.0*

GCMT ***28*** *21:42:34.9±0.3, 23.˙55S±0.˙04×174.˙83W±0.˙03, h20km, MW4.9/85, Moment Tensor Solution. s28,c31; s85,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.17±.19; $M_{\theta\theta}$-0.97±.12; $M_{\phi\phi}$-2.20±.12; $M_{r\theta}$1.00±.27; $M_{\theta\phi}$-0.66±.07; $M_{\phi r}$0.84±.22; Best double couple: M_o3.10100×10^{16} NP1:ϕ_s33.00000°, δ57.00000°, λ98.00000°. NP2: ϕ_s198.00000°, δ34.00000°, λ77.00000°. Principal axes: T 3.4800, Plg76.0000°, Azm329.0000°; N -0.7600, Plg7.0000°, Azm208.0000°; P -2.7220, Plg11.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***28*** *21:42:35.9±2.8, 23.˙86S×176.˙29W, h10km, mb5.1/16 Error ellipse: s-maj=16.4km s-min=11.3km az=42.4*

NOU ***28*** *21:42:37.8, 23.˙09S×174.˙56W, h69km, mb5.0/12, Tonga Islands Region*

ISC 28 21:42:34.3±0.3, 23.˙25S±0.˙06×174.˙99W±0.˙06, h30km, n245, σ2≥11/220, mb5.0/53, MS4.3/40, 50C-5D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**6.14**	**324**	P	Pn	21 44 07.4	+4.3
NIUE	**Niue**	**6.29**	**50**	Pn	**Pn**	**21 44 01.9**	**-3.2**
NIUE	**Niue**	**6.29**	**50**	P	**Pn**	**21 44 02.2**	**-2.9**
TAVE	**Taveuni**	**7.98**	**324**	P	Pn	21 44 33.5	+5.1
DGTI	**Dogotuki**	**8.51**	**323**	P	Pn	21 44 40.8	+5.2
MSVF	**Nonsavu**	**8.53**	**309**	Pn	Pn	21 44 39.7	+3.8
	4.3nm,0.3s,baz=137,slow=14,SNR=81						
MSVF	**Nonsavu**	**8.53**	**309**	Pn	**Pn**	**21 44 38.9**	**+3.0**
MSVF	**Nonsavu**	**8.53**	**309**	P	Pn	21 44 40.8	+4.9
MSVF	**Nonsavu**	**8.53**	**309**	*i* P	**Pn**	**21 44 39.3**	**+3.4**
AFI	**Afiamalu**	**9.77**	**19**	Pn	**Pn**	**21 44 49.7**	**-3.3**
	7.8nm,0.3s,baz=310,slow=8.9,SNR=9.3						
AFI				Sn	**Sn**	**21 46 38.4**	**-3.5**
	7.0nm,0.3s,baz=108,slow=22,SNR=5.2						
AFI	**Afiamalu**	**9.77**	**19**	Pn	**Pn**	**21 44 49.1**	**-3.9**
AFI	**Afiamalu**	**9.77**	**19**	P	**Pn**	**21 44 51.8**	**-1.2**
RAR	**Rarotonga**	**14.23**	**85**	Pn	**Pn**	**21 45 50.7**	**-3.3**
	4.9nm,0.3s,baz=232,slow=9.4,SNR=11						
RAR				LR	LR	21 50 39.6	
	comp=Z,1μm,20.0s,baz=286,slow=33						
RAR	**Rarotonga**	**14.23**	**85**	Pn	**Pn**	**21 45 50.8**	**-3.1**
RAR	**Rarotonga**	**14.23**	**85**	P	**Pn**	**21 45 51.1**	**-2.8**
FUNA	**Funafuti**	**15.67**	**338**	Pn	**Pn**	**21 46 08.4**	**-4.6**
FUNA				IAmb	IAmb	21 46 15.8	
	comp=Z,236nm,1.3s						
FUNA	**Funafuti**	**15.67**	**338**	P	**P**	**21 46 14.9**	**-2.0**
YATNC	**Mamie plateau,**	**16.77**	**271**	P	**P**	**21 46 32.9**	**+3.8**
OUENC	**Ouen Island, N**	**16.77**	**269**		**Pn**	**21 46 27.0**	**-0.1**
OUENC				IAmb	IAmb	21 46 47.6	
	comp=Z,131nm,1.4s						
DZM	**Mont Dzumac**	**17.18**	**270**	*e*Pn	**Pn**	**21 46 30.8**	**-1.6**
	comp=Z,134nm,1.9s						
DZM				*e*LR	LR	21 50 31.1	
	comp=Z,621nm,21.4s						
DZM	**Mont Dzumac**	**17.18**	**270**	Pn	**Pn**	**21 46 28.9**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=127,slow=20,SNR=1.5						
	comp=Z,2.6nm,0.5s						
DZM	**Mont Dzumac**	**17.18**	**270**		**Pn**	**21 46 31.0**	**-1.4**
BFZ	**Birch Farm**	**18.89**	**201**	P	**P**	**21 46 51.2**	**-1.1**
BFZ				IAmb	IAmb	21 46 58.5	
	comp=Z,78nm,0.9s						
TBI	**Tubuai**	**23.44**	**95**	*e*LR	LR	21 53 22.8	
	comp=Z,3μm,22.5s						
TBI				*e*LR	LR	21 53 22.9	
	comp=Z,20μm,21.8s						
PPT2	**Papeete2**	**24.45**	**81**	*e*LR	LR	21 53 51.0	
	comp=Z,835nm,21.5s						
PPT	**Papeete**	**24.46**	**81**	LR	LR	21 55 32.4	
	comp=Z,751nm,19.9s,baz=236,slow=31						
HNR	**Honiara**	**27.64**	**296**	LR	LR	21 59 16.9	
	comp=Z,3μm,19.1s,baz=150,slow=37						
ARMA	**Armidale**	**30.55**	**249**	P	**P**	**21 48 44.5**	**-1.1**
ARMA				IAmb	IAmb	21 48 45.6	
	comp=Z,22nm,1.4s						
EIDS	**Eidsvold**	**30.95**	**259**	P	**P**	**21 48 46.3**	**-2.6**
CTA	**Charters Tower**	**36.09**	**267**	LR	LR	22 03 31.9	
	comp=Z,275nm,18.4s,baz=92,slow=35						
CTAO	**Charters Tower**	**36.09**	**267**	P	**P**	**21 49 32.1**	**-1.6**
CTAO				IAmb	IAmb	21 49 34.4	
	comp=Z,19nm,0.7s						
CTAO	**Charters Tower**	**36.09**	**267**	P	**P**	**21 49 32.1**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,19nm,0.7s						
TAOE	**Nuku Hiva Isla**	**36.29**	**73**	*e*LR	LR	21 59 18.9	
	comp=Z,457nm,21.7s						
PMG	**Port Moresby**	**38.71**	**284**	P	**P**	**21 49 53.8**	**-2.2**
	comp=Z,36nm,0.8s,baz=106,slow=5.1,SNR=11						
PMG				LR	LR	22 03 55.3	
	comp=Z,180nm,19.2s,baz=120,slow=34						
	comp=Z,36nm,0.8s						
PMG	**Port Moresby**	**38.71**	**284**	P	**P**	**21 49 53.6**	**-2.4**
PMG				IAmb	IAmb	21 49 56.3	
	comp=Z,43nm,0.9s						
PMG	**Port Moresby**	**38.71**	**284**	*ce*P	**P**	**21 49 52.8**	**-3.2**
PMG				pmax	pmax		
	comp=Z,47nm,1.0s						
STKA	**Stephens Creek**	**39.23**	**248**	P	**P**	**21 49 56.6**	**-3.5**
	comp=Z,2.9nm,0.6s,baz=78,slow=10,SNR=8.6						
STKA				LR	LR	22 05 33.4	
	comp=Z,435nm,18.6s,baz=69,slow=36						
	comp=Z,2.9nm,0.6s						
STKA	**Stephens Creek**	**39.23**	**248**	P	**P**	**21 49 57.7**	**-2.4**
STKA	**Stephens Creek**	**39.23**	**248**	*i* P	**P**	**21 49 57.1**	**-3.0**
COEN	**Coen**	**40.59**	**276**	P	**P**	**21 50 09.0**	**-2.7**
BBOO	**Buckleboo**	**43.92**	**246**	P	**P**	**21 50 35.5**	**-3.2**
BBOO				IAmb	IAmb	21 50 36.7	
	comp=Z,11nm,0.8s						

AS31	**Alice Springs**	**46.67**	**259**	P		**P**	**21 50 58.7**	**-1.9**
ASAR	**Alice Springs**	**46.68**	**259**	P		**P**	**21 50 58.4**	**-2.2**
	comp=Z,7.8nm,0.9s,baz=91,slow=7.9,SNR=45							
ASAR				LR		LR	22 10 35.1	
	comp=Z,591nm,18.2s,baz=109,slow=36							
	comp=Z,7.8nm,0.9s							
ASAR	**Alice Springs**	**46.68**	**259**	P		**P**	**21 50 58.2**	**-2.4**
ASAR	**Alice Springs**	**46.68**	**259**	P		**P**	**21 50 58.2**	**-2.4**
WR0	**Warramunga Arr**	**46.86**	**264**	P		**P**	**21 50 58.9**	**-3.1**
WR0				IAmb		IAmb	21 51 01.3	
	comp=Z,9.0nm,0.9s							
WB2	**Warramunga Arr**	**47.03**	**264**	P		**P**	**21 51 00.9**	**-2.6**
WB2				IAmb		IAmb	21 51 02.8	
	comp=Z,17nm,0.9s							
WB0	**Warramunga Arr**	**47.04**	**264**	P		**P**	**21 51 00.3**	**-3.1**
WB0				IAmb		IAmb	21 51 03.2	
	comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**47.04**	**264**	P		**P**	**21 51 00.4**	**-3.0**
WRAB				IAmb		IAmb	21 51 02.8	
	comp=Z,19nm,0.9s							
WRAB	**Tennant Creek**	**47.04**	**264**	P		**P**	**21 51 00.4**	**-3.0**
WRAB				pmax		pmax		
	comp=Z,19nm,1.0s							
WRA	**Warramunga Arr**	**47.05**	**264**	P		**P**	**21 51 00.7**	**-2.8**
	comp=Z,13nm,0.9s,baz=100,slow=8.2,SNR=59							
WRA				LR		LR	22 10 43.6	
	comp=Z,522nm,18.2s,baz=94,slow=36							
	comp=Z,13nm,0.9s							
WRA	**Warramunga Arr**	**47.05**	**264**	P		**P**	**21 51 00.1**	**-3.4**
WRA	**Warramunga Arr**	**47.05**	**264**	P		**P**	**21 51 00.1**	**-3.4**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
FORT	**Forrest**	**50.84**	**249**	P		**P**	**21 51 29.7**	**-2.8**
KNRA	**Kununurra**	**53.30**	**267**	P		**P**	**21 51 48.6**	**-2.3**
GUMO	**Guam**	**53.70**	**309**	LR		LR	22 13 05.4	
	comp=Z,101nm,20.6s,baz=118,slow=34							
SBA	**Scott Base**	**55.35**	**185**	P		**P**	**21 52 03.1**	**-1.8**
SBA				IAmb		IAmb	21 52 27.5	
	comp=Z,22nm,1.6s							
SBA	**Scott Base**	**55.35**	**185**	P		**P**	**21 52 03.1**	**-1.8**
SBA				pmax		pmax		
	comp=Z,23nm,1.7s							
VNDA	**Vanda**	**55.46**	**186**	P		**P**	**21 52 07.0**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=3.8,slow=6.0,SNR=7.5							
VNDA				LR		LR	22 10 54.2	
	comp=Z,81nm,21.1s,baz=12,slow=31							
	comp=Z,1.8nm,0.9s							
VNDA	**Vanda**	**55.46**	**186**	P		**P**	**21 52 07.1**	**+1.3**
VNDA	**Vanda**	**55.46**	**186**	P		**P**	**21 52 07.1**	**+1.3**
VNDA				pmax		pmax		
	comp=Z,15nm,1.9s							
SIJI	**Sorong**	**56.65**	**285**	LR		LR	22 16 03.8	
	comp=Z,147nm,18.6s,baz=130,slow=36							
RPN	**Rapa Nui**	**58.94**	**109**	LR		LR	22 13 18.7	
	comp=Z,190nm,19.2s,baz=12,slow=31							
SOEI	**Soe**	**59.40**	**272**	P		**P**	**21 52 33.4**	**-1.2**
SOEI	**Soe**	**59.40**	**272**	P		**P**	**21 52 37.1**	**+2.5**
NWAO	**Narrogin (SRO)**	**59.68**	**244**	LR		LR	22 17 49.9	
	comp=Z,190nm,18.2s,baz=292,slow=36							
BATI	**Baumata**	**59.79**	**272**	LR		LR	22 18 04.2	
	comp=Z,365nm,19.7s,baz=106,slow=36							
BATI	**Bamata**	**59.79**	**272**	P		**P**	**21 52 38.5**	**+1.3**
MBWA	**Marble Bar**	**60.01**	**258**	P		**P**	**21 52 36.1**	**-2.5**
MBWA				IAmb		IAmb	21 52 37.3	
	comp=Z,12nm,0.9s							
LBMI	**Labuha**	**60.11**	**283**	P		**P**	**21 52 40.9**	**+1.5**
SANI	**Sanana**	**60.86**	**281**	P		**P**	**21 52 42.2**	**-2.3**
	comp=Z,13nm,1.0s							
GTOI	**Gorontalo**	**64.70**	**282**	P		**P**	**21 53 10.5**	**+0.4**
	comp=Z,8.3nm,1.0s							
JCJ	**Chichijima**	**64.94**	**318**	LR		LR	22 18 13.9	
	comp=Z,120nm,19.6s,baz=321,slow=33							
KAPI	**Kappang**	**65.32**	**275**	LR		LR	22 20 05.6	
	comp=Z,95nm,21.9s,baz=104,slow=35							
PLAI	**Plampang**	**65.70**	**271**	P		**P**	**21 53 16.5**	**-0.1**
QSPA	**South Pole Qui**	**66.83**	**180**	P		**P**	**21 53 24.1**	**+0.9**
	comp=Z,3.6nm,0.6s,baz=46,slow=4.0,SNR=10							
	comp=Z,3.6nm,0.6s							
TOLI2	**Tolitoli**	**66.91**	**282**	P		**P**	**21 53 21.9**	**-2.4**
TOLI2				IAmb		IAmb	21 53 23.9	
	comp=Z,13nm,0.9s							
MPSI	**Mapaga**	**67.37**	**281**	P		**P**	**21 53 23.5**	**-3.8**
MJAR	**Matsushiro Arr**	**74.08**	**322**	P		**P**	**21 54 08.4**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=158,slow=6.4,SNR=8.4							
MJAR				LR		LR	22 21 38.8	
	comp=Z,99nm,21.2s,baz=156,slow=32							
	comp=Z,3.5nm,0.8s							
MAJO	**Matsushiro**	**74.08**	**322**	*i* P		**P**	**21 54 06.4**	**-1.2**
MAJO				pmax		pmax		
	comp=Z,41nm,2.3s							
LEM	**Lembang**	**75.78**	**269**	LR		LR	22 27 53.3	
	comp=Z,163nm,18.9s,baz=154,slow=36							
JNU	**Nakatsue**	**76.19**	**316**	LR		LR	22 23 45.6	
	comp=Z,81nm,21.4s,baz=92,slow=32							
ASAJ	**Asahikawa**	**77.48**	**330**	LR		LR	22 22 52.3	
	comp=Z,136nm,21.7s,baz=134,slow=31							
LPIG	**La Paz**	**78.46**	**57**	LR		LR	22 23 45.3	
	comp=Z,264nm,18.9s,baz=226,slow=31							
YSS	**Yuzh-Sakhalins**	**79.61**	**332**	P		**P**	**21 54 38.3**	**-0.2**
YSS	**Yuzh-Sakhalins**	**79.61**	**332**	*e*P		**P**	**21 54 41.5**	**+3.0**
YSS				pmax		pmax		
	comp=Z,40nm,0.9s							
PEA0B	**Petropavlovsk-**	**79.66**	**344**	*i* P		**P**	**21 54 40.1**	**+1.5**
PETK	**Petropavlovsk-**	**79.66**	**344**	P		**P**	**21 54 40.5**	**+1.9**
	comp=Z,16nm,0.8s,baz=160,slow=9.1,SNR=16							
PETK				LR		LR	22 23 45.9	
	comp=Z,168nm,21.1s,baz=132,slow=31							
	comp=Z,16nm,0.8s							
PETK	**Petropavlovsk-**	**79.66**	**344**	P		**P**	**21 54 36.2**	**-2.4**
PETK	**Petropavlovsk-**	**79.66**	**344**	P		**P**	**21 54 36.2**	**-2.4**
MAW	**Mawson**	**79.92**	**199**	P		**P**	**21 54 39.9**	**0.0**
	comp=Z,5.4nm,0.9s,baz=120,slow=8.6,SNR=7.8							
MAW				LR		LR	22 29 24.5	
	comp=Z,220nm,18.9s,baz=112,slow=35							
	comp=Z,5.4nm,0.9s							
MAW	**Mawson**	**79.92**	**199**	P		**P**	**21 54 40.0**	**0.0**
MAW	**Mawson**	**79.92**	**199**	P		**P**	**21 54 40.0**	**0.0**
MAW				pmax		pmax		
	comp=Z,2.0nm,1.0s							
YBH	**Yreka Blue Hor**	**80.74**	**37**	LR		LR	22 22 54.1	
	comp=Z,283nm,20.6s,baz=340,slow=30							
KSRS	**Korea Array**	**80.79**	**317**	P		**P**	**21 54 47.0**	**+1.9**
	comp=Z,5.8nm,0.9s,baz=144,slow=7.1,SNR=12							
KSRS				LR		LR	22 26 31.8	
	comp=Z,61nm,20.6s,baz=130,slow=33							
	comp=Z,5.8nm,0.9s							
KSAR	**Wonju Array Be**	**80.81**	**317**	P		**P**	**21 54 45.8**	**+0.6**
KSAR	**Wonju Array Be**	**80.81**	**317**	P		**P**	**21 54 45.8**	**+0.6**
NVAR	**Mina Array Bea**	**81.15**	**42**	P		**P**	**21 54 51.4**	**+4.1**
	comp=Z,2.3nm,0.7s,baz=226,slow=8.7,SNR=8.8							
	comp=Z,2.3nm,0.7s							
TYV	**Tymovskoe**	**82.70**	**335**	*e*P		P	21 55 00.7	+5.9
TYV				*e*S		**S**	**22 05 17.0**	**+6.7**
TYV				pmax		pmax		
	comp=Z,13nm,1.2s							
TYV				pmax		pmax		
	comp=Z,400nm,3.6s							
TYV				smax		smax		
	comp=N,400nm,3.9s							
TYV				smax		smax		
	comp=E,500nm,3.9s							
USA0B	**Ussuriysk Arra**	**82.81**	**325**	P		**P**	**21 54 55.4**	**-0.1**
USA0B	**Ussuriysk Arra**	**82.81**	**325**	*i* P		**P**	**21 54 58.2**	**+2.6**
USRK	**Ussuriysk Ar.**	**82.81**	**325**	P		**P**	**21 54 58.3**	**+2.7**
	comp=E,25nm,0.9s,baz=126,slow=3.4,SNR=14							
	comp=E,25nm,0.9s							
USRK	**Ussuriysk Ar.**	**82.81**	**325**	P		**P**	**21 54 56.4**	**+0.8**
USRK	**Ussuriysk Ar.**	**82.81**	**325**	P		**P**	**21 54 56.4**	**+0.8**
MDJ	**Mudanjiang**	**84.37**	**324**	P		**P**	**21 55 05.8**	**+2.2**
MDJ				pmax		pmax		
	comp=E,37nm,2.4s							
MDJ				pmax		pmax		
	comp=E,270nm,6.0s							
TROLL	**Troll, Antarti**	**84.98**	**179**	P		**P**	**21 55 07.7**	**+1.1**
SNAA	**Sanae**	**85.18**	**178**	P		**P**	**21 55 08.2**	**+0.7**
SNAA	**Sanae**	**85.18**	**178**	LR		LR	22 28 37.5	
	comp=E,238nm,20.6s,baz=190,slow=32							
SNAA	**Sanae**	**85.18**	**178**	P		**P**	**21 55 07.5**	**0.0**
SNAA				IAmb		IAmb	21 55 25.8	
	comp=Z,11nm,1.4s							
SNAA	**Sanae**	**85.18**	**178**	*ce*P		**P**	**21 55 06.6**	**-0.9**
SNAA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
VNA3	**Neumayer Olymp**	**85.21**	**175**	P		**P**	**21 55 08.2**	**+0.6**
PLCA	**Paso Flores**	**85.36**	**132**	P		**P**	**21 55 11.4**	**+2.4**
	comp=Z,3.2nm,1.1s,baz=277,slow=11,SNR=2.8							

PLCA				LR		LR	22 26 25.2	
	comp=Z,103nm,18.9s,baz=235,slow=31							
	comp=Z,3.2nm,1.1s							
VNA2	**Neumayer--Watz**	**85.68**	**176**	P		**P**	**21 55 11.0**	**+1.1**
	baz=160,slow=5.0							
VNA1	**Neumayer--Stat**	**85.89**	**176**	P		**P**	**21 55 11.6**	**+0.7**
TXAR	**Lajitas Array**	**86.22**	**56**	P		**P**	**21 55 16.7**	**+3.3**
	comp=Z,1.1nm,0.9s,baz=213,slow=9.0,SNR=7.4							
TXAR				LR		LR	22 28 11.3	
	comp=Z,171nm,18.7s,baz=302,slow=32							
	comp=Z,1.1nm,0.9s							
IPM	**Ipoh**	**86.24**	**276**	P		**P**	**21 55 12.5**	**-1.3**
BNX	**BinXian**	**86.28**	**324**	⇓P		**P**	**21 55 15.3**	**+2.2**
BNX				pmax		pmax		
	comp=Z,33nm,1.1s							
BNX				pmax		pmax		
	comp=Z,250nm,6.0s							
KLR	**Kul'dur**	**86.32**	**328**	LR		LR	22 28 12.6	
	comp=Z,179nm,21.1s,baz=149,slow=32							
KLR	**Kul'dur**	**86.32**	**328**	*ce*P		**P**	**21 55 15.2**	**+2.0**
KLR				pmax		pmax		
	comp=Z,10.0nm,1.7s							
ANMO	**Albuquerque**	**86.98**	**50**	*ce*P		**P**	**21 55 20.4**	**+3.3**
ANMO				pmax		pmax		
	comp=Z,13nm,2.5s							
TIA	**Tai'an**	**87.19**	**311**	⇑P		**P**	**21 55 19.5**	**+1.7**
TIA				pmax		pmax		
	comp=Z,30nm,1.1s							
MA2	**Magadan**	**87.19**	**343**	LR		LR	22 28 12.6	
	comp=Z,120nm,21.9s,baz=134,slow=31							
RPSI	**Rantau Prapat**	**87.46**	**274**	P		**P**	**21 55 19.6**	**0.0**
PSI	**Prapat**	**87.50**	**274**	P		**P**	**21 55 19.6**	**-0.4**
PSI				pmax		pmax		
	comp=Z,26nm,0.9s							
CMIG	**Matias Romero**	**87.91**	**71**	LR		LR	22 25 24.2	
	comp=Z,161nm,21.5s,baz=202,slow=29							
PDAR	**Pinedale Array**	**89.08**	**42**	P		**P**	**21 55 29.2**	**+2.3**
	comp=Z,1.1nm,0.9s,baz=204,slow=3.3,SNR=7.1							
	comp=Z,1.1nm,0.9s							
HEH	**HeiHe**	**89.12**	**327**	*e*P		**P**	**21 55 28.8**	**+2.2**
HEH				pmax		pmax		
	comp=Z,8.0nm,1.2s							
HEH				pmax		pmax		
	comp=Z,210nm,4.4s							
HNS	**HongShan**	**89.46**	**311**	⇑P		**P**	**21 55 30.8**	**+2.3**
HNS				pmax		pmax		
	comp=Z,20nm,0.7s							
LYN	**LuoYang**	**89.65**	**308**	⇓*i*P		**P**	**21 55 32.3**	**+2.8**
LYN				pmax		pmax		
	comp=Z,20nm,1.2s							
SEY	**Seymchan**	**89.69**	**346**	*ce*P		**P**	**21 55 30.8**	**+1.8**
SEY				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BJI	**Beijing**	**89.81**	**314**	P		**P**	**21 55 32.5**	**+2.5**
BJI				pmax		pmax		
	comp=Z,8.0nm,0.7s							
WRH	**Wood River Hil**	**89.90**	**11**	P		**P**	**21 55 28.2**	**-1.8**
WRH				IAmb		IAmb	21 55 52.3	
	comp=Z,28nm,1.6s							
ILAR	**Eielson Array**	**90.39**	**12**	P		**P**	**21 55 34.3**	**+2.1**
	comp=Z,2.7nm,1.1s,baz=206,slow=4.6,SNR=8.3							
	comp=Z,2.7nm,1.1s							
CFA	**Coronel Fontan**	**91.23**	**125**	LR		LR	22 29 11.7	
	comp=Z,165nm,19.1s,baz=290,slow=31							
ZEA	**Zeya**	**91.39**	**330**	*e*P		**P**	**21 55 40.0**	**+2.9**
XLT	**XiLinHaoTe**	**91.85**	**318**	*e*P		**P**	**21 55 39.3**	**-0.3**
XLT				pP		pP	21 55 43.8	-3.4
XLT				sP		sP	21 55 46.5	-3.5
XLT				pmax		pmax		
	comp=Z,13nm,1.1s							
XLT				pmax		pmax		
	comp=Z,160nm,4.1s							
XAN	**Xi'an**	**92.01**	**306**	⇓*i*P		**P**	**21 55 43.0**	**+2.4**
XAN				pP		sP	21 55 51.5	+0.6
XAN				pmax		pmax		
	comp=Z,42nm,1.0s							
BILL	**Bilibino**	**92.07**	**353**	*e*P		**P

AKBB	Malin Array Si	146.76 332		PKPdf	PKPdf	22 02 10.1	-1.4	
AKBB	Malin Array Si	146.76 332	*c i*	PKHKP	PKPpre	22 02 14.3		
SIM	Simferopol'	147.89 319	*i*	PKIKP	PKPab	22 02 18.3	-0.8	
SIM	comp=Z,32nm,0.7s			pmax	pmax			
SORM	Soroca	149.00 329	⇑	P	PKiKP	22 02 20.7	+0.1	
SORM	Soroca	149.00 329	⇑	PKIKP	PKiKP	22 02 20.7	+0.1	
PURM	Purcari	149.33 325	⇑	P	PKiKP	22 02 21.5	+0.2	
BNN	Bunyan	149.53 308		PKPbc	PKPbc	22 02 18.7	-2.4	
LVV	L'vov	149.57 335	*e*	PKHKP	PKPpre	22 02 22.1		
OJC	Ojcow	150.70 340		PKPbc	PKPbc	22 02 20.9	-2.5	
OJC	Ojcow	150.70 340		PKIKP	PKPbc	22 02 20.9	-2.5	
VLDR	Vladesti	150.71 326	⇑	P	PKiKP	22 02 26.1	+1.9	
BR131	Keskin Array S	150.75 311		PKPbc	PKPbc	22 02 21.5	-2.5	
BR131	Keskin Array S	150.75 311		PKIKP	PKPbc	22 02 21.5	-2.5	
BRTR	Keskin Array B	150.75 311		PKPbc	PKiKP	22 02 24.6	0.0	
	comp=Z,5.9nm,0.8s,baz=120,slow=2.3,SNR=24							
BRTR	Keskin Array B	150.75 311		PKPbc	PKPbc	22 02 23.1	-0.9	
BRTR	Keskin Array B	150.75 311		PKIKP	PKPbc	22 02 23.1	-0.9	
BUR08	Bucovina Ar. S	150.80 331		PKPdf	PKPdf	22 02 17.5	-0.7	
BURAR	Bucovina Array	150.81 331	⇑	P	PKiKP	22 02 25.9	+1.4	
BURAR	Bucovina Array	150.81 331	⇑	PKIKP	PKiKP	22 02 25.9	+1.4	
GHRR		150.91 327	⇑	P	PKiKP	22 02 26.5	+1.9	
STHS	Stebnicka Huta	150.92 338	*e*		PKiKP	22 02 25.6	+1.0	
STHS	Stebnicka Huta	150.92 338	*e*	PKIKP	PKiKP	22 02 25.6	+1.0	
KOLS	Kolonicke sedl	150.96 336	*e*		PKiKP	22 02 26.7	+2.0	
TESR	Tescani	150.96 328	⇑	P	PKiKP	22 02 25.8	+1.0	
CFR	Carcaliu	151.13 325	⇑	P	PKiKP	22 02 23.4	-1.1	
CFR	Carcaliu	151.13 325	⇑	PKIKP	PKiKP	22 02 23.4	-1.1	
TPGR	Topolog	151.19 324	⇑	P	PKiKP	22 02 34.8	+2.2	
UZH	Uzhgorod	151.20 336	⇑	PKIKP	PKiKP	22 02 26.6	+1.5	
UZH			*i*			22 02 30.5		
UZH			*i*			22 02 35.0		
ANTO	Ankara	151.27 312	⇑	P	PKiKP	22 02 27.0	+1.3	
ANTO	Ankara	151.27 312	⇑	PKIKP	PKiKP	22 02 27.0	+1.3	
CRVS	Cervenica-Dubn	151.28 337	*e*		PKiKP	22 02 26.6	+1.3	
CRVS	Cervenica-Dubn	151.28 337	*e*	PKIKP	PKiKP	22 02 26.6	+1.3	
CLL	Collm	151.31 350		PKPbc	PKiKP	22 02 25.1	-0.2	
CLL	Collm	151.31 350	⇑	iPKPbc	PKiKP	22 02 26.4	+1.1	
	comp=Z,15nm,1.1s							
CLL			*i*	PKPab	PKPab	22 02 31.7	-1.1	
CLL			*i*	x	x	22 02 39.1		
CLL			*i*	x	x	22 02 48.9		
CLL	Collm	151.31 350	⇑	iPKIKP	PKiKP	22 02 26.4	+1.1	
CLL			*i*			22 02 39.1		
CLL				pmax	pmax			
	comp=Z,15nm,1.1s							
OSTC	Ostas	151.38 345	⇑	*e*PKP	PKiKP	22 02 27.5	+2.0	
OSTC				*e*PKPAB	pPKPab	22 02 40.1	-0.8	
VRI	Vrincioaia	151.38 327	⇑	P	PKiKP	22 02 26.7	+1.1	
VRI	Vrincioaia	151.38 327	⇑	PKIKP	PKiKP	22 02 26.7	+1.1	
PLOR	Plostina	151.43 327	⇑	P	PKiKP	22 02 26.3	+0.5	
PLOR	Plostina	151.43 327	⇑	PKIKP	PKiKP	22 02 26.3	+0.5	
TRPA	Tarpa	151.52 335	⇑	P	PKiKP	22 02 25.4	-0.3	
DPC	Dobruska-Polom	151.54 345	⇑	*e*PKP	PKiKP	22 02 27.9	+2.0	
DPC				*e*PKPAB	pPKPab	22 02 40.3	-1.3	
DPC	Dobruska-Polom	151.54 345		*e*PKIKP	PKiKP	22 02 27.9	+2.0	
DPC				*e*		22 02 40.3		
BRG	Berggiesshubel	151.56 348	*i*	PKP	PKiKP	22 02 27.2	+1.4	
BRG	Berggiesshubel	151.56 348	*i*	PKIKP	PKiKP	22 02 27.2	+1.4	
BRG			*e*			22 02 32.9		
BRG			*e*			22 02 39.8		
BRG				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BRG				pmax	pmax			
	comp=Z,10.0nm,1.3s							
HARR	Harsova	151.56 324	⇑	P	PKPbc	22 02 24.6	-1.0	
HARR	Harsova	151.56 324	⇑	PKIKP	PKPbc	22 02 24.6	-1.0	
KRLC	Kraliky	151.68 344	⇑	*e*PKP	PKiKP	22 02 27.9	+1.7	
KRLC				*e*PKPAB	pPKPab	22 02 40.2	-2.0	
KRLC	Kraliky	151.68 344		*e*PKIKP	PKiKP	22 02 27.9	+1.7	
KRLC				*e*		22 02 40.2		
MORC	Moravsky Berou	151.75 343	⇑	P	PKiKP	22 02 28.1	+1.8	
MORC	Moravsky Berou	151.75 343		PKPbc	PKPbc	22 02 24.9	-1.1	
MORC	Moravsky Berou	151.75 343		*e*PKP	PKiKP	22 02 27.7	+1.4	
MORC	Moravsky Berou	151.75 343	⇑	PKIKP	PKiKP	22 02 28.1	+1.8	
DOPR	Dopca	151.96 329	⇑	P	PKiKP	22 02 28.5	+1.7	
MLR	Muntele Rosu	152.04 328	⇑	P	PKiKP	22 02 28.2	+1.1	
MLR	Muntele Rosu	152.04 328	⇑	PKIKP	PKiKP	22 02 28.2	+1.1	
MAUC	Maruska	152.04 342	⇑	*e*PKP	PKiKP	22 02 29.2	+2.3	
MAUC				*e*PKPAB	pPKPab	22 02 41.8	-1.9	
PRU	Pruhonice	152.28 347	⇑	*e*PKP	PKiKP	22 02 29.5	+2.2	
PRU				*e*PKPAB	pPKPab	22 02 41.2	-3.5	
PRU	Pruhonice	152.28 347		*e*PKIKP	PKiKP	22 02 29.5	+2.2	
PRU				*e*		22 02 41.2		
VRAC	Vranov	152.43 344		*e*PKP	PKiKP	22 02 29.4	+1.7	
VYHS	Vyhne	152.52 340		*e*	PKPab	22 02 40.7	+2.7	
PSZ	Piszkesteto	152.67 338	⇑	P	PKPab	22 02 41.3	+2.6	
PSZ	Piszkesteto	152.67 338	⇑	PKIKP	PKPab	22 02 41.3	+2.6	
KRUC	Moravsky	152.71 344		*e*PKP	PKiKP	22 02 30.4	+2.2	
ARR	Arges	152.76 329	⇑	P	PKiKP	22 02 30.7	+2.2	
BORA	Eskisehir	152.85 314		PKPbc	PKiKP	22 02 28.6	-0.3	
KHC	Kasperske Hory	153.30 347		*e*PKPDF	PKPdf	22 02 22.0	+0.1	
KHC			⇑	*e*PKP	sPKPdf	22 02 31.8	-0.1	
KHC				*e*PKPAB	pPKPab	22 02 44.3	+3.0	
KHC	Kasperske Hory	153.30 347		*e*PKIKP	PKPdf	22 02 22.0	+0.1	
KHC				*e*		22 02 31.8		
KHC				*e*		22 02 44.3		
SIRR	Siria	153.38 334	⇑	P	PKPdf	22 02 20.4	-1.6	
GERES	GERESS Array B	153.54 347		PKPbc	PKiKP	22 02 30.6	+0.5	
	comp=Z,1.4nm,0.9s,baz=238,slow=2.5,SNR=5.2							
BZS	Buzias	153.92 333	⇑	P	PKiKP	22 02 32.2	+1.3	
BZS	Buzias	153.92 333	⇑	PKIKP	PKiKP	22 02 32.2	+1.3	

IDC ***28*** *22:14:21.1±0.7,27.48N×140.19E,h450km±10km,mb3.2/8, mbtmp4.1/10,Error ellipse: s-maj=30.7km s-min=18.5km az=66.0*

ISC 28 22:14:21.1±0.8,27.5N±0.1°×140.2E±0.1°,h450km,n13, σ0.86/14,mb3.5/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.81**	**103**	P		**P**	**P**	**22 15 21.5**	**+0.8**
	102nm,0.5s,baz=134,slow=23,SNR=23								
JCJ				S			**S**	**22 16 08.8**	**0.0**
	102nm,0.3s,baz=276,slow=22,SNR=7.1								
JOW	**Kunigami**	**10.64**	**269**	P		**P**	**P**	**22 16 46.1**	**+0.8**
	16nm,0.5s,baz=61,slow=19,SNR=6.1								
USRK	**Ussuriysk Ar.**	**17.92**	**340**	P		**P**	**P**	**22 18 04.6**	**+1.7**
	4.3nm,0.8s,baz=184,slow=15,SNR=5.9								
KLR	**Kul'dur**	**22.65**	**346**	P		**P**	**P**	**22 18 47.0**	**+0.7**
	0.7nm,0.4s,baz=174,slow=10,SNR=6.0								
	0.7nm,0.4s								
WRA	**Warramunga Arr**	**47.51**	**187**	P		**P**	**P**	**22 22 13.8**	**-0.5**
	0.2nm,0.5s,baz=4.3,slow=7.3,SNR=2.3								
	0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**48.02**	**319**	P		**P**	**P**	**22 22 16.8**	**-0.9**
	0.7nm,0.5s,baz=101,slow=12,SNR=2.7								
	0.7nm,0.5s								
MKAR	**Makanchi Array**	**48.85**	**309**	P		**P**	**P**	**22 22 23.9**	**-0.2**
	0.4nm,0.7s,baz=87,slow=11,SNR=5.7								
	0.4nm,0.7s								
ARCES	**ARCESS Array B**	**72.57**	**340**	P		**P**	**P**	**22 25 00.6**	**-0.4**
	17nm,1.4s,baz=50,slow=8.0,SNR=5.4								
	17nm,1.4s								
FINES	**FINESS Array B**	**76.80**	**333**	P		**P**	**P**	**22 25 24.7**	**-0.3**
	2.3nm,0.3s,baz=65,slow=5.1,SNR=37								
	2.3nm,0.3s								
AKASG	**Malin Array Be**	**81.24**	**323**	P		**P**	**P**	**22 25 48.1**	**-0.8**
	0.4nm,0.3s,baz=52,slow=5.4,SNR=4.1								
	0.4nm,0.3s								
NB2	**NORSAR Subarra**	**82.57**	**338**	P		**P**	**P**	**22 25 54.8**	**-0.8**
	comp=Z,6.7nm,1.1s,baz=46,slow=5.1								
NOA	**NORSAR Array B**	**82.57**	**338**	P		**P**	**P**	**22 25 55.0**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=44,slow=5.2,SNR=2.7								
	comp=Z,1.1nm,0.7s								
PLCA	**Paso Flores**	**151.48**	**126**	PKPbc		**PKiKP**	**PKiKP**	**22 33 24.4**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=254,slow=3.5,SNR=4.6								

IDC 28 22:17:03.9±6.2,30.34S×178.10W,h67km±40km,mb3.5/3, mbtmp3.7/3,Error ellipse: s-maj=95.9km s-min=35.9km az=137.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC

RAO	Raoul Island	1.09	9	P		Pn		22 17 23.0 -0.3
	208nm,0.3s,baz=96,slow=23,SNR=1.6							
RAO					S		Sn	22 17 38.1 +0.2
	630nm,0.3s,baz=152,slow=23,SNR=4.2							
STKA	Stephens Creek	34.41	257	P		P		22 23 45.0 +0.2
	2.0nm,0.7s,baz=104,slow=9.4,SNR=6.3							
	2.0nm,0.7s							
ASAR	Alice Springs	43.02	267	P		P		22 24 57.0 0.0
	0.3nm,0.4s,baz=116,slow=7.3,SNR=1.9							
	0.3nm,0.4s							
WRA	Warramunga Arr	44.01	272	P		P		22 25 04.6 -0.4
	0.6nm,0.5s,baz=113,slow=7.6,SNR=8.2							
	0.6nm,0.5s							
FINES	FINESS Array B	145.05	340	PKPbc		PKPbc		22 36 31.6 -0.8
	3.1nm,0.9s,baz=52,slow=3.1,SNR=9.3							

WEL 28 22:18:34.5±0.4,42.5°S±3°×17.3°E±°,h5km±2km,M3.7/37, ML4.0/13,MLv3.7/37,Error ellipse: s-maj=0.0km s-min=0.0km az=137.3,South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.07**	**56**	P		P	Pg	22 18 36.2	+0.2
KHZ				S			Sg	22 18 38.0	+0.8
GVZ	**Greta Valley S**	**0.60**	**211**	P			Pb	22 18 47.0	-0.5
GVZ				S			Sb	22 18 56.3	0.0
BSWZ	**Blackbirch Sta**	**0.80**	**23**	P			Pg	22 18 49.7	-0.1
BSWZ				S			Sb	22 19 01.8	-0.2
THZ	**Tophouse**	**0.81**	**329**	P			Pg	22 18 50.2	+0.2
CMWZ	**Cape Campbell**	**0.90**	**39**	P			Pg	22 18 52.1	+0.4
AMCZ	**Amberley**	**0.94**	**219**	P			Pg	22 18 52.2	-0.3
LTZ	**Lake Taylor**	**0.94**	**249**	P			Pg	22 18 52.5	0.0
TUWZ	**Tuamarina**	**1.08**	**19**	P			Pg	22 18 54.8	-0.5
MRNZ	**Matariki Terra**	**1.18**	**333**	P			Pg	22 18 56.9	-0.1
NNZ	**Nelson**	**1.24**	**357**	P			Pg	22 18 57.5	-0.7
OKCZ	**Okains Bay**	**1.30**	**193**	P			Pn	22 18 56.7	-2.7
OXZ	**Oxford**	**1.36**	**230**	P			Pn	22 18 57.7	-2.5
MQZ	**McQueen's Vall**	**1.38**	**205**	P			Pn	22 18 57.2	-3.3
TCW	**Tory Channel**	**1.38**	**26**	P			Pn	22 18 58.3	-2.1
DSZ	**Denniston Nort**	**1.42**	**299**	P			Pn	22 19 00.4	-0.7
TKNZ	**Takaka Hill**	**1.47**	**345**	P			Pn	22 19 01.3	-0.4
AKCZ	**Akaroa Harbour**	**1.47**	**196**	P			Pn	22 18 58.8	-3.0
INZ	**Inchbonnie**	**1.51**	**259**	P			Pn	22 19 01.8	-0.4
WEL	**Wellington**	**1.52**	**40**	P			Pn	22 18 59.9	-2.5
RACZ	**Rakaia**	**1.60**	**217**	P			Pn	22 19 00.6	-2.8
PLWZ	**Palliser**	**1.60**	**57**	P			Pn	22 19 00.2	-3.3
DUWZ	**D'Urville Isla**	**1.69**	**12**	P			Pn	22 19 03.8	-0.9
MSWZ	**Moikau Station**	**1.69**	**53**	P			Pn	22 19 01.5	-3.2
MHCZ	**Mount Hutt**	**1.76**	**232**	P			Pn	22 19 03.1	-2.6
QRZ	**Quartz Range**	**1.77**	**336**	P			Pn	22 19 05.8	0.0
PAWZ	**Paruwai Farm**	**1.82**	**54**	P			Pn	22 19 03.0	-3.5
WACZ	**Wakanui South**	**1.90**	**218**	P			Pn	22 19 04.9	-2.7
KIW	**Kapiti Island**	**1.93**	**35**	P			Pn	22 19 05.8	-2.1
TRWZ	**Traveller**	**1.97**	**58**	P			Pn	22 19 04.8	-3.7
OGWZ	**Otaki Gorge**	**2.08**	**39**	P			Pn	22 19 07.4	-2.6
WVZ	**Waitaha Valley**	**2.10**	**252**	P			Pn	22 19 09.2	-1.1
RPZ	**Rata Peaks**	**2.17**	**234**	P			Pn	22 19 08.9	-2.3
HOWZ	**Holdsworth Sta**	**2.19**	**45**	P			Pn	22 19 08.4	-3.1
ARCZ	**Arundel**	**2.24**	**227**	P			Pn	22 19 09.5	-2.8
TMWZ	**Te Maipa**	**2.26**	**54**	P			Pn	22 19 08.8	-3.8
MRZ	**Mangatainoka R**	**2.40**	**42**	P			Pn	22 19 11.2	-3.2
GCSZ	**Gaunt Creek Bo**	**2.46**	**248**	P			Pn	22 19 14.5	-0.8
TMZ	**Timaru**	**2.63**	**222**	P			Pn	22 19 15.0	-2.7
FOZ	**Fox Glacier**	**2.88**	**247**	P			Pn	22 19 20.8	-0.2
TSZ	**Takapari Road**	**3.05**	**39**	P			Pn	22 19 19.9	-3.4
LBZ	**Lake Benmore**	**3.07**	**230**	P			Pn	22 19 21.4	-2.3
KHEZ	**Kahui Hut**	**3.19**	**8**	P			Pn	22 19 26.4	+1.1
PKE	**Pukeiti**	**3.28**	**7**	P			Pn	22 19 28.2	+1.6
ODZ	**Otahua Downs**	**3.30**	**217**	P			Pn	22 19 23.8	-3.0
PKVZ	**Pokaka**	**3.47**	**25**	P			Pn	22 19 28.3	-1.0
MOVZ	**Moawhango**	**3.50**	**30**	P			Pn	22 19 27.8	-2.0
WNVZ	**Wahianoa**	**3.52**	**28**	P			Pn	22 19 30.1	+0.1
WHVZ	**Whangaehu Hut**	**3.56**	**28**	P			Pn	22 19 29.7	-0.8
FWVZ	**Far West T-bar**	**3.57**	**27**	P			Pn	22 19 29.2	-1.5
NGZ	**Ngauruhoe**	**3.66**	**27**	P			Pn	22 19 30.5	-1.4
SNVZ	**South Ngauruho**	**3.66**	**28**	P			Pn	22 19 32.3	+0.3
OTVZ	**Oturere**	**3.69**	**28**	P			Pn	22 19 30.9	-1.4
NNVZ	**North Ngauruho**	**3.70**	**27**	P			Pn	22 19 31.3	-1.1
WTVZ	**West Tongariro**	**3.71**	**27**	P			Pn	22 19 34.7	+2.2
ETVZ	**East Tongariro**	**3.73**	**28**	P			Pn	22 19 31.1	-1.7
TMVZ	**Te Maari**	**3.75**	**28**	P			Pn	22 19 32.7	-0.3
JCZ	**Jackson Bay**	**3.78**	**243**	P			Pn	22 19 32.1	-1.4
HHSZ	**Highcliff Hill**	**4.00**	**210**	P			Pn	22 19 33.3	-3.1
WKZ	**Wanaka**	**4.00**	**232**	P			Pn	22 19 33.7	-2.9
BKZ	**Black Stump Fm**	**4.01**	**36**	P			Pn	22 19 38.1	+1.4
HIZ	**Hauiti**	**4.08**	**16**	P			Pn	22 19 37.8	+0.3
TLZ	**Tolley Road**	**4.42**	**22**	P			Pn	22 19 44.3	+2.1
TUZ	**Tuapeka**	**4.45**	**217**	P			Pn	22 19 39.9	-2.7
MLZ	**Mavora Lakes**	**4.83**	**231**	P			Pn	22 19 45.6	-2.4
TOZ	**Tahuroa Road**	**4.97**	**19**	P			Pn	22 19 48.3	-1.5
URZ	**Urewera**	**5.03**	**35**	P			Pn	22 19 49.7	-1.0
SYZ	**Scrubby Hill**	**5.12**	**216**	P			Pn	22 19 49.5	-2.3
AWAZ	**Awhitu Peninsu**	**5.46**	**10**	P			Pn	22 19 56.2	-0.3
MKAZ	**Moumakai**	**5.50**	**14**	P			Pn	22 19 55.7	-1.4
MBAZ	**Motutapu North**	**5.79**	**12**	P			Pn	22 20 01.0	0.0
APZ	**The Paps**	**5.86**	**220**	P			Pn	22 19 59.3	-2.7

WEL 28 23:14:22.8±0.3,42.5°S±2°×17.4°E±°,h8km±3km,M3.3/29, ML3.6/20,MLv3.3/29,Error ellipse: s-maj=0.0km s-min=0.0km az=127.4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**197**	P			Pg	23 14 26.3	+0.9
CMWZ				S			Sg	23 14 29.1	+1.9
BSWZ	**Blackbirch Sta**	**0.30**	**255**	P			Pg	23 14 29.1	+0.5
BSWZ				S			Sg	23 14 33.7	+1.1
TUWZ	**Tuamarina**	**0.32**	**311**	P			Pb	23 14 29.9	-0.8
TUWZ				S			Sb	23 14 34.9	-1.1
TCW	**Tory Channel**	**0.43**	**2**	P			Pb	23 14 31.9	-0.7
TCW				S			Sb	23 14 38.4	-0.8
WEL	**Wellington**	**0.52**	**47**	P			Pb	23 14 33.8	-0.4
PLWZ	**Palliser**	**0.75**	**85**	P			Pb	23 14 38.3	+0.1
MSWZ	**Moikau Station**	**0.78**	**74**	P			Pb	23 14 38.5	0.0
NNZ	**Nelson**	**0.78**	**302**	P			Pg	23 14 38.0	+0.2
CAW	**Cannon Point**	**0.81**	**49**	P			Pb	23 14 38.7	-0.3
DUWZ	**D'Urville Isla**	**0.87**	**343**	P			Pg	23 14 39.7	+0.2
PAWZ	**Paruwai Farm**	**0.91**	**74**	P			Pb	23 14 41.1	+0.1
KIW	**Kapiti Island**	**0.92**	**33**	P			Pg	23 14 40.6	+0.1
KHZ	**Kahutara**	**0.94**	**214**	P			Pg	23 14 41.0	+0.1
THZ	**Tophouse**	**1.02**	**263**	P			Pg	23 14 42.0	-0.4
MTW	**Mount Morrison**	**1.05**	**63**	P			Pg	23 14 42.7	-0.3
OGWZ	**Otaki Gorge**	**1.07**	**40**	P			Pg	23 14 43.1	-0.2
TRWZ	**Traveller**	**1.10**	**78**	P			Pg	23 14 43.0	-0.8
TKNZ	**Takaka Hill**	**1.15**	**301**	P			Pg	23 14 44.5	-0.3
MRNZ	**Matariki Terra**	**1.15**	**281**	P			Pg	23 14 44.8	-0.1
HOWZ	**Holdsworth Sta**	**1.20**	**52**	P			Pb	23 14 45.4	-0.4
TMWZ	**Te Maipa**	**1.34**	**67**	P			Pn	23 14 46.4	-1.4
MRZ	**Mangatainoka R**	**1.40**	**46**	P			Pn	23 14 47.9	-0.7
QRZ	**Quartz Range**	**1.54**	**301**	P			Pn	23 14 50.9	+0.4
GVZ	**Greta Valley S**	**1.61**	**214**	P			Pn	23 14 50.1	-1.5
OHWZ	**Ohakea**	**1.64**	**30**	P			Pb	23 14 53.7	+0.4
PRWZ	**Pori Road**	**1.69**	**51**	P			Pn	23 14 51.8	-0.8
POWZ	**Post Office Ro**	**1.69**	**43**	P			Pn	23 14 52.4	-0.2
DSZ	**Denniston Nort**	**1.84**	**266**	P			Pn	23 14 55.3	+0.6
LTZ	**Lake Taylor**	**1.87**	**232**	P			Pn	23 14 53.9	-1.3
AMCZ	**Amberley**	**1.94**	**217**	P			Pg	23 15 00.1	0.0
WAZ	**Wanganui**	**1.96**	**17**	P			Pg	23 14 59.6	-0.8
DVHZ	**Dannevirke**	**1.97**	**48**	P			Pn	23 14 54.9	-1.6
TSZ	**Takapari Road**	**2.04**	**40**	P			Pn	23 14 57.0	-0.5
LREZ	**Lake Rotokare**	**2.18**	**3**	P			Pg	23 15 03.8	-0.8
OKCZ	**Okains Bay**	**2.26**	**203**	P			Pn	23 14 57.8	-2.8
PNHZ	**Pukenui**	**2.27**	**41**	P			Pn	23 14 59.7	-0.9
KHEZ	**Kahui Hut**	**2.35**	**355**	P			Pb	23 15 05.2	-0.3
OXZ	**Oxford**	**2.35**	**223**	P			Pb	23 15 04.6	-0.9
NEZ	**North Egmont**	**2.37**	**357**	P			Pg	23 15 07.2	-0.9
NBEZ	**Newall Road No**	**2.39**	**353**	P			Pb	23 15 06.9	+0.9
PKE	**Pukeiti**	**2.45**	**355**	P			Pb	23 15 07.1	0.0
PKVZ	**Pokaka**	**2.49**	**20**	P			Pb	23 15 06.6	-1.2
MOVZ	**Moawhango**	**2.50**	**28**	P			Pb	23 15 07.8	-0.3
WNVZ	**Wahianoa**	**2.52**	**24**	P			Pb	23 15 07.8	-0.7
TRVZ	**Turoa**	**2.54**	**23**	P			Pb	23 15 08.7	0.0
BHHZ	**Black Hill Sta**	**2.55**	**33**	P			Pn	23 15 04.7	+0.2
WHVZ	**Whangaehu Hut**	**2.56**	**24**	P			Pb	23 15 08.8	-0.4
FWVZ	**Far West T-bar**	**2.58**	**23**	P			Pb	23 15 09.3	-0.1
TUVZ	**Tukino**	**2.60**	**25**	P			Pb	23 15 10.6	+0.9
NGVZ	**Ngauruhoe**	**2.66**	**23**	P			Pb	23 15 10.7	-0.2
SNVZ	**South Ngauruho**	**2.67**	**24**	P			Pb	23 15 11.1	+0.2
OTVZ	**Oturere**	**2.69**	**24**	P			Pb	23 15 11.7	+0.3

NNVZ	North Ngauruho	2.71	23	P		Pb		23 15 11.9 +0.2
WTVZ	West Tongariro	2.72	22	P		Pb		23 15 11.8 +0.1
TWVZ	Taurewa	2.72	20	P		Pb		23 15 11.7 0.0
ETVZ	East Tongariro	2.73	24	P		Pb		23 15 12.0 0.0
KRVZ	Karewarewa	2.75	23	P		Pb		23 15 12.7 +0.4
TMVZ	Te Maari	2.75	24	P		Pb		23 15 11.5 -0.8
NTVZ	North Tongarir	2.76	24	P		Pb		23 15 12.3 -0.1
KATZ	Kakaramea	2.88	23	P		Pb		23 15 15.2 +0.7
WVZ	Waitaha Valley	2.98	240	P		Pb		23 15 14.4 -1.7
HIZ	Hauiti	3.15	9	P		Pb		23 15 16.3 -2.8
TLZ	Tolley Road	3.45	17	P		Pb		23 15 22.7 -1.4
TMZ	Timaru	3.64	220	P		Pn		23 15 17.4 -2.1
ODZ	Otahua Downs	4.30	217	P		Pn		23 15 25.7 -2.9
JCZ	Jackson Bay	4.70	237	P		Pn		23 15 37.2 +3.0
PKGZ	Pakihiroa	4.76	39	P		Pn		23 15 39.1 +4.2

NEIC ***28*** *23:59:37.3±1.8,22.18N±0.05×121.35E±0.03,h21km±7km, mb4.3/21,ML4.7(TAP),Error ellipse: s-maj=7.8km s-min=2.9km az=163.0*

BJI ***28*** *23:59:37.4±0.0,22.29N×121.22E,h7km,mb4.2/16, mB4.7/10,ML4.3/1,Ms4.0/4,Ms7 3.8/4*

IDC ***28*** *23:59:39.7±3.7,22.13N×121.52E,h49km±35km,mb3.9/17, mbtmp4.1/18,ML3.8/1,MS3.4/11,Error ellipse: s-maj=25.5km s-min=13.2km az=70.0*

TAP ***28*** *23:59:39.1,22.21N×121.27E,h32km,ML4.6,C*

NIED ***28*** *23:59:40.5,22.33N×121.43E,h117km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr0.07; Mθθ-0.74; Mφφ0.67; Mrθ1.85; Mθφ-0.68; Mφr-1.09; Fault plane solution: M₀2.35000×10¹⁵ NP1: φs207.00000°,δ24.00000°,λ0.00000°. NP2:φs117.00000°, δ90.00000°,λ114.00000°.*

**ISC 28 23:59:38.8±0.5,22.15N±0.03×121.34E±0.03,h36km±1km, n230,σ1$46/308,mb4.2/30,MS

baz=20
EYUL Yuli 1.19 359 *e*P Pn 23 59 58.4 -0.5
baz=352
TWF1 Yuli 1.20 358 ⇓P Pn 23 59 57.5 -1.5
baz=352
YULB Yu-li 1.23 358 Pn 23 59 57.5 -2.1
YULB Sn Sn 00 00 12.1 -2.9
YULB Yu-li 1.23 358 ⇓P Pn 23 59 58.0 -1.6
baz=353
SHHT Tainan City 1.26 314 *e*P Pn 00 00 00.8 +0.9
baz=314
CHN1 Nanshi 1.27 324 *e*P Pn 00 00 01.0 +0.9
baz=325
CHN1 S Sn 00 00 17.5 +1.6
baz=325
WTP Ta-pu 1.28 329 ⇓*i*P Pn 00 00 01.3 +1.1
baz=339
WTP *e*S Sn 00 00 17.8 +1.6
baz=339
CHN3 Shinhua 1.29 316 *e*P Pn 00 00 02.0 +1.7
baz=316
SNST Tainan City 1.32 324 *e*P Pn 00 00 03.2 +2.5
baz=324
TPUB Ta-pu 1.32 330 Pn 00 00 01.0 +0.2
TPUB Sn Sn 00 00 18.3 +1.2
TPUB Ta-pu 1.32 330 ⇓P Pn 00 00 01.8 +1.1
baz=331
HGSD Ruisui 1.34 3 *e*P Pn 00 00 00.6 -0.4
baz=16
HGSD *e*S Sn 00 00 17.3 -0.2
baz=16
EHY Hungye 1.35 359 *e*P Pn 23 59 59.8 -1.3
baz=352
TAI1 Yung-k'ang 1.35 311 *e*P Pn 00 00 02.0 +0.9
baz=311
TWK Hsinying 1.36 325 *e*P Pn 00 00 02.0 +0.7
baz=326
TWK *e*S Sn 00 00 19.0 +0.8
baz=326
CHN4 Tsaushan 1.38 330 *e*P Pn 00 00 01.6 +0.1
baz=331
CHN4 *e*S Sn 00 00 20.2 +1.7
baz=331
YUS Yu-Shan 1.38 345 ⇓*e*P Pn 00 00 01.4 -0.6
baz=351
SSHA Shanhua 1.38 315 *e*P Pn 00 00 03.4 +1.8
baz=315
SSHA S Sn 00 00 20.5 +2.0
baz=315
ALS Alishan 1.44 340 ⇓*i*P Pn 00 00 03.1 +0.5
baz=341
ALS *e*S Sn 00 00 22.3 +1.9
baz=341
SCLT Jiali 1.47 314 *e*P Pn 00 00 03.7 +1.0
baz=314
SCLT *e*S Sn 00 00 21.9 +1.2
baz=314
EGFH Guangfu 1.51 3 *e*P Pn 00 00 02.2 -1.2
baz=356
TSCK Chigu Township 1.52 311 *e*P Pn 00 00 03.2 -0.3
baz=311
ICHU Yijhu 1.55 321 *e*P Pn 00 00 04.7 +0.8
baz=321
ICHU *e*S Sn 00 00 23.7 +0.9
baz=321
TEGC Jichi Village 1.56 7 *e*P Pn 00 00 04.3 +0.3
baz=9.0
TEGC *e*S Sn 00 00 23.3 +0.3
baz=9.0
CHN8 Yiju 1.58 319 *e*P Pn 00 00 04.9 +0.6
baz=319
CHN8 *e*S Sn 00 00 23.6 +0.1
baz=319
CHY Chiayi 1.58 328 *e*P Pn 00 00 05.7 +1.4
baz=328
CHY *e*S Sn 00 00 25.3 +1.7
baz=328
CHN2 Minshiung 1.59 330 *e*P Pn 00 00 06.0 +1.6
baz=330
WHYT Xinyi Township 1.60 344 ⇓*e*P Pn 00 00 05.8 +1.1
baz=345
WHYT *e*S Sn 00 00 24.8 +0.7
baz=345
VWDT VWDT 1.60 353 ⇓*e*P Pn 00 00 04.6 0.0
baz=6.0
VWDT *e*S Sn 00 00 23.0 -1.1
baz=6.0
ESL Shilin 1.66 3 *e*P Pn 00 00 05.1 -0.3
baz=5.0
ESL *e*S Sn 00 00 22.2 -3.2
baz=5.0
SSLB Suanglung 1.67 348 Pn Pn 00 00 05.5 -0.1
SSLB Sn Sn 00 00 26.7 +1.0
SSLB Suanglung 1.67 348 ⇓P Pn 00 00 06.0 +0.5
baz=349
SSLB S Sn 00 00 26.9 +1.2
baz=349
WGK Gukeng 1.69 335 *e*P Pn 00 00 07.8 +2.0
baz=321
WDLH Douliu 1.70 334 *e*P Pn 00 00 07.2 +1.2
baz=334
WSL Shuilin Townsh 1.71 323 *e*P Pn 00 00 05.8 -0.2
baz=323
WSL *e*S Sn 00 00 26.5 -0.1
baz=323
TEYL Yanliau Villag 1.72 8 *e*P Pn 00 00 06.5 +0.2
baz=21
WJS Zhushan 1.75 341 *e*P Pn 00 00 08.6 +1.9
baz=342
WJS *e*S Sn 00 00 30.2 +2.4
baz=342
WTK Tuku 1.76 330 *e*P Pn 00 00 07.6 +0.8
baz=330
SMLT Sun Moon Lake 1.77 347 *e*P Pn 00 00 08.4 +1.4
baz=348
SMLT S Sn 00 00 29.7 +1.4
baz=348
TYC Yuchr 1.80 346 ⇓P Pn 00 00 08.9 +1.6
baz=347
TYC S Sn 00 00 31.2 +2.3
baz=347
WSF Szhu 1.80 325 *e*P Pn 00 00 08.3 +1.0
baz=325
WSF *e*S Sn 00 00 29.9 +1.0
baz=325
ETM Tongmen 1.81 4 *e*P Pn 00 00 06.5 -1.0
baz=359
WNT Mingjian 1.82 341 *e*P Pn 00 00 09.2 +1.6
baz=342
WNT *e*S Sn 00 00 31.2 +1.8
baz=342
HWA Hwalien 1.83 8 *e*P Pn 00 00 09.8 +2.0
baz=20
WUSB Renai 1.84 354 ⇓*e*P Pn 00 00 08.5 +0.5
baz=5.0
WUSB *e*S Sn 00 00 29.5 -0.6
baz=5.0
WNT1 Nantou City 1.85 341 *e*P Pn 00 00 09.6 +1.6
baz=327
WNT1 *e*S Sn 00 00 31.8 +1.7
baz=327
WPL Puli Township 1.88 349 *e*P Pn 00 00 09.9 +1.4
baz=350
WDGT Dungji 1.90 306 ⇓*e*P Pn 00 00 08.4 -0.3
baz=305
WDGT *e*S Sn 00 00 29.1 -2.3
baz=305
CHGB Renai 1.91 355 ⇑P Pn 00 00 09.5 +0.6
baz=6.0
CHGB *e*S Sn 00 00 30.1 -1.7
baz=6.0
DPDB Guoxing 1.91 349 ⇓P Pn 00 00 10.7 +1.8
baz=349
DPDB *e*S Sn 00 00 33.7 +1.9
baz=349
WYL Yuanlin Townsh 1.93 339 *e*P Pn 00 00 10.3 +1.1
baz=325
TWD Chiawan 1.93 7 *e*P Pn 00 00 08.6 -0.6
baz=359
WCS Beigang Elemen 1.94 348 ⇓P Pn 00 00 09.9 +0.7
baz=349
WCS *e*S Sn 00 00 33.5 +1.2
baz=349
WRL Guolierlin Hig 1.95 333 *e*P Pn 00 00 09.7 +0.3
baz=333
WWF Wufeng 1.97 343 *e*P Pn 00 00 10.4 +0.7
baz=329
WWF *e*S Sn 00 00 34.5 +1.3
baz=329
WHF Hehuan Shan 1.98 358 ⇑*e*P Pn 00 00 10.3 0.0
baz=7.0
ETL Fush Village 2.01 7 *e*P Pn 00 00 10.9 +0.6
baz=360
NACB Ninganchiao 2.03 7 Pn 00 00 09.2 -1.2
NACB Sn Sn 00 00 33.8 -0.7
NACB Ninganchiao 2.03 7 *e*P Pn 00 00 09.5 -1.0
NACB *e*S Sn 00 00 33.9 -0.7
ETLH Xiulin Townshi 2.05 4 *e*P Pn 00 00 10.6 -0.3
baz=5.0
WCHH Zhanghua 2.05 340 *e*P Pn 00 00 12.1 +1.3
baz=326
VCHM Qimei 2.05 301 *e*P Pn 00 00 10.3 -0.5
baz=301
VCHM *e*S Sn 00 00 32.6 -2.6
baz=301
TCU Taichung 2.08 343 *e*P Pn 00 00 12.3 +1.2
baz=330
TCU *e*S Sn 00 00 38.3 +2.5
baz=330
FUSS Fushou 2.09 358 *e*P Pn 00 00 12.1 +0.5
baz=9.0
FUSS *e*S Sn 00 00 35.3 -1.1
baz=9.0
TWT Tachien 2.10 356 ⇑*e*P Pn 00 00 12.3 +0.7
baz=356
TDCB Tesi 2.10 355 *e*P Pn 00 00 12.3 +0.8
baz=356
PHUB P'eng-hu 2.12 310 ⇑P Pn 00 00 11.0 -0.7
baz=310
PHUB *e*S Sn 00 00 34.1 -2.7
baz=310
WHP Taichung City 2.15 350 *e*P Pn 00 00 14.3 +2.1
baz=351
WHP *e*S Sn 00 00 40.2 +2.6
baz=351
PNG Penghu 2.17 311 *e*P Pn 00 00 11.7 -0.6
baz=310
PNG *e*S Sn 00 00 35.6 -2.4
baz=310
TWQ1 Liyutan 2.25 347 *e*P Pn 00 00 15.4 +1.9
baz=347
TWQ1 *e*S Sn 00 00 41.5 +1.5
baz=347
NNSB Datong 2.27 1 *e*P Pn 00 00 14.1 +0.2
baz=9.0
NNSH Datong 2.27 1 *e*P Pn 00 00 14.0 +0.2
baz=12
NNS Nan Shan 2.28 1 *e*P Pn 00 00 14.5 +0.5
baz=9.0
WDJ Dajia District 2.28 344 *e*P Pn 00 00 15.4 +1.5
baz=343
ENA Nanau 2.29 9 *e*P Pn 00 00 14.7 +0.5
baz=1.0
NSY Sanyi 2.31 347 *e*P Pn 00 00 17.1 +2.7
baz=346
LATG Datong 2.38 4 *e*P Pn 00 00 15.7 +0.3
baz=4.0
NMLH Miaoli 2.43 348 *e*P Pn 00 00 18.4 +2.5
baz=347
NFF Wufeng Townshi 2.48 355 *e*P Pn 00 00 17.9 +1.2
baz=341
NFF *e*S Sn 00 00 47.5 +1.7
baz=341
ENTT Nioudou 2.48 5 *e*P Pn 00 00 16.1 -0.7
baz=5.0
NSTT Nanjuang 2.49 353 *e*P Pn 00 00 18.7 +1.9
baz=339
TWC Suao 2.49 11 *e*P Pn 00 00 18.1 +1.3
baz=25
TWC *e*S Sn 00 00 46.9 +1.0
baz=25
LIOB Emei 2.50 353 *e*P Pn 00 00 19.9 +2.9
baz=340
YHNB Yeheng 2.51 1 Pn 00 00 16.8 -0.3
YHNB Sn Sn 00 00 45.9 -0.6
YHNB Yeheng 2.51 1 P Pn 00 00 18.1 +1.0
baz=13
YHNB *e*S Sn 00 00 47.0 +0.5
baz=13
NSK Sanguang 2.51 0 ⇑*e*P Pn 00 00 17.1 -0.1
baz=12
TWE Neicheng 2.58 7 *e*P Pn 00 00 18.7 +0.7
baz=7.0
FUSB Fushanzhiwuyua 2.60 5 *e*P Pn 00 00 18.9 +0.4
baz=6.0
FUSB *e*S Sn 00 00 48.0 -0.9
baz=6.0
NWLT Wulai 2.62 3 *e*P Pn 00 00 18.8 +0.2
baz=14
SBCB Hsinchu 2.65 353 *e*P Pn 00 00 21.8 +2.8
baz=351
HSN Hsinchu 2.66 353 *e*P Pn 00 00 20.7 +1.6
baz=352
YOJ Yonaguni jima 2.77 33 Pn 00 00 21.4 +0.8
YOJ Sn Sn 00 00 53.6 +0.8
YOJ Yonaguni jima 2.77 33 *e*P Pn 00 00 22.4 +1.8
baz=45
YOJ *e*S Sn 00 00 53.3 +0.6
baz=45
NHDH Xindian Distri 2.80 3 *e*P Pn 00 00 22.5 +1.4
baz=15
NHDH *e*S Sn 00 00 54.0 +0.3
baz=15
NCUH Zhongli 2.81 357 *e*P Pn 00 00 24.2 +3.0
baz=341
NCU National Centr 2.81 357 *e*P Pn 00 00 24.4 +3.1
baz=341
TATO Taipei 2.81 3 Pn 00 00 21.4 +0.2
TATO Sn Sn 00 00 54.0 +0.1
TATO Taipei 2.81 3 *e*P Pn 00 00 22.1 +0.8
baz=14
TATO *e*S Sn 00 00 54.5 +0.6
baz=14
TWA Mucha 2.82 5 *e*P Pn 00 00 22.2 +0.8
baz=6.0
TWA *e*S Sn 00 00 54.5 +0.2
baz=6.0
TIPB Shuangxi 2.84 9 *e*P Pn 00 00 23.2 +1.5
baz=1.0
TIPB *e*S Sn 00 00 55.9 +1.2
baz=1.0
CICP Calayan Island 2.88 177 ⇑*i*P Pn 00 00 21.4 -0.7
CICP *e*S Sn 00 01 04.2 +8.7
TWB1 Santiao Chiao 2.91 12 *e*P Pn 00 00 24.1 +1.6
baz=2.0
NWF Wu-fen Shan 2.93 8 *e*P Pn 00 00 23.8 +0.8
baz=9.0
NWF *e*S Sn 00 00 58.3 +1.2
baz=9.0
WFSB Wu-fen Shan 2.93 8 *e*P Pn 00 00 24.3 +1.4
baz=9.0
WFSB *e*S Sn 00 00 57.7 +0.8
baz=9.0
SXI1 Grass Mountain 2.97 9 *e*P Pn 00 00 25.7 +2.2
baz=2.0
SXI1 *e*S Sn 00 01 00.6 +2.7
baz=2.0
YM01 YM01 2.99 4 *e*P Pn 00 00 25.2 +1.5
baz=4.0
TNOU National Taiwa 3.01 8 *e*P Pn 00 00 24.4 +0.4
baz=8.0
ANP Anpu 3.02 3 *e*P Pn 00 00 26.2 +2.0
baz=13
YM08 YM08 3.03 4 *e*P Pn 00 00 24.3 0.0
baz=4.0
VWUC VWUC 3.31 329 *e*P Pn 00 00 27.9 -0.3
baz=327
VWUC *e*S Sn 00 01 03.7 -2.7
baz=327
KNM Kinmen 3.50 311 *e*P Pn 00 00 31.8 +1.1
baz=308
PTMZ Houxiangcun 3.52 325 *e*P Pn 00 00 30.9 -0.1
baz=323
PTMZ *e*S Sn 00 01 08.3 -3.2
baz=323
KNMB Chin-men Tao 3.56 311 Pn Pn 00 00 31.2 -0.2
KNMB Chin-men Tao 3.56 311 *e*P Pn 00 00 31.8 +0.3
baz=309
PACPP Pamplona Cagay 3.67 180 ⇑*e*P Pn 00 00 32.5 -0.6
ZPLA Ao Xicun 3.75 299 *e*P Pn 00 00 34.3 +0.2
baz=298
DSXP Dongshan 3.93 294 *e*P Pn 00 00 36.3 -0.2
baz=294
AXDP Jialang 4.13 312 *e*P Pn 00 00 39.1 -0.2
baz=310
MATB Ma-tsu 4.18 343 *e*P Pn 00 00 39.8 -0.3
baz=339
MATB *e*S Sn 00 01 24.6 -3.0
baz=339
MSUT Lienchiang 4.20 342 *e*P Pn 00 00 40.0 -0.4
baz=339
JMJ Miyako jima 2 4.49 53 *e*P Pn 00 00 46.2 +1.9
baz=56
JMJ *e*S Sn 00 01 35.7 +0.3
baz=56
VDOS Pratas Island 4.53 252 *e*P Pn 00 00 46.2 +1.4
baz=252
LYJJ Jianjiangzhen 4.61 342 *e*P Pn 00 00 46.0 +0.1
baz=338
SXFK Yanhouchang 5.41 322 *e*P Pn 00 00 56.3 -0.6
baz=319
HKPS Hong Kong Po S 6.67 272 Pn Pn 00 01 14.3 0.0
JOW Kunigami 7.85 52 P Pn 00 01 30.2 -0.2
3.2nm,0.3s,baz=290,slow=9.7,SNR=1.7
JOW S Sn 00 02 56.2 -1.8
9.4nm,0.5s,baz=118,slow=22,SNR=1.5
10nm,0.3s
JOW Kunigami 7.85 52 Pn Pn 00 01 29.4 -1.0
JOW Kunigami 7.85 52 *e*P Pn 00 01 30.5 0.0
baz=56
JNU Nakatsue 13.81 36 LR LR 00 08 23.3
comp=Z,90nm,18.6s,baz=228,slow=38
HNS HongShan 16.24 341 ⇑P P 00 03 28.5 +1.6
HNS S Sn 00 06 26.0 +2.8
HNS pmax pmax
comp=Z,10.0nm,0.8s
HNS LR LR
comp=N,290nm,14.7s
HNS LR LR
comp=Z,340nm,20.4s
KSRS Korea Array 16.28 19 P P 00 03 26.6 -0.8
1.9nm,0.5s,baz=195,slow=12,SNR=5.4
KSRS LR LR 00 10 04.4
comp=Z,53nm,19.3s,baz=210,slow=38
PZH PanZhiHua 18.37 288 P Pn 00 03 58.0 +7.0
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
PZH PanZhiHua 18.37 288 P Pn 00 03 56.0 +5.0
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.9s
HHC Hu-ho-hao-te 20.39 338 *e*P Pn 00 04 15.5 +0.6
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,230nm,5.2s
HHC LR LR
comp=Z,490nm,11.6s
HHC LR LR
comp=Z,350nm,11.6s
MJAR Matsushiro Arr 20.49 42 P Pn 00 04 17.1 +1.1
comp=Z,4.9nm,0.6s,baz=229,slow=8.1,SNR=11
MJAR LR LR 00 12 07.4
comp=Z,67nm,20.8s,baz=232,slow=37
TOLI2 Tolitoli 20.92 182 P Pn 00 04 20.7 -0.4
TOLI2 IAmb IAmb 00 04 23.4
comp=Z,15nm,0.8s
TNCH TengChong 21.11 282 *e*P P 00 04 21.8 +1.2
TNCH pP pP 00 04 27.8 -1.9
TNCH pmax pmax
comp=Z,16nm,0.3s
CMAR Chiang Mai Arr 21.32 264 LR LR 00 14 34.3
comp=Z,48nm,18.6s,baz=90,slow=42
SBUM Sibu 21.50 206 P P 00 04 25.4 +0.8
XLT XiLinHaoTe 22.12 350 *e*P P 00 04 32.3 +1.1
XLT pP pP 00 04 39.0 -1.2
XLT sP pwP 00 04 41.5 -1.1
XLT PP PnPn 00 04 58.0 +3.9
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,130nm,4.4s
USRK Ussuriysk Ar. 23.68 19 P P 00 04 47.2 +0.1
comp=Z,3.1nm,0.7s,baz=191,slow=9.9,SNR=4.0
comp=Z,3.1nm,0.7s
KAPI Kappang 27.04 183 LR LR 00 16 09.0
comp=Z,58nm,20.4s,baz=342,slow=37
KAPI Kappang 27.04 183 P P 00 05 17.6 -0.3
KAPI IAmb IAmb 00 05 22.4
comp=Z,8.4nm,0.8s
ASAJ Asahikawa 28.07 34 LR LR 00 16 41.3
comp=Z,34nm,18.1s,baz=34,slow=36
ULN Ulaanbaatar 28.10 339 P P 00 05 26.5 -0.9
ULN IAmb IAmb 00 05 29.8
comp=Z,4.5nm,1.1s
KLR Kul'dur 28.26 14 P P 00 05 29.7 +1.2
comp=Z,2.0nm,0.5s,baz=208,slow=6.1,SNR=8.3
KLR PcP PcP 00 08 40.2 -1.0
comp=Z,1.1nm,0.5s,baz=199,slow=7.1,SNR=4.1
KLR LR LR 00 17 08.6
comp=Z,82nm,18.8s,baz=218,slow=37
comp=Z,2.0nm,0.5s
SONM Songino Array 28.30 338 P P 00 05 28.9 -0.1
comp=Z,2.3nm,0.7s,baz=154,slow=9.5,SNR=20
SONM PcP PcP 00 08 41.3 -0.2
comp=Z,0.2nm,0.4s,baz=155,slow=4.8,SNR=4.6
SONM LR LR 00 18 02.1
comp=Z,253nm,18.3s,baz=162,slow=39
comp=Z,2.3nm,0.7s
SONM Songino Array 28.30 338 P P 00 05 28.2 -0.8
BATI Baumata 32.24 176 LR LR 00 20 11.1
comp=Z,444nm,18.5s,baz=255,slow=38
WMQ Urumqi 35.18 316 *e*P P 00 06 32.5 +3.0
MK31 Makanchi Array 39.91 318 P P 00 07 09.5 +0.1
MKAR Makanchi Array 39.91 318 P P 00 07 10.0 +0.7
comp=Z,2.4nm,0.7s,baz=112,slow=10.0,SNR=22
MKAR PcP PcP 00 09 14.4 -0.1
comp=Z,0.6nm,0.6s,baz=79,slow=1.9,SNR=5.8
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 39.91 318 P P 00 07 09.3 -0.1
MAKZ Makanchi 40.11 317 P P 00 07 10.7 -0.3
MAKZ IAmb IAmb 00 07 12.9
comp=Z,3.3nm,0.8s
ZAA0 Zalesovo Array 42.03 328 P P 00 07 26.7 +0.1
ZAA0 IAmb IAmb 00 07 28.5
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 42.03 328 P P 00 07 26.3 -0.3
comp=Z,3.1nm,0.5s,baz=113,slow=8.0,SNR=16
ZALV LR LR 00 24 24.0
comp=Z,40nm,19.1s,baz=42,slow=35
comp=Z,3.1nm,0.5s
ZALV Zalesovo Beam 42.03 328 P P 00 07 26.7 0.0
H11N1 WAKE ISLAND Hy 42.50 85 T T 00 53 02.5
baz=282,slow=75,SNR=7.0
H11N2 WAKE ISLAND Hy 42.50 85 T T 00 52 51.1
baz=282,slow=75,SNR=6.9
H11N3 WAKE ISLAND Hy 42.51 85 T T 00 52 39.3
baz=282,slow=75,SNR=9.5
H11S3 WAKE ISLAND Hy 42.56 86 T T 00 52 54.8
baz=282,slow=75,SNR=13
H11S1 WAKE ISLAND Hy 42.57 86 T T 00 52 52.2
baz=282,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 42.58 86 T T 00 52 51.5
baz=282,slow=75,SNR=6.4
WB0 Warramunga Arr 43.57 162 P P 00 07 38.1 -1.4
WRA Warramunga Arr 43.72 162 P P 00 07 38.7 -2.1
comp=Z,2.3nm,0.7s,baz=343,slow=8.8,SNR=19
comp=Z,2.3nm,0.7s
WRA Warramunga Arr 43.72 162 P P 00 07 39.3 -1.5
WB2 Warramunga Arr 43.73 162 P P 00 07 39.7 -1.1
WB2 IAmb IAmb 00 07 40.2
comp=Z,4.5nm,0.8s
KURK Kurchatov 43.75 321 P P 00 07 40.8 +0.1
KURK IAmb IAmb 00 07 44.4
comp=Z,4.6nm,0.8s
KURBB Kurchatov Arra 43.76 321 P P 00 07 41.0 +0.3
comp=Z,3.4nm,0.7s,baz=115,slow=7.8,SNR=25
comp=Z,3.4nm,0.7s
WR0 Warramunga Arr 43.80 162 P P 00 07 40.3 -1.1
WR0 IAmb IAmb 00 07 40.6
comp=Z,5.0nm,0.8s
GAR Garm 46.42 303 P P 00 08 02.5 +0.2
KK31 Karatay Array 46.83 309 P P 00 08 04.2 -1.1
KK31 IAmb IAmb 00 08 08.4
comp=Z,2.4nm,1.0s
KKAR Karatay Array 46.83 309 P P 00 08 04.5 -0.8
KKAR IAmb IAmb 00 08 08.4
comp=Z,2.4nm,1.0s
KKAR Karatay Array 46.83 309 P P 00 08 04.4 -0.8
AS31 Alice Springs 47.16 164 P P 00 08 06.8 -1.1

ASAR	Alice Springs	47.16	164	P		P		00 08 06.8	-1.1
	comp=Z,0.6nm,0.4s,baz=341,slow=6.9,SNR=11								
	comp=Z,0.6nm,0.4s								
ASAR	Alice Springs	47.16	164	P		P		00 08 06.0	-1.9
KBL	Kabul	47.19	297	P		P		00 08 08.6	+0.2
KBL				IAmb		IAmb		00 08 10.6	
	comp=Z,2.5nm,0.8s								
CHGR	Chuyangaron	47.29	303	P		P		00 08 08.6	-0.4
TIXI	Tiksi	49.71	3	P		P		00 08 25.0	-1.9
	comp=Z,2.3nm,0.4s,baz=270,slow=24,SNR=7.2								
	comp=Z,2.3nm,0.4s								
ABKAR	Akbulak array	54.97	315	P		P		00 09 06.4	+0.1
GEYT	Alibeck	55.96	302	LR		LR		00 37 47.9	
	comp=Z,67nm,19.1s,baz=326,slow=41								
STKA	Stephens Creek	57.12	159	P		P		00 09 21.4	-0.4
	comp=Z,1.4nm,0.5s,baz=327,slow=6.0,SNR=5.6								
	comp=Z,1.4nm,0.5s								
ILAR	Eielson Array	70.95	27	P		P		00 10 50.5	-1.7
	comp=Z,0.2nm,0.8s,baz=262,slow=5.2,SNR=1.9								
	comp=Z,0.2nm,0.8s								
ARCES	ARCESS Array B	71.47	338	P		P		00 10 54.8	-0.6
	comp=Z,2.2nm,0.8s,baz=64,slow=11,SNR=9.1								
	comp=Z,2.2nm,0.8s								
FINES	FINESS Array B	73.27	330	P		P		00 11 06.8	+0.6
	comp=Z,1.8nm,0.7s,baz=96,slow=1.9,SNR=13								
	comp=Z,1.8nm,0.7s								
BRTR	Keskin Array B	74.49	307	P		P		00 11 15.2	+1.1
	comp=Z,0.6nm,0.7s,baz=112,slow=0.8,SNR=5.4								
	comp=Z,0.6nm,0.7s								
NB2	NORSAR Subarra	80.08	332	P		P		00 11 43.9	-0.9
	comp=Z,1.1nm,0.7s,baz=63,slow=5.3								
NOA	NORSAR Array B	80.08	332	P		P		00 11 44.1	-0.7
	comp=Z,1.3nm,0.8s,baz=62,slow=5.3,SNR=4.6								
	comp=Z,1.3nm,0.8s								
CLL	Collm	83.75	323	*i* P		P		00 12 04.2	0.0
	comp=Z,4.0nm,0.8s								
GERES	GERESS Array B	84.50	321	P		P		00 12 08.2	0.0
	comp=Z,1.8nm,0.7s,baz=61,slow=6.3,SNR=16								
	comp=Z,1.8nm,0.7s								
YKA	Yellowknife Ar	84.78	23	P		P		00 12 08.0	-1.2
	comp=Z,1.7nm,0.8s,baz=316,slow=4.6,SNR=5.7								
	comp=Z,1.7nm,0.8s								

GII **29** *00:19:24.5±0.0,34.˚80N×23.˚25E,h10km,mb4.7/2, MD4.6/2,Mm4.5/4*

BJI **29** *00:19:25.7±0.0,34.˚59N×23.˚32E,h8km,mb4.4/22, mB5.0/9,Ms4.8/5,Ms7 4.7/5*

HLW **29** *00:19:25.5,35.˚29N×23.˚51E,h22km±23km,Md5.0,Ml4.3*

MOS **29** *00:19:27.0±1.1,34.˚87N±23.˚28E,h13km,mb4.6/30,Error ellipse: s-maj=5.8km s-min=3.6km az=71.7*

IDC **29** *00:19:28.1±1.1,35.˚18N±23.˚44E,h0km,mb4.2/20, mbtmp4.2/27,ML3.8/7,MS3.7/32,Error ellipse: s-maj=24.9km s-min=11.6km az=9.0*

ISK **29** *00:19:28.5,34.˚92N×23.˚30E,h9km,ML4.3/25*

MED_RC **29** *00:19:28.0±0.9,34.˚94N×23.˚32E,h26km±3km,MW4.6/11, Moment Tensor Solution.Mantle waves: s11,c13; Duration: 1ş0 Moment tensor: Scale 10^16Nm; Mrr~0.10±.18; Mθθ~0.87±.10; Mϕϕ0.97±.12; Mrθ0.05±.11; Mθϕ~0.24±.07; Mϕr~0.15±.09; Best double couple: M=0.96000×10^16 NP1:ϕ=128.00000°,δ86.00000°, λ173.00000°. NP2:ϕ=218.00000°,δ83.00000°,λ4.00000°. Principal axes: T 1.0200, Plg8.0000°, Azm83.0000°; N -0.1200, Plg82.0000°, Azm278.0000°; P -0.9000, Plg2.0000°, Azm173.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

NEIC **29** *00:19:28.3,34.˚92N×23.˚29E,h20km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-2.30; Mθθ-2.64; Mϕϕ4.94; Mrθ4.64; Mϕr1.43; Mθϕ2.39; Fault plane solution: M=6.90000×10^15 NP1:ϕ=334.86000°, δ38.52000°,λ-159.90000°. NP2:ϕ=228.88000°, δ77.64000°,λ-53.22000°. Principal axes: T 6.6277, Plg24.0000°, Azm291.0000°; N 0.5217, Plg36.0000°, Azm40.0000°; P -7.1494, Plg45.0000°, Azm176.0000°;*

THE **29** *00:19:29.2,34.˚94N×23.˚34E,h0km,ML4.1/12 Error ellipse: s-maj=1.3km s-min=0.4km az=216.0*

NEIC **29** *00:19:29.2±1.9,34.˚9N±0.˚1×23.˚29E±0.˚07,h12km±5km, mb4.3/64,Mwr4.5/10,ML4.1(THE),Error ellipse: s-maj=14.9km s-min=8.3km az=189.0*

ATH **29** *00:19:29.5,34.˚92N×23.˚32E,h12km±3km,ML4.3/11,Error ellipse: s-maj=4.5km s-min=1.6km az=68.0*

DDA **29** *00:19:33.0±0.0,35.˚17N×23.˚44E,h10km±5km,MW4.4*

ISC 29 00:19:28.1±0.7,34.˚92N±0.˚03×23.˚36E±0.˚03,h9km±3km, h9km:pP-P,n567,σ1ş77/583,mb4.5/58,MS3.8/30,36C-23D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.41	40	PG	Pg	00 19 36.9	+0.6
KNDR				SG	Sg	00 19 43.2	+1.5
KNDR	Palaiochora Ch	0.41	40	P	Pg	00 19 36.8	+0.6
KNDR				S	Sg	00 19 43.0	+1.3
	25μm,0.5s						
KNDR	Palaiochora Ch	0.41	40	P	Pg	00 19 36.9	+0.6
KNDR				S	Sg	00 19 43.2	+1.5
KNDR				AML	AML	00 19 44.6	
KNDR				AML	AML	00 19 45.7	
GVD	Gavdhos	0.60	97	PG	Pb	00 19 41.5	+0.7
GVD				SG	Sb	00 19 51.1	+1.7
GVD	Gavdhos	0.60	97	P	Pb	00 19 41.2	+0.4
GVD				S	Sb	00 19 50.8	+1.4
	46μm,0.4s						
GVD	Gavdhos	0.60	97	P	Pb	00 19 41.5	+0.7
GVD				S	Sb	00 19 50.7	+1.4
GVD				AML	AML	00 19 54.8	
GVD				AML	AML	00 19 55.6	
	comp=E,69484μm,0.4s						
GVDS	Gavdos	0.60	97	PG	Pg	00 19 40.8	+1.0
GVDS				SG	Sb	00 19 50.6	+1.1
GVDS	Gavdos	0.60	97	P	Pg	00 19 40.8	+1.0
GVDS				S	Sb	00 19 50.5	+1.1
	comp=E,38μm,0.5s						
IMMV	Iera Moni Meta	0.74	43	PG	Pb	00 19 44.2	+1.0
IMMV	Iera Moni Meta	0.74	43	P	Pg	00 19 43.2	+0.7
IMMV				S	Sb	00 19 54.4	+0.9
	comp=E,23μm,0.6s						
IMMV	Iera Moni Meta	0.74	43	P	Pg	00 19 43.1	+0.7
IMMV				S	Sb	00 19 54.8	+1.3
IMMV				AML	AML	00 19 55.6	
	comp=E,44318μm,0.7s						
IMMV				AML	AML	00 19 59.8	
	comp=N,46665μm,0.5s						
CHAN	Chania	0.82	43	P	Pb	00 19 44.9	+0.4
CHAN				S	Sb	00 19 57.1	+1.4
CHAN				AML	AML	00 20 04.3	
	comp=N,30042μm,0.4s						
CHAN				AML	AML	00 20 06.4	
	comp=E,18732μm,0.4s						
ANKY	Antikythira Is	0.95	357	P	Pb	00 19 46.7	-0.1
ANKY				S	Sn	00 20 00.8	-0.5
	comp=E,14μm,0.7s						
ANKY	Antikythira Is	0.95	357	P	Pb	00 19 46.7	-0.1
ANKY				S	Sn	00 20 00.3	-1.1
ANKY				AML	AML	00 20 04.1	
	comp=N,31663μm,0.6s						
ANKY				AML	AML	00 20 09.2	
	comp=E,22388μm,0.9s						
PRNS	Prines Rethymn	1.03	64	P	Pg	00 19 47.7	-0.3
PRNS				S	Sb	00 20 02.8	+0.9
	comp=E,4μm,1.0s						
TMBK	Timbaki Herakl	1.16	82	P	Pg	00 19 51.6	+1.1
TMBK	Timbaki Herakl	1.16	82	P	Pg	00 19 51.5	+1.1
TMBK				AML	AML	00 20 19.9	
	comp=N,28464μm,1.1s						
TMBK				AML	AML	00 20 22.8	
	comp=E,37950μm,0.7s						
SIVA	Sivas	1.19	85	P	Pg	00 19 52.3	+1.2
SIVA	Sivas	1.19	85	P	Pg	00 19 52.1	+1.0
IDI	Anoyia	1.31	73	Pn	Pn	00 19 53.1	+0.5
	comp=E,37nm,0.3s,baz=248,slow=15,SNR=98						
IDI	Anoyia	1.31	73	PN	Pg	00 19 54.3	+1.1
IDI	Anoyia	1.31	73	Pn	Pg	00 19 53.6	+0.4
IDI	Anoyia	1.31	73	P	Pb	00 19 53.4	+0.5
IDI				S	Sg	00 20 13.1	+2.9
	comp=E,4μm,0.9s						
IDI	Anoyia	1.31	73	P	Pb	00 19 53.4	+0.5
IDI				AML	AML	00 20 23.8	
	comp=N,7750μm,0.8s						
IDI				AML	AML	00 20 29.2	
	comp=E,6733μm,0.8s						
KTHA	Kythira Island	1.36	350	PN	Pg	00 19 54.4	+0.1
KTHA	Kythira Island	1.36	350	P	Pg	00 19 54.2	-0.1
KTHA				S	Sg	00 20 13.2	+1.3
	comp=E,8μm,0.8s						
KTHA	Kythira Island	1.36	350	P	Pb	00 19 53.7	-0.1
KTHA				AML	AML	00 20 23.0	
	comp=E,23349μm,0.7s						
KTHA				AML	AML	00 20 25.5	
	comp=N,8864μm,0.9s						
KTHR	Kythira	1.37	348	P	Pb	00 19 53.5	-0.5
KTHR				S	Sg	00 20 13.6	+1.3
	comp=N,4μm,0.6s						
KTHR	Kythira	1.37	348	P	Pn	00 19 53.0	-0.5
KTHR				AML	AML	00 20 21.7	
	comp=E,24762μm,0.4s						
KTHR				AML	AML	00 20 27.7	
	comp=N,20128μm,0.7s						
HRKL	Herakleio	1.48	74	PN	Pg	00 19 56.9	+0.4
HRKL	Herakleio	1.48	74	P	Pb	00 19 56.4	+0.6
HRKL				S	Sg	00 20 16.7	+1.0
	comp=N,12μm,1.2s						
HRKL	Herakleio	1.48	74	P	Pg	00 19 57.3	+0.7
HRKL				AML	AML	00 20 41.1	
	comp=N,64229μm,1.0s						
HRKL				AML	AML	00 20 47.7	
	comp=E,71398μm,1.3s						
VLI	Veliai	1.83	349	P	Pb	00 20 02.0	+0.2
VLI	Veliai	1.83	349	P	Pb	00 20 01.5	-0.3
VLI				AML	AML	00 20 36.2	
	comp=N,10598μm,0.8s						
VLI				AML	AML	00 20 37.9	
	comp=E,12087μm,0.8s						
FRMA	Ierapetra Chan	1.95	86	P	Pg	00 20 05.6	+0.1
MHLO	Agia Marina, M	1.96	25	P	Pb	00 20 03.6	-0.4
MHLO	Agia Marina, M	1.96	25	P	Pb	00 20 03.1	-0.9
THR6	Thira Island,	2.19	48	P	Pb	00 20 06.9	-1.1
THR5	Thira Island,	2.20	47	P	Pb	00 20 07.5	-0.6
THR3	Thira Island,	2.23	48	P	Pb	00 20 07.8	-0.8
SANT	Santorini	2.24	49	PN	Pb	00 20 07.6	-1.3
SANT	Santorini	2.24	49	Pn	Pn	00 20 06.4	+1.0
SANT	Santorini	2.24	49	P	Pb	00 20 07.5	-1.3
SANT	Santorini	2.24	49	P	Pb	00 20 07.5	-1.3
SANT				S	Sn	00 20 33.6	+0.4
SFIR	Foira Santorin	2.26	48	P	Pb	00 20 08.2	-0.8
STIA	Sitia Lasithi	2.26	82	P	Pb	00 20 08.9	-0.1
THT2	Imerovigli	2.26	47	PN	Pb	00 20 07.8	-1.3
THT	Imerovigli	2.26	47	P	Pb	00 20 08.7	-1.1
CMBO	Columbo, Santo	2.27	46	P	Pb	00 20 08.5	-0.8
THR8	Santorini-Mono	2.28	49	P	Pb	00 20 08.0	-1.4
ZKR	Zakros	2.35	84	PN	Pb	00 20 09.6	-1.1
ZKR	Zakros	2.35	84	P	Pb	00 20 10.4	-0.3
ZKR	Zakros	2.35	84	P	Pn	00 20 08.9	+2.0
PYL	PYLOS	2.37	327	P	Pn	00 20 08.6	+1.4
EPID	Epidavros	2.70	356	P	Pn	00 20 14.0	+2.3
APE	Apeiranthos	2.78	39	⇑P	Pb	00 20 16.1	-1.8
APE	Apeiranthos	2.78	39	PN	Pn	00 20 14.7	+1.9
APE	Apeiranthos	2.78	39	P	Pn	00 20 14.7	+1.9
APE	Apeiranthos	2.78	39	Pn	Pn	00 20 11.8	-1.0
APE	Apeiranthos	2.78	39	P	Pn	00 20 14.5	+1.7
APE				S	Sn	00 20 44.7	-1.7
APE	Apeiranthos	2.78	39	⇑P	Pb	00 20 16.1	-1.8
VLY	Voula,Athens	2.95	7	P	Pn	00 20 17.2	+2.0
VLY				S	Sn	00 20 52.6	+1.9
	comp=E,975nm,0.9s						
ATHU	Athens Univers	3.06	6	P	Pn	00 20 18.5	+1.8
LOUT	Loutraki	3.08	354	P	Pn	00 20 19.8	+2.8
GUR	Goura	3.12	345	P	Pn	00 20 19.8	+2.1
PTL	Penteli	3.15	7	P	Pn	00 20 19.5	+1.5
THAL	Thalero	3.17	350	P	Pn	00 20 20.9	+2.8
KARP	Karpathos	3.17	77	PN	Pn	00 20 20.8	+2.5
KARP	Karpathos	3.17	77	Pn	Pn	00 20 21.2	+2.9
KARP	Karpathos	3.17	77	P	Pn	00 20 20.8	+2.5
DION	Dionisos Attik	3.19	8	P	Pn	00 20 20.6	+2.1
DION				S	Sn	00 21 00.0	+3.4
	comp=E,2μm,0.7s						
VILL	Villia	3.24	359	P	Pn	00 20 21.1	+1.9
DRO	Drossia	3.31	337	P	Pn	00 20 23.0	+2.9
LTHK	Lithakia	3.45	325	P	Pn	00 20 22.2	+0.1
ALIK	Aliki, Aigiali	3.49	344	P	Pn	00 20 24.8	+2.3
RLS	Riolos of Patr	3.49	335	P	Pn	00 20 25.0	+2.5
LAKA	Lakka	3.50	342	P	Pn	00 20 24.7	+2.0
NIS1	Nisyros Isl.	3.53	60	PN	Pn	00 20 25.5	+2.4
SERG	Sergoula	3.65	344	P	Pn	00 20 26.9	+2.2
EFP	Efpalio	3.69	342	P	Pn	00 20 27.0	+1.6
SLUM	Salum	3.75	155	P	Pn	00 20 26.3	+0.2
	baz=158						
KYMI	Kymi, Euboea I	3.76	9	P	Pn	00 20 28.1	+1.9
ANX	Ano Chora	3.85	343	P	Pn	00 20 29.4	+1.8
BODT	Bodrum	3.85	55	PN	Pn	00 20 30.4	+2.8
BODT	Bodrum	3.85	55	P	Pn	00 20 29.3	+1.7
BODT	Bodrum	3.85	55	P	Pn	00 20 28.1	+0.6
DAT	Datca	3.87	61	PN	Pn	00 20 30.5	+2.5
DAT	Datca	3.87	61	P	Pn	00 20 30.1	+2.1
AXAR	Agios Charalam	3.88	352	P	Pn	00 20 29.4	+2.4
PSDA	Pessada-Kefalo	3.90	326	P	Pn	00 20 28.6	+0.4
VLS	Valsamata	3.95	326	P	Pn	00 20 29.3	+0.4
PVO	Paravola	3.98	339	P	Pn	00 20 32.2	+2.9
KEF3	Kipouria, Keph	4.08	324	P	Pn	00 20 30.7	0.0
CHOS	Chios island	4.08	31	PN	Pn	00 20 33.2	+2.4
CHOS	Chios island	4.08	31	P	Pn	00 20 32.4	+1.6
KEF4	Livadi, Kephal	4.09	326	P	Pn	00 20 31.2	+0.4
ARG	Arkhangelos	4.09	70	PN	Pn	00 20 33.9	+3.0
ARG	Arkhangelos	4.09	70	Pn	Pn	00 20 32.9	+2.0
ARG	Arkhangelos	4.09	70	P	Pn	00 20 33.1	+2.2
ARG	Arkhangelos	4.09	70	P	Pn	00 20 32.9	+2.0
DMLN	Damoulianata-K	4.10	325	P	Pn	00 20 31.1	+0.2
ZEYE	Izmir, Urla-Ze	4.17	36	P	Pn	00 20 34.4	+2.5
AGG	Agios Georgios	4.18	349	PN	Pn	00 20 34.4	+2.3
AGG	Agios Georgios	4.18	349	P	Pn	00 20 34.2	+2.1
AGG	Agios Georgios	4.18	349	P	Pn	00 20 34.3	+2.3
EVR	Evrytania	4.18	343	P	Pn	00 20 34.1	+1.9
GCAM	G?zelcaml?	4.18	47	P	Pn	00 20 15.6	-16
MAKR	Makrakomi, Fth	4.21	347	P	Pn	00 20 35.6	+3.1
EVGI	Lefkada island	4.29	330	P	Pn	00 20 34.4	+0.8
MLSB	Milas	4.29	55	PN	Pn	00 20 36.4	+2.8
URLA	Izmir	4.31	36	PN	Pn	00 20 36.5	+2.6
NYDR	Nydri-Lefkada	4.35	331	P	Pn	00 20 35.7	+1.3
TURN	Turunc	4.38	64	PN	Pn	00 20 37.2	+2.4
TURN	Turunc	4.38	64	P	Pn	00 20 34.6	-0.1
LKD2	Lefkada island	4.43	331	P	Pn	00 20 37.0	+1.4
TSLK	Tsoukalades, L	4.46	332	P	Pn	00 20 37.6	+1.6
BLCB	Balcova	4.55	39	PN	Pn	00 20 40.1	+2.9
BLCB	Balcova	4.55	39	P	Pb	00 20 43.9	-4.3
YER	Yerkesik	4.56	60	PN	Pn	00 20 40.6	+3.2
YER	Yerkesik	4.56	60	P	Pn	00 20 40.3	+2.9
YER	Yerkesik	4.56	60	P	Pn	00 20 40.9	+3.5
AYDN	Tasoluk	4.56	52	P	Pn	00 20 38.4	+1.0
MULA	Mugla, Merkez-	4.64	58	P	Pn	00 20 41.7	+3.1
DALY	Dalyan (Mula)	4.70	65	PN	Pn	00 20 42.8	+3.7
AYDB	Zeytinkoy-Aydi	4.74	49	PN	Pn	00 20 42.9	+3.0
THL	Klokotos Trika	4.76	347	P	Pn	00 20 41.9	+1.8
PRK	Paraskevi	4.91	27	P	Pn	00 20 43.9	+1.9
FETY	Fethiye	4.96	68	PN	Pn	00 20 45.9	+3.1
KOCA	Canakkale, Ayv	5.08	25	P	Pn	00 20 44.3	-0.2
JAN	Janina	5.14	338	P	Pn	00 20 45.9	+0.6
TAVA	DENIZLI_Tavas	5.16	59	P	Pn	00 20 48.6	+3.0
IGT	Igoumenitsa	5.20	333	P	Pn	00 20 46.3	+0.2
AKAS	Kas	5.25	74		Pn	00 20 47.8	+0.8
AKAS	Kas	5.25	74	P	Pn	00 20 46.9	-0.1
AKAS				S	Sn	00 21 33.3	-14
KPRO	Kipourio	5.28	343	P	Pn	00 20 49.2	+2.0
CAEL	Denizli, Camel	5.31	64	P	Pn	00 20 50.8	+3.1
OUR	Ouranopolis	5.43	5	P	Pn	00 20 50.5	+1.3
BAYC	CANAKKALE_Bayr	5.44	27	P	Pn	00 20 49.5	0.0
BUHA	Balikesir, Bur	5.45	32	P	Pn	00 20 51.1	+1.6
KZN	Kozani	5.53	347	P	Pn	00 20 52.5	+1.9
GOLH	Golhisar	5.53	63	P	Pn	00 20 53.6	+2.8
GOLH				S	Sn	00 21 48.5	-5.9
PENT	Pentalofos	5.56	342	P	Pn	00 20 53.2	+2.1
KEK	Kerkira	5.57	330	Pn	Pn	00 20 52.0	+0.9
KEK	Kerkira	5.57	330	P	Pn	00 20 50.6	-0.5
KULA	Kula-Manisa	5.57	48	P	Pn	00 20 50.5	-0.7
ELL	Elmali	5.62	69	Pn	Pn	00 20 54.4	+2.3
ELL	Elmali	5.62	69	P	Pn	00 20 54.3	+2.3
ELL				S	Sn	00 21 50.4	-6.4
ELL	Elmali	5.62	69	P	Pn	00 20 54.4	+2.3
SRN	Sarande	5.63	333	P	Pn	00 20 51.7	-0.3
LSK	Leskovik	5.67	338	P	Pn	00 20 54.6	+2.0
HORT	Hortiatis	5.68	358	P	Pn	00 20 54.0	+1.3
THE	Thessaloniki	5.71	357	P	Pn	00 20 54.0	+0.9
NEST	Nestorio	5.79	342	P	Pn	00 20 56.3	+2.1
AKUM	Antalya-Kumluc	5.86	74	P	Pn	00 20 56.8	+1.8
AKUM				S	Sn	00 21 58.0	-4.3
SOH	Sokhos	5.89	360	P	Pn	00 20 58.2	+2.5
USAK	Uak-Merkez	5.91	48	P	Pn	00 20 59.3	+3.4
KOKK	Kokkinochori,	5.91	5	P	Pn	00 20 57.2	+1.3
SWA2		5.93	162	P	Pn	00 20 56.4	+0.3
	baz=164						
KORT	Korkueli	6.04	68	P	Pn	00 21 00.4	+2.7
KBN	Korca	6.05	341		Pn	00 20 59.1	+1.2
KBN	Korca	6.05	341	P	Pn	00 20 59.7	+1.9
KBN	Korca	6.05	341	P	Pn	00 20 59.1	+1.2
FNA	Florina	6.06	346	Pn	Pn	00 20 58.6	+0.6
FNA	Florina	6.06	346	P	Pn	00 20 59.0	+1.0
FNA	Florina	6.06	346	P	Pn	00 20 58.6	+0.6
GRG	Griva	6.08	353	P	Pn	00 20 59.0	+0.8
SRS	Serrai	6.19	2	P	Pn	00 21 01.5	+1.8
KNT	Kendrikon	6.25	357	P	Pn	00 21 01.8	+1.3
BUCA	Burdur, Bucak-	6.30	65	P	Pn	00 21 03.8	+2.5
VLO	Vlora	6.33	332	Pn	Pn	00 21 02.5	+0.9
VLO	Vlora	6.33	332	P	Pn	00 21 02.5	+0.9
KZIL	AFYON_Kizioren	6.39	57	P	Pn	00 21 06.2	+3.7
VAY	Valandovo	6.42	355	*i* Pn	Pn	00 21 05.1	+2.2
GDZ	Gediz	6.43	48	P	Pn	00 21 05.6	+2.5
NVR	Nevrokopi	6.43	3	P	Pn	00 21 04.5	+1.4
SCTE	Santa Cesarea	6.45	324	Pn	Pn	00 21 02.0	-1.2
RDO	Rodhopi	6.45	15		Pn	00 21 05.1	+1.9
RDO	Rodhopi	6.45	15	P	Pn	00 21 05.5	+2.3
ISP	Isparta	6.46	61	*i* P	Pn	00 21 07.5	+4.0
MMB	Musomiste	6.67	2	P	Pn	00 21 07.9	+1.6
TIP	Timpagrande	6.78	311	⇓P	Pn	00 21 07.0	-0.9
TIP	Timpagrande	6.78	311	Pn	Pn	00 21 07.2	-0.7
STIP	Stip	6.83	353	*i* Pn	Pn	00 21 09.6	+1.2
RZN	Rozhen	6.84	9	P	Pn	00 21 11.5	+2.7
KKB	Krupnik	6.94	358	P	Pn	00 21 14.4	+4.4
KEPZ	Antalya-Kepez	6.97	71	P	Pn	00 21 12.3	+1.8
KEPZ				S	Sn	00 22 21.4	-8.6
TIR	Tirane	6.99	338	⇑P	Pn	00 21 15.2	+4.6
TIR	Tirane	6.99	338	Pn	Pn	00 21 11.2	+0.6
TIR	Tirane	6.99	338	⇑P	Pn	00 21 15.2	+4.6
SKO	Skopje	7.20	348	*i* Pn	Pn	00 21 13.8	+0.2
PLD	Plovdiv	7.25	8	P	Pn	00 21 17.7	+3.4
RAFF	Raffo Rosso	7.64	290	Pn	Pn	00 21 18.4	-1.2
PGB	Panagyurishte	7.65	4	P	Pn	00 21 22.3	+2.6
VAE	Valguarnera	7.67	292	Pn	Pn	00 21 21.3	+1.1
	comp=E,1.3nm,0.3s,baz=3.9,slow=18,SNR=7.2						
VAE				Sn	Sn	00 22 48.2	+1.1
	comp=E,1.6nm,0.3s,baz=135,slow=16,SNR=3.6						
	comp=E,8.7nm,0.6s						
VTS	Vitosha	7.69	359	Pn	Pn	00 21 21.9	+1.5
VTS	Vitosha	7.69	359	P	Pn	00 21 22.1	+1.7
VTS	Vitosha	7.69	359	P	Pn	00 21 21.9	+1.5
CUC	Castrocucco	7.85	312		Pn	00 21 23.2	+0.7
DRME	Dracevica, Mon	7.96	337	*e*Pn	Pn	00 21 22.2	-1.8
PDG	Podgorica	8.16	338	⇑P	Pn	00 21 25.5	-1.2
PDG	Podgorica	8.16	338	Pn	Pn	00 21 26.2	-0.5
CSS	Mathiatis	8.19	87	Pn	Pn	00 21 27.6	+0.5
CSS	Mathiatis	8.19	87	Pn	Pn	00 21 25.5	-1.6
RYAN	Fayoum	8.26	133	P	Pn	00 21 27.6	-0.6
	baz=135						
PLVB	Pleven	8.52	6	⇓P	Pn	00 21 34.9	+3.4
CLTB	Caltabellotta	8.62	291	Pn	Pn	00 21 33.6	+0.5
TREB	Trebinje	8.71	335	*e*Pn	Pn	00 21 31.7	-2.6
HSAF	As Saff	8.72	125	P	Pn	00 21 32.9	-1.5
	baz=127						
GLL	Jalalah	8.85	125	P	Pn	00 21 34.1	-2.1
	baz=127						
BR231	Keskin MP Arra	8.96	54	Pn	Pn	00 21 40.6	+2.8
RAZG	Razgrad	8.97	15	⇓P	Pn	00 21 41.3	+3.4
ANTO	Ankara	8.98	54	⇑P	Pn	00 21 39.9	+1.8
ANTO	Ankara	8.98	54	Pn	Pn	00 21 40.2	+2.1
ANTO	Ankara	8.98	54	⇑P	Pn	00 21 39.9	+1.8
SGRT	San Giovanni R	9.08	321	Pn	Pn	00 21 38.5	-0.9
STON	Ston	9.09	333	*e*Pn	Pn	00 21 34.9	-4.5
VLAD	Vladila	9.11	5	⇓P	Pn	00 21 40.9	+1.2
NBNS	Bani Suef	9.21	131	P	Pn	00 21 40.2	-1.0
	baz=133						
NBNS				S	Sn	00 23 18.7	-6.3
	baz=133						
RUDO	Rudo	9.22	342	*e*Pn	Pn	00 21 39.2	-2.1
BR131	Keskin Array S	9.49	57		Pn	00 21 46.7	+1.6
BR131	Keskin Array S	9.49	57	*i* P	Pn	00 21

COVR Voineasa-Covas 11.13 10 ⇑P Pn 00 22 10.4 +3.0
DOPR Dopca 11.15 7 ⇓P Pn 00 22 07.0 -0.7
HBST Basata 11.19 117 P Pn 00 22 06.7 -1.6
baz=119
PLOR Plostina 11.21 12 ⇓P Pn 00 22 07.5 -1.0
PLOR Plostina 11.21 12 ⇓P Pn 00 22 07.5 -1.0
A051A Mrakovica 11.23 336 *e*Pn Pn 00 22 05.9 -2.9
VRI Vrincioaia 11.23 12 ⇓P Pn 00 22 10.7 +1.9
VRI Vrincioaia 11.23 12 ⇓P Pn 00 22 10.7 +1.9
GTR Jabal at Tayr 11.25 145 P Pn 00 22 10.1 +1.0
baz=146
OZUR 11.32 9 ⇑P Pn 00 22 09.9 -0.1
GAZ Gaziantep 11.44 75 Pn 00 22 13.9 +2.2
ASF Jabal al Asfar 11.62 100 Pn Pn 00 22 15.9 +1.6
comp=Z,0.6nm,0.3s,baz=277,slow=2.3,SNR=7.7
comp=Z,2.9nm,0.5s
MORH Mrgy, Hungar 11.84 344 ⇑P Pn 00 22 13.7 -3.4
MORH Mrgy, Hungar 11.84 344 P Pn 00 22 15.3 -1.7
TESR Tescani 11.85 11 ⇑P Pn 00 22 19.6 +2.4
KOVH Kovagotottos 11.85 342 P Pn 00 22 15.5 -1.7
BURAR Bucovina Array 12.76 6 ⇑P Pn 00 22 25.0 -4.8
BURAR Bucovina Array 12.76 6 Pn Pn 00 22 31.4 +1.6
BURAR Bucovina Array 12.76 6 ⇑P Pn 00 22 25.0 -4.8
CEY Cerknica 12.77 331 *e*Pn Pn 00 22 27.7 -2.1
BUR08 Bucovina Ar. S 12.79 6 Pn Pn 00 22 31.5 +1.3
MPLH Magyarpolny 13.00 342 P Pn 00 22 33.9 +0.9
PSZ Piszkesteto 13.25 350 P Pn 00 22 38.0 +1.6
SABO M.te Sabotino 13.31 329 Pn Pn 00 22 35.7 -1.4
SOKA Soboth 13.32 334 *e*Pn Pn 00 22 35.0 -2.4
comp=Z,11nm,1.2s
OBKA Obir 13.36 333 *e*Pn Pn 00 22 35.2 -2.7
OBKA Obir 13.36 333 *e*Pn Pn 00 22 36.2 -1.8
comp=Z,21nm,1.8s
ABAH Abaujker 13.46 354 P Pn 00 22 38.8 -0.4
ARSA Arzberg 13.66 337 *e*Pn Pn 00 22 40.5 -1.4
comp=Z,1.9nm,0.5s
SORM Soroca 13.72 14 ⇓P Pn 00 22 44.5 +1.8
SORM Soroca 13.72 14 ⇓P Pn 00 22 44.5 +1.8
MYKA Terra Mystica 13.81 331 *e*Pn Pn 00 22 42.7 -1.4
comp=Z,2.7nm,0.5s
RONA Rosalia, Austr 13.82 340 *e*Pn Pn 00 22 45.0 +0.8
comp=Z,7.9nm,1.1s
STAL STALIGIAL 13.91 328 Pn 00 22 42.6 -2.7
VYHS Vyhne 13.98 347 *e*PN P 00 22 54.8 +0.4
VYHS Vyhne 13.98 347 *e*P P 00 22 54.8 +0.4
CLUD Cludinico 13.99 329 Pn Pn 00 22 47.0 +0.6
CIMO Cimolais 14.07 327 Pn Pn 00 22 45.9 -1.7
CONA Conrad Observa 14.15 339 *e*Pn Pn 00 22 49.1 +0.3
comp=Z,5.2nm,1.2s
MODS Modra-Piesok 14.19 343 *e*PN Pn 00 22 49.4 +0.2
MODS Modra-Piesok 14.19 343 *e*P Pn 00 22 49.4 +0.2
ABTA Abfaltersbach 14.37 329 *e*Pn Pn 00 22 51.0 -0.8
comp=Z,9.5nm,1.0s
STHS Stebnicka Huta 14.57 354 *e*PN P 00 23 00.4 -0.6
STHS Stebnicka Huta 14.57 354 *e*P P 00 23 00.4 -0.6
MOA Molln 14.60 335 *e*Pn Pn 00 22 54.3 -0.6
comp=Z,2.5nm,0.4s
ANN Anapa 14.62 43 *e*P Pn 00 22 52.4 -2.6
ANN *e*S Sn 00 25 35.8 -1.2
ANN pmax pmax
comp=Z,60nm,1.4s
BIOA Bad Ischl, Aus 14.69 333 *e*Pn Pn 00 22 55.5 -0.5
comp=Z,1.9nm,0.4s
MAUC Maruska 15.00 346 *e*P P 00 23 09.1 +3.3
MAUC AMS AMS 00 30 30.0
comp=Z,1μm,6.6s
KRUC Moravsky 15.04 342 *e*P P 00 23 06.5 +0.3
WTTA Wattenberg 15.15 328 *e*Pn P 00 23 08.9 +1.3
comp=Z,6.8nm,0.8s
VRAC Vranov 15.22 343 ⇓P Pn 00 23 00.4 -2.8
VRAC Vranov 15.22 343 LR LR 00 30 24.5
comp=Z,352nm,20.1s,baz=164,slow=44
VRAC Vranov 15.22 343 *e*P P 00 23 08.6 +0.4
VRAC Vranov 15.22 343 ⇓P Pn 00 23 00.4 -2.8
WATA Walderalm 15.23 328 *e*Pn Pn 00 23 03.8 +0.3
comp=Z,5.1nm,0.8s
SQTA Sankt Quirin 15.31 327 *e*Pn P 00 23 07.8 -1.5
comp=Z,7.1nm,0.6s
FUORN Ofenpass-Fuorn 15.31 324 Pn 00 23 06.0 +1.4
FUORN IAmb IAmb 00 23 19.1
comp=Z,14nm,1.1s
SOC Sochi 15.32 51 *e*P Pn 00 23 03.7 -0.8
SOC *e* 00 25 56.0
SOC pmax pmax
comp=Z,33nm,0.8s
SOC MLR MLR
comp=Z,99nm,15.0s
FETA Feichten 15.38 326 *e*Pn P 00 23 09.9 -0.2
comp=Z,6.7nm,1.0s
OKC Ostrava-Krasne 15.39 347 *e*P P 00 23 10.6 +0.5
OKC *ex* x 00 23 19.5
OKC AMS AMS 00 30 20.0
comp=Z,500nm,12.9s
OKC Ostrava-Krasne 15.39 347 *e*P P 00 23 10.6 +0.5
OKC MLR MLR
comp=Z,500nm,12.9s
GURO Guroymak-BITLI 15.40 71 Pn 00 23 06.0 +0.3
CKRC Cesky Krumlov 15.43 337 *e*P P 00 23 11.4 +0.9
CKRC *ex* x 00 23 21.6
MOTA Moosalm 15.45 327 *e*Pn P 00 23 10.6 -0.3
comp=Z,7.6nm,1.1s
MORC Moravsky Berou 15.45 346 ⇓P P 00 23 10.8 0.0
MORC Moravsky Berou 15.45 346 P P 00 23 10.8 0.0
MORC IAmb IAmb 00 23 15.4
comp=Z,9.3nm,0.8s
MORC Moravsky Berou 15.45 346 *e*P P 00 23 10.8 0.0
MORC Moravsky Berou 15.45 346 P P 00 23 10.8 0.0
MORC pmax pmax
comp=Z,9.0nm,0.8s
TREC Trest 15.50 340 *e*P P 00 23 11.7 +0.4
TREC AMS AMS 00 29 30.0
comp=Z,600nm,18.9s
TREC Trest 15.50 340 *e*P P 00 23 11.7 +0.4
TREC MLR MLR
comp=Z,600nm,18.9s
OJC Ojcow 15.51 351 Pn Pn 00 23 07.2 +0.2
OJC Ojcow 15.51 351 P Pn 00 23 07.2 +0.2
OJC pmax pmax
comp=Z,5.0nm,0.8s
GEC2 GERESS Array S 15.65 336 Pn 00 23 08.2 -0.7
GERES GERESS Array B 15.65 336 Pn Pn 00 23 07.4 -1.5
comp=Z,0.2nm,0.3s,baz=158,slow=14,SNR=6.0
GERES LR LR 00 31 08.1
comp=Z,393nm,18.2s,baz=143,slow=45
comp=Z,0.4nm,0.4s
GERES GERESS Array B 15.65 336 Pn 00 23 08.5 -0.4
RETA Reutte 15.71 327 *e*Pn P 00 23 14.8 +1.2
comp=Z,2.6nm,0.4s
KRLC Kraliky 15.90 344 *e*P P 00 23 16.4 +0.7
KRLC *ep*P **pwP 00 23 21.1 -0.4**
KRLC AMS AMS 00 31 40.0
comp=Z,500nm,14.7s
KRLC Kraliky 15.90 344 *e*P P 00 23 16.4 +0.7
KRLC MLR MLR
comp=Z,500nm,14.7s
KHC Kasperske Hory 15.94 336 P P 00 23 16.4 +0.2
KHC IAmb IAmb 00 23 28.1
comp=Z,18nm,1.0s
KHC Kasperske Hory 15.94 336 *e*P P 00 23 16.8 +0.7
KHC *ex* x 00 23 27.2
KHC AMS AMS 00 30 20.0
comp=Z,900nm,14.9s
KHC Kasperske Hory 15.94 336 *i*P Pn 00 23 13.4 +0.9
DAVA Damuels 15.97 325 *e*Pn P 00 23 17.9 +1.2
comp=Z,9.9nm,0.9s
GEVA Gevas 16.17 72 Pn Pn 00 23 16.8 +1.1
GEVA IAmb IAmb 00 23 19.8
comp=Z,28nm,1.2s
GOPC GO Pecny, Ondr 16.25 340 AMS AMS 00 30 50.0
comp=Z,700nm,17.7s
DPC Dobruska-Polom 16.26 344 *e*P P 00 23 20.1 +0.4
DPC *ep*P **pwP 00 23 24.9 -0.6**
DPC AMS AMS 00 30 40.0
comp=Z,500nm,13.4s
DPC Dobruska-Polom 16.26 344 *e*P P 00 23 20.1 +0.4
DPC MLR MLR
comp=Z,500nm,13.4s
AK05 Malin Array Si 16.26 13 Pn Pn 00 23 17.2 +0.6
AK05 IAmb IAmb 00 23 23.1
comp=Z,19nm,1.1s
AKASG Malin Array Be 16.34 13 Pn Pn 00 23 14.3 -3.4
comp=Z,0.6nm,0.3s,baz=203,slow=12,SNR=9.4
AKASG LR LR 00 29 36.5
comp=Z,153nm,20.3s,baz=198,slow=38
comp=Z,2.2nm,0.7s
AKASG Malin Array Be 16.34 13 Pn **00 23 18.8 +1.1**
AKBB Malin Array Si 16.34 13 Pn Pn 00 23 17.9 +0.3
AKBB Malin Array Si 16.34 13*ce*P Pn 00 23 16.7 -0.9
PRU Pruhonice 16.39 339 *e*P P 00 23 20.2 -0.9
PRU *ep*P **pwP 00 23 27.8 +0.9**
PRU AMS AMS 00 30 50.0
comp=Z,700nm,14.0s
PRU Pruhonice 16.39 339 *e*P P 00 23 20.2 -0.9
PRU MLR MLR
comp=Z,700nm,14.0s
OSTC Ostas 16.48 344 *e*P P 00 23 23.6 +1.5
OSTC AMS AMS 00 30 50.0
comp=Z,500nm,15.6s
UPC Upice 16.48 343 *e*P P 00 23 22.9 +0.8
UPC AMS AMS 00 30 50.0
comp=Z,500nm,15.5s
UPC Upice 16.48 343 *e*P P 00 23 22.9 +0.8
UPC MLR MLR
comp=Z,500nm,15.5s
KARS Kars 16.59 64 P P 00 23 22.7 -0.8
KARS Kars 16.59 64 P P 00 23 22.7 -0.8
KARS pmax pmax
comp=Z,64nm,1.1s
SENIN Lac Senin/Sane 16.68 318 Pn Pn 00 23 21.8 -0.4
SENIN IAmb IAmb 00 23 32.7
comp=Z,22nm,1.0s
PVCC Panska Ves 16.87 340 *e*P P 00 23 26.1 -0.3
PVCC *ep*P **sP 00 23 28.8 -0.1**
PVCC AMS AMS 00 30 20.0
comp=Z,400nm,16.4s
PVCC Panska Ves 16.87 340 *e*P P 00 23 26.1 -0.3
PVCC MLR MLR
comp=Z,400nm,16.4s
NEY Neytrino 17.15 55 *i*P P 00 23 30.1 +0.3
NEY pmax pmax
comp=Z,3.0nm,0.8s
GRA1 Grafenberg Arr 17.25 333 P P 00 23 29.6 -1.0
GRA1 IAmb IAmb 00 23 45.7
comp=Z,33nm,1.0s
GRF Grafenberg Arr 17.25 333 P P 00 23 29.6 -1.0
GRF pmax pmax
comp=Z,33nm,1.0s
GRFO Grafenberg 17.25 333 P P 00 23 29.6 -1.0
GRFO IAmb IAmb 00 23 35.6
comp=Z,37nm,1.1s
GRFO Grafenberg 17.25 333 P P 00 23 29.6 -1.0
GRFO pmax pmax
comp=Z,37nm,1.1s
NKC Novy Kostel 17.26 336 *e*P P 00 23 32.0 +1.2
NKC *ex* x 00 23 38.1
NKC AMS AMS 00 31 00.0
comp=Z,800nm,12.9s
NKC Novy Kostel 17.26 336 *e*P P 00 23 32.0 +1.2
NKC MLR MLR
comp=Z,800nm,12.9s
SHA1 Shidzhatmaz 17.30 54 *i*P P 00 23 31.9 +0.4
BRG Berggiesshubel 17.35 340 *e*P P 00 23 31.7 -0.1
BRG Amp 00 23 36.3
comp=Z,3.8nm,0.9s
BRG *ex* x 00 23 39.5
BRG Amp 00 23 40.2
comp=Z,8.3nm,0.9s
BRG Amp 00 31 33.0
comp=E,0.2nm,13.3s
BRG Amp 00 31 44.0
comp=Z,0.6nm,10.2s
BRG Amp 00 31 48.0
comp=N,0.4nm,12.8s
BRG Berggiesshubel 17.35 340 *e*P P 00 23 31.6 -0.1
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG MLR MLR
comp=E,236nm,13.3s
BRG MLR MLR
comp=Z,585nm,10.2s
BRG MLR MLR
comp=N,435nm,12.8s
KIV Kislovodsk 17.41 53 Pn 00 23 31.9 +0.6
KIV Kislovodsk 17.41 53 *e*P P 00 23 32.6 0.0
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,81nm,14.0s
ONI Oni 17.42 58 P P 00 23 32.4 -0.3
ONI Oni 17.42 58 P P 00 23 32.4 -0.3
ONI pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 17.46 54 Pn P 00 23 33.9 +1.0
comp=Z,0.2nm,0.3s,baz=254,slow=7.2,SNR=15
comp=Z,15nm,1.1s
KBZ Khabaz 17.46 54*ce*P P 00 23 34.1 +1.1
GNI Garni 17.73 67 LR LR 00 31 41.9
comp=Z,370nm,19.1s,baz=278,slow=42
GNI Garni 17.73 67 P 00 23 36.3 +0.1
GNI Garni 17.73 67 P P 00 23 36.3 +0.1
GNI pmax pmax
comp=Z,16nm,1.2s
ZEI Tsey 17.80 58 *e*P Pn 00 23 36.7 +0.5
ZEI pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 18.01 339 P P 00 23 38.8 -0.2
CLL Collm 18.01 339 *e*P P 00 23 40.0 +0.9
comp=Z,19nm,1.6s
CLL *i*x x 00 23 46.7
comp=Z,27nm,1.5s
CLL *i*x x 00 23 48.8
CLL *i*PP **PnPn 00 23 51.9 +2.4**
CLL *e*S **S 00 27 06.0 +0.4**
CLL Collm 18.01 339 *e*P P 00 23 40.0 +0.9
CLL *e*S **S 00 27 06.0 +0.4**
CLL pmax pmax
comp=Z,19nm,1.6s
NAX Nakhchivan 18.16 70 P P 00 23 42.3 +1.4
GANJ Ganja 19.01 66 P Pn 00 23 52.2 +1.4
GROC Groznyy 19.25 58 *e*P P 00 23 50.8 -1.9
GROC pmax pmax
comp=Z,23nm,1.0s
WLF Walferdange 19.41 325 P Pn 00 23 54.7 -0.8
WLF IAmb IAmb 00 24 11.7
comp=Z,15nm,1.1s
WLF Walferdange 19.41 325 P Pn 00 23 54.7 -0.8
WLF pmax pmax
comp=Z,15nm,1.1s
MNGR Mingechevir, A 19.60 66 P Pn 00 23 58.6 +0.7
TAM Tamanrasset 19.71 237 P P 00 23 57.7 -0.4
TAM Tamanrasset 19.71 237 P P 00 23 57.7 -0.4
TAM pmax pmax
comp=Z,4.0nm,1.1s
SEKA Sheki 19.76 64 P Pn 00 24 01.3 +1.4
MNK Minsk 19.84 8 *i*P P 00 23 57.8 -1.3
comp=E,1.0nm,1.0s
MNK *i*P P 00 23 57.8 -1.3
comp=N,30nm,1.0s
MNK *i*P P 00 23 57.8 -1.3
comp=Z,21nm,0.8s,baz=191
MNK *i*PP **PnPn 00 24 13.1 -1.4**
MNK *i*PPP PPP 00 24 21.8
MNK *i*S **Sn 00 27 43.7 +0.2**
MNK *i*SS **SnSn 00 28 01.7 +3.9**
MNK *i*SSS SSS 00 28 15.4
MNK *i*LQ LQ 00 29 31.2
MNK *i*LR LR 00 31 06.6
MNK *i*LRM MLR 00 32 28.5
comp=N,397nm,14.4s
MNK *i*LRM MLR 00 32 30.6
comp=Z,318nm,15.7s
MNK *i*LRM MLR 00 32 34.0
comp=E,19nm,8.9s
MNK Minsk 19.84 8 *i*P P 00 23 57.7 -1.3
MNK *i*S **Sn 00 27 43.6 +0.2**
MNK pmax pmax
comp=N,30nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,21nm,0.8s
MNK MLR MLR
comp=N,397nm,14.0s
MNK MLR MLR
comp=Z,318nm,16.0s
MNK MLR MLR
comp=E,19nm,9.0s
VSR Storozhevoye 19.90 30 *e*P Pn 00 24 00.7 -0.6
VSR pmax pmax
comp=Z,5.0nm,0.5s
NACGM Naroch 20.13 6 *e*P P 00 24 01.2 -1.0
comp=Z,4.1nm,0.8s,baz=188
AKT Akhty 20.21 64 *e*P Pn 00 24 04.6 -0.6
AKT *e* 00 24 21.1
AKT pmax pmax
comp=Z,19nm,1.2s
VORR Voronezh 20.26 29 *e*P P 00 23 59.6 -4.0
VORR pmax pmax
comp=Z,10.0nm,0.4s
MAK Makhachkala 20.38 60 *e*P P 00 24 00.9 -4.1
MAK *e*S S 00 27 49.0 -4.3
MAK pmax pmax
comp=Z,98nm,1.3s
MAK MLR MLR
comp=Z,131nm,21.0s
DOU Dourbes 20.44 324 *d*P P 00 24 06.2 +0.6
IIGN Ignalina 20.53 5 *e*P P 00 24 07.2 +0.7
IIGN IAmb IAmb 00 24 17.5
comp=Z,7.7nm,0.6s
PABE Paberze 20.59 1 P P 00 24 05.8 -1.4
PABE Paberze 20.59 1 *e*P P 00 24 06.3 -0.9
LKRN Lenkeran, Azer 20.68 72 P Pn 00 24 09.9 -0.7
LPSR Galich'ya Gora 20.87 27 *e*P P 00 24 11.5 +1.2
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 21.00 34 *e*P P 00 24 13.7 +2.1
VRH pmax pmax
comp=Z,10.0nm,0.5s
BSD Bornholm Skovb 21.03 346 *e*P P 00 24 13.5 +1.6
BSD Bornholm Skovb 21.03 346 *i*P P 00 24 09.9 -2.0
BSD IAmb IAmb 00 24 20.7
comp=Z,20nm,0.6s
VSVD Vaisvydziai 21.07 1 *e*P P 00 24 12.6 +0.3
VSVD IAmb IAmb 00 24 20.0
comp=Z,23nm,0.3s
LUNU Lund 21.82 345 *i*P P 00 24 18.8 -1.6
BLEU Blekinge 22.00 349 *i*P P 00 24 12.6 -10
OBN Obninsk 22.18 20 P P 00 24 23.6 -0.6
comp=Z,2.8nm,0.5s,baz=230,slow=8.8,SNR=4.2
comp=Z,2.8nm,0.5s
OBN Obninsk 22.18 20 P P 00 24 24.3 +0.1
OBN Obninsk 22.18 20⇑*e*P P 00 24 25.6 +1.4
OBN pmax pmax
comp=Z,40nm,1.4s
OBN MLR MLR
comp=Z,118nm,20.0s
ESBB Sonseca Array 22.21 290 P P 00 24 24.9 +0.1
ESDC Sonseca Array 22.21 290 P P 00 24 26.4 +1.5
comp=Z,2.7nm,1.0s,baz=80,slow=9.2,SNR=16
ESDC LR LR 00 34 36.2
comp=Z,83nm,19.3s,baz=90,slow=41
comp=Z,2.7nm,1.0s
ESDC Sonseca Array 22.21 290 P P 00 24 24.8 -0.1
RAYN Ar Rayn 22.36 115 P P 00 24 28.6 +2.0
RAYN Ar Rayn 22.36 115 P P 00 24 28.6 +2.0
RAYN pmax pmax
comp=Z,7.0nm,1.1s
DEL Delary 22.51 346 *i*P P 00 24 26.6 -1.2
MOS Moscow 23.02 21 *e*P P 00 24 32.2 -1.0
MOS pmax pmax
comp=Z,30nm,1.0s
MDT Midelt 23.29 273 P P 00 24 38.7 +2.3
comp=Z,2.8nm,0.8s,baz=84,slow=9.7,SNR=8.0
MDT LR LR 00 35 41.3
comp=Z,157nm,21.1s,baz=87,slow=42
comp=Z,2.8nm,0.8s
BELG Belogornoye 24.58 37 P P 00 24 47.8 -0.4
comp=Z,5.1nm,0.4s,baz=272,slow=2.1,SNR=9.2
BELG LR LR 00 34 44.8
comp=Z,57nm,21.4s,baz=80,slow=38
comp=Z,5.1nm,0.4s
PUL Pulkovo 25.28 8*ce*P P 00 24 54.5 0.0
PUL pmax pmax
comp=Z,109nm,0.8s
MEF Metsahovi 25.32 1 *e*P P 00 24 54.4 -0.4
HFS Hagfors 26.00 349 P P 00 25 00.0 -1.1
comp=Z,6.6nm,0.5s,baz=147,slow=8.8,SNR=27
HFS LR LR 00 36 52.1
comp=Z,148nm,18.9s,baz=160,slow=40
comp=Z,6.6nm,0.5s
RAF Rauma 26.14 358 *e*P P 00 25 03.3 +1.0
KONO Kongsberg 26.34 344 P P 00 25 04.7 +0.6
KONO Kongsberg 26.34 344 P P 00 25 04.7 +0.6
KONO pmax pmax
comp=Z,13nm,0.9s
KONO Kongsberg 26.34 344 *e*P P 00 25 05.2 +1.2
FINES FINESS Array B 26.60 3 P P 00 25 05.2 -1.3
comp=Z,1.2nm,0.4s,baz=170,slow=11,SNR=8.5
FINES LR LR 00 36 48.4
comp=Z,192nm,18.1s,baz=222,slow=40
comp=Z,1.2nm,0.4s
FINES FINESS Array B 26.60 3 P P 00 25 06.1 -0.4
FINES FINESS Array B 26.60 3 *i*P P 00 25 08.8 +2.4
FINES pmax pmax
comp=Z,3.0nm,0.8s
FIA1 FINESS Array S 26.60 3 P P 00 25 08.3 +1.8
FIA1 IAmb IAmb 00 25 18.8
comp=Z,14nm,1.1s
NC602 NORSAR Array S 26.94 347 P P 00 25 10.3 +0.8
NC602 IAmb IAmb 00 25 30.2
comp=Z,3.4nm,0.5s
NC602 NORSAR Array S 26.94 347 *e*P P 00 25 09.3 -0.2
NAO01 NORSAR Array S 27.16 347 P P 00 25 11.1 -0.5
NC405 NORSAR Array S 27.26 348 P P 00 25 13.8 +1.4
NC405 IAmb IAmb 00 25 16.3
comp=Z,3.4nm,0.7s
NB201 NORSAR Array S 27.28 347 P P 00 25 12.2 -0.4
NB2 NORSAR Subarra 27.28 347 P P 00 25 11.5 -1.2
baz=153,slow=10
NB2 NORSAR Subarra 27.28 347 P P 00 25 11.5 -1.2
comp=Z,1.7nm,0.6s,baz=153,slow=10
NOA NORSAR Array B 27.28 347 P P 00 25 11.9 -0.7
comp=Z,0.9nm,0.8s,baz=160,slow=9.7,SNR=11
NOA LR LR 00 37 49.2
comp=Z,138nm,18.5s,baz=160,slow=41
comp=Z,0.9nm,0.8s
NBO00 NORSAR Array S 27.36 347 P P 00 25 14.0 +0.7
EKA Eskdalemuir Ar 27.41 326 P P 00 25 13.5 -0.3
comp=Z,0.8nm,0.4s,baz=123,slow=8.2,SNR=14
comp=Z,0.8nm,0.4s
ESK Eskdalemuir 27.42 326 P P 00 25 13.9 0.0
ESK IAmb IAmb 00 25 24.8
comp=Z,12nm,1.0s
ESK Eskdalemuir 27.42 326 P P 00 25 13.9 0.0
ESK pmax pmax
comp=Z,12nm,1.0s
NC303 NORSAR Array S 27.43 347 P P 00 25 14.9 +1.0
NC303 IAmb IAmb 00 25 26.1
comp=Z,9.3nm,1.0s
NC204 NORSAR Array S 27.59 347 P P 00 25 15.7 +0.3
DSB Dublin 27.84 320 P P 00 25 16.1 -1.6
KLMR Klimovskoe 27.96 17 *e*P P 00 25 16.5 -2.2
KLMR AMP 00 25 25.8
comp=Z,21nm,1.5s
KLMR Klimovskoe 27.96 17 *e*P P 00 25 16.5 -2.2
KLMR pmax pmax
comp=Z,21nm,1.5s
GEYT Alibeck 28.03 74 P P 00 25 20.0 +0.3
comp=Z,2.7nm,0.8s,baz=287,slow=10,SNR=5.4
comp=Z,2.7nm,0.8s
GEYT Alibeck 28.03 74 P P 00 25 19.2 -0.4
GEYT IAmb IAmb 00 25 21.6
comp=Z,4.7nm,1.1s
GYA0B ALIBECK ARRAY 28.03 74 P P 00 25 19.2 -0.4
GYA0B IAmb IAmb 00 25 35.9
comp=Z,4.5nm,0.9s
KIRV Kirov 29.30 28 P P 00 25 29.2 -1.4
comp=Z,4.7nm,0.6s,baz=253,slow=2.1,SNR=4.8
KIRV LR LR 00 36 44.4
comp=Z,111nm,18.6s,baz=235,slow=36
comp=Z,4.7nm,0.6s
UOSS Minazif 30.03 100 P P 00 25 36.8 -0.6
PRGR Permogore 30.25 21 *e*P P 00 25 34.7 -4.3
PRGR pmax pmax
comp=Z,11nm,0.8s
ABKAR Akbulak array 30.36 51 P P 00 25 40.1 0.0
ABKAR Akbulak array 30.36 51 P P 00 25 39.8 -0.4
MOR8 Moi Rana 31.74 353 *e*P P 00 25 52.5 +0.5
MOR8 IAmb IAmb 00 25 54.6
comp=Z,12nm,0.6s
HRA Herat 31.86 80 P P 00 25 53.6 -0.1
HRA IAmb IAmb 00 25 55.3
comp=Z,4.8nm,1.1s

ARU	**Arti**	**32.13**	**37**	P	**P**	**00 25 54.5**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=244,slow=2.5,SNR=6.4						
ARU				LR	LR	00 39 17.4	
	comp=Z,53nm,19.4s,baz=168,slow=37						
	comp=Z,3.2nm,0.6s						
ARU	**Arti**	**32.13**	**37**	P	**P**	**00 25 55.8**	**+0.2**
ARU				IAmb	IAmb	00 26 03.8	
	comp=Z,4.9nm,0.8s						
ARU	**Arti**	**32.13**	**37**	*c* *i*P	**P**	**00 25 54.0**	**-1.6**
ARU				S	**S**	**00 31 08.3**	**+0.3**
ARU				SS	**SnSn**	**00 32 57.9**	**0.0**
ARU				pmax	pmax		
	comp=Z,12nm,1.8s						
WSAR	**Wadi Sarin**	**32.78**	**101**	LR	LR	00 42 43.5	
	comp=Z,88nm,19.0s,baz=326,slow=43						
FAUS	**Fauske**	**32.84**	**354**	*e*P	**P**	**00 26 01.2**	**-0.5**
SVE	**Sverdlovsk**	**33.34**	**37**	*e*P	**P**	**00 26 06.4**	**+0.2**
SVE				pmax	pmax		
	comp=Z,14nm,1.0s						
STEI	**Steigen**	**33.38**	**354**	*e*P	**P**	**00 26 06.0**	**-0.4**
STEI				IAmb	IAmb	00 26 07.0	
	comp=Z,11nm,0.6s						
KTK1	**Kautokeino**	**34.15**	**360**	*e*P	**P**	**00 26 11.4**	**-1.6**
ARA0	**ARCESS Array S**	**34.69**	**1**	*e*P	**P**	**00 26 16.5**	**-1.3**
ARCES	**ARCESS Array B**	**34.69**	**1**	P	**P**	**00 26 16.6**	**-1.2**
	comp=Z,1.5nm,0.4s,baz=304,slow=2.8,SNR=19						
	comp=Z,1.5nm,0.4s						
ARCES	**ARCESS Array B**	**34.69**	**1**	P	**P**	**00 26 17.0**	**-0.8**
ARCES				IAmb	IAmb	00 26 24.1	
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**34.69**	**1**	P	**P**	**00 26 17.0**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
JETT	**Jettan, Norway**	**34.73**	**358**	*e*P	**P**	**00 26 19.8**	**+1.6**
KEV	**Kevo**	**34.95**	**2**	P	**P**	**00 26 19.8**	**-0.2**
KEV	**Kevo**	**34.95**	**2**	P	**P**	**00 26 19.8**	**-0.2**
VADS	**Vadso**	**35.41**	**4**	*e*P	**P**	**00 26 23.5**	**-0.4**
MBAR	**Mbarara**	**36.00**	**167**	LR	LR	00 43 16.7	
	comp=Z,105nm,18.8s,baz=336,slow=39						
CHGR	**Chuyangaron**	**36.58**	**70**	P	**P**	**00 26 36.2**	**+1.7**
CHGR	**Chuyangaron**	**36.58**	**70**	P	**P**	**00 26 36.2**	**+1.7**
CHGR				pmax	pmax		
	comp=Z,16nm,0.8s						
KK31	**Karatay Array**	**37.13**	**63**	P	**P**	**00 26 40.4**	**+1.4**
KK31				IAmb	IAmb	00 26 41.0	
	comp=Z,9.3nm,1.1s						
KK31	**Karatay Array**	**37.13**	**63**	P	**P**	**00 26 40.4**	**+1.4**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KKAR	**Karatay Array**	**37.13**	**63**	P	**P**	**00 26 39.6**	**+0.6**
KKAR	**Karatay Array**	**37.13**	**63**	P	**P**	**00 26 39.3**	**+0.2**
KKAR				IAmb	IAmb	00 26 41.0	
	comp=Z,9.3nm,1.1s						
KKAR	**Karatay Array**	**37.13**	**63**	P	**P**	**00 26 39.6**	**+0.6**
GAR	**Garm**	**37.42**	**70**	P	**P**	**00 26 42.5**	**+0.9**
BRVK	**Borovoye**	**37.52**	**46**	*ce*P	**P**	**00 26 44.3**	**+2.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BTK	**Batken**	**37.65**	**68**	P	**P**	**00 26 44.2**	**+0.6**
BTK	**Batken**	**37.65**	**68**	P	**P**	**00 26 44.2**	**+0.6**
BTK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**38.14**	**157**	LR	LR	00 42 34.8	
	comp=Z,47nm,21.1s,baz=96,slow=36						
DRK	**Karamyk**	**38.48**	**69**	P	**P**	**00 26 50.9**	**0.0**
DRK					**pP**	**00 26 51.0**	**-1.7**
DRK				IAmb	IAmb	00 27 01.2	
	comp=Z,6.8nm,1.1s						
BORG	**Borgarnes**	**40.06**	**332**	LR	LR	00 46 12.5	
	comp=Z,119nm,18.4s,baz=113,slow=40						
AAK	**Ala-Archa**	**40.09**	**63**	P	**P**	**00 27 04.5**	**+0.4**
AAK				IAmb	IAmb	00 27 17.3	
	comp=Z,4.2nm,0.8s						
AAK	**Ala-Archa**	**40.09**	**63**	*ce*P	**P**	**00 27 06.7**	**+2.6**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
NIL	**Nilore**	**40.90**	**77**	P	**P**	**00 27 11.6**	**+0.9**
NIL	**Nilore**	**40.90**	**77**	P	**P**	**00 27 11.6**	**+0.9**
NIL				pmax	pmax		
	comp=Z,12nm,1.0s						
BBTS	**Babate**	**41.10**	**251**	LR	LR	00 47 40.1	
	comp=Z,165nm,18.3s,baz=58,slow=41						
NRN	**Naryn**	**41.35**	**65**	P	**P**	**00 27 15.2**	**+0.5**
NRN				IAmb	IAmb	00 27 24.7	
	comp=Z,6.2nm,0.9s						
NRN	**Naryn**	**41.35**	**65**	P	**P**	**00 27 15.2**	**+0.5**
NRN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**42.48**	**51**	*ce*P	**P**	**00 27 23.6**	**+0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TARG	**Taragay, Kyrgy**	**42.65**	**64**	P	**P**	**00 27 25.8**	**+0.4**
TARG				IAmb	IAmb	00 27 35.9	
	comp=Z,3.5nm,0.8s						
TARG	**Taragay, Kyrgy**	**42.65**	**64**	P	**P**	**00 27 25.8**	**+0.4**
TARG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**45.14**	**56**	IAmb	IAmb	00 28 03.7	
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**45.14**	**56**	*i* P	**P**	**00 27 43.6**	**-1.3**
MKAR	**Makanchi Array**	**45.14**	**56**	P	**P**	**00 27 44.4**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=265,slow=7.6,SNR=36						
	comp=Z,2.7nm,0.5s						
ZAA0	**Zalesovo Array**	**46.23**	**46**	IAmb	IAmb	00 28 05.2	
	comp=Z,2.8nm,0.9s						
ZALV	**Zalesovo Beam**	**46.23**	**46**	P	**P**	**00 27 51.8**	**-1.6**
	comp=Z,2.3nm,0.4s,baz=270,slow=8.8,SNR=14						
ZALV				LR	LR	00 51 58.1	
	comp=Z,149nm,19.8s,baz=288,slow=42						
	comp=Z,2.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.23**	**46**	*i* P	**P**	**00 27 52.0**	**-1.4**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
DGZ	**Jazzator, Alta**	**48.19**	**52**	*i* P	**P**	**00 28 08.6**	**-0.3**
DGZ				pmax	pmax		
	comp=Z,5.0nm,1.7s						
WMQ	**Urumqi**	**49.40**	**59**	*e*P	**P**	**00 28 21.8**	**+3.6**
WMQ				LR	LR		
	comp=Z,410nm,14.9s						
WMQ				LR	LR		
	comp=Z,200nm,14.9s						
WMQ				LR	LR		
	comp=Z,790nm,15.9s						
SFJD	**Kangerlussuaq**	**52.19**	**331**	LR	LR	00 51 42.5	
	comp=Z,126nm,19.6s,baz=68,slow=37						
TSUM	**Tsumeb**	**54.10**	**187**	LR	LR	00 54 53.8	
	comp=Z,232nm,18.6s,baz=338,slow=39						
LBTB	**Lobatse**	**59.64**	**178**	LR	LR	00 59 25.0	
	comp=Z,63nm,18.9s,baz=0.0,slow=40						
SONM	**Songino Array**	**60.78**	**50**	P	**P**	**00 29 40.1**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=282,slow=7.3,SNR=15						
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**60.78**	**50**	P	**P**	**00 29 40.5**	**+0.2**
SONM				IAmb	IAmb	00 29 41.6	
	comp=Z,2.1nm,1.0s						
SONM	**Songino Array**	**60.78**	**50**	P	**P**	**00 29 40.6**	**+0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**61.18**	**50**	P	**P**	**00 29 43.6**	**+0.4**
ULN				IAmb	IAmb	00 29 44.2	
	comp=Z,3.9nm,0.9s						
ULN	**Ulaanbaatar**	**61.18**	**50**	P	**P**	**00 29 43.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**61.91**	**20**	P	**P**	**00 29 47.0**	**-0.4**
	comp=Z,3.5nm,0.3s,baz=90,slow=24,SNR=3.6						
	comp=Z,3.5nm,0.3s						
TIXI	**Tiksi**	**61.91**	**20**	*ce*P	**P**	**00 29 46.8**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,12nm,2.5s						
SCHQ	**Schefferville**	**62.41**	**319**	P	**P**	**00 29 51.9**	**+0.7**
	comp=Z,3.5nm,0.5s,baz=82,slow=4.9,SNR=8.5						
	comp=Z,3.5nm,0.5s						
SCHQ	**Schefferville**	**62.41**	**319**	P	**P**	**00 29 51.7**	**+0.5**
BOSA	**Boshof**	**63.21**	**178**	LR	LR	00 59 24.1	
	comp=Z,69nm,20.9s,baz=9.0,slow=38						
PZH	**PanZhiHua**	**66.34**	**73**	P	**P**	**00 30 19.3**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
YAK	**Yakutsk**	**66.82**	**29**	LR	LR	01 01 45.3	
	comp=Z,53nm,20.3s,baz=258,slow=38						
D62A	**Allapoint, All**	**66.90**	**312**	P	**P**	**00 30 21.3**	**+0.7**
SUR	**Sutherland**	**66.98**	**182**	LR	LR	01 01 44.8	
	comp=Z,136nm,18.9s,baz=7.5,slow=38						

HHC	**Hu-ho-hao-te**	**67.00**	**55**	*e*P	**P**	**00 30 22.5**	**+1.0**
KMI	**Kunming**	**67.80**	**74**	⇓P	**P**	**00 30 28.5**	**+1.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
CMAR	**Chiang Mai Arr**	**68.06**	**82**	P	**P**	**00 30 28.4**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=303,slow=7.3,SNR=4.9						
	comp=Z,1.9nm,0.3s						
HIA	**Hailar**	**68.24**	**45**	*i* P	**P**	**00 30 30.4**	**+1.3**
HIA				pmax	pmax		
	comp=Z,24nm,0.8s						
XLT	**XiLinHaoTe**	**68.56**	**51**	*e*P	**P**	**00 30 32.0**	**+0.8**
XLT				sP	pwP	00 30 38.5	+1.1
XLT				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,90nm,4.6s						
A36M	**Sachs Harbour**	**71.14**	**350**	P	**P**	**00 30 47.1**	**+0.6**
SEY	**Seymchan**	**74.34**	**22**	*i* P	**P**	**00 31 06.8**	**+1.2**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KLR	**Kul'dur**	**74.91**	**40**	LR	LR	01 06 29.9	
	comp=Z,47nm,18.2s,baz=6.5,slow=38						
MA2	**Magadan**	**76.33**	**25**	LR	LR	01 06 35.8	
	comp=Z,62nm,20.1s,baz=306,slow=37						
NJ2	**Nanjing**	**76.46**	**60**	*e*P	**P**	**00 31 18.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
YKA	**Yellowknife Ar**	**77.22**	**341**	P	**P**	**00 31 22.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=30,slow=5.4,SNR=8.2						
	comp=Z,0.9nm,0.6s						
KSRS	**Korea Array**	**79.59**	**52**	LR	LR	01 10 10.2	
	comp=Z,43nm,18.7s,baz=260,slow=38						
ILAR	**Eielson Array**	**80.35**	**356**	P	**P**	**00 31 40.5**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=0.0,slow=3.6,SNR=4.9						
	comp=Z,0.5nm,0.8s						
PETK	**Petropavlovsk-**	**83.78**	**26**	LR	LR	01 16 26.8	
	comp=Z,35nm,18.5s,baz=21,slow=41						
SIV	**San Ignacio**	**94.55**	**254**	LR	LR	01 17 13.7	
	comp=Z,26nm,18.1s,baz=61,slow=37						
ELK	**Elko**	**95.62**	**330**	LR	LR	01 18 55.2	
	comp=Z,99nm,18.9s,baz=316,slow=37						
CPUP	**Villa Florida**	**97.59**	**243**	LR	LR	01 18 14.4	
	comp=Z,58nm,19.1s,baz=34,slow=36						

MAN 29 00:26:12.6, 8.57N×124.42E, h1km, mb3.8, ML2.6, MS2.1, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.30**	**113**	⇑*i*P	Pg	00 26 18.4	0.0
CGP				*i* S	Sg	00 26 21.5	-0.7
GHBP	**Garcia Hernand**	**1.05**	**355**	⇓*i*P	Pb	00 26 33.3	-0.4
GHBP				*i* S	Sn	00 26 50.0	+0.1
TABP	**Talibon, Bohol**	**1.51**	**357**	⇓*e*P	Pn	00 26 40.2	-0.7
TABP				*i* S	Sb	00 26 57.5	-3.6
KCP	**Kidapawan**	**1.69**	**157**	⇑*i*P	Pb	00 26 44.4	-0.2
KCP				*i* S	Sg	00 27 06.8	-0.2

*IDC **29** 00:26:20.7±1.7, 17.22N×145.57E, h360km±18km, mb4.0/22, mbtmp4.7/23, Error ellipse: s-maj=15.7km s-min=9.9km az=89.0*
*NEIC **29** 00:26:21.4±1.4, 17.24N±0.08×145.4E±0.1, h358km±7km, mb4.6/117, Error ellipse: s-maj=20.7km s-min=7.9km az=118.0*

ISC 29 00:26:19.7±0.5, 17.20N±0.07×145.5E±0.1, h350km, n167, σ1§10/159, mb4.5/87, 3C-5D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.64**	**190**	P	**Pn**	**00 27 27.0**	**+1.8**
	204nm,0.3s,baz=164,slow=6.5,SNR=19						
GUMO				S	**S**	**00 28 17.0**	**-0.9**
	403nm,0.3s,baz=21,slow=22,SNR=9.6						
GUMO	**Guam**	**3.64**	**190**	Pn	**Pn**	**00 27 27.4**	**+2.1**
JOW	**Kunigami**	**18.61**	**304**	P	**P**	**00 30 13.8**	**+0.5**
JMN	**Monobe**	**19.50**	**330**	P	**P**	**00 30 22.7**	**+0.1**
JMN				IAmb	IAmb	00 30 48.1	
	comp=Z,39nm,1.2s						
JSU	**Suzuyama**	**19.74**	**319**	P	**P**	**00 30 26.2**	**+1.1**
JSU				IAmb	IAmb	00 30 27.1	
	comp=Z,31nm,0.7s						
JNU	**Nakatsue**	**20.62**	**323**	P	**P**	**00 30 34.3**	**+0.9**
JHS	**Saijyo**	**20.89**	**330**	P	**P**	**00 30 36.6**	**+0.7**
JHS				IAmb	IAmb	00 30 51.3	
	comp=Z,36nm,1.2s						
KSRS	**Korea Array**	**25.43**	**326**	P	**P**	**00 31 17.0**	**+0.1**
	comp=Z,16nm,0.7s,baz=143,slow=9.0,SNR=27						
	comp=Z,16nm,0.7s						
KSAR	**Wonju Array Be**	**25.45**	**326**	P	**P**	**00 31 16.7**	**-0.3**
KS19	**Wonju Array Si**	**25.50**	**326**	P	**P**	**00 31 17.2**	**-0.2**
KS19				IAmb	IAmb	00 31 22.4	
	comp=Z,30nm,1.1s						
JKA	**Kamikawa-asahi**	**26.95**	**355**	P	**P**	**00 31 31.6**	**+1.4**
NJ2	**Nanjing**	**28.28**	**306**	*e*P	**P**	**00 31 43.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**29.24**	**340**	P	**P**	**00 31 51.3**	**+0.9**
	comp=Z,7.0nm,0.8s,baz=136,slow=7.0,SNR=2.8						
	comp=Z,7.0nm,0.8s						
KLR	**Kul'dur**	**33.85**	**344**	P	**P**	**00 32 30.4**	**+0.1**
	comp=Z,7.7nm,0.8s,baz=145,slow=5.1,SNR=7.4						
	comp=Z,7.7nm,0.8s						
HIA	**Hailar**	**38.19**	**333**	P	**P**	**00 33 08.1**	**+1.3**
HIA				IAmb	IAmb	00 33 09.2	
	comp=Z,20nm,0.7s						
WB0	**Warramunga Arr**	**38.32**	**197**	P	**P**	**00 33 08.9**	**+0.7**
WR0	**Warramunga Arr**	**38.46**	**197**	P	**P**	**00 33 09.7**	**+0.3**
WRAB	**Tennant Creek**	**38.49**	**197**	P	**P**	**00 33 10.4**	**+0.8**
WRAB				IAmb	IAmb	00 33 10.8	
	comp=Z,10nm,0.5s						
WB2	**Warramunga Arr**	**38.50**	**197**	P	**P**	**00 33 10.3**	**+0.6**
WRA	**Warramunga Arr**	**38.50**	**197**	P	**P**	**00 33 09.9**	**+0.2**
	comp=Z,4.5nm,0.3s,baz=19,slow=8.8,SNR=80						
	comp=Z,4.5nm,0.3s						
WRA	**Warramunga Arr**	**38.50**	**197**	P	**P**	**00 33 09.4**	**-0.3**
LZH	**Lanzhou**	**41.34**	**305**	*e*P	**P**	**00 33 34.0**	**+1.1**
LZH				pmax	pmax		
	comp=Z,29nm,0.9s						
LZH				LR	LR		
	comp=N,440nm,14.6s						
LZH				LR	LR		
	comp=E,750nm,16.2s						
LZH				LR	LR		
	comp=Z,860nm,15.2s						
PZH	**PanZhiHua**	**41.49**	**291**	P	**P**	**00 33 35.3**	**+1.1**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,4.3s						
AS31	**Alice Springs**	**42.16**	**196**	P	**P**	**00 33 41.0**	**+1.6**
ASAR	**Alice Springs**	**42.16**	**196**	P	**P**	**00 33 40.1**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=17,slow=13,SNR=23						
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**42.16**	**196**	P	**P**	**00 33 40.8**	**+1.4**
MA2	**Magadan**	**42.49**	**4**	P	**P**	**00 33 42.1**	**+0.6**
	comp=Z,23nm,0.8s,baz=182,slow=8.2,SNR=5.7						
	comp=Z,23nm,0.8s						
MA2	**Magadan**	**42.49**	**4**	P	**P**	**00 33 42.5**	**+0.9**
MA2				IAmb	IAmb	00 33 43.0	
	comp=Z,34nm,1.0s						
AMKA	**Amchitka**	**43.38**	**31**	P	**P**	**00 33 50.4**	**+1.7**
SONM	**Songino Array**	**44.20**	**322**	P	**P**	**00 33 56.1**	**+0.6**
	comp=Z,13nm,0.7s,baz=135,slow=7.2,SNR=19						
	comp=Z,13nm,0.7s						
SONM	**Songino Array**	**44.20**	**322**	P	**P**	**00 33 56.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**44.25**	**279**	P	**P**	**00 33 56.7**	**+0.6**
	comp=Z,6.4nm,0.8s,baz=73,slow=6.3,SNR=30						
	comp=Z,6.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.25**	**279**	P	**P**	**00 33 56.0**	**-0.1**
YAK	**Yakutsk**	**46.16**	**350**	P	**P**	**00 34 09.7**	**-0.5**
	comp=Z,9.0nm,0.4s,baz=354,slow=1.5,SNR=6.0						
	comp=Z,9.0nm,0.4s						
YAK	**Yakutsk**	**46.16**	**350**	P	**P**	**00 34 09.4**	**-0.8**
YAK				IAmb	IAmb	00 34 10.4	
	comp=Z,38nm,0.8s						
STKA	**Stephens Creek**	**48.94**	**184**	P	**P**	**00 34 30.9**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=11,slow=5.7,SNR=5.1						
	comp=Z,1.1nm,0.5s						
BILL	**Bilibino**	**52.52**	**10**	P	**P**	**00 34 58.1**	**+0.3**
TIXI	**Tiksi**	**55.33**	**354**	P	**P**	**00 35 16.8**	**-1.1**
	comp=Z,4.0nm,0.7s,baz=90,slow=24,SNR=5.5						
	comp=Z,4.0nm,0.7s						
TIXI	**Tiksi**	**55.33**	**354**	P	**P**	**00 35 17.0**	**-0.9**
ZSN	**Zaisan**	**57.73**	**316**	*e*P	**P**	**00 35 35.7**	**+0.6**
	baz=316						
ZAA0	**Zalesovo Array**	**59.09**	**323**	P	**P**	**00 35 43.9**	**-0.3**
ZAA0				IAmb	IAmb	00 35 44.7	
	comp=Z,20nm,0.9s						
ZALV	**Zalesovo Beam**	**59.09**	**323**	P	**P**	**00 35 43.9**	**-0.4**
	comp=Z,14nm,0.7s,baz=112,slow=6.5,SNR=12						
	comp=Z,14nm,0.7s						
MK31	**Makanchi Array**	**59.37**	**315**	P	**P**	**00 35 47.0**	**+0.7**
MKAR	**Makanchi Array**	**59.37**	**315**	P	**P**	**00 35 46.8**	**+0.5**
	comp=Z,8.8nm,0.7s,baz=90,slow=8.4,SNR=14						
MKAR				PcP	**PcP**	**00 36 29.2**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=105,slow=4.3,SNR=3.7						
	comp=Z,8.8nm,0.7s						
SII	**Sitkinak Islan**	**59.55**	**34**	P	**P**	**00 35 48.3**	**+1.0**
MAKZ	**Makanchi**	**59.59**	**315**	P	**P**	**00 35 48.3**	**+0.6**
MAKZ				IAmb	IAmb	00 35 49.3	
	comp=Z,18nm,0.9s						
O18K	**Koktuh Hills**	**60.00**	**30**	P	**P**	**00 35 51.4**	**+1.1**
O18K				IAmb	IAmb	00 35 51.8	
	comp=Z,32nm,1.2s						
OHAK	**Old Harbor**	**60.20**	**33**	P	**P**	**00 35 53.0**	**+1.4**
OHAK				IAmb	IAmb	00 35 53.3	
	comp=Z,30nm,1.1s						
SVW2	**Sparrevohn**	**60.23**	**29**	P	**P**	**00 35 52.8**	**+1.0**
SVW2				IAmb	IAmb	00 35 53.5	
	comp=Z,25nm,1.2s						
N19K	**Bonanza Creek**	**60.64**	**29**	P	**P**	**00 35 56.0**	**+1.3**
N19K				IAmb	IAmb	00 35 57.3	
	comp=Z,16nm,1.0s						
TTA	**Tatalina**	**60.67**	**27**	P	**P**	**00 35 55.2**	**+0.5**
TTA				IAmb	IAmb	00 35 58.2	
	comp=Z,21nm,1.4s						
P19K	**Oil Pt**	**60.89**	**31**	P	**P**	**00 35 56.6**	**+0.4**
P19K				IAmb	IAmb	00 36 31.0	
	comp=Z,28nm,0.9s						
L19K	**White Mountain**	**60.91**	**28**	P	**P**	**00 35 57.8**	**+1.4**
SHLS	**Shalkode**	**61.03**	**310**	*e*P	**P**	**00 35 56.3**	**-1.4**
	baz=311						
M20K	**Styx River**	**61.59**	**28**	P	**P**	**00 36 02.2**	**+1.3**
M20K				IAmb	IAmb	00 36 03.2	
	comp=Z,18nm,1.2s						
KPKS	**Kokpek**	**61.62**	**310**	⇓*i*P	**P**	**00 36 01.9**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=311						
SATY	**Saty**	**61.80**	**310**	*e*P	**P**	**00 36 03.5**	**+0.7**
	comp=Z,5.1nm,0.7s,baz=311						
CNPM	**China Poot**	**61.84**	**31**	P	**P**	**00 36 02.6**	**0.0**
TDK	**Taldygorghan**	**61.90**	**312**	⇓*i*P	**P**	**00 36 04.2**	**+1.0**
	comp=Z,21nm,0.8s,baz=313						
BRLK	**Bradley Lake**	**62.07**	**31**	P	**P**	**00 36 03.9**	**-0.2**
BRLK				IAmb	IAmb	00 36 05.0	
	comp=Z,17nm,1.0s						
KURK	**Kurchatov**	**62.27**	**319**	P	**P**	**00 36 05.6**	**+0.2**
PPLA	**Purkeypile**	**62.31**	**27**	P	**P**	**00 36 07.1**	**+1.4**
PPLA				IAmb	IAmb	00 36 11.4	
	comp=Z,20nm,1.2s						
CAST	**Castle Rocks**	**62.51**	**27**	P	**P**	**00 36 07.4**	**+0.5**
CAST				IAmb	IAmb	00 36 08.4	
	comp=Z,13nm,0.9s						
MDOK	**Medeo**	**62.80**	**310**	*i* P	**P**	**00 36 10.2**	**+0.8**
	baz=311						
O22K	**Cooper Landing**	**62.80**	**30**	P	**P**	**00 36 09.1**	**+0.3**
CHKK	**Chushkaly**	**62.86**	**311**	*e*P	**P**	**00 36 09.6**	**0.0**
	baz=312						
TNSS	**Tian-Shan**	**62.87**	**310**	*e*P	**P**	**00 36 11.2**	**+1.1**
	baz=311						
AAA	**Alma-Ata**	**62.90**	**310**	*e*P	**P**	**00 36 10.8**	**+0.9**
	baz=311						
RC01	**Rabbit Creek A**	**62.94**	**30**	P	**P**	**00 36 09.9**	**+0.2**
RC01				IAmb	IAmb	00 36 10.4	
	comp=Z,23nm,1.1s						
KTH	**Kantishna Hill**	**63.05**	**27**	P	**P**	**00 36 10.6**	**+0.1**
KTH				IAmb	IAmb	00 36 11.4	
	comp=Z,15nm,1.0s						
BPAW	**Bear Paw Mtn.**	**63.18**	**26**	P	**P**	**00 36 11.8**	**+0.6**
BPAW				IAmb	IAmb	00 36 12.1	
	comp=Z,11nm,1.0s						
TRF	**Thorofare Moun**	**63.30**	**27**	P	**P**	**00 36 12.1**	**-0.1**
KUU	**Kurty**	**63.33**	**311**	⇓*i*P	**P**	**00 36 12.9**	**+0.3**
	comp=Z,23nm,0.7s,baz=312						
GHO	**Glory Hole Cre**	**63.48**	**29**	P	**P**	**00 36 13.5**	**+0.2**
GHO				IAmb	IAmb	00 36 14.1	
	comp=Z,19nm,0.9s						
MLY	**Manley**	**63.55**	**25**	P	**P**	**00 36 14.1**	**+0.4**
MLY				IAmb	IAmb	00 36 15.5	
	comp=Z,11nm,0.9s						
NRN	**Naryn**	**63.55**	**308**	P	**P**	**00 36 15.0**	**+0.5**
KSH	**Kashi**	**63.59**	**306**	P	**P**	**00 36 17.5**	**+3.0**
KSH				pmax	pmax		
	comp=Z,15nm,0.8s						
KNK	**Knik Glacier**	**63.62**	**29**	IAmb	IAmb	00 36 15.7	
	comp=Z,15nm,1.0s						
A21K	**Barrow**	**63.77**	**18**	IAmb	IAmb	00 36 16.3	
	comp=Z,16nm,0.9s						
MCK	**McKinley**	**63.95**	**27**	P	**P**	**00 36 16.6**	**+0.3**
H23K	**Yukon River**	**64.25**	**24**	P	**P**	**00 36 19.3**	**+1.1**
HIN	**Hinchinbrook I**	**64.35**	**31**	P	**P**	**00 36 19.5**	**+0.6**
DHY	**Denali Highway**	**64.48**	**28**	P	**P**	**00 36 20.1**	**+0.2**
WRH	**Wood River Hil**	**64.49**	**26**	P	**P**	**00 36 19.1**	**-0.6**

HYT	Haines Junctio	68.80	31	P		P	00 36 48.0	+1.0
M30M	Minto, Yukon	69.22	29	P		P	00 36 50.4	+1.0
M31M	Drury Creek, Y	70.33	29	P		P	00 36 56.4	+0.3
M31M				IAmb		IAmb	00 36 57.4	
	comp=Z,11nm,1.1s							
INK	Inuvik	70.82	23	P		P	00 36 58.7	-0.1
	comp=Z,8.7nm,0.8s,baz=262,slow=6.7,SNR=9.6							
	comp=Z,8.7nm,0.8s							
INK	Inuvik	70.82	23	IAmb		IAmb	00 36 59.9	
	comp=Z,10nm,0.9s							
ARU	Arti	74.18	325	P		P	00 37 18.3	-0.4
	comp=Z,15nm,0.5s,baz=94,slow=1.6,SNR=14							
	comp=Z,15nm,0.5s							
ARU	Arti	74.18	325	P		P	00 37 18.3	-0.4
ABKAR	Akbulak array	74.31	317	P		P	00 37 19.1	-0.4
GEYT	Alibeck	77.62	306	P		P	00 37 38.6	+0.1
	comp=Z,9.5nm,0.8s,baz=64,slow=3.4,SNR=8.5							
	comp=Z,9.5nm,0.8s							
KIRV	Kirov	78.63	328	P		P	00 37 43.3	-0.1
	comp=Z,16nm,0.8s,baz=312,slow=1.8,SNR=5.5							
	comp=Z,16nm,0.8s							
EUNU	Eureka	79.23	8	P		P	00 37 46.5	+0.1
EUNU				IAmb		IAmb	00 37 47.2	
	comp=Z,10nm,0.8s							
YKA	Yellowknife Ar	79.40	28	P		P	00 37 47.1	-0.3
	comp=Z,7.6nm,0.9s,baz=289,slow=5.9,SNR=16							
	comp=Z,7.6nm,0.9s							
YKA	Yellowknife Ar	79.40	28	P		P	00 37 47.2	-0.2
HUMO	Hull Mountain	79.67	49	P		P	00 37 51.1	+1.8
HUMO				IAmb		IAmb	00 38 29.2	
	comp=Z,14nm,1.3s							
B08A	Colville Reser	80.70	42	P		P	00 37 54.9	+0.2
B08A				IAmb		IAmb	00 37 56.1	
	comp=Z,8.7nm,1.2s							
PINE	Pine Mountain	80.81	47	P		P	00 37 56.9	+1.2
RES	Resolute Bay	80.92	14	IAmb		IAmb	00 37 55.9	
	comp=Z,13nm,0.8s							
NOR	Nord	80.98	357	*i* P		P	00 37 54.0	-1.5
NOR				IAmb		IAmb	00 37 56.6	
	comp=Z,1.7nm,0.8s							
K05A	Summer Lake	81.12	48	P		P	00 37 58.0	+0.8
BEKR	Beckworth	82.27	51	P		P	00 38 03.7	+0.5
BEKR				IAmb		IAmb	00 38 04.4	
	comp=Z,7.1nm,0.9s							
UOSS	Minazif	82.31	294	P		P	00 38 02.4	-1.0
UOSS				IAmb		IAmb	00 38 14.8	
	comp=Z,8.0nm,0.9s							
BMO	Blue Mountains	83.03	45	IAmb		IAmb	00 38 08.1	
	comp=Z,9.8nm,1.4s							
PNTR	Pine Nut	83.05	51	P		P	00 38 08.6	+1.3
PNTR				IAmb		IAmb	00 38 09.2	
	comp=Z,6.0nm,0.7s							
PLID	Pearl Lake	83.84	45	P		P	00 38 10.8	-0.3
ARCES	ARCESS Array B	83.86	342	P		P	00 38 09.9	-0.5
	comp=Z,8.1nm,0.9s,baz=32,slow=3.5,SNR=5.2							
	comp=Z,8.1nm,0.9s							
ARCES	ARCESS Array B	83.86	342	P		P	00 38 10.2	-0.2
WALA	Waterton Lakes	83.92	41	P		P	00 38 12.0	+0.6
WALA				IAmb		IAmb	00 38 13.2	
	comp=Z,11nm,1.2s							
NVAR	Mina Array Bea	84.21	52	P		P	00 38 13.7	+0.6
	comp=Z,2.5nm,0.7s,baz=268,slow=5.4,SNR=8.3							
	comp=Z,2.5nm,0.7s							
NVAR	Mina Array Bea	84.21	52	P		P	00 38 14.0	+0.9
TULEG	Thule	84.22	8	*i* P		P	00 38 10.4	-1.7
TULEG				IAmb		IAmb	00 38 12.6	
	comp=Z,8.1nm,0.8s							
NV11	Mina Array Sit	84.32	52	P		P	00 38 14.5	+0.9
MFID	Camas Ranch	84.48	46	P		P	00 38 14.1	-0.1
MFID				IAmb		IAmb	00 38 15.7	
	comp=Z,10nm,1.1s							
NEEM	North Greenlan	85.05	4	*i* P		P	00 38 16.6	0.0
MZP	Montezuma Peak	85.12	52	P		P	00 38 17.5	-0.2
MZP				IAmb		IAmb	00 38 20.7	
	comp=Z,6.6nm,0.9s							
HLID	Hailey	85.40	46	P		P	00 38 19.4	+0.5
HLID				IAmb		IAmb	00 38 20.3	
	comp=Z,6.7nm,1.1s							
ELK	Elko	85.74	49	P		P	00 38 21.2	+0.5
ELK				IAmb		IAmb	00 38 22.7	
	comp=Z,5.7nm,0.9s							
DAG	Danmarks Havn	85.75	356	*i* P		P	00 38 17.3	-2.3
DAG				IAmb		IAmb	00 38 19.0	
	comp=Z,7.2nm,0.8s							
LRM	Limekiln Ridge	85.95	43	P		P	00 38 21.8	+0.2
KBZ	Khabaz	87.07	315	P		P	00 38 26.0	-0.6
	comp=Z,8.0nm,0.9s,baz=229,slow=4.8,SNR=4.0							
	comp=Z,8.0nm,0.9s							
HVU	Hansel Valley	87.14	47	P		P	00 38 27.4	+0.1
YHB	Horse Butte	87.16	44	P		P	00 38 27.3	-0.1
YHB				IAmb		IAmb	00 38 29.3	
	comp=Z,6.5nm,1.1s							
DUG	Dugway, Tooele	87.67	49	P		P	00 38 30.0	+0.2
DUG				IAmb		IAmb	00 38 31.2	
	comp=Z,9.5nm,1.1s							
ESDC	Sonseca Array	116.65	334	PP		PP	00 45 31.2	-4.1
	comp=Z,1.3nm,0.8s,baz=22,slow=8.4,SNR=7.8							
KIC	Kosan Boka	142.41	306	⇑ *i*	eP	PKPdf	00 45 07.1	-5.1
	comp=Z,2.1nm,0.4s							
TIC	Toumodi	142.45	307	⇑ *i*	P	PKPdf	00 45 08.8	-3.5
	comp=Z,4.2nm,0.7s							
LIC	Lamto	142.72	306	⇑ *i*	P	PKPdf	00 45 08.1	-4.6
	comp=Z,20nm,0.8s							
LPAZ	La Paz	147.80	93	PKPbc		PKPbc	00 45 25.8	+0.3
	comp=Z,4.3nm,0.9s,baz=330,slow=4.3,SNR=4.0							

IDC ***29*** *00:26:20.0±0.6, 39.˚76N×143.˚24E, h0km, mb4.5/26, mbtmp4.5/28, ML3.9/2, MS4.0/35, Error ellipse: s-maj=15.7km s-min=14.1km az=119.0*

NIED ***29*** *00:26:20.9, 39.˚91N×143.˚32E, h13km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.88; $M_{\theta\theta}$=0.09; $M_{\phi\phi}$3.97; $M_{r\theta}$=3.77; $M_{\theta\phi}$2.97; $M_{\phi r}$=4.73; Fault plane solution: $M_0$7.70000×10^{15} NP1: ϕ_s191.00000°, δ21.00000°, λ-115.00000°. NP2: ϕ_s38.00000°, δ71.00000°, λ-81.00000°.*

MOS ***29*** *00:26:20.8±1.1, 39.˚86N×143.˚23E, h16km, mb5.1/50, MS4.1/9 Error ellipse: s-maj=6.9km s-min=4.2km az=115.4*

JMA ***29*** *00:26:20.9±0.3, 39.˚9N±0.˚7×14.˚3E±.˚, h13km±3km, MD4.8/33, MV5.1/33, FAR E OFF SANRIKU*

JMA Felt II J1 at FAR E OFF SANRIKU .

BJI ***29*** *00:26:21.7±0.0, 39.˚86N×143.˚02E, h15km, mb4.8/66, mB5.0/40, Ms4.5/49, Ms7 4.3/48*

NEIC ***29*** *00:26:24.2±1.1, 39.˚82N±0.˚04×143.˚20E±0.˚09, h22km±5km, mb4.9/76, Mwr4.5/15, Error ellipse: s-maj=9.7km s-min=6.2km az=91.0*

NEIC ***29*** *00:26:26, 39.˚85N×143.˚22E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.91; $M_{\theta\theta}$-3.83; $M_{\phi\phi}$4.74; $M_{r\theta}$-2.87; $M_{\theta\phi}$-3.42; $M_{\phi r}$-3.85; Fault plane solution: $M_0$7.33000×10^{15} NP1:ϕ_s23.72000°, δ83.21000°, λ-40.48000°. NP2:ϕ_s119.48000°, δ49.86000°, λ-171.10000°. Principal axes: T 7.0277, Plg22.0000°, Azm78.0000°; N 0.5780, Plg49.0000°, Azm196.0000°; P -7.6057, Plg33.0000°, Azm333.0000°;*

ISC 29 00:26:23.2±0.6, 39.86N±0.˚04×143.22E±0.˚05, h20km±3km, h21km:pP-P, n376, σ1s57/356, mb4.9/128, MS4.2/50, 22C-18D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JTH	Tanohata	1.04	275	P		Pb	00 26 41.6	-0.9
JTH				*eS*		Sn	00 26 56.7	0.0
JTH	Tanohata	1.04	275	A		A	00 26 41.6	
	comp=E,23nm,3.1s,comp=E,20nm,0.8s							
MIYJ	Miyakonagasawa	1.11	256	*i* P		Pn	00 26 43.4	-0.3
MIYJ				*eS*		Sn	00 26 58.7	+0.4
MIYJ	Miyakonagasawa	1.11	256	A		A	00 26 43.4	
	comp=E,21nm,0.7s,comp=E,19nm,3.4s							
JKEN	Kujiedanarisaw	1.21	287	P		Pn	00 26 43.8	-1.0
JKEN				*eS*		Sb	00 27 00.5	0.0
JKEN	Kujiedanarisaw	1.21	287	A		A	00 26 43.8	
	comp=E,27nm,1.3s,comp=E,21nm,0.9s							
JANG	Nango	1.40	292	P		Pn	00 26 47.0	-0.6
JANG	Nango	1.40	292	A		A	00 26 47.0	
	comp=E,7.0nm,6.3s,comp=E,6.0nm,1.3s							
OFUJ	Ofunato	1.43	237	A		A	00 26 48.1	
	comp=E,13nm,1.5s,comp=E,17nm,2.9s							
JKZ	Kuzumaki	1.46	275	A		A	00 26 48.2	
	comp=E,15nm,1.0s,comp=E,12nm,10.9s							
JOM	Ohasama	1.54	256	P		Pn	00 26 49.9	+0.5
JOM	Ohasama	1.54	256	A		A	00 26 49.9	
	comp=E,33nm,0.5s,comp=E,30nm,1.8s							
JKMT	Kesennumamotoy	1.71	233	A		A	00 26 52.3	
	comp=E,7.0nm,2.1s,comp=E,11nm,3.7s							
JSZI	Iwateshizukuis	1.75	267	A		A	00 26 52.6	
	comp=E,40nm,1.1s,comp=E,49nm,2.3s							
JMK	Ichinoseki	1.79	240	*i* P		Pn	00 26 53.4	+0.4
JMK				S		Sb	00 27 17.8	+0.4
JMK	Ichinoseki	1.79	240	A		A	00 26 53.4	
	comp=E,9.0nm,0.9s,comp=E,12nm,4.0s							
JARK	Aomorirokkasho	1.82	310	A		A	00 26 52.9	
	comp=E,17nm,0.5s,comp=E,15nm,1.1s							
JTM	Tenmabayashi	1.88	300	Pn		Pn	00 26 54.8	+0.6
JTM				Sn		Sb	00 27 19.7	-0.3
JTM	Tenmabayashi	1.88	300	*i* P		Pn	00 26 54.7	+0.5
JTM	Tenmabayashi	1.88	300	A		A	00 26 54.7	
	comp=E,11nm,1.5s,comp=E,10.0nm,2.5s							
JAHD	Aomorihigashid	2.00	315	A		A	00 26 55.5	
	comp=E,24nm,0.9s,comp=E,28nm,1.3s							
JAH	Hinai	2.01	280	A		A	00 26 56.3	
	comp=E,15nm,0.7s,comp=E,13nm,3.1s							
JIO	Ouri	2.02	226	P		Pn	00 26 55.9	-0.2
JRG	Rokugo	2.05	258	P		Pn	00 26 57.9	+1.5
JRG	Rokugo	2.05	258	A		A	00 26 57.9	
	comp=E,38nm,1.9s,comp=E,31nm,2.2s							
ERM	Erimo	2.15	359	Pn		Pn	00 26 58.9	+1.0
ERM	Erimo	2.15	359	P		Pn	00 26 58.9	+1.0
JOFO	Osakifurukawao	2.19	236	A		A	00 26 59.2	
	comp=E,50nm,3.4s,comp=E,59nm,3.7s							
JOT	Ohata	2.24	313	P		Pn	00 26 59.9	+0.7
JOT	Ohata	2.24	313	A		A	00 26 59.9	
	comp=E,7.0nm,0.8s,comp=E,8.0nm,1.4s							
JHHS	Hirosakihyakuz	2.32	291	A		A	00 27 00.6	
	comp=E,21nm,2.9s,comp=E,24nm,4.1s							
JYW	Yuwa	2.34	263	A		A	00 27 01.3	
	comp=E,35nm,2.5s,comp=E,39nm,2.8s							
JNTW	Noshirotokiwa	2.38	281	A		A	00 27 01.6	
	comp=E,43nm,2.0s,comp=E,55nm,2.0s							
JYK	Kaneyama	2.41	248	⇓ P		Pn	00 27 02.8	+1.4
JYK	Kaneyama	2.41	248	A		A	00 27 02.8	
	comp=E,9.0nm,3.0s,comp=E,13nm,6.2s							
JNBK	Urakawa-nobuka	2.44	352	A		A	00 27 01.0	
	comp=E,7.0nm,4.0s,comp=E,8.0nm,5.1s							
JSI2	Shiura 2	2.45	300	A		A	00 27 02.3	
	comp=E,15nm,1.0s,comp=E,14nm,2.2s							
JOU	Okura	2.49	234	A		A	00 27 03.5	
	comp=E,15nm,1.9s,comp=E,17nm,2.2s							
JIW	Iwasaki	2.56	288	A		A	00 27 04.2	
	comp=E,8.0nm,2.6s,comp=E,8.0nm,1.3s							
JSHD	Hidakashinhida	2.61	348	A		A	00 27 03.4	
	comp=E,16nm,2.8s,comp=E,15nm,6.1s							
JSR	Shiriuchi	2.70	309	A		A	00 27 05.7	
	comp=E,5.0nm,4.4s,comp=E,6.0nm,5.0s							
JMM	Marumori	2.75	224			Pn	00 27 05.4	-0.7
JMM				Sn		Sn	00 27 40.8	+2.1
JMM	Marumori	2.75	224	A		A	00 27 07.2	
	comp=E,10.0nm,3.4s,comp=E,6.0nm,2.7s							
JMST	Minamisoumatoc	2.81	221	A		A	00 27 08.0	
	comp=E,6.0nm,6.9s,comp=E,5.0nm,4.3s							
JIAM	Iburiatsuma	2.92	341	A		A	00 27 08.1	
	comp=E,14nm,1.4s,comp=E,16nm,1.2s							
JYS	Shirataka	2.95	237	A		A	00 27 10.1	
	comp=E,12nm,7.8s,comp=E,15nm,2.6s							
JYA	Atsumi	3.00	246	A		A	00 27 10.8	
	comp=E,23nm,1.0s,comp=E,21nm,0.8s							
JYAR	Yonezawaarcadi	3.09	232	A		A	00 27 12.1	
	comp=E,11nm,1.1s,comp=E,15nm,1.2s							
JYM2	Yakumo 2	3.12	317	A		A	00 27 11.5	
	comp=E,4.0nm,2.1s,comp=E,5.0nm,2.0s							
JOG3	Oga3	3.18	272	A		A	00 27 05.2	
	comp=E,19nm,2.6s,comp=E,16nm,4.5s							
JAR	Ashorobuto	3.46	7	A		A	00 27 15.1	
	comp=E,5.0nm,0.4s,comp=E,5.0nm,0.5s							
NMR	Nemuro--Hokkai	3.98	27	⇓ *i* P		Pn	00 27 20.6	-2.4
NMR				*i* S		Sn	00 28 03.8	-5.2
JSD	Sado	4.27	246	Pn		Pn	00 27 27.8	+0.7
JKA	Kamikawa-asahi	4.27	354	Pn		Pn	00 27 28.3	+1.2
ASAJ	Asahikawa	4.28	354	LR		LR	00 29 10.9	
	comp=Z,363nm,20.8s,baz=167,slow=39							
ASAJ	Asahikawa	4.28	354	P		Pn	00 27 28.3	+1.2
RUSJ	Misakicho	4.50	19	P		Pn	00 27 28.8	-1.4
RUSJ				*i* S		Sn	00 28 19.0	-2.9
YUK	Yuzh-Kuril'sk	4.61	24	*d* iP		Pn	00 27 29.3	-2.4
YUK				*i* S		Sn	00 28 19.3	-5.3
YUK				pmax	pmax			
	comp=Z,363nm,1.2s							
YUK				pmax	pmax			
	comp=N,146nm,0.2s							
YUK				pmax	pmax			
	comp=Z,376nm,0.2s							
YUK				smax	smax			
	comp=N,2μm,1.1s							
YUK				smax	smax			
	comp=E,2μm,1.7s							
YUK				smax	smax			
	comp=N,3μm,0.4s							
YUK				smax	smax			
	comp=E,978nm,0.4s							
MJAR	Matsushiro Arr	5.15	232	Pn		Pn	00 27 40.6	+1.5
	comp=E,0.9nm,0.3s,baz=33,slow=13,SNR=79							
MJAR				LR		LR	00 29 43.6	
	comp=E,758nm,18.2s,baz=96,slow=40							
MJB9	Matsu-Tunnel	5.15	232	Pn		Pn	00 27 40.6	+1.4
MAJO	Matsushiro	5.15	232	Pn		Pn	00 27 40.0	+0.8
MAJO	Matsushiro	5.15	232	*d* iP		Pn	00 27 40.6	+1.4
JGF	Kuroka	6.30	229	Pn		Pn	00 27 55.0	+0.1
KUR	Kuril'sk	6.37	31	*e* P		Pn	00 27 55.2	-0.6
KUR				S		Sn	00 29 02.8	-5.1
KUR				pmax	pmax			
	comp=E,72nm,0.6s							
KUR				pmax	pmax			
	comp=Z,169nm,0.6s							
KUR				smax	smax			
	comp=N,281nm,0.4s							
KUR				smax	smax			
	comp=E,182nm,0.4s							
KUR				MLR	MLR			
	comp=Z,300nm,17.0s							
INU	Inuyama	6.67	229			Pn	00 28 00.6	+0.6
YSS	Yuzh-Sakhalins	7.10	357	*e* P		Pn	00 28 08.4	+2.6
YSS				*e* S		Sn	00 29 23.9	-1.9
YSS				pmax	pmax			
	comp=Z,800nm,3.2s							
YSS				MLR	MLR			
	comp=Z,2μm,13.0s							
YSS				MLR	MLR			
	comp=N,2μm,12.0s							
YSS				MLR	MLR			
	comp=E,800nm,15.0s							
TEY	Ternei	7.11	319	⇑ *e* P		Pn	00 28 09.9	+3.9
TEY				pmax	pmax			
	comp=E,30nm,0.9s							
TEY				pmax	pmax			
	comp=Z,40nm,1.0s							
JHJ	Hachijo jima 2	7.28	203	Pn		Pn	00 28 05.9	-2.4
	comp=Z,26nm,0.3s,baz=342,slow=23,SNR=6.2							
JHJ				Sn		Sn	00 29 23.6	-6.7
	comp=Z,22nm,0.3s,baz=332,slow=20,SNR=1.6							
	comp=Z,58nm,0.3s							
JHS	Saijyo	9.38	242			Pn	00 28 37.3	0.0
USA0B	Ussuriysk Arra	9.41	301			Pn	00 28 40.8	+3.3
USA0B	Ussuriysk Arra	9.41	301	P		Pn	00 28 40.8	+3.3
USRK	Ussuriysk Ar.	9.41	301	Pn		Pn	00 28 40.3	+2.8
	comp=Z,2.7nm,0.3s,baz=106,slow=13,SNR=21							
USRK				LR		LR	00 32 10.2	
	comp=Z,702nm,19.3s,baz=116,slow=37							
USRK	Ussuriysk Ar.	9.41	301	Pn		Pn	00 28 39.6	+2.1
USRK	Ussuriysk Ar.	9.41	301	P		Pn	00 28 39.7	+2.1
JMN	Monobe	9.67	234	Pn		Pn	00 28 43.1	+1.9
TYV	Tymovskoe	11.01	358	*e* P		Pn	00 29 03.3	+3.9
TYV				*e* S		Sn	00 31 08.8	+7.0
TYV				pmax	pmax			
	comp=Z,12nm,0.8s							
TYV				pmax	pmax			
	comp=Z,300nm,2.4s							
TYV				smax	smax			
	comp=N,800nm,3.7s							
TYV				smax	smax			
	comp=E,400nm,3.7s							
MDJ	Mudanjiang	11.16	300	Pn		Pn	00 29 04.0	+2.5
MDJ	Mudanjiang	11.16	300	P		Pn	00 29 04.0	+2.5
MDJ				S		Sn	00 31 04.8	-0.8
MDJ				pmax	pmax			
	comp=E,34nm,1.2s							
MDJ				pmax	pmax			
	comp=E,560nm,5.2s							
MDJ				LR	LR			
	comp=E,1μm,13.7s							
MDJ				LR	LR			
	comp=E,1μm,12.6s							
MDJ				LR	LR			
	comp=E,2μm,13.6s							
JNU	Nakatsue	11.99	240	LR		LR	00 34 10.4	
	comp=E,1μm,18.2s,baz=47,slow=39							
KSRS	Korea Array	12.20	263	Pn		Pn	00 29 20.1	+4.5
	comp=E,1.0nm,0.3s,baz=82,slow=13,SNR=20							
KSRS				LR		LR	00 33 34.0	
	comp=E,659nm,19.2s,baz=70,slow=36							
KS19	Wonju Array Si	12.23	264			Pn	00 29 17.7	+1.6
KSAR	Wonju Array Be	12.23	263			Pn	00 29 18.2	+2.0
KSAR	Wonju Array Be	12.23	263	P		Pn	00 29 18.2	+2.0
KLR	Kul'dur	12.42	323	Pn		Pn	00 29 19.8	+1.1
	comp=E,0.2nm,0.3s,baz=126,slow=13,SNR=9.9							
KLR				LR		LR	00 34 19.8	
	comp=E,536nm,20.7s,baz=80,slow=38							
	comp=E,6.0nm,1.0s							
KLR	Kul'dur	12.42	323	*i* P		Pn	00 29 17.8	-0.9
KLR				pmax	pmax			
	comp=Z,25nm,1.5s							
TJN	Taejon	12.96	259	*ce* P		Pn	00 29 26.1	0.0
BNX	BinXian	13.00	302	⇑ P		Pn	00 29 28.5	+1.8
BNX				pmax	pmax			
	comp=Z,39nm,1.2s							
BNX				pmax	pmax			
	comp=Z,350nm,6.2s							
OKH	Okha	13.69	359	*de* P		Pn	00 29 22.3	-14
OKH				MLR	MLR			
	comp=N,1μm,16.0s							
OKH				MLR	MLR			
	comp=E,2μm,18.0s							
OKH				MLR	MLR			
	comp=Z,700nm,20.0s							
CN2	Changchun	13.82	292	*e* P		Pn	00 29 40.8	+3.0
CN2				S		Sn	00 32 14.3	+3.7
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2				pmax	pmax			
	comp=Z,200nm,6.3s							
CN2				LR	LR			
	comp=Z,800nm,17.0s							
CN2				LR	LR			
	comp=Z,700nm,17.0s							
CN2				LR	LR			
	comp=Z,1μm,17.0s							
SNY	Shenyang	14.99	284	⇓ P		Pn	00 29 56.3	+2.5
SNY				pmax	pmax			
	comp=Z,21nm,1.0s							
SNY				LR	LR			
	comp=Z,700nm,11.6s							
SNY				LR	LR			
	comp=Z,720nm,12.8s							
SNY				LR	LR			
	comp=Z,1μm,14.5s							
HEH	HeiHe	15.22	318	*e* P		Pn	00 29 55.5	-1.3
HEH				pmax	pmax			
	comp=Z,5.0nm,0.8s							
HEH				pmax	pmax			
	comp=Z,290nm,4.6s							
HEH				LR	LR			
	comp=Z,820nm,12.7s							
HEH				LR	LR			
	comp=Z,990nm,14.3s							
HEH				LR	LR			
	comp=Z,1μm,14.3s							
PETK	Petropavlovsk-	16.54	32	LR		LR	00 36 15.1	
	comp=Z,187nm,19.0s,baz=214,slow=36							
DL2	Dalian	16.72	274	P		P	00 30 30.8	+13
DL2				S		S	00 33 50.3	+18
DL2				pmax	pmax			
	comp=Z,73nm,1.1s							
DL2				LR	LR			
	comp=N,430nm,11.8s							
DL2				LR	LR			
	comp=E,390nm,15.9s							
DL2				LR	LR			
	comp=Z,560nm,15.1s							
ZEA	Zeya	17.61	327	*e* P		Pn	00 30 25.5	-1.6
ZEA				*e*			00 33 50.6	
ZEA				pmax	pmax			
	comp=E,20nm,1.3s							
ZEA				pmax	pmax			
	comp=N,30nm,0.9s							
ZEA				pmax	pmax			
	comp=Z,30nm,0.7s							
ZEA				MLR	MLR			
	comp=N,700nm,13.0s							
ZEA				MLR	MLR			
	comp=E,200nm,13.0s							
ZEA				MLR	MLR			
	comp=Z,500nm,13.0s							
HIA	Hailar	19.12	307	P		P	00 30 43.2	-1.6
HIA	Hailar	19.12	307	P		P	00 30 43.2	-1.6
HIA				pmax	pmax			
	comp=Z,20nm,0.8s							
MA2	Magadan	20.30	11	P		P	00 30 57.6	+0.1
	comp=Z,15nm,0.6s,baz=181,slow=12,SNR=6.9							
MA2				LR		LR	00 38 29.3	
	comp=Z,200nm,20.4s,baz=171,slow=36							
	comp=Z,15nm,0.6s							
XLT	XiLinHaoTe	20.56	290	⇑ *i* P		P	00 30 59.5	-1.1
XLT				pP		Pn	00 31 04.3	+1.4
XLT				sP		S	00 31 08.0	-0.5
XLT				PP		PnPn	00 31 25.0	+6.8
XLT				S		S	00 34 48.0	-1.7
XLT				sS		Sn	00 34 53.8	-0.4
XLT				pmax	pmax			
	comp=Z,59nm,1.2s							
XLT				pmax	pmax			
	comp=Z,250nm,5.5s							
XLT				LR	LR			
	comp=Z,460nm,11.8s							
XLT				LR	LR			
	comp=Z,380nm,12.2s							
BJI	Beijing	20.71	279	P		P	00 31 00.0	-2.1
BJI				pP		pP	00 31 07.3	-0.1
BJI				pmax	pmax			
	comp=Z,19nm,1.0s							
BJI				LR	LR			
	comp=Z,310nm,14.9s							
BJI				LR	LR			
	comp=Z,420nm,17.5s							
BJI				LR	LR			
	comp=Z,680nm,14.6s							
BJT	Baijiatuan	20.72	279	P		P	00 31 00.7	-1.5
BJT	Baijiatuan	20.72	279	P		P	00 31 00.7	-1.5
BJT				pmax	pmax			
	comp=Z,16nm,0.9s							
TIA	Tai'an	20.85	268	P		P	00 31 01.8	-1.8
TIA				pmax	pmax			
	comp=Z,43nm,0.9s							
TIA				LR	LR			
	com

YAK *e**PP **pP** **00 31 36.7 -2.1**
YAK *e* 00 32 09.1
YAK *eS* **S** **00 35 43.3 -3.4**
YAK *eSS* SnSn 00 36 53.3 +29
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,20nm,0.6s
YAK smax smax
comp=E,81nm,12.4s
YAK smax smax
comp=N,88nm,12.1s
YAK MLR MLR
comp=Z,372nm,14.0s
YAK MLR MLR
comp=E,299nm,16.0s
YAK MLR MLR
comp=N,932nm,15.0s
SEY **Seymchan** **23.75 10** P **P** **00 31 34.5 +0.7**
comp=N,13nm,0.7s,baz=194,slow=8.5,SNR=11
comp=N,13nm,0.7s
SEY **Seymchan** **23.75 10** *ce*P **P** **00 31 34.3 +0.5**
SEY pmax pmax
comp=Z,78nm,1.7s
CIT **Chita** **23.76 311** *e*P **P** **00 31 33.4 -0.7**
CIT *e* 00 32 03.4
CIT pmax pmax
comp=Z,151nm,1.6s
HHC **Hu-ho-hao-te** **24.08 283** *e*P **P** **00 31 35.8 -1.5**
HHC pmax pmax
comp=Z,34nm,0.9s
HHC pmax pmax
comp=Z,440nm,4.6s
HHC LR LR
comp=Z,430nm,12.1s
HHC LR LR
comp=Z,870nm,12.1s
HHC LR LR
comp=Z,2µm,14.6s
LYN **LuoYang** **24.99 268**⇑ *i*P **P** **00 31 46.5 +1.1**
LYN sP sP 00 32 00.0 +6.4
LYN S **S** **00 36 03.5 -4.7**
LYN pmax pmax
comp=Z,40nm,1.1s
LYN pmax pmax
comp=Z,150nm,6.5s
LYN LR LR
comp=Z,570nm,14.0s
LYN LR LR
comp=Z,1µm,13.2s
LYN LR LR
comp=Z,1µm,14.0s
WHN **Wuhan** **25.26 257** ⇓P **P** **00 31 48.0 0.0**
WHN S **S** **00 36 09.0 -3.6**
WHN pmax pmax
comp=Z,320nm,1.5s
WHN LR LR
comp=Z,2µm,14.2s
WHN LR LR
comp=Z,1µm,13.2s
WHN LR LR
comp=Z,1µm,12.2s
TWG **Pinlang** **25.32 234** P **P** **00 31 49.2 +0.7**
BOD **Bodaibo** **26.00 323** *eP* **P** **00 31 54.4 0.0**
BOD pmax pmax
comp=Z,43nm,0.9s
SONM **Songino Array** **27.52 299** P **P** **00 32 09.1 +0.7**
comp=Z,10nm,0.8s,baz=101,slow=7.0,SNR=51
SONM LR LR 00 43 44.7
comp=Z,642nm,18.0s,baz=80,slow=38
comp=Z,10nm,0.8s
SONM **Songino Array** **27.52 299** P **P** **00 32 08.6 +0.2**
SONM IAmb IAmb 00 32 10.5
comp=Z,48nm,1.4s
SONM **Songino Array** **27.52 299** P **P** **00 32 08.6 +0.2**
SONM pmax pmax
comp=Z,47nm,1.4s
XAN **Xi'an** **27.90 269**⇑ *i*P **P** **00 32 12.5 +0.7**
XAN pP pP 00 32 18.8 +1.2
XAN S **S** **00 36 51.0 -3.4**
XAN pmax pmax
comp=Z,22nm,0.9s
XAN pmax pmax
comp=Z,130nm,3.8s
XAN LR LR
comp=Z,360nm,7.8s
XAN LR LR
comp=Z,820nm,10.3s
XAN LR LR
comp=Z,810nm,10.8s
H11N2 **WAKE ISLAND Hy** **28.57 128** T T 01 03 20.0
baz=318,slow=75,SNR=412
H11N1 **WAKE ISLAND Hy** **28.58 128** T T 01 03 04.5
baz=318,slow=75,SNR=305
H11N3 **WAKE ISLAND Hy** **28.59 128** T T 01 03 04.9
baz=318,slow=75,SNR=359
ENH **Enshi** **29.07 261** P **P** **00 32 22.1 -0.2**
IRK **Irkutsk** **29.36 308** *eP* **P** **00 32 25.2 +0.6**
IRK pmax pmax
comp=Z,25nm,1.6s
H11S1 **WAKE ISLAND Hy** **29.39 130** T T 01 03 04.9
baz=320,slow=74,SNR=56
H11S3 **WAKE ISLAND Hy** **29.39 130** T T 01 03 18.0
baz=320
H11S2 **WAKE ISLAND Hy** **29.41 130** T T 01 03 26.4
baz=320,slow=74,SNR=51
ZAK **Zakamensk** **29.74 304** *eP* **P** **00 32 27.6 -0.5**
ZAK pmax pmax
comp=Z,14nm,1.3s
BILL **Bilibino** **30.92 17** P **P** **00 32 37.8 -0.4**
BILL IAmb IAmb 00 32 39.2
comp=Z,20nm,1.4s
BILL **Bilibino** **30.92 17** *de*P **P** **00 32 37.8 -0.4**
BILL *e* 00 33 46.7
BILL *eS* **S** **00 37 42.5 +1.5**
BILL pmax pmax
comp=Z,29nm,2.5s
BILL MLR MLR
comp=Z,160nm,16.0s
LZH **Lanzhou** **31.09 276** ⇑P **P** **00 32 40.5 +0.3**
LZH pmax pmax
comp=Z,30nm,1.6s
LZH LR LR
comp=Z,260nm,11.7s
LZH LR LR
comp=Z,750nm,15.1s
LZH LR LR
comp=Z,830nm,15.2s
TIXI **Tiksi** **32.68 352** LR LR 00 47 31.0
comp=Z,173nm,19.0s,baz=1.5,slow=39
TIXI **Tiksi** **32.68 352** *i* P **P** **00 32 51.8 -1.7**
TIXI pmax pmax
comp=Z,12nm,2.1s
GTA **Gaotai** **33.18 283** ⇑P **P** **00 32 59.8 +1.3**
GTA pP pP 00 33 03.3 -1.0
GTA sP pwP 00 33 06.0 -0.4
GTA PP **PnPn** **00 34 05.0 -3.6**
GTA pmax pmax
comp=Z,21nm,1.2s
GTA pmax pmax
comp=Z,73nm,5.8s
GTA LR LR
comp=Z,260nm,14.5s
GTA LR LR
comp=Z,640nm,14.9s
GTA LR LR
comp=Z,770nm,16.4s
KNGR **Kungurtug, Tuv** **33.43 304** *i* P **P** **00 33 00.7 +0.2**
KNGR pmax pmax
comp=Z,17nm,1.1s
KMI **Kunming** **36.84 259** ⇑P **P** **00 33 31.3 +1.0**
KMI pP pwP 00 33 38.0 -0.1
KMI pmax pmax
comp=Z,30nm,1.3s
KMI pmax pmax
comp=Z,190nm,6.8s
KMI LR LR
comp=Z,400nm,13.0s
KMI LR LR
comp=Z,450nm,16.8s
KMI LR LR
comp=Z,440nm,15.8s

PZH **PanZhiHua** **36.86 262** ⇓P **P** **00 33 30.5 +0.2**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.4s
GOMU **GeErMu** **37.93 280** P **P** **00 33 40.5 +0.9**
GOMU pP pP 00 33 42.5 -3.0
GOMU pmax pmax
comp=Z,33nm,0.5s
DGZ **Jazzator, Alta** **39.95 303** *d* P **P** **00 33 57.6 +1.4**
DGZ pmax pmax
comp=Z,34nm,0.8s
TNCH **TengChong** **40.10 262** ⇓P **P** **00 33 58.3 +0.7**
TNCH pP sP 00 34 08.0 +2.1
TNCH PP **PnPn** **00 35 36.8 +3.4**
TNCH S **S** **00 40 01.8 -1.2**
TNCH pmax pmax
comp=Z,42nm,0.6s
TNCH pmax pmax
comp=Z,170nm,3.8s
TNCH LR LR
comp=Z,280nm,11.9s
TNCH LR LR
comp=Z,400nm,10.8s
TNCH LR LR
comp=Z,330nm,16.3s
WMQ **Urumqi** **40.90 294** *e*P **P** **00 34 05.0 +1.1**
WMQ sP sP 00 34 15.3 +3.1
WMQ PP **PnPn** **00 35 41.0 -1.4**
WMQ pmax pmax
comp=Z,43nm,1.1s
WMQ LR LR
comp=Z,400nm,16.3s
WMQ LR LR
comp=Z,190nm,15.3s
WMQ LR LR
comp=Z,870nm,17.3s
MYLDM **Lahad Datu** **41.09 219** P **P** **00 34 05.6 -0.1**
MYLDM IAmb IAmb 00 34 20.6
comp=Z,32nm,1.2s
ZAA0 **Zalesovo Array** **41.12 310** P **P** **00 34 05.8 +0.3**
ZAA0 IAmb IAmb 00 34 06.9
comp=Z,20nm,1.1s
ZALV **Zalesovo Beam** **41.12 310** P **P** **00 34 05.9 +0.4**
comp=Z,8.8nm,0.4s,baz=96,slow=8.5,SNR=49
comp=Z,8.8nm,0.4s
CRAI **Chiangrai** **41.46 255** P **P** **00 34 09.9 +1.2**
CRAI IAmb IAmb 00 34 16.3
comp=Z,15nm,0.9s
ZSN **Zaisan** **42.01 300** *e*P **P** **00 34 13.8 +0.8**
baz=300
ZSN **Zaisan** **42.01 300** *e*P **P** **00 34 13.7 +0.8**
PHRA **Phrae** **42.64 253** P **P** **00 34 18.9 +0.6**
CHTO **Chiang Mai** **43.39 254** P **P** **00 34 25.0 +0.6**
CHTO **Chiang Mai** **43.39 254** P **P** **00 34 25.0 +0.6**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
IMAR **Indian Mountai** **43.50 32** P **P** **00 34 27.0 +2.2**
CMAR **Chiang Mai Arr** **43.61 254** P **P** **00 34 27.1 +0.9**
comp=Z,3.0nm,0.7s,baz=54,slow=5.9,SNR=8.5
CMAR LR LR 00 53 33.2
comp=Z,105nm,18.2s,baz=200,slow=38
comp=Z,3.0nm,0.7s
CMAR **Chiang Mai Arr** **43.61 254** *i* P **P** **00 34 27.3 +1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
MK31 **Makanchi Array** **43.88 300** P **P** **00 34 28.6 +0.6**
MK31 IAmb IAmb 00 34 29.6
comp=Z,19nm,1.1s
MK31 **Makanchi Array** **43.88 300** *i* P **P** **00 34 26.4 -1.7**
MKAR **Makanchi Array** **43.88 300** P **P** **00 34 28.4 +0.3**
comp=Z,12nm,0.9s,baz=82,slow=9.9,SNR=42
MKAR LR LR 00 53 42.8
comp=Z,271nm,18.7s,baz=103,slow=37
comp=Z,12nm,0.9s
MKAR **Makanchi Array** **43.88 300** *i* P **P** **00 34 28.6 +0.5**
MKAR pmax pmax
comp=Z,12nm,0.9s
MAKZ **Makanchi** **44.08 300** P **P** **00 34 30.3 +0.6**
MAKZ IAmb IAmb 00 34 39.5
comp=Z,16nm,0.9s
MAKZ **Makanchi** **44.08 300** P **P** **00 34 30.3 +0.6**
MAKZ pmax pmax
comp=Z,16nm,1.0s
BWN **Browne** **45.26 35** P **P** **00 34 39.8 +0.9**
BWN IAmb IAmb 00 34 41.8
comp=Z,23nm,1.0s
TOLK **Toolik Lake Re** **45.31 28** P **P** **00 34 40.3 +1.1**
TOLK IAmb IAmb 00 35 08.1
comp=Z,12nm,1.2s
KURK **Kurchatov** **45.35 306** P **P** **00 34 40.0 +0.3**
KURK **Kurchatov** **45.35 306** *ce*P **P** **00 34 39.7 -0.1**
KURK pmax pmax
comp=Z,41nm,1.3s
MCK **McKinley** **45.50 35** P **P** **00 34 41.7 +0.9**
MCK **McKinley** **45.50 35** P **P** **00 34 41.7 +0.9**
MCK pmax pmax
comp=Z,10.0nm,1.3s
GHO **Glory Hole Cre** **45.61 38** P **P** **00 34 42.8 +1.1**
GHO IAmb IAmb 00 34 44.3
comp=Z,10.0nm,1.0s
MDM **Murphy Dome** **45.77 34** P **P** **00 34 44.1 +1.1**
WRH **Wood River Hil** **45.85 34** P **P** **00 34 44.7 +1.2**
KNK **Knik Glacier** **45.86 39** P **P** **00 34 44.1 +0.5**
KNK IAmb IAmb 00 34 49.0
comp=Z,18nm,1.2s
SML **Sawmill** **45.89 38** P **P** **00 34 44.2 +0.3**
SML IAmb IAmb 00 34 54.8
comp=Z,38nm,1.5s
H24K **Noodor Dome** **45.91 32** P **P** **00 34 45.4 +1.4**
H24K IAmb IAmb 00 34 57.5
comp=Z,13nm,1.4s
POKR **Poker Plat Res** **46.11 33** P **P** **00 34 46.6 +1.1**
ILAR **Eielson Array** **46.35 34** P **P** **00 34 47.4 -0.1**
comp=Z,1.9nm,0.7s,baz=261,slow=6.4,SNR=29
comp=Z,1.9nm,0.7s
ILAR **Eielson Array** **46.35 34** P **P** **00 34 47.9 +0.4**
ILAR **Eielson Array** **46.35 34** P **P** **00 34 47.9 +0.4**
SCM **Sheep Creek Mo** **46.36 38** P **P** **00 34 48.8 +1.2**
SCM **Sheep Creek Mo** **46.36 38** P **P** **00 34 48.8 +1.2**
SCM pmax pmax
comp=Z,34nm,1.4s
SHLS **Shalkode** **46.83 296** *e*P **P** **00 34 49.5 -2.1**
baz=296
SHLS **Shalkode** **46.83 296** *e*P **P** **00 34 49.5 -2.1**
PRP **Porcupine Dome** **46.89 33** P **P** **00 34 52.7 +0.9**
TDK **Taldyqorghan** **46.97 299** *e*P **P** **00 34 53.6 +0.9**
comp=Z,21nm,0.9s,baz=298
TDK **Taldyqorghan** **46.97 299** *e*P **P** **00 34 53.5 +0.9**
TDK pmax pmax
comp=Z,21nm,0.9s
KLU **Klutina** **47.06 38** P **P** **00 34 54.2 +1.0**
KLU IAmb IAmb 00 35 13.4
comp=Z,7.8nm,1.0s
UZB **Uzynbulak** **47.14 296** *e*P **P** **00 34 54.2 +0.1**
baz=296
UZB **Uzynbulak** **47.14 296** *e*P **P** **00 34 54.2 +0.1**
TAPN **Taplejung** **47.20 272** *e*P **P** **00 34 55.6 +0.7**
comp=Z,19nm,0.7s
KPKS **Kokpek** **47.27 296** *e*P **P** **00 34 55.0 0.0**
comp=Z,13nm,1.2s,baz=296
KPKS **Kokpek** **47.27 296** *e*P **P** **00 34 55.0 0.0**
KPKS pmax pmax
comp=Z,13nm,1.2s
SATY **Saty** **47.59 296** *e*P **P** **00 34 57.8 +0.2**
comp=Z,11nm,1.5s,baz=296
SATY **Saty** **47.59 296** *e*P **P** **00 34 57.8 +0.2**
SATY pmax pmax
comp=Z,11nm,1.5s
SCRK **Sand Creek** **47.67 35** P **P** **00 34 58.2 +0.3**
SCRK IAmb IAmb 00 35 15.9
comp=Z,9.6nm,1.3s
N25K **Chitina, Valde** **47.68 38** P **P** **00 34 59.1 +1.2**
N25K IAmb IAmb 00 35 26.8
comp=Z,9.7nm,1.1s
JIRN **Jiri** **48.21 274** *e*P **P** **00 35 03.5 +0.6**
comp=Z,28nm,0.7s
RAMN **Ramite** **48.25 273** *e*P **P** **00 35 03.6 +0.5**
comp=Z,92nm,1.0s
CHKK **Chushkaly** **48.30 298** *e*P **P** **00 35 03.1 +0.1**
baz=298
CHKK **Chushkaly** **48.30 298** *e*P **P** **00 35 03.0 +0.1**
GUN **Gumba** **48.33 274** *e*P **P** **00 35 04.1 +0.4**
comp=Z,44nm,0.6s
TARG **Taragay, Kyrgy** **48.47 295** P **P** **00 35 05.0 +0.3**
TARG **Taragay, Kyrgy** **48.47 295** P **P** **00 35 05.0 +0.3**

TARG pmax pmax
comp=Z,23nm,1.1s
MDOK **Medeo** **48.49 297** *e*P **P** **00 35 05.3 +0.7**
baz=297
MDOK **Medeo** **48.49 297** *e*P **P** **00 35 05.3 +0.7**
AAA **Alma-Ata** **48.57 297** *e*P **P** **00 35 06.0 +0.9**
baz=297
AAA **Alma-Ata** **48.57 297** *e*P **P** **00 35 05.9 +0.9**
TNSS **Tian-Shan** **48.60 297** *e*P **P** **00 35 06.8 +1.0**
baz=296
TNSS **Tian-Shan** **48.60 297** *e*P **P** **00 35 06.7 +1.0**
KUU **Kurty** **48.73 298** ⇓ *i*P **P** **00 35 06.2 -0.1**
comp=Z,18nm,1.0s,baz=298
KUU **Kurty** **48.73 298** *d i*P **P** **00 35 06.2 -0.1**
KUU pmax pmax
comp=Z,18nm,1.0s
BCAR **Beaver Creek A** **48.77 36** P **P** **00 35 07.1 +0.8**
PKI **Pulchoki** **48.86 274** *e*P **P** **00 35 07.7 -0.1**
comp=Z,6.0nm,0.3s
PKIN **Phulchoki** **48.86 274** *e*P **P** **00 35 07.6 -0.2**
comp=Z,14nm,0.4s
DMN **Daman** **49.07 274** *e*P **P** **00 35 09.8 +0.4**
BRZS **Berezniki** **49.22 307** *e*P **P** **00 35 10.1 +0.1**
baz=306
BRZS **Berezniki** **49.22 307** *e*P **P** **00 35 10.0 +0.1**
GKN **Gorkha** **49.23 275** *e*P **P** **00 35 10.6 +0.1**
comp=Z,3.2nm,0.2s
DANN **Dangsing** **49.73 276** *e*P **P** **00 35 15.2 +0.7**
comp=Z,118nm,0.8s
BVAR **Borovoye Array** **49.76 311** LR LR 00 56 28.5
comp=Z,81nm,19.3s,baz=37,slow=36
BRVK **Borovoye** **49.81 311** P **P** **00 35 14.9 +0.6**
BRVK IAmb IAmb 00 35 16.2
comp=Z,11nm,0.9s
BRVK **Borovoye** **49.81 311** *ce*P **P** **00 35 13.9 -0.4**
BRVK pmax pmax
comp=Z,11nm,0.8s
NRN **Naryn** **49.83 295** P **P** **00 35 15.9 +0.8**
NRN IAmb IAmb 00 35 23.1
comp=Z,8.1nm,1.0s
NRN **Naryn** **49.83 295** P **P** **00 35 15.9 +0.8**
NRN pmax pmax
comp=Z,8.0nm,1.0s
BTLS **Baital** **49.89 300** *e*P **P** **00 35 15.1 0.0**
baz=300
BTLS **Baital** **49.89 300** *e*P **P** **00 35 15.0 0.0**
I29M **Ogilvie Camp,** **49.90 32** P **P** **00 35 16.2 +1.3**
I29M IAmb IAmb 00 35 31.8
comp=Z,18nm,1.4s
SGDS **Sogindy** **50.05 298** *e*P **P** **00 35 16.8 +0.3**
baz=298
SGDS **Sogindy** **50.05 298** *e*P **P** **00 35 16.7 +0.3**
AAK **Ala-Archa** **50.43 297** LR LR 00 57 48.6
comp=Z,249nm,18.5s,baz=110,slow=37
AAK **Ala-Archa** **50.43 297** P **P** **00 35 19.6 +0.2**
AAK IAmb IAmb 00 35 21.0
comp=Z,13nm,1.1s
AAK **Ala-Archa** **50.43 297** *ce*P **P** **00 35 18.9 -0.5**
AAK pmax pmax
comp=Z,19nm,1.7s
KSH **Kashi** **50.59 293** P **P** **00 35 24.5 +3.9**
KSH pP pwP 00 35 28.3 -0.3
KSH pmax pmax
comp=Z,12nm,1.2s
INK **Inuvik** **51.23 28** P **P** **00 35 26.2 +1.4**
comp=Z,1.2nm,0.6s,baz=307,slow=9.0,SNR=8.5
comp=Z,1.2nm,0.6s
HNR **Honiara** **51.44 159** LR LR 00 54 27.3
comp=Z,879nm,21.9s,baz=319,slow=33
DZA **Taraz** **52.49 298** *e*P **P** **00 35 35.2 +0.4**
comp=Z,7.0nm,0.8s,baz=298
DZA **Taraz** **52.49 298** *e*P **P** **00 35 35.1 +0.4**
DZA pmax pmax
comp=Z,7.0nm,0.8s
KK31 **Karatay Array** **52.97 299** IAmb IAmb 00 35 39.5
comp=Z,29nm,1.5s
KKAR **Karatay Array** **52.97 299** IAmb IAmb 00 35 39.5
comp=Z,29nm,1.5s
DRK **Karamyk** **53.55 294** P **P** **00 35 41.9 -1.0**
DRK IAmb IAmb 00 35 43.3
comp=Z,19nm,1.2s
IUG **Iuzhnay** **53.67 298** *e*P **P** **00 35 43.9 +0.4**
baz=298
IUG **Iuzhnay** **53.67 298** *e*P **P** **00 35 43.9 +0.4**
CHM **Chimkent** **53.89 298** *e*P **P** **00 35 45.4 +0.4**
baz=298
CHM **Chimkent** **53.89 298** *e*P **P** **00 35 45.4 +0.4**
SVE **Sverdlovsk** **53.99 318** ⇓ *e*P **P** **00 35 47.6 +2.2**
SVE pmax pmax
comp=Z,24nm,1.3s
SVE MLR MLR
comp=Z,650nm,14.0s
BTK **Batken** **53.99 295** P **P** **00 35 45.9 +0.1**
BTK IAmb IAmb 00 35 47.3
comp=Z,17nm,1.2s
BTK **Batken** **53.99 295** P **P** **00 35 45.9 +0.1**
BTK pmax pmax
comp=Z,17nm,1.3s
PSI **Prapat** **54.46 239** LR LR 00 59 09.6
comp=Z,82nm,20.2s,baz=61,slow=36
GAR **Garm** **54.80 294** P **P** **00 35 52.2 +0.4**
BKNI **Bangkinang** **54.97 235** P **P** **00 35 53.2 +0.1**
NIL **Nilore** **55.10 287** P **P** **00 35 54.4 +0.5**
NIL **Nilore** **55.10 287** P **P** **00 35 54.4 +0.5**
NIL pmax pmax
comp=Z,72nm,1.5s
ARU **Arti** **55.20 318** P **P** **00 35 54.8 +0.6**
comp=Z,4.0nm,0.4s,baz=83,slow=5.4,SNR=16
ARU LR LR 01 01 49.3
comp=Z,213nm,19.8s,baz=155,slow=38
comp=Z,4.0nm,0.4s
ARU **Arti** **55.20 318** P **P** **00 35 54.9 +0.6**
ARU **Arti** **55.20 318** *di*P **P** **00 35 54.6 +0.4**
ARU 00 36 55.2
ARU 00 37 55.1
ARU S **S** **00 43 38.3 +2.1**
ARU SS **SS** **00 47 23.1 +3.3**
ARU pmax pmax
comp=Z,40nm,1.3s
ARU MLR MLR
comp=Z,507nm,14.0s
CHGR **Chuyangaron** **55.76 294** P **P** **00 35 59.0 +0.3**
CHGR **Chuyangaron** **55.76 294** P **P** **00 35 59.0 +0.3**
CHGR pmax pmax
comp=Z,92nm,1.4s
EUNU **Eureka** **57.18 9** P **P** **00 36 08.4 +0.3**
KBL **Kabul** **57.75 290** P **P** **00 36 12.9 -0.1**
KBL **Kabul** **57.75 290** P **P** **00 36 12.9 -0.1**
KBL pmax pmax
comp=Z,22nm,1.1s
KIRV **Kirov** **58.86 322** P **P** **00 36 21.0 +1.0**
comp=Z,13nm,1.1s,baz=43,slow=16,SNR=5.0
KIRV LR LR 01 04 12.9
comp=Z,131nm,18.4s,baz=50,slow=38
comp=Z,13nm,1.1s
KIRV **Kirov** **58.86 322** *ce*P **P** **00 36 19.7 -0.3**
PRGR **Permogore** **59.18 327** *e*P **P** **00 36 21.6 -0.6**
PRGR pmax pmax
comp=Z,23nm,1.5s
WB0 **Warramunga Arr** **59.89 190** P **P** **00 36 26.7 -0.9**
WB0 IAmb IAmb 00 36 27.7
comp=Z,8.7nm,0.9s
WR0 **Warramunga Arr** **60.06 189** IAmb IAmb 00 36 38.7
comp=Z,6.8nm,0.9s
WB2 **Warramunga Arr** **60.07 190** P **P** **00 36 28.0 -0.8**
WB2 IAmb IAmb 00 36 39.3
comp=Z,14nm,1.3s
WRA **Warramunga Arr** **60.07 190** P **P** **00 36 27.6 -1.2**
comp=Z,5.0nm,0.8s,baz=8.0,slow=7.1,SNR=22
comp=Z,5.0nm,0.8s
WRA **Warramunga Arr** **60.07 190** P **P** **00 36 28.1 -0.7**
WRA **Warramunga Arr** **60.07 190** *i* P **P** **00 36 27.8 -1.0**
WRA pmax pmax
comp=Z,5.0nm,0.8s
YKA **Yellowknife Ar** **60.66 31** P **P** **00 36 32.9 +0.5**
comp=Z,0.8nm,0.7s,baz=300,slow=6.1,SNR=2.9
YKA LR LR 01 06 21.3
comp=Z,123nm,18.6s,baz=320,slow=40
comp=Z,0.8nm,0.7s
ARCES **ARCESS Array B** **61.85 339** LR LR 01 06 45.2
comp=Z,105nm,19.1s,baz=62,slow=39
KLMR **Klimovskoe** **62.13 327** *e*P **P** **00 36 39.6 -2.7**
KLMR AMP 00 36 51.5
comp=Z,53nm,2.3s
KLMR *e*PP **PP** **00 38 54.8 -3.8**
KLMR **Klimovskoe** **62.13 327** *e*P **P** **00 36 39.6 -2.7**

KLMR				pmax	pmax		
	comp=Z,53nm,2.3s						
HRA	**Herat**	**62.69**	**293**	P	**P**	**00 36 47.5**	**+0.6**
HRA				IAmb	IAmb	00 36 48.8	
	comp=Z,11nm,1.2s						
BELG	**Belogornoye**	**62.71**	**317**	P	**P**	**00 36 47.3**	**+1.0**
	comp=Z,31nm,1.0s,baz=73,slow=4.4,SNR=9.1						
BELG				LR	LR	01 06 31.2	
	comp=Z,204nm,18.4s,baz=63,slow=38						
	comp=Z,31nm,1.0s						
BELG	**Belogornoye**	**62.71**	**317**	*i* P	**P**	**00 36 45.5**	**-0.8**
BELG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GEYT	**Alibeck**	**63.72**	**299**	P	**P**	**00 36 53.8**	**+0.4**
	comp=Z,9.2nm,0.9s,baz=29,slow=3.4,SNR=16						
GEYT				LR	LR	01 06 43.8	
	comp=Z,110nm,18.5s,baz=60,slow=38						
	comp=Z,9.2nm,0.9s						
GEYT	**Alibeck**	**63.72**	**299**	P	**P**	**00 36 53.4**	**0.0**
GEYT				IAmb	IAmb	00 36 55.4	
	comp=Z,14nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**63.72**	**299**	IAmb	IAmb	00 37 01.7	
	comp=Z,13nm,1.1s						
ASAR	**Alice Springs**	**63.80**	**190**	P	**P**	**00 36 53.1**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=11,slow=6.3,SNR=16						
	comp=Z,2.2nm,0.8s						
ASAR	**Alice Springs**	**63.80**	**190**	P	**P**	**00 36 53.3**	**-0.5**
ASAR	**Alice Springs**	**63.80**	**190**	P	**P**	**00 36 53.3**	**-0.5**
MOS	**Moscow**	**65.83**	**323**	*e*P	**P**	**00 37 05.2**	**-1.5**
OBN	**Obninsk**	**66.68**	**323**	P	**P**	**00 37 12.4**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=20,slow=8.8,SNR=3.4						
	comp=Z,1.8nm,0.5s						
OBN	**Obninsk**	**66.68**	**323**	*ce*P	**P**	**00 37 11.7**	**-0.5**
OBN				*e*		00 37 41.5	
OBN				*e*		00 39 42.4	
OBN				*e*S	**S**	**00 46 04.7**	**+2.2**
OBN				pmax	pmax		
	comp=Z,30nm,1.7s						
OBN				MLR	MLR		
	comp=Z,267nm,15.0s						
FINES	**FINESS Array B**	**66.97**	**332**	P	**P**	**00 37 14.3**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=37,slow=8.0,SNR=14						
FINES				LR	LR	01 09 23.6	
	comp=Z,260nm,18.6s,baz=16,slow=38						
	comp=Z,3.7nm,0.7s						
VORR	**Voronezh**	**67.45**	**319**	*e*P	**P**	**00 37 18.8**	**+1.6**
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
MAK	**Makhachkala**	**67.83**	**308**	*e*P	**P**	**00 37 19.0**	**-0.7**
MAK				*e*S	**S**	**00 46 15.0**	**-1.8**
MAK				pmax	pmax		
	comp=Z,66nm,0.9s						
MAK				MLR	MLR		
	comp=Z,88nm,13.0s						
AKT	**Akhty**	**68.53**	**307**	*e*P	**P**	**00 37 23.5**	**-0.8**
AKT				*e*		00 37 48.7	
AKT				pmax	pmax		
	comp=Z,15nm,0.9s						
GROC	**Groznyy**	**68.73**	**309**	*e*P	**P**	**00 37 24.5**	**-0.8**
GROC				*e*		00 39 58.0	
GROC				*e*S	**S**	**00 46 26.5**	**-0.9**
GROC				pmax	pmax		
	comp=Z,21nm,0.9s						
ZEI	**Tsey**	**70.10**	**309**	*e*P	**P**	**00 37 33.3**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV	**Kislovodsk**	**70.12**	**311**	P	**P**	**00 37 35.3**	**+1.2**
KIV	**Kislovodsk**	**70.12**	**311**	*e*P	**P**	**00 37 34.3**	**+0.2**
KIV				pmax	pmax		
	comp=Z,42nm,1.0s						
KIV				MLR	MLR		
	comp=Z,172nm,18.0s						
KBZ	**Khabaz**	**70.14**	**311**	P	**P**	**00 37 35.3**	**+1.3**
	comp=Z,15nm,1.0s,baz=65,slow=5.9,SNR=15						
	comp=Z,15nm,1.0s						
KBZ	**Khabaz**	**70.14**	**311**	*ce*P	**P**	**00 37 33.0**	**-1.0**
KBZ				pmax	pmax		
	comp=Z,18nm,1.1s						
SHA1	**Shidzhatmaz**	**70.27**	**311**	*i* P	**P**	**00 37 34.3**	**-0.9**
ONI	**Oni**	**70.48**	**309**	P	**P**	**00 37 37.3**	**+1.0**
ONI				IAmb	IAmb	00 37 39.1	
	comp=Z,17nm,1.1s						
ONI	**Oni**	**70.48**	**309**	P	**P**	**00 37 37.3**	**+1.0**
ONI				pmax	pmax		
	comp=Z,17nm,1.1s						
MNK	**Minsk**	**70.94**	**326**	*i* P	**P**	**00 37 38.3**	**-0.5**
	comp=E,2.0nm,1.0s						
MNK				*i* P	**P**	**00 37 38.3**	**-0.5**
	comp=N,34nm,0.8s						
MNK				*i* P	**P**	**00 37 38.3**	**-0.5**
	comp=Z,18nm,1.2s,baz=48						
MNK				*i* PP	**PP**	**00 40 16.9**	**+1.4**
MNK				*i* PPP	PPP	00 41 59.4	
MNK				*i* S	**S**	**00 46 52.3**	**-0.8**
MNK				*i* SS	**SS**	**00 51 28.2**	**+3.2**
MNK				*i* SSS	SSS	00 54 48.4	
MNK				*i* LQ	LQ	01 03 56.8	
MNK				*i* LR	LR	01 09 10.4	
MNK				*i* LRM	MLR	01 11 32.2	
	comp=N,600nm,17.2s						
MNK				*i* LRM	MLR	01 11 32.9	
	comp=E,23nm,23.5s						
MNK				*i* LRM	MLR	01 11 36.1	
	comp=Z,201nm,15.2s						
MNK	**Minsk**	**70.94**	**326**	*i* P	**P**	**00 37 38.3**	**-0.5**
MNK				*i*		00 40 16.8	
MNK				*i* PPP	PPP	00 41 59.4	
MNK				*i* S	**S**	**00 46 52.3**	**-0.8**
MNK				*i* SS	**SS**	**00 51 28.2**	**+3.2**
MNK				pmax	pmax		
	comp=N,34nm,0.8s						
MNK				pmax	pmax		
	comp=E,18nm,1.2s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				MLR	MLR		
	comp=N,600nm,17.0s						
MNK				MLR	MLR		
	comp=E,23nm,24.0s						
MNK				MLR	MLR		
	comp=Z,201nm,15.0s						
NACGM	**Naroch**	**71.14**	**327**	*e*P	**P**	**00 37 41.0**	**+1.1**
	comp=Z,16nm,1.0s,baz=47						
GNI	**Garni**	**71.15**	**307**	LR	LR	01 12 00.5	
	comp=Z,82nm,18.4s,baz=52,slow=38						
GNI	**Garni**	**71.15**	**307**	*ce*P	**P**	**00 37 42.3**	**+1.8**
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
WSAR	**Wadi Sarin**	**71.50**	**285**	LR	LR	01 14 18.3	
	comp=Z,55nm,18.0s,baz=27,slow=40						
HFS	**Hagfors**	**72.09**	**336**	P	**P**	**00 37 45.9**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=45,slow=6.5,SNR=20						
HFS				LR	LR	01 12 50.3	
	comp=Z,135nm,18.3s,baz=41,slow=39						
	comp=Z,4.2nm,0.6s						
NB2	**NORSAR Subarra**	**72.12**	**338**	P	**P**	**00 37 46.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.12**	**338**	P	**P**	**00 37 46.5**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=37,slow=6.0,SNR=9.7						
NOA				LR	LR	01 13 31.2	
	comp=Z,112nm,18.6s,baz=40,slow=39						
	comp=Z,2.9nm,0.7s						
NVAR	**Mina Array Bea**	**72.18**	**55**	P	**P**	**00 37 47.8**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=285,slow=6.3,SNR=12						
	comp=Z,2.1nm,0.7s						
ANN	**Anapa**	**72.59**	**314**	*e*P	**P**	**00 37 46.2**	**-2.6**
ANN				*e**PP	**pwP**	**00 37 57.3**	**+0.3**
ANN				*e*S	**S**	**00 47 08.1**	**-4.2**
ANN				pmax	pmax		
	comp=Z,73nm,1.1s						
AKASG	**Malin Array Be**	**72.92**	**323**	P	**P**	**00 37 50.8**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=46,slow=6.4,SNR=20						
AKASG				LR	LR	01 11 40.8	
	comp=Z,28nm,19.4s,baz=21,slow=37						
	comp=Z,2.1nm,0.6s						
AKBB	**Malin Array Si**	**72.92**	**323**	P	**P**	**00 37 50.5**	**-0.2**
AKBB				IAmb	IAmb	00 37 52.0	
	comp=Z,15nm,1.2s						
AKBB	**Malin Array Si**	**72.92**	**323**	*ce*P	**P**	**00 37 49.0**	**-1.7**
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SFJD	**Kangerlussuaq**	**72.94**	**6**	LR	LR	01 13 12.5	
	comp=Z,96nm,18.3s,baz=309,slow=38						
GURO	**Guroymak-BITLI**	**73.79**	**307**	P	**P**	**00 37 57.3**	**+1.0**
GURO				IAmb	IAmb	00 37 58.8	
	comp=Z,14nm,1.1s						
QSM	**Queen of Sheba**	**74.59**	**56**	P	**P**	**00 38 01.0**	**+0.2**
PDAR	**Pinedale Array**	**74.69**	**47**	P	**P**	**00 38 02.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=271,slow=1.9,SNR=6.1						
	comp=Z,0.5nm,0.7s						
MARD	**Mardin**	**75.33**	**306**	P	**P**	**00 38 06.2**	**+1.0**
MILM	**Milestii Mici**	**75.71**	**320**	⇑*i*P	**P**	**00 38 04.0**	**-3.0**
	comp=Z,25nm,1.6s						
MILM				*e*L	L	01 14 31.0	
MILM				LRM	MLR	01 14 55.0	
	comp=Z,400nm,13.5s						
MILM	**Milestii Mici**	**75.71**	**320**	*c i*P	**P**	**00 38 04.0**	**-3.0**
MILM				pmax	pmax		
	comp=Z,25nm,1.6s						
MILM				MLR	MLR		
	comp=Z,400nm,13.5s						
LCMT	**Little Creek M**	**76.21**	**53**	P	**P**	**00 38 10.2**	**-0.1**
KNB	**Kanab**	**76.46**	**53**	P	**P**	**00 38 12.5**	**+0.8**
KNB	**Kanab**	**76.46**	**53**	P	**P**	**00 38 12.5**	**+0.8**
KNB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**76.95**	**322**	P	**P**	**00 38 15.0**	**+0.8**
BURAR	**Bucovina Array**	**76.96**	**322**	P	**P**	**00 38 14.8**	**+0.6**
STHS	**Stebnicka Huta**	**77.45**	**325**	*e*P	**P**	**00 38 17.4**	**+0.5**
STHS	**Stebnicka Huta**	**77.45**	**325**	*e*P	**P**	**00 38 17.4**	**+0.5**
STHS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OJC	**Ojcow**	**77.47**	**327**	IAmb	IAmb	00 38 16.1	
	comp=Z,17nm,1.1s						
BRTR	**Keskin Array B**	**78.03**	**312**	P	**P**	**00 38 21.1**	**+0.7**
	comp=Z,5.7nm,1.2s,baz=99,slow=3.9,SNR=9.4						
	comp=Z,5.7nm,1.2s						
BRTR	**Keskin Array B**	**78.03**	**312**	P	**P**	**00 38 21.0**	**+0.6**
BRTR	**Keskin Array B**	**78.03**	**312**	P	**P**	**00 38 21.0**	**+0.6**
MORC	**Moravsky Berou**	**78.75**	**328**	*e*P	**P**	**00 38 24.0**	**-0.1**
DPC	**Dobruska-Polom**	**78.80**	**329**	*e*P	**P**	**00 38 25.5**	**+1.1**
DPC	**Dobruska-Polom**	**78.80**	**329**	*e*P	**P**	**00 38 25.5**	**+1.1**
KRLC	**Kraliky**	**78.83**	**328**	*e*P	**P**	**00 38 25.3**	**+0.8**
KRLC				*e*pP	**sP**	**00 38 34.4**	**+1.3**
KRLC	**Kraliky**	**78.83**	**328**	*e*P	**P**	**00 38 25.3**	**+0.8**
KRLC				*e*		00 38 34.4	
VYHS	**Vyhne**	**79.19**	**326**	*e*P	**P**	**00 38 27.9**	**+1.4**
VYHS	**Vyhne**	**79.19**	**326**	*e*P	**P**	**00 38 27.9**	**+1.4**
VYHS				pmax	pmax		
	comp=Z,16nm,1.8s						
BRG	**Berggiesshubel**	**79.33**	**330**	*e*P	**P**	**00 38 28.1**	**+0.9**
BRG				Amp		00 38 30.8	
	comp=Z,6.9nm,1.2s						
BRG	**Berggiesshubel**	**79.33**	**330**	*e*P	**P**	**00 38 28.1**	**+0.9**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	**Collm**	**79.34**	**331**	*i* P	**P**	**00 38 27.3**	**+0.1**
	comp=Z,11nm,1.2s						
CLL				Lm	MLR	01 16 00.0	
	comp=Z,200nm,18.5s						
CLL	**Collm**	**79.34**	**331**	*i* P	**P**	**00 38 27.3**	**+0.1**
CLL				pmax	pmax		
	comp=Z,11nm,1.2s						
VRAC	**Vranov**	**79.50**	**328**	LR	LR	01 17 21.7	
	comp=Z,85nm,20.2s,baz=20,slow=38						
VRAC	**Vranov**	**79.50**	**328**	*e*P	**P**	**00 38 28.2**	**0.0**
KRUC	**Moravsky**	**79.78**	**328**	*e*P	**P**	**00 38 30.1**	**+0.4**
PRU	**Pruhonice**	**79.80**	**329**	*e*P	**P**	**00 38 30.2**	**+0.5**
PRU	**Pruhonice**	**79.80**	**329**	*e*P	**P**	**00 38 30.2**	**+0.5**
MODS	**Modra-Piesok**	**79.94**	**327**	*e*P	**P**	**00 38 32.3**	**+1.7**
MODS	**Modra-Piesok**	**79.94**	**327**	*e*P	**P**	**00 38 32.3**	**+1.7**
MODS				pmax	pmax		
	comp=Z,55nm,1.6s						
TREC	**Trest**	**79.97**	**328**	*e*P	**P**	**00 38 32.1**	**+1.4**
TREC	**Trest**	**79.97**	**328**	*e*P	**P**	**00 38 32.1**	**+1.4**
CKRC	**Cesky Krumlov**	**80.82**	**329**	*e*P	**P**	**00 38 35.1**	**-0.2**
KHC	**Kasperske Hory**	**80.86**	**329**	P	**P**	**00 38 36.2**	**+0.7**
KHC				IAmb	IAmb	00 38 37.8	
	comp=Z,12nm,1.3s						
KHC	**Kasperske Hory**	**80.86**	**329**	*e*P	**P**	**00 38 36.3**	**+0.7**
KHC				*ex*	x	00 38 43.4	
KHC	**Kasperske Hory**	**80.86**	**329**	P	**P**	**00 38 36.2**	**+0.7**
KHC				pmax	pmax		
	comp=Z,12nm,1.3s						
RAYN	**Ar Rayn**	**80.88**	**293**	P	**P**	**00 38 36.2**	**+0.1**
RAYN				IAmb	IAmb	00 38 37.5	
	comp=Z,11nm,1.3s						
RAYN	**Ar Rayn**	**80.88**	**293**	P	**P**	**00 38 36.2**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,11nm,1.3s						
RONA	**Rosalia, Austr**	**80.88**	**327**	*e*P	**P**	**00 38 37.4**	**+1.7**
	comp=Z,11nm,1.2s						
CONA	**Conrad Observa**	**80.89**	**327**	*e*P	**P**	**00 38 37.6**	**+1.9**
	comp=Z,6.5nm,1.0s						
GERES	**GERESS Array B**	**81.04**	**329**	P	**P**	**00 38 37.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=35,slow=5.6,SNR=8.7						
	comp=Z,1.0nm,0.7s						
MOA	**Molln**	**81.61**	**328**	*e*P	**P**	**00 38 42.0**	**+2.4**
	comp=Z,6.4nm,1.4s						
ANMO	**Albuquerque**	**81.70**	**51**	*ce*P	**P**	**00 38 41.2**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BIOA	**Bad Ischl, Aus**	**81.99**	**328**	*e*P	**P**	**00 38 43.3**	**+1.7**
	comp=Z,5.8nm,0.8s						
SOKA	**Soboth**	**82.22**	**327**	*e*P	**P**	**00 38 43.5**	**+0.7**
	comp=Z,7.7nm,1.1s						
MYKA	**Terra Mystica**	**82.84**	**328**	*e*P	**P**	**00 38 46.9**	**+0.8**
	comp=Z,8.4nm,1.0s						
RCHB	**Rochefort**	**83.05**	**334**	*d*P	**P**	**00 38 46.1**	**-0.8**
	comp=Z,4.4nm,1.1s						
BMRD	**Maredsous**	**83.08**	**335**	*d*PcP	**PcP**	**00 38 50.2**	**-1.5**
WATA	**Walderalm**	**83.10**	**329**	*e*P	**P**	**00 38 47.8**	**+0.3**
	comp=Z,10.0nm,1.2s						
WTTA	**Wattenberg**	**83.13**	**329**	*e*P	**P**	**00 38 48.3**	**+0.6**
	comp=Z,13nm,1.2s						
MOTA	**Moosalm**	**83.28**	**329**	*e*P	**P**	**00 38 48.8**	**+0.3**
	comp=Z,17nm,1.5s						
RETA	**Reutte**	**83.29**	**330**	*e*P	**P**	**00 38 49.6**	**+1.2**
	comp=Z,11nm,1.1s						
DOU	**Dourbes**	**83.31**	**335**	*d*P	**P**	**00 38 48.8**	**+0.5**
SQTA	**Sankt Quirin**	**83.34**	**329**	*e*P	**P**	**00 38 49.7**	**+1.0**
	comp=Z,10nm,1.4s						
FETA	**Feichten**	**83.69**	**329**	*e*P	**P**	**00 38 51.6**	**+1.0**
	comp=Z,8.6nm,1.1s						
DAVA	**Damuels**	**83.80**	**330**	*e*P	**P**	**00 38 52.0**	**+0.9**
	comp=Z,9.5nm,1.1s						
EIL	**Elat**	**84.00**	**304**	LR	LR	01 21 08.1	
	comp=Z,51nm,18.4s,baz=58,slow=39						
FUORN	**Ofenpass-Fuorn**	**84.20**	**330**	P	**P**	**00 38 53.8**	**+0.5**
FUORN				IAmb	IAmb	00 38 55.8	
	comp=Z,9.4nm,0.9s						
DAVOX	**Davos/Dischmat**	**84.22**	**330**	LR	LR	01 19 29.8	
	comp=Z,92nm,18.4s,baz=14,slow=38						
IDI	**Anoyia**	**86.08**	**314**	LR	LR	01 22 27.3	
	comp=Z,34nm,18.1s,baz=60,slow=39						
TXAR	**Lajitas Array**	**87.29**	**54**	P	**P**	**00 39 09.7**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=300,slow=4.0,SNR=8.8						
	comp=Z,0.7nm,0.7s						
ESDC	**Sonseca Array**	**95.35**	**335**	LR	LR	01 28 20.5	
	comp=Z,100nm,18.9s,baz=22,slow=39						

IDC ***29*** *00:42:12.7±2.3,27.3ºS×176.2ºW,h0km, mb3.9/3, mbtmp4.0/4, ML4.4/1, MS3.4/1, Error ellipse: s-maj=63.4km s-min=28.8km az=122.0*

NEIC ***29*** *00:42:13.8±0.8,27.79ºS±0.1ºx176.3ºW±0.2, h10km±1km, mb4.2/8, Error ellipse: s-maj=28.8km s-min=15.8km az=256.0*

ISC 29 00:42:14.2±1.0, 27.8ºS±0.1ºx176.3ºW±0.2, h10km, n19, σ1°43/18, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.04**	**223**	Pn	**Pn**	**00 42 50.6**	**+1.9**
	110nm,0.3s,baz=76,slow=17,SNR=2.7						
RAO				Sn	**Sg**	**00 43 19.9**	**0.0**
	112nm,0.3s,baz=82,slow=20,SNR=3.5						
	298nm,0.3s						
BFZ	**Birch Farm**	**14.27**	**203**		**Pn**	**00 45 34.5**	**-1.9**
TCW	**Tory Channel**	**15.48**	**207**		**Pn**	**00 45 54.4**	**+1.7**
BSWZ	**Blackbirch Sta**	**16.07**	**207**	Pn	**Pn**	**00 45 58.4**	**-1.8**
RAR	**Rarotonga**	**16.42**	**70**	LR	LR	00 51 15.7	
	comp=Z,111nm,18.6s,baz=267,slow=33						
THZ	**Tophouse**	**16.52**	**209**	Pn	**Pn**	**00 46 05.2**	**-0.8**
KHZ	**Kahutara**	**16.79**	**207**	Pn	**Pn**	**00 46 08.8**	**-0.6**
KHZ				IAmb	IAmb	00 46 11.8	
	comp=Z,13nm,0.7s						
ODZ	**Otahua Downs**	**20.14**	**208**		**Pn**	**00 46 49.4**	**+0.9**
ODZ				IAmb	IAmb	00 46 55.1	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**36.57**	**253**	P	**P**	**00 49 20.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=117,slow=4.5,SNR=3.4						
	comp=Z,0.6nm,0.3s						
ASAR	**Alice Springs**	**44.78**	**264**	P	**P**	**00 50 27.0**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=105,slow=7.9,SNR=8.3						
	comp=Z,0.9nm,0.7s						
WB2	**Warramunga Arr**	**45.52**	**269**	P	**P**	**00 50 33.2**	**-1.1**
WRA	**Warramunga Arr**	**45.53**	**269**	P	P	00 50 31.5	-2.9
	comp=Z,1.6nm,0.8s,baz=106,slow=8.2,SNR=10						
	comp=Z,1.6nm,0.8s						
WRA	**Warramunga Arr**	**45.53**	**269**	P	**P**	**00 50 33.2**	**-1.2**
WB0	**Warramunga Arr**	**45.55**	**269**	P	**P**	**00 50 33.1**	**-1.4**
WB0				IAmb	IAmb	00 50 35.1	
	comp=Z,2.3nm,0.8s						
SNAA	**Sanae**	**80.75**	**178**	P	**P**	**00 54 26.5**	**-0.9**
SNAA				IAmb	IAmb	00 54 37.2	
	comp=Z,2.6nm,1.1s						
L26K	**Log Cabin Wild**	**94.20**	**14**	P	**P**	**00 55 32.8**	**-0.1**
NB2	**NORSAR Subarra**	**146.33**	**353**	PKP	**PKPdf**	**01 01 54.0**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**146.33**	**353**	PKPbc	**PKPdf**	**01 01 53.2**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=9.1,slow=2.5,SNR=4.4						
AKASG	**Malin Array Be**	**149.99**	**327**	PKPbc	**PKPdf**	**01 02 02.5**	**+2.8**
	comp=Z,0.3nm,0.4s,baz=38,slow=1.8,SNR=5.3						

MOS ***29*** *01:02:57.5±0.9, 39.98Nx141.72E, h68km, mb4.8/9, Error ellipse: s-maj=11.0km s-min=7.5km az=85.4*

JMA ***29*** *01:02:57.4±0.1, 39.8N±0.2x141.8E±0.5, h59km, MD4.0/40, MV4.1/40, NORTHERN IWATE PREF*

JMA Felt II J1 at NORTHERN IWATE PREF .

NIED ***29*** *01:02:57.4, 39.76Nx141.84E, h59km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.70; Mθθ0.07; Mϕϕ-0.77; Mrθ0.29; Mθϕ-0.35; Mϕr0.85; Fault plane solution: Mo1.20000x1015 NP1: ϕs202.00000°, δ21.00000°, λ92.00000°. NP2:ϕs19.00000°, δ69.00000°, λ89.00000°.*

NEIC ***29*** *01:02:59.6±0.9, 39.96N±0.04x141.65E±0.09, h66km±8km, mb4.4/12 Error ellipse: s-maj=11.0km s-min=5.1km az=69.0*

IDC ***29*** *01:03:00.2±2.6, 39.75Nx141.70E, h86km±23km, mb3.7/17, mbtmp4.0/20, MS3.1/2, Error ellipse: s-maj=19.3km s-min=14.8km az=90.0*

ISC 29 01:02:57.2±0.7, 39.79N±0.04x141.87E±0.05, h60km±5km, n97, σ1°37/95, mb4.3/31, 5C-16D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.15**	**359**	P	**Pn**	**01 03 06.8**	**+0.4**
JTH				S	**Sn**	**01 03 13.2**	**+0.2**
JTH	**Tanohata**	**0.15**	**359**	A	A	01 03 06.8	
	comp=E,64nm,0.3s,comp=E,30nm,0.2s						
MIYJ	**Miyakonagasawa**	**0.22**	**190**	P	**Pn**	**01 03 06.8**	**0.0**
MIYJ				S	**Sn**	**01 03 13.2**	**-0.4**
MIYJ	**Miyakonagasawa**	**0.22**	**190**	A	A	01 03 06.8	
	comp=E,20nm,1.1s,comp=E,13nm,0.4s						
JKEN	**Kujiedanarisaw**	**0.43**	**344**	⇓P	**Pn**	**01 03 08.9**	**+0.4**
JKEN				⇓S	**Sn**	**01 03 17.1**	**+0.5**
JKEN	**Kujiedanarisaw**	**0.43**	**344**	A	A	01 03 08.9	
	comp=E,51nm,0.9s,comp=E,52nm,1.1s						
JKZ	**Kuzumaki**	**0.46**	**295**	⇓P	**Pn**	**01 03 09.0**	**+0.3**
JKZ				⇓S	**Sn**	**01 03 17.1**	**-0.1**
JKZ	**Kuzumaki**	**0.46**	**295**	A	A	01 03 09.0	
	comp=E,33nm,0.5s,comp=E,15nm,0.3s						
JOM	**Ohasama**	**0.55**	**235**	⇓P	**Pn**	**01 03 09.3**	**-0.3**
JOM				⇓*e*S	**Sn**	**01 03 18.0**	**-0.7**
JOM	**Ohasama**	**0.55**	**235**	A	A	01 03 09.3	
	comp=E,27nm,0.6s,comp=E,15nm,0.3s						
JANG	**Nango**	**0.64**	**335**	⇓P	**Pn**	**01 03 10.9**	**+0.2**
JANG				⇓S	**Sn**	**01 03 20.5**	**-0.1**
JANG	**Nango**	**0.64**	**335**	A	A	01 03 10.9	
	comp=E,13nm,0.5s,comp=E,15nm,0.6s						
JMK	**Ichinoseki**	**0.98**	**211**	⇓P	**Pn**	**01 03 14.5**	**-0.4**
JMK				⇓*e*S	**Sn**	**01 03 27.1**	**-0.9**
JMK	**Ichinoseki**	**0.98**	**211**	A	A	01 03 14.5	
	comp=E,9.0nm,0.8s,comp=E,3.0nm,1.2s						
JAH	**Hinai**	**1.03**	**293**	⇓P	**Pn**	**01 03 15.7**	**+0.1**
JAH				⇓*e*S	**Sn**	**01 03 29.8**	**+0.6**
JAH	**Hinai**	**1.03**	**293**	A	A	01 03 15.7	
	comp=E,9.0nm,0.9s,comp=E,5.0nm,1.0s						
JRG	**Rokugo**	**1.03**	**248**	⇓P	**Pn**	**01 03 15.2**	**-0.4**
JRG				⇓S	**Sn**	**01 03 28.2**	**-1.1**
JRG	**Rokugo**	**1.03**	**248**	A	A	01 03 15.2	
	comp=E,14nm,0.5s,comp=E,11nm,0.6s						
JTM	**Tenmabayashi**	**1.17**	**329**		**Pn**	**01 03 17.6**	**+0.2**
JTM				Sn	**Sn**	**01 03 30.1**	**-2.4**
JTM	**Tenmabayashi**	**1.17**	**329**	⇓P	**Pn**	**01 03 17.8**	**+0.3**
JTM				⇓S	**Sn**	**01 03 32.8**	**+0.3**
JIO	**Ouri**	**1.39**	**197**	P	**Pn**	**01 03 20.0**	**-0.4**
JYK	**Kaneyama**	**1.46**	**234**	P	**Pn**	**01 03 20.8**	**-0.5**
ERM	**Erimo**	**2.43**	**23**		**Pn**	**01 03 36.0**	**+1.5**
ERM	**Erimo**	**2.43**	**23**	*i* P	**Pn**	**01 03 35.7**	**+1.3**
JSD	**Sado**	**3.31**	**239**	Pn	**Pn**	**01 03 46.6**	**+0.1**
MJAR	**Matsushiro Arr**	**4.34**	**223**	P	**Pn**	**01 04 03.0**	**+2.4**
	8.7nm,0.5s,baz=31,slow=14,SNR=13						
MJAR				LR	LR	01 06 11.5	
	comp=Z,81nm,18.7s,baz=44,slow=45						
MJAR	**Matsushiro Arr**	**4.34**	**223**	P	**Pn**	**01 04 03.0**	**+2.4**

MKAR	**Makanchi Array**	**43.01**	**300**	P		**P**		**01 10 50.4**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=86,slow=11,SNR=41								
	comp=Z,3.4nm,0.6s								
KURK	**Kurchatov**	**44.56**	**306**	*ce*P		**P**		**01 11 01.6**	**-1.2**
KURK				pmax		pmax			
	comp=Z,12nm,1.3s								
IL31		**46.99**	**34**	P		**P**		**01 11 23.3**	**+1.5**
ILAR	**Eielson Array**	**46.99**	**34**	P		**P**		**01 11 23.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=266,slow=6.3,SNR=10								
	comp=Z,0.6nm,0.6s								
ILAR	**Eielson Array**	**46.99**	**34**	P		**P**		**01 11 22.0**	**+0.1**
BMAR	**Burnt Mountain**	**47.76**	**30**	P		**P**		**01 11 30.5**	**+2.6**
SCRK	**Sand Creek**	**48.32**	**35**	P		**P**		**01 11 33.8**	**+1.4**
DOT	**Dot Lake**	**48.33**	**35**	P		**P**		**01 11 33.4**	**+1.1**
DOT				lAmb		lAmb		01 11 49.7	
	comp=Z,5.0nm,1.4s								
BRVK	**Borovoye**	**49.07**	**311**	P		**P**		**01 11 37.9**	**-0.2**
BRVK	**Borovoye**	**49.07**	**311**	*i* P		**P**		**01 11 37.6**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
K27K	**Chicken**	**49.15**	**34**	P		**P**		**01 11 40.7**	**+2.2**
K27K				lAmb		lAmb		01 12 11.5	
	comp=Z,6.9nm,1.4s								
INK	**Inuvik**	**51.78**	**28**	P		**P**		**01 11 60.0**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=325,slow=3.9,SNR=4.6								
	comp=Z,1.1nm,0.7s								
INK	**Inuvik**	**51.78**	**28**	P		**P**		**01 12 00.0**	**+1.8**
KKAR	**Karatay Array**	**52.09**	**298**	P		**P**		**01 12 00.8**	**-0.2**
KKAR				lAmb		lAmb		01 12 21.1	
	comp=Z,4.0nm,1.3s								
KKAR	**Karatay Array**	**52.09**	**298**	P		**P**		**01 12 00.5**	**-0.5**
KKAR	**Karatay Array**	**52.09**	**298**	P		**P**		**01 12 00.5**	**-0.5**
KKAR				pmax		pmax			
	comp=Z,4.0nm,1.3s								
SVE	**Sverdlovsk**	**53.34**	**317**	*e*P		**P**		**01 12 11.5**	**+1.5**
GAR	**Garm**	**53.88**	**294**	P		**P**		**01 12 14.1**	**-0.2**
GAR				lAmb		lAmb		01 12 33.2	
	comp=Z,8.4nm,1.3s								
ARU	**Arti**	**54.55**	**317**	P		**P**		**01 12 19.2**	**+0.3**
ARU				lAmb		lAmb		01 12 19.7	
	comp=Z,3.7nm,0.8s								
ARU	**Arti**	**54.55**	**317**	P		**P**		**01 12 15.4**	**-3.4**
C36M	**Paulatuk**	**54.79**	**26**	P		**P**		**01 12 21.5**	**+1.3**
C36M				lAmb		lAmb		01 12 54.2	
	comp=Z,3.4nm,1.2s								
CHGR	**Chuyangaron**	**54.84**	**294**	P		**P**		**01 12 21.1**	**-0.2**
CHGR	**Chuyangaron**	**54.84**	**294**	P		**P**		**01 12 21.1**	**-0.2**
CHGR				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ABKAR	**Akbulak array**	**56.46**	**309**	P		**P**		**01 12 32.6**	**0.0**
WRA	**Warramunga Arr**	**59.84**	**188**	P		**P**		**01 12 55.4**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=4.7,slow=7.1,SNR=12								
	comp=Z,1.0nm,0.7s								
RES	**Resolute Bay**	**59.85**	**15**	LR		LR		01 42 39.1	
	comp=Z,40nm,18.0s,baz=252,slow=40								
ARCES	**ARCESS Array B**	**61.55**	**339**	P		**P**		**01 13 07.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=52,slow=4.5,SNR=8.4								
	comp=Z,2.3nm,0.8s								
ASAR	**Alice Springs**	**63.56**	**188**	P		**P**		**01 13 21.0**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=19,slow=6.9,SNR=6.0								
	comp=Z,0.6nm,0.7s								
FINES	**FINESS Array B**	**66.55**	**332**	P		**P**		**01 13 40.3**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=41,slow=9.6,SNR=15								
	comp=Z,3.5nm,0.6s								
FINES	**FINESS Array B**	**66.55**	**332**	*i* P		**P**		**01 13 40.5**	**+0.1**
FINES				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KIV	**Kislovodsk**	**69.38**	**310**	*e*P		**P**		**01 13 57.9**	**-0.7**
KIV				pmax		pmax			
	comp=Z,8.0nm,1.0s								
KBZ	**Khabaz**	**69.39**	**310**	P		**P**		**01 13 59.0**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=162,slow=2.3,SNR=6.3								
	comp=Z,2.3nm,0.7s								
KBZ	**Khabaz**	**69.39**	**310**	P		**P**		**01 13 59.0**	**+0.5**
NACGM	**Naroch**	**70.63**	**326**	*e*P		**P**		**01 14 05.2**	**-0.7**
	comp=Z,11nm,1.0s,baz=48								
NB2	**NORSAR Subarra**	**71.79**	**337**	P		**P**		**01 14 13.1**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=36,slow=6.5								
NOA	**NORSAR Array B**	**71.79**	**337**	P		**P**		**01 14 13.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=38,slow=6.1,SNR=6.3								
	comp=Z,1.9nm,0.8s								
AKASG	**Malin Array Be**	**72.34**	**322**	P		**P**		**01 14 16.0**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=45,slow=6.3,SNR=8.4								
	comp=Z,1.4nm,0.4s								
AKASG	**Malin Array Be**	**72.34**	**322**	P		**P**		**01 14 16.0**	**-0.3**
AKBB	**Malin Array Si**	**72.34**	**322**	*ce*P		**P**		**01 14 14.1**	**-2.2**
AKBB				pmax		pmax			
	comp=Z,4.0nm,0.4s								
PDAR	**Pinedale Array**	**75.49**	**46**	P		**P**		**01 14 36.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=236,slow=1.6,SNR=3.9								
	comp=Z,0.3nm,0.6s								
BRTR	**Keskin Array B**	**77.30**	**311**	P		**P**		**01 14 45.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=128,slow=3.4,SNR=5.1								
	comp=Z,0.6nm,0.6s								
BRTR	**Keskin Array B**	**77.30**	**311**	*i* P		**P**		**01 14 45.5**	**+0.2**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
TXAR	**Lajitas Array**	**88.16**	**53**	P		**P**		**01 15 43.2**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=262,slow=2.5,SNR=4.2								
	comp=Z,0.1nm,0.4s								

WEL 29 01:08:25.4,38°S±6°×17°7E±°, h80km±11km, M2.8/34, ML3.0/30, MLv2.8/34, Error ellipse: s-maj=0.0km s-min=0.0km az=149.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.26**	**256**	P	Pn	01 08 38.9	+1.4
RUGZ	**Raukumara Rang**	**0.34**	**120**	P	Pn	01 08 38.0	-0.2
HAZ	**Te Kaha**	**0.39**	**84**	P	Pn	01 08 38.2	-0.1
URZ	**Urewera**	**0.49**	**198**	P	Pn	01 08 39.9	+0.9
MARZ	**Manawahe**	**0.53**	**249**	P	Pn	01 08 40.5	+1.0
MWZ	**Matawai**	**0.57**	**161**	P	Pn	01 08 40.5	+0.6
OPRZ	**Ohinepanea**	**0.59**	**265**	P	Pn	01 08 40.7	+0.7
PKGZ	**Pakihiroa**	**0.62**	**99**	P	Pn	01 08 40.3	-0.1
TWGZ	**Tauwhareparae**	**0.66**	**125**	P	Pn	01 08 41.2	+0.4
RAGZ	**Rawiri**	**0.71**	**172**	P	Pn	01 08 42.3	+1.0
TARZ	**Mount Tarawera**	**0.77**	**235**	P	Pn	01 08 43.1	+1.2
TKGZ	**Te Karaka**	**0.78**	**146**	P	Pn	01 08 42.0	+0.1
OMRZ	**Omania**	**0.80**	**247**	P	Pn	01 08 41.7	-0.5
MUGZ	**Murupara**	**0.80**	**211**	P	Pn	01 08 43.0	+0.8
PUZ	**Puketiti**	**0.81**	**110**	P	Pn	01 08 41.7	-0.6
MXZ	**Matakaoa Point**	**0.83**	**74**	P	Pn	01 08 41.8	-0.7
RTZ	**Ruatahuna**	**0.86**	**197**	P	Pn	01 08 43.3	+0.4
KARZ	**Kaharoa**	**0.86**	**255**	P	Pn	01 08 43.6	+0.7
WMGZ	**Waiomatatini S**	**0.89**	**92**	P	Pn	01 08 42.4	-0.7
RIGZ	**Rimuhau**	**0.98**	**158**	P	Pn	01 08 44.5	+0.2
SNGZ	**Shannon Statio**	**0.99**	**178**	P	Pn	01 08 44.6	+0.2
CNGZ	**Carnagh Statio**	**0.99**	**134**	P	Pn	01 08 44.4	0.0
ALRZ	**Allen Road**	**1.07**	**224**	P	Pn	01 08 46.0	+0.6
MTHZ	**Maungataniwha**	**1.11**	**199**	P	Pn	01 08 47.0	+1.1
KNZ	**Kokohu**	**1.26**	**167**	P	Pn	01 08 47.1	-0.6
WHHZ	**Waihua**	**1.28**	**182**	P	Pn	01 08 48.0	0.0
NMHZ	**Naumai**	**1.36**	**196**	P	Pn	01 08 50.0	+1.0
TOZ	**Tahuroa Road**	**1.43**	**272**	P	Pn	01 08 49.7	0.0
MHGZ	**Mahia Peninsul**	**1.44**	**161**	P	Pn	01 08 49.5	-0.4
ARHZ	**Aropaoanui**	**1.48**	**189**	P	Pn	01 08 50.5	-0.1
TLZ	**Tolley Road**	**1.49**	**248**	P	Pn	01 08 51.0	+0.4
BKZ	**Black Stump Fm**	**1.51**	**205**	P	Pn	01 08 51.3	+0.4
KUZ	**Kuaotunu**	**1.64**	**309**	P	Pn	01 08 51.1	-1.4
KWHZ	**Kaweka Forest**	**1.77**	**203**	P	Pn	01 08 54.2	-0.1
TMVZ	**Te Maari**	**1.82**	**223**	P	Pn	01 08 54.8	-0.2
ETVZ	**East Tongariro**	**1.83**	**222**	P	Pn	01 08 55.0	-0.2
MKAZ	**Moumakai**	**1.83**	**291**	P	Pn	01 08 54.7	-0.3
CKHZ	**Cape Kidnapper**	**1.87**	**185**	P	Pn	01 08 54.4	-1.2
BHHZ	**Black Hill Sta**	**1.95**	**209**	P	Pn	01 08 58.3	+1.6
WIAZ	**Waiheke Island**	**1.99**	**299**	P	Pn	01 08 56.6	-0.6
MOVZ	**Moawhango**	**2.01**	**216**	P	Pn	01 08 58.9	+1.4
KAHZ	**Kahuranaki**	**2.02**	**189**	P	Pn	01 08 56.5	-1.1
HIZ	**Hauiti**	**2.05**	**249**	P	Pn	01 08 58.5	+0.5
ETAZ	**East Tamaki Re**	**2.07**	**293**	P	Pn	01 08 55.3	-2.9
GRZ	**Great Barrier**	**2.13**	**316**	P	Pn	01 08 57.5	-1.6
MBAZ	**Motutapu North**	**2.17**	**297**	P	Pn	01 08 59.2	-0.4
PNHZ	**Pukenui**	**2.28**	**202**	P	Pn	01 08 59.2	-1.9
DREZ	**Durham Road**	**2.80**	**239**	P	Pn	01 09 05.8	-2.3
CPWZ	**Castlepoint**	**3.23**	**195**	P	Pn	01 09 15.4	+1.6

*WEL **29** 01:09:15.8±0.3, 42°S±2°×17°4E±°, h15km±2km, M3.2/29, ML3.4/19, MLv3.2/29, Error ellipse: s-maj=0.0km s-min=0.0km az=127.9*
*NOU **29** 01:09:16.2, 41°.97S×174°.20E, h11km, MLv3.7/8, Cook Strait, New Zealand*

ISC 29 01:09:15.4±1.1, 41°.92S±0°.03×174°.20E±0°.03, h20km±4km, n66, σ1s14/70, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**3**	P	**Pg**	**01 09 20.2**	**+0.1**
CMWZ				S	**Sg**	**01 09 23.8**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.32**	**310**	P	**Pg**	**01 09 21.6**	**-0.8**
BSWZ				S	**Sg**	**01 09 25.3**	**-1.8**
TUWZ	**Tuamarina**	**0.53**	**338**	P	**Pb**	**01 09 25.2**	**-0.8**
TUWZ				S	**Sb**	**01 09 31.8**	**-1.4**
KHZ	**Kahutara**	**0.70**	**225**	P	**Pn**	**01 09 30.7**	**+0.6**
KHZ	**Kahutara**	**0.70**	**225**	P	**Pn**	**01 09 30.9**	**+0.8**
KHZ				S	**Sn**	**01 09 41.8**	**+1.4**
TCW	**Tory Channel**	**0.71**	**5**	P	**Pb**	**01 09 28.6**	**-0.6**
TCW	**Tory Channel**	**0.71**	**5**	P	**Pb**	**01 09 28.5**	**-0.6**
SNZO	**South Karori**	**0.72**	**32**	P	**Pg**	**01 09 30.0**	**+0.5**
WEL	**Wellington**	**0.77**	**34**	P	**Pg**	**01 09 30.8**	**+0.4**
WEL	**Wellington**	**0.77**	**34**	P	**Pg**	**01 09 30.9**	**+0.4**
PLWZ	**Palliser**	**0.86**	**66**	P	**Pn**	**01 09 32.8**	**+0.3**
NNZ	**Nelson**	**0.94**	**319**	P	**Pb**	**01 09 32.2**	**-0.8**
NNZ	**Nelson**	**0.94**	**319**	P	**Pb**	**01 09 32.1**	**-0.8**
THZ	**Tophouse**	**0.98**	**279**	P	**Pb**	**01 09 33.8**	**0.0**
CAW	**Cannon Point**	**1.04**	**39**	P	**Pn**	**01 09 35.3**	**+0.4**
PAWZ	**Paruwai Farm**	**1.07**	**60**	P	**Pb**	**01 09 34.8**	**-0.4**
DUWZ	**D'Urville Isla**	**1.14**	**349**	P	**Pn**	**01 09 35.7**	**-0.5**
KIW	**Kapiti Island**	**1.19**	**27**	P	**Pb**	**01 09 37.4**	**+0.2**
MRNZ	**Matariki Terra**	**1.20**	**295**	P	**Pn**	**01 09 37.3**	**+0.2**
TRWZ	**Traveller**	**1.23**	**65**	P	**Pn**	**01 09 37.4**	**-0.1**
MTW	**Mount Morrison**	**1.24**	**52**	P	**Pn**	**01 09 37.6**	**0.0**
TKNZ	**Takaka Hill**	**1.29**	**313**	P	**Pn**	**01 09 38.2**	**-0.1**
TKNZ	**Takaka Hill**	**1.29**	**313**	P	**Pn**	**01 09 38.1**	**-0.2**
OGWZ	**Otaki Gorge**	**1.32**	**34**	P	**Pn**	**01 09 39.1**	**+0.3**
GVZ	**Greta Valley S**	**1.35**	**219**	P	**Pb**	**01 09 40.1**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.42**	**44**	P	**Pn**	**01 09 40.0**	**-0.2**
TMWZ	**Te Maipa**	**1.51**	**58**	P	**Pn**	**01 09 41.0**	**-0.4**
MRZ	**Mangatainoka R**	**1.63**	**40**	P	**Pn**	**01 09 43.0**	**0.0**
LTZ	**Lake Taylor**	**1.67**	**238**	P	**Pn**	**01 09 44.5**	**+0.9**
QRZ	**Quartz Range**	**1.67**	**311**	P	**Pn**	**01 09 44.5**	**+1.0**
QRZ	**Quartz Range**	**1.67**	**311**	P	**Pn**	**01 09 44.5**	**+1.0**
TIWZ	**Tintock**	**1.71**	**48**	P	**Pn**	**01 09 43.7**	**-0.4**
DSZ	**Denniston Nort**	**1.80**	**275**	P	**Pn**	**01 09 46.8**	**+1.5**
POWZ	**Post Office Ro**	**1.93**	**38**	P	**Pn**	**01 09 47.2**	**0.0**
OKCZ	**Okains Bay**	**1.99**	**205**	P	**Pn**	**01 09 48.0**	**+0.1**
MQZ	**McQueen's Vall**	**2.12**	**212**	P	**Pn**	**01 09 49.0**	**-0.6**
AKCZ	**Akaroa Harbour**	**2.17**	**206**	P	**Pn**	**01 09 50.4**	**0.0**
INZ	**Inchbonnie**	**2.20**	**248**	P	**Pn**	**01 09 52.3**	**+1.6**
DVHZ	**Dannevirke**	**2.20**	**43**	P	**Pn**	**01 09 50.0**	**-0.8**
PNHZ	**Pukenui**	**2.52**	**38**	P	**Pn**	**01 09 54.6**	**-0.6**
KHEZ	**Kahui Hut**	**2.63**	**357**	P	**Pb**	**01 10 00.3**	**-1.6**
KHEZ	**Kahui Hut**	**2.63**	**357**	P	**Pb**	**01 10 00.8**	**-1.0**
WACZ	**Wakanui South**	**2.66**	**220**	P	**Pn**	**01 09 57.2**	**+0.1**
NBEZ	**Newall Road No**	**2.66**	**354**	P	**Pb**	**01 10 04.5**	**+2.1**
PKEZ	**Pukeiti**	**2.73**	**356**	P	**Pb**	**01 10 01.7**	**-1.9**
WNVZ	**Wahianoa**	**2.80**	**23**	P	**Pn**	**01 10 01.5**	**+2.2**
WVZ	**Waitaha Valley**	**2.81**	**245**	P	**Pb**	**01 10 03.8**	**-1.0**
BHHZ	**Black Hill Sta**	**2.81**	**31**	P	**Pn**	**01 09 59.2**	**-0.1**
TRVZ	**Turoa**	**2.81**	**22**	P	**Pb**	**01 10 04.7**	**-0.4**
WHVZ	**Whangaehu Hut**	**2.84**	**22**	P	**Pb**	**01 10 05.0**	**-0.6**
FWVZ	**Far West T-bar**	**2.86**	**22**	P	**Pn**	**01 10 01.3**	**+1.2**
TUVZ	**Tukino**	**2.87**	**23**	P	**Pn**	**01 10 01.3**	**+1.1**
RPZ	**Rata Peaks**	**2.93**	**231**	P	**Pn**	**01 10 01.9**	**+1.1**
NGZ	**Ngauruhoe**	**2.94**	**22**	P	**Pb**	**01 10 06.9**	**-0.4**
SNVZ	**South Ngauruho**	**2.94**	**22**	P	**Pn**	**01 10 02.4**	**+1.2**
NNVZ	**North Ngauruho**	**2.99**	**22**	P	**Pn**	**01 10 03.3**	**+1.5**
WTVZ	**West Tongariro**	**3.00**	**21**	P	**Pn**	**01 10 04.1**	**+2.2**
ARCZ	**Arundel**	**3.00**	**227**	P	**Pn**	**01 10 02.3**	**+0.4**
ETVZ	**East Tongariro**	**3.01**	**23**	P	**Pn**	**01 10 03.0**	**+0.9**
TMVZ	**Te Maari**	**3.03**	**23**	P	**Pn**	**01 10 03.0**	**+0.6**
BKZ	**Black Stump Fm**	**3.26**	**33**	P	**Pn**	**01 10 08.2**	**+2.7**
HIZ	**Hauiti**	**3.44**	**9**	P	**Pn**	**01 10 11.2**	**+3.3**
HIZ	**Hauiti**	**3.44**	**9**	P	**Pn**	**01 10 11.5**	**+3.6**
-NMHZ	**Naumai**	**3.45**	**36**	P	**Pn**	**01 10 07.5**	**-0.6**
ODZ	**Otahua Downs**	**4.05**	**218**	P	**Pn**	**01 10 16.6**	**+0.3**
ODZ	**Otahua Downs**	**4.05**	**218**	P	**Pn**	**01 10 16.1**	**-0.2**

*PRU **29** 01:12:47.1±0.0, 42°.41N×16°.60E, h10km*
*VIE **29** 01:12:53.2±2.2, 43°.01N×16°.46E, h15km, mb3.0/11, ml2.6/9, ms3.5/4, Error ellipse: s-maj=28.3km s-min=14.5km az=32.0 57 km S of Split*
*RHSSO **29** 01:12:54.1±0.5, 42°.90N×16°.14E, h4km±2km, ML3.1/15*
*BEO **29** 01:12:55.6±0.9, 42°.87N×16°.25E, h0km, ML2.8/5*
*PDG **29** 01:12:57.9±0.1, 42°.77N×16°.50E, h11km, ML3.1/12, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*

ISC 29 01:12:53.0±1.4, 42°.85N±0°.04×16°.01E±0°.03, h9km±9km, n73, σ1s25/122, 3C-10D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVAR	**Hvar**	**0.46**	**44**	*i* Pg	**Pg**	**01 13 03.7**	**+1.8**
HVAR				Sg	**Sg**	**01 13 09.2**	**+1.3**
LSTV	**Lastovo**	**0.65**	**97**	*i* Pg	**Pg**	**01 13 07.7**	**+2.1**
LSTV				Sg	**Sg**	**01 13 16.0**	**+1.9**
MAKA	**Makarska**	**0.86**	**59**	*e*Pg	**Pg**	**01 13 09.4**	**-0.1**
MAKA				Sg	**Sg**	**01 13 20.2**	**-0.4**
MORI	**Morici**	**1.04**	**348**	*e*Pg	**Pg**	**01 13 12.3**	**-0.6**
MORI				Sg	**Sg**	**01 13 25.3**	**-1.2**
RICI	**Ricice**	**1.04**	**51**	*e*Pg	**Pg**	**01 13 12.2**	**-0.8**
RICI				Sg	**Sg**	**01 13 25.2**	**-1.4**
KIJV	**Kijevo**	**1.19**	**14**	*e*Pg	**Pg**	**01 13 14.9**	**-0.9**
KIJV				Sg	**Sg**	**01 13 29.6**	**-1.6**
STON	**Ston**	**1.24**	**88**	↓*i*Pg	Pg	01 13 14.4	-2.4
STON				*e*Sg	**Sg**	**01 13 30.1**	**-2.8**
STON	**Ston**	**1.24**	**88**	*e*Pg	Pg	01 13 14.9	-1.8
STON				Sg	**Sg**	**01 13 29.9**	**-2.9**
DUGI	**Dugi Otok**	**1.34**	**329**	*e*Pg	**Pg**	**01 13 17.8**	**-0.9**
DUGI				Sg	**Sg**	**01 13 34.0**	**-2.0**
SRKY	**Kupres RS**	**1.48**	**34**	↑*i*Pg	Pn	01 13 19.6	-0.3
SRKY				*e*Sg	**Sg**	**01 13 37.8**	**-2.8**
DBRK	**Dubrovnik**	**1.58**	**96**	*e*Pn	Pn	01 13 20.5	-0.7
DBRK				Sg	**Sn**	**01 13 40.4**	**-1.3**
VIRC	**Vir**	**1.60**	**335**	*e*Pn	**Pn**	**01 13 21.5**	**+0.1**
VIRC				Sg	**Sn**	**01 13 41.4**	**-0.9**
A050A	**Klekovaca**	**1.68**	**13**	↓*i*Pn	**Pn**	**01 13 23.0**	**+0.5**
A050A				*e*Sn	**Sn**	**01 13 44.6**	**+0.4**
TREB	**Trebinje**	**1.73**	**94**	*e*Pn	**Pn**	**01 13 23.2**	**+0.1**
TREB				*e*Sn	**Sn**	**01 13 45.0**	**-0.3**
TREB	**Trebinje**	**1.73**	**94**	*e*Pg	**Pn**	**01 13 23.3**	**+0.1**
TREB				*e*Sg	**Sn**	**01 13 43.5**	**-1.8**
MGRS	**Mrkonjic Grad**	**1.75**	**26**	*e*Pn	**Pn**	**01 13 24.3**	**+0.8**
MGRS				*e*Sn	**Sn**	**01 13 45.6**	**-0.3**
BRY	**Bratogost**	**1.86**	**88**	*e*Pn	**Pn**	**01 13 25.3**	**+0.2**
BRY				*e*Sn	**Sn**	**01 13 48.3**	**-0.4**
BRY	**Bratogost**	**1.86**	**88**	↓*i*Pg	**Pn**	**01 13 25.7**	**+0.6**
BRY				*i* Sg	**Sn**	**01 13 48.0**	**-0.7**
HCY	**Herceg Novi**	**1.87**	**102**	*e*Pn	**Pn**	**01 13 25.9**	**+0.7**
HCY				*e*Sn	**Sn**	**01 13 48.9**	**0.0**
HCY	**Herceg Novi**	**1.87**	**102**	↑*i*Pg	**Pn**	**01 13 25.7**	**+0.5**
HCY				*i* Sg	**Sn**	**01 13 48.0**	**-0.6**
NVLJ	**Novalja**	**1.90**	**335**	*e*Pn	**Pn**	**01 13 25.8**	**+0.2**
NVLJ				Sn	**Sn**	**01 13 48.7**	**-1.0**
BLY	**Banja Luka**	**2.08**	**24**	*e*Pn	**Pn**	**01 13 28.2**	**+0.2**
BLY				*e*Sn	**Sn**	**01 13 54.3**	**+0.3**
BLY	**Banja Luka**	**2.08**	**24**	*e*Pn	**Pn**	**01 13 30.1**	**+2.1**
BLY				*e*Sn	**Sn**	**01 13 56.2**	**+2.2**
UPM	**Unac-Piva**	**2.15**	**80**	*e*Pn	**Pn**	**01 13 30.2**	**+1.1**
UPM				*i* Sn	**Sn**	**01 13 55.6**	**-0.4**
CEME	**Cevo**	**2.16**	**97**	↓*i*Pn	**Pn**	**01 13 29.9**	**+0.7**
CEME				*i* Sn	**Sn**	**01 13 55.0**	**-1.1**
NKME	**Niksic**	**2.17**	**91**	*e*Pn	**Pn**	**01 13 29.9**	**+0.7**
NKME				*i* Sn	**Sn**	**01 13 55.3**	**-0.9**
PRIJ	**Prijedor**	**2.19**	**13**	*e*Pn	**Pn**	**01 13 30.1**	**+0.6**
PRIJ				*e*Sn	**Sn**	**01 13 56.3**	**-0.3**
BUM	**Brajici-Budva**	**2.20**	**103**	↓*i*Pn	**Pn**	**01 13 30.3**	**+0.6**
BUM				*i* Sn	**Sn**	**01 13 55.8**	**-1.2**
A051A	**Mrakovica**	**2.26**	**16**	*e*Pn	**Pn**	**01 13 31.1**	**+0.6**
A051A				*e*Sn	**Sn**	**01 13 57.8**	**-0.7**
DOB	**Doboj**	**2.41**	**38**	*e*Pn	**Pn**	**01 13 33.5**	**+0.9**
DOB				*e*Sn	**Sn**	**01 14 02.1**	**-0.2**
PDG	**Podgorica**	**2.43**	**99**	*e*Pn	**Pn**	**01 13 34.6**	**+1.8**
PDG				*e*Sn	**Sn**	**01 14 02.3**	**-0.3**
TTG	**Podgorica**	**2.43**	**99**	*e*Pn	**Pn**	**01 13 33.6**	**+0.8**
TTG				*i* Sn	**Sn**	**01 14 01.4**	**-1.2**
DRME	**Dracevica, Mon**	**2.44**	**105**	↓*i*Pn	**Pn**	**01 13 33.7**	**+0.8**
DRME				*e*Sn	**Sn**	**01 14 02.7**	**-0.1**
DRME	**Dracevica, Mon**	**2.44**	**105**	↓*i*Pn	**Pn**	**01 13 33.7**	**+0.8**
DRME				*i* Sn	**Sn**	**01 14 01.6**	**-1.2**
HAPS	**Han Pijesak,BI**	**2.47**	**59**	*e*Pn	**Pn**	**01 13 34.2**	**+0.7**
HAPS				*e*Sn	**Sn**	**01 14 02.5**	**-1.3**
PLE	**Pljevlja**	**2.52**	**78**	↓*i*Pn	**Pn**	**01 13 35.4**	**+1.2**
PLE				*i* Sn	**Sn**	**01 14 04.5**	**-0.5**
ULC	**Ulcinj**	**2.55**	**109**	↓*i*Pn	**Pn**	**01 13 35.3**	**+0.8**
ULC				*i* Sn	**Sn**	**01 14 04.5**	**-1.2**
RUDO	**Rudo**	**2.57**	**71**	*e*Pn	**Pn**	**01 13 35.6**	**+0.8**
RUDO				*e*Sn	**Sn**	**01 14 06.0**	**-0.1**
KOME	**Kolasin**	**2.58**	**89**	*e*Pn	**Pn**	**01 13 35.8**	**+0.9**
KOME				*i* Sn	**Sn**	**01 14 05.2**	**-1.2**
BBLS	**Lazić**	**2.67**	**67**	*e*Pn	**Pn**	**01 13 37.0**	**+0.7**
BBLS				*e*Sn	**Sn**	**01 14 08.7**	**-0.1**
BBLS	**Lazić**	**2.67**	**67**	*e*Pn	**Pn**	**01 13 38.6**	**+2.3**
BBLS				*e*Sn	**Sn**	**01 14 10.3**	**+1.5**
IVA	**Berane**	**2.85**	**88**	↑*i*Pn	**Pn**	**01 13 39.7**	**+1.0**
IVA				*i* Sn	**Sn**	**01 14 11.9**	**-1.3**
PVY	**Plav**	**2.92**	**94**	↓*i*Pn	**Pn**	**01 13 40.4**	**+0.7**
PVY				*i* Sn	**Sn**	**01 14 13.4**	**-1.5**
SJES	**Sjenica**	**2.93**	**81**	*e*Pn	**Pn**	**01 13 40.8**	**+1.0**
SJES				*e*Sn	**Sn**	**01 14 14.7**	**-0.5**
SJES	**Sjenica**	**2.93**	**81**	*e*Pn	**Pn**	**01 13 41.4**	**+1.6**
SJES				*e*Sn	**Sn**	**01 14 16.0**	**+0.8**
CEY	**Cerknica**	**3.11**	**339**	*e*Pn	**Pn**	**01 13 43.8**	**+1.6**
CEY				*e*Sn	**Sn**	**01 14 20.8**	**+1.4**
IVAS	**Ivanjica**	**3.11**	**75**	*e*Pn	**Pn**	**01 13 42.2**	**-0.1**
IVAS				*e*Sn	**Sn**	**01 14 20.1**	**+0.5**
DIVS	**Divibare**	**3.15**	**65**	*e*Pn	**Pn**	**01 13 43.0**	**+0.1**
DIVS				*e*Sn	**Sn**	**01 14 19.5**	**-1.1**
DIVS	**Divibare**	**3.15**	**65**	*e*Pn	**Pn**	**01 13 45.0**	**+2.1**
DIVS				*e*Sn	**Sn**	**01 14 20.7**	**+0.1**
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.08**	**269**	Pn	Pn	**01 23 41.7**	**-0.3**
	1.3nm,0.3s,baz=105,slow=16,SNR=7.1						
MSVF				LR	LR	01 25 21.1	
	comp=Z,5μm,20.2s,baz=97,slow=35 2.2nm,0.3s						
AFI	**Afiamalu**	**5.98**	**52**	LR	LR	01 25 39.9	
	comp=Z,879nm,18.4s,baz=214,slow=33						
RAO	**Raoul Island**	**11.58**	**186**	LR	LR	01 29 08.2	
	comp=Z,2μm,20.2s,baz=173,slow=34						
RAR	**Rarotonga**	**16.27**	**105**	LR	LR	01 31 06.1	
	comp=Z,697nm,20.6s,baz=272,slow=32						
DZM	**Mont Dzumac**	**16.51**	**252**	eLR	LR	01 30 37.3	
	comp=Z,585nm,20.2s						
DZM	**Mont Dzumac**	**16.51**	**252**	LR	LR	01 31 28.6	
	comp=Z,1μm,20.4s,baz=110,slow=33						
PPT2	**Papeete2**	**25.77**	**94**	eLR	LR	01 34 02.6	
PPT2	comp=Z,1μm,24.2s			eLR	LR	01 34 02.6	
	comp=Z,1μm,30.0s						
PPT	**Papeete**	**25.77**	**94**	LR	LR	01 35 25.4	
	comp=Z,412nm,19.7s,baz=248,slow=30						
TBI	**Tubuai**	**26.03**	**107**	eLR	LR	01 34 20.8	
	comp=Z,7μm,28.8s						
TBI				eLR	LR	01 34 21.7	
	comp=Z,21μm,25.0s						
KRVT	**Keravat (AS076**	**33.45**	**290**	LR	LR	01 41 20.0	
	comp=Z,642nm,20.0s,baz=257,slow=34						
CTA	**Charters Tower**	**35.16**	**260**	LR	LR	01 42 08.4	
	comp=Z,494nm,18.1s,baz=85,slow=34						
PMG	**Port Moresby**	**36.11**	**278**	LR	LR	01 43 16.2	
	comp=Z,334nm,18.2s,baz=77,slow=35						
TAOE	**Nuku Hiva Isla**	**36.51**	**81**	eLR	LR	01 38 49.4	
	comp=Z,533nm,28.7s						
STKA	**Stephens Creek**	**40.23**	**241**	LR	LR	01 44 54.7	
	comp=Z,162nm,18.2s,baz=59,slow=34						
WRA	**Warramunga Arr**	**46.35**	**259**	P	**P**	**01 30 51.5**	**-0.2**
	0.6nm,0.9s,baz=91,slow=6.8,SNR=3.1						
WRA				LR	LR	01 49 06.6	
	comp=Z,316nm,18.0s,baz=100,slow=35 0.6nm,0.9s						
ASAR	**Alice Springs**	**46.49**	**254**	P	**P**	**01 30 52.7**	**-0.2**
	3.4nm,0.7s,baz=86,slow=8.4,SNR=15						
ASAR				LR	LR	01 49 38.8	
	comp=Z,227nm,18.9s,baz=100,slow=35 3.4nm,0.7s						
SIJI	**Sorong**	**53.85**	**282**	LR	LR	01 53 51.2	
	comp=Z,213nm,20.1s,baz=154,slow=35						
BATI	**Baumata**	**58.24**	**269**	LR	LR	01 54 54.0	
	comp=Z,290nm,21.7s,baz=174,slow=34						
NWAO	**Narrogin (SRO)**	**60.82**	**242**	LR	LR	01 57 41.6	
	comp=Z,154nm,18.6s,baz=88,slow=35						
VNDA	**Vanda**	**60.82**	**185**	LR	LR	01 57 19.8	
	comp=Z,78nm,18.1s,baz=14,slow=34						
DAV	**Davao City (W)**	**62.14**	**288**	LR	LR	01 58 23.5	
	comp=Z,76nm,18.2s,baz=138,slow=35						
RPN	**Rapa Nui**	**62.29**	**112**	LR	LR	01 53 06.3	
	comp=Z,241nm,19.7s,baz=252,slow=30						
KAPI	**Kappang**	**63.38**	**273**	LR	LR	01 58 12.5	
	comp=Z,102nm,20.6s,baz=102,slow=34						
SHEM	**Shemya Is, Ala**	**70.58**	**354**	LR	LR	01 58 41.6	
	comp=Z,200nm,19.3s,baz=294,slow=31						
QSPA	**South Pole Qui**	**72.37**	**180**	LR	LR	02 04 59.2	
	comp=Z,49nm,18.1s,baz=42,slow=35						
PETK	**Petropavlovsk-**	**73.91**	**344**	LR	LR	02 02 19.7	
	comp=Z,66nm,21.7s,baz=149,slow=32						
LEM	**Lembang**	**74.42**	**268**	LR	LR	02 06 12.7	
	comp=Z,71nm,20.1s,baz=114,slow=35						
KSRS	**Korea Array**	**75.68**	**317**	LR	LR	02 04 16.9	
	comp=Z,22nm,19.4s,baz=120,slow=33						
PFO	**Pinyon Flats O**	**76.73**	**48**	LR	LR	02 00 09.7	
	comp=Z,187nm,18.5s,baz=300,slow=30						
LPIG	**La Paz**	**76.86**	**59**	LR	LR	02 01 02.7	
	comp=Z,93nm,18.1s,baz=316,slow=30						
YBH	**Yreka Blue Hor**	**77.28**	**38**	LR	LR	01 59 35.1	
	comp=Z,277nm,21.7s,baz=344,slow=29						
NVAR	**Mina Array Bea**	**78.09**	**43**	P	**P**	**01 34 24.3**	**-0.1**
	0.2nm,0.4s,baz=233,slow=10.0,SNR=1.9 0.2nm,0.4s						
KLR	**Kul'dur**	**80.80**	**329**	LR	LR	02 06 24.0	
	comp=Z,366nm,21.0s,baz=340,slow=33						
BBB	**Bella Bella**	**81.32**	**28**	LR	LR	02 08 45.3	
	comp=Z,123nm,18.6s,baz=190,slow=34						
ELK	**Elko**	**81.33**	**42**	LR	LR	02 03 16.0	
	comp=Z,125nm,19.0s,baz=305,slow=30						
NEW	**Newport**	**84.33**	**35**	LR	LR	02 06 33.4	
	comp=Z,194nm,18.4s,baz=254,slow=32						
MAW	**Mawson**	**84.64**	**199**	LR	LR	02 10 21.7	
	comp=Z,193nm,19.6s,baz=93,slow=34						
DLBC	**Dease Lake**	**84.96**	**23**	LR	LR	02 04 45.6	
	comp=Z,337nm,20.4s,baz=216,slow=30						
ILAR	**Eielson Array**	**85.29**	**12**	P	**P**	**01 34 59.9**	**-1.8**
	0.7nm,0.6s,baz=218,slow=5.7,SNR=16						
ILAR				LR	LR	02 04 57.0	
	comp=Z,191nm,20.8s,baz=186,slow=30 0.7nm,0.6s						
PSI	**Prapat**	**85.56**	**274**	LR	LR	02 13 22.3	
	comp=Z,149nm,18.1s,baz=96,slow=36						
CMIG	**Matias Romero**	**87.54**	**71**	LR	LR	02 05 07.2	
	comp=Z,94nm,21.5s,baz=246,slow=29						
YAK	**Yakutsk**	**90.01**	**338**	LR	LR	02 09 37.6	
	comp=Z,29nm,20.7s,baz=90,slow=32						
PLCA	**Paso Flores**	**90.25**	**133**	LR	LR	02 10 57.5	
	comp=Z,70nm,18.3s,baz=238,slow=32						
CMAR	**Chiang Mai Arr**	**90.42**	**289**	LR	LR	02 13 56.6	
	comp=Z,32nm,19.5s,baz=130,slow=34						
SNAA	**Sanae**	**90.77**	**178**	LR	LR	02 14 22.7	
	comp=Z,61nm,18.9s,baz=190,slow=34						
INK	**Inuvik**	**91.23**	**15**	LR	LR	02 12 39.9	
	comp=Z,172nm,18.6s,baz=196,slow=33						
YKA	**Yellowknife Ar**	**93.42**	**24**	LR	LR	02 09 17.9	
	comp=Z,166nm,21.9s,baz=254,slow=30						
JTS	**Las Juntas de**	**94.64**	**81**	LR	LR	02 10 09.7	
	comp=Z,71nm,18.1s,baz=354,slow=30						
NNA	**Nana**	**95.52**	**104**	LR	LR	02 09 30.9	
	comp=Z,65nm,20.1s,baz=262,slow=30						
ATAH	**Atahualpa**	**95.63**	**99**	LR	LR	02 08 34.0	
	comp=Z,138nm,21.6s,baz=238,slow=29						
CFA	**Coronel Fontan**	**95.69**	**126**	LR	LR	02 08 56.3	
	comp=Z,41nm,21.6s,baz=318,slow=29						
TIXI	**Tiksi**	**96.38**	**345**	LR	LR	02 15 23.0	
	comp=Z,90nm,19.2s,baz=359,slow=33						
ULM	**Lac du Bonnet**	**97.64**	**40**	LR	LR	02 14 18.8	
	comp=Z,230nm,18.4s,baz=268,slow=32						
BRDH	**Bariadhala**	**98.19**	**291**	LR	LR	02 23 21.6	
	comp=Z,84nm,18.2s,baz=118,slow=37						
OSTC	**Ostas**	**145.63**	**345**	eP	**PKiKP**	**01 42 07.8**	**+0.3**
DPC	**Dobruska-Polom**	**145.79**	**345**	eP	**PKPab**	**01 42 04.3**	**-0.4**
BRTR	**Keskin Array B**	**145.81**	**316**	PKPbc	**PKPab**	**01 42 05.9**	**+0.7**
	1.1nm,1.1s,baz=153,slow=1.3,SNR=2.4						
KRLC	**Kraliky**	**145.93**	**345**	eP	**PKPab**	**01 42 04.6**	**-0.6**
KHC	**Kasperske Hory**	**147.56**	**347**	eP	PKiKP	01 42 19.8	+8.3
CKRC	**Cesky Krumlov**	**147.69**	**346**	eP	**PKPbc**	**01 42 10.3**	**+0.5**
GERES	**GERESS Array B**	**147.80**	**347**	PKPbc	**PKPbc**	**01 42 10.3**	**+0.2**
	0.5nm,0.8s,baz=120,slow=5.3,SNR=3.8						
CONA	**Conrad Observa**	**148.15**	**344**	eP	**PKPab**	**01 42 19.1**	**+5.2**
	8.7nm,1.5s						
DAVA	**Damuels**	**149.99**	**351**	eP	**PKPab**	**01 42 22.2**	**+0.6**
	9.9nm,1.6s						
FETA	**Feichten**	**150.12**	**350**	eP	**PKPab**	**01 42 22.6**	**+0.5**
	8.9nm,1.2s						

*IDC **29** 01:28:19.1±5.1,38°.27N×22°.25E,h0km,mb3.4/5, mbtmp3.4/6,ML2.7/1,Error ellipse: s-maj=184.5km s-min=30.0km az=175.0*

*THE **29** 01:28:20.6,38°.30N×22°.10E,h9km,ML3.0/15,Error ellipse: s-maj=0.7km s-min=0.4km az=356.0*

*ATH **29** 01:28:20.3,38°.29N×22°.12E,h10km±1km,ML3.0/16,Error ellipse: s-maj=1.5km s-min=0.7km az=313.0*

ISC 29 01:28:20.2±0.7,**38°.29N**±0°.02×**22°.11E**±0°.02,**h11**km±4km, **n78**,σ0**°.58**/106,**mb3.6**/4,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.03**	**181**	P	**Pg**	**01 28 22.0**	**-0.1**
ALIK				S	**Sg**	**01 28 23.8**	**+0.3**
LAKA	**Lakka**	**0.12**	**243**	P	**Pg**	**01 28 23.2**	**+0.1**
LAKA				S	**Sg**	**01 28 25.6**	**+0.4**
	17μm,0.2s						
LAKA	**Lakka**	**0.12**	**243**	P	**Pg**	**01 28 23.0**	**-0.1**
LAKA				S	**Sg**	**01 28 25.3**	**+0.1**
LAKA				AML	AML	01 28 25.8	
	comp=E,19488μm,0.3s						
LAKA				AML	AML	01 28 25.9	
	comp=N,14469μm,0.2s						
SERG	**Sergoula**	**0.13**	**340**	P	**Pg**	**01 28 23.1**	**-0.2**
SERG				S	**Sg**	**01 28 25.4**	**-0.1**
	comp=N,27μm,0.2s						
SERG	**Sergoula**	**0.13**	**340**	P	**Pg**	**01 28 23.1**	**-0.2**
SERG				S	**Sg**	**01 28 25.4**	**-0.1**
SERG				AML	AML	01 28 25.6	
	comp=N,64814μm,0.2s						
SERG				AML	AML	01 28 25.7	
	comp=E,68732μm,0.3s						
EFP	**Efpalio**	**0.21**	**310**	P	**Pg**	**01 28 24.6**	**0.0**
EFP				S	**Sg**	**01 28 28.3**	**+0.7**
	comp=E,8μm,0.3s						
EFP	**Efpalio**	**0.21**	**310**	P	**Pg**	**01 28 24.6**	**0.0**
EFP				S	**Sg**	**01 28 28.2**	**+0.6**
EFP				AML	AML	01 28 28.7	
	comp=E,14458μm,0.3s						
EFP				AML	AML	01 28 28.8	
	comp=N,15012μm,0.3s						
UPR	**University Cam**	**0.26**	**268**	P	**Pg**	**01 28 25.7**	**+0.3**
UPR				S	**Sg**	**01 28 29.6**	**+0.7**
ANX	**Ano Chora**	**0.34**	**333**	P	**Pg**	**01 28 26.7**	**-0.2**
ANX				S	**Sg**	**01 28 32.1**	**+0.7**
	comp=N,10μm,0.3s						
ANX	**Ano Chora**	**0.34**	**333**	P	**Pg**	**01 28 26.8**	**-0.2**
ANX				S	**Sg**	**01 28 32.4**	**+1.0**
ANX				AML	AML	01 28 32.8	
	comp=E,21027μm,0.3s						
ANX				AML	AML	01 28 32.8	
	comp=N,18280μm,0.2s						
DRO	**Drossia**	**0.47**	**223**	P	**Pg**	**01 28 29.1**	**-0.2**
DRO				S	**Sg**	**01 28 36.1**	**+0.7**
	comp=N,3μm,0.2s						
DRO	**Drossia**	**0.47**	**223**	P	**Pg**	**01 28 29.4**	**+0.1**
DRO				S	**Sg**	**01 28 36.4**	**+1.0**
DRO				AML	AML	01 28 39.0	
	comp=E,6296μm,0.2s						
DRO				AML	AML	01 28 42.3	
	comp=N,5690μm,0.2s						
THAL	**Thalero**	**0.50**	**120**	P	**Pg**	**01 28 30.1**	**+0.1**
THAL	**Thalero**	**0.50**	**120**	P	**Pg**	**01 28 29.8**	**-0.1**
THAL				S	**Sg**	**01 28 36.4**	**-0.3**
THAL				AML	AML	01 28 41.5	
	comp=E,3577μm,0.3s						
THAL				AML	AML	01 28 41.6	
	comp=N,3814μm,0.3s						
RLS	**Riolos of Patr**	**0.56**	**245**	P	**Pg**	**01 28 31.1**	**0.0**
RLS				S	**Sb**	**01 28 40.3**	**+0.3**
	comp=N,2μm,0.2s						
RLS	**Riolos of Patr**	**0.56**	**245**	P	**Pg**	**01 28 31.1**	**0.0**
RLS				S	**Sg**	**01 28 39.6**	**+1.2**
RLS				AML	AML	01 28 42.9	
	comp=N,2114μm,0.3s						
RLS				AML	AML	01 28 49.6	
	comp=E,1531μm,0.6s						
PVO	**Paravola**	**0.56**	**305**	P	**Pg**	**01 28 31.0**	**-0.1**
PVO				S	**Sg**	**01 28 39.1**	**+0.6**
	comp=E,1μm,0.3s						
PVO	**Paravola**	**0.56**	**305**	P	**Pg**	**01 28 31.3**	**+0.2**
AXAR	**Agios Charalam**	**0.64**	**42**	P	**Pg**	**01 28 32.0**	**-0.6**
AXAR				S	**Sg**	**01 28 41.5**	**+0.5**
	comp=E,5μm,0.4s						
AXAR	**Agios Charalam**	**0.64**	**42**	P	**Pg**	**01 28 32.4**	**-0.2**
AXAR				S	**Sg**	**01 28 41.5**	**+0.5**
AXAR				AML	AML	01 28 43.0	
	comp=N,8026μm,0.4s						
AXAR				AML	AML	01 28 47.4	
	comp=E,9496μm,0.4s						
EVR	**Evrytania**	**0.67**	**339**	P	**Pg**	**01 28 32.7**	**-0.4**
EVR				S	**Sg**	**01 28 43.0**	**+1.1**
	comp=E,2μm,0.3s						
EVR	**Evrytania**	**0.67**	**339**	P	**Pg**	**01 28 32.8**	**-0.3**
EVR				S	**Sg**	**01 28 42.9**	**+1.1**
EVR				AML	AML	01 28 45.5	
	comp=N,3419μm,0.3s						
EVR				AML	AML	01 28 45.9	
	comp=E,3580μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.72**	**1**	P	**Pg**	**01 28 34.1**	**0.0**
MAKR				S	**Sb**	**01 28 44.9**	**+0.2**
	comp=E,1μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.72**	**1**	P	**Pg**	**01 28 33.9**	**-0.2**
MAKR				S	**Sg**	**01 28 44.4**	**+0.8**
MAKR				AML	AML	01 28 47.1	
	comp=E,5293μm,0.3s						
MAKR				AML	AML	01 28 50.5	
	comp=N,4105μm,0.3s						
LOUT	**Loutraki**	**0.74**	**114**	P	**Pg**	**01 28 34.2**	**-0.4**
LOUT				S	**Sb**	**01 28 46.2**	**+0.8**
	comp=N,512nm,0.5s						
LOUT	**Loutraki**	**0.74**	**114**	P	**Pg**	**01 28 34.3**	**-0.2**
LOUT				AML	AML	01 28 49.0	
	comp=E,187μm,0.6s						
LOUT				AML	AML	01 28 49.8	
	comp=N,193μm,0.5s						
AGG	**Agios Georgios**	**0.75**	**13**	P	**Pg**	**01 28 33.7**	**-0.9**
AGG				S	**Sg**	**01 28 44.9**	**+0.5**
	comp=N,412nm,0.3s						
AGG	**Agios Georgios**	**0.75**	**13**	P	**Pg**	**01 28 33.7**	**-0.9**
AGG				S	**Sg**	**01 28 45.0**	**+0.6**
AGG				AML	AML	01 28 46.1	
	comp=E,1685μm,0.3s						
AGG				AML	AML	01 28 49.5	
	comp=N,2447μm,0.4s						
VIL2	**Platees**	**0.91**	**95**	P	**Pb**	**01 28 38.4**	**+0.4**
VIL2				AML	AML	01 28 55.1	
	comp=E,1378μm,0.5s						
VIL2				AML	AML	01 29 00.8	
	comp=N,1070μm,0.5s						
VILL	**Villia**	**0.95**	**97**	P	**Pb**	**01 28 38.9**	**+0.1**
VILL				S	**Sn**	**01 28 52.9**	**-0.3**
	comp=N,408nm,0.5s						
EPID	**Epidavros**	**1.04**	**130**	P	**Pb**	**01 28 40.4**	**+0.1**
EPID				S	**Sn**	**01 28 56.0**	**+0.6**
	comp=N,495nm,0.4s						
EPID	**Epidavros**	**1.04**	**130**	P	**Pg**	**01 28 40.1**	**-0.1**
LTHK	**Lithakia**	**1.16**	**240**	P	**Pb**	**01 28 41.9**	**-0.4**
LTHK	**Lithakia**	**1.16**	**240**	P	**Pb**	**01 28 42.1**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.19**	**291**	P	**Pb**	**01 28 42.0**	**-0.7**
EVGI	**Lefkada island**	**1.19**	**286**	P	**Pb**	**01 28 42.5**	**-0.3**
EVGI	**Lefkada island**	**1.19**	**286**	P	**Pb**	**01 28 42.4**	**-0.3**
VLS	**Valsamata**	**1.20**	**265**	P	**Pb**	**01 28 42.2**	**-0.8**
VLS	**Valsamata**	**1.20**	**265**	P	**Pb**	**01 28 42.2**	**-0.8**
VLS				AML	AML	01 29 02.3	
	comp=E,1197μm,0.3s						
VLS				AML	AML	01 29 02.3	
	comp=N,3079μm,0.3s						
PSDA	**Pessada-Kefalo**	**1.22**	**262**	P	**Pn**	**01 28 42.3**	**-0.8**
PSDA				S	**Sb**	**01 28 59.3**	**+0.4**
	comp=N,662nm,0.2s						
PSDA	**Pessada-Kefalo**	**1.22**	**262**	P	**Pn**	**01 28 42.5**	**-0.6**
LKD2	**Lefkada island**	**1.24**	**294**	P	**Pn**	**01 28 43.4**	**-0.1**
LKD2	**Lefkada island**	**1.24**	**294**	P	**Pn**	**01 28 43.4**	**-0.1**
TSLK	**Tsoukalades, L**	**1.26**	**295**	P	**Pn**	**01 28 44.1**	**+0.3**
TSLK	**Tsoukalades, L**	**1.26**	**295**	P	**Pn**	**01 28 44.1**	**+0.3**
TSLK				AML	AML	01 29 11.6	
	comp=N,1080μm,0.5s						
TSLK				AML	AML	01 29 16.5	
	comp=E,734μm,0.8s						
THL	**Klokotos Trika**	**1.27**	**357**	P	**Pn**	**01 28 44.0**	**+0.1**
THL	**Klokotos Trika**	**1.27**	**357**	P	**Pn**	**01 28 44.3**	**+0.4**
THL				AML	AML	01 29 04.2	
	comp=E,691μm,0.5s						
THL				AML	AML	01 29 07.7	
	comp=N,384μm,0.4s						
ATH	**Athens Observa**	**1.30**	**104**	P	**Pn**	**01 28 44.1**	**-0.3**
ATH	**Athens Observa**	**1.30**	**104**	P	**Pn**	**01 28 44.6**	**+0.2**
KEF4	**Livadi, Kephal**	**1.33**	**269**	P	**Pn**	**01 28 44.5**	**-0.2**
ATHU	**Athens Univers**	**1.36**	**103**	P	**Pn**	**01 28 45.5**	**+0.4**
ATHU	**Athens Univers**	**1.36**	**103**	P	**Pn**	**01 28 45.3**	**+0.2**
ATHU				S	**Sb**	**01 29 02.0**	**-1.1**
XOR	**Xorichti**	**1.36**	**38**	P	**Pn**	**01 28 45.0**	**-0.2**
DMLN	**Damoulianata-K**	**1.37**	**268**	P	**Pn**	**01 28 45.3**	**0.0**
KEF3	**Kipouria, Keph**	**1.39**	**267**	P	**Pn**	**01 28 45.0**	**-0.5**
LRSO	**Larissa Observ**	**1.39**	**9**	P	**Pn**	**01 28 46.1**	**+0.5**
VLY	**Voula,Athens**	**1.40**	**108**	P	**Pn**	**01 28 46.0**	**+0.4**
PTL	**Penteli**	**1.40**	**99**	P	**Pn**	**01 28 46.0**	**+0.3**
PTL	**Penteli**	**1.40**	**99**	P	**Pn**	**01 28 46.1**	**+0.3**
PYL	**PYLOS**	**1.43**	**192**	P	**Pn**	**01 28 46.5**	**+0.5**
PYL	**PYLOS**	**1.43**	**192**	P	**Pn**	**01 28 46.5**	**+0.5**
DION	**Dionisos Attik**	**1.45**	**98**	P	**Pn**	**01 28 47.0**	**+0.6**
DION	**Dionisos Attik**	**1.45**	**98**	P	**Pn**	**01 28 47.0**	**+0.6**
KYMI	**Kymi, Euboea I**	**1.60**	**77**	P	**Pn**	**01 28 48.9**	**+0.5**
JAN	**Janina**	**1.68**	**325**	P	**Pb**	**01 28 51.2**	**+0.1**
VLI	**Veliai**	**1.70**	**157**	P	**Pn**	**01 28 50.5**	**+0.7**
VLI	**Veliai**	**1.70**	**157**	P	**Pn**	**01 28 50.6**	**+0.7**
IGT	**Igoumenitsa**	**1.86**	**312**	P	**Pb**	**01 28 54.4**	**+0.2**
KZN	**Kozani**	**2.03**	**353**	P	**Pn**	**01 28 55.8**	**+1.4**
KTHR	**Kythira**	**2.15**	**160**	P	**Pb**	**01 28 58.4**	**-0.7**
KTHA	**Kythira Island**	**2.17**	**159**	P	**Pb**	**01 28 58.4**	**-1.1**
KEK	**Kerkira**	**2.29**	**309**	P	**Pb**	**01 29 00.7**	**-0.9**
BRTR	**Keskin Array B**	**9.09**	**77**	Pn	**Pn**	**01 30 33.9**	**+2.5**
	comp=N,0.1nm,0.3s,baz=257,slow=13,SNR=1.6 comp=N,0.4nm,0.8s						
ESDC	**Sonseca Array**	**20.30**	**282**	P	Pn	01 32 58.1	+0.1
	comp=N,0.4nm,0.7s,baz=80,slow=11,SNR=2.8 comp=N,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**41.15**	**54**	P	**P**	**01 36 04.4**	**+0.1**
	comp=N,0.4nm,0.6s,baz=281,slow=8.7,SNR=4.4 comp=N,0.4nm,0.6s						
MKAR	**Makanchi Array**	**44.17**	**59**	P	**P**	**01 36 28.9**	**0.0**
	comp=N,0.4nm,0.4s,baz=283,slow=7.3,SNR=6.9 comp=N,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**44.68**	**48**	P	**P**	**01 36 32.5**	**-0.3**
	comp=N,0.8nm,0.4s,baz=278,slow=7.7,SNR=4.1 comp=N,0.8nm,0.4s						
SONM	**Songino Array**	**59.41**	**51**	P	**P**	**01 38 21.9**	**-0.9**
	comp=N,0.2nm,0.4s,baz=327,slow=12,SNR=1.7 comp=N,0.2nm,0.4s						

THE 29 01:32:12.8,38°.05N×20°.20E,h26km±3km,ML1.4/4,Error ellipse: s-maj=5.2km s-min=1.4km az=23.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.20**	**37**	P	Pb	01 32 18.4	-0.1
KEF3				S	Sb	01 32 22.9	+0.5
	310nm,0.2s						
DMLN	**Damoulianata-K**	**0.24**	**36**	P	Pb	01 32 18.7	-0.4
DMLN				S	Sb	01 32 23.6	+0.3
	115nm,0.1s						
KEF4	**Livadi, Kephal**	**0.28**	**40**	P	Pb	01 32 19.4	-0.2
KEF4				S	Sb	01 32 24.4	+0.2
PSDA	**Pessada-Kefalo**	**0.31**	**77**	P	Pb	01 32 20.1	0.0
PSDA				S	Sb	01 32 25.1	+0.1
	78nm,0.2s						
VLS	**Valsamata**	**0.34**	**67**	P	Pb	01 32 20.3	-0.2
VLS				S	Sb	01 32 26.4	+0.7
	62nm,0.1s						

ATH 29 01:32:44.8,38°.30N×22°.12E,h9km±3km,ML1.5/6,Error ellipse: s-maj=4.0km s-min=0.9km az=287.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERG	**Sergoula**	**0.12**	**336**	P	Pg	01 32 47.3	-0.2
SERG				S	Sg	01 32 49.4	-0.1
SERG				AML	AML	01 32 49.9	
	comp=E,2183μm,0.2s						
SERG				AML	AML	01 32 50.0	
	comp=N,1870μm,0.2s						
LAKA	**Lakka**	**0.13**	**240**	P	Pg	01 32 47.4	-0.3
LAKA				S	Sg	01 32 49.6	-0.1
LAKA				AML	AML	01 32 50.2	
	comp=N,228μm,0.2s						
LAKA				AML	AML	01 32 50.5	
	comp=E,232μm,0.1s						
EFP	**Efpalio**	**0.21**	**306**	P	Pg	01 32 48.9	-0.2
EFP				S	Sg	01 32 52.0	+0.1
EFP				AML	AML	01 32 53.0	
	comp=N,259μm,0.3s						
EFP				AML	AML	01 32 54.4	
	comp=E,275μm,0.1s						
ANX	**Ano Chora**	**0.33**	**332**	P	Pg	01 32 51.2	-0.2
ANX				S	Sg	01 32 56.5	+0.8
ANX				AML	AML	01 32 56.9	
	comp=E,424μm,0.4s						
ANX				AML	AML	01 32 57.0	
	comp=N,421μm,0.2s						
DRO	**Drossia**	**0.48**	**223**	P	Pg	01 32 53.5	-0.5
DRO				S	Sg	01 33 01.1	+0.8
DRO				AML	AML	01 33 02.5	
	comp=E,221μm,0.1s						
DRO				AML	AML	01 33 06.8	
	comp=N,139μm,0.2s						
THAL	**Thalero**	**0.51**	**122**	P	Pg	01 32 54.4	-0.2
PVO	**Paravola**	**0.56**	**304**	P	Pg	01 32 55.0	-0.7
RLS	**Riolos of Patr**	**0.57**	**245**	P	Pg	01 32 55.3	-0.5
RLS				S	Sg	01 33 04.0	+0.7
AXAR	**Agios Charalam**	**0.63**	**42**	P	Pg	01 32 56.4	-0.5
AXAR				S	Sg	01 33 05.7	+0.6
EVR	**Evrytania**	**0.66**	**338**	P	Pg	01 32 57.0	-0.5
EVR				S	Sg	01 33 06.9	+0.8
MAKR	**Makrakomi, Fth**	**0.71**	**1**	P	Pg	01 32 57.9	-0.5
AGG	**Agios Georgios**	**0.74**	**13**	P	Pg	01 32 58.2	-0.8
AGG				AML	AML	01 33 10.6	
	comp=E,62μm,0.3s						
AGG				AML	AML	01 33 13.7	
	comp=N,48μm,0.4s						
LOUT	**Loutraki**	**0.74**	**115**	P	Pg	01 32 58.6	-0.5
VIL2	**Platees**	**0.91**	**95**	P	Pb	01 33 02.6	-0.1
EPID	**Epidavros**	**1.05**	**131**	P	Pg	01 33 04.9	0.0

*GII **29** 01:50:14.6±0.4,36°.50N×30°.35E,h60km,MD2.9/3, Mm2.8/5*

*ISK **29** 01:50:16.6,36°.57N×30°.33E,h70km±1km,ML3.0/24*

*DDA **29** 01:50:17.5±0.0,36°.60N×30°.29E,h72km,ML2.8*

*NIC **29** 01:50:17.9±0.0,36°.44N×30°.36E,h55km±6km,Ml3.3/5*

*HLW **29** 01:50:18.4,36°.33N×30°.30E,h22km±15km,Md4.1,Ml4.8*

ISC 29 01:50:16.0±1.1,**36°.53N**±0°.03×**30°.34E**±0°.02,**h77**km±6km, **n96**,σ1**°48**/148,**Turkey**

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC

SEYD	**Seydisehir-KON**	**1.48**	**53**	PN	**Pn**	**01 50 42.9**	**+1.9**
BAGO	**Egridir - ISPA**	**1.50**	**14**	P	**Pn**	**01 50 41.0**	**-0.3**
BAGO				S	**Sn**	**01 50 59.8**	**-0.5**
GAZI	**Gazipasa**	**1.62**	**100**	PN	**Pn**	**01 50 44.3**	**+1.6**
GAZI	**Gazipasa**	**1.62**	**100**	P	**Pn**	**01 50 43.9**	**+1.1**
GAZI				S	**Sn**	**01 51 03.2**	**+0.2**
GAZI				*i* AML	AML	01 51 08.0	
	comp=E,77nm,0.2s						
TURN	**Turunc**	**1.71**	**279**	PN	**Pn**	**01 50 45.3**	**+1.5**
TURN	**Turunc**	**1.71**	**279**	P	**Pn**	**01 50 45.4**	**+1.6**
TURN				S	**Sn**	**01 51 05.5**	**+0.5**
TURN				*i* AML	AML	01 51 06.0	
	comp=E,98nm,0.5s						
TURN				*i* AML	AML	01 51 08.0	
	comp=N,149nm,0.3s						
KZIL	**AFYON_Kizioren**	**1.73**	**355**	P	**Pn**	**01 50 44.4**	**+0.1**
KZIL				S	**Sn**	**01 51 04.9**	**-0.9**
YER	**Yerkesik**	**1.76**	**291**	PN	**Pn**	**01 50 45.9**	**+1.3**
HDMB	**Hadim**	**1.77**	**75**	PN	**Pn**	**01 50 46.5**	**+1.5**
MULA	**Mugla, Merkez-**	**1.78**	**295**	P	**Pn**	**01 50 46.0**	**+1.2**
MULA				S	**Sn**	**01 51 05.4**	**-1.4**
MULA				*i* AML	AML	01 51 08.0	
	comp=E,71nm,0.3s						
ARG	**Arkhangelos**	**1.82**	**261**	PN	**Pn**	**01 50 46.7**	**+1.4**
ARG	**Arkhangelos**	**1.82**	**261**	P	**Pn**	**01 50 46.9**	**+1.6**
ARG				S	**Sn**	**01 51 09.6**	**+2.0**
YVAC	**Isparta, Yalva**	**1.88**	**22**	P	**Pn**	**01 50 47.3**	**+1.0**
YVAC				S	**Sn**	**01 51 09.9**	**+0.6**
YVAC				*i* AML	AML	01 51 13.0	
	comp=E,54nm,0.5s						
DOGA	**KONYA_Doganhis**	**1.89**	**33**	P	**Pn**	**01 50 48.0**	**+1.5**
DOGA				S	**Sn**	**01 51 11.0**	**+1.3**
DOGA				*i* AML	AML	01 51 13.0	
	comp=N,268nm,0.9s						
DOGA				*i* AML	AML	01 51 14.0	
	comp=E,159nm,0.6s						
PASA	**Karahalli, USA**	**1.94**	**340**	P	**Pn**	**01 50 46.4**	**-0.6**
PASA				S	**Sn**	**01 51 09.3**	**-1.4**
PASA				*i* AML	AML	01 51 11.0	
	comp=N,64nm,0.3s						
PASA				*i* AML	AML	01 51 12.0	
	comp=E,88nm,0.3s						
SHUT	**Suhut-Afyon**	**2.03**	**5**	PN	**Pn**	**01 50 49.0**	**+0.8**
KMER	**Konya-Meram**	**2.04**	**52**	P	**Pn**	**01 50 50.7**	**+2.3**
ERMK	**Ermenek**	**2.07**	**86**	P	**Pn**	**01 51 51.8**	**+2.9**
ERMK				S	**Sn**	**01 51 16.6**	**+2.7**
ERMK				*i* AML	AML	01 51 22.0	
	comp=N,91nm,0.4s						
ERMK				*i* AML	AML	01 51 25.0	
	comp=E,81nm,0.5s						
KONT	**Konya--Tatoy**	**2.14**	**48**	PN	**Pn**	**01 50 51.7**	**+2.0**
KKBE	**Karaman, Kazim**	**2.19**	**71**	P	**Pn**	**01 50 52.6**	**+2.1**
KKBE				S	**Sn**	**01 51 17.0**	**+0.2**
MLSB	**Milas**	**2.19**	**291**	PN	**Pn**	**01 50 51.9**	**+1.5**
AKMS	**Akamas**	**2.21**	**132**	P	**Pn**	**01 50 53.0**	**+2.4**
AKMS				S	**Sn**	**01 51 16.5**	**-0.7**
AKMS				AML	AML	01 51 26.0	
	0.4nm,0.4s						
AKMS				AML	AML	01 51 26.0	
	0.4nm,0.4s						
AKMS				AML	AML	01 51 31.1	
	0.5nm,0.4s						
AKMS				AML	AML	01 51 31.1	
	0.5nm,0.4s						
DAT	**Datca**	**2.23**	**276**	PN	**Pn**	**01 50 52.8**	**+1.8**
AYDN	**Tasoluk**	**2.27**	**301**	P	**Pn**	**01 50 52.4**	**+0.9**
AYDN				S	**Sn**	**01 51 16.9**	**-1.7**
AYDN				*i* AML	AML	01 51 20.0	
	comp=N,50nm,0.2s						
ALFC	**Alefka**	**2.29**	**126**	P	**Pn**	**01 50 52.9**	**+1.3**
ALFC				S	**Sn**	**01 51 18.5**	**-0.5**
ALFC				AML	AML	01 51 22.3	
	0.8nm,0.2s						
ALFC				AML	AML	01 51 22.3	
	0.8nm,0.2s						
ALFC				AML	AML	01 51 22.5	
	0.7nm,0.1s						
ALFC				AML	AML	01 51 22.5	
	0.7nm,0.1s						
LADK	**Ladik-KONYA**	**2.32**	**43**	PN	**Pn**	**01 50 53.1**	**+1.0**
KULA	**Kula-Manisa**	**2.39**	**326**	PN	**Pn**	**01 50 54.4**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.42**	**307**	PN	**Pn**	**01 50 54.1**	**+0.7**
MANT	**Manisa**	**2.42**	**325**	P	**Pn**	**01 50 53.3**	**-0.2**
MANT				S	**Sn**	**01 51 20.0**	**-2.3**
USAK	**Uak-Merkez**	**2.42**	**335**	P	**Pn**	**01 50 53.7**	**+0.2**
USAK				*i* AML	AML	01 51 22.0	
	comp=E,39nm,0.8s						
KDHN	**Kadinhani**	**2.44**	**35**	P	**Pn**	**01 50 54.8**	**+1.0**
KDHN				S	**Sn**	**01 51 23.2**	**+0.6**
KDHN				*i* AML	AML	01 51 25.0	
	comp=E,37nm,0.5s						
NATA	**Nata**	**2.52**	**133**	P	**Pn**	**01 50 56.5**	**+1.8**
GEDZ	**Gediz**	**2.62**	**344**	PN	**Pn**	**01 50 57.6**	**+1.5**
GDZ	**Gediz**	**2.64**	**345**	P	**Pn**	**01 50 55.5**	**-1.1**
GDZ				S	**Sn**	**01 51 22.8**	**-4.9**
ALIN	**Konya, Altinte**	**2.68**	**48**	P	**Pn**	**01 50 58.1**	**+1.1**
SZAC	**Souni**	**2.72**	**130**	P	**Pn**	**01 50 59.4**	**+1.8**
SZAC				S	**Sn**	**01 51 30.9**	**+1.5**
SZAC				AML	AML	01 51 35.0	
	0.3nm,0.3s						
SZAC				AML	AML	01 51 35.0	
	0.3nm,0.3s						
SZAC				AML	AML	01 51 37.2	
	0.3nm,0.3s						
SZAC				AML	AML	01 51 37.2	
	0.3nm,0.3s						
KARP	**Karpathos**	**2.76**	**250**	P	**Pn**	**01 51 00.2**	**+2.2**
KARP				S	**Sn**	**01 51 31.9**	**+1.5**
DEMI	**Demirci**	**2.82**	**333**	P	**Pn**	**01 50 58.4**	**-0.5**
CSS	**Mathiatis**	**2.89**	**122**	P	**Pn**	**01 51 01.6**	**+1.8**
CSS				S	**Sn**	**01 51 33.3**	**-0.2**
CSS				AML	AML	01 51 41.5	
	0.1nm,0.4s						
CSS				AML	AML	01 51 41.5	
	0.1nm,0.4s						
CSS				AML	AML	01 51 44.8	
	0.1nm,0.7s						
CSS				AML	AML	01 51 44.8	
	0.1nm,0.7s						
CSS	**Mathiatis**	**2.89**	**122**	Pn	**Pn**	**01 50 58.5**	**-1.3**
ASGA	**Asgata**	**2.94**	**125**	P	**Pn**	**01 51 02.6**	**+2.2**
ASGA				S	**Sn**	**01 51 36.3**	**+1.7**
MVOU	**Mavrovouni**	**3.07**	**119**	P	**Pn**	**01 51 02.9**	**+0.7**
MVOU				S	**Sn**	**01 51 35.7**	**-2.2**
MVOU				AML	AML	01 51 44.4	
	0.2nm,0.5s						
MVOU				AML	AML	01 51 44.4	
	0.2nm,0.5s						
OSC1	**CSNet OBS 1**	**3.12**	**166**	P	**Pn**	**01 51 04.2**	**+1.3**
OSC1				S	**Sn**	**01 51 40.6**	**+1.6**
APE	**Apeiranthos**	**3.90**	**279**	Pn	**Pn**	**01 51 14.2**	**+0.7**
APE				Sn	**Sn**	**01 51 57.2**	**-0.9**
MMA0B	**Mount Meron ar**	**5.44**	**129**	Pn	**Pn**	**01 51 33.6**	**-1.0**
MMA0B				Sn	**Sn**	**01 52 34.5**	**-1.4**
OFRI	**`Ofer**	**5.46**	**134**	Pn	**Pn**	**01 51 33.1**	**-1.8**
OFRI				Sn	**Sn**	**01 52 34.7**	**-1.7**
GEM	**Giv'at Ha'Em**	**5.49**	**126**	Pn	**Pn**	**01 51 33.8**	**-1.3**
GEM				Sn	**Sn**	**01 52 34.7**	**-2.1**
BLGI	**Bet Lehem HaGe**	**5.50**	**132**	Sn	**Sn**	**01 52 36.0**	**-1.3**
SLTI	**Sal'it**	**5.78**	**136**	Pn	**Pn**	**01 51 38.0**	**-1.1**
MATC	**Matruh**	**5.78**	**207**	P	**Pn**	**01 51 40.7**	**+1.6**
	baz=209						
MMLI	**Mount Malkishu**	**5.85**	**133**	Pn	**Pn**	**01 51 39.6**	**-0.6**
MMLI				Sn	**Sn**	**01 52 44.1**	**-1.8**
SALP	**Salfit**	**5.99**	**137**	Pn	**Pn**	**01 51 40.5**	**-1.6**
SALP				Sn	**Sn**	**01 52 47.9**	**-1.4**
HMDT	**Nahal Hemdat**	**6.04**	**133**	Pn	**Pn**	**01 51 41.8**	**-1.0**
HMDT				Sn	**Sn**	**01 52 49.5**	**-1.1**
AMAZ	**Amatzia**	**6.26**	**141**	Pn	**Pn**	**01 51 43.9**	**-1.9**
AMAZ				Sn	**Sn**	**01 52 54.0**	**-2.0**
DSI	**Dead Sea**	**6.48**	**138**	Pn	**Pn**	**01 51 46.9**	**-1.8**
DSI				Sn	**Sn**	**01 52 59.5**	**-1.6**
YTIR	**Yattir**	**6.50**	**141**	Sn	**Sn**	**01 52 59.9**	**-2.0**
KZIT	**Kziot**	**6.55**	**148**	Pn	**Pn**	**01 51 48.4**	**-1.2**
KZIT				Sn	**Sn**	**01 53 00.6**	**-2.2**
SLUM	**Salum**	**6.59**	**222**	P	**Pn**	**01 51 51.7**	**+1.6**
	baz=223						
MDBI	**Mazsada**	**6.67**	**140**	Pn	**Pn**	**01 51 49.4**	**-1.8**
MDBI				Sn	**Sn**	**01 53 03.8**	**-1.9**
KOT	**Kottamia**	**6.70**	**169**	P	**Pn**	**01 51 53.6**	**+1.8**
	baz=168						
GHAJ	**Ghor Haditha**	**6.78**	**139**	Pn	**Pn**	**01 51 52.0**	**-0.8**
GHAJ				Sn	**Sn**	**01 53 07.1**	**-1.5**
HNAT	**Natroun**	**6.88**	**178**	P	**Pn**	**01 51 56.0**	**+1.7**
	baz=177						
HNAT				S	**Sn**	**01 53 06.2**	**-4.9**
	baz=177						
HSAF	**As Saff**	**6.97**	**171**	P	**Pn**	**01 51 56.7**	**+1.3**
	baz=170						
GLL	**Jalalah**	**7.03**	**170**	P	**Pn**	**01 51 57.6**	**+1.4**
	baz=169						
PRNI	**Paran**	**7.29**	**146**	Pn	**Pn**	**01 51 58.7**	**-1.1**
KRMI	**Paran Flat**	**7.37**	**149**	Pn	**Pn**	**01 51 59.4**	**-1.5**
RYAN	**Fayoum**	**7.43**	**180**	P	**Pn**	**01 52 03.0**	**+1.3**
	baz=181						
HRFI	**Mount Harif**	**7.57**	**147**	Pn	**Pn**	**01 52 02.2**	**-1.5**
MBRI	**Mt Berech**	**7.73**	**149**	Pn	**Pn**	**01 52 04.9**	**-1.0**
MBRI				Sn	**Sn**	**01 53 30.2**	**-1.8**
EIL	**Elat**	**7.86**	**149**	Pn	**Pn**	**01 52 06.9**	**-0.6**
NBNS	**Bani Suef**	**7.93**	**174**	P	**Pn**	**01 52 09.6**	**+1.1**
	baz=173						
SWA2		**8.35**	**211**	P	**Pn**	**01 52 15.4**	**+1.3**
	baz=212						

*PRU **29** 01:52:58.2±0.0, 42°.78N×13°.12E, h0km*
*LDG **29** 01:52:59.1±0.1, 42°.81N×12°.81E, h9km, Ml2.8/20, Error ellipse: s-maj=3.6km s-min=2.2km az=39.0*
*ROM **29** 01:52:59.8±0.1, 42°.814N±0°.003×12°.776E±0°.005, h9km, ML3.4/50, Error ellipse: s-maj=0.4km s-min=0.2km az=287.0*
*BGR **29** 01:53:04.4±0.8, 42°.94N×12°.80E, h10km, ML3.5/4, Error ellipse: s-maj=13.3km s-min=8.9km az=161.0*

ISC 29 01:53:00.0±0.8, 42°.79N±0°.01×12°.68E±0°.02, h13km±5km, n164,σ2s19/241, 43C-19D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
T1215	**Vallo di Nera,**	**0.14**	**87**	P	**Pg**		**01 53 02.4**	**-1.2**
T1215				S	**Sg**		**01 53 04.0**	**-2.1**
T1215				AML	AML			
	comp=E,76350μm,0.1s							
T1215				AML	AML			
T1215				AML	AML			
	comp=E,84050μm,0.1s							
T1215				AML	AML			
T1215				AML	AML			
T1215				AML	AML			
CESX	**Cesi**	**0.20**	**202**	⇑P	**Pg**		**01 53 05.2**	**+0.7**
CESX				S	**Sg**		**01 53 09.6**	**+2.1**
CESX				AML	AML			
	comp=N,30700μm,0.4s							
CESX				AML	AML			
	comp=E,37550μm,0.5s							
ARRO	**Arrone**	**0.22**	**164**	⇑P	**Pg**		**01 53 05.1**	**+0.2**
ARRO				S	**Sg**		**01 53 09.4**	**+1.3**
ARRO				AML	AML			
	comp=E,16050μm,0.3s							
ARRO				AML	AML			
	comp=N,17200μm,0.2s							
CESI	**CESI - Serrava**	**0.27**	**38**	⇑P	**Pg**		**01 53 04.8**	**-0.9**
CESI				S	**Sg**		**01 53 08.4**	**-1.1**
CESI				AML	AML			
	comp=E,30050μm,1.0s							
CESI				AML	AML			
	comp=N,55600μm,0.4s							
T1216	**Preci, Frazion**	**0.27**	**69**	⇑P	**Pg**		**01 53 04.6**	**-1.0**
T1216				S	**Sg**		**01 53 08.1**	**-1.3**
T1216				AML	AML			
	comp=E,45500μm,0.4s							
T1216				AML	AML			
	comp=N,56700μm,0.3s							
T1216				AML	AML			
	comp=N,56700μm,0.3s							
T1216				AML	AML			
	comp=N,56650μm,0.3s							
T1216				AML	AML			
	comp=E,45500μm,0.4s							
NRCA	**Norcia**	**0.32**	**83**	⇑P	**Pg**		**01 53 05.5**	**-1.1**
NRCA				S	**Sg**		**01 53 09.9**	**-1.2**
NRCA				AML	AML			
	comp=E,36000μm,1.4s							
NRCA				AML	AML			
	comp=E,38100μm,1.4s							
NRCA				AML	AML			
	comp=N,18850μm,0.2s							
NRCA				AML	AML			
	comp=N,20000μm,0.2s							
NRCA				AML	AML			
	comp=E,36000μm,1.4s							
LNSS	**Leonessa**	**0.33**	**126**	⇑P	**Pg**		**01 53 06.1**	**-0.6**
LNSS				S	**Sg**		**01 53 10.6**	**-0.7**
LNSS				AML	AML			
	comp=E,17550μm,1.3s							
LNSS				AML	AML			
	comp=N,58400μm,0.2s							
T1218	**Civita (PG)**	**0.34**	**111**	P	**Pg**		**01 53 06.2**	**-0.9**
T1218				S	**Sg**		**01 53 11.0**	**-0.8**
T1218				AML	AML			
	comp=N,46850μm,1.2s							
T1218				AML	AML			
	comp=E,24700μm,1.2s							
T1218				AML	AML			
	comp=N,46800μm,1.2s							
T1218				AML	AML			
	comp=E,24000μm,1.2s							
T1219	**Muccia, Frazio**	**0.35**	**42**	⇑P	**Pg**		**01 53 06.2**	**-1.0**
T1219				S	**Sg**		**01 53 10.9**	**-1.2**
T1219				AML	AML			
	comp=E,42300μm,0.6s							
T1219				AML	AML			
	comp=E,43600μm,0.6s							
T1219				AML	AML			
	comp=N,43450μm,0.3s							
T1219				AML	AML			
	comp=N,47750μm,0.3s							
T1219				AML	AML			
	comp=N,43450μm,0.3s							
T1219				AML	AML			
	comp=E,42300μm,0.6s							
FDMO	**Fiordimonte**	**0.38**	**51**	⇑P	**Pg**		**01 53 06.7**	**-1.1**
FDMO				S	**Sg**		**01 53 11.6**	**-1.4**
FDMO				AML	AML			
	comp=N,15050μm,0.6s							
FDMO				AML	AML			
	comp=E,17900μm,0.9s							
ATCC	**AVT- Casa Cast**	**0.39**	**356**	⇑P	**Pg**		**01 53 07.6**	**-0.3**
ATCC				S	**Sb**		**01 53 14.3**	**-0.5**
ATCC				AML	AML			
	comp=E,14400μm,0.3s							
ATCC				AML	AML			
	comp=N,9560μm,0.3s							
MC2	**Monte Cornacci**	**0.39**	**72**	⇑P	**Pg**		**01 53 06.9**	**-1.1**
SEF1	**Sefro**	**0.40**	**29**	P	**Pg**		**01 53 07.1**	**-1.0**
SEF1				S	**Sg**		**01 53 12.9**	**-0.7**
SEF1				AML	AML			
	comp=E,16500μm,0.3s							
SEF1				AML	AML			
	comp=N,22450μm,0.7s							
SEF1				AML	AML			
	comp=E,16500μm,0.4s							
MGAB	**Montegabbione**	**0.43**	**286**	⇓P	**Pb**		**01 53 09.9**	**+0.4**
MGAB				AML	AML			
	comp=E,4260μm,0.3s							
MGAB				AML	AML			
	comp=N,5665μm,0.6s							
MGAB				AML	AML			
	comp=N,5055μm,0.6s							
MGAB				AML	AML			
	comp=E,3645μm,0.5s							
T1256	**Bolognola (MC)**	**0.45**	**62**	⇑P	**Pg**		**01 53 08.0**	**-1.1**
T1256				S	**Sg**		**01 53 14.0**	**-1.1**
T1256				AML	AML			
	comp=E,11200μm,0.4s							
T1256				AML	AML			
	comp=N,12550μm,1.2s							
T1256				AML	AML			
	comp=N,12700μm,1.2s							
T1256				AML	AML			
	comp=E,10350μm,0.4s							
MURB	**Monte Urbino**	**0.48**	**346**	P	**Pg**		**01 53 07.3**	**-2.3**
MURB				S	**Sb**		**01 53 19.0**	**+1.5**
CSP1	**Cessapalombo**	**0.49**	**52**	P	**Pg**		**01 53 08.6**	**-1.1**
CSP1				S	**Sg**		**01 53 15.2**	**-0.9**
CSP1				AML	AML			
	comp=N,28900μm,1.3s							
CSP1				AML	AML			
	comp=E,20700μm,0.7s							

MMO1	**Montemonaco**	**0.49**	**77**	⇓P	**Pg**		**01 53 08.5**	**-1.2**
MMO1				S	**Sg**		**01 53 15.0**	**-1.1**
RM33	**Pellescritta (**	**0.49**	**126**	⇑P	**Pg**		**01 53 08.8**	**-0.9**
RM33				S	**Sg**		**01 53 16.0**	**-0.2**
RM33				AML	AML			
	comp=E,18500μm,1.4s							
RM33				AML	AML			
	comp=E,18550μm,1.4s							
RM33				AML	AML			
	comp=N,19850μm,0.3s							
RM33				AML	AML			
	comp=E,17850μm,1.5s							
RM33				AML	AML			
	comp=N,20550μm,0.2s							
SNTG	**Esanatoglia**	**0.50**	**22**	⇑P	**Pg**		**01 53 08.8**	**-1.1**
SNTG				AML	AML			
	comp=N,3115μm,0.5s							
SNTG				AML	AML			
	comp=E,3925μm,0.5s							
SNTG				AML	AML			
	comp=N,3115μm,0.5s							
SNTG				AML	AML			
	comp=E,4055μm,0.5s							
SNTG				AML	AML			
	comp=N,3285μm,0.5s							
FOSV	**Fossato di Vic**	**0.50**	**7**	⇑P	**Pg**		**01 53 09.2**	**-0.7**
FOSV				AML	AML			
	comp=E,3825μm,0.5s							
FOSV				AML	AML			
	comp=N,3520μm,0.7s							
SMA1	**SAN MARTINO**	**0.51**	**109**	⇑P	**Pg**		**01 53 09.1**	**-0.9**
SMA1				S	**Sg**		**01 53 16.6**	**-0.3**
SMA1				AML	AML			
	comp=E,20400μm,0.4s							
SMA1				AML	AML			
	comp=N,13100μm,0.4s							
MDAR	**Monte D'Aria**	**0.52**	**40**	P	**Pg**		**01 53 09.2**	**-1.1**
MDAR				S	**Sg**		**01 53 16.4**	**-0.9**
GUMA	**Gualdo di Mace**	**0.55**	**61**	P	**Pg**		**01 53 09.9**	**-1.0**
GUMA				S	**Sg**		**01 53 17.8**	**-0.4**
GUMA				AML	AML			
	comp=E,34850μm,0.2s							
GUMA				AML	AML			
	comp=N,17300μm,0.8s							
GUMA				AML	AML			
	comp=E,21950μm,0.8s							
GUMA				AML	AML			
	comp=N,24650μm,0.2s							
T1241	**Roccafluvione,**	**0.56**	**83**	⇑P	**Pg**		**01 53 09.6**	**-1.3**
T1241				S	**Sg**		**01 53 17.2**	**-1.1**
T1241				AML	AML			
	comp=E,5945μm,0.8s							
T1241				AML	AML			
	comp=N,3875μm,0.9s							
T1241				AML	AML			
	comp=N,3430μm,0.5s							
T1241				AML	AML			
	comp=N,3875μm,0.9s							
T1241				AML	AML			
	comp=E,6165μm,0.8s							
T1241				AML	AML			
	comp=E,5945μm,0.8s							
SACS	**San Casciano d**	**0.57**	**276**	P	**Pb**		**01 53 12.6**	**+0.7**
SACS				AML	AML			
	comp=N,1775μm,0.9s							
SACS				AML	AML			
	comp=E,1815μm,0.7s							
SACS				AML	AML			
	comp=N,1785μm,0.8s							
SACS				AML	AML			
	comp=E,1660μm,0.7s							
SACS				AML	AML			
	comp=N,1770μm,0.9s							
T1243	**Rocca Santa Ma**	**0.57**	**100**	P	**Pg**		**01 53 09.9**	**-1.4**
T1243				S	**Sg**		**01 53 17.8**	**-1.1**
T1247	**Pizzolo (AQ)**	**0.58**	**128**	⇑P	**Pg**		**01 53 10.4**	**-0.9**
T1247				S	**Sb**		**01 53 21.0**	**+0.9**
T1247				AML	AML			
	comp=E,13330μm,1.4s							
T1247				AML	AML			
	comp=N,12480μm,0.5s							
ATFO	**Monte Foce - G**	**0.58**	**352**	P	**Pg**		**01 53 10.4**	**-0.9**
ATFO				AML	AML			
	comp=E,4155μm,0.4s							
ATFO				AML	AML			
	comp=N,3360μm,0.5s							
CAMP	**Campotosto**	**0.60**	**115**	⇑P	**Pg**		**01 53 10.5**	**-1.2**
CAMP				S	**Sg**		**01 53 19.0**	**-0.6**
CAMP				AML	AML			
	comp=E,3760μm,0.4s							
CAMP				AML	AML			
	comp=N,3380μm,0.5s							
EL6	**Elcito**	**0.62**	**30**	⇑P	**Pg**		**01 53 10.9**	**-1.2**
EL6				S	**Sg**		**01 53 20.0**	**-0.3**
EL6				AML	AML			
	comp=N,9635μm,1.5s							
EL6				AML	AML			
	comp=E,12100μm,0.4s							
FIAM	**Fiamignano**	**0.62**	**148**	S	**Sb**		**01 53 22.0**	**+0.7**
ATMI	**Monte Miggiano**	**0.62**	**331**	⇑P	**Pg**		**01 53 12.2**	**+0.1**
ATMI				AML	AML			
	comp=N,8795μm,1.0s							
ATMI				AML	AML			
	comp=E,7600μm,0.5s							
ATVO	**AVT- Monte Val**	**0.62**	**341**	⇑P	**Pg**		**01 53 11.9**	**-0.3**
ATVO				AML	AML			
	comp=N,3205μm,0.5s							
ATVO				AML	AML			
	comp=E,2225μm,0.6s							
SSFR	**Montelago di S**	**0.65**	**7**	⇓P	**Pg**		**01 53 11.7**	**-1.0**
SSFR				AML	AML			
	comp=N,5975μm,0.8s							
SSFR				AML	AML			
	comp=N,5290μm,0.2s							
SSFR				AML	AML			
	comp=E,4220μm,0.4s							
SSFR				AML	AML			
	comp=E,3965μm,0.3s							
LATE	**Laterza**	**0.67**	**255**	P	**Pn**		**01 53 14.9**	**-0.4**
ATPI	**Pietralunga -**	**0.69**	**343**	⇑P	**Pg**		**01 53 13.1**	**-0.3**
ATPI				AML	AML			
	comp=N,2155μm,0.4s							
ATPI				AML	AML			
	comp=E,2410μm,0.5s							
AQU	**L'Aquila**	**0.69**	**129**	⇑P	**Pg**		**01 53 11.3**	**-2.1**
AQU				S	**Sb**		**01 53 24.0**	**+0.6**
AQU				AML	AML			
	comp=E,4765μm,0.3s							
AQU				AML	AML			
	comp=E,4830μm,0.3s							
AQU				AML	AML			
	comp=N,5280μm,0.4s							
AQU				AML	AML			
	comp=N,5255μm,0.4s							
CING	**Cingoli**	**0.69**	**33**	⇑P	**Pg**		**01 53 12.2**	**-1.3**
CING				AML	AML			
	comp=E,4470μm,0.7s							
CING				AML	AML			
	comp=N,3610μm,0.3s							
TERO	**Teramo**	**0.70**	**104**	⇑P	**Pg**		**01 53 12.0**	**-1.7**
TERO				AML	AML			
	comp=E,4080μm,0.3s							
TERO				AML	AML			
	comp=E,4075μm,0.3s							
TERO				AML	AML			
	comp=N,4935μm,0.6s							
TERO				AML	AML			
	comp=E,4270μm,0.4s							
TERO				AML	AML			
	comp=N,5275μm,0.6s							
FRON	**Frontone**	**0.72**	**3**	⇑P	**Pg**		**01 53 13.0**	**-1.1**
FRON				AML	AML			
	comp=E,2170μm,0.8s							
FRON				AML	AML			
	comp=N,2985μm,0.7s							
ARVD	**Arcevia**	**0.73**	**15**	⇑P	**Pg**		**01 53 12.9**	**-1.3**
ARVD				S	**Sb**		**01 53 25.0**	**+0.5**
ARVD				AML	AML			
	comp=E,2655μm,0.9s							
ARVD				AML	AML			
	comp=N,1630μm,0.6s							
SF03	**Valle Cupa**	**0.73**	**271**	P	**Pb**		**01 53 15.6**	**+1.0**
GIGS	**Gran Sasso**	**0.74**	**117**	⇑P	**Pg**		**01 53 12.8**	**-1.7**
GIGS				AML	AML			
	comp=N,968μm,0.7s							
GIGS				AML	AML			

comp=E,1194μm,0.2s
MCIV Monte Civitell 0.74 269 P **Pb 01 53 15.6 +0.8**
SF11 Podere del Sol 0.74 276 P **Pn 01 53 15.8 -0.4**
CAFI Castiglion Fio 0.75 316 ⇑P **Pb 01 53 14.8 -0.1**
CAFI AML AML
comp=E,1935μm,1.5s
CAFI AML AML
comp=N,2070μm,0.6s
CAFI AML AML
comp=N,2005μm,0.6s
CAFI AML AML
comp=E,1890μm,1.5s
PIEI Pieia 0.75 352 ⇑P **Pg 01 53 13.9 -0.7**
PIEI AML AML
comp=N,1625μm,1.0s
PIEI AML AML
comp=E,2660μm,0.4s
OFFI Offida 0.75 79 ⇓P **Pg 01 53 14.1 -0.5**
OFFI AML AML
comp=E,5560μm,0.6s
OFFI AML AML
comp=N,5720μm,0.5s
MTCE Montecelio 0.77 177 ⇑P **Pg 01 53 14.4 -0.6**
MTCE AML AML
comp=E,5555μm,0.5s
MTCE AML AML
comp=N,3155μm,0.6s
BADI Badiali 0.78 336 ⇑P **Pg 01 53 15.0 -0.2**
BADI AML AML
comp=E,142μm,0.6s
BADI AML AML
comp=N,1025μm,1.0s
BADI AML AML
comp=E,142μm,0.6s
BADI AML AML
comp=N,1030μm,1.0s
APEC Apecchio 0.79 346 ⇑P **Pg 01 53 14.9 -0.4**
APEC AML AML
comp=E,2685μm,1.5s
APEC AML AML
comp=N,3055μm,0.5s
APEC AML AML
comp=E,2680μm,1.5s
APEC AML AML
comp=N,2580μm,0.5s
APEC AML AML
comp=E,2335μm,0.4s
APEC AML AML
comp=N,3055μm,0.5s
NARO Abbazia di Nar 0.82 355 ⇑P **Pg 01 53 15.0 -0.9**
NARO S **Sn 01 53 29.0 -0.3**
NARO AML AML
comp=E,1705μm,1.6s
NARO AML AML
comp=N,1105μm,1.3s
FAGN Fagnano 0.85 128 ⇑P **Pg 01 53 14.9 -1.6**
FAGN S **Sn 01 53 30.0 -0.1**
FAGN AML AML
comp=N,6895μm,0.5s
FAGN AML AML
comp=E,9440μm,0.5s
CERT Cerreto 0.87 165 ⇑P **Pg 01 53 15.8 -1.1**
CERT S **Sn 01 53 31.0 +0.4**
CERT AML AML
comp=E,4270μm,1.3s
CERT AML AML
comp=N,2400μm,0.9s
SSP9 Sansepolcro 0.88 333 ⇓P **Pb 01 53 17.1 0.0**
SSP9 AML AML
comp=E,1405μm,0.6s
SSP9 AML AML
comp=N,1510μm,1.4s
PP3 Marolino 0.90 49 ⇓P **Pg 01 53 16.4 -1.0**
PP3 AML AML
comp=N,7905μm,0.9s
PP3 AML AML
comp=E,6500μm,1.4s
PP3 AML AML
comp=N,7790μm,0.9s
PP3 AML AML
comp=E,6840μm,1.4s
FSSB Fossombrone 0.90 4 ⇑P **Pg 01 53 16.5 -1.0**
FSSB AML AML
comp=E,4415μm,1.1s
FSSB AML AML
comp=N,5115μm,0.4s
TRTR Tortoreto Alta 0.91 89 ⇑P **Pg 01 53 17.3 -0.3**
TRTR AML AML
comp=E,5930μm,0.4s
TRTR AML AML
comp=N,5860μm,1.3s
PTQR Pietraquaria 0.94 145 ⇓P **Pg 01 53 16.5 -1.7**
PTQR AML AML
comp=E,1785μm,0.6s
PTQR AML AML
comp=N,2185μm,1.6s
VCEL Villa Celiera 0.94 115 ⇓P **Pg 01 53 16.9 -1.4**
VCEL S **Sg 01 53 31.0 +0.3**
VCEL AML AML
comp=E,4675μm,0.9s
VCEL AML AML
comp=N,4760μm,0.5s
RCAV Rocca di Cave 0.97 168 S **Sn 01 53 33.0 0.0**
RMP Rome, Mte Porz 0.98 179 ⇓P **Pg 01 53 18.7 -0.3**
RMP AML AML
comp=N,3565μm,0.3s
RMP AML AML
comp=E,2870μm,1.2s
T0110 Collepietro 0.99 125 ⇑P **Pg 01 53 17.0 -2.2**
T0110 S **Sg 01 53 31.0 -1.1**
T0110 AML AML
comp=E,3215μm,1.5s
T0110 AML AML
comp=N,4740μm,0.4s
MA9 Marino 1.02 181 ⇑P **Pb 01 53 19.8 +0.2**
MA9 AML AML
comp=E,4470μm,0.5s
MA9 AML AML
comp=N,4945μm,0.5s
RDP Rocca di Papa 1.04 179 S **Sn 01 53 37.0 +2.4**
VIVA Pratoni del Vi 1.05 176 ⇓P **Pb 01 53 19.5 -0.5**
VIVA AML AML
comp=E,5560μm,1.2s
VIVA AML AML
comp=N,8995μm,0.4s
GUAR Guarcino 1.10 155 ⇑P **Pb 01 53 21.2 +0.2**
GUAR AML AML
comp=N,3055μm,0.4s
GUAR AML AML
comp=E,2060μm,0.9s
LAV9 Lanuvio 1.12 179 ⇓P **Pb 01 53 21.0 -0.2**
LAV9 AML AML
comp=N,6515μm,0.5s
LAV9 AML AML
comp=E,7125μm,0.4s
LAV9 AML AML
comp=E,6905μm,0.4s
LAV9 AML AML
comp=N,6425μm,0.5s
VVLD Villa Vallelon 1.16 143 ⇓P **Pg 01 53 22.8 +0.4**
INTR Introdacqua 1.20 130 ⇓P **Pn 01 53 21.0 -1.5**
INTR AML AML
comp=N,2μm,1.1s
INTR AML AML
comp=N,2890μm,1.2s
INTR AML AML
comp=E,2μm,0.7s
INTR AML AML
comp=E,1710μm,0.7s
CSNT Castellina Chi 1.22 304 ⇓P **Pg 01 53 23.9 +0.3**
CSNT AML AML
comp=E,329μm,0.6s
CSNT AML AML
comp=N,424μm,0.8s
SFI Santa Sofia 1.27 332 ⇓P **Pg 01 53 24.4 0.0**
SFI AML AML
comp=N,628μm,0.6s
SFI AML AML
comp=E,698μm,1.0s
SFI AML AML
comp=N,632μm,0.6s
SFI AML AML
comp=E,797μm,1.0s
OSSC Osservatorio P 1.28 305 ⇓P **Pg 01 53 24.8 +0.2**
OSSC AML AML
comp=N,450μm,0.9s
OSSC AML AML
comp=E,390μm,0.9s
OSSC AML AML
comp=E,428μm,1.3s
OSSC AML AML
comp=N,404μm,0.7s
GIUL Giuliano Di Ro 1.31 161 ⇓P **Pb 01 53 25.1 +0.7**
LATB Latina 1.32 171 P **Pn 01 53 23.1 -1.0**
LATB AML AML
comp=E,321μm,0.6s
LATB AML AML
comp=N,248μm,1.1s
LRP Arpino 1.33 149 ⇓P **Pg 01 53 26.2 +0.6**
LIK San Giovanni I 1.44 153 ⇓P **Pb 01 53 27.6 +0.9**
CRMI Carmignano 1.60 309 P **Pg 01 53 30.1 -0.6**
BRIS BRISIGHELLA 1.60 328 ⇑P **Pg 01 53 30.8 +0.1**
GROG Isola di Gorgo 2.14 288 P **Pg 01 53 40.0 -1.1**
PAOL Paolisi 2.25 141 P **Pn 01 53 35.7 -1.4**
PAOL S **Sn 01 54 07.0 +2.3**
PAOL AML AML
comp=N,156μm,1.5s
PAOL AML AML
comp=E,134μm,1.5s
SGRT San Giovanni R 2.50 114 S **Sb 01 54 14.0 -1.5**
PGF Pioggiola 2.73 266 *e*P **Pn 01 53 43.6 0.0**
PGF *e*Sn **Sn 01 54 15.0 -1.4**
comp=E,4.4nm,0.4s
MRVN Minervino Murg 3.14 122 P **Pn 01 53 49.9 +0.7**
CGRP Cima Grappa 3.15 349 ⇑P **Pn 01 53 50.3 +0.8**
CEY Cerknica 3.20 22 *e*Pn **Pn 01 53 48.1 -1.9**
A050A Klekovaca 3.26 58 *e*Pn **Pn 01 53 52.8 +1.9**
SRKY Kupres RS 3.50 67 *e*Pn **Pn 01 53 56.1 +1.8**
MGRS Mrkonjic Grad 3.59 62 *e*Pn **Pn 01 53 57.5 +2.2**
PRIJ Prijedor 3.64 52 *e*Pn **Pg 01 54 10.1 +0.3**
STON Ston 3.69 87 *e*Pn **Pn 01 53 56.3 -0.4**
A051A Mrakovica 3.77 53 *e*Pn **Pn 01 53 59.6 +1.7**
BLY Banja Luka 3.80 58 *e*Pn **Pn 01 54 00.7 +2.5**
MYKA Terra Mystica 3.90 10 *e*Pn **Pn 01 54 01.8 +2.2**
comp=E,5.3nm,0.5s
MYKA *e*Sn **Sn 01 54 46.1 +0.9**
comp=E,9.1nm,0.4s
OBKA Obir 3.95 19 *e*Pn **Pn 01 54 00.5 +0.2**
OBKA Obir 3.95 19 *e*Pn **Pn 01 54 02.5 +2.2**
comp=E,1.2nm,0.2s
OBKA *e*Sn **Sn 01 54 47.7 +1.2**
comp=E,16nm,0.5s
OBKA Obir 3.95 19 *e*Pn **Pn 01 54 01.5 +1.2**
ABTA Abfaltersbach 3.96 358 Pn **Pn 01 54 02.0 +1.6**
comp=E,18nm,0.6s,SNR=19
ABTA *e*Sn **Sn 01 54 49.6 +3.0**
comp=E,34nm,0.7s
SBF Sospel 3.97 287 *e*P **Pn 01 53 03.2 +2.5**
SBF *e*Sn **Sn 01 54 44.7 -2.4**
comp=E,9.5nm,0.4s
TREB Trebinje 4.17 89 *e*Pn **Pn 01 54 04.5 +1.1**
SOKA Soboth 4.23 23 Pn **Pn 01 54 05.2 +1.0**
comp=E,2.9nm,0.4s,SNR=5.2
SOKA *e*Sn **Sn 01 54 56.0 +2.5**
comp=E,8.7nm,0.7s
KBA Koelnbreinsper 4.31 6 *e*Pn **Pn 01 54 07.3 +1.9**
comp=E,4.8nm,0.6s
KBA *e*Sn **Sn 01 54 54.9 -0.7**
comp=E,9.9nm,0.5s
KBA Koelnbreinsper 4.31 6 *e*Pn **Pn 01 54 07.6 +2.2**
KBA *e*Sn **Sn 01 54 55.2 -0.3**
FETA Feichten 4.45 343 Pn **Pn 01 54 11.0 +3.7**
comp=E,6.9nm,0.6s,SNR=10
FETA *e*Sn **Sn 01 55 02.2 +3.3**
comp=E,8.2nm,0.9s
WTTA Wattenberg 4.53 351 Pn **Pn 01 54 10.9 +2.5**
comp=E,1.3nm,0.3s,SNR=5.1
WTTA *e*Sn **Sn 01 55 05.3 +4.3**
comp=E,13nm,0.4s
WTTA Wattenberg 4.53 351 *e*Pn **Pn 01 54 11.4 +3.0**
SQTA Sankt Quirin 4.55 347 *i* Pn **Pn 01 54 11.7 +3.1**
comp=E,6.9nm,0.4s,SNR=7.1
SQTA *e*Sn **Sn 01 55 03.6 +2.3**
comp=E,14nm,0.4s
LMR La Mourre 4.55 279 *e*Pn **Pn 01 54 09.2 +0.6**
LMR *e*Sn **Sn 01 54 58.3 -3.0**
comp=E,1.3nm,0.3s
WATA Walderalm 4.61 351 Pn **Pn 01 54 12.3 +2.8**
comp=E,6.4nm,0.5s,SNR=6.4
WATA *e*Sn **Sn 01 55 08.1 +5.2**
comp=E,5.5nm,0.4s
MOTA Moosalm 4.69 347 *e*Pn **Pn 01 54 14.4 +3.9**
comp=E,9.2nm,0.6s
MOTA *e*Sn **Sn 01 55 09.4 +4.6**
comp=E,11nm,0.8s
MBDF Montbardon 4.70 296 *e*P **Pn 01 54 13.8 +3.1**
MBDF *e*Sn **Sn 01 55 02.0 -3.1**
comp=E,2.2nm,0.4s
HAPS Han Pijesak,BI 4.75 72 *e*Pn **Pn 01 54 13.0 +1.7**
DRME Dracevica, Mon 4.85 95 *e*Pn **Pn 01 54 14.2 +1.6**
PLONS Plons/SG 4.86 332 *e*Pn **Pn 01 54 16.5 +3.7**
PLONS *e*Sn **Sn 01 55 09.7 +0.8**
RETA Reutte 4.88 345 *e*Pn **Pn 01 54 15.5 +2.3**
comp=E,3.2nm,0.3s
RETA *e*Sn **Sn 01 55 13.6 +4.0**
comp=E,4.3nm,0.3s
ARSA Arzberg 4.89 23 *e*Pn **Pn 01 54 13.1 -0.1**
comp=E,1.6nm,0.3s
ARSA *e*Sn **Sn 01 55 08.4 -1.3**
comp=E,4.9nm,0.4s
ARSA Arzberg 4.89 23 *e*Pn **Pn 01 54 14.0 +0.8**
ARSA *e*Sn **Sn 01 55 07.9 -1.7**
DAVA Damuels 4.91 337 *i* Pn **Pn 01 54 17.9 +4.3**
comp=E,6.3nm,0.5s,SNR=8.5
DAVA *e*Sn **Sn 01 55 11.8 +1.5**
comp=E,11nm,0.8s
DAVA Damuels 4.91 337 *e*Pn **Pn 01 54 18.4 +4.8**
OBER Oberstdorf 4.91 341 *e*Pn Pn 01 54 18.6 +5.1
BIOA Bad Ischl, Aus 4.94 8 *e*Pn **Pn 01 54 16.2 +2.3**
comp=E,3.7nm,0.3s
BIOA *e*Sn **Sn 01 55 15.1 +4.2**
comp=E,20nm,0.5s
RUDO Rudo 4.96 78 *e*Pn **Pn 01 54 14.8 +0.6**
BBLS Lazići 5.02 75 *e*Pn **Pn 01 54 15.6 +0.5**
LPL La Plagne 5.07 304 *e*P **Pn 01 54 18.9 +3.0**
LPL *e*Sn **Sn 01 55 10.7 -3.7**
comp=E,2.2nm,0.3s
MOA Molln 5.18 12 *i* Pn **Pn 01 54 18.2 +1.0**
comp=E,1.8nm,0.5s,SNR=11
MOA *e*Sn **Sn 01 55 17.1 +0.3**
comp=E,12nm,0.4s
MOA Molln 5.18 12 *e*Pn **Pn 01 54 18.5 +1.3**
MOA *e*Sn **Sn 01 55 16.8 +0.1**
UBR Ueberruh 5.21 340 *e*Pn **Pn 01 54 21.9 +4.2**
SMRF Simiane la Rot 5.31 285 *e*P **Pn 01 54 21.9 +2.9**
SMRF *e*Sn **Sn 01 55 16.7 -3.4**
comp=E,0.8nm,0.3s
ORIF Oris-en-Rattie 5.36 296 *e*P **Pn 01 54 23.6 +3.9**
ORIF *e*Sn **Sn 01 55 17.5 -3.8**
comp=E,1.9nm,0.4s
DIVS Divibare 5.48 74 *e*Pn **Pn 01 54 20.8 -0.6**
RONA Rosalia, Austr 5.53 26 *e*Pn **Pn 01 54 22.5 +0.5**
comp=E,1.0nm,0.3s
RONA *e*Sn **Sn 01 55 23.5 -1.9**
comp=E,1.2nm,0.2s
CONA Conrad Observa 5.60 22 *e*Pn **Pn 01 54 23.7 +0.6**
comp=E,4.3nm,0.6s
CONA *e*Sn **Sn 01 55 25.4 -1.9**
comp=E,8.5nm,0.7s
BALST Balsthal 5.75 324 *e*Pn **Pn 01 54 28.2 +3.1**
BALST *e*Sn **Sn 01 55 30.8 -0.1**
SLE Schleitheim 5.78 331 *e*Pn **Pn 01 54 28.1 +2.6**
METMA Mettma DE 5.83 329 *e*Pn **Pn 01 54 29.1 +3.1**
METMA *e*Sn **Sn 01 55 31.3 -1.4**
BERGE Lenzkirch (DE) 5.99 330 *e*Pn **Pn 01 54 32.2 +3.9**
CABF La Chapelle 6.05 311 *e*P **Pn 01 54 31.9 +2.7**
CABF *e*Sn **Sn 01 55 34.0 -4.4**
comp=E,1.0nm,0.2s
GEC2 GERESS Array S 6.09 6 *e*Pn **Pn 01 54 30.7 +0.9**
GEC2 *e*Sn **Sn 01 55 37.8 -1.6**
CKRC Cesky Krumlov 6.13 10 *e*PN **Pn 01 54 29.3 -1.0**
CKRC *e*SN **Sn 01 55 38.0 -2.3**
VIVF Saint-Julien-l 6.15 292 *e*P **Pn 01 54 32.4 +1.9**
VIVF *e*Sn **Sn 01 55 36.7 -4.0**
comp=E,1.6nm,0.2s
BFO Black Forest 6.32 333 *e*Pn **Pn 01 54 34.4 +1.6**
KHC Kasperske Hory 6.37 5 *e*PN **Pn 01 54 33.6 +0.1**
KHC *e*SN **Sn 01 55 43.2 -2.9**
HINF Hinteralfeld 6.49 323 *e*P **Pn 01 54 38.3 +3.1**
HINF *e*Sn **Sn 01 55 43.3 -5.7**
comp=E,3.2nm,0.4s
LASF Ste Croix 6.55 284 *e*Pn **Pn 01 54 35.0 -1.0**
LASF Ste Croix 6.55 284 *e*P **Pn 01 54 39.2 +3.2**
LASF *e*Sn **Sn 01 55 46.5 -4.1**
comp=E,0.4nm,0.2s
ECH Echery 6.67 326 *e*Pn **Pn 01 54 39.0 +1.4**
CDF Champ du Feu 6.78 328 *e*P **Pn 01 54 43.6 +4.4**
CDF *e*Sn **Sn 01 55 51.4 -4.8**
comp=E,2.7nm,0.3s
HAU Haudompre 6.86 322 *e*P **Pn 01 54 43.1 +2.9**
HAU *e*Sn **Sn 01 55 52.8 -5.3**
comp=E,5.2nm,0.3s
PRU Pruhonice 7.31 9 *e*PN **Pn 01 54 46.0 -0.4**
PRU *e*SN **Sn 01 56 06.1 -3.1**
SMF Signal de Mont 7.38 304 *e*P **Pn 01 54 51.9 +4.5**
SMF *e*Sn **Sn 01 56 06.3 -4.6**
comp=E,3.1nm,0.4s
NKC Novy Kostel 7.44 359 *e*SN **Sn 01 56 10.5 -2.0**
PAGF Fort de Pagny 7.54 322 *e*P **Pn 01 54 52.8 +3.2**
SFTF Sexfontaines 7.62 318 *e*P **Pn 01 54 53.5 +2.8**
baz=124
MTLF Montolieu 7.68 278 *e*Pn **Pn 01 54 51.1 -0.4**
LOR Lormes 7.68 309 *e*P **Pn 01 54 54.4 +2.8**
baz=127
LOR *e*Sn **Sn 01 56 13.0 -5.4**
comp=E,1.4nm,0.3s
AVF Avril sur Loir 7.74 304 *e*P **Pn 01 54 55.8 +3.4**
AVF *e*Sn **Sn 01 56 12.5 -7.3**
comp=E,0.8nm,0.4s
SSF Saint Saulge 7.78 306 *e*P **Pn 01 54 55.9 +3.0**
SSF *e*Sn **Sn 01 56 15.1 -5.7**
comp=E,1.1nm,0.4s
MEZF Maizieres J'vi 7.82 320 *e*P **Pn 01 54 56.3 +3.0**
baz=140
CAF Calviac 7.96 289 *e*P **Pn 01 54 58.2 +2.8**
BRG Berggiesshubel 8.13 6 *e*P **Pn 01 54 59.0 +1.4**
BRG Amp 01 55 01.9
comp=Z,1.8nm,0.6s
BRG *ex* x 01 56 09.1
BRG *ex* **Sn 01 56 25.1 -4.2**
BRG *ex* Sb 01 56 56.8 -0.3
BRG Amp 01 57 45.6
comp=Z,7.8nm,1.2s
RJF Les Rejaudoux 8.42 291 *e*P **Pn 01 55 04.8 +3.1**
LFF La Frestale 8.89 288 *e*P **Pn 01 55 11.6 +3.5**
MFF Saint Martin d 9.89 297 *e*P **Pn 01 55 25.4 +3.6**

*JMA **29** 02:01:12.6±0.1, 25°N±2°×122°7E±0°7, h84km±1km, MV2.0/9, NW OFF ISHIGAKIJIMA IS*
*TAP **29** 02:01:12.2, 24°67N×122°72E, h86km, ML3.0, D*
ISC 29 02:01:13.5±1.5,**24°56N**±0°05×**122°71E**±0°03,**h78**km±10km, **n60,σ0°82/105, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.24**	**116**	P	**Pn**	**02 01 25.2**	**0.0**
JYNG				S	**Sn**	**02 01 34.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.29**	**109**	P	**Pn**	**02 01 25.7**	**+0.2**
	baz=135						
YOJ				*e*S	**Sn**	**02 01 35.7**	**+1.3**
	baz=135						
YOJ	**Yonaguni jima**	**0.29**	**109**	P	**Pn**	**02 01 25.5**	**0.0**
YOJ				*e*S	**Sn**	**02 01 34.8**	**+0.5**
TWC	**Suao**	**0.78**	**274**	P	**Pn**	**02 01 29.6**	**-0.4**
	baz=265						
TWC				*i* S	**Sn**	**02 01 41.4**	**-0.7**
	baz=265						
TWB1	**Santiao Chiao**	**0.79**	**305**	*i* P	**Pn**	**02 01 29.2**	**-0.9**
	baz=293						
TWB1				S	**Sn**	**02 01 41.3**	**-1.0**
	baz=293						
ENA	**Nanau**	**0.89**	**262**	P	**Pn**	**02 01 31.4**	**+0.3**
	baz=251						
ENA				S	**Sn**	**02 01 45.6**	**+1.4**
	baz=251						
TIPB	**Shuangxi**	**0.90**	**297**	*i* P	**Pn**	**02 01 30.4**	**-0.9**
	baz=285						
TIPB				S	**Sn**	**02 01 43.4**	**-1.2**
	baz=285						
SXI1	**Grass Mountain**	**0.93**	**305**	P	**Pn**	**02 01 30.6**	**-1.1**
	baz=298						
SXI1				S	**Sn**	**02 01 44.6**	**-0.5**
	baz=298						
IRIF	**Iriomote-Funau**	**0.96**	**103**	P	**Pn**	**02 01 31.4**	**-0.6**
IRIF				S	**Sn**	**02 01 46.1**	**+0.4**
TWE	**Neicheng**	**0.96**	**280**	*i* P	**Pn**	**02 01 31.6**	**-0.3**
	baz=276						
TWE				*i* S	**Sn**	**02 01 46.5**	**+0.8**
	baz=276						
NWF	**Wu-fen Shan**	**0.98**	**301**	P	**Pn**	**02 01 32.1**	**-0.3**
	baz=295						
NWF				S	**Sn**	**02 01 45.6**	**-0.8**
	baz=295						
FUSB	**Fushanzhiwuyua**	**1.04**	**281**	P	**Pn**	**02 01 32.9**	**-0.1**
	baz=275						
FUSB				S	**Sn**	**02 01 48.3**	**+0.7**
	baz=275						
ENTT	**Nioudou**	**1.04**	**275**	P	**Pn**	**02 01 32.4**	**-0.6**
	baz=268						
ENTT				S	**Sn**	**02 01 48.1**	**+0.6**
	baz=268						
ETL	**Fush Village**	**1.07**	**248**	S	**Sn**	**02 01 47.9**	**-0.2**
	baz=234						
LATG	**Datong**	**1.08**	**269**	P	**Pn**	**02 01 33.4**	**-0.1**
	baz=263						
LATG				S	**Sn**	**02 01 50.0**	**+1.6**
	baz=263						
NACB	**Ninganchiao**	**1.08**	**250**	S	**Sn**	**02 01 48.9**	**+0.5**
	baz=236						
TWA	**Mucha**	**1.10**	**293**	P	**Pn**	**02 01 34.2**	**+0.4**
	baz=286						
TWA				S	**Sn**	**02 01 48.5**	**-0.3**
	baz=286						
NWLT	**Wulai**	**1.12**	**281**	P	**Pn**	**02 01 32.9**	**-1.0**
	baz=281						
NWLT				S	**Sn**	**02 01 49.5**	**+0.3**
	baz=281						
TWD	**Chiawan**	**1.12**	**245**	*e*P	**Pn**	**02 01 33.4**	**-0.5**
	baz=232						
TWD				S	**Sn**	**02 01 48.4**	**-0.8**
	baz=232						
ETLH	**Xiulin Townshi**	**1.17**	**253**	P	**Pn**	**02 01 34.2**	**-0.4**
	baz=247						
ETLH				S	**Sn**	**02 01 50.3**	**-0.1**
	baz=247						
YM01	**YM01**	**1.19**	**300**	*e*P	**Pn**	**02 01 33.3**	**-1.5**
	baz=294						
NNSB	**Datong**	**1.21**	**264**	*e*S	**Sn**	**02 01 51.4**	**-0.1**
	baz=250						
YHNB	**Yeheng**	**1.22**	**276**	P	**Pn**	**02 01 35.2**	**0.0**
	baz=276						
YHNB				S	**Sn**	**02 01 52.1**	**+0.6**
	baz=276						
NNS	**Nan Shan**	**1.22**	**265**	*e*P	**Pn**	**02 01 35.4**	**+0.1**
	baz=251						
NNS				S	**Sn**	**02 01 51.5**	**-0.1**
	baz=251						
JKRS	**Kuro-shima**	**1.23**	**105**	P	**Pn**	**02 01 35.3**	**0.0**
JKRS				*e*S	**Sn**	**02 01 52.5**	**+0.9**
NSK	**Sanguang**	**1.23**	**276**	*i* P	**Pn**	**02 01 35.4**	**0.0**
	baz=277						
NSK				S	**Sn**	**02 01 52.1**	**+0.3**
	baz=277						
JIJ	**Ishigaki jima**	**1.32**	**98**	P	**Pn**	**02 01 36.0**	**-0.5**
JIJ				S	**Sn**	**02 01 53.5**	**-0.3**
FUSS	**Fushou**	**1.37**	**257**	*e*P	**Pn**	**02 01 37.5**	**+0.1**
	baz=245						
FUSS				*e*S	**Sn**	**02 01 54.6**	**-0.6**
	baz=245						
WHF	**Hehuan Shan**	**1.38**	**253**	P	**Pn**	**02 01 37.2**	**-0.5**
	baz=248						
WHF				S	**Sn**	**02 01 54.8**	**-0.8**
	baz=248						
NFF	**Wufeng Townshi**	**1.45**	**273**	*e*P	**Pn**	**02 01 37.8**	**-0.3**
	baz=268						
NFF				*e*S	**Sn**	**02 01 57.4**	**+0.6**
	baz=268						
JISG	**Ishigakijimahi**	**1.46**	**89**	P	**Pn**	**02 01 38.0**	**-0.2**
EGFH	**Guangfu**	**1.47**	**233**	*e*P	**Pn**	**02 01 38.1**	**-0.2**
	baz=229						
EGFH				*e*S	**Sn**	**02 01 56.4**	**-0.6**
	baz=229						
CHGB	**Renai**	**1.48**	**251**	P	**Pn**	**02 01 38.8**	**0.0**
	baz=239						
CHGB				*e*S	**Sn**	**02 01 57.1**	**-0.7**
	baz=239						

LIOB	**Emei** baz=269	**1.54 274**	*i* P		**Pn**	**02 01 40.3**	**+0.9**
LIOB	baz=269		*i* S		**Sn**	**02 02 00.7**	**+1.8**
NSTT	**Nanjuang** baz=268	**1.56 273**	*e*P		**Pn**	**02 01 40.9**	**+1.4**
NSTT	baz=268		*e*S		**Sn**	**02 01 59.9**	**+0.8**
WUSB	**Renai** baz=238	**1.56 249**	P		**Pn**	**02 01 39.6**	**0.0**
WUSB	baz=238		S		**Sn**	**02 01 58.8**	**-0.6**
HGSD	**Ruisui** baz=221	**1.58 228**	*e*P		**Pn**	**02 01 40.3**	**+0.4**
HGSD	baz=221		*e*S		**Sn**	**02 02 00.0**	**+0.3**
WHP	**Taichung City** baz=252	**1.63 260**	*i* P		**Pn**	**02 01 41.5**	**+0.9**
WHP	baz=252		S		**Sn**	**02 02 01.4**	**+0.4**
VWDT	**VWDT** baz=231	**1.64 241**	P		**Pn**	**02 01 40.4**	**-0.2**
VWDT	baz=231		S		**Sn**	**02 02 00.8**	**-0.3**
EHY	**Hungye** baz=234	**1.64 231**	P		**Pn**	**02 01 39.2**	**-1.4**
EHY	baz=234		S		**Sn**	**02 01 59.8**	**-1.4**
WCS	**Beigang Elemen** baz=245	**1.71 253**	*e*P		**Pn**	**02 01 42.0**	**+0.4**
WCS	baz=245		*e*S		**Sn**	**02 02 03.4**	**+0.6**
YULB	**Yu-li** baz=233	**1.73 228**	P		**Pn**	**02 01 41.1**	**-0.8**
YULB	baz=233		S		**Sn**	**02 02 01.5**	**-1.9**
SSLB	**Suanglung** baz=236	**1.78 245**	P		**Pn**	**02 01 43.8**	**+1.3**
SSLB	baz=236		S		**Sn**	**02 02 05.4**	**+1.0**
SMLT	**Sun Moon Lake** baz=239	**1.78 248**	*e*P		**Pn**	**02 01 42.1**	**-0.4**
SMLT	baz=239		*e*S		**Sn**	**02 02 04.6**	**0.0**
TYC	**Yuchr** baz=240	**1.81 249**	*i* P		**Pn**	**02 01 44.2**	**+1.4**
TYC	baz=240		S		**Sn**	**02 02 06.4**	**+1.3**
FULB	**Fuli** baz=214	**1.87 224**	*e*P		**Pn**	**02 01 43.9**	**+0.2**
FULB	baz=214		*e*S		**Sn**	**02 02 05.9**	**-0.7**
WHYT	**Xinyi Township** baz=236	**1.90 244**	*e*P		**Pn**	**02 01 45.2**	**+1.1**
CHKT	**Chengkung** baz=214	**1.90 221**	*e*S		**Sn**	**02 02 05.8**	**-1.5**
YUS	**Yu-Shan** baz=227	**1.93 237**	*i* P		**Pn**	**02 01 45.2**	**+0.4**
YUS	baz=227		*i* S		**Sn**	**02 02 08.5**	**-0.1**
WJS	**Zhushan** baz=256	**1.95 248**	*e*P		**Pn**	**02 01 45.9**	**+1.2**
EDH	**Donghe** baz=213	**2.04 219**	*e*P		**Pn**	**02 01 45.3**	**-0.5**
EDH	baz=213		*e*S		**Sn**	**02 02 08.9**	**-1.6**
ELDTW	**Lidau** baz=226	**2.06 229**	P		**Pn**	**02 01 45.7**	**-0.6**
ELDTW	baz=226		S		**Sn**	**02 02 09.9**	**-1.4**
CHN5	**Tsauling** baz=240	**2.09 243**	*e*P		**Pn**	**02 01 46.9**	**+0.3**
WDLH	**Douliu** baz=255	**2.16 247**	*e*P		**Pn**	**02 01 48.5**	**+0.9**
CHN4	**Tsaushan** baz=235	**2.28 239**	P		**Pn**	**02 01 49.7**	**+0.6**
CHN4	baz=235		S		**Sn**	**02 02 17.7**	**+1.4**
TPUB	**Ta-pu** baz=234	**2.28 237**	P		**Pn**	**02 01 50.4**	**+1.3**
WTP	**Ta-pu** baz=233	**2.32 236**	*e*P		**Pn**	**02 01 51.1**	**+1.4**
TWK	**Hsinying** baz=235	**2.40 238**	*e*P		**Pn**	**02 01 51.7**	**+0.9**
CHN1	**Nanshi** baz=233	**2.42 236**	*e*P		**Pn**	**02 01 52.2**	**+1.2**
WSL	**Shuilin Townsh** baz=253	**2.49 246**	*e*P		**Pn**	**02 01 51.8**	**-0.1**

*IDC **29** 02:27:41.0±1.3,31°01N×141°73E, h0km, mb3.7/6, mbtmp3.7/8, ML2.7/2, MS3.0/2, Error ellipse: s-maj=43.7km s-min=18.9km az=74.0*
*JMA **29** 02:27:42.3±0.4,31°N±2°×14°2E±°, h0km, MV4.0/17, NEAR TORISHIMA IS*

ISC 29 02:27:42.4±1.1, 31°19N±0°09×141°9E±0°1, h10km, n16, σ1§25/18, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.58**	**318**	*e*P		**Pn**	**02 28 24.7**	**+0.5**
JHJ2				*e*S		**Sn**	**02 28 55.6**	**0.0**
JHJ	**Hachijo jima 2** 1.8nm,0.3s,baz=99,slow=6.0,SNR=1.9 206nm,1.1s	**2.60**	**318**	Pn		**Pn**	**02 28 24.1**	**-0.4**
BSO1	**Boso 1**	**3.53**	**348**	*e*P		**Pn**	**02 28 36.9**	**+0.1**
BSO1				*e*S		**Sn**	**02 29 17.6**	**-0.7**
JHU	**Hanno**	**5.12**	**336**	*e*S		**Sn**	**02 29 55.8**	**-2.5**
JRY	**Ryogami san**	**5.41**	**334**	*e*P		**Pn**	**02 29 03.9**	**+0.8**
JRY				*e*S		**Sn**	**02 30 04.7**	**-0.7**
JHO	**Hitachi**	**5.51**	**349**	*e*P		**Pn**	**02 29 03.9**	**-0.6**
JAG	**Ashikaga**	**5.59**	**340**	*e*P		**Pn**	**02 29 05.9**	**+0.3**
JAG				*e*S		**Sn**	**02 30 07.8**	**-2.1**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=159,slow=11,SNR=9.6 3.2nm,0.5s	**6.14**	**331**	Pn		**Pn**	**02 29 14.9**	**+1.8**
KSRS	**Korea Array** comp=Z,30nm,18.4s,baz=235,slow=36	**13.09**	**302**	LR		LR	02 35 27.7	
SONM	**Songino Array** 1.4nm,1.0s,baz=113,slow=7.3,SNR=6.7 1.4nm,1.0s	**31.67**	**312**	P		**P**	**02 34 06.8**	**+0.8**
KAPI	**Kappang** comp=Z,42nm,18.1s,baz=178,slow=43	**41.73**	**214**	LR		LR	02 57 19.2	
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=108,slow=4.7,SNR=2.6 0.7nm,0.5s	**46.27**	**317**	P		**P**	**02 36 08.0**	**+0.3**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=85,slow=9.6,SNR=13 0.5nm,0.5s	**47.72**	**307**	P		**P**	**02 36 19.5**	**+0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=6.5,slow=7.6,SNR=17 0.3nm,0.3s	**51.35**	**189**	P		**P**	**02 36 45.4**	**-1.7**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=255,slow=5.5,SNR=3.4 0.4nm,0.8s	**54.29**	**30**	P		**P**	**02 37 10.0**	**+1.6**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=5.4,slow=5.7,SNR=8.0 0.3nm,0.4s	**55.08**	**189**	P		**P**	**02 37 13.6**	**-1.0**

*MAN **29** 02:29:09.6, 14°57N×123°09E, h59km, mb4.6, ML3.5, MS3.3*
*IDC **29** 02:29:10.6±1.9, 14°06N×124°88E, h0km, mb3.4/3, mbtmp3.4/3, MS3.6/2, Error ellipse: s-maj=68.8km s-min=28.9km az=61.0*

ISC 29 02:29:08.7±1.7, 14°59N±0°08×123°3E±0°1, h35km, n10, σ1§54/8, mb3.4/3, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.06**	**230**	⇓*e*P		**Pn**	**02 29 27.9**	**+0.8**
GQP				*e*S		**Sn**	**02 29 41.4**	**+0.8**
LQP	**Lukban**	**1.75**	**254**	⇑*i*P		**Pn**	**02 29 38.0**	**+1.2**
LQP				*i* S		**Sn**	**02 29 58.5**	**+0.4**
PCPH	**Palayan**	**2.32**	**295**	⇑*e*P		**Pn**	**02 29 44.2**	**-0.3**
PCPH				*e*S		**Sn**	**02 30 10.0**	**-1.8**
TGY	**Tagaytay City**	**2.32**	**258**	⇑*e*P		Pn	02 29 31.8	-13
PACPP	**Pamplona Cagay**	**4.27**	**335**	⇑*e*P		**Pn**	**02 30 13.3**	**+2.0**
JCJ	**Chichijima** comp=Z,33nm,18.3s,baz=320,slow=36	**21.57**	**52**	LR		LR	02 41 26.9	
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=84,slow=9.2,SNR=4.4 0.8nm,0.3s	**23.64**	**283**	P		P	02 34 38.6	+22
SONM	**Songino Array** 0.2nm,0.4s,baz=156,slow=11,SNR=2.7 0.2nm,0.4s	**35.98**	**341**	P		P	02 36 22.1	+16
WRA	**Warramunga Arr**	**36.00**	**162**	P		**P**	**02 36 05.3**	**-1.3**
	0.1nm,0.4s,baz=346,slow=9.2,SNR=6.6 0.1nm,0.4s							
RAO	**Raoul Island** comp=Z,179nm,20.0s,baz=158,slow=30	**71.55**	**128**	LR		LR	03 03 32.3	

*NOU **29** 02:36:26.7, 41°85S×174°66E, h6km, MLv4.1/8, Cook Strait, New Zealand*
*WEL **29** 02:36:28.1±0.3, 42°S±3°×17°4E±°, h12km, M3.6/40, ML3.8/21, MLv3.6/40, Error ellipse: s-maj=0.0km s-min=0.0km az=151.1*

ISC 29 02:36:28.5±1.1, 41°71S±0°04×174°45E±0°03, h28km, n87, σ1§11/88, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.18**	**257**	P		**Pb**	**02 36 33.5**	**-0.8**
CMWZ				S		**Sb**	**02 36 37.9**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.43**	**269**	P		**Pb**	**02 36 37.2**	**-0.4**
BSWZ				S		**Sb**	**02 36 44.1**	**+0.1**
SNZO	**South Karori**	**0.44**	**26**	P		**Pb**	**02 36 36.5**	**-1.4**
TUWZ	**Tuamarina**	**0.47**	**306**	P		**Pb**	**02 36 37.1**	**-1.3**
TUWZ				S		**Sb**	**02 36 43.4**	**-1.6**
WEL	**Wellington**	**0.49**	**30**	P		**Pb**	**02 36 37.5**	**-1.1**
TCW	**Tory Channel**	**0.52**	**345**	P		**Pb**	**02 36 37.4**	**-1.6**
PLW	**Palliser**	**0.62**	**77**	P		**Pb**	**02 36 41.3**	**+0.4**
CAW	**Cannon Point**	**0.76**	**38**	P		**Pb**	**02 36 42.4**	**-0.8**
PAWZ	**Paruwai Farm**	**0.80**	**66**	P		**Pb**	**02 36 44.1**	**+0.2**
KIW	**Kapiti Island**	**0.92**	**22**	P		**Pb**	**02 36 44.7**	**-0.8**
NNZ	**Nelson**	**0.94**	**301**	P		**Pb**	**02 36 45.4**	**-0.4**
MTW	**Mount Morrison**	**0.96**	**56**	P		**Pb**	**02 36 46.4**	**+0.2**
KHZ	**Kahutara**	**0.98**	**224**	P		**Pb**	**02 36 47.8**	**+1.5**
KHZ	**Kahutara**	**0.98**	**224**	P		**Pb**	**02 36 47.5**	**+1.2**
TRWZ	**Traveller**	**0.98**	**72**	P		**Pb**	**02 36 46.6**	**+0.2**
OGWZ	**Otaki Gorge**	**1.04**	**32**	P		**Pb**	**02 36 47.0**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.14**	**45**	P		**Pb**	**02 36 48.8**	**+0.2**
THZ	**Tophouse**	**1.16**	**267**	P		**Pb**	**02 36 49.9**	**+1.1**
TMWZ	**Te Maipa**	**1.24**	**61**	P		**Pb**	**02 36 49.9**	**-0.1**
MRNZ	**Matariki Terra**	**1.31**	**283**	P		**Pb**	**02 36 52.2**	**+1.3**
TKNZ	**Takaka Hill**	**1.31**	**301**	P		**Pb**	**02 36 51.8**	**+0.9**
MRZ	**Mangatainoka R**	**1.35**	**40**	P		**Pb**	**02 36 51.8**	**+0.4**
TIWZ	**Tintock**	**1.43**	**50**	P		**Pb**	**02 36 52.9**	**+0.3**
CPWZ	**Castlepoint**	**1.54**	**59**	P		**Pb**	**02 36 54.0**	**0.0**
PRWZ	**Pori Road**	**1.63**	**45**	P		**Pb**	**02 36 55.5**	**+0.2**
GVZ	**Greta Valley S**	**1.64**	**219**	P		**Pb**	**02 36 56.5**	**+1.0**
POWZ	**Post Office Ro**	**1.65**	**38**	P		**Pb**	**02 36 56.2**	**+0.6**
QRZ	**Quartz Range**	**1.69**	**301**	P		**Pb**	**02 36 58.8**	**-0.2**
QRZ	**Quartz Range**	**1.69**	**301**	P		**Pb**	**02 36 58.1**	**-0.9**
BFZ	**Birch Farm**	**1.70**	**53**	P		**Pb**	**02 36 56.2**	**-0.1**
LTZ	**Lake Taylor**	**1.94**	**236**	P		**Pb**	**02 37 00.7**	**+1.1**
ANWZ	**Angora Road**	**1.98**	**51**	P		**Pb**	**02 37 00.5**	**+0.5**
AMCZ	**Amberley**	**1.98**	**222**	P		**Pb**	**02 37 00.7**	**+0.6**
DSZ	**Denniston Nort**	**1.98**	**268**	P		**Pb**	**02 37 03.3**	**-0.6**
WAZ	**Wanganui**	**1.99**	**12**	P		**Pb**	**02 37 04.0**	**-0.1**
TSZ	**Takapari Road**	**2.01**	**35**	P		**Pb**	**02 37 00.8**	**+0.2**
PNHZ	**Pukenui**	**2.23**	**37**	P		**Pb**	**02 37 03.4**	**-0.2**
LREZ	**Lake Rotokare**	**2.25**	**359**	P		**Pb**	**02 37 09.6**	**+1.2**
OKCZ	**Okains Bay**	**2.26**	**206**	P		**Pb**	**02 37 04.1**	**+0.1**
MQZ	**McQueen's Vall**	**2.40**	**213**	P		**Pb**	**02 37 05.3**	**-0.5**
OXZ	**Oxford**	**2.41**	**227**	P		**Pb**	**02 37 05.9**	**-0.1**
KHEZ	**Kahui Hut**	**2.44**	**352**	P		**Pb**	**02 37 10.6**	**-1.0**
KHEZ	**Kahui Hut**	**2.44**	**352**	P		**Pb**	**02 37 11.3**	**-0.3**
AKCZ	**Akaroa Harbour**	**2.44**	**207**	P		**Pb**	**02 37 06.5**	**0.0**
NEZ	**North Egmont**	**2.45**	**354**	P		**Pb**	**02 37 13.2**	**+1.3**
INZ	**Inchbonnie**	**2.45**	**245**	P		**Pb**	**02 37 08.4**	**+1.8**
NBEZ	**Newall Road No**	**2.48**	**350**	P		**Pb**	**02 37 13.7**	**+1.4**
MOVZ	**Moawhango**	**2.50**	**24**	P		**Pb**	**02 37 08.7**	**+1.3**
PKVZ	**Pokaka**	**2.51**	**16**	P		**Pb**	**02 37 12.9**	**0.0**
BHHZ	**Black Hill Sta**	**2.54**	**30**	P		**Pb**	**02 37 09.1**	**+1.3**
WNVZ	**Wahianoa**	**2.54**	**21**	P		**Pb**	**02 37 13.9**	**+0.5**
TRVZ	**Turoa**	**2.55**	**20**	P		**Pb**	**02 37 13.7**	**0.0**
DRZ	**Dome Shelter**	**2.58**	**20**	P		**Pb**	**02 37 16.0**	**+1.9**
WHVZ	**Whangaehu Hut**	**2.58**	**20**	P		**Pb**	**02 37 13.9**	**-0.2**
FWVZ	**Far West T-bar**	**2.59**	**19**	P		**Pb**	**02 37 13.9**	**-0.5**
TUVZ	**Tukino**	**2.61**	**21**	P		**Pb**	**02 37 11.0**	**+2.1**
RACZ	**Rakaia**	**2.64**	**219**	P		**Pb**	**02 37 08.9**	**-0.3**
NGZ	**Ngauruhoe**	**2.68**	**20**	P		**Pb**	**02 37 16.0**	**+0.2**
SNVZ	**South Ngauruho**	**2.68**	**20**	P		**Pb**	**02 37 12.3**	**+2.4**
OTVZ	**Oturere**	**2.71**	**20**	P		**Pb**	**02 37 11.8**	**+1.6**
NNVZ	**North Ngauruho**	**2.72**	**19**	P		**Pb**	**02 37 12.6**	**+2.1**
KWHZ	**Kaweka Forest**	**2.73**	**34**	P		**Pb**	**02 37 18.2**	**+1.5**
WTVZ	**West Tongariro**	**2.73**	**19**	P		**Pb**	**02 37 16.7**	**0.0**
TWVZ	**Taurewa**	**2.74**	**16**	P		**Pb**	**02 37 16.3**	**-0.6**
ETVZ	**East Tongariro**	**2.75**	**21**	P		**Pb**	**02 37 12.8**	**+2.0**
TMVZ	**Te Maari**	**2.76**	**21**	P		**Pb**	**02 37 12.5**	**+1.5**
KRVZ	**Karewarewa**	**2.77**	**20**	P		**Pb**	**02 37 19.6**	**+0.6**
NTVZ	**North Tongarir**	**2.77**	**20**	P		**Pb**	**02 37 17.5**	**+0.1**
MHCZ	**Mount Hutt**	**2.80**	**228**	P		**Pb**	**02 37 11.2**	**-0.2**
RITZ	**Rihia Road**	**2.93**	**22**	P		**Pb**	**02 37 20.5**	**+0.4**
WACZ	**Wakanui South**	**2.94**	**220**	P		**Pb**	**02 37 13.4**	**+0.1**
BKZ	**Black Stump Fm**	**2.98**	**32**	P		**Pb**	**02 37 15.1**	**+1.2**
BKZ	**Black Stump Fm**	**2.98**	**32**	P		**Pb**	**02 37 13.9**	**0.0**
WVZ	**Waitaha Valley**	**3.07**	**242**	P		**Pb**	**02 37 17.3**	**+2.2**
RPZ	**Rata Peaks**	**3.21**	**230**	P		**Pb**	**02 37 17.2**	**+0.2**
RPZ	**Rata Peaks**	**3.21**	**230**	P		**Pb**	**02 37 17.1**	**+0.2**
HIZ	**Hauiti**	**3.21**	**6**	P		**Pb**	**02 37 20.0**	**+3.0**
HIZ	**Hauiti**	**3.21**	**6**	P		**Pb**	**02 37 21.4**	**-3.4**
ARCZ	**Grundel**	**3.29**	**226**	P		**Pb**	**02 37 18.3**	**+0.1**
TLZ	**Tolley Road**	**3.48**	**14**	P		**Pb**	**02 37 27.3**	**-2.0**
TMZ	**Timaru**	**3.68**	**222**	P		**Pb**	**02 37 23.3**	**-0.1**
FOZ	**Fox Glacier**	**3.87**	**240**	P		**Pb**	**02 37 27.6**	**+1.5**
ODZ	**Otahua Downs**	**4.34**	**218**	P		**Pb**	**02 37 32.2**	**-0.3**
ODZ	**Otahua Downs**	**4.34**	**218**	P		**Pb**	**02 37 32.1**	**-0.4**
MKAZ	**Moumakai**	**4.63**	**7**	P		Pb	02 37 43.2	-5.7
JCZ	**Jackson Bay**	**4.79**	**239**	P		Pn	02 37 44.4	+5.6
WMGZ	**Waiomatatini S**	**4.94**	**39**	P		**Pn**	**02 37 39.3**	**-1.5**

*SOME **29** 02:53:41.8, 39°42N×74°30E, h5km*
*NNC **29** 02:53:44.7±5.4, 39°53N×74°38E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=41.0km s-min=22.9km az=159.0*

KRNET 29 02:53:35.5±0.1, 39°22N×73°59E, mb2.7, 12C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk** baz=82	**1.41**	**281**	⇑*i*P		Pg	02 54 02.1	-0.5
DRK	baz=82			⇑*i*S		Sb	02 54 21.4	-0.2
OHH	**Osh** baz=35	**1.45**	**335**	⇑*i*P		Pn	02 54 02.6	-0.5
OHH	baz=35			⇑*i*S		Sb	02 54 22.4	0.0
BTK	**Batken** baz=92	**2.30**	**292**	⇑*i*P		Pb	02 54 16.4	-1.5
BTK	baz=92			⇑*i*S		Sb	02 54 46.2	-0.7
GAR	**Garm** baz=66	**2.55**	**266**	⇓*i*P		Pn	02 54 19.9	+1.6
GAR	baz=66			⇓*i*S		Sb	02 54 52.4	-1.9
ARLS	**Aral** baz=12	**2.70**	**12**	⇓*i*P		Pn	02 54 21.9	+1.5
ARLS	baz=12			⇓*i*S		Sn	02 54 55.7	+1.8
NRN	**Naryn** baz=39	**2.88**	**39**	⇑*i*P		Pn	02 54 24.2	+1.1
NRN	baz=39			⇑*i*S		Sn	02 54 59.8	+1.2
TRKS	**Terek-Say** baz=21	**2.97**	**322**	⇑*i*P		Pn	02 54 24.7	+0.6
TRKS	baz=21			⇑*i*S		Sn	02 55 00.8	+0.2
UCH	**Uchtor** baz=13	**3.09**	**13**	⇓*i*P		Pn	02 54 27.6	+1.6
UCH	baz=13			⇓*i*S		Sn	02 55 05.5	+1.6
MRKS	**Merke** 2.4nm,0.4s	**3.54**	**356**	*e*P		Pg	02 54 43.9	+0.6
MRKS	3.1nm,0.4s			*e*S		Sg	02 55 28.6	-0.6
MRKS	**Merke** 2.4nm,0.4s	**3.54**	**356**	Pg		Pg	02 54 43.9	+0.6
MRKS	3.1nm,0.4s			Lg		Lg	02 55 28.6	
IUG	**Iuzhnay** 3.7nm,0.6s	**3.98**	**318**	*e*P		Pg	02 54 59.4	+7.5
IUG	7.9nm,0.7s			*e*S		Sg	02 55 55.3	+12
KST	**Kastek** 2.2nm,0.5s	**4.22**	**24**	*e*P		Pb	02 54 52.4	+1.6
KST	8.9nm,0.6s			*e*S		Sb	02 55 43.4	+1.0
KST	**Kastek** 2.2nm,0.5s	**4.22**	**24**	Pg		Pb	02 54 52.4	+1.6
KST	8.9nm,0.6s			Lg		Lg	02 55 43.4	
DGS	**Degeres** 3.3nm,0.4s	**4.35**	**22**	*e*P		Pb	02 54 55.5	+2.6
DGS	4.9nm,0.5s			*e*S		Sb	02 55 48.6	+2.7
DGS	**Degeres** 3.3nm,0.4s	**4.35**	**22**	Pg		Pb	02 54 55.5	+2.6
DGS	4.9nm,0.5s			Lg		Lg	02 55 49.5	
KK31	**Karatay Array** 0.2nm,0.2s	**4.52**	**330**	⇑Pn		Pb	02 54 54.3	-1.6
KK31	5.5nm,0.8s,baz=133,slow=36,SNR=12			⇓Sn		Sb	02 55 53.4	+2.5
KK31	1.8nm,0.6s,baz=146,slow=28			⇑Lg		Lg	02 56 10.9	
TNSS	**Tian-Shan** 2.9nm,0.5s	**4.58**	**33**	*e*P		Pb	02 54 57.4	+0.3
TNSS	2.3nm,0.7s			*e*S		Sb	02 55 51.5	-1.6
TNSS	**Tian-Shan** 2.9nm,0.5s	**4.58**	**33**	Pg		Pb	02 54 57.4	+0.3
TNSS	2.3nm,0.7s			Lg		Lg	02 55 52.5	
MDOK	**Medeo** 1.5nm,0.5s	**4.73**	**32**	*e*P		Pb	02 55 00.6	+1.2
MDOK	5.2nm,0.8s			*e*S		Sb	02 55 57.2	+0.3
KUU	**Kurty** 1.2nm,0.3s	**5.11**	**23**	*e*P		Pb	02 55 08.9	+3.1
KUU	5.7nm,0.7s			*e*S		Sb	02 56 11.6	+3.8
KUU	**Kurty** 1.2nm,0.3s	**5.11**	**23**	Pg		Pb	02 55 08.9	+3.1
KUU	5.7nm,0.7s			Lg		Lg	02 56 11.6	
CHKK	**Chushkaly** 2.4nm,0.1s	**5.29**	**28**	*e*P		Pb	02 55 12.2	+3.3
CHKK	3.2nm,0.2s			*e*S		Sb	02 56 17.6	+4.7
ARXS	**Arharly** 2.3nm,1.0s	**5.92**	**31**	*e*P		Pb	02 55 23.2	+3.7
ARXS	2.3nm,0.4s			*e*S		Sb	02 56 36.6	+5.6
ARXS	**Arharly** 2.3nm,1.0s	**5.92**	**31**	Pg		Pb	02 55 23.2	+3.7
ARXS	2.3nm,0.4s			Lg		Lg	02 56 36.6	

GUC 29 02:59:24.7±0.8, 32°38S×70°31W, h102km±3km, ML2.8, 5C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.43**	**208**	⇑*i*P		Pn	02 59 41.2	+0.9
VA03				*i* S		Sn	02 59 53.1	+1.1
VA03	comp=E,589nm,0.3s			IAML			02 59 54.3	
VA03	**San Esteban**	**0.43**	**208**	⇑*i*P		Pn	02 59 41.2	+0.9
VA03				*i* S		Sn	02 59 53.4	+1.4
VA03	comp=E,585nm,0.3s			IAML			02 59 54.3	
PEL	**Peldehue**	**0.82**	**203**	*i* P		Pn	02 59 44.4	+0.9
PEL				*i* S		Sn	02 59 59.1	+1.4
PEL	**Peldehue**	**0.82**	**203**	*i* P		Pn	02 59 44.5	+0.9
PEL				*e*S		Sn	02 59 59.0	+1.4
ROCH	**El Roble**	**0.83**	**225**	*i* P		Pn	02 59 45.0	+1.2
ROCH				*i* S		Sn	03 00 00.3	+2.2
ROCH	comp=N,277nm,0.1s			IAML			03 00 01.4	
ROCH	**El Roble**	**0.83**	**225**	*i* P		Pn	02 59 44.9	+1.0
ROCH				*i* S		Sn	03 00 00.2	+2.1
ROCH	comp=N,272nm,0.1s			IAML			03 00 01.4	
VA06	**Catapilco**	**0.85**	**258**	*i* P		Pn	02 59 44.7	+1.0
VA06				*i* S		Sn	02 59 59.4	+1.4
VA06	comp=E,247nm,0.1s			IAML			03 00 00.2	
VA06	**Catapilco**	**0.85**	**258**	*i* P		Pn	02 59 44.7	+1.0
VA06				*i* S		Sn	02 59 59.4	+1.4
VA06	comp=E,246nm,0.1s			IAML			03 00 00.2	
FCH	**Farellones**	**0.94**	**179**	*i* P		Pn	02 59 46.1	+1.1
FCH				*i* S		Sn	03 00 02.3	+2.1
FCH	**Farellones**	**0.94**	**179**	⇑*i*P		Pn	02 59 46.1	+1.1
FCH				*i* S		Sn	03 00 02.3	+2.0
MT05	**Renca**	**1.07**	**200**	*i* P		Pn	02 59 47.5	+1.4
MT05	comp=E,287nm,0.3s			IAML			03 00 05.8	
MT05	**Renca**	**1.07**	**200**	*e*P		Pn	02 59 47.3	+1.2
MT05				*e*S		Sn	03 00 04.3	+2.1
MT05	comp=E,286nm,0.3s			IAML			03 00 05.8	
MT02	**Curacav**	**1.12**	**218**	*i* P		Pn	02 59 47.5	+0.9
MT02				*i* S		Sn	03 00 04.6	+1.5
MT02	**Curacav**	**1.12**	**218**	*i* P		Pn	02 59 47.5	+0.9
MT02				*i* S		Sn	03 00 04.6	+1.5
MT03	**Universidad Ad**	**1.12**	**189**	*i* P		Pn	02 59 48.0	+1.3
MT03				*e*S		Sn	03 00 04.8	+1.4
MT03	comp=N,306nm,0.2s			IAML			03 00 09.1	
MT03	**Universidad Ad**	**1.12**	**189**	*i* P		Pn	02 59 48.0	+1.3
MT03				*i* S		Sn	03 00 05.2	+1.9
MT03	comp=N,312nm,0.2s			IAML			03 00 09.1	
CO02	**Combarbal**	**1.31**	**333**	*i* P		Pn	02 59 50.3	+1.3
CO02				*i* S		Sn	03 00 09.4	+2.2
CO02	**Combarbal**	**1.31**	**333**	*e*P		Pn	02 59 50.1	+1.1
CO02				*i* S		Sn	03 00 09.3	+2.1
LMEL	**Las Melosas**	**1.47**	**177**	*i* P		Pn	02 59 52.1	+1.3
LMEL				*i* S		Sn	03 00 13.5	+3.0
MT09	**Talagante**	**1.50**	**202**	*i* P		Pn	02 59 52.1	+0.8
MT09				*i* S		Sn	03 00 13.1	+1.8
MT09	comp=N,117nm,0.2s			IAML			03 00 19.8	
MT09	**Talagante**	**1.50**	**202**	*i* P		Pn	02 59 52.1	+0.8
MT09				*i* S		Sn	03 00 13.4	+2.0
MT09	comp=N,117nm,0.2s			IAML			03 00 19.8	
CO03	**El Pedregal**	**1.57**	**348**	*i* P		Pn	02 59 53.8	+1.7
CO03				*i* S		Sn	03 00 15.6	+2.9
CO03	comp=E,145nm,0.1s			IAML			03 00 19.0	
CO03	**El Pedregal**	**1.57**	**348**	*e*P		Pn	02 59 53.5	+1.5
CO03				*i* S		Sn	03 00 15.0	+2.2
CO03	comp=E,152nm,0.1s			IAML			03 00 19.6	
BO04	**La Punta**	**1.62**	**189**	⇓*i*P		Pn	02 59 53.8	+1.2
BO04				*i* S		Sn	03 00 15.7	+1.8
BO04	comp=E,95nm,0.2s			IAML			03 00 16.7	
BO04	**La Punta**	**1.62**	**189**	⇓*i*P		Pn	02 59 53.8	+1.2
BO04		

BO01	**Tunca**	**2.11**	**198**	*i* P		Pn	02 59 59.3	+0.6
BO01				*e*S		Sn	03 00 26.3	+1.6
GO04	**Tololo Observa**	**2.24**	**349**	*i* P		Pn	03 00 01.9	+1.1
GO04				*i* S		Sn	03 00 31.3	+3.1
GO04	**Tololo Observa**	**2.24**	**349**	*e*P		Pn	03 00 01.9	+1.2
GO04				*e*S		Sn	03 00 30.7	+2.4
BO02	**Sierra Bellavi**	**2.44**	**189**	⇑*i*P		Pn	03 00 04.2	+1.1
BO02				*i* S		Sn	03 00 34.5	+1.9
BO02				IAML			03 00 39.7	
	comp=N,67nm,0.3s							
BO02	**Sierra Bellavi**	**2.44**	**189**	⇑*i*P		Pn	03 00 04.2	+1.1
BO02				*e*S		Sn	03 00 33.9	+1.4
BO02				IAML			03 00 39.7	
	comp=N,64nm,0.2s							
BO03	**Pichilemu**	**2.52**	**213**	*e*P		Pn	03 00 03.9	-0.2
BO03				IAML			03 00 45.7	
	comp=E,23nm,0.5s							
CO05	**La Serena**	**2.58**	**342**	*e*P		Pn	03 00 05.6	+0.7
CO05				IAML			03 00 45.4	
	comp=N,54nm,0.4s							

KRNET ***29*** *03:07:27.7±0.1, 41°.61N×71°.62E, h19km, mb2.4*
SOME ***29*** *03:07:27.5, 41°.57N×71°.70E, h5km*
NNC ***29*** *03:07:31.0±1.5, 41°.85N×71°.59E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=17.2km s-min=4.6km az=170.0*

ISC 29 03:07:27.8±1.2, 41°.60N±0°.04×71°.65E±0°.02, h4km±11km, n16, σ1$32/30, 13C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.31**	**49**	⇑*i*P	**Pg**	**03 07 34.3**	**+0.4**
	baz=54						
ARK				⇑*i*S	**Sg**	**03 07 38.9**	**+1.0**
	baz=54						
TRKS	**Terek-Say**	**0.39**	**261**	⇑*i*P	**Pg**	**03 07 35.3**	**-0.1**
	baz=46						
TRKS				⇑*i*S	**Sg**	**03 07 40.5**	**0.0**
	baz=46						
IUG	**luzhnay**	**1.33**	**295**	*e*P	**Pb**	**03 07 54.1**	**+0.7**
	27nm,0.2s						
IUG				*e*S	**Sn**	**03 08 13.2**	**+1.7**
	23nm,0.2s						
IUG	**luzhnay**	**1.33**	**295**	P	**Pb**	**03 07 53.4**	**0.0**
	27nm,0.2s						
IUG				S	**Sb**	**03 08 09.9**	**-1.0**
	23nm,0.2s						
OHH	**Osh**	**1.37**	**141**	⇑*i*P	**Pn**	**03 07 53.5**	**-0.4**
	baz=41						
OHH				⇑*i*S	**Sb**	**03 08 12.2**	**+0.2**
	baz=41						
MRKS	**Merke**	**1.64**	**45**	*e*P	**Pg**	**03 08 00.3**	**+1.0**
	2.6nm,0.2s						
MRKS				*e*S	**Sg**	**03 08 23.8**	**+3.2**
	5.0nm,0.2s						
MRKS	**Merke**	**1.64**	**45**	P	**Pg**	**03 07 59.3**	**0.0**
	2.6nm,0.2s						
MRKS				S	**Sg**	**03 08 20.5**	**0.0**
	5.0nm,0.2s						
BTK	**Batken**	**1.66**	**203**	⇓*i*P	**Pn**	**03 07 58.2**	**+0.3**
	baz=2.0						
BTK				⇓*i*S	**Sb**	**03 08 20.3**	**-0.1**
	baz=2.0						
KK31	**Karatay Array**	**1.73**	**331**	⇑Pn	**Pg**	**03 08 00.3**	**-0.7**
	0.8nm,0.2s,baz=145,slow=14,SNR=6.1						
KK31				⇓Sn	**Sn**	**03 08 20.5**	**-0.8**
	3.5nm,0.3s,baz=145,slow=31,SNR=13						
KKAR	**Karatay Array**	**1.73**	**331**	⇑*e*P	**Pn**	**03 07 58.6**	**-0.1**
	baz=31						
KKAR				⇑*i*S	**Sb**	**03 08 21.4**	**-0.9**
	baz=31						
EKS2	**Erkin-Say**	**1.91**	**55**	⇑*e*P	**Pn**	**03 08 02.0**	**+0.7**
	baz=56						
EKS2				⇑*i*S	**Sb**	**03 08 27.0**	**-0.5**
	baz=56						
ARLS	**Aral**	**2.02**	**82**	⇑*i*P	**Pn**	**03 08 03.9**	**+1.1**
	baz=82						
ARLS				⇑*i*S	**Sb**	**03 08 30.0**	**-0.7**
	baz=82						
DGS	**Degeres**	**3.47**	**60**	*e*P	**Pb**	**03 08 30.6**	**+0.7**
	1.1nm,0.5s						
DGS				*e*S	**Sg**	**03 09 16.2**	**-2.9**
	2.8nm,0.5s						
DGS	**Degeres**	**3.47**	**60**	Pg	**Pg**	**03 08 32.1**	**-2.2**
	1.1nm,0.5s						
DGS				Lg	Lg	03 09 16.2	
	2.8nm,0.5s						
KST	**Kastek**	**3.51**	**64**	*e*P	**Pb**	**03 08 31.9**	**+1.3**
	0.9nm,0.4s						
KST				*e*S	**Sg**	**03 09 18.4**	**-2.2**
	6.3nm,0.6s						
KST	**Kastek**	**3.51**	**64**	Pg	**Pg**	**03 08 33.3**	**-1.8**
	0.9nm,0.4s						
KST				Lg	Lg	03 09 18.4	
	6.3nm,0.6s						

WEL ***29*** *03:09:00, 42°.27S×173°.79E, h16km, ML4.3, Mw4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr3.58; Mθθ-0.18; Mϕϕ-3.39; Mrθ0.61; Mθϕ-0.74; Mϕr1.55; Fault plane solution: M03.94000×10¹⁵ NP1: ϕs189.00000°, δ33.00000°, λ84.00000°. NP2: ϕs16.00000°, δ58.00000°, λ94.00000°. Principal axes: T -391.7700, Plg77.0000°, Azm299.0000°; N -3.7700, Plg3.0000°, Azm194.0000°; P 395.5400, Plg13.0000°, Azm103.0000°;*
IDC ***29*** *03:09:34.5±1.2, 41°.99S×173°.76E, h0km, mb4.3/5, mbtmp4.3/6, ML4.4/1, MS3.5/9 Error ellipse: s-maj=35.5km s-min=29.0km az=54.0*
NOU ***29*** *03:09:36.8, 42°.40S×173°.89E, h12km, MLv4.6/14, South Island, New Zealand*
NEIC ***29*** *03:09:37.0±1.4, 42°.30S±0°.03×173°.85E±0°.04, h19km±1km, mb4.4/7, Mwr4.3/42, Error ellipse: s-maj=5.1km s-min=3.8km az=141.0*
WEL ***29*** *03:09:37.8±0.3, 42°.5±2°×17°.4E±°, h12km±2km, M4.2/36, ML4.6/17, MLv4.2/36, Error ellipse: s-maj=0.0km s-min=0.0km az=119.3*
NEIC ***29*** *03:09:37.1, 42°.30S×173°.85E, h21km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.04; Mθθ0.18; Mϕϕ-3.23; Mrθ0.65; Mθϕ-1.77; Mϕr1.07; Fault plane solution: M03.82000×10¹⁵ NP1: ϕs27.12000°, δ54.83000°, λ95.17000°. NP2: ϕs198.20000°, δ35.50000°, λ82.72000°. Principal axes: T 3.2694, Plg79.0000°, Azm317.0000°; N 0.9255, Plg4.0000°, Azm204.0000°; P -4.1949, Plg10.0000°, Azm113.0000°;*

ISC 29 03:09:36.5±1.1, 42°.32S±0°.03×173°.84E±0°.03, h15km±8km, n170, σ1$32/169, mb4.4/10, MS3.4/11, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.24**	**246**		**Pb**	**03 09 43.4**	**+0.7**
KHZ				Sg	**Sb**	**03 09 47.3**	**+0.6**
KHZ	**Kahutara**	**0.24**	**246**	P	**Pb**	**03 09 43.2**	**+0.6**
KHZ	**Kahutara**	**0.24**	**246**	P	**Pb**	**03 09 43.3**	**+0.7**
KHZ				S	**Sb**	**03 09 47.4**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.60**	**3**		**Pg**	**03 09 48.4**	**+0.1**
BSWZ				Sg	**Sg**	**03 09 56.0**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.60**	**3**	P	**Pg**	**03 09 48.5**	**+0.1**
CMWZ	**Cape Campbell**	**0.63**	**26**		**Pn**	**03 09 50.8**	**-0.2**
CMWZ				Sg	**Sg**	**03 09 58.0**	**+0.8**
CMWZ	**Cape Campbell**	**0.63**	**26**	P	**Pn**	**03 09 51.1**	**+0.1**
GVZ	**Greta Valley S**	**0.88**	**222**		**Pn**	**03 09 54.9**	**+0.5**
GVZ	**Greta Valley S**	**0.88**	**222**	P	**Pn**	**03 09 55.5**	**+1.1**
THZ	**Tophouse**	**0.89**	**308**		**Pb**	**03 09 52.9**	**-0.8**
THZ				Sg	**Sb**	**03 10 03.3**	**-2.1**
THZ	**Tophouse**	**0.89**	**308**	P	**Pb**	**03 09 52.9**	**-0.8**
THZ				S	**Sb**	**03 10 03.9**	**-1.5**
TUWZ	**Tuamarina**	**0.89**	**5**		**Pb**	**03 09 53.6**	**0.0**
TUWZ	**Tuamarina**	**0.89**	**5**	P	**Pb**	**03 09 54.1**	**+0.5**
NNZ	**Nelson**	**1.15**	**343**		**Pn**	**03 09 57.6**	**-0.5**
NNZ	**Nelson**	**1.15**	**343**	P	**Pn**	**03 09 57.6**	**-0.5**
TCW	**Tory Channel**	**1.15**	**17**		**Pn**	**03 09 58.2**	**+0.1**
TCW	**Tory Channel**	**1.15**	**17**	P	**Pn**	**03 09 58.2**	**0.0**
BHW	**Baring Head**	**1.19**	**41**	Pn	**Pn**	**03 09 59.0**	**+0.3**
SNZO	**South Karori**	**1.20**	**33**		**Pn**	**03 09 59.2**	**+0.5**
SNZO	**South Karori**	**1.20**	**33**	P	**Pb**	**03 10 00.0**	**+1.1**
MRNZ	**Matariki Terra**	**1.22**	**318**		**Pn**	**03 09 59.0**	**-0.1**
MRNZ	**Matariki Terra**	**1.22**	**318**	P	**Pn**	**03 09 59.0**	**-0.1**
AMCZ	**Amberley**	**1.23**	**225**		**Pg**	**03 09 59.8**	**-0.3**
AMCZ	**Amberley**	**1.23**	**225**	P	**Pg**	**03 09 59.9**	**-0.3**
WEL	**Wellington**	**1.25**	**34**	P	**Pn**	**03 10 00.0**	**+0.6**
LTZ	**Lake Taylor**	**1.25**	**248**		**Pg**	**03 10 00.1**	**-0.5**
LTZ	**Lake Taylor**	**1.25**	**248**	P	**Pg**	**03 10 00.0**	**-0.5**
PLWZ	**Palliser**	**1.29**	**55**		**Pn**	**03 10 00.4**	**+0.3**
PLWZ	**Palliser**	**1.29**	**55**	P	**Pn**	**03 10 00.2**	**+0.1**
MSWZ	**Moikau Station**	**1.39**	**50**	Pn	**Pn**	**03 10 02.0**	**+0.7**
TKNZ	**Takaka Hill**	**1.44**	**333**		**Pn**	**03 10 02.5**	**+0.4**
TKNZ	**Takaka Hill**	**1.44**	**333**	P	**Pn**	**03 10 02.5**	**+0.4**
PAWZ	**Paruwai Farm**	**1.51**	**52**	P	**Pn**	**03 10 03.0**	**-0.1**
DUWZ	**D'Urville Isla**	**1.52**	**2**	P	**Pn**	**03 10 03.4**	**+0.2**
OKCZ	**Okains Bay**	**1.52**	**202**	P	**Pb**	**03 10 03.9**	**-0.5**
CAW	**Cannon Point**	**1.52**	**38**	P	**Pn**	**03 10 03.4**	**+0.3**
DSZ	**Denniston Nort**	**1.62**	**290**	Pn	**Pb**	**03 10 05.5**	**-0.7**
DSZ	**Denniston Nort**	**1.62**	**290**	P	**Pb**	**03 10 05.4**	**-0.7**
MQZ	**McQueen's Vall**	**1.64**	**212**	Pn	**Pn**	**03 10 04.7**	**-0.1**
MQZ	**McQueen's Vall**	**1.64**	**212**	P	**Pn**	**03 10 04.5**	**-0.2**
TRWZ	**Traveller**	**1.66**	**57**	P	**Pn**	**03 10 04.9**	**-0.2**
KIW	**Kapiti Island**	**1.66**	**29**	P	**Pn**	**03 10 05.7**	**+0.6**
OXZ	**Oxford**	**1.66**	**232**		**Pn**	**03 10 05.1**	**-0.1**
OXZ	**Oxford**	**1.66**	**232**	P	**Pn**	**03 10 05.0**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.70**	**203**	P	**Pn**	**03 10 06.0**	**+0.4**
MTW	**Mount Morrison**	**1.70**	**48**	P	**Pn**	**03 10 05.4**	**-0.2**
QRZ	**Quartz Range**	**1.78**	**326**		**Pn**	**03 10 07.8**	**+0.9**
QRZ	**Quartz Range**	**1.78**	**326**	P	**Pn**	**03 10 07.7**	**+0.9**
QRZ	**Quartz Range**	**1.78**	**326**	P	**Pn**	**03 10 07.8**	**+1.0**
OGWZ	**Otaki Gorge**	**1.80**	**34**	P	**Pn**	**03 10 07.2**	**+0.2**
INZ	**Inchbonnie**	**1.81**	**256**		**Pn**	**03 10 07.5**	**+0.3**
INZ	**Inchbonnie**	**1.81**	**256**	P	**Pn**	**03 10 07.8**	**+0.6**
RACZ	**Rakaia**	**1.88**	**221**	P	**Pn**	**03 10 08.1**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.90**	**42**	P	**Pn**	**03 10 08.3**	**0.0**
TMWZ	**Te Maipa**	**1.96**	**52**	P	**Pn**	**03 10 08.8**	**-0.4**
MHCZ	**Mount Hutt**	**2.06**	**233**	P	**Pn**	**03 10 10.5**	**-0.2**
MRZ	**Mangatainoka R**	**2.11**	**39**	Pn	**Pn**	**03 10 11.1**	**-0.2**
MRZ	**Mangatainoka R**	**2.11**	**39**	P	**Pn**	**03 10 11.0**	**-0.2**
WACZ	**Wakanui South**	**2.19**	**221**	P	**Pn**	**03 10 12.2**	**-0.1**
WVZ	**Waitaha Valley**	**2.41**	**251**	P	**Pn**	**03 10 15.9**	**+0.6**
POWZ	**Post Office Ro**	**2.41**	**38**	P	**Pn**	**03 10 15.3**	**-0.1**
BFZ	**Birch Farm**	**2.44**	**49**	Pn	**Pn**	**03 10 15.0**	**-0.8**
BFZ	**Birch Farm**	**2.44**	**49**	P	**Pn**	**03 10 15.4**	**-0.4**
BFZ	**Birch Farm**	**2.44**	**49**	P	**Pn**	**03 10 15.1**	**-0.7**
RPZ	**Rata Peaks**	**2.47**	**235**	Pn	**Pn**	**03 10 16.1**	**-0.2**
	68nm,0.3s,baz=233,slow=1.9,SNR=144						
RPZ				Sn	**Sn**	**03 10 44.9**	**-1.3**
	150nm,0.3s,baz=339,slow=23,SNR=48						
RPZ				LR	LR	03 10 58.8	
	comp=Z,337nm,21.2s,baz=11,slow=32						
	232nm,0.4s						
RPZ	**Rata Peaks**	**2.47**	**235**	P	**Pn**	**03 10 16.3**	**-0.1**
RPZ	**Rata Peaks**	**2.47**	**235**	P	**Pn**	**03 10 16.2**	**-0.1**
ARCZ	**Arundel**	**2.54**	**229**	P	**Pn**	**03 10 16.8**	**-0.4**
WAZ	**Wanganui**	**2.70**	**19**	P	**Pn**	**03 10 21.7**	**+2.2**
TSZ	**Takapari Road**	**2.77**	**36**	P	**Pn**	**03 10 20.1**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.77**	**248**	P	**Pn**	**03 10 21.3**	**+1.0**
TMZ	**Timaru**	**2.92**	**224**	P	**Pn**	**03 10 22.5**	**0.0**
WPHZ	**Waipukurau**	**2.99**	**42**	P	**Pn**	**03 10 23.7**	**+0.4**
PNHZ	**Pukenui**	**2.99**	**37**	P	**Pn**	**03 10 23.0**	**-0.4**
KHEZ	**Kahui Hut**	**3.02**	**3**	P	**Pn**	**03 10 27.0**	**+3.1**
KHEZ	**Kahui Hut**	**3.02**	**3**	P	**Pn**	**03 10 27.1**	**+3.1**
NEZ	**North Egmont**	**3.05**	**4**	P	**Pn**	**03 10 27.4**	**+3.1**
PKE	**Pukeiti**	**3.12**	**2**	P	**Pn**	**03 10 27.8**	**+2.5**
FOZ	**Fox Glacier**	**3.19**	**246**		**Pn**	**03 10 26.9**	**+0.7**
FOZ	**Fox Glacier**	**3.19**	**246**	P	**Pn**	**03 10 27.1**	**+0.9**
PKVZ	**Pokeka**	**3.23**	**21**	P	**Pn**	**03 10 26.1**	**-0.7**
MOVZ	**Moawhango**	**3.25**	**27**	P	**Pn**	**03 10 27.7**	**+0.7**
VRZ	**Vera Road**	**3.27**	**13**	P	**Pn**	**03 10 29.0**	**+1.8**
WNVZ	**Wahianoa**	**3.27**	**25**	P	**Pn**	**03 10 29.2**	**+1.8**
TRVZ	**Turoa**	**3.28**	**24**	P	**Pn**	**03 10 29.2**	**+1.6**
BHHZ	**Black Hill Sta**	**3.29**	**32**	P	**Pn**	**03 10 27.9**	**+0.4**
DRZ	**Dome Shelter**	**3.31**	**24**	P	**Pb**	**03 10 33.9**	**-1.2**
WHVZ	**Whangaehu Hut**	**3.31**	**24**	P	**Pn**	**03 10 30.0**	**+1.9**
FWVZ	**Far West T-bar**	**3.33**	**24**	P	**Pn**	**03 10 29.9**	**+1.7**
TUVZ	**Tukino**	**3.34**	**25**	P	**Pn**	**03 10 30.6**	**+2.2**
LBZ	**Lake Benmore**	**3.37**	**231**	Pn	**Pn**	**03 10 28.2**	**-0.4**
LBZ	**Lake Benmore**	**3.37**	**231**	P	**Pn**	**03 10 28.6**	**-0.1**
NGZ	**Ngauruhoe**	**3.41**	**24**	P	**Pn**	**03 10 30.9**	**+1.6**
SNVZ	**South Ngauruho**	**3.41**	**24**	P	**Pn**	**03 10 32.2**	**+2.8**
OTVZ	**Oturere**	**3.44**	**24**	P	**Pn**	**03 10 31.3**	**+1.5**
NNVZ	**North Ngauruho**	**3.46**	**24**	P	**Pn**	**03 10 31.9**	**+1.9**
WTVZ	**West Tongariro**	**3.46**	**23**	P	**Pn**	**03 10 31.8**	**+1.8**
ETVZ	**East Tongariro**	**3.48**	**25**	P	**Pn**	**03 10 31.6**	**+1.3**
KWHZ	**Kawheka Forest**	**3.49**	**35**	P	**Pn**	**03 10 34.0**	**+3.6**
KRVZ	**Karewarewa**	**3.50**	**24**	P	**Pn**	**03 10 34.0**	**+3.5**
TMVZ	**Te Maari**	**3.50**	**25**	P	**Pn**	**03 10 32.0**	**+1.5**
NTVZ	**North Tongarir**	**3.51**	**24**	P	**Pn**	**03 10 32.9**	**+2.3**
ODZ	**Otahua Downs**	**3.58**	**219**	Pn	**Pn**	**03 10 31.1**	**-0.3**
ODZ	**Otahua Downs**	**3.58**	**219**	P	**Pn**	**03 10 31.2**	**-0.3**
ODZ	**Otahua Downs**	**3.58**	**219**	P	**Pn**	**03 10 31.2**	**-0.3**
KATZ	**Kakaramea**	**3.62**	**24**	P	**Pb**	**03 10 38.5**	**-1.9**
RITZ	**Rihia Road**	**3.67**	**25**	P	**Pn**	**03 10 36.0**	**+3.1**
BKZ	**Black Stump Fm**	**3.74**	**34**	Pn	**Pn**	**03 10 33.2**	**-0.6**
BKZ					Pb	03 10 34.1	-8.2
RATZ	**Rangitukua**	**3.75**	**24**	P	**Pn**	**03 10 37.7**	**+3.9**
HIZ	**Hauiti**	**3.88**	**12**		**Pn**	**03 10 37.0**	**+1.4**
HIZ	**Hauiti**	**3.88**	**12**	P	**Pn**	**03 10 38.1**	**+2.5**
HIZ	**Hauiti**	**3.88**	**12**	P	**Pn**	**03 10 37.3**	**+1.7**
WATZ	**Wairara**	**3.88**	**22**	P	**Pn**	**03 10 38.7**	**+2.9**
JCZ	**Jackson Bay**	**4.09**	**243**	P	**Pn**	**03 10 41.1**	**+0.5**
JCZ	**Jackson Bay**	**4.09**	**243**	P	**Pn**	**03 10 38.4**	**-0.2**
TLZ	**Tolley Road**	**4.19**	**19**	P	**Pn**	**03 10 41.5**	**+1.5**
HHSZ	**Highcliff Hill**	**4.26**	**212**	P	**Pn**	**03 10 41.4**	**+0.6**
WKZ	**Wanaka**	**4.31**	**233**	Pn	**Pn**	**03 10 40.6**	**-0.9**
WKZ	**Wanaka**	**4.31**	**233**	P	**Pn**	**03 10 40.8**	**-0.7**
RTZ	**Ruatahuna**	**4.41**	**34**	Pn	**Pn**	**03 10 42.5**	**-0.5**
TUZ	**Tuapeka**	**4.73**	**218**	P	**Pn**	**03 10 47.4**	**+0.2**
TOZ	**Tahuroa Road**	**4.75**	**16**	P	**Pn**	**03 10 48.7**	**+1.1**
URZ	**Urewera**	**4.76**	**33**	P	**Pn**	**03 10 49.1**	**+1.4**
MLZ	**Mavora Lakes**	**5.14**	**232**	Pn	**Pn**	**03 10 52.4**	**-0.5**
MLZ	**Mavora Lakes**	**5.14**	**232**	P	**Pn**	**03 10 52.4**	**-0.5**
AWAZ	**Awhitu Peninsu**	**5.28**	**7**	P	**Pn**	**03 10 56.5**	**+1.6**
MKAZ	**Moumakai**	**5.30**	**12**	P	**Pn**	**03 10 55.8**	**+0.6**
SYZ	**Scrubby Hill**	**5.39**	**217**	P	**Pn**	**03 10 57.1**	**+0.7**
SYZ	**Scrubby Hill**	**5.39**	**217**	P	**Pn**	**03 10 56.7**	**+0.3**
ETAZ	**East Tamaki Re**	**5.42**	**9**	P	**Pn**	**03 10 58.5**	**+1.7**
MBAZ	**Motutapu North**	**5.60**	**9**	P	**Pn**	**03 11 00.7**	**+1.4**
WIAZ	**Waiheke Island**	**5.61**	**11**	P	**Pn**	**03 10 59.5**	**+1.2**
KUZ	**Kuaotunu**	**5.75**	**15**	P	**Pn**	**03 11 02.1**	**+0.8**
ABAZ	**Army Bay**	**5.76**	**8**	P	**Pn**	**03 11 03.4**	**+1.9**
MXZ	**Matakaoa Point**	**5.86**	**37**	P	**Pn**	**03 11 03.1**	**+0.3**
APZ	**The Paps**	**6.15**	**221**	P	**Pn**	**03 11 06.5**	**-0.3**
WCZ	**Waipu Caves**	**6.38**	**4**	P	**Pn**	**03 11 12.0**	**+2.0**
OUZ	**Omahuta**	**7.09**	**358**	P	**Pn**	**03 11 22.3**	**+2.6**
OUZ	**Omahuta**	**7.09**	**358**	P	**Pn**	**03 11 22.5**	**+2.8**
CTZ	**Chatham Island**	**7.14**	**105**	P	**Pn**	**03 11 20.7**	**+0.3**
CTZ	**Chatham Island**	**7.14**	**105**	P	**Pn**	**03 11 20.7**	**+0.3**
DZM	**Mont Dzumac**	**21.12**	**341**	*e*LR	LR	03 19 29.4	
	comp=Z,126nm,24.3s						
STKA	**Stephens Creek**	**27.60**	**282**	P	**P**	**03 15 23.4**	**+0.2**
	3.1nm,1.1s,baz=119,slow=13,SNR=4.0						
STKA				LR	LR	03 25 24.2	
	comp=Z,92nm,18.1s,baz=114,slow=35						
	3.1nm,1.1s						
RAR	**Rarotonga**	**30.55**	**55**	LR	LR	03 28 21.7	
	comp=Z,63nm,18.1s,baz=172,slow=37						
CTA	**Charters Tower**	**32.12**	**305**	LR	LR	03 28 46.0	
	comp=Z,85nm,18.4s,baz=88,slow=36						
TBI	**Tubuai**	**35.82**	**70**	*e*LR	LR	03 26 05.0	
	comp=Z,671nm,34.5s						
ASAR	**Alice Springs**	**37.89**	**287**	P	**P**	**03 16 51.9**	**-1.3**
	1.7nm,0.6s,baz=125,slow=6.9,SNR=22						
ASAR				LR	LR	03 33 03.6	
	comp=Z,157nm,18.1s,baz=152,slow=37						
	1.7nm,0.6s						
PPT2	**Papeete2**	**39.69**	**63**	*e*LR	LR	03 27 51.5	
	comp=Z,68nm,23.2s						
WR0	**Warramunga Arr**	**39.87**	**292**	P	**P**	**03 17 08.2**	**-1.4**
WR0				IAmb	IAmb	03 17 43.6	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**40.01**	**291**	P	**P**	**03 17 09.5**	**-1.3**
WB2				IAmb	IAmb	03 17 15.9	
	comp=Z,7.2nm,0.8s						
WRAB	**Tennant Creek**	**40.02**	**292**	P	**P**	**03 17 10.0**	**-0.9**
WRAB				IAmb	IAmb	03 17 15.9	
	comp=Z,7.1nm,0.8s						
WRA	**Warramunga Arr**	**40.02**	**291**	P	**P**	**03 17 09.8**	**-1.2**
	comp=Z,4.0nm,0.8s,baz=130,slow=7.4,SNR=27						
WRA				LR	LR	03 33 25.4	
	comp=Z,111nm,19.3s,baz=138,slow=36						
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**40.02**	**291**	P	**P**	**03 17 09.6**	**-1.3**
WB0	**Warramunga Arr**	**40.10**	**292**	P	**P**	**03 17 10.5**	**-1.1**
WB0				IAmb	IAmb	03 17 11.3	
	comp=Z,7.6nm,1.1s						
PMG	**Port Moresby**	**40.28**	**317**	LR	LR	03 33 40.5	
	comp=Z,142nm,18.0s,baz=162,slow=36						
NWAO	**Narrogin (SRO)**	**45.07**	**263**	LR	LR	03 32 18.4	
	comp=Z,54nm,21.8s,baz=124,slow=30						
QSPA	**South Pole Qui**	**47.81**	**180**	P	**P**	**03 18 17.0**	**+3.9**
	comp=Z,1.4nm,0.2s,baz=24,slow=5.4,SNR=6.2						
	comp=Z,1.4nm,0.2s						
PTCN	**Pitcairn Islan**	**48.84**	**88**	P	**P**	**03 18 18.6**	**-2.8**
RPN	**Rapa Nui**	**62.95**	**103**	LR	LR	03 43 08.1	
	comp=Z,11nm,18.3s,baz=238,slow=32						
TROLL	**Troll, Antarti**	**65.81**	**183**	P	**P**	**03 20 22.7**	**+1.9**
SNAA	**Sanae**	**66.29**	**181**	P	**P**	**03 20 25.4**	**+1.6**
SNAA	**Sanae**	**66.29**	**181**	P	**P**	**03 20 24.3**	**+0.6**
SNAA				IAmb	IAmb	03 20 30.6	
	comp=Z,3.7nm,1.2s						
VNA3	**Neumayer Olymp**	**66.72**	**179**	P	**P**	**03 20 28.0**	**+1.6**
VNA2	**Neumayer--Watz**	**67.06**	**180**	P	**P**	**03 20 30.5**	**+1.9**
	baz=172,slow=5.0						
CMAR	**Chiang Mai Arr**	**91.58**	**294**	P	**P**	**03 22 43.6**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=158,slow=2.9,SNR=5.9						
	comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**120.07**	**307**	PKP	**PKPdf**	**03 28 25.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=178,slow=1.7,SNR=2.9						
KBZ	**Khabaz**	**144.52**	**289**	PKP	**PKPab**	**03 29 10.3**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=224,slow=2.9,SNR=7.8						
ARCES	**ARCESS Array B**	**148.20**	**339**	PKPbc	**PKPbc**	**03 29 19.3**	**-1.3**
	comp=Z,4.2nm,0.9s,baz=28,slow=2.7,SNR=8.0						
BRTR	**Keskin Array B**	**150.05**	**279**	PKPbc	**PKPbc**	**03 29 25.9**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=142,slow=6.3,SNR=6.1						
FINES	**FINESS Array B**	**152.83**	**326**	PKPbc	**PKPbc**	**03 29 30.5**	**-1.4**
	comp=Z,3.4nm,0.9s,baz=52,slow=3.1,SNR=4.7						

IDC 29 03:12:47.2±8.1, 6°.63S×129°.86E, h162km±93km, mb3.3/2, mbtmp3.8/4, Error ellipse: s-maj=180.3km s-min=23.0km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.89**	**14**	P	Pn	03 14 12.6	0.0
	2.7nm,0.3s,baz=303,slow=23,SNR=1.6						
SIJI				S	Sn	03 15 13.7	-5.9
	8.9nm,0.3s,baz=220,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**13.93**	**162**	P	Pn	03 15 54.1	-3.9
	1.1nm,0.3s,baz=345,slow=13,SNR=19						
ASAR	**Alice Springs**	**17.38**	**168**	P	P	03 16 39.3	+0.2
	1.6nm,0.6s,baz=343,slow=9.6,SNR=18						
STKA	**Stephens Creek**	**27.41**	**158**	P	P	03 18 17.7	-0.1
	0.8nm,0.3s,baz=320,slow=8.6,SNR=4.9						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	03 23 28.0	+0.1
	0.2nm,0.4s,baz=136,slow=9.2,SNR=2.5						
	0.2nm,0.4s						

IDC ***29*** *03:24:02.9±1.9, 52°.13N×170°.53W, h0km, mb3.7/9, mbtmp3.7/11, ML3.4/2, MS3.4/1, Error ellipse: s-maj=48.6km s-min=20.9km az=1.0*
AEIC

T1218					AML	AML			
	comp=E,71800µm,1.2s								
T1218					AML	AML			
T1218					AML	AML			
MC2	**Monte Cornacci**	**0.16**	**360**	P	**Pg**	**03 35 38.4**	**-0.2**		
MC2				S	**Sg**	**03 35 41.2**	**-0.4**		
SMA1	**SAN MARTINO**	**0.16**	**139**	P	**Pg**	**03 35 38.3**	**-0.2**		
SMA1				S	**Sg**	**03 35 41.1**	**-0.3**		
MMO1	**Montemonaco**	**0.18**	**34**	P	**Pg**	**03 35 38.2**	**-0.6**		
MMO1				S	**Sg**	**03 35 40.9**	**-0.9**		
LNSS	**Leonessa**	**0.19**	**217**	⇑P	**Pg**	**03 35 39.5**	**+0.7**		
LNSS				S	**Sb**	**03 35 43.6**	**+1.0**		
LNSS				AML	AML				
	comp=N,20600µm,0.7s								
LNSS				AML	AML				
	comp=E,8705µm,0.6s								
T1216	**Preci, Frazion**	**0.19**	**318**	P	**Pg**	**03 35 39.2**	**+0.3**		
T1216				S	**Sg**	**03 35 42.6**	**+0.6**		
T1243	**Rocca Santa Ma**	**0.20**	**106**	P	**Pg**	**03 35 38.4**	**-0.6**		
T1243				S	**Sg**	**03 35 41.2**	**-1.1**		
T1241	**Roccafluvione,**	**0.20**	**60**	P	**Pg**	**03 35 38.4**	**-0.7**		
T1241				S	**Sg**	**03 35 41.2**	**-1.2**		
T1241				AML	AML				
	comp=E,96850µm,0.9s								
T1241				AML	AML				
	comp=E,98000µm,0.9s								
T1241				AML	AML				
	comp=N,35450µm,0.9s								
T1241				AML	AML				
	comp=N,35250µm,1.3s								
T1241				AML	AML				
	comp=E,98000µm,0.9s								
T1241				AML	AML				
	comp=N,35450µm,0.8s								
T1215	**Vallo di Nera,**	**0.24**	**282**	⇑P	**Pg**	**03 35 40.4**	**+0.7**		
T1215				S	**Sb**	**03 35 45.0**	**+0.8**		
T1215				AML	AML				
	comp=N,9855µm,1.0s								
T1215				AML	AML				
	comp=E,13700µm,1.1s								
T1215				AML	AML				
	comp=N,10550µm,1.0s								
T1215				AML	AML				
	comp=E,13800µm,1.1s								
T1215				AML	AML				
	comp=N,9850µm,1.0s								
T1215				AML	AML				
	comp=N,10550µm,1.0s								
RM33	**Pellescritta (**	**0.24**	**176**	⇑P	**Pg**	**03 35 40.1**	**+0.3**		
RM33				S	**Sg**	**03 35 44.4**	**+0.9**		
RM33				AML	AML				
	comp=N,8465µm,1.6s								
RM33				AML	AML				
	comp=N,8665µm,1.0s								
RM33				AML	AML				
	comp=E,11810µm,1.4s								
RM33				AML	AML				
	comp=N,8460µm,1.6s								
RM33				AML	AML				
	comp=E,11830µm,1.4s								
T1256	**Bolognola (MC)**	**0.26**	**6**	P	**Pg**	**03 35 39.7**	**-0.2**		
T1256				S	**Sg**	**03 35 43.6**	**-0.3**		
T1256				AML	AML				
	comp=E,50200µm,0.3s								
T1256				AML	AML				
	comp=E,52450µm,0.3s								
T1256				AML	AML				
	comp=N,45800µm,0.6s								
T1256				AML	AML				
	comp=N,48650µm,0.6s								
CAMP	**Campotosto**	**0.27**	**143**	P	**Pg**	**03 35 40.0**	**-0.1**		
CAMP				S	**Sg**	**03 35 44.4**	**+0.1**		
CAMP				AML	AML				
	comp=N,9540µm,0.7s								
CAMP				AML	AML				
	comp=E,11720µm,1.2s								
T1246	**Crognaleto (TE**	**0.28**	**127**	P	**Pg**	**03 35 40.0**	**-0.4**		
T1246				S	**Sg**	**03 35 44.3**	**-0.3**		
FDMO	**Fiordimonte**	**0.29**	**345**	⇑P	**Pg**	**03 35 40.6**	**0.0**		
FDMO				S	**Sg**	**03 35 45.3**	**+0.5**		
FDMO				AML	AML				
	comp=E,21050µm,0.7s								
FDMO				AML	AML				
	comp=N,23150µm,1.2s								
T1247	**Pizzolo (AQ)**	**0.32**	**166**	⇑P	**Pg**	**03 35 41.2**	**+0.2**		
T1247				AML	AML				
	comp=E,8815µm,0.9s								
T1247				AML	AML				
	comp=N,8255µm,0.7s								
GUMA	**Gualdo di Mace**	**0.33**	**19**	⇑P	**Pg**	**03 35 41.1**	**0.0**		
GUMA				AML	AML				
GUMA				AML	AML				
GUMA				AML	AML				
GUMA				AML	AML				
CESI	**CESI - Serrava**	**0.33**	**320**	⇑P	**Pg**	**03 35 41.6**	**+0.4**		
CESI				S	**Sb**	**03 35 47.0**	**+0.3**		
CESI				AML	AML				
	comp=E,42800µm,0.2s								
CESI				AML	AML				
	comp=N,75650µm,0.2s								
T1219	**Muccia, Frazio**	**0.33**	**336**	P	**Pg**	**03 35 41.4**	**+0.2**		
T1219				S	**Sg**	**03 35 46.7**	**+0.7**		
T1219				AML	AML				
	comp=E,39200µm,0.2s								
T1219				AML	AML				
	comp=N,41100µm,0.2s								
T1219				AML	AML				
	comp=E,37200µm,0.3s								
T1219				AML	AML				
	comp=E,39200µm,0.2s								
T1219				AML	AML				
	comp=N,41100µm,0.2s								
T1219				AML	AML				
	comp=E,37200µm,0.3s								
T1219				AML	AML				
	comp=N,39600µm,0.7s								
TERO	**Teramo**	**0.33**	**113**	P	**Pg**	**03 35 40.5**	**-0.6**		
TERO				AML	AML				
	comp=E,12030µm,0.6s								
TERO				AML	AML				
	comp=N,14150µm,0.6s								
TERO				AML	AML				
	comp=E,12035µm,0.6s								
TERO				AML	AML				
	comp=E,13250µm,0.6s								
TERO				AML	AML				
	comp=N,13600µm,0.6s								
CSP1	**Cessapalombo**	**0.34**	**2**	⇑P	**Pg**	**03 35 41.2**	**-0.2**		
CSP1				S	**Sg**	**03 35 46.5**	**+0.2**		
CSP1				AML	AML				
	comp=N,57000µm,0.3s								
CSP1				AML	AML				
	comp=E,33950µm,0.2s								
ARRO	**Arrone**	**0.36**	**241**	⇑P	**Pg**	**03 35 42.4**	**+0.8**		
ARRO				AML	AML				
	comp=N,4205µm,0.7s								
ARRO				AML	AML				
	comp=E,4040µm,1.2s								
OFFI	**Offida**	**0.41**	**63**	⇑P	**Pg**	**03 35 42.6**	**+0.2**		
OFFI				AML	AML				
	comp=N,40900µm,0.5s								
OFFI				AML	AML				
	comp=E,42200µm,0.5s								
GIGS	**Gran Sasso**	**0.41**	**137**	P	**Pg**	**03 35 42.0**	**-0.6**		
GIGS				S	**Sg**	**03 35 48.1**	**-0.2**		
GIGS				AML	AML				
	comp=N,1735µm,0.9s								
GIGS				AML	AML				
	comp=E,1420µm,0.5s								
AQU	**L'Aquila**	**0.43**	**159**	P	**Pg**	**03 35 42.8**	**-0.1**		
AQU				AML	AML				
	comp=E,3515µm,0.5s								
AQU				AML	AML				
	comp=N,3220µm,0.6s								
AQU				AML	AML				
	comp=N,3170µm,0.6s								
AQU				AML	AML				
	comp=E,3515µm,1.6s								
SEF1	**Sefro**	**0.43**	**336**	P	**Pg**	**03 35 43.1**	**+0.1**		
SEF1				S	**Sg**	**03 35 49.9**	**+1.0**		
SEF1				AML	AML				
	comp=N,24150µm,0.3s								
SEF1				AML	AML				
	comp=E,30050µm,0.3s								
MNTP	**Montappone**	**0.43**	**28**	P	**Pg**	**03 35 43.1**	**+0.1**		
MNTP				S	**Sb**	**03 35 50.3**	**+0.6**		
MNTP				AML	AML				
	comp=E,38750µm,0.7s								
MNTP				AML	AML				
	comp=N,31200µm,1.5s								
MDAR	**Monte D'Aria**	**0.44**	**355**	P	**Pg**	**03 35 43.0**	**-0.1**		
MDAR				S	**Sg**	**03 35 49.8**	**+0.6**		
MDAR				AML	AML				
	comp=N,13150µm,0.2s								
MDAR				AML	AML				
	comp=E,15250µm,0.2s								
CESX	**Cesi**	**0.47**	**253**	⇑P	**Pg**	**03 35 44.3**	**+0.6**		
CESX				AML	AML				
	comp=N,6830µm,0.4s								
CESX				AML	AML				
	comp=E,5745µm,0.6s								
SSM1	**San Severino M**	**0.48**	**359**	P	**Pg**	**03 35 43.6**	**-0.1**		
SSM1				S	**Sg**	**03 35 50.8**	**+0.6**		
FIAM	**Fiamignano**	**0.49**	**186**	⇑P	**Pg**	**03 35 44.2**	**+0.2**		
FIAM				S	**Sb**	**03 35 51.6**	**+0.3**		
FIAM				AML	AML				
	comp=N,3765µm,0.9s								
FIAM				AML	AML				
	comp=E,2850µm,0.4s								
SNTG	**Esanatoglia**	**0.53**	**340**	⇑P	**Pg**	**03 35 44.8**	**-0.1**		
SNTG				S	**Sb**	**03 35 53.2**	**+0.5**		
SNTG				AML	AML				
	comp=E,5555µm,1.3s								
SNTG				AML	AML				
	comp=N,5870µm,0.7s								
SNTG				AML	AML				
	comp=E,5825µm,1.3s								
SNTG				AML	AML				
	comp=N,6280µm,0.7s								
SNTG				AML	AML				
	comp=N,5870µm,0.7s								
TRTR	**Tortoreto Alta**	**0.54**	**84**	⇑P	**Pg**	**03 35 45.2**	**+0.4**		
TRTR				AML	AML				
	comp=E,20600µm,0.5s								
TRTR				AML	AML				
	comp=N,20450µm,1.1s								
FAGN	**Fagnano**	**0.57**	**149**	⇓P	**Pg**	**03 35 45.1**	**-0.3**		
FAGN				AML	AML				
	comp=E,4875µm,0.5s								
FAGN				AML	AML				
	comp=N,5260µm,1.6s								
ATCC	**AVT- Casa Cast**	**0.59**	**317**	P	**Pg**	**03 35 46.1**	**+0.2**		
ATCC				AML	AML				
	comp=E,14150µm,0.3s								
ATCC				AML	AML				
	comp=N,11400µm,1.4s								
VCEL	**Villa Celiera**	**0.60**	**127**	P	**Pg**	**03 35 45.6**	**-0.5**		
VCEL				AML	AML				
	comp=N,4860µm,0.5s								
VCEL				AML	AML				
	comp=E,6670µm,0.6s								
CADA	**Capodarco di F**	**0.61**	**43**	P	**Pg**	**03 35 46.8**	**+0.6**		
CADA				AML	AML				
	comp=E,29250µm,1.2s								
CADA				AML	AML				
	comp=N,28600µm,0.5s								
CADA				AML	AML				
	comp=E,29300µm,1.2s								
CING	**Cingoli**	**0.62**	**0**	P	**Pg**	**03 35 46.2**	**-0.3**		
CING				S	**Sb**	**03 35 55.7**	**+0.6**		
FOSV	**Fossato di Vic**	**0.63**	**330**	P	**Pg**	**03 35 46.4**	**-0.1**		
FOSV				S	**Sb**	**03 35 56.4**	**+1.1**		
FOSV				AML	AML				
	comp=E,6505µm,0.4s								
FOSV				AML	AML				
	comp=N,9150µm,0.3s								
CIMA	**Civitanova Mar**	**0.66**	**32**	P	**Pg**	**03 35 47.5**	**+0.4**		
CIMA				AML	AML				
	comp=E,19150µm,0.9s								
CIMA				AML	AML				
	comp=N,14450µm,0.7s								
CIMA				AML	AML				
	comp=E,19150µm,1.0s								
T0110	**Collepietro**	**0.68**	**140**	P	**Pg**	**03 35 46.8**	**-0.8**		
T0110				AML	AML				
	comp=E,3500µm,0.5s								
T0110				AML	AML				
	comp=N,4375µm,0.5s								
PP3	**Marolino**	**0.70**	**26**	P	**Pg**	**03 35 48.0**	**+0.2**		
PP3				AML	AML				
	comp=E,66250µm,0.6s								
PP3				AML	AML				
	comp=N,27250µm,0.5s								
PP3				AML	AML				
	comp=N,26250µm,0.6s								
PP3				AML	AML				
	comp=N,27250µm,0.5s								
PP3				AML	AML				
	comp=E,66650µm,0.6s								
PP3				AML	AML				
	comp=E,66300µm,0.6s								
MURB	**Monte Urbino**	**0.71**	**316**	P	**Pg**	**03 35 48.2**	**+0.2**		
MURB				AML	AML				
	comp=E,15750µm,0.9s								
MURB				AML	AML				
	comp=N,27250µm,0.3s								
MURB				AML	AML				
	comp=E,16100µm,0.2s								
MURB				AML	AML				
	comp=N,28150µm,0.3s								
MURB				AML	AML				
	comp=E,15700µm,0.9s								
MURB				AML	AML				
	comp=N,27250µm,0.3s								
SSFR	**Montelago di S**	**0.75**	**336**	⇓P	**Pg**	**03 35 49.0**	**+0.2**		
SSFR				AML	AML				
	comp=E,14850µm,0.3s								
SSFR				AML	AML				
	comp=N,13300µm,0.3s								
SSFR				AML	AML				
	comp=E,15350µm,0.3s								
SSFR				AML	AML				
	comp=N,11850µm,0.3s								
PTQR	**Pietraquaria**	**0.75**	**168**	⇓P	**Pg**	**03 35 48.8**	**0.0**		
PTQR				AML	AML				
	comp=N,782µm,0.6s								
PTQR				AML	AML				
	comp=N,782µm,0.6s								
PTQR				AML	AML				
	comp=E,844µm,0.4s								
ATFO	**Monte Foce - G**	**0.76**	**324**	P	**Pg**	**03 35 49.3**	**+0.2**		
ATFO				AML	AML				
	comp=N,4645µm,0.5s								
ATFO				AML	AML				
	comp=E,5935µm,0.5s								
ARVD	**Arcevia**	**0.77**	**346**	⇑P	**Pg**	**03 35 47.9**	**-1.2**		
ARVD				S	**Sn**	**03 36 02.0**	**+0.5**		
ARVD				AML	AML				
	comp=E,4150µm,1.0s								
ARVD				AML	AML				
	comp=N,4275µm,0.7s								
MTCE	**Montecelio**	**0.80**	**205**	⇑P	**Pg**	**03 35 49.5**	**-0.3**		
MTCE				AML	AML				
	comp=E,1475µm,0.8s								
MTCE				AML	AML				
	comp=N,1280µm,1.1s								
MGAB	**Montegabbione**	**0.81**	**282**	P	**Pg**	**03 35 50.5**	**+0.5**		
MGAB				AML	AML				
	comp=E,7030µm,1.1s								
MGAB				AML	AML				
	comp=N,9370µm,0.5s								
MGAB				AML	AML				
	comp=E,6620µm,1.5s								
MGAB				AML	AML				
	comp=N,8905µm,0.5s								
CERT	**Cerreto**	**0.82**	**191**	⇓P	**Pg**	**03 35 50.0**	**-0.1**		
CERT				AML	AML				
	comp=E,2735µm,1.6s								
CERT				AML	AML				
	comp=N,1845µm,1.4s								
FRON	**Frontone**	**0.84**	**336**	⇑P	**Pg**	**03 35 50.1**	**-0.4**		
FRON				AML	AML				
	comp=E,3450µm,1.4s								
FRON				AML	AML				
	comp=N,3895µm,0.5s								
AOI	**Ancona**	**0.85**	**21**	⇑P	**Pg**	**03 35 50.2**	**-0.5**		
AOI				AML	AML				
	comp=N,6235µm,1.0s								
AOI				AML	AML				
	comp=E,6675µm,0.4s								
ATVO	**AVT- Monte Val**	**0.85**	**318**	⇓P	**Pg**	**03 35 50.7**	**0.0**		
ATVO				AML	AML				
	comp=N,4615µm,0.5s								
ATVO				AML	AML				
	comp=E,3755µm,0.5s								
COR1	**Corinaldo**	**0.89**	**351**	P	**Pb**	**03 35 52.1**	**+0.9**		
COR1				AML	AML				
	comp=E,10485µm,0.6s								
COR1				AML	AML				
	comp=N,12250µm,1.0s								
COR1				AML	AML				
	comp=N,10610µm,1.1s								
COR1				AML	AML				
	comp=N,12200µm,1.0s								
COR1				AML	AML				
	comp=E,5440µm,0.6s								
COR1				AML	AML				
	comp=E,10490µm,0.6s								
ATMI	**Monte Miggiano**	**0.89**	**311**	⇑P	**Pn**	**03 35 52.6**	**+0.6**		
ATMI				AML	AML				
	comp=E,16650µm,0.4s								
ATMI				AML	AML				
	comp=N,18150µm,1.6s								
ATPI	**Pietralunga -**	**0.91**	**321**	⇓P	**Pg**	**03 35 51.8**	**0.0**		
ATPI				AML	AML				
	comp=E,4600µm,0.8s								
ATPI				AML	AML				
	comp=N,3785µm,1.4s								
PIEI	**Pieia**	**0.92**	**329**	⇓P	**Pg**	**03 35 51.9**	**-0.2**		
PIEI				AML	AML				
	comp=N,2510µm,1.1s								
PIEI				AML	AML				
	comp=E,3915µm,0.4s								
MPAG	**Monte Paganucc**	**0.93**	**340**	P	**Pg**	**03 35 52.2**	**-0.1**		
MPAG				AML	AML				
	comp=E,4530µm,1.5s								
MPAG				AML	AML				
	comp=N,4415µm,1.3s								
MPAG				AML	AML				
	comp=E,3560µm,1.2s								
MPAG				AML	AML				
	comp=E,4530µm,1.5s								
MPAG				AML	AML				
	comp=N,3900µm,1.3s								
MPAG				AML	AML				
	comp=N,4415µm,1.3s								
MPAG				AML	AML				
	comp=E,3555µm,1.2s								
SACS	**San Casciano d**	**0.95**	**276**	P	**Pb**	**03 35 53.0**	**+0.8**		
SACS				AML	AML				
	comp=E,2530µm,0.8s								
SACS				AML	AML				
	comp=N,4465µm,0.7s								
NARO	**Abbazia di Nar**	**0.97**	**333**	⇓P	**Pb**	**03 35 52.4**	**-0.1**		
NARO				AML	AML				
	comp=N,1850µm,0.9s								
NARO				AML	AML				
	comp=E,2470µm,0.7s								
APEC	**Apecchio**	**0.98**	**325**	⇑P	**Pb**	**03 35 53.4**	**+0.6**		
APEC				AML	AML				
	comp=E,4945µm,1.6s								
APEC				AML	AML				
	comp=N,4060µm,1.2s								
APEC				AML	AML				
	comp=N,4200µm,0.5s								
APEC				AML	AML				
	comp=E,4375µm,0.6s								
FSSB	**Fossombrone**	**0.99**	**342**	⇓P	**Pb**	**03 35 53.0**	**+0.2**		
FSSB				AML	AML				
	comp=E,10240µm,0.3s								
FSSB				AML	AML				
	comp=N,12250µm,0.4s								
BADI	**Badiali**	**1.03**	**318**	P	**Pb**	**03 35 54.2**	**+0.7**		
BADI				AML	AML				
	comp=N,2075µm,0.5s								
BADI				AML	AML				
	comp=E,174µm,0.6s								
VIVA	**Pratoni del Vi**	**1.05**	**197**	⇓P	**Pn**	**03 35 56.2**	**+2.0**		
MA9	**Marino**	**1.06**	**202**	⇑P	**Pn**	**03 35 56.0**	**+1.7**		
MA9				AML	AML				
	comp=N,2020µm,0.5s								
MA9				AML	AML				
	comp=E,1705µm,0.6s								
CAFI	**Castiglion Fio**	**1.07**	**303**	⇓P	**Pb**	**03 35 55.1**	**+0.9**		
CAFI				S	**Sn**	**03 36 12.0**	**+3.1**		
CAFI				AML	AML				
	comp=N,2400µm,0.9s								
CAFI				AML	AML				
	comp=N,2480µm,0.9s								
CAFI				AML	AML				
	comp=E,3040µm,0.6s								
CAFI				AML	AML				
	comp=E,3005µm,0.6s								
PE3	**Peglio**	**1.07**	**332**	⇓P	**Pb**	**03 35 55.1**	**+0.8**		
MCIV	**Monte Civitell**	**1.11**	**272**	⇓P	**Pg**	**03 35 57.0**	**+1.2**		
MCIV				AML	AML				
	comp=N,766µm,1.2s								
MCIV				AML	AML				
	comp=E,1028µm,0.5s								
SSP9	**Sansepolcro**	**1.13**	**317**	⇓P	**Pg**	**03 35 56.7**	**+0.7**		
SSP9				AML	AML				
	comp=E,2485µm,0.5s								
SSP9				AML	AML				
	comp=N,2105µm,1.3s								
GIUL	**Giuliano Di Ro**	**1.20**	**178**	P	**Pn**	**03 35 56.8**	**+0.6**		
GIUL				AML	AML				
	comp=N,578µm,1.1s								
GIUL				AML	AML				
	comp=E,603µm,0.5s								
SF01	**Poggio Pratacc**	**1.20**	**273**	P	**Pg**	**03 35 58.6**	**+1.3**		
SF01				AML	AML				
	comp=E,1405µm,0.7s								
SF01				AML	AML				
	comp=N,2100µm,1.1s								
PESA	**Pesaro**	**1.22**	**348**	⇑P	**Pb**	**03 35 57.8**	**+1.1**		
PESA				AML	AML				
	comp=N,6920µm,0.2s								
PESA				AML	AML				
	comp=E,6405µm,0.3s								
CPGN	**Carpegna, Ital**	**1.23**	**329**	P	**Pg**	**03 35 58.6**	**+0.8**		
CPGN				AML	AML				
	comp=E,3910µm,0.7s								
CPGN				AML	AML				
	comp=N,3390µm,0.6s								
CERA	**Filignano**	**1.31**	**152**	⇑P	**Pg**	**03 36 01.0**	**+1.6**		
TRIV	**Trivento**	**1.41**	**134**	⇑P	**Pb**	**03 36 01.1**	**+1.0**		
TRIV				AML	AML				
	comp=N,1125µm,1.2s								
TRIV				AML	AML				
	comp=E,974µm,0.9s								
CSNT	**Castellina Chi**	**1.57**	**298**	⇑P	**Pn**	**03 36 02.9**	**+1.6**		
CSNT				AML	AML				
	comp=N,534µm,0.7s								
CSNT				AML	AML				
	comp=E,457µm,0.5s								
OSSC	**Osservatorio P**	**1.62**	**299**	P	**Pn**	**03 36 03.3**	**+1.2**		
OSSC				AML	AML				
	comp=E,640µm,0.8s								
OSSC				AML	AML				
	comp=N,513µm,1.3s								
OSSC				AML	AML				
	comp=N,680µm,0.7s								
OSSC				AML	AML				
	comp=E,451µm,1.3s								
PTRJ	**Pietraroja**	**1.71**	**144**	S	**Sg**	**03 36 32.0**	**+2.8**		
TRIF	**Trifonti**	**1.72**	**283**	⇓P	**Pb**	**03 36 05.4**	**0.0**		
TRIF				AML	AML				
	comp=E,519µm,0.7s								
TRIF				AML	AML				
	comp=N,502µm,0.7s								
BRIS	**BRISIGHELLA**	**1.86**	**319**	⇓P	**Pb**	**03 36 09.0**	**+1.3**		
PAOL	**Paolisi**	**2.00**	**149**	S	**Sb**	**03 36 36.0**	**+1.1**		
MOCO	**Biccari - m.te**	**2.01**	**133**	⇑P	**Pb**	**03 36 11.8**	**+1.4**		
MSAG	**Monte S. Angel**	**2.27**	**116**	⇓P	**Pb**	**03 36 16.2**	**+1.4**		
BDI	**Bagni Di Lucca**	**2.30**	**306**	⇓P	**Pn**	**03 36 13.2**	**+1.8**		
BDI				AML	AML				
	comp=E,404µm,0.7s								
BDI				AML	AML				
	comp=E,127µm,0.6s								
BDI				AML	AML				
	comp=N,384µm,0.4s								
BDI				AML	AML				
	comp=N,129µm,1.1s								
SERM	**Sermide**	**2.64**	**329**	⇓P	**Pn**	**03 36 19.4**	**+3.4**		
MORSI	**Morsiglia**	**2.82**	**275**	P	**Pn**	**03 36 20.8**	**+2.3**		
SMPL	**Sampolo**	**2.97**	**258**	P	**Pn**	**03 36 23.3**	**+2.8**		
A050A	**Klekovaca**	**2.98**	**53**	*e*Pn	**Pn**	**03 36 22.9**	**+2.1**		
PGF	**Pioggiola**	**3.10**	**268**	*e*P	**Pn**	**03 36 25.2**	**+2.8**		
PGF				*e*Sn	**Sn**	**03 36 57.4**	**-1.8**		

comp=N,7.0nm,0.4s
PGF Pioggiola 3.10 268 ⇓P **Pn 03 36 25.3 +2.8**
PGF Pioggiola 3.10 268 P **Pn 03 36 25.1 +2.6**
CEY Cerknica 3.12 16 *e*Pn **Pn 03 36 23.1 +0.5**
SRKY Kupres RS 3.18 64 *e*Pn **Pn 03 36 25.0 +1.4**
ROVR Rover Verones 3.27 333 ⇑P **Pn 03 36 26.9 +2.1**
ROVR S **Sn 03 37 06.0 +2.6**
ROVR AML AML
comp=E,93µm,0.7s
ROVR AML AML
comp=N,146µm,0.3s
MGRS Mrkonjic Grad 3.28 58 *e*Pn **Pn 03 36 26.6 +1.7**
CGRP Cima Grappa 3.28 343 ⇓P **Pn 03 36 26.9 +1.8**
CGRP S **Sn 03 37 04.0 +0.2**
CGRP AML AML
comp=E,672µm,0.4s
CGRP AML AML
comp=N,527µm,0.5s
CGRP AML AML
comp=E,661µm,0.4s
CGRP AML AML
comp=N,531µm,0.5s
STON Ston 3.32 86 *e*Pn **Pn 03 36 25.3 0.0**
PRIJ Prijedor 3.38 48 *e*Pn **Pg 03 36 37.9 -1.0**
AJAC Base Areonaval 3.38 257 P **Pn 03 36 29.0 +2.7**
LJU Ljubljana 3.43 16 ⇑P **Pn 03 36 28.8 +2.0**
LJU AML AML
comp=E,1270µm,0.7s
LJU AML AML
comp=N,2070µm,0.5s
DOSS Dosso del Somm 3.44 336 ⇑P **Pn 03 36 29.5 +2.3**
DOSS AML AML
comp=N,220µm,0.5s
DOSS AML AML
comp=E,300µm,0.5s
DOSS AML AML
comp=E,234µm,0.5s
DOSS AML AML
comp=N,302µm,0.5s
SALO Salr 3.45 327 ⇓P **Pn 03 36 30.0 +2.9**
LTRZ Laterza 3.46 127 P **Pn 03 36 28.3 +0.9**
LTRZ AML AML
comp=E,183µm,1.5s
LTRZ AML AML
comp=N,973µm,1.2s
CTI Castel Tesino 3.48 342 ⇓P **Pn 03 36 29.5 +1.8**
CTI AML AML
comp=E,314µm,0.4s
CTI AML AML
comp=N,309µm,0.3s
A051A Mrakovica 3.51 49 *e*Pn **Pn 03 36 30.0 +1.9**
BLY Banja Luka 3.51 54 *e*Pn **Pb 03 36 33.2 -2.7**
STAL STALIGIAL 3.52 355 P **Pn 03 36 29.6 +1.4**
STAL AML AML
comp=N,322µm,0.3s
STAL AML AML
comp=E,378µm,0.9s
STAL AML AML
comp=E,272µm,1.0s
STAL AML AML
comp=N,282µm,0.3s
LUSI Trento, Gardas 3.59 334 ⇑P **Pn 03 36 31.4 +2.2**
LUSI AML AML
comp=N,322µm,0.4s
LUSI AML AML
comp=E,235µm,0.9s
CIMO Cimolais 3.60 352 ⇑P **Pn 03 36 30.4 +1.2**
CIMO AML AML
comp=E,82µm,0.6s
CIMO AML AML
comp=N,96µm,0.4s
CIMO AML AML
comp=E,83µm,0.6s
CIMO AML AML
comp=N,96µm,0.4s
GAGG Gaggia 3.69 335 P **Pn 03 36 33.2 +2.5**
GAGG AML AML
comp=N,270µm,0.8s
GAGG AML AML
comp=E,252µm,0.8s
ZONE Zone 3.73 325 ⇓P **Pn 03 36 33.9 +2.8**
TREB Trebinje 3.80 89 *e*Pn **Pn 03 36 30.7 -1.3**
ZOU Zoufplan 3.81 358 ⇑P **Pn 03 36 34.0 +1.8**
ZOU AML AML
comp=E,228µm,0.8s
ZOU AML AML
comp=E,218µm,0.8s
ZOU AML AML
comp=N,170µm,1.4s
ZOU AML AML
comp=N,204µm,1.4s
MABI Malga Bissina 3.82 331 ⇓P **Pn 03 36 35.3 +2.9**
FVI Forni Avoltri 3.85 356 P **Pn 03 36 34.6 +1.8**
FVI AML AML
comp=E,152µm,0.6s
FVI AML AML
comp=N,166µm,0.7s
OBKA Obir 3.88 14 *e*Pn **Pn 03 36 35.6 +2.4**
OBKA Obir 3.88 14 *e*Pn **Pn 03 36 37.1 +3.9**
comp=N,1.5nm,0.2s
OBKA *e*Sn **Sn 03 37 21.0 +2.6**
comp=N,46nm,0.7s
OBKA Obir 3.88 14 *e*Pn **Pn 03 36 34.5 +1.4**
OBKA *e*Pg **Pg 03 36 48.7 +0.3**
OBKA *e*Sn **Sn 03 37 21.6 +3.2**
OBKA *e*Sg **Sg 03 37 43.2 +4.5**
MYKA Terra Mystica 3.89 5 *e*Pn **Pn 03 36 34.8 +1.5**
comp=N,0.3nm,0.1s
MYKA *e*Sn **Sn 03 37 19.4 +0.8**
comp=N,15nm,0.4s
MDI Monti di Nese 3.92 322 ⇓P **Pn 03 36 36.6 +2.8**
HCY Herceg Novi 3.93 93 *e*Pn **Pn 03 36 35.1 +1.4**
KOSI Kohlern 3.93 341 ⇓P **Pn 03 36 36.9 +3.0**
APPI Appiano 3.98 340 ⇑P **Pn 03 36 36.8 +2.2**
APPI AML AML
comp=E,200µm,0.4s
APPI AML AML
comp=N,182µm,1.4s
ABTA Abfaltersbach 4.02 353 Pn **Pn 03 36 37.1 +1.9**
comp=N,3.5nm,0.2s,SNR=22
ABTA *e*Sn **Sn 03 37 23.9 +2.0**
comp=N,37nm,0.5s
BRES Bressanone 4.08 346 ⇑P **Pn 03 36 38.5 +2.4**
SOKA Soboth 4.14 18 *e*Pn Pn 03 36 41.4 +4.7
comp=N,0.6nm,0.1s
SOKA *e*Sn **Sn 03 37 24.8 0.0**
comp=N,0.9nm,0.2s
RISI Rein 4.27 350 ⇑P **Pn 03 36 41.3 +2.7**
SAOF Saorge 4.29 289 P **Pn 03 36 41.6 +2.8**
KBA Koelnbreinsper 4.33 1 *e*Pn **Pn 03 36 42.0 +2.6**
comp=N,3.0nm,0.2s
KBA *e*Sn **Sn 03 37 30.9 +1.3**
comp=N,20nm,0.5s
KBA Koelnbreinsper 4.33 1 *e*Pn **Pn 03 36 41.9 +2.5**
KBA *e*Sn **Sn 03 37 31.2 +1.6**
SBF Sospel 4.34 287 *e*P **Pn 03 36 41.9 +2.4**
SBF *e*Sn **Sn 03 37 28.3 -1.5**
comp=N,15nm,0.4s
VSL Villasalto 4.34 223 ⇑P **Pn 03 36 43.3 +3.8**
ROSI Rosskopf 4.36 344 ⇑P **Pn 03 36 42.5 +2.6**
HAPS Han Pijesak,BI 4.40 70 *e*Pn **Pn 03 36 41.8 +1.4**
DRME Dracevica, Mon 4.47 95 *e*Pn **Pn 03 36 42.7 +1.5**
RUDO Rudo 4.60 77 *e*Pn **Pn 03 36 44.1 +1.1**
FETA Feichten 4.61 339 *e*Pn **Pn 03 36 46.4 +3.1**
comp=N,454nm,0.0s
FETA *e*Sn **Sn 03 37 40.4 +3.9**
comp=N,10nm,0.4s
WTTA Wattenberg 4.64 347 *e*Pn **Pn 03 36 46.9 +3.2**
comp=N,1.7nm,0.2s
WTTA *e*Sn **Sn 03 37 42.2 +4.8**
comp=N,19nm,0.5s
WTTA Wattenberg 4.64 347 *e*Pn **Pn 03 36 47.0 +3.3**
WTTA *e*Sn **Sn 03 37 42.3 +5.0**
DAVOX Davos/Dischmat 4.67 331 Pn **Pn 03 36 47.9 +3.8**
comp=N,2.4nm,0.3s,baz=152,slow=18,SNR=24
DAVOX Sn **Sn 03 37 41.0 +3.0**
comp=N,1.9nm,0.3s,baz=279,slow=21,SNR=2.5
comp=N,5.6nm,0.4s
BBLS Lazići 4.67 74 *e*Pn **Pn 03 36 43.2 -0.8**
SQTA Sankt Quirin 4.68 343 Pn **Pn 03 36 46.9 +2.7**
comp=N,7.4nm,0.2s,SNR=16
SQTA *e*Sn **Sn 03 37 43.4 +5.1**
comp=N,23nm,0.3s
CALF Calern 4.69 284 P **Pn 03 36 46.2 +1.9**
WATA Walderalm 4.72 347 Pn **Pn 03 36 48.4 +3.6**
comp=N,3.6nm,0.3s,SNR=12

WATA *e*Sn **Sn 03 37 44.5 +5.3**
comp=N,14nm,0.3s
ARSA Arzberg 4.79 19 *e*Pn **Pn 03 36 48.1 +2.5**
comp=N,1.3nm,0.2s
ARSA *e*Sn **Sn 03 37 39.6 -1.2**
comp=N,8.0nm,0.4s
ARSA Arzberg 4.79 19 *e*Pn **Pn 03 36 48.3 +2.6**
ARSA *e*Sn **Sn 03 37 39.7 -1.0**
MOTA Moosalm 4.82 343 *e*Pn **Pn 03 36 49.0 +2.8**
comp=N,0.1nm,0.1s
MOTA *e*Sn **Sn 03 37 46.0 +4.2**
comp=N,31nm,0.8s
LMR La Mourre 4.93 279 *e*P **Pn 03 36 49.7 +2.2**
LMR *e*Sn **Sn 03 37 41.9 -2.3**
comp=N,1.8nm,0.3s
SURF Saint Ours 4.94 293 P **Pn 03 36 50.3 +2.5**
BIOA Bad Ischl, Aus 4.95 4 *e*Pn **Pn 03 36 51.2 +3.4**
comp=N,5.9nm,0.3s
BIOA *e*Sn **Sn 03 37 47.1 +2.5**
comp=N,4.2nm,0.3s
PART Garmisch-Parte 4.97 344 *e*Pn **Pn 03 36 52.1 +4.0**
PART *e*Sn **Sn 03 37 49.5 +4.4**
JAUF Jausiers 4.97 292 P **Pn 03 36 51.5 +3.3**
RETA Reutte 5.04 341 *e*Pn **Pn 03 36 52.2 +3.2**
comp=N,0.1nm,0.1s
RETA *e*Sn **Sn 03 37 50.7 +3.8**
comp=N,11nm,0.4s
MBDF Montbardon 5.05 295 *e*P **Pn 03 36 52.5 +3.2**
MBDF *e*Sn **Sn 03 37 45.4 -2.0**
comp=N,3.8nm,0.4s
TRIGF Trigance 5.05 284 P **Pn 03 36 52.7 +3.4**
PLONS Plons/SG 5.08 329 *e*Pn **Pn 03 36 54.2 +4.6**
PLONS *e*Sn **Sn 03 37 50.4 +2.5**
OBER Oberstdorf 5.09 337 *e*Pn **Pn 03 36 54.0 +4.3**
OBER *e*Sn **Sn 03 37 52.5 +4.4**
CREF Crivoux 5.09 293 P Pn 03 36 54.7 +4.8
DAVA Damuels 5.10 334 Pn **Pn 03 36 53.3 +3.3**
comp=N,3.1nm,0.3s,SNR=6.7
DAVA *e*Sn **Sn 03 37 53.9 +5.3**
comp=N,9.2nm,0.4s
DAVA Damuels 5.10 334 *e*Pn **Pn 03 36 53.4 +3.3**
DAVA *e*Sn **Sn 03 37 53.0 +4.4**
DIVS Divibare 5.13 73 *e*Pn **Pn 03 36 52.2 +1.8**
MOA Molln 5.15 8 *e*Pn **Pn 03 36 52.5 +1.9**
comp=N,1.2nm,0.2s
MOA *e*Sn **Sn 03 37 50.5 +0.8**
comp=N,3.8nm,0.3s
MOA Molln 5.15 8 *e*Pn **Pn 03 36 52.5 +1.9**
MOA *e*Sn **Sn 03 37 50.7 +1.0**
UBR Ueberruh 5.39 337 *e*Pn Pn 03 36 58.8 +5.0
UBR *e*Sn **Sn 03 37 58.4 +2.9**
LPL La Plagne 5.41 303 *e*P **Pn 03 36 58.2 +3.9**
LPL *e*Sn **Sn 03 37 54.2 -2.0**
comp=N,5.7nm,0.3s
RONA Rosalia, Austr 5.41 23 *e*Pn **Pn 03 36 55.1 +0.9**
comp=N,0.5nm,0.1s
RONA *e*Sn **Sn 03 37 55.7 -0.3**
comp=N,0.3nm,0.1s
CONA Conrad Observa 5.51 19 *e*Pn **Pn 03 36 57.1 +1.6**
comp=N,0.6nm,0.2s
CONA *e*Sn **Sn 03 37 57.5 -1.0**
comp=N,4.3nm,0.3s
RSL Roselend 5.56 304 P Pn 03 37 01.0 +4.7
SMRF Simiane la Rot 5.69 285 *e*P **Pn 03 36 59.2 +1.3**
SMRF *e*Sn **Sn 03 37 59.9 -2.9**
comp=N,1.5nm,0.3s
ORIF Oris-en-Rattie 5.71 295 *e*P **Pn 03 37 02.8 +4.4**
ORIF *e*Sn **Sn 03 38 01.0 -2.6**
comp=N,2.9nm,0.5s
ORIF Oris-en-Rattie 5.71 295 P Pn 03 37 04.3 +5.9
AIGLE Aigle 5.72 311 P **Pn 03 37 02.7 +4.3**
SLE Schleitheim 6.01 328 *e*Pn **Pn 03 37 04.4 +2.1**
SLE *e*Sn **Sn 03 38 09.3 -1.4**
BALST Balsthal 6.01 322 *e*Pn **Pn 03 37 05.1 +2.6**
BALST *e*Sn **Sn 03 38 09.0 -1.9**
BALST Balsthal 6.01 322 P **Pn 03 37 05.2 +2.8**
BALST Balsthal 6.01 322 S **Sn 03 38 12.3 +1.4**
METMA Mettma DE 6.06 327 *e*Pn **Pn 03 37 05.0 +1.9**
METMA *e*Sn **Sn 03 38 10.5 -1.6**
GEC2 GERESS Array S 6.10 3 *e*Pn **Pn 03 37 06.5 +2.8**
GEC2 *e*Sn **Sn 03 38 12.1 -1.0**
GERES GERESS Array B 6.10 3 Pn **Pn 03 37 04.2 +0.5**
comp=N,0.6nm,0.3s,baz=185,slow=13,SNR=14
GERES Sn **Sn 03 38 11.3 -1.9**
comp=N,2.5nm,0.3s,baz=180,slow=24,SNR=8.0
comp=N,1.5nm,0.5s
CKRC Cesky Krumlov 6.12 7 *e*PN **Pn 03 37 06.3 +2.5**
CKRC *e*SN **Sn 03 38 11.2 -2.2**
BERGE Lenzkirch (DE) 6.22 327 *e*Pn **Pn 03 37 07.8 +2.5**
BERGE *e*Sn **Sn 03 38 14.1 -1.9**
BRANT Les Verrieres 6.35 314 P **Pn 03 37 10.0 +3.0**
CABF La Chapelle 6.36 310 *e*Pn **Pn 03 37 08.1 +0.8**
CABF *e*Sn **Sn 03 38 17.2 -2.4**
comp=N,2.6nm,0.3s
KHC Kasperske Hory 6.38 2 *e*PN **Pn 03 37 08.6 +1.1**
KHC *e*SN **Sn 03 38 18.3 -1.7**
KIZ Kirchzarten 6.39 326 P **Pn 03 37 09.3 +1.8**
WET Wettzell 6.40 358 *e*Pn **Pn 03 37 08.8 +1.2**
WET *e*Sn **Sn 03 38 17.9 -2.4**
CHMF Charmoille 6.46 316 P **Pn 03 37 11.2 +2.7**
CHMF S **Sn 03 38 22.1 +0.2**
VIVF Saint-Julien-l 6.51 292 *e*P **Pn 03 37 13.8 +4.5**
BFO Black Forest 6.54 330 *e*Pn **Pn 03 37 12.6 +3.0**
BFO *e*Sn **Sn 03 38 24.3 +0.5**
KRUC Moravsky 6.69 18 *e*PN **Pn 03 37 10.8 -0.9**
KRUC *e*SN **Sn 03 38 24.4 -3.2**
HINF Hinteralfeld 6.75 321 *e*Pn **Pn 03 37 13.6 +1.0**
HINF *e*Sn **Sn 03 38 26.8 -2.3**
comp=N,14nm,0.4s
ECH Echery 6.91 324 *e*Pn **Pn 03 37 16.5 +1.7**
ECH *e*Sn **Sn 03 38 29.7 -3.3**
ECH Echery 6.91 324 P **Pn 03 37 16.9 +2.2**
LASF Ste Croix 6.92 284 *e*P **Pn 03 37 18.6 +3.7**
LASF *e*Sn **Sn 03 38 29.5 -3.8**
comp=N,0.9nm,0.4s
CDF Champ du Feu 7.02 326 *e*Pn **Pn 03 37 17.6 +1.4**
CDF Champ du Feu 7.02 326 *e*P Pn 03 37 21.8 +5.6
CDF *e*Sn **Sn 03 38 33.2 -2.4**
comp=N,7.2nm,0.3s
ROTZ Rotzenmuhle 7.05 355 *e*Sn **Sn 03 38 32.5 -3.8**
HAU Haudompre 7.12 320 *e*Pn **Pn 03 37 18.2 +0.5**
HAU *e*Sn **Sn 03 38 35.4 -2.8**
comp=N,10nm,0.3s
MANZ Manzenberg 7.27 354 *e*Pn **Pn 03 37 23.4 +3.7**
MANZ *e*Sn **Sn 03 38 37.4 -4.5**
PRU Pruhonice 7.30 7 *e*PN **Pn 03 37 22.4 +2.4**
NKC Novy Kostel 7.50 356 *e*SN **Sn 03 38 43.8 -3.6**
MILB Miltenberg 7.57 340 *e*Sn **Sn 03 38 47.0 -2.3**
SMF Signal de Mont 7.71 303 *e*Pn **Pn 03 37 26.3 +0.6**
SMF *e*Sn **Sn 03 38 49.2 -3.5**
comp=N,2.1nm,0.3s
PAGF Fort de Pagny 7.81 321 *e*Pn **Pn 03 37 27.6 +0.6**
PAGF *e*Sn **Sn 03 38 52.0 -3.0**
comp=N,4.9nm,0.4s
SFTF Sexfontaines 7.91 316 *e*P **Pn 03 37 32.2 +3.9**
baz=128
SFTF *e*Sn **Sn 03 38 54.0 -3.4**
comp=N,3.4nm,0.3s
MOX Moxa 7.97 353 *e*Pn **Pn 03 37 31.3 +2.1**
MOX *e*Sn **Sn 03 38 55.8 -3.2**
LOR Lormes 8.00 308 *e*Pn **Pn 03 37 32.1 +2.4**
baz=122
LOR Lormes 8.00 308 *e*P Pn 03 37 35.3 +5.6
baz=126
LOR *e*Sn **Sn 03 38 56.3 -3.5**
comp=N,3.6nm,0.3s
MTLF Montolieu 8.06 278 *e*P Pn 03 37 35.8 +5.3
MTLF *e*Sn **Sn 03 38 56.5 -4.7**
comp=N,0.5nm,0.3s
AVF Avril sur Loir 8.08 303 *e*Pn **Pn 03 37 31.3 +0.6**
AVF *e*Sn **Sn 03 38 57.8 -3.8**
comp=N,0.7nm,0.3s
MEZF Maizieres J'vi 8.10 318 *e*P Pn 03 37 37.0 +6.1
baz=140
MEZF *e*Sn **Sn 03 38 58.7 -3.3**
comp=N,4.5nm,0.3s
SSF Saint Saulge 8.11 305 *e*Pn **Pn 03 37 31.4 +0.2**
SSF Saint Saulge 8.11 305 *e*P Pn 03 37 38.7 +7.5
SSF *e*Sn **Sn 03 38 58.8 -3.6**
comp=N,1.9nm,0.4s
SAVF Savonnieres en 8.14 319 *e*P Pn 03 37 37.8 +6.3
baz=141
SAVF *e*Sn **Sn 03 38 59.6 -3.4**
comp=N,4.0nm,0.3s

BRG Berggiesshubel 8.14 3 *e*P **Pn 03 37 35.4 +3.9**
BRG Amp 03 37 40.4
comp=Z,1.7nm,0.6s
BRG *ex* x 03 38 04.4
BRG *ex* **Sn 03 39 00.0 -3.1**
BRG *ex* x 03 39 59.5
BRG Amp 03 40 31.8
comp=Z,8.8nm,1.2s
BGF Bois d'Agland 8.30 301 *e*Pn **Pn 03 37 34.0 +0.3**
BGF *e*Sn **Sn 03 39 03.0 -4.0**
comp=Z,3.4nm,0.4s
CAF Calviac 8.33 289 *e*P Pn 03 37 39.0 +4.8
CLL Collm 8.56 359 *e*Pn **Pn 03 37 41.0 +3.7**
CLL *ex* x 03 39 01.0
CLL *ex* **Sn 03 39 12.0 -1.4**
CLL *ex* x 03 39 32.0
CLL *e*Sg 03 40 04.0
comp=Z,14nm,1.1s
TCF Toulx Ste Croi 8.60 298 *e*P Pn 03 37 42.9 +5.0
TCF *e*Sn **Sn 03 39 10.3 -4.3**
comp=Z,1.1nm,0.4s
HYF Humbligny 8.73 305 *e*P **Pn 03 37 39.7 0.0**
RJF Les Rejaudoux 8.79 291 *e*P **Pn 03 37 40.8 +0.3**
LFF La Frestale 9.26 288 *e*P **Pn 03 37 45.6 -1.3**
GIVF Givet 9.34 325 *e*P **Pn 03 37 52.7 +4.7**
GIVF *e*Sn **Sn 03 39 29.3 -3.4**
comp=Z,78nm,1.6s
EPF Esparros 9.44 276 *e*P **Pn 03 37 53.5 +4.1**
EPF *e*Sn **Sn 03 39 28.3 -6.9**
comp=Z,57nm,1.8s
BAIF Baives 9.58 323 *e*P Pn 03 37 56.5 +5.2
BAIF *e*Sn **Sn 03 39 33.6 -4.9**
comp=Z,78nm,1.6s
MFF Saint Martin d 10.25 297 *e*P **Pn 03 37 59.4 -1.0**
SJPF Ste Jean 10.58 277 *e*P **Pn 03 38 09.4 +4.4**
LJF La Druitiere 10.99 307 *e*P **Pn 03 38 09.1 -1.5**
GRR Gorron 11.34 305 *e*P **Pn 03 38 14.4 -0.9**
ROSF Rostrenen 12.81 301 *e*P **Pn 03 38 35.2 -0.3**
FINES FINESS Array B 20.25 18 Pn Pn 03 40 12.7 +2.3
comp=Z,0.1nm,0.3s,baz=201,slow=11,SNR=1.7
comp=Z,2.7nm,0.9s
MKAR Makanchi Array 47.78 60 P **P 03 44 13.8 +3.3**
comp=Z,0.6nm,0.7s,baz=286,slow=6.8,SNR=1.8
comp=Z,0.6nm,0.7s

NCEDC ***29*** *03:45:02.9±1.2, 38°.83N±0°.02×122°.85W±0°.03, h2km±7km, Md3.0/32, ML2.7/44(NEIC), Error ellipse: s-maj=4.3km s-min=1.8km az=67.0*

NEIC 29 03:45:03.4±0.9, 38°.84N±0°.03×122°.84W±0°.08, h5km±5km, Error ellipse: s-maj=9.4km s-min=1.8km az=63.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GACM	**Adobe Creek**	**0.04**	**331**		Pg	03 45 04.0	-0.7
GDXM	**Geysers**	**0.05**	**133**		Pg	03 45 04.1	-0.7
GDXM	**Geysers**	**0.05**	**133**	IAML		03 45 05.2	
GDXM	comp=E,21µm,0.3s			IAML		03 45 05.2	
	comp=N,30µm,0.2s						
GPMM	**Pine Mountain**	**0.08**	**275**		Pg	03 45 04.5	-0.8
GSGM	**Seigler Mounta**	**0.10**	**76**		Pg	03 45 05.8	+0.2
GCRM	**Castle Rock Sp**	**0.12**	**125**		Pg	03 45 05.3	-0.5
GBGM	**Boggs Mountain**	**0.13**	**102**		Pg	03 45 06.0	-0.1
GAXM	**Alexander Vall**	**0.14**	**153**		Pg	03 45 05.8	-0.6
GCVM	**Cloverdale**	**0.15**	**243**		Pg	03 45 06.2	-0.2
GSSM	**Skaggs Springs**	**0.19**	**224**		Pg	03 45 07.0	-0.3
HOPS	**Hopland Field**	**0.24**	**310**		Pg	03 45 08.2	+0.2
HOPS	**Hopland Field**	**0.24**	**310**	IAML		03 45 14.7	
HOPS	comp=E,1µm,0.7s			IAML		03 45 15.2	
	comp=N,3µm,0.8s						
GHLM	**Highland Sprin**	**0.24**	**325**		Pg	03 45 08.2	0.0
NHSM	**Mount Saint He**	**0.26**	**136**		Pg	03 45 08.0	-0.4
GHGM	**Hogback Ridge**	**0.29**	**2**		Pg	03 45 09.2	+0.2
MAC	**Mark West Spri**	**0.30**	**162**		Pg	03 45 09.5	+0.2
NMTM	**Middletown**	**0.31**	**96**		Pg	03 45 09.5	+0.1
GWKM	**Walker Ridge**	**0.34**	**52**		Pg	03 45 10.4	+0.3
NTYM	**Taylor**	**0.47**	**163**		Pg	03 45 12.5	0.0
GTSM	**Trough Springs**	**0.51**	**21**		Pg	03 45 14.0	+0.8
GWRM	**Wonder Ranch**	**0.51**	**316**		Pg	03 45 13.5	+0.2
NBPM	**Berryessa Peak**	**0.53**	**109**		Pb	03 45 14.5	-0.7
CVS	**Carmenet Viney**	**0.58**	**149**		Pg	03 45 14.3	-0.2
GHOM	**Hamilton Openi**	**0.58**	**291**		Pg	03 45 15.0	+0.4
NAPC	**Atlas Peak**	**0.61**	**131**		Pg	03 45 15.1	-0.1
NBRB	**Beebe Ranch Br**	**0.62**	**159**		Pg	03 45 15.4	0.0
MCCM	**Marconi Confer**	**0.69**	**183**		Pg	03 45 16.3	-0.5
MCCM	comp=N,442nm,0.7s			IAML		03 45 32.1	
GNAM	**Navarro Ridge**	**0.71**	**300**		Pg	03 45 17.7	+0.6
SNT	**Sears Point**	**0.72**	**155**		Pg	03 45 16.8	-0.5
NDHM	**Dunnigan Hills**	**0.73**	**96**		Pb	03 45 19.1	+0.5
NLHM	**Lake Herman**	**0.90**	**143**		Pg	03 45 20.7	0.0
CPIM	**Pinole Ridge**	**0.98**	**150**		Pg	03 45 22.3	0.0
KCPM	**Cahto Peak**	**1.02**	**326**		Pg	03 45 21.8	-1.3
KCPM	comp=N,198nm,1.2s			IAML		03 45 45.3	
CTAM	**Taylor**	**1.04**	**141**		Pn	03 45 24.4	-0.3
BKS	**Berkeley--Byer**	**1.07**	**154**		Pg	03 45 24.0	0.0
BDM	**Black Diamond**	**1.17**	**139**		Pb	03 45 26.3	+0.1
CRPB	**Russellman Par**	**1.18**	**141**		Pg	03 45 25.4	-0.7
ORV	**Oroville**	**1.26**	**55**		Pg	03 45 26.7	-0.9
AFDM	**Forest Hills D**	**1.46**	**85**		Pn	03 45 28.6	-1.9
KMRM	**Mail Ridge**	**1.54**	**334**		Pn	03 45 30.4	-1.1
KMRM	comp=N,78nm,2.2s			IAML		03 46 08.6	
KMRM	comp=E,102nm,2.5s			IAML		03 46 17.6	
CMB	**Columbia Colle**	**2.09**	**112**		Pn	03 45 38.5	-0.7
EMB	**Emerald Bay**	**2.14**	**86**		Pn	03 45 40.1	+0.1
EMB	comp=E,53nm,0.7s			IAML		03 46 12.0	
BEKR	**Beckworth**	**2.18**	**61**		Pb	03 45 42.0	-1.5
MPK	**Martis Peak**	**2.23**	**77**		Pn	03 45 41.1	-0.2
MPK	comp=N,57nm,1.0s			IAML		03 46 41.3	
VCNR	**Virginia City**	**2.52**	**79**		Pn	03 45 45.0	-0.3
VCNR	comp=E,26nm,0.9s			IAML		03 46 02.3	
VCNR	comp=N,26nm,1.0s			IAML		03 46 44.8	
PNTR	**Pine Nut**	**2.54**	**83**		Pn	03 45 44.8	-0.6
WAKR	**Walker**	**2.68**	**96**		Pn	03 45 49.0	+1.5
WAKR	comp=N,21nm,1.9s			IAML		03 46 29.4	
WAKR	comp=E,22nm,1.1s			IAML		03 46 34.0	
YERR	**Yerington**	**2.81**	**86**		Pn	03 45 49.7	+0.5
YERR	comp=E,30nm,0.7s			IAML		03 46 32.4	
YERR	comp=N,32nm,3.2s			IAML		03 46 36.6	
OMMB	**Old Mammoth Mi**	**3.26**	**111**		Pn	03 45 56.7	+1.2
OMMB	comp=E,14nm,4.8s			IAML		03 46 55.0	
OMMB	comp=N,23nm,1.1s			IAML		03 47 46.8	
RYN	**Ryan**	**3.38**	**92**	Pn	Pn	03 45 56.9	-0.1
RYN	comp=E,14nm,3.2s			IAML		03 46 57.6	
LHV	**Little Huntoon**	**3.45**	**98**	Pn	Pn	03 45 58.1	+0.4
NVAR	**Mina Array Bea**	**3.58**	**95**	Pn	Pn	03 45 59.4	-0.4
NV11	**Mina Array Sit**	**3.69**	**95**	Pn	Pn	03 46 00.7	-0.6
NV11	comp=E,13nm,4.8s			IAML		03 46 30.9	
NV11	comp=N,13nm,1.9s			IAML		03 47 05.3	
KVN	**Kaiserville**	**3.70**	**85**		Pn	03 46 01.0	-0.4
KVN	comp=E,13nm,4.8s			IAML		03 46 39.6	
KVN	comp=N,9.3nm,3.3s			IAML		03 47 07.6	
WVOR	**Wild Horse Val**	**4.81**	**40**		Sg	03 47 35.7	-2.1

NIED ***29*** *03:46:36.1, 39°.63N×142°.10E, h48km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.51; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-4.79; $M_{r\theta}$3.31; $M_{\theta\phi}$-0.10; $M_{\phi r}$4.50; Fault plane solution: $M_0$7.24000×10^{14} NP1: ϕ_s162.00000°, δ25.00000°, λ49.00000°. NP2: ϕ_s26.00000°, δ71.00000°, λ107.00000°.*

*JMA **29** 03:46:36.1±0.1,39.6N±0.2×142.1E±0.5,h48km,MV3.9/40, E OFF IWATE PREF*
JMA Felt II J1 at E OFF IWATE PREF .
*NEIC **29** 03:46:37.5±1.3,39.69N±0.06×142.02E±0.04, h56km±11km,mb4.4/7,Error ellipse: s-maj=8.4km s-min=3.8km az=166.0*
*IDC **29** 03:46:40.6±2.6,39.55N×141.95E,h92km±24km,mb3.6/16, mbtmp4.0/19,MS2.5/3,Error ellipse: s-maj=19.7km s-min=15.4km az=89.0*

ISC 29 03:46:36.5±0.9,39.64N±0.03×142.12E±0.07,h49km±7km, n61,σ1°29/68,mb4.1/21,16D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.24**	**256**	P			**Pn**	**03 46 44.5**	**-0.5**
MIYJ				S			**Sn**	**03 46 50.3**	**-0.8**
JTH	**Tanohata**	**0.36**	**326**	⇓P			**Pn**	**03 46 45.7**	**-0.5**
JTH				⇓S			**Sn**	**03 46 52.2**	**-0.7**
OFUJ	**Ofunato**	**0.66**	**213**	*i* P			**Pn**	**03 46 48.9**	**-0.8**
OFUJ				S			**Sn**	**03 46 57.9**	**-1.2**
JOM	**Ohasama**	**0.66**	**256**	⇓*i*P			**Pn**	**03 46 49.3**	**-0.4**
JOM				⇓S			**Sn**	**03 46 58.7**	**-0.5**
JKZ	**Kuzumaki**	**0.70**	**300**	⇓*i*P			**Pn**	**03 46 49.9**	**-0.4**
JKZ				⇓S			**Sn**	**03 46 59.5**	**-0.8**
JANG	**Nango**	**0.87**	**328**	⇓*i*P			**Pn**	**03 46 51.8**	**-0.7**
JANG				⇓S			**Sn**	**03 47 02.8**	**-1.4**
JKMT	**Kesennumamotoy**	**0.97**	**212**	P			**Pn**	**03 46 53.1**	**-0.6**
JKMT				S			**Sn**	**03 47 05.2**	**-1.1**
JMK	**Ichinoseki**	**0.98**	**226**	⇓*i*P			**Pn**	**03 46 53.3**	**-0.6**
JMK				⇓S			**Sn**	**03 47 05.7**	**-1.0**
JRG	**Rokugo**	**1.18**	**259**	⇓*i*P			**Pn**	**03 46 56.1**	**-0.5**
JRG				⇓S			**Sn**	**03 47 10.4**	**-1.1**
JAH	**Hinai**	**1.27**	**296**	⇓*i*P			**Pn**	**03 46 57.5**	**-0.3**
JAH				⇓*e*S			**Sn**	**03 47 13.4**	**-0.3**
JIO	**Ouri**	**1.33**	**207**	P			**Pn**	**03 46 58.3**	**-0.3**
JIO				S			**Sn**	**03 47 13.8**	**-1.3**
JTM	**Tenmabayashi**	**1.40**	**325**	Pn			**Pn**	**03 46 59.3**	**-0.4**
JTM				Sn			**Sn**	**03 47 16.1**	**-0.9**
JTM	**Tenmabayashi**	**1.40**	**325**	⇓*i*P			**Pn**	**03 46 59.3**	**-0.4**
JTM				⇓S			**Sn**	**03 47 16.6**	**-0.4**
JMM	**Marumori**	**2.05**	**211**	Pn			**Pn**	**03 47 08.7**	**+0.2**
ERM	**Erimo**	**2.50**	**18**	Pn			**Pn**	**03 47 15.3**	**+0.7**
JSD	**Sado**	**3.41**	**243**	Pn			**Pn**	**03 47 27.1**	**-0.1**
MJB9	**Matsu-Tunnel**	**4.37**	**226**	Pn			**Pn**	**03 47 43.1**	**+2.8**
MAJO	**Matsushiro**	**4.37**	**226**				**Pn**	**03 47 41.7**	**+1.4**
MJAR	**Matsushiro Arr** 16nm,0.6s,baz=33,slow=13,SNR=30	**4.37**	**226**	P			**Pn**	**03 47 42.5**	**+2.1**
MJAR				LR			LR	03 49 43.4	
	comp=Z,56nm,19.8s,baz=40,slow=43								
JKA	**Kamikawa-asahi**	**4.49**	**4**	Pn			**Pn**	**03 47 42.3**	**+0.3**
JGF	**Kuroka**	**5.53**	**225**				**Pn**	**03 47 57.9**	**+1.6**
INU	**Inuyama**	**5.90**	**225**	Pn			**Pn**	**03 48 02.1**	**+0.8**
JHS	**Saijyo**	**8.54**	**240**	Pn			**Pn**	**03 48 38.4**	**+0.9**
USRK	**Ussuriysk Ar.** 4.7nm,0.7s,baz=114,slow=15,SNR=7.0	**8.82**	**304**	P			**Pn**	**03 48 44.3**	**+3.0**
KSRS	**Korea Array** 2.5nm,0.4s,baz=70,slow=14,SNR=8.3	**11.33**	**263**	P			**Pn**	**03 49 18.5**	**+2.8**
KSRS				LR			LR	03 53 30.5	
	comp=Z,16nm,18.5s,baz=65,slow=36								
KS19	**Wonju Array Si**	**11.37**	**264**	Pn			**Pn**	**03 49 19.7**	**+3.6**
KLR	**Kul'dur**	**12.11**	**326**	LR			LR	03 53 46.6	
	comp=Z,40nm,21.4s,baz=57,slow=35								
SEY	**Seymchan** 1.1nm,0.3s,baz=200,slow=9.1,SNR=4.3 1.1nm,0.3s	**24.13**	**11**	P			**P**	**03 51 48.8**	**+1.3**
SONM	**Songino Array** 0.5nm,0.6s,baz=92,slow=7.9,SNR=4.4 0.5nm,0.6s	**26.89**	**300**	P			**P**	**03 52 12.6**	**-0.2**
H11N2	**WAKE ISLAND Hy** baz=318,slow=76,SNR=152	**29.11**	**126**	T			T	04 23 03.5	
H11N1	**WAKE ISLAND Hy** baz=318,slow=76,SNR=165	**29.12**	**126**	T			T	04 23 04.4	
H11N3	**WAKE ISLAND Hy** baz=318,slow=76,SNR=193	**29.12**	**126**	T			T	04 23 05.0	
H11S1	**WAKE ISLAND Hy** baz=320,slow=76,SNR=26	**29.91**	**128**	T			T	04 24 20.7	
H11S3	**WAKE ISLAND Hy** baz=320,slow=76,SNR=21	**29.91**	**128**	T			T	04 24 17.3	
H11S2	**WAKE ISLAND Hy** baz=320,slow=76,SNR=23	**29.92**	**128**	T			T	04 24 19.9	
ZAA0	**Zalesovo Array** ZAA0	**40.62**	**310**	P	IAmb		**P** IAmb	**03 54 10.3** 03 54 17.4	**-1.0**
	comp=Z,3.2nm,0.8s								
ZALV	**Zalesovo Beam** comp=Z,2.2nm,0.4s,baz=96,slow=8.6,SNR=8.9	**40.62**	**310**	P	PcP		**P** **PcP**	**03 54 10.7**	**-0.6**
ZALV								**03 56 11.7**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=102,slow=4.1,SNR=4.2 comp=Z,2.2nm,0.4s								
ZALV	**Zalesovo Beam**	**40.62**	**310**	P			**P**	**03 54 10.8**	**-0.6**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.6s,baz=89,slow=9.4,SNR=4.5 comp=Z,1.4nm,0.6s	**43.26**	**300**	P			**P**	**03 54 32.3**	**-0.8**
MKAR	**Makanchi Array**	**43.26**	**300**	P			**P**	**03 54 31.9**	**-1.2**
P18K	**Big Mountain,**	**43.33**	**41**	P			**P**	**03 54 34.5**	**+1.1**
P18K				IAmb			IAmb	03 54 41.5	
	comp=Z,12nm,0.9s								
MAKZ	**Makanchi**	**43.46**	**300**	P			**P**	**03 54 33.6**	**-1.1**
LUWI	**Luwuk**	**44.20**	**208**	P			**P**	**03 54 45.2**	**+4.4**
M20K	**Styx River**	**44.30**	**38**	P			**P**	**03 54 40.6**	**-0.7**
M20K				IAmb			IAmb	03 55 11.6	
	comp=Z,8.2nm,1.4s								
PPLA	**Purkeypile**	**44.73**	**36**	P			**P**	**03 54 43.4**	**-1.3**
PPLA				IAmb			IAmb	03 54 60.0	
	comp=Z,9.5nm,1.2s								
KURK	**Kurchatov**	**44.81**	**306**	P			**P**	**03 54 44.3**	**-1.1**
KURK				IAmb			IAmb	03 55 02.8	
	comp=Z,4.8nm,0.8s								
KURBB	**Kurchatov Arra** comp=Z,3.3nm,0.5s,baz=81,slow=8.4,SNR=16 comp=Z,3.3nm,0.5s	**44.88**	**306**	P			**P**	**03 54 45.0**	**-0.9**
ILAR	**Eielson Array** comp=Z,0.4nm,0.7s,baz=264,slow=6.5,SNR=10 comp=Z,0.4nm,0.7s	**47.01**	**34**	P			**P**	**03 55 02.7**	**+0.2**
BVAR	**Borovoye Array** comp=Z,1.2nm,0.5s,baz=65,slow=8.1,SNR=2.8 comp=Z,1.2nm,0.5s	**49.27**	**311**	P			**P**	**03 55 19.2**	**-0.9**
INK	**Inuvik** comp=Z,1.4nm,0.6s,baz=302,slow=6.0,SNR=8.5 comp=Z,1.4nm,0.6s	**51.82**	**28**	P			**P**	**03 55 40.1**	**+1.0**
ARU	**Arti** comp=Z,4.0nm,0.5s,baz=116,slow=7.0,SNR=4.2 comp=Z,4.0nm,0.5s	**54.80**	**318**	P			**P**	**03 56 00.7**	**-0.4**
ABKAR	**Akbulak array**	**56.71**	**309**	P			**P**	**03 56 13.8**	**-1.1**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.8s,baz=8.1,slow=7.0,SNR=11 comp=Z,0.8nm,0.8s	**59.71**	**188**	P			**P**	**03 56 34.4**	**-1.7**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=11,slow=5.6,SNR=5.3 comp=Z,0.4nm,0.6s	**63.44**	**188**	P			**P**	**03 57 00.3**	**-0.9**
FINES	**FINESS Array B** comp=Z,1.2nm,0.5s,baz=33,slow=11,SNR=9.4 comp=Z,1.2nm,0.5s	**66.78**	**332**	P			**P**	**03 57 21.4**	**-1.0**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,baz=35,slow=6.2	**72.00**	**337**	P			**P**	**03 57 54.2**	**-0.6**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.6s,baz=52,slow=7.0,SNR=5.9 comp=Z,0.9nm,0.6s	**72.00**	**337**	P			**P**	**03 57 53.6**	**-1.2**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.4s,baz=43,slow=6.5,SNR=4.6 comp=Z,0.4nm,0.4s	**72.58**	**322**	P			**P**	**03 57 57.7**	**-0.7**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.7s,baz=338,slow=1.0,SNR=3.6 comp=Z,0.4nm,0.7s	**75.45**	**46**	P			**P**	**03 58 16.3**	**+0.7**
GERES	**GERESS Array B** comp=Z,0.5nm,0.6s,baz=51,slow=5.2,SNR=4.2 comp=Z,0.5nm,0.6s	**80.79**	**328**	P			**P**	**03 58 44.2**	**-0.7**
GERES	**GERESS Array B**	**80.79**	**328**	P			**P**	**03 58 44.2**	**-0.7**

*CNRM **29** 03:47:10.2,34.47N×5.37W,h146km*
INMG 29 03:47:04.0±1.6,35.25N×5.95W,h31km,ML1.6,Error ellipse: s-maj=8.8km s-min=3.7km az=71.0,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKLM	**AKL**	**1.87**	**113**	P			Pn	03 47 35.6	+1.7
AKLM				S			Sn	03 47 56.6	0.0
MD31	**MD31**	**2.57**	**157**	P			Pn	03 47 42.0	-1.6
MD31				S			Sn	03 48 05.7	-8.3
PVAQ	**Vaqueiros**	**2.58**	**327**	*e*Pn			Pn	03 47 43.3	-0.3
PVAQ				*e*Sn			Sn	03 48 11.4	-2.5
PVAQ				A			A	03 48 13.2	
	2.1nm,1.2s								
PCVE	**Castro Verde**	**2.91**	**325**	*e*Sn			Sn	03 48 19.6	-2.6
PCVE				A			A	03 48 21.1	
	2.5nm,0.9s								
JBK	**JBK**	**2.93**	**107**	P			Pn	03 47 47.8	-0.9
PFVI	**Vila Bisbo**	**2.99**	**310**	*e*Pn			Pn	03 47 48.2	-1.1
PFVI				*e*Sn			Sn	03 48 22.8	-1.2
MORF	**Marmelete**	**2.99**	**314**	*e*Sn			Sn	03 48 22.6	-1.6
MORF				A			A	03 48 30.8	
	1.5nm,1.1s								
PBAR	**Barrancos**	**3.05**	**344**	*e*Pn			Pn	03 47 49.8	-0.3
PBAR				*e*Sn			Sn	03 48 22.7	-2.8
PBAR				A			A	03 48 24.4	
	0.6nm,0.4s								
MESJ	**Messejana**	**3.17**	**325**	*e*Pn			Pn	03 47 51.4	-0.3
MESJ				*e*Sn			Sn	03 48 25.5	-2.9
PNCL	**Nicolau / Gran**	**3.53**	**325**	*e*Pn			Pn	03 47 55.9	-0.8
PNCL				*e*Sn			Sn	03 48 34.3	-3.0
PNCL				A			A	03 48 42.0	
	1.1nm,0.6s								
PMRV	**Marv??o**	**4.33**	**345**	*e*Pn			Pn	03 48 08.3	+0.6
PMRV				*e*Sn			Sn	03 48 54.5	-2.5
PCBR	**Castelo Branco**	**4.74**	**346**	*e*Sn			Sn	03 49 02.2	-5.0

PRU 29 03:49:01.7±0.0,50.14N×19.17E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.41**	**79**	*e*Pg			Pg	03 49 08.9	-0.7
OJC				*e*Sg			Sb	03 49 17.1	-1.6
OKC	**Ostrava-Krasne**	**0.73**	**246**	*e*PG			Pb	03 49 16.6	-0.6
OKC				*e*SG			Sb	03 49 26.4	-1.3
	comp=Z,19nm,0.4s								
MORC	**Moravsky Berou**	**1.11**	**252**	*e*PG			Pb	03 49 23.8	0.0
MORC				*e*SG			Sg	03 49 38.0	+0.6
MAUC	**Maruska**	**1.17**	**229**	*e*PG			Pb	03 49 24.9	+0.2
MAUC				*e*SG			Sb	03 49 41.1	+0.7
	comp=Z,59nm,0.4s								
STHS	**Stebnicka Huta**	**1.53**	**118**	*e*PG			Pg	03 49 32.3	+1.4
KRLC	**Kraliky**	**1.54**	**269**	*e*PG			Pn	03 49 30.4	0.0
KRLC				*e*SG			Sg	03 49 50.6	-0.5
	comp=Z,24nm,0.4s								
VYHS	**Vyhne**	**1.66**	**188**	*e*PG			Pb	03 49 32.9	-0.3
VYHS				*e*SG			Sn	03 49 54.1	0.0
VYHS				*e*LG			Lg	03 49 58.3	
DPC	**Dobruska-Polom**	**1.84**	**278**	*e*PG			Pn	03 49 35.1	+0.5
DPC				*e*SG			Sb	03 49 59.6	-0.2
	comp=Z,20nm,0.7s								
VRAC	**Vranov**	**1.87**	**245**	*e*PN			Pb	03 49 36.5	-0.2
VRAC				*e*SG			Sb	03 50 00.8	+0.2
OSTC	**Ostas**	**1.94**	**284**	*e*PG			Pn	03 49 36.2	+0.3
OSTC				*e*SG			Sg	03 50 03.5	-0.4
	comp=Z,12nm,0.8s								
UPC	**Upice**	**2.06**	**282**	*e*SG			Sg	03 50 06.9	-0.9
	comp=Z,3.9nm,0.5s								
KRUC	**Moravsky**	**2.10**	**240**	*e*PN			Pb	03 49 40.9	+0.2
KRUC				*e*SG			Sb	03 50 07.6	+0.3
GOPC	**GO Pecny, Ondr**	**2.83**	**267**	*e*SG			Sg	03 50 31.3	-1.4
	comp=Z,5.7nm,0.6s								
PVCC	**Panska Ves**	**2.97**	**279**	*e*SG			Sg	03 50 36.2	-1.0
	comp=Z,6.7nm,0.4s								
PRU	**Pruhonice**	**2.99**	**269**	*e*SG			Sg	03 50 37.5	-0.1
	comp=Z,4.8nm,0.5s								
BRG	**Berggiesshubel**	**3.42**	**284**	Sg			Sg	03 50 51.2	-0.2
BRG				Amp				03 50 57.7	
	comp=Z,4.9nm,0.9s								
CKRC	**Cesky Krumlov**	**3.43**	**249**	*e*PG			Pb	03 50 04.5	+1.1
CKRC				*e*SG			Sg	03 50 51.8	-0.2
KHC	**Kasperske Hory**	**3.77**	**257**	*e*SG			Sg	03 51 01.9	-0.9
	comp=Z,3.4nm,0.5s								
NKC	**Novy Kostel**	**4.32**	**274**	*e*SG			Sg	03 51 18.5	-1.9
	comp=Z,7.7nm,1.0s								

*MRB **29** 03:49:14.9±0.3,42.81N×2.57E,ML0.7/11,Error ellipse: s-maj=2.9km s-min=1.3km az=64.0*
*LDG **29** 03:49:14.9±0.1,42.81N×2.53E,h2km,Md1.3/1,Ml1.2/2, Error ellipse: s-maj=2.1km s-min=1.6km az=100.0*

STR 29 03:49:15.3±0.6,43°N±3°×°±°,h5km,MLv0.9/5,Error ellipse: s-maj=0.0km s-min=0.0km az=130.1, preliminary,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FILF	**Fillols**	**0.26**	**171**	P			Pg	03 49 20.2	-0.1
FILF				S			Sg	03 49 24.2	+0.4
	2.1nm,0.1s								
FILF	**Fillols**	**0.26**	**171**	Pg			Pg	03 49 21.4	+1.0
FILF				Sg			Sg	03 49 24.2	+0.5
FILF	**Fillols**	**0.26**	**171**	Pg			Pg	03 49 20.3	0.0
FILF				Sg			Sg	03 49 23.7	-0.1
FNEB	**Nbias**	**0.30**	**287**	P			Pg	03 49 21.9	+0.6
FNEB				S			Sb	03 49 27.1	-1.5
	2.1nm,0.2s								
FNEB	**Nbias**	**0.30**	**287**	Pg			Pb	03 49 22.4	-0.9
FNEB				Sg			Sg	03 49 26.5	+1.2
FNEB	**Nbias**	**0.30**	**287**	Pg			Pg	03 49 21.6	+0.3
FNEB				Sg			Sg	03 49 25.6	+0.3
CARF	**Carcanieres**	**0.31**	**252**	Pg			Pg	03 49 22.4	+1.0
CARF				Sg			Sg	03 49 26.9	+1.4
CARF	**Carcanieres**	**0.31**	**252**	Pg			Pg	03 49 21.4	0.0
CARF				Sg			Sg	03 49 26.2	+0.7
CLLI	**Llivia**	**0.52**	**230**	P			Pg	03 49 25.3	0.0
CLLI				S			Sg	03 49 32.7	+0.8
	0.9nm,0.2s								
CLAF	**Gruissan**	**0.54**	**53**	Pg			Pb	03 49 26.8	-0.4
CLAF				Sg			Sb	03 49 35.4	+0.1
CLAF	**Gruissan**	**0.54**	**53**	Pg			Pg	03 49 25.4	-0.2
CLAF				Sg			Sg	03 49 33.2	+0.6
MTLF	**Montolieu**	**0.57**	**338**	*e*Pg			Pg	03 49 25.7	-0.5
MTLF	**Montolieu**	**0.57**	**338**	*e*Pn			Pb	03 49 28.6	+0.8
MTLF				*e*Sg			Sg	03 49 32.9	-0.7
	0.2nm,0.2s								
MTLF				*e*Sn			Sn	03 49 38.1	-1.8
	2.5nm,0.2s								
MTLF	**Montolieu**	**0.57**	**338**	Pg			Pg	03 49 25.7	-0.5
MTLF	**Montolieu**	**0.57**	**338**	Pg			Pb	03 49 28.7	+0.9
MTLF				Sg			Sb	03 49 37.2	+1.0
MTLF	**Montolieu**	**0.57**	**338**	Pg			Pg	03 49 26.1	-0.2
MTLF				Sg			Sg	03 49 33.1	-0.5
CBEU	**Beuda**	**0.57**	**167**	P			Pg	03 49 25.5	-0.8
CBEU				S			Sg	03 49 33.2	-0.6
	2.5nm,0.4s								
CBRU	**Bruguera**	**0.58**	**205**	P			Pg	03 49 26.1	-0.4
CBRU				S			Sg	03 49 34.2	+0.2
	2.9nm,0.5s								
ARBS	**La Rabassa**	**0.80**	**243**	P			Pg	03 49 30.7	+0.1
ARBS				S			Sb	03 49 41.9	-1.0
	2.3nm,0.7s								
CEST	**Esterri de Car**	**0.95**	**257**	P			Pg	03 49 32.9	-0.6
CEST				S			Sg	03 49 46.5	+0.7
	1.3nm,0.3s								
CCAS	**Cassa de la Se**	**0.98**	**162**	S			Sg	03 49 45.3	-1.3
	3.3nm,0.7s								
MLS	**Moulis**	**1.05**	**278**	S			Sb	03 49 49.5	-0.5
	1.4nm,0.6s								
CFON	**Fontmartina**	**1.05**	**183**	P			Pg	03 49 33.9	-1.6
CFON				S			Sg	03 49 48.1	-1.0
	2.3nm,0.2s								
CSOR	**Sort**	**1.10**	**247**	P			Pg	03 49 35.3	-1.2
CSOR				S			Sg	03 49 50.8	0.0
	2.2nm,0.8s								
LASF	**Ste Croix**	**1.60**	**38**	*e*Sg			Sn	03 50 05.5	+0.1
	0.2nm,0.1s								
EPF	**Esparros**	**1.60**	**278**	*e*Pg			Pn	03 49 44.8	+0.4
EPF				*e*Sg			Sn	03 50 05.7	+0.2
	0.2nm,0.2s								
EPF	**Esparros**	**1.60**	**278**	Pg			Pn	03 49 44.8	+0.4

*IDC **29** 03:50:19.7±1.9,38.92N×74.51E,h0km,mb3.8/9, mbtmp3.8/13,ML2.9/3,MS3.0/7,Error ellipse: s-maj=34.6km s-min=22.5km az=141.0*
*KRNET **29** 03:50:24.1±0.1,39.19N×74.30E,mb4.4*
*NNC **29** 03:50:26.8±1.3,39.36N×74.33E,h0km,mb4.6,mpv4.4, Error ellipse: s-maj=10.6km s-min=7.2km az=155.0*
*SOME **29** 03:50:27.3,39.42N×74.35E,h5km*
*MOS **29** 03:50:51.2±2.5,41.51N×73.27E,h10km,mb4.5/2,Error ellipse: s-maj=10.5km s-min=7.1km az=70.8*

ISC 29 03:50:24.0±1.6,39.36N±0.05×74.36E±0.03,h7km±9km, n120,σ1°95/152,mb3.9/10,MS3.2/4,28C-15D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.68**	**314**	⇑*i*P			**Pg**	**03 50 56.4**	**+0.2**
OHH	baz=19			⇑*i*S			**Sg**	**03 51 20.4**	**+2.4**
DRK	**Karamyk**	**1.99**	**274**	⇓*i*P			**Pb**	**03 50 59.6**	**-1.0**
DRK	baz=79			⇓*i*S			**Sb**	**03 51 25.7**	**0.0**
NRN	**Naryn**	**2.42**	**31**	⇓*i*P			**Pb**	**03 51 08.0**	**0.0**
NRN	baz=29			⇓*i*S			**Sg**	**03 51 40.0**	**-1.8**
ARLS	**Aral**	**2.50**	**359**	⇑*i*P			**Pb**	**03 51 08.9**	**-0.4**
ARLS	baz=0.0			⇑*i*S			**Sb**	**03 51 42.0**	**+1.7**
AML	**Almayashu** SNR=102	**2.81**	**350**	P			**Pb**	**03 51 14.3**	**-0.5**
BTK	**Batken**	**2.82**	**285**	⇓*e*P			**Pn**	**03 51 11.5**	**+2.0**
BTK	baz=89			⇓*i*S			**Sn**	**03 51 45.7**	**+1.9**
UCH	**Uchtor** SNR=50	**2.87**	**2**	P			**Pb**	**03 51 15.6**	**-0.2**
UCH	**Uchtor**	**2.87**	**2**	⇑*i*P			**Pb**	**03 51 14.9**	**-0.8**
UCH	baz=3.0			⇑*i*S			**Sb**	**03 51 51.1**	**-0.1**
ARK	**Arkit**	**3.04**	**324**	⇑*e*P			**Pb**	**03 51 15.8**	**-2.8**
ARK	baz=26			⇑*i*S			**Sb**	**03 51 53.7**	**-2.2**
GAR	**Garm**	**3.16**	**265**	⇑*i*P			**Pn**	**03 51 15.5**	**+1.2**
GAR	baz=68			⇑*e*S			**Sn**	**03 51 52.3**	**0.0**
ULHL	**Ulahol** SNR=88	**3.22**	**26**	P			**Pg**	**03 51 24.3**	**-1.3**
AAK	**Ala-Archa** SNR=34	**3.28**	**2**	P			**Pb**	**03 51 21.2**	**-1.3**
AAK	**Ala-Archa** 6.7nm,0.3s,baz=178,slow=8.7,SNR=47	**3.28**	**2**	Pn			**Pb**	**03 51 21.1**	**-1.3**
AAK	11nm,0.3s,baz=316,slow=23,SNR=6.8			Sn			**Sg**	**03 52 12.6**	**+3.4**
AAK	comp=Z,132nm,21.9s,baz=198,slow=43 22nm,0.4s			LR			LR	03 52 58.5	
AAK	**Ala-Archa**	**3.28**	**2**	⇑*e*P			**Pb**	**03 51 20.0**	**-2.5**
AAK	baz=2.0			⇑*e*S			**Sb**	**03 52 01.0**	**-1.7**
AAK	**Ala-Archa**	**3.28**	**2**	*i* PG			**Pb**	**03 51 20.3**	**-2.2**
TRKS	**Terek-Say** baz=15	**3.28**	**312**	⇓*i*P			**Pn**	**03 51 17.4**	**+1.5**
TRKS				⇓*i*S			**Sn**	**03 51 57.4**	**+2.2**
	baz=15								
KBK	**Karagaybulak** SNR=53	**3.32**	**7**	P			**Pb**	**03 51 22.2**	**-1.2**
EKS2	**Erkin-Say** SNR=26	**3.33**	**353**	P			**Pb**	**03 51 21.7**	**-1.7**
BOOM	**Boomskoye usch** baz=20	**3.35**	**20**	⇓*e*P			**Pb**	**03 51 21.2**	**-2.6**
BOOM				⇓*i*S			**Sb**	**03 52 02.6**	**-2.1**
	baz=20								
MRKS	**Merke** 60nm,0.4s	**3.49**	**346**	*e*P			**Pg**	**03 51 28.5**	**-2.3**
MRKS				*e*S			**Sg**	**03 52 12.8**	**-3.2**
	63nm,0.5s								
MRKS	**Merke** 60nm,0.4s	**3.49**	**346**	Pg			**Pg**	**03 51 28.5**	**-2.3**
MRKS				Lg			Lg	03 52 12.8	
	63nm,0.5s								
CHMS	**Chumysh** SNR=15	**3.65**	**5**	P			**Pb**	**03 51 26.1**	**-2.7**
CHMS	**Chumysh** 18nm,0.6s	**3.65**	**5**	⇑Pn			**Pb**	**03 51 25.8**	**-3.0**
CHMS	123nm,0.2s			Pg			Pg	03 51 56.4	+23
CHMS	193nm,0.9s			⇑Lg			Lg	03 52 23.2	
CHMS	331nm,0.3s			Lg			Lg	03 53 00.5	
CHMS	**Chumysh**	**3.65**	**5**	PN			**Pb**	**03 51 25.8**	**-3.0**
TKM2	**Tokmak 2** SNR=7.3	**3.68**	**14**	P			**Pb**	**03 51 26.7**	**-2.7**
TKM2	**Tokmak 2** 27nm,0.5s	**3.68**	**14**	⇓Pn			**Pb**	**03 51 25.7**	**-3.7**
TKM2	100nm,0.7s			⇑Sn			**Sb**	**03 52 13.2**	**-1.1**
TKM2	**Tokmak 2**	**3.68**	**14**	PN			**Pb**	**03 51 25.7**	**-3.7**
KST	**Kastek** 23nm,0.4s	**3.87**	**18**	*e*P			**Pg**	**03 51 40.1**	**+1.9**
KST	236nm,1.1s			*e*S			**Sg**	**03 52 32.2**	**+3.8**
USP	**Ospenovka** SNR=6.1	**3.91**	**1**	P			**Pb**	**03 51 28.9**	**-4.3**
DGS	**Degeres** 74nm,0.7s	**4.02**	**15**	*e*P			**Pg**	**03 51 41.0**	**-0.1**
DGS	217nm,0.9s			*e*S			**Sg**	**03 52 33.2**	**0.0**
DGS	**Degeres** 74nm,0.7s	**4.02**	**15**	Pg			**Pg**	**03 51 41.0**	**-0.1**
DGS	217nm,0.9s			Lg			Lg	03 52 35.2	
IZV	**Izvestkoviy** 39nm,0.5s	**4.05**	**24**	*e*P			**Pg**	**03 51 43.2**	**+1.7**
IZV	122nm,0.9s			*e*S			**Sg**	**03 52 37.3**	**+3.3**
MTBS	**Maitube** 27nm,0.3s	**4.08**	**22**	*e*P			**Pg**	**03 51 42.1**	**0.0**
MTBS	98nm,1.0s			*e*S			**Sg**	**03 52 35.6**	**+0.7**
MTBS	**Maitube** 27nm,0.3s	**4.08**	**22**	Pg			**Pg**	**03 51 42.4**	**+0.3**
MTBS	98nm,1.0s			Lg			Lg	03 52 36.4	
SGDS	**Sogindy** 44nm,0.8s	**4.09**	**3**	*e*P			**Pg**	**03 51 42.7**	**+

MDOK 03 52 44.1
IUG Iuzhnay 4.31 312 *e*P **Pg** 03 51 46.8 +0.3
164nm,1.0s
IUG *e*S **Sg** 03 52 44.0 +1.6
260nm,0.6s
IUG Iuzhnay 4.31 312 *e*PN **Pn** 03 51 33.2 +3.2
KNDC Almaty 4.32 26 ⇓Pg **Pg** 03 51 45.8 -1.1
89nm,0.5s
KNDC ⇑Lg Lg 03 52 46.3
1µm,1.1s
KNDC Almaty 4.32 26 PN **Pg** 03 51 45.8 -1.1
KOTS Kotyrbulak 4.39 27 *e*P **Pg** 03 51 47.1 -1.0
44nm,0.4s
KOTS *e*S **Sg** 03 52 44.4 -0.5
393nm,0.8s
KOTS Kotyrbulak 4.39 27 Pg **Pg** 03 51 47.1 -1.0
44nm,0.4s
KOTS Lg Lg 03 52 46.0
393nm,0.8s
KRBS Karabastau 4.44 12 *e*P **Pg** 03 51 49.5 +0.4
45nm,0.4s
KRBS *e*S **Sg** 03 52 48.6 +2.0
47nm,0.6s
KRBS Karabastau 4.44 12 Pg **Pg** 03 51 49.5 +0.4
45nm,0.4s
KRBS Lg Lg 03 52 48.6
47nm,0.6s
CHM Chimkent 4.66 311 *e*P **Pg** 03 51 53.9 +0.6
90nm,0.1s
CHM *e*S **Sg** 03 52 56.5 +2.7
331nm,0.3s
KK31 Karatay Array 4.73 323 Pn **Pn** 03 51 38.9 +3.1
4.2nm,0.4s,baz=134,slow=13,SNR=70
KK31 Pg **Pg** 03 51 52.1 -2.6
13nm,0.5s,baz=139,slow=17,SNR=10
KK31 ⇑Lg Lg 03 52 58.5
56nm,0.8s,baz=140,slow=30,SNR=4.7
KK31 Karatay Array 4.73 323 *e*PN **Pn** 03 51 38.9 +3.1
KUU Kurty 4.76 17 *e*P **Pg** 03 51 55.1 -0.2
26nm,0.5s
KUU *e*S **Sg** 03 52 58.3 +1.3
268nm,0.9s
KUU Kurty 4.76 17 Pg **Pg** 03 51 55.1 -0.2
26nm,0.5s
KUU Lg Lg 03 52 58.3
268nm,0.9s
SATY Saty 4.79 38 *e*P **Pg** 03 51 54.2 -1.6
44nm,0.7s
SATY *e*S **Sg** 03 52 56.5 -1.3
121nm,0.6s
SATY Saty 4.79 38 Pg **Pg** 03 51 54.2 -1.6
44nm,0.7s
SATY Lg Lg 03 52 56.5
121nm,0.6s
ZHN Zhinishke 4.89 38 *e*P **Pg** 03 51 56.0 -1.6
11nm,0.1s
ZHN *e*S **Sg** 03 52 59.6 -1.3
68nm,0.9s
ZHN Zhinishke 4.89 38 Pg **Pg** 03 51 56.0 -1.6
11nm,0.1s
ZHN Lg Lg 03 52 59.6
68nm,0.9s
CHKK Chushkaly 4.90 23 *e*P **Pg** 03 51 57.9 0.0
26nm,0.6s
CHKK *e*S **Sg** 03 53 03.1 +1.7
76nm,0.6s
CHKK Chushkaly 4.90 23 Pg **Pg** 03 51 57.9 0.0
26nm,0.6s
CHKK Lg Lg 03 53 03.1
76nm,0.6s
KURS Kuram 5.02 34 *e*P **Pg** 03 51 59.5 -0.7
25nm,0.6s
KURS *e*S **Sg** 03 53 05.8 +0.6
72nm,1.6s
KURS Kuram 5.02 34 Pg **Pg** 03 51 59.5 -0.7
25nm,0.6s
KURS Lg Lg 03 53 05.8
72nm,1.6s
UZB Uzynbulak 5.16 41 *e*P **Pg** 03 52 00.3 -2.5
18nm,0.5s
UZB *e*S **Sg** 03 53 07.1 -2.7
54nm,0.8s
UZB Uzynbulak 5.16 41 Pg **Pg** 03 52 00.3 -2.5
18nm,0.5s
UZB Lg Lg 03 53 07.1
54nm,0.8s
KPKS Kokpek 5.23 37 *e*P **Pg** 03 52 01.8 -2.5
46nm,0.4s
KPKS *e*S **Sg** 03 53 09.7 -2.3
93nm,0.6s
KPKS Kokpek 5.23 37 Pg **Pg** 03 52 01.8 -2.5
46nm,0.4s
KPKS Lg Lg 03 53 09.7
93nm,0.6s
KPKS Kokpek 5.23 37 *e*PN **Pg** 03 52 01.0 -3.2
SHLS Shalkode 5.40 44 *e*P **Pg** 03 52 10.1 +2.6
39nm,0.4s
SHLS *e*S **Sg** 03 53 23.7 +6.4
52nm,0.6s
SHLS Shalkode 5.40 44 Pg **Pg** 03 52 10.1 +2.6
39nm,0.4s
SHLS Lg Lg 03 53 23.7
52nm,0.6s
SHLS Shalkode 5.40 44 *e*PN **Pg** 03 52 06.7 -0.7
ARXS Arharly 5.50 27 *e*P **Pg** 03 52 07.8 -1.4
37nm,0.5s
ARXS *e*S **Sg** 03 53 20.2 -0.2
62nm,0.9s
ARXS Arharly 5.50 27 Pg **Pg** 03 52 07.8 -1.4
37nm,0.5s
ARXS Lg Lg 03 53 20.2
62nm,0.9s
ARXS Arharly 5.50 27 *e*PN **Pb** 03 52 02.8 +2.5
PDGK Podgornoye 5.53 43 Pg **Pg** 03 52 08.3 -1.7
13nm,0.6s
PDGK Lg Lg 03 53 20.7
41nm,0.9s
PDGK Podgornoye 5.53 43 ⇑Pn **Pn** 03 51 50.5 +3.6
8.3nm,0.8s
PDGK ⇑Pg **Pb** 03 52 04.8 +3.8
22nm,0.6s
PDGK ⇑Lg Lg 03 53 19.9
157nm,0.9s
BLB Baldybastay 5.65 32 *e*P **Pg** 03 52 10.7 -1.5
30nm,0.6s
BLB *e*S **Sg** 03 53 25.1 -0.2
87nm,0.8s
BLB Baldybastay 5.65 32 Pg **Pg** 03 52 10.7 -1.5
30nm,0.6s
BLB Lg Lg 03 53 25.1
87nm,0.8s
BTLS Baital 5.68 358 *e*P **Pg** 03 52 12.6 -0.2
9.3nm,0.6s
BTLS *e*S **Sg** 03 53 27.7 +1.4
21nm,0.7s
BTLS Baital 5.68 358 Pg **Pg** 03 52 12.6 -0.2
9.3nm,0.6s
BTLS Lg Lg 03 53 29.4
21nm,0.7s
BTLS Baital 5.68 358 ePN **Pb** 03 52 06.6 +3.2
TDK Taldyqorghan 6.39 27 *e*P **Pg** 03 52 24.6 -1.7
42nm,0.2s
TDK *e*S **Sg** 03 53 48.7 -0.3
143nm,1.1s
TDK Taldyqorghan 6.39 27 Pg **Pg** 03 52 24.6 -1.7
42nm,0.2s
TDK Lg Lg 03 53 48.7
143nm,1.1s
DJR Jarkent 6.41 37 *e*P **Pg** 03 52 24.9 -1.9
12nm,0.5s
DJR *e*S **Sg** 03 53 49.2 -0.6
27nm,0.7s
DJR Jarkent 6.41 37 Pg **Pg** 03 52 24.9 -1.9
12nm,0.5s
DJR Lg Lg 03 53 49.2
27nm,0.7s
OTUK Ortayu 9.00 351 ⇓Pn **Pn** 03 52 36.8 +2.5
1.9nm,0.5s
OTUK ⇑Lg Lg 03 55 11.1
21nm,0.8s
OTUK Ortayu 9.00 351 PN **Pn** 03 52 36.8 +2.5
MKAR Makanchi Array 9.42 35 Pn **Pn** 03 52 41.0 +0.9
baz=212,slow=27,SNR=2.3
MKAR LR LR 03 55 58.6
comp=Z,37nm,18.2s,baz=226,slow=35
0.5nm,0.5s
MKAR Makanchi Array 9.42 35 *ce*P Pn 03 52 52.5 +12
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 9.42 35 Pn Pn 03 52 45.1 +5.0
comp=Z,0.7nm,0.6s,baz=210,slow=14,SNR=8.2
MK31 ⇓Pg 03 53 14.1
comp=Z,1.5nm,0.6s,baz=218,slow=12,SNR=4.9
MK31 ⇑Lg Lg 03 55 25.4
comp=Z,7.9nm,0.9s,baz=214,slow=26,SNR=5.5
MK31 Makanchi Array 9.42 35 P Pn 03 52 45.1 +5.0
KURBB Kurchatov Arra 11.64 13 Pn **Pn** 03 53 13.4 +3.0
comp=Z,0.4nm,0.3s,baz=203,slow=11,SNR=4.1
KURBB LR LR 03 58 00.5
comp=Z,76nm,21.7s,baz=189,slow=38
KURK Kurchatov 11.74 13 *i* P **Pn** 03 53 12.2 +0.4
GEYT Alibeck 12.78 269 LR LR 03 58 56.2
comp=Z,41nm,18.6s,baz=312,slow=40
DGZ Jazzator, Alta 13.90 38 *i* P P 03 53 55.5 +5.7
DGZ pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 13.94 350 Pn **Pn** 03 53 42.0 +0.2
baz=165,slow=12,SNR=12
comp=Z,4.1nm,1.0s
BRVK Borovoye 13.98 350 *ce*P **Pn** 03 53 38.2 -4.2
BRVK pmax pmax
comp=Z,3.0nm,0.8s
AB31 Akbulak array 14.27 319 ⇑Pn **Pn** 03 53 44.5 -1.9
comp=Z,2.4nm,0.6s,baz=139,slow=2.5,SNR=34
AB31 Akbulak array 14.27 319 *i* P **Pn** 03 53 44.5 -1.9
AKTO Aktyubinsk 15.98 319 ⇑Pn **Pn** 03 54 08.3 -0.9
comp=Z,6.8nm,1.2s
AKTO Aktyubinsk 15.98 319 P **Pn** 03 54 08.2 -0.9
ARU Arti 20.01 334 P **Pn** 03 54 59.8 +1.1
comp=Z,3.4nm,0.4s,baz=151,slow=8.0,SNR=8.2
comp=Z,3.4nm,0.4s
ARU Arti 20.01 334 *c i*P **Pn** 03 54 57.9 -0.8
ARU S S 03 58 13.2 -29
ARU pmax pmax
comp=Z,23nm,2.7s
KBZ Khabaz 23.87 291 LR LR 04 06 55.4
comp=Z,39nm,19.5s,baz=44,slow=41
KIV Kislovodsk 24.02 291 *e*P P 03 55 51.5 +12
KIV pmax pmax
comp=Z,5.0nm,1.1s
FINES FINESS Array B 36.69 323 P **P** 03 57 31.1 -0.1
comp=Z,2.4nm,0.7s,baz=108,slow=9.1,SNR=14
comp=Z,2.4nm,0.7s
ARCES ARCESS Array B 39.58 335 P **P** 03 57 55.8 +0.3
comp=Z,2.6nm,0.9s,baz=114,slow=9.0,SNR=9.3
comp=Z,2.6nm,0.9s
YAK Yakutsk 40.09 37 *i* P P 03 58 19.6 +20
YAK pmax pmax
comp=Z,8.0nm,0.9s
KSRS Korea Array 41.50 75 LR LR 04 18 38.1
comp=Z,67nm,21.7s,baz=190,slow=41
GERES GERESS Array B 43.52 303 P **P** 03 58 28.4 +0.3
comp=Z,0.2nm,0.4s,baz=67,slow=7.6,SNR=4.3
comp=Z,0.2nm,0.4s
NB2 NORSAR Subarra 43.76 321 P **P** 03 58 28.9 -0.9
comp=Z,0.7nm,0.5s,baz=90,slow=7.9
NOA NORSAR Array B 43.76 321 P **P** 03 58 28.9 -0.9
comp=Z,0.6nm,0.4s,baz=101,slow=7.2,SNR=4.8
NOA LR LR 04 17 39.7
comp=Z,14nm,19.2s,baz=300,slow=37
comp=Z,0.6nm,0.4s
ESDC Sonseca Array 58.48 298 P **P** 04 00 19.6 -1.1
comp=Z,0.4nm,0.6s,baz=56,slow=7.0,SNR=7.3
comp=Z,0.4nm,0.6s
INK Inuvik 70.63 11 P **P** 04 01 39.4 -0.1
comp=Z,1.1nm,0.4s,baz=339,slow=6.5,SNR=18
comp=Z,1.1nm,0.4s
ILAR Eielson Array 71.28 17 P **P** 04 01 42.5 -1.1
comp=Z,0.4nm,0.8s,baz=324,slow=4.2,SNR=6.8
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 78.24 4 P **P** 04 02 23.3 -0.6
comp=Z,0.5nm,0.5s,baz=347,slow=5.8,SNR=8.5
comp=Z,0.5nm,0.5s
YBH Yreka Blue Hor 97.81 13 LR LR 04 54 36.7
comp=Z,160nm,18.1s,baz=314,slow=39

*MOS **29** 03:53:30.9±0.0, 41.04N×48.17E, h35km, MPVA3.7*
*DRS **29** 03:53:34.1±0.0, 40.97N×48.36E, h22km*
ISC 29 03:53:31.5±2.9, 41.0N±0.1×48.27E±0.10, h25km±14km,
n21,σ0.36/34,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
KSMR	**Kasumkent**	**0.63**	**350**	*e*Pg		**Pn**	**03**	**53**	**45.0**	**0.0**
KSMR				*e*Sg		**Sn**	**03**	**53**	**53.9**	**-0.3**
AKT	**Akhty**	**0.65**	**321**	*i* Pg		**Pb**	**03**	**53**	**44.5**	**+0.3**
AKT				*e*Sg		**Sb**	**03**	**53**	**52.9**	**-0.1**
DRN	**Derbent**	**1.05**	**2**	*e*Pg		**Pn**	**03**	**53**	**50.4**	**-0.2**
DRN				*e*Sg		**Sb**	**03**	**54**	**04.5**	**+0.2**
URKR	**Urkarakh**	**1.28**	**338**	*e*Pg		**Pn**	**03**	**53**	**54.1**	**+0.2**
URKR				*e*Sg		**Sn**	**03**	**54**	**10.5**	**+0.2**
KMKR	**Kumukh**	**1.45**	**323**	*e*Pg		**Pn**	**03**	**53**	**56.1**	**-0.2**
KMKR				*e*Sg		**Sn**	**03**	**54**	**14.2**	**-0.4**
DDFL	**Dedoflistskaro**	**1.69**	**287**	P		**Pb**	**03**	**54**	**02.3**	**+0.4**
LGD	**Lagodekhi**	**1.75**	**300**	P		**Pb**	**03**	**54**	**02.6**	**-0.3**
LGD				S		**Sb**	**03**	**54**	**24.5**	**+0.1**
ARKR	**Arakani**	**1.88**	**330**	*e*Pg		**Pn**	**03**	**54**	**02.1**	**0.0**
ARKR				*e*Sg		**Sn**	**03**	**54**	**25.5**	**+0.4**
XNZR	**Khunzakh**	**1.95**	**324**	*e*Pg		**Pb**	**03**	**54**	**05.6**	**-0.8**
XNZR				*e*Sg		**Sb**	**03**	**54**	**30.7**	**+0.3**
BUJR	**Buynaksk**	**2.04**	**335**	*e*Pg		**Pn**	**03**	**54**	**04.2**	**0.0**
BUJR				*e*Sg		**Sn**	**03**	**54**	**29.4**	**+0.5**
UNCR	**Uncukul**	**2.06**	**328**	*e*Pg		**Pn**	**03**	**54**	**04.4**	**0.0**
UNCR				*e*Sg		**Sn**	**03**	**54**	**29.7**	**+0.4**
KRNR	**Karanay**	**2.11**	**332**	*e*Pg		**Pn**	**03**	**54**	**05.3**	**0.0**
KRNR				*e*Sg		**Sn**	**03**	**54**	**31.3**	**+0.6**
DGRG	**David-gareji**	**2.24**	**283**	P		**Pn**	**03**	**54**	**07.0**	**+0.1**
DGRG				S		**Sn**	**03**	**54**	**34.5**	**+0.8**
BTLR	**Botlikh**	**2.28**	**318**	*e*Pg		**Pn**	**03**	**54**	**07.5**	**0.0**
BTLR				*e*Sg		**Sn**	**03**	**54**	**35.0**	**+0.2**
DBC	**Dubki**	**2.31**	**333**	*e*Pg		**Pn**	**03**	**54**	**08.0**	**+0.1**
DBC				*e*Sg		**Sn**	**03**	**54**	**36.0**	**+0.5**
DLMR	**Dylym**	**2.42**	**330**	*e*Pn		**Pn**	**03**	**54**	**09.6**	**+0.1**
DLMR				*e*Sn		**Sn**	**03**	**54**	**38.9**	**+0.6**
DVE	**Vedeno**	**2.54**	**322**	*e*Pn		**Pn**	**03**	**54**	**10.8**	**-0.3**
DVE				*e*Sn		**Sn**	**03**	**54**	**41.2**	**-0.1**
GROC	**Groznyy**	**2.89**	**321**	*e*Pn		**Pn**	**03**	**54**	**15.9**	**+0.1**
GROC				*e*Sn		**Sn**	**03**	**54**	**50.0**	**+0.3**
LACR	**Lac**	**3.49**	**303**	*e*Pn		**Pn**	**03**	**54**	**24.0**	**-0.3**
LACR				*e*Sn		**Sn**	**03**	**55**	**04.7**	**-0.2**
NEY	**Neytrino**	**4.71**	**301**	*e*Pn		**Pn**	**03**	**54**	**40.6**	**-0.4**
NEY				*e*Sn		**Sn**	**03**	**55**	**34.9**	**-0.1**
SHA1	**Shidzhatmaz**	**4.99**	**305**	*e*Pn		**Pn**	**03**	**54**	**44.5**	**-0.5**
SHA1				*e*Sn		**Sn**	**03**	**55**	**41.6**	**-0.3**

*IDC **29** 03:53:47.2±0.3, 0.21S×125.51E, h0km, mb5.2/40, mbtmp5.2/41, ML4.6/1, MS3.9/29, Error ellipse: s-maj=14.4km s-min=9.1km az=67.0*
*BJI **29** 03:53:49.6±0.0, 0.42S×125.80E, h32km, mb5.1/71, mB5.1/43, Ms4.6/41, Ms7 4.4/39*
*MOS **29** 03:53:51.2±1.0, 0.18S×125.58E, h42km, mb5.4/57, MS4.1/5, Error ellipse: s-maj=8.5km s-min=4.4km az=116.3*
*NEIC **29** 03:53:53.6±1.9, 0.17S±0.06×125.68E±0.05, h40km±5km, mb5.2/127, Error ellipse: s-maj=9.3km s-min=7.5km az=163.0*
*DJA **29** 03:53:54.7±0.2, 0°S±2'×12°6E±', h57km±5km, M4.8/36, mb5.1/36, mB5.3/23, MLv5.1/25, Mw(mB)4.8/23, MwMwp4.8/7, Mwp5.1/7*
*GCMT **29** 03:53:54.6±0.3, 0.04N±0.02×125.38E±0.02, h32km±1km, MW5.0/71, Moment Tensor Solution. s41,c43; s71,c79; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.74±.24; Mθθ0.49±.15; Mφφ-4.23±.16; Mrθ2.00±.30; Mθφ-0.40±.12; Mφr-1.42±.23; Best double couple: Mo4.69900×10^16^ NP1:φs27.00000°, δ41.00000°, λ129.00000°. Principal axes: T 4.9220, Plg64.0000°, Azm21.0000°; N -0.4500, Plg24.0000°, Azm176.0000°; P -4.4760, Plg10.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 03:53:53.1±0.3, 0.24S±0.03×125.70E±0.04, h41km±2km,
h41km:**pP-P,n645,**σ1**s45/695,mb5.2/160,MS4.1/51,**
17C-7D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC

SANI	**Sanana**	**1.82**	**171**	P		**Pn**	**03**	**54**	**20.9**	**-1.0**
SANI				S		**Sn**	**03**	**54**	**45.5**	**+1.8**
SANI	**Sanana**	**1.82**	**171**	P		**Pn**	**03**	**54**	**25.4**	**+3.5**
LBMI	**Labuha**	**1.84**	**102**	P		**Pn**	**03**	**54**	**23.0**	**+0.7**
LBMI				S		**Sn**	**03**	**54**	**47.0**	**+2.6**
TNTI	**Ternate**	**1.95**	**59**	Pn		**Pn**	**03**	**54**	**23.4**	**-0.2**
TNTI				Sn		**Sn**	**03**	**54**	**45.8**	**-1.2**
TNTI	**Ternate**	**1.95**	**59**	P		**Pn**	**03**	**54**	**24.8**	**+1.1**
TNTI	**Ternate**	**1.95**	**59**	P		**Pn**	**03**	**54**	**26.0**	**+2.3**
GTOI	**Gorontalo**	**2.83**	**288**	P		**Pn**	**03**	**54**	**39.6**	**+3.8**
GTOI				S		**Sn**	**03**	**55**	**15.3**	**+6.7**
LUWI	**Luwuk**	**3.03**	**255**			**Pn**	**03**	**54**	**38.9**	**+0.3**
LUWI	**Luwuk**	**3.03**	**255**	P		**Pn**	**03**	**54**	**39.3**	**+0.7**
NLAI	**Namlea**	**3.29**	**155**	P		**Pn**	**03**	**54**	**41.8**	**-0.3**
NLAI				S		**Sn**	**03**	**55**	**21.3**	**+1.3**
MRSI	**Marisa**	**3.83**	**281**	P		**Pn**	**03**	**54**	**49.1**	**-0.4**
SGSI	**Sangihe**	**3.91**	**357**	P		**Pn**	**03**	**54**	**52.5**	**+1.9**
APSI	**Ampana**	**4.11**	**261**	P		**Pn**	**03**	**54**	**54.3**	**+1.0**
AAI	**Ambon**	**4.23**	**144**	P		**Pn**	**03**	**54**	**56.0**	**+0.9**
MSAI	**Masohi**	**4.46**	**134**	P		**Pn**	**03**	**54**	**59.6**	**+1.3**
TOLI2	**Tolitoli**	**5.10**	**285**	Pn		**Pn**	**03**	**55**	**08.0**	**+1.0**
TOLI2	**Tolitoli**	**5.10**	**285**	P		**Pn**	**03**	**55**	**11.7**	**+4.7**
SIJI	**Sorong**	**5.60**	**96**	Pn		**Pn**	**03**	**55**	**16.2**	**+2.3**
	16nm,0.3s,baz=288,slow=10,SNR=14									
	40nm,0.4s									
MPSI	**Mapaga**	**5.83**	**276**	P		**Pn**	**03**	**55**	**18.6**	**+1.5**
	1.5nm5µm3µm219nm,0.7s									
BNDI	**Bandanaira**	**5.98**	**135**	P		**Pn**	**03**	**55**	**19.7**	**+0.6**
	2.0nm6µm590nm,1.1s									
BNDI	**Bandanaira**	**5.98**	**135**	P		**Pn**	**03**	**55**	**21.3**	**+2.2**
BBSI	**Bau Bau**	**6.08**	**211**	P		**Pn**	**03**	**55**	**22.2**	**+1.8**
BNSI	**Bone**	**6.95**	**233**	P		**Pn**	**03**	**55**	**32.9**	**+0.5**
	0.4nm3µm1µm151nm,0.8s									
SPSI	**Sidrap Palu**	**6.98**	**238**	P		**Pn**	**03**	**55**	**34.0**	**+1.1**
	0.9nm2µm252nm,0.7s									
FAKI	**Fak Fak**	**7.07**	**112**	Pn		**Pn**	**03**	**55**	**35.2**	**+1.2**
FAKI	**Fak Fak**	**7.07**	**112**	P		**Pn**	**03**	**55**	**35.1**	**+1.1**
	0.2nm4µm2µm499nm,0.8s									
FAKI	**Fak Fak**	**7.07**	**112**	P		**Pn**	**03**	**55**	**36.9**	**+2.9**
BKSI	**Bulukumba**	**7.51**	**228**	P		**Pn**	**03**	**55**	**41.4**	**+1.2**
	0.4nm3µm1µm93nm,0.7s									
KAPI	**Kappang**	**7.60**	**231**	Pn		**Pn**	**03**	**55**	**43.0**	**+1.6**
	0.9nm,0.3s,baz=51,slow=11,SNR=6.0									
KAPI	**Kappang**	**7.60**	**231**	Pn		**Pn**	**03**	**55**	**43.1**	**+1.8**
KAPI	**Kappang**	**7.60**	**231**	P		**Pn**	**03**	**55**	**43.9**	**+2.5**
KAPI	**Kappang**	**7.60**	**231** *c*	*i*P		**Pn**	**03**	**55**	**42.4**	**+1.0**
BSSI	**Bau Bau, Buton**	**7.83**	**221**	P		**Pn**	**03**	**55**	**45.8**	**+1.2**
	0.7nm2µm168nm,1.6s									
SMKI	**Samarinda**	**8.49**	**269**	P		**Pn**	**03**	**55**	**57.5**	**+3.8**
	172nm,0.4s									
RKPI	**Ransiki, Papua**	**8.57**	**98**	P		**Pn**	**03**	**55**	**55.4**	**+0.7**
	8µm124nm,0.8s									
BKB	**Balikpapan**	**8.86**	**263**	Pn		**Pn**	**03**	**55**	**58.9**	**+0.2**
BKB	**Balikpapan**	**8.86**	**263**	P		**Pn**	**03**	**56**	**01.3**	**+2.6**
	4µm243nm,1.2s									
BKB	**Balikpapan**	**8.86**	**263**	P		**Pn**	**03**	**56**	**02.6**	**+3.9**
MYLDM	**Lahad Datu**	**8.98**	**307**	Pn		**Pn**	**03**	**56**	**00.1**	**-0.2**
MMRI	**Maumere**	**9.02**	**202**	P		**Pn**	**03**	**56**	**02.5**	**+1.6**
	164nm,1.2s									
SOEI	**Soe**	**9.56**	**189**	Pn		**Pn**	**03**	**56**	**09.6**	**+1.2**
SOEI	**Soe**	**9.56**	**189**	P		**Pn**	**03**	**56**	**11.1**	**+2.8**
	2µm144nm,1.0s									
SOEI	**Soe**	**9.56**	**189**	P		Pn	03	56	14.3	+6.0
BATI	**Baumata**	**10.10**	**192**	Pn		Pn	03	56	22.7	+6.9
	2.9nm,0.3s,baz=148,slow=6.1,SNR=7.5									
BATI	**Baumata**	**10.10**	**192**	P		Pn	03	56	22.2	+6.5
BBKI	**Banjar Baru**	**11.31**	**253**	P		**Pn**	**03**	**56**	**35.7**	**+3.4**
	11µm53nm,0.7s									
PLAI	**Plampang**	**11.62**	**223**	P		**Pn**	**03**	**56**	**39.5**	**+3.0**
	93nm,0.9s									
PLAI	**Plampang**	**11.62**	**223**	P		**Pn**	**03**	**56**	**39.7**	**+3.2**
TWSI	**Taliwang, Sumb**	**12.18**	**226**	P		**Pn**	**03**	**56**	**47.2**	**+3.1**
	52nm,0.8s									
SRBI	**Singaraja**	**13.04**	**233**	P		**Pn**	**03**	**56**	**58.4**	**+2.6**
	60nm,0.9s									
MTN	**Manton Dam**	**13.63**	**157**	P		**Pn**	**03**	**57**	**02.5**	**-1.4**
	baz=14									
MTN	**Manton Dam**	**13.63**	**157**	Pn		**Pn**	**03**	**57**	**04.0**	**+0.1**
MTN	**Manton Dam**	**13.63**	**157**	P		**Pn**	**03**	**57**	**05.0**	**+1.1**
ABJI	**Asem Bagus**	**13.67**	**236**	P		**Pn**	**03**	**57**	**07.3**	**+2.8**
	66nm,1.0s									
SBUM	**Sibu**	**13.74**	**281**			**Pn**	**03**	**57**	**06.0**	**+0.6**
KDU	**Kakadu**	**14.07**	**152**	P		**Pn**	**03**	**57**	**07.9**	**-2.0**
	baz=14									
KDU	**Kakadu**	**14.07**	**152**	P		**Pn**	**03**	**57**	**09.1**	**-0.8**
JAGI	**Jajag, Banyuwa**	**14.11**	**234**	Pn		**Pn**	**03**	**57**	**09.5**	**-1.0**
JAGI	**Jajag, Banyuwa**	**14.11**	**234**	P		**Pn**	**03**	**57**	**11.2**	**+0.7**
	979nm79nm,1.2s									
JAGI	**Jajag, Banyuwa**	**14.11**	**234**	P		**P**	**03**	**57**	**14.6**	**-2.8**
GMJI	**Gumukmas**	**14.59**	**237**	P		**Pn**	**03**	**57**	**19.5**	**+2.6**
	67nm,1.0s									
GENI	**Genyem**	**14.65**	**99**	P		**Pn**	**03**	**57**	**18.0**	**+0.2**
	2µm70nm,1.1s									
GENI	**Genyem**	**14.65**	**99**	P		**P**	**03**	**57**	**21.7**	**-1.6**
	66nm,1.1s									
GRJI	**Gresik**	**14.76**	**243**	P		**Pn**	**03**	**57**	**18.3**	**-0.9**
	70nm,1.2s									
KSM	**Kuching**	**15.48**	**276**	Pn		**Pn**	**03**	**57**	**27.9**	**-0.9**
KSM	**Kuching**	**15.48**	**276**	P		**P**	**03**	**57**	**32.9**	**+0.3**
KNRA	**Kununurra**	**15.63**	**169**	P		**Pn**	**03**	**57**	**30.1**	**-0.6**
	baz=16									
KNRA	**Kununurra**	**15.63**	**169**	Pn		**Pn**	**03**	**57**	**29.4**	**-1.2**
KNRA				IAmb		IAmb	03	57	35.2	
	comp=Z,130nm,0.8s									
KNRA	**Kununurra**	**15.63**	**169**	P		**Pn**	**03**	**57**	**30.4**	**-0.2**
NGJI	**Ngawi**	**15.87**	**243**	P		**P**	**03**	**57**	**36.4**	**-0.4**
	comp=Z,192nm,1.0s									
PCJI	**Pacitan**	**16.49**	**241**	P		**Pn**	**03**	**57**	**41.4**	**-0.2**
	comp=Z,2µmcomp=Z,113nm,1.1s									
SMRI	**Semarang**	**16.65**	**246**	Pn		**Pn**	**03**	**57**	**43.0**	**-0.7**
SMRI				IAmb		IAmb	03	57	49.5	
	comp=Z,200nm,0.8s									
SMRI	**Semarang**	**16.65**	**246**	P		**P**	**03**	**57**	**46.6**	**+1.0**
	comp=Z,296nm,0.9s									
SMRI	**Semarang**	**16.65**	**246**	P		**P**	**03**	**57**	**48.4**	**+2.8**
CMJI	**Cimerak**	**18.76**	**246**	P		**P**	**03**	**58**	**07.6**	**-1.2**
	comp=Z,129nm,0.8s									
LEM	**Lembang**	**19.19**	**250**	P		**Pn**	**03**	**58**	**15.1**	**+0.2**
	comp=Z,118nm,0.8s,baz=88,slow=14,SNR=7.2									
LEM	**Lembang**	**19.19**	**250**	P		**Pn**	**03**	**58**	**14.8**	**-0.1**
	comp=Z,128nm,0.8s									
BBJI	**Bungbulang**	**19.37**	**248**	P		**P**	**03**	**58**	**15.9**	**+0.2**
PPBI	**Pangkal Pinang**	**19.65**	**264**	P		**P**	**03**	**58**	**17.1**	**-1.5**
CBJI	**Citeko**	**19.79**	**252**	P		**P**	**03**	**58**	**20.7**	**+0.6**
DLV	**T Lat**	**20.95**	**306**	P		**P**	**03**	**58**	**33.1**	**+0.2**
WB0	**Warramunga Arr**	**21.19**	**157**	P		**P**	**03**	**58**	**34.2**	**-1.1**
WB0				IAmb		IAmb	03	58	35.8	
	comp=Z,170nm,0.8s									
WRAB	**Tennant Creek**	**21.32**	**157**	P		**P**	**03**	**58**	**35.9**	**-0.8**
WRAB				IAmb		IAmb	03	58	37.3	
	comp=Z,176nm,0.8s									
WRAB	**Tennant Creek**	**21.32**	**157**	P		**P**	**03**	**58**	**35.5**	**-1.2**
WRAB	**Tennant Creek**	**21.32**	**157**	P		**P**	**03**	**58**	**35.9**	**-0.8**
WRAB				pmax		pmax				
	comp=Z,176nm,0.9s									
WRA	**Warramunga Arr**	**21.33**	**157**	P		**P**	**03**	**58**	**35.8**	**-1.0**
	comp=Z,181nm,0.8s,baz=335,slow=11,SNR=313									
	comp=Z,181nm,0.8s									
WB2	**Warramunga Arr**	**21.33**	**157**	P		**P**	**03**	**58**	**35.7**	**-1.1**
	baz=21									
WB2	**Warramunga Arr**	**21.33**	**157**	P		**P**	**03**	**58**	**35.9**	**-0.9**
WR0	**Warramunga Arr**	**21.42**	**157**	P		**P**	**03**	**58**	**36.9**	**-0.8**
WR0				IAmb		IAmb	03	58	38.3	

TWGBT	**Beinan**		23.36	349	P	**P**	**03 58 57.4**	**-0.7**
	comp=Z,126nm,0.8s								
TWG	**Pinlang**		23.36	349	P	**P**	**03 58 55.3**	**-2.8**
TWG					IAmb	IAmb	03 58 59.3		
	comp=Z,73nm,0.7s								
GUMO	**Guam**		23.44	53	P	**P**	**03 58 59.0**	**0.0**
	comp=Z,65nm,0.5s,baz=202,slow=19,SNR=3.5								
	comp=Z,65nm,0.5s								
GUMO	**Guam**		23.44	53	P	**P**	**03 58 59.0**	**0.0**
YULB	**Yu-li**		23.88	350	P	**P**	**03 59 00.2**	**-2.8**
YULB					IAmb	IAmb	03 59 03.7		
	comp=Z,40nm,0.6s								
YULB	**Yu-li**		23.88	350	P	**P**	**03 59 00.4**	**-2.6**
TPUB	**Ta-pu**		23.92	348	P	**P**	**03 59 02.2**	**-1.2**
TPUB	**Ta-pu**		23.92	348	P	**P**	**03 59 00.6**	**-2.8**
SSLB	**Suanglung**		24.33	349	P	**P**	**03 59 06.6**	**-0.6**
SSLB					IAmb	IAmb	03 59 11.7		
	comp=Z,77nm,0.6s								
SSLB	**Suanglung**		24.33	349	P	**P**	**03 59 07.4**	**+0.3**
QIS	**Mount Isa**		24.34	147	P	**P**	**03 59 07.6**	**+0.3**
	baz=24								
QIS	**Mount Isa**		24.34	147	P	**P**	**03 59 07.4**	**+0.1**
AS31	**Alice Springs**		24.61	162	P	**P**	**03 59 10.3**	**+0.6**
ASAR	**Alice Springs**		24.61	162	P	**P**	**03 59 09.6**	**-0.1**
	comp=Z,107nm,0.9s,baz=336,slow=8.1,SNR=490								
ASAR					PcP	**PcP**	**04 02 47.3**	**+0.3**	
	comp=Z,3.2nm,0.7s,baz=339,slow=1.7,SNR=5.0								
	comp=Z,107nm,0.9s								
ASAR	**Alice Springs**		24.61	162	P	**P**	**03 59 10.1**	**+0.4**
AS01	**Alice Springs**		24.62	162	P	**P**	**03 59 10.3**	**+0.4**
QIZ	**Qiongzhong**		24.68	322	P	**P**	**03 59 12.3**	**+1.9**
QIZ					S	**S**	**04 03 32.0**	**+2.5**
QIZ					LR	LR			
	comp=Z,1μm,12.2s								
QIZ					LR	LR			
	comp=Z,460nm,15.7s								
QIZ					LR	LR			
	comp=Z,680nm,11.8s								
WRKA	**Warakurna**		24.78	174	P	**P**	**03 59 10.7**	**-0.5**
	baz=25								
WRKA	**Warakurna**		24.78	174	P	**P**	**03 59 11.2**	**0.0**
GIRL	**Giralia**		24.91	206	P	**P**	**03 59 11.5**	**-0.9**
	baz=25								
IPM	**Ipoh**		25.09	281	P	**P**	**03 59 13.2**	**-1.0**
IPM	**Ipoh**		25.09	281	P	**P**	**03 59 15.5**	**+1.3**
	comp=Z,20nm,0.8s								
YHNB	**Yeheng**		25.12	351	P	**P**	**03 59 12.9**	**-1.5**
YHNB					IAmb	IAmb	03 59 15.7		
	comp=Z,64nm,0.7s								
YHNB	**Yeheng**		25.12	351	P	**P**	**03 59 13.3**	**-1.1**
MTSU	**Mount Surprise**		25.51	135	P	**P**	**03 59 19.0**	**+1.0**
QZH	**Quanzhou**		25.97	345⇑	*i*P	**P**	**03 59 23.0**	**+1.1**
KRVT	**Keravat (AS076**		26.61	99	P	**P**	**03 59 28.7**	**+0.7**
	comp=Z,222nm,0.8s,baz=300,slow=21,SNR=5.7								
	comp=Z,222nm,0.8s								
RPSI	**Rantau Prapat**		26.93	276	P	**P**	**03 59 29.5**	**-1.3**
PSI	**Prapat**		26.94	277	P	**P**	**03 59 30.5**	**-0.5**
PSI	**Prapat**		26.94	277	P	**P**	**03 59 29.5**	**-1.5**
PSI					pmax	pmax			
	comp=Z,14nm,0.9s								
JOW	**Kunigami**		27.03	5	P	**P**	**03 59 32.9**	**+1.4**
	comp=Z,130nm,0.7s,baz=206,slow=7.9,SNR=20								
	comp=Z,130nm,0.7s								
JOW	**Kunigami**		27.03	5	P	**P**	**03 59 31.2**	**-0.3**
JOW	**Kunigami**		27.03	5	P	**P**	**03 59 32.3**	**+0.7**
MEEK	**Meekatharra**		27.11	194	P	**P**	**03 59 31.8**	**-0.6**
	baz=27,SNR=12								
MEEK	**Meekatharra**		27.11	194	P	**P**	**03 59 31.8**	**-0.6**
TV1H	**Townsville Har**		28.02	134	P	**P**	**03 59 41.5**	**+1.0**
NAYO	**Nakonayok**		28.13	302	P	**P**	**03 59 40.7**	**-0.9**
GSI	**Gunungsitoli**		28.16	273	P	**P**	**03 59 39.6**	**-2.3**
CTA	**Charters Tower**		28.18	136	P	**P**	**03 59 43.2**	**+1.3**
	comp=Z,14nm,0.9s,baz=320,slow=9.6,SNR=10								
CTA					LR	LR	04 13 30.2		
	comp=Z,418nm,21.6s,baz=330,slow=42								
	comp=Z,14nm,0.9s								
CTA	**Charters Tower**		28.18	136	P	**P**	**03 59 43.2**	**+1.3**
CTAO	**Charters Tower**		28.18	136	P	**P**	**03 59 41.6**	**-0.3**
CTAO	**Charters Tower**		28.18	136	P	**P**	**03 59 43.3**	**+1.3**
CTAO	**Charters Tower**		28.18	136	P	**P**	**03 59 41.6**	**-0.3**
CTAO					pmax	pmax			
	comp=Z,25nm,1.0s								
NONG	**Nongkai**		28.69	311	P	**P**	**03 59 44.7**	**-1.8**
OOD	**Oodnadatta**		29.02	162	P	**P**	**03 59 49.6**	**+0.3**
MORW	**Morawa**		30.11	197	P	**P**	**03 59 58.4**	**-0.6**
	baz=30,SNR=5.7								
MORW	**Morawa**		30.11	197	P	**P**	**03 59 58.5**	**-0.5**
MORW	**Morawa**		30.11	197	P	**P**	**03 59 59.2**	**+0.2**
FORT	**Forest**		30.45	176	P	**P**	**04 00 01.9**	**-0.1**
	baz=30,SNR=23								
FORT	**Forest**		30.45	176	P	**P**	**04 00 01.5**	**-0.5**
FORT					IAmb	IAmb	04 00 02.9		
	comp=Z,48nm,0.7s								
FORT	**Forest**		30.45	176	P	**P**	**04 00 02.0**	**+0.1**
MULG	**Mulgathing**		30.91	166	P	**P**	**04 00 06.9**	**+0.8**
INKA	**Innaminka**		30.92	153	P	**P**	**04 00 06.9**	**+0.8**
KMBL	**Kambalda**		31.17	186	P	**P**	**04 00 08.2**	**0.0**
	baz=31,SNR=5.9								
KMBL	**Kambalda**		31.17	186	P	**P**	**04 00 08.4**	**+0.1**
PHRA	**Phrae**		31.20	308	P	**P**	**04 00 08.6**	**-0.1**
BLDU	**Ballidu**		31.39	195	P	**P**	**04 00 09.4**	**-0.9**
	baz=31,SNR=6.0								
BLDU	**Ballidu**		31.39	195	P	**P**	**04 00 09.4**	**-0.9**
QLP	**Quilpie**		31.69	147	P	**P**	**04 00 13.4**	**+0.5**
KLBR	**Kellerberrin**		32.07	193	P	**P**	**04 00 15.7**	**-0.6**
	baz=32,SNR=11								
KLBR	**Kellerberrin**		32.07	193	P	**P**	**04 00 16.4**	**+0.1**
CMAR	**Chiang Mai Arr**		32.20	307	P	**P**	**04 00 16.6**	**-0.9**
	comp=Z,2.5nm,0.5s,baz=133,slow=8.4,SNR=14								
CMAR					PcP	**PcP**	**04 03 07.3**	**+1.5**	
	comp=Z,6.0nm,0.8s,baz=170,slow=2.1,SNR=12								
CMAR					LR	LR	04 15 54.6		
	comp=Z,44nm,19.3s,baz=120,slow=41								
	comp=Z,2.5nm,0.5s								
CMAR	**Chiang Mai Arr**		32.20	307	P	**P**	**04 00 16.4**	**-1.1**
CMAR						**PcP**	**04 03 06.8**	**+1.0**	
CMAR	**Chiang Mai Arr**		32.20	307	*c*e*P*	**P**	**04 00 17.0**	**-0.5**
CMAR					pmax	pmax			
	comp=Z,3.0nm,0.4s								
LCRK	**Leigh Creek**		32.31	160	P	**P**	**04 00 18.8**	**+0.5**
CHTO	**Chiang Mai**		32.39	307	P	**P**	**04 00 17.5**	**-1.7**
CHTO	**Chiang Mai**		32.39	307	P	**P**	**04 00 17.5**	**-1.7**
CHTO					pmax	pmax			
	comp=Z,12nm,0.9s								
WHN	**Wuhan**		32.47	342	P	**P**	**04 00 20.3**	**+0.6**
WHN					LR	LR			
	comp=Z,2μm,30.3s								
NJ2	**Nanjing**		32.77	349	e*P*	**P**	**04 00 23.3**	**+1.0**
NJ2					pP	**pP**	**04 00 33.5**	**+0.6**
NJ2					sP	**sP**	**04 00 38.5**	**+1.0**
NJ2					pmax	pmax			
	comp=Z,24nm,0.6s								
RK1H	**Rockhampton Ha**		33.30	135	P	**P**	**04 00 27.8**	**+0.7**
NWAO	**Narrogin (SRO)**		33.48	193	P	**P**	**04 00 28.7**	**+0.2**
	comp=Z,16nm,1.0s,baz=265,slow=8.3,SNR=4.0								
	comp=Z,16nm,1.0s								
NWAO	**Narrogin (SRO)**		33.48	193	P	**P**	**04 00 27.7**	**-0.8**
NWAO					pP	**pP**	**04 00 37.6**	**-1.4**
JNU	**Nakatsue**		33.54	8	P	**P**	**04 00 28.2**	**-0.9**
JNU					IAmb	IAmb	04 00 30.3		
	comp=Z,51nm,1.0s								
BBOO	**Buckleboo**		33.83	164	P	**P**	**04 00 31.7**	**0.0**
	baz=34,SNR=16								
BBOO	**Buckleboo**		33.83	164	P	**P**	**04 00 31.5**	**-0.1**
BBOO					IAmb	IAmb	04 00 33.4		
	comp=Z,55nm,1.4s								
BBOO	**Buckleboo**		33.83	164	P	**P**	**04 00 31.6**	**0.0**
ENH	**Enshi**		34.05	334	P	**P**	**04 00 32.5**	**-1.1**
ENH					IAmb	IAmb	04 00 36.5		
	comp=Z,17nm,0.6s								
ENH	**Enshi**		34.05	334	P	**P**	**04 00 33.7**	**+0.2**
ENH	**Enshi**		34.05	334	P	**P**	**04 00 32.4**	**-1.1**
ENH					pP	**pP**	**04 00 41.2**	**-3.0**
ENH					sP	**pwP**	**04 00 46.1**	**-0.9**
RMQ	**Roma**		34.26	141	P	**P**	**04 00 35.7**	**+0.3**
	baz=34,SNR=5.4								
RMQ	**Roma**		34.26	141	P	**P**	**04 00 36.1**	**+0.7**
WHYH	**Whyalla**		34.48	162	P	**P**	**04 00 37.6**	**+0.4**
JMN	**Monobe**		34.66	12	P	**P**	**04 00 38.2**	**-0.5**
JMN	**Monobe**		34.66	12	P	**P**	**04 00 40.0**	**+1.2**
PTPS	**Port Pirie**		34.74	162	P	**P**	**04 00 39.9**	**+0.5**
STKA	**Stephens Creek**		34.87	156	P	**P**	**04 00 41.3**	**+0.7**
	comp=Z,114nm,0.8s,baz=326,slow=8.7,SNR=230								
	comp=Z,114nm,0.8s								
STKA	**Stephens Creek**		34.87	156	P	**P**	**04 00 41.3**	**+0.7**
	baz=35,SNR=151								
STKA	**Stephens Creek**		34.87	156	P	**P**	**04 00 41.5**	**+0.9**
STKA					IAmb	IAmb	04 00 42.8		
	comp=Z,26nm,0.9s								
STKA	**Stephens Creek**		34.87	156	P	**P**	**04 00 41.0**	**+0.4**
STKA	**Stephens Creek**		34.87	156	*c*P	**P**	**04 00 41.0**	**+0.4**
EIDS	**Eidsvold**		35.00	137	P	**P**	**04 00 41.8**	**0.0**
PZH	**PanZhiHua**		35.21	321	P	**P**	**04 00 43.8**	**0.0**
PZH					pmax	pmax			
	comp=Z,8.0nm,1.0s								
PZH					pmax	pmax			
	comp=Z,100nm,5.3s								
HTT	**Hallett**		35.28	161	P	**P**	**04 00 44.8**	**+0.7**
	baz=35,SNR=49								
HTT	**Hallett**		35.28	161	P	**P**	**04 00 45.0**	**+0.8**
JHJ	**Hachijo jima 2**		35.74	20	LR	LR	04 14 46.7		
	comp=Z,124nm,19.5s,baz=195,slow=35								
JHS	**Saijyo**		35.74	10	P	**P**	**04 00 48.1**	**0.0**
JHS					IAmb	IAmb	04 00 49.7		
	comp=Z,65nm,1.2s								
JHS	**Saijyo**		35.74	10	P	**P**	**04 00 49.0**	**+0.9**
TNCH	**TengChong**		36.37	316	P	**P**	**04 00 52.8**	**-1.0**
TNCH					sP	sP	04 01 09.0	-0.1	
TNCH					S	**S**	**04 06 34.5**	**+1.9**
TNCH					sS	sS	04 06 51.3	+0.9	
TNCH					pmax	pmax			
	comp=Z,82nm,0.6s								
TNCH					pmax	pmax			
	comp=Z,170nm,4.5s								
TNCH					LR	LR			
	comp=Z,250nm,6.9s								
TNCH					LR	LR			
	comp=Z,210nm,4.5s								
TNCH					LR	LR			
	comp=Z,310nm,19.2s								
CMSA	**Cobar Meteorol**		36.43	151	P	**P**	**04 00 54.9**	**+0.9**
	baz=36,SNR=45								
CMSA	**Cobar Meteorol**		36.43	151	P	**P**	**04 00 55.3**	**+1.3**
TJN	**Taejon**		36.47	2	P	**P**	**04 00 53.2**	**-1.0**
TJN	**Taejon**		36.47	2	*i*P	**P**	**04 00 52.6**	**-1.6**
LYN	**LuoYang**		36.77	342⇑	*i*P	**P**	**04 00 58.5**	**+1.7**
LYN					sP	sP	04 01 16.0	+3.9	
LYN					S	**S**	**04 06 38.5**	**+0.5**
LYN					pmax	pmax			
	comp=Z,20nm,0.7s								
LYN					pmax	pmax			
	comp=Z,240nm,4.5s								
LYN					LR	LR			
	comp=Z,280nm,13.6s								
LYN					LR	LR			
	comp=Z,390nm,26.7s								
INU	**Inuyama**		36.95	15	P	**P**	**04 00 58.4**	**0.0**
INU					IAmb	IAmb	04 00 58.8		
	comp=Z,25nm,0.7s								
INU	**Inuyama**		36.95	15	P	**P**	**04 00 58.7**	**+0.3**
INU	**Inuyama**		36.95	15	P	**P**	**04 00 58.0**	**-0.3**
INU					pP	**pP**	**04 01 06.0**	**-3.0**
TIA	**Tai'an**		37.14	348	e*P*	**P**	**04 00 58.8**	**-1.1**
TIA					pmax	pmax			
	comp=Z,22nm,0.6s								
TIA					LR	LR			
	comp=Z,240nm,8.8s								
TIA					LR	LR			
	comp=Z,530nm,29.4s								
JGF	**Kuroka**		37.28	16	P	**P**	**04 01 00.7**	**-0.5**
JGF					IAmb	IAmb	04 01 02.4		
	comp=Z,27nm,0.5s								
JGF	**Kuroka**		37.28	16	P	**P**	**04 01 01.1**	**-0.1**
CD2	**Chengdu**		37.34	328	P	**P**	**04 01 02.5**	**+0.7**
CD2					sP	sP	04 01 17.5	+0.4	
CD2					S	**S**	**04 06 49.0**	**+2.0**
CD2					pmax	pmax			
	comp=Z,20nm,0.8s								
KSAR	**Wonju Array Be**		37.55	3	P	**P**	**04 01 03.5**	**+0.1**
KSAR	**Wonju Array Be**		37.55	3	P	**P**	**04 01 03.5**	**+0.1**
XAN	**Xi'an**		37.56	337⇓	*i*P	**P**	**04 01 02.3**	**-1.4**
XAN					PcP	**PcP**	**04 03 17.0**	**-4.1**
XAN					S	**S**	**04 06 58.3**	**+8.0**
XAN					pmax	pmax			
	comp=Z,20nm,0.6s								
XAN					pmax	pmax			
	comp=Z,220nm,6.0s								
XAN					LR	LR			
	comp=Z,540nm,11.0s								
XAN					LR	LR			
	comp=Z,250nm,6.9s								
XAN					LR	LR			
	comp=Z,440nm,18.6s								
XAN	**Xi'an**		37.56	337	P	**P**	**04 01 02.1**	**-1.5**
XAN					pP	**pP**	**04 01 11.9**	**-2.5**
XAN					sP	**pwP**	**04 01 17.5**	**+0.3**
KSRS	**Korea Array**		37.57	3	P	**P**	**04 01 03.8**	**+0.3**
	comp=Z,33nm,0.8s,baz=181,slow=9.7,SNR=87								
	comp=Z,33nm,0.8s								
KS19	**Wonju Array Si**		37.61	3	P	**P**	**04 01 03.3**	**-0.7**
KS19					IAmb	IAmb	04 01 06.3		
	comp=Z,33nm,0.8s								
MJAR	**Matsushiro Arr**		38.40	16	P	**P**	**04 01 09.4**	**-1.3**
	comp=Z,10.0nm,0.7s,baz=194,slow=8.0,SNR=20								
MJAR					LR	LR	04 16 30.2		
	comp=Z,185nm,21.9s,baz=198,slow=36								
	comp=Z,10.0nm,0.7s								
MAJO	**Matsushiro**		38.40	16	P	**P**	**04 01 09.6**	**-1.0**
MAJO					IAmb	IAmb	04 01 11.3		
	comp=Z,21nm,0.8s								
MAJO	**Matsushiro**		38.40	16	P	**P**	**04 01 09.3**	**-1.3**
MAJO	**Matsushiro**		38.40	16	P	**P**	**04 01 09.6**	**-1.0**
MAJO					pmax	pmax			
	comp=Z,21nm,0.8s								
MAJO	**Matsushiro**		38.40	16	P	**P**	**04 01 09.4**	**-1.2**
MAJO					pP	**pP**	**04 01 19.4**	**-2.0**
MAJO					sP	**pwP**	**04 01 24.1**	**-0.3**
MJB9	**Matsu-Tunnel**		38.40	16	P	**P**	**04 01 10.7**	**+0.1**
MJB9					IAmb	IAmb	04 01 12.7		
	comp=Z,20nm,0.7s								
AUDCS	**Dubbo College**		38.48	148	P	**P**	**04 01 12.2**	**+0.8**
HNS	**HongShan**		38.81	346	⇓P	**P**	**04 01 13.0**	**-1.0**
HNS					pmax	pmax			
	comp=Z,12nm,1.0s								
ARMA	**Armidale**		38.83	143	P	**P**	**04 01 15.9**	**+1.5**
	baz=39,SNR=8.5								
ARMA	**Armidale**		38.83	143	P	**P**	**04 01 14.9**	**+0.5**
ARMA					IAmb	IAmb	04 01 16.6		
	comp=Z,26nm,0.8s								
ARMA	**Armidale**		38.83	143	P	**P**	**04 01 15.8**	**+1.3**
DL2	**Dalian**		39.14	355	P	**P**	**04 01 16.8**	**+0.1**
DL2					S	**S**	**04 07 13.0**	**-0.8**
DL2					pmax	pmax			
	comp=Z,88nm,0.7s								
DL2					pmax	pmax			
	comp=Z,210nm,5.4s								
DL2					LR	LR			
	comp=Z,290nm,22.4s								
DL2					LR	LR			
	comp=Z,250nm,16.3s								
DL2					LR	LR			
	comp=Z,370nm,22.5s								
ARPS	**Mount Arapiles**		39.30	159	P	**P**	**04 01 19.4**	**+1.3**
	baz=39,SNR=181								
ARPS	**Mount Arapiles**		39.30	159	P	**P**	**04 01 18.7**	**+0.5**
TIY	**Taiyuan**		39.71	343	e*P*	**P**	**04 01 25.0**	**+3.4**
JMM	**Marumori**		40.40	19	P	**P**	**04 01 26.9**	**-0.4**
JMM	**Marumori**		40.40	19	P	**P**	**04 01 27.5**	**+0.3**
BRAT	**Ballarat**		40.76	158	P	**P**	**04 01 31.9**	**+1.7**
BJT	**Baijiatuau**		41.01	349	P	**P**	**04 01 33.0**	**+0.8**
BJT	**Baijiatuau**		41.01	349	P	**P**	**04 01 32.0**	**-0.2**
BJT	**Baijiatuau**		41.01	349	P	**P**	**04 01 33.0**	**+0.8**
BJT					pmax	pmax			
	comp=Z,24nm,0.9s								
BJT	**Baijiatuau**		41.01	349	P	**P**	**04 01 32.3**	**+0.1**
BJI	**Beijing**		41.02	349	P	**P**	**04 01 31.5**	**-0.9**
BJI					pP	**pP**	**04 01 41.0**	**-2.2**
BJI					sP	**pwP**	**04 01 45.5**	**-0.5**
BJI					pmax	pmax			
	comp=Z,22nm,0.8s								
BJI					pmax	pmax			
	comp=Z,120nm,4.3s								
CAN	**Canberra**		41.11	151	P	**P**	**04 01 34.2**	**+1.0**
CAN					IAmb	IAmb	04 01 36.0		
	comp=Z,70nm,0.8s								
CAN	**Canberra**		41.11	151	P	**P**	**04 01 35.2**	**+2.0**
CAN	**Canberra**		41.11	151	P	**P**	**04 01 34.3**	**+1.0**
CAN					pmax	pmax			
	comp=Z,70nm,0.8s								
CAN	**Canberra**		41.11	151	P	**P**	**04 01 35.0**	**+1.8**
CAN					sP	**sP**	**04 01 48.5**	**-0.2**
CNB	**Canberra Magne**		41.28	150	P	**P**	**04 01 37.0**	**+2.3**
TOO	**Toolangi**		41.39	156	P	**P**	**04 01 37.5**	**+2.0**
	baz=41,SNR=19								
TOO	**Toolangi**		41.39	156	P	**P**	**04 01 36.8**	**+1.3**
TOO					IAmb	IAmb	04 01 38.6		
	comp=Z,40nm,0.9s								
TOO	**Toolangi**		41.39	156	P	**P**	**04 01 37.2**	**+1.7**
TOO	**Toolangi**		41.39	156	P	**P**	**04 01 36.8**	**+1.3**
TOO					pmax	pmax			
	comp=Z,40nm,1.0s								
LZH	**Lanzhou**		41.47	333	e*P*	**P**	**04 01 37.5**	**+1.2**
LZH					sP	pwP	04 01 50.3	+0.3	
LZH					PcP	**PcP**	**04 03 35.0**	**+1.4**
LZH					pmax	pmax			
	comp=Z,52nm,1.1s								
LZH					LR	LR			
	comp=Z,430nm,14.9s								
LZH					LR	LR			
	comp=Z,350nm,15.6s								
LZH					LR	LR			
	comp=Z,700nm,17.8s								
SHL	**Shillong**		41.53	311	P	**P**	**04 01 34.9**	**-2.1**
SHL	**Shillong**		41.53	311	P	**P**	**04 01 34.9**	**-2.1**
SHL					pmax	pmax			
	comp=Z,15nm,0.8s								
HHC	**Hu-ho-hao-te**		42.87	344	e*P*	**P**	**04 01 48.5**	**+0.9**
HHC					pmax	pmax			
	comp=Z,34nm,1.0s								
HHC					pmax	pmax			
	comp=Z,200nm,5.3s								
HHC					LR	LR			
	comp=Z,420nm,14.0s								
HHC					LR	LR			
	comp=Z,410nm,14.0s								
HHC					LR	LR			
	comp=Z,460nm,14.6s								
BTO	**Baotou**		43.09	342	e*P*	**P**	**04 01 51.8**	**+2.4**
BTO					PP	**PcP**	**04 03 38.0**	**-0.8**
BTO					S	**S**	**04 08 18.3**	**+5.6**
BTO					LR	LR			
	comp=Z,670nm,14.3s								
BTO					LR	LR			
	comp=Z,720nm,13.1s								
CN2	**Changchun**		43.85	360	e*P*	**P**	**04 01 58.5**	**+3.2**
CN2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
LSA	**Lhasa**		44.40	315	P	**P**	**04 02 00.8**	**+0.3**
LSA					PP	**PP**	**04 03 46.5**	**+1.9**
LSA					S	**S**	**04 08 34.5**	**+1.6**
LSA					pmax	pmax			
	comp=Z,20nm,0.9s								
LSA					LR	LR			
	comp=Z,120nm,32.7s								
LSA					LR	LR			
	comp=Z,280nm,27.0s								
LSA					LR	LR			
	comp=Z,280nm,37.0s								
USA0B	**Ussuriysk Arra**		44.60	6	P	**P**	**04 02 01.3**	**0.0**
USA0B					IAmb	IAmb	04 02 02.6		
	comp=Z,26nm,0.8s								
USA0B	**Ussuriysk Arra**		44.60	6	*i*P	**P**	**04 02 01.1**	**-0.2**
USRK	**Ussuriysk Ar.**		44.60	6	P	**P**	**04 02 01.8**	**+0.5**
	comp=Z,27nm,0.7s,baz=182,slow=7.5,SNR=30								
	comp=Z,27nm,0.7s								
USRK	**Ussuriysk Ar.**		44.60	6	P	**P**	**04 02 01.4**	**+0.1**
USRK	**Ussuriysk Ar.**		44.60	6	P	**P**	**04 02 01.4**	**+0.1**
XLT	**XiLinHaoTe**		44.78	350	e*P*	**P**	**04 02 02.0**	**-0.9**
XLT					pP	pP	04 02 10.8	-3.0	
XLT					sP	pwP	04 02 15.3	-1.3	
XLT					PcP	**PcP**	**04 03 41.3**	**-3.2**
XLT					ScP	**ScP**	**04 07 36.0**	**+2.3**
XLT					S	**S**	**04 08 36.3**	**-1.0**
XLT					pmax	pmax			
	comp=Z,42nm,0.7s								
XLT					pmax	pmax			
	comp=Z,210nm,4.3s								
XLT					LR	LR			
	comp=Z,210nm,10.9s								
XLT					LR	LR			
	comp=Z,360nm,24.0s								
MDJ	**Mudanjiang**		44.80	4	P	**P**	**04 02 03.0**	**+0.1**
MDJ					IAmb	IAmb	04 02 04.2		
	comp=Z,24nm,0.7s								
MDJ	**Mudanjiang**		44.80	4	P	**P**	**04 02 03.0**	**+0.1**
MDJ					pP	pP	04 02 14.0	+0.2	
MDJ					ScP	**ScP**	**04 07 33.0**	**-0.7**
MDJ					PcS	**PcS**	**04 07 38.5**	**+0.7**
MDJ					S	**S**	**04 08 41.0**	**+3.7**
MDJ					sS	sS	04 08 59.0	+3.5	
MDJ					pmax	pmax			
	comp=Z,38nm,0.8s								
MDJ					pmax	pmax			
	comp=Z,300nm,3.7s								
MDJ					LR	LR			
	comp=Z,330nm,8.0s								
MDJ					LR	LR			
	comp=Z,300nm,7.0s								
MDJ					LR	LR			
	comp=Z,300nm,7.5s								
MDJ	**Mudanjiang**		44.80	4	P	**P**	**04 02 02.9**	**+0.1**
MDJ	**Mudanjiang**		44.80	4	P	**P**	**04 02 03.3**	**+0.4**
DZM	**Mont Dzumac**		45.22	121	e*LR*	LR	04 14 50.7		
	comp=Z,721nm,27.3s								
GLAD	**Gladstone**		45.32	156	P	**P**	**04 02 09.5**	**+2.4**
	comp=Z,28nm,0.8s								
BNX	**BinXian**		45.81	2	⇓P	**P**	**04 02 10.5**	**-0.4**
BNX					pmax	pmax			
	comp=Z,14nm,1.3s								
BNX					pmax	pmax			
	comp=Z,250nm,5.5s								
GTA	**Gaotai**		46.03	332	e*P*	**P**	**04 02 12.5**	**-0.4**
GTA					pP	pP	04 02 19.5	-

HEH pmax pmax
comp=Z,240nm,4.5s
SONM Songino Array 50.75 343 P **P** **04 02 48.9 -0.2**
comp=Z,30nm,0.7s,baz=159,slow=8.4,SNR=40
SONM PcP **PcP** **04 04 06.0 +0.2**
comp=Z,5.3nm,0.7s,baz=153,slow=3.2,SNR=3.8
SONM LR LR 04 28 20.9
comp=Z,138nm,19.0s,baz=148,slow=41
comp=Z,30nm,0.7s
SONM Songino Array 50.75 343 P **P** **04 02 48.5 -0.6**
SONM IAmb IAmb 04 02 52.3
comp=Z,30nm,0.8s
SONM Songino Array 50.75 343 P **P** **04 02 48.5 -0.6**
SONM pmax pmax
comp=Z,30nm,0.8s
GRNR Gornyy 51.64 9⇑*iP* **P** **04 02 56.2 +0.6**
GRNR pmax pmax
comp=Z,60nm,0.8s
CIT Chita 53.07 351 *eP* **P** **04 03 06.6 +0.3**
CIT *e* 04 03 21.1
CIT pmax pmax
comp=Z,71nm,2.6s
ZEA Zeya 53.81 1 *eP* **P** **04 03 11.4 -0.1**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.7s
ZAK Zakamensk 53.94 342 *eP* **P** **04 03 12.2 -0.5**
ZAK pmax pmax
comp=Z,15nm,0.9s
ZAK pmax pmax
comp=Z,8.0nm,1.1s
MSVF Nonsavu 54.31 112 LR LR 04 26 39.1
comp=Z,144nm,21.1s,baz=332,slow=36
WMQ Urumqi 55.43 327 *eP* **P** **04 03 23.5 -0.1**
WMQ pP pP 04 03 35.3 +0.5
WMQ sP sP 04 03 41.5 +2.2
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ LR LR
comp=Z,240nm,18.5s
WMQ LR LR
comp=Z,220nm,21.1s
WMQ LR LR
comp=Z,250nm,25.1s
MOY Mondy 55.77 342 *eP* **P** **04 03 26.4 +0.4**
JCZ Jackson Bay 58.04 145 P **P** **04 03 42.9 +0.7**
BOD Bodaibo 58.63 353 *eP* **P** **04 03 44.8 -1.1**
BOD pmax pmax
comp=Z,31nm,0.9s
WHZ Wether Hill Ro 58.67 147 P **P** **04 03 47.1 +0.8**
LBZ Lake Benmore 59.04 144 P **P** **04 03 49.6 +0.6**
RPZ Rata Peaks 59.17 143 P **P** **04 03 50.5 +0.5**
ZSN Zaisan 59.31 329 *eP* **P** **04 03 50.6 -0.2**
baz=329
ZSN Zaisan 59.31 329 *eP* **P** **04 03 50.6 -0.2**
PEA0B Petropavlovsk- 59.48 22 P **P** **04 03 52.3 +0.5**
PEA0B Petropavlovsk- 59.48 22 P **P** **04 03 52.3 +0.5**
PEA0B pmax pmax
comp=Z,36nm,0.7s
PETK Petropavlovsk- 59.48 22 P **P** **04 03 52.4 +0.6**
comp=Z,52nm,0.9s,baz=202,slow=7.7,SNR=26
comp=Z,52nm,0.9s
NIL Nilore 59.60 310 P **P** **04 03 51.5 -1.6**
NIL IAmb IAmb 04 04 07.8
comp=Z,11nm,0.6s
NIL Nilore 59.60 310 P **P** **04 03 51.5 -1.6**
NIL pmax pmax
comp=Z,11nm,0.6s
TUWZ Tuamarina 59.76 140 P **P** **04 03 53.7 -0.4**
SHLS Shalkode 59.78 322 *eP* **P** **04 03 52.0 -2.4**
baz=322
SHLS Shalkode 59.78 322 *eP* **P** **04 03 51.9 -2.4**
PDGK Podgornoye 59.86 322 P **P** **04 03 52.9 -2.0**
TARG Taragay, Kyrgy 60.06 320 P **P** **04 03 55.0 -1.6**
TARG Taragay, Kyrgy 60.06 320 P **P** **04 03 55.0 -1.6**
TARG pmax pmax
comp=Z,9.0nm,1.0s
KSH Kashi 60.17 317 P **P** **04 03 57.3 +0.2**
KSH pP pP 04 04 06.0 -2.4
KSH sP sP 04 04 13.8 +0.9
KSH PcP **PcP** **04 04 43.0 +0.6**
KSH pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 60.26 327 P **P** **04 03 55.9 -1.5**
MK31 Makanchi Array 60.26 327 *i*P **P** **04 03 55.7 -1.7**
MK31 pmax pmax
comp=Z,11nm,0.4s
MKAR Makanchi Array 60.26 327 P **P** **04 03 55.9 -1.5**
comp=Z,12nm,0.5s,baz=123,slow=8.2,SNR=162
MKAR LR LR 04 31 21.7
comp=Z,323nm,21.1s,baz=102,slow=38
comp=Z,12nm,0.5s
MKAR Makanchi Array 60.26 327 P **P** **04 03 56.2 -1.2**
MKAR Makanchi Array 60.26 327 *i*P **P** **04 03 56.0 -1.4**
MKAR pmax pmax
comp=Z,12nm,0.5s
SATY Saty 60.38 322 *eP* **P** **04 03 57.6 -0.9**
comp=Z,7.4nm,0.8s,baz=322
SATY Saty 60.38 322 *eP* **P** **04 03 57.5 -0.9**
SATY pmax pmax
comp=Z,7.0nm,0.8s
BKZ Black Stump Fm 60.39 136 P **P** **04 03 58.2 -0.3**
KPKS Kokpek 60.43 322 *eP* **P** **04 03 57.7 -1.1**
comp=Z,5.7nm,0.8s,baz=322
KPKS Kokpek 60.43 322 *eP* **P** **04 03 57.6 -1.1**
KPKS pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 60.44 327 P **P** **04 03 57.0 -1.6**
MAKZ IAmb IAmb 04 03 58.3
comp=Z,12nm,0.6s
MAKZ Makanchi 60.44 327 P **P** **04 03 57.0 -1.6**
MAKZ pmax pmax
comp=Z,12nm,0.6s
MAKZ Makanchi 60.44 327 P **P** **04 03 57.0 -1.6**
MAKZ sP **pP** **04 04 11.0 +1.1**
RTZ Ruatahuna 60.49 135 P **P** **04 03 58.5 -0.7**
RTZ IAmb IAmb 04 03 59.9
comp=Z,26nm,0.8s
RAO Raoul Island 60.93 124 LR LR 04 30 37.9
comp=Z,99nm,20.7s,baz=128,slow=36
NRN Naryn 61.08 319 P **P** **04 04 01.5 -2.0**
NRN Naryn 61.08 319 P **P** **04 04 01.5 -2.0**
NRN pmax pmax
comp=Z,7.0nm,0.7s
TNSS Tian-Shan 61.28 321 *eP* **P** **04 04 04.7 -0.2**
baz=321
TNSS Tian-Shan 61.28 321 *eP* **P** **04 04 04.7 -0.2**
MDOK Medeo 61.28 321 *eP* **P** **04 04 03.4 -1.3**
baz=321
MDOK Medeo 61.28 321 *eP* **P** **04 04 03.3 -1.3**
CHKK Chushkaly 61.68 322 *eP* **P** **04 04 05.2 -1.9**
baz=322
CHKK Chushkaly 61.68 322 *eP* **P** **04 04 05.1 -1.9**
KUU Kurty 62.10 322 *eP* **P** **04 04 08.9 -1.0**
comp=Z,16nm,0.9s,baz=322
KUU Kurty 62.10 322 *eP* **P** **04 04 08.9 -1.0**
KUU pmax pmax
comp=Z,16nm,0.9s
YAK Yakutsk 62.19 2 P **P** **04 04 10.0 -0.1**
comp=Z,83nm,0.6s,baz=350,slow=0.4,SNR=38
comp=Z,83nm,0.6s
YAK Yakutsk 62.19 2 P **P** **04 04 09.9 -0.1**
YAK Yakutsk 62.19 2*ceP* **P** **04 04 10.2 +0.2**
YAK pmax pmax
comp=Z,184nm,0.7s
YAK Yakutsk 62.19 2 P **P** **04 04 10.1 0.0**
AAK Ala-Archa 62.65 320 P **P** **04 04 14.3 +0.5**
comp=Z,6.2nm,0.7s,baz=135,slow=6.3,SNR=14
comp=Z,6.2nm,0.7s
AAK Ala-Archa 62.65 320 P **P** **04 04 14.0 +0.2**
AAK Ala-Archa 62.65 320*ceP* **P** **04 04 13.8 0.0**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 62.65 320 P **P** **04 04 14.2 +0.4**
AAK pP **pP** **04 04 23.9 -1.3**
MA2 Magadan 62.78 14 P **P** **04 04 15.6 +1.5**
comp=Z,72nm,0.9s,baz=188,slow=4.8,SNR=18
comp=Z,72nm,0.9s
MA2 Magadan 62.78 14 P **P** **04 04 14.7 +0.6**
MA2 Magadan 62.78 14*ceP* **P** **04 04 16.1 +2.0**
MA2 pmax pmax
comp=Z,117nm,1.7s

MA2 Magadan 62.78 14 P **P** **04 04 15.4 +1.2**
MA2 pP **pP** **04 04 26.6 +1.1**
MA2 sP **sP** **04 04 31.2 +1.3**
SGDS Sogindy 62.95 320 *eP* **P** **04 04 14.4 -1.3**
baz=320
SGDS Sogindy 62.95 320 *eP* **P** **04 04 14.4 -1.3**
KBL Kabul 63.17 309 P **P** **04 04 15.3 -2.2**
KBL IAmb IAmb 04 04 26.1
comp=Z,20nm,1.1s
KBL Kabul 63.17 309 P **P** **04 04 15.3 -2.2**
KBL pmax pmax
comp=Z,20nm,1.1s
ZAA0 Zalesovo Array 63.67 334 P **P** **04 04 18.4 -1.7**
ZAA0 IAmb IAmb 04 04 22.4
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 63.67 334 P **P** **04 04 18.4 -1.7**
comp=Z,9.4nm,0.5s,baz=119,slow=5.6,SNR=35
ZALV LR LR 04 33 13.7
comp=Z,87nm,19.4s,baz=116,slow=37
ZALV PKPPKP **P'P'df** **04 33 20.4 +5.6**
comp=Z,1.7nm,0.9s,baz=336,slow=3.2,SNR=4.6
comp=Z,9.4nm,0.5s
ZALV Zalesovo Beam 63.67 334 P **P** **04 04 18.3 -1.8**
ZALV Zalesovo Beam 63.67 334 *i*P **P** **04 04 18.7 -1.4**
ZALV pmax pmax
comp=Z,9.0nm,0.5s
GAR Garm 63.90 314 P **P** **04 04 19.9 -2.2**
GAR IAmb IAmb 04 04 26.7
comp=Z,37nm,0.9s
BTK Batken 63.97 316 P **P** **04 04 22.2 -0.3**
BTK IAmb IAmb 04 04 33.6
comp=Z,13nm,0.8s
BTK Batken 63.97 316 P **P** **04 04 22.2 -0.3**
BTK pmax pmax
comp=Z,13nm,0.8s
BTLS Baital 64.09 322 *eP* **P** **04 04 22.2 -0.9**
baz=322
BTLS Baital 64.09 322 *eP* **P** **04 04 22.2 -0.9**
KURBB Kurchatov Arra 64.55 329 P **P** **04 04 24.1 -1.8**
comp=Z,12nm,0.5s,baz=134,slow=6.5,SNR=143
comp=Z,12nm,0.5s
KURBB Kurchatov Arra 64.55 329 P **P** **04 04 24.4 -1.5**
KURK Kurchatov 64.55 329 P **P** **04 04 24.4 -1.5**
KURK IAmb IAmb 04 04 26.8
comp=Z,26nm,0.7s
KURK Kurchatov 64.55 329*ceP* **P** **04 04 24.7 -1.3**
KURK pmax pmax
comp=Z,38nm,1.0s
KURK Kurchatov 64.55 329 P **P** **04 04 24.5 -1.5**
KURK pP **pP** **04 04 35.2 -2.1**
CHGR Chuyangaron 64.59 314 P **P** **04 04 25.8 -0.8**
CHGR IAmb IAmb 04 04 28.2
comp=Z,22nm,0.7s
CHGR Chuyangaron 64.59 314 P **P** **04 04 25.8 -0.8**
CHGR pmax pmax
comp=Z,23nm,0.7s
SIMJ Simiganj 64.70 314 P **P** **04 04 25.7 -1.7**
SIMJ pP **pP** **04 04 36.4 -2.4**
DZA Taraz 64.83 319 *eP* **P** **04 04 27.8 -0.2**
baz=319
DZA Taraz 64.83 319 *eP* **P** **04 04 27.8 -0.2**
IUG Iuzhnay 65.38 318 *eP* **P** **04 04 30.8 -0.9**
baz=318
IUG Iuzhnay 65.38 318 *eP* **P** **04 04 30.8 -0.9**
KK31 Karatay Array 65.47 319 P **P** **04 04 30.7 -1.3**
KK31 Karatay Array 65.47 319 *i*P **P** **04 04 30.8 -1.3**
KKAR Karatay Array 65.47 319 P **P** **04 04 30.4 -1.7**
KKAR Karatay Array 65.47 319 P **P** **04 04 30.4 -1.7**
KKAR Karatay Array 65.47 319 P **P** **04 04 30.4 -1.7**
SEY Seymchan 66.11 13 P **P** **04 04 37.2 +1.4**
comp=Z,23nm,0.8s,baz=212,slow=5.2,SNR=26
comp=Z,23nm,0.8s
SEY Seymchan 66.11 13*ceP* **P** **04 04 36.3 +0.5**
SEY pmax pmax
comp=Z,30nm,1.1s
OTUK Ortayu 66.69 324 P **P** **04 04 39.0 -0.8**
DRV Dumont d'Urvil 67.06 174 P **P** **04 04 41.8 +0.1**
DRV pP **pP** **04 04 52.6 -0.6**
DRV sP **sP** **04 04 57.8 +0.1**
BRZS Berezniki 67.35 326 *eP* **P** **04 04 43.1 -1.0**
comp=Z,6.6nm,0.9s,baz=326
BRZS Berezniki 67.35 326 *eP* **P** **04 04 43.0 -1.0**
BRZS pmax pmax
comp=Z,7.0nm,0.9s
WSAR Wadi Sarin 69.10 295 P **P** **04 04 53.9 -1.6**
comp=Z,4.7nm,0.6s,baz=141,slow=5.3,SNR=4.7
comp=Z,4.7nm,0.6s
BVA0 Borovoye Array 70.10 328 P **P** **04 04 59.9 -1.1**
BVAR Borovoye Array 70.10 328 P **P** **04 04 59.6 -1.5**
comp=Z,15nm,0.7s,baz=127,slow=9.5,SNR=62
BVAR LR LR 04 38 14.2
comp=Z,44nm,19.6s,baz=117,slow=38
comp=Z,15nm,0.7s
BRVK Borovoye 70.17 328 P **P** **04 04 59.8 -1.7**
BRVK IAmb IAmb 04 05 02.4
comp=Z,18nm,0.8s
BRVK Borovoye 70.17 328*ceP* **P** **04 05 00.9 -0.6**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 70.17 328 P **P** **04 05 00.5 -1.0**
MSEY Mahe Island 70.27 265 P **P** **04 05 02.9 0.0**
MSEY Mahe Island 70.27 265 P **P** **04 05 02.9 0.0**
MSEY pmax pmax
comp=Z,18nm,1.1s
MSEY Mahe Island 70.27 265 P **P** **04 05 03.5 +0.6**
MSEY sP **sP** **04 05 18.7 -0.1**
KIWB Kanaga Island 70.54 34 P **P** **04 05 03.5 -0.3**
TIXI Tiksi 71.80 1 P **P** **04 05 10.3 -0.7**
comp=Z,17nm,0.5s,baz=270,slow=23,SNR=47
comp=Z,17nm,0.5s
TIXI Tiksi 71.80 1 P **P** **04 05 10.0 -1.0**
TIXI IAmb IAmb 04 05 11.7
comp=Z,29nm,1.0s
TIXI Tiksi 71.80 1*ceP* **P** **04 05 10.1 -0.9**
TIXI pmax pmax
comp=Z,31nm,1.0s
TIXI Tiksi 71.80 1 P **P** **04 05 10.6 -0.4**
GEYT Alibeck 72.60 310 P **P** **04 05 16.4 -0.2**
comp=Z,6.2nm,0.7s,baz=145,slow=5.4,SNR=9.5
comp=Z,6.2nm,0.7s
GEYT Alibeck 72.60 310 P **P** **04 05 16.1 -0.4**
GYA0B ALIBECK ARRAY 72.60 310 P **P** **04 05 16.0 -0.5**
BILL Bilibino 73.63 15⇑*eP* **P** **04 05 21.8 -0.1**
BILL *e* 04 05 39.6
BILL *e* 04 08 03.0
BILL *eS* **S** **04 14 56.5 +7.4**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,77nm,21.0s
AB31 Akbulak array 74.58 322 *i*P **P** **04 05 26.9 -1.0**
ABKAR Akbulak array 74.58 322 P **P** **04 05 27.0 -0.8**
ABKAR Akbulak array 74.58 322 P **P** **04 05 27.1 -0.8**
ABKAR IAmb IAmb 04 05 27.8
comp=Z,14nm,0.7s
RAR Rarotonga 75.50 112 LR LR 04 38 13.3
comp=Z,28nm,21.4s,baz=270,slow=35
AKTO Aktyubinsk 76.14 322 P **P** **04 05 35.4 -1.4**
SVE Sverdlovsk 76.81 329 *eP* **P** **04 05 40.3 -0.1**
SVE pmax pmax
comp=Z,73nm,0.9s
ARU Arti 77.74 328 P **P** **04 05 44.8 -0.9**
comp=Z,39nm,0.7s,baz=132,slow=2.7,SNR=54
comp=Z,39nm,0.7s
ARU Arti 77.74 328 P **P** **04 05 44.5 -1.2**
ARU Arti 77.74 328*diP* **P** **04 05 44.1 -1.6**
ARU *P*P **pP** **04 05 57.9 +0.6**
ARU 04 08 35.0
ARU S **S** **04 15 33.2 -1.7**
ARU pmax pmax
comp=Z,53nm,0.8s
FALS False Pass 79.28 34 P **P** **04 05 55.3 +1.1**
baz=254
VNDA Vanda 79.64 173 P **P** **04 05 56.4 +0.7**
comp=Z,8.5nm,0.9s,baz=308,slow=6.3,SNR=50
VNDA LR LR 04 40 42.2
comp=Z,169nm,21.8s,baz=344,slow=35
comp=Z,8.5nm,0.9s
VNDA Vanda 79.64 173 P **P** **04 05 55.8 0.0**
VNDA Vanda 79.64 173 P **P** **04 05 55.8 0.0**
VNDA pmax pmax
comp=Z,9.0nm,0.9s
MAW Mawson 79.70 200 P **P** **04 05 57.0 +0.8**
comp=Z,5.9nm,0.9s,baz=70,slow=7.0,SNR=7.9
MAW LR LR 04 39 14.5
comp=Z,51nm,18.8s,baz=62,slow=34
comp=Z,5.9nm,0.9s
MAW Mawson 79.70 200 P **P** **04 05 57.0 +0.8**
MAW Mawson 79.70 200 P **P** **04 05 57.0 +0.8**
MAW pmax pmax
comp=Z,2.0nm,1.1s
SBA Scott Base 80.57 172 P **P** **04 06 01.1 +0.4**
SBA Scott Base 80.57 172 P **P** **04 06 01.1 +0.4**
SBA pmax pmax
comp=Z,8.0nm,0.9s
SDPT Sand Point 81.05 34 P **P** **04 06 04.0 +0.3**
SDPT Sand Point 81.05 34 P **P** **04 06 04.7 +1.0**
baz=256
RAYN Ar Rayn 81.11 294 P **P** **04 06 04.5 -0.3**
RAYN IAmb IAmb 04 06 05.2
comp=Z,19nm,0.8s
RAYN Ar Rayn 81.11 294 P **P** **04 06 04.5 -0.3**
RAYN pmax pmax
comp=Z,19nm,0.8s
AKT Akhty 81.15 312 *eP* **P** **04 06 04.4 -0.3**
AKT pmax pmax
comp=Z,37nm,0.6s
GROC Groznyy 82.80 313 *eP* **P** **04 06 12.4 -0.8**
GROC *e**PP **sP** **04 06 32.7 +3.4**
GROC pmax pmax
comp=Z,118nm,0.9s
BELG Belogornoye 82.92 323 P **P** **04 06 13.1 -0.5**
comp=Z,150nm,0.9s,baz=321,slow=0.5,SNR=38
BELG LR LR 04 45 19.4
comp=Z,96nm,19.9s,baz=302,slow=37
comp=Z,150nm,0.9s
BELG Belogornoye 82.92 323‖*eP* **P** **04 06 12.8 -0.8**
BELG pmax pmax
comp=Z,28nm,0.9s
ATD Arta Tunnel 83.04 282 P **P** **04 06 14.7 -0.4**
KIRV Kirov 83.07 329 P **P** **04 06 13.8 -0.4**
comp=Z,48nm,0.9s,baz=329,slow=0.5,SNR=20
comp=Z,48nm,0.9s
N16K Nishlik Lake 83.10 29 P **P** **04 06 16.2 +1.8**
baz=257
P16K Nushagak River 83.18 30 P **P** **04 06 16.7 +1.9**
baz=258
GNI Garni 83.24 310 P **P** **04 06 15.9 +0.1**
comp=Z,10.0nm,0.9s,baz=82,slow=13,SNR=5.1
comp=Z,10.0nm,0.9s
GNI Garni 83.24 310 *i*P **P** **04 06 15.6 -0.2**
GNI pmax pmax
comp=Z,24nm,0.9s
O16K Kokwok River B 83.24 30 P **P** **04 06 16.6 +1.5**
baz=258
P17K Kvichak River 84.00 30 P **P** **04 06 20.0 +1.1**
baz=259
Q17K Contact Creek 84.11 31 P **P** **04 06 19.9 +0.2**
baz=260
ZEI Tsey 84.14 313 *eP* **P** **04 06 19.5 -0.9**
ZEI pmax pmax
comp=Z,44nm,1.0s
GEVA Gevas 84.37 308 P **P** **04 06 21.5 -0.1**
ONI Oni 84.45 313 P **P** **04 06 21.5 -0.2**
ONI IAmb IAmb 04 06 30.5
comp=Z,11nm,0.7s
ONI Oni 84.45 313 P **P** **04 06 21.5 -0.2**
ONI pmax pmax
comp=Z,11nm,0.7s
KARS Kars 84.55 311 P **P** **04 06 22.4 0.0**
KARS Kars 84.55 311 P **P** **04 06 22.4 0.0**
KARS pmax pmax
comp=Z,125nm,0.9s
Q18K Katmai Hardscr 84.63 31 P **P** **04 06 22.5 +0.1**
baz=261
SII Sitkinak Islan 84.75 33 P **P** **04 06 24.7 +1.9**
baz=262
GCSA Galena City Sc 84.86 25 P **P** **04 06 24.7 +1.5**
baz=258
TTA Tatalina 84.89 27 P **P** **04 06 24.7 +1.1**
baz=259
PPT Papeete 84.89 108 LR LR 04 45 00.7
comp=Z,14nm,18.4s,baz=270,slow=36
PPT2 Papeete2 84.89 108 *e*LR LR 04 33 12.7
comp=Z,208nm,30.5s
PPT2 *e*LR LR 04 33 13.9
comp=Z,298nm,30.0s
KBZ Khabaz 84.96 314 P **P** **04 06 24.0 -0.2**
comp=Z,23nm,0.9s,baz=118,slow=2.7,SNR=42
comp=Z,23nm,0.9s
KBZ Khabaz 84.96 314*ceP* **P** **04 06 23.9 -0.2**
KBZ pmax pmax
comp=Z,26nm,0.9s
NEY Neytrino 85.04 313 *i*P **P** **04 06 25.3 +0.4**
NEY pmax pmax
comp=Z,9.0nm,0.8s
KVAR Kislovodsk Arr 85.12 314 LR LR 04 50 29.4
comp=Z,33nm,18.4s,baz=287,slow=40
KIV Kislovodsk 85.13 314 P **P** **04 06 24.6 -0.6**
KIV IAmb IAmb 04 06 50.1
comp=Z,14nm,0.9s
KIV Kislovodsk 85.13 314 *eP* **P** **04 06 24.6 -0.6**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,49nm,20.0s
TBI Tubuai 85.16 113 *e*LR LR 04 33 19.9
comp=Z,3µm,23.5s
TBI *e*LR LR 04 33 20.7
comp=Z,814nm,31.8s
GURO Guroymak-BITLI 85.19 309 P **P** **04 06 26.1 +0.4**
N19K Bonanza Creek 85.24 29 P **P** **04 06 25.9 +0.5**
N19K IAmb IAmb 04 06 28.2
comp=Z,18nm,0.9s
N19K Bonanza Creek 85.24 29 P **P** **04 06 27.0 +1.7**
baz=261
OHAK Old Harbor 85.33 33 P **P** **04 06 25.6 -0.1**
OHAK Old Harbor 85.33 33 P **P** **04 06 26.8 +1.1**
baz=262
PRGR Permogore 85.49 332 *eP* **P** **04 06 24.1 -2.3**
PRGR pmax pmax
comp=Z,30nm,0.7s
L20K Farewell, AK 85.78 27 P **P** **04 06 29.5 +1.5**
baz=261
K20K Telida 85.83 26 P **P** **04 06 29.4 +1.3**
baz=261
J20K Nowinta River 85.92 26 P **P** **04 06 29.8 +1.3**
baz=261
M20K Styx River 86.04 28 P **P** **04 06 29.7 +0.4**
M20K IAmb IAmb 04 09 49.0
comp=Z,42nm,1.8s
M20K Styx River 86.04 28 P **P** **04 06 30.3 +1.0**
baz=262
MARD Mardin 86.10 307 P **P** **04 06 30.1 -0.1**
A21K Barrow 86.29 18 P **P** **04 06 31.1 +0.9**
A21K IAmb IAmb 04 06 32.4
comp=Z,21nm,0.8s
A21K Barrow 86.29 18 P **P** **04 06 31.4 +1.2**
baz=258
VRH Novokhopyorsk 86.40 321 *eP* **P** **04 06 29.9 -1.3**
VRH pmax pmax
comp=Z,130nm,1.7s
KOPT Kop Dagi 86.47 310 P **P** **04 06 31.6 -0.6**
G21K Allakaket 86.55 23 P **P** **04 06 32.5 +0.9**
baz=262
F21K Alatna River 86.66 23 P **P** **04 06 32.6 +0.5**
baz=261
H21K Melozitna Rive 86.70 24 P **P** **04 06 32.6 +0.2**
H21K IAmb IAmb 04 06 58.2
comp=Z,44nm,2.0s
H21K Melozitna Rive 86.70 24 P **P** **04 06 33.5 +1.1**
baz=262
CAST Castle Rocks 86.72 27 P **P** **04 06 32.8 +0.2**
CAST IAmb IAmb 04 07 21.9
comp=Z,41nm,1.8s
SKT Skwentna 86.81 28 P **P** **04 06 31.2 -1.8**
I21K Tanana 86.98 25 P **P** **04 06 35.1 +1.3**
baz=263
F22K John River 87.20 22 P **P** **04 06 36.2 +1.4**
baz=263
SOC Sochi 87.25 313 *eP* **P** **04 06 32.3 -3.2**
SOC *e* 04 09 58.6
SOC *e*PPP PPP 04 11 50.1
SOC *e*S **SKSac** **04 16 54.4 -5.5**
SOC *e*SS **SS** **04 22 52.7 -4.6**
SOC *e*SSS SSS 04 26 27.8
SOC MLR MLR
comp=Z,43nm,15.0s
H22K Ishtalitna Cre 87.32 24 P **P** **04 06 36.8 +1.4**
baz=263
E22K Anaktuvuk Pass 87.42 22 P **P** **04 06 37.1 +1.3**

baz=263
MLY Manley 87.49 25 P **P 04 06 36.5 +0.2**
MLY Manley 87.49 25 P **P 04 06 36.8 +0.5**
baz=264
KIBK Kibwezi 87.65 268 P **P 04 06 38.0 -0.2**
KIBK IAmb IAmb 04 06 40.0
comp=Z,9.8nm,0.9s
D23K Nanushuk River 87.93 21 P **P 04 06 39.7 +1.5**
baz=264
COLD Coldfoot 87.93 23 P **P 04 06 38.8 +0.5**
COLD IAmb IAmb 04 06 40.0
comp=Z,12nm,0.8s
COLD Coldfoot 87.93 23 P **P 04 06 39.5 +1.2**
baz=264
G23K Bananza Creek 87.95 23 P **P 04 06 39.6 +1.1**
baz=265
VORR Voronezh 88.00 322 *e*P **P 04 06 38.4 -0.5**
VORR pmax pmax
comp=Z,90nm,0.5s
VSR Storozhevoye 88.01 321 *e*P **P 04 06 36.3 -2.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
C23K Itkillik River 88.04 20 P **P 04 06 39.6 +0.9**
baz=264
H23K Yukon River 88.06 24 P **P 04 06 38.8 -0.2**
H23K Yukon River 88.06 24 P **P 04 06 39.9 +1.0**
baz=265
I23K Minto, Yukon-K 88.08 25 P **P 04 06 39.6 +0.6**
I23K Minto, Yukon-K 88.08 25 P **P 04 06 39.7 +0.7**
baz=265
LPSR Galich'ya Gora 88.22 322 *e*P **P 04 06 38.4 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
E23K Chandalar 88.23 22 P **P 04 06 41.0 +1.2**
baz=265
WAT1 Susitna Watana 88.26 27 P **P 04 06 40.0 0.0**
baz=266
TOLK Toolik Lake Re 88.30 21 P **P 04 06 39.6 -0.5**
TOLK IAmb IAmb 04 06 46.4
comp=Z,17nm,1.4s
TOLK Toolik Lake Re 88.30 21 P **P 04 06 41.1 +1.1**
baz=265
SML Sawmill 88.30 28 P **P 04 06 40.6 +0.4**
baz=266
KLMR Klimovskoe 88.34 331 *e*P **P 04 06 37.4 -2.9**
KLMR AMP 04 06 39.6
comp=Z,40nm,1.7s
KLMR Klimovskoe 88.34 331 *e*P **P 04 06 37.3 -3.0**
KLMR pmax pmax
comp=Z,40nm,1.7s
KMBO Kilima Mbogo 88.44 269 P **P 04 06 43.1 +0.9**
comp=Z,9.3nm,0.9s,baz=63,slow=5.3,SNR=21
KMBO LR LR 04 46 04.8
comp=Z,80nm,19.1s,baz=90,slow=36
comp=Z,9.3nm,0.9s
KMBO Kilima Mbogo 88.44 269 P **P 04 06 41.7 -0.5**
KMBO IAmb IAmb 04 06 44.2
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 88.44 269 *i* P **P 04 06 42.9 +0.7**
KMBO pmax pmax
comp=Z,10.0nm,0.9s
WRH Wood River Hil 88.58 26 P **P 04 06 40.7 -0.7**
WRH IAmb IAmb 04 07 01.6
comp=Z,45nm,2.0s
M23K Glacier View 88.58 28 P **P 04 06 41.8 +0.3**
baz=267
WAT6 Susitna Watana 88.62 28 P **P 04 06 42.1 +0.3**
baz=267
E24K Your Creek 88.65 22 P **P 04 06 42.9 +1.1**
baz=266
C24K Franklin Bluff 88.69 20 P **P 04 06 42.5 +0.7**
baz=266
CCB Clear Creek Bu 88.71 25 P **P 04 06 39.1 -2.9**
CCB IAmb IAmb 04 06 42.9
comp=Z,13nm,1.2s
H24K Noodor Dome 88.75 24 P **P 04 06 42.6 +0.4**
H24K Noodor Dome 88.75 24 P **P 04 06 43.7 +1.4**
baz=267
SCM Sheep Creek Mo 88.78 28 P **P 04 06 43.2 +0.7**
baz=267
DHY Denali Highway 88.81 27 P **P 04 06 43.3 +0.6**
baz=267
F24K Squaw Lake 88.84 23 P **P 04 06 43.8 +1.2**
baz=267
ANN Anapa 88.94 315 *e*P **P 04 06 40.5 -3.0**
ANN *e**PP **pP 04 06 56.1 +0.8**
ANN *e*S **SKSac 04 17 04.8 -5.2**
ANN *e*SS **SS 04 23 25.0 +3.2**
ANN pmax pmax
comp=Z,56nm,0.8s
G24K Hadweenzic Riv 88.96 23 P **P 04 06 44.3 +1.1**
baz=267
IL31 89.11 25 P **P 04 06 42.8 -1.0**
IL31 IAmb IAmb 04 09 48.9
comp=Z,24nm,1.9s
ILAR Eielson Array 89.11 25 P **P 04 06 42.2 -1.6**
comp=Z,1.9nm,0.6s,baz=240,slow=5.3,SNR=26
ILAR LR LR 04 55 40.8
comp=Z,49nm,18.1s,baz=171,slow=42
M24K Tolsona, Glenn 89.33 28 P **P 04 06 46.2 +1.1**
baz=268
D25K Kavik River 89.49 21 P **P 04 06 45.9 +0.2**
baz=268
K24K Donnelly Dome 89.56 26 P **P 04 06 46.5 +0.4**
baz=269
PAX Paxson 89.68 27 P **P 04 06 45.5 -1.2**
PAX Paxson 89.68 27 P **P 04 06 47.0 +0.3**
baz=269
PAX Paxson 89.68 27 P **P 04 06 45.5 -1.2**
PAX pmax pmax
comp=Z,6.0nm,0.9s
OBN Obninsk 89.70 325 LR LR 04 49 12.8
comp=Z,32nm,21.2s,baz=1.5,slow=37
OBN Obninsk 89.70 325||*e*P **P 04 06 45.6 -1.2**
OBN *e* 04 10 21.7
OBN pmax pmax
comp=Z,11nm,0.6s
OBN MLR MLR
comp=Z,165nm,22.0s
F25K Christian River 89.71 23 P **P 04 06 47.8 +1.1**
baz=269
E25K Arctic Village 89.75 22 P **P 04 06 48.0 +1.1**
baz=269
RIDG Independent Ri 89.97 26 P **P 04 06 47.7 -0.3**
RIDG IAmb IAmb 04 06 48.6
comp=Z,12nm,0.8s
RIDG Independent Ri 89.97 26 P **P 04 06 48.1 +0.1**
baz=269
BMAR Burnt Mountain 90.11 23 P **P 04 06 49.3 +0.7**
F26K Sheenjek River 90.28 22 P **P 04 06 50.6 +1.2**
baz=270
DOT Dot Lake 90.32 27 P **P 04 06 49.8 +0.2**
LODK Lodwar 90.35 273 P **P 04 06 50.2 -0.7**
SCRK Sand Creek 90.36 26 P **P 04 06 50.4 +0.5**
baz=270
MMAI Mount Meron Ar 90.38 303 LR LR 04 54 33.9
comp=Z,27nm,19.5s,baz=295,slow=40
C27K Jago River 90.43 20 P **P 04 06 51.3 +1.3**
baz=270
J26L Joseph Creek 90.54 26 P **P 04 06 51.3 +0.6**
baz=271
I26K Coal Creek Min 90.70 25 P **P 04 06 51.6 +0.3**
I26K Coal Creek Min 90.70 25 P **P 04 06 51.9 +0.6**
baz=271
EIL Elat 90.77 300 LR LR 04 51 45.9
comp=Z,67nm,20.9s,baz=85,slow=38
APA Apatity 91.10 337||*i*P **P 04 06 50.3 -2.8**
APA pmax pmax
comp=Z,8.0nm,1.2s
K27K Chicken 91.20 26 P **P 04 06 54.1 +0.5**
K27K IAmb IAmb 04 06 56.4
comp=Z,13nm,1.1s
K27K Chicken 91.20 26 P **P 04 06 55.0 +1.4**
baz=272
E27K Coleen River 91.23 22 P **P 04 06 54.8 +1.0**
baz=272
SIM Simferopol' 91.30 315 *e*P **P 04 06 52.1 -2.4**
SIM pmax pmax
comp=Z,17nm,0.7s
I27K Kandik River 91.33 25 P **P 04 06 55.3 +1.0**
baz=272
L27K Beaver Creek, 91.34 27 P **P 04 06 55.1 +0.7**
L27K IAmb IAmb 04 06 56.0
comp=Z,5.9nm,0.7s
L27K Beaver Creek, 91.34 27 P **P 04 06 55.5 +1.1**
baz=272
BR131 Keskin Array S 91.74 310 P **P 04 06 53.9 -3.0**
BR131 IAmb IAmb 04 06 56.9
comp=Z,7.3nm,0.8s
BR131 Keskin Array S 91.74 310 P **P 04 06 53.9 -3.0**
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 91.74 310 P **P 04 06 55.2 -1.7**
comp=Z,4.5nm,0.8s,baz=122,slow=5.4,SNR=17
comp=Z,4.5nm,0.8s
BRTR Keskin Array B 91.74 310 P **P 04 06 55.0 -1.9**
BRTR Keskin Array B 91.74 310 *i* P **P 04 06 55.5 -1.4**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
DAWY Dawson 92.37 26 P **P 04 06 59.6 +0.4**
DAWY IAmb IAmb 04 07 00.5
comp=Z,13nm,1.2s
DAWY Dawson 92.37 26 P **P 04 06 59.9 +0.8**
baz=274
I29M Ogilvie Camp, 92.73 25 P **P 04 07 01.7 +0.9**
baz=275
L29M L29M 93.02 27 P **P 04 07 03.4 +1.3**
baz=275
K29M Barlow Dome 93.22 26 P **P 04 07 04.1 +1.0**
baz=276
EPYK Eagle Plains 93.27 24 P **P 04 07 03.3 +0.1**
baz=277
G30M tAoh Zraii Nji 93.39 23 P **P 04 07 03.6 -0.2**
baz=277
M30M Minto, Yukon 93.68 27 P **P 04 07 06.5 +1.3**
baz=277
ARCES ARCESS Array B 93.80 340 P **P 04 07 04.1 -1.4**
comp=Z,5.6nm,0.8s,baz=75,slow=5.1,SNR=7.2
comp=Z,5.6nm,0.8s
TAOE Nuku Hiva Isla 94.07 99 *e*LR LR 04 37 27.0
comp=Z,156nm,28.5s
SPITS Spitsbergen Ar 94.15 349 LR LR 04 55 59.5
comp=Z,51nm,18.5s,baz=40,slow=40
INK Inuvik 94.21 21 P **P 04 07 07.3 -0.1**
comp=Z,6.7nm,0.8s,baz=288,slow=4.3,SNR=23
comp=Z,6.7nm,0.8s
INK Inuvik 94.21 21 P **P 04 07 07.3 -0.1**
INK IAmb IAmb 04 07 08.1
comp=Z,8.5nm,0.9s
INK Inuvik 94.21 21 P **P 04 07 07.5 0.0**
baz=280
INK Inuvik 94.21 21 P **P 04 07 07.3 -0.1**
INK pmax pmax
comp=Z,9.0nm,0.9s
F31M Tsiigehtchic 94.28 22 P **P 04 07 07.8 0.0**
baz=280
N31M Braeburn, Yuko 94.29 28 P **P 04 07 06.1 -1.9**
N31M Braeburn, Yuko 94.29 28 P **P 04 07 09.6 +1.5**
baz=277
AKASG Malin Array Be 94.30 321 P **P 04 07 06.4 -1.8**
comp=Z,1.6nm,0.7s,baz=81,slow=3.9,SNR=7.6
AKASG LR LR 04 54 18.9
comp=Z,47nm,20.1s,baz=58,slow=39
comp=Z,1.6nm,0.7s
MNK Minsk 94.75 325 *i* P **P 04 07 09.5 -0.7**
comp=E,4.0nm,1.0s
MNK *i* P **P 04 07 09.5 -0.7**
comp=N,32nm,0.8s
MNK *i* P **P 04 07 09.5 -0.7**
comp=Z,24nm,1.0s,baz=84
MNK *i* pP **pwP 04 07 24.2 -0.7**
MNK *i* PP **PP 04 10 57.2 -1.6**
MNK *i* PPP PPP 04 12 58.6
MNK *i* S **SKSac 04 17 40.0 -2.4**
MNK *i* sS **SKKSac 04 18 06.4 +1.9**
MNK *i* PS **PS 04 19 41.4 -0.5**
MNK *i* SS **SS 04 24 43.7 -1.1**
MNK *i* SSS SSS 04 28 24.6
MNK *i* LQ LQ 04 44 00.1
MNK *i* LR LR 04 47 02.1
MNK *i* LRM MLR 04 53 06.3
comp=N,316nm,19.1s
MNK *i* LRM MLR 04 53 19.1
comp=Z,74nm,12.1s
MNK *i* LRM MLR 04 53 58.7
comp=E,25nm,23.0s
MNK Minsk 94.75 325 *i* P **P 04 07 09.4 -0.7**
MNK *i* *PP **pwP 04 07 24.2 -0.7**
MNK *i* 04 10 57.2
MNK *i* PPP PPP 04 12 58.5
MNK *i* S **SKSac 04 17 40.0 -2.4**
MNK *i* *SS **SKKSac 04 18 06.3 +1.9**
MNK *i* PS **PS 04 19 41.3 -0.5**
MNK *i* SS **SS 04 24 43.7 -1.1**
MNK *i* SSS SSS 04 28 24.5
MNK pmax pmax
comp=N,32nm,0.8s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK pmax pmax
comp=Z,24nm,1.0s
MNK MLR MLR
comp=N,316nm,19.0s
MNK MLR MLR
comp=Z,74nm,12.0s
FINES FINESS Array B 94.82 332 P **P 04 07 08.6 -1.8**
comp=Z,2.7nm,0.9s,baz=203,slow=29,SNR=4.1
comp=Z,2.7nm,0.9s
WHY Whitehorse 94.83 29 P **P 04 07 12.0 +1.4**
baz=278
MBAR Mbarara 94.96 269 LR LR 04 47 54.0
comp=Z,75nm,21.0s,baz=63,slow=34
FARO Faro, Yukon 95.32 28 P **P 04 07 13.2 +0.5**
FARO Faro, Yukon 95.32 28 P **P 04 07 13.7 +1.0**
baz=280
NACGM Naroch 95.33 325 *e*P **P 04 07 09.6 -3.3**
comp=Z,14nm,1.1s,baz=83
A36M Sachs Harbour 96.06 17 P **P 04 07 15.0 -0.8**
A36M IAmb IAmb 04 08 44.7
comp=Z,8.9nm,1.3s
A36M Sachs Harbour 96.06 17 P **P 04 07 15.8 0.0**
baz=288
MLR Muntele Rosu 97.02 316 LR LR 04 56 27.1
comp=Z,78nm,21.8s,baz=66,slow=39
BURAR Bucovina Array 97.25 318 P **P 04 07 21.8 -0.1**
BURAR IAmb IAmb 04 07 23.0
comp=Z,7.9nm,0.8s
BUR08 Bucovina Ar. S 97.26 318 P **P 04 07 21.7 -0.2**
BUR08 IAmb IAmb 04 07 22.3
comp=Z,6.9nm,0.8s
C36M Paulatuk 97.27 20 P Pdif 04 07 21.4 0.0
C36M IAmb IAmb 04 07 21.9
comp=Z,9.1nm,0.8s
C36M Paulatuk 97.27 20 P **P 04 07 21.1 -0.2**
baz=289
IDI Anoyia 98.97 306 LR LR 04 57 53.5
comp=Z,24nm,21.9s,baz=82,slow=39
KOLS Kolonicke sedl 98.99 320 *e*PDIFF Pdif 04 07 30.9 +1.3
KOLS Kolonicke sedl 98.99 320 *e*P Pdif 04 07 30.9 +1.3
BOSA Boshof 99.05 241 LR LR 04 47 16.2
comp=Z,164nm,21.6s,baz=102,slow=32
LBTB Lobatse 99.06 245 LR LR 04 47 51.8
comp=Z,91nm,18.9s,baz=170,slow=33
CRVS Cervenica-Dubn 99.52 320 *e*PDIFF **Pdif 04 07 31.2 -0.8**
CRVS Cervenica-Dubn 99.52 320 *e*P **Pdif 04 07 31.2 -0.8**
DJES Djerdap 99.53 315 P **Pdif 04 07 31.4 -0.7**
STHS Stebnicka Huta 99.57 320 *e*P **Pdif 04 07 31.9 -0.2**
STHS Stebnicka Huta 99.57 320 *e*PDIFF **Pdif 04 07 31.9 -0.2**
GERES GERESS Array B 104.51 321 PKIKP **PKiKP 04 12 10.6 +0.4**
comp=Z,0.5nm,0.6s,baz=48,slow=4.0,SNR=4.2
PDAR Pinedale Array 114.99 42 PKiKP PKPdf 04 12 32.6 +2.2
comp=Z,0.2nm,0.4s,baz=344,slow=5.6,SNR=2.5
PDAR PKKPab **PKKPab 04 23 12.3 -0.5**
comp=Z,0.8nm,0.8s,baz=104,slow=3.8,SNR=4.8
O20A White River Ci 117.00 44 PKPdf **PKPdf 04 12 32.8 -1.4**
O20A White River Ci 117.00 44 P **PKiKP 04 12 34.5 +0.3**
baz=295
TUC Tucson 118.02 53 P **PKiKP 04 12 38.1 +1.8**
baz=289
ULM Lac du Bonnet 118.91 29 PKP **PKPdf 04 12 37.2 -0.1**
comp=Z,3.7nm,0.8s,baz=315,slow=5.7,SNR=3.2
ESDC Sonseca Array 119.69 317 PKP **PKiKP 04 12 39.4 +0.1**
comp=Z,1.1nm,1.1s,baz=220,slow=0.2,SNR=6.0
F33A 5 Mile Ranch, 121.50 33 **PKPdf 04 12 41.5 -0.9**
MNTX Cornudas Mount 122.53 52 **PKPdf 04 12 44.9 0.0**
MNTX Cornudas Mount 122.53 52 P **PKiKP 04 12 46.1 +1.0**
baz=293
ECSD EROS Data Cent 122.61 35 **PKPdf 04 12 44.2 -0.4**
ECSD EROS Data Cent 122.61 35 P **PKPdf 04 12 44.7 0.0**
baz=307
F36A Milaca 122.98 32 **PKPdf 04 12 45.0 -0.3**
SCHQ Schefferville 124.62 9 PKP **PKiKP 04 12 48.8 +0.3**
comp=Z,5.4nm,0.9s,baz=0.2,slow=4.4,SNR=3.9
TX31 Lajitas Ar. Si 124.80 54 PKPdf **PKPdf 04 12 48.4 -1.0**
TX32 Lajitas Array 124.80 54 **PKPdf 04 12 47.6 -1.8**
TXAR Lajitas Array 124.80 54 PKP **PKiKP 04 12 50.2 +0.5**
comp=Z,2.0nm,0.8s,baz=246,slow=0.7,SNR=24
KSU1 Kansas State U 125.31 40 PKPdf **PKPdf 04 12 47.6 -2.4**
KSU1 Kansas State U 125.31 40 P **PKiKP 04 12 50.5 +0.2**
baz=305
JCT Junction City 127.39 51 PKPdf **PKiKP 04 12 54.7 -0.1**
JCT Junction City 127.39 51 P **PKiKP 04 12 55.2 +0.5**
baz=296
JCT Junction City 127.39 51 PKIKP **PKiKP 04 12 54.7 -0.1**
WHTX Lake Whitney, 128.47 48 P **PKiKP 04 12 57.7 +0.9**
baz=299
833A Chaparral WMA, 128.63 53 P **PKiKP 04 12 58.7 +1.4**
baz=295
MIAR Mount Ida 129.89 43 P **PKiKP 04 13 00.9 +1.3**
baz=305
PLCA Paso Flores 136.62 162 PKP **PKiKP 04 13 12.6 -0.5**
comp=Z,3.7nm,1.0s,baz=166,slow=3.1,SNR=6.1
VA03 San Esteban 143.77 156 PKPbc 04 13 23.0 +0.8
CO03 El Pedregal 145.39 155 **PKPbc 04 13 27.2 -0.2**
MATN Matagalpa 146.21 67 **PKPdf 04 13 29.5 +0.3**
LCO Las Campanas 146.95 153 **PKPbc 04 13 32.5 +0.2**
LCO Las Campanas 146.95 153 PKP2 **PKPbc 04 13 32.5 +0.2**
CPUP Villa Florida 153.42 174 PKPbc **PKiKP 04 13 48.8 +0.9**
comp=Z,4.6nm,0.8s,baz=84,slow=1.1,SNR=9.6
CPUP Villa Florida 153.42 174 **PKiKP 04 13 48.0 0.0**
CPUP Villa Florida 153.42 174 PKIKP **PKiKP 04 13 48.0 0.0**
MCRA Macar, Loja 153.96 100 **PKPbc 04 13 49.2 -0.2**
LPAZ La Paz 158.65 141 PKP **PKPdf 04 13 50.0 +1.9**
comp=Z,1.9nm,1.0s,baz=347,slow=5.8,SNR=5.5
LPAZ PKPab **PKPab 04 14 24.5 +1.2**
comp=Z,2.7nm,0.8s,baz=216,slow=3.5,SNR=6.1
LPAZ La Paz 158.65 141 PKIKP **PKPdf 04 13 50.0 +1.9**
ROSC El Rosal 159.49 77 PKPab **PKPab 04 14 28.8 +1.7**
comp=Z,3.7nm,0.4s,baz=119,slow=16,SNR=4.0

IDC ***29*** *03:55:13.5±2.5,37.°62N×141.°51E,h0km,mb3.8/5, mbtmp3.8/5,ML2.1/1,MS3.1/3,Error ellipse: s-maj=65.4km s-min=34.8km az=161.0*
JMA ***29*** *03:55:13.7±0.2,37.°4N±0.°3×141.°6E±0.°6,h19km±1km, MV3.5/40,E OFF FUKUSHIMA PREF*
ISC 29 03:55:12.5±2.1,37.°42N±0.°05×141.°67E±0.°08,h5km±12km, n27,σ0.°86/24,mb3.7/5,12D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
JFK	**Kawauchi**	**0.64**	**266**	||P	**Pg 03 55 25.6**	**+0.8**
JFK					||S	**Sg 03 55 33.8**	**+0.7**
JMST	**Minamisoumatoc**	**0.69**	**296**		P	**Pg 03 55 26.3**	**+0.5**
JMST					*e*S	**Sg 03 55 35.4**	**+0.5**
JMM	**Marumori**	**0.83**	**303**		P	**Pg 03 55 28.6**	**+0.2**
JMM					S	**Sg 03 55 39.2**	**0.0**
JIKH	**Ishinomakikobu**	**0.91**	**350**	||*i*P	**Pg 03 55 30.1**	**+0.2**
JIKH					||S	**Sg 03 55 41.9**	**+0.2**
JFFD	**Fukushimafurud**	**0.94**	**250**	||*i*P	**Pg 03 55 30.7**	**+0.1**
JFFD					||S	**Sg 03 55 42.8**	**-0.1**
JIO	**Ouri**	**1.07**	**346**	||*i*P	**Pb 03 55 32.6**	**-0.8**
JIO					||S	**Sb 03 55 45.9**	**-1.8**
JHO	**Hitachi**	**1.20**	**228**		P	**Pn 03 55 34.1**	**-1.8**
JHO					S	**Sb 03 55 50.3**	**-1.1**
JOU	**Okura**	**1.24**	**320**	||*i*P	**Pn 03 55 36.0**	**-0.6**
JOU					||S	**Sb 03 55 52.0**	**-0.7**
JYS	**Shirataka**	**1.50**	**303**	||P	**Pn 03 55 40.3**	**+0.1**
JYS					||S	**Sb 03 55 59.7**	**-0.6**
MJAR	**Matsushiro Arr**	**2.91**	**254**	Pn		**Pn 03 55 59.7**	**+0.3**
	0.3nm,0.3s,baz=79,slow=17,SNR=9.4						
KSRS	**Korea Array**	**10.94**	**274**	LR	LR	04 01 57.7	
	comp=Z,21nm,20.6s,baz=220,slow=37						
GUMO	**Guam**	**23.90**	**172**	LR	LR	04 08 16.7	
	comp=Z,237nm,21.4s,baz=246,slow=32						
H11N2	**WAKE ISLAND Hy 28.17**	**122**		T	T	04 30 35.6	
	baz=314,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy 28.18**	**122**		T	T	04 30 36.2	
	baz=314,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy 28.19**	**122**		T	T	04 30 36.5	
	baz=314,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy 28.90**	**124**		T	T	04 31 30.1	
	baz=316,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy 28.90**	**124**		T	T	04 31 30.8	
	baz=316,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy 28.91**	**124**		T	T	04 31 32.0	
	baz=316,slow=76,SNR=34						
MKAR	**Makanchi Array**	**44.09**	**302**	P		**P 04 03 21.7**	**+0.2**
	0.8nm,0.7s,baz=96,slow=9.6,SNR=6.1						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P		**P 04 03 36.2**	**+0.1**
	0.9nm,0.6s,baz=83,slow=8.3,SNR=8.4						
	0.9nm,0.6s						
FINES	**FINESS Array B**	**68.57**	**332**	P		**P 04 06 15.7**	**-0.2**
	4.2nm,1.0s,baz=22,slow=9.0,SNR=4.2						
	4.2nm,1.0s						
AKASG	**Malin Array Be**	**74.12**	**322**	P		**P 04 06 49.8**	**+0.1**
	0.2nm,0.3s,baz=48,slow=6.4,SNR=4.4						
	0.2nm,0.3s						
RAR	**Rarotonga**	**80.22**	**126**	LR	LR	04 47 30.3	
	comp=Z,12nm,18.1s,baz=270,slow=39						
TXAR	**Lajitas Array**	**89.72**	**53**	P		**P 04 08 14.1**	**+1.9**
	0.1nm,0.5s,baz=252,slow=2.5,SNR=3.7						
	0.1nm,0.5s						
H03N2	**Juan Fernandez**	**146.86**	**96**	T	T	06 59 03.3	
	baz=291,slow=76,SNR=8.4						
H03N3	**Juan Fernandez**	**146.87**	**96**	T	T	06 59 04.6	
	baz=291,slow=76,SNR=9.5						
H03N1	**Juan Fernandez**	**146.87**	**96**	T	T	06 59 04.7	
	baz=291,slow=76,SNR=7.2						

PRU ***29*** *03:59:23.5±0.0,43.°40N×18.°39E,h10km*
PDG ***29*** *03:59:24.5±0.2,43.°28N×17.°69E,h7km,ML3.0/13,Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
BEO ***29*** *03:59:24.9±0.4,43.°30N×17.°65E,h4km±3km,ML2.8/10*
RHSSO ***29*** *03:59:25.6±0.2,43.°28N×17.°71E,h6km±1km,ML2.9/15*
ISC 29 03:59:24.9±1.0,43.°27N±0.°02×17.°70E±0.°02,h8km±9km, n67,σ1.°901/126,10C-6D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
STON	**Ston**	**0.40**	**180**	||*i*Pg	**Pg 03 59 31.9**	**-0.6**
STON					*e*Sg	**Sb 03 59 38.9**	**-1.4**
STON	**Ston**	**0.40**	**180**		*e*Pg	**Pg 03 59 31.9**	**-0.6**
STON					Sg	**Sb 03 59 38.4**	**-1.9**
STON	**Ston**	**0.40**	**180**		*e*Pg	**Pg 03 59 32.0**	**-0.6**
STON					*e*Sg	**Sb 03 59 38.9**	**-1.4**
RICI	**Ricice**	**0.47**	**299**		*e*Pg	**Pg 03 59 33.9**	**-0.1**
RICI					Sg	**Sg 03 59 41.0**	**+0.7**
MAKA	**Makarska**	**0.50**	**273**		*e*Pg	**Pg 03 59 34.4**	**-0.1**
DBRK	**Dubrovnik**	**0.68**	**151**		*e*Pg	**Pg 03 59 37.4**	**-0.6**
DBRK					Sg	**Sb 03 59 48.4**	**-0.2**
BRY	**Bratogost**	**0.71**	**121**	||*i*Pg	**Pg 03 59 38.4**	**-0.2**
BRY					*e*Sg	**Sb 03 59 49.5**	**-0.2**
BRY	**Bratogost**	**0.71**	**121**	⇑	*i*Pg	**Pg 03 59 38.0**	**-0.6**
BRY					*i* Sg	**Sb 03 59 49.7**	**0.0**
TREB	**Trebinje**	**0.73**	**139**		*e*Pg	**Pg 03 59 38.5**	**-0.3**
TREB					*e*Sg	**Sb 03 59 49.8**	**-0.1**
TREB	**Trebinje**	**0.73**	**139**		*e*Pg	**Pg 03 59 38.5**	**-0.3**
TREB					*e*Sg	**Sn 03 59 51.0**	**-1.8**
LSTV	**Lastovo**	**0.78**	**230**		*e*Pg	**Pg 03 59 39.2**	**-0.6**
LSTV					Sg	**Sb 03 59 51.2**	**-0.1**
UPM	**Unac-Piva**	**0.88**	**94**		*e*Pg	**Pg 03 59 41.5**	**-0.3**
UPM					*e*Sg	**Sb 03 59 54.4**	**-0.2**
UPM	**Unac-Piva**	**0.88**	**94**	||*i*Pg	**Pg 03 59 41.0**	**-0.8**
UPM					*i* Sg	**Sb 03 59 55.1**	**+0.5**
SRKY	**Kupres RS**	**0.89**	**334**		*e*Pg	**Pg 03 59 40.7**	**-1.3**
SRKY					*e*Sg	**Sg 03 59 54.4**	**+0.8**
HVAR	**Hvar**	**0.92**	**265**		*e*Pg	**Pg 03 59 42.1**	**-0.4**
HVAR					Sg	**Sb 03 59 55.3**	**-0.1**
HCY	**Herceg Novi**	**1.01**	**144**	||*i*Pg	**Pg 03 59 43.6**	**-0.6**
HCY					*e*Sg	**Sn 03 59 58.5**	**-1.2**
HCY	**Herceg Novi**	**1.01**	**144**	||*i*Pg	**Pg 03 59 43.4**	**-0.8**
HCY					*i* Sg	**Sn 03 59 59.6**	**-0.1**
NKME	**Niksic**	**1.04**	**118**	⇑	*i*Pg	**Pg 03 59 44.1**	**-0.8**
NKME					*i* Sg	**Sn 04 00 00.8**	**+0.1**
CEME	**Cevo**	**1.15**	**128**	⇑	*i*Pg	**Pg 03 59 45.9**	**-1.0**
CEME					*i* Sg	**Sn 04 00 04.4**	**+1.1**
HAPS	**Han Pijesak,Bl**	**1.22**	**47**	⇑	*i*Pg	**Pg 03 59 47.4**	**-0.9**
HAPS					*e*Sg	**Sg 04 00 04.3**	**+0.1**
MGRS	**Mrkonjic Grad**	**1.23**	**339**	*e*Pg		**Pb 03 59 47.9**	**-0.5**
MGRS				*e*Sg		**Sg 04 00 04.5**	**0.0**
PLE	**Pljevlja**	**1.23**	**87**	⇑|*i*Pg		**Pg 03 59 47.4**	**-1.1**
PLE				*i* Sg		**Sn 04 00 07.0**	**+1.5**

RUDO	**Rudo**	**1.27**	**73**	*e*Pg	**Pn**	**03 59 47.5**	**-1.3**
RUDO				*e*Sg	**Sg**	**04 00 04.9**	**-0.6**
RUDO	**Rudo**	**1.27**	**73**	*e*Pg	**Pn**	**03 59 47.6**	**-1.3**
RUDO				*e*Sg	**Sg**	**04 00 04.5**	**-1.0**
BUM	**Brajici-Budva**	**1.30**	**137**	⇑*i*Pg	**Pn**	**03 59 48.8**	**-0.7**
BUM				*i* Sg	**Sn**	**04 00 09.7**	**+2.6**
BBLS	**Lazići**	**1.38**	**64**	⇑*i*Pg	**Pn**	**03 59 49.9**	**-0.6**
BBLS				*e*Sg	**Sb**	**04 00 08.6**	**-0.1**
BBLS	**Lazići**	**1.38**	**64**	*e*Pn	**Pn**	**03 59 50.5**	**0.0**
BBLS				*e*Sn	**Sg**	**04 00 09.7**	**+0.6**
KOME	**Kolasin**	**1.39**	**107**	*e*Pg	**Pn**	**03 59 50.4**	**-0.3**
KOME				*i* Sg	**Sg**	**04 00 12.4**	**+2.8**
PDG	**Podgorica**	**1.42**	**126**	*e*Pg	**Pg**	**03 59 51.5**	**-0.5**
PDG				*e*Sg	**Sg**	**04 00 12.4**	**+2.0**
TTG	**Podgorica**	**1.42**	**126**	⇑*i*Pg	**Pn**	**03 59 50.8**	**-0.1**
TTG				*i* Sg	**Sg**	**04 00 13.2**	**+2.8**
A050A	**Klekovaca**	**1.48**	**326**	*e*Pg	**Pn**	**03 59 52.3**	**+0.4**
A050A				*e*Sg	**Sg**	**04 00 12.6**	**+0.2**
DOB	**Doboj**	**1.49**	**11**	*e*Pg	**Pb**	**03 59 52.7**	**-0.1**
DOB				*e*Sg	**Sn**	**04 00 11.9**	**+0.2**
BLY	**Banja Luka**	**1.53**	**346**	*e*Pn	**Pb**	**03 59 53.2**	**-0.2**
BLY				*e*Sn	**Sn**	**04 00 13.1**	**+0.6**
BLY	**Banja Luka**	**1.53**	**346**	*e*Pg	**Pb**	**03 59 53.3**	**-0.2**
BLY				*e*Sn	**Sn**	**04 00 12.5**	**0.0**
DRME	**Dracevica, Mon**	**1.54**	**134**	⇑*i*Pn	**Pb**	**03 59 53.2**	**-0.4**
DRME				*e*Sn	**Sg**	**04 00 13.9**	**-0.3**
DRME	**Dracevica, Mon**	**1.54**	**134**	*e*Pg	**Pb**	**03 59 53.0**	**-0.6**
DRME				*i* Sg	**Sg**	**04 00 16.7**	**+2.5**
MORI	**Morici**	**1.57**	**293**	*e*Pn	**Pn**	**03 59 52.8**	**-0.2**
IVA	**Berane**	**1.65**	**103**	⇓*i*Pn	**Pb**	**03 59 55.0**	**-0.6**
IVA				*i* Sn	**Sg**	**04 00 19.5**	**+1.5**
SJES	**Sjenica**	**1.66**	**89**	*e*Pn	**Pb**	**03 59 55.7**	**-0.1**
SJES				*e*Sn	**Sb**	**04 00 16.4**	**-0.5**
SJES	**Sjenica**	**1.66**	**89**	*e*Pn	**Pg**	**03 59 56.1**	**-0.6**
SJES				*e*Sn	**Sb**	**04 00 16.6**	**-0.3**
ULC	**Ulcinj**	**1.73**	**138**	⇑*i*Pn	**Pb**	**03 59 56.4**	**-0.5**
ULC				*i* Sn	**Sg**	**04 00 21.4**	**+0.9**
PVY	**Plav**	**1.79**	**111**	*e*Pn	**Pb**	**03 59 57.2**	**-0.8**
PVY				*i* Sn	**Sg**	**04 00 22.8**	**+0.5**
IVAS	**Ivanjica**	**1.81**	**79**	*e*Pn	**Pn**	**03 59 57.3**	**+0.8**
IVAS				*e*Sn	**Sb**	**04 00 20.6**	**-0.6**
A051A	**Mrakovica**	**1.84**	**342**	*e*Pn	**Pn**	**03 59 57.1**	**+0.3**
A051A				*e*Sn	**Sn**	**04 00 21.3**	**+1.0**
TEKS	**Tekeris**	**1.84**	**45**	*e*Pn	**Pn**	**03 59 57.1**	**+0.3**
TEKS				*e*Sn	**Sn**	**04 00 21.1**	**+0.8**
TEKS	**Tekeris**	**1.84**	**45**	*e*Pn	**Pb**	**03 59 57.9**	**-0.9**
TEKS				*e*Sn	**Sb**	**04 00 22.4**	**+0.4**
PRIJ	**Prijedor**	**1.85**	**338**	*e*Pn	**Pn**	**03 59 57.5**	**+0.6**
PRIJ				*e*Sn	**Sn**	**04 00 21.4**	**+0.9**
DIVS	**Divibare**	**1.86**	**63**	*e*Pn	**Pn**	**03 59 58.1**	**+1.0**
DIVS				*e*Sn	**Sb**	**04 00 21.9**	**-0.6**
DIVS	**Divibare**	**1.86**	**63**	*e*Sn	**Sb**	**04 00 23.0**	**+0.5**
DUGI	**Dugi Otok**	**2.05**	**292**	*e*Pn	**Pb**	**04 00 01.4**	**-1.0**
VIRC	**Vir**	**2.17**	**299**	*e*Pn	**Pb**	**04 00 03.6**	**-0.9**
TRUS	**Trudelj**	**2.18**	**63**	*e*Pn	**Pn**	**04 00 01.3**	**-0.2**
TRUS				*e*Sn	**Sb**	**04 00 31.4**	**-0.4**
FRGS	**Fruska Gora**	**2.42**	**38**	*e*Pn	**Pn**	**04 00 05.4**	**+0.6**
FRGS				*e*Sn	**Sn**	**04 00 34.9**	**+0.2**
SELS	**Selova**	**2.50**	**90**	*e*Pn	**Pn**	**04 00 06.6**	**+0.8**
SELS				*e*Sn	**Sn**	**04 00 37.6**	**+1.1**
MORH	**Mrgy, Hungar**	**3.02**	**13**	*e*Pn	**Pn**	**04 00 13.4**	**+0.4**
CEY	**Cerknica**	**3.41**	**318**	*e*Pn	**Pn**	**04 00 19.6**	**+1.3**
CEY				*e*Sn	**Sn**	**04 00 58.5**	**-0.4**
SOKA	**Soboth**	**3.90**	**332**	*e*Pn	**Pn**	**04 00 25.6**	**+0.4**
	0.9nm,0.4s						
SOKA				*e*Sn	**Sn**	**04 01 09.7**	**-1.5**
	1.8nm,0.4s						
OBKA	**Obir**	**3.94**	**326**	*e*Pn	**Pn**	**04 00 26.3**	**+0.6**
OBKA	**Obir**	**3.94**	**326**	*e*Pn	**Pn**	**04 00 27.2**	**+1.5**
	0.3nm,0.1s						
OBKA				*e*Sn	**Sn**	**04 01 12.5**	**+0.3**
	4.7nm,0.3s						
ARSA	**Arzberg**	**4.27**	**340**	*e*Pn	**Pn**	**04 00 31.3**	**+1.1**
ARSA	**Arzberg**	**4.27**	**340**	*e*Pn	**Pn**	**04 00 30.7**	**+0.5**
	2.3nm,0.4s						
ARSA				*e*Sn	**Sn**	**04 01 20.4**	**+0.2**
	2.2nm,0.6s						
CONA	**Conrad Observa**	**4.84**	**345**	*e*Pn	**Pn**	**04 00 36.5**	**-1.5**
	1.3nm,0.6s						
CONA				*e*Sn	**Sn**	**04 01 32.4**	**-1.8**
	1.2nm,0.3s						
ABTA	**Abfaltersbach**	**5.06**	**315**	*e*Pn	**Pn**	**04 00 42.5**	**+1.4**
	1.3nm,0.5s						
ABTA				*e*Sn	**Sn**	**04 01 40.0**	**+0.2**
	5.5nm,0.8s						
MOA	**Molln**	**5.18**	**333**	*e*Pn	**Pn**	**04 00 44.0**	**+1.4**
	0.9nm,0.2s						
MOA				*e*Sn	**Sn**	**04 01 42.5**	**-0.1**
	3.8nm,0.5s						
WTTA	**Wattenberg**	**5.86**	**315**	*e*Pn	**Pn**	**04 00 54.1**	**+2.0**
	0.9nm,0.2s						
WTTA				*e*Sn	**Sn**	**04 01 59.6**	**+0.2**
	3.8nm,0.6s						
WATA	**Walderalm**	**5.93**	**315**	*e*Pn	**Pn**	**04 00 54.6**	**+1.5**
	0.5nm,0.2s						
WATA				*e*Sn	**Sn**	**04 02 03.6**	**+2.2**
	1.7nm,0.3s						
KHC	**Kasperske Hory**	**6.52**	**335**	*e*PN	**Pn**	**04 01 03.5**	**+2.3**
KHC				*e*SN	**Sn**	**04 02 13.5**	**-2.3**

LDG ***29*** *04:18:51.1±0.2,42˚77N×13˚41E,h10ᵏᵐ,Ml2.9/17,Error ellipse: s-maj=5.0km s-min=4.2km az=64.0*
ROM ***29*** *04:18:56.8±0.1,43˚016N±0˚004×13˚063E±0˚005, h10ᵏᵐ,ML3.4/35,Error ellipse: s-maj=0.4km s-min=0.3km az=316.0*
PRU ***29*** *04:18:58.8±0.0,43˚02N×13˚32E,h10ᵏᵐ*
IDC ***29*** *04:18:59.0±1.9,43˚18N×13˚15E,h0ᵏᵐ,mb3.6/1, mbtmp3.5/5,ML3.6/4,Error ellipse: s-maj=34.8km s-min=19.1km az=90.0*

ISC 29 04:18:55.6±0.8,42˚85N±0˚02×13˚10E±0˚02,h28ᵏᵐ±4ᵏᵐ, n114,σ2ˢ52/160,15C-17D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.02**	**145**	P	**Pb**	**04 19 01.4**	**+0.9**
NRCA				S	**Sb**	**04 19 04.6**	**+0.9**
T1216	**Preci, Frazion**	**0.07**	**305**	P	**Pb**	**04 19 00.4**	**-0.2**
T1216				S	**Sb**	**04 19 03.0**	**-0.9**
MC2	**Monte Cornacci**	**0.09**	**48**	P	**Pb**	**04 19 00.5**	**-0.5**
MC2				S	**Sb**	**04 19 03.0**	**-1.5**
MMO1	**Montemonaco**	**0.17**	**74**	P	**Pb**	**04 19 02.0**	**+0.5**
MMO1				S	**Sb**	**04 19 05.8**	**+0.4**
T1215	**Vallo di Nera,**	**0.18**	**254**	S	**Sb**	**04 19 03.0**	**-2.4**
T1218	**Civita (PG)**	**0.18**	**176**	P	**Pn**	**04 19 04.2**	**+1.5**
T1218				S	**Sb**	**04 19 10.0**	**+4.4**
T1256	**Bolognola (MC)**	**0.18**	**31**	⇓P	**Pb**	**04 19 00.1**	**-1.6**
T1256				S	**Sb**	**04 19 02.2**	**-3.5**
T1256				AML	AML		
	comp=E,76450μm,1.0s						
T1256				AML	AML		
	comp=N,55700μm,0.5s						
T1256				AML	AML		
	comp=E,74600μm,1.0s						
T1256				AML	AML		
	comp=N,52350μm,0.5s						
FDMO	**Fiordimonte**	**0.19**	**358**	⇑P	**Pb**	**04 18 57.1**	**-4.4**
FDMO				AML	AML		
FDMO				AML	AML		
FDMO				AML	AML		
CESI	**CESI - Serrava**	**0.21**	**317**	⇑P	**Pb**	**04 19 00.3**	**-1.5**
CESI				AML	AML		
	comp=N,42850μm,0.5s						
CESI				AML	AML		
	comp=E,43200μm,0.6s						
T1219	**Muccia, Frazio**	**0.21**	**342**	P	**Pb**	**04 18 59.1**	**-2.8**
T1219				S	**Sb**	**04 19 00.4**	**-5.7**
T1219				AML	AML		
	comp=N,63050μm,0.3s						
T1219				AML	AML		
	comp=E,58050μm,1.2s						
T1219				AML	AML		
	comp=E,54100μm,1.2s						
T1219				AML	AML		
	comp=N,66950μm,0.3s						
T1219				AML	AML		
	comp=N,63050μm,0.3s						
T1241	**Roccafluvione,**	**0.24**	**89**	P	**Pn**	**04 19 03.7**	**+0.2**
T1241				S	**Sn**	**04 19 08.9**	**+2.1**
LNSS	**Leonessa**	**0.25**	**190**	S	**Sb**	**04 19 06.0**	**-0.9**
LNSS				AML	AML		
	comp=E,4265μm,1.0s						
LNSS				AML	AML		
	comp=N,13700μm,0.6s						
CSP1	**Cessapalombo**	**0.25**	**18**	⇓P	**Pb**	**04 19 00.1**	**-2.4**
CSP1				AML	AML		
	comp=N,92000μm,0.7s						
CSP1				AML	AML		
	comp=E,70950μm,0.6s						
GUMA	**Gualdo di Mace**	**0.27**	**39**	⇑P	**Pb**	**04 19 01.9**	**-0.7**
GUMA				S	**Sb**	**04 19 05.8**	**-1.6**
GUMA				AML	AML		
	comp=E,99900μm,0.6s						
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
SMA1	**SAN MARTINO**	**0.28**	**141**	⇑P	**Pb**	**04 19 00.7**	**-2.0**
SMA1				AML	AML		
	comp=E,12700μm,0.6s						
SMA1				AML	AML		
	comp=N,11800μm,0.9s						
T1243	**Rocca Santa Ma**	**0.30**	**121**	P	**Pn**	**04 19 05.7**	**+1.4**
T1243				S	**Sn**	**04 19 12.3**	**+2.5**
SEF1	**Sefro**	**0.32**	**340**	⇑P	**Pb**	**04 19 00.9**	**-2.3**
SEF1				AML	AML		
	comp=E,46650μm,0.2s						
SEF1				AML	AML		
	comp=N,43100μm,0.3s						
SEF1				AML	AML		
	comp=E,46700μm,0.2s						
SEF1				AML	AML		
	comp=N,43100μm,0.3s						
MDAR	**Monte D'Aria**	**0.34**	**5**	⇓P	**Pb**	**04 19 01.4**	**-2.3**
MDAR				AML	AML		
	comp=E,21100μm,0.3s						
MDAR				AML	AML		
	comp=N,38000μm,0.7s						
RM33	**Pellescritta (**	**0.35**	**166**	P	**Pb**	**04 19 02.5**	**-1.3**
RM33				AML	AML		
	comp=N,3795μm,0.3s						
RM33				AML	AML		
	comp=E,5070μm,1.3s						
RM33				AML	AML		
	comp=N,3815μm,0.3s						
RM33				AML	AML		
	comp=E,5245μm,1.3s						
ARRO	**Arrone**	**0.37**	**222**	S	**Sb**	**04 19 07.0**	**-2.5**
SSM1	**San Severino M**	**0.38**	**9**	P	**Pb**	**04 19 02.2**	**-2.0**
CAMP	**Campotosto**	**0.39**	**144**	S	**Sb**	**04 19 08.0**	**-2.2**
SNTG	**Esanatoglia**	**0.42**	**344**	⇓P	**Pb**	**04 19 02.5**	**-2.2**
SNTG				AML	AML		
	comp=E,12700μm,0.6s						
SNTG				AML	AML		
	comp=N,14250μm,1.1s						
SNTG				AML	AML		
	comp=E,11950μm,0.6s						
SNTG				AML	AML		
	comp=N,15650μm,1.1s						
T1247	**Pizzolo (AQ)**	**0.43**	**160**	S	**Sb**	**04 19 09.0**	**-2.3**
TERO	**Teramo**	**0.44**	**121**	S	**Sb**	**04 19 08.0**	**-3.4**
OFFI	**Offida**	**0.44**	**79**	S	**Sb**	**04 19 08.0**	**-3.4**
CESX	**Cesi**	**0.45**	**238**	⇑P	**Pn**	**04 19 07.6**	**+1.3**
ATCC	**AVT- Casa Cast**	**0.47**	**315**	⇓P	**Pb**	**04 19 04.6**	**-1.0**
ATCC				AML	AML		
	comp=E,18550μm,0.2s						
ATCC				AML	AML		
	comp=N,12400μm,1.2s						
EL6	**Elcito**	**0.48**	**0**	⇑P	**Pb**	**04 19 03.6**	**-2.1**
EL6				AML	AML		
	comp=N,32800μm,0.8s						
EL6				AML	AML		
	comp=E,25600μm,0.7s						
FOSV	**Fossato di Vic**	**0.51**	**331**	⇓P	**Pb**	**04 19 04.5**	**-1.7**
FOSV				AML	AML		
	comp=E,6285μm,0.4s						
FOSV				AML	AML		
	comp=N,6450μm,1.6s						
CING	**Cingoli**	**0.53**	**8**	⇑P	**Pb**	**04 19 04.7**	**-1.8**
CING				AML	AML		
	comp=E,18050μm,0.3s						
CING				AML	AML		
	comp=N,7945μm,0.3s						
GIGS	**Gran Sasso**	**0.53**	**139**	S	**Sb**	**04 19 10.0**	**-4.0**
AQU	**L'Aquila**	**0.55**	**156**	S	**Sb**	**04 19 11.0**	**-3.3**
FIAM	**Fiamignano**	**0.58**	**179**	S	**Sb**	**04 19 12.0**	**-3.4**
MURB	**Monte Urbino**	**0.59**	**315**	⇓P	**Pb**	**04 19 06.6**	**-0.9**
MURB				S	**Sb**	**04 19 15.0**	**-0.6**
MURB				AML	AML		
	comp=E,12700μm,0.4s						
MURB				AML	AML		
	comp=E,12950μm,0.4s						
MURB				AML	AML		
	comp=N,9120μm,1.0s						
MURB				AML	AML		
	comp=N,9655μm,0.2s						
TRTR	**Tortoreto Alta**	**0.60**	**94**	S	**Sb**	**04 19 12.0**	**-3.8**
SSFR	**Montelago di S**	**0.63**	**339**	⇓P	**Pb**	**04 19 06.4**	**-1.8**
SSFR				AML	AML		
	comp=E,9410μm,0.2s						
SSFR				AML	AML		
	comp=N,8350μm,0.4s						
SSFR				AML	AML		
	comp=N,6775μm,0.4s						
SSFR				AML	AML		
	comp=E,8885μm,0.2s						
ATFO	**Monte Foce - G**	**0.64**	**323**	⇓P	**Pb**	**04 19 07.2**	**-1.2**
ATFO				AML	AML		
	comp=N,3520μm,0.8s						
ATFO				AML	AML		
	comp=E,3805μm,0.6s						
PP3	**Marolino**	**0.65**	**35**	⇓P	**Pb**	**04 19 08.0**	**-0.4**
PP3				AML	AML		
	comp=E,8480μm,0.7s						
PP3				AML	AML		
	comp=N,8435μm,0.5s						
PP3				AML	AML		
	comp=E,8475μm,0.7s						
PP3				AML	AML		
	comp=N,8695μm,0.5s						
PP3				AML	AML		
	comp=E,8510μm,0.9s						
ARVD	**Arcevia**	**0.66**	**350**	⇑P	**Pb**	**04 19 06.8**	**-1.8**
ARVD				S	**Sb**	**04 19 15.0**	**-2.5**
ARVD				AML	AML		
	comp=N,4365μm,0.3s						
ARVD				AML	AML		
	comp=E,5920μm,0.2s						
FRON	**Frontone**	**0.72**	**338**	⇓P	**Pb**	**04 19 08.0**	**-1.7**
FRON				AML	AML		
	comp=E,4140μm,0.5s						
FRON				AML	AML		
	comp=N,6055μm,0.4s						
ATVO	**AVT- Monte Val**	**0.73**	**317**	⇓P	**Pb**	**04 19 08.9**	**-1.0**
ATVO				AML	AML		
	comp=E,1730μm,1.3s						
ATVO				AML	AML		
	comp=N,1810μm,0.5s						
ATMI	**Monte Miggiano**	**0.78**	**309**	⇑P	**Pb**	**04 19 10.4**	**-0.2**
ATMI				S	**Sn**	**04 19 22.0**	**+0.4**
ATMI				AML	AML		
	comp=E,3070μm,1.5s						
ATMI				AML	AML		
	comp=N,5140μm,0.5s						
COR1	**Corinaldo**	**0.78**	**355**	P	**Pb**	**04 19 10.0**	**-0.7**
COR1				AML	AML		
	comp=E,9515μm,0.8s						
COR1				AML	AML		
	comp=N,9620μm,0.7s						
COR1				AML	AML		
	comp=E,5250μm,0.8s						
COR1				AML	AML		
	comp=N,7535μm,1.1s						
ATPI	**Pietralunga -**	**0.79**	**320**	⇓P	**Pb**	**04 19 09.8**	**-1.0**
ATPI				S	**Sb**	**04 19 21.0**	**-0.1**
ATPI				AML	AML		
	comp=N,2280μm,1.2s						
ATPI				AML	AML		
	comp=N,2285μm,1.2s						
ATPI				AML	AML		
	comp=E,1710μm,1.2s						
AOI	**Ancona**	**0.79**	**28**	⇑P	**Pb**	**04 19 10.2**	**-0.7**
AOI				AML	AML		
	comp=E,2625μm,1.2s						
AOI				AML	AML		
	comp=N,2835μm,0.4s						
PIEI	**Pieia**	**0.80**	**329**	P	**Pb**	**04 19 09.5**	**-1.5**
PIEI				AML	AML		
	comp=N,1780μm,1.0s						
PIEI				AML	AML		
	comp=E,1640μm,1.2s						
MPAG	**Monte Paganucc**	**0.82**	**342**	⇑P	**Pb**	**04 19 10.1**	**-1.3**
MPAG				S	**Sb**	**04 19 21.0**	**-1.0**
MPAG				AML	AML		
	comp=E,3120μm,0.6s						
MPAG				AML	AML		
	comp=E,3140μm,0.6s						
MPAG				AML	AML		
	comp=N,4320μm,0.5s						
MPAG				AML	AML		
	comp=N,4450μm,0.5s						
NARO	**Abbazia di Nar**	**0.85**	**334**	⇓P	**Pb**	**04 19 10.4**	**-1.4**
NARO				S	**Sb**	**04 19 22.0**	**-0.9**
NARO				AML	AML		
	comp=E,2015μm,0.4s						
NARO				AML	AML		
	comp=N,1400μm,0.9s						
APEC	**Apecchio**	**0.86**	**325**	⇓P	**Pb**	**04 19 11.3**	**-0.7**
APEC				AML	AML		
	comp=N,2875μm,1.3s						
APEC				AML	AML		
	comp=E,2450μm,1.0s						
APEC				AML	AML		
	comp=E,2255μm,1.2s						
APEC				AML	AML		
	comp=N,2425μm,0.9s						
FSSB	**Fossombrone**	**0.87**	**345**	⇓P	**Pn**	**04 19 10.8**	**-1.3**
FSSB				S	**Sb**	**04 19 23.0**	**-0.6**
FSSB				AML	AML		
	comp=N,16500μm,0.4s						
FSSB				AML	AML		
	comp=E,9380μm,0.3s						
BADI	**Badiali**	**0.91**	**317**	⇑P	**Pn**	**04 19 12.2**	**-0.4**
BADI				AML	AML		
	comp=E,111μm,0.4s						
BADI				AML	AML		
	comp=N,1215μm,0.6s						
BADI				AML	AML		
	comp=E,111μm,0.4s						
PE3	**Peglio**	**0.95**	**333**	⇓P	**Pn**	**04 19 13.1**	**-0.1**
PE3				AML	AML		
	comp=E,16μm,0.5s						
PE3				AML	AML		
	comp=N,14μm,0.8s						
CAFI	**Castiglion Fio**	**0.96**	**300**	P	**Pb**	**04 19 13.7**	**+0.1**
CAFI				AML	AML		
	comp=N,919μm,0.6s						
CAFI				AML	AML		
	comp=N,954μm,0.7s						
CAFI				AML	AML		
	comp=E,884μm,0.5s						
CAFI				AML	AML		
	comp=E,908μm,0.5s						
SSP9	**Sansepolcro**	**1.01**	**316**	⇑P	**Pb**	**04 19 14.3**	**-0.3**
SSP9				AML	AML		
	comp=N,1425μm,0.6s						
SSP9				AML	AML		
	comp=E,1114μm,1.6s						
SFI	**Santa Sofia**	**1.39**	**320**	⇑P	**Pb**	**04 19 22.7**	**+1.7**
VITU	**Vitulano (BN)**	**2.02**	**145**	P	**Pn**	**04 19 27.3**	**-0.6**
VITU				AML	AML		
	comp=N,242μm,0.5s						
VITU				AML	AML		
	comp=E,180μm,1.6s						
PAOL	**Paolisi**	**2.12**	**148**	S	**Sn**	**04 19 51.0**	**-3.8**
PGF	**Pioggiola**	**3.04**	**266**	*e*Pn	**Pn**	**04 19 44.2**	**+2.3**
PGF				*e*Sn	**Sn**	**04 20 17.8**	**+0.4**
	comp=E,5.2nm,0.5s						
MYKA	**Terra Mystica**	**3.80**	**6**	Pn	**Pn**	**04 19 55.2**	**+2.8**
	comp=E,0.4nm,0.1s,SNR=7.0						
MYKA				*e*Sn	**Sn**	**04 20 38.9**	**+2.8**
	comp=E,14nm,0.5s						
OBKA	**Obir**	**3.80**	**15**	*e*Pn	**Pn**	**04 19 54.8**	**+2.4**
	comp=E,1.8nm,0.2s						
OBKA				*e*Sn	**Sn**	**04 20 38.1**	**+1.9**
	comp=E,39nm,0.6s						
ABTA	**Abfaltersbach**	**3.92**	**354**	Pn	**Pn**	**04 19 56.6**	**+2.6**
	comp=E,36nm,0.5s,SNR=7.7						
ABTA				*e*Sn	**Sn**	**04 20 40.2**	**+1.1**
	comp=E,18nm,0.6s						
SOKA	**Soboth**	**4.07**	**19**	Pn	**Pn**	**04 19 58.9**	**+2.8**
	comp=E,1.7nm,0.3s,SNR=4.0						
SOKA				*e*Sn	**Sn**	**04 20 44.1**	**+1.4**
	comp=E,7.0nm,0.4s						
KBA	**Koelnbreinsper**	**4.23**	**2**	Pn	**Pn**	**04 20 01.4**	**+3.0**
	comp=E,4.6nm,0.3s,SNR=5.4						
KBA				*e*Sn	**Sn**	**04 20 48.2**	**+1.3**
	comp=E,22nm,0.6s						
SBF	**Sospel**	**4.25**	**286**	*e*P	**Pn**	**04 20 01.1**	**+2.5**
FETA	**Feichten**	**4.50**	**339**	*i* Pn	**Pn**	**04 20 06.1**	**+4.1**
	comp=E,4.5nm,0.4s,SNR=15						
FETA				*e*Sn	**Sn**	**04 20 54.7**	**+1.2**
	comp=E,10nm,0.6s						
WTTA	**Wattenberg**	**4.53**	**347**	*e*Pn	**Pn**	**04 20 06.9**	**+4.3**
	comp=E,1.2nm,0.2s						
WTTA				*e*Sn	**Sn**	**04 20 55.4**	**+1.0**
	comp=E,12nm,0.7s						
DAVOX	**Davos/Dischmat**	**4.55**	**331**	Pn	**Pn**	**04 20 07.1**	**+4.4**
	comp=E,3.7nm,0.3s,baz=142,slow=13,SNR=20						
DAVOX				Sn	**Sn**	**04 20 58.3**	**+3.5**
	comp=E,1.5nm,0.3s,baz=211,slow=22,SNR=1.8						
	comp=E,16nm,0.5s						
SQTA	**Sankt Quirin**	**4.57**	**344**	Pn	**Pn**	**04 20 07.0**	**+4.0**
	comp=E,3.3nm,0.3s,SNR=11						
SQTA				*e*Sn	**Sn**	**04 20 58.2**	**+3.0**
	comp=E,20nm,0.6s						
WATA	**Walderalm**	**4.61**	**347**	*i* Pn	**Pn**	**04 20 08.2**	**+4.6**
	comp=E,10nm,0.5s,SNR=5.6						
WATA				*e*Sn	**Sn**	**04 20 58.7**	**+2.4**
	comp=E,14nm,0.5s						
MOTA	**Moosalm**	**4.71**	**343**	Pn	**Pn**	**04 20 09.2**	**+4.3**
	comp=E,5.7nm,0.5s,SNR=8.0						
MOTA				*e*Sn	**Sn**	**04 21 00.8**	**+2.1**
	comp=E,7.5nm,0.5s						
ARSA	**Arzberg**	**4.72**	**20**	*e*Pn	**Pn**	**04 20 07.2**	**+2.2**
	comp=E,1.5nm,0.3s						
ARSA				*e*Sn	**Sn**	**04 20 59.9**	**+1.1**
	comp=E,3.8nm,0.4s						
LMR	**La Mourre**	**4.85**	**278**	*e*P	**Pn**	**04 20 10.4**	**+3.7**
LMR				*e*Sn	**Sn**	**04 21 01.7**	**-0.2**
	comp=E,0.2nm,0.2s						
BIOA	**Bad Ischl, Aus**	**4.86**	**4**	Pn	**Pn**	**04 20 09.8**	**+2.9**
	comp=E,3.0nm,0.2s,SNR=7.0						
BIOA				*e*Sn	**Sn**	**04 21 04.6**	**+2.5**
	comp=E,18nm,0.6s						
RETA	**Reutte**	**4.92**	**341**	*e*Pn	**Pn**	**04 20 11.9**	**+4.2**
	comp=E,2.9nm,0.3s						
RETA				*e*Sn	**Sn**	**04 21 03.9**	**+0.1**
	comp=E,3.4nm,0.3s						
MBDF	**Montbardon**	**4.95**	**294**	*e*P	**Pn**	**04 20 11.8**	**+3.6**
MBDF				*e*Sn	**Sn**	**04 21 03.5**	**-1.1**
	comp=E,2.0nm,0.4s						
DAVA	**Damuels**	**4.99**	**334**	*i* Pn	Pn	04 20 14.1	+5.4
	comp=E,5.6nm,0.5s,SNR=8.4						
DAVA				*e*Sn	**Sn**	**04 21 09.3**	**+3.8**
	comp=E,7.2nm,0.5s						
MOA	**Molln**	**5.07**	**9**	*e*Pn	**Pn**	**04 20 12.2**	**+2.4**
	comp=E,5.1nm,0.3s						
MOA				*e*Sn	**Sn**	**04 21 08.0**	**+0.7**
	comp=E,8.2nm,0.3s						
LPL	**La Plagne**	**5.30**	**302**	*e*P	**Pn**	**04 20 17.2**	**+4.1**
LPL				*e*Sn	**Sn**	**04 21 11.5**	**-1.8**

	comp=E,1.5nm,0.3s								
KHC	**Kasperske Hory**	6.29	3	*e*PN		**Pn**	04 20 28.0	+1.5	
KHC				*e*SN		**Sn**	04 21 35.2	-2.3	
VIVF	**Saint-Julien-l**	6.41	291	*e*P		**Pn**	04 20 31.1	+2.9	
HINF	**Hinteralfeld**	6.63	321	*e*P		**Pn**	04 20 34.0	+2.7	
HINF				*e*Sn		**Sn**	04 21 42.7	-3.2	
	comp=E,3.8nm,0.3s								
LASF	**Ste Croix**	6.83	283	*e*P		**Pn**	04 20 38.1	+4.1	
CDF	**Champ du Feu**	6.90	326	*e*P		**Pn**	04 20 37.5	+2.6	
CDF				*e*Sn		**Sn**	04 21 49.0	-3.4	
	comp=E,2.9nm,0.4s								
HAU	**Haudompre**	7.01	320	*e*P		**Pn**	04 20 39.2	+2.8	
HAU				*e*Sn		**Sn**	04 21 52.1	-3.0	
	comp=E,6.8nm,0.3s								
PRU	**Pruhonice**	7.21	7	*e*SN		**Sn**	04 21 56.9	-3.1	
NKC	**Novy Kostel**	7.40	357	*e*SN		**Sn**	04 22 03.4	-1.3	
SMF	**Signal de Mont**	7.60	303	*e*P		**Pn**	04 20 47.7	+3.2	
SMF				*e*Sn		**Sn**	04 22 06.8	-2.9	
	comp=E,1.5nm,0.3s								
KEST	**Kesra**	7.68	203	Pn		Pn	04 20 56.2	+10	
	comp=E,0.3nm,0.3s,baz=329,slow=9.3,SNR=5.5								
	comp=E,3.1nm,0.8s								
PAGF	**Fort de Pagny**	7.69	320	*e*P		**Pn**	04 20 48.9	+3.2	
SFTF	**Sexfontaines**	7.79	316	*e*P		**Pn**	04 20 50.4	+3.3	
	baz=135								
LOR	**Lormes**	7.89	307	*e*P		**Pn**	04 20 52.3	+3.8	
	baz=127								
LOR				*e*Sn		**Sn**	04 22 13.2	-3.6	
	comp=E,1.6nm,0.3s								
AVF	**Avril sur Loir**	7.97	303	*e*P		**Pn**	04 20 52.9	+3.4	
MEZF	**Maizieres J'vi**	7.98	318	*e*P		**Pn**	04 20 53.5	+3.9	
MTLF	**Montolieu**	7.98	277	*e*P		**Pn**	04 20 53.7	+4.0	
SSF	**Saint Saulge**	8.00	305	*e*P		**Pn**	04 20 53.4	+3.5	
SSF				*e*Sn		**Sn**	04 22 15.9	-3.5	
	comp=E,1.1nm,0.4s								
SAVF	**Savonnieres en**	8.02	319	*e*P		**Pn**	04 20 53.2	+3.0	
	baz=137								
BRG	**Berggiesshubel**	8.05	4	*e*P		Pb	04 21 04.0	-10	
BRG				Amp			04 21 07.6		
	comp=Z,1.5nm,0.6s								
BRG				*ex*		x	04 22 16.0		
BRG				*ex*			04 23 17.9		
BRG				Amp			04 23 36.5		
	comp=Z,6.4nm,1.2s								
BGF	**Bois d'Agland**	8.19	300	*e*P		**Pn**	04 20 55.8	+3.3	
CAF	**Calviac**	8.23	288	*e*P		**Pn**	04 20 56.3	+3.1	
CLL	**Collm**	8.46	360	*e*Pn		**Pn**	04 20 58.0	+1.8	
CLL				*ex*		x	04 22 08.0		
CLL				*ex*		x	04 22 29.0		
CLL				*ex*		x	04 22 49.0		
CLL				*e*Sg		Sb	04 23 21.0	+20	
	comp=Z,19nm,1.3s								
CLL				Lm		MLR	04 58 00.0		
	comp=Z,100nm,21.2s								
RJF	**Les Rejaudoux**	8.69	290	*e*P		**Pn**	04 21 03.0	+3.5	
LFF	**La Frestale**	9.16	287	*e*Pn		**Pn**	04 21 04.2	-1.7	
GIVF	**Givet**	9.22	325	*e*P		**Pn**	04 21 09.9	+3.2	
LDF	**La Druitiere**	10.88	306	*e*Sn		**Sn**	04 23 25.4	-4.6	
	comp=Z,0.9nm,0.3s								
EKA	**Eskdalemuir Ar**	16.36	325	Pn		**P**	04 22 46.7	+1.0	
	baz=138,slow=14								
	comp=Z,0.2nm,0.4s								
MKAR	**Makanchi Array**	47.79	60	P		P	04 27 37.4	+7.1	
	comp=Z,0.7nm,0.8s,baz=284,slow=5.8,SNR=4.0								
	comp=Z,0.7nm,0.8s								

*GUC **29** 04:34:29.9±0.8,31°.97S×70°.94W,h87km±4km,ML4.5*
*SJA **29** 04:34:29.7±0.5,31°.95S×70°.99W,h75km,ML4.3,MW4.0*
*NEIC **29** 04:34:30.5±1.1,31°.97S±0°.03×70°.99W±0°.07,h91km±7km, mb4.3/12,ML4.5(GUC),Error ellipse: s-maj=8.8km s-min=4.6km az=83.0*
*VAO **29** 04:34:41.4±5.2,31°.50S×70°.51W,h162km±26km,mb3.9*
ISC 29 04:34:30.3±0.7,31°.95S±0°.02×71°.00W±0°.04,h96km±6km, n114,σ0s83/165,mb4.3/6,3C-15D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VA06	**Catapilco**	0.66	202	Pn		**Pn**	04 34 46.9	-0.1
VA06				Sn		**Sn**	04 34 59.4	0.0
VA06	**Catapilco**	0.66	202	⇓*i*P		**Pn**	04 34 47.1	+0.1
VA06				*e*S		**Sn**	04 34 59.2	-0.2
VA06				IAML			04 35 03.0	
	comp=E,14μm,0.6s							
CO02	**Combarbal**	0.75	0	*e*P		**Pn**	04 34 47.7	-0.4
CO02				Sn		**Sn**	04 35 01.1	-0.1
CO02	**Combarbal**	0.75	0	⇑*i*P		**Pn**	04 34 48.0	0.0
CO02				*i* S		**Sn**	04 35 01.3	+0.1
CO02				IAML			04 35 02.8	
	comp=N,48μm,0.2s							
CO02	**Combarbal**	0.75	0	*e*P		**Pn**	04 34 48.0	0.0
CO02				*e*S		**Sn**	04 35 02.0	+0.8
CO02				IAML			04 35 03.4	
	comp=Z,6μm,0.2s							
VA03	**San Esteban**	0.89	155			**Pn**	04 34 49.0	-0.4
VA03				Sn		**Sn**	04 35 03.1	-0.7
VA03	**San Esteban**	0.89	155	⇓*i*P		**Pn**	04 34 49.0	-0.4
VA03				*i* S		**Sn**	04 35 03.2	-0.6
VA03				IAML			04 35 03.9	
	comp=E,35μm,0.2s							
VA03	**San Esteban**	0.89	155	*e*P		**Pn**	04 34 49.0	-0.4
VA03				*e*S		**Sn**	04 35 02.5	-1.2
VA03				IAML			04 35 04.7	
	comp=Z,8μm,0.4s							
ROCH	**El Roble**	1.01	180	⇓*i*P		**Pn**	04 34 50.6	-0.3
ROCH				*i* S		**Sn**	04 35 05.8	-0.4
ROCH				IAML			04 35 07.7	
	comp=N,11μm,0.2s							
ROC1	**El Roble**	1.02	181			**Pn**	04 34 50.0	-1.0
ROC1				Sn		**Sn**	04 35 05.2	-1.2
ROC1	**El Roble**	1.02	181	*e*P		**Pn**	04 34 50.2	-0.7
CO03	**El Pedregal**	1.14	14	Pn		**Pn**	04 34 52.1	-0.2
CO03	**El Pedregal**	1.14	14	⇑*i*P		**Pn**	04 34 52.1	-0.2
CO03				*i* S		**Sn**	04 35 08.1	-0.5
CO03				IAML			04 35 09.7	
	comp=N,19μm,0.2s							
CO03	**El Pedregal**	1.14	14	*e*P		**Pn**	04 34 52.0	-0.2
CO03				*e*S		**Sn**	04 35 08.3	-0.4
CO03				IAML			04 35 10.0	
	comp=Z,5μm,0.2s							
VA01	**Torpederas**	1.20	207			**Pn**	04 34 52.6	-0.1
VA01	**Torpederas**	1.20	207	⇓*i*P		**Pn**	04 34 52.8	+0.1
VA01				*i* S		**Sn**	04 35 09.8	+0.3
VA01	**Torpederas**	1.20	207	*e*P		**Pn**	04 34 52.8	+0.1
VA01				*e*S		**Sn**	04 35 10.7	+1.1
PEL	**Peldehue**	1.22	167	*i* P		**Pn**	04 34 52.4	-0.6
PEL				*i* S		**Sn**	04 35 10.0	-0.1
MT02	**Curacav**	1.31	185			**Pn**	04 34 54.1	+0.1
MT02	**Curacav**	1.31	185	⇓*i*P		**Pn**	04 34 54.1	+0.1
MT02				*i* S		**Sn**	04 35 11.7	-0.3
MT02	**Curacav**	1.31	185	*e*P		**Pn**	04 34 54.1	+0.1
MT02				*e*S		**Sn**	04 35 11.6	-0.4
MT02				IAML			04 35 12.6	
	comp=Z,3μm,0.2s							
CO06	**Fray Jorge**	1.39	337			**Pn**	04 34 55.7	+0.7
CO06	**Fray Jorge**	1.39	337	⇑*i*P		**Pn**	04 34 55.7	+0.7
CO06				*e*S		**Sn**	04 35 15.2	+1.5
MT05	**Renca**	1.45	171			**Pn**	04 34 55.4	-0.5
MT05	**Renca**	1.45	171	⇓*i*P		**Pn**	04 34 56.0	+0.1
MT05				*i* S		**Sn**	04 35 14.7	-0.4
MT05				IAML			04 35 17.9	
	comp=E,14μm,0.3s							
MT05	**Renca**	1.45	171	*e*P		**Pn**	04 34 56.0	+0.1
MT05				*e*S		**Sn**	04 35 14.9	-0.3
MT05				IAML			04 35 18.5	
	comp=Z,3μm,0.1s							
RTLS	**Leoncito**	1.46	84	*e*P		**Pn**	04 34 56.0	-0.2
RTLS				*e*S		**Sn**	04 35 16.1	+0.4
FCH	**Farellones**	1.50	157	⇓*i*P		**Pn**	04 34 57.1	+0.5
FCH				*i* S		**Sn**	04 35 17.2	+0.6
FCH				IAML			04 35 19.2	
	comp=E,6μm,0.1s							
MT03	**Universidad Ad**	1.59	165			**Pn**	04 34 57.3	-0.3
MT03	**Universidad Ad**	1.59	165	⇓*i*P		**Pn**	04 34 57.6	-0.1
MT03				*i* S		**Sn**	04 35 18.6	+0.3
MT03				IAML			04 35 19.9	
	comp=E,9μm,0.3s							
MT03	**Universidad Ad**	1.59	165	*e*P		**Pn**	04 34 57.5	-0.1
MT03				*e*S		**Sn**	04 35 18.4	0.0
MT03				IAML			04 35 21.4	
	comp=Z,5μm,0.2s							
VA05	**Santo Domingo**	1.77	197	Pn		**Pn**	04 34 59.5	-0.3
VA05	**Santo Domingo**	1.77	197	⇓*i*P		**Pn**	04 34 59.7	-0.2
VA05				*i* S		**Sn**	04 35 21.7	-0.5
VA05				IAML			04 35 24.8	
	comp=E,4μm,0.6s							
GO04	**Tololo Observa**	1.79	6			**Pn**	04 34 59.0	-0.3
GO04	**Tololo Observa**	1.79	6	*i* P		**Pn**	04 34 59.9	-0.3
GO04				*i* S		**Sn**	04 35 22.3	-0.7
GO04	**Tololo Observa**	1.79	6	*e*P		**Pn**	04 35 00.0	-0.3
GO04				*e*S		**Sn**	04 35 23.4	+0.4
MT09	**Talagante**	1.82	180			**Pn**	04 35 00.4	-0.2
MT09	**Talagante**	1.82	180	⇓*i*P		**Pn**	04 35 00.5	-0.1
MT09				*i* S		**Sn**	04 35 23.0	-0.5
MT09				IAML			04 35 24.9	
	comp=N,6μm,0.1s							
MT01	**Popeta**	1.92	186			**Pn**	04 35 01.7	0.0
MT01	**Popeta**	1.92	186	⇓*i*P		**Pn**	04 35 01.7	0.0
MT01				*i* S		**Sn**	04 35 25.5	-0.1
MT01				IAML			04 35 27.3	
	comp=E,5μm,0.2s							
MT01	**Popeta**	1.92	186	*e*P		**Pn**	04 35 01.8	0.0
MT01				*e*S		**Sn**	04 35 25.9	+0.3
MT01				IAML			04 35 27.0	
	comp=Z,4μm,0.5s							
LMEL	**Las Melosas**	2.00	161			**Pn**	04 35 03.3	+0.3
LMEL	**Las Melosas**	2.00	161	*i* P		**Pn**	04 35 03.7	+0.7
LMEL				*i* S		**Sn**	04 35 29.0	+1.1
LMEL				IAML			04 35 32.1	
	comp=E,6μm,0.1s							
ZON	**Zonda**	2.02	79	Pn		**Pn**	04 35 03.2	+0.1
ZON	**Zonda**	2.02	79	*e*P		**Pn**	04 35 03.0	-0.1
ZON				*e*S		**Sn**	04 35 27.9	-0.2
CO05	**La Serena**	2.04	354	Pn		**Pn**	04 35 03.2	0.0
CO05	**La Serena**	2.04	354	*i* P		**Pn**	04 35 03.4	+0.1
CO05				*i* S		**Sn**	04 35 27.7	-0.7
CO05				IAML			04 35 30.2	
	comp=E,3μm,0.1s							
BO04	**La Punta**	2.06	171			**Pn**	04 35 03.3	-0.2
BO04	**La Punta**	2.06	171	⇓*i*P		**Pn**	04 35 03.4	-0.1
BO04				*i* S		**Sn**	04 35 27.8	-1.1
BO04				IAML			04 35 29.0	
	comp=N,3μm,0.2s							
RTCV	**Cerro Valdivia**	2.10	88	*e*P		**Pn**	04 35 04.4	+0.3
RTCV				*e*S		**Sn**	04 35 30.1	+0.3
CO01	**Juntas del Tor**	2.12	22			**Pn**	04 35 04.9	+0.4
CO01	**Juntas del Tor**	2.12	22	*i* P		**Pn**	04 35 05.0	+0.4
CO01				*i* S		**Sn**	04 35 30.6	-0.1
CO01	**Juntas del Tor**	2.12	22	*e*P		**Pn**	04 35 05.0	+0.4
CO01				*e*S		**Sn**	04 35 30.5	-0.2
SJA	**San Juan**	2.12	79	*e*P		**Pn**	04 35 05.0	+0.6
SJA				*e*S		**Sn**	04 35 29.7	-0.7
RTLL	**Cerro Villicun**	2.24	75	*e*P		**Pn**	04 35 05.9	-0.1
RTLL				*e*S		**Sn**	04 35 32.5	-0.8
ACDV	**Cuesta del Vie**	2.40	43	*e*P		**Pn**	04 35 09.1	+0.8
BO01	**Tunca**	2.43	182	Pn		**Pn**	04 35 08.3	-0.2
BO01	**Tunca**	2.43	182	⇓*i*P		**Pn**	04 35 08.2	-0.2
BO01				*i* S		**Sn**	04 35 36.0	-1.6
BO01				IAML			04 35 38.6	
	comp=N,1μm,0.1s							
BO01	**Tunca**	2.43	182	*e*P		**Pn**	04 35 08.2	-0.2
BO01				*e*S		**Sn**	04 35 36.6	-1.0
BO03	**Pichilemu**	2.66	197	*i* P		**Pn**	04 35 10.2	-1.2
BO03				*i* S		**Sn**	04 35 41.1	-1.8
BO02	**Sierra Bellavi**	2.84	176	Pn		**Pn**	04 35 13.7	-0.2
BO02	**Sierra Bellavi**	2.84	176	*i* P		**Pn**	04 35 13.8	-0.1
BO02				*i* S		**Sn**	04 35 46.2	-1.2
BO02				IAML			04 35 50.2	
	comp=N,3μm,0.2s							
BO02	**Sierra Bellavi**	2.84	176	*i* P		**Pn**	04 35 14.0	+0.1
BO02				*e*S		**Sn**	04 35 44.4	-3.0
BO02				IAML			04 35 49.5	
	comp=Z,2μm,0.2s							
LCO	**Las Campanas**	2.94	5	Pn		**Pn**	04 35 15.0	-0.6
LCO	**Las Campanas**	2.94	5	*i* P		**Pn**	04 35 14.8	-0.7
LCO				*e*S		**Sn**	04 35 48.8	-1.5
GO05	**Huala**	3.14	194			**Pn**	04 35 16.8	-1.2
GO05	**Huala**	3.14	194	*i* P		**Pn**	04 35 16.8	-1.2
GO05	**Huala**	3.14	194	*e*P		**Pn**	04 35 16.8	-1.2
GO05				*e*S		**Sn**	04 35 53.4	-1.3
AC05	**El Transito**	3.17	12			**Pn**	04 35 18.6	+0.1
AC05	**El Transito**	3.17	12	⇓*i*P		**Pn**	04 35 18.5	+0.1
AC05				*i* S		**Sn**	04 35 54.2	-1.2
AC05				IAML			04 35 55.8	
	comp=E,2μm,0.2s							
AC05	**El Transito**	3.17	12	*e*P		**Pn**	04 35 18.6	+0.1
AC05				*e*S		**Sn**	04 35 54.3	-1.2
AC05				IAML			04 35 55.9	
	comp=Z,800nm,0.2s							
AC04	**Llanos de Chal**	3.74	359	Pn		**Pn**	04 35 25.5	-0.4
AC04	**Llanos de Chal**	3.74	359	*i* P		**Pn**	04 35 25.7	-0.3
AC04	**Llanos de Chal**	3.74	359	*e*P		**Pn**	04 35 25.7	-0.3
AC04				*e*S		**Sn**	04 36 08.8	-0.1
ML02	**Panimavida**	3.81	185	Pn		**Pn**	04 35 26.2	-0.7
ML02	**Panimavida**	3.81	185	⇓*i*P		**Pn**	04 35 26.3	-0.6
ML02				*i* S		**Sn**	04 36 08.4	-2.4
GO03	**Copiap**	4.40	9			**Pn**	04 35 34.1	-0.8
GO03	**Copiap**	4.40	9	*e*P		**Pn**	04 35 34.3	-0.6
GO03				*e*S		**Sn**	04 36 23.9	-1.2
AC06	**Mina Casimiro**	4.62	7	Pn		**Pn**	04 35 36.5	-1.4
TINO	**Tinogasta**	4.89	38	*e*P		**Pn**	04 35 40.6	-1.1
AC02	**Maricunga**	5.36	18	Pn		**Pn**	04 35 47.3	-1.1
AC02	**Maricunga**	5.36	18	*e*P		**Pn**	04 35 47.5	-0.8
GO02	**Mina Guanaco**	6.88	11	Pn		**Pn**	04 36 05.9	-3.0
LR03	**Panguipulli**	7.74	188			**Pn**	04 36 17.9	-2.3
TRQA	**Tornquist**	9.58	132	Pn		**Pn**	04 36 43.2	-2.1
MNMC	**Minye Minye**	12.83	6	Pn		**Pn**	04 37 28.8	-0.7
PB18	**Visviri**	14.37	6	P		**P**	04 37 52.5	-1.5
MURT	**Porto Murtinho**	15.73	53	*e*P		**P**	04 38 08.3	-0.3
LPAZ	**La Paz**	15.81	10	P		**Pn**	04 38 08.5	+0.4
LPAZ	**La Paz**	15.81	10	*e*P		**Pn**	04 38 08.7	+0.6
BBSD	**Serra de San D**	17.46	35	*e*P		**P**	04 38 26.3	-1.4
PTLB	**Pontes e Lacer**	19.67	36	P		**P**	04 38 51.7	-0.1
PTLB				IAmb		IAmb	04 38 52.9	
	comp=Z,4.2nm,1.0s							
PTLB	**Pontes e Lacer**	19.67	36	*e*P		**P**	04 38 51.6	-0.2
PCMB	**Pacaembu**	20.38	64	*e*P		**P**	04 38 58.3	-1.2
SALV	**Santo Antonio**	21.20	45	*e*P		**P**	04 39 07.3	-1.0
VILB	**Vilhena**	21.36	30	P		**P**	04 39 09.0	-1.0
VILB				IAmb		IAmb	04 39 12.5	
	comp=Z,16nm,0.7s							
VILB	**Vilhena**	21.36	30	*e*P		**P**	04 39 09.3	-0.7
ETMB	**Extrema**	22.47	12	P		**P**	04 39 21.9	+0.2
ETMB				IAmb		IAmb	04 39 24.8	
	comp=Z,11nm,1.0s							
ETMB	**Extrema**	22.47	12	*e*P		**P**	04 39 22.3	+0.6
PDRB	**Porto dos Gac**	24.14	36	*e*P		**P**	04 39 37.0	-0.5
CLDB	**Colider**	25.25	37	*e*P		**P**	04 39 48.3	+0.7
BDFB	**Brasilia**	26.48	58	P		**P**	04 39 57.4	-1.5
MACA	**Manacapuru-AM**	30.24	21	P		**P**	04 40 31.6	-0.5
MACA				IAmb		IAmb	04 40 32.4	
	comp=Z,5.3nm,0.5s							
BOAV	**Boa Vista**	35.58	18	P		**P**	04 41 18.6	-0.1
BOAV				IAmb		IAmb	04 41 19.0	
	comp=Z,2.5nm,0.8s							
BOAV	**Boa Vista**	35.58	18	*e*P		**P**	04 41 18.5	-0.1
BAUV	**El Baul**	40.77	4	P		**P**	04 42 02.1	0.0
BELA	**Belgrano 2**	48.74	170	P		**P**	04 43 06.1	+1.4
BELA				IAmb		IAmb	04 43 07.2	
	comp=Z,4.8nm,1.2s							
VNA3	**Neumayer Olymp**	50.93	159	P		**P**	04 43 22.9	+1.5
VNA2	**Neumayer--Watz**	51.56	158	P		**P**	04 43 27.2	+1.1
	baz=280,slow=9.0							
CCIG	**Comitan**	52.07	334	P		**P**	04 43 30.7	0.0
SNAA	**Sanae**	53.15	158	P		**P**	04 43 38.9	+1.0
SNAA	**Sanae**	53.15	158	P		**P**	04 43 38.8	+0.8
SNAA				IAmb		IAmb	04 44 01.6	
	comp=Z,5.7nm,1.4s							
TROLL	**Troll, Antarti**	54.87	159	P		**P**	04 43 51.6	+1.1
QSPA	**South Pole Qui**	58.28	180	P		**P**	04 44 16.5	+1.7
QSPA				IAmb		IAmb	04 44 19.1	
	comp=Z,5.6nm,1.5s							

*IDC **29** 04:55:32.1±1.2,0°.24S×125°.63E,h0km,mb3.7/5, mbtmp3.8/5,Error ellipse: s-maj=141.3km s-min=20.3km az=67.0*
*DJA **29** 04:55:39.0±1.2,0°.S±4°×12°.6E±°,h29km±11km,M3.7/10, mb4.0/1,MLv3.5/10*
ISC 29 04:55:39.3±1.0,0°.43S±0°.07×125°.71E±0°.06,h35km,n12, σ1s28/13,mb3.8/5,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SANI	**Sanana**	1.64	170	P		**Pn**	04 56 05.8	+0.2
SANI				S		**Sn**	04 56 27.1	+1.6
LBMI	**Labuha**	1.81	97	P		**Pn**	04 56 08.4	+0.5
LBMI				S		**Sn**	04 56 31.5	+1.9
TNTI	**Ternate**	2.04	54	P		**Pn**	04 56 11.7	+0.6
LUWI	**Luwuk**	3.00	258	P		**Pn**	04 56 25.7	+1.4
NLAI	**Namlea**	3.12	154	P		**Pn**	04 56 24.7	-1.3
APSI	**Ampana**	4.09	263	P		**Pn**	04 56 39.9	+0.6
MSAI	**Masohi**	4.33	132	P		**Pn**	04 56 44.0	+1.3
WRA	**Warramunga Arr**	21.16	157	P		**P**	05 00 20.6	-1.0
	3.6nm,0.9s,baz=337,slow=11,SNR=16							
	3.6nm,0.9s							
ASAR	**Alice Springs**	24.43	162	P		**P**	05 00 54.9	0.0
	0.7nm,0.4s,baz=345,slow=10,SNR=15							
	0.7nm,0.4s							
STKA	**Stephens Creek**	34.70	156	P		**P**	05 02 25.8	-0.1
	2.3nm,0.7s,baz=318,slow=9.1,SNR=6.5							
	2.3nm,0.7s							
SONM	**Songino Array**	50.92	343	P		**P**	05 04 35.5	-1.7
	0.8nm,0.8s,baz=142,slow=7.3,SNR=3.5							
	0.8nm,0.8s							
MKAR	**Makanchi Array**	60.41	327	P		P	05 05 40.7	-4.6
	0.2nm,0.3s,baz=123,slow=7.4,SNR=5.0							
	0.2nm,0.3s							

*IDC **29** 05:01:57.1±15.0,27°.46N×140°.92E,h319km±160km, mb3.2/7,mbtmp3.9/7,MS2.9/1,Error ellipse: s-maj=40.6km s-min=21.2km az=69.0*
ISC 29 05:01:55.2±1.3,27°.5N±0°.2×140°.9E±0°.3,h300km,n8, σ0s72/7,mb3.7/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	39.52	266	LR		LR	05 25 04.3	
	comp=Z,15nm,18.6s,baz=205,slow=35							
WRA	**Warramunga Arr**	47.55	188	P		**P**	05 10 01.4	+0.1
	0.2nm,0.3s,baz=6.9,slow=7.6,SNR=8.3							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	49.37	309	P		**P**	05 10 14.6	-0.3
	0.3nm,0.3s,baz=84,slow=9.0,SNR=5.3							
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	51.98	314	P		**P**	05 10 34.2	+0.1
	1.9nm,0.6s,baz=92,slow=8.0,SNR=12							
	1.9nm,0.6s							
BVAR	**Borovoye Array**	57.01	317	P		**P**	05 11 10.1	0.0
	1.9nm,0.5s,baz=81,slow=6.9,SNR=9.8							
	1.9nm,0.5s							
ILAR	**Eielson Array**	57.94	29	P		**P**	05 11 16.0	-0.3
	0.4nm,0.9s,baz=263,slow=5.9,SNR=2.2							
	0.4nm,0.9s							
ARCES	**ARCESS Array B**	72.83	341	P		**P**	05 12 52.3	+1.3
	0.9nm,0.6s,baz=63,slow=5.6,SNR=4.5							
	0.9nm,0.6s							
FINES	**FINESS Array B**	77.12	333	P		**P**	05 13 15.1	-0.5
	0.9nm,0.4s,baz=75,slow=4.5,SNR=14							
	0.9nm,0.4s							

IDC 29 05:06:07.9±26.0,23°.95S×174°.00W,h0km,mb4.2/4, mbtmp4.2/4,Error ellipse: s-maj=486.0km s-min=143.8km az=79.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CTA	**Charters Tower**	36.97	268	P		P	05 13 19.6	+0.4
	4.8nm,0.4s,baz=89,slow=9.7,SNR=10							
	4.8nm,0.4s							
STKA	**Stephens Creek**	39.81	248	P		P	05 13 43.0	0.0
	1.0nm,0.5s,baz=108,slow=9.6,SNR=5.0							
	1.0nm,0.5s							
ASAR	**Alice Springs**	47.43	259	P		P	05 14 44.3	-0.3
	1.4nm,0.6s,baz=89,sl

CRIN	**San Cristobal**	**2.22**	**82**	*eP*		**Pn**	**05 31 29.5**	**-0.7**
CNGN	**Cerro Negro**	**2.54**	**87**	*eP*		**Pn**	**05 31 32.9**	**-1.7**
TGUH	**Tegucigalpa,Un**	**2.57**	**50**	*eP*		**Pn**	**05 31 34.1**	**-1.0**
TGUH	**Tegucigalpa,Un**	**2.57**	**50**	*eP*		**Pn**	**05 31 34.1**	**-1.0**
MOMN	**Momotombo**	**2.70**	**89**	*eP*		**Pn**	**05 31 34.8**	**-2.0**
CUI	**Cuipilapa**	**4.41**	**113**	*eP*		**Pn**	**05 32 01.1**	**+0.8**
CUI				*eS*		**Sn**	**05 32 46.5**	**-5.2**
JTS	**Las Juntas de**	**4.75**	**116**	*eP*		**Pn**	**05 32 06.5**	**+1.5**
JTS				*eS*		Sn	05 32 49.8	-10
LCR2	**La Lucha 2**	**5.83**	**116**	*eP*		**Pn**	**05 32 22.0**	**+2.0**

RSNC ***29*** *05:40:46.2±1.0, 6°.35N×76°.60W, h10km±4km, ML3.3, Mw3.7, Fault plane solution: NP1:φs77.00000°, δ68.00000°, λ98.00000°.*
IDC ***29*** *05:40:48.6±1.3, 6°.64N×76°.19W, h0km, mb3.4/2, mbtmp4.0/5, ML3.3/3, MS3.1/1, Error ellipse: s-maj=30.5km s-min=23.5km az=9.0*

ISC 29 05:40:41.8±1.4, 6°38N±0°.03×76°56W±0°.03, h3km±10km, n43, σ2s61/60, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.72**	**29**	*eP*	**Pn**	**05 40 59.7**	**+0.6**
DBBC				*eS*	**Sn**	**05 41 11.0**	**+0.3**
DBBC				IAML		05 41 14.9	
	comp=Z,46nm,0.8s						
CBOC	**Ciudad Bolivar**	**0.75**	**133**	*eP*	**Pb**	**05 40 59.4**	**+1.7**
CBOC				*eS*	**Sn**	**05 41 10.1**	**-1.4**
CBOC				IAML		05 41 11.7	
	comp=Z,2µm,0.3s						
SOLC	**Bahia Solano**	**0.86**	**260**	*eP*	**Pb**	**05 41 00.7**	**+1.3**
PLMC	**San Jos del P**	**1.49**	**169**	*eP*	**Pn**	**05 41 08.3**	**-1.3**
PLMC				*eS*	**Sn**	**05 41 26.3**	**-3.5**
UREC	**San Jose de Ur**	**1.70**	**37**	*eP*	**Pg**	**05 41 15.2**	**+0.7**
UREC				*eS*	**Sg**	**05 41 37.0**	**+0.5**
NORC	**Norcasia**	**1.87**	**116**	*eP*	**Pb**	**05 41 17.2**	**+0.6**
NORC				*eS*	**Sg**	**05 41 41.9**	**0.0**
ZARC	**Zaragoza, Cauc**	**2.02**	**57**	*eP*	**Pb**	**05 41 19.4**	**+0.2**
ZARC				*eS*	**Sg**	**05 41 44.7**	**-2.1**
ZARC				IAML		05 41 48.9	
	comp=Z,399nm,0.4s						
ARMEC	**Armenia, Quind**	**2.02**	**154**	*eP*	**Pn**	**05 41 19.3**	**+2.2**
ARMEC				*eS*	**Sn**	**05 41 40.6**	**-2.4**
PTBC	**PUERTO BERRIO,**	**2.10**	**86**	*eP*	**Pb**	**05 41 21.1**	**+0.5**
PTBC				*eS*	**Sg**	**05 41 47.8**	**-1.4**
ANIL	**Santa Ana**	**2.20**	**148**	*eP*	**Pn**	**05 41 22.0**	**+2.3**
YOTC	**Yotoco, Valle**	**2.39**	**175**	*eP*	**Pn**	**05 41 21.1**	**-1.0**
YOTC				*eS*	**Sn**	**05 41 46.6**	**-5.4**
YOTC				IAML		05 41 48.7	
	comp=Z,195nm,0.5s						
LCBC	**Los crdobas,**	**2.47**	**4**	*eP*	**Pn**	**05 41 26.0**	**+3.0**
LCBC				*eS*	**Sb**	**05 41 55.9**	**-1.8**
MALC	**Bahia Malaga**	**2.48**	**198**	*eP*	**Pn**	**05 41 24.9**	**+1.7**
UPD2	**Meteti**	**2.59**	**326**	*eP*	**Pn**	**05 41 25.4**	**+0.7**
UPD2				*eS*	**Sn**	**05 41 57.2**	**+0.5**
UPD2				IAML		05 42 02.3	
	comp=Z,360nm,0.5s						
ROSC	**El Rosal**	**2.70**	**124**	*eP*	**Pb**	**05 41 30.6**	**-0.6**
	comp=Z,18nm,0.3s,baz=8.1,slow=7.1,SNR=29						
	comp=Z,39nm,0.3s						
ROSC	**El Rosal**	**2.70**	**124**	*eP*	**Pb**	**05 41 30.6**	**-0.6**
ORTC	**Ortega, Tolima**	**2.78**	**152**	*eP*	**Pn**	**05 41 30.4**	**+3.0**
ORTC				*eS*	**Sb**	**05 42 05.8**	**-1.0**
BRRC	**Barranca, Sant**	**2.92**	**76**	*eP*	**Pb**	**05 41 32.2**	**-2.4**
BRRC				*eS*	**Sb**	**05 42 10.4**	**-0.3**
BRRC				IAML		05 42 24.8	
	comp=Z,115nm,0.5s						
PRAC	**Prado**	**3.13**	**148**	*eP*	**Pn**	**05 41 35.5**	**+3.3**
PRAC				*eS*	**Sn**	**05 42 13.6**	**+3.5**
CHIC	**Chingaza**	**3.31**	**122**	*eP*	**Pb**	**05 41 41.0**	**-0.5**
CHIC				*eP*	**Pb**	**05 41 41.0**	**-0.5**
CHIC				IAML		05 42 38.7	
	comp=Z,59nm,0.6s						
CHIC				IAML		05 42 46.8	
	comp=N,116nm,0.5s						
BARC	**Barichara**	**3.36**	**86**	*eP*	**Pb**	**05 41 38.7**	**-3.6**
BARC				IAML		05 42 34.5	
	comp=Z,215nm,0.6s						
SJCC	**San Jacinto, C**	**3.75**	**21**	IAML		05 42 29.3	
	comp=Z,43nm,0.5s						
BETC	**Betania**	**3.84**	**163**	*eP*	**Pn**	**05 41 45.7**	**+3.7**
BETC				IAML		05 42 46.0	
	comp=Z,53nm,0.4s						
AZU	**Azuero**	**3.94**	**291**	*eP*	**Pn**	**05 41 43.8**	**+0.5**
AZU				*eS*	**Sn**	**05 42 25.7**	**-4.5**
AZU				IAML		05 42 29.3	
	comp=Z,127nm,0.3s						
PAMC	**Pamplona, Colo**	**3.95**	**76**	*eP*	**Pn**	**05 41 47.2**	**+3.3**
ARGC	**Ariguani, Magd**	**4.14**	**33**	*eP*	**Pn**	**05 41 49.7**	**+3.6**
ARGC				*e*		05 41 49.9	
ARGC				IAML		05 42 47.1	
	comp=Z,18nm,0.4s						
GARC	**Garzon, Huila**	**4.30**	**166**	*eP*	**Pn**	**05 41 50.4**	**+1.9**
BBAC	**Balboa, Cauca**	**4.38**	**189**	*eP*	**Pn**	**05 41 51.0**	**+1.4**
BBAC				IAML		05 42 56.6	
	comp=Z,21nm,0.4s						
TAMC	**Tame, Arauca**	**4.74**	**89**	*eP*	**Pn**	**05 41 57.9**	**+3.6**
TAMC				IAML		05 43 34.3	
	comp=Z,27nm,0.7s						
FLOC	**Florencia**	**4.85**	**169**	*eP*	**Pn**	**05 41 57.7**	**+1.8**
FLOC				*eS*	**Sn**	**05 42 51.8**	**-0.9**
FLOC				IAML		05 43 00.0	
	comp=Z,10nm,0.5s						
PTGC	**Puerto Gaitan,**	**4.91**	**116**	*eP*	**Pn**	**05 42 01.1**	**+4.5**
MACC	**Macarena, Meta**	**5.00**	**147**	*eP*	**Pn**	**05 41 59.5**	**+1.6**
GUVC	**San Jose del G**	**5.47**	**134**	*eP*	**Pn**	**05 42 08.6**	**+4.3**
CRJC	**Cerrejon, Guaj**	**5.87**	**38**	*eP*	**Pn**	**05 42 11.1**	**+1.2**
CRJC				*eS*	**Sn**	**05 43 13.0**	**-4.8**
CRJC				IAML		05 43 20.0	
	comp=Z,76nm,0.7s						
SDV	**Santo Domingo**	**6.38**	**67**	Pn	**Pn**	**05 42 20.1**	**+3.1**
	comp=Z,14nm,0.3s,baz=243,slow=10,SNR=33						
SDV				Sn	**Sn**	**05 43 28.6**	**-2.0**
	comp=Z,6.2nm,0.3s,baz=43,slow=22,SNR=4.5						
	comp=Z,28nm,0.3s						
URIC	**Uribia, Colomb**	**6.95**	**40**	*eP*	**Pn**	**05 42 26.3**	**+1.6**
URIC				*eS*	**Sn**	**05 43 40.6**	**-3.7**
URIC				IAML		05 43 52.1	
	comp=Z,14nm,0.5s						
PCRV	**Puerto La Cruz**	**12.39**	**71**	Pn	**Pn**	**05 43 39.8**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=270,slow=7.1,SNR=15						
PCRV				Sn	**Sn**	**05 45 55.3**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=306,slow=20,SNR=1.5						
	comp=Z,6.4nm,0.4s						
ATAH	**Atahualpa**	**13.55**	**188**	LR	LR	05 51 15.2	
	comp=Z,7.7nm,20.0s,baz=36,slow=45						
SJG	**San Juan**	**15.46**	**40**	Pn	**Pn**	**05 44 19.0**	**-2.1**
	comp=Z,2.4nm,0.3s,baz=214,slow=20,SNR=8.1						
SIV	**San Ignacio**	**27.00**	**146**	P	P	05 46 33.4	+8.0
	comp=Z,0.4nm,0.5s,baz=298,slow=11,SNR=2.2						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**46.49**	**326**	P	P	05 49 17.3	+6.5
	comp=Z,0.1nm,0.3s,baz=138,slow=8.4,SNR=1.8						
	comp=Z,0.1nm,0.3s						
ASAR	**Alice Springs**	**146.05**	**236**	PKPbc	**PKiKP**	**06 00 31.6**	**+4.0**
	comp=Z,0.4nm,0.5s,baz=118,slow=3.9,SNR=4.0						
ASAR				pPKPbc	sPKPab	06 00 37.7	+11
	comp=Z,0.5nm,0.6s,baz=114,slow=5.2,SNR=5.0						
WRA	**Warramunga Arr**	**147.11**	**243**	PKPbc	**PKiKP**	**06 00 35.7**	**+5.9**
	comp=Z,0.1nm,0.6s,baz=108,slow=2.5,SNR=1.5						

WBNET 29 05:45:43.7, 50°.25N×12°.41E, h12km, MI0.0, 3C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**7**	S	Sg	05 45 47.5	0.0
VAC	**Vackov**	**0.02**	**238**	⇓P	Pg	05 45 45.9	0.0
VAC				S	Sg	05 45 47.4	-0.1
NKC	**Novy Kostel**	**0.03**	**121**	S	Sg	05 45 47.5	0.0
STCW	**Studenec**	**0.07**	**81**	⇑P	Pg	05 45 46.2	0.0
POCW	**Potky**	**0.07**	**9**	⇑P	Pg	05 45 46.3	0.0
KVC	**Kvetna**	**0.08**	**122**	⇓P	Pg	05 45 46.4	0.0
KVC				S	Sg	05 45 48.2	-0.2
KOCW	**Kopaniny**	**0.11**	**279**	⇓P	Pg	05 45 46.6	-0.1
KRCW	**Kraslice**	**0.11**	**43**	⇑P	Pg	05 45 46.7	-0.1
TRCW	**Trojmez**	**0.18**	**288**	⇓P	Pg	05 45 47.5	-0.2
TRCW				S	Sg	05 45 50.3	-0.2
ZHC	**Zelena Hora**	**0.19**	**200**	S	Sg	05 45 50.8	0.0

WBNET 29 05:45:45.8, 50°.25N×12°.41E, h12km, MI0.2, 5C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**14**	⇑P	Pg	05 45 48.1	0.0
LBCW				S	Sg	05 45 49.7	0.0
VAC	**Vackov**	**0.02**	**237**	⇓P	Pg	05 45 48.1	0.0
VAC				S	Sg	05 45 49.6	0.0
NKC	**Novy Kostel**	**0.03**	**117**	S	Sg	05 45 49.7	0.0
POCW	**Potky**	**0.07**	**11**	⇑P	Pg	05 45 48.4	0.0
STCW	**Studenec**	**0.07**	**81**	⇑P	Pg	05 45 48.4	-0.1
STCW				S	Sg	05 45 50.2	-0.2
KVC	**Kvetna**	**0.08**	**120**	S	Sg	05 45 50.3	-0.2
SKC	**Skalna**	**0.08**	**200**	⇑P	Pg	05 45 48.5	0.0
SKC				S	Sg	05 45 50.2	-0.2
KOCW	**Kopaniny**	**0.11**	**279**	⇓P	Pg	05 45 48.8	-0.1
KOCW				S	Sg	05 45 50.8	-0.3
KRCW	**Kraslice**	**0.12**	**43**	⇑P	Pg	05 45 48.8	-0.1
TRCW	**Trojmez**	**0.18**	**289**	⇓P	Pg	05 45 49.7	-0.1
ZHC	**Zelena Hora**	**0.19**	**199**	S	Sg	05 45 52.9	+0.1

WBNET 29 05:45:48.1, 50°.25N×12°.41E, h12km, MI0.1, 3C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**3**	S	Sg	05 45 52.0	0.0
VAC	**Vackov**	**0.03**	**240**	⇓P	Pg	05 45 50.4	0.0
VAC				S	Sg	05 45 51.9	-0.1
NKC	**Novy Kostel**	**0.03**	**122**	S	Sg	05 45 52.0	0.0
STCW	**Studenec**	**0.07**	**81**	⇑P	Pg	05 45 50.7	0.0
STCW				S	Sg	05 45 52.5	-0.2
POCW	**Potky**	**0.07**	**8**	⇑P	Pg	05 45 50.8	-0.1
POCW				S	Sg	05 45 52.6	-0.2
KVC	**Kvetna**	**0.08**	**122**	S	Sg	05 45 52.6	-0.1
SKC	**Skalna**	**0.09**	**202**	S	Sg	05 45 52.8	0.0
KRCW	**Kraslice**	**0.11**	**42**	⇑P	Pg	05 45 51.1	-0.1
KRCW				S	Sg	05 45 53.2	-0.3
KOCW	**Kopaniny**	**0.12**	**279**	S	Sg	05 45 53.1	-0.4
TRCW	**Trojmez**	**0.18**	**288**	⇓P	Pg	05 45 52.0	-0.2
TRCW				S	Sg	05 45 54.7	-0.4
ZHC	**Zelena Hora**	**0.19**	**200**	S	Sg	05 45 55.3	0.0

IDC ***29*** *06:08:45.0±2.1, 17°.27S×179°.03W, h580km±19km, mb3.0/5, mbtmp3.9/6, Error ellipse: s-maj=87.2km s-min=21.5km az=149.0*

ISC 29 06:08:42.5±1.7, 17°.2S±0°.6×179°.0W±0°.4, h550km, n6, σ0s26/5, mb3.2/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.85**	**259**	P	P	06 10 01.6	+4.8
	25nm,0.7s,baz=76,slow=3.7,SNR=30						
STKA	**Stephens Creek**	**38.47**	**240**	P	**P**	**06 15 17.7**	**-0.2**
	1.4nm,0.3s,baz=87,slow=9.5,SNR=4.3						
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**44.20**	**259**	P	**P**	**06 16 03.5**	**+0.1**
	0.4nm,0.5s,baz=92,slow=6.8,SNR=14						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**44.43**	**254**	P	**P**	**06 16 05.5**	**+0.3**
	5.6nm,0.5s,baz=88,slow=8.3,SNR=88						
	5.6nm,0.5s						
ILAR	**Eielson Array**	**85.36**	**13**	P	**P**	**06 20 21.3**	**-0.1**
	0.2nm,0.6s,baz=221,slow=4.9,SNR=6.1						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**06 20 26.1**	**+0.1**
	0.4nm,0.8s,baz=225,slow=6.5,SNR=5.4						
	0.4nm,0.8s						

IEPN ***29*** *06:16:10.0, 76°.11N×24°.01E, h10km*
NAO ***29*** *06:16:11.2±0.9, 76°.12N×24°.33E, h12km±9km, ML3.2*
BER ***29*** *06:16:13.3±2.4, 76°.14N×24°.65E, h16km±7km, ML2.5, Confirmed Earthquake*
KOLA ***29*** *06:16:17.4, 75°.73N×25°.22E, h0km, ML2.6*

ISC 29 06:16:10.8±1.0, 76°.08N±0°.03×25°.06E±0°.04, h31km±9km, n36, σ2s05/74, 2C, Barents Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**0.43**	**359**	Pg	**Pb**	**06 16 19.9**	**-0.2**
HOPEN				Lg	Lg	06 16 25.5	
HOPEN	**Hopen**	**0.43**	**359**	⇑*i*P	**Pb**	**06 16 19.9**	**-0.2**
HOPEN				*i*S	**Sb**	**06 16 25.4**	**-1.1**
HOPEN	**Hopen**	**0.43**	**359**	⇑*i*P	**Pb**	**06 16 19.9**	**-0.2**
HOPEN				*e*S	**Sb**	**06 16 25.5**	**-1.0**
HOPEN				IAML		06 16 31.7	
	comp=Z,265nm,0.2s						
BJO1	**Bjornoya**	**2.22**	**227**	Pn	**Pn**	**06 16 45.7**	**+0.4**
BJO1				Pg	**Pb**	**06 16 50.4**	**+0.3**
BJO1				Lg	Lg	06 17 17.9	
BJO1	**Bjornoya**	**2.22**	**227**	P	**Pn**	**06 16 45.4**	**+0.1**
BJO1				*i*S	**Sn**	**06 17 10.4**	**-1.2**
BJO1	**Bjornoya**	**2.22**	**227**	*e*P	**Pn**	**06 16 45.7**	**+0.4**
BJO1				*e*Pg	**Pb**	**06 16 50.5**	**+0.4**
BJO1				*e*Sg	**Sb**	**06 17 18.0**	**+1.0**
BJO1				IAML		06 17 22.0	
	comp=Z,80nm,0.3s						
HSPB	**Hornsund (broa**	**2.41**	**297**	*e*P	**Pn**	**06 16 46.2**	**-1.7**
HSPB				S	**Sn**	**06 17 14.9**	**-1.5**
HSPB	**Hornsund (broa**	**2.41**	**297**	*e*P	**Pn**	**06 16 46.8**	**-1.1**
HSPB				*e*Sg	**Sb**	**06 17 21.4**	**-1.2**
HSPB				IAML		06 17 26.0	
	comp=Z,33nm,0.2s						
SPA0	**Spitsbergen Ar**	**2.86**	**321**	Pn	**Pn**	**06 16 54.7**	**+0.5**
	baz=142,slow=14						
SPA0				Pg	**Pb**	**06 17 02.0**	**+1.0**
	baz=132,slow=18						
SPA0				Sn	**Sn**	**06 17 26.6**	**-1.0**
	baz=137,slow=22						
SPA0				Lg	Lg	06 17 35.9	
	baz=125,slow=37						
SPA0	**Spitsbergen Ar**	**2.86**	**321**	*e*P	**Pn**	**06 16 54.7**	**+0.5**
SPA0				*e*S	**Sn**	**06 17 26.8**	**-0.7**
SPA0				*e*		06 17 37.9	
SPA0				IAML		06 17 41.6	
	comp=Z,49nm,0.5s						
BRBA	**Barentsburg A**	**3.14**	**314**	Pn	**Pn**	**06 16 58.1**	**+0.1**
BRBA				Sn	**Sn**	**06 17 33.9**	**-0.4**
BRBA				Lg	Lg	06 17 43.2	
BRBA	**Barentsburg A**	**3.14**	**314**	*e*P	**Pn**	**06 16 58.4**	**+0.4**
BRBA				*e*Sg	**Sb**	**06 17 44.2**	**+0.7**
BRBA				IAML		06 17 47.9	
	comp=Z,60nm,0.3s						
BRBB	**Barentsburg B**	**3.16**	**315**	Pn	**Pn**	**06 16 59.2**	**+0.9**
BRBB				Sn	**Sn**	**06 17 33.5**	**-1.4**
BRBB				Lg	Lg	06 17 45.1	
BRBB	**Barentsburg B**	**3.16**	**315**	*e*P	**Pn**	**06 16 59.0**	**+0.8**
BRBB				*e*S	**Sn**	**06 17 33.1**	**-1.7**
BRBB				*e*Sg	**Sb**	**06 17 45.9**	**+1.8**
KBS	**Kingsbay**	**4.02**	**321**	Pn	**Pn**	**06 17 10.3**	**+0.1**
KBS				Sn	**Sn**	**06 17 53.6**	**-2.5**
KBS				Lg	Lg	06 18 11.1	
KBS	**Kingsbay**	**4.02**	**321**	*e*P	**Pn**	**06 17 09.9**	**-0.2**
KBS				*e*S	**Sn**	**06 17 53.6**	**-2.5**
KBS				*e*Sg	**Sb**	**06 18 12.3**	**+3.5**
KBS				IAML		06 18 21.6	
	comp=Z,55nm,0.6s						
HAMF	**Hammerfest**	**5.49**	**185**	Pn	**Pn**	**06 17 32.1**	**+1.9**
HAMF				Sn	**Sn**	**06 18 30.4**	**-1.7**
HAMF	**Hammerfest**	**5.49**	**185**	*e*P	**Pn**	**06 17 32.2**	**+2.0**
HAMF				*e*S	**Sn**	**06 18 30.1**	**-2.0**
HAMF				IAML		06 18 34.8	
	comp=Z,9.7nm,0.4s						
VADS	**Vadso**	**6.12**	**166**	*e*	**Pn**	**06 17 40.3**	**+1.4**
VADS				*e*S	**Sn**	**06 18 47.6**	**-0.2**
KEV	**Kevo**	**6.39**	**174**	Pn	**Pn**	**06 17 46.5**	**+3.9**
KEV				Sn	**Sn**	**06 18 54.5**	**+0.1**
KEV	**Kevo**	**6.39**	**174**	*e*P	**Pn**	**06 17 45.8**	**+3.2**
KEV				*e*S	**Sn**	**06 18 53.3**	**-1.0**
OMEGA	**Omega**	**6.50**	**33**	P	**Pn**	**06 17 45.9**	**+1.9**
OMEGA				*e*S	**Sn**	**06 18 56.7**	**-0.1**
ZFI	**Zemlya Franca-**	**6.50**	**33**	P	**Pn**	**06 17 46.2**	**+2.1**
ZFI				*e*S	**Sn**	**06 18 56.7**	**-0.3**
	comp=Z,22nm,2.6s						
ARA0	**ARCESS Array S**	**6.59**	**179**	Pn	**Pn**	**06 17 47.8**	**+2.4**
	baz=359,slow=14						
ARA0				Sn	**Sn**	**06 18 57.5**	**-1.8**
	baz=2.6,slow=22						
ARA0	**ARCESS Array S**	**6.59**	**179**	*e*P	**Pn**	**06 17 48.4**	**+3.1**
ARA0				*e*S	**Sn**	**06 18 57.5**	**-1.8**
ARA0				IAML		06 19 07.5	
	comp=Z,4.0nm,0.2s						
ARCES	**ARCESS Array B**	**6.59**	**179**	P	**Pn**	**06 17 48.0**	**+2.7**
ARCES				S	**Sn**	**06 18 57.5**	**-1.7**
JETT	**Jettan, Norway**	**6.70**	**194**	Pn	**Pn**	**06 17 48.6**	**+1.6**
JETT				Sn	**Sn**	**06 18 58.8**	**-3.4**
JETT	**Jettan, Norway**	**6.70**	**194**	*e*P	**Pn**	**06 17 48.1**	**+1.2**
JETT				*e*S	**Sn**	**06 18 59.1**	**-3.1**
JETT				IAML		06 19 09.6	
	comp=Z,9.6nm,0.3s						
TRO	**Tromso**	**6.73**	**199**	*e*S	**Sn**	**06 18 58.9**	**-3.7**
KTK1	**Kautokeino**	**7.13**	**185**	*e*P	**Pn**	**06 17 56.4**	**+3.6**
KTK1				*e*S	**Sn**	**06 19 09.3**	**-3.3**
KTK1				IAML		06 19 28.7	
	comp=Z,3.5nm,0.3s						
KIF	**Kilpisjarvi**	**7.23**	**192**	Pn	**Pn**	**06 17 55.7**	**+1.6**
KIF				Sn	**Sn**	**06 19 11.3**	**-3.6**
KIF	**Kilpisjarvi**	**7.23**	**192**	*e*P	**Pn**	**06 17 55.5**	**+1.4**
KIF				*e*S	**Sn**	**06 19 12.1**	**-2.8**
TERR	**Teriberka**	**7.53**	**152**	P	**Pn**	**06 18 01.8**	**+3.7**
TERR				S	**Sn**	**06 19 19.1**	**-3.1**
HEF	**Hetta**	**7.73**	**184**	*e*P	**Pn**	**06 18 03.6**	**+2.6**
HEF				*e*S	**Sn**	**06 19 24.0**	**-3.3**
APA0	**Apatity Array**	**8.86**	**160**	Pn	**Pn**	**06 18 18.4**	**+1.9**
	baz=352,slow=16						
APA0				Sn	**Sn**	**06 19 52.6**	**-2.4**
	slow=22						
APA0	**Apatity Array**	**8.86**	**160**	P	**Pn**	**06 18 19.6**	**+3.2**
APA0				S	**Sn**	**06 19 51.8**	**-3.3**

IDC ***29*** *06:16:47.9±1.4, 13°.21N×51°.01E, h0km, mb3.7/6, mbtmp3.8/7, ML4.8/1, MS3.2/9, Error ellipse: s-maj=43.0km s-min=26.8km az=173.0*

ISC 29 06:16:50.3±1.1, 13°.2N±0°.3×51°.0E±0°.1, h16km, n15, σ0s72/7, mb3.7/6, MS3.2/6, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.13**	**259**	Pn	**Pn**	**06 18 47.9**	**0.0**
	12nm,0.3s,baz=349,slow=3.5,SNR=30						
ATD				LR	LR	06 21 12.5	
	comp=Z,177nm,19.3s,baz=61,slow=32						
	32nm,0.3s						
WSAR	**Wadi Sarin**	**12.33**	**35**	LR	LR	06 24 17.0	
	comp=Z,155nm,18.0s,baz=232,slow=36						
KMBO	**Kilima Mbogo**	**19.71**	**225**	LR	LR	06 28 49.2	
	comp=Z,52nm,18.8s,baz=93,slow=37						
GEYT	**Alibeck**	**25.43**	**13**	LR	LR	06 33 45.8	
	comp=Z,67nm,19.2s,baz=170,slow=40						
GNI	**Garni**	**27.40**	**350**	LR	LR	06 34 59.4	
	comp=Z,32nm,21.4s,baz=173,slow=40						
KBZ	**Khabaz**	**31.20**	**349**	LR	LR	06 36 46.4	
	comp=Z,50nm,20.6s,baz=270,slow=38						
AAK	**Ala-Archa**	**35.68**	**30**	LR	LR	06 39 33.5	
	comp=Z,46nm,19.3s,baz=244,slow=38						
MKAR	**Makanchi Array**	**42.55**	**32**	P	**P**	**06 24 44.9**	**-0.4**
	0.3nm,0.5s,baz=218,slow=8.4,SNR=5.7						
	0.3nm,0.5s						
LBTB	**Lobatse**	**45.35**	**213**	LR	LR	06 43 52.8	
	comp=Z,28nm,18.5s,baz=88,slow=36						
CMAR	**Chiang Mai Arr**	**46.32**	**77**	P	**P**	**06 25 16.3**	**+0.5**
	1.4nm,0.3s,baz=276,slow=9.4,SNR=8.7						
	1.4nm,0.3s						
BOSA	**Boshof**	**48.46**	**211**	LR	LR	06 45 12.5	
	comp=Z,12nm,20.5s,baz=10,slow=35						
ZALV	**Zalesovo Beam**	**48.60**	**26**	P	**P**	**06 25 32.1**	**-0.9**
	0.5nm,0.4s,baz=234,slow=8.8,SNR=2.5						
	0.5nm,0.4s						
ESDC	**Sonseca Array**	**54.84**	**309**	P	**P**	**06 26 20.2**	**+0.2**
	0.3nm,0.6s,baz=101,slow=6.7,SNR=1.5						
	0.3nm,0.6s						
SONM	**Songino Array**	**57.29**	**41**	P	**P**	**06 26 38.2**	**+0.7**
	0.4nm,0.6s,baz=243,slow=9.4,SNR=3.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**88.32**	**111**	P	**P**	**06 29 41.4**	**-0.5**
	0.3nm,0.6s,baz=297,slow=4.1,SNR=7.4						
	0.3nm,0.6s						

NEIC ***29*** *06:27:26.5±1.0, 52°.3N±0°.4×175°.6W±0°.3, h238km±10km, Error ellipse: s-maj=55.1km s-min=18.8km az=166.0*
AEIC ***29*** *06:27:27.4±1.1, 52°.3N±0°.3×175°.6W±0°.3, h235km±7km, ML3.1, mb3.9/14(NEIC), Error ellipse: s-maj=51.4km s-min=14.5km az=158.0*

ISC 29 06:27:27.9±0.9, 52°.9N±0°.1×176°.0W±0°.1, h200km, n24, σ0s84/25, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.84**	**184**	Pn	**Pn**	**06 27 57.8**	**+1.0**
ADK	**Adak**	**1.14**	**203**	Pn	**Pn**	**06 27 58.9**	**+0.2**
ADK					**Sn**	**06 28 22.9**	**+0.4**
KIWB	**Kanaga Island**	**1.31**	**214**	Pn	**Pn**	**06 28 00.4**	**+0.4**
AMKA	**Amchitka**	**3.31**	**244**	Pn	**Pn**	**06 28 21.0**	**-0.2**
OHAK	**Old Harbor**	**13.65**

mb4.5/6,Error ellipse: s-maj=6.7km s-min=3.0km az=187.0

ISC 29 06:33:31.4s0.9,**24°86N**s0°02,**122°05E**s0°02,**h7**km$_{\sigma}$6km, **n194,**$_{\sigma}$**0**$\leq$**93**/257,**mb4.2**/11,**MS3.4**/25,**16C-4D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EGS		**0.11**	**260**	⇑*i*P		**Pg**	**06 33 34.1**	**+0.2**
	baz=263							
EGS				*i* S		**Sg**	**06 33 35.8**	**+0.2**
	baz=263							
TWB1	**Santiao Chiao**	**0.16**	**337**	⇑*i*P		**Pg**	**06 33 34.9**	**+0.2**
	baz=345							
TWB1				*i* S		**Sg**	**06 33 37.6**	**+0.8**
	baz=345							
NTC	**Toucheng**	**0.20**	**267**	*i* P		**Pg**	**06 33 35.9**	**+0.4**
	baz=271							
NTC				*i* S		**Sg**	**06 33 39.8**	**+1.5**
	baz=271							
TIPB	**Shuangxi**	**0.23**	**297**	⇑*i*P		**Pg**	**06 33 36.5**	**+0.4**
	baz=301							
TIPB				*i* S		**Sg**	**06 33 40.2**	**+0.9**
	baz=301							
SXI1	**Grass Mountain**	**0.28**	**325**	⇑*i*P		**Pb**	**06 33 37.6**	**-1.3**
	baz=332							
SXI1				*i* S		**Sg**	**06 33 41.5**	**+0.7**
	baz=332							
ILA	**Ilan**	**0.29**	**251**	*e*P		**Pg**	**06 33 37.4**	**+0.2**
	baz=252							
ILA				S		**Sb**	**06 33 42.1**	**-2.0**
	baz=252							
TWC	**Suao**	**0.32**	**216**	⇑*i*P		**Pg**	**06 33 37.5**	**-0.1**
	baz=225							
TWC				S		**Sg**	**06 33 40.9**	**-0.9**
	baz=225							
NWF	**Wu-fen Shan**	**0.32**	**310**	⇑*i*P		**Pb**	**06 33 38.4**	**-1.2**
	baz=304							
NWF				*i* S		**Sb**	**06 33 43.6**	**-1.4**
	baz=304							
WFSB	**Wu-fen Shan**	**0.32**	**310**	⇑*i*P		**Pb**	**06 33 38.4**	**-1.1**
	baz=304							
WFSB				*i* S		**Sb**	**06 33 42.8**	**-2.1**
	baz=304							
TWE	**Neicheng**	**0.38**	**248**	⇓*i*P		**Pg**	**06 33 38.8**	**0.0**
	baz=249							
TWE				*e*S		**Sg**	**06 33 42.6**	**-1.2**
	baz=249							
TNOU	**National Taiwa**	**0.38**	**318**	⇑*i*P		**Pb**	**06 33 39.5**	**-1.0**
	baz=312							
TNOU				*i* S		**Sb**	**06 33 44.7**	**-2.0**
	baz=312							
FUSB	**Fushanzhiwuyua**	**0.44**	**256**	⇓*i*P		**Pg**	**06 33 39.9**	**0.0**
	baz=258							
FUSB				S		**Sg**	**06 33 46.3**	**+0.6**
	baz=258							
TWA	**Mucha**	**0.44**	**285**	⇑*i*P		**Pb**	**06 33 40.5**	**-1.1**
	baz=277							
TWA				*i* S		**Sg**	**06 33 46.4**	**+0.6**
	baz=277							
NHY	**Taipei**	**0.47**	**292**	*e*P		**Pb**	**06 33 41.3**	**-0.8**
	baz=284							
NHY				S		**Sb**	**06 33 48.1**	**-1.2**
	baz=284							
EWUT	**Wuta**	**0.49**	**211**	⇑P		**Pg**	**06 33 39.6**	**-1.2**
	baz=219							
EWUT				S		**Sg**	**06 33 46.5**	**-0.8**
	baz=219							
NHDH	**Xindian Distri**	**0.49**	**282**	*e*P		**Pb**	**06 33 41.7**	**-0.7**
	baz=274							
NHDH				S		**Sb**	**06 33 48.7**	**-1.1**
	baz=274							
NWRT	**Kuosheng**	**0.49**	**313**	P		**Pb**	**06 33 41.7**	**-0.7**
	baz=314							
NWRT				S		**Sb**	**06 33 48.3**	**-1.5**
	baz=314							
ENTT	**Nioudou**	**0.50**	**243**	P		**Pg**	**06 33 40.1**	**-0.9**
	baz=245							
ENTT				*e*S		**Sg**	**06 33 47.3**	**-0.2**
	baz=245							
NWLT	**Wulai**	**0.51**	**260**	⇑*i*P		**Pg**	**06 33 40.2**	**-1.0**
	baz=262							
NWLT				*i* S		**Sg**	**06 33 46.7**	**-1.2**
	baz=262							
ENA	**Nanau**	**0.52**	**213**	*e*P		**Pg**	**06 33 41.2**	**-0.2**
	baz=220							
ENA				*e*S		**Sg**	**06 33 47.9**	**-0.3**
	baz=220							
YM01	**YM01**	**0.52**	**303**	⇑*i*P		**Pb**	**06 33 42.5**	**-0.5**
	baz=304							
YM01				S		**Sg**	**06 33 48.4**	**0.0**
	baz=304							
TATO	**Taipei**	**0.53**	**282**			**Pb**	**06 33 42.2**	**-0.8**
TATO	**Taipei**	**0.53**	**282**	P		**Pb**	**06 33 42.3**	**-0.7**
TATO	**Taipei**	**0.53**	**282**	P		**Pb**	**06 33 42.2**	**-0.8**
	baz=276							
TAP	**Taipei**	**0.53**	**289**	P		**Pb**	**06 33 42.5**	**-0.5**
	baz=282							
TAP				S		**Sb**	**06 33 49.8**	**-1.1**
	baz=282							
YM08	**YM08**	**0.53**	**308**	⇑*i*P		**Pb**	**06 33 42.2**	**-0.9**
	baz=299							
YM08				*e*S		**Sb**	**06 33 51.0**	**0.0**
	baz=299							
BACT	**New Taipei Cit**	**0.57**	**284**	*e*P		**Pn**	**06 33 44.8**	**-1.2**
	baz=275							
BACT				S		**Sb**	**06 33 51.9**	**-0.2**
	baz=275							
ANP	**Anpu**	**0.58**	**304**	*e*P		**Pb**	**06 33 43.0**	**-1.0**
	baz=305							
ANP				*e*S		**Sb**	**06 33 51.6**	**-0.9**
	baz=305							
LATG	**Datong**	**0.58**	**236**	P		**Pg**	**06 33 42.3**	**-0.4**
	baz=238							
LATG				*i* S		**Sg**	**06 33 50.2**	**0.0**
	baz=238							
TWY	**Chenhua**	**0.58**	**315**	⇑*i*P		**Pb**	**06 33 43.6**	**-0.3**
	baz=316							
TWY				*e*S		**Sb**	**06 33 51.4**	**-1.0**
	baz=316							
NSM	**Shimen**	**0.60**	**315**	P		**Pb**	**06 33 44.3**	**+0.1**
	baz=316							
NSM				*e*S		**Sn**	**06 33 55.2**	**-1.0**
	baz=316							
EHP	**Heping Village**	**0.62**	**207**	P		**Pg**	**06 33 43.2**	**-0.2**
	baz=213							
EHP				S		**Sg**	**06 33 51.7**	**+0.2**
	baz=213							
TWS1	**Kuangyinshan**	**0.62**	**292**	P		**Pb**	**06 33 44.6**	**0.0**
	baz=303							
TWS1				*e*S		**Sb**	**06 33 53.1**	**-0.5**
	baz=303							
NTST	**Danshui**	**0.62**	**299**	⇑P		**Pb**	**06 33 44.8**	**+0.1**
	baz=300							
NTST				*e*S		**Sb**	**06 33 52.8**	**-0.8**
	baz=300							
YHNB	**Yeheng**	**0.65**	**253**			**Pg**	**06 33 43.9**	**-0.1**
YHNB	**Yeheng**	**0.65**	**253**	P		**Pg**	**06 33 43.6**	**-0.3**
YHNB	**Yeheng**	**0.65**	**253**	⇓*i*P		**Pg**	**06 33 43.5**	**-0.3**
	baz=254							
YHNB				S		**Sg**	**06 33 50.5**	**-1.8**
	baz=254							
NSK	**Sanguang**	**0.66**	**254**	⇓*i*P		**Pg**	**06 33 42.7**	**-1.4**
	baz=254							
NSK				S		**Sg**	**06 33 52.4**	**-0.3**
	baz=254							
NTY	**Taoyuan**	**0.70**	**281**	*e*P		**Pn**	**06 33 46.8**	**-1.0**
	baz=273							
NNSB	**Datong**	**0.75**	**235**	P		**Pg**	**06 33 45.5**	**-0.4**
	baz=236							
NNSB				S		**Sg**	**06 33 55.5**	**-0.2**
	baz=236							
NNSH	**Datong**	**0.75**	**235**	*e*P		**Pg**	**06 33 45.0**	**-0.8**
	baz=236							
NNSH				*e*S		**Sg**	**06 33 55.3**	**-0.3**
	baz=236							
NNS	**Nan Shan**	**0.75**	**236**	*e*P		**Pg**	**06 33 44.8**	**-1.1**
	baz=237							
NNS				*e*S		**Sg**	**06 33 55.0**	**-0.6**
	baz=237							
PCYT	**Pengchaiyu**	**0.76**	**1**	⇑*i*P		**Pn**	**06 33 47.3**	**-1.3**
	baz=354							
PCYT				*e*S		**Sb**	**06 33 57.6**	**0.0**
	baz=354							
NCU	**National Centr**	**0.79**	**278**	P		**Pn**	**06 33 48.2**	**-0.9**
	baz=278							
NCU				*e*S		**Sn**	**06 33 59.5**	**-1.6**
	baz=278							
NCUH	**Zhongli**	**0.80**	**278**	P		**Pn**	**06 33 48.2**	**-0.9**
	baz=278							
NCUH				*e*S		**Sb**	**06 33 59.1**	**+0.5**
	baz=278							
ETL	**Fush Village**	**0.80**	**209**	P		**Pg**	**06 33 46.4**	**-0.5**
	baz=203							
ETL				S		**Sg**	**06 33 57.5**	**+0.1**
	baz=203							
NACB	**Ninganchiao**	**0.80**	**211**			**Pb**	**06 33 47.1**	**-0.6**
NACB	**Ninganchiao**	**0.80**	**211**	P		**Pb**	**06 33 47.1**	**-0.6**
NACB	**Ninganchiao**	**0.80**	**211**	P		**Pg**	**06 33 46.5**	**-0.4**
	baz=204							
NACB				S		**Sg**	**06 33 57.0**	**-0.3**
	baz=204							
ETLH	**Xiulin Townshi**	**0.84**	**219**	*e*P		**Pg**	**06 33 47.2**	**-0.3**
	baz=230							
ETLH				*e*S		**Sb**	**06 33 59.9**	**+0.1**
	baz=230							
NFF	**Wufeng Townshi**	**0.88**	**255**	*e*P		**Pg**	**06 33 47.5**	**-0.9**
	baz=256							
NFF				S		**Sb**	**06 34 01.1**	**-0.1**
	baz=256							
TWD	**Chiawan**	**0.89**	**208**	P		**Pb**	**06 33 48.4**	**-0.7**
	baz=203							
TWD				S		**Sb**	**06 34 00.3**	**-0.9**
	baz=203							
NJD	**Zhudong**	**0.89**	**262**	*e*P		**Pb**	**06 33 48.8**	**-0.4**
	baz=256							
NJD				*e*S		**Sb**	**06 34 01.7**	**+0.5**
	baz=256							
JYNG	**Yonagunijimaku**	**0.91**	**117**	P		**Pb**	**06 33 49.0**	**-0.5**
JYNG				S		**Sb**	**06 34 01.3**	**-0.5**
NHW	**Xinwu Township**	**0.93**	**279**	*e*P		**Pn**	**06 33 50.5**	**-0.3**
	baz=271							
NHW				*e*S		**Sn**	**06 34 03.1**	**-1.2**
	baz=271							
HSN1	**Hsinchu**	**0.94**	**265**	*e*P		**Pn**	**06 33 50.8**	**-0.3**
	baz=259							
HSN1				*e*S		**Sn**	**06 34 05.5**	**+0.6**
	baz=259							
YOJ	**Yonaguni jima**	**0.96**	**115**			**Pb**	**06 33 49.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.96**	**115**	P		**Pb**	**06 33 50.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.96**	**115**	P		**Pg**	**06 33 49.1**	**-0.7**
	baz=115							
YOJ				*e*S		**Sb**	**06 34 02.6**	**-0.6**
	baz=115							
YOJ	**Yonaguni jima**	**0.96**	**115**	P		**Pb**	**06 33 49.8**	**-0.6**
YOJ				S		**Sb**	**06 34 02.8**	**-0.4**
FUSS	**Fushou**	**0.96**	**230**	P		**Pg**	**06 33 49.5**	**-0.4**
	baz=232							
FUSS				*e*S		**Sg**	**06 34 02.1**	**-0.3**
	baz=232							
LIOB	**Emei**	**0.97**	**257**	*e*P		**Pb**	**06 33 50.4**	**-0.2**
	baz=258							
LIOB				*e*S		**Sb**	**06 34 03.7**	**+0.1**
	baz=258							
HWA	**Hwalien**	**0.97**	**205**	*e*P		**Pn**	**06 33 51.9**	**+0.4**
	baz=213							
SBCB	**Hsinchu**	**0.97**	**266**	P		**Pn**	**06 33 51.2**	**-0.3**
	baz=260							
SBCB				*e*S		**Sn**	**06 34 05.8**	**+0.2**
	baz=260							
NSTT	**Nanjuang**	**0.98**	**257**	*e*P		**Pb**	**06 33 50.5**	**-0.3**
	baz=257							
NSTT				*e*S		**Sn**	**06 34 05.2**	**-0.6**
	baz=257							
HSN	**Hsinchu**	**0.99**	**267**	*e*P		**Pn**	**06 33 50.9**	**-0.8**
	baz=269							
HSN				*e*S		**Sn**	**06 34 05.1**	**-0.8**
	baz=269							
TWT	**Tachien**	**1.00**	**233**	*e*P		**Pb**	**06 33 50.8**	**-0.5**
	baz=230							
TWT				*e*S		**Sb**	**06 34 04.8**	**0.0**
	baz=230							
WHF	**Hehuan Shan**	**1.01**	**225**	P		**Pg**	**06 33 50.5**	**-0.4**
	baz=227							
WHF				*e*S		**Sb**	**06 34 04.8**	**-0.4**
	baz=227							
TDCB	**Techi**	**1.02**	**233**	*e*P		**Pg**	**06 33 50.3**	**-0.7**
	baz=230							
TDCB				*e*S		**Sb**	**06 34 04.3**	**-0.8**
	baz=230							
ETM	**Tongmen**	**1.03**	**210**	P		**Pg**	**06 33 50.9**	**-0.4**
	baz=223							
ETM				S		**Sn**	**06 34 06.4**	**-0.6**
	baz=223							
TEYL	**Yanliau Villag**	**1.07**	**203**	*e*P		**Pg**	**06 33 51.5**	**-0.6**
	baz=215							
TEYL				*e*S		**Sb**	**06 34 06.3**	**-0.2**
	baz=215							
NJN	**Zhunan**	**1.09**	**261**	P		**Pn**	**06 33 52.4**	**-0.7**
	baz=255							
NJN				*e*S		**Sn**	**06 34 07.9**	**-0.6**
	baz=255							
CHGB	**Renai**	**1.13**	**225**	P		**Pb**	**06 33 53.0**	**-0.5**
	baz=227							
CHGB				*e*S		**Sn**	**06 34 08.8**	**-1.0**
	baz=227							
WHP	**Taichung City**	**1.17**	**240**	P		**Pb**	**06 33 53.5**	**-0.5**
	baz=242							
ESL	**Shilin**	**1.19**	**209**	*e*P		**Pg**	**06 33 53.6**	**-0.7**
	baz=220							
ESL				*e*S		**Sg**	**06 34 09.2**	**-0.5**
	baz=220							
NMLH	**Miaoli**	**1.19**	**254**	*e*P		**Pn**	**06 33 55.0**	**+0.4**
	baz=256							
NMLH				*e*S		**Sn**	**06 34 10.4**	**-0.6**
	baz=256							
WUSB	**Renai**	**1.22**	**225**	P		**Pg**	**06 33 54.2**	**-0.6**
	baz=227							
WUSB				*e*S		**Sg**	**06 34 09.3**	**-1.3**
	baz=227							
NSY	**Sanyi**	**1.26**	**250**	*e*P		**Pg**	**06 33 56.1**	**+0.5**
	baz=251							
NSY				*e*S		**Sn**	**06 34 13.0**	**+0.4**
	baz=251							
TWQ1	**Liyutan**	**1.27**	**246**	P		**Pg**	**06 33 55.9**	**0.0**
	baz=265							
WCS	**Beigang Elemen**	**1.31**	**233**	P		**Pg**	**06 33 56.5**	**-0.2**
	baz=243							
WCS				*e*S		**Sn**	**06 34 13.6**	**-0.4**
	baz=243							
EGFH	**Guangfu**	**1.32**	**206**	*e*P		**Pb**	**06 33 56.0**	**-0.5**
	baz=214							
VWDT	**VWDT**	**1.38**	**217**	P		**Pb**	**06 33 57.3**	**-0.4**
	baz=229							
VWDT				*e*S		**Sg**	**06 34 16.1**	**+0.1**
	baz=229							
WDJ	**Dajia District**	**1.39**	**249**	*e*P		**Pg**	**06 33 57.7**	**-0.3**
	baz=267							
SMLT	**Sun Moon Lake**	**1.44**	**227**	P		**Pb**	**06 33 57.9**	**-0.7**
	baz=230							
TCU	**Taichung**	**1.44**	**241**	*e*P		**Pg**	**06 34 00.4**	**+1.3**
	baz=262							
TYC	**Yuchr**	**1.45**	**229**	*e*P		**Pg**	**06 33 58.9**	**-0.4**
	baz=224							
TYC				*e*S		**Sg**	**06 34 17.4**	**-0.6**
	baz=224							
SSLB	**Suanglung**	**1.47**	**223**			**Pb**	**06 33 58.4**	**-0.7**
SSLB	**Suanglung**	**1.47**	**223**	P		**Pb**	**06 33 58.7**	**-0.4**
SSLB	**Suanglung**	**1.47**	**223**	P		**Pb**	**06 33 58.3**	**-0.7**
	baz=226							
SSLB				*e*S		**Sn**	**06 34 16.4**	**-1.4**
	baz=226							
HGSD	**Ruisui**	**1.48**	**203**	P		**Pg**	**06 33 59.4**	**-0.5**
	baz=194							
HGSD				*e*S		**Sg**	**06 34 20.1**	**+1.0**
	baz=194							
WWF	**Wufeng**	**1.48**	**237**	*e*P		**Pb**	**06 33 58.5**	**-0.8**
	baz=239							
WWF				*e*S		**Sg**	**06 34 18.4**	**-0.6**
	baz=239							
EHY	**Hungye**	**1.51**	**206**	P		**Pn**	**06 33 58.1**	**-0.8**
	baz=220							
WCHH	**Zhanghua**	**1.57**	**240**	*e*P		**Pg**	**06 34 01.6**	**+0.1**
	baz=261							
WNT	**Mingjian**	**1.59**	**232**	*e*P		**Pg**	**06 34 02.7**	**+0.8**
	baz=226							
WJS	**Zhushan**	**1.59**	**230**	*e*P		**Pg**	**06 34 03.9**	**+1.9**
	baz=224							
WJS				*e*S		**Sg**	**06 34 24.8**	**+2.1**
	baz=224							
WHYT	**Xinyi Township**	**1.60**	**224**	*e*P		**Pg**	**06 34 01.9**	**-0.2**
	baz=227							
IRIF	**Iriomote-Funau**	**1.61**	**109**	P		**Pn**	**06 33 59.7**	**-0.6**
IRIF				S		**Sn**	**06 34 20.1**	**-1.3**
YULB	**Yu-li**	**1.62**	**205**			**Pn**	**06 33 59.8**	**-0.6**
YULB	**Yu-li**	**1.62**	**205**	P		**Pb**	**06 34 01.4**	**-0.3**
YULB	**Yu-li**	**1.62**	**205**	P		**Pn**	**06 34 00.4**	**0.0**
	baz=219							
YULB				*e*S		**Sb**	**06 34 21.8**	**-0.6**
	baz=219							
EYUL	**Yuli**	**1.65**	**204**	*e*P		**Pb**	**06 34 01.2**	**-1.0**
	baz=219							
EYUL				*e*S		**Sn**	**06 34 20.9**	**-1.4**
	baz=219							
YUS	**Yu-Shan**	**1.70**	**217**	*e*P		**Pb**	**06 34 03.0**	**-0.3**
	baz=229							
ALS	**Alishan**	**1.77**	**221**	*e*P		**Pg**	**06 34 04.7**	**-0.7**
	baz=224							
CHN5	**Tsauling**	**1.78**	**225**	*e*P		**Pg**	**06 34 04.9**	**-0.7**
	baz=230							
CHN5				*e*S		**Sg**	**06 34 29.2**	**+0.5**
	baz=230							
HATJ	**Hateruma jima**	**1.79**	**116**	P		**Pn**	**06 34 02.2**	**-0.5**
HATJ				S		**Sn**	**06 34 24.2**	**-1.5**
FULB	**Fuli**	**1.80**	**203**	*e*P		**Pb**	**06 34 03.4**	**-1.3**
	baz=220							
WRL	**Guolierlin Hig**	**1.80**	**238**	*e*P		**Pb**	**06 34 04.5**	**-0.3**
	baz=257							
WDLH	**Douliu**	**1.81**	**230**	*e*P		**Pg**	**06 34 06.4**	**+0.2**
	baz=235							
WDLH				*e*S		**Sg**	**06 34 29.4**	**-0.2**
	baz=235							
CHKT	**Chengkung**	**1.87**	**200**	*e*P		**Pn**	**06 34 03.2**	**-0.6**
	baz=178							
CHKT				*e*S		**Sb**	**06 34 28.7**	**-0.7**
	baz=178							
JKRS	**Kuro-shima**	**1.89**	**109**	P		**Pn**	**06 34 03.5**	**-0.6**
JKRS				S		**Sn**	**06 34 26.6**	**-1.5**
ELDTW	**Lidau**	**1.92**	**210**	*e*P		**Pb**	**06 34 05.7**	**-1.1**
	baz=216							
ELDTW				*e*S		**Sb**	**06 34 31.5**	**+0.5**
	baz=216							
WTK	**Tuku**	**1.92**	**233**	*e*P		**Pg**	**06 34 07.0**	**-1.3**
	baz=255							
WCKO	**Fanlu**	**1.94**	**223**	*e*P		**Pb**	**06 34 06.6**	**-0.5**
	baz=227							
JIJ	**Ishigaki jima**	**1.96**	**104**	P		**Pn**	**06 34 04.8**	**-0.3**
JIJ				S		**Sn**	**06 34 29.2**	**-0.8**
EDH	**Donghe**	**2.00**	**200**	*e*P		**Pn**	**06 34 05.5**	**-0.2**
	baz=181							
CHN4	**Tsaushan**	**2.01**	**222**	*e*P		**Pb**	**06 34 07.8**	**-0.6**
	baz=227							
CHY	**Chiayi**	**2.02**	**228**	*e*P		**Pg**	**06 34 09.4**	**-0.7**
	baz=233							
TPUB	**Ta-pu**	**2.03**	**220**			**Pb**	**06 34 07.8**	**-0.8**
TPUB	**Ta-pu**	**2.03**	**220**	P		**Pb**	**06 34 08.6**	**-0.1**
	baz=213							
TPUB				*e*S		**Sg**	**06 34 36.5**	**-0.2**
	baz=213							
STYH	**Taoyuan**	**2.05**	**215**	*e*P		**Pb**	**06 34 07.4**	**-1.6**
	baz=221							
STYT	**Tauyuan**	**2.07**	**215**	*e*P		**Pb**	**06 34 08.8**	**-0.5**
	baz=208							
JISG	**Ishigakijimahi**	**2.07**	**97**	P		**Pn**	**06 34 06.2**	**-0.3**
JISG				S		**Sn**	**06 34 31.8**	**-0.9**
WTP	**Ta-pu**	**2.08**	**220**	*e*P		**Pb**	**06 34 09.7**	**+0.2**
	baz=214							
WTP				*e*S		**Sb**	**06 34 35.8**	**+0.2**
	baz=214							
LONT	**Longtian**	**2.12**	**204**	*e*P		**Pn**	**06 34 08.0**	**+0.7**
	baz=190							
WSL	**Shuilin Townsh**	**2.14**	**232**	*e*P		**Pn**	**06 34 07.4**	**-0.1**
	baz=251							
TWK	**Hsinying**	**2.14**	**222**	*e*P		**Pb**	**06 34 10.8**	**+0.3**
	baz=228							
CHN1	**Nanshi**	**2.18**	**220**	*e*P		**Pb**	**06 34 11.3**	**+0.1**
	baz=226							
ICHU	**Yijhu**	**2.21**	**228**	*e*P		**Pb**	**06 34 11.1**	**-0.6**
	baz=231							
TWGBT	**Beinan**	**2.22**	**204**	P		**Pn**	**06 34 08.8**	**+0.1**
SGST	**Jiashian**	**2.23**	**217**	*e*P		**Pb**	**06 34 10.6**	**-1.4**
	baz=209							
MATB	**Ma-tsu**	**2.30**	**304**	*e*P		**Pn**	**06 34 08.3**	**-1.4**
	baz=301							
VWUC	**VWUC**	**2.37**	**274**	*e*P		**Pn**	**06 34 08.6**	**-2.1**
	baz=273							
SCST	**Cishan**	**2.43**	**216**	*e*P		**Pb**	**06 34 14.2**	**-1.3**
	baz=222							
TSMG	**Majia**	**2.51**	**211**	*e*P		**Pb**	**06 34 17.0**	**+0.2**
	baz=217							
TWM1	**Shoushan**	**2.52**	**217**	*e*P		**Pb**	**06 34 17.6**	**+0.6**
	baz=222							
MASBT	**Mashibuluo**	**2.59**	**210**	*e*P		**Pb**	**06 34 15.8**	**-2.4**
	baz=216							
PNG	**Penghu**	**2.62**	**241**	*e*P		**Pn**	**06 34 14.6**	**+0.4**
	baz=245							
PHUB	**P'eng-hu**	**2.63**	**240**	*e*P		**Pn**	**06 34 14.4**	**+0.1**
	baz=256							
XPSS	**Dashiqiu**	**2.66**	**321**	*e*P		**Pn**	**06 34 13.7**	**-1.0**
	baz=316							
LYJJ	**Jianjiangzhen**	**2.67**	**310**	*e*P		**Pn**	**06 34 12.8**	**-2.0**
	baz=305							
PTMZ	**Houxiangcun**	**2.67**	**274**	*e*P		**Pn**	**06 34 13.9**	**-0.9**
	baz=273							
EAST	**Anshuo**	**2.71**	**204**	*e*P		**Pb**	**06 34 17.9**	**-2.3**
	baz=198							
WDGT	**Dungji**	**2.71**	**234**	*e*P		**Pb**	**06 34 17.4**	**-2.9**
	baz=251							
SCZT	**Fangliau**	**2.81**	**208**	*e*P		**Pb**	**06 34 19.4**	**-2.5**
	baz=201							
SLIU	**Shizi**	**2.88**	**204**	*e*P		**Pb**	**06 34 21.2**	**-1.9**
	baz=198							
MHZQ	**Yeshan**	**3.00**	**295**	*e*P		**Pn**	**06 34 19.8**	**+0.4**
	baz=292							
SMST	**Manzhou Townsh**	**3.04**	**202**	*e*P		**Pn**	**06 34 21.9**	**+2.0**
	baz=188							
KNM	**Kinmen**	**3.33**	**263**	*e*P		**Pn**	**06 34 24.6**	**+0.8**
	baz=262							
KNMB	**Chin-men Tao**	**3.36**	**264**	Pn		**Pn**	**06 34 23.5**	**-0.8**
KNMB	**Chin-men Tao**	**3.36**	**264**	*e*P		**Pn**	**06 34 23.2**	**-1.1**
	baz=263							
AXDP	**Jialang**	**3.71**	**271**	*e*P		**Pn**	**06 34 27.9**	**-1.2**
	baz=270							
ZPLA	**Ao Xicun**	**4.03**	**258**	*e*P		**Pn**	**06 34 32.2**	**-1.4**
	baz=258							
JOW	**Kunigami**	**5.94**	**69**	Pn		**Pn**	**06 35 02.0**	**+2.2**
JNU	**Nakatsue**	**11.28**	**41**	LR		LR	06 41 03.4	
	comp=Z,67nm,18.8s,baz=206,slow=39							
KSRS	**Korea Array**	**13.51**	**20**	Pn		**P**	**06 36 49.7**	**-3.2**
	0.4nm,0.3s,baz=207,slow=13,SNR=4.2							
KSRS				LR		LR	06 41 53.9	
	comp=Z,80nm,20.4s,baz=205,slow=37							
DAV	**Davao City (W)**	**18.01**	**169**	LR		LR	06 44 47.3	
	comp=Z,139nm,19.5s,baz=338,slow=38							
MJAR	**Matsushiro Arr**	**18.09**	**46**	LR		LR	06 45 32.2	
	comp=Z,64nm,20.2s,baz=232,slow=39							
JCJ	**Chichijima**	**18.24**	**79**	LR		LR	06 43 46.8	
	comp=Z,85nm,18.1s,baz=157,slow=33							
USRK	**Ussuriysk Ar.**	**20.92**	**20**	P		Pn	06 38 19.4	+2.3
	4.1nm,0.8s,baz=216,slow=11,SNR=6.4							
USRK				LR		LR	06 46 29.6	
	comp=Z,97nm,18.7s,baz=199,slow=37							
	4.1nm,0.8s		

PETK	**Petropavlovsk-** comp=Z,43nm,18.2s,baz=174,slow=37	**38.86**	**34**	LR	LR	06 57 50.3	
MA2	**Magadan** comp=Z,52nm,18.4s,baz=270,slow=36	**40.06**	**22**	LR	LR	06 57 57.8	
ZAA0	**Zalesovo Array**	**40.11**	**326**	P	**P**	**06 41 06.4**	**-1.2**
ZAA0	comp=Z,7.8nm,0.9s			IAmb	IAmb	06 41 11.4	
ZALV	**Zalesovo Beam** comp=Z,8.0nm,0.9s,baz=111,slow=8.3,SNR=13	**40.11**	**326**	P	**P**	**06 41 07.5**	**-0.1**
ZALV	comp=Z,149nm,19.1s,baz=116,slow=38 comp=Z,8.0nm,0.9s			LR	LR	06 58 48.0	
ZALV	**Zalesovo Beam**	**40.11**	**326**	P	**P**	**06 41 06.8**	**-0.8**
KRVT	**Keravat (AS076** comp=Z,62nm,20.0s,baz=306,slow=31	**41.10**	**131**	LR	LR	06 54 44.3	
AAK	**Ala-Archa** comp=Z,115nm,18.4s,baz=70,slow=40	**42.73**	**307**	LR	LR	07 01 59.7	
WRA	**Warramunga Arr** comp=Z,3.4nm,1.0s,baz=346,slow=8.7,SNR=13	**46.11**	**164**	P	**P**	**06 41 56.6**	**+0.1**
WRA	comp=Z,45nm,18.0s,baz=120,slow=41 comp=Z,3.4nm,1.0s			LR	LR	07 04 51.1	
WRA	**Warramunga Arr**	**46.11**	**164**	P	**P**	**06 41 56.5**	**+0.1**
WB2	**Warramunga Arr**	**46.12**	**164**	P	**P**	**06 41 56.6**	**+0.1**
WB2	comp=Z,5.2nm,1.0s			IAmb	IAmb	06 41 58.5	
WR0	**Warramunga Arr**	**46.18**	**164**	P	**P**	**06 41 57.6**	**+0.6**
TIXI	**Tiksi** comp=Z,124nm,18.0s,baz=359,slow=40	**46.98**	**3**	LR	LR	07 04 46.1	
TIXI	**Tiksi**	**46.98**	**3**	P	**P**	**06 42 04.5**	**+1.8**
BVAR	**Borovoye Array** comp=Z,1.5nm,0.7s,baz=105,slow=11,SNR=6.4	**47.66**	**320**	P	**P**	**06 42 09.3**	**+1.1**
BVAR	comp=Z,38nm,18.8s,baz=35,slow=36 comp=Z,1.5nm,0.7s			LR	LR	07 02 08.6	
ASAR	**Alice Springs** comp=Z,0.6nm,0.6s,baz=344,slow=7.6,SNR=11 comp=Z,0.6nm,0.6s	**49.59**	**166**	P	**P**	**06 42 24.8**	**+1.3**
CTA	**Charters Tower** comp=Z,41nm,21.6s,baz=274,slow=33	**50.51**	**150**	LR	LR	07 01 37.1	
GEYT	**Alibeck** comp=Z,80nm,18.5s,baz=99,slow=41	**55.14**	**300**	LR	LR	07 10 46.6	
WSAR	**Wadi Sarin** comp=Z,35nm,19.4s,baz=100,slow=41	**57.46**	**283**	LR	LR	07 12 34.8	
KIRV	**Kirov** comp=Z,98nm,19.4s,baz=67,slow=38	**60.12**	**325**	LR	LR	07 11 39.3	
GNI	**Garni** comp=Z,22nm,20.8s,baz=27,slow=39	**65.07**	**304**	LR	LR	07 16 10.9	
FINES	**FINESS Array B** comp=Z,92nm,19.3s,baz=356,slow=39	**71.26**	**330**	LR	LR	07 19 20.5	
BRTR	**Keskin Array B** comp=Z,1.4nm,0.8s,baz=82,slow=2.6,SNR=4.6 comp=Z,1.4nm,0.8s	**73.41**	**306**	P	**P**	**06 45 04.4**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,1.4nm,0.8s,baz=308,slow=5.4,SNR=4.6 comp=Z,1.4nm,0.8s	**82.04**	**23**	P	**P**	**06 45 53.9**	**+1.8**
EKA	**Eskdalemuir Ar** comp=Z,106nm,18.2s,baz=5.5,slow=39	**87.48**	**332**	LR	LR	07 29 53.2	

*SOME **29** 06:35:09.2, 42°.75N×82°.83E, h5km*
*NNC **29** 06:35:18.2±2.7, 42°.29N×82°.23E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=28.1km s-min=14.9km az=1.0*
ISC 29 06:35:09.5±2.6, 42°.7N±0°.1×82°.9E±0°.1, h10km, n29, σ2s59/43, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 8.2nm,0.3s	**2.53**	**282**		*eP*	**Pn**	**06 35 51.9**	**+1.0**
SHLS	62nm,0.3s				*eS*	**Sn**	**06 36 22.6**	**+0.7**
SHLS	**Shalkode** 52nm,0.4s	**2.53**	**282**	Pg		**Pg**	**06 35 56.5**	**-1.6**
SHLS	62nm,0.3s				Lg	Lg	06 36 23.8	
PDGK	**Podgornoye** 9.9nm,0.4s	**2.55**	**286**	Pg		**Pg**	**06 36 00.5**	**+2.1**
PDGK	11nm,0.4s				Lg	Lg	06 36 30.8	
PDGK	**Podgornoye** 9.0nm,0.4s	**2.55**	**286**	⇓Pg		**Pg**	**06 35 59.1**	**+0.8**
PDGK	21nm,0.6s				⇓Lg	Lg	06 36 30.8	
DJR	**Jarkent** 1.7nm,0.3s	**2.77**	**307**		*eP*	**Pg**	**06 36 01.1**	**-1.5**
DJR	11nm,0.5s				*eS*	**Sg**	**06 36 38.5**	**+0.1**
UZB	**Uzynbulak** 3.8nm,0.3s	**2.85**	**280**		*eP*	**Pg**	**06 36 02.3**	**-1.9**
UZB	28nm,0.3s				*eS*	**Sg**	**06 36 40.5**	**-0.6**
UZB	**Uzynbulak** 9.5nm,0.2s	**2.85**	**280**	Pg		**Pg**	**06 36 03.9**	**-0.3**
UZB	28nm,0.3s				Lg	Lg	06 36 36.1	
KPKS	**Kokpek** 7.1nm,0.3s	**3.15**	**286**		*eP*	**Pg**	**06 36 07.1**	**-2.8**
KPKS	43nm,0.5s				*eS*	**Sg**	**06 36 48.8**	**-1.9**
KPKS	**Kokpek** 8.6nm,0.3s	**3.15**	**286**	Pg		**Pg**	**06 36 08.5**	**-1.4**
KPKS	30nm,0.6s				Lg	Lg	06 36 43.9	
ZHN	**Zhinishke** 12nm,0.2s	**3.28**	**280**		*eP*	**Pg**	**06 36 09.9**	**-2.4**
ZHN	60nm,0.1s				*eS*	**Sg**	**06 36 53.9**	**-1.0**
ZHN	**Zhinishke** 20nm,0.3s	**3.28**	**280**	Pg		**Pg**	**06 36 13.6**	**+1.3**
ZHN	60nm,0.1s				Lg	Lg	06 36 53.6	
SATY	**Saty** 5.8nm,0.4s	**3.29**	**278**		*eP*	**Pg**	**06 36 10.8**	**-1.8**
SATY	25nm,0.6s				*eS*	**Sg**	**06 36 55.7**	**+0.5**
SATY	**Saty** 11nm,0.3s	**3.29**	**278**	Pg		**Pg**	**06 36 09.9**	**-2.7**
SATY	12nm,0.3s				Lg	Lg	06 36 46.3	
BLB	**Baldybastay** 4.3nm,0.4s	**3.48**	**295**		*eP*	**Pg**	**06 36 13.9**	**-2.4**
BLB	12nm,0.5s				*eS*	**Sg**	**06 37 00.5**	**-0.9**
BLB	**Baldybastay** 14nm,0.4s	**3.48**	**295**	Pg		**Pg**	**06 36 19.5**	**+3.3**
BLB	12nm,0.5s				Lg	Lg	06 37 02.7	
ARXS	**Arharly** 2.6nm,0.5s	**3.96**	**294**		*eP*	**Pg**	**06 36 22.6**	**-2.8**
ARXS	7.8nm,0.6s				*eS*	**Sg**	**06 37 15.7**	**-1.1**
ARXS	**Arharly** 10nm,0.8s	**3.96**	**294**	Pg		Pg	06 36 29.4	+4.0
ARXS	7.8nm,0.6s				Lg	Lg	06 37 19.7	
MK31	**Makanchi Array** 0.3nm,0.2s,baz=187,slow=12,SNR=43	**4.12**	**355**	⇑Pn		**Pg**	**06 36 24.9**	**-3.5**
MK31	0.5nm,0.3s,baz=176,slow=17,SNR=7.0			Pg		Pb	06 36 38.5	+16
MK31	4.8nm,0.6s,baz=182,slow=28,SNR=5.4			⇓Lg		Lg	06 37 42.7	
MDOK	**Medeo** 3.3nm,0.6s	**4.29**	**278**		*eP*	**Pg**	**06 36 28.3**	**-3.4**
MDOK	5.5nm,0.7s				*eS*	**Sg**	**06 37 25.1**	**-2.2**
MDOK	**Medeo** 3.1nm,0.6s	**4.29**	**278**	Pg		**Pg**	**06 36 28.3**	**-3.4**
MDOK	3.8nm,0.4s				Pg	**Pb**	**06 36 29.2**	**+4.0**
MDOK	7.7nm,0.5s				Lg	Lg	06 37 19.4	
MDOK	2.0nm,0.5s				Lg	Lg	06 37 19.4	
TNSS	**Tian-Shan** 5.8nm,0.6s	**4.36**	**277**		*eP*	**Pg**	**06 36 29.2**	**-3.8**
TNSS	3.6nm,0.6s				*eS*	**Sg**	**06 37 26.6**	**-2.8**
KUU	**Kurty** 1.9nm,0.1s	**4.91**	**286**		*eP*	**Pg**	**06 36 40.4**	**-3.0**
KUU	7.6nm,0.4s				*eS*	**Sg**	**06 37 45.9**	**-1.0**
KUU	**Kurty** 1.6nm,0.1s	**4.91**	**286**	Pg		**Pg**	**06 36 44.4**	**+0.9**
KUU	7.6nm,0.4s				Lg	Lg	06 37 45.5	
KST	**Kastek** 3.1nm,0.7s	**5.08**	**276**		*eP*	**Pg**	**06 36 43.3**	**-3.4**
KST	8.0nm,0.9s				*eS*	**Sg**	**06 37 50.6**	**-1.9**
DGS	**Degeres** 3.7nm,0.3s	**5.23**	**278**		*eP*	**Pg**	**06 36 45.2**	**-4.4**
DGS	8.0nm,0.6s				*eS*	**Sg**	**06 37 54.0**	**-3.3**
DGS	**Degeres** 3.7nm,0.3s	**5.23**	**278**	Pg		**Pg**	**06 36 48.3**	**-1.3**
DGS	8.0nm,0.6s				Lg	Lg	06 37 53.6	
KRBS	**Karabastau** 1.5nm,0.3s	**5.34**	**283**		*eP*	**Pb**	**06 36 46.4**	**+3.4**
KRBS	2.6nm,0.4s				*eS*	**Sg**	**06 37 55.9**	**-5.1**
KRBS	**Karabastau** 1.5nm,0.3s	**5.34**	**283**	Pg		**Pg**	**06 36 48.8**	**-3.1**
KRBS	2.6nm,0.4s				Lg	Lg	06 37 53.0	
TKM2	**Tokmak 2** 2.0nm,0.6s	**5.34**	**275**	⇑Pg		**Pg**	**06 36 48.8**	**-3.1**
TKM2	0.3nm,0.3s			⇓Lg		Lg	06 37 51.7	

*SOME **29** 06:38:30.9, 46°.75N×82°.67E, h20km*
*NNC **29** 06:38:31.3±0.9, 46°.68N×82°.93E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=6.1km s-min=2.9km az=113.0*
ISC 29 06:38:29.2±1.1, 46°.81N±0°.08×83°.00E±0°.05, h18km, n17, σ2s11/24, 3C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array** 0.6nm,0.1s,baz=96,slow=17,SNR=306	**0.49**	**268**	⇓P		**Pb**	**06 38 40.0**	**+0.7**
MK31	2.0nm,0.1s,baz=104,slow=35,SNR=9.5			⇑S		**Sn**	**06 38 47.8**	**-1.6**
MAKZ	**Makanchi** 0.9nm,0.1s	**0.70**	**270**	⇓P		**Pn**	**06 38 44.8**	**+0.6**
MAKZ	7.0nm,0.3s			⇓S		**Sn**	**06 38 54.5**	**-0.2**
ZSN	**Zaisan** 6.4nm,0.1s	**1.43**	**63**		*eP*	**Pb**	**06 38 55.8**	**+0.6**
ZSN	20nm,0.4s				*eS*	**Sn**	**06 39 12.9**	**+0.4**
DJR	**Jarkent** 1.2nm,0.1s	**3.35**	**223**		*eP*	**Pb**	**06 39 28.9**	**+0.8**
DJR	4.3nm,0.5s				*eS*	**Sb**	**06 40 10.5**	**+2.0**
DJR	**Jarkent** 1.8nm,0.3s	**3.35**	**223**	Pg		**Pb**	**06 39 29.5**	**+1.4**
DJR	5.2nm,0.5s				Lg	Lg	06 40 09.5	
BLB	**Baldybastay** 1.6nm,0.4s	**4.18**	**231**		*eP*	**Pb**	**06 39 43.6**	**+1.4**
BLB	4.8nm,0.4s				*eS*	**Sb**	**06 40 36.5**	**+4.0**
BLB	**Baldybastay** 5.8nm,0.5s	**4.18**	**231**	Pg		**Pg**	**06 39 46.8**	**-2.4**
BLB	4.8nm,0.3s				Lg	Lg	06 40 38.9	
SHLS	**Shalkode** 3.6nm,0.4s	**4.43**	**216**		*eP*	**Pb**	**06 39 44.5**	**-2.1**
SHLS	4.7nm,0.5s				*eS*	**Sb**	**06 40 37.2**	**-2.5**
SHLS	**Shalkode** 2.3nm,0.2s	**4.43**	**216**	Pg		**Pb**	**06 39 48.6**	**+2.1**
SHLS	4.5nm,0.1s				Lg	Lg	06 40 41.6	
ARXS	**Arharly** 2.8nm,1.0s	**4.47**	**236**		*eP*	**Pb**	**06 39 47.5**	**+0.4**
ARXS	11nm,0.8s				*eS*	**Sb**	**06 40 43.1**	**+2.4**
ARXS	**Arharly** 3.0nm,1.1s	**4.47**	**236**	Pg		**Pg**	**06 39 51.3**	**-3.5**
ARXS	11nm,0.7s				Lg	Lg	06 40 46.5	
KPKS	**Kokpek** 3.7nm,0.2s	**4.53**	**224**		*eP*	**Pb**	**06 39 49.3**	**+1.1**
KPKS	12nm,0.5s				*eS*	**Sb**	**06 40 45.5**	**+3.0**
KPKS	**Kokpek** 2.2nm,0.1s	**4.53**	**224**	Pg		**Pb**	**06 39 50.7**	**+2.5**
KPKS	7.0nm,0.1s				Lg	Lg	06 40 45.4	
UZB	**Uzynbulak** 1.7nm,0.1s	**4.62**	**219**		*eP*	**Pb**	**06 39 50.3**	**+0.5**
UZB	4.0nm,0.3s				*eS*	**Sb**	**06 40 47.2**	**+1.9**
KURBB	**Kurchatov Arra** 20nm,0.6s	**4.83**	**324**	⇑Lg		Lg	06 41 05.8	
KURK	**Kurchatov** 11nm,0.7s	**4.86**	**325**	⇑Lg		Lg	06 41 05.5	
KRBS	**Karabastau** 0.5nm,0.4s	**6.04**	**242**	Pg		**Pg**	**06 40 22.3**	**-2.4**
KRBS	2.5nm,0.7s				Lg	Lg	06 41 39.4	

*TAP **29** 06:39:51.8, 24°.85N×122°.04E, h9km, ML3.7, B*
*IDC **29** 06:39:51.7±1.7, 24°.80N×121°.94E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=155.1km s-min=19.5km az=65.0*
*JMA **29** 06:39:52.6±0.0, 24°.9N±0°.3×122°.0E±0°.3, h34km±2km, MV3.2/11, TAIWAN REGION*
ISC 29 06:39:52.0±0.9, 24°.84N±0°.02×122°.07E±0°.02, h7km±7km, n109, σ0s84/177, mb3.8/5, 14C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGS	baz=265	**0.13**	**273**	⇑*i*P		**Pg**	**06 39 54.7**	**0.0**
EGS	baz=265			S		**Sg**	**06 39 56.8**	**+0.3**
TWB1	**Santiao Chiao** baz=345	**0.19**	**336**	⇑*i*P		**Pg**	**06 39 55.6**	**-0.1**
TWB1	baz=345			*i* S		**Sg**	**06 39 58.4**	**+0.2**
NTC	**Toucheng** baz=271	**0.22**	**274**	*i* P		**Pg**	**06 39 56.5**	**+0.1**
NTC	baz=271			S		**Sg**	**06 39 59.9**	**+0.5**
TIPB	**Shuangxi** baz=301	**0.26**	**301**	⇑*i*P		**Pg**	**06 39 57.2**	**+0.1**
TIPB	baz=301			*i* S		**Sg**	**06 40 00.9**	**+0.3**
ILA	**Ilan** baz=252	**0.30**	**256**	P		**Pg**	**06 39 58.1**	**+0.2**
ILA	baz=252			*eS*		**Sg**	**06 40 01.8**	**-0.1**
TWC	**Suao** baz=215	**0.30**	**222**	⇑*i*P		**Pg**	**06 39 58.1**	**+0.2**
TWC	baz=215			*i* S		**Sg**	**06 40 01.9**	**-0.1**
SXI1	**Grass Mountain** baz=328	**0.31**	**325**	⇑*i*P		**Pg**	**06 39 58.3**	**+0.2**
SXI1	baz=328			S		**Sg**	**06 40 02.9**	**+0.6**
NWF	**Wu-fen Shan** baz=313	**0.35**	**311**	*i* P		**Pg**	**06 39 59.1**	**+0.2**
NWF	baz=313			S		**Sg**	**06 40 04.2**	**+0.7**
WFSB	**Wu-fen Shan** baz=313	**0.35**	**311**	⇑*i*P		**Pg**	**06 39 59.1**	**+0.3**
WFSB	baz=313			S		**Sg**	**06 40 04.2**	**+0.7**
NDS	**Dongshan** baz=234	**0.38**	**238**	*eP*		**Pg**	**06 39 58.5**	**-0.9**
NDS	baz=234			*eS*		**Sg**	**06 40 03.2**	**-1.2**
TWE	**Neicheng** baz=248	**0.39**	**253**	⇓*i*P		**Pg**	**06 39 59.5**	**0.0**
TWE	baz=248			S		**Sg**	**06 40 04.8**	**+0.3**
TNOU	**National Taiwa** baz=321	**0.41**	**319**	⇑*i*P		**Pg**	**06 40 00.2**	**+0.3**
TNOU	baz=321			*eS*		**Sg**	**06 40 05.4**	**0.0**
FUSB	**Fushanzhiwuyua** baz=258	**0.45**	**260**	⇓*i*P		**Pg**	**06 40 00.6**	**-0.1**
FUSB	baz=258			*eS*		**Sg**	**06 40 06.4**	**-0.1**
TWA	**Mucha** baz=287	**0.47**	**288**	⇑*i*P		**Pg**	**06 40 01.2**	**+0.2**
TWA	baz=287			*eS*		**Sg**	**06 40 07.4**	**+0.3**
EWUT	**Wuta** baz=211	**0.47**	**215**	⇑*e*P		**Pg**	**06 40 00.1**	**-1.1**
EWUT	baz=211			*eS*		**Sg**	**06 40 07.0**	**-0.3**
NHY	**Taipei** baz=294	**0.50**	**294**	*eP*		**Pg**	**06 40 02.2**	**+0.6**
NHY	baz=294			*eS*		**Sg**	**06 40 09.0**	**+0.8**
ENTT	**Nioudou** baz=244	**0.50**	**247**	⇑*i*P		**Pg**	**06 40 00.7**	**-0.9**
ENTT	baz=244			*eS*		**Sg**	**06 40 07.2**	**-1.0**
ENA	**Nanau** baz=212	**0.51**	**217**	P		**Pg**	**06 40 01.7**	**-0.1**
ENA	baz=212			*eS*		**Sg**	**06 40 08.6**	**+0.2**
NHDH	**Xindian Distri** baz=283	**0.51**	**284**	P		**Pb**	**06 40 02.6**	**-0.7**
NHDH	baz=283			*eS*		**Sg**	**06 40 09.0**	**+0.4**
NWLT	**Wulai** baz=262	**0.52**	**264**	*eP*		**Pg**	**06 40 00.9**	**-1.1**
NWLT	baz=262			*eS*		**Sg**	**06 40 07.1**	**-1.7**
NWRT	**Kuosheng** baz=315	**0.52**	**314**	*eP*		**Pg**	**06 40 02.4**	**+0.4**
NWRT	baz=315			*eS*		**Sg**	**06 40 09.0**	**+0.1**
TATO	**Taipei**	**0.55**	**285**	P		**Pg**	**06 40 03.1**	**+0.6**
TATO	**Taipei** baz=284	**0.55**	**285**	*eP*		**Pg**	**06 40 02.9**	**+0.4**
TATO	baz=284			*eS*		**Sg**	**06 40 09.6**	**-0.2**
YM01	**YM01** baz=304	**0.55**	**304**	⇑P		**Pg**	**06 40 03.2**	**+0.6**
YM01	baz=304			*eS*		**Sg**	**06 40 10.1**	**+0.3**
TAP	**Taipei** baz=291	**0.55**	**291**	*eP*		**Pb**	**06 40 04.2**	**+0.2**
TAP	baz=291			*eS*		**Sg**	**06 40 10.3**	**+0.5**
YM08	**YM08** baz=309	**0.56**	**309**	⇑P		**Pg**	**06 40 03.1**	**+0.3**
YM08	baz=309			*eS*		**Sg**	**06 40 09.5**	**-0.6**
LATG	**Datong** baz=236	**0.58**	**239**	P		**Pg**	**06 40 03.0**	**-0.2**
LATG	baz=236			*eS*		**Sg**	**06 40 11.4**	**+0.6**
BACT	**New Taipei Cit** baz=285	**0.59**	**286**	*eP*		**Pn**	**06 40 05.8**	**-1.0**
BACT	baz=285			*eS*		**Sb**	**06 40 12.6**	**-0.8**
EHP	**Heping Village** baz=206	**0.61**	**210**	*eP*		**Pg**	**06 40 04.3**	**+0.7**
EHP	baz=206			*eS*		**Sg**	**06 40 12.7**	**+1.1**
ANP	**Anpu** baz=305	**0.61**	**305**	*eP*		**Pb**	**06 40 04.4**	**-0.7**
TWY	**Chenhua** baz=317	**0.61**	**316**	⇑P		**Pb**	**06 40 04.4**	**-0.6**
TWY	baz=317			*eS*		**Sg**	**06 40 12.3**	**+0.5**
TWS1	**Kuangyinshan** baz=294	**0.65**	**294**	*eP*		**Pb**	**06 40 05.4**	**-0.3**
TWS1	baz=294			*eS*		**Sb**	**06 40 14.2**	**-0.8**
NTST	**Danshui** baz=300	**0.65**	**300**	*eP*		**Pb**	**06 40 05.6**	**-0.1**
NTST	baz=300			*eS*		**Sg**	**06 40 13.6**	**+0.5**
YHNB	**Yeheng**	**0.66**	**255**	P		**Pg**	**06 40 04.2**	**-0.4**
YHNB	**Yeheng** baz=253	**0.66**	**255**	⇓P		**Pg**	**06 40 04.2**	**-0.4**
YHNB	baz=253			*eS*		**Sg**	**06 40 11.1**	**-2.1**
NSK	**Sanguang** baz=254	**0.67**	**256**	⇓*e*P		**Pg**	**06 40 03.4**	**-1.5**
NSK	baz=254			*eS*		**Sg**	**06 40 11.0**	**-2.6**
NTY	**Taoyuan** baz=282	**0.72**	**283**	*eP*		**Pn**	**06 40 07.5**	**-1.1**
NNSB	**Datong** baz=235	**0.75**	**237**	*eP*		**Pg**	**06 40 06.6**	**+0.2**
NNSB	baz=235			*eS*		**Sg**	**06 40 15.8**	**-0.3**
NNSH	**Datong** baz=235	**0.75**	**237**	*eP*		**Pg**	**06 40 05.0**	**-1.4**
NNSH	baz=235			*eS*		**Sg**	**06 40 14.5**	**-1.6**
NNS	**Nan Shan** baz=236	**0.75**	**238**	*eP*		**Pg**	**06 40 05.5**	**-0.8**
NNS	baz=236			*eS*		**Sg**	**06 40 14.8**	**-1.3**
PCYT	**Pengchaiyu** baz=2.0	**0.79**	**360**	⇑*e*P		**Pb**	**06 40 08.1**	**0.0**
PCYT	baz=2.0			*eS*		**Sn**	**06 40 20.1**	**-1.6**
ETL	**Fush Village** baz=209	**0.79**	**211**	*eP*		**Pg**	**06 40 07.2**	**0.0**
ETL	baz=209			*eS*		**Sg**	**06 40 17.2**	**-0.3**
NACB	**Ninganchiao**	**0.79**	**213**	P		**Pb**	**06 40 07.7**	**-0.4**
NACB	**Ninganchiao** baz=211	**0.79**	**213**	*eP*		**Pg**	**06 40 07.0**	**-0.1**
NACB	baz=211			*eS*		**Sg**	**06 40 17.8**	**+0.3**
NCU	**National Centr** baz=279	**0.81**	**280**	*eP*		**Pn**	**06 40 08.9**	**-1.0**
NCU	baz=279			*eS*		**Sn**	**06 40 21.0**	**-1.3**
NCUH	**Zhongli** baz=279	**0.82**	**279**	*eP*		**Pb**	**06 40 08.9**	**+0.4**
NCUH	baz=279			*eS*		**Sn**	**06 40 21.0**	**-1.3**
ETLH	**Xiulin Townshi** baz=219	**0.83**	**221**	*eP*		**Pg**	**06 40 07.5**	**-0.4**
ETLH	baz=219			*eS*		**Sg**	**06 40 18.1**	**-0.5**
TWD	**Chiawan** baz=208	**0.87**	**210**	*eP*		**Pg**	**06 40 08.3**	**-0.3**
TWD	baz=208			*eS*		**Sg**	**06 40 20.0**	**0.0**
JYNG	**Yonagunijimaku**	**0.88**	**116**	*eP*		**Pb**	**06 40 09.5**	**-0.2**
JYNG						S	**Sn**	**06 40 22.2**	**-1.7**
NFF	**Wufeng Townshi** baz=256	**0.89**	**257**	*eP*		**Pg**	**06 40 07.9**	**-1.2**
NFF	baz=256			*eS*		**Sb**	**06 40 22.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.93**	**113**	P		**Pb**	**06 40 10.2**	**-0.2**
YOJ	**Yonaguni jima** baz=113	**0.93**	**113**	*i* P		**Pb**	**06 40 10.1**	**-0.4**
YOJ	baz=113					S	**Sn**	**06 40 23.4**	**-1.7**
YOJ	**Yonaguni jima**	**0.93**	**113**	P		**Pb**	**06 40 10.3**	**-0.2**
YOJ						S	**Sb**	**06 40 23.3**	**+0.3**
NHW	**Xinwu Township** baz=280	**0.95**	**280**	*eP*		**Pn**	**06 40 11.2**	**-0.5**
FUSS	**Fushou** baz=231	**0.96**	**232**	*eP*		**Pg**	**06 40 10.1**	**-0.2**
FUSS	baz=231			*eS*		**Sg**	**06 40 21.8**	**-0.9**
LIOB	**Emei** baz=258	**0.98**	**259**	*eP*		**Pn**	**06 40 12.2**	**0.0**
LIOB	baz=258			*eS*		**Sn**	**06 40 26.9**	**+0.5**
SBCB	**Hsinchu** baz=267	**0.99**	**268**	*eP*		**Pn**	**06 40 12.2**	**-0.1**
SBCB	baz=267			*eS*		**Sn**	**06 40 26.4**	**-0.2**
NSTT	**Nanjuang** baz=257	**1.00**	**258**	*eP*		**Pb**	**06 40 11.4**	**-0.2**
NSTT	baz=257			*eS*		**Sn**	**06 40 26.4**	**-0.4**
HSN	**Hsinchu** baz=269	**1.00**	**268**	*eP*		**Pn**	**06 40 12.0**	**-0.5**
HSN	baz=269			*eS*		**Sn**	**06 40 26.5**	**-0.4**
TWT	**Tachien** baz=233	**1.00**	**235**	*eP*		**Pn**	**06 40 12.0**	**-0.7**
WHF	**Hehuan Shan** baz=225	**1.01**	**227**	*eP*		**Pg**	**06 40 11.0**	**-0.3**
WHF	baz=225			*eS*		**Sb**	**06 40 26.1**	**+0.4**
TDCB	**Techi** baz=234	**1.02**	**235**	*eP*		**Pg**	**06 40 11.5**	**0.0**
TDCB	baz=234			*eS*		**Sb**	**06 40 25.5**	**-0.2**
CHGB	**Renai** baz=225	**1.13**	**227**	*eP*		**Pb**	**06 40 13.0**	**-1.0**

CHGB				*e*S		Sg	06 40 28.4 +0.2
	baz=225						
WHP	**Taichung City**	**1.17 242**		*e*P		**Pb**	**06 40 14.3 -0.3**
	baz=240						
ESL	**Shilin**	**1.17 210**		*e*P		**Pb**	**06 40 14.1 -0.5**
	baz=208						
ESL				*e*S		Sg	06 40 30.1 +0.3
	baz=208						
NMLH	**Miaoli**	**1.20 256**		*e*P		**Pg**	**06 40 16.6 +1.5**
	baz=255						
WUSB	**Renai**	**1.21 226**		*e*P		**Pn**	**06 40 14.8 -0.7**
	baz=225						
TWQ1	**Liyutan**	**1.28 248**		*e*P		**Pg**	**06 40 18.1 +1.6**
	baz=246						
EGFH	**Guangfu**	**1.30 207**		*e*P		**Pn**	**06 40 16.1 -0.6**
	baz=206						
WPL	**Puli Township**	**1.31 231**		*e*P		**Pg**	**06 40 17.9 +0.8**
	baz=230						
WCS	**Beigang Elemen**	**1.31 234**		*e*P		**Pn**	**06 40 16.6 -0.2**
	baz=233						
DPDB	**Guoxing**	**1.32 233**		*e*P		**Pg**	**06 40 17.9 +0.7**
	baz=231						
VWDT	**VWDT**	**1.37 218**		*e*P		**Pb**	**06 40 18.0 0.0**
	baz=217						
VWDT				*e*S		Sg	06 40 37.5 +1.3
	baz=217						
SMLT	**Sun Moon Lake**	**1.43 229**		*e*P		**Pg**	**06 40 19.5 +0.1**
	baz=227						
SMLT				*e*S		Sg	06 40 41.5 +3.5
	baz=227						
TYC	**Yuchr**	**1.45 230**		*e*P		**Pb**	**06 40 19.2 -0.1**
	baz=229						
SSLB	**Suanglung**	**1.46 225**		P		**Pb**	**06 40 19.6 +0.1**
SSLB	**Suanglung**	**1.46 225**		*e*P		**Pb**	**06 40 19.5 -0.1**
	baz=223						
SSLB				*e*S		Sg	06 40 41.4 +2.4
	baz=223						
HGSD	**Ruisui**	**1.46 204**		*e*P		**Pb**	**06 40 19.6 +0.1**
	baz=203						
EHY	**Hungye**	**1.49 208**		*e*P		**Pn**	**06 40 18.6 -0.7**
	baz=206						
WJS	**Zhushan**	**1.59 231**		*e*P		**Pg**	**06 40 22.5 0.0**
	baz=230						
IRIF	**Iriomote-Funau**	**1.59 108**		P		**Pn**	**06 40 19.7 -0.9**
IRIF				S		**Sn**	**06 40 40.1 -1.3**
YULB	**Yu-li**	**1.60 206**		P		**Pb**	**06 40 21.7 -0.2**
EYUL	**Yuli**	**1.64 205**		*e*P		**Pg**	**06 40 23.7 +0.4**
	baz=204						
TWF1	**Yuli**	**1.64 206**		*e*P		**Pn**	**06 40 20.7 -0.6**
	baz=204						
YUS	**Yu-Shan**	**1.69 218**		*e*P		**Pb**	**06 40 23.3 -0.3**
	baz=216						
ALS	**Alishan**	**1.76 221**		*e*P		**Pg**	**06 40 25.2 -0.4**
	baz=220						
ALS				*e*S		Sg	06 40 51.3 +2.9
	baz=220						
HATJ	**Hateruma jima**	**1.76 116**		P		**Pn**	**06 40 22.4 -0.5**
HATJ				S		**Sn**	**06 40 44.8 -0.8**
CHN5	**Tsauling**	**1.77 226**		*e*P		**Pb**	**06 40 25.2 +0.3**
	baz=225						
CHN5				*e*S		Sg	06 40 49.7 +0.7
	baz=225						
FULB	**Fuli**	**1.78 204**		*e*P		**Pb**	**06 40 24.2 -0.7**
	baz=203						
WRL	**Guolierlin Hig**	**1.81 239**		*e*P		**Pg**	**06 40 26.9 +0.3**
	baz=238						
WDLH	**Douliu**	**1.81 231**		*e*P		**Pg**	**06 40 28.6 +2.0**
	baz=230						
JKRS	**Kuro-shima**	**1.86 108**		P		**Pn**	**06 40 23.9 -0.5**
JKRS				S		**Sn**	**06 40 47.0 -1.1**
ELDTW	**Lidau**	**1.90 211**		*e*P		**Pb**	**06 40 26.1 -1.0**
	baz=209						
JIJ	**Ishigaki jima**	**1.94 104**		P		**Pn**	**06 40 25.1 -0.3**
JIJ				S		**Sn**	**06 40 49.5 -0.7**
CHN4	**Tsaushan**	**2.00 223**		*e*P		**Pb**	**06 40 28.7 -0.1**
	baz=222						
CHN4				*e*S		Sg	06 40 58.6 +2.2
	baz=222						
TPUB	**Ta-pu**	**2.02 221**		*e*P		**Pb**	**06 40 29.9 +0.8**
	baz=220						
TPUB				*e*S		Sg	06 40 58.1 +1.2
	baz=220						
STYH	**Taoyuan**	**2.04 216**		*e*P		**Pb**	**06 40 28.2 -1.1**
	baz=215						
JISG	**Ishigakijimahi**	**2.05 97**		P		**Pn**	**06 40 26.8 -0.1**
STYT	**Tauyuan**	**2.06 216**		*e*P		**Pb**	**06 40 30.2 +0.5**
	baz=215						
WTP	**Ta-pu**	**2.07 220**		*e*P		**Pb**	**06 40 30.6 +0.6**
	baz=219						
TWK	**Hsinying**	**2.13 223**		*e*P		**Pb**	**06 40 31.3 +0.3**
	baz=222						
WSL	**Shuilin Townsh**	**2.13 233**		*e*P		**Pn**	**06 40 28.4 +0.3**
	baz=231						
CHN1	**Nanshi**	**2.17 221**		*e*P		**Pb**	**06 40 31.7 +0.1**
	baz=220						
JTJ	**Tarama**	**2.40 94**		P		**Pn**	**06 40 31.9 +0.2**
JTJ				S		**Sn**	**06 41 00.6 -0.8**
SONM	**Songino Array**	**26.10 336**		P		**P**	**06 45 27.4 +0.9**
	2.8nm,1.0s,baz=155,slow=9.7,SNR=9.7						
	2.8nm,1.0s						
MKAR	**Makanchi Array**	**38.44 315**		P		**P**	**06 47 14.6 +0.2**
	0.9nm,0.9s,baz=118,slow=8.3,SNR=3.4						
	0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**40.15 326**		P		**P**	**06 47 28.4 -0.1**
	1.7nm,0.8s,baz=111,slow=8.1,SNR=6.1						
	1.7nm,0.8s						
WRA	**Warramunga Arr**	**46.08 164**		P		**P**	**06 48 16.9 +0.1**
	0.8nm,0.5s,baz=346,slow=8.7,SNR=12						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**49.56 166**		P		**P**	**06 48 45.1 +1.2**
	0.2nm,0.5s,baz=344,slow=9.2,SNR=6.4						
	0.2nm,0.5s						

NEIC ***29*** *06:49:56.5±0.6,5°.24S±0°.10×148°.4E±0°.2,h114km±17km, mb4.2/10, Error ellipse: s-maj=24.6km s-min=13.4km az=76.0*

IDC ***29*** *06:49:59.3±3.9,5°.57S×148°.53E,h131km±35km,mb3.4/4, mbtmp3.9/6, Error ellipse: s-maj=47.5km s-min=26.8km az=112.0*

ISC 29 06:50:00.4±1.4,5°.6S±0°.1×148°.2E±0°.2,h150km,n18, σ1°79/14,mb3.7/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.97**	**196**	P		**Pn**	**06 50 59.9**	**-0.3**
	60nm,0.3s,baz=27,slow=9.5,SNR=26							
PMG				S		**Sn**	**06 51 43.8**	**-3.0**
	29nm,0.3s,baz=186,slow=21,SNR=5.5							
PMG	**Port Moresby**	**3.97**	**196**			**Pn**	**06 51 00.0**	**-0.3**
MTN	**Manton Dam**	**18.36**	**246**			**Pn**	**06 54 05.8**	**+0.2**
WR0	**Warramunga Arr**	**19.55**	**222**	P		**Pn**	**06 54 19.0**	**-0.6**
WR0				IAmb		IAmb	06 54 19.7	
	comp=Z,10.0nm,1.1s							
WRAB	**Tennant Creek**	**19.66**	**222**	P		Pn	06 54 20.3	-0.5
WRAB				IAmb		IAmb	06 54 20.9	
	comp=Z,7.9nm,0.9s							
WB2	**Warramunga Arr**	**19.67**	**222**	P		Pn	06 54 20.3	-0.6
WB2				IAmb		IAmb	06 54 24.4	
	comp=Z,6.9nm,0.5s							
WRA	**Warramunga Arr**	**19.68**	**222**	P		Pn	06 54 20.3	-0.7
	comp=Z,6.2nm,0.7s,baz=50,slow=10,SNR=49							
WRA	**Warramunga Arr**	**19.68**	**222**	P		**P**	**06 54 18.5**	**+0.5**
KNRA	**Kununurra**	**21.60**	**241**	P		**P**	**06 54 40.0**	**+1.3**
KNRA				IAmb		IAmb	06 54 57.5	
	comp=Z,16nm,1.2s							
AS31	**Alice Springs**	**22.68**	**216**	P		**P**	**06 54 51.6**	**+2.2**
ASAR	**Alice Springs**	**22.69**	**216**	P		**P**	**06 54 51.5**	**+2.1**
	comp=Z,1.9nm,0.6s,baz=51,slow=8.9,SNR=35							
	comp=Z,1.9nm,0.6s							
ASAR	**Alice Springs**	**22.69**	**216**	P		**P**	**06 54 51.8**	**+2.4**
DZM	**Mont Dzumac**	**24.07**	**135**	P		**P**	**06 55 01.5**	**-0.6**
FORT	**Forrest**	**31.45**	**215**	P		**P**	**06 56 09.2**	**+1.4**
YULB	**Yu-li**	**38.99**	**319**	P		**P**	**06 57 10.2**	**-2.2**
VNDA	**Vanda**	**72.28**	**177**	P		**P**	**07 01 10.2**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=330,slow=6.8,SNR=3.9							
	comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	**77.95**	**320**	P		P	07 01 43.9	+1.9
	comp=Z,0.3nm,0.6s,baz=97,slow=7.9,SNR=2.4							
	comp=Z,0.3nm,0.6s							
ILAR	**Eielson Array**	**84.60**	**23**	P		P	07 02 17.2	+0.6
	comp=Z,0.9nm,0.6s,baz=251,slow=5.3,SNR=15							
	comp=Z,0.9nm,0.6s							

TAP 29 06:56:40.8,24°.86N×122°.11E,h108km,ML3.6,C,Taiwan

region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.19**	**322**	*i* P		Pn	06 56 56.2	+0.2
	baz=324							
TIPB	**Shuangxi**	**0.28**	**293**	*i* P		Pn	06 56 56.5	+0.1
	baz=283							
SXI1	**Grass Mountain**	**0.32**	**317**	P		Pn	06 56 56.4	-0.1
	baz=306							
SXI1				S		Sn	06 57 09.6	+1.2
	baz=306							
ILA	**Ilan**	**0.35**	**254**	S		Sn	06 57 08.5	+0.1
	baz=264							
TWC	**Suao**	**0.35**	**224**	*i* P		Pn	06 56 56.8	+0.2
	baz=231							
TWC				*i* S		Sn	06 57 07.8	-0.6
	baz=231							
NWF	**Wu-fen Shan**	**0.37**	**305**	*i* P		Pn	06 56 56.9	+0.1
	baz=299							
NWF				S		Sn	06 57 08.9	+0.1
	baz=299							
WFSB	**Wu-fen Shan**	**0.37**	**305**	P		Pn	06 56 56.8	+0.1
	baz=299							
WFSB				S		Sn	06 57 08.4	-0.3
	baz=299							
TNOU	**National Taiwa**	**0.42**	**313**	P		Pn	06 56 57.0	0.0
	baz=305							
TWE	**Neicheng**	**0.43**	**251**	*i* P		Pn	06 56 57.2	+0.1
	baz=256							
TWE				S		Sn	06 57 09.6	+0.5
	baz=256							
FUSB	**Fushanzhiwuyua**	**0.49**	**258**	P		Pn	06 56 57.6	+0.1
	baz=265							
FUSB				S		Sn	06 57 10.4	+0.4
	baz=265							
TWA	**Mucha**	**0.50**	**284**	*i* P		Pn	06 56 57.4	-0.1
	baz=285							
TWA				S		Sn	06 57 10.3	+0.3
	baz=285							
EWUT	**Wuta**	**0.51**	**217**	*i* P		Pn	06 56 57.3	-0.2
	baz=221							
EWUT				*i* S		Sn	06 57 09.6	-0.6
	baz=221							
ENTT	**Nioudou**	**0.54**	**246**	*i* P		Pn	06 56 57.3	-0.5
	baz=251							
ENTT				S		Sn	06 57 10.5	-0.1
	baz=251							
NHDH	**Xindian Distri**	**0.55**	**281**	*e*P		Pn	06 56 57.7	0.0
	baz=285							
NHDH				*i* S		Sn	06 57 11.5	+1.0
	baz=285							
ENA	**Nanau**	**0.55**	**218**	*i* P		Pn	06 56 58.6	+0.7
	baz=218							
ENA				*i* S		Sn	06 57 11.4	+0.8
	baz=218							
NWLT	**Wulai**	**0.56**	**262**	*i* P		Pn	06 56 57.0	-1.0
	baz=269							
NWLT				*i* S		Sn	06 57 09.8	-1.0
	baz=269							
YM01	**YM01**	**0.57**	**300**	*e*P		Pn	06 56 57.9	-0.1
	baz=298							
YM01				S		Sn	06 57 10.3	-0.6
	baz=298							
YM08	**YM08**	**0.58**	**305**	P		Pn	06 56 57.9	-0.2
	baz=304							
YM08				S		Sn	06 57 11.7	+0.6
	baz=304							
TWY	**Chenhua**	**0.62**	**312**	*i* P		Pn	06 56 58.4	0.0
	baz=311							
TWY				S		Sn	06 57 11.6	0.0
	baz=311							
LATG	**Datong**	**0.62**	**239**	P		Pn	06 56 59.3	+0.8
	baz=249							
LATG				S		Sn	06 57 12.7	+0.9
	baz=249							
NTST	**Danshui**	**0.68**	**297**	*i* P		Pn	06 56 59.1	+0.3
	baz=299							
NTST				*i* S		Sn	06 57 13.1	+0.8
	baz=299							
TWS1	**Kuangyinshan**	**0.68**	**291**	*i* P		Pn	06 56 59.4	+0.6
	baz=294							
TWS1				*i* S		Sn	06 57 13.3	+1.0
	baz=294							
YHNB	**Yeheng**	**0.70**	**254**	P		Pn	06 56 59.3	+0.2
	baz=257							
YHNB				S		Sn	06 57 12.5	-0.3
	baz=257							
NSK	**Sanguang**	**0.71**	**255**	*i* P		Pn	06 56 58.4	-0.8
	baz=258							
NSK				*i* S		Sn	06 57 11.4	-1.5
	baz=258							
NNSB	**Datong**	**0.79**	**237**	P		Pn	06 57 00.5	+0.6
	baz=247							
NNSB				S		Sn	06 57 14.9	+0.6
	baz=247							
NNS	**Nan Shan**	**0.79**	**238**	*i* P		Pn	06 56 59.5	-0.5
	baz=248							
NNS				*i* S		Sn	06 57 13.7	-0.7
	baz=248							
ETL	**Fush Village**	**0.83**	**213**	P		Pn	06 57 00.3	+0.1
	baz=227							
ETL				S		Sn	06 57 14.9	+0.1
	baz=227							
NACB	**Ninganchiao**	**0.83**	**215**	P		Pn	06 57 00.0	-0.2
	baz=219							
NACB				S		Sn	06 57 14.6	-0.2
	baz=219							
NCU	**National Centr**	**0.85**	**278**	*i* P		Pn	06 57 00.8	+0.5
	baz=270							
NCU				*i* S		Sn	06 57 15.8	+0.7
	baz=270							
NCUH	**Zhongli**	**0.85**	**277**	*i* P		Pn	06 57 00.7	+0.4
	baz=270							
NCUH				*i* S		Sn	06 57 15.2	+0.1
	baz=270							
ETLH	**Xiulin Townshi**	**0.87**	**222**	P		Pn	06 57 00.9	+0.3
	baz=234							
ETLH				S		Sn	06 57 16.3	+0.7
	baz=234							
YOJ	**Yonaguni jima**	**0.91**	**116**	P		Pn	06 57 01.6	+0.7
	baz=121							
YOJ				S		Sn	06 57 17.5	+1.4
	baz=121							
TWD	**Chiawan**	**0.91**	**211**	*i* P		Pn	06 57 01.0	+0.1
	baz=224							
TWD				*i* S		Sn	06 57 16.0	-0.1
	baz=224							
NFF	**Wufeng Townshi**	**0.93**	**256**	P		Pn	06 57 00.4	-0.9
	baz=259							
NFF				S		Sn	06 57 15.0	-1.7
	baz=259							
HWA	**Hwalien**	**0.99**	**208**	P		Pn	06 57 02.0	+0.2
	baz=205							
HWA				S		Sn	06 57 16.8	-0.8
	baz=205							
FUSS	**Fushou**	**1.00**	**233**	*i* P		Pn	06 57 03.0	+0.8
	baz=231							
FUSS				*i* S		Sn	06 57 18.6	+0.3
	baz=231							
LIOB	**Emei**	**1.02**	**258**	*i* P		Pn	06 57 02.4	+0.3
	baz=254							
LIOB				*i* S		Sn	06 57 18.0	-0.2
	baz=254							
SBCB	**Hsinchu**	**1.03**	**266**	P		Pn	06 57 02.7	+0.6
	baz=261							
SBCB				S		Sn	06 57 18.7	+0.4
	baz=261							
NSTT	**Nanjuang**	**1.04**	**258**	*i* P		Pn	06 57 02.5	+0.2
	baz=253							
NSTT				*i* S		Sn	06 57 17.8	-0.7
	baz=253							
HSN	**Hsinchu**	**1.04**	**267**	*i* P		Pn	06 57 02.2	0.0
	baz=269							
TWT	**Tachien**	**1.05**	**235**	*i* P		Pn	06 57 03.7	+1.1
	baz=235							
TWT				*i* S		Sn	06 57 19.7	+0.7
	baz=235							
WHF	**Hehuan Shan**	**1.05**	**228**	*i* P		Pn	06 57 03.2	+0.4
	baz=232							
WHF				*i* S		Sn	06 57 19.6	+0.1
	baz=232							
TDCB	**Techi**	**1.06**	**235**	P		Pn	06 57 03.6	+0.9
	baz=235							
TDCB				S		Sn	06 57 19.3	+0.2
	baz=235							
CHGB	**Renai**	**1.17**	**227**	P		Pn	06 57 05.0	+1.0
	baz=232							
CHGB				S		Sn	06 57 21.9	+0.5
	baz=232							
WHP	**Taichung City**	**1.21**	**242**	*i* P		Pn	06 57 05.1	+0.8
	baz=252							
WHP				*i* S		Sn	06 57 22.1	+0.1
	baz=252							
ESL	**Shilin**	**1.21**	**211**	*i* P		Pn	06 57 03.8	-0.4
	baz=221							
ESL				*i* S		Sn	06 57 20.8	-1.1
	baz=221							
NMLH	**Miaoli**	**1.25**	**255**	*i* P		Pn	06 57 05.3	+0.7
	baz=258							
NMLH				*i* S		Sn	06 57 22.6	+0.1
	baz=258							
WUSB	**Renai**	**1.25**	**227**	P		Pn	06 57 05.8	+1.1
	baz=232							
WUSB				S		Sn	06 57 23.4	+0.5
	baz=232							
NSY	**Sanyi**	**1.31**	**251**	*i* P		Pn	06 57 06.0	+0.7
	baz=253							
NSY				*i* S		Sn	06 57 23.2	-0.6
	baz=253							
TWQ1	**Liyutan**	**1.32**	**248**	*i* P		Pn	06 57 05.7	+0.2
	baz=251							
TWQ1				*i* S		Sn	06 57 23.7	-0.4
	baz=251							
EGFH	**Guangfu**	**1.34**	**208**	*i* P		Pn	06 57 05.2	-0.5
	baz=218							
EGFH				*i* S		Sn	06 57 23.9	-0.6
	baz=218							
WCS	**Beigang Elemen**	**1.36**	**234**	*i* P		Pn	06 57 05.6	-0.2
	baz=245							
WCS				*i* S		Sn	06 57 24.1	-0.6
	baz=245							
VWDT	**VWDT**	**1.41**	**219**	P		Pn	06 57 07.6	+1.1
	baz=220							
VWDT				S		Sn	06 57 27.0	+1.1
	baz=220							
WDJ	**Dajia District**	**1.44**	**249**	*i* P		Pn	06 57 07.3	+0.6
	baz=248							
WDJ				*i* S		Sn	06 57 26.4	-0.1
	baz=248							
SMLT	**Sun Moon Lake**	**1.47**	**229**	*i* P		Pn	06 57 08.3	+1.0
	baz=240							
SMLT				*i* S		Sn	06 57 28.9	+1.5
	baz=240							
TCU	**Taichung**	**1.49**	**242**	P		Pn	06 57 08.1	+0.7
	baz=251							
TCU				*i* S		Sn	06 57 27.7	+0.1
	baz=251							
TYC	**Yuchr**	**1.49**	**231**	*i* P		Pn	06 57 08.2	+0.8
	baz=242							
TYC				*i* S		Sn	06 57 28.7	+1.1
	baz=242							
HGSD	**Ruisui**	**1.50**	**205**	P		Pn	06 57 07.9	+0.4
	baz=219							
HGSD				S		Sn	06 57 28.8	+0.9
	baz=219							
SSLB	**Suanglung**	**1.50**	**225**	P		Pn	06 57 08.7	+1.1
	baz=230							
SSLB				S		Sn	06 57 28.9	+1.0
	baz=230							
EHY	**Hungye**	**1.53**	**208**	*i* P		Pn	06 57 07.6	-0.3
	baz=214							
EHY				S		Sn	06 57 27.7	-0.8
	baz=214							
WCHH	**Zhanghua**	**1.62**	**242**	P		Pn	06 57 09.6	+0.6
	baz=253							
WCHH				*i* S		Sn	06 57 30.5	+0.2
	baz=253							
WNT	**Mingjian**	**1.63**	**233**	*i* P		Pn	06 57 09.8	+0.7
	baz=246							
WNT				*i* S		Sn	06 57 31.1	+0.5
	baz=246							
WHYT	**Xinyi Township**	**1.63**	**225**	*i* P		Pn	06 57 10.7	+1.5
	baz=238							
WHYT				*i* S		Sn	06 57 32.0	+1.3
	baz=238							
WJS	**Zhushan**	**1.63**	**231**	P		Pn	06 57 09.9	+0.8
	baz=245							
WJS				*i* S		Sn	06 57 31.6	+1.0
	baz=245							
YULB	**Yu-li**	**1.64**	**207**	P		Pn	06 57 08.8	-0.5
	baz=212							
YULB				S		Sn	06 57 29.9	-1.0
	baz=212							
EYUL	**Yuli**	**1.67**	**206**	P		Pn	06 57 09.6	0.0
	baz=218							
EYUL				S		Sn	06 57 30.9	-0.7
	baz=218							
YUS	**Yu-Shan**	**1.73**	**218**	*i* P		Pn	06 57 12.3	+1.5
	baz=217							
YUS				*i* S		Sn	06 57 35.1	+1.5
	baz=217							
ALS	**Alishan**	**1.80**	**222**	*i* P		Pn	06 57 12.8	+1.3
	baz=236							
ALS				*i* S		Sn	06 57 36.2	+1.4
	baz=236							
CHN5	**Tsauling**	**1.82**	**226**	*i* P		Pn	06 57 11.8	+0.3
	baz=233							
CHN5				*i* S		Sn	06 57 35.3	+0.4
	baz=233							
FULB	**Fuli**	**1.82**	**205**	*i* P		Pn	06 57 12.3	+0.9
	baz=220							
FULB				*i* S		Sn	06 57 36.0	+1.2
	baz=220							
WRL	**Guolierlin Hig**	**1.85**	**239**	*i* P		Pn	06 57 11.2	-0.6
	baz=250							
WRL				*i* S		Sn	06 57 33.9	-1.6
	baz=250							
WDLH	**Douliu**	**1.85**	**231**	P		Pn	06 57 12.7	+0.9
	baz=245							
WDLH				*i* S		Sn	06 57 36.7	+1.2
	baz=245							
CHKT	**Chengkung**	**1.88**	**201**	*i* S		Sn	06 57 35.6	-0.6
	baz=216							
ELDTW	**Lidau**	**1.94**	**211**	*i* P		Pn	06 57 14.2	+1.1
	baz=212							
ELDTW				*i* S		Sn	06 57 36.9	-0.9
	baz=212							
WTK	**Tuku**	**1.96**	**234**	*i* S		Sn	06 57 38.2	+0.3
	baz=246							
WCKO	**Fanlu**	**1.98**	**225**	P		Pn	06 57 15.7	+2.3
	baz=231							
WCKO				S		Sn	06 57 38.8	+0.4
	baz=231							
CHN2	**Minshiung**	**2.00**	**229**	S		Sn	06 57 40.8	+2.0
	baz=235							
EDH	**Donghe**	**2.02**	**202**	*i* P		Pn	06 57 14.6	+0.6
	baz=215							
EDH				S		Sn	06 57 38.5	-0.9
	baz=215							
CHN4	**Tsaushan**	**2.05**	**223**	*i* P		Pn	06 57 14.6	+0.3
	baz=230							
CHN4				*i* S		Sn	06 57 40.8	+0.8
	baz=230							
CHY	**Chiayi**	**2.06**	**229**	*i* S		Sn	06 57 41.0	+0.9
	baz=235							
TPUB	**Ta-pu**	**2.06**	**221**	P		Pn	06 57 15.6	+1.0
	baz=229							
TPUB				S		Sn	06 57 41.3	+0.9
	baz=229							
STYH	**Taoyuan**	**2.08**	**216**	P		Pn	06 57 16.1	+1.3
	baz=216							
STYH				S		Sn	06 57 40.9	+0.2
	baz=216							
WTP	**Ta-pu**	**2.11**	**221**	*i* P		Pn	06 57 16.0	+0.8
	baz=228							
WTP				*i* S		Sn	06 57 42.5	+0.9
	baz=228							
LONT	**Longtian**	**2.14**	**205**	S		Sn	06 57 40.9	-1.2
	baz=206							
TWK	**Hsinying**	**2.17**	**223**	*i* P		Pn	06 57 17.2	+1.2
	baz=230							
TWK				*i* S		Sn	06 57 43.7	+0.8
	baz=230							
WSL	**Shuilin Townsh**	**2.18**	**233**	P		Pn	06 57 15.7	-0.3
	baz=244							
WSL				*i* S		Sn	06 57 42.2	-0.7
	baz=244							
CHN1	**Nanshi**	**2.21**	**221**	*i* P		Pn	06 57 17.6	+1.1
	baz=229							
CHN1				*i* S		Sn	06 57 44.3	+0.6
	baz=229							
LDUT	**Ludao**	**2.25**	**195**	S		Sn	06 57 43.2	-1.5
	baz=197							
MASBT	**Mashibuluo**	**2.62**	**212**	P		Pn	06 57 23.5	+1.7
	baz=221							
MASBT				S		Sn	06 57 53.3	+0.1
	baz=221							

PHUB	**P'eng-hu**	**2.68**	**241**	P	Pn	06 57 19.8	-2.7
	baz=246						
PHUB				S	Sn	06 57 52.4	-2.2
	baz=246						

NOU ***29*** *06:57:10.5, 34.˚56S × 179.˚52E, h230 km, MLv4.1/6, South of Kermadec Islands*
WEL ***29*** *06:57:18.8 ± 1.4, 35.˚5 ± 7.˚×17.˚9E ± 1.˚2, h33 km, M4.1/18, ML4.3/18, MLv4.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=71.3*

ISC 29 06:57:16.5 ± 4.0, 34.˚7S ± 0.˚2 × 179.˚3E ± 0.˚2, h35 km, n44, σ1 θ61/49, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.98**	**195**	P		**Pn**	**06 58 04.2**	**+3.1**
MXZ	**Matakaoa Point**	**2.98**	**195**	P		**Pn**	**06 58 03.3**	**+2.2**
MXZ				S		**Sn**	**06 58 36.8**	**+1.3**
WMGZ	**Waiomatatini S**	**3.20**	**192**	P		**Pn**	**06 58 06.6**	**+2.4**
HAZ	**Te Kaha**	**3.29**	**201**	P		**Pn**	**06 58 07.0**	**+1.5**
HAZ				S		**Sn**	**06 58 42.8**	**-0.6**
PKGZ	**Pakihiroa**	**3.34**	**196**	P		**Pn**	**06 58 07.8**	**+1.6**
PKGZ				S		**Sn**	**06 58 45.2**	**+0.5**
PUZ	**Puketiti**	**3.48**	**193**	P		**Pn**	**06 58 09.2**	**+1.1**
PUZ				S		**Sn**	**06 58 47.8**	**-0.2**
GRZ	**Great Barrier**	**3.48**	**242**	P		**Pn**	**06 58 08.8**	**+0.6**
RUGZ	**Raukumara Rang**	**3.52**	**201**	P		**Pn**	**06 58 09.6**	**+0.9**
KUZ	**Kuaotunu**	**3.55**	**234**	P		**Pn**	**06 58 10.0**	**+1.0**
KUZ	**Kuaotunu**	**3.55**	**234**	P		**Pn**	**06 58 10.0**	**+1.0**
TWGZ	**Tauwhareparae**	**3.64**	**196**	P		**Pn**	**06 58 12.2**	**+1.9**
TWGZ				S		**Sn**	**06 58 52.5**	**+0.6**
OPRZ	**Ohinepanea**	**3.84**	**214**	P		**Pn**	**06 58 14.2**	**+1.2**
CNGZ	**Carnagh Statio**	**3.89**	**192**	P		**Pn**	**06 58 14.4**	**+0.7**
MWZ	**Matawai**	**3.90**	**201**	P		**Pn**	**06 58 14.1**	**+0.2**
TKGZ	**Te Karaka**	**3.92**	**197**	P		**Pn**	**06 58 14.3**	**+0.2**
URZ	**Urewera**	**3.97**	**205**	P		**Pn**	**06 58 14.9**	**+0.1**
URZ	**Urewera**	**3.97**	**205**	P		**Pn**	**06 58 14.8**	**0.0**
WIAZ	**Waiheke Island**	**3.97**	**237**	P		**Pn**	**06 58 15.3**	**+0.5**
RAGZ	**Rawiri**	**4.08**	**201**	P		**Pn**	**06 58 16.9**	**+0.4**
MKAZ	**Moumakai**	**4.12**	**233**	P		**Pn**	**06 58 17.2**	**+0.3**
RIGZ	**Rimuhau**	**4.19**	**196**	P		**Pn**	**06 58 17.6**	**-0.3**
WCZ	**Waipu Caves**	**4.22**	**251**	P		**Pn**	**06 58 17.9**	**-0.4**
MUGZ	**Murupara**	**4.29**	**207**	P		**Pn**	**06 58 18.6**	**-0.6**
TOZ	**Tahuroa Road**	**4.30**	**224**	P		**Pn**	**06 58 21.3**	**+1.9**
SNGZ	**Shannon Statio**	**4.37**	**200**	P		**Pn**	**06 58 19.9**	**-0.5**
PRRZ	**Plateau Road**	**4.46**	**210**	P		**Pn**	**06 58 21.1**	**-0.4**
KNZ	**Kokohu**	**4.51**	**196**	P		**Pn**	**06 58 21.0**	**-1.3**
ALRZ	**Allen Road**	**4.53**	**210**	P		**Pn**	**06 58 22.2**	**-0.3**
RAHZ	**Arahi**	**4.57**	**202**	P		**Pn**	**06 58 21.9**	**-1.2**
WHHZ	**Waihua**	**4.68**	**200**	P		**Pn**	**06 58 23.2**	**-1.3**
OUZ	**Omahuta**	**4.69**	**262**	P		**Pn**	**06 58 24.5**	**-0.2**
NMHZ	**Naumai**	**4.83**	**203**	P		**Pn**	**06 58 25.2**	**-1.4**
ARHZ	**Aropaoanui**	**4.92**	**201**	P		**Pn**	**06 58 26.2**	**-1.6**
BKZ	**Black Stump Fm**	**5.00**	**206**	P		**Pn**	**06 58 26.8**	**-2.2**
BKZ	**Black Stump Fm**	**5.00**	**206**	P		**Pn**	**06 58 26.7**	**-2.2**
MCHZ	**McNeill Hill**	**5.18**	**203**	P		**Pn**	**06 58 29.0**	**-2.4**
HIZ	**Hauiti**	**5.22**	**222**	P		**Pn**	**06 58 32.7**	**+0.8**
HIZ	**Hauiti**	**5.22**	**222**	P		**Pn**	**06 58 32.5**	**+0.6**
TMVZ	**Te Maari**	**5.26**	**212**	P		**Pn**	**06 58 30.6**	**-2.2**
ETVZ	**East Tongariro**	**5.28**	**212**	P		**Pn**	**06 58 30.8**	**-2.1**
KAHZ	**Kahuranaki**	**5.45**	**200**	P		**Pn**	**06 58 31.9**	**-3.2**
FWVZ	**Far West T-bar**	**5.45**	**212**	P		**Pn**	**06 58 32.0**	**-3.3**
WNVZ	**Wahianoa**	**5.49**	**211**	P		**Pn**	**06 58 33.5**	**-2.3**
PXZ	**Pawanui**	**5.67**	**199**	P		**Pn**	**06 58 34.4**	**-3.8**

IDC ***29*** *07:02:05.0 ± 0.6, 29.˚81N × 42.˚79W, h0 km, mb4.3/22, mbtmp4.3/22, MS3.7/46, Error ellipse: s-maj=18.2km s-min=14.5km az=137.0*
NEIC ***29*** *07:02:06.9 ± 1.2, 29.˚7N ± 0.˚1 × 42.˚70W ± 0.˚08, h10 km ± 1 km, mb4.8/42, Error ellipse: s-maj=19.0km s-min=9.5km az=208.0*
GCMT ***29*** *07:02:08.9 ± 0.4, 29.˚78N ± 0.˚04 × 42.˚82W ± 0.˚03, h14 km ± 1 km, MW4.8/75, Moment Tensor Solution. s12,c14; s75,c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.51±.14; Mθθ=0.23±.09; Mϕϕ=1.28±.09; Mrθ=-0.98±.26; Mrϕ=0.49±.05; Mθϕ=0.15±.16; Best double couple: M=1.76300×10^16 NP1:ϕs=46.00000°, δ=59.00000°, λ=-65.00000°. NP2: ϕs=183.00000°, δ=39.00000°, λ=-126.00000°. Principal axes: T 1.5740, Plg11.0000°, Azm118.0000°; N 0.3780, Plg22.0000°, Azm212.0000°; P -1.9520, Plg66.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 07:02:07.0 ± 0.5, 29.˚80N ± 0.˚09 × 42.˚72W ± 0.˚09, h14 km, n111, σ0 θ86/72, mb4.7/38, MS3.7/47, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ROSA	**Rosais**	**14.90**	**50**	Pn		**Pn**	**07 05 35.6**	**-1.7**
SJG	**San Juan**	**24.31**	**247**	LR		LR	07 14 55.0	
	comp=Z,57nm,21.3s,baz=62,slow=32							
MDP	**Montagnes des**	**26.29**	**203**	LR		LR	07 14 47.8	
	comp=Z,44nm,20.4s,baz=20,slow=29							
SCHQ	**Schefferville**	**30.43**	**332**	LR		LR	07 19 12.0	
	comp=Z,213nm,21.8s,baz=126,slow=34							
SADO	**Sadowa**	**32.30**	**308**	LR		LR	07 19 43.7	
	comp=Z,230nm,21.1s,baz=153,slow=33							
MDT	**Midelt**	**32.59**	**75**	LR		LR	07 18 35.4	
	comp=Z,134nm,21.8s,baz=288,slow=30							
ESDC	**Sonseca Array**	**33.12**	**62**	LR		LR	07 19 08.9	
	comp=Z,97nm,20.6s,baz=260,slow=31							
SDV	**Santo Domingo**	**33.40**	**237**	LR		LR	07 20 08.7	
	comp=Z,51nm,21.9s,baz=52,slow=32							
SDV	**Santo Domingo**	**33.40**	**237**	P		**P**	**07 08 45.3**	**-0.2**
PTGA	**Pitinga**	**34.53**	**212**	LR		LR	07 21 28.0	
	comp=Z,63nm,18.6s,baz=7.0,slow=34							
TKL	**Tuckaleechee C**	**34.84**	**291**	LR		LR	07 20 26.1	
	comp=Z,136nm,18.8s,baz=100,slow=32							
RCBR	**Riachuelo**	**36.02**	**168**	LR		LR	07 19 46.5	
	comp=Z,212nm,20.0s,baz=140,slow=29							
MACA	**Manacapuru-AM**	**37.01**	**211**	P		**P**	**07 09 16.8**	**+0.5**
MACA					IAmb	IAmb	07 09 17.4	
	comp=Z,12nm,0.7s							
BORG	**Borgarnes**	**37.46**	**15**	LR		LR	07 20 37.2	
	comp=Z,134nm,19.1s,baz=253,slow=30							
FRB	**Frobisher Bay**	**37.74**	**342**	P		**P**	**07 09 21.0**	**-1.0**
	comp=Z,7.8nm,1.0s,baz=146,slow=3.6,SNR=4.0							
FRB				LR		LR	07 24 01.9	
	comp=Z,80nm,18.3s,baz=164,slow=35							
	comp=Z,7.8nm,1.0s							
ROSC	**El Rosal**	**38.81**	**236**	LR		LR	07 24 08.7	
	comp=Z,69nm,21.0s,baz=74,slow=34							
SUMG	**Summit**	**42.90**	**2**	*i* P		**P**	**07 10 03.4**	**-1.7**
DAVOX	**Davos/Dischmat**	**43.78**	**52**	LR		LR	07 24 58.9	
	comp=Z,70nm,19.7s,baz=270,slow=31							
JTS	**Las Juntas de**	**43.85**	**253**	LR		LR	07 27 45.5	
	comp=Z,63nm,18.5s,baz=100,slow=35							
ULM	**Lac du Bonnet**	**44.46**	**313**	P		**P**	**07 10 17.6**	**0.0**
	comp=Z,3.2nm,0.8s,baz=117,slow=11,SNR=3.1							
ULM				LR		LR	07 28 35.6	
	comp=Z,95nm,18.3s,baz=21,slow=36							
	comp=Z,3.2nm,0.8s							
L34A	**Svendsen Farm,**	**44.47**	**301**	P		**P**	**07 10 18.2**	**+0.4**
BDFB	**Brasilia**	**45.46**	**187**	P		**P**	**07 10 26.3**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=31,slow=6.5,SNR=6.6							
BDFB				LR		LR	07 26 58.3	
	comp=Z,109nm,19.0s,baz=291,slow=33							
	comp=Z,3.9nm,0.8s							
MTO3	**Montecristo**	**45.53**	**261**	P		**P**	**07 10 27.1**	**+0.4**
MTO3					IAmb	IAmb	07 10 37.9	
	comp=Z,9.8nm,0.8s							
VILB	**Vilhena**	**45.72**	**204**	P		**P**	**07 10 27.5**	**-0.3**
VILB					IAmb	IAmb	07 10 29.0	
	comp=Z,11nm,1.0s							
H10N2	**ASCENSION HYDR**	**46.22**	**140**	T		T	07 59 44.6	
	baz=326,slow=76,SNR=1296							
H10N3	**ASCENSION HYDR**	**46.22**	**140**	T		T	07 59 38.4	
	baz=326,slow=76,SNR=1375							
H10N1	**ASCENSION HYDR**	**46.24**	**140**	T		T	07 59 46.0	
	baz=326,slow=76,SNR=1550							
GERES	**GERESS Array B**	**46.47**	**49**	P		**P**	**07 10 33.3**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=243,slow=5.8,SNR=5.1							
GERES				LR		LR	07 26 20.6	
	comp=Z,64nm,20.4s,baz=278,slow=31							
	comp=Z,1.0nm,0.8s							
H10S3	**ASCENSION HYDR**	**47.05**	**141**	T		T	08 00 49.4	
	baz=325,slow=74,SNR=726							
H10S2	**ASCENSION HYDR**	**47.06**	**141**	T		T	08 00 51.5	
	baz=255,slow=74,SNR=172							

NOA	**NORSAR Array B**	**47.08**	**32**	P		**P**	**07 10 39.1**	**+0.9**
	comp=Z,3.5nm,1.1s,baz=251,slow=7.8,SNR=3.5							
NOA				LR		LR	07 26 16.3	
	comp=Z,42nm,21.1s,baz=80,slow=31							
	comp=Z,3.5nm,1.1s							
CZSB	**Cruzeiro do Su**	**47.15**	**222**	P		**P**	**07 10 37.6**	**-1.5**
CZSB					IAmb	IAmb	07 10 39.3	
	comp=Z,21nm,1.0s							
BOSC	**San Juan Bosco**	**47.38**	**232**	P		**P**	**07 10 39.8**	**-1.3**
BOSC					IAmb	IAmb	07 10 40.5	
	comp=Z,6.2nm,0.9s							
PTLB	**Pontes e Lacer**	**47.69**	**202**	P		**P**	**07 10 42.8**	**-0.4**
PTLB					IAmb	IAmb	07 10 44.4	
	comp=Z,16nm,1.6s							
NEEM	**North Greenlan**	**47.89**	**358**	*i* P		**P**	**07 10 42.9**	**-1.5**
VRAC	**Vranov**	**48.39**	**49**	LR		LR	07 28 12.5	
	comp=Z,30nm,19.7s,baz=324,slow=32							
SIV	**San Ignacio**	**48.84**	**204**	LR		LR	07 29 36.7	
	comp=Z,48nm,19.9s,baz=301,slow=34							
JCT	**Junction City**	**48.90**	**286**	P		**P**	**07 10 52.1**	**-0.6**
JCT					IAmb	IAmb	07 10 59.7	
	comp=Z,11nm,1.0s							
CMIG	**Matias Romero**	**49.13**	**267**	LR		LR	07 29 21.0	
	comp=Z,52nm,21.3s,baz=36,slow=33							
Q24A	**Divide**	**51.44**	**298**	P		**P**	**07 11 12.8**	**+0.7**
Q24A					IAmb	IAmb	07 11 20.1	
	comp=Z,11nm,0.9s							
RES	**Resolute Bay**	**51.81**	**345**	LR		LR	07 32 15.3	
	comp=Z,109nm,20.0s,baz=238,slow=35							
LPAZ	**La Paz**	**51.96**	**212**	P		**P**	**07 11 16.1**	**-0.3**
	comp=Z,4.5nm,0.9s,baz=19,slow=7.1,SNR=16							
LPAZ				LR		LR	07 32 18.0	
	comp=Z,32nm,19.3s,baz=12,slow=35							
	comp=Z,4.5nm,0.9s							
LPAZ	**La Paz**	**51.96**	**212**	P		**P**	**07 11 15.4**	**-1.1**
TXAR	**Lajitas Array**	**52.44**	**286**	P		**P**	**07 11 19.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=96,slow=8.2,SNR=12							
TXAR				PcP		**PcP**	**07 12 30.3**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=104,slow=5.3,SNR=5.3							
TXAR				LR		LR	07 32 55.5	
	comp=Z,47nm,18.2s,baz=357,slow=35							
	comp=Z,1.2nm,0.8s							
TXAR	**Lajitas Array**	**52.44**	**286**	P		**P**	**07 11 18.6**	**-0.8**
TX32	**Lajitas Array**	**52.44**	**286**	P		**P**	**07 11 19.4**	**0.0**
BW06	**Boulder Array**	**54.11**	**303**	P		**P**	**07 11 31.4**	**-0.3**
PD31	**Pinedale Array**	**54.11**	**303**	P		**P**	**07 11 31.4**	**-0.2**
PD31					IAmb	IAmb	07 11 38.9	
	comp=Z,13nm,0.9s							
PDAR	**Pinedale Array**	**54.11**	**303**	P		**P**	**07 11 31.4**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=86,slow=6.4,SNR=27							
PDAR				LR		LR	07 34 25.9	
	comp=Z,264nm,18.2s,baz=99,slow=36							
	comp=Z,4.9nm,0.9s							
FINES	**FINESS Array B**	**54.22**	**34**	P		**P**	**07 11 32.5**	**+0.6**
	comp=Z,8.1nm,0.9s,baz=254,slow=5.8,SNR=14							
	comp=Z,8.1nm,0.9s							
LOHW	**Long Hollow**	**54.72**	**304**	P		**P**	**07 11 36.0**	**-0.2**
YMR	**Madison River**	**54.81**	**306**	P		**P**	**07 11 37.2**	**+0.5**
YMR					IAmb	IAmb	07 11 44.6	
	comp=Z,13nm,1.2s							
ARCES	**ARCESS Array B**	**54.82**	**24**	P		**P**	**07 11 36.3**	**+0.2**
	comp=Z,8.4nm,0.9s,baz=333,slow=4.2,SNR=7.9							
	comp=Z,8.4nm,0.9s							
AKASG	**Malin Array Be**	**56.44**	**47**	P		**P**	**07 11 47.2**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=272,slow=6.9,SNR=9.8							
	comp=Z,1.4nm,0.6s							
MSU	**Marysvale**	**56.91**	**299**	P		**P**	**07 11 52.9**	**+1.0**
DUG	**Dugway, Tooele**	**57.01**	**301**	P		**P**	**07 11 52.7**	**+0.2**
DUG					IAmb	IAmb	07 11 59.8	
	comp=Z,7.1nm,1.0s							
TCRU	**Three Creeks R**	**57.10**	**299**	P		**P**	**07 11 53.7**	**+0.4**
PB02	**IPOC Station P**	**57.16**	**210**	P		**P**	**07 11 52.1**	**-1.4**
CPUP	**Villa Florida**	**57.54**	**196**	LR		LR	07 35 59.4	
	comp=Z,25nm,18.6s,baz=20,slow=35							
CCUT	**Cedar City**	**58.06**	**298**	P		**P**	**07 12 01.2**	**+1.1**
NEW	**Newport**	**58.40**	**311**	LR		LR	07 35 45.0	
	comp=Z,163nm,19.5s,baz=97,slow=35							
SPR3	**Spring Creek 3**	**58.43**	**300**	P		**P**	**07 12 03.1**	**+0.4**
SPR3					IAmb	IAmb	07 12 10.9	
	comp=Z,11nm,1.1s							
ELK	**Elko**	**58.68**	**302**	LR		LR	07 36 12.0	
	comp=Z,190nm,19.3s,baz=46,slow=35							
PRN	**Pahroc Range**	**59.39**	**298**	P		**P**	**07 12 10.2**	**+1.0**
PRN					IAmb	IAmb	07 12 17.8	
	comp=Z,6.3nm,1.0s							
A36M	**Sachs Harbour**	**59.66**	**339**	P		**P**	**07 12 11.6**	**+1.3**
A36M					IAmb	IAmb	07 12 19.7	
	comp=Z,6.2nm,0.9s							
KLMR	**Klimovskoe**	**60.76**	**34**	*eP*		**P**	**07 12 15.9**	**-2.0**
KLMR					AMP		07 12 18.8	
	comp=Z,28nm,1.4s							
KVN	**Kaiserville**	**61.24**	**301**	P		**P**	**07 12 22.1**	**+0.2**
KVN					IAmb	IAmb	07 12 29.2	
	comp=Z,9.7nm,1.2s							
NVAR	**Mina Array Bea**	**61.57**	**300**	P		**P**	**07 12 23.9**	**-0.3**
	comp=Z,2.3nm,1.1s,baz=76,slow=4.5,SNR=6.5							
	comp=Z,2.3nm,1.1s							
PFO	**Pinyon Flats O**	**61.60**	**294**	LR		LR	07 36 32.9	
	comp=Z,176nm,21.5s,baz=10,slow=34							
BRTR	**Keskin Array B**	**61.78**	**58**	P		**P**	**07 12 26.0**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=251,slow=6.4,SNR=5.4							
	comp=Z,2.8nm,1.0s							
INK	**Inuvik**	**62.97**	**335**	P		**P**	**07 12 33.1**	**+0.4**
	comp=Z,8.7nm,1.0s,baz=62,slow=9.4,SNR=23							
INK				LR		LR	07 39 40.1	
	comp=Z,143nm,18.1s,baz=108,slow=36							
	comp=Z,8.7nm,1.0s							
INK	**Inuvik**	**62.97**	**335**	P		**P**	**07 12 33.3**	**+0.6**
INK					IAmb	IAmb	07 12 39.8	
	comp=Z,11nm,1.1s							
DLBC	**Dease Lake**	**63.77**	**324**	LR		LR	07 40 11.6	
	comp=Z,255nm,19.7s,baz=90,slow=36							
YBH	**Yreka Blue Hor**	**63.83**	**305**	LR		LR	07 39 37.9	
	comp=Z,230nm,18.8s,baz=36,slow=35							
BBB	**Bella Bella**	**64.37**	**317**	LR		LR	07 39 18.9	
	comp=Z,220nm,20.1s,baz=98,slow=35							
FARO	**Faro, Yukon**	**64.38**	**329**	P		**P**	**07 12 42.7**	**+0.5**
FARO					IAmb	IAmb	07 12 50.0	
	comp=Z,9.2nm,1.1s							
CFA	**Coronel Fontan**	**65.70**	**204**	LR		LR	07 42 27.7	
	comp=Z,36nm,18.1s,baz=356,slow=37							
KBZ	**Khabaz**	**67.13**	**52**	P		**P**	**07 13 01.8**	**+1.6**
	comp=Z,4.9nm,1.0s,baz=279,slow=9.3,SNR=5.2							
	comp=Z,4.9nm,1.0s							
IL31		**69.17**	**334**	P		**P**	**07 13 13.6**	**+1.0**
ILAR	**Eielson Array**	**69.17**	**334**	P		**P**	**07 13 12.9**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=64,slow=4.4,SNR=19							
ILAR				LR		LR	07 42 21.6	
	comp=Z,194nm,19.3s,baz=78,slow=35							
	comp=Z,3.0nm,1.0s							
ILAR	**Eielson Array**	**69.17**	**334**	P		**P**	**07 13 13.6**	**+0.9**
COLD	**Coldfoot**	**69.28**	**337**	P		**P**	**07 13 15.0**	**+1.7**
CCB	**Clear Creek Bu**	**69.58**	**334**	P		**P**	**07 13 16.0**	**+0.8**
CUT	**Chulitna**	**71.61**	**332**	P		**P**	**07 13 27.8**	**+0.2**
H09W1	**TRISTAN DA CUN**	**72.39**	**155**	T		T	08 32 35.3	
	SNR=4.7							
PLCA	**Paso Flores**	**74.76**	**202**	P		**P**	**07 13 46.7**	**+0.2**
	comp=Z,3.9nm,1.0s,baz=175,slow=20,SNR=5.0							
PLCA				LR		LR	07 45 49.5	
	comp=Z,24nm,18.9s,baz=8.5,slow=35							
	comp=Z,3.9nm,1.0s							
ABKAR	**Akbulak array**	**75.60**	**41**	P		**P**	**07 13 52.2**	**+0.9**
ABKAR	**Akbulak array**	**75.60**	**41**	P		**P**	**07 13 52.1**	**+0.7**
ABKAR					IAmb	IAmb	07 13 52.6	
	comp=Z,6.8nm,1.4s							
TSUM	**Tsumeb**	**75.80**	**122**	LR		LR	07 41 04.9	
	comp=Z,41nm,20.3s,baz=326,slow=31							
MBAR	**Mbarara**	**75.98**	**99**	LR		LR	07 48 19.9	
	comp=Z,49nm,18.4s,baz=285,slow=36							
TIXI	**Tiksi**	**78.66**	**3**	P		**P**	**07 14 09.2**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=270,slow=23,SNR=5.5							
	comp=Z,2.2nm,0.7s							
TIXI	**Tiksi**	**78.66**	**3**	P		**P**	**07 14 09.5**	**+1.4**
TIXI					IAmb	IAmb	07 14 10.3	
	comp=Z,8.3nm,1.1s							
BRVK	**Borovoye**	**79.10**	**34**	P		**P**	**07 14 10.4**	**-0.5**
BRVK					IAmb	IAmb	07 14 12.2	
	comp=Z,16nm,1.6s							
GEYT	**Alibeck**	**80.02**	**52**	P		**P**	**07 14 17.1**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=297,slow=9.5,SNR=2.4							
	comp=Z,1.6nm,0.5s							

KMBO	**Kilima Mbogo**	**81.86**	**96**	LR		LR	07 51 05.4	
	comp=Z,129nm,18.1s,baz=274,slow=36							
ZAA0	**Zalesovo Array**	**85.08**	**28**	P		**P**	**07 14 41.8**	**-0.5**
ZALV	**Zalesovo Beam**	**85.08**	**28**	P		**P**	**07 14 42.4**	**+0.1**
	comp=Z,3.6nm,1.0s,baz=320,slow=6.6,SNR=9.1							
	comp=Z,3.6nm,1.0s							
ZALV	**Zalesovo Beam**	**85.08**	**28**	P		**P**	**07 14 42.0**	**-0.3**
LBTB	**Lobatse**	**85.21**	**122**	LR		LR	07 47 09.2	
	comp=Z,54nm,20.0s,baz=316,slow=32							
SUR	**Sutherland**	**86.31**	**131**	LR		LR	07 44 58.7	
	comp=Z,73nm,21.1s,baz=325,slow=30							
CHGR	**Chuyangaron**	**86.91**	**47**	P		**P**	**07 14 51.6**	**-0.1**
BOSA	**Boshof**	**87.08**	**125**	LR		LR	07 50 55.9	
	comp=Z,30nm,18.1s,baz=5.5,slow=34							
GAR	**Garm**	**87.43**	**46**	P		**P**	**07 14 54.8**	**+0.5**
GAR					IAmb	IAmb	07 14 55.8	
	comp=Z,7.6nm,0.9s							
MKAR	**Makanchi Array**	**89.05**	**34**	P		**P**	**07 15 01.6**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=310,slow=4.6,SNR=6.2							
	comp=Z,1.6nm,1.0s							
MA2	**Magadan**	**90.26**	**353**	LR		LR	07 52 32.8	
	comp=Z,25nm,20.6s,baz=90,slow=34							
WMQ	**Urumqi**	**93.83**	**34**	*eP*		**P**	**07 15 26.0**	**+2.0**
WMQ					LR	LR		
	comp=Z,63nm,21.9s							
PETK	**Petropavlovsk-**	**95.55**	**348**	LR		LR	07 57 52.4	
	comp=Z,33nm,21.3s,baz=53,slow=35							
VNDA	**Vanda**	**130.88**	**187**	PKP		**PKPdf**	**07 21 17.5**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=152,slow=1.3,SNR=8.4							
ASAR	**Alice Springs**	**173.19**	**27**	PP		**PP**	**07 27 34.0**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=1.3,slow=5.6,SNR=6.2							

IDC ***29*** *07:09:20.1 ± 0.5, 50.˚27N × 176.˚22W, h0 km, mb4.5/34, mbtmp4.5/36, ML4.5/2, MS3.6/45, Error ellipse: s-maj=15.7km s-min=10.2km az=168.0*
BJI ***29*** *07:09:20.3 ± 0.0, 50.˚38N × 176.˚37W, h14 km, mb4.8/40, mB5.1/20, Ms4.5/7, Ms7 4.1/7*
AEIC ***29*** *07:09:23.4 ± 2.1, 50.˚38N ± 0.˚08 × 176.˚11W ± 0.˚08, h34 km ± 4 km, Error ellipse: s-maj=12.2km s-min=7.0km az=165.0*
MOS ***29*** *07:09:23.2 ± 0.9, 50.˚31N × 176.˚25W, h31 km, mb5.0/61, MS4.0/5, Error ellipse: s-maj=7.8km s-min=5.1km az=106.2*
GCMT ***29*** *07:09:24.6 ± 0.4, 50.˚45N ± 0.˚02 × 176.˚12W ± 0.˚07, h17 km ± 1 km, MW4.8/72, Moment Tensor Solution. s21,c22; s72,c87; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.01±.17; Mθθ=2.26±.12; Mϕϕ=0.25±.12; Mrθ=0.32±.25; Mϕθ=-0.06±.08; Mrϕ=-1.00±.37; Best double couple: M=2.38500×10^16 NP1:ϕs=294.00000°, δ=54.00000°, λ=-60.00000°. NP2: ϕs=70.00000°, δ=45.00000°, λ=-125.00000°. Principal axes: T 2.2920, Plg5.0000°, Azm3.0000°; N 0.1820, Plg24.0000°, Azm96.0000°; P -2.4780, Plg66.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***29*** *07:09:25.6 ± 1.8, 50.˚40N ± 0.˚08 × 176.˚21W ± 0.˚09, h31 km ± 5 km, mb4.7/174, ML4.4(AEIC) Error ellipse: s-maj=12.2km s-min=8.6km az=178.0*

ISC 29 07:09:22.6 ± 0.4, 50.˚24N ± 0.˚07 × 176.˚12W ± 0.˚04, h16 km, n483, σ1 θ30/462, mb4.8/172, MS3.8/50, 37C-25D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ADK	**Adak**	**1.68**	**348**	Pn		**Pn**	**07 09 49.0**	**-2.3**
ADK	**Adak**	**1.68**	**348**	P		**Pn**	**07 09 49.3**	**-2.0**
ADK	**Adak**	**1.68**	**348**	P		**Pn**	**07 09 49.0**	**-2.3**
KIWB	**Kanaga Island**	**1.74**	**338**			**Pn**	**07 09 50.3**	**-1.8**
AMKA	**Amchitka**	**3.12**	**293**	Pn		**Pn**	**07 10 09.5**	**-1.5**
CLES	**Cleveland East**	**4.66**	**54**			**Pn**	**07 10 32.6**	**+0.4**
NIKH	**Nikolski High**	**5.29**	**

RND Reindeer 19.70 38 P P 07 13 51.2 +0.3
RND Reindeer 19.70 38 P P 07 13 51.2 +0.3
RND pmax pmax
comp=Z,27nm,1.0s
MCK McKinley 19.83 37 P P 07 13 52.3 0.0
MCK IAmb IAmb 07 13 56.2
comp=Z,49nm,1.1s
MCK McKinley 19.83 37 P P 07 13 52.3 0.0
MCK pmax pmax
comp=Z,49nm,1.1s
BILL Bilibino 19.86 340 P P 07 13 52.1 -0.5
BILL IAmb IAmb 07 13 53.9
comp=Z,49nm,1.0s
BILL Bilibino 19.86 340 *c i* P P 07 13 52.4 -0.1
BILL *e* S S 07 17 23.9 -11
BILL pmax pmax
comp=Z,90nm,1.7s
BILL MLR MLR
comp=Z,126nm,16.0s
MLY Manley 19.88 32 P Pn 07 13 53.8 -0.8
MLY IAmb IAmb 07 13 59.3
comp=Z,48nm,1.2s
KLU Klutina 20.13 45 P P 07 13 55.7 0.0
NEA2 Nenana 20.23 35 P P 07 13 57.0 +0.4
M24K Tolsona, Glenn 20.24 43 P P 07 13 57.8 +0.9
M24K IAmb IAmb 07 14 21.6
comp=Z,68nm,1.2s
WRH Wood River Hil 20.52 36 P P 07 13 59.4 -0.4
WRH IAmb IAmb 07 14 26.9
comp=Z,30nm,1.2s
BMRM Bremner River 20.57 47 P 07 14 00.7 +0.3
BMRM IAmb IAmb 07 14 06.7
comp=Z,39nm,1.1s
CCB Clear Creek Bu 20.72 35 P P 07 14 01.1 -0.8
MDM Murphy Dome 20.73 34 P P 07 14 01.9 -0.1
MDM IAmb IAmb 07 14 20.2
comp=Z,35nm,1.0s
N25K Chitina, Valde 20.77 45 P P 07 14 02.6 0.0
TCOL CIGO, UAF Yank 20.82 35 P P 07 14 03.6 +0.6
TCOL IAmb IAmb 07 14 19.6
comp=Z,27nm,0.9s
COLA College 20.82 35 P P 07 14 04.0 +1.0
COLA IAmb IAmb 07 14 19.6
comp=Z,27nm,0.9s
COLA College 20.82 35 ||| *e* P Pn 07 14 05.0 -0.4
COLA pmax pmax
comp=Z,33nm,1.1s
PAX Paxson 20.88 41 Pn 07 14 05.4 -0.9
PAX Paxson 20.88 41 P Pn 07 14 05.4 -0.9
PAX pmax pmax
comp=Z,19nm,1.0s
HDA Harding Lake 20.92 36 P P 07 14 04.5 +0.4
HDA IAmb IAmb 07 14 08.4
comp=Z,28nm,0.9s
MA2 Magadan 20.99 309 LR LR 07 21 31.0
comp=Z,144nm,21.3s,baz=106,slow=35
MA2 Magadan 20.99 309 ⇑ *e* P P 07 14 04.4 -0.5
MA2 pmax pmax
comp=Z,113nm,2.3s
GLB Gilahina Butte 21.08 46 P P 07 14 06.2 +0.3
GLB IAmb IAmb 07 14 28.2
comp=Z,22nm,1.0s
POKR Poker Plat Res 21.10 34 P P 07 14 07.3 +1.2
IL31 21.12 36 P P 07 14 05.8 -0.4
ILAR Eielson Array 21.12 36 P P 07 14 04.6 -1.7
comp=Z,6.0nm,0.8s,baz=233,slow=9.8,SNR=36
ILAR S S 07 17 54.5 -6.0
comp=Z,1.5nm,0.7s,baz=231,slow=18,SNR=7.8
ILAR LR LR 07 23 12.5
comp=Z,182nm,18.3s,baz=222,slow=39
comp=Z,6.0nm,0.8s
ILAR Eielson Array 21.12 36 P P 07 14 06.9 +0.6
VRDI Verde Repeater 21.18 46 P P 07 14 08.3 +1.2
SEY Seymchan 21.23 319 P P 07 14 07.3 0.0
comp=Z,51nm,1.1s,baz=112,slow=13,SNR=22
comp=Z,51nm,1.1s
SEY Seymchan 21.23 319 ⇑ *e* P P 07 14 07.4 0.0
SEY pmax pmax
comp=Z,87nm,1.3s
WAX Waxell Ridge 21.26 49 P P 07 14 08.8 +1.0
WAX IAmb IAmb 07 14 28.2
comp=Z,54nm,1.3s
COLD Coldfoot 21.41 28 P P 07 14 09.9 +0.6
COLD IAmb IAmb 07 14 25.7
comp=Z,22nm,0.9s
MCARA McCarthy VSAT 21.42 46 P P 07 14 11.4 +1.9
MCARA IAmb IAmb 07 14 13.6
comp=Z,27nm,0.9s
RIDG Independent Ri 21.45 39 P P 07 14 09.8 -0.1
RIDG IAmb IAmb 07 14 16.1
comp=Z,37nm,1.1s
MENT Mentasta 21.61 42 P P 07 14 11.6 +0.1
DOT Dot Lake 21.73 40 P P 07 14 11.7 -1.1
DOT IAmb IAmb 07 14 17.0
comp=Z,24nm,0.8s
L26K Log Cabin Wild 21.80 42 P P 07 14 14.8 +1.3
L26K IAmb IAmb 07 14 21.5
comp=Z,23nm,0.9s
SCRK Sand Creek 21.89 39 P P 07 14 12.9 -1.8
BARN Barnard Glacie 21.97 47 P P 07 14 16.9 +1.2
BARN IAmb IAmb 07 14 36.8
comp=Z,24nm,1.2s
PRP Porcupine Dome 21.99 34 P P 07 14 15.6 -0.2
BCAR Beaver Creek A 22.48 42 P P 07 14 22.1 +1.1
TOLK Toolik Lake Re 22.52 25 P P 07 14 21.0 -0.3
TOLK IAmb IAmb 07 14 37.4
comp=Z,22nm,1.0s
FYU Fort Yukon 22.62 32 P P 07 14 22.1 -0.3
FYU IAmb IAmb 07 15 05.3
comp=Z,38nm,1.2s
A21K Barrow 22.96 16 P P 07 14 24.2 -1.6
BMAR Burnt Mountain 23.30 31 P P 07 14 30.0 +0.7
EGAK Eagle 23.34 38 P P 07 14 29.2 -0.5
EGAK IAmb IAmb 07 14 34.6
comp=Z,41nm,1.0s
DAWY Dawson 23.82 41 P P 07 14 35.2 +0.7
DAWY IAmb IAmb 07 14 54.6
comp=Z,25nm,1.1s
HYT Haines Junctio 23.92 49 P P 07 14 37.1 +1.5
HYT IAmb IAmb 07 14 49.5
comp=Z,10nm,0.7s
I29M Ogilvie Camp, 24.68 38 P P 07 14 42.5 +0.2
I29M IAmb IAmb 07 14 47.6
comp=Z,27nm,1.1s
SKAG Skagway 24.85 53 P P 07 14 45.9 +2.0
WHY Whitehorse 25.17 50 P P 07 14 48.8 +1.8
WHY IAmb IAmb 07 15 05.5
comp=Z,27nm,1.4s
JIS Juneau Island 25.30 55 P P 07 14 50.2 +2.3
EPYK Eagle Plains 25.63 36 P P 07 14 51.6 +0.6
EPYK IAmb IAmb 07 14 56.3
comp=Z,17nm,0.9s
TYV Tymovskoe 25.96 287 *e* P P 07 14 56.2 +2.1
TYV pmax pmax
comp=Z,10.0nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.2s
FARO Faro, Yukon 26.09 46 P P 07 14 56.8 +1.6
P33M Teslin, Yukon 26.16 51 P P 07 14 57.3 +1.4
YSS Yuzh-Sakhalins 27.15 279 *e* P P 07 15 06.0 +1.2
YSS MLR MLR
comp=Z,500nm,16.0s
INK Inuvik 27.45 33 P P 07 15 06.7 -0.5
comp=Z,1.5nm,0.3s,baz=244,slow=5.5,SNR=18
comp=Z,1.5nm,0.3s
INK Inuvik 27.45 33 P P 07 15 07.4 +0.2
A36M Sachs Harbour 31.28 28 P P 07 15 41.5 +0.3
A36M IAmb IAmb 07 15 45.8
comp=Z,13nm,0.9s
YAK Yakutsk 31.44 313 LR LR 07 29 06.9
comp=Z,113nm,19.1s,baz=88,slow=38
YAK Yakutsk 31.44 313 *e* P P 07 15 43.1 +0.4
YAK pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 32.46 331 P P 07 15 52.0 +0.5
comp=Z,1.3nm,0.5s,baz=270,slow=24,SNR=5.3
TIXI LR LR 07 29 43.8
comp=Z,112nm,18.6s,baz=180,slow=38
comp=Z,1.3nm,0.5s
TIXI Tiksi 32.46 331 ⇑ *i* P P 07 15 53.2 +1.6
TIXI pmax pmax
comp=Z,10.0nm,2.7s
KLR Kul'dur 33.14 289 LR LR 07 31 23.7
comp=Z,70nm,19.4s,baz=78,slow=40
KLR Kul'dur 33.14 289 *d i* P P 07 15 56.8 -1.0
KLR pmax pmax
comp=Z,15nm,1.3s
H11N2 WAKE ISLAND Hy 33.31 210 T T 07 52 54.3
baz=18,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 33.32 210 T T 07 52 54.7
baz=18,slow=76,SNR=14
H11N1 WAKE ISLAND Hy 33.33 210 T T 07 53 03.0
baz=18,slow=76,SNR=12
ZEA Zeya 34.26 298 *e* P P 07 16 06.8 -0.7
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
HILA High Level 34.34 53 P P 07 16 09.7 +1.6
H11S1 WAKE ISLAND Hy 34.52 210 T T 07 54 36.3
baz=22,slow=74,SNR=17
H11S2 WAKE ISLAND Hy 34.53 210 T T 07 54 27.2
baz=22,slow=74,SNR=12
H11S3 WAKE ISLAND Hy 34.53 210 T T 07 54 38.3
baz=22
YKA Yellowknife Ar 34.80 46 P P 07 16 13.4 +1.4
comp=Z,4.3nm,0.9s,baz=277,slow=9.5,SNR=15
comp=Z,4.3nm,0.9s
YKA Yellowknife Ar 34.80 46 P P 07 16 13.2 +1.2
YKA Yellowknife Ar 34.80 46 P P 07 16 13.2 +1.2
USA0B Ussuriysk Arra 35.15 281 *e* P P 07 16 14.4 -0.9
USRK Ussuriysk Ar. 35.15 281 P P 07 16 14.9 -0.4
comp=Z,6.9nm,0.8s,baz=66,slow=14,SNR=5.0
USRK LR LR 07 34 59.1
comp=Z,26nm,18.0s,baz=34,slow=44
comp=Z,6.9nm,0.8s
BRLDA Berland Lookou 35.32 61 P P 07 16 17.3 +0.5
MJAR Matsushiro Arr 35.33 265 P P 07 16 17.4 +0.5
comp=Z,1.3nm,0.3s,baz=51,slow=10.0,SNR=2.2
MJAR LR LR 07 28 27.8
comp=Z,63nm,19.6s,baz=55,slow=32
comp=Z,1.3nm,0.3s
MAJO Matsushiro 35.34 265 ⇑ *e* P P 07 16 16.5 -0.5
MAJO pmax pmax
comp=Z,54nm,2.9s
HEH HeiHe 35.36 292 *e* P P 07 16 15.5 -1.5
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH pmax pmax
comp=Z,230nm,5.3s
B08A Colville Reser 36.31 70 P P 07 16 26.6 +1.4
B08A IAmb IAmb 07 16 34.4
comp=Z,9.8nm,1.1s
MDJ Mudanjiang 36.46 283 P P 07 16 24.5 -2.0
MDJ pmax pmax
comp=Z,24nm,1.1s
MDJ pmax pmax
comp=Z,230nm,3.6s
JHJ Hachijo jima 2 36.50 259 LR LR 07 31 33.7
comp=Z,10nm,19.0s,baz=86,slow=37
BNX BinXian 37.29 285 ||| P P 07 16 31.8 -1.7
BNX pmax pmax
comp=Z,9.0nm,0.6s
BNX pmax pmax
comp=Z,58nm,3.6s
YBH Yreka Blue Hor 37.35 82 P P 07 16 36.3 +2.1
comp=Z,5.2nm,0.8s,baz=272,slow=6.3,SNR=7.6
comp=Z,5.2nm,0.8s
PINE Pine Mountain 37.42 78 P P 07 16 35.7 +0.8
PINE IAmb IAmb 07 16 38.2
comp=Z,21nm,1.1s
NEW Newport 37.69 70 P P 07 16 37.9 +1.0
comp=Z,5.3nm,1.1s,baz=296,slow=11,SNR=6.6
comp=Z,5.3nm,1.1s
NEW Newport 37.69 70 P P 07 16 37.9 +1.0
NEW Newport 37.69 70 P P 07 16 37.9 +1.0
NEW pmax pmax
comp=Z,8.0nm,1.1s
EDM Edmonton 37.88 61 P P 07 16 40.0 +1.4
EDM Edmonton 37.88 61 P P 07 16 40.0 +1.4
EDM pmax pmax
comp=Z,48nm,0.8s
K05A Summer Lake 37.99 80 P P 07 16 41.6 +1.9
MOD Modoc Plateau 38.79 80 P P 07 16 46.9 +0.5
MOD IAmb IAmb 07 16 49.2
comp=Z,8.7nm,0.8s
J08A Circle Bar Ran 39.19 77 P P 07 16 50.2 +0.6
J08A IAmb IAmb 07 17 03.4
comp=Z,14nm,1.1s
WALA Waterton Lakes 39.25 67 P P 07 16 51.4 +1.2
WALA IAmb IAmb 07 16 55.0
comp=Z,17nm,1.2s
CN2 Changchun 39.45 284 *e* P P 07 16 50.8 -0.9
CN2 pmax pmax
comp=Z,20nm,1.0s
WVOR Wild Horse Val 39.56 79 P P 07 16 53.9 +1.1
WVOR IAmb IAmb 07 17 06.6
comp=Z,12nm,1.0s
WVOR Wild Horse Val 39.56 79 P P 07 16 53.9 +1.1
WVOR pmax pmax
comp=Z,12nm,1.0s
BEKR Beckworth 39.87 83 P P 07 16 56.1 +0.7
BEKR IAmb IAmb 07 16 57.8
comp=Z,11nm,1.1s
VCNR Virginia City 40.64 83 P P 07 17 03.1 +1.1
VCNR IAmb IAmb 07 17 04.7
comp=Z,16nm,1.1s
PNTR Pine Nut 40.79 83 P P 07 17 04.9 +1.7
PNTR IAmb IAmb 07 17 06.0
comp=Z,15nm,0.8s
MFID Camas Ranch 40.81 76 P P 07 17 04.4 +1.3
CMB Columbia Colle 40.90 85 P P 07 17 05.1 +1.2
CMB Columbia Colle 40.90 85 P P 07 17 05.1 +1.2
CMB pmax pmax
comp=Z,9.0nm,1.2s
YERR Yerington 41.08 83 P P 07 17 06.6 +1.1
KSRS Korea Array 41.39 274 P P 07 17 08.0 +0.3
comp=Z,5.6nm,0.9s,baz=61,slow=8.3,SNR=12
KSRS LR LR 07 31 32.6
comp=Z,25nm,21.9s,baz=55,slow=32
comp=Z,5.6nm,0.9s
BMN Battle Mountai 41.54 80 P P 07 17 07.0 -2.3
BMN Battle Mountai 41.54 80 P P 07 17 07.0 -2.3
BMN pmax pmax
comp=Z,6.0nm,0.9s
HLID Hailey 41.61 75 P P 07 17 10.9 +1.1
RYN Ryan 41.74 83 P P 07 17 12.7 +1.7
KVN Kaiserville 41.77 83 P P 07 17 12.6 +1.4
KVN Kaiserville 41.77 83 P P 07 17 12.6 +1.4
KVN pmax pmax
comp=Z,4.0nm,0.8s
LHV Little Huntoon 41.98 84 P P 07 17 14.4 +1.8
LHV IAmb IAmb 07 17 18.9
comp=Z,18nm,1.3s
NVAR Mina Array Bea 42.00 83 P P 07 17 14.2 +1.1
comp=Z,3.4nm,0.9s,baz=288,slow=7.9,SNR=18
NVAR PcP PcP 07 19 08.8 +0.7
comp=Z,1.6nm,0.9s,baz=275,slow=2.9,SNR=3.8
comp=Z,3.4nm,0.9s
OMMB Old Mammoth Mi 42.03 85 P P 07 17 15.1 +1.6
NV11 Mina Array Sit 42.09 83 P P 07 17 14.8 +1.0
JNU Nakatsue 42.17 267 LR LR 07 32 35.7
comp=Z,44nm,20.5s,baz=80,slow=33
EGMT Eagleton 42.18 66 P P 07 17 14.7 +0.4
EGMT IAmb IAmb 07 17 31.2
comp=Z,14nm,0.9s
BOZ Bozeman (W) 42.26 70 P P 07 17 15.0 -0.1
BOZ Bozeman (W) 42.26 70 P P 07 17 15.0 -0.1
BOZ pmax pmax
comp=Z,5.0nm,1.0s
TJN Taejon 42.39 273 ||| *e* P P 07 17 13.7 -2.3
ELK Elko 42.62 79 P P 07 17 19.4 +1.2
ELK Elko 42.62 79 P P 07 17 19.4 +1.2
ELK pmax pmax
comp=Z,5.0nm,0.7s
TPH Tonopah 42.90 83 P P 07 17 21.2 +0.8
TPH Tonopah 42.90 83 P P 07 17 21.2 +0.8
TPH pmax pmax
comp=Z,37nm,1.0s
LCH Last Change Ra 43.13 84 P P 07 17 23.7 +1.5
LCH IAmb IAmb 07 17 28.4
comp=Z,14nm,1.4s
ISA Isabella, Lake 43.55 87 P P 07 17 26.3 +0.8
ISA IAmb IAmb 07 17 30.7
comp=Z,11nm,1.1s
ISA Isabella, Lake 43.55 87 P P 07 17 26.3 +0.8
ISA pmax pmax
comp=Z,11nm,1.1s
HVU Hansel Valley 43.59 76 P P 07 17 26.9 +1.0
HVU Hansel Valley 43.59 76 P P 07 17 26.9 +1.0
HVU pmax pmax
comp=Z,5.0nm,1.0s
R11A Troy Canyon, C 43.78 82 P P 07 17 27.0 -0.5
R11A IAmb IAmb 07 17 32.5
comp=Z,12nm,1.2s
S11A Rachel 44.09 83 P P 07 17 30.8 +0.9
S11A IAmb IAmb 07 17 31.8
comp=Z,22nm,1.3s
TPNV Topopah Spring 44.19 84 P P 07 17 31.8 +1.0
TPNV IAmb IAmb 07 17 36.0
comp=Z,7.5nm,0.9s
TPNV Topopah Spring 44.19 84 P P 07 17 31.8 +1.0
TPNV pmax pmax
comp=Z,8.0nm,0.9s
SPR3 Spring Creek 3 44.19 80 P P 07 17 32.3 +1.3
SPR3 IAmb IAmb 07 17 33.4
comp=Z,3.2nm,0.8s
DUG Dugway, Tooele 44.45 78 P P 07 17 34.1 +1.3
DUG IAmb IAmb 07 17 34.9
comp=Z,13nm,1.2s
DUG Dugway, Tooele 44.45 78 P P 07 17 34.1 +1.3
DUG pmax pmax
comp=Z,13nm,1.2s
PRN Pahroc Range 44.68 82 P P 07 17 36.3 +1.7
CTU Camp Tracy 44.84 76 P P 07 17 36.7 +0.8
CTU IAmb IAmb 07 17 49.5
comp=Z,6.6nm,1.0s
GSC Goldstone, Bar 44.84 86 P P 07 17 36.4 +0.5
GSC IAmb IAmb 07 17 38.6
comp=Z,14nm,1.1s
GSC Goldstone, Bar 44.84 86 P P 07 17 36.4 +0.5
GSC pmax pmax
comp=Z,14nm,1.1s
BW06 Boulder Array 45.03 73 P P 07 17 38.1 +0.6
BW06 IAmb IAmb 07 17 50.3
comp=Z,13nm,1.4s
PD31 Pinedale Array 45.03 73 P P 07 17 38.1 +0.6
PD31 IAmb IAmb 07 17 50.3
comp=Z,11nm,1.4s
PDAR Pinedale Array 45.03 73 P P 07 17 37.7 +0.2
comp=Z,2.7nm,0.7s,baz=303,slow=3.7,SNR=28
comp=Z,2.7nm,0.7s
PDAR Pinedale Array 45.03 73 P P 07 17 37.5 +0.1
NLU North Lily Min 45.06 78 P P 07 17 38.6 +0.9
NLU IAmb IAmb 07 17 42.6
comp=Z,14nm,1.4s
XLT XiLinHaoTe 45.16 289 *e* P P 07 17 38.8 +0.4
XLT pP sP 07 17 44.5 +1.9
XLT sP pwP 07 17 48.3 -1.5
XLT PcP **PcP** **07 19 20.0 +1.5**
XLT PcS **PcS** **07 23 16.0 +3.7**
XLT S **S** **07 24 21.8 +4.6**
XLT sS sS 07 24 29.8 +7.5
XLT pmax pmax
comp=Z,15nm,1.2s
XLT pmax pmax
comp=Z,120nm,4.9s
XLT LR LR
comp=Z,410nm,17.7s
XLT LR LR
comp=Z,190nm,15.2s
MPU Maple Canyon 45.30 77 P P 07 17 40.4 +0.8
U15A North Rim 47.02 82 P P 07 17 54.5 +1.2
BLYC Blythe 47.28 86 P P 07 17 56.3 +1.3
BLYC IAmb IAmb 07 17 58.0
comp=Z,9.6nm,1.2s
BJI Beijing 47.29 285 P P 07 17 55.3 +0.3
BJI pmax pmax
comp=Z,6.0nm,0.7s
BJI pmax pmax
comp=Z,190nm,4.7s
O20A White River Ci 47.34 75 P P 07 17 55.9 +0.2
O20A IAmb IAmb 07 18 19.3
comp=Z,7.6nm,0.8s
PV11 David Mesa, Pa 48.04 77 P P 07 18 01.4 +0.3
PV07 Paradox Valley 48.10 77 P P 07 18 01.6 0.0
PV07 IAmb IAmb 07 18 02.7
comp=Z,13nm,1.3s
NEEM North Greenlan 48.13 14 *i* P P 07 18 00.3 -1.2
NEEM IAmb IAmb 07 18 05.6
comp=Z,25nm,1.1s
PV13 Radium Mtn., P 48.16 77 P P 07 18 03.0 +0.9
WUAZ Wupatki 48.17 82 P P 07 18 03.4 +1.2
WUAZ IAmb IAmb 07 18 04.1
comp=Z,9.2nm,0.9s
PV15 Paradox Valley 48.26 77 P P 07 18 03.1 +0.2
PV15 IAmb IAmb 07 18 03.9
comp=Z,8.1nm,0.8s
SONM Songino Array 48.68 299 P P 07 18 06.1 +0.2
comp=Z,4.4nm,0.8s,baz=46,slow=9.4,SNR=22
SONM PcP **PcP** **07 19 30.6 -0.4**
comp=Z,2.2nm,0.8s,baz=53,slow=1.8,SNR=5.1
SONM LR LR 07 39 47.1
comp=Z,128nm,19.6s,baz=36,slow=38
comp=Z,4.4nm,0.8s
SONM Songino Array 48.68 299 P P 07 18 06.6 +0.7
SONM IAmb IAmb 07 18 13.2
comp=Z,8.7nm,1.2s
ULM Lac du Bonnet 48.88 57 P P 07 18 07.0 -0.1
comp=Z,4.8nm,0.6s,baz=289,slow=2.7,SNR=4.5
comp=Z,4.8nm,0.6s
MVCO Mesa Verde 48.94 78 P P 07 18 08.4 +0.3
MVCO IAmb IAmb 07 18 09.5
comp=Z,11nm,1.2s
ZAK Zakamensk 49.00 303 *e* P P 07 18 08.6 +0.4
ZAK pmax pmax
comp=Z,35nm,1.2s
HHC Hu-ho-hao-te 49.65 288 *e* P P 07 18 14.0 +0.7
HHC pmax pmax
comp=Z,33nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.0s
S22A 4UR Ranch, Cre 49.66 77 P P 07 18 14.4 +0.8
S22A IAmb IAmb 07 18 15.8
comp=Z,9.3nm,1.1s
HNS HongShan 49.80 283 ⇑ P P 07 18 15.0 +0.6
HNS pmax pmax
comp=Z,12nm,0.9s
AGMN Agassiz Nation 49.97 59 P P 07 18 15.1 -0.4
UPNV Upernavik 50.48 20 *i* P P 07 18 17.9 -1.2
UPNV IAmb IAmb 07 18 24.1
comp=Z,9.5nm,0.8s
SDCO Great Sand Dun 50.49 76 P P 07 18 20.5 +0.5
SDCO IAmb IAmb 07 18 21.7
comp=Z,6.0nm,1.1s
NJ2 Nanjing 50.58 275 *e* P P 07 18 19.3 -1.0
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
TUC Tucson 50.60 85 P P 07 18 21.1 +0.5
TUC IAmb IAmb 07 18 25.6
comp=Z,11nm,1.3s
TUC Tucson 50.60 85 P P 07 18 21.1 +0.5
TUC pmax pmax
comp=Z,11nm,1.3s
T25A Trinidad 51.54 76 P P 07 18 28.6 +0.8
SPITS Spitsbergen Ar 51.62 357 P P 07 18 27.3 -0.3
comp=Z,6.8nm,0.7s,baz=44,slow=7.4,SNR=6.8
SPITS LR LR 07 41 51.1
comp=Z,93nm,18.2s,baz=328,slow=38
comp=Z,6.8nm,0.7s
ANMO Albuquerque 51.65 79 ⇑ *i* P P 07 18 29.5 +0.9
ANMO pmax pmax
comp=Z,7.0nm,1.3s
LYN LuoYang 53.01 282 ⇑ P P 07 18 38.5 +0.1
FRB Frobisher Bay 53.10 32 LR LR 07 42 33.1
comp=Z,131nm,20.3s,baz=261,slow=38
SUMG Summit 53.98 15 *i* P P 07 18 45.9 +0.4
SUMG IAmb IAmb 07 18 50.6
comp=Z,4.3nm,0.7s
MSTX Muleshoe 54.60 78 P P 07 18 50.1 -0.1
ZALV Zalesovo Beam 56.04 315 P P 07 18 58.9 -1.3
comp=Z,1.3nm,0.8s,baz=38,slow=7.5,SNR=4.7
ZALV LR LR 07 46 21.4
comp=Z,32nm,19.1s,baz=50,slow=40
comp=Z,1.3nm,0.8s
ZALV Zalesovo Beam 56.04 315 *i* P P 07 19 00.2 0.0
ZALV pmax pmax
comp=Z,1.0nm,0.6s
SFJD Kangerlussuaq 56.05 23 LR LR 07 46 07.8
comp=Z,55nm,19.3s,baz=310,slow=39
WMOK Wichita Mounta 56.58 74 P P 07 19 04.2 -0.2
WMOK IAmb IAmb 07 19 05.9
comp=Z,8.8nm,0.9s
WMOK Wichita Mounta 56.58 74 P P 07 19 04.2 -0.2
WMOK pmax pmax
comp=Z,9.0nm,1.0s

ICESG Greenland Ices 56.74 17 *i* P P **07 19 04.3 -1.0**
ICESG IAmb IAmb 07 19 08.9
comp=Z,5.4nm,0.7s
TX31 Lajitas Ar. Si 57.13 82 P P **07 19 08.2 -0.2**
TX32 Lajitas Array 57.13 82 P P **07 19 08.6 +0.2**
TX32 IAmb IAmb 07 19 09.5
comp=Z,9.7nm,1.1s
TXAR Lajitas Array 57.13 82 P P **07 19 08.3 -0.1**
comp=Z,4.7nm,0.8s,baz=295,slow=4.8,SNR=46
comp=Z,4.7nm,0.8s
TXAR Lajitas Array 57.13 82 P P **07 19 08.6 +0.2**
LZH Lanzhou 57.35 289 ⇑P P **07 19 10.5 +0.6**
LZH pP sP 07 19 15.5 +1.3
LZH sP pwP 07 19 19.3 -2.1
LZH pmax pmax
comp=Z,26nm,1.2s
DGZ Jazzator, Alta 57.57 310⇓ *e*P P **07 19 11.0 -0.3**
DGZ pmax pmax
comp=Z,11nm,1.1s
GTA Gaotai 57.58 294 *e*P P **07 19 11.5 0.0**
GTA sP pwP 07 19 24.5 +1.6
GTA pmax pmax
comp=Z,14nm,1.1s
GTA pmax pmax
comp=Z,94nm,7.3s
GTA LR LR
comp=Z,110nm,18.9s
GTA LR LR
comp=Z,130nm,19.6s
GTA LR LR
comp=Z,110nm,14.5s
WHTX Lake Whitney, 59.24 76 P P **07 19 22.7 -0.3**
ARCES ARCESS Array B 59.48 351 P P **07 19 23.8 -0.4**
comp=Z,3.2nm,0.7s,baz=30,slow=9.8,SNR=10.0
ARCES LR LR 07 47 55.9
comp=Z,42nm,18.1s,baz=90,slow=39
comp=Z,3.2nm,0.7s
SCHQ Schefferville 59.83 39 P P **07 19 27.1 +0.4**
comp=Z,9.7nm,0.9s,baz=294,slow=10,SNR=3.2
comp=Z,9.7nm,0.9s
LVZ Lovozero 59.94 347⇓ *e*P P **07 19 27.7 +0.3**
LVZ pmax pmax
comp=Z,113nm,2.0s
ZSN Zaisan 60.35 310 *i* P P **07 19 28.8 -1.7**
baz=309
ZSN Zaisan 60.35 310 *i* P P **07 19 28.7 -1.7**
833A Chaparral WMA, 60.54 80 P P **07 19 32.0 +0.1**
KURK Kurchatov 61.03 315 P P **07 19 34.0 -1.0**
KURK Kurchatov 61.03 315 *d* iP P **07 19 34.5 -0.5**
KURK pmax pmax
comp=Z,24nm,1.3s
SADO Sadowa 61.15 54 LR LR 07 48 01.0
comp=Z,125nm,18.1s,baz=322,slow=38
WMQ Urumqi 61.39 305 *e*P P **07 19 37.5 -0.1**
WMQ pP pwP 07 19 45.8 -3.3
WMQ sP sP 07 19 48.5 +6.5
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ LR LR
comp=Z,270nm,15.5s
WMQ LR LR
comp=Z,860nm,20.9s
MK31 Makanchi Array 62.07 310 P P **07 19 41.4 -0.8**
MK31 IAmb IAmb 07 19 42.1
comp=Z,5.8nm,0.8s
MK31 Makanchi Array 62.07 310 *d* iP P **07 19 40.7 -1.4**
MKAR Makanchi Array 62.07 310 P P **07 19 41.1 -1.0**
comp=Z,5.2nm,0.7s,baz=55,slow=6.8,SNR=41
MKAR LR LR 07 46 45.7
comp=Z,85nm,21.9s,baz=68,slow=36
comp=Z,5.2nm,0.7s
MKAR Makanchi Array 62.07 310 P P **07 19 41.3 -0.8**
DELO Deloro Mine 62.11 53 P P **07 19 42.9 +0.5**
MAKZ Makanchi 62.21 311 P P **07 19 41.4 -1.7**
MAKZ IAmb IAmb 07 19 43.0
comp=Z,6.8nm,0.9s
MAKZ Makanchi 62.21 311 P P **07 19 41.4 -1.7**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
BVA0 Borovoye Array 62.85 321 P P **07 19 46.8 -0.4**
BRVK Borovoye 62.86 322 P P **07 19 47.0 -0.3**
BRVK Borovoye 62.86 322 *d* iP P **07 19 47.3 0.0**
BRVK pmax pmax
comp=Z,19nm,1.0s
HNR Honiara 62.99 207 LR LR 07 40 29.3
comp=Z,704nm,20.7s,baz=341,slow=30
PRGR Permogore 63.59 339 *e*P P **07 19 51.8 -0.1**
PRGR pmax pmax
comp=Z,15nm,1.0s
BORG Borgarnes 63.68 12 LR LR 07 49 24.7
comp=Z,20nm,20.1s,baz=340,slow=38
AFI Afiamalu 63.99 175 LR LR 07 44 13.9
comp=Z,14nm,19.0s,baz=26,slow=33
BRZS Berezniki 64.18 318 *e*P P **07 19 54.3 -1.7**
comp=Z,5.5nm,1.0s,baz=318
BRZS Berezniki 64.18 318 *e*P P **07 19 54.3 -1.7**
BRZS pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 64.45 330 P P **07 19 57.2 -0.5**
ARU Arti 64.45 330 *c* iP P **07 19 57.6 -0.1**
ARU S S **07 28 37.8 +2.3**
ARU SS SS **07 32 49.0 +4.4**
ARU pmax pmax
comp=Z,36nm,1.6s
TKL Tuckaleechee C 64.94 64 LR LR 07 46 40.0
comp=Z,75nm,21.5s,baz=308,slow=34
PZH PanZhiHua 65.23 282 P P **07 20 04.8 +1.4**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.1s
PZH PanZhiHua 65.23 282 ⇓P P **07 20 03.0 -0.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.5s
TDK Taldyqorghan 65.24 311 *e*P P **07 20 01.9 -1.2**
comp=Z,7.0nm,0.5s,baz=311
TDK Taldyqorghan 65.24 311 *e*P P **07 20 01.9 -1.2**
TDK pmax pmax
comp=Z,7.0nm,0.5s
KIRV Kirov 65.32 336 LR LR 07 52 42.2
comp=Z,67nm,18.1s,baz=2.9,slow=40
KIRV Kirov 65.32 336 *ce*P P **07 20 04.3 +1.0**
P57A Homestead Farm 65.45 57 P P **07 20 03.9 -0.6**
P57A IAmb IAmb 07 20 11.2
comp=Z,10nm,1.0s
KMI Kunming 65.59 280 ⇑P P **07 20 05.8 0.0**
KMI pP sP 07 20 13.3 +3.2
KMI pmax pmax
comp=Z,12nm,1.1s
KLMR Klimovskoe 65.60 342 *e*P P **07 20 03.5 -1.6**
KLMR AMP 07 20 09.4
comp=Z,25nm,1.4s
KLMR Klimovskoe 65.60 342 *e*P P **07 20 03.5 -1.6**
KLMR pmax pmax
comp=Z,25nm,1.4s
SHLS Shalkode 66.08 309 *e*P P **07 20 06.8 -1.9**
comp=Z,9.9nm,1.1s,baz=309
SHLS Shalkode 66.08 309 *e*P P **07 20 06.7 -1.9**
SHLS pmax pmax
comp=Z,10.0nm,1.1s
KPKS Kokpek 66.23 310 *e*P P **07 20 08.6 -1.1**
comp=Z,17nm,1.3s,baz=310
KPKS Kokpek 66.23 310 *e*P P **07 20 08.5 -1.1**
KPKS pmax pmax
comp=Z,17nm,1.3s
SATY Saty 66.67 310 *e*P P **07 20 11.3 -1.2**
comp=Z,9.5nm,1.1s,baz=310
SATY Saty 66.67 310 *e*P P **07 20 11.2 -1.2**
SATY pmax pmax
comp=Z,10.0nm,1.1s
CHKK Chushkaly 66.78 311 *e*P P **07 20 11.9 -1.1**
baz=311
CHKK Chushkaly 66.78 311 *e*P P **07 20 11.9 -1.1**
KUU Kurty 67.06 312 *e*P P **07 20 13.2 -1.6**
comp=Z,9.0nm,1.1s,baz=311
KUU Kurty 67.06 312 *e*P P **07 20 13.1 -1.6**
KUU pmax pmax
comp=Z,9.0nm,1.1s
FINES FINESS Array B 67.25 349 P P **07 20 15.2 -0.4**
comp=Z,4.8nm,0.8s,baz=28,slow=5.3,SNR=9.2
FINES LR LR 07 52 31.8
comp=Z,52nm,18.9s,baz=338,slow=39
comp=Z,4.8nm,0.8s
FINES FINESS Array B 67.25 349 *i* P P **07 20 15.1 -0.5**
FINES pmax pmax
comp=Z,5.0nm,0.8s
BTLS Baital 67.28 314 *e*P P **07 20 14.8 -1.3**
comp=Z,10nm,1.6s,baz=314
BTLS Baital 67.28 314 *e*P P **07 20 14.8 -1.3**
BTLS pmax pmax
comp=Z,10.0nm,1.6s
T59A Double "B" Far 67.51 59 P P **07 20 17.3 -0.4**
SIJI Sorong 67.78 239 P P **07 20 19.5 -0.1**
comp=Z,24nm,0.9s,baz=38,slow=8.2,SNR=8.8
comp=Z,24nm,0.9s
MSVF Nonsavu 67.87 186 LR LR 07 47 22.4
comp=Z,43nm,18.2s,baz=271,slow=34
TKM2 Tokmak 2 68.15 311 P P **07 20 21.6 -0.3**
SNR=6.0
RAF Rauma 68.16 351 *e*P P **07 20 21.2 -0.1**
SGDS Sogindy 68.21 312 *e*P P **07 20 21.2 -0.9**
comp=Z,12nm,1.4s,baz=312
SGDS Sogindy 68.21 312 *e*P P **07 20 21.2 -0.9**
SGDS pmax pmax
comp=Z,12nm,1.4s
TNCH TengChong 68.31 283 P P **07 20 22.3 -0.8**
TNCH pmax pmax
comp=Z,160nm,4.9s
USP Ospenovka 68.41 312 P P **07 20 23.8 +0.4**
SNR=14
MEF Metsahovi 68.65 349 *e*P P **07 20 24.1 -0.3**
KBK Karagaybulak 68.66 311 P P **07 20 25.8 +0.7**
SNR=5.5
AAK Ala-Archa 68.89 312 P P **07 20 26.9 +0.4**
SNR=7.1
AAK Ala-Archa 68.89 312 P P **07 20 26.5 0.0**
AAK Ala-Archa 68.89 312 *d* iP P **07 20 26.6 +0.1**
AAK pmax pmax
comp=Z,23nm,1.7s
NB2 NORSAR Subarra 68.91 356 P P **07 20 26.1 -0.1**
comp=Z,6.8nm,0.8s,baz=7.4,slow=6.9
NOA NORSAR Array B 68.91 356 P P **07 20 26.1 -0.1**
comp=Z,4.0nm,0.7s,baz=4.8,slow=6.5,SNR=13
NOA LR LR 07 55 45.2
comp=Z,25nm,18.0s,baz=355,slow=40
comp=Z,4.0nm,0.7s
NRN Naryn 69.07 310 P P **07 20 28.5 +0.6**
NRN IAmb IAmb 07 20 30.4
comp=Z,8.3nm,1.1s
NRN Naryn 69.07 310 P P **07 20 28.5 +0.6**
NRN pmax pmax
comp=Z,8.0nm,1.1s
EKS2 Erkin-Say 69.22 312 P P **07 20 29.4 +0.9**
SNR=5.1
AKTO Aktyubinsk 69.58 326 P P **07 20 30.2 -0.2**
AML Almayashu 69.66 312 P P **07 20 32.7 +1.2**
SNR=5.8
HFS Hagfors 69.69 355 LR LR 07 53 21.2
comp=Z,31nm,18.2s,baz=48,slow=38
AB31 Akbulak array 69.86 325 *i* P P **07 20 32.3 +0.2**
ABKAR Akbulak array 69.86 325 P P **07 20 31.6 -0.6**
ABKAR Akbulak array 69.86 325 P P **07 20 31.8 -0.3**
ABKAR IAmb IAmb 07 20 38.3
comp=Z,22nm,1.2s
VSU Vasula 70.05 347 *e*P P **07 20 33.5 +0.4**
VSU Vasula 70.05 347⇓ *e*P P **07 20 33.0 -0.1**
VSU pmax pmax
comp=Z,97nm,1.0s
MTSE Matsula 70.18 349 *e*P P **07 20 34.3 +0.4**
DZA Taraz 70.19 314 *e*P P **07 20 33.4 -0.9**
baz=314
DZA Taraz 70.19 314 *e*P P **07 20 33.3 -1.0**
KONO Kongsberg 70.37 357‖ *e*P P **07 20 35.7 +0.7**
KONO pmax pmax
comp=Z,26nm,1.1s
KK31 Karatay Array 70.40 314 P P **07 20 34.7 -0.9**
KK31 Karatay Array 70.40 314 *i* P P **07 20 35.3 -0.3**
KKAR Karatay Array 70.40 314 P P **07 20 35.2 -0.4**
KKAR Karatay Array 70.40 314 P P **07 20 34.7 -0.9**
KKAR IAmb IAmb 07 20 36.6
comp=Z,16nm,0.9s
KKAR Karatay Array 70.40 314 P P **07 20 35.2 -0.4**
KKAR pmax pmax
comp=Z,15nm,0.9s
KSH Kashi 70.54 309 P P **07 20 39.8 +3.1**
KSH pP pwP 07 20 45.8 -2.3
KSH pmax pmax
comp=Z,12nm,0.8s
CRAI Chiangrai 70.63 278 P P **07 20 36.9 -0.4**
BELG Belogornoye 71.24 333 LR LR 07 54 11.2
comp=Z,70nm,21.7s,baz=340,slow=38
BELG Belogornoye 71.24 333 *d* iP P **07 20 40.3 -0.2**
BELG pmax pmax
comp=Z,6.0nm,0.9s
IUG luzhnay 71.37 314 *e*P P **07 20 41.0 -0.6**
baz=314
IUG luzhnay 71.37 314 *e*P P **07 20 41.0 -0.6**
CHM Chimkent 71.43 315 *e*P P **07 20 41.0 -0.9**
baz=314
CHM Chimkent 71.43 315 *e*P P **07 20 41.0 -0.9**
OBN Obninsk 71.52 341 LR LR 07 54 38.5
comp=Z,8.4nm,21.9s,baz=356,slow=38
OBN Obninsk 71.52 341 *ce*P P **07 20 42.3 +0.2**
OBN *e* 07 20 59.4
OBN *e* 07 23 22.9
OBN *e*S **SKSac** **07 30 48.2 +3.8**
OBN *e*SS **SS** **07 34 36.6 +3.1**
OBN pmax pmax
comp=Z,60nm,1.7s
OBN MLR MLR
comp=Z,108nm,16.0s
SHL Shillong 72.01 288 P P **07 20 45.3 -0.5**
SHL Shillong 72.01 288 P P **07 20 45.3 -0.5**
SHL pmax pmax
comp=Z,43nm,1.2s
RAR Rarotonga 72.60 164 LR LR 07 43 32.0
comp=Z,101nm,21.1s,baz=280,slow=28
CMAR Chiang Mai Arr 72.84 278 P P **07 20 50.3 -0.4**
comp=Z,2.4nm,0.4s,baz=27,slow=6.3,SNR=14
CMAR LR LR 07 54 37.4
comp=Z,12nm,19.9s,baz=205,slow=37
comp=Z,2.4nm,0.4s
CMAR Chiang Mai Arr 72.84 278 *i* P P **07 20 50.4 -0.2**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
TAPN Taplejung 73.20 293 *e*P P **07 20 52.9 -0.1**
PABE Paberze 73.30 348 *e*P P **07 20 53.4 +0.7**
LPSR Galich'ya Gora 73.33 339 *e*P P **07 20 52.9 0.0**
LPSR pmax pmax
comp=Z,20nm,1.2s
DZM Mont Dzumac 73.63 197 LR LR 07 47 15.4
comp=Z,93nm,20.3s,baz=230,slow=31
MNK Minsk 73.70 346 *i* P P **07 20 54.6 -0.5**
comp=E,3.0nm,0.9s
MNK *i* P P **07 20 54.6 -0.5**
comp=N,29nm,0.7s
MNK *i* P P **07 20 54.6 -0.5**
comp=Z,18nm,0.9s,baz=16
MNK *i* PP **PP** **07 23 38.6 -0.2**
MNK *i* PPP PPP 07 25 24.9
MNK *i* S **S** **07 30 25.8 +1.0**
MNK *i* SS **SS** **07 35 11.7 +4.8**
MNK *i* SSS SSS 07 38 32.3
MNK *i* LQ LQ 07 46 44.1
MNK *i* LR LR 07 52 41.9
MNK *i* LRM MLR 07 55 56.1
comp=N,542nm,23.0s
MNK *i* LRM MLR 07 56 08.9
comp=Z,108nm,24.3s
MNK *i* LRM MLR 07 56 31.9
MNK Minsk 73.70 346 *i* P P **07 20 54.6 -0.5**
MNK *i* 07 23 38.5
MNK *i* PPP PPP 07 25 24.9
MNK *i* S **S** **07 30 25.8 +1.0**
MNK *i* SS **SS** **07 35 11.7 +4.8**
MNK pmax pmax
comp=N,29nm,0.7s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=N,542nm,23.0s
MNK MLR MLR
comp=Z,108nm,24.0s
GAR Garm 73.71 312 P P **07 20 55.0 -0.6**
GUN Gumba 73.87 294 *e*P P **07 20 57.1 +0.1**
comp=Z,46nm,0.4s
JIRN Jiri 73.87 294 *e*P P **07 20 56.9 -0.1**
comp=Z,17nm,0.5s
VRH Novokhopyorsk 73.92 336 *e*P P **07 20 55.0 -1.5**
VRH pmax pmax
comp=Z,40nm,1.3s
VORR Voronezh 74.12 338 *e*P P **07 21 01.3 +3.7**
VORR pmax pmax
comp=Z,90nm,0.4s
RAMN Ramite 74.16 293 *e*P P **07 20 58.5 -0.1**
PKI Pulchoki 74.40 294 *e*P P **07 20 59.6 -0.5**
PKIN Phulchoki 74.40 294 *e*P P **07 20 59.4 -0.6**
comp=Z,7.0nm,0.4s
GKN Gorkha 74.52 295 *e*P P **07 20 59.8 -0.8**
comp=Z,5.2nm,0.2s
CHGR Chuyangaron 74.53 312 P P **07 21 00.3 -0.1**
CHGR Chuyangaron 74.53 312 P P **07 21 00.3 -0.1**
CHGR pmax pmax
comp=Z,41nm,0.9s
DMN Daman 74.54 295 *e*P P **07 21 00.8 0.0**
comp=Z,3.6nm,0.3s
VSR Storozhevoye 74.55 338 *e*P P **07 20 58.3 -1.8**
VSR pmax pmax
comp=Z,9.0nm,0.6s
DANN Dangsing 74.77 296 *e*P P **07 21 02.1 -0.1**
comp=Z,51nm,0.9s
PYUN Piuthan 75.40 296 *e*P P **07 21 05.2 -0.5**
comp=Z,43nm,0.9s
AKASG Malin Array Be 77.13 344 P P **07 21 14.3 -0.6**
comp=Z,4.5nm,0.4s,baz=18,slow=6.0,SNR=25
AKASG LR LR 08 00 43.0
comp=Z,52nm,18.0s,baz=52,slow=40
comp=Z,4.5nm,0.4s
AKBB Malin Array Si 77.13 344 P P **07 21 14.8 -0.1**
AKBB Malin Array Si 77.13 344 *i* P P **07 21 14.3 -0.6**
AKBB pmax pmax
comp=Z,19nm,1.0s
KBL Kabul 77.87 310 P P **07 21 18.2 -1.4**
KBL Kabul 77.87 310 P P **07 21 18.2 -1.4**
KBL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 78.53 354 *i* P P **07 21 22.3 -0.3**
comp=Z,8.0nm,1.1s
CLL *i* x x 07 21 25.8
comp=Z,8.0nm,0.9s
CLL *e*SS SS 07 36 42.0 +22
CLL Collm 78.53 354 *i* P P **07 21 22.3 -0.3**
CLL *i* 07 21 25.8
CLL pmax pmax
comp=Z,8.0nm,1.1s
TGUH Tegucigalpa,Un 78.60 82 P P **07 21 24.6 +0.9**
BRG Berggiesshubel 78.90 354 Amp 07 21 30.7
comp=Z,1nm,1.2s
BRG Berggiesshubel 78.90 354 *e*P P **07 21 25.1 +0.5**
BRG *e* 07 21 29.3
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,15nm,1.2s
BRG Berggiesshubel 78.90 354 *e*P P **07 21 25.2 +0.5**
BRG Berggiesshubel 78.90 354 Amp 07 21 25.8
comp=Z,4.3nm,0.7s
BRG Berggiesshubel 78.90 354 *ex* x 07 21 29.3
DPC Dobruska-Polom 79.22 352 *e*P P **07 21 25.9 -0.7**
DPC Dobruska-Polom 79.22 352 *e*P P **07 21 25.9 -0.7**
KRLC Kraliky 79.45 352 *e*P P **07 21 28.3 +0.5**
KRLC Kraliky 79.45 352 *e*P P **07 21 28.3 +0.5**
MEM Membach 79.51 359 *d*P P **07 21 27.6 -0.5**
MEM *d*PcP **sP** **07 21 33.2 +0.8**
BCLA Clavier 79.71 359 *d*PcP **PcP** **07 21 34.5 -2.4**
BGES Gesves 79.75 359 *d*P P **07 21 28.6 -0.8**
BGES *d*PcP **sP** **07 21 34.6 +0.9**
SORM Soroca 79.76 344 ⇓P P **07 21 29.3 -0.1**
SORM Soroca 79.76 344 ⇓P P **07 21 29.3 -0.1**
BMRD Maredsous 79.83 359 *d*P P **07 21 28.9 -0.9**
MAUC Maruska 80.05 351 *e*P P **07 21 31.3 +0.2**
GEYT Alibeck 80.06 319 P P **07 21 31.6 +0.3**
comp=Z,8.8nm,1.0s,baz=312,slow=5.1,SNR=11
GEYT LR LR 07 59 55.2
comp=Z,94nm,20.0s,baz=38,slow=38
comp=Z,8.8nm,1.0s
GEYT Alibeck 80.06 319 P P **07 21 32.1 +0.8**
GEYT IAmb IAmb 07 21 32.8
comp=Z,14nm,1.1s
GYA0B ALIBECK ARRAY 80.06 319 P P **07 21 32.0 +0.6**
GYA0B IAmb IAmb 07 21 39.5
comp=Z,11nm,0.9s
VRAC Vranov 80.23 352 LR LR 08 01 06.5
comp=Z,24nm,18.4s,baz=357,slow=39
KIV Kislovodsk 80.28 333 *e*P P **07 21 33.4 +1.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,46nm,19.0s
KBZ Khabaz 80.42 332 P P **07 21 33.8 +0.7**
comp=Z,4.4nm,0.9s,baz=323,slow=2.1,SNR=7.1
KBZ LR LR 08 04 32.5
comp=Z,37nm,18.3s,baz=24,slow=41
comp=Z,4.4nm,0.9s
KBZ Khabaz 80.42 332⇓ *e*P P **07 21 33.4 +0.3**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 80.66 354 P P **07 21 34.5 +0.2**
KHC IAmb IAmb 07 21 40.5
comp=Z,7.1nm,1.0s
KHC Kasperske Hory 80.66 354 *e*P P **07 21 34.7 +0.4**
KHC Kasperske Hory 80.66 354 *e*P P **07 21 34.7 +0.4**
TRPA Tarpa 80.70 347 ⇑P P **07 21 35.4 +0.9**
BUR08 Bucovina Ar. S 80.77 346 P P **07 21 35.1 0.0**
BUR08 IAmb IAmb 07 21 36.1
comp=Z,9.3nm,1.1s
BURAR Bucovina Array 80.80 346 ⇑P P **07 21 35.8 +0.6**
BURAR Bucovina Array 80.80 346 P P **07 21 35.6 +0.4**
BURAR IAmb IAmb 07 21 37.0
comp=Z,7.2nm,0.9s
BURAR Bucovina Array 80.80 346 ⇑P P **07 21 35.8 +0.6**
AKT Akhty 80.91 328 *e*P P **07 21 35.9 0.0**
AKT *e* 07 21 41.9
AKT pmax pmax
comp=Z,22nm,1.0s
GERES GERESS Array B 80.93 353 P P **07 21 36.2 +0.3**
comp=Z,0.8nm,0.6s,baz=350,slow=4.1,SNR=7.7
comp=Z,0.8nm,0.6s
ANN Anapa 80.94 337 *e*P P **07 21 31.6 -4.2**
ANN *e*S **S** **07 31 37.2 -6.5**
ANN pmax pmax
comp=Z,32nm,0.9s
ZEI Tsey 80.97 331 *e*P P **07 21 34.9 -1.4**
ZEI pmax pmax
comp=Z,12nm,1.0s
ARCR ARCALIA 81.45 346 ⇑P P **07 21 40.5 +2.0**
CONA Conrad Observa 81.66 352 *e*P P **07 21 41.0 +1.2**
comp=Z,8.7nm,1.3s
OZUR 82.18 345 ⇓P P **07 21 43.8 +1.4**
WB0 Warramunga Arr 82.24 226 P P **07 21 41.6 -1.3**
WB0 IAmb IAmb 07 21 42.5
comp=Z,9.8nm,1.1s
VRI Vrincioaia 82.24 344 ⇑P P **07 21 41.1 -1.7**
VRI Vrincioaia 82.24 344 ⇑P P **07 21 41.1 -1.7**
PLOR Plostina 82.27 344 ⇑P P **07 21 41.4 -1.5**
PLOR Plostina 82.27 344 ⇑P P **07 21 41.4 -1.5**
COVR Voineasa-Covas 82.35 344 ⇑P P **07 21 44.3 +1.0**
DOPR Dopca 82.37 345 ⇑P P **07 21 45.0 +1.6**
WRAB Tennant Creek 82.40 226⇓ *e*P P **07 21 42.8 -1.0**
WRAB pmax pmax
comp=Z,18nm,2.1s
WRA Warramunga Arr 82.42 226 P P **07 21 42.9 -0.9**
comp=Z,3.7nm,0.8s,baz=38,slow=6.0,SNR=25
comp=Z,3.7nm,0.8s
WRA Warramunga Arr 82.42 226 P P **07 21 43.0 -0.8**
RETA Reutte 82.47 355 *e*P P **07 21 45.5 +1.5**
comp=Z,6.1nm,1.1s
WATA Walderalm 82.57 355 *e*P P **07 21 45.9 +1.3**
comp=Z,2.2nm,0.4s
MOTA Moosalm 82.59 355 *e*P P **07 21 45.8 +1.0**
comp=Z,6.9nm,0.9s
WTTA Wattenberg 82.64 355 *e*P P **07 21 46.1 +1.0**
comp=Z,7.8nm,1.1s
SQTA Sankt Quirin 82.71 355 *e*P P **07 21 46.1 +0.8**
comp=Z,5.7nm,0.8s
KBA Koelnbreinsper 82.71 353 *e*P P **07 21 46.7 +1.3**
comp=Z,10nm,0.8s
MLR Muntele Rosu 82.74 345 ⇑P P **07 21 47.7 +2.2**
MLR Muntele Rosu 82.74 345 P P **07 21 44.4 -1.1**
MLR Muntele Rosu 82.74 345 P P **07 21 44.4 -1.1**
MLR pmax pmax
comp=Z,16nm,1.1s

FETA	Feichten	82.94	355	*e*P		P	07 21 46.9	+0.3
	comp=Z,7.3nm,1.1s							
VOIR		82.94	345	⇑P		P	07 21 47.3	+0.8
VOIR		82.94	345	⇑P		P	07 21 47.3	+0.8
SOKA	Soboth	82.98	352	*e*P		P	07 21 47.4	+0.7
	comp=Z,15nm,1.0s							
ARR	Arges	83.08	345	⇑P		P	07 21 48.5	+1.3
SURR	Surduc	83.08	347	⇑P		P	07 21 47.3	+0.2
GNI	Garni	83.10	330	LR		LR	08 04 49.0	
	comp=Z,62nm,18.5s,baz=20,slow=40							
ABTA	Abfaltersbach	83.10	354	*e*P		P	07 21 47.7	+0.4
	comp=Z,7.4nm,1.0s							
OBKA	Obir	83.19	353	*e*P		P	07 21 48.2	+0.5
	comp=Z,8.8nm,0.9s							
DAVOX	Davos/Dischmat	83.22	356	LR		LR	08 02 27.0	
	comp=Z,18nm,18.3s,baz=19,slow=38							
BZS	Buzias	83.29	348	⇑P		P	07 21 48.7	+0.5
BZS	Buzias	83.29	348	⇑P		P	07 21 48.7	+0.5
GZR	Gura Zlata	83.34	347	⇑P		P	07 21 49.1	+0.6
GZR	Gura Zlata	83.34	347	⇑P		P	07 21 49.1	+0.6
HERR	Herculane	83.89	347	⇑P		P	07 21 51.8	+0.5
MDVR	Moldovita	84.09	347	⇑P		P	07 21 53.0	+0.6
PSI	Prapat	84.63	268	P		P	07 21 55.1	-0.5
	comp=Z,11nm,0.9s,baz=17,slow=2.7,SNR=9.6							
	comp=Z,11nm,0.9s							
PSI	Prapat	84.63	268	P		P	07 21 54.6	-1.0
PSI				pmax		pmax		
	comp=Z,11nm,0.9s							
RPSI	Rantau Prapat	84.71	268	P		P	07 21 54.6	-1.3
ASAR	Alice Springs	85.84	225	P		P	07 22 00.8	-0.4
	comp=Z,3.6nm,0.9s,baz=33,slow=4.9,SNR=28							
	comp=Z,3.6nm,0.9s							
ASAR	Alice Springs	85.84	225	P		P	07 22 00.2	-1.0
ASAR	Alice Springs	85.84	225	P		P	07 22 00.2	-1.0
BR131	Keskin Array S	86.67	337	P		P	07 22 05.0	-0.4
BR131	Keskin Array S	86.67	337	⇓*e*P		P	07 22 05.9	+0.5
BRTR	Keskin Array B	86.67	337	P		P	07 22 05.2	-0.2
	comp=Z,2.6nm,0.7s,baz=26,slow=2.2,SNR=7.7							
BRTR				LR		LR	08 05 11.4	
	comp=Z,30nm,20.4s,baz=341,slow=39							
	comp=Z,2.6nm,0.7s							
STKA	Stephens Creek	89.93	215	P		P	07 22 21.0	+0.4
	comp=Z,6.4nm,1.0s,baz=22,slow=8.4,SNR=2.9							
	comp=Z,6.4nm,1.0s							
STKA	Stephens Creek	89.93	215	P		P	07 22 20.7	+0.1
STKA	Stephens Creek	89.93	215	P		P	07 22 20.7	+0.1
STKA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ESDC	Sonseca Array	90.19	6	P		P	07 22 21.5	-0.6
	comp=Z,3.0nm,0.9s,baz=348,slow=4.7,SNR=16							
	comp=Z,3.0nm,0.9s							
ESDC	Sonseca Array	90.19	6	P		P	07 22 21.5	-0.6
ESDC				IAmb		IAmb	07 22 22.6	
	comp=Z,5.7nm,1.1s							
WSAR	Wadi Sarin	92.30	311	LR		LR	08 08 42.7	
	comp=Z,50nm,18.2s,baz=58,slow=39							
MMAI	Mount Meron Ar	92.53	334	LR		LR	08 10 42.9	
	comp=Z,33nm,18.0s,baz=168,slow=40							
IDI	Anoyia	92.83	343	LR		LR	08 09 41.6	
	comp=Z,23nm,19.2s,baz=58,slow=39							
RPZ	Rata Peaks	94.25	189	LR		LR	07 58 20.2	
	comp=Z,35nm,20.1s,baz=43,slow=31							
EIL	Elat	95.80	333	LR		LR	08 12 35.6	
	comp=Z,46nm,18.2s,baz=59,slow=40							
H03N2	Juan Fernandez	119.19	108	T		T	09 40 23.9	
	baz=320,slow=74,SNR=5.0							
H03N1	Juan Fernandez	119.20	108	T		T	09 40 12.9	
	baz=320							
H03N3	Juan Fernandez	119.20	108	T		T	09 40 01.4	
	baz=320,slow=74,SNR=4.0							
MAW	Mawson	146.60	217	PKPbc		PKPbc	07 29 01.6	-0.3
	comp=Z,18nm,0.9s,baz=80,slow=1.7,SNR=26							
BOSA	Boshof	152.99	315	PKPbc		PKPbc	07 29 18.4	-0.6
	comp=Z,1.5nm,0.5s,baz=47,slow=8.4,SNR=4.1							

ROM 29 07:19:03.0±0.1, 42°.792N±0°.003×13°.106E±0°.003, h12km, ML1.0/3, 1D, Error ellipse: s-maj=0.3km s-min=0.1km az=215.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.04	8	P	Pg	07 19 05.6	+0.3
NRCA				S	Sg	07 19 07.3	+0.3
T1216	Preci, Frazion	0.12	327	P	Pg	07 19 06.5	+0.4
T1216				S	Sg	07 19 08.9	+0.6
T1216				AML	AML		
	comp=N,176μm,0.2s						
T1216				AML	AML		
	comp=N,176μm,0.2s						
T1216				AML	AML		
	comp=E,181μm,0.3s						
T1218	Civita (PG)	0.12	177	P	Pg	07 19 06.6	+0.4
T1218				S	Sg	07 19 09.2	+0.7
T1218				AML	AML		
	comp=E,126μm,1.6s						
T1218				AML	AML		
	comp=N,153μm,1.5s						
T1218				AML	AML		
	comp=E,91μm,0.2s						
MC2	Monte Cornacci	0.14	27	P	Pg	07 19 06.9	+0.4
T1215	Vallo di Nera,	0.17	273	P	Pg	07 19 07.4	+0.4
T1215				S	Sg	07 19 10.6	+0.9
T1215				AML	AML		
	comp=E,37μm,0.1s						
T1215				AML	AML		
	comp=N,39μm,0.1s						
LNSS	Leonessa	0.20	194	S	Sg	07 19 10.0	-0.3
MMO1	Montemonaco	0.20	56	P	Pg	07 19 07.8	+0.4
MMO1				S	Sg	07 19 11.4	+1.1
T1243	Rocca Santa Ma	0.27	111	P	Pg	07 19 08.8	+0.2
T1243				S	Sg	07 19 13.3	+0.9
MDAR	Monte D'Aria	0.40	4	S	Sb	07 19 18.0	-0.3
TERO	Teramo	0.40	115	P	Pg	07 19 11.1	+0.1
TERO				S	Sb	07 19 17.5	-0.8
OFFI	Offida	0.45	71	⇓P	Pg	07 19 10.8	-1.0

INET 29 07:24:52.8±0.6, 11°.64N×89°.00W, h15km±5km, MW3.5
SNET 29 07:24:55.5±1.1, 11°.89N×88°.82W, h15km±12km, ML3.4
ISC 29 07:24:53.8±2.9, 11°.8N±0°.2×88°.87W±0°.10, h10km, n16, σ0s86/20, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	1.56	11	*e*P	Pn	07 25 21.2	-0.4
COEB	Comit de Eme	1.74	11	*e*P	Pn	07 25 23.6	-0.5
COEB				*e*P	Pb	07 25 24.0	-1.8
LCND	La Caada	1.79	32	*e*P	Pn	07 25 24.1	-0.7
SJTE	Alcalda de S	1.82	356	*e*P	Pn	07 25 24.5	-0.8
PQSS	Presa 15 de Se	1.85	9	*e*P	Pn	07 25 25.6	0.0
SCLA	Alcaldia de Sa	1.91	4	*e*P	Pn	07 25 26.6	+0.1
SCLA				*e*S	Sn	07 25 50.0	-0.6
PAVA	Las Pavas	1.92	358	*e*P	Pn	07 25 26.2	-0.5
PAVA				*e*S	Sn	07 25 49.9	-1.1
JAYA	Jayaque - finc	1.94	343	*e*P	Pn	07 25 26.4	-0.6
CRIN	San Cristobal	2.00	63	*e*P	Pn	07 25 27.4	-0.3
CRIN				*e*S	Sn	07 25 54.9	+2.1
CEVE	Cerro Verde	2.16	340	*e*P	Pn	07 25 30.1	0.0
CEVE				*e*S	Sn	07 25 58.8	+1.6
CEVE				IAML		07 26 04.1	
	comp=Z,282nm,0.3s						
CNGN	Cerro Negro	2.24	71	*e*P	Pn	07 25 30.4	-0.6
NUBE	Las Nubes	2.29	337	*e*P	Pn	07 25 31.4	-0.3
MOMN	Momotombo	2.36	74	*e*P	Pn	07 25 32.0	-0.6
SLOZ	Alcaldia de Sa	2.40	338	*e*P	Pn	07 25 33.0	-0.2
MTO3	Montecristo	2.64	350	*e*P	Pn	07 25 37.1	+0.4
HUEN		2.69	78	*e*P	Pn	07 25 36.5	-0.7

MDD 29 07:37:08.8±1.1, 36°.72N×11°.37W, h28km±37km, Mb3.8/6, M_mb3.1/6, Error ellipse: s-maj=34.0km s-min=8.1km az=54.0
INMG 29 07:37:09.4±1.4, 36°.60N×11°.36W, h31km, ML1.9, Error ellipse: s-maj=8.3km s-min=6.5km az=90.0
CNRM 29 07:37:14.8, 36°.26N×10°.53W, h71km
ISC 29 07:37:06.3±2.5, 36°.64N±0°.07×11°.14W±0°.1, h35km, n29, σ1s78/52, 8C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	2.11	76	⇑*e*Pn	Pn	07 37 40.4	+1.3
PFVI				*e*Sn	Sn	07 38 03.6	-0.5
PFVI				A	A	07 38 04.2	
	4.2nm,0.4s						
PFVI	Vila Bisbo	2.11	76	P	Pn	07 37 39.4	+0.3
PFVI				S	Sn	07 38 02.2	-1.9
MORF	Marmelete	2.29	72	*e*P	Pn	07 37 43.0	+1.4
MORF				*e*S	Sn	07 38 07.9	-0.7
MORF				IAML		07 38 11.5	
	comp=N,9.1nm,0.2s						
MORF	Marmelete	2.29	72	*e*Pn	Pn	07 37 43.0	+1.4
MORF				*e*Sn	Sn	07 38 08.6	0.0
MORF				A	A	07 38 10.0	
	comp=N,4.4nm,0.1s						
PNCL	Nicolau / Gran	2.71	56	*e*Pn	Pn	07 37 49.3	+1.9
PNCL				*e*Sn	Sn	07 38 18.7	-0.2
PNCL				A	A	07 38 23.6	
	comp=N,1.8nm,0.1s						
MESJ	Messejana	2.80	64	*e*P	Pn	07 37 50.1	+1.5
MESJ				*e*S	Sn	07 38 20.0	-1.1
MESJ				IAML		07 38 23.0	
	comp=N,4.4nm,0.4s						
MESJ	Messejana	2.80	64	*e*Pn	Pn	07 37 50.5	+1.9
MESJ				*e*Sn	Sn	07 38 21.2	+0.1
MESJ				A	A	07 38 28.7	
	comp=N,1.9nm,0.8s						
PCVE	Castro Verde	2.85	69	⇑*e*Pn	Pn	07 37 50.9	+1.6
PCVE				*e*Sn	Sn	07 38 22.0	-0.4
PCVE				A	A	07 38 28.8	
	comp=N,2.0nm,0.3s						
PMAFR	Mafra	2.85	35	*e*Pn	Pn	07 37 52.0	+2.7
PMAFR				*e*Sn	Sn	07 38 21.5	-1.0
PMAFR				A	A	07 38 22.6	
	comp=N,12nm,0.2s						
PACT	Alcochete	2.94	43	*e*Pn	Pn	07 37 49.9	-0.6
PACT				*e*Sn	Sn	07 38 25.0	+0.5
PVAQ	Vaqueiros	3.03	74	*e*Pn	Pn	07 37 53.6	+1.8
PVAQ				*e*Sn	Sn	07 38 26.7	-0.2
PVAQ				A	A	07 38 45.1	
	comp=N,2.2nm,0.6s						
PVAQ	Vaqueiros	3.03	74	P	Pn	07 37 52.2	+0.4
PVAQ				S	Sn	07 38 26.5	-0.4
EGRO	El Granado	3.25	73	P	Pn	07 37 56.4	+1.6
EGRO				⇑*i*Vmb_V		07 37 58.0	
	comp=N,157nm,SNR=1.6						
EGRO				S	Sn	07 38 32.0	-0.1
PMTG	Montargil	3.49	45	*e*Pn	Pn	07 37 59.3	+1.3
PMTG				*e*Sn	Sn	07 38 35.8	-2.3
PMTG				A	A	07 38 37.4	
	comp=N,1.6nm,0.7s						
PSBE	So Bento	3.53	35	*e*Pn	Pn	07 37 59.6	+1.0
PSBE				*e*Sn	Sn	07 38 39.1	0.0
PSBE				A	A	07 38 40.6	
	comp=N,4.1nm,0.5s						
PESTR	Estremoz	3.74	52	*e*Sn	Sn	07 38 42.6	-1.8
PBAR	Barrancos	3.79	65	*e*Pn	Pn	07 38 04.5	+2.4
PBAR				*e*Sn	Sn	07 38 44.2	-1.2
PBAR				A	A	07 38 47.4	
	comp=N,0.8nm,0.4s						
EMIN	Mina Concepcio	3.93	72	P	Pn	07 38 05.8	+1.7
EMIN				⇑*i*Vmb_V		07 38 06.2	
	comp=N,118nm,SNR=1.7						
EMIN				S	Sn	07 38 48.6	-0.4
EBAD	Badajoz	4.06	57	P	Pn	07 38 07.1	+1.1
EBAD				⇑*i*Vmb_V		07 38 10.2	
	comp=N,56nm,SNR=0.9						
EBAD				S	Sn	07 38 51.0	-1.2
PCAS	Casmilo, Conde	4.10	33	*e*Sn	Sn	07 38 52.1	-1.1
PCAS				A	A	07 38 56.4	
	comp=N,2.9nm,0.5s						
PMRV	Marv??o	4.21	47	*e*Pn	Pn	07 38 09.5	+1.5
PMRV				*e*Sn	Sn	07 38 53.0	-2.9
PMRV				A	A	07 38 56.6	
	comp=N,0.9nm,0.6s						
PCBR	Castelo Branco	4.44	43	*e*Sn	Sn	07 39 00.6	-0.9
ESPR	Espera	4.45	85	P	Pn	07 38 12.8	+1.6
ESPR				⇑*i*Vmb_V		07 38 13.2	
	comp=N,150nm,SNR=2.7						
ESPR				S	Sn	07 39 01.4	-0.3
PVIS	Viseu	4.90	33	*e*Sn	Sn	07 39 11.7	-1.4
ECAB	El Cabril	4.96	71	P	Pn	07 38 19.7	+1.3
ECAB				⇑*i*Vmb_V		07 38 20.8	
	comp=N,42nm,SNR=0.8						
ECAB				S	Sn	07 39 12.7	-1.9
POLO	Lamas de Olo	5.50	29	*e*Sn	Sn	07 39 23.9	-3.8
ELOB	Lobios	5.83	25	P	Pn	07 38 31.9	+1.6
ELOB				⇑*i*Vmb_V		07 38 32.3	
	comp=N,60nm,SNR=0.6						
ELOB				S	Sn	07 39 31.3	-4.6
OUK	Oukaimeden	6.15	151	P	Pn	07 38 35.0	0.0
OUK				S	Sn	07 39 38.7	-5.6
MD31	MD31	6.62	123	P	Pn	07 38 41.2	0.0
MD31				S	Sn	07 39 42.6	-13

DJA 29 07:41:54.9±0.6, 3°.5S±4°.×12°.8E±°, h13km±7km, M3.9/13, mb4.2/4, mB5.1/1, MLv3.8/13, Mw(mB)4.5/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.91	176	P	Pg	07 42 12.3	-0.3
MSAI	Masohi	0.98	126	P	Pb	07 42 13.4	-0.4
MSAI				S	Sn	07 42 28.5	+0.3
NLAI	Namlea	1.13	246	P	Pn	07 42 16.4	0.0
NLAI				S	Sn	07 42 32.3	+0.5
LBMI	Labuha	2.21	343	P	Pn	07 42 32.8	+1.5
LBMI				S	Sn	07 42 59.4	+0.9
SANI	Sanana	2.26	288	P	Pn	07 42 30.6	-1.3
SANI				S	Sn	07 42 56.7	-3.0
BNDI	Bandanaira	2.48	135	P	Pb	07 42 37.3	-2.1
SWI	Sorong	3.66	59	P	Pn	07 42 50.6	-0.6
FAKI	Fak Fak	4.12	92	P	Pn	07 42 56.5	-1.1
GTOI	Gorontalo	6.13	303	P	Pn	07 43 28.5	+3.2
	0.1nm5.5nm,0.5s						
APSI	Ampana	6.74	286	P	Pn	07 43 34.3	+0.7
	0.5nm1μm121nm,0.5s						
MRSI	Marisa	6.98	297	P	Pn	07 43 37.4	+0.5

IDC 29 08:25:42.7±4.6, 42°.94N×85°.69E, h0km, mbtmp3.2/4, ML2.6/3, Error ellipse: s-maj=66.9km s-min=29.1km az=37.0
NNC 29 08:25:50.8±3.3, 43°.12N×85°.42E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=26.4km s-min=13.1km az=138.0
SOME 29 08:25:54.7, 43°.22N×85°.15E, h15km
ISC 29 08:25:45.6±1.7, 42°.89N±0°.08×85°.51E±0°.07, h10km, n34, σ2s00/43, 7C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	4.40	291	*e*P	Pg	08 27 12.3	+2.5
	3.4nm,0.3s						
DJR				*e*S	Sg	08 28 07.5	+0.7
	8.2nm,0.3s						
DJR	Jarkent	4.40	291	Pg	Pg	08 27 12.3	+2.5
	3.4nm,0.3s						
DJR				Lg	Lg	08 28 07.5	
	8.2nm,0.3s						
PDGK	Podgornoye	4.43	278	Pg	Pg	08 27 11.5	+1.0
	1.7nm,0.4s						
PDGK				Lg	Lg	08 28 06.8	
	10nm,0.4s						
PDGK	Podgornoye	4.43	278	⇓Pg	Pb	08 27 05.5	+1.9
	1.1nm,0.3s						
PDGK				⇑Lg	Lg	08 28 07.4	
	22nm,0.7s						
SHLS	Shalkode	4.45	276	*e*P	Pb	08 27 06.9	+3.1
	11nm,0.6s						
SHLS				*e*S	Sb	08 27 59.0	+1.5
	23nm,0.4s						
SHLS	Shalkode	4.45	276	Pg	Pb	08 27 06.9	+3.1
	11nm,0.6s						
SHLS				Lg	Lg	08 27 59.0	
	23nm,0.4s						
MK31	Makanchi Array	4.53	331	⇑Pn	Pn	08 26 54.9	+0.7
	0.4nm,0.2s,baz=148,slow=14,SNR=25						
MK31				⇑Pg	Pb	08 27 07.1	+2.0
	0.4nm,0.3s,baz=143,slow=16,SNR=5.9						
MK31				Lg	Lg	08 28 10.2	
	2.9nm,0.3s,baz=138,slow=29,SNR=7.5						
MKAR	Makanchi Array	4.53	331	Pn	Pn	08 26 54.0	-0.2
	0.6nm,0.3s,baz=151,slow=14,SNR=32						
MKAR				Sn	Sn	08 27 44.5	-2.4
	1.5nm,0.3s,baz=142,slow=17,SNR=6.1						
MKAR				Lg	Lg	08 28 09.3	
	5.1nm,0.3s,baz=142,slow=29,SNR=14						
	1.2nm,0.2s						

ZSN	Zaisan	4.58	354	*e*P		Pg	08 27 14.2	+0.9
	3.8nm,0.2s							
ZSN				*e*S		Sg	08 28 11.3	-1.4
	11nm,0.3s							
ZSN	Zaisan	4.58	354	Pg		Pg	08 27 14.2	+0.9
	3.8nm,0.2s							
ZSN				Lg		Lg	08 28 11.3	
	11nm,0.3s							
MAKZ	Makanchi	4.66	329	⇑Pn		Pn	08 26 56.1	+0.1
	0.6nm,0.3s							
MAKZ				⇑Pg		Pb	08 27 10.1	+2.8
	0.7nm,0.3s							
MAKZ				⇑Lg		Lg	08 28 13.5	
	4.4nm,0.5s							
UZB	Uzynbulak	4.77	275	*e*P		Pg	08 27 16.9	0.0
	1.8nm,0.1s							
UZB				*e*S		Sg	08 28 15.6	-3.0
	9.0nm,0.4s							
UZB	Uzynbulak	4.77	275	Pg		Pg	08 27 16.9	0.0
	1.8nm,0.1s							
UZB				Lg		Lg	08 28 15.6	
	9.0nm,0.4s							
KPKS	Kokpek	5.03	279	*e*P		Pg	08 27 22.2	+0.3
	3.8nm,0.4s							
KPKS				*e*S		Sg	08 28 24.9	-2.1
	17nm,0.6s							
KPKS	Kokpek	5.03	279	Pg		Pg	08 27 22.2	+0.3
	3.8nm,0.4s							
KPKS				Lg		Lg	08 28 24.9	
	17nm,0.6s							
SATY	Saty	5.22	274	*e*P		Pg	08 27 26.1	+0.7
	3.9nm,0.4s							
SATY				*e*S		Sg	08 28 31.7	-1.4
	13nm,0.5s							
SATY	Saty	5.22	274	Pg		Pg	08 27 26.1	+0.7
	3.9nm,0.4s							
SATY				Lg		Lg	08 28 32.1	
	13nm,0.5s							
BLB	Baldybastay	5.26	286	*e*P		Pg	08 27 26.8	+0.6
	6.5nm,0.5s							
BLB				*e*S		Sg	08 28 32.5	-1.8
	8.8nm,0.4s							
BLB	Baldybastay	5.26	286	Pg		Pg	08 27 26.8	+0.6
	6.5nm,0.5s							
BLB				Lg		Lg	08 28 32.6	
	8.8nm,0.4s							
ARXS	Arharly	5.74	286	*e*P		Pg	08 27 36.3	+0.8
	2.7nm,0.6s							
ARXS				*e*S		Sg	08 28 48.7	-1.1
	6.7nm,0.5s							
ARXS	Arharly	5.74	286	Pg		Pg	08 27 36.3	+0.8
	2.7nm,0.6s							
ARXS				Lg		Lg	08 28 48.7	
	6.7nm,0.5s							
TNSS	Tian-Shan	6.29	274	*e*P		Pg	08 27 48.0	+2.0
	2.1nm,0.7s							
TNSS				*e*S		Sg	08 29 08.5	+1.1
	4.3nm,0.8s							
CHKK	Chushkaly	6.29	282	*e*P		Pg	08 27 47.1	+1.2
	1.3nm,0.1s							
CHKK				*e*S		Sg	08 29 07.4	0.0
	4.1nm,0.2s							
KUU	Kurty	6.76	282	*e*P		Pg	08 27 53.0	-2.0
	1.0nm,0.3s							
KUU				*e*S		Sg	08 29 16.9	-5.6
	4.6nm,0.6s							
DGS	Degeres	7.14	276	*e*P		Pg	08 28 00.4	-1.9
	2.1nm,0.5s							
DGS				*e*S		Sg	08 29 29.9	-4.8
	4.7nm,0.4s							
DGS	Degeres	7.14	276	Pg		Pg	08 28 00.4	-1.9
	2.1nm,0.5s							
DGS				Lg		Lg	08 29 30.0	
	4.7nm,0.4s							
KRBS	Karabastau	7.22	280	*e*P		Pg	08 28 03.2	-0.7
	1.1nm,0.3s							
KRBS				*e*S		Sg	08 29 34.6	-2.7
	1.1nm,0.4s							
KRBS	Karabastau	7.22	280	Pg		Pg	08 28 03.2	-0.7
	1.1nm,0.3s							
KRBS				Lg		Lg	08 29 34.6	
	1.1nm,0.4s							
TKM2	Tokmak 2	7.28	274	⇓Lg		Lg	08 29 39.1	
KURBB	Kurchatov Arra	9.10	331	Pn		Pn	08 27 54.7	-2.2
	baz=145,slow=12,SNR=2.0							
KURBB				Lg		Lg	08 30 33.5	
	0.1nm,0.3s,baz=188,slow=16,SNR=5.3							
	0.1nm,0.2s							
KURBB	Kurchatov Arra	9.10	331	⇑Lg		Lg	08 30 37.3	
	9.5nm,0.7s							
KURK	Kurchatov	9.14	331	⇓Lg		Lg	08 30 37.3	
	2.9nm,0.6s							
ZALV	Zalesovo Beam	11.08	358	Pn		Pn	08 28 20.7	-3.3
	0.2nm,0.3s,baz=203,slow=17,SNR=1.8							
	0.3nm,0.3s							
SONM	Songino Array	15.47	64	Pn		Pn	08 29 22.1	-1.8
	0.6nm,0.7s,baz=250,slow=12,SNR=4.7							

IDC 29 08:46:16.2±0.9, 2°.43N×92°.56E, h0km, mb4.3/12, mbtmp4.3/15, ML4.3/3, MS3.4/14, Error ellipse: s-maj=30.9km s-min=15.3km az=47.0
NEIC 29 08:46:21.3±1.3, 2°.5N±0°.1×92°.59E±0°.10, h32km±5km, mb4.6/31, Error ellipse: s-maj=17.9km s-min=12.6km az=205.0
ISC 29 08:46:21.0±0.6, 2°.44N±0°.09×92°.51E±0°.07, h35km, n65, σ1s22/57, mb4.6/26, MS3.2/11, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	5.19	103	Pn	Pn	08 47 34.1	-2.2
RPSI	Rantau Prapat	6.42	88	Pn	Pn	08 47 51.7	-1.5
PSI	Prapat	6.42	87	Pn	Pn	08 47 51.8	-1.5
	4.4nm,0.3s,baz=278,slow=6.3,SNR=31						
PSI				LR	LR	08 50 33.0	
	comp=Z,410nm,20.4s,baz=216,slow=40						
	28nm,0.6s						
KULM	Kulim	8.60	71	Pn	Pn	08 48 21.5	-1.6
PALK	Pallekele	12.70	293	Pn	Pn	08 49 18.7	-0.6
	2.0nm,0.3s,baz=209,slow=14,SNR=7.2						
PALK				Sn	Sn	08 51 28.7	-11
	2.2nm,0.3s,baz=301,slow=23,SNR=7.5						
PALK				LR	LR	08 53 21.0	
	comp=Z,213nm,20.9s,baz=214,slow=33						
	5.2nm,0.4s						
PALK	Pallekele	12.70	293		Pn	08 49 18.6	-0.7
CMAR	Chiang Mai Arr	17.12	21	P	Pn	08 50 15.2	-2.5
	0.5nm,0.3s,baz=219,slow=13,SNR=17						
CMAR				LR	LR	08 57 10.2	
	comp=Z,48nm,18.1s,baz=200,slow=38						
	2.8nm,0.6s						
CMAR	Chiang Mai Arr	17.12	21	P	Pn	08 50 17.7	0.0
CHTO	Chiang Mai	17.45	21	P	Pn	08 50 21.8	0.0
PCHI	Peechi	17.94	297	*e*P	P	08 50 30.7	+2.4
PCHI				*e*S	Sn	08 53 41.3	-5.8
CRAI	Chiangrai	19.27	23	P	P	08 50 42.9	0.0
SBUM	Sibu	19.70	90	P	P

KKAR	Karatay Array	44.98	337	P	P	08 54 33.2	+0.2	
KKAR				IAmb	IAmb	08 54 33.9		
	comp=Z,6.7nm,0.7s							
KKAR	Karatay Array	44.98	337	P	P	08 54 32.7	-0.2	
MK31	Makanchi Array	45.06	350	P	P	08 54 33.2	-0.3	
MK31				IAmb	IAmb	08 54 34.6		
	comp=Z,4.7nm,0.8s							
MKAR	Makanchi Array	45.06	350	P	P	08 54 33.8	+0.3	
	comp=Z,6.2nm,0.6s,baz=169,slow=8.7,SNR=63							
	comp=Z,6.2nm,0.6s							
MKAR	Makanchi Array	45.06	350	P	P	08 54 33.7	+0.1	
MAKZ	Makanchi	45.13	350	P	P	08 54 34.2	+0.1	
MAKZ				IAmb	IAmb	08 54 35.1		
	comp=Z,4.1nm,0.8s							
WB0	Warramunga Arr	46.66	120	P	P	08 54 46.4	-0.2	
WB0				IAmb	IAmb	08 54 46.7		
	comp=Z,3.8nm,0.6s							
WRA	Warramunga Arr	46.69	120	P	P	08 54 46.5	-0.3	
	comp=Z,2.4nm,0.7s,baz=299,slow=8.7,SNR=33							
	comp=Z,2.4nm,0.7s							
WRA	Warramunga Arr	46.69	120	P	P	08 54 46.2	-0.6	
WB2	Warramunga Arr	46.70	120	P	P	08 54 46.1	-0.8	
WB2				IAmb	IAmb	08 54 56.8		
	comp=Z,6.7nm,0.9s							
SONM	Songino Array	46.78	13	P	P	08 54 47.9	+0.6	
	comp=Z,2.4nm,0.6s,baz=193,slow=8.7,SNR=15							
SONM				LR	LR	09 14 55.4		
	comp=Z,29nm,20.9s,baz=102,slow=37							
	comp=Z,2.4nm,0.6s							
SONM	Songino Array	46.78	13	P	P	08 54 47.4	+0.2	
SONM				IAmb	IAmb	08 54 48.7		
	comp=Z,6.5nm,1.4s							
WR0	Warramunga Arr	46.87	120	P	P	08 54 47.4	-0.8	
WR0				IAmb	IAmb	08 54 58.7		
	comp=Z,7.9nm,1.0s							
GEYT	Alibeck	47.32	323	P	P	08 54 52.6	+1.1	
	comp=Z,5.8nm,0.8s,baz=148,slow=8.7,SNR=7.9							
	comp=Z,5.8nm,0.8s							
GEYT	Alibeck	47.32	323	P	P	08 54 52.3	+0.8	
GEYT				IAmb	IAmb	08 55 02.4		
	comp=Z,5.0nm,0.8s							
GYA0B	ALIBECK ARRAY	47.32	323	P	P	08 54 52.1	+0.6	
GYA0B				IAmb	IAmb	08 55 02.3		
	comp=Z,6.3nm,0.9s							
KSRS	Korea Array	47.65	39	LR	LR	09 16 54.9		
	comp=Z,25nm,19.1s,baz=45,slow=39							
ASAR	Alice Springs	47.91	125	P	P	08 54 56.0	-0.4	
	comp=Z,0.5nm,0.4s,baz=296,slow=7.7,SNR=12							
	comp=Z,0.5nm,0.4s							
ASAR	Alice Springs	47.91	125	P	P	08 54 55.8	-0.6	
ZAA0	Zalesovo Array	51.73	354	P	P	08 55 25.0	+0.3	
ZALV	Zalesovo Beam	51.73	354	P	P	08 55 25.0	+0.2	
	comp=Z,4.5nm,0.5s,baz=179,slow=6.9,SNR=19							
ZALV				LR	LR	09 19 36.9		
	comp=Z,14nm,21.7s,baz=92,slow=39							
	comp=Z,4.5nm,0.5s							
ZALV	Zalesovo Beam	51.73	354	P	P	08 55 24.9	+0.1	
ABKAR	Akbulak array	54.29	334	P	P	08 55 43.6	-0.1	
ABKAR	Akbulak array	54.29	334	P	P	08 55 43.6	-0.1	
ABKAR				IAmb	IAmb	08 55 44.5		
	comp=Z,6.6nm,0.9s							
KMBO	Kilima Mbogo	55.35	267	LR	LR	09 16 32.7		
	comp=Z,48nm,19.5s,baz=90,slow=33							
KLR	Kul'dur	57.37	30	P	P	08 56 06.7	+0.9	
	comp=Z,2.0nm,0.8s,baz=262,slow=8.4,SNR=4.4							
	comp=Z,2.0nm,0.8s							
STKA	Stephens Creek	57.70	130	P	P	08 56 09.1	+0.6	
	comp=Z,1.3nm,0.7s,baz=307,slow=11,SNR=3.1							
	comp=Z,1.3nm,0.7s							
KBZ	Khabaz	60.10	320	P	P	08 56 26.2	+1.3	
	comp=Z,1.7nm,0.3s,baz=134,slow=6.7,SNR=6.2							
	comp=Z,1.7nm,0.3s							
EIL	Elat	60.83	303	LR	LR	09 22 35.7		
	comp=Z,71nm,18.5s,baz=68,slow=36							
MBAR	Mbarara	61.83	268	LR	LR	09 21 18.6		
	comp=Z,44nm,18.1s,baz=62,slow=34							
LBTB	Lobatse	70.26	242	LR	LR	09 26 03.1		
	comp=Z,32nm,18.1s,baz=96,slow=34							
TIXI	Tiksi	72.84	11	LR	LR	09 31 36.0		
	comp=Z,46nm,18.8s,baz=182,slow=37							
TIXI	Tiksi	72.84	11	P	P	08 57 45.3	-0.5	
FINES	FINESS Array B	76.75	333	P	P	08 58 08.5	-0.2	
	comp=Z,1.5nm,0.7s,baz=102,slow=8.8,SNR=5.1							
	comp=Z,1.5nm,0.7s							
FINES	FINESS Array B	76.75	333	P	P	08 58 08.1	-0.6	
GERES	GERESS Array B	80.80	319	P	P	08 58 32.7	+1.4	
	comp=Z,0.9nm,0.4s,baz=108,slow=4.3,SNR=8.7							
	comp=Z,0.9nm,0.4s							
VNDA	Vanda	87.98	168	P	P	08 59 07.6	+0.6	
QSPA	South Pole Qui	92.38	180	P	P	08 59 29.1	+1.2	
QSPA				IAmb	IAmb	08 59 46.9		
	comp=Z,3.7nm,1.2s							
SNAA	Sanae	93.99	198	P	P	08 59 33.2	-2.0	
SNAA				IAmb	IAmb	08 59 48.1		
	comp=Z,2.9nm,1.3s							
TXAR	Lajitas Array	144.81	25	PKP	PKPdf	09 05 54.9	-0.3	
	comp=Z,12nm,0.9s,baz=198,slow=0.8,SNR=36							
TXAR	Lajitas Array	144.81	25	P	PKPdf	09 05 55.4	+0.1	

*NOU **29** 08:54:19.2, 17°.95S×178°.31W, h603km, mb5.0/74, Fiji Islands Region*
*NEIC **29** 08:54:19.5±2.6, 17°.9S±0°.1×178°.4W±0°.1, h592km±4km, mb4.7/77, Error ellipse: s-maj=19.6km s-min=14.7km az=143.0*
*IDC **29** 08:54:21.0±1.0, 17°.95S×178°.49W, h608km±10km, mb4.2/15, mbtmp5.1/17, Error ellipse: s-maj=22.3km s-min=11.5km az=150.0*

ISC 29 08:54:19.7±0.4, 17°.96S±0°.08×178°.43W±0°.06, h600km, n291, σ1§00/298, mb4.7/75, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	Tubou, Lakemba	0.46	234	P	P	08 55 29.9	-0.2
TAVE	Taveuni	1.89	311	P	P	08 55 34.3	+0.6
DGTI	Dogotuki	2.41	313	P	P	08 55 36.0	0.0
MSVF	Nonsavu	3.37	273	P	P	08 55 42.0	+0.9
	888nm,0.8s,baz=142,slow=3.0,SNR=687						
MSVF				S	S	08 56 50.5	+3.0
	56nm,0.9s,baz=18,slow=21,SNR=6.8						
MSVF	Nonsavu	3.37	273	P	P	08 55 41.8	+0.6
MSVF	Nonsavu	3.37	273	P	P	08 55 42.1	+0.9
FUTU	Fugatoga	3.65	5	P	P	08 55 43.5	+0.5
AFI	Afiamalu	7.56	59	P	P	08 56 12.7	-2.4
	134nm,0.6s,baz=158,slow=4.7,SNR=22						
AFI	Afiamalu	7.56	59	P	P	08 56 12.9	-2.2
NIUE	Niue	8.14	99	P	P	08 56 19.5	-0.9
NIUE	Niue	8.14	99	P	P	08 56 20.0	-0.4
RTV	Rentapao	12.52	269	P	P	08 57 04.2	+0.4
DVP	Devils Point	12.75	269	P	P	08 57 06.7	+0.6
MARNC	Mare, Loyalty	13.23	252	P	P	08 57 09.8	-1.0
LIFNC	LIFOU	13.81	256	P	P	08 57 15.2	-1.7
OUENC	Ouen Island, N	14.52	250	P	P	08 57 23.0	-0.5
DZM	Mont Dzumac	14.79	251	eP	P	08 57 26.0	-0.2
	77nm,1.1s						
DZM				eS	S	08 59 55.4	-3.0
	312nm,24.9s						
DZM	Mont Dzumac	14.79	251	P	P	08 57 26.6	+0.4
	26nm,0.8s,baz=83,slow=18,SNR=12						
DZM	Mont Dzumac	14.79	251	P	P	08 57 27.6	+1.4
KOUNC	Koumac, New Ca	16.53	258	P	P	08 57 42.8	+0.9
KOUNC	Koumac, New Ca	16.53	258	P	P	08 57 43.0	+1.0
OUZ	Omahuta	18.60	201	P	P	08 58 03.2	+2.6
OUZ				IAmb	IAmb	08 58 03.7	
	comp=Z,26nm,0.8s						
PPT2	Papeete2	27.46	94	eS	S	09 03 21.5	+1.6
	comp=Z,52nm,24.5s						
AUBSH	Beerwah State	27.85	246	P	P	08 59 23.0	0.0
AUWSH	Wavell State H	27.90	245	P	P	08 59 23.7	+0.3
GD1S	Gladstone Soft	28.96	253	P	P	08 59 33.8	+1.1
EIDS	Eidsvold	29.23	250	P	P	08 59 34.4	-0.5
EIDS	Eidsvold	29.23	250	P	P	08 59 34.5	-0.5
RK1H	Rockhampton Ha	29.54	254	P	P	08 59 37.3	-0.3
ARMA	Armidale	29.90	240	P	P	08 59 41.4	+0.7
ARMA				IAmb	IAmb	08 59 42.1	
	comp=Z,31nm,0.8s						
ARMA	Armidale	29.90	240	P	P	08 59 41.5	+0.7
AUPHS	Peel High Scho	30.71	239	P	P	08 59 48.4	+0.8
RMQ	Roma	31.47	248	P	P	08 59 54.1	0.0
AULRC	Lightning Ridg	32.70	243	P	P	09 00 04.3	-0.2
AUDCS	Dubbo College	32.89	238	P	P	09 00 06.6	+0.5
TV1H	Townsville Har	32.95	262	P	P	09 00 06.1	-0.6
CNB	Canberra Magne	33.38	232	P	P	09 00 10.7	+0.5
CTA	Charters Tower	33.42	261	P	P	09 00 10.4	-0.3
	comp=Z,38nm,0.6s,baz=98,slow=9.8,SNR=54						
	comp=Z,38nm,0.6s						
CTA	Charters Tower	33.42	261	P	P	09 00 10.4	-0.3
CTAO	Charters Tower	33.42	261	P	P	09 00 10.4	-0.3
CTAO	Charters Tower	33.42	261	P	P	09 00 10.2	-0.5
CAN	Canberra	33.66	233	P	P	09 00 12.6	+0.1
CAN				IAmb	IAmb	09 00 13.6	
	comp=Z,29nm,0.7s						
CAN	Canberra	33.66	233	P	P	09 00 12.6	+0.1
PMG	Port Moresby	34.45	280	P	P	09 00 20.2	+0.9
	comp=Z,147nm,0.8s,baz=83,slow=6.4,SNR=46						
	comp=Z,147nm,0.8s						
PMG	Port Moresby	34.45	280	P	P	09 00 20.2	+0.9
PMG	Port Moresby	34.45	280	P	P	09 00 20.3	+1.0
PMG	Port Moresby	34.45	280	P	P	09 00 20.2	+0.9
CMSA	Cobar Meteorol	35.11	240	P	P	09 00 24.7	+0.1
QLP	Quilpie	35.50	249	P	P	09 00 27.6	-0.3
COEN	Coen	37.09	270	P	P	09 00 41.6	+0.5
COEN	Coen	37.09	270	P	P	09 00 41.5	+0.5
TOO	Toolangi	37.12	231	P	P	09 00 41.3	+0.3
TOO	Toolangi	37.12	231	P	P	09 00 41.5	+0.5
CORO	Coronation Par	37.60	224	P	P	09 00 45.5	+0.8
BRAT	Ballarat	38.27	232	P	P	09 00 51.3	+1.0
STKA	Stephens Creek	38.59	241	P	P	09 00 53.4	+0.5
	comp=Z,52nm,0.8s,baz=91,slow=9.4,SNR=102						
	comp=Z,52nm,0.8s						
STKA	Stephens Creek	38.59	241	P	P	09 00 53.5	+0.5
STKA				IAmb	IAmb	09 00 54.4	
	comp=Z,14nm,0.9s						
STKA	Stephens Creek	38.59	241	P	P	09 00 53.4	+0.5
INKA	Innaminka	38.71	248	P	P	09 00 54.7	+0.7
ARPS	Mount Arapiles	39.61	234	P	P	09 01 01.0	0.0
	comp=Z,34nm,0.8s						
QIS	Mount Isa	39.63	259	P	P	09 01 00.6	-0.9
HTT	Hallett	41.10	240	P	P	09 01 13.1	0.0
LCRK	Leigh Creek	41.22	244	P	P	09 01 13.7	-0.2
WHYH	Whyalla	42.14	240	P	P	09 01 21.2	+0.1
OOD	Oodnadatta	43.18	248	P	P	09 01 29.8	+0.5
BBOO	Buckleboo	43.37	241	P	P	09 01 30.5	-0.2
BBOO	Buckleboo	43.37	241	P	P	09 01 30.5	-0.2
GENI	Genyem	43.37	286	P	P	09 01 30.8	-0.1
	comp=Z,6µmcomp=Z,155nm,0.8s						
GENI	Genyem	43.37	286	P	P	09 01 32.0	+1.1
WR0	Warramunga Arr	44.42	260	P	P	09 01 37.8	-1.2
WR0				IAmb	IAmb	09 01 39.1	
	comp=Z,61nm,1.4s						
WB0	Warramunga Arr	44.57	260	P	P	09 01 39.1	-1.0
WB2	Warramunga Arr	44.60	260	P	P	09 01 39.5	-0.8
WRAB	Tennant Creek	44.60	260	P	P	09 01 39.7	-0.7
WRAB	Tennant Creek	44.60	260	P	P	09 01 39.5	-0.8
WB1	Warrunga Ar.	44.60	260	P	P	09 01 39.5	-0.9
WRA	Warramunga Arr	44.61	260	P	P	09 01 39.4	-1.1
	comp=Z,31nm,0.7s,baz=94,slow=7.5,SNR=468						
WRA				ScP	ScP	09 06 07.8	+2.0
	comp=Z,1.3nm,1.0s,baz=101,slow=2.6,SNR=4.6						
	comp=Z,31nm,0.7s						
WRA	Warramunga Arr	44.61	260	P	P	09 01 38.5	-1.9
AS01	Alice Springs	44.72	254	P	P	09 01 40.8	-0.5
AS31	Alice Springs	44.76	254	P	P	09 01 41.1	-0.5
ASAR	Alice Springs	44.76	254	P	P	09 01 41.3	-0.3
	comp=Z,143nm,0.7s,baz=87,slow=8.5,SNR=1805						
ASAR				S	S	09 07 33.4	-2.8
	comp=Z,1.7nm,0.8s,baz=91,slow=16,SNR=11						
	comp=Z,143nm,0.7s						
ASAR	Alice Springs	44.76	254	P	P	09 01 40.5	-1.0
MULG	Mulgathing	44.77	245	P	P	09 01 41.1	-0.4
KDU	Kakadu	47.54	269	P	P	09 02 01.9	-0.7
MTN	Manton Dam	48.78	268	P	P	09 02 11.2	-0.6
MTN	Manton Dam	48.78	268	P	P	09 02 11.2	-0.6
WRKA	Warakurna	49.81	252	P	P	09 02 19.0	-0.3
FORT	Forrest	49.97	245	P	P	09 02 19.5	-0.9
FORT	Forrest	49.97	245	P	P	09 02 19.4	-0.9
	comp=Z,106nm,0.6s						
KNRA	Kununurra	50.47	264	P	P	09 02 23.6	-0.5
KNRA	Kununurra	50.47	264	P	P	09 02 23.7	-0.5
	comp=Z,83nm,1.0s						
FAKI	Fak Fak	50.57	281	P	P	09 02 24.5	-0.4
FAKI				IAmb	IAmb	09 02 25.7	
	comp=Z,32nm,1.2s						
FAKI	Fak Fak	50.57	281	P	P	09 02 22.9	-2.0
	comp=Z,25nm,1.2s						
SIJI	Sorong	52.23	283	P	P	09 02 37.0	+0.2
	comp=Z,49nm,0.5s,baz=84,slow=6.3,SNR=30						
	comp=Z,49nm,0.5s						
AAI	Ambon	54.11	279	P	P	09 02 48.3	-1.9
KMBL	Kambalda	55.27	244	P	P	09 02 57.1	-0.9
NLAI	Namlea	55.29	279	P	P	09 02 57.6	-0.8
	comp=Z,4µmcomp=Z,24nm,1.2s						
LBMI	Labuha	55.82	282	P	P	09 03 00.0	-2.0
	comp=Z,69nm,1.1s						
SOEI	Soe	56.06	270	P	P	09 03 04.4	+0.6
SOEI	Soe	56.06	270	P	P	09 03 03.8	0.0
	comp=Z,1µmcomp=Z,113nm,0.9s						
SOEI	Soe	56.06	270	P	P	09 03 05.0	+1.2
SANI	Sanana	56.74	280	P	P	09 03 07.1	-1.2
	comp=Z,57nm,0.9s						
SANI	Sanana	56.74	280	P	P	09 03 07.8	-0.5
PSA00	Pilbara Seismi	57.88	255	P	P	09 03 15.3	-0.7
PSA00				IAmb	IAmb	09 03 16.1	
	comp=Z,39nm,0.8s						
PSA00	Pilbara Seismi	57.88	255	P	P	09 03 15.5	-0.5
MBWA	Marble Bar	58.05	256	P	P	09 03 16.4	-0.6
MBWA				IAmb	IAmb	09 03 16.7	
	comp=Z,24nm,0.8s						
MBWA	Marble Bar	58.05	256	P	P	09 03 16.5	-0.6
MEEK	Meekatharra	58.40	249	P	P	09 03 18.7	-0.7
KLBR	Kellerberrin	58.79	244	P	P	09 03 21.2	-0.7
NWAO	Narrogin (SRO)	59.17	242	P	P	09 03 24.0	-0.4
LUWI	Luwuk	60.10	279	P	P	09 03 30.0	-0.9
	comp=Z,6µmcomp=Z,54nm,1.2s						
VNDA	Vanda	60.39	185	P	P	09 03 32.6	+0.9
	comp=Z,0.8nm,0.8s,baz=2.9,slow=9.0,SNR=4.2						
VNDA	Vanda	60.39	185	P	P	09 03 32.5	+0.9
MORW	Morawa	60.45	246	P	P	09 03 32.3	-0.7
GTOI	Gorontalo	60.46	281	P	P	09 03 33.2	0.0
	comp=Z,16nm,0.9s						
BSSI	Bau Bau, Buton	60.65	273	P	P	09 03 33.7	-0.8
	comp=Z,31nm,0.8s						
APSI	Ampana	61.20	279	P	P	09 03 37.2	-0.9
	comp=Z,898nmcomp=Z,86nm,1.0s						
MRSI	Marisa	61.40	281	P	P	09 03 38.3	-1.1
BNSI	Bone	61.53	275	P	P	09 03 39.0	-1.2
	comp=Z,26nm,1.2s						
SPSI	Sidrap Palu	61.98	275	P	P	09 03 42.2	-1.0
	comp=Z,20nm,0.8s						
PLAI	Plampang	62.48	269	P	P	09 03 45.6	-0.8
	comp=Z,691nmcomp=Z,75nm,1.0s						
PLAI	Plampang	62.48	269	P	P	09 03 45.9	-0.5
TOLI2	Tolitoli	62.71	281	P	P	09 03 48.9	+1.0
TOLI2	Tolitoli	62.71	281	P	P	09 03 47.9	0.0
GIRL	Giralia	62.86	253	P	P	09 03 49.1	+0.4
MPSI	Mapaga	63.27	280	P	P	09 03 50.5	-0.9
	comp=Z,590nmcomp=Z,29nm,0.9s						
TWSI	Taliwang, Sumb	63.35	269	P	P	09 03 50.7	-1.3
	comp=Z,795nmcomp=Z,71nm,1.1s						
JAGI	Jajag, Banyuwa	66.02	269	P	P	09 04 06.5	-2.3
	comp=Z,66nm,1.0s						
JAGI	Jajag, Banyuwa	66.02	269	P	P	09 04 07.6	-1.2
GMJI	Gumukmas	66.75	269	P	P	09 04 11.3	-1.9
	comp=Z,34nm,0.6s						
QSPA	South Pole Qui	72.09	180	P	P	09 04 45.0	+0.7
BBJI	Bungbulang	72.49	268	P	P	09 04 46.9	-0.5
KSM	Kuching	72.68	277	P	P	09 04 48.1	-0.3
KSM				IAmb	IAmb	09 04 50.0	
	comp=Z,45nm,0.9s						
KSM	Kuching	72.68	277	P	P	09 04 49.1	+0.7
LEM	Lembang	72.70	268	P	P	09 04 47.8	-1.0
SAO	San Andreas Ge	76.47	44	P	P	09 05 10.3	+1.2
SAO				IAmb	IAmb	09 05 11.8	
	comp=Z,24nm,1.0s						
SII	Sitkinak Islan	76.98	13	P	P	09 05 11.9	+0.4
ARVC	Arvin	77.33	46	P	P	09 05 14.9	+1.0
	baz=237						
VES	Vestal, Richgr	77.54	46	P	P	09 05 16.0	+1.0
	baz=237						
MURC	Murrieta	77.67	48	P	P	09 05 17.1	+1.4
	baz=239						
BFSC	Mount Baldy Ra	77.67	48	P	P	09 05 16.4	+0.5
	baz=238						
EDW2	Edwards Air Fo	77.78	47	P	P	09 05 17.2	+0.9
	baz=238,SNR=11						
MONP2	Monument Peak	77.86	49	P	P	09 05 18.2	+1.2
	baz=239						
ISA	Isabella, Lake	77.86	46	P	P	09 05 18.0	+1.2
ISA				IAmb	IAmb	09 05 18.9	
	comp=Z,23nm,1.0s						
	comp=Z,9.0nm,0.5s						
IKP	In-Ko-Pah, Jac	77.97	50	P	P	09 05 19.0	+1.5
	baz=240						
AFDM	Forest Hills D	78.03	42	P	P	09 05 18.6	+1.0
ORV	Oroville	78.04	41	P	P	09 05 18.5	+1.0
MDJ	Mudanjiang	78.22	325	P	P	09 05 19.5	+1.1
MDJ				pP	pP	09 07 20.5	-2.1
MDJ				sP	sP	09 08 22.0	-1.3
MDJ				S	S	09 14 29.3	+4.1
MDJ	Mudanjiang	78.22	325	sS	sS	09 18 06.3	-1.6
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,300nm,4.7s						
CWC	Cottonwood Cre	78.55	46	P	P	09 05 21.7	+1.1
	baz=238						
OMMB	Old Mammoth Mi	78.57	44	P	P	09 05 22.1	+1.3
YBH	Yreka Blue Hor	78.58	39	P	P	09 05 21.8	+1.3
BELC	Belle Mtn. Jos	78.73	49	P	P	09 05 22.8	+1.2
	baz=239						
Q18K	Katmai Hardscr	78.73	12	P	P	09 05 20.1	-0.8
	baz=203						
MPMC	Manual Prospec	78.75	46	P	P	09 05 22.8	+1.1
	baz=238,SNR=6.3						
GSC	Goldstone, Bar	78.83	47	P	P	09 05 23.1	+1.1
	baz=238						
HEC	Hector, Ludlow	78.92	48	P	P	09 05 23.2	+0.8
	baz=239						
PNTR	Pine Nut	78.99	43	P	P	09 05 24.1	+1.2
PNTR				IAmb	IAmb	09 05 25.0	
	comp=Z,25nm,0.8s						
GLA	Glamis	79.10	50	P	P	09 05 24.9	+1.5
	baz=240						
GMRC	Granite Mounta	79.37	48	P	P	09 05 25.9	+1.0
	baz=239						
FURC	Furnace Creek,	79.40	46	P	P	09 05 25.7	+1.0
	baz=238						
NVAR	Mina Array Bea	79.47	44	P	P	09 05 26.4	+0.9
	comp=Z,8.5nm,0.8s,baz=224,slow=8.9,SNR=51						
	comp=Z,8.5nm,0.8s						
NVAR	Mina Array Bea	79.47	44	P	P	09 05 25.9	+0.4
TUQ	Turquoise Moun	79.52	47	P	P	09 05 27.3	+1.7
	baz=239						
O18K	Koktuh Hills	79.81	12	P	P	09 05 25.7	-0.8
O18K				IAmb	IAmb	09 05 27.1	
	comp=Z,52nm,1.1s						
O18K	Koktuh Hills	79.81	12	P	P	09 05 26.2	-0.3
	baz=202,SNR=5.3						
TPNV	Topopah Spring	80.07	46	P	P	09 05 29.6	+1.1
	baz=239,SNR=5.6						
MOD	Modoc Plateau	80.14	40	P	P	09 05 29.6	+0.9
MOD				IAmb	IAmb	09 05 30.6	
	comp=Z,19nm,0.9s						
O19K	Port Alsworth	80.30	12	P	P	09 05 28.5	-0.4
O19K				IAmb	IAmb	09 05 29.5	
	comp=Z,45nm,1.2s						
O19K	Port Alsworth	80.30	12	P	P	09 05 28.5	-0.4
	baz=203,SNR=6.1						
ILSW	Iliamna Southw	80.34	13	P	P	09 05 28.8	-0.6
ILSW				IAmb	IAmb	09 05 29.6	
	comp=Z,26nm,1.1s						
PINE	Pine Mountain	80.84	38	P	P	09 05 33.6	+1.2
PINE				IAmb	IAmb	09 05 34.7	
	comp=Z,39nm,1.1s						
PRN	Pahroc Range	81.12	46	P	P	09 05 35.4	+1.4
PRN				IAmb	IAmb	09 05 36.3	
	comp=Z,17nm,0.9s						
R11A	Troy Canyon, C	81.24	45	P	P	09 05 35.5	+0.9
R11A	Troy Canyon, C	81.24	45	P	P	09 05 35.2	+0.6
	baz=239,SNR=8.9						
WVOR	Wild Horse Val	81.46	40	P	P	09 05 36.5	+1.0
WVOR				IAmb	IAmb	09 05 37.5	
	comp=Z,27nm,1.1s						
TUC	Tucson	81.75	52	P	P	09 05 38.8	+1.6
	baz=243						
M19K	Big River Lodg	81.86	11	P	P	09 05 36.8	-0.2
	baz=203						
L19K	White Mountain	82.03	11	P	P	09 05 39.0	+1.2
	baz=203						
TTA	Tatalina	82.53	10	P	P	09 05 40.6	+0.2
	baz=201						
U15A	North Rim	82.57	48	P	P	09 05 42.8	+1.3
U15A				IAmb	IAmb	09 05 43.9	
	comp=Z,26nm,1.0s						
KNK	Knik Glacier	82.65	14	P	P	09 05 40.7	-0.3
	baz=209						
PMR	Palmer	82.66	14	P	P	09 05 40.4	-0.5
	baz=208						
G08A	Pilot Rock	82.86	38	P	P	09 05 43.7	+1.2
G08A				IAmb	IAmb	09 05 44.4	
	comp=Z,20nm,1.3s						
CUT	Chulitna	83.13	13	P	P	09 05 42.8	-0.4
M23K	Glacier View	83.16	14	P	P	09 05 43.1	-0.3
	baz=209						
BMRM	Bremner River	83.21	16	P	P	09 05 43.6	-0.2
	baz=212						
K20K	Telida	83.26	11	P	P	09 05 43.2	-0.7
K20K	Telida	83.26	11	P	P	09 05 44.0	0.0
	baz=203						
SCM	Sheep Creek Mo	83.28	14	P	P	09 05 44.2	0.0
	baz=210						
CAST	Castle Rocks	83.68	12	P	P	09 05 44.6	-1.5
	baz=205						
N25K	Chitina, Valde	83.76	16	P	P	09 05 46.

WRH				IAmb	IAmb	09 05 54.9	
	comp=Z,30nm,1.4s						
Q32M	**Nakina River**	**85.44**	**22**	P	**P**	**09 05 55.9**	**+1.0**
	baz=224						
NEW	**Newport**	**85.56**	**36**	P	**P**	**09 05 55.7**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=203,slow=5.8,SNR=7.9						
	comp=Z,3.5nm,0.8s						
NEW	**Newport**	**85.56**	**36**	P	**P**	**09 05 56.0**	**+0.4**
	baz=237						
BCAR	**Beaver Creek A**	**85.70**	**16**	P	**P**	**09 05 56.3**	**+0.5**
IMAR	**Indian Mountai**	**85.74**	**10**	P	**P**	**09 05 56.1**	**+0.2**
XLT	**XiLinHaoTe**	**85.78**	**319**	*e*P	**P**	**09 05 56.8**	**+0.1**
XLT				pP	pP	09 08 07.0	+2.6
XLT				sP	sP	09 09 02.5	-1.7
XLT	**XiLinHaoTe**	**85.78**	**319**	sS	sS	09 19 26.8	-0.9
XLT				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,230nm,5.4s						
COLA	**College**	**85.83**	**13**	P	**P**	**09 05 55.6**	**-0.7**
SCRK	**Sand Creek**	**85.92**	**14**	P	**P**	**09 05 55.8**	**-1.1**
IL31		**85.94**	**13**	P	**P**	**09 05 56.0**	**-0.9**
IL31				IAmb	IAmb	09 05 57.4	
	comp=Z,14nm,1.2s						
TX31	**Lajitas Ar. Si**	**86.04**	**58**	P	**P**	**09 05 55.1**	**-3.2**
TX32	**Lajitas Array**	**86.04**	**58**	P	**P**	**09 05 55.1**	**-3.2**
TX32				IAmb	IAmb	09 06 01.2	
	comp=Z,22nm,1.1s						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**09 06 00.0**	**+1.7**
	comp=Z,12nm,0.8s,baz=220,slow=5.4,SNR=72						
	comp=Z,12nm,0.8s						
M29M	**Somme Creek**	**86.10**	**17**	P	**P**	**09 05 58.3**	**+0.4**
	baz=218						
J26L	**Joseph Creek**	**86.46**	**14**	P	**P**	**09 05 59.2**	**-0.2**
J26L				IAmb	IAmb	09 06 00.3	
	comp=Z,6.7nm,0.8s						
J26L	**Joseph Creek**	**86.46**	**14**	P	**P**	**09 06 00.1**	**+0.6**
	baz=213						
M30M	**Minto, Yukon**	**86.69**	**18**	P	**P**	**09 06 01.0**	**+0.4**
	baz=219						
REDW	**Red Top Meadow**	**86.84**	**42**	P	**P**	**09 06 02.8**	**+0.9**
REDW				IAmb	IAmb	09 06 04.0	
	comp=Z,18nm,1.1s						
PRP	**Porcupine Dome**	**86.88**	**13**	P	**P**	**09 06 00.9**	**-0.6**
	baz=211						
SNOW	**Snow King Moun**	**86.95**	**42**	P	**P**	**09 06 02.9**	**+0.4**
SNOW				IAmb	IAmb	09 06 04.6	
	comp=Z,20nm,1.1s						
S22A	**4UR Ranch, Cre**	**87.06**	**49**	P	**P**	**09 06 04.2**	**+1.1**
	baz=245						
DAWY	**Dawson**	**87.14**	**16**	P	**P**	**09 06 03.2**	**+0.6**
	baz=217						
I26K	**Coal Creek Min**	**87.23**	**14**	P	**P**	**09 06 02.9**	**0.0**
I26K	**Coal Creek Min**	**87.23**	**14**	P	**P**	**09 06 03.3**	**+0.3**
	baz=213						
EGAK	**Eagle**	**87.27**	**15**	P	**P**	**09 06 03.0**	**-0.2**
EGAK				IAmb	IAmb	09 06 04.0	
	comp=Z,10nm,1.1s						
HHC	**Hu-ho-hao-te**	**87.30**	**314**	*e*P	**P**	**09 06 03.5**	**-0.5**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,5.0s						
YHL	**Hebgen Lake**	**87.34**	**41**	P	**P**	**09 06 05.7**	**+1.4**
YHL				IAmb	IAmb	09 06 07.6	
	comp=Z,28nm,1.3s						
BW06	**Boulder Array**	**87.40**	**43**	P	**P**	**09 06 04.8**	**+0.2**
BW06				IAmb	IAmb	09 06 05.9	
	comp=Z,11nm,1.1s						
BW06	**Boulder Array**	**87.40**	**43**	P	**P**	**09 06 05.1**	**+0.5**
	baz=243						
PD31	**Pinedale Array**	**87.40**	**43**	P	**P**	**09 06 05.2**	**+0.6**
PD31				IAmb	IAmb	09 06 05.9	
	comp=Z,9.6nm,1.1s						
PDAR	**Pinedale Array**	**87.40**	**43**	P	**P**	**09 06 04.7**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=220,slow=3.0,SNR=38						
PDAR				PP	**PP**	**09 09 38.4**	**-2.6**
	comp=Z,0.9nm,0.9s,baz=243,slow=6.5,SNR=5.7						
	comp=Z,5.5nm,0.7s						
BOZ	**Bozeman (W)**	**87.42**	**40**	P	**P**	**09 06 05.4**	**+0.9**
	baz=241,SNR=7.4						
COLD	**Coldfoot**	**87.47**	**11**	P	**P**	**09 06 04.3**	**+0.3**
	baz=207						
FARO	**Faro, Yukon**	**87.48**	**19**	P	**P**	**09 06 03.4**	**-0.8**
G24K	**Hadweenzic Riv**	**87.51**	**12**	P	**P**	**09 06 03.9**	**-0.4**
	baz=209						
MAYO	**Mayo, Yukon**	**87.74**	**18**	P	**P**	**09 06 06.5**	**+1.1**
	baz=220						
KMI	**Kunming**	**87.84**	**297**	⇓P	**P**	**09 06 08.5**	**+1.4**
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
F24K	**Squaw Lake**	**88.15**	**11**	P	**P**	**09 06 07.5**	**+0.2**
	baz=209						
E23K	**Chandalar**	**88.31**	**10**	P	**P**	**09 06 08.5**	**+0.4**
	baz=207						
I29M	**Ogilvie Camp,**	**88.46**	**16**	P	**P**	**09 06 08.6**	**-0.1**
	baz=218						
G26K	**Porcupine Rive**	**88.47**	**13**	P	**P**	**09 06 09.1**	**+0.4**
	baz=213						
E24K	**Your Creek**	**88.53**	**11**	P	**P**	**09 06 09.3**	**+0.3**
	baz=208						
MSTX	**Muleshoe**	**88.54**	**54**	P	**P**	**09 06 10.4**	**+0.5**
	baz=247						
BMAR	**Burnt Mountain**	**88.72**	**12**	P	**P**	**09 06 10.3**	**+0.4**
TOLK	**Toolik Lake Re**	**88.84**	**10**	P	**P**	**09 06 09.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**88.89**	**290**	P	**P**	**09 06 13.3**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=112,slow=2.8,SNR=13						
	comp=Z,2.3nm,0.3s						
D23K	**Nanushuk River**	**88.95**	**10**	P	**P**	**09 06 11.5**	**+0.6**
	baz=206						
N23A	**Red Feather La**	**89.01**	**46**	P	**P**	**09 06 13.4**	**+1.3**
	baz=245						
E25K	**Arctic Village**	**89.11**	**12**	P	**P**	**09 06 12.0**	**+0.3**
	baz=211						
PZH	**PanZhiHua**	**89.17**	**298**	P	**P**	**09 06 13.5**	**+0.4**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,4.3s						
EPYK	**Eagle Plains**	**89.66**	**16**	P	**P**	**09 06 14.3**	**0.0**
	baz=219						
C23K	**Itkillik River**	**89.75**	**9**	P	**P**	**09 06 14.8**	**+0.3**
	baz=206						
E27K	**Coleen River**	**89.97**	**13**	P	**P**	**09 06 16.3**	**+0.6**
	baz=215						
TROLL	**Troll, Antarti**	**90.25**	**180**	P	**P**	**09 06 16.7**	**-0.6**
G30M	**tAoh Zraii Nji**	**90.26**	**15**	P	**P**	**09 06 16.9**	**-0.1**
	baz=220						
ABTX	**Abilene, Hawle**	**90.47**	**56**	P	**P**	**09 06 19.4**	**+0.5**
	baz=249						
SNAA	**Sanae**	**90.54**	**179**	P	**P**	**09 06 17.5**	**-1.0**
SNAA	**Sanae**	**90.54**	**179**	P	**P**	**09 06 17.9**	**-0.6**
VNA3	**Neumayer Olymp**	**90.69**	**176**	P	**P**	**09 06 18.9**	**-0.2**
C27K	**Jago River**	**90.75**	**12**	P	**P**	**09 06 19.5**	**+0.3**
	baz=213						
INK	**Inuvik**	**91.94**	**15**	P	**P**	**09 06 24.4**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=187,slow=3.0,SNR=15						
	comp=Z,2.5nm,0.6s						
INK	**Inuvik**	**91.94**	**15**	P	**P**	**09 06 24.0**	**-0.6**
INK				IAmb	IAmb	09 06 25.0	
	comp=Z,6.9nm,1.2s						
INK	**Inuvik**	**91.94**	**15**	P	**P**	**09 06 24.5**	**-0.3**
	baz=222						
YKA	**Yellowknife Ar**	**94.39**	**25**	P	**P**	**09 06 35.7**	**-0.3**
	comp=Z,1.9nm,1.0s,baz=238,slow=4.8,SNR=11						
	comp=Z,1.9nm,1.0s						
FINES	**FINESS Array B**	**133.24**	**344**	PKP	**PKPdf**	**09 12 27.0**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=64,slow=6.3,SNR=4.2						
FINES				SKPbc	**SKPab**	**09 15 02.8**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=34,slow=0.5,SNR=6.6						
BRTR	**Keskin Array B**	**144.81**	**315**	PKP	**PKPab**	**09 12 49.9**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=59,slow=3.1,SNR=6.0						
CLL	**Collm**	**145.51**	**347**		**PKPab**	**09 12 51.5**	**-1.9**
CLL	**Collm**	**145.51**	**347**	*i* PKPbc	**PKPab**	**09 12 52.0**	**-1.4**
	comp=Z,11nm,0.8s						
CLL				*i* PKPab	**PKiKP**	**09 12 53.1**	**-1.5**
	comp=Z,8.0nm,0.9s						
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	**PKiKP**	**09 12 58.0**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=29,slow=3.0,SNR=12						
ESDC	**Sonseca Array**	**157.84**	**11**	PKPab	**PKPab**	**09 13 45.5**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=11,slow=3.2,SNR=5.3						
ESDC	**Sonseca Array**	**157.84**	**11**	PKPdf	**PKPdf**	**09 13 06.7**	**-2.3**
ESDC					**PKPab**	**09 13 45.5**	**-0.2**

MAN 29 08:55:19.5, 6°.10N×123°.59E, h44km, mb3.6, ML2.4, MS1.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**1.74**	**59**	*e*P		08 55 48.4	+1.1
KCP				*i* S	Sn	08 56 11.8	+3.6

*IDC **29** 09:11:09.4±1.6, 9°.67N×126°.39E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=155.5km s-min=19.4km az=68.0*
*NEIC **29** 09:11:11.0±2.3, 9°.7N±0°.1×126°.1E±0°.1, h10km±1km, mb4.3/10, Error ellipse: s-maj=24.4km s-min=19.2km az=88.0*
*MAN **29** 09:11:18.3, 9°.48N×126°.13E, h26km, mb4.5, ML3.4, MS3.2*
ISC 29 09:11:10.8±1.8, 9°.63N±0°.05×126°.18E±0°.06, h10km±10km, n39, σ1s22/43, mb4.1/13, 8C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.70**	**283**	⇑*e*P		09 11 31.9	+5.1
SCPH				*i* S	Sn	**09 11 41.5**	**+3.9**
BIPH	**Bislig**	**1.45**	**173**	⇑*e*P	**Pg**	**09 11 40.1**	**+1.5**
BIPH				*i* S	Sn	**09 11 55.9**	**-0.2**
GHBP	**Garcia Hernand**	**1.83**	**270**	⇑*i*P	**Pg**	**09 11 47.7**	**+1.7**
CGP	**Cagayan de Oro**	**1.88**	**232**	⇑*e*P	**Pg**	**09 11 46.8**	**0.0**
CGP				*e*S	**Sb**	**09 12 08.5**	**-0.2**
TABP	**Talibon, Bohol**	**1.88**	**284**	⇓*e*P	**Pb**	**09 11 45.6**	**+0.4**
TABP				*i* S	**Sb**	**09 12 08.8**	**0.0**
LLP	**Lapu-Lapu**	**2.29**	**288**	*e*P	**Pg**	**09 11 55.1**	**+0.5**
LLP				*e*S	**Sg**	**09 12 23.4**	**-1.0**
TBP	**Tagbilaran**	**2.29**	**272**	⇓*e*P	**Pg**	**09 11 54.2**	**-0.5**
TBP				*i* S	**Sb**	**09 12 21.3**	**+0.7**
LSIP	**Lazi, Siquijor**	**2.57**	**259**	⇑*e*P	**Pb**	**09 11 57.6**	**+0.7**
KCP	**Kidapawan**	**2.82**	**203**	⇑*e*P	**Pb**	**09 12 01.4**	**+0.1**
KCP				*i* S	**Sb**	**09 12 34.2**	**-1.7**
DCPH	**Dipolog City**	**2.98**	**250**	⇑*e*P	**Pb**	**09 12 03.2**	**-0.9**
CTBH	**Cotabato--PC H**	**3.06**	**219**	⇓*i*P	**Pb**	**09 12 04.7**	**-0.7**
CTBH				*i* S	**Sn**	**09 12 35.8**	**-0.2**
RCP	**Roxas**	**3.89**	**300**	⇑*e*P	**Pb**	**09 12 18.0**	**-1.5**
MYLDM	**Lahad Datu**	**8.81**	**240**	Pn	**Pn**	**09 13 17.0**	**-1.2**
TOLI2	**Tolitoli**	**10.02**	**213**	Pn	**Pn**	**09 13 36.6**	**+1.7**
LUWI	**Luwuk**	**11.13**	**198**	Pn	**Pn**	**09 13 48.8**	**-1.3**
WB0	**Warramunga Arr**	**30.31**	**165**	P	**P**	**09 17 22.8**	**+0.3**
WB0				IAmb	IAmb	09 17 31.9	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**30.46**	**165**	P	**P**	**09 17 23.8**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=345,slow=9.2,SNR=6.4						
	comp=Z,0.1nm,0.4s						
WRA	**Warramunga Arr**	**30.46**	**165**	P	**P**	**09 17 24.0**	**+0.1**
WB2	**Warramunga Arr**	**30.47**	**165**	P	**P**	**09 17 24.3**	**+0.4**
WB2				IAmb	IAmb	09 17 42.8	
	comp=Z,6.7nm,1.2s						
WR0	**Warramunga Arr**	**30.53**	**164**	P	**P**	**09 17 24.2**	**-0.4**
WR0				IAmb	IAmb	09 17 46.5	
	comp=Z,8.6nm,1.4s						
AS31	**Alice Springs**	**33.94**	**167**	P	**P**	**09 17 55.6**	**+1.2**
ASAR	**Alice Springs**	**33.94**	**167**	P	**P**	**09 17 54.8**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=349,slow=7.4,SNR=15						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**33.94**	**167**	P	**P**	**09 17 55.6**	**+1.2**
H11S3	**WAKE ISLAND Hy**	**40.19**	**73**	T	T	10 01 52.2	
	baz=262,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**40.20**	**73**	T	T	10 01 46.3	
	baz=262,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**40.20**	**73**	T	T	10 01 46.4	
	baz=262,slow=75,SNR=29						
BBOO	**Buckleboo**	**43.24**	**168**	P	**P**	**09 19 13.8**	**+1.4**
BBOO				IAmb	IAmb	09 19 19.5	
	comp=Z,9.1nm,1.1s						
MK31	**Makanchi Array**	**52.48**	**323**	P	**P**	**09 20 22.9**	**-1.1**
MK31				IAmb	IAmb	09 20 27.1	
	comp=Z,2.8nm,1.4s						
MKAR	**Makanchi Array**	**52.48**	**323**	P	**P**	**09 20 25.3**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=124,slow=7.2,SNR=12						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**52.48**	**323**	P	**P**	**09 20 23.0**	**-1.0**
KURBB	**Kurchatov Arra**	**56.55**	**326**	P	**P**	**09 20 54.3**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=127,slow=7.0,SNR=5.7						
	comp=Z,0.9nm,0.5s						
KKAR	**Karatay Array**	**58.64**	**315**	P	**P**	**09 21 06.5**	**-1.9**
BVAR	**Borovoye Array**	**62.14**	**326**	P	**P**	**09 21 31.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=116,slow=10,SNR=3.9						
	comp=Z,0.8nm,0.6s						
ABKAR	**Akbulak array**	**67.30**	**319**	P	**P**	**09 22 06.3**	**+0.5**
ABKAR				IAmb	IAmb	09 22 16.2	
	comp=Z,0.7nm,0.8s						
P18K	**Big Mountain,**	**75.96**	**31**	P	**P**	**09 22 57.8**	**-0.1**
ARCES	**ARCESS Array B**	**84.76**	**340**	P	**P**	**09 23 45.9**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=69,slow=7.8,SNR=4.0						
	comp=Z,1.8nm,0.7s						
FIA1	**FINESS Array S**	**86.41**	**332**	P	**P**	**09 23 51.2**	**-2.1**
FINES	**FINESS Array B**	**86.41**	**332**	P	**P**	**09 23 53.7**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=64,slow=4.8,SNR=3.6						
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**86.41**	**332**	P	**P**	**09 23 51.5**	**-1.8**

WEL 29 09:33:04.2±0.3, 42°S±3°×17°4E±°, h10km±2km, M3.6/41, ML3.8/23, MLv3.6/41, Error ellipse: s-maj=0.0km s-min=0.0km az=139.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.06**	**261**	P	Pg	09 33 07.3	+1.0
CMWZ				S	Sg	09 33 09.9	+2.0
BSWZ	**Blackbirch Sta**	**0.31**	**275**	P	Pg	09 33 10.9	+0.6
BSWZ				S	Sb	09 33 15.9	-1.0
TUWZ	**Tuamarina**	**0.40**	**320**	P	Pb	09 33 12.8	-0.6
TUWZ				S	Sb	09 33 19.1	-0.4
TCW	**Tory Channel**	**0.53**	**359**	P	Pg	09 33 15.0	+0.5
TCW				S	Sb	09 33 22.7	-0.5
WEL	**Wellington**	**0.58**	**39**	P	Pb	09 33 16.4	+0.1
PLWZ	**Palliser**	**0.74**	**77**	P	Pb	09 33 19.5	+0.3
MSWZ	**Moikau Station**	**0.79**	**66**	P	Pb	09 33 20.5	+0.6
NNZ	**Nelson**	**0.86**	**307**	P	Pg	09 33 20.7	0.0
CAW	**Cannon Point**	**0.86**	**43**	P	Pb	09 33 21.2	0.0
KHZ	**Kahutara**	**0.88**	**219**	P	Pb	09 33 21.6	+0.2
PAWZ	**Paruwai Farm**	**0.93**	**68**	P	Pb	09 33 22.2	-0.1
DUWZ	**D'Urville Isla**	**0.98**	**343**	P	Pb	09 33 23.4	+0.2
KIW	**Kapiti Island**	**1.00**	**28**	P	Pg	09 33 23.4	0.0
THZ	**Tophouse**	**1.03**	**268**	P	Pg	09 33 24.1	0.0
MTW	**Mount Morrison**	**1.08**	**58**	P	Pb	09 33 24.4	-0.5
TRWZ	**Traveller**	**1.10**	**72**	P	Pb	09 33 24.3	-1.0
OGWZ	**Otaki Gorge**	**1.14**	**36**	P	Pb	09 33 25.8	-0.1
MRNZ	**Matariki Terra**	**1.20**	**286**	P	Pg	09 33 27.2	0.0
TKNZ	**Takaka Hill**	**1.22**	**305**	P	Pn	09 33 27.2	-0.1
HOWZ	**Holdsworth Sta**	**1.25**	**48**	P	Pn	09 33 27.1	-0.5
TMWZ	**Te Maipa**	**1.36**	**63**	P	Pn	09 33 28.1	-1.1
MRZ	**Mangatainoka R**	**1.45**	**42**	P	Pn	09 33 29.8	-0.6
GVZ	**Greta Valley S**	**1.54**	**217**	P	Pn	09 33 30.4	-1.2
TIWZ	**Tintock**	**1.54**	**52**	P	Pn	09 33 30.7	-1.0
QRZ	**Quartz Range**	**1.61**	**304**	P	Pb	09 33 33.6	-0.3
OHWZ	**Ohakea**	**1.72**	**27**	P	Pb	09 33 35.3	-0.5
PRWZ	**Pori Road**	**1.74**	**48**	P	Pn	09 33 33.5	-0.8
POWZ	**Post Office Ro**	**1.75**	**40**	P	Pn	09 33 33.9	-0.7
LTZ	**Lake Taylor**	**1.82**	**235**	P	Pn	09 33 34.7	-0.8
DSZ	**Denniston Nort**	**1.86**	**269**	P	Pb	09 33 37.8	-0.4
AMCZ	**Amberley**	**1.88**	**220**	P	Pn	09 33 34.7	-1.5
DVHZ	**Dannevirke**	**2.02**	**45**	P	Pg	09 33 42.1	-0.9
WAZ	**Wanganui**	**2.05**	**15**	P	Pb	09 33 40.6	-1.0
TSZ	**Takapari Road**	**2.10**	**38**	P	Pn	09 33 38.6	-0.9
OKCZ	**Okains Bay**	**2.18**	**204**	P	Pn	09 33 38.3	-2.2
LREZ	**Lake Rotokare**	**2.28**	**2**	P	Pb	09 33 45.2	-0.2
OXZ	**Oxford**	**2.30**	**226**	P	Pn	09 33 39.8	-2.2
MQZ	**McQueen's Vall**	**2.30**	**211**	P	Pn	09 33 39.4	-2.7
PNHZ	**Pukenui**	**2.33**	**39**	P	Pn	09 33 41.4	-1.1
NMEZ	**Namu Road**	**2.35**	**352**	P	Pb	09 33 45.9	-0.6
AKCZ	**Akaroa Harbour**	**2.36**	**205**	P	Pn	09 33 40.6	-2.3
KHEZ	**Kahui Hut**	**2.45**	**355**	P	Pb	09 33 47.0	-1.3
NEZ	**North Egmont**	**2.47**	**357**	P	Pb	09 33 47.9	-0.8
NBEZ	**Newall Road No**	**2.49**	**352**	P	Pb	09 33 47.2	-1.7
MTVZ	**Mangateitei**	**2.52**	**21**	P	Pb	09 33 50.0	+0.5
RACZ	**Rakaia**	**2.54**	**218**	P	Pn	09 33 43.4	-2.0
PKE	**Pukeiti**	**2.55**	**355**	P	Pb	09 33 48.0	-2.0
PKVZ	**Pokaka**	**2.58**	**19**	P	Pn	09 33 47.4	+1.4
MOVZ	**Moawhango**	**2.58**	**26**	P	Pn	09 33 46.1	0.0
PXZ	**Pawanui**	**2.59**	**50**	P	Pb	09 33 51.0	+0.3
WNVZ	**Wahianoa**	**2.61**	**23**	P	Pn	09 33 47.1	+0.6
TRVZ	**Turoa**	**2.62**	**22**	P	Pn	09 33 46.9	+0.1
BHHZ	**Black Hill Sta**	**2.62**	**32**	P	Pn	09 33 46.2	-0.4
VRZ	**Vera Road**	**2.64**	**8**	P	Pn	09 33 48.5	+1.8
DRZ	**Dome Shelter**	**2.65**	**22**	P	Pb	09 33 52.0	+0.2
WHVZ	**Whangaehu Hut**	**2.65**	**22**	P	Pn	09 33 48.0	+0.9
FWVZ	**Far West T-bar**	**2.66**	**22**	P	Pn	09 33 48.3	+1.0
TUVZ	**Tukino**	**2.68**	**23**	P	Pn	09 33 48.0	+0.5
NGZ	**Ngauruhoe**	**2.75**	**22**	P	Pn	09 33 49.1	+0.7
SNVZ	**South Ngauruho**	**2.75**	**22**	P	Pb	09 33 54.1	+0.5
KAHZ	**Kahuranaki**	**2.77**	**46**	P	Pn	09 33 46.5	-2.0
OTVZ	**Oturere**	**2.78**	**23**	P	Pb	09 33 54.2	+0.2
NNVZ	**North Ngauruho**	**2.80**	**22**	P	Pn	09 33 49.9	+0.9
WTVZ	**West Tongariro**	**2.80**	**21**	P	Pb	09 33 51.9	-2.4
TWVZ	**Taurewa**	**2.81**	**19**	P	Pb	09 33 52.6	-1.8
ETVZ	**East Tongariro**	**2.82**	**23**	P	Pn	09 33 50.0	+0.7
TMVZ	**Te Maari**	**2.84**	**23**	P	Pn	09 33 50.1	+0.5
KRVZ	**Karewarewa**	**2.84**	**22**	P	Pb	09 33 55.8	+0.9
WACZ	**Wakanui South**	**2.84**	**218**	P	Pn	09 33 47.5	-2.0
WVZ	**Waitaha Valley**	**2.95**	**242**	P	Pn	09 33 51.2	+0.2
BKZ	**Black Stump Fm**	**3.07**	**34**	P	Pb	09 34 00.1	+1.2
RATZ	**Rangitukua**	**3.09**	**22**	P	Pb	09 33 58.9	-0.3
RPZ	**Rata Peaks**	**3.09**	**229**	P	Pn	09 33 51.2	-1.8
ARCZ	**Arundel**	**3.18**	**225**	P	Pn	09 33 52.2	-1.9
WATZ	**Wairara**	**3.23**	**21**	P	Pb	09 34 00.3	-1.2
HIZ	**Hauiti**	**3.25**	**8**	P	Pn	09 33 56.7	+1.5
MRHZ	**Matea Rd**	**3.33**	**30**	P	Pb	09 34 00.9	-2.4
TLZ	**Tolley Road**	**3.54**	**16**	P	Pn	09 34 02.9	+3.7
ALRZ	**Allen Road**	**3.54**	**27**	P	Pb	09 34 04.7	-2.2
TMZ	**Timaru**	**3.57**	**221**	P	Pn	09 33 57.3	-2.3
FOZ	**Fox Glacier**	**3.75**	**240**	P	Pn	09 34 02.6	+0.6
MUGZ	**Murupara**	**3.77**	**31**	P	Pn	09 34 02.6	+0.3
LBZ	**Lake Benmore**	**4.00**	**227**	P	Pn	09 34 04.7	-0.9
URZ	**Urewera**	**4.10**	**33**	P	Pb	09 34 13.8	-2.5
TOZ	**Tahuroa Road**	**4.11**	**14**	P	Pn	09 34 09.1	+2.1
ODZ	**Otahua Downs**	**4.24**	**218**	P	Pn	09 34 06.0	-2.7
JCZ	**Jackson Bay**	**4.67**	**238**	P	Pn	09 34 18.5	+3.8
AWAZ	**Awhitu Peninsu**	**4.68**	**3**	P	Pn	09 34 16.3	+1.6
MKAZ	**Moumakai**	**4.68**	**9**	P	Pn	09 34 15.5	+0.7
HAZ	**Te Kaha**	**4.80**	**35**	P	Pn	09 34 15.8	-0.7
WIAZ	**Waiheke Island**	**4.98**	**8**	P	Pn	09 34 20.1	+1.1
MBAZ	**Motutapu North**	**4.99**	**6**	P	Pn	09 34 21.5	+2.5
KUZ	**Kuaotunu**	**5.11**	**13**	P	Pn	09 34 21.9	+1.2
OUZ	**Omahuta**	**6.53**	**355**	P	Pn	09 34 42.8	+2.6

OSPL 29 10:00:31.2±2.5, 19°.56N×70°.23W, h0km±11km, ML2.2, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.39**	**118**	*e*P	Pg	10 00 37.4	-1.3
LONA1				*e*S	Sg	10 00 43.1	-0.6
LONA1				IAML		10 00 44.2	
	comp=Z,1μm,0.8s						
LONA1	**Toro Cenizo, N**	**0.39**	**118**	*e*P	Pg	10 00 37.4	-1.3
LONA1				*e*S	Sg	10 00 43.1	-0.6
LONA1				IAML		10 00 44.2	
	comp=Z,1μm,0.8s						
SDDR	**Presa de Saban**	**1.16**	**240**	*i* P	Pg	10 00 52.6	-0.8
SDDR				*e*S	Sg	10 01 07.2	-1.2
SDDR				IAML		10 01 09.5	
	comp=Z,53nm,0.3s						
SDDR	**Presa de Saban**	**1.16**	**240**	*i* P	Pg	10 00 52.6	-0.8
SDDR				*e*S	Sg	10 01 07.2	-1.2
SDDR				IAML		10 01 09.5	
	comp=Z,53nm,0.3s						
PCDR	**Punta Cana, DR**	**2.03**	**121**	*i* P	Pn	10 01 05.0	-1.7
PCDR				*e*S	Sn	10 01 30.5	-2.4
PCDR				IAML		10 01 36.0	
	comp=Z,72nm,1.2s						
PCDR	**Punta Cana, DR**	**2.03**	**121**	*i* P	Pn	10 01 05.0	-1.7
PCDR				*e*S	Sn	10 01 30.5	-2.4

TULEG Thule 10.42 283 *i* P Pn 10 17 31.1 +2.2
TULEG *e*S Sn 10 19 20.0 -5.5
TULEG IAML 10 19 23.9
comp=Z,26nm,0.3s
UPNV Upernavik 10.46 255 *i* P Pn 10 17 30.0 +0.4
UPNV *e*S Sn 10 19 19.4 -7.3
UPNV IAML 10 19 22.7
comp=Z,41nm,0.4s
ICESG Greenland Ices 10.95 219 *e*P Pn 10 17 38.0 +1.4
EUNU Eureka 11.73 308 Pn 10 17 49.2 +2.2
ILULI Ilulissat 12.54 238 Pn Pn 10 17 58.4 +0.5
ANGG Ammassalik, Gr 14.06 211 Pn Pn 10 18 18.5 -0.2
SFJD Kangerlussuaq 14.47 233 Pn Pn 10 18 22.5 -1.7
comp=Z,1.8nm,0.3s,baz=16,slow=14,SNR=7.7
SFJD Sn Sn 10 20 54.2 -10
comp=Z,1.2nm,0.3s,baz=268,slow=15,SNR=2.0
SFJD Kangerlussuaq 14.47 233 Pn Pn 10 18 21.9 -2.3
RES Resolute Bay 16.51 296 Pn Pn 10 18 51.3 +0.3
comp=Z,0.6nm,0.3s,baz=42,slow=14,SNR=9.6
RES Sn Sn 10 21 41.6 -12
comp=Z,1.3nm,0.3s,baz=132,slow=23,SNR=11
comp=Z,1.8nm,0.3s
RES Resolute Bay 16.51 296 Pn Pn 10 18 49.7 -1.4
FINES FINESS Array B 22.26 114 P P 10 19 57.4 +1.0
comp=Z,0.8nm,0.6s,baz=353,slow=10,SNR=1.4
comp=Z,0.8nm,0.6s
FINES FINESS Array B 22.26 114 P P 10 19 50.9 -5.5
IMAR Indian Mountai 33.02 327 P P 10 21 34.5 0.0
MDM Murphy Dome 33.38 323 P P 10 21 37.3 -0.4
MDM IAmb IAmb 10 22 14.0
comp=Z,7.8nm,1.4s
IL31 33.40 321 P P 10 21 36.9 -0.9
IL31 IAmb IAmb 10 22 04.2
comp=Z,8.4nm,1.4s
ILAR Eielson Array 33.40 321 P P 10 21 38.3 +0.5
CCB Clear Creek Bu 33.63 322 P P 10 21 41.3 +1.5
CCB IAmb IAmb 10 21 45.5
comp=Z,3.1nm,1.1s
BPAW Bear Paw Mtn. 34.53 324 P P 10 21 47.3 -0.5
BPAW IAmb IAmb 10 22 11.1
comp=Z,8.7nm,1.4s
N31M Braeburn, Yuko 35.03 311 P P 10 21 52.8 +0.8
KTH Kantishna Hill 35.05 324 P P 10 21 52.5 +0.2
KTH IAmb IAmb 10 22 18.6
comp=Z,11nm,1.2s
MKAR Makanchi Array 46.91 67 P P 10 23 32.3 +2.4
comp=Z,0.1nm,0.3s,baz=331,slow=6.0,SNR=1.3
comp=Z,0.1nm,0.3s
TXAR Lajitas Array 60.20 270 P P 10 25 11.1 +3.5
comp=Z,0.3nm,0.6s,baz=27,slow=6.1,SNR=2.5
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 120.01 28 PKP PKiKP 10 33 51.0 +0.9
comp=Z,0.2nm,0.7s,baz=340,slow=2.4,SNR=1.3
ASAR Alice Springs 123.65 29 PKP PKiKP 10 33 58.3 +1.1
comp=Z,0.1nm,0.4s,baz=13,slow=1.8,SNR=4.5

PGC 29 10:15:26.4,54°.34N×117°.25W,h6km,ML3.7/18,171km Nne of Jasper, Alberta Alberta, Canada Induced., Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLDA	**Berland Lookou**	**0.26**	**200**	P	Pg	10 15 31.1	-0.5
BRLDA				S	Sg	10 15 35.4	+0.4
SWHSA	**Sweathouse Loo**	**0.63**	**27**	P	Pg	10 15 37.9	-0.7
SWHSA				S	Sg	10 15 46.8	-0.1
BDMTA	**Bald Mountain**	**1.08**	**297**	P	Pg	10 15 45.6	-1.4
BDMTA				S	Sg	10 16 00.4	-0.6
STPRA	**Salt Prairie L**	**1.56**	**31**	Pn	Pn	10 15 54.0	-0.7
STPRA				Sg	Sn	10 16 14.7	-0.5
WTMTA	**White Mountain**	**1.78**	**321**	Pn	Pn	10 15 57.5	-0.2
WTMTA				Sg	Sn	10 16 21.1	+0.5
MNB	**Mounoet Dainar**	**2.25**	**198**	Pn	Pn	10 16 04.6	+0.2
MNB				Pg	Pb	10 16 06.4	-1.1
MNB				Sg	Sb	10 16 35.1	-0.6
NBC4	**NorthernBC 4**	**2.38**	**306**	Pn	Pn	10 16 05.9	-0.1
NBC4				Sg	Sb	10 16 39.4	+0.1
EDM	**Edmonton**	**2.57**	**114**	Pn	Pn	10 16 08.5	-0.1
EDM				Sn	Sn	10 16 39.7	-0.5
BLBC	**Blue River**	**2.59**	**208**	Pn	Pn	10 16 09.1	+0.1
BLBC				Pg	Pb	10 16 12.1	-1.3
BLBC				Sg	Sb	10 16 44.7	-0.9
SLEB	**Sale Mountain**	**3.22**	**190**	Pn	Pn	10 16 17.8	+0.1
SLEB				Pg	Pb	10 16 24.4	+0.3
SLEB				Sg	Sb	10 17 04.1	+0.4
FSJB	**Fort St James**	**4.12**	**275**	Pn	Pn	10 16 29.6	-0.2
FSJB				Sg	Sb	10 17 33.5	+4.3
FSB	**Fort Saint Jam**	**4.14**	**275**	Pn	Pn	10 16 29.3	-0.8
FSB				Pg	Pb	10 16 40.7	+1.1
FSB				Sg	Sb	10 17 34.0	+4.3
NBC5	**NorthernBC 5**	**4.41**	**319**	Pn	Pn	10 16 33.4	-0.6
NBC5				Sn	Sn	10 17 21.5	-4.2
LLLB	**Lillooet**	**4.69**	**219**	Pg	Pb	10 16 50.2	+1.2
LLLB				Sg	Sb	10 17 50.5	+4.9
NBC6	**NorthernBC 6**	**4.82**	**334**	Pn	Pn	10 16 38.0	-1.4
NBC6				Sn	Sn	10 17 31.6	-3.8
NBC6				Sg	Sb	10 17 53.6	+4.2
PNT	**Penticton**	**5.24**	**197**	Pn	Pn	10 16 44.5	-0.7
PNT				Sg	Sb	10 18 06.2	+4.7
HSPGA	**Hill Springs,**	**5.46**	**154**	Sn	Sn	10 17 47.5	-4.0
FNBB	**Fort Nelson**	**5.56**	**327**	Pn	Pn	10 16 48.5	-1.1
FNBB				Sn	Sn	10 17 48.8	-4.9
WALA	**Waterton Lakes**	**5.68**	**157**	Pn	Pn	10 16 50.5	-0.8
WALA				Pg	Pb	10 17 08.7	+2.8
WALA				Sn	Sn	10 17 53.3	-3.6
HNBB	**Haney**	**6.04**	**215**	Pg	Pb	10 17 14.7	+2.8
HNBB				Sg	Sb	10 18 31.6	+7.2
VDB	**Vedder Mountai**	**6.11**	**211**	Pg	Pb	10 17 15.6	+2.4
B08A	**Colville Reser**	**6.13**	**193**	Sg	Sb	10 18 35.0	+8.0
NBC2	**NorthernBC 2**	**6.15**	**335**	Pn	Pn	10 16 56.9	-0.8
NBC2				Sg	Sg	10 18 36.1	-7.7
MKRVA	**Milk River, Al**	**6.22**	**145**	Sn	Sn	10 18 03.7	-6.3
MBW	**Mount Baker**	**6.27**	**209**	Pg	Pb	10 17 19.3	+3.3
C09A	**Chrisman Ranch**	**6.58**	**186**	Sg	Sg	10 18 51.1	-6.4
NLLB	**Nanaimo Lost L**	**6.61**	**222**	Sg	Sg	10 18 50.3	-8.0
BSMT	**Bassoo Peak**	**6.68**	**166**	Pn	Pn	10 17 04.4	-0.8
SNB	**Saturna Island**	**6.68**	**216**	Pg	Pb	10 17 26.1	+3.3
SNB				Sg	Sg	10 18 52.8	-7.9
JTMT	**Jette**	**6.86**	**163**	Pn	Pn	10 17 06.3	-1.3
BBB	**Bella Bella**	**6.86**	**256**	Sg	Sb	10 18 55.9	+7.9
B011	**North Saanich**	**6.88**	**217**	Sg	Sb	10 18 56.6	+8.0
B010	**North Saanich**	**6.88**	**217**	Sg	Sb	10 18 56.4	+7.7
PGC	**Sidney**	**6.88**	**217**	Sg	Sb	10 18 55.9	+7.2
B009	**North Saanich**	**6.88**	**217**	Sg	Sb	10 18 56.6	+7.9
LIRD	**Liard River Hi**	**7.02**	**320**	Pn	Pn	10 17 07.7	-1.9
LIRD				Sn	Sn	10 18 24.4	-5.2
LTY	**Liberty**	**7.41**	**198**	Sg	Sb	10 19 13.8	+10
RUBB	**Prince Rupert**	**7.60**	**275**	Sg	Sb	10 19 18.8	+10
DLBC	**Dease Lake**	**8.19**	**305**	Pn	Pn	10 17 23.8	-1.9
TGTN	**Hyland Airport**	**9.28**	**325**	P	Pn	10 17 37.8	-2.8
KUKN	**Kugluktuk,NWT**	**13.57**	**4**	P	Pn	10 18 33.8	-5.4
INK	**Inuvik**	**15.95**	**338**	P	Pn	10 19 06.3	-4.8

*NNC **29** 10:23:40.8±1.4,51°.64N×75°.36E,h0km,mb3.1,mpv2.6, Error ellipse: s-maj=90.2km s-min=8.6km az=25.0, Suspected Mining explosion.*
*IDC **29** 10:23:44.5±1.4,51°.60N×75°.50E,h0km,mbtmp2.6/4, ML2.1/4, Error ellipse: s-maj=38.4km s-min=12.5km az=30.0*
ISC 29 10:23:43.5±1.4,**51°.7N**±0°.1×**75°.53E**±0°.07,**h0**km,**n9, σ0s94/6,3C-3D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.16**	**118**	Pn	Pn	**10 24 21.6**	**+0.9**
	0.5nm,0.3s,baz=294,slow=18,SNR=14						
KURBB				Lg	Lg	10 24 51.1	
	0.3nm,0.3s,baz=284,slow=31,SNR=2.6						
	1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**2.16**	**118**	⇓Pg	Pb	**10 24 22.6**	**-0.9**
	1.9nm,0.2s						
KURBB				⇓Lg	Lg	10 24 51.8	
	4.3nm,0.3s						
KURK	**Kurchatov**	**2.17**	**115**	⇑Pg	Pn	**10 24 21.5**	**+0.7**
	1.4nm,0.5s						
KURK				⇑Lg	Lg	10 24 52.1	
	4.0nm,0.7s						
BVA0	**Borovoye Array**	**3.43**	**295**	⇑Lg	Lg	10 25 26.7	
	4.0nm,0.9s						
BVAR	**Borovoye Array**	**3.43**	**295**	Pn	Pn	**10 24 38.6**	**+0.4**
	0.1nm,0.3s,baz=105,slow=11,SNR=1.9						
BVAR				Lg	Lg	10 25 30.8	
	0.1nm,0.3s,baz=106,slow=27,SNR=3.9						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**6.07**	**64**	Pn	Pn	**10 25 14.9**	**+0.4**
	0.6nm,0.3s,baz=258,slow=16,SNR=1.8						
	0.6nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.07**	**64**	I		10 57 30.0	
	baz=246,slow=267,SNR=4.6						
MK31	**Makanchi Array**	**6.59**	**135**	⇓Lg	Lg	10 27 10.5	
	1.1nm,0.6s,baz=319,slow=25,SNR=3.5						
MKAR	**Makanchi Array**	**6.59**	**135**	Pn	Pn	**10 25 22.2**	**+0.5**
	0.1nm,0.3s,baz=306,slow=12,SNR=2.1						
MKAR				Lg	Lg	10 27 10.0	
	0.1nm,0.3s,baz=319,slow=28,SNR=3.3						
	0.5nm,0.9s						

DJA 29 10:25:49.4±0.3,**0°.S**±2°.×**12°.3E**±°,**h54**km±10km,**M3.9**/13, **mb4.0**/3,**MLv3.9**/13,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.84**	**197**	P	Pn	10 26 05.8	+0.6
LUWI				S	Sn	10 26 18.8	+2.0
GTOI	**Gorontalo**	**0.86**	**359**	P	Pn	10 26 06.9	+1.5
GTOI				S	Sn	10 26 20.8	+3.7
MRSI	**Marisa**	**1.29**	**303**	P	Pn	10 26 10.9	-0.2
MRSI				S	Sn	10 26 26.9	-0.4
APSI	**Ampana**	**1.53**	**244**	P	Pn	10 26 15.1	+0.7
MPSI	**Mapaga**	**3.17**	**280**	P	Pn	10 26 38.2	+1.3
SANI	**Sanana**	**3.48**	**121**	P	Pn	10 26 38.8	-2.2
LBMI	**Labuha**	**4.50**	**95**	P	Pn	10 26 57.7	+2.6
SPSI	**Sidrap Palu**	**4.93**	**221**	P	Pn	10 26 59.8	-1.2
NLAI	**Namlea**	**5.06**	**126**	P	Pn	10 27 02.1	-0.6
	0.1nm10nm,0.5s						
BNSI	**Bone**	**5.06**	**215**	P	Pn	10 27 03.0	+0.2
	0.1nm14nm,0.7s						
BKSI	**Bulukumba**	**5.83**	**210**	P	Pn	10 27 13.2	-0.1

*IDC **29** 10:37:50.6±2.3,7°.83N×125°.84E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=245.7km s-min=24.3km az=67.0*
*NEIC **29** 10:37:50.7±2.3,7°.58N±0°.04×125°.7E±0°.1,h10km±2km, mb4.2/6, Error ellipse: s-maj=18.9km s-min=5.8km az=95.0*
*MAN **29** 10:37:59.6,8°.01N×126°.53E,h68km,mb4.4,ML3.2,MS3.0*
ISC 29 10:37:53.7±1.1,**7°.87N**±0°.07×**126°.9E**±0°.1,**h46**km,**n22, σ1s89/22,mb4.1/8,4C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.62**	**301**	⇓*i*P	Pn	**10 38 09.5**	**+3.2**
BIPH				*i* S	Sn	**10 38 16.6**	**+1.3**
DAV	**Davao City (W)**	**1.53**	**239**	Pg	Pn	10 38 00.4	-18
KCP	**Kidapawan**	**1.99**	**245**	⇓*e*P	Pn	10 38 31.6	+6.7
KCP				*i* S	Sn	**10 38 48.0**	**-0.7**
CGP	**Cagayan de Oro**	**2.26**	**285**	⇑*i*P	Pn	**10 38 30.3**	**+1.6**
CGP				*i* S	Sn	**10 38 53.0**	**-2.4**
CTBH	**Cotabato--PC H**	**2.71**	**256**	⇑*i*P	Pn	**10 38 38.0**	**+3.2**
CTBH				*i* S	Sn	**10 39 05.5**	**-0.9**
GHBP	**Garcia Hernand**	**3.10**	**305**	⇑*i*P	Pn	**10 38 42.3**	**+2.3**
TABP	**Talibon, Bohol**	**3.37**	**311**	⇑*i*P	Pn	**10 38 45.6**	**+1.8**
TABP				*i* S	Sn	**10 39 19.3**	**-3.2**
TBP	**Tagbilaran**	**3.51**	**301**	*e*P	Pn	**10 38 47.4**	**+1.6**
TBP				*e*S	Sn	**10 39 23.9**	**-2.2**
TNTI	**Ternate**	**7.06**	**176**	Pn	Pn	**10 39 32.7**	**-1.9**
MYLDM	**Lahad Datu**	**8.76**	**253**	Pn	Pn	10 39 39.0	-19
KKM	**Kota Kinabalu**	**10.76**	**261**	Pn	Pn	10 40 07.4	-18
KNRA	**Kununurra**	**23.46**	**175**	P	P	**10 42 58.9**	**-0.4**
WRAB	**Tennant Creek**	**28.58**	**165**	P	P	**10 43 45.6**	**0.0**
WRAB				IAmb	IAmb	10 43 55.7	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**28.59**	**165**	P	P	10 43 51.2	+5.5
	comp=Z,0.3nm,0.7s,baz=342,slow=9.4,SNR=1.9						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**28.59**	**165**	P	P	**10 43 46.2**	**+0.5**
WR0	**Warramunga Arr**	**28.66**	**165**	P	P	**10 43 46.2**	**-0.1**
WR0				IAmb	IAmb	10 43 58.2	
	comp=Z,5.5nm,1.2s						
ASAR	**Alice Springs**	**32.08**	**168**	P	P	10 44 21.3	+4.8
	comp=Z,0.1nm,0.3s,baz=339,slow=7.5,SNR=5.1						
	comp=Z,0.1nm,0.3s						
MK31	**Makanchi Array**	**54.31**	**324**	P	P	**10 47 14.2**	**-1.3**
MK31				IAmb	IAmb	10 47 37.5	
	comp=Z,2.5nm,1.3s						
MKAR	**Makanchi Array**	**54.31**	**324**	P	P	**10 47 15.0**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=120,slow=7.5,SNR=16						
	comp=Z,0.8nm,0.4s						
MKAR	**Makanchi Array**	**54.31**	**324**	P	P	**10 47 14.8**	**-0.8**
KURK	**Kurchatov**	**58.39**	**326**	P	P	**10 47 42.7**	**-1.8**
KURK				IAmb	IAmb	10 48 02.9	
	comp=Z,3.7nm,1.2s						
FINES	**FINESS Array B**	**88.29**	**332**	P	P	**10 50 40.6**	**+0.5**
	comp=Z,3.0nm,1.0s,baz=35,slow=5.1,SNR=4.7						
	comp=Z,3.0nm,1.0s						

*MOS **29** 10:46:34.1±0.0,43°.55N×40°.85E,h17km,MPVA3.7*
ISC 29 10:46:34.0±1.1,**43°.54N**±0°.04×**40°.84E**±0°.02,**h14**km±11km, **n14,σ0s45/28,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXR	**Arkhyz**	**0.32**	**86**	*i* Pg	Pb	**10 46 41.5**	**-0.1**
ARXR				*i* Sg	Sg	**10 46 45.6**	**+0.5**
RPOR	**Krasnaya Polya**	**0.45**	**291**	*i* Pg	Pb	**10 46 43.5**	**-0.2**
RPOR				*e*Sg	Sb	**10 46 50.7**	**+0.4**
VSLR	**Vesyoloye**	**0.59**	**263**	*i* Pg	Pb	**10 46 46.6**	**+0.4**
VSLR				*i* Sg	Sb	**10 46 55.0**	**+0.6**
DOMR	**Dombai**	**0.62**	**113**	*i* Pg	Pg	**10 46 46.2**	**-0.1**
DOMR				*i* Sg	Sg	**10 46 53.6**	**-0.9**
AHMR	**Akhmetovskaya**	**0.64**	**13**	*e*Pg	Pb	**10 46 46.8**	**-0.1**
AHMR				*e*Sg	Sb	**10 46 55.9**	**+0.1**
GUZR	**Guzeripl'**	**0.69**	**312**	*i* Pg	Pb	**10 46 47.4**	**-0.6**
GUZR				*e*Sg	Sg	**10 46 56.6**	**-0.2**
SOC	**Sochi**	**0.82**	**274**	*e*Pg	Pb	**10 46 49.4**	**-0.6**
SOC				*e*Sg	Sb	**10 47 00.5**	**-0.4**
LABN	**Labinsk**	**1.11**	**356**	*e*Pg	Pn	**10 46 55.0**	**-0.2**
LABN				*e*Sg	Sg	**10 47 10.6**	**+0.8**
LZRR	**Lazarevskoye**	**1.13**	**291**	*e*Pg	Pb	**10 46 55.6**	**+0.2**
LZRR				*e*Sg	Sg	**10 47 10.9**	**+0.4**
SHA1	**Shidzhatmaz**	**1.33**	**81**	*i* Pg	Pg	**10 46 59.4**	**-0.3**
SHA1				*e*Sg	Sg	**10 47 17.1**	**-0.1**
NVNR	**Nevinnomyssk**	**1.35**	**37**	*e*Pg	Pg	**10 46 59.8**	**-0.2**
NVNR				*e*Sg	Sg	**10 47 18.4**	**+0.9**
NEY	**Neytrino**	**1.40**	**101**	*e*Pg	Pb	**10 47 00.3**	**+0.2**
NEY				*e*Sg	Sb	**10 47 18.2**	**+0.3**
KBZ	**Khabaz**	**1.51**	**82**	*e*Pg	Pb	**10 47 01.7**	**0.0**
KBZ				*e*Sg	Sb	**10 47 20.7**	**0.0**
ABS	**Abastumani**	**2.30**	**140**	P	Pb	**10 47 15.7**	**+0.3**
ABS				S	Sg	**10 47 48.4**	**+0.3**

*IDC **29** 11:00:08.0±6.2,22°.51S×178°.94E,h627km±58km,mb2.7/3, mbtmp3.9/5,Error ellipse: s-maj=177.4km s-min=22.3km az=157.0*
ISC 29 11:00:04.9±1.7,**23°.1S**±0°.3×**179°.2E**±0°.2,**h600**km,**n6, σ0s54/6,mb3.2/3,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.45**	**348**	P	P	**11 01 41.5**	**-0.2**
	9.2nm,0.6s,baz=160,slow=5.7,SNR=15						
DZM	**Mont Dzumac**	**11.86**	**272**	P	P	**11 02 42.9**	**+0.4**
	13nm,0.9s,baz=103,slow=16,SNR=3.6						
ASAR	**Alice Springs**	**41.48**	**260**	P	P	**11 07 00.5**	**-0.7**
	0.7nm,0.9s,baz=94,slow=6.7,SNR=5.4						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**41.76**	**266**	P	P	**11 07 03.6**	**0.0**
	0.2nm,0.3s,baz=98,slow=8.4,SNR=22						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**90.61**	**58**	P	P	**11 12 04.8**	**+0.1**
	0.7nm,0.7s,baz=212,slow=6.5,SNR=10						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**130.96**	**348**	PKP	PKPdf	**11 18 08.8**	**+0.3**
	3.6nm,1.1s,baz=33,slow=2.9,SNR=5.2						

*UUSS **29** 11:04:17.6±1.1,40°.72N±0°.01×112°.07W±0°.02,h9km±5km, ML2.1/9,ML2.2/60(NEIC),Error ellipse: s-maj=2.1km s-min=2.1km az=222.0*
NEIC 29 11:04:17.5±1.5,**40°.725N**±0°.006×**112°.10W**±0°.02,
h5km±2km,**Error ellipse: s-maj=3.0km s-min=2.6km az=246.0,Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOQ	**North Oquirrh**	**0.07**	**193**		Pg	11 04 21.9	+2.6
HRU	**Hogsback Ridge**	**0.17**	**69**		Pg	11 04 21.4	+0.4
RBU	**Red Butte Cany**	**0.23**	**76**		Pg	11 04 22.2	+0.2
RBU	**Red Butte Cany**	**0.23**	**76**		Sg	11 04 25.2	+0.2
MHD	**Mile High Driv**	**0.23**	**106**		Pg	11 04 22.3	+0.2
CTU	**Camp Tracy**	**0.27**	**97**		Pg	11 04 22.7	0.0
CTU					Sg	11 04 26.1	-0.2
CTU				IAML		11 04 27.0	
	comp=E,340nm,0.3s						
CWU	**Camp Williams**	**0.28**	**181**		Pg	11 04 23.5	+0.5
WTU	**Western Traver**	**0.29**	**158**		Pg	11 04 23.8	+0.6
GMU	**Granite Mounta**	**0.29**	**120**		Pg	11 04 23.4	+0.1
NAIU	**Northern Antel**	**0.31**	**341**		Pg	11 04 24.1	+0.7
SNUT	**Stansbury Nort**	**0.35**	**297**		Pg	11 04 25.3	+1.0
FPU	**Francis Peak**	**0.36**	**33**		Pg	11 04 24.9	+0.4
WBC	**Weber Canyon**	**0.44**	**20**		Pg	11 04 26.7	+0.7
RCJ	**Ross Creek**	**0.51**	**97**		Pg	11 04 27.4	+0.2
JLU	**Jordanelle**	**0.51**	**104**		Pg	11 04 27.1	-0.1
JLU					Sg	11 04 34.0	+0.1
N16A	**Rees Ranch, Co**	**0.53**	**72**		Pg	11 04 28.0	+0.4
SPUT	**South Promonto**	**0.64**	**336**		Pg	11 04 29.8	0.0
TCUT	**Toone Canyon**	**0.65**	**53**		Pg	11 04 29.8	-0.2
TCUT				IAML		11 04 43.1	
	comp=E,192nm,0.4s						
TCUT	**Toone Canyon**	**0.65**	**53**		Pg	11 04 30.7	+0.7
HTU	**Hoyt Peak**	**0.67**	**94**		Pg	11 04 30.6	+0.3
WMUT	**West Mountain**	**0.68**	**163**		Pg	11 04 30.9	+0.4
BGU	**Big Grassy Mou**	**0.73**	**286**		Pg	11 04 31.1	-0.5
BGU				IAML		11 04 45.2	
	comp=E,67nm,0.5s						
DUG	**Dugway, Tooele**	**0.76**	**226**		Pg	11 04 32.3	+0.3
DUG				IAML		11 04 45.4	
	comp=E,82nm,0.5s						
DUG				IAML		11 04 47.1	
	comp=E,95nm,0.3s						
NLU	**North Lily Min**	**0.77**	**179**		Pg	11 04 32.4	+0.2
MPU	**Maple Canyon**	**0.79**	**153**		Pg	11 04 32.8	+0.1
LHUT	**Little Humpy P**	**0.85**	**78**		Pg	11 04 34.4	+0.5
MCU	**Monte Cristo P**	**0.86**	**31**		Pg	11 04 34.0	0.0
SUU	**Santaquin Cany**	**0.87**	**164**		Pg	11 04 34.2	+0.1
WVUT	**Wellsville**	**0.89**	**7**		Pg	11 04 35.0	+0.5
HWUT	**Hardware Ranch**	**0.97**	**24**		Pg	11 04 36.0	-0.1
HWUT				IAML		11 04 50.9	
	comp=E,49nm,0.4s						
BSUT	**Blindstream Ca**	**1.03**	**100**		Pg	11 04 37.1	-0.2
HDU	**Hyde Park**	**1.11**	**13**		Pg	11 04 38.7	0.0
HVU	**Hansel Valley**	**1.17**	**334**		Pg	11 04 39.6	-0.3
HVU				IAML		11 05 22.7	
	comp=E,56nm,0.4s						
HVU				IAML		11 05 22.7	
	comp=N,66nm,0.7s						
LEVU	**Levan**	**1.24**	**170**		Pg	11 04 41.3	+0.1
BEI	**Bear River Ran**	**1.41**	**10**		Pn	11 04 43.7	-0.3
TMUT	**Trail Mountain**	**1.58**	**154**		Pn	11 04 44.9	-1.5
TMUT				IAML		11 05 38.5	
	comp=E,36nm,0.6s						
TMUT				IAML		11 05 41.8	
	comp=N,33nm,0.6s						
P17A	**Butcher Ranch,**	**1.63**	**140**		Pn	11 04 45.3	-1.7
P17A				IAML		11 05 42.3	
	comp=N,17nm,1.1s						
P18A	**Preston Nutter**	**1.79**	**127**		Pn	11 04 48.6	-0.7
P18A				IAML		11 05 40.6	
	comp=E,20nm,0.4s						
P18A				IAML		11 05 40.9	
	comp=N,24nm,0.3s						
RDMU	**Red Mountain**	**1.93**	**94**	Pn	Pn	11 04 51.0	-0.2
Q16A	**Castle Valley**	**1.94**	**158**	Pn	Pn	11 04 51.2	-0.1
Q16A				IAML		11 05 40.0	
	comp=E,12nm,4.9s						
Q16A				IAML		11 06 00.4	
	comp=N,13nm,4.7s						
SRU	**San Rafael Swe**	**2.02**	**143**	Pn	Pn	11 04 51.2	-1.1
SRU				IAML		11 05 51.6	
	comp=N,16nm,0.4s						
SRU				IAML		11 05 55.7	
	comp=E,13nm,0.7s						
TCRU	**Three Creeks R**	**2.13**	**187**	Pn	Pn	11 04 54.6	+0.7
TCRU				IAML		11 05 56.6	
	comp=N,19nm,0.7s						
TCRU				IAML		11 06 00.6	
	comp=E,22nm,1.1s						
AHID	**Auburn Hatcher**	**2.17**	**20**	Pn	Pn	11 04 52.8	-1.7
MSU	**Marysvale**	**2.21**	**182**	Pn	Pn	11 04 52.7	-2.3
MVU	**Marysvale**	**2.22**	**182**	Pn	Pn	11 04 53.2	-1.9
ELK	**Elko**	**2.39**	**271**	Pn	Pn	11 04 55.5	-2.0
ELK				IAML		11 06 03.2	
	comp=E,11nm,0.3s						
SPR3	**Spring Creek 3**	**2.44**	**226**	Pn	Pn	11 04 56.3	-1.9
SPR3				IAML		11 06 09.7	
	comp=E,13nm,0.6s						
SPR3				IAML		11 06 10.3	
	comp=N,18nm,0.7s						
PSUT	**Pine Spring**	**2.58**	**212**	Pn	Pn	11 04 58.0	-2.0
PSUT				IAML		11 06 09.7	
	comp=E,16nm,0.6s						
PSUT				IAML		11 06 16.4	
	comp=N,13nm,1.1s						
BW06	**Boulder Array**	**2.79**	**42**	Pn	Pn	11 05 00.8	-2.2
BW06				IAML		11 06 11.7	
	comp=N,13nm,0.4s						
PDAR	**Pinedale Array**	**2.79**	**42**	Pn	Pn	11 05 02.0	-1.0
REDW	**Red Top Meadow**	**2.79**	**19**	Pn	Pn	11 05 02.1	-0.9
SNOW	**Snow King Moun**	**2.91**	**20**	Pn	Pn	11 05 03.7	-1.0
**FX

CSP1				S	Sg	11 22 16.1	+0.8	
CSP1				AML	AML			
	comp=E,452µm,1.2s							
CSP1				AML	AML			
	comp=E,451µm,1.2s							
CSP1				AML	AML			
	comp=N,399µm,0.3s							
MC2	**Monte Cornacci**	**0.13**	**137**	P	Pg	11 22 13.3	+0.1	
MC2				S	Sg	11 22 16.0	+0.6	
NRCA	**Norcia**	**0.18**	**170**	P	Pg	11 22 14.5	+0.7	
NRCA				S	Sg	11 22 17.7	+1.2	
NRCA				AML	AML			
	comp=E,249µm,0.2s							
NRCA				AML	AML			
	comp=N,361µm,0.7s							
NRCA				AML	AML			
	comp=E,215µm,0.1s							
NRCA				AML	AML			
	comp=E,253µm,0.8s							
NRCA				AML	AML			
	comp=N,330µm,0.5s							
T1215	**Vallo di Nera,**	**0.25**	**216**	P	Pg	11 22 16.0	+0.8	
T1215				S	Sb	11 22 20.1	-1.1	
SNTG	**Esanatoglia**	**0.27**	**339**	P	Pg	11 22 16.2	+0.8	
SNTG				S	Sb	11 22 20.7	-1.0	
EL6	**Elcito**	**0.32**	**4**	P	Pg	11 22 17.1	+0.6	
EL6				S	Sb	11 22 22.6	-0.7	
T1243	**Rocca Santa Ma**	**0.42**	**138**	P	Pg	11 22 18.2	-0.1	

*IDC **29** 11:41:43.2±1.9,0.°19S×97.°46E, h0km, mb4.0/4, mbtmp3.9/6, ML4.1/2, MS3.1/8, Error ellipse: s-maj=63.2km s-min=20.8km az=62.0*
*DJA **29** 11:41:44.3±1.3,0.°5S±4.°×9.°7E±.°, h26km±15km, M4.3/13, mb4.5/2, MLv4.2/13*
*NEIC **29** 11:41:47.8±2.5,0.°05N±0.°09×97.°8E±0.°1, h30km±5km, mb4.2/10, Error ellipse: s-maj=19.9km s-min=7.3km az=55.0*

ISC 29 11:41:45.5±0.9,0.°08S±0.°05×97.°39E±0.°08, h25km, n44, σ1§66/39, mb4.2/10, MS3.4/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.89**	**88**	P	**Pn**	**11 42 03.8**	**+1.3**
PBSI				S	**Sn**	**11 42 17.1**	**+2.5**
GSI	**Gunungsitoli**	**1.39**	**8**	Pn	**Pn**	**11 42 09.4**	**0.0**
GSI				Sn	**Sb**	**11 42 28.8**	**+0.5**
GSI	**Gunungsitoli**	**1.39**	**8**	P	**Pn**	**11 42 09.6**	**+0.2**
GSI				S	**Sb**	**11 42 29.1**	**+0.9**
SISI	**Saibi**	**2.10**	**126**	P	**Pn**	**11 42 18.9**	**-0.3**
MNSI	**Mandailing Nat**	**2.36**	**68**	P	**Pn**	**11 42 24.3**	**+1.6**
MNSI				S	**Sb**	**11 42 54.8**	**-1.3**
SNSI	**Sinabang, Aceh**	**2.69**	**337**	P	**Pn**	**11 42 26.1**	**-1.2**
RPSI	**Rantau Prapat**	**3.16**	**29**		**Pn**	**11 42 31.0**	**-2.7**
PDSI	**Padang**	**3.18**	**105**	P	**Pn**	**11 42 34.6**	**+0.5**
PSI	**Prapat**	**3.25**	**28**	Pn	**Pn**	**11 42 35.2**	**+0.1**
	2.5nm,0.3s,baz=152,slow=4.6,SNR=11						
PSI				LR	LR	11 43 30.3	
	comp=Z,102nm,20.1s,baz=174,slow=33 7.7nm,0.3s						
KCSI	**Kotacane, Aceh**	**3.60**	**6**	P	**Pn**	**11 42 39.9**	**+0.1**
BKNI	**Bangkinang**	**3.67**	**84**	Pn	**Pn**	**11 42 37.8**	**-3.0**
PPSI	**Pulau Pagai**	**3.73**	**135**	P	**Pn**	**11 42 40.6**	**-1.0**
SDSI	**Sungai Dareh**	**4.13**	**102**	P	**Pn**	**11 42 47.2**	**+0.2**
MASI	**Maura Aman, Be**	**5.72**	**122**	P	**Pn**	**11 43 09.2**	**+0.2**
	0.3nm19nm,0.6s						
IPM	**Ipoh**	**5.81**	**39**	Pn	**Pn**	**11 43 06.5**	**-3.8**
MNAI	**Manna**	**7.00**	**127**	Pn	**Pn**	**11 43 24.6**	**-1.9**
MNAI	**Manna**	**7.00**	**127**	P	**Pn**	**11 43 26.4**	**-0.1**
LEM	**Lembang**	**12.21**	**123**	LR	LR	11 50 17.6	
	comp=Z,72nm,19.2s,baz=302,slow=43						
PALK	**Pallekele**	**18.18**	**294**	LR	LR	11 52 03.1	
	comp=Z,44nm,19.2s,baz=215,slow=34						
CMAR	**Chiang Mai Arr**	**18.49**	**5**	P	**Pn**	**11 46 02.1**	**+2.0**
	1.2nm,0.3s,baz=194,slow=11,SNR=4.1						
CMAR				LR	LR	11 53 55.4	
	comp=Z,27nm,20.8s,baz=200,slow=39 1.8nm,0.3s						
H01W3	**Cape Leeuwin H**	**37.99**	**157**	T	T	12 29 17.8	
	baz=334,slow=76,SNR=4.9						
H01W2	**Cape Leeuwin H**	**38.01**	**157**	T	T	12 29 15.6	
	baz=334,slow=76,SNR=8.2						
H01W1	**Cape Leeuwin H**	**38.01**	**157**	T	T	12 29 17.4	
	baz=334,slow=76,SNR=7.0						
WB0	**Warramunga Arr**	**41.19**	**121**	P	**P**	**11 49 25.4**	**-3.1**
WB0				IAmb	IAmb	11 49 29.9	
	comp=Z,3.2nm,0.9s						
WRA	**Warramunga Arr**	**41.21**	**121**	P	**P**	**11 49 29.1**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=299,slow=9.1,SNR=12 comp=Z,1.8nm,0.8s						
WRA	**Warramunga Arr**	**41.21**	**121**	P	**P**	**11 49 27.7**	**-0.9**
WRAB	**Tennant Creek**	**41.22**	**121**	P	**P**	**11 49 29.2**	**+0.5**
WRAB				IAmb	IAmb	11 49 55.7	
	comp=Z,11nm,1.5s						
WB2	**Warramunga Arr**	**41.22**	**121**	P	**P**	**11 49 27.8**	**-1.0**
WB2				IAmb	IAmb	11 49 40.7	
	comp=Z,4.5nm,1.1s						
WR0	**Warramunga Arr**	**41.39**	**121**	P	**P**	**11 49 29.2**	**-1.0**
WR0				IAmb	IAmb	11 49 31.4	
	comp=Z,4.4nm,0.8s						
ASAR	**Alice Springs**	**42.48**	**126**	P	**P**	**11 49 39.2**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=294,slow=7.6,SNR=7.6 comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**42.48**	**126**	P	**P**	**11 49 36.4**	**-2.7**
KSRS	**Korea Array**	**46.80**	**34**	LR	LR	12 10 13.1	
	comp=Z,26nm,18.2s,baz=230,slow=36						
AAK	**Ala-Archa**	**47.25**	**337**	LR	LR	12 10 59.6	
	comp=Z,38nm,18.4s,baz=202,slow=37						
MK31	**Makanchi Array**	**48.52**	**346**	P	**P**	**11 50 27.4**	**+0.9**
MK31				IAmb	IAmb	11 50 37.7	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**48.52**	**346**	P	**P**	**11 50 27.7**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=166,slow=9.5,SNR=11 comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**48.52**	**346**	P	**P**	**11 50 27.2**	**+0.6**
MAKZ	**Makanchi**	**48.61**	**346**	P	**P**	**11 50 28.9**	**+1.7**
MAKZ				IAmb	IAmb	11 50 51.3	
	comp=Z,2.3nm,1.0s						
KKAR	**Karatay Array**	**49.28**	**334**	P	**P**	**11 50 33.2**	**+0.7**
INU	**Inuyama**	**51.04**	**42**	P	**P**	**11 50 44.6**	**-1.2**
JGF	**Kuroka**	**51.41**	**42**	P	**P**	**11 50 46.3**	**-2.4**
USRK	**Ussuriysk Ar.**	**53.77**	**30**	LR	LR	12 18 08.7	
	comp=Z,40nm,18.1s,baz=17,slow=41						
ZALV	**Zalesovo Beam**	**54.85**	**351**	P	**P**	**11 51 16.8**	**+3.3**
	comp=Z,1.3nm,0.3s,baz=184,slow=5.2,SNR=6.9 comp=Z,1.3nm,0.3s						
NOA	**NORSAR Array B**	**88.21**	**331**	LR	LR	12 36 03.8	
	comp=Z,12nm,18.0s,baz=345,slow=37						
TXAR	**Lajitas Array**	**144.65**	**33**	PKP	**PKiKP**	**12 01 23.8**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=261,slow=6.0,SNR=3.0						

*JMA **29** 11:49:49.7±0.1,37.°1N±0.°3×141.°3E±0.°8, h24km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*
*IDC **29** 11:49:50.4±3.6,36.°72N×141.°27E, h0km, mb3.2/2, mbtmp3.1/3, ML2.1/1, Error ellipse: s-maj=72.4km s-min=37.8km az=39.0*

ISC 29 11:49:48.4±2.0,37.°13N±0.°04×141.°39E±0.°08, h10km±11km, n21, σ0§61/21, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**300**	*i* P	**Pg**	**11 49 58.2**	**+0.5**
JFK				S	**Sg**	**11 50 04.2**	**+0.2**
JFFD	**Fukushimafurud**	**0.67**	**267**	⇓*i* P	**Pb**	**11 50 01.5**	**-0.6**
JFFD				⇓S	**Sg**	**11 50 09.8**	**-0.1**
JMST	**Minamisoumatoc**	**0.72**	**326**	*i* P	**Pb**	**11 50 02.6**	**-0.5**
JMST				S	**Sg**	**11 50 12.1**	**+0.4**
JHO	**Hitachi**	**0.84**	**232**	P	**Pb**	**11 50 04.1**	**-0.9**
JHO				S	**Sg**	**11 50 14.8**	**-0.6**
JMM	**Marumori**	**0.88**	**327**	*i* P	**Pg**	**11 50 05.2**	**-0.1**
JMM				S	**Sg**	**11 50 16.7**	**-0.1**
JSB	**Shiboa**	**1.19**	**263**	P	**Pg**	**11 50 11.2**	**0.0**
JSB				S	**Sg**	**11 50 26.8**	**+0.2**
JIO	**Ouri**	**1.33**	**359**	*i* P	**Pb**	**11 50 12.7**	**-0.7**
JIO				S	**Sb**	**11 50 29.3**	**-1.1**
JOU	**Okura**	**1.37**	**335**	P	**Pb**	**11 50 13.8**	**-0.2**
JOU				S	**Sn**	**11 50 31.4**	**-0.4**
JFY	**Yanaizu**	**1.38**	**282**	*i* P	**Pb**	**11 50 13.9**	**-0.3**
JFY				S	**Sn**	**11 50 31.4**	**-0.6**
MJAR	**Matsushiro Arr**	**2.62**	**258**	Pn	**Pn**	**11 50 31.7**	**+0.9**
	0.4nm,0.3s,baz=84,slow=25,SNR=19 3.5nm,0.4s						

H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	12 25 14.3		
	baz=314,slow=75,SNR=30							
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	12 25 14.8		
	baz=314,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	12 25 15.6		
	baz=314,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	12 26 09.5		
	baz=316,slow=75,SNR=12							
H11S3	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	12 26 12.0		
	baz=316,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	12 26 12.0		
	baz=316,slow=75,SNR=7.8							
WRA	**Warramunga Arr**	**57.15**	**188**	P	**P**	**11 59 35.6**	**+0.3**	
	0.2nm,0.4s,baz=4.7,slow=7.2,SNR=10 0.2nm,0.4s							
ASAR	**Alice Springs**	**60.88**	**188**	P	**P**	**12 00 02.2**	**+1.0**	
	0.2nm,0.6s,baz=9.1,slow=8.4,SNR=4.7 0.2nm,0.6s							
H03N2	**Juan Fernandez**	**147.05**	**96**	T	T	14 53 54.2		
	baz=291,slow=76,SNR=6.3							
H03N3	**Juan Fernandez**	**147.06**	**96**	T	T	14 53 54.4		
	baz=291,slow=76,SNR=5.4							
H03N1	**Juan Fernandez**	**147.07**	**96**	T	T	14 53 56.3		
	baz=291,slow=76,SNR=4.1							

*IDC **29** 11:58:47.1±7.0,20.°98S×167.°92E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=148.9km s-min=46.5km az=119.0*
*NOU **29** 11:58:51.8,22.°19S×168.°01E, h0km, MLv3.5/6, New Caledonia*

ISC 29 11:58:48.8±2.5,22.°3S±0.°1×168.°3E±0.°2, h10km, n10, σ1§62/10, mb3.8/3, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.88**	**342**	P	**Pg**	**11 59 05.6**	**0.0**
YATNC	**Mamie plateau,**	**1.35**	**281**	P	**Pn**	**11 59 12.3**	**-1.4**
OUENC	**Ouen Island, N**	**1.37**	**266**	P	**Pn**	**11 59 12.7**	**-1.3**
ONTNC	**Ouen Toro**	**1.73**	**270**	P	**Pn**	**11 59 18.2**	**-0.7**
DZM	**Mont Dzumac**	**1.76**	**278**	Pn	**Pn**	**11 59 18.1**	**-1.2**
	10nm,0.3s,baz=68,slow=19,SNR=186							
DZM				Sn	**Sn**	**11 59 43.4**	**+1.5**
	46nm,0.3s,baz=150,slow=20,SNR=9.4							
DZM	**Mont Dzumac**	**1.76**	**278**	P	**Pn**	**11 59 18.4**	**-1.0**
LIFNC	**LIFOU**	**1.83**	**326**	P	**Pn**	**11 59 19.8**	**-0.5**
STKA	**Stephens Creek**	**25.57**	**242**	P	**P**	**12 04 20.8**	**+2.8**
	1.7nm,0.7s,baz=67,slow=7.7,SNR=4.4 1.7nm,0.7s							
ASAR	**Alice Springs**	**31.67**	**261**	P	**P**	**12 05 11.4**	**-1.2**
	1.1nm,0.7s,baz=78,slow=8.8,SNR=10.0 1.1nm,0.7s							
WRA	**Warramunga Arr**	**31.75**	**268**	P	P	12 05 10.7	-2.6	
	1.1nm,1.2s,baz=99,slow=8.7,SNR=2.9 1.1nm,1.2s							

*NOU **29** 12:09:14.3,35.°93S×179.°55W, h0km, MLv4.3/8, East of North Island, N.Z.*
*WEL **29** 12:09:18.7±1.1,36.°5S±8.°×18.°0W±1.°2, h12km, M4.0/35, ML4.2/20, MLv4.0/35, Error ellipse: s-maj=0.0km s-min=0.0km az=113.7*
*IDC **29** 12:09:18.5±5.3,35.°04S×179.°71E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=229.1km s-min=62.6km az=165.0*

ISC 29 12:09:19.4±3.9,36.°0S±0.°1×179.°6W±0.°2, h41km±32km, n72, σ0§93/78, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.30**	**226**	P	**Pn**	**12 09 54.1**	**-0.7**
MXZ	**Matakaoa Point**	**2.30**	**226**	P	**Pn**	**12 09 54.1**	**-0.7**
WMGZ	**Waiomatatini S**	**2.42**	**220**	P	**Pn**	**12 09 57.1**	**+0.6**
WMGZ				S	**Sn**	**12 10 27.1**	**+2.1**
PKGZ	**Pakihiroa**	**2.66**	**223**	P	**Pn**	**12 09 59.8**	**0.0**
PKGZ				S	**Sn**	**12 10 29.6**	**-1.2**
PUZ	**Puketiti**	**2.70**	**218**	P	**Pn**	**12 10 00.2**	**-0.1**
PUZ				S	**Sn**	**12 10 32.5**	**+0.8**
HAZ	**Te Kaha**	**2.74**	**229**	P	**Pn**	**12 10 01.4**	**+0.6**
HAZ				S	**Sn**	**12 10 33.3**	**+0.6**
TWGZ	**Tauwhareparae**	**2.92**	**220**	P	**Pn**	**12 10 03.6**	**+0.2**
TWGZ				S	**Sn**	**12 10 38.4**	**+1.2**
RUGZ	**Raukumara Rang**	**2.94**	**226**	P	**Pn**	**12 10 03.8**	**+0.1**
RUGZ				S	**Sn**	**12 10 37.8**	**+0.1**
WIZ	**White Island**	**2.99**	**238**	P	**Pn**	**12 10 03.9**	**-0.4**
CNGZ	**Carnagh Statio**	**3.05**	**214**	P	**Pn**	**12 10 05.8**	**+0.7**
MWZ	**Matawai**	**3.28**	**223**	P	**Pn**	**12 10 07.9**	**-0.4**
WHRZ	**Whale Island**	**3.31**	**234**	P	**Pn**	**12 10 09.5**	**+0.8**
RIGZ	**Rimuhau**	**3.43**	**216**	P	**Pn**	**12 10 11.0**	**+0.5**
RAGZ	**Rawiri**	**3.45**	**222**	P	**Pn**	**12 10 10.6**	**-0.1**
URZ	**Urewera**	**3.47**	**228**	P	**Pn**	**12 10 10.2**	**-0.6**
URZ	**Urewera**	**3.47**	**228**	P	**Pn**	**12 10 10.1**	**-0.8**
OPRZ	**Ohinepanea**	**3.58**	**237**	P	**Pn**	**12 10 11.5**	**-1.0**
SNGZ	**Shannon Statio**	**3.70**	**220**	P	**Pn**	**12 10 13.8**	**-0.3**
KNZ	**Kokohu**	**3.73**	**214**	P	**Pn**	**12 10 13.2**	**-1.2**
MHGZ	**Mahia Peninsul**	**3.73**	**211**	P	**Pn**	**12 10 14.9**	**+0.3**
TGRZ	**Tauranga**	**3.73**	**241**	P	**Pn**	**12 10 13.7**	**-0.8**
RTZ	**Ruatahuna**	**3.78**	**225**	P	**Pn**	**12 10 16.4**	**+1.2**
MUGZ	**Murupara**	**3.81**	**228**	P	**Pn**	**12 10 15.3**	**-0.3**
KUZ	**Kuaotunu**	**3.83**	**257**	P	**Pn**	**12 10 15.1**	**-0.8**
KUZ	**Kuaotunu**	**3.83**	**257**	P	**Pn**	**12 10 14.7**	**-1.2**
RRRZ	**Republican Roa**	**3.88**	**231**	P	**Pn**	**12 10 16.0**	**-0.6**
KARZ	**Kaharoa**	**3.89**	**237**	P	**Pn**	**12 10 15.9**	**-0.7**
RAHZ	**Arahi**	**3.94**	**221**	P	**Pn**	**12 10 17.7**	**+0.4**
WHTZ	**Waihua**	**3.98**	**218**	P	**Pn**	**12 10 18.5**	**+0.6**
GRZ	**Great Barrier**	**3.99**	**265**	P	**Pn**	**12 10 17.8**	**-0.2**
MTHZ	**Maungataniwha**	**4.02**	**223**	P	**Pn**	**12 10 19.3**	**+0.8**
PRRZ	**Plateau Road**	**4.06**	**230**	P	**Pn**	**12 10 18.3**	**-0.7**
ALRZ	**Allen Road**	**4.12**	**230**	P	**Pn**	**12 10 19.4**	**-0.6**
TOZ	**Tahuroa Road**	**4.28**	**244**	P	**Pn**	**12 10 20.1**	**-1.9**
WIAZ	**Waiheke Island**	**4.30**	**257**	P	**Pn**	**12 10 22.0**	**-0.4**
MKAZ	**Moumakai**	**4.34**	**253**	P	**Pn**	**12 10 21.5**	**-1.4**
BKZ	**Black Stump Fm**	**4.43**	**223**	P	**Pn**	**12 10 23.9**	**-0.3**
MBAZ	**Motutapu North**	**4.49**	**258**	P	**Pn**	**12 10 24.9**	**0.0**
ETAZ	**East Tamaki Re**	**4.50**	**256**	P	**Pn**	**12 10 25.2**	**+0.2**
CKHZ	**Cape Kidnapper**	**4.51**	**214**	P	**Pn**	**12 10 23.3**	**-2.0**
ABAZ	**Army Bay**	**4.52**	**260**	P	**Pn**	**12 10 25.5**	**+0.2**
MCHZ	**McNeill Hill**	**4.53**	**219**	P	**Pn**	**12 10 24.5**	**-1.0**
HBAZ	**Herne Bay Bore**	**4.63**	**257**	P	**Pn**	**12 10 28.1**	**+1.2**
RATZ	**Rangitukua**	**4.67**	**230**	P	**Pn**	**12 10 26.8**	**-0.6**
KAHZ	**Kahuranaki**	**4.71**	**215**	P	**Pn**	**12 10 25.8**	**-2.2**
AWAZ	**Awhitu Peninsu**	**4.74**	**255**	P	**Pn**	**12 10 28.8**	**+0.5**
RVAZ	**Riverhead Bore**	**4.74**	**259**	P	**Pn**	**12 10 27.1**	**-1.2**
WTAZ	**Waiatarua**	**4.77**	**257**	P	**Pn**	**12 10 29.2**	**+0.4**
TMVZ	**Te Maari**	**4.86**	**228**	P	**Pn**	**12 10 29.3**	**-0.8**
ETVZ	**East Tongariro**	**4.87**	**228**	P	**Pn**	**12 10 29.6**	**-0.7**
WCZ	**Waipu Caves**	**4.89**	**269**	P	**Pn**	**12 10 30.8**	**+0.4**
BHHZ	**Black Hill Sta**	**4.90**	**223**	P	**Pn**	**12 10 30.4**	**-0.2**
NNVZ	**North Ngauruho**	**4.92**	**229**	P	**Pn**	**12 10 30.5**	**-0.5**
WTVZ	**West Tongariro**	**4.93**	**229**	P	**Pn**	**12 10 30.5**	**-0.5**
SNVZ	**South Ngauruho**	**4.94**	**228**	P	**Pn**	**12 10 30.4**	**-0.9**
NGZ	**Ngauruhoe**	**4.96**	**228**	P	**Pn**	**12 10 30.2**	**-1.3**
TUVZ	**Tukino**	**4.99**	**227**	P	**Pn**	**12 10 30.8**	**-1.1**
TWVZ	**Taurewa**	**5.00**	**230**	P	**Pn**	**12 10 31.1**	**-0.9**
MOVZ	**Moawhango**	**5.02**	**225**	P	**Pn**	**12 10 30.7**	**-1.5**
FWVZ	**Far West T-bar**	**5.04**	**228**	P	**Pn**	**12 10 31.5**	**-1.1**
WNVZ	**Wahianoa**	**5.06**	**227**	P	**Pn**	**12 10 31.5**	**-1.4**
HIZ	**Hauiti**	**5.08**	**238**	P	**Pn**	**12 10 32.8**	**-0.2**
	105nm,1.8s						
HIZ	**Hauiti**	**5.08**	**238**	P	**Pn**	**12 10 33.1**	**+0.1**
PNHZ	**Pukenui**	**5.13**	**219**	P	**Pn**	**12 10 32.5**	**-1.3**
TSZ	**Takapari Road**	**5.37**	**219**	P	**Pn**	**12 10 34.9**	**-2.1**
VRZ	**Vera Road**	**5.46**	**233**	P	**Pn**	**12 10 37.8**	**-0.4**
OUZ	**Omahuta**	**5.57**	**276**	P	**Pn**	**12 10 39.2**	**-0.5**
BFZ	**Birch Farm**	**5.71**	**213**	P	**Pn**	**12 10 41.1**	**-0.6**
	60nm,1.2s						
KHEZ	**Kahui Hut**	**6.04**	**235**	P	**Pn**	**12 10 45.8**	**-0.4**
ASAR	**Alice Springs**	**41.78**	**274**	P	**P**	**12 17 04.6**	**-0.5**
	0.5nm,0.6s,baz=116,slow=8.2,SNR=4.9 0.5nm,0.6s						
WRA	**Warramunga Arr**	**43.27**	**279**	P	**P**	**12 17 16.6**	**-0.7**
	0.6nm,0.5s,baz=120,slow=7.7,SNR=11 0.6nm,0.5s						
FINES	**FINESS Array B**	**149.77**	**336**	PKPbc	**PKiKP**	**12 29 06.3**	**+1.3**
	2.4nm,0.8s,baz=64,slow=3.2,SNR=3.7						

*IDC **29** 13:08:30.9±0.8, 7.°72S×123.°61E, h245km±8km, mb3.6/10, mbtmp4.4/15, Error ellipse: s-maj=19.1km s-min=9.5km az=72.0*
*DJA **29** 13:08:30.6±0.2,8.°5S±2.°×12.°4E±.°, h258km±3km, M4.6/30, mb4.5/30, mB5.0/18, mBc6.1/12, MLv4.4/17, Mw(mB)4.3/18, MwmBc5.3/12, MwMwp6.2/1, Mwp6.2/1*
*NEIC **29** 13:08:31.6±2.4, 7.°80S±0.°06×123.°62E±0.°07, h253km±6km, mb4.5/39, Error ellipse: s-maj=10.2km s-min=8.7km az=57.0*

ISC 29 13:08:31.0±0.4,7.°83S±0.°05×123.°60E±0.°06, h250km, n118, σ1§11/123, mb4.3/33, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.57**	**239**	P	**Pn**	**13 09 09.9**	**+0.1**
MMRI	**Maumere**	**1.57**	**239**	P	**Pn**	**13 09 10.2**	**+0.3**
SOEI	**Soe**	**2.03**	**161**	Pn	**Pn**	**13 09 14.5**	**+0.5**
SOEI	**Soe**	**2.03**	**161**	P	**Pn**	**13 09 14.6**	**+0.7**
BATI	**Baumata**	**2.37**	**178**	P	**Pn**	**13 09 18.2**	**+1.2**
	3µm,0.4s,baz=18,slow=1.4,SNR=769						
BATI				S	**S**	**13 09 54.3**	**+0.9**
	2µm,0.3s,baz=89,slow=5.7,SNR=9.2						
BATI	**Baumata**	**2.37**	**178**	P	**Pn**	**13 09 18.2**	**+1.2**
BSSI	**Bau Bau, Buton**	**3.51**	**298**	P	**Pn**	**13 09 29.0**	**-0.2**
BKSI	**Bulukumba**	**4.25**	**306**	P	**Pn**	**13 09 37.4**	**-0.5**
KAPI	**Kappang**	**4.73**	**306**	P	**Pn**	**13 09 44.3**	**+0.7**
	15nm,0.5s,baz=97,slow=8.7,SNR=9.6						
KAPI	**Kappang**	**4.73**	**306**	Pn	**Pn**	**13 09 44.0**	**+0.4**
BNSI	**Bone**	**4.86**	**314**	P	**Pn**	**13 09 45.2**	**0.0**
SPSI	**Sidrap Palu**	**5.40**	**315**	P	**Pn**	**13 09 51.0**	**-0.8**
	0.1nm18nm,0.6s						
NLAI	**Namlea**	**5.74**	**38**	P	**Pn**	**13 09 56.5**	**+0.5**
	0.1nm4µm32nm,0.8s						
PLAI	**Plampang**	**5.84**	**260**	P	**Pn**	**13 09 56.3**	**-1.0**
	1.1nm3µm138nm,0.4s						
SANI	**Sanana**	**6.21**	**23**	P	**Pn**	**13 10 02.0**	**+0.1**
	0.2nm857nm59nm,1.2s						
TWSI	**Taliwang, Sumb**	**6.71**	**262**	P	**Pn**	**13 10 06.2**	**-1.8**
LUWI	**Luwuk**	**6.79**	**353**		**Pn**	**13 10 08.3**	**-0.8**
LUWI	**Luwuk**	**6.79**	**353**	P	**Pn**	**13 10 08.1**	**-1.0**
	0.2nm3µm50nm,0.8s						
APSI	**Ampana**	**7.14**	**344**	P	**Pn**	**13 10 13.7**	**+0.2**
	0.2nm598nm40nm,0.9s						
SAUI	**Saumlaki**	**7.63**	**92**		**Pn**	**13 10 19.6**	**-0.1**
SAUI	**Saumlaki**	**7.63**	**92**	P	**Pn**	**13 10 19.7**	**-0.1**
	1.0nm10µm217nm,0.6s						
LBMI	**Labuha**	**8.13**	**29**	P	**Pn**	**13 10 25.1**	**-1.0**
	1µm37nm,0.9s						
MRSI	**Marisa**	**8.41**	**349**	P	**Pn**	**13 10 29.3**	**-0.3**
	13nm,0.6s						
GTOI	**Gorontalo**	**8.43**	**356**	P	**Pn**	**13 10 30.5**	**+0.7**
	8.1nm,1.0s						
KBKI	**Kotabaru**	**8.65**	**301**	P	**Pn**	**13 10 31.5**	**-1.2**
	2µm,0.7s						
MPSI	**Mapaga**	**8.91**	**335**	P	**Pn**	**13 10 36.4**	**+0.5**
	9.8nm,1.1s						
MTN	**Manton Dam**	**8.94**	**125**	Pn	**Pn**	**13 10 35.7**	**-0.5**
KNRA	**Kununurra**	**9.30**	**148**	Pn	**Pn**	**13 10 40.1**	**-0.7**
TOLI2	**Tolitoli**	**9.31**	**342**	Pn	**Pn**	**13 10 41.7**	**+0.7**
TNTI	**Ternate**	**9.33**	**24**	Pn	**Pn**	**13 10 42.0**	**+0.7**
TNTI	**Ternate**	**9.33**	**24**	P	**Pn**	**13 10 40.7**	**-0.6**
	1µm35nm,1.1s						
JAGI	**Jajag, Banyuwa**	**9.37**	**265**	Pn	**Pn**	**13 10 39.2**	**-2.6**
JAGI	**Jajag, Banyuwa**	**9.37**	**265**	P	**Pn**	**13 10 41.0**	**-0.8**
	2µm37nm,0.5s						
BBKI	**Banjar Baru**	**9.73**	**296**	P	**Pn**	**13 10 47.2**	**+0.9**
FAKI	**Fak Fak**	**9.90**	**61**	Pn	**Pn**	**13 10 46.8**	**-1.6**
FAKI	**Fak Fak**	**9.90**	**61**	P	**Pn**	**13 10 47.2**	**-1.2**
	699nm38nm,0.9s						
GMJI	**Gumukmas**	**10.06**	**267**	P	**Pn**	**13 10 48.3**	**-2.2**
SIJI	**Sorong**	**10.30**	**48**	P	**Pn**	**13 10 52.2**	**-1.3**
	11nm,0.5s,baz=254,slow=4.6,SNR=7.0						
GRJI	**Gresik**	**11.06**	**274**	P	**Pn**	**13 11 00.0**	**-3.0**
	67nm,0.6s						
PCJI	**Pacitan**	**12.30**	**267**	P	**Pn**	**13 11 17.3**	**-1.2**
	4µm225nm,0.4s						
UGM	**Wanagama**	**12.95**	**269**	Pn	**Pn**	**13 11 25.1**	**-1.5**
UGM	**Wanagama**	**12.95**	**269**

LZH					sP	pP	13 17 42.0	+7.9	
LZH					pmax	pmax			
	comp=Z,16nm,1.0s								
HHC	**Hu-ho-hao-te**	**49.69**	**348**	*eP*	**P**		**13 16 59.8**	**+1.9**	
HHC					pmax	pmax			
	comp=Z,17nm,0.9s								
HHC					pmax	pmax			
	comp=Z,270nm,6.0s								
GTA	**Gaotai**	**51.91**	**337**	*eP*	**P**		**13 17 14.8**	**+0.3**	
GTA					pmax	pmax			
	comp=Z,4.0nm,1.2s								
XLT	**XiLinHaoTe**	**51.93**	**353**	*eP*	**P**		**13 17 13.5**	**-1.0**	
XLT					pP	pP	13 18 10.0	+2.1	
XLT					sP	sP	13 18 39.8	+4.6	
XLT					pmax	pmax			
	comp=Z,9.0nm,0.9s								
XLT					pmax	pmax			
	comp=Z,140nm,5.1s								
USRK	**Ussuriysk Ar.**	**52.34**	**8**	P	**P**		**13 17 17.1**	**-0.2**	
	comp=Z,2.8nm,0.6s,baz=190,slow=7.0,SNR=6.4								
	comp=Z,2.8nm,0.6s								
MDJ	**Mudanjiang**	**52.48**	**5**	P	**P**		**13 17 18.5**	**+0.1**	
MDJ					pP	pP	13 18 13.5	+1.9	
MDJ					sP	sP	13 18 42.0	+3.2	
MDJ					PcS	**PcS**	**13 22 23.0**	**-1.1**	
MDJ					S	**S**	**13 24 28.3**	**+3.3**	
MDJ					sS	sS	13 26 04.3	+4.1	
MDJ					pmax	pmax			
	comp=Z,9.0nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,250nm,5.4s								
JKA	**Kamikawa-asahi**	**54.48**	**17**	P	**P**		**13 17 33.5**	**+0.5**	
SONM	**Songino Array**	**57.47**	**346**	P	**P**		**13 17 53.9**	**-0.3**	
	comp=Z,1.3nm,0.7s,baz=165,slow=8.1,SNR=9.3								
	comp=Z,1.3nm,0.7s								
SONM	**Songino Array**	**57.47**	**346**	P	**P**		**13 17 53.7**	**-0.5**	
HEH	**HeiHe**	**57.93**	**3**	*eP*	**P**		**13 17 57.0**	**-0.2**	
HEH					pmax	pmax			
	comp=Z,7.0nm,0.9s								
HEH					pmax	pmax			
	comp=Z,310nm,5.2s								
WMQ	**Urumqi**	**60.82**	**331**	*eP*	**P**		**13 18 19.5**	**+2.4**	
AFI	**Afiamalu**	**63.60**	**102**	P	**P**		**13 18 34.0**	**-2.1**	
MK31	**Makanchi Array**	**65.60**	**330**	P	**P**		**13 18 48.3**	**0.0**	
MK31				IAmb	IAmb		13 18 53.4		
	comp=Z,5.5nm,1.4s								
MKAR	**Makanchi Array**	**65.60**	**330**	P	**P**		**13 18 48.0**	**-0.3**	
	comp=Z,1.9nm,0.8s,baz=131,slow=7.8,SNR=18								
	comp=Z,1.9nm,0.8s								
MKAR	**Makanchi Array**	**65.60**	**330**	P	**P**		**13 18 48.1**	**-0.2**	
MAKZ	**Makanchi**	**65.77**	**330**	P	**P**		**13 18 49.1**	**-0.3**	
MAKZ				IAmb	IAmb		13 19 27.4		
	comp=Z,6.9nm,1.2s								
BOOM	**Boomskoye usch**	**66.26**	**323**	P	**P**		**13 18 52.1**	**-0.7**	
BOOM				IAmb	IAmb		13 18 58.0		
	comp=Z,3.4nm,0.8s								
KBL	**Kabul**	**66.55**	**313**	P	**P**		**13 18 53.6**	**-1.2**	
KBL				IAmb	IAmb		13 18 55.0		
	comp=Z,5.1nm,0.7s								
AAK	**Ala-Archa**	**67.21**	**323**	P	**P**		**13 18 58.5**	**-0.2**	
PEA0B	**Petropavlovsk-**	**67.25**	**22**	P	**P**		**13 18 58.7**	**+0.2**	
PETK	**Petropavlovsk-**	**67.25**	**22**	P	**P**		**13 18 59.5**	**+1.0**	
GAR	**Garm**	**67.86**	**318**	P	**P**		**13 19 02.2**	**-0.7**	
GAR				IAmb	IAmb		13 19 04.1		
	comp=Z,4.5nm,0.6s								
ZAA0	**Zalesovo Array**	**69.67**	**337**	P	**P**		**13 19 11.7**	**-1.8**	
ZAA0				IAmb	IAmb		13 19 12.6		
	comp=Z,2.2nm,0.6s								
ZALV	**Zalesovo Beam**	**69.67**	**337**	P	**P**		**13 19 11.9**	**-1.5**	
	comp=Z,1.9nm,0.6s,baz=134,slow=5.5,SNR=7.8								
	comp=Z,1.9nm,0.6s								
ZALV	**Zalesovo Beam**	**69.67**	**337**	P	**P**		**13 19 11.8**	**-1.7**	
KKAR	**Karatay Array**	**69.89**	**321**	P	**P**		**13 19 14.1**	**-1.1**	
KURK	**Kurchatov**	**70.05**	**331**	P	**P**		**13 19 15.1**	**-0.7**	
VNDA	**Vanda**	**72.47**	**172**	P	**P**		**13 19 31.0**	**+1.1**	
	comp=Z,0.5nm,0.4s,baz=324,slow=8.2,SNR=7.6								
	comp=Z,0.5nm,0.4s								
VNDA	**Vanda**	**72.47**	**172**	P	**P**		**13 19 30.2**	**+0.3**	
VOI	**Vohitsoka**	**74.91**	**249**	P	**P**		**13 19 45.2**	**-0.1**	
VOI				IAmb	IAmb		13 20 10.8		
	comp=Z,24nm,1.5s								
BVAR	**Borovoye Array**	**75.48**	**330**	P	**P**		**13 19 47.0**	**-0.7**	
	comp=Z,0.4nm,0.6s,baz=108,slow=7.7,SNR=3.0								
	comp=Z,0.4nm,0.6s								
ABKAR	**Akbulak array**	**79.28**	**323**	P	**P**		**13 20 07.5**	**-1.3**	
ABKAR	**Akbulak array**	**79.28**	**323**	P	**P**		**13 20 08.0**	**-0.8**	
ABKAR				IAmb	IAmb		13 20 30.4		
	comp=Z,2.4nm,1.2s								
QSPA	**South Pole Qui**	**82.16**	**180**	P	**P**		**13 20 24.3**	**+0.4**	
RAYN	**Ar Rayn**	**82.30**	**295**	P	**P**		**13 20 25.2**	**-0.1**	
RAYN				IAmb	IAmb		13 20 27.1		
	comp=Z,5.7nm,1.0s								
POGA	**Pongola**	**88.12**	**243**	P	**P**		**13 20 54.8**	**+0.8**	
POGA				IAmb	IAmb		13 21 34.0		
	comp=Z,27nm,1.5s								
CPUP	**Villa Florida**	**146.04**	**179**	PKPbc	**PKPab**		**13 27 43.4**	**+0.2**	
	comp=Z,1.4nm,0.4s,baz=234,slow=3.9,SNR=3.7								

WEL ***29*** *13:15:17.2±0.3, 42˚S×3˚×17˚4E±˚, h12km±2km, M4.0/46, ML4.2/25, MLv4.0/46, Error ellipse: s-maj=0.0km s-min=0.0km az=142.6*

NEIC ***29*** *13:15:17.1±1.6, 41.77S±0.03×174.41E±0.03, h15km±3km, mb4.4/5, Mwr4.0/35, Error ellipse: s-maj=4.5km s-min=3.6km az=164.0*

NEIC ***29*** *13:15:17, 41.75S×174.44E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.46; $M_{\theta\theta}$0.73; $M_{\phi\phi}$-1.19; $M_{r\theta}$0.62; $M_{\theta\phi}$0.22; $M_{\phi r}$0.11; Fault plane solution: $M_0$1.24000×10^{15} NP1:ϕ_s31.69000°, δ65.21000°, λ149.55000°. NP2:ϕ_s135.54000°, δ62.61000°, λ28.18000°. Principal axes: T 1.2570, Plg38.0000°, Azm353.0000°; N -0.0435, Plg51.0000°, Azm176.0000°; P -1.2134, Plg2.0000°, Azm84.0000°;*

ISC 29 13:15:16.6±1.2, 41.79S±0.03×174.43E±0.02, h13km±8km, n141, σ1°18/145, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**283**	Pg	**Pg**	**13 15 20.5**	**-0.1**
CMWZ				Sg	**Sb**	**13 15 24.0**	**-1.0**
CMWZ	**Cape Campbell**	**0.17**	**283**	P	**Pg**	**13 15 20.6**	**0.0**
CMWZ				S	**Sb**	**13 15 25.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.42**	**280**	Pg	**Pg**	**13 15 25.3**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.42**	**280**	P	**Pg**	**13 15 25.5**	**+0.4**
BSWZ				S	**Sb**	**13 15 32.4**	**+0.1**
BHW	**Baring Head**	**0.50**	**41**		**Pg**	**13 15 26.4**	**0.0**
TUWZ	**Tuamarina**	**0.51**	**314**	Pg	**Pg**	**13 15 26.2**	**-0.5**
TUWZ	**Tuamarina**	**0.51**	**314**	P	**Pg**	**13 15 26.3**	**-0.4**
TUWZ				S	**Sb**	**13 15 33.4**	**-1.4**
SNZO	**South Karori**	**0.52**	**23**		**Pg**	**13 15 26.5**	**-0.3**
WEL	**Wellington**	**0.56**	**27**	P	**Pg**	**13 15 27.7**	**0.0**
TCW	**Tory Channel**	**0.59**	**348**	Pg	**Pg**	**13 15 27.2**	**-0.9**
TCW	**Tory Channel**	**0.59**	**348**	P	**Pg**	**13 15 27.3**	**-0.8**
PLWZ	**Palliser**	**0.65**	**71**	Pg	**Pb**	**13 15 30.9**	**+1.0**
PLWZ	**Palliser**	**0.65**	**71**	P	**Pb**	**13 15 31.1**	**+1.2**
MSWZ	**Moikau Station**	**0.72**	**59**		**Pb**	**13 15 31.2**	**+0.2**
MSWZ	**Moikau Station**	**0.72**	**59**	P	**Pb**	**13 15 31.5**	**+0.5**
CAW	**Cannon Point**	**0.83**	**35**	P	**Pg**	**13 15 32.4**	**-0.3**
PAWZ	**Paruwai Farm**	**0.85**	**62**	P	**Pb**	**13 15 34.0**	**+0.8**
KHZ	**Kahutara**	**0.92**	**226**	P	**Pn**	**13 15 36.1**	**+0.9**
NNZ	**Nelson**	**0.98**	**305**		**Pb**	**13 15 34.3**	**-1.1**
NNZ	**Nelson**	**0.98**	**305**	P	**Pb**	**13 15 34.6**	**-0.8**
KIW	**Kapiti Island**	**0.99**	**21**	P	**Pb**	**13 15 35.0**	**-0.7**
TRWZ	**Traveller**	**1.02**	**68**	P	**Pb**	**13 15 36.5**	**+0.3**
MTW	**Mount Morrison**	**1.02**	**52**	P	**Pg**	**13 15 36.6**	**+0.3**
DUWZ	**D'Urville Isla**	**1.06**	**338**	P	**Pb**	**13 15 35.7**	**-1.1**
DUWZ				P	**Pb**	**13 15 35.7**	**-1.1**
OGWZ	**Otaki Gorge**	**1.12**	**30**	P	**Pb**	**13 15 37.2**	**-0.6**
THZ	**Tophouse**	**1.14**	**271**		**Pb**	**13 15 38.4**	**+0.1**
THZ	**Tophouse**	**1.14**	**271**	P	**Pn**	**13 15 38.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.21**	**43**	P	**Pn**	**13 15 39.1**	**-0.1**
TMWZ	**Te Maipa**	**1.29**	**59**	P	**Pn**	**13 15 40.0**	**-0.3**
MRNZ	**Matariki Terra**	**1.32**	**287**		**Pb**	**13 15 41.1**	**-0.1**
MRNZ	**Matariki Terra**	**1.32**	**287**	P	**Pg**	**13 15 41.5**	**-0.5**
TKNZ	**Takaka Hill**	**1.34**	**304**		**Pn**	**13 15 40.8**	**-0.3**
TKNZ	**Takaka Hill**	**1.34**	**304**	P	**Pb**	**13 15 41.2**	**-0.5**
MRZ	**Mangatainoka R**	**1.42**	**38**		**Pn**	**13 15 41.8**	**-0.3**
MRZ	**Mangatainoka R**	**1.42**	**38**	P	**Pn**	**13 15 42.2**	**0.0**
TIWZ	**Tintock**	**1.49**	**48**	P	**Pn**	**13 15 42.8**	**-0.4**
GVZ	**Greta Valley S**	**1.57**	**221**		**Pn**	**13 15 44.5**	**+0.3**
GVZ	**Greta Valley S**	**1.57**	**221**	P	**Pn**	**13 15 44.8**	**+0.6**
CPWZ	**Castlepoint**	**1.59**	**57**	P	**Pn**	**13 15 44.6**	**+0.1**
PRWZ	**Pori Road**	**1.69**	**44**	P	**Pn**	**13 15 45.6**	**-0.2**
OHWZ	**Ohakea**	**1.72**	**23**	P	**Pb**	**13 15 47.8**	**-0.2**
POWZ	**Post Office Ro**	**1.72**	**36**	P	**Pn**	**13 15 46.3**	**0.0**
QRZ	**Quartz Range**	**1.73**	**303**	P	**Pb**	**13 15 47.7**	**-0.5**
BFZ	**Birch Farm**	**1.76**	**52**	P	**Pn**	**13 15 46.0**	**-0.8**
LTZ	**Lake Taylor**	**1.89**	**238**		**Pn**	**13 15 48.8**	**+0.2**
LTZ	**Lake Taylor**	**1.89**	**238**	P	**Pn**	**13 15 49.3**	**+0.7**
AMCZ	**Amberley**	**1.91**	**223**	P	**Pn**	**13 15 49.3**	**+0.3**
DSZ	**Denniston Nort**	**1.97**	**270**	P	**Pb**	**13 15 51.6**	**-0.7**
DVHZ	**Dannevirke**	**1.98**	**42**	P	**Pn**	**13 15 49.1**	**-0.8**
ANWZ	**Angora Road**	**2.03**	**50**	P	**Pn**	**13 15 49.7**	**-0.9**
WAZ	**Wanganui**	**2.07**	**12**	P	**Pb**	**13 15 53.6**	**-0.6**
TSZ	**Takapari Road**	**2.08**	**34**	P	**Pn**	**13 15 50.9**	**-0.4**
OKCZ	**Okains Bay**	**2.18**	**207**	P	**Pn**	**13 15 52.5**	**-0.1**
WPHZ	**Waipukurau**	**2.30**	**42**	P	**Pn**	**13 15 53.5**	**-0.7**
PNHZ	**Pukenui**	**2.30**	**36**	P	**Pn**	**13 15 53.7**	**-0.6**
MQZ	**McQueen's Vall**	**2.32**	**214**		**Pn**	**13 15 53.6**	**-0.9**
MQZ	**McQueen's Vall**	**2.32**	**214**	P	**Pn**	**13 15 53.6**	**-0.9**
LREZ	**Lake Rotokare**	**2.33**	**359**	P	**Pb**	**13 15 58.7**	**+0.3**
OXZ	**Oxford**	**2.34**	**228**		**Pn**	**13 15 54.4**	**-0.5**
OXZ	**Oxford**	**2.34**	**228**	P	**Pn**	**13 15 54.4**	**-0.5**
AKCZ	**Akaroa Harbour**	**2.37**	**208**	P	**Pn**	**13 15 55.0**	**-0.1**
INZ	**Inchbonnie**	**2.41**	**246**		**Pn**	**13 15 56.0**	**+0.3**
INZ	**Inchbonnie**	**2.41**	**246**	P	**Pn**	**13 15 56.8**	**+1.0**
NMEZ	**Namu Road**	**2.41**	**350**	P	**Pb**	**13 15 59.8**	**-0.1**
KHEZ	**Kahui Hut**	**2.51**	**353**	P	**Pb**	**13 16 00.5**	**-1.1**
MTVZ	**Mangateitei**	**2.53**	**19**	P	**Pb**	**13 16 02.8**	**+0.9**
NEZ	**North Egmont**	**2.53**	**354**	P	**Pb**	**13 16 02.1**	**+0.2**
PXZ	**Pawanui**	**2.54**	**47**	P	**Pn**	**13 15 56.4**	**-1.2**
NBEZ	**Newall Road No**	**2.56**	**350**	P	**Pb**	**13 16 00.3**	**-2.0**
RACZ	**Rakaia**	**2.57**	**220**	P	**Pn**	**13 15 57.5**	**-0.5**
MOVZ	**Moawhango**	**2.58**	**23**	P	**Pn**	**13 15 58.2**	**+0.6**
PKVZ	**Pokaka**	**2.59**	**16**	P	**Pb**	**13 16 02.1**	**-0.8**
DREZ	**Durham Road**	**2.60**	**356**	P	**Pb**	**13 16 02.0**	**-1.1**
BHHZ	**Black Hill Sta**	**2.61**	**29**	P	**Pn**	**13 15 58.7**	**+0.1**
PKE	**Pukeiti**	**2.61**	**352**	P	**Pb**	**13 16 01.8**	**-1.6**
WNVZ	**Wahianoa**	**2.61**	**20**	P	**Pn**	**13 15 59.6**	**+0.9**
TRVZ	**Turoa**	**2.63**	**19**	P	**Pb**	**13 16 03.9**	**+0.2**
WHVZ	**Whangaehu Hut**	**2.65**	**20**	P	**Pn**	**13 16 01.2**	**+1.8**
DRZ	**Dome Shelter**	**2.65**	**19**	P	**Pb**	**13 16 05.1**	**+0.9**
FWVZ	**Far West T-bar**	**2.67**	**19**	P	**Pn**	**13 16 01.3**	**+1.7**
VRZ	**Vera Road**	**2.67**	**5**	P	**Pn**	**13 16 01.3**	**+2.0**
TUVZ	**Tukino**	**2.68**	**21**	P	**Pn**	**13 16 00.6**	**+0.9**
MHEZ	**Mangahewa**	**2.71**	**358**	P	**Pb**	**13 16 05.9**	**+0.9**
KAHZ	**Kahuranaki**	**2.72**	**44**	P	**Pn**	**13 15 58.6**	**-1.4**
MHCZ	**Mount Hutt**	**2.74**	**230**	P	**Pn**	**13 16 00.1**	**-0.2**
SNVZ	**South Ngauruho**	**2.76**	**20**	P	**Pn**	**13 16 02.3**	**+1.6**
NGZ	**Ngauruhoe**	**2.76**	**19**	P	**Pn**	**13 16 01.9**	**+1.2**
OTVZ	**Oturere**	**2.79**	**20**	P	**Pn**	**13 16 02.9**	**+1.8**
NNVZ	**North Ngauruho**	**2.80**	**19**	P	**Pn**	**13 16 02.5**	**+1.2**
WTVZ	**West Tongariro**	**2.81**	**19**	P	**Pn**	**13 16 03.3**	**+1.9**
TWVZ	**Taurewa**	**2.82**	**16**	P	**Pn**	**13 16 03.3**	**+1.8**
ETVZ	**East Tongariro**	**2.82**	**21**	P	**Pn**	**13 16 02.5**	**+0.9**
TMVZ	**Te Maari**	**2.84**	**20**	P	**Pn**	**13 16 02.6**	**+0.8**
KRVZ	**Karewarewa**	**2.84**	**19**	P	**Pn**	**13 16 03.5**	**+1.7**
NTVZ	**North Tongarir**	**2.85**	**20**	P	**Pn**	**13 16 03.0**	**+1.1**
WACZ	**Wakanui South**	**2.88**	**221**	P	**Pn**	**13 16 01.8**	**-0.4**
MCHZ	**McNeill Hill**	**2.91**	**37**	P	**Pn**	**13 16 01.9**	**-0.7**
KATZ	**Kakaramea**	**2.97**	**19**	P	**Pb**	**13 16 09.9**	**+0.4**
WVZ	**Waitaha Valley**	**3.02**	**244**	P	**Pn**	**13 16 05.5**	**+1.3**
BKZ	**Black Stump Fm**	**3.05**	**32**	Pn	**Pn**	**13 16 03.5**	**-1.1**
BKZ	**Black Stump Fm**	**3.05**	**32**	P	**Pn**	**13 16 03.8**	**-0.8**
RATZ	**Rangitukua**	**3.09**	**20**	P	**Pb**	**13 16 12.1**	**+0.6**
RPZ	**Rata Peaks**	**3.15**	**231**		**Pn**	**13 16 05.6**	**-0.3**
RPZ	**Rata Peaks**	**3.15**	**231**	P	**Pn**	**13 16 06.1**	**+0.2**
ARHZ	**Aropaoanui**	**3.19**	**39**	P	**Pn**	**13 16 05.4**	**-1.1**
ARCZ	**Arundel**	**3.22**	**227**	P	**Pn**	**13 16 06.8**	**-0.2**
HIZ	**Haiti**	**3.29**	**6**	P	**Pn**	**13 16 10.0**	**+2.1**
MRHZ	**Matea Rd**	**3.32**	**28**	P	**Pn**	**13 16 07.8**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**3.40**	**242**	P	**Pb**	**13 16 15.7**	**-0.9**
MTHZ	**Maungataniwha**	**3.46**	**33**	P	**Pn**	**13 16 10.2**	**-0.1**
TLZ	**Tolley Road**	**3.56**	**14**	P	**Pb**	**13 16 15.9**	**-3.5**
TMZ	**Timaru**	**3.61**	**223**	P	**Pn**	**13 16 11.8**	**-0.5**
MUGZ	**Murupara**	**3.76**	**29**	P	**Pn**	**13 16 15.6**	**+1.3**
FOZ	**Fox Glacier**	**3.83**	**241**	Pn	**Pn**	**13 16 15.4**	**+0.2**
FOZ	**Fox Glacier**	**3.83**	**241**	P	**Pn**	**13 16 16.3**	**+1.2**
LBZ	**Lake Benmore**	**4.05**	**229**	Pn	**Pn**	**13 16 19.2**	**+0.9**
LBZ	**Lake Benmore**	**4.05**	**229**	P	**Pn**	**13 16 19.4**	**+1.0**
URZ	**Urewera**	**4.08**	**31**	P	**Pn**	**13 16 17.9**	**-0.8**
TOZ	**Tahuroa Road**	**4.13**	**12**	P	**Pn**	**13 16 22.4**	**+2.9**
OPRZ	**Ohinepanea**	**4.26**	**23**	P	**Pn**	**13 16 23.9**	**+2.7**
ODZ	**Otahua Downs**	**4.27**	**219**	Pn	**Pn**	**13 16 20.8**	**-0.5**
ODZ	**Otahua Downs**	**4.27**	**219**	P	**Pn**	**13 16 20.5**	**-0.7**
TGRZ	**Tauranga**	**4.29**	**20**	P	**Pb**	**13 16 28.4**	**-3.5**
RUGZ	**Raukumara Rang**	**4.56**	**34**	P	**Pn**	**13 16 28.4**	**-1.9**
MKAZ	**Mokamai**	**4.71**	**7**	P	**Pn**	**13 16 28.3**	**+0.9**
AWAZ	**Awhitu Peninsu**	**4.72**	**2**	P	**Pn**	**13 16 30.0**	**+2.5**
JCZ	**Jackson Bay**	**4.73**	**239**	P	**Pn**	13 16 33.8	+6.0
HAZ	**Te Kaha**	**4.78**	**34**	P	**Pn**	**13 16 27.8**	**-0.5**
ETAZ	**East Tamaki Re**	**4.84**	**5**	P	**Pn**	**13 16 32.3**	**+3.1**
RVAZ	**Riverhead Bore**	**5.01**	**1**	P	**Pn**	**13 16 34.2**	**+2.7**
WIAZ	**Waiheke Island**	**5.02**	**6**	P	**Pn**	**13 16 34.6**	**+3.0**
KUZ	**Kuaotunu**	**5.13**	**12**	P	**Pn**	**13 16 36.5**	**+3.3**
MXZ	**Matakaoa Point**	**5.17**	**37**	Pn	**Pn**	**13 16 33.1**	**-0.6**
WCZ	**Waipu Caves**	**5.84**	**359**	P	**Pn**	**13 16 45.7**	**+2.8**
OUZ	**Omahuta**	**6.59**	**354**	Pn	**Pn**	**13 16 52.4**	**-0.8**
OUZ	**Omahuta**	**6.59**	**354**	P	**Pn**	**13 16 55.7**	**+2.5**
LHI	**Lord Howe Isla**	**16.01**	**305**	Pn	**Pn**	**13 19 01.4**	**-0.1**
LHI				IAmb	IAmb	13 19 22.4	
	comp=Z,106nm,1.5s						
WB2	**Warramunga Arr**	**40.24**	**290**	P	**P**	**13 22 52.6**	**-0.6**
WB2				IAmb	IAmb	13 23 27.7	
	comp=Z,6.5nm,1.2s						
WRAB	**Tennant Creek**	**40.24**	**290**	P	**P**	**13 22 52.9**	**-0.4**
WRAB				IAmb	IAmb	13 23 00.2	
	comp=Z,9.3nm,1.4s						
QSPA	**South Pole Qui**	**48.34**	**180**	P	**P**	**13 23 58.6**	**+1.0**
PSA00	**Pilbara Seismi**	**49.76**	**276**	P	**P**	**13 24 09.5**	**+0.6**

IDC ***29*** *13:19:36.0±0.8, 6.78N×72.97W, h160km±11km, mb3.2/4, mbtmp3.9/6, Error ellipse: s-maj=33.5km s-min=8.6km az=131.0*

NEIC ***29*** *13:19:36.6±1.2, 6.6N±0.1×72.9W±0.1, h170km±13km, mb4.2/32, Error ellipse: s-maj=24.2km s-min=10.6km az=133.0*

RSNC ***29*** *13:19:37.4±1.0, 6.79N×73.15W, h148km±4km, ML3.7, Mw4.1*

ISC 29 13:19:36.0±0.6, 6.82N±0.03×73.15W±0.04, h152km±6km, n87, σ1°47/120, mb4.2/20, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**188**	⇓*eP*	**Pn**	**13 19 57.2**	**+0.3**
BARC				*eS*	**Sn**	**13 20 12.2**	**-0.6**
BRRC	**Barranca, Sant**	**0.63**	**297**	⇑*iP*	**Pn**	**13 19 59.0**	**+0.7**
BRRC				*eS*	**Sn**	**13 20 15.8**	**+0.6**
BRRC				IAML		13 20 18.6	
	comp=Z,696nm,0.3s						
PAMC	**Pamplona, Colo**	**0.69**	**41**	⇑*iP*	**Pn**	**13 20 00.0**	**+0.8**
PAMC				*eS*	**Sn**	**13 20 17.4**	**+0.5**
PAMC				IAML		13 20 20.6	
	comp=Z,779nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*eP*	**Pn**	**13 20 03.6**	**-0.4**
PTBC				*eS*	**Sn**	**13 20 24.9**	**-0.4**
PTBC				IAML		13 20 31.9	
	comp=Z,512nm,0.2s						
TAMC	**Tame, Arauca**	**1.40**	**106**	⇑*iP*	**Pn**	**13 20 05.6**	**+0.9**
TAMC				*eS*	**Sn**	**13 20 27.1**	**+0.3**
TAMC				IAML		13 20 28.8	
	comp=Z,349nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*eP*	**Pn**	**13 20 09.7**	**+0.5**
ZARC				*eS*	**Sn**	**13 20 33.4**	**-1.3**
ZARC				IAML		13 20 40.5	
	comp=Z,850nm,0.3s						
NORC	**Norcasia**	**2.11**	**234**	*eP*	**Pn**	**13 20 13.4**	**+0.7**
NORC				*eS*	**Sn**	**13 20 40.7**	**-0.1**
NORC				IAML		13 20 50.9	
	comp=Z,386nm,0.4s						
CHIC	**Chingaza**	**2.25**	**195**	*eP*	**Pn**	**13 20 15.1**	**+0.4**
CHIC				*eS*	**Sn**	**13 20 44.6**	**+0.3**
CHIC				IAML		13 20 48.6	
	comp=Z,443nm,0.5s						
ROSC	**El Rosal**	**2.28**	**211**	P	**Pn**	**13 20 17.0**	**+2.0**
	comp=Z,182nm,0.3s,baz=304,slow=6.8,SNR=96						
ROSC				S	**Sn**	**13 20 47.4**	**+2.4**
	comp=Z,823nm,0.5s,baz=42,slow=20,SNR=6.3						
ROSC	**El Rosal**	**2.28**	**211**	Pn	**Pn**	**13 20 16.9**	**+1.9**
ROSC	**El Rosal**	**2.28**	**211**	*eP*	**Pn**	**13 20 16.9**	**+1.9**
ROSC				*eS*	**Sn**	**13 20 47.2**	**+2.3**
ROSC				IAML		13 20 52.0	
	comp=Z,1μm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**292**	*eP*	**Pn**	**13 20 17.1**	**-0.6**
UREC				*eS*	**Sn**	**13 20 47.9**	**-2.0**
UREC				IAML		13 21 02.4	
	comp=Z,285nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.74**	**352**	*eP*	**Pn**	**13 20 22.4**	**+2.2**
LL1C				*eS*	**Sn**	**13 20 57.0**	**+2.7**
LL1C				IAML		13 21 12.0	
	comp=Z,1μm,0.5s						
PTGC	**Puerto Gaitan,**	**2.79**	**159**	*eP*	**Pn**	**13 20 20.3**	**-0.5**
PTGC				*eS*	**Sn**	**13 20 53.7**	**-1.8**
PTGC				IAML		13 20 56.6	
	comp=Z,147nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*eP*	**Pn**	**13 20 24.8**	**+1.2**
CBOC				*eS*	**Sn**	**13 21 02.3**	**+1.9**
CBOC				IAML		13 21 07.1	
	comp=Z,110nm,0.5s						
DBBC	**Dabeiba**	**3.04**	**274**	*eP*	**Pn**	**13 20 25.4**	**+1.3**
DBBC				*eS*	**Sn**	**13 21 00.9**	**-0.4**
ARGC	**Ariguani, Magd**	**3.21**	**340**	*eP*	**Pn**	**13 20 27.4**	**+1.2**
ARGC				*eS*	**Sn**	**13 21 06.7**	**+1.7**
ARGC				IAML		13 21 13.0	
	comp=Z,100nm,0.4s						
ANIL	**Santa Ana**	**3.22**	**224**	*eP*	**Pn**	**13 20 27.5**	**+0.9**
ANIL				*eS*	**Sn**	**13 21 07.4**	**+1.8**
ANIL				IAML		13 21 17.4	
	comp=Z,851nm,0.3s						
SDV	**Santo Domingo**	**3.23**	**50**	P	**Pn**	**13 20 26.7**	**+0.1**
	comp=Z,184nm,0.4s,baz=177,slow=3.5,SNR=133						
SDV				S	**Sn**	**13 21 03.8**	**-1.9**
	comp=Z,75nm,0.4s,baz=88,slow=20,SNR=6.7						
SDV	**Santo Domingo**	**3.23**	**50**		**Pn**	**13 20 26.6**	**0.0**
PRAC	**Prado**	**3.53**	**209**		**Pn**	**13 20 30.3**	**0.0**
PRAC	**Prado**	**3.53**	**209**	*eP*	**Pn**	**13 20 30.4**	**+0.1**
PRAC				*eS*	**Sn**	**13 21 12.5**	**0.0**
PRAC				IAML		13 21 19.5	
	comp=Z,439nm,0.4s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*eP*	**Pn**	**13 20 31.9**	**+1.2**
ORTC				*eS*	**Sn**	**13 21 13.1**	**-0.1**
ORTC				IAML		13 21 18.7	
	comp=Z,192nm,0.2s						
PLMC	**San Jos del P**	**3.65**	**239**	*eP*	**Pn**	**13 20 32.6**	**+0.8**
PLMC				*eS*	**Sn**	**13 21 14.7**	**-0.4**
PLMC				I

PINE	**Pine Mountain**	**55.63**	**319**	P	**P**	**13 28 57.2**	**+0.7**
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**13 29 47.6**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=132,slow=6.2,SNR=10						
	comp=Z,1.2nm,0.5s						
DLBC	**Dease Lake**	**67.31**	**331**	P	**P**	**13 30 14.9**	**+0.5**
N31M	**Braeburn, Yuko**	**71.18**	**333**	P	**P**	**13 30 39.7**	**+1.5**
M30M	**Minto, Yukon**	**72.02**	**334**	P	**P**	**13 30 43.8**	**+0.6**
M30M				IAmb	IAmb	13 31 07.3	
	comp=Z,12nm,1.4s						
A36M	**Sachs Harbour**	**72.43**	**345**	P	**P**	**13 30 44.7**	**-0.6**
A36M				IAmb	IAmb	13 31 23.5	
	comp=Z,4.4nm,1.2s						
INK	**Inuvik**	**73.02**	**340**	P	**P**	**13 30 48.2**	**-0.7**
INK				IAmb	IAmb	13 31 13.5	
	comp=Z,3.6nm,1.4s						
DOT	**Dot Lake**	**75.50**	**334**	P	**P**	**13 31 03.7**	**+0.4**
DOT				IAmb	IAmb	13 31 44.3	
	comp=Z,4.5nm,1.5s						
BMAR	**Burnt Mountain**	**76.65**	**338**	P	**P**	**13 31 10.0**	**+0.2**
ASAR	**Alice Springs**	**149.08**	**234**	PKPbc	**PKPbc**	**13 39 06.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=114,slow=3.3,SNR=2.0						
WRA	**Warramunga Arr**	**150.31**	**241**	PKPbc	**PKPbc**	**13 39 08.9**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.9,SNR=7.6						

BJI ***29*** *13:37:16.2±0.0,39.˚23N×70.˚12E,h10km,mb4.6/14, mB4.9/11,ML4.1/1*

SOME ***29*** *13:37:21.7,39.˚23N×71.˚83E,h5km*

MOS ***29*** *13:37:22.2±1.0,38.˚82N×70.˚70E,h13km,mb4.6/4,Error ellipse: s-maj=9.1km s-min=4.3km az=72.0*

NNC ***29*** *13:37:23.6±2.7,38.˚74N×70.˚77E,h0km,mb4.4,mpv4.1, Error ellipse: s-maj=21.6km s-min=15.7km az=2.0*

NEIC ***29*** *13:37:23.1±2.1,38.˚87N±0.˚03×70.˚79E±0.˚03,h10km±1km, mb4.6/9,Error ellipse: s-maj=4.6km s-min=3.6km az=183.0*

IDC ***29*** *13:37:24.6±1.7,38.˚84N×71.˚05E,h0km,mb3.5/1, mbtmp3.8/8,ML3.2/7,MS2.7/4,Error ellipse: s-maj=28.2km s-min=18.6km az=125.0*

ISC 29 13:37:22.6±1.0,38.˚83N±0.˚03×70.˚76E±0.˚03,h6km±6km, n131,σ2s86/138,mb4.6/14,9C-9D,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.38**	**296**	Pg	**Pg**	**13 37 29.3**	**-0.8**
GAR				Sg	**Sg**	**13 37 35.4**	**+0.2**
GAR	**Garm**	**0.38**	**296**	*i* PG	**Pg**	**13 37 29.5**	**-0.6**
GAR				*i* S	**Sg**	**13 37 35.3**	**+0.2**
DRK	**Karamyk**	**1.04**	**51**	Pg	**Pg**	**13 37 39.9**	**-2.6**
DRK				Sg	**Sg**	**13 37 54.4**	**-1.6**
BTK	**Batken**	**1.23**	**2**		**Pn**	**13 37 45.2**	**-1.1**
BTK	**Batken**	**1.23**	**2**	PG	**Pn**	**13 37 45.2**	**-1.1**
CHGR	**Chuyangaron**	**1.26**	**263**		**Pn**	**13 37 45.3**	**-1.5**
CHGR	**Chuyangaron**	**1.26**	**263**	PG	**Pn**	**13 37 45.3**	**-1.5**
OHH	**Osh**	**2.30**	**42**	*i* PN	**Pn**	**13 38 01.6**	**+0.5**
OHH				*i* S	**Sn**	**13 38 30.5**	**+0.7**
TRKS	**Terek-Say**	**2.71**	**6**	*i* PN	**Pn**	**13 38 06.6**	**-0.2**
TRKS				*i* S	**Sn**	**13 38 39.3**	**-0.7**
TAS	**Tashkent**	**2.73**	**336**	*i* PN	**Pn**	**13 38 07.9**	**+0.9**
TAS				*i* S	**Sn**	**13 38 41.5**	**+1.2**
IUG	**Iuzhnay**	**3.36**	**351**	*e*P	**Pb**	**13 38 20.1**	**-2.5**
	99nm,0.4s						
IUG				*e*S	**Sb**	**13 39 01.9**	**-1.8**
	627nm,0.4s						
CHM	**Chimkent**	**3.59**	**346**	*e*P	**Pb**	**13 38 24.2**	**-2.4**
	104nm,0.2s						
CHM				*e*S	**Sb**	**13 39 09.4**	**-0.9**
	534nm,0.5s						
AML	**Almayashu**	**3.98**	**33**	P	**Pn**	**13 38 28.6**	**+4.1**
	SNR=70						
AML	**Almayashu**	**3.98**	**33**	*i* PN	**Pn**	**13 38 25.2**	**+0.7**
AML				*i* S	**Sn**	**13 39 11.5**	**-0.2**
ARLS	**Aral**	**4.07**	**41**	*i* PN	**Pn**	**13 38 26.2**	**+0.7**
ARLS				*i* S	**Sn**	**13 39 13.1**	**-0.5**
DZA	**Taraz**	**4.08**	**6**	*e*P	**Pn**	**13 38 29.9**	**+4.4**
	54nm,0.1s						
DZA				*e*S	**Sn**	**13 39 19.1**	**+5.5**
	287nm,0.6s						
KSH	**Kashi**	**4.11**	**79**	Pn	**Pn**	**13 38 25.5**	**-0.5**
KSH				Sn	**Sn**	**13 39 13.8**	**-0.7**
KK31	**Karatay Array**	**4.27**	**358**	Pn	**Pn**	**13 38 29.4**	**+1.3**
KK31	**Karatay Array**	**4.27**	**358**	Pn	**Pn**	**13 38 32.5**	**+4.4**
	7.7nm,0.3s,baz=180,slow=13,SNR=285						
KK31				⇑Pg	**Pb**	**13 38 41.0**	**+2.9**
	17nm,0.5s,baz=172,slow=13,SNR=6.7						
KK31				⇑Sn	**Sb**	**13 39 25.9**	**-4.0**
	23nm,0.5s,baz=184,slow=23,SNR=4.0						
KK31				Lg	Lg	13 39 37.9	
	36nm,0.5s,baz=183,slow=29,SNR=5.0						
KK31	**Karatay Array**	**4.27**	**358**	PN	**Pn**	**13 38 32.5**	**+4.4**
KK31				*e*		13 38 40.9	
KK31				*e*		13 39 25.8	
KKAR	**Karatay Array**	**4.27**	**358**	Pn	**Pn**	**13 38 29.6**	**+1.5**
KKAR	**Karatay Array**	**4.27**	**358**	PN	**Pn**	**13 38 29.6**	**+1.5**
MRKS	**Merke**	**4.34**	**25**	*e*P	**Pn**	**13 38 31.3**	**+2.2**
	52nm,0.5s						
MRKS				*e*S	**Sn**	**13 39 22.0**	**+2.0**
	49nm,1.0s						
MRKS	**Merke**	**4.34**	**25**	Pg	Pn	13 38 34.6	+5.5
	52nm,0.5s						
MRKS				Lg	Lg	13 39 28.2	
	49nm,1.0s						
UCH	**Uchtor**	**4.44**	**39**	P	**Pn**	**13 38 34.5**	**+3.7**
	SNR=98						
UCH	**Uchtor**	**4.44**	**39**	*i* PN	**Pn**	**13 38 31.5**	**+0.7**
UCH				*i* S	**Sn**	**13 39 22.5**	**-0.5**
EKS2	**Erkin-Say**	**4.46**	**30**	P	Pn	13 38 36.3	+5.5
	SNR=35						
EKS2	**Erkin-Say**	**4.46**	**30**	*i* PN	**Pn**	**13 38 31.6**	**+0.8**
EKS2				*i* S	**Sn**	**13 39 22.7**	**-0.4**
KBL	**Kabul**	**4.50**	**198**		**Pn**	**13 38 32.8**	**+1.4**
KBL	**Kabul**	**4.50**	**198**	PN	**Pn**	**13 38 32.8**	**+1.4**
AAK	**Ala-Archa**	**4.75**	**36**	P	**Pn**	**13 38 39.2**	**+4.5**
	SNR=35						
AAK	**Ala-Archa**	**4.75**	**36**	Pn	**Pn**	**13 38 39.2**	**+4.5**
	9.2nm,0.3s,baz=208,slow=7.5,SNR=47						
AAK				Sn	**Sn**	**13 39 35.5**	**+5.3**
	3.5nm,0.3s,baz=154,slow=21,SNR=1.7						
AAK				LR	LR	13 40 00.2	
	comp=Z,18nm,18.2s,baz=177,slow=34						
	30nm,0.5s						
AAK	**Ala-Archa**	**4.75**	**36**	Pn	**Pn**	**13 38 36.5**	**+1.7**
NRN	**Naryn**	**4.79**	**55**	*i* PN	**Pn**	**13 38 35.7**	**+0.2**
NRN				*i* S	**Sn**	**13 39 29.6**	**-1.8**
KBK	**Karagaybulak**	**4.97**	**38**	P	Pn	13 38 42.8	+4.9
	SNR=45						
KBK	**Karagaybulak**	**4.97**	**38**	*i* PN	**Pn**	**13 38 38.5**	**+0.6**
KBK				*i* S	**Sn**	**13 39 34.7**	**-1.1**
CEP	**Cherat**	**5.08**	**169**	P	Pb	13 38 46.8	-5.2
CEP				S	**Sb**	**13 39 51.0**	**-2.4**
CHMS	**Chumysh**	**5.15**	**35**	P	**Pn**	**13 38 44.1**	**+4.0**
	SNR=25						
CHMS	**Chumysh**	**5.15**	**35**	⇓Pn	**Pn**	**13 38 44.6**	**+4.4**
	24nm,0.5s						
CHMS				⇑Sn	**Sn**	**13 39 47.3**	**+7.5**
	30nm,0.7s						
CHMS	**Chumysh**	**5.15**	**35**	*i* PN	**Pn**	**13 38 40.9**	**+0.7**
CHMS				*i* S	**Sn**	**13 39 38.7**	**-1.1**
USP	**Ospenovka**	**5.26**	**31**	P	Pn	13 38 46.7	+5.0
	SNR=30						
USP	**Ospenovka**	**5.26**	**31**	*i* PN	**Pn**	**13 38 42.4**	**+0.7**
USP				*i* S	**Sn**	**13 39 41.4**	**-1.2**
BOOM	**Boomskoye usch**	**5.37**	**46**	*i* PN	**Pn**	**13 38 44.1**	**+0.7**
SGDS	**Sogindy**	**5.46**	**31**	*e*P	**Pn**	**13 38 48.8**	**+4.2**
	22nm,0.5s						
SGDS				*e*S	**Sn**	**13 39 52.2**	**+4.4**
	28nm,0.9s						
TKM2	**Tokmak 2**	**5.49**	**40**	P	**Pn**	**13 38 48.6**	**+3.6**
	SNR=55						
TKM2	**Tokmak 2**	**5.49**	**40**	⇑Pn	**Pn**	**13 38 48.8**	**+3.7**
	23nm,0.6s						
TKM2				⇓Sn	**Sn**	**13 39 55.8**	**+7.2**
	18nm,0.7s						
TKM2	**Tokmak 2**	**5.49**	**40**	*i* PN	**Pn**	**13 38 45.7**	**+0.7**
CHCP	**Chirah Chowk**	**5.54**	**158**	P	Pn	13 38 50.3	+4.7
NIL	**Nilore**	**5.55**	**158**	Pn	**Pn**	**13 38 45.9**	**+0.2**
NIL	**Nilore**	**5.55**	**158**	PN	**Pn**	**13 38 45.9**	**+0.2**
KST	**Kastek**	**5.76**	**41**	*e*P	Pn	13 38 53.2	+4.5
	11nm,0.6s						
KST				*e*S	**Sn**	**13 39 59.9**	**+4.7**
	20nm,0.6s						
KST	**Kastek**	**5.76**	**41**	Pg	Pg	13 39 09.1	-3.9
	11nm,0.7s						
KST				Lg	Lg	13 40 27.3	
	22nm,0.9s						
DGS	**Degeres**	**5.81**	**39**	*e*P	Pn	13 38 54.5	+5.1
	4.2nm,0.6s						
DGS				*e*S	**Sn**	**13 40 02.1**	**+5.7**
	21nm,0.8s						
DGS	**Degeres**	**5.81**	**39**	Pg	**Pb**	**13 39 07.5**	**+3.1**
	12nm,0.6s						
DGS				Lg	Lg	13 40 24.7	
	15nm,0.8s						
MTBS	**Maitube**	**6.07**	**43**	*e*P	Pn	13 38 57.7	+4.8
	5.3nm,0.6s						
MTBS				*e*S	**Sn**	**13 40 07.0**	**+4.3**
	12nm,0.6s						
MTBS	**Maitube**	**6.07**	**43**	Pg	**Pb**	**13 39 12.5**	**+3.8**
	12nm,0.4s						
MTBS				Lg	Lg	13 40 32.9	
	13nm,0.6s						
THW	**Thamme Wali**	**6.08**	**172**	P	Pn	13 38 57.6	+4.7
TNSS	**Tian-Shan**	**6.29**	**46**	*e*P	Pn	13 39 02.8	+6.6
	2.5nm,0.5s						
TNSS				*e*S	**Sn**	**13 40 15.8**	**+7.2**
	7.1nm,0.7s						
TNSS	**Tian-Shan**	**6.29**	**46**	Pg	**Pg**	**13 39 19.4**	**-3.7**
	12nm,0.5s						
TNSS				Lg	Lg	13 40 44.5	
	8.2nm,0.7s						
AAA	**Alma-Ata**	**6.39**	**45**	*e*P	Pb	13 39 07.5	-6.6
	32nm,0.2s						
AAA				*e*S	**Sb**	**13 40 23.6**	**-7.2**
	46nm,0.3s						
MDOK	**Medeo**	**6.43**	**46**	*e*P	Pn	13 39 02.9	+5.0
	10nm,0.5s						
MDOK				*e*S	**Sn**	**13 40 15.7**	**+4.0**
	6.8nm,0.7s						
MDOK	**Medeo**	**6.43**	**46**	⇑Pn	Pn	13 39 02.4	+4.5
	7.6nm,0.5s						
MDOK				⇑Pg	**Pb**	**13 39 18.1**	**+3.2**
	13nm,0.6s						
MDOK				Pg	**Pg**	**13 39 22.1**	**-3.6**
	8.7nm,0.7s						
MDOK				⇓Lg	Lg	13 40 42.4	
	35nm,1.2s						
MDOK				Lg	Lg	13 40 49.2	
	10nm,0.5s						
MDOK	**Medeo**	**6.43**	**46**	PN	Pn	13 39 02.4	+4.5
MDOK						13 39 18.1	
MDOK						13 40 42.4	
KOTS	**Kotyrbulak**	**6.51**	**45**	*e*P	Pn	13 39 05.8	+6.7
	3.2nm,0.4s						
KOTS				*e*S	**Sn**	**13 40 20.7**	**+7.0**
	20nm,0.8s						
KOTS	**Kotyrbulak**	**6.51**	**45**	Pg	Pg	13 39 22.7	-4.6
	12nm,0.5s						
KOTS				Lg	Lg	13 40 50.5	
	43nm,1.1s						
KUU	**Kurty**	**6.57**	**38**	*e*P	Pn	13 39 06.9	+7.2
	2.4nm,0.3s						
KUU				*e*S	**Sn**	**13 40 22.6**	**+7.6**
	8.5nm,0.7s						
BTLS	**Baital**	**6.67**	**20**	*e*P	Pb	13 39 13.8	-5.2
	2.7nm,0.4s						
BTLS				*e*S	**Sb**	**13 40 34.4**	**-4.4**
	7.1nm,0.7s						
BTLS	**Baital**	**6.67**	**20**	Pg	**Pb**	**13 39 18.8**	**-0.1**
	4.5nm,0.4s						
BTLS				Lg	Lg	13 40 45.8	
	10nm,0.8s						
CHKK	**Chushkaly**	**6.87**	**41**	*e*P	Pb	13 39 16.0	-6.2
	1.6nm,0.1s						
CHKK				*e*S	**Sb**	**13 40 39.0**	**-5.4**
	6.8nm,0.6s						
SATY	**Saty**	**7.17**	**51**	*e*P	Pn	13 39 16.8	+8.8
	2.4nm,0.5s						
SATY				*e*S	Sn	13 40 39.2	+10
	5.4nm,0.9s						
KURS	**Kuram**	**7.27**	**48**	*e*P	Pb	13 39 22.1	-7.2
	1.8nm,0.7s						
KURS				*e*S	**Sb**	**13 40 48.6**	**-7.6**
	8.5nm,1.0s						
ARXS	**Arharly**	**7.55**	**42**	*e*P	Pb	13 39 26.3	-7.6
	2.1nm,0.7s						
ARXS				*e*S	Sb	13 40 55.7	-8.5
	4.6nm,0.8s						
KPKS	**Kokpek**	**7.56**	**50**	*e*P	Pn	13 39 23.7	+10
	3.6nm,0.7s						
KPKS				*e*S	Sn	13 40 51.1	+12
	5.9nm,0.6s						
UZB	**Uzynbulak**	**7.59**	**53**	*e*P	Pb	13 39 24.8	-10
	2.1nm,0.5s						
UZB				*e*S	Sn	13 40 53.1	+13
	3.7nm,0.8s						
BLB	**Baldybastay**	**7.83**	**45**	*e*P	Pb	13 39 30.0	-8.7
	5.4nm,0.5s						
BLB				*e*S	Sb	13 41 01.9	-10
	5.6nm,0.7s						
SHLS	**Shalkode**	**7.87**	**54**	*e*P	Pb	13 39 33.8	-5.7
	1.3nm,0.2s						
SHLS				*e*S	**Sb**	**13 41 08.4**	**-5.2**
	3.9nm,0.9s						
PDGK	**Podgornoye**	**7.98**	**53**	⇓Pn	**Pn**	**13 39 22.3**	**+3.2**
	2.1nm,0.7s						
PDGK	**Podgornoye**	**7.98**	**53**	P	**Pn**	**13 39 22.3**	**+3.2**
OTUK	**Ortayu**	**9.48**	**6**	⇑Pn	**Pn**	**13 39 41.1**	**+1.5**
	3.2nm,0.8s						
OTUK	**Ortayu**	**9.48**	**6**	P	**Pn**	**13 39 41.1**	**+1.5**
GEYT	**Alibeck**	**9.97**	**269**	Pn	Pn	13 39 54.2	+7.9
	0.7nm,0.3s,baz=74,slow=12,SNR=2.4						
GEYT				LR	LR	13 44 26.3	
	comp=Z,75nm,18.5s,baz=134,slow=41						
	1.8nm,0.4s						
MK31	**Makanchi Array**	**11.61**	**43**	Pn	**Pn**	**13 40 10.6**	**+1.8**
MK31	**Makanchi Array**	**11.61**	**43**	Pn	**Pn**	**13 40 11.3**	**+2.6**
	1.9nm,0.7s,baz=234,slow=12,SNR=22						
MK31	**Makanchi Array**	**11.61**	**43**	*d* iP	**Pn**	**13 40 11.7**	**+2.9**
MKAR	**Makanchi Array**	**11.61**	**43**	Pn	**Pn**	**13 40 11.1**	**+2.4**
	0.2nm,0.3s,baz=233,slow=13,SNR=23						
MKAR				LR	LR	13 44 44.4	
	comp=Z,33nm,20.2s,baz=252,slow=38						
	2.6nm,0.7s						
MKAR	**Makanchi Array**	**11.61**	**43**		**Pn**	**13 40 11.0**	**+2.2**
MKAR	**Makanchi Array**	**11.61**	**43**	P	**Pn**	**13 40 11.0**	**+2.2**
AB31	**Akbulak array**	**12.99**	**327**	P	**Pn**	**13 40 27.3**	**-0.2**
	4.3nm,0.6s,baz=141,slow=12,SNR=80						
AB31	**Akbulak array**	**12.99**	**327**	*e*P	**Pn**	**13 40 27.3**	**-0.2**
ABKAR	**Akbulak array**	**12.99**	**327**	Pn	**Pn**	**13 40 27.0**	**-0.5**
KURBB	**Kurchatov Arra**	**13.01**	**22**	Pn	**Pn**	**13 40 27.4**	**-0.4**
	0.1nm,0.3s,baz=216,slow=12,SNR=12						
KURBB				Lg	Lg	13 44 14.1	
	baz=232,slow=35,SNR=4.6						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**13.01**	**22**	⇓Pn	**Pn**	**13 40 27.3**	**-0.6**
	4.4nm,1.0s						
KURBB	**Kurchatov Arra**	**13.01**	**22**	P	**Pn**	**13 40 27.2**	**-0.6**
KURK	**Kurchatov**	**13.12**	**23**	P	**Pn**	**13 40 27.4**	**-1.9**
WMQ	**Urumqi**	**13.66**	**63**	*e*P	**Pn**	**13 40 35.5**	**-1.4**
WMQ				pP	P	13 40 41.3	-4.5
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BVAR	**Borovoye Array**	**14.20**	**359**	Pn	**Pn**	**13 40 44.3**	**+0.2**
	baz=172,slow=12,SNR=7.3						
BVAR				Sn	Sn	13 43 12.4	-9.4
	baz=160,slow=30,SNR=2.3						
BVAR				LR	LR	13 46 26.2	
	comp=Z,62nm,20.5s,baz=219,slow=38						
	1.0nm,0.5s						
BRVK	**Borovoye**	**14.23**	**359**		**Pn**	**13 40 45.0**	**+0.5**
BRVK	**Borovoye**	**14.23**	**359**	⇓*e*P	**Pn**	**13 40 45.7**	**+1.2**
AKTO	**Aktyubinsk**	**14.70**	**326**	⇑P	**Pn**	**13 40 52.9**	**+2.0**
	2.7nm,0.8s						
AKTO	**Aktyubinsk**	**14.70**	**326**	P	**Pn**	**13 40 52.9**	**+2.0**
DGZ	**Jazzator, Alta**	**16.11**	**42**	⇓*e*P	**Pn**	**13 41 10.2**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAA0	**Zalesovo Array**	**17.91**	**28**		**Pn**	**13 41 32.4**	**+0.3**
ZALV	**Zalesovo Beam**	**17.91**	**28**	P	**Pn**	**13 41 31.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=220,slow=13,SNR=2.5						
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**17.91**	**28**	*i* P	**P**	**13 41 36.0**	**+3.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARU	**Arti**	**19.38**	**339**	P	**Pn**	**13 41 51.1**	**+1.1**
	baz=137,slow=5.4,SNR=3.1						
	comp=Z,1.2nm,0.3s						
ARU	**Arti**	**19.38**	**339**	*d* iP	**Pn**	**13 41 51.0**	**+1.1**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KIV	**Kislovodsk**	**21.62**	**293**	*e*P	**P**	**13 42 12.6**	**-0.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA	**Gaotai**	**22.51**	**79**	*e*P	P	13 42 30.0	+7.0
GTA				sP	sP	13 42 42.8	+16
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TNCH	**TengChong**	**27.16**	**112**	P	**P**	**13 43 07.3**	**+0.4**
TNCH				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,100nm,4.9s						
PZH	**PanZhiHua**	**28.69**	**106**	P	**P**	**13 43 21.8**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
HHC	**Hu-ho-hao-te**	**31.20**	**73**	*e*P	**P**	**13 43 42.3**	**-0.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,370nm,4.2s						
XLT	**XiLinHaoTe**	**34.06**	**67**	*e*P	P	13 44 02.8	-4.8
XLT				pP	sP	13 44 14.0	+2.3
XLT				sP	pP	13 44 20.0	+10
XLT				pmax	pmax		
	comp=Z,14nm,0.9s						
XLT				pmax	pmax		
	comp=Z,120nm,4.3s						
NJ2	**Nanjing**	**39.40**	**85**	*e*P	**P**	**13 44 50.5**	**-2.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZEA	**Zeya**	**40.67**	**49**	*e*P	P	13 45 08.1	+4.7
NBO00	**NORSAR Array S**	**42.63**	**322**	P	**P**	**13 45 19.0**	**-0.4**
TIXI	**Tiksi**	**43.70**	**23**	⇑*e*P	**P**	**13 45 28.2**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.1s						
BFO	**Black Forest**	**45.06**	**303**	*i* P	P	13 45 31.1	-8.0
USA0B	**Ussuriysk Arra**	**45.23**	**63**	P	**P**	**13 45 39.3**	**-1.2**
USA0B				IAmb	IAmb	13 46 22.4	
	comp=Z,22nm,1.4s						
USA0B	**Ussuriysk Arra**	**45.23**	**63**	P	**P**	**13 45 39.3**	**-1.2**
USA0B				pmax	pmax		
	comp=Z,22nm,1.5s						
TOLK	**Toolik Lake Re**	**68.72**	**15**	P	**P**	**13 48 27.3**	**+0.7**
PMOZ	**Porto Moniz, M**	**68.88**	**296**	P	**P**	**13 48 28.4**	**+0.1**
A36M	**Sachs Harbour**	**68.91**	**5**	P	**P**	**13 48 27.9**	**+0.3**
A36M				IAmb	IAmb	13 48 57.1	
	comp=Z,6.2nm,1.4s						
IMAR	**Indian Mountai**	**70.01**	**18**	P	**P**	**13 48 34.5**	**-0.1**
BMAR	**Burnt Mountain**	**70.72**	**14**	P	**P**	**13 48 39.0**	**0.0**
C36M	**Paulatuk**	**71.58**	**5**	P	**P**	**13 48 44.0**	**0.0**
C36M				IAmb	IAmb	13 48 49.9	
	comp=Z,4.2nm,1.2s						
INK	**Inuvik**	**71.64**	**9**	P	**P**	**13 48 44.7**	**+0.3**
INK				IAmb	IAmb	13 48 44.8	
	comp=Z,6.4nm,1.4s						
INK	**Inuvik**	**71.64**	**9**	P	**P**	**13 48 44.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
DHY	**Denali Highway**	**73.96**	**17**	P	**P**	**13 48 58.9**	**+0.3**
DHY				IAmb	IAmb	13 49 29.5	
	comp=Z,6.7nm,1.2s						
BCAR	**Beaver Creek A**	**75.16**	**15**	P	**P**	**13 49 05.6**	**+0.3**
SKAG	**Skagway**	**79.71**	**13**	P	**P**	**13 49 32.1**	**+1.4**
WRA	**Warramunga Arr**	**83.39**	**122**	P	**P**	**13 49 52.5**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=324,slow=5.1,SNR=4.6						
	comp=Z,0.3nm,0.6s						

SOME ***29*** *13:40:36.8,41.˚28N×79.˚00E,h10km*

NNC ***29*** *13:40:38.7±0.9,41.˚36N×78.˚91E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=5.9km s-min=4.2km az=160.0*

ISC 29 13:40:35.8±3.1,41.˚2N±0.˚1×78.˚86E±0.˚06,h10km,n34,
σ1s21/54,2C-1D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**1.87**	**350**	*e*P	**Pg**	**13 41 10.7**	**-1.1**
	12nm,0.6s						
SATY				*e*S	**Sb**	**13 41 34.2**	**+0.5**
	15nm,0.3s						
SATY	**Saty**	**1.87**	**350**	P	**Pg**	**13 41 10.7**	**-1.1**
	12nm,0.6s						
SATY				S	**Sb**	**13 41 34.2**	**+0.5**
	15nm,0.3s						
UZB	**Uzynbulak**	**1.94**	**4**	*e*P	**Pb**	**13 41 11.0**	**-0.3**
	2.3nm,0.2s						
UZB				*e*S	**Sb**	**13 41 35.0**	**-0.6**
	16nm,0.2s						
UZB	**Uzynbulak**	**1.94**	**4**	P	**Pb**	**13 41 11.0**	**-0.3**
	2.3nm,0.2s						
UZB				S	**Sb**	**13 41 35.3**	**-0.2**
	16nm,0.2s						
ZHN	**Zhinishke**	**1.98**	**351**	*e*P	**Pg**	**13 41 12.7**	**-1.0**
	24nm,0.2s						
ZHN				*e*S	**Sb**	**13 41 38.1**	**+1.4**
	63nm,0.2s						
ZHN	**Zhinishke**	**1.98**	**351**	Pg	**Pg**	**13 41 12.7**	**-1.0**
	24nm,0.2s						
ZHN				Lg	Lg	13 41 38.1	
	63nm,0.2s						
SHLS	**Shalkode**	**1.99**	**13**	*e*P	**Pg**	**13 41 14.2**	**+0.1**
	31nm,0.3s						
SHLS				*e*S	**Sg**	**13 41 40.3**	**+0.4**
	42nm,0.4s						
SHLS	**Shalkode**	**1.99**	**13**	Pg	**Pg**	**13 41 14.2**	**+0.1**
	31nm,0.3s						
SHLS				Lg	Lg	13 41 40.3	
	42nm,0.4s						
PDGK	**Podgornoye**	**2.17**	**12**	Pg	**Pb**	**13 41 15.2**	**0.0**
	4.5nm,0.3s						
PDGK				Lg	Lg	13 41 42.0	
	9.6nm,0

		4.6nm,0.2s						
MTBS					Lg	Lg	13 41 59.4	
		16nm,0.3s						
KST	**Kastek**	**2.83**	**311**	*e*P	**Pg**	**13 41 29.5**	**-0.4**	
		6.3nm,0.5s						
KST				*e*S	**Sg**	**13 42 06.5**	**-0.1**	
		28nm,0.5s						
KST	**Kastek**	**2.83**	**311**	Pg	**Pg**	**13 41 29.5**	**-0.4**	
		6.3nm,0.5s						
KST				Lg	Lg	13 42 06.4		
		28nm,0.5s						
BLB	**Baldybastay**	**2.90**	**355**	*e*P	**Pb**	**13 41 28.2**	**+0.6**	
		12nm,0.3s						
BLB				*e*S	**Sb**	**13 42 04.2**	**+1.0**	
		44nm,0.2s						
BLB	**Baldybastay**	**2.90**	**355**	Pg	**Pb**	**13 41 28.2**	**+0.6**	
		12nm,0.3s						
BLB				Lg	Lg	13 42 04.7		
		44nm,0.2s						
CHKK	**Chushkaly**	**2.98**	**333**	*e*P	**Pg**	**13 41 30.6**	**-2.3**	
		5.1nm,0.3s						
CHKK				*e*S	**Sb**	**13 42 08.6**	**+3.1**	
		74nm,0.6s						
DGS	**Degeres**	**3.06**	**312**	*e*P	**Pg**	**13 41 33.0**	**-1.5**	
		11nm,0.6s						
DGS				*e*S	**Sg**	**13 42 12.4**	**-1.7**	
		11nm,0.5s						
DGS	**Degeres**	**3.06**	**312**	Pg	**Pg**	**13 41 33.0**	**-1.5**	
		11nm,0.6s						
DGS				Lg	Lg	13 42 12.4		
		11nm,0.5s						
ARXS	**Arharly**	**3.09**	**346**	*e*P	**Pb**	**13 41 32.5**	**+1.6**	
		9.5nm,0.8s						
ARXS				*e*S	**Sb**	**13 42 11.6**	**+2.8**	
		17nm,0.3s						
ARXS	**Arharly**	**3.09**	**346**	Pg	**Pb**	**13 41 32.5**	**+1.6**	
		9.5nm,0.8s						
ARXS				Lg	Lg	13 42 11.6		
		17nm,0.3s						
DJR	**Jarkent**	**3.19**	**12**	*e*P	**Pb**	**13 41 33.2**	**+0.5**	
		2.2nm,0.4s						
DJR				*e*S	**Sb**	**13 42 12.7**	**+1.0**	
		23nm,0.3s						
DJR	**Jarkent**	**3.19**	**12**	Pg	**Pb**	**13 41 33.2**	**+0.5**	
		2.2nm,0.4s						
DJR				Lg	Lg	13 42 12.6		
		23nm,0.3s						
KUU	**Kurty**	**3.26**	**326**	*e*P	**Pb**	**13 41 35.2**	**+1.3**	
		6.5nm,0.8s						
KUU				*e*S	**Sb**	**13 42 15.9**	**+2.3**	
		19nm,0.5s						

*KRNET **29** 13:50:02.2±0.1, 39°07N×74°43E, mb3.8*
*SOME **29** 13:50:03.5, 39°17N×74°67E, h10km*
*NNC **29** 13:50:04.5±1.4, 39°20N×74°54E, h0km, mb4.2, mpv3.8,*
Error ellipse: s-maj=10.8km s-min=5.9km az=168.0
ISC 29 13:50:05.2±1.3**, 39°26N**±0°06×**74°46E**±0°03**, h10**km**, n61,**
σ2$85/94, 23C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.80**	**315**	⇑*i*P	**Pb**	**13 50 38.2**	**-0.1**
	baz=20						
OHH				⇑*i*S	**Sg**	**13 51 04.4**	**+1.3**
	baz=20						
NRN	**Naryn**	**2.47**	**28**	⇑*i*P	**Pb**	**13 50 48.3**	**-1.5**
	baz=26						
NRN				⇑*i*S	**Sb**	**13 51 21.7**	**+1.3**
	baz=26						
ARLS	**Aral**	**2.60**	**358**	⇑*i*P	**Pb**	**13 50 50.3**	**-1.6**
	baz=58						
ARLS				⇑*i*S	**Sb**	**13 51 25.3**	**+1.3**
	baz=58						
BTK	**Batken**	**2.92**	**287**	⇑*i*P	**Pn**	**13 50 52.9**	**+1.1**
	baz=91						
BTK				⇑*i*S	**Sn**	**13 51 29.4**	**+2.5**
	baz=91						
AML	**Almayashu**	**2.92**	**349**	P	**Pn**	**13 50 55.3**	**+3.2**
	SNR=23						
UCH	**Uchtor**	**2.96**	**1**	P	**Pb**	**13 50 56.6**	**-1.7**
	SNR=82						
UCH	**Uchtor**	**2.96**	**1**	⇓*i*P	**Pn**	**13 50 55.5**	**+2.8**
	baz=1.0						
UCH				⇓*i*S	**Sb**	**13 51 34.3**	**-0.4**
	baz=1.0						
GAR	**Garm**	**3.23**	**267**	⇑*i*P	**Pn**	**13 50 56.0**	**-0.1**
	baz=70						
GAR				⇑*i*S	**Sn**	**13 51 35.3**	**+0.6**
	baz=70						
AAK	**Ala-Archa**	**3.37**	**0**	P	**Pb**	**13 51 02.9**	**-2.2**
	SNR=13						
AAK	**Ala-Archa**	**3.37**	**0**	⇓*i*P	**Pn**	**13 51 01.4**	**+3.4**
	baz=1.0						
AAK				⇓*i*S	**Sb**	**13 51 44.3**	**-1.9**
	baz=1.0						
TRKS	**Terek-Say**	**3.40**	**313**	⇓*i*P	**Pn**	**13 50 59.3**	**+0.9**
	baz=15						
TRKS				⇓*i*S	**Sn**	**13 51 41.6**	**+2.8**
	baz=15						
KBK	**Karagaybulak**	**3.41**	**6**	P	**Pb**	**13 51 03.8**	**-2.0**
	SNR=17						
KBK	**Karagaybulak**	**3.41**	**6**	⇑*i*P	**Pn**	**13 51 01.6**	**+3.0**
	baz=6.0						
KBK				⇑*i*S	**Sb**	**13 51 45.1**	**-2.3**
	baz=6.0						
BOOM	**Boomskoye usch**	**3.41**	**19**	⇑*i*P	**Pn**	**13 51 01.6**	**+3.0**
	baz=18						
BOOM				⇑*i*S	**Sb**	**13 51 45.2**	**-2.2**
	baz=18						
EKS2	**Erkin-Say**	**3.43**	**352**	P	**Pb**	**13 51 03.5**	**-2.7**
	SNR=15						
EKS2	**Erkin-Say**	**3.43**	**352**	⇑*i*P	**Pn**	**13 51 01.9**	**+3.0**
	baz=52						
EKS2				⇑*i*S	**Sb**	**13 51 45.6**	**-2.4**
	baz=52						
MRKS	**Merke**	**3.60**	**345**	*e*P	**Pb**	**13 51 10.8**	**+1.8**
	13nm,0.4s						
MRKS				*e*S	**Sg**	**13 51 59.5**	**-1.4**
	16nm,0.6s						
MRKS	**Merke**	**3.60**	**345**	Pg	**Pb**	**13 51 10.8**	**+1.8**
	13nm,0.4s						
MRKS				Lg	Lg	13 52 00.4	
	16nm,0.6s						
CHMS	**Chumysh**	**3.74**	**3**	P	**Pn**	**13 51 05.2**	**+2.3**
	SNR=6.0						
TKM2	**Tokmak 2**	**3.75**	**13**	P	**Pn**	**13 51 06.2**	**+2.8**
	SNR=15						
TKM2	**Tokmak 2**	**3.75**	**13**	⇑Pn	**Pn**	**13 51 06.2**	**+2.8**
	6.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**13 51 52.1**	**+4.4**
	10.0nm,0.5s						
KST	**Kastek**	**3.94**	**16**	*e*P	**Pg**	**13 51 18.1**	**-2.5**
	9.6nm,0.6s						
KST				*e*S	**Sg**	**13 52 12.1**	**+0.3**
	29nm,0.6s						
KST	**Kastek**	**3.94**	**16**	Pg	**Pg**	**13 51 18.1**	**-2.5**
	9.6nm,0.6s						
KST				Lg	Lg	13 52 13.1	
	29nm,0.6s						
USP	**Ospenovka**	**4.00**	**0**	P	**Pb**	**13 51 18.7**	**+3.0**
	SNR=6.6						
DGS	**Degeres**	**4.10**	**14**	*e*P	**Pg**	**13 51 20.9**	**-2.7**
	16nm,0.6s						
DGS				*e*S	**Sg**	**13 52 16.4**	**-0.3**
	30nm,1.1s						
DGS	**Degeres**	**4.10**	**14**	Pg	**Pg**	**13 51 20.9**	**-2.7**
	16nm,0.6s						
DGS				Lg	Lg	13 52 16.4	
	30nm,1.1s						
MTBS	**Maitube**	**4.14**	**20**	*e*P	**Pb**	**13 51 21.1**	**+3.0**
	8.2nm,0.5s						
MTBS				*e*S	**Sg**	**13 52 16.9**	**-1.1**
	15nm,0.6s						
MTBS	**Maitube**	**4.14**	**20**	Pg	**Pb**	**13 51 21.1**	**+3.0**
	8.2nm,0.5s						
MTBS				Lg	Lg	13 52 16.9	
	15nm,0.6s						
SGDS	**Sogindy**	**4.19**	**2**	*e*P	**Pb**	**13 51 21.6**	**+2.7**
	4.7nm,0.3s						
SGDS				*e*S	**Sg**	**13 52 17.5**	**-2.1**
	8.6nm,0.9s						
TNSS	**Tian-Shan**	**4.21**	**26**	*e*P	**Pb**	**13 51 22.1**	**+2.6**
	12nm,0.5s						
TNSS				*e*S	**Sg**	**13 52 18.8**	**-1.7**
	14nm,0.5s						
TNSS	**Tian-Shan**	**4.21**	**26**	Pg	**Pb**	**13 51 22.1**	**+2.6**
	12nm,0.5s						
TNSS				Lg	Lg	13 52 18.8	
	14nm,0.5s						
MDOK	**Medeo**	**4.36**	**26**	*e*P	**Pb**	**13 51 24.5**	**+2.6**
	7.7nm,0.4s						
MDOK				*e*S	**Sg**	**13 52 22.9**	**-2.2**
	18nm,0.5s						
MDOK	**Medeo**	**4.36**	**26**	Pg	**Pb**	**13 51 24.5**	**+2.6**
	7.7nm,0.4s						
MDOK				Lg	Lg	13 52 22.9	
	18nm,0.5s						
IUG	**Iuzhnay**	**4.43**	**312**	*e*P	**Pg**	**13 51 28.2**	**-1.8**
	32nm,0.4s						
IUG				*e*S	**Sg**	**13 52 29.1**	**+1.7**
	55nm,1.0s						
IUG	**Iuzhnay**	**4.43**	**312**	Pg	**Pg**	**13 51 28.2**	**-1.8**
	32nm,0.4s						
IUG				Lg	Lg	13 52 28.2	
	55nm,1.0s						
KOTS	**Kotyrbulak**	**4.44**	**26**	*e*P	**Pb**	**13 51 26.4**	**+3.0**
	6.5nm,0.5s						
KOTS				*e*S	**Sg**	**13 52 26.1**	**-1.7**
	79nm,0.6s						
KOTS	**Kotyrbulak**	**4.44**	**26**	Pg	**Pb**	**13 51 26.4**	**+3.0**
	6.5nm,0.5s						
KOTS				Lg	Lg	13 52 27.3	
	79nm,0.6s						
SATY	**Saty**	**4.82**	**37**	*e*P	**Pb**	**13 51 32.6**	**+2.8**
	9.1nm,0.6s						
SATY				*e*S	**Sg**	**13 52 36.9**	**-3.0**
	21nm,1.1s						
SATY	**Saty**	**4.82**	**37**	Pg	**Pb**	**13 51 32.6**	**+2.8**
	9.1nm,0.6s						
SATY				Lg	Lg	13 52 38.9	
	21nm,1.1s						
KUU	**Kurty**	**4.84**	**16**	*e*P	**Pb**	**13 51 33.2**	**+3.2**
	8.5nm,0.6s						
KUU				*e*S	**Sg**	**13 52 38.0**	**-2.4**
	20nm,0.6s						
KUU	**Kurty**	**4.84**	**16**	Pg	**Pb**	**13 51 33.2**	**+3.2**
	8.5nm,0.6s						
KUU				Lg	Lg	13 52 38.0	
	20nm,0.6s						
KK31	**Karatay Array**	**4.86**	**323**	⇑Pn	**Pn**	**13 51 19.5**	**+1.2**
	0.5nm,0.2s,baz=132,slow=12,SNR=25						
KK31				⇑Pg	**Pb**	**13 51 33.3**	**+2.9**
	4.2nm,0.6s,baz=142,slow=15,SNR=9.0						
KK31				⇑Sn	**Sn**	**13 52 20.6**	**+6.0**
	2.9nm,0.4s						
KK31				⇑Lg	Lg	13 52 37.8	
	6.9nm,0.6s						
ZHN	**Zhinishke**	**4.92**	**36**	*e*P	**Pb**	**13 51 33.8**	**+2.3**
	5.6nm,0.2s						
ZHN				*e*S	**Sg**	**13 52 38.9**	**-4.2**
	11nm,0.6s						
ZHN	**Zhinishke**	**4.92**	**36**	Pg	**Pb**	**13 51 33.8**	**+2.3**
	5.6nm,0.2s						
ZHN				Lg	Lg	13 52 39.5	
	11nm,0.6s						
CHKK	**Chushkaly**	**4.96**	**22**	*e*P	**Pb**	**13 51 36.0**	**+3.9**
	5.5nm,0.5s						
CHKK				*e*S	**Sg**	**13 52 42.5**	**-2.0**
	13nm,0.5s						
CHKK	**Chushkaly**	**4.96**	**22**	Pg	**Pb**	**13 51 36.0**	**+3.9**
	5.5nm,0.5s						
CHKK				Lg	Lg	13 52 43.7	
	13nm,0.5s						
KURS	**Kuram**	**5.06**	**32**	*e*P	**Pg**	**13 51 37.9**	**-4.2**
	2.8nm,0.5s						
KURS				*e*S	**Sg**	**13 52 45.2**	**-2.3**
	12nm,0.8s						
UZB	**Uzynbulak**	**5.19**	**40**	*e*P	**Pb**	**13 51 37.5**	**+1.5**
	4.5nm,0.2s						
UZB				*e*S	**Sg**	**13 52 45.5**	**-6.1**
	14nm,1.0s						
UZB	**Uzynbulak**	**5.19**	**40**	Pg	**Pb**	**13 51 37.5**	**+1.5**
	4.5nm,0.2s						
UZB				Lg	Lg	13 52 46.4	
	14nm,1.0s						
KPKS	**Kokpek**	**5.27**	**36**	*e*P	**Pb**	**13 51 40.9**	**+3.5**
	8.4nm,0.4s						
KPKS				*e*S	**Sg**	**13 52 50.8**	**-3.3**
	15nm,0.5s						
KPKS	**Kokpek**	**5.27**	**36**	Pg	**Pb**	**13 51 40.9**	**+3.5**
	8.4nm,0.4s						
KPKS				Lg	Lg	13 52 50.8	
	15nm,0.5s						
SHLS	**Shalkode**	**5.42**	**43**	*e*P	**Pg**	**13 51 48.7**	**-0.2**
	7.6nm,0.3s						
SHLS				*e*S	**Sg**	**13 53 04.7**	**+5.6**
	16nm,0.8s						
SHLS	**Shalkode**	**5.42**	**43**	Pg	**Pg**	**13 51 48.7**	**-0.2**
	7.6nm,0.3s						
SHLS				Lg	Lg	13 53 04.7	
	16nm,0.8s						
ARXS	**Arharly**	**5.55**	**26**	*e*P	**Pb**	**13 51 46.5**	**+4.3**
	10nm,0.7s						
ARXS				*e*S	**Sg**	**13 53 00.1**	**-3.2**
	10.0nm,0.7s						
ARXS	**Arharly**	**5.55**	**26**	Pg	**Pb**	**13 51 46.5**	**+4.3**
	10nm,0.7s						
ARXS				Lg	Lg	13 53 00.1	
	10.0nm,0.7s						
PDGK	**Podgornoye**	**5.55**	**41**	Pg	**Pb**	**13 51 45.7**	**+3.4**
	3.0nm,0.4s						
PDGK				Lg	Lg	13 52 58.6	
	5.1nm,0.6s						
PDGK	**Podgornoye**	**5.55**	**41**	⇑Pg	**Pg**	**13 51 47.1**	**-4.4**
	5.5nm,0.6s						
PDGK				⇓Lg	Lg	13 52 59.9	
	14nm,0.8s						
BLB	**Baldybastay**	**5.69**	**31**	*e*P	**Pb**	**13 51 47.8**	**+3.2**
	5.3nm,0.5s						
BLB				*e*S	**Sg**	**13 53 02.9**	**-4.8**
	9.1nm,0.9s						
BLB	**Baldybastay**	**5.69**	**31**	Pg	**Pb**	**13 51 47.8**	**+3.2**
	5.3nm,0.5s						
BLB				Lg	Lg	13 53 02.9	
	9.1nm,0.9s						
AB31	**Akbulak array**	**14.40**	**319**	⇓P	**Pn**	**13 53 26.8**	**-2.1**
	2.2nm,0.8s,baz=130,slow=11,SNR=13						
AKTO	**Aktyubinsk**	**16.11**	**319**	⇓P	**Pn**	**13 53 47.3**	**-4.2**
	1.5nm,0.8s						

*JMA **29** 14:27:51.1±0.2, 37°4N±0°4×141°6E±0°9, h28km±2km,*
MV3.0/25, E OFF FUKUSHIMA PREF
*IDC **29** 14:27:52.4±2.7, 37°66N×141°26E, h0km, mb3.5/3,*
mbtmp3.3/4, ML2.0/1, MS3.0/3, Error ellipse: s-maj=62.5km
s-min=34.7km az=53.0
ISC 29 14:27:54.1±2.3**, 37°47N**±0°09×**141°4E**±0°1**, h35**km**, n21,**
σ1$73/9, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.46**	**257**	P	**Pn**	**14 28 02.2**	**-2.1**
JMST	**Minamisoumatoc**	**0.51**	**300**	*i* P	**Pn**	**14 28 03.4**	**-1.5**
JMST				*e*S	**Sn**	**14 28 12.5**	**+0.1**
JMM	**Marumori**	**0.65**	**308**	P	**Pn**	**14 28 05.6**	**-1.3**
JMM				*e*S	**Sn**	**14 28 16.4**	**+0.5**
JFFD	**Fukushimafurud**	**0.80**	**242**	P	**Pn**	**14 28 06.8**	**-2.1**
JIO	**Ouri**	**0.99**	**356**	P	**Pn**	**14 28 10.3**	**-1.2**
MJAR	**Matsushiro Arr**	**2.75**	**251**	Pn	**Pn**	**14 28 36.9**	**+1.1**
	0.2nm,0.3s,baz=56,slow=13,SNR=9.6						
	2.1nm,0.6s						
KSRS	**Korea Array**	**10.75**	**274**	LR	LR	14 34 27.3	
	comp=Z,26nm,18.8s,baz=90,slow=37						
YAK	**Yakutsk**	**25.65**	**347**	LR	LR	14 42 15.8	
	comp=Z,46nm,21.1s,baz=264,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.35**	**122**	T	T	15 03 08.9	
	baz=314,slow=75,SNR=147						
H11N1	**WAKE ISLAND Hy**	**28.36**	**122**	T	T	15 03 09.7	
	baz=314,slow=75,SNR=152						
H11N3	**WAKE ISLAND Hy**	**28.37**	**122**	T	T	15 03 10.2	
	baz=314,slow=75,SNR=106						
H11S1	**WAKE ISLAND Hy**	**29.08**	**124**	T	T	15 04 03.3	
	baz=316,slow=76,SNR=103						
H11S3	**WAKE ISLAND Hy**	**29.08**	**124**	T	T	15 04 03.4	
	baz=316,slow=76,SNR=110						
H11S2	**WAKE ISLAND Hy**	**29.09**	**124**	T	T	15 04 04.6	
	baz=316,slow=76,SNR=119						
MKAR	**Makanchi Array**	**43.91**	**302**	P	**P**	**14 35 58.7**	**+1.4**
	0.4nm,0.7s,baz=93,slow=7.5,SNR=4.1						
	0.4nm,0.7s						
AAK	**Ala-Archa**	**50.30**	**298**	LR	LR	14 58 25.1	
	comp=Z,32nm,18.8s,baz=56,slow=37						
WRA	**Warramunga Arr**	**57.49**	**188**	P	P	14 37 44.3	**+4.5**
	0.6nm,0.7s,baz=4.1,slow=7.5,SNR=5.9						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**61.22**	**188**	P	P	14 38 10.4	**+4.8**
	0.3nm,0.8s,baz=357,slow=6.9,SNR=4.2						
	0.3nm,0.8s						
H03N2	**Juan Fernandez**	**147.04**	**95**	T	T	17 31 36.7	
	baz=291,slow=76,SNR=18						
H03N3	**Juan Fernandez**	**147.06**	**95**	T	T	17 31 36.2	
	baz=291,slow=76,SNR=18						
H03N1	**Juan Fernandez**	**147.06**	**95**	T	T	17 31 36.6	
	baz=291,slow=76,SNR=16						

*DJA **29** 14:40:28.7±0.4, 9°S±4°×117°8E±°, h48km±14km, M3.9/12,*
mb4.1/4, Mjma3.8/12, ML4.1/12, MLv4.0/12, Ms(BB)3.5/10
*IDC **29** 14:40:30.3±5.7, 9°35S×118°61E, h81km±51km, mb3.2/4,*
mbtmp3.5/6, ML3.7/3, MS2.3/1, Error ellipse: s-maj=57.9km
s-min=13.5km az=62.0
ISC 29 14:40:26.5±0.9**, 9°49S**±0°07×**118°46E**±0°04**, h48**km**, n19,**
σ1$80/25, mb3.7/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.94**	**314**	P	**Pn**	**14 40 44.4**	**+1.1**
PLAI				S	**Sn**	**14 40 56.8**	**+1.1**
TWSI	**Taliwang, Sumb**	**1.72**	**295**	P	**Pn**	**14 40 55.8**	**+1.8**
TWSI				S	**Sn**	**14 41 16.8**	**+1.9**
IGBI	**Denpasar**	**3.33**	**281**	P	**Pn**	**14 41 18.8**	**+2.6**
IGBI				S	**Sn**	**14 41 55.6**	**+1.1**
MMRI	**Maumere**	**3.83**	**78**	P	**Pn**	**14 41 24.2**	**+1.2**
BSSI	**Bau Bau, Buton**	**3.88**	**31**	P	**Pn**	**14 41 25.1**	**+1.3**
BSSI				S	**Sn**	**14 42 07.4**	**-0.7**
JAGI	**Jajag, Banyuwa**	**4.37**	**283**	P	**Pn**	**14 41 31.3**	**+0.9**
JAGI				S	**Sn**	**14 42 20.5**	**+0.4**
BKSI	**Bulukumba**	**4.45**	**22**	P	**Pn**	**14 41 33.9**	**+2.3**
BKSI				S	**Sn**	**14 42 21.4**	**-0.8**
KAPI	**Kappang**	**4.62**	**16**	P	**Pn**	**14 41 35.9**	**+2.0**
	2.0nm,0.3s,baz=193,slow=8.0,SNR=10						
KAPI				S	**Sn**	**14 42 26.3**	**0.0**
	20nm,0.3s,baz=158,slow=22,SNR=10.0						
KAPI				LR	LR	14 43 25.4	
	comp=Z,42nm,21.1s,baz=181,slow=39						
	6.5nm,0.3s						
GMJI	**Gumukmas**	**5.09**	**283**	P	**Pn**	**14 41 40.3**	**-0.1**
	0.1nm0.1nm20nm,1.0s						
BATI	**Baumata**	**5.18**	**98**	P	**Pn**	**14 41 43.9**	**+2.4**
	25nm,0.3s,baz=275,slow=5.5,SNR=23						
BATI				S	**Sn**	**14 42 41.5**	**+1.3**
	10nm,0.3s,baz=52,slow=19,SNR=1.7						
BATI	**Baumata**	**5.18**	**98**	P	**Pn**	**14 41 44.0**	**+2.4**
BNSI	**Bone**	**5.31**	**18**	P	Pn	14 41 46.3	+3.0
	0.1nm0.1nm9.8nm,0.7s						
SOEI	**Soe**	**5.74**	**93**	P	**Pn**	**14 41 51.5**	**+2.2**
	0.1nm0.1nm17nm,1.0s						
SBJI	**Serang**	**12.66**	**284**	P	**Pn**	**14 43 19.5**	**-4.5**
WRA	**Warramunga Arr**	**18.53**	**126**	P	**Pn**	**14 44 39.6**	**-0.2**
	0.1nm,0.3s,baz=299,slow=13,SNR=10						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**20.42**	**136**	P	Pn	14 45 00.8	-1.5
	0.5nm,0.6s,baz=311,slow=10,SNR=8.8						
	0.5nm,0.6s						
SONM	**Songino Array**	**58.06**	**350**	P	**P**	**14 50 14.9**	**+0.1**
	0.5nm,0.4s,baz=164,slow=6.9,SNR=4.7						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**64.64**	**333**	P	**P**	**14 50 59.2**	**-0.1**
	0.3nm,0.6s,baz=145,slow=6.7,SNR=4.3						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**69.30**	**340**	P	**P**	**14 51 27.6**	**-1.0**
	0.5nm,0.5s,baz=111,slow=3.7,SNR=2.5						
	0.5nm,0.5s						

*JMA **29** 14:44:11.4±0.1, 24°1N±0°3×121°8E±0°2, h60km, MV2.9/11,*
TAIWAN REGION
*TAP **29** 14:44:13.5, 24°32N×121°90E, h27km, ML3.6, B*
ISC 29 14:44:13.9±0.9**, 24°32N**±0°02×**121°91E**±0°02**, h31**km±6km**,**
n132, σ0$64/253, 3C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.15**	**267**	*e*P	**Pn**	**14 44 19.0**	**-1.2**
	baz=264						
EHP				*e*S	**Sb**	**14 44 24.4**	**+0.6**
	baz=264						
EWUT	**Wuta**	**0.17**	**316**	*i* P	**Pn**	**14 44 18.6**	**-1.9**
	baz=319						
EWUT				*i* S	**Sn**	**14 44 22.9**	**-1.7**
	baz=319						
ENA	**Nanau**	**0.19**	**305**	⇓*i*P	**Pn**	**14 44 19.8**	**-0.9**
	baz=308						
ENA				*i* S	**Sn**	**14 44 24.5**	**-0.4**
	baz=308						
TWC	**Suao**	**0.29**	**349**	⇓*i*P	**Pb**	**14 44 21.0**	**-0.3**
	baz=353						
TWC				*i* S	**Sb**	**14 44 26.1**	**-0.3**
	baz=353						
ETL	**Fush Village**	**0.31**	**239**	*i* P	**Pb**	**14 44 21.1**	**-0.5**
	baz=237						
ETL				S	**Sb**	**14 44 27.3**	**+0.5**
	baz=237						
NACB	**Ninganchiao**	**0.32**	**243**	P	**Pb**	**14 44 22.2**	**+0.5**
NACB	**Ninganchiao**	**0.32**	**243**	⇓*i*P	**Pb**	**14 44 21.0**	**-0.7**
	baz=242						
NACB				*i* S	**Sb**	**14 44 27.4**	**+0.3**
	baz=242						
TWD	**Chiawan**	**0.37**	**230**	⇓*i*P	**Pb**	**14 44 21.8**	**-0.7**
	baz=228						
TWD				S	**Sn**	**14 44 28.9**	**-0.6**
	baz=228						
ETLH	**Xiulin Townshi**	**0.41**	**254**	*i* P	**Pb**	**14 44 22.5**	**-0.6**
	baz=253						
ETLH				S	**Sb**	**14 44 29.4**	**+0.2**
	baz=253						
LATG	**Datong**	**0.41**	**302**	⇓*i*P	**Pb**	**14 44 22.8**	**-0.3**
	baz=302						
LATG				*i* S	**Sb**	**14 44 29.8**	**+0.4**
	baz=302						
HWA	**Hwalien**	**0.44**	**219**	P	**Pb**	**14 44 23.4**	**0.0**
	baz=216						
HWA				S	**Sn**	**14 44 32.2**	**+1.1**
	baz=216						
ENTT	**Nioudou**	**0.45**	**316**	⇑*i*P	**Pb**	**14 44 22.4**	**-1.2**
	baz=317						
ENTT				*i* S	**Sb**	**14 44 29.4**	**-0.7**
	baz=317						
TWE	**Neicheng**	**0.46**	**331**	⇑*i*P	**Pb**	**14 44 23.6**	**-0.1**
	baz=333						
TWE				*i* S	**Sb**	**14 44 30.9**	**+0.5**
	baz=333						
ILA	**Ilan**	**0.47**	**342**	*e*P	**Pb**	**14 44 23.9**	**+0.1**
	baz=343						
ILA				*e*S	**Sn**	**14 44 32.4**	**+0.6**
	baz=343						
NNSB	**Datong**	**0.49**	**283**	⇓*i*P	**Pb**	**14 44 24.2**	**-0.2**
	baz=282						
NNSB				*i* S	**Sb**	**14 44 31.7**	**+0.2**
	baz=282						
NNS	**Nan Shan**	**0.51**	**284**	*i* P	**Pb**	**14 44 23.4**	**-1.1**
	baz=283						
NNS				S	**Sb**	**14 44 30.9**	**-0.9**
	baz=283						
FUSB	**Fushanzhiwuyua**	**0.53**	**326**	*i* P	**Pb**	**14 44 24.7**	**-0.2**
	baz=327						
FUSB				*i* S

	baz=354										
ESL	**Shilin**	**0.67**	**221**	P		**Pn**	**14 44 26.3**	**-1.0**
	baz=219										
ESL				S		**Sb**	**14 44 36.1**	**0.0**
	baz=219										
TWT	**Tachien**	**0.67**	**265**	P		**Pn**	**14 44 27.3**	**-0.2**
	baz=264										
TWT				S		**Sn**	**14 44 36.8**	**-0.3**
	baz=264										
TWB1	**Santiao Chiao**	**0.69**	**6**	P		**Pn**	**14 44 27.1**	**-0.5**
	baz=7.0										
TWB1				S		**Sn**	**14 44 36.9**	**-0.4**
	baz=7.0										
TDCB	**Techi**	**0.69**	**265**	P		**Pn**	**14 44 27.5**	**-0.2**
	baz=264										
TDCB				S		**Sb**	**14 44 36.9**	**0.0**
	baz=264										
CHGB	**Renai**	**0.72**	**249**	P		**Pn**	**14 44 27.6**	**-0.6**
	baz=248										
CHGB				S		**Sb**	**14 44 37.6**	**-0.2**
	baz=248										
TWA	**Mucha**	**0.72**	**336**	P		**Pn**	**14 44 28.2**	**+0.1**
	baz=337										
TWA				S		**Sb**	**14 44 38.9**	**+1.2**
	baz=337										
NHDH	**Xindian Distri**	**0.73**	**331**	P		**Pn**	**14 44 28.2**	**+0.1**
	baz=332										
NHDH				S		**Sn**	**14 44 38.8**	**+0.6**
	baz=332										
NWF	**Wu-fen Shan**	**0.76**	**351**	P		**Pn**	**14 44 28.8**	**+0.2**
	baz=352										
NWF				S		**Sn**	**14 44 39.9**	**+0.8**
	baz=352										
TATO	**Taipei**	**0.76**	**330**	P		**Pn**	**14 44 28.8**	**+0.3**
SXI1	**Grass Mountain**	**0.77**	**358**	P		**Pn**	**14 44 29.0**	**+0.2**
	baz=358										
SXI1				S		**Sn**	**14 44 39.9**	**+0.5**
	baz=358										
EGFH	**Guangfu**	**0.78**	**214**	P		**Pn**	**14 44 28.1**	**-0.8**
	baz=213										
EGFH				S		**Sn**	**14 44 39.4**	**-0.2**
	baz=213										
NFF	**Wufeng Townshi**	**0.79**	**293**	P		**Pn**	**14 44 27.9**	**-1.1**
	baz=293										
NFF				S		**Sn**	**14 44 38.5**	**-1.3**
	baz=293										
WUSB	**Renai**	**0.80**	**246**	*i* P		**Pn**	**14 44 28.8**	**-0.3**
	baz=245										
WUSB				*i* S		**Sb**	**14 44 39.7**	**-0.1**
	baz=245										
LIOB	**Emei**	**0.88**	**292**	P		**Pb**	**14 44 31.0**	**+0.3**
	baz=292										
LIOB				S		**Sn**	**14 44 41.7**	**-0.2**
	baz=292										
YM01	**YM01**	**0.88**	**339**	P		**Pn**	**14 44 30.6**	**+0.3**
	baz=340										
YM01				S		**Sb**	**14 44 43.5**	**+1.4**
	baz=340										
WHP	**Taichung City**	**0.88**	**267**	P		**Pn**	**14 44 30.8**	**+0.5**
	baz=267										
WHP				*e*S		**Sb**	**14 44 42.1**	**-0.2**
	baz=267										
NSTT	**Nanjuang**	**0.89**	**291** ⇑	*i* P		**Pn**	**14 44 30.9**	**+0.6**
	baz=290										
NSTT				S		**Sb**	**14 44 42.4**	**+0.1**
	baz=290										
TWS1	**Kuangyinshan**	**0.90**	**330**	*e*P		**Pn**	**14 44 30.6**	**+0.1**
	baz=331										
TWS1				*e*S		**Sn**	**14 44 42.8**	**+0.4**
	baz=331										
VWDT	**VWDT**	**0.90**	**231**	P		**Pn**	**14 44 30.4**	**-0.1**
	baz=230										
VWDT				S		**Sb**	**14 44 42.8**	**0.0**
	baz=230										
NCU	**National Centr**	**0.92**	**315**	P		**Pn**	**14 44 30.6**	**-0.2**
	baz=315										
NCU				S		**Sn**	**14 44 43.4**	**+0.3**
	baz=315										
NCUH	**Zhongli**	**0.92**	**314**	P		**Pn**	**14 44 30.9**	**+0.1**
	baz=314										
NCUH				S		**Sb**	**14 44 45.1**	**+1.7**
	baz=314										
ANP	**Anpu**	**0.93**	**338**	*e*P		**Pn**	**14 44 30.6**	**-0.4**
	baz=338										
ANP				*e*S		**Sn**	**14 44 43.0**	**-0.5**
	baz=338										
HGSD	**Ruisui**	**0.94**	**209**	P		**Pn**	**14 44 30.9**	**-0.1**
	baz=207										
HGSD				S		**Sb**	**14 44 44.0**	**+0.2**
	baz=207										
NTST	**Danshui**	**0.94**	**334**	P		**Pn**	**14 44 31.1**	**+0.1**
	baz=334										
NTST				S		**Sn**	**14 44 44.2**	**+0.7**
	baz=334										
WCS	**Beigang Elemen**	**0.95**	**254**	P		**Pn**	**14 44 30.3**	**-0.9**
	baz=253										
WCS				S		**Sb**	**14 44 43.7**	**-0.3**
	baz=253										
JYNG	**Yonagunijimaku**	**0.95**	**82**	P		**Pn**	**14 44 30.6**	**-0.6**
JYNG				*e*S		**Sn**	**14 44 44.8**	**+1.1**
SBCB	**Hsinchu**	**0.96**	**299**	*e*P		**Pn**	**14 44 31.2**	**-0.2**
	baz=299										
SBCB				*e*S		**Sb**	**14 44 44.9**	**+0.4**
	baz=299										
EHY	**Hungye**	**0.97**	**214**	P		**Pn**	**14 44 30.2**	**-1.3**
	baz=212										
EHY				S		**Sn**	**14 44 44.3**	**0.0**
	baz=212										
HSN	**Hsinchu**	**0.98**	**299**	*e*P		**Pn**	**14 44 31.4**	**-0.2**
	baz=302										
HSN				*e*S		**Sn**	**14 44 44.0**	**-0.5**
	baz=302										
YOJ	**Yonaguni jima**	**1.01**	**82**	P		**Pn**	**14 44 31.5**	**-0.6**
YOJ	**Yonaguni jima**	**1.01**	**82**	P		**Pn**	**14 44 31.4**	**-0.6**
	baz=81										
YOJ				*e*S		**Sn**	**14 44 45.5**	**+0.3**
	baz=81										
YOJ	**Yonaguni jima**	**1.01**	**82**	P		**Pn**	**14 44 31.4**	**-0.6**
YOJ				S		**Sn**	**14 44 45.9**	**+0.7**
SMLT	**Sun Moon Lake**	**1.02**	**245**	P		**Pn**	**14 44 32.0**	**-0.3**
	baz=244										
SMLT				*e*S		**Sn**	**14 44 45.5**	**-0.1**
	baz=244										
SSLB	**Suanglung**	**1.02**	**239**	P		**Pn**	**14 44 32.2**	**0.0**
SSLB	**Suanglung**	**1.02**	**239**	P		**Pn**	**14 44 31.9**	**-0.3**
	baz=238										
SSLB				S		**Sn**	**14 44 45.1**	**-0.4**
	baz=238										
TWQ1	**Liyutan**	**1.04**	**272**	P		**Pb**	**14 44 33.5**	**+0.2**
	baz=271										
TWQ1				*e*S		**Sb**	**14 44 47.8**	**+1.2**
	baz=271										
NMLH	**Miaoli**	**1.04**	**282**	*e*P		**Pb**	**14 44 33.7**	**+0.3**
	baz=282										
NMLH				*e*S		**Sn**	**14 44 46.0**	**0.0**
	baz=282										
TYC	**Yuchr**	**1.05**	**247**	P		**Pn**	**14 44 32.8**	**+0.2**
	baz=246										
TYC				S		**Sb**	**14 44 46.5**	**-0.3**
	baz=246										
NSY	**Sanyi**	**1.05**	**275**	*e*P		**Pn**	**14 44 32.6**	**0.0**
	baz=275										
NSY				*e*S		**Sn**	**14 44 46.3**	**0.0**
	baz=275										
YULB	**Yu-li**	**1.08**	**211**	P		**Pn**	**14 44 31.9**	**-1.1**
YULB	**Yu-li**	**1.08**	**211**	P		**Pn**	**14 44 31.6**	**-1.3**
	baz=210										
YULB				*e*S		**Sn**	**14 44 46.2**	**-0.7**
	baz=210										
EYUL	**Yuli**	**1.11**	**209**	*e*P		**Pn**	**14 44 33.6**	**+0.2**
	baz=208										
EYUL				*e*S		**Sn**	**14 44 47.9**	**+0.2**
	baz=208										
TCU	**Taichung**	**1.14**	**262**	*e*P		**Pn**	**14 44 33.5**	**-0.2**
	baz=261										
TCU				*e*S		**Sb**	**14 44 48.8**	**-0.8**
	baz=261										
WHYT	**Xinyi Township**	**1.15**	**238**	P		**Pn**	**14 44 34.5**	**+0.5**
	baz=236										
WHYT				*e*S		**Sb**	**14 44 49.4**	**-0.4**
	baz=236										
WDJ	**Dajia District**	**1.16**	**272**	*e*P		**Pn**	**14 44 34.2**	**+0.2**
	baz=271										
WDJ				*e*S		**Sn**	**14 44 49.1**	**+0.2**
	baz=271										
WJS	**Zhushan**	**1.19**	**246**	P		**Pn**	**14 44 34.7**	**+0.3**
	baz=245										
WJS				*e*S		**Sb**	**14 44 50.1**	**-0.8**
	baz=245										
WNT	**Mingjian**	**1.20**	**249**	*e*P		**Pb**	**14 44 36.0**	**-0.1**
	baz=248										
WNT				*e*S		**Sb**	**14 44 51.6**	**+0.2**
	baz=248										
YUS	**Yu-Shan**	**1.21**	**227**	P		**Pn**	**14 44 35.3**	**+0.1**
	baz=225										
YUS				S		**Sn**	**14 44 50.2**	**-0.4**
	baz=225										
FULB	**Fuli**	**1.25**	**207**	*e*P		**Pn**	**14 44 36.0**	**+0.7**
	baz=206										
FULB				*e*S		**Sn**	**14 44 51.7**	**+0.6**
	baz=206										
WCHH	**Zhanghua**	**1.26**	**259**	*e*P		**Pn**	**14 44 35.4**	**0.0**
	baz=258										
WCHH				*e*S		**Sn**	**14 44 51.6**	**+0.3**
	baz=258										
ALS	**Alishan**	**1.29**	**232**	P		**Pn**	**14 44 36.7**	**+0.5**
	baz=230										
ALS				S		**Sn**	**14 44 52.8**	**+0.2**
	baz=230										
PCYT	**Pengchaiyu**	**1.31**	**6**	*e*S		**Sn**	**14 44 53.0**	**+0.4**
	baz=7.0										
CHKT	**Chengkung**	**1.31**	**202**	*e*P		**Pn**	**14 44 36.3**	**+0.2**
	baz=201										
CHKT				*e*S		**Sn**	**14 44 53.2**	**+0.5**
	baz=201										
CHN5	**Tsauling**	**1.34**	**238**	*e*P		**Pn**	**14 44 37.7**	**+1.1**
	baz=237										
CHN5				*e*S		**Sn**	**14 44 53.5**	**+0.1**
	baz=237										
ELDTW	**Lidau**	**1.39**	**216**	*e*P		**Pn**	**14 44 37.5**	**+0.2**
	baz=215										
ELDTW				*e*S		**Sn**	**14 44 55.0**	**+0.2**
	baz=215										
WDLH	**Douliu**	**1.40**	**244**	*e*P		**Pn**	**14 44 37.6**	**+0.2**
	baz=243										
WDLH				*e*S		**Sn**	**14 44 55.3**	**+0.4**
	baz=243										
EDH	**Donghe**	**1.45**	**203**	*e*P		**Pn**	**14 44 38.2**	**+0.1**
	baz=202										
EDH				*e*S		**Sn**	**14 44 56.4**	**+0.3**
	baz=202										
WRL	**Guolierlin Hig**	**1.46**	**254**	*e*P		**Pn**	**14 44 38.3**	**+0.1**
	baz=253										
WRL				*e*S		**Sn**	**14 44 56.6**	**+0.3**
	baz=253										
WCKO	**Fanlu**	**1.48**	**234**	*e*P		**Pn**	**14 44 38.5**	**0.0**
	baz=233										
WCKO				*e*S		**Sn**	**14 44 57.0**	**+0.1**
	baz=233										
WTK	**Tuku**	**1.53**	**246**	*e*P		**Pn**	**14 44 39.4**	**+0.3**
	baz=245										
WTK				*e*S		**Sb**	**14 44 59.6**	**-1.0**
	baz=245										
CHN2	**Minshiung**	**1.53**	**239**	*e*P		**Pn**	**14 44 39.5**	**+0.3**
	baz=238										
CHN2				*e*S		**Sn**	**14 44 58.0**	**0.0**
	baz=238										
CHN4	**Tsaushan**	**1.54**	**232**	P		**Pn**	**14 44 40.1**	**+0.8**
	baz=231										
CHN4				*e*S		**Sb**	**14 45 00.1**	**-1.0**
	baz=231										
STYH	**Taoyuan**	**1.55**	**223**	P		**Pn**	**14 44 39.2**	**-0.1**
	baz=221										
STYH				S		**Sn**	**14 44 58.6**	**+0.2**
	baz=221										
TPUB	**Ta-pu**	**1.55**	**229**	P		**Pb**	**14 44 41.3**	**-0.7**
TPUB	**Ta-pu**	**1.55**	**229**	P		**Pn**	**14 44 40.0**	**+0.5**
	baz=228										
TPUB				*e*S		**Sn**	**14 44 58.9**	**+0.3**
	baz=228										
WTCT	**Ta-ch'eng**	**1.56**	**253**	*e*P		**Pn**	**14 44 39.7**	**+0.2**
	baz=252										
WTCT				*e*S		**Sn**	**14 44 58.9**	**+0.2**
	baz=252										
LONT	**Longtian**	**1.58**	**207**	*e*P		**Pn**	**14 44 40.1**	**+0.2**
	baz=206										
LONT				*e*S		**Sn**	**14 44 59.2**	**0.0**
	baz=206										
CHY	**Chiayi**	**1.59**	**239**	*e*P		**Pn**	**14 44 40.5**	**+0.6**
	baz=238										
CHY				*e*S		**Sn**	**14 44 59.9**	**+0.5**
	baz=238										
WTP	**Ta-pu**	**1.60**	**228**	*e*P		**Pb**	**14 44 41.8**	**-1.1**
	baz=227										
WTP				*e*S		**Sn**	**14 45 00.4**	**+0.7**
	baz=227										
IRIF	**Iriomote-Funau**	**1.66**	**89**	P		**Pn**	**14 44 40.0**	**-0.9**
IRIF				*e*S		**Sn**	**14 45 01.2**	**+0.1**
TWK	**Hsinying**	**1.67**	**231**	*e*P		**Pn**	**14 44 41.4**	**+0.2**
	baz=230										
TWK				*e*S		**Sn**	**14 45 01.7**	**+0.1**
	baz=230										
TWGBT	**Beinan**	**1.68**	**207**	P		**Pn**	**14 44 42.2**	**+1.0**
TWGBT	**Beinan**	**1.68**	**207**	*e*P		**Pn**	**14 44 40.6**	**-0.6**
	baz=206										
TWGBT				*e*S		**Sn**	**14 45 02.3**	**+0.6**
	baz=206										
TWG	**Pinlang**	**1.68**	**207**	*e*P		**Pn**	**14 44 41.4**	**+0.2**
	baz=206										
TWG				*e*S		**Sn**	**14 45 02.3**	**+0.6**
	baz=206										
WSF	**Szhu**	**1.69**	**247**	*e*P		**Pn**	**14 44 41.6**	**+0.3**
	baz=245										
WSF				*e*S		**Sn**	**14 45 02.2**	**+0.3**
	baz=245										
LDUT	**Ludao**	**1.69**	**194**	*e*P		**Pn**	**14 44 42.1**	**+0.8**
	baz=193										
LDUT				*e*S		**Sn**	**14 45 01.9**	**+0.1**
	baz=193										
CHN1	**Nanshi**	**1.70**	**229**	*e*P		**Pn**	**14 44 42.0**	**+0.6**
	baz=227										
CHN1				*e*S		**Sn**	**14 45 02.6**	**+0.4**
	baz=227										
SGST	**Jiashian**	**1.73**	**225**	*e*P		**Pn**	**14 44 42.4**	**+0.4**
	baz=224										
SGST				*e*S		**Sn**	**14 45 03.3**	**+0.3**
	baz=224										
WSL	**Shuilin Townsh**	**1.73**	**243**	*e*P		**Pn**	**14 44 42.5**	**+0.6**
	baz=242										
WSL				*e*S		**Sn**	**14 45 02.9**	**-0.1**
	baz=242										
HATJ	**Hateruma jima**	**1.75**	**98**	P		**Pn**	**14 44 41.0**	**-1.2**
HATJ				*e*S		**Sn**	**14 45 02.2**	**-1.2**
ICHU	**Yijhu**	**1.77**	**238**	*e*P		**Pn**	**14 44 43.3**	**+0.8**
	baz=237										
ICHU				*e*S		**Sn**	**14 45 04.5**	**+0.5**
	baz=237										
CHN8	**Yiju**	**1.83**	**238**	*e*S		**Sn**	**14 45 05.6**	**+0.1**
	baz=237										
JKRS	**Kuro-shima**	**1.92**	**92**	*e*P		**Pn**	**14 44 43.2**	**-1.3**
JKRS				*e*S		**Sn**	**14 45 07.3**	**-0.2**
SCST	**Cishan**	**1.93**	**223**	*e*P		**Pn**	**14 44 45.1**	**+0.4**
	baz=222										
SCST				*e*S		**Sn**	**14 45 08.8**	**+1.0**
	baz=222										
TSMG	**Majia**	**1.98**	**216**	*e*P		**Pn**	**14 44 46.0**	**+0.6**
	baz=215										
TSMG				*e*S		**Sn**	**14 45 09.9**	**+0.7**
	baz=215										
JIJ	**Ishigaki jima**	**2.04**	**88**	P		**Pn**	**14 44 45.5**	**-0.6**
JIJ				S		**Sn**	**14 45 10.8**	**+0.2**
TSCK	**Chigu Township**	**2.04**	**235**	*e*P		**Pn**	**14 44 46.6**	**+0.5**
	baz=234										
TSCK				*e*S		**Sn**	**14 45 10.8**	**+0.3**
	baz=234										
MASBT	**Mashibuluo**	**2.07**	**215**	*e*P		**Pn**	**14 44 47.4**	**+0.9**
	baz=214										
MASBT				*e*S		**Sn**	**14 45 11.9**	**+0.7**
	baz=214										
EAST	**Anshuo**	**2.16**	**207**	*e*P		**Pn**	**14 44 48.6**	**+0.7**
	baz=206										
EAST				*e*S		**Sn**	**14 45 14.2**	**+0.6**
	baz=206										
TAWH	**Dawu Township**	**2.18**	**206**	*e*P		**Pn**	**14 44 48.8**	**+0.6**
	baz=205										
TAWH				*e*S		**Sn**	**14 45 14.9**	**+0.8**
	baz=205										
JISG	**Ishigakijimahi**	**2.20**	**83**	P		**Pn**	**14 44 47.6**	**-0.8**
JISG				*e*S		**Sn**	**14 45 15.1**	**+0.5**
SCZT	**Fangliau**	**2.27**	**212**	*e*P		**Pn**	**14 44 49.8**	**+0.4**
	baz=210										
SCZT				*e*S		**Sn**	**14 45 17.1**	**+0.8**
	baz=210										
PNG	**Penghu**	**2.28**	**251**	*e*P		**Pn**	**14 44 49.7**	**+0.2**
	baz=250										
PNG				*e*S		**Sn**	**14 45 16.7**	**+0.1**
	baz=250										
PHUB	**P'eng-hu**	**2.29**	**250**	*e*P		**Pn**	**14 44 49.9**	**+0.3**
	baz=249										
PHUB				*e*S		**Sn**	**14 45 16.9**	**+0.3**
	baz=249										
LYUB	**Lan-yu**	**2.33**	**187**	*e*S		**Sn**	**14 45 17.9**	**+0.3**
	baz=187										
SLIU	**Shizi**	**2.33**	**206**	*e*P		**Pn**	**14 44 51.1**	**+0.9**
	baz=205										
SLIU				*e*S		**Sn**	**14 45 18.3**	**+0.5**
	baz=205										
VWUC	**VWUC**	**2.34**	**287**	*e*P		**Pn**	**14 44 50.7**	**+0.5**
	baz=286										
VWUC				*e*S		**Sn**	**14 45 17.9**	**-0.1**
	baz=286										
SMST	**Manzhou Townsh**	**2.49**	**204**	*e*P		**Pn**	**14 44 53.2**	**+0.8**
	baz=203										
SMST				*e*S		**Sn**	**14 45 22.6**	**+0.8**
	baz=203										
VCHM	**Qimei**	**2.53**	**245**	*e*P		**Pn**	**14 44 53.4**	**+0.6**
	baz=243										
VCHM				*e*S		**Sn**	**14 45 23.0**	**+0.3**
	baz=243										
MATB	**Ma-tsu**	**2.55**	**316**	*e*P		**Pn**	**14 44 53.7**	**+0.5**
	baz=315										
MATB				*e*S		**Sn**	**14 45 23.1**	**0.0**
	baz=315										
JTJ	**Tarama**	**2.56**	**82**	P		**Pn**	**14 44 53.1**	**-0.2**
JTJ				*e*S		**Sn**	**14 45 24.4**	**+0.9**
PTMZ	**Houxiangcun**	**2.64**	**286**	*e*P		**Pn**	**14 44 55.0**	**+0.6**
	baz=285										
PTMZ				*e*S		**Sn**	**14 45 25.1**	**-0.3**
	baz=285										
LYJJ	**Jianjiangzhen**	**2.95**	**319**	*e*P		**Pn**	**14 44 58.9**	**+0.2**
	baz=319										
LYJJ				*e*S		**Sn**	**14 45 32.6**	**-0.5**
	baz=319										
XPSS	**Dashiqiu**	**3.03**	**330**	*e*P		**Pn**	**14 44 59.9**	**+0.2**
	baz=329										
XPSS				*e*S		**Sn**	**14 45 34.7**	**-0.3**
	baz=329										
MHZQ	**Yeshan**	**3.15**	**305**	*e*P		**Pn**	**14 45 01.8**	**+0.3**
	baz=304										
MHZQ				*e*S		**Sn**	**14 45 37.3**	**-0.8**
	baz=304										
KNM	**Kinmen**	**3.17**	**272**	*e*P		**Pn**	**14 45 03.9**	**+2.2**
	baz=271										
KNM				*e*S		**Sn**	**14 45 41.4**	**+2.9**
	baz=271										
KNMB	**Chin-men Tao**	**3.21**	**273**	*e*P		**Pn**	**14 45 03.1**	**+0.7**
	baz=272										
KNMB				*e*S		**Sn**	**14 45 39.6**	**0.0**
	baz=272										
AXDP	**Jialang**	**3.63**	**280**	*e*P		**Pn**	**14 45 08.8**	**+0.8**
	baz=279										
AXDP				*e*S		**Sn**	**14 45 49.3**	**-0.6**
	baz=279										

IDC ***29*** *15:05:14.9±1.5, 9.78S×118.54E, h0km, mb4.1/4, mbtmp4.2/7, ML4.1/3, MS3.4/10, Error ellipse: s-maj=51.1km s-min=19.3km az=55.0*

DJA ***29*** *15:05:21.4±0.3, 10.5S±4.4×11.9E±, h66km±14km, M4.7/19, mB4.9/5, mb4.6/10, mBc6.0/5, Mjma4.3/18, ML4.8/17, MLv4.6/17, Ms(BB)4.0/19, Mw(mB)4.2/5, MwmBc5.2/5*

NEIC ***29*** *15:05:21.0±1.6, 9.67S±0.09×118.89E±0.07, h43km±12km, mb4.0/8, Error ellipse: s-maj=13.5km s-min=9.9km az=198.0*

ISC 29 15:05:21.2±0.5, 9.69S±0.06×118.90E±0.04, h46km, n75, σ1.5 26/69, mb4.1/9, MS3.4/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.40**	**308**	P	**Pn**	**15 05 43.3**	**-1.0**
PLAI				S	**Sn**	**15 06 00.4**	**-1.2**
PLAI	**Plampang**	**1.40**	**308**	P	Pn	15 05 29.0	-15
TWSI	**Taliwang, Sumb**	**2.20**	**295**	P	**Pn**	**15 05 55.0**	**-0.4**
TWSI				S	**Sn**	**15 06 20.1**	**-1.3**
MMRI	**Maumere**	**3.46**	**73**	Pn	**Pn**	**15 06 11.4**	**-1.2**
MMRI	**Maumere**	**3.46**	**73**	P	**Pn**	**15 06 11.9**	**-0.7**
MMRI	**Maumere**	**3.46**	**73**	P	**Pn**	**15 06 12.3**	**-0.3**
IGBI	**Denpasar**	**3.81**	**283**	P	**Pn**	**15 06 15.9**	**-1.4**
IGBI				S	**Sn**	**15 06 59.3**	**-1.6**
BSSI	**Bau Bau, Buton**	**3.86**	**24**	P	**Pn**	**15 06 18.0**	**-0.1**
BKSI	**Bulukumba**	**4.50**	**16**	P	**Pn**	**15 06 27.3**	**+0.3**
KAPI	**Kappang**	**4.72**	**10**	Pn	**Pn**	**15 06 30.3**	**+0.4**
	3.2nm,0.3s,baz=198,slow=8.6,SNR=12						
KAPI				Sn	**Sn**	**15 07 20.9**	**-2.5**
	9.1nm,0.3s,baz=181,slow=21,SNR=8.2						
KAPI				LR	LR	15 08 12.0	
	comp=Z,181nm,20.2s,baz=198,slow=36						
	15nm,0.3s						
KAPI	**Kappang**	**4.72**	**10**	Pn	**Pn**	**15 06 29.8**	**-0.2**
KAPI	**Kappang**	**4.72**	**10**	P	Pn	15 06 19.9	-10
BATI	**Baumata**	**4.72**	**97**	Pn	**Pn**	**15 06 32.1**	**+2.1**
	61nm,0.3s,baz=55,slow=1.5,SNR=75						
BATI				Sn	**Sn**	**15 07 23.3**	**-0.3**
	12nm,0.3s,baz=172,slow=20,SNR=1.5						
	165nm,0.4s						
BATI	**Baumata**	**4.72**	**97**	P	**Pn**	**15 06 32.0**	**+2.1**
JAGI	**Jajag, Banyuwa**	**4.84**	**284**	Pn	**Pn**	**15 06 31.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**4.84**	**284**	P	**Pn**	**15 06 30.2**	**-1.4**
ABJI	**Asem Bagus**	**4.98**	**292**	P	**Pn**	**15 06 31.6**	**-1.9**
SOEI	**Soe**	**5.29**	**91**	Pn	**Pn**	**15 06 37.6**	**-0.2**
SOEI	**Soe**	**5.29**	**91**	P	**Pn**	**15 06 40.1**	**+2.2**
	1.2nm0.8nm2μm127nm,0.6s						
SOEI	**Soe**	**5.29**	**91**	P	**Pn**	**15 06 37.7**	**-0.2**
BNSI	**Bone**	**5.39**	**13**	P	**Pn**	**15 06 40.9**	**+1.8**
	0.5nm0.3nm641nm48nm,1.0s						
GMJI	**Gumukmas**	**5.57**	**284**	P	**Pn**	**15 06 41.6**	**0.0**
	0.4nm0.3nm1μm100nm,1.0s						
SPSI	**Sidrap Palu**	**5.75**	**9**	P	**Pn**	**15 06 44.3**	**+0.2**
	0.2nm0.2nm678nm43nm,0.6s						
MRSI	**Marisa**	**10.54**	**17**	P	**Pn**	**15 07 49.4**	**-0.4**
	15nm,1.6s						
KNRA	**Kununurra**	**11.31**	**123**	Pn	**Pn**	**15 07 59.3**	**-1.0**
KNRA	**Kununurra**	**11.31**	**123**	P	**Pn**	**15 08 00.1**	**-0.2**
MBWA	**Marble Bar**	**11.43**	**176**	Pn	**Pn**	**15 08 00.9**	**-1.1**
MBWA	**Marble Bar**	**11.43**	**176**	P	**Pn**	**15 08 01.5**	**-0.5**
PSA00	**Pilbara Seismi**	**11.85**	**176**	Pn	**Pn**	**15 08 06.2**	**-1.5**
PSA00	**Pilbara Seismi**	**11.85**	**176**	P	**Pn**	**15 08 07.3**	**-0.4**
MTN	**Manton Dam**	**12.40**	**106**		**Pn**	**15 08 13

COEN	Coen	24.13 102	P	P	15 10 32.7	-0.4
PMG	Port Moresby	27.87 92	LR	LR	15 23 18.8	
	comp=Z,80nm,20.0s,baz=311,slow=38					
CTA	Charters Tower	28.34 115	LR	LR	15 24 46.5	
	comp=Z,87nm,18.1s,baz=272,slow=41					
CTAO	Charters Tower	28.34 115	P	P	15 11 10.9	-0.2
CTAO			IAmb	IAmb	15 11 27.4	
	comp=Z,10nm,1.3s					
STKA	Stephens Creek	30.49 140	P	P	15 11 31.9	+1.9
	comp=Z,2.4nm,0.7s,baz=311,slow=12,SNR=5.6					
STKA			LR	LR	15 24 20.3	
	comp=Z,70nm,19.3s,baz=359,slow=37					
	comp=Z,2.4nm,0.7s					
CMAR	Chiang Mai Arr	34.21 325	pP	pP	15 12 09.2	-5.5
	comp=Z,0.5nm,0.5s,baz=152,slow=5.5,SNR=2.7					
HHC	Hu-ho-hao-te	50.74 353	eP	P	15 14 19.3	+2.6
HHC			pmax	pmax		
	comp=Z,10.0nm,0.8s					
HHC			pmax	pmax		
	comp=Z,260nm,6.0s					
GTA	Gaotai	51.97 341	eP	P	15 14 29.0	+3.1
GTA			pP	pP	15 14 40.3	+1.9
GTA			sP	sP	15 14 46.0	+2.4
GTA			PP	PP	15 16 14.0	-10
GTA			pmax	pmax		
	comp=Z,2.0nm,1.4s					
XLT	XiLinHaoTe	53.39 357	eP	P	15 14 38.5	+2.2
XLT			pP	sP	15 14 53.0	-1.2
XLT			sP	pP	15 14 57.0	+8.0
XLT			pmax	pmax		
	comp=Z,9.0nm,0.9s					
XLT			pmax	pmax		
	comp=Z,110nm,4.0s					
RPZ	Rata Peaks	56.38 137	LR	LR	15 39 45.8	
	comp=Z,42nm,18.2s,baz=332,slow=37					
SONM	Songino Array	58.34 350	P	P	15 15 11.9	+0.2
	comp=Z,1.2nm,0.8s,baz=170,slow=10,SNR=7.6					
	comp=Z,1.2nm,0.8s					
WMQ	Urumqi	60.33 334	eP	P	15 15 28.0	+2.5
KSH	Kashi	63.10 324	P	P	15 15 45.5	+1.2
MKAR	Makanchi Array	65.02 333	P	P	15 15 56.3	-0.4
	comp=Z,0.7nm,0.5s,baz=152,slow=6.5,SNR=8.3					
	comp=Z,0.7nm,0.5s					
MKAR	Makanchi Array	65.02 333	P	P	15 15 55.9	-0.7
ZALV	Zalesovo Beam	69.65 339	pP	P	15 16 31.2	+5.5
	comp=Z,1.4nm,0.5s,baz=130,slow=2.3,SNR=5.2					
ABKAR	Akbulak array	78.06 325	P	P	15 17 14.9	-0.2
BOSA	Boshof	88.59 241	LR	LR	15 49 18.1	
	comp=Z,19nm,20.5s,baz=356,slow=30					
SNAA	Sanae	90.31 196	LR	LR	15 57 23.6	
	comp=Z,28nm,18.8s,baz=170,slow=35					

DDA ***29*** *15:05:35.9±0.0, 36.92N×30.46E, h1km±2km, ML3.0*
ISK ***29*** *15:05:36.2, 36.99N×30.44E, h2km, ML2.9/15*

ISC 29 15:05:36.8±1.0, **36.97N**±0.03×**30.45E**±0.02, **h3**km±8km, **n34**, σ0.5**75**/**56**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KORT	Korkueli	0.08	289	PG		Pg		15 05 38.1	-0.4
KORT				SG		Sg		15 05 39.6	-0.1
KORT	Korkueli	0.08	289	P		Pg		15 05 38.2	-0.4
KORT				S		Sg		15 05 39.7	-0.1
KORT				*i* AML		AML		15 05 40.0	
	comp=Z,5μm,0.4s								
ANTB	Antalya	0.18	114	PG		Pg		15 05 41.1	+0.8
ANTB				SG		Sg		15 05 44.6	+2.0
BUCA	Burdur, Bucak-	0.36	14	P		Pg		15 05 43.2	-0.6
BUCA				S		Sg		15 05 49.4	+0.8
BUCA				*i* AML		AML		15 05 52.0	
	comp=Z,533nm,0.3s								
ELL	Elmali	0.49	243	PG		Pg		15 05 45.5	-0.6
BCK	Bucak	0.50	13	PG		Pg		15 05 46.3	-0.1
BCK				SG		Sg		15 05 53.9	+1.0
AKUM	Antalya-Kumluc	0.66	187	P		Pb		15 05 50.1	-0.7
AKUM				S		Sn		15 06 02.2	-1.6
GOLH	Golhisar	0.76	291	P		Pg		15 05 51.4	+0.1
GOLH				S		Sb		15 06 04.5	+1.1
BRDR	BURDUR-Merkez	0.79	337	P		Pg		15 05 51.5	-0.3
BRDR				S		Sb		15 06 03.8	-0.4
ISP	Isparta	0.85	4	PG		Pg		15 05 53.2	+0.1
ISP				SG		Sb		15 06 05.4	-0.7
CAEL	Denizli, Camel	0.92	280	P		Pb		15 05 55.2	-0.2
CAEL				S		Sn		15 06 10.5	+0.1
CAEL				*i* AML		AML		15 06 17.0	
	comp=Z,284nm,0.8s								
CAME	Cameli-Denizli	0.92	268	PG		Pb		15 05 54.8	-0.6
KEPZ	Antalya-Kepez	0.93	94	P		Pg		15 05 53.5	-1.1
KEPZ				S		Sn		15 06 10.1	-0.5
BASM	Basmaki-Afyon	1.00	342	PG		Pg		15 05 55.6	-0.3
BASM				SG		Sb		15 06 10.6	+0.3
AKAS	Kas	1.00	223	PG		Pb		15 05 56.4	-0.5
APMY	Acipayam-Deniz	1.04	299	PG		Pg		15 05 56.1	-0.7
BAGO	Egridir - ISPA	1.05	15	P		Pg		15 05 56.1	-0.8
BAGO				S		Sn		15 06 14.0	+0.3
FETY	Fethiye	1.15	253	PN		Pn		15 05 59.1	-0.6
SEDI	Konya, Seydise	1.15	65	P		Pb		15 05 59.0	-0.3
SEDI				S		Sn		15 06 15.2	-1.0
SEYD	Seydisehir-KON	1.19	68	PN		Pb		15 05 59.4	-0.7
TAVA	DENIZLI_Tavas	1.32	292	P		Pg		15 06 01.6	-0.5
TAVA				S		Sn		15 06 20.8	+0.5
DALY	Dalyan (Mula)	1.45	264	PN		Pg		15 06 04.3	-0.2
DOGA	KONYA_Doganhis	1.49	40	P		Pg		15 06 04.8	-0.5
DOGA				S		Sn		15 06 25.2	+0.6
PASA	Karahalli, USA	1.57	331	P		Pn		15 06 05.5	-0.1
PASA				S		Sg		15 06 27.8	+0.5
MULA	Mugla, Merkez-	1.72	280	P		Pg		15 06 10.0	+0.2
YER	Yerkesik	1.74	276	PN		Pb		15 06 08.5	-0.9
TURN	Turunc	1.78	264	PN		Pb		15 06 08.9	-1.1
TURN	Turunc	1.78	264	P		Pg		15 06 11.1	+0.2
TURN				S		Sg		15 06 36.1	+2.2
KKBE	Karaman, Kazim	2.01	82	P		Pb		15 06 13.4	-0.6
KKBE				S		Sn		15 06 37.7	+0.3
KDHN	Kadinhani	2.03	40	P		Pn		15 06 11.9	-0.2
KDHN				S		Sg		15 06 43.3	+1.1
USAK	Uak-Merkez	2.07	327	P		Pn		15 06 12.4	-0.1
USAK				S		Sn		15 06 39.6	+0.7
MANT	Manisa	2.13	316	P		Pn		15 06 13.6	+0.1
MANT				S		Sn		15 06 40.9	+0.3
AYDB	Zeytinkoy-Aydi	2.25	296	PN		Pn		15 06 15.8	+0.7
DAT	Datca	2.31	265	PN		Pn		15 06 16.8	+0.9

IDC ***29*** *15:10:42.1±1.3, 24.16N×121.91E, h0km, mb3.4/4, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=45.7km s-min=25.5km az=62.0*
JMA ***29*** *15:10:44.7±0.1, 24.3N±0.5×121.8E±0.5, h61km±1km, TAIWAN REGION*
TAP ***29*** *15:10:46.0, 24.42N×121.91E, h28km, ML4.0, B*
NEIC ***29*** *15:10:46.2±1.0, 24.39N±0.04×121.93E±0.04, h28km±4km, Error ellipse: s-maj=6.1km s-min=4.2km az=137.0*

ISC 29 15:10:45.7±0.7, **24.38N**±0.02×**121.93E**±0.02, **h27**km±5km, **n149**, σ0.**877**/177, **mb3.6**/7, **13C-21D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EWUT	Wuta	0.16	296	↓eP		Pb		15 10 50.3	-0.8
	baz=280								
EWUT				*e*S		Sb		15 10 54.0	-0.9
	baz=280								
ENA	Nanau	0.18	286	↓*i*P		Pb		15 10 51.6	+0.1
	baz=271								
ENA				*i* S		Sb		15 10 55.6	+0.3
	baz=271								
EHP	Heping Village	0.19	250	P		Pb		15 10 52.2	+0.7
	baz=232								
EHP				*i* S		Sb		15 10 56.7	+1.3
	baz=232								
TWC	Suao	0.24	341	↓*i*P		Pb		15 10 52.1	-0.1
	baz=345								
TWC				*i* S		Sb		15 10 56.0	-0.6
	baz=345								
ETL	Fush Village	0.36	233	P		Pn		15 10 54.8	-0.4
	baz=229								
ETL				S		Sn		15 11 01.6	+0.3
	baz=229								
NACB	Ninganchiao	0.37	237	Pg		Pb		15 10 54.5	+0.6
NACB	Ninganchiao	0.37	237	P		Pn		15 10 55.1	-0.2
NACB	Ninganchiao	0.37	237	↓*i*P		Pb		15 10 54.6	+0.6
	baz=233								
NACB				*i* S		Sn		15 11 01.4	-0.2
	baz=233								
LATG	Datong	0.40	293	⇑*i*P		Pb		15 10 54.9	+0.3
	baz=294								
LATG				*i* S		Sb		15 11 01.0	+0.4
	baz=294								
TWE	Neicheng	0.42	325	⇑*i*P		Pb		15 10 54.9	+0.1
	baz=324								
TWE				S		Sb		15 11 00.8	-0.1
	baz=324								
ILA	Ilan	0.42	336	⇑*i*P		Pb		15 10 55.2	+0.4
	baz=333								
ILA				S		Sb		15 11 01.5	+0.6
	baz=333								
ENTT	Nioudou	0.43	308	⇑*i*P		Pb		15 10 54.1	-0.8
	baz=305								
ENTT				S		Sb		15 11 00.1	-1.0
	baz=305								
TWD	Chiawan	0.43	226	↓*i*P		Pn		15 10 55.7	-0.4
	baz=222								
TWD				*i* S		Sn		15 11 03.3	+0.3
	baz=222								
ETLH	Xiulin Townshi	0.45	248	↓*e*P		Pn		15 10 55.9	-0.5
	baz=244								
ETLH				*e*S		Sn		15 11 03.6	-0.1
	baz=244								
EGS		0.47	360	↓*i*P		Pb		15 10 55.9	+0.4
	baz=4.0								
EGS				S		Sb		15 11 01.7	-0.4
	baz=4.0								
NTC	Toucheng	0.49	349	*e*P		Pb		15 10 56.2	+0.4
	baz=356								
FUSB	Fushanzhiwuyua	0.50	320	⇑*i*P		Pb		15 10 56.2	+0.2
	baz=319								
FUSB				*i* S		Sb		15 11 02.8	-0.3
	baz=319								
HWA	Hwalien	0.50	217	⇓P		Pn		15 10 57.5	+0.4
	baz=211								
NNSB	Datong	0.51	276	⇑P		Pb		15 10 56.6	+0.4
	baz=274								
NNSB				S		Sb		15 11 03.8	+0.5
	baz=274								
NNS	Nan Shan	0.52	277	⇑*e*P		Pb		15 10 55.7	-0.7
	baz=275								
NNS				S		Sb		15 11 03.5	-0.2
	baz=275								
NWLT	Wulai	0.56	316	⇑*i*P		Pb		15 10 56.2	-0.9
	baz=313								
NWLT				S		Sb		15 11 03.8	-1.0
	baz=313								
YHNB	Yeheng	0.59	300			Pb		15 10 57.7	+0.2
TIPB	Shuangxi	0.60	351	⇑P		Pb		15 10 58.0	+0.2
	baz=354								
TIPB				S		Sb		15 11 05.7	-0.3
	baz=354								
NSK	Sanguang	0.60	300	⇑*i*P		Pb		15 10 57.0	-0.8
	baz=297								
NSK				*e*S		Sb		15 11 04.9	-1.1
	baz=297								
TWB1	Santiao Chiao	0.63	4	P		Pn		15 10 58.5	+0.2
	baz=2.0								
TWB1				S		Sb		15 11 06.4	-0.3
	baz=2.0								
FUSS	Fushou	0.64	259	P		Pn		15 10 59.4	+0.2
	baz=254								
FUSS				*e*S		Sn		15 11 08.7	-0.1
	baz=254								
WHF	Hehuan Shan	0.65	249	↓*i*P		Pn		15 10 59.5	-0.1
	baz=251								
WHF				*e*S		Sn		15 11 09.9	+0.7
	baz=251								
TWA	Mucha	0.68	332	*e*P		Pn		15 10 59.4	-0.2
	baz=325								
TWA				S		Sn		15 11 08.7	-0.7
	baz=325								
NHDH	Xindian Distri	0.69	328	*e*P		Pn		15 10 59.9	+0.2
	baz=322								
TWT	Tachien	0.70	260	⇓P		Pn		15 11 00.5	+0.5
	baz=255								
NWF	Wu-fen Shan	0.71	349	⇑P		Pn		15 10 60.0	0.0
	baz=350								
SXI1	Grass Mountain	0.72	356	P		Pn		15 11 00.3	+0.2
	baz=360								
TDCB	Techi	0.72	260	*e*P		Pn		15 11 00.7	+0.4
	baz=256								
TATO	Taipei	0.72	326			Pn		15 10 60.0	-0.2
TATO	Taipei	0.72	326	P		Pn		15 11 00.8	+0.7
ESL	Shilin	0.72	219	*e*P		Pb		15 11 00.1	+0.3
	baz=227								
CHGB	Renai	0.76	246	↓*i*P		Pn		15 11 01.4	+0.5
	baz=232								
TAP	Taipei	0.77	330	*e*P		Pn		15 11 01.3	+0.5
	baz=329								
TAP				*e*S		Sn		15 11 11.6	+0.2
	baz=329								
NFF	Wufeng Townshi	0.79	289	*e*P		Pb		15 11 00.6	-0.2
	baz=288								
YM01	YM01	0.83	337	P		Pb		15 11 02.4	+0.7
	baz=321								
WUSB	Renai	0.84	243	↓*i*P		Pb		15 11 02.5	+0.7
	baz=231								
WUSB				*e*S		Sn		15 11 14.7	+1.3
	baz=231								
EGFH	Guangfu	0.84	213	*e*P		Pb		15 11 02.1	+0.3
	baz=222								
TWS1	Kuangyinshan	0.86	327	*e*P		Pb		15 11 02.9	+0.8
	baz=327								
LIOB	Emei	0.88	288	*e*P		Pb		15 11 03.7	+1.3
	baz=285								
NSTT	Nanjuang	0.89	287	↓P		Pb		15 11 03.6	+1.1
	baz=284								
NSTT				S		Sn		15 11 14.8	+0.4
	baz=284								
ANP	Anpu	0.89	335	*e*P		Pb		15 11 03.1	+0.4
	baz=335								
NTST	Danshui	0.90	331	*e*P		Pb		15 11 03.1	+0.3
	baz=330								
NCU	National Centr	0.90	311	*e*P		Pb		15 11 03.4	+0.6
	baz=309								
NCUH	Zhongli	0.90	311	*e*P		Pb		15 11 04.0	+1.3
	baz=309								
WHP	Taichung City	0.91	264	*e*P		Pb		15 11 04.1	+1.2
	baz=253								
JYNG	Yonagunijimaku	0.92	85	P		Pn		15 11 03.5	+0.5
TWY	Chenhua	0.95	341	⇑P		Pb		15 11 04.4	+0.9
	baz=342								
TWY				*e*S		Sn		15 11 16.1	+0.3
	baz=342								
VWDT	VWDT	0.95	230	↓*i*P		Pb		15 11 04.0	+0.3
	baz=216								
SBCB	Hsinchu	0.96	296	P		Pb		15 11 05.0	+1.2
	baz=309								
HSN	Hsinchu	0.97	296	*e*P		Pb		15 11 04.9	+0.9
	baz=296								
YOJ	Yonaguni jima	0.98	85			Pn		15 11 04.3	+0.6
YOJ	Yonaguni jima	0.98	85	P		Pb		15 11 04.7	+0.5
YOJ	Yonaguni jima	0.98	85	P		Pn		15 11 04.4	+0.6
	baz=78								
YOJ	Yonaguni jima	0.98	85	P		Pn		15 11 04.3	+0.6
WCS	Beigang Elemen	0.99	251	*e*P		Pn		15 11 03.8	0.0
	baz=247								
HGSD	Ruisui	1.00	208	*e*P		Pb		15 11 04.8	+0.4
	baz=197								
EHY	Hungye	1.03	213	↓*e*P		Pn		15 11 04.0	-0.4
	baz=210								
NMLH	Miaoli	1.05	279	*e*P		Pb		15 11 06.9	+1.6
	baz=275								
TWQ1	Liyutan	1.06	269	*e*P		Pb		15 11 07.0	+1.6
	baz=254								
SMLT	Sun Moon Lake	1.06	243	*e*P		Pb		15 11 06.2	+0.7
	baz=230								
NSY	Sanyi	1.07	272	*e*P		Pb		15 11 07.5	+1.9
	baz=280								
SSLB	Suanglung	1.07	237			Pn		15 11 05.4	+0.4
SSLB	Suanglung	1.07	237	P		Pb		15 11 06.1	+0.5
SSLB	Suanglung	1.07	237	⇓P		Pb		15 11 05.8	+0.2
	baz=233								
TYC	Yuchr	1.09	245	↓*i*P		Pb		15 11 06.6	+0.6
	baz=232								
YULB	Yu-li	1.14	211			Pn		15 11 05.5	-0.5
YULB	Yu-li	1.14	211	P		Pn		15 11 05.9	0.0
YULB	Yu-li	1.14	211	*e*P		Pn		15 11 05.5	-0.5
	baz=208								
EYUL	Yuli	1.17	209	*e*P		Pb		15 11 08.1	+0.8
	baz=219								
TCU	Taichung	1.17	259	*e*P		Pb		15 11 08.9	+1.6
	baz=254								
WDJ	Dajia District	1.18	269	*e*P		Pb		15 11 08.8	+1.4
	baz=274								
WHYT	Xinyi Township	1.20	236	*e*P		Pb		15 11 08.5	+0.7
	baz=225								
WJS	Zhushan	1.23	244	*e*P		Pb		15 11 09.5	+1.1
	baz=226								
WNT	Mingjian	1.25	247	*e*P		Pb		15 11 10.2	+1.6
	baz=242								
PCYT	Pengchaiyu	1.25	6	*e*P		Pb		15 11 08.5	-0.2
	baz=7.0								
YUS	Yu-Shan	1.26	226	↓*i*P		Pb		15 11 09.1	0.0
	baz=222								
WCHH	Zhanghua	1.29	257	*e*P		Pb		15 11 09.9	+0.5
	baz=253								
FULB	Fuli	1.31	207	*e*P		Pb		15 11 09.5	-0.2
	baz=217								
ALS	Alishan	1.35	230	⇓P		Pb		15 11 10.7	+0.2
	baz=217								
CHKT	Chengkung	1.37	202	*e*P		Pn		15 11 10.2	+1.1
	baz=186								
CHN5	Tsauling	1.39	236	*e*P		Pb		15 11 10.8	-0.2
	baz=232								
WDLH	Douliu	1.45	242	*e*P		Pb		15 11 13.2	+1.2
	baz=238								
ELDTW	Lidau	1.45	216	*e*P		Pn		15 11 10.4	+0.1
	baz=203								
WRL	Guolierlin Hig	1.50	252	*e*P		Pb		15 11 12.0	-0.9
	baz=247								
WCKO	Fanlu	1.53	233	*e*P		Pn		15 11 11.8	+0.5
	baz=229								
WTK	Tuku	1.57	244	*e*P		Pb		15 11 14.7	+0.5
	baz=240								
CHN2	Minshiung	1.58	238	*e*P		Pb		15 11 15.2	+0.9
	baz=223								
CHN4	Tsaushan	1.60	231	⇓P		Pb		15 11 14.1	-0.5
	baz=227								
STYH	Taoyuan	1.60	222	*e*P		Pn		15 11 13.5	+1.2
	baz=219								
TPUB	Ta-pu	1.60	228	Pn		Pb		15 11 14.8	0.0
TPUB	Ta-pu	1.60	228	P		Pb		15 11 14.9	+0.2
TPUB	Ta-pu	1.60	228	⇓P		Pb		15 11 15.1	+0.4
	baz=212								
CHY	Chiayi	1.64	238	*e*P		Pb		15 11 16.2	+0.9
	baz=224								
IRIF	Iriomote-Funau	1.64	91	P		Pn		15 11 13.6	+0.8
LONT	Longtian	1.64	207	*e*P		Pn		15 11 13.0	+0.3
	baz=193								
WTP	Ta-pu	1.65	227	*e*P		Pb		15 11 15.7	+0.1
	baz=224								
TWK	Hsinying	1.73	230	*e*P		Pb		15 11 16.9	+0.2
	baz=227								
WSF	Szhu	1.73	245	*e*P		Pb		15 11 16.1	-0.7
	baz=240								
TWGBT	Beinan	1.74	207	P		Pn		15 11 14.0	-0.1
TWGBT	Beinan	1.74	207	*e*P		Pn		15 11 13.8	-0.3
	baz=194								
TWG	Pinlang	1.74	207	Pn		Pn		15 11 13.4	-0.8
TWG	Pinlang	1.74	207	*e*P		Pn		15 11 14.1	-0.1
	baz=194								
CHN1	Nanshi	1.75	228	⇑*e*P		Pb		15 11 17.1	-0.1
	baz=225								
WSL	Shuilin Townsh	1.78	242	*e*P		Pb		15 11 16.4	-1.2
	baz=252								
SGST	Jiashian	1.79	224	*e*P		Pb		15 11 16.8	-1.0
	baz=210								
ICHU	Yijhu	1.82	237	*e*P		Pb		15 11 18.6	+0.2
	baz=233								
CHN8	Yiju	1.88	237	*e*P		Pb		15 11 19.3	-0.1
	baz=233								
JKRS	Kuro-shima	1.90	94	P		Pn		15 11 17.2	+0.9
ECL	Taimali	1.99	207	*e*P		Pb		15 11 20.1	-1.1
	baz=196								
SCST	Cishan	1.99	222	*e*P		Pb		15 11 22.0	+0.8
	baz=220								
JIJ	Ishigaki jima	2.01	90	P		Pn		15 11 18.8	+0.9
TSMG	Majia	2.04	216	*e*P		Pb		15 11 21.8	-0.3
	baz=202								
TWM1	Shoushan	2.08	222	*e*P		Pb		15 11 23.3	+0.6
	baz=220								
MASBT	Mashibuluo	2.12	214	*e*P		Pb		15 11 22.6	-1.0
	baz=213								
JISG	Ishigakijimahi	2.17	84	P		Pn		15 11 20.9	+0.8
EAST	Anshuo	2.22	207	*e*P		Pn		15 11 23.2	+2.4
	baz=198								
PNG	Penghu	2.32	250	*e*P		Pn		15 11 23.3	+1.1
	baz=245								
PHUB	P'eng-hu	2.33	249	*e*P		Pn		15 11 23.1	+0.9
	baz=244								
SCZT	Fangliau	2.33	211	*e*P		Pb		15 11 25.3	-1.8
	baz=199								
VWUC	VWUC	2.34	286	*e*P		Pn		15 11 22.6	+0.1
	baz=283								
PTMZ	Houxiangcun	2.64	285	*e*P		Pn		15 11 27.2	+0.7
	baz=282								
LYJJ	Jianjiangzhen	2.92	318	*e*P		Pn		15 11 30.6	+0.2
	baz=316								
XPSS	Dashiqiu	2.99	329	*e*P		Pn		15 11 31.6	+0.3
	baz=327								
QZH	Quanzhou	3.09	281	Pn		Pn		15 11 33.3	+0.5
QZH				Sn		Sn		15 12 06.5	-2.3
QZH				smax		smax			
	comp=N,200nm,0.9s								
QZH				smax		smax			
	comp=E,130nm,0.5s								
KNMB	Chin-men Tao	3.23	272	Pn		Pn		15 11 35.0	+0.3
KNMB	Chin-men Tao	3.23	272	*e*P		Pn		15 11 35.0	+0.3
	baz=266								
AXDP	Jialang	3.65	279	*e*P		Pn		15 11 41.1	+0.7
	baz=273								
DSXP	Dongshan	4.17	262	*e*P		Pn		15 11 48.5	+0.8
	baz=255								
JOW	Kunigami	6.22	66	Pn		Pn		15 12 16.8	+1.0
	comp=E,1.0nm,0.3s,baz=64,slow=15,SNR=1.3								
	comp=E,12nm,0.9s								
INCN	Inchon	13.67	16	Pn		Pn		15 13 57.9	+0.1
JSD	Sado	19.46	42	P		P		15 15 08.7	-1.6
MKAR	Makanchi Array	38.68	315	P		P		15 18 08.3	+1.2
	comp=E,0.4nm,0.6s,baz=111,slow=7.9,SNR=2.9								
	comp=E,0.4nm,0.6s								
MKAR	Makanchi Array	38.68	315	P		P		15 18 06.8	-0.4
MAKZ	Makanchi	38.88	315	P		P		15 18 08.5	-0.4
MAKZ				IAmb		IAmb		15 18 12.4	
	comp=Z,6.5nm,1.4s								
ZALV	Zalesovo Beam	40.46	327	P		P		15 18 23.8	+2.0
	comp=Z,0.8nm,0.6s,baz=117,slow=8.3,SNR=2.9								
	comp=Z,0.8nm,0.6s								
WB0	Warramunga Arr	45.52	163	P		P		15 19 03.1	0.0
WB0				IAmb		IAmb		15 19 07.7	
	comp=Z,5.2nm,1.2s								
WRA	Warramunga Arr	45.68	164	P		P		15 19 02.4	-2.0
	comp=Z,0.3nm,0.7s,baz=345,slow=8.6,SNR=2.1								
	comp=Z,0.3nm,0.7s								
WB2	Warram

EHP	**Heping Village**	**0.21**	**240**	*i* P	**Pb**	**15 11 05.0 -0.1**
	baz=236					
EHP				*i* S	**Sb**	**15 11 09.6 +0.4**
	baz=236					
TWC	**Suao**	**0.21**	**337**	*i* P	**Pb**	**15 11 05.1 -0.1**
	baz=341					
TWC				S	**Sb**	**15 11 08.8 -0.5**
	baz=341					
ETL	**Fush Village**	**0.38**	**229**	P	**Pb**	**15 11 07.9 +0.3**
	baz=231					
ETL				*e*S	**Sn**	**15 11 14.7 -0.6**
	baz=231					
ILA	**Ilan**	**0.39**	**334**	P	**Pn**	**15 11 08.4 -0.6**
	baz=329					
ILA				*i* S	**Sn**	**15 11 14.8 -0.7**
	baz=329					
LATG	**Datong**	**0.39**	**288**	*e*P	**Pb**	**15 11 07.8 0.0**
	baz=288					
LATG				S	**Sb**	**15 11 13.9 +0.2**
	baz=288					
NACB	**Ninganchiao**	**0.39**	**233**		**Pb**	**15 11 07.8 +0.2**
NACB	**Ninganchiao**	**0.39**	**233**	*i* P	**Pb**	**15 11 07.9 +0.2**
	baz=235					
NACB				*i* S	**Sb**	**15 11 14.3 +0.8**
	baz=235					
TWE	**Neicheng**	**0.39**	**321**	P	**Pb**	**15 11 07.8 +0.1**
	baz=323					
TWE				*i* S	**Sb**	**15 11 13.9 +0.4**
	baz=323					
ENTT	**Nioudou**	**0.41**	**304**	P	**Pb**	**15 11 07.4 -0.6**
	baz=304					
ENTT				*i* S	**Sb**	**15 11 13.3 -0.6**
	baz=304					
EGS		**0.43**	**359**	P	**Pb**	**15 11 08.8 +0.5**
	baz=2.0					
EGS				S	**Sn**	**15 11 15.4 -1.1**
	baz=2.0					
NTC	**Toucheng**	**0.45**	**347**	*e*P	**Pb**	**15 11 09.1 +0.5**
	baz=355					
TWD	**Chiawan**	**0.46**	**223**	P	**Pb**	**15 11 08.9 +0.2**
	baz=224					
TWD				S	**Sn**	**15 11 16.4 -0.6**
	baz=224					
ETLH	**Xiulin Townshi**	**0.46**	**244**	*e*P	**Pb**	**15 11 09.2 +0.3**
	baz=246					
ETLH				*e*S	**Sn**	**15 11 16.8 -0.6**
	baz=246					
FUSB	**Fushanzhiwuyua**	**0.47**	**317**	P	**Pb**	**15 11 09.4 +0.4**
	baz=318					
FUSB				S	**Sb**	**15 11 15.7 0.0**
	baz=318					
NNSH	**Datong**	**0.51**	**272**	*e*P	**Pb**	**15 11 08.9 -0.7**
	baz=275					
NNSH				*e*S	**Sb**	**15 11 16.1 -0.7**
	baz=275					
NNSB	**Datong**	**0.51**	**272**	P	**Pb**	**15 11 09.7 +0.1**
	baz=277					
NNSB				S	**Sb**	**15 11 17.1 +0.3**
	baz=277					
NNS	**Nan Shan**	**0.52**	**273**	*e*P	**Pb**	**15 11 08.7 -1.0**
	baz=276					
NNS				S	**Sb**	**15 11 16.4 -0.6**
	baz=276					
HWA	**Hwalien**	**0.53**	**215**	*e*P	**Pn**	**15 11 10.8 -0.1**
	baz=213					
NWLT	**Wulai**	**0.54**	**313**	*e*P	**Pb**	**15 11 09.5 -0.6**
	baz=313					
TIPB	**Shuangxi**	**0.57**	**350**	*e*P	**Pb**	**15 11 10.9 +0.3**
	baz=356					
TIPB				S	**Sb**	**15 11 18.7 +0.4**
	baz=356					
YHNB	**Yeheng**	**0.57**	**297**	Pn	**Pb**	**15 11 11.0 +0.3**
NSK	**Sanguang**	**0.59**	**296**	*e*P	**Pb**	**15 11 10.1 -0.8**
	baz=297					
NSK				*e*S	**Sb**	**15 11 18.2 -0.8**
	baz=297					
TWB1	**Santiao Chiao**	**0.59**	**4**	*e*P	**Pn**	**15 11 11.7 -0.1**
	baz=1.0					
TWB1				S	**Sn**	**15 11 19.7 -0.8**
	baz=1.0					
ETM	**Tongmen**	**0.60**	**222**	P	**Pb**	**15 11 11.3 +0.2**
	baz=221					
TEYL	**Yanliau Villag**	**0.62**	**210**	P	**Pb**	**15 11 11.6 +0.1**
	baz=210					
TEYL				*e*S	**Sn**	**15 11 22.7 +1.5**
	baz=210					
TWA	**Mucha**	**0.65**	**330**	*e*P	**Pn**	**15 11 12.6 0.0**
	baz=325					
TWA				S	**Sn**	**15 11 21.8 -0.1**
	baz=325					
FUSS	**Fushou**	**0.66**	**256**	P	**Pb**	**15 11 12.4 +0.3**
	baz=260					
FUSS				S	**Sn**	**15 11 22.7 +0.4**
	baz=260					
NHDH	**Xindian Distri**	**0.66**	**326**	*e*P	**Pn**	**15 11 12.8 +0.1**
	baz=319					
NHDH				*e*S	**Sn**	**15 11 21.5 -0.7**
	baz=319					
NWF	**Wu-fen Shan**	**0.67**	**348**	*e*P	**Pn**	**15 11 13.2 +0.3**
	baz=342					
NWF				S	**Sn**	**15 11 22.3 -0.2**
	baz=342					
WFSB	**Wu-fen Shan**	**0.67**	**348**	*e*P	**Pn**	**15 11 13.1 +0.3**
	baz=342					
WFSB				*i* S	**Sn**	**15 11 22.1 -0.3**
	baz=342					
WHF	**Hehuan Shan**	**0.67**	**247**	P	**Pb**	**15 11 12.4 -0.1**
	baz=252					
WHF				S	**Sb**	**15 11 22.0 +0.4**
	baz=252					
SXI1	**Grass Mountain**	**0.68**	**355**	*e*P	**Pn**	**15 11 12.8 -0.2**
	baz=358					
SXI1				*e*S	**Sn**	**15 11 22.5 -0.3**
	baz=358					
TATO	**Taipei**	**0.69**	**324**	Pn	**Pn**	**15 11 13.3 +0.2**
TATO	**Taipei**	**0.69**	**324**	*e*P	**Pn**	**15 11 13.0 -0.1**
	baz=320					
TATO				S	**Sn**	**15 11 22.4 -0.6**
	baz=320					
NHY	**Taipei**	**0.71**	**332**	*e*P	**Pn**	**15 11 13.8 +0.5**
	baz=326					
TWT	**Tachien**	**0.71**	**257**	*e*P	**Pn**	**15 11 13.9 +0.4**
	baz=257					
TWT				*e*S	**Sn**	**15 11 24.3 +0.7**
	baz=257					
TAP1	**Taipei**	**0.73**	**329**	*e*P	**Pn**	**15 11 14.0 +0.4**
	baz=329					
TAP1				S	**Sn**	**15 11 24.5 +0.7**
	baz=329					
TDCB	**Techi**	**0.73**	**258**	P	**Pb**	**15 11 13.6 +0.3**
	baz=257					
TDCB				S	**Sn**	**15 11 24.1 +0.1**
	baz=257					
BACT	**New Taipei Cit**	**0.74**	**322**	*e*P	**Pn**	**15 11 14.3 +0.7**
	baz=318					
BACT				*e*S	**Sn**	**15 11 25.2 +1.2**
	baz=318					
TAP	**Taipei**	**0.74**	**328**	P	**Pn**	**15 11 14.4 +0.8**
	baz=329					
TAP				*i* S	**Sn**	**15 11 24.9 +0.9**
	baz=329					
TNOU	**National Taiwa**	**0.75**	**348**	*e*P	**Pn**	**15 11 14.2 +0.3**
	baz=345					
TNOU				*e*S	**Sn**	**15 11 24.0 -0.4**
	baz=345					
ESL	**Shilin**	**0.75**	**218**	*e*P	**Pb**	**15 11 13.5 -0.2**
	baz=208					
NFF	**Wufeng Townshi**	**0.78**	**286**	*e*P	**Pn**	**15 11 14.5 +0.1**
	baz=289					
CHGB	**Renai**	**0.78**	**243**	P	**Pb**	**15 11 14.2 0.0**
	baz=243					
CHGB				S	**Sn**	**15 11 25.9 +0.5**
	baz=243					
YM01	**YM01**	**0.80**	**335**	*e*P	**Pn**	**15 11 15.6 +0.9**
	baz=348					
YM01				*e*S	**Sn**	**15 11 26.0 +0.3**
	baz=348					
NTY	**Taoyuan**	**0.82**	**315**	*e*P	**Pn**	**15 11 15.9 +1.0**
	baz=320					
NTY				*e*S	**Sn**	**15 11 28.2 +2.0**
	baz=320					
NWRT	**Kuosheng**	**0.83**	**342**	*e*P	**Pn**	**15 11 15.8 +0.9**
	baz=343					
TWS1	**Kuangyinshan**	**0.83**	**325**	*e*P	**Pn**	**15 11 15.9 +0.9**
	baz=336					
TWS1				*e*S	**Sn**	**15 11 28.7 +2.3**
	baz=336					
YM08	**YM08**	**0.83**	**338**	*e*P	**Pn**	**15 11 15.5 +0.5**
	baz=338					
NJD	**Zhudong**	**0.84**	**293**	P	**Pn**	**15 11 16.4 +1.3**
	baz=291					
NJD				*e*S	**Sn**	**15 11 28.5 +2.0**
	baz=291					
ANP	**Anpu**	**0.86**	**334**	P	**Pn**	**15 11 15.6 +0.2**
	baz=335					
ANP				*e*S	**Sn**	**15 11 28.2 +1.0**
	baz=335					
WUSB	**Renai**	**0.86**	**241**	*e*P	**Pb**	**15 11 15.3 -0.2**
	baz=232					
WUSB				*e*S	**Sn**	**15 11 27.5 +0.3**
	baz=232					
NTST	**Danshui**	**0.87**	**329**	*e*P	**Pn**	**15 11 16.3 +0.8**
	baz=330					
LIOB	**Emei**	**0.87**	**286**	*e*P	**Pn**	**15 11 17.3 +1.7**
	baz=286					
EGFH	**Guangfu**	**0.88**	**212**	*e*P	**Pb**	**15 11 15.4 -0.3**
	baz=198					
NCU	**National Centr**	**0.88**	**309**	P	**Pn**	**15 11 16.8 +1.2**
	baz=295					
NCU				S	**Sn**	**15 11 30.1 +2.5**
	baz=295					
NCUH	**Zhongli**	**0.88**	**309**	P	**Pn**	**15 11 16.7 +1.1**
	baz=295					
NCUH				*e*S	**Sn**	**15 11 29.9 +2.4**
	baz=295					
NSTT	**Nanjuang**	**0.88**	**284**	*e*P	**Pn**	**15 11 16.2 +0.6**
	baz=284					
TWY	**Chenhua**	**0.91**	**340**	*e*P	**Pn**	**15 11 17.4 +1.3**
	baz=341					
TWY				*e*S	**Sn**	**15 11 29.1 +0.8**
	baz=341					
HSN1	**Hsinchu**	**0.91**	**294**	P	**Pn**	**15 11 17.4 +1.3**
	baz=294					
WHP	**Taichung City**	**0.92**	**262**	*e*P	**Pn**	**15 11 17.8 +1.6**
	baz=253					
JYNG	**Yonagunijimaku**	**0.92**	**87**	P	**Pb**	**15 11 16.6 +0.2**
JYNG				S	**Sn**	**15 11 29.8 +1.4**
SBCB	**Hsinchu**	**0.95**	**294**	*e*P	**Pn**	**15 11 17.6 +1.0**
	baz=294					
SBCB				S	**Sn**	**15 11 31.8 +2.6**
	baz=294					
HSN	**Hsinchu**	**0.96**	**294**	P	**Pn**	**15 11 17.9 +1.1**
	baz=296					
HSN				*i* S	**Sn**	**15 11 31.9 +2.3**
	baz=296					
YOJ	**Yonaguni jima**	**0.98**	**87**	Pn	**Pb**	**15 11 17.5 +0.1**
YOJ	**Yonaguni jima**	**0.98**	**87**	*e*P	**Pn**	**15 11 17.7 +0.7**
	baz=77					
YOJ	**Yonaguni jima**	**0.98**	**87**	P	**Pb**	**15 11 17.4 0.0**
YOJ				*e*S	**Sn**	**15 11 31.0 +1.0**
VWDT	**VWDT**	**0.98**	**228**	*e*P	**Pn**	**15 11 17.6 +0.6**
	baz=217					
WPL	**Puli Township**	**0.98**	**246**	*e*P	**Pn**	**15 11 17.9 +0.8**
	baz=235					
DPDB	**Guoxing**	**1.00**	**248**	*e*P	**Pn**	**15 11 18.2 +0.9**
	baz=238					
WCS	**Beigang Elemen**	**1.00**	**249**	*e*P	**Pn**	**15 11 18.1 +0.8**
	baz=248					
NHW	**Xinwu Township**	**1.00**	**306**	*e*P	**Pn**	**15 11 18.4 +1.0**
	baz=307					
HGSD	**Ruisui**	**1.03**	**207**	*e*P	**Pb**	**15 11 18.5 +0.2**
	baz=222					
NMLH	**Miaoli**	**1.05**	**277**	*e*P	**Pb**	**15 11 19.8 +1.1**
	baz=276					
TWQ1	**Liyutan**	**1.06**	**267**	*e*P	**Pb**	**15 11 20.4 +1.6**
	baz=255					
EHY	**Hungye**	**1.06**	**212**	*e*P	**Pn**	**15 11 18.5 +0.3**
	baz=211					
NSY	**Sanyi**	**1.07**	**270**	*e*P	**Pb**	**15 11 20.6 +1.6**
	baz=270					
NSY				*e*S	**Sn**	**15 11 35.7 +3.3**
	baz=270					
SMLT	**Sun Moon Lake**	**1.08**	**241**	*e*P	**Pb**	**15 11 20.2 +1.0**
	baz=230					
SSLB	**Suanglung**	**1.09**	**235**	Pn	**Pn**	**15 11 18.8 +0.1**
SSLB	**Suanglung**	**1.09**	**235**	*e*P	**Pn**	**15 11 19.2 +0.5**
	baz=224					
TYC	**Yuchr**	**1.11**	**243**	*e*P	**Pn**	**15 11 19.4 +0.6**
	baz=233					
YULB	**Yu-li**	**1.17**	**210**	Pn	**Pn**	**15 11 20.5 +0.8**
YULB	**Yu-li**	**1.17**	**210**	*e*P	**Pn**	**15 11 19.7 -0.1**
	baz=209					
ECBN	**Changbin**	**1.18**	**202**	*e*P	**Pn**	**15 11 19.8 +0.1**
	baz=190					
TCU	**Taichung**	**1.18**	**257**	*e*P	**Pb**	**15 11 21.9 +1.1**
	baz=255					
WDJ	**Dajia District**	**1.19**	**267**	*e*P	**Pb**	**15 11 21.6 +0.7**
	baz=266					
WWF	**Wufeng**	**1.19**	**252**	*e*P	**Pb**	**15 11 21.6 +0.6**
	baz=245					
WWF				*e*S	**Sb**	**15 11 38.7 +2.7**
	baz=245					
EYUL	**Yuli**	**1.20**	**208**	*e*P	**Pb**	**15 11 21.2 0.0**
	baz=221					
TWF1	**Yuli**	**1.21**	**209**	*e*P	**Pn**	**15 11 20.3 +0.1**
	baz=220					
WHYT	**Xinyi Township**	**1.22**	**234**	*e*P	**Pb**	**15 11 22.4 +0.8**
	baz=225					
WJS	**Zhushan**	**1.25**	**242**	*e*P	**Pb**	**15 11 23.3 +1.2**
	baz=227					
WNT1	**Nantou City**	**1.25**	**247**	*e*P	**Pb**	**15 11 23.5 +1.4**
	baz=245					
WNT	**Mingjian**	**1.26**	**245**	*e*P	**Pb**	**15 11 23.3 +1.0**
	baz=243					
YUS	**Yu-Shan**	**1.29**	**225**	*e*P	**Pn**	**15 11 21.9 +0.1**
	baz=223					
WCHH	**Zhanghua**	**1.30**	**256**	*e*P	**Pb**	**15 11 22.9 0.0**
	baz=254					
WYL	**Yuanlin Townsh**	**1.32**	**250**	*e*P	**Pb**	**15 11 24.0 +0.8**
	baz=248					
FULB	**Fuli**	**1.34**	**206**	*e*P	**Pn**	**15 11 22.7 +0.6**
	baz=218					
ALS	**Alishan**	**1.37**	**229**	*e*P	**Pb**	**15 11 24.2 -0.1**
	baz=217					
CHKT	**Chengkung**	**1.41**	**202**	*e*P	**Pn**	**15 11 23.4 +0.4**
	baz=187					
CHN5	**Tsauling**	**1.41**	**235**	*e*P	**Pb**	**15 11 24.3 -0.5**
	baz=234					
WGK	**Gukeng**	**1.45**	**240**	*e*P	**Pb**	**15 11 25.7 +0.3**
	baz=236					
ECS	**Chishang**	**1.47**	**207**	*e*P	**Pn**	**15 11 25.0 +1.3**
	baz=218					
WDLH	**Douliu**	**1.47**	**241**	*e*P	**Pb**	**15 11 25.9 +0.2**
	baz=239					
ELDTW	**Lidau**	**1.48**	**215**	*e*P	**Pn**	**15 11 24.5 +0.4**
	baz=203					
WRL	**Guolierlin Hig**	**1.51**	**251**	*e*P	**Pn**	**15 11 25.4 +1.0**
	baz=248					
EDH	**Donghe**	**1.55**	**202**	*e*P	**Pb**	**15 11 26.5 -0.6**
	baz=190					
WCKO	**Fanlu**	**1.56**	**232**	*e*P	**Pn**	**15 11 25.4 +0.4**
	baz=230					
WTK	**Tuku**	**1.59**	**243**	*e*P	**Pb**	**15 11 28.0 +0.2**
	baz=241					
CHN2	**Minshiung**	**1.60**	**237**	*e*P	**Pb**	**15 11 28.8 +0.8**
	baz=224					
WTCT	**Ta-ch'eng**	**1.61**	**250**	*e*P	**Pn**	**15 11 26.8 +1.2**
	baz=248					
CHN4	**Tsaushan**	**1.62**	**230**	*e*P	**Pb**	**15 11 27.6 -0.8**
	baz=228					
STYH	**Taoyuan**	**1.63**	**221**	*e*P	**Pn**	**15 11 26.8 +0.8**
	baz=220					
TPUB	**Ta-pu**	**1.63**	**228**	Pn	**Pn**	**15 11 26.8 +0.8**
TPUB	**Ta-pu**	**1.63**	**228**	*e*P	**Pb**	**15 11 28.1 -0.4**
	baz=213					
IRIF	**Iriomote-Funau**	**1.64**	**92**	P	**Pn**	**15 11 26.7 +0.6**
STYT	**Tauyuan**	**1.65**	**221**	*e*P	**Pb**	**15 11 28.5 -0.4**
	baz=220					
CHY	**Chiayi**	**1.66**	**237**	*e*P	**Pb**	**15 11 28.6 -0.4**
	baz=235					
LONT	**Longtian**	**1.67**	**206**	*e*P	**Pn**	**15 11 26.2 -0.3**
	baz=193					
WTP	**Ta-pu**	**1.68**	**226**	*e*P	**Pb**	**15 11 28.4 -0.9**
	baz=225					
WSF	**Szhu**	**1.75**	**244**	*e*P	**Pb**	**15 11 29.3 -1.2**
	baz=243					
WSF				*e*S	**Sb**	**15 11 52.7 +0.7**
	baz=243					
TWK	**Hsinying**	**1.75**	**230**	*e*P	**Pb**	**15 11 30.2 -0.4**
	baz=228					
TWG	**Pinlang**	**1.77**	**207**	Pn	**Pn**	**15 11 28.2 +0.2**
TWG	**Pinlang**	**1.77**	**207**	*e*P	**Pn**	**15 11 28.4 +0.4**
	baz=194					
TWGBT	**Beinan**	**1.77**	**207**	*e*P	**Pn**	**15 11 28.4 +0.4**
	baz=194					
SNST	**Tainan City**	**1.78**	**228**	*e*P	**Pb**	**15 11 31.3 +0.4**
	baz=227					
CHN1	**Nanshi**	**1.78**	**227**	*e*P	**Pb**	**15 11 30.3 -0.7**
	baz=226					
LDUT	**Ludao**	**1.79**	**194**	*e*P	**Pn**	**15 11 26.8 -1.3**
	baz=183					
WSL	**Shuilin Townsh**	**1.80**	**241**	*e*P	**Pn**	**15 11 29.8 +1.5**
	baz=254					
SGST	**Jiashian**	**1.82**	**223**	*e*P	**Pn**	**15 11 29.8 +1.2**
	baz=210					
SGST				*e*S	**Sb**	**15 11 54.7 +0.7**
	baz=210					
SLGT	**Liugui**	**1.84**	**220**	*e*P	**Pn**	**15 11 30.8 +1.8**
	baz=219					
ICHU	**Yijhu**	**1.84**	**236**	*e*P	**Pb**	**15 11 31.1 -1.0**
	baz=234					
CHN8	**Yiju**	**1.91**	**236**	*e*P	**Pb**	**15 11 32.2 -1.0**
	baz=234					
CHN3	**Shinhua**	**1.96**	**228**	*e*P	**Pb**	**15 11 32.7 -1.4**
	baz=226					
SSHA	**Shanhua**	**1.98**	**230**	*e*P	**Pb**	**15 11 33.2 -1.2**
	baz=229					
JIJ	**Ishigaki jima**	**2.01**	**91**	*e*P	**Pn**	**15 11 32.3 +1.1**
JIJ				S	**Sn**	**15 11 56.6 +1.2**
SCST	**Cishan**	**2.02**	**221**	*e*P	**Pb**	**15 11 34.3 -0.7**
	baz=221					
SCLT	**Jiali**	**2.02**	**233**	*e*P	**Pn**	**15 11 33.0 +1.7**
	baz=231					
ECL	**Taimali**	**2.02**	**207**	*e*P	**Pn**	**15 11 32.8 +1.5**
	baz=196					
SSD	**Sandimen**	**2.05**	**216**	*e*P	**Pb**	**15 11 34.0 -1.6**
	baz=216					
TSMG	**Majia**	**2.07**	**215**	*e*P	**Pn**	**15 11 34.4 +2.3**
	baz=215					
TSCK	**Chigu Township**	**2.11**	**234**	*e*P	**Pn**	**15 11 33.4 +0.8**
	baz=232					
MASBT	**Mashibuluo**	**2.16**	**214**	*e*P	**Pb**	**15 11 35.9 -1.6**
	baz=214					
JISG	**Ishigakijimahi**	**2.17**	**85**	*e*S	**Sn**	**15 12 01.4 +2.0**
TSPT	**Pingtung City**	**2.18**	**218**	*e*P	**Pb**	**15 11 37.3 -0.5**
	baz=218					
EAST	**Anshuo**	**2.25**	**207**	*e*P	**Pn**	**15 11 37.1 +2.5**
	baz=197					
TAW	**Tawu**	**2.26**	**205**	*e*P	**Pb**	**15 11 37.6 -1.6**
	baz=195					
VWUC	**VWUC**	**2.34**	**285**	*e*P	**Pn**	**15 11 36.1 +0.4**
	baz=283					
PNG	**Penghu**	**2.34**	**249**	*e*P	**Pn**	**15 11 36.6 +0.9**
	baz=248					
PNG				*e*S	**Sn**	**15 12 04.3 +0.8**
	baz=248					
WSSB	**Gushan**	**2.34**	**221**	*e*P	**Pn**	**15 11 38.3 +2.5**
	baz=221					
PHUB	**P'eng-hu**	**2.34**	**248**	P	**Pn**	**15 11 36.1 +0.3**
	baz=246					
PHUB				S	**Sn**	**15 12 04.8 +1.2**
	baz=246					
SCZT	**Fangliau**	**2.37**	**211**	*e*P	**Pn**	**15 11 38.3 +2.2**
	baz=199					
WDGT	**Dungji**	**2.38**	**242**	*e*P	**Pn**	**15 11 37.4 +1.1**
	baz=238					
LAY	**Lan-yu**	**2.39**	**189**	*e*P	**Pn**	**15 11 36.0 -0.5**
	baz=188					
LYUB	**Lan-yu**	**2.42**	**188**	*e*P	**Pn**	**15 11 37.4 +0.5**
	baz=187					
SLIU	**Shizi**	**2.42**	**206**	*e*P	**Pn**	**15 11 38.9 +2.0**
	baz=197					
MATB	**Ma-tsu**	**2.50**	**314**	*e*P	**Pn**	**15 11 38.6 +0.7**
	baz=313					
MSUT	**Lienchiang**	**2.53**	**314**	*e*P	**Pn**	**15 11 38.2 -0.1**
	baz=314					
VCHM	**Qimei**	**2.59**	**243**	*e*P	**Pn**	**15 11 40.2 +1.1**
	baz=240					
PTMZ	**Houxiangcun**	**2.64**	**284**	*e*P	**Pn**	**15 11 40.8 +1.0**
	baz=282					
TWKBT	**Hengchun**	**2.67**	**203**	*e*P	**Pn**	**15 11 42.2 +1.9**
	baz=194					
LYJJ	**Jianjiangzhen**	**2.90**	**318**	*e*P	**Pn**	**15 11 44.4 +0.9**
	baz=317					
XPSS	**Dashiqiu**	**2.96**	**328**	*e*P	**Pn**	**15 11 44.5 +0.3**
	baz=328					
JIRB	**Irabujima**	**2.97**	**81**	*e*S	**Sn**	**15 12 21.2 +2.0**
JMJ	**Miyako jima 2**	**3.08**	**82**	*e*P	**Pn**	**15 11 48.4 +2.5**
	baz=85					
MHZQ	**Yeshan**	**3.12**	**303**	*e*P	**Pn**	**15 11 48.8 +2.3**
	baz=302					
KNM	**Kinmen**	**3.19**	**271**	*e*P	**Pn**	**15 11 50.1 +2.6**
	baz=265					
KNMB	**Chin-men Tao**	**3.24**	**272**	Pn	**Pn**	**15 11 48.3 +0.3**
KNMB	**Chin-men Tao**	**3.24**	**272**	*e*P	**Pn**	**15 11 48.4 +0.3**
	baz=267					
AXDP	**Jialang**	**3.64**	**278**	*e*P	**Pn**	**15 11 54.2 +0.5**
	baz=273					
ZPLA	**Ao Xicun**	**3.85**	**264**	*e*P	**Pn**	**15 11 57.1 +0.6**
	baz=257					
DSXP	**Dongshan**	**4.18**	**261**	*e*P	**Pn**	**15 12 01.7 +0.6**
	baz=255					
JOW	**Kunigami**	**6.21**	**66**	Pn	**Pn**	**15 12 30.3 +1.4**
	3.7nm,0.3s,baz=116,slow=25,SNR=10					
JOW				Sn	**Sn**	**15 13 43.6 +4.7**
	1.9nm,0.3s,baz=147,slow=22,SNR=1.8					
	8.7nm,0.3s					
CMAR	**Chiang Mai Arr**	**22.20**	**259**	P	**P**	**15 15 54.4 +1.0**
	0.6nm,1.1s,baz=70,slow=7.8,SNR=1.9					
	0.6nm,1.1s					
ULN	**Ulaanbaatar**	**26.22**	**337**	P	**P**	**15 16 31.4 -0.3**
ULN				IAmb	IAmb	15 16 33.6
	comp=Z,6.4nm,1.3s					
SONM	**Songino Array**	**26.43**	**336**	P	**P**	**15 16 34.6 +0.9**
	comp=Z,1.5nm,0.6s,baz=154,slow=8.5,SNR=5.3					
	comp=Z,1.5nm,0.6s					
SONM	**Songino Array**	**26.43**	**336**	P	**P**	**15 16 33.5 -0.1**
MKAR	**Makanchi Array**	**38.66**	**315**	P	**P**	**15 18 21.1 +0.8**
	comp=Z,0.8nm,0.6s,baz=98,slow=11,SNR=8.0					
	comp=Z,0.8nm,0.6s					
ZALV	**Zalesovo Beam**	**40.43**	**327**	P	**P**	**15 18 34.8 -0.1**
	comp=Z,1.7nm,0.6s,baz=110,slow=8.8,SNR=5.8					
	comp=Z,1.7nm,0.6s					
COEN	**Coen**	**43.41**	**149**	P	**P**	**15 19 00.6 +1.0**
COEN				IAmb	IAmb	15 19 06.5
	comp=Z,8.9nm,1.2s					
WB0	**Warramunga Arr**	**45.56**	**163**	P	**P**	**15 19 16.3 -0.4**
WB0				IAmb	IAmb	15 19 18.3
	comp=Z,7.0nm,1.3s					
WRA	**Warramunga Arr**	**45.71**	**164**	P	**P**	**15 19 16.8 -1.1**
	comp=Z,0.5nm,0.5s,baz=345,slow=8.6,SNR=8.6					
	comp=Z,0.5nm,0.5s					
WB2	**Warramunga Arr**	**45.72**	**164**	P	**P**	**15 19 17.0 -1.0**
WB2				IAmb	IAmb	15 19 30.9
	comp=Z,8.5nm,1.2s					
TIXI	**Tiksi**	**47.43**	**3**	P	**P**	**15 19 29.9 -0.9**
TIXI				IAmb	IAmb	15 19 33.4
	comp=Z,3.5nm,1.1s					
BRVK	**Borovoye**	**48.01**	**320**	P	**P**	**15 19 34.5 -1.1**
AS31	**Alice Springs**	**49.18**	**165**	P	**P**	**15 19 44.0 -1.0**
ASAR	**Alice Springs**	**49.18**	**165**	P	**P**	**15 19 44.6 -0.3**
	comp=Z,0.3nm,0.6s,baz=345,slow=7.4,SNR=8.0					
	comp=Z,0.3nm,0.6s					
ASAR	**Alice Springs**	**49.18**	**165**	P	**P**	**15 19 44.3 -0.6**
CTAO	**Charters Tower**	**50.17**	**150**	P	**P**	**15 19 51.1 -1.4**
CTAO				IAmb	IAmb	15 19 52.1
	comp=Z,12nm,1.4s					
ABKAR	**Akbulak array**	**53.77**	**314**	P	**P**	**15 20 19.3 +0.3**
EIDS	**Eidsvold**	**56.96**	**148**	P	**P**	**15 20 42.5 +0.3**
EIDS				IAmb	IAmb	15 21 18.6
	comp=Z,6.0nm,1.1s					
RSO	**Redoubt South**	**66.80**	**32**	P	**P**	**15 21 47.3 -0.9**
TOLK	**Toolik Lake Re**	**66.97**	**23**	P	**P**	**15 21 47.9 -1.1**
TOLK				IAmb	IAmb	15 22 20.9
	comp=Z,6.5nm,1.4s					
BRLK	**Bradley Lake**	**67.84**	**33**	P	**P**	**15 21 53.2 -1.4**
FINES	**FINESS Array B**	**71.59**	**330**	P	**P**	**15 22 17.5 -0.1**
	comp=Z,6.2nm,1.2s,baz=46,slow=5.5,SNR=4.2					
	comp=Z,6.2nm,1.2s					
NC303	**N

ENA			*i* S	**Sb**	15 12 23.6	+0.2	**YM08**	**YM08**	0.82 338	P	**Pn**	15 12 30.8	-0.3
	baz=273							baz=339					
TWC	**Suao**	0.20 338	⇓*i* P	**Pb**	15 12 20.4	+0.1	YM08			*e*S	**Sn**	15 12 41.8	-0.8
	baz=345							baz=339					
TWC			*i* S	**Sb**	15 12 24.1	+0.1	**NJD**	**Zhudong**	0.83 292	*e*P	**Pn**	15 12 31.3	+0.2
	baz=345							baz=293					
EHP	**Heping Village**	0.21 237	*e*P	**Pb**	15 12 19.8	-0.6	**ANP**	**Anpu**	0.85 334	*e*P	**Pb**	15 12 31.0	0.0
	baz=233							baz=323					
EHP			S	**Sb**	15 12 24.9	+0.8	**NTST**	**Danshui**	0.86 329	*e*P	**Pn**	15 12 31.3	-0.3
	baz=233							baz=340					
ILA	**Ilan**	0.38 334	⇑*i*P	**Pb**	15 12 23.5	+0.5	NTST			*e*S	**Sn**	15 12 44.6	+1.2
	baz=334							baz=340					
ILA			*i* S	**Sb**	15 12 29.7	+1.2	**WUSB**	**Renai**	0.86 240	*e*P	**Pb**	15 12 30.6	-0.6
	baz=334							baz=231					
TWE	**Neicheng**	0.38 321	⇑*i*P	**Pb**	15 12 23.2	+0.1	WUSB			*e*S	**Sb**	15 12 42.3	0.0
	baz=325							baz=231					
TWE			*i* S	**Sb**	15 12 28.9	+0.4	**LIOB**	**Emei**	0.86 285	*e*P	**Pn**	15 12 31.8	+0.2
	baz=325							baz=286					
ETL	**Fush Village**	0.39 227	*i* P	**Pb**	15 12 23.0	-0.1	**NCU**	**National Centr**	0.87 309	*e*P	**Pb**	15 12 31.8	+0.5
	baz=229							baz=310					
ETL			S	**Sb**	15 12 29.8	+1.1	**NCUH**	**Zhongli**	0.87 309	*e*P	**Pb**	15 12 32.0	+0.7
	baz=229							baz=310					
LATG	**Datong**	0.39 287	⇑*i*P	**Pb**	15 12 23.1	0.0	**NSTT**	**Nanjuang**	0.87 284	*e*P	**Pb**	15 12 31.7	+0.4
	baz=295							baz=284					
LATG			*i* S	**Sb**	15 12 29.2	+0.4	NSTT			*e*S	**Sn**	15 12 43.2	-0.6
	baz=295							baz=284					
NACB	**Ninganchiao**	0.40 231	⇓*i*P	**Pb**	15 12 22.8	-0.5	**EGFH**	**Guangfu**	0.88 212	*e*P	**Pn**	15 12 30.6	-1.3
	baz=234							baz=223					
NACB			*i* S	**Sb**	15 12 29.5	+0.6	**TWY**	**Chenhua**	0.90 341	*e*P	**Pb**	15 12 32.5	+0.7
	baz=234							baz=342					
ENTT	**Nioudou**	0.40 303	*i* P	**Pb**	15 12 22.3	-1.0	**HSN1**	**Hsinchu**	0.90 293	*e*P	**Pb**	15 12 32.0	+0.1
	baz=305							baz=294					
ENTT			*i* S	**Sb**	15 12 28.5	-0.5	**WHP**	**Taichung City**	0.91 261	*e*P	**Pb**	15 12 32.5	+0.5
	baz=305							baz=254					
EGS		0.42 0	P	**Pb**	15 12 23.9	+0.2	**JYNG**	**Yonagunijimaku**	0.92 88	P	**Pn**	15 12 31.9	-0.5
	baz=4.0						JYNG			*e*S	**Sn**	15 12 45.5	+0.5
EGS			*e*S	**Sb**	15 12 29.3	-0.3	**SBCB**	**Hsinchu**	0.94 293	*e*P	**Pb**	15 12 33.1	+0.6
	baz=4.0						SBCB			*e*S	**Sn**	15 12 47.6	+2.3
FUSB	**Fushanzhiwuyua**	0.46 317	P	**Pb**	15 12 24.4	+0.1		baz=294					
	baz=319						**HSN**	**Hsinchu**	0.95 294	*e*P	**Pb**	15 12 32.7	0.0
FUSB			*i* S	**Sb**	15 12 31.2	+0.4		baz=297					
	baz=319						HSN			*e*S	**Sn**	15 12 46.9	+1.1
TWD	**Chiawan**	0.46 222	*i* P	**Pb**	15 12 23.9	-0.4		baz=297					
	baz=223						**WPL**	**Puli Township**	0.98 245	P	**Pn**	15 12 32.7	-0.5
TWD			*i* S	**Sb**	15 12 31.6	+0.9		baz=245					
	baz=223						WPL			*e*S	**Sb**	15 12 45.6	-0.1
ETLH	**Xiulin Townshi**	0.46 242	P	**Pb**	15 12 24.1	-0.3		baz=245					
	baz=245						**VWDT**	**VWDT**	0.98 227	*e*P	**Pn**	15 12 32.5	-0.8
ETLH			*i* S	**Sb**	15 12 31.6	+0.7		baz=216					
	baz=245						**YOJ**	**Yonaguni jima**	0.98 88	P	**Pn**	15 12 32.6	-0.7
NNSB	**Datong**	0.50 271	⇓*i*P	**Pb**	15 12 25.0	0.0		baz=76					
	baz=274						**YOJ**	**Yonaguni jima**	0.98 88	P	**Pn**	15 12 32.8	-0.5
NNSB			S	**Sb**	15 12 31.9	-0.1	YOJ			S	**Sb**	15 12 46.5	+0.7
	baz=274						**NHW**	**Xinwu Township**	0.99 306	*e*P	**Pb**	15 12 34.0	+0.6
NNSH	**Datong**	0.50 271	*i* P	**Pb**	15 12 24.0	-1.1		baz=307					
	baz=275						**DPDB**	**Guoxing**	1.00 247	*e*P	**Pn**	15 12 33.1	-0.5
NNSH			*i* S	**Sb**	15 12 31.3	-0.8		baz=237					
	baz=275						**WCS**	**Beigang Elemen**	1.00 249	*e*P	**Pn**	15 12 32.4	-1.1
NNS	**Nan Shan**	0.51 272	*e*P	**Pb**	15 12 23.9	-1.3		baz=248					
	baz=276						**HGSD**	**Ruisui**	1.04 207	*e*P	**Pn**	15 12 33.8	-0.3
NNS			S	**Sb**	15 12 31.5	-0.8		baz=197					
	baz=276						**NMLH**	**Miaoli**	1.04 276	*e*P	**Pb**	15 12 34.9	+0.6
NWLT	**Wulai**	0.53 312	P	**Pb**	15 12 24.4	-1.1		baz=276					
	baz=314						**TWQ1**	**Liyutan**	1.06 266	*e*P	**Pb**	15 12 35.6	+1.1
NWLT			*e*S	**Sb**	15 12 31.8	-0.9		baz=266					
	baz=314						TWQ1			S	**Sb**	15 12 49.8	+1.8
HWA	**Hwalien**	0.54 214	*e*P	**Pb**	15 12 25.6	0.0		baz=266					
	baz=211						**NSY**	**Sanyi**	1.07 270	*e*P	**Pb**	15 12 35.6	+0.9
TIPB	**Shuangxi**	0.55 350	*i* P	**Pb**	15 12 26.2	+0.2		baz=280					
	baz=357						**EHY**	**Hungye**	1.07 212	*e*P	**Pn**	15 12 32.7	-1.8
TIPB			S	**Sb**	15 12 34.0	+0.5		baz=210					
	baz=357						**SMLT**	**Sun Moon Lake**	1.08 240	*e*P	**Pb**	15 12 35.5	+0.5
YHNB	**Yeheng**	0.56 296	*i* P	**Pb**	15 12 26.0	-0.1		baz=229					
	baz=297						**SSLB**	**Suanglung**	1.09 235	*e*P	**Pn**	15 12 34.4	-0.5
YHNB			*i* S	**Sb**	15 12 34.0	+0.2		baz=234					
	baz=297						**TYC**	**Yuchr**	1.11 242	*e*P	**Pn**	15 12 34.7	-0.3
NSK	**Sanguang**	0.58 296	⇑*i*P	**Pb**	15 12 25.3	-1.1		baz=233					
	baz=297						**TCU**	**Taichung**	1.18 257	*e*P	**Pb**	15 12 36.5	0.0
NSK			*e*S	**Sb**	15 12 33.2	-1.1		baz=254					
	baz=297						**YULB**	**Yu-li**	1.18 210	*e*P	**Pn**	15 12 35.2	-0.8
TWB1	**Santiao Chiao**	0.58 5	P	**Pb**	15 12 26.6	+0.2		baz=209					
	baz=3.0						**WDJ**	**Dajia District**	1.18 267	*e*P	**Pb**	15 12 37.0	+0.5
TWB1			*e*S	**Sb**	15 12 34.4	0.0		baz=265					
	baz=3.0						**WWF**	**Wufeng**	1.19 252	*e*P	**Pn**	15 12 36.2	+0.1
ETM	**Tongmen**	0.61 221	*e*P	**Pb**	15 12 26.0	-0.8		baz=245					
	baz=220						WWF			*e*S	**Sb**	15 12 53.4	+1.8
TEYL	**Yanliau Villag**	0.63 209	P	**Pb**	15 12 26.6	-0.6		baz=245					
	baz=209						**EYUL**	**Yuli**	1.21 208	*e*P	**Pn**	15 12 36.1	-0.3
TEYL			*e*S	**Sb**	15 12 36.2	+0.5		baz=219					
	baz=209						**TWF1**	**Yuli**	1.21 209	*e*P	**Pn**	15 12 35.5	-1.0
TWA	**Mucha**	0.64 330	*e*P	**Pb**	15 12 27.6	+0.2		baz=219					
	baz=325						**WHYT**	**Xinyi Township**	1.22 234	*e*P	**Pn**	15 12 36.6	0.0
TWA			S	**Sn**	15 12 36.7	-1.3		baz=225					
	baz=325						**WJS**	**Zhushan**	1.25 242	*e*P	**Pb**	15 12 37.7	-0.1
FUSS	**Fushou**	0.65 255	P	**Pb**	15 12 27.6	-0.2		baz=227					
	baz=259						**WNT1**	**Nantou City**	1.25 246	*e*P	**Pb**	15 12 38.3	+0.5
FUSS			*e*S	**Sb**	15 12 37.2	+0.7		baz=244					
	baz=259						**WNT**	**Mingjian**	1.26 245	*e*P	**Pb**	15 12 38.5	+0.5
NHDH	**Xindian Distri**	0.65 326	*e*P	**Pb**	15 12 28.0	+0.4		baz=242					
	baz=320						**YUS**	**Yu-Shan**	1.29 224	*e*P	**Pn**	15 12 37.3	-0.7
NHDH			S	**Sb**	15 12 36.8	+0.5		baz=223					
	baz=320						**WCHH**	**Zhanghua**	1.30 255	*e*P	**Pb**	15 12 38.4	-0.2
NWF	**Wu-fen Shan**	0.66 348	⇑*i*P	**Pn**	15 12 28.2	-0.7		baz=253					
	baz=343						**FULB**	**Fuli**	1.35 206	*e*P	**Pn**	15 12 38.8	+0.4
NWF			*i* S	**Sn**	15 12 37.5	-1.2		baz=217					
	baz=343						**ALS**	**Alishan**	1.37 229	*e*P	**Pn**	15 12 39.2	+0.3
WFSB	**Wu-fen Shan**	0.66 348	⇑P	**Pb**	15 12 28.1	+0.4		baz=217					
	baz=343						**CHN5**	**Tsauling**	1.41 235	*e*P	**Pn**	15 12 39.7	+0.5
WFSB			S	**Sn**	15 12 37.4	-1.1		baz=233					
	baz=343						**WGK**	**Gukeng**	1.45 240	*e*P	**Pb**	15 12 40.8	-0.4
WHF	**Hehuan Shan**	0.67 246	P	**Pb**	15 12 27.9	-0.2		baz=237					
	baz=252						**WDLH**	**Douliu**	1.47 240	*e*P	**Pb**	15 12 41.2	-0.3
WHF			S	**Sb**	15 12 37.3	+0.1		baz=238					
	baz=252						**ELDTW**	**Lidau**	1.49 214	*e*P	**Pn**	15 12 39.5	-0.9
SXI1	**Grass Mountain**	0.67 356	*e*P	**Pb**	15 12 28.3	+0.4		baz=202					
	baz=360						**WRL**	**Guolierlin Hig**	1.51 250	*e*P	**Pn**	15 12 40.1	-0.5
SXI1			*e*S	**Sn**	15 12 37.5	-1.4		baz=247					
	baz=360						**EDH**	**Donghe**	1.56 202	*e*P	**Pn**	15 12 41.1	0.0
TATO	**Taipei**	0.68 324	P	**Pn**	15 12 28.5	-0.6		baz=190					
	baz=321						**WCKO**	**Fanlu**	1.56 231	*e*P	**Pn**	15 12 40.4	-0.9
TATO			S	**Sn**	15 12 37.8	-1.3		baz=219					
	baz=321						WCKO			*e*S	**Sb**	15 13 01.8	-0.6
NHY	**Taipei**	0.70 332	*e*P	**Pb**	15 12 28.5	+0.1		baz=219					
	baz=327						**WTK**	**Tuku**	1.59 243	*e*P	**Pb**	15 12 42.7	-0.9
TWT	**Tachien**	0.71 256	*e*P	**Pb**	15 12 28.9	+0.3		baz=240					
	baz=256						**CHN2**	**Minshiung**	1.60 237	*e*P	**Pn**	15 12 42.8	+1.0
TWT			*e*S	**Sb**	15 12 38.4	+0.3		baz=223					
	baz=256						**CHN4**	**Tsaushan**	1.62 229	*e*P	**Pn**	15 12 42.5	+0.4
TAP1	**Taipei**	0.72 329	*e*P	**Pb**	15 12 28.9	+0.2		baz=227					
	baz=329						**TPUB**	**Ta-pu**	1.63 227	*e*P	**Pn**	15 12 43.2	+0.9
TAP1			*e*S	**Sn**	15 12 39.8	-0.1		baz=212					
	baz=329						**STYH**	**Taoyuan**	1.64 221	*e*P	**Pn**	15 12 42.0	-0.3
BACT	**New Taipei Cit**	0.72 322	*e*P	**Pn**	15 12 29.5	-0.2		baz=219					
	baz=323						**IRIF**	**Iriomote-Funau**	1.64 93	P	**Pn**	15 12 42.0	-0.4
TAP	**Taipei**	0.72 328	*e*P	**Pn**	15 12 29.2	-0.5	IRIF			*e*S	**Sn**	15 13 03.0	+0.2
	baz=330						**STYT**	**Tauyuan**	1.65 221	*e*P	**Pn**	15 12 42.7	+0.1
TAP			*e*S	**Sn**	15 12 39.6	-0.5		baz=219					
	baz=330						**CHY**	**Chiayi**	1.66 237	*e*P	**Pn**	15 12 43.5	+0.9
TDCB	**Techi**	0.72 257	*e*P	**Pb**	15 12 28.9	0.0		baz=223					
	baz=257						**WTP**	**Ta-pu**	1.68 226	*e*P	**Pn**	15 12 44.1	+1.1
TDCB			*e*S	**Sb**	15 12 38.4	-0.1		baz=225					
	baz=257						**WSF**	**Szhu**	1.75 244	*e*P	**Pn**	15 12 44.4	+0.6
TNOU	**National Taiwa**	0.74 349	*e*P	**Pb**	15 12 29.1	+0.1		baz=242					
	baz=346						WSF			*e*S	**Sb**	15 13 07.7	0.0
TNOU			*e*S	**Sn**	15 12 39.3	-1.1		baz=242					
	baz=346						**TWK**	**Hsinying**	1.75 229	*e*P	**Pn**	15 12 45.0	+1.0
ESL	**Shilin**	0.76 217	*e*P	**Pb**	15 12 28.3	-1.1		baz=227					
	baz=229						**TWGBT**	**Beinan**	1.78 206	*e*P	**Pn**	15 12 43.6	-0.6
NFF	**Wufeng Townshi**	0.77 286	*e*P	**Pb**	15 12 29.5	-0.2		baz=194					
	baz=289						**CHN1**	**Nanshi**	1.78 226	*e*P	**Pn**	15 12 45.6	+1.3
CHGB	**Renai**	0.78 243	P	**Pb**	15 12 29.7	-0.2		baz=225					
	baz=242						**WSL**	**Shuilin Townsh**	1.80 240	*e*P	**Pn**	15 12 44.5	0.0
CHGB			S	**Sn**	15 12 41.3	-0.5		baz=252					
	baz=242						**SGST**	**Jiashian**	1.82 223	*e*P	**Pn**	15 12 44.9	+0.1
YM01	**YM01**	0.79 336	*e*P	**Pn**	15 12 30.5	-0.2		baz=222					
	baz=349						**ICHU**	**Yijhu**	1.85 235	*e*P	**Pn**	15 12 46.5	+1.4
YM01			S	**Sn**	15 12 41.5	-0.4		baz=233					
	baz=349						**SLGT**	**Liugui**	1.85 220	*e*P	**Pn**	15 12 45.8	+0.6
TEGC	**Jichi Village**	0.80 207	*e*P	**Pb**	15 12 29.6	-0.5		baz=219					
	baz=205						**JKRS**	**Kuro-shima**	1.90 95	*e*S	**Sn**	15 13 09.1	-0.2
NTY	**Taoyuan**	0.81 315	*e*P	**Pb**	15 12 30.4	0.0	**JIJ**	**Ishigaki jima**	2.02 91	*e*S	**Sn**	15 13 12.7	+0.7
	baz=329						**SSD**	**Sandimen**	2.05 216	*e*P	**Pn**	15 12 48.7	+0.7
NWRT	**Kuosheng**	0.81 342	*e*P	**Pn**	15 12 30.5	-0.4		baz=202					
	baz=344						**TSMG**	**Majia**	2.08 215	*e*P	**Pn**	15 12 49.5	+1.1
TWS1	**Kuangyinshan**	0.82 325	*e*P	**Pn**	15 12 30.9	-0.1		baz=215					
	baz=337						**TSCK**	**Chigu Township**	2.12 233	*e*P	**Pn**	15 12 49.5	+0.6
TWS1			*e*S	**Sn**	15 12 43.2	+0.8		baz=231					
	baz=337												

MASBT	**Mashibuluo**	2.16 214	*e*P	**Pn**	15 12 50.2	+0.7
	baz=214					
VWUC	**VWUC**	2.33 285	*e*P	**Pn**	15 12 50.6	-1.2
	baz=282					
PHUB	**P'eng-hu**	2.34 248	*e*P	**Pn**	15 12 51.3	-0.6
	baz=244					
SCZT	**Fangliau**	2.37 211	*e*P	**Pn**	15 12 53.7	+1.3
	baz=199					
WDGT	**Dungji**	2.38 241	*e*P	**Pn**	15 12 52.5	0.0
	baz=237					

PGC ***29*** *15:21:23.0±0.0,64.75N×141.20W,h10km,ML3.2/13, 114km Wnw of Dawson, Yt Central Alaska*
NEIC ***29*** *15:21:23.6±1.1,64.75N±0.04×141.29W±0.07,h30km±8km, Error ellipse: s-maj=5.8km s-min=4.1km az=152.0*

AEIC 29 15:21:22.3±0.9,64.74N±0.04×141.29W±0.08,h14km±6km, ML2.8,ML3.2(OTT)**,ML3.2**/81(NEIC)**, Error ellipse: s-maj=6.3km s-min=3.8km az=135.0, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGAK	**Eagle**	0.07	57	Pg	Pg	15 21 25.2	+0.1
K27K	**Chicken**	0.79	206	Pg	Pg	15 21 37.5	-0.1
K27K				IAML		15 21 48.3	
	comp=E,927nm,0.3s						
K27K				IAML		15 21 51.9	
	comp=N,656nm,0.2s						
I27K	**Kandik River**	0.88	351	P	Pg	15 21 38.8	-0.5
I27K				S	Sb	15 21 51.2	+0.4
I26K	**Coal Creek Min**	0.97	306	Pg	Pb	15 21 40.4	-0.5
J26L	**Joseph Creek**	1.01	257		Pb	15 21 41.3	-0.2
J26L				IAML		15 21 57.3	
	comp=N,454nm,0.2s						
J26L				IAML		15 21 57.6	
	comp=E,433nm,0.3s						
DAWY	**Dawson**	1.07	129	Pn	Pb	15 21 42.4	-0.1
DAWY				IAML		15 21 58.4	
	comp=E,695nm,0.3s						
DAWY	**Dawson**	1.07	129	P	Pb	15 21 42.1	-0.4
DAWY				S	Sb	15 21 55.9	-0.4
J29M	**Klondike Camp**	1.35	101	Pn	Pn	15 21 46.5	-0.2
J29M	**Klondike Camp**	1.35	101	P	Pn	15 21 46.9	+0.1
J29M				S	Sn	15 22 04.5	-0.1
SCRK	**Sand Creek**	1.40	238		Pn	15 21 47.7	+0.2
SCRK					Sg	15 22 06.9	-0.5
I29M	**Ogilvie Camp,**	1.41	62	Pn	Pn	15 21 47.1	-0.3
I29M	**Ogilvie Camp,**	1.41	62	Pn	Pn	15 21 47.5	+0.1
I29M					Sg	15 22 06.1	0.0
H27K	**Steamboat Moun**	1.50	356	Pn	Pn	15 21 49.1	+0.4
H27K					Sg	15 22 09.3	+0.6
DOT	**Dot Lake**	1.64	229		Pn	15 21 50.9	+0.3
DOT	**Dot Lake**	1.64	229	Pn	Pn	15 21 51.3	+0.7
DOT					Sg	15 22 14.0	-0.9
BCAR	**Beaver Creek A**	1.70	188		Pn	15 21 51.3	-0.2
L27K	**Beaver Creek,**	1.70	188		Pn	15 21 51.6	0.0
L27K				IAML		15 22 16.7	
	comp=N,162nm,0.4s						
L27K	**Beaver Creek,**	1.70	188	Pn	Pn	15 21 52.0	+0.5
L27K				Sg	Sb	15 22 15.3	+0.7
K29M	**Barlow Dome**	1.87	117	Pn	Pn	15 21 53.8	-0.1
K29M				Sg	Sb	15 22 20.0	+0.5
L26K	**Log Cabin Wild**	1.95	209	Pn	Pn	15 21 54.4	-0.5
PRP	**Porcupine Dome**	1.95	295		Pn	15 21 54.8	-0.3
PRP				IAML		15 22 25.0	
	comp=N,158nm,0.3s						
PRP				IAML		15 22 25.6	
	comp=E,136nm,0.5s						
G27K	**Doyon Strip**	2.08	356	Pn	Pn	15 21 56.8	0.0
MENT	**Mentasta**	2.11	212	Pn	Pn	15 21 56.6	-0.5
L29M	**L29M**	2.15	138	Pn	Pn	15 21 57.8	+0.1
L29M				Sg	Sb	15 22 29.4	+1.9
BVCY	**Beaver Creek**	2.34	175	Pn	Pn	15 22 01.1	+0.7
BVCY				Sg	Sg	15 22 35.9	-1.6
IL31		2.40	273		Pn	15 22 00.3	-0.7
ILAR	**Eielson Array**	2.40	273		Pn	15 22 00.7	-0.3
M27K	**Edge Creek, AK**	2.41	187	Pn	Pn	15 22 02.1	+0.7
M27K				Pg	Pg	15 22 07.2	-1.2
M27K				Sg	Sg	15 22 38.1	-1.5
FYU	**Fort Yukon**	2.46	320	Pn	Pn	15 22 00.8	-1.0
FYU				IAML		15 22 44.5	
	comp=N,73nm,4.4s						
HDA	**Harding Lake**	2.47	265	Pn	Pn	15 22 02.0	0.0
HDA				IAML		15 22 45.1	
	comp=E,161nm,0.4s						
HDA				IAML		15 22 45.3	
	comp=N,126nm,0.6s						
EPYK	**Eagle Plains**	2.51	47	Pn	Pn	15 22 02.3	-0.2
EPYK				IAML		15 22 38.4	
	comp=E,79nm,0.3s						
EPYK				IAML		15 22 39.3	
	comp=N,73nm,0.3s						
PAX	**Paxson**	2.57	228	Pn	Pn	15 22 03.1	-0.3
MAYO	**Mayo, Yukon**	2.63	114	Pn	Pn	15 22 04.2	0.0
MAYO	**Mayo, Yukon**	2.63	114	Sg	Sb	15 22 42.1	+1.0
M29M	**Somme Creek**	2.63	150	Pn	Pn	15 22 04.6	+0.2
M29M				Sg	Sb	15 22 43.5	+2.2
POKR	**Poker Plat Res**	2.65	281	Pn	Pn	15 22 04.4	-0.1
POKR				IAML		15 22 49.3	
	comp=N,140nm,0.8s						
CCB	**Clear Creek Bu**	2.80	271		Pn	15 22 05.9	-0.7
CCB	**Clear Creek Bu**	2.80	271	IAML		15 22 52.4	
	comp=E,60nm,0.4s						
CCB				IAML		15 22 56.5	
	comp=N,75nm,0.5s						
COLA	**College**	2.81	276	Pn	Pn	15 22 05.3	-1.4
TCOL	**CIGO, UAF Yank**	2.82	276	Pn	Pn	15 22 05.2	-1.5
WRH	**Wood River Hil**	2.94	268		Pn	15 22 08.2	-0.3
WRH	**Wood River Hil**	2.94	268	IAML		15 22 57.1	
	comp=E,59nm,0.7s						
WRH				IAML		15 22 57.6	
	comp=N,49nm,0.9s						
M30M	**Minto, Yukon**	2.96	135	Pn	Pn	15 22 08.1	-0.6
M30M				IAML		15 22 56.5	
	comp=N,76nm,0.3s						
M30M	**Minto, Yukon**	2.96	135	Pn	Pn	15 22 08.3	-0.4
M30M				Sg	Sg	15 22 54.0	-3.1
YUK2	**White River**	2.97	176	Pn	Pn	15 22 10.2	+1.2
YUK2				Sg	Sg	15 22 55.3	-2.4
MDM	**Murphy Dome**	2.97	277		Pn	15 22 08.3	-0.7
MDM	**Murphy Dome**	2.97	277	IAML		15 22 56.2	
	comp=N,91nm,0.6s						
H24K	**Noodor Dome**	2.98	295	Pn	Pn	15 22 09.0	0.0
YUK3	**Moose Creek**	3.00	172	Pn	Pn	15 22 10.4	+0.9
YUK3				Sg	Sg	15 22 56.1	-2.5
BMAR	**Burnt Mountain**	3.01	335	Pn	Pn	15 22 09.6	0.0
DHY	**Denali Highway**	3.17	241	Pn	Pn	15 22 11.7	0.0
M24K	**Tolsona, Glenn**	3.44	222	Pn	Pn	15 22 15.4	0.0
M24K				IAML		15 23 41.2	
	comp=N,67nm,4.5s						
MCARA	**McCarthy VSAT**	3.46	194	Pn	Pn	15 22 15.9	+0.2
MCARA				IAML		15 23 19.7	
	comp=E,37nm,2.7s						
MCARA				IAML		15 23 26.8	
	comp=N,50nm,5.0s						
MCK	**McKinley**	3.49	257	Pn	Pn	15 22 15.9	-0.2
GLB	**Gilahina Butte**	3.51	200	Pn	Pn	15 22 13.9	-2.4
GLB				IAML		15 22 56.5	
	comp=N,31nm,3.9s						
YUK8	**Steele Glacier**	3.54	168	Pn	Pn	15 22 18.4	+1.4
YUK8				Sg	Sg	15 23 13.5	-2.3
RND	**Reindeer**	3.58	251	Pn	Pn	15 22 16.6	-0.8
YUK4	**Talbot Arm**	3.62	159	Pn	Pn	15 22 17.8	-0.2
H23K	**Yukon River**	3.63	291	Pn	Pn	15 22 17.2	-0.9
H23K				IAML		15 23 20.0	
	comp=N,42nm,0.8s						
H23K				IAML		15 23 20.4	
	comp=E,36nm,0.9s						
BALM	**Baldy**	3.75	188	Pn	Pn	15 22 21.2	+1.5
BALM				Sg	Sg	15 23 18.8	-3.8
N30M	**Aishikik Lake**	3.81	148	Pn	Pn	15 22 20.9	+0.4
N30M				Sg	Sg	15 23 19.9	-4.5
KLU	**Klutina**	3.88	215	Pn	Pn	15 22 21.3	-0.2
KLU				IAML		15 23 03.0	
	comp=N,27nm,4.0s						
KLU				IAML		15 23 59.7	
	comp=E,24nm,3.7s						
YUK5	**Granite Creek**	3.95	155	Pn	Pn	15 22 23.8	+1.3
YUK5				Pg	Pb	15 22 34.1	+2.4
YUK5				Sg	Sg	15 23 24.3	-4.6
M31M	**Drury Creek, Y**	4.01

M31M	**Drury Creek, Y**	**4.01**	**126**	Sg	Sg	15 23 26.5	-4.3
O28M	**Mount Upton**	**4.02**	**172**	Pn	Pn	15 22 24.7	+1.2
O28M				Sg	Sg	15 23 28.1	-3.0
MLY	**Manley**	**4.04**	**278**	Pn	Pn	15 22 23.3	-0.4
MLY				IAML		15 23 31.1	
	comp=N,29nm,1.9s						
MLY				IAML		15 23 35.2	
	comp=E,26nm,0.7s						
YUK6	**Outpost Mounta**	**4.04**	**159**	Pn	Pn	15 22 24.9	+1.0
YUK6				Pg	Pb	15 22 36.1	+2.8
YUK6				Sg	Sg	15 23 27.6	-4.3
N31M	**Braeburn, Yuko**	**4.11**	**140**	Pn	Pn	15 22 25.2	+0.5
N31M				Pg	Pb	15 22 36.2	+1.8
N31M				Sg	Sg	15 23 29.6	-4.5
ISLE	**Juniper Island**	**4.18**	**187**	Pn	Pn	15 22 25.9	+0.2
BPAW	**Bear Paw Mtn.**	**4.26**	**266**	Pn	Pn	15 22 26.9	+0.3
BPAW				IAML		15 23 09.1	
	comp=E,20nm,4.9s						
BPAW				IAML		15 23 40.7	
	comp=N,33nm,0.6s						
HYT	**Haines Junctio**	**4.30**	**154**	Pn	Pn	15 22 27.5	+0.2
HYT	**Haines Junctio**	**4.30**	**154**	Pn	Pn	15 22 27.8	+0.5
HYT				Pg	Pb	15 22 40.6	+3.1
HYT				Sg	Sg	15 23 34.9	-5.2
TABL	**Table Mountain**	**4.32**	**179**	Pn	Pn	15 22 28.8	+1.2
SML	**Sawmill**	**4.33**	**230**	Pn	Pn	15 22 26.7	-1.0
SML				IAML		15 23 18.4	
	comp=E,34nm,3.6s						
SML				IAML		15 25 19.7	
	comp=N,33nm,4.0s						
FARO	**Faro, Yukon**	**4.36**	**122**	Sg	Sb	15 23 36.4	+5.4
KTH	**Kantishna Hill**	**4.39**	**259**	Pn	Pn	15 22 28.4	0.0
KTH				IAML		15 24 41.5	
	comp=N,23nm,4.2s						
KTH				IAML		15 25 22.4	
	comp=E,20nm,3.6s						
COLD	**Coldfoot**	**4.42**	**308**	Pn	Pn	15 22 30.0	+1.3
COLD				Sn	Sn	15 23 19.3	-0.6
YUK7	**Dusty Glacier**	**4.47**	**160**	Pn	Pn	15 22 30.9	+1.3
YUK7				Sg	Sg	15 23 42.0	-3.6
GHO	**Glory Hole Cre**	**4.56**	**233**	Pn	Pn	15 22 29.8	-1.0
GHO				IAML		15 23 29.3	
	comp=E,26nm,3.4s						
GHO				IAML		15 23 49.1	
	comp=N,24nm,2.4s						
O29M	**Mount Kennedy**	**4.63**	**163**	Sg	Sg	15 23 46.3	-4.4
INK	**Inuvik**	**4.74**	**37**	Pn	Pn	15 22 33.0	-0.1
INK				Sn	Sn	15 23 25.0	-2.7
WHY	**Whitehorse**	**5.05**	**141**	Sg	Sg	15 23 58.6	-5.4
P30M	**Million Dollar**	**5.05**	**155**	Sg	Sg	15 24 00.9	-3.4
TOLK	**Toolik Lake Re**	**5.11**	**324**	Pn	Pn	15 22 39.3	+1.0
TOLK				IAML		15 23 22.2	
	comp=N,17nm,4.7s						
TOLK				IAML		15 24 20.7	
	comp=E,13nm,4.8s						
N32M	**Quiet Lake**	**5.20**	**130**	Sg	Sg	15 24 04.0	-4.8
IMAR	**Indian Mountai**	**5.36**	**289**	Pn	Pn	15 22 41.3	-0.4
SKAG	**Skagway**	**5.99**	**149**	Pn	Pn	15 22 51.2	+0.9
P33M	**Teslin, Yukon**	**6.00**	**135**	Sg	Sg	15 24 29.1	-5.6
RSO	**Redoubt South**	**6.81**	**236**	Pn	Pn	15 23 00.0	-1.8
R33M	**Jennings River**	**7.22**	**133**	Sg	Sg	15 25 06.2	-7.5
C36M	**Paulatuk**	**8.14**	**48**	Pn	Pn	15 23 18.1	-1.6
C36M				Sn	Sn	15 24 43.8	-7.6
DLBC	**Dease Lake**	**8.28**	**135**	Sg	Sg	15 25 39.5	-8.2

MAN 29 15:33:44.6, 9.78N×125.40E, h33km, mb3.5, ML2.2, MS1.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.09**	**90**	↑*i*P	Pb	15 33 51.2	+0.8
SCPH				*i* S	Sb	15 33 55.3	+1.1

WEL 29 15:41:57.4±0.3, 42°S±2°×17°3E±°, h5km, M3.1/34, ML3.4/15, MLv3.1/34, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**68**	P	Pg	15 42 01.6	+0.1
KHZ				S	Sg	15 42 04.8	+0.5
GVZ	**Greta Valley S**	**0.50**	**200**	P	Pg	15 42 07.7	+0.7
GVZ				S	Sb	15 42 15.4	-0.9
THZ	**Tophouse**	**0.78**	**340**	P	Pg	15 42 12.9	+0.5
LTZ	**Lake Taylor**	**0.79**	**249**	P	Pg	15 42 12.9	+0.3
AMCZ	**Amberley**	**0.82**	**214**	P	Pg	15 42 13.1	+0.1
BSWZ	**Blackbirch Sta**	**0.90**	**30**	P	Pg	15 42 14.7	+0.1
CMWZ	**Cape Campbell**	**1.02**	**44**	P	Pb	15 42 17.4	-0.1
MRNZ	**Matariki Terra**	**1.16**	**341**	P	Pg	15 42 19.5	-0.1
TUWZ	**Tuamarina**	**1.18**	**25**	P	Pg	15 42 19.5	-0.4
OXZ	**Oxford**	**1.23**	**227**	P	Pg	15 42 18.6	-2.3
OKCZ	**Okains Bay**	**1.23**	**187**	P	Pg	15 42 18.2	-2.8
NNZ	**Nelson**	**1.28**	**4**	P	Pn	15 42 21.2	-0.7
MQZ	**McQueen's Vall**	**1.29**	**200**	P	Pn	15 42 18.4	-3.7
DSZ	**Denniston Nort**	**1.32**	**304**	P	Pn	15 42 21.9	-0.6
INZ	**Inchbonnie**	**1.37**	**260**	P	Pn	15 42 21.7	-1.4
AKCZ	**Akaroa Harbour**	**1.40**	**191**	P	Pn	15 42 20.3	-3.3
TKNZ	**Takaka Hill**	**1.48**	**351**	P	Pn	15 42 24.6	-0.1
RACZ	**Rakaia**	**1.48**	**214**	P	Pn	15 42 21.7	-2.9
TCW	**Tory Channel**	**1.49**	**31**	P	Pn	15 42 23.2	-1.6
MHCZ	**Mount Hutt**	**1.62**	**230**	P	Pn	15 42 24.0	-2.7
PLWZ	**Palliser**	**1.75**	**59**	P	Pn	15 42 25.5	-2.8
QRZ	**Quartz Range**	**1.76**	**341**	P	Pn	15 42 28.7	+0.2
DUWZ	**D'Urville Isla**	**1.76**	**16**	P	Pn	15 42 28.6	0.0
WACZ	**Wakanui South**	**1.78**	**215**	P	Pn	15 42 26.0	-2.8
MSWZ	**Moikau Station**	**1.83**	**54**	P	Pn	15 42 26.9	-2.6
CAW	**Cannon Point**	**1.93**	**45**	P	Pn	15 42 28.7	-2.2
WVZ	**Waitaha Valley**	**1.95**	**252**	P	Pn	15 42 29.9	-1.2
PAWZ	**Paruwai Farm**	**1.96**	**56**	P	Pn	15 42 28.3	-2.9
RPZ	**Rata Peaks**	**2.03**	**232**	P	Pn	15 42 29.7	-2.5
KIW	**Kapiti Island**	**2.04**	**37**	P	Pn	15 42 30.8	-1.6
ARCZ	**Arundel**	**2.11**	**226**	P	Pn	15 42 30.4	-2.9
OGWZ	**Otaki Gorge**	**2.20**	**41**	P	Pn	15 42 32.5	-2.0
GCSZ	**Gaunt Creek Bo**	**2.31**	**248**	P	Pn	15 42 35.1	-1.0
HOWZ	**Holdsworth Sta**	**2.32**	**47**	P	Pn	15 42 36.3	+0.1
TMZ	**Timaru**	**2.50**	**220**	P	Pn	15 42 36.0	-2.8
MRZ	**Mangatainoka R**	**2.52**	**44**	P	Pn	15 42 36.7	-2.2
FOZ	**Fox Glacier**	**2.74**	**247**	P	Pn	15 42 40.8	-1.1
LBZ	**Lake Benmore**	**2.94**	**229**	P	Pn	15 42 42.6	-2.1
WAZ	**Wanganui**	**3.03**	**26**	P	Pb	15 42 50.3	-1.5
TSZ	**Takapari Road**	**3.17**	**41**	P	Pn	15 42 47.0	-0.9
ODZ	**Otahua Downs**	**3.18**	**216**	P	Pn	15 42 44.8	-3.2
KHEZ	**Kahui Hut**	**3.25**	**10**	P	Pn	15 42 52.2	+3.2
NBEZ	**Newall Road No**	**3.26**	**8**	P	Pn	15 42 51.8	+2.7
PKE	**Pukeiti**	**3.34**	**10**	P	Pn	15 42 53.5	+3.2
VRZ	**Vera Road**	**3.55**	**19**	P	Pn	15 42 54.3	+1.1
PKVZ	**Pokaka**	**3.57**	**27**	P	Pn	15 42 56.6	+3.2
WNVZ	**Wahianoa**	**3.62**	**30**	P	Pn	15 42 57.5	+3.2
JCZ	**Jackson Bay**	**3.63**	**243**	P	Pn	15 42 52.6	-1.8
BHHZ	**Black Hill Sta**	**3.67**	**36**	P	Pb	15 42 59.2	-3.6
TUVZ	**Tukino**	**3.70**	**30**	P	Pn	15 42 57.2	+1.9
NNVZ	**North Ngauruho**	**3.80**	**29**	P	Pn	15 42 59.5	+2.8
TMVZ	**Te Maari**	**3.85**	**29**	P	Pn	15 43 00.4	+3.1
HIZ	**Hauiti**	**4.16**	**17**	P	Pn	15 43 02.1	+0.6
AWAZ	**Awhitu Peninsu**	**5.53**	**11**	P	Pn	15 43 20.3	+0.1
MKAZ	**Moumakai**	**5.58**	**16**	P	Pn	15 43 20.6	-0.4
ETAZ	**East Tamaki Re**	**5.68**	**14**	P	Pn	15 43 25.5	+3.1
WIAZ	**Waiheke Island**	**5.88**	**15**	P	Pn	15 43 25.2	+0.2
WMGZ	**Waiomatatini S**	**6.11**	**42**	P	Pn	15 43 26.6	-1.7

IDC 29 15:48:29.2±8.5, 25.62S×29.57E, h0km, mbtmp2.9/1, ML2.2/1, Error ellipse: s-maj=104.7km s-min=58.0km az=141.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**4.87**	**231**	Pn	Pn	15 49 43.4	-0.5
	0.1nm,0.3s,baz=17,slow=11,SNR=1.6						
BOSA				Pg	Pb	15 49 58.3	+2.8
	0.2nm,0.3s,baz=69,slow=14,SNR=6.2						
BOSA				Sn	Sn	15 50 41.8	+0.8
	0.4nm,0.3s,baz=56,slow=16,SNR=3.4						
BOSA				Lg	Lg	15 51 04.7	
	3.9nm,0.3s,baz=326,slow=22,SNR=25 2.2nm,0.9s						
I47ZA	**BOSHOF INFRASO**	**4.89**	**231**	I		16 18 20.0	
	baz=54,slow=311,SNR=0.9						
I35NA	**TSUMEB INFRASO**	**12.80**	**298**	I		17 02 40.0	
	baz=126,slow=306,SNR=1.3						

IDC 29 15:52:06.1±54.0, 13.37S×166.31E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=920.7km s-min=111.0km az=63.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.20**	**227**	P	P	15 58 09.5	-0.1
	0.5nm,0.3s,baz=42,slow=11,SNR=4.0 0.5nm,0.3s						
WRA	**Warramunga Arr**	**31.28**	**254**	P	P	15 58 28.4	+0.3
	0.3nm,0.5s,baz=84,slow=8.5,SNR=7.5 0.3nm,0.5s						
ASAR	**Alice Springs**	**32.32**	**247**	P	P	15 58 37.0	-0.3
	0.5nm,0.4s,baz=74,slow=9.9,SNR=32 0.5nm,0.4s						

LDG ***29*** *16:14:02.3±0.1, 42.53N×13.34E, h14km, Ml4.0/33, Error ellipse: s-maj=3.4km s-min=2.4km az=40.0*

ROM ***29*** *16:14:02.7±0.0, 42.529N±0.002×13.280E±0.002, h11km, ML4.4/128, Mw4.4, Error ellipse: s-maj=0.2km s-min=0.1km az=70.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.72; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$2.75; $M_{r\theta}$1.46; $M_{\theta\phi}$-1.36; $M_{\phi r}$-3.44; Fault plane solution: M_o4.80130×10^{15} NP1:ϕ_s159.00000°,δ19.00000°, λ-89.00000°. NP2:ϕ_s337.00000°,δ71.00000°, λ-91.00000°.*

MED_RC ***29*** *16:14:02.0±1.3, 42.42N×13.18E, h10km, MW4.5/8, Moment Tensor Solution.Mantle waves: s8,c8; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.23±.49; $M_{\theta\theta}$0.72±.77; $M_{\phi\phi}$4.52±.44; $M_{r\theta}$-2.29±4.83; $M_{\theta\phi}$-2.02±.34; $M_{\phi r}$-2.25±3.28; Best double couple: M_o6.12000×10^{15} NP1:ϕ_s1.00000°,δ56.00000°,λ-61.00000°. NP2: ϕ_s136.00000°,δ43.00000°,λ-126.00000°. Principal axes: T 5.5400, Plg7.0000°, Azm70.0000°; N 1.1800, Plg24.0000°, Azm164.0000°; P -6.7100, Plg65.0000°, Azm325.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=40s.*

MOS ***29*** *16:14:02.4±1.1, 42.65N×13.26E, h10km, mb4.6/19 Error ellipse: s-maj=6.9km s-min=3.7km az=78.0*

PDG ***29*** *16:14:03.4±0.6, 42.56N×13.30E, h13km, ML4.2/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

NEIC ***29*** *16:14:03.2±1.3, 42.56N±0.05×13.25E±0.07, h4km±4km, mb4.5/19, Mwr4.3/30, ML4.4(ROM), Mwr4.4(VIE), Error ellipse: s-maj=8.7km s-min=5.8km az=219.0*

NEIC ***29*** *16:14:03.1, 42.56N×13.26E, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.52; $M_{\theta\theta}$0.24; $M_{\phi\phi}$3.28; $M_{r\theta}$0.22; $M_{\theta\phi}$-1.85; $M_{\phi r}$-1.33; Fault plane solution: M_o4.11000×10^{15} NP1:ϕ_s147.54000°, δ36.11000°,λ-100.94000°. NP2:ϕ_s341.00000°, δ54.65000°,λ-82.12000°. Principal axes: T 4.3709, Plg9.0000°, Azm65.0000°; N -0.5954, Plg6.0000°, Azm156.0000°; P -3.7755, Plg79.0000°, Azm280.0000°;*

PRU ***29*** *16:14:03.3±0.0, 42.60N×13.17E, h0km, M4.5*

IDC ***29*** *16:14:03.5±0.9, 42.73N×13.15E, h0km, mb4.2/10, mbtmp4.1/19, ML3.7/7, MS3.7/60, Error ellipse: s-maj=14.5km s-min=11.7km az=94.0*

STR ***29*** *16:14:04.4±1.7, 42°N±12°×13°3E±1°, h10km, MLv4.4/29, Error ellipse: s-maj=0.0km s-min=0.0km az=139.5, preliminary*

BGR ***29*** *16:14:06.0±0.6, 42.59N×13.35E, h10km, ML4.5/4, Error ellipse: s-maj=10.0km s-min=8.9km az=0.0*

GEN ***29*** *16:14:21.1, 43.05N×11.88E, h46km±10km, Ml3.1*

ISC 29 16:14:03.7±0.6, 42.54N±0.01×13.26E±0.01, h10km±3km, n634, σ2s02/703, mb4.4/34, MS3.7/50, 69C-57D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.05**	**221**	↑P	**Pg**	**16 14 05.4**	**-0.5**
RM33				S	**Sg**	**16 14 07.0**	**-0.4**
RM33				AML	AML		
RM33				AML	AML		
SMA1	**SAN MARTINO**	**0.10**	**34**	↓P	**Pg**	**16 14 06.1**	**-0.4**
SMA1				S	**Sg**	**16 14 08.3**	**-0.3**
SMA1				AML	AML		
SMA1				AML	AML		
T1247	**Pizzolo (AQ)**	**0.11**	**163**	↑P	**Pg**	**16 14 05.9**	**-0.6**
T1247				S	**Sg**	**16 14 08.1**	**-0.4**
T1247				AML	AML		
T1247				AML	AML		
CAMP	**Campotosto**	**0.11**	**94**		**Pg**	**16 14 05.8**	**-0.8**
CAMP				Sg	**Sg**	**16 14 07.9**	**-0.9**
CAMP	**Campotosto**	**0.11**	**94**	↓P	**Pg**	**16 14 05.9**	**-0.8**
CAMP				S	**Sg**	**16 14 07.9**	**-0.9**
CAMP				AML	AML		
CAMP				AML	AML		
T1201	**Domo (RI)**	**0.11**	**358**	↓P	**Pg**	**16 14 06.4**	**-0.3**
T1201				S	**Sg**	**16 14 08.9**	**+0.1**
T1204	**Amatrice, Fraz**	**0.14**	**19**	↓P	**Pg**	**16 14 06.6**	**-0.5**
T1204				S	**Sg**	**16 14 09.2**	**-0.3**
T1202	**Accumoli, Fraz**	**0.16**	**352**	↓P	**Pg**	**16 14 07.3**	**-0.1**
T1202				S	**Sg**	**16 14 10.5**	**+0.5**
T1218	**Civita (PG)**	**0.16**	**321**	↑P	**Pg**	**16 14 07.2**	**-0.2**
T1218				S	**Sg**	**16 14 10.3**	**+0.3**
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1218				AML	AML		
T1243				S	**Sg**	**16 14 11.0**	**-0.2**
T1244	**Arquata del Tr**	**0.22**	**8**	↓P	**Pg**	**16 14 07.9**	**-0.4**
T1244				S	**Sg**	**16 14 11.6**	**+0.2**
AQU	**L'Aquila**	**0.22**	**150**		**Pg**	**16 14 07.5**	**-0.7**
AQU	**L'Aquila**	**0.22**	**150**	↑P	**Pg**	**16 14 07.6**	**-0.7**
AQU				S	**Sg**	**16 14 11.6**	**+0.2**
AQU				AML	AML		
	comp=E,36000μm,1.0s						
AQU				AML	AML		
	comp=E,37750μm,1.0s						
AQU				AML	AML		
	comp=N,34200μm,0.9s						
AQU				AML	AML		
	comp=N,35300μm,1.5s						
AQU	**L'Aquila**	**0.22**	**150**	P	**Pg**	**16 14 07.6**	**-0.7**
GIGS	**Gran Sasso**	**0.25**	**112**	↑P	**Pg**	**16 14 07.8**	**-1.1**
GIGS				S	**Sg**	**16 14 11.4**	**-0.9**
GIGS				AML	AML		
	comp=E,13950μm,1.0s						
GIGS				AML	AML		
	comp=N,15100μm,0.5s						
T1212	**Cascia, Frazio**	**0.26**	**323**	↑P	**Pg**	**16 14 08.8**	**-0.3**
T1212				S	**Sg**	**16 14 13.2**	**+0.5**
TERO	**Teramo**	**0.27**	**73**	↑P	**Pg**	**16 14 08.2**	**-1.0**
TERO				S	**Sg**	**16 14 12.2**	**-0.7**
TERO				AML	AML		
	comp=N,82000μm,0.5s						
TERO				AML	AML		
	comp=E,81250μm,0.1s						
TERO				AML	AML		
	comp=E,71700μm,0.1s						
TERO				AML	AML		
	comp=N,84350μm,0.5s						
T1217	**Poggiodomo (PG**	**0.29**	**305**	↑P	**Pg**	**16 14 09.4**	**-0.3**
T1217				S	**Sb**	**16 14 14.4**	**-1.6**
FIAM	**Fiamignano**	**0.29**	**200**	↑P	**Pg**	**16 14 09.1**	**-0.6**
FIAM				S	**Sg**	**16 14 13.6**	**-0.1**
FIAM				AML	AML		
	comp=N,38200μm,0.8s						
FIAM				AML	AML		
	comp=E,40250μm,0.8s						
NRCA	**Norcia**	**0.31**	**340**		**Pg**	**16 14 08.6**	**-1.3**
NRCA				Sg	**Sg**	**16 14 14.1**	**0.0**
NRCA	**Norcia**	**0.31**	**340**	↓P	**Pg**	**16 14 09.6**	**-0.4**
NRCA				S	**Sb**	**16 14 14.5**	**-2.0**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1241	**Roccafluvione,**	**0.34**	**22**	↑P	**Pg**	**16 14 09.8**	**-0.7**
T1241				S	**Sg**	**16 14 15.1**	**0.0**
T1241				AML	AML		
T1241				AML	AML		
	comp=N,98400μm,0.7s						
T1241				AML	AML		
T1241				AML	AML		
	comp=N,98700μm,0.7s						
ARRO	**Arrone**	**0.36**	**276**	↑P	**Pg**	**16 14 10.6**	**-0.3**
ARRO				S	**Sg**	**16 14 15.9**	**+0.1**
ARRO				AML	AML		
ARRO				AML	AML		
FAGN	**Fagnano**	**0.37**	**139**	↑P	**Pg**	**16 14 10.0**	**-1.0**
FAGN				AML	AML		
	comp=N,29900μm,0.4s						
FAGN				AML	AML		
	comp=E,48400μm,0.5s						
MC2	**Monte Cornacci**	**0.37**	**353**	↓P	**Pg**	**16 14 10.8**	**-0.4**
MC2				S	**Sb**	**16 14 17.1**	**-1.4**
T1215	**Vallo di Nera,**	**0.39**	**312**	↑P	**Pg**	**16 14 10.9**	**-0.5**
T1215				S	**Sb**	**16 14 17.1**	**-1.5**
T1215				AML	AML		
	comp=N,87300μm,0.8s						
T1215				AML	AML		
	comp=E,83650μm,0.7s						
T1215				AML	AML		
	comp=E,90500μm,0.7s						
T1215				AML	AML		
	comp=N,84700μm,0.8s						
T1216	**Preci, Frazion**	**0.39**	**333**	↑P	**Pg**	**16 14 11.1**	**-0.3**
T1216				S	**Sb**	**16 14 17.4**	**-1.3**
T1216				AML	AML		
T1216				AML	AML		
T1221	**Campello sul C**	**0.44**	**317**	↑P	**Pg**	**16 14 11.9**	**-0.4**
T1221				S	**Sb**	**16 14 19.0**	**-1.1**
AM05	**Amandola Campo**	**0.44**	**9**	↑P	**Pg**	**16 14 11.8**	**-0.5**
AM05				S	**Sb**	**16 14 19.0**	**-1.2**
VCEL	**Villa Celiera**	**0.46**	**109**	↑P	**Pg**	**16 14 11.5**	**-1.2**
VCEL				AML	AML		
	comp=N,32100μm,1.1s						
VCEL				AML	AML		
	comp=E,31900μm,0.5s						
T1256	**Bolognola (MC)**	**0.46**	**357**	↓P	**Pg**	**16 14 12.2**	**-0.6**
T1256				S	**Sb**	**16 14 19.5**	**-1.5**
T1256				AML	AML		
	comp=E,65250μm,0.8s						
T1256				AML	AML		
	comp=E,63600μm,0.9s						
T1256				AML	AML		
	comp=N,79100μm,1.5s						
T1256				AML	AML		
	comp=N,83150μm,1.5s						
T0110	**Collepietro**	**0.50**	**129**	↑P	**Pg**	**16 14 12.2**	**-1.3**
T0110				AML	AML		
	comp=E,29150μm,0.5s						
T0110				AML	AML		
	comp=N,23000μm,1.1s						
CESX	**Cesi**	**0.50**	**278**		**Pg**	**16 14 12.7**	**-0.8**
CESX	**Cesi**	**0.50**	**278**	↑P	**Pg**	**16 14 12.8**	**-0.7**
CESX				S	**Sb**	**16 14 20.8**	**-1.2**
CESX				AML	AML		
	comp=N,95000μm,0.5s						
CESX				AML	AML		
	comp=E,93900μm,1.2s						
OFFI	**Offida**	**0.50**	**39**	↑P	**Pg**	**16 14 13.4**	**-0.1**
OFFI				S	**Sb**	**16 14 22.3**	**+0.3**
OFFI				AML	AML		
OFFI				AML	AML		
FDMO	**Fiordimonte**	**0.51**	**346**		**Pg**	**16 14 12.7**	**-1.0**
FDMO	**Fiordimonte**	**0.51**	**346**	↓P	**Pg**	**16 14 13.0**	**-0.6**
FDMO				S	**Sb**	**16 14 21.0**	**-1.2**
GUMA	**Gualdo di Mace**	**0.52**	**6**	↑P	**Pg**	**16 14 13.5**	**-0.4**
GUMA				S	**Sb**	**16 14 22.2**	**-0.3**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
CESI	**CESI - Serrava**	**0.53**	**331**	P	**Pg**	**16 14 13.6**	**-0.5**
CESI				S	**Sb**	**16 14 21.9**	**-0.9**
CESI				AML	AML		
CESI				AML	AML		
	comp=E,74200μm,1.1s						
PTQR	**Pietraquaria**	**0.53**	**168**	↑P	**Pg**	**16 14 12.8**	**-1.3**
PTQR				AML	AML		
	comp=E,6125μm,0.9s						
PTQR				AML	AML		
	comp=N,5795μm,0.9s						
T1219	**Muccia, Frazio**	**0.54**	**340**	↓P	**Pg**	**16 14 13.6**	**-0.7**
T1219				S	**Sb**	**16 14 22.2**	**-1.0**
CSP1	**Cessapalombo**	**0.55**	**356**	↓P	**Pg**	**16 14 13.8**	**-0.7**
CSP1				S	**Sb**	**16 14 22.2**	**-1.2**
CSP1				AML	AML		
	comp=E,97200μm,0.3s						
CSP1				AML	AML		
TRTR	**Tortoreto Alta**	**0.55**	**61**	↑P	**Pg**	**16 14 14.3**	**-0.2**
TRTR				AML	AML		
	comp=N,63400μm,0.6s						
TRTR				AML	AML		
	comp=E,82950μm,0.6s						
MOMA	**Monte Martano**	**0.57**	**297**	P	**Pg**	**16 14 14.1**	**-0.7**
MOMA				S	**Sb**	**16 14 23.5**	**-0.5**
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
MOMA				AML	AML		
T1220	**Camerino, Fraz**	**0.58**	**348**	↓P	**Pg**	**16 14 14.2**	**-0.7**
MNTP	**Montappone**	**0.61**	**15**	P	**Pg**	**16 14 15.3**	**-0.3**
MNTP				S	**Sb**	**16 14 25.6**	**+0.4**
MNTP				AML	AML		
	comp=E,71900μm,0.3s						
MNTP				AML	AML		
	comp=N,62000μm,1.6s						
MNTP				AML	AML		
	comp=N,71900μm,0.3s						
MNTP				AML	AML		
	comp=N,62000μm,1.6s						
CERT	**Cerreto**	**0.63**	**199**	↑P	**Pg**	**16 14 14.6**	**-1.3**
CERT				AML	AML		
	comp=E,23450μm,0.5s						
CERT				AML	AML		
	comp=N,11550μm,0.6s						
SEF1	**Sefro**	**0.64**	**340**	P	**Pg**	**16 14 15.2**	**-1.0**
SEF1				AML	AML		
	comp=N,85750μm,0.2s						
SEF1				AML	AML		
MTCE	**Montecelio**	**0.65**	**216**	↑P	**Pg**	**16 14 14.8**	**-1.4**
MTCE				AML	AML		
	comp=N,12100μm,1.1s						
MTCE				AML	AML		
	comp=E,16550μm,0.5s						
MDAR	**Monte D'Aria**	**0.65**	**353**	P	**Pg**	**16 14 15.7**	**-0.7**
ASSB	**Assisi San Ben**	**0.67**	**319**	AML	AML		
	comp=E,84350μm,0.4s						
ASSB				AML	AML		
	comp=N,85350μm,0.3s						
FIU1	**Fiuminata**	**0.69**	**340**	P	**Pg**	**16 14 16.3**	**-0.7**
SSM1	**San Severino M**	**0.69**	**355**	P	**Pg**	**16 14 16.3**	**-0.7**
GAG1	**Gagliole**	**0.71**	**349**	P	**Pg**	**16 14 16.9**	**-0.6**
INTR	**Introdacqua**	**0.72**	**138**		**Pg**	**16 14 15.7**	**-1.8**
INTR	**Introdacqua**	**0.72**	**138**	↑P	**Pg**	**16 14 15.8**	**-1.8**
INTR				AML	AML		
	comp=E,7μm,0.9s						
INTR				AML	AML		
	comp=N,10μm,1.0s						
INTR				AML	AML		
	comp=E,7300μm,0.9s						
INTR				AML	AML		
	comp=N,13850μm,1.0s						
VVLD	**Villa Vallelon**	**0.72**	**158**	P	**Pg**	**16 14 17.2

SNTG AML AML
comp=N,26850µm,0.7s
SNTG AML AML
comp=E,23550µm,1.4s
SNTG AML AML
comp=N,26850µm,0.7s
SNTG AML AML
comp=N,28750µm,0.7s
CADA Capodarco di F 0.75 30 P Pb 16 14 18.2 -0.6
GUAR Guarcino 0.75 177 P Pg 16 14 17.5 -0.7
GUAR AML AML
comp=N,11065µm,0.6s
GUAR AML AML
comp=E,9610µm,1.1s
ATCC AVT- Casa Cast 0.79 325 P Pg 16 14 18.0 -0.8
ATCC AML AML
comp=E,60200µm,0.5s
ATCC AML AML
comp=N,69500µm,0.5s
EL6 Elcito 0.79 352 P Pg 16 14 18.1 -1.0
EL6 AML AML
comp=E,47900µm,0.3s
EL6 AML AML
comp=N,82850µm,0.5s
CIMA Civitanova Mar 0.82 22 P Pb 16 14 19.9 -0.1
CING Cingoli 0.83 357 P Pg 16 14 18.7 -1.0
CING AML AML
comp=N,25650µm,0.5s
CING AML AML
comp=E,32500µm,0.4s
FOSV Fossato di Vic 0.83 334 P Pg 16 14 18.9 -0.9
FOSV AML AML
comp=N,26850µm,1.2s
FOSV AML AML
comp=E,23300µm,0.5s
RMP Rome, Mte Porz 0.84 210 P Pg 16 14 19.4 -0.5
RMP AML AML
comp=E,16050µm,0.8s
RMP AML AML
comp=N,16450µm,0.7s
VIVA Pratoni del Vi 0.87 205 P Pg 16 14 20.0 -0.5
VIVA AML AML
comp=N,23800µm,0.5s
VIVA AML AML
comp=E,21800µm,0.7s
PP3 Marolino 0.87 17 P Pb 16 14 20.3 -0.6
PP3 AML AML
comp=E,60750µm,0.5s
PP3 AML AML
comp=N,57550µm,1.0s
PP3 AML AML
comp=E,62850µm,0.5s
PP3 AML AML
comp=N,58700µm,0.9s
PP3 AML AML
comp=E,60750µm,0.5s
PP3 AML AML
comp=N,57550µm,0.9s
POFI Posta Fibreno 0.89 157 P Pg 16 14 19.8 -1.2
MURB Monte Urbino 0.90 324 Pg 16 14 19.9 -1.2
MURB Monte Urbino 0.90 324 P Pg 16 14 20.4 -0.6
MURB AML AML
MURB AML AML
MURB AML AML
MURB AML AML
MURB AML AML
MURB AML AML
MMUR Monte Murano 0.92 348 P Pg 16 14 20.8 -0.6
MGAB Montegabbione 0.92 294 ⇑P Pg 16 14 20.5 -0.9
MGAB AML AML
MGAB AML AML
LRP Arpino 0.93 164 P Pb 16 14 21.9 +0.1
LRP AML AML
comp=E,2455µm,1.6s
LRP AML AML
comp=E,3095µm,1.0s
LRP AML AML
comp=N,4415µm,0.8s
SSFR Montelago di S 0.96 339 P Pb 16 14 21.7 -0.7
SSFR AML AML
comp=E,82400µm,0.3s
SSFR AML AML
comp=N,72250µm,0.3s
SSFR AML AML
comp=N,71350µm,0.3s
SSFR AML AML
comp=E,76800µm,0.3s
ATFO Monte Foce - G 0.96 329 P Pg 16 14 21.5 -0.8
ATFO AML AML
comp=N,29850µm,0.8s
ATFO AML AML
comp=E,31900µm,0.5s
ARVD Arcevia 0.98 347 P Pg 16 14 21.4 -1.2
ARVD AML AML
comp=E,27150µm,0.9s
ARVD AML AML
comp=N,21650µm,1.4s
GIUL Giuliano Di Ro 0.98 180 P Pg 16 14 21.6 -1.1
GIUL AML AML
comp=E,3830µm,1.1s
GIUL AML AML
comp=N,5820µm,0.8s
ATVA AVT- Monte Val 1.02 316 P Pg 16 14 22.1 -1.3
AOI Ancona 1.04 14 P Pg 16 14 22.4 -1.2
AOI AML AML
comp=N,23450µm,0.6s
AOI AML AML
comp=E,20650µm,0.8s
SACS San Casciano d 1.04 288 P Pg 16 14 22.7 -1.0
SACS AML AML
comp=E,24300µm,0.8s
SACS AML AML
comp=E,25300µm,1.4s
SACS AML AML
comp=N,27200µm,1.0s
SACS AML AML
comp=N,28150µm,1.0s
ATVO AVT- Monte Val 1.04 324 P Pb 16 14 23.5 -0.4
ATVO AML AML
comp=E,25100µm,1.1s
ATVO AML AML
comp=N,25300µm,0.6s
TOLF Tolfa 1.05 243 ⇑P Pg 16 14 22.3 -1.5
TOLF AML AML
comp=N,15050µm,0.7s
TOLF AML AML
comp=E,11850µm,0.9s
FRON Frontone 1.05 338 P Pg 16 14 22.8 -1.1
FRON AML AML
comp=N,29600µm,0.5s
FRON AML AML
comp=E,43100µm,0.6s
LIK San Giovanni I 1.06 168 AML AML
comp=E,2055µm,1.1s
LIK AML AML
comp=N,2310µm,1.2s
LATB Latina 1.07 192 P Pb 16 14 22.3 -2.0
LATB AML AML
comp=E,2445µm,0.7s
LATB AML AML
comp=N,1965µm,0.8s
ATMI Monte Miggiano 1.07 318 P Pn 16 14 24.9 +0.1
ATMI AML AML
comp=E,76150µm,0.4s
ATMI AML AML
comp=N,87200µm,0.9s
RNI2 Rionero Sannit 1.07 141 P Pg 16 14 23.2 -1.2
LATE Laterza 1.07 274 Pg Pg 16 14 23.4 -1.0
ATPI Pietralunga - 1.10 326 P Pg 16 14 23.9 -1.0
ATPI AML AML
comp=E,28600µm,1.0s
ATPI AML AML
comp=N,24450µm,0.5s
CERA Filignano 1.10 149 P Pb 16 14 22.8 -2.0
COR1 Corinaldo 1.10 350 P Pn 16 14 24.6 -0.5
PIEI Pieia 1.12 332 P Pg 16 14 24.7 -0.6
PIEI AML AML
comp=N,16150µm,0.4s
PIEI AML AML
comp=E,17250µm,1.2s
MPAG Monte Paganucc 1.14 342 P Pb 16 14 24.4 -1.2
MPAG AML AML
comp=N,24950µm,1.2s
MPAG AML AML
comp=N,24500µm,1.2s
MPAG AML AML
comp=E,29950µm,1.5s
MPAG AML AML
comp=E,30650µm,1.5s
SENI Senigallia 1.16 359 P Pb 16 14 25.1 -0.8
MIDA Miranda 1.17 140 P Pb 16 14 23.5 -2.5
MIDA AML AML
comp=N,3565µm,1.6s
MIDA AML AML
comp=E,4035µm,0.9s
MIDA AML AML
comp=N,3525µm,1.6s
MIDA AML AML
comp=E,4170µm,1.0s
MCIV Monte Civitell 1.19 282 P Pg 16 14 25.9 -0.6
MCIV AML AML
comp=E,17600µm,0.9s
MCIV AML AML
comp=N,14450µm,1.6s
FSSB Fossombrone 1.20 343 P Pb 16 14 25.7 -0.8
FSSB AML AML
comp=E,65300µm,0.5s
FSSB AML AML
comp=N,54950µm,0.4s
SF04 Casetta 1.21 284 P Pn 16 14 26.3 -0.4
SF04 AML AML
comp=E,15750µm,1.1s
SF04 AML AML
comp=N,12050µm,1.1s
BADI Badiali 1.22 323 P Pg 16 14 26.5 -0.6
BADI AML AML
comp=N,15750µm,0.7s
BADI AML AML
comp=E,1039µm,0.4s
CAFI Castiglion Fio 1.23 310 P Pg 16 14 26.6 -0.7
CAFI AML AML
comp=N,24550µm,0.9s
CAFI AML AML
comp=E,27200µm,0.4s
CAFI AML AML
comp=E,26900µm,0.4s
CAFI AML AML
comp=N,25050µm,0.9s
TRIV Trivento 1.24 128 P Pn 16 14 26.9 -0.1
TRIV AML AML
comp=E,4705µm,1.1s
TRIV AML AML
comp=N,6325µm,0.9s
SF01 Poggio Pratacc 1.28 283 P Pb 16 14 27.4 -0.4
SF01 AML AML
comp=E,28150µm,0.6s
SF01 AML AML
comp=N,17450µm,0.9s
PE3 Peglio 1.28 335 P Pb 16 14 27.3 -0.5
PE3 AML AML
comp=E,124µm,0.3s
PE3 AML AML
comp=N,94µm,0.4s
SSP9 Sansepolcro 1.32 322 P Pg 16 14 28.3 -0.7
SSP9 AML AML
comp=E,11895µm,1.5s
SSP9 AML AML
comp=N,16600µm,0.9s
VAGA Valle Agricola 1.34 147 P Pg 16 14 29.3 -0.2
VAGA AML AML
comp=E,1900µm,1.4s
VAGA AML AML
comp=N,2885µm,0.7s
VAGA AML AML
comp=E,1930µm,1.4s
VAGA AML AML
comp=N,2830µm,0.7s
PESA Pesaro 1.43 348 P Pg 16 14 30.7 -0.5
PESA AML AML
comp=N,21850µm,1.3s
PESA AML AML
comp=E,30250µm,0.8s
CRE Caprese Michel 1.44 319 P Pb 16 14 29.7 -0.9
CRE AML AML
comp=E,9975µm,0.3s
CRE AML AML
comp=N,14050µm,1.1s
CIGN Sant'Elia a Pi 1.52 125 P Pg 16 14 32.2 -0.6
CIGN AML AML
comp=E,1930µm,1.2s
CIGN AML AML
comp=N,1700µm,1.3s
MAON Monte Argentar 1.58 267 ⇑P Pn 16 14 31.0 -0.7
MAON AML AML
comp=N,3725µm,1.0s
MAON AML AML
comp=E,5370µm,0.7s
MELA Melanico ??? S 1.62 120 P Pn 16 14 32.7 +0.4
MELA AML AML
comp=E,3855µm,1.5s
MELA AML AML
comp=N,4575µm,0.6s
MELA AML AML
comp=N,4515µm,0.6s
MELA AML AML
comp=E,3975µm,0.8s
ASQU Asqua 1.65 320 P Pn 16 14 32.9 +0.1
ASQU AML AML
comp=E,7850µm,0.5s
ASQU AML AML
comp=N,8360µm,0.6s
FROS Frosini 1.68 294 P Pn 16 14 33.2 +0.1
FROS Frosini 1.68 294 P Pn 16 14 33.1 +0.1
FROS AML AML
comp=E,7820µm,0.6s
FROS AML AML
comp=N,6010µm,0.7s
CSNT Castellina Chi 1.71 303 P Pb 16 14 33.9 -1.4
CSNT Castellina Chi 1.71 303 P Pb 16 14 33.8 -1.4
CSNT AML AML
comp=N,4840µm,1.1s
CSNT AML AML
comp=E,3915µm,0.6s
TREM Isole Tremiti 1.72 103 P Pb 16 14 34.5 -0.9
TREM AML AML
comp=E,4520µm,0.7s
TREM AML AML
comp=N,3925µm,0.9s
PSB1 Pescosannita 1.76 138 P Pg 16 14 37.1 -0.3
OSSC Osservatorio P 1.77 304 Pn Pn 16 14 34.1 -0.2
OSSC Osservatorio P 1.77 304 P Pb 16 14 34.8 -1.4
OSSC Osservatorio P 1.77 304 P Pb 16 14 34.9 -1.4
OSSC AML AML
comp=N,5305µm,0.8s
OSSC AML AML
comp=N,5300µm,0.8s
OSSC AML AML
comp=E,5305µm,0.8s
OSSC AML AML
comp=E,3815µm,1.0s
OSSC AML AML
comp=N,3760µm,0.9s
CASP Castiglione de 1.78 279 P Pn 16 14 34.0 -0.4
CASP AML AML
comp=E,1915µm,0.7s
CASP AML AML
comp=N,2055µm,1.0s
PAOL Paolisi 1.80 147 Pn Pn 16 14 34.8 0.0
PAOL Paolisi 1.80 147 AML AML
comp=N,964µm,1.4s
PAOL AML AML
comp=E,646µm,1.1s
PAOL AML AML
comp=E,609µm,1.1s
PAOL AML AML
comp=N,973µm,1.4s
RUFI Rufina 1.82 316 P Pn 16 14 35.3 +0.3
RUFI Rufina 1.82 316 P Pn 16 14 35.3 +0.3
RUFI AML AML
comp=N,7315µm,0.7s
RUFI AML AML
comp=E,6300µm,0.6s
TRIF Trifonti 1.82 289 P Pn 16 14 35.0 -0.1
TRIF AML AML
comp=E,3055µm,1.2s
TRIF AML AML
comp=N,3630µm,0.8s
APRC Apricena 1.87 114 P Pn 16 14 36.6 +0.8
APRC AML AML
comp=N,2760µm,1.3s
APRC AML AML
comp=E,1720µm,1.4s
SGRT San Giovanni R 2.01 112 Pn 16 14 37.7 0.0
SGRT San Giovanni R 2.01 112 P Pn 16 14 38.5 +0.8
SGRT AML AML
comp=N,1980µm,1.1s
SGRT AML AML
comp=E,1765µm,0.7s
BRIS BRISIGHELLA 2.05 322 P Pb 16 14 39.8 -1.1
BRIS AML AML
comp=E,8215µm,1.3s
BRIS AML AML
comp=N,7815µm,1.6s
BRIS AML AML
comp=N,7520µm,0.7s
BRIS AML AML
comp=E,9375µm,1.4s
SEI Scarperia 2.05 318 P Pb 16 14 40.3 -0.7
SEI AML AML
comp=E,8905µm,0.6s
SEI AML AML
comp=N,11150µm,0.5s
CRMI Carmignano 2.08 307 P Pn 16 14 39.5 +0.8
CRMI Carmignano 2.08 307 P Pn 16 14 39.4 +0.7
SGTA Sant Agata di 2.11 131 P Pb 16 14 40.7 -1.4
MSAG Monte S. Angel 2.14 112 P Pn 16 14 40.1 +0.6
MSAG AML AML
comp=N,3345µm,1.6s
MSAG AML AML
comp=E,2020µm,0.5s
MSAG AML AML
comp=N,3325µm,1.6s
MSAG AML AML
comp=E,2165µm,0.4s
MTCR Monte La Croce 2.22 313 P Pn 16 14 41.6 +1.0
MTRZ Monterenzio 2.25 325 P Pb 16 14 42.7 -1.6
PII Pisa 2.32 301 P Pn 16 14 43.1 +1.3
BRJN Brijuni 2.39 8 P Pn 16 14 42.3 -0.5
MAIM Mastiano 2.44 305 P Pn 16 14 44.1 +0.5
MAIM Mastiano 2.44 305 P Pn 16 14 44.6 +1.1
MAIM AML AML
comp=N,1940µm,0.7s
MAIM AML AML
comp=E,1950µm,0.5s
MRLC Muro Lucano 2.45 136 P Pn 16 14 44.6 +0.9
MRLC AML AML
comp=N,514µm,1.4s
MRLC AML AML
comp=N,505µm,1.4s
MRLC AML AML
comp=E,449µm,1.4s
MRLC AML AML
comp=E,483µm,1.4s
BDI Bagni Di Lucca 2.46 309 P Pn 16 14 44.1 +0.2
BDI Bagni Di Lucca 2.46 309 P Pn 16 14 44.4 +0.5
BDI AML AML
comp=E,2175µm,0.5s
BDI AML AML
comp=N,2640µm,0.9s
BDI AML AML
comp=N,934µm,0.9s
BDI AML AML
comp=E,968µm,0.7s
CARD Cardoso 2.51 307 P Pn 16 14 45.1 +0.6
CDRU Civita di Ruta 2.56 142 P Pn 16 14 46.0 +0.6
VLC Villacollemand 2.64 309 Pn 16 14 46.7 +0.3
VLC Villacollemand 2.64 309 P Pn 16 14 46.9 +0.5
VLC AML AML
comp=E,1050µm,0.6s
VLC AML AML
comp=N,1580µm,1.0s
VLC AML AML
comp=E,1075µm,0.6s
VLC AML AML
comp=N,1635µm,1.0s
SARO Sassorosso 2.65 309 P Pn 16 14 46.9 +0.4
SARO AML AML
comp=E,3125µm,0.5s
SARO AML AML
comp=N,5020µm,0.5s
MRVN Minervino Murg 2.65 123 P Pn 16 14 46.7 +0.3
MRVN AML AML
comp=E,304µm,1.4s
MRVN AML AML
comp=N,372µm,0.7s
GSCL Gusciola 2.65 314 P Pn 16 14 47.3 +0.8
GSCL AML AML
comp=E,2865µm,0.9s
GSCL AML AML
comp=N,2425µm,1.4s
ACER Acerenza 2.67 130 P Pn 16 14 49.0 +2.3
SLCN Sala Consilina 2.80 140 P Pb 16 14 51.5 -2.2
SERM Sermide 2.84 331 P Pb 16 14 51.3 -3.2
MORSI Morsiglia 2.90 279 P Pn 16 14 50.3 +0.5
MORSI S Sn 16 15 25.7 +1.1
PLMA Palmaria, Port 2.91 302 AML AML
comp=N,894µm,0.3s
PLMA AML AML
comp=E,871µm,1.4s
MCEL Monticello 2.93 138 P Pn 16 14 53.0 +2.7
MTSN Montesano sull 2.95 140 P Pn 16 14 52.7 +2.0
SMPL Sampolo 2.98 263 P Pn 16 14 50.5 -0.5
SMPL AML AML
comp=E,214µm,1.1s
SMPL AML AML
comp=N,168µm,0.7s
SMPL Sampolo 2.98 263 P Pn 16 14 50.5 -0.5
TEOL Teolo 3.04 338 Pn 16 14 51.6 -0.2
TEOL Teolo 3.04 338 P Pn 16 14 52.3 +0.5
CORF Corte 3.05 267 P Pn 16 14 51.9 0.0
CORF S Sn 16 15 29.6 +1.2
SKDS Skadanscina 3.05 10 *i* Pn Pn 16 14 51.2 -0.7
SKDS *e*Sn Sn 16 15 27.1 -1.4
SKDS IAML 16 15 30.3
comp=Z,716nm,0.5s
A050A Klekovaca 3.07 50 *e*Pn Pn 16 14 53.2 +0.9
PRMA PARMA 3.08 317 Pn Pn 16 14 52.8 +0.5
PGF Pioggiola 3.15 272 *e*P Pn 16 14 53.6 +0.3
PGF *e*Sn Sn 16 15 26.9 -4.0
comp=Z,213nm,0.7s
PGF Pioggiola 3.15 272 AML AML
comp=N,327µm,1.2s
PGF AML AML
comp=E,265µm,0.8s
PGF Pioggiola 3.15 272 P Pn 16 14 53.6 +0.3
CUC Castrocucco 3.20 142 Pn Pn 16 14 55.4 +1.5
MATE Matera 3.21 125 ⇓P Pn 16 14 52.5 -1.5
MSSA Maissana 3.25 304 Pn Pn 16 14 55.3 +0.6
MSSA Maissana 3.25 304 P Pn 16 14 55.7 +1.0
MSSA AML AML
comp=E,816µm,1.6s
MSSA AML AML
comp=N,1040µm,0.7s
STON Ston 3.29 83 *e*Pn Pn 16 14 52.7 -2.5
CEY Cerknica 3.30 14 *e*Pn Pn 16 14 53.0 -2.4
MGRS Mrkonjic Grad 3.36 55 *e*Pn Pn 16 14 57.3 +1.1
AJAC Base Areonaval 3.39 261 P Pn 16 14 57.3 +0.7
AJAC AML AML
comp=E,480µm,1.0s
AJAC AML AML
comp=N,556µm,1.5s
AJAC Base Areonaval 3.39 261 P Pn 16 14 57.3 +0.7
AJAC S Sn 16 15 38.1 +1.3
SABO M.te Sabotino 3.44 4 Pn Pn 16 14 56.6 -0.8
SABO M.te Sabotino 3.44 4 P Pn 16 14 56.8 -0.6
SABO AML AML
comp=N,9570µm,1.0s
SABO AML AML
comp=E,12000µm,0.5s
SABO AML AML
comp=E,2805µm,0.5s
SABO AML AML
comp=N,2615µm,0.8s
ROVR Rover Verones 3.48 334 P Pn 16 14 58.1 +0.2
ROVR AML AML
comp=E,574µm,1.0s
ROVR AML AML
comp=E,1420µm,0.8s
ROVR AML AML
comp=N,2560µm,1.0s
ROVR AML AML
comp=N,1045µm,1.2s
PRIJ Prijedor 3.49 45 *e*Pn Pb 16 15 01.5 -4.0
CGRP Cima Grappa 3.50 343 P Pn 16 14 58.8 +0.5
CGRP AML AML
comp=E,3275µm,0.5s
CGRP AML AML
comp=N,3795µm,0.7s

CGRP						AML	AML			BUM	**Brajici-Budva**	4.18	91	⇓*i*	Pn	**Pn**	**16 15 07.8 +0.3**	LPL	**La Plagne**	5.56	305	*e*P	**Pn**	**16 15 28.1 +1.5**
	comp=E,3275µm,0.5s									BUM				*i*	Sn	**Sn**	**16 15 57.0 +0.6**	LPL				*e*Sn	**Sn**	**16 16 24.4 -6.3**
CGRP						AML	AML			**CEME**	**Cevo**	4.18	88	⇓*i*	Pn	**Pn**	**16 15 07.8 +0.2**		comp=E,79nm,0.5s					
	comp=N,3865µm,0.7s									CEME				*i*	Sn	**Sn**	**16 15 57.1 +0.6**	**RONA**	**Rosalia, Austr**	5.59	22		**Pn**	**16 15 26.6 -0.2**
VARN	**Col Varnada, M**	3.55	347	P		**Pn**	**16 14 58.8 0.0**	**APPI**	**Appiano**	4.19	340	⇑P	**Pn**	**16 15 08.6 +0.9**	**RONA**	**Rosalia, Austr**	5.59	22	*e*Pn	**Pn**	**16 15 26.6 -0.2**
VARN						AML	AML	APPI							AML	AML			comp=E,3.9nm,0.2s,SNR=5.8					
	comp=E,5565µm,0.5s								comp=N,2170µm,0.3s									**UBR**	**Ueberruh**	5.60	338	*e*Pn	**Pn**	**16 15 29.1 +2.1**
VARN						AML	AML	APPI							AML	AML		UBR				*e*Sn	**Sn**	**16 16 31.0 -0.3**
	comp=N,3090µm,1.3s								comp=E,1745µm,0.6s									**SOP**	**Sopron**	5.65	23	P		**16 15 27.2 -0.4**
VARN						AML	AML	**UPM**	**Unac-Piva**	4.21	79	*e*Pn	**Pn**	**16 15 08.1 +0.1**	SOP					S	**Sn**	**16 16 31.7 -0.7**
	comp=E,5535µm,0.5s							UPM				*i*	Sn	**Sn**	**16 15 57.5 +0.3**	**CONA**	**Conrad Observa**	5.69	18	*e*Pn	**Pn**	**16 15 27.9 -0.3**
VARN						AML	AML	**NKME**	**Niksic**	4.21	85	*e*Pn	**Pn**	**16 15 08.1 +0.2**		comp=E,15nm,0.4s,SNR=23								
	comp=N,3105µm,1.3s							NKME				*i*	Sn	**Sn**	**16 15 57.6 +0.5**	**KEK**	**Kerkira**	5.69	118	Pn	**Pn**	**16 15 29.1 +0.9**
BLY	**Banja Luka**	3.60	51	*e*Pn		**Pn**	**16 14 59.9 +0.4**	**VSL**	**Villasalto**	4.23	225	P	**Pn**	**16 15 08.3 +0.2**	**RSL**	**Roselend**	5.71	306	P	**Pn**	**16 15 31.1 +2.4**
A051A	**Mrakovica**	3.62	46	*e*Pn		**Pn**	**16 15 00.2 +0.4**	VSL					AML	AML		**BSTF**	**la Bastide-des**	5.72	286	P	**Pn**	**16 15 29.7 +1.1**
LJU	**Ljubljana**	3.62	14	AML		AML			comp=E,146µm,1.3s							**SENIN**	**Lac Senin/Sane**	5.72	314	Pn	**Pn**	**16 15 28.9 +0.1**
	comp=E,7680µm,0.8s							VSL					AML	AML		**SMRF**	**Simiane la Rot**	5.79	287	*e*P	**Pn**	**16 15 30.9 +1.3**
LJU						AML	AML		comp=N,166µm,1.4s							SMRF						*e*Sn	**Sn**	**16 16 29.7 -6.3**
	comp=N,15700µm,0.7s							**ABTA**	**Abfaltersbach**	4.24	353	*i* Pn	**Pn**	**16 15 08.8 +0.5**		comp=E,390nm,1.8s								
SALO	**Salr**	3.65	328	Pn		**Pn**	**16 14 59.8 -0.4**		comp=N,58nm,0.5s,SNR=90							**FUR**	**Furstenfeldbru**	5.79	347	*e*Pn	**Pn**	**16 15 33.4 +3.8**
SALO	**Salr**	3.65	328	P		**Pn**	**16 15 00.9 +0.7**	**TIP**	**Timpagrande**	4.28	141	Pn	**Pn**	**16 15 10.0 +1.1**	FUR					*e*Sn	**Sn**	**16 16 36.5 +0.4**
SALO						AML	AML	**BRES**	**Bressanone**	4.29	346	AML	AML		**GDM**	**Grand'Maison**	5.80	300	P	Pn	16 15 23.9 -6.0
	comp=N,2225µm,1.2s								comp=E,2385µm,1.5s							**RUSF**	**Rustrel**	5.85	286	P	**Pn**	**16 15 32.4 +2.0**
SALO						AML	AML	BRES					AML	AML		**ORIF**	**Oris-en-Rattie**	5.85	296	*e*P	**Pn**	**16 15 32.9 +2.5**
	comp=E,1980µm,0.7s								comp=N,1525µm,1.4s							ORIF						*e*Sn	**Sn**	**16 16 33.7 -3.8**
SALO						AML	AML	**SOKA**	**Soboth**	4.32	16	*e*Pn	**Pn**	**16 15 09.5 0.0**		comp=E,166nm,0.9s								
	comp=N,2185µm,1.2s								comp=N,12nm,0.4s,SNR=5.9							**ORIF**	**Oris-en-Rattie**	5.85	296	P	Pn	16 15 34.1 +3.6
SALO						AML	AML	**SAOF**	**Saorge**	4.41	291	P	**Pn**	**16 15 11.7 +1.1**	**KBN**	**Korca**	5.96	106		**Pn**	**16 15 32.5 +0.4**
	comp=E,2190µm,0.7s							SAOF					AML	AML		**KBN**	**Korca**	5.96	106	P	**Pn**	**16 15 32.5 +0.4**
DOSS	**Dosso del Somm**	3.65	337	P		**Pn**	**16 15 00.8 +0.4**		comp=E,274µm,1.4s							**WALHA**	**Wallhausen, DE**	5.97	332	*e*Pn	**Pn**	**16 15 35.3 +3.2**
DOSS						AML	AML	SAOF					AML	AML		WALHA					*e*Sn	**Sn**	**16 16 40.7 +0.2**
	comp=E,1325µm,0.5s								comp=N,330µm,0.8s							**GRN**	**Grenoble**	6.06	299	P	Pn	16 15 37.8 +4.5
DOSS						AML	AML	**SAOF**	**Saorge**	4.41	291	P	**Pn**	**16 15 11.4 +0.8**	**SKO**	**Skopje**	6.10	93	*i* Pn	**Pn**	**16 15 35.1 +1.2**
	comp=N,1340µm,0.5s							**DRME**	**Dracevica, Mon**	4.41	93	*e*Pn	**Pn**	**16 15 10.5 -0.1**	**SAUF**	**chteau de Sau**	6.11	286	P	**Pn**	**16 15 35.6 +1.6**
DOSS						AML	AML	**DRME**	**Dracevica, Mon**	4.41	93	⇑*i* Pn	**Pn**	**16 15 10.9 +0.3**	**SULZ**	**Cheisacher**	6.17	326	*e*Pn	**Pn**	**16 15 37.4 +2.6**
	comp=N,1945µm,0.5s							DRME				*i*	Sn	**Sn**	**16 16 02.5 +0.6**	SULZ					*e*Sn	**Sn**	**16 16 44.4 -1.1**
DOSS						AML	AML	**HAPS**	**Han Pijesak,Bl**	4.43	68	*e*Pn	**Pn**	**16 15 11.8 +0.8**	**SULZ**	**Cheisacher**	6.17	326	P	**Pn**	**16 15 36.3 +1.5**
	comp=E,1965µm,0.5s							**BRMO**	**Bormio**	4.44	333	P	**Pn**	**16 15 12.8 +1.6**	**BALST**	**Balsthal**	6.21	322	*e*Pn	**Pn**	**16 16 36.4 +1.1**
LEOD	**Capriano del C**	3.69	323	AML		AML		**PDG**	**Podgorica**	4.44	89	⇑P	**Pn**	**16 15 11.8 +0.8**	BALST					*e*Sn	**Sn**	**16 16 44.4 -1.9**
	comp=N,2245µm,1.0s							**PDG**	**Podgorica**	4.44	89	Pn	**Pn**	**16 15 10.8 -0.2**	**BALST**	**Balsthal**	6.21	322	P	**Pn**	**16 15 35.4 +0.1**
LEOD						AML	AML	**PDG**	**Podgorica**	4.44	89	P	**Pn**	**16 15 11.7 +0.7**	**SLE**	**Schleitheim**	6.21	329	*e*Pn	**Pn**	**16 15 37.0 +1.6**
	comp=E,2420µm,0.9s							PDG					AML	AML		SLE					*e*Sn	**Sn**	**16 16 45.2 -1.2**
CTI	**Castel Tesino**	3.69	342			**Pn**	**16 15 00.8 0.0**		comp=N,436µm,0.8s							**SLE**	**Schleitheim**	6.21	329	P	**Pn**	**16 15 35.1 -0.3**
CTI	**Castel Tesino**	3.69	342	P		**Pn**	**16 15 01.5 +0.7**	PDG					AML	AML		**GUT**	**Gutenstein**	6.25	334	P	**Pn**	**16 15 37.4 +1.5**
CTI						AML	AML		comp=N,302µm,0.4s							**METMA**	**Mettma DE**	6.26	327	*e*Pn	**Pn**	**16 15 37.7 +1.7**
	comp=E,2370µm,1.4s							**TTG**	**Podgorica**	4.44	89	*e*Pn	**Pn**	**16 15 11.3 +0.3**	METMA					*e*Sn	**Sn**	**16 16 45.5 -2.1**
CTI						AML	AML	TTG				*i*	Sn	**Sn**	**16 16 03.2 +0.5**	**ZST**	**Bratislava**	6.27	24	*e*PN	**Pn**	**16 15 35.0 -1.1**
	comp=N,3045µm,0.3s							**SBF**	**Sospel**	4.45	289	*e*P	**Pn**	**16 15 11.8 +0.5**	ZST					*e*PG	**Pg**	**16 16 01.4 -2.3**
CTI	**Castel Tesino**	3.69	342	P		**Pn**	**16 15 00.8 0.0**	SBF					*e*Sn	**Sn**	**16 15 58.0 -5.2**	ZST					*e*SN	**Sn**	**16 16 44.9 -2.8**
MPRI	**Monte Prat**	3.70	357	⇑P		**Pn**	**16 15 00.9 -0.1**		comp=E,174nm,0.5s							ZST					*e*SG	**Sg**	**16 17 24.9 +0.1**
MPRI						AML	AML	**RISI**	**Rein**	4.48	350	⇑P	**Pn**	**16 15 12.7 +0.9**	ZST					*e*LG	Lg	16 17 50.3
	comp=N,2690µm,0.6s							RISI					AML	AML		**ZST**	**Bratislava**	6.27	24	*e*P	**Pn**	**16 15 35.0 -1.1**
MPRI						AML	AML		comp=E,4080µm,0.5s							ZST				*e*		16 16 44.9
	comp=N,3505µm,0.5s							RISI					AML	AML		ZST				MLR	MLR		
MPRI						AML	AML		comp=N,3160µm,0.5s								comp=Z,300nm,1.8s							
	comp=E,2460µm,0.3s							**ULC**	**Ulcinj**	4.48	95	⇑*i* Pn	**Pn**	**16 15 12.0 +0.4**	**GEC2**	**GERESS Array S**	6.31	3	Pn	**Pn**	**16 15 35.7 -1.1**
MPRI						AML	AML	ULC				*i*	Sn	**Sn**	**16 16 04.3 +0.5**	**GEC2**	**GERESS Array S**	6.31	3	*e*Pn	**Pn**	**16 15 36.1 -0.6**
	comp=E,1900µm,0.3s							**ESCA**	**l'Escarene**	4.49	289	P	**Pn**	**16 15 12.4 +0.7**	GEC2					*e*Sn	**Sn**	**16 16 46.3 -2.6**
STAL	**STALIGIAL**	3.74	354			**Pn**	**16 15 01.1 -0.3**	**MOSI**	**Grossmontoni**	4.51	336	P	**Pn**	**16 15 13.6 +1.5**	**GERES**	**GERESS Array B**	6.31	3	Pn	**Pn**	**16 15 35.9 -0.9**
STAL	**STALIGIAL**	3.74	354	⇑P		**Pn**	**16 15 01.1 -0.3**	**TURF**	**col de Turini**	4.51	290	P	**Pn**	**16 15 12.9 +0.7**		comp=Z,2.3nm,0.3s,baz=175,slow=13,SNR=27								
STAL						AML	AML	**KBA**	**Koelnbreinsper**	4.54	1	*e*Pn	**Pn**	**16 15 12.7 +0.2**	GERES					Sn	**Sn**	**16 16 46.1 -2.8**
	comp=N,2545µm,0.7s								comp=N,28nm,0.3s,SNR=29								comp=Z,24nm,0.3s,baz=172,slow=23,SNR=14							
STAL						AML	AML	**KBA**	**Koelnbreinsper**	4.54	1	*e*Pn	**Pn**	**16 15 12.9 +0.4**		comp=Z,4.5nm,0.3s								
	comp=E,2855µm,0.3s							KBA					*e*Sn	**Sn**	**16 16 04.4 -0.9**	**GERES**	**GERESS Array B**	6.31	3		**Pn**	**16 15 35.5 -1.2**
STAL						AML	AML	**MUGIO**	**Muggio**	4.54	320	P	**Pn**	**16 15 13.1 +0.7**	**CKRC**	**Cesky Krumlov**	6.32	6	*e*PN	**Pn**	**16 15 35.9 -1.0**
	comp=E,2590µm,0.6s							**PLE**	**Pljevlja**	4.57	78	*e*Pn	**Pn**	**16 15 13.1 +0.2**	CKRC					*e*SN	**Sn**	**16 16 45.4 -3.7**
STAL						AML	AML	PLE				*i*	Sn	**Sn**	**16 16 06.4 +0.3**	**FNA**	**Florina**	6.33	103	Pn	**Pn**	**16 15 37.1 0.0**
	comp=N,2675µm,1.4s							**ROSI**	**Rosskopf**	4.58	344	⇑P	**Pn**	**16 15 14.1 +1.0**	**FNA**	**Florina**	6.33	103	P	**Pn**	**16 15 37.1 0.0**
TREB	**Trebinje**	3.76	86	*e*Pn		**Pn**	**16 15 01.9 +0.2**	ROSI					AML	AML		**BERGE**	**Lenzkirch (DE)**	6.42	328	*e*Pn	**Pn**	**16 15 38.9 +0.6**
LUSI	**Trento, Gardas**	3.80	335	P		**Pn**	**16 15 02.6 +0.3**		comp=N,2670µm,0.8s							BERGE					*e*Sn	**Sn**	**16 16 49.1 -2.5**
LUSI						AML	AML	ROSI					AML	AML		**MODS**	**Modra-Piesok**	6.48	24	*e*PN	**Pn**	**16 15 38.2 -0.8**
	comp=N,2675µm,0.9s								comp=E,2830µm,0.8s							MODS					*e*PG	**Pg**	**16 16 10.2 +2.5**
LUSI						AML	AML	**FUORN**	**Ofenpass-Fuorn**	4.60	333	Pn	**Pn**	**16 15 13.5 0.0**	MODS					*e*SN	**Sn**	**16 16 52.7 -0.3**
	comp=E,1710µm,0.4s							**RUDO**	**Rudo**	4.61	74	*e*Pn	**Pn**	**16 15 13.8 +0.5**	**MODS**	**Modra-Piesok**	6.48	24	*e*P	**Pn**	**16 15 38.2 -0.8**
CIMO	**Cimolais**	3.81	351	Pn		**Pn**	**16 15 02.1 -0.3**	**KOME**	**Kolasin**	4.62	84	⇑*i* Pn	**Pn**	**16 15 13.9 +0.3**	MODS					*e*		16 16 52.7
CIMO	**Cimolais**	3.81	351	⇑P		**Pn**	**16 15 02.0 -0.4**	KOME				*i*	Sn	**Sn**	**16 16 07.6 +0.2**	**FELD**	**Feldberg im Sc**	6.49	327	P	**Pn**	**16 15 38.8 -0.5**
CIMO						AML	AML	**SPIF**	**crte de Spivo**	4.65	291	P	**Pn**	**16 15 15.2 +1.3**	**BRANT**	**Les Verrieres**	6.53	315	P	**Pn**	**16 15 41.9 +2.1**
	comp=E,556µm,0.4s							**MVIF**	**Mont Vial**	4.66	289	P	**Pn**	**16 15 15.2 +1.0**	**CABF**	**La Chapelle**	6.54	311	*e*P	**Pn**	**16 15 40.9 +1.0**
CIMO						AML	AML	**BEHE**	**Becsehely**	4.66	31	P	**Pn**	**16 15 15.4 +1.4**	CABF					*e*Sn	**Sn**	**16 16 46.5 -8.0**
	comp=E,557µm,0.4s							**BBLS**	**Lazići**	4.69	72	*e*Pn	**Pn**	**16 15 14.9 +0.4**		comp=Z,19nm,0.4s								
CIMO						AML	AML	**CALF**	**Calern**	4.79	287	P	**Pn**	**16 15 16.3 +0.4**	**KHC**	**Kasperske Hory**	6.59	2	Pn	**Pn**	**16 15 39.6 -1.0**
	comp=N,776µm,0.9s							**TUE**	**Stuetta**	4.82	326	Pn	**Pn**	**16 15 16.4 0.0**	**KHC**	**Kasperske Hory**	6.59	2	*e*PN	**Pn**	**16 15 39.8 -0.8**
CIMO						AML	AML	**FETA**	**Feichten**	4.83	339	*e*Pn	**Pn**	**16 15 17.8 +1.4**	KHC					*e*SN	**Sn**	**16 16 53.1 -2.7**
	comp=N,790µm,1.0s								comp=E,62nm,0.6s,SNR=65							KHC				AMS	AMS	16 18 20.0	
PTCC	**Patocco-Chiusa**	3.86	1	⇑P		**Pn**	**16 15 02.4 -0.7**	**WTTA**	**Wattenberg**	4.86	347	*e*Pn	**Pn**	**16 15 18.1 +1.2**		comp=E,14nm,0.2s,SNR=19								
PTCC						AML	AML		comp=E,14nm,0.2s,SNR=19							**KHC**	**Kasperske Hory**	6.59	2	⇓*e*P	**Pn**	**16 15 39.9 -0.7**
	comp=E,892µm,0.3s							**WTTA**	**Wattenberg**	4.86	347	*e*Pn	**Pn**	**16 15 18.3 +1.4**	**KIZ**	**Kirchzarten**	6.59	327	P	**Pn**	**16 15 40.4 -0.2**
PTCC						AML	AML	WTTA					*e*Sn	**Sn**	**16 16 15.5 +2.3**	**WET**	**Wettzell**	6.61	358	*e*Pn	**Pn**	**16 15 41.2 +0.4**
	comp=N,932µm,0.3s							**WTTA**	**Wattenberg**	4.86	347	P	**Pn**	**16 15 18.6 +1.7**	WET					*e*Sn	**Sn**	**16 16 52.3 -3.8**
HCY	**Herceg Novi**	3.88	90	*e*Pn		**Pn**	**16 15 03.1 -0.2**	**DAVOX**	**Davos/Dischmat**	4.87	332	Pn	**Pn**	**16 15 18.5 +1.3**	**VIVF**	**Saint-Julien-l**	6.64	293	*e*P	**Pn**	**16 15 42.8 +1.6**
HCY	**Herceg Novi**	3.88	90	⇑*i* Pn		**Pn**	**16 15 03.5 +0.2**		comp=E,17nm,0.3s,baz=151,slow=16,SNR=59							VIVF					*e*Sn	**Sn**	**16 16 50.1 -6.8**
HCY				*i*	Sn	**Sn**	**16 15 49.6 +0.8**	DAVOX					Sn	**Sn**	**16 16 11.0 -2.7**		comp=Z,39nm,0.9s							
GAGG	**Gaggia**	3.90	336	P		**Pn**	**16 15 04.1 +0.3**		comp=E,8.1nm,0.3s,baz=288,slow=20,SNR=2.6							**SMOL**	**Smolenice**	6.65	25	*e*P	**Pn**	**16 15 42.0 +0.6**
GAGG						AML	AML	DAVOX					LR	LR	16 17 39.1	SMOL				*e*		16 16 59.9	
	comp=E,2355µm,1.0s								comp=E,387nm,21.7s,baz=114,slow=46							**STIP**	**Stip**	6.70	94	*i* Pn	**Pn**	**16 15 44.6 +2.6**
GAGG						AML	AML	**DAVOX**	**Davos/Dischmat**	4.87	332	P	**Pn**	**16 15 18.6 +1.5**	**BFO**	**Black Forest**	6.74	331	Pn	**Pn**	**16 15 41.9 -0.8**
	comp=N,1220µm,1.6s							**SQTA**	**Sankt Quirin**	4.90	343	P	**Pn**	**16 15 19.3 +1.9**	**BFO**	**Black Forest**	6.74	331	*e*Pn	**Pn**	**16 15 44.1 +1.4**
GAGG						AML	AML	**SQTA**	**Sankt Quirin**	4.90	343	*e*Pn	**Pn**	**16 15 19.3 +1.9**	BFO					*e*Sn	**Sn**	**16 16 55.7 -3.8**
	comp=N,2210µm,1.0s								comp=E,18nm,0.2s,SNR=37							**BFO**	**Black Forest**	6.74	331	P	**Pn**	**16 15 42.1 -0.6**
GAGG						AML	AML	**SQTA**	**Sankt Quirin**	4.90	343	P	**Pn**	**16 15 19.3 +1.9**	**BFO**	**Black Forest**	6.74	331	P	**Pn**	**16 15 41.9 -0.8**
	comp=E,1260µm,1.0s							**IVA**	**Berane**	4.90	84	⇓*i* Pn	**Pn**	**16 15 17.7 +0.2**	**BZS**	**Buzias**	6.76	60	⇓P	**Pn**	**16 15 44.4 +1.5**
PRED	**Cave del Predi**	3.91	3			**Pn**	**16 15 03.1 -0.6**	IVA				*i*	Sn	**Sn**	**16 16 14.4 +0.2**	**VOGT**	**Vogtsburg - To**	6.79	327	P	**Pn**	**16 15 43.2 -0.2**
BRY	**Bratogost**	3.91	83	*e*Pn		**Pn**	**16 15 04.3 +0.4**	**WATA**	**Walderalm**	4.94	347		**Pn**	**16 15 19.8 +1.8**	**SSB**	**Saint Sauveur**	6.86	296		**Pn**	**16 15 43.6 -0.7**
BRY	**Bratogost**	3.91	83	⇓*i* Pn		**Pn**	**16 15 04.0 +0.1**	**WATA**	**Walderalm**	4.94	347	*e*Pn	**Pn**	**16 15 19.8 +1.8**	**SSB**	**Saint Sauveur**	6.86	296	P	**Pn**	**16 15 43.6 -0.7**
BRY				*i*	Sn	**Sn**	**16 15 50.4 +0.6**		comp=E,40nm,0.3s,SNR=22							**KRUC**	**Moravsky**	6.88	18	*e*PN	**Pn**	**16 15 43.2 -1.3**
CLUD	**Cludinico**	3.92	356	Pn		**Pn**	**16 15 03.5 -0.4**	**WATA**	**Walderalm**	4.94	347	P	**Pn**	**16 15 19.8 +1.8**	KRUC					*e*SN	**Sn**	**16 17 02.2 -0.5**
CLUD	**Cludinico**	3.92	356	⇑P		**Pn**	**16 15 03.5 -0.4**	**PVY**	**Plav**	4.95	87	⇑*i* Pn	**Pn**	**16 15 18.4 +0.2**	**TREC**	**Trest**	6.93	12	AMS	AMS	16 18 30.0	
CLUD						AML	AML	PVY				*i*	Sn	**Sn**	**16 16 15.7 +0.2**		comp=Z,1µm,18.3s							
	comp=N,1018µm,0.7s							**KOVH**	**Kovagotottos**	4.96	43	P	**Pn**	**16 15 17.3 -0.9**	**HINF**	**Hinteralfeld**	6.95	322	*e*P	**Pn**	**16 15 46.6 +1.1**
CLUD						AML	AML	**ARSA**	**Arzberg**	4.97	18	*e*Pn	**Pn**	**16 15 17.9 -0.5**	HINF					*e*Sn	**Sn**	**16 17 00.2 -4.3**
	comp=E,1195µm,0.8s								comp=E,11nm,0.4s,SNR=11								comp=Z,63nm,0.4s							
CLUD						AML	AML	**ARSA**	**Arzberg**	4.97	18	*e*Pn	**Pn**	**16 15 18.0 -0.3**	**LASF**	**Ste Croix**	7.03	286	*e*P	**Pn**	**16 15 47.3 +0.8**
	comp=N,1044µm,0.7s							ARSA					*e*Sn	**Sn**	**16 16 14.4 -1.5**	LASF					*e*Sn	**Sn**	**16 16 59.6 -6.8**
CLUD						AML	AML	**ARSA**	**Arzberg**	4.97	18	P	**Pn**	**16 15 17.9 -0.5**		comp=Z,4.7nm,0.4s								
	comp=E,1205µm,0.8s							**TEKS**	**Tekeris**	4.98	64	*e*Pn	**Pn**	**16 15 17.5 -1.0**	**HERR**	**Herculane**	7.04	68	⇑P	**Pn**	**16 15 48.2 +1.5**
ZONE	**Zone**	3.93	326	P		**Pn**	**16 15 04.4 +0.4**	**LMR**	**La Mourre**	5.01	281	*e*P	**Pn**	**16 15 18.9 0.0**	**DJES**	**Djerdap**	7.05	69	⇑P	**Pn**	**16 15 49.0 +2.2**
ZONE						AML	AML	LMR					*e*Sn	**Sn**	**16 16 11.3 -5.6**	**DJES**	**Djerdap**	7.05	69		**Pn**	**16 15 46.5 -0.3**
	comp=E,1380µm,0.6s								comp=E,80nm,0.9s							**ECH**	**Echery**	7.11	325	Pn	**Pn**	**16 15 47.0 -0.7**
ZONE						AML	AML	**MOTA**	**Moosalm**	5.04	343		**Pn**	**16 15 21.6 +2.2**	**ECH**	**Echery**	7.11	325	P	**Pn**	**16 15 47.3 -0.4**
	comp=N,1730µm,0.6s							**MOTA**	**Moosalm**	5.04	343	*e*Pn	**Pn**	**16 15 21.6 +2.2**	**ECH**	**Echery**	7.11	325	P	**Pn**	**16 15 47.0 -0.7**
EUCT	**Pavia**	3.99	313	AML		AML			comp=E,23nm,0.4s,SNR=31							**VYHS**	**Vyhne**	7.12	31	*e*PN	**Pn**	**16 15 47.9 0.0**
	comp=N,2185µm,1.4s							**MOTA**	**Moosalm**	5.04	343	P	**Pn**	**16 15 21.6 +2.2**	**VYHS**	**Vyhne**	7.12	31	*e*PN	**Pn**	**16 15 48.6 +0.7**
EUCT						AML	AML	**SURF**	**Saint Ours**	5.07	295	P	**Pn**	**16 15 21.4 +1.5**	VYHS					*e*PG	**Pg**	**16 16 17.7 -2.3**
	comp=E,2090µm,1.5s							**TIR**	**Tirane**	5.07	101	Pn	**Pn**	**16 15 19.4 -0.3**	VYHS					*e*SN	**Sn**	**16 17 04.9 -3.9**
QLNO	**Quiliano**	3.99	298	P		**Pn**	**16 15 05.9 +1.0**	**TIR**	**Tirane**	5.07	101	P	**Pn**	**16 15 19.4 -0.3**	**VYHS**	**Vyhne**	7.12	31	*e*SN	**Sn**	**16 17 08.1 -0.7**
QLNO						AML	AML	**JAUF**	**Jausiers**	5.09	294	P	**Pn**	**16 15 22.3 +2.2**	VYHS					*e*LG	Lg	16 18 02.8	
	comp=E,236µm,1.2s							**FUSIO**	**Fusio**	5.11	322	P	**Pn**	**16 15 21.2 +0.9**	**VYHS**	**Vyhne**	7.12	31	*e*P	**Pn**	**16 15 47.9 0.0**
QLNO						AML	AML	**VLO**	**Vlora**	5.12	112	Pn	**Pn**	**16 15 20.8 +0.4**	VYHS					*e*		16 17 08.4
	comp=N,446µm,1.4s							**VLO**	**Vlora**	5.12	112	P	**Pn**	**16 15 20.8 +0.4**	**PSZ**	**Piszkesteto**	7.13	39	P	**Pn**	**16 15 50.4 +2.3**
ACOM	**Acomizza, Ital**	4.01	3	P		**Pn**	**16 15 04.9 -0.3**	**VAE**	**Valguarnera**	5.14	170	LR	LR	16 17 23.9	PSZ					S	**Sn**	**16 17 10.4 +1.4**
ACOM						AML	AML		comp=E,592nm,19.1s,baz=276,slow=38							**SURR**	**Surduc**	7.14	60	⇑P	**Pn**	**16 15 49.6 +1.5**
	comp=E,1940µm,0.4s							**TRIGF**	**Trigance**	5.15	286	P	**Pn**	**16 15 22.1 +1.2**	**VRAC**	**Vranov**	7.15	18	Pn	**Pn**	**16 15 47.2 -1.1**
ACOM						AML	AML	**DIVS**	**Divibare**	5.15	70	Pn	**Pn**	**16 15 20.8 -0.1**		comp=Z,1.0nm,0.3s,baz=203,slow=11,SNR=5.0								
	comp=E,1950µm,0.4s							**DIVS**	**Divibare**	5.15	70	*e*Pn	**Pn**	**16 15 20.9 0.0**	VRAC					Sn	**Sn**	**16 17 07.3 -2.3**
ACOM						AML	AML	**BIOA**	**Bad Ischl, Aus**	5.16	3		**Pn**	**16 15 21.1 +0.2**		comp=Z,4.6nm,0.3s,baz=309,slow=16,SNR=4.7								
	comp=N,2245µm,0.7s							**BIOA**	**Bad Ischl, Aus**	5.16	3	*e*Pn	**Pn**	**16 15 21.1 +0.2**	VRAC					LR	LR	16 19 25.1	
ACOM						AML	AML		comp=E,12nm,0.3s,SNR=20								comp=Z,346nm,19.9s,baz=211,slow=46							
	comp=N,2135µm,0.8s							**MBDF**	**Montbardon**	5.19	297	*e*P	**Pn**	**16 15 22.9 +1.5**		comp=Z,3.2nm,0.4s								
ZOU	**Zoufplan**	4.02	357	⇑P		**Pn**	**16 15 05.2 -0.3**	MBDF					*e*Sn	**Sn**	**16 16 16.5 -4.8**	**VRAC**	**Vranov**	7.15	18	*e*PN	**Pn**	**16 15 45.9 -2.4**
ZOU						AML	AML		comp=E,141nm,0.7s							**WLS**	**Welschbruch**	7.19	327	P	**Pn**	**16 15 48.3 -0.5**
	comp=N,1260µm,1.3s							**FLAF**	**Flassans-sur-l**	5.21	282	P	**Pn**	**16 15 22.5 +1.0**	**CDF**	**Champ du Feu**	7.22	326	*e*P	**Pn**	**16 15 49.8 +0.6**
ZOU						AML	AML	**CREF**	**Crivoux**	5.22	295	P	**Pn**	**16 15 24.1 +2.2**	CDF					*e*Sn	**Sn**	**16 17 03.4 -7.8**
	comp=E,1630µm,1.0s							**ASEAF**	**Site Antares,**	5.24	275	P	**Pn**	**16 15 21.7 +0.1**		comp=Z,36nm,0.3s								
ZOU						AML	AML	**OGAG**	**Argentiere**	5.24	294	P	Pn	16 15 26.7 +4.5	**

KEST Kesra 7.45 205 Pn Pn 16 15 57.1 +4.7
comp=Z,2.0nm,0.3s,baz=316,slow=6.2,SNR=15
KEST LR LR 16 18 55.2
comp=Z,1μm,19.6s,baz=320,slow=38
comp=Z,20nm,0.9s
PRU Pruhonice 7.50 6 *e*PN **Pn 16 15 52.3 -0.7**
PRU *e*SN **Sn 16 17 14.7 -3.3**
PRU Pruhonice 7.50 6 *e*P **Pn 16 15 52.3 -0.7**
PRU *e* 16 17 14.7
CIEL Dossenheim-sur 7.52 329 P **Pn 16 15 53.0 -0.3**
MAUC Maruska 7.53 23 *e*PN **Pn 16 15 53.8 +0.3**
MAUC AMS AMS 16 19 30.0
comp=Z,3μm,10.1s
DEV Deva 7.69 61 ⇓P **Pn 16 15 57.5 +1.8**
NKC Novy Kostel 7.71 356 *e*PN **Pn 16 15 55.6 -0.4**
NKC *e*SN **Sn 16 17 19.1 -4.2**
NKC Novy Kostel 7.71 356 *e*P **Pn 16 15 55.6 -0.4**
NKC *e* 16 17 19.1
KECS Kecovo 7.81 38 *e*PN Pn 16 15 49.9 -7.4
KECS *e*SN Sn 16 17 06.9 -19
KECS Kecovo 7.81 38 *e*P Pn 16 15 49.9 -7.4
MORC Moravsky Berou 7.82 21 ⇑P **Pn 16 15 58.0 +0.5**
MORC Moravsky Berou 7.82 21 Pn **Pn 16 15 56.9 -0.6**
MORC Moravsky Berou 7.82 21 *e*PN **Pn 16 15 57.8 +0.3**
MORC *e*SN **Sn 16 17 26.3 +0.3**
MORC Moravsky Berou 7.82 21 P **Pn 16 15 56.9 -0.6**
SMF Signal de Mont 7.87 305 *e*P **Pn 16 16 00.3 +2.2**
SMF *e*Sn **Sn 16 17 20.3 -6.9**
comp=Z,19nm,0.4s
KRLC Kraliky 7.92 17 *e*PN **Pn 16 15 57.0 -1.8**
KRLC AMS AMS 16 19 10.0
comp=Z,1μm,11.8s
KRLC Kraliky 7.92 17 *e*P **Pn 16 15 57.0 -1.8**
KRLC MLR MLR
comp=Z,1μm,11.8s
PAGF Fort de Pagny 8.00 321 *e*P **Pn 16 16 02.4 +2.5**
baz=142
PAGF *e*Sn **Sn 16 17 22.7 -7.7**
comp=Z,30nm,0.5s,baz=154
ABAH Abaujker 8.04 42 P **Pn 16 16 02.1 +1.7**
PVCC Panska Ves 8.04 6 *e*SN **Sn 16 17 27.5 -3.8**
PVCC AMS AMS 16 19 10.0
comp=Z,700nm,12.6s
OKC Ostrava-Krasne 8.04 23 AMS AMS 16 20 00.0
comp=Z,1μm,8.9s
DPC Dobruska-Polom 8.09 14 *e*PN **Pn 16 15 59.6 -1.6**
DPC AMS AMS 16 19 10.0
comp=Z,1μm,12.8s
DPC Dobruska-Polom 8.09 14 *e*P **Pn 16 15 59.6 -1.6**
DPC MLR MLR
comp=Z,1μm,12.8s
SFTF Sexfontaines 8.09 317 *e*P **Pn 16 16 02.7 +1.6**
baz=134
SFTF *e*Sn **Sn 16 17 25.5 -7.1**
comp=Z,20nm,0.3s
LOT Lotru 8.12 65 ⇑P **Pn 16 16 04.0 +2.4**
MTLF Montolieu 8.14 279 *e*P **Pn 16 16 04.4 +2.6**
MTLF *e*Sn **Sn 16 17 26.6 -7.2**
comp=Z,2.5nm,0.4s
MARR Marisel-Cluj 8.16 56 ⇓P **Pn 16 16 03.8 +1.7**
LOR Lormes 8.17 309 *e*P **Pn 16 16 04.1 +1.9**
baz=125
LOR *e*Sn **Sn 16 17 27.3 -7.3**
comp=Z,21nm,0.3s
UPC Upice 8.19 12 AMS AMS 16 19 20.0
comp=Z,1μm,12.2s
AVF Avril sur Loir 8.23 304 *e*P **Pn 16 16 04.9 +1.8**
AVF *e*Sn **Sn 16 17 28.4 -7.7**
comp=Z,6.6nm,0.4s
OSTC Ostas 8.27 13 *e*PN **Pn 16 16 02.4 -1.2**
OSTC *e*SN **Sn 16 17 32.7 -4.3**
OSTC AMS AMS 16 19 20.0
comp=Z,1μm,14.3s
SSF Saint Saulge 8.27 306 *e*P **Pn 16 16 06.3 +2.7**
SSF *e*Sn **Sn 16 17 30.2 -6.8**
comp=Z,11nm,0.3s
MESR Meseseni 8.28 53 ⇓P **Pn 16 16 06.4 +2.7**
MEZF Maizieres J'vi 8.28 319 *e*P **Pn 16 16 05.9 +2.1**
baz=140
MEZF *e*Sn **Sn 16 17 30.4 -6.9**
comp=Z,25nm,0.4s
SAVF Savonnieres en 8.33 320 *e*P **Pn 16 16 06.2 +1.9**
baz=139
SAVF *e*Sn **Sn 16 17 31.4 -7.0**
comp=Z,14nm,0.3s
ABH Alteburg 8.34 334 P **Pn 16 16 07.1 +2.5**
BRG Berggiesshubel 8.35 3 *e*P **Pn 16 16 04.3 -0.4**
BRG Amp 16 16 11.4
comp=Z,5.4nm,0.4s
BRG *ex* x 16 17 31.3
BRG *ex* x 16 18 43.7
BRG Amp 16 19 00.6
comp=Z,47nm,1.2s
BRG Amp 16 19 46.0
comp=N,0.4nm,16.0s
BRG Amp 16 19 48.0
comp=E,0.5nm,13.2s
BRG Amp 16 19 49.0
comp=Z,0.8nm,13.3s
BRG Berggiesshubel 8.35 3 *e*P **Pn 16 16 04.2 -0.4**
BRG *e* 16 17 31.2
BRG pmax pmax
comp=Z,5.0nm,0.4s
BRG pmax pmax
comp=Z,47nm,1.2s
BRG MLR MLR
comp=N,431nm,16.0s
BRG MLR MLR
comp=E,470nm,13.2s
BRG MLR MLR
comp=Z,785nm,13.3s
PLVB Pleven 8.38 80 ⇑P **Pn 16 16 06.3 +1.2**
BGF Bois d'Agland 8.45 302 *e*P **Pn 16 16 07.8 +1.8**
BGF *e*Sn **Sn 16 17 33.9 -7.4**
comp=Z,21nm,0.3s
CAF Calviac 8.45 290 *e*P **Pn 16 16 08.2 +2.2**
CAF *e*Sn **Sn 16 17 33.1 -8.3**
comp=Z,1.8nm,0.3s
TRPA Tarpa 8.60 46 ⇑P **Pn 16 16 08.8 +0.8**
TRPA Tarpa 8.60 46 P **Pn 16 16 10.2 +2.2**
WLF Walferdange 8.66 328 *d*P **Pn 16 16 07.1 -1.8**
WLF *d*pP Pg 16 16 33.0 -16
WLF *d*S **Sn 16 17 45.2 -1.3**
ARR Arges 8.68 67 ⇓P **Pn 16 16 11.9 +2.6**
HUMR Humele 8.75 73 ⇑P **Pn 16 16 11.1 +1.0**
TCF Toulx Ste Croi 8.75 299 *e*P **Pn 16 16 12.8 +2.7**
TCF *e*Sn **Sn 16 17 40.4 -8.3**
comp=Z,5.7nm,0.3s
CLL Collm 8.77 359 Pn **Pn 16 16 09.9 -0.4**
CLL Collm 8.77 359 *e*Pn **Pn 16 16 10.0 -0.4**
CLL *e*Pn(2) 16 16 13.0
CLL *ex* x 16 17 33.0
CLL *e*Sn **Sn 16 17 43.0 -6.2**
CLL *i* Sn(2) 16 17 46.6
CLL *ex* x 16 18 00.0
CLL *ex* x 16 18 21.0
CLL *e*Sg **Sg 16 18 40.0 -4.9**
CLL *ex* x 16 18 52.0
comp=Z,79nm,1.3s
CLL *e*Lmax 16 19 26.0
CLL Collm 8.77 359 *e*P **Pn 16 16 10.0 -0.4**
UZH Uzhgorod 8.78 43 *e*P **Pn 16 16 14.8 +4.2**
UZH *e*S **Sn 16 17 55.8 +6.2**
UZH MLR MLR
comp=N,130nm,11.0s
UZH MLR MLR
comp=E,140nm,11.0s
UZH MLR MLR
comp=Z,130nm,11.0s
STHS Stebnicka Huta 8.84 36 *e*PN **Pn 16 16 12.2 +0.8**
STHS *e*PG **Pg 16 16 51.3 -1.5**
STHS *e*SN Sn 16 17 32.3 -19
STHS Stebnicka Huta 8.84 36 *e*P **Pn 16 16 12.2 +0.8**
HYF Humbligny 8.89 306 *e*P **Pn 16 16 15.4 +3.3**
HYF *e*Sn **Sn 16 17 45.1 -7.1**
comp=Z,52nm,0.4s
ZIMR 8.93 79 ⇑P **Pn 16 16 13.2 +0.6**
VOIR 8.98 67 ⇑P **Pn 16 16 15.6 +2.2**
BHOU Houvegnez 9.27 330 *dx* x 16 16 27.7
RDO Rodhopi 9.27 95 Pn **Pn 16 16 17.4 +0.1**
DOPR Dopca 9.36 64 ⇓P **Pn 16 16 20.7 +2.2**
LFF La Frestale 9.37 289 *e*P **Pn 16 16 21.1 +2.4**
LFF *e*Sn Sn 16 17 54.8 -9.2
comp=Z,5.6nm,0.3s

SGRR Singureni 9.41 75 ⇓P **Pn 16 16 21.3 +2.0**
RCHB Rochefort 9.42 327 *dx* x 16 16 22.1
RCHB *d*S **Sn 16 18 02.7 -2.5**
MEM Membach 9.48 331 *dx* x 16 16 21.9
MEM *d*S **Sn 16 18 03.9 -2.8**
EPF Esparros 9.51 277 *e*P **Pn 16 16 23.3 +2.6**
EPF *e*Sn **Sn 16 17 59.0 -8.6**
comp=Z,1.7nm,0.3s
GIVF Givet 9.54 325 *e*P **Pn 16 16 23.9 +2.9**
GIVF *e*Sn **Sn 16 18 00.6 -7.6**
comp=Z,6.3nm,0.3s
BCLA Clavier 9.59 328 *dx* x 16 16 24.1
BCLA *dx* x 16 16 37.0
BCLA *d*S **Sn 16 18 04.5 -5.0**
SECR 9.60 71 ⇓P **Pn 16 16 24.7 +2.9**
MLR Muntele Rosu 9.61 68 ⇓P **Pn 16 16 24.6 +2.5**
MLR Muntele Rosu 9.61 68 Pn **Pn 16 16 24.7 +2.7**
comp=Z,0.3nm,0.3s,baz=165,slow=3.3,SNR=14
MLR LR LR 16 21 03.1
comp=Z,840nm,20.1s,baz=250,slow=44
comp=Z,20nm,0.9s
MLR Muntele Rosu 9.61 68 Pn **Pn 16 16 22.2 +0.2**
DOU Dourbes 9.63 325 *dx* x 16 16 25.6
BGES Gesves 9.65 327 *d*P **Pn 16 16 24.6 +2.1**
BGES *dx* x 16 16 36.1
OZUR 9.66 64 ⇓P **Pn 16 16 25.0 +2.3**
BMRD Maredsous 9.72 326 *d*S **Sn 16 18 10.1 -2.4**
RAZG Razgrad 9.76 80 ⇓P **Pn 16 16 24.8 +0.8**
BURAR Bucovina Array 9.86 55 ⇓P **Pn 16 16 28.3 +2.8**
COVR Voineasa-Covas 9.87 66 ⇑P **Pn 16 16 27.9 +2.3**
PLOR Plostina 10.17 66 ⇑P **Pn 16 16 31.6 +1.9**
ETSF Etsaut 10.18 277 *e*P **Pn 16 16 32.4 +2.6**
ETSF *e*Sn **Sn 16 18 15.0 -8.9**
comp=Z,0.9nm,0.3s
VRI Vrincioaia 10.23 66 ⇑P **Pn 16 16 32.4 +1.9**
MFF Saint Martin d 10.38 298 *e*Pn **Pn 16 16 29.3 -3.3**
LVV L'vov 10.42 42 *e*P **Pn 16 16 35.4 +2.4**
LVV MLR MLR
comp=N,500nm,9.0s
LVV MLR MLR
comp=E,700nm,9.0s
LVV MLR MLR
comp=Z,900nm,10.0s
CFR Carcaliu 11.06 71 ⇓P **Pn 16 16 43.4 +1.6**
FLN La Foliniere 11.44 308 *e*Pn **Pn 16 16 44.3 -2.7**
baz=131
MILM Milestii Mici 11.89 63 *e*P **Pn**
comp=Z,70nm,1.0s
MILM *e*L L 16 22 08.0
MILM LRM MLR 16 22 21.0
comp=Z,800nm,11.0s
MILM Milestii Mici 11.89 63 *e*P **Pn 16 16 55.0 +1.8**
MILM pmax pmax
comp=Z,70nm,1.0s
MILM MLR MLR
comp=Z,1μm,12.6s
MILM MLR MLR
comp=N,800nm,11.0s
MILM MLR MLR
comp=E,1μm,14.5s
ESDC Sonseca Array 13.30 263 Pn **Pn 16 17 12.4 0.0**
baz=66,slow=13,SNR=9.2
ESDC LR LR 16 22 28.7
comp=E,408nm,18.3s,baz=90,slow=38
comp=E,1.2nm,0.7s
AKASG Malin Array Be 13.65 48 Pn **Pn 16 17 17.4 +0.2**
comp=E,0.9nm,0.7s,baz=242,slow=12,SNR=2.5
AKASG LR LR 16 23 00.9
comp=E,203nm,20.8s,baz=238,slow=40
AKBB Malin Array Si 13.65 48 ⇓*e*P **Pn 16 17 17.0 -0.2**
MVO Moncorvo 15.18 272 *e*LR LR 16 21 56.5
comp=E,319nm,18.0s
NACGM Naroch 15.22 31 *e*P **P 16 17 41.7 -1.7**
comp=Z,14nm,0.8s,baz=222
MNK Minsk 15.36 34 *i* P **Pn 16 17 37.3 -3.0**
comp=E,2.0nm,0.9s
MNK *i* P **Pn 16 17 37.3 -3.0**
comp=N,30nm,0.9s
MNK *i* P **Pn 16 17 37.3 -3.0**
comp=Z,10.0nm,1.2s,baz=225
MNK *i* PP **P 16 17 45.6 +0.7**
MNK *i* PPP PPP 16 17 53.3
MNK *i* S **Sn 16 20 27.1 -3.1**
MNK *i* SS **SnSn 16 20 40.7 -2.2**
MNK *i* SSS SSS 16 20 53.2
MNK *i* LQ LQ 16 22 00.8
MNK *i* LR LR 16 23 09.8
MNK *i* LRM MLR 16 24 34.4
comp=Z,684nm,12.5s
MNK *i* LRM MLR 16 24 36.6
comp=E,51nm,10.2s
MNK *i* LRM MLR 16 24 38.2
comp=N,1μm,14.1s
MNK Minsk 15.36 34 *i* P **Pn 16 17 37.3 -3.0**
MNK *i* S **Sn 16 20 27.1 -3.1**
MNK pmax pmax
comp=Z,10.0nm,1.2s
MNK pmax pmax
comp=N,30nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=Z,684nm,12.0s
MNK MLR MLR
comp=E,51nm,10.0s
MNK MLR MLR
comp=N,1μm,14.0s
BRTR Keskin Array B 15.61 94 Pn **P 16 17 46.6 -1.5**
comp=N,0.1nm,0.3s,baz=316,slow=8.1,SNR=2.1
BRTR LR LR 16 24 23.2
comp=N,156nm,20.7s,baz=300,slow=40
comp=N,1.9nm,0.8s
MTE Manteigas 15.74 269 *e*LR LR 16 22 32.9
comp=N,592nm,16.0s
PMRV Marv??o 15.90 266 *e*LR LR 16 22 37.6
comp=N,434nm,18.0s
PGAV Gavieira, Arco 15.95 275 *e*LR LR 16 22 37.6
comp=N,559nm,16.0s
EKA Eskdalemuir Ar 16.68 326 Pn **P 16 18 00.1 +0.5**
baz=137,slow=14
EKA LR LR 16 25 25.1
comp=N,152nm,19.7s,baz=134,slow=41
PVAQ Vaqueiros 16.86 259 *e*LR LR 16 22 37.6
comp=N,137nm,20.0s
MDT Midelt 17.12 241 LR LR 16 23 38.2
comp=N,119nm,21.1s,baz=48,slow=34
HFS Hagfors 17.62 1 P **Pn 16 18 07.9 -1.1**
comp=N,4.8nm,1.0s,baz=160,slow=17,SNR=2.2
HFS LR LR 16 24 54.5
comp=N,219nm,18.1s,baz=207,slow=37
ANN Anapa 17.62 74 *e*P **Pn 16 18 06.3 -2.8**
ANN *e*S **Sn 16 21 20.6 -4.7**
ANN pmax pmax
comp=Z,49nm,1.1s
VSU Vasula 18.04 23 ⇓*e*P **P 16 18 14.7 +0.1**
VSU pmax pmax
comp=Z,84nm,1.2s
NC602 NORSAR Array S 18.25 357 **P 16 18 17.1 +0.2**
NC602 IAmb IAmb 16 18 34.4
comp=Z,53nm,1.5s
NB2 NORSAR Subarra 18.57 357 P **Pn 16 18 21.1 +0.4**
comp=Z,8.7nm,1.2s,baz=175,slow=11
NOA NORSAR Array B 18.57 357 P **Pn 16 18 21.1 +0.4**
baz=276,slow=18,SNR=3.4
NOA LR LR 16 26 27.8
comp=Z,143nm,18.0s,baz=175,slow=40
comp=Z,1.1nm,0.6s
NC204 NORSAR Array S 18.82 356 P **P 16 18 22.8 -0.5**
NC204 IAmb IAmb 16 18 43.0
comp=Z,47nm,1.2s
VSR Storozhevoye 19.64 55 *e*P **P 16 18 27.3 -4.9**
VSR pmax pmax
comp=Z,30nm,1.6s
OBN Obninsk 19.73 42 LR LR 16 26 43.6
comp=Z,62nm,20.7s,baz=206,slow=39
OBN Obninsk 19.73 42 ⇑*e*P **P 16 18 31.0 -2.1**
OBN pmax pmax
comp=Z,5.0nm,2.2s
OBN MLR MLR
comp=Z,175nm,12.0s
VORR Voronezh 19.80 54 *e*P **P 16 18 31.5 -2.4**
VORR pmax pmax
comp=Z,40nm,0.4s
MMAI Mount Meron Ar 19.88 111 LR LR 16 29 00.1
comp=Z,69nm,18.2s,baz=118,slow=45
LPSR Galich'ya Gora 19.93 51 *e*P **Pn 16 18 37.9 +0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 20.44 18 P **P 16 18 40.9 +0.1**
comp=Z,4.7nm,0.7s,baz=189,slow=11,SNR=10
FINES LR LR 16 27 12.6
comp=Z,149nm,20.4s,baz=210,slow=39
comp=Z,4.7nm,0.7s
FINES FINESS Array B 20.44 18 P **P 16 18 40.4 -0.4**
FIA1 FINESS Array S 20.44 18 P **P 16 18 40.7 -0.2**
FIA1 IAmb IAmb 16 19 02.5
comp=Z,33nm,1.2s
MOS Moscow 20.56 42 *e*P **P 16 18 42.8 +0.6**
MOS pmax pmax
comp=Z,43nm,0.7s
MOS MLR MLR
comp=Z,400nm,8.0s
VRH Novokhopyorsk 21.19 56 *e*P **P 16 18 49.8 +0.7**
VRH pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 21.44 76 P **P 16 18 52.3 +0.4**
KIV Kislovodsk 21.44 76 *e*P **P 16 18 52.4 +0.5**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,94nm,14.0s
NEY Neytrino 21.55 78 ⇓*e*P **P 16 18 54.5 +1.2**
NEY pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 21.62 77 P **P 16 18 55.6 +2.0**
comp=Z,9.2nm,0.9s,baz=307,slow=8.0,SNR=14
KBZ LR LR 16 28 56.8
comp=Z,75nm,19.3s,baz=292,slow=41
comp=Z,9.2nm,0.9s
KBZ Khabaz 21.62 77 *ce*P **P 16 18 55.0 +1.3**
KBZ pmax pmax
comp=Z,12nm,1.0s
EIL Elat 21.66 119 LR LR 16 29 55.9
comp=Z,103nm,19.7s,baz=306,slow=44
ZEI Tsey 22.48 79 *e*P **P 16 19 07.1 +3.9**
ZEI pmax pmax
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 24.23 32 *e*P **P 16 19 21.5 +1.1**
KLMR AMP 16 19 37.7
comp=Z,43nm,1.5s
KLMR LR LR 16 28 39.4
KLMR Klimovskoe 24.23 32 *e*P **P 16 19 21.4 +1.1**
KLMR pmax pmax
comp=Z,43nm,1.5s
BELG Belogornoye 25.02 55 P **P 16 19 29.5 +2.0**
comp=Z,32nm,1.0s,baz=190,slow=2.1,SNR=7.1
BELG LR LR 16 30 08.5
comp=Z,148nm,18.7s,baz=303,slow=39
comp=Z,32nm,1.0s
BELG Belogornoye 25.02 55 *de*P **P 16 19 29.1 +1.6**
BELG pmax pmax
comp=Z,7.0nm,0.9s
PRGR Permogore 27.13 34 *e*P **P 16 19 45.9 -0.6**
PRGR pmax pmax
comp=Z,18nm,1.5s
KIRV Kirov 27.58 42 LR LR 16 31 30.3
comp=Z,161nm,18.1s,baz=249,slow=38
KIRV Kirov 27.58 42 *de*P **P 16 19 52.5 +2.0**
ARCES ARCESS Array B 27.79 9 LR LR 16 31 48.7
comp=Z,142nm,18.2s,baz=216,slow=39
ARU Arti 31.91 48 LR LR 16 33 60.0
comp=Z,147nm,22.0s,baz=214,slow=38
ARU Arti 31.91 48 P **P 16 20 28.2 -0.7**
ARU Arti 31.91 48 *c i*P **P 16 20 28.5 -0.4**
ARU 16 21 30.0
ARU 16 23 13.8
ARU S **S 16 25 39.5 -0.1**
ARU SS **SnSn 16 27 25.1 -2.5**
ARU pmax pmax
comp=Z,24nm,0.9s
ARU MLR MLR
comp=Z,368nm,14.0s
ABKAR Akbulak array 32.74 62 P **P 16 20 35.5 -0.8**
GEYT Alibeck 34.25 82 P **P 16 20 51.2 +1.5**
comp=Z,2.3nm,0.8s,baz=296,slow=11,SNR=4.0
GEYT LR LR 16 38 30.6
comp=Z,74nm,18.7s,baz=18,slow=43
comp=Z,2.3nm,0.8s
BRVK Borovoye 38.75 54 P **P 16 21 28.1 +0.3**
BRVK IAmb IAmb 16 21 33.4
comp=Z,9.1nm,0.9s
BRVK Borovoye 38.75 54 ⇑*e*P **P 16 21 28.4 +0.6**
BRVK pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 38.82 54 LR LR 16 37 41.3
comp=Z,61nm,20.6s,baz=276,slow=37
DBIC Dimbokro 39.15 209 LR LR 16 38 44.1
comp=Z,130nm,18.1s,baz=20,slow=38
KK31 Karatay Array 41.28 69 P **P 16 21 49.7 +0.7**
KK31 Karatay Array 41.28 69 P **P 16 21 49.7 +0.7**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 41.28 69 P **P 16 21 49.8 +0.7**
KKAR Karatay Array 41.28 69 P **P 16 21 49.8 +0.7**
WSAR Wadi Sarin 42.11 103 LR LR 16 44 04.2
comp=Z,50nm,19.5s,baz=336,slow=43
AAK Ala-Archa 44.19 68 LR LR 16 45 23.4
comp=Z,12nm,20.4s,baz=314,slow=42
AAK Ala-Archa 44.19 68 ⇑*e*P **P 16 22 14.0 +1.2**
AAK pmax pmax
comp=Z,7.0nm,1.4s
KURK Kurchatov 44.29 56 P **P 16 22 13.8 +0.6**
KURK Kurchatov 44.29 56 ⇓*e*P **P 16 22 12.7 -0.5**
KURK pmax pmax
comp=Z,6.0nm,1.6s
MBAR Mbarara 45.75 155 LR LR 16 43 53.0
comp=Z,50nm,18.8s,baz=332,slow=39
KSH Kashi 46.45 72 P **P 16 22 32.5 +1.8**
KSH pmax pmax
comp=Z,7.0nm,0.9s
ZAA0 Zalesovo Array 47.04 50 P **P 16 22 34.1 -0.9**
ZAA0 IAmb IAmb 16 22 39.3
comp=Z,5.2nm,1.2s
ZALV Zalesovo Beam 47.04 50 P **P 16 22 35.4 +0.4**
comp=Z,2.6nm,0.9s,baz=295,slow=8.0,SNR=7.1
ZALV LR LR 16 44 21.2
comp=Z,178nm,18.3s,baz=265,slow=39
comp=Z,2.6nm,0.9s
ZALV Zalesovo Beam 47.04 50 P **P 16 22 34.4 -0.6**
ZALV Zalesovo Beam 47.04 50 *i* P **P 16 22 37.0 +2.1**
ZALV pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 47.84 60 ⇓*e*P **P 16 22 41.8 +0.4**
MKAR Makanchi Array 47.84 60 P **P 16 22 42.0 +0.6**
comp=Z,2.4nm,0.8s,baz=293,slow=6.3,SNR=11
MKAR LR LR 16 47 18.1
comp=Z,94nm,18.3s,baz=310,slow=42
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 47.84 60 P **P 16 22 40.9 -0.5**
KMBO Kilima Mbogo 48.56 147 LR LR 16 46 54.7
comp=Z,34nm,18.5s,baz=91,slow=40
DGZ Jazzator, Alta 49.97 55 ⇓*e*P **P 16 22 58.2 +0.4**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
EUNU Eureka 50.07 347 P **P 16 22 58.7 +0.6**
EUNU IAmb IAmb 16 23 10.4
comp=Z,5.4nm,1.1s
SCHQ Schefferville 51.46 313 LR LR 16 42 25.1
comp=Z,63nm,21.4s,baz=49,slow=33
WMQ Urumqi 52.53 61 *e*P **P 16 23 16.0 -1.0**
WMQ pP sP 16 23 23.8 +1.7
WMQ sP pP 16 23 25.3 +4.6
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ LR LR
comp=N,32nm,12.7s
WMQ LR LR
comp=Z,61nm,20.7s
TIXI Tiksi 57.47 20 LR LR 16 52 28.5
comp=Z,68nm,18.6s,baz=181,slow=40
TIXI Tiksi 57.47 20 P **P 16 23 52.0 -0.1**
TIXI Tiksi 57.47 20 ⇑*e*P **P 16 23 53.4 +1.3**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TSUM Tsumeb 61.56 175 LR LR 16 51 09.3
comp=Z,50nm,20.2s,baz=332,slow=36
SONM Songino Array 61.93 50 P **P 16 24 24.4 +0.9**
comp=Z,1.7nm,0.8s,baz=291,slow=8.1,SNR=15
SONM LR LR 16 53 23.2
comp=Z,151nm,20.4s,baz=354,slow=38
comp=Z,1.7nm,0.8s
SONM Songino Array 61.93 50 P **P 16 24 25.4 +2.0**

SONM					IAmb	IAmb	16 24 29.5		
	comp=Z,5.6nm,1.4s								
SONM	**Songino Array**	**61.93**	**50**		P	**P**	**16 24 25.4**	**+2.0**	
SONM					pmax	pmax			
	comp=Z,6.0nm,1.4s								
A36M	**Sachs Harbour**	**62.09**	**347**		P	**P**	**16 24 24.6**	**+0.6**	
A36M					IAmb	IAmb	16 24 36.4		
	comp=Z,4.6nm,1.0s								
SADO	**Sadowa**	**63.20**	**307**		LR	LR	16 51 10.3		
	comp=Z,91nm,18.2s,baz=32,slow=35								
YAK	**Yakutsk**	**63.96**	**28**		LR	LR	16 54 39.1		
	comp=Z,49nm,18.8s,baz=307,slow=38								
YAK	**Yakutsk**	**63.96**	**28**	⇓	*eP*	**P**	**16 24 37.5**	**+1.0**	
YAK					pmax	pmax			
	comp=Z,7.0nm,0.7s								
RCBR	**Riachuelo**	**65.61**	**236**		LR	LR	16 51 55.6		
	comp=Z,48nm,18.6s,baz=156,slow=35								
BRDH	**Bariadhala**	**66.69**	**80**		LR	LR	17 02 24.4		
	comp=Z,110nm,18.2s,baz=36,slow=44								
YKA	**Yellowknife Ar**	**67.29**	**337**		P	**P**	**16 24 58.1**	**+0.1**	
	comp=Z,2.2nm,0.9s,baz=39,slow=6.7,SNR=4.1								
	comp=Z,2.2nm,0.9s								
YKA	**Yellowknife Ar**	**67.29**	**337**	*i*	P	**P**	**16 25 01.5**	**+3.5**	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.9s								
BILL	**Bilibino**	**67.88**	**11**	⇑	*eP*	**P**	**16 25 03.2**	**+1.5**	
BILL					*e*		16 25 34.4		
BILL					*e*		16 27 35.6		
BILL					pmax	pmax			
	comp=Z,24nm,3.5s								
BILL					MLR	MLR			
	comp=Z,42nm,16.0s								
LBTB	**Lobatse**	**68.18**	**168**		LR	LR	16 56 15.0		
	comp=Z,52nm,18.9s,baz=346,slow=37								
PALK	**Pallekele**	**68.54**	**100**		LR	LR	16 57 39.1		
	comp=Z,33nm,19.7s,baz=75,slow=38								
ZEA	**Zeya**	**68.69**	**36**		*eP*	**P**	**16 25 05.4**	**-1.6**	
ZEA					MLR	MLR			
	comp=E,200nm,12.0s								
ZEA					MLR	MLR			
	comp=Z,200nm,15.0s								
MDP	**Montagnes des**	**68.89**	**257**		LR	LR	16 49 20.0		
	comp=Z,28nm,20.0s,baz=88,slow=31								
HHC	**Hu-ho-hao-te**	**69.03**	**54**		*eP*	**P**	**16 25 08.5**	**-1.0**	
HHC					pmax	pmax			
	comp=Z,9.0nm,0.8s								
HHC					pmax	pmax			
	comp=Z,380nm,5.0s								
XLT	**XiLinHaoTe**	**69.70**	**49**		*eP*	**P**	**16 25 09.3**	**-4.3**	
XLT					pmax	pmax			
	comp=Z,5.0nm,1.1s								
XLT					pmax	pmax			
	comp=Z,230nm,5.4s								
SJG	**San Juan**	**70.28**	**277**		LR	LR	16 51 04.3		
	comp=Z,42nm,21.0s,baz=52,slow=32								
TKL	**Tuckaleechee C**	**71.50**	**302**		LR	LR	16 57 31.0		
	comp=Z,64nm,18.2s,baz=88,slow=37								
PZH	**PanZhiHua**	**71.55**	**71**		P	**P**	**16 25 26.8**	**+1.7**	
PZH					pmax	pmax			
	comp=Z,10.0nm,0.7s								
PZH					pmax	pmax			
	comp=Z,100nm,5.8s								
ILAR	**Eielson Array**	**71.89**	**351**		P	**P**	**16 25 27.6**	**+1.2**	
	comp=Z,0.6nm,0.9s,baz=5.2,slow=5.8,SNR=6.5								
	comp=Z,0.6nm,0.9s								
MA2	**Magadan**	**72.39**	**21**		LR	LR	17 01 05.3		
	comp=Z,72nm,20.2s,baz=326,slow=39								
BCAR	**Beaver Creek A**	**72.86**	**348**		P	**P**	**16 25 33.6**	**+1.3**	
L27K	**Beaver Creek,**	**72.87**	**348**		P	**P**	**16 25 33.9**	**+1.5**	
L27K					IAmb	IAmb	16 26 05.0		
	comp=Z,5.0nm,1.4s								
DHY	**Denali Highway**	**73.59**	**351**		P	**P**	**16 25 37.6**	**+0.9**	
DHY					IAmb	IAmb	16 25 38.5		
	comp=Z,4.2nm,0.9s								
KLR	**Kul'dur**	**73.88**	**37**		LR	LR	17 00 40.2		
	comp=Z,84nm,18.4s,baz=323,slow=38								
Y49A	**Blount Mountai**	**74.32**	**302**		P	**P**	**16 25 42.5**	**+1.2**	
CMAR	**Chiang Mai Arr**	**74.65**	**79**		LR	LR	17 06 57.1		
	comp=Z,23nm,18.8s,baz=250,slow=42								
DLBC	**Dease Lake**	**74.85**	**341**		LR	LR	16 59 52.9		
	comp=Z,110nm,18.3s,baz=329,slow=37								
SUR	**Sutherland**	**74.88**	**173**		LR	LR	17 00 31.1		
	comp=Z,54nm,18.1s,baz=346,slow=37								
WHN	**Wuhan**	**77.41**	**60**	⇑	P	P	16 26 04.0	+5.0	
USRK	**Ussuriysk Ar.**	**77.73**	**40**		LR	LR	17 04 48.7		
	comp=Z,64nm,18.7s,baz=245,slow=39								
PTGA	**Pitinga**	**78.18**	**258**		LR	LR	16 56 53.9		
	comp=Z,44nm,18.9s,baz=48,slow=33								
NJ2	**Nanjing**	**79.22**	**56**		*eP*	**P**	**16 26 09.5**	**+0.5**	
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.5s								
SDV	**Santo Domingo**	**79.56**	**272**		LR	LR	16 57 00.9		
	comp=Z,29nm,20.5s,baz=28,slow=32								
PHWY	**Pilot Hill**	**79.89**	**318**		P	**P**	**16 26 13.8**	**+0.9**	
MCMT	**McKenzie Canyo**	**80.59**	**324**		P	**P**	**16 26 17.8**	**+1.2**	
KSRS	**Korea Array**	**80.65**	**47**		LR	LR	17 04 58.7		
	comp=Z,28nm,19.2s,baz=350,slow=38								
BDFB	**Brasilia**	**80.69**	**239**		P	**P**	**16 26 18.6**	**+1.5**	
	comp=Z,1.7nm,0.4s,baz=34,slow=12,SNR=4.2								
	comp=Z,1.7nm,0.4s								
ASAJ	**Asahikawa**	**82.54**	**34**		LR	LR	17 08 02.7		
	comp=Z,70nm,19.1s,baz=341,slow=39								
PV07	**Paradox Valley**	**83.66**	**318**		P	**P**	**16 26 33.7**	**+1.0**	
PSI	**Prapat**	**84.93**	**91**		LR	LR	17 11 44.7		
	comp=Z,70nm,18.1s,baz=315,slow=41								
ROSC	**El Rosal**	**84.97**	**272**		LR	LR	17 00 14.2		
	comp=Z,109nm,21.5s,baz=62,slow=33								
JNU	**Nakatsue**	**85.48**	**48**		LR	LR	17 07 50.5		
	comp=Z,82nm,18.3s,baz=292,slow=38								
MJAR	**Matsushiro Arr**	**86.65**	**41**		LR	LR	17 08 36.5		
	comp=Z,82nm,18.6s,baz=318,slow=38								
TXAR	**Lajitas Array**	**87.93**	**309**		LR	LR	17 03 42.5		
	comp=Z,34nm,20.0s,baz=359,slow=34								
CPUP	**Villa Florida**	**94.40**	**238**		LR	LR	17 10 17.4		
	comp=Z,19nm,18.3s,baz=42,slow=36								
NNA	**Nana**	**98.06**	**261**		LR	LR	17 08 43.8		
	comp=Z,19nm,18.4s,baz=355,slow=34								
ASAR	**Alice Springs**	**127.90**	**89**		PKP	**PKiKP**	**16 33 10.2**	**-0.1**	
	comp=Z,0.5nm,1.0s,baz=295,slow=1.5,SNR=4.2								

*DNK **29** 16:30:45.7±1.4,58.°72N×18.°51E,h0km,ML2.2(UPP), Explosion*
*UPP **29** 16:30:45.1±0.2,58.°70N×18.°52E,h0km,ML2.2, Explosion*
*HEL **29** 16:30:46.7,58.°65N×18.°49E,h0km,ML1.9,Explosion*
*HEL **29** 16:30:46.2±0.1,58.°71N×18.°46E,h0km,ML1.9, ML2.2(UPP),Explosion*
*IDC **29** 16:30:49.7±3.1,58.°98N×18.°49E,h0km,mbtmp2.9/3, ML2.0/3,Error ellipse: s-maj=37.5km s-min=11.3km az=180.0*

ISC 29 16:30:44.7±0.8,58.°72N±0.°02×18.°34E±0.°03,h0km,n45, σ1°09/54,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.34**	**329**	P		**Pb**	**16 30 52.9**	**-0.6**
NYNU				S		**Sb**	**16 30 58.0**	**-1.4**
NYNU	**Nynaeshamn**	**0.34**	**329**	P		**Pb**	**16 30 52.9**	**-0.6**
NYNU				S		**Sb**	**16 30 58.0**	**-1.4**
NYNU	**Nynaeshamn**	**0.34**	**329**	*i* P		**Pb**	**16 30 52.9**	**-0.6**
NYNU				*i* S		**Sb**	**16 30 58.0**	**-1.4**
VIKU	**Vikbolandet**	**0.89**	**257**	P		**Pb**	**16 31 03.3**	**+0.4**
VIKU	**Vikbolandet**	**0.89**	**257**	P		**Pb**	**16 31 03.3**	**+0.4**
VIKU	**Vikbolandet**	**0.89**	**257**	*e*P		**Pb**	**16 31 03.3**	**+0.4**
NRTU	**Norrtaelje**	**0.97**	**9**	P		**Pg**	**16 31 03.4**	**+0.1**
NRTU	**Norrtaelje**	**0.97**	**9**	P		**Pg**	**16 31 03.4**	**+0.1**
NRTU	**Norrtaelje**	**0.97**	**9**	*e*P		**Pg**	**16 31 03.4**	**+0.1**
GOTU	**Gotland**	**1.04**	**173**	*e*P		**Pg**	**16 31 04.2**	**-0.4**
GOTU				*e*S		**Sg**	**16 31 16.4**	**-1.7**
ESKU	**Eskilstuna**	**1.13**	**298**	P		**Pn**	**16 31 07.7**	**0.0**
ESKU	**Eskilstuna**	**1.13**	**298**	P		**Pn**	**16 31 07.7**	**0.0**
ESKU	**Eskilstuna**	**1.13**	**298**	*e*P		**Pn**	**16 31 07.7**	**0.0**
UPP	**Uppsala**	**1.20**	**342**	P		**Pb**	**16 31 08.3**	**0.0**
UPP	**Uppsala**	**1.20**	**342**	*e*P		**Pb**	**16 31 08.3**	**0.0**
FIBU	**Brunna**	**1.29**	**337**	P		**Pn**	**16 31 10.0**	**+0.1**
FIBU	**Brunna**	**1.29**	**337**	P		**Pn**	**16 31 10.0**	**+0.1**
FIBU	**Brunna**	**1.29**	**337**	*e*P		**Pn**	**16 31 10.0**	**+0.1**
BACU	**Backbrunna**	**1.30**	**331**	P		**Pn**	**16 31 10.3**	**+0.2**
BACU	**Backbrunna**	**1.30**	**331**	P		**Pn**	**16 31 10.3**	**+0.2**
BACU	**Backbrunna**	**1.30**	**331**	*e*P		**Pn**	**16 31 10.3**	**+0.2**
VSTU	**Vaestervik**	**1.43**	**223**	P		**Pn**	**16 31 12.3**	**+0.5**
VSTU	**Vaestervik**	**1.43**	**223**	P		**Pn**	**16 31 12.3**	**+0.5**
VSTU	**Vaestervik**	**1.43**	**223**	*e*P		**Pn**	**16 31 12.3**	**+0.5**
FLYU	**Flymyra**	**1.43**	**351**	P		**Pn**	**16 31 12.1**	**+0.2**
FLYU	**Flymyra**	**1.43**	**351**	*e*P		**Pn**	**16 31 12.1**	**+0.2**
BYXU	**Byxelkrok**	**1.60**	**207**	P		**Pn**	**16 31 14.9**	**+0.8**
BYXU	**Byxelkrok**	**1.60**	**207**	P		**Pn**	**16 31 14.9**	**+0.8**
BYXU	**Byxelkrok**	**1.60**	**207**	*e*P		**Pn**	**16 31 14.9**	**+0.8**
SLIT	**Slitere, Latvi**	**2.36**	**116**	*e*P		**Pb**	**16 31 28.3**	**+0.3**
SLIT	**Slitere, Latvi**	**2.36**	**116**	*e*P		**Pn**	**16 31 24.3**	**-0.3**
SLIT				*e*S		**Sn**	**16 31 53.4**	**-0.8**
BLEU	**Blekinge**	**2.78**	**210**	*i* P		**Pn**	**16 31 31.6**	**+1.2**
BLEU				*i* S		**Sb**	**16 32 08.8**	**-0.9**
MTSE	**Matsula**	**2.85**	**88**	*e*P		**Pn**	**16 31 31.1**	**-0.3**
MTSE	**Matsula**	**2.85**	**88**	*e*P		**Pn**	**16 31 32.3**	**+0.9**
MTSE				*e*S		**Sn**	**16 32 05.9**	**-0.5**
RAF	**Rauma**	**2.88**	**35**	*e*P		**Pn**	**16 31 33.4**	**+1.6**
RAF	**Rauma**	**2.88**	**35**	*e*P		**Pn**	**16 31 33.5**	**+1.7**
RAF				*e*S		**Sn**	**16 32 09.4**	**+2.2**
RAF				MSG			16 32 13.8	
	comp=Z,3.6nm,0.1s							
DEL	**Delary**	**3.30**	**229**	*i* P		**Pn**	**16 31 39.0**	**+1.4**
MEF	**Metsahovi**	**3.44**	**61**	*e*P		**Pn**	**16 31 42.4**	**+3.0**
MEF	**Metsahovi**	**3.44**	**61**	*e*S		**Sn**	**16 32 20.6**	**-0.1**
MEF				MSG			16 32 35.1	
	comp=Z,3.3nm,0.1s							
KPF	**Kankaanpaa**	**3.63**	**29**	*e*P		**Pn**	**16 31 44.6**	**+2.5**
KPF				*e*S		**Sn**	**16 32 27.5**	**+1.8**
ONAU	**Onsala**	**3.66**	**252**	*i* P		**Pb**	**16 31 51.9**	**+1.7**
NOA	**NORSAR Array B**	**4.28**	**306**	Pn		**Pn**	**16 31 53.5**	**+2.5**
	baz=205,slow=20,SNR=1.4							
NOA				Lg		Lg	16 32 59.9	
	comp=Z,0.2nm,0.3s,baz=263,slow=8.2,SNR=5.4							
	comp=Z,0.8nm,0.9s							
FINES	**FINESS Array B**	**4.74**	**52**	Pn		**Pn**	**16 31 58.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=242,slow=13,SNR=8.2							
FINES				Lg		Lg	16 33 10.8	
	comp=Z,0.9nm,0.3s,baz=245,slow=28,SNR=7.7							
	comp=Z,0.4nm,0.3s							
ARCES	**ARCESS Array B**	**11.29**	**13**	Pn		**Pn**	**16 33 25.7**	**-1.4**
	baz=196,slow=14,SNR=5.9							
	comp=Z,1.4nm,0.9s							

ATH 29 16:30:56.3,40.°38N×21.°41E,h18km±3km,ML1.8/3,Error ellipse: s-maj=3.5km s-min=1.3km az=293.0,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.28**	**277**	P		Pg	16 31 01.9	-0.6
NEST				S		Sg	16 31 06.9	+0.1
NEST				AML		AML	16 31 10.4	
	comp=E,265μm,0.2s							
NEST				AML		AML	16 31 11.4	
	comp=N,246μm,0.3s							
PENT	**Pentalofos**	**0.28**	**229**	P		Pg	16 31 01.6	-0.9
PENT				S		Sg	16 31 06.8	0.0
KZN	**Kozani**	**0.29**	**105**	P		Pg	16 31 02.2	-0.5
KZN				S		Sg	16 31 07.1	+0.1
KZN				AML		AML	16 31 07.4	
	comp=N,481μm,0.2s							
KZN				AML		AML	16 31 07.7	
	comp=E,655μm,0.2s							
FNA	**Florina**	**0.41**	**356**	P		Pg	16 31 04.4	-0.3
FNA				S		Sb	16 31 11.0	+0.1
FNA				AML		AML	16 31 12.1	
	comp=N,655μm,0.5s							
FNA				AML		AML	16 31 13.2	
	comp=E,644μm,0.3s							
KPRO	**Kipourio**	**0.43**	**185**	P		Pg	16 31 04.7	-0.4
KPRO				S		Sb	16 31 11.7	+0.2
THL	**Klokotos Trika**	**0.94**	**150**	P		Pb	16 31 12.4	-1.7
THL				S		Sg	16 31 27.0	+0.1

TIR 29 16:31:26.9,40.°48N×19.°86E,h8km,Md2.5,Ml2.2,Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.28**	**267**	P		Pg	16 31 32.8	+0.4
	baz=268							
VLO				S		Sb	16 31 37.5	-1.4
	baz=268							
VLO				AMP				
	comp=E,16nm,0.2s,baz=268							
SRN	**Sarande**	**0.61**	**170**	P		Pb	16 31 39.4	-0.3
	baz=169							
SRN				S		Sb	16 31 48.3	-0.2
	baz=169							
SRN				AMP				
	comp=N,0.3nm,0.2s,baz=169							
LSK	**Leskovik**	**0.66**	**120**	P		Pb	16 31 40.4	-0.3
	baz=120							
LSK				S		Sb	16 31 50.0	0.0
	baz=120							
LSK				AMP				
	comp=E,0.7nm,0.7s,baz=120							
KBN	**Korca**	**0.72**	**78**	P		Pg	16 31 40.8	0.0
	baz=78							
KBN				S		Sb	16 31 52.5	+0.7
	baz=78							
TIR	**Tirane**	**0.86**	**0**	P		Pb	16 31 44.1	0.0
	baz=0.0							
TIR				S		Sb	16 31 56.8	+1.0
	baz=0.0							
TIR				AMP				
	comp=N,0.2nm,0.3s,baz=0.0							
SCTE	**Santa Cesarea**	**1.14**	**249**	P		Pg	16 31 48.5	-0.2
	baz=250							
SCTE				S		Sn	16 32 05.0	+0.1
	baz=250							
FNA	**Florina**	**1.20**	**75**	P		Pb	16 31 49.5	-0.3
	baz=75							

*HEL **29** 16:44:52.3±0.5,57.°90N×18.°58E,h0km,ML2.1,Explosion*
*UPP **29** 16:45:01.2±0.2,58.°70N×18.°53E,h0km,ML2.3,Explosion*
*DNK **29** 16:45:01.6±1.0,58.°70N×18.°54E,h0km,ML2.3(UPP), Explosion*
*BER **29** 16:45:03.4±2.0,58.°73N×18.°46E,h0km,ML2.1, ML2.3(UPP),Suspected explosion*
*IDC **29** 16:45:05.1±2.0,58.°99N×18.°50E,h0km,mbtmp3.0/4, ML2.0/4,Error ellipse: s-maj=25.2km s-min=8.0km az=1.0*

ISC 29 16:45:00.5±0.8,58.°73N±0.°03×18.°59E±0.°03,h0km,n74, σ1°28/83,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.41**	**313**	P		**Pg**	**16 45 09.1**	**+0.7**
NYNU				S		**Sg**	**16 45 14.1**	**+0.4**
NYNU	**Nynaeshamn**	**0.41**	**313**	P		**Pg**	**16 45 09.1**	**+0.7**
NYNU				S		**Sg**	**16 45 14.1**	**+0.4**
NYNU	**Nynaeshamn**	**0.41**	**313**	P		**Pg**	**16 45 09.1**	**+0.7**
NYNU				S		**Sg**	**16 45 14.1**	**+0.4**
NRTU	**Norrtaelje**	**0.95**	**1**	P		**Pb**	**16 45 19.6**	**-0.3**
NRTU	**Norrtaelje**	**0.95**	**1**	P		**Pb**	**16 45 19.6**	**-0.3**
NRTU	**Norrtaelje**	**0.95**	**1**	P		**Pb**	**16 45 19.6**	**-0.3**
VIKU	**Vikbolandet**	**1.01**	**258**	P		**Pg**	**16 45 19.5**	**-0.4**
VIKU				S		**Sg**	**16 45 32.8**	**-0.2**
VIKU	**Vikbolandet**	**1.01**	**258**	P		**Pg**	**16 45 19.5**	**-0.4**
VIKU				S		**Sg**	**16 45 32.8**	**-0.2**
VIKU	**Vikbolandet**	**1.01**	**258**	P		**Pg**	**16 45 19.5**	**-0.4**
VIKU				S		**Sg**	**16 45 32.8**	**-0.2**
UPP	**Uppsala**	**1.24**	**337**	P		**Pb**	**16 45 24.4**	**-0.3**
ESKU	**Eskilstuna**	**1.24**	**295**	P		**Pg**	**16 45 23.8**	**-0.6**
ESKU	**Eskilstuna**	**1.24**	**295**	P		**Pg**	**16 45 23.8**	**-0.6**
ESKU	**Eskilstuna**	**1.24**	**295**	P		**Pg**	**16 45 23.8**	**-0.6**
FIBU	**Brunna**	**1.34**	**332**	P		**Pb**	**16 45 26.1**	**-0.3**
FIBU	**Brunna**	**1.34**	**332**	P		**Pb**	**16 45 26.1**	**-0.3**
FIBU	**Brunna**	**1.34**	**332**	P		**Pb**	**16 45 26.1**	**-0.3**
BACU	**Backbrunna**	**1.36**	**327**	P		**Pn**	**16 45 26.4**	**-0.3**
BACU	**Backbrunna**	**1.36**	**327**	P		**Pn**	**16 45 26.4**	**-0.3**
BACU	**Backbrunna**	**1.36**	**327**	P		**Pn**	**16 45 26.4**	**-0.3**
FLYU	**Flymyra**	**1.45**	**346**	P		**Pb**	**16 45 28.2**	**-0.2**
FLYU	**Flymyra**	**1.45**	**346**	P		**Pb**	**16 45 28.2**	**-0.2**
FLYU	**Flymyra**	**1.45**	**346**	P		**Pb**	**16 45 28.2**	**-0.2**
VSTU	**Vaestervik**	**1.52**	**226**	P		**Pn**	**16 45 28.6**	**-0.4**
VSTU	**Vaestervik**	**1.52**	**226**	P		**Pn**	**16 45 28.6**	**-0.4**
VSTU	**Vaestervik**	**1.52**	**226**	P		**Pn**	**16 45 28.6**	**-0.4**
GRAU	**Graesoe**	**1.61**	**359**	P		**Pg**	**16 45 31.1**	**-0.3**
GRAU	**Graesoe**	**1.61**	**359**	P		**Pg**	**16 45 31.1**	**-0.3**
GRAU	**Graesoe**	**1.61**	**359**	P		**Pg**	**16 45 31.1**	**-0.3**
AAL	**Aland**	**1.62**	**26**	P		**Pg**	**16 45 31.4**	**-0.2**
BYXU	**Byxelkrok**	**1.67**	**211**	P		**Pn**	**16 45 31.0**	**+0.1**
BYXU	**Byxelkrok**	**1.67**	**211**	P		**Pn**	**16 45 31.0**	**+0.1**
BYXU	**Byxelkrok**	**1.67**	**211**	P		**Pn**	**16 45 31.0**	**+0.1**
FORU	**Forsmark**	**1.68**	**353**	P		**Pg**	**16 45 32.4**	**-0.2**
FORU	**Forsmark**	**1.68**	**353**	P		**Pg**	**16 45 32.4**	**-0.2**
OSTU	**Oestervaala**	**1.68**	**334**	P		**Pb**	**16 45 32.1**	**-0.2**
OSTU	**Oestervaala**	**1.68**	**334**	P		**Pb**	**16 45 32.1**	**-0.2**
OSTU	**Oestervaala**	**1.68**	**334**	P		**Pb**	**16 45 32.1**	**-0.2**
LNKU	**Linkoeping**	**1.70**	**254**	P		**Pn**	**16 45 31.5**	**+0.2**
LNKU	**Linkoeping**	**1.70**	**254**	P		**Pn**	**16 45 31.5**	**+0.2**
LNKU	**Linkoeping**	**1.70**	**254**	P		**Pn**	**16 45 31.5**	**+0.2**
SLIT	**Slitere, Latvi**	**2.25**	**118**	*e*P		**Pb**	**16 45 41.8**	**-0.1**
MTSE	**Matsula**	**2.73**	**88**	*e*P		**Pn**	**16 45 47.2**	**+1.7**
MTSE	**Matsula**	**2.73**	**88**	*e*P		Pn	16 45 38.8	-6.6
MTSE				*e*S		**Sn**	**16 46 14.1**	**-5.0**
RAF	**Rauma**	**2.81**	**33**	*e*P		**Pb**	**16 45 50.6**	**-0.8**
RAF	**Rauma**	**2.81**	**33**	*e*P		**Pn**	**16 45 48.4**	**+1.8**
RAF				*e*S		**Sg**	**16 46 28.9**	**-1.6**
RAF				MSG			16 46 38.3	
	comp=Z,4.7nm,0.1s							
BLEU	**Blekinge**	**2.85**	**213**	*i* P		**Pn**	**16 45 47.5**	**+0.2**
HFS	**Hagfors**	**2.87**	**302**	Pn		**Pn**	**16 45 48.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=113,slow=16,SNR=12							
HFS				Lg		Lg	16 46 29.5	
	comp=Z,3.7nm,0.3s,baz=115,slow=34,SNR=11							
	comp=Z,1.0nm,0.3s							
PBUR	**Paburge**	**3.26**	**145**	*e*P		**Pn**	**16 45 55.6**	**+2.9**
BORU	**Boraas**	**3.27**	**253**	*i* P		**Pn**	**16 45 54.0**	**+1.1**
MEF	**Metsahovi**	**3.32**	**61**	*e*P		**Pb**	**16 45 59.1**	**-1.1**
MEF	**Metsahovi**	**3.32**	**61**	*e*S		**Sn**	**16 46 36.2**	**+2.5**
MEF				MSG			16 46 45.8	
	comp=Z,3.7nm,0.1s							
DEL	**Delary**	**3.40**	**230**	*i* P		**Pn**	**16 45 55.0**	**+0.3**
NUR	**Nurmijrvi**	**3.56**	**57**	*e*P		**Pn**	**16 45 56.3**	**-0.6**
NUR				*e*S		**Sn**	**16 46 42.4**	**+2.7**
KPF	**Kankaanpaa**	**3.57**	**28**	*e*P		**Pn**	**16 45 59.7**	**+2.7**
KPF				*e*S		**Sb**	**16 46 47.9**	**-0.3**
KPF				MSG			16 46 49.2	
	comp=Z,2.2nm,0.1s							
TJOU	**Tjoern**	**3.73**	**262**	*i* P		**Pb**	**16 46 06.0**	**-1.2**
ONAU	**Onsala**	**3.79**	**252**	*i* P		**Pn**	**16 46 02.5**	**+2.5**
BJUU	**Bjuv**	**4.02**	**231**	*i* P		**Pn**	**16 46 04.0**	**+0.8**
NC602	**NORSAR Array S**	**4.10**	**302**	*e*P		**Pn**	**16 46 05.2**	**+0.9**
NC602				*e*			16 47 01.9	
BSD	**Bornholm Skovb**	**4.14**	**211**	*i* P		**Pn**	**16 46 05.2**	**+0.2**
VSU	**Vasula**	**4.27**	**90**	*e*P		**Pn**	**16 46 10.6**	**+4.0**
NB201	**NORSAR Array S**	**4.35**	**305**	*e*P		**Pn**	**16 46 08.7**	**+0.8**
NB201				*e*			16 47 16.9	
NB201				IAML			16 47 38.8	
	comp=Z,7.0nm,0.3s							
PABE	**Paberze**	**4.36**	**135**	*e*P		**Pn**	**16 46 07.9**	**0.0**
NOA	**NORSAR Array B**	**4.38**	**305**	Pn		**Pn**	**16 46 09.2**	**+1.0**
	baz=113,slow=18,SNR=2.2							
NOA				Lg		Lg	16 47 17.5	
	comp=Z,0.2nm,0.3s,baz=252,slow=16,SNR=7.3							
	comp=Z,0.2nm,0.4s							
NC303	**NORSAR Array S**	**4.41**	**308**	*e*P		**Pn**	**16 46 08.7**	**+0.1**
NC303				*e*			16 47 19.7	
NAO01	**NORSAR Array S**	**4.43**	**302**	*e*P		**Pn**	**16 46 12.1**	**+3.2**
NAO01				IAML			16 47 35.8	
	comp=Z,9.7nm,0.6s							
NBO00	**NORSAR Array S**	**4.56**	**304**	*e*P		**Pn**	**16 46 11.0**	**+0.3**
NBO00				*e*			16 47 24.7	
NBO00				IAML			16 47 57.3	
	comp=Z,7.8nm,0.7s							
FINES	**FINESS Array B**	**4.63**	**51**	Pn		**Pn**	**16 46 14.3**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=242,slow=13,SNR=12							
FINES				Lg		Lg	16 47 25.8	
	comp=Z,1.2nm,0.3s,baz=243,slow=26,SNR=5.2							
	comp=Z,5.4nm,1.0s							
KEF	**Keuruu**	**4.65**	**39**	*e*P		**Pn**	**16 46 13.4**	**+1.6**
NC204	**NORSAR Array S**	**4.69**	**306**	*e*P		**Pn**	**16 46 12.6**	**+0.1**
NC204				*e*			16 47 12.5	
NC204				IAML			16 47 36.9	
	comp=Z,6.9nm,0.8s							
KAF	**Kangasniemi**	**5.11**	**45**	*e*P		**Pn**	**16 46 18.4**	**+0.1**
SKAR	**Skarsila**	**5.56**	**295**	*e*P		**Pn**	**16 46 24.8**	**+0.3**
JOF	**Joensuu**	**7.50**	**51**	*e*P		**

*IDC **29** 17:00:43.1±1.2, 16°.51N×148°.51E, h0km, mb4.2/13, mbtmp4.2/14, ML4.2/1, MS3.2/1, Error ellipse: s-maj=35.5km s-min=15.7km az=96.0*
*NEIC **29** 17:00:49.5±2.6, 16°.50N±0°.07×148°.37E±0°.08, h38km±6km, mb4.7/49, Error ellipse: s-maj=12.2km s-min=9.5km az=51.0*
ISC 29 17:00:48.1±0.5, **16°.48N**±0°.06×**148°.38E**±0°.08, **h35**km, **n72**, σ1§**21**/75, **mb4.6**/35, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.45**	**230**	Pn	**Pn**	**17 01 52.6**	**-0.5**
	11nm,0.3s,baz=204,slow=7.1,SNR=5.1						
GUMO				Sn	**Sn**	**17 02 42.2**	**-1.4**
	22nm,0.3s,baz=352,slow=22,SNR=6.4 30nm,0.3s						
GUMO	**Guam**	**4.45**	**230**	Pn	**Pn**	**17 01 52.2**	**-0.9**
GUMO				Sn	**Sn**	**17 02 42.1**	**-1.6**
JCJ	**Chichijima**	**12.03**	**332**	Pn	**Pn**	**17 03 34.5**	**-2.6**
PATS	**Pohnpei**	**13.64**	**133**	Pn	**Pn**	**17 03 56.0**	**-3.2**
RABL	**Rabaul**	**20.87**	**169**	P	**P**	**17 05 28.3**	**+0.9**
RABL				IAmb	IAmb	17 06 06.8	
	comp=Z,23nm,0.5s						
JOW	**Kunigami**	**21.31**	**302**	P	**P**	**17 05 30.1**	**-1.9**
JOW				IAmb	IAmb	17 05 46.1	
	comp=Z,52nm,1.2s						
INU	**Inuyama**	**21.36**	**334**	P	**P**	**17 05 32.3**	**-0.1**
INU				IAmb	IAmb	17 05 34.1	
	comp=Z,25nm,0.9s						
JGF	**Kuroka**	**21.44**	**335**	P	**P**	**17 05 32.1**	**-1.2**
JGF				IAmb	IAmb	17 05 34.8	
	comp=Z,31nm,1.0s						
JMN	**Monobe**	**21.58**	**325**	P	**P**	**17 05 33.6**	**-1.2**
JMN				IAmb	IAmb	17 05 39.7	
	comp=Z,71nm,1.4s						
MJAR	**Matsushiro Arr**	**21.93**	**338**	P	**P**	**17 05 37.0**	**-1.5**
	comp=Z,4.4nm,0.8s,baz=169,slow=10,SNR=7.0 comp=Z,4.4nm,0.8s						
MAJO	**Matsushiro**	**21.93**	**338**	P	**P**	**17 05 37.9**	**-0.6**
MAJO					**S**	**17 09 38.7**	**-0.2**
MJB9	**Matsu-Tunnel**	**21.94**	**338**	P	**P**	**17 05 37.5**	**-1.2**
MJB9					**S**	**17 09 40.0**	**+1.0**
JMM	**Marumori**	**22.33**	**344**	P	**P**	**17 05 43.2**	**+0.4**
JMM				IAmb	IAmb	17 05 55.7	
	comp=Z,20nm,0.8s						
SIJI	**Sorong**	**24.13**	**226**	P	**P**	**17 06 02.7**	**+1.7**
	comp=Z,6.2nm,0.8s,baz=51,slow=11,SNR=3.9 comp=Z,6.2nm,0.8s						
PMG	**Port Moresby**	**25.75**	**183**	P	**P**	**17 06 17.4**	**+1.8**
YULB	**Yu-li**	**26.35**	**290**	P	**P**	**17 06 19.4**	**-1.6**
YULB				IAmb	IAmb	17 06 50.6	
	comp=Z,42nm,1.3s						
YHNB	**Yeheng**	**26.53**	**292**	P	**P**	**17 06 21.4**	**-1.4**
SSLB	**Suanglung**	**26.73**	**290**	P	**P**	**17 06 23.5**	**-1.1**
TPUB	**Ta-pu**	**26.94**	**289**	P	**P**	**17 06 25.6**	**-0.8**
KSRS	**Korea Array**	**27.62**	**323**	P	**P**	**17 06 32.2**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=146,slow=9.7,SNR=6.8 comp=Z,1.6nm,0.7s						
KLR	**Kul'dur**	**35.36**	**341**	P	**P**	**17 07 40.5**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=142,slow=10,SNR=8.5 comp=Z,2.3nm,0.7s						
WB0	**Warramunga Arr**	**38.55**	**201**	P	**P**	**17 08 08.9**	**+1.2**
WB0				IAmb	IAmb	17 08 11.2	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**38.68**	**201**	P	**P**	**17 08 10.4**	**+1.7**
WRAB	**Tennant Creek**	**38.72**	**201**	P	**P**	**17 08 10.6**	**+1.5**
WRAB				IAmb	IAmb	17 08 20.4	
	comp=Z,7.5nm,0.6s						
WB2	**Warramunga Arr**	**38.73**	**201**	P	**P**	**17 08 10.9**	**+1.8**
WB2				IAmb	IAmb	17 08 20.5	
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**38.73**	**201**	P	**P**	**17 08 10.9**	**+1.7**
	comp=Z,2.8nm,0.7s,baz=28,slow=9.2,SNR=41 comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**38.73**	**201**	P	**P**	**17 08 10.3**	**+1.1**
FUNA	**Funafuti**	**39.33**	**127**	P	**P**	**17 08 14.1**	**-0.1**
AS31	**Alice Springs**	**42.33**	**200**	P	**P**	**17 08 38.7**	**-0.2**
ASAR	**Alice Springs**	**42.33**	**200**	P	**P**	**17 08 40.3**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=27,slow=8.4,SNR=12 comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**42.33**	**200**	P	**P**	**17 08 37.6**	**-1.3**
MARNC	**Mare, Loyalty**	**42.36**	**152**	P	**P**	**17 08 37.4**	**-1.7**
SONM	**Songino Array**	**46.47**	**322**	P	**P**	**17 09 12.5**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=136,slow=7.1,SNR=18 comp=Z,2.2nm,0.6s						
SONM	**Songino Array**	**46.47**	**322**	P	**P**	**17 09 12.1**	**+0.2**
CM31	**Chiang Mai Arr**	**47.09**	**280**	P	**P**	**17 09 18.4**	**+1.4**
CM31				IAmb	IAmb	17 09 19.4	
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**47.09**	**280**	P	**P**	**17 09 18.4**	**+1.4**
	comp=Z,3.7nm,0.8s,baz=73,slow=6.4,SNR=28 comp=Z,3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**47.09**	**280**	P	**P**	**17 09 18.7**	**+1.7**
AFI	**Afiamalu**	**49.60**	**125**	LR	LR	17 28 43.9	
	comp=Z,22nm,18.2s,baz=339,slow=34						
CHGN	**Chignik**	**56.33**	**32**	P	**P**	**17 10 23.8**	**-1.5**
M20K	**Styx River**	**60.93**	**28**	P	**P**	**17 10 58.7**	**+1.2**
M20K				IAmb	IAmb	17 11 00.9	
	comp=Z,12nm,1.4s						
ZAA0	**Zalesovo Array**	**61.33**	**323**	P	**P**	**17 10 59.5**	**-0.6**
ZAA0				IAmb	IAmb	17 11 01.5	
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**61.33**	**323**	P	**P**	**17 11 00.1**	**0.0**
	comp=Z,3.5nm,0.6s,baz=102,slow=7.2,SNR=14 comp=Z,3.5nm,0.6s						
ZALV	**Zalesovo Beam**	**61.33**	**323**	P	**P**	**17 10 59.7**	**-0.4**
MK31	**Makanchi Array**	**61.84**	**315**	P	**P**	**17 11 04.1**	**+0.3**
MKAR	**Makanchi Array**	**61.84**	**315**	P	**P**	**17 11 04.0**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=87,slow=8.3,SNR=13 comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**61.84**	**315**	P	**P**	**17 11 04.7**	**+0.9**
CAST	**Castle Rocks**	**61.92**	**26**	P	**P**	**17 11 04.3**	**+0.2**
CAST				IAmb	IAmb	17 11 08.5	
	comp=Z,9.3nm,1.2s						
MAKZ	**Makanchi**	**62.05**	**315**	P	**P**	**17 11 05.9**	**+0.6**
MAKZ				IAmb	IAmb	17 11 07.9	
	comp=Z,14nm,1.5s						
SNZO	**South Karori**	**62.45**	**158**	P	**P**	**17 11 10.1**	**+2.3**
BPAW	**Bear Paw Mtn.**	**62.62**	**26**	P	**P**	**17 11 10.3**	**+1.6**
ILAR	**Eielson Array**	**64.52**	**25**	P	**P**	**17 11 21.2**	**0.0**
	comp=Z,0.7nm,0.8s,baz=266,slow=5.4,SNR=4.5 comp=Z,0.7nm,0.8s						
KURK	**Kurchatov**	**64.62**	**319**	P	**P**	**17 11 22.7**	**+0.6**
KURK				IAmb	IAmb	17 11 23.4	
	comp=Z,8.8nm,0.9s						
TOLK	**Toolik Lake Re**	**64.72**	**21**	P	**P**	**17 11 23.2**	**+0.7**
YAH	**Yahtse**	**65.88**	**31**	P	**P**	**17 11 31.9**	**+1.5**
BARN	**Barnard Glacie**	**66.03**	**30**	P	**P**	**17 11 32.2**	**+0.9**
BMAR	**Burnt Mountain**	**66.14**	**23**	P	**P**	**17 11 32.9**	**+1.2**
TABL	**Table Mountain**	**66.18**	**31**	P	**P**	**17 11 33.7**	**+1.4**
L27K	**Beaver Creek,**	**66.30**	**28**	P	**P**	**17 11 34.0**	**+1.2**
L27K				IAmb	IAmb	17 12 02.9	
	comp=Z,8.0nm,1.4s						
BCAR	**Beaver Creek A**	**66.32**	**28**	P	**P**	**17 11 33.9**	**+1.0**
HYT	**Haines Junctio**	**68.01**	**31**	P	**P**	**17 11 45.3**	**+1.5**
HYT				IAmb	IAmb	17 12 20.9	
	comp=Z,12nm,1.4s						
NIL	**Nilore**	**68.85**	**300**	P	**P**	**17 11 50.3**	**+0.9**
BRVK	**Borovoye**	**69.87**	**321**	P	**P**	**17 11 55.7**	**+0.4**
BRVK				IAmb	IAmb	17 11 56.9	
	comp=Z,6.5nm,0.9s						
KKAR	**Karatay Array**	**70.15**	**310**	P	**P**	**17 11 57.5**	**+0.2**
GAR	**Garm**	**70.66**	**306**	P	**P**	**17 11 59.9**	**-0.7**
GAR				IAmb	IAmb	17 12 37.4	
	comp=Z,7.6nm,1.2s						
CHGR	**Chuyangaron**	**71.59**	**306**	P	**P**	**17 12 06.9**	**+0.6**
CHGR				IAmb	IAmb	17 12 07.6	
	comp=Z,9.3nm,0.8s						
KBL	**Kabul**	**72.21**	**302**	P	**P**	**17 12 10.4**	**+0.2**
KBL				IAmb	IAmb	17 12 11.5	
	comp=Z,4.7nm,0.8s						
ARU	**Arti**	**76.35**	**325**	P	**P**	**17 12 34.2**	**+0.6**
ARU				IAmb	IAmb	17 12 35.3	
	comp=Z,4.7nm,0.7s						
ABKAR	**Akbulak array**	**76.70**	**318**	P	**P**	**17 12 35.7**	**+0.1**
ABKAR	**Akbulak array**	**76.70**	**318**	P	**P**	**17 12 35.9**	**+0.3**
BELG	**Belogornoye**	**83.51**	**323**	P	**P**	**17 13 13.6**	**+1.2**
	comp=Z,9.4nm,0.8s,baz=12,slow=4.1,SNR=4.3 comp=Z,9.4nm,0.8s						
FINES	**FINESS Array B**	**89.95**	**336**	P	**P**	**17 13 42.8**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=64,slow=4.4,SNR=11 comp=Z,1.1nm,0.5s						
DBIC	**Dimbokro**	**144.93**	**309**	PKPbc	**PKPdf**	**17 20 22.7**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=77,slow=5.7,SNR=7.1						

*GII **29** 17:01:10.6±0.0, 28°.50N×34°.81E, h1km, mb4.9/2, MD5.0/2, Mm4.7/3*
*IDC **29** 17:01:12.3±0.9, 28°.58N×34°.60E, h0km, mb4.0/15, mbtmp4.0/19, ML3.5/3, MS3.8/42, Error ellipse: s-maj=16.3km s-min=11.4km az=96.0*
*NEIC **29** 17:01:13.3±2.4, 28°.56N±0°.07×34°.46E±0°.07, h14km±4km, mb4.4/38, Error ellipse: s-maj=10.0km s-min=8.3km az=160.0*
*MED_RC **29** 17:01:13.0±0.4, 28°.56N×34°.59E, h18km±1km, MW4.7/19, Moment Tensor Solution.Mantle waves: s19,c19; Duration: 1§0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.83±.14; Mθθ-0.16±.12; Mϕϕ0.99±.10; Mrθ0.66±.19; Mθϕ-0.62±.07; Mϕr0.39±.13; Best double couple: M₀1.34000×10¹⁶ NP1:φs188.00000°, δ59.00000°, λ-44.00000°. NP2:φs305.00000°, δ53.00000°, λ-140.00000°. Principal axes: T 1.2700, Plg3.0000°, Azm248.0000°; N 0.1500, Plg38.0000°, Azm340.0000°; P -1.4200, Plg52.0000°, Azm154.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*HLW **29** 17:01:14.9, 28°.58N×34°.67E, h20km±1km, Md4.2, Ml4.6*
*SGS **29** 17:01:15.1, 28°.63N×34°.59E, h19km, Ml4.8*
ISC 29 17:01:14.6±0.8, **28°.63N**±0°.02×**34°.59E**±0°.02, **h17**km±5km, **n298**, σ1§**36**/288, **mb4.3**/42, **MS3.7**/39, **2C-2D, Egypt**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HDHB	**Dhahab**	**0.10**	**15**	PG	**Pb**	**17 01 19.5**	**+1.3**
	baz=342						
TAYS	**Tayyib Ism**	**0.26**	**107**	S	**Sb**	**17 01 25.1**	**+0.2**
TAYS	**Tayyib Ism**	**0.26**	**107**	P	**Pb**	**17 01 20.9**	**+0.2**
RSHS		**0.37**	**151**	P	**Pb**	**17 01 22.8**	**+0.1**
NUB	**Nuweibaa**	**0.40**	**7**	PG	**Pb**	**17 01 23.2**	**-0.1**
	baz=356						
BDAS	**Al Bad`**	**0.49**	**114**	P	**Pb**	**17 01 24.4**	**-0.3**
HAQS	**Haql**	**0.51**	**34**	S	**Sb**	**17 01 32.5**	**+0.3**
HAQS				P	**Pb**	**17 01 25.2**	**+0.1**
HKAT	**Jabal Katrina**	**0.54**	**259**	PG	**Pb**	**17 01 26.4**	**+0.8**
	baz=265						
HKAT				SG	**Sb**	**17 01 34.4**	**+1.3**
	baz=265						
HBST	**Basata**	**0.60**	**12**	PG	**Pb**	**17 01 27.0**	**+0.4**
	baz=4.0						
JMOS	**Jabal al Moall**	**0.70**	**40**	P	**Pb**	**17 01 28.1**	**-0.3**
AYUS	**`Aynunah**	**0.74**	**126**	P	**Pb**	**17 01 28.2**	**-0.8**
KRABS	**KRABS**	**0.79**	**132**	P	**Pb**	**17 01 28.7**	**-1.1**
HQLS		**0.79**	**32**	P	**Pb**	**17 01 29.3**	**-0.6**
JLOS		**0.80**	**82**	P	**Pb**	**17 01 29.7**	**-0.4**
TR2	**Tor 2**	**0.80**	**253**	PG	**Pn**	**17 01 31.0**	**-0.1**
	baz=258						
TR1	**Tor 1**	**0.84**	**222**	PG	**Pn**	**17 01 31.5**	**0.0**
	baz=229						
TR1				SG	**Sn**	**17 01 43.4**	**-0.1**
	baz=229						
EIL	**Elat**	**1.08**	**17**	Pg	**Pn**	**17 01 33.7**	**-1.3**
	58nm,0.3s,baz=106,slow=3.6,SNR=449						
EIL				Lg	Lg	17 01 50.1	
	829nm,0.3s,baz=144,slow=22,SNR=12						
EIL				LR	LR	17 01 51.5	
	comp=Z,1μm,20.8s,baz=23,slow=34						
EIL	**Elat**	**1.08**	**17**	Pg	**Pn**	**17 01 33.6**	**-1.4**
EIL				Sg	**Sn**	**17 01 50.1**	**+0.5**
HRDS	**Abu Rudays**	**1.14**	**275**	PG	**Pb**	**17 01 36.0**	**+0.2**
	baz=277						
MBRI	**Mt Berech**	**1.20**	**14**	Pg	**Pn**	**17 01 35.5**	**-1.1**
MBRI				Sg	**Sn**	**17 01 53.8**	**+1.3**
MWLHS	**Almuwaylih**	**1.20**	**137**	P	**Pn**	**17 01 34.7**	**-1.9**
WTBKS	**WTBKS**	**1.28**	**115**	P	**Pn**	**17 01 36.6**	**-1.2**
HRFI	**Mount Harif**	**1.46**	**15**	Pn	**Pn**	**17 01 38.9**	**-1.2**
HRFI				Sn	**Sb**	**17 02 00.8**	**+1.3**
KRMI	**Paran Flat**	**1.49**	**5**	Pn	**Pn**	**17 01 40.5**	**-0.1**
KRMI				Sn	**Sb**	**17 02 01.9**	**+1.5**
GRB	**Gharib**	**1.63**	**258**	PN	**Pn**	**17 01 42.1**	**-0.3**
	baz=260						
HHRG	**Al Ghardaqah**	**1.67**	**213**	PN	**Pn**	**17 01 43.4**	**+0.4**
	baz=213						
ZNM	**Zenema**	**1.68**	**297**	PN	**Pb**	**17 01 44.4**	**-0.6**
	baz=298						
TBKS	**Tabuk**	**1.77**	**103**	P	**Pn**	**17 01 43.9**	**-0.5**
ZAF	**Zafarana**	**1.90**	**290**	PN	**Pn**	**17 01 46.8**	**+0.6**
	baz=292						
SUZ	**Suez**	**1.96**	**309**	PN	**Pn**	**17 01 48.3**	**+1.4**
	baz=309						
ZFRI	**Zfri**	**1.99**	**15**	Pn	**Pn**	**17 01 47.1**	**-0.2**
URD07	**Al Anba**	**2.01**	**117**	P	**Pn**	**17 01 47.0**	**-0.8**
URD06	**Shuwaq**	**2.25**	**121**	P	**Pn**	**17 01 50.5**	**-0.7**
URD10	**Hayder**	**2.25**	**101**	P	**Pn**	**17 01 50.5**	**-0.7**
KZIT	**Kziot**	**2.28**	**356**	Pn	**Pn**	**17 01 52.0**	**+0.6**
KZIT				Sn	**Sb**	**17 02 23.6**	**+0.5**
URD12	**Shuwaq**	**2.34**	**111**	P	**Pn**	**17 01 51.9**	**-0.5**
WJHS		**2.48**	**139**	P	**Pn**	**17 01 52.9**	**-1.2**
HHAG	**Hagoal**	**2.54**	**302**	PN	**Pn**	**17 01 56.2**	**+1.2**
	baz=302						
URD11	**Tayma**	**2.62**	**105**	P	**Pn**	**17 01 55.6**	**-0.6**
GLL	**Jalalah**	**2.69**	**291**	PN	**Pn**	**17 01 58.4**	**+1.2**
	baz=292						
BIDS	**Bi'r al Bayda'**	**2.73**	**129**	P	**Pn**	**17 01 57.1**	**-0.6**
KOT	**Kottamia**	**2.74**	**299**	PN	**Pn**	**17 01 58.5**	**+0.8**
	baz=300						
MDBI	**Mazsada**	**2.76**	**14**	Pn	**Pn**	**17 01 56.7**	**-1.2**
YTIR	**Yattir**	**2.76**	**9**	Pn	**Pn**	**17 01 57.8**	**-0.3**
YTIR				Sn	**Sb**	**17 02 34.8**	**-2.4**
URD13	**Abu Rakah**	**2.77**	**112**	P	**Pn**	**17 01 57.9**	**-0.4**
GHAJ	**Ghor Haditha**	**2.80**	**17**		**Pn**	**17 01 58.1**	**-0.3**
GHAJ				Sn	**Sn**	**17 02 33.8**	**+2.0**
GHAJ	**Ghor Haditha**	**2.80**	**17**	Pn	**Pn**	**17 01 57.9**	**-0.6**
URD04	**Abu Rakah**	**2.82**	**122**	P	**Pn**	**17 01 58.5**	**-0.5**
HSAF	**As Saff**	**2.83**	**291**	PN	**Pn**	**17 02 00.1**	**+1.1**
	baz=292						
URD15	**Abu Rakah**	**2.88**	**118**	P	**Pn**	**17 01 59.8**	**-0.1**
NBNS	**Bani Suef**	**2.90**	**271**	PN	**Pn**	**17 02 00.9**	**+1.0**
	baz=272						
SWQJ	**Swaqa**	**2.90**	**26**	P	**Pb**	**17 02 07.8**	**+1.9**
AMAZ	**Amatzia**	**2.91**	**5**	Pn	**Pn**	**17 02 00.0**	**-0.1**
ASUT		**2.94**	**246**	PN	**Pn**	**17 02 00.7**	**+0.2**
	baz=248						
DSI	**Dead Sea**	**3.01**	**13**	Pn	**Pn**	**17 02 01.3**	**-0.2**
URD14	**Abu Rakah**	**3.02**	**112**	P	**Pn**	**17 02 01.7**	**-0.1**
QLABS	**Al Qalibar**	**3.04**	**104**	P	**Pn**	**17 02 01.6**	**-0.4**
URD01	**URD01**	**3.19**	**121**	P	**Pn**	**17 02 04.3**	**+0.2**
URD03	**Al Ula**	**3.20**	**127**	P	**Pn**	**17 02 03.8**	**-0.3**
SALP	**Salfit**	**3.47**	**8**	Pn	**Pn**	**17 02 07.9**	**+0.1**
SALP				Sn	**Sn**	**17 02 52.3**	**+3.8**
URD02	**Al Ula**	**3.52**	**124**	P	**Pn**	**17 02 08.4**	**-0.2**
OLAS	**OLAS**	**3.59**	**131**	P	**Pn**	**17 02 09.1**	**-0.4**
SLTI	**Sal'it**	**3.62**	**6**	Pn	**Pn**	**17 02 10.1**	**+0.2**
SLTI				Sn	**Sn**	**17 02 56.7**	**+4.5**
HMDT	**Nahal Hemdat**	**3.70**	**12**	Pn	**Pn**	**17 02 10.9**	**-0.1**
HMDT				Sn	**Sn**	**17 02 58.4**	**+4.2**
NTAIM	**NTAIM**	**3.80**	**96**	P	**Pn**	**17 02 11.7**	**-0.6**
RYAN	**Fayoum**	**3.81**	**278**	PN	**Pn**	**17 02 13.1**	**+0.6**
	baz=279						
NUMJS	**Khuff**	**3.83**	**141**	P	**Pn**	**17 02 11.3**	**-1.3**
MMLI	**Mount Malkishu**	**3.86**	**10**	Pn	**Pn**	**17 02 13.4**	**+0.2**
STAIM	**STAIM**	**4.02**	**110**	P	**Pn**	**17 02 15.4**	**0.0**
ASF	**Jabal al Asfar**	**4.06**	**29**	Pn	**Pn**	**17 02 15.6**	**-0.4**
	1.3nm,0.3s,baz=277,slow=1.9,SNR=36						
ASF				Lg	Lg	17 03 24.0	
	41nm,0.3s,baz=199,slow=18,SNR=8.9 6.3nm,0.2s						
UMJS	**Umm Lajj**	**4.16**	**144**	P	**Pn**	**17 02 16.1**	**-1.3**
LNY09	**LNY09**	**4.22**	**139**	P	**Pn**	**17 02 17.2**	**-1.0**
LNY16	**LNY16**	**4.23**	**140**	P	**Pn**	**17 02 18.3**	**+0.1**
HANO	**Al Hamad**	**4.25**	**49**	P	**Pn**	**17 02 17.4**	**-1.2**
WSKAK	**WSKAK**	**4.27**	**66**	P	**Pn**	**17 02 19.1**	**+0.3**
LNY04	**LNY04**	**4.31**	**140**	P	**Pn**	**17 02 18.4**	**-1.1**
LNY11	**LNY11**	**4.35**	**139**	P	**Pn**	**17 02 19.1**	**-1.0**
LNY07	**LNY07**	**4.38**	**142**	P	**Pn**	**17 02 19.3**	**-1.1**
LNY13	**LNY13**	**4.38**	**141**	P	**Pn**	**17 02 20.0**	**-0.4**
LNY12	**LNY12**	**4.39**	**139**	P	**Pn**	**17 02 19.5**	**-1.0**
LNY14	**LNY14**	**4.40**	**139**	P	**Pn**	**17 02 20.1**	**-0.6**
LNY15	**LNY15**	**4.41**	**139**	P	**Pn**	**17 02 20.4**	**-0.4**
LNY17	**LNY17**	**4.43**	**139**	P	**Pn**	**17 02 20.5**	**-0.5**
MMAI	**Mount Meron Ar**	**4.43**	**9**	Pn	**Pn**	**17 02 21.6**	**+0.6**
	3.8nm,0.3s,baz=173,slow=15,SNR=11						
MMAI				Sn	**Sn**	**17 03 16.4**	**+4.2**
	70nm,0.3s,baz=175,slow=19,SNR=5.5						
MMAI				Lg	Lg	17 03 35.6	
	152nm,0.3s,baz=194,slow=24,SNR=8.7 1.7nm,0.3s						
MMC7	**Mount Meron ar**	**4.43**	**9**	Pn	**Pn**	**17 02 21.5**	**+0.4**
LNY10	**LNY10**	**4.44**	**138**	P	**Pn**	**17 02 20.9**	**-0.3**
LNY01	**LNY01**	**4.54**	**138**	P	**Pn**	**17 02 21.9**	**-0.6**
LNY08	**LNY08**	**4.62**	**140**	P	**Pn**	**17 02 23.2**	**-0.5**
LNYS	**LNYS**	**4.63**	**139**	P	**Pn**	**17 02 23.4**	**-0.4**
NATI	**Neve Ativ**	**4.72**	**12**	Pn	**Pn**	**17 02 25.5**	**+0.5**
KBR13	**Birmah**	**4.74**	**126**	P	**Pn**	**17 02 25.4**	**+0.1**
TRAF	**Turaif**	**4.90**	**56**	P	**Pn**	**17 02 27.0**	**-0.4**
TRAS	**Al Qrash**	**5.03**	**134**	P	**Pn**	**17 02 29.5**	**+0.3**
KBR12	**Shajwa**	**5.05**	**129**	P	**Pn**	**17 02 29.7**	**+0.2**
ETH06	**ETH06**	**5.12**	**111**	P	**Pn**	**17 02 30.8**	**+0.2**
ETH07	**ETH07**	**5.13**	**114**	P	**Pn**	**17 02 31.3**	**+0.6**
KBR09	**Khaybar**	**5.20**	**119**	P	**Pn**	**17 02 32.1**	**+0.4**
KBR08	**Khaybar**	**5.23**	**123**	P	**Pn**	**17 02 32.5**	**+0.5**
YNBS	**Yanbu` al Bahr**	**5.25**	**144**	P	**Pn**	**17 02 31.9**	**-0.3**
ETH05	**ETH05**	**5.26**	**108**	P	**Pn**	**17 02 32.6**	**+0.1**
ETH08	**ETH08**	**5.33**	**110**	P	**Pn**	**17 02 33.9**	**+0.4**
ETH01	**ETH01**	**5.39**	**113**	P	**Pn**	**17 02 34.9**	**+0.6**
KBR11	**Shajwa**	**5.43**	**130**	P	**Pn**	**17 02 35.2**	**+0.3**
KBR07	**Khaybar**	**5.50**	**127**	P	**Pn**	**17 02 36.3**	**+0.6**
KBR03	**Khaybar**	**5.53**	**119**	P	**Pn**	**17 02 36.7**	**+0.4**
ETH04	**ETH04**	**5.53**	**109**	P	**Pn**	**17 02 36.2**	**-0.1**
KBR01	**Khaybar**	**5.60**	**123**	P	**Pn**	**17 02 37.9**	**+0.6**
RHT07	**RHT07**	**5.61**	**134**	P	**Pn**	**17 02 37.5**	**+0.3**
HIL03	**Ash Shuqayq**	**5.66**	**103**	P	**Pn**	**17 02 38.0**	**+0.1**
KBR04	**Khaybar**	**5.71**	**116**	P	**Pn**	**17 02 39.2**	**+0.5**
RHT11	**RHT11**	**5.87**	**128**	P	**Pn**	**17 02 41.5**	**+0.6**
RHT08	**RHT08**	**5.90**	**130**	P	**Pn**	**17 02 42.1**	**+0.8**
RHT06	**RHT06**	**5.91**	**135**	P	**Pn**	**17 02 42.0**	**+0.6**
KBR10	**Khaybar**	**5.91**	**125**	P	**Pn**	**17 02 41.8**	**+0.3**
KBR05	**Khaybar**	**5.93**	**120**	P	**Pn**	**17 02 42.4**	**+0.6**
BADR	**Badr**	**5.97**	**141**	P	**Pn**	**17 02 42.7**	**+0.5**
KBR02	**Khaybar**	**6.08**	**123**	P	**Pn**	**17 02 44.2**	**+0.5**
RHT09	**RHT09**	**6.11**	**128**	P	**Pn**	**17 02 45.0**	**+0.8**
RHT13	**RHT13**	**6.14**	**135**	P	**Pn**	**17 02 45.1**	**+0.5**
RHT05	**RHT05**	**6.24**	**138**	P	**Pn**	**17 02 46.8**	**+1.0**
RHT01	**RHT01**	**6.38**	**132**	P	**Pn**	**17 02 48.5**	**+0.7**
CSS	**Mathiatis**	**6.41**	**351**	Pn	**Pn**	**17 02 48.5**	**+0.4**
RHT04	**RHT04**	**6.62**	**133**	P	**Pn**	**17 02 52.4**	**+1.2**
RHT17	**RHT17**	**6.86**	**135**	P	**Pn**	**17 02 55.3**	**+0.9**
RHT18	**RHT18**	**6.90**	**132**	P	**Pn**	**17 02 56.0**	**+0.9**
RHT16	**RHT16**	**7.18**	**134**	P	**Pn**	**17 03 00.0**	**+1.1**
HIL04	**Ash Shaalaniya**	**7.26**	**95**	P	**Pn**	**17 03 00.4**	**+0.4**
QSMS	**Sumairaa**	**7.44**	**103**	P	**Pn**	**17 03 03.8**	**+1.3**
AKAS	**Kas**	**8.67**	**332**	Pn	**Pn**	**17 03 18.6**	**-0.7**
GAZ	**Gaziantep**	**8.80**	**14**	Pn	**Pn**	**17 03 22.4**	**+1.4**
ELL	**Elmali**	**9.01**	**335**	Pn	**Pn**	**17 03 24.3**	**+0.4**
KARP	**Karpathos**	**9.34**	**319**	Pn	**Pn**	**17 03 28.0**	**-0.4**
KARP				Sn	**Sn**	**17 05 09.9**	**-3.1**
MARD	**Mardin**	**10.10**	**29**	Pn	**Pn**	**17 03 39.2**	**+0.4**
BNN	**Bunyan**	**10.25**	**6**	Pn	**Pn**	**17 03 42.5**	**+1.6**
IDI	**Anoyia**	**10.58**	**311**	Pn	**Pn**	**17 03 45.1**	**-0.3**
	0.5nm,0.3s,baz=128,slow=18,SNR=2.9 10nm,0.9s						
IDI	**Anoyia**	**10.58**	**311**	Pn	**Pn**	**17 03 43.2**	**-2.2**
SANT	**Santorini**	**10.90**	**317**	Pn	**Pn**	**17 03 46.3**	**-3.5**
MANT	**Manisa**	**11.04**	**335**	Pn	**Pn**	**17 03 49.6**	**-2.4**
RAYN	**Ar Rayn**	**11.05**	**115**	Pn	**Pn**	**17 03 51.5**	**-0.4**
RAYN	**Ar Rayn**

comp=Z,13nm,0.9s,baz=310,slow=7.6,SNR=5.2
WSAR LR LR 17 16 04.9
comp=Z,283nm,21.5s,baz=315,slow=40
comp=Z,13nm,0.9s
PSZ Piszkesteto 22.38 333 P **P** **17 06 11.4 -0.5**
AKASG Malin Array Be 22.42 351 P **P** **17 06 11.4 -0.8**
AKASG comp=Z,1.2nm,0.6s,baz=168,slow=8.7,SNR=14
LR LR 17 16 50.4
comp=Z,128nm,19.3s,baz=192,slow=42
comp=Z,1.2nm,0.6s
AKBB Malin Array Si 22.42 351 P **P** **17 06 11.4 -0.8**
AKBB IAmb IAmb 17 06 26.1
comp=Z,11nm,0.9s
KEST Kesra 22.47 295 LR LR 17 16 16.2
comp=Z,148nm,20.6s,baz=308,slow=40
KEST Kesra 22.47 295 P **P** **17 06 12.7 -0.4**
MHTO MHTO 22.52 104 P **P** **17 06 13.6 +0.1**
SNR=12
DQM DQM 22.61 107 P **P** **17 06 14.8 +0.3**
WBK Wadi Bani Khal 22.77 100 P **P** **17 06 16.9 +0.7**
HRA Herat 24.23 69 P **P** **17 06 28.5 -2.3**
OJC Ojcow 24.32 337 P **P** **17 06 27.6 -3.5**
OJC IAmb IAmb 17 06 36.0
comp=Z,17nm,1.3s
MAUC Maruska 24.36 333 *eP* **P** **17 06 33.8 +2.2**
KRUC Moravsky 24.72 331 *eP* **P** **17 06 36.8 +2.0**
CIMO Cimolais 24.78 321 P **P** **17 06 34.0 -1.3**
CIMO IAmb IAmb 17 06 40.4
comp=Z,13nm,1.2s
MORC Moravsky Berou 24.80 333 P **P** **17 06 33.9 -1.6**
MORC Moravsky Berou 24.80 333 *eP* **P** **17 06 37.0 +1.4**
VRAC Vranov 24.82 331 *eP* **P** **17 06 37.6 +1.9**
comp=Z,1.4nm,0.3s,baz=133,slow=6.6,SNR=4.4
VRAC LR LR 17 18 58.4
comp=Z,58nm,18.2s,baz=129,slow=43
comp=Z,1.4nm,0.3s
VRAC Vranov 24.82 331 *eP* **P** **17 06 37.5 +1.7**
LODK Lodwar 25.08 178 P **P** **17 06 36.2 -2.2**
KRLC Kraliky 25.34 333 *eP* **P** **17 06 42.5 +2.1**
CKRC Cesky Krumlov 25.48 328 *eP* **P** **17 06 44.1 +2.3**
DPC Dobruska-Polom 25.74 332 *eP* **P** **17 06 46.3 +2.2**
GEC2 GERESS Array S 25.79 327 P **P** **17 06 43.5 -1.1**
GEC2 IAmb IAmb 17 07 17.9
comp=Z,11nm,1.2s
GERES GERESS Array B 25.79 327 P **P** **17 06 46.0 +1.4**
comp=Z,2.3nm,0.9s,baz=140,slow=7.0,SNR=12
comp=Z,2.3nm,0.9s
GERES GERESS Array B 25.79 327 P **P** **17 06 43.5 -1.1**
WTTA Wattenberg 25.80 322 *eP* **P** **17 06 48.3 +3.5**
comp=Z,9.0nm,1.1s
SQTA Sankt Quirin 26.00 322 *eP* **P** **17 06 49.3 +2.7**
comp=Z,3.3nm,0.5s
KHC Kasperske Hory 26.05 328 *eP* P 17 06 53.4 +6.5
MOTA Moosalm 26.14 322 *eP* **P** **17 06 49.5 +1.6**
comp=Z,1.5nm,0.4s
FETA Feichten 26.15 321 *eP* **P** **17 06 52.8 +4.8**
comp=Z,7.5nm,0.9s
FUORN Ofenpass-Fuorn 26.17 320 P **P** **17 06 48.8 +0.5**
FUORN IAmb IAmb 17 07 11.2
comp=Z,17nm,1.4s
MNK Minsk 26.31 351 *i* P **P** **17 06 47.5 -1.6**
comp=E,4.0nm,1.1s
MNK *i* P **P** **17 06 47.5 -1.6**
comp=N,31nm,0.8s
MNK *i* P **P** **17 06 47.5 -1.6**
comp=Z,9.0nm,0.8s,baz=167
MNK *i* PP **PnPn** **17 07 26.7 -1.8**
MNK *i* PPP PPP 17 07 34.8
MNK *i* S **S** **17 11 21.7 +0.7**
MNK *i* SS **SnSn** **17 12 22.5 +1.2**
MNK *i* SSS SSS 17 12 37.3
MNK *i* LQ LQ 17 15 11.8
MNK *i* LQ LQ 17 15 51.7
MNK *i* LR LR 17 17 04.9
MNK *i* LRM MLR 17 18 08.1
comp=N,439nm,19.1s
MNK *i* LRM MLR 17 18 25.4
comp=Z,112nm,12.1s
MNK *i* LRM MLR 17 18 56.6
comp=E,21nm,14.0s
DAVOX Davos/Dischmat 26.48 320 LR LR 17 19 52.1
comp=E,84nm,19.3s,baz=91,slow=42
TAM Tamanrasset 26.79 264 P **P** **17 06 52.7 -1.3**
TAM IAmb IAmb 17 07 20.7
comp=Z,13nm,1.3s
NACGM Naroch 26.86 350 *eP* **P** **17 06 53.0 -1.1**
comp=Z,10.0nm,0.8s,baz=165
MAHO Mahon 27.34 302 P **P** **17 06 55.7 -2.8**
CLL Collm 27.85 330 *i* P **P** **17 07 02.4 -0.6**
CLL *i* sP **pP** **17 07 07.3 -1.2**
comp=Z,9.0nm,1.2s
CLL *ex* x 17 07 36.0
CLL *e*PPP PPP 17 08 00.0
ABKAR Akbulak array 28.29 36 P **P** **17 07 05.7 -1.2**
MBAR Mbarara 29.30 188 LR LR 17 18 51.3
comp=Z,293nm,18.6s,baz=0.5,slow=36
KMBO Kilima Mbogo 29.70 175 P **P** **17 07 22.9 +2.9**
comp=Z,2.2nm,0.9s,baz=352,slow=7.0,SNR=5.5
KMBO Kilima Mbogo 29.70 175 P **P** **17 07 17.1 -2.9**
KMBO IAmb IAmb 17 07 24.0
comp=Z,7.5nm,1.4s
KK31 Karatay Array 32.23 54 P **P** **17 07 43.5 +1.6**
KK31 IAmb IAmb 17 07 44.6
comp=Z,5.9nm,1.0s
KKAR Karatay Array 32.23 54 P **P** **17 07 43.1 +1.2**
KKAR IAmb IAmb 17 07 44.6
comp=Z,5.9nm,1.0s
KKAR Karatay Array 32.23 54 P **P** **17 07 42.4 +0.5**
KLMR Klimovskoe 32.39 5 *eP* **P** **17 07 42.1 -1.0**
KLMR AMP 17 07 52.1
comp=Z,15nm,1.2s
FINES FINESS Array B 33.30 353 P **P** **17 07 51.5 +0.5**
comp=Z,2.7nm,0.9s,baz=167,slow=12,SNR=4.1
FINES LR LR 17 21 51.1
comp=Z,80nm,19.6s,baz=189,slow=37
comp=Z,2.7nm,0.9s
FINES FINESS Array B 33.30 353 P **P** **17 07 50.1 -1.0**
FIA1 FINESS Array S 33.30 353 P **P** **17 07 49.8 -1.2**
ESDC Sonseca Array 33.52 299 P **P** **17 07 54.6 +1.3**
comp=Z,1.7nm,1.0s,baz=85,slow=9.0,SNR=6.5
ESDC LR LR 17 25 24.1
comp=Z,128nm,18.4s,baz=112,slow=43
comp=Z,1.7nm,1.0s
MDT Midelt 33.82 287 LR LR 17 24 11.8
comp=Z,340nm,18.6s,baz=95,slow=41
HFS Hagfors 34.54 342 P **P** **17 08 02.2 +0.4**
comp=Z,3.9nm,0.8s,baz=165,slow=12,SNR=3.0
comp=Z,3.9nm,0.8s
AAK Ala-Archa 34.98 56 LR LR 17 25 24.8
comp=Z,125nm,18.7s,baz=217,slow=42
BRVK Borovoye 35.81 37 P **P** **17 08 11.4 -1.4**
BVAR Borovoye Array 35.85 37 LR LR 17 25 19.1
comp=Z,112nm,19.4s,baz=252,slow=40
NRN Naryn 35.91 58 P **P** **17 08 14.2 -0.1**
NRN IAmb IAmb 17 08 17.2
comp=Z,5.1nm,1.2s
NOA NORSAR Array B 35.99 341 LR LR 17 24 50.4
comp=Z,60nm,20.8s,baz=325,slow=39
PESTR Estremoz 36.25 298 P **P** **17 08 13.9 -2.9**
PESTR IAmb IAmb 17 08 21.3
comp=Z,4.3nm,1.0s
MAKZ Makanchi 40.95 50 P **P** **17 08 55.2 -1.0**
MAKZ IAmb IAmb 17 09 09.0
comp=Z,6.8nm,1.1s
MK31 Makanchi Array 41.16 51 P **P** **17 08 58.1 +0.1**
MK31 IAmb IAmb 17 09 11.2
comp=Z,8.6nm,1.4s
MKAR Makanchi Array 41.16 51 P **P** **17 08 59.1 +1.1**
comp=Z,2.5nm,0.9s,baz=258,slow=5.6,SNR=12
MKAR LR LR 17 28 22.0
comp=Z,74nm,20.8s,baz=265,slow=40
comp=Z,2.5nm,0.9s
ARCES ARCESS Array B 41.28 355 P **P** **17 08 58.5 -0.1**
comp=Z,2.3nm,0.9s,baz=162,slow=7.1,SNR=3.6
ARCES LR LR 17 26 29.9
comp=Z,78nm,18.5s,baz=138,slow=37
comp=Z,2.3nm,0.9s
ZAA0 Zalesovo Array 44.20 41 P **P** **17 09 21.3 -1.2**
ZALV Zalesovo Beam 44.20 41 P **P** **17 09 22.5 0.0**
ZALV LR LR 17 30 20.9
comp=Z,1.1nm,0.6s,baz=261,slow=11,SNR=5.9
comp=Z,59nm,19.3s,baz=252,slow=40
comp=Z,1.1nm,0.6s
ZALV Zalesovo Beam 44.20 41 P **P** **17 09 21.4 -1.1**
WMQ Urumqi 44.69 55 *eP* **P** **17 09 28.8 +2.1**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ LR LR
comp=N,210nm,18.5s
WMQ LR LR
comp=Z,320nm,21.7s
PALK Pallekele 48.35 107 LR LR 17 29 44.5
comp=Z,341nm,20.6s,baz=50,slow=35
OPO Ambohidratompo 48.48 164 P **P** **17 09 57.3 +0.7**
comp=Z,3.5nm,0.8s,baz=324,slow=6.5,SNR=5.4
comp=Z,3.5nm,0.8s
LSA Lhasa 48.97 74 P **P** **17 09 59.3 -1.5**
SPB2 Spitsbergen Ar 50.31 355 P **P** **17 10 07.4 -2.4**
TSUM Tsumeb 50.31 201 LR LR 17 32 04.0
comp=Z,327nm,19.2s,baz=32,slow=37
SHL Shillong 50.68 79 P **P** **17 10 11.2 -2.3**
SHL IAmb IAmb 17 10 13.8
comp=Z,5.5nm,1.0s
KBS Kingsbay 51.35 355 P **P** **17 10 15.9 -1.7**
BRDH Bariadhala 51.37 83 LR LR 17 35 33.3
comp=Z,118nm,19.6s,baz=272,slow=40
LBTB Lobatse 54.03 190 LR LR 17 33 42.2
comp=Z,132nm,21.9s,baz=12,slow=36
GTA Gaotai 54.07 60 *eP* **P** **17 10 38.8 +0.4**
GTA sP sP 17 10 47.8 +2.0
GTA pmax pmax
comp=Z,5.0nm,1.7s
SONM Songino Array 57.51 49 P **P** **17 11 03.9 +0.9**
comp=Z,1.5nm,0.9s,baz=289,slow=8.8,SNR=8.0
SONM LR LR 17 39 35.3
comp=Z,71nm,19.6s,baz=248,slow=40
comp=Z,1.5nm,0.9s
BOSA Boshof 57.62 190 LR LR 17 36 19.3
comp=Z,112nm,18.3s,baz=10,slow=37
PZH PanZhiHua 58.84 75 P **P** **17 11 14.3 +1.7**
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
CMAR Chiang Mai Arr 59.26 85 P **P** **17 11 14.8 -0.6**
comp=Z,0.5nm,0.8s,baz=306,slow=8.0,SNR=5.8
CMAR LR LR 17 40 19.0
comp=Z,46nm,18.4s,baz=285,slow=40
comp=Z,0.5nm,0.8s
CRAI Chiangrai 59.84 82 P **P** **17 11 18.6 -0.8**
KMI Kunming 60.14 76 ⇑P P 17 11 25.0 +3.2
KMI pP pP 17 11 27.5 +0.3
KMI pmax pmax
comp=Z,6.0nm,1.4s
SUR Sutherland 62.07 193 LR LR 17 39 14.1
comp=Z,253nm,18.6s,baz=12,slow=37
HHC Hu-ho-hao-te 62.56 56 *eP* **P** **17 11 39.5 +1.8**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,150nm,6.0s
XLT XiLinHaoTe 64.95 52 *eP* **P** **17 11 54.3 +0.9**
XLT pP pP 17 11 59.8 +1.0
XLT sP sP 17 12 01.5 +0.7
XLT pmax pmax
comp=Z,5.0nm,1.1s
XLT pmax pmax
comp=Z,110nm,4.5s
RPSI Rantau Prapat 66.26 100 P **P** **17 12 01.4 -0.8**
EUNU Eureka 67.00 351 P **P** **17 12 05.4 -0.6**
EUNU IAmb IAmb 17 12 07.8
comp=Z,3.9nm,0.9s
YAK Yakutsk 67.44 31 LR LR 17 45 18.3
comp=Z,22nm,19.6s,baz=132,slow=39
KSRS Korea Array 75.64 55 LR LR 17 49 58.7
comp=Z,33nm,18.2s,baz=255,slow=39
RCBR Riachuelo 75.88 255 LR LR 17 44 09.5
comp=Z,75nm,21.6s,baz=174,slow=34
MA2 Magadan 77.71 28 LR LR 17 52 55.8
comp=Z,47nm,19.4s,baz=246,slow=40
LEM Lembang 78.55 104 LR LR 17 48 33.3
comp=Z,86nm,18.0s,baz=9.5,slow=36
JNU Nakatsue 79.72 58 LR LR 17 54 23.8
comp=Z,47nm,20.1s,baz=275,slow=40
ASAJ Asahikawa 82.25 44 LR LR 17 54 21.7
comp=Z,57nm,18.6s,baz=310,slow=39
INK Inuvik 82.95 356 P **P** **17 13 38.3 +0.2**
comp=Z,1.6nm,0.8s,baz=30,slow=7.3,SNR=3.2
comp=Z,1.6nm,0.8s
MDP Montagnes des 85.16 273 LR LR 17 50 10.1
comp=Z,60nm,21.7s,baz=6.0,slow=34
SJG San Juan 90.49 291 LR LR 17 52 48.0
comp=Z,17nm,21.8s,baz=71,slow=34
BATI Baumata 94.01 99 LR LR 18 00 53.4
comp=Z,152nm,18.4s,baz=299,slow=38
PTGA Pitinga 94.35 272 LR LR 17 58 10.8
comp=Z,42nm,19.6s,baz=120,slow=36
SDV Santo Domingo 98.91 285 LR LR 17 57 11.8
comp=Z,26nm,19.9s,baz=48,slow=34
NWAO Narrogin (SRO) 99.39 122 LR LR 17 55 53.7
comp=Z,36nm,18.2s,baz=266,slow=33

*IDC **29** 17:08:55.7±1.4,37.°16N×141.°21E,h0km,mb3.5/5, mbtmp3.5/6,ML2.2/1,MS2.6/2,Error ellipse: s-maj=33.7km s-min=29.2km az=120.0*
*JMA **29** 17:08:57.3±0.1,37.°1N±0.°2×141.°2E±0.°6,h19km,MV3.1/35, E OFF FUKUSHIMA PREF*
ISC 29 17:08:57.0±2.0,37.°16N±0.°07×141.°20E±0.°08,h11km±11km, n21,σ0°67/18,mb3.5/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.33**	**308**	P	**Pb**	**17 09 04.5**	**-0.5**
JFK				S	**Sb**	**17 09 09.3**	**-1.0**
JFFD	**Fukushimafurud**	**0.52**	**263**	*i* P	**Pg**	**17 09 07.3**	**+0.2**
JFFD				*e*S	**Sg**	**17 09 14.4**	**+0.5**
JMST	**Minamisoumatoc**	**0.62**	**336**	P	**Pb**	**17 09 09.4**	**-0.3**
JMST				S	**Sb**	**17 09 18.5**	**+0.1**
JHO	**Hitachi**	**0.75**	**223**	P	**Pg**	**17 09 10.9**	**-0.6**
JMM	**Marumori**	**0.78**	**335**	*i* P	**Pb**	**17 09 12.2**	**-0.3**
JMM				S	**Sb**	**17 09 23.3**	**+0.2**
JSB	**Shiboa**	**1.04**	**260**	P	**Pn**	**17 09 17.4**	**-0.1**
JSB				*e*S	**Sn**	**17 09 32.3**	**+0.1**
MJAR	**Matsushiro Arr**	**2.48**	**256**	Pn	**Pn**	**17 09 38.5**	**+1.2**
	0.5nm,0.3s,baz=99,slow=17,SNR=16						
	4.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.92**	**318**	LR	LR	17 14 39.1	
	comp=Z,38nm,21.2s,baz=167,slow=35						
KSRS	**Korea Array**	**10.58**	**276**	LR	LR	17 14 49.7	
	comp=Z,33nm,18.6s,baz=145,slow=33						
H11N2	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	17 44 27.9	
	baz=313,slow=75,SNR=285						
H11N1	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	17 44 28.8	
	baz=313,slow=75,SNR=246						
H11N3	**WAKE ISLAND Hy**	**28.38**	**121**	T	T	17 44 29.2	
	baz=313,slow=75,SNR=297						
H11S1	**WAKE ISLAND Hy**	**29.07**	**123**	T	T	17 45 20.7	
	baz=316,slow=75,SNR=51						
H11S3	**WAKE ISLAND Hy**	**29.07**	**123**	T	T	17 45 21.2	
	baz=316,slow=75,SNR=60						
H11S2	**WAKE ISLAND Hy**	**29.09**	**123**	T	T	17 45 22.7	
	baz=316,slow=75,SNR=48						
ZALV	**Zalesovo Beam**	**41.70**	**312**	P	**P**	**17 16 46.0**	**+0.4**
	0.9nm,0.7s,baz=77,slow=6.5,SNR=4.0						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**43.91**	**302**	P	**P**	**17 17 03.4**	**-0.2**
	0.4nm,0.6s,baz=93,slow=8.5,SNR=4.8						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**17 17 47.9**	**+1.0**
	0.4nm,0.7s,baz=272,slow=6.2,SNR=4.9						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**57.16**	**188**	P	**P**	**17 18 43.9**	**+0.1**
	0.4nm,0.8s,baz=5.9,slow=7.7,SNR=4.7						
	0.4nm,0.8s						
NOR	**Nord**	**60.92**	**356**	*i* P	**P**	**17 19 08.0**	**-1.2**
AKASG	**Malin Array Be**	**74.09**	**322**	P	**P**	**17 20 33.0**	**0.0**
	0.2nm,0.3s,baz=48,slow=5.9,SNR=1.6						
	0.2nm,0.3s						

*WEL **29** 17:17:00,42.°41S×173.°96E,h6km,ML4.2,Mw4.1, Moment Tensor Solution. s4 Moment tenso: Scale 10^15 Nm; Mrr=0.15; Mθθ=0.44; Mφφ=-0.29; Mrθ=0.49; Mθφ=-1.42; Mφr=0.48; Fault plane solution: M0=1.62000×10^15 NP1: φs=170.00000°,δ71.00000°,λ=-15.00000°. NP2: φs=265.00000°,δ76.00000°,λ=-160.00000°. Principal axes: T -169.0200, Plg3.000°, Azm37.0000°; N 154.7200, Plg66.0000°, Azm299.0000°; P 14.3000, Plg24.0000°, Azm128.0000°;*

*IDC **29** 17:17:44.7±2.7,42.°33S×173.°73E,h0km,mb3.7/2, mbtmp3.8/3,ML4.3/1,MS3.4/7 Error ellipse: s-maj=64.4km s-min=32.7km az=134.0*
*NEIC **29** 17:17:45.8±1.4,42.°36S±0.°02×173.°93E±0.°03,h12km±5km, mb4.1/6,Error ellipse: s-maj=3.4km s-min=2.7km az=211.0*
*NOU **29** 17:17:45.4,42.°47S×173.°96E,h3km,MLv4.5/12,South Island, New Zealand*
*WEL **29** 17:17:47.4±0.5,42.°3S±3.°×17.°4E±.°,h7km±3km,M4.2/39, ML4.6/13,MLv4.2/39,Error ellipse: s-maj=0.4km s-min=0.0km az=124.4*
ISC 29 17:17:45.5±1.0,42.°39S±0.°03×173.°94E±0.°03,h12km±7km, n173,σ1°11/182,mb4.1/6,MS3.5/6,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.29**	**264**		**Pg**	**17 17 51.5**	**-0.1**
KHZ				Sg	**Sg**	**17 17 56.0**	**+0.4**
KHZ	**Kahutara**	**0.29**	**264**	P	**Pg**	**17 17 51.9**	**+0.3**
KHZ	**Kahutara**	**0.29**	**264**	P	**Pg**	**17 17 51.7**	**+0.1**
KHZ				S	**Sg**	**17 17 55.7**	**+0.1**
CMWZ	**Cape Campbell**	**0.67**	**18**	P	**Pn**	**17 18 01.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.67**	**356**		**Pb**	**17 17 58.9**	**-0.2**
BSWZ				Sg	**Sb**	**17 18 08.5**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.67**	**356**	P	**Pb**	**17 17 58.9**	**-0.2**
BSWZ				S	**Sb**	**17 18 08.6**	**+0.2**
GVZ	**Greta Valley S**	**0.88**	**229**		**Pn**	**17 18 04.2**	**+0.5**
GVZ				Sn	**Sn**	**17 18 18.0**	**+1.5**
GVZ	**Greta Valley S**	**0.88**	**229**	P	**Pn**	**17 18 04.3**	**+0.6**
GVZ				S	**Sn**	**17 18 17.5**	**+1.0**
TUWZ	**Tuamarina**	**0.96**	**0**		**Pb**	**17 18 04.3**	**+0.3**
TUWZ					**Sn**	**17 18 18.4**	**+0.2**
TUWZ	**Tuamarina**	**0.96**	**0**	P	**Pn**	**17 18 04.4**	**-0.3**
TUWZ				S	**Sn**	**17 18 18.2**	**0.0**
THZ	**Tophouse**	**0.99**	**309**		**Pg**	**17 18 03.6**	**-1.0**
THZ				Sg	**Sg**	**17 18 17.1**	**-0.4**
THZ	**Tophouse**	**0.99**	**309**	P	**Pg**	**17 18 03.9**	**-0.7**
BHW	**Baring Head**	**1.20**	**36**		**Pg**	**17 18 08.5**	**-0.1**
BHW					**Sn**	**17 18 24.4**	**+0.1**
TCW	**Tory Channel**	**1.20**	**12**		**Pg**	**17 18 08.4**	**-0.2**
TCW				Sn	**Sn**	**17 18 24.3**	**0.0**
TCW	**Tory Channel**	**1.20**	**12**	P	**Pg**	**17 18 08.4**	**-0.2**
SNZO	**South Karori**	**1.22**	**28**		**Pb**	**17 18 08.6**	**+0.1**
SNZO				Sn	**Sg**	**17 18 25.0**	**+0.2**
SNZO	**South Karori**	**1.22**	**28**	P	**Pg**	**17 18 09.1**	**+0.2**
AMCZ	**Amberley**	**1.23**	**230**		**Pg**	**17 18 09.1**	**-0.1**
AMCZ	**Amberley**	**1.23**	**230**	P	**Pg**	**17 18 09.3**	**+0.1**
NNZ	**Nelson**	**1.24**	**340**		**Pn**	**17 18 08.4**	**-0.2**
NNZ	**Nelson**	**1.24**	**340**	P	**Pn**	**17 18 08.6**	**0.0**
WEL	**Wellington**	**1.26**	**30**	P	**Pg**	**17 18 09.7**	**-0.1**
PLWZ	**Palliser**	**1.28**	**51**	Pn	**Pn**	**17 18 09.1**	**-0.1**
PLWZ	**Palliser**	**1.28**	**51**	P	**Pb**	**17 18 09.5**	**0.0**
LTZ	**Lake Taylor**	**1.29**	**252**		**Pb**	**17 18 09.6**	**-0.1**
LTZ	**Lake Taylor**	**1.29**	**252**	P	**Pb**	**17 18 09.7**	**-0.1**
MRNZ	**Matariki Terra**	**1.32**	**318**		**Pn**	**17 18 09.8**	**0.0**
MRNZ	**Matariki Terra**	**1.32**	**318**	P	**Pb**	**17 18 10.1**	**-0.1**
MSWZ	**Moikau Station**	**1.38**	**46**		**Pb**	**17 18 10.5**	**-0.1**
MSWZ	**Moikau Station**	**1.38**	**46**	P	**Pb**	**17 18 10.9**	**-0.3**
OKCZ	**Okains Bay**	**1.48**	**205**	P	**Pb**	**17 18 12.7**	**-0.3**
PAWZ	**Paruwai Farm**	**1.50**	**48**	P	**Pn**	**17 18 12.3**	**+0.1**
CAW	**Cannon Point**	**1.53**	**34**	P	**Pn**	**17 18 13.2**	**+0.5**
TKNZ	**Takaka Hill**	**1.54**	**331**		**Pn**	**17 18 13.0**	**+0.3**
TKNZ	**Takaka Hill**	**1.54**	**331**	P	**Pb**	**17 18 13.8**	**-0.1**
DUWZ	**D'Urville Isla**	**1.58**	**360**	P	**Pb**	**17 18 14.5**	**-0.2**
MQZ	**McQueen's Vall**	**1.62**	**215**	Pn	**Pn**	**17 18 13.5**	**-0.3**
MQZ	**McQueen's Vall**	**1.62**	**215**	P	**Pn**	**17 18 13.6**	**-0.3**
TRWZ	**Traveller**	**1.64**	**54**	P	**Pn**	**17 18 14.2**	**+0.1**
AKCZ	**Akaroa Harbour**	**1.67**	**206**	P	**Pn**	**17 18 14.8**	**+0.3**
OXZ	**Oxford**	**1.68**	**235**		**Pn**	**17 18 14.3**	**-0.4**
OXZ	**Oxford**	**1.68**	**235**	P	**Pn**	**17 18 14.4**	**-0.4**
KIW	**Kapiti Island**	**1.69**	**26**	P	**Pn**	**17 18 15.5**	**+0.6**
MTW	**Mount Morrison**	**1.70**	**44**	P	**Pn**	**17 18 14.9**	**0.0**
DSZ	**Denniston Nort**	**1.71**	**291**		**Pn**	**17 18 15.3**	**+0.1**
DSZ	**Denniston Nort**	**1.71**	**291**	P	**Pb**	**17 18 16.2**	**-0.8**
OGWZ	**Otaki Gorge**	**1.82**	**31**	P	**Pn**	**17 18 17.4**	**-0.4**
INZ	**Inchbonnie**	**1.87**	**259**		**Pn**	**17 18 17.6**	**+0.3**
INZ	**Inchbonnie**	**1.87**	**259**	P	**Pn**	**17 18 17.7**	**+0.4**
RACZ	**Rakaia**	**1.88**	**224**	P	**Pn**	**17 18 17.3**	**-0.1**
QRZ	**Quartz Range**	**1.88**	**325**		**Pn**	**17 18 17.6**	**+0.1**
QRZ	**Quartz Range**	**1.88**	**325**	P	**Pb**	**17 18 19.5**	**-0.3**
QRZ	**Quartz Range**	**1.88**	**325**	P	**Pb**	**17 18 19.3**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.90**	**39**	P	**Pn**	**17 18 17.9**	**+0.1**
TMWZ	**Te Maipa**	**1.94**	**50**	P	**Pn**	**17 18 18.1**	**-0.2**
MHCZ	**Mount Hutt**	**2.08**	**236**	P	**Pn**	**17 18 19.9**	**-0.3**
MRZ	**Mangatainoka R**	**2.12**	**36**	Pn	**Pn**	**17 18 20.6**	**-0.1**
MRZ	**Mangatainoka R**	**2.12**	**36**	P	**Pn**	**17 18 20.8**	**+0.1**
TIWZ	**Tintock**	**2.17**	**43**	P	**Pn**	**17 18 22.0**	**+0.5**
WACZ	**Wakanui South**	**2.19**	**224**	P	**Pn**	**17 18 21.6**	**0.0**
CPWZ	**Castlepoint**	**2.25**	**50**	P	**Pn**	**17 18 24.1**	**+1.6**
PRWZ	**Pori Road**	**2.38**	**41**	P	**Pn**	**17 18 24.3**	**-0.1**
OHWZ	**Ohakea**	**2.41**	**26**	P	**Pn**	**17 18 26.6**	**+1.9**
POWZ	**Post Office Ro**	**2.42**	**35**	P	**Pn**	**17 18 25.4**	**+0.5**
BFZ	**Birch Farm**	**2.43**	**46**		**Pn**	**17 18 24.3**	**-0.6**
BFZ	**Birch Farm**	**2.43**	**46**	P	**Pn**	**17 18 24.4**	**-0.6**
WVZ	**Waitaha Valley**	**2.46**	**253**	P	**Pn**	**17 18 26.2**	**+0.9**
RPZ	**Rata Peaks**	**2.50**	**237**	Pn	**Pn**	**17 18 25.8**	**-0.1**
	74nm,0.3s,baz=96,slow=2.9,SNR=94						
RPZ				Sn	**Sn**	**17 18 55.7**	**-0.5**
	68nm,0.3s,baz=8.3,slow=23,SNR=36						
RPZ				LR	LR	17 19 18.5	
	comp=Z,160nm,18.0s,baz=302,slow=39						
	160nm,0.3s						
RPZ	**Rata Peaks**	**2.50**	**237**	Pn	**Pn**	**17 18 25.6**	**-0.3**
RPZ	**Rata Peaks**	**2.50**	**237**	P	**Pn**	**17 18 26.0**	**+0.1**
RPZ	**Rata Peaks**	**2.50**	**237**	P	**Pn**	**17 18 25.8**	**-0.1**
ARCZ	**Arundel**	**2.55**	**231**	P	**Pn**	**17 18 26.5**	**-0.2**
DVHZ	**Dannevirke**	**2.68**	**40**	P	**Pn**	**17 18 27.4**	**-1.0**
WAZ	**Wanganui**	**2.75**	**17**	P	**Pn**	**17 18 31.7**	**+2.3**
TSZ	**Takapari Road**	**2.78**	**34**	P	**Pn**	**17 18 29.7**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.81**	**249**	P	**Pn**	**17 18 31.5**	**+1.2**
TMZ	**Timaru**	**2.92**	**226**	P	**Pn**	**17 18 32.3**	**+0.5**
PRHZ	**Porangahau**	**2.94**	**45**	P	**Pn**	**17 18 32.0**	**+0.1**
LREZ	**Lake Rotokare**	**2.94**	**7**	P	**Pb**	**17 18 36.3**	**-1.6**
NMEZ	**Namu Road**	**2.97**	**359**	P	**Pb**	**17 18 40.1**	**+1.8**
WPHZ	**Waipukurau**	**2.99**	**40**	P	**Pn**	**17 18 32.7**	**0.0**
PNHZ	**Pukenui**	**3.00**	**35**	P	**Pn**	**17 18 32.4**	**-0.5**
KHEZ	**Kahui Hut**	**3.09**	**1**	P	**Pn**	**17 18 36.6**	**+2.5**
KHEZ	**Kahui Hut**	**3.09**	**1**	P	**Pb**	**17 18 38.3**	**-2.1**
NBEZ	**Newall Road No**	**3.12**	**359**	P	**Pb**	**17 18 39.8**	**-1.0**
NEZ	**North Egmont**	**3.12**	**2**	P	**Pb**	**17 18 39.0**	**-2.0**
PKE	**Pukeiti**	**3.19**	**1**	P	**Pb**	**17 18 39.0**	**-3.1**
MTVZ	**Mangateitei**	**3.22**	**22**	P	**Pn**	**17 18 38.2**	**+2.3**
FOZ	**Fox Glacier**	**3.23**	**248**		**Pn**	**17 18 36.6**	**+0.6**
FOZ	**Fox Glacier**	**3.23**	**248**	P	**Pn**	**17 18 37.4**	**+1.4**
PKVZ	**Pokaka**	**3.27**	**20**	P	**Pn**	**17 18 38.4**	**+1.8**
MOVZ	**Moawhango**	**3.28**	**25**	P	**Pn**	**17 18 37.3**	**+0.6**
WNVZ	**Wahianoa**	**3.31**	**23**	P	**Pn**	**17 18 38.4**	**+1.2**
BHHZ	**Black Hill Sta**	**3.31**	**30**	P	**Pn**	**17 18 37.6**	**+0.4**
TRVZ	**Turoa**	**3.32**	**22**	P	**Pn**	**17 18 39.1**	**+1.7**
VRZ	**Vera Road**	**3.32**	**11**	P	**Pn**	**17 18 39.3**	**+2.1**
MHEZ	**Mangahewa**	**3.32**	**5**	P	**Pb**	**17 18 44.4**	**+0.1**
DRZ	**Dome Shelter**	**3.34**	**22**	P	**Pn**	**17 18 41.1**	**+3.3**
WHVZ	**Whangaehu Hut**	**3.34**	**23**	P	**Pn**	**17 18 39.1**	**+1.3**
FWVZ	**Far West T-bar**	**3.36**	**22**	P	**Pn**	**17 18 39.6**	**+1.6**
TUVZ	**Tukino**	**3.38**	**23**	P	**Pn**	**17 18 39.3**	**+1.1**
LBZ	**Lake Benmore**	**3.39**	**233**		**Pn**	**17

TLZ	Tolley Road	4.23	17	P	Pn	17 18 51.3	+1.4	
HHSZ	Highcliff Hill	4.24	213	P	Pn	17 18 50.0	0.0	
WKZ	Wanaka	4.33	234	Pn	Pn	17 18 50.2	-0.9	
WKZ	Wanaka	4.33	234	P	Pn	17 18 51.1	0.0	
RTZ	Ruatahuna	4.42	33	Pn	Pn	17 18 50.2	-2.3	
TUZ	Tuapeka	4.72	219	P	Pn	17 18 56.8	+0.3	
URZ	Urewera	4.78	32	P	Pn	17 18 56.6	-0.8	
TOZ	Tahuroa Road	4.80	15	P	Pn	17 18 58.8	+1.2	
MLZ	Mavora Lakes	5.15	233	Pn	Pn	17 19 00.5	-2.0	
MLZ	Mavora Lakes	5.15	233	P	Pn	17 19 02.8	+0.3	
RUGZ	Raukumara Rang	5.26	34	P	Pn	17 19 04.6	+0.5	
AWAZ	Awhitu Peninsu	5.34	6	P	Pn	17 19 06.9	+1.9	
MKAZ	Moumakai	5.36	11	P	Pn	17 19 06.3	+1.0	
SYZ	Scrubby Hill	5.38	218	P	Pn	17 19 06.0	+0.4	
SYZ	Scrubby Hill	5.38	218	P	Pn	17 19 06.0	+0.4	
WTAZ	Waiatarua	5.47	5	P	Pn	17 19 08.5	+1.7	
ETAZ	East Tamaki Re	5.48	8	P	Pn	17 19 08.6	+1.7	
WHZ	Wether Hill Ro	5.55	229	Pn	Pn	17 19 05.4	-2.5	
WHZ	Wether Hill Ro	5.55	229	P	Pn	17 19 08.3	+0.4	
MBAZ	Motutapu North	5.66	8	P	Pn	17 19 11.3	+2.0	
WIAZ	Waiheke Island	5.66	10	P	Pn	17 19 10.7	+1.2	
WMGZ	Waiomatatini S	5.71	38	P	Pn	17 19 09.2	-0.8	
DCZ	Deep Cove	5.78	236	Pn	Pn	17 19 08.4	-2.6	
KUZ	Kuaotunu	5.80	14	P	Pn	17 19 12.5	+1.2	
	27nm,0.7s							
KUZ	Kuaotunu	5.80	14	P	Pn	17 19 11.6	+0.3	
ABAZ	Army Bay	5.82	7	P	Pn	17 19 13.9	+2.3	
MXZ	Matakaoa Point	5.87	36	Pn	Pn	17 19 08.7	-3.6	
APZ	The Paps	6.14	222	P	Pn	17 19 16.5	+0.4	
WCZ	Waipu Caves	6.45	3	P	Pn	17 19 22.6	+2.4	
CTZ	Chatham Island	7.05	104	P	Pn	17 19 29.0	+0.6	
CTZ	Chatham Island	7.05	104	P	Pn	17 19 29.1	+0.7	
OUZ	Omahuta	7.16	358	Pn	Pn	17 19 28.1	-1.9	
OUZ	Omahuta	7.16	358	P	Pn	17 19 32.5	+2.5	
DZM	Mont Dzumac	21.21	340	LR	LR	17 29 25.5		
	comp=Z,85nm,19.6s,baz=90,slow=33							
CTA	Charters Tower	32.22	305	LR	LR	17 35 51.0		
	comp=Z,41nm,18.6s,baz=88,slow=34							
AS31	Alice Springs	37.98	287	P	P	17 25 03.5	+0.2	
ASAR	Alice Springs	37.98	287	P	P	17 25 02.8	-0.5	
	0.4nm,0.5s,baz=125,slow=7.0,SNR=20							
ASAR				PcP	PcP	17 27 18.5	-0.4	
	0.3nm,0.6s,baz=121,slow=4.0,SNR=5.3							
ASAR				LR	LR	17 40 46.5		
	comp=Z,50nm,18.1s,baz=70,slow=36							
	0.4nm,0.5s							
ASAR	Alice Springs	37.98	287	P	P	17 25 03.0	-0.3	
COEN	Coen	38.83	308	P	P	17 25 09.2	-1.2	
COEN				IAmb	IAmb	17 25 31.1		
	comp=Z,9.0nm,1.2s							
WR0	Warramunga Arr	39.96	292	P	P	17 25 19.4	-0.5	
WR0				IAmb	IAmb	17 25 46.3		
	comp=Z,6.1nm,1.3s							
WB2	Warramunga Arr	40.10	291	P	P	17 25 20.6	-0.4	
WB2				IAmb	IAmb	17 25 25.1		
	comp=Z,5.1nm,1.1s							
WRA	Warramunga Arr	40.11	291	P	P	17 25 21.0	-0.1	
	comp=Z,1.3nm,0.7s,baz=128,slow=8.4,SNR=25							
	comp=Z,1.3nm,0.7s							
WB0	Warramunga Arr	40.19	292	P	P	17 25 20.3	-1.5	
WB0				IAmb	IAmb	17 25 28.3		
	comp=Z,3.7nm,1.0s							
QSPA	South Pole Qui	47.74	180	P	P	17 26 24.1	+2.1	
MAW	Mawson	58.78	205	LR	LR	17 51 53.4		
	comp=Z,65nm,18.4s,baz=26,slow=35							
SNAA	Sanae	66.23	181	LR	LR	17 59 00.5		
	comp=Z,37nm,18.1s,baz=16,slow=37							
ATAH	Atahualpa	98.06	107	LR	LR	18 09 56.4		
	comp=Z,38nm,18.3s,baz=64,slow=32							
ARCES	ARCESS Array B	148.29	339	PKPbc	PKiKP	17 37 31.3	-0.6	
	comp=Z,1.8nm,0.7s,baz=56,slow=1.6,SNR=4.2							

UPP ***29*** *17:22:08.2±0.4,58°.74N×18°.61E,h0km,ML2.5,Explosion*
HEL ***29*** *17:22:08.9±0.1,58°.74N×18°.61E,h0km,ML1.8, ML2.5(UPP),Explosion*
BER ***29*** *17:22:10.9±1.9,58°.81N×18°.52E,h0km,ML2.1, ML2.5(UPP),Suspected explosion*
IDC ***29*** *17:22:11.8±2.2,58°.96N×18°.54E,h0km,mbtmp3.0/4, ML1.8/3,Error ellipse: s-maj=28.9km s-min=8.5km az=178.0*
DNK ***29*** *17:22:14.1±2.8,58°.91N×17°.83E,h0km,ML2.5(UPP), Explosion*

ISC 29 17:22:07.6±0.8,58°.73N±0°.02×18°.61E±0°.03,h0km,n72,
σ1s03/82,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	Nynaeshamn	0.42	312	P	Pg	17 22 16.2	+0.5
NYNU				S	Sg	17 22 21.4	+0.2
NYNU	Nynaeshamn	0.42	312	P	Pg	17 22 16.2	+0.5
NYNU				S	Sg	17 22 21.4	+0.2
NYNU	Nynaeshamn	0.42	312	*i* P	Pg	17 22 16.2	+0.5
NYNU				*i* S	Sg	17 22 21.4	+0.2
NYNU	Nynaeshamn	0.42	312	P	Pg	17 22 16.2	+0.5
NYNU				S	Sg	17 22 21.4	+0.2
NRTU	Norrtaelje	0.95	1	P	Pg	17 22 25.8	-0.1
NRTU	Norrtaelje	0.95	1	P	Pg	17 22 25.8	-0.1
NRTU	Norrtaelje	0.95	1	*e*P	Pg	17 22 25.7	-0.1
NRTU				*e*S	Sg	17 22 37.4	-0.8
NRTU	Norrtaelje	0.95	1	P	Pg	17 22 25.8	-0.1
VIKU	Vikbolandet	1.03	258	P	Pg	17 22 27.3	+0.1
VIKU	Vikbolandet	1.03	258	P	Pg	17 22 27.3	+0.1
VIKU	Vikbolandet	1.03	258	*e*P	Pg	17 22 27.3	+0.1
VIKU	Vikbolandet	1.03	258	P	Pg	17 22 27.3	+0.1
GOTU	Gotland	1.04	181	*e*P	Pg	17 22 27.7	+0.1
GOTU				*e*S	Sg	17 22 40.0	-1.1
UPP	Uppsala	1.24	336	P	Pg	17 22 31.2	-0.3
UPP	Uppsala	1.24	336	*e*P	Pg	17 22 31.2	-0.3
ESKU	Eskilstuna	1.26	295	P	Pg	17 22 31.2	-0.5
ESKU	Eskilstuna	1.26	295	P	Pg	17 22 31.2	-0.5
ESKU	Eskilstuna	1.26	295	*e*P	Pg	17 22 31.2	-0.5
ESKU	Eskilstuna	1.26	295	P	Pg	17 22 31.2	-0.5
FIBU	Brunna	1.34	332	P	Pg	17 22 33.0	-0.4
FIBU	Brunna	1.34	332	P	Pg	17 22 33.0	-0.4
FIBU	Brunna	1.34	332	P	Pg	17 22 33.0	-0.4
BACU	Backbrunna	1.37	326	P	Pg	17 22 33.5	-0.4
BACU	Backbrunna	1.37	326	P	Pg	17 22 33.5	-0.4
BACU	Backbrunna	1.37	326	*e*P	Pg	17 22 33.5	-0.4
BACU	Backbrunna	1.37	326	P	Pg	17 22 33.5	-0.4
FLYU	Flymyra	1.46	345	P	Pn	17 22 34.8	-0.3
FLYU	Flymyra	1.46	345	P	Pn	17 22 34.8	-0.3
FLYU	Flymyra	1.46	345	*e*P	Pn	17 22 34.8	-0.3
FLYU	Flymyra	1.46	345	P	Pn	17 22 34.8	-0.3
OSTU	Oestervaala	1.69	334	P	Pb	17 22 38.9	-0.6
OSTU	Oestervaala	1.69	334	P	Pb	17 22 38.9	-0.6
OSTU	Oestervaala	1.69	334	*e*P	Pb	17 22 38.9	-0.6
OSTU	Oestervaala	1.69	334	P	Pb	17 22 38.9	-0.6
LNKU	Linkoeping	1.71	254	P	Pb	17 22 39.2	-0.6
LNKU	Linkoeping	1.71	254	P	Pb	17 22 39.2	-0.6
LNKU	Linkoeping	1.71	254	*e*P	Pb	17 22 39.2	-0.6
LNKU	Linkoeping	1.71	254	P	Pb	17 22 39.2	-0.6
SLIT	Slitere, Latvi	2.24	118	*e*P	Pn	17 22 47.2	+1.4
SLIT	Slitere, Latvi	2.24	118	*e*P	Pn	17 22 46.8	+1.0
SLIT				*e*S	Sn	17 23 13.3	-0.8
MTSE	Matsula	2.71	88	*e*P	Pn	17 22 53.5	+1.1
MTSE	Matsula	2.71	88	*e*P	Pn	17 22 53.5	+1.1
MTSE				*e*S	Sn	17 23 26.3	+0.5
RAF	Rauma	2.80	33	*e*P	Pn	17 22 55.7	+2.2
RAF	Rauma	2.80	33	*e*P	Pn	17 22 54.9	+1.3
RAF				*e*S	Sn	17 23 27.9	0.0
RAF				MSG		17 23 36.6	
	comp=Z,3.2nm,0.1s						
HFS	Hagfors	2.88	301	Pn	Pn	17 22 56.2	+1.5
	comp=Z,0.7nm,0.3s,baz=110,slow=14,SNR=27						
HFS				Lg	Lg	17 23 36.5	
	comp=Z,4.7nm,0.3s,baz=114,slow=38,SNR=11						
	comp=Z,2.6nm,0.2s						
BORU	Boraas	3.28	253	*i* P	Pn	17 23 02.0	+1.8
MEF	Metsahovi	3.31	61	*e*P	Pn	17 23 01.6	+1.1
MEF	Metsahovi	3.31	61	*e*P	Pn	17 23 02.4	+1.8
MEF				*e*S	Sn	17 23 39.9	-0.6
MEF				MSG		17 23 54.7	
	comp=Z,2.3nm,0.1s						
DEL	Delary	3.41	230	*i* P	Pn	17 23 03.2	+1.2
KPF	Kankaanpaa	3.56	27	*e*P	Pn	17 23 05.4	+1.3
KPF				*e*S	Sn	17 23 46.0	-0.7
TJOU	Tjoern	3.75	262	*i* P	Pn	17 23 07.9	+1.4
STRU	Stroemstad	3.87	278	*i* P	Pn	17 23 10.8	+2.5
STRU	Stroemstad	3.87	278	*e*P	Pn	17 23 10.8	+2.5
PVF	Pernaja	4.11	61	*e*P	Pn	17 23 13.5	+1.9
NC602	NORSAR Array S	4.11	302	*e*P	Pn	17 23 12.0	+0.4
NC602				*e*		17 24 14.9	
NC602				IAML		17 24 24.2	
	comp=Z,7.6nm,0.5s						
BSD	Bornholm Skovb	4.15	211	*e*P	Pb	17 23 19.2	-2.2
BSD	Bornholm Skovb	4.15	211	*i* P	Pn	17 23 13.2	+1.1
LUNU	Lund	4.19	224	*i* P	Pn	17 23 12.4	-0.3
VSU	Vasula	4.26	90	*e*P	Pn	17 23 15.6	+2.0
NB201	NORSAR Array S	4.36	305	*e*P	Pn	17 23 16.3	+1.2
NB201				*e*		17 24 22.6	
NOA	NORSAR Array B	4.39	305	Pn	Pn	17 23 16.1	+0.6
	baz=134,slow=13,SNR=2.3						
	comp=Z,0.9nm,0.9s						
NC303	NORSAR Array S	4.42	308	*e*P	Pn	17 23 17.6	+1.7
NC303				*e*		17 24 23.3	
NC303				IAML		17 24 51.8	
	comp=Z,11nm,0.5s						
NAO01	NORSAR Array S	4.45	302	*e*P	Pn	17 23 15.8	-0.4
NAO01				*e*		17 24 26.6	
NBO00	NORSAR Array S	4.58	304	*e*P	Pn	17 23 17.9	-0.1
NBO00				*e*		17 24 30.5	
FIA0	FINESS Array S	4.62	51	*e*P	Pn	17 23 20.6	+2.0
FINES	FINESS Array B	4.62	51	Pn	Pn	17 23 20.7	+2.0
	comp=Z,0.2nm,0.3s,baz=242,slow=14,SNR=13						
FINES				Lg	Lg	17 24 31.1	
	comp=Z,1.6nm,0.3s,baz=234,slow=26,SNR=3.3						
	comp=Z,2.5nm,0.9s						
NC204	NORSAR Array S	4.70	306	*e*P	Pn	17 23 20.2	+0.5
NC204				*e*		17 24 30.8	
KONO	Kongsberg	4.73	285	*e*	Sb	17 24 29.7	+1.1
IIGN	Ignalina	5.36	126	*e*P	Pn	17 23 30.0	+1.3
GKP	Gorka Klasztor	5.52	189	*e*P	Pn	17 23 37.5	+6.5
SKAR	Skarslia	5.58	295	*e*P	Pn	17 23 32.1	+0.3
SKAR				IAML		17 25 09.4	
	comp=Z,5.6nm,0.5s						
ARCES	ARCESS Array B	11.25	12	Pn	Pn	17 24 47.4	-2.1
	comp=Z,0.3nm,0.3s,baz=194,slow=14,SNR=22						

UPP ***29*** *17:22:16.9±0.6,58°.77N×18°.56E,h0km,ML2.3,Explosion*
DNK ***29*** *17:22:17.1±0.3,58°.76N×18°.56E,h0km,ML2.3(UPP), Explosion*

ISC 29 17:22:15.2±3.4,58°.7N±0°.2×18°.63E±0°.09,h0km,n13,
σ0s27/15,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	Nynaeshamn	0.43	312	P	Pg	17 22 24.1	+0.5
NYNU				S	Sg	17 22 29.1	0.0
NYNU	Nynaeshamn	0.43	312	P	Pg	17 22 24.1	+0.5
NYNU				S	Sg	17 22 29.1	0.0
NRTU	Norrtaelje	0.96	0	P	Pg	17 22 33.8	+0.2
NRTU	Norrtaelje	0.96	0	P	Pg	17 22 33.8	+0.2
UPP	Uppsala	1.26	336	P	Pg	17 22 39.1	-0.1
ESKU	Eskilstuna	1.27	295	P	Pg	17 22 39.3	-0.2
ESKU	Eskilstuna	1.27	295	P	Pg	17 22 39.3	-0.2
FIBU	Brunna	1.36	332	P	Pg	17 22 40.9	-0.3
FIBU	Brunna	1.36	332	P	Pg	17 22 40.9	-0.3
BACU	Backbrunna	1.38	326	P	Pg	17 22 41.5	-0.2
BACU	Backbrunna	1.38	326	P	Pg	17 22 41.5	-0.2
FLYU	Flymyra	1.47	345	P	Pn	17 22 42.8	-0.1
FLYU	Flymyra	1.47	345	P	Pn	17 22 42.8	-0.1

CRAAG ***29*** *17:28:32.6,36°.79N×5°.22E,MI3.4*
LDG ***29*** *17:28:32.8±0.7,34°.79N×7°.00E,h10km,MI3.3/8,Error ellipse: s-maj=12.9km s-min=11.5km az=115.0*
CNRM ***29*** *17:28:44.9,34°.72N×5°.18E,h205km*

ISC 29 17:28:34.5±1.1,36°.92N±0°.06×5°.44E±0°.07,h10km,n19,
σ4s14/19,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SET	Setif	0.71	182	P	Pn	17 29 00.0	+9.3
CASM	Ain Smara	1.07	127	P	Pn	17 28 58.6	+3.0
LMR	La Mourre	6.46	7	*e*Pn	Pb	17 30 32.8	+5.8
LMR				*e*Sn	Sg	17 32 04.3	+2.4
	9.4nm,0.3s						
TAF	Taforalt	6.71	254	P	Pn	17 30 15.2	+2.1
TAF				S	Sn	17 31 27.0	-2.7
MTLF	Montolieu	6.88	340	*e*Pn	Pg	17 30 42.2	-3.9
MTLF				*e*Sn	Sg	17 32 23.5	+8.4
	0.6nm,0.2s						
JBK	JBK	7.01	251	P	Pn	17 30 17.6	+0.3
JBK				S	Sn	17 31 36.0	-1.2
SMRF	Simiane la Rot	7.05	1	*e*Pn	Pb	17 30 43.5	+6.5
SMRF				*e*Sn	Sg	17 32 21.7	+0.9
	0.2nm,0.1s						
SBF	Sospel	7.11	12	*e*Pn	Pb	17 30 40.5	+2.6
SBF				*e*Sn	Sg	17 32 18.1	-4.3
	6.8nm,0.3s						
EPF	Esparros	7.25	329	*e*Pn	Pg	17 30 50.2	-3.1
EPF				*e*Sn	Sg	17 32 33.5	+6.3
LASF	Ste Croix	7.25	351	*e*Pn	Pg	17 30 48.9	-4.4
LASF				*e*Sn	Sg	17 32 27.4	+0.2
FIGM	Figuig	7.30	231	P	Pn	17 30 10.5	-11
FIGM				S	Sn	17 31 22.3	-22
ETSF	Etsaut	7.54	324	*e*Pn	Pg	17 30 54.5	-4.4
ETSF				*e*Sn	Sg	17 32 38.8	+2.3
	0.4nm,0.2s						
MBDF	Montbardon	7.87	7	*e*P	Pb	17 30 57.1	+6.1
MBDF				*e*Sn	Sg	17 32 39.5	-7.4
	0.7nm,0.2s						
VIVF	Saint-Julien-l	7.95	356	*e*Pn	Pb	17 30 55.7	+3.3
VIVF				*e*Sn	Sg	17 32 44.8	-4.8
ORIF	Oris-en-Rattie	8.00	2	*e*Pn	Pb	17 30 56.1	+2.9
SJPF	Ste Jean	8.03	323	*e*Pn	Pg	17 31 00.4	-7.7
CAF	Calviac	8.40	343	*e*Pn	Pb	17 31 06.0	+6.1
LPL	La Plagne	8.65	6	*e*Pn	Pg	17 31 05.1	-15
LPL				*e*Sn	Sg	17 32 58.0	-14
	0.8nm,0.3s						
MD31	MD31	9.30	247	P	Pn	17 30 47.0	-1.6
MD31				S	Sn	17 32 17.9	-15

UPP ***29*** *18:01:56.8±0.1,67°.05N×20°.97E,h0km,ML2.1,Explosion*
HEL ***29*** *18:01:57.5±0.1,67°.05N×20°.95E,h0km,ML2.3, ML2.1(UPP),Explosion*
BER ***29*** *18:01:57.4±0.7,67°.05N×20°.97E,h0km,ML1.8, ML2.1(UPP),Suspected explosion*
IDC ***29*** *18:01:58.2±1.3,67°.06N×21°.26E,h0km,mbtmp2.7/3, ML1.9/3,Error ellipse: s-maj=23.5km s-min=9.6km az=102.0*

ISC 29 18:01:56.8±0.7,67°.07N±0°.02×21°.01E±0°.02,h0km,n63,
σ1s05/88,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.18	286	P	Pg	18 02 00.3	+0.2
DUNU				S	Sg	18 02 02.9	+0.4
DUNU	Dundret	0.18	286	*i* P	Pg	18 02 00.3	+0.2
DUNU				*i* S	Sg	18 02 02.9	+0.4
DUNU	Dundret	0.18	286	P	Pg	18 02 00.3	+0.2
DUNU				S	Sg	18 02 02.9	+0.4
MASU	Masugnsbyn	0.55	44	P	Pg	18 02 07.8	+0.6
MASU	Masugnsbyn	0.55	44	*i* P	Pg	18 02 07.8	+0.6
MASU	Masugnsbyn	0.55	44	P	Pg	18 02 07.8	+0.6
ERTU	Ertsjaerv	0.70	138	P	Pg	18 02 09.8	-0.3
ERTU	Ertsjaerv	0.70	138	*e*P	Pg	18 02 09.6	-0.5
	baz=307						
ERTU	Ertsjaerv	0.70	138	P	Pg	18 02 09.8	-0.3
PAJU	Pajala	0.83	92	P	Pg	18 02 12.6	0.0
PAJU	Pajala	0.83	92	*i* P	Pg	18 02 12.6	0.0
PAJU	Pajala	0.83	92	P	Pg	18 02 12.6	0.0
HARU	Harads	0.91	181	P	Pg	18 02 13.4	-0.8
HARU	Harads	0.91	181	*i* P	Pg	18 02 13.4	-0.8
HARU	Harads	0.91	181	P	Pg	18 02 13.4	-0.8
KUA	Kurravaara	0.92	344	P	Pg	18 02 14.1	-0.3
KUA	Kurravaara	0.92	344	*e*P	Pg	18 02 14.1	-0.3
KUA	Kurravaara	0.92	344	P	Pg	18 02 14.1	-0.3
RATU	Laukkuluspa	0.93	325	P	Pg	18 02 14.2	-0.4
RATU				S	Sg	18 02 27.1	+0.5
RATU	Laukkuluspa	0.93	325	*e*P	Pg	18 02 14.2	-0.4
RATU				*e*S	Sg	18 02 27.1	+0.5
RATU	Laukkuluspa	0.93	325	P	Pg	18 02 14.2	-0.4
RATU				S	Sg	18 02 27.1	+0.5
SALU	Saltoluokta	1.02	289	P	Pg	18 02 15.7	-0.6
SALU	Saltoluokta	1.02	289	*e*P	Pg	18 02 15.7	-0.6
SALU	Saltoluokta	1.02	289	P	Pg	18 02 15.7	-0.6
LANU	Lannavaara	1.05	20	P	Pg	18 02 16.6	-0.3
LANU	Lannavaara	1.05	20	*e*P	Pg	18 02 16.6	-0.3
LANU				*e*SB	Sn	18 02 32.8	-1.3
LANU	Lannavaara	1.05	20	P	Pg	18 02 16.6	-0.3
NIKU	Nikkaluokta	1.10	317	P	Pg	18 02 17.3	-0.6
NIKU	Nikkaluokta	1.10	317	*e*P	Pg	18 02 17.3	-0.6
NIKU	Nikkaluokta	1.10	317	P	Pg	18 02 17.3	-0.6
KLF	Kolari	1.16	81	*e*P	Pg	18 02 18.8	-0.2
KLF				*e*SB	Sn	18 02 36.5	-0.4
KOVU	Salmi	1.20	345	P	Pg	18 02 19.5	-0.2
KOVU	Salmi	1.20	345	*e*P	Pg	18 02 19.5	-0.2
KOVU	Salmi	1.20	345	P	Pg	18 02 19.5	-0.2
KALU	Kalix	1.54	141	*e*P	Pn	18 02 24.7	-0.7
	baz=320						
KALU				*e*SN	Sg	18 02 46.8	+0.7
TOF	Tornio	1.66	125	*e*P	Pn	18 02 27.0	0.0
	baz=307						
TOF				MSG		18 02 47.9	
	comp=Z,26nm,0.2s						
TOF				*e*SN	Sg	18 02 50.5	+0.6
HEF	Hetta	1.68	36	*e*P	Pn	18 02 27.6	+0.2
HEF				MSG		18 02 49.7	
	comp=Z,18nm,0.2s						
HEF				*e*SN	Sg	18 02 52.3	+1.7
KIF	Kilpisjarvi	1.94	358	*e*PB	Pb	18 02 33.0	0.0
KIF				MSG		18 02 56.7	
	comp=Z,30nm,0.2s						
KIF				*e*SG	Sg	18 03 00.1	+1.0
RNF	Rovaniemi	2.03	101	*e*P	Pn	18 02 33.2	+1.0
RNF				*e*SG	Sg	18 03 02.3	+0.3
KTK1	Kautokeino	2.12	22	*e*PG	Pb	18 02 35.6	-0.4
KTK1				*e*SG	Sg	18 03 04.6	-0.2
KTK1	Kautokeino	2.12	22	*e*Pg	Pb	18 02 35.8	-0.2
KTK1				*e*Sg	Sg	18 03 03.8	-1.0
KTK1				IAML		18 03 07.7	
	comp=Z,8.6nm,0.3s						
SGF	Sodankyl	2.17	78	*e*PB	Pb	18 02 35.7	-1.2
SGF				*e*SG	Sg	18 03 07.1	+0.6
FAUS	Fauske	2.25	281	*e*Pg	Pn	18 02 36.6	+1.5
FAUS				*e*Sg	Sb	18 03 07.1	+0.6
FAUS				IAML		18 03 11.7	
	comp=Z,20nm,0.3s						
STEI	Steigen	2.38	294	*e*	Pn	18 02 35.2	-1.8
BURU	Burvik	2.50	176	*e*P	Pn	18 02 39.4	+0.7
TRO	Tromso	2.69	344	*e*PG	Pb	18 02 45.6	0.0
TRO				*e*SB	Sb	18 03 17.8	-1.2
OUL	Oulu	2.82	133	*e*P	Pn	18 02 44.2	+1.3
OBF4	Vikkela, Lumij	2.82	142	*e*P	Pn	18 02 44.0	+1.0
	baz=328						
OBF0	Syolatti, Pyha	2.91	151	*e*PB	Pn	18 02 46.6	+2.4
ARA0	ARCESS Array S	2.98	32	*e*P	Pn	18 02 46.0	+0.7
	baz=221						
ARCES	ARCESS Array B	2.98	32	Pn	Pn	18 02 46.1	+0.8
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=35						
ARCES				Sn	Sn	18 03 23.8	+2.1
	comp=Z,0.4nm,0.3s,baz=216,slow=18,SNR=9.0						
	comp=Z,2.8nm,0.8s						
UMAU	Umeaa	3.21	183	*e*P	Pn	18 02 48.8	+0.5
	baz=357						
UMAU				*e*SB	Sb	18 03 33.7	-0.3
VRF	Varrio	3.39	74	*e*P	Pn	18 02 51.9	+1.1
VRF				*e*SG	Sg	18 03 43.5	-1.9
OLKF	Oulanka, Finla	3.42	99	*e*P	Pn	18 02 52.3	+1.0
OLKF				*e*SB	Sb	18 03 37.0	-3.1
MSF	Maaselka	3.42	106	*e*P	Pn	18 02 52.5	+1.2
MSF				*e*SG	Sb	18 03 43.3	+3.1
KEV	Kevo	3.49	37	*e*P	Pn	18 02 53.6	+1.4
	baz=222						
KU6	Riekki	3.70	102	*e*P	Pn	18 02 56.8	+1.7
	baz=291						
KU6				*e*SB	Sb	18 03 44.7	-3.6
HUSU	Husum	3.82	192	*e*P	Pn	18 02 57.5	+0.8
VAF	Ylistaro	4.11	169	*e*P	Pn	18 03 01.8	+1.2
HEMU	Hemsoen	4.59	197	*e*P	Pn	18 03 07.5	+0.1
RMF	Romuvaara	4.67	124	*e*P	Pn	18 03 10.6	+2.1
FINES	FINESS Array B	6.07	156	Pn	Pn	18 03 28.5	+0.9
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=11						
FINES				Sn	Sn	18 04 37.9	+0.4
	comp=Z,0.2nm,0.3s,baz=347,slow=24,SNR=5.6						
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	7.42	220	Pn	Pn	18 03 47.0	+0.9
	baz=23,slow=17,SNR=1.5						
	comp=Z,0.4nm,0.7s						

NEIC ***29*** *18:07:45.5±2.9,20°.48S±0°.04×175°.42W±0°.08,h73km±4km, mb5.2/148,Mwc5.1/9(GCMT),Error ellipse: s-maj=11.9km s-min=4.7km az=112.0*
NOU ***29*** *18:07:46.7,20°.79S×174°.81W,h124km,mb5.5/72,Tonga Islands*
IDC ***29*** *18:07:48.2±2

DZM **Mont Dzumac** 16.85 262 *e*Pn P 18 11 42.8 +4.7
678nm,0.8s
DZM eLR LR 18 15 42.4
comp=Z,688nm,27.1s
DZM Mont Dzumac 16.85 262 P P 18 11 44.3 +6.2
387nm,0.7s,baz=87,slow=14,SNR=100
DZM LR LR 18 17 08.4
comp=Z,374nm,19.7s,baz=81,slow=33
DZM Mont Dzumac 16.85 262 P P 18 11 42.6 +4.5
ONTNC Ouen Toro 16.85 261 P P 18 11 39.4 +1.4
OUZ Omahuta 17.48 211 P Pn 18 11 45.9 +0.9
OUZ Omahuta 17.48 211 P Pn 18 11 47.2 +2.3
GRZ Great Barrier 17.53 205 P Pn 18 11 47.0 +1.5
WCZ Waipu Caves 17.73 208 P Pn 18 11 49.8 +1.9
KUZ Kuaotunu 17.87 203 P Pn 18 11 50.8 +1.2
WIAZ Waiheke Island 18.13 205 P Pn 18 11 54.1 +1.3
TOZ Tahuroa Road 18.82 202 P Pn 18 12 01.4 +0.4
RAGZ Rawiri 18.91 197 P Pn 18 12 03.0 +0.9
RTZ Ruatahuna 19.15 198 P P 18 12 01.6 -1.6
SNGZ Shannon Statio 19.20 197 P Pn 18 12 05.0 -0.5
TLZ Tolley Road 19.34 202 P Pn 18 12 08.3 +1.1
RAHZ Arahi 19.40 198 P P 18 12 05.5 -0.2
RAHZ S S 18 15 27.3 -13
NMHZ Naumai 19.64 198 P P 18 12 09.4 +0.9
NMHZ S S 18 15 28.8 -17
ARHZ Aropaoanui 19.75 197 P Pn 18 12 11.8 0.0
HIZ Hauiti 19.75 203 P Pn 18 12 12.4 +0.5
BKZ Black Stump Fm 19.80 199 P P 18 12 08.5 -1.7
BKZ Black Stump Fm 19.80 199 P P 18 12 09.7 -0.5
BKZ S S 18 15 30.4 -18
MCHZ McNeill Hill 20.00 198 P Pn 18 12 14.0 -0.8
TMVZ Te Maari 20.00 200 P P 18 12 12.7 +0.2
ETVZ East Tongariro 20.02 200 P P 18 12 12.8 +0.2
WTVZ West Tongariro 20.04 200 P P 18 12 13.7 +0.9
NNVZ North Ngauruho 20.04 200 P Pn 18 12 14.9 -0.6
TWVZ Taurewa 20.05 201 P P 18 12 13.6 +0.7
OTVZ Oturere 20.05 200 P P 18 12 13.0 -0.1
NGZ Ngauruhoe 20.09 200 P P 18 12 13.9 +0.5
CKHZ Cape Kidnapper 20.09 197 P P 18 12 14.3 +1.0
TUVZ Tukino 20.15 200 P P 18 12 14.3 +0.2
FWVZ Far West T-bar 20.17 200 P P 18 12 14.2 -0.3
WNVZ Wahianoa 20.23 200 P P 18 12 14.7 -0.3
BHHZ Black Hill Sta 20.23 199 P P 18 12 14.3 -0.5
MOVZ Moawhango 20.25 200 P P 18 12 15.3 +0.2
KAHZ Kahuranaki 20.27 197 P P 18 12 16.2 +0.9
PKVZ Pokaka 20.27 201 P P 18 12 15.5 +0.2
VRZ Vera Road 20.33 202 P Pn 18 12 18.9 +0.2
PXZ Pawanui 20.50 197 P P 18 12 19.4 +1.7
PNHZ Pukenui 20.58 198 P P 18 12 17.6 -0.9
NEZ North Egmont 20.70 203 P Pn 18 12 23.7 +0.6
TSZ Takapari Road 20.78 199 P P 18 12 21.0 +0.2
DVHZ Dannevirke 20.94 198 P P 18 12 23.0 +0.6
ANWZ Angora Road 21.00 197 P P 18 12 26.3 +3.2
PRWZ Pori Road 21.23 198 P P 18 12 26.8 +1.2
BFZ Birch Farm 21.27 197 P P 18 12 24.8 -1.2
BFZ IAmb IAmb 18 12 40.3
comp=Z,45nm,0.7s
BFZ **S** 18 16 06.7 -11
BFZ Birch Farm 21.27 197 P P 18 12 26.6 +0.6
MRZ Mangatainoka R 21.45 199 P P 18 12 27.1 -0.8
MRZ IAmb IAmb 18 12 36.3
comp=Z,53nm,0.7s
MRZ S 18 16 08.6 -12
MRZ Mangatainoka R 21.45 199 P P 18 12 26.9 -0.9
HOWZ Holdsworth Sta 21.68 199 P P 18 12 29.7 -0.7
OGWZ Otaki Gorge 21.72 199 P P 18 12 30.5 -0.2
TMWZ Te Maipa 21.77 198 P P 18 12 33.2 +1.9
KIW Kapiti Island 21.84 200 P P 18 12 30.4 -1.6
MTW Mount Morrison 21.93 198 P P 18 12 35.0 +2.1
TRWZ Traveller 22.10 198 P P 18 12 36.7 +2.0
DUWZ D'Urville Isla 22.11 202 P P 18 12 33.4 -1.5
PAWZ Paruwai Farm 22.16 198 P P 18 12 38.7 +3.3
MSWZ Moikau Station 22.24 199 P P 18 12 34.2 -2.0
MSWZ Moikau Station 22.24 199 P P 18 12 35.7 -0.6
WEL Wellington 22.27 200 P P 18 12 41.5 +4.9
SNZO South Karori 22.31 200 P P 18 12 36.4 -0.6
SNZO IAmb IAmb 18 12 42.4
comp=Z,133nm,0.8s
BHW Baring Head 22.35 199 P P 18 12 36.9 -0.5
TCW Tory Channel 22.36 201 P P 18 12 34.0 -3.5
TCW Tory Channel 22.36 201 P P 18 12 35.9 -1.6
PLWZ Palliser 22.38 198 P P 18 12 37.0 -0.8
PLWZ Palliser 22.38 198 P P 18 12 38.4 +0.7
QRZ Quartz Range 22.64 204 P P 18 12 39.9 -0.5
QRZ Quartz Range 22.64 204 P P 18 12 41.2 +0.8
TKNZ Takaka Hill 22.66 203 P P 18 12 39.1 -1.6
TKNZ Takaka Hill 22.66 203 P P 18 12 43.4 +2.7
TUWZ Tuamarina 22.66 201 P P 18 12 37.4 -3.3
TUWZ **S** 18 16 33.0 -9.1
TUWZ Tuamarina 22.66 201 P P 18 12 39.4 -1.3
NNZ Nelson 22.67 202 P P 18 12 39.1 -1.7
NNZ IAmb IAmb 18 12 45.5
comp=Z,69nm,0.7s
NNZ Nelson 22.67 202 P P 18 12 41.1 +0.4
BSWZ Blackbirch Sta 22.94 201 P P 18 12 42.4 -1.1
BSWZ Blackbirch Sta 22.94 201 P P 18 12 44.3 +0.8
MRNZ Matariki Terra 23.05 203 P P 18 12 44.4 -0.2
MRNZ Matariki Terra 23.05 203 P P 18 12 45.3 +0.7
THZ Tophouse 23.32 202 P P 18 12 46.7 -0.5
THZ IAmb IAmb 18 12 56.8
comp=Z,113nm,0.6s
KHZ Kahutara 23.68 200 P P 18 12 48.7 -1.7
KHZ IAmb IAmb 18 12 55.1
comp=Z,109nm,0.7s
DSZ Denniston Nort 23.71 204 P P 18 12 49.8 -0.9
DSZ IAmb IAmb 18 12 55.7
comp=Z,133nm,0.6s
GVZ Greta Valley S 24.34 201 P P 18 12 54.3 -2.0
TBI Tubuai 24.35 101 eLR LR 18 18 49.5
comp=Z,3µm,49.0s
TBI eLR LR 18 18 50.0
comp=Z,4µm,23.5s
TBI Tubuai 24.35 101 *e*T T 18 37 24.7
comp=Z,18nm,0.3s
LTZ Lake Taylor 24.44 202 P P 18 12 56.1 -1.1
INZ Inchbonnie 24.69 203 P P 18 12 57.4 -2.0
PAE Paea 24.70 88 *e*P P 18 12 58.5 -1.3
comp=Z,29nm,1.0s
PPT2 Papeete2 24.71 88 *e*P P 18 12 58.4 -1.6
comp=Z,125nm,1.1s
PPT2 eLR LR 18 19 00.5
comp=Z,398nm,36.0s
PPT2 eLR LR 18 19 01.2
comp=Z,620nm,32.8s
PPT Papeete 24.72 88 P P 18 13 00.9 +0.9
comp=Z,106nm,0.7s,baz=63,slow=22,SNR=9.0
PPT LR LR 18 20 36.3
comp=Z,99nm,19.4s,baz=254,slow=31
comp=Z,106nm,0.7s
PPTF Pamatai, Papee 24.73 88 P P 18 12 59.1 -1.0
PPTF IAmb IAmb 18 13 03.5
comp=Z,142nm,0.9s
TIAR Tiarei 24.94 88 *e*P P 18 13 02.0 0.0
comp=Z,19nm,0.7s
OXZ Oxford 25.00 202 P P 18 13 01.3 -1.0
MQZ McQueen's Vall 25.13 200 P P 18 13 02.2 -1.1
MQZ IAmb IAmb 18 13 08.4
comp=Z,42nm,0.8s
LHI Lord Howe Isla 25.24 239 P P 18 13 05.1 +0.5
baz=26,SNR=3.1
RPZ Rata Peaks 25.69 203 P P 18 13 09.3 +0.8
comp=Z,268nm,0.6s,baz=12,slow=2.7,SNR=108
RPZ LR LR 18 21 31.9
comp=Z,100nm,21.1s,baz=9.5,slow=32
RPZ Rata Peaks 25.69 203 P P 18 13 07.8 -0.7
FOZ Fox Glacier 26.00 205 P P 18 13 11.4 +0.1
HNR Honiara 26.07 291 LR LR 18 22 25.6
comp=Z,1µm,19.2s,baz=126,slow=34
MEH Mehetia 26.08 89 *e*T T 18 39 21.9
comp=Z,46nm,0.2s
LBZ Lake Benmore 26.58 203 P P 18 13 15.8 -0.8
LBZ IAmb IAmb 18 13 36.7
comp=Z,41nm,0.8s
ODZ Otahua Downs 26.98 202 P P 18 13 19.4 -0.8
WKZ Wanaka 27.40 204 P P 18 13 23.6 -0.3
WKZ IAmb IAmb 18 13 39.1
comp=Z,71nm,0.6s
MLZ Mavora Lakes 28.20 205 P P 18 13 30.2 -0.8
MLZ IAmb IAmb 18 13 37.5
comp=Z,197nm,1.8s
DCZ Deep Cove 28.67 206 P P 18 13 34.1 -1.0
DCZ IAmb IAmb 18 13 39.5
comp=Z,46nm,0.7s

WHZ Wether Hill Ro 28.70 204 P P 18 13 35.2 -0.3
WHZ IAmb IAmb 18 13 47.0
comp=Z,65nm,0.6s
EIDS Eidsvold 31.05 255 P P 18 13 57.5 +1.0
baz=31,SNR=32
EIDS Eidsvold 31.05 255 P P 18 13 56.9 +0.4
EIDS IAmb IAmb 18 13 59.7
comp=Z,49nm,0.7s
EIDS Eidsvold 31.05 255 P P 18 13 57.7 +1.2
comp=Z,77nm,0.8s
ARMA Armidale 31.13 245 P P 18 13 58.9 +1.6
baz=31,SNR=57
ARMA Armidale 31.13 245 P P 18 13 58.2 +0.9
ARMA IAmb IAmb 18 14 01.6
comp=Z,75nm,1.3s
ARMA Armidale 31.13 245 P P 18 13 58.8 +1.6
RK1H Rockhampton Ha 31.58 259 P P 18 14 02.7 +1.6
RMQ Roma 33.19 253 P P 18 14 17.1 +1.9
baz=33,SNR=88
RMQ Roma 33.19 253 P P 18 14 17.2 +1.9
CAN Canberra 34.41 237 P P 18 14 25.8 0.0
CAN IAmb IAmb 18 14 27.1
comp=Z,26nm,0.6s
CAN Canberra 34.41 237 P P 18 14 26.7 +0.9
CAN Canberra 34.41 237 P P 18 14 25.8 0.0
CAN pmax pmax
comp=Z,27nm,0.6s
CAN Canberra 34.41 237 P P 18 14 26.5 +0.8
CAN pP **pP** 18 14 41.7 -4.2
MILA Mila 34.80 234 P P 18 14 29.8 +0.7
baz=35,SNR=30
RABL Rabaul 35.36 293 P P 18 14 34.1 +0.1
TV1H Townsville Har 35.38 265 P P 18 14 35.9 +1.7
CTA Charters Tower 35.77 264 P P 18 14 39.0 +1.4
CTAO Charters Tower 35.77 264 P P 18 14 38.2 +0.6
CTAO Charters Tower 35.77 264 P P 18 14 39.0 +1.4
CTAO Charters Tower 35.77 264 P P 18 14 38.2 +0.6
CTAO pmax pmax
comp=Z,104nm,0.7s
CTAO Charters Tower 35.77 264 P P 18 14 38.8 +1.2
CTAO pP **pP** 18 14 54.2 -3.6
CTAO PcP **PcP** 18 17 04.5 +0.8
CMSA Cobar Meteorol 36.34 244 P P 18 14 43.0 +0.6
baz=37,SNR=244
CMSA Cobar Meteorol 36.34 244 P P 18 14 42.9 +0.6
QLP Quilpie 37.24 253 P P 18 14 50.7 +0.7
baz=38,SNR=22
QLP Quilpie 37.24 253 P P 18 14 51.1 +1.1
PMG Port Moresby 37.59 281 P P 18 14 53.4 +0.3
PMG Port Moresby 37.59 281 P P 18 14 54.8 +1.7
PMG Port Moresby 37.59 281*d* iP P 18 14 54.0 +0.9
PMG pmax pmax
comp=Z,138nm,1.3s
PMG Port Moresby 37.59 281 P P 18 14 54.4 +1.4
PMG pP **pP** 18 15 09.9 -3.5
PMG sP **pwP** 18 15 18.3 +1.6
PMG PcP **PcP** 18 17 10.2 +0.9
TOO Toolangi 37.74 235 P P 18 14 54.7 +0.5
baz=38,SNR=162
TOO Toolangi 37.74 235 P P 18 14 53.2 -1.0
TOO Toolangi 37.74 235 P P 18 14 54.6 +0.5
TOO Toolangi 37.74 235 P P 18 14 53.2 -1.0
TOO pmax pmax
comp=Z,58nm,0.6s
MTSU Mount Surprise 37.88 267 P P 18 14 56.7 +1.2
baz=38,SNR=484
MTSU Mount Surprise 37.88 267 P P 18 14 57.1 +1.6
MOO Moorlands 38.13 227 P P 18 14 58.0 +0.7
baz=38,SNR=5.0
GEXS Deakin Univers 38.83 234 P P 18 15 03.9 +0.7
STKA Stephens Creek 39.85 245 P P 18 15 12.4 +0.7
comp=Z,52nm,0.6s,baz=94,slow=10,SNR=114
comp=Z,52nm,0.6s
STKA Stephens Creek 39.85 245 P P 18 15 12.5 +0.7
baz=40,SNR=83
STKA Stephens Creek 39.85 245 P P 18 15 12.1 +0.4
STKA IAmb IAmb 18 15 13.3
comp=Z,11nm,0.6s
STKA Stephens Creek 39.85 245 P P 18 15 12.5 +0.7
STKA Stephens Creek 39.85 245*d* iP P 18 15 12.2 +0.4
COEN Coen 39.88 273 P P 18 15 13.8 +1.6
baz=40,SNR=194
COEN Coen 39.88 273 P P 18 15 12.9 +0.7
COEN Coen 39.88 273 P P 18 15 14.0 +1.8
INKA Innaminka 40.36 251 P P 18 15 17.6 +1.5
ARPS Mount Arapiles 40.39 237 P P 18 15 16.3 +0.1
baz=41,SNR=12
ARPS Mount Arapiles 40.39 237 P P 18 15 16.3 +0.1
MANU Manus Island 40.57 292 P P 18 15 19.9 +1.9
QIS Mount Isa 41.89 262 P P 18 15 29.1 +0.3
baz=42,SNR=13
QIS Mount Isa 41.89 262 P P 18 15 29.7 +1.0
HTT Hallett 42.25 243 P P 18 15 31.5 0.0
baz=42,SNR=28
HTT Hallett 42.25 243 P P 18 15 31.7 +0.2
LCRK Leigh Creek 42.64 247 P P 18 15 35.0 +0.4
BBOO Buckleboo 44.59 244 P P 18 15 50.2 -0.1
baz=45,SNR=68
BBOO Buckleboo 44.59 244 P P 18 15 49.4 -0.9
BBOO IAmb IAmb 18 15 50.7
comp=Z,34nm,0.6s
BBOO Buckleboo 44.59 244 P P 18 15 50.1 -0.2
OOD Oodnadatta 44.84 251 P P 18 15 53.4 +1.1
MULG Mulgathing 46.23 247 P P 18 16 03.3 0.0
GENI Genyem 46.69 287 P P 18 16 08.9 +1.9
comp=Z,2µmcomp=Z,233nm,0.7s
AS01 Alice Springs 46.70 256 P P 18 16 07.3 +0.2
AS31 Alice Springs 46.74 256 P P 18 16 06.7 -0.7
AS31 IAmb IAmb 18 16 10.9
comp=Z,12nm,0.7s
AS31 PcP **PcP** 18 17 39.9 +0.3
ASAR Alice Springs 46.75 256 P P 18 16 07.3 -0.1
comp=Z,38nm,0.7s,baz=93,slow=7.7,SNR=194
ASAR PcP **PcP** 18 17 40.0 +0.4
comp=Z,16nm,0.5s,baz=107,slow=3.9,SNR=18
ASAR ScP **ScP** 18 21 26.1 +0.9
comp=Z,2.4nm,0.8s,baz=109,slow=4.1,SNR=6.7
ASAR S **S** 18 22 46.4 -4.5
comp=Z,1.1nm,0.8s,baz=95,slow=15,SNR=4.6
comp=Z,38nm,0.7s
WRAB Tennant Creek 46.86 262 P P 18 16 08.0 -0.4
WRAB PcP **PcP** 18 17 39.6 -0.4
WRAB Tennant Creek 46.86 262 P P 18 16 08.5 +0.1
WRAB Tennant Creek 46.86 262 P P 18 16 08.0 -0.4
WRAB 18 17 39.6
WRAB pmax pmax
comp=Z,59nm,0.8s
WRAB Tennant Creek 46.86 262 P P 18 16 07.7 -0.6
WRAB pP **pP** 18 16 25.7 -3.7
WRAB PcP **PcP** 18 17 40.6 +0.6
WRA Warramunga Arr 46.87 262 P P 18 16 07.9 -0.5
comp=Z,39nm,0.6s,baz=97,slow=8.6,SNR=66
WRA PcP **PcP** 18 17 40.6 +0.6
comp=Z,8.2nm,0.5s,baz=92,slow=3.7,SNR=6.8
comp=Z,39nm,0.6s
WRA Warramunga Arr 46.87 262 P P 18 16 07.9 -0.5
WRA PcP **PcP** 18 17 39.6 -0.4
WRA Warramunga Arr 46.87 262 P P 18 16 07.9 -0.5
WRA 18 17 39.6
WRA pmax pmax
comp=Z,5.0nm,0.7s
KDU Kakadu 50.25 270 P P 18 16 34.3 0.0
baz=50,SNR=67
KDU Kakadu 50.25 270 P P 18 16 34.8 +0.5
SRPI Serui, Papua 50.54 285 P P 18 16 37.4 +0.8
comp=Z,33nm,0.6s
FORT Forrest 51.39 247 P P 18 16 42.1 -0.6
baz=52,SNR=42
FORT Forrest 51.39 247 P P 18 16 41.9 -0.9
FORT Forrest 51.39 247 P P 18 16 42.3 -0.5
MTN Manton Dam 51.46 270 P P 18 16 43.6 +0.1
baz=52,SNR=64
MTN Manton Dam 51.46 270 P P 18 16 43.3 -0.2
MTN Manton Dam 51.46 270 P P 18 16 44.0 +0.5
GUMO Guam 51.61 308 P P 18 16 45.3 +0.8
GUMO Guam 51.61 308 P P 18 16 45.3 +0.8
GUMO pmax pmax
comp=Z,676nm,1.7s
WRKA Warakurna 51.66 254 P P 18 16 44.6 -0.3
baz=52,SNR=150
WRKA Warakurna 51.66 254 P P 18 16 44.8 -0.2
RKPI Ransiki, Papua 52.56 284 P P 18 16 54.6 +3.0
comp=Z,49nm,1.1s
SAUI Saumlaki 52.78 276 P P 18 16 53.9 +0.6

KNRA Kununurra 52.95 266 P P 18 16 54.5 +0.1
baz=53,SNR=141
KNRA Kununurra 52.95 266 P P 18 16 54.6 +0.1
KNRA Kununurra 52.95 266 P P 18 16 55.1 +0.6
FAKI Fak Fak 53.75 282 P P 18 17 00.1 -0.3
FAKI IAmb IAmb 18 17 02.9
comp=Z,68nm,1.3s
FAKI Fak Fak 53.75 282 P P 18 17 00.6 +0.2
comp=Z,48nm,1.3s
FAKI Fak Fak 53.75 282 P P 18 17 00.9 +0.5
comp=Z,48nm,1.3s
DRV Dumont d'Urvil 54.10 200 P P 18 17 03.0 +0.9
DRV sP **pwP** 18 17 27.9 +1.6
BNDI Bandanaira 55.30 279 P P 18 17 13.0 +1.4
KMBL Kambalda 56.64 245 P P 18 17 20.1 -0.9
MSAI Masohi 56.64 280 P P 18 17 21.2 0.0
comp=Z,282nmcomp=Z,21nm,0.7s
AAI Ambon 57.19 279 P P 18 17 25.7 +0.6
comp=Z,44nm,1.0s
SBA Scott Base 58.01 184 P P 18 17 32.8 +3.0
SBA IAmb IAmb 18 17 34.0
comp=Z,24nm,0.7s
SBA Scott Base 58.01 184 P P 18 17 32.8 +3.0
SBA pmax pmax
comp=Z,24nm,0.7s
SBA Scott Base 58.01 184 P P 18 17 33.3 +3.5
SBA pP **pP** 18 17 50.2 -1.6
SBA sP **pwP** 18 17 59.3 +5.1
VNDA Vanda 58.10 186 P P 18 17 33.1 +2.6
comp=Z,8.0nm,0.7s,baz=359,slow=7.7,SNR=53
comp=Z,8.0nm,0.7s
VNDA Vanda 58.10 186 P P 18 17 32.4 +1.9
VNDA IAmb IAmb 18 17 34.1
comp=Z,10nm,0.8s
VNDA Vanda 58.10 186 P P 18 17 33.0 +2.5
VNDA pP **pP** 18 17 50.0 -2.4
VNDA sP **pwP** 18 18 00.8 +6.0
NLAI Namlea 58.37 279 P P 18 17 32.6 -0.7
comp=Z,18nm,0.7s
SOEI Soe 58.80 271 P P 18 17 37.9 +1.4
SOEI Soe 58.80 271 P P 18 17 38.5 +2.1
comp=Z,2µmcomp=Z,202nm,0.7s
SOEI Soe 58.80 271 P P 18 17 38.3 +1.9
LBMI Labuha 59.00 282 P P 18 17 39.8 +2.1
comp=Z,87nm,0.8s
BATI Baumata 59.23 270 P P 18 17 41.0 +1.7
comp=Z,1µmcomp=Z,128nm,0.6s
TNTI Ternate 59.69 284 P P 18 17 41.4 -1.1
TNTI Ternate 59.69 284 P P 18 17 44.2 +1.7
comp=Z,788nmcomp=Z,78nm,1.0s
SANI Sanana 59.85 280 P P 18 17 44.0 +0.5
comp=Z,571nmcomp=Z,43nm,0.8s
SANI Sanana 59.85 280 P P 18 17 44.1 +0.5
PSA00 Pilbara Seismi 59.90 256 P P 18 17 43.0 -0.7
PSA00 IAmb IAmb 18 17 44.1
comp=Z,24nm,0.8s
PSA00 PcP **PcP** 18 18 29.5 +0.1
PSA00 Pilbara Seismi 59.90 256 P P 18 17 43.5 -0.3
MEEK Meekatharra 60.08 250 P P 18 17 44.2 -0.8
baz=60,SNR=12
MEEK Meekatharra 60.08 250 P P 18 17 44.3 -0.7
MBWA Marble Bar 60.09 257 P P 18 17 44.2 -0.9
MBWA IAmb IAmb 18 17 45.3
comp=Z,21nm,0.8s
MBWA PcP **PcP** 18 18 31.0 +0.9
MBWA Marble Bar 60.09 257 P P 18 17 44.5 -0.6
MBWA Marble Bar 60.09 257 P P 18 17 44.4 -0.6
MBWA pP **pP** 18 18 02.4 -4.6
KLBR Kellerberrin 60.12 245 P P 18 17 44.8 -0.4
baz=60,SNR=10.0
NWAO Narrogin (SRO) 60.41 243 P P 18 17 46.5 -0.6
baz=61,SNR=7.4
NWAO P P 18 17 46.5 -0.6
baz=61,SNR=7.4
NWAO Narrogin (SRO) 60.41 243 P P 18 17 46.5 -0.6
NWAO IAmb IAmb 18 17 50.2
comp=Z,24nm,1.0s
NWAO PcP **PcP** 18 18 30.1 -1.2
NWAO Narrogin (SRO) 60.41 243 P P 18 17 46.2 -0.9
NWAO IAmb IAmb 18 17 50.2
comp=Z,18nm,0.9s
NWAO PcP **PcP** 18 18 30.0 -1.2
NWAO Narrogin (SRO) 60.41 243 P P 18 17 47.2 +0.1
NWAO Narrogin (SRO) 60.41 243 P P 18 17 45.6 -1.5
NWAO Narrogin (SRO) 60.41 243 P P 18 17 46.2 -0.9
NWAO 18 18 30.0
NWAO pmax pmax
comp=Z,17nm,1.0s
RKGY Rocky Gully 60.44 241 P P 18 17 47.0 -0.4
baz=61,SNR=6.2
MMRI Maumere 61.05 271 P P 18 17 50.6 -1.1
MMRI Maumere 61.05 271 P P 18 17 51.7 0.0
comp=Z,1µmcomp=Z,58nm,0.6s
BLDU Ballidu 61.14 246 P P 18 17 51.7 -0.5
baz=61,SNR=20
BLDU Ballidu 61.14 246 P P 18 17 51.6 -0.5
MUN Mundaring 61.38 244 P P 18 17 53.8 0.0
baz=62,SNR=9.0
MUN Mundaring 61.38 244 P P 18 17 53.7 0.0
MORW Morawa 61.94 247 P P 18 17 57.0 -0.6
baz=62,SNR=9.6
MORW Morawa 61.94 247 P P 18 17 56.4 -1.2
MORW IAmb IAmb 18 17 58.2
comp=Z,62nm,1.6s
MORW Morawa 61.94 247 P P 18 17 57.3 -0.2
CCD Concordia, Ant 63.02 195 P P 18 18 06.0 +1.6
LUWI Luwuk 63.20 280 P P 18 18 05.3 -0.8
LUWI IAmb IAmb 18 18 08.8
comp=Z,36nm,0.8s
LUWI Luwuk 63.20 280 P P 18 18 07.7 +1.6
comp=Z,54nm,1.0s
LUWI Luwuk 63.20 280 P P 18 18 08.5 +2.4
BKSI Bulukumba 64.12 274 P P 18 18 10.9 -1.3
comp=Z,13nm,0.8s
APSI Ampana 64.29 279 P P 18 18 14.7 +1.4
comp=Z,67nm,0.6s
KCP Kidapawan 64.41 289 iP P 18 18 14.0 -0.1
BNSI Bone 64.46 275 P P 18 18 14.7 +0.3
comp=Z,9.9nm,0.6s
MRSI Marisa 64.55 281 P P 18 18 14.6 -0.4
comp=Z,22nm,0.6s
KAPI Kappang 64.58 274 P P 18 18 13.3 -1.8
KAPI Kappang 64.58 274 iE eP P 18 18 17.0 +1.9
GIRL Giralia 64.75 254 P P 18 18 16.1 -0.1
CASY Casey 64.92 205 P P 18 18 17.3 +0.8
CASY IAmb IAmb 18 18 27.1
comp=Z,46nm,0.8s
CASY Casey 64.92 205 P P 18 18 17.8 +1.2
CASY pP **pP** 18 18 35.4 -3.5
PLAI Plampang 65.17 270 P P 18 18 19.0 0.0
comp=Z,62nm,1.1s
PLAI Plampang 65.17 270 P P 18 18 19.0 0.0
TOLI2 Tolitoli 65.86 281 P P 18 18 22.8 -0.7
TOLI2 IAmb IAmb 18 18 30.5
comp=Z,15nm,0.6s
TOLI2 Tolitoli 65.86 281 P P 18 18 24.1 +0.6
TWSI Taliwang, Sumb 66.04 269 P P 18 18 24.5 -0.1
comp=Z,66nm,1.0s
MPSI Mapaga 66.38 280 P P 18 18 27.1 +0.3
comp=Z,370nmcomp=Z,22nm,0.7s
JHJ2 Mitsune 68.27 321 P P 18 18 38.8 +0.6
JAGI Jajag, Banyuwa 68.68 269 P P 18 18 39.6 -1.7
JAGI IAmb IAmb 18 18 42.5
comp=Z,39nm,1.0s
JAGI Jajag, Banyuwa 68.68 269 P P 18 18 40.2 -1.1
comp=Z,44nm,0.9s
JAGI Jajag, Banyuwa 68.68 269 P P 18 18 40.1 -1.2
QSPA South Pole Qui 69.54 180 P P 18 18 47.3 +1.4
QSPA IAmb IAmb 18 18 48.8
comp=Z,46nm,0.9s
QSPA South Pole Qui 69.54 180 P P 18 18 47.6 +1.7
MYLDM Lahad Datu 69.56 284 P P 18 18 47.1 +0.4
MYLDM IAmb IAmb 18 19 07.0
comp=Z,27nm,1.0s
BBKI Banjar Baru 69.70 274 P P 18 18 47.4 -0.2
comp=Z,45nm,1.2s
MTKI Muara Teweh, K 70.55 276 P P 18 18 52.0 -0.8
comp=Z,31nm,0.9s
MJAR Matsushiro Arr 71.61 322 P P 18 18 58.6 -0.1
comp=Z,3.1nm,0.5s,baz=152,slow=5.9,SNR=18
comp=Z,3.1nm,0.5s
MAJO Matsushiro 71.62 322 P P 18 18 58.4 -0.3
MAJO Matsushiro 71.62 322 *de*P P 18 18 58.8 +0.1
MAJO pmax pmax
comp=Z,22nm,1.7s

KKM	**Kota Kinabalu**	**71.99**	**284**	P	**P**	**18 19 01.9**	**+0.3**
KKM				IAmb	IAmb	18 19 03.0	
	comp=Z,26nm,0.8s						
KKM	**Kota Kinabalu**	**71.99**	**284**	P	**P**	**18 19 02.2**	**+0.6**
UGM	**Wanagama**	**72.26**	**268**	P	**P**	**18 19 02.7**	**-0.4**
UGM	**Wanagama**	**72.26**	**268**	P	**P**	**18 19 03.8**	**+0.7**
JMN	**Monobe**	**72.33**	**318**	P	**P**	**18 19 03.0**	**-0.1**
JMN				IAmb	IAmb	18 19 11.8	
	comp=Z,72nm,1.3s						
JSD	**Sado**	**72.64**	**323**	P	**P**	**18 19 06.0**	**+1.2**
JHS	**Saijyo**	**73.64**	**318**	P	**P**	**18 19 11.6**	**+0.9**
JHS	**Saijyo**	**73.64**	**318**	P	**P**	**18 19 12.1**	**+1.3**
SBUM	**Sibu**	**74.28**	**279**	P	**P**	**18 19 15.0**	**+0.1**
UNV	**Unalaska Valle**	**74.47**	**6**	P	**P**	**18 19 14.7**	**-0.4**
YOJ	**Yonaguni jima**	**74.64**	**304**	P	**P**	**18 19 16.5**	**-0.3**
YOJ	**Yonaguni jima**	**74.64**	**304**	P	**P**	**18 19 16.5**	**-0.3**
YOJ				pmax	pmax		
	comp=Z,157nm,1.0s						
TWGBT	**Beinan**	**75.33**	**302**	P	**P**	**18 19 19.7**	**-1.1**
TWG	**Pinlang**	**75.34**	**302**	P	**P**	**18 19 19.5**	**-1.3**
YULB	**Yu-li**	**75.45**	**302**	P	**P**	**18 19 20.8**	**-0.7**
YULB				IAmb	IAmb	18 20 54.4	
	comp=Z,98nm,1.6s						
YULB	**Yu-li**	**75.45**	**302**	P	**P**	**18 19 21.2**	**-0.3**
NACB	**Ninganchiao**	**75.61**	**303**	P	**P**	**18 19 21.4**	**-0.9**
NACB	**Ninganchiao**	**75.61**	**303**	P	**P**	**18 19 22.3**	**0.0**
KSM	**Kuching**	**75.69**	**277**	P	**P**	**18 19 23.4**	**+0.3**
KSM				IAmb	IAmb	18 19 25.9	
	comp=Z,33nm,0.7s						
KSM	**Kuching**	**75.69**	**277**	P	**P**	**18 19 23.9**	**+0.8**
SSLB	**Suanglung**	**75.92**	**302**	P	**P**	**18 19 22.7**	**-1.4**
SSLB				IAmb	IAmb	18 21 34.7	
	comp=Z,114nm,1.8s						
SSLB	**Suanglung**	**75.92**	**302**	P	**P**	**18 19 24.0**	**-0.2**
TPUB	**Ta-pu**	**75.93**	**302**	P	**P**	**18 19 22.9**	**-1.3**
TPUB	**Ta-pu**	**75.93**	**302**	P	**P**	**18 19 23.7**	**-0.6**
YHNB	**Yeheng**	**76.03**	**303**	P	**P**	**18 19 24.9**	**+0.1**
CBJI	**Citeko**	**76.19**	**268**	P	**P**	**18 19 28.6**	**+2.7**
CNBA	**Chernabura Isl**	**76.28**	**9**	P	**P**	**18 19 23.8**	**-1.6**
TNG	**Tangerang**	**76.46**	**268**	P	**P**	**18 19 26.4**	**-1.1**
SDPT	**Sand Point**	**76.66**	**9**	P	**P**	**18 19 27.4**	**-0.1**
PEA0B	**Petropavlovsk-**	**76.91**	**344**	P	**P**	**18 19 30.0**	**+0.9**
PEA0B	**Petropavlovsk-**	**76.91**	**344**	P	**P**	**18 19 30.0**	**+0.9**
PEA0B				pmax	pmax		
	comp=Z,136nm,1.7s						
PETK	**Petropavlovsk-**	**76.91**	**344**	P	**P**	**18 19 29.3**	**+0.2**
	comp=Z,11nm,0.8s,baz=119,slow=6.4,SNR=20						
	comp=Z,11nm,0.8s						
YSS	**Yuzh-Sakhalins**	**76.97**	**332**	*e*P	**P**	**18 19 30.9**	**+1.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,800nm,19.0s						
CGJI	**Cibinong**	**77.21**	**268**	P	**P**	**18 19 30.0**	**-1.7**
	comp=Z,53nm,0.6s						
EDW2	**Edwards Air Fo**	**77.59**	**45**	P	**P**	**18 19 35.3**	**+1.9**
	baz=234						
IKP	**In-Ko-Pah, Jac**	**77.59**	**48**	P	**P**	**18 19 35.5**	**+2.0**
	baz=236						
ISA	**Isabella, Lake**	**77.73**	**44**	P	**P**	**18 19 34.6**	**+0.4**
ISA	**Isabella, Lake**	**77.73**	**44**	P	**P**	**18 19 36.0**	**+1.8**
	baz=233						
ISA	**Isabella, Lake**	**77.73**	**44**	P	**P**	**18 19 34.6**	**+0.4**
ISA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LRMC	**Laurel Mtn Rad**	**78.14**	**45**	P	**P**	**18 19 38.5**	**+1.9**
	baz=234						
BELC	**Belle Mtn. Jos**	**78.43**	**47**	P	**P**	**18 19 40.3**	**+2.2**
	baz=235						
KSRS	**Korea Array**	**78.44**	**317**	P	**P**	**18 19 39.2**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=126,slow=6.0,SNR=7.4						
	comp=Z,1.4nm,0.6s						
CWC	**Cottonwood Cre**	**78.45**	**44**	P	**P**	**18 19 40.2**	**+1.9**
	baz=234						
MPMC	**Manual Prospec**	**78.61**	**45**	P	**P**	**18 19 41.0**	**+1.8**
	baz=234,SNR=7.3						
GSC	**Goldstone, Bar**	**78.62**	**45**	P	**P**	**18 19 41.4**	**+2.3**
	baz=235						
HEC	**Hector,Ludlow**	**78.67**	**46**	P	**P**	**18 19 41.4**	**+2.0**
	baz=235						
KASI	**Kota Agung**	**78.69**	**268**	P	**P**	**18 19 38.3**	**-1.6**
	comp=Z,46nm,0.9s						
GMRC	**Granite Mounta**	**79.10**	**46**	P	**P**	**18 19 43.7**	**+1.9**
	baz=235						
IRM	**Iron Mountain**	**79.10**	**47**	P	**P**	**18 19 44.0**	**+2.3**
	baz=236						
VCNR	**Virginia City**	**79.17**	**41**	P	**P**	**18 19 43.1**	**+0.9**
LCH	**Last Change Ra**	**79.20**	**44**	P	**P**	**18 19 43.4**	**+1.1**
GWY	**Greenwater Val**	**79.22**	**45**	P	**P**	**18 19 43.0**	**+0.5**
BELA	**Belgrano 2**	**79.23**	**172**	P	**P**	**18 19 42.0**	**+0.2**
BELA				IAmb	IAmb	18 19 43.5	
	comp=Z,27nm,0.9s						
YERR	**Yerington**	**79.23**	**41**	P	**P**	**18 19 43.7**	**+1.1**
GRAC	**Grapevine Rang**	**79.24**	**44**	P	**P**	**18 19 44.0**	**+1.6**
LHV	**Little Huntoon**	**79.25**	**42**	P	**P**	**18 19 44.2**	**+1.9**
LWLI	**Liwa**	**79.27**	**269**	P	**P**	**18 19 41.7**	**-1.5**
	comp=Z,2µmcomp=Z,91nm,0.8s						
TUQ	**Turquoise Moun**	**79.29**	**46**	P	**P**	**18 19 45.0**	**+2.1**
	baz=235						
113A	**Mohawk Valley,**	**79.31**	**49**	P	**P**	**18 19 43.4**	**+0.6**
113A				IAmb	IAmb	18 19 45.1	
	comp=Z,39nm,2.0s						
BLYC	**Blythe**	**79.31**	**48**	P	**P**	**18 19 43.3**	**+0.5**
RYN	**Ryan**	**79.47**	**42**	P	**P**	**18 19 45.3**	**+1.5**
GMN	**Gold Mountain**	**79.48**	**44**	P	**P**	**18 19 45.0**	**+1.0**
NVAR	**Mina Array Bea**	**79.48**	**42**	P	**P**	**18 19 45.5**	**+1.6**
	comp=Z,5.7nm,0.9s,baz=225,slow=8.2,SNR=21						
	comp=Z,5.7nm,0.9s						
NVAR	**Mina Array Bea**	**79.48**	**42**	P	**P**	**18 19 45.0**	**+1.1**
NV11	**Mina Array Sit**	**79.58**	**42**	P	**P**	**18 19 45.4**	**+1.0**
MZP	**Montezuma Peak**	**79.64**	**43**	P	**P**	**18 19 46.1**	**+1.3**
TPNV	**Topopah Spring**	**79.94**	**44**	P	**P**	**18 19 47.4**	**+1.0**
TPNV	**Topopah Spring**	**79.94**	**44**	P	**P**	**18 19 48.2**	**+1.8**
	baz=235,SNR=5.5						
TPNV	**Topopah Spring**	**79.94**	**44**	P	**P**	**18 19 47.4**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TPH	**Tonopah**	**79.96**	**43**	P	**P**	**18 19 47.8**	**+1.3**
TPH				IAmb	IAmb	18 20 20.3	
	comp=Z,32nm,0.9s						
TPH	**Tonopah**	**79.96**	**43**	P	**P**	**18 19 47.8**	**+1.3**
TPH				pmax	pmax		
	comp=Z,31nm,0.9s						
KVN	**Kaiserville**	**79.98**	**42**	P	**P**	**18 19 47.9**	**+1.3**
KVN	**Kaiserville**	**79.98**	**42**	P	**P**	**18 19 47.9**	**+1.3**
KVN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TYV	**Tymovskoe**	**80.03**	**335**	*e*P	**P**	**18 19 47.1**	**+0.9**
TYV				*e*S	**S**	**18 29 38.7**	**-4.2**
TYV				pmax	pmax		
	comp=Z,22nm,0.7s						
TYV				pmax	pmax		
	comp=Z,400nm,2.7s						
TYV				smax	smax		
	comp=N,500nm,5.4s						
TYV				smax	smax		
	comp=E,1µm,5.4s						
Q17K	**Contact Creek**	**80.18**	**10**	P	**P**	**18 19 47.7**	**+0.6**
	baz=198						
V12A	**Nelson**	**80.18**	**46**	P	**P**	**18 19 48.6**	**+1.1**
USA0B	**Ussuriysk Arra**	**80.30**	**325**	⇓*e*P	**P**	**18 19 50.5**	**+2.6**
USRK	**Ussuriysk Ar.**	**80.30**	**325**	P	**P**	**18 19 50.3**	**+2.5**
	comp=E,3.5nm,0.8s,baz=124,slow=7.2,SNR=6.3						
MOD	**Modoc Plateau**	**80.39**	**38**	P	**P**	**18 19 49.8**	**+1.2**
SHPR	**Sheep Range**	**80.41**	**45**	P	**P**	**18 19 49.8**	**+0.9**
K05A	**Summer Lake**	**80.57**	**38**	P	**P**	**18 19 51.8**	**+2.2**
K05A				IAmb	IAmb	18 20 17.1	
	comp=Z,67nm,1.7s						
Q18K	**Katmai Hardscr**	**80.69**	**11**	P	**P**	**18 19 50.5**	**+0.7**
	baz=199						
O16K	**Kokwok River B**	**81.10**	**9**	P	**P**	**18 19 51.8**	**0.0**
	baz=196						
PINE	**Pine Mountain**	**81.22**	**37**	P	**P**	**18 19 53.7**	**+0.6**
NJ2	**Nanjing**	**81.68**	**309**	*e*P	**P**	**18 19 54.8**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
N16K	**Nishlik Lake**	**81.86**	**8**	P	**P**	**18 19 57.3**	**+1.5**
	baz=196						
MDJ	**Mudanjiang**	**81.88**	**324**	P	**P**	**18 19 58.0**	**+1.7**
MDJ				pP	sP	18 20 30.8	+1.9
MDJ				S	**S**	**18 30 03.3**	**+0.9**
MDJ				sS	sS	18 31 00.5	+19
MDJ				SS	**SS**	**18 35 24.0**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,17nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,280nm,3.5s						
CCUT	**Cedar City**	**82.18**	**45**	P	**P**	**18 20 00.1**	**+1.8**
KNB	**Kanab**	**82.25**	**46**	P	**P**	**18 20 00.0**	**+1.3**
KNB	**Kanab**	**82.25**	**46**	P	**P**	**18 20 00.0**	**+1.3**
KNB				pmax	pmax		
	comp=Z,20nm,1.3s						
O19K	**Port Alsworth**	**82.27**	**11**	P	**P**	**18 19 57.7**	**-0.2**
O19K				IAmb	IAmb	18 19 59.7	
	comp=Z,33nm,1.1s						
O19K	**Port Alsworth**	**82.27**	**11**	P	**P**	**18 19 58.3**	**+0.4**
	baz=200						
MAW	**Mawson**	**82.31**	**199**	P	**P**	**18 19 59.4**	**+1.2**
	comp=Z,16nm,0.7s,baz=133,slow=7.9,SNR=17						
	comp=Z,16nm,0.7s						
MAW	**Mawson**	**82.31**	**199**	P	P	18 19 49.7	-8.5
	baz=82,SNR=29						
SPR3	**Spring Creek 3**	**82.35**	**44**	P	**P**	**18 20 00.6**	**+1.3**
SPR3				IAmb	IAmb	18 20 02.1	
	comp=Z,4.7nm,1.1s						
GRNR	**Gornyy**	**82.60**	**332**	⇓*i*P	**P**	**18 20 01.3**	**+1.4**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,170nm,17.0s						
ELK	**Elko**	**82.76**	**42**	P	**P**	**18 20 02.0**	**+0.7**
ELK	**Elko**	**82.76**	**42**	P	**P**	**18 20 02.0**	**+0.7**
ELK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MSU	**Marysvale**	**83.49**	**45**	P	**P**	**18 20 06.3**	**+1.2**
MSU	**Marysvale**	**83.49**	**45**	P	**P**	**18 20 06.3**	**+1.2**
HAWA	**Hanford**	**83.63**	**35**	P	**P**	**18 20 06.6**	**+1.3**
HAWA				IAmb	IAmb	18 20 08.0	
	comp=Z,15nm,1.0s						
KLR	**Kul'dur**	**83.74**	**328**	⇓*e*P	**P**	**18 20 07.0**	**+1.2**
KLR				pmax	pmax		
	comp=Z,12nm,1.8s						
CN2	**Changchun**	**83.74**	**321**	*e*P	**P**	**18 20 06.8**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	**BinXian**	**83.79**	**324**	⇓P	**P**	**18 20 07.0**	**+0.9**
BNX				pmax	pmax		
	comp=Z,17nm,1.0s						
BNX				pmax	pmax		
	comp=Z,150nm,5.2s						
M19K	**Big River Lodg**	**83.87**	**10**	P	**P**	**18 20 06.7**	**+0.6**
	baz=200						
MFID	**Camas Ranch**	**83.94**	**39**	P	**P**	**18 20 08.1**	**+1.0**
D08A	**Wollman Farm,**	**84.37**	**35**	P	**P**	**18 20 10.4**	**+1.3**
M22K	**Willow**	**84.49**	**12**	P	**P**	**18 20 09.5**	**+0.3**
	baz=204						
L20K	**Farewell, AK**	**84.50**	**10**	P	**P**	**18 20 10.0**	**+0.6**
	baz=200						
PMR	**Palmer**	**84.53**	**12**	P	**P**	**18 20 10.0**	**+0.5**
	baz=205						
TTA	**Tatalina**	**84.60**	**9**	P	**P**	**18 20 10.9**	**+1.0**
TTA	**Tatalina**	**84.60**	**9**	P	**P**	**18 20 11.1**	**+1.2**
	baz=198,SNR=5.8						
TTA	**Tatalina**	**84.60**	**9**	P	**P**	**18 20 10.9**	**+1.0**
TTA				pmax	pmax		
	comp=Z,14nm,1.1s						
GHO	**Glory Hole Cre**	**84.74**	**12**	P	**P**	**18 20 11.1**	**+0.5**
GHO				IAmb	IAmb	18 20 11.9	
	comp=Z,27nm,1.0s						
PLID	**Pearl Lake**	**84.81**	**38**	P	**P**	**18 20 12.0**	**+0.3**
DIV	**Divide**	**84.83**	**14**	IAmb	IAmb	18 20 12.5	
	comp=Z,26nm,0.9s						
HLID	**Hailey**	**84.86**	**40**	P	**P**	**18 20 12.9**	**+1.1**
HLID	**Hailey**	**84.86**	**40**	P	**P**	**18 20 14.1**	**+2.3**
	baz=235						
BMRM	**Bremner River**	**84.96**	**15**	P	**P**	**18 20 12.5**	**+0.7**
	baz=209						
CUT	**Chulitna**	**85.06**	**12**	P	**P**	**18 20 12.8**	**+0.7**
	baz=204						
SCM	**Sheep Creek Mo**	**85.12**	**13**	P	**P**	**18 20 13.3**	**+0.8**
SCM				IAmb	IAmb	18 20 14.0	
	comp=Z,18nm,0.7s						
SCM	**Sheep Creek Mo**	**85.12**	**13**	P	**P**	**18 20 13.7**	**+1.1**
	baz=206						
SCM	**Sheep Creek Mo**	**85.12**	**13**	P	**P**	**18 20 13.4**	**+0.8**
SCM				pmax	pmax		
	comp=Z,18nm,0.7s						
TXAR	**Lajitas Array**	**85.15**	**56**	P	**P**	**18 20 15.0**	**+1.5**
	comp=Z,3.4nm,0.9s,baz=218,slow=8.5,SNR=19						
	comp=Z,3.4nm,0.9s						
TXAR	**Lajitas Array**	**85.15**	**56**	P	**P**	**18 20 14.1**	**+0.6**
K20K	**Telida**	**85.29**	**10**	P	**P**	**18 20 14.3**	**+1.0**
	baz=200						
IPM	**Ipoh**	**85.41**	**276**	IAmb	IAmb	18 20 17.1	
	comp=Z,24nm,0.7s						
IPM	**Ipoh**	**85.41**	**276**	P	**P**	**18 20 15.8**	**+0.7**
N25K	**Chitina, Valde**	**85.52**	**14**	P	**P**	**18 20 15.4**	**+0.8**
	baz=209						
ANMO	**Albuquerque**	**85.64**	**50**	⇑*e*P	**P**	**18 20 17.4**	**+1.4**
ANMO				pmax	pmax		
	comp=Z,13nm,3.0s						
CAST	**Castle Rocks**	**85.67**	**10**	P	**P**	**18 20 13.9**	**-1.3**
CAST				IAmb	IAmb	18 20 15.3	
	comp=Z,18nm,1.0s						
CAST	**Castle Rocks**	**85.67**	**10**	P	**P**	**18 20 14.7**	**-0.6**
	baz=202,SNR=8.8						
WAT6	**Susitna Watana**	**85.71**	**13**	P	**P**	**18 20 16.1**	**+0.5**
	baz=206						
WAT1	**Susitna Watana**	**85.77**	**12**	P	**P**	**18 20 16.0**	**+0.3**
	baz=205						
KTH	**Kantishna Hill**	**86.00**	**11**	P	**P**	**18 20 14.6**	**-2.3**
KTH				IAmb	IAmb	18 20 18.2	
	comp=Z,15nm,1.0s						
TRF	**Thorofare Moun**	**86.01**	**11**	P	**P**	**18 20 16.2**	**-0.9**
TRF				IAmb	IAmb	18 20 18.3	
	comp=Z,30nm,0.7s						
TRF	**Thorofare Moun**	**86.01**	**11**	P	**P**	**18 20 17.0**	**-0.1**
	baz=204,SNR=15						
KULM	**Kulim**	**86.05**	**277**	IAmb	IAmb	18 20 21.2	
	comp=Z,13nm,0.7s						
J20K	**Nowinta River**	**86.05**	**9**	P	**P**	**18 20 17.9**	**+0.8**
	baz=200						
CHUM	**Lake Minchumin**	**86.07**	**10**	P	**P**	**18 20 17.2**	**+0.1**
	baz=202,SNR=5.4						
DHY	**Denali Highway**	**86.23**	**12**	P	**P**	**18 20 18.8**	**+0.6**
	baz=206						
RND	**Reindeer**	**86.24**	**12**	IAmb	IAmb	18 20 19.6	
	comp=Z,17nm,0.6s						
YUK8	**Steele Glacier**	**86.45**	**16**	P	**P**	**18 20 20.8**	**+1.4**
	baz=213						
BPAW	**Bear Paw Mtn.**	**86.49**	**11**	P	**P**	**18 20 18.8**	**-0.4**
	baz=203						
MCK	**McKinley**	**86.52**	**12**	P	**P**	**18 20 19.2**	**-0.2**
MCK				IAmb	IAmb	18 20 20.7	
	comp=Z,43nm,1.1s						
MCK	**McKinley**	**86.52**	**12**	P	**P**	**18 20 19.9**	**+0.5**
	baz=205,SNR=10						
MCK	**McKinley**	**86.52**	**12**	P	**P**	**18 20 19.2**	**-0.2**
MCK				pmax	pmax		
	comp=Z,43nm,1.1s						
HEH	**HeiHe**	**86.56**	**327**	*e*P	**P**	**18 20 20.3**	**+0.5**
HEH				pmax	pmax		
	comp=Z,14nm,0.7s						
HEH				pmax	pmax		
	comp=Z,230nm,4.9s						
M26K	**Nabesna, AK**	**86.59**	**15**	P	**P**	**18 20 20.6**	**+0.8**
M26K				IAmb	IAmb	18 20 22.3	
	comp=Z,14nm,1.1s						
M26K	**Nabesna, AK**	**86.59**	**15**	P	**P**	**18 20 21.2**	**+1.3**
	baz=210						
YUK3	**Moose Creek**	**86.68**	**16**	P	**P**	**18 20 21.8**	**+1.3**
	baz=212						
RPSI	**Rantau Prapat**	**86.75**	**274**	P	**P**	**18 20 21.1**	**-0.5**
RPSI				IAmb	IAmb	18 20 24.4	
	comp=Z,13nm,1.0s						
PSI	**Prapat**	**86.78**	**274**	P	**P**	**18 20 21.1**	**-0.9**
PSI				pmax	pmax		
	comp=Z,13nm,1.0s						
MENT	**Mentasta**	**86.89**	**14**	IAmb	IAmb	18 20 23.1	
	comp=Z,14nm,1.0s						
SEY	**Seymchan**	**86.94**	**346**	⇓*e*P	**P**	**18 20 21.7**	**+0.3**
SEY				pmax	pmax		
	comp=Z,47nm,2.5s						
L26K	**Log Cabin Wild**	**87.05**	**14**	P	**P**	**18 20 23.4**	**+1.4**
	baz=210						
HNS	**HongShan**	**87.27**	**312**	⇓P	**P**	**18 20 25.0**	**+1.4**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NEA2	**Nenana**	**87.28**	**11**	P	**P**	**18 20 23.4**	**+0.4**
	baz=205						
I21K	**Tanana**	**87.33**	**10**	P	**P**	**18 20 24.1**	**+0.9**
	baz=202						
WRH	**Wood River Hil**	**87.35**	**12**	IAmb	IAmb	18 20 24.6	
	comp=Z,13nm,0.8s						
MLY	**Manley**	**87.39**	**10**	IAmb	IAmb	18 20 24.4	
	comp=Z,14nm,1.2s						
MLY	**Manley**	**87.39**	**10**	P	**P**	**18 20 23.7**	**0.0**
	baz=203,SNR=7.0						
PDAR	**Pinedale Array**	**87.42**	**42**	P	**P**	**18 20 24.8**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=199,slow=3.7,SNR=9.9						
	comp=Z,0.8nm,0.7s						
DOT	**Dot Lake**	**87.44**	**13**	P	**P**	**18 20 24.4**	**+0.5**
DOT				IAmb	IAmb	18 20 25.4	
	comp=Z,12nm,0.9s						
HDA	**Harding Lake**	**87.51**	**12**	P	**P**	**18 20 24.4**	**+0.3**
	baz=206,SNR=5.7						
GSI	**Gunungsitoli**	**87.52**	**272**	P	**P**	**18 20 25.1**	**-0.3**
BJI	**Beijing**	**87.54**	**314**	P	**P**	**18 20 25.8**	**+1.0**
BJI				pP	**sP**	**18 20 57.5**	**-0.1**
BJI				S	**S**	**18 30 52.0**	**-6.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,86nm,4.2s						
CCB	**Clear Creek Bu**	**87.56**	**12**	P	**P**	**18 20 23.8**	**-0.6**
CCB				IAmb	IAmb	18 20 25.3	
	comp=Z,9.1nm,0.5s						
LYN	**LuoYang**	**87.56**	**308**	*e*P	**P**	**18 20 26.5**	**+1.4**
LYN				pmax	pmax		
	comp=Z,20nm,0.8s						
PLCA	**Paso Flores**	**87.58**	**133**	P	**P**	**18 20 27.0**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=233,slow=20,SNR=3.2						
	comp=Z,1.3nm,0.7s						
H21K	**Melozitna Rive**	**87.65**	**9**	P	**P**	**18 20 25.9**	**+1.1**
	baz=201						
TROLL	**Troll, Antarti**	**87.69**	**179**	P	**P**	**18 20 25.5**	**+0.2**
SCRK	**Sand Creek**	**87.74**	**13**	P	**P**	**18 20 26.5**	**+1.1**
	baz=209						
COLA	**College**	**87.76**	**11**	⇓*i*P	**P**	**18 20 25.2**	**0.0**
COLA				pmax	pmax		
	comp=Z,13nm,0.8s						
MDM	**Murphy Dome**	**87.77**	**11**	IAmb	IAmb	18 20 26.3	
	comp=Z,8.7nm,0.8s						
ILAR	**Eielson Array**	**87.85**	**12**	P	**P**	**18 20 25.7**	**0.0**
	comp=Z,2.8nm,0.5s,baz=216,slow=5.4,SNR=58						
	comp=Z,2.8nm,0.5s						
SNAA	**Sanae**	**87.91**	**178**	P	**P**	**18 20 26.5**	**+0.2**
SNAA	**Sanae**	**87.91**	**178**	P	**P**	**18 20 25.6**	**-0.7**
SNAA	**Sanae**	**87.91**	**178**	*e*P	**P**	**18 20 25.5**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,15nm,1.7s						
VNA3	**Neumayer Olymp**	**87.95**	**175**	P	**P**	**18 20 26.6**	**+0.3**
POKR	**Poker Flat Res**	**88.06**	**12**	IAmb	IAmb	18 20 27.9	
	comp=Z,33nm,1.6s						
POKR	**Poker Flat Res**	**88.06**	**12**	P	**P**	**18 20 27.2**	**+0.5**
	baz=206						
J26L	**Joseph Creek**	**88.29**	**13**	P	**P**	**18 20 28.8**	**+0.9**
	baz=210						
G21K	**Allakaket**	**88.35**	**9**	P	**P**	**18 20 29.0**	**+0.9**
	baz=200						
VNA2	**Neumayer--Watz**	**88.42**	**176**	P	**P**	**18 20 29.2**	**+0.6**
	baz=181,slow=3.0						
VNA1	**Neumayer--Stat**	**88.63**	**176**	P	**P**	**18 20 30.5**	**+1.0**
PRP	**Porcupine Dome**	**88.78**	**12**	IAmb	IAmb	18 20 32.2	
	comp=Z,11nm,1.2s						
PRP	**Porcupine Dome**	**88.78**	**12**	P	**P**	**18 20 31.0**	**+0.7**
	baz=208,SNR=5.3						
ZEA	**Zeya**	**88.78**	**330**	*e*P	**P**	**18 20 31.9**	**+1.5**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DAWY	**Dawson**	**88.87**	**15**	P	**P**	**18 20 31.1**	**+0.5**
DAWY				IAmb	IAmb	18 20 32.2	
	comp=Z,48nm,1.9s						
DAWY	**Dawson**	**88.87**	**15**	P	**P**	**18 20 31.9**	**+1.2**
	baz=213						
F21K	**Alatna River**	**89.02**	**8**	P	**P**	**18 20 32.1**	**+0.9**
	baz=200						
EGAK	**Eagle**	**89.06**	**14**	P	**P**	**18 20 32.0**	**+0.6**
EGAK				IAmb	IAmb	18 21 10.8	
	comp=Z,12nm,1.2s						
BILL	**Bilibino**	**89.31**	**353**	P	**P**	**18 20 32.6**	**+0.1**
BILL				IAmb	IAmb	18 23 44.3	
	comp=Z,18nm,1.5s						
BILL	**Bilibino**	**89.31**	**353**	⇑*e*P	**P**	**18 20 33.5**	**+0.9**
BILL				*e**PP	**sP**	**18 21 09.3**	**+3.9**
BILL				*e*		18 24 11.7	
BILL				pmax	pmax		
	comp=Z,18nm,2.3s						
XLT	**XiLinHaoTe**	**89.49**	**318**	*e*P	**P**	**18 20 35.3**	**+1.2**
XLT				pP	sP	18 21 14.0	+7.0
XLT				sP	pwP	18 21 24.3	+24
XLT				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,230nm,4.8s						
COLD	**Coldfoot**	**89.50**	**10**	P	**P**	**18 20 34.7**	**+1.2**
COLD				IAmb	IAmb	18 20 35.6	
	comp=Z,7.4nm,0.7s						
COLD	**Coldfoot**	**89.50**	**10**	P	**P**	**18 20 34.8**	**+1.3**
	baz=204						
E22K	**Anaktuvuk Pass**	**90.10**	**9**	P	**P**	**18 20 37.5**	**+1.2**
	baz=202						
F24K	**Squaw Lake**	**90.14**	**10**	P	**P**	**18 20 37.8**	**+1.3**
	baz=206						
H27K	**Steamboat Moun**	**90.22**	**13**	P	**P**	**18 20 38.4**	**+1.5**
	baz=212						
G26K	**Porcupine Rive**	**90.38**	**12**	P	**P**	**18 20 39.1**	**+1.5**
	baz=209						
TOLK	**Toolik Lake Re**	**90.90**	**9**	P	**P**	**18 20 41.2**	**+1.2**
	baz=204						
F26K	**Sheenjek River**	**90.96**	**11**	P	**P**	**18 20 42.3**	**+2.0**
	baz=209						
HHC	**Hu-ho-hao-te**	**91.03**	**314**	*e*P	**P**	**18 20 41.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,6.2s						
D23K	**Nanushuk River**	**91.03**	**9**	P	**P**	**18 20 42.2**	**+1.7**
	baz=203						
E25K	**Arctic Village**	**91.08**	**11**	P	**P**	**18 20 42.3**	**+1.5**
	baz=208,SNR=6.0						
EPYK	**Eagle

	comp=Z,10.0nm,1.1s							
PZH					pmax	pmax		
	comp=Z,130nm,4.1s							
PZH					LR	LR		
	comp=Z,430nm,18.4s							
PZH					LR	LR		
	comp=Z,540nm,19.2s							
PZH					LR	LR		
	comp=Z,510nm,18.8s							
C26K	**Camden Bay**	**92.78**	**10**		P	**P**	**18 20 50.2**	**+1.5**
	baz=208							
F31M	**Tsiigehtchic**	**92.98**	**15**		P	**P**	**18 20 50.6**	**+1.0**
	baz=219,SNR=6.7							
YAK	**Yakutsk**	**93.01**	**337**		P	**P**	**18 20 49.4**	**-0.4**
YAK					lAmb	lAmb	18 20 51.8	
	comp=Z,11nm,0.7s							
YAK	**Yakutsk**	**93.01**	**337**	*de*	**P**	**P**	**18 20 49.4**	**-0.4**
YAK					pmax	pmax		
	comp=Z,10.0nm,0.6s							
INK	**Inuvik**	**93.71**	**14**		P	**P**	**18 20 53.0**	**+0.1**
INK					lAmb	lAmb	18 20 54.3	
	comp=Z,17nm,1.3s							
INK	**Inuvik**	**93.71**	**14**		P	**P**	**18 20 53.6**	**+0.7**
	baz=219,SNR=7.0							
INK	**Inuvik**	**93.71**	**14**		P	**P**	**18 20 53.0**	**+0.1**
INK					pmax	pmax		
	comp=Z,17nm,1.3s							
LZH	**Lanzhou**	**94.62**	**307**	*e*	P	**P**	**18 20 59.5**	**+1.4**
LZH					pmax	pmax		
	comp=Z,10.0nm,1.2s							
TNCH	**TengChong**	**94.95**	**295**		P	**P**	**18 21 01.0**	**+1.1**
TNCH					pmax	pmax		
	comp=Z,7.0nm,2.3s							
YKA	**Yellowknife Ar**	**95.59**	**24**		P	**P**	**18 21 02.0**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=243,slow=5.2,SNR=4.5							
	comp=Z,1.7nm,0.8s							
YKA	**Yellowknife Ar**	**95.59**	**24**		P	**P**	**18 21 02.0**	**+0.3**
ECSD	**EROS Data Cent**	**96.30**	**46**		P	**P**	**18 21 05.5**	**+0.2**
ECSD					lAmb	lAmb	18 21 39.4	
	comp=Z,6.7nm,0.9s							
SONM	**Songino Array**	**97.29**	**318**		P	Pdif	18 21 11.1	+1.1
	comp=Z,1.1nm,0.7s,baz=130,slow=4.4,SNR=6.2							
	comp=Z,1.1nm,0.7s							
GTA	**Gaotai**	**98.77**	**309**	*e*	P	Pdif	18 21 19.0	+2.2
GTA					pP	sP	18 21 57.5	+7.8
GTA					pmax	pmax		
	comp=Z,63nm,6.2s							
GTA					LR	LR		
	comp=Z,150nm,20.0s							
GTA					LR	LR		
	comp=Z,91nm,18.5s							
GTA					LR	LR		
	comp=Z,140nm,21.4s							
ZALV	**Zalesovo Beam**	**111.95**	**321**		PKiKP	**PKiKP**	**18 26 10.4**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=148,slow=0.5,SNR=15							
ZALV	**Zalesovo Beam**	**111.95**	**321**		PKiKP	**PKiKP**	**18 26 10.0**	**-1.3**
MK31	**Makanchi Array**	**112.89**	**313**	*d*	iPKiKP	**PKiKP**	**18 26 11.8**	**-1.6**
MKAR	**Makanchi Array**	**112.89**	**313**		PKiKP	**PKiKP**	**18 26 12.6**	**-0.8**
	comp=Z,3.3nm,0.4s,baz=180,slow=0.8,SNR=102							
MKAR	**Makanchi Array**	**112.89**	**313**		PKiKP	**PKiKP**	**18 26 12.3**	**-1.1**
KURK	**Kurchatov**	**115.57**	**317**	*d*	iPKiKP	**PKPdf**	**18 26 17.2**	**-1.1**
KURK					pmax	pmax		
	comp=Z,5.0nm,1.0s							
AAK	**Ala-Archa**	**118.12**	**308**		PKPdf	**PKPdf**	**18 26 22.2**	**-1.5**
AAK	**Ala-Archa**	**118.12**	**308**	*c*	iPKiKP	**PKiKP**	**18 26 23.5**	**-0.3**
AAK					pmax	pmax		
	comp=Z,7.0nm,2.5s							
BRVK	**Borovoye**	**120.63**	**320**		PKPdf	**PKPdf**	**18 26 27.1**	**-0.9**
BRVK	**Borovoye**	**120.63**	**320**	*d*	iPKiKP	**PKPdf**	**18 26 27.3**	**-0.7**
BRVK					pmax	pmax		
	comp=Z,7.0nm,1.0s							
KKAR	**Karatay Array**	**121.06**	**309**		PKPdf	**PKPdf**	**18 26 28.2**	**-1.0**
KKAR	**Karatay Array**	**121.06**	**309**		PKiKP	**PKPdf**	**18 26 28.2**	**-1.0**
ARU	**Arti**	**126.52**	**326**		PKPdf	**PKPdf**	**18 26 38.6**	**-0.6**
ARU	**Arti**	**126.52**	**326**	*i*	PKiKP	**PKPdf**	**18 26 38.3**	**-0.9**
ARU							18 28 36.2	
ARU							18 33 37.0	
ARU					SS	SS	18 45 33.2	-0.6
BOSA	**Boshof**	**127.17**	**203**		PKP	**PKiKP**	**18 26 42.5**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=118,slow=2.4,SNR=7.2							
ABKAR	**Akbulak array**	**127.68**	**317**		PKPdf	**PKPdf**	**18 26 41.5**	**-0.1**
ARCES	**ARCESS Array B**	**129.34**	**351**		PKP	**PKPdf**	**18 26 44.1**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=2.6,slow=1.7,SNR=41							
APA	**Apatity**	**129.54**	**346**	⇓*i*	PKHKP	PKPpre	18 26 31.7	
APA					pmax	pmax		
	comp=Z,7.0nm,0.9s							
APA					MLR	MLR		
	comp=Z,2μm,23.0s							
KIRV	**Kirov**	**130.11**	**331**	⇑*i*	PKiKP	**PKPdf**	**18 26 45.5**	**-0.4**
GEYT	**Alibeck**	**130.73**	**303**		PKP	**PKPdf**	**18 26 47.9**	**0.0**
	comp=Z,3.8nm,0.7s,baz=233,slow=1.5,SNR=7.2							
GEYT					SKPbc	**SKPbc**	**18 30 02.0**	**-1.7**
	comp=Z,3.2nm,0.8s,baz=230,slow=1.2,SNR=5.1							
GEYT	**Alibeck**	**130.73**	**303**		PKPdf	**PKPdf**	**18 26 47.2**	**-0.6**
BELG	**Belogornoye**	**133.97**	**324**	⇑*e*	PKiKP	**PKPdf**	**18 26 50.5**	**-2.9**
FINES	**FINESS Array B**	**136.42**	**345**		PKP	**PKPdf**	**18 26 57.5**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=63,slow=2.6,SNR=17							
OBN	**Obninsk**	**137.85**	**333**	⇑*e*	PKiKP	**PKiKP**	**18 27 01.6**	**-0.9**
OBN				*e*			18 27 36.8	
OBN				*e*			18 29 46.4	
OBN				*e*	PPP	PPP	18 32 48.2	
OBN					pmax	pmax		
	comp=Z,43nm,2.5s							
VORR	**Voronezh**	**138.79**	**327**	*e*	PKiKP	**PKPdf**	**18 27 00.6**	**-1.8**
VORR					pmax	pmax		
	comp=Z,50nm,0.4s							
NB2	**NORSAR Subarra1**	**139.25**	**355**		PKP	PKPpre	18 26 53.9	
	comp=Z,1.9nm,0.8s,baz=25,slow=3.7							
NOA	**NORSAR Array B1**	**139.25**	**355**		PKP	**PKiKP**	**18 27 05.0**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=14,slow=4.0,SNR=5.7							
NOA	**NORSAR Array B**	**139.25**	**355**		PKiKP	**PKiKP**	**18 27 05.0**	**-0.3**
ZEI	**Tsey**	**140.24**	**313**	*i*	PKHKP	PKPpre	18 26 56.1	
ZEI					pmax	pmax		
	comp=Z,4.0nm,1.1s							
KIV	**Kislovodsk**	**140.61**	**315**	*e*	PKiKP	**PKiKP**	**18 27 08.7**	**0.0**
KIV					pmax	pmax		
	comp=Z,7.0nm,1.1s							
KMBO	**Kilima Mbogo**	**141.34**	**240**		PKhKP	PKPpre	18 27 04.6	
	comp=Z,3.2nm,0.9s,baz=79,slow=7.3,SNR=7.4							
KMBO	**Kilima Mbogo**	**141.34**	**240**		PKHKP	PKPpre	18 27 04.7	
NACGM	**Naroch**	**141.75**	**339**	*e*	PKP	PKPpre	18 26 59.9	
	comp=Z,15nm,1.2s,baz=34							
RAYN	**Ar Rayn**	**141.91**	**282**		PKPdf	PKPpre	18 27 04.0	
RAYN	**Ar Rayn**	**141.91**	**282**		PKHKP	PKPpre	18 27 04.0	
GEVA	**Gevas**	**142.31**	**307**		PKPdf	PKPpre	18 27 03.7	
INVG	**Invergeldie, C**	**143.60**	**8**	*e*	P	PKPbc	18 27 08.3	-0.2
KOPT	**Kop Dagi**	**143.63**	**310**		PKPdf	PKPbc	18 27 09.6	0.0
AKASG	**Malin Array Be**	**144.12**	**333**		PKP	**PKPab**	**18 27 09.6**	**-0.1**
	comp=Z,9.2nm,0.5s,baz=40,slow=4.1,SNR=81							
AKBB	**Malin Array Si**	**144.12**	**333**	*de*	PKHKP	PKPpre	18 27 09.6	
MARD	**Mardin**	**144.34**	**306**		PKPdf	PKPbc	18 27 11.8	+0.2
EBL	**Broad Law**	**144.36**	**7**	*e*	P	PKPbc	18 27 11.1	+0.2
ESK	**Eskdalemuir**	**144.79**	**8**	*e*	P	**PKPab**	**18 27 11.9**	**-0.2**
NEWG	**New Galloway**	**144.85**	**9**	*e*	P	**PKPab**	**18 27 09.6**	**-2.7**
GAL1	**Galloway**	**145.02**	**9**	*e*	P	**PKPbc**	**18 27 12.5**	**-0.4**
EDMD	**Edmundbyers**	**145.41**	**7**	*e*	P	**PKPab**	**18 27 14.2**	**-0.3**
GMM	**Mts of Mourne**	**145.42**	**11**	*e*	P	**PKPab**	**18 27 14.7**	**+0.2**
SIM	**Simferopol'**	**145.46**	**322**	*c*	iPKiKP	**PKPab**	**18 27 15.8**	**+0.8**
SIM					pmax	pmax		
	comp=Z,169nm,1.1s							
GKP	**Gorka Klasztor**	**145.86**	**346**	*e*	PKP	**PKPab**	**18 27 17.2**	**+1.1**
GDLE	**Glaisdale, N Y**	**145.92**	**5**	*e*	P	**PKPab**	**18 27 16.2**	**-0.1**
BEL	**Belsk**	**146.25**	**342**	*e*	PKP	**PKiKP**	**18 27 18.8**	**-1.1**
HPK	**Haverah Park**	**146.30**	**6**	*e*	P	**PKPab**	**18 27 17.4**	**-0.4**
SORM	**Soroca**	**146.39**	**331**	⇑	P	**PKPbc**	**18 27 16.9**	**-0.4**
SORM	**Soroca**	**146.39**	**331**	⇑	PKiKP	**PKPbc**	**18 27 16.9**	**-0.4**
WME	**Myndd Eilian**	**146.50**	**10**	*e*	P	**PKPbc**	**18 27 17.6**	**+0.1**
WLF1	**Llynfaes**	**146.59**	**10**	*e*	P	**PKPbc**	**18 27 17.4**	**-0.3**
PURM	**Purcari**	**146.78**	**327**	⇑	P	**PKPab**	**18 27 19.0**	**-0.9**
MBAR	**Mbarara**	**146.79**	**234**	*d*	iPKiKP	**PKPbc**	**18 27 20.2**	**+0.4**
LVV	**L'vov**	**146.88**	**337**	*e*	PKiKP	**PKPbc**	**18 27 18.7**	**0.0**
LVV				*e*			18 27 50.9	
MILM	**Milestii Mici**	**147.04**	**329**	⇓	P	**PKPbc**	**18 27 19.1**	**-0.1**
MILM	**Milestii Mici**	**147.04**	**329**	⇓	PKiKP	**PKPbc**	**18 27 19.1**	**-0.1**
LLW	**Llanuwchllyn**	**147.13**	**9**	*e*	P	**PKPbc**	**18 27 19.1**	**-0.2**
FOEL	**Foel Wylfa**	**147.16**	**9**	*e*	P	**PKPbc**	**18 27 18.3**	**-1.2**
BNN	**Bunyan**	**147.40**	**311**			**PKPbc**	**18 27 19.8**	**-0.9**
HLM1	**Long Mynd**	**147.56**	**8**	*e*	P	**PKPbc**	**18 27 20.6**	**0.0**
WACR	**West Acre**	**147.73**	**4**	*e*	P	**PKPbc**	**18 27 20.6**	**-0.3**
OJC	**Ojcow**	**147.97**	**341**	*e*	PKP	**PKPdf**	**18 27 19.4**	**+0.9**
VLDR	**Vladesti**	**148.16**	**328**	⇓	P	**PKiKP**	**18 27 23.1**	**-0.9**
BURAR	**Bucovina Array**	**148.17**	**333**	⇓	P	**PKiKP**	**18 27 23.3**	**-0.8**
BURAR	**Bucovina Array**	**148.17**	**333**			**PKPbc**	**18 27 20.9**	**-1.5**
STHS	**Stebnicka Huta**	**148.21**	**339**	*e*	PKP	**PKPbc**	**18 27 22.5**	**+0.1**
STHS	**Stebnicka Huta**	**148.21**	**339**	*e*	PKIKP	**PKPbc**	**18 27 22.5**	**+0.1**
MONM	**Monmouth**	**148.24**	**9**	*e*	P	**PKPbc**	**18 27 22.5**	**+0.2**
KOLS	**Kolonicke sedl**	**148.26**	**337**	*e*	PKP	**PKiKP**	**18 27 23.2**	**-1.0**
KOLS	**Kolonicke sedl**	**148.26**	**337**	*e*	PKP2	**PKiKP**	**18 27 23.2**	**-1.0**
SCTR	**Scanteiesti**	**148.32**	**328**	⇓	P	**PKiKP**	**18 27 23.6**	**-0.7**
GHRR		**148.34**	**329**	⇓	P	**PKiKP**	**18 27 24.1**	**-0.3**
KSP	**Ksiaz**	**148.34**	**346**	*e*	PKP	**PKiKP**	**18 27 23.6**	**-0.6**
TESR	**Tescani**	**148.37**	**330**	⇓	P	**PKPbc**	**18 27 23.3**	**+0.4**
UZH	**Uzhgorod**	**148.51**	**337**	*e*	PKP2	**PKiKP**	**18 27 23.8**	**-0.8**
NIE	**Niedzica**	**148.52**	**340**	*e*	PKP	**PKiKP**	**18 27 24.5**	**-0.2**
IZVR	**Izvoarele**	**148.53**	**328**	⇓	P	**PKPab**	**18 27 28.5**	**+1.6**
BR131	**Keskin Array S**	**148.53**	**314**	*d*	iPKiKP	**PKPbc**	**18 27 23.8**	**+0.1**
BRTR	**Keskin Array B**	**148.53**	**314**		PKPbc	**PKPbc**	**18 27 23.8**	**+0.1**
	comp=Z,6.9nm,0.6s,baz=148,slow=6.3,SNR=51							
BRTR	**Keskin Array B**	**148.53**	**314**			**PKPbc**	**18 27 22.9**	**-0.8**
CLL	**Collm**	**148.56**	**350**			**PKPbc**	**18 27 22.9**	**-0.3**
CLL	**Collm**	**148.56**	**350**	⇓	iPKPbc	**PKiKP**	**18 27 23.8**	**-0.9**
	comp=Z,37nm,0.6s							
CLL				*i*	PKiKP	**PKPab**	**18 27 25.8**	**-1.0**
	comp=Z,14nm,0.6s							
CLL				*i*	PKPab	**PKPbc**	**18 27 27.1**	**+3.9**
	comp=Z,27nm,1.1s							
CLL				*es*	PKPab	**sPKPdf**	**18 27 57.0**	**+3.4**
CLL					LmV		19 49 00.0	
	comp=Z,200nm,19.2s							
CLL	**Collm**	**148.56**	**350**	⇓	iPKP2	**PKiKP**	**18 27 23.8**	**-0.9**
CLL					pmax	pmax		
	comp=Z,37nm,0.6s							
CRVS	**Cervenica-Dubn**	**148.58**	**338**	*e*	PKP	**PKiKP**	**18 27 23.9**	**-0.9**
CRVS	**Cervenica-Dubn**	**148.58**	**338**	*e*	PKP2	**PKiKP**	**18 27 23.9**	**-0.9**
CFR	**Carcaliu**	**148.59**	**327**	⇓	P	**PKPbc**	**18 27 23.8**	**+0.3**
CFR	**Carcaliu**	**148.59**	**327**	⇓	PKP2	**PKPbc**	**18 27 23.8**	**+0.3**
OSTC	**Ostas**	**148.62**	**346**	*e*	PKP	**PKiKP**	**18 27 24.4**	**-0.5**
TPGR	**Topolog**	**148.67**	**326**	⇓	P	**PKiKP**	**18 27 24.4**	**-0.8**
DPC	**Dobruska-Polom**	**148.79**	**345**	*e*	PKP	**PKiKP**	**18 27 24.6**	**-0.7**
DPC				*ex*		x	18 27 29.0	
DPC	**Dobruska-Polom**	**148.79**	**345**	*e*	PKP2	**PKiKP**	**18 27 24.6**	**-0.7**
OKC	**Ostrava-Krasne**	**148.79**	**343**	*e*	PKP	**PKiKP**	**18 27 26.2**	**+1.0**
OKC	**Ostrava-Krasne**	**148.79**	**343**	*e*	PKP2	**PKiKP**	**18 27 26.2**	**+1.0**
BRG	**Berggiesshubel**	**148.81**	**348**	*i*	PKP	**PKiKP**	**18 27 24.7**	**-0.6**
BRG					Amp		18 27 25.2	
	comp=Z,19nm,0.6s							
BRG				*i*	x	x	18 27 28.4	
BRG					Amp		18 27 29.6	
	comp=Z,26nm,1.2s							
BRG				*ex*	x		18 27 39.7	
BRG					Amp		18 27 42.7	
	comp=Z,10.0nm,0.9s							
BRG	**Berggiesshubel**	**148.81**	**348**	*i*	PKP2	**PKiKP**	**18 27 24.6**	**-0.6**
BRG					pmax	pmax		
	comp=Z,19nm,0.6s							
BRG					pmax	pmax		
	comp=Z,26nm,1.3s							
BRG					pmax	pmax		
	comp=Z,10.0nm,0.9s							
VRI	**Vrincioaia**	**148.81**	**329**	⇓	P	**PKPbc**	**18 27 24.2**	**+0.1**
VRI				⇓	P	**PKiKP**	**18 27 24.3**	**-1.1**
VRI	**Vrincioaia**	**148.81**	**329**	⇓	PKiKP	**PKPbc**	**18 27 24.2**	**+0.1**
TRPA	**Tarpa**	**148.83**	**336**	⇑	P	**PKPbc**	**18 27 24.0**	**0.0**
TRPA	**Tarpa**	**148.83**	**336**		PKP	**PKPbc**	**18 27 24.3**	**+0.4**
TRPA	**Tarpa**	**148.83**	**336**		PKP	**PKiKP**	**18 27 24.6**	**-0.7**
PLOR	**Plostina**	**148.85**	**329**	⇓	P	**PKPbc**	**18 27 24.6**	**+0.4**
PLOR	**Plostina**	**148.85**	**329**	⇓	PKP2	**PKPbc**	**18 27 24.6**	**+0.4**
KRLC	**Kraliky**	**148.93**	**345**	*e*	PKP	**PKiKP**	**18 27 24.9**	**-0.7**
KRLC				*ex*		x	18 27 29.5	
KRLC	**Kraliky**	**148.93**	**345**	*e*	PKP2	**PKiKP**	**18 27 24.9**	**-0.7**
MORC	**Moravsky Berou**	**149.01**	**343**	⇑	P	**PKiKP**	**18 27 25.5**	**-0.2**
MORC	**Moravsky Berou**	**149.01**	**343**			**PKPbc**	**18 27 23.3**	**-1.1**
MORC	**Moravsky Berou**	**149.01**	**343**	*e*	PKP	**PKiKP**	**18 27 25.0**	**-0.7**
MORC	**Moravsky Berou**	**149.01**	**343**	⇑	PKP2	**PKiKP**	**18 27 25.5**	**-0.2**
PVCC	**Panska Ves**	**149.01**	**347**	*e*	PKP	**PKiKP**	**18 27 25.0**	**-0.6**
PVCC	**Panska Ves**	**149.01**	**347**	*e*	PKP2	**PKiKP**	**18 27 25.0**	**-0.6**
ANTO	**Ankara**	**149.03**	**315**	⇓	P	**PKiKP**	**18 27 25.5**	**-0.6**
ANTO	**Ankara**	**149.03**	**315**	⇓	PKP2	**PKiKP**	**18 27 25.5**	**-0.6**
HARR	**Harsova**	**149.04**	**326**	⇓	P	**PKiKP**	**18 27 25.2**	**-0.7**
HARR	**Harsova**	**149.04**	**326**	⇓	PKP2	**PKiKP**	**18 27 25.2**	**-0.7**
COVR	**Voineasa-Covas**	**149.07**	**330**	⇓	P	**PKPbc**	**18 27 24.8**	**0.0**
OZUR		**149.08**	**330**	⇑	P	**PKiKP**	**18 27 25.6**	**-0.3**
ABAH	**Abaujker**	**149.17**	**338**		PKP	**PKiKP**	**18 27 25.7**	**-0.3**
ABAH	**Abaujker**	**149.17**	**338**		PKP	**PKiKP**	**18 27 25.8**	**-0.3**
MAUC	**Maruska**	**149.31**	**343**	*e*	PKP	**PKiKP**	**18 27 25.6**	**-0.3**
DOPR	**Dopca**	**149.36**	**331**	⇑	P	**PKiKP**	**18 27 26.5**	**0.0**
AMRR	**Amara**	**149.40**	**327**	⇑	P	**PKPab**	**18 27 32.4**	**+1.9**
AMRR	**Amara**	**149.40**	**327**	⇑	PKP2	**PKPab**	**18 27 32.4**	**+1.9**
MLR	**Muntele Rosu**	**149.45**	**330**	⇓	P	**PKiKP**	**18 27 26.6**	**-0.3**
MLR				⇓	P	**PKiKP**	**18 27 26.7**	**-0.3**
MLR	**Muntele Rosu**	**149.45**	**330**			**PKPbc**	**18 27 24.1**	**-1.8**
MLR	**Muntele Rosu**	**149.45**	**330**	⇓	PKP2	**PKiKP**	**18 27 26.6**	**-0.3**
PRU	**Pruhonice**	**149.53**	**347**	*e*	PKP	**PKPbc**	**18 27 26.0**	**+0.3**
PRU	**Pruhonice**	**149.53**	**347**	*e*	PKHKP	PKPpre	18 27 26.0	
GOPC	**GO Pecny, Ondr**	**149.55**	**347**	*e*	PKP	**PKPbc**	**18 27 25.5**	**-0.3**
GOPC	**GO Pecny, Ondr**	**149.55**	**347**	*e*	PKHKP	PKPpre	18 27 25.5	
CJR	**Cluj-Napoca**	**149.56**	**334**	⇓	P	**PKiKP**	**18 27 26.7**	**-0.3**
CJR	**Cluj-Napoca**	**149.56**	**334**	⇓	PKP2	**PKiKP**	**18 27 26.7**	**-0.3**
KALB	**Balgarevo**	**149.64**	**324**	⇑	P	**PKiKP**	**18 27 28.2**	**+1.1**
NKC	**Novy Kostel**	**149.69**	**350**	*e*	PKP	**PKPbc**	**18 27 26.2**	**+0.1**
NKC	**Novy Kostel**	**149.69**	**350**	*e*	PKHKP	PKPpre	18 27 26.2	
VRAC	**Vranov**	**149.69**	**344**	⇓	P	**PKiKP**	**18 27 26.5**	**-0.6**
VRAC	**Vranov**	**149.69**	**344**		PKPbc	**PKiKP**	**18 27 26.9**	**-0.2**
VRAC					PKPab	**PKPab**	**18 27 33.1**	**+1.6**
	comp=Z,6.9nm,0.7s,baz=57,slow=1.8,SNR=9.3							
	comp=Z,4.2nm,0.6s,baz=215,slow=8.1,SNR=6.2							
VRAC	**Vranov**	**149.69**	**344**	*e*	PKP	**PKiKP**	**18 27 26.9**	**-0.2**
VRAC	**Vranov**	**149.69**	**344**	⇓	PKHKP	PKPpre	18 27 26.5	
SECR		**149.73**	**329**	⇓	P	**PKiKP**	**18 27 26.7**	**-0.6**
MDUB	**Mudurnu**	**149.76**	**317**			**PKPbc**	**18 27 25.7**	**-1.0**
VYHS	**Vyhne**	**149.79**	**341**	*e*	PKP	**PKiKP**	**18 27 27.1**	**-0.2**
VYHS	**Vyhne**	**149.79**	**341**	*e*	PKHKP	PKPpre	18 27 27.1	
VOIR		**149.91**	**330**	⇑	P	**PKPbc**	**18 27 27.0**	**+0.1**
VOIR		**149.91**	**330**	⇑	PKHKP	PKPpre	18 27 27.0	
MEM	**Membach**	**149.96**	**358**	*d*	PKiKP	**PKiKP**	**18 27 27.2**	**-0.3**
MEM				*d*	PKPab	**PKPab**	**18 27 32.8**	**-0.3**
PSZ	**Piszkesteto**	**149.96**	**339**	⇓	P	**PKiKP**	**18 27 27.4**	**-0.4**
PSZ	**Piszkesteto**	**149.96**	**339**			**PKPbc**	**18 27 26.6**	**-0.3**
PSZ	**Piszkesteto**	**149.96**	**339**		PKP	**PKiKP**	**18 27 27.9**	**+0.2**
PSZ	**Piszkesteto**	**149.96**	**339**		PKP	**PKiKP**	**18 27 27.5**	**-0.3**
PSZ	**Piszkesteto**	**149.96**	**339**	⇓	PKHKP	PKPpre	18 27 27.4	
KRUC	**Moravsky**	**149.96**	**344**	*e*	PKP	**PKiKP**	**18 27 27.4**	**-0.3**
TREC	**Trest**	**149.97**	**345**	*e*	PKP	**PKiKP**	**18 27 27.3**	**-0.4**
TREC	**Trest**	**149.97**	**345**	*e*	PKHKP	PKPpre	18 27 27.3	
BTNL	**Ternell**	**149.97**	**358**	*d*	PKiKP	**PKiKP**	**18 27 27.2**	**-0.5**
BSTI	**Sart Tilman**	**149.99**	**359**	*d*	PKPdf	**PKPdf**	**18 27 21.9**	**+0.1**
BSTI				*d*	PKPbc	**PKPbc**	**18 27 26.4**	**-0.4**
BSTI				*d*	PKiKP	**PKiKP**	**18 27 27.6**	**-0.1**
BSTI				*d*	PKPab	**PKPab**	**18 27 32.4**	**-0.3**
ARR	**Arges**	**150.16**	**331**	⇓	P	**PKiKP**	**18 27 28.6**	**+0.4**
BCLA	**Clavier**	**150.16**	**359**	*d*	PKiKP	**PKiKP**	**18 27 27.7**	**-0.3**
BCLA				*d*	PKPab	**PKPab**	**18 27 33.6**	**+0.2**
BGES	**Gesves**	**150.20**	**359**	*d*	PKiKP	**PKPbc**	**18 27 27.4**	**+0.1**
BGES				*d*	PKPab	**PKPab**	**18 27 33.5**	**-0.1**
BHOU	**Houvegnez**	**150.21**	**358**	*d*	PKP	**PKiKP**	**18 27 27.1**	**-0.3**
BMRD	**Maredsous**	**150.29**	**360**	*d*	PKiKP	**PKiKP**	**18 27 28.0**	**-0.3**
BMRD				*d*	PKPab	**PKPab**	**18 27 34.3**	**+0.4**
MODS	**Modra-Piesok**	**150.36**	**343**	*e*	PKP	**PKiKP**	**18 27 29.0**	**+0.5**
MODS	**Modra-Piesok**	**150.36**	**343**	*e*	PKiKP	**PKiKP**	**18 27 29.0**	**+0.5**
GRFO	**Grafenberg**	**150.40**	**351**			**PKPbc**	**18 27 27.8**	**0.0**
GRFO	**Grafenberg**	**150.40**	**351**		PKiKP	**PKPbc**	**18 27 27.8**	**0.0**
DOU	**Dourbes**	**150.49**	**360**	*d*	PKiKP	**PKiKP**	**18 27 28.6**	**-0.1**
DOU				*d*	PKPab	**PKPab**	**18 27 35.0**	**+0.2**
KHC	**Kasperske Hory**	**150.54**	**348**		PKPdf	**PKPdf**	**18 27 21.3**	**-1.4**
KHC					PKPbc	**PKiKP**	**18 27 28.5**	**-0.4**
KHC	**Kasperske Hory**	**150.54**	**348**	*e*	PKP	**PKPdf**	**18 27 22.9**	**+0.1**
KHC				*ex*		x	18 27 28.5	
KHC	**Kasperske Hory**	**150.54**	**348**		PKIKP	**PKiKP**	**18 27 28.5**	**-0.4**
BORA	**Eskisehir**	**150.56**	**317**			**PKPbc**	**18 27 28.1**	**-0.5**
HUMR	**Humele**	**150.62**	**329**	⇓	P	**PKiKP**	**18 27 28.9**	**-0.3**
CKRC	**Cesky Krumlov**	**150.68**	**347**	*e*	PKP	**PKPdf**	**18 27 24.4**	**+0.4**
CKRC				*ex*		x	18 27 28.8	
SIRR	**Siria**	**150.71**	**335**	⇑		**PKiKP**	**18 27 29.0**	**-0.3**
GERES	**GERESS Array B**	**150.79**	**347**		PKP	**PKPdf**	**18 27 23.2**	**0.0**
	comp=Z,1.4nm,0.9s,baz=104,slow=3.1,SNR=5.7							
GERES					PKPbc	**PKiKP**	**18 27 29.3**	**-0.2**
	comp=Z,13nm,0.8s,baz=180,slow=2.7,SNR=16							
JVM	**Valle D.L. Mar**	**150.88**	**9**	*e*	P	**PKiKP**	**18 27 29.3**	**-0.2**
WLF	**Walferdange**	**150.90**	**358**	*d*	PKiKP	**PKiKP**	**18 27 30.0**	**+0.5**
JSA	**Saint Aubin**	**150.92**	**9**	*e*	P	**PKiKP**	**18 27 29.5**	**0.0**
SURR	**Surduc**	**150.94**	**334**	⇑	P	**PKiKP**	**18 27 29.4**	**-0.4**
GZR	**Gura Zlata**	**150.96**	**333**	⇓	P	**PKiKP**	**18 27 29.6**	**-0.3**
GZR	**Gura Zlata**	**150.96**	**333**	⇓	PKIKP	**PKiKP**	**18 27 29.6**	**-0.3**
CONA	**Conrad Observa**	**151.15**	**344**	*i*	P	**PKiKP**	**18 27 30.3**	**+0.1**
	comp=Z,8.1nm,0.5s,SNR=8.9							
EGYH	**Egyhazaskeszo**	**151.21**	**342**		PKP	**PKiKP**	**18 27 31.0**	**+0.7**
RONA	**Rosalia, Austr**	**151.24**	**343**	*e*	P	**PKiKP**	**18 27 30.5**	**+0.1**
	comp=Z,14nm,0.5s,SNR=8.1							
BZS	**Buzias**	**151.26**	**334**	⇓	P	**PKiKP**	**18 27 30.2**	**-0.2**
BZS	**Buzias**	**151.26**	**334**	⇓	PKIKP	**PKiKP**	**18 27 30.2**	**-0.2**
MPLH	**Magyarpolny**	**151.37**	**341**		PKP	**PKiKP**	**18 27 30.9**	**+0.3**
HERR	**Herculane**	**151.52**	**333**	⇑	P	**PKiKP**	**18 27

MANU	**Manus Island**	**38.50**	**289**	P	**P**	**18 34 14.0**	**0.0**
MANU					**S**	**18 40 06.7**	**-3.2**
COEN	**Coen**	**38.79**	**269**	P	**P**	**18 34 17.6**	**+1.1**
TOO	**Toolangi**	**38.79**	**231**	P	**P**	**18 34 16.3**	**+0.1**
STKA	**Stephens Creek**	**40.34**	**241**	P	**P**	**18 34 29.6**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=115,slow=11,SNR=9.8						
	comp=Z,3.9nm,0.8s						
STKA	**Stephens Creek**	**40.34**	**241**	P	**P**	**18 34 29.4**	**+0.2**
WB0	**Warramunga Arr**	**46.34**	**259**	P	**P**	**18 35 16.7**	**-1.2**
WB0				IAmb	IAmb	18 35 22.7	
	comp=Z,9.4nm,0.9s						
WB2	**Warramunga Arr**	**46.37**	**259**	P	**P**	**18 35 16.9**	**-1.2**
WRAB	**Tennant Creek**	**46.37**	**259**	P	**P**	**18 35 17.7**	**-0.3**
WRA	**Warramunga Arr**	**46.38**	**259**	P	**P**	**18 35 16.7**	**-1.4**
	comp=Z,3.5nm,0.9s,baz=92,slow=7.6,SNR=13						
WRA				LR	LR	18 54 09.1	
	comp=Z,1µm,18.2s,baz=100,slow=35						
	comp=Z,3.5nm,0.9s						
WRA	**Warramunga Arr**	**46.38**	**259**	P	**P**	**18 35 16.1**	**-2.0**
AS31	**Alice Springs**	**46.55**	**254**	P	**P**	**18 35 18.4**	**-1.0**
ASAR	**Alice Springs**	**46.55**	**254**	P	**P**	**18 35 18.4**	**-1.0**
	comp=Z,19nm,0.8s,baz=86,slow=8.3,SNR=104						
ASAR				LR	LR	18 54 13.8	
	comp=Z,745nm,18.3s,baz=98,slow=35						
	comp=Z,19nm,0.8s						
ASAR	**Alice Springs**	**46.55**	**254**	P	**P**	**18 35 18.5**	**-0.9**
MTN	**Manton Dam**	**50.50**	**268**	P	**P**	**18 35 48.0**	**-2.0**
MTN				IAmb	IAmb	18 35 57.6	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**52.22**	**263**	P	**P**	**18 36 02.5**	**-0.3**
KNRA				IAmb	IAmb	18 36 08.8	
	comp=Z,21nm,1.0s						
SOEI	**Soe**	**57.76**	**269**	P	**P**	**18 36 43.7**	**+0.6**
TNTI	**Ternate**	**57.99**	**282**	P	**P**	**18 36 44.5**	**-0.1**
TNTI				IAmb	IAmb	18 36 52.4	
	comp=Z,22nm,0.9s						
BATI	**Baumata**	**58.22**	**269**	LR	LR	18 59 20.8	
	comp=Z,880nm,21.9s,baz=146,slow=34						
PSA00	**Pilbara Seismi**	**59.66**	**255**	P	**P**	**18 36 57.0**	**+0.8**
PSA00				IAmb	IAmb	18 37 01.5	
	comp=Z,12nm,0.9s						
MMRI	**Maumere**	**59.98**	**270**	P	**P**	**18 36 57.5**	**-0.9**
MMRI				IAmb	IAmb	18 37 20.5	
	comp=Z,17nm,0.9s						
NWAO	**Narrogin (SRO)**	**60.93**	**242**	P	**P**	**18 37 04.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**60.93**	**242**	P	**P**	**18 37 04.5**	**-0.2**
NWAO				IAmb	IAmb	18 38 12.2	
	comp=Z,43nm,1.4s						
SBA	**Scott Base**	**61.03**	**184**	P	**P**	**18 37 04.6**	**0.0**
SBA				IAmb	IAmb	18 37 09.2	
	comp=Z,9.6nm,1.1s						
VNDA	**Vanda**	**61.09**	**185**	P	**P**	**18 37 06.8**	**+1.8**
	comp=Z,2.2nm,1.0s,baz=42,slow=5.0,SNR=7.4						
VNDA				LR	LR	19 01 53.1	
	comp=Z,287nm,18.5s,baz=21,slow=34						
	comp=Z,2.2nm,1.0s						
VNDA	**Vanda**	**61.09**	**185**	P	**P**	**18 37 05.3**	**+0.4**
LUWI	**Luwuk**	**61.69**	**278**	P	**P**	**18 37 09.5**	**-0.6**
DAV	**Davao City (W)**	**62.03**	**288**	LR	LR	19 03 02.0	
	comp=Z,160nm,18.1s,baz=118,slow=35						
RPN	**Rapa Nui**	**62.41**	**112**	LR	LR	18 57 40.3	
	comp=Z,920nm,19.3s,baz=250,slow=30						
KAPI	**Kappang**	**63.34**	**273**	LR	LR	19 03 01.0	
	comp=Z,272nm,20.0s,baz=98,slow=34						
KAPI	**Kappang**	**63.34**	**273**	P	**P**	**18 37 21.4**	**+0.3**
KAPI				IAmb	IAmb	18 37 26.1	
	comp=Z,14nm,1.2s						
TOLI2	**Tolitoli**	**64.28**	**280**	P	**P**	**18 37 26.9**	**-0.4**
TOLI2				IAmb	IAmb	18 37 33.1	
	comp=Z,8.2nm,0.9s						
JHJ	**Hachijo jima 2**	**65.24**	**320**	LR	LR	19 01 31.1	
	comp=Z,82nm,20.4s,baz=234,slow=32						
MYLDM	**Lahad Datu**	**67.83**	**283**	P	**P**	**18 37 48.6**	**-1.5**
MYLDM				IAmb	IAmb	18 38 09.7	
	comp=Z,24nm,1.2s						
SHEM	**Shemya Is, Ala**	**70.30**	**354**	LR	LR	19 02 29.9	
	comp=Z,721nm,21.2s,baz=163,slow=30						
UGM	**Wanagama**	**71.35**	**267**	P	**P**	**18 38 11.1**	**-0.9**
ASAJ	**Asahikawa**	**71.66**	**330**	LR	LR	19 05 40.6	
	comp=Z,277nm,19.0s,baz=157,slow=33						
QSPA	**South Pole Qui**	**72.65**	**180**	LR	LR	19 09 22.1	
	comp=Z,250nm,18.0s,baz=40,slow=35						
QSPA	**South Pole Qui**	**72.65**	**180**	P	**P**	**18 38 18.8**	**-0.1**
QSPA				IAmb	IAmb	18 38 22.1	
	comp=Z,14nm,1.1s						
TPUB	**Ta-pu**	**73.42**	**302**	P	**P**	**18 38 22.4**	**-1.7**
PEA0B	**Petropavlovsk-**	**73.64**	**344**	P	**P**	**18 38 26.0**	**+1.3**
PETK	**Petropavlovsk-**	**73.64**	**344**	LR	LR	19 07 46.4	
	comp=Z,290nm,18.8s,baz=149,slow=33						
LEM	**Lembang**	**74.42**	**268**	LR	LR	19 11 03.1	
	comp=Z,331nm,20.3s,baz=108,slow=36						
KSRS	**Korea Array**	**75.46**	**317**	LR	LR	19 04 53.8	
	comp=Z,92nm,21.7s,baz=125,slow=30						
PFO	**Pinyon Flats O**	**76.56**	**48**	LR	LR	19 05 36.2	
	comp=Z,575nm,18.1s,baz=240,slow=30						
LPIG	**La Paz**	**76.73**	**59**	LR	LR	19 04 19.6	
	comp=Z,280nm,19.6s,baz=238,slow=29						
YBH	**Yreka Blue Hor**	**77.08**	**38**	LR	LR	19 04 59.1	
	comp=Z,531nm,20.2s,baz=234,slow=30						
USRK	**Ussuriysk Ar.**	**77.16**	**325**	LR	LR	19 08 44.9	
	comp=Z,157nm,19.3s,baz=120,slow=33						
NVAR	**Mina Array Bea**	**77.90**	**43**	P	**P**	**18 38 51.0**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=226,slow=8.6,SNR=4.4						
NVAR				LR	LR	19 06 10.9	
	comp=Z,372nm,19.7s,baz=243,slow=30						
	comp=Z,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**77.90**	**43**	P	**P**	**18 38 48.7**	**-1.0**
NJ2	**Nanjing**	**78.93**	**309**	*e*P	**P**	**18 38 56.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KLR	**Kul'dur**	**80.55**	**329**	LR	LR	19 09 10.4	
	comp=Z,335nm,21.8s,baz=134,slow=32						
CN2	**Changchun**	**80.66**	**322**	*e*P	**P**	**18 39 05.0**	**+0.7**
CN2				*e*S	**S**	**18 49 10.0**	**-1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
CN2				LR	LR		
	comp=Z,100nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
BBB	**Bella Bella**	**81.08**	**28**	LR	LR	19 07 10.8	
	comp=Z,357nm,20.4s,baz=252,slow=30						
ELK	**Elko**	**81.15**	**42**	LR	LR	19 13 21.0	
	comp=Z,198nm,18.4s,baz=234,slow=34						
KNK	**Knik Glacier**	**81.71**	**13**	P	**P**	**18 39 09.9**	**+0.3**
K20K	**Telida**	**82.41**	**10**	P	**P**	**18 39 12.5**	**-0.7**
K20K				IAmb	IAmb	18 39 19.5	
	comp=Z,10nm,1.1s						
BELA	**Belgrano 2**	**82.44**	**172**	P	**P**	**18 39 12.8**	**-0.6**
BELA				IAmb	IAmb	18 39 22.3	
	comp=Z,11nm,1.3s						
CAST	**Castle Rocks**	**82.81**	**11**	P	**P**	**18 39 14.0**	**-1.3**
CAST				IAmb	IAmb	18 39 57.4	
	comp=Z,32nm,1.9s						
GLB	**Gilahina Butte**	**82.83**	**15**	P	**P**	**18 39 15.5**	**0.0**
WAT1	**Susitna Watana**	**82.96**	**13**	P	**P**	**18 39 16.8**	**+0.8**
	baz=207						
HLID	**Hailey**	**83.15**	**40**	P	**P**	**18 39 18.5**	**+0.8**
HLID				IAmb	IAmb	18 39 29.2	
	comp=Z,14nm,1.6s						
HLID	**Hailey**	**83.15**	**40**	P	**P**	**18 39 19.0**	**+1.3**
	baz=238						
J20K	**Nowinta River**	**83.16**	**10**	P	**P**	**18 39 17.4**	**+0.4**
J20K				IAmb	IAmb	18 39 46.2	
	comp=Z,39nm,1.9s						
J20K	**Nowinta River**	**83.16**	**10**	P	**P**	**18 39 18.2**	**+1.1**
	baz=202						
TRF	**Thorofare Moun**	**83.17**	**12**	P	**P**	**18 39 16.4**	**-0.9**
TRF				IAmb	IAmb	18 41 01.3	
	comp=Z,25nm,1.4s						
HEH	**HeiHe**	**83.38**	**328**	*e*P	**P**	**18 39 20.8**	**+2.3**
HEH				pmax	pmax		
	comp=Z,4.0nm,1.5s						
HEH				pmax	pmax		
	comp=Z,310nm,4.8s						
PMSA	**Palmer Station**	**83.60**	**157**	LR	LR	19 14 57.1	
	comp=Z,208nm,18.4s,baz=284,slow=34						
SEY	**Seymchan**	**83.68**	**346**	LR	LR	19 11 38.7	
	comp=Z,384nm,21.1s,baz=152,slow=32						
MCK	**McKinley**	**83.69**	**12**	P	**P**	**18 39 22.5**	**+2.7**
	baz=206						
TCUT	**Toone Canyon**	**83.83**	**44**	P	**P**	**18 39 19.6**	**-1.7**
TCUT				IAmb	IAmb	18 39 29.0	
	comp=Z,7.9nm,0.9s						
M27K	**Edge Creek, AK**	**84.10**	**16**	P	**P**	**18 39 22.6**	**+0.5**
NEW	**Newport**	**84.12**	**35**	LR	LR	19 10 13.3	
	comp=Z,288nm,18.4s,baz=230,slow=31						
PV11	**David Mesa, Pa**	**84.22**	**47**	P	**P**	**18 39 23.4**	**+0.1**
PV11				IAmb	IAmb	18 39 26.8	
	comp=Z,7.9nm,0.7s						
TXAR	**Lajitas Array**	**84.31**	**57**	P	**P**	**18 39 23.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=216,slow=6.2,SNR=3.6						
TXAR				LR	LR	19 09 30.6	
	comp=Z,212nm,19.4s,baz=242,slow=30						
	comp=Z,0.3nm,0.7s						
WRH	**Wood River Hil**	**84.52**	**12**	P	**P**	**18 39 24.6**	**+0.6**
WRH				IAmb	IAmb	18 39 29.1	
	comp=Z,8.7nm,0.9s						
MLY	**Manley**	**84.53**	**11**	P	**P**	**18 39 27.6**	**+3.6**
	baz=205						
DOT	**Dot Lake**	**84.67**	**14**	P	**P**	**18 39 24.5**	**-0.3**
HDA	**Harding Lake**	**84.70**	**12**	P	**P**	**18 39 24.9**	**0.0**
HDA				IAmb	IAmb	18 39 30.7	
	comp=Z,11nm,0.9s						
HDA	**Harding Lake**	**84.70**	**12**	P	**P**	**18 39 24.9**	**0.0**
	baz=208						
BCAR	**Beaver Creek A**	**84.72**	**15**	P	**P**	**18 39 25.4**	**+0.3**
DLBC	**Dease Lake**	**84.72**	**23**	LR	LR	19 09 15.2	
	comp=Z,827nm,21.4s,baz=275,slow=30						
CCB	**Clear Creek Bu**	**84.73**	**12**	P	**P**	**18 39 24.8**	**-0.2**
CCB				IAmb	IAmb	18 39 29.9	
	comp=Z,9.6nm,0.8s						
MAW	**Mawson**	**84.89**	**199**	LR	LR	19 14 46.1	
	comp=Z,741nm,20.3s,baz=105,slow=34						
IMAR	**Indian Mountai**	**84.91**	**9**	P	**P**	**18 39 26.0**	**+0.1**
TCOL	**CIGO, UAF Yank**	**84.93**	**12**	P	**P**	**18 39 25.9**	**0.0**
TCOL	**CIGO, UAF Yank**	**84.93**	**12**	P	**P**	**18 39 26.6**	**+0.7**
	baz=207						
COLA	**College**	**84.93**	**12**	P	**P**	**18 39 25.8**	**-0.2**
MDM	**Murphy Dome**	**84.93**	**12**	P	**P**	**18 39 26.4**	**+0.3**
SCRK	**Sand Creek**	**84.96**	**14**	P	**P**	**18 39 26.5**	**+0.1**
SCRK				IAmb	IAmb	18 40 05.7	
	comp=Z,20nm,1.5s						
IL31		**85.03**	**12**	P	**P**	**18 39 25.6**	**-0.9**
IL31				IAmb	IAmb	18 39 43.1	
	comp=Z,18nm,1.6s						
ILAR	**Eielson Array**	**85.03**	**12**	P	**P**	**18 39 25.7**	**-0.8**
	comp=Z,6.0nm,1.1s,baz=221,slow=5.8,SNR=21						
ILAR				LR	LR	19 10 01.3	
	comp=Z,411nm,21.5s,baz=228,slow=30						
	comp=Z,6.0nm,1.1s						
ILAR	**Eielson Array**	**85.03**	**12**	P	**P**	**18 39 26.2**	**-0.3**
H22K	**Ishlitina Cre**	**85.21**	**10**	P	**P**	**18 39 28.2**	**+0.8**
	baz=204						
POKR	**Poker Plat Res**	**85.23**	**12**	P	**P**	**18 39 27.3**	**-0.2**
POKR				IAmb	IAmb	18 39 32.0	
	comp=Z,14nm,1.1s						
J26L	**Joseph Creek**	**85.51**	**14**	P	**P**	**18 39 29.7**	**+0.6**
J26L	**Joseph Creek**	**85.51**	**14**	P	**P**	**18 39 30.2**	**+1.1**
	baz=212						
PSI	**Prapat**	**85.52**	**274**	LR	LR	19 19 42.7	
	comp=Z,310nm,18.3s,baz=128,slow=37						
L29M	**L29M**	**85.70**	**16**	P	**P**	**18 39 31.3**	**+1.3**
	baz=217						
YHL	**Hebgen Lake**	**85.81**	**40**	P	**P**	**18 39 31.9**	**+0.6**
YHL				IAmb	IAmb	18 39 41.0	
	comp=Z,31nm,1.9s						
PDAR	**Pinedale Array**	**85.84**	**43**	P	**P**	**18 39 32.0**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=269,slow=5.9,SNR=4.7						
PDAR				LR	LR	19 11 11.7	
	comp=Z,200nm,18.9s,baz=248,slow=31						
	comp=Z,0.6nm,0.7s						
PRP	**Porcupine Dome**	**85.97**	**12**	P	**P**	**18 39 30.2**	**-1.2**
PRP				IAmb	IAmb	18 39 40.6	
	comp=Z,7.9nm,1.0s						
BILL	**Bilibino**	**86.11**	**354**	P	**P**	**18 39 32.4**	**+0.6**
BILL				IAmb	IAmb	18 39 37.8	
	comp=Z,9.3nm,0.9s						
DAWY	**Dawson**	**86.15**	**15**	P	**P**	**18 39 33.1**	**+0.9**
	baz=215						
K29M	**Barlow Dome**	**86.46**	**16**	P	**P**	**18 39 34.4**	**+0.6**
	baz=217						
XLT	**XiLinHaoTe**	**86.49**	**318**	*e*P	**P**	**18 39 33.5**	**-0.9**
XLT				sP	pwP	18 39 43.5	+3.6
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,220nm,4.7s						
H03S2	**Juan Fernandez**	**86.67**	**124**	T	T	20 15 22.9	
	baz=250,slow=75,SNR=4.2						
H03S1	**Juan Fernandez**	**86.69**	**124**	T	T	20 15 25.6	
	baz=250,slow=75,SNR=4.8						
H03S3	**Juan Fernandez**	**86.69**	**124**	T	T	20 15 25.1	
	baz=250,slow=75,SNR=3.9						
HHC	**Hu-ho-hao-te**	**88.13**	**314**	*e*P	**P**	**18 39 43.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
E25K	**Arctic Village**	**88.23**	**11**	P	**P**	**18 39 43.4**	**+1.2**
	baz=210						
G30M	**tAoh Zraii Nji**	**89.28**	**15**	P	**P**	**18 39 51.4**	**+4.2**
	baz=218						
YAK	**Yakutsk**	**89.75**	**338**	LR	LR	19 14 09.1	
	comp=Z,92nm,21.4s,baz=89,slow=32						
CMAR	**Chiang Mai Arr**	**90.31**	**289**	P	**P**	**18 39 55.1**	**+2.0**
	comp=Z,2.0nm,0.9s,baz=105,slow=2.8,SNR=10						
CMAR				LR	LR	19 16 38.1	
	comp=Z,87nm,21.8s,baz=120,slow=33						
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**90.31**	**289**	P	**P**	**18 39 52.5**	**-0.5**
PZH	**PanZhiHua**	**90.41**	**298**	P	**P**	**18 39 53.8**	**+0.3**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
PLCA	**Paso Flores**	**90.45**	**133**	LR	LR	19 15 21.5	
	comp=Z,184nm,18.3s,baz=249,slow=32						
INK	**Inuvik**	**90.97**	**15**	LR	LR	19 13 23.9	
	comp=Z,316nm,21.6s,baz=196,slow=31						
SNAA	**Sanae**	**91.05**	**178**	P	**P**	**18 39 54.5**	**-1.0**
SNAA	**Sanae**	**91.05**	**178**	LR	LR	19 18 36.5	
	comp=Z,260nm,19.0s,baz=190,slow=34						
SNAA	**Sanae**	**91.05**	**178**	P	**P**	**18 39 54.4**	**-1.2**
VNA3	**Neumayer Olymp**	**91.12**	**176**	P	**P**	**18 39 55.2**	**-0.7**
VNA2	**Neumayer--Watz**	**91.58**	**176**	P	**P**	**18 39 56.7**	**-1.3**
	baz=182,slow=4.0						
VNA1	**Neumayer--Stat**	**91.80**	**176**	P	**P**	**18 40 00.1**	**+1.2**
TNCH	**TengChong**	**92.70**	**295**	P	**P**	**18 40 08.0**	**+3.8**
TNCH				pP	pwP	18 40 13.0	+3.3
TNCH				sP	sP	18 40 22.3	+14
TNCH				PP	PP	18 43 57.0	+11
TNCH				pmax	pmax		
	comp=Z,9.0nm,5.2s						
JTS	**Las Juntas de**	**94.62**	**81**	LR	LR	19 12 24.8	
	comp=Z,260nm,20.5s,baz=309,slow=29						
A36M	**Sachs Harbour**	**95.58**	**14**	P	**P**	**18 40 15.2**	**-0.9**
A36M				IAmb	IAmb	18 40 22.1	
	comp=Z,9.5nm,0.8s						
NNA	**Nana**	**95.61**	**104**	LR	LR	19 13 45.6	
	comp=Z,239nm,20.5s,baz=232,slow=29						
ATAH	**Atahualpa**	**95.70**	**99**	LR	LR	19 12 58.9	
	comp=Z,474nm,21.6s,baz=240,slow=29						
CFA	**Coronel Fontan**	**95.86**	**126**	LR	LR	19 16 53.9	
	comp=Z,100nm,18.7s,baz=266,slow=31						
GTA	**Gaotai**	**96.02**	**309**	*e*P	P	18 40 36.8	+18
GTA				pmax	pmax		
	comp=Z,1.0nm,1.3s						
TIXI	**Tiksi**	**96.10**	**345**	LR	LR	19 20 14.3	
	comp=Z,330nm,20.2s,baz=180,slow=33						
ULM	**Lac du Bonnet**	**97.45**	**40**	LR	LR	19 19 16.2	
	comp=Z,509nm,18.8s,baz=256,slow=32						
BRDH	**Bariadhala**	**98.07**	**291**	LR	LR	19 22 30.0	
	comp=Z,111nm,19.9s,baz=111,slow=34						
BBSR	**BB Station**	**117.41**	**62**		**PKPdf**	**18 45 35.3**	**-2.2**
BVAR	**Borovoye Array**	**117.52**	**321**	PKP	**PKPdf**	**18 45 36.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=338,slow=0.8,SNR=2.6						
STHS	**Stebnicka Huta**	**144.94**	**340**	*e*PKP	**PKiKP**	**18 46 32.2**	**-0.3**
KOLS	**Kolonicke sedl**	**145.00**	**338**	*e*PKP	**PKiKP**	**18 46 33.1**	**+0.5**
CRVS	**Cervenica-Dubn**	**145.31**	**339**	*e*PKP	**PKiKP**	**18 46 33.8**	**+0.6**
CLL	**Collm**	**145.31**	**349**	*e*PKPbc	**PKPbc**	**18 46 29.0**	**+0.1**
CLL				*i* pPKPdf	pPKPab	18 46 31.7	+0.1
	comp=Z,9.0nm,1.0s						
CLL				*e*pPKiKP	**pPKiKP**	**18 46 37.0**	**+1.2**
OSTC	**Ostas**	**145.36**	**346**	*e*PKP	**PKPab**	**18 46 30.6**	**+1.3**
OSTC				*ex*	x	18 46 34.3	
OKC	**Ostrava-Krasne**	**145.52**	**343**	*e*PKP	**PKiKP**	**18 46 32.5**	**-1.1**
DPC	**Dobruska-Polom**	**145.52**	**345**	*e*PKP	**PKPab**	**18 46 30.5**	**+0.6**
DPC				*e*pPKP	**PKiKP**	**18 46 34.8**	**+1.1**
BRG	**Berggiesshubel**	**145.55**	**348**	*e*PKP	**PKiKP**	**18 46 34.3**	**+0.7**
BRG				Amp		18 46 35.4	
	comp=Z,5.4nm,0.9s						
BRTR	**Keskin Array B**	**145.60**	**316**	PKPbc	**PKPdf**	**18 46 29.9**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=2.9,slow=4.9,SNR=4.6						
KRLC	**Kraliky**	**145.66**	**345**	*e*PKP	**PKiKP**	**18 46 34.6**	**+0.6**
MORC	**Moravsky Berou**	**145.74**	**344**	*e*PKP	**PKPab**	**18 46 31.5**	**+0.7**
PVCC	**Panska Ves**	**145.75**	**347**	*e*PKP	**PKiKP**	**18 46 35.5**	**+1.4**
MAUC	**Maruska**	**146.03**	**343**	*e*PKP	**PKiKP**	**18 46 35.2**	**+0.5**
PRU	**Pruhonice**	**146.27**	**347**	*e*PKP	**PKiKP**	**18 46 36.7**	**+1.6**
NKC	**Novy Kostel**	**146.44**	**349**	*e*PKP	**PKiKP**	**18 46 35.2**	**-0.3**
VYHS	**Vyhne**	**146.52**	**341**	*e*PKP	**PKiKP**	**18 46 36.0**	**+0.3**
KRUC	**Moravsky**	**146.69**	**344**	*e*PKP	**PKiKP**	**18 46 36.7**	**+0.7**
MMAI	**Mount Meron Ar**	**147.26**	**304**	PKPbc	**PKPbc**	**18 46 36.5**	**+1.0**
	comp=Z,4.7nm,0.8s,baz=49,slow=6.7,SNR=3.7						
KHC	**Kasperske Hory**	**147.28**	**348**	*e*PKP	**PKiKP**	**18 46 39.6**	**+2.3**
KHC				*ex*	x	18 47 01.8	
CKRC	**Cesky Krumlov**	**147.42**	**347**	*e*PKP	**PKiKP**	**18 46 39.7**	**+2.1**
GERES	**GERESS Array B**	**147.53**	**347**	PKPbc	**PKPbc**	**18 46 36.7**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=38,slow=2.4,SNR=14						
CONA	**Conrad Observa**	**147.88**	**344**	*e*P	**PKPbc**	**18 46 35.9**	**-0.8**
	comp=Z,9.0nm,1.1s						
WTTA	**Wattenberg**	**149.45**	**349**	*e*P	**PKPbc**	**18 46 40.8**	**-0.1**
	comp=Z,5.9nm,0.9s						
MOTA	**Moosalm**	**149.47**	**350**	*e*P	**PKPbc**	**18 46 41.8**	**+0.9**
	comp=Z,6.4nm,1.0s						
DAVA	**Damuels**	**149.72**	**351**	*e*P	**PKPdf**	**18 46 39.6**	**+2.7**
	comp=Z,6.9nm,1.0s						
ABTA	**Abfaltersbach**	**149.77**	**347**	*e*P	**PKPbc**	**18 46 40.9**	**-0.6**
	comp=Z,7.3nm,1.0s						
FETA	**Feichten**	**149.84**	**350**	*e*P	**PKPbc**	**18 46 40.3**	**-1.6**
	comp=Z,6.8nm,1.3s						

DNK ***29*** *18:32:38.6±0.4, 58.°75N×18.°63E, h0km, ML2.1(UPP), Explosion*
UPP ***29*** *18:32:38.0±0.3, 58.°74N×18.°65E, h0km, ML2.1, Explosion*
HEL ***29*** *18:32:39.4, 58.°79N×18.°69E, h0km, ML2.0, Explosion*
BER ***29*** *18:32:40.1±1.7, 58.°78N×18.°58E, h0km, ML2.3, ML2.1(UPP), Suspected explosion*
IDC ***29*** *18:32:42.4±2.2, 59.°00N×18.°53E, h0km, mbtmp3.0/4, ML2.0/3, Error ellipse: s-maj=29.5km s-min=8.4km az=177.0*

ISC 29 18:32:37.7±0.8, 58.°76N±0.°03×18.°60E±0.°03, h0km, n76, σ1§15/84, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.40**	**309**	P	**P**	**Pg**	**18 32 46.2**	**+1.0**
NYNU				S	**S**	**Sg**	**18 32 51.6**	**+1.2**
NYNU	**Nynaeshamn**	**0.40**	**309**	P	**P**	**Pg**	**18 32 46.2**	**+1.0**
NYNU				S	**S**	**Sg**	**18 32 51.6**	**+1.2**
NYNU	**Nynaeshamn**	**0.40**	**309**	*i* P	**P**	**Pg**	**18 32 46.2**	**+1.0**
NYNU				*i* S	**S**	**Sg**	**18 32 51.6**	**+1.2**
NYNU	**Nynaeshamn**	**0.40**	**309**	P	**P**	**Pg**	**18 32 46.2**	**+1.0**
NYNU				S	**S**	**Sg**	**18 32 51.6**	**+1.2**
NRTU	**Norrtaelje**	**0.92**	**1**	P	**P**	**Pg**	**18 32 55.5**	**+0.1**
NRTU				S	**S**	**Sg**	**18 33 07.7**	**+0.4**
NRTU	**Norrtaelje**	**0.92**	**1**	P	**P**	**Pg**	**18 32 55.5**	**+0.1**
NRTU				S	**S**	**Sg**	**18 33 07.7**	**+0.4**
NRTU	**Norrtaelje**	**0.92**	**1**	*e*P	**P**	**Pg**	**18 32 55.5**	**+0.1**
NRTU				*e*S	**S**	**Sg**	**18 33 06.3**	**-1.0**
NRTU	**Norrtaelje**	**0.92**	**1**	P	**P**	**Pg**	**18 32 55.5**	**+0.1**
NRTU				S	**S**	**Sg**	**18 33 07.7**	**+0.4**
VIKU	**Vikbolandet**	**1.02**	**256**	P	**P**	**Pg**	**18 32 57.6**	**+0.3**
VIKU	**Vikbolandet**	**1.02**	**256**	P	**P**	**Pg**	**18 32 57.6**	**+0.3**
VIKU	**Vikbolandet**	**1.02**	**256**	*e*P	**P**	**Pg**	**18 32 57.6**	**+0.3**
VIKU	**Vikbolandet**	**1.02**	**256**	P	**P**	**Pg**	**18 32 57.6**	**+0.3**
UPP	**Uppsala**	**1.21**	**336**	P	**P**	**Pg**	**18 33 00.9**	**0.0**
UPP	**Uppsala**	**1.21**	**336**	*e*P	**P**	**Pg**	**18 33 00.9**	**0.0**
ESKU	**Eskilstuna**	**1.23**	**294**	P	**P**	**Pg**	**18 33 01.3**	**-0.1**
ESKU	**Eskilstuna**	**1.23**	**294**	P	**P**	**Pg**	**18 33 01.3**	**-0.1**
ESKU	**Eskilstuna**	**1.23**	**294**	*e*P	**P**	**Pg**	**18 33 01.3**	**-0.1**
ESKU	**Eskilstuna**	**1.23**	**294**	P	**P**	**Pg**	**18 33 01.3**	**-0.1**
**F

comp=Z,6.3nm,0.4s
ODD1 Odda 6.23 286 *e* 18 35 54.1
BLS5 Blasjo 6.29 281 *e* 18 35 54.4
ARCES ARCESS Array B 11.22 13 Pn **Pn 18 35 17.5 -1.7**
comp=Z,1.2nm,0.5s,baz=195,slow=12,SNR=20

*UPP **29** 18:33:15.7±0.7,58.84N×18.60E,h1km,ML2.2,Explosion*
*DNK **29** 18:33:16.4±0.4,58.72N×17.66E,h0km,ML2.2(UPP),Explosion*
*IDC **29** 18:33:20.0±2.4,59.19N×18.49E,h0km,mbtmp3.2/4,ML2.5/4,Error ellipse: s-maj=32.8km s-min=8.5km az=177.0*
ISC 29 18:33:15.4±3.0,**59.0N**±0.2×**18.7E**±0.1,**h0**km,**n11,** σ0**s40/12,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.38**	**269**	P	**Pg**	**18 33 22.5**	**-0.2**
NYNU				S	**Sg**	**18 33 27.3**	**-0.3**
NYNU	**Nynaeshamn**	**0.38**	**269**	P	**Pg**	**18 33 22.5**	**-0.2**
NYNU				S	**Sg**	**18 33 27.3**	**-0.3**
NRTU	**Norrtaelje**	**0.67**	**355**	S	**Sn**	**18 33 43.2**	**-0.1**
NRTU	**Norrtaelje**	**0.67**	**355**	S	**Sn**	**18 33 43.2**	**-0.1**
UPP	**Uppsala**	**1.02**	**327**	S	**Sn**	**18 33 52.6**	**+0.6**
FIBU	**Brunna**	**1.14**	**322**	P	**Pn**	**18 33 38.6**	**0.0**
FIBU	**Brunna**	**1.14**	**322**	P	**Pn**	**18 33 38.6**	**0.0**
HFS	**Hagfors**	**2.81**	**296**	Pn	**Pn**	**18 34 02.3**	**+0.8**
	1.4nm,0.3s,baz=112,slow=19,SNR=3.7						
HFS				Lg	Lg	18 34 41.6	
	13nm,0.3s,baz=119,slow=32,SNR=10						
	7.4nm,0.4s						
NOA	**NORSAR Array B**	**4.29**	**302**	Pn	**Pn**	**18 34 22.2**	**+0.3**
	0.1nm,0.3s,baz=110,slow=14,SNR=4.9						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**4.39**	**53**	Pn	Pb	18 34 27.7	-5.6
	0.9nm,0.3s,baz=239,slow=12,SNR=8.5						
FINES				Lg	Lg	18 35 36.0	
	4.1nm,0.3s,baz=249,slow=23,SNR=7.3						
	1.8nm,0.3s						
ARCES	**ARCESS Array B**	**10.96**	**13**	Pn	**Pn**	**18 35 53.1**	**0.0**
	0.3nm,0.3s,baz=194,slow=14,SNR=4.7						
	1.0nm,0.4s						

*SNET **29** 18:38:06.9±0.9,12.46N×87.85W,h30km±3km,ML3.1*
*INET **29** 18:38:06.2±0.8,12.46N×87.68W,h15km±8km,MW2.9*
ISC 29 18:38:04.8±2.1,**12.4N**±0.1×**87.7W**±0.07,**h27**km±14km,
n10,σ0**s67/18,1C-9D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.78**	**64**	*e*P	**Pb**	**18 38 20.7**	**+0.8**
CNCH	**Conchagua**	**0.92**	**356**	↓*i*P	**Pb**	**18 38 22.1**	**-0.1**
CNCH				↓*e*S	**Sn**	**18 38 33.9**	**-0.5**
LCND	**La Caada**	**0.96**	**353**	↓*i*P	**Pb**	**18 38 22.6**	**-0.2**
LCND				↓*i*P	**Pn**	**18 38 22.8**	**+0.4**
LCND				*e*S	**Sn**	**18 38 34.8**	**-0.4**
LCND				↓*e*S	**Sb**	**18 38 35.2**	**+0.1**
LCND				↓*e*S		18 38 35.3	
LCND				IAML		18 38 38.1	
	comp=Z,565nm,0.2s						
CNGN	**Cerro Negro**	**1.06**	**82**	*e*P	**Pn**	**18 38 23.6**	**-0.3**
MOMN	**Momotombo**	**1.21**	**87**	*e*P	**Pn**	**18 38 25.6**	**-0.3**
MOMN				*e*S	**Sn**	**18 38 40.3**	**-1.0**
PACA	**Pacayal**	**1.23**	**334**	↓*e*P	**Pn**	**18 38 26.8**	**+0.4**
PACA				*e*S	**Sb**	**18 38 41.9**	**-1.2**
HUEN		**1.56**	**90**	*e*P	**Pn**	**18 38 30.6**	**-0.1**
HUEN				*e*S	**Sn**	**18 38 51.1**	**+0.9**
SJTE	**Alcalda de S**	**1.74**	**316**	↓*e*S	**Sn**	**18 38 54.0**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.76**	**16**	↓*i*P	**Pn**	**18 38 33.9**	**+0.3**
TGUH				*e*S	**Sn**	**18 38 55.8**	**+0.6**
LFRS	**El Faro**	**1.78**	**315**	↓*e*P	**Pn**	**18 38 34.7**	**+0.8**

PRU 29 18:42:55.1±0.0,**49.81N**×**18.72E,h0**km,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.37**	**274**	*e*SG	Sg	18 43 06.1	-0.9
	comp=Z,4.6nm,0.4s						
MORC	**Moravsky Berou**	**0.76**	**268**	*e*PG	Pb	18 43 11.1	-0.2
MORC				*e*SG	Sg	18 43 19.8	+0.2
KRLC	**Kraliky**	**1.28**	**283**	*e*SG	Sg	18 43 36.4	+0.2
KRLC	**Kraliky**	**1.28**	**283**	*e*	Sg	18 43 36.4	+0.2
DPC	**Dobruska-Polom**	**1.64**	**290**	*e*SG	Sn	18 43 47.1	+0.1

*ISK **29** 18:50:10.7,34.52N×32.05E,h8km,ML3.4/21*
*NIC **29** 18:50:11.6±0.0,34.66N×31.98E,h5km±2km,Ml3.6/7*
*DDA **29** 18:50:12.2±0.0,34.40N×32.12E,h7km±6km,ML3.3*
*GII **29** 18:50:14.9±0.0,34.62N×32.21E,h12km,MD2.8/1,Mm2.9/1*
*IDC **29** 18:50:16.5±2.0,34.55N×32.07E,h39km±28km,mb3.5/3,mbtmp3.5/10,ML3.5/7,Error ellipse: s-maj=31.1km s-min=17.0km az=40.0*
ISC 29 18:50:12.4±1.3,**34.61N**±0.03×**32.06E**±0.03,**h8**km±9km,
n79,σ1s**50/123,mb3.6/3,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NATA	**Nata**	**0.45**	**68**	P	**Pg**	**18 50 21.7**	**+0.6**
NATA				S	**Sb**	**18 50 30.0**	**+0.5**
AKMS	**Akamas**	**0.46**	**29**	P	**Pg**	**18 50 21.7**	**+0.2**
AKMS				S	**Sg**	**18 50 28.5**	**+0.9**
AKMS				AML	AML	18 50 29.6	
	16nm,0.2s						
AKMS				AML	AML	18 50 29.6	
	16nm,0.2s						
AKMS				AML	AML	18 50 30.6	
	20nm,0.4s						
AKMS				AML	AML	18 50 30.6	
	20nm,0.4s						
SZAC	**Souni**	**0.69**	**78**	P	**Pg**	**18 50 26.0**	**+0.2**
SZAC				S	**Sn**	**18 50 37.9**	**-1.6**
SZAC				AML	AML	18 50 40.9	
	10nm,0.4s						
SZAC				AML	AML	18 50 40.9	
	10nm,0.4s						
SZAC				AML	AML	18 50 41.1	
	11nm,0.4s						
SZAC				AML	AML	18 50 41.1	
	11nm,0.4s						
ALFC	**Alefka**	**0.70**	**39**	P	**Pg**	**18 50 25.6**	**-0.4**
ALFC				S	**Sb**	**18 50 36.8**	**0.0**
ALFC				AML	AML	18 50 38.2	
	28nm,0.4s						
ALFC				AML	AML	18 50 38.2	
	28nm,0.4s						
ALFC				AML	AML	18 50 40.6	
	24nm,0.6s						
ALFC				AML	AML	18 50 40.6	
	24nm,0.6s						
TROD	**Troodos**	**0.74**	**63**	P	**Pg**	**18 50 25.9**	**-0.8**
TROD				S	**Sb**	**18 50 38.6**	**+0.5**
TROD				AML	AML	18 50 43.7	
	5.6nm,0.5s						
TROD				AML	AML	18 50 43.7	
	5.6nm,0.5s						
TROD				AML	AML	18 50 52.3	
	7.6nm,0.5s						
TROD				AML	AML	18 50 52.3	
	7.6nm,0.5s						
LEF	**Lefka**	**0.85**	**53**	PG	**Pg**	**18 50 28.1**	**-0.7**
LEF				SG	**Sb**	**18 50 40.5**	**-0.5**
ASGA	**Asgata**	**0.99**	**79**	P	**Pb**	**18 50 32.0**	**+0.1**
ASGA				S	**Sn**	**18 50 47.9**	**+1.0**
ASGA				AML	AML	18 50 48.3	
	9.7nm,0.8s						
ASGA				AML	AML	18 50 48.3	
	9.7nm,0.8s						
ASGA				AML	AML	18 50 49.6	
	7.1nm,0.6s						
ASGA				AML	AML	18 50 49.6	
	7.1nm,0.6s						
AKDN	**Akdeniz- Kıbrı**	**1.01**	**47**	PG	**Pg**	**18 50 31.9**	**0.0**
AKDN				SG	**Sn**	**18 50 47.3**	**-0.1**
CSS	**Mathiatis**	**1.10**	**71**	PN	**Pg**	**18 50 32.8**	**-0.8**
CSS				SN	**Sn**	**18 50 49.2**	**-0.4**
CSS	**Mathiatis**	**1.10**	**71**	P	**Pg**	**18 50 32.8**	**-0.8**
CSS				S	**Sn**	**18 50 49.7**	**+0.1**
CSS				AML	AML	18 50 50.4	
	2.1nm,0.4s						
CSS				AML	AML	18 50 50.4	
	2.1nm,0.4s						
CSS				AML	AML	18 50 50.9	
	1.9nm,0.4s						
CSS				AML	AML	18 50 50.9	
	1.9nm,0.4s						
CSS	**Mathiatis**	**1.10**	**71**	Pg	**Pg**	**18 50 33.1**	**-0.5**
CSS				Sg	**Sg**	**18 50 48.0**	**+0.1**
ATHAL	**Athalassa**	**1.22**	**64**	P	**Pg**	**18 50 35.9**	**+0.1**
ATHAL				S	**Sn**	**18 50 54.2**	**+1.8**
MVOU	**Mavrovouni**	**1.35**	**72**	P	**Pn**	**18 50 37.7**	**+0.1**
MVOU				S	**Sg**	**18 50 57.5**	**+1.5**
MVOU				AML	AML	18 51 01.6	
	3.7nm,0.9s						
MVOU				AML	AML	18 51 01.6	
	3.7nm,0.9s						
MVOU				AML	AML	18 51 02.0	
	3.7nm,0.9s						
MVOU				AML	AML	18 51 02.0	
	3.7nm,0.9s						
GAZI	**Gazipasa**	**1.63**	**7**	PN	**Pn**	**18 50 40.9**	**-0.6**
GAZI	**Gazipasa**	**1.63**	**7**	P	**Pn**	**18 50 40.9**	**-0.6**
GAZI				S	**Sn**	**18 51 02.3**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.75**	**29**	PN	**Pn**	**18 50 43.1**	**-0.1**
TEKE				SN	**Sb**	**18 51 07.0**	**-0.1**
EREN	**Erenkoy**	**1.96**	**61**	PN	**Pn**	**18 50 46.2**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.97**	**38**	PN	**Pn**	**18 50 46.2**	**+0.1**
BERE	**Bereket-Mersin**	**1.98**	**28**	PN	**Pn**	**18 50 46.7**	**+0.4**
GULN	**MERSIN_Gulnar**	**1.98**	**37**	P	**Pn**	**18 50 46.8**	**+0.5**
GULN				S	**Sn**	**18 51 12.2**	**+0.8**
IKL	**Isikli**	**2.10**	**39**	PN	**Pn**	**18 50 47.9**	**0.0**
IKL				SN	**Sn**	**18 51 15.5**	**+1.3**
TEVE	**Tevekalti-Mers**	**2.14**	**31**	PN	**Pn**	**18 50 49.1**	**+0.5**
TEVE				SN	**Sb**	**18 51 17.0**	**-1.3**
ERMK	**Ermenek**	**2.14**	**19**	P	**Pn**	**18 50 50.0**	**+1.3**
ERMK				S	**Sb**	**18 51 19.4**	**+1.0**
KEPZ	**Antalya-Kepez**	**2.32**	**351**	P	**Pn**	**18 50 52.1**	**+1.1**
KEPZ				S	**Sb**	**18 51 21.9**	**-1.4**
SILI	**Silifke-Mersin**	**2.32**	**40**	PN	**Pn**	**18 50 51.5**	**+0.6**
SILI				SN	**Sn**	**18 51 21.1**	**+1.5**
KIZK	**Mersin**	**2.52**	**42**	PN	**Pn**	**18 50 54.4**	**+0.7**
KIZK	**Mersin**	**2.52**	**42**	P	**Pn**	**18 50 54.5**	**+0.8**
KIZK				S	**Sn**	**18 51 25.7**	**+1.1**
KIZK				*i* AML	AML	18 51 30.0	
	comp=Z,103nm,1.2s						
KIZK				*i* AML	AML	18 51 40.0	
	comp=N,108nm,1.8s						
KKBE	**Karaman, Kazim**	**2.70**	**15**	P	**Pb**	**18 50 59.0**	**-2.1**
KKBE				S	**Sb**	**18 51 33.8**	**-0.6**
KORT	**Korkueli**	**2.76**	**330**	PN	**Pn**	**18 50 57.7**	**+0.5**
SEYD	**Seydisehir-KON**	**2.80**	**356**	PN	**Pn**	**18 50 58.3**	**+0.7**
SEDI	**Konya, Seydise**	**2.85**	**355**	P	**Pb**	**18 51 03.0**	**-0.6**
SEDI				S	**Sg**	**18 51 42.1**	**-1.8**
SEDI				*i* AML	AML	18 51 47.0	
	comp=N,72nm,0.6s						
SEDI				*i* AML	AML	18 51 50.0	
	comp=E,105nm,0.7s						
MERS	**Mersin**	**3.01**	**41**	PN	**Pn**	**18 51 01.3**	**+0.8**
KMER	**Konya-Meram**	**3.16**	**4**	P	**Pb**	**18 51 06.3**	**-2.6**
KMER				S	**Sb**	**18 51 50.6**	**+2.9**
MMC7	**Mount Meron ar**	**3.19**	**119**	Pn	**Pn**	**18 51 03.0**	**0.0**
MMC7				Sn	**Sn**	**18 51 40.5**	**-0.8**
MMAI	**Mount Meron Ar**	**3.20**	**119**	Pn	**Pn**	**18 51 03.0**	**-0.1**
	13nm,0.3s,baz=310,slow=12,SNR=32						
MMAI				Sn	**Sn**	**18 51 40.3**	**-1.3**
	25nm,0.3s,baz=296,slow=27,SNR=11						
	6.6nm,0.3s						
DED	**Mersin**	**3.23**	**43**	P	**Pn**	**18 51 05.2**	**+1.6**
DED				S	**Sn**	**18 51 44.3**	**+2.1**
CAME	**Cameli-Denizli**	**3.23**	**317**	PN	**Pn**	**18 51 04.2**	**+0.5**
KERG	**Konya-Eregli**	**3.26**	**30**	P	**Pn**	**18 51 06.8**	**+2.8**
KERG				S	**Sn**	**18 51 46.0**	**+2.9**
KERG				*i* AML	AML	18 51 51.0	
	comp=Z,56nm,0.4s						
KERG				*i* AML	AML	18 51 54.0	
	comp=N,80nm,0.7s						
KERG				*i* AML	AML	18 51 55.0	
	comp=E,70nm,0.7s						
GEM	**Giv'at Ha'Em**	**3.30**	**114**	Pn	**Pn**	**18 51 05.2**	**+0.7**
GOLH	**Golhisar**	**3.31**	**323**	P	**Pn**	**18 51 08.2**	**+3.4**
GOLH				*i* AML	AML	18 53 05.0	
	comp=Z,54nm,2.7s						
NATI	**Neve Ativ**	**3.34**	**113**	Pn	**Pn**	**18 51 05.3**	**+0.4**
NATI				Sn	**Sn**	**18 51 45.3**	**+0.6**
YESY	**Yesilyurt**	**3.44**	**23**	PN	**Pn**	**18 51 07.7**	**+1.2**
GULE	**Gulek**	**3.46**	**39**	P	**Pn**	**18 51 10.1**	**+3.3**
GULE				S	**Sb**	**18 51 53.2**	**-3.1**
GULE				*i* AML	AML	18 52 03.0	
	comp=Z,61nm,1.6s						
GULE				*i* AML	AML	18 52 05.0	
	comp=E,99nm,0.9s						
GULE				*i* AML	AML	18 52 07.0	
	comp=N,52nm,0.5s						
DOGA	**KONYA_Doganhis**	**3.50**	**355**	P	**Pb**	**18 51 12.8**	**-2.0**
DOGA				S	**Sb**	**18 51 58.3**	**+0.8**
KSHT	**Keshet**	**3.52**	**116**	Pn	**Pn**	**18 51 08.1**	**+0.6**
KSHT				Sn	**Sn**	**18 51 49.7**	**+0.4**
MMLI	**Mount Malkishu**	**3.54**	**127**	PN	**Pn**	**18 51 07.1**	**-0.7**
KARA	**Karaisali**	**3.59**	**42**	PN	**Pn**	**18 51 09.4**	**+1.0**
LADK	**Ladik-KONYA**	**3.59**	**4**	PN	**Pn**	**18 51 09.9**	**+1.4**
YAYL	**Yayladag**	**3.60**	**66**	PN	**Pn**	**18 51 09.2**	**+0.5**
YAYL	**Yayladag**	**3.60**	**66**	P	**Pn**	**18 51 08.8**	**+0.1**
YURE	**YUREGIR**	**3.65**	**52**	P	**Pn**	**18 51 10.0**	**+0.7**
YURE				S	**Sn**	**18 51 50.3**	**-2.2**
YURE				*i* AML	AML	18 51 57.0	
	comp=N,69nm,2.1s						
YURE				*i* AML	AML	18 52 00.0	
	comp=Z,67nm,1.9s						
YURE				*i* AML	AML	18 53 18.0	
	comp=E,77nm,1.4s						
YVAC	**Isparta, Yalva**	**3.71**	**350**	P	**Pn**	**18 51 13.0**	**+2.7**
HMDT	**Nahal Hemdat**	**3.73**	**128**	Pn	**Pn**	**18 51 11.5**	**+1.2**
TAHT	**Tahtakopru-Hat**	**3.80**	**61**	PN	**Pn**	**18 51 12.0**	**+0.7**
TAVA	**DENIZLI_Tavas**	**3.83**	**319**	P	**Pn**	**18 51 14.2**	**+2.5**
CMRD	**Camardi-Nigde**	**3.86**	**37**	PN	**Pn**	**18 51 13.6**	**+1.4**
UJAP	**Al Uja**	**3.89**	**132**	Pn	**Pn**	**18 51 14.0**	**+1.5**
KDHN	**Kadınhani**	**3.90**	**1**	P	**Pn**	**18 51 15.8**	**+3.0**
KDHN				S	**Sb**	**18 52 07.5**	**-1.6**
AKO	**Adana**	**3.95**	**43**	P	**Pn**	**18 51 15.5**	**+2.1**
AKO				S	**Sn**	**18 51 59.0**	**-1.0**
NIDE	**Nigde/Merkez-G**	**4.03**	**32**	P	**Pn**	**18 51 18.4**	**+3.8**
NIDE				S	**Sn**	**18 52 04.8**	**+2.7**
DSI	**Dead Sea**	**4.12**	**137**	Pn	**Pn**	**18 51 17.4**	**+1.7**
DSI				Sn	**Sn**	**18 52 04.7**	**+0.7**
KOZT	**Kozan**	**4.18**	**46**	PN	**Pn**	**18 51 17.9**	**+1.3**
PASA	**Karahalli, USA**	**4.27**	**332**	P	**Pn**	**18 51 18.7**	**+0.9**
PASA				S	**Sn**	**18 52 08.1**	**+0.2**
MDBI	**Mazsada**	**4.30**	**139**	Pn	**Pn**	**18 51 18.9**	**+0.8**
MDBI				Sn	**Sn**	**18 52 08.6**	**+0.2**
ASF	**Jabal al Asfar**	**4.72**	**120**	Pn	**Pn**	**18 51 24.7**	**+0.7**
	2.3nm,0.3s,baz=314,slow=4.8,SNR=12						
	5.3nm,0.4s						
HCB	**Kahramanmara**	**4.78**	**54**	P	**Pn**	**18 51 22.9**	**-2.0**
HCB				S	**Sn**	**18 52 15.9**	**-4.6**
BRTR	**Keskin Array B**	**5.26**	**13**	Pn	**Pn**	**18 51 34.5**	**+3.1**
	0.1nm,0.3s,baz=193,slow=16,SNR=5.5						
	1.5nm,0.8s						
MBRI	**Mt Berech**	**5.38**	**153**	Pn	**Pn**	**18 51 34.4**	**+1.4**
EIL	**Elat**	**5.50**	**153**	Pn	**Pn**	**18 51 35.4**	**+0.7**
	1.4nm,0.3s,baz=13,slow=2.7,SNR=12						
EIL				Sn	**Sn**	**18 52 38.3**	**+0.1**
	2.1nm,0.3s,baz=316,slow=17,SNR=7.0						
	8.0nm,0.8s						
RYAN	**Fayoum**	**5.72**	**196**	P	**Pn**	**18 51 38.3**	**+0.6**
	baz=295						
RYAN				S	**Sn**	**18 52 40.2**	**-3.3**
	baz=295						
IDI	**Anoyia**	**5.93**	**279**	Pn	**Pn**	**18 51 42.1**	**+1.5**
	0.6nm,0.3s,baz=74,slow=15,SNR=1.5						
IDI				Sn	**Sn**	**18 52 47.7**	**-1.1**
	1.0nm,0.3s,baz=282,slow=19,SNR=1.8						
	9.0nm,0.8s						
SWA2		**7.75**	**228**	P	**Pn**	**18 52 04.8**	**-0.8**
	baz=287						
SWA2				S	**Sn**	**18 53 29.8**	**-3.8**
	baz=287						
AKASG	**Malin Array Be**	**16.21**	**354**	Pn	**Pn**	**18 54 02.1**	**+1.6**
	0.5nm,0.3s,baz=174,slow=11,SNR=5.4						
	0.2nm,0.4s						
GERES	**GERESS Array B**	**19.68**	**322**	P	**P**	**18 54 42.2**	**+0.2**
	0.1nm,0.3s,baz=127,slow=12,SNR=1.9						
	0.1nm,0.3s						
KHC	**Kasperske Hory**	**19.92**	**322**	*e*P	**P**	**18 54 44.3**	**-0.3**
NKC	**Novy Kostel**	**21.19**	**323**	*e*P	P	18 54 50.0	-8.3
MKAR	**Makanchi Array**	**39.34**	**56**	P	**P**	**18 57 42.1**	**-0.1**
	0.6nm,0.8s,baz=264,slow=9.6,SNR=3.2						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**41.31**	**45**	P	**P**	**18 57 57.0**	**-1.3**
	1.0nm,0.5s,baz=250,slow=11,SNR=5.5						
	1.0nm,0.5s						
SONM	**Songino Array**	**55.40**	**52**	P	**P**	**18 59 47.8**	**+0.6**
	0.5nm,0.7s,baz=297,slow=9.4,SNR=2.8						
	0.5nm,0.7s						

WEL 29 18:52:58.8±0.3,**42.S**±2.×**17.4E**±.,**h7**km±3km,**M3.3/31,**
ML3.7/14,ML3.3/31,Error ellipse: s-maj=0.0km
s-min=0.0km az=126.2,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.01**	**182**	P	Pg	18 53 00.1	+0.1
KHZ				S	Sg	18 53 01.4	+0.5
GVZ	**Greta Valley S**	**0.67**	**213**	P	Pb	18 53 12.5	-0.4
GVZ				S	Sb	18 53 22.9	+0.4
BSWZ	**Blackbirch Sta**	**0.73**	**20**	P	Pg	18 53 13.0	+0.1
THZ	**Tophouse**	**0.80**	**324**	P	Pg	18 53 14.4	+0.2
CMWZ	**Cape Campbell**	**0.83**	**38**	P	Pb	18 53 15.7	+0.2
LTZ	**Lake Taylor**	**1.01**	**248**	P	Pg	18 53 17.8	-0.4
AMCZ	**Amberley**	**1.01**	**220**	P	Pg	18 53 18.0	-0.2
TUWZ	**Tuamarina**	**1.02**	**17**	P	Pg	18 53 18.3	-0.1
MRNZ	**Matariki Terra**	**1.16**	**330**	P	Pg	18 53 21.2	+0.1
NNZ	**Nelson**	**1.19**	**354**	P	Pg	18 53 21.1	-0.6
TCW	**Tory Channel**	**1.32**	**25**	P	Pn	18 53 22.0	-1.7
OKCZ	**Okains Bay**	**1.36**	**195**	P	Pn	18 53 22.0	-2.4
OXZ	**Oxford**	**1.44**	**230**	P	Pn	18 53 23.0	-2.3
TKNZ	**Takaka Hill**	**1.44**	**342**	P	Pn	18 53 25.6	+0.2
WEL	**Wellington**	**1.45**	**40**	P	Pn	18 53 23.8	-1.7
DSZ	**Denniston Nort**	**1.45**	**297**	P	Pn	18 53 25.4	-0.2
MQZ	**McQueen's Vall**	**1.45**	**206**	P	Pn	18 53 22.5	-3.0
PLWZ	**Palliser**	**1.53**	**57**	P	Pn	18 53 23.9	-2.7
AKCZ	**Akaroa Harbour**	**1.54**	**197**	P	Pn	18 53 24.1	-2.6
INZ	**Inchbonnie**	**1.58**	**258**	P	Pn	18 53 26.7	-0.6
MSWZ	**Moikau Station**	**1.61**	**53**	P	Pn	18 53 25.2	-2.6
DUWZ	**D'Urville Isla**	**1.63**	**10**	P	Pn	18 53 27.4	-0.6
RACZ	**Rakaia**	**1.67**	**217**	P	Pn	18 53 26.1	-2.4
CAW	**Cannon Point**	**1.73**	**42**	P	Pn	18 53 27.2	-2.1
PAWZ	**Paruwai Farm**	**1.74**	**55**	P	Pn	18 53 26.7	-2.9
QRZ	**Quartz Range**	**1.75**	**334**	P	Pn	18 53 30.1	+0.5
MHCZ	**Mount Hutt**	**1.83**	**231**	P	Pn	18 53 28.7	-2.1
KIW	**Kapiti Island**	**1.85**	**34**	P	Pn	18 53 29.5	-1.6
TRWZ	**Traveller**	**1.89**	**59**	P	Pn	18 53 29.5	-2.1
MTW	**Mount Morrison**	**1.93**	**50**	P	Pn	18 53 29.2	-2.8
WACZ	**Wakanui South**	**1.98**	**218**	P	Pn	18 53 30.4	-2.3
OGWZ	**Otaki Gorge**	**2.00**	**38**	P	Pn	18 53 31.0	-2.1
HOWZ	**Holdsworth Sta**	**2.11**	**45**	P	Pn	18 53 32.3	-2.3
WVZ	**Waitaha Valley**	**2.17**	**251**	P	Pn	18 53 34.9	-0.5
TMWZ	**Te Maipa**	**2.19**	**54**	P	Pn	18 53 32.7	-2.9
RPZ	**Rata Peaks**	**2.24**	**233**	P	Pn	18 53 34.4	-2.0
ARCZ	**Arundel**	**2.31**	**227**	P	Pn	18 53 35.2	-2.2
MRZ	**Mangatainoka R**	**2.32**	**42**	P	Pn	18 53 35.5	-2.0
GCSZ	**Gaunt Creek Bo**	**2.53**	**248**	P	Pn	18 53 40.8	+0.4
TMZ	**Timaru**	**2.70**	**222**	P	Pn	18 53 40.7	-2.1
WAZ	**Wanganui**	**2.87**	**23**	P	Pn	18 53 45.9	+0.9
FOZ	**Fox Glacier**	**2.96**	**246**	P	Pn	18 53 46.0	-0.2
TSZ	**Takapari Road**	**2.97**	**39**	P	Pn	18 53 44.9	-1.5
LBZ	**Lake Benmore**	**3.15**	**230**	P	Pn	18 53 47.5	-1.4
PKE	**Pukeiti**	**3.23**	**6**	P	Pn	18 53 52.1	+2.2
ODZ	**Otahua Downs**	**3.37**	**218**	P	Pn	18 53 49.3	-2.6
MOVZ	**Moawhango**	**3.43**	**30**	P	Pn	18 53 53.2	+0.3
WNVZ	**Wahianoa**	**3.45**	**28**	P	Pn	18 53 53.4	+0.2
WHVZ	**Whangaehu Hut**	**3.49**	**27**	P	Pb	18 53 59.2	-1.8
NGZ	**Ngauruhoe**	**3.59**	**27**	P	Pn	18 53 57.5	+2.5
NNVZ	**North Ngauruho**	**3.63**	**26**	P	Pn	18 53 58.6	+2.9
ETVZ	**East Tongariro**	**3.66**	**27**	P	Pn	18 53 57.6	+1.7
TMVZ	**Te Maari**	**3.67**	**27**	P	Pn	18 53 57.2	+1.0
JCZ	**Jackson Bay**	**3.85**	**243**	P	Pn	18 53 58.3	-0.3
HIZ	**Hauiti**	**4.02**	**15**	P	Pn	18 54 01.3	+0.5
AWAZ	**Awhitu Peninsu**	**5.40**	**9**	P	Pn	18 54 20.0	+0.2
WIAZ	**Waiheke Island**	**5.74**	**13**	P	Pn	18 54 24.4	0.0

*UPP **29** 18:53:10.5±0.9,58.73N×18.68E,h1km±9km,ML2.2,Explosion*
*HEL **29** 18:53:11.6±0.0,58.75N×18.62E,h0km,ML1.8,ML2.2(UPP),Explosion*
*DNK **29** 18:53:11.0±1.1,58.74N×18.66E,h0km,ML2.2(UPP),Explosion*
*BER **29** 18:53:12.4±1.9,58.78N×18.55E,h0km,ML2.3,ML2.2(UPP),Suspected explosion*
*IDC **29** 18:53:14.4±2.2,58.97N×18.64E,h0km,mbtmp3.0/4,ML1.9/3,Error ellipse: s-maj=27.6km s-min=8.5km az=176.0*
ISC 29 18:53:10.1±0.8,**58.75N**±0.03×**18.61E**±0.03,**h0**km,**n82,**
σ1s**22/93,Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.40**	**309**	P	**Pg**	**18 53 18.8**	**+1.1**
NYNU	**Nynaeshamn**	**0.40**	**309**	P	**Pg**	**18 53 18.8**	**+1.1**

HFS				Lg		Lg	18 54 41.2	
	comp=Z,6.9nm,0.3s,baz=110,slow=37,SNR=10							
	comp=Z,1.9nm,0.4s							
BLEU	**Blekinge**	**2.88**	**213**	*i* P		**Pn**	**18 53 59.6**	**+2.5**
BORU	**Boraas**	**3.29**	**253**	*i* P		**Pn**	**18 54 05.0**	**+2.3**
MEF	**Metsahovi**	**3.30**	**61**	*eP*		**Pb**	**18 54 06.5**	**-2.9**
MEF	**Metsahovi**	**3.30**	**61**	*eS*		**Sn**	**18 54 44.2**	**+1.5**
MEF				MSG			18 54 53.1	
	comp=Z,2.2nm,0.1s							
DEL	**Delary**	**3.42**	**230**	*i* P		**Pn**	**18 54 05.0**	**+0.4**
NUR	**Nurmijrvi**	**3.54**	**58**	*eP*		**Pn**	**18 54 08.0**	**+1.8**
NUR				*eS*		**Sn**	**18 54 50.1**	**+1.5**
KPF	**Kankaanpaa**	**3.54**	**28**	*eP*		**Pn**	**18 54 08.0**	**+1.8**
KPF				*eS*		**Sn**	**18 54 48.7**	**0.0**
STRU	**Stroemstad**	**3.86**	**277**	*i* P		**Pg**	**18 54 22.3**	**-1.7**
NC602	**NORSAR Array S**	**4.09**	**302**	*eP*		**Pn**	**18 54 15.8**	**+2.0**
NC602				*e*			18 55 19.2	
NC602				IAML			18 55 39.4	
	comp=Z,13nm,0.4s							
BSD	**Bornholm Skovb**	**4.17**	**211**	*eP*		**Pn**	**18 54 14.8**	**0.0**
BSD	**Bornholm Skovb**	**4.17**	**211**	*i* P		**Pn**	**18 54 15.2**	**+0.3**
LUNU	**Lund**	**4.20**	**224**	*i* P		**Pn**	**18 54 16.4**	**+1.1**
OSL	**Oslo**	**4.21**	**290**	*e*		**Sg**	**18 55 22.6**	**-2.6**
VSU	**Vasula**	**4.26**	**90**	*eP*		**Pn**	**18 54 15.8**	**-0.2**
NB201	**NORSAR Array S**	**4.34**	**305**	*eP*		**Pn**	**18 54 16.0**	**-1.3**
NB201				*e*			18 55 26.8	
NB201				IAML			18 55 50.6	
	comp=Z,10nm,0.5s							
PABE	**Paberze**	**4.37**	**136**	*eP*		**Pn**	**18 54 15.8**	**-1.8**
NOA	**NORSAR Array B**	**4.37**	**305**	Pn		**Pn**	**18 54 19.3**	**+1.6**
	baz=143,slow=24,SNR=1.3							
	comp=Z,0.8nm,0.7s							
NC303	**NORSAR Array S**	**4.40**	**307**	*eP*		**Pn**	**18 54 18.9**	**+0.8**
NC303				*e*			18 55 24.7	
NC303				IAML			18 55 34.6	
	comp=Z,16nm,0.4s							
NAO01	**NORSAR Array S**	**4.43**	**302**	*eP*		**Pn**	**18 54 16.8**	**-1.6**
NAO01				*e*			18 55 29.4	
NAO01				IAML			18 55 46.7	
	comp=Z,25nm,0.5s							
NBO00	**NORSAR Array S**	**4.56**	**303**	*eP*		**Pn**	**18 54 19.7**	**-0.6**
NBO00				*e*			18 55 32.5	
NBO00				IAML			18 55 56.4	
	comp=Z,8.7nm,0.5s							
FINES	**FINESS Array B**	**4.61**	**51**	Pn		**Pn**	**18 54 22.9**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=238,slow=10,SNR=9.3							
FINES				Lg		Lg	18 55 32.6	
	comp=Z,2.5nm,0.3s,baz=235,slow=22,SNR=7.7							
	comp=Z,2.3nm,0.8s							
KEF	**Keuruu**	**4.62**	**39**	*eP*		**Pn**	**18 54 22.3**	**+1.3**
KEF				*eS*		**Sn**	**18 55 14.8**	**-0.5**
NC204	**NORSAR Array S**	**4.68**	**306**	*eP*		**Pn**	**18 54 20.1**	**-1.9**
NC204				IAML			18 55 52.9	
	comp=Z,11nm,0.5s							
KONO	**Kongsberg**	**4.72**	**285**	*e*		**Sg**	**18 55 38.7**	**-2.8**
HOMB	**Homborsund**	**5.32**	**269**	*i* P		**Pn**	**18 54 26.5**	**-4.1**
IIGN	**Ignalina**	**5.37**	**126**	*eP*		**Pn**	**18 54 28.5**	**-2.9**
BLS5	**Blasjo**	**6.30**	**281**	*e*			18 56 29.3	
AKN	**Aaknes**	**6.69**	**306**	*e*		**Sn**	**18 56 10.9**	**-0.4**
HYA	**Hoyanger**	**6.69**	**296**	*e*			18 56 42.1	
ASK	**Askoy**	**7.02**	**290**	*e*			18 56 48.7	
ARCES	**ARCESS Array B**	**11.23**	**13**	Pn		**Pn**	**18 55 49.7**	**-1.9**
	comp=Z,1.3nm,0.5s,baz=196,slow=12,SNR=15							

*NIC **29** 18:53:34.3±0.0,34.65N×32.02E,h7km±1km,Ml3.1/8*
*GII **29** 18:53:36.7±0.0,34.54N×32.27E,h1km,MD2.4/1,Mm2.6/2*
ISC 29 18:53:35.0±1.3,34.61N±0.06×32.08E±0.07,h6km±12km,
n21,σ0.974/35,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.44**	**67**	P	**Pg**	**18 53 44.0**	**+0.5**
NATA				S	**Sb**	**18 53 51.4**	**-0.7**
NATA				AML	AML	18 53 52.4	
	22nm,0.2s						
NATA				AML	AML	18 53 52.4	
	22nm,0.2s						
NATA				AML	AML	18 53 52.8	
	8.2nm,0.2s						
NATA				AML	AML	18 53 52.8	
	8.2nm,0.2s						
AKMS	**Akamas**	**0.46**	**27**	P	**Pg**	**18 53 43.5**	**-0.5**
AKMS				AML	AML	18 53 50.8	
	8.4nm,0.2s						
AKMS				AML	AML	18 53 50.8	
	8.4nm,0.2s						
AKMS				S	**Sg**	**18 53 51.0**	**+0.9**
AKMS				AML	AML	18 53 51.1	
	5.4nm,0.2s						
AKMS				AML	AML	18 53 51.1	
	5.4nm,0.2s						
SZAC	**Souni**	**0.68**	**77**	P	**Pb**	**18 53 48.5**	**-0.7**
SZAC				S	**Sb**	**18 53 59.2**	**+0.3**
SZAC				AML	AML	18 54 02.7	
	4.1nm,0.5s						
SZAC				AML	AML	18 54 02.7	
	4.1nm,0.5s						
SZAC				AML	AML	18 54 06.7	
	3.6nm,0.3s						
SZAC				AML	AML	18 54 06.7	
	3.6nm,0.3s						
ALFC	**Alefka**	**0.70**	**38**	P	**Pg**	**18 53 47.8**	**-0.7**
ALFC				S	**Sg**	**18 53 58.0**	**+0.4**
ALFC				AML	AML	18 53 59.7	
	6.4nm,0.4s						
ALFC				AML	AML	18 53 59.7	
	6.4nm,0.4s						
ALFC				AML	AML	18 54 02.3	
	6.7nm,0.5s						
ALFC				AML	AML	18 54 02.3	
	6.7nm,0.5s						
TROD	**Troodos**	**0.74**	**62**	P	**Pg**	**18 53 48.2**	**-0.9**
TROD				S	**Sb**	**18 54 00.9**	**+0.2**
TROD				AML	AML	18 54 06.1	
	1.7nm,0.5s						
TROD				AML	AML	18 54 06.1	
	1.7nm,0.5s						
TROD				AML	AML	18 54 13.9	
	1.9nm,0.5s						
TROD				AML	AML	18 54 13.9	
	1.9nm,0.5s						
ASGA	**Asgata**	**0.98**	**79**	P	**Pb**	**18 53 54.0**	**-0.4**
ASGA				S	**Sn**	**18 54 09.0**	**-0.5**
ASGA				AML	AML	18 54 11.3	
	2.5nm,0.6s						
ASGA				AML	AML	18 54 11.3	
	2.5nm,0.6s						
ASGA				AML	AML	18 54 12.7	
	2.2nm,0.4s						
ASGA				AML	AML	18 54 12.7	
	2.2nm,0.4s						
CSS	**Mathiatis**	**1.09**	**71**	P	**Pg**	**18 53 55.3**	**-0.7**
CSS				S	**Sn**	**18 54 12.0**	**-0.3**
CSS	**Mathiatis**	**1.09**	**71**	Pg	**Pb**	**18 53 55.9**	**-0.4**
CSS				Sg	**Sb**	**18 54 10.8**	**0.0**
ATHAL	**Athalassa**	**1.21**	**63**	P	**Pb**	**18 53 58.1**	**-0.2**
ATHAL				S	**Sn**	**18 54 16.1**	**+1.0**
ATHAL				AML	AML	18 54 24.0	
	3.9nm,1.0s						
ATHAL				AML	AML	18 54 24.0	
	3.9nm,1.0s						
ATHAL				AML	AML	18 54 27.8	
	4.0nm,0.8s						
ATHAL				AML	AML	18 54 27.8	
	4.0nm,0.8s						
OSC1	**CSNet OBS 1**	**1.29**	**211**	P	**Pn**	**18 53 59.1**	**-0.3**
OSC1				S	**Sg**	**18 54 17.3**	**+1.0**
MVOU	**Mavrovouni**	**1.35**	**72**	P	**Pg**	**18 53 59.8**	**-1.0**
MVOU				S	**Sn**	**18 54 19.9**	**+1.5**
MVOU				AML	AML	18 54 23.8	
	0.9nm,1.1s						
MVOU				AML	AML	18 54 23.8	
	0.9nm,1.1s						
MVOU				AML	AML	18 54 24.1	
	0.9nm,1.0s						
MVOU				AML	AML	18 54 24.1	
	0.9nm,1.0s						
MMA0B	**Mount Meron ar**	**3.19**	**119**	Pn	**Pn**	**18 54 25.5**	**-0.2**
MMA0B				Sn	**Sn**	**18 55 02.8**	**-1.3**
GEM	**Giv'at Ha'Em**	**3.29**	**114**	Pn	**Pn**	**18 54 27.2**	**+0.2**
NATI	**Neve Ativ**	**3.33**	**113**	Pn	**Pn**	**18 54 28.1**	**+0.6**
NATI				Sn	**Sn**	**18 55 07.1**	**-0.2**
MMLI	**Mount Malkishu**	**3.53**	**127**	Pn	**Pn**	**18 54 30.8**	**+0.4**
SALP	**Salfit**	**3.63**	**133**	Pn	**Pn**	**18 54 32.4**	**+0.7**
SALP				Sn	**Sn**	**18 55 15.1**	**+0.2**
HMDT	**Nahal Hemdat**	**3.72**	**128**	Pn	**Pn**	**18 54 33.6**	**+0.7**
UJAP	**Al Uja**	**3.88**	**132**	Pn	**Pn**	**18 54 36.3**	**+1.2**
KZIT	**Kziot**	**4.17**	**151**	Pn	**Pn**	**18 54 39.6**	**+0.4**
MDBI	**Mazsada**	**4.29**	**139**	Pn	**Pn**	**18 54 40.8**	**+0.1**
GHAJ	**Ghor Haditha**	**4.41**	**137**	Pn	**Pn**	**18 54 43.6**	**+1.2**

*GCMT **29** 18:54:04.0±0.4, 17.54S±0.02×176.47W±0.02, h14km±2km, MW4.8/69, Moment Tensor Solution. s15,c18; s69,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.61±.13; Mθθ=2.43±.15; Mϕϕ 1.82±.09; Mrθ=0.23±.25; Mrϕ=0.28±.10; Mθϕ=0.28±.22; Best double couple: M0 2.18500×10^16 NP1: ϕs=50.00000°, δ=84.00000°, λ=12.00000°. NP2: ϕs=318.00000°, δ=78.00000°, λ=174.00000°. Principal axes: T 1.9070, Plg=13.0000°, Azm=274.0000°; N 0.5560, Plg=76.0000°, Azm=77.0000°; P -2.4630, Plg=4.0000°, Azm=183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 29 18:53:53.1±9.8,18.72S×175.45W,h0km,mb3.8/3,
mbtmp3.8/3,MS4.0/29 Error ellipse: s-maj=433.7km
s-min=39.7km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.25**	**278**	LR	LR	18 57 06.5	
	comp=Z,5μm,18.3s,baz=125,slow=31						
RAR	**Rarotonga**	**14.95**	**102**	LR	LR	19 02 14.2	
	comp=Z,639nm,21.7s,baz=310,slow=34						
DZM	**Mont Dzumac**	**17.30**	**256**	*e*LR	LR	19 02 17.9	
	comp=Z,1μm,24.2s						
DZM	**Mont Dzumac**	**17.30**	**256**	LR	LR	19 03 12.7	
	comp=Z,863nm,19.0s,baz=56,slow=32						
PPT2	**Papeete2**	**24.61**	**91**	*e*LR	LR	19 06 04.2	
	comp=Z,730nm,24.8s						
PPT	**Papeete**	**24.61**	**91**	LR	LR	19 06 58.4	
	comp=Z,247nm,20.2s,baz=242,slow=32						
TBI	**Tubuai**	**24.68**	**105**	*e*LR	LR	19 06 13.0	
	comp=Z,2μm,24.0s						
KRVT	**Keravat (AS076**	**34.85**	**290**	LR	LR	19 13 08.2	
	comp=Z,279nm,18.7s,baz=263,slow=33						
CTA	**Charters Tower**	**36.09**	**261**	LR	LR	19 13 44.7	
	comp=Z,259nm,18.1s,baz=71,slow=33						
PMG	**Port Moresby**	**37.36**	**279**	LR	LR	19 13 22.3	
	comp=Z,174nm,18.8s,baz=144,slow=31						
WRA	**Warramunga Arr**	**47.25**	**260**	P	P	19 02 29.6	+1.2
	1.0nm,1.0s,baz=95,slow=7.8,SNR=5.2						
WRA				LR	LR	19 21 09.0	
	comp=Z,215nm,18.0s,baz=90,slow=35						
	1.0nm,1.0s						
ASAR	**Alice Springs**	**47.28**	**255**	P	P	19 02 27.6	-1.1
	2.0nm,0.8s,baz=87,slow=8.1,SNR=15						
ASAR				LR	LR	19 21 13.3	
	comp=Z,127nm,18.6s,baz=96,slow=35						
	2.0nm,0.8s						
GUMO	**Guam**	**50.60**	**307**	LR	LR	19 22 38.2	
	comp=Z,58nm,19.2s,baz=131,slow=34						
BATI	**Baumata**	**59.33**	**269**	LR	LR	19 29 22.3	
	comp=Z,135nm,19.6s,baz=174,slow=36						
VNDA	**Vanda**	**59.90**	**186**	LR	LR	19 28 51.3	
	comp=Z,32nm,18.8s,baz=15,slow=35						
RPN	**Rapa Nui**	**60.88**	**111**	LR	LR	19 24 27.7	
	comp=Z,123nm,20.2s,baz=255,slow=30						
DAV	**Davao City (W)**	**63.52**	**288**	LR	LR	19 26 40.0	
	comp=Z,49nm,21.7s,baz=128,slow=31						
SHEM	**Shemya Is, Ala**	**71.72**	**353**	LR	LR	19 30 19.6	
	comp=Z,141nm,20.9s,baz=346,slow=30						
ASAJ	**Asahikawa**	**73.36**	**330**	LR	LR	19 32 39.8	
	comp=Z,52nm,18.9s,baz=173,slow=32						
PETK	**Petropavlovsk-**	**75.21**	**344**	LR	LR	19 36 13.5	
	comp=Z,64nm,20.1s,baz=123,slow=34						
PFO	**Pinyon Flats O**	**76.60**	**47**	LR	LR	19 32 44.8	
	comp=Z,124nm,20.0s,baz=242,slow=30						
YBH	**Yreka Blue Hor**	**77.41**	**38**	LR	LR	19 31 11.0	
	comp=Z,151nm,20.6s,baz=242,slow=29						
ELK	**Elko**	**81.35**	**42**	LR	LR	19 35 02.3	
	comp=Z,48nm,19.9s,baz=252,slow=30						
BBB	**Bella Bella**	**81.72**	**27**	LR	LR	19 38 03.4	
	comp=Z,80nm,18.1s,baz=272,slow=32						
KLR	**Kul'dur**	**82.26**	**328**	LR	LR	19 35 08.9	
	comp=Z,66nm,20.9s,baz=134,slow=30						
MA2	**Magadan**	**82.74**	**344**	LR	LR	19 38 40.1	
	comp=Z,41nm,19.9s,baz=126,slow=32						
MAW	**Mawson**	**84.03**	**199**	LR	LR	19 42 02.6	
	comp=Z,111nm,19.4s,baz=100,slow=34						
NEW	**Newport**	**84.54**	**35**	LR	LR	19 37 44.4	
	comp=Z,94nm,19.0s,baz=220,slow=31						
DLBC	**Dease Lake**	**85.49**	**22**	LR	LR	19 35 51.0	
	comp=Z,156nm,21.2s,baz=266,slow=30						
PDAR	**Pinedale Array**	**86.03**	**4**	LR	LR	19 37 38.0	
	comp=Z,54nm,19.2s,baz=281,slow=30						
ILAR	**Eielson Array**	**86.07**	**12**	P	P	19 06 35.3	0.0
	0.6nm,0.9s,baz=231,slow=6.5,SNR=4.4						
ILAR				LR	LR	19 37 53.5	
	comp=Z,80nm,19.9s,baz=244,slow=31						
	0.6nm,0.9s						
PSI	**Prapat**	**86.75**	**274**	LR	LR	19 46 03.1	
	comp=Z,62nm,18.6s,baz=129,slow=36						

*IDC **29** 19:07:07.7±3.0,37.42N×141.81E,h0km,mb3.5/2,*
mbtmp3.3/3,ML2.4/1,MS3.7/1,Error ellipse: s-maj=67.6km
s-min=38.0km az=54.0
*JMA **29** 19:07:10.7±0.1,37.4N±0.3×141.6E±0.7,h28km±1km,*
MV3.5/40,E OFF FUKUSHIMA PREF
ISC 29 19:07:08.8±1.8,37.38N±0.05×141.68E±0.07,h10km±10km,
n21,σ0.985/25,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.64**	**269**	*eP*	**Pg**	**19 07 22.1**	**+0.9**
JFK				*eS*	**Sg**	**19 07 29.4**	**-0.2**
JMST	**Minamisoumatoc**	**0.71**	**299**	⇓P	**Pg**	**19 07 23.1**	**+0.5**
JMST				⇓S	**Sg**	**19 07 31.9**	**0.0**
JMM	**Marumori**	**0.85**	**305**	⇓P	**Pg**	**19 07 25.3**	**+0.1**
JMM				⇓S	**Sg**	**19 07 35.9**	**-0.4**
JFFD	**Fukushimafurud**	**0.94**	**252**	⇓P	**Pb**	**19 07 26.8**	**-0.4**
JFFD				⇓S	**Sb**	**19 07 38.2**	**-1.5**
JIKH	**Ishinomakikobu**	**0.94**	**350**	P	**Pg**	**19 07 27.1**	**+0.2**
JIKH				S	**Sg**	**19 07 39.3**	**+0.2**
JIO	**Ouri**	**1.10**	**346**	P	**Pb**	**19 07 29.6**	**-0.4**
JIO				S	**Sb**	**19 07 43.3**	**-1.1**
JHO	**Hitachi**	**1.18**	**229**	P	**Pn**	**19 07 29.9**	**-1.5**
JHO				S	**Sb**	**19 07 45.1**	**-1.4**
JOU	**Okura**	**1.27**	**321**	⇓P	**Pb**	**19 07 32.8**	**0.0**
JOU				⇓S	**Sb**	**19 07 48.7**	**-0.5**
JYS	**Shirataka**	**1.53**	**304**	P	**Pb**	**19 07 36.9**	**-0.3**
JYS				S	**Sn**	**19 07 56.1**	**0.0**
JFY	**Yanaizu**	**1.57**	**271**	P	**Pn**	**19 07 37.1**	**+0.3**
JFY				S	**Sn**	**19 07 57.0**	**-0.2**
JMK	**Ichinoseki**	**1.61**	**347**	P	**Pb**	**19 07 37.7**	**-0.9**
JMK				*eS*	**Sb**	**19 07 57.7**	**-1.2**
MJAR	**Matsushiro Arr**	**2.90**	**254**	Pn	**Pn**	**19 07 56.5**	**+1.4**
	0.5nm,0.3s,baz=80,slow=17,SNR=26						
	2.0nm,0.4s						
SONM	**Songino Array**	**27.77**	**303**	LR	LR	19 25 30.2	
	comp=Z,134nm,19.2s,baz=150,slow=40						
H11N2	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	19 42 28.0	
	baz=314,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	19 42 41.2	
	baz=314,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.17**	**122**	T	T	19 42 42.1	
	baz=314,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	19 43 31.2	
	baz=316,slow=75,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	19 43 25.7	
	baz=316,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	19 43 32.2	
	baz=316,slow=75,SNR=8.0						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**19 15 18.1**	**+0.8**
	0.4nm,0.6s,baz=79,slow=9.5,SNR=4.3						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**57.44**	**188**	P	**P**	**19 16 58.6**	**+0.8**
	0.5nm,0.9s,baz=5.8,slow=7.5,SNR=6.9						
	0.5nm,0.9s						

*HVO **29** 19:08:54.0±1.7,19.25N±0.07×155.555W±0.007,*
h1km±7km,ML3.1/44,ML3.2/47(NEIC),Error ellipse:
s-maj=1.2km s-min=0.7km az=137.0
NEIC 29 19:08:55.0±1.7,19.27N±0.01×155.570W±0.009,
h5km±1km,Error ellipse: s-maj=2.9km s-min=1.8km

az=196.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.05**	**241**		Sg	19 08 58.8	+1.2
KHU	**Kahuku**	**0.05**	**241**	Pg	Pg	19 08 57.0	+0.5
KHU				IAML		19 08 57.1	
	comp=N,186nm,0.7s						
AIN	**Ainahou**	**0.15**	**46**		Pg	19 08 58.3	+0.2
AIN				Sg	Sg	19 09 00.8	+0.8
AIN				IAML		19 09 01.1	
	comp=E,8μm,0.3s						
HTC	**Hot Caves**	**0.17**	**101**		Pg	19 08 58.1	-0.2
HPO	**Honuapo**	**0.18**	**175**		Pg	19 08 58.2	-0.3
MWH	**Moku'aweowe**	**0.22**	**353**		Pg	19 08 59.1	-0.3
MWH				Sg	Sg	19 09 02.9	+0.6
HLP	**Hilina Pali**	**0.25**	**84**		Pg	19 08 59.5	-0.4
HLP				Sg	Sg	19 09 04.2	+1.0
HLP				IAML		19 09 05.8	
	comp=E,3μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.27**	**359**		Pg	19 09 00.0	-0.3
MLOA				Sg	Sg	19 09 04.0	+0.1
MLOA				IAML		19 09 06.0	
	comp=E,2μm,0.3s						
ALEP	**Alea Permanent**	**0.28**	**346**		Pg	19 09 00.3	-0.2
ALEP					Sg	19 09 06.0	+1.7
MLH	**Mauna Loa**	**0.28**	**38**		Pg	19 09 00.2	-0.3
MLH				Sg	Sg	19 09 05.4	+1.0
SDHHI	**Sand Hill**	**0.29**	**65**		Pg	19 08 59.7	-0.9
SDHHI				Sg	Sg	19 09 05.0	+0.6
SDHHI				IAML		19 09 05.3	
	comp=E,4μm,0.3s						
WRMHI	**West Rim**	**0.29**	**62**		Pg	19 09 00.2	-0.5
WRMHI					Sg	19 09 05.1	+0.6
UWE	**Uwekahuna**	**0.30**	**60**		Pg	19 09 00.6	-0.4
UWE				Sg	Sg	19 09 05.6	+0.6
UWE				IAML		19 09 08.8	
	comp=N,5μm,0.4s						
RIM	**Rim**	**0.31**	**66**		Pg	19 08 59.8	-1.2
RIM				Sg	Sg	19 09 05.5	+0.4
RIM				IAML		19 09 06.0	
	comp=N,5μm,0.3s						
RIM				IAML		19 09 06.9	
	comp=E,3μm,0.5s						
NPH	**North Pit**	**0.31**	**63**		Pg	19 09 00.3	-0.7
NPH				Sg	Sg	19 09 05.3	+0.2
OBL	**Observatory Le**	**0.31**	**61**		Pg	19 09 00.1	-0.9
OBL				Sg	Sg	19 09 06.2	+1.1
KKO	**Keanakako`i**	**0.31**	**66**		Pg	19 09 00.1	-1.0
KKO				Sg	Sg	19 09 05.6	+0.3
KKO				IAML		19 09 06.0	
	comp=E,3μm,0.3s						
KKO				IAML		19 09 07.4	
	comp=N,4μm,0.4s						
UWB	**Uwekahuna B**	**0.32**	**61**		Pg	19 09 00.5	-0.7
UWB				Sg	Sg	19 09 05.6	+0.3
UWB				IAML		19 09 06.2	
	comp=N,2μm,0.3s						
BYL	**Byron's Ledge**	**0.33**	**64**		Pg	19 09 00.2	-1.2
BYL				Sg	Sg	19 09 05.6	-0.1
BYL				IAML		19 09 07.0	
	comp=N,2μm,0.5s						
BYL				IAML		19 09 08.3	
	comp=E,3μm,0.4s						
SBLHI	**Steaming Bluff**	**0.33**	**61**		Pg	19 09 00.7	-0.7
SBLHI				Sg	Sg	19 09 05.9	+0.2
SBLHI				IAML		19 09 06.8	
	comp=E,4μm,0.3s						
HATHI	**Halema'uma'u T**	**0.33**	**62**		Pg	19 09 01.0	-0.4
HATHI				Sg	Sg	19 09 06.0	+0.2
RSD	**Rainshed**	**0.34**	**55**		Pg	19 09 01.0	-0.6
RSD				Sg	Sg	19 09 06.4	+0.4
HMH	**Humu'ula Sheep**	**0.34**	**14**		Pg	19 09 01.0	-0.7
HMH				Sg	Sg	19 09 07.8	+1.5
HMH				IAML		19 09 08.5	
	comp=E,4μm,0.6s						
HMH				IAML		19 09 09.3	
	comp=N,3μm,0.3s						
PUH	**Pauahi**	**0.35**	**73**		Pg	19 09 00.9	-0.9
PUH				Sg	Sg	19 09 06.3	-0.1
PUH				IAML		19 09 07.3	
	comp=E,2μm,0.2s						
PUH				IAML		19 09 07.3	
	comp=N,3μm,0.6s						
CPH	**Captain Cook**	**0.39**	**304**		Pg	19 09 02.6	-0.1
CPH					Sg	19 09 08.8	+1.0
KNHH	**Kane Nui o Ham**	**0.39**	**74**		Pg	19 09 02.0	-0.7
KHLU	**Kahalu`u**	**0.44**	**316**		Pg	19 09 03.3	-0.3
KHLU				IAML		19 09 11.2	
	comp=E,3μm,0.1s						
KHLU	**Kahalu`u**	**0.44**	**316**		Sg	19 09 10.8	+1.4
NPOC	**North of Pu'u**	**0.45**	**74**		Pg	19 09 03.0	-0.7
NPOC					Sg	19 09 09.5	-0.1
NPOC	**North of Pu'u**	**0.45**	**74**	IAML		19 09 09.8	
	comp=E,1μm,0.3s						
NPOC				IAML		19 09 14.7	
	comp=N,2μm,0.4s						
JCUZ	**Jacuzzi**	**0.46**	**75**		Pg	19 09 02.7	-1.1
JCUZ				IAML		19 09 10.0	
	comp=N,1μm,0.5s						
JCUZ				IAML		19 09 10.2	
	comp=E,2μm,0.3s						
JCUZ	**Jacuzzi**	**0.46**	**75**		Sg	19 09 09.8	0.0
HUH	**Hualalai**	**0.48**	**329**		Pg	19 09 04.3	0.0
HUH					Sb	19 09 12.7	-0.9
POHA	**Pohakuloa**	**0.49**	**4**		Pg	19 09 03.7	-0.8
POHA				Sg	Sg	19 09 10.9	+0.1
POHA				IAML		19 09 16.3	
	comp=E,1μm,0.4s						
POHA				IAML		19 09 16.7	
	comp=E,1μm,0.5s						
JOKA	**Jonika Flow**	**0.56**	**73**		Pg	19 09 04.0	-1.8
JOKA					Sg	19 09 12.5	-0.5
KKH	**Kailua Kona**	**0.57**	**312**		Pg	19 09 05.2	-0.8
KKH					Sg	19 09 14.1	+0.7
HPAH	**Hawaii Prepara**	**0.77**	**351**		Pg	19 09 07.4	-2.3
HPAH					Sg	19 09 16.5	-3.2
HPAH				IAML		19 09 28.7	
	comp=N,858nm,0.5s						
MHA	**Mahukona**	**0.97**	**341**	Pg	Pg	19 09 10.9	-2.6
HLK	**Haleakala**	**1.61**	**337**	Pn	Pn	19 09 19.7	-4.7
KHLH	**Kahului

ILAM	**Ilet Lapin Mar**	**4.62**	**16**	*e*P		**Pn**	**19 37 09.4 +1.5**
TACV	**Tcata**	**4.73**	**268**	*e*P		**Pn**	**19 37 10.9 +1.4**
TACV				*e*S		**Sn**	**19 38 04.0 -0.5**
CACV	**CAICARA DEL OR**	**5.07**	**238**	⇑*i*P		Pn	19 37 08.6 -5.5
CACV				*e*S		Sn	19 38 01.6 -11
BENV	**Beln**	**5.30**	**267**	*e*P		**Pn**	**19 37 18.1 +0.7**
BENV				*e*S		**Sn**	**19 38 15.7 -3.0**
CBE	**Ff, Capester**	**5.74**	**6**	*e*P		**Pn**	**19 37 24.6 +1.3**
CBE	**Ff, Capester**	**5.74**	**6**	*e*S		**Sn**	**19 38 27.5 -2.0**
BAUV	**El Baul**	**5.90**	**257**	*e*P		**Pn**	**19 37 25.6 +0.1**
BAUV	**El Baul**	**5.90**	**257**	*e*P		**Pn**	**19 37 25.8 +0.3**
BAUV				*e*S		**Sn**	**19 38 30.8 -2.5**
ABD	**La Joyeuse, An**	**6.15**	**7**	*e*P		**Pn**	**19 37 30.7 +1.7**
ABD	**La Joyeuse, An**	**6.15**	**7**	*e*S		**Sn**	**19 38 39.9 +0.3**
MLYT	**Lee's Yard**	**6.36**	**0**	*e*P		**Pn**	**19 37 32.2 +0.4**
ANBD	**Bethesda, Anti**	**6.70**	**4**	*e*P		**Pn**	**19 37 37.2 +0.8**
ANBD	**Bethesda, Anti**	**6.70**	**4**	*e*S		**Sn**	**19 38 50.7 -2.3**

*ISK **29** 19:36:23.4,38′.44N×25′.53E,h14km,ML3.1/8*
*ATH **29** 19:36:24.7,38′.42N×25′.55E,h11km±3km,ML2.9/3,Error ellipse: s-maj=4.0km s-min=1.1km az=108.0*
*DDA **29** 19:36:25.3±0.0,38′.50N×25′.65E,h5km±2km,ML2.8*
*THE **29** 19:36:25.2,38′.46N×25′.58E,h5km±5km,ML2.9/4,Error ellipse: s-maj=5.0km s-min=0.7km az=126.0*

ISC 29 19:36:24.1±1.1,38′.46N±0′.02×25′.58E±0′.02,h18km±3km, n45,σ0°82/69,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.38**	**101**	PG	**Pb**	**19 36 32.7**	**+0.3**
CHOS				SG	**Sb**	**19 36 38.2**	**+0.2**
CHOS	**Chios island**	**0.38**	**101**	P	**Pb**	**19 36 32.7**	**+0.3**
CHOS				S	**Sb**	**19 36 38.0**	**0.0**
	3µm,0.2s						
CHOS	**Chios island**	**0.38**	**101**	P	**Pb**	**19 36 32.7**	**+0.3**
CHOS				S	**Sb**	**19 36 38.0**	**0.0**
CHOS				AML	AML	19 36 38.3	
	comp=N,4816µm,0.2s						
CHOS				AML	AML	19 36 38.3	
	comp=E,5574µm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.76**	**107**	P	**Pn**	**19 36 39.4**	**-0.5**
ZEYE				S	**Sn**	**19 36 49.8**	**-1.0**
ZEYE				*i* AML	AML	19 36 53.0	
	comp=E,324nm,0.7s						
SIGR	**SIGRI**	**0.78**	**16**	PG	**Pn**	**19 36 39.8**	**-0.4**
SIGR				SG	**Sn**	**19 36 51.2**	**-0.2**
SIGR	**SIGRI**	**0.78**	**16**	P	**Pn**	**19 36 39.9**	**-0.3**
SIGR				S	**Sn**	**19 36 51.0**	**-0.4**
	comp=E,1µm,0.5s						
SIGR	**SIGRI**	**0.78**	**16**	P	**Pn**	**19 36 39.9**	**-0.3**
SIGR				S	**Sn**	**19 36 51.0**	**-0.4**
SIGR				AML	AML	19 36 52.1	
	comp=E,2141µm,0.4s						
SIGR				AML	AML	19 36 54.1	
	comp=N,2050µm,0.5s						
FOCM	**Foa**	**0.94**	**74**	PG	**Pn**	**19 36 42.6**	**+0.3**
PRK	**Paraskevi**	**0.95**	**34**	P	**Pn**	**19 36 43.6**	**+1.1**
PRK				S	**Sn**	**19 36 57.4**	**+1.8**
	comp=N,548nm,0.5s						
PRK	**Paraskevi**	**0.95**	**34**	P	**Pn**	**19 36 43.6**	**+1.1**
PRK				S	**Sn**	**19 36 57.4**	**+1.8**
PRK				AML	AML	19 36 59.9	
	comp=E,1038µm,0.6s						
PRK				AML	AML	19 37 02.4	
	comp=N,974µm,0.6s						
GPNR	**Gulpinar-Canak**	**1.08**	**23**	PN	**Pg**	**19 36 45.1**	**0.0**
GPNR				SN	**Sg**	**19 37 01.2**	**+1.9**
DGB	**zmir**	**1.10**	**111**	P	**Pg**	**19 36 45.5**	**0.0**
DGB				S	**Sg**	**19 36 59.4**	**-0.6**
KOCA	**Canakkale, Ayv**	**1.13**	**23**	P	**Pg**	**19 36 45.3**	**-0.6**
KOCA				S	**Sg**	**19 37 02.9**	**+2.2**
KOCA				*i* AML	AML	19 37 04.0	
	comp=N,302nm,0.4s						
KOCA				*i* AML	AML	19 37 05.0	
	comp=N,382nm,0.6s						
BLCB	**Balcova**	**1.15**	**93**	PN	**Pg**	**19 36 46.4**	**0.0**
BLCB	**Balcova**	**1.15**	**93**	P	**Pg**	**19 36 46.3**	**-0.1**
BLCB				S	**Sg**	**19 37 02.2**	**+0.7**
KYMI	**Kymi, Euboea I**	**1.17**	**279**	P	**Pg**	**19 36 46.6**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.17**	**279**	P	**Pg**	**19 36 46.6**	**-0.2**
DION	**Dionisos Attik**	**1.35**	**254**	P	**Pb**	**19 36 48.7**	**-0.2**
DION				S	**Sg**	**19 37 08.8**	**+0.9**
	comp=N,670nm,0.4s						
DION	**Dionisos Attik**	**1.35**	**254**	P	**Pb**	**19 36 48.7**	**-0.2**
APE	**Apeiranthos**	**1.39**	**182**	PN	**Pn**	**19 36 48.6**	**0.0**
APE	**Apeiranthos**	**1.39**	**182**	P	**Pn**	**19 36 48.7**	**0.0**
PTL	**Penteli**	**1.41**	**254**	P	**Pb**	**19 36 49.7**	**-0.2**
PTL	**Penteli**	**1.41**	**254**	P	**Pb**	**19 36 49.7**	**-0.2**
BOZC	**Bozcaada**	**1.43**	**15**	PN	**Pb**	**19 36 49.9**	**-0.2**
BOZC	**Bozcaada**	**1.43**	**15**	P	**Pb**	**19 36 49.5**	**-0.7**
BOZC				S	**Sg**	**19 37 10.8**	**+0.5**
BOZC				*i* AML	AML	19 37 14.0	
	comp=N,178nm,0.3s						
BOZC				*i* AML	AML	19 37 14.0	
	comp=N,131nm,0.4s						
EZN	**Ezine**	**1.48**	**23**	PN	**Pb**	**19 36 50.6**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.48**	**30**	P	**Pg**	**19 36 52.7**	**0.0**
BAYC				S	**Sb**	**19 37 09.0**	**-0.6**
ATHU	**Athens Univers**	**1.50**	**251**	P	**Pb**	**19 36 51.8**	**+0.4**
ATHU	**Athens Univers**	**1.50**	**251**	P	**Pb**	**19 36 51.8**	**+0.4**
GCAM	**G?zelcaml?**	**1.51**	**120**	PN	**Pb**	**19 36 51.4**	**-0.1**
VLY	**Voula,Athens**	**1.54**	**247**	P	**Pb**	**19 36 51.4**	**-0.6**
VLY	**Voula,Athens**	**1.54**	**247**	P	**Pb**	**19 36 51.4**	**-0.6**
BUHA	**Balikesir, Bur**	**1.56**	**48**	P	**Pg**	**19 36 53.8**	**-0.3**
BUHA				S	**Sg**	**19 37 16.1**	**+1.6**
ECEA	**Canakkale, Ece**	**1.65**	**16**	P	**Pb**	**19 36 52.9**	**-1.0**
ECEA				S	**Sg**	**19 37 17.2**	**0.0**
ECEA				*i* AML	AML	19 37 22.0	
	comp=N,298nm,0.6s						
ECEA				*i* AML	AML	19 37 23.0	
	comp=N,229nm,0.8s						
ECEA				*i* AML	AML	19 37 50.0	
	comp=N,151nm,1.5s						
AKHS	**Akhisar**	**1.80**	**76**	P	**Pg**	**19 36 59.3**	**+0.6**
AKHS				S	**Sg**	**19 37 22.4**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.89**	**105**	PN	**Pb**	**19 36 57.4**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.90**	**61**	P	**Pg**	**19 37 00.0**	**-0.6**
STEP				S	**Sg**	**19 37 25.7**	**+0.3**
STEP				*i* AML	AML	19 37 29.0	
	comp=N,112nm,0.8s						
STEP				*i* AML	AML	19 37 29.0	
	comp=N,120nm,0.4s						
BODT	**Bodrum**	**1.96**	**135**	PN	**Pn**	**19 36 56.4**	**0.0**
AYDN	**Tasoluk**	**1.98**	**113**	P	**Pg**	**19 37 02.0**	**-0.2**
AYDN				S	**Sg**	**19 37 29.2**	**+1.2**
SMTH	**Samothraki Isl**	**2.01**	**359**	P	**Pb**	**19 36 58.9**	**-1.2**
SMTH	**Samothraki Isl**	**2.01**	**359**	P	**Pg**	**19 37 01.6**	**-1.1**
BALY	**Balya**	**2.04**	**51**	P	**Pg**	**19 37 02.3**	**-1.0**
BALY				S	**Sg**	**19 37 29.9**	**+0.2**
MANT	**Manisa**	**2.34**	**88**	P	**Pg**	**19 37 09.6**	**+0.7**
MANT				S	**Sg**	**19 37 38.3**	**-1.0**
KESN	**Edirne-Kesan**	**2.51**	**19**	P	**Pn**	**19 37 05.1**	**+0.8**
KESN				*i* AML	AML	19 37 58.0	
	comp=N,47nm,1.3s						
DEMI	**Demirci**	**2.52**	**76**	P	**Pg**	**19 37 11.8**	**-0.7**
DEMI				S	**Sg**	**19 37 42.6**	**-2.6**

*IDC **29** 19:37:37.7±0.9,17′.77S×176′.86W,h0km,mb4.2/8, mbtmp4.1/9,ML4.7/1,MS4.3/44,Error ellipse: s-maj=34.8km s-min=22.2km az=145.0*
*NEIC **29** 19:37:39.5±2.1,17′.5S±0′.1×177′.19W±0′.08,h10km±1km, mb4.9/29,Error ellipse: s-maj=22.3km s-min=11.0km az=24.0*
*GCMT **29** 19:37:42.5±0.2,17′.46S±0′.01×176′.59W±0′.01,h16km±1km, MW5.1/117,Moment Tensor Solution. s44,c59; s117,c184; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.28±.14; Mθθ=4.81±.14; Mϕϕ5.09±.12; Mrθ0.06±.35; Mθϕ1.39±.11; Mϕr2.58±.38; Best double couple: M₀5.65300×10¹⁶ NP1:ϕs321.00000°,δ78.00000°, λ162.00000°. NP2:ϕs55.00000°,δ72.00000°,λ13.00000°. Principal axes: T 6.2840, Plg21.0000°, Azm277.0000°; N -1.2610, Plg68.0000°, Azm109.0000°; P -5.0230, Plg4.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 19:37:37.6±0.5,17′.7S±0′.1×176′.80W±0′.09,h10km,n107, σ2s15/67,mb4.9/23,MS4.3/42,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.91**	**268**	P	**Pn**	**19 38 54.2**	**+2.5**
	1.2nm,0.3s,baz=97,slow=18,SNR=6.8						
MSVF				LR	LR	19 40 42.6	
	comp=Z,15µm,18.0s,baz=112,slow=38 12nm,0.8s						
MSVF	**Nonsavu**	**4.91**	**268**		**Pn**	**19 38 51.2**	**-0.5**
AFI	**Afiamalu**	**6.10**	**53**	LR	LR	19 41 02.9	
	comp=Z,748nm,18.3s,baz=222,slow=33						
RAO	**Raoul Island**	**11.59**	**185**	LR	LR	19 44 16.2	
	comp=Z,4µm,20.1s,baz=13,slow=35						
DZM	**Mont Dzumac**	**16.36**	**252**	*e*LR	LR	19 45 18.5	
	comp=Z,3µm,24.4s						
DZM	**Mont Dzumac**	**16.36**	**252**	LR	LR	19 46 39.6	
	comp=Z,3µm,20.7s,baz=84,slow=33						
RAR	**Rarotonga**	**16.44**	**105**	LR	LR	19 46 15.0	
	comp=Z,1µm,20.0s,baz=308,slow=31						
PPT2	**Papeete2**	**25.94**	**94**	*e*S	**S**	**19 47 31.6**	**-9.4**
	282nm,16.2s						
PPT2				*e*LR	LR	19 49 31.3	
	comp=Z,2µm,24.5s						
PPT2				*e*LR	LR	19 49 31.5	
	comp=Z,2µm,27.2s						
PPT	**Papeete**	**25.94**	**94**	LR	LR	19 50 35.4	
	comp=Z,717nm,20.0s,baz=263,slow=30						
TBI	**Tubuai**	**26.20**	**107**	*e*LR	LR	19 49 46.2	
	comp=Z,7µm,25.5s						
TBI				*e*LR	LR	19 49 46.4	
	comp=Z,31µm,25.2s						
KRVT	**Keravat (AS076**	**33.28**	**290**	LR	LR	19 56 44.0	
	comp=Z,854nm,18.9s,baz=258,slow=34						
CTA	**Charters Tower**	**35.00**	**260**	LR	LR	19 56 52.8	
	comp=Z,762nm,20.0s,baz=89,slow=33						
CTAO	**Charters Tower**	**35.00**	**260**	P	**P**	**19 44 29.3**	**-1.3**
PMG	**Port Moresby**	**35.94**	**278**	LR	LR	19 57 17.0	
	comp=Z,331nm,18.5s,baz=132,slow=33						
TAOE	**Nuku Hiva Isla**	**36.67**	**81**	*e*LR	LR	19 54 19.9	
	comp=Z,928nm,25.6s						
TOO	**Toolangi**	**38.52**	**231**	P	**P**	**19 45 00.7**	**+0.3**
TOO				IAmb	IAmb	19 45 12.2	
	comp=Z,22nm,1.3s						
STKA	**Stephens Creek**	**40.09**	**241**	P	**P**	**19 45 13.0**	**-0.6**
WB2	**Warramunga Arr**	**46.17**	**259**	P	**P**	**19 46 00.9**	**-2.1**
WB2				IAmb	IAmb	19 46 10.4	
	comp=Z,35nm,1.9s						
WRAB	**Tennant Creek**	**46.18**	**259**	P	**P**	**19 46 01.0**	**-2.0**
WRAB				IAmb	IAmb	19 46 10.4	
	comp=Z,39nm,1.9s						
WRA	**Warramunga Arr**	**46.19**	**259**	P	**P**	**19 46 02.2**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=91,slow=7.3,SNR=11						
WRA				LR	LR	20 04 54.3	
	comp=Z,608nm,18.0s,baz=106,slow=36 comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**46.19**	**259**	P	**P**	**19 46 01.0**	**-2.0**
AS31	**Alice Springs**	**46.33**	**254**	P	**P**	**19 46 03.1**	**-1.1**
ASAR	**Alice Springs**	**46.34**	**254**	P	**P**	**19 46 03.8**	**-0.5**
	comp=Z,12nm,1.2s,baz=85,slow=8.6,SNR=25						
ASAR				LR	LR	20 04 49.9	
	comp=Z,338nm,18.9s,baz=98,slow=35 comp=Z,12nm,1.2s						
ASAR	**Alice Springs**	**46.34**	**254**	P	**P**	**19 46 03.5**	**-0.8**
SIJI	**Sorong**	**53.68**	**282**	LR	LR	20 08 54.7	
	comp=Z,302nm,21.2s,baz=116,slow=35						
SOEI	**Soe**	**57.61**	**270**	P	**P**	**19 47 27.2**	**-1.3**
TNTI	**Ternate**	**57.90**	**282**	P	**P**	**19 47 27.9**	**-2.5**
BATI	**Baumata**	**58.07**	**269**	LR	LR	20 10 05.8	
	comp=Z,382nm,21.6s,baz=148,slow=34						
SBA	**Scott Base**	**60.77**	**184**	P	**P**	**19 47 51.9**	**+2.7**
SBA				IAmb	IAmb	19 47 57.6	
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**60.83**	**185**	P	**P**	**19 47 51.7**	**+2.1**
	comp=Z,2.3nm,1.0s,baz=356,slow=7.9,SNR=6.2						
VNDA				LR	LR	20 12 47.0	
	comp=Z,114nm,18.2s,baz=19,slow=35 comp=Z,2.3nm,1.0s						
VNDA	**Vanda**	**60.83**	**185**	P	**P**	**19 47 51.1**	**+1.5**
LUWI	**Luwuk**	**61.58**	**279**	P	**P**	**19 47 52.5**	**-3.3**
DAV	**Davao City (W)**	**61.97**	**288**	LR	LR	20 10 16.5	
	comp=Z,146nm,21.9s,baz=112,slow=32						
RPN	**Rapa Nui**	**62.46**	**112**	LR	LR	20 08 25.0	
	comp=Z,406nm,20.3s,baz=254,slow=30						
KAPI	**Kappang**	**63.21**	**273**	LR	LR	20 13 35.9	
	comp=Z,120nm,20.4s,baz=93,slow=34						
TOLI2	**Tolitoli**	**64.18**	**280**	P	**P**	**19 48 08.9**	**-4.2**
TOLI2				IAmb	IAmb	19 48 19.3	
	comp=Z,12nm,1.3s						
MJAR	**Matsushiro Arr**	**68.64**	**322**	P	**P**	**19 48 44.4**	**+3.2**
	comp=Z,2.5nm,0.9s,baz=138,slow=7.7,SNR=4.2 comp=Z,2.5nm,0.9s						
SHEM	**Shemya Is, Ala**	**70.53**	**354**	LR	LR	20 13 15.2	
	comp=Z,344nm,19.8s,baz=120,slow=30						
ASAJ	**Asahikawa**	**71.81**	**330**	LR	LR	20 16 36.0	
	comp=Z,131nm,19.3s,baz=156,slow=32						
QSPA	**South Pole Qui**	**72.40**	**180**	P	**P**	**19 49 04.1**	**+0.2**
QSPA				IAmb	IAmb	19 49 11.0	
	comp=Z,14nm,1.2s						
PETK	**Petropavlovsk-**	**73.84**	**344**	LR	LR	20 13 55.6	
	comp=Z,182nm,21.9s,baz=146,slow=30						
LEM	**Lembang**	**74.26**	**268**	LR	LR	20 23 45.9	
	comp=Z,127nm,18.2s,baz=108,slow=37						
KSRS	**Korea Array**	**75.55**	**318**	LR	LR	20 21 57.7	
	comp=Z,29nm,18.0s,baz=110,slow=35						
LPIG	**La Paz**	**76.99**	**59**	LR	LR	20 15 25.3	
	comp=Z,152nm,18.9s,baz=222,slow=29						
USRK	**Ussuriysk Ar.**	**77.28**	**325**	LR	LR	20 19 09.4	
	comp=Z,66nm,18.9s,baz=128,slow=32						
YBH	**Yreka Blue Hor**	**77.37**	**38**	LR	LR	20 14 48.6	
	comp=Z,281nm,21.9s,baz=237,slow=29						
NVAR	**Mina Array Bea**	**78.19**	**43**	P	**P**	**19 49 38.3**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=216,slow=9.0,SNR=2.3 comp=Z,0.2nm,0.4s						
KVN	**Kaiserville**	**78.66**	**43**	P	**P**	**19 49 42.8**	**+2.4**
KLR	**Kul'dur**	**80.69**	**329**	LR	LR	20 20 06.7	
	comp=Z,169nm,21.5s,baz=134,slow=32						
MA2	**Magadan**	**81.37**	**344**	LR	LR	20 22 28.2	
	comp=Z,94nm,19.7s,baz=148,slow=33						
BBB	**Bella Bella**	**81.37**	**28**	LR	LR	20 17 13.0	
	comp=Z,214nm,21.4s,baz=248,slow=29						
ELK	**Elko**	**81.43**	**43**	LR	LR	20 20 53.8	
	comp=Z,115nm,19.7s,baz=234,slow=32						
BELA	**Belgrano 2**	**82.22**	**172**	P	**P**	**19 50 00.7**	**+2.1**
BELA				IAmb	IAmb	19 51 21.7	
	comp=Z,22nm,1.8s						
TCUT	**Toone Canyon**	**84.12**	**44**	P	**P**	**19 50 12.1**	**+2.8**
TCUT				IAmb	IAmb	19 50 13.2	
	comp=Z,9.3nm,1.2s						
NEW	**Newport**	**84.41**	**35**	LR	LR	20 19 16.5	
	comp=Z,150nm,21.8s,baz=220,slow=30						
MAW	**Mawson**	**84.61**	**199**	LR	LR	20 25 30.6	
	comp=Z,364nm,20.2s,baz=105,slow=34						
WRH	**Wood River Hil**	**84.80**	**12**	P	**P**	**19 50 13.8**	**+1.9**
HDA	**Harding Lake**	**84.97**	**13**	P	**P**	**19 50 13.0**	**+0.3**
HDA				IAmb	IAmb	19 50 19.2	
	comp=Z,9.0nm,0.9s						
DLBC	**Dease Lake**	**85.00**	**23**	LR	LR	20 20 11.1	
	comp=Z,379nm,20.2s,baz=269,slow=30						
CCB	**Clear Creek Bu**	**85.01**	**12**	P	**P**	**19 50 13.6**	**+0.8**
CCB				IAmb	IAmb	19 50 19.2	
	comp=Z,6.9nm,0.9s						
TCOL	**CIGO, UAF Yank**	**85.20**	**12**	P	**P**	**19 50 15.3**	**+1.4**
COLA	**College**	**85.20**	**12**	P	**P**	**19 50 14.8**	**+1.0**
MDM	**Murphy Dome**	**85.20**	**12**	P	**P**	**19 50 12.7**	**-1.3**
MDM				IAmb	IAmb	19 50 16.7	
	comp=Z,14nm,1.3s						
IL31		**85.31**	**12**	P	**P**	**19 50 15.3**	**+1.0**
IL31				IAmb	IAmb	19 50 20.0	
	comp=Z,9.0nm,1.1s						
ILAR	**Eielson Array**	**85.31**	**12**	P	**P**	**19 50 16.5**	**+2.1**
	comp=Z,4.2nm,1.0s,baz=218,slow=4.8,SNR=11						
ILAR				LR	LR	20 20 35.8	
	comp=Z,219nm,21.3s,baz=213,slow=30 comp=Z,4.2nm,1.0s						
ILAR	**Eielson Array**	**85.31**	**12**	P	**P**	**19 50 16.1**	**+1.7**
PSI	**Prapat**	**85.39**	**274**	LR	LR	20 30 29.0	
	comp=Z,121nm,18.1s,baz=125,slow=37						
ENH	**Enshi**	**85.41**	**304**	P	**P**	**19 50 12.1**	**-3.6**
S22A	**4UR Ranch, Cre**	**85.69**	**48**	P	**P**	**19 50 20.6**	**+3.3**
PDAR	**Pinedale Array**	**86.12**	**43**	P	**P**	**19 50 20.8**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=242,slow=3.2,SNR=4.5						
PDAR				LR	LR	20 24 09.7	
	comp=Z,90nm,18.1s,baz=242,slow=32 comp=Z,0.7nm,0.9s						
BOZ	**Bozeman (W)**	**86.19**	**40**	P	**P**	**19 50 22.6**	**+3.2**
BOZ				IAmb	IAmb	19 50 25.2	
	comp=Z,24nm,1.9s						
PRP	**Porcupine Dome**	**86.24**	**13**	P	**P**	**19 50 21.8**	**+2.6**
PRP				IAmb	IAmb	19 50 26.0	
	comp=Z,5.3nm,0.9s						
YAK	**Yakutsk**	**89.92**	**338**	LR	LR	20 32 51.1	
	comp=Z,44nm,18.9s,baz=104,slow=37						
CMAR	**Chiang Mai Arr**	**90.25**	**289**	P	**P**	**19 50 40.6**	**+1.3**
	comp=Z,2.2nm,1.0s,baz=113,slow=2.8,SNR=3.4						
CMAR				LR	LR	20 29 09.8	
	comp=Z,36nm,20.4s,baz=280,slow=34 comp=Z,2.2nm,1.0s						
SNAA	**Sanae**	**90.80**	**178**	P	**P**	**19 50 40.6**	**-0.3**
SNAA	**Sanae**	**90.80**	**178**	LR	LR	20 29 11.7	
	comp=Z,126nm,18.9s,baz=198,slow=34						
SNAA	**Sanae**	**90.80**	**178**	P	**P**	**19 50 44.7**	**+3.8**
SNAA				IAmb	IAmb	19 50 46.8	
	comp=Z,4.9nm,1.2s						
VNA3	**Neumayer Olymp**	**90.88**	**176**	P	**P**	**19 50 40.6**	**-0.7**
INK	**Inuvik**	**91.25**	**15**	LR	LR	20 24 19.3	
	comp=Z,130nm,20.0s,baz=198,slow=31						
VNA2	**Neumayer--Watz**	**91.34**	**177**	P	**P**	**19 50 41.8**	**-1.6**
	baz=160,slow=4.0						
VNA1	**Neumayer--Stat**	**91.56**	**176**	P	**P**	**19 50 43.7**	**-0.6**
YKA	**Yellowknife Ar**	**93.47**	**24**	LR	LR	20 24 55.6	
	comp=Z,211nm,21.9s,baz=254,slow=30						
JTS	**Las Juntas de**	**94.80**	**81**	LR	LR	20 23 09.7	
	comp=Z,121nm,21.1s,baz=304,slow=29						
ATAH	**Atahualpa**	**95.80**	**99**	LR	LR	20 24 15.2	
	comp=Z,188nm,21.7s,baz=249,slow=29						
TIXI	**Tiksi**	**96.31**	**345**	LR	LR	20 28 45.6	
	comp=Z,156nm,21.9s,baz=180,slow=32						
ULM	**Lac du Bonnet**	**97.73**	**40**	LR	LR	20 29 51.7	
	comp=Z,225nm,19.1s,baz=262,slow=32						
CLL	**Collm**	**145.53**	**349**	*i* PKPbc	**PKiKP**	**19 57 19.1**	**-0.9**
CLL				*i* PKiKP	sPKPab	19 57 21.8	+2.0
	comp=Z,7.0nm,1.0s						
OSTC	**Ostas**	**145.56**	**345**	*e*PKP	**PKiKP**	**19 57 19.1**	**-1.1**
UPC	**Upice**	**145.66**	**345**	*e*PKP	**PKiKP**	**19 57 20.5**	**+0.2**
BRTR	**Keskin Array B**	**145.68**	**316**	PKPbc	**PKiKP**	**19 57 19.9**	**-1.0**
	comp=Z,5.5nm,1.0s,baz=132,slow=1.8,SNR=7.8						
DPC	**Dobruska-Polom**	**145.73**	**345**	*e*PKP	**PKPab**	**19 57 17.6**	**+0.4**
BRG	**Berggiesshubel**	**145.77**	**348**	*e*P	**PKPab**	**19 57 17.6**	**+0.4**
BRG				Amp		19 57 21.1	
	comp=Z,7.7nm,1.2s						
KRLC	**Kraliky**	**145.87**	**344**	*e*PKP	**PKiKP**	**19 57 21.1**	**+0.3**
MORC	**Moravsky Berou**	**145.94**	**343**	*e*PKP	**PKiKP**	**19 57 19.9**	**-1.1**
PVCC	**Panska Ves**	**145.97**	**347**	*e*PKP	**PKiKP**	**19 57 21.3**	**+0.3**
MAUC	**Maruska**	**146.23**	**343**	*e*PKP	**PKiKP**	**19 57 22.2**	**+0.6**
KRUC	**Moravsky**	**146.90**	**344**	*e*PKP	**PKiKP**	**19 57 23.7**	**+0.8**
KHC	**Kasperske Hory**	**147.50**	**347**	*e*PKP	**PKiKP**	**19 57 25.6**	**+1.4**
CKRC	**Cesky Krumlov**	**147.63**	**346**	*e*PKP	**PKiKP**	**19 57 25.5**	**+1.0**
GERES	**GERESS Array B**	**147.74**	**347**	PKPbc	**PKPab**	**19 57 25.3**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=318,slow=1.8,SNR=9.0						
CONA	**Conrad Observa**	**148.08**	**344**	*e*P	**PKPab**	**19 57 27.7**	**+1.3**
	comp=Z,9.6nm,1.6s						
RONA	**Rosalia, Austr**	**148.17**	**343**	*e*P	**PKPab**	**19 57 28.1**	**+1.4**
	comp=Z,6.4nm,0.8s						
SOKA	**Soboth**	**149.45**	**344**	*e*P	**PKPab**	**19 57 30.7**	**-1.3**
	comp=Z,3.1nm,0.9s						
RETA	**Reutte**	**149.61**	**350**	*e*P	**PKPab**	**19 57 31.2**	**-1.4**
	comp=Z,3.3nm,0.8s						
WTTA	**Wattenberg**	**149.67**	**349**	*e*P	**PKPab**	**19 57 31.7**	**-1.3**
	comp=Z,1.3nm,1.5s						
SQTA	**Sankt Quirin**	**149.79**	**349**	*e*P	**PKPab**	**19 57 32.0**	**-1.4**
	comp=Z,9.4nm,1.5s						
FETA	**Feichten**	**150.07**	**350**	*e*P	**PKPab**	**19 57 32.9**	**-1.7**
	comp=Z,5.3nm,1.0s						

*TRN **29** 19:43:46.5,10′.37N×62′.26W,h1km,MD4.2*
*FUNV **29** 19:43:48.4,10′.28N×62′.15W,h5km,MW3.2*

ISC 29 19:43:47.5±1.4,10′.34N±0′.05×62′.22W±0′.03,h9km±11km, n31,σ1s03/43,2D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.76**	**91**	*e*P	**Pb**	**19 44 02.7**	**-0.2**
TRN	**Trinidad (W)**	**0.86**	**69**	*e*P	**Pg**	**19 44 03.2**	**-1.0**
TRN				*e*S	**Sb**	**19 44 16.1**	**-0.4**
CRUV	**Carupano**	**1.05**	**289**	⇓*i*P	**Pg**	**19 44 07.6**	**-0.2**
CRUV				*e*S	**Sg**	**19 44 22.2**	**+0.8**
TBH	**Brigand Hill**	**1.15**	**83**	*e*P	**Pb**	**19 44 09.6**	**+0.1**
TPR	**Prospect**	**1.65**	**59**	*e*P	**Pn**	**19 44 17.5**	**+0.7**
GRGR	**Grenville**	**1.87**	**17**	*e*P	**Pn**	**19 44 19.8

ASGA	**Asgata**	**0.95**	**77**	P	**Pb**	**19 55 05.3**	**+0.1**
ASGA				S	**Sn**	**19 55 19.7**	**-0.3**
ASGA				AML	AML	19 55 21.6	
	8.6nm,0.9s						
ASGA				AML	AML	19 55 21.6	
	8.6nm,0.9s						
ASGA				AML	AML	19 55 22.4	
	6.2nm,0.6s						
ASGA				AML	AML	19 55 22.4	
	6.2nm,0.6s						
AKDN	**Akdeniz- Kıbrı**	**1.00**	**44**	PG	**Pb**	**19 55 05.5**	**-0.6**
AKDN				SG	**Sn**	**19 55 21.1**	**-0.1**
CSS	**Mathiatis**	**1.07**	**69**	PN	**Pg**	**19 55 06.4**	**-0.4**
CSS				SN	**Sn**	**19 55 22.6**	**-0.3**
CSS	**Mathiatis**	**1.07**	**69**	P	**Pg**	**19 55 06.7**	**-0.2**
CSS				S	**Sn**	**19 55 22.5**	**-0.5**
CSS				AML	AML	19 55 26.0	
	1.6nm,0.7s						
CSS				AML	AML	19 55 26.0	
	1.6nm,0.7s						
CSS	**Mathiatis**	**1.07**	**69**	Pg	**Pg**	**19 55 06.5**	**-0.4**
CSS				Sg	**Sn**	**19 55 22.4**	**-0.5**
ATHAL	**Athalassa**	**1.19**	**61**	P	**Pb**	**19 55 09.4**	**+0.1**
ATHAL				S	**Sn**	**19 55 27.1**	**+1.2**
OSC1	**CSNet OBS 1**	**1.28**	**213**	P	**Pn**	**19 55 10.2**	**-0.6**
OSC1				S	**Sg**	**19 55 28.3**	**+0.7**
MVOU	**Mavrovouni**	**1.32**	**70**	P	**Pg**	**19 55 10.8**	**-0.8**
MVOU				S	**Sb**	**19 55 28.8**	**+0.2**
MVOU				AML	AML	19 55 34.9	
	3.1nm,1.0s						
MVOU				AML	AML	19 55 34.9	
	3.1nm,1.0s						
MVOU				AML	AML	19 55 35.3	
	3.7nm,0.9s						
MVOU				AML	AML	19 55 35.3	
	3.7nm,0.9s						
LFK	**Lefkose**	**1.35**	**58**	PN	**Pn**	**19 55 11.5**	**-0.3**
LFK				SN	**Sn**	**19 55 32.2**	**+2.1**
GAZI	**Gazipasa**	**1.66**	**5**	PN	**Pn**	**19 55 15.4**	**-0.6**
GAZI	**Gazipasa**	**1.66**	**5**	P	**Pn**	**19 55 14.6**	**-1.4**
GAZI				S	**Sn**	**19 55 35.6**	**-2.0**
TEKE	**Tekeli-Mersin**	**1.76**	**27**	PN	**Pn**	**19 55 16.9**	**-0.4**
EREN	**Erenkoy**	**1.93**	**60**	PN	**Pn**	**19 55 19.7**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.96**	**36**	PN	**Pn**	**19 55 19.4**	**-0.7**
GULN	**MERSIN_Gulnar**	**1.98**	**36**	P	**Pn**	**19 55 19.4**	**-0.9**
GULN				S	**Sn**	**19 55 43.5**	**-1.9**
BERE	**Bereket-Mersin**	**1.98**	**27**	PN	**Pn**	**19 55 20.2**	**-0.3**
KARG	**Kargicak-Mersi**	**2.08**	**38**	PN	**Pn**	**19 55 22.0**	**+0.3**
IKL	**Isikli**	**2.09**	**37**	PN	**Pn**	**19 55 21.4**	**-0.5**
TEVE	**Tevekalti-Mers**	**2.15**	**30**	PN	**Pn**	**19 55 22.5**	**-0.2**
ERMK	**Ermenek**	**2.16**	**17**	P	**Pn**	**19 55 23.5**	**+0.5**
ERMK				S	**Sb**	**19 55 52.3**	**-0.7**
ERMK				*i* AML	AML	19 56 04.0	
	comp=N,143nm,0.9s						
SILI	**Silifke-Mersin**	**2.31**	**39**	PN	**Pn**	**19 55 25.3**	**+0.4**
SILI				SN	**Sb**	**19 55 55.2**	**-2.0**
KEPZ	**Antalya-Kepez**	**2.36**	**350**	P	**Pn**	**19 55 25.7**	**+0.1**
KEPZ				S	**Sb**	**19 55 56.7**	**-1.9**
KIZK	**Mersin**	**2.52**	**40**	PN	**Pn**	**19 55 28.2**	**+0.5**
KIZK				SN	**Sn**	**19 56 00.4**	**+1.8**
KIZK	**Mersin**	**2.52**	**40**	P	**Pn**	**19 55 28.0**	**+0.3**
KIZK				S	**Sn**	**19 55 59.9**	**+1.3**
KKBE	**Karaman, Kazim**	**2.72**	**14**	P	**Pn**	**19 55 32.5**	**+1.8**
KKBE				S	**Sb**	**19 56 08.6**	**-0.5**
KRMN	**Karaman**	**2.75**	**19**	PN	**Pn**	**19 55 31.6**	**+0.5**
KORT	**Korkueli**	**2.81**	**330**	PN	**Pn**	**19 55 31.8**	**-0.2**
KORT	**Korkueli**	**2.81**	**330**	P	**Pg**	**19 55 40.2**	**-0.2**
KORT				S	**Sg**	**19 56 20.6**	**+3.8**
ELL	**Elmali**	**2.82**	**321**	PN	**Pn**	**19 55 31.5**	**-0.5**
SEYD	**Seydisehir-KON**	**2.83**	**355**	PN	**Pn**	**19 55 32.9**	**+0.7**
SEDI	**Konya, Seydise**	**2.88**	**354**	P	**Pn**	**19 55 35.2**	**+2.3**
SEDI				S	**Sb**	**19 56 15.0**	**+1.2**
SEDI				*i* AML	AML	19 56 24.0	
	comp=E,84nm,0.7s						
HNTI	**Hanita**	**2.94**	**120**	Pn	**Pn**	**19 55 33.6**	**0.0**
HNTI				Sn	**Sn**	**19 56 08.7**	**-0.6**
MERS	**Mersin**	**3.01**	**40**	PN	**Pn**	**19 55 35.1**	**+0.6**
OFRI	**`Ofer**	**3.08**	**128**	Pn	**Pn**	**19 55 35.6**	**0.0**
OFRI				Sn	**Sn**	**19 56 13.5**	**+0.8**
MMA0B	**Mount Meron ar**	**3.15**	**119**	Pn	**Pn**	**19 55 36.1**	**-0.3**
MMA0B				Sn	**Sn**	**19 56 14.3**	**0.0**
DED	**Mersin**	**3.22**	**42**	P	**Pn**	**19 55 39.3**	**+1.8**
DED				S	**Sn**	**19 56 17.2**	**+1.1**
GEM	**Giv'at Ha'Em**	**3.25**	**114**	Pn	**Pn**	**19 55 37.7**	**-0.1**
GEM				Sn	**Sn**	**19 56 15.3**	**-1.4**
KERG	**Konya-Eregli**	**3.26**	**29**	P	**Pn**	**19 55 40.6**	**+2.5**
KERG				S	**Sn**	**19 56 19.3**	**+1.9**
KERG				*i* AML	AML	19 56 26.0	
	comp=E,67nm,0.7s						
KERG				*i* AML	AML	19 56 28.0	
	comp=N,72nm,0.7s						
CAME	**Cameli-Denizli**	**3.29**	**317**	PN	**Pn**	**19 55 38.4**	**-0.1**
GOLH	**Golhisar**	**3.37**	**323**	P	**Pn**	**19 55 41.5**	**+1.9**
GOLH				*i* AML	AML	19 56 56.0	
	comp=E,84nm,2.6s						
GOLH				*i* AML	AML	19 56 57.0	
	comp=N,95nm,2.6s						
SLTI	**Sal'it**	**3.37**	**133**	Pn	**Pn**	**19 55 40.3**	**+0.8**
SLTI				Sn	**Sn**	**19 56 20.2**	**+0.3**
GULE	**Gulek**	**3.45**	**38**	P	**Pn**	**19 55 42.5**	**+1.7**
GULE				S	**Sb**	**19 56 26.0**	**-4.3**
GULE				*i* AML	AML	19 56 43.0	
	comp=N,53nm,0.9s						
GULE				*i* AML	AML	19 56 50.0	
	comp=E,67nm,0.8s						
YESY	**Yesilyurt**	**3.46**	**22**	PN	**Pn**	**19 55 41.9**	**+1.1**
MMLI	**Mount Malkishu**	**3.48**	**127**	Pn	**Pn**	**19 55 40.6**	**-0.5**
BRDR	**BURDUR-Merkez**	**3.53**	**332**	P	**Pn**	**19 55 43.5**	**+1.7**
DOGA	**KONYA_Doganhis**	**3.54**	**354**	P	**Pn**	**19 55 43.6**	**+1.6**
DOGA				S	**Sb**	**19 56 34.8**	**+2.1**
YAYL	**Yayladag**	**3.57**	**65**	PN	**Pn**	**19 55 42.4**	**+0.1**
BAGO	**Egridir - ISPA**	**3.57**	**343**	P	**Pn**	**19 55 43.8**	**+1.5**
KARA	**Karaisali**	**3.58**	**41**	PN	**Pn**	**19 55 43.3**	**+0.9**
DALY	**Dalyan (Mula)**	**3.60**	**309**	PN	**Pn**	**19 55 42.8**	**+0.2**
YURE	**YUREGIR**	**3.63**	**51**	P	**Pn**	**19 55 43.4**	**+0.3**
YURE				S	**Sn**	**19 56 25.0**	**-1.3**
YURE				*i* AML	AML	19 56 31.0	
	comp=E,77nm,1.9s						
YURE				*i* AML	AML	19 57 22.0	
	comp=N,74nm,1.9s						
YURE				*i* AML	AML	19 57 34.0	
	comp=Z,50nm,1.5s						
HMDT	**Nahal Hemdat**	**3.67**	**128**	Pn	**Pn**	**19 55 44.2**	**+0.6**
APMY	**Acipayam-Deniz**	**3.68**	**322**	PN	**Pn**	**19 55 44.2**	**+0.3**
BASM	**Basmaki-Afyon**	**3.73**	**334**	PN	**Pn**	**19 55 45.2**	**+0.7**
YVAC	**Isparta, Yalva**	**3.75**	**349**	P	**Pn**	**19 55 46.5**	**+1.6**
YVAC				S	**Sn**	**19 56 31.2**	**+1.8**
TAHT	**Tahtakopru-Hat**	**3.77**	**60**	PN	**Pn**	**19 55 45.5**	**+0.5**
AMAZ	**Amatzia**	**3.84**	**142**	Pn	**Pn**	**19 55 46.1**	**+0.2**
TURN	**Turunc**	**3.84**	**306**	PN	**Pn**	**19 55 45.9**	**-0.1**
TURN	**Turunc**	**3.84**	**306**	P	**Pn**	**19 55 46.1**	**+0.2**
TURN				S	**Sn**	**19 56 28.4**	**-3.0**
TURN				*i* AML	AML	19 57 46.0	
	comp=Z,42nm,2.2s						
CMRD	**Camardi-Nigde**	**3.86**	**36**	PN	**Pn**	**19 55 47.6**	**+1.3**
TAVA	**DENIZLI_Tavas**	**3.88**	**319**	P	**Pn**	**19 55 47.6**	**+1.0**
TAVA				S	**Sn**	**19 56 29.4**	**-3.1**
AKO	**Adana**	**3.94**	**42**	P	**Pn**	**19 55 49.2**	**+1.9**
AKO				S	**Sn**	**19 56 35.1**	**+1.3**
KZIL	**AFYON_Kizioren**	**4.00**	**337**	P	**Pn**	**19 55 49.1**	**+0.7**
YER	**Yerkesik**	**4.03**	**310**	PN	**Pn**	**19 55 48.5**	**-0.1**
NIDE	**Nigde/Merkez-G**	**4.03**	**31**	P	**Pn**	**19 55 51.6**	**+2.8**
DSI	**Dead Sea**	**4.06**	**137**	Pn	**Pn**	**19 55 49.1**	**+0.2**
YTIR	**Yattir**	**4.08**	**141**	Pn	**Pn**	**19 55 49.6**	**+0.3**
YTIR				Sn	**Sn**	**19 56 37.4**	**+0.1**
KZIT	**Kziot**	**4.13**	**152**	Pn	**Pn**	**19 55 50.6**	**+0.6**
KZIT				Sn	**Sn**	**19 56 39.6**	**+1.1**
KOZT	**Kozan**	**4.17**	**45**	PN	**Pn**	**19 55 51.8**	**+1.3**
MDBI	**Mazsada**	**4.24**	**139**	Pn	**Pn**	**19 55 51.8**	**+0.4**
DAT	**Datca**	**4.28**	**301**	PN	**Pn**	**19 55 52.0**	**-0.1**
PASA	**Karahalli, USA**	**4.32**	**331**	P	**Pn**	**19 55 52.0**	**-0.6**
PASA				S	**Sn**	**19 56 42.2**	**-1.1**
GHAJ	**Ghor Haditha**	**4.36**	**137**	Pn	**Pn**	**19 55 53.9**	**+0.8**
MLSB	**Milas**	**4.45**	**309**	PN	**Pn**	**19 55 54.6**	**+0.3**
KUZU	**Kuzuini**	**4.59**	**60**	P	**Pn**	**19 55 55.5**	**-0.8**
KUZU				*i* AML	AML	19 56 56.0	
	comp=E,33nm,1.1s						
KUZU				*i* AML	AML	19 57 31.0	
	comp=Z,24nm,1.9s						
BODT	**Bodrum**	**4.63**	**304**	PN	**Pn**	**19 55 55.6**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**4.79**	**316**	PN	**Pn**	**19 55 59.2**	**0.0**
PRNI	**Paran**	**4.87**	**149**	Pn	**Pn**	**19 56 00.6**	**+0.5**
PRNI				Sn	**Sn**	**19 56 57.6**	**+0.9**
KRMI	**Paran Flat**	**4.96**	**153**	Pn	**Pn**	**19 56 02.1**	**+0.7**
HRFI	**Mount Harif**	**5.16**	**151**	Pn	**Pn**	**19 56 04.3**	**+0.2**
HRFI				Sn	**Sn**	**19 57 05.4**	**+1.6**
MBRI	**Mt Berech**	**5.32**	**153**	Pn	**Pn**	**19 56 06.9**	**+0.5**
MBRI				Sn	**Sn**	**19 57 09.2**	**+1.1**
EIL	**Elat**	**5.45**	**153**	Pn	**Pn**	**19 56 08.0**	**-0.1**

JMA ***29*** *19:57:30.4±0.4,23˚N×2˚×123˚0E±1˚0,h60km,MV3.2/12,*
FAR S OFF ISHIGAKIJIMA
TAP ***29*** *19:57:32.2,22˚.88N×122˚.86E,h35km±1km,ML3.1,D*
ISC 29 19:57:27.7±1.3**,22˚.87N**±0˚.03×**122˚.89E**±0˚.03**,h9**km±11km**,**
n82,σ**0s75**/160**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.33**	**262**	*e*P	**Pg**	**19 57 54.3**	**+1.2**
	baz=260						
LDUT				*e*S	**Sg**	**19 58 10.5**	**0.0**
	baz=260						
CHKT	**Chengkung**	**1.43**	**279**	*e*P	**Pg**	**19 57 54.8**	**-0.2**
	baz=279						
CHKT				*e*S	**Sn**	**19 58 12.3**	**-0.4**
	baz=279						
HATJ	**Hateruma jima**	**1.45**	**35**	P	**Pb**	**19 57 54.9**	**+0.1**
HATJ				*e*S	**Sn**	**19 58 13.1**	**-0.1**
EDH	**Donghe**	**1.47**	**274**	*e*P	**Pg**	**19 57 55.9**	**0.0**
	baz=273						
EDH				*e*S	**Sn**	**19 58 12.4**	**-1.3**
	baz=273						
HGSD	**Ruisui**	**1.49**	**295**	P	**Pg**	**19 57 56.0**	**-0.2**
	baz=294						
HGSD				*e*S	**Sn**	**19 58 12.8**	**-1.4**
	baz=294						
LYUB	**Lan-yu**	**1.49**	**235**	*e*P	**Pg**	**19 57 56.8**	**+0.5**
	baz=233						
LYUB				*e*S	**Sb**	**19 58 14.5**	**0.0**
	baz=233						
LAY	**Lan-yu**	**1.49**	**237**	*e*P	**Pg**	**19 57 56.4**	**+0.1**
	baz=235						
LAY				*e*S	**Sb**	**19 58 14.5**	**-0.2**
	baz=235						
FULB	**Fuli**	**1.51**	**283**	*e*P	**Pg**	**19 57 56.4**	**-0.3**
	baz=282						
FULB				*e*S	**Sn**	**19 58 13.8**	**-1.0**
	baz=282						
EYUL	**Yuli**	**1.52**	**288**	*e*P	**Pg**	**19 57 56.8**	**-0.2**
	baz=288						
EYUL				*e*S	**Sn**	**19 58 15.0**	**-0.1**
	baz=288						
YULB	**Yu-li**	**1.56**	**290**	P	**Pg**	**19 57 57.5**	**-0.1**
	baz=289						
YULB				*e*S	**Sn**	**19 58 16.0**	**0.0**
	baz=289						
EGFH	**Guangfu**	**1.56**	**301**	*e*P	**Pg**	**19 57 57.6**	**-0.1**
	baz=300						
EGFH				*e*S	**Sn**	**19 58 15.9**	**-0.2**
	baz=300						
EHY	**Hungye**	**1.58**	**294**	*e*P	**Pg**	**19 57 58.0**	**0.0**
	baz=293						
EHY				*e*S	**Sn**	**19 58 16.3**	**-0.1**
	baz=293						
YOJ	**Yonaguni jima**	**1.59**	**4**	*e*P	**Pg**	**19 57 58.3**	**+0.2**
	baz=4.0						
YOJ				*e*S	**Sb**	**19 58 17.5**	**+0.1**
	baz=4.0						
YOJ	**Yonaguni jima**	**1.59**	**4**	*e*P	**Pg**	**19 57 57.7**	**-0.4**
YOJ				S	**Sb**	**19 58 18.1**	**+0.7**
LONT	**Longtian**	**1.63**	**272**	*e*P	**Pg**	**19 57 58.5**	**-0.4**
	baz=271						
LONT				*e*S	**Sb**	**19 58 18.1**	**-0.5**
	baz=271						
ESL	**Shilin**	**1.64**	**305**	*e*P	**Pb**	**19 57 58.4**	**+0.3**
	baz=305						
ESL				*e*S	**Sn**	**19 58 17.1**	**-0.8**
	baz=305						
IRIF	**Iriomote-Funau**	**1.65**	**28**	P	**Pb**	**19 57 58.1**	**-0.1**
IRIF				*e*S	**Sn**	**19 58 18.5**	**+0.4**
TWGBT	**Beinan**	**1.67**	**269**	P	**Pg**	**19 57 59.1**	**-0.7**
	baz=267						
TWGBT				S	**Sn**	**19 58 18.8**	**0.0**
	baz=267						
TWG	**Pinlang**	**1.68**	**269**	P	**Pb**	**19 57 59.1**	**+0.3**
	baz=267						
TWG				S	**Sn**	**19 58 18.5**	**-0.5**
	baz=267						
TWD	**Chiawan**	**1.69**	**316**	*e*P	**Pb**	**19 57 59.2**	**+0.2**
	baz=316						
TWD				*e*S	**Sn**	**19 58 18.8**	**-0.5**
	baz=316						
JKRS	**Kuro-shima**	**1.70**	**37**	P	**Pb**	**19 57 59.2**	**0.0**
JKRS				S	**Sn**	**19 58 19.8**	**+0.3**
ETL	**Fush Village**	**1.73**	**318**	*e*P	**Pb**	**19 57 59.8**	**0.0**
	baz=318						
ETL				*e*S	**Sn**	**19 58 19.9**	**-0.5**
	baz=318						
ELDTW	**Lidau**	**1.76**	**281**	P	**Pb**	**19 57 60.0**	**-0.2**
	baz=280						
ELDTW				*e*S	**Sn**	**19 58 20.3**	**-0.8**
	baz=280						
NACB	**Ninganchiao**	**1.76**	**318**	P	**Pb**	**19 57 59.9**	**-0.3**
	baz=318						
NACB				S	**Sn**	**19 58 20.0**	**-1.0**
	baz=318						
ECL	**Taimali**	**1.81**	**262**	*e*P	**Pb**	**19 58 00.7**	**-0.4**
	baz=260						
ECL				*e*S	**Sn**	**19 58 21.7**	**-0.5**
	baz=260						
VWDT	**VWDT**	**1.83**	**299**	*i* P	**Pb**	**19 58 01.7**	**+0.2**
	baz=298						
VWDT				*i* S	**Sn**	**19 58 22.8**	**0.0**
	baz=298						
ETLH	**Xiulin Townshi**	**1.86**	**316**	*e*P	**Pb**	**19 58 01.8**	**-0.1**
	baz=316						
ETLH				*e*S	**Sn**	**19 58 23.3**	**-0.2**
	baz=316						
EWUT	**Wuta**	**1.87**	**327**	*e*P	**Pb**	**19 58 01.4**	**-0.6**
	baz=327						
EWUT				*e*S	**Sn**	**19 58 23.8**	**+0.1**
	baz=327						
ENA	**Nanau**	**1.88**	**326**	*e*P	**Pb**	**19 58 02.1**	**-0.1**
	baz=326						
ENA				*e*S	**Sn**	**19 58 24.0**	**+0.2**
	baz=326						
JIJ	**Ishigaki jima**	**1.88**	**37**	P	**Pb**	**19 58 01.1**	**-1.1**
JIJ				S	**Sn**	**19 58 22.6**	**-1.2**
YUS	**Yu-Shan**	**1.89**	**289**	*e*P	**Pb**	**19 58 02.2**	**-0.5**
	baz=289						
YUS				*e*S	**Sn**	**19 58 23.5**	**-1.3**
	baz=289						
TAWH	**Dawu Township**	**1.93**	**254**	*e*P	**Pb**	**19 58 02.5**	**-0.5**
	baz=253						
TAWH				*e*S	**Sn**	**19 58 25.0**	**-0.1**
	baz=253						
EAST	**Anshuo**	**1.95**	**256**	*e*P	**Pb**	**19 58 02.8**	**-0.6**
	baz=255						
EAST				*e*S	**Sn**	**19 58 25.7**	**0.0**
	baz=255						
WHF	**Hehuan Shan**	**1.96**	**311**	P	**Pb**	**19 58 03.3**	**-0.5**
	baz=310						
WHF				S	**Sn**	**19 58 26.1**	**-0.4**
	baz=310						
CHGB	**Renai**	**1.97**	**307**	P	**Pb**	**19 58 03.7**	**-0.3**
	baz=307						
CHGB				S	**Sn**	**19 58 26.6**	**+0.1**
	baz=307						
STYH	**Taoyuan**	**1.97**	**279**	*e*P	**Pb**	**19 58 03.1**	**-0.6**
	baz=278						
STYH				*e*S	**Sn**	**19 58 25.8**	**-0.4**
	baz=278						
WUSB	**Renai**	**1.98**	**305**	P	**Pb**	**19 58 03.7**	**-0.2**
	baz=304						
WUSB				*e*S	**Sn**	**19 58 26.6**	**+0.1**
	baz=304						
TWC	**Suao**	**1.98**	**331**	*e*P	**Pb**	**19 58 03.8**	**-0.1**
	baz=332						
TWC				*e*S	**Sn**	**19 58 26.4**	**+0.1**
	baz=332						
SSLB	**Suanglung**	**2.00**	**297**	*e*P	**Pb**	**19 58 03.6**	**-0.7**
	baz=297						
SSLB				*e*S	**Sn**	**19 58 26.3**	**-0.7**
	baz=297						
ALS	**Alishan**	**2.02**	**289**	*e*P	**Pb**	**19 58 04.2**	**-0.7**
	baz=288						
ALS				*e*S	**Sn**	**19 58 26.7**	**-1.2**
	baz=288						
FUSS	**Fushou**	**2.04**	**312**	*e*P	**Pb**	**19 58 04.2**	**-0.9**
	baz=312						
FUSS				*e*S	**Sn**	**19 58 27.7**	**-0.5**
	baz=312						
SLIU	**Shizi**	**2.04**	**252**	*e*P	**Pb**	**19 58 04.1**	**-0.9**
	baz=250						
SLIU				*e*S	**Sn**	**19 58 27.3**	**-0.7**
	baz=250						
WHYT	**Xinyi Township**	**2.05**	**294**	*e*P	**Pb**	**19 58 04.5**	**-0.6**
	baz=293						
WHYT				*e*S	**Sn**	**19 58 28.1**	**0.0**
	baz=293						
LATG	**Datong**	**2.08**	**323**	P	**Pb**	**19 58 05.0**	**-0.6**
	baz=323						
LATG				*e*S	**Sn**	**19 58 28.1**	**-0.8**
	baz=323						
NNSB	**Datong**	**2.08**	**319**	*e*P	**Pb**	**19 58 04.9**	**-0.8**
	baz=318						
NNSB				*e*S	**Sn**	**19 58 28.7**	**-0.3**
	baz=318						
SMST	**Manzhou Townsh**	**2.08**	**246**	*e*P	**Pb**	**19 58 04.8**	**-0.9**
	baz=245						
SMST				*e*S	**Sn**	**19 58 28.7**	**-0.2**
	baz=245						
TSMG	**Majia**	**2.08**	**266**	*e*P	**Pb**	**19 58 04.9**	**-0.8**
	baz=265						
TSMG				*e*S	**Sn**	**19 58 28.7**	**-0.2**
	baz=265						
TSEB	**Hengchuen, Pin**	**2.08**	**243**	*e*S	**Sn**	**19 58 29.9**	**+1.0**
	baz=242						
SMLT	**Sun Moon Lake**	**2.09**	**299**	*e*P	**Pb**	**19 58 05.0**	**-0.9**
	baz=299						
NNS	**Nan Shan**	**2.09**	**319**	*e*P	**Pb**	**19 58 05.1**	**-0.8**
	baz=318						
NNS				*e*S	**Sn**	**19 58 28.9**	**-0.5**
	baz=318						
MASBT	**Mashibuluo**	**2.10**	**263**	P	**Pb**	**19 58 05.0**	**-1.0**
	baz=262						
MASBT				*e*S	**Sn**	**19 58 29.1**	**-0.4**
	baz=262						
TPUB	**Ta-pu**	**2.13**	**282**	*e*P	**Pb**	**19 58 05.7**	**-0.7**
	baz=281						
TPUB				*e*S	**Sn**	**19 58 29.8**	**-0.3**
	baz=281						
WTP	**Ta-pu**	**2.13**	**281**	*e*P	**Pb**	**19 58 05.6**	**-1.0**
	baz=280						
WTP				*e*S	**Sn**	**19 58 30.5**	**+0.2**
	baz=280						
TYC	**Yuchr**	**2.13**	**299**	*e*P	**Pb**	**19 58 05.3**	**-1.2**
	baz=299						
TWKBT	**Hengchun**	**2.14**	**245**	P	**Pb**	**19 58 05.6**	**-1.0**
	baz=243						
TWKBT				S	**Sn**	**19 58 30.1**	**-0.1**
	baz=243						
SGST	**Jiashian**	**2.14**	**276**	*e*P	**Pb**	**19 58 05.6**	**-1.1**
	baz=275						
SGST				*e*S	**Sn**	**19 58 29.9**	**-0.4**
	baz=275						
ENTT	**Nioudou**	**2.14**	**326**	*e*P	**Pb**	**19 58 05.5**	**-1.2**
	baz=326						
ENTT				*e*S	**Sn**	**19 58 30.0**	**-0.4**
	baz=326						
TWK1	**Hengchun**	**2.14**	**245**	*e*P	**Pb**	**19 58 05.7**	**-1.0**
	baz=243						
TWK1				*e*S	**Sn**	**19 58 29.8**	**-0.5**
	baz=243						
JISG	**Ishigakijimahi**	**2.15**	**37**	P	**Pn**	**19 58 04.7**	**+1.0**
JISG				S	**Sn**	**19 58 29.1**	**-1.4**
TWE	**Neicheng**	**2.16**	**329**	*e*P	**Pb**	**19 58 05.7**	**-1.2**
	baz=329						
TWE				*e*S	**Sn**	**19 58 30.6**	**-0.1**
	baz=329						
SCZT	**Fangliau**	**2.16**	**257**	*e*P	**Pb**	**19 58 06.2**	**-0.8**
	baz=256						
SCZT				*e*S	**Sn**	**19 58 30.1**	**-0.6**
	baz=256						
CHN5	**Tsauling**	**2.16**	**290**	*e*P	**Pb**	**19 58 06.2**	**-0.9**
	baz=289						
CHN5				*e*S	**Sn**	**19 58 30.5**	**-0.5**
	baz=289						
WCS	**Beigang Elemen**	**2.17**	**303**	*e*P	**Pb**	**19 58 06.0**	**-1.1**
	baz=303						
WCS				*e*S	**Sn**	**19 58 31.0**	**-0.1**
	baz=303						
CHN4	**Tsaushan**	**2.17**	**283**	*e*P	**Pb**	**19 58 06.3**	**-0.8**
	baz=282						
CHN4				*e*S	**Sn**	**19 58 30.8**	**-0.3**
	baz=282						
WCKO	**Fanlu**	**2.18**	**285**	*e*P	**Pb**	**19 58 06.6**	**-0.8**
	baz=285						
WCKO				*e*S	**Sn**	**19 58 31.1**	**-0.3**
	baz=285						
CHN1	**Nanshi**	**2.20**	**279**	*e*P	**Pb**	**19 58 06.7**	**-1.1**
	baz=278						
CHN1				*e*S	**Sn**	**19 58 31.6**	**-0.3**
	baz=278						
SCST	**Cishan**	**2.21**	**271**	*e*P	**Pb**	**19 58 06.7**	**-1.2**
	baz=270						
SCST				*e*S	**Sn**	**19 58 32.0**	**-0.1**
	baz=270						
FUSB	**Fushanzhiwuyua**	**2.23**	**328**	*e*P	**Pb**	**19 58 06.9**	**-1.3**
	baz=328						
FUSB				*e*S	**Sn**	**19 58 31.9**	**-0.7**
	baz=328						
TWK	**Hsinying**	**2.25**	**281**	*e*P	**Pb**	**19 58 07.8**	**-0.7**
	baz=280						
TWK				*e*S	**Sn**	**19 58 32.6**	**-0.6**
	baz=280						
WNT	**Mingjian**	**2.26**	**297**	*e*S	**Sn**	**19 58 33.2**	**-0.2**
	baz=296						
YHNB	**Yeheng**	**2.27**	**322**	*e*P	**Pb**	**19 58 07.7**	**-1.2**
	baz=322						
YHNB				*e*S	**Sn**	**19 58 33.3**	**-0.3**
	baz=322						
NSK	**Sanguang**	**2.28**	**322**	*e*P	**Pb**	**19 58 07.4**	**-1.7**
	baz=322						
NSK				*e*S	**Sn**	**19 58 33.6**	**-0.3**
	baz=322						
NWLT	**Wulai**	**2.29**	**326**	*e*P	**Pb**	**19 58 07.8**	**-1.4**
	baz=326						
NWLT				*e*S	**Sn**	**19 58 33.6**	**-0.3**
	baz=326						
TIPB	**Shuangxi**	**2.31**	**335**	*e*P	**Pb**	**19 58 08.3**	**-1.2**
	baz=335						
TIPB				*e*S	**Sn**	**19 58 34.2**	**-0.4**
	baz

HEF	**Hetta**	**1.44**	**69**	PN	Pb	20 04 10.3	0.0	
HEF				MSG		20 04 26.0		
	comp=Z,1.6nm,0.2s							
HEF				SG	Sg	20 04 28.8	-0.1	
HEF	**Hetta**	**1.44**	**69**	*e*P	Pn	20 04 09.6	-0.4	
PAJU	**Pajala**	**1.49**	**126**	PG	Pn	20 04 09.5	-1.2	
	baz=305							
PAJU				SG	Sg	20 04 28.0	-2.5	
ERTU	**Ertsjaerv**	**1.61**	**148**	PG	Pn	20 04 11.9	-0.4	
ERTU				SG	Sn	20 04 31.5	-2.2	
KTK1	**Kautokeino**	**1.61**	**46**	PN	Pg	20 04 14.3	+0.8	
KTK1				SN	Sg	20 04 36.8	+2.5	
KLF	**Kolari**	**1.66**	**113**	SN	Sn	20 04 33.8	-1.2	
TOF	**Tornio**	**2.50**	**136**	PB	Pn	20 04 25.9	+1.4	
TOF				MSG		20 04 56.5		
	comp=Z,2.1nm,0.2s							
TOF				SB	Sb	20 04 57.8	-1.9	
SGF	**Sodankyl**	**2.52**	**98**	SG	Sb	20 05 01.0	+0.6	
ARA0	**ARCESS Array S**	**2.57**	**48**	PG	Pb	20 04 28.1	-1.5	
	baz=229							
ARA0				SB	Sb	20 05 00.4	-1.3	
RNF	**Rovaniemi**	**2.67**	**117**	PB	Pb	20 04 29.3	-2.0	
RNF				SB	Sb	20 05 02.3	-2.3	
KEV	**Kevo**	**3.13**	**51**	MSG		20 05 14.4		
	comp=Z,0.7nm,0.2s							
KEV				SG	Sb	20 05 18.4	+0.7	

NEIC ***29*** *20:09:39.4±2.1,51.61N×16.16E±0.09,h5km±1km, mb4.3/20,Mwr4.2/10,Error ellipse: s-maj=9.9km s-min=2.9km az=263.0*

LDG ***29*** *20:09:39.0±0.1,51.60N×16.35E,h1km,Ml4.6/47,Error ellipse: s-maj=2.6km s-min=1.9km az=173.0,Suspected Mining induced.*

NEIC ***29*** *20:09:39.4,51.61N×16.16E,h1km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; Mrr0.40; Mθθ-0.26; Mφφ-0.14; Mrθ1.93; Mrφ0.04; Mθφ-1.34; Fault plane solution: M0 2.38000×10^{15} NP1:φs124.62000°, δ85.98000°,λ90.93000°. NP2:φs291.57000°,δ4.12000°, λ76.99000°. Principal axes: T 2.4454, Plg49.0000°, Azm36.0000°; N -0.1394, Plg1.0000°, Azm305.0000°; P -2.3061, Plg41.0000°, Azm214.0000°;*

IPEC ***29*** *20:09:39.2±0.3,51.62N×16.26E,h0km,ML3.9/5 Error ellipse: s-maj=2.0km s-min=1.2km az=32.0,Mining induced.*

MOS ***29*** *20:09:39.6±1.4,51.57N×16.16E,h11km,mb4.6/12,Error ellipse: s-maj=6.4km s-min=3.8km az=80.4*

MCSM ***29*** *20:09:40.7±0.5,52.N±4.×1.6E±.,h6km±2km,mb4.4*

PRU ***29*** *20:09:40.8±0.0,51.55N×16.22E,h0km,M4.3,Felt In Ponikla, Harrachov*

DNK ***29*** *20:09:40.2±2.4,51.58N×16.12E,h0km,ML3.3, ML3.1(UPP),Suspected explosion*

BGR ***29*** *20:09:41.4±0.3,51.52N×16.22E,h1km,ML4.3/16,Error ellipse: s-maj=4.4km s-min=2.2km az=20.0*

IDC ***29*** *20:09:42.3±2.1,51.47N×16.03E,h11km±15km,mb4.0/8, mbtmp3.9/16,ML3.3/7,Error ellipse: s-maj=9.7km s-min=7.2km az=89.0*

UPP ***29*** *20:09:43.0±2.9,51.64N×15.55E,h0km,ML3.1,Suspected explosion*

BNS ***29*** *20:09:43.0±0.3,51.61N×15.98E,h1km,ML4.2*

BER ***29*** *20:09:46.2±1.9,51.88N×15.26E,h5km,ML2.6, MW4.2(USGS)*

ISC 29 20:09:39.1±0.3,51.57N±0.02×16.14E±0.02,h0km,n419, σ2s11/543,mb4.3/27,14C-28D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**172**	*i* Pg	**Pb**	**20 09 54.4**	**-0.3**
KSP				*e*Sg	**Sg**	**20 10 03.4**	**+0.8**
KSP	**Ksiaz**	**0.73**	**172**	Pg	**Pb**	**20 09 54.4**	**-0.3**
KSP				Sg	**Sg**	**20 10 03.4**	**+0.8**
KSP	**Ksiaz**	**0.73**	**172**	*e*Pg	**Pb**	**20 09 54.5**	**-0.2**
KSP				*e*Sg	**Sg**	**20 10 03.4**	**+0.8**
KSP	**Ksiaz**	**0.73**	**172**	Pg	**Pg**	**20 09 53.9**	**+0.8**
KSP	**Ksiaz**	**0.73**	**172**	P	**Pb**	**20 09 54.4**	**-0.3**
KSP						20 10 03.4	
CHVC	**Chvalec**	**0.98**	**183**	*e*PG	**Pg**	**20 09 58.2**	**+0.3**
CHVC				*e*SG	**Sg**	**20 10 11.8**	**+1.2**
	comp=Z,624nm,0.7s						
CHVC	**Chvalec**	**0.98**	**183**	Pg	**Pb**	**20 09 59.3**	**+0.3**
OSTC	**Ostas**	**1.01**	**177**	*e*PG	**Pb**	**20 09 59.4**	**-0.1**
OSTC				*e*SG	**Sg**	**20 10 12.2**	**+0.6**
	comp=Z,3μm,1.0s						
OSTC	**Ostas**	**1.01**	**177**	Pg	**Pb**	**20 09 59.8**	**+0.3**
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**20 09 59.9**	**+0.4**
UPC				*e*SG	**Sg**	**20 10 14.0**	**+0.7**
	comp=Z,1μm,0.5s						
UPC	**Upice**	**1.06**	**184**	Pg	**Pb**	**20 10 00.5**	**+0.1**
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*PG	**Pb**	**20 10 03.2**	**+0.1**
DPC				*e*SG	**Sb**	**20 10 19.8**	**+0.3**
	comp=Z,1μm,0.6s						
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*Pg	**Pb**	**20 10 03.2**	**+0.1**
DPC				*e*Sg	**Sn**	**20 10 20.9**	**+0.1**
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*P	**Pb**	**20 10 03.2**	**+0.1**
DPC				*e*		20 10 19.8	
DPC				smax	smax		
	comp=N,1μm,0.6s						
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pb**	**20 10 07.6**	**+0.9**
PVCC				*e*SG	**Sn**	**20 10 27.4**	**+1.4**
	comp=N,3μm,0.5s						
PVCC	**Panska Ves**	**1.44**	**224**	*e*P	**Pb**	**20 10 07.6**	**+0.9**
PVCC				*e*		20 10 27.4	
PVCC				smax	smax		
	comp=N,3μm,0.5s						
BRG	**Berggiesshubel**	**1.55**	**244**	Pn	**Pb**	**20 10 08.5**	**-0.1**
BRG				Pg	**Pg**	**20 10 10.6**	**+1.9**
BRG				Sg	**Sg**	**20 10 31.1**	**+2.4**
BRG				Amp		20 10 34.9	
	comp=Z,2μm,0.6s						
BRG				Amp		20 10 44.0	
	comp=Z,5.5nm,5.8s						
BRG				Amp		20 10 46.0	
	comp=N,3.5nm,3.8s						
BRG				Amp		20 10 46.0	
	comp=E,4.7nm,5.6s						
BRG	**Berggiesshubel**	**1.55**	**244**	*e*Pn	**Pb**	**20 10 08.7**	**+0.1**
BRG				*e*Pg	**Pg**	**20 10 10.7**	**+2.0**
BRG				*e*Sg	**Sg**	**20 10 31.4**	**+2.6**
BRG	**Berggiesshubel**	**1.55**	**244**	P	**Pb**	**20 10 08.5**	**-0.1**
KRLC	**Kraliky**	**1.55**	**164**	*e*PG	**Pn**	**20 10 08.1**	**+0.1**
KRLC				*e*SG	**Sn**	**20 10 29.0**	**+0.2**
	comp=E,830nm,0.5s						
KRLC	**Kraliky**	**1.55**	**164**	*e*P	**Pn**	**20 10 08.1**	**+0.1**
KRLC				*e*		20 10 29.0	
KRLC				smax	smax		
	comp=N,830nm,0.5s						
GKP	**Gorka Klasztor**	**1.83**	**21**	*e*P	**Pb**	**20 10 13.4**	**-0.1**
GKP				IAML		20 11 41.1	
	comp=Z,73800μm,0.9s						
FBE	**Freiberg**	**1.87**	**251**	*e*Pn	**Pb**	**20 10 13.9**	**-0.1**
FBE				*e*Pg	**Pg**	**20 10 17.1**	**+2.3**
FBE				*e*Sg	**Sg**	**20 10 41.6**	**+2.6**
GOPC	**GO Pecny, Ondr**	**1.87**	**208**	*e*PG	**Pb**	**20 10 14.6**	**+0.6**
GOPC				*e*SG	**Sg**	**20 10 39.7**	**+0.7**
	comp=Z,1μm,1.2s						
GOPC	**GO Pecny, Ondr**	**1.87**	**208**	*e*P	**Pb**	**20 10 14.6**	**+0.6**
GOPC				*e*		20 10 39.7	
GOPC				smax	smax		
	comp=N,1μm,1.2s						
PRU	**Pruhonice**	**1.88**	**213**	*e*PG	**Pb**	**20 10 13.7**	**-0.6**
PRU				*e*SG	**Sg**	**20 10 40.4**	**+1.0**
	comp=N,628nm,0.6s						
PRU	**Pruhonice**	**1.88**	**213**	*e*P	**Pb**	**20 10 13.7**	**-0.6**
PRU				*e*		20 10 40.4	
PRU				smax	smax		
	comp=N,628nm,0.6s						
RAC	**Raciborz**	**1.98**	**138**	*e*PG	**Pg**	**20 10 16.8**	**-0.2**
RAC				*e*SG	**Sg**	**20 10 43.2**	**+0.6**
RAC	**Raciborz**	**1.98**	**138**	*e*P	**Pg**	**20 10 16.8**	**-0.2**
RAC				*e*		20 10 43.2	
CLL	**Collm**	**1.98**	**264**	Pn	**Pn**	**20 10 14.2**	**+0.3**
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**20 10 15.0**	**+1.2**
CLL				*e*Pg	**Pg**	**20 10 18.0**	**+1.0**
CLL				*ex*	x	20 10 21.0	
CLL				*i* x	x	20 10 24.9	
CLL				*e*Sg	**Sg**	**20 10 45.0**	**+2.3**
	comp=Z,714nm,0.8s						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**20 10 14.6**	**+0.8**
CLL				*e*Pg	**Pg**	**20 10 18.9**	**+1.9**
CLL				*e*Sg	**Sg**	**20 10 45.7**	**+3.1**
CLL	**Collm**	**1.98**	**264**	*e*P	**Pn**	**20 10 15.0**	**+1.2**
CLL				*e*		20 10 45.0	
MORC	**Moravsky Berou**	**2.00**	**153**	⇑P	**Pn**	**20 10 14.6**	**+0.3**
MORC	**Moravsky Berou**	**2.00**	**153**	Pn	**Pn**	**20 10 14.5**	**+0.3**
MORC				Sn	**Sn**	**20 10 40.7**	**+0.7**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**20 10 14.7**	**+0.3**
MORC				*e*Sg	**Sb**	**20 10 42.6**	**+0.7**
MORC	**Moravsky Berou**	**2.00**	**153**	Pn	**Pn**	**20 10 14.5**	**+0.3**
MORC				Sn	**Sn**	**20 10 40.6**	**+0.6**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*PN	**Pn**	**20 10 14.6**	**+0.3**
MORC				*e*SG	**Sb**	**20 10 42.8**	**+0.8**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**20 10 14.5**	**+0.3**
	baz=337						
MORC				*e*Sg	**Sb**	**20 10 42.7**	**+0.8**
	comp=Z,627nm,0.7s,baz=337						
MORC	**Moravsky Berou**	**2.00**	**153**	P	**Pn**	**20 10 14.5**	**+0.3**
MORC						20 10 40.7	
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*PN	**Pn**	**20 10 16.1**	**-0.1**
OKC				*e*PG	**Pb**	**20 10 19.6**	**+0.7**
OKC				*e*SG	**Sb**	**20 10 46.7**	**+0.6**
	comp=Z,1μm,1.1s						
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*Pn	**Pn**	**20 10 16.1**	**-0.1**
OKC				*e*Pg	**Pg**	**20 10 20.9**	**+0.6**
OKC				*e*Sg	**Sb**	**20 10 47.3**	**+1.1**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*P	**Pn**	**20 10 16.1**	**-0.1**
OKC				*e*		20 10 46.7	
OKC				smax	smax		
	comp=N,1μm,1.1s						
VRAC	**Vranov**	**2.28**	**173**	⇓P	**Pn**	**20 10 18.8**	**+0.7**
VRAC				⇓S	**Sg**	**20 10 51.7**	**-0.6**
VRAC	**Vranov**	**2.28**	**173**	Pn	**Pn**	**20 10 19.2**	**+1.2**
	comp=N,15nm,0.3s,baz=343,slow=14,SNR=71						
VRAC				Lg	Lg	20 10 52.2	
	comp=N,57nm,0.3s,baz=76,slow=22,SNR=5.1						
	comp=N,65nm,0.4s						
VRAC	**Vranov**	**2.28**	**173**	*e*PN	**Pn**	**20 10 18.7**	**+0.7**
VRAC				*e*SG	**Sg**	**20 10 52.2**	**-0.1**
VRAC	**Vranov**	**2.28**	**173**	*e*Pn	**Pn**	**20 10 18.6**	**+0.6**
	baz=355						
VRAC				*e*Sg	**Sg**	**20 10 52.2**	**-0.1**
	comp=N,624nm,0.7s,baz=355						
TREC	**Trest**	**2.31**	**191**	*e*PN	**Pn**	**20 10 19.4**	**+0.9**
TREC				*e*SG	**Sg**	**20 10 53.1**	**-0.3**
	comp=N,633nm,0.8s						
TREC	**Trest**	**2.31**	**191**	*e*P	**Pn**	**20 10 19.4**	**+0.9**
TREC				*e*		20 10 53.1	
TREC				smax	smax		
	comp=N,633nm,0.8s						
MAUC	**Maruska**	**2.46**	**153**	*e*PN	**Pn**	**20 10 21.3**	**+0.9**
MAUC				*e*SG	**Sg**	**20 10 56.7**	**-1.2**
	comp=N,1μm,0.6s						
KRUC	**Moravsky**	**2.52**	**176**	*e*PN	**Pn**	**20 10 22.2**	**+1.0**
KRUC				*e*SG	**Sg**	**20 10 59.6**	**-0.3**
KRUC	**Moravsky**	**2.52**	**176**	*e*Pn	**Pn**	**20 10 22.1**	**+0.9**
	baz=358						
KRUC				*e*Sg	**Sg**	**20 10 59.5**	**-0.3**
	comp=N,651nm,0.8s,baz=358						
TANN	**Tannenbergstha**	**2.59**	**245**	*e*Pn	**Pn**	**20 10 24.0**	**+1.6**
TANN				*e*Pg	**Pg**	**20 10 31.2**	**+2.4**
TANN				*e*Sg	**Sg**	**20 11 04.4**	**+2.0**
WERD	**Werda**	**2.67**	**247**	*e*Pn	**Pn**	**20 10 24.7**	**+1.4**
WERD				*e*Pg	**Pg**	**20 10 32.0**	**+1.8**
WERD				*e*Sg	**Sg**	**20 11 05.8**	**+1.1**
OJC	**Ojcow**	**2.68**	**119**	*e*Pn	**Pn**	**20 10 19.5**	**-4.0**
OJC				*i* Pg	**Pb**	**20 10 29.1**	**+1.1**
OJC				*i* Sg	**Sg**	**20 11 03.7**	**-1.5**
OJC	**Ojcow**	**2.68**	**119**	Pn	**Pn**	**20 10 19.2**	**-4.3**
OJC					**Sb**	**20 11 01.1**	**-0.2**
OJC	**Ojcow**	**2.68**	**119**	P	**Pn**	**20 10 19.2**	**-4.3**
OJC						20 11 01.1	
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**20 10 25.3**	**+1.6**
NKC				*e*SG	**Sg**	**20 11 07.3**	**+1.8**
	comp=N,2μm,0.9s						
NKC	**Novy Kostel**	**2.69**	**242**	Pn	**Pn**	**20 10 25.1**	**+1.4**
NKC	**Novy Kostel**	**2.69**	**242**	*e*P	**Pn**	**20 10 25.3**	**+1.6**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*Pn	**Pn**	**20 10 26.7**	**+0.4**
	baz=342						
KHC	**Kasperske Hory**	**2.94**	**215**	Pn	**Pn**	**20 10 27.6**	**+0.5**
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**20 10 28.4**	**+1.3**
KHC				*e*PG	**Pb**	**20 10 34.1**	**+1.7**
KHC				*e*SG	**Sg**	**20 11 14.0**	**+0.5**
	comp=N,714nm,1.0s						
KHC	**Kasperske Hory**	**2.94**	**215**	Pn	**Pn**	**20 10 27.8**	**+0.7**
KHC	**Kasperske Hory**	**2.94**	**215**	*c*e*P	**Pn**	**20 10 28.1**	**+1.0**
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e*PN	**Pn**	**20 10 29.9**	**+2.1**
CKRC				*e*SG	**Sg**	**20 11 15.1**	**-0.1**
MOX	**Moxa**	**3.00**	**254**	*e*Pn	**Pn**	**20 10 29.1**	**+1.3**
MOX				*e*Pg	**Pg**	**20 10 38.1**	**+1.6**
MOX				*e*Sg	**Sg**	**20 11 18.4**	**+3.0**
MANZ	**Manzenberg**	**3.01**	**240**	*e*Pn	**Pn**	**20 10 29.6**	**+1.6**
MANZ				*e*Pg	**Pg**	**20 10 39.0**	**+2.2**
MANZ				*e*Sg	**Sg**	**20 11 18.4**	**+2.7**
ROTZ	**Rotzenmuhle**	**3.08**	**236**	*e*Pn	**Pn**	**20 10 30.5**	**+1.5**
ROTZ				*e*Pg	**Pg**	**20 10 40.3**	**+2.1**
ROTZ				*e*Sg	**Sg**	**20 11 18.3**	**+0.2**
GEC2	**GERESS Array S**	**3.14**	**211**	Pn	**Pn**	**20 10 30.6**	**+0.7**
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn	**Pn**	**20 10 30.9**	**+1.0**
GEC2				*e*Pg	**Pg**	**20 10 40.7**	**+1.4**
GEC2				*e*Sg	**Sg**	**20 11 19.5**	**-0.5**
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**20 10 28.9**	**-1.0**
	comp=N,5.7nm,0.3s,baz=32,slow=11,SNR=124						
GERES				Lg	Lg	20 11 18.8	
	comp=N,37nm,0.3s,baz=38,slow=27,SNR=10						
	comp=N,16nm,0.5s						
GERES	**GERESS Array B**	**3.14**	**211**	*e*P	**Pn**	**20 10 31.0**	**+1.0**
GERES				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SMOL	**Smolenice**	**3.17**	**164**	*e*P	**Pn**	**20 10 32.1**	**+1.9**
SMOL				pmax	pmax		
	comp=N,231nm,0.8s						
WET	**Wettzell**	**3.20**	**222**	*e*Pn	**Pn**	**20 10 31.8**	**+1.2**
WET				*e*Sg	**Sg**	**20 11 22.4**	**+0.5**
MODS	**Modra-Piesok**	**3.28**	**167**	*e*PN	**Pn**	**20 10 34.3**	**+2.5**
MODS				*e*PG	**Pg**	**20 10 43.0**	**+1.1**
MODS				*e*SG	**Sg**	**20 11 25.8**	**+1.3**
MODS				*e*LG	Lg	20 11 41.8	
MODS	**Modra-Piesok**	**3.28**	**167**	*e*P	**Pn**	**20 10 34.3**	**+2.5**
MODS				pmax	pmax		
	comp=N,983nm,1.0s						
NIE	**Niedzica**	**3.42**	**127**	*e*Pn	**Pn**	**20 10 36.1**	**+2.5**
NIE				*e*		20 10 44.4	
NIE				*e*Pg	**Pg**	**20 10 47.7**	**+3.1**
NIE				*e*Sg	**Sg**	**20 11 32.2**	**+3.3**
ZST	**Bratislava**	**3.43**	**169**	*e*PN	**Pn**	**20 10 35.0**	**+1.2**
ZST				*e*PG	**Pg**	**20 10 45.8**	**+1.0**
ZST				*e*SG	**Sg**	**20 11 31.3**	**+2.0**
ZST				*e*LG	Lg	20 11 43.7	
ZST	**Bratislava**	**3.43**	**169**	*e*P	**Pn**	**20 10 35.0**	**+1.2**
ZST				pmax	pmax		
	comp=N,1μm,1.7s						
RGN	**Rugen**	**3.44**	**331**	Pn	**Pn**	**20 10 31.9**	**-2.0**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**20 10 35.7**	**+0.5**
VYHS				*e*PG	**Pg**	**20 10 51.3**	**+4.5**
VYHS				*e*SG	**Sg**	**20 11 34.8**	**+2.2**
VYHS				*e*LG	Lg	20 11 51.2	
VYHS	**Vyhne**	**3.54**	**149**	*e*P	**Pn**	**20 10 35.7**	**+0.5**
VYHS				pmax	pmax		
	comp=N,156nm,1.0s						
CLZ	**Clausthal**	**3.60**	**277**	*e*Pn	**Pn**	**20 10 38.6**	**+2.4**
CLZ				*e*Pg	**Pg**	**20 10 50.2**	**+2.2**
CLZ				*e*Sg	**Sg**	**20 11 37.3**	**+2.7**
BSD	**Bornholm Skovb**	**3.63**	**349**	*e*P	**Pn**	**20 10 36.9**	**+0.5**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**20 10 37.9**	**+1.5**
BSD				*i* S	**Sn**	**20 11 20.4**	**+0.4**
BSD				IAML		20 11 28.0	
	comp=Z,40nm,0.5s						
CONA	**Conrad Observa**	**3.65**	**183**	*i* Pn	**Pn**	**20 10 38.2**	**+1.4**
	comp=Z,8.3nm,0.4s,SNR=26						
CONA				*e*Pg	**Pg**	**20 10 48.5**	**-0.5**
	comp=Z,94nm,0.4s						
CONA				Sg	**Sg**	**20 11 37.7**	**+1.5**
	comp=Z,216nm,0.6s						
GRA1	**Grafenberg Arr**	**3.65**	**241**		**Pn**	**20 10 37.5**	**+0.7**
GRF	**Grafenberg Arr**	**3.65**	**241**	*e*Pn	**Pn**	**20 10 38.7**	**+1.9**
GRF				*e*Pg	**Pg**	**20 10 51.8**	**+2.8**
GRF				*e*Sg	**Sg**	**20 11 38.8**	**+2.5**
GRF	**Grafenberg Arr**	**3.65**	**241**	P	**Pn**	**20 10 37.5**	**+0.7**
GRFO	**Grafenberg**	**3.65**	**241**	Pn	**Pn**	**20 10 37.4**	**+0.6**
GRFO	**Grafenberg**	**3.65**	**241**	P	**Pn**	**20 10 37.4**	**+0.6**
RONA	**Rosalia, Austr**	**3.87**	**178**		**Pn**	**20 10 41.1**	**+1.1**
RONA					**Sg**	**20 11 43.9**	**+0.4**
RONA	**Rosalia, Austr**	**3.87**	**178**	*i* Pn	**Pn**	**20 10 41.0**	**+1.1**
	comp=Z,4.8nm,0.3s						
RONA				Sg	**Sg**	**20 11 43.9**	**+0.4**
	comp=Z,105nm,0.5s						
SOP	**Sopron**	**3.90**	**176**	P	**Pn**	**20 10 41.3**	**+1.1**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PN	**Pn**	**20 10 40.8**	**+0.5**
STHS				*e*PG	**Pg**	**20 10 53.6**	**-0.3**
STHS				*e*SN	Sn	20 11 12.5	-14
STHS				*e*SG	**Sg**	**20 11 45.7**	**+1.2**
STHS				*e*LG	Lg	20 11 59.2	
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*P	**Pn**	**20 10 40.8**	**+0.5**
STHS				pmax	pmax		
	comp=N,307nm,0.7s						
KLNR	**Kaliningrad**	**3.91**	**37**	⇑*e*P	**Pn**	**20 10 44.1**	**+3.8**
MOA	**Molln**	**3.92**	**199**	*e*Pn	**Pn**	**20 10 41.5**	**+1.0**
	comp=N,28nm,0.4s,SNR=41						
MOA				Sg	**Sg**	**20 11 45.4**	**+0.5**
	comp=N,382nm,0.8s						
KECS	**Kecovo**	**4.17**	**136**	*e*PN	**Pn**	**20 10 44.3**	**+0.4**
KECS				*e*PG	**Pg**	**20 11 00.2**	**+1.2**
KECS				*e*SG	**Sg**	**20 11 55.9**	**+2.9**
KECS				*e*LG	Lg	20 12 11.4	
KECS	**Kecovo**	**4.17**	**136**	*e*P	**Pn**	**20 10 44.4**	**+0.5**
KECS				pmax	pmax		
	comp=N,159nm,1.0s						
BIOA	**Bad Ischl, Aus**	**4.21**	**204**		**Pn**	**20 10 45.8**	**+1.4**
BIOA	**Bad Ischl, Aus**	**4.21**	**204**	*i* Pn	**Pn**	**20 10 45.8**	**+1.4**
	comp=N,27nm,0.3s,SNR=24						
EGYH	**Egyhazaskeszo**	**4.23**	**169**	P	**Pn**	**20 10 46.9**	**+2.1**
CRVS	**Cervenica-Dubn**	**4.33**	**126**	*e*PN	**Pn**	**20 10 47.2**	**+1.0**
CRVS				*e*PG	Pg	20 11 06.9	+4.8
CRVS				*e*SG	**Sg**	**20 12 04.3**	**+6.0**
CRVS				*e*LG	Lg	20 12 13.1	
CRVS	**Cervenica-Dubn**	**4.33**	**126**	*e*P	**Pn**	**20 10 47.2**	**+1.0**
CRVS				pmax	pmax		
	comp=N,368nm,1.0s						
ARSA	**Arzberg**	**4.34**	**186**	*i* Pn	**Pn**	**20 10 48.1**	**+1.8**
	comp=N,11nm,0.3s,SNR=6.7						
ARSA				Sg	**Sg**	**20 12 04.5**	**+6.1**
	comp=N,314nm,0.7s						
LUNU	**Lund**	**4.38**	**340**	*i* P	**Pn**	**20 10 46.6**	**-0.1**
LUNU				P	Pb	20 10 47.3	-10
LUNU				*e*S	**Sn**	**20 11 37.9**	**-0.4**
LUNU				S	Sb	20 11 38.2	-12
LUNU	**Lund**	**4.38**	**340**	P	**Pn**	**20 10 47.3**	**+0.5**
LUNU				S	**Sn**	**20 11 38.2**	**-0.2**
LUNU	**Lund**	**4.38**	**340**	P	**Pn**	**20 10 47.3**	**+0.5**
PSZ	**Piszkesteto**	**4.39**	**145**	⇑P	**Pn**	**20 10 48.2**	**+1.2**
PSZ	**Piszkesteto**	**4.39**	**145**	Pn	**Pn**	**20 10 48.2**	**+1.2**
PSZ	**Piszkesteto**	**4.39**	**145**	P	**Pn**	**20 10 48.5**	**+1.5**
PSZ	**Piszkesteto**	**4.39**	**145**	P	**Pn**	**20 10 48.2**	**+1.2**
CSKK	**Cskako**	**4.43**	**161**	P	**Pn**	**20 10 48.6**	**+1.0**
MPLH	**Magyarpolny**	**4.50**	**168**	P	**Pn**	**20 10 49.3**	**+0.9**
BUD	**Budapest**	**4.50**	**154**	P	**Pn**	**20 10 49.3**	**+0.9**
ABAH	**Abaujker**	**4.64**	**133**	P	**Pn**	**20 10 52.7**	**+2.2**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PN	**Pn**	**20 10 52.1**	**+0.3**
KOLS				*e*PG	**Pg**	**20 11 10.5**	**+0.7**
KOLS				*e*SG	**Sg**	**20 12 14.9**	**+3.7**
KOLS				*e*LG	Lg	20 12 35.4	
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*P	**Pn**	**20 10 52.1**	**+0.3**
KOLS				pmax	pmax		
	comp=N,363nm,1.1s						
BLEU	**Blekinge**	**4.75**	**358**	*i* P	**Pn**	**20 10 53.0**	**+1.2**
BLEU				*i* S	**Sn**	**20 10 46.1**	**-1.5**
TIH	**Tihany**	**4.81**	**166**	P	**Pn**	**20 10 54.3**	**+1.6**
KBA	**Koelnbreinsper**	**4.85**	**203**	*i* Pn	**Pn**	**20 10 55.2**	**+1.7**
	comp=N,35nm,0.6s,SNR=20						
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**20 10 53.8**	**+0.2**
BJUU				*i* P	Pb	20 10 54.2	-11
BJUU				S	**Sn**	**20 11 48.2**	**-2.5**
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**20 10 53.8**	**+0.2**
BJUU				S	**Sn**	**20 11 48.2**	**-2.5**
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**20 10 53.8**	**+0.2**
BJUU				S	**Sn**	**20 11 48.2**	**-2.5**
UZH	**Uzhgorod**	**4.93**	**124**	*e*P	**Pn**	**20 10 57.1**	**+2.7**
UZH				*e*S	**Sn**	**20 11 55.1**	**+3.0**
UZH				smax	smax		
	comp=N,30nm,1.2s						
UZH				smax	smax		
	comp=E,50nm,1.2s						
SOKA	**Soboth**	**4.95**	**189**	*e*Pn	**Pn**	**20 10 56.4**	**+1.7**
	comp=E,6.0nm,0.4s						
PERS	**Pernice**	**4.98**	**188**	*i* Pn	**Pn**	**20 10 57.1**	**+2.0**
BSZH	**Besenyszg**	**5.05**	**146**	P	**Pn**	**20 10 55.8**	**-0.2**
DEL	**Delary**	**5.09**

PABE IAML 20 13 23.6
comp=Z,90nm,0.8s
VSTU Vaestervik 6.11 2 P **Pn** **20 11 12.2 +1.6**
VSTU Vaestervik 6.11 2 P **Pn** **20 11 12.2 +1.6**
VSTU Vaestervik 6.11 2 P **Pn** **20 11 12.2 +1.6**
RNPP5 Staryi Chortor 6.11 89 Pn **Pn** **20 11 10.7 +0.1**
HILG Hillesheim 6.12 262 *e*Pn **Pn** **20 11 12.2 +1.5**
KLL Kalltalsperre 6.26 265 *e*Pn **Pn** **20 11 13.7 +1.1**
CTI Castel Tesino 6.27 210 **Pn** **20 11 13.4 +0.5**
CTI Castel Tesino 6.27 210 P **Pn** **20 11 13.4 +0.5**
FUORN Ofenpass-Fuorn 6.28 220 Pn **Pn** **20 11 11.9 -1.2**
DREG Dreilaegerbach 6.30 266 *e*Pn **Pn** **20 11 14.3 +1.1**
DREG *e*Sn **Sn** **20 12 24.0 -1.9**
comp=Z,66nm,1.1s
DAVOX Davos/Dischmat 6.31 223 Pn **Pn** **20 11 14.8 +1.3**
comp=Z,1.6nm,0.3s,baz=43,slow=14,SNR=24
DAVOX Lg Lg 20 13 02.2
comp=Z,5.3nm,0.3s,baz=181,slow=20,SNR=3.0
comp=Z,7.3nm,0.5s
BTNL Ternell 6.38 265 *d*P **Pn** **20 11 16.1 +1.7**
BORU Boraas 6.39 343 *i*P **Pn** **20 11 15.9 +1.6**
SIRR Siria 6.43 143 ⇑P **Pn** **20 11 15.4 +0.4**
DRGR 6.43 135 ⇓P **Pn** **20 11 15.7 +0.6**
MEM Membach 6.46 265 *d*P **Pn** **20 11 16.4 +1.1**
BHOU Houvegnez 6.52 263 *d*P **Pn** **20 11 18.3 +2.1**
CDF Champ du Feu 6.53 245 *e*Pn **Pn** **20 11 16.7 +0.3**
CDF Champ du Feu 6.53 245 *e*Pg **Pg** **20 11 42.3 -1.8**
CDF *e*Sn **Sn** **20 12 28.0 -3.6**
comp=Z,26nm,0.6s
CDF *e*Sg **Sg** **20 13 08.3 -0.4**
comp=Z,373nm,1.0s
WLF Walferdange 6.63 257 **Pn** **20 11 18.8 +1.0**
WLF Walferdange 6.63 257 *d*P **Pn** **20 11 19.3 +1.5**
WLF Walferdange 6.63 257 P **Pn** **20 11 18.8 +1.0**
ECH Echery 6.70 243 **Pn** **20 11 17.8 -0.9**
ECH Echery 6.70 243 P **Pn** **20 11 17.8 -0.9**
BSTI Sart Tilman 6.74 266 *d*P **Pn** **20 11 21.8 +2.6**
TEOL Teolo 6.88 207 Pn **Pn** **20 11 21.5 +0.3**
BCLA Clavier 6.94 265 *d*P **Pn** **20 11 23.8 +1.9**
BZS Buzias 6.97 147 ⇑P **Pn** **20 11 23.4 +1.0**
TJOU Tjoern 6.98 340 *i*P **Pn** **20 11 24.7 +2.2**
TJOU *i*S **Sn** **20 12 40.0 -2.5**
SALO Salr 7.02 214 **Pn** **20 11 23.3 +0.2**
SURR Surduc 7.04 143 ⇓P **Pn** **20 11 24.2 +0.9**
SLIT Slitere, Latvi 7.04 28 *e*P **Pn** **20 11 24.6 +1.3**
RCHB Rochefort 7.05 263 *d*P **Pn** **20 11 26.2 +2.7**
BUR08 Bucovina Ar. S 7.08 120 Pn **Pn** **20 11 23.7 -0.2**
BGES Gesves 7.08 265 *d*P **Pn** **20 11 23.9 0.0**
HINF Hinteralfeld 7.10 242 *e*Pn **Pn** **20 11 23.1 -1.1**
HINF Hinteralfeld 7.10 242 *e*Pg **Pg** **20 11 52.9 -2.1**
HINF *e*Sn **Sn** **20 12 41.6 -3.9**
HINF *e*Sg **Sg** **20 13 24.8 -2.1**
comp=Z,191nm,0.8s
BURAR Bucovina Array 7.10 120 ⇓P **Pn** **20 11 25.1 +0.8**
BURAR Bucovina Array 7.10 120 Pn **Pn** **20 11 24.2 -0.1**
IIGN Ignalina 7.11 54 *e*P Pn 20 11 29.2 +4.9
IIGN IAML 20 14 00.7
comp=Z,21nm,0.5s
ISAL Salakas 7.17 52 *e*P **Pn** **20 11 29.6 +4.5**
NACGM Naroch 7.21 58 *e*P **Pn** **20 11 24.2 -1.4**
comp=Z,21nm,0.9s,baz=246
MI28 Mi28,Pidlybu 7.27 91 Pn **Pn** **20 11 26.7 +0.3**
comp=Z,31nm,1.2s
HAU Haudompre 7.27 244 *e*Pn **Pn** **20 11 26.8 +0.3**
HAU Haudompre 7.27 244 *e*Pg **Pg** **20 11 56.7 -1.6**
HAU *e*Sg **Sg** **20 13 31.7 -0.8**
comp=Z,340nm,1.1s
BMRD Maredsous 7.30 264 *d*P **Pn** **20 11 28.8 +1.9**
GIVF Givet 7.32 263 *e*Pn **Pn** **20 11 27.9 +0.8**
GIVF Givet 7.32 263 *e*Pg **Pg** **20 11 57.1 -2.1**
GIVF *e*Sn **Sn** **20 12 46.7 -4.1**
comp=Z,48nm,0.8s
GIVF *e*Sg **Sg** **20 13 33.6 -0.3**
comp=Z,346nm,1.1s
IZAR Zarasai 7.32 51 *e*P **Pn** **20 11 31.4 +4.2**
IZAR IAML 20 13 43.7
comp=Z,12nm,0.5s
PAGF Fort de Pagny 7.35 250 *e*Pn **Pn** **20 11 27.8 +0.2**
baz=60
PAGF Fort de Pagny 7.35 250 *e*Pg **Pg** **20 11 58.2 -1.6**
baz=66
PAGF *e*Sn **Sn** **20 12 47.6 -4.1**
comp=Z,80nm,0.9s
PAGF *e*Sg **Sg** **20 13 34.5 -0.5**
comp=Z,429nm,1.1s,baz=67
DOU Dourbes 7.46 263 *d*P **Pn** **20 11 30.1 +1.0**
MI29 MI29, Kamyanyy 7.48 94 Pn **Pn** **20 11 31.9 +2.5**
comp=Z,19nm,0.8s
MI29 pP Pb 20 11 33.4 -16
comp=Z,19nm,0.8s
GZR Gura Zlata 7.59 142 ⇑P **Pn** **20 11 32.7 +1.7**
MI30 MI30,Zelenitsa 7.62 91 Pn **Pn** **20 11 29.0 -2.3**
comp=Z,24nm,1.1s
MNK Minsk 7.67 63 *i*P **Pn** **20 11 32.3 +0.4**
comp=E,3.0nm,0.9s
MNK *i*P **Pn** **20 11 32.3 +0.4**
comp=N,17nm,0.9s
MNK *i*P **Pn** **20 11 32.3 +0.4**
comp=Z,6.0nm,0.9s,baz=251
MNK *i*PP **PnPn** **20 11 39.7 +0.5**
MNK *i*PPP PPP 20 11 47.8
MNK *i*S **Sn** **20 13 01.3 +2.0**
MNK *i*SS **SnSn** **20 13 14.1 +3.8**
MNK *i*SSS SSS 20 13 26.4
MNK *i*LQ LQ 20 13 49.2
MNK *i*LR LR 20 14 11.7
MNK *i*LRM MLR 20 14 43.0
comp=Z,202nm,9.2s
MNK *i*LRM MLR 20 14 45.1
comp=N,135nm,9.6s
MNK *i*LRM MLR 20 14 45.9
comp=E,34nm,10.4s
MNK Minsk 7.67 63 *i*P **Pn** **20 11 32.2 +0.4**
MNK *i*S **Sn** **20 13 01.3 +2.0**
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK MLR MLR
comp=Z,202nm,9.0s
MNK MLR MLR
comp=N,135nm,10.0s
MNK MLR MLR
comp=E,34nm,10.0s
SAVF Savonnieres en 7.68 252 *e*Pn **Pn** **20 11 35.3 +3.2**
baz=62
SAVF Savonnieres en 7.68 252 *e*Pg **Pg** **20 12 07.8 +1.7**
baz=67
SAVF *e*Sn **Sn** **20 12 58.9 -0.8**
baz=64
SAVF *e*Sg **Sg** **20 13 48.4 +3.0**
comp=E,230nm,1.2s,baz=59
BAIF Baives 7.71 263 *e*Pn **Pn** **20 11 32.0 -0.5**
BAIF Baives 7.71 263 *e*Pg **Pg** **20 12 04.3 -2.4**
BAIF *e*Sn **Sn** **20 12 56.6 -3.9**
BAIF *e*Sg **Sg** **20 13 45.3 -1.2**
comp=E,305nm,1.3s
MDVR Moldovita 7.74 149 ⇑P **Pn** **20 11 34.1 +1.1**
MEZF Maizieres J'vi 7.77 251 *e*Pn **Pn** **20 11 33.3 -0.1**
baz=63
MEZF Maizieres J'vi 7.77 251 *e*Pg **Pg** **20 12 05.9 -2.0**
MEZF *e*Sn **Sn** **20 12 58.1 -3.9**
comp=E,54nm,1.0s,baz=62
MEZF *e*Sg **Sg** **20 13 47.6 -0.9**
comp=E,146nm,0.8s,baz=64
SENIN Lac Senin/Sane 7.80 232 Pn **Pn** **20 11 33.6 -0.5**
DIVS Divibare 7.91 159 Pn **Pn** **20 11 35.2 -0.1**
SFTF Sexfontaines 7.92 249 *e*Pn **Pn** **20 11 36.4 +1.0**
baz=62
SFTF Sexfontaines 7.92 249 *e*Pg **Pg** **20 12 09.4 -1.3**
SFTF *e*Sn **Sn** **20 13 01.5 -4.2**
comp=E,61nm,1.2s
SFTF *e*Sg **Sg** **20 13 51.5 -1.7**
comp=E,677nm,1.5s,baz=66
STRU Stroemstad 8.00 341 *i*P **Pn** **20 11 36.6 +0.2**
STRU Stroemstad 8.00 341 *e*P **Pn** **20 11 36.4 -0.1**
ZCCA Zocca 8.01 208 Pn **Pn** **20 11 36.1 -0.6**
HOMB Homborsund 8.02 330 *e*P **Pn** **20 11 35.7 -1.0**
HOMB *e*S **Sn** **20 13 03.3 -4.8**
HOMB IAML 20 13 06.2
comp=Z,8.0nm,0.5s
AK20 Malin Array Si 8.14 91 Pn **Pn** **20 11 38.0 -0.4**
AK20 pP Pb 20 11 40.3 -21
AK19 Malin Array Si 8.14 91 Pn **Pn** **20 11 38.2 -0.2**
AK19 pP Pb 20 11 39.5 -21
AK21 Malin Array Si 8.15 91 Pn **Pn** **20 11 38.3 -0.2**
AK22 Malin Array Si 8.17 91 Pn **Pn** **20 11 38.9 +0.1**
AK18 Malin Array Si 8.18 91 Pn **Pn** **20 11 38.7 -0.2**
AK18 pP Pb 20 11 40.6 -21
AK17 Malin Array Si 8.18 91 Pn **Pn** **20 11 38.3 -0.6**
AK13 Malin Array Si 8.19 92 Pn **Pn** **20 11 38.4 -0.7**
AK16 Malin Array Si 8.21 91 Pn **Pn** **20 11 38.8 -0.6**
AK15 Malin Array Si 8.22 91 Pn **Pn** **20 11 38.8 -0.7**
AK14 Malin Array Si 8.22 91 Pn **Pn** **20 11 38.8 -0.7**
AK04 Malin Array Si 8.24 91 Pn **Pn** **20 11 39.0 -0.7**
AK11 Malin Array Si 8.25 91 Pn **Pn** **20 11 39.1 -0.8**
AK11 pP Pb 20 11 41.5 -21
CABF La Chapelle 8.25 237 *e*Pn **Pn** **20 11 38.4 -1.6**
CABF La Chapelle 8.25 237 *e*Pg **Pg** **20 12 13.1 -4.0**
CABF *e*Sn **Sn** **20 13 09.5 -4.5**
CABF *e*Sg **Sg** **20 14 00.0 -3.9**
comp=Z,481nm,1.2s
AK03 Malin Array Si 8.27 91 Pn **Pn** **20 11 39.7 -0.5**
AK01 Malin Array Si 8.27 91 Pn **Pn** **20 11 39.5 -0.7**
AK02 Malin Array Si 8.28 91 Pn **Pn** **20 11 39.7 -0.6**
AKASG Malin Array Be 8.28 91 Pn **Pn** **20 11 39.4 -0.9**
comp=Z,6.4nm,0.6s,baz=281,slow=12,SNR=33
AKASG Sn **Sn** **20 13 09.7 -4.7**
comp=Z,4.2nm,0.3s,baz=272,slow=23,SNR=6.3
AKASG Lg Lg 20 14 07.7
comp=Z,1.4nm,0.3s,baz=278,slow=28,SNR=2.0
AKASG Malin Array Be 8.28 91 **Pn** **20 11 39.1 -1.2**
AKBB Malin Array Si 8.28 91 Pn **Pn** **20 11 38.9 -1.4**
AKBB Malin Array Si 8.28 91 Pn **Pn** **20 11 39.7 -0.6**
AKBB Malin Array Si 8.28 91⇓ *e*P **Pn** **20 11 40.0 -0.3**
AK05 Malin Array Si 8.28 91 Pn **Pn** **20 11 39.3 -1.1**
MTSE Matsula 8.40 29 *e*P **Pn** **20 11 43.0 +1.1**
MTSE IAML 20 14 23.9
comp=Z,89nm,0.8s
SNART Snartemo 8.50 326 *e*P **Pn** **20 11 43.5 +0.2**
SNART *e*S **Sn** **20 13 13.0 -6.9**
SNART IAML 20 13 18.0
comp=Z,15nm,1.1s
MSSA Maissana 8.51 214 Pn **Pn** **20 11 44.7 +1.2**
VOIR 8.52 133 ⇑P **Pn** **20 11 45.0 +1.3**
LPL La Plagne 8.69 230 *e*Pn **Pn** **20 11 43.3 -2.9**
LPL La Plagne 8.69 230 *e*Pg **Pg** **20 12 21.4 -4.1**
LPL *e*Sg **Sg** **20 14 15.0 -3.0**
comp=Z,88nm,1.0s
HFS Hagfors 8.70 352 Pn **Pn** **20 11 46.8 +0.8**
comp=Z,0.3nm,0.3s,baz=164,slow=15,SNR=14
HFS Sn **Sn** **20 13 22.4 -2.2**
comp=Z,1.1nm,0.3s,baz=176,slow=26,SNR=5.5
HFS Lg Lg 20 14 20.1
comp=Z,1.3nm,0.3s,baz=159,slow=25,SNR=5.2
comp=Z,1.4nm,0.3s
KONO Kongsberg 8.90 338 *e*S **Sn** **20 13 23.3 -6.3**
KONO IAML 20 13 49.7
comp=Z,3.3nm,0.7s
BNI Bardonecchia 9.06 228 Pn **Pn** **20 11 50.6 -0.6**
BNI Bardonecchia 9.06 228 P **Pn** **20 11 50.6 -0.6**
LOR Lormes 9.09 247 *e*Pn **Pn** **20 11 51.6 +0.2**
baz=59
LOR Lormes 9.09 247 *e*Pg Pn 20 12 29.4 +38
baz=56
LOR *e*Sn **Sn** **20 13 28.5 -5.8**
comp=Z,16nm,0.8s
LOR *e*Sg 20 14 27.8
comp=Z,166nm,1.1s
VSU Vasula 9.20 37 *e*P **Pn** **20 11 54.4 +1.5**
VSU IAML 20 15 03.0
comp=Z,35nm,0.5s
VSU Vasula 9.20 37⇓ *e*P **Pn** **20 11 55.4 +2.6**
MBDF Montbardon 9.27 226 *e*P **Pn** **20 11 54.7 +0.6**
MBDF Montbardon 9.27 226 *e*Pg Pn 20 12 32.7 +39
MBDF *e*Sn **Sn** **20 13 32.4 -6.7**
comp=Z,26nm,0.8s
MBDF *e*Sg 20 14 33.3
comp=Z,92nm,1.2s
SSF Saint Saulge 9.40 246 *e*Pn **Pn** **20 11 56.9 +1.2**
SSF Saint Saulge 9.40 246 *e*Pg Pn 20 12 35.4 +40
SSF *e*Sn **Sn** **20 13 37.5 -4.5**
SSF *e*Sg 20 14 38.3
comp=Z,128nm,1.1s
SMF Signal de Mont 9.45 243 *e*Pn **Pn** **20 11 55.0 -1.4**
SMF Signal de Mont 9.45 243 *e*Pg Pn 20 12 36.4 +40
SMF *e*Sg Sn 20 14 39.6 +56
comp=Z,212nm,1.3s
NC602 NORSAR Array S 9.54 346 Pn **Pn** **20 11 55.0 -2.5**
NC602 NORSAR Array S 9.54 346 *e*P **Pn** **20 11 58.6 +1.1**
NC602 *e* 20 13 43.0
ORIF Oris-en-Rattie 9.54 230 *e*Pn **Pn** **20 11 55.8 -1.9**
ORIF Oris-en-Rattie 9.54 230 *e*Pg Pn 20 12 35.7 +38
ORIF *e*Sg Sn 20 14 41.4 +56
comp=Z,155nm,1.1s
BLS5 Blasjo 9.59 329 *e*P **Pn** **20 11 57.4 -0.8**
BLS5 *e*S **Sn** **20 13 40.4 -6.3**
BLS5 IAML 20 14 20.7
comp=Z,6.0nm,0.8s
AVF Avril sur Loir 9.64 245 *e*Pn **Pn** **20 11 58.9 -0.1**
AVF Avril sur Loir 9.64 245 *e*Pg Pn 20 12 40.0 +41
AVF *e*Sn **Sn** **20 13 44.1 -3.8**
comp=Z,54nm,1.5s
AVF *e*Sg 20 14 45.6
comp=Z,188nm,1.2s
SBF Sospel 9.68 221 *e*Pn **Pn** **20 11 58.2 -1.4**
SBF *e*Sn **Sn** **20 13 42.6 -6.4**
comp=Z,23nm,0.7s
SBF *e*Sg 20 14 45.9
comp=Z,37nm,0.8s
NAO01 NORSAR Array S 9.74 345 *e*P **Pn** **20 12 01.3 +0.9**
NAO01 *e* 20 13 45.7
HYF Humbligny 9.79 249 *e*Pn **Pn** **20 12 03.8 +2.7**
HYF *e*Sg Sn 20 14 50.0 +58
MEF Metsahovi 9.82 25 *e*P **Pn** **20 12 01.3 -0.1**
NB201 NORSAR Array S 9.88 346 Pn **Pn** **20 11 59.9 -2.3**
NC405 NORSAR Array S 9.88 347 Pn **Pn** **20 11 59.6 -2.6**
NOA NORSAR Array B 9.88 346 Pn **Pn** **20 12 01.8 -0.5**
baz=129,slow=15,SNR=9.6
comp=Z,0.4nm,0.4s
NBO00 NORSAR Array S 9.94 345 Pn **Pn** **20 12 00.5 -2.6**
NBO00 NORSAR Array S 9.94 345 *e* **Pn** **20 12 04.7 +1.7**
RAF Rauma 9.97 16 *e*P **Pn** **20 12 02.6 -0.8**
RAF IAML 20 15 23.7
comp=Z,7.2nm,0.6s
NC303 NORSAR Array S 10.03 347 Pn **Pn** **20 12 01.9 -2.4**
NC303 NORSAR Array S 10.03 347 *e*P **Pn** **20 12 04.6 +0.3**
BGF Bois d'Agland 10.06 245 *e*Pn **Pn** **20 12 03.5 -1.2**
BGF Bois d'Agland 10.06 245 *e*Pg Pn 20 12 48.3 +44
BGF *e*Sg Sn 20 14 58.5 +60
comp=Z,126nm,0.9s
SKAR Skarslia 10.12 338 *e*P **Pn** **20 12 04.6 -0.9**
SKAR *i* 20 13 55.3
SKAR IAML 20 14 00.6
comp=Z,3.5nm,0.5s
NC204 NORSAR Array S 10.17 345 Pn **Pn** **20 12 04.5 -1.8**
VIVF Saint-Julien-l 10.17 233 *e*Pn **Pn** **20 12 04.5 -1.8**
VIVF Saint-Julien-l 10.17 233 *e*Pg Pn 20 12 48.3 +42
VIVF *e*Sn **Sn** **20 13 54.6 -6.5**
comp=Z,22nm,1.0s
VIVF *e*Sg 20 15 00.4
comp=Z,43nm,0.9s
SMRF Simiane la Rot 10.39 227 *e*Pn **Pn** **20 12 07.4 -2.0**
SMRF *e*Sg 20 15 07.7
comp=Z,90nm,1.2s
LMR La Mourre 10.50 222 *e*Sg 20 15 11.5
comp=Z,108nm,1.4s
TCF Toulx Ste Croi 10.57 245 *e*Pn **Pn** **20 12 10.6 -1.2**
TCF Toulx Ste Croi 10.57 245 *e*Pg Pn 20 12 57.3 +46
TCF *e*Sn **Sn** **20 14 04.3 -6.6**
comp=Z,45nm,1.5s
TCF *e*Sg 20 15 14.8
comp=Z,55nm,0.9s
GDLE Glaisdale, N Y 10.61 292 *e*P **Pn** **20 12 10.0 -2.2**
GDLE *i* 20 14 06.5
LDF La Druitiere 10.87 260 *e*Pn **Pn** **20 12 16.1 +0.4**
LDF La Druitiere 10.87 260 *e*Pg Pn 20 13 03.3 +48
LDF *e*Sg 20 15 24.4
comp=Z,84nm,1.2s
FLN La Foliniere 11.03 262 *e*Pn **Pn** **20 12 16.9 -1.0**
FLN La Foliniere 11.03 262 *e*Pg Pn 20 13 04.8 +47
FLN *e*Sg 20 15 29.3
comp=Z,43nm,1.0s,baz=78
LASF Ste Croix 11.14 233 *e*P **Pn** **20 12 23.2 +3.6**
LASF *e*Sg 20 15 30.7
comp=Z,24nm,0.8s
FINES FINESS Array B 11.30 25 Pn **Pn** **20 12 20.6 -1.1**
comp=Z,0.6nm,0.3s,baz=212,slow=12,SNR=21
FINES Sn **Sn** **20 14 21.3 -7.2**
comp=Z,1.1nm,0.3s,baz=212,slow=21,SNR=5.7
comp=Z,4.3nm,0.5s
FINES FINESS Array B 11.30 25 Pn **Pn** **20 12 20.2 -1.4**
FIA1 FINESS Array S 11.30 25 Pn **Pn** **20 12 19.9 -1.8**
GRR Gorron 11.40 260 *e*Pn **Pn** **20 12 22.3 -0.7**
GRR *e*Sg 20 15 40.6
comp=Z,58nm,1.3s
CAF Calviac 11.49 240 *e*Pn **Pn** **20 12 24.4 +0.1**
CAF Calviac 11.49 240 *e*Pg Pn 20 13 15.1 +51
CAF *e*Sg 20 15 41.9
comp=Z,94nm,1.4s
RJF Les Rejaudoux 11.55 243 *e*Pn **Pn** **20 12 24.3 -0.8**
RJF *e*Sg 20 15 44.6
comp=Z,91nm,1.2s
MFF Saint Martin d 11.77 251 *e*Pn **Pn** **20 12 27.4 -0.7**
MFF *e*Sg 20 15 52.1
comp=Z,38nm,1.0s
EKA Eskdalemuir Ar 12.10 296 Pn **Pn** **20 12 30.3 -2.3**
baz=103,slow=14
EKA Sn **Sn** **20 14 40.4 -7.6**
baz=94,slow=24
ESK Eskdalemuir 12.12 296 Pn **Pn** **20 12 30.3 -2.5**
ESK Eskdalemuir 12.12 296 P **Pn** **20 12 30.3 -2.5**
LFF La Frestale 12.21 243 *e*Pn **Pn** **20 12 33.4 -0.7**
LFF La Frestale 12.21 243 *e*Pg Pn 20 13 28.2 +54
LFF *e*Sg 20 16 04.9
comp=Z,70nm,1.0s
MTLF Montolieu 12.49 234 *e*Pn **Pn** **20 12 38.0 0.0**
MTLF *e*Sg 20 16 13.1
comp=Z,54nm,1.1s
SGMF Saint Gilles 12.49 262 *e*Pn **Pn** **20 12 37.5 -0.5**
SGMF *e*Sg 20 16 16.2
comp=Z,128nm,1.4s
OBN Obninsk 12.70 66 Pn **Pn** **20 12 37.7 -3.1**
OBN Obninsk 12.70 66⇓ *e*P **Pn** **20 12 42.5 +1.7**
OBN pmax pmax
comp=Z,17nm,0.6s
OBN MLR MLR
comp=Z,109nm,13.0s
ROSF Rostrenen 12.91 263 *e*Pn **Pn** **20 12 44.6 +0.9**
ROSF *e*Sg 20 16 27.7
comp=Z,240nm,1.6s
MOS Moscow 13.39 63 *e*P **Pn** **20 12 47.1 -3.1**
MOS *e*S **Sn** **20 15 13.5 -6.1**
MOS pmax pmax
comp=Z,30nm,0.7s
LPSR Galich'ya Gora 14.04 77 *e*P **Pn** **20 12 54.7 -4.4**
LPSR pmax pmax
comp=Z,20nm,1.8s
VORR Voronezh 14.32 81 *e*P **Pn** **20 12 58.3 -4.6**
VORR pmax pmax
comp=Z,10.0nm,0.4s
VSR Storozhevoye 14.37 82 *e*P Pn 20 12 57.9 -5.7
VSR pmax pmax
comp=Z,20nm,1.6s
ANN Anapa 15.70 107 *e*P **Pn** **20 13 15.0 -6.4**
ANN *e*S **Sn** **20 16 05.9 -10**
ANN pmax pmax
comp=Z,27nm,1.0s
KLMR Klimovskoe 15.90 45 *e*Pn Pn 20 13 15.1 -8.8
KLMR AMP 20 13 22.5
comp=Z,27nm,1.5s
KLMR Klimovskoe 15.90 45 *e*P Pn 20 13 15.1 -8.8
KLMR pmax pmax
comp=Z,27nm,1.5s
VRH Novokhopyorsk 15.95 81 *e*P Pn 20 13 13.2 -11
VRH pmax pmax
comp=Z,70nm,1.6s
SOC Sochi 17.74 107 *e*P **Pn** **20 13 44.2 -3.2**
SOC *e* 20 17 02.7
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,152nm,16.0s
APA Apatity 18.16 21⇓ *i*P **P** **20 13 54.4 +1.8**
APA *i* 20 17 20.8
APA pmax pmax
comp=Z,8.0nm,1.1s
APA MLR MLR
comp=Z,1μm,10.0s
ARCES ARCESS Array B 18.56 10 Pn **P** **20 13 55.2 -2.0**
comp=Z,0.3nm,0.3s,baz=197,slow=12,SNR=19
comp=Z,1.3nm,0.5s
ARCES ARCESS Array B 18.56 10 P **P** **20 13 53.8 -3.3**
ARCES IAmb IAmb 20 14 36.6
comp=Z,37nm,1.5s
PRGR Permogore 18.93 46 *e*P **P** **20 13 57.1 -4.1**
PRGR *e* 20 17 37.2
PRGR pmax pmax
comp=Z,12nm,1.3s
KEV Kevo 18.95 12 P **P** **20 13 58.9 -2.4**
KEV Kevo 18.95 12 P **P** **20 13 58.9 -2.4**
KEV pmax pmax
comp=Z,42nm,1.2s
KIV Kislovodsk 19.33 103 *e*P **P** **20 14 04.6 -1.2**
KIV pmax pmax
comp=Z,4.0nm,1.1s
BELG Belogornoye 19.34 75⇑ *e*P **P** **20 14 06.1 +0.4**
BELG pmax pmax
comp=Z,8.0nm,1.4s
KIRV Kirov 20.14 57⇓ *e*P Pn 20 14 15.5 -0.7
ZEI Tsey 20.71 104 *e*P **P** **20 14 20.6 -0.4**
ZEI pmax pmax
comp=Z,9.0nm,1.6s
GHAJ Ghor Haditha 24.80 137 P **P** **20 15 02.4 -0.2**
ARU Arti 25.09 62 P **P** **20 15 05.9 +0.9**
comp=Z,4.9nm,0.6s,baz=277,slow=12,SNR=12
comp=Z,4.9nm,0.6s
ARU Arti 25.09 62 P **P** **20 15 04.4 -0.7**
ARU Arti 25.09 62*d* *i*P **P** **20 15 06.4 +1.3**
ARU 20 15 38.6
ARU S **S** **20 19 34.6 +4.3**
ARU SS **SnSn** **20 20 25.5 +6.8**
ARU pmax pmax
comp=Z,17nm,1.7s
SVE Sverdlovsk 26.18 61 *e*P **P** **20 15 18.8 +3.8**
ABKAR Akbulak array 27.70 77 P **P** **20 15 27.4 -1.3**
TAM Tamanrasset 29.88 200 P **P** **20 15 47.9 -0.5**
TAM IAmb IAmb 20 15 55.6
comp=Z,8.2nm,1.5s
TAM Tamanrasset 29.88 200 P **P** **20 15 47.9 -0.5**
TAM pmax pmax
comp=Z,8.0nm,1.5s
GEYT Alibeck 32.31 98 P **P** **20 16 09.3 -0.4**
GEYT IAmb IAmb 20 16 15.7
comp=Z,5.0nm,1.3s
BRVK Borovoye 32.48 66 P **P** **20 16 11.0 +0.1**
BRVK IAmb IAmb 20 16 16.5
comp=Z,6.5nm,1.0s
BRVK Borovoye 32.48 66⇓ *i*P **P** **20 16 14.2 +3.3**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
KK31 Karatay Array 37.04 81 P **P** **20 16 49.2 -1.2**
KK31 IAmb IAmb 20 16 57.0
comp=Z,7.7nm,1.2s
KK31 Karatay Array 37.04 81 P **P** **20 16 49.2 -1.2**
KK31 pmax pmax
comp=Z,8.0nm,1.3s
KKAR Karatay Array 37.04 81 P **P** **20 16 50.3 -0.1**
KKAR Karatay Array 37.04 81 P **P** **20 16 49.7 -0.8**
KKAR IAmb IAmb 20 16 57.0
comp=Z,7.7nm,1.2s
KKAR Karatay Array 37.04 81 P **P** **20 16 50.3 -0.1**
HRA Herat 37.14 99 P **P** **20 16 52.1 +0.5**
KURK Kurchatov 38.15 66⇓ *e*P **P** **20 17 01.0 +1.3**
KURK pmax pmax
comp=Z,5.0nm,1.1s
BTK Batken 38.94 85 P **P** **20 17 05.5 -1.1**
BTK IAmb IAmb 20 17 12.9
comp=Z,11nm,1.3s
BTK Batken 38.94 85 P **P** **20 17 05.5 -1.1**
BTK pmax pmax
comp=Z,11nm,1.3s
GAR Garm 39.26 87 P **P** **20 17 10.2 +0.9**
AAK Ala-Archa 39.74 79 P **P** **20 17 14.7 +1.3**
AAK IAmb IAmb 20 17 19.6
comp=Z,6.1nm,0.8s
AAK Ala-Archa 39.74 79⇑ *e*P **P** **20 17 15.9 +2.5**
AAK pmax pmax
comp=Z,15nm,1.7s
ZAA0 Zalesovo Array 40.15 59 P **P** **20 17 15.7 -0.7**
ZALV Zalesovo Beam 40.15 59 P **P** **20 17 18.8 +2.4**

comp=Z,2.6nm,0.9s,baz=298,slow=9.9,SNR=9.4
comp=Z,2.6nm,0.9s

ZALV	**Zalesovo Beam**	**40.15**	**59**	P		**P**		**20 17 14.5**	**-1.9**
ZALV	**Zalesovo Beam**	**40.15**	**59**	*e*P		**P**		**20 17 20.7**	**+4.3**
ZALV					pmax	pmax			

comp=Z,3.0nm,0.9s

MAKZ	**Makanchi**	**41.99**	**70**	P		**P**		**20 17 30.3**	**-1.4**
MAKZ	**Makanchi**	**41.99**	**70**	P		**P**		**20 17 30.3**	**-1.4**
MAKZ					pmax	pmax			

comp=Z,6.0nm,1.2s

MK31	**Makanchi Array**	**42.18**	**69**⇓	*e*P		**P**		**20 17 33.9**	**+0.7**
MKAR	**Makanchi Array**	**42.18**	**69**	P		**P**		**20 17 35.0**	**+1.7**

comp=Z,0.6nm,0.6s,baz=302,slow=7.3,SNR=5.7
comp=Z,0.6nm,0.6s

MKAR	**Makanchi Array**	**42.18**	**69**	P		**P**		**20 17 32.2**	**-1.0**
KSH	**Kashi**	**42.46**	**82**	P		**P**		**20 17 38.5**	**+2.8**
KSH					pmax	pmax			

comp=Z,8.0nm,1.3s

DGZ	**Jazzator, Alta**	**43.60**	**63**⇓	*e*P		**P**		**20 17 47.3**	**+2.4**
DGZ					pmax	pmax			

comp=Z,5.0nm,1.0s

WMQ	**Urumqi**	**47.00**	**70**	*e*P		**P**		**20 18 13.3**	**+1.5**
WMQ					LR	LR			

comp=Z,98nm,20.5s

KNGR	**Kungurtug, Tuv**	**48.56**	**57**⇓	*e*P		**P**		**20 18 27.7**	**+3.8**
KNGR					pmax	pmax			

comp=Z,11nm,1.4s

SONM	**Songino Array**	**54.87**	**55**	P		**P**		**20 19 14.1**	**+3.0**

comp=Z,3.1nm,1.1s,baz=282,slow=7.1,SNR=11
comp=Z,3.1nm,1.1s

YAK	**Yakutsk**	**55.15**	**32**⇑	*e*P		**P**		**20 19 14.4**	**+1.7**
YAK					pmax	pmax			

comp=Z,10.0nm,0.9s

GTA	**Gaotai**	**56.82**	**67**	*e*P		**P**		**20 19 29.0**	**+3.8**
GTA					pmax	pmax			

comp=Z,2.0nm,1.7s

YKA	**Yellowknife Ar**	**59.81**	**336**	P		**P**		**20 19 48.0**	**+2.4**

comp=Z,2.6nm,0.9s,baz=27,slow=6.3,SNR=3.6
comp=Z,2.6nm,0.9s

YKA	**Yellowknife Ar**	**59.81**	**336**	P		**P**		**20 19 48.0**	**+2.4**
ZEA	**Zeya**	**60.33**	**40**⇓	*e*P		**P**		**20 19 50.8**	**+1.5**
ZEA	**Zeya**	**60.33**	**40**	*e*P		P		20 19 54.1	+4.8
LZH	**Lanzhou**	**61.42**	**67**	*e*P		**P**		**20 19 59.5**	**+2.3**
LZH					pmax	pmax			

comp=Z,18nm,1.6s

HHC	**Hu-ho-hao-te**	**62.34**	**59**	*e*P		**P**		**20 20 00.5**	**-2.7**
HHC					pmax	pmax			

comp=Z,19nm,0.8s

HHC					pmax	pmax			

comp=Z,200nm,4.3s

XLT	**XiLinHaoTe**	**62.49**	**53**	*e*P		**P**		**20 20 03.5**	**-0.6**
XLT					pmax	pmax			

comp=Z,6.0nm,1.0s

XLT					pmax	pmax			

comp=Z,150nm,4.4s

PZH	**PanZhiHua**	**67.07**	**76**	P		**P**		**20 20 33.8**	**-0.5**
PZH					pmax	pmax			

comp=Z,10.0nm,0.9s

PZH					pmax	pmax			

comp=Z,100nm,4.4s

CMAR	**Chiang Mai Arr**	**71.33**	**84**	P		**P**		**20 21 02.3**	**+1.6**

comp=Z,2.0nm,1.0s,baz=305,slow=6.5,SNR=11
comp=Z,2.0nm,1.0s

WHN	**Wuhan**	**71.45**	**64**	⇓P		**P**		**20 21 04.5**	**+3.3**
PDAR	**Pinedale Array**	**74.91**	**322**	P		**P**		**20 21 23.8**	**+2.0**

comp=Z,0.5nm,0.5s,baz=58,slow=5.6,SNR=7.4
comp=Z,0.5nm,0.5s

KUR	**Kuril'sk**	**74.97**	**33**		pmax	pmax			
KUR					pmax	pmax			

comp=N,33nm,0.2s

KUR					pmax	pmax			

comp=E,27nm,0.2s

TXAR	**Lajitas Array**	**83.69**	**310**	P		**P**		**20 22 11.7**	**+1.9**

comp=E,1.6nm,1.1s,baz=40,slow=3.5,SNR=4.4
comp=E,1.6nm,1.1s

---

*NEIC **29** 20:09:51.4±1.2, 17.1°S±0.1°×176.41°W±0.09, h10km±1km, mb4.6/14, Error ellipse: s-maj=18.3km s-min=14.1km az=167.0*
*IDC **29** 20:09:52.7±1.4, 17.41°S×176.62°W, h0km, mb4.0/6, mbtmp3.9/7, ML5.0/1, MS4.1/49, Error ellipse: s-maj=35.3km s-min=30.1km az=2.0*
*GCMT **29** 20:10:03.4±0.2, 17.56°S±0.01°×176.53°W±0.01, h16km, MW5.2/119, Moment Tensor Solution. s60,c78; s119,c188; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.13±.13; Mθθ=5.48±.14; Mϕϕ5.62±.13; Mrθ0.62±.38; Mθϕ2.21±.11; Mϕr3.57±.45; Best double couple: Mo6.81100×10^16 NP1:ϕs323.00000°, δ73.00000°, λ161.00000°. NP2:ϕs59.00000°, δ72.00000°, λ18.00000°. Principal axes: T 7.7170, Plg25.0000°, Azm281.0000°; N -1.8040, Plg65.0000°, Azm103.0000°; P -5.9050, Plg1.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 20:09:54.8±0.9, 17.4S±0.2×176.52W±0.09, h24km, n74, σ1§55/27, mb4.5/11, MS4.2/48, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.19**	**265**	Pn	**Pn**	**20 11 12.3**	**+1.2**

1.8nm,0.3s,baz=106,slow=20,SNR=7.6

MSVF					LR	LR		20 12 53.5	

comp=Z,7µm,20.8s,baz=111,slow=36
5.5nm,0.5s

MSVF	**Nonsavu**	**5.19**	**265**			**Pn**		**20 11 11.0**	**-0.1**
AFI	**Afiamalu**	**5.71**	**54**	Pn		Pn		20 11 13.7	-4.7
NIUE	**Niue**	**6.50**	**106**	Pn		**Pn**		**20 11 27.2**	**-1.9**
RAO	**Raoul Island**	**11.91**	**186**	LR		LR		20 16 34.3	

comp=Z,3µm,20.6s,baz=18,slow=34

RAR	**Rarotonga**	**16.27**	**106**	LR		LR		20 18 42.6	

comp=Z,358nm,20.5s,baz=308,slow=32

OUENC	**Ouen Island, N**	**16.43**	**249**	Pn		**Pn**		**20 13 43.8**	**-0.2**
DZM	**Mont Dzumac**	**16.71**	**251**	*e*LR		LR		20 17 47.0	

comp=Z,2µm,24.8s

DZM	**Mont Dzumac**	**16.71**	**251**	LR		LR		20 18 58.8	

comp=Z,2µm,21.6s,baz=81,slow=33

ONTNC	**Ouen Toro**	**16.75**	**250**	Pn		**Pn**		**20 13 45.8**	**-2.3**
ONTNC					IAmb	IAmb		20 14 03.0	

comp=Z,72nm,1.0s

PPT2	**Papeete2**	**25.70**	**95**	*e*LR		LR		20 21 39.5	

comp=Z,3µm,28.0s

PPT2					*e*LR	LR		20 21 39.5	

comp=Z,2µm,30.8s

PPT	**Papeete**	**25.70**	**95**	LR		LR		20 22 52.4	

comp=Z,444nm,18.4s,baz=260,slow=30

TBI	**Tubuai**	**26.04**	**108**	*e*LR		LR		20 21 54.7	

comp=Z,11µm,30.0s

TBI					*e*LR	LR		20 21 54.7	

comp=Z,25µm,25.8s

RPZ	**Rata Peaks**	**28.30**	**199**	LR		LR		20 26 42.1	

comp=Z,1µm,18.5s,baz=40,slow=36

KRVT	**Keravat (AS076**	**33.43**	**289**	LR		LR		20 28 54.8	

comp=Z,496nm,19.0s,baz=252,slow=34

CTA	**Charters Tower**	**35.31**	**260**	P		**P**		**20 16 48.6**	**+0.2**

comp=Z,2.7nm,0.8s,baz=92,slow=8.2,SNR=2.6

CTA					LR	LR		20 29 03.3	

comp=Z,418nm,20.1s,baz=90,slow=33
comp=Z,2.7nm,0.8s

CTAO	**Charters Tower**	**35.31**	**260**	P		**P**		**20 16 51.2**	**+2.8**
CTAO					IAmb	IAmb		20 17 04.6	

comp=Z,9.0nm,0.9s

PMG	**Port Moresby**	**36.15**	**278**	LR		LR		20 29 37.6	

comp=Z,300nm,19.5s,baz=82,slow=33

TAOE	**Nuku Hiva Isla**	**36.37**	**81**	*e*LR		LR		20 26 28.6	

comp=Z,894nm,27.9s

WR0	**Warramunga Arr**	**46.31**	**259**	P		**P**		**20 18 19.6**	**+0.4**
WR0					IAmb	IAmb		20 18 50.4	

comp=Z,8.5nm,1.4s

WB0	**Warramunga Arr**	**46.47**	**259**	P		**P**		**20 18 19.2**	**-1.1**
WB0					IAmb	IAmb		20 18 36.5	

comp=Z,8.9nm,1.2s

WB2	**Warramunga Arr**	**46.49**	**259**	P		**P**		**20 18 18.8**	**-1.7**
WB2					IAmb	IAmb		20 18 39.5	

comp=Z,6.3nm,1.1s

WRA	**Warramunga Arr**	**46.50**	**259**	P		**P**		**20 18 20.6**	**0.0**

comp=Z,0.9nm,0.9s,baz=94,slow=6.4,SNR=6.8

WRA					LR	LR		20 37 13.1	

comp=Z,346nm,18.1s,baz=100,slow=35
comp=Z,0.9nm,0.9s

WRA	**Warramunga Arr**	**46.50**	**259**	P		**P**		**20 18 19.5**	**-1.1**
AS31	**Alice Springs**	**46.67**	**254**	P		**P**		**20 18 20.9**	**-1.0**
AS31					IAmb	IAmb		20 18 34.5	

comp=Z,6.8nm,1.4s

ASAR	**Alice Springs**	**46.67**	**254**	P		**P**		**20 18 22.2**	**+0.3**

comp=Z,2.9nm,0.7s,baz=87,slow=8.4,SNR=36

ASAR					LR	LR		20 37 08.2	

comp=Z,182nm,18.9s,baz=98,slow=35
comp=Z,2.9nm,0.7s

ASAR	**Alice Springs**	**46.67**	**254**	P		**P**		**20 18 21.4**	**-0.5**
KNRA	**Kununurra**	**52.34**	**263**	P		**P**		**20 19 01.9**	**-3.3**
SIJI	**Sorong**	**53.87**	**282**	LR		LR		20 41 14.8	

comp=Z,171nm,20.4s,baz=148,slow=35

BATI	**Baumata**	**58.34**	**269**	LR		LR		20 43 19.7	

comp=Z,224nm,18.5s,baz=136,slow=34

SBA	**Scott Base**	**61.09**	**184**	P		**P**		**20 20 07.2**	**+0.8**
SBA					IAmb	IAmb		20 20 46.8	

comp=Z,6.6nm,1.4s

VNDA	**Vanda**	**61.15**	**185**	P		**P**		**20 20 08.3**	**+1.5**

comp=Z,0.8nm,0.9s,baz=44,slow=4.1,SNR=2.8

VNDA					LR	LR		20 45 05.3	

comp=Z,73nm,18.2s,baz=24,slow=35
comp=Z,0.8nm,0.9s

VNDA	**Vanda**	**61.15**	**185**	P		**P**		**20 20 07.2**	**+0.3**
DAV	**Davao City (W)**	**62.13**	**288**	LR		LR		20 46 07.8	

comp=Z,68nm,18.1s,baz=101,slow=35

RPN	**Rapa Nui**	**62.33**	**112**	LR		LR		20 40 42.2	

comp=Z,214nm,18.8s,baz=250,slow=30

KAPI	**Kappang**	**63.45**	**273**	LR		LR		20 46 45.8	

comp=Z,82nm,20.1s,baz=96,slow=35

TOLI2	**Tolitoli**	**64.39**	**280**	P		**P**		**20 20 26.5**	**-2.9**
JOW	**Kunigami**	**69.27**	**308**	LR		LR		20 44 34.7	

comp=Z,46nm,20.7s,baz=90,slow=30

SHEM	**Shemya Is, Ala**	**70.26**	**354**	LR		LR		20 45 25.3	

comp=Z,217nm,21.9s,baz=157,slow=30

ASAJ	**Asahikawa**	**71.67**	**330**	LR		LR		20 46 55.1	

comp=Z,95nm,21.3s,baz=153,slow=31

QSPA	**South Pole Qui**	**72.70**	**180**	P		**P**		**20 21 22.1**	**+1.5**

comp=Z,2.1nm,0.7s,baz=50,slow=1.2,SNR=7.9

QSPA					LR	LR		20 51 56.9	

comp=Z,66nm,18.2s,baz=28,slow=35
comp=Z,2.1nm,0.7s

QSPA	**South Pole Qui**	**72.70**	**180**	P		**P**		**20 21 21.3**	**+0.6**
QSPA					IAmb	IAmb		20 21 37.6	

comp=Z,6.3nm,1.1s

PETK	**Petropavlovsk-**	**73.62**	**344**	LR		LR		20 46 31.4	

comp=Z,154nm,21.6s,baz=145,slow=30

LEM	**Lembang**	**74.53**	**268**	LR		LR		20 53 47.3	

comp=Z,94nm,21.1s,baz=145,slow=35

KSRS	**Korea Array**	**75.50**	**311**	LR		LR		20 50 26.3	

comp=Z,28nm,20.9s,baz=130,slow=32

PFO	**Pinyon Flats O**	**76.44**	**48**	LR		LR		20 49 43.8	

comp=Z,168nm,19.3s,baz=226,slow=31

LPIG	**La Paz**	**76.61**	**59**	LR		LR		20 48 19.6	

comp=Z,85nm,19.6s,baz=180,slow=30

YBH	**Yreka Blue Hor**	**76.97**	**38**	LR		LR		20 49 03.9	

comp=Z,141nm,19.8s,baz=236,slow=30

USRK	**Ussuriysk Ar.**	**77.19**	**325**	LR		LR		20 51 30.0	

comp=Z,45nm,20.7s,baz=140,slow=32

KLR	**Kul'dur**	**80.57**	**329**	LR		LR		20 51 53.4	

comp=Z,114nm,21.5s,baz=132,slow=31

ELK	**Elko**	**81.03**	**42**	LR		LR		20 48 50.1	

comp=Z,96nm,21.1s,baz=246,slow=29

MA2	**Magadan**	**81.15**	**344**	LR		LR		20 54 28.7	

comp=Z,68nm,19.7s,baz=149,slow=33

PMSA	**Palmer Station**	**83.60**	**157**	LR		LR		20 52 25.1	

comp=Z,39nm,21.3s,baz=285,slow=30

TXAR	**Lajitas Array**	**84.18**	**57**	LR		LR		20 52 25.4	

comp=Z,78nm,20.8s,baz=354,slow=30

ANMO	**Albuquerque**	**84.35**	**51**	LR		LR		20 51 04.8	

comp=Z,122nm,21.4s,baz=10.0,slow=29

DLBC	**Dease Lake**	**84.62**	**23**	LR		LR		20 51 48.3	

comp=Z,180nm,22.0s,baz=122,slow=30

ILAR	**Eielson Array**	**84.96**	**12**	P		**P**		**20 22 29.9**	**+2.3**

comp=Z,0.3nm,0.5s,baz=218,slow=5.6,SNR=7.2

ILAR					LR	LR		20 53 39.0	

comp=Z,106nm,19.3s,baz=198,slow=31
comp=Z,0.3nm,0.5s

MAW	**Mawson**	**84.98**	**199**	LR		LR		20 57 59.3	

comp=Z,188nm,20.4s,baz=101,slow=34

YAK	**Yakutsk**	**89.74**	**338**	LR		LR		20 57 02.7	

comp=Z,49nm,21.3s,baz=80,slow=32

CMAR	**Chiang Mai Arr**	**90.40**	**289**	LR		LR		21 01 39.4	

comp=Z,19nm,20.2s,baz=55,slow=34

PLCA	**Paso Flores**	**90.40**	**133**	LR		LR		20 57 45.7	

comp=Z,46nm,18.1s,baz=246,slow=32

TROLL	**Troll, Antarti**	**90.86**	**180**	P		**P**		**20 22 56.3**	**+0.1**
INK	**Inuvik**	**90.89**	**15**	LR		LR		20 56 18.0	

comp=Z,79nm,20.8s,baz=146,slow=31

SNAA	**Sanae**	**91.09**	**178**	P		**P**		**20 22 56.7**	**-0.5**
SNAA	**Sanae**	**91.09**	**178**	LR		LR		21 01 28.5	

comp=Z,83nm,19.5s,baz=200,slow=34

VNA3	**Neumayer Olymp**	**91.17**	**176**	P		**P**		**20 22 58.2**	**+0.7**
VNA2	**Neumayer--Watz**	**91.63**	**176**	P		**P**		**20 23 00.8**	**+1.2**

baz=169,slow=4.0

YKA	**Yellowknife Ar**	**93.08**	**24**	LR		LR		21 02 13.1	

comp=Z,101nm,18.2s,baz=274,slow=34

NNA	**Nana**	**95.51**	**104**	LR		LR		20 56 37.6	

comp=Z,75nm,21.3s,baz=210,slow=29

ATAH	**Atahualpa**	**95.59**	**99**	LR		LR		20 56 01.8	

comp=Z,105nm,21.1s,baz=251,slow=29

CFA	**Coronel Fontan**	**95.80**	**125**	LR		LR		20 59 26.6	

comp=Z,35nm,18.4s,baz=304,slow=31

TIXI	**Tiksi**	**96.08**	**345**	LR		LR		21 00 21.1	

comp=Z,124nm,21.7s,baz=30,slow=32

ULM	**Lac du Bonnet**	**97.33**	**40**	LR		LR		21 01 40.7	

comp=Z,146nm,18.2s,baz=274,slow=32

BRDH	**Bariadhala**	**98.16**	**291**	LR		LR		21 08 51.8	

comp=Z,68nm,18.2s,baz=154,slow=36

---

*IDC **29** 20:17:44.6±1.3, 38.42°N×133.71E, h463km±21km, mb2.5/2, mbtmp3.3/6, Error ellipse: s-maj=37.6km s-min=21.2km az=61.0*

ISC 29 20:17:44.6±1.1, 38.4N±0.1°×133.7E±0.2, h448km, n6, σ1§65/6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**4.05**	**117**	P	**P**	**20 19 01.9**	**+1.9**

1.4nm,0.5s,baz=300,slow=10,SNR=5.7

KSRS	**Korea Array**	**4.68**	**260**	P		**P**		**20 19 06.6**	**+0.9**

1.0nm,0.6s,baz=76,slow=8.8,SNR=4.5

USRK	**Ussuriysk Ar.**	**5.90**	**348**	P		**P**		**20 19 18.2**	**+0.7**

5.5nm,0.4s,baz=169,slow=9.3,SNR=24

KLR	**Kul'dur**	**10.88**	**353**	P		**P**		**20 20 10.2**	**-0.8**

1.5nm,0.4s,baz=192,slow=9.4,SNR=8.5

SONM	**Songino Array**	**21.93**	**304**	P		**P**		**20 22 03.7**	**+0.1**

0.4nm,0.5s,baz=121,slow=9.8,SNR=2.1
0.4nm,0.5s

WRA	**Warramunga Arr**	**58.08**	**179**	P		**P**		**20 26 52.0**	**-1.6**

0.3nm,0.9s,baz=348,slow=7.6,SNR=4.9
0.3nm,0.9s

SKHL 29 20:21:05.0±0.4, 45.40N×149.20E, h79km±5km, mb4.3/3, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**260**	*i* P	Pn	20 21 23.2	-0.2
KUR				AMB	AMB	20 21 23.3	

230nm,0.3s

KUR				*i* S	Sn	20 21 36.9	-0.2		
KUR				A	A	20 21 40.0			

200nm,0.3s

KUR				A	A	20 21 40.0			

140nm,0.3s

KUR	**Kuril'sk**	**0.95**	**260**	*c* iP	Pn	20 21 23.1	-0.3		
KUR	**Kuril'sk**	**0.95**	**260**	*i* S		20 21 36.9			
YUK	**Yuzh-Kuril'sk**	**2.74**	**241**	*e*S	Sn	20 22 18.5	-0.4		
YUK				A	A	20 22 22.7			

80nm,0.3s

YUK				A	A	20 22 22.7			

120nm,0.3s

NMR	**Nemuro--Hokkai**	**3.21**	**232**	*e*P	Pn	20 21 53.0	-0.1		
NMR				AMB	AMB	20 21 55.0			

20nm,0.4s

NMR				*e*S	Sn	20 22 29.2	-1.1		
NMR				A	A	20 22 33.1			

20nm,0.2s

NMR				A	A	20 22 33.1			

40nm,0.2s

AKK	**Akkeshi**	**3.94**	**234**	*e*P	Pn	20 22 03.3	+0.3		
AKK				AMB	AMB	20 22 05.3			

50nm,0.3s

AKK				*e*S	Sn	20 22 46.7	-1.2		
AKK				A	A	20 22 55.4			

120nm,0.5s

AKK				A	A	20 22 55.4			

210nm,0.5s

---

*NOU **29** 20:28:57.6, 42.47S×173.94E, h0km, MLv3.7/8, South Island, New Zealand*
*WEL **29** 20:28:58.6±0.5, 42.2°S±3.3°×17.4E±°, h5km, M3.1/30, ML3.4/15, MLv3.1/30, Error ellipse: s-maj=0.0km s-min=0.0km az=121.3*

ISC 29 20:28:58.2±1.2, 42.40S±0.04×173.96E±0.05, h21km, n50, σ1§43/52, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.31**	**267**	P	**Pb**	**20 29 03.3**	**-1.7**
KHZ	**Kahutara**	**0.31**	**267**	P	**Pb**	**20 29 03.4**	**-1.7**
KHZ				S	**Sb**	**20 29 07.4**	**-2.4**
BSWZ	**Blackbirch Sta**	**0.69**	**355**	P	**Pb**	**20 29 10.9**	**-0.6**
BSWZ				S	**Sb**	**20 29 20.2**	**-0.4**
GVZ	**Greta Valley S**	**0.89**	**230**	P	**Pb**	**20 29 16.1**	**+1.2**
TUWZ	**Tuamarina**	**0.97**	**359**	P	**Pb**	**20 29 16.1**	**-0.2**
THZ	**Tophouse**	**1.01**	**309**	P	**Pb**	**20 29 15.2**	**-1.8**
TCW	**Tory Channel**	**1.21**	**11**	P	**Pn**	**20 29 20.0**	**+0.1**
SNZO	**South Karori**	**1.22**	**27**	P	**Pn**	**20 29 20.7**	**+0.6**
AMCZ	**Amberley**	**1.24**	**231**	P	**Pn**	**20 29 21.5**	**+1.2**
NNZ	**Nelson**	**1.26**	**340**	P	**Pn**	**20 29 20.2**	**-0.4**
WEL	**Wellington**	**1.27**	**29**	P	**Pn**	**20 29 21.5**	**+0.8**
PLWZ	**Palliser**	**1.27**	**50**	P	**Pn**	**20 29 21.2**	**+0.4**
LTZ	**Lake Taylor**	**1.30**	**252**	P	**Pn**	**20 29 21.8**	**+0.5**
MRNZ	**Matariki Terra**	**1.34**	**318**	P	**Pn**	**20 29 21.9**	**+0.1**
MSWZ	**Moikau Station**	**1.38**	**45**	P	**Pn**	**20 29 22.5**	**+0.3**
OKCZ	**Okains Bay**	**1.48**	**206**	P	**Pn**	**20 29 24.5**	**+0.8**
PAWZ	**Paruwai Farm**	**1.50**	**48**	P	**Pn**	**20 29 24.0**	**+0.1**
CAW	**Cannon Point**	**1.53**	**33**	P	**Pn**	**20 29 24.8**	**+0.4**
TKNZ	**Takaka Hill**	**1.56**	**331**	P	**Pn**	**20 29 25.

	30nm,0.7s								
DGS	**Degeres**	**4.01**	**19**	Pg	**Pg**	**20 36 46.7**	**-1.0**
	12nm,0.6s								
DGS				Lg	Lg	20 37 42.3	
	30nm,0.7s								
SGDS	**Sogindy**	**4.01**	**7**	*e*P	**Pg**	**20 36 45.7**	**-2.2**
	9.9nm,0.4s								
SGDS				*e*S	**Sg**	**20 37 40.6**	**+0.7**
	18nm,0.5s								
SGDS	**Sogindy**	**4.01**	**7**	Pg	**Pg**	**20 36 45.7**	**-2.2**
	9.9nm,0.4s								
SGDS				Lg	Lg	20 37 42.1	
	18nm,0.5s								
IUG	**luzhnay**	**4.02**	**313**	*e*P	**Pg**	**20 36 46.4**	**-1.6**
	76nm,0.8s								
IUG				*e*S	**Sg**	**20 37 42.1**	**+2.0**
	53nm,1.1s								
IUG	**luzhnay**	**4.02**	**313**	Pg	**Pg**	**20 36 46.4**	**-1.6**
	76nm,0.8s								
IUG				Lg	Lg	20 37 42.9	
	53nm,1.1s								
MTBS	**Maitube**	**4.10**	**26**	*e*P	**Pg**	**20 36 47.2**	**-2.3**
	20nm,0.5s								
MTBS				*e*S	**Sg**	**20 37 43.2**	**+0.7**
	19nm,0.6s								
MTBS	**Maitube**	**4.10**	**26**	Pg	**Pg**	**20 36 47.2**	**-2.3**
	20nm,0.5s								
MTBS				Lg	Lg	20 37 44.4	
	19nm,0.6s								
TNSS	**Tian-Shan**	**4.21**	**31**	*e*P	**Pg**	**20 36 49.3**	**-2.3**
	16nm,0.5s								
TNSS				*e*S	**Sg**	**20 37 47.0**	**+0.8**
	13nm,0.7s								
TNSS	**Tian-Shan**	**4.21**	**31**	Pg	**Pg**	**20 36 49.3**	**-2.3**
	16nm,0.5s								
TNSS				Lg	Lg	20 37 48.1	
	13nm,0.7s								
AAA	**Alma-Ata**	**4.34**	**30**	*e*P	**Pg**	**20 36 51.0**	**-3.1**
	23nm,0.3s								
AAA				*e*S	**Sg**	**20 37 49.3**	**-1.1**
	28nm,0.5s								
MDOK	**Medeo**	**4.36**	**31**	*e*P	**Pg**	**20 36 53.0**	**-1.4**
	7.8nm,0.5s								
MDOK				*e*S	**Sg**	**20 37 52.4**	**+1.6**
	22nm,0.6s								
MDOK	**Medeo**	**4.36**	**31**	Pg	**Pg**	**20 36 52.8**	**-1.6**
	7.7nm,0.6s								
MDOK				Pg	Pb	20 36 53.0	+6.1
	7.8nm,0.5s								
MDOK				Lg	Lg	20 37 51.7	
	20nm,0.7s								
MDOK				Lg	Lg	20 37 53.4	
	22nm,0.6s								
KNDC	**Almaty**	**4.37**	**30**	⇑Pg	**Pg**	**20 36 55.0**	**+0.4**
	36nm,0.6s								
KNDC				⇓Lg	Lg	20 37 53.8	
	74nm,0.7s								
CHM	**Chimkent**	**4.38**	**312**	*e*P	**Pg**	**20 36 54.0**	**-0.7**
	22nm,0.2s								
CHM				*e*S	**Sg**	**20 37 54.4**	**+2.9**
	87nm,0.5s								
KOTS	**Kotyrbulak**	**4.44**	**31**	*e*P	**Pg**	**20 36 54.9**	**-1.1**
	15nm,0.4s								
KOTS				*e*S	**Sg**	**20 37 55.8**	**+2.2**
	32nm,0.8s								
KOTS	**Kotyrbulak**	**4.44**	**31**	Pg	**Pg**	**20 36 54.9**	**-1.1**
	15nm,0.4s								
KOTS				Lg	Lg	20 37 56.7	
	32nm,0.8s								
KK31	**Karatay Array**	**4.48**	**325**	Pn	Pn	20 36 42.8	+5.1
	1.3nm,0.3s,baz=136,slow=13,SNR=47								
KK31				Pg	**Pg**	**20 36 54.1**	**-2.6**
	2.3nm,0.3s,baz=142,slow=14,SNR=4.7								
KK31				⇑Sn	**Sb**	**20 37 40.0**	**-2.5**
	6.3nm,0.5s,baz=139,slow=23,SNR=5.2								
KK31				⇑Lg	Lg	20 37 56.7	
	5.0nm,0.4s								
KUU	**Kurty**	**4.76**	**21**	*e*P	**Pg**	**20 36 59.5**	**-2.6**
	6.5nm,0.7s								
KUU				*e*S	**Sg**	**20 38 04.4**	**+0.6**
	13nm,0.6s								
KUU	**Kurty**	**4.76**	**21**	Pg	**Pg**	**20 36 59.5**	**-2.6**
	6.5nm,0.7s								
KUU				Lg	Lg	20 38 04.8	
	13nm,0.6s								
SATY	**Saty**	**4.90**	**41**	*e*P	**Pg**	**20 37 01.9**	**-2.8**
	7.5nm,0.5s								
SATY				*e*S	**Sg**	**20 38 08.3**	**+0.1**
	19nm,1.4s								
SATY	**Saty**	**4.90**	**41**	Pg	**Pg**	**20 37 01.9**	**-2.8**
	7.5nm,0.5s								
SATY				Lg	Lg	20 38 09.4	
	19nm,1.4s								
CHKK	**Chushkaly**	**4.93**	**26**	*e*P	**Pg**	**20 37 02.4**	**-2.9**
	4.3nm,0.3s								
CHKK				*e*S	**Sg**	**20 38 09.4**	**+0.3**
	12nm,0.6s								
CHKK	**Chushkaly**	**4.93**	**26**	Pg	**Pg**	**20 37 02.4**	**-2.9**
	4.3nm,0.3s								
CHKK				Lg	Lg	20 38 10.2	
	12nm,0.6s								
KURS	**Kuram**	**5.10**	**37**	*e*P	**Pg**	**20 37 05.9**	**-2.8**
	5.3nm,0.9s								
KURS				*e*S	**Sg**	**20 38 15.4**	**+0.7**
	14nm,1.2s								
KURS	**Kuram**	**5.10**	**37**	Pg	**Pg**	**20 37 05.9**	**-2.8**
	5.3nm,0.9s								
KURS				Lg	Lg	20 38 14.5	
	14nm,1.2s								
UZB	**Uzynbulak**	**5.29**	**44**	*e*P	**Pg**	**20 37 08.0**	**-4.1**
	2.4nm,0.3s								
UZB				*e*S	**Sg**	**20 38 18.5**	**-2.0**
	7.0nm,0.6s								
KPKS	**Kokpek**	**5.33**	**40**	*e*P	**Pg**	**20 37 09.3**	**-3.8**
	4.2nm,0.5s								
KPKS				*e*S	**Sg**	**20 38 20.8**	**-1.2**
	14nm,0.5s								
KPKS	**Kokpek**	**5.33**	**40**	Pg	**Pg**	**20 37 09.3**	**-3.8**
	4.2nm,0.5s								
KPKS				Lg	Lg	20 38 21.5	
	14nm,0.5s								
SHLS	**Shalkode**	**5.53**	**46**	*e*P	**Pg**	**20 37 17.8**	**+0.9**
	4.2nm,0.3s								
SHLS				*e*S	**Sg**	**20 38 34.9**	**+6.4**
	10nm,0.6s								
SHLS	**Shalkode**	**5.53**	**46**	Pg	**Pg**	**20 37 17.8**	**+0.9**
	4.2nm,0.3s								
SHLS				Lg	Lg	20 38 34.9	
	10nm,0.6s								
ARXS	**Arharly**	**5.55**	**30**	*e*P	**Pg**	**20 37 15.1**	**-2.0**
	14nm,0.5s								
ARXS				*e*S	**Sg**	**20 38 30.3**	**+1.5**
	9.3nm,0.5s								
ARXS	**Arharly**	**5.55**	**30**	Pg	**Pg**	**20 37 15.0**	**-2.0**
	14nm,0.5s								
ARXS				Lg	Lg	20 38 29.9	
	9.3nm,0.5s								
BTLS	**Baital**	**5.58**	**0**	*e*P	**Pg**	**20 37 14.3**	**-3.3**
	2.6nm,0.4s								
BTLS				*e*S	**Sg**	**20 38 28.9**	**-0.8**
	5.6nm,0.8s								
BTLS	**Baital**	**5.58**	**0**	Pg	**Pg**	**20 37 13.9**	**-3.7**
	2.6nm,0.4s								
BTLS				Lg	Lg	20 38 28.8	
	5.6nm,0.8s								
PDGK	**Podgornoye**	**5.66**	**45**	Pg	**Pg**	**20 37 15.7**	**-3.5**
	2.3nm,0.4s								
PDGK				Lg	Lg	20 38 30.3	
	4.4nm,1.0s								
BLB	**Baldybastay**	**5.72**	**35**	*e*P	**Pg**	**20 37 17.1**	**-3.2**
	9.0nm,0.4s								
BLB				*e*S	**Sg**	**20 38 34.4**	**-0.1**
	12nm,0.5s								
BLB	**Baldybastay**	**5.72**	**35**	Pg	**Pg**	**20 37 17.1**	**-3.2**
	9.0nm,0.4s								
BLB				Lg	Lg	20 38 34.4	
	12nm,0.5s								
TDK	**Taldyqorghan**	**6.43**	**29**	*e*P	**Pg**	**20 37 32.0**	**-2.1**
	9.4nm,0.6s								
TDK				*e*S	**Sg**	**20 38 59.2**	**+1.9**
	29nm,1.1s								
DJR	**Jarkent**	**6.51**	**40**	*e*P	**Pg**	**20 37 35.3**	**-0.3**
	2.3nm,0.5s								
DJR				*e*S	**Sg**	**20 39 04.9**	**+5.1**
	7.9nm,0.6s								
OTUK	**Ortayu**	**8.86**	**353**	⇑Lg	Lg	20 40 12.6	
	4.3nm,0.9s								
AB31	**Akbulak array**	**14.00**	**319**	⇓P	**Pn**	**20 38 49.7**	**+1.6**
	0.7nm,0.6s,baz=279,slow=5.7,SNR=12								
AKTO	**Aktyubinsk**	**15.71**	**319**	⇑P	**P**	**20 39 13.6**	**-1.3**
	0.1nm,0.3s								

IDC 29 20:49:53.6±5.5, 22.12N×146.35E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=352.2km s-min=35.3km az=90.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.42**	**197**	P	P	20 57 58.3	-0.1
	0.6nm,0.5s,baz=18,slow=8.5,SNR=18						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**47.09**	**196**	P	P	20 58 27.2	-0.3
	0.2nm,0.4s,baz=9.2,slow=6.9,SNR=4.1						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**84.05**	**335**	P	P	21 02 26.0	+0.1
	2.1nm,0.9s,baz=73,slow=4.8,SNR=4.1						
	2.1nm,0.9s						

JMA 29 21:06:38.8±0.3, 24.7N±1.1×123.7E±0.8, h40km±2km, MV0.6/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.03**	**155**	P	Pn	21 06 45.0	-0.2
IRIF				S	Sn	21 06 49.5	0.0
JKRS	**Kuro-shima**	**0.30**	**115**	P	Pn	21 06 46.9	-0.2
JKRS				S	Sn	21 06 52.9	0.0
JIJ	**Ishigaki jima**	**0.39**	**90**	P	Pn	21 06 47.8	-0.3
JIJ				S	Sn	21 06 54.2	-0.4
JISG	**Ishigakijimahi**	**0.59**	**68**	P	Pn	21 06 51.1	+0.4
JISG				*e*S	Sn	21 06 59.1	0.0

TAP 29 21:07:16.2, 24.21N×121.66E, h29km±1km, ML1.7, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.06**	**214**	P	Pb	21 07 21.7	+0.5
	baz=213						
NACB	**Ninganchiao**	**0.07**	**238**	*i* P	Pb	21 07 21.5	+0.4
	baz=238						
NACB				S	Sb	21 07 25.3	+0.7
	baz=238						
TWD	**Chiawan**	**0.14**	**205**	P	Pb	21 07 22.0	+0.3
	baz=202						
TWD				S	Sb	21 07 26.0	+0.6
	baz=202						
ETLH	**Xiulin Townshi**	**0.17**	**268**	⇓*i* P	Pb	21 07 22.4	+0.4
	baz=268						
ETLH				S	Sb	21 07 26.5	+0.6
	baz=268						
ENA	**Nanau**	**0.23**	**19**	*i* P	Pn	21 07 23.3	-0.3
	baz=20						
ENA				*e*S	Sb	21 07 28.6	+1.6
	baz=20						
EWUT	**Wuta**	**0.26**	**25**	*i* P	Pb	21 07 22.5	-0.4
	baz=24						
EWUT				S	Sb	21 07 27.8	+0.2
	baz=24						
NNSB	**Datong**	**0.33**	**310**	P	Pb	21 07 24.6	+0.5
	baz=310						
NNSB				*e*S	Sn	21 07 30.8	-0.4
	baz=310						
LATG	**Datong**	**0.34**	**339**	*i* P	Pb	21 07 24.7	+0.4
	baz=338						
LATG				*e*S	Sn	21 07 31.3	-0.1
	baz=338						
WHF	**Hehuan Shan**	**0.37**	**260**	*i* P	Pb	21 07 25.1	+0.3
	baz=259						
WHF				*e*S	Sb	21 07 31.1	+0.4
	baz=259						
FUSS	**Fushou**	**0.38**	**275**	P	Pb	21 07 25.5	+0.5
	baz=275						
FUSS				*e*S	Sn	21 07 31.9	-0.7
	baz=275						
TWC	**Suao**	**0.43**	**23**	*i* P	Pn	21 07 26.4	-0.1
	baz=24						
TWC				S	Sn	21 07 33.7	+0.3
	baz=24						
ENTT	**Nioudou**	**0.43**	**348**	*i* P	Pb	21 07 25.1	-0.5
	baz=349						
ENTT				S	Sb	21 07 32.5	+0.6
	baz=349						
ESL	**Shilin**	**0.45**	**208**	*e*P	Pb	21 07 24.9	-0.8
	baz=206						
CHGB	**Renai**	**0.47**	**251**	P	Pb	21 07 26.6	+0.3
	baz=251						
CHGB				*e*S	Sb	21 07 33.2	+0.1
	baz=251						

ISK 29 21:11:01.7, 34.48N×32.05E, h9km, ML3.4/28
DDA 29 21:11:02.5±0.0, 34.32N×32.11E, h7km±5km, ML3.3
NIC 29 21:11:03.8±0.0, 34.64N×32.05E, h9km±2km, Ml3.3/6
GII 29 21:11:04.2±0.0, 34.51N×32.10E, h5km, MD3.1/2, Mm2.7/7

ISC 29 21:11:04.3±1.3, 34.56N±0.03×32.12E±0.03, h7km±9km, n87, σ1s32/137, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NATA	**Nata**	**0.43**	**59**	P	**Pg**	**21 11 12.7**	**0.0**
NATA				S	**Sg**	**21 11 20.0**	**+1.7**
AKMS	**Akamas**	**0.49**	**21**	⇑*i*P	**Pg**	**21 11 12.6**	**-1.2**
AKMS				S	**Sg**	**21 11 19.4**	**-0.9**
AKMS				AML	AML	21 11 20.5	
	15nm,0.2s						
AKMS				AML	AML	21 11 20.5	
	15nm,0.2s						
AKMS				AML	AML	21 11 20.6	
	16nm,0.2s						
AKMS				AML	AML	21 11 20.6	
	16nm,0.2s						
SZAC	**Souni**	**0.66**	**72**	P	**Pg**	**21 11 17.3**	**+0.3**
SZAC				S	**Sb**	**21 11 27.5**	**0.0**
SZAC				AML	AML	21 11 32.4	
	10nm,0.7s						
SZAC				AML	AML	21 11 32.4	
	10nm,0.7s						
ALFC	**Alefka**	**0.72**	**33**	P	**Pg**	**21 11 16.7**	**-1.4**
ALFC				S	**Sg**	**21 11 27.6**	**+0.2**
TROD	**Troodos**	**0.73**	**57**	P	**Pg**	**21 11 16.7**	**-1.6**
TROD				S	**Sb**	**21 11 29.9**	**+0.2**
TROD				AML	AML	21 11 38.5	
	4.1nm,0.4s						
TROD				AML	AML	21 11 38.5	
	4.1nm,0.4s						
TROD				AML	AML	21 11 43.8	
	5.0nm,0.7s						
TROD				AML	AML	21 11 43.8	
	5.0nm,0.7s						
LEF	**Lefka**	**0.85**	**48**	PG	**Pg**	**21 11 17.9**	**-2.7**
LEF				SG	**Sg**	**21 11 32.6**	**+1.0**
ASGA	**Asgata**	**0.96**	**76**	P	**Pg**	**21 11 22.7**	**0.0**
ASGA				S	**Sn**	**21 11 37.2**	**-0.9**
ASGA				AML	AML	21 11 39.2	
	4.6nm,0.9s						
ASGA				AML	AML	21 11 39.2	
	4.6nm,0.9s						
ASGA				AML	AML	21 11 40.3	
	3.7nm,0.5s						
ASGA				AML	AML	21 11 40.3	
	3.7nm,0.5s						
AKDN	**Akdeniz- Kıbrı**	**1.02**	**43**	PN	**Pg**	**21 11 23.7**	**-0.1**
AKDN				SN	**Sn**	**21 11 39.4**	**-0.1**
CSS	**Mathiatis**	**1.08**	**67**	PN	**Pg**	**21 11 24.2**	**-0.7**
CSS				SN	**Sn**	**21 11 40.5**	**-0.5**
CSS	**Mathiatis**	**1.08**	**67**	P	**Pg**	**21 11 24.2**	**-0.7**
CSS				S	**Sb**	**21 11 40.2**	**+0.6**
CSS				AML	AML	21 11 41.6	
	1.2nm,0.5s						
CSS				AML	AML	21 11 41.6	
	1.2nm,0.5s						
CSS				AML	AML	21 11 42.0	
	0.9nm,0.4s						
CSS				AML	AML	21 11 42.0	
	0.9nm,0.4s						
CSS	**Mathiatis**	**1.08**	**67**	Pg	**Pg**	**21 11 23.7**	**-1.2**
CSS				Sg	**Sn**	**21 11 40.3**	**-0.7**
ATHAL	**Athalassa**	**1.20**	**61**	P	**Pn**	**21 11 26.9**	**-0.6**
ATHAL				S	**Sn**	**21 11 45.0**	**+0.9**
MVOU	**Mavrovouni**	**1.33**	**69**	P	**Pn**	**21 11 28.5**	**-0.7**
MVOU				S	**Sg**	**21 11 47.7**	**+0.8**
MVOU				AML	AML	21 11 52.9	
	2.0nm,1.0s						
MVOU				AML	AML	21 11 52.9	
	2.0nm,1.0s						
MVOU				AML	AML	21 11 55.2	
	1.9nm,0.6s						
MVOU				AML	AML	21 11 55.2	
	1.9nm,0.6s						
LFK	**Lefkose**	**1.37**	**58**	PN	**Pn**	**21 11 29.5**	**-0.3**
LFK				SN	**Sg**	**21 11 48.9**	**+0.7**
GAZI	**Gazipasa**	**1.68**	**5**	PN	**Pn**	**21 11 32.8**	**-1.4**
GAZI	**Gazipasa**	**1.68**	**5**	P	**Pn**	**21 11 32.5**	**-1.7**
GAZI				S	**Sn**	**21 11 52.6**	**-3.5**
TEKE	**Tekeli-Mersin**	**1.78**	**27**	PN	**Pn**	**21 11 34.1**	**-1.4**
AKKU	**Akkuyu-Mersin**	**1.98**	**36**	PN	**Pn**	**21 11 37.1**	**-1.1**
GULN	**MERSIN_Gulnar**	**2.00**	**35**	P	**Pn**	**21 11 36.8**	**-1.7**
GULN				S	**Sn**	**21 12 02.2**	**-1.6**
BERE	**Bereket-Mersin**	**2.00**	**26**	PN	**Pn**	**21 11 37.5**	**-1.2**
IKL	**Isikli**	**2.11**	**37**	PN	**Pn**	**21 11 38.9**	**-1.1**
ERMK	**Ermenek**	**2.18**	**17**	P	**Pn**	**21 11 42.2**	**+1.1**
ERMK				S	**Sb**	**21 12 11.3**	**-0.2**
KEBE	**Keben-Mersin**	**2.29**	**34**	PN	**Pn**	**21 11 42.1**	**-0.5**
KEBE				SN	**Sn**	**21 12 11.2**	**+0.1**
KEPZ	**Antalya-Kepez**	**2.38**	**350**	P	**Pn**	**21 11 43.6**	**-0.1**
KEPZ				S	**Sn**	**21 12 14.0**	**+0.8**
KIZK	**Mersin**	**2.53**	**40**	PN	**Pn**	**21 11 45.6**	**-0.2**
KIZK	**Mersin**	**2.53**	**40**	P	**Pn**	**21 11 46.4**	**+0.5**
KIZK				S	**Sn**	**21 12 16.9**	**-0.1**
KKBE	**Karaman, Kazim**	**2.74**	**14**	P	**Pn**	**21 11 50.2**	**+1.4**
KKBE				S	**Sb**	**21 12 25.7**	**-1.8**
KORT	**Korkueli**	**2.83**	**330**	P	**Pg**	**21 11 58.1**	**-0.5**
KORT				S	**Sg**	**21 12 38.0**	**+2.7**
ELL	**Elmali**	**2.83**	**321**	PN	**Pn**	**21 11 48.4**	**-1.7**
SEYD	**Seydisehir-KON**	**2.85**	**355**	PN	**Pn**	**21 11 49.9**	**-0.4**
SEDI	**Konya, Seydise**	**2.91**	**354**	P	**Pn**	**21 11 53.1**	**+2.0**
SEDI				S	**Sb**	**21 12 33.4**	**+1.1**
HNTI	**Hanita**	**2.94**	**119**	Sn	**Sn**	**21 12 27.0**	**+0.1**
MERS	**Mersin**	**3.02**	**40**	PN	**Pn**	**21 11 52.7**	**+0.1**
OFRI	**`Ofer**	**3.07**	**128**	Pn	**Pn**	**21 11 53.5**	**+0.2**
OFRI				Sn	**Sn**	**21 12 30.3**	**0.0**
MMA0B	**Mount Meron ar**	**3.14**	**118**	Pn	**Pn**	**21 11 53.6**	**-0.6**
MMA0B				Sn	**Sn**	**21 12 32.1**	**+0.2**
BLGI	**Bet Lehem HaGe**	**3.14**	**124**	Pn	**Pn**	**21 11 53.8**	**-0.4**
BLGI				Sn	**Sn**	**21 12 31.8**	**-0.1**
KMER	**Konya-Meram**	**3.21**	**4**	P	**Pn**	**21 11 58.3**	**+3.0**
KMER				S	**Sn**	**21 12 37.8**	**+3.9**
GEM	**Giv'at Ha'Em**	**3.24**	**113**	Pn	**Pn**	**21 11 55.2**	**-0.3**
GEM				Sn	**Sn**	**21 12 34.6**	**+0.3**
KERG	**Konya-Eregli**	**3.28**	**29**	P	**Pn**	**21 11 58.1**	**+1.8**
KERG				S	**Sn**	**21 12 37.2**	**+1.5**
CAME	**Cameli-Denizli**	**3.31**	**317**	PN	**Pn**	**21 11 55.7**	**-0.9**
SLTI	**Sal'it**	**3.36**	**133**	Pn	**Pn**	**21 11 57.3**	**+0.1**
SLTI				Sn	**Sn**	**21 12 37.1**	**-0.3**
GOLH	**Golhisar**	**3.39**	**323**	P	**Pn**	**21 11 58.8**	**+1.1**
GOLH				*i* AML	AML	21 12 45.0	
	comp=Z,64nm,2.7s						
GOLH				*i* AML	AML	21 13 02.0	
	comp=N,70nm,2.2s						
CAEL	**Denizli, Camel**	**3.43**	**319**	P	**Pn**	**21 11 59.9**	**+1.7**
CAEL				*i* AML	AML	21 13 33.0	
	comp=E,94nm,2.1s						
CAEL				*i* AML	AML	21 13 44.0	
	comp=N,85nm,1.8s						
KSHT	**Keshet**	**3.45**	**116**	Pn	**Pn**	**21 11 59.0**	**+0.5**
MMLI	**Mount Malkishu**	**3.47**	**127**	Pn	**Pn**	**21 11 58.8**	**0.0**
MMLI				Sn	**Sn**	**21 12 40.1**	**-0.1**
DOGA	**KONYA_Doganhis**	**3.56**	**354**	P	**Pn**	**21 12 02.6**	**+2.5**
DOGA				S	**Sn**	**21 12 46.8**	**+4.2**
SALP	**Salfit**	**3.57**	**133**	Pn	**Pn**	**21 11 58.1**	**+0.1**
SALP				Sn	**Sn**	**21 12 42.5**	**-0.1**
YAYL	**Yayladag**	**3.58**	**65**	PN	**Pn**	**21 12 00.0**	**-0.3**
YAYL	**Yayladag**	**3.58**	**65**	P	**Pn**	**21 11 59.8**	**-0.6**
YAYL				S	**Sn**	**21 12 43.0**	**+0.1**
YAYL				*i* AML	AML	21 12 54.0	
	comp=N,50nm,0.9s						
BAGO	**Egridir - ISPA**	**3.59**	**343**	P	**Pn**	**21 12 01.3**	**+0.8**
KARA	**Karaisali**	**3.60**	**41**	PN	**Pn**	**21 12 00.6**	**+0.1**
DALY	**Dalyan (Mula)**	**3.61**	**310**	PN	**Pn**	**21 11 59.8**	**-0.8**
YURE	**YUREGİR**	**3.65**	**51**	P	**Pn**	**21 12 01.1**	**0.0**
YURE				S	**Sn**	**21 12 44.5**	**0.0**
YURE				*i* AML	AML	21 13 16.0	
	comp=N,80nm,1.9s						
YURE				*i* AML	AML	21 13 45.0	
	comp=E,72nm,2.0s						
YURE				*i* AML	AML	21 14 09.0	
	comp=Z,49nm,1.6s						
HMDT	**Nahal Hemdat**	**3.66**	**128**	Pn	**Pn**	**21 12 01.8**	**+0.5**
HMDT				Sn	**Sn**	**21 12 44.8**	**+0.1**
APMY	**Acipayam-Deniz**	**3.70**	**323**	PN	**Pn**	**21 12 01.3**	**-0.6**
BASM	**Basmaki-Afyon**	**3.75**	**334**	PN	**Pn**	**21 12 02.5**	**-0.1**
YVAC	**Isparta, Yalva**	**3.78**	**349**	P	**Pn**	**21 12 03.1**	**+0.1**
TAHT	**Tahtakopru-Hat**	**3.78**	**60**	PN	**Pn**	**21 12 03.2**	**+0.2**
ALIN	**Konya, Altinte**	**3.79**	**9**	P	**Pn**	**21 12 05.6**	**+2.5**
UJAP	**Al Uja**	**3.82**	**132**	Pn	**Pn**	**21 12 04.3**	**+0.8**
UJAP				Sn	**Sn**	**21 12 48.3**	**-0.3**
AMAZ	**Amatzia**	**3.82**	**141**	Pn	**Pn**	**21 12 03.5**	**-0.1**
AMAZ				Sn	**Sn**	**21 12 48.1**	**-0.1**
TURN	**Turunc**	**3.85**	**306**	PN	**Pn**	**21 12 03.3**	**-0.7**
TURN	**Turunc**	**3.85**	**306**	P	**Pn**	**21 12 03.5**	**-0.5**
TURN				S	**Sn**	**21 12 47.6**	**-1.9**
TURN				*i* AML	AML	21 13 16.0	
	comp=Z,37nm,2.6s						
CMRD	**Camardi-Nigde**	**3.88**	**36**	PN	**Pn**	**21 12 04.8**	**+0.4**
TAVA	**DENIZLI_Tavas**	**3.90**	**319**	P	**Pn**	**21 12 05.2**	**+0.5**
TAVA				S	**Sn**	**21 12 47.8**	**-2.9**
KDHN	**Kadinhani**	**3.96**	**360**	P	**Pn**	**21 12 07.4**	**+1.9**
KZIL	**AFYON_Kizioren**	**4.03**	**337**	P	**Pn**	**21 12 06.6**	**+0.2**
YER	**Yerkesik**	**4.04**	**311**	PN	**Pn**	**21 12 06.2**	**-0.4**
DSI	**Dead Sea**	**4.04**	**137**	Pn	**Pn**	**21 12 06.6**	**0.0**
YTIR	**Yattir**	**4.06**	**141**	Pn	**Pn**	**21 12 06.8**	**-0.1**
YTIR				Sn	**Sn**	**21 12 54.9**	**+0.2**
MULA	**Mugla, Merkez-**	**4.09**	**312**	P	**Pn**	**21 12 08.7**	**+1.3**
MULA				*i* AML	AML	21 14 11.0	
	comp=E,36nm,2.5s						
KZIT	**Kziot**	**4.11**	**152**	Pn	**Pn**	**21 12 08.1**	**+0.5**
KZIT				Sn	**Sn**	**21 12 55.7**	**-0.3**
MDBI	**Mazsada**	**4.23**	**139**	Pn	**Pn**	**21 12 08.5**	**-0.6**
MDBI				Sn	**Sn**	**21 12 58.0**	**-0.7**
DAT	**Datca**	**4.29**	**302**	PN	**Pn**	**21 12 09.2**	**-0.9**
PASA	**Karahalli, USA**	**4.34**	**331**	P	**Pn**	**21 12 09.9**	**-0.8**
PASA				S	**Sn**	**21 12 58.6**	**-3.0**
MLSB	**Milas**	**4.46**	**309**	PN	**Pn**	**21 12 11.5**	**-0.9**
AYDN	**Tasoluk**	**4.62**	**313**	P	**Pn**	**21 12 14.2**	**-0.4**
AYDN				S

baz=144,slow=11,SNR=7.0
1.1nm,0.5s
SONM Songino Array 22.80 48 P **P** **21 29 40.6 +1.5**
1.1nm,0.9s,baz=248,slow=7.6,SNR=4.9
1.1nm,0.9s
CMAR Chiang Mai Arr 22.97 131 P **P** **21 29 39.4 -1.6**
0.5nm,0.3s,baz=316,slow=9.6,SNR=4.7
0.5nm,0.3s
FINES FINESS Array B 43.27 325 P **P** **21 32 38.1 +0.6**
1.3nm,0.5s,baz=111,slow=7.6,SNR=12
1.3nm,0.5s
TIXI Tiksi 44.21 20 LR LR 21 53 09.7
comp=Z,35nm,18.2s,baz=359,slow=39
NOA NORSAR Array B 50.39 324 P **P** **21 33 33.3 0.0**
1.9nm,1.0s,baz=91,slow=7.6,SNR=3.7
1.9nm,1.0s
WRA Warramunga Arr 74.53 128 P **P** **21 36 16.0 +0.8**
0.2nm,0.7s,baz=324,slow=5.9,SNR=1.7
0.2nm,0.7s

---

*IDC **29** 22:01:07.3±0.6, 60°25S×47°11W, h0km, mb4.2/13, mbtmp4.2/14, ML4.3/1, MS3.6/26, Error ellipse: s-maj=21.8km s-min=14.7km az=65.0*
*NEIC **29** 22:01:08.6±1.4, 60°39S±0°09×47°4W±0°2, h10km±1km, mb4.6/20, Error ellipse: s-maj=18.5km s-min=14.6km az=77.0*
ISC 29 22:01:08.4±0.4, 60°31S±0°06×47°24W±0°08, h10km, n65, σ0s98/50, mb4.5/19, MS3.6/25, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**8.95**	**233**	Pn		**Pn**	**22 03 17.0**	**-0.5**
	2.9nm,0.3s,baz=46,slow=9.6,SNR=8.4							
PMSA				Sn		**Sn**	**22 04 59.2**	**+1.0**
	0.8nm,0.3s,baz=0.0,slow=13,SNR=1.8							
PMSA				LR		LR	22 06 26.6	
	comp=Z,251nm,19.5s,baz=106,slow=35							
	26nm,0.6s							
PMSA	**Palmer Station**	**8.95**	**233**	Pn		**Pn**	**22 03 15.7**	**-1.8**
EFI	**East Falkland**	**10.55**	**320**	Pn		**Pn**	**22 03 39.8**	**+0.3**
BELA	**Belgrano 2**	**18.12**	**171**	P		**Pn**	**22 05 18.4**	**-1.4**
VNA3	**Neumayer Olymp**	**18.50**	**142**	P		**Pn**	**22 05 24.7**	**+0.2**
VNA1	**Neumayer--Stat**	**18.79**	**139**	P		**Pn**	**22 05 28.0**	**+0.1**
VNA2	**Neumayer--Watz**	**19.14**	**140**	P		**Pn**	**22 05 31.8**	**-0.4**
	baz=290,slow=15							
SNAA	**Sanae**	**20.73**	**141**	P		**P**	**22 05 49.6**	**+1.0**
SNAA	**Sanae**	**20.73**	**141**	P		**P**	**22 05 49.6**	**+1.0**
	8.2nm,0.9s,baz=283,slow=10,SNR=25							
SNAA				S		**S**	**22 09 36.8**	**-3.0**
	0.8nm,0.6s,baz=295,slow=19,SNR=3.0							
SNAA				LR		LR	22 13 10.9	
	comp=Z,174nm,18.0s,baz=320,slow=35							
	8.2nm,0.9s							
SNAA	**Sanae**	**20.73**	**141**	P		**P**	**22 05 49.7**	**+1.0**
COYC	**Coyhaique**	**20.83**	**304**	P		**P**	**22 05 49.1**	**-0.8**
TROLL	**Troll, Antarti**	**22.44**	**142**	P		**P**	**22 06 08.1**	**+0.9**
LL02	**Futaleuf**	**22.71**	**308**	P		**P**	**22 06 09.4**	**-0.7**
TRQA	**Tornquist**	**24.16**	**331**	P		**P**	**22 06 23.8**	**-0.8**
TRQA				IAmb		IAmb	22 06 30.3	
	comp=Z,18nm,1.2s							
PLCA	**Paso Flores**	**24.33**	**313**	P		**P**	**22 06 26.4**	**+0.1**
	comp=Z,6.8nm,0.9s,baz=157,slow=6.7,SNR=15							
PLCA				LR		LR	22 16 01.4	
	comp=Z,140nm,18.7s,baz=155,slow=37							
	comp=Z,6.8nm,0.9s							
PLCA	**Paso Flores**	**24.33**	**313**	P		**P**	**22 06 25.4**	**-0.8**
PLCA				IAmb		IAmb	22 06 43.4	
	comp=Z,27nm,1.4s							
GO06	**Curarrehue**	**25.68**	**313**	P		**P**	**22 06 36.9**	**-1.5**
QSPA	**South Pole Qui**	**29.92**	**180**	P		**P**	**22 07 17.1**	**+0.9**
	comp=Z,5.8nm,0.7s,baz=170,slow=4.3,SNR=18							
	comp=Z,5.8nm,0.7s							
QSPA	**South Pole Qui**	**29.92**	**180**	P		**P**	**22 07 16.4**	**+0.1**
QSPA				IAmb		IAmb	22 07 26.3	
	comp=Z,13nm,0.9s							
MT09	**Talagante**	**30.75**	**319**	P		**P**	**22 07 23.0**	**-0.7**
CFA	**Coronel Fontan**	**31.91**	**325**	LR		LR	22 20 26.4	
	comp=Z,86nm,20.5s,baz=98,slow=36							
CO01	**Juntas del Tor**	**33.98**	**323**	P		**P**	**22 07 52.7**	**+0.5**
CO01				IAmb		IAmb	22 08 03.3	
	comp=Z,8.1nm,1.0s							
CPUP	**Villa Florida**	**34.67**	**344**	P		**P**	**22 07 58.9**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=175,slow=4.5,SNR=4.7							
CPUP				LR		LR	22 20 49.5	
	comp=Z,73nm,21.8s,baz=179,slow=34							
	comp=Z,2.2nm,0.8s							
VNDA	**Vanda**	**41.24**	**189**	P		**P**	**22 08 54.6**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=140,slow=7.9,SNR=1.8							
VNDA				LR		LR	22 27 23.6	
	comp=Z,164nm,18.0s,baz=162,slow=38							
	comp=Z,0.4nm,0.7s							
MAW	**Mawson**	**42.65**	**148**	P		**P**	**22 09 04.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=205,slow=9.1,SNR=2.4							
MAW				LR		LR	22 26 36.9	
	comp=Z,113nm,18.1s,baz=240,slow=36							
	comp=Z,2.5nm,0.8s							
MNMC	**Minye Minye**	**44.13**	**329**	P		**P**	**22 09 17.8**	**+0.6**
MNMC				IAmb		IAmb	22 09 20.4	
	comp=Z,11nm,0.7s							
BDFB	**Brasilia**	**44.61**	**359**	P		**P**	**22 09 19.2**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=162,slow=6.4,SNR=1.9							
	comp=Z,1.7nm,0.6s							
SIV	**San Ignacio**	**45.38**	**341**	P		**P**	**22 09 27.0**	**0.0**
	comp=Z,2.7nm,0.7s,baz=160,slow=9.3,SNR=13							
SIV				LR		LR	22 27 48.9	
	comp=Z,57nm,21.4s,baz=108,slow=35							
	comp=Z,2.7nm,0.7s							
PTLB	**Pontes e Lacer**	**45.63**	**344**	P		**P**	**22 09 29.3**	**+0.5**
PTLB				IAmb		IAmb	22 09 37.2	
	comp=Z,5.1nm,0.8s							
LPAZ	**La Paz**	**46.50**	**332**	P		**P**	**22 09 36.8**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=163,slow=11,SNR=2.1							
LPAZ				LR		LR	22 30 40.9	
	comp=Z,33nm,18.2s,baz=164,slow=38							
	comp=Z,1.7nm,1.0s							
SUR	**Sutherland**	**51.71**	**89**	P		**P**	**22 10 15.1**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=192,slow=8.4,SNR=1.4							
SUR				LR		LR	22 26 43.3	
	comp=Z,93nm,21.4s,baz=220,slow=30							
	comp=Z,1.9nm,0.4s							
SUR	**Sutherland**	**51.71**	**89**	P		**P**	**22 10 16.5**	**+0.8**
NNA	**Nana**	**52.95**	**323**	LR		LR	22 32 42.5	
	comp=Z,36nm,18.6s,baz=183,slow=36							
SOE	**Somerset East**	**53.80**	**94**	P		**P**	**22 10 31.7**	**+0.6**
RCBR	**Riachuelo**	**55.04**	**14**	LR		LR	22 33 33.2	
	comp=Z,77nm,19.0s,baz=324,slow=35							
BOSA	**Boshof**	**56.99**	**91**	P		**P**	**22 10 53.8**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=227,slow=6.1,SNR=6.3							
BOSA				LR		LR	22 30 01.4	
	comp=Z,65nm,20.4s,baz=194,slow=30							
	comp=Z,3.3nm,0.9s							
BOSA	**Boshof**	**56.99**	**91**	P		**P**	**22 10 53.8**	**-0.3**
BOSA				IAmb		IAmb	22 11 07.3	
	comp=Z,9.4nm,1.3s							
H10N3	**ASCENSION HYDR**	**57.83**	**39**	T		T	23 14 03.0	
	baz=199,slow=74,SNR=15							
H10N1	**ASCENSION HYDR**	**57.84**	**39**	T		T	23 13 56.8	
	baz=199,slow=74,SNR=15							
H10N2	**ASCENSION HYDR**	**57.85**	**39**	T		T	23 14 02.3	
	baz=199,slow=74,SNR=18							
ATAH	**Atahualpa**	**58.01**	**323**	LR		LR	22 36 03.6	
	comp=Z,45nm,18.0s,baz=131,slow=36							
LBTB	**Lobatse**	**60.13**	**88**	P		**P**	**22 11 15.6**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=216,slow=9.6,SNR=4.3							
LBTB				LR		LR	22 31 39.5	
	comp=Z,76nm,20.4s,baz=197,slow=30							
	comp=Z,1.6nm,0.3s							
LBTB	**Lobatse**	**60.13**	**88**	P		**P**	**22 11 15.9**	**-0.2**
LBTB				IAmb		IAmb	22 11 26.3	
	comp=Z,4.6nm,0.8s							
PTGA	**Pitinga**	**60.23**	**345**	LR		LR	22 41 19.8	
	comp=Z,23nm,18.1s,baz=152,slow=40							
TSUM	**Tsumeb**	**61.08**	**78**	LR		LR	22 32 37.5	
	comp=Z,31nm,19.8s,baz=169,slow=31							
MCRA	**Macar, Loja**	**61.10**	**322**	P		**P**	**22 11 21.9**	**-0.7**
MCRA				IAmb		IAmb	22 11 24.3	
	comp=Z,3.6nm,0.7s							
POGA	**Pongola**	**61.24**	**95**	P		**P**	**22 11 24.1**	**+0.7**
BOAV	**Boa Vista**	**63.38**	**345**	P		**P**	**22 11 38.3**	**+0.5**
BOAV				IAmb		IAmb	22 12 03.7	
	comp=Z,5.5nm,1.1s							
SDV	**Santo Domingo**	**71.44**	**336**	LR		LR	22 45 13.1	
	comp=Z,25nm,19.5s,baz=150,slow=37							
QRZ	**Quartz Range**	**74.07**	**210**	P		**P**	**22 12 42.6**	**-1.5**
DBIC	**Dimbokro**	**74.62**	**44**	LR		LR	22 37 22.8	
	comp=Z,40nm,19.7s,baz=154,slow=29							
SJG	**San Juan**	**79.64**	**342**	LR		LR	22 49 13.7	
	comp=Z,23nm,21.8s,baz=143,slow=36							
PPT	**Papeete**	**80.86**	**251**	LR		LR	22 40 08.0	
	comp=Z,46nm,21.9s,baz=162,slow=29							
MBAR	**Mbarara**	**83.53**	**80**	LR		LR	22 45 49.6	
	comp=Z,40nm,20.6s,baz=199,slow=32							
STKA	**Stephens Creek**	**87.86**	**188**	LR		LR	22 53 18.6	
	comp=Z,42nm,18.7s,baz=202,slow=36							
AFI	**Afiamalu**	**93.83**	**233**	P		**P**	**22 14 26.4**	**+0.5**
	comp=Z,17nm,0.8s,baz=174,slow=9.2,SNR=2.3							
AFI				LR		LR	22 48 51.0	
	comp=Z,28nm,19.1s,baz=41,slow=30							
ASAR	**Alice Springs**	**96.32**	**181**	P		**P**	**22 14 38.4**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=172,slow=4.1,SNR=5.0							
	comp=Z,0.5nm,0.7s							
LPIG	**La Paz**	**98.40**	**305**	LR		LR	22 53 15.2	
	comp=Z,41nm,18.7s,baz=349,slow=32							
ATD	**Arta Tunnel**	**99.96**	**84**	LR		LR	22 55 27.3	
	comp=Z,25nm,21.6s,baz=109,slow=33							
GERES	**GERESS Array B**	**119.43**	**42**	PKP		**PKiKP**	**22 19 59.2**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=180,slow=0.5,SNR=4.6							
AKASG	**Malin Array Be**	**126.53**	**50**	PKP		**PKPdf**	**22 20 09.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=247,slow=1.5,SNR=2.7							
FINES	**FINESS Array B**	**133.78**	**40**	PKP		**PKiKP**	**22 20 24.9**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=214,slow=0.5,SNR=1.2							
ILAR	**Eielson Array**	**145.02**	**313**	PKPbc		**PKPbc**	**22 20 43.3**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=148,slow=1.3,SNR=30							
BVAR	**Borovoye Array**	**146.16**	**74**	PKPbc		**PKPbc**	**22 20 47.2**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=222,slow=1.9,SNR=2.6							
MKAR	**Makanchi Array**	**147.98**	**92**	PKPbc		**PKPbc**	**22 20 52.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=229,slow=3.1,SNR=2.5							

---

*TRN **29** 22:03:33.0, 10°34N×62°28W, h2km, MD3.9*
*FUNV **29** 22:03:35.9, 10°36N×62°21W, h9km, MW3.1*
ISC 29 22:03:34.2±1.4, 10°33N±0°05×62°27W±0°04, h6km±11km, n26, σ1s02/36, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.80**	**91**	*e*P		**Pg**	**22 03 49.0**	**-0.6**
TRN	**Trinidad (W)**	**0.90**	**70**	*e*P		**Pg**	**22 03 50.8**	**-0.8**
TRN				*e*S		**Sg**	**22 04 03.5**	**+0.2**
CRUV	**Carupano**	**1.01**	**290**	*e*P		**Pb**	**22 03 55.0**	**+0.9**
CRUV				*e*S		**Sg**	**22 04 06.8**	**0.0**
TBH	**Brigand Hill**	**1.19**	**83**	*e*P		**Pn**	**22 03 57.3**	**-0.1**
TPR	**Prospect**	**1.69**	**60**	*e*P		**Pn**	**22 04 04.9**	**+0.5**
GRGR	**Grenville**	**1.89**	**18**	*e*P		**Pn**	**22 04 06.0**	**-1.1**
GRGR				*e*S		**Sn**	**22 04 31.4**	**+0.2**
TOSP	**Speyside**	**1.95**	**60**	*e*P		**Pn**	**22 04 08.9**	**+1.0**
TOSP				*e*S		**Sn**	**22 04 32.4**	**-0.4**
GCMP	**Grenada, Carri**	**2.29**	**21**	*e*P		**Pn**	**22 04 12.0**	**-0.6**
GCMP				*e*S		**Sn**	**22 04 41.7**	**+0.5**
PCRV	**Puerto La Cruz**	**2.34**	**266**	*e*P		**Pn**	**22 04 14.2**	**+1.0**
PCRV				*e*S		**Sn**	**22 04 42.8**	**+0.4**
PRGV	**PARIAGUAN**	**2.82**	**237**	*e*P		**Pn**	**22 04 21.2**	**+1.3**
PRGV				*e*S		**Sn**	**22 04 54.3**	**+0.1**
SVB	**Belmont**	**3.08**	**19**	*e*P		**Pb**	**22 04 29.9**	**+0.3**
SVB				*e*S		**Sb**	**22 05 08.3**	**+0.8**
MCLT	**Moule a Chique**	**3.60**	**21**	*e*P		**Pn**	**22 04 30.7**	**+0.1**
MCLT				*e*S		**Sn**	**22 05 12.9**	**-0.5**
SLBI	**Saint Lucia, B**	**3.88**	**19**	*e*P		**Pn**	**22 04 34.3**	**-0.1**
SLBI	**Saint Lucia, B**	**3.88**	**19**	*e*S		**Sn**	**22 05 19.7**	**-0.6**
MPOM	**Morne Pois Mar**	**4.31**	**18**	*e*P		**Pn**	**22 04 40.3**	**0.0**
MPOM	**Morne Pois Mar**	**4.31**	**18**	*e*S		**Sn**	**22 05 30.4**	**-0.7**
BIM	**Bigot**	**4.32**	**16**	*e*P		**Pn**	**22 04 41.8**	**+1.3**
BIM	**Bigot**	**4.32**	**16**	*e*S		**Sn**	**22 05 30.6**	**-0.7**
FDF	**Fort de France**	**4.51**	**14**	*e*P		**Pn**	**22 04 43.3**	**+0.2**
FDF	**Fort de France**	**4.51**	**14**	*e*S		**Sn**	**22 05 36.1**	**+0.1**
CACV	**CAICARA DEL OR**	**5.04**	**237**	*e*P		Pn	22 04 45.3	-5.1
CACV				*e*S		Sn	22 05 37.0	-12
BENV	**Beln**	**5.26**	**266**	*e*P		**Pn**	**22 04 53.7**	**+0.2**
BENV				*e*S		**Sn**	**22 05 51.9**	**-2.8**
CBE	**Ff, Capester**	**5.74**	**6**	*e*P		**Pn**	**22 05 00.5**	**+0.5**
CBE	**Ff, Capester**	**5.74**	**6**	*e*S		**Sn**	**22 06 06.5**	**+0.2**
BAUV	**El Baul**	**5.86**	**257**	*e*P		**Pn**	**22 05 01.4**	**-0.3**
BAUV	**El Baul**	**5.86**	**257**	*e*P		**Pn**	**22 05 02.2**	**+0.5**
BAUV				*e*S		**Sn**	**22 06 05.7**	**-3.6**

---

*TIR **29** 22:09:11.9, 40°38N×20°97E, h2km, Md2.5, Ml2.4*
*ATH **29** 22:09:13.4, 40°39N×20°97E, h12km±1km, ML2.4/4, Error ellipse: s-maj=2.1km s-min=1.1km az=96.0*
*THE **29** 22:09:13.1, 40°38N×20°95E, h12km±1km, ML2.3/9, Error ellipse: s-maj=1.3km s-min=0.5km az=44.0*
*SKO **29** 22:09:14.4, 40°38N×21°01E, h9km*
ISC 29 22:09:13.3±0.8, 40°38N±0°02×20°97E±0°02, h11km±5km, n35, σ0s95/59, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.07**	**62**	P		**Pg**	**22 09 15.8**	**0.0**
NEST				S		**Sg**	**22 09 18.1**	**+0.5**
	5μm,0.2s							
NEST	**Nestorio**	**0.07**	**62**	P		**Pg**	**22 09 15.8**	**0.0**
NEST				S		**Sg**	**22 09 18.1**	**+0.5**
NEST				AML		AML	22 09 19.4	
	comp=N,14784μm,0.3s							
NEST				AML		AML	22 09 19.6	
	comp=E,14022μm,0.3s							
PENT	**Pentalofos**	**0.23**	**145**	P		**Pg**	**22 09 17.9**	**-0.2**
PENT				S		**Sg**	**22 09 21.7**	**+0.4**
	comp=E,550nm,0.3s							
PENT	**Pentalofos**	**0.23**	**145**	P		**Pg**	**22 09 17.9**	**-0.2**
PENT				S		**Sg**	**22 09 21.7**	**+0.4**
KBN	**Korca**	**0.28**	**331**	P		**Pg**	**22 09 18.3**	**-0.7**
KBN				S		**Sg**	**22 09 23.4**	**+0.6**
	comp=E,1μm,0.4s							
KBN	**Korca**	**0.28**	**331**	P		**Pg**	**22 09 18.2**	**-0.7**
	baz=331							
KBN				S		**Sg**	**22 09 22.7**	**-0.2**
	baz=331							
KBN				AMP				
	comp=N,5.3nm,0.5s,baz=331							
LSK	**Leskovik**	**0.36**	**231**	P		**Pg**	**22 09 19.5**	**-1.1**
LSK				S		**Sg**	**22 09 25.4**	**0.0**
	comp=N,792nm,0.4s							
LSK	**Leskovik**	**0.36**	**231**	P		**Pg**	**22 09 19.4**	**-1.1**
	baz=231							
LSK				S		**Sg**	**22 09 25.5**	**0.0**
	baz=231							
LSK				AMP				
	comp=N,4.0nm,0.3s,baz=231							
FNA	**Florina**	**0.51**	**38**	P		**Pg**	**22 09 22.8**	**-0.5**
FNA				S		**Sg**	**22 09 30.4**	**+0.4**
	comp=N,722nm,0.4s							
FNA	**Florina**	**0.51**	**38**	*i* Pg		**Pg**	**22 09 22.7**	**-0.5**
FNA				*i* Sg		**Sb**	**22 09 31.1**	**-0.6**
FNA	**Florina**	**0.51**	**38**	P		**Pg**	**22 09 22.7**	**-0.5**
	baz=38							
FNA				S		**Sg**	**22 09 30.7**	**+0.7**
	baz=38							
FNA	**Florina**	**0.51**	**38**	P		**Pg**	**22 09 22.8**	**-0.5**
FNA				S		**Sg**	**22 09 30.4**	**+0.4**
FNA				AML		AML	22 09 31.8	
	comp=E,1488μm,0.3s							
FNA				AML		AML	22 09 32.7	
	comp=N,1380μm,0.4s							
KPRO	**Kipourio**	**0.52**	**144**	P		**Pg**	**22 09 23.2**	**-0.3**
KPRO				S		**Sb**	**22 09 31.4**	**-0.7**
	comp=N,338nm,0.4s							
KPRO	**Kipourio**	**0.52**	**144**	P		**Pg**	**22 09 23.2**	**-0.3**
KPRO				S		**Sb**	**22 09 31.4**	**-0.7**
KPRO				AML		AML	22 09 33.9	
	comp=E,780μm,0.4s							
KPRO				AML		AML	22 09 34.1	
	comp=N,562μm,0.3s							
KZN	**Kozani**	**0.62**	**97**	P		**Pg**	**22 09 25.2**	**-0.1**
KZN				S		**Sb**	**22 09 34.4**	**-0.5**
	comp=N,292nm,0.2s							
KZN	**Kozani**	**0.62**	**97**	P		**Pg**	**22 09 25.2**	**-0.1**
KZN				S		**Sb**	**22 09 34.4**	**-0.5**
KZN				AML		AML	22 09 36.5	
	comp=N,418μm,0.2s							
KZN				AML		AML	22 09 36.8	
	comp=E,744μm,0.2s							
JAN	**Janina**	**0.73**	**187**	P		**Pg**	**22 09 27.5**	**+0.1**
JAN				S		**Sg**	**22 09 36.8**	**-0.1**
	comp=E,148nm,0.4s							
JAN	**Janina**	**0.73**	**187**	P		**Pg**	**22 09 27.5**	**+0.1**
OHR	**Ohrid**	**0.74**	**350**	*i* Pg		**Pg**	**22 09 27.4**	**-0.2**
OHR				*i* Sg		**Sb**	**22 09 39.1**	**+0.8**
OHR				*e*Lg		Lg	22 09 40.7	
	comp=E,112nm,0.5s							
OHR				*e*Lg		Lg	22 09 41.5	
	comp=N,58nm,0.3s							
SRN	**Sarande**	**0.89**	**236**	P		**Pg**	**22 09 30.1**	**-0.4**
	baz=237							
SRN				S		**Sn**	**22 09 44.0**	**-0.7**
	baz=237							
SRN				AMP				
	comp=E,0.2nm,0.5s,baz=237							
IGT	**Igoumenitsa**	**0.98**	**210**	P		**Pb**	**22 09 32.0**	**-0.2**
IGT				S		**Sb**	**22 09 45.6**	**+0.5**
	comp=E,92nm,0.9s							
IGT	**Igoumenitsa**	**0.98**	**210**	*i* Pg		**Pg**	**22 09 32.3**	**+0.2**
IGT				*i* Sg		**Sn**	**22 09 52.7**	**+6.0**
IGT	**Igoumenitsa**	**0.98**	**210**	P		**Pb**	**22 09 31.7**	**-0.5**
	baz=211							
IGT				S		**Sn**	**22 09 46.7**	**-0.1**
	baz=211							
IGT	**Igoumenitsa**	**0.98**	**210**	P		**Pb**	**22 09 32.0**	**-0.2**
KEK	**Kerkira**	**1.12**	**234**	P		**Pb**	**22 09 34.4**	**-0.2**
KEK	**Kerkira**	**1.12**	**234**	P		**Pb**	**22 09 34.3**	**-0.2**
THL	**Klokotos Trika**	**1.15**	**135**	P		**Pb**	**22 09 34.2**	**-0.9**
THL	**Klokotos Trika**	**1.15**	**135**	P		**Pb**	**22 09 34.2**	**-0.9**
GRG	**Griva**	**1.23**	**62**	P		**Pn**	**22 09 35.8**	**-0.7**
GRG				S		**Sg**	**22 09 53.5**	**+0.5**
GRG	**Griva**	**1.23**	**62**	*i* Pg		**Pb**	**22 09 36.6**	**0.0**
TIR	**Tirane**	**1.28**	**319**	*i* Pn		**Pg**	**22 09 37.9**	**+0.1**
TIR	**Tirane**	**1.28**	**319**	P		**Pb**	**22 09 37.3**	**0.0**
	baz=320							
TIR				S		**Sg**	**22 09 55.2**	**+0.8**
	baz=320							
TIR				AMP				
	comp=N,0.2nm,0.5s,baz=320							
MAKR	**Makrakomi, Fth**	**1.64**	**146**	P		**Pb**	**22 09 43.5**	**0.0**
KNT	**Kendrikon**	**1.66**	**61**	P		**Pn**	**22 09 41.6**	**-0.7**
KNT	**Kendrikon**	**1.66**	**61**	P		**Pn**	**22 09 41.6**	**-0.7**

---

*NEIC **29** 22:09:40.1±1.4, 18°7N±0°1×63°63W±0°06, h18km±13km, Error ellipse: s-maj=20.7km s-min=3.6km az=200.0*
*TRN **29** 22:09:40.3, 18°63N×63°62W, h29km, MD4.4*
*RSPR **29** 22:09:41.9, 18°63N×63°53W, h23km±15km, MD3.4/10*
ISC 29 22:09:40.2±3.3, 18°66N±0°08×63°62W±0°03, h17km±23km, n86, σ0s79/106, 15C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.80**	**139**			**Pb**	**22 09 55.1**	**-0.5**
SMRT				Sn		**Sb**	**22 10 05.7**	**-0.3**
SMRT	**St. Maarten**	**0.80**	**139**	*e*P		**Pn**	**22 09 56.8**	**+0.2**
SMRT	**St. Maarten**	**0.80**	**139**	*e*		Pn	22 10 06.0	+9.3
SABA	**Saba**	**1.09**	**161**			**Pb**	**22 10 00.3**	**-0.3**
SABA				Sn		**Sb**	**22 10 15.1**	**+0.5**
SABA	**Saba**	**1.09**	**161**	*e*P		**Pb**	**22 10 00.5**	**-0.1**
SABA				*e*S		**Sb**	**22 10 15.1**	**+0.5**
SJVI	**Gifft Hill Sch**	**1.14**	**254**	*e*P		**Pn**	**22 10 00.8**	**-0.5**
SJVI	**Gifft Hill Sch**	**1.14**	**254**	*e*S		**Sb**	**22 10 15.8**	**-0.1**
SJVI	**Gifft Hill Sch**	**1.14**	**254**			**Pn**	**22 10 00.4**	**-0.9**
SJVI				Sn		**Sb**	**22 10 15.7**	**-0.1**
SJVI				IAML			22 10 16.5	
	comp=E,614nm,0.2s							
SJVI				IAML			22 10 17.4	
	comp=N,897nm,0.4s							
STVI	**Saint Thomas**	**1.30**	**257**	*e*P		**Pn**	**22 10 03.3**	**-0.2**
STVI	**Saint Thomas**	**1.30**	**257**	*e*S		**Sn**	**22 10 19.8**	**-0.7**
STVI	**Saint Thomas**	**1.30**	**257**			**Pn**	**22 10 02.8**	**-0.7**
STVI				IAML			22 10 21.1	
	comp=N,1μm,0.2s							
STVI				IAML			22 10 21.7	
	comp=E,976nm,0.2s							
STVI	**Saint Thomas**	**1.30**	**257**			**Sn**	**22 10 19.8**	**-0.7**
STVI	**Saint Thomas**	**1.30**	**257**	*e*P		**Pn**	**22 10 03.3**	**-0.2**
STVI				*e*S		**Sn**	**22 10 19.8**	**-0.7**
SEUS	**St. Eustatius**	**1.31**	**152**			**Pn**	**22 10 03.5**	**-0.2**
SEUS				IAML			22 10 26.4	
	comp=E,2μm,0.2s							
SEUS				IAML			22 10 27.1	
	comp=N,2μm,0.2s							
SEUS	**St. Eustatius**	**1.31**	**152**	*e*P		**Pn**	**22 10 03.3**	**-0.3**
SEUS				*e*S		**Sb**	**22 10 21.2**	**+0.5**
CDVI	**St. Croix**	**1.41**	**231**	*e*P		**Pn**	**22 10 05.0**	**-0.1**
CDVI	**St. Croix**	**1.41**	**231**	*e*S		**Sn**	**22 10 22.3**	**-1.0**
CDVI	**St. Croix**	**1.41**	**231**			**Pn**	**22 10 05.0**	**-0.1**
CDVI				IAML			22 10 31.2	
	comp=E,2μm,0.5s							
CDVI				IAML			22 10 36.2	
	comp=N,1μm,0.5s							
CDVI	**St. Croix**	**1.41**	**231**			**Sn**	**22 10 22.3**	**-1.0**
CDVI	**St. Croix**	**1.41**	**231**	*e*P		**Pn**	**22 10 05.0**	**-0.1**
CDVI			

ABD					IAML			22 11 21.3		
	comp=E,156nm,1.1s									
ABD	**La Joyeuse, An**	**2.98**	**137**	*eP*		**Pn**		**22 10 26.5**	**-0.1**
ABD				*eS*		**Sn**		**22 11 02.0**	**+0.1**
AOPR	**Arecibo Observ**	**2.99**	**265**	⇓*eP*		**Pn**		**22 10 26.4**	**-0.3**
AOPR	**Arecibo Observ**	**2.99**	**265**	*eS*		**Sn**		**22 11 02.8**	**+0.6**
AOPR	**Arecibo Observ**	**2.99**	**265**			**Pn**		**22 10 27.1**	**+0.3**
AOPR					IAML			22 11 20.3		
	comp=E,337nm,0.5s									
AOPR					IAML			22 11 23.2		
	comp=N,165nm,0.5s									
AOPR	**Arecibo Observ**	**2.99**	**265**	*eP*		**Pn**		**22 10 29.7**	**+2.9**
AOPR				*eS*		**Sn**		**22 11 03.0**	**+0.7**
CBE	**Ff, Capester**	**3.21**	**143**			**Pn**		**22 10 30.2**	**+0.3**
CBE	**Ff, Capester**	**3.21**	**143**	*eP*		**Pn**		**22 10 30.8**	**+0.9**
MLPR	**Magueyes Islan**	**3.32**	**259**	⇑*eP*		**Pn**		**22 10 32.1**	**+0.7**
MLPR	**Magueyes Islan**	**3.32**	**259**	Pn		**Pn**		**22 10 31.7**	**+0.4**
GDSD	**La Dsirade Is**	**3.37**	**133**	Pn		**Pn**		**22 10 32.4**	**+0.3**
GDSD					IAML			22 11 16.3		
	comp=E,72nm,2.2s									
CRPR	**Cabo Rojo, PR**	**3.38**	**260**	Pn		**Pn**		**22 10 32.2**	**+0.2**
MDCT	**Cottage Hill,**	**3.66**	**145**	*eP*		**Pn**		**22 10 37.7**	**+1.7**
MDVC	**Dominica, Viel**	**3.69**	**145**	*eP*		**Pn**		**22 10 36.5**	**0.0**
SVN	**Savane Anatole**	**4.46**	**148**	Pn		**Pn**		**22 10 46.6**	**-0.5**
FDF	**Fort de France**	**4.56**	**148**	Pn		**Pn**		**22 10 47.1**	**-1.4**
FDF					IAML			22 11 47.8		
	comp=E,54nm,2.2s									
FDF					IAML			22 12 20.2		
	comp=N,74nm,2.2s									
ILAM	**Ilet Lapin Mar**	**4.67**	**145**	Pn		**Pn**		**22 10 49.4**	**-0.5**
ILAM					IAML			22 13 25.9		
	comp=N,58nm,2.3s									
ILAM					IAML			22 13 30.2		
	comp=E,58nm,1.9s									
ILAM	**Ilet Lapin Mar**	**4.67**	**145**	*eP*		**Pn**		**22 10 51.6**	**+1.6**
ILAM	**Ilet Lapin Mar**	**4.67**	**145**	*eS*		**Sn**		**22 11 42.2**	**-1.5**
BIM	**Bigot**	**4.79**	**149**	Pn		**Pn**		**22 10 52.2**	**+0.6**
BIM					IAML			22 13 22.4		
	comp=N,93nm,0.3s									
BIM	**Bigot**	**4.79**	**149**	*eP*		**Pn**		**22 10 53.7**	**+2.1**
MPOM	**Morne Pois Mar**	**4.96**	**147**	Pn		**Pn**		**22 10 54.8**	**+0.9**
MPOM					IAML			22 11 53.8		
	comp=E,57nm,2.7s									
MPOM					IAML			22 13 07.7		
	comp=N,41nm,2.9s									
MPOM	**Morne Pois Mar**	**4.96**	**147**	*eP*		**Pn**		**22 10 54.7**	**+0.9**
MPOM	**Morne Pois Mar**	**4.96**	**147**	*eS*		**Sn**		**22 11 49.2**	**-1.6**

IDC **29** *22:15:47.2±0.8,39.°12N×73.°98E,h0km,mb3.9/15, mbtmp3.9/20,ML3.1/6,MS3.3/5,Error ellipse: s-maj=16.7km s-min=12.6km az=132.0*
SOME **29** *22:15:48.5,39.°37N×74.°10E,h0km*
KRNET **29** *22:15:49.4±0.1,39.°25N×73.°91E,mb4.4*
MOS **29** *22:15:49.0±1.2,39.°16N×74.°05E,h13km,mb4.2/7,Error ellipse: s-maj=6.8km s-min=4.1km az=85.3*
NEIC **29** *22:15:50.6±2.8,39.°31N±0.°04×74.°06E±0.°07,h10km±1km, mb4.4/17,Error ellipse: s-maj=9.6km s-min=6.5km az=114.0*
BJI **29** *22:15:50.0±0.0,39.°19N×74.°00E,h5km,mb4.1/20, mB4.5/7,ML3.6/7,Ms3.6/5,Ms7 3.5/5*
NNC **29** *22:15:51.3±1.3,39.°34N×74.°16E,h0km,mb4.7,mpv4.5, Error ellipse: s-maj=10.4km s-min=6.5km az=170.0*
ISC 29 22:15:49.8±0.4,39.°09N±0.°03×73.°98E±0.°02,h10km,n226, σ1s91/265,mb4.2/28,MS3.2/4,34C-27D,
Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.60**	**74**	Pg		Pn	22 16 09.3	-9.0
KSH				Sg		Sn	22 16 22.5	-17
KSH				smax		smax		
	comp=N,740nm,0.9s							
KSH				smax		smax		
	comp=E,1μm,0.7s							
DRK	**Karamyk**	**1.73**	**284**	⇑*iP*		**Pn**	**22 16 19.9**	**-0.4**
	baz=79							
DRK				⇑*iS*		**Sn**	**22 16 42.2**	**-0.4**
	baz=79							
DRK	**Karamyk**	**1.73**	**284**			**Pn**	**22 16 19.8**	**-0.4**
DRK					Sn	**Sn**	**22 16 44.4**	**+1.8**
BTK	**Batken**	**2.63**	**293**			**Pn**	**22 16 35.1**	**+2.9**
BTK	**Batken**	**2.63**	**293**	PN		**Pn**	**22 16 35.2**	**+2.9**
NRN	**Naryn**	**2.80**	**33**	Pn		**Pn**	**22 16 34.1**	**-0.8**
NRN	**Naryn**	**2.80**	**33**	PN		**Pn**	**22 16 34.1**	**-0.8**
GAR	**Garm**	**2.85**	**269**	⇓*iP*		**Pn**	**22 16 36.9**	**+1.4**
	baz=66							
GAR				⇓*iS*		**Sn**	**22 17 11.1**	**+1.1**
	baz=66							
GAR	**Garm**	**2.85**	**269**			**Pn**	**22 16 38.4**	**+3.0**
GAR	**Garm**	**2.85**	**269**	*i* PN		**Pn**	**22 16 36.9**	**+1.4**
GAR				*i* S		**Sn**	**22 17 11.1**	**+1.1**
AML	**Almayashu**	**3.04**	**356**	P		**Pn**	**22 16 38.9**	**+0.6**
	SNR=260							
AML	**Almayashu**	**3.04**	**356**	*i* PN		**Pn**	**22 16 38.3**	**0.0**
AML				*i* S		**Sn**	**22 17 13.7**	**-1.3**
ARK	**Arkit**	**3.11**	**331**	⇑*iP*		**Pn**	**22 16 38.7**	**-0.3**
	baz=30							
ARK				⇑*iS*		**Sn**	**22 17 14.9**	**-1.4**
	baz=30							
ARK	**Arkit**	**3.11**	**331**	*i* PN		**Pn**	**22 16 38.7**	**-0.3**
ARK				*i* S		**Sn**	**22 17 14.9**	**-1.4**
UCH	**Uchtor**	**3.16**	**7**	P		**Pn**	**22 16 40.6**	**+0.7**
	SNR=191							
UCH	**Uchtor**	**3.16**	**7**	⇓*iP*		**Pn**	**22 16 39.8**	**-0.2**
	baz=9.0							
UCH				⇓*iS*		**Sn**	**22 17 16.8**	**-1.1**
	baz=9.0							
UCH	**Uchtor**	**3.16**	**7**	*i* PN		**Pn**	**22 16 39.8**	**-0.2**
UCH				*i* S		**Sn**	**22 17 16.8**	**-1.1**
TRKS	**Terek-Say**	**3.26**	**319**	⇑*iP*		**Pn**	**22 16 40.0**	**-1.1**
	baz=17							
TRKS				⇑*iS*		**Sn**	**22 17 17.2**	**-2.9**
	baz=17							
TRKS	**Terek-Say**	**3.26**	**319**	*i* PN		**Pn**	**22 16 40.0**	**-1.1**
TRKS				*i* S		**Sn**	**22 17 17.2**	**-2.9**
AAK	**Ala-Archa**	**3.56**	**6**	P		**Pn**	**22 16 46.6**	**+1.3**
	SNR=32							
AAK	**Ala-Archa**	**3.56**	**6**	Pn		**Pn**	**22 16 46.5**	**+1.3**
	9.1nm,0.3s,baz=189,slow=14,SNR=54							
AAK					Lg	Lg	22 17 35.5	
	7.8nm,0.3s,baz=217,slow=20,SNR=1.7 29nm,0.4s							
AAK	**Ala-Archa**	**3.56**	**6**	⇑*eP*		**Pn**	**22 16 45.3**	**0.0**
	baz=7.0							
AAK				⇑*iS*		**Sn**	**22 17 26.2**	**-1.3**
	baz=7.0							
AAK	**Ala-Archa**	**3.56**	**6**			**Pn**	**22 16 46.1**	**+0.9**
AAK	**Ala-Archa**	**3.56**	**6**	PN		**Pn**	**22 16 46.1**	**+0.9**
EKS2	**Erkin-Say**	**3.57**	**358**	P		**Pn**	**22 16 46.8**	**+1.5**
	SNR=44							
EKS2	**Erkin-Say**	**3.57**	**358**	⇑*iP*		**Pn**	**22 16 45.1**	**-0.2**
	baz=58							
EKS2				⇑*iS*		**Sn**	**22 17 25.7**	**-1.9**
	baz=58							
EKS2	**Erkin-Say**	**3.57**	**358**	*i* PN		**Pn**	**22 16 45.1**	**-0.2**
EKS2				*i* S		**Sn**	**22 17 25.7**	**-1.9**
ULHL	**Ulahol**	**3.59**	**28**	P		**Pb**	**22 16 51.9**	**-1.6**
	SNR=38							
ULHL	**Ulahol**	**3.59**	**28**	⇑*iP*		**Pn**	**22 16 46.2**	**+0.5**
	baz=30							
ULHL				⇑*iS*		**Sn**	**22 17 27.9**	**-0.3**
	baz=30							
ULHL	**Ulahol**	**3.59**	**28**	*i* PN		**Pn**	**22 16 46.2**	**+0.5**
ULHL				*i* S		**Sn**	**22 17 27.9**	**-0.3**
KBK	**Karagaybulak**	**3.63**	**11**	P		**Pn**	**22 16 47.6**	**+1.3**
	SNR=9.5							
KBK	**Karagaybulak**	**3.63**	**11**	⇑*iP*		**Pn**	**22 16 46.4**	**+0.1**
	baz=13							
KBK				⇑*iS*		**Sn**	**22 17 28.1**	**-1.2**
	baz=13							
KBK	**Karagaybulak**	**3.63**	**11**	*i* PN		**Pn**	**22 16 46.4**	**+0.1**
KBK				*i* S		**Sn**	**22 17 28.1**	**-1.2**
MRKS	**Merke**	**3.69**	**351**	*eP*		**Pb**	**22 16 53.9**	**-1.2**
	127nm,0.2s							
MRKS				*eS*		**Sb**	**22 17 41.0**	**+1.0**
	175nm,0.3s							
MRKS	**Merke**	**3.69**	**351**	Pg		**Pb**	**22 16 53.9**	**-1.2**
	127nm,0.2s							
MRKS				Lg		Lg	22 17 42.2	
	175nm,0.3s							
BOOM	**Boomskoye usch**	**3.71**	**23**			**Pn**	**22 16 47.3**	**+0.1**
BOOM	**Boomskoye usch**	**3.71**	**23**	PN		**Pn**	**22 16 47.3**	**+0.1**
CHGR	**Chuyangaron**	**3.79**	**265**	⇑*eP*		**Pn**	**22 16 50.0**	**+1.7**
	baz=62							
CHGR				⇑*iS*		**Sn**	**22 17 34.3**	**+1.3**
	baz=62							
CHGR	**Chuyangaron**	**3.79**	**265**			**Pn**	**22 16 51.0**	**+2.7**
CHGR	**Chuyangaron**	**3.79**	**265**	PN		**Pn**	**22 16 51.0**	**+2.7**
TARG	**Taragay, Kyrgy**	**3.93**	**47**			**Pn**	**22 16 50.8**	**+0.2**
TARG	**Taragay, Kyrgy**	**3.93**	**47**	PN		**Pn**	**22 16 50.8**	**+0.2**
CHMS	**Chumysh**	**3.94**	**8**	P		**Pn**	**22 16 54.4**	**+4.0**
	SNR=8.4							
CHMS	**Chumysh**	**3.94**	**8**	⇑*iP*		**Pn**	**22 16 50.5**	**+0.1**
	baz=9.0							
CHMS				⇑*iS*		**Sn**	**22 17 35.2**	**-1.6**
	baz=9.0							
CHMS	**Chumysh**	**3.94**	**8**	Pg		Pg	22 17 17.3	+12
	88nm,0.3s							
CHMS				Lg		Lg	22 18 20.9	
	419nm,0.4s							
CHMS	**Chumysh**	**3.94**	**8**	*i* PN		**Pn**	**22 16 50.5**	**+0.1**
CHMS				*i* S		**Sn**	**22 17 35.2**	**-1.6**
TKM2	**Tokmak 2**	**4.01**	**17**	P		**Pn**	**22 16 52.4**	**+0.8**
	SNR=10.0							
TKM2	**Tokmak 2**	**4.01**	**17**	⇓*eP*		**Pn**	**22 16 51.8**	**+0.3**
	baz=19							
TKM2				⇓*eS*		**Sn**	**22 17 37.3**	**-1.4**
	baz=19							
TKM2	**Tokmak 2**	**4.01**	**17**	⇑Pn		**Pn**	**22 16 52.1**	**+0.5**
	13nm,0.5s							
TKM2				⇑Pg		**Pb**	**22 16 59.4**	**-1.3**
	67nm,0.7s							
TKM2				⇓Lg		Lg	22 17 48.3	
	107nm,0.8s							
TKM2	**Tokmak 2**	**4.01**	**17**	*i* PN		**Pn**	**22 16 52.0**	**+0.5**
TKM2					pmax	pmax		
	comp=Z,13nm,0.5s							
USP	**Ospenovka**	**4.19**	**5**	P		**Pn**	**22 16 55.9**	**+2.1**
	SNR=15							
USP	**Ospenovka**	**4.19**	**5**	⇑*iP*		**Pn**	**22 16 53.7**	**-0.1**
	baz=6.0							
USP				⇑*eS*		**Sn**	**22 17 40.9**	**-1.9**
	baz=6.0							
USP	**Ospenovka**	**4.19**	**5**	*i* PN		**Pn**	**22 16 53.7**	**-0.1**
USP				*eS*		**Sn**	**22 17 40.9**	**-1.9**
KST	**Kastek**	**4.22**	**20**	*eP*		**Pb**	**22 17 03.5**	**-0.7**
	comp=Z,33nm,0.4s							
KST				*eS*		**Sb**	**22 17 57.8**	**+2.5**
	comp=Z,150nm,0.7s							
KST	**Kastek**	**4.22**	**20**	Pg		**Pb**	**22 17 03.5**	**-0.7**
	comp=Z,33nm,0.4s							
KST				Lg		Lg	22 17 57.8	
	comp=Z,150nm,0.7s							
TAS	**Tashkent**	**4.22**	**303**	Pn		**Pn**	**22 16 55.7**	**+1.5**
TAS	**Tashkent**	**4.22**	**303**	PN		**Pn**	**22 16 55.7**	**+1.5**
IUG	**Iuzhnay**	**4.28**	**317**	*eP*		**Pg**	**22 17 10.6**	**-1.2**
	comp=Z,134nm,0.5s							
IUG				*eS*		**Sg**	**22 18 09.9**	**+2.7**
	comp=Z,240nm,0.8s							
IUG	**Iuzhnay**	**4.28**	**317**	*ePN*		**Pn**	**22 16 56.7**	**+1.6**
DZA	**Taraz**	**4.29**	**333**	*eP*		**Pb**	**22 17 07.4**	**+2.1**
	comp=Z,71nm,0.3s							
DZA				*eS*		**Sg**	**22 18 04.3**	**-3.2**
	comp=Z,259nm,1.0s							
DGS	**Degeres**	**4.36**	**18**	*eP*		**Pb**	**22 17 07.0**	**+0.5**
	comp=Z,110nm,0.7s							
DGS				*eS*		**Sb**	**22 18 03.9**	**+4.6**
	comp=Z,110nm,0.8s							
DGS	**Degeres**	**4.36**	**18**	Pg		**Pb**	**22 17 07.0**	**+0.5**
	comp=Z,110nm,0.7s							
DGS				Lg		Lg	22 18 03.8	
	comp=Z,110nm,0.8s							
SGDS	**Sogindy**	**4.38**	**6**	*eP*		**Pb**	**22 17 06.3**	**-0.6**
	comp=Z,58nm,0.7s							
SGDS				*eS*		**Sb**	**22 18 01.9**	**+2.1**
	comp=Z,63nm,1.1s							
SGDS	**Sogindy**	**4.38**	**6**	Pg		**Pb**	**22 17 06.3**	**-0.6**
	comp=Z,58nm,0.7s							
SGDS				Lg		Lg	22 18 03.3	
	comp=Z,63nm,1.1s							
SGDS	**Sogindy**	**4.38**	**6**	*ePN*		**Pn**	**22 16 58.3**	**+1.9**
MTBS	**Maitube**	**4.44**	**24**	*eP*		**Pb**	**22 17 07.3**	**-0.5**
	comp=Z,71nm,0.5s							
MTBS				*eS*		**Sb**	**22 18 04.2**	**+2.8**
	comp=Z,83nm,0.7s							
MTBS	**Maitube**	**4.44**	**24**	Pg		**Pb**	**22 17 07.3**	**-0.5**
	comp=Z,71nm,0.5s							
MTBS				Lg		Lg	22 18 05.0	
	comp=Z,83nm,0.7s							
TNSS	**Tian-Shan**	**4.53**	**29**	*eP*		**Pb**	**22 17 09.0**	**-0.6**
	comp=Z,145nm,0.6s							
TNSS				*eS*		**Sb**	**22 18 06.9**	**+2.4**
	comp=Z,61nm,0.7s							
TNSS	**Tian-Shan**	**4.53**	**29**	Pg		**Pb**	**22 17 09.0**	**-0.6**
	comp=Z,145nm,0.6s							
TNSS				Lg		Lg	22 18 06.9	
	comp=Z,61nm,0.7s							
ANVS	**Anan'yevo**	**4.62**	**36**	⇑*eP*		**Pn**	**22 17 00.8**	**+0.9**
	baz=38							
ANVS				⇑*iS*		**Sn**	**22 17 53.0**	**-0.7**
	baz=38							
ANVS	**Anan'yevo**	**4.62**	**36**	*i* PN		**Pn**	**22 17 00.8**	**+0.9**
ANVS				*i* S		**Sn**	**22 17 53.0**	**-0.7**
CHM	**Chimkent**	**4.63**	**315**	*eP*		**Pg**	**22 17 17.4**	**-1.1**
	comp=Z,88nm,0.3s							
CHM				*eS*		**Sg**	**22 18 20.9**	**+2.5**
	comp=Z,419nm,0.4s							
AAA	**Alma-Ata**	**4.67**	**27**	*eP*		**Pb**	**22 17 12.1**	**+0.3**
	comp=Z,156nm,0.5s							
AAA				*eS*		**Sb**	**22 18 12.5**	**+4.4**
	comp=Z,226nm,0.7s							
AAA	**Alma-Ata**	**4.67**	**27**	Pg		**Pb**	**22 17 12.1**	**+0.3**
	comp=Z,156nm,0.5s							
AAA				Lg		Lg	22 18 13.3	
	comp=Z,226nm,0.7s							
MDOK	**Medeo**	**4.68**	**29**	*eP*		**Pb**	**22 17 11.5**	**-0.5**
	comp=Z,124nm,0.6s							
MDOK				*eS*		**Sb**	**22 18 11.2**	**+2.7**
	comp=Z,99nm,0.8s							
MDOK	**Medeo**	**4.68**	**29**	⇑Pg		**Pb**	**22 17 11.2**	**-0.8**
	comp=Z,147nm,0.8s							
MDOK				Pg		Pn	22 17 11.5	+11
	comp=Z,124nm,0.6s							
MDOK				Lg		Lg	22 18 11.2	
	comp=Z,99nm,0.8s							
MDOK				⇑Lg		Lg	22 18 11.5	
	comp=Z,224nm,1.1s							
KNDC	**Almaty**	**4.70**	**28**	⇓Pg		**Pb**	**22 17 12.3**	**+0.1**
	comp=Z,190nm,0.6s							
KNDC				⇑Lg		Lg	22 18 12.5	
	comp=Z,459nm,1.1s							
KOTS	**Kotyrbulak**	**4.76**	**29**	*eP*		**Pb**	**22 17 13.6**	**+0.2**
	comp=Z,115nm,0.5s							
KOTS				*eS*		**Sb**	**22 18 15.1**	**+4.2**
	comp=Z,178nm,0.8s							
KOTS	**Kotyrbulak**	**4.76**	**29**	Pg		**Pb**	**22 17 13.6**	**+0.2**
	comp=Z,115nm,0.5s							
KOTS				Lg		Lg	22 18 15.4	
	comp=Z,178nm,0.8s							
KRBS	**Karabastau**	**4.77**	**15**	*eP*		**Pb**	**22 17 12.9**	**-0.6**
	comp=Z,23nm,0.4s							
KRBS				*eS*		**Sb**	**22 18 13.8**	**+2.8**
	comp=Z,40nm,0.8s							
KRBS	**Karabastau**	**4.77**	**15**	Pg		**Pb**	**22 17 12.9**	**-0.6**
	comp=Z,23nm,0.4s							
KRBS				Lg		Lg	22 18 13.8	
	comp=Z,40nm,0.8s							
KK31	**Karatay Array**	**4.79**	**328**	Pn		**Pn**	**22 17 01.8**	**-0.2**
KK31	**Karatay Array**	**4.79**	**328**	⇓Pn		**Pn**	**22 17 03.0**	**+1.1**
	comp=Z,6.4nm,0.3s,baz=124,slow=13,SNR=295							
KK31				⇓Pg		**Pb**	**22 17 14.1**	**+0.3**
	comp=Z,6.0nm,0.3s,baz=150,slow=16,SNR=9.0							
KK31				⇓Sn		**Sn**	**22 18 00.1**	**+2.6**
	comp=Z,16nm,0.4s,baz=138,slow=26,SNR=4.7							
KK31				⇓Lg		Lg	22 18 15.8	
	comp=Z,24nm,0.5s,baz=137,slow=31,SNR=3.6							
KK31	**Karatay Array**	**4.79**	**328**	PN		**Pn**	**22 17 01.8**	**-0.2**
KKAR	**Karatay Array**	**4.79**	**328**	⇑*iP*		**Pn**	**22 17 02.0**	**0.0**
	baz=27							
KKAR				⇑*iS*		**Sn**	**22 17 54.8**	**-2.7**
	baz=27							
KKAR	**Karatay Array**	**4.79**	**328**	Pn		**Pn**	**22 17 02.0**	**0.0**
KKAR	**Karatay Array**	**4.79**	**328**			**Pn**	**22 17 01.6**	**-0.4**
KKAR	**Karatay Array**	**4.79**	**328**	PN		**Pn**	**22 17 02.0**	**0.0**
SATY	**Saty**	**5.18**	**39**	*eP*		**Pb**	**22 17 20.4**	**-0.2**
	comp=Z,56nm,0.7s							
SATY				*eS*		**Sb**	**22 18 26.5**	**+3.5**
	comp=Z,119nm,1.5s							
SATY	**Saty**	**5.18**	**39**	Pg		**Pb**	**22 17 20.4**	**-0.2**
	comp=Z,56nm,0.7s							
SATY				Lg		Lg	22 18 27.1	
	comp=Z,119nm,1.5s							
CHKK	**Chushkaly**	**5.27**	**24**	*eP*		**Pb**	**22 17 22.7**	**+0.8**
	comp=Z,40nm,0.8s							
CHKK				*eS*		**Sb**	**22 18 30.2**	**+5.0**
	comp=Z,43nm,0.6s							
CHKK	**Chushkaly**	**5.27**	**24**	Pg		**Pb**	**22 17 22.7**	**+0.8**
	comp=Z,40nm,0.8s							
CHKK				Lg		Lg	22 18 30.2	
	comp=Z,43nm,0.6s							
ZHN	**Zhinishke**	**5.28**	**38**	*eP*		**Pb**	**22 17 22.1**	**-0.1**
	comp=Z,9.6nm,0.3s							
ZHN				*eS*		**Sb**	**22 18 29.1**	**+3.4**
	comp=Z,48nm,0.8s							
ZHN	**Zhinishke**	**5.28**	**38**	Pg		**Pb**	**22 17 22.1**	**-0.1**
	comp=Z,9.6nm,0.3s							
ZHN				Lg		Lg	22 18 28.5	
	comp=Z,48nm,0.8s							
CHCP	**Chirah Chowk**	**5.45**	**186**	P		Pn	22 17 17.0	+5.8
NIL	**Nilore**	**5.46**	**186**			Pn	22 17 16.5	+5.2
NIL	**Nilore**	**5.46**	**186**	PN		Pn	22 17 16.5	+5.2
CEP	**Cherat**	**5.52**	**198**	P		Pn	22 17 17.4	+5.3
UZB	**Uzynbulak**	**5.56**	**42**	*eP*		**Pb**	**22 17 27.0**	**0.0**
	comp=Z,14nm,0.6s							
UZB				*eS*		**Sb**	**22 18 38.3**	**+4.6**
	comp=Z,38nm,0.9s							
UZB	**Uzynbulak**	**5.56**	**42**	Pg		**Pb**	**22 17 27.0**	**0.0**
	comp=Z,14nm,0.6s							
UZB				Lg		Lg	22 18 38.3	
	comp=Z,38nm,0.9s							
KPKS	**Kokpek**	**5.62**	**38**	*eP*		**Pb**	**22 17 28.8**	**+0.7**
	comp=Z,35nm,0.6s							
KPKS				*eS*		**Sb**	**22 18 40.9**	**+5.4**
	comp=Z,57nm,0.6s							
KPKS	**Kokpek**	**5.62**	**38**	Pg		**Pb**	**22 17 28.8**	**+0.7**
	comp=Z,35nm,0.6s							
KPKS				Lg		Lg	22 18 40.9	
	comp=Z,57nm,0.6s							
KPKS	**Kokpek**	**5.62**	**38**	*ePN*		**Pn**	**22 17 13.4**	**-0.1**
SHLS	**Shalkode**	**5.80**	**44**	*eP*		Pb	22 17 35.7	+4.7
	comp=Z,32nm,0.6s							
SHLS				*eS*		**Sg**	**22 18 53.3**	**-2.5**
	comp=Z,30nm,0.7s							
SHLS	**Shalkode**	**5.80**	**44**	Pg		Pb	22 17 35.7	+4.7
	comp=Z,32nm,0.6s							
SHLS				Lg		Lg	22 18 53.3	
	comp=Z,30nm,0.7s							
SHLS	**Shalkode**	**5.80**	**44**	*ePN*		Pn	22 17 24.8	+8.9
ARXS	**Arharly**	**5.87**	**28**	*eP*		**Pb**	**22 17 33.0**	**+0.7**
	comp=Z,96nm,0.9s							
ARXS				*eS*		**Sb**	**22 18 48.2**	**+5.6**
	comp=Z,41nm,0.6s							
ARXS	**Arharly**	**5.87**	**28**	Pg		**Pb**	**22 17 33.0**	**+0.7**
	comp=Z,96nm,0.9s							
ARXS				Lg		Lg	22 18 48.2	
	comp=Z,41nm,0.6s							
ARXS	**Arharly**	**5.87**	**28**	*ePN*		**Pb**	**22 17 29.4**	**-2.8**
PDGK	**Podgornoye**	**5.93**	**43**	Pg		**Pb**	**22 17 31.9**	**-1.4**
	comp=Z,13nm,0.6s							
PDGK				Lg		Lg	22 18 46.1	
	comp=Z,26nm,0.7s							
PDGK	**Podgornoye**	**5.93**	**43**	⇓Pn		**Pn**	**22 17 17.9**	**+0.1**
	comp=Z,5.6nm,0.6s							
PDGK				⇓Pg		**Pb**	**22 17 31.0**	**-2.3**
	comp=Z,23nm,0.7s							
PDGK				⇑Lg		Lg	22 18 48.1	
	comp=Z,82nm,0.8s							
PDGK	**Podgornoye**	**5.93**	**43**	PN		**Pn**	**22 17 17.9**	**+0.1**
BTLS	**Baital**	**5.94**	**0**	*eP*		**Pb**	**22 17 34.4**	**+1.0**
	comp=Z,9.7nm,0.5s							
BTLS				*eS*		**Sb**	**22 18 50.1**	**+5.5**
	comp=Z,23nm,0.8s							
BTLS	**Baital**	**5.94**	**0**	Pg		**Pb**	**22 17 34.4**	**+1.0**
	comp=Z,9.7nm,0.5s							
BTLS				Lg		Lg	22 18 50.1	
	comp=Z,23nm,0.8s							
KBL	**Kabul**	**6.03**	**223**	Pn		**Pn**	**22 17 23.7**	**+4.5**
KBL	**Kabul**	**6.03**	**223**	PN		**Pn**	**22 17 23.7**	**+4.5**
JMU	**Jammu**	**6.41**	**173**	*eP*		**Pn**	**22 17 27.3**	**+3.1**
THW	**Thamme Wali**	**6.54**	**197**	P		Pn	22 17 31.8	+5.7
DJR	**Jarkent**	**6.80**	**38**	*eP*		**Pb**	**22 17 50.0**	**+1.9**
	comp=Z,17nm,0.5s							
DJR				*eS*		**Sb**	**22 19 17.0**	**+7.5**
	comp=Z,23nm,0.6s							
DJR	**Jarkent**	**6.80**	**38**	Pg		**Pb**	**22 17 50.0**	**+1.9**
	comp=Z,17nm,0.5s							
DJR				Lg		Lg	22 19 15.0	
	comp=Z,23nm,0.6s							
BHK	**Bhakra**	**7.91**	**165**	*eP*		Pn	22 17 49.8	+4.9
BHK				*eS*		**Sn**	**22 19 16.2**	**+1.7**
SMLA	**Simla**	**8.36**	**161**	*eP*		**Pn**	**22 17 55.6

comp=E,16nm,0.6s
AKTO Aktyubinsk 15.99 320 ⇓P **Pn 22 19 31.8 -2.9**
comp=E,2.7nm,0.8s
AKTO Aktyubinsk 15.99 320 P **Pn 22 19 31.8 -2.9**
RAMN Ramite 16.06 135 *e*P **Pn 22 19 36.1 +0.1**
comp=E,12nm,0.5s
ZAA0 Zalesovo Array 16.59 23 **Pn 22 19 39.5 -2.9**
ZALV Zalesovo Beam 16.59 23 Pn **Pn 22 19 39.0 -3.3**
comp=E,0.1nm,0.3s,baz=207,slow=13,SNR=3.3
ZALV Lg Lg 22 24 24.9
comp=E,0.1nm,0.3s,baz=223,slow=25,SNR=2.1
comp=E,0.9nm,0.3s
ZALV Zalesovo Beam 16.59 23 **Pn 22 19 39.2 -3.1**
ZALV Zalesovo Beam 16.59 23 *i* P **Pn 22 19 42.9 +0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
GOMU GeErMu 16.75 93 P **Pn 22 19 44.8 0.0**
GTA Gaotai 19.99 81 *e*P **Pn 22 20 26.0 +1.8**
GTA pP sP 22 20 30.8 +2.4
GTA sP pP 22 20 34.0 +7.5
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,49nm,7.2s
GTA LR LR
comp=Z,100nm,14.9s
GTA LR LR
comp=Z,130nm,16.7s
GTA LR LR
comp=Z,180nm,15.3s
ARU Arti 20.12 335 P **P 22 20 22.8 -0.8**
comp=Z,1.6nm,0.6s,baz=139,slow=10,SNR=3.1
comp=Z,1.6nm,0.6s
ARU Arti 20.12 335 P **P 22 20 20.3 -3.3**
ARU Arti 20.12 335 *d i* P **P 22 20 23.8 +0.2**
ARU 22 20 39.9
ARU S Sn 22 24 12.7 +1.0
ARU SS **SnSn 22 24 31.3 +5.2**
ARU pmax pmax
comp=Z,21nm,2.7s
KNGR Kungurtug, Tuv 20.18 48⇓*e*P **P 22 20 25.0 +0.6**
KNGR pmax pmax
comp=Z,4.0nm,1.0s
SHL Shillong 20.22 127 P **P 22 20 25.0 -0.1**
SHL Shillong 20.22 127 P **P 22 20 25.0 -0.1**
SHL pmax pmax
comp=Z,13nm,1.4s
WSAR Wadi Sarin 20.50 224 P **P 22 20 27.8 -0.2**
comp=Z,11nm,1.0s,baz=54,slow=8.3,SNR=6.4
comp=Z,11nm,1.0s
UOSS Minazif 20.59 232 P **P 22 20 31.3 +2.4**
UOSS IAmb IAmb 22 20 52.9
comp=Z,14nm,1.1s
GROC Groznyy 21.57 290 *e*P **P 22 20 39.0 -0.4**
GROC *e* 22 20 59.6
GROC pmax pmax
comp=Z,104nm,1.2s
GNI Garni 22.51 282 P **P 22 20 49.3 -0.3**
comp=Z,11nm,1.0s,baz=80,slow=6.1,SNR=1.7
comp=Z,11nm,1.0s
GNI Garni 22.51 282 P **P 22 20 50.0 +0.3**
ONI Oni 23.29 288 P **P 22 20 57.7 0.0**
ONI IAmb IAmb 22 21 00.9
comp=Z,16nm,1.0s
ONI Oni 23.29 288 P **P 22 20 57.7 0.0**
ONI pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 23.69 291 P **P 22 21 01.0 -0.5**
comp=Z,2.6nm,0.9s,baz=101,slow=6.6,SNR=3.9
comp=Z,2.6nm,0.9s
KBZ Khabaz 23.69 291⇓*e*P **P 22 21 02.7 +1.2**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
LZH Lanzhou 23.81 88 *e*P **P 22 21 07.3 +4.4**
LZH pP sP 22 21 11.5 +2.5
LZH sP pP 22 21 15.5 +8.3
LZH pmax pmax
comp=Z,12nm,1.1s
NEY Neytrino 23.82 290⇓*e*P **P 22 21 03.6 +0.6**
NEY pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 23.84 292 P **P 22 21 02.8 -0.4**
KIV IAmb IAmb 22 21 18.1
comp=Z,5.1nm,0.7s
KIV Kislovodsk 23.84 292 *e*P **P 22 21 04.5 +1.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 24.95 59 P **P 22 21 13.5 +0.2**
comp=Z,0.5nm,0.7s,baz=259,slow=9.7,SNR=4.0
SONM LR LR 22 32 10.5
comp=Z,48nm,21.5s,baz=153,slow=39
comp=Z,0.5nm,0.7s
TNCH TengChong 24.98 117 P **P 22 21 16.0 +2.2**
TNCH pP pP 22 21 19.0 +0.7
TNCH sP sP 22 21 20.8 +0.6
TNCH pmax pmax
comp=Z,11nm,3.0s
KIRV Kirov 25.08 329 P **P 22 21 13.3 -0.8**
comp=Z,3.8nm,0.7s,baz=142,slow=6.7,SNR=2.3
comp=Z,3.8nm,0.7s
KIRV Kirov 25.08 329⇓*e*P **P 22 21 14.0 -0.2**
PZH PanZhiHua 26.39 110 P **P 22 21 28.8 +2.3**
PZH pmax pmax
comp=Z,8.0nm,0.7s
VORR Voronezh 27.19 309 *e*P **P 22 21 29.8 -3.6**
VORR pmax pmax
comp=Z,10.0nm,0.4s
KMI Kunming 27.92 111 ⇓P **P 22 21 42.5 +2.1**
KMI pmax pmax
comp=Z,6.0nm,0.6s
RAYN Ar Rayn 28.70 246 P **P 22 21 47.8 +0.6**
RAYN IAmb IAmb 22 21 49.0
comp=Z,7.1nm,0.6s
RAYN Ar Rayn 28.70 246 P **P 22 21 47.8 +0.6**
RAYN pmax pmax
comp=Z,7.0nm,0.6s
HHC Hu-ho-hao-te 28.72 74 *e*P **P 22 21 46.5 -0.8**
HHC pmax pmax
comp=Z,8.0nm,0.8s
BR131 Keskin Array S 30.99 284⇑*e*P **P 22 22 08.5 +1.0**
BRTR Keskin Array B 30.99 284 P **P 22 22 07.5 0.0**
comp=Z,1.8nm,0.7s,baz=94,slow=8.0,SNR=7.9
comp=Z,1.8nm,0.7s
BRTR Keskin Array B 30.99 284 P **P 22 22 07.0 -0.5**
BRTR Keskin Array B 30.99 284 *i* P **P 22 22 08.3 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
XLT XiLinHaoTe 31.64 67 *e*P **P 22 22 12.5 -0.6**
XLT pP pP 22 22 17.8 +0.4
XLT sP sP 22 22 19.3 +0.1
XLT pmax pmax
comp=Z,5.0nm,1.0s
UBPT Khong Chiam 36.40 122 P **P 22 22 54.8 +0.4**
FIA1 FINESS Array S 36.73 323 P **P 22 22 55.0 -1.8**
FINES FINESS Array B 36.73 323 P **P 22 22 55.4 -1.4**
comp=Z,0.8nm,0.4s,baz=114,slow=9.7,SNR=12
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 39.70 336 P **P 22 23 19.9 -1.9**
comp=Z,3.0nm,0.9s,baz=108,slow=8.6,SNR=6.8
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 39.70 336 P **P 22 23 20.3 -1.5**
ARCES ARCESS Array B 39.70 336 P **P 22 23 20.3 -1.5**
KLR Kul'dur 41.73 56 LR LR 22 42 07.7
comp=Z,39nm,18.9s,baz=352,slow=38
KSRS Korea Array 41.86 75 LR LR 22 42 47.3
comp=Z,25nm,21.6s,baz=250,slow=39
NC405 NORSAR Array S 43.54 321 P **P 22 23 52.3 -1.0**
NB2 NORSAR Subarra 43.78 321 P **P 22 23 52.9 -2.4**
comp=Z,3.3nm,1.0s,baz=91,slow=8.6
NOA NORSAR Array B 43.78 321 P **P 22 23 53.2 -2.1**
comp=Z,1.1nm,0.7s,baz=90,slow=7.8,SNR=4.3
comp=Z,1.1nm,0.7s
KMBO Kilima Mbogo 52.31 229 LR LR 22 48 19.7
comp=Z,46nm,21.5s,baz=85,slow=37
ESDC Sonseca Array 58.34 298 P **P 22 25 43.6 -1.5**
comp=Z,0.9nm,0.8s,baz=60,slow=6.9,SNR=7.4
comp=Z,0.9nm,0.8s
IMAR Indian Mountai 68.97 19 P **P 22 26 53.1 -1.7**
BMAR Burnt Mountain 69.85 15 P **P 22 26 59.2 -1.0**
K20K Telida 70.97 21 P **P 22 27 07.1 0.0**
K20K IAmb IAmb 22 27 08.2
comp=Z,6.4nm,1.4s
MDM Murphy Dome 71.16 18 P **P 22 27 08.6 +0.4**
MDM IAmb IAmb 22 27 20.0
comp=Z,2.4nm,1.1s
ILAR Eielson Array 71.63 17 P **P 22 27 11.2 +0.2**
comp=Z,0.5nm,0.8s,baz=323,slow=5.8,SNR=5.4
comp=Z,0.5nm,0.8s
BCAR Beaver Creek A 74.24 16 P **P 22 27 27.1 +0.4**
DBIC Dimbokro 77.17 268 P **P 22 27 43.0 -1.1**
comp=Z,2.6nm,0.5s,baz=50,slow=5.8,SNR=7.8
comp=Z,2.6nm,0.5s
DBIC Dimbokro 77.17 268 P **P 22 27 42.9 -1.1**
DBIC Dimbokro 77.17 268 P **P 22 27 42.9 -1.1**
DBIC pmax pmax
comp=Z,9.0nm,1.3s
WRA Warramunga Arr 81.42 124 P **P 22 28 05.0 -2.1**
comp=Z,0.4nm,0.8s,baz=323,slow=4.7,SNR=5.7
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 81.42 124 P **P 22 28 05.3 -1.8**
WRA Warramunga Arr 81.42 124 *i* P **P 22 28 05.4 -1.7**
WB2 Warramunga Arr 81.43 124 P **P 22 28 05.1 -2.0**
WB2 IAmb IAmb 22 28 23.8
comp=Z,7.7nm,1.4s
ASAR Alice Springs 83.86 127 P **P 22 28 18.2 -1.5**
comp=Z,0.2nm,0.3s,baz=324,slow=4.6,SNR=1.4
comp=Z,0.2nm,0.3s

*GII **29** 22:21:45.8±0.0,33.°99N×33.°51E,h9km,Mm1.7/2*
*NIC **29** 22:21:47.9±0.0,34.°08N×33.°74E,h14km±1km,Ml2.6/5*
ISC 29 22:21:46.2±1.4,**34.°03N**±0.°05×**33.°69E**±0.°06,**h9**km±11km,
n16,σ0**°80**/27,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.84**	**334**	P	P	**Pb**	**22 22 03.5**	**+0.5**
ASGA				S	S	**Sn**	**22 22 15.3**	**-1.5**
ASGA				AML	AML		22 22 16.4	
	1.0nm,0.4s							
ASGA				AML	AML		22 22 16.4	
	1.0nm,0.4s							
ASGA				AML	AML		22 22 19.2	
	0.8nm,0.8s							
ASGA				AML	AML		22 22 19.2	
	0.8nm,0.8s							
CSS	**Mathiatis**	**0.98**	**342**	P	**Pg**		**22 22 05.3**	**+0.2**
CSS				S	**Sn**		**22 22 19.8**	**-0.5**
CSS	**Mathiatis**	**0.98**	**342**	Pg	**Pg**		**22 22 04.7**	**-0.4**
CSS				Sg	**Sg**		**22 22 17.0**	**-0.8**
MVOU	**Mavrovouni**	**0.99**	**357**	P	**Pg**		**22 22 05.5**	**+0.3**
MVOU				S	**Sn**		**22 22 20.0**	**-0.4**
MVOU				AML	AML		22 22 22.6	
	0.3nm,0.3s							
MVOU				AML	AML		22 22 22.6	
	0.3nm,0.3s							
MVOU				AML	AML		22 22 22.9	
	0.4nm,0.3s							
MVOU				AML	AML		22 22 22.9	
	0.4nm,0.3s							
SZAC	**Souni**	**0.99**	**318**	P	**Pn**		**22 22 06.6**	**+0.2**
SZAC				S	**Sn**		**22 22 21.1**	**+0.6**
SZAC				AML	AML		22 22 21.4	
	0.7nm,0.5s							
SZAC				AML	AML		22 22 21.4	
	0.7nm,0.5s							
SZAC				AML	AML		22 22 21.7	
	1.5nm,0.7s							
SZAC				AML	AML		22 22 21.7	
	1.5nm,0.7s							
TROD	**Troodos**	**1.15**	**324**	S	**Sn**		**22 22 24.5**	**-0.1**
NATA	**Nata**	**1.20**	**309**	P	**Pg**		**22 22 09.8**	**+0.7**
NATA				S	**Sn**		**22 22 27.0**	**+1.4**
NATA				AML	AML		22 22 31.9	
	1.5nm,0.7s							
NATA				AML	AML		22 22 31.9	
	1.5nm,0.7s							
NATA				AML	AML		22 22 32.4	
	0.9nm,0.9s							
NATA				AML	AML		22 22 32.4	
	0.9nm,0.9s							
ALFC	**Alefka**	**1.45**	**322**	P	**Pb**		**22 22 13.2**	**-0.1**
ALFC				S	**Sg**		**22 22 32.7**	**+0.1**
ALFC				AML	AML		22 22 33.2	
	0.5nm,0.8s							
ALFC				AML	AML		22 22 33.2	
	0.5nm,0.8s							
ALFC				AML	AML		22 22 36.2	
	0.8nm,0.9s							
ALFC				AML	AML		22 22 36.2	
	0.8nm,0.9s							
AKMS	**Akamas**	**1.50**	**312**	P	**Pg**		**22 22 14.5**	**-0.4**
AKMS				S	**Sg**		**22 22 34.8**	**+0.5**
MMA0B	**Mount Meron ar**	**1.75**	**125**	Pn	**Pn**		**22 22 17.0**	**+0.2**
OFRI	**`Ofer**	**1.77**	**142**	Sn	**Sn**		**22 22 39.3**	**-0.4**
GEM	**Giv'at Ha'Em**	**1.83**	**116**	Pn	**Pn**		**22 22 17.8**	**-0.1**
KSHT	**Keshet**	**2.05**	**120**	Pn	**Pn**		**22 22 21.1**	**+0.2**
HMDT	**Nahal Hemdat**	**2.34**	**138**	Pn	**Pn**		**22 22 24.3**	**-0.6**
HMDT				Sn	**Sn**		**22 22 55.6**	**+1.8**
DSI	**Dead Sea**	**2.83**	**149**	Pn	**Pn**		**22 22 31.3**	**-0.3**
DSI				Sn	**Sn**		**22 23 06.7**	**+0.9**
KRMI	**Paran Flat**	**3.99**	**167**	Pn	**Pn**		**22 22 46.1**	**-1.5**
KRMI				Sn	**Sn**		**22 23 33.9**	**-0.7**

*NEIC **29** 22:38:10.7±1.6,24.°6S±0.°1×179.°6W±0.°1,h486km±11km,*
mb4.1/17,Error ellipse: s-maj=20.2km s-min=17.7km
az=51.0
*NOU **29** 22:38:10.7,24.°56S×179.°31W,h523km,mb4.3/17,South*
of Fiji Islands
*IDC **29** 22:38:11.7±1.5,24.°58S×179.°78W,h489km±17km,*
mb3.5/13,mbtmp4.4/16,Error ellipse: s-maj=16.9km
s-min=14.4km az=142.0
ISC 29 22:38:11.0±0.5,**24.°49S**±0.°07×**179.°61W**±0.°07,**h490**km,
n62,σ1**°44**/67,**mb3.9**/21,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.07**	**342**	P	P	**P**	**22 39 58.7**	**+0.9**
	6.8nm,0.4s,baz=162,slow=5.6,SNR=17							
MSVF	**Nonsavu**	**7.07**	**342**	P	P	**P**	**22 39 59.2**	**+1.5**
MSVF	**Nonsavu**	**7.07**	**342**	P	P	**P**	**22 39 59.5**	**+1.7**
TAVE	**Taveuni**	**7.75**	**358**	P	P	**P**	**22 40 07.3**	**+2.6**
NIUE	**Niue**	**10.48**	**61**	P	P	**P**	**22 40 33.6**	**+0.1**
NIUE	**Niue**	**10.48**	**61**	P	P	**P**	**22 40 32.1**	**-1.4**
MARNC	**Mare, Loyalty**	**11.77**	**282**	P	P	**P**	**22 40 46.4**	**-0.8**
OUZ	**Omahuta**	**12.20**	**207**	P	P	**P**	**22 40 53.0**	**+1.4**
OUENC	**Ouen Island, N**	**12.61**	**277**	P	P	**P**	**22 40 59.5**	**+3.4**
YATNC	**Mamie plateau,**	**12.64**	**278**	P	P	**P**	**22 40 58.3**	**+1.8**
AFI	**Afiamalu**	**12.86**	**36**	P	P	**P**	**22 40 59.7**	**+0.7**
	63nm,0.5s,baz=233,slow=20,SNR=13							
AFI				S	S	**S**	**22 43 14.6**	**-2.9**
	14nm,0.3s,baz=198,slow=20,SNR=3.0							
AFI	**Afiamalu**	**12.86**	**36**	P	P	**P**	**22 40 57.1**	**-1.9**
AFI	**Afiamalu**	**12.86**	**36**	P	P	**P**	**22 40 57.7**	**-1.3**
DZM	**Mont Dzumac**	**13.04**	**278**	P	P	**P**	**22 41 02.0**	**+1.2**
	19nm,0.7s,baz=119,slow=17,SNR=11							
DZM	**Mont Dzumac**	**13.04**	**278**	P	P	**P**	**22 41 02.1**	**+1.2**
DZM	**Mont Dzumac**	**13.04**	**278**	P	P	**P**	**22 41 02.6**	**+1.7**
MXZ	**Matakaoa Point**	**13.15**	**187**	P	P	**P**	**22 41 00.7**	**-0.9**
URZ	**Urewera**	**14.01**	**191**	P	P	**P**	**22 41 09.9**	**-0.8**
BKZ	**Black Stump Fm**	**15.00**	**192**	P	P	**P**	**22 41 20.1**	**-1.1**
BFZ	**Birch Farm**	**16.51**	**191**	P	P	**P**	**22 41 34.1**	**-3.0**
BFZ	**Birch Farm**	**16.51**	**191**	P	P	**P**	**22 41 34.7**	**-2.4**
SNZO	**South Karori**	**17.43**	**194**	P	P	**P**	**22 41 44.7**	**-1.6**
QRZ	**Quartz Range**	**17.57**	**200**	P	P	**P**	**22 41 45.7**	**-1.9**
RPZ	**Rata Peaks**	**20.65**	**199**	P	P	**P**	**22 42 14.2**	**-1.7**
	9.5nm,0.5s,baz=11,slow=5.5,SNR=9.4							
RPZ				S	S	**S**	**22 45 37.3**	**+2.6**
	6.7nm,0.6s,baz=68,slow=19,SNR=2.0							
	9.5nm,0.5s							
RPZ	**Rata Peaks**	**20.65**	**199**	P	P	**P**	**22 42 14.2**	**-1.7**
JCZ	**Jackson Bay**	**21.72**	**203**	P	P	**P**	**22 42 24.0**	**-1.6**
EIDS	**Eidsvold**	**26.57**	**262**	P	P	**P**	**22 43 07.6**	**-1.5**
EIDS				IAmb	IAmb		22 43 10.7	
	comp=Z,5.5nm,0.9s							
CTA	**Charters Tower**	**31.84**	**271**	P	P	**P**	**22 43 55.2**	**+0.2**
	baz=108,slow=6.4							
CTAO	**Charters Tower**	**31.84**	**271**	P	P	**P**	**22 43 55.2**	**+0.2**
STKA	**Stephens Creek**	**34.84**	**249**	P	P	**P**	**22 44 19.5**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=98,slow=12,SNR=4.8							
	comp=Z,1.2nm,0.5s							
STKA	**Stephens Creek**	**34.84**	**249**	P	P	**P**	**22 44 19.3**	**-0.9**
PMG	**Port Moresby**	**35.03**	**290**	P	P	**P**	**22 44 21.8**	**-0.2**
	comp=Z,12nm,0.7s,baz=135,slow=20,SNR=5.2							
	comp=Z,12nm,0.7s							
COEN	**Coen**	**36.56**	**280**	P	P	**P**	**22 44 34.0**	**-0.8**
COEN				IAmb	IAmb		22 44 36.9	
	comp=Z,12nm,1.1s							
BBOO	**Buckleboo**	**39.54**	**248**	P	P	**P**	**22 44 57.7**	**-1.2**
BBOO				IAmb	IAmb		22 45 01.1	
	comp=Z,14nm,1.1s							
AS31	**Alice Springs**	**42.29**	**261**	P	P	**P**	**22 45 21.2**	**+0.1**
AS31				IAmb	IAmb		22 45 23.4	
	comp=Z,1.3nm,0.5s							
ASAR	**Alice Springs**	**42.29**	**261**	P	P	**P**	**22 45 20.5**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=88,slow=9.4,SNR=19							
ASAR				S	S	**S**	**22 51 03.6**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=96,slow=15,SNR=2.4							
	comp=Z,1.3nm,0.4s							
WB0	**Warramunga Arr**	**42.72**	**267**	P	P	**P**	**22 45 23.4**	**-1.1**
WB0				IAmb	IAmb		22 45 24.3	
	comp=Z,7.8nm,0.6s							
WRA	**Warramunga Arr**	**42.73**	**267**	P	P	**P**	**22 45 23.6**	**-0.9**
	comp=Z,5.8nm,0.5s,baz=102,slow=8.1,SNR=138							
WRA				ScP	ScP	**ScP**	**22 50 12.0**	**+2.7**
	comp=Z,1.2nm,0.9s,baz=103,slow=4.2,SNR=8.0							
WRA				S	S	**S**	**22 51 11.1**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=104,slow=14,SNR=5.0							
	comp=Z,5.8nm,0.5s							
WRA	**Warramunga Arr**	**42.73**	**267**	P	P	**P**	**22 45 23.0**	**-1.5**
KNRA	**Kununurra**	**49.04**	**270**	P	P	**P**	**22 46 11.6**	**-1.1**
FAKI	**Fak Fak**	**51.10**	**287**	P	P	**P**	**22 46 27.4**	**-0.5**
FAKI				IAmb	IAmb		22 46 46.9	
	comp=Z,12nm,1.0s							
SIJI	**Sorong**	**52.96**	**289**	P	P	**P**	**22 46 41.1**	**-0.3**
	comp=Z,18nm,0.7s,baz=116,slow=15,SNR=10.0							
	comp=Z,18nm,0.7s							
VNDA	**Vanda**	**53.82**	**185**	P	P	**P**	**22 46 47.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=4.2,slow=4.3,SNR=3.7							
	comp=Z,0.7nm,0.7s							
VNDA	**Vanda**	**53.82**	**185**	P	P	**P**	**22 46 47.2**	**+0.7**
MBWA	**Marble Bar**	**55.62**	**260**	P	P	**P**	**22 46 58.1**	**-2.0**
MBWA				IAmb	IAmb		22 47 07.4	
	comp=Z,11nm,1.1s							
QSPA	**South Pole Qui**	**65.59**	**180**	P	P	**P**	**22 48 06.0**	**+0.5**
QSPA				IAmb	IAmb		22 48 07.6	
	comp=Z,4.6nm,0.8s							
KKM	**Kota Kinabalu**	**69.42**	**287**	P	P	**P**	**22 48 30.2**	**+0.4**
MJAR	**Matsushiro Arr**	**72.58**	**325**	P	P	**P**	**22 48 47.2**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=162,slow=6.8,SNR=2.1							
	comp=Z,1.1nm,0.6s							
BELA	**Belgrano 2**	**75.81**	**173**	P	P	**P**	**22 49 05.8**	**+0.2**
BELA				IAmb	IAmb		22 49 06.5	
	comp=Z,2.5nm,0.8s							
KSRS	**Korea Array**	**78.93**	**320**	P	P	**P**	**22 49 23.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=139,slow=5.7,SNR=2.3							
	comp=Z,0.9nm,0.6s							
USRK	**Ussuriysk Ar.**	**81.45**	**327**	P	P	**P**	**22 49 36.4**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=118,slow=12,SNR=3.5							
	comp=Z,0.8nm,0.3s							
TROLL	**Troll, Antarti**	**83.75**	**181**	P	P	**P**	**22 49 48.0**	**+0.3**
SNAA	**Sanae**	**84.07**	**179**	P	P	**P**	**22 49 48.7**	**-0.4**
SNAA	**Sanae**	**84.07**	**179**	P	P	**P**	**22 49 48.8**	**-0.4**
VNA3	**Neumayer Olymp**	**84.27**	**177**	P	P	**P**	**22 49 50.0**	**0.0**
VNA2	**Neumayer--Watz**	**84.69**	**177**	P	P	**P**	**22 49 52.2**	**+0.1**
	baz=190,slow=4.0							
CMAR	**Chiang Mai Arr**	**90.06**	**290**	P	P	**P**	**22 50 20.3**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=172,slow=1.0,SNR=4.1							
	comp=Z,0.5nm,0.3s							
TXAR	**Lajitas Array**	**90.44**	**58**	P	P	**P**	**22 50 22.6**	**+2.6**
	comp=Z,0.6nm,1.0s,baz=202,slow=9.4,SNR=3.1							
	comp=Z,0.6nm,1.0s							
SONM	**Songino Array**	**97.78**	**319**	P	P	**P**	**22 50 53.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=114,slow=5.8,SNR=2.8							
	comp=Z,0.2nm,0.5s							
AKASG	**Malin Array Be**	**145.66**	**327**	PKPbc		**PKPbc**	**22 56 54.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=45,slow=4.1,SNR=4.6							
BRTR	**Keskin Array B**	**148.22**	**307**	PKPbc		**PKPbc**	**22 57 01.8**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=80,slow=4.9,SNR=1.1							
MMAI	**Mount Meron Ar**	**148.27**	**294**	PKPbc		**PKPbc**	**22 57 02.0**	**+0.1**
	baz=90,slow=5.9							

*IDC **29** 22:44:05.9±2.8,37.°74N×142.°46E,h0km,mb3.4/4,*
mbtmp3.3/5,ML2.5/1,Error ellipse: s-maj=66.9km
s-min=33.0km az=68.0
*JMA **29** 22:44:10.6±0.2,37.°3N±0.°4×141.°6E±0.°9,h31km±1km,*
MV3.1/35,E OFF FUKUSHIMA PREF
ISC 29 22:44:10.6±2.5,**37.°34N**±0.°05×**141.°6E**±0.°1,**h15**km±13km,
n18,σ1**°07**/20,**mb3.3**/4,**Near east coast of eastern**
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.58**	**273**	*i* P		**Pg**	**22 44 22.0**	**-0.1**
JFK				S		**Sg**	**22 44 30.0**	**+0.2**
JMST	**Minamisoumatoc**	**0.69**	**304**	P		**Pb**	**22 44 23.6**	**-0.6**
JMST				S		**Sb**	**22 44 32.8**	**-0.6**
JMM	**Marumori**	**0.83**	**309**	P		**Pb**	**22 44 26.0**	**-0.7**
JMM				S		**Sb**	**22 44 37.3**	**-0.4**
JFFD	**Fukushimafurud**	**0.87**	**254**	P		**Pb**	**22 44 26.3**	**-1.1**
JFFD				S		**Sb**	**22 44 38.1**	**-0.7**
JHO	**Hitachi**	**1.10**	**229**	P		**Pn**	**22 44 29.6**	**-1.9**
JHO				S		**Sb**	**22 44 44.1**	**-1.4**
JIO	**Ouri**	**1.13**	**350**	P		**Pn**	**22 44 31.0**	**-0.8**
JIO				S		**Sb**	**22 44 45.1**	**-1.1**
JOU	**Okura**	**1.26**	**324**	P		**Pn**	**22 44 33.5**	**-0.2**
JOU				S		**Sb**	**22 44 50.3**	**+0.1**
MJAR	**Matsushiro Arr**	**2.83**	**255**	Pn		**Pb**	**22 45 03.0**	**+2.1**
	0.4nm,0.3s,baz=71,slow=19,SNR=7.4							
MJAR				Sn		**Sg**	**22 45 42.9**	**+1.3**
	0.3nm,0.3s,baz=61,slow=35,SNR=5.0							
	3.5nm,0.4s							
SONM	**Songino Array**	**27.74**	**303**	P		**P**	**22 49 58.8**	**+0.2**
	0.4nm,0.8s,baz=99,slow=9.3,SNR=2.1							
	0.4nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.18**	**122**	T		T	23 19 32.7	
	baz=314,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy**	**28.18**	**122**	T		T	23 19 26.0	
	baz=314,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**28.20**	**122**	T		T	23 19 28.2	
	baz=314,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**28.90**	**124**	T		T	23 20 20.5	
	baz=316,slow=76,SNR=3.3							
H11S3	**WAKE ISLAND Hy**	**28.90**	**124**	T		T	23 20 25.3	
	baz=316,slow=76,SNR=4.5							
H11S2	**WAKE ISLAND Hy**	**28.92**	**124**	T		T	23 20 23.3	
	baz=316,slow=76,SNR=3.8							
MKAR	**Makanchi Array**	**44.08**	**302**	P		**P**	**22 52 18.6**	**+0.6**
	0.2nm,0.6s,baz=98,slow=7.4,SNR=2.8							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**45.93**	**308**	P		**P**	**22 52 32.7**	**+0.1**
	0.4nm,0.4s,baz=83,slow=8.6,SNR=4.4							
	0.4nm,0.4s							
WRA	**Warramunga Arr**	**57.39**	**188**	P		**P**	**22 53 59.4**	**+1.1**
	0.4nm,1.1s,baz=5.2,slow=7.2,SNR=1.2							
	0.4nm,1.1s							

*JMA **29** 22:45:11.9±0.1,37.°2N±0.°3×141.°4E±0.°8,h25km±1km,*
MV3.3/35,E OFF FUKUSHIMA PREF
*IDC **29** 22:45:29.4±4.0,38.°29N×139.°37E,h0km,mb3.4/3,*
mbtmp3.4/3,Error ellipse: s-maj=75.7km s-min=26.3km
az=89.0
ISC 29 22:45:11.0±2.5,**37.°23N**±0.°05×**141.°5E**±0.°1,**h14**km±13km,
n11,σ0**°77**/17,**mb3.4**/3,**Near east coast of eastern**
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**286**	*i* P		**Pg**	**22 45 21.0**	**+0.2**
JFK				S		**Sg**	**22 45 27.6**	**+0.2**
JMST	**Minamisoumatoc**	**0.68**	**317**	*i* P		**Pg**	**22 45 24.2**	**0.0**
JMST				S		**Sg**	**22 45 33.4**	**+0.2**
JFFD	**Fukushimafurud**	**0.74**	**259**	*i* P		**Pg**	**22 45 25.1**	**-0.2**
JFFD				S		**Sg**	**22 45 34.6**	**-0.5**
JMM	**Marumori**	**0.83**	**320**	*i* P		**Pb**	**22 45 26.9**	**-0.3**

KURBB	**Kurchatov Arra**	**45.91**	**308**	P		P		22 53 38.8	+5.8
	0.4nm,0.4s,baz=84,slow=8.1,SNR=4.1								
	0.4nm,0.4s								

*TRN **29** 23:07:11.7, 10˚.31N×62˚.20W, h6km, MD3.6*
*FUNV **29** 23:07:12.6, 10˚.54N×62˚.25W, h18km, MW3.3*
ISC 29 23:07:10.9±1.8, 10˚.06N±0˚.08×62˚.23W±0˚.05, h34km±4km, n19, σ2s18/27, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.00**	**54**	*eP*			**Pn**	**23 07 27.9**	**-0.7**
TRN				*eS*			**Sn**	**23 07 40.5**	**-1.0**
CRUV	**Carupano**	**1.16**	**302**	*eP*			**Pn**	**23 07 30.1**	**-0.7**
CRUV				*eS*			**Sn**	**23 07 42.3**	**-3.2**
TOSP	**Speyside**	**2.07**	**53**	*eP*			**Pn**	**23 07 45.9**	**+2.7**
GRGR	**Grenville**	**2.13**	**15**	*eP*			**Pn**	**23 07 45.2**	**+1.1**
GRGR				*eS*			**Sn**	**23 08 09.3**	**-0.2**
PCRV	**Puerto La Cruz**	**2.37**	**273**	*eP*			**Pn**	**23 07 48.8**	**+1.3**
PCRV				*eS*			**Sn**	**23 08 16.5**	**+1.1**
PRGV	**PARIAGUAN**	**2.71**	**242**	*eP*			**Pb**	**23 07 58.3**	**-0.5**
PRGV				*eS*			**Sb**	**23 08 31.0**	**-0.6**
SVB	**Belmont**	**3.33**	**17**	*eP*			**Pn**	**23 08 02.3**	**+1.6**
MCLT	**Moule a Chique**	**3.84**	**19**	*eP*			**Pn**	**23 08 09.5**	**+1.9**
MCLT				*eS*			**Sn**	**23 08 49.6**	**-1.9**
SLBI	**Saint Lucia, B**	**4.12**	**17**	*eP*			**Pn**	**23 08 12.5**	**+1.0**
SLBI	**Saint Lucia, B**	**4.12**	**17**	*eS*			**Sn**	**23 08 57.7**	**-0.9**
MPOM	**Morne Pois Mar**	**4.56**	**17**	*eP*			**Pn**	**23 08 19.5**	**+2.0**
MPOM	**Morne Pois Mar**	**4.56**	**17**	*eS*			**Sn**	**23 09 07.9**	**-1.4**
BIM	**Bigot**	**4.57**	**14**	*eP*			**Pn**	**23 08 18.9**	**+1.2**
BIM	**Bigot**	**4.57**	**14**	*eS*			**Sn**	**23 09 07.8**	**-1.9**
CACV	**CAICARA DEL OR**	**4.93**	**240**	*eP*			**Pn**	**23 08 21.8**	**-0.8**
CACV				*eS*			**Sn**	**23 09 14.1**	**-4.4**
BENV	**Beln**	**5.29**	**269**	*eP*			**Pn**	**23 08 29.2**	**+1.6**
BENV				*eS*			**Sn**	**23 09 25.7**	**-1.8**
BAUV	**El Baul**	**5.84**	**260**	*eP*			Pn	23 08 40.1	+5.0
BAUV	**El Baul**	**5.84**	**260**	*eS*			**Sn**	**23 09 46.3**	**+5.4**
BAUV	**El Baul**	**5.84**	**260**	*eP*			**Pn**	**23 08 37.9**	**+2.7**
BAUV				*eS*			**Sn**	**23 09 41.3**	**+0.4**

ROM 29 23:17:08.0±0.1, 41˚.720N±0˚.004×14˚.212E±0˚.004, h12km, Md0.8/2, ML1.9/3, 3C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=358.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RNI2	**Rionero Sannit**	**0.05**	**249**	⇑P			Pg	23 17 10.6	+0.2
RNI2				S			Sg	23 17 12.7	+0.5
RNI2				AML		AML			
	comp=E,1265μm,1.2s								
RNI2				AML		AML			
	comp=N,1675μm,0.1s								
RNI2				AML		AML			
	comp=E,1330μm,1.2s								
RNI2				AML		AML			
	comp=N,1560μm,0.1s								
RNI2				END					
MIDA	**Miranda**	**0.08**	**158**	⇑P			Pg	23 17 10.7	0.0
MIDA				S			Sg	23 17 13.0	+0.2
MIDA				AML		AML			
	comp=E,992μm,0.5s								
MIDA				AML		AML			
	comp=N,723μm,0.4s								
MIDA				END					
CERA	**Filignano**	**0.19**	**230**	⇑P			Pg	23 17 12.5	+0.3
CERA				S			Sg	23 17 16.1	+1.0
CERA				AML		AML			
	comp=E,134μm,1.1s								
CERA				AML		AML			
	comp=N,194μm,0.9s								
TRIV	**Trivento**	**0.26**	**79**	P			Pg	23 17 13.8	+0.5
TRIV				S			Sb	23 17 18.2	-0.8
VAGA	**Valle Agricola**	**0.30**	**177**	P			Pg	23 17 14.4	+0.2
VAGA				S			Sb	23 17 19.6	-0.7
BSSO	**Busso**	**0.34**	**121**	P			Pb	23 17 15.4	-0.5
INTR	**Introdacqua**	**0.37**	**322**	P			Pg	23 17 15.6	+0.2
INTR				S			Sb	23 17 21.7	-0.6
POFI	**Posta Fibreno**	**0.37**	**270**	P			Pg	23 17 15.7	+0.2
POFI				S			Sb	23 17 21.8	-0.6
VVLD	**Villa Vallelon**	**0.47**	**289**	P			Pg	23 17 17.0	-0.1
VVLD				S			Sg	23 17 24.1	+0.7
LRP	**Arpino**	**0.47**	**261**	P			Pg	23 17 17.3	0.0
LRP				S			Sg	23 17 24.3	+0.7
T0110	**Collepietro**	**0.60**	**328**	P			Pg	23 17 19.5	-0.2
T0110				S			Sb	23 17 28.6	-0.3
RM33	**Pellescritta (**	**1.08**	**317**	⇓P			Pn	23 17 31.9	+2.9
NRCA	**Norcia**	**1.38**	**324**	AML		AML			
	comp=N,720μm,0.1s								
NRCA				AML		AML			
	comp=E,387μm,1.3s								
CESI	**CESI - Serrava**	**1.61**	**323**	AML		AML			
	comp=E,85μm,1.6s								
CESI				AML		AML			
	comp=N,77μm,1.2s								

ROM 29 23:17:34.2±0.1, 42˚.854N±0˚.003×13˚.091E±0˚.004, h12km, ML1.3/3, 1C-2D, Error ellipse: s-maj=0.3km s-min=0.2km az=11.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**140**	P			Pg	23 17 36.6	+0.2
NRCA				S			Sg	23 17 38.1	+0.1
NRCA				AML		AML			
	comp=N,720μm,0.1s								
NRCA				AML		AML			
	comp=E,386μm,1.3s								
T1216	**Preci, Frazion**	**0.07**	**305**	⇓P			Pg	23 17 37.0	+0.4
T1216				S			Sg	23 17 38.8	+0.3
T1216				AML		AML			
	comp=N,370μm,0.2s								
T1216				AML		AML			
	comp=E,300μm,0.5s								
MC2	**Monte Cornacci**	**0.09**	**51**	P			Pg	23 17 37.5	+0.3
MC2				S			Sg	23 17 39.6	+0.3
T1215	**Vallo di Nera,**	**0.17**	**253**	P			Pg	23 17 38.6	+0.5
T1215				S			Sg	23 17 41.7	+0.9
MMO1	**Montemonaco**	**0.18**	**75**	⇑P			Pg	23 17 38.6	+0.4
MMO1				S			Sg	23 17 41.7	+0.6
T1256	**Bolognola (MC)**	**0.18**	**33**	P			Pg	23 17 38.8	+0.4
T1256				S			Sg	23 17 42.0	+0.8
T1218	**Civita (PG)**	**0.18**	**175**	P			Pg	23 17 38.0	-0.3
CESI	**CESI - Serrava**	**0.20**	**318**	P			Pg	23 17 39.2	+0.6
CESI				S			Sg	23 17 42.6	+0.9
CESI				AML		AML			
	comp=E,85μm,1.6s								
CESI				AML		AML			
	comp=N,77μm,1.2s								
T1219	**Muccia, Frazio**	**0.21**	**343**	P			Pg	23 17 39.2	+0.4
T1219				S			Sg	23 17 42.6	+0.7
CSP1	**Cessapalombo**	**0.25**	**19**	⇓P			Pg	23 17 40.0	+0.4
CSP1				S			Sg	23 17 44.1	+1.0

*IDC **29** 23:19:28.1±0.8, 37˚.16N×141˚.55E, h0km, mb3.8/11, mbtmp3.8/13, ML3.3/2, MS3.0/7, Error ellipse: s-maj=20.9km s-min=17.8km az=101.0*
*NEIC **29** 23:19:29.4±1.8, 37˚.25N±0˚.05×141˚.58E±0˚.07, h8km±5km, mb4.4/11, Error ellipse: s-maj=9.4km s-min=5.6km az=55.0*
*JMA **29** 23:19:30.8±0.2, 37˚.2N±0˚.4×14˚.2E±˚, h37km±1km, MD4.2/35, MV4.1/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **29** 23:19:30.8, 37˚.22N×141˚.52E, h37km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-7.74; Mθθ4.70; Mϕϕ3.04; Mrθ1.15; Mθϕ4.67; Mϕr-0.89; Fault plane solution: M₀8.32000×10¹⁴ NP1:ϕs39.00000°, δ45.00000°, λ-106.00000°. NP2:ϕs241.00000°, δ47.00000°, λ-75.00000°.*
ISC 29 23:19:29.7±1.8, 37˚.23N±0˚.04×141˚.56E±0˚.06, h10km±10km, n65, σ0s91/52, mb3.8/17, MS3.3/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**284**	*i* P			**Pg**	**23 19 41.6**	**+0.9**
JFK				S			**Sg**	**23 19 49.2**	**+1.0**
JFK	**Kawauchi**	**0.57**	**284**	A		A		23 19 41.6	
	comp=E,11nm,1.2s,comp=E,12nm,0.7s								
JMST	**Minamisoumatoc**	**0.73**	**313**	*i* P			**Pg**	**23 19 44.2**	**+0.5**
JMST				S			**Sg**	**23 19 53.8**	**+0.4**
JMST	**Minamisoumatoc**	**0.73**	**313**	A		A		23 19 44.2	
	comp=E,10.0nm,0.2s,comp=E,12nm,0.9s								
JFFD	**Fukushimafurud**	**0.81**	**260**	*i* P			**Pg**	**23 19 45.3**	**-0.1**
JFFD				S			**Sg**	**23 19 55.1**	**-0.8**
JMM	**Marumori**	**0.88**	**316**	Pg			**Pb**	**23 19 46.7**	**-0.4**
JMM				Sg			**Sb**	**23 19 57.2**	**-1.7**
JMM	**Marumori**	**0.88**	**316**	P			**Pb**	**23 19 46.6**	**-0.4**
JMM				S			**Sb**	**23 19 58.0**	**-0.9**
JHO	**Hitachi**	**1.01**	**233**	P			**Pb**	**23 19 47.7**	**-1.5**
JIO	**Ouri**	**1.23**	**352**	*i* P			**Pn**	**23 19 52.2**	**-0.7**
JIO				S			**Sb**	**23 20 07.3**	**-1.7**
JYAR	**Yonezawaarcadi**	**1.32**	**302**	A		A		23 19 53.0	
	comp=E,11nm,1.1s,comp=E,14nm,1.5s								
JOU	**Okura**	**1.34**	**328**	A		A		23 19 53.6	
	comp=E,7.0nm,1.3s,comp=E,10.0nm,0.7s								
JSB	**Shiboa**	**1.34**	**259**	A		A		23 19 53.2	
	comp=E,8.0nm,1.6s,comp=E,7.0nm,1.4s								
JOFO	**Osakifurukawao**	**1.46**	**340**	A		A		23 19 55.4	
	comp=E,19nm,1.3s,comp=E,27nm,1.3s								
JYS	**Shirataka**	**1.55**	**310**	A		A		23 19 56.4	
	comp=E,8.0nm,2.5s,comp=E,8.0nm,1.0s								
JYA	**Atsumi**	**2.00**	**313**	A		A		23 20 03.0	
	comp=E,5.0nm,0.6s,comp=E,5.0nm,0.8s								
JSD	**Sado**	**2.74**	**288**	Pn			**Pn**	**23 20 13.4**	**-0.3**
JSD							Pg	23 20 19.3	-3.0
MJAR	**Matsushiro Arr**	**2.78**	**257**	Pn			**Pn**	**23 20 13.1**	**-1.1**
	1.1nm,0.3s,baz=77,slow=16,SNR=22								
MJAR						Sn		**Sn**	**23 20 49.8**	**+2.0**
	1.8nm,0.3s,baz=89,slow=17,SNR=2.8								
MJAR						LR	LR	23 20 56.9	
	comp=Z,53nm,18.8s,baz=176,slow=32 6.6nm,0.4s								
MAJO	**Matsushiro**	**2.78**	**257**	Pn			**Pn**	**23 20 14.1**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.78**	**257**	Pn			**Pn**	**23 20 15.3**	**+1.1**
JTM	**Tenmabayashi**	**3.57**	**354**	Pn			**Pn**	**23 20 25.8**	**+0.7**
JGF	**Kuroka**	**3.76**	**246**	Pn			**Pn**	**23 20 28.6**	**+0.8**
INU	**Inuyama**	**4.12**	**244**	Pn			**Pn**	**23 20 34.5**	**+1.8**
JHJ2	**Mitsune**	**4.35**	**200**	Pn			**Pn**	**23 20 35.4**	**-0.4**
JHJ	**Hachijo jima 2**	**4.35**	**200**	Pn			**Pn**	**23 20 35.2**	**-0.7**
	23nm,0.3s,baz=78,slow=23,SNR=5.2								
JHJ						Sn		**Sn**	**23 21 25.8**	**-0.8**
	24nm,0.3s,baz=65,slow=20,SNR=1.7 51nm,0.3s								
ERM	**Erimo**	**4.93**	**14**	Pn			**Pn**	**23 20 42.1**	**-1.7**
JHS	**Saijyo**	**7.19**	**254**	Pn			**Pn**	**23 21 14.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**10.06**	**317**	LR		LR		23 25 20.6	
	comp=Z,56nm,21.4s,baz=36,slow=35								
KSRS	**Korea Array**	**10.86**	**275**	LR		LR		23 25 42.9	
	comp=Z,46nm,20.6s,baz=105,slow=34								
SONM	**Songino Array**	**27.78**	**304**	P			**P**	**23 25 19.0**	**+0.3**
	0.8nm,0.8s,baz=105,slow=9.7,SNR=5.0 0.8nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T		T		23 54 49.1	
	baz=314,slow=76,SNR=276								
H11N1	**WAKE ISLAND Hy**	**28.15**	**121**	T		T		23 54 57.2	
	baz=314,slow=76,SNR=344								
H11N3	**WAKE ISLAND Hy**	**28.16**	**121**	T		T		23 54 49.9	
	baz=314,slow=76,SNR=241								
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T		T		23 55 41.5	
	baz=316,slow=76,SNR=170								
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T		T		23 55 42.7	
	baz=316,slow=76,SNR=148								
H11S2	**WAKE ISLAND Hy**	**28.88**	**123**	T		T		23 55 41.2	
	baz=316,slow=76,SNR=113								
ZAA0	**Zalesovo Array**	**41.87**	**312**				**P**	**23 27 19.7**	**0.0**
ZALV	**Zalesovo Beam**	**41.87**	**312**	P			**P**	**23 27 20.2**	**+0.5**
	1.8nm,0.9s,baz=94,slow=6.2,SNR=5.9								
ZALV						LR	LR	23 45 50.3	
	comp=Z,22nm,18.5s,baz=94,slow=38 1.8nm,0.9s								
ZALV	**Zalesovo Beam**	**41.87**	**312**	P			**P**	**23 27 18.6**	**-1.1**
MK31	**Makanchi Array**	**44.12**	**302**	P			**P**	**23 27 38.3**	**+0.2**
MK31						IAmb	IAmb	23 27 46.7	
	comp=Z,2.9nm,1.1s								
MKAR	**Makanchi Array**	**44.12**	**302**	P			**P**	**23 27 38.6**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=88,slow=9.8,SNR=9.5								
MKAR						LR	LR	23 46 47.9	
	comp=Z,24nm,18.2s,baz=128,slow=37 comp=Z,1.1nm,0.8s								
MKAR	**Makanchi Array**	**44.12**	**302**	P			**P**	**23 27 38.4**	**+0.3**
CAST	**Castle Rocks**	**46.99**	**34**	P			**P**	**23 28 01.6**	**+1.0**
ILAR	**Eielson Array**	**49.26**	**32**	P			**P**	**23 28 19.1**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=269,slow=7.0,SNR=5.1 comp=Z,0.5nm,0.8s								
BVAR	**Borovoye Array**	**50.53**	**312**	LR		LR		23 52 47.4	
	comp=Z,35nm,20.1s,baz=39,slow=40								
KK31	**Karatay Array**	**53.13**	**300**	P			**P**	**23 28 48.1**	**+0.7**
KK31						IAmb	IAmb	23 28 49.7	
	comp=Z,2.7nm,1.1s								
KKAR	**Karatay Array**	**53.13**	**300**	P			**P**	**23 28 46.2**	**-1.2**
GAR	**Garm**	**54.72**	**295**	P			**P**	**23 28 58.7**	**-0.6**
GAR						IAmb	IAmb	23 29 31.9	
	comp=Z,4.2nm,1.2s								
CHGR	**Chuyangaron**	**55.69**	**295**	P			**P**	**23 29 06.7**	**+0.4**
WB0	**Warramunga Arr**	**57.09**	**188**	P			**P**	**23 29 16.0**	**-0.2**
WB0						IAmb	IAmb	23 29 55.1	
	comp=Z,6.8nm,1.2s								
WB2	**Warramunga Arr**	**57.27**	**188**	P			**P**	**23 29 17.1**	**-0.3**
WB2						IAmb	IAmb	23 29 57.2	
	comp=Z,6.4nm,1.2s								
WRA	**Warramunga Arr**	**57.27**	**188**	P			**P**	**23 29 16.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=4.5,slow=6.8,SNR=12 comp=Z,0.3nm,0.4s								
WRA	**Warramunga Arr**	**57.27**	**188**	P			**P**	**23 29 16.7**	**-0.7**
ABKAR	**Akbulak array**	**57.91**	**310**	P			**P**	**23 29 21.1**	**-0.6**
EUNU	**Eureka**	**59.98**	**9**	P			**P**	**23 29 35.9**	**+0.2**
EUNU						IAmb	IAmb	23 30 18.5	
	comp=Z,5.3nm,1.4s								
ASAR	**Alice Springs**	**61.00**	**188**	P			**P**	**23 29 43.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=11,slow=4.8,SNR=5.0 comp=Z,0.4nm,0.5s								
GEYT	**Alibeck**	**63.84**	**299**	P			**P**	**23 30 02.9**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=235,slow=46,SNR=2.1 comp=Z,0.6nm,0.3s								
FINES	**FINESS Array B**	**68.70**	**332**	P			**P**	**23 30 31.9**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=52,slow=9.0,SNR=1.1 comp=Z,1.4nm,0.7s								
FINES	**FINESS Array B**	**68.70**	**332**	P			**P**	**23 30 32.7**	**-0.3**
GNI	**Garni**	**71.69**	**307**	LR		LR		00 03 35.3	
	comp=Z,26nm,18.2s,baz=332,slow=37								
AKASG	**Malin Array Be**	**74.22**	**322**	P			**P**	**23 31 06.2**	**-0.3**
	comp=Z,0.2nm,0.2s,baz=47,slow=5.4,SNR=1.2 comp=Z,0.2nm,0.2s								
NVAR	**Mina Array Bea**	**74.78**	**53**	P			**P**	**23 31 11.0**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=274,slow=5.9,SNR=2.1 comp=Z,0.5nm,0.8s								
TXAR	**Lajitas Array**	**89.91**	**52**	P			**P**	**23 32 30.3**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=308,slow=4.4,SNR=2.0 comp=Z,0.3nm,0.8s								
H03N2	**Juan Fernandez**	**146.92**	**96**	T		T		02 23 21.6	
	baz=291,slow=76,SNR=22								
H03N3	**Juan Fernandez**	**146.94**	**96**	T		T		02 23 22.8	
	baz=291,slow=76,SNR=22								
H03N1	**Juan Fernandez**	**146.94**	**96**	T		T		02 23 24.8	
	baz=291,slow=76,SNR=34								

*GII **30** 00:01:03.1±0.0, 34˚.70N×32˚.04E, h20km, Mm2.3/2*
*NIC **30** 00:01:03.1±0.0, 34˚.67N×32˚.09E, h11km±2km, Ml2.9/5*
ISC 30 00:01:03.3±1.9, 34˚.67N±0˚.05×32˚.08E±0˚.09, h15km±10km, n17, σ0s49/31, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.40**	**32**	P			**Pg**	**00 01 11.6**	**0.0**
AKMS				S			**Sb**	**00 01 18.0**	**-0.1**
AKMS				AML		AML		00 01 18.8	
	5.2nm,0.3s								
AKMS				AML		AML		00 01 18.8	
	5.2nm,0.3s								
AKMS				AML		AML		00 01 19.0	
	4.8nm,0.3s								
AKMS				AML		AML		00 01 19.0	
	4.8nm,0.3s								
NATA	**Nata**	**0.42**	**75**	P			**Pg**	**00 01 11.5**	**-0.3**
NATA				S			**Sb**	**00 01 18.8**	**+0.2**
NATA				AML		AML		00 01 20.2	
	9.3nm,0.3s								
NATA				AML		AML		00 01 20.2	
	9.3nm,0.3s								
NATA				AML		AML		00 01 21.1	
	16nm,0.3s								
NATA				AML		AML		00 01 21.1	
	16nm,0.3s								

ALFC	**Alefka**	**0.65**	**41**	P			**Pg**	**00 01 15.6**	**-0.4**
ALFC				S			**Sb**	**00 01 25.3**	**+0.2**
ALFC				AML		AML		00 01 27.4	
	3.9nm,0.4s								
ALFC				AML		AML		00 01 27.4	
	3.9nm,0.4s								
ALFC				AML		AML		00 01 29.2	
	4.4nm,0.3s								
ALFC				AML		AML		00 01 29.2	
	4.4nm,0.3s								
SZAC	**Souni**	**0.67**	**83**	P			**Pg**	**00 01 16.0**	**-0.4**
SZAC				S			**Sb**	**00 01 26.1**	**+0.4**
SZAC				AML		AML		00 01 31.7	
	1.7nm,0.7s								
SZAC				AML		AML		00 01 31.7	
	1.7nm,0.7s								
SZAC				AML		AML		00 01 33.5	
	2.3nm,0.4s								
SZAC				AML		AML		00 01 33.5	
	2.3nm,0.4s								
ASGA	**Asgata**	**0.97**	**83**	P			**Pb**	**00 01 21.5**	**-0.3**
ASGA				S			**Sn**	**00 01 35.5**	**-0.4**
ASGA				AML		AML		00 01 39.4	
	0.9nm,0.6s								
ASGA				AML		AML		00 01 39.4	
	0.9nm,0.6s								
ASGA				AML		AML		00 01 40.2	
	1.2nm,0.3s								
ASGA				AML		AML		00 01 40.2	
	1.2nm,0.3s								
CSS	**Mathiatis**	**1.07**	**74**	P			**Pb**	**00 01 23.1**	**-0.4**
CSS				S			**Sn**	**00 01 39.1**	**+0.8**
ATHAL	**Athalassa**	**1.18**	**66**	P			**Pb**	**00 01 25.3**	**-0.1**
ATHAL				S			**Sg**	**00 01 42.4**	**+0.9**
MVOU	**Mavrovouni**	**1.32**	**75**	P			**Pn**	**00 01 27.1**	**-0.1**
OFRI	**`Ofer**	**3.17**	**129**	Pn			**Pn**	**00 01 52.4**	**-0.3**
OFRI				Sn			**Sn**	**00 02 30.3**	**0.0**
MMA0B	**Mount Meron ar**	**3.22**	**120**	Pn			**Pn**	**00 01 52.8**	**-0.6**
MMA0B				Sn			**Sn**	**00 02 31.8**	**+0.2**
GEM	**Giv'at Ha'Em**	**3.32**	**115**	Pn			**Pn**	**00 01 54.5**	**-0.2**
MMLI	**Mount Malkishu**	**3.57**	**128**	Pn			**Pn**	**00 01 57.7**	**-0.5**
MMLI				Sn			**Sn**	**00 02 40.8**	**+0.7**
HMDT	**Nahal Hemdat**	**3.76**	**129**	Pn			**Pn**	**00 02 00.7**	**0.0**
HMDT				Sn			**Sn**	**00 02 43.8**	**-0.9**
AMAZ	**Amatzia**	**3.93**	**142**	Pn			**Pn**	**00 02 04.3**	**+1.1**
DSI	**Dead Sea**	**4.15**	**137**	Pn			**Pn**	**00 02 06.0**	**-0.1**
DSI				Sn			**Sn**	**00 02 54.8**	**+0.4**
KZIT	**Kziot**	**4.23**	**152**	Pn			**Pn**	**00 02 07.1**	**-0.1**
KZIT				Sn			**Sn**	**00 02 56.8**	**+0.4**
EIL	**Elat**	**5.55**	**153**	Pn			**Pn**	**00 02 25.8**	**+0.4**
EIL				Sn			**Sn**	**00 03 28.4**	**-0.5**

*IDC **30** 00:15:30.9±1.2, 25˚.41N×124˚.97E, h0km, mb3.4/4, mbtmp3.4/5, ML2.7/1, Error ellipse: s-maj=41.6km s-min=23.7km az=63.0*
*JMA **30** 00:15:40.4±0.2, 26˚.N±2˚×12˚5E±˚, h83km±4km, MV3.0/16, NW OFF MIYAKOJIMA ISLAND*
ISC 30 00:15:40.4±1.0, 25˚.61N±0˚.10×125˚.34E±0˚.08, h89km±11km, n17, σ0s72/29, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.69**	**187**	P			**Pn**	**00 15 56.8**	**+0.1**
JIKM				S			**Sn**	**00 16 08.7**	**-0.1**
JIRB	**Irabujima**	**0.80**	**191**	P			**Pn**	**00 15 57.8**	**0.0**
JIRB				S			**Sn**	**00 16 10.1**	**-0.6**
JOGS	**Gusukube**	**0.85**	**176**	P			**Pn**	**00 15 58.6**	**+0.3**
JOGS				S			**Sn**	**00 16 11.6**	**-0.1**
JMJ2	**Miyako jima3**	**0.87**	**181**	P			**Pn**	**00 15 58.6**	**+0.2**
JMJ2				S			**Sn**	**00 16 11.8**	**-0.3**
JTJ	**Tarama**	**1.13**	**211**	P			**Pn**	**00 16 01.9**	**+0.4**
JTJ				S			**Sn**	**00 16 17.0**	**-0.3**
JISG	**Ishigakijimahi**	**1.39**	**223**	P			**Pn**	**00 16 05.0**	**+0.4**
JISG				S			**Sn**	**00 16 22.5**	**-0.3**
JKE	**Kume jima 2**	**1.48**	**61**	*i* P			**Pn**	**00 16 06.1**	**+0.3**
JKE				S			**Sn**	**00 16 25.1**	**0.0**
JIJ	**Ishigaki jima**	**1.65**	**221**	P			**Pn**	**00 16 07.9**	**-0.1**
JIJ				S			**Sn**	**00 16 27.5**	**-1.5**
JKRS	**Kuro-shima**	**1.83**	**222**	P			**Pn**	**00 16 10.4**	**+0.2**
JKRS				S			**Sn**	**00 16 32.4**	**-0.6**
IRIF	**Iriomote-Funau**	**1.94**	**229**	P			**Pn**	**00 16 11.3**	**-0.5**
IRIF				*eS*			**Sn**	**00 16 35.6**	**0.0**
JAGN	**Aguni-jima**	**1.96**	**60**	*eP*			**Pn**	**00 16 12.2**	**+0.2**
JAGN				S			**Sn**	**00 16 36.5**	**+0.3**
JOW	**Kunigami**	**2.90**	**65**	Pn			**Pn**	**00 16 24.1**	**-0.4**
	1.4nm,0.3s,baz=258,slow=19,SNR=1.3								
JOW						Sn	**Sn**	**00 16 55.9**	**-2.6**
	3.9nm,0.3s,baz=107,slow=26,SNR=1.8 7.5nm,0.5s								
JOW	**Kunigami**	**2.90**	**65**	P			**Pn**	**00 16 25.4**	**+0.9**
MKAR	**Makanchi Array**	**40.03**	**313**	P			**P**	**00 23 07.1**	**+0.5**
	0.1nm,0.4s,baz=96,slow=11,SNR=4.8 0.1nm,0.4s								
**

KOVU	**Salmi**	**0.37**	**357**	P	Pg	00	28	14.1	+0.1
KOVU				S	Sg	00	28	19.2	+0.5
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	00	28	20.2	-0.1
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	00	28	20.2	-0.1
MASU	**Masugnsbyn**	**0.79**	**120**	P	Pg	00	28	21.9	-0.2
MASU	**Masugnsbyn**	**0.79**	**120**	P	Pg	00	28	21.9	-0.2
SALU	**Saltoluokta**	**0.81**	**235**	P	Pg	00	28	22.2	-0.3
SALU	**Saltoluokta**	**0.81**	**235**	P	Pg	00	28	22.2	-0.3
PAJU	**Pajala**	**1.40**	**126**	P	Pg	00	28	32.4	-1.3
PAJU	**Pajala**	**1.40**	**126**	P	Pg	00	28	32.4	-1.3
HARU	**Harads**	**1.73**	**170**	P	Pb	00	28	39.1	-0.4
HARU	**Harads**	**1.73**	**170**	P	Pb	00	28	39.1	-0.4

*IDC **30** 00:40:48.0±0.7, 40°.78N×51°.83E, h0km, mb4.1/16, mbtmp4.2/30, ML3.9/11, MS3.3/27, Error ellipse: s-maj=16.7km s-min=7.9km az=176.0*
*MOS **30** 00:40:51.8±1.4, 40°.83N×51°.89E, h42km, mb4.7/19, Error ellipse: s-maj=5.1km s-min=3.8km az=38.6*
*NNC **30** 00:40:53.0±1.4, 41°.14N×52°.31E, h0km, mb4.5, Error ellipse: s-maj=11.1km s-min=7.8km az=82.0*
*NEIC **30** 00:40:53.4±2.2, 40°.79N±0°.07×51°.86E±0°.08, h41km±7km, mb4.5/46, Error ellipse: s-maj=10.5km s-min=8.9km az=199.0*
*AZER **30** 00:40:53.4±0.2, 40°.42N×51°.80E, h60km±2km, Error ellipse: s-maj=3.0km s-min=1.2km az=268.0*
*TEH **30** 00:40:55.4, 40°.42N×51°.73E, h45km, ML4.5*
ISC 30 00:40:52.7±0.6, **40°.73N**±0°.03×**51°.86E**±0°.03, **h41**km±5km, **n352**, σ2≥25/415, **mb4.5**/62, **MS3.3**/18, **29C-25D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALA	**Gala**	**1.33**	**257**	*e*Pg	**Pn**	**00 41 18.3**	**+3.6**
GALA	**Gala**	**1.33**	**257**	Pg	**Pn**	**00 41 18.4**	**+3.6**
GALA				Sg	**Sn**	**00 41 36.3**	**+5.0**
NDR	**Nardaran**	**1.43**	**265**	*e*Pg	**Pn**	**00 41 20.4**	**+4.3**
NDR	**Nardaran**	**1.43**	**265**	Pg	**Pn**	**00 41 20.4**	**+4.3**
NDR				Sg	**Sn**	**00 41 41.9**	**+8.3**
GOBA	**Gobu**	**1.65**	**259**	*e*Pg	**Pn**	**00 41 22.4**	**+3.3**
GOBA	**Gobu**	**1.65**	**259**	Pg	**Pn**	**00 41 22.5**	**+3.3**
GOBA				Sn	**Sn**	**00 41 41.8**	**+2.7**
ATGJ	**Altiaghaj**	**2.22**	**274**	*e*Pn	**Pn**	**00 41 29.9**	**+2.8**
ATGJ	**Altiaghaj** SNR=8.7	**2.22**	**274**	Pn	**Pn**	**00 41 29.9**	**+2.8**
ATGJ				Sg	Sn	00 42 05.1	+12
GBS	**Qobustan**	**2.23**	**266**	*e*Pn	**Pn**	**00 41 31.1**	**+4.0**
GBS	**Qobustan** SNR=4.9	**2.23**	**266**	Pn	**Pn**	**00 41 31.1**	**+4.0**
GBS				Sn	**Sn**	**00 41 57.5**	**+4.1**
SIZA	**Siyzn**	**2.27**	**280**	*e*Pn	**Pn**	**00 41 31.4**	**+3.7**
SIZA	**Siyzn** SNR=11	**2.27**	**280**	Pn	**Pn**	**00 41 31.4**	**+3.7**
SIZA				Sn	**Sn**	**00 41 59.7**	**+5.2**
ALIB	**Äli-Bayra**	**2.31**	**252**	*e*Pn	**Pn**	**00 41 29.8**	**+1.6**
ALIB	**Äli-Bayra** SNR=19	**2.31**	**252**	Pn	**Pn**	**00 41 29.8**	**+1.6**
ALIB				Sg	**Sn**	**00 42 02.9**	**+7.6**
PQL	**Pirkuli**	**2.48**	**273**	*e*Pn	**Pn**	**00 41 33.8**	**+3.1**
PQL	**Pirkuli** SNR=11	**2.48**	**273**	Pn	**Pn**	**00 41 33.9**	**+3.1**
PQL				Sn	**Sn**	**00 42 03.6**	**+3.8**
QUBA	**Quba, Azerbaij** SNR=6.8	**2.62**	**285**	Pn	**Pn**	**00 41 36.0**	**+3.5**
QUBA				Sn	**Sn**	**00 42 08.2**	**+5.1**
QUB	**Quba**	**2.72**	**285**	*e*Pn	**Pn**	**00 41 36.0**	**+2.0**
SAAT	**Saatly**	**2.77**	**253**	*e*Pn	**Pn**	**00 41 37.2**	**+2.8**
SAAT	**Saatly**	**2.77**	**253**	Pn	**Pn**	**00 41 37.2**	**+2.8**
SAAT				Sn	**Sn**	**00 42 10.0**	**+3.4**
IML	**Ismayilli**	**2.79**	**273**	*e*Pn	**Pn**	**00 41 37.0**	**+2.1**
IML	**Ismayilli** SNR=16	**2.79**	**273**	Pn	**Pn**	**00 41 37.0**	**+2.1**
IML				Sn	**Sn**	**00 42 10.7**	**+3.3**
KDMR	**Kurdemir**	**2.82**	**264**	Pn	**Pn**	**00 41 37.0**	**+1.8**
KDMR				Sn	**Sn**	**00 42 09.8**	**+1.9**
QSAR	**Qusar**	**2.83**	**287**	*e*Pn	**Pn**	**00 41 38.4**	**+3.1**
QSAR	**Qusar** SNR=116	**2.83**	**287**	Pn	**Pn**	**00 41 38.4**	**+3.1**
QSAR				Sn	**Sn**	**00 42 11.7**	**+3.5**
XNQ	**Khinaliq**	**2.85**	**280**	*e*Pn	**Pn**	**00 41 38.2**	**+2.4**
XNQ	**Khinaliq** SNR=66	**2.85**	**280**	Pn	**Pn**	**00 41 38.3**	**+2.4**
XNQ				Sn	**Sn**	**00 42 11.7**	**+2.7**
GLBA	**Clilabad**	**3.05**	**242**	*e*Pn	**Pn**	**00 41 39.2**	**+0.9**
GLBA	**Clilabad** SNR=16	**3.05**	**242**	Pn	**Pn**	**00 41 39.3**	**+0.9**
GLBA				Sn	**Sn**	**00 42 12.7**	**-0.8**
QBL	**Gabala** SNR=7.3	**3.06**	**275**	Pn	**Pn**	**00 41 40.2**	**+1.7**
QBL				Sn	**Sn**	**00 42 16.3**	**+2.4**
LKRN	**Lenkeran, Azer** SNR=7.2	**3.11**	**231**	Pn	**Pn**	**00 41 38.8**	**-0.5**
LKRN				Sn	**Sn**	**00 42 13.0**	**-2.2**
LKRN	**Lenkeran, Azer**	**3.11**	**231**	P	**Pn**	**00 41 38.7**	**-0.5**
ASTR	**Astara** SNR=16	**3.21**	**229**	Pn	**Pn**	**00 41 39.8**	**-0.7**
ASTR				Sn	**Sn**	**00 42 14.4**	**-3.1**
AKT	**Akhty**	**3.21**	**285**	*e*P	**Pn**	**00 41 43.0**	**+2.3**
AKT				*e*S	**Sn**	**00 42 20.7**	**+3.0**
AKT	comp=Z,67nm,0.2s			pmax	pmax		
AKT	comp=E,1μm,0.4s			smax	smax		
AKT	comp=N,560nm,0.2s			smax	smax		
AKT	comp=E,1μm,0.4s			smax	smax		
AKT	comp=Z,182nm,2.0s			MLR	MLR		
ZRD	**Zardab** SNR=4.6	**3.21**	**263**	Pn	**Pn**	**00 41 42.3**	**+1.7**
ZRD				Sn	**Sn**	**00 42 19.1**	**+1.5**
GAS1	**Astara - Iran**	**3.30**	**226**	*e*Pn	**Pn**	**00 41 40.2**	**-1.6**
YRD	**Yardimli** SNR=12	**3.32**	**238**	Pn	**Pn**	**00 41 42.0**	**-0.2**
YRD				Sn	**Sn**	**00 42 17.2**	**-3.3**
LRK	**Lerik** SNR=15	**3.42**	**234**	Pn	**Pn**	**00 41 43.0**	**-0.6**
LRK				Sn	**Sn**	**00 42 19.5**	**-3.5**
BLQ	**Beylaqan** SNR=13	**3.44**	**254**	Pn	**Pn**	**00 41 44.0**	**+0.3**
BLQ				Sn	**Sn**	**00 42 22.2**	**-1.0**
SEKA	**Sheki** SNR=28	**3.56**	**279**	Pn	**Pn**	**00 41 48.0**	**+2.5**
SEKA				Sn	**Sn**	**00 42 27.2**	**+0.9**
SEKA	**Sheki**	**3.56**	**279**	P	**Pn**	**00 41 47.9**	**+2.5**
BRDA	**Brd**	**3.60**	**264**	Pn	**Pn**	**00 41 46.6**	**+0.7**
BRDA				Sn	**Sn**	**00 42 29.3**	**+2.2**
MNGR	**Mingechevir, A**	**3.62**	**272**	Pn	**Pn**	**00 41 48.0**	**+1.7**
MNGR				Sn	**Sn**	**00 42 28.9**	**+1.1**
MNGR	**Mingechevir, A**	**3.62**	**272**	P	**Pn**	**00 41 48.0**	**+1.7**
AGDM	**Agdam** SNR=10	**3.68**	**262**	Pn	**Pn**	**00 41 48.0**	**+0.9**
AGDM				Sn	**Sn**	**00 42 28.5**	**-0.7**
QRD	**Qoradiz** SNR=10	**3.70**	**252**	Pn	**Pn**	**00 41 48.1**	**+0.7**
QRD				Sn	**Sn**	**00 42 27.6**	**-2.1**
LHJ2	**Lahijan - Gila**	**3.82**	**202**	*e*Pn	**Pn**	**00 41 47.1**	**-1.9**
MAK	**Makhachkala**	**3.94**	**306**	⇓*i*P	**Pn**	**00 41 54.3**	**+3.7**
MAK				*e*S	**Sn**	**00 42 41.4**	**+5.8**
MAK	comp=Z,127nm,0.3s			pmax	pmax		
MAK	comp=N,1μm,0.5s			smax	smax		
MAK	comp=N,1μm,0.4s			smax	smax		
MAK	comp=Z,283nm,8.0s			MLR	MLR		
ZKTA	**Zakatala** SNR=16	**4.05**	**285**	Pn	**Pn**	**00 41 54.9**	**+2.7**
ZKTA				Sn	**Sn**	**00 42 41.0**	**+2.6**
GANJ	**Ganja** SNR=11	**4.21**	**271**	Pn	**Pn**	**00 41 54.6**	**+0.3**
GANJ				Sn	**Sn**	**00 42 41.0**	**-1.2**
GANJ	**Ganja**	**4.21**	**271**	P	**Pn**	**00 41 54.6**	**+0.3**
KLST	**Kelardasht - M**	**4.25**	**189**	*e*Pn	**Pn**	**00 41 54.1**	**-1.0**
KLST	comp=Z,6μm,0.4s			*e*		00 42 44.6	
MZPU	**Pul - Mazandar**	**4.29**	**183**	*e*Pn	**Pn**	**00 41 54.6**	**-1.0**
ISRB	**Sarab**	**4.36**	**230**	*e*Pn	**Pn**	**00 41 56.5**	**0.0**
ISRB	comp=Z,3μm,0.7s			*e*		00 42 50.5	
QALM	**Alamut, Qazvin**	**4.39**	**193**	*e*Pn	**Pn**	**00 41 55.2**	**-1.9**
IGLO	**Ghaloghah**	**4.49**	**159**	*e*Pn	**Pn**	**00 41 57.8**	**-0.6**
IGLO	comp=Z,7μm,0.3s			*e*		00 42 49.9	
MRVT	**Maraveh tapeh**	**4.49**	**132**	*e*Pn	**Pn**	**00 41 59.3**	**+1.0**
IGZV	**Ghazvin**	**4.52**	**197**	*e*Pn	**Pn**	**00 41 57.7**	**-1.1**
GDB	**GEDABAY** SNR=21	**4.64**	**272**	Pn	**Pn**	**00 42 00.6**	**+0.3**
GDB				Sn	**Sn**	**00 42 52.0**	**-1.0**
DVE	**Vedeno**	**4.83**	**299**	*e*P	**Pn**	**00 42 06.4**	**+3.6**
DVE	comp=Z,58nm,0.3s			pmax	pmax		
ORD	**Ordubad** SNR=15	**4.86**	**250**	Pn	**Pn**	**00 42 04.1**	**+0.8**
ORD				Sn	**Sn**	**00 42 56.8**	**-1.5**
IBST	**Bostanabad**	**4.90**	**234**	*e*Pn	**Pn**	**00 42 03.5**	**-0.5**
QZX	**Qazax, Azerbai** SNR=35	**4.93**	**276**	Pn	**Pn**	**00 42 04.9**	**+0.7**
QZX				Sn	**Sn**	**00 42 59.9**	**0.0**
SBZ	**Shahbuz**	**5.01**	**257**	Pn	**Pn**	**00 42 06.9**	**+1.4**
SBZ				Sn	**Sn**	**00 43 02.8**	**+0.5**
ISHM	**Shahmirzad**	**5.04**	**167**	*e*Pn	**Pn**	**00 42 06.3**	**+0.3**
ISHM	comp=Z,4μm,0.2s			*e*		00 43 04.2	
ITBZ	**Tabriz**	**5.07**	**242**	*e*Pn	**Pn**	**00 42 05.4**	**-0.9**
IMHD	**Mahdasht**	**5.12**	**191**	*e*Pn	**Pn**	**00 42 07.6**	**+0.7**
IFIR	**Firoozkooh**	**5.12**	**172**	*e*Pn	**Pn**	**00 42 07.5**	**+0.3**
NAX	**Nakhchivan**	**5.13**	**254**	Pn	**Pn**	**00 42 09.0**	**+1.9**
NAX				Sn	**Sn**	**00 43 05.7**	**+0.8**
NAX	**Nakhchivan**	**5.13**	**254**	P	**Pn**	**00 42 08.9**	**+1.9**
IDMV	**Damavand**	**5.14**	**178**	*e*Pn	**Pn**	**00 42 08.5**	**+1.1**
IDMV	comp=Z,2μm,0.8s			*e*		00 43 15.0	
GROC	**Groznyy**	**5.15**	**301**	*e*P	**Pn**	**00 42 11.2**	**+4.0**
GROC				*e*S	**Sn**	**00 43 09.8**	**+4.4**
GROC	comp=Z,50nm,0.4s			pmax	pmax		
GROC	comp=N,92nm,0.2s			smax	smax		
GROC	comp=E,148nm,0.3s			smax	smax		
GROC	comp=E,176nm,0.5s			smax	smax		
GROC	comp=Z,185nm,1.0s			MLR	MLR		
IMRD	**Marand**	**5.15**	**249**	*e*Pn	**Pn**	**00 42 08.5**	**+1.1**
IMRD	comp=Z,3μm,0.6s			*e*		00 43 20.8	
IHSB	**Hasanabad**	**5.30**	**185**	*e*Pn	**Pn**	**00 42 10.1**	**+0.7**
ILAS	**Lasjerd**	**5.41**	**170**	*e*Pn	**Pn**	**00 42 11.7**	**+0.7**
ISHB	**Shabestar**	**5.41**	**245**	*e*Pn	**Pn**	**00 42 10.8**	**-0.2**
HYR	**Heyderabad**	**5.46**	**262**	Pn	**Pn**	**00 42 13.7**	**+2.2**
HYR				Sn	**Sn**	**00 43 13.3**	**+0.3**
GNI	**Garni**	**5.46**	**266**	Pn	**Pn**	**00 42 13.4**	**+1.8**
GNI	comp=Z,3.0nm,0.3s,baz=90,slow=2.0,SNR=18			Sn	**Sn**	**00 43 11.3**	**-1.9**
GNI	comp=Z,3.9nm,0.3s,baz=212,slow=18,SNR=5.9			LR	LR	00 45 07.9	
GNI	comp=Z,74nm,21.8s,baz=80,slow=48 comp=Z,12nm,0.4s						
GNI	**Garni**	**5.46**	**266**	Pn	**Pn**	**00 42 13.2**	**+1.6**
GNI	**Garni**	**5.46**	**266**	P	**Pn**	**00 42 13.2**	**+1.6**
IANJ	**Anjilo**	**5.50**	**162**	*e*Pn	**Pn**	**00 42 12.9**	**+0.7**
IRAZ	**Razeghan**	**5.53**	**197**	*e*Pn	**Pn**	**00 42 12.3**	**-0.3**
IRAZ	comp=Z,6μm,0.9s			*e*		00 43 16.9	
GEYT	**Alibeck**	**5.60**	**118**	Pn	**Pn**	**00 42 14.8**	**+1.3**
GEYT	comp=Z,1.5nm,0.3s,baz=296,slow=15,SNR=12			Sn	**Sn**	**00 43 16.7**	**+0.1**
	comp=Z,5.5nm,0.3s,baz=310,slow=21,SNR=8.8 comp=Z,2.8nm,0.3s						
GEYT	**Alibeck**	**5.60**	**118**	Pn	**Pn**	**00 42 14.1**	**+0.6**
GYA0	**ALIBECK ARRAY**	**5.60**	**118**	P	**Pn**	**00 42 14.3**	**+0.9**
GYA0						00 43 15.1	
GYA0B	**ALIBECK ARRAY**	**5.60**	**118**	Pn	**Pn**	**00 42 14.5**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**5.60**	**118**	⇑Pn	**Pn**	**00 42 14.4**	**+0.9**
GYA0B				⇓Sn	**Sn**	**00 43 23.2**	**+6.7**
GYA0B				⇑Lg	Lg	00 43 50.5	
MAKU	**Maku**	**5.67**	**258**	*e*Pn	**Pn**	**00 42 15.6**	**+1.0**
KMGR	**Komgaron**	**5.71**	**296**	P	**Pn**	**00 42 16.0**	**+1.0**
KMGR				S	**Sn**	**00 43 21.6**	**+2.3**
IVRN	**Varamin**	**5.72**	**181**	*e*Pn	**Pn**	**00 42 15.4**	**+0.2**
IQOM	**Qom**	**5.91**	**186**	*e*Pn	**Pn**	**00 42 18.1**	**+0.2**
LACR	**Lac**	**6.03**	**293**	*e*P	**Pn**	**00 42 21.6**	**+2.2**
LACR	comp=Z,26nm,0.3s			pmax	pmax		
BTKR	**Batakoyurt**	**6.05**	**298**	P	**Pn**	**00 42 22.4**	**+2.8**
BTKR				S	**Sn**	**00 43 29.9**	**+2.3**
ARNR	**Ardon**	**6.16**	**296**	*e*P	**Pn**	**00 42 23.6**	**+2.6**
ARNR	comp=Z,23nm,0.3s			pmax	pmax		
HAGD	**Aghdareh**	**6.27**	**201**	*e*Pn	**Pn**	**00 42 22.7**	**-0.2**
ZEI	**Tsey**	**6.30**	**292**	*e*P	**Pn**	**00 42 26.2**	**+3.1**
ZEI	comp=Z,6.0nm,0.6s			pmax	pmax		
ISFB	**Sefidab**	**6.37**	**177**	*e*Pn	**Pn**	**00 42 24.7**	**+0.6**
ONI	**Oni**	**6.56**	**289**	Pn	**Pn**	**00 42 28.0**	**+1.3**
ONI	**Oni**	**6.56**	**289**	P	**Pn**	**00 42 28.0**	**+1.3**
NCK	**Nalchik**	**6.74**	**297**	⇑*e*P	**Pn**	**00 42 31.7**	**+2.7**
KRSH	**Karshahi**	**6.75**	**178**	*e*Pn	**Pn**	**00 42 29.5**	**+0.1**
QAMS	**Qamsar**	**6.99**	**183**	*e*Pn	**Pn**	**00 42 32.8**	**+0.1**
HSAM	**Samen**	**7.00**	**203**	*e*Pn	**Pn**	**00 42 33.2**	**+0.3**
IKRD	**Kardeh**	**7.17**	**121**	*e*Pn	**Pn**	**00 42 37.4**	**+2.3**
KBZ	**Khabaz**	**7.29**	**297**	Pn	**Pn**	**00 42 36.5**	**-0.1**
KBZ	comp=Z,1.0nm,0.3s,baz=111,slow=5.3,SNR=26 comp=Z,10nm,0.3s,baz=302,slow=22,SNR=8.2 comp=Z,1.9nm,0.3s			Sn	**Sn**	**00 43 53.8**	**-4.2**
KBZ	**Khabaz**	**7.29**	**297**	*c*e P	**Pn**	**00 42 37.4**	**+0.8**
IKLH	**Kolahrood**	**7.40**	**182**	*e*Pn	**Pn**	**00 42 38.8**	**+0.5**
IDHR	**Dehrash**	**7.41**	**217**	*e*Pn	**Pn**	**00 42 37.9**	**-0.6**
SHA1	**Shidzhatmaz**	**7.46**	**297**	*e*P	**Pn**	**00 42 39.7**	**+0.6**
SHA1	comp=Z,17nm,0.4s			pmax	pmax		
KVAR	**Kislovodsk Arr** baz=270,slow=20	**7.51**	**298**	Pn	**Pn**	**00 42 40.7**	**+1.0**
KVAR	baz=180,slow=11 comp=Z,3.3nm,0.3s			Sn	**Sn**	**00 43 59.3**	**-4.4**
KIV	**Kislovodsk**	**7.52**	**298**	Pn	**Pn**	**00 42 40.1**	**+0.3**
KIV	**Kislovodsk**	**7.52**	**298**	*e*P	**Pn**	**00 42 40.2**	**+0.4**
KIV				*e*S	**Sn**	**00 44 04.3**	**+0.5**
KIV	comp=Z,11nm,0.9s			pmax	pmax		
KIV	comp=Z,15nm,10.0s			MLR	MLR		
IDOB	**Doab**	**7.52**	**204**	*e*Pn	**Pn**	**00 42 40.8**	**+0.8**
ANAR	**Anarak**	**7.67**	**168**	*e*Pn	**Pn**	**00 42 42.2**	**+0.2**
IKMR	**Kamar-syah**	**7.71**	**202**	*e*Pn	**Pn**	**00 42 43.1**	**+0.7**
TNSJ	**Nastanj**	**7.74**	**149**	*e*Pn	**Pn**	**00 42 43.9**	**+1.0**
IZEF	**Zefreh**	**7.83**	**177**	*e*Pn	**Pn**	**00 42 43.8**	**-0.4**
TKDS	**Koohdasht(Taba**	**8.25**	**148**	*e*Pn	**Pn**	**00 42 51.2**	**+1.3**
TPRV	**Parvadeh(Tabas**	**8.60**	**152**	*e*Pn	**Pn**	**00 42 55.7**	**+1.0**
IRAM	**Ramesheh**	**8.91**	**177**	*e*Pn	**Pn**	**00 43 00.4**	**+1.4**
AFRZ	**Afriz**	**9.26**	**140**	*e*Pn	**Pn**	**00 43 04.4**	**+0.6**
SOC	**Sochi**	**9.46**	**292**	*e*P	**Pn**	**00 43 04.2**	**-2.1**
SOC				*e*		00 44 49.2	
SOC	comp=Z,52nm,6.0s			MLR	MLR		
KLNJ	**Kolanjah**	**9.70**	**181**	*e*Pn	**Pn**	**00 43 10.6**	**+0.6**
AB31	**Akbulak array**	**10.27**	**31**	⇑Pn	**Pn**	**00 43 16.9**	**-0.4**
AB31	comp=Z,4.4nm,0.6s,baz=210,slow=13,SNR=62 comp=Z,35nm,0.5s,baz=219,slow=14,SNR=18			Sn	**Sn**	**00 45 07.2**	**-3.8**
AB31	**Akbulak array**	**10.27**	**31**	*e*P	**Pn**	**00 43 16.9**	**-0.4**
AB31						00 45 07.1	
ABKAR	**Akbulak array**	**10.27**	**31**	Pn	**Pn**	**00 43 16.5**	**-0.8**
AKTO	**Aktyubinsk** comp=Z,8.1nm,0.5s	**10.62**	**22**	⇑Pn	**Pn**	**00 43 21.8**	**-0.3**
AKTO	comp=Z,204nm,0.9s			⇑Sn	**Sn**	**00 45 13.7**	**-5.9**
AKTO	**Aktyubinsk**	**10.62**	**22**	P	**Pn**	**00 43 21.8**	**-0.3**
AKTO						00 45 13.7	
BELG	**Belogornoye** comp=Z,5.7nm,0.3s,baz=122,slow=2.7,SNR=29	**12.03**	**347**	Pn	**Pn**	**00 43 40.6**	**-0.7**
BELG				Sn	Sn	00 45 43.5	-10
BELG	comp=Z,20nm,0.3s,baz=263,slow=22,SNR=26 comp=Z,103nm,18.1s,baz=143,slow=48 comp=Z,60nm,0.9s			LR	LR	00 50 19.7	
BELG	**Belogornoye**	**12.03**	**347**	⇑*e*P	**Pn**	**00 43 40.8**	**-0.5**
BELG	comp=Z,6.0nm,0.7s			pmax	pmax		
VRH	**Novokhopyorsk**	**12.61**	**330**	*e*P	**Pn**	**00 43 47.1**	**-2.3**
VRH	comp=Z,10.0nm,0.6s			pmax	pmax		
CHGR	**Chuyangaron**	**13.49**	**93**	Pn	**Pn**	**00 44 00.9**	**-0.5**
CHGR	**Chuyangaron**	**13.49**	**93**	P	**Pn**	**00 44 01.0**	**-0.5**
VSR	**Storozhevoye**	**13.69**	**324**	*e*P	**Pn**	**00 44 01.8**	**-2.2**
VSR	comp=Z,10.0nm,0.5s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,0.7nm,0.8s,baz=82,slow=11,SNR=2.4	**13.96**	**272**	Pn	**Pn**	**00 44 10.1**	**+2.2**
BRTR	**Keskin Array B**	**13.96**	**272**	P	**P**	**00 44 14.7**	**-0.5**
VORR	**Voronezh**	**14.00**	**326**	*e*P	**Pn**	**00 44 07.1**	**-1.1**
VORR	comp=Z,20nm,0.4s			pmax	pmax		
KK31	**Karatay Array**	**14.09**	**74**	Pn	**Pn**	**00 44 07.9**	**-1.7**
KK31	**Karatay Array** comp=Z,2.2nm,0.6s,baz=267,slow=16,SNR=20	**14.09**	**74**	Pn	**Pn**	**00 44 08.2**	**-1.4**
KK31	comp=Z,12nm,0.8s,baz=268,slow=26,SNR=3.6			⇓Sn	**Sn**	**00 46 42.4**	**-2.2**
KK31	**Karatay Array**	**14.09**	**74**	P	**Pn**	**00 44 07.9**	**-1.7**
KKAR	**Karatay Array**	**14.09**	**74**	Pn	**Pn**	**00 44 08.5**	**-1.2**
KKAR	**Karatay Array**	**14.09**	**74**	Pn	**Pn**	**00 44 08.1**	**-1.6**
KKAR	**Karatay Array**	**14.09**	**74**	P	**Pn**	**00 44 08.1**	**-1.6**
GAR	**Garm**	**14.29**	**91**	Pn	**Pn**	**00 44 11.9**	**-0.5**
BTK	**Batken**	**14.47**	**86**	Pn	**Pn**	**00 44 13.3**	**-1.5**
BTK	**Batken**	**14.47**	**86**	P	**Pn**	**00 44 13.3**	**-1.5**
ASF	**Jabal al Asfar** comp=Z,0.1nm,0.3s,baz=100,slow=11,SNR=2.2 comp=Z,1.7nm,0.7s	**14.74**	**239**	Pn	**Pn**	**00 44 19.0**	**+0.5**
LPSR	**Galich'ya Gora**	**14.80**	**328**	*e*P	**Pn**	**00 44 17.6**	**-1.4**
LPSR	comp=Z,30nm,0.7s			pmax	pmax		
MMAI	**Mount Meron Ar** comp=Z,40nm,20.9s,baz=64,slow=41	**15.24**	**245**	LR	LR	00 51 16.3	
DRK	**Karamyk**	**15.31**	**88**	Pn	**Pn**	**00 44 24.7**	**-1.5**
GHAJ	**Ghor Haditha**	**16.17**	**240**	P	**Pn**	**00 44 39.1**	**+2.3**
ARU	**Arti** baz=186,slow=8.4,SNR=18	**16.32**	**13**	Pn	**Pn**	**00 44 35.5**	**-3.1**
ARU	comp=Z,0.1nm,0.3s,baz=304,slow=21,SNR=16			Sn	Sn	00 47 24.9	-13
ARU	comp=Z,134nm,19.1s,baz=224,slow=43			LR	LR	00 52 31.5	
ARU	**Arti**	**16.32**	**13**	Pn	**Pn**	**00 44 36.0**	**-2.6**
ARU	comp=Z,23nm,1.1s			IAmb	IAmb	00 44 44.7	
ARU	**Arti**	**16.32**	**13**	*d*P	**Pn**	**00 44 36.0**	**-2.6**
ARU				S	**Sn**	**00 47 33.9**	**-4.5**
ARU	comp=Z,22nm,1.4s			pmax	pmax		
OTUK	**Ortayu** comp=Z,21nm,1.3s	**16.40**	**56**	⇓Pn	**Pn**	**00 44 38.6**	**-1.3**
OTUK	comp=Z,22nm,0.7s			⇓Sn	**Sn**	**00 47 35.6**	**-5.1**
OTUK	**Ortayu**	**16.40**	**56**	P	**Pn**	**00 44 38.5**	**-1.3**
OTUK						00 47 29.4	
AAK	**Ala-Archa** comp=Z,0.7nm,0.3s,baz=245,slow=19,SNR=6.7	**17.01**	**76**	P	**Pn**	**00 44 47.9**	**+0.2**
AAK	comp=Z,65nm,18.2s,baz=278,slow=40 comp=Z,2.6nm,0.6s			LR	LR	00 52 11.7	
AAK	**Ala-Archa**	**17.01**	**76**	Pn	**Pn**	**00 44 47.8**	**+0.2**
AAK	**Ala-Archa**	**17.01**	**76**	P	**Pn**	**00 44 47.8**	**+0.2**
AAK	comp=Z,6.0nm,0.9s			pmax	pmax		
SVE	**Sverdlovsk**	**17.10**	**17**	*e*P	**P**	**00 44 50.6**	**+0.9**
SVE				*e*S	**Sn**	**00 47 49.9**	**-7.4**
SVE	comp=Z,30nm,1.2s			pmax	pmax		
BRVK	**Borovoye**	**17.56**	**39**	P	**Pn**	**00 44 52.9**	**-1.3**
BRVK	comp=Z,21nm,1.0s			IAmb	IAmb	00 44 57.9	
BRVK	**Borovoye** comp=Z,21nm,1.0s	**17.56**	**39**	⇑Pn	**Pn**	**00 44 53.5**	**-0.7**
BRVK	comp=Z,35nm,0.8s			⇑Sn	**Sn**	**00 48 03.1**	**-5.5**
BRVK	**Borovoye**	**17.56**	**39**	⇓*e*P	**Pn**	**00 44 52.7**	**-1.5**
BRVK	comp=Z,23nm,1.0s			pmax	pmax		
ELL	**Elmali**	**17.57**	**264**		**Pn**	**00 44 55.4**	**+0.9**
ELL	comp=Z,84nm,1.2s			IAmb	IAmb	00 45 30.4	
ELL	**Elmali**	**17.57**	**264**	P	**Pn**	**00 44 55.4**	**+0.9**
ELL	comp=Z,84nm,1.2s			pmax	pmax		
BVA0	**Borovoye Array** comp=Z,17nm,0.9s	**17.59**	**39**	⇑Pn	**Pn**	**00 44 53.0**	**-1.5**
BVA0	comp=Z,61nm,0.8s			⇑Sn	**Sn**	**00 48 01.2**	**-8.2**
BVA0	**Borovoye Array**	**17.59**	**39**	P	**Pn**	**00 44 53.0**	**-1.5**
BVA0						00 47 57.5	
BVAR	**Borovoye Array** comp=Z,0.2nm,0.3s,baz=229,slow=12,SNR=26	**17.59**	**39**	P	**Pn**	**00 44 53.2**	**-1.3**
BVAR	comp=Z,4.4nm,0.5s,baz=239,slow=23,SNR=5.7			S	Sn	00 47 56.0	-13
BVAR	comp=Z,179nm,18.4s,baz=231,slow=42 comp=Z,17nm,0.8s			LR	LR	00 53 06.8	
OBN	**Obninsk** comp=Z,1.5nm,0.3s,baz=118,slow=14,SNR=2.1	**17.61**	**330**	P	**Pn**	**00 44 52.1**	**-2.6**
OBN	comp=Z,3.8nm,0.4s,baz=53,slow=23,SNR=3.2 comp=Z,6.2nm,0.5s			S	**Sn**	**00 47 58.9**	**-11**
OBN	**Obninsk**	**17.61**	**330**	*i* P	**Pn**	**00 44 50.5**	**-4.2**
OBN	comp=Z,20nm,0.6s			pmax	pmax		
OBN	comp=Z,83nm,15.0s

PDGK Podgornoye 20.66 74 ⇓Pn **P** **00 45 30.7 +1.8**
comp=Z,7.0nm,1.1s
PDGK ⇑Sn **S** **00 49 20.3 +2.8**
comp=Z,1.8nm,0.4s
PDGK Podgornoye 20.66 74 P **P** **00 45 30.7 +1.8**
PDGK S **S** **00 49 20.3 +2.8**
LOT Lotru 21.00 292 ⇓P **P** **00 45 33.5 +1.0**
KURBB Kurchatov Arra 21.00 53 P Pn 00 45 34.2 -1.0
comp=Z,14nm,0.7s,baz=253,slow=11,SNR=65
KURBB S **S** **00 49 21.3 -2.5**
comp=Z,1.4nm,0.8s,baz=265,slow=25,SNR=4.4
comp=Z,14nm,0.7s
KURBB Kurchatov Arra 21.00 53 ⇓Pn **P** **00 45 33.4 +0.9**
comp=Z,12nm,0.7s
KURBB ⇑Sn **S** **00 49 27.1 +3.2**
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 21.00 53 P **P** **00 45 33.3 +0.9**
KURK Kurchatov 21.08 53 ⇓Pn **P** **00 45 35.0 +1.8**
comp=Z,25nm,0.7s
KURK ⇑Sn **S** **00 49 28.3 +2.8**
comp=Z,8.1nm,0.9s
KURK Kurchatov 21.08 53*c i*P **P** **00 45 35.4 +2.1**
KURK pmax pmax
comp=Z,27nm,0.7s
MNK Minsk 21.10 319 *i* P **P** **00 45 33.2 -0.2**
comp=E,4.0nm,0.9s
MNK *i* P **P** **00 45 33.2 -0.2**
comp=N,51nm,0.9s
MNK *i* P **P** **00 45 33.2 -0.2**
comp=Z,32nm,0.9s,baz=301
MNK *i* pP **pP** **00 45 44.0 +0.5**
MNK *i* PP **PnPn** **00 45 53.3 -0.1**
MNK *i* S **S** **00 49 25.6 -0.3**
MNK *i* sS **sS** **00 49 43.7 +1.6**
MNK *i* SS **SnSn** **00 49 50.2 +1.3**
MNK *i* SSS SSS 00 50 03.8
MNK *i* LR LR 00 53 22.2
MNK *i* LRM MLR 00 54 55.7
comp=E,10.0nm,11.8s
MNK *i* LRM MLR 00 54 55.7
comp=Z,35nm,10.6s
MNK *i* LRM MLR 00 54 58.3
comp=N,257nm,15.0s
MNK Minsk 21.10 319 *i* P **P** **00 45 33.2 -0.2**
MNK *i* *PP **pP** **00 45 44.0 +0.5**
MNK *i* 00 45 53.3
MNK *i* S **S** **00 49 25.5 -0.3**
MNK *i* *SS **sS** **00 49 43.6 +1.6**
MNK *i* SS **SnSn** **00 49 50.2 +1.3**
MNK *i* SSS SSS 00 50 03.8
MNK pmax pmax
comp=Z,32nm,0.9s
MNK pmax pmax
comp=N,51nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=E,10.0nm,12.0s
MNK MLR MLR
comp=Z,35nm,11.0s
MNK MLR MLR
comp=N,257nm,15.0s
PRGR Permogore 21.28 352 *e*P **P** **00 45 34.6 -0.7**
PRGR *e*S **S** **00 49 27.3 -1.9**
PRGR pmax pmax
comp=Z,12nm,0.8s
VTS Vitosha 21.42 285 P **P** **00 45 38.0 +0.8**
VTS Vitosha 21.42 285 P **P** **00 45 38.0 +0.8**
VTS pmax pmax
comp=Z,8.0nm,1.2s
LVV L'vov 21.48 304 *e*P **P** **00 45 36.2 -1.4**
LVV *e*S **S** **00 49 27.2 -6.4**
LVV pmax pmax
comp=Z,30nm,1.2s
KLMR Klimovskoe 21.54 343 *e*P **P** **00 45 36.3 -1.8**
KLMR *e*P **P** **00 45 36.3 -1.8**
KLMR *e*P **P** **00 45 36.3 -1.8**
KLMR AMP 00 45 42.2
comp=Z,37nm,1.0s
KLMR *e*S **S** **00 49 29.5 -4.9**
KLMR *e*S **S** **00 49 29.5 -4.9**
KLMR Klimovskoe 21.54 343 *e*P **P** **00 45 36.3 -1.8**
KLMR *e*S **S** **00 49 29.5 -4.9**
KLMR pmax pmax
comp=Z,37nm,1.0s
GZR Gura Zlata 21.69 292 ⇓P **P** **00 45 40.0 0.0**
DRGR 21.83 296 ⇑P **P** **00 45 41.7 +0.3**
NACGM Naroch 21.85 319 *e*P **P** **00 45 40.0 -1.5**
comp=Z,26nm,0.8s,baz=120
IDI Anoyia 21.89 264 P **P** **00 45 42.8 +0.6**
comp=Z,7.0nm,0.5s,baz=62,slow=15,SNR=6.4
comp=Z,7.0nm,0.5s
IDI Anoyia 21.89 264 P **P** **00 45 41.0 -1.2**
IDI IAmb IAmb 00 46 24.9
comp=Z,35nm,1.1s
SURR Surduc 22.16 293 ⇑P **P** **00 45 45.5 +0.5**
UZH Uzhgorod 22.35 301 *e*P **P** **00 45 49.0 +2.1**
UZH *i* 00 45 56.4
UZH *e* 00 46 03.0
UZH *i* 00 46 10.2
UZH *i* 00 46 27.8
IIGN Ignalina 22.36 319 *e*P **P** **00 45 47.0 +0.1**
KOLS Kolonicke sedl 22.42 301 *e*P **P** **00 45 50.2 +2.6**
KOLS Kolonicke sedl 22.42 301 *e*P **P** **00 45 50.3 +2.6**
MAKZ Makanchi 22.50 64 P **P** **00 45 50.4 +1.8**
MAKZ IAmb IAmb 00 46 04.6
comp=Z,18nm,0.9s
MAKZ Makanchi 22.50 64 ⇑Pn **P** **00 45 49.9 +1.3**
comp=Z,18nm,1.0s
MAKZ ⇓Sn Sn 00 50 03.8 -3.7
comp=Z,6.6nm,1.1s
MAKZ Makanchi 22.50 64 P **P** **00 45 50.4 +1.8**
MAKZ pmax pmax
comp=Z,18nm,1.0s
SIRR Siria 22.51 294 ⇓P **P** **00 45 48.6 -0.2**
BZS Buzias 22.52 293 ⇑P **P** **00 45 48.7 0.0**
ISAL Salakas 22.52 320 *e*P **P** **00 45 48.7 +0.1**
MK31 Makanchi Array 22.71 64 P **P** **00 45 51.6 +0.8**
MK31 IAmb IAmb 00 46 06.1
comp=Z,7.8nm,0.8s
MK31 Makanchi Array 22.71 64 ⇓Pn **P** **00 45 52.8 +1.9**
comp=Z,9.5nm,0.7s,baz=257,slow=11,SNR=4.8
MK31 ⇑Sn Sn 00 50 08.9 -3.7
comp=Z,9.2nm,1.1s
MK31 Makanchi Array 22.71 64*de*P **P** **00 45 53.3 +2.4**
MKAR Makanchi Array 22.71 64 P **P** **00 45 51.7 +0.9**
comp=Z,5.9nm,0.9s,baz=263,slow=9.7,SNR=21
MKAR S **S** **00 50 00.5 +4.1**
comp=Z,0.4nm,0.5s,baz=266,slow=23,SNR=2.6
MKAR LR LR 00 54 35.6
comp=Z,54nm,19.7s,baz=256,slow=36
comp=Z,5.9nm,0.9s
MKAR Makanchi Array 22.71 64 P **P** **00 45 51.3 +0.5**
MKAR Makanchi Array 22.71 64*ce*P **P** **00 45 52.5 +1.6**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
CRVS Cervenica-Dubn 22.94 301 *e*P **P** **00 45 56.5 +3.3**
CRVS Cervenica-Dubn 22.94 301 *e*P **P** **00 45 56.5 +3.3**
STHS Stebnicka Huta 23.17 302 *e*P **P** **00 46 00.2 +4.8**
STHS Stebnicka Huta 23.17 302 *e*P **P** **00 46 00.3 +4.8**
PABE Paberze 23.56 318 P **P** **00 45 58.7 -0.4**
PABE IAmb IAmb 00 46 01.5
comp=Z,27nm,0.7s
PABE Paberze 23.56 318 *e*P **P** **00 45 59.5 +0.4**
DIVS Divibare 23.69 289 P **P** **00 46 00.9 +0.3**
DIVS IAmb IAmb 00 46 03.9
comp=Z,17nm,1.3s
VSU Vasula 23.85 327 *e*P **P** **00 46 01.8 -0.1**
OJC Ojcow 24.24 304 P **P** **00 46 03.3 -2.3**
OJC IAmb IAmb 00 46 04.2
comp=Z,9.1nm,0.8s
OJC Ojcow 24.24 304 P **P** **00 46 03.3 -2.3**
OJC pmax pmax
comp=Z,9.0nm,0.8s
VYHS Vyhne 24.61 299 *e*P **P** **00 46 09.9 +0.9**
VYHS Vyhne 24.61 299 *e*P **P** **00 46 09.9 +0.9**
KLNR Kaliningrad 25.17 314⇓*e*P **P** **00 46 16.2 +2.3**
KLNR pmax pmax
comp=Z,134nm,0.6s
MTSE Matsula 25.25 325 *e*P **P** **00 46 14.7 +0.1**
SLIT Slitere, Latvi 25.38 322 *e*P **P** **00 46 16.1 +0.4**
MORC Moravsky Berou 25.61 302 ⇓P **P** **00 46 19.0 +0.9**
MORC Moravsky Berou 25.61 302 P **P** **00 46 18.9 +0.9**
MORC IAmb IAmb 00 46 20.8
comp=Z,16nm,1.2s
MORC Moravsky Berou 25.61 302 *e*P **P** **00 46 19.6 +1.6**
MORC Moravsky Berou 25.61 302 P **P** **00 46 18.9 +0.9**
MORC pmax pmax
comp=Z,16nm,1.2s
MODS Modra-Piesok 25.63 299 *e*P **P** **00 46 19.9 +1.7**
MODS Modra-Piesok 25.63 299 *e*P **P** **00 46 19.9 +1.7**
ZAA0 Zalesovo Array 25.69 48 P **P** **00 46 19.6 +0.9**
ZAA0 IAmb IAmb 00 46 23.8
comp=Z,9.6nm,0.8s
ZALV Zalesovo Beam 25.69 48 P **P** **00 46 19.5 +0.9**
comp=Z,14nm,1.0s,baz=265,slow=9.8,SNR=24
ZALV S **S** **00 50 51.2 +6.9**
comp=Z,0.8nm,0.6s,baz=267,slow=16,SNR=2.2
ZALV LR LR 00 57 54.6
comp=Z,78nm,19.1s,baz=236,slow=40
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 25.69 48 P **P** **00 46 19.8 +1.2**
ZALV Zalesovo Beam 25.69 48 *i* P **P** **00 46 20.2 +1.5**
ZALV pmax pmax
comp=Z,14nm,1.0s
MEF Metsahovi 25.87 328 *e*P **P** **00 46 20.7 +0.6**
FIA1 FINESS Array S 26.00 332 P **P** **00 46 21.5 +0.1**
FIA1 IAmb IAmb 00 46 36.0
comp=Z,41nm,1.5s
FINES FINESS Array B 26.00 332 P **P** **00 46 21.7 +0.4**
comp=Z,3.2nm,0.3s,baz=136,slow=9.0,SNR=45
FINES S S 00 51 05.8 +17
comp=Z,7.4nm,0.9s,baz=121,slow=21,SNR=3.8
FINES LR LR 00 58 54.0
comp=Z,44nm,18.5s,baz=224,slow=42
comp=Z,3.2nm,0.3s
FINES FINESS Array B 26.00 332 P **P** **00 46 21.6 +0.3**
FINES FINESS Array B 26.00 332 P **P** **00 46 21.6 +0.3**
KRLC Kraliky 26.13 303 *e*P **P** **00 46 23.8 +1.0**
KRLC Kraliky 26.13 303 *e*P **P** **00 46 23.8 +1.0**
VRAC Vranov 26.16 301 LR LR 00 58 06.3
comp=Z,69nm,18.7s,baz=73,slow=40
VRAC Vranov 26.16 301 *e*P **P** **00 46 23.5 +0.5**
KRUC Moravsky 26.27 300 *e*P **P** **00 46 25.7 +1.7**
DGZ Jazzator, Alta 26.41 58⇓*i*P **P** **00 46 27.5 +2.1**
DGZ pmax pmax
comp=Z,9.0nm,1.7s
DPC Dobruska-Polom 26.46 303 *e*P **P** **00 46 27.3 +1.6**
DPC Dobruska-Polom 26.46 303 *e*P **P** **00 46 27.3 +1.6**
OSTC Ostas 26.55 304 *e*P **P** **00 46 28.4 +1.8**
WMQ Urumqi 26.57 71 *e*P **P** **00 46 27.5 +0.7**
WMQ pP sP 00 46 43.3 +0.6
WMQ sP pP 00 46 46.0 +8.2
WMQ pmax pmax
comp=Z,16nm,0.9s
UPC Upice 26.68 304 *e*P **P** **00 46 29.0 +1.4**
UPC Upice 26.68 304 *e*P **P** **00 46 29.0 +1.4**
BRG Berggiesshubel 28.03 304 *i* P **P** **00 46 41.9 +2.1**
BRG Amp 00 46 43.7
comp=Z,6.6nm,1.1s
BRG Berggiesshubel 28.03 304 *i* P **P** **00 46 41.8 +2.1**
BRG pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 28.03 300 P **P** **00 46 39.9 0.0**
comp=Z,0.8nm,0.5s,baz=88,slow=9.2,SNR=12
comp=Z,0.8nm,0.5s
GERES GERESS Array B 28.03 300 P **P** **00 46 40.2 +0.3**
SABO M.te Sabotino 28.12 294 P **P** **00 46 41.2 +0.6**
SABO IAmb IAmb 00 46 43.5
comp=Z,52nm,1.5s
KHC Kasperske Hory 28.12 300 *e*P P 00 46 31.6 -9.1
CLL Collm 28.66 305 *e*P **P** **00 46 46.0 +0.6**
comp=Z,6.0nm,1.2s
CLL *e*PPP PPP 00 47 46.0
CLL Collm 28.66 305 *e*P **P** **00 46 46.0 +0.6**
CLL pmax pmax
comp=Z,6.0nm,1.2s
WTTA Wattenberg 29.41 296 *e*P **P** **00 46 52.0 -0.3**
comp=Z,2.5nm,0.5s
WATA Walderalm 29.45 297 *e*P **P** **00 46 51.9 -0.7**
comp=Z,0.6nm,0.2s
SQTA Sankt Quirin 29.70 296 *e*P **P** **00 46 54.1 -0.7**
comp=Z,0.5nm,0.3s
MOTA Moosalm 29.77 297 *e*P **P** **00 46 55.5 0.0**
comp=Z,1.2nm,0.5s
ATD Arta Tunnel 30.15 198 LR LR 01 01 06.6
comp=Z,48nm,18.9s,baz=37,slow=40
FUORN Ofenpass-Fuorn 30.39 295 P **P** **00 47 01.6 +0.6**
FUORN IAmb IAmb 00 47 36.3
comp=Z,6.9nm,1.4s
HFS Hagfors 30.49 322 P **P** **00 47 01.6 +0.2**
comp=Z,2.5nm,0.4s,baz=115,slow=10.0,SNR=12
HFS LR LR 00 58 56.9
comp=Z,45nm,19.8s,baz=57,slow=36
comp=Z,2.5nm,0.4s
DAVOX Davos/Dischmat 30.64 296 P **P** **00 47 03.2 +0.1**
comp=Z,1.2nm,0.5s,baz=48,slow=14,SNR=2.9
comp=Z,1.2nm,0.5s
KEV Kevo 31.86 344 P **P** **00 47 14.7 +1.3**
KEV Kevo 31.86 344 P **P** **00 47 14.7 +1.3**
KEV pmax pmax
comp=Z,23nm,1.1s
NB201 NORSAR Array S 31.93 323 P **P** **00 47 14.0 -0.2**
NB2 NORSAR Subarra 31.96 323 P **P** **00 47 14.3 -0.1**
comp=Z,8.2nm,1.0s,baz=112,slow=8.6
NOA NORSAR Array B 31.96 323 P **P** **00 47 14.3 -0.1**
comp=Z,1.9nm,0.7s,baz=113,slow=8.5,SNR=6.7
NOA LR LR 01 00 26.0
comp=Z,28nm,18.9s,baz=350,slow=37
comp=Z,1.9nm,0.7s
ARCES ARCESS Array B 32.01 343 P **P** **00 47 15.2 +0.4**
comp=Z,1.8nm,0.7s,baz=145,slow=9.6,SNR=11
comp=Z,1.8nm,0.7s
KONO Kongsberg 32.27 320 P **P** **00 47 17.4 +0.3**
KONO Kongsberg 32.27 320 P **P** **00 47 17.4 +0.3**
KONO pmax pmax
comp=Z,52nm,1.5s
SENIN Lac Senin/Sane 32.45 295 P **P** **00 47 18.8 -0.3**
KNGR Kungurtug, Tuv 32.93 57⇑*i*P **P** **00 47 26.6 +3.5**
KNGR pmax pmax
comp=Z,5.0nm,0.8s
BNI Bardonecchia 33.05 293 P **P** **00 47 23.3 -1.0**
BNI IAmb IAmb 00 47 28.6
comp=Z,18nm,1.2s
BNI Bardonecchia 33.05 293 P **P** **00 47 23.3 -1.0**
BNI pmax pmax
comp=Z,18nm,1.3s
SSB Saint Sauveur 34.51 294 P **P** **00 47 37.3 +0.5**
SSB IAmb IAmb 00 48 14.3
comp=Z,16nm,1.5s
SSB Saint Sauveur 34.51 294 P **P** **00 47 37.3 +0.5**
SSB pmax pmax
comp=Z,16nm,1.5s
CLF Chambon-Foret 35.67 299 P **P** **00 47 47.4 +0.7**
ESK Eskdalemuir 38.55 311 P **P** **00 48 11.2 +0.1**
ESK Eskdalemuir 38.55 311 P **P** **00 48 11.2 +0.1**
ESK pmax pmax
comp=Z,38nm,1.4s
SONM Songino Array 38.98 61 P **P** **00 48 16.1 +1.1**
comp=Z,0.5nm,0.9s,baz=284,slow=12,SNR=2.7
comp=Z,0.5nm,0.9s
LODK Lodwar 40.01 206 P **P** **00 48 24.7 +1.1**
SPITS Spitsbergen Ar 40.22 349 LR LR 01 06 00.3
comp=Z,36nm,18.0s,baz=84,slow=38
LZH Lanzhou 40.52 79 *e*P **P** **00 48 25.5 -2.4**
LZH pP pP 00 48 29.5 -10
LZH pmax pmax
comp=Z,11nm,1.0s
DSB Dublin 40.54 308 P **P** **00 48 28.5 +0.9**
DSB IAmb IAmb 00 48 31.7
comp=Z,14nm,1.1s
TNCH TengChong 41.70 97 P **P** **00 48 39.0 +1.2**
TNCH pP pP 00 48 48.3 -0.9
TNCH S **S** **00 54 52.3 +0.3**
TNCH sS sS 00 55 11.5 +0.6
TNCH pmax pmax
comp=Z,34nm,0.4s
TNCH pmax pmax
comp=Z,140nm,8.2s
ESDC Sonseca Array 42.03 288 P **P** **00 48 39.6 -0.5**
comp=Z,0.4nm,0.6s,baz=56,slow=8.3,SNR=4.2
comp=Z,0.4nm,0.6s
PZH PanZhiHua 43.34 93 P **P** **00 48 52.3 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.4s
KMBO Kilima Mbogo 43.73 201 LR LR 01 09 30.0
comp=Z,23nm,18.8s,baz=78,slow=39
HHC Hu-ho-hao-te 44.42 69 *e*P **P** **00 48 58.3 -1.2**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.2s
CMAR Chiang Mai Arr 45.92 105 P **P** **00 49 12.2 +0.8**
comp=Z,2.6nm,0.3s,baz=293,slow=12,SNR=4.1
comp=Z,2.6nm,0.3s
CMAR Chiang Mai Arr 45.92 105*ce*P **P** **00 49 13.8 +2.3**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
BORG Borgarnes 47.05 326 LR LR 01 10 02.8
comp=Z,29nm,19.6s,baz=54,slow=37
TIXI Tiksi 47.89 25 LR LR 01 11 09.3
comp=Z,59nm,19.6s,baz=181,slow=38
TIXI Tiksi 47.89 25⇓*e*P **P** **00 49 27.7 +1.5**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
YAK Yakutsk 49.55 37 LR LR 01 13 55.3
comp=Z,71nm,18.1s,baz=268,slow=40
HEH HeiHe 51.68 52 *e*P **P** **00 49 56.0 +0.7**
HEH pmax pmax
comp=Z,10.0nm,0.9s
HEH pmax pmax
comp=Z,260nm,5.0s
NJ2 Nanjing 53.46 77 *e*P **P** **00 50 08.0 -0.7**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
KLR Kul'dur 54.67 52⇑*i*P **P** **00 50 19.4 +2.1**
KLR pmax pmax
comp=Z,9.0nm,2.5s
EUNU Eureka 57.22 352 P **P** **00 50 36.1 +1.0**
EUNU IAmb IAmb 00 50 37.4
comp=Z,2.5nm,0.9s
KSRS Korea Array 57.37 67 P **P** **00 50 38.2 +1.4**
comp=Z,1.0nm,0.3s,baz=297,slow=7.9,SNR=4.1
comp=Z,1.0nm,0.3s
MA2 Magadan 60.03 35 LR LR 01 20 19.7
comp=Z,40nm,18.0s,baz=92,slow=40
DBIC Dimbokro 60.70 252 P **P** **00 50 59.2 -0.9**
DBIC Dimbokro 60.70 252 P **P** **00 50 59.2 -0.9**
DBIC pmax pmax
comp=Z,15nm,1.5s
BILL Bilibino 61.05 23 *i* P **P** **00 51 02.4 +0.7**
BILL *i* 00 51 43.4
BILL pmax pmax
comp=Z,5.0nm,1.0s
JNU Nakatsue 61.65 69 LR LR 01 19 54.8
comp=Z,37nm,18.2s,baz=40,slow=38
YSS Yuzh-Sakhalins 62.27 51⇓*e*P **P** **00 51 12.4 +2.1**
YSS pmax pmax
comp=Z,84nm,2.2s
TOLK Toolik Lake Re 69.78 8 P **P** **00 51 58.8 +0.6**
LBTB Lobatse 69.81 205 LR LR 01 26 32.3
comp=Z,31nm,18.4s,baz=4.5,slow=39
LBTB Lobatse 69.81 205 P **P** **00 51 59.3 +0.4**
LBTB IAmb IAmb 00 52 10.6
comp=Z,7.6nm,1.2s
LBTB Lobatse 69.81 205 P **P** **00 51 59.3 +0.4**
LBTB pmax pmax
comp=Z,8.0nm,1.3s
BOSA Boshof 73.27 204 LR LR 01 26 45.7
comp=Z,18nm,18.4s,baz=20,slow=38
ILAR Eielson Array 73.81 8 P **P** **00 52 23.4 +1.0**
comp=Z,0.7nm,0.9s,baz=334,slow=6.0,SNR=2.6
comp=Z,0.7nm,0.9s
KTH Kantishna Hill 74.49 10 P **P** **00 52 27.9 +1.3**
KTH IAmb IAmb 00 52 47.0
comp=Z,13nm,1.3s
DAWY Dawson 75.17 5 P **P** **00 52 30.4 0.0**
DAWY IAmb IAmb 00 52 32.1
comp=Z,9.6nm,1.2s
SKT Skwentna 75.91 11 P **P** **00 52 35.3 +0.7**
SKT IAmb IAmb 00 53 14.7
comp=Z,11nm,1.4s
BCAR Beaver Creek A 75.98 6 P **P** **00 52 35.4 +0.4**
BATG Bathurst New B 76.48 322 P **P** **00 52 39.2 +1.1**
BRLK Bradley Lake 78.12 12 P **P** **00 52 47.0 -0.1**
WRA Warramunga Arr 97.29 110 P **P** **00 54 21.3 -0.2**
comp=Z,0.7nm,1.1s,baz=317,slow=4.1,SNR=2.0
comp=Z,0.7nm,1.1s
YBH Yreka Blue Hor 97.78 356 LR LR 01 47 57.6
comp=Z,43nm,18.0s,baz=322,slow=41

IDC ***30*** *01:08:26.3±7.7, 21.°76S×178.°91W, h642km±57km, mb3.4/4, mbtmp4.4/6, Error ellipse: s-maj=153.8km s-min=84.0km az=86.0*
NEIC ***30*** *01:08:27.3±1.4, 22.°2S±0.°1×179.°1W±0.°2, h612km±22km, mb4.3/20, Error ellipse: s-maj=32.9km s-min=8.3km az=62.0*

ISC 30 01:08:24.0±2.7, 22.°1S±0.°2×179.°0W±0.°3, h576km, n29,
σ1§00/28, mb4.3/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.14**	**327**	P	P	01 10 01.4	+4.7
	8.8nm,0.3s,baz=271,slow=20,SNR=32						
MARNC	**Mare, Loyalty**	**12.05**	**270**	P	P	**01 11 02.4**	**-0.8**
DZM	**Mont Dzumac**	**13.48**	**267**	P	P	**01 11 20.5**	**+2.5**
	4.8nm,0.6s,baz=107,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**13.48**	**267**	P	P	**01 11 20.4**	**+2.4**
QRZ	**Quartz Range**	**20.00**	**199**	P	P	**01 12 18.6**	**-0.1**
EIDS	**Eidsvold**	**27.55**	**257**	P	P	**01 13 26.0**	**+0.2**
EIDS				IAmb	IAmb	01 13 50.5	
	comp=Z,7.9nm,1.2s						
ARMA	**Armidale**	**27.55**	**246**	P	P	**01 13 25.6**	**-0.3**
ARMA				IAmb	IAmb	01 14 09.1	
	comp=Z,7.5nm,1.2s						
CAN	**Canberra**	**30.86**	**238**	P	P	**01 13 54.8**	**+0.5**
CTA	**Charters Tower**	**32.43**	**267**	P	P	**01 14 07.9**	**0.0**
	comp=Z,3.6nm,0.3s,baz=98,slow=8.7,SNR=11						
	comp=Z,3.6nm,0.3s						
CTAO	**Charters Tower**	**32.43**	**267**	P	P	**01 14 08.1**	**+0.2**
CTAO				IAmb	IAmb	01 14 08.7	
	comp=Z,7.4nm,0.9s						
TOO	**Toolangi**	**34.21**	**235**	P	P	**01 14 22.3**	**-0.4**
TOO				IAmb	IAmb	01 14 23.5	
	comp=Z,6.4nm,0.8s						
PMG	**Port Moresby**	**34.82**	**286**	P	P	**01 14 27.1**	**-0.9**
PMG				IAmb	IAmb	01 14 29.4	
	comp=Z,9.7nm,0.9s						
STKA	**Stephens Creek**	**36.27**	**246**	P	P	**01 14 39.8**	**+0.1**
	comp=Z,3.4nm,0.4s,baz=96,slow=11,SNR=12						
	comp=Z,3.4nm,0.4s						
STKA	**Stephens Creek**	**36.27**	**246**	P	P	**01 14 39.9**	**+0.1**
PATS	**Pohnpei**	**36.33**	**320**	P	P	**01 14 41.6**	**+1.2**
MCQ	**Macquarie Isla**	**36.37**	**202**	P	P	**01 14 40.8**	**+0.6**
BBOO	**Buckleboo**	**41.01**	**245**	P	P	**01 15 17.1**	**-0.9**
BBOO				IAmb	IAmb	01 15 20.1	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**43.26**	**258**	P	P	**01 15 35.7**	**-0.1**
ASAR	**Alice Springs**	**43.26**	**258**	P	P	**01 15 35.3**	**-0.5**
	comp=Z,5.9nm,0.7s,baz=94,slow=8.0,SNR=57						
	comp=Z,5.9nm,0.7s						
ASAR	**Alice Springs**	**43.26**	**258**	P	P	**01 15 35.5**	**-0.3**
WR0	**Warramunga Arr**	**43.28**	**264**	P	P	**01 15 35.1**	**-0.8**
WB0	**Warramunga Arr**	**43.45**	**264**	P	P	**01 15 36.6**	**-0.8**
WB0				IAmb	IAmb	01 15 37.2	
	comp=Z,5.6nm,0.9s						
WB2	**Warramunga Arr**	**43.46**	**264**	P	P	**01 15 36.0**	**-1.3**
WB2				IAmb	IAmb	01 15 37.4	
	comp=Z,6.2nm,0.9s						
WRA	**Warramunga Arr**	**43.47**	**264**	P	P	**01 15 36.6**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=95,slow=8.0,SNR=120						
	comp=Z,1.5nm,0.4s						
WRA	**Warramunga Arr**	**43.47**	**264**	P	P	**01 15 36.7**	**-0.8**
FORT	**Forrest**	**47.81**	**248**	P	P	**01 16 09.7**	**-0.6**
MTN	**Manton Dam**	**48.26**	**272**	P	P	**01 16 12.0**	**-1.8**
MTN				IAmb	IAmb	01 16 45.7	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**49.63**	**268**	P	P	**01 16 23.5**	**-0.5**
KNRA				IAmb	IAmb	01 16 24.3	
	comp=Z,8.2nm,0.7s						
PSA00	**Pilbara Seismi**	**56.40**	**258**	P	P	**01 17 11.7**	**-0.2**

WEL 30 01:26:17.5±0.4, 42.°S±4.°×17.°4E±.°, h9km±4km, M3.0/20, ML3.2/16, MLv3.0/20, Error ellipse: s-maj=0.0km s-min=0.0km az=156.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.14**	**263**	P	Pg	01 26 20.7	+0.1
CMWZ				S	Sg	01 26 24.2	+1.5
BSWZ	**Blackbirch Sta**	**0.39**	**272**	P	Pg	01 26 25.6	+0.5
BSWZ				S	Sb	01 26 32.0	-0.7

TUWZ	**Tuamarina**	**0.45**	**311**	P	Pg	01 26 26.9	+0.6		
TUWZ				S	Sb	01 26 34.3	-0.3		
TCW	**Tory Channel**	**0.53**	**350**	P	Pg	01 26 28.1	+0.4		
WEL	**Wellington**	**0.53**	**32**	P	Pg	01 26 28.3	+0.6		
PLWZ	**Palliser**	**0.66**	**76**	P	Pb	01 26 31.6	+0.3		
MSWZ	**Moikau Station**	**0.71**	**64**	P	Pb	01 26 32.6	+0.5		
MSWZ	**Moikau Station**	**0.71**	**64**	P	Pb	01 26 32.0	-0.1		
CAW	**Cannon Point**	**0.80**	**39**	P	Pg	01 26 33.1	+0.2		
PAWZ	**Paruwai Farm**	**0.85**	**66**	P	Pb	01 26 34.2	-0.2		
NNZ	**Nelson**	**0.92**	**304**	P	Pg	01 26 35.1	0.0		
KHZ	**Kahutara**	**0.94**	**223**	P	Pg	01 26 35.5	0.0		
KIW	**Kapiti Island**	**0.95**	**24**	P	Pg	01 26 35.9	+0.1		
DUWZ	**D'Urville Isla**	**0.99**	**339**	P	Pb	01 26 37.2	+0.3		
MTW	**Mount Morrison**	**1.01**	**56**	P	Pg	01 26 36.5	-0.4		
OGWZ	**Otaki Gorge**	**1.08**	**33**	P	Pg	01 26 38.0	-0.3		
HOWZ	**Holdsworth Sta**	**1.19**	**46**	P	Pb	01 26 39.4	-0.8		
TMWZ	**Te Maipa**	**1.29**	**61**	P	Pn	01 26 40.2	-1.4		
MRZ	**Mangatainoka R**	**1.39**	**40**	P	Pn	01 26 42.3	-0.8		
TIWZ	**Tintock**	**1.47**	**50**	P	Pn	01 26 43.1	-1.1		
PRWZ	**Pori Road**	**1.67**	**46**	P	Pn	01 26 45.9	-1.0		
QRZ	**Quartz Range**	**1.67**	**302**	P	Pn	01 26 46.8	-0.2		
BFZ	**Birch Farm**	**1.75**	**54**	P	Pn	01 26 45.7	-2.3		
DVHZ	**Dannevirke**	**1.96**	**44**	P	Pn	01 26 49.4	-1.6		
WAZ	**Wanganui**	**2.02**	**13**	P	Pb	01 26 54.6	+0.1		
TSZ	**Takapari Road**	**2.05**	**36**	P	Pb	01 26 53.8	-1.1		
PNHZ	**Pukenui**	**2.27**	**38**	P	Pn	01 26 54.0	-1.3		
WPHZ	**Waipukurau**	**2.27**	**44**	P	Pg	01 27 00.9	-0.2		
MOVZ	**Moawhango**	**2.54**	**24**	P	Pb	01 27 02.8	-0.5		
WNVZ	**Wahianoa**	**2.57**	**21**	P	Pb	01 27 03.6	-0.3		
BHHZ	**Black Hill Sta**	**2.57**	**30**	P	Pb	01 27 01.9	-2.0		
WHVZ	**Whangaehu Hut**	**2.61**	**21**	P	Pb	01 27 04.3	-0.3		
FWVZ	**Far West T-bar**	**2.63**	**20**	P	Pb	01 27 05.0	+0.1		
FWVZ	**Far West T-bar**	**2.63**	**20**	P	Pb	01 27 03.6	-1.2		
TUVZ	**Tukino**	**2.64**	**22**	P	Pb	01 27 05.7	+0.7		
NGZ	**Ngauruhoe**	**2.71**	**20**	P	Pb	01 27 05.3	-1.0		
SNVZ	**South Ngauruho**	**2.71**	**21**	P	Pb	01 27 06.5	+0.1		
OTVZ	**Oturere**	**2.74**	**21**	P	Pb	01 27 07.2	+0.4		
KWHZ	**Kaweka Forest**	**2.77**	**34**	P	Pg	01 27 09.9	-0.8		
TWVZ	**Taurewa**	**2.77**	**17**	P	Pb	01 27 07.8	+0.5		
BKZ	**Black Stump Fm**	**3.02**	**33**	P	Pb	01 27 13.1	+1.6		
RATZ	**Rangitukua**	**3.05**	**21**	P	Pg	01 27 13.9	-2.0		

IDC 30 01:51:32.6±6.5, 15°.65S×177°.88W, h439km±39km, mb2.7/3, mbtmp3.5/4, Error ellipse: s-maj=360.3km s-min=34.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.42**	**241**	P	P	01 52 51.0	+0.1
	5.1nm,0.5s,baz=109,slow=18,SNR=7.3						
WRA	**Warramunga Arr**	**45.58**	**257**	P	P	01 59 11.8	-0.3
	0.2nm,0.8s,baz=92,slow=6.8,SNR=6.5						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**45.93**	**252**	P	P	01 59 14.8	0.0
	1.0nm,0.5s,baz=86,slow=8.3,SNR=11						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**83.59**	**13**	P	P	02 03 13.1	0.0
	0.2nm,0.7s,baz=228,slow=6.6,SNR=4.0						
	0.2nm,0.7s						

*IDC **30** 02:13:17.2±7.2, 20°.49S×178°.81W, h604km±76km, mb2.6/5, mbtmp3.5/5, Error ellipse: s-maj=142.2km s-min=31.5km az=152.0*

ISC 30 02:13:20.7±2.5, 20°.4S±0°.9×179°.0W±0°.5, h645km, n8, σ0°83/9, mb3.1/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.67**	**257**	P	**P**	**02 20 31.1**	**-0.2**
	0.6nm,0.7s,baz=90,slow=8.2,SNR=6.9						
ASAR				PcP	**PcP**	**02 22 04.5**	**+1.0**
	0.3nm,0.4s,baz=96,slow=4.7,SNR=2.4						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**43.72**	**262**	P	**P**	**02 20 31.6**	**-0.2**
	0.3nm,0.5s,baz=96,slow=7.8,SNR=11						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**81.56**	**44**	P	**P**	**02 24 33.4**	**0.0**
	0.2nm,0.5s,baz=226,slow=7.4,SNR=2.3						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**88.41**	**13**	P	**P**	**02 25 05.7**	**+0.2**
	0.2nm,0.4s,baz=213,slow=6.0,SNR=1.6						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**89.50**	**44**	P	**P**	**02 25 11.3**	**-0.1**
	0.2nm,0.6s,baz=188,slow=2.5,SNR=2.5						
	0.2nm,0.6s						
AKASG	**Malin Array Be**	**142.48**	**330**	PKP	**PKPdf**	**02 31 40.0**	**-1.6**
	1.3nm,0.4s,baz=43,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**146.10**	**312**	PKPbc	**PKPbc**	**02 31 51.3**	**+0.6**
	0.7nm,0.9s,baz=106,slow=3.2,SNR=4.5						
GERES	**GERESS Array B**	**149.84**	**343**	PKPbc	**PKiKP**	**02 32 00.5**	**+0.1**
	0.4nm,0.9s,baz=15,slow=4.1,SNR=3.8						

*NEIC **30** 02:29:07.3±1.4, 60°.88N±0°.04×152°.56W±0°.08, h136km±6km, Error ellipse: s-maj=5.9km s-min=5.4km az=73.0*

*AEIC **30** 02:29:09.9±1.5, 60°.90N±0°.04×152°.46W±0°.08, h112km±5km, MLS.3, ML3.6/150(NEIC), Error ellipse: s-maj=5.5km s-min=5.3km az=145.0*

*IDC **30** 02:29:10.2±3.3, 60°.56N×149°.92W, h0km, mb3.5/3, mbtmp3.7/6, ML3.8/3, MS2.9/1, Error ellipse: s-maj=57.6km s-min=15.0km az=84.0*

ISC 30 02:29:08.5±0.9, 60°.93N±0°.04×152°.45W±0°.04, h120km±7km, n131, σ1s0.0/140, mb3.2/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPU	**Mount Spurr**	**0.32**	**37**		**Pn**	**02 29 25.4**	**-0.2**
SPU				Sn	**Sn**	**02 29 38.2**	**-0.3**
RDJH	**Redoubt Jeurge**	**0.38**	**208**		**Pn**	**02 29 25.7**	**-0.3**
RSO	**Redoubt South**	**0.49**	**198**	Pn	**Pn**	**02 29 26.1**	**-0.5**
RSO				Sn	**Sn**	**02 29 39.4**	**-0.9**
CAPN	**Captain Cook N**	**0.65**	**104**	Pn	**Pn**	**02 29 28.8**	**+1.4**
CAPN				IAML		02 29 50.6	
	comp=N,2μm,0.2s						
N19K	**Bonanza Creek**	**1.00**	**264**	Pn	**Pn**	**02 29 30.1**	**-0.6**
N19K				Sn	**Sn**	**02 29 46.4**	**-1.0**
N19K				IAML		02 29 47.7	
	comp=N,812nm,1.0s						
ILSW	**Iliamna Southw**	**1.01**	**200**	Pn	**Pn**	**02 29 30.3**	**-0.5**
ILSW				Sn	**Sn**	**02 29 47.3**	**-0.2**
ILSW				IAML		02 29 48.1	
	comp=E,275nm,0.9s						
ILSW				IAML		02 29 49.0	
	comp=N,187nm,1.1s						
M20K	**Styx River**	**1.01**	**341**	Pn	**Pn**	**02 29 31.1**	**+0.5**
M20K				Sn	**Sn**	**02 29 48.3**	**+0.8**
FIS	**Fire Island**	**1.10**	**78**	Pn	**Pn**	**02 29 33.0**	**+1.6**
FIS				Sn	**Sn**	**02 29 52.1**	**+3.2**
FIS				IAML		02 29 52.7	
	comp=E,793nm,0.8s						
FIS				IAML		02 29 54.6	
	comp=N,666nm,0.3s						
SKT	**Skwentna**	**1.14**	**22**	Pn	**Pn**	**02 29 32.4**	**+0.5**
SKT				IAML		02 29 51.9	
	comp=E,545nm,0.8s						
SKT				IAML		02 29 53.3	
	comp=N,457nm,0.3s						
SLKM	**Skilak Lake**	**1.17**	**110**		**Pn**	**02 29 32.0**	**-0.2**
RC01	**Rabbit Creek A**	**1.33**	**82**	Pn	**Pn**	**02 29 34.3**	**+0.3**
RC01				IAML		02 29 54.4	
	comp=E,550nm,0.3s						
RC01				IAML		02 29 54.6	
	comp=N,542nm,0.3s						
HOM	**Homer**	**1.34**	**162**	Pn	**Pn**	**02 29 34.3**	**+0.3**
HOM				IAML		02 29 55.2	
	comp=N,1μm,0.8s						
HOM				IAML		02 29 56.2	
	comp=E,898nm,0.4s						
P19K	**Oil Pt**	**1.34**	**197**	Pn	**Pn**	**02 29 34.2**	**+0.1**
P19K				IAML		02 29 57.4	
	comp=N,1μm,0.5s						
P19K				IAML		02 29 57.6	
	comp=E,672nm,0.4s						
M19K	**Big River Lodg**	**1.35**	**317**	Pn	**Pn**	**02 29 34.4**	**+0.2**
M22K	**Willow**	**1.39**	**53**	Pn	**Pn**	**02 29 35.5**	**+1.0**
BRLK	**Bradley Lake**	**1.40**	**146**	Pn	**Pn**	**02 29 34.5**	**-0.3**
BRLK				IAML		02 29 55.3	
	comp=E,635nm,0.1s						
BRLK				IAML		02 29 56.7	
	comp=N,963nm,0.3s						
O22K	**Cooper Landing**	**1.41**	**107**		**Pn**	**02 29 34.7**	**-0.1**
BRSE	**Bradley Lake S**	**1.46**	**144**		**Pn**	**02 29 35.2**	**-0.2**
CNPM	**China Poot**	**1.53**	**156**	Pn	**Pn**	**02 29 36.1**	**-0.2**
CNPM				IAML		02 29 59.2	
	comp=E,614nm,0.4s						
CNPM				IAML		02 30 01.6	
	comp=N,459nm,0.3s						
SVW2	**Sparrevohn**	**1.54**	**278**	Pn	**Pn**	**02 29 35.5**	**-0.8**
SEW	**Seward**	**1.70**	**118**	Pn	**Pn**	**02 29 37.5**	**-0.7**
L19K	**White Mountain**	**1.71**	**319**	Pn	**Pn**	**02 29 38.3**	**0.0**
PMR	**Palmer**	**1.73**	**66**	Pn	**Pn**	**02 29 38.2**	**-0.4**
O18K	**Koktuh Hills**	**1.74**	**233**	Pn	**Pn**	**02 29 38.4**	**-0.4**
CUT	**Chulitna**	**1.81**	**34**	Pn	**Pn**	**02 29 40.2**	**+0.7**
GHO	**Glory Hole Cre**	**1.90**	**62**	Pn	**Pn**	**02 29 40.6**	**-0.1**
GHO				Sn	**Sn**	**02 30 04.9**	**-0.4**
GHO				IAML		02 30 12.0	
	comp=N,311nm,0.5s						
GHO				IAML		02 30 15.0	
	comp=E,409nm,0.4s						
PPLA	**Purkeypile**	**1.98**	**3**	Pn	**Pn**	**02 29 42.4**	**+0.7**
KNK	**Knik Glacier**	**1.99**	**74**	Pn	**Pn**	**02 29 41.2**	**-0.6**
KNK				IAML		02 30 08.2	
	comp=E,350nm,0.4s						
KNK				IAML		02 30 08.3	
	comp=N,440nm,0.4s						
PWL	**Port Wells**	**2.01**	**90**	Pn	**Pn**	**02 29 40.8**	**-1.2**
P18K	**Big Mountain,**	**2.08**	**223**	Pn	**Pn**	**02 29 41.8**	**-1.1**
Q19K	**Cape Douglas,**	**2.10**	**197**	Pn	**Pn**	**02 29 42.9**	**-0.2**
Q19K				IAML		02 30 11.0	
	comp=E,403nm,1.3s						
Q19K				IAML		02 30 15.5	
	comp=N,366nm,0.5s						
SML	**Sawmill**	**2.17**	**64**	Pn	**Pn**	**02 29 42.9**	**-1.1**
SML				IAML		02 30 22.0	
	comp=N,178nm,0.5s						
CAST	**Castle Rocks**	**2.50**	**4**	Pn	**Pn**	**02 29 48.8**	**+0.5**
K20K	**Telida**	**2.55**	**343**	Pn	**Pn**	**02 29 49.1**	**+0.2**
WAT7	**Susitna Watana**	**2.56**	**40**		**Pn**	**02 29 49.5**	**+0.4**
TTA	**Tatalina**	**2.62**	**322**	Pn	**Pn**	**02 29 49.3**	**-0.5**
SCM	**Sheep Creek Mo**	**2.62**	**68**	Pn	**Pn**	**02 29 49.5**	**-0.4**
SCM				IAML		02 30 24.8	
	comp=N,156nm,0.3s						
SCM				IAML		02 30 25.4	
	comp=E,173nm,0.4s						
WAT1	**Susitna Watana**	**2.65**	**42**		**Pn**	**02 29 50.4**	**+0.2**
TRF	**Thorofare Moun**	**2.73**	**21**	Pn	**Pn**	**02 29 51.4**	**+0.1**
TRF				Sn	**Sn**	**02 30 22.5**	**-1.7**
KTH	**Kantishna Hill**	**2.73**	**14**	Pn	**Pn**	**02 29 50.7**	**-0.5**
KTH				IAML		02 30 25.7	
	comp=E,153nm,0.4s						
KTH				IAML		02 30 26.0	
	comp=N,175nm,0.8s						
WAT6	**Susitna Watana**	**2.79**	**51**		**Pn**	**02 29 52.0**	**0.0**
CHUM	**Lake Minchumin**	**2.97**	**1**		**Pn**	**02 29 55.0**	**+0.8**
HIN	**Hinchinbrook I**	**2.98**	**98**	Sn	**Sn**	**02 30 27.8**	**-2.0**
RND	**Reindeer**	**3.00**	**33**	Pn	**Pn**	**02 29 54.3**	**-0.5**
RND				IAML		02 30 32.6	
	comp=E,151nm,0.3s						
RND				IAML		02 30 32.7	
	comp=N,88nm,0.2s						
KLU	**Klutina**	**3.21**	**77**	Pn	**Pn**	**02 29 56.3**	**-1.2**
KLU				IAML		02 30 35.5	
	comp=N,191nm,0.4s						
KLU				IAML		02 30 36.0	
	comp=E,121nm,0.5s						
DHY	**Denali Highway**	**3.22**	**46**	Pn	**Pn**	**02 29 57.9**	**+0.2**
DHY				IAML		02 30 37.4	
	comp=N,186nm,0.4s						
DHY				IAML		02 30 38.5	
	comp=E,203nm,0.3s						
M24K	**Tolsona, Glenn**	**3.23**	**66**	Pn	**Pn**	**02 29 58.5**	**+0.7**
M24K				IAML		02 31 02.5	
	comp=E,173nm,4.0s						
M24K				IAML		02 32 10.3	
	comp=N,144nm,4.3s						
BPAW	**Bear Paw Mtn.**	**3.25**	**11**	Pn	**Pn**	**02 29 57.7**	**-0.4**
BPAW				IAML		02 30 39.2	
	comp=N,86nm,0.7s						
DIV	**Divide**	**3.25**	**84**	Pn	**Pn**	**02 29 57.2**	**-0.9**
MCK	**McKinley**	**3.26**	**29**	Pn	**Pn**	**02 29 58.8**	**+0.7**
MCK				IAML		02 30 38.3	
	comp=N,117nm,0.4s						
MCK				IAML		02 30 38.8	
	comp=E,120nm,0.4s						
EYAK	**Cordova Ski Ar**	**3.31**	**94**	Pn	**Pn**	**02 29 57.6**	**-1.2**
J20K	**Nowinta River**	**3.35**	**347**	Pn	**Pn**	**02 29 59.6**	**+0.3**
BWN	**Browne**	**3.54**	**22**	Pn	**Pn**	**02 30 00.7**	**-1.0**
BWN				IAML		02 30 43.5	
	comp=E,97nm,0.5s						
BWN				IAML		02 31 19.0	
	comp=N,118nm,2.3s						
OHAK	**Old Harbor**	**3.74**	**187**	Pn	**Pn**	**02 30 02.4**	**-2.1**
OHAK				IAML		02 31 11.6	
	comp=N,110nm,4.0s						
OHAK				IAML		02 31 50.4	
	comp=E,126nm,4.4s						
BMRM	**Bremner River**	**3.83**	**86**	Pn	**Pn**	**02 30 03.8**	**-1.8**
N25K	**Chitina, Valde**	**3.85**	**76**	Pn	**Pn**	**02 30 05.3**	**-0.7**
N25K				IAML		02 30 51.7	
	comp=N,88nm,0.3s						
N25K				IAML		02 30 53.6	
	comp=E,74nm,0.5s						
RAGM	**Ragged Mountai**	**3.86**	**95**	Pn	**Pn**	**02 30 06.3**	**+0.1**
PAX	**Paxson**	**3.88**	**55**	Pn	**Pn**	**02 30 07.3**	**+0.9**
NEA2	**Nenana**	**3.99**	**21**	Pn	**Pn**	**02 30 07.5**	**-0.3**
HMT	**Hamilton**	**4.08**	**95**	Pn	**Pn**	**02 30 09.3**	**+0.3**
WRH	**Wood River Hil**	**4.08**	**28**	Pn	**Pn**	**02 30 09.0**	**0.0**
WRH				IAML		02 31 45.8	
	comp=E,45nm,3.9s						
MLY	**Manley**	**4.19**	**10**	Pn	**Pn**	**02 30 10.3**	**-0.1**
GLB	**Gilahina Butte**	**4.21**	**79**	Pn	**Pn**	**02 30 10.4**	**-0.4**
GLB				IAML		02 31 18.4	
	comp=N,49nm,4.0s						
GLB				IAML		02 31 26.7	
	comp=E,56nm,3.5s						
I21K	**Tanana**	**4.27**	**3**	Pn	**Pn**	**02 30 11.6**	**+0.1**
I21K				IAML		02 31 08.9	
	comp=E,36nm,3.9s						
CCB	**Clear Creek Bu**	**4.30**	**28**	Pn	**Pn**	**02 30 11.9**	**+0.1**
CCB				IAML		02 31 05.8	
	comp=N,34nm,0.4s						
CCB				IAML		02 31 07.0	
	comp=E,33nm,0.5s						
HDA	**Harding Lake**	**4.32**	**34**	Pn	**Pn**	**02 30 12.5**	**+0.4**
HDA				IAML		02 31 02.9	
	comp=N,94nm,0.3s						
HDA				IAML		02 31 03.4	
	comp=E,83nm,0.3s						
GCSA	**Galena City Sc**	**4.34**	**334**		**Pn**	**02 30 13.0**	**+0.7**
BERG	**Berg Lake**	**4.34**	**93**	Pn	**Pn**	**02 30 12.3**	**-0.2**
SUCK	**Suckling Hills**	**4.37**	**98**	Pn	**Pn**	**02 30 12.4**	**-0.5**
VRDI	**Verde Repeater**	**4.38**	**82**	Pn	**Pn**	**02 30 12.5**	**-0.7**
VRDI				IAML		02 31 11.2	
	comp=N,51nm,4.0s						
VRDI				IAML		02 31 35.2	
	comp=E,43nm,4.7s						
I23K	**Minto, Yukon-K**	**4.46**	**17**	Pn	**Pn**	**02 30 14.0**	**-0.1**
SII	**Sitkinak Islan**	**4.47**	**192**	Pn	**Pn**	**02 30 12.6**	**-1.7**
MDM	**Murphy Dome**	**4.48**	**24**	Pn	**Pn**	**02 30 14.1**	**-0.2**
MDM				IAML		02 32 04.9	
	comp=N,29nm,4.8s						
TCOL	**CIGO, UAF Yank**	**4.48**	**26**	Pn	**Pn**	**02 30 13.8**	**-0.5**
COLA	**College**	**4.48**	**26**	Pn	**Pn**	**02 30 13.8**	**-0.5**
RIDG	**Independent Ri**	**4.53**	**48**	Pn	**Pn**	**02 30 16.4**	**+1.4**
RIDG				IAML		02 31 21.3	
	comp=N,79nm,1.0s						
MCARA	**McCarthy VSAT**	**4.59**	**80**	Pn	**Pn**	**02 30 15.6**	**-0.2**
MCARA				IAML		02 31 11.6	
	comp=E,68nm,0.6s						
MCARA				IAML		02 31 37.7	
	comp=N,82nm,2.5s						
MENT	**Mentasta**	**4.59**	**60**	Pn	**Pn**	**02 30 16.2**	**+0.4**
MENT				IAML		02 31 27.1	
	comp=E,70nm,0.6s						
MENT				IAML		02 31 29.3	
	comp=N,79nm,0.6s						
IL31		**4.62**	**31**	Pn	**Pn**	**02 30 16.2**	**+0.1**
ILAR	**Eielson Array**	**4.62**	**31**	Pn	**Pn**	**02 30 16.2**	**0.0**
	comp=N,8.4nm,0.3s,baz=209,slow=13,SNR=255						
ILAR				Sn	**Sn**	**02 31 04.7**	**-4.2**
	comp=N,4.4nm,0.3s,baz=216,slow=23,SNR=4.4						
	comp=N,11nm,0.3s						
ILAR	**Eielson Array**	**4.62**	**31**	Pn	**Pn**	**02 30 16.6**	**+0.4**
M26K	**Nabesna, AK**	**4.74**	**68**	Pn	**Pn**	**02 30 18.0**	**+0.1**
M26K				IAML		02 31 17.5	
	comp=E,38nm,3.6s						
M26K				IAML		02 31 19.5	
	comp=N,38nm,3.8s						
H21K	**Melozitna Rive**	**4.75**	**358**	Pn	**Pn**	**02 30 17.8**	**-0.1**
H21K				IAML		02 32 58.3	
	comp=E,25nm,4.9s						
DOT	**Dot Lake**	**4.77**	**51**	Pn	**Pn**	**02 30 17.9**	**-0.4**
L26K	**Log Cabin Wild**	**4.78**	**60**	Pn	**Pn**	**02 30 19.1**	**+0.7**
L26K				IAML		02 31 37.4	
	comp=N,62nm,0.4s						
L26K				IAML		02 31 41.0	
	comp=E,66nm,0.5s						
POKR	**Poker Plat Res**	**4.78**	**26**	Pn	**Pn**	**02 30 19.0**	**+0.6**
POKR				IAML		02 31 40.5	
	comp=N,30nm,4.5s						
POKR				IAML		02 32 08.0	
	comp=E,25nm,4.6s						
SNH	**Sunshine Point**	**4.80**	**95**	Pn	**Pn**	**02 30 19.1**	**+0.4**
BALM	**Baldy**	**4.92**	**84**		**Pn**	**02 30 19.9**	**-0.5**
KIAG	**Kiagna River**	**4.92**	**86**		**Pn**	**02 30 19.8**	**-0.6**
ISLE	**Juniper Island**	**4.97**	**89**	Pn	**Pn**	**02 30 21.9**	**+0.9**
SCRK	**Sand Creek**	**4.98**	**48**	Pn	**Pn**	**02 30 21.2**	**+0.1**
SCRK				IAML		02 31 09.1	
	comp=E,37nm,4.9s						
SCRK				IAML		02 33 18.6	
	comp=N,28nm,4.8s						
H23K	**Yukon River**	**5.08**	**14**	Pn	**Pn**	**02 30 22.2**	**-0.2**
H23K				IAML		02 31 59.1	
	comp=N,27nm,4.9s						
H23K				IAML		02 32 32.9	
	comp=E,22nm,4.6s						
BAGL	**Bagley Icefiel**	**5.11**	**90**		**Pn**	**02 30 22.2**	**-0.5**
IMAR	**Indian Mountai**	**5.11**	**354**	Pn	**Pn**	**02 30 22.8**	**+0.1**
MESA	**MESA**	**5.24**	**94**	Pn	**Pn**	**02 30 25.6**	**+0.9**
M27K	**Edge Creek, AK**	**5.24**	**70**	Pn	**Pn**	**02 30 25.7**	**+1.0**
M27K				IAML		02 32 14.6	
	comp=N,45nm,4.4s						
M27K				IAML		02 32 22.9	
	comp=E,42nm,4.3s						
BARN	**Barnard Glacie**	**5.25**	**84**	Pn	**Pn**	**02 30 24.9**	**0.0**
BARN				IAML		02 32 21.1	
	comp=E,44nm,3.9s						
YAH	**Yahtse**	**5.30**	**91**	Pn	**Pn**	**02 30 26.2**	**+0.6**
H24K	**Noodor Dome**	**5.34**	**21**	Pn	**Pn**	**02 30 25.6**	**-0.2**
H24K				IAML		02 31 15.2	
	comp=N,25nm,4.5s						
H24K				IAML		02 31 48.1	
	comp=E,20nm,4.0s						
CHIR	**Chirikof Islan**	**5.39**	**199**	Pn	**Pn**	**02 30 23.8**	**-2.7**
J26L	**Joseph Creek**	**5.43**	**45**	Pn	**Pn**	**02 30 27.3**	**+0.1**
L27K	**Beaver Creek,**	**5.44**	**62**	Pn	**Pn**	**02 30 27.4**	**+0.1**
BCAR	**Beaver Creek A**	**5.46**	**62**	Pn	**Pn**	**02 30 27.6**	**+0.1**
PRP	**Porcupine Dome**	**5.56**	**31**	Pn	**Pn**	**02 30 29.7**	**+0.7**
TABL	**Table Mountain**	**5.58**	**90**	Pn	**Pn**	**02 30 29.8**	**+0.6**
CHGN	**Chignik**	**5.59**	**217**	Pn	**Pn**	**02 30 28.5**	**-0.7**
K27K	**Chicken**	**5.72**	**53**	Pn	**Pn**	**02 30 30.9**	**-0.1**
PCA	**Pinnacle**	**6.08**	**93**	Pn	**Pn**	**02 30 36.0**	**+0.1**
I26K	**Coal Creek Min**	**6.08**	**40**	Pn	**Pn**	**02 30 36.4**	**+0.5**
COLD	**Coldfoot**	**6.40**	**8**	Pn	**Pn**	**02 30 40.2**	**+0.1**
BCPM	**Bancas Point**	**6.42**	**93**	Pn	**Pn**	**02 30 40.9**	**+0.5**
EGAK	**Eagle**	**6.45**	**48**	Pn	**Pn**	**02 30 40.6**	**-0.1**
FYU	**Fort Yukon**	**6.50**	**26**	Pn	**Pn**	**02 30 40.9**	**-0.5**
DAWY	**Dawson**	**6.81**	**57**	Pn	**Pn**	**02 30 46.1**	**+0.3**
HYT	**Haines Junctio**	**7.29**	**84**	Pn	**Pn**	**02 30 52.1**	**-0.3**
BMAR	**Burnt Mountain**	**7.37**	**24**	Pn	**Pn**	**02 30 52.3**	**-0.9**
P29M	**Windy Craggy**	**7.43**	**94**	Pn	**Pn**	**02 30 54.6**	**+0.6**
M30M	**Minto, Yukon**	**7.61**	**71**	Pn	**Pn**	**02 30 56.9**	**+0.4**
I29M	**Ogilvie Camp,**	**7.79**	**49**	Pn	**Pn**	**02 30 59.0**	**+0.2**
TOLK	**Toolik Lake Re**	**7.84**	**8**	Pn	**Pn**	**02 31 01.1**	**+1.5**
N31M	**Braeburn, Yuko**	**8.07**	**79**	Pn	**Pn**	**02 31 01.9**	**-0.8**
WHY	**Whitehorse**	**8.59**	**84**	Pn	**Pn**	**02 31 10.0**	**+0.1**
EPYK	**Eagle Plains**	**8.85**	**45**	Pn	**Pn**	**02 31 12.6**	**-0.7**
INK	**Inuvik**	**10.94**	**39**	Pn	**Pn**	**02 31 41.4**	**+0.2**
	comp=E,0.4nm,0.3s,baz=234,slow=16,SNR=11						
INK				Sn	**Sn**	**02 33 38.4**	**-3.0**
	comp=E,0.1nm,0.3s,baz=215,slow=26,SNR=2.1						
	comp=E,1.8nm,0.5s						
INK	**Inuvik**	**10.94**	**39**	Pn	**Pn**	**02 31 41.0**	**-0.2**
C36M	**Palautuk**	**14.46**	**42**	Pn	**Pn**	**02 32 25.3**	**-1.7**
BBB	**Bella Bella**	**15.93**	**112**	LR	LR	02 37 19.1	
	comp=E,49nm,20.8s,baz=272,slow=33						
YKA	**Yellowknife Ar**	**17.84**	**68**	Pn	**P**	**02 33 06.9**	**-0.7**
	comp=E,0.3nm,0.3s,baz=282,slow=11,SNR=4.2						
	comp=E,1.4nm,0.6s						
ELK	**Elko**	**30.36**	**115**	P	**P**	**02 35 12.2**	**+3.3**
	comp=E,0.9nm,0.7s,baz=313,slow=11,SNR=4.7						
	comp=E,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**30.95**	**121**	P	**P**	**02 35 17

57nm,0.3s,baz=223,slow=22,SNR=9.5
375nm,0.6s
SANI Sanana 7.71 309 P **Pn** **02 31 04.5 +1.1**
1.0nm3µm257nm,0.6s
SANI Sanana 7.71 309 P **Pn** **02 31 05.2 +1.8**
LBMI Labuha 7.71 325 P **Pn** **02 31 02.5 -1.0**
5.3nm2.5nm6µm583nm,0.9s
SOEI Soe 8.09 250 Pn **Pn** **02 31 07.2 -1.5**
SOEI Soe 8.09 250 P **Pn** **02 31 07.0 -1.7**
4µm441nm,0.6s
SOEI Soe 8.09 250 P **Pn** **02 31 08.4 -0.3**
BATI Baumata 8.80 248 Pn **Pn** **02 31 17.8 -0.6**
155nm,0.4s,baz=146,slow=2.3,SNR=34
BATI Sn **Sn** **02 32 51.6 -4.7**
32nm,0.3s,baz=360,slow=16,SNR=2.7
BATI Baumata 8.80 248 P **Pn** **02 31 17.0 -1.4**
4µm430nm,0.7s
TNTI Ternate 8.96 329 Pn **Pn** **02 31 19.2 -1.5**
TNTI Ternate 8.96 329 P **Pn** **02 31 21.2 +0.6**
75nm,0.9s
TNTI Ternate 8.96 329 P **Pn** **02 31 21.8 +1.2**
75nm,0.9s
KNRA Kununurra 9.18 200 P **Pn** **02 31 21.0 -2.6**
baz=9.2,SNR=20
KNRA Kununurra 9.18 200 Pn **Pn** **02 31 20.8 -2.8**
KNRA Kununurra 9.18 200 P **Pn** **02 31 22.5 -1.1**
GENI Genyem 9.28 62 P Pn 02 31 38.6 +14
GENI Genyem 9.28 62 P **Pn** **02 31 28.7 +3.8**
MMRI Maumere 9.76 260 Pn **Pn** **02 31 30.4 -1.2**
MMRI Maumere 9.76 260 P **Pn** **02 31 31.0 -0.6**
2µm3µm200nm,0.6s
MMRI Maumere 9.76 260 P **Pn** **02 31 30.9 -0.6**
LUWI Luwuk 10.89 302 Pn **Pn** **02 31 48.0 +0.9**
LUWI Luwuk 10.89 302 P **Pn** **02 31 47.2 +0.1**
6µm71nm,1.0s
BSSI Bau Bau, Buton 11.42 274 P **Pn** **02 31 54.4 +0.1**
1µm105nm,1.2s
BKSI Bulukumba 11.88 277 P **Pn** **02 32 00.9 +0.3**
684nm59nm,1.1s
APSI Ampana 11.92 300 P **Pn** **02 32 03.7 +2.6**
2µm146nm,0.9s
BNSI Bone 12.06 282 P **Pn** **02 32 03.3 +0.2**
41nm,1.1s
KAPI Kappang 12.29 279 Pn **Pn** **02 32 05.7 -0.5**
0.5nm,0.3s,baz=87,slow=7.2,SNR=3.8
KAPI LR LR 02 37 00.3
comp=Z,2µm,21.0s,baz=100,slow=38
7.9nm,0.7s
KAPI Kappang 12.29 279 Pn **Pn** **02 32 05.3 -0.9**
KAPI Kappang 12.29 279 P **Pn** **02 32 07.2 +1.0**
KAPI Kappang 12.29 279⇓ *e*P **Pn** **02 32 02.7 -3.5**
MRSI Marisa 12.44 306 P **Pn** **02 32 09.0 +0.7**
894nm86nm,1.0s
SPSI Sidrap Palu 12.49 283 P **Pn** **02 32 10.2 +1.2**
986nm57nm,1.1s
WB0 Warramunga Arr 12.92 170 Pn Pn 02 32 08.9 -5.9
COEN Coen 13.02 123 P **Pn** **02 32 13.5 -2.7**
baz=13,SNR=32
COEN Coen 13.02 123 Pn **Pn** **02 32 12.5 -3.7**
COEN Coen 13.02 123 P **Pn** **02 32 13.7 -2.5**
WRAB Tennant Creek 13.08 170 Pn Pn 02 32 11.0 -5.9
WRAB Tennant Creek 13.08 170 *ce*P Pn 02 32 11.3 -5.6
WRAB pmax pmax
comp=Z,24nm,0.6s
WRA Warramunga Arr 13.08 170 Pn Pn 02 32 11.4 -5.6
comp=Z,2.8nm,0.3s,baz=354,slow=13,SNR=55
WRA Sn Sn 02 34 29.0 -12
comp=Z,19nm,0.3s,baz=354,slow=22,SNR=9.6
WRA Lg Lg 02 36 02.8
comp=Z,7.2nm,0.3s,baz=355,slow=27,SNR=4.7
WRA LR LR 02 37 54.6
comp=Z,2µm,18.1s,baz=342,slow=40
WRA Warramunga Arr 13.08 170 Pn Pn 02 32 11.0 -6.0
WRA Warramunga Arr 13.08 170 P Pn 02 32 11.0 -6.0
WB2 Warramunga Arr 13.09 170 P Pn 02 32 11.3 -5.7
baz=13
WB2 Warramunga Arr 13.09 170 Pn Pn 02 32 10.8 -6.3
WR0 Warramunga Arr 13.14 169 Pn Pn 02 32 12.4 -5.4
TOLI2 Tolitoli 13.75 305 Pn **Pn** **02 32 23.7 -2.4**
TOLI2 Tolitoli 13.75 305 P **Pn** **02 32 27.3 +1.2**
MPSI Mapaga 14.06 301 P **Pn** **02 32 31.6 +1.3**
comp=Z,970nmcomp=Z,31nm,0.9s
PLAI Plampang 14.16 262 P **Pn** **02 32 28.4 -3.4**
comp=Z,1µmcomp=Z,161nm,0.7s
PLAI Plampang 14.16 262 P **Pn** **02 32 27.9 -3.9**
TWSI Taliwang, Sumb 15.03 262 P **Pn** **02 32 40.8 -2.7**
comp=Z,3µmcomp=Z,47nm,0.7s
PMG Port Moresby 15.24 100 Pn **Pn** **02 32 45.6 -0.7**
comp=Z,39nm,0.9s,baz=287,slow=9.6,SNR=14
PMG Lg Lg 02 37 12.3
comp=Z,1.2nm,0.3s,baz=113,slow=22,SNR=3.2
PMG LR LR 02 39 58.0
comp=Z,805nm,18.4s,baz=149,slow=43
PMG Port Moresby 15.24 100 Pn **Pn** **02 32 45.4 -0.9**
PMG Port Moresby 15.24 100 P **Pn** **02 32 46.3 0.0**
PMG Port Moresby 15.24 100 *d*↓*i*P **Pn** **02 32 46.0 -0.3**
PMG pmax pmax
comp=Z,65nm,1.3s
QIS Mount Isa 15.39 152 P **Pn** **02 32 43.8 -4.5**
baz=15,SNR=40
QIS Mount Isa 15.39 152 P **Pn** **02 32 44.0 -4.3**
BKB Balikpapan 16.05 290 P **Pn** **02 32 57.6 +0.8**
MTSU Mount Surprise 16.37 134 P **Pn** **02 32 56.8 -3.9**
baz=16,SNR=77
MTSU Mount Surprise 16.37 134 P **Pn** **02 32 56.9 -3.9**
AS31 Alice Springs 16.69 174 Pn **Pn** **02 32 60.0 -4.9**
ASAR Alice Springs 16.69 174 Pn **Pn** **02 33 00.6 -4.2**
comp=Z,3.2nm,0.3s,baz=352,slow=9.7,SNR=168
ASAR Sn Sn 02 35 57.1 -12
comp=Z,1.9nm,0.3s,baz=358,slow=26,SNR=4.4
ASAR Lg Lg 02 37 54.7
baz=357,slow=30
ASAR LR LR 02 39 36.2
comp=Z,744nm,21.1s,baz=354,slow=38
ASAR Alice Springs 16.69 174 Pn **Pn** **02 33 00.2 -4.6**
ASAR Alice Springs 16.69 174 P **Pn** **02 33 00.2 -4.6**
AS01 Alice Springs 16.69 174 P **Pn** **02 33 00.4 -4.5**
BBKI Banjar Baru 17.39 281 P **P** **02 33 20.0 +5.3**
MYLDM Lahad Datu 18.07 312 **Pn** **02 33 20.9 -1.0**
WRKA Warakurna 18.28 191 P **P** **02 33 19.2 -5.3**
baz=18,SNR=66
WRKA Warakurna 18.28 191 P **P** **02 33 19.2 -5.3**
MBWA Marble Bar 18.39 219 **P** **02 33 24.1 -1.6**
MBWA Marble Bar 18.39 219 P **P** **02 33 25.7 0.0**
PSA00 Pilbara Seismi 18.63 218 P **P** **02 33 27.6 -0.7**
PSA00 Pilbara Seismi 18.63 218 P **P** **02 33 27.9 -0.4**
TV1H Townsville Har 18.89 132 P **Pn** **02 33 32.1 +0.1**
CTA Charters Tower 19.03 135 P **P** **02 33 33.0 +0.3**
comp=Z,0.9nm,0.3s,baz=306,slow=13,SNR=28
CTA S **Sn** **02 36 58.1 -7.7**
comp=Z,6.2nm,0.6s,baz=225,slow=23,SNR=1.9
CTA Lg Lg 02 39 05.9
comp=Z,0.8nm,0.3s,baz=232,slow=22,SNR=2.0
comp=Z,26nm,0.8s
CTA Charters Tower 19.03 135 P **Pn** **02 33 33.5 -0.2**
CTAO Charters Tower 19.03 135 **P** **02 33 32.8 +0.1**
CTAO Charters Tower 19.03 135 P **Pn** **02 33 33.4 -0.2**
CTAO Charters Tower 19.03 135 P **P** **02 33 32.8 +0.1**
CTAO pmax pmax
comp=Z,51nm,1.0s
KKM Kota Kinabalu 20.35 309 **P** **02 33 45.5 -1.8**
KKM IAmb IAmb 02 33 51.4
comp=Z,57nm,0.6s
KKM Kota Kinabalu 20.35 309 P **P** **02 33 46.4 -0.9**
OOD Oodnadatta 20.99 171 P **P** **02 33 54.5 +0.5**
SBUM Sibu 21.81 295 P **P** **02 34 02.0 -0.9**
INKA Innaminka 22.26 159 P **P** **02 34 08.5 +0.9**
QLP Quilpie 22.72 150 P **P** **02 34 13.6 +1.0**
baz=23,SNR=13
QLP Quilpie 22.72 150 P **P** **02 34 13.4 +0.8**
MULG Mulgathing 23.26 175 P **P** **02 34 18.1 +0.1**
MEEK Meekatharra 23.30 211 P **P** **02 34 17.5 -1.0**
baz=23,SNR=6.5
MEEK Meekatharra 23.30 211 P **P** **02 34 19.2 +0.7**
FORT Forrest 23.95 188 P **P** **02 34 24.5 -0.1**
baz=24,SNR=21
FORT Forrest 23.95 188 P **P** **02 34 24.1 -0.5**
FORT Forrest 23.95 188 P **P** **02 34 24.7 +0.1**
LCRK Leigh Creek 24.07 167 P **P** **02 34 26.3 +0.6**
BBJI Bungbulang 24.11 267 P **P** **02 34 23.7 -2.7**
RK1H Rockhampton Ha 24.16 134 P **P** **02 34 28.3 +1.7**
LEM Lembang 24.16 269 P **P** **02 34 27.6 +0.7**
comp=Z,21nm,0.5s,baz=143,slow=20,SNR=2.1
comp=Z,21nm,0.5s
RMQ Roma 25.14 142 P **P** **02 34 36.9 +1.4**
baz=25,SNR=10
RMQ Roma 25.14 142 P **P** **02 34 36.4 +0.9**
EIDS Eidsvold 25.85 137 P **P** **02 34 42.8 +0.8**
baz=26,SNR=3.2
EIDS Eidsvold 25.85 137 P **P** **02 34 41.7 -0.2**
EIDS IAmb IAmb 02 35 20.2
comp=Z,25nm,0.9s
EIDS Eidsvold 25.85 137 P **P** **02 34 43.0 +1.0**
BBOO Buckleboo 25.97 172 P **P** **02 34 43.3 +0.2**
baz=26,SNR=7.0
BBOO Buckleboo 25.97 172 P **P** **02 34 43.1 0.0**
BBOO Buckleboo 25.97 172 P **P** **02 34 43.8 +0.8**
KMBL Kambalda 26.02 200 P **P** **02 34 43.3 -0.1**
baz=26,SNR=5.6
KMBL Kambalda 26.02 200 P **P** **02 34 43.0 -0.5**
CGJI Cibinong 26.08 269 P **P** **02 34 42.7 -1.5**
comp=Z,2µmcomp=Z,22nm,0.8s
STKA Stephens Creek 26.35 161 P **P** **02 34 46.3 0.0**
comp=Z,10nm,0.4s,baz=335,slow=9.5,SNR=28
comp=Z,10nm,0.4s
STKA Stephens Creek 26.35 161 P **P** **02 34 46.9 +0.5**
baz=26,SNR=20
STKA Stephens Creek 26.35 161 P **P** **02 34 46.4 0.0**
STKA Stephens Creek 26.35 161 P **P** **02 34 47.2 +0.8**
STKA Stephens Creek 26.35 161⇑ *e*P **P** **02 34 46.6 +0.2**
MORW Morawa 26.60 212 P **P** **02 34 49.4 +0.6**
baz=27,SNR=4.8
MORW Morawa 26.60 212 P **P** **02 34 48.8 +0.1**
HTT Hallett 27.09 167 P **P** **02 34 54.6 +1.5**
baz=27,SNR=4.9
CMSA Cobar Meteorol 27.59 154 P **P** **02 34 58.6 +1.0**
baz=28,SNR=16
CMSA Cobar Meteorol 27.59 154 P **P** **02 34 58.4 +0.8**
KLBR Kellerberrin 27.84 207 P **P** **02 35 01.4 +1.5**
baz=28,SNR=4.8
KLBR Kellerberrin 27.84 207 P **P** **02 35 02.1 +2.3**
NWAO Narrogin (SRO) 29.21 206 P **P** **02 35 12.8 +0.8**
comp=Z,3.3nm,0.6s,baz=266,slow=5.8,SNR=1.3
comp=Z,3.3nm,0.6s
AUDCS Dubbo College 29.53 150 P **P** **02 35 15.7 +0.8**
ARMA Armidale 29.74 144 P **P** **02 35 18.2 +1.3**
baz=30,SNR=6.9
ARMA Armidale 29.74 144 P **P** **02 35 16.8 0.0**
ARMA Armidale 29.74 144 P **P** **02 35 17.0 +0.2**
ARPS Mount Arapiles 30.99 164 P **P** **02 35 30.0 +2.3**
CAN Canberra 32.26 153 P **P** **02 35 39.3 +0.4**
CAN IAmb IAmb 02 35 41.3
comp=Z,18nm,1.0s
CAN Canberra 32.26 153 P **P** **02 35 39.2 +0.3**
CAN Canberra 32.26 153 P **P** **02 35 39.3 +0.4**
CAN pmax pmax
comp=Z,18nm,1.0s
TOO Toolangi 32.84 160 P **P** **02 35 46.3 +2.3**
AUSMG Snowy Mountain 33.02 155 P **P** **02 35 45.2 -0.4**
JOW Kunigami 33.81 354 P **P** **02 35 53.2 +0.7**
comp=Z,18nm,0.7s,baz=155,slow=13,SNR=4.1
comp=Z,18nm,0.7s
PHRA Phrae 40.26 309 P **P** **02 36 46.9 -0.5**
JMN Monobe 40.53 2 P **P** **02 36 49.5 -0.1**
JMN IAmb IAmb 02 37 09.8
comp=Z,55nm,1.3s
NJ2 Nanjing 40.78 343 *e*P **P** **02 36 53.5 +2.0**
NJ2 pmax pmax
comp=Z,13nm,0.6s
WHN Wuhan 40.96 337⇓ P **P** **02 36 53.8 +0.8**
CMAR Chiang Mai Arr 41.23 308 P **P** **02 36 56.8 +1.4**
comp=Z,1.7nm,0.3s,baz=137,slow=6.4,SNR=1.8
comp=Z,1.7nm,0.3s
CMAR Chiang Mai Arr 41.23 308 P **P** **02 36 55.2 -0.3**
CMAR Chiang Mai Arr 41.23 308 P **P** **02 36 55.2 -0.3**
CHTO Chiang Mai 41.43 309 P **P** **02 36 56.4 -0.7**
CHTO Chiang Mai 41.43 309 P **P** **02 36 56.4 -0.7**
CHTO pmax pmax
comp=Z,17nm,1.0s
KMI Kunming 42.75 319⇑ P **P** **02 37 07.8 -0.2**
KMI pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 43.70 7 P **P** **02 37 14.7 -0.6**
comp=Z,15nm,0.8s,baz=188,slow=9.5,SNR=22
comp=Z,15nm,0.8s
MAJO Matsushiro 43.70 7 P **P** **02 37 14.1 -1.2**
MAJO IAmb IAmb 02 37 16.1
comp=Z,31nm,0.9s
MAJO Matsushiro 43.70 7 *d*↓*i*P **P** **02 37 14.7 -0.6**
MJB9 Matsu-Tunnel 43.70 7 P **P** **02 37 15.7 +0.5**
MJB9 IAmb IAmb 02 37 17.4
comp=Z,30nm,0.9s
PZH PanZhiHua 44.35 320 P **P** **02 37 23.8 +3.0**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.7s
KSAR Wonju Array Be 44.36 355 P **P** **02 37 20.1 -0.4**
KSAR Wonju Array Be 44.36 355 P **P** **02 37 20.1 -0.4**
KSRS Korea Array 44.37 355 P **P** **02 37 20.8 +0.2**
comp=Z,5.7nm,0.9s,baz=180,slow=9.4,SNR=14
comp=Z,5.7nm,0.9s
LYN LuoYang 45.24 337 *e*P **P** **02 37 27.8 +0.2**
LYN S **S** **02 44 04.0 -1.4**
LYN pmax pmax
comp=Z,10.0nm,0.6s
LYN pmax pmax
comp=Z,170nm,3.8s
TNCH TengChong 45.52 316 *e*P **P** **02 37 31.5 +1.3**
TNCH pmax pmax
comp=Z,120nm,4.2s
MSVF Nonsavu 46.16 108 P **P** **02 37 36.5 +1.2**
comp=Z,10.0nm,0.7s,baz=256,slow=9.7,SNR=10
comp=Z,10.0nm,0.7s
MSVF Nonsavu 46.16 108 P **P** **02 37 35.7 +0.4**
MSVF IAmb IAmb 02 37 50.7
comp=Z,17nm,0.9s
MSVF Nonsavu 46.16 108⇓ *e*P **P** **02 37 36.2 +0.9**
MSVF pmax pmax
comp=Z,16nm,0.8s
XAN Xi'an 46.27 333⇓ *i*P **P** **02 37 35.3 -0.5**
XAN pP pP 02 37 41.3 -4.8
XAN pmax pmax
comp=Z,24nm,0.8s
XAN pmax pmax
comp=Z,270nm,3.7s
CD2 Chengdu 46.36 326 P **P** **02 37 37.3 +0.7**
HNS HongShan 47.01 341⇓ P **P** **02 37 41.5 +0.1**
HNS pmax pmax
comp=Z,33nm,0.9s
OUZ Omahuta 47.41 132 P **P** **02 37 46.1 +1.4**
OUZ IAmb IAmb 02 37 48.1
comp=Z,20nm,1.1s
BJT Baijiatuau 48.99 344 P **P** **02 37 56.9 +0.2**
BJT IAmb IAmb 02 37 58.0
comp=Z,20nm,0.9s
BJT Baijiatuau 48.99 344 P **P** **02 37 56.9 +0.2**
BJT pmax pmax
comp=Z,20nm,0.9s
BJI Beijing 49.01 344 P **P** **02 37 57.0 +0.1**
BJI pP **pP** **02 38 02.3 -5.0**
BJI S **S** **02 45 01.8 +2.8**
BJI pmax pmax
comp=Z,24nm,0.9s
BJI pmax pmax
comp=Z,98nm,4.7s
BJI LR LR
comp=Z,540nm,23.8s
BJI LR LR
comp=Z,1µm,23.2s
BJI LR LR
comp=Z,2µm,23.4s
SNY Shenyang 49.18 352⇑ P **P** **02 37 58.5 +0.3**
SNY S **S** **02 45 04.8 +3.4**
SNY pmax pmax
comp=Z,24nm,1.1s
SNY pmax pmax
comp=Z,310nm,4.8s
SNY LR LR
comp=Z,310nm,6.5s
SNY LR LR
comp=Z,270nm,5.2s
SNY LR LR
comp=Z,380nm,6.7s
LBZ Lake Benmore 49.96 145 P **P** **02 38 05.6 +1.4**
LZH Lanzhou 50.33 330 *e*P **P** **02 38 08.0 +0.7**
LZH pP pP 02 38 16.5 -1.2
LZH sP sP 02 38 20.5 -1.3
LZH pmax pmax
comp=Z,24nm,1.7s
TUWZ Tuamarina 50.62 139 P **P** **02 38 09.6 +0.4**
SHL Shillong 50.64 311 P **P** **02 38 08.9 -0.9**
SHL IAmb IAmb 02 38 39.8
comp=Z,14nm,0.8s
SHL Shillong 50.64 311 P **P** **02 38 08.9 -0.9**
SHL pmax pmax
comp=Z,14nm,0.8s
CN2 Changchun 50.90 354 *e*P **P** **02 38 15.0 +3.9**
CN2 *es*P pP 02 38 21.0 -0.6
CN2 *eS* **S** **02 45 31.5 +6.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,400nm,12.0s
USA0B Ussuriysk Arra 50.95 0 P **P** **02 38 12.1 +0.5**
USA0B IAmb IAmb 02 38 43.2
comp=Z,42nm,1.8s
USA0B Ussuriysk Arra 50.95 0 *ce*P **P** **02 38 12.3 +0.8**
USRK Ussuriysk Ar. 50.95 0 P **P** **02 38 12.1 +0.5**
comp=Z,7.3nm,0.8s,baz=175,slow=7.0,SNR=18
comp=Z,7.3nm,0.8s
USRK Ussuriysk Ar. 50.95 0 P **P** **02 38 11.3 -0.2**
USRK Ussuriysk Ar. 50.95 0 P **P** **02 38 11.3 -0.2**
HHC Hu-ho-hao-te 51.16 340 *e*P **P** **02 38 16.5 +3.1**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,210nm,5.2s
MDJ Mudanjiang 51.41 358 P **P** **02 38 15.8 +0.8**
MDJ pmax pmax
comp=Z,17nm,0.7s
MDJ pmax pmax
comp=Z,140nm,6.1s
BNX BinXian 52.65 356⇑ P **P** **02 38 24.3 +0.1**
BNX pmax pmax
comp=Z,14nm,1.1s
BNX pmax pmax
comp=Z,110nm,5.8s
XLT XiLinHaoTe 52.65 346 *e*P **P** **02 38 25.0 +0.6**
XLT pP pP 02 38 29.8 -5.1
XLT sP sP 02 38 32.3 -6.7
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,190nm,6.7s
XLT LR LR
comp=Z,1µm,12.1s
XLT LR LR
comp=Z,230nm,9.2s
LSA Lhasa 53.55 315 P **P** **02 38 32.0 +0.3**
LSA pmax pmax
comp=Z,10.0nm,1.0s
YSS Yuzh-Sakhalins 54.56 9 *e*P **P** **02 38 39.1 +1.0**
YSS pmax pmax
comp=Z,20nm,0.8s
ODAN Odare 54.73 310 *e*P **P** **02 38 39.5 -0.6**
TAPN Taplejung 54.74 311 *e*P **P** **02 38 40.2 -0.1**
comp=Z,19nm,0.5s
GTA Gaotai 54.92 330⇑ P **P** **02 38 42.3 +1.2**
GTA pP pP 02 38 46.0 -5.6
GTA sP sP 02 38 48.3 -7.4
GTA pmax pmax
comp=Z,26nm,0.8s
RAMN Ramite 55.38 309 *e*P **P** **02 38 44.9 +0.1**
comp=Z,28nm,0.5s
KLR Kul'dur 55.98 360 P **P** **02 38 48.6 +0.3**
comp=Z,3.0nm,0.9s,baz=206,slow=7.0,SNR=5.6
comp=Z,3.0nm,0.9s
KLR Kul'dur 55.98 360⇓ *e*P **P** **02 38 48.7 +0.3**
KLR pmax pmax
comp=Z,10.0nm,1.5s
JIRN Jiri 56.05 310 *e*P **P** **02 38 49.6 -0.2**
GUN Gumba 56.42 310 *e*P **P** **02 38 52.2 -0.2**
comp=Z,41nm,0.6s
PKI Pulchoki 56.60 309 *e*P **P** **02 38 53.3 -0.4**
comp=Z,10nm,0.6s
PKIN Phulchoki 56.62 309 *e*P **P** **02 38 53.4 -0.3**
comp=Z,4.9nm,0.3s
HEH HeiHe 57.14 357 *e*P **P** **02 38 56.8 +0.2**
HEH pmax pmax
comp=Z,9.0nm,1.0s
HEH pmax pmax
comp=Z,290nm,5.1s
GKN Gorkha 57.41 310 *e*P **P** **02 38 59.2 0.0**
comp=Z,21nm,0.3s
KOLN Koldanda 58.09 309 *e*P **P** **02 39 04.0 -0.1**
DANN Dangsing 58.25 309 *e*P **P** **02 39 05.2 -0.1**
comp=Z,25nm,0.6s
SONM Songino Array 59.07 340 P **P** **02 39 11.0 +0.6**
comp=Z,23nm,1.0s,baz=155,slow=6.5,SNR=63
comp=Z,23nm,1.0s
SONM Songino Array 59.07 340 P **P** **02 39 11.1 +0.8**
SONM Songino Array 59.07 340 P **P** **02 39 11.1 +0.8**
SONM pmax pmax
comp=Z,23nm,1.0s
ZEA Zeya 60.63 357 *e*P **P** **02 39 22.1 +1.3**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
CASY Casey 61.03 190 P **P** **02 39 24.0 +0.7**
ZAK Zakamensk 62.31 340 *e*P **P** **02 39 32.7 +0.4**
ZAK pmax pmax
comp=Z,14nm,1.1s
PEA0B Petropavlovsk- 63.73 17 P **P** **02 39 42.0 +0.4**
PEA0B Petropavlovsk- 63.73 17 *de*P **P** **02 39 43.0 +1.4**
PETK Petropavlovsk- 63.73 17 P **P** **02 39 42.4 +0.8**
comp=Z,28nm,0.8s,baz=195,slow=9.1,SNR=20
comp=Z,28nm,0.8s
PETK Petropavlovsk- 63.73 17 P **P** **02 39 41.7 +0.1**
PETK Petropavlovsk- 63.73 17 P **P** **02 39 41.7 +0.1**
PET Petropavlovsk 63.94 18⇓ *e*P **P** **02 39 44.3 +1.4**
PET pmax pmax
comp=Z,51nm,0.9s
MOY Mondy 64.18 339 *e*P **P** **02 39 46.5 +1.8**
MOY pmax pmax
comp=Z,31nm,1.5s
WMQ Urumqi 64.46 326⇓ P **P** **02 39 48.3 +1.6**
WMQ pP pP 02 39 53.3 -4.0
WMQ sP sP 02 39 55.5 -5.9
WMQ pmax pmax
comp=Z,68nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.5s
WMQ LR LR
comp=Z,110nm,22.9s
WMQ LR LR
comp=Z,510nm,22.9s
WMQ LR LR
comp=Z,490nm,24.7s
KNGR Kungurtug, Tuv 64.62 336⇑ *i*P **P** **02 39 49.3 +1.6**
KNGR pmax pmax
comp=Z,11nm,0.9s
BOD Bodaibo 66.22 350 *e*P **P** **02 39 57.7 +0.1**
BOD pmax pmax
comp=Z,12nm,1.7s
ZSN Zaisan 68.29 328 *e*P **P** **02 40 11.9 +0.8**
comp=Z,5.3nm,0.7s,baz=328
ZSN Zaisan 68.29 328 *e*P **P** **02 40 11.8 +0.8**
ZSN pmax pmax
comp=Z,5.0nm,0.7s
DGZ Jazzator, Alta 68.43 331 *d*↓*i*P **P** **02 40 13.1 +1.0**
DGZ pmax pmax
comp=Z,22nm,0.9s
NIL Nilore 68.69 310 P **P** **02 40 13.6 -0.2**
NIL IAmb IAmb 02 40 15.0
comp=Z,12nm,0.7s
NIL Nilore 68.69 310 P **P** **02 40 13.6 -0.2**
NIL pmax pmax
comp=Z,12nm,0.7s
YAK Yakutsk 68.84 359 *e*P **P** **02 40 14.6 +0.5**
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=N,10.0nm,1.0s
SHLS Shalkode 68.91 322 *e*P **P** **02 40 14.7 -0.5**
comp=N,14nm,0.8s,baz=322
SHLS Shalkode 68.91 322 *e*P **P** **02 40 14.6 -0.5**
SHLS pmax pmax
comp=Z,14nm,0.8s
PDGK Podgornoye 68.98 322 P **P** **02 40 16.1 +0.5**
UZB Uzynbulak 69.17 321 *e*P **P** **02 40 17.7 +0.8**
baz=321

UZB	**Uzynbulak**	**69.17 321**	*e*P		**P**		**02 40 17.6 +0.8**
TARG	**Taragay, Kyrgy**	**69.20 320**	IAmb		IAmb	02 40 27.4	
	comp=Z,13nm,0.7s						
MK31	**Makanchi Array**	**69.29 326**	P		**P**		**02 40 17.8 +0.5**
MK31	**Makanchi Array**	**69.29 326**	*d* iP		**P**		**02 40 18.2 +0.9**
MK31			pmax		pmax		
	comp=Z,20nm,0.6s						
MKAR	**Makanchi Array**	**69.29 326**	P		**P**		**02 40 18.3 +1.0**
	comp=Z,24nm,0.7s,baz=121,slow=7.9,SNR=181						
	comp=Z,24nm,0.7s						
MKAR	**Makanchi Array**	**69.29 326**			**P**		**02 40 17.9 +0.6**
MAKZ	**Makanchi**	**69.47 326**	P		**P**		**02 40 18.9 +0.5**
MAKZ	**Makanchi**	**69.47 326**	P		**P**		**02 40 18.9 +0.5**
MAKZ			pmax		pmax		
	comp=Z,26nm,1.0s						
KPKS	**Kokpek**	**69.55 321**	*e*P		**P**		**02 40 19.9 +0.8**
	comp=Z,14nm,0.8s,baz=322						
KPKS	**Kokpek**	**69.55 321**	*e*P		**P**		**02 40 19.9 +0.8**
KPKS			pmax		pmax		
	comp=Z,14nm,0.8s						
NRN	**Naryn**	**70.23 319**	P		**P**		**02 40 24.1 +0.6**
NRN			IAmb		IAmb	02 40 25.3	
	comp=Z,11nm,0.7s						
NRN	**Naryn**	**70.23 319**	P		**P**		**02 40 24.2 +0.6**
NRN			pmax		pmax		
	comp=Z,11nm,0.7s						
MDOK	**Medeo**	**70.42 321**	*e*P		**P**		**02 40 25.3 +0.8**
	baz=321						
MDOK	**Medeo**	**70.42 321**	*e*P		**P**		**02 40 25.3 +0.8**
TNSS	**Tian-Shan**	**70.42 320**	*e*P		**P**		**02 40 25.9 +1.1**
	baz=320						
TNSS	**Tian-Shan**	**70.42 320**	*e*P		**P**		**02 40 25.9 +1.1**
TDK	**Taldyqorghan**	**70.53 323**	*e*P		**P**		**02 40 25.3 +0.2**
	baz=323						
TDK	**Taldyqorghan**	**70.53 323**	*e*P		**P**		**02 40 25.2 +0.2**
BOOM	**Boomskoye usch**	**70.79 319**	IAmb		IAmb	02 40 35.3	
	comp=Z,24nm,1.1s						
CHKK	**Chushkaly**	**70.80 321**	*e*P		**P**		**02 40 27.0 +0.3**
	baz=321						
CHKK	**Chushkaly**	**70.80 321**	*e*P		**P**		**02 40 27.0 +0.3**
TKM2	**Tokmak 2**	**71.22 320**	P		**P**		**02 40 30.6 +1.2**
	SNR=12						
KUU	**Kurty**	**71.23 321**	*e*P		**P**		**02 40 29.9 +0.6**
	comp=Z,15nm,0.8s,baz=321						
KUU	**Kurty**	**71.23 321**	*e*P		**P**		**02 40 29.8 +0.6**
KUU			pmax		pmax		
	comp=Z,15nm,0.8s						
SEY	**Seymchan**	**71.45 10**	P		**P**		**02 40 31.3 +1.2**
	comp=Z,6.2nm,0.7s,baz=190,slow=5.4,SNR=9.4						
	comp=Z,6.2nm,0.7s						
SEY	**Seymchan**	**71.45 10**	*e*P		**P**		**02 40 31.5 +1.4**
SEY			pmax		pmax		
	comp=Z,12nm,1.0s						
UCH	**Uchtor**	**71.59 319**	P		**P**		**02 40 33.9 +1.9**
	SNR=17						
AAK	**Ala-Archa**	**71.79 319**	P		**P**		**02 40 33.7 +0.9**
AAK			IAmb		IAmb	02 41 06.0	
	comp=Z,9.3nm,0.8s						
AAK	**Ala-Archa**	**71.79 319**	*c* iP		**P**		**02 40 34.4 +1.5**
AAK			pmax		pmax		
	comp=Z,11nm,1.3s						
AML	**Almayashu**	**72.08 318**	P		**P**		**02 40 36.7 +1.8**
	SNR=8.4						
USP	**Ospenovka**	**72.09 320**	P		**P**		**02 40 35.6 +1.1**
	SNR=14						
SGDS	**Sogindy**	**72.09 320**	*e*P		**P**		**02 40 34.9 +0.4**
	baz=320						
SGDS	**Sogindy**	**72.09 320**	*e*P		**P**		**02 40 34.8 +0.3**
DRK	**Karamyk**	**72.19 315**	P		**P**		**02 40 34.8 -0.7**
DRK			IAmb		IAmb	02 40 53.5	
	comp=Z,16nm,0.7s						
VNDA	**Vanda**	**72.23 173**	P		**P**		**02 40 35.6 +1.0**
	comp=Z,1.2nm,0.7s,baz=323,slow=6.4,SNR=6.3						
	comp=Z,1.2nm,0.7s						
VNDA	**Vanda**	**72.23 173**	P		**P**		**02 40 35.7 +1.0**
VNDA			IAmb		IAmb	02 41 17.6	
	comp=Z,22nm,1.9s						
VNDA	**Vanda**	**72.23 173**	P		**P**		**02 40 35.7 +1.0**
VNDA			pmax		pmax		
	comp=Z,22nm,1.9s						
KBL	**Kabul**	**72.25 309**	P		**P**		**02 40 35.4 -0.4**
KBL			IAmb		IAmb	02 40 37.6	
	comp=Z,9.1nm,0.7s						
KBL	**Kabul**	**72.25 309**	P		**P**		**02 40 35.4 -0.4**
KBL			pmax		pmax		
	comp=Z,9.0nm,0.7s						
EKS2	**Erkin-Say**	**72.27 319**	P		**P**		**02 40 37.5 +1.8**
	SNR=8.6						
ZAA0	**Zalesovo Array**	**72.44 333**	P		**P**		**02 40 35.7 -0.6**
ZAA0			IAmb		IAmb	02 40 37.1	
	comp=Z,21nm,0.8s						
ZALV	**Zalesovo Beam**	**72.44 333**	P		**P**		**02 40 36.1 -0.1**
	comp=Z,22nm,0.7s,baz=116,slow=5.0,SNR=83						
	comp=Z,22nm,0.7s						
ZALV	**Zalesovo Beam**	**72.44 333**	P		**P**		**02 40 36.0 -0.3**
GAR	**Garm**	**73.04 314**	P		**P**		**02 40 40.5 +0.2**
BTK	**Batken**	**73.12 315**	P		**P**		**02 40 40.7 0.0**
BTK			IAmb		IAmb	02 41 10.0	
	comp=Z,16nm,1.1s						
BTK	**Batken**	**73.12 315**	P		**P**		**02 40 40.7 0.0**
BTK			pmax		pmax		
	comp=Z,16nm,1.1s						
BTLS	**Baital**	**73.22 321**	*e*P		**P**		**02 40 41.8 +0.7**
	baz=321						
BTLS	**Baital**	**73.22 321**	*e*P		**P**		**02 40 41.8 +0.7**
KURBB	**Kurchatov Arra**	**73.52 328**	P		**P**		**02 40 42.8 +0.1**
KURK	**Kurchatov**	**73.53 328**	P		**P**		**02 40 42.5 -0.2**
KURK			IAmb		IAmb	02 40 44.3	
	comp=Z,20nm,0.9s						
KURK	**Kurchatov**	**73.53 328**	*d* iP		**P**		**02 40 43.0 +0.2**
KURK			pmax		pmax		
	comp=Z,32nm,1.3s						
CHGR	**Chuyangaron**	**73.73 314**	P		**P**		**02 40 44.6 +0.2**
CHGR	**Chuyangaron**	**73.73 314**	P		**P**		**02 40 44.6 +0.2**
CHGR			pmax		pmax		
	comp=Z,23nm,0.8s						
DZA	**Taraz**	**73.98 318**	*e*P		**P**		**02 40 46.2 +0.5**
	baz=318						
DZA	**Taraz**	**73.98 318**	*e*P		**P**		**02 40 46.1 +0.5**
IUG	**Iuzhnay**	**74.53 317**	*e*P		**P**		**02 40 50.0 +0.9**
	baz=317						
IUG	**Iuzhnay**	**74.53 317**	*e*P		**P**		**02 40 49.9 +0.9**
KK31	**Karatay Array**	**74.62 318**	P		**P**		**02 40 49.3 0.0**
KK31	**Karatay Array**	**74.62 318**	*i* P		**P**		**02 40 49.7 +0.4**
KKAR	**Karatay Array**	**74.62 318**	P		**P**		**02 40 49.7 +0.4**
KKAR	**Karatay Array**	**74.62 318**	P		**P**		**02 40 49.7 +0.4**
MAW	**Mawson**	**75.67 202**	P		**P**		**02 40 56.0 +1.1**
	comp=Z,3.1nm,0.8s,baz=72,slow=15,SNR=2.0						
	comp=Z,3.1nm,0.8s						
OTUK	**Ortayu**	**75.78 323**	P		**P**		**02 40 56.3 +0.4**
BRZS	**Berezniki**	**76.40 325**	*e*P		**P**		**02 40 59.8 +0.3**
	baz=325						
BRZS	**Berezniki**	**76.40 325**	*e*P		**P**		**02 40 59.7 +0.3**
TIXI	**Tiksi**	**78.50 359**	P		**P**		**02 41 10.0 -0.7**
TIXI	**Tiksi**	**78.50 359**	*e*P		**P**		**02 41 10.6 -0.1**
TIXI			pmax		pmax		
	comp=Z,6.0nm,0.7s						
BVA0	**Borovoye Array**	**79.09 327**	P		**P**		**02 41 14.3 0.0**
BRVK	**Borovoye**	**79.17 327**	P		**P**		**02 41 14.7 0.0**
BRVK			IAmb		IAmb	02 41 16.2	
	comp=Z,13nm,0.9s						
BRVK	**Borovoye**	**79.17 327**	*de*P		**P**		**02 41 14.9 +0.2**
BRVK			pmax		pmax		
	comp=Z,21nm,1.3s						
GEYT	**Alibeck**	**81.69 310**	P		**P**		**02 41 29.6 +0.9**
	comp=Z,3.2nm,0.7s,baz=134,slow=4.3,SNR=7.4						
	comp=Z,3.2nm,0.7s						
QSPA	**South Pole Qui**	**82.99 180**	P		**P**		**02 41 35.8 +0.7**
QSPA			IAmb		IAmb	02 41 59.6	
	comp=Z,8.9nm,1.0s						
AB31	**Akbulak array**	**83.71 321**	P		**P**		**02 41 38.4 -0.5**
ABKAR	**Akbulak array**	**83.71 321**	P		**P**		**02 41 37.8 -1.0**
AKTO	**Aktyubinsk**	**85.25 322**	P		**P**		**02 41 46.4 -0.3**
O17K	**Koliganek Bris**	**86.58 29**	P		**P**		**02 41 55.3 +2.3**
	baz=250						
Q17K	**Contact Creek**	**86.67 30**	P		**P**		**02 41 54.1 +0.5**
	baz=251						
ARU	**Arti**	**86.72 328**	P		**P**		**02 41 54.3 +0.5**
ARU	**Arti**	**86.72 328**	*c* iP		**P**		**02 41 54.2 +0.5**
ARU							02 45 10.8
ARU			S		**S**		**02 52 21.0 -7.6**
ARU			SS		**SS**		**02 58 16.6 +5.8**
ARU			pmax		pmax		
	comp=Z,11nm,1.4s						
Q18K	**Katmai Hardscr**	**87.23 30**	P		**P**		**02 41 56.9 +0.5**
	baz=252						

TTA	**Tatalina**	**88.13 26**	P		**P**		**02 42 00.8 +0.2**
TTA	**Tatalina**	**88.13 26**	P		**P**		**02 42 02.6 +2.1**
	baz=251						
TTA	**Tatalina**	**88.13 26**	P		**P**		**02 42 00.8 +0.2**
TTA			pmax		pmax		
	comp=Z,27nm,1.5s						
N19K	**Bonanza Creek**	**88.15 28**	P		**P**		**02 42 01.6 +0.9**
	baz=252						
M19K	**Big River Lodg**	**88.52 27**	P		**P**		**02 42 05.0 +2.7**
	baz=252						
K20K	**Telida**	**89.11 26**	P		**P**		**02 42 07.1 +2.0**
	baz=253						
J20K	**Nowinta River**	**89.32 25**	P		**P**		**02 42 08.1 +2.1**
	baz=252						
RAYN	**Ar Rayn**	**89.52 294**	P		**P**		**02 42 07.6 -0.3**
RAYN			IAmb		IAmb	02 42 09.1	
	comp=Z,5.1nm,0.8s						
RAYN	**Ar Rayn**	**89.52 294**	P		**P**		**02 42 07.6 -0.3**
RAYN			pmax		pmax		
	comp=Z,5.0nm,0.8s						
CHUM	**Lake Minchumin**	**90.01 25**	P		**P**		**02 42 10.9 +1.8**
	baz=254						
MLY	**Manley**	**90.97 24**	P		**P**		**02 42 15.1 +1.3**
	baz=256						
E22K	**Anaktuvuk Pass**	**91.35 21**	P		**P**		**02 42 16.9 +1.4**
	baz=255						
I23K	**Minto, Yukon-K**	**91.56 24**	P		**P**		**02 42 17.4 +1.1**
	baz=257						
G23K	**Bananza Creek**	**91.66 23**	P		**P**		**02 42 18.4 +1.5**
	baz=256						
D23K	**Nanushuk River**	**91.97 21**	P		**P**		**02 42 19.5 +1.2**
	baz=256						
CCB	**Clear Creek Bu**	**92.10 25**	P		**P**		**02 42 18.3 -0.6**
CCB			IAmb		IAmb	02 42 19.4	
	comp=Z,4.5nm,0.7s						
COLA	**College**	**92.13 25**	*e*P		**P**		**02 42 19.5 +0.5**
COLA			pmax		pmax		
	comp=Z,31nm,4.2s						
E23K	**Chandalar**	**92.13 22**	P		**P**		**02 42 20.8 +1.7**
	baz=257						
C23K	**Itkillik River**	**92.21 20**	P		**P**		**02 42 20.7 +1.4**
	baz=256						
TOLK	**Toolik Lake Re**	**92.28 21**	P		**P**		**02 42 20.9 +1.1**
	baz=257						
HDA	**Harding Lake**	**92.42 25**	P		**P**		**02 42 20.5 +0.1**
	baz=259						
ILAR	**Eielson Array**	**92.51 25**	P		**P**		**02 42 20.1 -0.7**
	comp=Z,2.1nm,0.7s,baz=265,slow=4.3,SNR=34						
	comp=Z,2.1nm,0.7s						
E24K	**Your Creek**	**92.55 22**	P		**P**		**02 42 22.0 +1.0**
	baz=258						
F24K	**Squaw Lake**	**92.66 22**	P		**P**		**02 42 22.8 +1.3**
	baz=258						
E25K	**Arctic Village**	**93.63 22**	P		**P**		**02 42 26.2 +0.3**
	baz=260						
J26L	**Joseph Creek**	**93.88 26**	P		**P**		**02 42 28.5 +1.2**
	baz=262						
G26K	**Porcupine Rive**	**94.13 23**	P		**P**		**02 42 30.3 +2.1**
	baz=262						
NEY	**Neytrino**	**94.17 313**	*e*P		**P**		**02 42 28.2 -1.0**
NEY			pmax		pmax		
	comp=Z,3.0nm,1.2s						
KIV	**Kislovodsk**	**94.27 314**	*e*P		**P**		**02 42 30.4 +0.9**
KIV			pmax		pmax		
	comp=Z,4.0nm,0.9s						
L27K	**Beaver Creek,**	**94.46 27**	P		**P**		**02 42 31.2 +1.3**
	baz=264						
K27K	**Chicken**	**94.46 26**	P		**P**		**02 42 32.0 +2.2**
	baz=263						
C27K	**Jago River**	**94.53 20**	P		**P**		**02 42 31.4 +1.3**
	baz=262						
TROLL	**Troll, Antarti**	**94.65 194**	P		P		02 42 35.9 +5.1
I27K	**Kandik River**	**94.84 25**	P		**P**		**02 42 33.2 +1.6**
	baz=264						
H27K	**Steamboat Moun**	**94.94 24**	P		**P**		**02 42 34.0 +2.0**
	baz=264						
EGAK	**Eagle**	**94.94 25**	P		**P**		**02 42 33.4 +1.4**
	baz=264						
E27K	**Coleen River**	**95.12 22**	P		**P**		**02 42 34.3 +1.5**
	baz=264						
DAWY	**Dawson**	**95.64 26**	P		**P**		**02 42 35.8 +0.5**
	baz=266						
SNAA	**Sanae**	**96.12 193**	P		**P**		**02 42 40.5 +3.1**
BR131	**Keskin Array S**	**100.81 309**	*e*P		**Pdif**		**02 42 56.4 -2.8**
BRTR	**Keskin Array B**	**100.81 309**	P		**Pdif**		**02 43 00.8 +1.6**
	comp=Z,1.0nm,0.9s,baz=129,slow=5.5,SNR=2.8						
MNK	**Minsk**	**103.82 324**	*i* P		**Pdif**		**02 43 07.6 -4.5**
	comp=E,2.0nm,0.9s						
MNK			*i* P		**Pdif**		**02 43 07.6 -4.5**
	comp=N,22nm,0.7s						
MNK			*i* P		**Pdif**		**02 43 07.6 -4.5**
	comp=Z,5.0nm,0.8s,baz=263						
MNK			*i* PP		**PP**		**02 47 26.6 -2.6**
MNK			*i* PPP		PPP		02 49 37.1
MNK			*i* S		**SKSac**		**02 53 49.7 +0.4**
MNK			*i* SS		**SS**		**03 02 14.7 +1.3**
MNK			*i* SSS		SSS		03 06 10.4
MNK			*i* SSS		SSS		03 06 10.4
MNK			*i* LR		LR		03 28 23.5
MNK			*i* LRM		MLR		03 29 46.0
	comp=Z,120nm,12.2s						
MNK			*i* LRM		MLR		03 30 03.4
	comp=E,13nm,12.9s						
MNK			*i* LRM		MLR		03 30 06.6
	comp=N,226nm,13.5s						
MNK	**Minsk**	**103.82 324**	*i* P		**Pdif**		**02 43 07.5 -4.5**
MNK			*i*				02 47 26.5
MNK			*i* S		**SKSac**		**02 53 49.6 +0.4**
MNK			*i* SS		**SS**		**03 02 14.7 +1.3**
MNK			*i* SSS		SSS		03 06 10.3
MNK			pmax		pmax		
	comp=E,2.0nm,0.9s						
MNK			pmax		pmax		
	comp=N,22nm,0.7s						
MNK			pmax		pmax		
	comp=Z,5.0nm,0.8s						
MNK			MLR		MLR		
	comp=Z,120nm,12.0s						
MNK			MLR		MLR		
	comp=E,13nm,13.0s						
MNK			MLR		MLR		
	comp=N,226nm,14.0s						
GERES	**GERESS Array B**	**113.65 321**	PKiKP		**PKiKP**		**02 47 49.0 +0.5**
	comp=N,0.7nm,0.6s,baz=77,slow=2.9,SNR=6.3						
CPUP	**Villa Florida**	**145.68 165**	PKPbc		**PKPab**		**02 48 51.1 +1.4**
	comp=N,7.0nm,1.0s,baz=195,slow=5.0,SNR=8.5						

PRU 30 02:34:45.1±0.0,**50.08N**×**18.49E**,**h0**km,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.33**	**222**	*e*PG	Pg	02 34 51.7	+0.3
OKC				*e*SG	Sg	02 34 55.7	+0.1
MORC	**Moravsky Berou**	**0.68**	**244**	*e*PG	Pg	02 34 58.3	+0.1
MORC				*e*SG	Sg	02 35 06.9	-0.1
MAUC	**Maruska**	**0.83**	**211**	*e*PG	Pb	02 35 02.4	-0.1
MAUC				*e*SG	Sb	02 35 13.2	-1.1
KRLC	**Kraliky**	**1.10**	**270**	*e*PG	Pg	02 35 05.2	-1.0
KRLC				*e*SG	Sg	02 35 19.1	-1.3
DPC	**Dobruska-Polom**	**1.42**	**282**	*e*PG	Pn	02 35 11.4	-0.8
DPC				*e*SG	Sg	02 35 30.2	-0.4
VYHS	**Vyhne**	**1.60**	**172**	*e*PG	Pn	02 35 14.7	0.0

IDC ***30*** *02:42:11.4±0.4,6.96S×131.95E,h0km,mb5.1/22, mbtmp5.2/27,ML4.8/3,MS4.8/39,Error ellipse: s-maj=13.1km s-min=8.0km az=67.0*

BJI ***30*** *02:42:11.0±0.0,7.10S×131.90E,h10km,mb5.3/77, mB5.3/61,Ms5.1/83,Ms7 5.0/77*

NEIC ***30*** *02:42:11.8,6.97S×131.82E,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.06; Mθθ-2.51; Mφφ2.57; Mrθ-0.94; Mθφ0.59; Mφr0.54; Fault plane solution: M₀2.82000×10¹⁷ NP1:φs142.58000°, δ83.31000°,λ-159.32000°. NP2:φs50.06000°,δ69.47000°, λ-7.14000°. Principal axes: T 2.7105, Plg10.0000°, Azm275.0000°; N 0.2142, Plg68.0000°, Azm160.0000°; P -2.9246, Plg19.0000°, Azm8.0000°;*

MOS ***30*** *02:42:13.7±1.3,7.05S×131.83E,h26km,mb5.5/50, MS4.9/13 Error ellipse: s-maj=8.8km s-min=4.9km az=120.3*

KLM ***30*** *02:42:14,7.13S×132.11E,h40km,mb5.7*

NEIC ***30*** *02:42:15.0±1.9,6.99S±0.04×131.82E±0.07,h24km±1km, mb5.4/103,Ms_20 5.2/133,Mwb5.6/35,Mww5.7,Error ellipse: s-maj=11.3km s-min=6.9km az=104.0*

DJA ***30*** *02:42:16.0±0.2,7.5S±1.3×13.2E±.1,h41km±6km,M5.6/37, mB6.0/35,mb5.7/37,MLv6.1/15,Mw(mB)5.6/35, MwMwp5.4/25,Mwp5.6/25*

GCMT ***30*** *02:42:18.0±0.1,7.07S±0.01×131.78E±0.01,h19km, MW5.6/159,Moment Tensor Solution. s123,c218; s159,c306; Duration: 1§6 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.25±.04; Mθθ-2.83±.04; Mφφ3.08±.04; Mrθ-0.31±.08; Mθφ1.17±.03; Mφr1.32±.10; Best double couple: M₀3.43200×10¹⁷ NP1:φs325.00000°,δ86.00000°, λ159.00000°. NP2:φs57.00000°,δ69.00000°,λ4.00000°. Principal axes: T 3.6960, Plg18.0000°, Azm279.0000°; N -0.5260, Plg69.0000°, Azm135.0000°; P -3.1680, Plg12.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***30*** *02:42:18,6.98S×131.92E,h20km,Moment Tensor Solution. Duration: 4§0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.09; Mθθ-3.38; Mφφ3.47; Mrθ0.75; Mθφ0.94; Mφr1.76; Fault plane solution: M₀4.03000×10¹⁷ NP1: φs320.00000°,δ67.00000°,λ170.00000°. NP2: φs54.00000°,δ81.00000°,λ23.00000°. Principal axes: T 4.3673, Plg23.0000°, Azm279.0000°; N -0.7789, Plg65.0000°, Azm74.0000°; P -3.5884, Plg9.0000°, Azm185.0000°;*

ISC 30 02:42:15.1±0.4,**7.02S**±0.03×**131.83E**±0.03,**h24**km±2km, **h24**km:**pP-P,n736,**σ**2§13**/729,**mb5.4**/182,**MS5.1**/147, **25C-21D,Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.09**	**209**		**Pb**	**02 42 35.6**	**+0.3**
SAUI	**Saumlaki**	**1.09**	**209**	P	**Pb**	**02 42 36.1**	**+0.8**
SAUI				S	**Sn**	**02 42 54.6**	**+5.3**
SAUI	**Saumlaki**	**1.09**	**209**	P	**Pb**	**02 42 36.1**	**+0.8**
BNDI	**Bandanaira**	**3.13**	**322**	P	**Pn**	**02 43 03.8**	**+0.8**
BNDI				S	**Sn**	**02 43 41.8**	**+2.1**
BNDI	**Bandanaira**	**3.13**	**322**	P	**Pn**	**02 43 04.9**	**+1.9**
FAKI	**Fak Fak**	**4.09**	**6**	Pn	**Pn**	**02 43 14.9**	**-1.3**
FAKI	**Fak Fak**	**4.09**	**6**	P	**Pn**	**02 43 14.5**	**-1.7**
FAKI				S	**Sn**	**02 44 00.3**	**-3.1**
FAKI	**Fak Fak**	**4.09**	**6**	P	**Pn**	**02 43 15.0**	**-1.3**
MSAI	**Masohi**	**4.66**	**321**	P	**Pn**	**02 43 25.2**	**+1.3**
MSAI				S	**Sn**	**02 44 18.3**	**+1.0**
AAI	**Ambon**	**4.91**	**312**	P	**Pn**	**02 43 29.1**	**+1.7**
	5.6nm14µm1µm,0.8s						
KDU	**Kakadu**	**5.67**	**174**	P	**Pn**	**02 43 36.3**	**-1.5**
	baz=5.6,SNR=100						
KDU	**Kakadu**	**5.67**	**174**	P	**Pn**	**02 43 36.9**	**-0.9**
	4µm,0.9s						
MTN	**Manton Dam**	**5.83**	**187**	P	**Pn**	**02 43 38.6**	**-1.5**
	baz=5.8,SNR=131						
MTN	**Manton Dam**	**5.83**	**187**	Pn	**Pn**	**02 43 38.8**	**-1.3**
MTN	**Manton Dam**	**5.83**	**187**	P	**Pn**	**02 43 40.3**	**+0.2**
	4µm,1.0s						
RKPI	**Ransiki, Papua**	**5.95**	**23**	P	**Pn**	**02 43 41.6**	**-0.2**
	43nm16µm52µm4µm,0.7s						
RKPI				S	**Sn**	**02 44 46.3**	**-2.9**
	43nm16µm52µm4µm,0.7s						
NLAI	**Namlea**	**6.03**	**308**	P	**Pn**	**02 43 46.5**	**+3.7**
	2.7nm10µm730nm,1.0s						
SIJI	**Sorong**	**6.14**	**355**	Pn	**Pn**	**02 43 42.6**	**-1.7**
	72nm,0.3s,baz=165,slow=6.3,SNR=78						
SIJI				Sn	**Sn**	**02 44 48.9**	**-4.9**
	98nm,0.3s,baz=238,slow=23,SNR=9.6						
	587nm,0.5s						
SWI	**Sorong**	**6.14**	**355**	P	**Pn**	**02 43 43.0**	**-1.4**
	6.5nm21µm14µm1µm,0.7s						
SWI				S	**Sn**	**02 44 48.6**	**-5.3**
	6.5nm21µm14µm1µm,0.7s						
SRPI	**Serui, Papua**	**6.74**	**41**	P	**Pn**	**02 43 52.1**	**-0.5**
	4.0nm11µm1µm,0.8s						
SANI	**Sanana**	**7.63**	**310**	P	**Pn**	**02 44 06.3**	**+1.4**
	2.7nm11µm8µm558nm,0.8s						
SANI	**Sanana**	**7.63**	**310**	P	**Pn**	**02 44 07.3**	**+2.4**
	557nm,1.0s						
LBMI	**Labuha**	**7.67**	**326**	P	**Pn**	**02 44 06.9**	**+1.5**
	11nm14µm2µm,0.9s						
SOEI	**Soe**	**7.96**	**250**	Pn	**Pn**	**02 44 09.2**	**-0.3**
SOEI	**Soe**	**7.96**	**250**	P	**Pn**	**02 44 09.5**	**0.0**
	26µm20µm3µm,1.0s						
SOEI	**Soe**	**7.96**	**250**	P	**Pn**	**02 44 11.0**	**+1.5**
	3µm,1.0s						
BATI	**Baumata**	**8.68**	**248**	Pn	**Pn**	**02 44 19.9**	**+0.7**
	37nm,0.3s,baz=133,slow=3.2,SNR=51						
BATI				Sn	**Sn**	**02 45 55.6**	**-0.8**
	261nm,0.3s,baz=182,slow=15,SNR=4.8						
BATI	**Baumata**	**8.68**	**248**	P	**Pn**	**02 44 19.7**	**+0.5**
	18µm15µm2µm,0.8s						
TNTI	**Ternate**	**8.93**	**330**	Pn	**Pn**	**02 44 21.9**	**-0.7**
TNTI	**Ternate**	**8.93**	**330**	P	**Pn**	**02 44 24.6**	**+1.9**
	4µm163nm,0.7s						
TNTI	**Ternate**	**8.93**	**330**	P	**Pn**	**02 44 24.3**	**+1.6**
	166nm,0.7s						
KNRA	**Kununurra**	**9.11**	**199**	P	**Pn**	**02 44 23.3**	**-1.9**
	baz=9.1,SNR=92						
KNRA	**Kununurra**	**9.11**	**199**	Pn	**Pn**	**02 44 23.3**	**-1.9**
KNRA	**Kununurra**	**9.11**	**199**	P	**Pn**	**02 44 24.6**	**-0.6**
	1µm,0.6s						
GENI	**Genyem**	**9.40**	**62**	P	**Pn**	**02 44 29.6**	**+0.5**
	13µm12µm977nm,1.0s						
GENI	**Genyem**	**9.40**	**62**	P	**Pn**	**02 44 29.8**	**+0.7**
	982nm,1.0s						
MMRI	**Maumere**	**9.64**	**260**	Pn	**Pn**	**02 44 31.6**	**-0.8**
MMRI	**Maumere**	**9.64**	**260**	P	**Pn**	**02 44 32.9**	**+0.5**
	19µm11µm596nm,0.9s						
MMRI	**Maumere**	**9.64**	**260**	P	**Pn**	**02 44 33.2**	**+0.8**
	613nm,0.9s						
LUWI	**Luwuk**	**10.81**	**303**	Pn	**Pn**	**02 44 49.0**	**+0.5**
LUWI	**Luwuk**	**10.81**	**303**	P	**Pn**	**02 44 50.9**	**+2.4**
	12µm9µm438nm,0.9s						
LUWI	**Luwuk**	**10.81**	**303**	P	**Pn**	**02 44 50.9**	**+2.4**
	443nm,0.9s						
BSSI	**Bau Bau, Buton**	**11.30**	**274**	P	**Pn**	**02 44 58.8**	**+3.6**
	14µm11µm370nm,1.3s						
GTOI	**Gorontalo**	**11.63**	**310**	P	**Pn**	**02 45 03.6**	**+3.9**
	1µm120nm,0.8s					

TOLI2 **Tolitoli** 13.67 306 Pn Pn 02 45 27.1 -0.5
TOLI2 **Tolitoli** 13.67 306 P Pn 02 45 29.1 +1.6
comp=Z,161nm,1.6s
MPSI **Mapaga** 13.97 301 P Pn 02 45 33.7 +2.0
comp=Z,15µmcomp=Z,3µmcomp=Z,140nm,1.1s
PLAI **Plampang** 14.04 262 P Pn 02 45 29.5 -3.1
PLAI **Plampang** 14.04 262 P Pn 02 45 29.3 -3.3
comp=Z,548nm,1.0s
TWSI **Taliwang, Sumb** 14.91 262 P Pn 02 45 41.0 -3.4
DAV **Davao City (W)** 15.32 336 Pn Pn 02 45 50.2 +0.2
comp=Z,202nm,0.4s,baz=46,slow=6.5,SNR=1.5
DAV Sn Sn 02 48 45.7 +6.6
comp=Z,63nm,0.3s,baz=258,slow=6.0,SNR=1.7
DAV **Davao City (W)** 15.32 336 Pn Pn 02 45 47.8 -2.2
PMG **Port Moresby** 15.35 100 Pn Pn 02 45 47.9 -2.4
comp=Z,107nm,1.1s,baz=310,slow=7.7,SNR=17
PMG Sn Sn 02 48 33.8 -6.1
comp=Z,2.7nm,0.3s,baz=249,slow=11,SNR=1.4
PMG LR LR 02 52 41.3
comp=Z,7µm,18.7s,baz=214,slow=41
PMG **Port Moresby** 15.35 100 Pn Pn 02 45 47.6 -2.8
PMG **Port Moresby** 15.35 100 P Pn 02 45 48.5 -1.9
comp=Z,463nm,1.0s
PMG **Port Moresby** 15.35 100 P Pn 02 45 48.7 -1.7
comp=Z,463nm,1.0s
PMG **Port Moresby** 15.35 100 *de*P Pn 02 45 48.2 -2.2
PMG pmax pmax
comp=Z,532nm,1.2s
QIS **Mount Isa** 15.42 152 P Pn 02 45 45.9 -5.3
baz=15,SNR=93
KCP **Kidapawan** 15.47 334⇑ *e*P Pn 02 45 51.1 -0.9
BKB **Balikpapan** 15.95 290 P P 02 46 00.3 -1.2
BKB IAmb IAmb 02 46 02.7
comp=Z,347nm,1.3s
BKB **Balikpapan** 15.95 290 P P 02 46 02.7 +1.2
comp=Z,17µmcomp=Z,7µmcomp=Z,316nm,1.2s
BKB **Balikpapan** 15.95 290 P P 02 46 00.4 -1.2
comp=Z,316nm,1.2s
CTBH **Cotabato--PC H** 16.04 332⇑ *e*P Pn 02 45 59.3 0.0
BIPH **Bislig** 16.06 340⇓ *e*P Pn 02 45 56.0 -3.5
MANU **Manus Island** 16.25 73 P P 02 46 04.9 0.0
MANU **Manus Island** 16.25 73 P Pn 02 46 03.2 +1.2
comp=Z,264nm,0.9s
MTSU **Mount Surprise** 16.43 133 P Pn 02 46 00.3 -4.0
baz=16,SNR=35
MTSU **Mount Surprise** 16.43 133 P Pn 02 46 00.4 -3.9
comp=Z,141nm,0.7s
IGBI **Denpasar** 16.62 263 P P 02 46 08.0 -1.0
comp=Z,3µmcomp=Z,223nm,0.9s
AS31 **Alice Springs** 16.67 173 Pn Pn 02 46 02.8 -4.5
ASAR **Alice Springs** 16.67 173 Pn Pn 02 46 01.6 -5.7
comp=Z,8.5nm,0.3s,baz=350,slow=11,SNR=105
ASAR Sn Sn 02 49 02.1 -10
comp=Z,16nm,0.3s,baz=0.4,slow=27,SNR=5.8
ASAR Lg Lg 02 51 04.1
comp=Z,3.0nm,0.3s,baz=178,slow=27,SNR=1.6
ASAR LR LR 02 52 39.7
comp=Z,11µm,21.9s,baz=354,slow=38
ASAR **Alice Springs** 16.67 173 Pn Pn 02 46 01.8 -5.5
ASAR **Alice Springs** 16.67 173 P Pn 02 46 01.8 -5.5
BBKI **Banjar Baru** 17.28 281 P P 02 46 16.6 +0.3
comp=Z,14µmcomp=Z,994nm,1.2s
ABJI **Asem Bagus** 17.47 266 P P 02 46 18.2 -0.1
comp=Z,10µmcomp=Z,4µmcomp=Z,144nm,1.0s
JAGI **Jajag, Banyuwa** 17.58 264 Pn Pn 02 46 15.1 -3.5
JAGI **Jajag, Banyuwa** 17.58 264 P Pn 02 46 17.2 -1.5
comp=Z,2µmcomp=Z,90nm,0.8s
JAGI **Jajag, Banyuwa** 17.58 264 P Pn 02 46 15.7 -3.0
comp=Z,76nm,1.0s
MTKI **Muara Teweh, K** 17.93 289 P P 02 46 26.3 +2.8
comp=Z,7µmcomp=Z,31µmcomp=Z,254nm,0.6s
MYLDM **Lahad Datu** 18.00 312 Pn 02 46 22.4 -1.4
GHBP **Garcia Hernand** 18.15 336⇑ *e*P Pn 02 46 24.7 -1.0
GHBP *e*S S 02 49 54.9 +2.1
WRKA **Warakurna** 18.23 190 P Pn 02 46 22.1 -4.6
baz=18,SNR=71
WRKA **Warakurna** 18.23 190 P Pn 02 46 22.6 -4.1
comp=Z,342nm,0.7s
GMJI **Gumukmas** 18.27 265 P P 02 46 30.1 +3.0
comp=Z,1µmcomp=Z,64nm,0.7s
MBWA **Marble Bar** 18.29 219 Pn 02 46 24.4 -3.0
MBWA **Marble Bar** 18.29 219 P Pn 02 46 24.3 -3.1
MBWA IAmb IAmb 02 46 37.5
comp=Z,84nm,0.8s
MBWA **Marble Bar** 18.29 219 P Pn 02 46 25.9 -1.5
MBWA P Pn 02 46 25.9 -1.5
MBWA **Marble Bar** 18.29 219 P Pn 02 46 26.2 -1.2
comp=Z,98nm,2.1s
SNPH **Sibulan** 18.37 332 *e*P Pn 02 46 30.8 +2.3
TBP **Tagbilaran** 18.40 334 *e*P Pn 02 46 31.7 +2.9
PSA00 **Pilbara Seismi** 18.53 217 P P 02 46 28.8 -1.2
PSA00 **Pilbara Seismi** 18.53 217 P Pn 02 46 30.4 +0.1
comp=Z,219nm,0.7s
TABP **Talibon, Bohol** 18.57 336⇑ *e*P P 02 46 29.1 -1.4
LLP **Lapu-Lapu** 18.92 335 *e*P P 02 46 33.4 -0.9
LLP *e*S Sn 02 50 01.3 -5.0
TV1H **Townsville Har** 18.96 131 P Pn 02 46 36.6 +1.1
comp=Z,132nm,0.8s
CTA **Charters Tower** 19.09 134 P P 02 46 35.9 -0.3
comp=Z,0.4nm,0.3s,baz=329,slow=12,SNR=7.0
CTA S Sn 02 50 08.0 -2.5
comp=Z,36nm,0.7s,baz=110,slow=21,SNR=2.6
CTA Lg Lg 02 52 11.3
comp=Z,3.1nm,0.3s,baz=340,slow=4.9,SNR=3.4
CTA LR LR 02 54 19.7
comp=Z,3µm,18.3s,baz=310,slow=38
comp=Z,47nm,0.9s
CTA **Charters Tower** 19.09 134 P Pn 02 46 37.0 -0.2
comp=Z,368nm,0.9s
CTAO **Charters Tower** 19.09 134 P P 02 46 35.4 -0.8
CTAO IAmb IAmb 02 46 48.7
comp=Z,198nm,0.9s
CTAO **Charters Tower** 19.09 134 P Pn 02 46 36.9 -0.2
comp=Z,318nm,0.9s
CTAO **Charters Tower** 19.09 134 P P 02 46 35.4 -0.8
CTAO pmax pmax
comp=Z,198nm,1.0s
GRJI **Gresik** 19.21 269 P Pn 02 46 47.5 +8.9
KRVT **Keravat (AS076** 20.27 83 P P 02 46 47.6 -1.5
comp=Z,48nm,0.7s,baz=270,slow=20,SNR=1.5
comp=Z,48nm,0.7s
PCJI **Pacitan** 20.51 265 P P 02 46 51.9 +0.2
RCP **Roxas** 20.55 334⇓ *e*P P 02 46 51.9 -0.2
OOD **Oodnadatta** 20.98 170 P P 02 46 56.2 -0.5
comp=Z,368nm,0.8s
UGM **Wanagama** 21.15 266 P P 02 46 57.2 -1.4
UGM IAmb IAmb 02 47 12.7
comp=Z,90nm,0.7s
SMRI **Semarang** 21.23 269 IAMs_20 IAMs_20 02 55 43.0
comp=Z,8µm,21.0s
SBUM **Sibu** 21.72 295 P P 02 47 02.2 -2.5
SBUM **Sibu** 21.72 295 P P 02 47 05.0 +0.3
INKA **Innaminka** 22.27 159 P P 02 47 11.0 +0.4
comp=Z,964nm,0.9s
QLP **Quilpie** 22.76 150 P P 02 47 15.6 -0.1
baz=23,SNR=28
QLP **Quilpie** 22.76 150 P P 02 47 15.8 +0.1
comp=Z,498nm,1.7s
GIRL **Giralia** 22.99 226 P P 02 47 20.7 +2.5
baz=23,SNR=8.6
GIRL **Giralia** 22.99 226 P P 02 47 18.6 +0.3
GIRL **Giralia** 22.99 226 P P 02 47 19.4 +1.2
comp=Z,537nm,1.3s
KSM **Kuching** 23.08 291 P P 02 47 16.3 -2.9
KSM IAMs_20 IAMs_20 02 56 46.6
comp=Z,7µm,20.0s
KSM **Kuching** 23.08 291 P P 02 47 18.6 -0.6
comp=Z,46nm,1.2s
MEEK **Meekatharra** 23.21 211 P P 02 47 19.7 -0.8
baz=23,SNR=22
MEEK **Meekatharra** 23.21 211 P P 02 47 20.5 0.0
comp=Z,198nm,1.0s
MULG **Mulgathing** 23.24 175 P P 02 47 19.7 -0.9
comp=Z,628nm,1.3s
LQP **Lukban** 23.35 334⇑ *e*P P 02 47 21.0 -1.0
FORT **Forrest** 23.90 188 P P 02 47 26.6 -0.5
baz=24,SNR=31
FORT **Forrest** 23.90 188 P P 02 47 25.7 -1.4
FORT **Forrest** 23.90 188 P P 02 47 26.6 -0.5
comp=Z,1µm,1.0s
BBJI **Bungbulang** 23.99 267 P P 02 47 26.4 -1.8
comp=Z,148nm,0.8s
LEM **Lembang** 24.04 269 P P 02 47 29.5 +0.8
comp=Z,79nm,0.6s,baz=3.6,slow=16,SNR=10
comp=Z,73nm,0.6s
LCRK **Leigh Creek** 24.06 166 P P 02 47 28.9 +0.3
comp=Z,929nm,0.8s
RK1H **Rockhampton Ha** 24.22 134 P P 02 47 30.4 +0.3
comp=Z,194nm,0.9s
GUMO **Guam** 24.22 32 P P 02 47 30.1 -0.1
comp=Z,122nm,0.8s,baz=191,slow=10,SNR=2.7
GUMO LR LR 02 58 24.7
comp=Z,1µm,18.9s,baz=196,slow=40
comp=Z,122nm,0.8s
GD1S **Gladstone Soft** 24.99 134 P P 02 47 37.8 +0.7
comp=Z,185nm,0.9s
RMQ **Roma** 25.19 142 P P 02 47 39.1 +0.1
baz=25,SNR=16
RMQ **Roma** 25.19 142 P P 02 47 38.9 0.0
comp=Z,166nm,0.9s
EIDS **Eidsvold** 25.91 137 P P 02 47 44.1 -1.3
baz=26,SNR=7.6
EIDS **Eidsvold** 25.91 137 P P 02 47 43.9 -1.5
EIDS IAmb IAmb 02 48 07.9
comp=Z,119nm,1.1s
EIDS **Eidsvold** 25.91 137 P P 02 47 44.9 -0.5
comp=Z,114nm,1.2s
KMBL **Kambalda** 25.95 200 P P 02 47 45.4 -0.4
baz=26,SNR=14
KMBL **Kambalda** 25.95 200 P P 02 47 45.5 -0.3
comp=Z,242nm,0.9s
BBOO **Buckleboo** 25.96 172 P P 02 47 45.1 -0.8
baz=26,SNR=33
BBOO **Buckleboo** 25.96 172 P P 02 47 43.9 -1.9
BBOO **Buckleboo** 25.96 172 P P 02 47 44.9 -1.0
comp=Z,387nm,1.3s
STKA **Stephens Creek** 26.36 161 P P 02 47 48.9 -0.5
comp=Z,60nm,0.8s,baz=342,slow=8.5,SNR=39
STKA S S 02 52 28.1 +6.8
comp=Z,35nm,0.8s,baz=292,slow=15,SNR=2.3
STKA LR LR 02 59 53.2
comp=Z,7µm,18.1s,baz=333,slow=40
comp=Z,60nm,0.8s
STKA **Stephens Creek** 26.36 161 P P 02 47 50.0 +0.6
baz=26,SNR=21
STKA **Stephens Creek** 26.36 161 P P 02 47 48.3 -1.1
STKA **Stephens Creek** 26.36 161 P P 02 47 49.2 -0.2
comp=Z,34nm,0.9s
STKA **Stephens Creek** 26.36 161 *d*P P 02 47 47.5 -1.9
WHYH **Whyalla** 26.43 169 P P 02 47 50.8 +0.8
comp=Z,118nm,0.9s
MORW **Morawa** 26.51 212 P P 02 47 51.9 +1.0
baz=27,SNR=17
MORW **Morawa** 26.51 212 P P 02 47 51.1 +0.3
MORW IAmb IAmb 02 48 12.6
comp=Z,114nm,1.0s
MORW **Morawa** 26.51 212 P P 02 47 52.1 +1.2
comp=Z,129nm,1.2s
HTT **Hallett** 27.09 167 P P 02 47 56.4 +0.3
baz=27,SNR=4.1
BLDU **Ballidu** 27.43 209 P P 02 48 00.3 +1.3
baz=28,SNR=10.0
BLDU **Ballidu** 27.43 209 P P 02 47 59.7 +0.6
comp=Z,101nm,1.0s
CMSA **Cobar Meteorol** 27.62 154 P P 02 48 00.5 -0.2
baz=28,SNR=17
CMSA **Cobar Meteorol** 27.62 154 P P 02 48 00.8 0.0
comp=Z,99nm,1.1s
KLBR **Kellerberrin** 27.76 206 P P 02 48 03.0 +0.9
baz=28,SNR=7.5
KLBR **Kellerberrin** 27.76 206 P P 02 48 02.4 +0.3
comp=Z,198nm,0.9s
HNR **Honiara** 27.93 97 LR LR 03 00 48.3
comp=Z,43µm,18.7s,baz=270,slow=40
MUN **Mundaring** 28.79 208 P P 02 48 13.3 +2.0
baz=29,SNR=3.9
MNAI **Manna** 28.85 274 IAMs_20 IAMs_20 02 59 40.9
comp=Z,5µm,21.0s
NWAO **Narrogin (SRO)** 29.13 206 P P 02 48 14.6 +0.4
comp=Z,22nm,0.9s,baz=247,slow=9.7,SNR=5.2
NWAO S S 02 53 09.7 +4.7
comp=Z,10nm,0.5s,baz=200,slow=21,SNR=1.0
comp=Z,22nm,0.9s
NWAO **Narrogin (SRO)** 29.13 206 P P 02 48 15.5 +1.2
baz=29,SNR=5.2
NWAO P P 02 48 15.5 +1.2
baz=29,SNR=5.2
NWAO **Narrogin (SRO)** 29.13 206 P P 02 48 14.4 +0.2
NWAO IAmb IAmb 02 49 17.2
comp=Z,50nm,0.8s
NWAO **Narrogin (SRO)** 29.13 206 P P 02 48 14.8 +0.5
NWAO **Narrogin (SRO)** 29.13 206 P P 02 48 14.4 +0.2
NWAO pmax pmax
comp=Z,50nm,0.9s
NWAO MLR MLR
comp=Z,12µm,18.0s
MYKOM **Kota Tinggi** 29.26 286 IAMs_20 IAMs_20 03 01 05.8
comp=Z,8µm,19.0s
AUDCS **Dubbo College** 29.57 150 P P 02 48 18.2 +0.1
comp=Z,58nm,1.1s
ARMA **Armidale** 29.78 144 P P 02 48 17.9 -2.3
ARMA IAmb IAmb 02 49 18.4
comp=Z,50nm,1.1s
ARMA **Armidale** 29.78 144 P P 02 48 20.9 +0.7
comp=Z,39nm,1.1s
RKGY **Rocky Gully** 30.68 204 P P 02 48 30.4 +2.4
baz=31,SNR=5.3
ARPS **Mount Arapiles** 30.99 164 P P 02 48 32.7 +2.0
baz=31,SNR=8.0
ARPS **Mount Arapiles** 30.99 164 P P 02 48 32.7 +2.0
comp=Z,92nm,0.8s
BKNI **Bangkinang** 31.57 282 IAMs_20 IAMs_20 03 01 29.0
comp=Z,5µm,21.0s
CAN **Canberra** 32.28 153 P P 02 48 40.1 -2.0
CAN IAmb IAmb 02 49 05.9
comp=Z,56nm,1.1s
CAN IAMs_20 IAMs_20 03 02 56.3
comp=Z,8µm,20.0s
CAN **Canberra** 32.28 153 P P 02 48 42.9 +0.8
comp=Z,58nm,0.9s
CAN **Canberra** 32.28 153 P P 02 48 40.1 -2.0
CAN pmax pmax
comp=Z,56nm,1.1s
CAN MLR MLR
comp=Z,8µm,20.0s
BRAT **Ballarat** 32.32 162 P P 02 48 43.8 +1.5
comp=Z,25nm,0.9s
SSLB **Suanglung** 32.41 341 P P 02 48 46.6 +3.3
comp=Z,52nm,1.2s
CNB **Canberra Magne** 32.44 153 P P 02 48 44.5 +0.9
comp=Z,48nm,1.1s
IPM **Ipoh** 32.80 290 IAMs_20 IAMs_20 03 02 35.4
comp=Z,4µm,21.0s
TOO **Toolangi** 32.85 160 P P 02 48 48.9 +1.8
baz=33,SNR=5.3
TOO **Toolangi** 32.85 160 P P 02 48 47.0 0.0
TOO IAmb IAmb 02 50 00.8
comp=Z,49nm,1.0s
TOO **Toolangi** 32.85 160 P P 02 48 48.1 +1.0
comp=Z,45nm,0.9s
TOO **Toolangi** 32.85 160 P P 02 48 47.0 0.0
TOO pmax pmax
comp=Z,49nm,1.0s
GEXS **Deakin Univers** 33.03 162 P P 02 48 48.6 +0.1
comp=Z,146nm,0.8s
KULM **Kulim** 33.44 291 P P 02 48 49.8 -2.6
KULM IAmb IAmb 02 49 08.2
comp=Z,52nm,1.4s
KULM IAMs_20 IAMs_20 03 02 45.2
comp=Z,5µm,21.0s
QIZ **Qiongzhong** 33.76 320 P P 02 48 54.8 -0.3
QIZ S S 02 54 19.3 +1.7
QIZ LR LR
comp=Z,2µm,18.6s
QIZ LR LR
comp=Z,1µm,13.3s
QIZ LR LR
comp=Z,2µm,18.2s
MILA **Mila** 33.81 155 P P 02 48 56.1 +0.6
comp=Z,40nm,1.3s
JOW **Kunigami** 33.83 354 P P 02 48 55.4 -0.2
RPSI **Rantau Prapat** 34.23 285 P P 02 48 58.2 -1.2
RPSI IAmb IAmb 02 49 14.5
comp=Z,62nm,1.0s
UBPT **Khong Chiam** 34.26 310 IAmb IAmb 02 49 13.5
comp=Z,50nm,0.9s
PSI **Prapat** 34.26 285 LR LR 03 04 22.5
comp=Z,3µm,18.6s,slow=39
PSI **Prapat** 34.26 285 P P 02 48 59.3 -0.5
comp=Z,70nm,0.8s
PSI **Prapat** 34.26 285 P P 02 48 58.2 -1.6
PSI pmax pmax
comp=Z,62nm,1.0s
PSI MLR MLR
comp=Z,8µm,22.0s
COCO **West Island** 34.87 259 IAMs_20 IAMs_20 03 05 38.5
comp=Z,3µm,18.0s
GSI **Gunungsitoli** 35.17 282 IAMs_20 IAMs_20 03 03 45.3
comp=Z,6µm,22.0s
DZM **Mont Dzumac** 36.57 118 *e*P P 02 49 19.3 -0.2
comp=Z,78nm,1.1s
DZM *e*S S 02 55 01.9 +0.8
DZM comp=Z,2µm,30.2s
DZM *e*SS SS 02 57 42.3 +1.0
DZM comp=Z,2µm,25.4s
DZM *e*LR LR 02 59 08.7
comp=Z,5µm,30.7s
DZM **Mont Dzumac** 36.57 118 P P 02 49 19.0 -0.5
comp=Z,13nm,0.9s,baz=289,slow=7.5,SNR=4.4
DZM LR LR 03 04 25.5
comp=Z,1µm,19.2s,baz=296,slow=37
comp=Z,13nm,0.9s
DZM **Mont Dzumac** 36.57 118 P P 02 49 19.4 -0.1
DZM IAmb IAmb 02 50 39.3
comp=Z,163nm,1.9s
DZM **Mont Dzumac** 36.57 118 P P 02 49 20.9 +1.4
comp=Z,30nm,1.1s
AULHS **Lilydale High** 36.74 160 P P 02 49 22.8 +2.3
comp=Z,40nm,1.1s
GLAD **Gladstone** 36.77 159 P P 02 49 21.3 +0.5
comp=Z,22nm,0.9s
LHMI **Lhok Sumawe** 36.88 288 IAMs_20 IAMs_20 03 06 04.5
comp=Z,5µm,20.0s
NAYO **Nakonayok** 36.95 305 P P 02 49 23.7 +1.0
comp=Z,291nm,0.9s
NONG **Nongkai** 37.72 312 P P 02 49 30.7 +1.5
comp=Z,56nm,0.7s
MOO **Moorlands** 37.80 161 P P 02 49 30.2 +0.6
comp=Z,52nm,1.0s
TAU **Tasmania Unive** 38.27 162 P P 02 49 31.4 -2.0
comp=Z,30nm,1.1s
GULI **GuiLin** 38.31 328 P P 02 49 34.0 0.0
GULI S S 02 55 23.8 -3.4
GULI pmax pmax
comp=Z,20nm,0.8s
GULI LR LR
comp=Z,1µm,23.9s
GULI LR LR
comp=Z,1µm,24.0s
GULI LR LR
comp=Z,1µm,24.0s
SSE **Sheshan** 39.24 345 P P 02 49 44.5 +2.7
SSE S S 02 55 39.0 -2.0
SSE pmax pmax
SSE comp=Z,42nm,0.9s
SSE pmax pmax
SSE comp=Z,150nm,4.0s
SSE LR LR
SSE comp=Z,530nm,25.2s
SSE LR LR
comp=Z,830nm,25.6s
CNSH **ChangSha** 39.47 333 ⇓P P 02 49 41.8 -1.9
CNSH S S 02 55 44.5 0.0
CNSH pmax pmax
comp=Z,32nm,1.2s
CNSH LR LR
comp=Z,1µm,15.3s
CNSH LR LR
comp=Z,2µm,14.9s
CNSH LR LR
comp=Z,1µm,19.9s
JNU **Nakatsue** 39.93 359 LR LR 03 06 43.5
comp=Z,1µm,21.4s,baz=171,slow=37
JNU **Nakatsue** 39.93 359 P P 02 49 47.4 -0.1
JNU IAmb IAmb 02 49 51.9
comp=Z,98nm,1.1s
PHRA **Phrae** 40.18 310 P P 02 49 48.0 -1.8
JMN **Monobe** 40.57 3 IAmb IAmb 02 50 29.2
comp=Z,168nm,1.5s
NJ2 **Nanjing** 40.78 343 ⇑P P 02 49 56.8 +2.3
NJ2 pP pP 02 49 58.3 -3.5
NJ2 sP sP 02 50 04.0 -0.7
NJ2 S S 02 56 05.3 +1.3
NJ2 sS pS 02 56 11.5 -1.0
NJ2 pmax pmax
comp=Z,46nm,0.7s
NJ2 pmax pmax
comp=Z,490nm,3.5s
NJ2 LR LR
comp=Z,890nm,15.2s
NJ2 LR LR
comp=Z,600nm,18.0s
NJ2 LR LR
comp=Z,1µm,21.3s
WHN **Wuhan** 40.94 337 ⇑P P 02 49 59.5 +3.7
WHN S S 02 56 04.0 -2.4
WHN pmax pmax
comp=Z,240nm,1.1s
WHN LR LR
comp=Z,720nm,10.8s
WHN LR LR
comp=Z,3µm,15.8s
WHN LR LR
comp=Z,5µm,21.7s
CM31 **Chiang Mai Arr** 41.15 308 P P 02 49 55.6 -2.3
CM31 IAmb IAmb 02 50 23.4
comp=Z,80nm,1.3s
CMAR **Chiang Mai Arr** 41.15 308 P P 02 49 57.5 -0.4
comp=Z,14nm,0.8s,baz=139,slow=7.4,SNR=45
CMAR LR LR 03 08 21.0
comp=Z,1µm,21.8s,baz=105,slow=38
comp=Z,14nm,0.8s
CMAR **Chiang Mai Arr** 41.15 308 P P 02 49 56.4 -1.4
CMAR **Chiang Mai Arr** 41.15 308 P P 02 49 56.4 -1.4
CHTO **Chiang Mai** 41.36 309 P P 02 49 58.0 -1.5
CHTO **Chiang Mai** 41.36 309 P P 02 49 58.0 -1.5
CHTO pmax pmax
comp=Z,44nm,1.0s
CHTO MLR MLR
comp=Z,2µm,22.0s
JHS **Saijyo** 41.81 2 P P 02 50 02.0 -0.9
JHS IAmb IAmb 02 50 07.8
comp=Z,97nm,1.1s
JHS **Saijyo** 41.81 2 P P 02 50 05.4 +2.4
comp=Z,110nm,1.2s
TARA **Tarawa** 41.84 80 IAMs_20 IAMs_20 03 09 45.1
comp=Z,2µm,19.0s
INU **Inuyama** 42.42 6 IAMs_20 IAMs_20 03 07 09.6
comp=Z,2µm,22.0s
KMI **Kunming** 42.69 319 ⇓P P 02 50 11.0 +0.4
KMI sP pP 02 50 15.0 -2.9
KMI PP PP 02 51 47.5 -2.4
KMI S S 02 56 29.3 -3.7
KMI pmax pmax
comp=Z,40nm,1.0s
KMI pmax pmax
comp=Z,370nm,7.0s
KMI LR LR
comp=Z,990nm,22.2s
KMI LR LR
comp=Z,770nm,17.3s
KMI LR LR
comp=Z,2µm,27.1s
JGF **Kuroka** 42.71 7 P P 02 50 09.4 -0.9
JGF IAmb IAmb 02 50 47.3
comp=Z,69nm,1.2s
JGF **Kuroka** 42.71 7 P P 02 50 11.8 +1.5
comp=Z,46nm,1.2s
ENH **Enshi** 42.83 331 IAmb IAmb 02 50 21.1
comp=Z,46nm,0.7s
ENH **Enshi** 42.83 331 P P 02 50 10.8 -0.6
comp=Z,69nm,0.8s
TJN **Taejon** 43.37 355 P P 02 50 18.1 +2.5
comp=Z,339nm,0.9s
TJN **Taejon** 43.37 355 *de*P P 02 50 17.8 +2.2
MJAR **Matsushiro Arr** 43.74 7 P P 02 50 16.7 -1.9
comp=Z,35nm,0.9s,baz=188,slow=9.5,SNR=31
comp=Z,35nm,0.9s
MAJO **Matsushiro** 43.74 7 P P 02 50 16.8 -1.8
MAJO IAmb IAmb 02 50 21.9
comp=Z,74nm,0.9s
MAJO **Matsushiro** 43.74 7 IAMs_20 IAMs_20 03 07 41.5
comp=Z,3µm,20.0s
MAJO **Matsushiro** 43.74 7 P P 02 50 17.7 -0.9
comp=Z,88nm,0.9s
MAJO **Matsushiro** 43.74 7 *ce*P P 02 50 17.9 -0.7
MAJO pmax pmax
comp=Z,84nm,1.0s
MJB9 **Matsu-Tunnel** 43.75 7 P P 02 50 17.8 -0.9
MJB9 IAmb IAmb 02 50 23.3
comp=Z,72nm,0.9s

PZH	**PanZhiHua**	**44.30**	**320**	⇓P	**P**	**02 50 22.5**	**-0.9**
PZH				sP	**pP**	**02 50 30.0**	**-0.7**
PZH				ScS	ScS	03 00 23.5	+2.7
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,130nm,6.1s						
PZH				LR	LR		
	comp=Z,3µm,22.9s						
PZH				LR	LR		
	comp=Z,4µm,22.6s						
PZH				LR	LR		
	comp=Z,3µm,21.8s						
KSAR	**Wonju Array Be**	**44.38**	**356**	P	**P**	**02 50 22.7**	**-1.0**
KSAR	**Wonju Array Be**	**44.38**	**356**	P	**P**	**02 50 22.7**	**-1.0**
KSRS	**Korea Array**	**44.39**	**356**	P	**P**	**02 50 23.0**	**-0.7**
	comp=Z,18nm,0.8s,baz=182,slow=10.0,SNR=30						
KSRS				LR	LR	03 09 23.2	
	comp=Z,1µm,21.7s,baz=190,slow=37						
	comp=Z,18nm,0.8s						
INCN	**Inchon**	**44.54**	**354**	P	**P**	**02 50 28.0**	**+3.0**
	comp=Z,56nm,0.9s						
TIA	**Tai'an**	**45.17**	**343**	⇑P	**P**	**02 50 32.3**	**+2.3**
TIA				S	**S**	**02 57 03.5**	**-4.9**
TIA				pmax	pmax		
	comp=Z,30nm,0.9s						
TIA				pmax	pmax		
	comp=Z,420nm,8.8s						
TIA				LR	LR		
	comp=Z,790nm,24.5s						
TIA				LR	LR		
	comp=Z,580nm,17.7s						
TIA				LR	LR		
	comp=Z,2µm,24.5s						
HJU	**Haeju**	**45.19**	**353**	P	**P**	**02 50 28.8**	**-1.3**
LYN	**LuoYang**	**45.22**	**337**	⇑P	**P**	**02 50 33.5**	**+3.1**
LYN				S	**S**	**02 57 06.5**	**-2.6**
LYN				SS	**SS**	**03 00 29.8**	**-2.6**
LYN				pmax	pmax		
	comp=Z,30nm,1.6s						
LYN				pmax	pmax		
	comp=Z,250nm,5.4s						
LYN				LR	LR		
	comp=Z,1µm,21.0s						
LYN				LR	LR		
	comp=Z,1µm,21.2s						
LYN				LR	LR		
	comp=Z,1µm,29.6s						
MND	**Mandalay**	**45.36**	**310**	P	**P**	**02 50 31.9**	**+0.1**
	comp=Z,28nm,1.0s						
JMM	**Marumori**	**45.43**	**10**	P	**P**	**02 50 34.4**	**+2.4**
	comp=Z,104nm,1.4s						
TNCH	**TengChong**	**45.46**	**316**	P	P	02 50 38.0	+5.3
TNCH				pP	sP	02 50 42.3	-0.7
TNCH				PP	**PP**	**02 52 24.0**	**+4.6**
TNCH				S	**S**	**02 57 06.3**	**-7.0**
TNCH				sS	sS	02 57 24.0	-1.3
TNCH				SS	**ScS**	**03 00 32.3**	**+3.9**
TNCH				pmax	pmax		
	comp=Z,57nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,300nm,5.7s						
TNCH				LR	LR		
	comp=Z,620nm,18.6s						
TNCH				LR	LR		
	comp=Z,550nm,25.3s						
TNCH				LR	LR		
	comp=Z,1µm,43.3s						
XAN	**Xi'an**	**46.24**	**333**	P	**P**	**02 50 40.5**	**+1.9**
XAN				pP	pP	02 50 46.0	0.0
XAN				sP	sP	02 50 52.3	+3.4
XAN				S	**S**	**02 57 17.3**	**-6.8**
XAN				pmax	pmax		
	comp=Z,65nm,1.0s						
XAN				pmax	pmax		
	comp=Z,140nm,3.8s						
XAN				LR	LR		
	comp=Z,2µm,15.1s						
XAN				LR	LR		
	comp=Z,1µm,15.1s						
XAN				LR	LR		
	comp=Z,1µm,17.9s						
MSVF	**Nonsavu**	**46.27**	**108**	LR	LR	03 08 56.9	
	comp=Z,2µm,20.6s,baz=279,slow=35						
MSVF	**Nonsavu**	**46.27**	**108**	P	**P**	**02 50 39.5**	**+0.4**
MSVF	**Nonsavu**	**46.27**	**108**	P	**P**	**02 50 40.5**	**+1.4**
	comp=Z,87nm,1.0s						
MSVF	**Nonsavu**	**46.27**	**108**	⇓*e*P	**P**	**02 50 40.2**	**+1.1**
MSVF				pmax	pmax		
	comp=Z,91nm,1.0s						
CD2	**Chengdu**	**46.31**	**326**	P	**P**	**02 50 39.0**	**-0.2**
CD2				pP	pP	02 50 42.3	-4.3
CD2				S	**S**	**02 57 21.8**	**-3.4**
CD2				sS	sS	02 57 36.8	-0.5
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
CD2				pmax	pmax		
	comp=Z,190nm,6.1s						
CD2				LR	LR		
	comp=Z,2µm,29.4s						
CD2				LR	LR		
	comp=Z,2µm,19.1s						
CD2				LR	LR		
	comp=Z,2µm,24.0s						
HHU	**Hamhung**	**46.88**	**355**	P	**P**	**02 50 43.2**	**-0.2**
HNS	**HongShan**	**47.00**	**341**	⇑P	**P**	**02 50 44.0**	**-0.4**
HNS				S	**S**	**02 57 30.5**	**-4.1**
HNS				ScS	**ScS**	**03 00 40.8**	**+3.3**
HNS				pmax	pmax		
	comp=Z,90nm,1.1s						
HNS				LR	LR		
	comp=Z,680nm,17.3s						
HNS				LR	LR		
	comp=Z,980nm,17.3s						
HNS				LR	LR		
	comp=Z,1µm,24.7s						
SUJ	**Sinuiju**	**47.37**	**352**	P	**P**	**02 50 47.2**	**-0.1**
SUJ				S	**S**	**02 57 40.6**	**+0.8**
SUJ				AmB			
	comp=Z,156nm,1.6s						
SUJ				AMS	AMS		
	comp=N,215nm,4.1s						
SUJ				AMS	AMS		
	comp=E,327nm,6.2s						
SUJ				AMS	AMS		
	comp=Z,95nm,1.8s						
OUZ	**Omahuta**	**47.48**	**132**	P	**P**	**02 50 49.3**	**+1.1**
OUZ				IAmb	IAmb	02 50 51.5	
	comp=Z,50nm,1.4s						
DGTI	**Dogotuki**	**47.71**	**106**	P	**P**	**02 50 51.9**	**+1.5**
	comp=Z,58nm,1.0s						
TIY	**Taiyuan**	**48.04**	**339**	⇑P	**P**	**02 50 55.5**	**+2.9**
TIY				S	**S**	**02 57 48.0**	**-1.7**
TIY				pmax	pmax		
	comp=Z,41nm,0.7s						
TIY				pmax	pmax		
	comp=Z,260nm,4.7s						
TIY				LR	LR		
	comp=Z,610nm,25.4s						
TIY				LR	LR		
	comp=Z,800nm,26.8s						
TIY				LR	LR		
	comp=Z,1µm,24.0s						
BJT	**Baijiatuan**	**48.99**	**344**	P	**P**	**02 51 00.2**	**+0.4**
	comp=Z,87nm,1.1s						
DCZ	**Deep Cove**	**48.99**	**147**	IAMs_20	IAMs_20	03 10 42.6	
	comp=Z,3µm,19.0s						
BJI	**Beijing**	**49.01**	**344**	P	**P**	**02 51 02.8**	**+2.9**
BJI				S	**S**	**02 58 00.3**	**-2.7**
BJI				pmax	pmax		
	comp=Z,77nm,1.1s						
BJI				LR	LR		
	comp=Z,710nm,20.0s						
BJI				LR	LR		
	comp=Z,1µm,20.4s						
BJI				LR	LR		
	comp=Z,1µm,20.4s						
JCZ	**Jackson Bay**	**49.01**	**145**	P	**P**	**02 51 02.0**	**+1.9**
	comp=Z,124nm,1.3s						
BRDH	**Bariadhala**	**49.17**	**308**	LR	LR	03 14 30.7	
	comp=Z,2µm,21.5s,baz=146,slow=39						
SNY	**Shenyang**	**49.19**	**352**	⇓P	**P**	**02 51 03.0**	**+1.7**
SNY				S	**S**	**02 58 02.5**	**-3.0**
SNY				pmax	pmax		
	comp=Z,69nm,1.1s						
SNY				pmax	pmax		
	comp=Z,440nm,5.1s						
SNY				LR	LR		
	comp=Z,1µm,24.9s						
SNY				LR	LR		
	comp=Z,1µm,21.8s						
SNY				LR	LR		
	comp=Z,3µm,22.0s						
FOZ	**Fox Glacier**	**49.28**	**144**	IAMs_20	IAMs_20	03 15 42.4	
	comp=Z,3µm,19.0s						
DSZ	**Denniston Nort**	**49.48**	**141**	IAMs_20	IAMs_20	03 12 09.6	
	comp=Z,3µm,19.0s						
WHZ	**Wether Hill Ro**	**49.69**	**147**	IAMs_20	IAMs_20	03 12 54.2	
	comp=Z,3µm,21.0s						
HIZ	**Hauiti**	**49.87**	**136**	IAMs_20	IAMs_20	03 16 10.0	
	comp=Z,3µm,18.0s						
ERM	**Erimo**	**49.88**	**11**	IAMs_20	IAMs_20	03 13 34.1	
	comp=Z,2µm,20.0s						
MRNZ	**Matariki Terra**	**49.90**	**140**	P	**P**	**02 51 06.3**	**-0.4**
LBZ	**Lake Benmore**	**50.00**	**144**	P	**P**	**02 51 06.7**	**-0.8**
LBZ				IAmb	IAmb	02 51 35.7	
	comp=Z,74nm,1.0s						
LBZ				IAMs_20	IAMs_20	03 13 27.5	
	comp=Z,3µm,19.0s						
RPZ	**Rata Peaks**	**50.12**	**143**	P	**P**	**02 51 08.3**	**-0.2**
	comp=Z,10nm,0.7s,baz=309,slow=6.1,SNR=2.4						
	comp=Z,10nm,0.7s						
THZ	**Tophouse**	**50.18**	**140**	IAMs_20	IAMs_20	03 14 26.2	
	comp=Z,3µm,18.0s						
NNZ	**Nelson**	**50.20**	**139**	IAMs_20	IAMs_20	03 11 16.7	
	comp=Z,3µm,21.0s						
LZH	**Lanzhou**	**50.30**	**330**	*e*P	**P**	**02 51 11.5**	**+1.5**
LZH				pP	pP	02 51 17.0	-0.5
LZH				sP	sP	02 51 20.8	+0.4
LZH				S	**S**	**02 58 20.0**	**-1.6**
LZH				sS	sS	02 58 34.0	+0.2
LZH				pmax	pmax		
	comp=Z,46nm,1.0s						
LZH				pmax	pmax		
	comp=Z,310nm,4.0s						
LZH				LR	LR		
	comp=Z,1µm,17.4s						
LZH				LR	LR		
	comp=Z,2µm,17.8s						
LZH				LR	LR		
	comp=Z,3µm,20.0s						
SHL	**Shillong**	**50.57**	**311**	P	**P**	**02 51 10.3**	**-2.0**
SHL				IAmb	IAmb	02 51 25.5	
	comp=Z,58nm,0.9s						
SHL	**Shillong**	**50.57**	**311**	P	**P**	**02 51 12.1**	**-0.2**
	SNR=15						
SHL	**Shillong**	**50.57**	**311**	P	**P**	**02 51 10.3**	**-2.0**
SHL				pmax	pmax		
	comp=Z,58nm,0.9s						
ODZ	**Otahua Downs**	**50.66**	**145**	IAMs_20	IAMs_20	03 16 38.8	
	comp=Z,3µm,19.0s						
TUWZ	**Tuamarina**	**50.67**	**139**	P	**P**	**02 51 11.3**	**-1.3**
CN2	**Changchun**	**50.91**	**354**	⇓P	**P**	**02 51 16.0**	**+1.7**
CN2				*e*sP	pP	02 51 22.0	+0.3
CN2				*e*S	**S**	**02 58 32.5**	**+3.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,1µm,3.0s						
CN2				LR	LR		
	comp=Z,700nm,16.0s						
CN2				LR	LR		
	comp=Z,800nm,16.0s						
CN2				LR	LR		
	comp=Z,1µm,17.0s						
KHZ	**Kahutara**	**50.92**	**141**	P	**P**	**02 51 15.0**	**+0.5**
KHZ				IAmb	IAmb	02 51 26.8	
	comp=Z,40nm,0.7s						
USA0B	**Ussuriysk Arra**	**50.98**	**0**	P	**P**	**02 51 13.9**	**-0.9**
USA0B	**Ussuriysk Arra**	**50.98**	**0**	⇑*e*P	**P**	**02 51 15.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**50.98**	**0**	P	**P**	**02 51 13.9**	**-0.9**
	comp=Z,17nm,0.8s,baz=180,slow=6.4,SNR=26						
	comp=Z,17nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.98**	**0**	P	**P**	**02 51 13.3**	**-1.4**
USRK	**Ussuriysk Ar.**	**50.98**	**0**	P	**P**	**02 51 13.4**	**-1.4**
MQZ	**McQueen's Vall**	**51.07**	**142**	IAMs_20	IAMs_20	03 14 23.8	
	comp=Z,3µm,20.0s						
HHC	**Hu-ho-hao-te**	**51.15**	**340**	*e*P	**P**	**02 51 19.8**	**+3.5**
HHC				pP	sP	02 51 25.3	-1.4
HHC				S	**S**	**02 58 31.8**	**-1.3**
HHC				ScS	**ScS**	**03 01 03.5**	**-2.1**
HHC				pmax	pmax		
	comp=Z,77nm,1.2s						
HHC				pmax	pmax		
	comp=Z,670nm,5.2s						
HHC				LR	LR		
	comp=Z,820nm,15.9s						
HHC				LR	LR		
	comp=Z,2µm,19.8s						
HHC				LR	LR		
	comp=Z,2µm,23.5s						
BKZ	**Black Stump Fm**	**51.30**	**136**	P	**P**	**02 51 16.9**	**-0.6**
	comp=Z,23nm,1.2s						
MRZ	**Mangatainoka R**	**51.37**	**138**	P	**P**	**02 51 17.0**	**-0.9**
MRZ				IAmb	IAmb	02 51 31.6	
	comp=Z,130nm,1.5s						
RTZ	**Ruatahuna**	**51.40**	**135**	IAMs_20	IAMs_20	03 13 01.6	
	comp=Z,2µm,18.0s						
MDJ	**Mudanjiang**	**51.44**	**358**	P	**P**	**02 51 20.0**	**+1.8**
MDJ				PP	**PP**	**02 53 12.5**	**-3.2**
MDJ				S	**S**	**02 58 37.5**	**+0.8**
MDJ				SS	**SS**	**03 02 10.3**	**-2.8**
MDJ				pmax	pmax		
	comp=Z,33nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,330nm,5.0s						
MDJ				LR	LR		
	comp=Z,650nm,21.6s						
MDJ				LR	LR		
	comp=Z,1µm,21.4s						
MDJ				LR	LR		
	comp=Z,2µm,20.3s						
MDJ	**Mudanjiang**	**51.44**	**358**	P	**P**	**02 51 21.0**	**+2.8**
	comp=Z,45nm,1.0s						
BTO	**Baotou**	**51.47**	**339**	*e*P	**P**	**02 51 15.8**	**-2.9**
BTO				S	**S**	**02 58 35.5**	**-2.0**
BTO				LR	LR		
	comp=N,2µm,15.3s						
BTO				LR	LR		
	comp=E,3µm,23.6s						
ASAJ	**Asahikawa**	**51.82**	**10**	LR	LR	03 14 44.7	
	comp=E,563nm,19.0s,baz=188,slow=38						
XLT	**XiLinHaoTe**	**52.65**	**346**	⇑*i*P	**P**	**02 51 30.5**	**+3.1**
XLT				pP	pP	02 51 34.3	-0.6
XLT				sP	sP	02 51 37.8	+0.1
XLT				S	**S**	**02 58 56.0**	**+2.4**
XLT				pmax	pmax		
	comp=E,33nm,1.1s						
XLT				pmax	pmax		
	comp=E,330nm,4.6s						
XLT				LR	LR		
	comp=E,1µm,23.1s						
XLT				LR	LR		
	comp=E,1µm,24.4s						
BNX	**BinXian**	**52.67**	**356**	⇑P	**P**	**02 51 28.0**	**+0.6**
BNX				pP	**pP**	**02 51 30.5**	**-4.4**
BNX				S	**S**	**02 58 55.0**	**+1.4**
BNX				sS	**pS**	**02 59 03.0**	**+0.6**
BNX				pmax	pmax		
	comp=E,11nm,1.2s						
BNX				pmax	pmax		
	comp=E,270nm,5.2s						
BNX				LR	LR		
	comp=E,1µm,24.4s						
BNX				LR	LR		
	comp=E,980nm,23.3s						
BNX				LR	LR		
	comp=E,2µm,26.6s						
PALK	**Pallekele**	**52.94**	**285**	IAMs_20	IAMs_20	03 13 07.1	
	comp=Z,2µm,21.0s						
LSA	**Lhasa**	**53.48**	**315**	P	**P**	**02 51 33.8**	**-0.5**
LSA				PP	**PP**	**02 53 40.5**	**+5.5**
LSA				pmax	pmax		
	comp=Z,14nm,0.9s						
LSA				LR	LR		
	comp=Z,620nm,22.8s						
LSA				LR	LR		
	comp=Z,500nm,27.0s						
LSA				LR	LR		
	comp=Z,1µm,29.9s						
YSS	**Yuzh-Sakhalins**	**54.61**	**9**	IAMs_20	IAMs_20	03 14 39.1	
	comp=Z,1µm,21.0s						
YSS	**Yuzh-Sakhalins**	**54.61**	**9**	*e*P	**P**	**02 51 43.7**	**+2.2**
YSS				*e*S	**S**	**02 59 18.3**	**-1.5**
YSS				pmax	pmax		
	comp=Z,200nm,5.0s						
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax	smax		
	comp=N,400nm,4.8s						
YSS				MLR	MLR		
	comp=Z,1µm,18.0s						
YSS				MLR	MLR		
	comp=N,900nm,17.0s						
TAPN	**Taplejung**	**54.67**	**311**	*e*P	**P**	**02 51 42.2**	**-0.6**
GTA	**Gaotai**	**54.88**	**330**	*e*P	**P**	**02 51 44.3**	**+0.4**
GTA				pP	pP	02 51 49.5	-1.9
GTA				sP	sP	02 51 52.3	-2.0
GTA				S	**S**	**02 59 22.8**	**-1.3**
GTA				sS	sS	02 59 40.3	+3.9
GTA				pmax	pmax		
	comp=N,21nm,1.0s						
GTA				pmax	pmax		
	comp=N,210nm,6.7s						
GTA				LR	LR		
	comp=N,360nm,20.4s						
GTA				LR	LR		
	comp=N,1µm,20.7s						
GTA				LR	LR		
	comp=N,1µm,22.5s						
GOMU	**GeErMu**	**55.27**	**324**	P	P	02 51 52.5	+5.4
GOMU				pP	pP	02 51 53.8	-0.8
GOMU				sP	sP	02 51 54.8	-2.7
GOMU				PcP	**PcP**	**02 52 51.0**	**+3.3**
GOMU				S	**S**	**02 59 22.5**	**-7.4**
GOMU				pmax	pmax		
	comp=N,30nm,0.6s						
GOMU				LR	LR		
	comp=N,540nm,17.3s						
GOMU				LR	LR		
	comp=N,930nm,18.6s						
RAMN	**Ramite**	**55.30**	**310**	*e*P	**P**	**02 51 46.6**	**-0.7**
	comp=N,159nm,0.7s						
AFI	**Afiamalu**	**55.77**	**102**	LR	LR	03 14 06.1	
	comp=N,805nm,20.8s,baz=265,slow=34						
JIRN	**Jiri**	**55.98**	**310**	*e*P	**P**	**02 51 51.4**	**-0.9**
KLR	**Kul'dur**	**56.01**	**360**	LR	LR	03 17 37.4	
	comp=N,471nm,20.0s,baz=180,slow=38						
KLR	**Kul'dur**	**56.01**	**360**	⇓*e*P	**P**	**02 51 54.0**	**+2.3**
KLR				pmax	pmax		
	comp=Z,44nm,1.7s						
GUN	**Gumba**	**56.34**	**310**	*e*P	**P**	**02 51 54.0**	**-0.9**
PKI	**Pulchoki**	**56.53**	**310**	*e*P	**P**	**02 51 55.0**	**-1.2**
PKIN	**Phulchoki**	**56.54**	**310**	*e*P	**P**	**02 51 54.9**	**-1.3**
UGL	**Uglegorsk**	**56.58**	**8**	*i*P	P	02 52 01.5	+5.9
UGL				pmax	pmax		
	comp=Z,120nm,0.9s						
KKN	**Kakani**	**56.74**	**310**	*e*P	**P**	**02 51 56.6**	**-1.0**
DMN	**Daman**	**56.78**	**309**	*e*P	**P**	**02 51 57.0**	**-0.9**
HIA	**Hailar**	**57.04**	**351**	IAMs_20	IAMs_20	03 21 10.5	
	comp=Z,2µm,21.0s						
HEH	**HeiHe**	**57.17**	**357**	*e*P	**P**	**02 51 59.3**	**-0.5**
HEH				pP	**sP**	**02 52 10.5**	**+0.3**
HEH				PP	**PP**	**02 54 07.0**	**-0.1**
HEH				S	**S**	**02 59 55.5**	**+1.7**
HEH				SS	**SS**	**03 03 51.0**	**+7.7**
HEH				pmax	pmax		
	comp=Z,32nm,1.1s						
HEH				pmax	pmax		
	comp=Z,370nm,5.3s						
HEH				LR	LR		
	comp=Z,810nm,22.3s						
HEH				LR	LR		
	comp=Z,1µm,23.7s						
HEH				LR	LR		
	comp=Z,1µm,24.5s						
GKN	**Gorkha**	**57.34**	**310**	*e*P	**P**	**02 52 00.8**	**-0.9**
	comp=Z,67nm,0.5s						
GRNR	**Gornyy**	**57.69**	**3**	⇓*i*P	**P**	**02 52 06.1**	**+2.5**
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GRNR				MLR	MLR		
	comp=E,390nm,17.0s						
GRNR				MLR	MLR		
	comp=N,400nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,470nm,17.0s						
HYBB	**Hyderabad (bro**	**57.96**	**295**	*e*P	**P**	**02 52 04.6**	**-1.5**
HYBB				*e*S	**S**	**03 00 03.7**	**-1.7**
KOLN	**Koldanda**	**58.02**	**309**	*e*P	**P**	**02 52 04.8**	**-1.8**
DANN	**Dangsing**	**58.18**	**309**	*e*P	**P**	**02 52 06.7**	**-1.1**
	comp=Z,113nm,0.6s						
TYV	**Tymovskoe**	**58.40**	**8**	*e*P	P	02 52 13.5	+5.0
TYV				*e*S	S	03 00 22.3	+12
TYV				pmax	pmax		
	comp=Z,15nm,1.3s						
TYV				pmax	pmax		
	comp=Z,300nm,3.5s						
DGAR	**Diego Garcia**	**58.87**	**266**	P	**P**	**02 52 12.9**	**+0.4**
DGAR	**Diego Garcia**	**58.87**	**266**	IAMs_20	IAMs_20	03 19 36.6	
	comp=Z,1µm,21.0s						
DGAR	**Diego Garcia**	**58.87**	**266**	P	**P**	**02 52 13.3**	**+0.8**
DGAR	**Diego Garcia**	**58.87**	**266**	*ce*P	**P**	**02 52 13.9**	**+1.4**
DGAR				pmax	pmax		
	comp=Z,183nm,1.0s						
SONM	**Songino Array**	**59.05**	**340**	P	**P**	**02 52 13.6**	**+0.3**
	comp=Z,49nm,1.0s,baz=156,slow=6.8,SNR=34						
SONM				S	**S**	**03 00 22.4**	**+3.5**
	comp=Z,0.7nm,0.5s,baz=144,slow=5.4,SNR=4.0						
SONM				LR	LR	03 19 27.5	
	comp=Z,647nm,21.9s,baz=159,slow=38						
SONM				PKPPKP		03 21 48.8	
	comp=Z,1.1nm,1.1s,baz=352,slow=2.9,SNR=2.2						
	comp=Z,49nm,1.0s						
SONM	**Songino Array**	**59.05**	**340**	P	**P**	**02 52 13.4**	**+0.1**
SONM				IAmb	IAmb	02 52 18.5	
	comp=Z,51nm,1.0s						
KAAM	**Kaadhehdhoo**	**59.16**	**275**	IAMs_20	IAMs_20	03 21 51.3	
	comp=Z,2µm,20.0s						
ZEA	**Zeya**	**60.65**	**357**	*e*P	**P**	**02 52 25.7**	**+1.7**
ZEA				*e*		03 00 31.4	
ZEA				pmax	pmax		
	comp=N,20nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,200nm,4.7s						
ZEA				MLR	MLR		
	comp=N,300nm,22.0s						
ZEA				MLR	MLR		
	comp=E,300nm,22.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,16.0s						
CASY	**Casey**	**60.98**	**190**	IAMs_20	IAMs_20	03 17 28.4	
	comp=Z,2µm,20.0s						
SKR	**Severo-Kuril's**	**61.19**	**17**	⇑*e*P	**P**	**02 52 31.0**	**+3.3**
ZAK	**Zakamensk**	**62.29**	**340**	*e*P	**P**	**02 52 35.6**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,30nm,1.2s						
IRK	**Irkutsk**	**63.55**	**341**	*e*P	**P**	**02 52 43.3**	**-0.2**
IRK				*e*S	**S**	**03 01 21.1**	**+5.4**
IRK				pmax	pmax		
	comp=Z,97nm,2.2s						
PEA0B	**Petropavlovsk-**	**63.79**	**17**	P	**P**	**02 52 45.7**	**+0.6**
PEA0B	**Petropavlovsk-**	**63.79**	**17**	*ce*P	**P**	**02 52 46.5**	**+1.4**
PETK	**Petropavlovsk-**	**63.79**	**17**	P	**P**	**02 52 45.4**	**+0.3**
	comp=Z,33nm,0.8s,baz=204,slow=12,SNR=16						
PETK				LR	LR	03 25 19.2	
	comp=Z,242nm,18.1s,baz=203,slow=41						
	comp=Z,33nm,0.8s						
PET	**Petropavlovsk**	**64.00**	**18**	*e*P	P	02 52 39.7	-6.7
PET				*e*		03 01 24.2	
PET				pmax	pmax		
	comp=Z,76nm,1.3s						
PET				MLR	MLR		
	comp=Z,500nm,19.0s						
MOY	**Mondy**	**64.16**	**339**	*e*P	**P**	**02 52 49.8**	**+2.1**
MOY				pmax	pmax		
	comp=Z,106nm,1.9s						
WMQ	**Urumqi**	**64.41**	**326**	*e*P	**P**	**02 52 50.3**	**+0.9**
WMQ				sP	pP	02 52 58.5	+1.4
WMQ				PcP	**PcP**	**02 53 22.0**	**-1.7**
WMQ				S	**S**	**03 01 26.8**	**0.0**
WMQ				ScS	**SKSac**	**03 02 39.0**	**-3.3**
WMQ				pmax	pmax		
	comp=Z,64nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,450nm,4.7s						

WMQ LR LR
comp=Z,850nm,23.5s
WMQ LR LR
comp=Z,740nm,23.5s
WMQ LR LR
comp=Z,1µm,25.3s
KNGR Kungurtug, Tuv 64.61 337⇓ *eP* **P 02 52 51.5 +0.9**
KNGR pmax pmax
comp=Z,37nm,1.1s
BOD Bodaibo 66.23 350 *eP* **P 02 53 01.6 +0.8**
BOD pmax pmax
comp=Z,50nm,1.5s
MA2 Magadan 68.08 10 LR LR 03 23 13.1
comp=Z,406nm,20.0s,baz=190,slow=36
MA2 Magadan 68.08 10⇑ *eP* **P 02 53 15.2 +2.7**
MA2 pmax pmax
comp=Z,64nm,1.6s
ZSN Zaisan 68.25 328 *eP* **P 02 53 14.8 +0.9**
comp=Z,19nm,1.1s,baz=328
ZSN *eS* **S 03 02 16.4 +3.3**
baz=328
ZSN Zaisan 68.25 328 *eP* **P 02 53 14.7 +0.9**
ZSN *eS* **S 03 02 16.4 +3.3**
ZSN pmax pmax
comp=Z,19nm,1.1s
DGZ Jazzator, Alta 68.40 331 *c i* P **P 02 53 15.6 +0.7**
DGZ pmax pmax
comp=Z,52nm,1.3s
NIL Nilore 68.61 310 P **P 02 53 14.7 -1.8**
NIL IAmb IAmb 02 53 25.2
comp=Z,41nm,0.8s
NIL Nilore 68.61 310 P **P 02 53 16.9 +0.5**
NIL Nilore 68.61 310 P **P 02 53 14.7 -1.8**
NIL pmax pmax
comp=Z,41nm,0.8s
NIL MLR MLR
comp=Z,700nm,20.0s
SHLS Shalkode 68.85 322 *eP* **P 02 53 17.4 -0.5**
comp=Z,18nm,0.7s,baz=322
SHLS *eS* **S 03 02 20.5 -0.2**
baz=322
SHLS Shalkode 68.85 322 *eP* **P 02 53 17.4 -0.5**
SHLS *eS* **S 03 02 20.5 -0.2**
SHLS pmax pmax
comp=Z,18nm,0.7s
YAK Yakutsk 68.86 359 LR LR 03 23 36.0
comp=Z,483nm,22.0s,baz=178,slow=36
YAK Yakutsk 68.86 359 P **P 02 53 16.7 -0.6**
YAK Yakutsk 68.86 359 *eP* **P 02 53 18.0 +0.7**
YAK *e**PP **sP 02 53 27.7 -0.2**
YAK *e* 02 55 50.0
YAK *eS* **S 03 02 20.7 +0.9**
YAK *e**SS **sS 03 02 38.4 +6.1**
YAK *e* 03 03 09.7
YAK pmax pmax
comp=Z,54nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,83nm,2.8s
YAK smax smax
comp=E,337nm,4.2s
YAK smax smax
comp=N,207nm,5.2s
PDGK Podgornoye 68.93 322 P **P 02 53 18.6 +0.2**
UZB Uzynbulak 69.12 321 *eP* **P 02 53 20.6 +1.0**
baz=321
UZB *eS* **S 03 02 27.1 +3.1**
baz=321
UZB Uzynbulak 69.12 321 *eP* **P 02 53 20.6 +1.0**
UZB *eS* **S 03 02 27.0 +3.1**
TARG Taragay, Kyrgy 69.15 320 IAmb IAmb 02 53 55.8
comp=Z,41nm,0.9s
MK31 Makanchi Array 69.25 326 P **P 02 53 20.4 +0.2**
MK31 Makanchi Array 69.25 326 *c i* P **P 02 53 20.3 +0.2**
MKAR Makanchi Array 69.25 326 P **P 02 53 20.9 +0.7**
comp=Z,22nm,0.5s,baz=123,slow=7.4,SNR=127
MKAR S **S 03 02 27.6 +2.6**
comp=Z,2.4nm,0.9s,baz=144,slow=11,SNR=4.2
comp=Z,22nm,0.5s
MKAR Makanchi Array 69.25 326 P **P 02 53 20.1 0.0**
KSH Kashi 69.27 317 P **P 02 53 21.8 +1.2**
KSH sP pP 02 53 29.5 +1.3
KSH S **S 03 02 26.8 +1.0**
KSH pmax pmax
comp=Z,55nm,1.0s
KSH LR LR
comp=Z,800nm,17.2s
KSH LR LR
comp=Z,1µm,21.0s
KSH LR LR
comp=Z,2µm,23.4s
MAKZ Makanchi 69.43 326 P **P 02 53 21.2 0.0**
MAKZ Makanchi 69.43 326 P **P 02 53 21.2 0.0**
MAKZ pmax pmax
comp=Z,53nm,0.9s
SHEM Shemya Is, Ala 69.49 26 LR LR 03 20 41.6
comp=Z,464nm,21.6s,baz=276,slow=33
KPKS Kokpek 69.50 322 *eP* **P 02 53 22.9 +1.0**
comp=Z,25nm,0.7s,baz=322
KPKS *eS* **S 03 02 30.8 +2.5**
baz=322
KPKS Kokpek 69.50 322 *eP* **P 02 53 22.8 +1.0**
KPKS *eS* **S 03 02 30.7 +2.5**
KPKS pmax pmax
comp=Z,25nm,0.7s
NRN Naryn 70.17 319 P **P 02 53 25.9 -0.4**
NRN IAmb IAmb 02 53 30.4
comp=Z,32nm,0.9s
NRN Naryn 70.17 319 P **P 02 53 25.9 -0.4**
NRN pmax pmax
comp=Z,32nm,0.9s
MDOK Medeo 70.36 321 *eP* **P 02 53 28.3 +1.1**
baz=321
MDOK *eS* **S 03 02 41.0 +2.5**
baz=321
MDOK Medeo 70.36 321 *eP* **P 02 53 28.3 +1.1**
MDOK *eS* **S 03 02 41.0 +2.5**
TNSS Tian-Shan 70.36 320 *eP* **P 02 53 28.2 +0.7**
baz=320
TNSS Tian-Shan 70.36 320 *eP* **P 02 53 28.2 +0.7**
AAA Alma-Ata 70.47 321 *eP* **P 02 53 28.8 +0.9**
comp=Z,19nm,0.6s,baz=321
AAA Alma-Ata 70.47 321 *eP* **P 02 53 28.7 +0.9**
AAA pmax pmax
comp=Z,19nm,0.6s
TDK Taldyqorghan 70.48 323 *eP* **P 02 53 28.9 +1.0**
comp=Z,18nm,0.8s,baz=323
TDK Taldyqorghan 70.48 323 *eP* **P 02 53 28.8 +1.0**
TDK pmax pmax
comp=Z,18nm,0.8s
BOOM Boomskoye usch 70.73 320 P **P 02 53 30.2 +0.6**
BOOM IAmb IAmb 02 53 34.1
comp=Z,55nm,1.1s
BOOM Boomskoye usch 70.73 320 P **P 02 53 30.2 +0.6**
BOOM pmax pmax
comp=Z,55nm,1.1s
CHKK Chushkaly 70.75 321 *eP* **P 02 53 29.8 +0.3**
baz=321
CHKK Chushkaly 70.75 321 *eP* **P 02 53 29.7 +0.3**
TKM2 Tokmak 2 71.16 320 P **P 02 53 32.9 +0.7**
SNR=44
KUU Kurty 71.18 321 *eP* **P 02 53 32.9 +0.9**
baz=321
KUU *eS* **S 03 02 50.2 +2.4**
baz=321
KUU Kurty 71.18 321 *eP* **P 02 53 32.9 +0.9**
KUU *eS* **S 03 02 50.1 +2.4**
KBK Karagaybulak 71.45 319 P **P 02 53 34.9 +0.9**
SNR=10.0
SEY Seymchan 71.50 10⇓ *eP* **P 02 53 35.3 +1.8**
SEY pmax pmax
comp=Z,64nm,1.7s
UCH Uchtor 71.53 319 P **P 02 53 35.7 +1.0**
SNR=46
AAK Ala-Archa 71.74 319 P **P 02 53 37.4 +1.8**
SNR=18
AAK Ala-Archa 71.74 319 LR LR 03 28 48.8
comp=Z,596nm,22.0s,baz=112,slow=39
AAK Ala-Archa 71.74 319 P **P 02 53 35.6 0.0**
AAK IAmb IAmb 02 53 41.0
comp=Z,64nm,1.4s
AAK Ala-Archa 71.74 319 P **P 02 53 36.3 +0.6**
AAK Ala-Archa 71.74 319 *ce*P **P 02 53 36.0 +0.4**

AAK pmax pmax
comp=Z,35nm,1.0s
AML Almayashu 72.02 318 P **P 02 53 38.6 +0.9**
SNR=38
USP Ospenovka 72.03 320 P **P 02 53 38.0 +0.7**
SNR=29
SGDS Sogindy 72.04 320 *eP* **P 02 53 37.9 +0.5**
baz=320
SGDS Sogindy 72.04 320 *eP* **P 02 53 37.8 +0.5**
KBL Kabul 72.17 310 P **P 02 53 37.8 -0.7**
KBL IAmb IAmb 02 53 41.3
comp=Z,32nm,0.8s
KBL Kabul 72.17 310 P **P 02 53 38.8 +0.3**
SNR=22
KBL Kabul 72.17 310 P **P 02 53 37.8 -0.7**
KBL pmax pmax
comp=Z,32nm,0.8s
VNDA Vanda 72.21 173 P **P 02 53 37.1 -0.5**
comp=Z,5.4nm,0.9s,baz=317,slow=7.6,SNR=16
VNDA LR LR 03 25 11.0
comp=Z,2µm,18.0s,baz=338,slow=36
comp=Z,5.4nm,0.9s
VNDA Vanda 72.21 173 P **P 02 53 36.9 -0.8**
VNDA Vanda 72.21 173 P **P 02 53 36.9 -0.8**
VNDA pmax pmax
comp=Z,13nm,0.9s
EKS2 Erkin-Say 72.22 319 P **P 02 53 39.8 +1.3**
SNR=16
ZAA0 Zalesovo Array 72.42 333 P **P 02 53 38.0 -1.2**
ZAA0 IAmb IAmb 02 53 51.6
comp=Z,36nm,0.9s
ZALV Zalesovo Beam 72.42 333 P **P 02 53 38.9 -0.3**
comp=Z,8.5nm,0.6s,baz=116,slow=5.5,SNR=27
ZALV S **S 03 02 54.7 -6.8**
comp=Z,0.4nm,0.3s,baz=137,slow=7.1,SNR=1.6
ZALV LR LR 03 28 40.0
comp=Z,364nm,21.8s,baz=148,slow=38
comp=Z,8.5nm,0.6s
ZALV Zalesovo Beam 72.42 333 P **P 02 53 38.0 -1.2**
ZALV Zalesovo Beam 72.42 333 P **P 02 53 38.0 -1.2**
GAR Garm 72.97 314 P **P 02 53 42.5 -0.5**
BTK Batken 73.06 315 IAmb IAmb 02 54 19.9
comp=Z,36nm,0.8s
BTLS Baital 73.17 321 *eP* **P 02 53 44.3 +0.4**
comp=Z,12nm,1.3s,baz=321
BTLS Baital 73.17 321 *eP* **P 02 53 44.3 +0.4**
BTLS pmax pmax
comp=Z,12nm,1.3s
KURBB Kurchatov Arra 73.49 328 S **S 03 03 07.3 -6.5**
comp=Z,1.2nm,1.0s,baz=127,slow=13,SNR=8.5
KURK Kurchatov 73.49 328 P **P 02 53 45.4 -0.3**
KURK Kurchatov 73.49 328 P **P 02 53 46.0 +0.4**
KURK Kurchatov 73.49 328 *ce*P **P 02 53 45.2 -0.4**
KURK pmax pmax
comp=Z,75nm,1.3s
CHGR Chuyangaron 73.67 314 P **P 02 53 46.7 -0.4**
CHGR Chuyangaron 73.67 314 P **P 02 53 46.7 -0.4**
CHGR pmax pmax
comp=Z,94nm,1.0s
DZA Taraz 73.93 318 *eP* **P 02 53 49.2 +0.7**
baz=318
DZA Taraz 73.93 318 *eP* **P 02 53 49.1 +0.7**
IUG Iuzhnay 74.48 317 *eP* **P 02 53 52.7 +1.0**
baz=317
IUG Iuzhnay 74.48 317 *eP* **P 02 53 52.7 +1.0**
KK31 Karatay Array 74.56 318 P **P 02 53 51.2 -0.9**
KK31 IAmb IAmb 02 54 18.1
comp=Z,29nm,1.0s
KK31 Karatay Array 74.56 318 *i* P **P 02 53 52.5 +0.4**
KKAR Karatay Array 74.56 318 P **P 02 53 51.7 -0.4**
KKAR Karatay Array 74.56 318 P **P 02 53 51.7 -0.4**
TAS Tashkent 74.64 316 P **P 02 53 52.1 -0.5**
TAS Tashkent 74.64 316 P **P 02 53 52.1 -0.5**
TAS pmax pmax
comp=Z,92nm,1.0s
CHM Chimkent 74.84 317 *eP* **P 02 53 53.3 -0.4**
baz=317
CHM Chimkent 74.84 317 *eP* **P 02 53 53.3 -0.4**
MAW Mawson 75.60 202 P **P 02 53 58.6 +1.0**
comp=Z,14nm,0.7s,baz=98,slow=7.6,SNR=13
MAW LR LR 03 24 54.1
comp=Z,2µm,20.3s,baz=64,slow=34
comp=Z,14nm,0.7s
MAW Mawson 75.60 202 P **P 02 54 00.0 +2.4**
baz=76,SNR=12
MAW Mawson 75.60 202 P **P 02 53 58.0 +0.4**
MAW Mawson 75.60 202 P **P 02 53 58.0 +0.4**
MAW pmax pmax
comp=Z,12nm,1.1s
MSEY Mahe Island 75.92 267 P **P 02 53 59.4 -1.2**
MSEY Mahe Island 75.92 267 IAMs_20 IAMs_20 03 27 05.5
comp=Z,1µm,20.0s
MSEY Mahe Island 75.92 267 P **P 02 54 01.7 +1.1**
MSEY Mahe Island 75.92 267 P **P 02 53 59.4 -1.2**
MSEY pmax pmax
comp=Z,26nm,1.1s
MSEY MLR MLR
comp=Z,1µm,20.0s
BRZS Berezniki 76.36 325 *eP* **P 02 54 02.7 +0.4**
baz=325
BRZS Berezniki 76.36 325 *eP* **P 02 54 02.6 +0.4**
TBI Tubuai 76.91 112 *eS* **S 03 03 52.8 -0.2**
comp=Z,1µm,24.8s
TBI *eSS* **SS 03 08 50.7 +0.8**
comp=Z,1µm,25.8s
TBI *eLR* LR 03 17 49.8
comp=Z,19µm,30.8s
TBI *eLR* LR 03 17 50.6
comp=Z,10µm,33.8s
WBK Wadi Bani Khal 77.06 295 P **P 02 54 06.9 0.0**
PPT2 Papeete2 77.07 106 *eP* **P 02 54 07.1 0.0**
comp=Z,128nm,24.0s
PPT2 Papeete2 77.07 106 *eSS* SS 03 08 52.3 -0.4
comp=Z,695nm,30.2s
PPT2 *eLR* LR 03 17 54.5
comp=Z,2µm,28.2s
PPT2 *eLR* LR 03 17 54.8
comp=Z,1µm,30.0s
PPT Papeete 77.07 106 LR LR 03 24 25.5
comp=Z,400nm,21.8s,baz=258,slow=33
HRA Herat 77.41 307 P **P 02 54 07.4 -1.4**
WSAR Wadi Sarin 77.51 296 LR LR 03 32 22.0
comp=Z,706nm,20.6s,baz=132,slow=39
MHTO MHTO 77.61 293 P **P 02 54 10.0 +0.1**
SNR=9.0
DQM DQM 77.78 292 P **P 02 54 11.0 +0.1**
JMDO Jabal Madar 77.79 295 P **P 02 54 11.0 +0.1**
SMDO Samad 77.99 295 P **P 02 54 12.7 +0.5**
BIDO Bidbid 78.03 296 P **P 02 54 13.0 +0.8**
SNR=11
TIXI Tiksi 78.53 359 LR LR 03 31 55.9
comp=Z,436nm,19.0s,baz=3.5,slow=38
TIXI Tiksi 78.53 359 P **P 02 54 13.1 -0.8**
TIXI IAMs_20 IAMs_20 03 32 58.1
comp=Z,870nm,20.0s
TIXI Tiksi 78.53 359⇓ *eP* **P 02 54 13.9 0.0**
TIXI pmax pmax
comp=Z,36nm,2.5s
BSY Bisya 78.69 295 P **P 02 54 16.2 +0.3**
BILL Bilibino 78.73 13 *i* P **P 02 54 15.8 +0.7**
BILL *i* 02 54 24.2
BILL *i S* **S 03 04 02.2 -8.7**
BILL pmax pmax
comp=Z,21nm,1.8s
BILL MLR MLR
comp=Z,513nm,22.0s
HOQ Hoqain 78.77 296 P **P 02 54 17.4 +1.1**
JASK Jask - Hormozg 78.79 298 P **P 02 54 18.6 +2.2**
BVA0 Borovoye Array 79.06 327 P **P 02 54 16.6 -0.6**
BRVK Borovoye 79.13 327 P **P 02 54 16.9 -0.8**
BRVK IAmb IAmb 02 54 49.7
comp=Z,29nm,0.8s
BRVK Borovoye 79.13 327 P **P 02 54 18.1 +0.5**
BRVK Borovoye 79.13 327 *de*P **P 02 54 17.9 +0.3**
BRVK pmax pmax
comp=Z,46nm,1.3s
DMTO DMTO 79.75 289 P **P 02 54 21.8 0.0**
MDH Madha 80.05 297 P **P 02 54 23.5 +0.2**
UOSS Minazif 80.05 297 P **P 02 54 22.0 -1.3**
UOSS IAmb IAmb 02 54 46.2
comp=Z,34nm,1.2s
UOSS Minazif 80.05 297 P **P 02 54 22.8 -0.4**
HATD Hatta, Dubai 80.09 297 P **P 02 54 24.8 +1.3**
ASHO Ashiyiah 80.12 296 P **P 02 54 24.6 +0.9**
BANOM Banah 80.18 298 P **P 02 54 24.9 +0.9**

MASF Masafi 80.18 297 P **P 02 54 25.0 +1.0**
ALNE Al Ain 80.27 296 P **P 02 54 26.7 +2.2**
RBK Rabkut 80.41 289 P **P 02 54 25.4 +0.1**
SNR=7.8
UMZA Um Al Zommool 80.52 294 P **P 02 54 25.8 0.0**
NAZ Nazwa, Dubai 80.54 297 P **P 02 54 26.5 +0.6**
FAQ Al Faqa, Dubai 80.55 296 P **P 02 54 26.3 +0.4**
DOK Doka 80.68 290 P **P 02 54 26.7 -0.1**
SNR=6.5
ASUD Al Ashush, Dub 80.76 296 P **P 02 54 27.5 +0.5**
ABTO Aybut 81.23 289 P **P 02 54 30.1 +0.3**
SNR=5.1
GEYT Alibeck 81.62 310 P **P 02 54 31.7 +0.3**
comp=Z,18nm,0.9s,baz=149,slow=3.0,SNR=26
GEYT LR LR 03 36 46.9
comp=Z,457nm,20.1s,baz=124,slow=40
comp=Z,18nm,0.9s
GEYT Alibeck 81.62 310 P **P 02 54 31.1 -0.3**
GYA0 ALIBECK ARRAY 81.62 310 P **P 02 54 31.0 -0.4**
GYA0B ALIBECK ARRAY 81.62 310 P **P 02 54 31.0 -0.4**
GYA0B IAmb IAmb 02 55 03.0
comp=Z,33nm,1.1s
MZR Muzera 82.10 294 P **P 02 54 34.8 +0.6**
ABPO Ambohimpanom 82.67 252 IAMs_20 IAMs_20 03 35 37.1
comp=Z,866nm,18.0s
VOI Vohitsoka 82.83 249 P **P 02 54 36.3 -2.0**
VOI IAmb IAmb 02 54 51.2
comp=Z,26nm,0.9s
VOI IAMs_20 IAMs_20 03 29 06.3
comp=Z,1µm,22.0s
VOI Vohitsoka 82.83 249 P **P 02 54 38.9 +0.6**
VOI Vohitsoka 82.83 249 P **P 02 54 39.9 +1.6**
QSPA South Pole Qui 82.96 180 LR LR 03 31 27.4
comp=Z,903nm,20.3s,baz=1.0,slow=36
QSPA South Pole Qui 82.96 180 P **P 02 54 37.2 -0.8**
QSPA IAmb IAmb 02 54 56.6
comp=Z,44nm,1.1s
SDPT Sand Point 83.36 32 P **P 02 54 43.1 +3.1**
baz=248
AB31 Akbulak array 83.66 321 *i* P **P 02 54 41.3 -0.4**
ABKAR Akbulak array 83.66 321 P **P 02 54 40.4 -1.4**
SMRA Abu-Samra 84.81 296 P **P 02 54 48.3 +0.3**
AKTO Aktyubinsk 85.20 322 P **P 02 54 49.3 -0.2**
SVE Sverdlovsk 85.73 329 *eP* **P 02 54 53.9 +1.9**
SVE *eS* **S 03 05 20.2 -2.9**
SVE pmax pmax
comp=Z,69nm,1.5s
P16K Nushagak River 85.98 29 P **P 02 54 55.9 +2.8**
baz=249
N16K Nishlik Lake 86.13 28 P **P 02 54 56.9 +3.0**
baz=249
O16K Kokwok River B 86.13 29 P **P 02 54 58.1 +4.2**
baz=249
R17K Ugashik Creek 86.30 31 P **P 02 54 58.6 +3.8**
baz=251
O17K Koliganek Bris 86.67 29 P **P 02 55 00.0 +3.5**
baz=250
ARU Arti 86.69 328 *d i* P P 02 55 06.3 +10
ARU 02 58 18.6
ARU S **S 03 05 35.1 +2.6**
ARU pmax pmax
comp=Z,12nm,0.8s
Q17K Contact Creek 86.75 30 P **P 02 54 58.2 +1.0**
baz=251
TAOE Nuku Hiva Isla 86.99 99 *eS* **S 03 05 36.3 -1.1**
comp=Z,279nm,26.4s
TAOE Nuku Hiva Isla 86.99 99 *eLR* LR 03 22 30.0
comp=Z,973nm,26.3s
Q18K Katmai Hardscr 87.31 30 P **P 02 55 01.9 +2.0**
baz=252
TTA Tatalina 88.21 26 P **P 02 55 06.7 +2.6**
baz=251
L19K White Mountain 88.48 27 IAMs_20 IAMs_20 03 30 57.4
comp=Z,854nm,22.0s
L19K White Mountain 88.48 27 P **P 02 55 08.9 +3.7**
baz=252
M19K Big River Lodg 88.61 27 IAMs_20 IAMs_20 03 31 12.7
comp=Z,1µm,21.0s
M19K Big River Lodg 88.61 27 P **P 02 55 10.0 +4.2**
baz=252
L20K Farewell, AK 89.01 27 P **P 02 55 10.6 +2.9**
baz=253
M20K Styx River 89.17 27 IAMs_20 IAMs_20 03 31 29.6
comp=Z,1µm,22.0s
M20K Styx River 89.17 27 P **P 02 55 12.3 +3.8**
baz=254
K20K Telida 89.18 26 IAMs_20 IAMs_20 03 30 42.9
comp=Z,1µm,18.0s
K20K Telida 89.18 26 P **P 02 55 11.0 +2.4**
baz=253
J20K Nowinta River 89.40 25 P **P 02 55 12.8 +3.3**
baz=253
RAYN Ar Rayn 89.42 294 P **P 02 55 09.3 -1.3**
RAYN IAmb IAmb 02 55 25.8
comp=Z,31nm,0.9s
RAYN Ar Rayn 89.42 294 P **P 02 55 10.9 +0.3**
RAYN Ar Rayn 89.42 294 P **P 02 55 09.3 -1.3**
RAYN pmax pmax
comp=Z,31nm,0.9s
RAYN MLR MLR
comp=Z,2µm,22.0s
SKT Skwentna 89.92 27 IAMs_20 IAMs_20 03 31 55.6
comp=Z,1µm,20.0s
SKT Skwentna 89.92 27 P **P 02 55 14.3 +2.2**
baz=255
CAST Castle Rocks 90.06 26 IAmb IAmb 02 55 44.0
comp=Z,36nm,1.8s
CAST Castle Rocks 90.06 26 P **P 02 55 15.7 +3.1**
baz=254
CHUM Lake Minchumin 90.09 25 P **P 02 55 14.8 +2.1**
baz=254
AKT Akhty 90.20 312 *eP* **P 02 55 16.9 +3.0**
AKT pmax pmax
comp=Z,57nm,1.9s
ATD Arta Tunnel 90.39 281 LR LR 03 33 00.0
comp=Z,324nm,21.4s,baz=92,slow=34
M22K Willow 90.52 28 P **P 02 55 16.4 +1.7**
baz=256
MAK Makhachkala 90.60 313 *eP* **P 02 55 11.3 -4.2**
MAK *e* 02 58 46.2
MAK *e* 03 05 39.5
MAK pmax pmax
comp=Z,220nm,1.3s
MAK MLR MLR
comp=Z,241nm,20.0s
CUT Chulitna 90.60 27 IAMs_20 IAMs_20 03 32 15.6
comp=Z,1µm,22.0s
BPAW Bear Paw Mtn. 90.71 25 IAMs_20 IAMs_20 03 25 29.1
comp=Z,702nm,19.0s
A21K Barrow 90.79 18 P **P 02 55 18.1 +2.3**
baz=250
MLY Manley 91.04 24 P **P 02 55 19.3 +2.0**
baz=256
KNK Knik Glacier 91.21 28 P **P 02 55 19.5 +1.4**
baz=258
BWN Browne 91.37 25 IAMs_20 IAMs_20 03 31 12.6
comp=Z,1µm,21.0s
E22K Anaktuvuk Pass 91.42 21 P **P 02 55 20.7 +1.8**
baz=255
MCK McKinley 91.50 26 IAMs_20 IAMs_20 03 26 26.2
comp=Z,1µm,20.0s
GROC Groznyy 91.87 313 *eP* **P 02 55 22.7 +1.2**
GROC *e* 02 59 03.0
GROC pmax pmax
comp=Z,35nm,1.1s
KIRV Kirov 91.99 329⇑ *eP* **P 02 55 24.6 +3.0**
WRH Wood River Hil 92.02 25 P **P 02 55 20.1 -1.6**
WRH IAmb IAmb 02 55 24.4
comp=Z,10nm,0.8s
D23K Nanushuk River 92.04 21 P **P 02 55 23.8 +2.1**
baz=256
DHY Denali Highway 92.05 27 IAMs_20 IAMs_20 03 27 04.7
comp=Z,1µm,19.0s
CCB Clear Creek Bu 92.18 25 P **P 02 55 21.8 -0.6**
CCB IAmb IAmb 02 55 24.9
comp=Z,10nm,0.8s
E23K Chandalar 92.20 22 P **P 02 55 24.5 +1.9**
baz=257
COLA College 92.21 25⇓ *eP* **P 02 55 24.3 +1.8**
COLA pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 92.25 310 LR LR 03 45 35.7
comp=Z,200nm,20.0s,baz=96,slow=41
C23K Itkillik River 92.28 20 P **P 02 55 24.3 +1.6**
baz=256
TOLK Toolik Lake Re 92.35 21 P **P 02 55 23.2 0.0**

TOLK IAmb IAmb 02 55 35.4
comp=Z,51nm,1.9s
TOLK Toolik Lake Re 92.35 21 P **P** **02 55 25.0 +1.8**
baz=257
HDA Harding Lake 92.50 25 P **P** **02 55 23.4 -0.5**
IL31 92.59 25 P **P** **02 55 22.9 -1.4**
ILAR Eielson Array 92.59 25 P **P** **02 55 22.6 -1.7**
comp=Z,3.9nm,0.7s,baz=271,slow=3.9,SNR=42
ILAR PKKP **PKKPdf** **03 12 37.8 +0.1**
comp=Z,0.2nm,0.6s,baz=20,slow=1.4,SNR=2.8
ILAR LR LR 03 32 44.0
comp=Z,356nm,21.2s,baz=254,slow=33
comp=Z,3.9nm,0.7s
E24K Your Creek 92.62 22 P **P** **02 55 27.2 +2.7**
baz=258
G24K Hadweenzic Riv 92.72 23 P **P** **02 55 28.0 +3.1**
baz=259
F24K Squaw Lake 92.73 22 P **P** **02 55 28.0 +3.0**
baz=258
NVL N'lazarevskaya 92.86 197 *e*P **P** **02 55 24.9 -0.6**
NVL *e*S **SKSac** **03 05 56.4 -1.2**
NVL pmax pmax
comp=Z,21nm,1.0s
NVL MLR MLR
comp=Z,2μm,17.0s
ZEI Tsey 93.20 313 *e*P **P** **02 55 32.0 +4.1**
ZEI pmax pmax
comp=Z,13nm,1.4s
KIBK Kibwezi 93.47 267 P **P** **02 55 28.5 -1.1**
KIBK IAmb IAmb 02 55 47.4
comp=Z,15nm,1.2s
KIBK IAMs_20 IAMs_20 03 36 09.7
comp=Z,982nm,21.0s
KIBK Kibwezi 93.47 267 P **P** **02 55 30.6 +1.0**
D25K Kavik River 93.62 21 P **P** **02 55 29.6 +0.5**
baz=260
E25K Arctic Village 93.71 22 P **P** **02 55 30.8 +1.3**
baz=260
M26K Nabesna, AK 93.93 28 IAMs_20 IAMs_20 03 28 17.5
comp=Z,1μm,19.0s
J26L Joseph Creek 93.96 26 IAmb IAmb 02 55 34.5
comp=Z,14nm,0.9s
J26L Joseph Creek 93.96 26 P **P** **02 55 32.2 +1.4**
baz=262
BMAR Burnt Mountain 93.97 23 P **P** **02 55 31.2 +0.5**
KBZ Khabaz 94.03 313 P **P** **02 55 31.2 -0.2**
comp=Z,1.8nm,0.9s,baz=141,slow=6.5,SNR=2.9
comp=Z,1.8nm,0.9s
FURI Furi 94.16 278 IAMs_20 IAMs_20 03 39 04.9
comp=Z,929nm,20.0s
GURO Guroymak-BITLI 94.17 308 P **P** **02 55 31.7 -0.6**
GURO IAmb IAmb 02 55 48.2
comp=Z,44nm,1.7s
KVAR Kislovodsk Arr 94.20 314 LR LR 03 42 51.8
comp=Z,166nm,21.3s,baz=337,slow=39
KIV Kislovodsk 94.20 314 *e*P **P** **02 55 32.0 -0.4**
KIV *e* 03 06 06.9
KIV *e*SSS SSS 03 16 46.8
KIV pmax pmax
comp=Z,5.0nm,1.1s
G26K Porcupine Rive 94.21 23 P **P** **02 55 33.5 +1.9**
baz=262
PRGR Permogore 94.32 331 *e*P **P** **02 55 32.7 +0.4**
PRGR pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 94.41 268 P **P** **02 55 34.2 0.0**
comp=Z,3.7nm,0.8s,baz=58,slow=12,SNR=11
KMBO LR LR 03 38 14.8
comp=Z,483nm,18.8s,baz=95,slow=36
comp=Z,3.7nm,0.8s
KMBO Kilima Mbogo 94.41 268 P **P** **02 55 32.4 -1.7**
KMBO Kilima Mbogo 94.41 268 IAMs_20 IAMs_20 03 37 53.5
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 94.41 268 P **P** **02 55 35.0 +0.9**
KMBO Kilima Mbogo 94.41 268 *i* P **P** **02 55 34.9 +0.7**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
K27K Chicken 94.54 26 P **P** **02 55 35.7 +2.3**
baz=263
L27K Beaver Creek, 94.54 27 P **P** **02 55 35.0 +1.6**
baz=264
TROLL Troll, Antarti 94.59 194 P **P** **02 55 35.2 +1.5**
C27K Jago River 94.60 20 P **P** **02 55 35.3 +1.8**
baz=262
BELA Belgrano 2 94.90 183 P **P** **02 55 33.9 -0.9**
I27K Kandik River 94.91 25 P **P** **02 55 37.0 +1.9**
baz=264
H27K Steamboat Moun 95.02 24 P **P** **02 55 37.8 +2.3**
baz=264
E27K Coleen River 95.19 22 P **P** **02 55 38.0 +1.7**
baz=264
DAWY Dawson 95.72 26 P **P** **02 55 40.0 +1.2**
baz=266
SNAA Sanae 96.06 193 P **P** **02 55 41.9 +1.6**
SNAA Sanae 96.06 193 LR LR 03 40 35.5
comp=Z,2μm,18.2s,baz=101,slow=36
SNAA Sanae 96.06 193 P **P** **02 55 39.9 -0.4**
SNAA Sanae 96.06 193 *c*e**P** **P** **02 55 42.0 +1.7**
SNAA pmax pmax
comp=Z,10.0nm,1.4s
I29M Ogilvie Camp, 96.27 25 P **P** **02 55 42.7 +1.5**
baz=267
SOC Sochi 96.32 313 *e*P **P** **02 55 41.9 0.0**
SOC *e* 02 59 35.6
SOC *e*S **SKSac** **03 06 18.6 +1.4**
SOC *e*SS **SS** **03 13 29.6 -3.9**
SOC *e*SSS SSS 03 17 21.4
SOC MLR MLR
comp=Z,278nm,20.0s
LODK Lodwar 96.83 273 P **P** **02 55 45.6 +0.7**
EPYK Eagle Plains 96.96 24 P **P** **02 55 47.0 +2.6**
baz=268
VORR Voronezh 97.08 321 *e*P Pdif 02 55 45.5 +0.3
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 97.09 321 *e*P **P** **02 55 44.2 -1.0**
VSR pmax pmax
comp=Z,6.0nm,1.2s
KLMR Klimovskoe 97.21 330 *e*P **P** **02 55 42.6 -2.9**
KLMR AMP 02 56 02.1
comp=Z,38nm,1.7s
KLMR Klimovskoe 97.21 330 *e*P **P** **02 55 42.6 -2.9**
KLMR pmax pmax
comp=Z,38nm,1.7s
LPSR Galich'ya Gora 97.29 322 *e*P Pdif 02 55 52.2 +6.1
LPSR pmax pmax
comp=Z,8.0nm,1.0s
VNA2 Neumayer--Watz 97.61 193 P Pdif 02 55 48.1 +0.8
baz=129,slow=8.0
VNA3 Neumayer Olymp 97.84 192 P Pdif 02 55 49.6 +1.3
ASF Jabal al Asfar 97.86 301 LR LR 03 47 13.3
comp=Z,494nm,19.2s,baz=105,slow=40
VNA1 Neumayer--Stat 98.01 192 P Pdif 02 55 50.0 +1.0
ANN Anapa 98.02 314 *e*P Pdif 02 55 50.4 +0.8
ANN *e* 02 59 47.8
ANN *e*S **SKSac** **03 06 27.9 +2.0**
ANN pmax pmax
comp=Z,123nm,2.7s
INK Inuvik 98.20 22 P **P** **02 55 49.0 -0.8**
comp=Z,9.0nm,1.2s,baz=245,slow=4.7,SNR=5.2
comp=Z,9.0nm,1.2s
INK Inuvik 98.20 22 P Pdif 02 55 51.5 +1.7
baz=272
INK Inuvik 98.20 22 P **P** **02 55 49.0 -0.8**
OBN Obninsk 98.72 325 *i* P Pdif 02 55 55.9 +3.5
OBN pmax pmax
comp=Z,7.0nm,1.2s
GHAJ Ghor Haditha 98.94 301 IAMs_20 IAMs_20 03 43 19.4
comp=Z,996nm,21.0s
MMAI Mount Meron Ar 99.16 302 LR LR 03 46 45.7
comp=Z,713nm,20.8s,baz=334,slow=39
EIL Elat 99.40 299 LR LR 03 46 21.0
comp=Z,799nm,20.6s,baz=102,slow=39
APA Apatity 99.67 337 ⇓ *i*P **Pdif** **02 56 04.6 +8.2**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,2μm,19.0s
BRTR Keskin Array B 100.74 309 P **Pdif** **02 56 02.1 +0.1**
comp=Z,1.0nm,0.9s,baz=131,slow=8.1,SNR=4.3
BRTR Keskin Array B 100.74 309 *i* P **Pdif** **02 56 04.0 +2.0**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
MBAR Mbarara 100.94 268 IAMs_20 IAMs_20 03 40 41.5
comp=Z,561nm,20.0s
BOSA Boshof 101.02 239 P **Pdif** **02 56 04.2 +0.7**
comp=Z,1.9nm,0.8s,baz=118,slow=1.6,SNR=3.6
ARCES ARCESS Array B 102.23 340 P **Pdif** **02 56 08.7 +1.0**
comp=Z,1.9nm,0.8s,baz=82,slow=6.5,SNR=1.1
AKASG Malin Array Be 103.38 320 Pdiff **Pdif** **02 56 12.3 -0.9**
comp=Z,0.3nm,0.3s,baz=69,slow=5.1,SNR=2.3
FINES FINESS Array B 103.65 332 Pdiff **Pdif** **02 56 15.3 +1.1**
comp=Z,3.9nm,1.0s,baz=145,slow=21,SNR=1.4
MNK Minsk 103.78 324 *i* P **Pdif** **02 56 15.7 +0.7**
comp=E,3.0nm,1.0s
MNK *i* P **Pdif** **02 56 15.7 +0.7**
comp=N,29nm,0.9s
MNK *i* P **Pdif** **02 56 15.7 +0.7**
comp=Z,8.0nm,0.9s,baz=263
MNK *i* PP **PP** **03 00 29.8 -2.0**
MNK *i* PPP PPP 03 02 41.0
MNK *i* S **SKSac** **03 06 46.2 -7.2**
MNK *i* PS PS 03 09 47.5 +4.7
MNK *i* SS **SS** **03 15 17.9 +1.0**
MNK *i* SSS SSS 03 19 07.5
MNK *i* LQ LQ 03 35 22.9
MNK *i* LR LR 03 40 07.9
MNK *i* LRM MLR 03 43 14.6
comp=E,79nm,24.8s
MNK *i* LRM MLR 03 43 15.2
comp=N,945nm,24.2s
MNK *i* LRM MLR 03 43 15.8
comp=Z,266nm,22.9s
MNK Minsk 103.78 324 *i* P **Pdif** **02 56 15.6 +0.7**
MNK *i* 03 00 29.8
MNK *i* PPP PPP 03 02 41.0
MNK *i* S **SKSac** **03 06 46.2 -7.2**
MNK *i* PS PS 03 09 47.5 +4.6
MNK *i* SS **SS** **03 15 17.8 +1.0**
MNK *i* SSS SSS 03 19 07.5
MNK pmax pmax
comp=N,29nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK MLR MLR
comp=E,79nm,25.0s
MNK MLR MLR
comp=N,945nm,24.0s
MNK MLR MLR
comp=Z,266nm,23.0s
NACGM Naroch 104.36 325 PP **PKiKP** **03 00 35.2 +1.3**
baz=82
PABE Paberze 105.85 326 IAMs_20 IAMs_20 03 45 49.8
comp=Z,842nm,19.0s
MLR Muntele Rosu 106.11 315 IAMs_20 IAMs_20 03 53 10.7
comp=Z,760nm,22.0s
UZH Uzhgorod 108.12 319 *e*P **Pdif** **02 56 40.8 +6.4**
NVAR Mina Array Bea 109.88 52 Pdiff **Pdif** **02 56 46.5 +3.7**
comp=Z,0.9nm,0.9s,baz=293,slow=2.5,SNR=4.4
NVAR PKiKP **PKiKP** **03 00 47.0 +2.0**
comp=Z,0.5nm,0.6s,baz=260,slow=3.6,SNR=3.1
TSUM Tsumeb 110.22 247 IAMs_20 IAMs_20 03 43 37.7
comp=Z,891nm,20.0s
VYHS Vyhne 110.40 319 *e*P **Pdif** **02 56 45.0 +0.3**
VYHS Vyhne 110.40 319 *e*PDIFF **Pdif** **02 56 44.9 +0.3**
PRU Pruhonice 112.74 322 AMS AMS 03 51 20.0
comp=Z,600nm,21.3s
CKRC Cesky Krumlov 113.22 320 AMS AMS 03 49 20.0
comp=Z,600nm,23.3s
CLL Collm 113.26 323 *e*PS PS 03 11 19.0 +1.9
CLL *e*PPS PPS 03 12 25.0
CLL *e*SS SS 03 17 24.0 -0.8
CLL *e*SSS SSS 03 21 36.0
CLL *ex* x 03 24 12.0
CLL *e*SSSS 03 24 54.0
CLL *ex* x 03 28 42.0
KHC Kasperske Hory 113.59 321 AMS AMS 03 57 50.0
comp=Z,600nm,17.0s
GERES GERESS Array B 113.60 321 PKiKP **PKiKP** **03 00 51.1 -0.5**
comp=Z,1.0nm,0.5s,baz=86,slow=1.7,SNR=12
ABTA Abfaltersbach 114.98 319 *e*P **PKiKP** **03 00 53.8 -0.6**
comp=Z,1.5nm,0.7s
WTTA Wattenberg 115.40 319 *e*P **PKPdf** **03 00 57.3 +2.1**
comp=Z,3.8nm,0.4s
WATA Walderalm 115.41 319 *e*P **PKPdf** **03 00 57.2 +2.0**
comp=Z,1.4nm,0.3s
PDAR Pinedale Array 115.60 46 PKP **PKPdf** **03 00 56.4 +0.5**
comp=Z,0.5nm,0.5s,baz=301,slow=0.6,SNR=7.0
PDAR PKKPbc **PKKPbc** **03 11 27.6 -2.3**
comp=Z,0.4nm,0.7s,baz=119,slow=5.9,SNR=3.7
FETA Feichten 116.06 319 *e*P **PKiKP** **03 00 58.5 +2.0**
comp=Z,1.3nm,0.6s
DAVA Damuels 116.52 320 *e*P **PKiKP** **03 00 59.7 +2.4**
comp=Z,2.5nm,0.3s
O20A White River Ci 117.23 48 P **PKiKP** **03 01 00.8 +1.8**
baz=285
ANMO Albuquerque 119.86 54 P **PKiKP** **03 01 06.0 +1.7**
baz=283
SDCO Great Sand Dun 119.92 50 P **PKiKP** **03 01 06.2 +1.8**
baz=286
EKA Eskdalemuir Ar 120.04 332 PKP **PKPdf** **03 01 02.5 -1.1**
comp=Z,1.6nm,0.6s,baz=27,slow=3.6,SNR=7.3
KEST Kesra 120.29 307 PKP **PKiKP** **03 01 06.6 +1.6**
comp=Z,4.4nm,1.0s,baz=70,slow=12,SNR=1.5
T25A Trinidad 120.91 51 P **PKiKP** **03 01 08.2 +1.9**
baz=286
MNTX Cornudas Mount 121.44 57 P **PKiKP** **03 01 08.6 +1.3**
baz=282
ULM Lac du Bonnet 121.46 34 PKP **PKiKP** **03 01 08.6 +1.9**
comp=Z,3.0nm,0.6s,baz=276,slow=1.2,SNR=3.3
FRB Frobisher Bay 121.50 10 PKP **PKiKP** **03 01 07.4 +1.1**
comp=Z,4.6nm,0.7s,baz=243,slow=2.3,SNR=5.4
TXAR Lajitas Array 123.37 60 PKP **PKPdf** **03 01 10.8 -0.2**
comp=Z,1.3nm,0.7s,baz=221,slow=2.7,SNR=11
TAM Tamanrasset 126.10 293 **PKPdf** **03 01 14.7 -1.8**
TAM IAMs_20 IAMs_20 04 07 15.1
comp=Z,389nm,20.0s
TAM Tamanrasset 126.10 293 PKIKP **PKPdf** **03 01 14.7 -1.8**
JCT Junction City 126.38 57 IAMs_20 IAMs_20 03 56 19.8
comp=Z,749nm,20.0s
JCT Junction City 126.38 57 P **PKiKP** **03 01 17.8 +0.7**
baz=285
OK050 Pawnee Station 126.81 49 IAMs_20 IAMs_20 03 46 04.1
comp=Z,795nm,22.0s
OK044 Pawnee Station 126.95 49 IAMs_20 IAMs_20 03 38 53.0
comp=Z,584nm,19.0s
PLCA Paso Flores 128.21 158 PKP **PKiKP** **03 01 21.3 +0.8**
comp=Z,2.8nm,0.7s,baz=249,slow=3.3,SNR=11
ESDC Sonseca Array 128.78 316 PKP **PKiKP** **03 01 22.6 +0.9**
comp=Z,0.5nm,0.9s,baz=102,slow=1.8,SNR=2.5
TKL Tuckaleechee C 136.69 44 PKhKP PKPpre 03 01 32.7
comp=Z,2.6nm,0.8s,baz=166,slow=12,SNR=1.8
DBIC Dimbokro 137.01 272 PKhKP PKPpre 03 01 33.2
comp=Z,3.3nm,0.6s,baz=300,slow=0.4,SNR=5.2
DBIC SKPbc **SKPbc** **03 05 10.0 +1.2**
comp=Z,10nm,1.0s,baz=21,slow=2.9,SNR=4.1
GOGA Godfrey 138.09 46 IAMs_20 IAMs_20 03 55 08.3
comp=Z,589nm,20.0s
SNET Serv Nac Est T 139.11 77 IAMs_20 IAMs_20 03 52 48.9
comp=Z,587nm,22.0s
TGUH Tegucigalpa,Un 140.97 76 IAMs_20 IAMs_20 04 02 55.0
comp=Z,368nm,22.0s
CPSB Cacapava Do Su 142.45 173 *e*P **PKiKP** **03 01 49.0 -0.7**
ITQB Itaqui 142.62 168 *e*P **PKiKP** **03 01 48.6 -1.4**
CPUP Villa Florida 145.68 165 PKPbc **PKPab** **03 01 53.4 +0.5**
comp=Z,38nm,1.0s,baz=220,slow=1.8,SNR=26
ITAB Concordia 145.73 174 *e*P **PKPab** **03 01 53.6 +0.6**
NNA Nana 145.80 123 IAMs_20 IAMs_20 04 01 02.8
comp=Z,596nm,20.0s
PB18 Visviri 147.73 140 **PKPbc** **03 01 58.4 -1.1**
BOSC San Juan Bosco 148.09 107 PKPbc **PKPbc** **03 01 58.7 -1.5**
PTGB Pitanga 148.23 173 *e*P **PKPdf** **03 01 57.3 +0.5**
BCIP Isla Barro Col 148.58 84 IAMs_20 IAMs_20 04 01 16.2
comp=Z,450nm,20.0s
PET01 Itanhaem-SP 148.87 182 *e*P **PKPbc** **03 02 00.0 -1.6**
AMBA Amambai (Braz 149.50 168 *e*P **PKPdf** **03 02 00.4 +1.6**
FRTB Fartura 149.79 177 *e*P **PKPdf** **03 02 01.2 +1.9**
VAO Valinhos 150.14 182 *e*P **PKPdf** **03 02 01.0 +1.1**
DUB01 Friburgo-RJ 150.53 191 *e*P **PKPdf** **03 02 02.6 +2.1**
RCLB Rio Claro- Sao 150.74 181 *e*P **PKPdf** **03 02 03.5 +2.7**
PCMB Pacaembu 151.39 174 *e*P **PKPdf** **03 02 04.3 +2.6**
CZSB Cruzeiro do Su 151.48 120 PKPdf **PKPdf** **03 01 57.6 -4.5**
CZSB Cruzeiro do Su 151.48 120 *e*P **PKPdf** **03 02 04.1 +2.0**
AQDB Aquidauana 151.69 165 *e*P **PKPdf** **03 02 03.7 +1.5**
BBRB Robore, Bolivi 152.36 156 *e*P **PKPdf** **03 02 06.7 +3.4**
PANT Pantanal (Braz 152.85 162 *e*P **PKPdf** **03 02 07.0 +3.1**
BBSD Serra de San D 152.99 153 *e*P **PKPdf** **03 02 05.7 +1.4**
ITRB Iturama 153.36 175 *e*P **PKPdf** **03 02 08.2 +3.5**
ROSC El Rosal 153.90 93 PKP **PKPdf** **03 02 05.9 -0.2**
comp=Z,2.8nm,0.4s,baz=122,slow=19,SNR=1.2
GUA01 Guaratinga, BA 155.13 199 *e*P **PKPdf** **03 02 09.6 +2.3**
PTLB Pontes e Lacer 155.17 154 **PKPdf** **03 02 07.0 -0.3**
PTLB Pontes e Lacer 155.17 154 *e*P **PKPdf** **03 02 09.0 +1.7**
ETMB Extrema 155.45 133 *e*P **PKPdf** **03 02 10.6 +2.8**
TBTG Tabatinga, AM 155.61 117 *e*P **PKPdf** **03 02 09.4 +1.4**
SALV Santo Antonio 156.04 162 *e*P **PKPdf** **03 02 12.1 +3.6**
VILB Vilhena 156.84 149 *e*P **PKPdf** **03 02 13.1 +3.5**
BDFB Brasilia 157.49 180 PKP **PKPdf** **03 02 11.2 +0.7**
comp=Z,2.6nm,0.7s,baz=176,slow=4.8,SNR=4.6
SDV Santo Domingo 157.68 84 IAMs_20 IAMs_20 04 16 02.2
comp=Z,512nm,20.0s
SDV Santo Domingo 157.68 84 *e*P **PKPdf** **03 02 13.1 +2.2**
PDRB Porto dos Gac 159.62 155 *e*P **PKPdf** **03 02 15.6 +2.6**
TEFE Tefe 160.52 122 *e*P **PKPdf** **03 02 16.6 +2.6**
CLDB Colider 160.67 157 *e*P **PKPdf** **03 02 17.7 +3.6**
SNDB Serra Nova Dou 160.88 171 *e*P **PKPdf** **03 02 16.8 +2.4**
MACA Manacapuru-AM 163.93 129 *e*P **PKPdf** **03 02 22.0 +4.6**
SMTB Santa Maria do 164.21 182 *e*P **PKPdf** **03 02 19.7 +2.0**
NPGB Novo Progresso 164.29 153 *e*P **PKPdf** **03 02 21.1 +3.3**
ITTB Itaituba 166.40 146 *e*P **PKPdf** **03 02 22.0 +2.5**
PRPB Parauapebas 166.79 173 *e*P **PKPdf** **03 02 21.8 +2.0**
BOAV Boa Vista 166.86 110 *e*P **PKPdf** **03 02 23.2 +3.3**
TMAB Tom-Au,PA,Br 170.67 180 *e*P **PKPdf** **03 02 24.6 +2.2**

*KNET **30** 03:21:29.5±0.5, 43.28N×75.02E, h14km±3km, ml1.6, Error ellipse: s-maj=3.3km s-min=1.9km az=9.0*
*NNC **30** 03:21:29.9±0.3, 43.29N×75.03E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*KRNET **30** 03:21:30.1±0.1, 43.29N×75.02E, h12km, mb2.4*
*SOME **30** 03:21:30.2, 43.28N×74.97E, h15km*

ISC 30 03:21:30.0±0.9, 43.29N±0.02×75.01E±0.01, h13km±8km, n50, σ0.59/97, 23C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
SGDS	**Sogindy**	**0.32**	**300**	*e*P		**Pg 03 21 36.4**	**-0.3**
	18nm,0.1s						
SGDS				*e*S		**Sg 03 21 40.6**	**-0.5**
	61nm,0.0s						
SGDS	**Sogindy**	**0.32**	**300**	P		**Pg 03 21 36.4**	**-0.3**
	18nm,0.1s						
SGDS				S		**Sg 03 21 40.6**	**-0.5**
	65nm,0.1s						
CHMS	**Chumysh**	**0.35**	**213**	⇓P		**Pg 03 21 37.1**	**+0.1**
	9.6nm,0.3s,SNR=9.8						
CHMS				⇑S		**Sg 03 21 42.1**	**+0.3**
	40nm,0.1s						
CHMS	**Chumysh**	**0.35**	**213**	⇑ *i*P		**Pg 03 21 37.2**	**+0.1**
	baz=14						
CHMS				⇑ *i*S		**Sg 03 21 42.1**	**+0.3**
	baz=14						
CHMS	**Chumysh**	**0.35**	**213**	⇓P		**Pg 03 21 37.0**	**-0.1**
	2.1nm,0.3s						
CHMS				⇑S		**Sg 03 21 42.0**	**+0.3**
	32nm,0.4s						
USP	**Ospenovka**	**0.38**	**267**	⇑P		**Pg 03 21 37.5**	**-0.1**
	36nm,0.1s,SNR=162						
USP				⇑S		**Sg 03 21 42.7**	**0.0**
	24nm,0.2s						
USP	**Ospenovka**	**0.38**	**267**	⇑ *i*P		**Pg 03 21 37.5**	**-0.1**
	baz=66						
USP				⇑ *i*S		**Sg 03 21 42.7**	**0.0**
	baz=66						
DGS	**Degeres**	**0.56**	**95**	*e*P		**Pg 03 21 40.9**	**-0.1**
	baz=95						
DGS				*e*S		**Sg 03 21 48.5**	**+0.2**
	baz=95						
DGS	**Degeres**	**0.56**	**95**	*e*P		**Pg 03 21 40.9**	**-0.1**
	5.1nm,0.1s						
DGS				*e*S		**Sg 03 21 48.6**	**+0.2**
	42nm,0.1s						
DGS	**Degeres**	**0.56**	**95**	P		**Pg 03 21 40.9**	**-0.1**
	5.1nm,0.1s						
DGS				S		**Sg 03 21 48.6**	**+0.2**
	41nm,0.3s						
TKM2	**Tokmak 2**	**0.56**	**131**	⇓P		**Pg 03 21 40.9**	**-0.3**
	10nm,0.1s,SNR=7.2						
TKM2				⇓S		**Sg 03 21 48.5**	**-0.1**
	54nm,0.1s						
TKM2	**Tokmak 2**	**0.56**	**131**	⇓ *i*P		**Pg 03 21 40.9**	**-0.3**
	baz=31						
TKM2				⇓ *i*S		**Sg 03 21 48.6**	**-0.1**
	baz=31						
TKM2	**Tokmak 2**	**0.56**	**131**	⇓P		**Pg 03 21 40.7**	**-0.4**
	1.2nm,0.1s						
TKM2				⇑S		**Sg 03 21 48.4**	**-0.3**
	8.8nm,0.2s						
KRBS	**Karabastau**	**0.63**	**50**	*e*P		**Pg 03 21 42.0**	**-0.3**
	baz=50						
KRBS				*e*S		**Sg 03 21 50.3**	**-0.4**
	baz=50						
KRBS	**Karabastau**	**0.63**	**50**	*e*P		**Pg 03 21 42.0**	**-0.3**
	5.2nm,0.0s						
KRBS				*e*S		**Sg 03 21 50.3**	**-0.4**
	6.7nm,0.0s						
KRBS	**Karabastau**	**0.63**	**50**	P		**Pg 03 21 42.1**	**-0.3**
	5.2nm,0.1s						
KRBS				S		**Sg 03 21 50.3**	**-0.4**
	6.7nm,0.2s						
KBK	**Karagaybulak**	**0.64**	**184**	⇓P		**Pg 03 21 42.5**	**0.0**
	3.9nm,0.1s,SNR=11						
KBK				⇓S		**Sb 03 21 52.1**	**+0.1**
	77nm,0.3s						
KBK	**Karagaybulak**	**0.64**	**184**	⇓ *i*P		**Pg 03 21 42.5**	**0.0**
	baz=85						
KBK				⇓ *i*S		**Sb 03 21 51.5**	**-0.5**
	baz=85						
KST	**Kastek**	**0.74**	**109**	*e*P		**Pg 03 21 44.4**	**0.0**
	baz=10.0						
KST				*e*S		**Sb 03 21 54.6**	**-0.4**
	baz=10.0						
KST	**Kastek**	**0.74**	**109**	*e*P		**Pg 03 21 44.4**	**0.0**
	2.6nm,0.1s						
KST				*e*S		**Sb 03 21 54.5**	**-0.4**
	29nm,0.3s						
KST	**Kastek**	**0.74**	**109**	P		**Pg 03 21 44.4**	**0.0**
	2.6nm,0.1s						
KST				S		**Sb 03 21 54.5**	**-0.4**
	29nm,0.3s						
AAK	**Ala-Archa**	**0.76**	**210**	⇑P		**Pg 03 21 44.6**	**-0.1**
	1.1nm,0.1s						
AAK				⇓S		**Sb 03 21 55.3**	**-0.2**
	4.5nm,0.2s						
AAK	**Ala-Archa**	**0.76**	**210**	⇑ *i*P		**Pg 03 21 44.8**	**+0.1**
	baz=11						
AAK				⇑ *i*S		**Sb 03 21 55.4**	**0.0**
	baz=11						
BOOM	**Boomskoye usch**	**1.05**	**139**	⇑ *i*P		**Pb 03 21 49.8**	**-0.4**
	baz=39						
BOOM				⇑ *i*S		**Sg 03 22 04.1**	**+0.1**
	baz=39						
EKS2	**Erkin-Say**	**1.10**	**236**	⇑P		**Pn 03 21 51.2**	**-0.1**
	2.2nm,0.1s,SNR=16						
EKS2				⇓S		**Sn 03 22 06.4**	**-0.2**
	2.0nm,0.1s						
EKS2	**Erkin-Say**	**1.10**	**236**	⇑ *i*P		**Pb 03 21 51.1**	**0.0**
	baz=36						
EKS2				⇑ *i*S		**Sn 03 22 06.3**	**-0.2**
	baz=36						
UCH	**Uchtor**	**1.12**	**199**	⇑ *i*P		**Pb 03 21 51.5**	**-0.1**
	baz=99						
UCH				⇑ *i*S		**Sg 03 22 06.9**	**+0.5**
	baz=99						
MRKS	**Merke**	**1.42**	**248**	*e*P		**Pg 03 21 57.1**	**-0.2**
	baz=48						
MRKS				*e*S		**Sg 03 22 16.1**	**+0.3**
	baz=48						
MRKS	**Merke**	**1.42**	**248**	*e*P		**Pg 03 21 57.1**	**-0.2**
	3.4nm,0.0s						
MRKS				*e*S		**Sg 03 22 16.0**	**+0.3**
	6.2nm,0.0s						
TNSS	**Tian-Shan**	**1.44**	**99**	*e*P		**Pb 03 21 57.1**	**+0.1**
	baz=99						
TNSS				*e*S		**Sg 03 22 16.5**	**0.0**
	baz=99						
TNSS	**Tian-Shan**	**1.44**	**99**	*e*P		**Pb 03 21 57.1**	**+0.1**
	1.6nm,0.2s						
TNSS				*e*S		**Sg 03 22 16.4**	**0.0**
	2.9nm,0.2s						
TNSS	**Tian-Shan**	**1.44**	**99**	P		**Pb 03 21 57.1**	**+0.1**
	1.6nm,0.2s						
TNSS				S		**Sg 03 22 16.4**	**0.0**
	2.9nm,0.2s						
MDOK	**Medeo**	**1.49**	**94**	*e*P		**Pb 03 21 57.9**	**+0.1**
	baz=94						

MDOK					*e*S	**Sg**	**03 22 17.5**	**-0.7**
	baz=94								
MDOK	**Medeo**	**1.49**	**94**		*e*P	**Pb**	**03 21 57.9**	**+0.1**
	2.5nm,0.1s								
MDOK					*e*S	**Sg**	**03 22 17.5**	**-0.7**
	6.1nm,0.2s								
MDOK	**Medeo**	**1.49**	**94**		⇑P	**Pn**	**03 21 56.1**	**-0.6**
	1.3nm,0.4s								
MDOK					Pg	**Pb**	**03 21 56.5**	**-1.3**
	2.5nm,0.4s								
MDOK					Lg	Lg	03 22 15.4		
	6.2nm,0.4s								
MDOK					⇓S	**Sb**	**03 22 17.0**	**+0.3**
	3.7nm,0.5s								
ARLS	**Aral**	**1.52**	**200**	⇑	*i*P	**Pb**	**03 21 58.4**	**+0.2**
	baz=0.0								
ARLS				⇑	*i*S	**Sg**	**03 22 19.0**	**+0.1**
	baz=0.0								
KOTS	**Kotyrbulak**	**1.54**	**91**		*e*P	**Pb**	**03 21 58.9**	**+0.4**
	baz=92								
KOTS					*e*S	**Sg**	**03 22 19.5**	**0.0**
	baz=92								
KOTS	**Kotyrbulak**	**1.54**	**91**		*e*P	**Pb**	**03 21 58.9**	**+0.4**
	1.0nm,0.1s								
KOTS					*e*S	**Sg**	**03 22 19.5**	**0.0**
	5.4nm,0.1s								
KOTS	**Kotyrbulak**	**1.54**	**91**		P	**Pb**	**03 21 58.9**	**+0.4**
	1.0nm,0.2s								
KOTS					S	**Sg**	**03 22 19.5**	**0.0**
	3.8nm,0.3s								
CHKK	**Chushkaly**	**1.54**	**68**		*e*P	**Pg**	**03 21 59.3**	**-0.4**
	baz=68								
CHKK					*e*S	**Sg**	**03 22 20.1**	**+0.4**
	baz=68								
CHKK	**Chushkaly**	**1.54**	**68**		*e*P	**Pg**	**03 21 59.3**	**-0.4**
	1.8nm,0.0s								
CHKK					*e*S	**Sg**	**03 22 20.1**	**+0.4**
	9.8nm,0.1s								
CHKK	**Chushkaly**	**1.54**	**68**		P	**Pg**	**03 21 59.8**	**+0.1**
	1.2nm,0.1s								
CHKK					S	**Sg**	**03 22 20.7**	**+1.0**
	10.0nm,0.4s								
BTLS	**Baital**	**1.88**	**339**		*e*P	**Pb**	**03 22 04.8**	**+0.5**
	1.4nm,0.1s								
BTLS					*e*S	**Sg**	**03 22 29.6**	**-1.0**
	6.5nm,0.1s								
BLB	**Baldybastay**	**2.64**	**71**		*e*P	**Pb**	**03 22 17.8**	**+0.5**
	2.2nm,0.1s								
BLB					*e*S	**Sb**	**03 22 51.7**	**+2.0**
	3.6nm,0.0s								
BLB	**Baldybastay**	**2.64**	**71**		Pg	**Pb**	**03 22 17.8**	**+0.5**
	2.2nm,0.4s								
BLB					Lg	Lg	03 22 51.7		
	3.4nm,0.4s								
KPKS	**Kokpek**	**2.68**	**85**		*e*P	**Pb**	**03 22 18.6**	**+0.6**
	1.2nm,0.0s								
KPKS					*e*S	**Sb**	**03 22 53.0**	**+2.1**
	6.6nm,0.1s								
KPKS	**Kokpek**	**2.68**	**85**		Pg	**Pb**	**03 22 18.6**	**+0.6**
	1.2nm,0.3s								
KPKS					Lg	Lg	03 22 53.0		
	6.6nm,0.5s								
UZB	**Uzynbulak**	**2.93**	**91**		*e*P	**Pb**	**03 22 23.5**	**+1.2**
	1.6nm,0.3s								
UZB					*e*S	**Sg**	**03 23 01.4**	**-2.9**
	2.6nm,0.1s								
UZB	**Uzynbulak**	**2.93**	**91**		Pg	**Pb**	**03 22 23.5**	**+1.2**
	0.9nm,0.4s								
UZB					Lg	Lg	03 23 01.4		
	3.2nm,0.5s								
KK31	**Karatay Array**	**3.30**	**268**	⇑	Pg	**Pb**	**03 22 29.1**	**+0.7**
	0.6nm,0.6s,baz=87,slow=15,SNR=5.1								
KK31				⇓	Lg	Lg	03 23 13.4		
	0.8nm,0.3s,baz=79,slow=29,SNR=9.8								

*IDC **30** 03:32:43.9±0.6, 37.°15N×141.°47E, h0km, mb4.0/20, mbtmp4.0/26, ML3.1/5, MS3.4/4, Error ellipse: s-maj=15.6km s-min=13.3km az=94.0*
*NIED **30** 03:32:46.9, 37.°21N×141.°43E, h30km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=2.07; Mθθ1.28; Mφφ0.80; Mrθ0.53; Mθφ1.45; Mφr1.33; Fault plane solution: M₀2.72000×10¹⁵ NP1:φs68.00000°, δ33.00000°, λ-61.00000°. NP2:φs214.00000°, δ62.00000°, λ-108.00000°.*
*JMA **30** 03:32:46.9±0.2, 37.°2N±0.°4×141.°4E±1.°0, h30km±1km, MD4.5/40, MV4.5/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **30** 03:32:46.5±1.6, 37.°25N±0.°06×141.°49E±0.°07, h10km±1km, mb4.2/3, Error ellipse: s-maj=11.8km s-min=8.1km az=41.0*
*MOS **30** 03:32:47.0±1.6, 36.°84N×141.°55E, h25km, mb4.7/16, Error ellipse: s-maj=12.2km s-min=8.2km az=110.6*
ISC 30 03:32:45.3±1.4, 37.°16N±0.°03×141.°48E±0.°05, h0km±7km, n129, σ1s98/109, mb4.4/35, 7C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**294**	*i* P		**Pg**	**03 32 56.4**	**+0.9**
JFK				S		**Sg**	**03 33 02.8**	**+0.5**
JFK	**Kawauchi**	**0.53**	**294**	A		A	03 32 56.4	
	comp=E,19nm,2.0s,comp=E,18nm,2.2s							
JFFD	**Fukushimafurud**	**0.74**	**265**	⇓*i* P		**Pb**	**03 33 00.3**	**-0.7**
JFFD				⇓S		**Sb**	**03 33 09.7**	**-1.9**
JFFD	**Fukushimafurud**	**0.74**	**265**	A		A	03 33 00.3	
	comp=E,28nm,0.7s,comp=E,37nm,0.5s							
JMST	**Minamisoumatoc**	**0.74**	**320**	*i* P		**Pb**	**03 32 59.7**	**-1.3**
JMST				S		**Sb**	**03 33 09.2**	**-2.4**
JMST	**Minamisoumatoc**	**0.74**	**320**	A		A	03 32 59.7	
	comp=E,9.0nm,0.8s,comp=E,22nm,0.9s							
JMM	**Marumori**	**0.90**	**323**			**Pb**	**03 33 02.3**	**-1.4**
JMM						**Sb**	**03 33 13.3**	**-2.9**
JMM	**Marumori**	**0.90**	**323**	P		**Pb**	**03 33 02.3**	**-1.4**
JMM	**Marumori**	**0.90**	**323**	*i* P		**Pb**	**03 33 02.2**	**-1.4**
JMM				S		**Sb**	**03 33 13.7**	**-2.5**
JMM	**Marumori**	**0.90**	**323**	A		A	03 33 02.2	
	comp=E,8.0nm,1.4s,comp=E,8.0nm,0.8s							
JHO	**Hitachi**	**0.91**	**234**	*i* P		**Pb**	**03 33 02.7**	**-1.3**
JHO				*e*S		**Sb**	**03 33 14.9**	**-1.7**
JHO	**Hitachi**	**0.91**	**234**	A		A	03 33 02.7	
	comp=E,9.0nm,2.1s,comp=E,7.0nm,0.7s							
JHYU	**Hitachinakayam**	**1.09**	**222**	A		A	03 33 06.4	
	comp=E,8.0nm,2.1s,comp=E,11nm,0.7s							
JSB	**Shiboa**	**1.26**	**262**	⇓P		**Pn**	**03 33 09.6**	**-0.6**
JSB				⇓S		**Sb**	**03 33 26.2**	**-0.6**
JSB	**Shiboa**	**1.26**	**262**	A		A	03 33 09.6	
	comp=E,34nm,0.8s,comp=E,29nm,1.4s							
JIO	**Ouri**	**1.30**	**355**	*i* P		**Pn**	**03 33 08.4**	**-2.3**
JIO				S		**Sb**	**03 33 24.2**	**-3.6**
JYAR	**Yonezawaarcadi**	**1.30**	**306**	A		A	03 33 08.6	
	comp=E,47nm,1.1s,comp=E,43nm,1.0s							
JOU	**Okura**	**1.37**	**332**	*i* P		**Pn**	**03 33 10.3**	**-1.4**
JOU				S		**Sn**	**03 33 27.7**	**-2.8**
JOU	**Okura**	**1.37**	**332**	A		A	03 33 10.3	
	comp=E,10.0nm,1.6s,comp=E,17nm,1.7s							
JYT	**Yasato**	**1.39**	**229**	A		A	03 33 10.9	
	comp=E,14nm,0.4s,comp=E,9.0nm,0.4s							
JIHU	**Itakohorinouch**	**1.42**	**213**	A		A	03 33 11.5	
	comp=E,29nm,1.5s,comp=E,33nm,1.1s							
JFY	**Yanaizu**	**1.44**	**281**	*i* P		**Pn**	**03 33 11.8**	**-0.9**
JFY				S		**Sn**	**03 33 30.2**	**-2.0**
JFY	**Yanaizu**	**1.44**	**281**	A		A	03 33 11.8	
	comp=E,11nm,1.6s,comp=E,8.0nm,1.8s							
JOFO	**Osakifurukawao**	**1.51**	**343**	A		A	03 33 11.8	
	comp=E,45nm,1.4s,comp=E,42nm,1.6s							
CHOJ	**Chosi**	**1.54**	**199**	A		A	03 33 13.5	
	comp=E,8.0nm,1.6s,comp=E,7.0nm,1.2s							
JYS	**Shirataka**	**1.55**	**314**	A		A	03 33 12.3	
	comp=E,19nm,1.2s,comp=E,33nm,1.2s							
JSMT	**Sammumatsuo**	**1.73**	**209**	A		A	03 33 16.1	
	comp=E,23nm,5.7s,comp=E,35nm,1.8s							
JAG	**Ashikaga**	**1.78**	**246**	A		A	03 33 16.4	
	comp=E,3.0nm,1.7s,comp=E,4.0nm,4.6s							
JNS	**Sasagawa**	**1.84**	**292**	A		A	03 33 16.7	
	comp=E,8.0nm,1.3s,comp=E,9.0nm,1.1s							
JUON	**Uonuma**	**1.94**	**272**	A		A	03 33 18.2	
	comp=E,7.0nm,1.0s,comp=E,11nm,1.5s							
JYA	**Atsumi**	**2.00**	**316**	A		A	03 33 18.9	
	comp=E,19nm,1.3s,comp=E,26nm,1.1s							
JCN	**Nagara**	**2.02**	**211**	A		A	03 33 20.3	
	comp=E,18nm,4.3s,comp=E,16nm,3.0s							
JHU	**Hanno**	**2.20**	**234**	A		A	03 33 22.6	
	comp=E,4.0nm,4.5s,comp=E,2.0nm,1.3s							
JIZZ	**Izumozaki**	**2.24**	**280**	A		A	03 33 22.5	
	comp=E,27nm,3.9s,comp=E,21nm,4.5s							
JGK	**Kuni**	**2.35**	**256**	A		A	03 33 24.5	
	comp=E,4.0nm,3.7s,comp=E,7.0nm,3.9s							
TATJ	**Tateyama 2**	**2.48**	**212**	A		A	03 33 27.0	
	comp=E,7.0nm,3.7s,comp=E,6.0nm,2.0s							
JYW	**Yuwa**	**2.58**	**338**	A		A	03 33 27.3	
	comp=E,8.0nm,2.1s,comp=E,9.0nm,1.7s							
JJN	**Nakama**	**2.65**	**270**	A		A	03 33 28.6	
	comp=E,10.0nm,1.2s,comp=E,6.0nm,1.5s							
MJAR	**Matsushiro Arr**	**2.69**	**258**	Pn		**Pn**	**03 33 29.8**	**-0.1**
	1.7nm,0.3s,baz=100,slow=16,SNR=59							
MJAR					Sn	**Sn**	**03 34 03.8**	**+0.5**
	6.0nm,0.3s,baz=78,slow=26,SNR=7.2							
	37nm,0.8s							
MAJO	**Matsushiro**	**2.70**	**258**			**Pn**	**03 33 30.1**	**+0.1**
MAJO	**Matsushiro**	**2.70**	**258**	P		**Pn**	**03 33 30.6**	**+0.7**
MAJO	**Matsushiro**	**2.70**	**258**	*d*	*i*P	**Pn**	**03 33 30.2**	**+0.3**
MJB9	**Matsu-Tunnel**	**2.70**	**258**			**Pn**	**03 33 31.8**	**+1.8**
JSD	**Sado**	**2.71**	**290**			**Pn**	**03 33 30.0**	**-0.1**
JSD	**Sado**	**2.71**	**290**	P		**Pn**	**03 33 30.3**	**+0.3**
JAH	**Hinai**	**3.10**	**348**	A		A	03 33 34.7	
	comp=E,3.0nm,3.2s,comp=E,3.0nm,5.4s							
JNTW	**Noshirotokiwa**	**3.28**	**342**	A		A	03 33 37.1	
	comp=E,12nm,3.3s,comp=E,10.0nm,2.6s							
JTM	**Tenmabayashi**	**3.64**	**355**			**Pn**	**03 33 42.5**	**-0.4**
JTM	**Tenmabayashi**	**3.64**	**355**	P		**Pn**	**03 33 42.6**	**-0.3**
JGF	**Kuroka**	**3.67**	**246**			**Pn**	**03 33 44.4**	**+1.0**
JGF	**Kuroka**	**3.67**	**246**	P		**Pn**	**03 33 44.7**	**+1.3**
INU	**Inuyama**	**4.03**	**245**			**Pn**	**03 33 47.7**	**-0.6**
INU	**Inuyama**	**4.03**	**245**	P		**Pn**	**03 33 50.9**	**+2.6**
JAHD	**Aomorihigashid**	**4.11**	**358**	A		A	03 33 49.0	
	comp=E,5.0nm,1.3s,comp=E,4.0nm,1.5s							
JHJ2	**Mitsune**	**4.26**	**199**	P		Pn	03 33 56.4	+5.0
JHJ	**Hachijo jima 2**	**4.26**	**200**	Pn		**Pn**	**03 33 48.5**	**-3.0**
	5.4nm,0.3s,baz=342,slow=18,SNR=1.8							
JHJ					Sn	**Sn**	**03 34 40.4**	**-1.4**
	28nm,0.3s,baz=85,slow=20,SNR=2.4							
	228nm,1.0s							
ERM	**Erimo**	**5.02**	**14**	Pn		**Pn**	**03 34 00.6**	**-1.3**
ERM	**Erimo**	**5.02**	**14**	P		**Pn**	**03 34 04.5**	**+2.7**
ERM	**Erimo**	**5.02**	**14**	⇑*d*	*e*P	Pn	03 34 07.1	+5.3
JEM	**Erimo**	**5.02**	**14**	P		**Pn**	**03 34 02.2**	**+0.3**
JHS	**Saijyo**	**7.11**	**255**			**Pn**	**03 34 31.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**9.84**	**5**	*e*P		**Pn**	**03 35 06.5**	**-1.4**
JCJ	**Chichijima**	**10.05**	**176**	Pn		**Pn**	**03 35 10.3**	**-0.6**
	30nm,0.5s,baz=280,slow=24,SNR=2.1							
JCJ					LR	LR	03 39 25.2	
	comp=Z,220nm,20.3s,baz=58,slow=40							
USRK	**Ussuriysk Ar.**	**10.07**	**317**	Pn		**Pn**	**03 35 10.9**	**-0.2**
	0.3nm,0.3s,baz=127,slow=12,SNR=4.9							
	2.7nm,0.6s							
KSRS	**Korea Array**	**10.81**	**276**	Pn		**Pn**	**03 35 22.0**	**+0.8**
	0.1nm,0.3s,baz=81,slow=13,SNR=2.8							
KSRS					LR	LR	03 39 27.7	
	comp=Z,123nm,18.9s,baz=240,slow=37							
	0.5nm,0.5s							
KSRS	**Korea Array**	**10.81**	**276**	P		**Pn**	**03 35 22.0**	**+0.8**
KLR	**Kul'dur**	**13.98**	**333**	Pn		**Pn**	**03 36 04.0**	**-0.6**
	0.1nm,0.3s,baz=124,slow=18,SNR=1.6							
	0.6nm,0.6s							
KLR	**Kul'dur**	**13.98**	**333**	P		**Pn**	**03 36 04.0**	**-0.6**
ZEA	**Zeya**	**19.29**	**334**	*e*P		**Pn**	**03 37 17.9**	**+5.4**
ZEA					pmax	pmax		
	comp=N,10.0nm,0.3s							
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.3s							
ZEA					MLR	MLR		
	comp=E,200nm,21.0s							
ZEA					MLR	MLR		
	comp=N,200nm,17.0s							
ZEA					MLR	MLR		
	comp=Z,200nm,17.0s							
GUMO	**Guam**	**23.66**	**172**	LR		LR	03 49 09.9	
	comp=Z,31nm,20.0s,baz=89,slow=42							
YAK	**Yakutsk**	**25.96**	**347**	⇓*e*P		**P**	**03 38 22.7**	**+3.5**
YAK					pmax	pmax		
	comp=Z,17nm,1.1s							
SEY	**Seymchan**	**26.66**	**11**	P		**P**	**03 38 23.8**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=198,slow=19,SNR=2.4							
	comp=Z,0.8nm,0.3s							
SEY	**Seymchan**	**26.66**	**11**	⇓*e*P		**P**	**03 38 27.7**	**+2.2**
SEY					pmax	pmax		
	comp=Z,20nm,1.5s							
SONM	**Songino Array**	**27.76**	**304**	P		**P**	**03 38 34.6**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=105,slow=9.2,SNR=9.1							
	comp=Z,1.6nm,0.8s							
SONM	**Songino Array**	**27.76**	**304**	*e*P		**P**	**03 38 35.9**	**+0.2**
SONM					pmax	pmax		
	comp=Z,2.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T		T	04 08 05.6	
	baz=314,slow=76,SNR=393							
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T		T	04 08 06.2	
	baz=314,slow=76,SNR=230							
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T		T	04 08 07.0	
	baz=314,slow=76,SNR=274							
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T		T	04 09 00.8	
	baz=316,slow=75,SNR=189							
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T		T	04 09 04.0	
	baz=316,slow=75,SNR=111							
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T		T	04 09 03.1	
	baz=316,slow=75,SNR=111							
BILL	**Bilibino**	**33.89**	**16**	*e*P		**P**	**03 39 31.6**	**+2.2**
BILL					pmax	pmax		
	comp=Z,19nm,2.6s							
TIXI	**Tiksi**	**35.17**	**353**	⇑*e*P		**P**	**03 39 44.1**	**+3.7**
TIXI					pmax	pmax		
	comp=Z,14nm,3.7s							
DGZ	**Jazzator, Alta**	**40.36**	**306**	⇑*e*P		**P**	**03 40 24.8**	**0.0**
DGZ					pmax	pmax		
	comp=Z,10.0nm,1.0s							
ZALV	**Zalesovo Beam**	**41.87**	**312**	P		**P**	**03 40 35.9**	**-1.1**
	comp=Z,3.7nm,1.0s,baz=102,slow=6.8,SNR=6.6							
	comp=Z,3.7nm,1.0s							
ZALV	**Zalesovo Beam**	**41.87**	**312**	*e*P		**P**	**03 40 39.0**	**+2.1**
ZALV					pmax	pmax		
	comp=Z,4.0nm,0.8s							
MK31	**Makanchi Array**	**44.10**	**302**	⇑*e*P		**P**	**03 40 58.0**	**+2.9**
MKAR	**Makanchi Array**	**44.10**	**302**	P		**P**	**03 40 54.1**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=92,slow=8.7,SNR=9.2							
	comp=Z,2.0nm,0.9s							
KURK	**Kurchatov**	**45.90**	**308**	*i* P		**P**	**03 41 09.1**	**-0.2**
KURK					pmax	pmax		
	comp=Z,20nm,1.0s							
ILAR	**Eielson Array**	**49.36**	**32**	P		**P**	**03 41 36.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=266,slow=5.9,SNR=20							
	comp=Z,0.8nm,0.6s							
AAK	**Ala-Archa**	**50.48**	**298**	⇓*e*P		**P**	**03 41 48.7**	**+3.6**
AAK					pmax	pmax		
	comp=Z,8.0nm,2.3s							
BRVK	**Borovoye**	**50.59**	**312**	⇓*e*P		**P**	**03 41 49.0**	**+3.5**
BRVK					pmax	pmax		
	comp=Z,6.0nm,1.4s							
INK	**Inuvik**	**54.25**	**27**	P		**P**	**03 42 12.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=286,slow=5.9,SNR=5.1							
	comp=Z,0.7nm,0.5s							
ARU	**Arti**	**56.30**	**318**	P		**P**	**03 42 25.5**	**-2.0**
	comp=Z,2.8nm,0.4s,baz=127,slow=14,SNR=3.4							
	comp=Z,2.8nm,0.4s							
ARU	**Arti**	**56.30**	**318**	*c*	*i*P	**P**	**03 42 25.8**	**-1.7**
ARU					S	**S**	**03 50 16.0**	**-2.3**
ARU					SS	**SS**	**03 54 00.4**	**-4.0**
ARU					pmax	pmax		
	comp=Z,48nm,4.0s							
WRAB	**Tennant Creek**	**57.18**	**188**	*d*	*e*P	**P**	**03 42 31.1**	**-2.9**
WRAB					pmax	pmax		
	comp=Z,5.0nm,1.0s							
WRA	**Warramunga Arr**	**57.19**	**188**	P		**P**	**03 42 32.2**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=6.3,slow=7.4,SNR=15							
	comp=Z,1.9nm,0.8s							
WRA	**Warramunga Arr**	**57.19**	**188**	P		**P**	**03 42 32.5**	**-1.6**
WRA					IAmb	IAmb	03 42 46.5	
	comp=Z,0.3nm,0.9s							
WRA	**Warramunga Arr**	**57.19**	**188**	*e*P		**P**	**03 42 31.9**	**-2.2**
WRA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
C36M	**Paulatuk**	**57.30**	**25**	P		**P**	**03 42 33.7**	**-0.6**
C36M					IAmb	IAmb	03 42 59.5	
	comp=Z,5.4nm,1.2s							
ABKAR	**Akbulak array**	**57.90**	**310**	P		**P**	**03 42 37.4**	**-1.5**
ABKAR					IAmb	IAmb	03 42 55.8	
	comp=Z,7.0nm,1.5s							
ASAR	**Alice Springs**	**60.92**	**188**	P		**P**	**03 42 58.9**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=16,slow=3.9,SNR=8.0							
	comp=Z,0.6nm,0.6s							
BELG	**Belogornoye**	**63.75**	**317**	⇑*e*P		**P**	**03 43 21.7**	**+3.1**
BELG					pmax	pmax		
	comp=Z,4.0nm,1.5s							
GEYT	**Alibeck**	**63.82**	**299**	P		**P**	**03 43 16.8**	**-2.7**
	comp=Z,1.7nm,0.7s,baz=33,slow=6.2,SNR=2.4							
	comp=Z,1.7nm,0.7s							
ARCES	**ARCESS Array B**	**63.90**	**339**	*e*P		**P**	**03 43 23.2**	**+3.8**
ARCES					pmax	pmax		
	comp=Z,2.0nm,0.8s							
OBN	**Obninsk**	**68.03**	**323**	*i* P		**P**	**03 43 47.6**	**+1.5**
OBN					pmax	pmax		
	comp=Z,7.0nm,1.2s							
VORR	**Voronezh**	**68.60**	**319**	*e*P		**P**	**03 43 50.6**	**+0.8**
VORR					pmax	pmax		
	comp=Z,70nm,0.4s							
STKA	**Stephens Creek**	**68.68**	**180**	P		**P**	**03 43 49.3**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=58,slow=8.7,SNR=4.1							
	comp=Z,1.6nm,0.8s							
STKA	**Stephens Creek**	**68.68**	**180**	⇑*e*P		**P**	**03 43 49.5**	**-0.8**
FINES	**FINESS Array B**	**68.73**	**332**	P		**P**	**03 43 49.3**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=75,slow=7.4,SNR=4.3							
	comp=Z,2.4nm,0.8s							
KBZ	**Khabaz**	**70.86**	**311**	P		**P**	**03 44 01.9**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=102,slow=3.1,SNR=4.0							
	comp=Z,1.9nm,0.8s							
KBZ	**Khabaz**	**70.86**	**311**	⇓*e*P		**P**	**03 44 03.8**	**-0.1**
KBZ					pmax	pmax		
	comp=Z,7.0nm,1.1s							
KIV	**Kislovodsk**	**70.87**	**311**	*e*P		**P**	**03 44 08.1**	**+4.0**
KIV					pmax	pmax		
	comp=Z,11nm,1.0s							
MNK	**Minsk**	**72.42**	**326**	*i* P		**P**	**03 44 14.2**	**+1.1**
	comp=E,3.0nm,1.1s							
MNK				*i* P		**P**	**03 44 14.2**	**+1.1**
	comp=N,28nm,0.8s							
MNK				*i* P		**P**	**03 44 14.2**	**+1.1**
	comp=Z,8.0nm,0.8s,baz=230							
MNK				*i* PcP		**PcP**	**03 44 31.7**	**+0.7**
MNK				*i* PP		**PP**	**03 46 55.2**	**+1.8**
MNK				*i* PPP		PPP	03 48 39.4	
MNK				*i* S		**S**	**03 53 39.2**	**+1.5**
MNK				*i* ScS		**ScS**	**03 54 21.1**	**+0.2**
MNK				*i* SS		**SS**	**03 58 18.9**	**+4.0**
MNK				*i* SSS		SSS	04 01 39.1	
MNK				*i* LQ		LQ	04 10 51.5	
MNK				*i* LR		LR	04 16 42.0	
MNK				*i* LRM		MLR	04 19 07.7	
	comp=E,18nm,18.0s							
MNK				*i* LRM		MLR	04 19 09.6	
	comp=N,1μm,20.6s							
MNK				*i* LRM		MLR	04 19 30.2	
	comp=Z,120nm,16.1s							
MNK	**Minsk**	**72.42**	**326**	*i* P		**P**	**03 44 14.2**	**+1.1**
MNK				*i*			03 44 31.6	
MNK				*i*			03 46 55.2	
MNK				*i* PPP		PPP	03 48 39.3	
MNK				*i* S		**S**	**03 53 39.2**	**+1.5**
MNK				*i*			03 54 21.1	
MNK				*i* SS		**SS**	**03 58 18.9**	**+4.0**
MNK				pmax	pmax			
	comp=E,3.0nm,1.1s							
MNK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MNK				pmax	pmax			
	comp=N,28nm,0.9s							
MNK				MLR	MLR			
	comp=E,18nm,18.0s							
MNK				MLR	MLR			
	comp=N,1μm,21.0s							
MNK				MLR	MLR			
	comp=Z,120nm,16.0s							
HFS	**Hagfors**	**74.00**	**336**	P		**P**	**03 44 20.2**	**-2.1**
	comp=Z,8.6nm,1.1s,baz=67,slow=11,SNR=5.1							
	comp=Z,8.6nm,1.1s							
NOA	**NORSAR Array B**	**74.09**	**337**	P		**P**	**03 44 20.5**	**-2.4**
	comp=Z,0.7nm,0.7s,baz=34,slow=3.2,SNR=1.7							
	comp=Z,0.7nm,0.7s							
AKASG	**Malin Array Be**	**74.23**	**322**	P		**P**	**03 44 21.5**	**-2.4**
	comp=Z,0.8nm,0.5s,baz=47,slow=5.9,SNR=9.5							
	comp=Z,0.8nm,0.5s							
AKASG	**Malin Array Be**	**74.23**	**322**	*e*P		**P**	**03 44 26.8**	**+2.9**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.4s							
AKBB	**Malin Array Si**	**74.23**	**322**	*de*P		**P**	**03 44 26.2**	**+2.3**
AKBB					pmax	pmax		
	comp=Z,5.0nm,1.0s							
NVAR	**Mina Array Bea**	**74.87**	**53**	P		**P**	**03 44 27.7**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=294,slow=7.6,SNR=4.2							
	comp=Z,1.0nm,0.9s							
PDAR	**Pinedale Array**	**77.54**	**45**	P		**P**	**03 44 40.3**	**-3.0**
	comp=Z,0.5nm,0.6s,baz=259,slow=2.2,SNR=6.7							
	comp=Z,0.5nm,0.6s							
BRTR	**Keskin Array B**	**78.81**	**312**	P		**P**	**03 44 49.7**	**-0.5**
	comp=Z,0.2nm,0.6s

WNVZ	**Wahianoa**	**2.62**	**25**	P	Pn	03 43 51.3	+1.3
TRVZ	**Turoa**	**2.63**	**24**	P	Pb	03 43 55.6	+0.7
MHCZ	**Mount Hutt**	**2.64**	**225**	P	Pn	03 43 48.3	-1.9
BHHZ	**Black Hill Sta**	**2.65**	**34**	P	Pb	03 43 56.1	+1.0
DRZ	**Dome Shelter**	**2.66**	**24**	P	Pg	03 43 57.9	-0.6
WHVZ	**Whangaehu Hut**	**2.66**	**25**	P	Pb	03 43 54.9	-0.5
FWVZ	**Far West T-bar**	**2.67**	**24**	P	Pn	03 43 52.3	+1.5
TUVZ	**Tukino**	**2.69**	**26**	P	Pb	03 43 56.2	+0.3
NGZ	**Ngauruhoe**	**2.76**	**24**	P	Pb	03 43 56.9	-0.2
SNVZ	**South Ngauruho**	**2.76**	**25**	P	Pb	03 43 53.8	+1.9
OTVZ	**Oturere**	**2.79**	**25**	P	Pb	03 43 57.5	-0.1
NNVZ	**North Ngauruho**	**2.80**	**24**	P	Pn	03 43 54.0	+1.5
WACZ	**Wakanui South**	**2.81**	**216**	P	Pn	03 43 50.3	-2.1
TWVZ	**Taurewa**	**2.81**	**21**	P	Pb	03 43 56.2	-1.7
WTVZ	**West Tongariro**	**2.81**	**24**	P	Pn	03 43 54.9	+2.3
KAHZ	**Kahuranaki**	**2.82**	**48**	P	Pn	03 43 50.7	-2.0
ETVZ	**East Tongariro**	**2.83**	**25**	P	Pn	03 43 55.2	+2.3
KRVZ	**Karewarewa**	**2.84**	**24**	P	Pb	03 43 58.3	-0.2
TMVZ	**Te Maari**	**2.85**	**25**	P	Pn	03 43 54.4	+1.3
NTVZ	**North Tongariro**	**2.85**	**25**	P	Pn	03 43 54.5	+1.3
KWHZ	**Kaweka Forest**	**2.86**	**38**	P	Pn	03 43 52.3	-1.0
WVZ	**Waitaha Valley**	**2.87**	**240**	P	Pb	03 43 56.5	-2.4
KATZ	**Kakaramea**	**2.97**	**24**	P	Pb	03 44 01.7	+1.0
RPZ	**Rata Peaks**	**3.04**	**228**	P	Pb	03 44 00.3	-1.4
ARCZ	**Arundel**	**3.13**	**223**	P	Pn	03 43 55.1	-1.8
HIZ	**Hauiti**	**3.23**	**10**	P	Pn	03 44 01.4	+3.1
GCSZ	**Gaunt Creek Bo**	**3.25**	**239**	P	Pn	03 44 01.9	+3.3
TMZ	**Timaru**	**3.53**	**220**	P	Pn	03 44 00.8	-1.6
ODZ	**Otahua Downs**	**4.20**	**216**	P	Pn	03 44 09.1	-2.5
JCZ	**Jackson Bay**	**4.60**	**237**	P	Pn	03 44 19.7	+2.5

*MAN **30** 04:12:52.7, 15°.17N×119°.41E, h31km, mb4.0, ML2.8, MS2.4*
*IDC **30** 04:12:58.3±10.0, 15°.07N×120°.20E, h75km±97km, mb3.5/5, mbtmp3.8/5, Error ellipse: s-maj=98.7km s-min=18.3km az=77.0*
ISC 30 04:12:56.3±1.0, 15°.1N±0°.1×120°.1E±0°.1, h55km, n8, σ1§43/10, mb3.9/5, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**1.09**	**66**	⇓*e*P		Pn		04 13 19.5	+4.2
PCPH				*e*S		**Sn**		**04 13 29.7**	**+0.1**
TGY	**Tagaytay City**	**1.31**	**140**	⇑*e*P		**Pn**		**04 13 20.6**	**+2.2**
TGY				*i* S		Sn		04 13 45.1	+10
LQP	**Lukban**	**1.74**	**125**	⇑*e*P		**Pn**		**04 13 24.0**	**-0.3**
LQP				*i* S		Sn		04 13 58.4	+13
SONM	**Songino Array**	**34.54**	**344**	P		**P**		**04 19 41.7**	**+2.1**
	0.2nm,0.4s,baz=164,slow=10,SNR=1.8								
	0.2nm,0.4s								
KLR	**Kul'dur**	**35.35**	**13**	P		**P**		**04 19 46.0**	**-0.4**
	1.3nm,0.7s,baz=130,slow=7.9,SNR=5.4								
	1.3nm,0.7s								
WRA	**Warramunga Arr**	**37.55**	**158**	P		**P**		**04 20 04.2**	**-1.3**
	1.4nm,0.6s,baz=334,slow=9.5,SNR=55								
WRA				PcP		**PcP**		**04 22 22.5**	**-0.1**
	0.3nm,0.4s,baz=338,slow=3.0,SNR=2.4								
	1.4nm,0.6s								
ASAR	**Alice Springs**	**40.84**	**160**	P		**P**		**04 20 32.5**	**-0.4**
	1.2nm,0.6s,baz=337,slow=7.2,SNR=13								
ASAR				PcP		**PcP**		**04 22 32.6**	**-0.4**
	0.4nm,0.5s,baz=350,slow=4.7,SNR=4.7								
	1.2nm,0.6s								
NOA	**NORSAR Array B**	**85.73**	**332**	P		**P**		**04 25 27.8**	**-1.6**
	0.4nm,0.6s,baz=67,slow=4.9,SNR=1.4								
	0.4nm,0.6s								

IDC 30 04:28:55.4±20.0, 20°.33S×177°.65W, h325km±128km, mb2.7/3, mbtmp3.4/4, Error ellipse: s-maj=337.7km s-min=36.5km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.82**	**302**	P		P	Pn	04 30 12.0	-0.1
	5.3nm,0.7s,baz=122,slow=16,SNR=4.6								
ASAR	**Alice Springs**	**44.88**	**257**	P		P		04 36 37.5	-1.3
	0.3nm,0.7s,baz=97,slow=7.7,SNR=4.5								
	0.3nm,0.7s								
WRA	**Warramunga Arr**	**44.95**	**262**	P		P		04 36 40.3	+0.8
	0.2nm,0.6s,baz=95,slow=8.1,SNR=6.2								
	0.2nm,0.6s								
ILAR	**Eielson Array**	**88.07**	**13**	P		P		04 41 09.0	-0.1
	0.6nm,1.0s,baz=213,slow=6.5,SNR=3.3								
	0.6nm,1.0s								

*GII **30** 04:42:45.5±0.0, 34°.69N×32°.07E, h20km±1km, Mm3.1/3*
*NIC **30** 04:42:45.6±0.0, 34°.67N×32°.11E, h16km±1km, Ml3.1/5*
*ISK **30** 04:42:55.7, 35°.26N×32°.68E, h8km, ML2.8/15*
ISC 30 04:42:45.4±1.5, 34°.68N±0°.03×32°.12E±0°.06, h16km±10km, n31, σ1§32/48, 2C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.38**	**28**	⇑*i*P		**Pg**		**04 42 53.7**	**+0.4**
AKMS				S		**Sb**		**04 43 00.7**	**+1.2**
AKMS				AML	AML			04 43 01.0	
	8.9nm,0.2s								
AKMS				AML	AML			04 43 01.0	
	8.9nm,0.2s								
NATA	**Nata**	**0.39**	**75**	P		**Pg**		**04 42 53.7**	**+0.4**
NATA				S		**Sb**		**04 43 00.8**	**+1.1**
ALFC	**Alefka**	**0.62**	**40**	P		**Pg**		**04 42 57.8**	**+0.2**
ALFC				S		**Sn**		**04 43 09.6**	**+0.3**
SZAC	**Souni**	**0.64**	**83**	P		**Pg**		**04 42 58.4**	**+0.4**
SZAC				S		**Sb**		**04 43 07.5**	**+0.6**
SZAC				AML	AML			04 43 14.5	
	6.8nm,0.5s								
SZAC				AML	AML			04 43 14.5	
	6.8nm,0.5s								
SZAC				AML	AML			04 43 19.9	
	6.0nm,0.5s								
SZAC				AML	AML			04 43 19.9	
	6.0nm,0.5s								
TROD	**Troodos**	**0.67**	**67**	⇑*i*P		**Pg**		**04 42 57.9**	**-0.7**
TROD				S		**Sb**		**04 43 08.6**	**+0.5**
TROD				AML	AML			04 43 15.9	
	3.8nm,0.6s								
TROD				AML	AML			04 43 15.9	
	3.8nm,0.6s								
TROD				AML	AML			04 43 24.6	
	3.2nm,0.7s								
TROD				AML	AML			04 43 24.6	
	3.2nm,0.7s								
LEF	**Lefka**	**0.77**	**55**	PG		**Pb**		**04 43 00.3**	**-0.2**
ASGA	**Asgata**	**0.94**	**83**	P		**Pg**		**04 43 04.1**	**+0.5**
ASGA				S		**Sn**		**04 43 18.0**	**+0.9**
ASGA				AML	AML			04 43 20.3	
	3.6nm,0.7s								
ASGA				AML	AML			04 43 20.3	
	3.6nm,0.7s								
ASGA				AML	AML			04 43 22.4	
	3.1nm,0.6s								
ASGA				AML	AML			04 43 22.4	
	3.1nm,0.6s								
CSS	**Mathiatis**	**1.04**	**74**	PG		**Pn**		**04 43 05.6**	**+0.2**
CSS	**Mathiatis**	**1.04**	**74**	P		**Pn**		**04 43 05.6**	**+0.2**
CSS				S		**Sn**		**04 43 20.9**	**+1.3**
CSS				AML	AML			04 43 22.8	
	0.8nm,0.9s								
CSS				AML	AML			04 43 22.8	
	0.8nm,0.9s								
CSS				AML	AML			04 43 24.6	
	0.9nm,0.8s								
CSS				AML	AML			04 43 24.6	
	0.9nm,0.8s								
LFK	**Lefkose**	**1.31**	**62**	PG		**Pn**		**04 43 09.5**	**+0.4**
LFK				SG		**Sb**		**04 43 19.9**	**-6.3**
GAZI	**Gazipasa**	**1.56**	**6**	PG		**Pg**		**04 43 15.6**	**+0.2**
GAZI				SG		**Sn**		**04 43 30.4**	**-2.0**
TEKE	**Tekeli-Mersin**	**1.67**	**29**	PG		**Pn**		**04 43 14.4**	**+0.4**
AKKU	**Akkuyu-Mersin**	**1.88**	**38**	PN		**Pn**		**04 43 17.9**	**+0.9**
BERE	**Bereket-Mersin**	**1.89**	**28**	PN		**Pn**		**04 43 18.5**	**+1.3**
IKL	**Isikli**	**2.01**	**39**	PN		**Pn**		**04 43 20.2**	**+1.5**
TEVE	**Tevekalti-Mers**	**2.06**	**31**	PN		**Pb**		**04 43 21.2**	**-1.3**
KEBE	**Keben-Mersin**	**2.19**	**36**	PN		**Pn**		**04 43 22.6**	**+1.3**
HDMB	**Hadim**	**2.30**	**7**	PN		**Pb**		**04 43 26.5**	**-0.1**
KIZK	**Mersin**	**2.44**	**42**	PN		**Pn**		**04 43 26.3**	**+1.7**
KRMN	**Karaman**	**2.66**	**20**	PN		**Pb**		**04 43 30.4**	**-2.3**
SEYD	**Seydisehir-KON**	**2.73**	**355**	PN		**Pb**		**04 43 34.0**	**+0.1**
MERS	**Mersin**	**2.93**	**41**	PN		**Pn**		**04 43 33.4**	**+2.0**
HNTI	**Hanita**	**3.00**	**121**	Pn		**Pn**		**04 43 32.8**	**+0.4**
HNTI				Sn		**Sn**		**04 44 07.8**	**-0.2**
MMA0B	**Mount Meron ar**	**3.20**	**120**	Pn		**Pn**		**04 43 35.1**	**-0.1**
MMA0B				Sn		**Sn**		**04 44 13.6**	**+0.6**
GEM	**Giv'at Ha'Em**	**3.29**	**115**	Pn		**Pn**		**04 43 36.5**	**+0.1**
GEM				Sn		**Sn**		**04 44 16.1**	**+0.9**
MMLI	**Mount Malkishu**	**3.55**	**128**	Pn		**Pn**		**04 43 40.2**	**+0.2**
MMLI				Sn		**Sn**		**04 44 21.9**	**+0.2**
HMDT	**Nahal Hemdat**	**3.74**	**129**	Pn		**Pn**		**04 43 43.7**	**+1.2**
HMDT				Sn		**Sn**		**04 44 27.1**	**+0.9**
DSI	**Dead Sea**	**4.14**	**138**	Pn		**Pn**		**04 43 48.2**	**+0.2**
KRMI	**Paran Flat**	**5.06**	**153**	Pn		**Pn**		**04 44 00.4**	**-0.2**
KRMI				Sn		**Sn**		**04 44 59.1**	**+0.3**
HRFI	**Mount Harif**	**5.25**	**151**	Pn		**Pn**		**04 44 03.2**	**-0.1**
HRFI				Sn		**Sn**		**04 45 03.4**	**-0.1**
MBRI	**Mt Berech**	**5.42**	**153**	Pn		**Pn**		**04 44 06.2**	**+0.5**
MBRI				Sn		**Sn**		**04 45 08.4**	**+0.6**

*IDC **30** 04:52:23.6±3.6, 42°.43S×172°.87E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=74.1km s-min=32.1km az=113.0*
*NOU **30** 04:52:23.5, 42°.72S×173°.42E, h12km, MLv4.1/13, South Island, New Zealand*
*WEL **30** 04:52:24.7±0.3, 43°.5±2°×17°.3E±°, h5km, M3.7/34, ML4.0/16, MLv3.7/34, Error ellipse: s-maj=0.0km s-min=0.0km az=126.6*
ISC 30 04:52:25.4±0.8, 42°.60S±0°.03×173°.27E±0°.04, h33km, n103, σ1§50/106, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.27**	**47**	P		**Pb**		**04 52 30.9**	**-1.8**
KHZ	**Kahutara**	**0.27**	**47**	P		**Pb**		**04 52 30.8**	**-2.0**
KHZ				S		**Sb**		**04 52 36.0**	**-1.7**
GVZ	**Greta Valley S**	**0.41**	**206**	P		**Pb**		**04 52 33.7**	**-0.9**
GVZ				S		**Sn**		**04 52 41.2**	**-0.2**
AMCZ	**Amberley**	**0.73**	**218**	P		**Pb**		**04 52 39.5**	**-0.3**
LTZ	**Lake Taylor**	**0.76**	**256**	P		**Pn**		**04 52 37.9**	**-2.0**
THZ	**Tophouse**	**0.88**	**342**	P		**Pn**		**04 52 39.5**	**-2.0**
BSWZ	**Blackbirch Sta**	**0.99**	**27**	P		**Pn**		**04 52 43.6**	**+0.6**
CMWZ	**Cape Campbell**	**1.10**	**40**	P		**Pb**		**04 52 46.8**	**+0.9**
OKCZ	**Okains Bay**	**1.13**	**188**	P		**Pb**		**04 52 46.5**	**0.0**
OXZ	**Oxford**	**1.16**	**231**	P		**Pn**		**04 52 45.3**	**0.0**
OXZ				S		**Sb**		**04 53 02.4**	**+0.7**
MQZ	**McQueen's Vall**	**1.19**	**202**	P		**Pn**		**04 52 45.6**	**-0.2**
MRNZ	**Matariki Terra**	**1.26**	**342**	P		**Pn**		**04 52 46.6**	**-0.1**
TUWZ	**Tuamarina**	**1.27**	**23**	P		**Pn**		**04 52 48.1**	**+1.3**
AKCZ	**Akaroa Harbour**	**1.30**	**192**	P		**Pb**		**04 52 47.9**	**-1.4**
INZ	**Inchbonnie**	**1.35**	**264**	P		**Pn**		**04 52 48.1**	**+0.1**
NNZ	**Nelson**	**1.39**	**3**	P		**Pn**		**04 52 49.4**	**+1.0**
DSZ	**Denniston Nort**	**1.39**	**308**	P		**Pn**		**04 52 48.6**	**+0.1**
RACZ	**Rakaia**	**1.40**	**216**	P		**Pn**		**04 52 48.8**	**+0.2**
MHCZ	**Mount Hutt**	**1.56**	**233**	P		**Pn**		**04 52 50.7**	**-0.1**
TCW	**Tory Channel**	**1.58**	**29**	P		**Pn**		**04 52 52.4**	**+1.4**
TKNZ	**Takaka Hill**	**1.58**	**351**	P		**Pn**		**04 52 52.4**	**+1.2**
SNZO	**South Karori**	**1.68**	**40**	P		**Pn**		**04 52 53.1**	**+0.7**
WACZ	**Wakanui South**	**1.70**	**218**	P		**Pn**		**04 52 53.0**	**+0.3**
WEL	**Wellington**	**1.73**	**41**	P		**Pn**		**04 52 54.6**	**+1.5**
PLWZ	**Palliser**	**1.80**	**56**	P		**Pn**		**04 52 55.0**	**+0.8**
QRZ	**Quartz Range**	**1.86**	**342**	P		**Pn**		**04 52 57.0**	**+2.1**
QRZ	**Quartz Range**	**1.86**	**342**	P		**Pn**		**04 52 56.5**	**+1.5**
DUWZ	**D'Urville Isla**	**1.86**	**15**	P		**Pn**		**04 52 56.9**	**+1.9**
WVZ	**Waitaha Valley**	**1.93**	**255**	P		**Pn**		**04 52 56.3**	**+0.5**
RPZ	**Rata Peaks**	**1.97**	**235**	Pn		**Pn**		**04 52 56.4**	**0.0**
	80nm,0.3s,baz=43,slow=4.3,SNR=335								
RPZ				Sn		**Sn**		**04 53 20.7**	**+0.7**
	58nm,0.3s,baz=62,slow=16,SNR=4.6								
RPZ	**Rata Peaks**	**1.97**	**235**	P		**Pn**		**04 52 56.6**	**+0.1**
RPZ	**Rata Peaks**	**1.97**	**235**	P		**Pn**		**04 52 56.4**	**0.0**
CAW	**Cannon Point**	**2.01**	**42**	P		**Pn**		**04 52 58.0**	**+1.1**
PAWZ	**Paruwai Farm**	**2.02**	**53**	P		**Pn**		**04 52 57.7**	**+0.6**
ARCZ	**Arundel**	**2.04**	**228**	P		**Pn**		**04 52 57.2**	**-0.2**
KIW	**Kapiti Island**	**2.13**	**36**	P		**Pn**		**04 53 00.1**	**+1.4**
TRWZ	**Traveller**	**2.16**	**57**	P		**Pn**		**04 52 59.8**	**+0.7**
MTW	**Mount Morrison**	**2.20**	**50**	P		**Pn**		**04 53 00.3**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**2.28**	**251**	P		**Pn**		**04 53 01.6**	**+0.9**
OGWZ	**Otaki Gorge**	**2.28**	**39**	P		**Pn**		**04 53 01.9**	**+1.2**
HOWZ	**Holdsworth Sta**	**2.39**	**45**	P		**Pn**		**04 53 02.9**	**+0.6**
TMZ	**Timaru**	**2.43**	**222**	P		**Pn**		**04 53 02.7**	**-0.1**
TMWZ	**Te Maipa**	**2.46**	**53**	P		**Pn**		**04 53 03.5**	**+0.3**
MRZ	**Mangatainoka R**	**2.60**	**42**	P		**Pn**		**04 53 05.6**	**+0.6**
FOZ	**Fox Glacier**	**2.70**	**249**	P		**Pn**		**04 53 07.8**	**+1.4**
LBZ	**Lake Benmore**	**2.87**	**231**	P		**Pn**		**04 53 09.0**	**+0.2**
POWZ	**Post Office Ro**	**2.90**	**41**	P		**Pn**		**04 53 09.9**	**+0.7**
BFZ	**Birch Farm**	**2.94**	**50**	P		**Pn**		**04 53 10.0**	**+0.2**
BFZ	**Birch Farm**	**2.94**	**50**	P		**Pn**		**04 53 09.8**	**0.0**
ODZ	**Otahua Downs**	**3.10**	**217**	P		**Pn**		**04 53 12.1**	**+0.2**
ODZ	**Otahua Downs**	**3.10**	**217**	P		**Pn**		**04 53 11.8**	**-0.1**
WAZ	**Wanganui**	**3.12**	**25**	P		**Pn**		**04 53 16.1**	**+3.8**
DVHZ	**Dannevirke**	**3.17**	**44**	P		**Pn**		**04 53 12.8**	**-0.1**
ANWZ	**Angora Road**	**3.22**	**49**	P		**Pn**		**04 53 14.3**	**+0.8**
NMEZ	**Namu Road**	**3.22**	**8**	P		**Pb**		**04 53 18.6**	**-3.2**
TSZ	**Takapari Road**	**3.25**	**39**	P		**Pn**		**04 53 14.4**	**+0.3**
KHEZ	**Kahui Hut**	**3.35**	**10**	P		**Pn**		**04 53 17.1**	**+1.6**
KHEZ	**Kahui Hut**	**3.35**	**10**	P		**Pn**		**04 53 21.8**	**-2.3**
NBEZ	**Newall Road No**	**3.36**	**8**	P		**Pn**		**04 53 19.2**	**+3.6**
NEZ	**North Egmont**	**3.39**	**11**	P		**Pb**		**04 53 21.5**	**-3.3**
PKE	**Pukeiti**	**3.45**	**9**	P		**Pn**		**04 53 20.4**	**+3.6**
PNHZ	**Pukenui**	**3.48**	**40**	P		**Pn**		**04 53 17.3**	**+0.2**
JCZ	**Jackson Bay**	**3.59**	**244**	P		**Pn**		**04 53 19.2**	**+0.5**
JCZ	**Jackson Bay**	**3.59**	**244**	P		**Pn**		**04 53 19.3**	**+0.5**
MOVZ	**Moawhango**	**3.70**	**31**	P		**Pn**		**04 53 21.7**	**+1.3**
WNVZ	**Wahianoa**	**3.71**	**29**	P		**Pn**		**04 53 22.7**	**+2.1**
TRVZ	**Turoa**	**3.72**	**28**	P		**Pn**		**04 53 22.7**	**+2.0**
WHVZ	**Whangaehu Hut**	**3.75**	**29**	P		**Pn**		**04 53 23.1**	**+1.9**
FWVZ	**Far West T-bar**	**3.76**	**28**	P		**Pn**		**04 53 23.2**	**+1.9**
TUVZ	**Tukino**	**3.79**	**29**	P		**Pn**		**04 53 23.6**	**+2.1**
HHSZ	**Highcliff Hill**	**3.80**	**209**	P		**Pn**		**04 53 21.7**	**0.0**
WKZ	**Wanaka**	**3.80**	**233**	P		**Pn**		**04 53 21.1**	**-0.5**
NGZ	**Ngauruhoe**	**3.85**	**28**	P		**Pn**		**04 53 24.5**	**+2.1**
SNVZ	**South Ngauruho**	**3.85**	**29**	P		**Pn**		**04 53 24.6**	**+2.1**
OTVZ	**Oturere**	**3.88**	**29**	P		**Pn**		**04 53 25.1**	**+2.2**
TWVZ	**Taurewa**	**3.89**	**26**	P		**Pn**		**04 53 25.0**	**+2.0**
NNVZ	**North Ngauruho**	**3.90**	**28**	P		**Pn**		**04 53 24.9**	**+1.8**
WTVZ	**West Tongariro**	**3.90**	**28**	P		**Pn**		**04 53 24.9**	**+1.8**
KAHZ	**Kahuranaki**	**3.91**	**45**	P		**Pn**		**04 53 23.5**	**+0.4**
ETVZ	**East Tongariro**	**3.92**	**29**	P		**Pn**		**04 53 25.2**	**+1.7**
KRVZ	**Karewarewa**	**3.94**	**28**	P		**Pb**		**04 53 30.9**	**-3.2**
TMVZ	**Te Maari**	**3.94**	**29**	P		**Pn**		**04 53 25.4**	**+1.7**
NTVZ	**North Tongarir**	**3.94**	**28**	P		**Pn**		**04 53 26.0**	**+2.3**
BKZ	**Black Stump Fm**	**4.21**	**36**	P		**Pn**		**04 53 27.6**	**+0.3**
TUZ	**Tuapeka**	**4.25**	**217**	P		**Pn**		**04 53 27.9**	**+0.1**
HIZ	**Hauiti**	**4.26**	**17**	P		**Pn**		**04 53 29.6**	**+1.7**
HIZ	**Hauiti**	**4.26**	**17**	P		**Pn**		**04 53 30.5**	**+2.6**
TLZ	**Tolley Road**	**4.60**	**23**	P		**Pn**		**04 53 34.6**	**+1.9**
MLZ	**Mavora Lakes**	**4.63**	**232**	P		**Pn**		**04 53 32.4**	**-0.7**
RTZ	**Ruatahuna**	**4.88**	**37**	P		Pn		04 53 42.2	+5.7
SYZ	**Scrubby Hill**	**4.92**	**215**	P		**Pn**		**04 53 37.4**	**+0.5**
SYZ	**Scrubby Hill**	**4.92**	**215**	P		**Pn**		**04 53 37.4**	**+0.4**
TOZ	**Tahuroa Road**	**5.16**	**20**	P		**Pn**		**04 53 42.0**	**+1.8**
URZ	**Urewera**	**5.23**	**35**	P		**Pn**		**04 53 41.6**	**+0.3**
AWAZ	**Awhitu Peninsu**	**5.63**	**11**	P		**Pn**		**04 53 49.3**	**+2.6**
APZ	**The Paps**	**5.66**	**220**	P		**Pn**		**04 53 47.0**	**-0.2**
MKAZ	**Moumakai**	**5.68**	**15**	P		**Pn**		**04 53 49.2**	**+1.8**
RUGZ	**Raukumara Rang**	**5.72**	**37**	P		**Pn**		**04 53 47.5**	**-0.6**
WIAZ	**Waiheke Island**	**5.98**	**14**	P		**Pn**		**04 53 53.7**	**+2.2**
OUZ	**Omahuta**	**7.38**	**2**	P		**Pn**		**04 54 13.4**	**+2.7**
ASAR	**Alice Springs**	**37.58**	**287**	P		**P**		**04 59 37.2**	**+0.4**
	0.3nm,0.5s,baz=129,slow=6.9,SNR=4.4								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**39.74**	**292**	P		**P**		**04 59 54.8**	**-0.2**
	0.9nm,1.0s,baz=129,slow=7.6,SNR=5.3								
	0.9nm,1.0s								
BRTR	**Keskin Array B**	**149.68**	**278**	PKPbc		**PKiKP**		**05 12 13.9**	**+1.4**
	1.0nm,0.8s,baz=120,slow=4.4,SNR=3.8								

*SOME **30** 05:15:44.3, 42°.97N×85°.02E, h10km*
*NNC **30** 05:15:48.8±2.7, 42°.34N×84°.60E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=13.2km s-min=8.4km az=148.0*
ISC 30 05:15:48.6±2.7, 42°.3N±0°.1×84°.58E±0°.10, h10km, n19, σ2§37/23, 7C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.87**	**284**	*e*P		**Pb**		**05 16 53.5**	**-3.4**
	4.4nm,0.1s								
SHLS				*e*S		**Sb**		**05 17 43.3**	**-0.5**
	71nm,0.2s								
SHLS	**Shalkode**	**3.87**	**284**	Pg		**Pb**		**05 16 53.5**	**-3.4**
	4.6nm,0.4s								
SHLS				Lg		Lg		05 17 43.3	
	71nm,0.6s								
PDGK	**Podgornoye**	**3.88**	**287**	Pg		**Pb**		**05 16 58.7**	**+1.5**
	1.5nm,0.8s								
PDGK				Lg		Lg		05 17 52.3	
	19nm,0.6s								
PDGK	**Podgornoye**	**3.88**	**287**	⇑Pn		**Pn**		**05 16 49.9**	**+1.4**
	1.8nm,0.9s								
PDGK				⇑Lg		Lg		05 17 51.8	
	52nm,0.8s								
DJR	**Jarkent**	**4.04**	**302**	*e*P		**Pb**		**05 16 57.7**	**-2.1**
	1.0nm,0.1s								
DJR				*e*S		**Sb**		**05 17 50.8**	**+2.1**
	12nm,0.3s								
DJR	**Jarkent**	**4.04**	**302**	Pg		**Pb**		**05 17 01.4**	**+1.6**
	1.9nm,0.4s								
DJR				Lg		Lg		05 17 57.0	
	12nm,0.3s								
UZB	**Uzynbulak**	**4.18**	**283**	*e*P		**Pb**		**05 17 04.7**	**+2.4**
	0.9nm,0.1s								
UZB				*e*S		**Sg**		**05 18 02.7**	**-0.1**
	19nm,0.3s								
UZB	**Uzynbulak**	**4.18**	**283**	Pg		**Pb**		**05 17 04.7**	**+2.4**
	0.9nm,0.2s								
UZB				Lg		Lg		05 18 02.7	
	18nm,0.7s								
KPKS	**Kokpek**	**4.49**	**287**	*e*P		**Pb**		**05 17 10.7**	**+3.2**
	3.4nm,0.2s								
KPKS				*e*S		**Sg**		**05 18 12.6**	**0.0**
	36nm,0.1s								
KPKS	**Kokpek**	**4.49**	**287**	Pg		**Pb**		**05 17 10.7**	**+3.2**
	3.1nm,0.4s								
KPKS				Lg		Lg		05 18 12.6	
	36nm,0.5s								
SATY	**Saty**	**4.61**	**281**	*e*P		**Pg**		**05 17 13.9**	**-3.0**
	4.3nm,0.2s								
SATY				*e*S		**Sg**		**05 18 18.2**	**+1.5**
	33nm,0.5s								
SATY	**Saty**	**4.61**	**281**	Pg		**Pg**		**05 17 13.9**	**-3.0**
	4.6nm,0.4s								
SATY				Lg		Lg		05 18 18.2	
	33nm,0.5s								
MK31	**Makanchi Array**	**4.77**	**341**	⇑Pn		**Pn**		**05 17 01.2**	**+0.7**
	0.1nm,0.3s,baz=150,slow=14,SNR=2.6								
MK31				⇓Pg		**Pg**		**05 17 17.6**	**-2.4**
	2.7nm,0.4s,baz=155,slow=15,SNR=13								
MK31				Lg		Lg		05 18 17.1	
	11nm,0.6s,baz=156,slow=28,SNR=8.8								
MAKZ	**Makanchi**	**4.87**	**338**	⇑Pg		**Pg**		**05 17 18.5**	**-3.2**
	6.5nm,1.2s								
MAKZ				⇑Lg		Lg		05 18 20.8	
	11nm,1.1s								
ZSN	**Zaisan**	**5.14**	**2**	*e*P		**Pn**		**05 17 06.8**	**+1.2**
	1.8nm,0

RAVA S Sn 05 53 09.5 -2.0
RAVA Ravarino 0.34 98 P Pb 05 53 02.8 +0.2
RAVA S Sn 05 53 09.3 -2.1
RAVA AML AML
comp=N,42850µm,0.7s
RAVA AML AML
comp=E,32800µm,1.1s
MNTV Mantova 0.36 16 AML AML
comp=E,42750µm,0.3s
MNTV AML AML
comp=N,52200µm,0.5s
GSCL Gusciola 0.45 185 P Pg 05 53 04.2 -0.1
GSCL S Sn 05 53 15.0 +0.7
GSCL Gusciola 0.45 185 P Pg 05 53 04.2 -0.1
GSCL S Sb 05 53 12.1 +1.2
GSCL AML AML
comp=N,11320µm,0.9s
GSCL AML AML
comp=E,12900µm,0.6s
SERM Sermide 0.51 66 P Pn 05 53 06.4 -0.9
SERM S Sn 05 53 14.6 -1.0
SERM Sermide 0.51 66 P Pn 05 53 06.4 -0.9
SERM S Sn 05 53 14.5 -1.0
SERM AML AML
comp=E,5160µm,1.6s
SERM AML AML
comp=E,7245µm,0.6s
SERM AML AML
comp=N,6135µm,1.1s
SERM AML AML
comp=E,5160µm,1.6s
SERM AML AML
comp=N,4460µm,0.2s
SERM AML AML
comp=E,7250µm,0.6s
SERM AML AML
comp=N,6130µm,1.1s
ZCCA Zocca 0.51 152 Pg Pb 05 53 06.2 +0.7
ZCCA Sg Sn 05 53 16.2 +0.5
ZCCA Zocca 0.51 152 P Pb 05 53 05.8 +0.4
ZCCA Zocca 0.51 152 P Pb 05 53 05.7 +0.2
ZCCA AML AML
comp=E,12215µm,0.7s
ZCCA AML AML
comp=N,8365µm,0.5s
ZCCA AML AML
comp=E,12300µm,0.7s
ZCCA AML AML
comp=N,8840µm,0.5s
ZCCA AML AML
comp=E,12215µm,0.7s
A313A Volta Mantovan 0.51 1 P Pn 05 53 07.0 -0.4
GRAM Graiana 0.52 233 P Pb 05 53 05.4 -0.2
GRAM S Sg 05 53 14.2 +1.7
GRAM Graiana 0.52 233 P Pb 05 53 05.3 -0.2
GRAM S Sg 05 53 14.0 +1.6
GRAM AML AML
comp=E,10920µm,1.2s
GRAM AML AML
comp=N,16300µm,1.4s
A307A Bentivoglio (B 0.58 104 P Pn 05 53 08.2 -0.1
FIU Minerbio Fiu 0.62 105 P Pn 05 53 08.8 -0.1
FIU AML AML
comp=E,15650µm,0.2s
FIU AML AML
comp=N,14250µm,1.3s
OPPE Oppeano 0.63 36 P Pn 05 53 08.5 -0.6
OPPE S Sn 05 53 19.7 +1.1
OPPE Oppeano 0.63 36 P Pn 05 53 08.4 -0.6
OPPE AML AML
comp=E,13100µm,1.0s
OPPE AML AML
comp=N,16400µm,0.4s
SARO Sassorosso 0.64 196 P Pb 05 53 07.2 -0.5
SARO S Sg 05 53 17.2 +0.9
SARO Sassorosso 0.64 196 P Pb 05 53 07.4 -0.3
SARO S Sg 05 53 17.3 +0.9
SARO AML AML
comp=E,7065µm,0.5s
SARO AML AML
comp=N,8005µm,0.7s
SARO AML AML
comp=E,7070µm,0.5s
FERS Ferrara-Casagl 0.65 81 P Pn 05 53 08.3 -0.9
FERS AML AML
comp=N,12450µm,0.3s
FERS AML AML
comp=E,13650µm,0.3s
VLC Villacollemand 0.67 196 Pb 05 53 06.7 -1.4
VLC Sg Sb 05 53 17.1 +0.1
VLC Villacollemand 0.67 196 P Pb 05 53 07.7 -0.4
VLC S Sg 05 53 18.1 +1.0
VLC Villacollemand 0.67 196 P Pb 05 53 07.9 -0.2
VLC S Sg 05 53 18.2 +1.1
VLC AML AML
comp=N,4480µm,1.0s
VLC AML AML
comp=E,2660µm,1.6s
VLC AML AML
comp=E,2600µm,1.5s
VLC AML AML
comp=N,4385µm,1.0s
FIVI Fivizzano 0.67 214 P Pb 05 53 08.3 +0.1
FIVI Fivizzano 0.67 214 P Pb 05 53 07.8 -0.4
TRES Parco Tresine 0.69 353 P Pg 05 53 09.6 +1.0
TRES S Sn 05 53 21.1 +1.0
MTRZ Monterenzio 0.72 126 P Pn 05 53 12.1 +1.7
MTRZ S Sn 05 53 28.2 +7.2
MTRZ Monterenzio 0.72 126 P Pn 05 53 11.8 +1.5
MTRZ AML AML
comp=N,4055µm,0.9s
MTRZ AML AML
comp=N,3960µm,0.9s
MTRZ AML AML
comp=E,5245µm,0.6s
MTRZ AML AML
comp=E,5320µm,0.6s
BDI Bagni Di Lucca 0.74 183 P Pb 05 53 08.8 -0.5
BDI Bagni Di Lucca 0.74 183 P Pb 05 53 08.7 -0.6
BDI AML AML
comp=E,3040µm,0.8s
BDI AML AML
comp=N,3965µm,0.5s
BDI AML AML
comp=E,1415µm,0.9s
BDI AML AML
comp=N,1275µm,0.5s
LEOD Capriano del C 0.75 331 AML AML
comp=N,9760µm,0.6s
LEOD AML AML
comp=E,8675µm,0.4s
CARD Cardoso 0.78 189 P Pb 05 53 09.5 -0.6
CARD S Sb 05 53 20.6 +0.2
CARD Cardoso 0.78 189 P Pb 05 53 09.5 -0.6
CARD S Sg 05 53 21.6 +0.8
CARD AML AML
comp=N,4645µm,0.7s
CARD AML AML
comp=E,2335µm,0.8s
TREG Tregnago 0.81 27 P Pn 05 53 11.4 -0.1
TREG AML AML
comp=E,19550µm,1.1s
TREG AML AML
comp=N,18250µm,0.4s
MTCR Monte La Croce 0.81 162 P Pb 05 53 10.4 -0.3
MTCR S Sn 05 53 23.1 -0.3
MTCR Monte La Croce 0.81 162 P Pb 05 53 10.6 -0.1
MTCR S Sn 05 53 23.1 -0.3
MTCR AML AML
comp=E,2555µm,0.4s
MTCR AML AML
comp=N,5025µm,0.5s
MTCR AML AML
comp=E,2550µm,0.4s
SALO Salr 0.82 354 Pn 05 53 11.9 +0.2
SALO Sn 05 53 25.6 +2.2
SALO Salr 0.82 354 P Pn 05 53 12.0 +0.2
SALO S Sn 05 53 26.1 +2.7
SALO Salr 0.82 354 P Pn 05 53 11.9 +0.2
SALO AML AML
comp=N,19050µm,0.5s
SALO AML AML
comp=N,17650µm,0.5s
SALO AML AML
comp=E,15500µm,0.3s

SALO AML AML
comp=E,15800µm,0.3s
VOBA Vobarno 0.85 353 P Pn 05 53 12.6 +0.5
VOBA AML AML
comp=N,16750µm,0.2s
VOBA AML AML
comp=E,19950µm,0.5s
BOB Bobbio (Coli) 0.85 268 P Pg 05 53 12.8 +1.1
BOB Bobbio (Coli) 0.85 268 P Pg 05 53 12.7 +1.1
CNCS Concesio 0.86 340 P Pg 05 53 12.5 +0.7
CNCS AML AML
comp=N,57200µm,0.5s
CNCS AML AML
comp=E,10750µm,0.4s
ZOVE Zovencedo 0.88 42 P Pn 05 53 12.5 0.0
BALD Monte Baldo 0.89 8 P Pg 05 53 12.8 +0.3
BALD S Sn 05 53 27.9 +2.6
MAIM Mastiano 0.89 187 P Pb 05 53 11.5 -0.5
MAIM Mastiano 0.89 187 P Pb 05 53 11.5 -0.5
MAIM AML AML
comp=N,2165µm,0.7s
MAIM AML AML
comp=E,1720µm,0.4s
ROVR Rover Verones 0.90 20 P Pn 05 53 12.8 0.0
BRIS BRISIGHELLA 0.90 136 P Pn 05 53 15.4 +2.6
BRIS AML AML
comp=N,1875µm,1.0s
BRIS AML AML
comp=E,2140µm,0.7s
IMOL Imola, Italy 0.90 119 P Pn 05 53 15.2 +2.4
IMOL Imola, Italy 0.90 119 P Pn 05 53 15.1 +2.4
IMOL AML AML
comp=N,6455µm,0.6s
IMOL AML AML
comp=E,4335µm,1.6s
MPPT Montemurlo 0.90 159 P Pb 05 53 12.0 -0.1
MPPT AML AML
comp=N,1590µm,0.4s
MPPT AML AML
comp=E,3235µm,0.4s
SEI Scarperia 0.91 145 P Pn 05 53 12.9 +0.1
SEI Scarperia 0.91 145 P Pn 05 53 12.8 -0.1
SEI AML AML
comp=N,6310µm,0.6s
SEI AML AML
comp=E,3960µm,0.4s
TEOL Teolo 0.92 52 Pn 05 53 12.7 -0.3
TEOL Sn 05 53 26.0 +0.3
TEOL Teolo 0.92 52 P Pn 05 53 13.2 +0.2
TEOL S Sn 05 53 27.0 +1.3
TEOL AML AML
comp=N,22300µm,1.0s
TEOL AML AML
comp=E,26200µm,0.4s
MSSA Maissana 0.94 239 Pb 05 53 13.1 +0.3
MSSA Sb 05 53 25.3 +0.4
MSSA Maissana 0.94 239 P Pb 05 53 12.8 0.0
MSSA Maissana 0.94 239 P Pb 05 53 12.8 0.0
MSSA AML AML
comp=N,1830µm,1.3s
MSSA AML AML
comp=E,1395µm,1.5s
PLMA Palmaria, Port 0.94 217 P Pb 05 53 12.1 -0.6
PLMA Palmaria, Port 0.94 217 AML AML
comp=E,1655µm,0.6s
PLMA AML AML
comp=N,2250µm,0.4s
GORR Gorreto 0.98 259 P Pn 05 53 14.8 +0.9
GORR Gorreto 0.98 259 P Pb 05 53 14.3 +0.8
GORR AML AML
comp=E,4545µm,0.5s
GORR AML AML
comp=N,3815µm,0.7s
A308A Longastrino (F 0.99 102 P Pg 05 53 15.7 +1.3
BAG8 Bagolino 1.03 353 P Pg 05 53 15.4 +0.4
BAG8 S Sg 05 53 30.9 +2.3
BAG8 Bagolino 1.03 353 P Pg 05 53 15.4 +0.4
BAG8 AML AML
comp=E,13620µm,0.6s
BAG8 AML AML
comp=N,10410µm,0.3s
ZONE Zone 1.03 339 P Pg 05 53 15.6 +0.5
ZONE AML AML
comp=E,18750µm,0.2s
ZONE AML AML
comp=E,4505µm,0.2s
ZONE AML AML
comp=N,23750µm,0.2s
ZONE AML AML
comp=N,5735µm,0.2s
CRMI Carmignano 1.04 167 P Pn 05 53 14.8 +0.1
CRMI Carmignano 1.04 167 P Pn 05 53 14.6 -0.1
CRMI AML AML
comp=E,1550µm,0.6s
CRMI AML AML
comp=N,914µm,0.6s
CRMI AML AML
comp=N,924µm,0.6s
CRMI AML AML
comp=E,1555µm,0.6s
CRMI AML AML
comp=E,1590µm,0.6s
CRMI AML AML
comp=N,913µm,0.6s
PII Pisa 1.08 185 P Pn 05 53 15.4 +0.1
PII Pisa 1.08 185 P Pb 05 53 14.8 -0.4
PII S Sg 05 53 30.4 +0.2
PII AML AML
comp=N,4565µm,0.9s
PII AML AML
comp=E,5265µm,0.4s
DOSS Dosso del Somm 1.15 19 P Pg 05 53 17.0 -0.3
DOSS Dosso del Somm 1.15 19 P Pg 05 53 17.0 -0.3
DOSS AML AML
comp=E,7115µm,0.3s
DOSS AML AML
comp=E,6840µm,0.8s
DOSS AML AML
comp=N,7195µm,0.8s
DOSS AML AML
comp=N,6625µm,0.3s
BRSN Barisano 1.15 116 P Pg 05 53 17.6 +0.4
BRSN AML AML
comp=E,6205µm,0.7s
BRSN AML AML
comp=E,6130µm,0.7s
BRSN AML AML
comp=N,3570µm,1.5s
BRSN AML AML
comp=N,3745µm,1.5s
LUSI Trento, Gardas 1.18 10 P Pb 05 53 17.5 +0.7
LUSI AML AML
comp=N,19100µm,0.3s
LUSI AML AML
comp=E,10605µm,0.2s
MDI Monti di Nese 1.18 326 P Pb 05 53 17.9 +1.1
MDI Monti di Nese 1.18 326 P Pb 05 53 17.9 +1.0
MDI AML AML
comp=E,6385µm,1.0s
MDI AML AML
comp=N,5065µm,1.1s
MDI AML AML
comp=E,6550µm,1.0s
MDI AML AML
comp=N,5320µm,1.1s
MILN Milano 1.21 305 P Pg 05 53 20.4 +2.0
MILN AML AML
comp=E,13435µm,1.4s
MILN AML AML
comp=N,16850µm,0.4s
MILN AML AML
comp=N,7665µm,0.5s
MILN AML AML
comp=E,7630µm,0.5s
SARZ Sarezzano 1.24 274 P Pg 05 53 20.7 +1.8
SARZ AML AML
comp=E,6550µm,0.5s
SARZ AML AML
comp=N,5225µm,1.4s
SARZ AML AML
comp=E,6715µm,0.5s
SARZ AML AML
comp=N,5255µm,1.4s
SFI Santa Sofia 1.24 136 P Pg 05 53 19.0 -0.1
SFI AML AML
comp=E,983µm,1.4s

SFI AML AML
comp=N,1028µm,0.5s
RNCA Ronca, Sant'Ol 1.25 255 P Pb 05 53 18.8 +0.7
RNCA Ronca, Sant'Ol 1.25 255 P Pb 05 53 19.3 +1.2
RNCA AML AML
comp=N,752µm,0.4s
RNCA AML AML
comp=E,886µm,1.4s
MABI Malga Bissina 1.26 356 P Pb 05 53 19.1 +0.7
MABI Malga Bissina 1.26 356 P Pb 05 53 19.0 +0.7
MABI AML AML
comp=E,4950µm,0.7s
MABI AML AML
comp=N,3180µm,1.1s
ASQU Asqua 1.30 140 P Pg 05 53 19.8 -0.3
ASQU Asqua 1.30 140 P Pg 05 53 19.8 -0.3
ASQU AML AML
comp=E,867µm,0.5s
ASQU AML AML
comp=N,791µm,0.6s
GAGG Gaggia 1.30 10 P Pb 05 53 19.4 +0.3
GAGG Gaggia 1.30 10 P Pb 05 53 19.2 +0.1
GAGG AML AML
comp=E,5370µm,0.8s
GAGG AML AML
comp=E,4760µm,0.3s
GAGG AML AML
comp=N,5035µm,0.8s
GAGG AML AML
comp=N,5005µm,0.3s
ASOL Asolo 1.34 41 P Pb 05 53 19.6 0.0
ASOL AML AML
comp=E,12200µm,1.5s
ASOL AML AML
comp=N,7670µm,0.6s
OSSC Osservatorio P 1.35 161 Pb 05 53 19.4 -0.3
OSSC Osservatorio P 1.35 161 P Pb 05 53 20.0 +0.2
OSSC Osservatorio P 1.35 161 P Pb 05 53 19.8 0.0
OSSC AML AML
comp=E,1150µm,1.1s
OSSC AML AML
comp=N,1103µm,0.8s
OSSC AML AML
comp=N,1146µm,1.0s
OSSC AML AML
comp=E,1114µm,0.8s
CGRP Cima Grappa 1.35 37 P Pb 05 53 19.5 -0.4
CGRP AML AML
comp=N,2520µm,0.4s
CGRP AML AML
comp=E,3615µm,1.5s
CGRP AML AML
comp=E,3660µm,1.5s
CGRP AML AML
comp=N,2495µm,0.6s
CSNT Castellina Chi 1.41 160 P Pb 05 53 20.6 -0.2
CSNT Castellina Chi 1.41 160 P Pb 05 53 20.5 -0.3
CSNT AML AML
comp=N,1270µm,0.8s
CTI Castel Tesino 1.43 29 Pn Pb 05 53 20.8 -0.4
CTI Castel Tesino 1.43 29 P Pb 05 53 20.9 -0.4
CTI Castel Tesino 1.43 29 P Pb 05 53 20.9 -0.4
CTI AML AML
comp=E,8320µm,0.7s
CTI AML AML
comp=N,10030µm,0.3s
CRND Cornuda 1.45 44 P Pb 05 53 20.6 -0.8
CRND AML AML
comp=E,8805µm,1.5s
CRND AML AML
comp=N,6005µm,1.1s
GROG Isola di Gorgo 1.48 202 P Pn 05 53 21.5 +0.8
GROG Isola di Gorgo 1.48 202 P Pn 05 53 21.2 +0.5
GROG AML AML
comp=N,868µm,0.7s
GROG AML AML
comp=E,1140µm,1.6s
CRE Caprese Michel 1.51 141 P Pg 05 53 23.0 -1.1
CRE AML AML
comp=E,888µm,0.4s
CRE AML AML
comp=N,1075µm,0.4s
PCP Piancastagn 1.52 261 P Pb 05 53 23.5 +0.8
PCP AML AML
comp=E,979µm,0.5s
PCP AML AML
comp=N,1290µm,0.7s
VARN Col Varnada, M 1.57 40 P Pn 05 53 22.4 +0.3
VARN AML AML
comp=N,2740µm,0.4s
VARN AML AML
comp=N,2740µm,0.4s
VARN AML AML
comp=E,5230µm,0.3s
VARN AML AML
comp=E,5180µm,0.3s
MUGIO Muggio 1.59 315 P Pn 05 53 23.3 +1.0
MUGIO AML AML
comp=E,1840µm,1.2s
MUGIO AML AML
comp=N,1695µm,0.3s
ROTM Rocchetta Tana 1.63 272 AML AML
comp=E,3590µm,0.5s
ROTM AML AML
comp=N,4075µm,0.4s
BERNI Berninapass 1.67 345 P Pb 05 53 25.6 +0.2
BERNI AML AML
comp=E,1560µm,1.0s
BERNI AML AML
comp=N,1490µm,0.3s
BORM Bormio 1.68 354 P Pb 05 53 25.4 0.0
BORM AML AML
comp=E,2125µm,1.4s
BORM AML AML
comp=N,1115µm,1.2s
BRMO Bormio 1.69 354 P Pb 05 53 25.5 0.0
BRMO AML AML
comp=E,1265µm,0.5s
BRMO AML AML
comp=N,1020µm,1.5s
TRIF Trifonti 1.70 174 P Pb 05 53 25.1 -0.5
TRIF AML AML
comp=E,442µm,1.0s
TRIF AML AML
comp=N,681µm,0.9s
VARE Varese 1.70 310 P Pn 05 53 24.8 +0.9
VARE AML AML
comp=N,3000µm,0.8s
VARE AML AML
comp=E,2710µm,0.7s
QLNO Quiliano 1.71 255 P Pn 05 53 25.3 +1.4
QLNO AML AML
comp=N,394µm,0.7s
QLNO AML AML
comp=E,380µm,0.3s
APPI Appiano 1.73 14 P Pb 05 53 25.9 -0.4
APPI AML AML
comp=E,3650µm,0.2s
APPI AML AML
comp=N,3875µm,0.4s
KOSI Kohlern 1.74 17 P Pb 05 53 26.8 +0.3
KOSI AML AML
comp=N,1605µm,0.7s
KOSI AML AML
comp=E,1770µm,0.9s
CAFI Castiglion Fio 1.75 147 P Pb 05 53 25.7 -1.0
CAFI AML AML
comp=E,342µm,1.4s
CAFI AML AML
comp=N,312µm,1.4s
CAFI AML AML
comp=E,346µm,1.4s
CAFI AML AML
comp=N,374µm,0.6s
BOSI Bolzano 1.76 15 P Pb 05 53 26.3 -0.4
BOSI AML AML
comp=E,5225µm,0.5s
BOSI AML AML
comp=N,4440µm,0.6s
AGOR Agordo 1.78 33 P Pb 05 53 26.0 -1.1
AGOR AML AML
comp=N,1600µm,0.4s
AGOR AML AML
comp=N,2005µm,0.4s
AGOR AML AML
comp=E,1945µm,0.4s

AGOR AML AML
comp=E,1525µm,0.4s
MOSI Grossmontoni 1.82 358 P **Pb 05 53 28.0 +0.2**
MOSI AML AML
comp=E,4680µm,0.3s
MOSI AML AML
comp=N,6405µm,0.5s
CANO Canova, Maglio 1.82 252 P **Pn 05 53 26.8 +1.4**
CANO AML AML
comp=E,2145µm,1.5s
CANO AML AML
comp=N,1385µm,0.3s
FUORN Ofenpass-Fuorn 1.84 352 Pn **Pb 05 53 27.7 -0.5**
ATVO AVT- Monte Val 1.90 138 P **Pb 05 53 27.9 -1.3**
ATVO AML AML
comp=N,424µm,0.5s
ATVO AML AML
comp=E,514µm,0.6s
CIMO Cimolais 1.97 39 Pn **Pn 05 53 27.6 +0.2**
CIMO Cimolais 1.97 39 AML AML
comp=E,612µm,0.3s
CIMO AML AML
comp=E,620µm,0.3s
CIMO AML AML
comp=N,704µm,0.7s
CIMO AML AML
comp=N,708µm,0.7s
RORO Rocca Rossa 1.97 250 P **Pn 05 53 28.7 +1.2**
RORO AML AML
comp=E,255µm,1.0s
RORO AML AML
comp=N,290µm,1.5s
CASP Castiglione de 2.02 175 Pn **Pn 05 53 27.0 -1.1**
CASP Castiglione de 2.02 175 P **Pn 05 53 28.9 +0.8**
CASP AML AML
comp=E,330µm,1.6s
CASP AML AML
comp=N,426µm,1.6s
ARCI Arcidosso 2.04 163 P **Pn 05 53 29.5 +1.0**
BRES Bressanone 2.04 22 AML AML
comp=E,1410µm,0.2s
BRES AML AML
comp=N,2460µm,0.2s
DAVOX Davos/Dischmat 2.05 345 Pn **Pb 05 53 30.8 -1.1**
comp=N,21nm,0.3s,baz=152,slow=14,SNR=109
DAVOX Sn **Sg 05 53 59.8 -1.3**
comp=N,96nm,0.3s,baz=114,slow=20,SNR=9.8
comp=N,123nm,0.5s
DAVOX Davos/Dischmat 2.05 345 P **Pb 05 53 31.4 -0.4**
DAVOX AML AML
comp=N,858µm,1.5s
DAVOX AML AML
comp=E,740µm,1.1s
MURB Monte Urbino 2.05 138 Pn **Pn 05 53 28.3 -0.4**
STAL STALIGIAL 2.06 44 Pn **Pn 05 53 28.7 0.0**
STAL STALIGIAL 2.06 44 AML AML
comp=E,2085µm,0.2s
STAL AML AML
comp=E,2460µm,0.2s
STAL AML AML
comp=N,1915µm,0.2s
STAL AML AML
comp=N,2440µm,0.9s
CELB S.Piero in Cam 2.08 189 P **Pn 05 53 29.8 +0.8**
CELB AML AML
comp=E,285µm,0.3s
CELB AML AML
comp=N,288µm,0.7s
FUSIO Fusio 2.16 321 P **Pn 05 53 31.4 +1.1**
FUSIO AML AML
comp=E,1500µm,0.8s
FUSIO AML AML
comp=N,813µm,0.4s
MGAB Montegabbione 2.17 150 P **Pn 05 53 31.1 +0.9**
MGAB AML AML
comp=N,434µm,1.1s
MGAB AML AML
comp=E,379µm,0.5s
MGAB AML AML
comp=E,437µm,0.5s
MGAB AML AML
comp=N,422µm,1.1s
MGRO Montegrosso 2.17 251 P **Pn 05 53 31.6 +1.3**
TRAV Traversella 2.17 290 P **Pn 05 53 30.6 +0.3**
TRAV AML AML
comp=N,1130µm,0.3s
TRAV AML AML
comp=E,1045µm,1.0s
MPRI Monte Prat 2.19 48 AML AML
comp=E,1057µm,0.4s
MPRI AML AML
comp=N,1260µm,1.0s
MPRI AML AML
comp=N,1635µm,1.0s
MPRI AML AML
comp=E,820µm,0.7s
ROSI Rosskopf 2.19 14 P **Pn 05 53 32.4 +1.6**
ROSI AML AML
comp=N,2360µm,1.3s
ROSI AML AML
comp=E,2020µm,0.3s
BRJN Brijuni 2.21 86 P **Pn 05 53 30.8 0.0**
FETA Feichten 2.22 1 *e*Pn **Pb 05 53 33.9 -0.8**
comp=E,6.2nm,0.2s,SNR=70
FETA Sn **Sg 05 54 06.6 +0.1**
comp=E,49nm,0.3s
SATI Passo dei Sala 2.23 300 P **Pn 05 53 33.1 +1.7**
SATI AML AML
comp=N,544µm,0.5s
SATI AML AML
comp=E,612µm,1.6s
MMK Mattmark 2.26 304 P **Pn 05 53 33.2 +1.5**
MMK AML AML
comp=N,1120µm,0.3s
MMK AML AML
comp=E,1096µm,0.5s
CLUD Cludinico 2.28 43 Pn **Pn 05 53 31.8 0.0**
CLUD Cludinico 2.28 43 AML AML
comp=N,683µm,0.5s
CLUD AML AML
comp=E,502µm,1.4s
CLUD AML AML
comp=E,520µm,1.4s
CLUD AML AML
comp=N,679µm,0.5s
ASSB Assisi San Ben 2.28 140 AML AML
comp=E,289µm,0.5s
ASSB AML AML
comp=N,268µm,0.8s
EL6 Elcito 2.30 129 P **Pn 05 53 33.5 +1.4**
EL6 AML AML
comp=N,556µm,1.4s
EL6 AML AML
comp=E,645µm,0.7s
CIRO Champorcher 2.32 291 P **Pn 05 53 32.2 -0.3**
CIRO AML AML
comp=E,446µm,0.6s
CIRO AML AML
comp=N,723µm,0.6s
FVI Forni Avoltri 2.34 39 P **Pn 05 53 33.7 +1.1**
FVI AML AML
comp=E,972µm,0.5s
FVI AML AML
comp=N,1044µm,1.4s
LATE Laterza 2.34 159 Pn **Pn 05 53 31.7 -0.9**
ABTA Abfaltersbach 2.34 33 *e*Pn **Pn 05 53 34.3 +1.6**
comp=N,3.8nm,0.1s,SNR=27
SAOF Saorge 2.36 251 P **Pn 05 53 34.9 +2.0**
SAOF AML AML
comp=N,547µm,1.0s
SAOF AML AML
comp=E,494µm,0.8s
SAOF Saorge 2.36 251 P **Pn 05 53 34.4 +1.5**
SAOF S **Sb 05 54 04.7 -1.0**
RISI Rein 2.37 25 P **Pb 05 53 35.7 -1.6**
RISI AML AML
comp=E,2435µm,0.3s
RISI AML AML
comp=N,3285µm,0.3s
ENR Entracque 2.38 257 P **Pn 05 53 34.6 +1.4**
ENR AML AML
comp=N,327µm,0.5s
ENR AML AML
comp=E,268µm,0.6s
SABO M.te Sabotino 2.39 59 Pn **Pn 05 53 33.4 +0.1**
SABO M.te Sabotino 2.39 59 P **Pn 05 53 33.7 +0.4**
SABO AML AML
comp=N,1880µm,0.3s
SABO AML AML
comp=N,7155µm,0.3s
SABO AML AML
comp=E,7490µm,0.3s
SABO AML AML
comp=E,1835µm,0.3s
ZOU Zoufplan 2.40 42 P **Pn 05 53 34.4 +0.9**
ZOU AML AML
comp=E,751µm,0.4s
ZOU AML AML
comp=N,629µm,0.5s
ZOU AML AML
comp=N,640µm,0.5s
ZOU AML AML
comp=E,778µm,0.4s
BHB Bricherasio 2.41 272 P **Pn 05 53 33.4 -0.1**
PLONS Plons/SG 2.42 339 *e*Pn **Pb 05 53 37.1 -0.8**
PLONS *e*Pg **Pg 05 53 41.9 +0.5**
PLONS *e*Sn **Sb 05 54 07.4 0.0**
PLONS Plons/SG 2.42 339 P **Pb 05 53 37.0 -0.9**
PLONS AML AML
comp=E,508µm,0.8s
PLONS AML AML
comp=N,368µm,0.5s
EMBD Embd, Matterta 2.43 307 P **Pn 05 53 35.1 +1.2**
STV Sant Anna di V 2.44 258 P **Pn 05 53 35.4 +1.5**
STV AML AML
comp=N,178µm,0.3s
STV AML AML
comp=E,227µm,0.7s
SQTA Sankt Quirin 2.45 9 *e*Pn **Pb 05 53 36.9 -1.7**
comp=E,89nm,0.2s,SNR=103
SQTA *e*Sn **Sb 05 54 10.2 +1.8**
comp=E,322nm,0.4s
TURF col de Turini 2.47 252 P **Pn 05 53 36.3 +1.8**
TURF S **Sn 05 54 07.8 +3.4**
SBF Sospel 2.49 249 *e*Pn **Pn 05 53 36.0 +1.4**
SBF *e*Sn **Sn 05 54 05.0 +0.5**
comp=E,237nm,0.4s
PTCC Patocco-Chiusa 2.49 49 AML AML
comp=N,650µm,0.5s
PTCC AML AML
comp=E,622µm,0.4s
SKDS Skadanscina 2.50 71 *i* Pn **Pn 05 53 34.4 -0.4**
SKDS *i* Sn **Sn 05 54 03.2 -1.6**
SKDS IAML 05 54 25.5
comp=Z,96nm,0.2s
PZZ Stroppo 2.54 265 P **Pn 05 53 35.5 +0.1**
PZZ AML AML
comp=N,444µm,0.5s
PZZ AML AML
comp=E,350µm,0.5s
ESCA l'Escarene 2.54 249 P **Pn 05 53 37.2 +1.8**
DAVA Damuels 2.54 348 *e*Pn **Pb 05 53 38.8 -1.3**
comp=E,43nm,0.4s,SNR=22
DAVA Sn **Sb 05 54 11.7 +0.6**
comp=E,189nm,0.3s
DAVA Damuels 2.54 348 *e*Pn **Pb 05 53 38.9 -1.3**
DAVA *e*Pg **Pg 05 53 44.8 +1.0**
DAVA *e*Sn **Sb 05 54 11.3 +0.1**
PGF Pioggiola 2.55 208 *e*Pn **Pn 05 53 36.2 +0.7**
PGF *e*Sn **Sn 05 54 05.7 -0.4**
comp=E,64nm,0.4s
PGF Pioggiola 2.55 208 AML AML
comp=E,168µm,0.6s
PGF AML AML
comp=N,170µm,0.5s
WTTA Wattenberg 2.56 15 *e*Pn **Pn 05 53 37.8 +2.1**
comp=N,106nm,0.3s,SNR=34
WTTA Sn **Sb 05 54 09.8 -1.8**
comp=N,172nm,0.3s
WTTA Wattenberg 2.56 15 *e*Pn **Pb 05 53 38.2 -2.3**
WTTA *e*Sn **Sb 05 54 10.6 -1.0**
WTTA Wattenberg 2.56 15 P **Pn 05 53 38.0 +2.3**
WTTA AML AML
comp=E,918µm,1.0s
WTTA AML AML
comp=N,756µm,0.7s
MOTA Moosalm 2.56 7 *e*Pn **Pb 05 53 38.9 -1.6**
comp=N,17nm,0.2s,SNR=22
MOTA Sg **Sb 05 54 12.2 +0.5**
comp=N,148nm,0.4s
BNALP Bannalp 2.59 324 P **Pn 05 53 39.0 +2.9**
BNALP AML AML
comp=E,486µm,0.7s
BNALP AML AML
comp=N,578µm,0.4s
T1256 Bolognola (MC) 2.59 133 AML AML
comp=N,306µm,0.8s
T1256 AML AML
comp=E,322µm,0.7s
WATA Walderalm 2.62 14 *e*Pn **Pb 05 53 39.3 -2.1**
comp=E,23nm,0.1s,SNR=28
WATA *e*Sn **Sb 05 54 14.0 +0.8**
comp=E,175nm,0.3s
OBER Oberstdorf 2.62 355 *e*Pn **Pb 05 53 39.7 -1.7**
OBER *e*Pg **Pg 05 53 46.1 +0.9**
OBER *e*Sn **Sb 05 54 13.4 +0.1**
PRED Cave del Predi 2.63 50 Pn **Pn 05 53 36.1 -0.4**
ZUGS Zugspitze, Sch 2.63 5 *e*Pn **Pb 05 53 40.3 -1.4**
ZUGS *e*Sn **Sb 05 54 13.5 -0.1**
NRCA Norcia 2.66 137 Pn **Pn 05 53 34.2 -2.8**
MVIF Mont Vial 2.66 251 P **Pn 05 53 39.3 +2.2**
ACOM Acomizza, Ital 2.66 48 P **Pn 05 53 38.0 +0.8**
ACOM AML AML
comp=N,1330µm,0.5s
ACOM AML AML
comp=E,1330µm,0.3s
ACOM AML AML
comp=E,1330µm,0.3s
ACOM AML AML
comp=N,1275µm,0.5s
REMY Saint-Rhmy-en 2.67 294 P **Pn 05 53 38.0 +0.6**
REMY AML AML
comp=N,954µm,0.7s
REMY AML AML
comp=E,437µm,0.7s
RETA Reutte 2.69 2 *e*Pn **Pb 05 53 40.3 -2.3**
comp=E,7.8nm,0.2s,SNR=15
RETA *e*Sn **Sb 05 54 14.2 -1.0**
comp=E,48nm,0.2s
PART Garmisch-Parte 2.72 7 *e*Pn **Pb 05 53 40.9 -2.1**
PART *e*Pg **Pg 05 53 48.9 +1.8**
PART *e*Sn **Sb 05 54 14.9 -1.1**
SURF Saint Ours 2.75 265 P **Pn 05 53 38.9 +0.5**
MBDF Montbardon 2.76 270 *e*Pn **Pn 05 53 38.8 +0.3**
MBDF *e*Sn **Sn 05 54 11.8 +0.4**
comp=E,84nm,0.4s
T1218 Civita (PG) 2.78 139 AML AML
comp=E,232µm,1.6s
T1218 AML AML
comp=N,274µm,0.6s
T1218 AML AML
comp=E,256µm,0.7s
T1218 AML AML
comp=N,268µm,1.6s
MYKA Terra Mystica 2.78 48 *e*Pn **Pn 05 53 39.7 +1.0**
comp=N,2.2nm,0.2s
T1241 Roccafluvione, 2.80 133 AML AML
comp=E,409µm,0.9s
JAUF Jausiers 2.81 264 P **Pn 05 53 40.0 +0.9**
SENIN Lac Senin/Sane 2.82 305 Pn **Pn 05 53 40.1 +0.7**
BNI Bardonecchia 2.83 276 Pn **Pn 05 53 38.8 -0.6**
CEY Cerknica 2.83 69 *e*Pn **Pn 05 53 38.8 -0.5**
LPL La Plagne 2.86 286 *e*Pn **Pn 05 53 40.9 +1.0**
LPL *e*Sn **Sn 05 54 14.6 +0.7**
comp=E,70nm,0.4s
CALF Calern 2.87 250 P Pn 05 53 35.7 -4.3
WILA Wila 2.88 336 *e*Pn **Pn 05 53 42.3 +2.3**
WILA *e*Sn **Sn 05 54 17.9 +3.7**
CREF Crivoux 2.88 266 P **Pn 05 53 41.1 +1.0**
SMPL Sampolo 2.88 201 AML AML
comp=E,116µm,0.6s
SMPL AML AML
comp=N,158µm,0.6s
SMPL Sampolo 2.88 201 P **Pn 05 53 41.9 +1.9**
SMPL S **Sn 05 54 16.2 +2.1**
UBR Ueberruh 2.90 353 *e*Pn **Pn 05 53 43.1 +2.7**
UBR *e*Pg **Pg 05 53 52.1 +1.4**
UBR *e*Sn **Sb 05 54 19.2 -2.3**
KBA Koelnbreinsper 2.96 39 *e*Pn **Pn 05 53 43.2 +2.0**
comp=N,3.3nm,0.1s
KBA Koelnbreinsper 2.96 39 *e*Pn **Pn 05 53 43.4 +2.2**
KBA *e*Pg **Pg 05 53 51.4 -0.2**
KBA *e*Sn **Sn 05 54 18.0 +1.8**
KBA *e*Sg **Sg 05 54 31.8 +1.8**
RSL Roselend 2.97 289 P **Pn 05 53 43.3 +1.9**
LJU Ljubljana 3.00 64 AML AML
comp=N,3715µm,0.8s
LJU AML AML
comp=E,3870µm,0.5s
WALHA Wallhausen, DE 3.13 341 *e*Pn **Pn 05 53 45.3 +1.9**
WALHA *e*Pg **Pg 05 53 55.6 +0.5**
OBKA Obir 3.23 57 *e*Pn **Pn 05 53 45.8 +1.0**
OBKA Obir 3.23 57 *i* Pn **Pn 05 53 45.8 +1.0**
comp=E,2.8nm,0.1s
OBKA Obir 3.23 57 *e*Pn **Pn 05 53 46.1 +1.3**
OBKA *e*Pg **Pg 05 53 55.8 -1.0**
OBKA *e*Sg **Sg 05 54 38.7 +0.1**
GDM Grand'Maison 3.24 279 P **Pn 05 53 47.8 +2.7**
SULZ Cheisacher 3.25 328 *e*Pn **Pn 05 53 46.9 +1.9**
SULZ *e*Pg **Pg 05 53 57.5 +0.3**
SULZ *e*Sn **Sn 05 54 23.7 +0.6**
SULZ *e*Sg **Sg 05 54 42.0 +2.7**
SULZ Cheisacher 3.25 328 P **Pn 05 53 46.9 +1.9**
BALST Balsthal 3.26 322 *e*Pn **Pn 05 53 46.8 +1.5**
BALST *e*Sn **Sn 05 54 24.3 +0.7**
BALST Balsthal 3.26 322 P **Pn 05 53 46.7 +1.5**
BALST Balsthal 3.26 322 S **Sn 05 54 23.8 +0.1**
RJOB Jochberg 3.29 26 *e*Pn **Pn 05 53 48.4 +2.7**
RJOB *e*Pg **Pg 05 53 59.9 +1.8**
RJOB *e*Sn **Sb 05 54 30.0 -2.7**
SLE Schleitheim 3.32 334 *e*Pn **Pn 05 53 47.4 +1.4**
SLE Schleitheim 3.32 334 P **Pn 05 53 47.2 +1.2**
LMR La Mourre 3.32 245 *e*Pn **Pn 05 53 46.9 +0.9**
LMR *e*Sn **Sn 05 54 24.8 -0.2**
comp=E,90nm,0.3s
EMING Emmingen-Lipti 3.33 339 *e*Pn **Pn 05 53 47.7 +1.5**
EMING *e*Sn **Sn 05 54 26.6 +1.2**
METMA Mettma DE 3.35 331 *e*Pn **Pn 05 53 47.6 +1.1**
METMA *e*Pg **Pg 05 53 59.7 +0.5**
METMA *e*Sn **Sn 05 54 26.9 +1.1**
METMA *e*Sg **Sg 05 54 43.1 +0.4**
ORIF Oris-en-Rattie 3.39 274 *e*Pn **Pn 05 53 49.1 +2.0**
ORIF *e*Sn **Sn 05 54 27.1 +0.3**
comp=E,108nm,0.6s
ORIF Oris-en-Rattie 3.39 274 AML AML
comp=N,126µm,0.4s
ORIF AML AML
comp=E,101µm,1.0s
FUR Furstenfeldbru 3.39 7 *e*Pn **Pn 05 53 49.1 +2.0**
FUR *e*Pg **Pg 05 54 00.1 +0.1**
FUR *e*Sn **Sn 05 54 29.5 +2.7**
BLAF les Blancs 3.41 257 P **Pn 05 53 49.5 +2.2**
GRN Grenoble 3.50 279 P **Pn 05 53 51.1 +2.5**
BERGE Lenzkirch (DE) 3.51 332 *e*Pn **Pn 05 53 50.3 +1.5**
BERGE *e*Pg **Pg 05 54 02.3 -0.1**
BERGE *e*Sn **Sn 05 54 29.8 -0.1**
BERGE *e*Sg **Sg 05 54 48.5 +0.6**
BOURR Bourrignon 3.52 319 P **Pn 05 53 50.6 +1.8**
BOURR Bourrignon 3.52 319 S **Sn 05 54 29.8 -0.1**
BIOA Bad Ischl, Aus 3.56 35 *e*Pn **Pn 05 53 51.3 +2.0**
comp=E,3.8nm,0.1s
SOKA Soboth 3.60 57 *i* Pn **Pn 05 53 50.9 +1.0**
comp=E,3.1nm,0.2s
SOKA *e*Sn **Sn 05 54 32.9 +0.9**
comp=E,38nm,0.5s
BRANT Les Verrieres 3.61 308 P **Pn 05 53 52.0 +1.9**
INTR Introdacqua 3.66 138 Pn **Pn 05 53 50.8 0.0**
CAPE La Chapelle 3.67 301 *e*Pn **Pn 05 53 52.8 +1.9**
CABF La Chapelle 3.67 301 *e*Pg **Pg 05 54 04.7 -0.6**
CABF *e*Sn **Sn 05 54 34.1 +0.4**
CABF *e*Sg **Sg 05 54 51.5 -1.4**
comp=E,55nm,0.5s
ARTF Artigues 3.69 252 P **Pn 05 53 53.1 +2.1**
SMRF Simiane la Rot 3.73 259 *e*Pn **Pn 05 53 53.5 +1.9**
SMRF *e*Sn **Sn 05 54 34.3 -0.8**
comp=E,25nm,0.3s
OG35 Corcelles 3.78 291 P **Pn 05 53 53.9 +1.4**
RUSF Rustrel 3.80 259 P **Pn 05 53 55.2 +2.6**
BFO Black Forest 3.87 336 Pn **Pn 05 53 53.9 +0.3**
BFO Black Forest 3.87 336 *e*Pn **Pn 05 53 55.2 +1.6**
BFO *e*Pg **Pg 05 54 09.5 +0.3**
BFO *e*Sn **Sn 05 54 37.8 -0.8**
NORI Noerdlinger Ri 3.92 360 *e*Pn **Pn 05 53 55.1 +0.8**
NORI *e*Sn **Sn 05 54 40.1 +0.3**
MOA Molln 3.95 38 *i* Pn **Pn 05 53 56.2 +1.5**
comp=E,3.3nm,0.1s,SNR=5.5
MOA *e*Sn **Sn 05 54 41.9 +1.4**
comp=E,17nm,0.3s
MOA Molln 3.95 38 *e*Pn **Pn 05 53 56.4 +1.7**
MOA *e*Sn **Sn 05 54 42.7 +2.3**
HINF Hinteralfeld 4.00 320 *e*Pn **Pn 05 53 56.2 +0.8**
HINF Hinteralfeld 4.00 320 *e*Pg **Pg 05 54 10.3 -1.3**
HINF *e*Sn **Sn 05 54 41.7 -0.1**
comp=E,124nm,0.3s
HINF *e*Sg **Sg 05 55 03.2 -0.2**
comp=E,56nm,0.4s
ECH Echery 4.18 326 Pn **Pn 05 53 58.6 +0.8**
ECH Echery 4.18 326 *e*Pn **Pn 05 53 59.4 +1.6**
ECH *e*Sn **Sn 05 54 44.7 -1.4**
ARSA Arzberg 4.19 52 *i* Pn **Pn 05 53 58.3 +0.4**
comp=E,11nm,0.2s,SNR=11
ARSA Arzberg 4.19 52 *e*Pn **Pn 05 53 58.5 +0.6**
A050A Klekovaca 4.21 92 *e*Pn **Pn 05 53 59.2 +0.8**
VIVF Saint-Julien-l 4.25 273 *e*Pn **Pn 05 53 59.5 +0.7**
VIVF *e*Sn **Sn 05 54 47.4 -0.5**
comp=E,28nm,0.4s
CDF Champ du Feu 4.29 328 *e*Pn **Pn 05 54 00.5 +1.0**
CDF Champ du Feu 4.29 328 *e*Pg **Pg 05 54 16.8 -0.4**
CDF *e*Sn **Sn 05 54 49.1 0.0**
comp=E,41nm,0.2s
CDF *e*Sg **Sg 05 55 11.6 -1.2**
comp=E,94nm,0.7s
SSB Saint Sauveur 4.35 278 Pn **Pn 05 54 00.4 +0.2**
HAU Haudompre 4.37 319 *e*Pn **Pn 05 54 01.5 +1.0**
HAU *e*Sn **Sn 05 54 51.0 +0.1**
comp=E,336nm,0.3s
A051A Mrakovica 4.45 85 *e*Pn **Pn 05 54 01.5 -0.2**
SUBF Surbourg 4.54 336 P **Pn 05 54 04.7 +2.0**
SZBH soultz borehol 4.55 336 P **Pn 05 54 04.7 +1.8**
GEC2 GERESS Array S 4.56 26 Pn **Pn 05 54 03.6 +0.5**
GEC2 GERESS Array S 4.56 26 *e*Pn **Pn 05 54 03.9 +0.8**
GEC2 *e*Sn **Sn 05 54 55.0 -0.6**
GERES GERESS Array B 4.56 26 Pn **Pn 05 54 01.0 -2.1**
comp=E,2.5nm,0.3s,baz=203,slow=14,SNR=68
GERES Sn **Sn 05 54 53.6 -1.9**
comp=E,6.1nm,0.3s,baz=205,slow=25,SNR=1.6
GERES Lg Lg 05 55 16.5
comp=E,4.2nm,0.3s,baz=208,slow=27,SNR=1.6
comp=E,4.5nm,0.3s
GERES GERESS Array B 4.56 26 Pn **Pn 05 54 03.2 +0.1**
WET Wettzell 4.61 19 *e*Pn **Pn 05 54 04.9 +1.2**
WET *e*Sn **Sn 05 54 56.7 0.0**
MGRS Mrkonjic Grad 4.61 93 *e*Pn **Pn 05 54 03.6 -0.2**
BLY Banja Luka 4.66 88 *e*Pn **Pn 05 54 02.2 -2.2**
CKRC Cesky Krumlov 4.74 31 *e*PN **Pn 05 54 06.2 +0.6**
CKRC *e*SN **Sn 05 54 59.6 -0.4**
KHC Kasperske Hory 4.77 24 Pn **Pn 05 54 06.6 +0.6**
KHC Kasperske Hory 4.77 24 *e*PN **Pn 05 54 06.9 +0.9**
KHC *ex* x 05 54 26.0
KHC *e*SN **Sn 05 55 01.1 +0.3**
KHC *e*SG **Sg 05 55 26.0 -2.2**
CONA Conrad Observa 4.78 47 *i* Pn **Pn 05 54 07.2 +1.0**
comp=E,3.5nm,0.2s
CONA *e*Sn **Sn 05 54 59.8 -1.2**
comp=E,13nm,0.4s
SGRT San Giovanni R 4.81 128 Pn **Pn 05 54 05.5 -1.0**
KTD Kalmit 4.85 340 *e*Pn **Pn 05 54 09.2 +2.1**
RONA Rosalia, Austr 4.88 52 *e*Pn **Pn 05 54 07.8 +0.4**
comp=E,6.5nm,0.2s,SNR=7.5
RONA *e*Sn **Sn 05 55 03.0 -0.4**
comp=E,42nm,0.7s
GRF Grafenberg Arr 4.91 4 *e*Pn **Pn 05 54 08.7 +0.8**
GRF *e*Pg **Pg 05 54 28.3 -0.7**
GRF *e*Sn **Sn 05 55 03.7 -0.4**
LASF Ste Croix 4.91 264 *e*Pn **Pn 05 54 08.3 +0.4**
LASF *e*Sn **Sn 05 55 02.9 -1.4**
comp=E,19nm,0.5s
PAGF Fort de Pagny 5.05 320 *e*Pn **Pn 05 54 11.5 +1.7**
baz=138
PAGF Fort de Pagny 5.05 320 *e*Pg **Pg 05 54 28.7 -3.1**
PAGF *e*Sn **Sn 05 55 06.9 -0.8**
comp=E,23nm,0.2s
ROTZ Rotzenmuhle 5.08 12 *e*Pn **Pn 05 54 10.4 +0.2**
ROTZ *e*Pg **Pg 05 54 31.2 -1.0**
ROTZ *e*Sn **Sn 05 55 06.1 -2.2**

ROTZ eSg Sg 05 55 37.4 -0.6
SMF Signal de Mont 5.11 294 ePn Pn 05 54 11.8 +1.2
SMF eSn Sn 05 55 08.1 -1.0
comp=E,39nm,0.3s
SFTF Sexfontaines 5.15 313 ePn Pn 05 54 12.6 +1.4
baz=129
SFTF Sexfontaines 5.15 313 ePg Pg 05 54 31.7 -2.0
SFTF eSn Sn 05 55 09.4 -0.8
comp=E,36nm,0.4s
LOR Lormes 5.33 300 ePn Pn 05 54 15.0 +1.4
baz=122
LOR Lormes 5.33 300 ePg Pg 05 54 34.9 -2.1
baz=121
LOR eSn Sn 05 55 13.6 -0.9
comp=E,31nm,0.3s
MEZF Maizieres J'vi 5.34 316 ePn Pn 05 54 15.4 +1.7
baz=130
MEZF Maizieres J'vi 5.34 316 ePg Pg 05 54 35.5 -1.7
MEZF eSn Sn 05 55 13.8 -0.9
comp=E,31nm,0.4s
SAVF Savonnieres en 5.38 317 ePn Pn 05 54 15.5 +1.2
baz=137
SAVF eSn Sn 05 55 14.8 -0.9
comp=E,26nm,0.3s
SAVF eSg Sg 05 55 47.3 -0.3
comp=E,59nm,0.8s
STON Ston 5.46 108 ePn Pn 05 54 14.4 -0.9
SSF Saint Saulge 5.47 297 ePn Pn 05 54 16.5 +1.0
SSF eSn Sn 05 55 16.8 -1.1
comp=E,54nm,0.4s
AVF Avril sur Loir 5.47 294 ePn Pn 05 54 16.7 +1.1
AVF eSn Sn 05 55 16.9 -1.1
comp=E,18nm,0.4s
NKC Novy Kostel 5.57 12 eSN Sn 05 55 19.2 -1.2
ZST Bratislava 5.60 50 ePN Pn 05 54 18.4 +1.0
ZST eSN Sn 05 55 19.2 -2.0
TNS Taunus Mts 5.62 345 ePn Pn 05 54 19.2 +1.5
TNS eSn Sn 05 55 18.9 -2.9
BGF Bois d'Agland 5.74 291 ePn Pn 05 54 20.4 +1.2
BGF eSn Sn 05 55 23.1 -1.5
comp=E,45nm,0.4s
WLF Walferdange 5.75 329 dS Sn 05 55 25.9 +1.2
MODS Modra-Piesok 5.80 50 ePN Pn 05 54 21.3 +1.2
MODS eSN Sn 05 55 24.6 -1.5
KRUC Moravsky 5.80 41 ePN Pn 05 54 20.1 0.0
KRUC eSN Sn 05 55 22.8 -3.3
PRU Pruhonice 5.82 26 ePN Pn 05 54 21.5 +1.1
PRU eSN Sn 05 55 26.0 -0.6
TREB Trebinje 5.96 108 ePn Pn 05 54 22.3 +0.1
BRY Bratogost 6.02 106 ePn Pn 05 54 24.1 +0.9
VRAC Vranov 6.07 40 Pn Pn 05 54 21.2 -2.5
comp=E,0.5nm,0.3s,baz=225,slow=14,SNR=1.5
VRAC Sn Sn 05 55 29.3 -3.4
comp=E,2.1nm,0.3s,baz=307,slow=15,SNR=4.4
VRAC Lg Lg 05 56 01.2
comp=E,0.6nm,0.3s,baz=136,slow=20,SNR=1.5
VRAC LR LR 05 57 21.6
comp=E,66nm,18.9s,baz=278,slow=46
comp=E,1.6nm,0.3s
VRAC Vranov 6.07 40 ePN Pn 05 54 21.6 -2.2
VRAC eSN Sn 05 55 30.8 -1.9
HYF Humbligny 6.09 297 ePn Pn 05 54 25.5 +1.4
HYF eSn Sn 05 55 31.8 -1.5
CAF Calviac 6.10 274 ePn Pn 05 54 25.0 +0.8
CAF eSn Sn 05 55 31.8 -1.7
comp=E,9.2nm,0.5s
TCF Toulx Ste Croi 6.11 287 ePn Pn 05 54 25.3 +1.0
TCF Toulx Ste Croi 6.11 287 ePg Pg 05 54 48.8 -3.1
TCF eSn Sn 05 55 32.0 -1.7
comp=E,22nm,0.5s
HCY Herceg Novi 6.16 110 ePn Pn 05 54 25.4 +0.3
MTLF Montolieu 6.24 259 ePn Pn 05 54 26.6 +0.4
MTLF eSn Sn 05 55 34.5 -2.5
comp=E,12nm,0.7s
FILF Fillols 6.28 252 P Pn 05 54 29.9 +3.2
RUDO Rudo 6.38 98 ePn Pn 05 54 30.2 +2.1
BRG Berggiesshubel 6.47 19 eP Pn 05 54 30.4 +1.1
BRG Amp 05 54 32.0
comp=Z,9.7nm,0.6s
BRG ex x 05 54 56.4
BRG ex x 05 55 40.1
BRG ex x 05 56 20.4
BRG Amp 05 56 35.1
comp=Z,27nm,1.4s
RJF Les Rejaudoux 6.49 278 eSn Sn 05 55 41.0 -2.0
comp=Z,12nm,0.7s
RCHB Rochefort 6.49 328 dP Pn 05 54 31.3 +1.8
BTNL Ternell 6.54 334 dS Sn 05 55 41.7 -2.6
GIVF Givet 6.61 325 ePn Pn 05 54 32.5 +1.3
GIVF Givet 6.61 325 ePg Pg 05 54 58.9 -2.6
GIVF eSn Sn 05 55 44.3 -1.7
comp=E,14nm,0.6s
GIVF eSg Sg 05 56 24.4 -2.5
comp=E,18nm,0.6s
BCLA Clavier 6.68 329 dP Pn 05 54 34.5 +2.4
BCLA dS Sn 05 55 44.9 -2.8
PDG Podgorica 6.68 108 Pn Pn 05 54 32.5 +0.3
CLL Collm 6.70 13 Pn Pn 05 54 31.6 -0.8
CLL Collm 6.70 13 ePn Pn 05 54 33.0 +0.6
CLL ePg Pg 05 55 05.0 +1.8
CLL eSn Sn 05 55 33.0 -15
CLL ex x 05 56 01.0
CLL ex x 05 56 09.0
CLL ex x 05 56 27.0
CLL eSg Sg 05 56 31.0 +1.2
CLL ex x 05 56 34.0
comp=Z,35nm,1.0s
KRLC Kraliky 6.72 36 ePn Pn 05 54 33.4 +0.7
KRLC eSN Sn 05 55 46.3 -2.4
BGES Gesves 6.73 328 dP Pn 05 54 34.9 +2.0
DRME Dracevica, Mon 6.74 110 ePn Pn 05 54 32.9 -0.1
VYHS Vyhne 6.74 54 ePN Pn 05 54 32.9 -0.1
VYHS eSN Sn 05 55 47.0 -2.2
DPC Dobruska-Polom 6.75 33 ePN Pn 05 54 32.9 -0.2
BMRD Maredsous 6.79 326 dS Sn 05 55 52.5 +2.1
BAIF Baives 6.83 323 ePn Pn 05 54 36.0 +1.8
BAIF Baives 6.83 323 ePg Pg 05 55 02.6 -3.1
BAIF eSn Sn 05 55 49.8 -1.7
comp=Z,7.6nm,0.4s
BAIF eSg Sg 05 56 31.2 -2.9
comp=Z,12nm,0.5s
MORC Moravsky Berou 6.84 41 ⇑P Pg 05 55 04.8 -1.1
MORC Moravsky Berou 6.84 41 Pn Pn 05 54 32.8 -1.6
LFF La Frestale 7.04 275 ePn Pn 05 54 36.8 -0.3
LFF eSn Sn 05 55 53.4 -3.2
comp=Z,48nm,1.3s
EPF Esparros 7.65 260 ePn Pn 05 54 46.4 +0.9
EPF eSn Sn 05 56 10.4 -1.3
comp=E,34nm,1.4s
MFF Saint Martin d 7.77 287 ePn Pn 05 54 47.7 +0.6
MFF eSn Sn 05 56 11.8 -2.7
LDF La Druitiere 8.31 301 ePn Pn 05 54 56.1 +1.5
LDF eSn Sn 05 56 24.0 -3.9
ETSF Etsaut 8.32 261 ePn Pn 05 54 56.6 +1.9
ETSF eSn Sn 05 56 27.0 -1.2
comp=Z,89nm,1.9s
FLN La Foliniere 8.60 301 ePn Pn 05 54 59.2 +0.7
FLN eSn Sn 05 56 31.6 -3.3
GRR Gorron 8.69 298 ePn Pn 05 55 00.0 +0.2
GRR eSn Sn 05 56 33.1 -4.1
SJPF Ste Jean 8.73 263 ePn Pn 05 54 59.5 -0.8
SJPF eSn Sn 05 56 34.1 -4.1
KEST Kesra 9.11 187 Pn Pn 05 55 05.7 0.0
comp=Z,0.1nm,0.3s,baz=307,slow=15,SNR=0.8
SGMF Saint Gilles 9.73 295 ePn Pn 05 55 13.7 -0.3
SGMF eSn Sn 05 56 58.3 -4.4
QUIF Quistinic 10.04 293 ePn Pn 05 55 19.5 +1.3
QUIF eSn Sn 05 57 06.3 -4.0
ROSF Rostrenen 10.21 295 ePn Pn 05 55 21.1 +0.5
ROSF eSn Sn 05 57 09.6 -5.0
ESDC Sonseca Array 11.97 250 Pn Pn 05 55 46.9 +2.2
comp=Z,0.1nm,0.3s,baz=61,slow=14,SNR=8.4
comp=Z,1.2nm,0.7s
PAB San Pablo 12.29 250 Pn Pn 05 55 50.9 +1.7
EKA Eskdalemuir Ar 13.74 325 Pn Pn 05 56 10.2 +1.4
baz=134,slow=14
comp=Z,2.5nm,1.0s
AKASG Malin Array Be 13.81 58 Pn Pn 05 56 02.5 -7.2
comp=Z,0.6nm,0.3s,baz=288,slow=9.8,SNR=2.2
comp=Z,0.4nm,0.6s
NACGM Naroch 14.47 40 eP P 05 56 28.2 +2.8
comp=Z,22nm,0.8s,baz=232
FINES FINESS Array B 18.98 23 P P 05 57 12.5 -2.7
comp=Z,0.1nm,0.3s,baz=200,slow=10,SNR=1.2
comp=Z,3.1nm,0.8s
TXAR Lajitas Array 85.05 307 P P 06 05 31.1 +1.4
comp=Z,0.9nm,1.0s,baz=39,slow=4.6,SNR=4.5
comp=Z,0.9nm,1.0s

IDC 30 06:00:52.2±4.0, 4°40'S×134°12'E, h0km, mb3.7/1, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=186.9km s-min=27.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.52**	**321**	Pn	Pn	06 02 02.4	+0.5
	2.9nm,0.3s,baz=208,slow=22,SNR=2.6						
SIJI				Sn	Sn	06 02 50.0	-5.2
	2.3nm,0.3s,baz=215,slow=23,SNR=2.1						
	6.6nm,0.3s						
WRA	**Warramunga Arr**	**15.45**	**179**	Pn	Pn	06 04 29.8	-1.9
	0.1nm,0.3s,baz=357,slow=13,SNR=2.1						
WRA				Sn	Sn	06 07 13.0	-11
	0.1nm,0.3s,baz=357,slow=24,SNR=2.1						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**19.16**	**181**	P	Pn	06 05 18.2	+0.1
	0.4nm,0.3s,baz=1.7,slow=12,SNR=37						
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**68.41**	**324**	P	P	06 11 55.7	-0.2
	0.7nm,0.8s,baz=132,slow=8.0,SNR=5.4						
	0.7nm,0.8s						

*WEL **30** 06:13:05.9±0.3, 42°S×174°E±°, h5km, M4.0/32, ML4.3/14, MLv4.0/32, Error ellipse: s-maj=0.0km s-min=0.0km az=117.0*
*NOU **30** 06:13:05.7, 42°45S×173°64E, h8km, MLv4.4/13, South Island, New Zealand*
ISC 30 06:13:05.2±1.0, 42°39S±0°03×173°68E±0°04, h18km±6km, n111, σ2§00/113, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.11**	**256**	P	**Pg**	**06 13 08.7**	**-0.2**
KHZ	**Kahutara**	**0.11**	**256**	P	**Pg**	**06 13 08.7**	**-0.2**
KHZ				S	**Sg**	**06 13 11.2**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.69**	**12**	P	**Pg**	**06 13 17.9**	**-0.8**
BSWZ				S	**Sg**	**06 13 26.9**	**-1.0**
GVZ	**Greta Valley S**	**0.75**	**219**	P	**Pn**	**06 13 21.8**	**+0.9**
CMWZ	**Cape Campbell**	**0.75**	**32**	P	**Pg**	**06 13 20.9**	**+1.0**
THZ	**Tophouse**	**0.85**	**317**	P	**Pg**	**06 13 19.7**	**-2.1**
TUWZ	**Tuamarina**	**0.98**	**12**	P	**Pg**	**06 13 23.1**	**-1.0**
AMCZ	**Amberley**	**1.09**	**224**	P	**Pb**	**06 13 26.6**	**+1.1**
LTZ	**Lake Taylor**	**1.11**	**249**	P	**Pg**	**06 13 25.6**	**-1.1**
NNZ	**Nelson**	**1.19**	**349**	P	**Pg**	**06 13 25.9**	**-2.3**
MRNZ	**Matariki Terra**	**1.21**	**325**	P	**Pg**	**06 13 26.3**	**-2.2**
TCW	**Tory Channel**	**1.26**	**21**	P	**Pn**	**06 13 28.1**	**+0.2**
SNZO	**South Karori**	**1.32**	**36**	P	**Pn**	**06 13 29.6**	**+0.8**
WEL	**Wellington**	**1.37**	**37**	P	**Pn**	**06 13 30.2**	**+0.7**
OKCZ	**Okains Bay**	**1.41**	**199**	P	**Pn**	**06 13 31.3**	**+1.3**
PLWZ	**Palliser**	**1.43**	**56**	P	**Pn**	**06 13 30.6**	**+0.3**
TKNZ	**Takaka Hill**	**1.46**	**338**	P	**Pn**	**06 13 30.7**	**0.0**
MQZ	**McQueen's Vall**	**1.52**	**209**	P	**Pn**	**06 13 31.7**	**+0.3**
MSWZ	**Moikau Station**	**1.52**	**51**	P	**Pn**	**06 13 31.9**	**+0.3**
OXZ	**Oxford**	**1.53**	**232**	P	**Pn**	**06 13 31.7**	**0.0**
DSZ	**Denniston Nort**	**1.54**	**294**	P	**Pn**	**06 13 32.3**	**+0.5**
AKCZ	**Akaroa Harbour**	**1.59**	**201**	P	**Pn**	**06 13 33.3**	**+0.9**
DUWZ	**D'Urville Isla**	**1.60**	**7**	P	**Pn**	**06 13 33.1**	**+0.5**
PAWZ	**Paruwai Farm**	**1.65**	**53**	P	**Pn**	**06 13 33.3**	**0.0**
CAW	**Cannon Point**	**1.65**	**39**	P	**Pn**	**06 13 33.7**	**+0.4**
INZ	**Inchbonnie**	**1.69**	**258**	P	**Pn**	**06 13 34.4**	**+0.6**
RACZ	**Rakaia**	**1.75**	**220**	P	**Pn**	**06 13 35.0**	**+0.3**
KIW	**Kapiti Island**	**1.78**	**31**	P	**Pn**	**06 13 36.0**	**+0.8**
QRZ	**Quartz Range**	**1.79**	**331**	P	**Pn**	**06 13 36.2**	**+1.0**
QRZ	**Quartz Range**	**1.79**	**331**	P	**Pn**	**06 13 36.1**	**+0.9**
TRWZ	**Traveller**	**1.80**	**57**	P	**Pn**	**06 13 35.3**	**-0.1**
MTW	**Mount Morrison**	**1.83**	**48**	P	**Pn**	**06 13 35.3**	**-0.6**
MHCZ	**Mount Hutt**	**1.93**	**233**	P	**Pn**	**06 13 37.1**	**-0.1**
OGWZ	**Otaki Gorge**	**1.93**	**36**	P	**Pn**	**06 13 37.5**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.03**	**43**	P	**Pn**	**06 13 38.7**	**+0.2**
WACZ	**Wakanui South**	**2.06**	**220**	P	**Pn**	**06 13 39.4**	**+0.5**
TMWZ	**Te Maipa**	**2.09**	**53**	P	**Pn**	**06 13 39.1**	**-0.3**
MRZ	**Mangatainoka R**	**2.24**	**40**	P	**Pn**	**06 13 41.3**	**-0.1**
WVZ	**Waitaha Valley**	**2.27**	**252**	P	**Pn**	**06 13 42.7**	**+0.8**
TIWZ	**Tintock**	**2.31**	**46**	P	**Pn**	**06 13 43.0**	**+0.6**
RPZ	**Rata Peaks**	**2.34**	**235**	P	**Pn**	**06 13 43.0**	**+0.2**
RPZ	**Rata Peaks**	**2.34**	**235**	P	**Pn**	**06 13 42.9**	**+0.2**
ARCZ	**Arundel**	**2.40**	**229**	P	**Pn**	**06 13 43.8**	**+0.1**
OHWZ	**Ohakea**	**2.50**	**30**	P	**Pn**	**06 13 48.7**	**+3.6**
PRWZ	**Pori Road**	**2.51**	**44**	P	**Pb**	**06 13 49.8**	**0.0**
POWZ	**Post Office Ro**	**2.54**	**39**	P	**Pn**	**06 13 46.1**	**+0.5**
BFZ	**Birch Farm**	**2.57**	**49**	P	**Pn**	**06 13 48.2**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.63**	**248**	P	**Pn**	**06 13 48.2**	**+1.3**
TMZ	**Timaru**	**2.79**	**223**	P	**Pn**	**06 13 49.3**	**+0.3**
DVHZ	**Dannevirke**	**2.80**	**43**	P	**Pn**	**06 13 48.2**	**-1.0**
WAZ	**Wanganui**	**2.81**	**21**	P	**Pn**	**06 13 52.0**	**+2.8**
TSZ	**Takapari Road**	**2.90**	**37**	P	**Pn**	**06 13 50.5**	**0.0**
LREZ	**Lake Rotokare**	**2.98**	**11**	P	**Pb**	**06 13 57.0**	**-0.7**
NMEZ	**Namu Road**	**2.98**	**3**	P	**Pn**	**06 13 55.7**	**+4.2**
FOZ	**Fox Glacier**	**3.06**	**247**	P	**Pn**	**06 13 53.7**	**+1.1**
KHEZ	**Kahui Hut**	**3.10**	**5**	P	**Pn**	**06 13 56.4**	**+3.0**
KHEZ	**Kahui Hut**	**3.10**	**5**	P	**Pb**	**06 13 58.5**	**-1.4**
PNHZ	**Pukenui**	**3.12**	**38**	P	**Pn**	**06 13 53.0**	**-0.5**
NBEZ	**Newall Road No**	**3.12**	**3**	P	**Pn**	**06 13 57.5**	**+4.0**
NEZ	**North Egmont**	**3.13**	**6**	P	**Pn**	**06 13 58.1**	**+4.3**
PKE	**Pukeiti**	**3.20**	**4**	P	**Pn**	**06 13 58.0**	**+3.4**
DREZ	**Durham Road**	**3.22**	**7**	P	**Pb**	**06 14 00.5**	**-1.4**
LBZ	**Lake Benmore**	**3.24**	**231**	P	**Pn**	**06 13 55.4**	**+0.3**
PKVZ	**Pokaka**	**3.34**	**23**	P	**Pn**	**06 14 00.2**	**+3.6**
VRZ	**Vera Road**	**3.36**	**14**	P	**Pn**	**06 14 00.4**	**+3.6**
MOVZ	**Moawhango**	**3.37**	**28**	P	**Pn**	**06 13 59.0**	**+2.0**
WNVZ	**Wahianoa**	**3.39**	**26**	P	**Pn**	**06 13 59.2**	**+1.9**
TRVZ	**Turoa**	**3.40**	**25**	P	**Pn**	**06 14 02.1**	**+4.5**
BHHZ	**Black Hill Sta**	**3.41**	**33**	P	**Pn**	**06 13 58.8**	**+1.2**
WHVZ	**Whangaehu Hut**	**3.42**	**26**	P	**Pn**	**06 14 01.3**	**+3.4**
FWVZ	**Far West T-bar**	**3.44**	**25**	P	**Pn**	**06 14 01.1**	**+3.0**
ODZ	**Otahua Downs**	**3.45**	**219**	P	**Pn**	**06 13 58.6**	**+0.6**
ODZ	**Otahua Downs**	**3.45**	**219**	P	**Pn**	**06 13 58.1**	**+0.1**
TUVZ	**Tukino**	**3.46**	**26**	P	**Pn**	**06 14 01.3**	**+2.9**
NGZ	**Ngauruhoe**	**3.53**	**25**	P	**Pn**	**06 14 02.4**	**+3.2**
SNVZ	**South Ngauruho**	**3.53**	**26**	P	**Pn**	**06 14 01.5**	**+2.2**
KAHZ	**Kahuranaki**	**3.54**	**44**	P	**Pn**	**06 13 60.0**	**+0.6**
OTVZ	**Oturere**	**3.56**	**26**	P	**Pn**	**06 14 01.5**	**+1.8**
NNVZ	**North Ngauruho**	**3.57**	**25**	P	**Pn**	**06 14 02.3**	**+2.5**
TWVZ	**Taurewa**	**3.57**	**22**	P	**Pn**	**06 14 02.8**	**+3.0**
WTVZ	**West Tongariro**	**3.58**	**25**	P	**Pn**	**06 14 03.0**	**+3.0**
ETVZ	**East Tongariro**	**3.60**	**26**	P	**Pn**	**06 14 03.0**	**+2.8**
KRVZ	**Karewarewa**	**3.61**	**25**	P	**Pn**	**06 14 04.4**	**+4.0**
TMVZ	**Te Maari**	**3.61**	**26**	P	**Pn**	**06 14 03.3**	**+2.9**
KWHZ	**Kaweka Forest**	**3.62**	**36**	P	**Pn**	**06 14 01.3**	**+0.8**
NTVZ	**North Tongarir**	**3.62**	**25**	P	**Pn**	**06 14 03.4**	**+2.9**
BKZ	**Black Stump Fm**	**3.86**	**34**	P	**Pn**	**06 14 06.8**	**+3.0**
JCZ	**Jackson Bay**	**3.95**	**243**	P	**Pn**	**06 14 05.9**	**+0.8**
JCZ	**Jackson Bay**	**3.95**	**243**	P	**Pn**	**06 14 05.6**	**+0.6**
HIZ	**Hauiti**	**3.98**	**13**	P	**Pn**	**06 14 08.1**	**+2.8**
HIZ	**Hauiti**	**3.98**	**13**	P	**Pn**	**06 14 08.9**	**+3.7**
HHSZ	**Highcliff Hill**	**4.14**	**211**	P	**Pn**	**06 14 08.6**	**+1.1**
TLZ	**Tolley Road**	**4.30**	**20**	P	**Pn**	**06 14 13.9**	**+4.2**
TUZ	**Tuapeka**	**4.60**	**218**	P	**Pn**	**06 14 14.3**	**+0.4**
TOZ	**Tahuroa Road**	**4.86**	**17**	P	**Pn**	**06 14 19.6**	**+2.2**
MLZ	**Mavora Lakes**	**5.00**	**232**	P	**Pn**	**06 14 19.9**	**+0.5**
SYZ	**Scrubby Hill**	**5.27**	**217**	P	**Pn**	**06 14 24.5**	**+1.5**
SYZ	**Scrubby Hill**	**5.27**	**217**	P	**Pn**	**06 14 23.9**	**+0.9**
AWAZ	**Awhitu Peninsu**	**5.37**	**8**	P	**Pn**	**06 14 26.3**	**+1.8**
RUGZ	**Raukumara Rang**	**5.38**	**36**	P	**Pn**	**06 14 25.4**	**+0.8**
MKAZ	**Moumakai**	**5.40**	**13**	P	**Pn**	**06 14 26.5**	**+1.7**
WHZ	**Wether Hill Ro**	**5.41**	**228**	P	**Pn**	**06 14 25.2**	**+0.2**
WTAZ	**Waiatarua**	**5.49**	**7**	P	**Pn**	**06 14 30.2**	**+4.0**
ETAZ	**East Tamaki Re**	**5.51**	**10**	P	**Pn**	**06 14 30.4**	**+4.0**
WIAZ	**Waiheke Island**	**5.70**	**12**	P	**Pn**	**06 14 31.7**	**+2.7**
WMGZ	**Waiomatatini S**	**5.83**	**40**	P	**Pn**	**06 14 31.5**	**+0.8**
KUZ	**Kuaotunu**	**5.85**	**16**	P	**Pn**	**06 14 33.5**	**+2.4**
APZ	**The Paps**	**6.02**	**221**	P	**Pn**	**06 14 33.7**	**+0.4**
OUZ	**Omahuta**	**7.16**	**359**	P	**Pn**	**06 14 51.9**	**+2.9**
OUZ	**Omahuta**	**7.16**	**359**	P	**Pn**	**06 14 52.0**	**+3.0**
CTZ	**Chatham Island**	**7.23**	**104**	P	**Pn**	**06 14 51.8**	**+1.8**

*HVO **30** 06:29:27.9±0.7, 19°.386N±0°.008×155°.279W±0°.006, h3km±3km, ML2.6/22, ML1.8/42(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=194.0*
NEIC 30 06:29:28.4±0.5, 19°.399N±0°.009×155°.279W±0°.008, h5km±1km, Error ellipse: s-maj=1.3km s-min=1.0km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.01**	**127**	IAML		06 29 28.9	
	comp=E,2μm,0.9s						
RIM				IAML		06 29 29.0	
	comp=N,2μm,0.1s						
RIM	**Rim**	**0.01**	**127**		Pg	06 29 29.4	0.0
KKO	**Keanakako`i**	**0.01**	**95**	IAML		06 29 29.1	
	comp=E,2μm,0.1s						
KKO	**Keanakako`i**	**0.01**	**95**		Pg	06 29 29.6	+0.2
NPH	**North Pit**	**0.01**	**351**	IAML		06 29 29.2	
	comp=N,1μm,0.2s						
NPH	**North Pit**	**0.01**	**351**		Pg	06 29 29.8	+0.4
SDHHI	**Sand Hill**	**0.02**	**237**	IAML		06 29 29.2	
	comp=N,2μm,0.1s						
SDHHI	**Sand Hill**	**0.02**	**237**		Pg	06 29 29.5	+0.1
OBL	**Observatory Le**	**0.02**	**345**		Pg	06 29 29.2	-0.2
OBL	**Observatory Le**	**0.02**	**345**	IAML		06 29 29.3	
	comp=N,410nm,0.4s						
OBL				IAML		06 29 29.6	
	comp=E,619nm,0.4s						
WRMHI	**West Rim**	**0.02**	**291**		Pg	06 29 30.0	+0.5
BYL	**Byron's Ledge**	**0.02**	**54**	IAML		06 29 29.5	
	comp=E,2μm,0.2s						
BYL	**Byron's Ledge**	**0.02**	**54**		Pg	06 29 30.1	+0.7
UWB	**Uwekahuna B**	**0.03**	**2**		Pg	06 29 29.4	-0.1
UWB	**Uwekahuna B**	**0.03**	**2**	IAML		06 29 30.0	
	comp=N,1μm,0.2s						
UWB				IAML		06 29 30.1	
	comp=E,1μm,0.2s						
UWE	**Uwekahuna**	**0.03**	**329**	Pg	Pg	06 29 29.3	-0.2
UWE				IAML		06 29 29.8	
	comp=N,979nm,0.3s						
HATHI	**Halema'uma'u T**	**0.03**	**35**		Pg	06 29 29.4	-0.1
HATHI	**Halema'uma'u T**	**0.03**	**35**	IAML		06 29 29.4	
	comp=N,997nm,1.1s						
HATHI				IAML		06 29 29.9	
	comp=E,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.03**	**20**		Pg	06 29 29.4	-0.1
SBLHI	**Steaming Bluff**	**0.03**	**20**	IAML		06 29 29.8	
	comp=N,1μm,1.1s						
SBLHI				IAML		06 29 29.9	
	comp=E,721nm,0.3s						
PUH	**Pauahi**	**0.06**	**113**	Pg	Pg	06 29 29.7	-0.2
RSD	**Rainshed**	**0.06**	**1**	Pg	Pg	06 29 30.0	+0.1
RSD				IAML		06 29 31.9	
	comp=E,562nm,0.6s						
RSD				IAML		06 29 31.9	
	comp=N,679nm,0.3s						
HLP	**Hilina Pali**	**0.11**	**195**		Pg	06 29 30.5	0.0
HLP	**Hilina Pali**	**0.11**	**195**	IAML		06 29 32.5	
	comp=N,629nm,0.6s						
HLP				IAML		06 29 32.9	
	comp=E,1μm,0.4s						
MLH	**Mauna Loa**	**0.14**	**313**		Pg	06 29 31.7	+0.5
MLH	**Mauna Loa**	**0.14**	**313**	IAML		06 29 35.4	
	comp=N,501nm,0.5s						
MLH				IAML		06 29 36.0	
	comp=E,374nm,0.6s						
STCH	**Steam Cracks**	**0.15**	**95**		Pg	06 29 31.4	+0.1
STCH	**Steam Cracks**	**0.15**	**95**	IAML		06 29 34.6	
	comp=N,207nm,0.4s						
STCH				IAML		06 29 34.8	
	comp=E,450nm,0.6s						
AIN	**Ainahou**	**0.17**	**261**		Pg	06 29 32.1	+0.3
AIN					Sg	06 29 35.5	+1.5
AIN	**Ainahou**	**0.17**	**261**	IAML		06 29 35.8	
	comp=E,442nm,0.3s						
AIN				IAML		06 29 36.0	
	comp=N,1μm,0.4s						
HTC	**Hot Caves**	**0.20**	**215**		Pg	06 29 32.2	0.0
JOKA	**Jonika Flow**	**0.26**	**82**		Pg	06 29 33.3	-0.1
HMH	**Humu'ula Sheep**	**0.28**	**317**		Pg	06 29 34.1	+0.2
HMH	**Humu'ula Sheep**	**0.28**	**317**	IAML		06 29 38.9	
	comp=E,174nm,3.3s						
HMH				IAML		06 29 40.1	
	comp=N,156nm,1.8s						
MLOA	**Mauna Loa Obse**	**0.31**	**296**	Pg	Pg	06 29 34.4	-0.1
MWH	**Moku'aweowe**	**0.31**	**286**		Pg	06 29 34.5	-0.1
MWH	**Moku'aweowe**	**0.31**	**286**	IAML		06 29 41.2	
	comp=E,465nm,1.4s						
MWH				IAML		06 29 42.2	
	comp=N,349nm,0.6s						
KHU	**Kahuku**	**0.35**	**244**		Pg	06 29 34.7	-0.5
KHU	**Kahuku**	**0.35**	**244**	IAML		06 29 40.0	
	comp=E,311nm,3.6s						
KHU				IAML		06 29 41.9	
	comp=N,140nm,1.4s						
ALEP	**Alea Permanent**	**0.37**	**292**		Pg	06 29 35.4	-0.3
ALEP					Sg	06 29 41.2	+0.6
POHA	**Pohakuloa**	**0.43**	**326**		Pg	06 29 36.3	-0.4
HUH	**Hualalai**	**0.60**	**299**	Pg	Pg	06 29 39.8	-0.1

*NEIC **30** 06:40:13.6±1.6, 2°.8N±0°.1×123°.4E±0°.1, h433km±9km, mb4.3/31, Error ellipse: s-maj=16.1km s-min=14.1km az=220.0*
*IDC **30** 06:40:14.3±1.1, 2°.76N×123°.29E, h450km±13km, mb3.5/18, mbtmp4.4/21, Error ellipse: s-maj=18.3km s-min=8.8km az=77.0*
*DJA **30** 06:40:16.8±0.5, 2°N±6°×122°.3E±°, h408km±3km, M4.5/13, mb4.5/12, mB5.0/8, MLv4.7/13, Mw(mB)4.3/8*
ISC 30 06:40:13.9±0.4, 2°.70N±0°.05×123°.44E±0°.07, h450km, n94, σ1§70/105, mb4.2/35, 1C-3D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**2.09**	**192**	P	**P**	**06 41 12.7**	**-2.3**
MRSI	**Marisa**	**2.67**	**214**	P	**P**	**06 41 16.9**	**-1.7**
MRSI				S	**S**	**06 42 06.3**	**-4.7**
TOLI2	**Tolitoli**	**3.09**	**239**	P	**P**	**06 41 19.5**	**-2.1**
TOLI2	**Tolitoli**	**3.09**	**239**	P	**P**	**06 41 19.6**	**-2.0**
LUWI	**Luwuk**	**3.78**	**190**	P	**P**	**06 41 25.4**	**-1.7**
LUWI	**Luwuk**	**3.78**	**190**	P	**P**	**06 41 25.4**	**-1.7**
LUWI				S	**S**	**06 42 20.6**	**-6.0**
LUWI	**Luwuk**	**3.78**	**190**	P	**P**	**06 41 25.0**	**-2.1**
APSI	**Ampana**	**4.01**	**207**	P	**P**	**06 41 27.9**	**-1.2**
TNTI	**Ternate**	**4.37**	**116**	P	**P**	**

30nm,0.8s
JAGI Jajag, Banyuwa 14.45 220 P P 06 43 20.2 +0.9
JAGI Jajag, Banyuwa 14.45 220 P P 06 43 19.5 +0.2
1µm76nm,0.5s
JAGI Jajag, Banyuwa 14.45 220 P P 06 43 21.8 +2.5
GMJI Gumukmas 14.77 222 P P 06 43 24.7 +2.0
MTN Manton Dam 17.23 154 P 06 43 48.6 -0.1
MTN IAmb IAmb 06 44 08.8
comp=Z,28nm,1.4s
KNRA Kununurra 19.00 164 P P 06 44 07.2 +1.0
KNRA IAmb IAmb 06 44 09.3
comp=Z,10nm,0.6s
TPUB Ta-pu 20.66 353 P P 06 44 21.9 +0.5
YULB Yu-li 20.68 354 P P 06 44 21.3 -0.1
SSLB Suanglung 21.10 354 P P 06 44 25.9 +0.5
MBWA Marble Bar 23.99 189 P P 06 44 52.3 +0.9
MBWA IAmb IAmb 06 44 52.9
comp=Z,7.7nm,0.7s
PSA00 Pilbara Seismi 24.38 188 P P 06 44 55.8 +0.9
PSA00 IAmb IAmb 06 44 56.6
comp=Z,9.5nm,0.7s
JOW Kunigami 24.44 10 P P 06 44 56.1 +0.7
comp=Z,6.4nm,0.7s,baz=122,slow=19,SNR=1.2
comp=Z,6.4nm,0.7s
WB0 Warramunga Arr 24.79 155 P P 06 44 59.1 +0.6
WB0 IAmb IAmb 06 44 59.9
comp=Z,4.1nm,0.3s
WRA Warramunga Arr 24.92 155 P P 06 45 00.4 +0.7
comp=Z,2.6nm,0.5s,baz=335,slow=9.8,SNR=68
WRA pP pP **06 46 10.5 -5.9**
comp=Z,2.0nm,0.8s,baz=333,slow=12,SNR=7.2
WRA PcP **PcP 06 48 21.7 +0.7**
comp=Z,0.2nm,0.4s,baz=325,slow=3.1,SNR=1.1
WRA ScP **ScP 06 51 18.0 +1.1**
comp=Z,0.2nm,0.6s,baz=348,slow=3.4,SNR=1.8
comp=Z,2.6nm,0.5s
WRA Warramunga Arr 24.92 155 P P 06 44 59.2 -0.5
WB2 Warramunga Arr 24.92 155 P 06 45 00.8 +1.0
WB2 IAmb IAmb 06 45 01.5
comp=Z,5.2nm,0.6s
AS31 Alice Springs 28.12 159 P P 06 45 29.7 +1.7
ASAR Alice Springs 28.12 159 P P 06 45 29.4 +1.4
comp=Z,1.0nm,0.4s,baz=338,slow=6.7,SNR=54
ASAR pP **pP 06 46 43.3 -2.8**
comp=Z,1.1nm,0.8s,baz=350,slow=10,SNR=8.6
ASAR PcP **PcP 06 48 29.5 +0.9**
comp=Z,0.3nm,0.5s,baz=329,slow=1.1,SNR=1.6
ASAR ScP **ScP 06 51 27.1 +0.6**
comp=Z,0.4nm,0.5s,baz=348,slow=2.3,SNR=6.9
comp=Z,1.0nm,0.4s
ASAR Alice Springs 28.12 159 P P 06 45 29.1 +1.1
MORW Morawa 32.37 192 P P 06 46 05.5 +0.6
MORW IAmb IAmb 06 46 31.1
comp=Z,14nm,1.2s
FORT Forrest 33.58 173 P P 06 46 16.4 +1.4
FORT IAmb IAmb 06 46 17.2
comp=Z,12nm,0.6s
NWAO Narrogin (SRO) 35.92 189 P P 06 46 35.4 +0.7
NWAO IAmb IAmb 06 46 52.6
comp=Z,23nm,1.4s
MJAR Matsushiro Arr 36.33 20 P P 06 46 36.6 -1.6
comp=Z,1.3nm,0.3s,baz=196,slow=9.0,SNR=4.1
comp=Z,1.3nm,0.3s
BBOO Buckleboo 37.28 162 P P 06 46 47.4 +1.3
LZH Lanzhou 37.84 334 *eP* **P 06 46 52.0 +1.2**
LZH pmax pmax
comp=Z,19nm,1.5s
STKA Stephens Creek 38.47 155 P P 06 46 57.6 +1.8
comp=Z,0.7nm,0.3s,baz=325,slow=9.9,SNR=4.5
comp=Z,0.7nm,0.3s
STKA Stephens Creek 38.47 155 P P 06 46 58.1 +2.3
LSA Lhasa 40.73 315 P 06 47 16.8 +2.0
LSA IAmb IAmb 06 47 17.7
comp=Z,8.3nm,0.7s
JTM Tenmabayashi 41.12 20 P P 06 47 17.8 +0.6
USA0B Ussuriysk Arra 42.01 9 P P 06 47 24.2 0.0
USA0B IAmb IAmb 06 47 25.7
comp=Z,6.2nm,0.7s
USRK Ussuriysk Ar. 42.01 9 P P 06 47 24.5 +0.3
comp=Z,4.2nm,0.6s,baz=186,slow=6.2,SNR=10
comp=Z,4.2nm,0.6s
USRK Ussuriysk Ar. 42.01 9 P P 06 47 24.3 +0.1
GTA Gaotai 42.39 333 *eP* **P 06 47 28.0 +0.6**
GTA pmax pmax
comp=Z,7.0nm,1.2s
JKA Kamikawa-asahi 44.60 20 P P 06 47 45.0 +0.6
KLR Kul'dur 46.90 7 P P 06 48 01.7 -0.3
comp=Z,1.0nm,0.4s,baz=186,slow=4.3,SNR=6.5
comp=Z,1.0nm,0.4s
ULN Ulaanbaatar 47.16 345 P P 06 48 05.1 +0.7
SONM Songino Array 47.31 344 P P 06 48 05.5 +0.2
comp=Z,1.8nm,0.4s,baz=167,slow=8.7,SNR=14
comp=Z,1.8nm,0.4s
SONM Songino Array 47.31 344 P 06 48 05.3 0.0
MK31 Makanchi Array 56.58 327 P P 06 49 12.7 +0.2
MK31 IAmb IAmb 06 49 13.6
comp=Z,12nm,1.4s
MKAR Makanchi Array 56.58 327 P P 06 49 12.5 0.0
comp=Z,8.0nm,0.5s,baz=123,slow=8.0,SNR=103
MKAR PcP **PcP 06 50 02.4 -0.4**
comp=Z,1.1nm,0.5s,baz=135,slow=4.2,SNR=5.3
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 56.58 327 P P 06 49 12.8 +0.3
MAKZ Makanchi 56.76 327 P P 06 49 13.6 -0.2
MAKZ IAmb IAmb 06 49 14.7
comp=Z,7.1nm,0.6s
PETK Petropavlovsk- 57.65 24 P P 06 49 21.0 +1.3
comp=Z,2.2nm,0.5s,baz=202,slow=5.8,SNR=6.5
comp=Z,2.2nm,0.5s
PETK Petropavlovsk- 57.65 24 P P 06 49 21.1 +1.4
AAK Ala-Archa 58.95 319 P P 06 49 29.7 +0.7
comp=Z,1.2nm,0.5s,baz=155,slow=6.0,SNR=3.7
comp=Z,1.2nm,0.5s
ZALV Zalesovo Beam 60.06 335 P P 06 49 35.2 -0.8
comp=Z,1.6nm,0.3s,baz=143,slow=6.7,SNR=3.0
comp=Z,1.6nm,0.3s
GAR Garm 60.24 314 P P 06 49 37.3 -0.3
KURBB Kurchatov Arra 60.88 329 P P 06 49 41.4 0.0
comp=Z,3.1nm,0.3s,baz=129,slow=6.0,SNR=20
comp=Z,3.1nm,0.3s
KURK Kurchatov 60.88 329 P 06 49 41.3 -0.2
KURK IAmb IAmb 06 49 42.7
comp=Z,21nm,1.2s
KKAR Karatay Array 61.78 318 P P 06 49 47.6 0.0
BVAR Borovoye Array 66.42 328 P P 06 50 15.8 -1.3
comp=Z,2.3nm,0.6s,baz=126,slow=7.5,SNR=14
comp=Z,2.3nm,0.6s
BRVK Borovoye 66.49 328 P P 06 50 17.0 -0.5
BRVK IAmb IAmb 06 50 18.7
comp=Z,7.3nm,1.1s
TIXI Tiksi 68.94 2 P P 06 50 31.6 -0.6
TIXI IAmb IAmb 06 50 32.5
comp=Z,4.8nm,0.5s
ABKAR Akbulak array 70.89 322 P P 06 50 43.3 -1.0
ABKAR IAmb IAmb 06 50 44.9
comp=Z,9.3nm,1.5s
ARU Arti 74.07 328 P P 06 51 01.5 -1.2
comp=Z,1.6nm,0.3s,baz=117,slow=3.1,SNR=5.3
comp=Z,1.6nm,0.3s
ANM Nome 79.56 25 P P 06 51 33.4 +0.8
ILAR Eielson Array 87.44 25 P P 06 52 11.7 -0.4
comp=Z,0.3nm,0.6s,baz=251,slow=4.8,SNR=7.7
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 90.27 340 P P 06 52 23.0 -2.1
comp=Z,1.4nm,0.7s,baz=46,slow=5.2,SNR=4.5
comp=Z,1.4nm,0.7s
FINES FINESS Array B 91.17 332 P P 06 52 27.9 -1.5
comp=Z,1.9nm,0.8s,baz=110,slow=4.5,SNR=3.4
comp=Z,1.9nm,0.8s
TXAR Lajitas Array 124.81 51 PKP PKiKP 06 58 23.4 +0.6
comp=Z,0.1nm,0.4s,baz=122,slow=1.6,SNR=4.1

IDC 30 07:24:25.7±1.6, 54.65N×83.75E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=15.5km s-min=10.5km az=11.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**138**	I		07 30 00.0	
	0.1nm,0.9s,baz=319,slow=331,SNR=7.1						
ZALV	**Zalesovo Beam**	**0.94**	**138**	Pg	Pg	07 24 43.7	0.0
	7.6nm,0.3s,baz=320,slow=18,SNR=32						
ZALV				Lg	Lg	07 24 57.9	
	8.0nm,0.3s,baz=318,slow=29,SNR=5.0						
MKAR	**Makanchi Array**	**7.92**	**187**	Pn	Pn	07 26 20.9	-1.1
	0.1nm,0.3s,baz=5.6,slow=12,SNR=4.1						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	07 26 23.8	-0.3
	0.1nm,0.3s,baz=66,slow=15,SNR=6.6						
	0.8nm,0.3s						

MAN 30 07:47:28.1, 10.05N×123.45E, h1km, mb4.2, ML3.0, MS2.7, 4C-4D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.54**	**131**	⇓*eP*	Pb	07 47 40.7	+0.3
LLP	**Lapu-Lapu**	**0.58**	**62**	⇓*eP*	Pg	07 47 39.2	0.0
LLP				*i* S	Sb	07 47 48.8	-1.0
CNOP	**Candoni, Negro**	**0.83**	**255**	⇑*iP*	Pg	07 47 41.8	-2.1
CNOP				*eS*	Sg	07 47 50.1	-4.6
TABP	**Talibon, Bohol**	**0.87**	**87**	⇑*eP*	Pg	07 47 45.1	+0.2
TABP				*eS*	Sn	07 48 00.7	-0.2
LSIP	**Lazi, Siquijor**	**0.93**	**169**	⇓*eP*	Pb	07 47 46.8	-0.2
LSIP				*eS*	Sn	07 48 01.6	-0.7
GHBP	**Garcia Hernand**	**0.95**	**116**	⇑*iP*	Pb	07 47 47.6	+0.1
GHBP				*i* S	Sn	07 48 02.8	-0.1
MSLP	**Maasin**	**1.39**	**86**	⇑*iP*	Pn	07 47 54.6	-0.2
MSLP				*i* S	Sn	07 48 16.8	+3.0
RCP	**Roxas**	**1.66**	**335**	⇓*eP*	Pn	07 47 54.9	-3.5
RCP				*eS*	Sn	07 48 16.5	-3.8

*NOU **30** 07:48:03.2, 41.02S×176.12E, h79km, MLv3.5/6, Off E. Coast of N. Island, N.Z.*
*WEL **30** 07:48:06.0±0.4, 41°S±3'×176°E±', h25km±3km, M3.5/45, ML3.9/19, MLv3.5/45, Error ellipse: s-maj=0.0km s-min=0.0km az=149.1*
ISC 30 07:48:06.3±1.1, 40.76S±0.03×175.71E±0.03, h35km±3km, n118, σ1§36/121, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIWZ	**Tintook**	**0.14**	**98**	P	**Pb**	**07 48 13.6**	**+1.0**
TIWZ				S	**Sb**	**07 48 18.8**	**+1.9**
MRZ	**Mangatainoka R**	**0.14**	**315**	P	Pn	07 48 12.1	+1.1
MRZ				S	**Sb**	**07 48 16.3**	**-0.5**
HOWZ	**Holdsworth Sta**	**0.20**	**226**	P	**Pn**	**07 48 13.7**	**+1.3**
HOWZ				S	**Sb**	**07 48 18.8**	**+1.0**
PRWZ	**Pori Road**	**0.29**	**45**	P	**Pb**	**07 48 14.5**	**+0.4**
PRWZ				S	**Sb**	**07 48 20.5**	**+1.1**
POWZ	**Post Office Ro**	**0.37**	**7**	P	**Pb**	**07 48 14.5**	**-0.6**
POWZ				S	**Sb**	**07 48 20.2**	**-0.9**
TMWZ	**Te Maipa**	**0.38**	**158**	P	**Pn**	**07 48 17.0**	**+1.7**
CPWZ	**Castlepoint**	**0.40**	**112**	P	**Pn**	**07 48 17.7**	**+2.0**
OGWZ	**Otaki Gorge**	**0.41**	**262**	P	**Pn**	**07 48 15.6**	**-0.1**
OGWZ				S	**Sb**	**07 48 21.6**	**-0.6**
BFZ	**Birch Farm**	**0.42**	**80**	P	**Pb**	**07 48 17.0**	**+1.2**
BFZ	**Birch Farm**	**0.42**	**80**	P	**Pb**	**07 48 16.9**	**+1.2**
MTW	**Mount Morrison**	**0.43**	**201**	P	**Pn**	**07 48 17.1**	**+1.1**
DVHZ	**Dannevirke**	**0.58**	**37**	P	**Pb**	**07 48 18.1**	**-0.1**
CAW	**Cannon Point**	**0.60**	**234**	P	**Pb**	**07 48 19.0**	**+0.5**
KIW	**Kapiti Island**	**0.61**	**260**	P	**Pb**	**07 48 18.8**	**0.0**
OHWZ	**Ohakea**	**0.63**	**331**	P	**Pn**	**07 48 18.5**	**-0.1**
TRWZ	**Traveller**	**0.64**	**181**	P	**Pn**	**07 48 20.1**	**+1.2**
ANWZ	**Angora Road**	**0.66**	**63**	P	**Pn**	**07 48 19.9**	**+0.9**
PAWZ	**Paruwai Farm**	**0.66**	**199**	P	**Pn**	**07 48 20.2**	**+1.0**
TSZ	**Takapari Road**	**0.72**	**16**	P	**Pn**	**07 48 19.8**	**-0.3**
MSWZ	**Moikau Station**	**0.74**	**208**	P	**Pn**	**07 48 21.1**	**+0.8**
PRHZ	**Porangahau**	**0.86**	**56**	P	**Pn**	**07 48 22.4**	**+0.5**
PLWZ	**Palliser**	**0.88**	**203**	P	**Pn**	**07 48 22.9**	**+0.6**
WEL	**Wellington**	**0.88**	**233**	P	**Pn**	**07 48 22.9**	**+0.7**
WPHZ	**Waipukurau**	**0.89**	**39**	P	**Pn**	**07 48 23.0**	**+0.6**
PNHZ	**Pukenui**	**0.92**	**24**	P	**Pn**	**07 48 22.9**	**+0.1**
SNKO	**South Karori**	**0.94**	**234**	P	**Pn**	**07 48 23.6**	**+0.6**
PXZ	**Panui**	**1.14**	**51**	P	**Pn**	**07 48 25.9**	**+0.2**
WAZ	**Wanganui**	**1.15**	**331**	P	**Pn**	**07 48 26.8**	**+1.0**
TCW	**Tory Channel**	**1.17**	**247**	P	**Pn**	**07 48 26.5**	**+0.3**
BHHZ	**Black Hill Sta**	**1.30**	**12**	P	**Pn**	**07 48 28.2**	**+0.2**
KAHZ	**Kahuranaki**	**1.31**	**43**	P	**Pn**	**07 48 28.5**	**+0.3**
MOVZ	**Moawhango**	**1.35**	**1**	P	**Pn**	**07 48 28.9**	**+0.2**
DUWZ	**D'Urville Isla**	**1.36**	**268**	P	**Pn**	**07 48 29.3**	**+0.5**
MTVZ	**Mangateitei**	**1.38**	**352**	P	**Pn**	**07 48 30.3**	**+1.1**
WNVZ	**Wahianoa**	**1.43**	**357**	P	**Pn**	**07 48 30.7**	**+0.8**
KWHZ	**Kaweka Forest**	**1.44**	**23**	P	**Pn**	**07 48 29.9**	**-0.1**
TRVZ	**Turoa**	**1.46**	**355**	P	**Pn**	**07 48 31.2**	**+0.7**
WHVZ	**Whangaehu Hut**	**1.48**	**356**	P	**Pn**	**07 48 31.6**	**+0.9**
DRZ	**Dome Shelter**	**1.48**	**356**	P	**Pn**	**07 48 32.1**	**+1.3**
TUVZ	**Tukino**	**1.49**	**358**	P	**Pn**	**07 48 31.7**	**+1.0**
PKVZ	**Pokaka**	**1.49**	**349**	P	**Pn**	**07 48 31.7**	**+1.1**
TUWZ	**Tuamarina**	**1.49**	**243**	P	**Pn**	**07 48 30.4**	**-0.2**
CMWZ	**Cape Campbell**	**1.50**	**228**	P	**Pn**	**07 48 31.4**	**+0.7**
FWVZ	**Far West T-bar**	**1.51**	**355**	P	**Pn**	**07 48 31.6**	**+0.6**
MCHZ	**McNeill Hill**	**1.52**	**30**	P	**Pn**	**07 48 31.0**	**+0.1**
CKHZ	**Cape Kidnapper**	**1.52**	**44**	P	**Pn**	**07 48 31.0**	**0.0**
SNVZ	**South Ngauruho**	**1.57**	**358**	P	**Pn**	**07 48 32.6**	**+0.7**
NGZ	**Ngauruhoe**	**1.58**	**357**	P	**Pn**	**07 48 32.8**	**+0.8**
OTVZ	**Oturere**	**1.59**	**359**	P	**Pn**	**07 48 33.0**	**+0.8**
ETVZ	**East Tongariro**	**1.62**	**0**	P	**Pn**	**07 48 33.2**	**+0.7**
NNVZ	**North Ngauruho**	**1.63**	**357**	P	**Pn**	**07 48 33.3**	**+0.7**
LREZ	**Lake Rotokare**	**1.64**	**322**	P	**Pn**	**07 48 34.5**	**+1.9**
TMVZ	**Te Maari**	**1.64**	**360**	P	**Pn**	**07 48 33.5**	**+0.7**
WTVZ	**West Tongariro**	**1.64**	**357**	P	**Pn**	**07 48 33.5**	**+0.7**
NTVZ	**North Tongarir**	**1.66**	**359**	P	**Pn**	**07 48 33.6**	**+0.5**
KRVZ	**Karewarewa**	**1.66**	**358**	P	**Pn**	**07 48 34.0**	**+0.9**
BSWZ	**Blackbirch Sta**	**1.68**	**235**	P	**Pn**	**07 48 33.2**	**0.0**
TWVZ	**Taurewa**	**1.70**	**353**	P	**Pn**	**07 48 34.1**	**+0.5**
BKZ	**Black Stump Fm**	**1.70**	**21**	P	**Pn**	**07 48 34.1**	**+0.6**
BKZ	**Black Stump Fm**	**1.70**	**21**	P	**Pn**	**07 48 33.2**	**-0.3**
KATZ	**Kakaramea**	**1.78**	**360**	P	**Pn**	**07 48 36.2**	**+2.1**
VRZ	**Vera Road**	**1.79**	**336**	P	**Pn**	**07 48 36.2**	**+1.5**
ARHZ	**Aropaoanui**	**1.79**	**34**	P	**Pn**	**07 48 34.5**	**-0.3**
NNZ	**Nelson**	**1.82**	**255**	P	**Pn**	**07 48 35.2**	**+0.1**
NMHZ	**Naumai**	**1.86**	**27**	P	**Pn**	**07 48 35.7**	**-0.1**
HATZ	**Hinemaiaia**	**1.89**	**9**	P	**Pn**	**07 48 39.6**	**+3.5**
RATZ	**Rangitukua**	**1.89**	**2**	P	**Pn**	**07 48 38.8**	**+2.7**
NEZ	**North Egmont**	**1.93**	**320**	P	**Pn**	**07 48 38.6**	**+1.9**
NMEZ	**Namu Road**	**1.94**	**313**	P	**Pn**	**07 48 39.0**	**+2.3**
DREZ	**Durham Road**	**1.95**	**323**	P	**Pn**	**07 48 38.8**	**+1.9**
KHEZ	**Kahui Hut**	**1.96**	**318**	P	**Pn**	**07 48 39.5**	**+2.4**
KHEZ	**Kahui Hut**	**1.96**	**318**	P	**Pn**	**07 48 39.2**	**+2.1**
MHEZ	**Mangahewa**	**1.99**	**327**	P	**Pn**	**07 48 39.9**	**+2.4**
MRHZ	**Matea Rd**	**2.00**	**16**	P	**Pn**	**07 48 37.1**	**-0.5**
PKE	**Pukeiti**	**2.05**	**319**	P	**Pn**	**07 48 40.5**	**+2.2**
WATZ	**Wairara**	**2.05**	**1**	P	**Pn**	**07 48 41.8**	**+3.5**
NBEZ	**Newall Road No**	**2.05**	**316**	P	**Pn**	**07 48 40.8**	**+2.5**
MTHZ	**Maungataniwha**	**2.09**	**25**	P	**Pn**	**07 48 39.3**	**+0.3**
TKNZ	**Takaka Hill**	**2.10**	**262**	P	**Pn**	**07 48 40.8**	**+0.8**
RAHZ	**Arahi**	**2.12**	**30**	P	**Pn**	**07 48 38.9**	**-0.4**
ALRZ	**Allen Road**	**2.25**	**13**	P	**Pn**	07 48 45.2	+4.2
KNZ	**Kokohu**	**2.30**	**42**	P	**Pn**	**07 48 40.6**	**-1.1**
PRRZ	**Plateau Road**	**2.32**	**13**	P	**Pb**	**07 48 47.4**	**-0.1**
MRNZ	**Matariki Terra**	**2.32**	**253**	P	**Pn**	**07 48 42.5**	**+0.5**
KHZ	**Kahutara**	**2.32**	**224**	P	**Pn**	**07 48 41.2**	**-0.7**
MHGZ	**Mahia Peninsul**	**2.33**	**47**	P	**Pn**	**07 48 41.8**	**-0.3**
HIZ	**Hauiti**	**2.34**	**343**	P	**Pn**	**07 48 44.4**	**+2.2**
HIZ	**Hauiti**	**2.34**	**343**	P	**Pn**	**07 48 43.7**	**+1.5**
THZ	**Tophouse**	**2.34**	**244**	P	**Pn**	**07 48 41.8**	**-0.5**
QRZ	**Quartz Range**	**2.41**	**267**	P	**Pn**	**07 48 43.9**	**+0.6**
MUGZ	**Murupara**	**2.42**	**20**	P	**Pn**	**07 48 43.1**	**-0.3**
TLZ	**Tolley Road**	**2.43**	**357**	P	**Pn**	**07 48 46.3**	**+2.8**
RIGZ	**Rimuhau**	**2.59**	**38**	P	**Pn**	**07 48 44.6**	**-1.1**
URZ	**Urewera**	**2.72**	**24**	P	**Pn**	**07 48 46.0**	**-1.5**
URZ	**Urewera**	**2.72**	**24**	P	**Pn**	**07 48 45.6**	**-1.9**
MWZ	**Matawai**	**2.80**	**31**	P	**Pn**	**07 48 46.8**	**-1.8**
TKGZ	**Te Karaka**	**2.85**	**36**	P	**Pn**	**07 48 50.8**	**+1.6**
GVZ	**Greta Valley S**	**2.98**	**221**	P	**Pn**	**07 48 49.9**	**-1.1**
OPRZ	**Ohinepanea**	**2.98**	**13**	P	**Pb**	**07 48 56.8**	**-2.0**
TOZ	**Tahuroa Road**	**3.03**	**357**	P	Pn	07 48 55.7	+4.0
DSZ	**Denniston Nort**	**3.10**	**250**	P	**Pn**	**07 48 52.2**	**-0.7**
RUGZ	**Raukumara Rang**	**3.18**	**29**	P	**Pn**	**07 48 52.2**	**-1.8**
LTZ	**Lake Taylor**	**3.27**	**231**	P	**Pn**	**07 48 54.0**	**-1.1**
HAZ	**Te Kaha**	**3.40**	**29**	P	**Pn**	**07 48 55.7**	**-1.2**
PKGZ	**Pakihiroa**	**3.41**	**33**	P	**Pn**	**07 48 55.2**	**-1.7**
OKCZ	**Okains Bay**	**3.56**	**213**	P	**Pn**	**07 48 56.3**	**-2.7**
WMGZ	**Waiomatatini S**	**3.61**	**36**	P	**Pn**	**07 48 57.9**	**-1.9**
MKAZ	**Moumakai**	**3.67**	**353**	P	**Pn**	**07 49 03.1**	**+2.5**
MQZ	**McQueen's Vall**	**3.72**	**217**	P	**Pn**	**07 48 59.2**	**-2.0**
AKCZ	**Akaroa Harbour**	**3.74**	**213**	P	**Pn**	**07 48 59.8**	**-1.7**
INZ	**Inchbonnie**	**3.75**	**237**	P	**Pn**	**07 49 00.3**	**-1.3**
OXZ	**Oxford**	**3.75**	**226**	P	**Pn**	**07 48 59.8**	**-1.9**
AWAZ	**Awhitu Peninsu**	**3.78**	**347**	P	**Pn**	**07 49 04.6**	**+2.5**
WAKZ	**Wakanui South**	**4.28**	**221**	P	**Pn**	**07 49 07.1**	**-1.8**
ARCZ	**Arundel**	**4.63**	**225**	P	**Pn**	**07 49 12.4**	**-1.4**
TMZ	**Timaru**	**5.02**	**222**	P	**Pn**	**07 49 17.6**	**-1.5**
ODZ	**Otahua Downs**	**5.67**	**219**	P	**Pn**	**07 49 26.2**	**-1.9**
CTZ	**Chatham Island**	**6.42**	**120**	P	**Pn**	**07 49 38.8**	**+0.4**

NNC 30 07:54:45.5±4.1, 36.85N×70.49E, h0km, mb4.2, mpv3.9, 2C-2D, Error ellipse: s-maj=38.6km s-min=32.6km az=67.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.83**	**24**	P	**Pn**	07 56 15.3	+1.7
	SNR=79						
UCH	**Uchtor**	**6.21**	**29**	P	Pn	07 56 20.1	+1.3
	SNR=11						
KK31	**Karatay Array**	**6.25**	**0**	P	**Pn**	07 56 19.3	+0.3
	1.1nm,0.2s,baz=174,slow=8.0,SNR=45						
KK31				⇑S	Sn	07 57 31.9	+0.8
	4.8nm,0.8s,baz=39,slow=49,SNR=4.2						
EKS2	**Erkin-Say**	**6.33**	**23**	P	Pn	07 56 21.9	+1.7
	SNR=18						
AAK	**Ala-Archa**	**6.55**	**27**	P	Pn	07 56 25.8	+2.5
	SNR=7.4						
CHMS	**Chumysh**	**6.96**	**27**	⇓P	Pn	07 56 29.7	+0.9
	4.1nm,0.5s						
TKM2	**Tokmak 2**	**7.22**	**31**	P	Pn	07 56 33.8	+1.2
	SNR=9.0						
TKM2	**Tokmak 2**	**7.22**	**31**	⇓P	Pn	07 56 32.9	+0.3
	8.8nm,0.8s						
TKM2				⇑S	Sn	07 57 57.0	+1.6
	3.9nm,0.8s						
MDOK	**Medeo**	**8.07**	**37**	P	Pn	07 56 42.4	-1.7
	9.5nm,1.1s						

*NOU **30** 07:57:02.2, 42.77S×173.05E, h7km, MLv3.4/4, South Island, New Zealand*
*WEL **30** 07:57:03.8±0.3, 43°S±2'×17°3E±', h5km, M2.9/20, ML3.1/12, MLv2.9/20, Error ellipse: s-maj=0.0km s-min=0.0km az=113.6*
ISC 30 07:57:04.0±0.9, 42.68S±0.03×172.96E±0.03, h15km, n37, σ1§16/41, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.30**	**169**	P	**Pg**	**07 57 11.3**	**+1.0**
GVZ				S	**Sg**	**07 57 17.0**	**+2.5**
KHZ	**Kahutara**	**0.50**	**59**	P	**Pg**	**07 57 13.8**	**-0.1**
KHZ				S	**Sg**	**07 57 20.9**	**+0.1**
LTZ	**Lake Taylor**	**0.52**	**258**	P	**Pg**	**07 57 14.0**	**-0.2**
LTZ				S	**Sg**	**07 57 21.1**	**0.0**
AMCZ	**Amberley**	**0.55**	**204**	P	**Pg**	**07 57 15.9**	**+1.1**
AMCZ				S	**Sg**	**07 57 24.4**	**+2.2**
THZ	**Tophouse**	**0.92**	**358**	P	**Pb**	**07 57 20.3**	**-1.3**
OXZ	**Oxford**	**0.93**	**226**	P	**Pb**	**07 57 21.5**	**-0.4**
OKCZ	**Okains Bay**	**1.05**	**176**	P	**Pb**	**07 57 23.7**	**-0.2**
MQZ	**McQueen's Vall**	**1.05**	**192**	P	**Pb**	**07 57 22.7**	**-1.2**
INZ	**Inchbonnie**	**1.11**	**267**	P	**Pb**	**07 57 24.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**1.18**	**36**	P	**Pn**	**07 57 25.7**	**-0.2**
AKCZ	**Akaroa Harbour**	**1.20**	**182**	P	**Pn**	**07 57 25.1**	**-1.1**
RACZ	**Rakaia**	**1.21**	**209**	P	**Pn**	**07 57 25.4**	**-0.9**
DSZ	**Denniston Nort**	**1.27**	**317**	P	**Pn**	**07 57 26.8**	**-0.4**
MRNZ	**Matariki Terra**	**1.29**	**353**	P	**Pn**	**07 57 26.8**	**-0.7**
NNZ	**Nelson**	**1.49**	**12**	P	**Pn**	**07 57 30.2**	**0.0**
WACZ	**Wakanui South**	**1.50**	**212**	P	**Pn**	**07 57 29.4**	**-1.0**
WVZ	**Waitaha Valley**	**1.68**	**256**	P	**Pn**	**07 57 32.2**	**-0.6**
RPZ	**Rata Peaks**	**1.73**	**233**	P	**Pn**	**07 57 32.5**	**-1.1**
RPZ	**Rata Peaks**	**1.73**	**233**	P	**Pn**	**07 57 32.7**	**-1.0**
TCW	**Tory Channel**	**1.77**	**34**	P	**Pn**	**07 57 34.2**	**+0.2**
ARCZ	**Arundel**	**1.82**	**225**	P	**Pn**	**07 57 33.6**	**-1.2**
QRZ	**Quartz Range**	**1.88**	**350**	P	**Pn**	**07 57 36.2**	**+0.6**
DUWZ	**D'Urville Isla**	**2.01**	**21**	P	**Pn**	**07 57 38.7**	**+1.3**
GCSZ	**Gaunt Creek Bo**	**2.03**	**251**	P	**Pn**	**07 57 37.6**	**-0.1**
MSWZ	**Moikau Station**	**2.12**	**54**	P	**Pn**	**07 57 37.4**	**-1.5**
TMZ	**Timaru**	**2.22**	**219**	P	**Pn**	**07 57 39.3**	**-1.0**
CAW	**Cannon Point**	**2.22**	**46**	P	**Pn**	**07 57 39.2**	**-1.1**
KIW	**Kapiti Island**	**2.33**	**39**	P	**Pn**	**07 57 41.2**	**-0.6**
MTW	**Mount Morrison**	**2.43**	**52**	P	**Pn**	**07 57 41.8**	**-1.4**
FOZ	**Fox Glacier**	**2.45**	**249**	P	**Pn**	**07 57 43.5**	**0.0**
OGWZ	**Otaki Gorge**	**2.49**	**42**	P	**Pn**	**07 57 42.9**	**-1.1**
LBZ	**Lake Benmore**	**2.64**	**229**	P	**Pn**	**07 57 45.2**	**-0.9**
ODZ	**Otahua Downs**	**2.90**	**214**	P	**Pn**	**07 57 48.2**	**-1.4**
ODZ	**Otahua Downs**	**2.90**	**214**	P	**Pn**	**07 57 48.2**	**-1.4**
JCZ	**Jackson Bay**	**3.34**	**244**	P	**Pn**	**07 57 55.2**	**-0.7**
JCZ	**Jackson Bay**	**3.34**	**244**	P	**Pn**	**07 57 55.1**	**-0.7**
PKE	**Pukeiti**	**3.57**	**13**	P	**Pn**	**07 58 02.1**	**+3.2**

*IDC **30** 08:30:53.7±4.0, 38.33N×72.94E, h100km±30km, mb3.7/3, mb

SONM **Songino Array** 26.00 58 P P 08 36 17.5 +0.1
0.3nm,0.5s,baz=266,slow=11,SNR=1.8
0.3nm,0.5s
FINES **FINESS Array B** 36.84 324 P P 08 37 52.1 +0.2
3.2nm,1.1s,baz=119,slow=12,SNR=3.4
3.2nm,1.1s
ARCES **ARCESS Array B** 40.03 336 P P 08 38 19.1 +0.5
8.6nm,1.1s,baz=106,slow=8.9,SNR=6.2
8.6nm,1.1s

*IDC **30** 08:31:03.6±1.9, 11°.75N×86°.40W, h70^{km}±26^{km}, mb3.6/2, mbtmp4.0/4, MS2.2/1, Error ellipse: s-maj=104.7km s-min=15.9km az=48.0*
*INET **30** 08:31:04.7±0.5, 11°.65N×86°.62W, h61^{km}±3^{km}, MW4.2*
*UCR **30** 08:31:04.2±1.8, 11°.64N×86°.65W, h36^{km}±968^{km}, ML3.5*
*SNET **30** 08:31:06.3±1.0, 11°.85N×86°.81W, h13^{km}±581^{km}, ML3.7*
ISC 30 08:31:03.8±0.9, **11°.66N**±0°.05×**86°.63W**±0°.05, **h69**^{km}±10^{km}, **n83**, σ0**92**/110, **4C-9D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.57**	**55**	*e*P		**Pn**	**08 31 17.6**	**+0.3**
MGAN	**Managua**	**0.61**	**38**	*e*P		**Pn**	**08 31 17.7**	**+0.1**
MGAN				*e*P		**Pn**	**08 31 17.8**	**+0.1**
MOMN	**Momotombo**	**0.75**	**7**	*e*P		**Pn**	**08 31 19.3**	**+0.1**
CNGN	**Cerro Negro**	**0.83**	**356**	*e*P		**Pn**	**08 31 20.6**	**+0.3**
CNGN	**Cerro Negro**	**0.83**	**356**	*e*P		**Pn**	**08 31 21.0**	**+0.7**
BOAB	**BOACO BROADBAN**	**.23**	**50**	*e*P		**Pn**	**08 31 25.0**	**-0.2**
HZTE	**Horizontes, Gu**	**1.39**	**133**	*e*P		**Pn**	**08 31 27.0**	**-0.3**
HZTE				*e*S		**Sn**	**08 31 45.0**	**+0.1**
HZTE	**Horizontes, Gu**	**1.39**	**133**	*e*P		**Pn**	**08 31 27.8**	**+0.5**
MATN	**Matagalpa**	**1.44**	**29**	⇑*i*P		**Pn**	**08 31 27.2**	**-0.8**
MATN	**Matagalpa**	**1.44**	**29**	*e*P		**Pn**	**08 31 27.2**	**-0.8**
GBS3	**Finca Las Img**	**1.45**	**127**	*e*P		**Pn**	**08 31 27.5**	**-0.6**
ACON	**Acoyapa**	**1.46**	**78**	⇑*e*P		**Pn**	**08 31 27.9**	**-0.3**
GB1A	**Boringuen Arri**	**1.47**	**125**	*e*P		**Pn**	**08 31 28.2**	**-0.3**
LAPC	**Finca la Perla**	**1.48**	**127**	*e*P		**Pn**	**08 31 27.9**	**-0.5**
LAPC				*e*S		**Sn**	**08 31 46.1**	**-0.9**
BUEV	**Buena Vista**	**1.48**	**125**	*e*P		**Pn**	**08 31 28.1**	**-0.4**
BUEV				*e*S		**Sn**	**08 31 47.8**	**+0.6**
VRLE	**La Escondida,**	**1.52**	**125**	*e*P		**Pn**	**08 31 28.8**	**-0.3**
VRLE				*e*S		**Sn**	**08 31 49.0**	**+0.9**
GPS3	**Bodega del ICE**	**1.54**	**126**	*e*P		**Pn**	**08 31 29.1**	**-0.2**
GPS3				*e*S		**Sn**	**08 31 48.1**	**-0.4**
GPS1	**Guardaparques**	**1.54**	**125**	*e*P		**Pn**	**08 31 29.9**	**+0.5**
GPS1				*e*S		**Sn**	**08 31 49.7**	**+1.1**
GUAB	**Guayabo de Bag**	**1.67**	**124**	*e*P		**Pn**	**08 31 31.1**	**0.0**
GUAB				*e*S		**Sn**	**08 31 52.0**	**+0.3**
VMAR	**Armenia, Volca**	**1.71**	**119**	⇓*i*P		**Pn**	**08 31 31.3**	**-0.3**
VMAR				*e*S		**Sn**	**08 31 52.9**	**+0.4**
COLC	**Colonia**	**1.72**	**125**	*e*P		**Pn**	**08 31 31.9**	**+0.2**
COLC				*e*S		**Sn**	**08 31 53.5**	**+0.7**
ORTG	**Ortega, Santa**	**1.73**	**138**	*i*P		**Pn**	**08 31 32.2**	**+0.2**
ORTG				*e*S		**Sn**	**08 31 52.1**	**-1.1**
ORTG	**Ortega, Santa**	**1.73**	**138**	*e*P		**Pn**	**08 31 32.2**	**+0.2**
CUI	**Cuipilapa**	**1.75**	**125**	⇓*i*P		**Pn**	**08 31 32.4**	**+0.2**
CUI				*e*S		**Sn**	**08 31 55.0**	**+1.3**
SAJU	**San Juanillo,**	**1.82**	**150**	⇓*i*P		**Pn**	**08 31 32.8**	**-0.3**
SAJU				*e*S		**Sn**	**08 31 54.1**	**-1.2**
ACAL	**Aguas Claras**	**1.87**	**123**	⇓*i*P		**Pn**	**08 31 33.9**	**+0.1**
ACAL				*e*S		**Sn**	**08 31 57.5**	**+1.0**
VERA	**Finca Concepci**	**1.91**	**115**	*e*P		**Pn**	**08 31 33.9**	**-0.3**
VERA				*e*S		**Sn**	**08 31 57.8**	**+0.5**
NICO	**Nicoya**	**1.91**	**142**	⇓*e*P		**Pn**	**08 31 34.3**	**0.0**
DUNO	**Dulce Nombre,**	**1.93**	**144**	⇓*i*P		**Pn**	**08 31 34.4**	**-0.1**
DUNO	**Dulce Nombre,**	**1.93**	**144**	*e*P		**Pn**	**08 31 34.4**	**-0.1**
LCND	**La Caada**	**2.05**	**323**	*e*P		**Pn**	**08 31 36.2**	**+0.1**
LCND				*e*S		**Sn**	**08 32 00.1**	**-0.5**
LCND				IAML			08 32 04.2	
	comp=Z,704nm,0.4s							
LCND	**La Caada**	**2.05**	**323**	*e*P		**Pn**	**08 31 36.2**	**+0.1**
LCND				*e*S		**Sn**	**08 32 00.1**	**-0.5**
LCND				IAML			08 32 04.2	
	comp=Z,704nm,0.4s							
POPE	**POPE, Guanacas**	**2.08**	**140**	⇓*i*P		**Pn**	**08 31 36.8**	**+0.2**
INDI	**Punta indio, G**	**2.10**	**148**	⇓*i*P		**Pn**	**08 31 36.6**	**-0.3**
INDI				*e*S		**Sn**	**08 31 59.5**	**-2.5**
JTS	**Las Juntas de**	**2.14**	**129**	P		**Pn**	**08 31 37.1**	**-0.3**
	comp=Z,51nm,0.3s,baz=8.5,slow=23,SNR=166							
JTS				S		**Sn**	**08 32 00.2**	**-2.8**
	comp=Z,104nm,0.5s,baz=238,slow=22,SNR=5.5							
JTS				LR		LR	08 32 35.4	
	comp=Z,59nm,20.4s,baz=17,slow=45							
JTS	**Las Juntas de**	**2.14**	**129**	*e*P		**Pn**	**08 31 37.2**	**-0.1**
ARE1	**Arenal 1**	**2.23**	**122**	*e*P		**Pn**	**08 31 38.8**	**+0.3**
VACR	**Volcan Arenal**	**2.25**	**121**	*e*P		**Pn**	**08 31 38.3**	**-0.7**
ESPN	**Las Esperanzas**	**2.34**	**77**	*e*P		**Pn**	**08 31 40.7**	**+0.6**
ESPN	**Las Esperanzas**	**2.34**	**77**	*e*P		**Pn**	**08 31 40.6**	**+0.5**
COVE	**Coope Vega, Sa**	**2.38**	**113**	*e*P		**Pn**	**08 31 39.8**	**-0.8**
PACA	**Pacayal**	**2.44**	**318**	*e*P		**Pn**	**08 31 42.6**	**+1.1**
LAFE	**Finca La Fe, P**	**2.50**	**137**	⇓*e*P		**Pn**	**08 31 42.1**	**-0.1**
LAFE				*e*S		**Sn**	**08 32 09.9**	**-1.8**
LAFE	**Finca La Fe, P**	**2.50**	**137**	*e*P		**Pn**	**08 31 42.1**	**-0.1**
ALJI	**Alcalda de J**	**2.51**	**311**	*e*P		**Pn**	**08 31 42.6**	**+0.2**
ALJI				*e*S		**Sn**	**08 32 10.6**	**-1.4**
ALJI	**Alcalda de J**	**2.51**	**311**	*e*P		**Pn**	**08 31 42.6**	**+0.2**
ALJI				*e*S		**Sn**	**08 32 10.6**	**-1.4**
COEB	**Comit de Eme**	**2.60**	**315**	*e*P		**Pn**	**08 31 44.4**	**+0.7**
COEB				IAML			08 32 16.9	
	comp=Z,188nm,0.4s							
COEB	**Comit de Eme**	**2.60**	**315**	*e*P		**Pn**	**08 31 44.4**	**+0.7**
COEB				IAML			08 32 16.9	
	comp=Z,188nm,0.4s							
SRA1	**San Ramn**	**2.63**	**126**	*e*P		**Pn**	**08 31 44.3**	**+0.2**
PQSS	**Presa 15 de Se**	**2.71**	**316**	*e*P		**Pn**	**08 31 46.0**	**+0.9**
PQSS	**Presa 15 de Se**	**2.71**	**316**	*e*P		**Pn**	**08 31 46.0**	**+0.9**
JACO	**JACO, Garabito**	**2.78**	**136**	*e*P		**Pn**	**08 31 46.5**	**+0.5**
SCLA	**Alcaldia de Sa**	**2.88**	**315**	*e*P		**Pn**	**08 31 48.6**	**+1.1**
SCLA				*e*S		**Sn**	**08 32 22.1**	**+1.1**
SCLA	**Alcaldia de Sa**	**2.88**	**315**	*e*P		**Pn**	**08 31 48.6**	**+1.1**
SCLA				*e*S		**Sn**	**08 32 22.1**	**+1.1**
HDC	**Heredia**	**2.97**	**123**	*e*P		**Pn**	**08 31 49.0**	**+0.2**
HDC3	**Heredia 3**	**2.98**	**123**	*e*P		**Pn**	**08 31 49.4**	**+0.6**
RIFO	**Rio Frio, Sara**	**2.98**	**116**	*e*P		**Pn**	**08 31 48.0**	**-0.8**
SJTE	**Alcalda de S**	**3.02**	**310**	*e*P		**Pn**	**08 31 49.9**	**+0.4**
SJTE				IAML			08 32 27.2	
	comp=Z,144nm,0.2s							
SJTE	**Alcalda de S**	**3.02**	**310**	*e*P		**Pn**	**08 31 49.9**	**+0.4**
SJTE				IAML			08 32 27.2	
	comp=Z,144nm,0.2s							
PAVA	**Las Pavas**	**3.04**	**312**	*e*P		**Pn**	**08 31 50.9**	**+1.3**
PAVA				*e*S		**Sn**	**08 32 25.7**	**+0.8**
PAVA	**Las Pavas**	**3.04**	**312**	*e*P		**Pn**	**08 31 50.9**	**+1.3**
PAVA				*e*S		**Sn**	**08 32 25.7**	**+0.8**
OCM	**Ochomogo**	**3.16**	**124**	⇑*i*P		**Pn**	**08 31 51.9**	**+0.5**
HAYA	**Volcan Irazu**	**3.21**	**121**	*e*P		**Pn**	**08 31 53.0**	**+0.7**
LCR2	**La Lucha 2**	**3.21**	**126**	*e*P		**Pn**	**08 31 52.5**	**+0.4**
RAFA	**San Farael, Vo**	**3.25**	**121**	*e*P		**Pn**	**08 31 53.2**	**+0.5**
RIMA	**Rio Macho**	**3.31**	**124**	⇑*i*P		**Pn**	**08 31 54.1**	**+0.7**
JAYA	**Jayaque - finc**	**3.39**	**306**	*e*P		**Pn**	**08 31 55.1**	**+0.6**
JAYA				IAML			08 32 39.1	
	comp=Z,407nm,0.2s							
JAYA	**Jayaque - finc**	**3.39**	**306**	*e*P		**Pn**	**08 31 55.1**	**+0.6**
JAYA				IAML			08 32 39.1	
	comp=Z,407nm,0.2s							
CDM	**Cerro de Muert**	**3.51**	**126**	*e*P		**Pn**	**08 31 57.1**	**+0.6**
CEVE	**Cerro Verde**	**3.63**	**307**	*e*P		**Pn**	**08 31 59.8**	**+2.0**
CEVE				IAML			08 32 49.3	
	comp=Z,302nm,0.5s							
CEVE	**Cerro Verde**	**3.63**	**307**	*e*P		**Pn**	**08 31 59.8**	**+2.0**
CEVE				IAML			08 32 49.3	
	comp=Z,302nm,0.5s							
MRVA	**Moravia de Chi**	**3.63**	**120**	*e*P		**Pn**	**08 31 58.4**	**+0.7**
PEZE	**Perez Zeledon,**	**3.68**	**128**	*e*P		**Pn**	**08 32 00.2**	**+1.8**
SLOZ	**Alcaldia de Sa**	**3.87**	**308**	*e*P		**Pn**	**08 32 02.4**	**+1.4**
SRBA	**San Rafael, Bu**	**4.02**	**127**	*e*P		**Pn**	**08 32 04.0**	**+0.9**
EDPN	**Palmar Norte**	**4.12**	**130**	*e*P		**Pn**	**08 32 06.2**	**+1.9**
EDBA	**Buenos Aires**	**4.13**	**127**	*e*P		**Pn**	**08 32 05.9**	**+1.4**
EDSV	**San Vito**	**4.58**	**128**	*e*P		**Pn**	**08 32 12.5**	**+1.8**
CMIG	**Matias Romero**	**9.64**	**305**	P		**Pn**	**08 33 21.2**	**+1.3**
	comp=Z,5.5nm,0.4s,baz=169,slow=8.5,SNR=29							
CMIG				S		**Sn**	**08 35 03.7**	**-3.0**
	comp=Z,0.8nm,0.5s,baz=156,slow=20,SNR=1.1							
TXAR	**Lajitas Array**	**23.69**	**320**	P		**P**	**08 36 09.8**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=134,slow=10,SNR=22							
	comp=Z,2.1nm,0.7s							
PLCA	**Paso Flores**	**54.21**	**165**	P		**P**	**08 40 22.3**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=330,slow=7.4,SNR=5.1							
	comp=Z,1.1nm,0.7s							
ASAR	**Alice Springs**	**139.71**	**247**	PKP		**PKPdf**	**08 50 23.9**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=115,slow=2.3,SNR=4.6							
WRA	**Warramunga Arr**	**139.81**	**253**	PKP		**PKPdf**	**08 50 24.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=92,slow=2.5,SNR=8.1							

*CNRM **30** 08:39:53.4, 36°.48N×2°.50W, h0^{km}, ml2.6*
*MDD **30** 08:39:56.0±0.4, 36°.54N×2°.37W, h0^{km}±2^{km}, mb_Lg3.1/22, Error ellipse: s-maj=3.2km s-min=2.1km az=141.0*
*INMG **30** 08:39:56.7±1.7, 36°.56N×2°.45W, h0^{km}, ML2.9, Error ellipse: s-maj=4.1km s-min=3.3km az=96.0*
*SFS **30** 08:39:57.0, 36°.57N×2°.43W, h6^{km}, ML3.6, ALBORAN NORTE*
ISC 30 08:39:55.5±1.1, **36°.55N**±0°.02×**2°.41W**±0°.03, **h15**^{km}±9^{km}, **n48**, σ1**64**/93, **2D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.45**	**21**	⇓Pg		**Pb**	**08 40 05.4**	**+0.2**
ENIJ				Sg		**Sb**	**08 40 10.7**	**-1.0**
ENIJ				*i* Vmb_Lg			08 40 11.5	
EBER	**Berja**	**0.52**	**312**	Pg		**Pb**	**08 40 06.9**	**+0.4**
EBER				Sg		**Sb**	**08 40 13.4**	**-0.6**
EBER				*i* Vmb_Lg			08 40 14.7	
EALB	**Alboran**	**0.80**	**220**	⇓Pg		**Pb**	**08 40 11.4**	**+0.3**
EALB				Sg		**Sb**	**08 40 22.4**	**+0.7**
EALB				*i* Vmb_Lg			08 40 25.3	
ELGU	**Los Guajares,**	**1.03**	**288**	Pg		**Pn**	**08 40 15.6**	**0.0**
ELGU				Sg		**Sb**	**08 40 28.1**	**-0.4**
ELGU				*i* Vmb_Lg			08 40 33.5	
EQUE	**Quentar**	**1.05**	**308**	Pg		**Pn**	**08 40 16.8**	**+0.8**
EQUE				Sg		**Sg**	**08 40 28.4**	**-1.4**
EQUE				*i* Vmb_Lg			08 40 35.7	
WMELI	**Melilla**	**1.31**	**200**	P		**Pn**	**08 40 20.0**	**+0.7**
EMEL	**Melilla**	**1.33**	**200**	Pg		**Pb**	**08 40 20.5**	**+0.4**
EMEL				Sg		**Sb**	**08 40 36.5**	**-0.5**
EMEL				*i* Vmb_Lg			08 40 41.6	
EQES	**Quesada**	**1.36**	**337**	Pn		**Pg**	**08 40 22.8**	**+1.1**
EQES				Sg		**Sn**	**08 40 40.6**	**+2.7**
EQES				*i* Vmb_Lg			08 40 42.9	
CHAS	**Isla Isabel II**	**1.37**	**181**	P		**Pg**	**08 40 21.8**	**0.0**
CHAS				S		**Sn**	**08 40 41.6**	**+3.7**
EZAR	**Zarzadilla de**	**1.44**	**23**	Pn		**Pn**	**08 40 21.1**	**-0.1**
EZAR				Sn		**Sb**	**08 40 39.3**	**-1.0**
EZAR				*i* Vmb_Lg			08 40 46.4	
EGOR	**Sierra Gorda,**	**1.48**	**293**	Pn		**Pg**	**08 40 24.7**	**+0.7**
EGOR				Sn		**Sg**	**08 40 42.9**	**-0.2**
EGOR				*i* Vmb_Lg			08 40 49.3	
CART	**Cartagena**	**1.52**	**47**	P		**Pn**	**08 40 21.6**	**-0.7**
CART				S		**Sg**	**08 40 43.7**	**-1.0**
CART	**Cartagena**	**1.52**	**47**	P		**Pn**	**08 40 21.3**	**-1.0**
EMUR	**La Murta**	**1.59**	**35**	Pn		**Pn**	**08 40 23.6**	**+0.4**
EMUR				*i* Vmb_Lg			08 40 50.1	
EMAL	**Malaga-Limoner**	**1.64**	**278**	P		**Pn**	**08 40 24.7**	**+0.8**
EMAL				Sg		**Sg**	**08 40 48.4**	**0.0**
TAF	**Taforalt**	**1.73**	**180**	P		**Pn**	**08 40 26.4**	**+1.2**
TAF				S		**Sn**	**08 40 44.7**	**-2.5**
EMIJ	**Mijas**	**1.91**	**271**	Pn		**Pn**	**08 40 26.7**	**-0.9**
EMIJ				Sn		**Sn**	**08 40 48.2**	**-3.2**
EMIJ				*i* Vmb_Lg			08 40 52.3	
ETOB	**Tobarra**	**2.20**	**18**	Pn		**Pn**	**08 40 33.0**	**+1.3**
ETOB				Sn		**Sn**	**08 40 59.3**	**+0.7**
ETOB				*i* Vmb_Lg			08 41 01.9	
JBK	**JBK**	**2.22**	**183**	P		**Pn**	**08 40 32.3**	**+0.3**
JBK				S		**Sn**	**08 40 59.2**	**-0.1**
EADA	**Adamuz**	**2.37**	**314**	Pn		**Pb**	**08 40 36.4**	**-1.5**
EADA				Sn		**Sn**	**08 41 04.8**	**+2.1**
EADA				*i* Vmb_Lg			08 41 16.1	
CEU	**Ceuta**	**2.49**	**256**	P		**Pn**	**08 40 37.5**	**+2.0**
AFON	**Font Roja**	**2.58**	**35**	Pn		**Pn**	**08 40 38.4**	**+1.5**
AFON				Sn		**Sn**	**08 41 01.4**	**-0.6**
ECAB	**El Cabril**	**2.84**	**303**	Pn		**Pn**	**08 40 41.6**	**+1.1**
ECAB				Pg		**Pb**	**08 40 46.2**	**+0.1**
ECAB				Sn		**Sn**	**08 41 14.5**	**0.0**
ECAB				*i* Vmb_Lg			08 41 36.2	
PAB	**San Pablo**	**3.36**	**333**	Pn		**Pn**	**08 40 50.8**	**+3.2**
PAB				Sn		**Sn**	**08 41 30.0**	**+2.7**
PAB				Sg		**Sg**	**08 41 41.8**	**-1.6**
PAB				*i* Vmb_Lg			08 41 47.8	
EMIN	**Mina Concepcio**	**3.62**	**291**	Pn		**Pn**	**08 40 51.7**	**+0.6**
EMIN				Sn		**Sn**	**08 41 34.3**	**+0.8**
EMIN				*i* Vmb_Lg			08 41 57.4	
PBAR	**Barrancos**	**4.03**	**295**	*e*Pn		**Pn**	**08 40 58.4**	**+1.6**
PBAR				*e*Sn		**Sn**	**08 41 42.9**	**-0.8**
PBAR				A		A	08 42 18.4	
	14nm,0.7s							
MD31	**MD31**	**4.16**	**208**	P		**Pn**	**08 40 59.7**	**+1.1**
MD31				S		**Sn**	**08 41 45.4**	**-1.6**
EGRO	**El Granado**	**4.18**	**285**	Pn		**Pn**	**08 40 59.6**	**+0.8**
EGRO				Sn		**Sn**	**08 41 48.3**	**+0.9**
EGRO				*i* Vmb_Lg			08 41 49.6	
EBAD	**Badajoz**	**4.27**	**302**	Pn		**Pn**	**08 41 00.8**	**+0.8**
EBAD				Sn		**Sn**	**08 41 49.4**	**-0.1**
EBAD				*i* Vmb_Lg			08 41 50.0	
ETOR	**Torete**	**4.27**	**4**	Pn		**Pn**	**08 41 02.0**	**+1.8**
ETOR				Sn		**Sn**	**08 41 48.6**	**-1.1**
ETOR				*i* Vmb_Lg			08 42 18.3	
PVAQ	**Vaqueiros**	**4.34**	**283**	*e*Pn		**Pn**	**08 41 02.2**	**+1.2**
PVAQ				*e*Sn		**Sn**	**08 41 50.3**	**-1.0**
PVAQ				A		A	08 41 53.4	
	6.1nm,0.6s							
PVAQ	**Vaqueiros**	**4.34**	**283**	P		**Pn**	**08 41 00.7**	**-0.3**
PVAQ				S		**Sn**	**08 41 49.7**	**-1.5**
FIGM	**Figuig**	**4.51**	**168**	P		**Pn**	**08 41 04.0**	**+0.5**
PBEJ	**Beja**	**4.60**	**290**	*e*Pn		**Pn**	**08 41 05.8**	**+1.3**
PCVE	**Castro Verde**	**4.63**	**285**	*e*Pn		**Pn**	**08 41 06.4**	**+1.4**
PCVE				*e*Sn		**Sn**	**08 41 59.0**	**+0.5**
PESTR	**Estremoz**	**4.72**	**301**	*e*Pn		**Pn**	**08 41 07.8**	**+1.6**
PESTR				*e*Sn		**Sn**	**08 42 00.3**	**-0.3**
PESTR				*e*Sg		**Sg**	**08 42 21.9**	**-5.0**
PESTR				A		A	08 42 38.1	
	12nm,0.5s							
MESJ	**Messejana**	**4.82**	**287**	*e*P		**Pn**	**08 41 08.5**	**+1.0**
MESJ	**Messejana**	**4.82**	**287**	*e*Pn		**Pn**	**08 41 08.8**	**+1.2**
MESJ				*e*Sn		**Sn**	**08 42 01.5**	**-1.6**
PMRV	**Marv??o**	**4.87**	**308**	*e*Pn		**Pn**	**08 41 06.7**	**-1.7**
PMRV				*e*Sn		**Sn**	**08 42 00.7**	**-3.8**
PMRV				*e*Sg		**Sg**	**08 42 30.8**	**-1.2**
PMRV				A		A	08 42 37.7	
	18nm,0.7s							
PNCL	**Nicolau / Gran**	**5.12**	**290**	*e*Pn		**Pn**	**08 41 12.9**	**+1.2**
PCBR	**Castelo Branco**	**5.17**	**311**	*e*Pn		**Pn**	**08 41 14.7**	**+2.3**
PCBR				*e*Sn		**Sn**	**08 42 11.5**	**-0.3**
PCBR				*e*Sg		**Sg**	**08 42 43.8**	**+2.3**
PCBR				A		A	08 42 50.7	
	9.5nm,0.6s							
PFVI	**Vila Bisbo**	**5.18**	**278**	*e*Pn		**Pn**	**08 41 14.7**	**+2.1**
ETOS	**Mallorca**	**5.22**	**50**	Pn		**Pn**	**08 41 14.2**	**+1.1**
ETOS				*i* Vmb_Lg			08 42 15.8	
PMTG	**Montargil**	**5.25**	**300**	*e*Pn		**Pn**	**08 41 15.2**	**+1.7**
PMTG				*e*Sn		**Sn**	**08 42 12.0**	**-1.7**
PMTG				*e*Sg		**Sg**	**08 42 45.1**	**+1.1**
PMTG				A		A	08 42 52.5	
	11nm,0.7s							
MTE	**Manteigas**	**5.57**	**315**	*e*Sn		**Sn**	**08 42 17.0**	**-4.7**
MTE				*e*Sg		**Sg**	**08 42 53.4**	**-0.9**
MTE				A		A	08 43 02.4	
	16nm,0.6s							
MVO	**Moncorvo**	**5.85**	**323**	*e*Pn		**Pn**	**08 41 25.2**	**+3.4**
MVO				*e*Sn		**Sn**	**08 42 28.5**	**-0.2**
MVO				*e*Sg		**Sg**	**08 43 02.6**	**-0.7**
MVO				A		A	08 43 15.0	
	16nm,0.7s							
PCAS	**Casmilo, Conde**	**5.93**	**308**	*e*Sn		**Sn**	**08 42 29.3**	**-1.3**
PCAS				*e*Sg		**Sg**	**08 43 05.3**	**-0.5**
PCAS				A		A	08 43 10.6	
	14nm,0.5s							
POLO	**Lamas de Olo**	**6.39**	**321**	*e*Pn		**Pn**	**08 41 32.3**	**+3.1**
POLO				*e*Sg		**Sg**	**08 43 18.6**	**-1.9**

IDC 30 08:45:57.0±2.5, **6°.01S**×**129°.69E, h0^{km}, mb3.5**/1, **mbtmp3.1**/3, **ML3.1**/2, **Error ellipse: s-maj=162.5km s-min=32.6km az=69.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.57**	**162**	Pn		Pn	08 49 25.3	+0.7
	0.1nm,0.3s,baz=345,slow=13,SNR=6.8							
WRA				Sn		Sn	08 51 52.9	-14
	0.2nm,0.3s,baz=331,slow=22,SNR=7.3							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**18.02**	**167**	P		Pn	08 50 08.5	-0.6
	baz=346,slow=11,SNR=3.0							
	0.3nm,0.7s							
MKAR	**Makanchi Array**	**67.23**	**327**	P		P	08 56 53.3	0.0
	0.2nm,0.4s,baz=115,slow=8.3,SNR=4.8							
	0.2nm,0.4s							

NOU 30 08:52:19.1, 22°.15S×170°.83E, h87^{km}, MLv4.1/6, **Southeast of Loyalty Islands, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.69**	**284**	P		Pn	08 53 00.3	0.0
MARNC	**Mare, Loyalty**	**2.69**	**284**	P		Pn	08 53 00.3	0.0
LIFNC	**LIFOU**	**3.61**	**292**	P		Pn	08 53 12.8	0.0
YATNC	**Mamie plateau,**	**3.65**	**271**	P		Pn	08 53 13.2	-0.2
YATNC	**Mamie plateau,**	**3.65**	**271**	P		Pn	08 53 13.2	-0.2
OUENC	**Ouen Island, N**	**3.70**	**265**	P		Pn	08 53 14.1	0.0
OUENC	**Ouen Island, N**	**3.70**	**265**	P		Pn	08 53 14.1	0.0
ONTNC	**Ouen Toro**	**4.06**	**267**	P		Pn	08 53 18.8	-0.1
ONTNC	**Ouen Toro**	**4.06**	**267**	P		Pn	08 53 20.0	+1.1
DZM	**Mont Dzumac**	**4.07**	**270**	P		Pn	08 53 19.2	+0.1
DZM	**Mont Dzumac**	**4.07**	**270**	P		Pn	08 53 19.4	+0.3

*IDC **30** 08:52:19.1±2.2, 6°.82S×129°.47E, h0^{km}, mb3.7/1, mbtmp3.6/3, ML3.8/2, MS2.8/1, Error ellipse: s-maj=146.2km s-min=31.3km az=68.0*
ISC 30 08:52:21.5±1.5, **6°.8S**±0°.2×**129°.2E**±0°.1, **h10**^{km}, **n12**, σ2**43**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.42**	**118**	P		**Pg**	**08 53 08.4**	**+0.5**
KDU	**Kakadu**	**6.67**	**151**	P		**Pn**	**08 54 02.9**	**+3.2**
KNRA	**Kununurra**	**8.80**	**182**	P		**Pn**	**08 54 33.3**	**+4.4**
WRAB	**Tennant Creek**	**13.97**	**159**	P		**Pn**	**08 55 38.5**	**-1.1**
WRA	**Warramunga Arr**	**13.97**	**159**	Pn		**Pn**	**08 55 36.7**	**-3.0**
	0.6nm,0.3s,baz=343,slow=13,SNR=21							
WRA				Sn		Sn	08 57 57.7	-17
	1.3nm,0.3s,baz=333,slow=22,SNR=11							
	0.8nm,0.4s							
COEN	**Coen**	**15.50**	**118**	P		**Pn**	**08 56 00.5**	**+0.2**
ASAR	**Alice Springs**	**17.35**	**165**	P		**Pn**	**08 56 22.6**	**-1.4**
	0.2nm,0.3s,baz=346,slow=9.6,SNR=17							
ASAR				S		Sn	08 59 19.9	-17
	0.4nm,0.5s,baz=341,slow=25,SNR=3.2							
	0.5nm,0.5s							
AS01	**Alice Springs**	**17.36**	**165**	P		**Pn**	**08 56 22.8**	**-1.3**
WRKA	**Warakurna**	**18.12**	**182**	P		**Pn**	**08 56 33.6**	**+0.1**
OOD	**Oodnadatta**	**21.75**	**164**	P		**P**	**08 57 11.6**	**-1.7**
JOW	**Kunigami**	**33.48**	**359**	LR		LR	09 13 41.3	
	comp=Z,14nm,18.2s,baz=276,slow=38							
**MKA

H11N1 **WAKE ISLAND Hy** 33.31 170 T T 09 43 36.0
baz=353,slow=76,SNR=77

H11S1 **WAKE ISLAND Hy** 34.48 170 T T 09 45 00.7
baz=350

H11S3 **WAKE ISLAND Hy** 34.49 170 T T 09 45 00.2
baz=350

H11S2 **WAKE ISLAND Hy** 34.50 170 T T 09 45 01.9
baz=350

KURBB **Kurchatov Arra** 48.46 302 P P 09 10 11.6 -1.1
0.3nm,0.4s,baz=58,slow=7.6,SNR=4.0
0.3nm,0.4s

MKAR **Makanchi Array** 48.77 296 P P 09 10 14.2 -1.0
0.3nm,0.5s,baz=52,slow=6.7,SNR=5.1
0.3nm,0.5s

BVAR **Borovoye Array** 51.01 309 P P 09 10 31.6 -0.5
0.4nm,0.4s,baz=49,slow=6.5,SNR=2.1
0.4nm,0.4s

ARCES **ARCESS Array B** 53.76 342 P P 09 10 52.6 +0.2
2.9nm,0.9s,baz=24,slow=6.6,SNR=3.7
2.9nm,0.9s

FINES **FINESS Array B** 60.63 337 P P 09 11 42.1 +1.1
4.4nm,1.1s,baz=46,slow=8.2,SNR=8.9
4.4nm,1.1s

NOA **NORSAR Array B** 64.00 344 P P 09 12 03.4 -0.2
0.8nm,0.8s,baz=8.4,slow=8.0,SNR=1.5
0.8nm,0.8s

AKASG **Malin Array Be** 69.17 329 P P 09 12 36.2 -0.5
0.9nm,0.5s,baz=27,slow=6.9,SNR=2.1
0.9nm,0.5s

TXAR **Lajitas Array** 70.28 67 P P 09 12 45.9 +1.9
0.2nm,0.6s,baz=309,slow=5.7,SNR=2.2
0.2nm,0.6s

ASAR **Alice Springs** 79.68 205 P P 09 13 40.3 +2.2
0.4nm,0.7s,baz=14,slow=5.9,SNR=4.7
0.4nm,0.7s

STR 30 09:10:52.7±0.4, 51°N±4°×°±°, h0km, MLv3.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=15.0, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENF	Mencas	0.44	96	Pg	Pg	09 11 00.5	-0.7
MENF	Mencas	0.44	96	Sg	Sg	09 11 07.8	+0.9
ELSH	Elham, Standar	0.58	339	Pg	Pg	09 11 04.6	+0.7
ELSH	Elham, Standar	0.58	339	Sg	Sg	09 11 11.5	0.0
HMNX	Herstmonceux	0.77	291	Pg	Pg	09 11 07.3	0.0
DOU	Dourbes	2.07	103	Pn	Pn	09 11 28.0	-0.6
SWN1	Swindon	2.25	295	Pn	Pn	09 11 31.3	+0.1
RCHB	Rochefort	2.45	99	Pn	Pn	09 11 32.9	-1.0
JSA	Saint Aubin	2.75	240	Pn	Pn	09 11 36.1	-1.8
WLF	Walferdange	3.16	106	Pn	Pn	09 11 42.0	-1.7
DYA	Yadsworthy	3.45	269	Pn	Pn	09 11 45.4	-2.3
LOR	Lormes	3.69	154	Pn	Pn	09 11 49.3	-1.7
HTL	Hartland	3.80	278	Pn	Pn	09 11 50.3	-2.1
ABH	Alteburg	3.97	98	Pn	Pn	09 11 54.1	-0.7
MFF	Saint Martin d	4.14	196	Pn	Pn	09 11 53.7	-3.5
ECH	Echery	4.42	121	Pn	Pn	09 11 59.0	-2.0
WLS	Welschbruch	4.42	117	Pn	Pn	09 11 58.9	-2.1
RONF	Ronchamp	4.46	128	Pn	Pn	09 12 00.3	-1.3
SUBF	Surbourg	4.47	110	Pn	Pn	09 12 00.8	-0.8
BOURR	Bourrignon	4.97	128	Pn	Pn	09 12 06.9	-1.7

IDC 30 09:25:58.7±644.0, 59°29N×61°51E, h0km, Error ellipse: s-maj=333.3km s-min=176.8km az=54.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	13.86	103	I		10 54 40.0	
	0.1nm,1.0s,baz=301,slow=319,SNR=1.4						
I34MN	SONGINO INFRAS	28.48	94	I		12 19 40.0	
	baz=313,slow=324,SNR=0.5						
I18DK	QAANAAQ INFRAS	30.15	345	I		13 31 30.0	
	baz=36,slow=337,SNR=1.9						

*NOU **30** 09:39:49.2, 41°.87S×174°.51E, h10km, MLv4.0/12, Cook Strait, New Zealand*
*WEL **30** 09:39:51.1±0.3, 42°.5S±3°×17°.4E±°, h11km±2km, M3.6/40, ML3.8/18, MLv3.6/40, Error ellipse: s-maj=0.0km s-min=0.0km az=136.8*
ISC 30 09:39:50.5±1.1, 41°.76S±0°.04×174°.37E±0°.03, h23km±8km, n121, σ1§27/124, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11	273	P	Pb	09 39 55.1	0.0
CMWZ				S	Sb	09 39 58.4	+0.3
BSWZ	Blackbirch Sta	0.37	276	P	Pb	09 39 58.1	-0.3
BSWZ				S	Sb	09 40 03.2	-0.7
TUWZ	Tuamarina	0.45	316	P	Pb	09 39 58.7	-1.1
TUWZ				S	Sb	09 40 03.9	-2.3
SNZO	South Karori	0.51	30	P	Pb	09 40 01.0	+0.2
TCW	Tory Channel	0.55	353	P	Pb	09 40 00.4	-1.0
WEL	Wellington	0.56	33	P	Pb	09 40 02.0	+0.4
PLWZ	Palliser	0.69	75	P	Pn	09 40 06.3	+1.4
MSWZ	Moikau Station	0.74	63	P	Pn	09 40 06.6	+1.0
CAW	Cannon Point	0.83	39	P	Pb	09 40 06.8	+0.5
PAWZ	Paruwai Farm	0.88	65	P	Pn	09 40 08.6	+1.2
KHZ	Kahutara	0.90	223	P	Pn	09 40 09.4	+1.6
NNZ	Nelson	0.92	306	P	Pb	09 40 06.8	-0.8
KIW	Kapiti Island	0.98	25	P	Pb	09 40 08.8	0.0
DUWZ	D'Urville Isla	1.01	341	P	Pb	09 40 08.3	-1.0
MTW	Mount Morrison	1.04	55	P	Pb	09 40 10.6	+0.8
TRWZ	Traveller	1.05	71	P	Pb	09 40 10.9	+0.9
THZ	Tophouse	1.09	269	P	Pb	09 40 10.9	+0.1
OGWZ	Otaki Gorge	1.12	33	P	Pb	09 40 11.3	+0.2
HOWZ	Holdsworth Sta	1.22	46	P	Pb	09 40 12.9	+0.1
MRNZ	Matariki Terra	1.26	286	P	Pb	09 40 13.5	0.0
TKNZ	Takaka Hill	1.28	304	P	Pb	09 40 13.3	+0.4
TMWZ	Te Maipa	1.32	61	P	Pn	09 40 14.2	+0.7
MRZ	Mangatainoka R	1.43	40	P	Pn	09 40 15.9	+0.9
TIWZ	Tintock	1.51	50	P	Pn	09 40 16.5	+0.5
GVZ	Greta Valley S	1.56	219	P	Pn	09 40 18.1	+1.3
CPWZ	Castlepoint	1.62	59	P	Pn	09 40 18.5	+0.9
QRZ	Quartz Range	1.67	303	P	Pb	09 40 20.0	-0.5
QRZ	Quartz Range	1.67	303	P	Pb	09 40 19.8	-0.7
PRWZ	Pori Road	1.71	46	P	Pn	09 40 19.4	+0.6
OHWZ	Ohakea	1.71	25	P	Pb	09 40 20.8	-0.4
POWZ	Post Office Ro	1.73	38	P	Pn	09 40 19.7	+0.6
BFZ	Birch Farm	1.78	54	P	Pn	09 40 20.0	+0.2
BFZ	Birch Farm	1.78	54	P	Pn	09 40 19.8	0.0
LTZ	Lake Taylor	1.86	236	P	Pn	09 40 22.2	+1.2
AMCZ	Amberley	1.90	221	P	Pn	09 40 22.4	+0.8
DSZ	Denniston Nort	1.92	269	P	Pn	09 40 23.4	+1.7
DVHZ	Dannevirke	1.99	44	P	Pn	09 40 22.8	0.0
ANWZ	Angora Road	2.05	52	P	Pn	09 40 23.4	-0.1
WAZ	Wanganui	2.05	13	P	Pb	09 40 26.3	-0.8
TSZ	Takapari Road	2.08	36	P	Pn	09 40 24.5	+0.5
OKCZ	Okains Bay	2.19	206	P	Pn	09 40 25.6	+0.2
PRHZ	Porangahau	2.27	50	P	Pn	09 40 26.3	-0.3
LREZ	Lake Rotokare	2.29	1	P	Pb	09 40 30.3	-0.8
PNHZ	Pukenui	2.31	38	P	Pn	09 40 27.3	+0.2
WPHZ	Waipukurau	2.31	44	P	Pn	09 40 27.1	+0.1
MQZ	McQueen's Vall	2.32	212	P	Pn	09 40 27.0	-0.2
OXZ	Oxford	2.33	227	P	Pn	09 40 27.4	0.0
NMEZ	Namu Road	2.37	351	P	Pb	09 40 31.8	-0.6
AKCZ	Akaroa Harbour	2.37	206	P	Pn	09 40 28.4	+0.4
INZ	Inchbonnie	2.38	245	P	Pn	09 40 29.2	+1.2
KHEZ	Kahui Hut	2.47	354	P	Pn	09 40 31.5	+2.1
KHEZ	Kahui Hut	2.47	354	P	Pb	09 40 33.2	-1.1
NEZ	North Egmont	2.49	355	P	Pb	09 40 33.2	-1.4
MTVZ	Mangateitei	2.51	20	P	Pb	09 40 33.1	-1.9
NBEZ	Newall Road No	2.51	351	P	Pb	09 40 32.9	-2.0
PXZ	Pawanui	2.56	49	P	Pn	09 40 29.7	-0.8
RACZ	Rakaia	2.56	219	P	Pn	09 40 30.5	-0.1
DREZ	Durham Road	2.57	357	P	Pb	09 40 34.1	-1.7
MOVZ	Moawhango	2.57	25	P	Pn	09 40 31.7	+0.9
PKE	Pukeiti	2.57	353	P	Pn	09 40 33.1	+2.3
PKVZ	Pokaka	2.57	17	P	Pn	09 40 32.9	+2.1
WNVZ	Wahianoa	2.60	22	P	Pn	09 40 32.8	+1.6
BHHZ	Black Hill Sta	2.61	30	P	Pn	09 40 32.1	+0.8
TRVZ	Turoa	2.61	21	P	Pn	09 40 33.4	+1.9
DRZ	Dome Shelter	2.64	21	P	Pb	09 40 38.0	+0.7
WHVZ	Whangaehu Hut	2.64	21	P	Pn	09 40 33.4	+1.5
VRZ	Vera Road	2.65	7	P	Pn	09 40 34.4	+2.7
FWVZ	Far West T-bar	2.66	20	P	Pn	09 40 33.9	+1.8
TUVZ	Tukino	2.67	22	P	Pn	09 40 33.8	+1.6
MHEZ	Mangahewa	2.68	359	P	Pb	09 40 36.1	-1.6
MHCZ	Mount Hutt	2.72	228	P	Pn	09 40 32.9	+0.1
KAHZ	Kahuranaki	2.73	45	P	Pn	09 40 32.4	-0.6
NGZ	Ngauruhoe	2.74	21	P	Pn	09 40 35.1	+1.9
SNVZ	South Ngauruho	2.74	21	P	Pn	09 40 34.8	+1.6
OTVZ	Oturere	2.77	21	P	Pn	09 40 35.2	+1.6
NNVZ	North Ngauruho	2.79	20	P	Pn	09 40 35.8	+1.9
WTVZ	West Tongariro	2.80	20	P	Pn	09 40 35.8	+1.9
TWVZ	Taurewa	2.80	17	P	Pn	09 40 35.8	+1.8
KWHZ	Kaweka Forest	2.81	35	P	Pn	09 40 33.8	-0.2
ETVZ	East Tongariro	2.81	22	P	Pn	09 40 35.4	+1.3
TMVZ	Te Maari	2.83	22	P	Pn	09 40 35.6	+1.3
KRVZ	Karewarewa	2.83	21	P	Pn	09 40 36.3	+2.0
NTVZ	North Tongarir	2.84	21	P	Pn	09 40 35.8	+1.4
WACZ	Wakanui South	2.87	220	P	Pn	09 40 34.9	+0.2
MCHZ	McNeill Hill	2.91	38	P	Pn	09 40 35.0	-0.3
KATZ	Kakaramea	2.96	21	P	Pb	09 40 42.0	-0.6
WVZ	Waitaha Valley	2.99	243	P	Pn	09 40 37.5	+1.0
BKZ	Black Stump Fm	3.05	33	P	Pn	09 40 37.5	+0.1
BKZ	Black Stump Fm	3.05	33	P	Pn	09 40 37.0	-0.4
RATZ	Rangitukua	3.08	21	P	Pb	09 40 44.2	-0.4
RPZ	Rata Peaks	3.13	230	P	Pn	09 40 38.3	-0.1
RPZ	Rata Peaks	3.13	230	P	Pn	09 40 38.6	+0.3
ARCZ	Arundel	3.21	226	P	Pn	09 40 39.9	+0.4
HIZ	Hauiti	3.26	7	P	Pn	09 40 42.5	+2.3
HIZ	Hauiti	3.26	7	P	Pn	09 40 42.4	+2.3
MRHZ	Matea Rd	3.31	29	P	Pn	09 40 40.5	-0.5
GCSZ	Gaunt Creek Bo	3.37	241	P	Pn	09 40 43.3	+1.6
TLZ	Tolley Road	3.54	15	P	Pn	09 40 45.2	+1.1
TMZ	Timaru	3.60	222	P	Pn	09 40 45.4	+0.6
SNGZ	Shannon Statio	3.74	38	P	Pn	09 40 45.8	-1.1
MUGZ	Murupara	3.76	30	P	Pn	09 40 47.0	0.0
FQZ	Fox Glacier	3.80	241	P	Pn	09 40 48.5	+0.9
RIGZ	Rimuhau	4.00	42	P	Pn	09 40 49.1	-1.4
LBZ	Lake Benmore	4.04	228	P	Pn	09 40 51.4	+0.5
URZ	Urewera	4.08	32	P	Pn	09 40 51.6	+0.2
URZ	Urewera	4.08	32	P	Pn	09 40 50.2	-1.2
TOZ	Tahuroa Road	4.11	13	P	Pn	09 40 53.6	+1.7
ODZ	Otahua Downs	4.26	218	P	Pn	09 40 54.0	+0.1
ODZ	Otahua Downs	4.26	218	P	Pn	09 40 53.6	-0.3
RUGZ	Raukumara Rang	4.56	35	P	Pn	09 40 56.7	-1.5
MKAZ	Moumakai	4.69	8	P	Pn	09 41 01.2	+1.5
AWAZ	Awhitu Peninsu	4.69	3	P	Pn	09 41 02.8	+3.0
JCZ	Jackson Bay	4.71	239	P	Pn	09 41 00.8	+0.7
JCZ	Jackson Bay	4.71	239	P	Pn	09 41 00.3	+0.1
HAZ	Te Kaha	4.78	35	P	Pn	09 41 00.5	-0.6
ETAZ	East Tamaki Re	4.81	5	P	Pn	09 41 03.8	+2.2
WIAZ	Waiheke Island	4.99	7	P	Pn	09 41 06.2	+2.3
KUZ	Kuaotunu	5.11	12	P	Pn	09 41 06.8	+1.2
WCZ	Waipu Caves	5.81	360	P	Pn	09 41 19.0	+3.8
OUZ	Omahuta	6.55	354	P	Pn	09 41 27.4	+2.0
OUZ	Omahuta	6.55	354	P	Pn	09 41 28.0	+2.6

*GII **30** 09:43:57.9±0.0, 33°.23N×35°.41E, h5km, MD2.8/6, Mm2.8/4*
*GRAL **30** 09:43:58.6±0.3, 33°.25N×35°.44E, h4km±2km, MD3.0*
ISC 30 09:43:58.0±1.1, 33°.26N±0°.03×35°.41E±0°.04, h13km±8km, n18, σ0§68/31, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	Giv'at Ha'Em	0.22	104	Pg	Pg	09 44 02.5	-0.2
GEM				Sg	Sg	09 44 06.5	+0.6
MMA0B	Mount Meron ar	0.25	182	Pg	Pg	09 44 02.8	-0.4
MMA0B				Sg	Sg	09 44 06.7	-0.1
HNTI	Hanita	0.27	228	Pg	Pg	09 44 03.2	-0.4
HNTI				Sg	Sg	09 44 07.8	+0.5
RCY	Rachaya	0.42	57	eP	Pg	09 44 06.1	-0.4
RCY				eS	Sg	09 44 11.6	-0.6
KSHT	Keshet	0.44	130	Pg	Pg	09 44 06.6	0.0
DQRL	Deir Qamar	0.46	17	eP	Pg	09 44 07.0	-0.1
DQRL				eS	Sg	09 44 13.3	0.0
BLGI	Bet Lehem HaGe	0.56	199	Pg	Pg	09 44 08.5	-0.4
BLGI				Sg	Sg	09 44 17.0	+0.7
BHL	Bhannes	0.67	18	eP	Pg	09 44 10.8	-0.3
OFRI	`Ofer	0.73	209	Pg	Pg	09 44 11.5	-0.7
OFRI				Sg	Sg	09 44 22.4	+0.6
MMLI	Mount Malkishu	0.82	179	Pg	Pg	09 44 13.1	-0.8
MMLI				Sg	Sg	09 44 24.2	-0.5
HMDT	Nahal Hemdat	1.01	174	Pg	Pg	09 44 16.5	-1.0
HMDT				Sg	Sg	09 44 32.6	0.0
SLTI	Sal'it	1.07	197	Pg	Pg	09 44 17.9	0.6
SLTI				Sg	Sg	09 44 32.4	0.0
HWQ	Hawqa	1.11	24	eP	Pg	09 44 18.4	-0.9
HWQ				eS	Sg	09 44 33.1	-0.7
SALP	Salfit	1.21	189	Pg	Pg	09 44 19.6	-1.5
SALP				Sg	Sg	09 44 36.3	-0.5
UJAP	Al Uja	1.31	178	Pg	Pg	09 44 21.8	-1.3
DSI	Dead Sea	1.69	181	Pn	Pn	09 44 27.4	+0.2
MDBI	Mazsada	1.94	181	Pn	Pn	09 44 30.9	+0.3
MDBI				Sn	Sn	09 44 56.0	+1.1
PRNI	Paran	2.92	187	Pn	Pn	09 44 44.8	+0.6

*WEL **30** 09:53:00, 41°.80S×174°.07E, h20km, ML4.1, Mw3.9, Moment Tensor Solution. s4 Moment tensor: Scale 10^14 Nm; Mrr-0.79; Mθθ 5.35; Mϕϕ-4.56; Mrθ-0.96; Mθϕ-7.07; Mϕr-2.18; Fault plane solution: Mo 8.98000×10^14 NP1: ϕs 74.00000°, δ 78.00000°, λ-169.00000°. NP2: ϕs 341.00000°, δ 79.00000°, λ-12.00000°. Principal axes: T 90.3300, Plg1.0000°, Azm28.0000°; N -89.3100, Plg74.0000°, Azm119.0000°; P -1.0200, Plg16.0000°, Azm298.0000°;*
*WEL **30** 09:53:50.0±0.3, 42°.5S±2°×17°.4E±°, h15km±2km, M4.2/53, ML4.4/24, MLv4.2/53 Error ellipse: s-maj=0.0km s-min=0.0km az=143.5*
*NOU **30** 09:53:49.6, 41°.99S×174°.25E, h18km, MLv4.5/15, Cook Strait, New Zealand*
ISC 30 09:53:48.7±1.6, 41°.91S±0°.03×174°.16E±0°.03, h13km±15km, n141, σ1§45/144, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.16	14	P	Pb	09 53 55.0	+1.4
CMWZ				S	Sb	09 53 59.0	+2.2
BSWZ	Blackbirch Sta	0.29	312	P	Pb	09 53 55.4	-0.2
BSWZ				S	Sb	09 53 59.0	-1.3
TUWZ	Tuamarina	0.50	341	P	Pb	09 53 59.2	-0.2
TUWZ				S	Sb	09 54 05.5	-1.0
KHZ	Kahutara	0.69	222	P	Pb	09 54 04.7	+2.1
TCW	Tory Channel	0.70	7	P	Pb	09 54 02.9	+0.2
SNZO	South Karori	0.72	35	P	Pn	09 54 04.6	+0.1
WEL	Wellington	0.77	36	P	Pn	09 54 05.4	+0.2
PLWZ	Palliser	0.89	68	P	Pb	09 54 07.5	+1.6
NNZ	Nelson	0.90	319	P	Pb	09 54 06.1	-0.1
THZ	Tophouse	0.95	278	P	Pn	09 54 07.5	-0.2
MSWZ	Moikau Station	0.95	59	P	Pb	09 54 08.4	+1.4
CAW	Cannon Point	1.05	41	P	Pg	09 54 09.8	+0.9
PAWZ	Paruwai Farm	1.08	62	P	Pb	09 54 10.0	+0.7
DUWZ	D'Urville Isla	1.12	351	P	Pg	09 54 09.9	-0.4
MRNZ	Matariki Terra	1.17	295	P	Pg	09 54 11.1	-0.1
KIW	Kapiti Island	1.19	29	P	Pb	09 54 11.8	+0.7
TRNZ	Traveller	1.25	67	P	Pn	09 54 12.2	+0.3
MTW	Mount Morrison	1.25	54	P	Pn	09 54 12.1	+0.2
TKNZ	Takaka Hill	1.25	314	P	Pb	09 54 11.9	-0.3
OGWZ	Otaki Gorge	1.33	35	P	Pn	09 54 13.6	+0.7
GVZ	Greta Valley S	1.35	218	P	Pn	09 54 14.0	+0.8
HOWZ	Holdsworth Sta	1.43	46	P	Pn	09 54 14.6	+0.2
TMWZ	Te Maipa	1.52	59	P	Pn	09 54 15.6	0.0
QRZ	Quartz Range	1.64	311	P	Pb	09 54 18.5	-0.2
QRZ	Quartz Range	1.64	311	P	Pb	09 54 18.2	-0.5
MRZ	Mangatainoka R	1.64	41	P	Pn	09 54 17.5	+0.3
LTZ	Lake Taylor	1.65	237	P	Pn	09 54 18.2	+0.8
AMCZ	Amberley	1.69	221	P	Pn	09 54 18.3	+0.4
TIWZ	Tintock	1.72	50	P	Pn	09 54 18.1	-0.2
DSZ	Denniston Nort	1.77	274	P	Pb	09 54 20.3	-0.7
CPWZ	Castlepoint	1.83	58	P	Pn	09 54 19.8	+0.1
OHWZ	Ohakea	1.91	28	P	Pb	09 54 22.8	-0.6
PRWZ	Pori Road	1.92	46	P	Pn	09 54 21.1	0.0
POWZ	Post Office Ro	1.94	39	P	Pn	09 54 21.5	+0.2
OKCZ	Okains Bay	1.99	204	P	Pn	09 54 22.2	+0.1
BFZ	Birch Farm	1.99	53	P	Pn	09 54 21.6	-0.4
BFZ	Birch Farm	1.99	53	P	Pn	09 54 21.4	-0.7
MQZ	McQueen's Vall	2.11	211	P	Pn	09 54 22.9	-0.8
OXZ	Oxford	2.11	227	P	Pn	09 54 23.3	-0.4
AKCZ	Akaroa Harbour	2.17	205	P	Pn	09 54 24.3	-0.2
INZ	Inchbonnie	2.17	247	P	Pn	09 54 25.5	+0.9
DVHZ	Dannevirke	2.21	44	P	Pn	09 54 24.5	-0.6
WAZ	Wanganui	2.24	16	P	Pb	09 54 27.8	-1.2
ANWZ	Angora Road	2.27	51	P	Pn	09 54 25.1	-0.7
TSZ	Takapari Road	2.29	37	P	Pn	09 54 26.2	-0.1
RACZ	Rakaia	2.35	219	P	Pn	09 54 26.4	-0.6
LREZ	Lake Rotokare	2.45	4	P	Pb	09 54 31.5	-1.1
PRHZ	Porangahau	2.49	50	P	Pn	09 54 27.8	-1.0
NMEZ	Namu Road	2.50	355	P	Pb	09 54 33.2	-0.2
MHCZ	Mount Hutt	2.51	229	P	Pn	09 54 28.7	-0.5
PNHZ	Pukenui	2.52	38	P	Pn	09 54 29.0	-0.3
WPHZ	Waipukurau	2.52	44	P	Pn	09 54 29.0	-0.3
KHEZ	Kahui Hut	2.61	357	P	Pn	09 54 32.2	+1.6
KHEZ	Kahui Hut	2.61	357	P	Pb	09 54 34.4	-1.0
NEZ	North Egmont	2.63	359	P	Pb	09 54 34.6	-1.1
NBEZ	Newall Road No	2.64	355	P	Pb	09 54 34.2	-1.7
WACZ	Wakanui South	2.66	219	P	Pn	09 54 30.9	-0.2
MTVZ	Mangateitei	2.71	22	P	Pb	09 54 35.3	-1.7
PKE	Pukeiti	2.71	357	P	Pb	09 54 35.0	-2.1
DREZ	Durham Road	2.71	1	P	Pb	09 54 35.2	-1.9
PKVZ	Pokaka	2.77	19	P	Pn	09 54 34.7	+2.0
PXZ	Pawanui	2.77	48	P	Pn	09 54 31.4	-1.4
MOVZ	Moawhango	2.77	26	P	Pn	09 54 33.4	+0.5
WVZ	Waitaha Valley	2.79	244	P	Pn	09 54 33.9	+0.9
WNVZ	Wahianoa	2.80	23	P	Pn	09 54 34.7	+1.4
TRVZ	Turoa	2.81	23	P	Pn	09 54 35.8	+2.3
BHHZ	Black Hill Sta	2.81	32	P	Pn	09 54 33.8	+0.4
VRZ	Vera Road	2.81	9	P	Pn	09 54 35.6	+2.3
MHEZ	Mangahewa	2.83	3	P	Pb	09 54 38.2	-0.9
DRZ	Dome Shelter	2.84	23	P	Pb	09 54 39.3	-0.1
WHVZ	Whangaehu Hut	2.84	23	P	Pn	09 54 35.5	+1.6
FWVZ	Far West T-bar	2.85	22	P	Pn	09 54 35.8	+1.7
TUVZ	Tukino	2.87	24	P	Pn	09 54 35.6	+1.3
RPZ	Rata Peaks	2.92	231	P	Pn	09 54 34.5	-0.2
RPZ	Rata Peaks	2.92	231	P	Pn	09 54 34.6	-0.2
NGZ	Ngauruhoe	2.94	22	P	Pn	09 54 36.6	+1.4
SNVZ	South Ngauruho	2.94	23	P	Pn	09 54 36.6	+1.3
KAHZ	Kahuranaki	2.95	45	P	Pn	09 54 34.0	-1.2
OTVZ	Oturere	2.97	23	P	Pn	09 54 36.9	+1.2
NNVZ	North Ngauruho	2.98	22	P	Pn	09 54 37.4	+1.6
WTVZ	West Tongariro	2.99	22	P	Pn	09 54 37.4	+1.4
ARCZ	Arundel	2.99	226	P	Pn	09 54 35.5	-0.4
TWVZ	Taurewa	2.99	19	P	Pb	09 54 40.2	-1.7
ETVZ	East Tongariro	3.01	24	P	Pn	09 54 37.4	+1.3
KWHZ	Kaweka Forest	3.02	35	P	Pn	09 54 35.5	-0.7
TMVZ	Te Maari	3.02	23	P	Pn	09 54 37.5	+1.1
KRVZ	Karewarewa	3.03	22	P	Pn	09 54 38.6	+2.2
NTVZ	North Tongarir	3.03	23	P	Pn	09 54 37.8	+1.3
MCHZ	McNeill Hill	3.12	39	P	Pn	09 54 36.9	-0.7
KATZ	Kakaramea	3.15	22	P	Pb	09 54 42.1	-2.5
GCSZ	Gaunt Creek Bo	3.16	242	P	Pn	09 54 39.0	+0.9
BKZ	Black Stump Fm	3.26	34	P	Pn	09 54 39.8	+0.2
BKZ	Black Stump Fm	3.26	34	P	Pn	09 54 38.7	-0.9
RATZ	Rangitukua	3.27	23	P	Pn	09 54 43.0	+3.2
HATZ	Hinemaiaia	3.35	27	P	Pb	09 54 47.2	-0.8
TMZ	Timaru	3.39	222	P	Pn	09 54 40.8	-0.4
ARHZ	Aropaoanui	3.41	40	P	Pn	09 54 41.3	-0.2
WATZ	Wairara	3.41	21	P	Pb	09 54 48.3	-0.8
HIZ	Hauiti	3.43	9	P	Pn	09 54 43.5	+1.7
HIZ	Hauiti	3.43	9	P	Pn	09 54 44.0	+2.1
NMHZ	Naumai	3.46	37	P	Pn	09 54 41.4	-0.9
MRHZ	Matea Rd	3.52	30	P	Pn	09 54 42.3	-0.8
FOZ	Fox Glacier	3.59	242	P	Pn	09 54 45.0	+1.0
MTHZ	Maungataniwha	3.67	35	P	Pn	09 54 45.0	-0.2
WPRZ	Whakapapataran	3.71	25	P	Pn	09 54 50.3	+4.6
TLZ	Tolley Road	3.73	17	P	Pn	09 54 47.2	+1.3
ALRZ	Allen Road	3.73	27	P	Pb	09 54 51.8	-2.7
PRRZ	Plateau Road	3.81	27	P	Pn	09 54 53.5	-2.3
LBZ	Lake Benmore	3.82	228	P	Pn	09 54 47.3	+0.1
MHGZ	Mahia Peninsul	3.96	47	P	Pn	09 54 48.1	-1.1
MUGZ	Murupara	3.96	31	P	Pn	09 54 48.3	-0.9
ODZ	Otahua Downs	4.05	218	P	Pn	09 54 49.9	-0.4
ODZ	Otahua Downs	4.05	218	P	Pn	09 54 49.5	-0.8
RIGZ	Rimuhau	4.22	42	P	Pn	09 54 50.9	-1.8
URZ	Urewera	4.29	33	P	Pn	09 54 53.7	+0.1
URZ

MASI				S	Sn	10 17 47.2	+4.2
LWLI	**Liwa**	**2.21**	**103**	P	Pn	10 17 38.0	+1.6
PPSI	**Pulau Pagai**	**2.58**	**313**	P	Pn	10 17 44.7	+3.4
KASI	**Kota Agung**	**2.77**	**111**	P	Pn	10 17 45.0	+1.0
SDSI	**Sungai Dareh**	**3.61**	**353**	P	Pn	10 17 58.2	+2.7
PDSI	**Padang**	**3.87**	**338**	P	Pn	10 18 02.1	+2.9
PDSI				S	Sn	10 18 44.4	+0.9
CGJI	**Cibinong**	**4.31**	**119**	P	Pn	10 18 05.1	-0.1
DSRI	**Dabo**	**4.84**	**34**	P	Pn	10 18 15.4	+2.9
LEM	**Lembang**	**6.13**	**112**	P	Pn	10 18 34.0	+3.6
	9.0nm,0.3s,baz=319,slow=20,SNR=2.7						
LEM				LR	LR	10 21 31.8	
	comp=Z,100nm,18.6s,baz=320,slow=44 24nm,0.4s						
GSI	**Gunungsitoli**	**7.23**	**323**	Pn	Pn	10 18 47.3	+2.0
GSI				Sn	Sn	10 20 05.0	-1.2
PSI	**Prapat**	**7.87**	**338**	P	Pn	10 18 54.5	+0.3
	4.7nm,0.4s,baz=180,slow=15						
IPM	**Ipoh**	**8.99**	**354**	Pn	Pn	10 19 09.3	-0.3
COCO	**West Island**	**9.11**	**213**	Pn	Pn	10 19 12.9	+1.8
UGM	**Wanagama**	**9.21**	**112**	Pn	Pn	10 19 13.6	+1.0
CMAR	**Chiang Mai Arr**	**23.03**	**353**	P	P	10 22 04.4	+0.2
	1.1nm,0.3s,baz=182,slow=9.0,SNR=2.1						
CMAR				LR	LR	10 30 18.8	
	comp=Z,24nm,19.8s,baz=90,slow=35 1.1nm,0.3s						
MTN	**Manton Dam**	**30.03**	**108**	P	P	10 23 06.7	-1.2
MTN				IAmb	IAmb	10 23 30.2	
	comp=Z,13nm,1.1s						
H01W3	**Cape Leeuwin H**	**32.26**	**161**	T	T	10 57 31.9	
	baz=338,slow=76,SNR=5.7						
H01W2	**Cape Leeuwin H**	**32.27**	**161**	T	T	10 57 32.8	
	baz=338,slow=76,SNR=4.8						
H01W1	**Cape Leeuwin H**	**32.27**	**161**	T	T	10 57 30.3	
	baz=338,slow=76,SNR=4.9						
WB0	**Warramunga Arr**	**35.09**	**118**	P	P	10 23 52.1	-0.1
WRA	**Warramunga Arr**	**35.10**	**119**	P	P	10 23 51.5	-0.8
	comp=Z,1.0nm,0.8s,baz=308,slow=9.5,SNR=30						
WRA				PcP	PcP	10 26 23.1	-0.5
	comp=Z,0.3nm,0.4s,baz=301,slow=1.9,SNR=3.2 comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**35.10**	**119**	P	P	10 23 51.8	-0.5
WRAB	**Tennant Creek**	**35.11**	**119**	P	P	10 23 52.1	-0.3
WRAB				IAmb	IAmb	10 24 12.3	
	comp=Z,2.9nm,0.9s						
WB2	**Warramunga Arr**	**35.12**	**119**	P	P	10 23 51.6	-0.8
WR0	**Warramunga Arr**	**35.29**	**119**	P	P	10 23 53.0	-0.9
WR0				IAmb	IAmb	10 24 04.4	
	comp=Z,4.7nm,1.2s						
AS31	**Alice Springs**	**36.25**	**125**	P	P	10 24 03.0	+0.9
ASAR	**Alice Springs**	**36.25**	**125**	P	P	10 24 01.8	-0.3
	comp=Z,1.0nm,0.9s,baz=299,slow=8.1,SNR=8.8						
ASAR				PcP	PcP	10 26 26.5	-0.4
	comp=Z,0.5nm,0.5s,baz=309,slow=1.9,SNR=6.0 comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**36.25**	**125**	P	P	10 24 03.6	+1.5
COEN	**Coen**	**41.74**	**106**	P	P	10 24 46.0	-2.1
STKA	**Stephens Creek**	**46.07**	**131**	P	P	10 25 22.6	0.0
	comp=Z,1.6nm,0.7s,baz=316,slow=11,SNR=4.1						
STKA				LR	LR	10 45 25.2	
	comp=Z,27nm,19.5s,baz=25,slow=37 comp=Z,1.6nm,0.7s						
STKA	**Stephens Creek**	**46.07**	**131**	P	P	10 25 23.2	+0.5
KSRS	**Korea Array**	**48.29**	**28**	P	P	10 25 39.0	-0.8
	comp=Z,0.8nm,0.4s,baz=226,slow=7.5,SNR=6.0						
KSRS				LR	LR	10 47 48.8	
	comp=Z,3.6nm,20.7s,baz=65,slow=38 comp=Z,0.8nm,0.4s						
TARG	**Taragay, Kyrgy**	**51.01**	**337**	P	P	10 26 01.3	+0.3
TARG				IAmb	IAmb	10 26 07.9	
	comp=Z,1.8nm,0.7s						
SONM	**Songino Array**	**52.30**	**4**	P	P	10 26 10.5	+0.4
	comp=Z,8.6nm,0.7s,baz=185,slow=9.6,SNR=61						
SONM				PcP	PcP	10 27 20.8	-0.3
	comp=Z,1.2nm,0.6s,baz=184,slow=5.3,SNR=2.2 comp=Z,8.6nm,0.7s						
SONM	**Songino Array**	**52.30**	**4**	P	P	10 26 10.6	+0.5
SONM				IAmb	IAmb	10 26 11.4	
	comp=Z,6.4nm,0.7s						
ULN	**Ulaanbaatar**	**52.37**	**4**	P	P	10 26 11.1	+0.3
ULN				IAmb	IAmb	10 26 11.7	
	comp=Z,3.4nm,0.7s						
MJAR	**Matsushiro Arr**	**53.10**	**37**	P	P	10 26 13.6	-2.6
	comp=Z,2.2nm,0.7s,baz=219,slow=6.8,SNR=4.5 comp=Z,2.2nm,0.7s						
AAK	**Ala-Archa**	**53.12**	**335**	LR	LR	10 51 19.6	
	comp=Z,21nm,19.6s,baz=25,slow=39						
MK31	**Makanchi Array**	**53.97**	**343**	P	P	10 26 22.7	+0.3
MK31				IAmb	IAmb	10 26 22.9	
	comp=Z,2.2nm,0.7s						
MKAR	**Makanchi Array**	**53.97**	**343**	P	P	10 26 22.1	-0.3
	comp=Z,3.0nm,0.8s,baz=146,slow=8.5,SNR=23 comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**53.97**	**343**	P	P	10 26 22.4	+0.1
USA0B	**Ussuriysk Arra**	**55.54**	**26**	P	P	10 26 32.9	-0.8
USA0B				IAmb	IAmb	10 26 33.7	
	comp=Z,8.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**55.54**	**26**	P	P	10 26 33.0	-0.7
	comp=Z,6.6nm,0.7s,baz=214,slow=5.1,SNR=23 comp=Z,6.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**55.54**	**26**	P	P	10 26 33.2	-0.5
JTM	**Tenmabayashi**	**57.60**	**35**	P	P	10 26 47.4	-1.1
KURK	**Kurchatov**	**58.56**	**343**	P	P	10 26 55.1	+0.1
KURK				IAmb	IAmb	10 26 55.4	
	comp=Z,3.3nm,0.8s						
HEH	**HeiHe**	**58.85**	**19**	*e*P	P	10 26 56.0	-1.0
HEH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,220nm,5.3s						
ERM	**Erimo**	**59.60**	**35**	P	P	10 27 01.6	-0.8
ZAA0	**Zalesovo Array**	**60.00**	**348**	P	P	10 27 04.5	-0.3
ZALV	**Zalesovo Beam**	**60.00**	**348**	P	P	10 27 04.3	-0.6
	comp=Z,4.7nm,0.6s,baz=166,slow=4.9,SNR=31 comp=Z,4.7nm,0.6s						
ZALV	**Zalesovo Beam**	**60.00**	**348**	P	P	10 27 04.4	-0.5
JKA	**Kamikawa-asahi**	**60.67**	**33**	P	P	10 27 08.8	-0.9
ABKAR	**Akbulak array**	**64.76**	**331**	P	P	10 27 36.7	-0.1
YAK	**Yakutsk**	**69.72**	**14**	P	P	10 28 06.4	-1.5
KBZ	**Khabaz**	**71.45**	**319**	P	P	10 28 19.1	+0.3
	comp=Z,2.5nm,0.7s,baz=107,slow=8.4,SNR=4.4 comp=Z,2.5nm,0.7s						
BKZ	**Black Stump Fm**	**75.21**	**129**	P	P	10 28 41.3	0.0
BRTR	**Keskin Array B**	**76.42**	**313**	P	P	10 28 48.1	-0.2
	comp=Z,1.4nm,0.6s,baz=141,slow=6.9,SNR=6.5 comp=Z,1.4nm,0.6s						
BRTR	**Keskin Array B**	**76.42**	**313**	P	P	10 28 48.5	+0.2
TIXI	**Tiksi**	**78.06**	**8**	P	P	10 28 55.0	-1.6
TIXI				IAmb	IAmb	10 28 56.0	
	comp=Z,2.6nm,0.8s						
BURAR	**Bucovina Array**	**84.40**	**319**	P	P	10 29 32.7	+1.7
BURAR				IAmb	IAmb	10 29 33.4	
	comp=Z,2.8nm,0.8s						
BUR08	**Bucovina Ar. S**	**84.42**	**319**	P	P	10 29 32.8	+1.7
BUR08				IAmb	IAmb	10 29 56.0	
	comp=Z,7.8nm,1.3s						
FINES	**FINESS Array B**	**87.22**	**332**	P	P	10 29 44.5	+0.1
	comp=Z,4.1nm,1.0s,baz=95,slow=12,SNR=5.3 comp=Z,4.1nm,1.0s						
ARCES	**ARCESS Array B**	**89.48**	**340**	P	P	10 29 55.2	+0.2
	comp=Z,3.7nm,0.9s,baz=98,slow=6.5,SNR=1.5 comp=Z,3.7nm,0.9s						
NVAR	**Mina Array Bea**	**130.29**	**42**	PKP	**PKPdf**	10 36 08.8	-0.6
	comp=Z,0.2nm,0.6s,baz=45,slow=0.4,SNR=1.9						
TXAR	**Lajitas Array**	**145.44**	**42**	PKPbc	**PKPbc**	10 36 36.9	-0.2
	comp=Z,4.4nm,0.6s,baz=298,slow=1.1,SNR=72						

*NEIC **30** 10:21:13.6±0.9, 20°.7S±0°.2×178°.32W±0°.09, h611km±12km, mb4.2/19, Error ellipse: s-maj=29.6km s-min=12.0km az=182.0*
*IDC **30** 10:21:15.9±1.8, 20°.67S×178°.66W, h621km±17km, mb3.3/12, mbtmp4.3/14, Error ellipse: s-maj=34.9km s-min=12.1km az=152.0*
ISC 30 10:21:13.3±0.6, 20°.7S±0°.1×178°.45W±0°.10, h600km, n45, σ1§17/47, mb4.1/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.44**	**311**	P	P	10 22 43.8	+1.7
	72nm,0.8s,baz=152,slow=7.2,SNR=56						
AFI	**Afiamalu**	**9.29**	**44**	S	S	10 25 09.1	-4.3
	12nm,0.5s,baz=251,slow=21,SNR=2.6						
MARNC	**Mare, Loyalty**	**12.65**	**264**	P	P	10 23 58.6	0.0
DZM	**Mont Dzumac**	**14.14**	**262**	P	P	10 24 14.9	+1.2
	7.4nm,1.0s,baz=126,slow=19,SNR=2.1						

KOUNC	**Koumac, New Ca**	**16.17**	**268**	P	P	10 24 31.8	-0.5
EIDS	**Eidsvold**	**28.39**	**255**	P	P	10 26 21.6	+0.3
EIDS				IAmb	IAmb	10 26 26.8	
	comp=Z,5.3nm,1.1s						
ARMA	**Armidale**	**28.60**	**244**	P	P	10 26 24.4	+1.2
ARMA				IAmb	IAmb	10 26 33.3	
	comp=Z,9.8nm,1.3s						
CTAO	**Charters Tower**	**33.05**	**265**	P	P	10 27 01.4	+0.2
CTAO				IAmb	IAmb	10 27 02.3	
	comp=Z,6.7nm,1.2s						
COEN	**Coen**	**37.18**	**274**	P	P	10 27 35.6	+0.2
COEN				IAmb	IAmb	10 27 37.0	
	comp=Z,8.1nm,1.4s						
STKA	**Stephens Creek**	**37.32**	**244**	P	P	10 27 36.9	+0.6
	comp=Z,2.4nm,0.6s,baz=87,slow=9.9,SNR=7.1 comp=Z,2.4nm,0.6s						
STKA	**Stephens Creek**	**37.32**	**244**	P	P	10 27 37.0	+0.6
BBOO	**Buckleboo**	**42.08**	**244**	P	P	10 28 14.3	+0.1
BBOO				IAmb	IAmb	10 28 14.7	
	comp=Z,7.6nm,0.5s						
WR0	**Warramunga Arr**	**43.97**	**262**	P	P	10 28 28.5	-0.6
WR0				IAmb	IAmb	10 28 29.9	
	comp=Z,7.6nm,1.2s						
AS31	**Alice Springs**	**44.06**	**257**	P	P	10 28 29.8	-0.1
AS31				IAmb	IAmb	10 28 30.3	
	comp=Z,2.7nm,0.7s						
ASAR	**Alice Springs**	**44.06**	**257**	P	P	10 28 29.6	-0.2
	comp=Z,6.9nm,0.5s,baz=94,slow=7.7,SNR=163						
ASAR				PcP	PcP	10 30 01.7	0.0
	comp=Z,0.7nm,0.5s,baz=105,slow=3.4,SNR=5.4						
ASAR				S	S	10 34 17.2	-2.9
	comp=Z,0.8nm,0.7s,baz=95,slow=15,SNR=8.6 comp=Z,6.9nm,0.5s						
ASAR	**Alice Springs**	**44.06**	**257**	P	P	10 28 29.9	+0.1
WB0	**Warramunga Arr**	**44.14**	**263**	P	P	10 28 29.9	-0.5
WB2	**Warramunga Arr**	**44.15**	**262**	P	P	10 28 29.9	-0.6
WB2				IAmb	IAmb	10 28 30.5	
	comp=Z,9.3nm,1.1s						
WRA	**Warramunga Arr**	**44.16**	**262**	P	P	10 28 29.9	-0.7
	comp=Z,3.8nm,0.4s,baz=98,slow=7.8,SNR=118						
WRA				PcP	PcP	10 30 01.4	-0.6
	comp=Z,0.4nm,0.8s,baz=105,slow=3.1,SNR=2.0						
WRA				S	S	10 34 18.6	-2.8
	comp=Z,0.3nm,0.8s,baz=99,slow=12,SNR=2.9 comp=Z,3.8nm,0.4s						
WRA	**Warramunga Arr**	**44.16**	**262**	P	P	10 28 30.1	-0.5
MTN	**Manton Dam**	**48.75**	**271**	P	P	10 29 04.5	-0.6
FORT	**Forrest**	**48.83**	**247**	P	P	10 29 05.3	-0.3
FORT				IAmb	IAmb	10 29 11.9	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**50.23**	**267**	P	P	10 29 15.5	-0.4
KNRA				IAmb	IAmb	10 29 23.3	
	comp=Z,22nm,1.4s						
SIJI	**Sorong**	**52.89**	**285**	P	P	10 29 34.9	-0.2
	comp=Z,12nm,0.6s,baz=180,slow=10,SNR=5.3 comp=Z,12nm,0.6s						
PSA00	**Pilbara Seismi**	**57.22**	**257**	P	P	10 30 04.2	-0.9
PSA00				IAmb	IAmb	10 30 04.8	
	comp=Z,5.7nm,0.7s						
MBWA	**Marble Bar**	**57.40**	**258**	P	P	10 30 05.8	-0.6
QSPA	**South Pole Qui**	**69.36**	**180**	P	P	10 31 20.2	-1.6
TPUB	**Ta-pu**	**73.74**	**303**	P	P	10 31 46.8	-1.1
PETK	**Petropavlovsk-**	**76.36**	**345**	P	P	10 32 01.6	-0.1
	comp=Z,1.5nm,0.6s,baz=119,slow=7.3,SNR=5.2 comp=Z,1.5nm,0.6s						
KSRS	**Korea Array**	**76.77**	**319**	P	P	10 32 04.9	+0.7
	comp=Z,0.7nm,0.6s,baz=136,slow=7.7,SNR=2.6 comp=Z,0.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**78.90**	**326**	P	P	10 32 16.6	+1.0
	comp=Z,1.6nm,0.6s,baz=137,slow=3.1,SNR=6.6 comp=Z,1.6nm,0.6s						
BELA	**Belgrano 2**	**79.41**	**173**	P	P	10 32 18.4	+0.6
NVAR	**Mina Array Bea**	**81.46**	**44**	P	P	10 32 31.2	+1.9
	comp=Z,0.3nm,0.5s,baz=227,slow=7.3,SNR=2.7 comp=Z,0.3nm,0.5s						
TXAR	**Lajitas Array**	**87.52**	**57**	P	P	10 33 00.0	+1.2
	comp=Z,0.5nm,1.0s,baz=246,slow=3.8,SNR=3.4 comp=Z,0.5nm,1.0s						
ILAR	**Eilson Array**	**88.61**	**13**	P	P	10 33 02.8	-0.2
	comp=Z,0.6nm,0.5s,baz=224,slow=5.4,SNR=10.0 comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	**89.40**	**43**	P	P	10 33 08.3	+0.9
	comp=Z,0.3nm,0.5s,baz=205,slow=2.5,SNR=4.3 comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.79**	**290**	P	P	10 33 11.2	+1.7
	comp=Z,3.7nm,0.3s,baz=134,slow=2.9,SNR=5.9 comp=Z,3.7nm,0.3s						
MKAR	**Makanchi Array**	**111.04**	**313**	PKiKP	**PKiKP**	10 38 39.6	+0.1
	comp=Z,0.2nm,0.4s,baz=204,slow=0.9,SNR=5.3						
BVAR	**Borovoye Array**	**118.97**	**320**	PKP	**PKPdf**	10 38 53.9	-0.6
	comp=Z,1.2nm,0.4s,baz=140,slow=2.5,SNR=5.9						
ARCES	**ARCESS Array B**	**129.05**	**349**	PKP	**PKPdf**	10 39 13.4	+0.1
	comp=Z,2.2nm,0.9s,baz=270,slow=2.4,SNR=3.9						
FINES	**FINESS Array B**	**135.85**	**343**	PKP	**PKiKP**	10 39 28.1	+0.1
	comp=Z,3.2nm,0.9s,baz=128,slow=5.3,SNR=4.9						
AKASG	**Malin Array Be**	**142.99**	**331**	PKP		10 39 36.8	
	comp=Z,3.7nm,0.4s,baz=43,slow=4.3,SNR=33						
AKBB	**Malin Array Si**	**142.99**	**331**			10 39 37.0	
BRTR	**Keskin Array B**	**146.67**	**312**	PKPbc	**PKPbc**	10 39 49.0	-0.1
	comp=Z,1.0nm,0.6s,baz=112,slow=2.9,SNR=4.3						
GERES	**GERESS Array B**	**150.28**	**344**	PKPbc	**PKPbc**	10 39 58.0	+0.3
	comp=Z,0.2nm,0.3s,baz=29,slow=2.2,SNR=4.8						

*NOU **30** 10:38:36.4, 36°.97S×179°.99E, h0km, MLv3.7/6, Off E. Coast of N. Island, N.Z.*
*WEL **30** 10:38:50.4±1.0, 37°.5S±6°×17°.9E±°, h33km, M3.2/43, ML3.5/34, MLv3.2/43, Error ellipse: s-maj=0.0km s-min=0.0km az=81.9*
ISC 30 10:38:50.0±3.1, 37°.28S±0°.07×179°.1E±0°.1, h34km±4km, n60, σ0§83/65, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.70**	**246**	P	Pn	10 39 02.5	-1.0
MXZ	**Matakaoa Point**	**0.70**	**246**	P	Pn	10 39 02.4	-1.0
WMGZ	**Waiomatatini S**	**0.77**	**225**	P	Pb	10 39 05.6	+0.5
WMGZ				S	Sb	10 39 16.0	+0.7
PKGZ	**Pakihiroa**	**1.02**	**233**	P	Pn	10 39 08.6	+0.6
PKGZ				S	Sn	10 39 21.2	0.0
PUZ	**Puketiti**	**1.04**	**220**	P	Pn	10 39 09.1	+0.8
HAZ	**Te Kaha**	**1.16**	**245**	P	Pn	10 39 09.5	-0.3
HAZ				S	Sb	10 39 24.8	-1.4
TWGZ	**Tauwhareparae**	**1.27**	**224**	P	Pn	10 39 12.3	+0.9
TWGZ				S	Sb	10 39 29.1	-0.3
RUGZ	**Raukumara Rang**	**1.33**	**238**	P	Pn	10 39 13.2	+1.0
CNGZ	**Carnagh Statio**	**1.40**	**210**	P	Pn	10 39 14.9	+1.7
TKGZ	**Te Karaka**	**1.53**	**220**	P	Pn	10 39 15.4	+0.4
MWZ	**Matawai**	**1.64**	**229**	P	Pn	10 39 17.0	+0.6
MWZ				S	Sn	10 39 36.3	-0.1
RIGZ	**Rimuhau**	**1.78**	**216**	P	Pn	10 39 18.9	+0.4
RAGZ	**Rawiri**	**1.81**	**227**	P	Pn	10 39 19.5	+0.6
URZ	**Urewera**	**1.86**	**238**	P	Pn	10 39 20.5	+1.0
URZ	**Urewera**	**1.86**	**238**	P	Pn	10 39 20.2	+0.7
SNGZ	**Shannon Statio**	**2.05**	**222**	P	Pn	10 39 22.2	+0.1
KNZ	**Kokohu**	**2.08**	**212**	P	Pn	10 39 22.4	0.0
MHGZ	**Mahia Peninsul**	**2.10**	**206**	P	Pn	10 39 23.4	+0.6
RTZ	**Ruatahuna**	**2.15**	**231**	P	Pn	10 39 23.7	+0.2
MUGZ	**Murupara**	**2.20**	**236**	P	Pn	10 39 24.5	+0.3
RAHZ	**Arahi**	**2.29**	**224**	P	Pn	10 39 25.9	+0.6
RRRZ	**Republican Roa**	**2.31**	**242**	P	Pn	10 39 26.4	+0.7
MTHZ	**Maungataniwha**	**2.38**	**228**	P	Pn	10 39 27.4	+0.7
NMHZ	**Naumai**	**2.57**	**224**	P	Pn	10 39 30.2	+0.9
ARHZ	**Aropaoanui**	**2.59**	**219**	P	Pn	10 39 29.6	+0.2
MRHZ	**Matea Rd**	**2.63**	**233**	P	Pn	10 39 30.5	+0.3
KUZ	**Kuaotunu**	**2.76**	**280**	P	Pn	10 39 30.6	-1.2
KUZ	**Kuaotunu**	**2.76**	**280**	P	Pn	10 39 30.7	-1.2
BKZ	**Black Stump Fm**	**2.79**	**227**	P	Pn	10 39 32.3	-0.1
BKZ	**Black Stump Fm**	**2.79**	**227**	P	Pn	10 39 32.2	-0.1
MCHZ	**McNeill Hill**	**2.88**	**220**	P	Pn	10 39 33.3	-0.2
TOZ	**Tahuroa Road**	**2.90**	**260**	P	Pn	10 39 33.6	-0.2
KWHZ	**Kaweka Forest**	**3.01**	**224**	P	Pn	10 39 34.8	-0.5
KAHZ	**Kahuranaki**	**3.06**	**214**	P	Pn	10 39 35.3	-0.8
GRZ	**Great Barrier**	**3.10**	**288**	P	Pn	10 39 36.4	-0.2
MKAZ	**Moumakai**	**3.15**	**272**	P	Pn	10 39 36.9	-0.3
WIAZ	**Waiheke Island**	**3.21**	**277**	P	Pn	10 39 37.7	-0.4
TMVZ	**Te Maari**	**3.25**	**235**	P	Pn	10 39 38.8	+0.2
BHHZ	**Black Hill Sta**	**3.26**	**226**	P	Pn	10 39 38.4	-0.3
ETVZ	**East Tongariro**	**3.26**	**234**	P	Pn	10 39 38.1	-0.7
NTVZ	**North Tongarir**	**3.26**	**235**	P	Pn	10 39 39.0	+0.1
KRVZ	**Karewarewa**	**3.28**	**235**	P	Pn	10 39 39.2	+0.1
OTVZ	**Oturere**	**3.30**	**234**	P	Pn	10 39 39.7	+0.2
NNVZ	**North Ngauruho**	**3.32**	**235**	P	Pn	10 39 39.9	+0.2
SNVZ	**South Ngauruho**	**3.33**	**234**	P	Pn	10 39 39.9	+0.1
NGZ	**Ngauruhoe**	**3.35**	**234**	P	Pn	10 39 40.2	+0.1
ETAZ	**East Tamaki Re**	**3.36**	**274**	P	Pn	10 39 40.0	0.0
MBAZ	**Motutapu North**	**3.41**	**277**	P	Pn	10 39 40.8	+0.1
WPHZ	**Waipukurau**	**3.48**	**216**	P	Pn	10 39 40.5	-1.2
PNHZ	**Pukenui**	**3.48**	**220**	P	Pn	10 39 40.4	-1.4
ABAZ	**Army Bay**	**3.49**	**280**	P	Pn	10 39 42.5	+0.7
HIZ	**Hauiti**	**3.58**	**249**	P	Pn	10 39 44.6	+1.4
HIZ	**Hauiti**	**3.58**	**249**	P	Pn	10 39 44.6	+1.4
RVAZ	**Riverhead Bore**	**3.66**	**277**	P	Pn	10 39 44.5	+0.3
TSZ	**Takapari Road**	**3.71**	**221**	P	Pn	10 39 43.2	-1.8
WCZ	**Waipu Caves**	**4.06**	**288**	P	Pn	10 39 50.1	+0.5
BFZ	**Birch Farm**	**4.07**	**212**	P	Pn	10 39 48.2	-1.6
TIWZ	**Tintock**	**4.30**	**215**	P	Pn	10 39 51.2	-1.9
MRZ	**Mangatainoka R**	**4.36**	**218**	P	Pn	10 39 52.3	-1.5
OUZ	**Omahuta**	**4.90**	**293**	P	Pn	10 40 02.3	+1.0

*KRNET **30** 11:08:49.3±0.1, 40°.92N×80°.77E, mb3.0*
*SOME **30** 11:09:02.3, 41°.05N×79°.87E, h10km*
ISC 30 11:08:57.2±3.9, 40°.8N±0°.1×80°.1E±0°.1, h5km±19km, n9, σ1§61/17, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.96**	**300**	⇓*i*P	Pn	11 09 31.1	-0.4
	baz=91						
TARG				⇓*i*S	Sg	11 10 01.6	+1.3
	baz=91						
SHLS	**Shalkode**	**2.43**	**349**	*e*P	Pb	11 09 41.1	-0.4
	7.4nm,0.3s						
SHLS				*e*S	Sn	11 10 09.0	+1.2
	8.0nm,0.1s						
UZB	**Uzynbulak**	**2.51**	**342**	*e*P	Pb	11 09 41.9	-0.8
	1.9nm,0.3s						
UZB				*e*S	Sn	11 10 10.4	+0.7
	1.7nm,0.2s						
SATY	**Saty**	**2.61**	**332**	*e*P	Pb	11 09 44.4	-0.1
	3.8nm,0.1s						
SATY				*e*S	Sb	11 10 14.7	-2.1
	7.1nm,0.4s						
KPKS	**Kokpek**	**2.89**	**340**	*e*P	Pb	11 09 49.0	-0.2
	7.6nm,0.5s						
KPKS				*e*S	Sb	11 10 22.5	-2.4
	6.7nm,0.3s						
ULHL	**Ulahol**	**3.24**	**298**	⇑*e*P	Pn	11 09 48.6	-0.2
	baz=93						
ULHL				⇑*i*S	Sb	11 10 31.9	-3.1
	baz=93						
BLB	**Baldybastay**	**3.53**	**341**	*e*P	Pb	11 10 01.5	+1.3
	1.9nm,0.3s						
BLB				*e*S	Sb	11 10 44.0	+0.6
	4.6nm,0.3s						
TKM2	**Tokmak 2**	**3.98**	**304**	⇑*e*P	Pn	11 09 58.4	-0.6
	baz=99						
TKM2				⇑*i*S	Sn	11 10 48.7	+2.6
	baz=99						
TKM2	**Tokmak 2**	**3.98**	**304**	⇓Pn	Pn	11 09 59.5	+0.5
	0.5nm,0.4s						
TKM2				⇓Lg	Lg	11 10 51.4	
	1.1nm,0.6s						

*IDC **30** 11:12:28.4±6.5, 37°.16N×141°.98E, h0km, mb3.7/3, mbtmp3.6/4, ML2.5/1, Error ellipse: s-maj=111.8km s-min=43.6km az=138.0*
*JMA **30** 11:12:33.4±0.2, 37°.3N±0°.3×141°.6E±0°.9, h32km±1km, MV3.8/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 30 11:12:33.7±2.6, 37°.34N±0°.06×141°.5E±0°.1, h23km±14km, n22, σ1§19/23, mb3.6/3, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**274**	⇓P	Pb	11 12 44.5	+0.1
JFK				⇓S	Sb	11 12 52.0	+0.3
JMST	**Minamisoumatoc**	**0.65**	**307**	⇓P	Pn	11 12 46.2	-1.3
JMST				⇓S	Sb	11 12 55.4	+0.4
JMM	**Marumori**	**0.80**	**312**	⇓P	Pn	11 12 48.5	-1.1
JMM				⇓S	Sn	11 12 59.0	-1.7
JFFD	**Fukushimafurud**	**0.82**	**253**	⇓P	Pn	11 12 48.8	-1.1
JFFD				⇓*e*S	Sn	11 13 00.2	-1.

	baz=350								
ECL	**Taimali**	**0.38**	**243**	⇑	*i*	P	**Pb**	11 14 22.9	+0.4
ECL	baz=243					*e*S	**Sb**	11 14 28.8	+0.8
EHD	**Haiduan**	**0.39**	**345**			P	**Pg**	11 14 21.4	-1.1
EHD	baz=348					*i* S	**Sg**	11 14 27.1	-0.9
FULB	**Fuli**	**0.43**	**357**			P	**Pb**	11 14 23.0	-0.4
FULB	baz=12					*e*S	**Sb**	11 14 29.7	+0.1
ELDTW	**Lidau**	**0.50**	**327**	⇓	*i*	P	**Pg**	11 14 23.9	-0.6
ELDTW	baz=328					S	**Sg**	11 14 30.5	-0.8
ECBN	**Changbin**	**0.56**	**13**			P	**Pb**	11 14 25.7	+0.2
ECBN	baz=29					S	**Sg**	11 14 32.9	-0.2
TAW	**Tawu**	**0.56**	**223**			P	**Pn**	11 14 26.7	-0.7
TAW	baz=229					*e*S	**Sn**	11 14 34.3	-2.0
EYUL	**Yuli**	**0.57**	**0**			P	**Pb**	11 14 25.9	+0.1
EYUL	baz=348					*e*S	**Sg**	11 14 33.2	-0.4
EAST	**Anshuo**	**0.58**	**228**		*e*	P	**Pn**	11 14 26.7	-1.0
EAST	baz=232					*e*S	**Sn**	11 14 34.9	-1.9
TWF1	**Yuli**	**0.58**	**358**			P	**Pb**	11 14 25.5	-0.4
TWF1	baz=349					S	**Sg**	11 14 32.8	-0.9
TAWH	**Dawu Township**	**0.58**	**223**	⇑	*i*	P	**Pn**	11 14 26.2	-1.5
TAWH	baz=227					*e*S	**Sn**	11 14 35.0	-1.8
YULB	**Yu-li**	**0.62**	**358**			P	**Pg**	11 14 25.7	-0.9
YULB	baz=348					*e*S	**Sg**	11 14 33.6	-1.4
TSMG	**Majia**	**0.62**	**264**	⇑		P	**Pb**	11 14 26.8	+0.2
TSMG	baz=265					S	**Sg**	11 14 34.0	-1.0
STYH	**Taoyuan**	**0.64**	**309**	⇓	*i*	P	**Pg**	11 14 25.8	-1.1
STYH	baz=308					*e*S	**Sg**	11 14 33.9	-1.6
STYT	**Tauyuan**	**0.65**	**307**	⇓		P	**Pb**	11 14 26.9	-0.2
MASBT	**Mashibuluo**	**0.65**	**256**	⇑	*i*	P	**Pn**	11 14 27.5	-1.2
MASBT	baz=252					*e*S	**Sg**	11 14 35.0	-0.9
HGSD	**Ruisui**	**0.73**	**8**		*e*	P	**Pb**	11 14 28.4	-0.1
SLIU	baz=21 **Shizi**	**0.73**	**221**		*e*	P	**Pn**	11 14 29.1	-0.7
EHY	baz=215 **Hungye**	**0.73**	**0**		*e*	P	**Pg**	11 14 27.8	-1.0
EHY	baz=350					*e*S	**Sg**	11 14 37.7	-0.8
SGST	**Jiashian**	**0.74**	**295**			P	**Pg**	11 14 28.2	-0.7
SGST	baz=294					*e*S	**Sb**	11 14 39.2	+0.7
SCZT	baz=294 **Fangliau**	**0.76**	**239**			P	**Pn**	11 14 29.7	-0.3
SCZT	baz=228					*e*S	**Sn**	11 14 39.9	-1.1
LAY	baz=228 **Lan-yu**	**0.76**	**163**		*e*	P	**Pn**	11 14 29.9	-0.3
LAY	baz=151					*e*S	**Sn**	11 14 42.4	+1.3
SGLT	baz=151 **Jiouru**	**0.76**	**267**		*e*	P	**Pb**	11 14 29.1	+0.1
SCST	baz=263 **Cishan**	**0.77**	**279**		*e*	P	**Pn**	11 14 30.2	0.0
SCST	baz=272					*e*S	**Sb**	11 14 40.6	+1.4
YUS	baz=272 **Yu-Shan**	**0.79**	**335**		*i*	P	**Pg**	11 14 29.1	-0.9
YUS	baz=336					S	**Sg**	11 14 38.7	-1.9
WTP	baz=336 **Ta-pu**	**0.80**	**306**			P	**Pb**	11 14 30.1	+0.4
WTP	baz=306					*e*S	**Sb**	11 14 40.9	+0.6
LYUB	baz=306 **Lan-yu**	**0.80**	**162**		*e*	P	**Pn**	11 14 29.1	-1.6
TPUB	baz=147 **Ta-pu**	**0.82**	**310**			P	**Pb**	11 14 30.3	+0.1
TPUB	baz=309					*e*S	**Sb**	11 14 41.6	+0.7
TWM1	baz=309 **Shoushan**	**0.83**	**274**		*e*	P	**Pn**	11 14 31.3	+0.2
CHN1	baz=271 **Nanshi**	**0.83**	**300**			P	**Pn**	11 14 31.2	0.0
CHN1	baz=303					*e*S	**Sb**	11 14 42.2	+1.0
SMST	baz=303 **Manzhou Townsh**	**0.87**	**211**		*e*	P	**Pn**	11 14 31.6	0.0
SMST	baz=196					*e*S	**Sn**	11 14 44.7	+1.0
ALS	baz=196 **Alishan**	**0.88**	**328**			P	**Pb**	11 14 30.9	-0.2
ALS	baz=335					*e*S	**Sg**	11 14 43.0	-0.1
CHN4	baz=335 **Tsaushan**	**0.88**	**311**	⇓	*i*	P	**Pg**	11 14 30.8	-0.7
CHN4	baz=311					*e*S	**Sb**	11 14 43.4	+0.8
EGFH	baz=311 **Guangfu**	**0.90**	**7**		*e*	P	**Pn**	11 14 32.3	+0.2
TWK	baz=356 **Hsinying**	**0.91**	**303**			P	**Pn**	11 14 32.3	0.0
SHHT	baz=304 **Tainan City**	**0.93**	**286**			P	**Pn**	11 14 33.5	+1.1
CHN3	baz=286 **Shinhua**	**0.93**	**289**		*e*	P	**Pn**	11 14 34.0	+1.5
HEN	baz=290 **Hengchun**	**0.93**	**215**		*e*	P	**Pn**	11 14 33.3	+0.8
WCKO	baz=193 **Fanlu**	**0.93**	**316**		*e*	P	**Pg**	11 14 31.7	-0.9
WCKO	baz=324					*e*S	**Sg**	11 14 44.2	-0.7
TWKBT	baz=324 **Hengchun**	**0.95**	**210**		*e*	P	**Pn**	11 14 33.3	+0.6
TWK1	baz=188 **Hengchun**	**0.95**	**210**		*e*	P	**Pn**	11 14 33.6	+0.9
WSSB	baz=188 **Gushan**	**0.98**	**263**		*e*	P	**Pn**	11 14 35.9	+2.6
VWDT	baz=264 **VWDT**	**0.99**	**351**			P	**Pg**	11 14 32.5	-1.2
CHN5	baz=352 **Tsauling**	**1.01**	**325**			P	**Pg**	11 14 32.9	-1.1
CHN5	baz=325					*e*S	**Sg**	11 14 47.2	-0.1
WHYT	baz=325 **Xinyi Township**	**1.02**	**335**		*e*	P	**Pn**	11 14 33.8	+0.1
WHYT	baz=335					*e*S	**Sg**	11 14 45.9	-1.6
ESL	baz=335 **Shilin**	**1.04**	**6**			P	**Pn**	11 14 34.3	+0.2
ESL	baz=355					*e*S	**Sg**	11 14 47.5	-0.9
SSLB	baz=355 **Suanglung**	**1.07**	**342**		*e*	P	**Pg**	11 14 33.8	-1.3
CHN2	baz=352 **Minshiung**	**1.08**	**315**			P	**Pn**	11 14 36.1	+1.5
CHN2	baz=314					*e*S	**Sn**	11 14 51.2	+2.1
CHY	baz=314 **Chiayi**	**1.09**	**312**		*e*	P	**Pn**	11 14 35.7	+1.0
WDLH	baz=312 **Douliu**	**1.16**	**322**			P	**Pg**	11 14 37.0	+0.2
WDLH	baz=321					*e*S	**Sn**	11 14 53.4	+2.3
SMLT	baz=321 **Sun Moon Lake**	**1.17**	**341**		*e*	P	**Pg**	11 14 37.4	+0.3
WJS	baz=350 **Zhushan**	**1.18**	**333**		*e*	P	**Pg**	11 14 37.8	+0.7
WJS	baz=340					*e*S	**Sn**	11 14 54.3	+2.8
	baz=340								

TSCK	**Chigu Township**	**1.19**	**289**		*e*	P	**Pn**	11 14 35.6	-0.5
TYC	baz=290 **Yuchr**	**1.21**	**340**		*e*	P	**Pg**	11 14 37.6	0.0
WUSB	baz=341 **Renai**	**1.23**	**352**		*e*	P	**Pn**	11 14 36.2	-0.6
WNT	baz=4.0 **Mingjian**	**1.25**	**332**		*e*	P	**Pg**	11 14 38.6	+0.2
WNT	baz=330					*e*S	**Sg**	11 14 55.9	+1.1
WTK	baz=330 **Tuku**	**1.25**	**317**		*e*	P	**Pg**	11 14 37.8	-0.7
WTK	baz=317					*e*S	**Sg**	11 14 55.7	+0.8
WSL	baz=317 **Shuilin Townsh**	**1.25**	**307**			P	**Pg**	11 14 37.7	-0.8
WSL	baz=306					*e*S	**Sg**	11 14 55.8	+0.9
CHGB	baz=306 **Renai**	**1.29**	**354**		*e*	P	**Pn**	11 14 36.2	-1.4
WSF	baz=5.0 **Szhu**	**1.33**	**311**		*e*	P	**Pg**	11 14 39.4	-0.5
TWD	baz=311 **Chiawan**	**1.33**	**11**		*e*	P	**Pb**	11 14 38.3	-0.4
WCS	baz=14 **Beigang Elemen**	**1.33**	**344**		*e*	P	**Pn**	11 14 38.4	+0.3
WCS	baz=352					*e*S	**Sb**	11 14 56.6	+1.0
WHF	baz=352 **Hehuan Shan**	**1.37**	**358**		*e*	P	**Pn**	11 14 38.8	-0.1
ETL	baz=14 **Fush Village**	**1.41**	**11**		*e*	P	**Pb**	11 14 40.1	-0.1
ETL	baz=13					*e*S	**Sb**	11 14 58.7	+0.9
WRL	baz=13 **Guolierlin Hig**	**1.42**	**323**		*e*	P	**Pn**	11 14 39.2	0.0
WRL	baz=311					*e*S	**Sb**	11 14 59.1	+1.1
NACB	baz=311 **Ninganchiao**	**1.42**	**10**		*e*	P	**Pn**	11 14 38.1	-1.1
ETLH	baz=13 **Xiulin Townshi**	**1.44**	**6**		*e*	P	**Pn**	11 14 39.8	+0.2
TDCB	baz=24 **Techi**	**1.48**	**354**		*e*	P	**Pn**	11 14 40.6	+0.3
WHP	baz=10.0 **Taichung City**	**1.54**	**347**		*e*	P	**Pg**	11 14 43.9	-0.2
TWQ1	baz=1.0 **Liyutan**	**1.65**	**343**		*e*	P	**Pg**	11 14 45.2	-0.9
NNSB	baz=341 **Datong**	**1.65**	**2**		*e*	P	**Pn**	11 14 42.7	+0.2
NNS	baz=20 **Nan Shan**	**1.66**	**2**		*e*	P	**Pb**	11 14 44.2	-0.3
PHUB	baz=20 **P'eng-hu**	**1.77**	**295**		*e*	P	**Pb**	11 14 46.1	-0.1
PNG	baz=299 **Penghu**	**1.80**	**296**		*e*	P	**Pn**	11 14 45.5	+1.0
ENTT	baz=299 **Nioudou**	**1.88**	**7**		*e*	P	**Pn**	11 14 46.2	+0.7
LIOB	baz=24 **Emei**	**1.89**	**352**		*e*	P	**Pg**	11 14 49.3	-1.3
JYNG	baz=4.0 **Yonagunijimaku**	**2.24**	**41**		*e*	P	**Pn**	11 14 51.9	+1.3
HATJ	**Hateruma jima**	**2.62**	**60**		*e*	S	**Sn**	11 15 26.2	-0.9
IRIF	**Iriomote-Funau**	**2.71**	**54**		*e*	P	**Pn**	11 14 57.9	+0.9
IRIF						*e*S	**Sn**	11 15 29.4	+0.2
JKRS	**Kuro-shima**	**2.87**	**59**		*e*	P	**Pn**	11 14 59.7	+0.5
JKRS						*e*S	**Sn**	11 15 33.4	+0.1
JIJ	**Ishigaki jima**	**3.04**	**58**		*e*	P	**Pn**	11 15 02.2	+0.7
JIJ						*e*S	**Sn**	11 15 36.2	-1.3
JISG	**Ishigakijimahi**	**3.29**	**56**			P	**Pn**	11 15 05.2	+0.3
JISG						*e*S	**Sn**	11 15 42.9	-0.7
JTJ	**Tarama**	**3.62**	**58**			S	**Sn**	11 15 51.6	-0.1
JIRB	**Irabujima**	**4.08**	**59**			P	**Pn**	11 15 17.0	+1.2
JIRB						*e*S	**Sn**	11 16 02.8	-0.4
JMJ2	**Miyako jima3**	**4.17**	**61**		*e*	P	**Pn**	11 15 18.4	+1.4
JMJ2						*e*S	**Sn**	11 16 05.5	+0.3

*IDC **30** 11:15:37.9±4.3, 5°.20S×129°.47E, h207km±53km, mb3.2/2, mbtmp4.3/5, Error ellipse: s-maj=99.5km s-min=18.7km az=76.0*
*NEIC **30** 11:15:39.0±1.8, 5°.07S±0°.09×129°.5E±0°.1, h224km±15km, mb4.4/15, Error ellipse: s-maj=17.6km s-min=13.0km az=92.0*
*DJA **30** 11:15:39.5±0.3, 5°S±5°×13°0E±°, h224km±6km, M4.3/9, mb4.4/4, mB5.5/1, MLv4.2/9, Mw(mB)5.0/1*

ISC 30 11:15:39.0±0.6, 5°.05S±0°.05×129°.71E±0°.05, h250km, n55, σ2s15/61, mb4.3/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**0.56**	**21**	P		**Pn**	**11 16 11.2**	**-0.9**
BNDI	**Bandanaira**	**0.56**	**21**	P		**Pn**	**11 16 11.4**	**-0.7**
MSAI	**Masohi**	**1.86**	**335**	P		**Pn**	**11 16 18.8**	**-1.5**
MSAI				S		**S**	**11 16 48.1**	**-4.7**
AAI	**Ambon**	**2.02**	**312**	P		**Pn**	**11 16 20.6**	**-1.1**
AAI				S		**S**	**11 16 52.1**	**-3.3**
NLAI	**Namlea**	**3.16**	**304**	P		**Pn**	**11 16 33.3**	**0.0**
NLAI				S		**S**	**11 17 15.1**	**-1.1**
FAKI	**Fak Fak**	**3.30**	**50**			**Pn**	**11 16 34.8**	**-0.1**
FAKI	**Fak Fak**	**3.30**	**50**	P		**Pn**	**11 16 34.3**	**-0.5**
FAKI				S		**S**	**11 17 14.9**	**-4.1**
FAKI	**Fak Fak**	**3.30**	**50**	P		**Pn**	**11 16 35.3**	**+0.5**
SAUI	**Saumlaki**	**3.32**	**152**	Pn		**Pn**	**11 16 34.5**	**-0.5**
SIJI	**Sorong**	**4.43**	**21**	P		**Pn**	**11 16 48.2**	**+0.2**
	46nm,0.2s,baz=248,slow=19,SNR=130							
SIJI				S		**S**	**11 17 39.3**	**-3.6**
	132nm,0.2s,baz=82,slow=23,SNR=24							
SANI	**Sanana**	**4.76**	**309**	P		**Pn**	**11 16 52.3**	**+0.4**
SANI	**Sanana**	**4.76**	**309**	P		**Pn**	**11 16 52.5**	**+0.6**
LBMI	**Labuha**	**4.90**	**333**	P		**Pn**	**11 16 54.6**	**+0.9**
RKPI	**Ransiki, Papua**	**5.68**	**52**	P		**Pn**	**11 17 02.9**	**-0.3**
	1.8nm10μm143nm,0.5s							
SOEI	**Soe**	**7.14**	**229**	Pn		Pn	11 17 17.9	-3.8
MTN	**Manton Dam**	**7.88**	**170**			**Pn**	**11 17 29.0**	**-1.8**
MTN	**Manton Dam**	**7.88**	**170**	P		**Pn**	**11 17 28.7**	**-2.1**
KNRA	**Kununurra**	**10.61**	**185**	Pn		**Pn**	**11 18 03.7**	**-1.5**
KNRA	**Kununurra**	**10.61**	**185**	P		**Pn**	**11 18 03.2**	**-2.1**
PLAI	**Plampang**	**12.42**	**252**	P		**Pn**	**11 18 28.1**	**+0.1**
MYLDM	**Lahad Datu**	**15.11**	**312**			**P**	**11 19 00.1**	**-0.1**
WB0	**Warramunga Arr**	**15.33**	**163**	P		**P**	**11 19 01.9**	**-0.6**
WB0				IAmb		IAmb	11 19 05.3	
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**15.47**	**163**	P		**P**	**11 19 03.8**	**-0.4**
WRAB				IAmb		IAmb	11 19 07.0	
	comp=Z,11nm,0.7s							
WRAB	**Tennant Creek**	**15.47**	**163**	P		**P**	**11 19 03.7**	**-0.4**
WRA	**Warramunga Arr**	**15.48**	**163**	P		**P**	**11 19 03.9**	**-0.3**
	comp=Z,8.7nm,0.6s,baz=344,slow=12,SNR=64							
WRA				S		**S**	**11 21 46.8**	**-8.1**
	comp=Z,2.3nm,0.5s,baz=340,slow=21,SNR=8.2							
WRA	**Warramunga Arr**	**15.48**	**163**	P		**P**	**11 19 02.2**	**-2.0**
WB2	**Warramunga Arr**	**15.48**	**163**	P		**P**	**11 19 03.9**	**-0.4**
WB2				IAmb		IAmb	11 19 06.8	
	comp=Z,11nm,0.7s							
WR0	**Warramunga Arr**	**15.55**	**163**	P		**P**	**11 19 04.9**	**-0.1**
WR0				IAmb		IAmb	11 19 07.9	
	comp=Z,5.3nm,0.7s							
COEN	**Coen**	**15.95**	**125**			**Pn**	**11 19 11.8**	**+1.1**
COEN	**Coen**	**15.95**	**125**	P		**Pn**	**11 19 11.8**	**+1.1**
QIS	**Mount Isa**	**18.18**	**149**	P		**P**	**11 19 35.2**	**+1.6**
MBWA	**Marble Bar**	**18.72**	**210**	P		**P**	**11 19 40.1**	**+0.7**
MBWA				IAmb		IAmb	11 19 40.7	
	comp=Z,15nm,0.7s							
MBWA	**Marble Bar**	**18.72**	**210**	P		**P**	**11 19 40.1**	**+0.7**
AS31	**Alice Springs**	**18.95**	**168**	P		**P**	**11 19 43.8**	**+1.9**
ASAR	**Alice Springs**	**18.95**	**168**	P		**P**	**11 19 43.5**	**+1.5**
	comp=Z,25nm,0.5s,baz=350,slow=11,SNR=516							
ASAR				S		**S**	**11 23 02.6**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=348,slow=21,SNR=16							
ASAR	**Alice Springs**	**18.95**	**168**	P		**P**	**11 19 43.9**	**+1.9**
AS01	**Alice Springs**	**18.96**	**168**	P		**P**	**11 19 43.7**	**+1.6**
PSA00	**Pilbara Seismi**	**19.01**	**209**	P		**P**	**11 19 43.4**	**+0.9**
PSA00	**Pilbara Seismi**	**19.01**	**209**	P		**P**	**11 19 43.3**	**+0.7**
WRKA	**Warakurna**	**19.93**	**184**	P		**P**	**11 19 53.6**	**+1.3**
OOD	**Oodnadatta**	**23.33**	**167**	P		**P**	**11 20 26.7**	**+1.6**
MEEK	**Meekatharra**	**23.95**	**205**	P		**P**	**11 20 31.4**	**+0.6**
MULG	**Mulgathing**	**25.44**	**171**	P		**P**	**11 20 46.2**	**+2.0**
LWLI	**Liwa**	**25.55**	**269**	P		**P**	**11 20 39.1**	**-6.5**
FORT	**Forrest**	**25.65**	**183**	P		**P**	**11 20 47.3**	**+1.2**
FORT				IAmb		IAmb	11 20 58.3	
	comp=Z,15nm,1.0s							
BBOO	**Buckleboo**	**28.25**	**169**	P		**P**	**11 21 10.9**	**+1.7**
BBOO				IAmb		IAmb	11 21 11.2	
	comp=Z,5.1nm,0.6s							
BBOO	**Buckleboo**	**28.25**	**169**	P		**P**	**11 21 10.9**	**+1.7**
EIDS	**Eidsvold**	**28.78**	**137**	P		**P**	**11 21 16.3**	**+2.2**
EIDS				IAmb		IAmb	11 21 31.5	
	comp=Z,13nm,1.5s							
STKA	**Stephens Creek**	**28.93**	**159**	P		**P**	**11 21 17.1**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=335,slow=10,SNR=6.7							
	comp=Z,0.7nm,0.4s							
STKA	**Stephens Creek**	**28.93**	**159**	P		**P**	**11 21 17.2**	**+2.0**
STKA	**Stephens Creek**	**28.93**	**159**	P		**P**	**11 21 17.0**	**+1.8**
TWG	**Pinlang**	**28.95**	**343**	P		**P**	**11 21 16.7**	**+1.2**
NWAO	**Narrogin (SRO)**	**30.08**	**201**	P		**P**	**11 21 26.7**	**+1.3**
NWAO				IAmb		IAmb	11 21 27.7	
	comp=Z,10nm,1.0s							
ARPS	**Mount Arapiles**	**33.48**	**162**	P		**P**	**11 21 57.4**	**+2.5**
MKAR	**Makanchi Array**	**66.44**	**327**	P		**P**	**11 26 05.1**	**+3.4**
	comp=Z,0.3nm,0.6s,baz=122,slow=7.4,SNR=2.8							
	comp=Z,0.3nm,0.6s							

WEL 30 11:19:03.5±0.4, 42°S±3°×17°4E±°, h12km, M3.5/42, ML3.8/20, MLv3.5/42, Error ellipse: s-maj=0.0km s-min=0.0km az=135.2, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.41**	**263**	P		**Pg**	**11 19 11.7**	**0.0**
KHZ				S		**Sb**	**11 19 18.5**	**-0.4**
CMWZ	**Cape Campbell**	**0.63**	**9**	P		**Pb**	**11 19 17.3**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.67**	**346**	P		**Pg**	**11 19 16.7**	**+0.1**
BSWZ				S		**Sn**	**11 19 27.9**	**-1.4**
TUWZ	**Tuamarina**	**0.94**	**353**	P		**Pb**	**11 19 22.0**	**+0.2**
GVZ	**Greta Valley S**	**0.98**	**232**	P		**Pn**	**11 19 23.1**	**0.0**
THZ	**Tophouse**	**1.07**	**304**	P		**Pb**	**11 19 23.4**	**-0.6**
TCW	**Tory Channel**	**1.17**	**7**	P		**Pb**	**11 19 24.8**	**-0.9**
PLWZ	**Palliser**	**1.18**	**48**	P		**Pb**	**11 19 25.4**	**-0.5**
WEL	**Wellington**	**1.20**	**25**	P		**Pn**	**11 19 25.9**	**-0.2**
NNZ	**Nelson**	**1.27**	**335**	P		**Pn**	**11 19 26.2**	**-0.9**
AMCZ	**Amberley**	**1.33**	**232**	P		**Pg**	**11 19 30.1**	**+1.0**
MRNZ	**Matariki Terra**	**1.39**	**314**	P		**Pb**	**11 19 29.4**	**0.0**
PAWZ	**Paruwai Farm**	**1.40**	**46**	P		**Pn**	**11 19 28.2**	**-0.8**
LTZ	**Lake Taylor**	**1.41**	**252**	P		**Pn**	**11 19 28.6**	**-0.4**
CAW	**Cannon Point**	**1.46**	**30**	P		**Pn**	**11 19 29.3**	**-0.4**
TRWZ	**Traveller**	**1.54**	**51**	P		**Pn**	**11 19 30.3**	**-0.5**
OKCZ	**Okains Bay**	**1.55**	**209**	P		**Pn**	**11 19 30.9**	**-0.1**
DUWZ	**D'Urville Isla**	**1.57**	**355**	P		**Pb**	**11 19 32.2**	**-0.4**
TKNZ	**Takaka Hill**	**1.58**	**327**	P		**Pn**	**11 19 31.9**	**+0.5**
MTW	**Mount Morrison**	**1.61**	**42**	P		**Pn**	**11 19 30.8**	**-0.9**
KIW	**Kapiti Island**	**1.63**	**22**	P		**Pn**	**11 19 32.0**	**0.0**
AKCZ	**Akaroa Harbour**	**1.73**	**210**	P		**Pn**	**11 19 33.3**	**-0.2**
OGWZ	**Otaki Gorge**	**1.75**	**28**	P		**Pn**	**11 19 33.4**	**-0.3**
OXZ	**Oxford**	**1.79**	**237**	P		**Pn**	**11 19 33.4**	**-0.8**
DSZ	**Denniston Nort**	**1.81**	**289**	P		**Pb**	**11 19 35.9**	**-0.8**
HOWZ	**Holdsworth Sta**	**1.82**	**36**	P		**Pn**	**11 19 34.1**	**-0.6**
TMWZ	**Te Maipa**	**1.85**	**47**	P		**Pn**	**11 19 34.3**	**-0.7**
RACZ	**Rakaia**	**1.97**	**226**	P		**Pn**	**11 19 36.9**	**+0.2**
INZ	**Inchbonnie**	**1.99**	**259**	P		**Pn**	**11 19 37.1**	**+0.2**
MRZ	**Mangatainoka R**	**2.04**	**34**	P		**Pn**	**11 19 37.0**	**-0.7**
TIWZ	**Tintock**	**2.08**	**41**	P		**Pn**	**11 19 37.3**	**-1.0**
MHCZ	**Mount Hutt**	**2.19**	**237**	P		**Pn**	**11 19 39.2**	**-0.6**
WACZ	**Wakanui South**	**2.28**	**226**	P		**Pn**	**11 19 40.0**	**-0.9**
BFZ	**Birch Farm**	**2.34**	**45**	P		**Pn**	**11 19 40.6**	**-1.2**
POWZ	**Post Office Ro**	**2.34**	**33**	P		**Pn**	**11 19 41.7**	**-0.2**
WVZ	**Waitaha Valley**	**2.57**	**253**	P		**Pn**	**11 19 44.9**	**0.0**
DVHZ	**Dannevirke**	**2.59**	**38**	P		**Pn**	**11 19 44.0**	**-1.3**
RPZ	**Rata Peaks**	**2.60**	**238**	P		**Pn**	**11 19 44.9**	**-0.5**
ARRZ	**Arundel**	**2.65**	**233**	P		**Pn**	**11 19 45.7**	**-0.4**
TSZ	**Takapari Road**	**2.71**	**32**	P		**Pn**	**11 19 46.0**	**-0.9**
WPHZ	**Waipukurau**	**2.91**	**38**	P		**Pn**	**11 19 49.8**	**+0.2**
LREZ	**Lake Rotokare**	**2.92**	**5**	P		**Pn**	**11 19 52.1**	**+2.4**
PNHZ	**Pukenui**	**2.92**	**34**	P		**Pn**	**11 19 48.7**	**-1.2**
NMEZ	**Namu Road**	**2.96**	**357**	P		**Pb**	**11 19 56.8**	**+0.7**
TMZ	**Timaru**	**3.02**	**227**	P		**Pn**	**11 19 50.5**	**-0.7**
KHEZ	**Kahui Hut**	**3.07**	**359**	P		**Pb**	**11 19 55.7**	**-2.5**
NEZ	**North Egmont**	**3.10**	**0**	P		**Pb**	**11 19 58.0**	**-0.6**
MTVZ	**Mangateitei**	**3.16**	**20**	P		**Pn**	**11 19 54.1**	**+1.0**
PKE	**Pukeiti**	**3.17**	**359**	P		**Pb**	**11 19 59.2**	**-0.7**
DREZ	**Durham Road**	**3.18**	**2**	P		**Pb**	**11 19 59.4**	**-0.5**
MOVZ	**Moawhango**	**3.22**	**24**	P		**Pn**	**11 19 53.5**	**-0.5**
BHHZ	**Black Hill Sta**	**3.24**	**28**	P		**Pn**	**11 19 54.8**	**+0.6**
WNVZ	**Wahianoa**	**3.25**	**21**	P		**Pn**	**11 19 54.9**	**+0.4**
TRVZ	**Turoa**	**3.26**	**20**	P		**Pn**	**11 19 56.2**	**+1.5**
VRZ	**Vera Road**	**3.28**	**9**	P		**Pn**	**11 19 56.0**	**+1.3**
WHVZ	**Whangaehu Hut**	**3.29**	**21**	P		**Pn**	**11 19 55.4**	**+0.4**
MHEZ	**Mangahewa**	**3.29**	**3**	P		**Pn**	**11 19 59.0**	**-2.9**
FWVZ	**Far West T-bar**	**3.30**	**20**	P		**Pn**	**11 19 56.5**	**+1.3**
TUVZ	**Tukino**	**3.32**	**21**	P		**Pn**	**11 19 55.8**	**+0.4**
NGZ	**Ngauruhoe**	**3.39**	**20**	P		**Pn**	**11 19 57.2**	**+0.8**
NGZ				P		**Pb**	**11 19 58.6**	**-5.0**
SNVZ	**South Ngauruho**	**3.39**	**21**	P		**Pn**	**11 19 56.8**	**+0.4**
OTVZ	**Oturere**	**3.42**	**21**	P		**Pn**	**11 19 57.3**	**+0.5**
NNVZ	**North Ngauruho**	**3.44**	**20**	P		**Pn**	**11 19 57.6**	**+0.6**
WTVZ	**West Tongariro**	**3.44**	**20**	P		**Pn**	**11 19 59.3**	**+2.2**
ETVZ	**East Tongariro**	**3.46**	**21**	P		**Pn**	**11 19 57.9**	**+0.7**
TMVZ	**Te Maari**	**3.47**	**21**	P		**Pn**	**11 19 57.8**	**+0.3**
KRVZ	**Karewarewa**	**3.48**	**20**	P		**Pn**	**11 19 59.0**	**+1.5**
NTVZ	**North Tongarir**	**3.48**	**21**	P		**Pn**	**11 19 57.9**	**+0.3**
LBZ	**Lake Benmore**	**3.49**	**233**	P		**Pn**	**11 19 58.5**	**+0.9**
ODZ	**Otahua Downs**	**3.66**	**222**	P		**Pn**	**11 19 59.0**	**-1.0**
BKZ	**Black Stump Fm**	**3.68**	**30**	P		**Pn**	**11 20 02.5**	**+2.2**
HIZ	**Hauiti**	**3.90**	**9**	P		**Pn**	**11 20 04.5**	**+1.3**
TLZ	**Tolley Road**	**4.18**	**16**	P		**Pn**	**11 20 07.6**	**+0.4**
RTZ	**Ruatahuna**	**4.35**	**31**	P		**Pn**	**11 20 10.3**	**+0.8**
TOZ	**Tahuroa Road**	**4.76**	**14**	P		**Pn**	**11 20 15.5**	**+0.5**
MWZ	**Matawai**	**4.81**	**34**	P		**Pn**	**11 20 13.3**	**-2.5**

*TAP **30** 11:24:31.7, 22°.84N×121°.27E, h12km, ML3.8, C*
*NIED **30**

	baz=230							
ECL				*e*S		Sb	11 24 46.2	+0.2
	baz=230							
ELDTW	**Lidau**	0.49	323	⇓*i*P		Pg	11 24 40.3	-1.0
	baz=327							
ELDTW				*e*S		Sg	11 24 47.3	-0.8
	baz=327							
ECBN	**Changbin**	0.53	11	P		Pg	11 24 41.0	-1.1
	baz=20							
ECBN				*e*S		Sb	11 24 49.8	+0.2
	baz=20							
EYUL	**Yuli**	0.55	358	P		Pb	11 24 42.1	-0.5
	baz=5.0							
EYUL				*e*S		Sg	11 24 50.0	+0.2
	baz=5.0							
TWF1	**Yuli**	0.56	356	*i* P		Pg	11 24 42.0	-0.6
	baz=4.0							
TWF1				*e*S		Sg	11 24 50.3	+0.3
	baz=4.0							
YULB	**Yu-li**	0.59	357	P		Pb	11 24 43.0	-0.4
YULB	**Yu-li**	0.59	357	*i* P		Pg	11 24 42.5	-0.8
	baz=3.0							
YULB				*e*S		Sg	11 24 51.5	+0.2
	baz=3.0							
TAW	**Tawu**	0.60	223	*e*P		Pb	11 24 43.3	-0.1
	baz=215							
EAST	**Anshuo**	0.61	228	⇑*i*P		Pb	11 24 43.3	-0.3
	baz=220							
EAST				*e*S		Sb	11 24 53.0	+1.0
	baz=220							
TAWH	**Dawu Township**	0.61	223	⇑*e*P		Pb	11 24 42.5	-1.2
	baz=215							
TAWH				*e*S		Sb	11 24 52.7	+0.6
	baz=215							
STYH	**Taoyuan**	0.64	306	⇓*i*P		Pg	11 24 42.3	-1.8
	baz=307							
STYH				*e*S		Sg	11 24 51.0	-1.5
	baz=307							
TSMG	**Majia**	0.65	262	⇑*i*P		Pg	11 24 43.3	-0.9
	baz=257							
TSMG				*e*S		Sg	11 24 51.1	-1.6
	baz=257							
STYT	**Tauyuan**	0.65	305	⇓*i*P		Pg	11 24 43.3	-0.9
	baz=305							
STYT				S		Sg	11 24 52.5	-0.4
	baz=305							
SSD	**Sandimen**	0.65	266	⇑*i*P		Pg	11 24 43.3	-1.0
	baz=261							
SSD				S		Sg	11 24 51.4	-1.6
	baz=261							
SLGT	**Liugui**	0.67	287	*e*P		Pg	11 24 43.6	-1.0
	baz=285							
SLGT				*e*S		Sg	11 24 52.1	-1.3
	baz=285							
MASBT	**Mashibuluo**	0.68	254	⇑*i*P		Pg	11 24 43.9	-0.8
	baz=249							
MASBT				*e*S		Sg	11 24 53.1	-0.6
	baz=249							
HGSD	**Ruisui**	0.70	7	P		Pg	11 24 44.6	-0.6
	baz=13							
HGSD				*e*S		Sb	11 24 55.4	+0.9
	baz=13							
EHY	**Hungye**	0.71	359	*e*P		Pg	11 24 44.4	-0.9
	baz=5.0							
EHY				*e*S		Sg	11 24 54.6	-0.1
	baz=5.0							
SGST	**Jiashian**	0.75	292	⇓*i*P		Pg	11 24 44.9	-1.3
	baz=291							
SGST				*e*S		Sg	11 24 56.1	0.0
	baz=291							
SLIU	**Shizi**	0.76	221	⇑*e*P		Pb	11 24 45.8	-0.4
	baz=215							
SLIU				*e*S		Sb	11 24 56.9	+0.6
	baz=215							
YUS	**Yu-Shan**	0.78	333	P		Pg	11 24 45.7	-1.1
	baz=336							
YUS				*e*S		Sg	11 24 55.8	-1.4
	baz=336							
LAY	**Lan-yu**	0.78	165	P		Pn	11 24 46.6	-1.1
	baz=161							
LAY				*e*S		Sb	11 24 57.7	+0.9
	baz=161							
SCST	**Cishan**	0.78	277	P		Pb	11 24 46.8	+0.2
	baz=274							
SCST				*e*S		Sb	11 24 57.4	+0.4
	baz=274							
SGLT	**Jiouru**	0.78	265	*e*P		Pb	11 24 47.1	+0.5
	baz=261							
SCZT	**Fangliau**	0.79	238	P		Pb	11 24 46.1	-0.5
	baz=232							
SCZT				*e*S		Sn	11 24 59.3	+0.2
	baz=232							
WTP	**Ta-pu**	0.80	304	⇓*i*P		Pb	11 24 46.7	-0.2
	baz=304							
WTP				*e*S		Sb	11 24 58.7	+1.1
	baz=304							
LYUB	**Lan-yu**	0.82	164	*e*P		Pb	11 24 45.7	-1.5
	baz=161							
LYUB				*e*S		Sb	11 24 56.6	-1.5
	baz=161							
TPUB	**Ta-pu**	0.82	308	P		Pb	11 24 47.2	-0.1
TPUB	**Ta-pu**	0.82	308	⇓P		Pg	11 24 47.1	-0.5
	baz=308							
TPUB				*e*S		Sb	11 24 58.8	+0.7
	baz=308							
CHN1	**Nanshi**	0.84	298	⇓*e*P		Pb	11 24 47.8	+0.2
	baz=297							
CHN1				*e*S		Sb	11 25 00.8	+2.1
	baz=297							
TWM1	**Shoushan**	0.84	272	*e*P		Pb	11 24 48.4	+0.7
	baz=269							
ALS	**Alishan**	0.86	326	⇓P		Pg	11 24 47.6	-0.7
	baz=328							
EGFH	**Guangfu**	0.87	5	*e*P		Pb	11 24 48.7	+0.6
	baz=10.0							
EGFH				*e*S		Sg	11 24 59.9	-0.1
	baz=10.0							
CHN4	**Tsaushan**	0.88	309	⇓P		Pg	11 24 47.3	-1.3
	baz=310							
CHN4				*e*S		Sg	11 24 59.7	-0.5
	baz=310							
SNST	**Tainan City**	0.88	299	*e*P		Pn	11 24 50.0	+1.0
	baz=298							
SMST	**Manzhou Townsh**	0.90	211	*e*P		Pb	11 24 48.1	-0.4
	baz=206							
TWK	**Hsinying**	0.91	301	⇓*e*P		Pb	11 24 48.7	-0.1
	baz=301							
TWK				*e*S		Sg	11 25 01.2	-0.1
	baz=301							
WCKO	**Fanlu**	0.93	314	*e*P		Pg	11 24 48.1	-1.5
	baz=315							
WCKO				*e*S		Sg	11 25 00.7	-1.1
	baz=315							
CHN3	**Shinhua**	0.94	288	*e*P		Pn	11 24 50.9	+1.0
	baz=286							
SHHT	**Tainan City**	0.94	284	*e*P		Pn	11 24 50.4	+0.5
	baz=282							
HEN	**Hengchun**	0.96	215	*e*P		Pn	11 24 51.5	+1.4
	baz=210							
HEN				*e*S		Sn	11 25 03.9	+0.4
	baz=210							
VWDT	**VWDT**	0.97	349	*e*P		Pg	11 24 49.2	-1.1
	baz=353							
VWDT				*e*S		Sg	11 25 02.6	-0.5
	baz=353							
TSEB	**Hengchuen, Pin**	0.98	204	*e*P		Pn	11 24 52.4	+2.0
	baz=202							
TWKBT	**Hengchun**	0.98	210	*e*P		Pn	11 24 50.0	-0.4
	baz=205							
TWK1	**Hengchun**	0.98	210	*e*P		Pn	11 24 50.0	-0.4
	baz=205							
WHYT	**Xinyi Township**	1.00	334	*e*P		Pg	11 24 50.1	-0.8
	baz=336							
WHYT				*e*S		Sg	11 25 03.0	-1.1
	baz=336							
CHN5	**Tsauling**	1.00	323	*e*P		Pg	11 24 49.3	-1.6
	baz=324							
CHN5				*e*S		Sg	11 25 03.2	-0.9
	baz=324							
TWP	**Hsiaoliuchiu**	1.00	244	*e*P		Pn	11 24 54.0	+3.2
	baz=240							
ESL	**Shilin**	1.02	5	*e*P		Pg	11 24 50.3	-0.9
	baz=9.0							
SSLB	**Suanglung**	1.05	340	P		Pb	11 24 51.6	+0.4
SSLB	**Suanglung**	1.05	340	*e*P		Pg	11 24 50.7	-1.1
	baz=343							
SSLB				*e*S		Sg	11 25 05.4	-0.2
	baz=343							
CHY	**Chiayi**	1.09	310	*e*P		Pb	11 24 52.4	+0.5
	baz=311							
TEYL	**Yanliau Villag**	1.09	13	*e*P		Pn	11 24 52.6	+0.6
	baz=16							
WGK	**Gukeng**	1.14	321	*e*P		Pn	11 24 53.5	+0.9
	baz=323							
WDLH	**Douliu**	1.15	321	*e*P		Pn	11 24 53.6	+0.8
	baz=322							
WDLH				*e*S		Sn	11 25 10.3	+2.1
	baz=322							
SMLT	**Sun Moon Lake**	1.16	340	*e*P		Pg	11 24 53.1	-0.8
	baz=342							
SMLT				*e*S		Sb	11 25 09.4	+1.6
	baz=342							
WJS	**Zhushan**	1.17	331	*e*P		Pn	11 24 54.0	+1.1
	baz=333							
CHN8	**Yiju**	1.17	298	*e*P		Pb	11 24 53.4	+0.2
	baz=298							
ETM	**Tongmen**	1.17	7	*e*P		Pb	11 24 53.3	0.0
	baz=10.0							
TYC	**Yuchr**	1.19	338	*e*P		Pn	11 24 54.3	+1.0
	baz=341							
TYC				*e*S		Sn	11 25 10.7	+1.7
	baz=341							
WUSB	**Renai**	1.21	350	*e*P		Pg	11 24 53.1	-1.7
	baz=353							
WNT	**Mingjian**	1.23	331	*e*P		Pn	11 24 55.2	+1.3
	baz=333							
WSL	**Shuilin Townsh**	1.25	306	*e*P		Pg	11 24 53.9	-1.8
	baz=306							
CHGB	**Renai**	1.27	353	*e*P		Pg	11 24 54.1	-1.9
	baz=356							
CHGB				*e*S		Sg	11 25 11.7	-0.9
	baz=356							
DPDB	**Guoxing**	1.29	343	*e*P		Pg	11 24 55.4	-0.9
	baz=345							
TWD	**Chiawan**	1.30	11	*e*P		Pg	11 24 55.3	-1.2
	baz=14							
WCS	**Beigang Elemen**	1.31	343	*e*P		Pn	11 24 55.4	+0.3
	baz=345							
WCS				*e*S		Sb	11 25 13.7	+1.5
	baz=345							
WSF	**Szhu**	1.32	309	*e*P		Pn	11 24 54.8	-0.3
	baz=310							
WSF				*e*S		Sn	11 25 15.2	+2.8
	baz=310							
WHF	**Hehuan Shan**	1.34	357	*e*P		Pg	11 24 55.0	-2.5
WHF				*e*S		Sg	11 25 12.9	-2.2
NACB	**Ninganchiao**	1.39	10	P		Pg	11 24 57.2	-1.1
NACB	**Ninganchiao**	1.39	10	*e*P		Pn	11 24 56.3	+0.2
	baz=13							
WRL	**Guolierlin Hig**	1.41	321	*e*P		Pn	11 24 56.4	+0.1
	baz=322							
ETLH	**Xiulin Townshi**	1.41	5	*e*P		Pn	11 24 55.0	-1.4
	baz=8.0							
TDCB	**Techi**	1.46	354	*e*P		Pg	11 24 60.0	+0.4
	baz=356							
WHP	**Taichung City**	1.52	346	*e*P		Pg	11 24 59.9	-0.8
	baz=348							
NNSH	**Datong**	1.63	1	*e*P		Pn	11 24 58.4	-1.0
	baz=4.0							
TWQ1	**Liyutan**	1.63	342	*e*P		Pg	11 25 02.8	0.0
	baz=343							
TWQ1				*e*S		Sg	11 25 25.5	+1.5
	baz=343							
LATG	**Datong**	1.74	6	*e*P		Pn	11 25 01.0	0.0
	baz=8.0							
YHNB	**Yeheng**	1.87	1	P		Pg	11 25 06.1	-1.2
YOJ	**Yonaguni jima**	2.26	42	*e*P		Pn	11 25 09.5	+1.5
	baz=44							
YOJ				*e*S		Sn	11 25 36.7	+1.2
	baz=44							
YOJ	**Yonaguni jima**	2.26	42	*e*P		Pn	11 25 09.3	+1.3
HATJ	**Hateruma jima**	2.59	61	S		Sn	11 25 43.1	-0.6
IRIB	**Iriomote-Funau**	2.68	55	P		Pn	11 25 14.6	+0.8
IRIF				*e*S		Sn	11 25 46.1	+0.3
JKRS	**Kuro-shima**	2.84	59	*e*P		Pn	11 25 16.6	+0.6
JKRS				S		Sn	11 25 49.6	-0.2
JIJ	**Ishigaki jima**	3.01	58	P		Pn	11 25 18.8	+0.5
JIJ				*e*S		Sn	11 25 53.0	-1.0
JISG	**Ishigakijimahi**	3.26	56	P		Pn	11 25 21.4	-0.4
JISG				S		Sn	11 25 59.5	-0.7
JTJ	**Tarama**	3.59	59	P		Pn	11 25 27.0	+0.7
JTJ				S		Sn	11 26 08.0	-0.3
JIRB	**Irabujima**	4.05	59	*e*P		Pn	11 25 32.9	+0.2
JMJ2	**Miyako jima3**	4.14	61	*e*P		Pn	11 25 34.8	+0.9
JMJ2				*e*S		Sn	11 26 21.8	0.0

*NOU **30** 11:32:18.5,41°.93S×174°.64E,h1km,MLv3.8/7,Cook Strait, New Zealand*
*WEL **30** 11:32:19.0±0.2,42°S±2°×17°4E±°,h11km±2km,M3.2/38, ML3.4/24,MLv3.2/38,Error ellipse: s-maj=0.0km s-min=0.0km az=112.9*

ISC 30 11:32:18.7±1.0,**41.74S**±0°.03×**174.18E**±0°.03,**h23**km±6km, **n97**,σ1°**20**/99,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	0.03	102	P		Pb	11 32 22.8	+0.1
CMWZ				S		Sb	11 32 25.6	+0.2
BSWZ	**Blackbirch Sta**	0.23	277	P		Pb	11 32 24.1	-0.4
BSWZ				S		Sb	11 32 27.9	-0.5
TUWZ	**Tuamarina**	0.36	330	P		Pb	11 32 25.9	-0.6
TUWZ				S		Sb	11 32 30.6	-1.2
TCW	**Tory Channel**	0.54	8	P		Pb	11 32 28.9	-0.5
TCW				S		Sb	11 32 36.3	-0.4
SNZO	**South Karori**	0.59	42	P		Pb	11 32 30.8	+0.6
WEL	**Wellington**	0.64	44	P		Pb	11 32 31.6	+0.5
NNZ	**Nelson**	0.80	311	P		Pb	11 32 33.6	-0.3
KHZ	**Kahutara**	0.82	215	P		Pn	11 32 36.4	+1.5
KHZ	**Kahutara**	0.82	215	P		Pn	11 32 36.3	+1.5
PLWZ	**Palliser**	0.82	78	P		Pn	11 32 35.7	+0.8
CAW	**Cannon Point**	0.92	47	P		Pn	11 32 36.5	+0.3
THZ	**Tophouse**	0.95	268	P		Pn	11 32 36.9	+0.2
DUWZ	**D'Urville Isla**	0.96	348	P		Pn	11 32 36.1	-0.6
PAWZ	**Paruwai Farm**	1.00	69	P		Pb	11 32 38.1	+0.7
KIW	**Kapiti Island**	1.04	32	P		Pn	11 32 38.0	+0.2
MRNZ	**Matariki Terra**	1.12	287	P		Pb	11 32 39.9	+0.5
MTW	**Mount Morrison**	1.15	60	P		Pb	11 32 40.1	+0.2
TKNZ	**Takaka Hill**	1.16	307	P		Pn	11 32 40.0	+0.5
TRWZ	**Traveller**	1.18	74	P		Pn	11 32 40.4	-0.1
OGWZ	**Otaki Gorge**	1.19	39	P		Pb	11 32 40.9	+0.4
HOWZ	**Holdsworth Sta**	1.31	50	P		Pb	11 32 42.3	-0.4
TMWZ	**Te Maipa**	1.44	64	P		Pn	11 32 43.7	+0.4
GVZ	**Greta Valley S**	1.49	214	P		Pb	11 32 45.2	-0.4
MRZ	**Mangatainoka R**	1.51	45	P		Pn	11 32 45.1	+0.8
QRZ	**Quartz Range**	1.55	306	P		Pb	11 32 46.6	0.0
TIWZ	**Tintock**	1.61	54	P		Pn	11 32 46.1	+0.4
CPWZ	**Castlepoint**	1.73	62	P		Pn	11 32 47.7	+0.4
LTZ	**Lake Taylor**	1.76	233	P		Pb	11 32 49.0	-1.2
OHWZ	**Ohakea**	1.76	30	P		Pb	11 32 50.3	+0.1
DSZ	**Denniston Nort**	1.78	269	P		Pb	11 32 50.3	-0.3
PRWZ	**Pori Road**	1.80	49	P		Pn	11 32 48.8	+0.5
POWZ	**Post Office Ro**	1.81	42	P		Pn	11 32 49.1	+0.7
AMCZ	**Amberley**	1.82	218	P		Pn	11 32 49.4	+0.7
BFZ	**Birch Farm**	1.89	56	P		Pn	11 32 49.2	-0.3
BFZ	**Birch Farm**	1.89	56	P		Pn	11 32 49.2	-0.3
WAZ	**Wanganui**	2.08	17	P		Pb	11 32 55.3	-0.4
DVHZ	**Dannevirke**	2.08	47	P		Pn	11 32 52.1	-0.1
OKCZ	**Okains Bay**	2.14	202	P		Pn	11 32 53.3	+0.2
ANWZ	**Angora Road**	2.16	54	P		Pn	11 32 52.7	-0.5
TSZ	**Takapari Road**	2.16	39	P		Pn	11 32 53.7	+0.5
OXZ	**Oxford**	2.24	224	P		Pn	11 32 54.3	0.0
INZ	**Inchbonnie**	2.26	243	P		Pn	11 32 56.2	+1.6
MQZ	**McQueen's Vall**	2.26	209	P		Pn	11 32 54.2	-0.4
LREZ	**Lake Rotokare**	2.29	4	P		Pb	11 32 59.4	+0.1
AKCZ	**Akaroa Harbour**	2.32	203	P		Pb	11 32 55.5	0.0
NMEZ	**Namu Road**	2.34	354	P		Pb	11 33 00.2	+0.1
PRHZ	**Porangahau**	2.37	52	P		Pn	11 32 55.8	-0.4
PNHZ	**Pukenui**	2.39	41	P		Pn	11 32 56.6	+0.2
WPHZ	**Waipukurau**	2.40	46	P		Pn	11 32 56.6	+0.1
KHEZ	**Kahui Hut**	2.45	357	P		Pb	11 33 02.3	+0.2
KHEZ	**Kahui Hut**	2.45	357	P		Pb	11 33 01.2	-0.8
NEZ	**North Egmont**	2.47	358	P		Pb	11 33 01.2	-1.2
NBEZ	**Newall Road No**	2.48	354	P		Pb	11 33 02.0	-0.5
PKE	**Pukeiti**	2.55	357	P		Pb	11 33 02.9	-0.9
DREZ	**Durham Road**	2.55	0	P		Pb	11 33 02.6	-1.1
MTVZ	**Mangateitei**	2.55	23	P		Pb	11 33 03.7	-0.1
PKVZ	**Pokaka**	2.61	20	P		Pb	11 33 03.7	-1.0
MOVZ	**Moawhango**	2.62	28	P		Pb	11 33 04.6	-0.4
MHCZ	**Mount Hutt**	2.63	226	P		Pn	11 32 59.7	0.0
WNVZ	**Wahianoa**	2.65	25	P		Pn	11 33 02.5	+2.5
VRZ	**Vera Road**	2.65	10	P		Pb	11 33 03.0	-2.5
TRVZ	**Turoa**	2.66	24	P		Pb	11 33 03.5	-2.2
PXZ	**Pawanui**	2.66	51	P		Pn	11 32 59.1	-1.0
MHEZ	**Mangahewa**	2.67	2	P		Pb	11 33 04.4	-1.3
BHHZ	**Black Hill Sta**	2.67	33	P		Pn	11 33 01.5	+1.2
WHVZ	**Whangaehu Hut**	2.68	24	P		Pb	11 33 04.5	-1.6
FWVZ	**Far West T-bar**	2.70	23	P		Pb	11 33 06.1	-0.3
TUVZ	**Tukino**	2.72	25	P		Pb	11 33 04.8	-1.8
NGZ	**Ngauruhoe**	2.79	23	P		Pb	11 33 05.7	-2.1
SNVZ	**South Ngauruho**	2.79	24	P		Pn	11 33 01.0	-1.0
WACZ	**Wakanui South**	2.79	217	P		Pn	11 33 01.8	-0.1
OTVZ	**Oturere**	2.82	24	P		Pb	11 33 06.0	-2.4
KAHZ	**Kahuranaki**	2.83	47	P		Pn	11 33 01.7	-0.7
NNVZ	**North Ngauruho**	2.83	23	P		Pn	11 33 05.0	+2.4
TWVZ	**Taurewa**	2.84	20	P		Pb	11 33 09.0	+0.3
WTVZ	**West Tongariro**	2.84	23	P		Pb	11 33 07.1	-1.6
ETVZ	**East Tongariro**	2.85	25	P		Pn	11 33 06.0	+3.1
TMVZ	**Te Maari**	2.87	24	P		Pn	11 33 05.2	+2.0
KRVZ	**Karewarewa**	2.87	23	P		Pb	11 33 08.8	-0.5
WVZ	**Waitaha Valley**	2.88	241	P		Pb	11 33 09.0	-0.2
KWHZ	**Kaweka Forest**	2.88	37	P		Pn	11 33 03.2	0.0
NTVZ	**North Tongarir**	2.88	24	P		Pn	11 33 05.7	+2.5
KATZ	**Kakaramea**	3.00	23	P		Pb	11 33 12.0	+0.6
RPZ	**Rata Peaks**	3.03	228	P		Pb	11 33 10.1	-1.8
RPZ	**Rata Peaks**	3.03	228	P		Pn	11 33 05.9	+0.7
ARCZ	**Arundel**	3.12	224	P		Pn	11 33 06.8	+0.3
BKZ	**Black Stump Fm**	3.12	35	P		Pn	11 33 06.3	-0.2
RATZ	**Rangitukua**	3.12	23	P		Pb	11 33 13.7	+0.3
HIZ	**Hauiti**	3.27	9	P		Pb	11 33 12.9	-3.1
HIZ	**Hauiti**	3.27	9	P		Pn	11 33 10.9	+2.4
MRHZ	**Matea Rd**	3.37	31	P		Pb	11 33 18.3	+0.6
TMZ	**Timaru**	3.52	220	P		Pn	11 33 12.1	+0.2
TLZ	**Valley Road**	3.57	17	P		Pn	11 33 15.0	+2.4
TOZ	**Tahuroa Road**	4.13	15	P		Pn	11 33 25.6	+5.2
ODZ	**Otahua Downs**	4.18	217	P		Pn	11 33 20.8	-0.3
JCZ	**Jackson Bay**	4.59	238	P		Pn	11 33 31.7	+4.9
JCZ	**Jackson Bay**	4.59	238	P		Pn	11 33 31.3	+4.5

*IDC **30** 11:52:04.8±1.1,7°.45S×124°.99E,h364km±13km,mb3.0/1, mbtmp4.1/5,Error ellipse: s-maj=23.0km s-min=17.9km az=98.0*

ISC 30 11:52:04.3±0.8,**7.43S**±0°.08×**124.91E**±0°.09,**h371**km,**n19**, σ0.**82**/22,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMRI	**Maumere**	2.91	245	P		Pn	11 53 04.9	+0.4
BATI	**Baumata**	3.02	204	P		Pn	11 53 06.8	+1.3
	128nm,0.3s,baz=27,slow=1.7,SNR=30							
BATI				S		S	11 53 54.5	-0.4
	240nm,0.4s,baz=124,slow=2.5,SNR=7.7							
PLAI	**Plampang**	7.20	258	P		Pn	11 53 48.3	-1.3
MTN	**Manton Dam**	8.15	132	P		Pn	11 54 01.0	+0.4
FAKI	**Fak Fak**	8.57	59	P		Pn	11 54 05.3	-0.2
SIJI	**Sorong**	9.09	44	P		Pn	11 54 12.8	+1.2
	21nm,0.3s,baz=212,slow=19,SNR=24							
SIJI				S		S	11 55 54.2	-1.9
	5.4nm,0.6s,baz=174,slow=22,SNR=1.9							
JAGI	**Jajag, Banyuwa**	10.71	264	P		Pn	11 54 30.7	0.0
WRA	**Warramunga Arr**	15.44	145	P		P	11 55 22.7	-0.1
	0.6nm,0.4s,baz=338,slow=9.1,SNR=52							
WRA				S		S	11 58 07.7	+0.4
	1.8nm,1.0s,baz=314,slow=22,SNR=5.8							
WRKA	**Warakurna**	17.81	170	P		P	11 55 48.1	-0.1
ASAR	**Alice Springs**	18.31	153	P		P	11 55 53.9	+0.3
	1.2nm,0.3s,baz=330,slow=12,SNR=35							
AS01	**Alice Springs**	18.33	153	P		P	11 55 54.1	+0.3
COEN	**Coen**	19.07	111	P		P	11 56 01.1	-0.6
QIS	**Mount Isa**	19.30	134	P		P	11 56 03.9	-0.2
MEEK	**Meekatharra**	20.02	197	P		P	11 56 10.2	-0.9
OOD	**Oodnadatta**	22.68	155	P		P	11 56 35.5	+0.3
FORT	**Forrest**	23.42	173	P		P	11 56 41.3	-0.5
MULG	**Mulgathing**	24.30	160	P		P	11 56 50.1	+0.3
BLDU	**Ballidu**	24.31	197	P		P	11 56 49.3	-0.6
MKAR	**Makanchi Array**	65.92	329	P		P	12 02 12.9	+1.3
	0.5nm,0.5s,baz=121,slow=7.8,SNR=8.4							
	0.5nm,0.5s							

*GII **30** 11:52:14.8±0.6,33°.70N×35°.63E,h1km±1km,MD2.0/3, Mm2.1/5*
*GRAL **30** 11:52:16.2±0.3,33°.70N×35°.58E,h0km±9km,MD2.5*

ISC 30 11:52:14.6±1.1,**33.74N**±0°.04×**35.62E**±0°.07,**h19**km±3km, **n14**,σ0.**61**/24,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DQRL	**Deir Qamar**	0.05	226	*e*P		Pg	11 52 16.4	-1.8
BHL	**Bhannes**	0.17	12	*e*P		Pg	11 52 20.0	+0.7
BHL				*e*S		Sg	11 52 22.9	+0.4
RCY	**Rachaya**	0.31	143	*e*P		Pg	11 52 21.3	-0.1
RCY				*e*S		Sb	11 52 25.3	-0.8
NATI	**Neve Ativ**	0.

	baz=130							
TTN	Taitung	0.19	254	⇑	*i*P	Pg	12 04 38.4	-2.5
	baz=233							
TTN					*i* S	Sg	12 04 41.8	-2.4
	baz=233							
LONT	Longtian	0.22	296	⇓	*i*P	Pg	12 04 38.1	-3.3
	baz=300							
LONT					*e*S	Sg	12 04 40.3	-4.7
	baz=300							
TWGBT	Beinan	0.25	273		P	Pg	12 04 38.9	-2.9
TWGBT	Beinan	0.25	273	⇓	*i*P	Pg	12 04 38.6	-3.2
	baz=265							
TWGBT					S	Sg	12 04 41.7	-3.9
	baz=265							
TWG	Pinlang	0.25	273			Pg	12 04 38.2	-3.8
TWG	Pinlang	0.25	273	⇓	*i*P	Pg	12 04 38.6	-3.3
	baz=265							
TWG					*e*S	Sg	12 04 41.8	-4.0
	baz=265							
CHKT	Chengkung	0.29	3	⇑	*i*P	Pg	12 04 40.7	-1.8
	baz=20							
CHKT					S	Sg	12 04 45.8	-1.1
	baz=20							
ECS	Chishang	0.31	338	⇑	*i*P	Pg	12 04 41.0	-1.9
	baz=350							
ECS					S	Sg	12 04 46.4	-1.1
	baz=350							
EHD	Haiduan	0.36	339	⇑	*e*P	Pg	12 04 40.4	-3.5
	baz=350							
EHD					*e*S	Sg	12 04 46.2	-2.8
	baz=350							
FULB	Fuli	0.39	353	⇑	*i*P	Pg	12 04 42.1	-2.3
	baz=4.0							
FULB					*e*S	Sg	12 04 49.0	-0.8
	baz=4.0							
ECL	Taimali	0.42	240	⇑	*i*P	Pg	12 04 42.2	-2.6
	baz=230							
ECL					S	Sg	12 04 49.4	-1.1
	baz=230							
ELDTW	Lidau	0.49	321	⇓	*i*P	Pg	12 04 43.1	-3.0
	baz=328							
ELDTW					S	Sg	12 04 49.7	-3.0
	baz=328							
ECBN	Changbin	0.52	11	⇑	*i*P	Pg	12 04 43.7	-2.9
	baz=19							
ECBN					*e*S	Sg	12 04 52.3	-1.3
	baz=19							
EYUL	Yuli	0.54	357	⇑	*i*P	Pg	12 04 44.7	-2.3
	baz=5.0							
EYUL					*e*S	Sb	12 04 53.5	-1.2
	baz=5.0							
TWF1	Yuli	0.55	355	⇑	*i*P	Pg	12 04 44.6	-2.5
	baz=4.0							
TWF1					*e*S	Sg	12 04 53.1	-1.3
	baz=4.0							
YULB	Yu-li	0.58	356			Pg	12 04 45.2	-2.7
YULB	Yu-li	0.58	356		P	Pg	12 04 46.0	-1.8
YULB	Yu-li	0.58	356	⇑	*i*P	Pg	12 04 45.1	-2.7
	baz=3.0							
YULB					*e*S	Sg	12 04 53.6	-2.1
	baz=3.0							
TAW	Tawu	0.61	223	⇑	*i*P	Pg	12 04 46.1	-2.2
	baz=215							
TAW					*e*S	Sg	12 04 55.6	-0.8
	baz=215							
EAST	Anshuo	0.62	228	⇑	*i*P	Pg	12 04 46.1	-2.4
	baz=220							
EAST					*e*S	Sg	12 04 55.6	-1.3
	baz=220							
TAWH	Dawu Township	0.63	222	⇑	*e*P	Pg	12 04 45.3	-3.3
	baz=216							
TAWH					*e*S	Sg	12 04 54.6	-2.5
	baz=216							
STYH	Taoyuan	0.64	305	⇓	*i*P	Pg	12 04 45.1	-3.8
	baz=308							
STYH					*e*S	Sg	12 04 54.0	-3.4
	baz=308							
STYT	Tauyuan	0.65	303	⇓	*i*P	Pg	12 04 46.1	-3.0
	baz=305							
STYT					*e*S	Sg	12 04 55.2	-2.5
	baz=305							
TSMG	Majia	0.66	261	⇑	*i*P	Pg	12 04 46.0	-3.1
	baz=258							
TSMG					S	Sg	12 04 53.9	-4.0
	baz=258							
SSD	Sandimen	0.66	265	⇑	*i*P	Pg	12 04 46.1	-3.2
	baz=261							
SSD					*e*S	Sg	12 04 54.0	-4.1
	baz=261							
SLGT	Liugui	0.67	286	⇓	P	Pg	12 04 46.3	-3.1
	baz=286							
SLGT					*e*S	Sg	12 04 55.2	-3.2
	baz=286							
HGSD	Ruisui	0.69	6	⇑	*i*P	Pg	12 04 47.3	-2.4
	baz=12							
HGSD					*e*S	Sb	12 04 58.3	-0.6
	baz=12							
MASBT	Mashibuluo	0.69	254	⇑	*i*P	Pg	12 04 46.7	-3.0
	baz=250							
MASBT					*e*S	Sg	12 04 56.2	-2.7
	baz=250							
EHY	Hungye	0.70	358	⇑	*i*P	Pg	12 04 46.8	-3.1
	baz=5.0							
EHY					*e*S	Sg	12 04 57.6	-1.6
	baz=5.0							
SGST	Jiashian	0.76	291	⇓	*i*P	Pg	12 04 47.6	-3.4
	baz=292							
SGST					*e*S	Sg	12 04 58.7	-2.3
	baz=292							
YUS	Yu-Shan	0.77	332	⇓	*i*P	Pg	12 04 48.5	-2.9
	baz=336							
YUS					*e*S	Sg	12 04 58.5	-3.2
	baz=336							
SLIU	Shizi	0.78	221	⇑	*i*P	Pg	12 04 48.5	-2.8
	baz=215							
SLIU					*e*S	Sg	12 05 00.5	-1.1
	baz=215							
LAY	Lan-yu	0.79	166	⇓	P	Pg	12 04 48.9	-2.7
	baz=161							
LAY					*e*S	Sg	12 05 00.8	-1.2
	baz=161							
SCST	Cishan	0.79	276	⇓	*i*P	Pg	12 04 49.4	-2.3
	baz=274							
SCST					*e*S	Sg	12 04 59.4	-2.7
	baz=274							
SGLT	Jiouru	0.79	264	⇑	P	Pg	12 04 48.7	-3.1
	baz=261							
SGLT					*e*S	Sg	12 04 59.5	-2.8
	baz=261							
TSPT	Pingtung City	0.80	261		*e*P	Pg	12 04 49.6	-2.1
	baz=258							
SCZT	Fangliau	0.80	237	⇑	*i*P	Pg	12 04 49.0	-2.8
	baz=232							
SCZT					*e*S	Sg	12 04 59.0	-3.4
	baz=232							
WTP	Ta-pu	0.80	303	⇓	P	Pg	12 04 49.5	-2.4
	baz=305							
WTP					*e*S	Sg	12 05 01.4	-1.2
	baz=305							
TPUB	Ta-pu	0.82	307			Pg	12 04 49.8	-2.5
TPUB	Ta-pu	0.82	307		P	Pg	12 04 50.0	-2.3
TPUB	Ta-pu	0.82	307	⇓	*i*P	Pg	12 04 49.8	-2.5
	baz=308							
TPUB					*e*S	Sg	12 05 01.2	-2.0
	baz=308							
LYUB	Lan-yu	0.83	165	⇓	P	Pb	12 04 48.6	-3.6
	baz=161							
LYUB					*e*S	Sg	12 04 59.9	-3.5
	baz=161							
CHN1	Nanshi	0.84	297	⇓	*i*P	Pg	12 04 50.5	-2.1
	baz=297							
CHN1					*e*S	Sg	12 05 03.0	-0.8
	baz=297							
TWM1	Shoushan	0.85	271	⇑	*e*P	Pb	12 04 51.2	-1.3
	baz=269							
ALS	Alishan	0.86	325	⇓	*i*P	Pg	12 04 50.4	-2.6
	baz=328							
ALS					*e*S	Sg	12 05 02.9	-1.6
	baz=328							
EGFH	Guangfu	0.86	5		*e*P	Pg	12 04 49.4	-3.6
	baz=10.0							
EGFH					*e*S	Sb	12 05 03.9	-0.1
	baz=10.0							
CHN4	Tsaushan	0.88	308	⇓	P	Pb	12 04 50.0	-3.0
	baz=310							
CHN4					*e*S	Sb	12 05 02.8	-1.7
	baz=310							
SNST	Tainan City	0.88	298	⇓	*e*P	Pg	12 04 52.9	-0.5
	baz=299							
SMST	Manzhou Townsh	0.91	211	⇑	*e*P	Pb	12 04 50.9	-2.7
	baz=206							
TWK	Hsinying	0.91	300	⇓	*e*P	Pb	12 04 51.5	-2.1
	baz=301							
TWK					*e*S	Sg	12 05 05.3	-0.7
	baz=301							
TEGC	Jichi Village	0.92	11	⇓	*e*P	Pb	12 04 51.7	-1.9
	baz=16							
TEGC					*e*S	Sg	12 05 05.2	-0.9
	baz=16							
WCKO	Fanlu	0.93	313	⇓	*e*P	Pb	12 04 50.8	-3.1
	baz=315							
WCKO					*e*S	Sb	12 05 03.7	-2.2
	baz=315							
SNJT	Kaohsiung City	0.94	267		*e*P	Pb	12 04 51.1	-2.8
	baz=265							
CHN3	Shinhua	0.94	287	⇓	*e*P	Pb	12 04 53.6	-0.5
	baz=286							
CHN3					*e*S	Sn	12 05 09.5	+1.7
	baz=286							
SHHT	Tainan City	0.94	283	⇓	*e*P	Pb	12 04 52.9	-1.2
	baz=283							
VWDT	VWDT	0.96	349	⇑	P	Pb	12 04 51.8	-2.6
	baz=353							
VWDT					*e*S	Sb	12 05 05.2	-1.7
	baz=353							
HEN	Hengchun	0.98	215	⇑	*e*P	Pb	12 04 52.5	-2.1
	baz=210							
HEN					*e*S	Sn	12 05 08.7	+0.2
	baz=210							
KAU	Kaohsiung	0.99	256		*e*P	Pn	12 04 55.4	+0.1
	baz=253							
KAU					*e*S	Sn	12 05 11.5	+2.6
	baz=253							
TSEB	Hengchuen, Pin	0.99	205		*e*P	Pb	12 04 52.8	-2.1
	baz=202							
TSEB					*e*S	Sb	12 05 06.2	-1.5
	baz=202							
TWKBT	Hengchun	0.99	210	⇑	P	Pb	12 04 52.4	-2.6
	baz=205							
TWKBT					*e*S	Sb	12 05 07.8	+0.1
	baz=205							
TWK1	Hengchun	0.99	210	⇑	*e*P	Pb	12 04 52.4	-2.6
	baz=205							
TWK1					*e*S	Sb	12 05 07.6	-0.2
	baz=205							
WHYT	Xinyi Township	0.99	333	⇓	*e*P	Pb	12 04 53.0	-2.1
	baz=336							
WHYT					*e*S	Sb	12 05 05.5	-2.4
	baz=336							
ESL	Shilin	1.01	5		*e*P	Pb	12 04 51.6	-3.6
	baz=9.0							
ESL					*e*S	Sb	12 05 07.1	-1.1
	baz=9.0							
WSSB	Gushan	1.01	261		*e*P	Pg	12 04 55.5	-0.4
	baz=259							
TWP	Hsiaoliuchiu	1.02	243	⇑	*e*P	Pn	12 04 56.1	+0.4
	baz=240							
TWP					*e*S	Sn	12 05 15.0	+5.4
	baz=240							
SSHA	Shanhua	1.03	289		*e*P	Pb	12 04 54.9	-0.7
	baz=289							
SSHA					*e*S	Sn	12 05 11.2	+1.3
	baz=289							
SSLB	Suanglung	1.04	340		Pg	Pb	12 04 52.8	-3.0
SSLB	Suanglung	1.04	340		P	Pb	12 04 53.4	-2.4
SSLB	Suanglung	1.04	340	⇑	P	Pb	12 04 53.2	-2.6
	baz=343							
SSLB					*e*S	Sb	12 05 06.8	-2.4
	baz=343							
TAI1	Yung-k'ang	1.06	283		*e*P	Pb	12 04 55.6	-0.4
	baz=282							
CHN2	Minshiung	1.08	312		*e*P	Pb	12 04 55.1	-1.3
	baz=314							
CHN2					*e*S	Sn	12 05 10.9	-0.3
	baz=314							
TEYL	Yanliau Villag	1.08	12		*e*P	Pb	12 04 54.5	-1.9
	baz=16							
TEYL					*e*S	Sn	12 05 11.1	-0.1
	baz=16							
CHY	Chiayi	1.09	309	⇓	*e*P	Pb	12 04 55.0	-1.7
	baz=311							
CHY					*e*S	Sb	12 05 09.3	-1.3
	baz=311							
SCLT	Jiali	1.12	289	⇓	*e*P	Pb	12 04 56.0	-1.2
	baz=289							
SCLT					*e*S	Sn	12 05 12.8	+0.6
	baz=289							
ICHU	Yijhu	1.13	300	⇓	*e*P	Pb	12 04 55.7	-1.5
	baz=300							
WGK	Gukeng	1.14	321		*e*P	Pb	12 04 55.9	-1.4
	baz=323							
WGK					*e*S	Sn	12 05 12.7	+0.2
	baz=323							
SMLT	Sun Moon Lake	1.15	339		*e*P	Pb	12 04 55.4	-2.2
	baz=342							
SMLT					*e*S	Sb	12 05 11.9	-0.5
	baz=342							
WDLH	Douliu	1.15	320	⇓	*e*P	Pb	12 04 56.2	-1.4
	baz=322							
WDLH					*e*S	Sb	12 05 11.7	-0.6
	baz=322							
WJS	Zhushan	1.16	331	⇓	*e*P	Pn	12 04 56.7	-1.0
	baz=333							
WJS					*e*S	Sg	12 05 12.9	-1.0
	baz=333							
ETM	Tongmen	1.16	7		*e*P	Pb	12 04 54.1	-3.7
	baz=10.0							
CHN8	Yiju	1.18	297	⇓	*e*P	Pn	12 04 56.4	-1.4
	baz=298							
CHN8					*e*S	Sg	12 05 14.1	-0.3
	baz=298							
TYC	Yuchr	1.18	338		*e*P	Pn	12 04 56.0	-1.9
	baz=341							
TYC					*e*S	Sn	12 05 13.2	-0.4
	baz=341							
HWA	Hwalien	1.19	11		*e*P	Pn	12 04 56.0	-2.0
	baz=16							
HWA					*e*S	Sg	12 05 14.7	-0.1
	baz=16							
WUSB	Renai	1.20	350	⇑	*e*P	Pn	12 04 55.5	-2.8
	baz=353							
WUSB					*e*S	Sb	12 05 12.2	-1.6
	baz=353							
TSCK	Chigu Township	1.21	287	⇓	*e*P	Pn	12 04 55.9	-2.4
	baz=286							
TSCK					*e*S	Sb	12 05 12.8	-1.2
	baz=286							
WNT	Mingjian	1.23	330	⇓	*e*P	Pn	12 04 57.9	-0.7
	baz=333							
WNT					*e*S	Sg	12 05 14.8	-1.2
	baz=333							
WTK	Tuku	1.24	315	⇓	*e*P	Pn	12 04 57.5	-1.3
	baz=316							
WTK					*e*S	Sn	12 05 14.9	-0.2
	baz=316							
WPL	Puli Township	1.25	343		*e*P	Pn	12 04 56.8	-2.2
	baz=346							
WSL	Shuilin Townsh	1.25	305	⇓	*e*P	Pn	12 04 56.4	-2.5
	baz=306							
WSL					*e*S	Sb	12 05 14.4	-0.8
	baz=306							
WNT1	Nantou City	1.25	331		*e*P	Pn	12 04 58.2	-0.8
	baz=333							
WNT1					*e*S	Sg	12 05 16.3	-0.6
	baz=333							
CHGB	Renai	1.26	353	⇑	*e*P	Pn	12 04 56.5	-2.7
	baz=356							
CHGB					*e*S	Sb	12 05 14.9	-0.7
	baz=356							
DPDB	Guoxing	1.28	343		*e*P	Pn	12 04 57.8	-1.6
	baz=345							
DPDB					*e*S	Sb	12 05 15.3	-0.8
	baz=345							
TWD	Chiawan	1.29	10		*e*P	Pn	12 04 56.2	-3.2
	baz=14							
TWD					*e*S	Sn	12 05 16.1	-0.2
	baz=14							
WCS	Beigang Elemen	1.31	342		*e*P	Pn	12 04 57.4	-2.3
	baz=345							
WCS					*e*S	Sb	12 05 15.0	-1.9
	baz=345							
WSF	Szhu	1.32	309	⇓	*e*P	Pn	12 04 58.5	-1.4
	baz=310							
WSF					*e*S	Sb	12 05 16.8	-0.5
	baz=310							
WHF	Hehuan Shan	1.33	357		*e*P	Pn	12 04 57.5	-3.0
WHF					*e*S	Sb	12 05 16.5	-1.6
WYL	Yuanlin Townsh	1.35	329		*e*P	Pb	12 05 00.3	-0.7
	baz=331							
WWF	Wufeng	1.37	334		*e*P	Pn	12 04 59.3	-1.2
	baz=337							
ETL	Fush Village	1.37	11		*e*P	Pn	12 04 57.7	-2.9
	baz=14							
ETL					*e*S	Sn	12 05 17.5	-0.9
	baz=14							
NACB	Ninganchiao	1.38	9			Pn	12 04 57.8	-2.9
NACB	Ninganchiao	1.38	9		P	Pn	12 04 58.2	-2.5
NACB	Ninganchiao	1.38	9		*e*P	Pn	12 04 57.1	-3.6
	baz=13							
NACB					*e*S	Sg	12 05 19.1	-1.8
	baz=13							
ETLH	Xiulin Townshi	1.40	5		*e*P	Pn	12 04 57.6	-3.4
	baz=8.0							
ETLH					*e*S	Sg	12 05 21.8	+0.3
	baz=8.0							
WRL	Guolierlin Hig	1.41	321		*e*P	Pn	12 04 58.8	-2.2
	baz=322							
WRL					*e*S	Sn	12 05 17.9	-1.4
	baz=322							
WMLT	Mailiao	1.43	314		*e*P	Pb	12 05 01.9	-0.6
	baz=315							
FUSS	Fushou	1.44	356		*e*P	Pn	12 04 59.2	-2.5
	baz=359							
WTCT	Ta-ch'eng	1.44	317		*e*P	Pn	12 05 00.3	-1.2
	baz=319							
TDCB	Techi	1.45	353		*e*P	Pn	12 04 59.9	-1.9
	baz=356							
TDCB					*e*S	Sn	12 05 19.8	-0.7
	baz=356							
WCHH	Zhanghua	1.46	330		*e*P	Pn	12 05 01.5	-0.3
	baz=332							
WCHH					*e*S	Sn	12 05 20.2	-0.3
	baz=332							
TCU	Taichung	1.47	335	⇓	*e*P	Pn	12 05 01.9	0.0
	baz=338							
WHP	Taichung City	1.51	346		*e*P	Pn	12 05 02.4	-0.2
	baz=348							
WHP					*e*S	Sg	12 05 24.6	-0.5
	baz=348							
NNSB	Datong	1.61	1		*e*P	Pn	12 05 01.9	-2.2
	baz=4.0							
NNSH	Datong	1.61	1		*e*P	Pn	12 05 00.7	-3.4
	baz=4.0							
WDGT	Dungji	1.62	287		*e*P	Pn	12 05 02.0	-1.9
	baz=286							
WDGT					*e*S	Sn	12 05 20.7	-3.7
	baz=286							
TWQ1	Liyutan	1.62	341		*e*P	Pn	12 05 04.1	0.0
	baz=343							
TWQ1					*e*S	Sg	12 05 26.3	-2.3
	baz=343							
NNS	Nan Shan	1.63	1		*e*P	Pn	12 05 00.7	-3.5
	baz=4.0							
ENA	Nanau	1.65	13		*e*P	Pn	12 05 02.0	-2.4
	baz=16							
WDJ	Dajia District	1.67	337		*e*P	Pn	12 05 04.9	+0.3
	baz=339							
WDJ					*e*S	Sg	12 05 28.5	-1.5
	baz=339							
EWUT	Wuta	1.68	14		*e*P	Pn	12 05 01.4	-3.4
	baz=16							
NSY	Sanyi	1.69	342		*e*P	Pn	12 05 05.0	+0.1
	baz=344							
NSY					*e*S	Sg	12 05 28.4	-2.3
	baz=344							
LATG	Datong	1.73	5		*e*P	Pn	12 05 03.1	-2.5
	baz=8.0							
PHUB	P'eng-hu	1.78	294		*e*P	Pn	12 05 04.0	-2.2
	baz=294							
PHUB					*e*S	Sn	12 05 26.1	-2.3
	baz=294							
NMLH	Miaoli	1.80	344		*e*P	Pn	12 05 06.6	+0.1
	baz=346							
VCHM	Qimei	1.81	283		*e*P	Pn	12 05 04.6	-2.0
	baz=282							
VCHM					*e*S	Sn	12 05 27.1	-2.1
	baz=282							
PNG	Penghu	1.81	295		*e*P	Pn	12 05 04.7	-1.9
	baz=295							
PNG					*e*S	Sn	12 05 26.0	-3.2
	baz=295							
NFF	Wufeng Townshi	1.83	353		*e*P	Pn	12 05 05.3	-1.6
	baz=356							
ENTT	Nioudou	1.84	6		*e*P	Pn	12 05 03.5	-3.5
	baz=9.0							
ENTT					*e*S	Sn	12 05 28.9	-1.0
	baz=9.0							
NSTT	Nanjuang	1.84	350		*e*P	Pn	12 05 06.9	-0.2
	baz=352							
NDS	Dongshan	1.85	10		*e*P	Pn	12 05 04.5	-2.6
	baz=13							
TWC	Suao	1.85	14		*e*P	Pn	12 05 05.5	-1.6
	baz=17							
TWC					*e*S	Sn	12 05 29.7	-0.5
	baz=17							
YHNB	Yeheng	1.85	1			Pn	12 05 06.0	-1.4
YHNB	Yeheng	1.85	1		P	Pn	12 05 07.3	0.0
YHNB	Yeheng	1.85	1		*e*P	Pn	12 05 05.9	-1.4
	baz=3.0							
LIOB	Emei	1.86	351		*e*P	Pn	12 05 07.2	-0.1
	baz=353							
NSK	Sanguang	1.86	0		*e*P	Pn	12 05 04.9	-2.5
	baz=3.0							
NSK					*e*S	Sb	12 05 32.7	-0.1
	baz=3.0							
TWE	Neicheng	1.93	9		*e*P	Pn	12 05 06.3	-1.9
	baz=11							
FUSB	Fushanzhiwuyua	1.96	6		*e*P	Pn	12 05 07.1	-1.6
	baz=9.0							
NWLT	Wulai	1.97	4		*e*P	Pn	12 05 06.7	-2.1
	baz=6.0							
NWLT					*e*S	Sn	12 05 33.2	+0.1
	baz=6.0							
ILA	Ilan	1.98	11		*e*P	Pb	12 05 10.1	-1.8
	baz=13							
HSN1	Hsinchu	1.99	351		*e*P	Pb	12 05 10.6	-1.3
	baz=353							
SBCB	Hsinchu	2.00	351		*e*P	Pn	12 05 10.1	+0.8
	baz=352							
HSN	Hsinchu	2.02	350		*e*P	Pn	12 05 09.4	0.0
	baz=353							
EGS		2.10	15		*e*P	Pn	12 05 11.0	+0.4
	baz=17							
NHDH	Xindian Distri	2.15	4		*e*P	Pn	12 05 10.5	-0.8
	baz=6.0							
NCUH	Zhongli	2.16	356		*e*P	Pn	12 05 12.4	+1.0
	baz=358							
NCU	National Centr	2.16	356		*e*P	Pb	12 05 14.0	-0.8
	baz=358							
TATO	Taipei	2.16	3		Pn	Pn	12 05 10.4	-1.1
TATO	Taipei	2.16	3		P	Pn	12 05 10.7	-0.8
TATO	Taipei	2.16	3		*e*P	Pn	12 05 10.2	-1.2
	baz=6.0							
TWA	Mucha	2.17	6		*e*P	Pn	12 05 11.0	-0.7
	baz=8.0							
JYNG	Yonagunijimaku	2.20	42		*e*P	Pn	12 05 10.1	-1.8
JYNG					*e*S	Sn	12 05 37.5	-1.2
JYNG	Yonagunijimaku	2.20	42		A	A	12 05 10.1	
	comp=E,13nm,1.0s,comp=E,16nm,1.1s							
TIPB	Shuangxi	2.20	11		*e*P	Pn	12 05 11.4	-0.6
	baz=13							
TIPB					*e*S	Sb	12 05 41.0	-1.5
	baz=13							
YOJ	Yonaguni jima	2.25	42			Pn	12 05 10.8	-1.7
YOJ	Yonaguni jima	2.25	42		P	Pn	12 05 11.1	-1.5
YOJ	Yonaguni jima	2.25	42	⇑	P	Pn	12 05 10.8	-1.7
	baz=44							
YOJ					*e*S	Sn	12 05 38.5	-1.4
	baz=44							
YOJ	Yonaguni jima	2.25	42		P	Pn	12 05 11.1	-1.5
YOJ					*e*S	Sn	12 05 38.5	-1.4
YOJ	Yonaguni jima	2.25	42		A	A	12 05 11.1	
	comp=E,11nm,3.4s,comp=E,13nm,1.3s							
TWB1	Santiao Chiao	2.27	15		*e*P	Pn	12 05 12.0	-0.9
	baz=17							
TWB1					*e*S	Sb	12 05 43.5	-1.0
	baz=17							
TWS1	Kuangyinshan	2.29	2		*e*P	Pn	12 05 13.1	0.0
	baz=4.0							
NWF	Wu-fen Shan	2.29	10		*e*P	Pn	12 05 12.6	-0.7
	baz=12							
WFSB	Wu-fen Shan	2.29	10		*e*P	Pn	12 05 12.5	-0.7
	baz=12							
SXI1	Grass Mountain	2.33	12		*e*P	Pn	12 05 13.3	-0.5

SXI1 baz=14 *e*S **Sb** **12 05 45.3 -1.0**

YM01 **YM01** **2.34 5** *e*P **Pn** **12 05 14.1 +0.2**
baz=7.0

TNOU **National Taiwa** **2.37 9** *e*P **Pn** **12 05 14.7 +0.5**
baz=11

ANP **Anpu** **2.38 4** *e*P **Pn** **12 05 14.0 -0.5**
baz=6.0

YM08 **YM08** **2.38 5** *e*P **Pn** **12 05 13.9 -0.6**
baz=7.0

HATJ **Hateruma jima** **2.58 61** P **Pn** **12 05 15.4 -1.8**
HATJ S **Sn** **12 05 45.5 -2.6**
HATJ **Hateruma jima** **2.58 61** A A 12 05 15.4
comp=E,12nm,3.3s,comp=E,13nm,2.5s

IRIF **Iriomote-Funau** **2.66 55** P **Pn** **12 05 16.7 -1.6**
IRIF *e*S **Sn** **12 05 48.0 -2.3**
IRIF **Iriomote-Funau** **2.66 55** A A 12 05 16.7
comp=E,8.0nm,2.3s,comp=E,8.0nm,3.7s

VWUC **VWUC** **2.78 322** *e*P **Pn** **12 05 18.7 -1.3**
baz=322

JKRS **Kuro-shima** **2.83 59** P **Pn** **12 05 18.9 -1.7**
JKRS *e*S **Sn** **12 05 52.6 -1.7**
JKRS **Kuro-shima** **2.83 59** A A 12 05 18.9
comp=E,14nm,3.7s,comp=E,14nm,3.7s

JIJ **Ishigaki jima** **3.00 58** P **Pn** **12 05 20.8 -2.1**
JIJ *e*S **Sn** **12 05 55.5 -3.0**
JIJ **Ishigaki jima** **3.00 58** A A 12 05 20.8
comp=E,3.0nm,3.4s,comp=E,4.0nm,1.9s

PTMZ **Houxiangcun** **3.02 318** *e*P **Pn** **12 05 21.5 -1.7**
baz=318

PTMZ *e*S **Sn** **12 05 56.6 -2.3**
baz=318

KNM **Kinmen** **3.12 302** *e*P **Pn** **12 05 24.1 -0.5**
baz=300

KNMB **Chin-men Tao** **3.17 302** **Pn** **12 05 23.2 -2.1**
KNMB **Chin-men Tao** **3.17 302** *e*P **Pn** **12 05 23.4 -2.0**
baz=302

JISG **Ishigakijimahi** **3.24 56** P **Pn** **12 05 23.9 -2.4**
JISG S **Sn** **12 06 01.1 -3.5**
JISG **Ishigakijimahi** **3.24 56** A A 12 05 23.9
comp=E,4.0nm,0.6s,comp=E,5.0nm,0.6s

QZH **Quanzhou** **3.30 311** ⇑*i*Pn **Pn** **12 05 25.3 -1.8**
QZH Sn **Sn** **12 06 03.0 -2.9**
QZH smax smax
comp=N,950nm,1.1s
QZH smax smax
comp=E,840nm,0.7s
QZH LR LR
comp=N,6μm,6.4s
QZH LR LR
comp=E,4μm,6.4s
QZH LR LR
comp=Z,4μm,6.6s

ZPLA **Ao Xicun** **3.49 289** *e*P **Pn** **12 05 28.1 -1.6**
baz=289

ZPLA *e*S **Sn** **12 06 07.5 -3.1**
baz=289

CICP **Calayan Island** **3.53 178**⇑*e*P **Pn** **12 05 30.9 +0.7**
CICP *e*S **Sn** **12 06 14.9 +3.4**
MATB **Ma-tsu** **3.57 339** *e*P **Pn** **12 05 29.1 -1.7**
baz=340

JTJ **Tarama** **3.58 59** P **Pn** **12 05 29.4 -1.5**
JTJ S **Sn** **12 06 10.0 -2.7**
JTJ **Tarama** **3.58 59** A A 12 05 29.4
comp=E,7.0nm,3.6s,comp=E,7.0nm,3.4s

MSUT **Lienchiang** **3.59 339** *e*P **Pn** **12 05 29.8 -1.3**
baz=340

AXDP **Jialang** **3.73 305** *e*P **Pn** **12 05 31.1 -1.9**
baz=304

AXDP *e*S **Sn** **12 06 14.4 -2.1**
baz=304

MHZQ **Yeshan** **3.90 328** *e*P **Pn** **12 05 34.1 -1.2**
baz=328

MHZQ *e*S **Sn** **12 06 18.2 -2.5**
baz=328

LYJJ **Jianjiangzhen** **4.00 339** *e*P **Pn** **12 05 35.4 -1.2**
baz=340

JIRB **Irabujima** **4.04 59** *e*P **Pn** **12 05 35.3 -1.9**
JIRB *e*S **Sn** **12 06 20.7 -3.5**
JMJ2 **Miyako jima3** **4.12 61** P **Pn** **12 05 37.4 -1.1**
JMJ2 *e*S **Sn** **12 06 24.4 -1.9**
JMJ **Miyako jima 2** **4.13 60** P **Pn** **12 05 37.4 -1.1**
JMJ **Miyako jima 2** **4.13 60** *e*P **Pn** **12 05 36.8 -1.7**
baz=62

JMJ *e*S **Sn** **12 06 24.5 -1.9**
baz=62

JIKM **Ikemajima** **4.15 59** *e*P **Pn** **12 05 36.2 -2.5**
JIKM *e*S **Sn** **12 06 23.1 -3.7**
JOGS **Gusukube** **4.20 62** P **Pn** **12 05 37.4 -2.0**
JOGS S **Sn** **12 06 26.2 -1.9**
PACPP **Pamplona Cagay** **4.33 180**⇑*e*P **Pn** **12 05 40.9 -0.3**
PACPP *i*S **Sn** **12 06 29.1 -2.2**
HKPS **Hong Kong Po S** **6.68 267** Pn **Pn** **12 06 13.0 -0.6**
HKPS **Hong Kong Po S** **6.68 267** P **Pn** **12 06 13.3 -0.3**
290nm,0.9s

GZH **Guangzhou** **7.38 274** Pn **Pn** **12 06 19.5 -3.7**
GZH Sn **Sn** **12 07 40.8 -5.8**
GZH smax smax
comp=N,160nm,0.9s
GZH smax smax
comp=E,120nm,0.8s

JOW **Kunigami** **7.46 56** Pn **Pn** **12 06 20.9 -3.4**
11nm,0.3s,baz=176,slow=12,SNR=51
JOW Sn **Sn** **12 07 42.9 -5.6**
6.0nm,0.3s,baz=120,slow=20,SNR=2.0

JOW **Kunigami** **7.46 56** Pn **Pn** **12 06 20.6 -3.7**
JOW **Kunigami** **7.46 56** P **Pn** **12 06 21.1 -3.2**
51nm,0.5s

CNSH **ChangSha** **9.30 307** ⇑P **Pn** **12 06 46.0 -3.5**
CNSH S **Sn** **12 08 30.8 -2.8**
CNSH smax smax
comp=N,420nm,1.0s
CNSH smax smax
comp=E,420nm,1.1s

NJ2 **Nanjing** **9.47 347** *e*P **Pn** **12 06 51.8 0.0**
NJ2 S **Sn** **12 08 39.0 +1.1**
NJ2 pmax pmax
comp=E,12nm,0.6s
NJ2 smax smax
comp=E,220nm,1.0s
NJ2 smax smax
comp=E,140nm,1.1s
NJ2 LR LR
comp=E,10μm,10.4s
NJ2 LR LR
comp=E,7μm,8.1s
NJ2 LR LR
comp=E,7μm,8.1s

JMZ **Minamidaito 2** **9.49 70** Pn **Pn** **12 06 49.0 -3.2**
JMZ **Minamidaito 2** **9.49 70** P **Pn** **12 06 50.3 -1.8**
comp=E,340nm,3.0s

WHN **Wuhan** **9.92 322** ⇓P **Pn** **12 06 53.5 -4.5**
WHN S Sn 12 08 38.0 -11
WHN LR LR
comp=N,21μm,10.1s
WHN LR LR
comp=E,13μm,7.9s
WHN LR LR
comp=Z,12μm,13.8s

GULI **GuiLin** **10.34 286** P Pn 12 07 10.0 +6.3
GULI S Sn 12 09 09.3 +10
GULI LR LR
comp=Z,4μm,9.2s
GULI LR LR
comp=Z,3μm,10.8s
GULI LR LR
comp=Z,3μm,11.4s

QIZ **Qiongzhong** **11.39 253** P **Pn** **12 07 16.5 -1.7**
QIZ S **Sn** **12 09 25.5 +0.4**
QIZ LR LR
comp=N,5μm,19.4s
QIZ LR LR
comp=E,3μm,19.1s
QIZ LR LR
comp=Z,4μm,14.4s

JNU **Nakatsue** **13.28 37** Pn **Pn** **12 07 44.4 +0.4**
comp=Z,0.4nm,0.3s,baz=232,slow=8.6,SNR=3.7
JNU LR LR 12 14 00.1
comp=Z,818nm,18.3s,baz=225,slow=42
comp=Z,12nm,0.9s

TIA **Tai'an** **13.85 346** P **Pn** **12 07 55.3 +3.5**
TIA pmax pmax
comp=Z,280nm,6.3s
TIA LR LR
comp=Z,4μm,10.0s
TIA LR LR
comp=Z,3μm,9.8s
TIA LR LR
comp=Z,8μm,10.8s

LYN **LuoYang** **14.05 328** *e*P **P** **12 08 02.5 +0.3**
LYN S **S** **12 10 43.0 -8.3**
LYN SS **SnSn** **12 10 55.3 +13**
LYN pmax pmax
comp=Z,10.0nm,1.7s
LYN pmax pmax
comp=Z,200nm,6.9s
LYN LR LR
comp=N,7μm,13.3s
LYN LR LR
comp=E,8μm,13.1s
LYN LR LR
comp=Z,6μm,10.7s

XAN **Xi'an** **15.63 318** P **Pn** **12 08 17.0 +1.3**
XAN pP pP 12 08 23.5 -1.0
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN pmax pmax
comp=Z,300nm,4.2s
XAN LR LR
comp=Z,7μm,11.0s
XAN LR LR
comp=Z,4μm,11.0s
XAN LR LR
comp=Z,7μm,10.3s

HNS **HongShan** **15.63 340** ⇑P **P** **12 08 19.3 -0.4**
HNS pmax pmax
comp=Z,490nm,5.1s
HNS LR LR
comp=Z,5μm,14.9s
HNS LR LR
comp=Z,14μm,15.0s
HNS LR LR
comp=Z,5μm,12.6s

KSAR **Wonju Array Be** **15.64 20** **Pn** **12 08 14.8 -1.0**
KSRS **Korea Array** **15.66 20** Pn **Pn** **12 08 17.1 +1.0**
comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=6.6
KSRS LR LR 12 15 12.8
comp=Z,1μm,20.1s,baz=200,slow=40
comp=Z,3.7nm,0.7s

KS19 **Wonju Array Si** **15.69 20** **Pn** **12 08 14.2 -2.3**
KS19 IAmb IAmb 12 08 28.6
comp=Z,34nm,1.1s

JHS **Saijyo** **15.91 38** Pn **Pn** **12 08 18.2 -1.2**
JHS IAmb IAmb 12 08 33.5
comp=Z,52nm,1.5s

DAV **Davao City (W)** **16.17 165** LR LR 12 15 07.8
comp=Z,2μm,18.1s,baz=338,slow=39

TIY **Taiyuan** **16.72 335** P P 12 08 38.8 +6.9
TIY S **S** **12 11 48.0 +2.0**
TIY pmax pmax
comp=Z,400nm,9.8s
TIY LR LR
comp=N,7μm,11.6s
TIY LR LR
comp=E,13μm,12.9s
TIY LR LR
comp=Z,5μm,10.4s

KMI **Kunming** **17.16 281** ⇑P **P** **12 08 36.3 -0.8**
KMI S **Sn** **12 11 41.0 -5.2**
KMI pmax pmax
comp=Z,11nm,0.9s
KMI pmax pmax
comp=Z,190nm,5.1s
KMI LR LR
comp=Z,2μm,12.5s
KMI LR LR
comp=Z,2μm,8.6s
KMI LR LR
comp=Z,2μm,14.4s

KKM **Kota Kinabalu** **17.39 197** P **Pn** **12 08 37.6 -0.7**
KKM IAmb IAmb 12 08 52.3
comp=Z,85nm,1.3s

CD2 **Chengdu** **17.63 301** P **Pn** **12 08 39.0 -2.2**
CD2 pP P 12 08 43.5 +1.4
CD2 S **Sn** **12 11 57.0 -0.3**
CD2 sS sS 12 12 09.5 -3.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,200nm,4.4s
CD2 LR LR
comp=Z,4μm,10.2s
CD2 LR LR
comp=Z,4μm,8.2s
CD2 LR LR
comp=Z,5μm,9.4s

BJI **Beijing** **17.73 347** P **P** **12 08 48.5 +5.5**
BJI S **S** **12 12 09.5 +3.1**
BJI pmax pmax
comp=Z,9.0nm,0.5s
BJI pmax pmax
comp=Z,420nm,5.9s
BJI LR LR
comp=N,2μm,15.1s
BJI LR LR
comp=E,5μm,15.6s
BJI LR LR
comp=Z,3μm,13.1s

MYLDM **Lahad Datu** **17.74 189** P **Pn** **12 08 41.9 -0.6**
MYLDM IAmb IAmb 12 09 07.1
comp=Z,47nm,1.1s

PZH **PanZhiHua** **18.19 286** P **P** **12 08 51.5 +3.1**
PZH PP **PnPn** **12 09 02.8 +3.3**
PZH S **Sn** **12 12 09.5 -1.5**
PZH sS **S** **12 12 17.0 +0.7**
PZH SS **SnSn** **12 12 29.0 +4.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,170nm,6.9s
PZH LR LR
comp=Z,5μm,16.1s
PZH LR LR
comp=Z,2μm,16.7s
PZH LR LR
comp=Z,2μm,16.5s

JGF **Kuroka** **18.88 44** P **P** **12 08 53.7 -2.1**
comp=Z,35nm,0.8s

SNY **Shenyang** **19.06 5** ⇓P **Pn** **12 09 00.3 +1.9**
SNY LR LR
comp=Z,3μm,12.8s
SNY LR LR
comp=Z,1μm,8.7s
SNY LR LR
comp=Z,3μm,11.8s

JHJ **Hachijo jima 2** **19.23 54** LR LR 12 16 33.8
comp=Z,272nm,18.5s,baz=270,slow=37

HHC **Hu-ho-hao-te** **19.79 338** *e*P **Pn** **12 09 10.8 +3.5**
HHC sP sP 12 09 17.0 +4.2
HHC S **Sn** **12 12 51.8 +2.4**
HHC pmax pmax
comp=Z,43nm,1.0s
HHC pmax pmax
comp=Z,610nm,4.6s
HHC LR LR
comp=Z,9μm,14.9s
HHC LR LR
comp=Z,15μm,14.3s
HHC LR LR
comp=Z,4μm,12.2s

MAJO **Matsushiro** **20.01 43** **P** **12 09 07.6 -0.4**
MAJO IAmb IAmb 12 09 17.2
comp=Z,28nm,0.9s

MAJO **Matsushiro** **20.01 43** P **Pn** **12 09 08.9 -1.0**
comp=Z,36nm,0.9s

MJAR **Matsushiro Arr** **20.01 43** P **Pn** **12 09 09.3 -0.6**
comp=Z,4.2nm,0.9s,baz=227,slow=8.9,SNR=15
MJAR LR LR 12 17 57.6
comp=Z,786nm,18.4s,baz=224,slow=40
comp=Z,4.2nm,0.9s

LZH **Lanzhou** **20.14 315** ⇓P Pn 12 09 14.8 +3.2
LZH sP sP 12 09 22.0 +5.2
LZH PP **PnPn** **12 09 32.0 +5.8**
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,200nm,4.1s
LZH LR LR
comp=Z,5μm,11.1s
LZH LR LR
comp=Z,4μm,10.5s
LZH LR LR
comp=Z,4μm,10.8s

BTO **Baotou** **20.16 334** *e*P Pn 12 09 14.5 +2.8
PHRA **Phrae** **20.22 262** P **P** **12 09 08.9 -1.6**
TNCH **TengChong** **20.98 281** ⇑P **P** **12 09 18.0 -0.9**
TNCH pP Pn 12 09 22.0 +0.5
TNCH PP **PnPn** **12 09 41.0 +3.2**
TNCH S S 12 13 01.5 -11
TNCH SS **SnSn** **12 13 39.0 +5.7**
TNCH pmax pmax
comp=Z,29nm,0.8s
TNCH pmax pmax
comp=Z,140nm,4.4s
TNCH LR LR
comp=Z,1μm,12.4s
TNCH LR LR
comp=Z,730nm,13.7s
TNCH LR LR
comp=Z,1μm,13.9s

CN2 **Changchun** **21.21 8** *e*P **P** **12 09 20.8 -0.2**
CN2 *e*pP pP 12 09 24.8 -0.9
CN2 *e*S **S** **12 13 11.0 -5.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,3μm,13.0s
CN2 LR LR
comp=Z,3μm,13.0s
CN2 LR LR
comp=Z,3μm,14.0s

CHTO **Chiang Mai** **21.31 263** P **P** **12 09 20.5 -1.8**
CHTO IAmb IAmb 12 09 30.5
comp=Z,22nm,0.9s

CM31 **Chiang Mai Arr** **21.40 262** P **P** **12 09 23.9 +0.6**
CMAR **Chiang Mai Arr** **21.40 262** P **P** **12 09 24.4 +1.0**
comp=Z,6.0nm,0.8s,baz=64,slow=8.4,SNR=33
CMAR PcP **PcP** **12 13 27.7 +0.9**
comp=Z,1.6nm,0.6s,baz=51,slow=0.7,SNR=3.0
CMAR LR LR 12 17 48.7
comp=Z,406nm,21.5s,baz=95,slow=37
comp=Z,6.0nm,0.8s

CMAR **Chiang Mai Arr** **21.40 262** P **P** **12 09 22.6 -0.8**
XLT **XiLinHaoTe** **21.48 350** *e*P **P** **12 09 25.3 +1.3**
XLT pP sP 12 09 29.5 -1.5
XLT sP pP 12 09 32.0 +3.2
XLT SS Sn 12 13 49.5 +19
XLT pmax pmax
comp=Z,22nm,1.1s
XLT pmax pmax
comp=Z,270nm,3.8s
XLT LR LR
comp=Z,4μm,15.8s
XLT LR LR
comp=Z,2μm,13.2s

TOLI2 **Tolitoli** **21.57 182** P **P** **12 09 23.0 -2.1**
TOLI2 IAmb IAmb 12 09 41.3
comp=Z,32nm,1.1s
TOLI2 **Tolitoli** **21.57 182** P **P** **12 09 23.4 -1.7**
comp=Z,28nm,0.8s

SBUM **Sibu** **22.09 205** P **P** **12 09 29.0 -1.7**
GTOI **Gorontalo** **22.10 176** P **P** **12 09 31.4 +0.7**
comp=Z,290nmcomp=Z,36nm,0.8s
MRSI **Marisa** **22.20 178** P **P** **12 09 34.1 +2.2**
comp=Z,832nmcomp=Z,48nm,0.9s
MPSI **Mapaga** **22.38 184** P **P** **12 09 34.4 +0.7**
comp=Z,26nm,1.2s

JMM **Marumori** **22.45 44** P **P** **12 09 32.7 -1.6**
JMM IAmb IAmb 12 09 45.9
comp=Z,29nm,0.8s
TNTI **Ternate** **22.67 164** P **P** **12 09 41.4 +4.5**
comp=Z,38nm,1.0s
USRK **Ussuriysk Ar.** **23.07 20** P **P** **12 09 42.2 +1.4**
comp=Z,3.7nm,0.7s,baz=204,slow=7.2,SNR=3.8
USRK LR LR 12 18 20.3
comp=Z,546nm,19.1s,baz=198,slow=36
comp=Z,3.7nm,0.7s

BNX **BinXian** **23.40 11** ⇑P **P** **12 09 47.8 +3.6**
BNX pmax pmax
comp=Z,6.0nm,1.0s
BNX pmax pmax
comp=Z,240nm,5.7s

APSI **Ampana** **23.58 179** P **P** **12 09 49.4 +3.3**
comp=Z,1μmcomp=Z,98nm,1.1s
LUWI **Luwuk** **23.75 176** P **P** **12 09 47.3 -0.4**
LUWI **Luwuk** **23.75 176** P **P** **12 09 52.6 +4.9**
comp=Z,2μmcomp=Z,65nm,1.1s
LBMI **Labuha** **24.06 165** P **P** **12 09 54.3 +3.6**
comp=Z,2μmcomp=Z,75nm,1.1s
GUMO **Guam** **24.12 108** LR LR 12 18 44.3
comp=Z,577nm,19.4s,baz=292,slow=35

GTA **Gaotai** **24.68 317** *e*P **P** **12 09 59.3 +2.9**
GTA sP sP 12 10 08.5 +4.7
GTA S **S** **12 14 21.3 +3.9**
GTA pmax pmax
comp=Z,13nm,1.8s
GTA pmax pmax
comp=Z,190nm,5.5s
GTA LR LR
comp=Z,2μm,12.0s
GTA LR LR
comp=Z,2μm,12.0s
GTA LR LR
comp=Z,2μm,13.4s

SANI **Sanana** **25.12 169** P **P** **12 10 00.8 +0.5**
comp=Z,18nm,0.7s
SIJI **Sorong** **25.44 156** P **P** **12 10 02.9 -0.4**
comp=Z,4.0nm,0.5s,baz=329,slow=12,SNR=2.5
SIJI LR LR 12 18 41.4
comp=Z,283nm,21.1s,baz=329,slow=33
comp=Z,4.0nm,0.5s

NLAI **Namlea** **26.49 167** P **P** **12 10 15.2 +2.4**
comp=Z,2μmcomp=Z,23nm,0.9s
GOMU **GeErMu** **26.57 306** P **P** **12 10 20.5 +6.7**
GOMU pP sP 12 10 22.3 +1.1
GOMU sP pP 12 10 25.0 +6.1
GOMU PcP **PcP** **12 13 44.0 +5.9**
GOMU pmax pmax
comp=Z,32nm,0.4s
GOMU LR LR
comp=Z,1μm,9.1s
GOMU LR LR
comp=Z,750nm,10.1s

ULN **Ulaanbaatar** **27.50 339** P **P** **12 10 20.5 -1.3**
ASAJ **Asahikawa** **27.53 34** LR LR 12 22 11.5
comp=Z,724nm,19.6s,baz=242,slow=38
KLR **Kul'dur** **27.62 15** P **P** **12 10 24.8 +2.1**
comp=Z,2.0nm,0.6s,baz=234,slow=8.2,SNR=9.9
KLR LR LR 12 22 29.7
comp=Z,1μm,18.6s,baz=200,slow=39
comp=Z,2.0nm,0.6s

SONM **Songino Array** **27.69 338** P **P** **12 10 23.0 -0.5**
comp=Z,6.1nm,0.7s,baz=154,slow=10.0,SNR=22
SONM LR LR 12 21 12.9
comp=Z,854nm,20.4s,baz=150,slow=36
comp=Z,6.1nm,0.7s
SONM **Songino Array** **27.69 338** P **P** **12 10 22.4 -1.1**
SONM IAmb IAmb 12 10 26.3
comp=Z,6.4nm,0.8s

HEH **HeiHe** **27.80 8** *e*P **P** **12 10 29.3 +5.0**
HEH sP **sP** **12 10 36.3 +4.8**
HEH pmax pmax
comp=Z,10.0nm,1.1s
HEH pmax pmax
comp=Z,270nm,6.9s
HEH LR LR
comp=Z,2μm,11.8s
HEH LR LR
comp=Z,2μm,11.2s
HEH LR LR
comp=Z,3μm,13.8s

LSA **Lhasa** **27.89 291** P **P** **12 10 29.3 +3.5**
LSA pP **sP** **12 10 35.3 +2.5**
LSA S **S** **12 15 18.0 +8.9**
LSA pmax pmax
comp=Z,26nm,1.3s
LSA LR LR
comp=Z,510nm,19.9s
LSA LR LR
comp=Z,640nm,12.8s
LSA LR LR
comp=Z,1μm,12.8s

PSI **Prapat** **29.46 231** LR LR 12 22 34.7
comp=Z,438nm,18.3s,baz=38,slow=36

TAPN **Taplejung** **30.74 285** *e*P **P** **12 10 55.1 +4.1**
comp=Z,38nm,1.0s

RAMN **Ramite** **31.73 285** *e*P **P** **12 11 02.5 +2.8**

	comp=Z,43nm,0.8s							
JIRN	**Jiri**	**32.10**	**286**	*e*P		**P**	**12 11 07.1**	**+4.0**
	comp=Z,45nm,0.7s							
GUN	**Gumba**	**32.38**	**286**	*e*P		**P**	**12 11 09.7**	**+4.2**
	comp=Z,54nm,0.9s							
PKI	**Pulchoki**	**32.79**	**286**	*e*P		**P**	**12 11 13.1**	**+4.0**
PKIN	**Phulchoki**	**32.80**	**286**	*e*P		**P**	**12 11 12.3**	**+3.2**
	comp=Z,14nm,0.6s							
BATI	**Baumata**	**32.89**	**176**	LR		LR	12 27 34.2	
	comp=Z,280nm,19.1s,baz=330,slow=42							
GKN	**Gorkha**	**33.48**	**287**	*e*P		**P**	**12 11 18.3**	**+3.4**
DANN	**Dangsing**	**34.25**	**287**	*e*P		**P**	**12 11 25.0**	**+3.2**
	comp=Z,38nm,0.9s							
WMQ	**Urumqi**	**34.72**	**315**	*e*P		**P**	**12 11 27.3**	**+1.9**
WMQ				pP		pP	12 11 29.5	-1.1
WMQ				sP		sP	12 11 34.0	+1.2
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.9s							
WMQ				LR		LR		
	comp=Z,2µm,14.1s							
WMQ				LR		LR		
	comp=Z,570nm,15.1s							
WMQ				LR		LR		
	comp=Z,680nm,17.1s							
PYUN	**Piuthan**	**34.93**	**287**	*e*P		**P**	**12 11 31.5**	**+3.9**
	comp=Z,37nm,0.8s							
KNRA	**Kununurra**	**38.93**	**169**	P		**P**	**12 12 00.1**	**-1.2**
	comp=Z,20nm,2.1s							
MK31	**Makanchi Array**	**39.44**	**317**	P		**P**	**12 12 04.7**	**-0.7**
MKAR	**Makanchi Array**	**39.44**	**317**	P		**P**	**12 12 05.8**	**+0.5**
	comp=Z,7.0nm,0.7s,baz=112,slow=9.5,SNR=20							
MKAR				LR		LR	12 29 47.0	
	comp=Z,571nm,21.1s,baz=112,slow=38							
	comp=Z,7.0nm,0.7s							
MKAR	**Makanchi Array**	**39.44**	**317**	P		**P**	**12 12 04.2**	**-1.2**
YAK	**Yakutsk**	**39.62**	**6**	LR		LR	12 31 44.1	
	comp=Z,454nm,20.2s,baz=183,slow=41							
MAKZ	**Makanchi**	**39.64**	**317**	P		**P**	**12 12 06.3**	**-0.8**
MAKZ				IAmb		IAmb	12 12 12.0	
	comp=Z,11nm,0.8s							
KRVT	**Keravat (AS076**	**40.30**	**128**	LR		LR	12 25 20.8	
	comp=Z,311nm,21.2s,baz=74,slow=31							
PMG	**Port Moresby**	**40.79**	**139**	LR		LR	12 27 58.5	
	comp=Z,217nm,19.9s,baz=282,slow=34							
PETK	**Petropavlovsk-**	**40.93**	**33**	P		**P**	**12 12 18.4**	**+0.8**
	comp=Z,5.1nm,0.9s,baz=208,slow=11,SNR=3.5							
PETK				LR		LR	12 31 44.3	
	comp=Z,443nm,18.1s,baz=230,slow=40							
	comp=Z,5.1nm,0.9s							
ZAA0	**Zalesovo Array**	**41.48**	**328**	P		**P**	**12 12 20.6**	**-1.5**
ZALV	**Zalesovo Beam**	**41.48**	**328**	P		**P**	**12 12 22.0**	**-0.1**
	comp=Z,34nm,1.0s,baz=118,slow=8.0,SNR=28							
ZALV				LR		LR	12 30 58.4	
	comp=Z,306nm,18.5s,baz=118,slow=38							
	comp=Z,34nm,1.0s							
ZALV	**Zalesovo Beam**	**41.48**	**328**	P		**P**	**12 12 21.1**	**-1.0**
KSH	**Kashi**	**41.78**	**304**	P		**P**	**12 12 25.0**	**0.0**
KSH				pmax		pmax		
	comp=Z,6.0nm,0.5s							
KSH				LR		LR		
	comp=Z,870nm,11.5s							
KSH				LR		LR		
	comp=Z,940nm,13.7s							
KSH				LR		LR		
	comp=Z,870nm,15.1s							
PALK	**Pallekele**	**42.01**	**255**	LR		LR	12 32 22.2	
	comp=Z,468nm,18.1s,baz=168,slow=40							
MA2	**Magadan**	**42.20**	**22**	LR		LR	12 31 18.7	
	comp=Z,724nm,18.7s,baz=214,slow=38							
COEN	**Coen**	**42.33**	**148**	P		**P**	**12 12 27.9**	**-1.5**
COEN				IAmb		IAmb	12 12 45.0	
	comp=Z,7.6nm,0.7s							
COEN	**Coen**	**42.33**	**148**	P		**P**	**12 12 28.0**	**-1.5**
	comp=Z,12nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**42.43**	**85**	T		T	12 57 40.8	
	baz=282,slow=75,SNR=782							
H11N2	**WAKE ISLAND Hy**	**42.43**	**85**	T		T	12 57 40.7	
	baz=282,slow=75,SNR=848							
H11N3	**WAKE ISLAND Hy**	**42.45**	**85**	T		T	12 57 45.0	
	baz=282,slow=75,SNR=801							
H11S3	**WAKE ISLAND Hy**	**42.52**	**87**	T		T	12 57 55.4	
	baz=284,slow=75,SNR=1587							
H11S1	**WAKE ISLAND Hy**	**42.53**	**87**	T		T	12 57 51.8	
	baz=284,slow=75,SNR=1680							
H11S2	**WAKE ISLAND Hy**	**42.54**	**87**	T		T	12 57 57.3	
	baz=284,slow=75,SNR=1199							
KURK	**Kurchatov**	**43.24**	**321**	P		**P**	**12 12 36.0**	**-0.5**
KURBB	**Kurchatov Arra**	**43.26**	**321**	LR		LR	12 32 37.8	
	comp=Z,236nm,19.3s,baz=168,slow=39							
AAK	**Ala-Archa**	**43.47**	**309**	LR		LR	12 31 40.2	
	comp=Z,388nm,19.3s,baz=96,slow=37							
WB0	**Warramunga Arr**	**44.19**	**162**	P		**P**	**12 12 41.6**	**-2.8**
WB0				IAmb		IAmb	12 13 05.6	
	comp=Z,7.7nm,1.0s							
WRAB	**Tennant Creek**	**44.34**	**162**	P		**P**	**12 12 42.8**	**-2.8**
WRAB	**Tennant Creek**	**44.34**	**162**	P		**P**	**12 12 43.8**	**-1.8**
	comp=Z,7.0nm,0.8s							
WRA	**Warramunga Arr**	**44.34**	**162**	P		**P**	**12 12 43.1**	**-2.6**
	comp=Z,2.8nm,0.8s,baz=344,slow=8.5,SNR=37							
WRA				ScP		**ScP**	**12 18 18.1**	**-2.9**
	comp=Z,0.5nm,0.7s,baz=346,slow=4.6,SNR=5.8							
WRA				LR		LR	12 31 30.5	
	comp=Z,264nm,21.8s,baz=337,slow=36							
	comp=Z,2.8nm,0.8s							
WB2	**Warramunga Arr**	**44.34**	**162**	P		**P**	**12 12 42.6**	**-3.1**
WB2				IAmb		IAmb	12 12 55.7	
	comp=Z,7.3nm,1.0s							
WR0	**Warramunga Arr**	**44.41**	**162**	P		**P**	**12 12 43.3**	**-2.9**
WR0				IAmb		IAmb	12 12 51.9	
	comp=Z,12nm,1.3s							
SEY	**Seymchan**	**45.22**	**19**	P		**P**	**12 12 53.3**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=238,slow=6.8,SNR=4.8							
	comp=Z,2.9nm,0.8s							
GIRL	**Giralia**	**45.70**	**189**	P		**P**	**12 12 55.5**	**-0.9**
MTSU	**Mount Surprise**	**46.48**	**149**	P		**P**	**12 13 02.4**	**-0.2**
	comp=Z,9.4nm,0.8s							
QIS	**Mount Isa**	**46.64**	**156**	P		**P**	**12 13 02.3**	**-1.5**
	comp=Z,12nm,0.7s							
AS31	**Alice Springs**	**47.78**	**164**	P		**P**	**12 13 11.1**	**-1.6**
ASAR	**Alice Springs**	**47.78**	**164**	P		**P**	**12 13 11.0**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=340,slow=7.1,SNR=50							
ASAR				PcP		**PcP**	**12 14 40.0**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=344,slow=3.8,SNR=1.8							
ASAR				ScP		**ScP**	**12 18 31.3**	**-4.0**
	comp=Z,1.1nm,0.7s,baz=339,slow=2.9,SNR=10.0							
ASAR				LR		LR	12 33 57.9	
	comp=Z,169nm,20.9s,baz=358,slow=37							
	comp=Z,1.5nm,0.7s							
ASAR	**Alice Springs**	**47.78**	**164**	P		**P**	**12 13 11.1**	**-1.6**
AS01	**Alice Springs**	**47.79**	**164**	P		**P**	**12 13 11.5**	**-1.3**
	comp=Z,4.4nm,0.5s							
WRKA	**Warakurna**	**48.03**	**172**	P		**P**	**12 13 13.2**	**-1.5**
	comp=Z,8.9nm,0.6s							
BVAR	**Borovoye Array**	**48.83**	**321**	LR		LR	12 35 19.5	
	comp=Z,394nm,18.7s,baz=101,slow=38							
BRVK	**Borovoye**	**48.91**	**321**	P		**P**	**12 13 19.7**	**-1.4**
TIXI	**Tiksi**	**49.05**	**3**	LR		LR	12 34 43.2	
	comp=Z,406nm,19.9s,baz=181,slow=37							
TIXI	**Tiksi**	**49.05**	**3**	P		**P**	**12 13 20.9**	**-1.1**
TIXI				IAmb		IAmb	12 13 40.4	
	comp=Z,4.3nm,0.9s							
CTA	**Charters Tower**	**49.08**	**148**	LR		LR	12 32 30.0	
	comp=Z,586nm,21.6s,baz=312,slow=34							
MEEK	**Meekatharra**	**49.22**	**183**	P		**P**	**12 13 21.5**	**-2.3**
	comp=Z,10.0nm,1.1s							
HNR	**Honiara**	**49.55**	**126**	LR		LR	12 34 07.0	
	comp=Z,1µm,18.8s,baz=310,slow=36							
SHEM	**Shemya Is, Ala**	**49.79**	**39**	LR		LR	12 33 26.6	
	comp=Z,243nm,21.5s,baz=298,slow=35							
OOD	**Oodnadatta**	**52.18**	**164**	P		**P**	**12 13 47.6**	**+1.6**
	comp=Z,9.4nm,1.7s							
FORT	**Forrest**	**53.67**	**173**	P		**P**	**12 13 55.0**	**-2.0**
	comp=Z,22nm,0.8s							
MULG	**Mulgathing**	**54.18**	**166**	P		**P**	**12 14 01.7**	**+1.0**
	comp=Z,8.9nm,0.8s							
ABKAR	**Akbulak array**	**54.51**	**315**	P		**P**	**12 14 01.0**	**-2.1**
LCRK	**Leigh Creek**	**55.37**	**162**	P		**P**	**12 14 08.8**	**-0.6**
	comp=Z,11nm,0.8s							
NWAO	**Narrogin (SRO)**	**55.56**	**184**	LR		LR	12 41 18.6	
	comp=Z,65nm,18.1s,baz=216,slow=40							
GEYT	**Alibeck**	**55.63**	**301**	P		**P**	**12 14 12.0**	**+0.6**
	comp=Z,4.8nm,0.9s,baz=126,slow=2.0,SNR=8.4							
GEYT				LR		LR	12 41 10.4	
	comp=Z,380nm,18.3s,baz=132,slow=39							
	comp=Z,4.8nm,0.9s							
ARU	**Arti**	**56.30**	**324**	LR		LR	12 39 10.5	
	comp=Z,394nm,18.5s,baz=93,slow=37							
BBOO	**Buckleboo**	**57.06**	**165**	P		**P**	**12 14 22.1**	**+0.7**
	comp=Z,12nm,1.0s							
STKA	**Stephens Creek**	**57.73**	**160**	P		**P**	**12 14 25.3**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=334,slow=7.0,SNR=5.2							
STKA				LR		LR	12 39 51.7	
	comp=Z,136nm,21.5s,baz=1.2,slow=37							
	comp=Z,1.3nm,0.5s							
STKA	**Stephens Creek**	**57.73**	**160**	P		**P**	**12 14 23.9**	**-2.2**
KIRV	**Kirov**	**61.43**	**325**	LR		LR	12 43 16.9	
	comp=Z,338nm,19.6s,baz=96,slow=38							
BELG	**Belogornoye**	**62.41**	**318**	LR		LR	12 43 15.0	
	comp=Z,141nm,18.1s,baz=158,slow=37							
DZM	**Mont Dzumac**	**62.60**	**132**	*e*LR		LR	12 33 34.5	
	comp=Z,588nm,23.4s							
DZM	**Mont Dzumac**	**62.60**	**132**	LR		LR	12 39 03.4	
	comp=Z,259nm,20.5s,baz=319,slow=33							
GNI	**Garni**	**65.71**	**305**	LR		LR	12 48 22.1	
	comp=Z,143nm,19.9s,baz=98,slow=40							
KBZ	**Khabaz**	**66.46**	**309**	P		**P**	**12 15 26.1**	**+1.4**
	comp=Z,4.7nm,0.8s,baz=119,slow=3.6,SNR=8.4							
KBZ				LR		LR	12 48 40.8	
	comp=Z,233nm,19.0s,baz=60,slow=40							
	comp=Z,4.7nm,0.8s							
MSVF	**Nonsavu**	**68.52**	**121**	LR		LR	12 40 24.0	
	comp=Z,120nm,21.4s,baz=312,slow=31							
ILAR	**Eielson Array**	**70.36**	**27**	P		**P**	**12 15 47.9**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=276,slow=6.0,SNR=4.5							
ILAR				LR		LR	12 50 05.3	
	comp=Z,110nm,19.1s,baz=282,slow=39							
	comp=Z,0.4nm,0.8s							
SPITS	**Spitsbergen Ar**	**70.86**	**348**	LR		LR	12 52 05.3	
	comp=Z,325nm,18.6s,baz=30,slow=40							
ARCES	**ARCESS Array B**	**70.87**	**338**	P		**P**	**12 15 52.2**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=45,slow=5.3,SNR=6.0							
ARCES				LR		LR	12 50 13.1	
	comp=Z,313nm,18.4s,baz=50,slow=38							
	comp=Z,2.3nm,0.7s							
FINES	**FINESS Array B**	**72.71**	**330**	P		**P**	**12 16 01.9**	**-1.1**
	comp=Z,4.4nm,0.8s,baz=45,slow=6.1,SNR=8.2							
FINES				LR		LR	12 50 04.6	
	comp=Z,398nm,19.3s,baz=72,slow=37							
	comp=Z,4.4nm,0.8s							
MNK	**Minsk**	**73.71**	**323**	*i* P		P	12 16 03.7	-5.4
	comp=E,1.0nm,0.7s							
MNK				*i* P		P	12 16 03.7	-5.4
	comp=N,11nm,0.6s							
MNK				*i* P		P	12 16 03.7	-5.4
	comp=Z,6.0nm,0.7s,baz=254							
MNK				*i* PcP		sP	12 16 19.1	+2.8
MNK				*i* PP		**PP**	**12 18 47.9**	**-5.2**
MNK				*i* PPP		PPP	12 20 32.8	
MNK				*i* S		**SKiKP**	**12 25 34.8**	**-3.2**
MNK				*i* SS		**SS**	**12 30 20.0**	**-2.0**
MNK				*i* SSS		SSS	12 33 41.3	
MNK				*i* LR		LR	12 45 35.8	
MNK				*i* LRM		MLR	12 48 59.4	
	comp=E,60nm,19.4s							
MNK				*i* LRM		MLR	12 49 00.7	
	comp=Z,487nm,27.1s							
MNK				*i* LRM		MLR	12 49 02.0	
	comp=N,386nm,20.6s							
AKASG	**Malin Array Be**	**74.00**	**319**	P		**P**	**12 16 11.4**	**+0.6**
	comp=N,2.4nm,0.8s,baz=60,slow=6.5,SNR=8.2							
AKASG				LR		LR	12 50 55.4	
	comp=N,177nm,19.2s,baz=57,slow=38							
	comp=N,2.4nm,0.8s							
BRTR	**Keskin Array B**	**74.11**	**307**	P		**P**	**12 16 13.0**	**+1.1**
	comp=N,1.1nm,0.8s,baz=116,slow=3.5,SNR=2.9							
BRTR				LR		LR	12 51 31.0	
	comp=N,139nm,21.5s,baz=54,slow=38							
	comp=N,1.1nm,0.8s							
NACGM	**Naroch**	**74.20**	**323**	*e*P		**P**	**12 16 16.4**	**+4.5**
	baz=72							
INK	**Inuvik**	**74.44**	**22**	P		**P**	**12 16 13.3**	**+0.3**
	comp=N,1.7nm,1.0s,baz=314,slow=9.4,SNR=7.1							
INK				LR		LR	12 52 14.1	
	comp=N,253nm,19.8s,baz=286,slow=38							
	comp=N,1.7nm,1.0s							
MMAI	**Mount Meron Ar**	**74.70**	**300**	LR		LR	12 55 41.1	
	comp=N,130nm,18.0s,baz=260,slow=41							
AFI	**Afiamalu**	**74.94**	**112**	LR		LR	12 43 44.9	
	comp=N,92nm,19.2s,baz=286,slow=31							
ATD	**Arta Tunnel**	**75.12**	**276**	LR		LR	12 50 58.5	
	comp=N,44nm,18.1s,baz=72,slow=37							
EIL	**Elat**	**76.10**	**297**	LR		LR	12 55 39.9	
	comp=N,159nm,18.8s,baz=60,slow=40							
MLR	**Muntele Rosu**	**77.71**	**314**	LR		LR	12 54 37.4	
	comp=N,284nm,20.3s,baz=56,slow=38							
HFS	**Hagfors**	**78.84**	**331**	LR		LR	12 55 01.4	
	comp=N,402nm,18.0s,baz=63,slow=38							
NB2	**NORSAR Subarra**	**79.51**	**332**	P		**P**	**12 16 39.6**	**-2.2**
	comp=Z,11nm,1.1s,baz=54,slow=5.9							
NOA	**NORSAR Array B**	**79.51**	**332**	P		**P**	**12 16 40.4**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=62,slow=5.3,SNR=3.9							
NOA				LR		LR	12 54 18.0	
	comp=Z,224nm,20.3s,baz=65,slow=37							
	comp=Z,1.4nm,0.7s							
RES	**Resolute Bay**	**79.99**	**9**	LR		LR	12 55 40.6	
	comp=Z,134nm,20.8s,baz=346,slow=38							
DLBC	**Deep Lake**	**80.05**	**30**	LR		LR	12 52 33.9	
	comp=Z,166nm,21.7s,baz=260,slow=36							
JMIC	**Jan Mayen**	**80.19**	**345**	LR		LR	12 55 46.1	
	comp=Z,178nm,18.1s,baz=34,slow=38							
RPZ	**Rata Peaks**	**80.37**	**146**	LR		LR	12 51 42.8	
	comp=Z,102nm,19.0s,baz=318,slow=35							
VYHS	**Vyhne**	**81.09**	**319**	*e*P		P	12 16 55.7	+5.1
IDI	**Anoyia**	**82.14**	**305**	LR		LR	12 57 40.2	
	comp=Z,72nm,18.6s,baz=74,slow=39							
CLL	**Collm**	**83.24**	**323**	*e*P		**P**	**12 17 03.0**	**+1.3**
CLL				*i* x		x	12 17 10.5	
GERES	**GERESS Array B**	**84.00**	**321**	P		**P**	**12 17 07.2**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=61,slow=6.6,SNR=5.4							
GERES				LR		LR	12 58 20.9	
	comp=Z,241nm,18.6s,baz=49,slow=38							
	comp=Z,0.7nm,0.4s							
YKA	**Yellowknife Ar**	**84.18**	**23**	LR		LR	12 57 34.5	
	comp=Z,132nm,18.8s,baz=300,slow=38							
DAVOX	**Davos/Dischmat**	**87.25**	**320**	LR		LR	12 58 52.5	
	comp=Z,416nm,18.8s,baz=75,slow=37							
BORG	**Borgarfjeo**	**88.09**	**345**	LR		LR	13 00 31.6	
	comp=Z,179nm,18.1s,baz=29,slow=38							
RAR	**Rarotonga**	**88.43**	**114**	LR		LR	12 52 46.0	
	comp=Z,38nm,20.6s,baz=277,slow=33							
EKA	**Eskdalemuir Ar**	**88.99**	**332**	LR		LR	13 00 12.7	
	comp=Z,276nm,18.9s,baz=46,slow=37							
SFJD	**Kangerlussuaq**	**90.27**	**357**	LR		LR	13 00 41.1	
	comp=Z,200nm,18.4s,baz=359,slow=37							
MBAR	**Mbarara**	**90.72**	**21**	LR		LR	12 58 11.5	
	comp=Z,74nm,21.0s,baz=58,slow=35							
YBH	**Yreka Blue Hor**	**92.67**	**42**	LR		LR	12 56 27.9	
	comp=Z,72nm,19.6s,baz=317,slow=34							
FRB	**Frobisher Bay**	**93.39**	**4**	LR		LR	13 04 50.7	
	comp=Z,161nm,18.2s,baz=4.5,slow=39							
PPT	**Papeete**	**95.82**	**107**	LR		LR	12 56 51.7	
	comp=Z,66nm,18.5s,baz=258,slow=33							
PPT2	**Papeete2**	**95.83**	**107**	*e*LR		LR	12 48 58.8	
	comp=Z,128nm,26.2s							
PPT2				*e*LR		LR	12 48 58.8	
	comp=Z,158nm,24.0s							
ELK	**Elko**	**97.79**	**40**	LR		LR	12 58 33.9	
	comp=Z,72nm,19.9s,baz=328,slow=33							
ESDC	**Sonseca Array**	**99.59**	**320**	LR		LR	13 09 03.5	
	comp=Z,207nm,18.6s,baz=28,slow=39							
MAW	**Mawson**	**99.85**	**199**	LR		LR	13 02 20.8	
	comp=Z,64nm,18.2s,baz=190,slow=35							
TXAR	**Lajitas Array**	**112.44**	**42**	PKiKP		**PKiKP**	**12 23 11.6**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=298,slow=1.9,SNR=1.8							

TAP 30 12:05:22.7, 22°.85N×121°.28E, h16km±1km, ML4.1, 1C, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDH	**Donghe**	**0.12**	**10**	P	Pb	12 05 26.9	+0.2
	baz=10.0						
EDH				*e*S	Sb	12 05 30.1	+0.7
	baz=10.0						
LONT	**Longtian**	**0.15**	**292**	*e*P	Pg	12 05 27.0	+0.2
	baz=291						
TTN	**Taitung**	**0.16**	**232**	*i* P	Pb	12 05 27.4	+0.1
	baz=229						
TTN				*i* S	Sb	12 05 30.7	+0.4
	baz=229						
TWGBT	**Beinan**	**0.19**	**260**	P	Pb	12 05 28.0	+0.2
	baz=259						
TWGBT				*e*S	Sb	12 05 31.6	+0.3
	baz=259						
TWG	**Pinlang**	**0.19**	**261**	P	Pb	12 05 28.1	+0.2
	baz=259						
TWG				S	Sb	12 05 31.5	+0.1
	baz=259						
LDUT	**Ludao**	**0.25**	**135**	*i* P	Pb	12 05 28.9	0.0
	baz=135						
EHD	**Haiduan**	**0.30**	**347**	*e*P	Pb	12 05 29.8	-0.1
	baz=347						

WEL 30 12:19:37.6±0.3, 42°S±3°×17°4E±°, h14km±2km, M2.6/14, ML2.8/14, MLv2.6/14, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.21**	**337**	P	Pb	12 19 43.1	-0.1
BSWZ				S	Sb	12 19 46.6	-0.4
CMWZ	**Cape Campbell**	**0.23**	**46**	P	Pb	12 19 44.3	+0.7
CMWZ				S	Sb	12 19 49.4	+1.8
TUWZ	**Tuamarina**	**0.48**	**356**	P	Pb	12 19 47.9	+0.1
KHZ	**Kahutara**	**0.60**	**213**	P	Pb	12 19 49.9	+0.1
TCW	**Tory Channel**	**0.73**	**17**	P	Pb	12 19 52.1	0.0
THZ	**Tophouse**	**0.82**	**280**	P	Pb	12 19 53.7	+0.1
NNZ	**Nelson**	**0.83**	**326**	P	Pb	12 19 53.8	+0.1
WEL	**Wellington**	**0.86**	**43**	P	Pn	12 19 55.1	-0.1
PLWZ	**Palliser**	**1.01**	**71**	P	Pb	12 19 56.2	-0.6
MRNZ	**Matariki Terra**	**1.05**	**299**	P	Pg	12 19 58.0	+0.1
DUWZ	**D'Urville Isla**	**1.11**	**357**	P	Pn	12 19 58.6	-0.1
CAW	**Cannon Point**	**1.14**	**46**	P	Pb	12 19 58.7	-0.3
TKNZ	**Takaka Hill**	**1.17**	**318**	P	Pb	12 19 59.6	0.0
PAWZ	**Paruwai Farm**	**1.20**	**64**	P	Pn	12 19 58.9	-1.0
KIW	**Kapiti Island**	**1.26**	**34**	P	Pn	12 20 00.8	+0.2
GVZ	**Greta Valley S**	**1.27**	**213**	P	Pn	12 20 00.5	-0.4
MTW	**Mount Morrison**	**1.36**	**57**	P	Pn	12 20 01.0	-1.2
OGWZ	**Otaki Gorge**	**1.41**	**39**	P	Pn	12 20 02.5	-0.3
HOWZ	**Holdsworth Sta**	**1.53**	**49**	P	Pn	12 20 03.6	-0.9
LTZ	**Lake Taylor**	**1.54**	**235**	P	Pn	12 20 04.5	-0.1
QRZ	**Quartz Range**	**1.54**	**314**	P	Pb	12 20 05.9	0.0
TMWZ	**Te Maipa**	**1.64**	**61**	P	Pn	12 20 04.4	-1.6
DSZ	**Dennistoun Nort**	**1.64**	**275**	P	Pb	12 20 07.5	-0.1
MRZ	**Mangatainoka R**	**1.73**	**44**	P	Pn	12 20 06.4	-0.8
TIWZ	**Tintock**	**1.82**	**52**	P	Pn	12 20 07.1	-1.4
OKCZ	**Okains Bay**	**1.93**	**200**	P	Pn	12 20 08.4	-1.6
OXZ	**Oxford**	**2.02**	**225**	P	Pn	12 20 09.7	-1.4
MQZ	**McQueen's Vall**	**2.04**	**208**	P	Pn	12 20 09.3	-2.2
INZ	**Inchbonnie**	**2.05**	**246**	P	Pn	12 20 12.8	+1.2
BFZ	**Birch Farm**	**2.10**	**55**	P	Pn	12 20 11.4	-0.9
WAZ	**Wanganui**	**2.29**	**20**	P	Pb	12 20 18.4	-0.1
TSZ	**Takapari Road**	**2.38**	**40**	P	Pn	12 20 15.2	-0.9
WACZ	**Wakanui South**	**2.57**	**217**	P	Pn	12 20 17.5	-1.2
MOVZ	**Moawhango**	**2.84**	**29**	P	Pb	12 20 26.9	-1.2
VRZ	**Vera Road**	**2.85**	**12**	P	Pb	12 20 26.0	-2.1
WNVZ	**Wahianoa**	**2.86**	**26**	P	Pb	12 20 26.5	-1.9
BHHZ	**Black Hill Sta**	**2.89**	**34**	P	Pb	12 20 29.4	+0.6
TUVZ	**Tukino**	**2.93**	**26**	P	Pb	12 20 28.5	-1.1
NGZ	**Ngauruhoe**	**3.00**	**25**	P	Pb	12 20 29.7	-1.1
OTVZ	**Oturere**	**3.03**	**25**	P	Pb	12 20 29.6	-1.7
NNVZ	**North Ngauruho**	**3.04**	**25**	P	Pb	12 20 30.4	-1.1
WTVZ	**West Tongariro**	**3.05**	**24**	P	Pb	12 20 32.4	+0.7
ETVZ	**East Tongariro**	**3.07**	**26**	P	Pb	12 20 30.2	-1.8
TMVZ	**Te Maari**	**3.08**	**26**	P	Pb	12 20 30.0	-2.2
HIZ	**Hauiti**	**3.46**	**11**	P	Pn	12 20 34.1	+3.2
SNGZ	**Shannon Statio**	**4.04**	**40**	P	Pn	12 20 43.2	+4.2

WEL 30 12:20:19.7±0.3, 42°S±3°×17°4E±°, h7km±3km, M3.4/30, ML3.6/25, MLv3.4/30, Error ellipse: s-maj=0.0km s-min=0.0km az=139.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.10**	**21**	P	Pg	12 20 22.8	+0.8
BSWZ	**Blackbirch Sta**	**0.25**	**301**	P	Pg	12 20 25.0	+0.3
BSWZ				S	Sg	12 20 28.9	+0.8
TUWZ	**Tuamarina**	**0.45**	**338**	P	Pg	12 20 28.9	+0.6
TUWZ				S	Sb	12 20 36.2	-0.6
TCW	**Tory Channel**	**0.64**	**8**	P	Pg	12 20 32.4	+0.4
**WE

ML4.0/19,MLv3.7/41,Error ellipse: s-maj=0.0km s-min=0.0km az=126.4

ISC 30 12:29:11.8±1.1,**42°40S**±0.0′04×**174°07E**±0.0′04,**h21**km,**n106,** σ1**948**/109,**Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.39**	**267**	P	**Pb**	**12 29 18.8**	**-1.2**
KHZ	**Kahutara**	**0.39**	**267**	P	**Pb**	**12 29 18.4**	**-1.6**
KHZ				S	**Sb**	**12 29 23.5**	**-2.0**
CMWZ	**Cape Campbell**	**0.66**	**9**	P	**Pb**	**12 29 25.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.70**	**348**	P	**Pb**	**12 29 24.5**	**-0.9**
BSWZ				S	**Sb**	**12 29 34.4**	**-0.2**
GVZ	**Greta Valley S**	**0.95**	**233**	P	**Pn**	**12 29 30.6**	**+0.6**
GVZ				S	**Sn**	**12 29 44.6**	**+1.7**
TUWZ	**Tuamarina**	**0.97**	**354**	P	**Pb**	**12 29 29.9**	**-0.1**
THZ	**Tophouse**	**1.07**	**306**	P	**Pb**	**12 29 30.1**	**-1.7**
SNZO	**South Karori**	**1.19**	**24**	P	**Pn**	**12 29 34.1**	**+0.9**
TCW	**Tory Channel**	**1.20**	**7**	P	**Pn**	**12 29 33.5**	**+0.1**
PLWZ	**Palliser**	**1.21**	**47**	P	**Pn**	**12 29 34.4**	**+0.8**
WEL	**Wellington**	**1.23**	**25**	P	**Pn**	**12 29 34.5**	**+0.7**
NNZ	**Nelson**	**1.29**	**336**	P	**Pn**	**12 29 34.3**	**-0.2**
AMCZ	**Amberley**	**1.30**	**233**	P	**Pb**	**12 29 36.4**	**+0.8**
LTZ	**Lake Taylor**	**1.38**	**253**	P	**Pn**	**12 29 36.1**	**+0.2**
MRNZ	**Matariki Terra**	**1.40**	**315**	P	**Pb**	**12 29 36.4**	**-0.9**
PAWZ	**Paruwai Farm**	**1.44**	**45**	P	**Pn**	**12 29 37.1**	**+0.5**
CAW	**Cannon Point**	**1.49**	**30**	P	**Pn**	**12 29 38.0**	**+0.6**
OKCZ	**Okains Bay**	**1.52**	**209**	P	**Pn**	**12 29 38.6**	**+0.9**
TRWZ	**Traveller**	**1.57**	**51**	P	**Pn**	**12 29 39.1**	**+0.7**
TKNZ	**Takaka Hill**	**1.60**	**328**	P	**Pb**	**12 29 39.7**	**-1.0**
DUWZ	**D'Urville Isla**	**1.60**	**356**	P	**Pn**	**12 29 39.5**	**+0.5**
MTW	**Mount Morrison**	**1.64**	**41**	P	**Pn**	**12 29 39.7**	**+0.3**
KIW	**Kapiti Island**	**1.66**	**23**	P	**Pn**	**12 29 40.5**	**+0.8**
MQZ	**McQueen's Vall**	**1.67**	**218**	P	**Pn**	**12 29 39.7**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.70**	**210**	P	**Pn**	**12 29 41.3**	**+1.0**
OXZ	**Oxford**	**1.76**	**238**	P	**Pn**	**12 29 41.1**	**0.0**
OGWZ	**Otaki Gorge**	**1.78**	**28**	P	**Pn**	**12 29 41.9**	**+0.5**
DSZ	**Denniston Nort**	**1.81**	**290**	P	**Pb**	**12 29 43.0**	**-1.3**
HOWZ	**Holdsworth Sta**	**1.85**	**36**	P	**Pn**	**12 29 43.0**	**+0.6**
TMWZ	**Te Maipa**	**1.88**	**47**	P	**Pn**	**12 29 43.0**	**+0.3**
RACZ	**Rakaia**	**1.94**	**226**	P	**Pn**	**12 29 43.9**	**+0.4**
QRZ	**Quartz Range**	**1.95**	**323**	P	**Pb**	**12 29 45.4**	**-1.3**
QRZ	**Quartz Range**	**1.95**	**323**	P	**Pn**	**12 29 44.9**	**-1.7**
INZ	**Inchbonnie**	**1.97**	**260**	P	**Pn**	**12 29 44.2**	**+0.3**
MRZ	**Mangatainoka R**	**2.07**	**34**	P	**Pn**	**12 29 45.8**	**+0.4**
TIWZ	**Tintock**	**2.12**	**41**	P	**Pn**	**12 29 46.5**	**+0.5**
MHCZ	**Mount Hutt**	**2.16**	**238**	P	**Pn**	**12 29 46.7**	**+0.1**
WACZ	**Wakanui South**	**2.25**	**226**	P	**Pn**	**12 29 47.9**	**+0.2**
PRWZ	**Pori Road**	**2.33**	**38**	P	**Pb**	**12 29 53.0**	**-0.1**
BFZ	**Birch Farm**	**2.37**	**44**	P	**Pn**	**12 29 49.8**	**+0.3**
BFZ	**Birch Farm**	**2.37**	**44**	P	**Pn**	**12 29 49.3**	**-0.2**
POWZ	**Post Office Ro**	**2.38**	**33**	P	**Pn**	**12 29 51.1**	**+1.5**
OHWZ	**Ohakea**	**2.38**	**24**	P	**Pn**	**12 29 52.0**	**+2.3**
WVZ	**Waitaha Valley**	**2.55**	**254**	P	**Pn**	**12 29 52.4**	**+0.6**
RPZ	**Rata Peaks**	**2.57**	**238**	P	**Pn**	**12 29 52.9**	**+0.6**
RPZ	**Rata Peaks**	**2.57**	**238**	P	**Pn**	**12 29 52.4**	**+0.2**
ARCZ	**Arundel**	**2.62**	**233**	P	**Pn**	**12 29 53.4**	**+0.4**
DVHZ	**Dannevirke**	**2.63**	**38**	P	**Pn**	**12 29 53.4**	**+0.4**
ANWZ	**Angora Road**	**2.65**	**44**	P	**Pn**	**12 29 53.3**	**-0.1**
WAZ	**Wanganui**	**2.73**	**15**	P	**Pn**	**12 29 56.8**	**+2.4**
TSZ	**Takapari Road**	**2.74**	**32**	P	**Pn**	**12 29 54.6**	**0.0**
PRHZ	**Porangahau**	**2.88**	**43**	P	**Pn**	**12 29 56.2**	**-0.2**
WPHZ	**Waipukurau**	**2.94**	**38**	P	**Pn**	**12 29 58.2**	**+0.9**
LREZ	**Lake Rotokare**	**2.95**	**5**	P	**Pb**	**12 30 01.1**	**-2.6**
PNHZ	**Pukenui**	**2.96**	**34**	P	**Pn**	**12 29 57.9**	**+0.3**
TMZ	**Timaru**	**2.99**	**227**	P	**Pn**	**12 29 58.6**	**+0.6**
KHEZ	**Kahui Hut**	**3.10**	**359**	P	**Pb**	**12 30 04.4**	**-1.9**
NEZ	**North Egmont**	**3.13**	**0**	P	**Pb**	**12 30 04.9**	**-1.8**
NBEZ	**Newall Road No**	**3.13**	**357**	P	**Pb**	**12 30 07.0**	**+0.2**
PXZ	**Pawanui**	**3.17**	**43**	P	**Pn**	**12 30 00.9**	**+0.4**
PKE	**Pukeiti**	**3.20**	**359**	P	**Pn**	**12 30 04.4**	**+3.5**
DREZ	**Durham Road**	**3.21**	**2**	P	**Pb**	**12 30 06.4**	**-1.7**
MOVZ	**Moawhango**	**3.25**	**24**	P	**Pn**	**12 30 02.9**	**+1.3**
PKVZ	**Pokaka**	**3.25**	**18**	P	**Pn**	**12 30 04.1**	**+2.4**
BHHZ	**Black Hill Sta**	**3.28**	**28**	P	**Pn**	**12 30 04.2**	**+2.2**
WNWZ	**Wahianoa**	**3.29**	**21**	P	**Pn**	**12 30 04.1**	**+2.0**
TRVZ	**Turoa**	**3.29**	**20**	P	**Pn**	**12 30 04.6**	**+2.2**
VRZ	**Vera Road**	**3.31**	**9**	P	**Pn**	**12 30 04.5**	**+2.1**
WHVZ	**Whangaehu Hut**	**3.32**	**21**	P	**Pn**	**12 30 05.0**	**+2.3**
FOZ	**Fox Glacier**	**3.32**	**249**	P	**Pn**	**12 30 04.0**	**+1.5**
FWVZ	**Far West T-bar**	**3.34**	**20**	P	**Pn**	**12 30 05.2**	**+2.2**
TUVZ	**Tukino**	**3.35**	**22**	P	**Pn**	**12 30 05.0**	**+1.9**
KAHZ	**Kahuranaki**	**3.36**	**40**	P	**Pn**	**12 30 04.2**	**+1.1**
NGZ	**Ngauruhoe**	**3.42**	**20**	P	**Pn**	**12 30 06.2**	**+2.1**
SNVZ	**South Ngauruho**	**3.42**	**21**	P	**Pn**	**12 30 06.2**	**+2.1**
OTVZ	**Oturere**	**3.45**	**21**	P	**Pn**	**12 30 06.2**	**+1.6**
LBZ	**Lake Benmore**	**3.46**	**234**	P	**Pn**	**12 30 06.0**	**+1.6**
KWHZ	**Kaweka Forest**	**3.47**	**32**	P	**Pn**	**12 30 04.4**	**-0.2**
NNVZ	**North Ngauruho**	**3.47**	**20**	P	**Pn**	**12 30 06.7**	**+2.0**
WTVZ	**West Tongariro**	**3.48**	**20**	P	**Pn**	**12 30 07.2**	**+2.3**
ETVZ	**East Tongariro**	**3.49**	**21**	P	**Pn**	**12 30 07.1**	**+2.1**
TMVZ	**Te Maari**	**3.51**	**21**	P	**Pn**	**12 30 07.4**	**+2.2**
KRVZ	**Karewarewa**	**3.51**	**21**	P	**Pn**	**12 30 07.8**	**+2.6**
NTVZ	**North Tongarir**	**3.52**	**21**	P	**Pn**	**12 30 07.2**	**+1.8**
ODZ	**Otahua Downs**	**3.63**	**222**	P	**Pn**	**12 30 07.6**	**+0.9**
ODZ	**Otahua Downs**	**3.63**	**222**	P	**Pn**	**12 30 07.3**	**+0.6**
KATZ	**Kakaramea**	**3.64**	**20**	P	**Pb**	**12 30 12.2**	**-3.3**
BKZ	**Black Stump Fm**	**3.72**	**30**	P	**Pn**	**12 30 08.8**	**+0.8**
RATZ	**Rangitukua**	**3.76**	**21**	P	**Pn**	**12 30 12.5**	**+3.9**
HIZ	**Hauiti**	**3.93**	**9**	P	**Pn**	**12 30 12.6**	**+1.7**
HIZ	**Hauiti**	**3.93**	**9**	P	**Pn**	**12 30 12.7**	**+1.8**
JCZ	**Jackson Bay**	**4.21**	**245**	P	**Pn**	**12 30 16.4**	**+1.6**
JCZ	**Jackson Bay**	**4.21**	**245**	P	**Pn**	**12 30 16.6**	**+1.8**
TLZ	**Tolley Road**	**4.22**	**16**	P	**Pn**	**12 30 16.6**	**+1.7**
MUGZ	**Murupara**	**4.43**	**29**	P	**Pn**	**12 30 17.6**	**-0.1**
RAGZ	**Rawiri**	**4.66**	**34**	P	**Pn**	**12 30 20.9**	**-0.2**
URZ	**Urewera**	**4.74**	**30**	P	**Pn**	**12 30 23.0**	**+0.9**
URZ	**Urewera**	**4.74**	**30**	P	**Pn**	**12 30 24.5**	**+2.4**
TOZ	**Tahuroa Road**	**4.79**	**14**	P	**Pn**	**12 30 23.9**	**+1.1**
MWZ	**Matawai**	**4.84**	**34**	P	**Pn**	**12 30 22.6**	**-0.9**
AWAZ	**Awhitu Peninsu**	**5.35**	**5**	P	**Pn**	**12 30 32.2**	**+1.8**
MKAZ	**Moumakai**	**5.36**	**9**	P	**Pn**	**12 30 31.8**	**+1.3**
SYZ	**Scrubby Hill**	**5.44**	**219**	P	**Pn**	**12 30 33.6**	**+2.0**
ETAZ	**East Tamaki Re**	**5.48**	**7**	P	**Pn**	**12 30 34.2**	**+2.0**
WIAZ	**Waiheke Island**	**5.66**	**9**	P	**Pn**	**12 30 36.3**	**+1.6**
OUZ	**Omahuta**	**7.18**	**357**	P	**Pn**	**12 30 57.5**	**+2.0**

IDC 30 12:29:20.5±3.7,**12°91S**×**67°27E,h0**km,**mb3.5**/4, **mbtmp3.5**/4,**MS3.3**/1,**Error ellipse: s-maj=131.9km s-min=34.0km az=56.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	**Cape Leeuwin H**	**47.59**	**126**	T	T	13 29 01.4	
	baz=284,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**47.59**	**126**	T	T	13 28 56.3	
	baz=284,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**47.60**	**126**	T	T	13 29 08.8	
	baz=284,slow=75,SNR=10						
KAPI	**Kappang**		**52.35**	**86**	LR	LR	12 59 53.3
	comp=Z,26nm,18.7s,baz=258,slow=35						
MKAR	**Makanchi Array**	**60.94**	**12**	P	P	12 39 35.5	+0.1
	0.5nm,0.6s,baz=189,slow=6.9,SNR=3.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**63.69**	**110**	P	P	12 39 54.0	-0.4
	0.2nm,0.7s,baz=274,slow=5.7,SNR=4.5						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**64.36**	**106**	P	P	12 39 59.1	+0.3
	0.4nm,0.8s,baz=274,slow=5.6,SNR=4.7						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**68.26**	**11**	P	P	12 40 22.9	-0.1
	0.6nm,0.6s,baz=189,slow=6.3,SNR=3.7						
	0.6nm,0.6s						
PDAR	**Pinedale Array**	**150.13**	**355**	PKPbc	PKPbc	12 49 13.6	-0.4
	0.2nm,0.6s,baz=90,slow=3.0,SNR=2.3						

*NOU **30** 13:02:45.9,36°67S×178°36E,h144km,MLv4.0/8,Off E. Coast of N. Island, N.Z.*

*IDC **30** 13:02:49.8±10.0,37°36S×178°17E,h121km±98km, mb3.6/2,mbtmp4.1/3,ML3.7/1,Error ellipse: s-maj=85.4km s-min=57.8km az=12.0*

*WEL **30** 13:02:51.0±1.0,37°S±7′×17°8E±°,h97km±10km,M3.7/68, ML3.8/37,MLv3.7/68,Error ellipse: s-maj=0.0km s-min=0.0km az=46.1*

*NEIC **30** 13:02:50.5±2.1,36°88S±0°10×177°9E±0°1,h100km±11km, mb4.2/8,Error ellipse: s-maj=17.0km s-min=10.0km az=224.0*

ISC 30 13:02:51.5±0.9,**36°91S**±0.0′06×**177°92E**±0.0′06,**h123**km±6km,

n164,σ1**879**/170,**mb4.1**/6,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.72**	**155**		**Pn**	**13 03 09.7**	**-1.5**
MXZ	**Matakaoa Point**	**0.72**	**155**	P	**Pn**	**13 03 09.8**	**-1.5**
MXZ	**Matakaoa Point**	**0.72**	**155**	P	**Pn**	**13 03 09.6**	**-1.6**
MXZ				S	**Sn**	**13 03 24.2**	**-2.0**
WIZ	**White Island**	**0.84**	**223**	P	**Pn**	**13 03 11.6**	**-0.7**
WSRZ	**White Island S**	**0.85**	**224**	P	**Pn**	**13 03 12.6**	**+0.3**
HAZ	**Te Kaha**	**0.85**	**187**	P	**Pn**	**13 03 10.9**	**-1.5**
HAZ				S	**Sn**	**13 03 28.0**	**-0.2**
PKGZ	**Pakihiroa**	**0.98**	**173**	P	**Pn**	**13 03 13.6**	**-0.1**
WMGZ	**Waiomatatini S**	**0.99**	**157**	P	**Pn**	**13 03 13.4**	**-0.1**
WMGZ				S	**Sn**	**13 03 31.2**	**+0.9**
RUGZ	**Raukumara Rang**	**1.07**	**190**	P	**Pn**	**13 03 14.0**	**-0.5**
RUGZ				S	**Sn**	**13 03 31.4**	**-0.7**
PUZ	**Puketiti**	**1.19**	**167**	P	**Pn**	**13 03 15.2**	**-0.5**
WHRZ	**Whale Island**	**1.21**	**218**	P	**Pn**	**13 03 16.4**	**+0.6**
TWGZ	**Tauwhareparae**	**1.26**	**178**	P	**Pn**	**13 03 17.1**	**+0.7**
MYRZ	**Mayor Island**	**1.39**	**254**	P	**Pn**	**13 03 16.8**	**-1.0**
OPRZ	**Ohinepanea**	**1.43**	**229**	P	**Pn**	**13 03 17.8**	**-0.5**
MWZ	**Matawai**	**1.45**	**192**	P	**Pn**	**13 03 19.0**	**+0.4**
MARZ	**Manawahe**	**1.46**	**222**	P	**Pn**	**13 03 18.6**	**-0.1**
URZ	**Urewera**	**1.49**	**205**	P	**Pn**	**13 03 20.0**	**+1.1**
URZ	**Urewera**	**1.49**	**205**	P	**Pn**	**13 03 19.5**	**+0.6**
URZ				S	**Sn**	**13 03 40.4**	**+0.5**
EDRZ	**Edgecumbe**	**1.52**	**218**	P	**Pn**	**13 03 19.3**	**-0.1**
TKGZ	**Te Karaka**	**1.52**	**182**	P	**Pn**	**13 03 19.7**	**+0.3**
TGRZ	**Tauranga**	**1.55**	**238**	P	**Pn**	**13 03 19.2**	**-0.5**
CNGZ	**Carnagh Statio**	**1.58**	**172**	P	**Pn**	**13 03 20.5**	**+0.4**
RAGZ	**Rawiri**	**1.63**	**194**	P	**Pn**	**13 03 21.5**	**+0.9**
OMRZ	**Omania**	**1.71**	**226**	P	**Pn**	**13 03 22.1**	**+0.5**
KARZ	**Kaharoa**	**1.73**	**230**	P	**Pn**	**13 03 21.8**	**0.0**
TARZ	**Mount Tarawera**	**1.77**	**220**	P	**Pn**	**13 03 22.7**	**+1.8**
KUZ	**Kuaotunu**	**1.77**	**275**	P	**Pn**	**13 03 20.6**	**-1.7**
KUZ	**Kuaotunu**	**1.77**	**275**	P	**Pn**	**13 03 20.5**	**-1.7**
RIGZ	**Rimuhau**	**1.79**	**184**	P	**Pn**	**13 03 22.6**	**+0.1**
MUGZ	**Murupara**	**1.81**	**210**	P	**Pn**	**13 03 23.3**	**+0.6**
RRRZ	**Republican Roa**	**1.81**	**218**	P	**Pn**	**13 03 23.8**	**+1.1**
HLRZ	**Highlands Stat**	**1.83**	**223**	P	**Pn**	**13 03 23.3**	**+0.4**
KMRZ	**Kaimai**	**1.83**	**239**	P	**Pn**	**13 03 22.8**	**-0.2**
RTZ	**Ruatahuna**	**1.85**	**203**			**13 03 23.2**	**-0.1**
RTZ	**Ruatahuna**	**1.85**	**203**	P	**Pn**	**13 03 23.8**	**+0.5**
SNGZ	**Shannon Statio**	**1.92**	**194**	P	**Pn**	**13 03 24.7**	**+0.7**
HSRZ	**Hossack Road**	**1.93**	**223**	P	**Pn**	**13 03 25.3**	**+1.2**
HRRZ	**Handcock Road**	**1.96**	**221**	P	**Pn**	**13 03 25.1**	**+0.4**
PRRZ	**Plateau Road**	**1.99**	**217**	P	**Pn**	**13 03 25.7**	**+0.8**
ALRZ	**Allen Road**	**2.07**	**217**	P	**Pn**	**13 03 27.3**	**+1.4**
GRZ	**Great Barrier**	**2.09**	**288**	P	**Pn**	**13 03 24.3**	**-1.8**
TOZ	**Tahuroa Road**	**2.09**	**246**	P	**Pn**	**13 03 26.0**	**-0.2**
RAHZ	**Arahi**	**2.10**	**198**	P	**Pn**	**13 03 27.1**	**+0.7**
KNZ	**Kokonui**	**2.11**	**185**	P	**Pn**	**13 03 26.2**	**-0.2**
MTHZ	**Maungataniwha**	**2.12**	**203**	P	**Pn**	**13 03 27.4**	**+0.9**
WPRZ	**Whakapapatarin**	**2.12**	**220**	P	**Pn**	**13 03 28.2**	**+1.6**
MKAZ	**Moumakai**	**2.22**	**264**	P	**Pn**	**13 03 27.0**	**-0.7**
WHHZ	**Waihua**	**2.23**	**194**	P	**Pn**	**13 03 28.3**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.23**	**180**	P	**Pn**	**13 03 28.0**	**0.0**
WIAZ	**Waiheke Island**	**2.24**	**272**	P	**Pn**	**13 03 27.0**	**-1.0**
MRHZ	**Matea Rd**	**2.26**	**211**	P	**Pn**	**13 03 28.8**	**+0.5**
NMHZ	**Naumai**	**2.35**	**202**	P	**Pn**	**13 03 30.3**	**+0.8**
TLZ	**Tolley Road**	**2.36**	**233**	P	**Pn**	**13 03 30.1**	**+0.5**
ETAZ	**East Tamaki Re**	**2.40**	**268**	P	**Pn**	**13 03 29.5**	**-0.5**
MBAZ	**Motutapu North**	**2.43**	**273**	P	**Pn**	**13 03 29.7**	**-0.7**
ARHZ	**Aropaoanui**	**2.46**	**197**	P	**Pn**	**13 03 31.1**	**+0.4**
WATZ	**Wairara**	**2.49**	**223**	P	**Pn**	**13 03 33.0**	**+1.8**
ABAZ	**Army Bay**	**2.50**	**276**	P	**Pn**	**13 03 30.6**	**-0.7**
BKZ	**Black Stump Fm**	**2.52**	**206**		**Pn**	**13 03 31.8**	**+0.2**
BKZ	**Black Stump Fm**	**2.52**	**206**	P	**Pn**	**13 03 32.1**	**+0.5**
BKZ	**Black Stump Fm**	**2.52**	**206**	P	**Pn**	**13 03 31.7**	**+0.2**
EPAZ	**Edgen Park BICE**	**2.55**	**270**	P	**Pn**	**13 03 31.8**	**-0.1**
HBAZ	**Herne Bay Bore**	**2.56**	**270**	P	**Pn**	**13 03 31.9**	**-0.1**
RATZ	**Rangitukua**	**2.59**	**220**	P	**Pn**	**13 03 33.9**	**+1.4**
AWAZ	**Awhitu Peninsu**	**2.63**	**266**	P	**Pn**	**13 03 32.8**	**-0.1**
WTAZ	**Waiatarua**	**2.68**	**269**	P	**Pn**	**13 03 33.5**	**-0.2**
RVAZ	**Riverhead Bore**	**2.68**	**272**	P	**Pn**	**13 03 33.3**	**-0.3**
MCHZ	**McNeill Hill**	**2.70**	**201**	P	**Pn**	**13 03 34.2**	**+0.2**
KATZ	**Kakaramea**	**2.71**	**220**	P	**Pn**	**13 03 36.9**	**+2.8**
KWHZ	**Kaweka Forest**	**2.77**	**205**	P	**Pn**	**13 03 34.7**	**-0.2**
NTVZ	**North Tongarir**	**2.81**	**218**	P	**Pn**	**13 03 36.6**	**+1.2**
TMVZ	**Te Maari**	**2.81**	**218**	P	**Pn**	**13 03 36.3**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.82**	**193**	P	**Pn**	**13 03 35.4**	**0.0**
ETVZ	**East Tongariro**	**2.82**	**218**	P	**Pn**	**13 03 36.6**	**+1.0**
KRVZ	**Karewarewa**	**2.83**	**219**	P	**Pn**	**13 03 37.7**	**+2.0**
NNVZ	**North Ngauruho**	**2.87**	**219**	P	**Pn**	**13 03 38.5**	**+2.2**
OTVZ	**Oturere**	**2.87**	**218**	P	**Pn**	**13 03 37.1**	**+0.9**
WTVZ	**West Tongariro**	**2.87**	**219**	P	**Pn**	**13 03 38.0**	**+1.8**
SNVZ	**South Ngauruho**	**2.90**	**218**	P	**Pn**	**13 03 37.7**	**+1.1**
HIZ	**Hauiti**	**2.91**	**236**	Pn	**Pn**	**13 03 35.9**	**-0.7**
HIZ	**Hauiti**	**2.91**	**236**	P	**Pn**	**13 03 37.7**	**+1.1**
HIZ	**Hauiti**	**2.91**	**236**	P	**Pn**	**13 03 37.7**	**+1.1**
NGZ	**Ngauruhoe**	**2.91**	**218**	P	**Pn**	**13 03 38.2**	**+1.4**
TWVZ	**Taurewa**	**2.91**	**222**	P	**Pn**	**13 03 38.2**	**+1.4**
TUVZ	**Tukino**	**2.95**	**217**	P	**Pn**	**13 03 39.0**	**+1.7**
BHHZ	**Black Hill Sta**	**2.96**	**209**	P	**Pn**	**13 03 37.4**	**+0.1**
KAHZ	**Kahuranaki**	**2.99**	**196**	P	**Pn**	**13 03 37.3**	**-0.4**
FWVZ	**Far West T-bar**	**2.99**	**218**	P	**Pn**	**13 03 39.3**	**+1.4**
WHVZ	**Whangaehu Hut**	**3.00**	**217**	P	**Pn**	**13 03 39.8**	**+1.9**
MOVZ	**Moawhango**	**3.02**	**214**	P	**Pn**	**13 03 38.4**	**+0.2**
WNVZ	**Wahianoa**	**3.03**	**217**	P	**Pn**	**13 03 39.8**	**+1.5**
TRVZ	**Turoa**	**3.03**	**217**	P	**Pn**	**13 03 40.6**	**+2.2**
WCZ	**Waipu Caves**	**3.04**	**288**	P	**Pn**	**13 03 37.0**	**-1.4**
PKVZ	**Pokaka**	**3.12**	**220**	P	**Pn**	**13 03 42.0**	**+2.6**
MTVZ	**Mangateitei**	**3.13**	**217**	P	**Pn**	**13 03 40.2**	**+0.6**
PXZ	**Pawanui**	**3.22**	**195**	P	**Pn**	**13 03 39.2**	**-1.5**
PNHZ	**Pukenui**	**3.29**	**204**	P	**Pn**	**13 03 40.6**	**-1.0**
VRZ	**Vera Road**	**3.33**	**228**	P	**Pn**	**13 03 43.6**	**+1.5**
WPHZ	**Waipukurau**	**3.35**	**200**	P	**Pn**	**13 03 42.1**	**-0.3**
PRHZ	**Porangahau**	**3.50**	**196**	P	**Pn**	**13 03 42.9**	**-1.5**
TSZ	**Takapari Road**	**3.50**	**205**	P	**Pn**	**13 03 43.3**	**-1.1**
DVHZ	**Dannevirke**	**3.65**	**202**	P	**Pn**	**13 03 45.4**	**-1.0**
WAZ	**Wanganui**	**3.66**	**218**	P	**Pn**	**13 03 47.1**	**+0.6**
DREZ	**Durham Road**	**3.71**	**231**	P	**Pn**	**13 03 50.1**	**+2.9**
ANWZ	**Angora Road**	**3.72**	**197**	P	**Pn**	**13 03 46.3**	**-1.0**
LREZ	**Lake Rotokare**	**3.76**	**226**	P	**Pn**	**13 03 49.0**	**+1.1**
NEZ	**North Egmont**	**3.83**	**231**	P	**Pn**	**13 03 51.9**	**+3.1**
PKE	**Pukeiti**	**3.85**	**233**	P	**Pn**	**13 03 53.1**	**+4.1**
POWZ	**Post Office Ro**	**3.86**	**205**	P	**Pn**	**13 03 48.4**	**-0.7**
OHWZ	**Ohakea**	**3.87**	**211**	P	**Pn**	**13 03 52.5**	**+3.3**
OUZ	**Omahuta**	**3.89**	**294**		**Pn**	**13 03 47.9**	**-1.7**
OUZ	**Omahuta**	**3.89**	**294**	P	**Pn**	**13 03 48.2**	**-1.4**
OUZ	**Omahuta**	**3.89**	**294**	P	**Pn**	**13 03 48.3**	**-1.2**
KHEZ	**Kahui Hut**	**3.89**	**231**	P	**Pn**	**13 03 51.0**	**+1.4**
KHEZ	**Kahui Hut**	**3.89**	**231**	P	**Pn**	**13 03 53.8**	**+4.1**
PRWZ	**Pori Road**	**3.94**	**202**	P	**Pn**	**13 03 50.8**	**+0.5**
NBEZ	**Newall Road No**	**3.97**	**232**	P	**Pn**	**13 03 54.6**	**+4.0**
BFZ	**Birch Farm**	**3.98**	**199**	Pn	**Pn**	**13 03 48.6**	**-2.1**
BFZ	**Birch Farm**	**3.98**	**199**	P	**Pn**	**13 03 48.9**	**-1.9**
BFZ	**Birch Farm**	**3.98**	**199**	P	**Pn**	**13 03 48.8**	**-2.0**
MRZ	**Mangatainoka R**	**4.16**	**205**	Pn	**Pn**	**13 03 50.7**	**-2.5**
MRZ	**Mangatainoka R**	**4.16**	**205**	P	**Pn**	**13 03 50.8**	**-2.5**
TIWZ	**Tintock**	**4.17**	**202**	P	**Pn**	**13 03 51.2**	**-2.1**
CPWZ	**Castlepoint**	**4.21**	**198**	P	**Pn**	**13 03 53.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**4.40**	**205**	P	**Pn**	**13 03 53.6**	**-2.7**
OGWZ	**Otaki Gorge**	**4.45**	**208**	P	**Pn**	**13 03 55.0**	**-2.0**
TMWZ	**Te Maipa**	**4.47**	**200**	P	**Pn**	**13 03 54.9**	**-2.5**
KIW	**Kapiti Island**	**4.59**	**210**	P	**Pn**	**13 03 56.6**	**-2.2**
MTW	**Mount Morrison**	**4.64**	**203**	P	**Pn**	**13 03 56.7**	**-2.9**
CAW	**Cannon Point**	**4.74**	**207**	P	**Pn**	**13 03 58.1**	**-2.8**
TRWZ	**Traveller**	**4.80**	**200**	P	**Pn**	**13 03 59.4**	**-2.3**
TRWZ	**Traveller**	**4.80**	**200**	P	**Pn**	**13 03 59.4**	**-2.3**
PAWZ	**Paruwai Farm**	**4.86**	**203**	P	**Pn**	**13 03 59.7**	**-2.9**
MSWZ	**Moikau Station**	**4.95**	**204**	Pn	**Pn**	**13 04 01.1**	**-2.7**
MSWZ	**Moikau Station**	**4.95**	**204**	P	**Pn**	**13 04 01.4**	**-2.4**
DUWZ	**D'Urville Isla**	**4.98**	**218**	P	**Pn**	**13 04 01.6**	**-2.5**
PLWZ	**Palliser**	**5.09**	**203**	P	**Pn**	**13 04 02.4**	**-3.2**
TCW	**Tory Channel**	**5.14**	**212**	P	**Pn**	**13 04 03.4**	**-2.9**
TUWZ	**Tuamarina**	**5.47**	**213**	P	**Pn**	**13 04 07.4**	**-3.2**
NNZ	**Nelson**	**5.56**	**218**	Pn	**Pn**	**13 04 11.2**	**-0.7**
NNZ	**Nelson**	**5.56**	**218**	P	**Pn**	**13 04 10.8**	**-1.2**
TKNZ	**Takaka Hill**	**5.64**	**222**	Pn	**Pn**	**13 04 09.9**	**-3.1**
TKNZ	**Takaka Hill**	**5.64**	**222**	P	**Pn**	**13 04 10.8**	**-2.3**
QRZ	**Quartz Range**	**5.74**	**225**	P	**Pn**	**13 04 11.9**	**-2.4**
MRNZ	**Matariki Terra**	**6.01**	**220**	P	**Pn**	**13 04 15.1**	**-2.9**
THZ	**Tophouse**	**6.21**	**217**	Pn	**Pn**	**13 04 19.6**	**-1.1**
THZ	**Tophouse**	**6.21**	**217**	P	**Pn**	**13 04 19.0**	**-1.7**
KHZ	**Kahutara**	**6.45**	**210**	P	**Pn**	**13 04 19.7**	**-4.2**
DSZ	**Denniston Nort**	**6.76**	**223**	P	**Pn**	**13 04 25.4**	**-2.7**
GVZ	**Greta Valley S**	**7.12**	**210**	P	**Pn**	**13 04 28.7**	**-4.2**
CTZ	**Chatham Island**	**7.99**	**150**	P	**Pn**	**13 04 46.0**	**+1.4**
RPZ	**Rata Peaks**	**8.58**	**216**	P	**Pn**	**13 04 48.5**	**-4.2**
	0.9nm,0.3s,baz=90,slow=9.1,SNR=6.7						
RPZ				S	**Sn**	**13 06 19.7**	**-8.0**
	5.2nm,0.3s,baz=42,slow=21,SNR=11						
	16nm,0.9s						

CSS	**Mathiatis**	**1.03 275**	PG	**Pb**	**13 11 04.4**	**+0.4**
CSS			SG	**Sn**	**13 11 19.9**	**+1.1**
CSS	**Mathiatis**	**1.03 275**	P	**Pb**	**13 11 04.1**	**0.0**
CSS			S	**Sn**	**13 11 19.9**	**+1.1**
ASGA	**Asgata**	**1.10 265**	S	**Sb**	**13 11 19.6**	**+0.1**
SZAC	**Souni**	**1.41 265**	P	**Pb**	**13 11 10.6**	**+0.1**
SZAC			AML	AML	13 11 27.2	
	1.2nm,1.9s					
LEF	**Lefka**	**1.41 280**	PN	**Pb**	**13 11 10.8**	**+0.3**
LEF			SN	**Sg**	**13 11 30.3**	**+0.5**
KARG	**Kargicak-Mersi**	**1.50 332**	PN	**Pn**	**13 11 10.7**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.52 327**	PN	**Pn**	**13 11 11.1**	**-0.1**
AKKU			SN	**Sb**	**13 11 31.2**	**-0.4**
SILI	**Silifke-Mersin**	**1.57 340**	PN	**Pn**	**13 11 11.7**	**-0.2**
KIZK	**Mersin**	**1.63 347**	PN	**Pn**	**13 11 12.3**	**-0.4**
ALFC	**Alefka**	**1.65 280**	P	**Pn**	**13 11 13.5**	**+0.5**
ALFC			S	**Sb**	**13 11 35.8**	**+0.5**
YAYL	**Yayladag**	**1.69 47**	PN	**Pn**	**13 11 13.2**	**-0.4**
KEBE	**Keben-Mersin**	**1.71 336**	PN	**Pn**	**13 11 13.7**	**-0.2**
KEBE			SN	**Sn**	**13 11 35.5**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.73 317**	PN	**Pn**	**13 11 14.2**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.81 329**	PN	**Pn**	**13 11 15.1**	**-0.1**
BERE	**Bereket-Mersin**	**1.83 323**	PN	**Pn**	**13 11 15.6**	**0.0**
BERE			SN	**Sn**	**13 11 38.9**	**+0.2**
NATI	**Neve Ativ**	**1.88 149**	Pn	**Pb**	**13 11 19.4**	**+0.9**
NATI			Sn	**Sb**	**13 11 42.9**	**+1.1**
GEM	**Giv'at Ha'Em**	**1.90 151**	Pn	**Pg**	**13 11 20.4**	**-0.3**
GEM			Sn	**Sg**	**13 11 44.9**	**-0.4**
MMC7	**Mount Meron ar**	**1.98 160**	Pn	**Pb**	**13 11 21.0**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.98 41**	PN	**Pn**	**13 11 16.4**	**-1.1**
MERS	**Mersin**	**1.98 359**	PN	**Pn**	**13 11 17.2**	**-0.3**
MMA0B	**Mount Meron ar**	**1.99 160**	Pn	**Pb**	**13 11 21.1**	**+0.8**
MMA0B			Sn	**Sb**	**13 11 45.6**	**+0.6**
MMLI	**Mount Malkishu**	**2.54 164**	PN	**Pn**	**13 11 26.3**	**+1.1**
MMLI	**Mount Malkishu**	**2.54 164**	Pn	**Pb**	**13 11 29.3**	**-0.5**
MMLI			Sn	**Sb**	**13 12 00.6**	**-0.3**
OSC2	**CSNet OBS 4**	**2.64 227**	P	**Pn**	**13 11 23.6**	**-2.9**
OSC2			S	**Sn**	**13 11 53.9**	**-4.5**
HMDT	**Nahal Hemdat**	**2.74 163**	Pn	**Pb**	**13 11 31.3**	**-1.9**
HMDT			Sn	**Sb**	**13 12 06.1**	**-0.5**
CMRD	**Camardi-Nigde**	**2.79 7**	PN	**Pn**	**13 11 28.8**	**0.0**
YESY	**Yesilyurt**	**2.97 347**	PN	**Pn**	**13 11 31.6**	**+0.4**
KRMI	**Paran Flat**	**4.76 179**	Pn	**Pn**	**13 11 59.4**	**+3.7**

*VAO **30** 13:14:00.1±0.4,20°.73S×69°.02W,h10km,mb4.9*
*IDC **30** 13:14:07.5±2.3,20°.98S×68°.57W,h75km±20km,mb4.6/15, mbtmp4.8/19,MS3.6/8,Error ellipse: s-maj=18.6km s-min=12.8km az=73.0*
*SJA **30** 13:14:09.2±0.7,21°.06S×68°.77W,h138km±6km,ML4.9, MW4.7*
*NEIC **30** 13:14:09.8,21°.05S×68°.56W,h113km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=1.17; Mθθ-0.48; Mϕϕ 1.65; Mrθ-0.90; Mϕr0.64; Fault plane solution: M0 1.92000×10^16^ NP1:ϕs 139.06000°, δ66.27000°, λ-121.47000°. Principal axes: T 2.0259, Plg16.0000°, Azm252.0000°; N -0.2274, Plg29.0000°, Azm153.0000°; P -1.7985, Plg57.0000°, Azm7.0000°;*
*NEIC **30** 13:14:10.2±1.9,21°.04S×68°.59W×0°.07,h103km±4km, mb5.3/100,Mwr4.8/41,Mww4.8,Mwr4.9(GUC) Error ellipse: s-maj=9.7km s-min=6.8km az=83.0*
*GUC **30** 13:14:11.6±0.8,21°.07S×68°.70W,h112km±4km,ML4.9*
*MOS **30** 13:14:11.0±1.6,21°.01S×68°.46W,h118km,mb4.8/10, Error ellipse: s-maj=13.9km s-min=7.0km az=105.4*
*NEIC **30** 13:14:11,20°.94S×68°.79W,h110km,Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^16^Nm; Mrr-1.22; Mθθ-0.31; Mϕϕ1.53; Mrθ-1.06; Mϕθ-0.85; Mϕr-0.28; Fault plane solution: M0 1.97000×10^16^ NP1: ϕs10.00000°, δ54.00000°, λ-41.00000°. NP2:ϕs127.00000°, δ58.00000°, λ-135.00000°. Principal axes: T 1.8712, Plg3.0000°, Azm248.0000°; N 0.1881, Plg37.0000°, Azm156.0000°; P -2.0594, Plg53.0000°, Azm341.0000°;*
*BJI **30** 13:14:12.0±0.0,21°.10S×68°.70W,h118km,mB5.4/2*
*GCMT **30** 13:14:15.8±0.3,20°.95S±0°.02×68°.88W±0°.03,h120km±4km, MW4.9/72,Moment Tensor Solution. s15,c16; s72,c89; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.83±.12; Mθθ-0.69±.13; Mϕϕ 1.52±.14; Mrθ-1.42±.06; Mϕθ-2.13±.18; Mϕr 1.04±.11; Best double couple: M0 2.92700×10^16^ NP1:ϕs110.00000°, δ83.00000°, λ-141.00000°. NP2: ϕs15.00000°, δ51.00000°, λ-8.00000°. Principal axes: T 3.4440, Plg21.0000°, Azm236.0000°; N -1.0380, Plg50.0000°, Azm118.0000°; P -2.4110, Plg32.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 13:14:10.4±0.4,21°.05S±0°.03×68°.65W±0°.04,h107km±4km, n407,σ1§36/434,mb5.2/68,20C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.78 270**			**Pn**	**13 14 29.8**	**+0.4**
PB01	**IPOC Station P**	**0.78 270**		*i* P	**Pn**	**13 14 29.9**	**+0.6**
PB01				*e*S	**Sn**	**13 14 43.9**	**+0.3**
PB01				IAML		13 14 45.5	
	comp=N,30μm,0.5s						
PB09	**IPOC Station P**	**0.93 216**			**Pn**	**13 14 32.1**	**+1.2**
PB09	**IPOC Station P**	**0.93 216**		*i* P	**Pn**	**13 14 32.1**	**+1.2**
PB09				*e*S	**Sn**	**13 14 47.4**	**+1.1**
PB09	**IPOC Station P**	**0.93 216**		*e*P	**Pn**	**13 14 26.7**	**-4.1**
PB09				*e*P	**Pn**	**13 14 32.0**	**+1.2**
PB09				*e*S	**Sn**	**13 14 46.7**	**+0.5**
PB09				IAML		13 14 49.4	
	comp=Z,14μm,0.8s						
PB08	**IPOC Station P**	**1.02 332**			**Pn**	**13 14 33.5**	**+1.5**
PB08	**IPOC Station P**	**1.02 332**		⇑*i* P	**Pn**	**13 14 33.6**	**+1.6**
PB08				*e*S	**Sn**	**13 14 50.1**	**+1.9**
PB08	**IPOC Station P**	**1.02 332**		*e*P	**Pn**	**13 14 33.6**	**+1.6**
PB08				*e*S	**Sn**	**13 14 50.7**	**+2.5**
PB08				IAML		13 14 52.3	
	comp=Z,7μm,0.6s						
PB02	**IPOC Station P**	**1.19 257**		⇑*i* P	**Pn**	**13 14 34.1**	**+0.5**
PB02				*e*S	**Sn**	**13 14 51.6**	**+0.4**
PB02				IAML		13 14 53.0	
	comp=E,41μm,0.3s						
PB07	**IPOC Station P**	**1.34 239**			**Pn**	**13 14 35.7**	**+0.4**
PB07	**IPOC Station P**	**1.34 239**		⇑*i* P	**Pn**	**13 14 35.7**	**+0.4**
PB07				*e*S	**Sn**	**13 14 54.6**	**+0.4**
PB07				IAML		13 15 01.1	
	comp=E,25μm,0.4s						
PATCX	**Punta Patache**	**1.42 279**		Pn	**Pn**	**13 14 36.8**	**+0.5**
PATCX	**Punta Patache**	**1.42 279**		⇑*i* P	**Pn**	**13 14 36.7**	**+0.5**
PATCX				*e*S	**Sn**	**13 14 56.5**	**+0.8**
PATCX				IAML		13 15 02.1	
	comp=N,38μm,0.2s						
PATCX	**Punta Patache**	**1.42 279**		*e*P	**Pn**	**13 14 36.8**	**+0.5**
PATCX				*e*S	**Sn**	**13 14 57.8**	**+2.0**
PATCX				IAML		13 15 00.7	
	comp=Z,21μm,0.4s						
PB03	**IPOC Station P**	**1.43 226**			**Pn**	**13 14 36.5**	**0.0**
PB03	**IPOC Station P**	**1.43 226**		⇑*i* P	**Pn**	**13 14 36.9**	**+0.4**
PB03				*e*S	**Sn**	**13 14 56.2**	**+0.1**
GO01	**Chusmiza**	**1.46 339**			**Pn**	**13 14 38.1**	**+1.0**
GO01	**Chusmiza**	**1.46 339**		⇓*i* P	**Pn**	**13 14 38.5**	**+1.4**
GO01				*e*S	**Sn**	**13 14 59.4**	**+2.1**
GO01				IAML		13 15 03.2	
	comp=E,14μm,0.2s						
GO01	**Chusmiza**	**1.46 339**		*e*P	**Pn**	**13 14 38.8**	**+1.6**
GO01				*e*S	**Sn**	**13 14 59.8**	**+2.5**
TA01	**Diego Aracena**	**1.51 288**			**Pn**	**13 14 37.4**	**+0.2**
TA01	**Diego Aracena**	**1.51 288**		⇑*i* P	**Pn**	**13 14 37.4**	**+0.2**
TA01				*e*S	**Sn**	**13 14 57.3**	**-0.2**
TA01				IAML		13 15 01.9	
	comp=N,24μm,0.3s						
TA01	**Diego Aracena**	**1.51 288**		*e*P	**Pn**	**13 14 37.5**	**+0.3**
TA01				*e*S	**Sn**	**13 14 58.1**	**+0.7**
TA01				IAML		13 14 59.3	
	comp=Z,14μm,0.8s						
LVC	**Limon Verde**	**1.57 189**			**Pn**	**13 14 39.6**	**+1.3**
LVC	**Limon Verde**	**1.57 189**		⇑*i* P	**Pn**	**13 14 39.7**	**+1.3**
LVC				*e*S	**Sn**	**13 15 01.2**	**+1.7**
LVC	**Limon Verde**	**1.57 189**	P		**Pn**	**13 14 39.6**	**+1.3**
TA02	**Huaiquique**	**1.59 299**			**Pn**	**13 14 38.0**	**-0.1**
TA02	**Huaiquique**	**1.59 299**		⇑*i* P	**Pn**	**13 14 38.5**	**+0.4**
TA02				*e*S	**Sn**	**13 14 59.1**	**-0.1**
TA02				IAML		13 15 05.1	
	comp=N,21μm,0.2s						
TA02	**Huaiquique**	**1.59 299**		*e*P	**Pn**	**13 14 38.5**	**+0.4**
TA02				*e*S	**Sn**	**13 15 00.5**	**+1.3**
TA02				IAML		13 15 02.0	
	comp=Z,10μm,0.2s						
PB11	**IPOC Station P**	**1.59 323**			**Pn**	**13 14 39.0**	**+0.7**
PB11	**IPOC Station P**	**1.59 323**		*e*P	**Pn**	**13 14 39.1**	**+0.7**
PB11				*e*S	**Sn**	**13 15 00.1**	**+0.6**
PB11				IAML		13 15 02.3	
	comp=E,20μm,0.6s						
PB11	**IPOC Station P**	**1.59 323**		*e*P	**Pn**	**13 14 39.0**	**+0.7**
PB11				*e*S	**Sn**	**13 15 01.6**	**+2.0**
PB11				IAML		13 15 06.6	
	comp=Z,7μm,0.5s						
PB06	**IPOC Station P**	**1.86 207**			**Pn**	**13 14 42.2**	**+0.6**
PB06	**IPOC Station P**	**1.86 207**		⇑*i* P	**Pn**	**13 14 42.3**	**+0.6**
PB06				*e*S	**Sn**	**13 15 06.1**	**+0.6**
PB06				IAML		13 15 07.2	
	comp=E,8μm,0.8s						
PB06	**IPOC Station P**	**1.86 207**		*e*P	**Pn**	**13 14 42.0**	**+0.3**
PB06				*e*P	**Pn**	**13 14 42.3**	**+0.6**
PB06				*e*S	**Sn**	**13 15 06.7**	**+1.2**
PB06				IAML		13 15 08.5	
	comp=Z,6μm,2.0s						
PB04	**IPOC Station P**	**1.89 227**			**Pn**	**13 14 41.9**	**-0.2**
PB04	**IPOC Station P**	**1.89 227**		⇑*i* P	**Pn**	**13 14 42.0**	**-0.1**
PB04				*e*S	**Sn**	**13 15 05.5**	**-0.7**
PB04				IAML		13 15 10.8	
	comp=N,11μm,0.3s						
PB04	**IPOC Station P**	**1.89 227**		*e*P	**Pn**	**13 14 42.0**	**-0.1**
PB04				*e*S	**Sn**	**13 15 07.0**	**+0.7**
PB04				IAML		13 15 11.7	
	comp=Z,6μm,0.3s						
AF01	**San Pedro de A**	**1.94 167**			**Pn**	**13 14 44.9**	**+2.0**
PSGC	**Pisagua**	**2.00 316**		⇑*i* P	**Pn**	**13 14 43.5**	**+0.1**
PSGC				*e*S	**Sn**	**13 15 08.0**	**-0.5**
PSGC				IAML		13 15 10.1	
	comp=E,13μm,0.3s						
PSGCX	**Pisagua**	**2.00 316**			**Pn**	**13 14 43.0**	**-0.4**
PSGCX	**Pisagua**	**2.00 316**		*e*P	**Pn**	**13 14 43.4**	**0.0**
PSGCX				*e*S	**Sn**	**13 15 09.4**	**+0.9**
PSGCX				IAML		13 15 11.2	
	comp=Z,6μm,0.3s						
MNMC	**Minye Minye**	**2.10 335**			**Pn**	**13 14 46.3**	**+1.4**
MNMC	**Minye Minye**	**2.10 335**		⇓*i* P	**Pn**	**13 14 46.4**	**+1.4**
MNMC				*e*S	**Sn**	**13 15 12.4**	**+1.2**
MNMC				IAML		13 15 17.3	
	comp=E,14μm,0.2s						
MNMCX	**Minye Minye**	**2.10 335**		*e*P	**Pn**	**13 14 46.0**	**+1.1**
MNMCX				*e*S	**Sn**	**13 15 12.8**	**+1.6**
MNMCX				IAML		13 15 14.6	
	comp=Z,7μm,0.5s						
PB15	**IPOC Station P**	**2.28 199**		Pn	**Pn**	**13 14 47.0**	**-0.1**
PB15	**IPOC Station P**	**2.28 199**		*i* P	**Pn**	**13 14 47.6**	**+0.5**
PB15				*e*S	**Sn**	**13 15 15.4**	**+0.2**
PB15	**IPOC Station P**	**2.28 199**		*e*P	**Pn**	**13 14 48.0**	**+0.9**
PB15				*e*S	**Sn**	**13 15 17.5**	**+2.3**
PB15				IAML		13 15 24.7	
	comp=Z,8μm,0.2s						
PB16	**IPOC Station P**	**2.82 343**			**Pn**	**13 14 55.6**	**+1.1**
PB12	**IPOC Station P**	**2.89 327**			**Pn**	**13 14 53.7**	**-1.3**
PB10	**IPOC Station P**	**3.02 215**		Pn	**Pn**	**13 14 55.8**	**-0.9**
PB10	**IPOC Station P**	**3.02 215**		*e*P	**Pn**	**13 14 56.7**	**+0.1**
PB10				*e*S	**Sn**	**13 15 32.9**	**+0.6**
PB10	**IPOC Station P**	**3.02 215**		*e*P	**Pn**	**13 14 56.0**	**-0.7**
PB10				*e*S	Sn	13 15 19.2	-13
PB10				IAML		13 15 46.4	
	comp=Z,2μm,0.5s						
AP01	**Chacalluta**	**3.10 329**			**Pn**	**13 14 57.2**	**-0.5**
YJA	**Yavi**	**3.13 112**		*e*P	**Pn**	**13 15 01.0**	**+2.6**
YJA				*e*P	**Pn**	**13 15 01.6**	**+3.1**
PB18	**Visviri**	**3.53 347**			**Pn**	**13 15 06.0**	**+2.1**
PB18	**Visviri**	**3.53 347**		⇓*i* P	**Pn**	**13 15 06.5**	**+2.6**
HJA	**Humahuaca**	**3.69 126**		*e*P	**Pn**	**13 15 09.0**	**+3.0**
PB14	**IPOC Station P**	**3.91 204**		Pn	**Pn**	**13 15 07.9**	**-0.9**
PB14	**IPOC Station P**	**3.91 204**		*e*P	**Pn**	**13 15 08.5**	**-0.4**
PB14				*e*P	**Pn**	**13 15 09.0**	**+0.2**
PB14				*e*S	Sn	13 16 06.8	+13
PB14				IAML		13 16 22.4	
	comp=Z,2μm,0.8s						
GO02	**Mina Guanaco**	**4.19 192**		Pn	**Pn**	**13 15 11.5**	**-1.0**
GO02	**Mina Guanaco**	**4.19 192**		*e*P	Pn	13 15 06.7	-5.8
GO02				*e*P	**Pn**	**13 15 12.5**	**-0.1**
GO02				*e*S	Sn	13 16 13.2	+13
AZAP	**Zapla**	**4.58 134**		*e*P	**Pn**	**13 15 19.0**	**+1.3**
LPAZ	**La Paz**	**4.76 6**			**Pn**	**13 15 21.8**	**+1.2**
LPAZ	**La Paz**	**4.76 6**		P	**Pn**	**13 15 21.8**	**+1.2**
ASTB	**Santa Barbara**	**4.84 127**		*e*P	**Pn**	**13 15 22.8**	**+1.6**
AC01	**Pan de Azucar**	**5.38 199**			**Pn**	**13 15 26.7**	**-1.7**
AC01	**Pan de Azucar**	**5.38 199**		*e*P	**Pn**	**13 15 26.7**	**-1.7**
AC01				*e*S	Sn	13 16 39.7	+11
AC02	**Maricunga**	**5.78 184**		Pn	**Pn**	**13 15 33.7**	**-0.5**
AC06	**Mina Casimiro**	**6.47 194**			**Pn**	**13 15 43.1**	**0.0**
GO03	**Copiap**	**6.67 192**			**Pn**	**13 15 43.8**	**-2.2**
AC04	**Llanos de Chal**	**7.46 197**			**Pn**	**13 15 56.4**	**-0.1**
AC05	**El Transito**	**7.89 190**			**Pn**	**13 15 59.4**	**-3.2**
LCO	**Las Campanas**	**8.14 193**			**Pn**	**13 16 03.3**	**-2.8**
LCO	**Las Campanas**	**8.14 193**		P	**Pn**	**13 16 03.3**	**-2.8**
SIV	**San Ignacio**	**8.77 56**		P	**Pn**	**13 16 12.2**	**-2.3**
	comp=Z,87nm,0.6s,baz=241,slow=12,SNR=196						
SIV				S	Sn	13 17 37.0	-15
	comp=Z,25nm,1.0s,baz=232,slow=16,SNR=5.3						
BBRB	**Robore, Bolivi**	**8.77 73**		*e*P	**Pn**	**13 16 10.6**	**-3.9**
CO01	**Juntas del Tor**	**8.99 188**			**Pn**	**13 16 14.6**	**-2.9**
CO03	**El Pedregal**	**9.92 190**			**Pn**	**13 16 28.4**	**-1.6**
CO02	**Combarbal**	**10.33 191**			**Pn**	**13 16 34.2**	**-1.4**
CFA	**Coronel Fontan**	**10.52 178**		P	**Pn**	**13 16 35.1**	**-3.0**
	comp=Z,4.5nm,0.8s,baz=359,slow=14,SNR=8.6						
PTLB	**Pontes e Lacer**	**10.61 60**			**Pn**	**13 16 37.0**	**-2.5**
PTLB	**Pontes e Lacer**	**10.61 60**		*e*P	**Pn**	**13 16 35.5**	**-4.0**
VILB	**Vilhena**	**11.40 46**			**Pn**	**13 16 48.2**	**-1.9**
VILB	**Vilhena**	**11.40 46**		*e*P	Pn	13 16 44.9	-5.3
ETMB	**Extrema**	**11.41 12**			**Pn**	**13 16 47.4**	**-2.8**
ETMB	**Extrema**	**11.41 12**		*e*P	Pn	13 16 41.9	-8.3
PANT	**Pantanal (Braz**	**11.50 82**		*e*P	Pn	13 16 46.6	-4.7
CPUP	**Villa Florida**	**11.63 119**		P	**Pn**	**13 16 50.4**	**-2.6**
	comp=Z,7.6nm,0.9s,baz=302,slow=12,SNR=12						
NNA	**Nana**	**11.95 318**		*i* P	**Pn**	**13 16 57.7**	**+0.3**
AQDB	**Aquidauana**	**12.13 90**		P	**Pn**	**13 16 56.6**	**-3.1**
AQDB	**Aquidauana**	**12.13 90**		*e*P	**Pn**	**13 16 57.3**	**-2.4**
AMBA	**Amambai (Brazi**	**12.81 101**		*e*P	**Pn**	**13 17 08.7**	**0.0**
MT01	**Popeta**	**12.97 190**			**Pn**	**13 17 08.9**	**-1.8**
SAML	**Samuel**	**13.13 24**			**Pn**	**13 17 10.4**	**-2.5**
SAML	**Samuel**	**13.13 24**		P	**Pn**	**13 17 10.4**	**-2.5**
SALV	**Santo Antonio**	**13.31 70**		*e*P	**Pn**	**13 17 12.2**	**-3.0**
AZCA	**Azaras, Argent**	**13.48 124**		*e*P	**Pn**	**13 17 18.6**	**+1.3**
CZSB	**Cruzeiro do Su**	**13.81 343**		*e*P	Pn	13 17 09.3	-12
UNIS	**Unistalda (Bra**	**14.66 126**		*e*P	**P**	**13 17 34.7**	**-1.2**
CRSM	**Crissiumal (Br**	**14.78 119**		*e*P	**P**	**13 17 36.1**	**-1.2**
ML02	**Panimavida**	**14.86 189**			**Pn**	**13 17 33.2**	**-1.8**
RODS	**Rosario do Sul**	**15.24 130**		*e*P	**P**	**13 17 42.5**	**+0.2**
H03N1	**Juan Fernandez**	**15.34 214**		T	T	13 33 14.4	
	baz=34,slow=72,SNR=43						
H03N2	**Juan Fernandez**	**15.35 214**		T	T	13 33 23.8	
	baz=34,slow=72,SNR=29						
H03N3	**Juan Fernandez**	**15.36 214**		T	T	13 33 14.3	
	baz=34,slow=72,SNR=8.6						
PTGB	**Pitanga**	**15.71 107**		*e*P	**P**	**13 17 48.6**	**+0.8**
CLDB	**Colider**	**15.96 53**		*e*P	**Pn**	**13 17 46.2**	**-2.7**
ALGR	**Alto Alegre (B**	**16.12 122**		*e*P	**P**	**13 17 52.6**	**+0.4**
PCMB	**Pacaembu**	**16.21 95**		*e*P	**Pn**	**13 17 51.8**	**-0.3**
ITAB	**Concordia**	**16.28 115**		*e*P	**P**	**13 17 53.6**	**-0.3**
CPSB	**Cacapava Do Su**	**16.56 127**		*e*P	**P**	**13 17 58.3**	**+1.4**
ATAH	**Atahualpa**	**16.74 324**		P	**P**	**13 18 01.9**	**+2.5**
	comp=Z,13nm,0.8s,baz=168,slow=8.5,SNR=9.9						
TBTG	**Tabatinga, AM**	**16.80 356**		P	**Pn**	**13 17 58.5**	**-0.9**
TBTG				IAmb	IAmb	13 18 01.3	
	comp=Z,286nm,1.1s						
ARAG	**Araguaiana, MT**	**16.84 74**		*e*P	**P**	**13 18 00.5**	**+0.4**
ITRB	**Iturama**	**17.20 89**		*e*P	**Pn**	**13 18 04.7**	**+0.5**
TRQA	**Tornquist**	**17.91 163**			**P**	**13 18 11.5**	**-0.2**
TRQA	**Tornquist**	**17.91 163**		P	**P**	**13 18 11.5**	**-0.2**
TRQA				pmax	pmax		
	comp=Z,28nm,1.2s						
BB19B	**Bebedouro**	**18.78 94**		*e*P	**Pn**	**13 18 24.2**	**+1.0**
SNDB	**Serra Nova Dou**	**18.91 64**		*e*P	**P**	**13 18 22.0**	**-0.9**
NPGB	**Novo Progresso**	**18.95 45**		*e*P	**P**	**13 18 21.1**	**-2.2**
MACA	**Manacapuru-AM**	**19.40 25**		P	**P**	**13 18 25.9**	**-2.3**
MACA				IAmb	IAmb	13 18 29.4	
	comp=Z,93nm,0.8s						
MACA	**Manacapuru-AM**	**19.40 25**		*e*P	**P**	**13 18 25.6**	**-2.6**
IPMB	**Ipameri, GO**	**19.50 85**		*e*P	**P**	**13 18 29.2**	**-0.2**
PLCA	**Paso Flores**	**19.69 184**		P	**P**	**13 18 31.7**	**+0.5**
	comp=Z,16nm,1.0s,baz=6.6,slow=14,SNR=12						
PLCA	**Paso Flores**	**19.69 184**		*e*P	**P**	**13 18 32.5**	**+1.2**
MCRA	**Macar, Loja**	**19.89 325**		P	**P**	**13 18 33.3**	**-0.2**
MCRA				IAmb	IAmb	13 18 36.0	
	comp=Z,103nm,1.0s						
LL04	**Puerto Octay**	**20.06 188**		P	**P**	**13 18 34.5**	**-0.5**
BOSC	**San Juan Bosco**	**20.21 330**		P	**P**	**13 18 36.6**	**-0.5**
LL03	**Petrohue**	**20.28 188**		P	**P**	**13 18 38.1**	**+0.6**
BDFB	**Brasilia**	**20.30 78**		P	**P**	**13 18 37.3**	**-0.8**
	comp=Z,5.2nm,0.5s,baz=265,slow=14,SNR=8.7						
	comp=Z,5.2nm,0.5s						
BDFB	**Brasilia**	**20.30 78**		*e*P	Pn	13 18 40.0	-1.0
ARNL	**Arenillas**	**20.64 326**		P	**P**	**13 18 42.8**	**+1.3**
ARNL				IAmb	IAmb	13 18 45.2	
	comp=Z,129nm,1.0s						
ITTB	**Itaituba**	**20.80 39**		*e*P	**P**	**13 18 40.8**	**-2.4**
SGCB	**S£o Gabriel d**	**20.86 5**		*e*P	**P**	**13 18 39.6**	**-4.3**
COHC	**Cochancay**	**21.16 329**		P	**P**	**13 18 48.5**	**+1.3**
LL01	**San Ignacio de**	**21.50 188**		P	**P**	**13 18 52.5**	**+1.9**
PORT	**Chimborazo Vol**	**21.83 332**		P	**P**	**13 18 55.9**	**+0.9**
PORT				IAmb	IAmb	13 19 09.5	
	comp=Z,157nm,1.0s						
PTGA	**Pitinga**	**21.90 24**		P	**P**	**13 18 53.1**	**-2.0**
	comp=Z,13nm,0.4s,baz=202,slow=13,SNR=21						
	comp=Z,13nm,0.4s						
LL02	**Futaleuf**	**22.24 186**		P	**P**	**13 18 57.9**	**-0.5**
AY01	**Puyuhuapi**	**23.54 187**		P	**P**	**13 19 10.1**	**-0.9**
SMTB	**Santa Maria do**	**23.64 62**		*e*P	**P**	**13 19 11.5**	**-0.7**
MALB	**Monte Alegre**	**23.68 38**		*e*P	**P**	**13 19 10.7**	**-1.8**
MC01	**Montes Claros**	**23.76 84**		*e*P	**P**	**13 19 14.7**	**+1.3**
SDBA	**SAO DESIDERIO**	**24.28 73**		*e*P	**P**	**13 19 20.1**	**+2.1**
BOAV	**Boa Vista**	**24.62 20**		P	**P**	**13 19 20.7**	**-0.2**
BOAV				IAmb	IAmb	13 19 23.1	
	comp=Z,27nm,0.9s						
BOAV	**Boa Vista**	**24.62 20**		*e*P	**P**	**13 19 19.8**	**-1.2**
COYC	**Coyhaique**	**24.62 186**		P	**P**	**13 19 20.4**	**-0.3**
MCPB	**Macapa, AP**	**26.18 40**		*e*P	**P**	**13 19 34.9**	**-0.3**
ROSC	**El Rosal**	**26.32 347**		P	**P**	**13 19 37.6**	**+0.8**
	comp=Z,25nm,0.7s,baz=133,slow=6.6,SNR=7.8						
ROSC				LR	LR	13 32 41.0	
	comp=Z,229nm,21.7s,baz=69,slow=42						
	comp=Z,25nm,0.7s						
ROSC	**El Rosal**	**26.32 347**		P	**P**	**13 19 37.1**	**+0.3**
TMAB	**Tom-Au,PA,Br**	**27.31 50**		*e*P	**P**	**13 19 45.5**	**+0.2**
BAUV	**El Baul**	**29.81 1**		P	**P**	**13 20 06.4**	**-1.0**
BAUV				IAmb	IAmb	13 20 07.8	
	comp=Z,118nm,1.0s						
SDV	**Santo Domingo**	**29.81 356**		P	**P**	**13 20 06.5**	**-1.2**
	comp=Z,25nm,0.9s,baz=180,slow=7.0,SNR=17						
SDV				LR	LR	13 33 31.2	
	comp=Z,145nm,19.1s,baz=300,slow=39						
	comp=Z,25nm,0.9s						
SDV	**Santo Domingo**	**29.81 356**		P	**P**	**13 20 06.1**	**-1.6**
SDV				IAmb	IAmb	13 20 07.4	
	comp=Z,35nm,1.0s						
SDV	**Santo Domingo**	**29.81 356**		*e*P	**P**	**13 20 04.7**	**-3.0**
PCRV	**Puerto La Cruz**	**31.28 8**		LR	LR	13 33 34.7	
	comp=Z,186nm,21.6s,slow=37						
EFI	**East Falkland**	**31.67 167**		*i* P	**P**	**13 20 23.6**	**+0.2**
EFI				pmax	pmax		
	comp=Z,17nm,1.0s						
TOSP	**Speyside**	**33.12 15**		P	**P**	**13 20 36.3**	**-0.2**
SRBA	**San Rafael, Bu**	**33.38 333**		P

TKL	**Tuckaleechee C**	**58.19**	**346**	LR	LR	13 50 33.0		
	comp=Z,46nm,18.8s,baz=144,slow=38							
TKL	**Tuckaleechee C**	**58.19**	**346**	P	**P**	**13 23 52.8**	**-0.5**	
TKL				IAmb	IAmb	13 23 53.8		
	comp=Z,40nm,1.0s							
TKL	**Tuckaleechee C**	**58.19**	**346**	P	**P**	**13 23 52.8**	**-0.5**	
TKL				pmax	pmax			
	comp=Z,40nm,1.0s							
V52A	**Sevierville**	**58.32**	**346**	P	**P**	**13 23 53.8**	**-0.4**	
U54A	**Nelsons Funny**	**58.59**	**348**	P	**P**	**13 23 56.4**	**+0.2**	
PLAL	**Pickwick Lake**	**58.70**	**341**	P	**P**	**13 23 55.5**	**-1.3**	
PLAL				IAmb	IAmb	13 23 56.8		
	comp=Z,32nm,0.9s							
BLA	**Blacksburg**	**59.00**	**349**	P	**P**	**13 23 59.3**	**+0.4**	
	baz=167,SNR=6.3							
V48A	**Smith Brothers**	**59.04**	**343**	P	**P**	**13 23 58.5**	**-0.7**	
S57A	**Dark Hollow, R**	**59.29**	**351**	P	**P**	**13 24 00.8**	**-0.1**	
S57A				IAmb	IAmb	13 24 02.2		
	comp=Z,50nm,1.3s							
JCT	**Junction City**	**59.34**	**329**	P	**P**	**13 24 01.6**	**+0.2**	
JCT				IAmb	IAmb	13 24 02.7		
	comp=Z,14nm,1.1s							
JCT	**Junction City**	**59.34**	**329**	P	**P**	**13 24 01.6**	**+0.2**	
JCT				pmax	pmax			
	comp=Z,14nm,1.1s							
WVT	**Waverly**	**59.69**	**342**	P	**P**	**13 24 02.9**	**-0.7**	
WVT	**Waverly**	**59.69**	**342**	P	**P**	**13 24 02.9**	**-0.7**	
	baz=159							
WVT	**Waverly**	**59.69**	**342**	P	**P**	**13 24 02.9**	**-0.7**	
WVT				pmax	pmax			
	comp=Z,53nm,0.8s							
WVT	**Waverly**	**59.69**	**342**	P	**P**	**13 24 02.7**	**-1.0**	
WVT				pwP	**pP**	**13 24 31.1**	**0.0**	
R55A	**Marlinton**	**59.99**	**350**	P	**P**	**13 24 05.9**	**+0.1**	
MIAR	**Mount Ida**	**60.15**	**336**	P	**P**	**13 24 06.3**	**-0.5**	
MIAR				IAmb	IAmb	13 24 07.9		
	comp=Z,33nm,0.9s							
MIAR	**Mount Ida**	**60.15**	**336**	P	**P**	**13 24 06.8**	**0.0**	
	baz=153,SNR=14							
MIAR	**Mount Ida**	**60.15**	**336**	P	**P**	**13 24 06.3**	**-0.5**	
MIAR				pmax	pmax			
	comp=Z,33nm,0.9s							
T47A	**Sharon Grove**	**60.29**	**343**	P	**P**	**13 24 07.3**	**-0.4**	
WHAR	**Wooly Hollow**	**60.35**	**338**	P	**P**	**13 24 08.6**	**+0.4**	
WHAR				IAmb	IAmb	13 24 08.8		
	comp=Z,26nm,0.9s							
TXAR	**Lajitas Array**	**60.40**	**325**	P	**P**	**13 24 09.0**	**+0.3**	
	comp=Z,1.8nm,0.8s,baz=150,slow=8.3,SNR=18							
	comp=Z,1.8nm,0.8s							
VNA3	**Neumayer Olymp**	**60.42**	**161**	P	**P**	**13 24 09.6**	**+1.3**	
VNA1	**Neumayer--Stat**	**60.63**	**161**	P	**P**	**13 24 11.3**	**+1.7**	
Q54A	**Coxs Mills**	**60.80**	**349**	P	**P**	**13 24 10.5**	**-0.6**	
Q54A				IAmb	IAmb	13 24 12.1		
	comp=Z,48nm,0.9s							
P57A	**Homestead Farm**	**60.85**	**352**	P	**P**	**13 24 11.6**	**+0.1**	
P57A				IAmb	IAmb	13 24 13.2		
	comp=Z,23nm,0.8s							
VNA2	**Neumayer--Watz**	**61.00**	**161**	P	**P**	**13 24 13.5**	**+1.3**	
	baz=284,slow=8.0							
ABTX	**Abilene, Hawle**	**61.04**	**330**	P	**P**	**13 24 13.1**	**+0.1**	
ABTX				IAmb	IAmb	13 24 14.3		
	comp=Z,28nm,1.1s							
ABTX	**Abilene, Hawle**	**61.04**	**330**	P	**P**	**13 24 13.2**	**+0.3**	
	baz=147,SNR=6.4							
WCI	**Wyandotte Cave**	**61.25**	**344**	P	**P**	**13 24 13.3**	**-0.9**	
	baz=161							
MCWV	**Mont Chateau**	**61.29**	**350**	P	**P**	**13 24 15.1**	**+0.6**	
	baz=168,SNR=6.7							
P53A	**Whipple**	**61.38**	**349**	P	**P**	**13 24 15.1**	**0.0**	
S44A	**Carbondale**	**61.56**	**341**	P	**P**	**13 24 15.8**	**-0.5**	
S44A				IAmb	IAmb	13 24 16.9		
	comp=Z,63nm,1.1s							
P52A	**Corning**	**61.67**	**348**	P	**P**	**13 24 16.4**	**-0.5**	
	baz=166,SNR=6.5							
SSPA	**Standing Stone**	**61.97**	**352**	P	**P**	**13 24 19.2**	**+0.3**	
	baz=170							
SSPA	**Standing Stone**	**61.97**	**352**	P	**P**	**13 24 19.0**	**+0.1**	
SSPA				sP	**PcP**	**13 24 58.7**	**+0.1**	
O53A	**New Philadelph**	**62.09**	**349**	P	**P**	**13 24 19.9**	**+0.1**	
	baz=167,SNR=7.0							
P49A	**Miami Univ. Ec**	**62.11**	**346**	P	**P**	**13 24 19.0**	**-0.9**	
	baz=163,SNR=6.3							
TUL1	**Leonard**	**62.21**	**335**	P	**P**	**13 24 20.7**	**+0.1**	
	baz=151,SNR=5.4							
ACSO	**Alum Creek Sta**	**62.41**	**348**	P	**P**	**13 24 21.7**	**-0.3**	
ACSO				IAmb	IAmb	13 24 22.6		
	comp=Z,54nm,0.9s							
ACSO	**Alum Creek Sta**	**62.41**	**348**	P	**P**	**13 24 21.5**	**-0.4**	
	baz=165,SNR=10.0							
DEOK	**Depew**	**62.43**	**335**		**P**	**13 24 22.0**	**-0.1**	
DEOK				IAmb	IAmb	13 24 23.1		
	comp=Z,54nm,0.8s							
CCM	**Cathedral Cave**	**62.51**	**340**	P	**P**	**13 24 22.0**	**-0.6**	
	baz=156							
CCM	**Cathedral Cave**	**62.51**	**340**	P	**P**	**13 24 22.1**	**-0.5**	
SNAA	**Sanae**	**62.63**	**161**	P	**P**	**13 24 24.2**	**+1.1**	
SNAA	**Sanae**	**62.63**	**161**	P	**P**	**13 24 24.2**	**+1.1**	
SNAA	**Sanae**	**62.63**	**161**	*ce*P	**P**	**13 24 23.4**	**+0.3**	
SNAA				pmax	pmax			
	comp=Z,12nm,1.3s							
OK033	**Mehan**	**62.78**	**334**		**P**	**13 24 24.1**	**-0.4**	
OK033				IAmb	IAmb	13 24 25.5		
	comp=Z,38nm,0.9s							
O48B	**Farmland**	**62.90**	**346**	P	**P**	**13 24 24.3**	**-0.8**	
	baz=163,SNR=10							
OK050	**Pawnee Station**	**63.10**	**335**	P	**P**	**13 24 26.5**	**-0.1**	
OK050				IAmb	IAmb	13 24 27.8		
	comp=Z,37nm,0.8s							
OK051	**E0350 and S346**	**63.14**	**335**	P	**P**	**13 24 26.6**	**-0.2**	
OK051				IAmb	IAmb	13 24 28.1		
	comp=Z,53nm,1.0s							
M53A	**WI Miller and**	**63.16**	**350**	P	**P**	**13 24 26.9**	**0.0**	
	baz=167,SNR=7.0							
MNTX	**Cornudas Mount**	**63.16**	**325**	P	**P**	**13 24 26.8**	**-0.3**	
	baz=141,SNR=9.7							
BINY	**Binghamton**	**63.29**	**354**	P	**P**	**13 24 28.1**	**+0.3**	
	baz=172,SNR=6.6							
N49A	**Columbus Grove**	**63.32**	**347**	P	**P**	**13 24 27.3**	**-0.7**	
N49A				IAmb	IAmb	13 24 28.5		
	comp=Z,63nm,0.8s							
SFIN	**Lafayette**	**63.48**	**344**	P	**P**	**13 24 27.6**	**-1.4**	
	baz=161,SNR=8.0							
MSTX	**Muleshoe**	**63.64**	**329**	P	**P**	**13 24 29.6**	**-0.7**	
MSTX				IAmb	IAmb	13 24 31.9		
	comp=Z,34nm,1.1s							
MSTX	**Muleshoe**	**63.64**	**329**	P	**P**	**13 24 30.4**	**0.0**	
	baz=144,SNR=12							
ERPA	**Erie**	**63.72**	**351**	P	**P**	**13 24 30.7**	**+0.2**	
	baz=168,SNR=6.0							
U32A	**Winter Ranch,**	**63.92**	**333**	P	**P**	**13 24 31.5**	**-0.6**	
U32A				IAmb	IAmb	13 24 33.1		
	comp=Z,25nm,0.9s							
HDIL	**Hopedale**	**64.23**	**343**	P	**P**	**13 24 32.8**	**-1.1**	
	baz=158							
TROLL	**Troll, Antarti**	**64.34**	**161**	P	**P**	**13 24 35.9**	**+1.4**	
121A	**Cookes Peak, D**	**65.11**	**324**	P	**P**	**13 24 41.7**	**+1.7**	
	baz=140,SNR=5.4							
R32A	**Long Quarter,**	**65.54**	**334**	P	**P**	**13 24 42.5**	**0.0**	
R32A				IAmb	IAmb	13 24 43.8		
	comp=Z,36nm,0.8s							
LONY	**Lake Ozonia**	**65.57**	**355**	P	**P**	**13 24 43.1**	**+0.6**	
	baz=174							
BNM	**Barren Site**	**65.73**	**326**	P	**P**	**13 24 44.6**	**+0.6**	
ANMO	**Albuquerque**	**66.25**	**327**	P	**P**	**13 24 48.5**	**+1.1**	
	baz=141							
ANMO	**Albuquerque**	**66.25**	**327**	*ce*P	**P**	**13 24 47.3**	**-0.1**	
ANMO				pmax	pmax			
	comp=Z,16nm,1.7s							
ANMO	**Albuquerque**	**66.25**	**327**	P	**P**	**13 24 48.3**	**+0.9**	
ANMO				pP	**pP**	**13 25 14.2**	**-1.0**	
ANMO				pwP	**PcP**	**13 25 19.0**	**+2.3**	
ANMO				sP	**sP**	**13 25 27.3**	**0.0**	
CBKS	**Cedar Bluff**	**66.29**	**334**	P	**P**	**13 24 48.1**	**+0.8**	
	baz=148,SNR=5.2							
TUC	**Tucson**	**66.63**	**322**	P	**P**	**13 24 51.0**	**+1.3**	
	baz=137							
TUC	**Tucson**	**66.63**	**322**	P	**P**	**13 24 51.1**	**+1.4**	
SCIA	**State Center**	**66.64**	**340**	P	**P**	**13 24 49.1**	**-0.3**	
	baz=155							
JFWS	**Jewell Farm**	**66.68**	**343**	P	**P**	**13 24 49.2**	**-0.4**	
	baz=158,SNR=5.6							
T25A	**Trinidad**	**66.98**	**330**	P	**P**	**13 24 53.0**	**+1.1**	
	baz=144							
NVL	**N'lazarevskaya**	**67.17**	**159**	*e*P	**P**	**13 24 52.9**	**+0.5**	
NVL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
214A	**Organ Pipe Nat**	**67.57**	**320**	P	**P**	**13 24 57.3**	**+1.8**	
	baz=135,SNR=5.1							
BGNE	**Belgrade**	**67.90**	**336**	P	**P**	**13 24 57.6**	**+0.2**	
	baz=150,SNR=7.4							
SDCO	**Great Sand Dun**	**67.98**	**329**	P	**P**	**13 24 59.6**	**+1.2**	
	baz=143,SNR=20							
LIC	**Lamto**	**68.03**	**74**⇑	*e*P	**P**	**13 24 57.6**	**-1.2**	
	comp=Z,20nm,0.8s							
TIC	**Toumodi**	**68.22**	**73**⇓	*e*P	**P**	**13 24 59.1**	**-0.9**	
	comp=Z,53nm,1.1s							
KIC	**Kosan Boka**	**68.34**	**74**⇑	*e*P	**P**	**13 24 59.3**	**-1.5**	
	comp=Z,4.8nm,0.4s							
DBIC	**Dimbokro**	**68.37**	**73**	P	**P**	**13 25 00.4**	**-0.6**	
	comp=Z,36nm,0.9s,baz=240,slow=6.2,SNR=32							
	comp=Z,36nm,0.9s							
DBIC	**Dimbokro**	**68.37**	**73**	P	**P**	**13 25 00.2**	**-0.7**	
DBIC				pP	**PcP**	**13 25 26.9**	**+1.1**	
Q24A	**Divide**	**68.79**	**330**	P	**P**	**13 25 04.4**	**+1.0**	
	baz=144,SNR=15							
MVCO	**Mesa Verde**	**69.05**	**327**	P	**P**	**13 25 06.1**	**+1.1**	
	baz=140,SNR=10							
QSPA	**South Pole Qui**	**69.14**	**180**	P	**P**	**13 25 06.7**	**+1.7**	
QSPA				pwP	**pP**	**13 25 35.8**	**+2.7**	
WUAZ	**Wupatki**	**69.31**	**324**	P	**P**	**13 25 08.5**	**+2.0**	
	baz=137,SNR=14							
ECSD	**EROS Data Cent**	**69.39**	**339**	P	**P**	**13 25 06.5**	**-0.1**	
	baz=152,SNR=11							
ISCO	**Idaho Springs**	**69.67**	**330**	P	**P**	**13 25 10.1**	**+1.2**	
	baz=143,SNR=7.1							
RMX	**La Rumorosa**	**70.01**	**319**	P	**P**	**13 25 11.7**	**+0.9**	
IKP	**In-Ko-Pah, Jac**	**70.06**	**319**	P	**P**	**13 25 13.8**	**+2.7**	
	baz=133							
BC3	**Big Chuckawall**	**70.34**	**320**	P	**P**	**13 25 14.6**	**+1.8**	
	baz=134,SNR=6.9							
IRM	**Iron Mountain**	**70.51**	**320**	P	**P**	**13 25 15.6**	**+1.9**	
	baz=134,SNR=10.0							
N23A	**Red Feather La**	**70.70**	**331**	P	**P**	**13 25 16.1**	**+1.1**	
	baz=143,SNR=7.2							
TPFO	**Pinon Flats**	**70.92**	**319**	P	**P**	**13 25 18.6**	**+2.2**	
	baz=133							
PFO	**Pinyon Flats O**	**70.93**	**319**	P	**P**	**13 25 18.7**	**+2.3**	
	baz=133							
PFO	**Pinyon Flats O**	**70.93**	**319**	*i* P	**P**	**13 25 16.6**	**+0.2**	
PFO				pmax	pmax			
	comp=Z,12nm,1.1s							
PFO	**Pinyon Flats O**	**70.93**	**319**	P	**P**	**13 25 18.3**	**+1.9**	
O20A	**White River Ci**	**71.18**	**329**	P	**P**	**13 25 19.3**	**+1.4**	
	baz=141,SNR=12							
GMRC	**Granite Mounta**	**71.25**	**321**	P	**P**	**13 25 20.2**	**+1.9**	
	baz=134,SNR=16							
EYMN	**Ely**	**71.67**	**344**	P	**P**	**13 25 20.2**	**-0.2**	
	baz=158,SNR=5.9							
HEC	**Hector,Ludlow**	**71.68**	**320**	P	**P**	**13 25 23.1**	**+2.2**	
	baz=133,SNR=7.1							
Q16A	**Castle Valley**	**71.72**	**326**	P	**P**	**13 25 22.2**	**+1.0**	
TUQ	**Turquoise Moun**	**71.85**	**321**	P	**P**	**13 25 24.0**	**+2.1**	
	baz=134,SNR=6.4							
BFSC	**Mount Baldy Ra**	**72.08**	**319**	P	**P**	**13 25 25.5**	**+2.2**	
	baz=132							
GSC	**Goldstone, Bar**	**72.28**	**320**	P	**P**	**13 25 26.5**	**+2.1**	
	baz=133							
K22A	**Casper**	**72.36**	**332**	P	**P**	**13 25 26.4**	**+1.5**	
	baz=143							
RSSD	**Black Hills**	**72.50**	**334**	P	**P**	**13 25 27.2**	**+1.5**	
	baz=146							
EDW2	**Edwards Air Fo**	**72.72**	**319**	P	**P**	**13 25 28.8**	**+1.8**	
	baz=132,SNR=5.3							
TPNV	**Topopah Spring**	**73.09**	**322**	P	**P**	**13 25 31.4**	**+2.1**	
	baz=134,SNR=8.5							
FURC	**Furnace Creek,**	**73.11**	**321**	P	**P**	**13 25 31.7**	**+2.5**	
	baz=133,SNR=9.7							
AGMN	**Agassiz Nation**	**73.21**	**341**	P	**P**	**13 25 29.3**	**-0.1**	
	baz=154,SNR=8.1							
DUG	**Dugway, Tooele**	**73.52**	**326**	P	**P**	**13 25 33.3**	**+1.6**	
	baz=137,SNR=7.7							
ISA	**Isabella, Lake**	**73.53**	**320**	P	**P**	**13 25 34.0**	**+2.2**	
	baz=132,SNR=7.7							
R11A	**Troy Canyon, C**	**73.69**	**323**	P	**P**	**13 25 34.9**	**+2.1**	
	baz=135,SNR=13							
CWC	**Cottonwood Cre**	**73.82**	**320**	P	**P**	**13 25 35.9**	**+2.4**	
	baz=132							
BW06	**Boulder Array**	**73.84**	**330**	P	**P**	**13 25 34.4**	**+0.7**	
	baz=140,SNR=6.8							
PD31	**Pinedale Array**	**73.84**	**330**	P	**P**	**13 25 33.9**	**+0.2**	
PDAR	**Pinedale Array**	**73.84**	**330**	P	**P**	**13 25 34.2**	**+0.6**	
	comp=Z,2.6nm,0.8s,baz=141,slow=6.8,SNR=17							
	comp=Z,2.6nm,0.8s							
PDAR	**Pinedale Array**	**73.84**	**330**	P	**P**	**13 25 33.6**	**-0.1**	
PKM	**Mcpherson Peak**	**73.84**	**318**	P	**P**	**13 25 36.1**	**+2.3**	
	baz=131,SNR=6.6							
GMN	**Gold Mountain**	**73.92**	**321**	P	**P**	**13 25 35.3**	**+1.1**	
MDND	**Maddock**	**74.00**	**339**	P	**P**	**13 25 34.9**	**+0.7**	
	baz=150,SNR=5.2							
SPUT	**South Promonto**	**74.15**	**327**	P	**P**	**13 25 35.1**	**-0.3**	
SMMC	**Simmler**	**74.24**	**318**	P	**P**	**13 25 38.4**	**+2.6**	
	baz=131							
AHID	**Auburn Hatcher**	**74.57**	**329**	P	**P**	**13 25 38.7**	**+0.8**	
AHID				IAmb	IAmb	13 25 39.9		
	comp=Z,22nm,0.8s							
ULM	**Lac du Bonnet**	**74.96**	**342**	P	**P**	**13 25 39.1**	**-0.5**	
	comp=Z,11nm,0.6s,baz=169,slow=6.0,SNR=12							
	comp=Z,11nm,0.6s							
LOHW	**Long Hollow**	**74.98**	**330**	P	**P**	**13 25 40.6**	**+0.4**	
NV11	**Mina Array Sit**	**75.20**	**322**	P	**P**	**13 25 41.4**	**-0.1**	
NVAR	**Mina Array Bea**	**75.29**	**322**	P	**P**	**13 25 43.8**	**+1.7**	
	comp=Z,5.3nm,0.9s,baz=158,slow=7.0,SNR=32							
	comp=Z,5.3nm,0.9s							
FLWY	**Flagg Ranch**	**75.38**	**330**	P	**P**	**13 25 43.4**	**+0.9**	
FLWY				IAmb	IAmb	13 25 45.3		
	comp=Z,30nm,0.8s							
LAO	**LASA Array**	**75.48**	**334**	P	**P**	**13 25 43.2**	**+0.3**	
LAO				IAmb	IAmb	13 25 44.9		
	comp=Z,20nm,0.9s							
LAO	**LASA Array**	**75.48**	**334**	P	**P**	**13 25 43.8**	**+1.0**	
	baz=144							
RLMT	**Red Lodge**	**75.53**	**332**	P	**P**	**13 25 44.6**	**+1.2**	
	baz=141,SNR=16							
H17A	**Grant Village**	**75.57**	**330**	P	**P**	**13 25 45.9**	**+2.3**	
	baz=140,SNR=5.6							
SCHQ	**Schefferville**	**75.59**	**1**	P	**P**	**13 25 43.2**	**+0.1**	
	comp=Z,9.2nm,0.7s,baz=170,slow=5.0,SNR=5.7							
	comp=Z,9.2nm,0.7s							
YNR	**Norris Junctio**	**75.86**	**331**	P	**P**	**13 25 44.5**	**-0.7**	
YHB	**Horse Butte**	**76.12**	**330**	P	**P**	**13 25 47.7**	**+1.0**	
YHB				IAmb	IAmb	13 25 49.7		
	comp=Z,18nm,0.9s							
DGMT	**Dagmar**	**76.16**	**337**	P	**P**	**13 25 47.8**	**+1.3**	
	baz=146,SNR=9.9							
HLID	**Hailey**	**76.79**	**328**	P	**P**	**13 25 52.4**	**+2.0**	
	baz=137,SNR=26							
BOZ	**Bozeman (W)**	**76.97**	**331**	P	**P**	**13 25 52.9**	**+1.6**	
	baz=139,SNR=5.6							
EGMT	**Eagleton**	**78.00**	**333**	P	**P**	**13 25 57.8**	**+0.8**	
	baz=141,SNR=5.7							
MSO	**Missoula**	**78.95**	**330**	P	**P**	**13 26 04.0**	**+1.7**	
	baz=138							
BOSA	**Boshof**	**83.44**	**118**	P	**P**	**13 26 26.6**	**0.0**	
	comp=Z,8.6nm,0.9s,baz=203,slow=4.1,SNR=12							
	comp=Z,8.6nm,0.9s							
BOSA	**Boshof**	**83.44**	**118**	P	**P**	**13 26 25.9**	**-0.8**	
TAM	**Tamanrasset**	**84.40**	**63**	P	**P**	**13 26 30.8**	**-0.7**	
TAM	**Tamanrasset**	**84.40**	**63**	P	**P**	**13 26 30.8**	**-0.7**	
TAM				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MAW	**Mawson**	**84.69**	**163**	P	**P**	**13 26 33.6**	**+1.6**	
	comp=Z,4.9nm,0.8s,baz=247,slow=7.7,SNR=2.3							
	comp=Z,4.9nm,0.8s							
LBTB	**Lobatse**	**84.99**	**115**	P	**P**	**13 26 34.8**	**+0.3**	
LBTB	**Lobatse**	**84.99**	**115**	P	**P**	**13 26 34.8**	**+0.3**	
LBTB				pmax	pmax			
	comp=Z,13nm,0.9s							
ESDC	**Sonseca Array**	**85.34**	**44**	P	**P**	**13 26 36.6**	**+0.9**	
	comp=Z,9.1nm,1.0s,baz=244,slow=5.4,SNR=20							
ESDC				LR	LR	14 00 37.4		
	comp=Z,24nm,19.2s,baz=165,slow=33							
	comp=Z,9.1nm,1.0s							
ESDC	**Sonseca Array**	**85.34**	**44**	P	**P**	**13 26 35.6**	**-0.1**	
YKA	**Yellowknife Ar**	**90.84**	**341**	P	**P**	**13 27 01.6**	**+0.3**	
	comp=Z,17nm,1.0s,baz=137,slow=4.4,SNR=8.5							
	comp=Z,17nm,1.0s							
DAVOX	**Davos/Dischmat**	**97.57**	**43**	LR	LR	14 10 30.4		
	comp=Z,9.5nm,18.6s,baz=263,slow=35							
MBAR	**Mbarara**	**98.55**	**94**	LR	LR	14 12 01.0		
	comp=Z,32nm,18.1s,baz=214,slow=35							
A36M	**Sachs Harbour**	**100.33**	**345**	P	**Pdif**	**13 27 44.5**	**+0.3**	
	baz=128							
ILAR	**Eielson Array**	**103.94**	**334**	PP	**PKiKP**	**13 32 12.6**	**-4.8**	
	comp=Z,0.5nm,1.0s,baz=116,slow=6.1,SNR=2.9							
OBN	**Obninsk**	**115.67**	**38**	*i* PKIKP	**PKiKP**	**13 32 41.7**	**+2.0**	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ANN	**Anapa**	**115.78**	**49**	*i* PKIKP	**PKPdf**	**13 32 39.9**	**-0.4**	
ANN				*e*		13 39 18.9		
ANN				pmax	pmax			
	comp=Z,91nm,1.1s							
KIV	**Kislovodsk**	**119.50**	**51**	*e*PKIKP	**PKPdf**	**13 32 47.4**	**-0.2**	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KBZ	**Khabaz**	**119.65**	**51**	PKP	**PKiKP**	**13 32 48.2**	**+0.4**	
	comp=Z,1.6nm,0.7s,baz=74,slow=3.8,SNR=4.8							
BILL	**Bilibino**	**122.19**	**339**	*i* PKIKP	**PKiKP**	**13 32 53.3**	**+1.2**	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.3s							
ARU	**Arti**	**127.64**	**34**	*i* PKIKP	**PKiKP**	**13 33 03.8**	**+0.5**	
ARU						13 35 04.4		
ARU						13 40 05.4		
ARU				SS	SS	13 52 08.8	+0.7	
H11S2	**WAKE ISLAND Hyl**	**28.06**	**277**	T	T	15 53 08.0		
	baz=102,slow=74,SNR=142							
H11S1	**WAKE ISLAND Hyl**	**28.07**	**277**	T	T	15 53 08.3		
	baz=102,slow=74,SNR=83							
H11S3	**WAKE ISLAND Hyl**	**28.08**	**277**	T	T	15 53 16.0		
	baz=102,slow=74,SNR=93							
H11N3	**WAKE ISLAND Hyl**	**28.13**	**279**	T	T	15 53 20.5		
	baz=102,slow=74,SNR=46							
H11N2	**WAKE ISLAND Hyl**	**28.14**	**279**	T	T	15 53 16.4		
	baz=102,slow=74,SNR=52							
H11N1	**WAKE ISLAND Hyl**	**28.14**	**279**	T	T	15 53 17.6		
	baz=102,slow=74,SNR=35							
TIXI	**Tiksi**	**128.38**	**353**	*c i* PKIKP	**PKPdf**	**13 33 02.0**	**-1.7**	
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.7s							
SEY	**Seymchan**	**129.78**	**337**	PKP	**PKiKP**	**13 33 07.3**	**-0.1**	
	comp=Z,5.1nm,0.9s,baz=45,slow=7.1,SNR=7.9							
SEY	**Seymchan**	**129.78**	**337**	*c i* PKIKP	**PKiKP**	**13 33 07.4**	**0.0**	
SEY				pmax	pmax			
	comp=Z,14nm,2.5s							
ASAR	**Alice Springs**	**130.42**	**208**	PKP	**PKiKP**	**13 33 09.8**	**-0.3**	
	comp=Z,1.6nm,0.8s,baz=144,slow=1.8,SNR=16							
WRA	**Warramunga Arr**	**133.47**	**210**	PKP	**PKPdf**	**13 33 15.4**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=163,slow=1.7,SNR=17							
KURK	**Kurchatov**	**140.82**	**33**	*c i* PKIKP	**PKPdf**	**13 33 28.5**	**+1.0**	
KURK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ZALV	**Zalesovo Beam**	**141.44**	**25**	PKhKP	PKPpre	13 33 24.9		
	comp=Z,6.5nm,0.8s,baz=299,slow=2.6,SNR=19							
AAK	**Ala-Archa**	**142.42**	**47**	*c i* PKIKP	**PKPdf**	**13 33 30.3**	**-0.6**	
AAK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KSH	**Kashi**	**144.63**	**51**	PKP	PKPbc	13 33 34.0	+0.1	
KSH				PP	**PP**	**13 36 52.3**	**-0.2**	
MK31	**Makanchi Array**	**145.13**	**36**	*i* PKIKP	**PKPbc**	**13 33 34.9**	**-0.2**	
MKAR	**Makanchi Array**	**145.13**	**36**	PKPbc	**PKPdf**	**13 33 35.8**	**+0.4**	
	comp=Z,19nm,0.8s,baz=330,slow=4.2,SNR=121							
ZEA	**Zeya**	**145.17**	**343**	*e*PKIKP	**PKPdf**	**13 33 35.8**	**+0.7**	
ZEA				pmax	pmax			
	comp=Z,30nm,1.1s							
DGZ	**Jazzator, Alta**	**145.69**	**28**	*i* PKP2	**PKPdf**	**13 33 35.9**	**-0.5**	
KLR	**Kul'dur**	**147.52**	**335**	PKPbc	**PKPbc**	**13 33 41.5**	**-0.5**	
	comp=Z,4.5nm,0.8s,baz=48,slow=3.4,SNR=13							
KLR	**Kul'dur**	**147.52**	**335**	*i* PKIKP	**PKPdf**	**13 33 39.7**	**+0.5**	
HEH	**HeiHe**	**148.21**	**340**	*e*PKPbc	**PKPdf**	**13 33 40.8**	**+0.5**	
MOY	**Mondy**	**148.39**	**12**	*e*PKP2	**PKiKP**	**13 33 45.5**	**-0.4**	
MOY				pmax	pmax			
	comp=Z,36nm,2.2s							
WMQ	**Urumqi**	**149.96**	**35**	*e*PKPbc	**PKPdf**	**13 33 43.0**	**-0.5**	
ZAK	**Zakamensk**	**150.04**	**10**	*e*PKHKP	PKPpre	13 33 47.1		
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.4s							
SIJI	**Sorong**	**150.78**	**224**	PKPbc	**PKiKP**	**13 33 51.9**	**+0.1**	
	comp=Z,9.1nm,0.8s,baz=67,slow=2.5,SNR=9.4							
USRK	**Ussuriysk Ar.**	**151.26**	**329**	PKPbc	**PKiKP**	**13 33 51.7**	**-0.1**	
	comp=Z,9.6nm,0.8s,baz=230,slow=2.3,SNR=10							
MJAR	**Matsushiro Arr**	**151.98**	**309**	PKPbc	**PKiKP**	**13 33 53.8**	**+0.1**	
	comp=Z,5.4nm,0.8s,baz=90,slow=1.5,SNR=11							
SONM	**Songino Array**	**152.98**	**7**	PKP	**PKPdf**	**13 33 49.3**	**+1.3**	
	comp=Z,1.8nm,0.8s,baz=109,slow=1.7,SNR=10							
SONM				PKPbc	**PKiKP**	**13 33 56.2**	**+0.7**	
	comp=Z,4.7nm,0.8s,baz=290

ISC 30 13:34:37.1±1.3, 45°70'N±0'.03 × 26°58E±0'.03, h145km±6km, n109, σ0.52/171, 94C-52D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.15**	**17**	⇑P	**Pn**	**13 34 56.7**	**0.0**
PLOR				⇓S	**Sn**	**13 35 11.2**	**-0.5**
PLOR	**Plostina**	**0.15**	**17**	⇑P	**Pn**	**13 34 56.7**	**0.0**
PLOR				⇓S	**Sn**	**13 35 11.2**	**-0.5**
PLOR	**Plostina**	**0.15**	**17**	P	**Pn**	**13 34 56.6**	**0.0**
BISRR	**Bisoca**	**0.18**	**150**	⇑P	**Pn**	**13 34 57.3**	**+0.5**
BISRR				⇓S	**Sn**	**13 35 11.8**	**+0.1**
BISRR	**Bisoca**	**0.18**	**150**	⇑P	**Pn**	**13 34 57.3**	**+0.5**
BISRR				⇓S	**Sn**	**13 35 11.8**	**+0.1**
VRI	**Vrincioaia**	**0.19**	**32**	⇑P	**Pn**	**13 34 56.9**	**+0.1**
VRI				⇓S	**Sn**	**13 35 11.5**	**-0.3**
VRI	**Vrincioaia**	**0.19**	**32**	⇑P	**Pn**	**13 34 56.9**	**+0.1**
VRI				⇓S	**Sn**	**13 35 11.5**	**-0.3**
VRI	**Vrincioaia**	**0.19**	**32**	P	**Pn**	**13 34 56.8**	**+0.1**
VRI				S	**Sn**	**13 35 11.3**	**-0.4**
COVR	**Voineasa-Covas**	**0.30**	**298**	⇑P	**Pn**	**13 34 56.9**	**-0.1**
COVR				⇓S	**Sn**	**13 35 11.9**	**-0.3**
COVR	**Voineasa-Covas**	**0.30**	**298**	⇑P	**Pn**	**13 34 56.9**	**-0.1**
COVR				⇓S	**Sn**	**13 35 11.9**	**-0.3**
ODBI	**Odobesti**	**0.34**	**80**	⇑P	**Pn**	**13 34 58.2**	**+0.2**
ODBI	**Odobesti**	**0.34**	**80**	⇑S	**Sn**	**13 35 12.5**	**+0.2**
NEHR	**Nehoiu**	**0.34**	**216**	⇑P	**Pn**	**13 34 57.6**	**+0.5**
NEHR				⇓S	**Sn**	**13 35 12.3**	**-0.1**
NEHR	**Nehoiu**	**0.34**	**216**	⇑P	**Pn**	**13 34 57.6**	**+0.5**
NEHR				⇓S	**Sn**	**13 35 12.3**	**-0.1**
PANC	**Panciu**	**0.43**	**67**	⇑P	**Pn**	**13 34 58.0**	**+0.6**
PANC				⇓S	**Sn**	**13 35 12.9**	**-0.1**
PANC	**Panciu**	**0.43**	**67**	⇑P	**Pn**	**13 34 58.0**	**+0.6**
PANC				⇓S	**Sn**	**13 35 12.9**	**-0.1**
MLR	**Muntele Rosu**	**0.50**	**245**	⇑P	**Pn**	**13 34 58.2**	**+0.2**
MLR				⇓S	**Sn**	**13 35 13.8**	**0.0**
MLR	**Muntele Rosu**	**0.50**	**245**	⇑P	**Pn**	**13 34 58.2**	**+0.2**
MLR				⇓S	**Sn**	**13 35 13.8**	**0.0**
MLR	**Muntele Rosu**	**0.50**	**245**	P	**Pn**	**13 34 58.1**	**+0.1**
MLR				S	**Sn**	**13 35 14.0**	**+0.2**
ISR	**Istrita**	**0.59**	**183**	⇑P	**Pn**	**13 34 58.9**	**+0.5**
ISR				⇓S	**Sn**	**13 35 13.7**	**-0.9**
ISR	**Istrita**	**0.59**	**183**	⇑P	**Pn**	**13 34 58.9**	**+0.5**
ISR				⇓S	**Sn**	**13 35 13.7**	**-0.9**
GHRR		**0.68**	**58**	⇑P	**Pn**	**13 34 59.5**	**+0.7**
GHRR				⇓S	**Sn**	**13 35 15.7**	**+0.3**
GHRR		**0.68**	**58**	⇑P	**Pn**	**13 34 59.5**	**+0.7**
GHRR				⇓S	**Sn**	**13 35 15.7**	**+0.3**
OZUR		**0.68**	**305**	⇑P	**Pn**	**13 34 58.7**	**-0.3**
OZUR		**0.68**	**305**	⇑P	**Pn**	**13 34 58.7**	**-0.3**
SECR		**0.76**	**209**	⇑P	**Pn**	**13 34 59.0**	**-0.4**
SECR				⇓S	**Sn**	**13 35 16.6**	**+0.1**
SECR		**0.76**	**209**	⇑P	**Pn**	**13 34 59.0**	**-0.4**
SECR				⇓S	**Sn**	**13 35 16.6**	**+0.1**
TUDR		**0.77**	**98**	⇑P	**Pn**	**13 34 59.6**	**+0.1**
TUDR				⇓S	**Sn**	**13 35 16.4**	**-0.1**
TUDR		**0.77**	**98**	⇑P	**Pn**	**13 34 59.6**	**+0.1**
TUDR				⇓S	**Sn**	**13 35 16.4**	**-0.1**
SLCR	**Slobozia Conac**	**0.84**	**97**	⇑P	**Pn**	**13 35 00.3**	**+0.3**
SLCR				⇓S	**Sn**	**13 35 17.0**	**-0.4**
SLCR	**Slobozia Conac**	**0.84**	**97**	⇑P	**Pn**	**13 35 00.3**	**+0.3**
SLCR				⇓S	**Sn**	**13 35 17.0**	**-0.4**
IZVR	**Izvoarele**	**0.85**	**101**	⇑P	**Pn**	**13 35 00.2**	**+0.2**
IZVR				⇓S	**Sn**	**13 35 16.8**	**-0.7**
IZVR	**Izvoarele**	**0.85**	**101**	⇑P	**Pn**	**13 35 00.2**	**+0.2**
IZVR				⇓S	**Sn**	**13 35 16.8**	**-0.7**
DOPR	**Dopca**	**0.88**	**288**	⇑P	**Pn**	**13 35 00.4**	**+0.1**
DOPR				⇓S	**Sn**	**13 35 17.7**	**-0.4**
DOPR	**Dopca**	**0.88**	**288**	⇑P	**Pn**	**13 35 00.4**	**+0.1**
DOPR				⇓S	**Sn**	**13 35 17.7**	**-0.4**
VARL	**Varlezi**	**0.91**	**77**	⇑P	**Pn**	**13 35 01.4**	**+0.9**
VARL				⇓S	**Sn**	**13 35 18.1**	**-0.3**
VARL	**Varlezi**	**0.91**	**77**	⇑P	**Pn**	**13 35 01.4**	**+0.9**
VARL				⇓S	**Sn**	**13 35 18.1**	**-0.3**
BIR	**Birlad**	**0.92**	**52**	⇑P	**Pn**	**13 35 01.1**	**+0.5**
BIR				⇓S	**Sn**	**13 35 17.9**	**-0.7**
BIR	**Birlad**	**0.92**	**52**	⇑P	**Pn**	**13 35 01.1**	**+0.5**
BIR				⇓S	**Sn**	**13 35 17.9**	**-0.7**
SCTR	**Scanteiesti**	**0.99**	**91**	⇑P	**Pn**	**13 35 01.9**	**+0.7**
SCTR				⇓S	**Sn**	**13 35 19.2**	**-0.4**
SCTR	**Scanteiesti**	**0.99**	**91**	⇑P	**Pn**	**13 35 01.9**	**+0.7**
SCTR				⇓S	**Sn**	**13 35 19.2**	**-0.4**
TATR	**Tatarca**	**1.03**	**95**	⇑P	**Pn**	**13 35 02.1**	**+0.6**
TATR				⇓S	**Sn**	**13 35 20.1**	**-0.2**
TATR	**Tatarca**	**1.03**	**95**	⇑P	**Pn**	**13 35 02.1**	**+0.6**
TATR				⇓S	**Sn**	**13 35 20.1**	**-0.2**
SULR		**1.05**	**193**	⇑P	**Pn**	**13 35 02.5**	**+0.7**
SULR				⇓S	**Sn**	**13 35 21.2**	**+0.6**
SULR		**1.05**	**193**	⇑P	**Pn**	**13 35 02.5**	**+0.7**
SULR				⇓S	**Sn**	**13 35 21.2**	**+0.6**
VLDR	**Vladesti**	**1.06**	**82**	⇑P	**Pn**	**13 35 02.3**	**+0.5**
VLDR				⇓S	**Sn**	**13 35 20.2**	**-0.5**
VLDR	**Vladesti**	**1.06**	**82**	⇑P	**Pn**	**13 35 02.3**	**+0.5**
VLDR				⇓S	**Sn**	**13 35 20.2**	**-0.5**
GISR	**Galati**	**1.07**	**104**	⇑S	**Sn**	**13 35 21.4**	**+0.6**
GISR	**Galati**	**1.07**	**104**	⇑S	**Sn**	**13 35 21.4**	**+0.6**
VOIR		**1.11**	**257**	⇑P	**Pn**	**13 35 02.3**	**-0.2**
VOIR				⇓S	**Sn**	**13 35 20.5**	**-1.2**
VOIR		**1.11**	**257**	⇑P	**Pn**	**13 35 02.3**	**-0.2**
VOIR				⇓S	**Sn**	**13 35 20.5**	**-1.2**
VOIR		**1.11**	**257**	P	**Pn**	**13 35 02.2**	**-0.2**
GIUM	**Giurgiulesti**	**1.16**	**100**	⇑S	**Sn**	**13 35 22.5**	**+0.1**
GIUM	**Giurgiulesti**	**1.16**	**100**	⇑S	**Sn**	**13 35 22.5**	**+0.1**
CFR	**Carcaliu**	**1.21**	**115**	⇑P	**Pn**	**13 35 03.5**	**+0.3**
CFR				⇓S	**Sn**	**13 35 22.6**	**-0.6**
CFR	**Carcaliu**	**1.21**	**115**	⇑P	**Pn**	**13 35 03.5**	**+0.3**
CFR				⇓S	**Sn**	**13 35 22.6**	**-0.6**
AMRR	**Amara**	**1.22**	**154**	⇑S	**Sn**	**13 35 23.3**	**0.0**
AMRR	**Amara**	**1.22**	**154**	⇑S	**Sn**	**13 35 23.3**	**0.0**
LEHL	**Lehliu**	**1.24**	**172**	⇑S	**Sn**	**13 35 24.1**	**+0.3**
LEHL	**Lehliu**	**1.24**	**172**	⇑S	**Sn**	**13 35 24.1**	**+0.3**
GIRR	**Girov**	**1.25**	**357**	⇑P	**Pn**	**13 35 04.3**	**+0.7**
GIRR	**Girov**	**1.25**	**357**	⇑P	**Pn**	**13 35 04.3**	**+0.7**
VASR	**Vaslui**	**1.26**	**41**	⇑P	**Pn**	**13 35 03.8**	**+0.1**
VASR				⇓S	**Sn**	**13 35 23.4**	**-0.7**
VASR	**Vaslui**	**1.26**	**41**	⇑P	**Pn**	**13 35 03.8**	**+0.1**
VASR				⇓S	**Sn**	**13 35 23.4**	**-0.7**
HARR	**Harsova**	**1.39**	**136**	⇑P	**Pn**	**13 35 05.5**	**+0.4**
HARR	**Harsova**	**1.39**	**136**	⇑P	**Pn**	**13 35 05.5**	**+0.4**
ARR	**Arges**	**1.41**	**257**	⇑P	**Pn**	**13 35 06.2**	**+0.8**
ARR				⇓S	**Sn**	**13 35 26.5**	**-0.4**
ARR	**Arges**	**1.41**	**257**	⇑P	**Pn**	**13 35 06.2**	**+0.8**
ARR				⇓S	**Sn**	**13 35 26.5**	**-0.4**
BUC1	**Bucharest**	**1.41**	**196**	⇑S	**Sn**	**13 35 26.5**	**-0.3**
BUC1	**Bucharest**	**1.41**	**196**	⇑S	**Sn**	**13 35 26.5**	**-0.3**
STFAR	**Stefanesti-Arg**	**1.42**	**234**	⇑P	**Pn**	**13 35 04.9**	**-0.5**
STFAR				⇓S	**Sn**	**13 35 26.8**	**-0.2**
STFAR	**Stefanesti-Arg**	**1.42**	**234**	⇑P	**Pn**	**13 35 04.9**	**-0.5**
STFAR				⇓S	**Sn**	**13 35 26.8**	**-0.2**
SGRR	**Singureni**	**1.54**	**196**	⇑P	**Pn**	**13 35 06.9**	**+0.2**
SGRR				⇓S	**Sn**	**13 35 28.4**	**-0.9**
SGRR	**Singureni**	**1.54**	**196**	⇑P	**Pn**	**13 35 06.9**	**+0.2**
SGRR				⇓S	**Sn**	**13 35 28.4**	**-0.9**
TPGR	**Topolog**	**1.55**	**123**	⇑P	**Pn**	**13 35 06.9**	**+0.1**
TPGR				⇓S	**Sn**	**13 35 28.2**	**-1.2**
TPGR	**Topolog**	**1.55**	**123**	⇑P	**Pn**	**13 35 06.9**	**+0.1**
TPGR				⇓S	**Sn**	**13 35 28.2**	**-1.2**
TLBR	**Topalu**	**1.56**	**138**	⇑S	**Sn**	**13 35 28.4**	**-1.1**
TLBR	**Topalu**	**1.56**	**138**	⇑S	**Sn**	**13 35 28.4**	**-1.1**
HUMR	**Humele**	**1.63**	**225**	⇑P	**Pn**	**13 35 07.7**	**0.0**
HUMR				⇓S	**Sn**	**13 35 30.2**	**-0.9**
HUMR	**Humele**	**1.63**	**225**	⇑P	**Pn**	**13 35 07.7**	**0.0**
HUMR				⇓S	**Sn**	**13 35 30.2**	**-0.9**
HUMR	**Humele**	**1.63**	**225**	P	**Pn**	**13 35 07.5**	**-0.2**
ICOR	**Ion Corvin**	**1.81**	**151**	⇑P	**Pn**	**13 35 10.4**	**+0.8**
ICOR				⇓S	**Sn**	**13 35 33.7**	**-0.8**
ICOR	**Ion Corvin**	**1.81**	**151**	⇑P	**Pn**	**13 35 10.4**	**+0.8**
ICOR				⇓S	**Sn**	**13 35 33.7**	**-0.8**
MILM	**Milestii Mici**	**1.96**	**51**	⇓P	**Pn**	**13 35 11.8**	**+0.4**
MILM	**Milestii Mici**	**1.96**	**51**	⇓P	**Pn**	**13 35 11.8**	**+0.4**
MILM	**Milestii Mici**	**1.96**	**51**	P	**Pn**	**13 35 11.7**	**+0.4**
LOT	**Lotru**	**1.99**	**264**	⇓S	**Sn**	**13 35 39.6**	**+1.0**
LOT	**Lotru**	**1.99**	**264**	⇓S	**Sn**	**13 35 39.6**	**+1.0**
PSN	**Preselentsi**	**2.32**	**150**	P	**Pn**	**13 35 16.0**	**+0.3**
SZH	**Strazhica**	**2.48**	**191**	*i* P	**Pn**	**13 35 17.6**	**-0.1**
PRD	**Provadia**	**2.57**	**167**	P	**Pn**	**13 35 20.0**	**+1.2**
ROIA	**ROIAK**	**2.67**	**167**	P	**Pn**	**13 35 20.9**	**+0.8**
GZR	**Gura Zlata**	**2.69**	**265**	⇑P	**Pn**	**13 35 20.9**	**+0.5**
GZR				⇓S	**Sn**	**13 35 54.3**	**+0.5**
GZR	**Gura Zlata**	**2.69**	**265**	⇑P	**Pn**	**13 35 20.9**	**+0.5**
GZR				⇓S	**Sn**	**13 35 54.3**	**+0.5**
HERR	**Herculane**	**3.05**	**256**	⇓P	**Pn**	**13 35 25.0**	**+0.1**
HERR	**Herculane**	**3.05**	**256**	⇓P	**Pn**	**13 35 25.0**	**+0.1**
MPEP	**Malo Peshtene**	**3.11**	**222**	*i* P	**Pn**	**13 35 25.4**	**-0.2**
JMB	**Yambol**	**3.24**	**180**	*i* P	**Pn**	**13 35 27.6**	**+0.4**
AK07	**Malin Array Si**	**5.16**	**19**	P	**Pn**	**13 35 52.6**	**+0.3**
AK05	**Malin Array Si**	**5.22**	**19**	P	**Pn**	**13 35 53.1**	**-0.1**
AK09	**Malin Array Si**	**5.24**	**19**	P	**Pn**	**13 35 53.6**	**+0.2**
AK16	**Malin Array Si**	**5.25**	**18**	P	**Pn**	**13 35 53.4**	**-0.1**
AK17	**Malin Array Si**	**5.25**	**17**	P	**Pn**	**13 35 53.3**	**-0.3**
AK11	**Malin Array Si**	**5.27**	**18**	P	**Pn**	**13 35 53.7**	**-0.1**
AK15	**Malin Array Si**	**5.28**	**18**	P	**Pn**	**13 35 53.9**	**0.0**
AK19	**Malin Array Si**	**5.28**	**17**	P	**Pn**	**13 35 53.7**	**-0.2**
AK18	**Malin Array Si**	**5.29**	**17**	P	**Pn**	**13 35 53.9**	**-0.2**
AK01	**Malin Array Si**	**5.29**	**18**	P	**Pn**	**13 35 54.3**	**+0.2**
AKBB	**Malin Array Si**	**5.30**	**18**	P	**Pn**	**13 35 54.4**	**+0.1**

JMA 30 13:39:46.4±0.7, 38°N±2°× 14°9E±°, h44km, MV4.6/16, NORTH PACIFIC, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.83**	**333**	*e*P	Pn	13 41 11.7	+1.5
NEM2				S	Sn	13 42 17.1	+1.4
JAK	**Akkeshi**	**5.95**	**325**	*e*P	Pn	13 41 14.3	+2.5
JAK				*e*S	Sn	13 42 22.1	+3.5
MIYJ	**Miyakonagasawa**	**6.03**	**285**	P	Pn	13 41 15.7	+2.7
JCH	**Churui**	**6.34**	**316**	P	Pn	13 41 21.0	+3.7
JCH				S	Sn	13 42 32.7	+4.3
JMK	**Ichinoseki**	**6.42**	**279**	P	Pn	13 41 20.7	+2.4
JTKR	**Abashiri--Toko**	**7.07**	**326**	*e*P	Pn	13 41 30.6	+3.3
JOT	**Ohata**	**7.13**	**299**	P	Pn	13 41 31.6	+3.5
JOT				*e*S	Sn	13 42 51.2	+3.4

*SOME **30** 13:41:57.9, 39°.33N × 72°.83E, h10km*
*KRNET **30** 13:41:60.0±0.1, 39°.24N × 71°.68E, h18km, mb3.3*
*NNC **30** 13:42:03.3±2.0, 39°.24N × 71°.55E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=15.0km s-min=9.6km az=12.0*

ISC 30 13:42:00.8±1.1, 39°27N±0°.06 × 71°64E±0°.05, h10km, n24, σ3.78/32, 14C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.01**	**321**	⇑*e*P	**Pg**	**13 42 20.2**	**0.0**
	baz=21						
BTK				⇑*i*S	**Sb**	**13 42 35.0**	**+1.2**
	baz=21						
GAR	**Garm**	**1.07**	**256**	⇑*e*P	**Pg**	**13 42 20.7**	**-0.6**
	baz=58						
GAR				⇑*i*S	**Sn**	**13 42 35.9**	**-1.0**
	baz=58						
OHH	**Osh**	**1.53**	**35**	⇑*i*P	**Pb**	**13 42 29.0**	**-0.2**
	baz=33						
OHH				⇑*i*S	**Sg**	**13 42 50.1**	**+0.2**
	baz=33						
CHGR	**Chuyangaron**	**2.03**	**253**	⇑*e*P	**Pb**	**13 42 37.6**	**-0.3**
	baz=54						
CHGR				⇑*i*S	**Sg**	**13 43 05.1**	**-1.0**
	baz=54						
TRKS	**Terek-Say**	**2.29**	**350**	⇓*i*P	**Pb**	**13 42 40.6**	**-1.6**
	baz=50						
TRKS				⇓*i*S	**Sb**	**13 43 10.3**	**-0.3**
	baz=50						
AML	**Almayashu**	**3.25**	**28**	P	**Pb**	**13 42 57.5**	**-1.3**
	SNR=42						
ARLS	**Aral**	**3.29**	**37**	⇑*e*P	**Pn**	**13 42 55.3**	**+2.7**
	baz=37						
ARLS				⇑*i*S	**Sb**	**13 43 35.5**	**-4.1**
	baz=37						
MRKS	**Merke**	**3.67**	**19**	*e*P	**Pb**	**13 43 02.6**	**-3.1**
	2.9nm,0.1s						
MRKS				*e*S	**Sb**	**13 43 48.6**	**-1.7**
	7.1nm,0.2s						
UCH	**Uchtor**	**3.67**	**36**	P	**Pb**	**13 43 03.1**	**-2.8**
	SNR=9.6						
UCH	**Uchtor**	**3.67**	**36**	⇓*i*P	**Pn**	**13 43 00.7**	**+2.7**
	baz=35						
UCH				⇓*i*S	**Sn**	**13 43 45.1**	**+3.6**
	baz=35						
EKS2	**Erkin-Say**	**3.75**	**25**	P	**Pb**	**13 43 03.8**	**-3.4**
	SNR=8.4						
EKS2	**Erkin-Say**	**3.75**	**25**	⇑*i*P	**Pn**	**13 43 01.5**	**+2.7**
	baz=24						
EKS2				⇑*i*S	**Sn**	**13 43 46.8**	**+3.7**
	baz=24						
KK31	**Karatay Array**	**3.92**	**348**	⇑Pn	**Pb**	**13 43 05.5**	**-4.5**
	2.1nm,0.3s,baz=173,slow=13,SNR=46						
KK31				⇓Sn	**Sb**	**13 43 53.1**	**-4.4**
	3.5nm,0.3s,baz=173,slow=23,SNR=4.5						
KK31				⇑Lg	Lg	13 44 06.2	
	5.2nm,0.4s,baz=162,slow=26,SNR=2.6						
AAK	**Ala-Archa**	**3.99**	**32**	P	**Pb**	**13 43 07.4**	**-3.9**
	SNR=12						
KBK	**Karagaybulak**	**4.20**	**35**	P	**Pb**	**13 43 11.1**	**-3.9**
	SNR=8.7						
CHMS	**Chumysh**	**4.40**	**31**	P	Pb	13 43 13.0	-5.2
	SNR=8.8						
CHMS	**Chumysh**	**4.40**	**31**	Pn	Pn	13 43 12.0	+4.4
	5.9nm,0.4s						
CHMS				Sn	**Sb**	**13 44 06.7**	**-4.5**
	6.7nm,0.8s						
USP	**Ospenovka**	**4.53**	**27**	P	Pn	13 43 14.2	+4.7
	SNR=15						
TKM2	**Tokmak 2**	**4.71**	**38**	P	Pn	13 43 16.8	+4.7
	SNR=8.0						
TKM2	**Tokmak 2**	**4.71**	**38**	Pn	**Pn**	**13 43 16.1**	**+4.0**
	2.6nm,0.6s						
TKM2				Sn	**Sb**	**13 44 13.9**	**-6.5**
	3.9nm,0.6s						
TKM2				Lg	Lg	13 44 34.4	
	3.3nm,0.7s						
SGDS	**Sogindy**	**4.74**	**27**	*e*P	Pn	13 43 16.7	+4.4
	4.0nm,0.1s						
SGDS				*e*S	**Sn**	**13 44 13.4**	**+6.0**
	5.3nm,0.2s						
KST	**Kastek**	**4.98**	**39**	*e*P	Pn	13 43 20.1	+4.3
	2.2nm,0.3s						
KST				*e*S	**Sn**	**13 44 18.5**	**+5.1**
	7.4nm,0.2s						
DGS	**Degeres**	**5.04**	**37**	*e*P	Pn	13 43 21.5	+5.0
	1.1nm,0.2s						
DGS				*e*S	**Sn**	**13 44 21.6**	**+6.8**
	2.7nm,0.0s						
KRBS	**Karabastau**	**5.36**	**33**	*e*P	Pb	13 43 27.4	-7.1
	0.7nm,0.0s						
KRBS				*e*S	**Sb**	**13 44 31.7**	**-7.1**
	1.4nm,0.7s						

*JMA **30** 13:49:08.0±0.1, 37°.1N±0°.2 × 141°.3E±0°.6, h24km, MV3.3/37, E OFF FUKUSHIMA PREF*
*IDC **30** 13:49:08.9±2.5, 36°.65N × 141°.31E, h0km, mb3.3/3, mbtmp3.3/4, ML2.2/1, MS1.9/1, Error ellipse: s-maj=54.6km s-min=27.5km az=40.0*

ISC 30 13:49:07.7±2.1, 37°09N±0°.05 × 141°30E±0°.09, h4km±13km, n17, σ1.38/17, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.44**	**310**	P	**Pb**	**13 49 17.6**	**-0.5**
JFFD	**Fukushimafurud**	**0.59**	**271**	P	**Pb**	**13 49 19.9**	**-0.7**
JFFD				S	**Sb**	**13 49 28.2**	**-1.1**
JMST	**Minamisoumatoc**	**0.71**	**333**	P	**Pb**	**13 49 22.3**	**-0.4**
JMST				*e*S	**Sb**	**13 49 32.6**	**-0.3**
JHO	**Hitachi**	**0.75**	**231**	*e*P	**Pg**	**13 49 22.2**	**+0.1**
JHO				*e*S	**Sg**	**13 49 32.3**	**+0.5**
JMM	**Marumori**	**0.87**	**333**	P	**Pb**	**13 49 25.0**	**-0.5**
JMM				*e*S	**Sb**	**13 49 37.3**	**-0.2**
JFY	**Yanaizu**	**1.31**	**285**	*i* P	**Pg**	**13 49 32.8**	**0.0**
JIO	**Ouri**	**1.36**	**2**	*i* P	**Pb**	**13 49 32.7**	**-1.1**
JIO				S	**Sn**	**13 49 50.5**	**-1.6**
MJAR	**Matsushiro Arr**	**2.54**	**259**	Pn	**Pn**	**13 49 50.4**	**+0.7**
	0.5nm,0.3s,baz=90,slow=16,SNR=15						
MJAR				Sn	**Sb**	**13 50 23.3**	**-2.1**
	0.7nm,0.3s,baz=103,slow=17,SNR=5.4						
MJAR				LR	LR	13 50 26.8	
	comp=Z,25nm,20.3s,baz=62,slow=31 4.3nm,0.5s						
H11N2	**WAKE ISLAND Hy 28.26**	**121**		T	T	14 24 29.2	
	baz=313,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy 28.26**	**121**		T	T	14 24 33.2	
	baz=313,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy 28.27**	**121**		T	T	14 24 32.6	
	baz=313,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy 28.97**	**123**		T	T	14 25 21.0	
	baz=315,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy 28.97**	**123**		T	T	14 25 21.3	
	baz=315,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy 28.98**	**123**		T	T	14 25 24.6	
	baz=315,slow=76,SNR=12						
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**13 57 19.6**	**+3.3**
	0.3nm,0.6s,baz=86,slow=7.4,SNR=2.4 0.3nm,0.6s						
WRA	**Warramunga Arr**	**57.10**	**188**	P	**P**	**13 58 53.8**	**-1.5**
	0.3nm,0.6s,baz=5.0,slow=7.4,SNR=13 0.3nm,0.6s						
ASAR	**Alice Springs**	**60.83**	**188**	P	**P**	**13 59 20.5**	**-0.6**
	0.2nm,0.8s,baz=2.9,slow=7.1,SNR=2.2 0.2nm,0.8s						

*IDC **30** 13:58:07.7±2.0, 7°.62S × 127°.81E, h151km±25km, mb3.0/1, mbtmp4.2/5, Error ellipse: s-maj=27.2km s-min=19.6km az=135.0*
*DJA **30** 13:58:08.0±0.2, 8°.3S±3°× 12°.8E±°, h183km±7km, M4.4/10, mb4.0/10, mB4.8/3, MLv4.5/10, Mw(mB)4.1/3*
*NEIC **30** 13:58:09.2±2.7, 7°.7S±0°.1× 127°.81E±0°.08, h162km±12km, mb4.2/9, Error ellipse: s-maj=15.4km s-min=10.7km az=156.0*

ISC 30 13:58:07.9±0.7, 7°60S±0°.07 × 127°75E±0°.06, h150km, n52, σ1.56/54, mb4.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.53**	**96**		**Pn**	**13 59 03.0**	**+0.9**
SAUI	**Saumlaki**	**3.53**	**96**	P	**Pn**	**13 59 03.9**	**+1.8**
SAUI	**Saumlaki**	**3.53**	**96**	P	**Pn**	**13 59 04.3**	**+2.2**
BNDI	**Bandanaira**	**3.73**	**35**	P	**Pn**	**13 59 06.4**	**+1.7**
BNDI	**Bandanaira**	**3.73**	**35**	P	**Pn**	**13 59 06.9**	**+2.2**
SOEI	**Soe**	**4.06**	**238**		**Pn**	**13 59 10.5**	**+1.5**
SOEI	**Soe**	**4.06**	**238**	P	**Pn**	**13 59 11.1**	**+2.1**
SOEI	**Soe**	**4.06**	**238**	P	**Pn**	**13 59 10.3**	**+1.3**
BATI	**Baumata**	**4.80**	**237**	P	**Pn**	**13 59 20.5**	**+1.8**
	50nm,0.4s,baz=134,slow=2.7,SNR=11						
BATI				S	**Sn**	**14 00 14.6**	**+0.7**
	203nm,0.4s,baz=39,slow=21,SNR=34						
BATI	**Baumata**	**4.80**	**237**	P	**Pn**	**13 59 20.4**	**+1.7**
MMRI	**Maumere**	**5.56**	**259**	Pn	**Pn**	**13 59 31.4**	**+2.7**
MMRI	**Maumere**	**5.56**	**259**	P	**Pn**	**13 59 30.1**	**+1.4**
	0.2nm2µm23nm,1.1s						
SANI	**Sanana**	**5.79**	**342**	P	**Pn**	**13 59 34.7**	**+2.8**
	0.0nm12nm,1.1s						
MTN	**Manton Dam**	**6.18**	**148**		**Pn**	**13 59 36.8**	**-0.3**
MTN	**Manton Dam**	**6.18**	**148**	P	**Pn**	**13 59 37.3**	**+0.3**
FAKI	**Fak Fak**	**6.46**	**44**	Pn	**Pn**	**13 59 40.8**	**+0.1**
FAKI	**Fak Fak**	**6.46**	**44**	P	**Pn**	**13 59 40.1**	**-0.7**
	0.1nm12nm,0.9s						
FAKI	**Fak Fak**	**6.46**	**44**	P	**Pn**	**13 59 40.5**	**-0.3**
KDU	**Kakadu**	**6.86**	**138**	P	**Pn**	**13 59 45.7**	**-0.4**
SIJI	**Sorong**	**7.55**	**28**	P	**Pn**	**13 59 54.7**	**-0.7**
	8.0nm,0.3s,baz=207,slow=10,SNR=9.2						
KNRA	**Kununurra**	**8.08**	**173**		**Pn**	**14 00 01.2**	**-1.3**
KNRA	**Kununurra**	**8.08**	**173**	P	**Pn**	**14 00 01.6**	**-0.9**
PLAI	**Plampang**	**9.95**	**262**	P	**Pn**	**14 00 26.3**	**-1.0**
	18nm,0.9s						
PLAI	**Plampang**	**9.95**	**262**	P	**Pn

	baz=317							
FULB	**Fuli**	**2.05**	**317**	P		Pn	14 02 12.9	-0.7
	baz=318							
FULB				S		**Sn**	**14 02 36.9**	**-2.4**
	baz=318							
SCZT	**Fangliau**	**2.14**	**289**	P		Pn	14 02 14.7	-0.2
	baz=289							
YULB	**Yu-li**	**2.19**	**320**	*eP*		Pn	14 02 15.1	-0.5
	baz=321							
YULB				S		**Sn**	**14 02 41.5**	**-1.3**
	baz=321							
HGSD	**Ruisui**	**2.20**	**324**	*eP*		Pn	14 02 14.8	-0.8
	baz=325							
HGSD				*eS*		**Sn**	**14 02 40.2**	**-2.7**
	baz=325							
ELDTW	**Lidau**	**2.23**	**312**	*eP*		Pn	14 02 15.4	-0.8
	baz=313							
TSMG	**Majia**	**2.24**	**297**	*eP*		Pn	14 02 16.4	+0.1
	baz=285							
EHY	**Hungye**	**2.26**	**323**	*eP*		Pn	14 02 16.2	-0.3
	baz=323							
EHY				S		**Sn**	**14 02 43.8**	**-0.9**
	baz=323							
EGFH	**Guangfu**	**2.34**	**327**	*eP*		**Pn**	**14 02 18.1**	**+0.5**
	baz=328							
EGFH				*eS*		**Sn**	**14 02 46.6**	**+0.2**
	baz=328							
STYH	**Taoyuan**	**2.38**	**308**	*eP*		Pn	14 02 18.1	-0.2
	baz=309							
ESL	**Shilin**	**2.46**	**329**	*eP*		**Pn**	**14 02 19.6**	**+0.3**
	baz=330							
ESL				S		**Sn**	**14 02 47.7**	**-1.7**
	baz=330							
YUS	**Yu-Shan**	**2.47**	**316**	*eP*		**Pn**	**14 02 20.3**	**+0.4**
	baz=317							
YUS				S		**Sn**	**14 02 49.6**	**-0.9**
	baz=317							
HATJ	**Hateruma jima**	**2.51**	**21**	S		**Sn**	**14 02 50.7**	**-0.1**
VWDT	**VWDT**	**2.56**	**323**	*eP*		Pn	14 02 20.7	0.0
	baz=324							
ALS	**Alishan**	**2.58**	**314**	*eP*		**Pn**	**14 02 23.0**	**+1.7**
	baz=324							
ALS				*eS*		**Sn**	**14 02 54.0**	**+1.1**
	baz=324							
CHN4	**Tsaushan**	**2.63**	**309**	*eP*		**Pn**	**14 02 22.8**	**+1.1**
	baz=320							
CHN4				*eS*		**Sn**	**14 02 56.0**	**+2.3**
	baz=320							
WCKO	**Fanlu**	**2.67**	**311**	*eP*		**Pn**	**14 02 23.6**	**+1.3**
	baz=321							
WCKO				*eS*		**Sn**	**14 02 56.5**	**+1.7**
	baz=321							
WHYT	**Xinyi Township**	**2.69**	**318**	*eP*		**Pn**	**14 02 24.6**	**+2.1**
	baz=327							
WHYT				*eS*		**Sn**	**14 02 55.8**	**+0.7**
	baz=327							
SSLB	**Suanglung**	**2.69**	**321**	*eP*		**Pn**	**14 02 24.6**	**+2.1**
	baz=332							
SSLB				*eS*		**Sn**	**14 02 55.5**	**+0.2**
	baz=332							
NACB	**Ninganchiao**	**2.70**	**336**	*eS*		**Sn**	**14 02 54.4**	**-1.1**
	baz=336							
IRIF	**Iriomote-Funau**	**2.75**	**18**	P		**Pn**	**14 02 24.4**	**+1.1**
IRIF				*eS*		**Sn**	**14 02 57.0**	**+0.3**
JKRS	**Kuro-shima**	**2.75**	**23**	P		**Pn**	**14 02 24.1**	**+0.8**
JKRS				S		**Sn**	**14 02 55.8**	**-0.9**
WUSB	**Renai**	**2.76**	**326**	*eP*		**Pn**	**14 02 24.7**	**+1.1**
	baz=327							
ETLH	**Xiulin Townshi**	**2.78**	**334**	*eP*		**Pn**	**14 02 24.9**	**+1.2**
	baz=335							
ETLH				*eS*		**Sn**	**14 02 56.1**	**-1.3**
	baz=335							
CHGB	**Renai**	**2.79**	**328**	*eP*		**Pn**	**14 02 25.0**	**+0.9**
	baz=328							
WHF	**Hehuan Shan**	**2.82**	**330**	*eP*		**Pn**	**14 02 25.8**	**+1.2**
	baz=331							
WHF				*eS*		**Sn**	**14 02 58.6**	**-0.3**
	baz=331							
FUSS	**Fushou**	**2.92**	**331**	*eP*		**Pn**	**14 02 27.2**	**+1.4**
	baz=340							
FUSS				*eS*		**Sn**	**14 03 00.7**	**-0.4**
	baz=340							
JIJ	**Ishigaki jima**	**2.92**	**25**	P		**Pn**	**14 02 26.0**	**+0.5**
JIJ				S		**Sn**	**14 02 59.5**	**-1.2**
NNSB	**Datong**	**3.02**	**334**	*eP*		**Pn**	**14 02 28.7**	**+1.7**
	baz=335							
NNSB				*eS*		**Sn**	**14 03 03.1**	**-0.3**
	baz=335							
JISG	**Ishigakijimahi**	**3.18**	**25**	P		**Pn**	**14 02 29.3**	**+0.1**
JISG				*eS*		**Sn**	**14 03 06.0**	**-1.4**
JTJ	**Tarama**	**3.40**	**30**	S		**Sn**	**14 03 11.3**	**-1.4**
JIRB	**Irabujima**	**3.79**	**34**	*eP*		**Pn**	**14 02 38.4**	**+0.8**
JIRB				*eS*		**Sn**	**14 03 22.4**	**+0.1**

IDC 30 14:04:36.7±2.2,1°.97N×127°.27E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=161.5km s-min=27.3km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.86**	**163**	P	P	14 09 41.0	-0.9
	0.6nm,0.5s,baz=342,slow=11,SNR=4.0						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.29**	**166**	P	P	14 10 14.7	+0.5
	0.5nm,1.1s,baz=344,slow=11,SNR=1.5						
	0.5nm,1.1s						
MKAR	**Makanchi Array**	**59.30**	**326**	P	P	14 14 40.5	+0.1
	0.2nm,0.3s,baz=119,slow=7.8,SNR=5.4						
	0.2nm,0.3s						

IDC 30 14:05:42.4±2.0,3°.68N×126°.89E,h0km,mb3.3/3, mbtmp3.3/3,MS2.9/1,Error ellipse: s-maj=171.6km s-min=29.5km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.59**	**163**	P	P	14 11 04.0	-0.4
	0.8nm,0.7s,baz=343,slow=10,SNR=6.8						
WRA				LR	LR	14 22 47.3	
	comp=Z,28nm,18.8s,baz=120,slow=42						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**28.03**	**166**	P	P	14 11 35.9	+0.5
	0.2nm,0.7s,baz=343,slow=12,SNR=4.5						
ASAR				PcP	PcP	14 14 50.3	-0.3
	0.3nm,1.0s,baz=347,slow=1.8,SNR=2.0						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**57.69**	**325**	P	P	14 15 34.7	-0.2
	0.3nm,0.7s,baz=110,slow=7.7,SNR=2.1						
	0.3nm,0.7s						

RSNC 30 14:09:01.4±1.0,6°.79N×73°.15W,h143km±4km,ML3.0, Mw3.5,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**190**	*eP*	Pn	14 09 20.6	-0.6
BARC				*eS*	Sn	14 09 35.3	-0.8
BARC				IAML		14 09 36.6	
	comp=Z,240nm,0.2s						
BRRC	**Barranca, Sant**	**0.64**	**299**	*eP*	Pn	14 09 22.5	-0.3
BRRC				*eS*	Sn	14 09 39.4	+0.4
BRRC				IAML		14 09 43.5	
	comp=Z,213nm,0.2s						
PAMC	**Pamplona, Colo**	**0.70**	**39**	*iP*	Pn	14 09 23.4	-0.4
PAMC				*eS*	Sn	14 09 40.2	-0.5
PAMC				IAML		14 09 42.7	
	comp=Z,172nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	*eP*	Pn	14 09 27.5	-1.2
PTBC				*eS*	Sn	14 09 48.4	-1.0
PTBC				IAML		14 09 51.5	
	comp=Z,195nm,0.2s						
TAMC	**Tame, Arauca**	**1.39**	**105**	*eP*	Pn	14 09 28.9	-0.4
TAMC				*eS*	Sn	14 09 48.0	-2.7
TAMC				IAML		14 09 51.6	
	comp=Z,65nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*eP*	Pn	14 09 33.8	-0.4
ZARC				*eS*	Sn	14 09 59.1	-0.2
ZARC				IAML		14 10 05.6	
	comp=Z,202nm,0.3s						
NORC	**Norcasia**	**2.10**	**235**	*eP*	Pn	14 09 37.2	-0.2
NORC				*eS*	Sn	14 10 04.0	-1.0
NORC				IAML		14 10 10.5	
	comp=Z,92nm,0.3s						
CHIC	**Chingaza**	**2.23**	**195**	*eP*	Pn	14 09 39.0	-0.3
CHIC				*eS*	Sn	14 10 07.8	-0.6
CHIC				IAML		14 10 11.3	
	comp=Z,45nm,0.3s						
ROSC	**El Rosal**	**2.26**	**211**	*eP*	Pn	14 09 40.8	+1.1
ROSC				*eS*	Sn	14 10 11.2	+2.2
ROSC				IAML		14 10 15.4	
	comp=Z,65nm,0.3s						
UREC	**San Jos de Ur**	**2.55**	**292**	*eP*	Pn	14 09 41.7	-1.2
UREC				*eS*	Sn	14 10 11.9	-2.9
UREC				IAML		14 10 14.2	
	comp=Z,79nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.76**	**352**	*eP*	Pn	14 09 47.8	+2.3
LL1C				*eS*	Sn	14 10 20.7	+1.1
PTGC	**Puerto Gaitan,**	**2.77**	**159**	*eP*	Pn	14 09 43.8	-1.7
PTGC				*eS*	Sn	14 10 16.9	-2.7
PTGC				IAML		14 10 23.9	
	comp=Z,53nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*eP*	Pn	14 09 48.8	+0.2
CBOC				*eS*	Sn	14 10 25.1	+0.1
CBOC				IAML		14 10 28.6	
	comp=Z,23nm,0.3s						
DBBC	**Dabeiba**	**3.05**	**274**	*eP*	Pn	14 09 49.1	-0.1
DBBC				*eS*	Sn	14 10 21.7	-4.4
ANIL	**Santa Ana**	**3.21**	**225**	*eP*	Pn	14 09 51.9	+0.5
ANIL				*eS*	Sn	14 10 30.9	+0.8
ANIL				IAML		14 10 38.6	
	comp=Z,86nm,0.3s						
ORTC	**Ortega, Tolima**	**3.55**	**216**	*eP*	Pn	14 09 56.3	+0.7
ORTC				*eS*	Sn	14 10 38.6	+1.0
ORTC				IAML		14 10 45.5	
	comp=Z,34nm,0.5s						
PLMC	**San Jos del P**	**3.64**	**239**	*eP*	Pn	14 09 56.8	-0.1
PLMC				*eS*	Sn	14 10 39.3	-0.5
PLMC				IAML		14 10 43.9	
	comp=Z,25nm,0.4s						
SJCC	**San Jacinto, C**	**3.68**	**327**	*eP*	Pn	14 09 54.9	-2.5
SJCC				*eS*	Sn	14 10 36.1	-4.7
SJCC				IAML		14 10 40.9	
	comp=Z,27nm,0.3s						
LCBC	**Los crdobas,**	**3.79**	**303**	*eS*	Sn	14 10 41.6	-1.7
LCBC				IAML		14 10 49.3	
	comp=Z,34nm,0.3s						
YOTC	**Yotoco, Valle**	**4.23**	**229**	*eP*	Pn	14 10 03.9	-0.8
YOTC				*eS*	Sn	14 10 52.9	-0.9
YOTC				IAML		14 11 01.4	
	comp=Z,5.0nm,0.4s						
SMRC	**Santa Marta, M**	**4.47**	**346**	*eP*	Pn	14 10 06.7	-1.0
SMRC				*eS*	Sn	14 10 54.4	-5.0
MALC	**Bahia Malaga**	**5.00**	**237**	*eP*	Pn	14 10 17.1	+2.4
MALC				*eS*	Sn	14 11 09.8	-2.1
URIC	**Uribia, Colomb**	**5.01**	**13**	*eP*	Pn	14 10 11.5	-3.3
URIC				*eS*	Sn	14 11 05.1	-7.0
URIC				IAML		14 11 09.5	
	comp=Z,8.0nm,0.5s						
GARC	**Garzon, Huila**	**5.14**	**207**	*eP*	Pn	14 10 15.8	-1.0
GARC				*eS*	Sn	14 11 10.8	-4.8
GARC				IAML		14 11 24.1	
	comp=Z,14nm,0.2s						
BBAC	**Balboa, Cauca**	**6.26**	**221**	*eP*	Pn	14 10 31.0	-0.8
BBAC				*eS*	Sn	14 11 39.8	-2.5
BBAC				IAML		14 11 46.2	
	comp=Z,5.1nm,0.3s						

IDC 30 14:12:20.5±1.9,22°.87N×101°.75E,h0km,mb3.3/2, mbtmp3.3/2,MS3.3/1,Error ellipse: s-maj=35.4km s-min=24.1km az=101.0,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.12**	**211**	Pg	Pg	14 13 55.5	-3.2
	0.9nm,0.3s,baz=28,slow=17,SNR=29						
CMAR				Lg	Lg	14 15 00.1	
	0.9nm,0.3s,baz=33,slow=28,SNR=10						
MKAR	**Makanchi Array**	**28.57**	**331**	P	P	14 18 16.9	-1.3
	0.2nm,0.6s,baz=139,slow=9.5,SNR=2.2						
	0.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**32.69**	**42**	LR	LR	14 32 23.7	
	comp=Z,46nm,18.7s,baz=114,slow=37						
WRA	**Warramunga Arr**	**53.12**	**141**	P	P	14 21 41.3	+1.1
	0.3nm,0.8s,baz=331,slow=8.7,SNR=2.6						
	0.3nm,0.8s						

WEL 30 14:37:06.0±0.3,42°.S±2°×17°.4E±°,h5km,M3.3/33, ML3.6/20,MLv3.3/33,Error ellipse: s-maj=0.0km s-min=0.0km az=128.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.33**	**8**	P	Pg	14 37 12.5	+0.2
BSWZ				S	Sg	14 37 17.9	+1.4
CMWZ	**Cape Campbell**	**0.41**	**46**	P	Pb	14 37 14.9	-0.8
KHZ	**Kahutara**	**0.43**	**209**	P	Pg	14 37 14.4	+0.1
TUWZ	**Tuamarina**	**0.61**	**9**	P	Pg	14 37 18.0	+0.3
TUWZ				S	Sb	14 37 27.5	-0.6
THZ	**Tophouse**	**0.73**	**292**	P	Pg	14 37 19.8	-0.3
NNZ	**Nelson**	**0.88**	**338**	P	Pg	14 37 22.4	-0.5
TCW	**Tory Channel**	**0.89**	**23**	P	Pg	14 37 22.8	-0.3
MRNZ	**Matariki Terra**	**1.02**	**308**	P	Pg	14 37 25.3	-0.2
WEL	**Wellington**	**1.03**	**44**	P	Pb	14 37 26.3	0.0
GVZ	**Greta Valley S**	**1.10**	**212**	P	Pg	14 37 26.9	-0.1
PLWZ	**Palliser**	**1.17**	**67**	P	Pg	14 37 27.9	-0.5
TKNZ	**Takaka Hill**	**1.19**	**327**	P	Pg	14 37 28.2	-0.6
DUWZ	**D'Urville Isla**	**1.24**	**4**	P	Pg	14 37 28.8	-0.9
MSWZ	**Moikau Station**	**1.24**	**60**	P	Pg	14 37 28.5	-1.2
CAW	**Cannon Point**	**1.32**	**46**	P	Pn	14 37 30.1	-0.9
LTZ	**Lake Taylor**	**1.37**	**236**	P	Pn	14 37 31.0	-0.8
PAWZ	**Paruwai Farm**	**1.37**	**62**	P	Pn	14 37 30.5	-1.3
AMCZ	**Amberley**	**1.43**	**217**	P	Pn	14 37 31.3	-1.3
KIW	**Kapiti Island**	**1.43**	**35**	P	Pn	14 37 32.3	-0.3
DSZ	**Denniston Nort**	**1.53**	**280**	P	Pb	14 37 34.7	-0.1
MTW	**Mount Morrison**	**1.54**	**56**	P	Pn	14 37 32.6	-1.4
TRWZ	**Traveller**	**1.54**	**66**	P	Pn	14 37 32.4	-1.7
QRZ	**Quartz Range**	**1.55**	**321**	P	Pn	14 37 34.2	0.0
OGWZ	**Otaki Gorge**	**1.59**	**40**	P	Pn	14 37 33.9	-0.8
HOWZ	**Holdsworth Sta**	**1.71**	**49**	P	Pn	14 37 35.5	-1.0
OKCZ	**Okains Bay**	**1.77**	**198**	P	Pn	14 37 35.3	-2.0
TMWZ	**Te Maipa**	**1.81**	**60**	P	Pn	14 37 36.0	-1.8
OXZ	**Oxford**	**1.84**	**225**	P	Pn	14 37 36.3	-1.9
MQZ	**McQueen's Vall**	**1.88**	**207**	P	Pn	14 37 36.1	-2.6
INZ	**Inchbonnie**	**1.89**	**248**	P	Pn	14 37 39.0	+0.1
MRZ	**Mangatainoka R**	**1.91**	**45**	P	Pn	14 37 37.8	-1.4
AKCZ	**Akaroa Harbour**	**1.95**	**200**	P	Pn	14 37 37.8	-1.9
TIWZ	**Tintock**	**2.00**	**52**	P	Pn	14 37 39.6	-0.8
RACZ	**Rakaia**	**2.09**	**216**	P	Pn	14 37 39.8	-1.9
PRWZ	**Pori Road**	**2.20**	**48**	P	Pn	14 37 43.5	+0.4
POWZ	**Post Office Ro**	**2.21**	**42**	P	Pn	14 37 42.9	-0.3
MHCZ	**Mount Hutt**	**2.23**	**227**	P	Pn	14 37 41.7	-2.0
BFZ	**Birch Farm**	**2.27**	**54**	P	Pn	14 37 42.3	-1.9
WACZ	**Wakanui South**	**2.40**	**217**	P	Pn	14 37 44.0	-1.8
WAZ	**Wanganui**	**2.45**	**22**	P	Pb	14 37 49.4	-1.1
DVHZ	**Dannevirke**	**2.48**	**46**	P	Pb	14 37 49.3	-1.7
WVZ	**Waitaha Valley**	**2.50**	**244**	P	Pn	14 37 47.2	-0.1
TSZ	**Takapari Road**	**2.56**	**40**	P	Pn	14 37 46.9	-1.2
LREZ	**Lake Rotokare**	**2.61**	**10**	P	Pn	14 37 52.2	-1.1
NMEZ	**Namu Road**	**2.62**	**1**	P	Pb	14 37 54.7	+1.3
RPZ	**Rata Peaks**	**2.63**	**230**	P	Pn	14 37 47.7	-1.4
ARCZ	**Arundel**	**2.72**	**225**	P	Pn	14 37 48.5	-1.8
KHEZ	**Kahui Hut**	**2.74**	**3**	P	Pb	14 37 55.3	-0.3
NBEZ	**Newall Road No**	**2.77**	**1**	P	Pb	14 37 54.4	-1.4
NEZ	**North Egmont**	**2.77**	**4**	P	Pb	14 37 56.1	0.0
PKE	**Pukeiti**	**2.84**	**3**	P	Pb	14 37 55.7	-1.5
DREZ	**Durham Road**	**2.86**	**6**	P	Pb	14 37 56.6	-0.9
GCSZ	**Gaunt Creek Bo**	**2.88**	**242**	P	Pn	14 37 53.6	+1.2
MTVZ	**Mangateitei**	**2.93**	**26**	P	Pb	14 37 57.7	-1.0
PKVZ	**Pokaka**	**2.98**	**23**	P	Pb	14 37 58.7	-0.9
VRZ	**Vera Road**	**3.00**	**14**	P	Pb	14 37 56.9	+2.8
MOVZ	**Moawhango**	**3.01**	**30**	P	Pb	14 37 58.3	-1.8
WNVZ	**Wahianoa**	**3.03**	**27**	P	Pb	14 37 57.6	-2.8
TRVZ	**Turoa**	**3.04**	**26**	P	Pb	14 37 59.3	-1.3
BHHZ	**Black Hill Sta**	**3.06**	**35**	P	Pb	14 38 00.4	-0.5
WHVZ	**Whangaehu Hut**	**3.06**	**27**	P	Pb	14 37 59.0	-2.1
FWVZ	**Far West T-bar**	**3.08**	**26**	P	Pb	14 37 59.7	-1.6
TUVZ	**Tukino**	**3.10**	**27**	P	Pn	14 37 56.6	+0.9
TMZ	**Timaru**	**3.12**	**220**	P	Pn	14 37 54.5	-1.3
NGZ	**Ngauruhoe**	**3.16**	**26**	P	Pn	14 37 59.2	+2.7
SNVZ	**South Ngauruho**	**3.17**	**27**	P	Pb	14 38 01.4	-1.4
NNVZ	**North Ngauruho**	**3.21**	**26**	P	Pn	14 38 00.2	+3.0
WTVZ	**West Tongariro**	**3.21**	**25**	P	Pb	14 38 01.9	-1.8
ETVZ	**East Tongariro**	**3.24**	**27**	P	Pb	14 38 02.2	-1.8
TMVZ	**Te Maari**	**3.25**	**27**	P	Pn	14 38 00.8	+3.0
FOZ	**Fox Glacier**	**3.30**	**242**	P	Pn	14 37 59.6	+1.3
LBZ	**Lake Benmore**	**3.54**	**227**	P	Pn	14 38 01.2	-0.5
HIZ	**Hauiti**	**3.61**	**13**	P	Pn	14 38 05.3	+2.8
ODZ	**Otahua Downs**	**3.79**	**216**	P	Pn	14 38 02.9	-2.1
TLZ	**Tolley Road**	**3.93**	**20**	P	Pn	14 38 10.8	+3.8
JCZ	**Jackson Bay**	**4.21**	**239**	P	Pn	14 38 11.1	+0.2
NGRZ	**Ngongotaha**	**4.33**	**26**	P	Pn	14 38 12.5	0.0
TOZ	**Tahuroa Road**	**4.49**	**17**	P	Pn	14 38 17.8	+3.2
AWAZ	**Awhitu Peninsu**	**5.01**	**8**	P	Pn	14 38 25.4	+3.7
MKAZ	**Moumakai**	**5.03**	**12**	P	Pn	14 38 26.1	+4.0
ETAZ	**East Tamaki Re**	**5.15**	**10**	P	Pn	14 38 28.3	+4.6
MBAZ	**Motutapu North**	**5.33**	**9**	P	Pn	14 38 32.1	+6.0
WIAZ	**Waiheke Island**	**5.33**	**11**	P	Pn	14 38 30.2	+3.9
OUZ	**Omahuta**	**6.81**	**358**	P	Pn	14 38 50.0	+3.5

*IDC **30** 14:42:33.5±0.6,6°.17S×149°.47E,h47km±5km,mb3.8/11, mbtmp4.1/12,MS3.5/19,Error ellipse: s-maj=17.2km s-min=7.7km az=128.0*
*NEIC **30** 14:42:34.9±1.4,6°.27S±0°.07×149°.59E±0°.08,h56km±9km, mb4.3/14,Error ellipse: s-maj=12.6km s-min=9.8km az=113.0*
*DJA **30** 14:42:35.7±0.5,6°.S±5°×15°.0E±°,h40km±9km,M4.7/8, mB4.8/2,mb4.4/8,MLv4.9/2,Mw(mB)4.1/2*
ISC 30 14:42:33.8±0.5,6°.23S±0°.06×149°.58E±0°.06,h50km,n63, σ1s24/61,mb4.2/14,MS3.5/15,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.09**	**52**	P	**Pn**	**14 43 21.4**	**+1.2**
	626nm,0.6s,baz=288,slow=19,SNR=28						
KRVT				S	**Sn**	**14 43 58.0**	**+2.0**
	336nm,0.6s,baz=156,slow=20,SNR=4.1						
KRVT				LR	LR	14 44 44.3	
	comp=Z,643nm,19.7s,baz=343,slow=42						
RABL	**Rabaul**	**3.27**	**52**		**Pn**	**14 43 23.7**	**+1.0**
RABL	**Rabaul**	**3.27**	**52**	P	**Pn**	**14 43 24.8**	**+2.1**
PMG	**Port Moresby**	**3.96**	**217**	P	**Pn**	**14 43 33.6**	**+1.4**
	375nm,0.7s,baz=14,slow=4.3,SNR=247						
PMG				S	**Sn**	**14 44 17.5**	**+0.1**
	642nm,0.5s,baz=46,slow=17,SNR=10						
PMG	**Port Moresby**	**3.96**	**217**	Pn	**Pn**	**14 43 33.1**	**+0.9**
PMG	**Port Moresby**	**3.96**	**217**	P	**Pn**	**14 43 33.7**	**+1.6**
MANU	**Manus Island**	**4.71**	**332**		**Pn**	**14 43 45.8**	**+3.4**
MANU	**Manus Island**	**4.71**	**332**	P	**Pn**	**14 43 45.9**	**+3.4**
COEN	**Coen**	**9.94**	**219**	Pn	**Pn**	**14 44 53.8**	**-0.2**
COEN	**Coen**	**9.94**	**219**	P	**Pn**	**14 44 54.6**	**+0.5**
HNR	**Honiara**	**10.75**	**108**	LR	LR	14 47 57.9	
	comp=Z,879nm,21.2s,baz=294,slow=30						
MTSU	**Mount Surprise**	**12.90**	**203**	P	**Pn**	**14 45 36.0**	**+1.4**
CTA	**Charters Tower**	**14.15**	**193**	P	**Pn**	**14 45 52.8**	**+1.2**
	4.1nm,0.7s,baz=21,slow=14,SNR=7.6						
CTA				LR	LR	14 51 05.9	
	comp=Z,122nm,18.9s,baz=72,slow=36						
CTAO	**Charters Tower**	**14.15**	**193**		**Pn**	**14 45 52.9**	**+1.2**
QIS	**Mount Isa**	**17.22**	**213**	P	**Pn**	**14 46 31.3**	**+0.3**
FAKI	**Fak Fak**	**17.59**	**280**		**Pn**	**14 46 35.0**	**-0.6**
SIJI	**Sorong**	**19.04**	**286**	LR	LR	14 55 16.3	
	comp=Z,92nm,19.1s,baz=266,slow=40						
EIDS	**Eidsvold**	**19.09**	**176**	P	**P**	**14 46 53.5**	**+1.1**
EIDS				IAmb	IAmb	14 46 55.2	
	comp=Z,6.7nm,0.6s						
WB0	**Warramunga Arr**	**19.98**	**226**		**P**	**14 47 02.0**	**-0.2**
WB0				IAmb	IAmb	14 47 14.4	
	comp=Z,23nm,1.0s						
WRAB	**Tennant Creek**	**20.11**	**226**	P	**P**	**14 47 04.1**	**+0.4**
WRA	**Warramunga Arr**	**20.13**	**226**	P	**P**	**14 47 03.6**	**-0.3**
	comp=Z,3.6nm,0.5s,baz=52,slow=11,SNR=39						
WRA				pP	**pP**	**14 47 14.5**	**+0.4**
	comp=Z,16nm,0.7s,baz=50,slow=11,SNR=30						
WRA				PcP	**PcP**	**14 51 16.9**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=37,slow=2.1,SNR=7.0						
WRA				LR	LR	14 56 19.4	
	comp=Z,96nm,18.4s,baz=14,slow=41						
	comp=Z,3.6nm,0.5s						
WRA	**Warramunga Arr**	**20.13**	**226**	P	**P**	**14 47 02.4**	**-1.4**
WB1	**Warramunga Ar.**	**20.13**	**226**	P	**P**	**14 47 04.3**	**+0.4**
RMQ	**Roma**	**20.16**	**182**	P	Pn	14 47 06.7	+0.4
GUMO	**Guam**	**20.24**	**347**	LR	LR	14 55 10.2	
	comp=Z,58nm,18.6s,baz=114,slow=38						
KNRA	**Kununurra**	**22.47**	**244**	P	**P**	**14 47 28.4**	**-0.6**
KNRA				IAmb	IAmb	14 47 53.7	
	comp=Z,28nm,1.2s						
DZM	**Mont Dzumac**	**22.66**	**136**	P	**P**	**14 47 32.5**	**+1.3**
	comp=Z,6.9nm,0.7s,baz=316,slow=18,SNR=3.1						
DZM				LR	LR	14 55 11.2	
	comp=Z,186nm,20.0s,baz=298,slow=33						
	comp=Z,6.9nm,0.7s						
DZM	**Mont Dzumac**	**22.66**	**136**	P	**P**	**14 47 31.7**	**+0.6**
DZM				IAmb	IAmb	14 47 44.7	
	comp=Z,35nm,1.4s						
AS01	**Alice Springs**	**22.95**	**219**	P	**P**	**14 47 34.2**	**+0.1**
AS31	**Alice Springs**	**22.98**	**219**	P	**P**	**14 47 33.8**	**-0.6**
AS31				IAmb	IAmb	14 47 46.9	
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**22.98**	**219**	P	**P**	**14 47 33.9**	**-0.5

comp=Z,0.4nm,0.5s,baz=116,slow=6.6,SNR=1.9
ZALV LR LR 15 28 15.5
comp=Z,26nm,21.8s,baz=44,slow=34
comp=Z,0.4nm,0.5s
QSPA **South Pole Qui** **83.74 180** P **P** **14 54 56.8 -0.6**
QSPA IAmb IAmb 14 55 10.8
comp=Z,7.1nm,1.1s
ILAR **Eielson Array** **84.69 23** P **P** **14 54 59.6 -2.5**
comp=Z,0.8nm,0.7s,baz=250,slow=5.2,SNR=6.3
ARU **Arti** **95.71 326** LR LR 15 42 47.2
comp=Z,19nm,18.2s,baz=249,slow=38
PFO **Pinyon Flats O** **96.70 57** LR LR 15 30 45.4
comp=Z,33nm,19.6s,baz=271,slow=30
LPAZ **La Paz** **136.49 121** PKP **PKPdf** **15 01 51.9 -0.2**
comp=Z,0.6nm,0.4s,baz=236,slow=3.6,SNR=5.0
CPUP **Villa Florida** **138.42 142** PKP **PKPdf** **15 01 54.5 -0.1**
comp=Z,1.4nm,0.5s,baz=225,slow=4.3,SNR=4.1
BDFB **Brasilia** **152.14 141** PKPbc **PKPbc** **15 02 24.5 -0.6**
comp=Z,7.0nm,0.6s,baz=193,slow=4.4,SNR=11

*KRNET **30** 14:52:25.9±0.1,41°.09N×73°.72E,h24km,mb3.3*
*NNC **30** 14:52:26.3±1.7,41°.04N×73°.65E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=12.4km s-min=7.9km az=0.0
*SOME **30** 14:52:27.2,41°.13N×73°.78E,h10km*
*KNET **30** 14:52:29.8±0.5,41°.23N×73°.79E,h21km±2km,ml2.9,Error ellipse: s-maj=3.6km s-min=3.1km az=127.0*
ISC 30 14:52:25.3±1.2,41°.12N±0°.03×73°.75E±0°.02,h7km±10km, n76,σ1s30/122,40C-24D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARLS	**Aral** baz=31	**0.85**	**30**	⇑*e*P		**Pb**	**14 52 42.6**	**0.0**
ARLS				⇑*i*S		**Sb**	**14 52 54.6**	**+0.2**
OHH	**Osh** baz=32	**0.95**	**231**	⇑*e*P		**Pg**	**14 52 42.9**	**-0.6**
OHH				⇑*e*S		**Sg**	**14 52 55.1**	**-0.6**
AML	**Almayashu** 70nm,0.1s,SNR=147	**1.01**	**357**	⇓P		**Pn**	**14 52 46.3**	**0.0**
AML				⇓S		**Sn**	**14 53 00.5**	**-0.6**
UCH	**Uchtor** 16nm,0.1s,SNR=100	**1.24**	**27**	⇑P		**Pn**	**14 52 50.8**	**+1.2**
UCH				⇓S		**Sn**	**14 53 07.8**	**+1.0**
UCH	**Uchtor** baz=27	**1.24**	**27**	⇓*e*P		**Pn**	**14 52 49.6**	**0.0**
UCH				⇓*e*S		**Sn**	**14 53 06.8**	**-0.1**
EKS2	**Erkin-Say** 14nm,0.2s,SNR=52	**1.54**	**1**	⇑P		**Pg**	**14 52 56.1**	**+1.3**
EKS2				⇓S		**Sg**	**14 53 16.7**	**+1.9**
EKS2	**Erkin-Say** baz=1.0	**1.54**	**1**	⇑*e*P		**Pg**	**14 52 54.6**	**-0.2**
EKS2				⇑*e*S		**Sg**	**14 53 15.3**	**+0.5**
AAK	**Ala-Archa** 12nm,0.1s,SNR=32	**1.61**	**20**	⇓P		**Pg**	**14 52 57.4**	**+1.2**
AAK				⇓S		**Sg**	**14 53 18.6**	**+1.5**
AAK	**Ala-Archa** baz=20	**1.61**	**20**	⇑*e*P		**Pg**	**14 52 55.8**	**-0.4**
AAK				⇑*e*S		**Sg**	**14 53 17.8**	**+0.7**
MRKS	**Merke** 20nm,0.2s	**1.67**	**347**	*e*P		**Pg**	**14 52 58.3**	**+1.0**
MRKS				*e*S		**Sg**	**14 53 20.6**	**+1.7**
NRN	**Naryn** baz=78	**1.72**	**79**	⇑*e*P		**Pb**	**14 52 57.2**	**-0.3**
NRN				⇑*e*S		**Sb**	**14 53 19.9**	**+0.4**
KBK	**Karagaybulak** 25nm,0.2s,SNR=27	**1.77**	**30**	⇑P		**Pg**	**14 53 00.5**	**+1.2**
KBK				⇓S		**Sg**	**14 53 23.8**	**+1.5**
KBK	**Karagaybulak** baz=30	**1.77**	**30**	⇓*e*P		**Pb**	**14 52 58.4**	**+0.1**
KBK				⇓*e*S		**Sg**	**14 53 22.2**	**-0.1**
FRU1	**Bishkek** baz=21	**1.81**	**21**	⇑*e*P		**Pb**	**14 52 59.1**	**+0.3**
FRU1				⇑*e*S		**Sg**	**14 53 23.2**	**-0.2**
TRKS	**Terek-Say** baz=82	**2.01**	**283**	⇑*e*P		**Pn**	**14 53 00.6**	**+0.7**
TRKS				⇑*e*S		**Sn**	**14 53 25.6**	**+0.2**
CHMS	**Chumysh** 7.6nm,0.2s,SNR=20	**2.02**	**21**	⇑P		**Pg**	**14 53 04.5**	**+0.5**
CHMS				⇓S		**Sg**	**14 53 30.3**	**+0.2**
CHMS	**Chumysh** baz=22	**2.02**	**21**	⇑*e*P		**Pb**	**14 53 01.7**	**-0.7**
CHMS				⇑*e*S		**Sb**	**14 53 27.6**	**-0.1**
CHMS	**Chumysh** 27nm,0.8s	**2.02**	**21**	⇑Pn		**Pg**	**14 53 04.5**	**+0.5**
CHMS				⇑Sn		**Sg**	**14 53 31.9**	**+1.8**
BOOM	**Boomskoye usch** baz=49	**2.13**	**49**	⇑*e*P		**Pb**	**14 53 03.4**	**-1.0**
BOOM				⇑*e*S		**Sb**	**14 53 30.9**	**-0.2**
ULHL	**Ulahol** 8.7nm,0.1s,SNR=5.8	**2.18**	**58**	⇓P		**Pg**	**14 53 06.7**	**-0.3**
ULHL				⇓S		**Sg**	**14 53 35.0**	**-0.2**
ULHL	**Ulahol** baz=58	**2.18**	**58**	⇑*e*P		**Pb**	**14 53 04.1**	**-1.1**
ULHL				⇑*e*S		**Sb**	**14 53 31.9**	**-0.5**
USP	**Ospenovka** 20nm,0.3s,SNR=34	**2.21**	**14**	⇑P		**Pg**	**14 53 06.9**	**-0.8**
USP				⇑S		**Sg**	**14 53 35.2**	**-1.2**
USP	**Ospenovka** baz=15	**2.21**	**14**	⇑*e*P		**Pb**	**14 53 04.4**	**-1.3**
USP				⇑*e*S		**Sb**	**14 53 32.3**	**-1.1**
TKM2	**Tokmak 2** 14nm,0.2s,SNR=38	**2.26**	**37**	⇑P		**Pg**	**14 53 07.7**	**-0.9**
TKM2	**Tokmak 2** baz=37	**2.26**	**37**	⇓*e*P		**Pb**	**14 53 05.4**	**-1.2**
TKM2				⇓*e*S		**Sb**	**14 53 33.8**	**-1.1**
TKM2	**Tokmak 2** 16nm,0.6s	**2.26**	**37**	⇑Pn		**Pg**	**14 53 08.9**	**+0.3**
TKM2				⇓Sn		**Sg**	**14 53 39.7**	**+1.7**
SGDS	**Sogindy** 7.1nm,0.4s	**2.42**	**15**	*e*P		**Pg**	**14 53 11.7**	**+0.1**
SGDS				*e*S		**Sg**	**14 53 44.0**	**+1.0**
SGDS	**Sogindy** 7.1nm,0.4s	**2.42**	**15**	Pg		**Pg**	**14 53 11.7**	**+0.1**
SGDS				Lg		Lg	14 53 44.0	
BTK	**Batken** baz=46	**2.48**	**246**	⇑*e*P		**Pn**	**14 53 07.1**	**+0.9**
BTK				⇑*e*S		**Sn**	**14 53 37.2**	**+0.5**
DZA	**Taraz** 65nm,0.0s	**2.53**	**315**	*e*P		**Pg**	**14 53 13.3**	**-0.4**
DZA				*e*S		**Sg**	**14 53 46.1**	**-0.4**
DZA	**Taraz** 65nm,0.1s	**2.53**	**315**	Pg		**Pg**	**14 53 13.3**	**-0.4**
DZA				Lg		Lg	14 53 46.1	
KST	**Kastek** 15nm,0.1s	**2.53**	**40**	*e*P		**Pg**	**14 53 13.9**	**+0.1**
KST				*e*S		**Sg**	**14 53 47.8**	**+1.3**
KST	**Kastek** 15nm,0.5s	**2.53**	**40**	Pg		**Pg**	**14 53 13.9**	**+0.1**
KST				Lg		Lg	14 53 47.8	
DGS	**Degeres** 36nm,0.1s	**2.60**	**35**	*e*P		**Pg**	**14 53 15.2**	**+0.2**
DGS				*e*S		**Sg**	**14 53 49.7**	**+1.0**
DGS	**Degeres** 36nm,0.8s	**2.60**	**35**	Pg		**Pg**	**14 53 15.2**	**+0.2**
DGS				Lg		Lg	14 53 49.7	
KRBS	**Karabastau** 5.3nm,0.4s	**2.94**	**28**	*e*P		**Pg**	**14 53 21.2**	**-0.5**
KRBS				*e*S		**Sg**	**14 54 00.3**	**+0.6**
KRBS	**Karabastau** 5.3nm,0.4s	**2.94**	**28**	Pg		**Pg**	**14 53 21.2**	**-0.5**
KRBS				Lg		Lg	14 54 00.3	
TNSS	**Tian-Shan** 12nm,0.2s	**3.05**	**50**	*e*P		**Pg**	**14 53 22.7**	**-1.1**
TNSS				*e*S		**Sg**	**14 54 02.5**	**-0.8**
TNSS	**Tian-Shan** 12nm,0.3s	**3.05**	**50**	Pg		**Pg**	**14 53 22.7**	**-1.1**
TNSS				Lg		Lg	14 54 02.5	
KK31	**Karatay Array** 2.8nm,0.3s,baz=136,slow=16,SNR=74	**3.12**	**310**	⇑Pg		**Pg**	**14 53 22.9**	**-2.1**
KK31				⇓Lg		Lg	14 54 04.1	
AAA	**Alma-Ata** 26nm,0.1s	**3.14**	**47**	*e*P		**Pg**	**14 53 25.9**	**+0.4**
AAA				*e*S		**Sg**	**14 54 07.8**	**+1.6**
AAA	**Alma-Ata** 26nm,0.2s	**3.14**	**47**	Pg		**Pg**	**14 53 26.3**	**+0.8**
KNDC	**Almaty** 14nm,0.4s	**3.18**	**48**	⇓Pg		**Pb**	**14 53 23.8**	**+1.7**
KNDC				⇓Lg		Lg	14 54 08.0	
MDOK	**Medeo** 8.2nm,0.4s	**3.19**	**49**	*e*P		**Pg**	**14 53 25.9**	**-0.4**
MDOK				*e*S		**Sg**	**14 54 08.3**	**+0.6**
MDOK	**Medeo** 13nm,0.7s	**3.19**	**49**	⇑Pg		**Pg**	**14 53 25.6**	**-0.8**
MDOK				Pg		**Pg**	**14 53 25.9**	**-0.4**
MDOK				Lg		Lg	14 54 08.3	
MDOK				⇓Lg		Lg	14 54 11.8	
KOTS	**Kotyrbulak** 9.2nm,0.2s	**3.27**	**49**	*e*P		**Pg**	**14 53 27.6**	**-0.3**
KOTS				*e*S		**Sg**	**14 54 10.9**	**+0.7**
KOTS	**Kotyrbulak** 9.3nm,0.6s	**3.27**	**49**	Pg		**Pg**	**14 53 28.2**	**+0.3**
KOTS				Lg		Lg	14 54 12.0	
CHM	**Chimkent** 90nm,0.5s	**3.33**	**292**	*e*P		**Pg**	**14 53 29.4**	**+0.4**
CHM				*e*S		**Sg**	**14 54 13.7**	**+1.5**
KUU	**Kurty** 5.7nm,0.0s	**3.37**	**34**	*e*P		**Pg**	**14 53 29.0**	**-0.8**
KUU				*e*S		**Sg**	**14 54 13.1**	**-0.2**
KUU	**Kurty** 5.7nm,0.2s	**3.37**	**34**	Pg		**Pg**	**14 53 29.0**	**-0.8**
KUU				Lg		Lg	14 54 13.1	
KTBS	**Karatobe** 6.6nm,0.2s	**3.38**	**39**	*e*P		**Pg**	**14 53 28.7**	**-1.3**
KTBS				*e*S		**Sg**	**14 54 12.8**	**-0.9**
GAR	**Garm** baz=32	**3.38**	**232**	⇑*e*P		**Pn**	**14 53 19.8**	**+1.1**
GAR				⇑*e*S		**Sn**	**14 53 59.1**	**-0.1**
CHKK	**Chushkaly** 2.4nm,0.2s	**3.63**	**40**	*e*P		**Pg**	**14 53 33.9**	**-0.9**
CHKK				*e*S		**Sg**	**14 54 21.6**	**-0.2**
CHKK	**Chushkaly** 2.4nm,0.3s	**3.63**	**40**	Pg		**Pg**	**14 53 33.9**	**-0.9**
CHKK				Lg		Lg	14 54 21.6	
BTLS	**Baital** 3.0nm,0.2s	**3.92**	**3**	*e*P		**Pg**	**14 53 38.5**	**-1.9**
BTLS				*e*S		**Sg**	**14 54 29.4**	**-1.9**
BTLS	**Baital** 3.0nm,0.8s	**3.92**	**3**	Pg		**Pg**	**14 53 38.5**	**-1.9**
BTLS				Lg		Lg	14 54 29.4	
SATY	**Saty** 2.9nm,0.4s	**3.97**	**59**	*e*P		**Pg**	**14 53 39.8**	**-1.4**
SATY				*e*S		**Sg**	**14 54 31.9**	**-0.8**
SATY	**Saty** 2.9nm,0.4s	**3.97**	**59**	Pg		**Pg**	**14 53 39.8**	**-1.4**
SATY				Lg		Lg	14 54 31.9	
ZHN	**Zhinishke** 2.5nm,0.2s	**4.04**	**58**	*e*P		**Pg**	**14 53 41.2**	**-1.5**
ZHN				*e*S		**Sg**	**14 54 34.1**	**-0.8**
ZHN	**Zhinishke** 2.5nm,0.2s	**4.04**	**58**	Pg		**Pg**	**14 53 41.2**	**-1.5**
ZHN				Lg		Lg	14 54 34.1	
KURS	**Kuram** 1.9nm,0.6s	**4.04**	**53**	*e*P		**Pg**	**14 53 41.9**	**-0.8**
KURS				*e*S		**Sg**	**14 54 35.5**	**+0.5**
KURS	**Kuram** 1.9nm,0.6s	**4.04**	**53**	Pg		**Pg**	**14 53 41.9**	**-0.8**
KURS				Lg		Lg	14 54 35.5	
ARXS	**Arharly** 5.9nm,0.1s	**4.31**	**43**	*e*P		**Pg**	**14 53 46.1**	**-1.7**
ARXS				*e*S		**Sg**	**14 54 42.3**	**-1.3**
KPKS	**Kokpek** 5.5nm,0.1s	**4.34**	**56**	*e*P		**Pg**	**14 53 47.2**	**-1.3**
KPKS				*e*S		**Sg**	**14 54 44.2**	**-0.5**
KPKS	**Kokpek** 5.5nm,0.9s	**4.34**	**56**	Pg		**Pg**	**14 53 47.2**	**-1.3**
KPKS				Lg		Lg	14 54 44.2	
UZB	**Uzynbulak** 3.9nm,0.1s	**4.41**	**61**	*e*P		**Pg**	**14 53 46.5**	**-3.2**
UZB				*e*S		**Sg**	**14 54 43.4**	**-3.5**
UZB	**Uzynbulak** 3.9nm,0.4s	**4.41**	**61**	Pg		**Pg**	**14 53 46.5**	**-3.2**
UZB				Lg		Lg	14 54 43.4	
BLB	**Baldybastay** 8.2nm,3.6s	**4.58**	**48**	*e*P		**Pg**	**14 53 51.1**	**-1.9**
BLB				*e*S		**Sg**	**14 54 51.1**	**-1.3**
BLB	**Baldybastay** 10nm,0.6s	**4.58**	**48**	Pg		**Pg**	**14 53 51.1**	**-1.9**
BLB				Lg		Lg	14 54 51.1	
SHLS	**Shalkode** 1.5nm,0.4s	**4.71**	**63**	*e*P		**Pg**	**14 53 57.6**	**+2.1**
SHLS				*e*S		**Sg**	**14 55 02.3**	**+5.9**
SHLS	**Shalkode** 1.5nm,0.4s	**4.71**	**63**	Pg		**Pg**	**14 53 57.6**	**+2.1**
SHLS				Lg		Lg	14 55 02.3	
PDGK	**Podgornoye** 9.2nm,0.7s	**4.80**	**61**	Lg		Lg	14 54 55.2	
PDGK	**Podgornoye** 3.4nm,0.7s	**4.80**	**61**	⇓Pn		**Pg**	**14 54 00.4**	**+3.3**
PDGK				⇓Lg		Lg	14 54 58.1	
OTUK	**Ortayu** 19nm,0.7s	**7.19**	**352**	⇑Lg		Lg	14 56 13.8	
KURBB	**Kurchatov Arra** 4.2nm,0.8s	**10.07**	**18**	⇓Lg		Lg	14 57 38.8	
KURK	**Kurchatov** 3.9nm,1.0s	**10.17**	**18**	⇑Lg		Lg	14 57 46.7	

IDC 30 15:23:30.4±1.9,8°.00S×158°.64E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=38.4km s-min=29.1km az=41.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC

HNR	**Honiara** 2μm,0.3s,baz=232,slow=2.8,SNR=71	**1.92**	**138**	Pn		Pn	15 24 04.1	-0.3
HNR					Sn	Sn	15 24 24.7	-4.6
WRA	**Warramunga Arr** 3μm,0.3s,baz=335,slow=23,SNR=17	**26.36**	**241**	P		P	15 29 08.8	+0.3
ASAR	**Alice Springs** 0.3nm,0.3s,baz=66,slow=9.1,SNR=23	**28.36**	**234**	P		P	15 29 25.9	-0.6
STKA	**Stephens Creek** 0.2nm,0.5s,baz=62,slow=9.7,SNR=11	**28.57**	**211**	P		P	15 29 28.5	+0.3
SONM	**Songino Array** 1.0nm,0.4s,baz=48,slow=14,SNR=6.0	**72.16**	**326**	P		P	15 34 57.3	+0.2
	0.4nm,0.6s,baz=132,slow=7.2,SNR=2.6 0.4nm,0.6s							

*SOME **30** 15:25:49.8,39°.35N×74°.72E,h10km*
*KRNET **30** 15:25:50.2±0.1,39°.20N×74°.25E,mb3.5*
*NNC **30** 15:25:53.0±2.9,39°.44N×74°.47E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=21.8km s-min=12.6km az=161.0
ISC 30 15:25:51.4±1.6,39°.37N±0°.08×74°.48E±0°.05,h10km,n29, σ2s71/47,18C,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHH	**Osh** baz=20	**1.74**	**312**	⇑*i*P		**Pn**	**15 26 22.7**	**+1.0**
OHH				⇑*i*S		**Sg**	**15 26 46.4**	**-0.9**
ARLS	**Aral** baz=1.0	**2.49**	**357**	⇑*i*P		**Pb**	**15 26 36.4**	**+0.1**
ARLS				⇑*i*S		**Sg**	**15 27 09.9**	**-1.4**
UCH	**Uchtor** baz=4.0	**2.85**	**1**	⇑*e*P		**Pb**	**15 26 41.8**	**-0.9**
UCH				⇑*i*S		**Sb**	**15 27 19.4**	**+1.6**
BTK	**Batken** baz=89	**2.91**	**285**	⇑*e*P		**Pn**	**15 26 38.2**	**+0.4**
BTK				⇑*i*S		**Sn**	**15 27 13.3**	**+0.5**
GAR	**Garm** baz=67	**3.26**	**265**	⇑*e*P		**Pn**	**15 26 42.1**	**-0.6**
GAR				⇑*i*S		**Sn**	**15 27 20.1**	**-1.4**
EKS2	**Erkin-Say** baz=54	**3.33**	**351**	⇑*e*P		**Pb**	**15 26 47.7**	**-2.9**
EKS2				⇑*i*S		**Sb**	**15 27 29.8**	**-1.4**
MRKS	**Merke** 2.7nm,0.2s	**3.50**	**345**	*e*P		**Pb**	**15 26 56.2**	**+2.7**
MRKS				*e*S		**Sg**	**15 27 42.9**	**-0.9**
MRKS	**Merke** 2.8nm,0.6s	**3.50**	**345**	Pg		**Pb**	**15 26 56.2**	**+2.7**
MRKS				Lg		Lg	15 27 42.9	
TKM2	**Tokmak 2** 1.0nm,0.3s	**3.64**	**13**	⇑Pn		**Pn**	**15 26 50.3**	**+2.3**
TKM2				⇑Lg		Lg	15 27 46.1	
KST	**Kastek** 3.5nm,0.2s	**3.83**	**17**	*e*P		**Pb**	**15 27 01.4**	**+2.2**
KST				*e*S		**Sg**	**15 27 51.8**	**-2.7**
KST	**Kastek** 2.7nm,1.4s	**3.83**	**17**	Pg		**Pb**	**15 27 01.4**	**+2.2**
KST				Lg		Lg	15 27 51.8	
DGS	**Degeres** 6.7nm,0.2s	**3.98**	**14**	*e*P		**Pb**	**15 27 05.0**	**+3.2**
DGS				*e*S		**Sg**	**15 27 58.3**	**-1.1**
DGS	**Degeres** 6.7nm,0.7s	**3.98**	**14**	Pg		**Pb**	**15 27 05.0**	**+3.2**
DGS				Lg		Lg	15 27 58.3	
SGDS	**Sogindy** 1.9nm,0.5s	**4.08**	**2**	*e*P		**Pg**	**15 27 07.0**	**-2.5**
SGDS				*e*S		**Sg**	**15 28 01.3**	**-1.0**
SGDS	**Sogindy** 1.9nm,0.5s	**4.08**	**2**	Pg		**Pg**	**15 27 07.0**	**-2.5**
SGDS				Lg		Lg	15 28 01.3	
TNSS	**Tian-Shan** 6.6nm,0.2s	**4.11**	**26**	*e*P		**Pb**	**15 27 06.3**	**+2.3**
TNSS				*e*S		**Sg**	**15 27 59.7**	**-3.6**
TNSS	**Tian-Shan** 6.1nm,0.6s	**4.11**	**26**	Pg		**Pb**	**15 27 06.3**	**+2.3**
TNSS				Lg		Lg	15 27 59.7	
MDOK	**Medeo** 4.1nm,0.1s	**4.25**	**26**	*e*P		**Pb**	**15 27 09.4**	**+3.1**
MDOK				*e*S		**Sg**	**15 28 05.3**	**-2.7**
MDOK	**Medeo** 4.1nm,1.0s	**4.25**	**26**	Pg		**Pb**	**15 27 09.4**	**+3.1**
MDOK				Lg		Lg	15 28 05.3	
KOTS	**Kotyrbulak** 5.3nm,0.4s	**4.34**	**26**	*e*P		**Pb**	**15 27 10.6**	**+2.8**
KOTS				*e*S		**Sg**	**15 28 07.2**	**-3.4**
KOTS	**Kotyrbulak** 5.3nm,0.4s	**4.34**	**26**	Pg		**Pb**	**15 27 10.6**	**+2.8**
KOTS				Lg		Lg	15 28 07.2	
KRBS	**Karabastau** 1.3nm,0.1s	**4.41**	**11**	*e*P		**Pb**	**15 27 12.7**	**+3.7**
KRBS				*e*S		**Sg**	**15 28 11.4**	**-1.6**
KRBS	**Karabastau** 1.3nm,0.5s	**4.41**	**11**	Pg		**Pb**	**15 27 12.7**	**+3.7**
KRBS				Lg		Lg	15 28 11.4	
KUU	**Kurty** 1.7nm,0.4s	**4.72**	**17**	Pg		**Pg**	**15 27 19.4**	**-2.5**
KK31	**Karatay Array** 2.6nm,0.8s,baz=146,slow=14,SNR=7.6	**4.78**	**323**	⇑Pn		**Pn**	**15 27 06.4**	**+2.9**
KK31				⇑Pg		**Pb**	**15 27 17.6**	**+2.4**
KK31	0.6nm,0.4s,baz=152,slow=13,SNR=4.4			⇑Sn		**Sn**	**15 28 02.0**	**+3.1**
KK31	1.9nm,0.6s,baz=146,slow=24			⇑Lg		Lg	15 28 20.5	
CHKK	**Chushkaly** 2.4nm,0.5s	**4.86**	**22**	*e*P		**Pb**	**15 27 20.6**	**+4.0**
CHKK				*e*S		**Sg**	**15 28 25.2**	**-2.1**
CHKK	**Chushkaly** 2.4nm,0.5s	**4.86**	**22**	Pg		**Pb**	**15 27 20.6**	**+4.0**
CHKK				Lg		Lg	15 28 25.2	
BLB	**Baldybastay** 3.5nm,0.1s	**5.59**	**31**	*e*P		**Pb**	**15 27 32.3**	**+3.2**
BLB				*e*S		**Sg**	**15 28 44.7**	**-6.1**
BLB	**Baldybastay** 3.5nm,0.7s	**5.59**	**31**	Pg		**Pb**	**15 27 32.3**	**+3.2**
BLB	2.6nm,0.7s			Lg		Lg	15 28 44.7	

*JMA **30** 15:57:20.1±0.1,24°.2N±0°.3×121°.9E±0°.3,h51km,MV2.6/10, TAIWAN REGION*
*TAP **30** 15:57:21.0,24°.37N×121°.93E,h28km,ML3.2,C*
ISC 30 15:57:21.3±1.0,24°.33N±0°.02×121°.94E±0°.02,h19km±2km, n60,σ0s71/110,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EWUT	**Wuta** baz=300	**0.18**	**307**	P		**Pg**	**15 57 25.5**	**-0.6**
EWUT				S		**Sg**	**15 57 30.0**	**+0.5**
ENA	**Nanau** baz=290	**0.20**	**297**	*e*P		**Pg**	**15 57 26.7**	**+0.2**
ENA				*i* S		**Sg**	**15 57 31.2**	**+1.3**
TWC	**Suao** baz=351	**0.29**	**343**	*e*P		**Pb**	**15 57 27.7**	**-0.2**
TWC				S		**Sb**	**15 57 32.5**	**+0.3**
ETL	**Fush Village** baz=351	**0.34**	**239**	*e*P		**Pb**	**15 57 28.8**	**-0.1**

	baz=234								
NACB	**Ninganchiao**	**0.35**	**243**	*eP*		**Pb**	**15 57 28.8**	**-0.3**
	baz=242								
NACB				*i* S		**Sn**	**15 57 35.8**	**-2.2**
	baz=242								
NDS	**Dongshan**	**0.36**	**325**	*eP*		**Pg**	**15 57 28.1**	**-0.9**
	baz=324								
NDS				S		**Sb**	**15 57 34.6**	**-0.1**
	baz=324								
TWD	**Chiawan**	**0.41**	**231**	P		**Pb**	**15 57 29.9**	**-0.1**
	baz=235								
TWD				*i* S		**Sn**	**15 57 37.7**	**-1.5**
	baz=235								
LATG	**Datong**	**0.43**	**298**	*eP*		**Pb**	**15 57 30.2**	**-0.2**
	baz=301								
LATG				*i* S		**Sb**	**15 57 37.0**	**+0.4**
	baz=301								
ETLH	**Xiulin Townshi**	**0.44**	**253**	P		**Pb**	**15 57 30.5**	**-0.1**
	baz=249								
ETLH				S		**Sn**	**15 57 38.3**	**-1.9**
	baz=249								
ENTT	**Nioudou**	**0.46**	**312**	P		**Pg**	**15 57 29.8**	**-0.9**
	baz=310								
ENTT				S		**Sb**	**15 57 36.9**	**-0.5**
	baz=310								
TWE	**Neicheng**	**0.46**	**327**	*eP*		**Pb**	**15 57 30.8**	**-0.1**
	baz=327								
TWE				*eS*		**Sb**	**15 57 37.4**	**+0.1**
	baz=327								
ILA	**Ilan**	**0.46**	**338**	*eP*		**Pb**	**15 57 31.1**	**+0.2**
	baz=332								
ILA				*eS*		**Sb**	**15 57 38.5**	**+1.1**
	baz=332								
EGS		**0.51**	**359**	P		**Pg**	**15 57 30.8**	**-0.8**
	baz=2.0								
NNSB	**Datong**	**0.52**	**281**	*i* P		**Pb**	**15 57 31.9**	**+0.1**
	baz=282								
NNSB				*i* S		**Sb**	**15 57 39.4**	**+0.4**
	baz=282								
NNS	**Nan Shan**	**0.53**	**282**	P		**Pg**	**15 57 31.1**	**-1.0**
	baz=283								
NNS				S		**Sb**	**15 57 39.1**	**-0.2**
	baz=283								
FUSB	**Fushanzhiwuyua**	**0.53**	**323**	*eP*		**Pb**	**15 57 32.1**	**0.0**
	baz=321								
FUSB				S		**Sb**	**15 57 39.8**	**+0.4**
	baz=321								
NWLT	**Wulai**	**0.59**	**318**	P		**Pg**	**15 57 33.2**	**0.0**
	baz=316								
NWLT				S		**Sb**	**15 57 40.6**	**-0.5**
	baz=316								
YHNB	**Yeheng**	**0.61**	**303**	P		**Pg**	**15 57 33.4**	**-0.2**
	baz=301								
YHNB				S		**Sg**	**15 57 42.1**	**+0.2**
	baz=301								
NSK	**Sanguang**	**0.63**	**303**	P		**Pb**	**15 57 32.9**	**-0.8**
	baz=301								
NSK				S		**Sg**	**15 57 41.9**	**-0.5**
	baz=301								
FUSS	**Fushou**	**0.64**	**262**	P		**Pg**	**15 57 33.9**	**-0.3**
	baz=259								
FUSS				S		**Sn**	**15 57 43.7**	**-1.7**
	baz=259								
TIPB	**Shuangxi**	**0.64**	**351**	P		**Pg**	**15 57 34.5**	**+0.3**
	baz=356								
TIPB				S		**Sg**	**15 57 43.5**	**+0.8**
	baz=356								
WHF	**Hehuan Shan**	**0.65**	**253**	P		**Pg**	**15 57 34.2**	**-0.1**
	baz=250								
WHF				S		**Sn**	**15 57 44.0**	**-1.8**
	baz=250								
TWB1	**Santiao Chiao**	**0.67**	**4**	P		**Pg**	**15 57 34.7**	**0.0**
TWB1				*i* S		**Sb**	**15 57 43.4**	**+0.1**
ESL	**Shilin**	**0.70**	**222**	P		**Pb**	**15 57 34.5**	**-0.3**
	baz=219								
TWA	**Mucha**	**0.72**	**333**	P		**Pn**	**15 57 35.9**	**-0.6**
	baz=326								
TWA				S		**Sg**	**15 57 45.8**	**+0.6**
	baz=326								
NHDH	**Xindian Distri**	**0.73**	**329**	*eP*		**Pn**	**15 57 36.1**	**-0.5**
	baz=321								
NHDH				*i* S		**Sg**	**15 57 45.9**	**+0.4**
	baz=321								
NWF	**Wu-fen Shan**	**0.75**	**349**	P		**Pn**	**15 57 36.5**	**-0.5**
	baz=342								
NWF				S		**Sg**	**15 57 46.4**	**+0.3**
	baz=342								
CHGB	**Renai**	**0.75**	**249**	*eP*		**Pg**	**15 57 35.9**	**-0.3**
	baz=237								
CHGB				*eS*		**Sn**	**15 57 47.6**	**-0.6**
	baz=237								
SXI1	**Grass Mountain**	**0.76**	**355**	P		**Pg**	**15 57 36.3**	**0.0**
	baz=358								
SXI1				S		**Sg**	**15 57 46.5**	**+0.1**
	baz=358								
TAP	**Taipei**	**0.81**	**331**	*eS*		**Sn**	**15 57 48.9**	**-0.2**
	baz=326								
NFF	**Wufeng Townshi**	**0.81**	**292**	*eP*		**Pb**	**15 57 36.0**	**-0.8**
	baz=289								
NFF				*eS*		**Sn**	**15 57 48.4**	**-0.9**
	baz=289								
EGFH	**Guangfu**	**0.81**	**215**	*eP*		**Pn**	**15 57 38.6**	**+0.8**
	baz=228								
EGFH				*eS*		**Sn**	**15 57 49.5**	**+0.2**
	baz=228								
WUSB	**Renai**	**0.83**	**246**	*eP*		**Pb**	**15 57 37.0**	**-0.2**
	baz=235								
WUSB				*eS*		**Sn**	**15 57 48.8**	**-1.0**
	baz=235								
YM01	**YM01**	**0.88**	**337**	*eP*		**Pg**	**15 57 38.4**	**-0.1**
	baz=348								
YM01				*eS*		**Sn**	**15 57 50.4**	**-0.6**
	baz=348								
LIOB	**Emei**	**0.90**	**290**	*eP*		**Pn**	**15 57 39.1**	**+0.1**
	baz=288								
LIOB				*i* S		**Sn**	**15 57 52.0**	**+0.6**
	baz=288								
TWS1	**Kuangyinshan**	**0.90**	**328**	*eP*		**Pg**	**15 57 38.6**	**-0.3**
	baz=327								
TWS1				*eS*		**Sn**	**15 57 52.5**	**+1.0**
	baz=327								
NSTT	**Nanjuang**	**0.91**	**289**	*eP*		**Pb**	**15 57 38.3**	**-0.2**
	baz=287								
NSTT				S		**Sn**	**15 57 51.2**	**-0.5**
	baz=287								
WHP	**Taichung City**	**0.91**	**267**	*eP*		**Pn**	**15 57 40.2**	**+1.0**
	baz=264								
WHP				*eS*		**Sn**	**15 57 52.1**	**+0.2**
	baz=264								
JYNG	**Yonagunijimaku**	**0.92**	**83**	P		**Pb**	**15 57 38.2**	**-0.5**
JYNG				*eS*		**Sb**	**15 57 51.2**	**+0.6**
ANP	**Anpu**	**0.93**	**336**	*eP*		**Pb**	**15 57 38.8**	**-0.1**
	baz=335								
ANP				*eS*		**Sn**	**15 57 52.2**	**-0.2**
	baz=335								
VWDT	**VWDT**	**0.93**	**232**	*eP*		**Pb**	**15 57 38.5**	**-0.4**
	baz=230								
VWDT				*eS*		**Sn**	**15 57 52.1**	**-0.2**
	baz=230								
NCUH	**Zhongli**	**0.93**	**313**	*eP*		**Pn**	**15 57 39.4**	**0.0**
	baz=310								
NCUH				*eS*		**Sn**	**15 57 53.3**	**+1.0**
	baz=310								
NTST	**Danshui**	**0.94**	**332**	*eP*		**Pg**	**15 57 39.5**	**-0.2**
	baz=340								
NTST				*eS*		**Sn**	**15 57 53.7**	**+1.3**
	baz=340								
HGSD	**Ruisui**	**0.96**	**210**	*eP*		**Pg**	**15 57 40.6**	**+0.5**
	baz=224								
WCS	**Beigang Elemen**	**0.98**	**254**	*eP*		**Pg**	**15 57 40.4**	**0.0**
	baz=243								
YOJ	**Yonaguni jima**	**0.98**	**82**	*eP*		**Pb**	**15 57 39.4**	**-0.5**
	baz=77								
YOJ				*eS*		**Sb**	**15 57 53.3**	**+0.9**
	baz=77								
YOJ	**Yonaguni jima**	**0.98**	**82**	P		**Pb**	**15 57 39.2**	**-0.5**
YOJ				*eS*		**Sb**	**15 57 53.1**	**+0.8**
TWY	**Chenhua**	**0.99**	**342**	*eP*		**Pn**	**15 57 40.2**	**+0.1**
	baz=341								
TWY				*eS*		**Sn**	**15 57 53.8**	**+0.2**
	baz=341								
SMLT	**Sun Moon Lake**	**1.05**	**245**	*eP*		**Pb**	**15 57 40.7**	**-0.3**
	baz=236								
SMLT				*eS*		**Sg**	**15 57 57.3**	**+1.6**
	baz=236								
SSLB	**Suanglung**	**1.05**	**239**	*eP*		**Pb**	**15 57 40.3**	**-0.7**
	baz=229								
SSLB				*eS*		**Sb**	**15 57 53.6**	**-0.9**
	baz=229								
TWQ1	**Liyutan**	**1.07**	**271**	*eP*		**Pg**	**15 57 42.0**	**0.0**
	baz=268								
TWQ1				*eS*		**Sg**	**15 57 57.8**	**+1.7**
	baz=268								
NMLH	**Miaoli**	**1.07**	**281**	*eP*		**Pg**	**15 57 42.1**	**0.0**
	baz=278								
NMLH				*eS*		**Sg**	**15 57 57.1**	**+0.9**
	baz=278								
NSY	**Sanyi**	**1.08**	**275**	*eP*		**Pg**	**15 57 43.0**	**+0.6**
	baz=272								
NSY				*eS*		**Sg**	**15 57 57.9**	**+1.4**
	baz=272								
TYC	**Yuchr**	**1.08**	**247**	*eP*		**Pn**	**15 57 41.5**	**0.0**
	baz=237								
WHYT	**Xinyi Township**	**1.18**	**238**	*eP*		**Pb**	**15 57 43.0**	**-0.2**
	baz=229								
IRIF	**Iriomote-Funau**	**1.63**	**90**	*eP*		**Pn**	**15 57 48.1**	**-0.9**
IRIF				*eS*		**Sn**	**15 58 08.7**	**-0.9**
JKRS	**Kuro-shima**	**1.89**	**93**	*eP*		**Pn**	**15 57 52.5**	**-0.1**
JKRS				*eS*		**Sn**	**15 58 15.8**	**-0.1**
JIJ	**Ishigaki jima**	**2.01**	**89**	P		**Pn**	**15 57 53.7**	**-0.5**
JISG	**Ishigakijimahi**	**2.17**	**83**	P		**Pn**	**15 57 55.7**	**-0.8**
JISG				*eS*		**Sn**	**15 58 22.8**	**-0.1**
JTJ	**Tarama**	**2.53**	**83**	*eS*		**Sn**	**15 58 32.3**	**+0.5**

*IDC **30** 15:59:03.1±2.2, 1°.43N×126°.93E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=187.0km s-min=25.7km az=66.0*

*DJA **30** 15:59:18.2±1.1, 2°N±5°×12°7E±°, h110km±15km, M4.0/10, mb4.3/5, mB4.9/2, MLv3.9/10, Mw(mB)4.2/2*

ISC 30 15:59:16.0±1.4, 1°.6N±0°.1×127°.3E±0°.1, h100km, n13, σ2s34/14, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
TNTI	**Ternate**	**0.80**	**173**	P			**Pn**	**15 59 37.8**	**+3.3**
LBMI	**Labuha**	**2.21**	**174**	P			**Pn**	**15 59 53.8**	**+2.4**
LBMI				S			**Sn**	**16 00 20.3**	**+1.9**
SGSI	**Sangihe**	**2.73**	**320**	P			**Pn**	**16 00 00.7**	**+2.5**
SANI	**Sanana**	**3.82**	**200**	P			**Pn**	**16 00 12.7**	**-0.2**
GTOI	**Gorontalo**	**4.36**	**258**	P			**Pn**	**16 00 23.2**	**+3.0**
NLAI	**Namlea**	**4.78**	**182**	P			**Pn**	**16 00 26.6**	**+0.7**
LUWI	**Luwuk**	**5.20**	**240**	P			**Pn**	**16 00 32.9**	**+1.4**
	0.4nm2µm38nm,0.9s								
APSI	**Ampana**	**6.14**	**246**	P			**Pn**	**16 00 44.2**	**-0.1**
	0.2nm1µm37nm,0.5s								
BNSI	**Bone**	**9.30**	**230**	P			**Pn**	**16 01 28.7**	**+1.4**
	9.7nm,0.6s								
SPSI	**Sidrap Palu**	**9.30**	**234**	P			**Pn**	**16 01 28.7**	**+1.4**
WRA	**Warramunga Arr**	**22.48**	**162**	P			**P**	**16 04 04.3**	**-3.0**
	1.3nm,0.4s,baz=340,slow=11,SNR=45								
	1.3nm,0.4s								
ASAR	**Alice Springs**	**25.90**	**166**	P			**P**	**16 04 36.1**	**-2.8**
	0.2nm,0.3s,baz=344,slow=10.0,SNR=19								
	0.2nm,0.3s								
MKAR	**Makanchi Array**	**59.63**	**326**	P			**P**	**16 09 08.6**	**-1.1**
	0.2nm,0.3s,baz=120,slow=8.5,SNR=4.9								
	0.2nm,0.3s								

*IDC **30** 16:01:36.5±2.3, 12°.88S×111°.14E, h0km, mb3.6/6, mbtmp3.8/7, ML4.2/1, MS3.3/3, Error ellipse: s-maj=74.7km s-min=16.3km az=44.0*

ISC 30 16:01:38.6±1.1, 12°.7S±0°.1×111°.10E±0°.10, h10km, n22, σ1s50/22, mb3.6/6, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PCJI	**Pacitan**	**4.51**	**1**	P			**Pn**	**16 02 45.7**	**-1.3**
PCJI				S			**Sn**	**16 03 36.8**	**-2.8**
UGM	**Wanagama**	**4.83**	**353**	P			**Pn**	**16 02 50.9**	**-0.5**
UGM				S			**Sn**	**16 03 47.1**	**-0.3**
GMJI	**Gumukmas**	**5.00**	**28**	P			**Pn**	**16 02 53.9**	**+0.2**
	0.6nm3µm110nm,0.6s								
JAGI	**Jajag, Banyuwa**	**5.19**	**36**	P			**Pn**	**16 02 57.4**	**+1.0**
	0.3nm2µm54nm,0.7s								
IGBI	**Denpasar**	**5.56**	**46**	P			**Pn**	**16 03 02.6**	**+1.1**
	0.6nm2µm46nm,1.0s								
CMJI	**Cimerak**	**5.57**	**332**	P			**Pn**	**16 03 00.0**	**-1.6**
	0.7nm689nm36nm,1.0s								
ABJI	**Asem Bagus**	**5.79**	**32**	P			**Pn**	**16 03 06.5**	**+1.8**
	0.3nm54nm,0.6s								
LEM	**Lembang**	**6.80**	**329**	Pn			**Pn**	**16 03 22.9**	**+4.2**
	1.6nm,0.3s,baz=54,slow=12,SNR=2.3								
LEM				Sn			**Sn**	**16 04 37.3**	**+1.0**
	4.4nm,0.3s,baz=233,slow=24,SNR=4.4								
TWSI	**Taliwang, Sumb**	**6.93**	**56**	P			**Pn**	**16 03 20.9**	**+0.6**
	0.5nm755nm17nm,0.6s								
PLAI	**Plampang**	**7.62**	**60**	P			**Pn**	**16 03 29.7**	**-0.1**
	0.2nm553nm23nm,1.0s								
CGJI	**Cibinong**	**8.09**	**318**	P			**Pn**	**16 03 35.2**	**-1.0**
	693nm13nm,0.5s								
KAPI	**Kappang**	**11.48**	**49**	LR			LR	16 09 47.1	
	comp=Z,45nm,18.6s,baz=286,slow=42								
BATI	**Baumata**	**12.56**	**80**	Pn			**Pn**	**16 04 37.2**	**-0.4**
	1.4nm,0.3s,baz=270,slow=6.1,SNR=2.6								
BATI				Sn			Sn	16 06 47.9	-10
	1.7nm,0.3s,baz=184,slow=17,SNR=2.1								
	7.0nm,0.5s								
WRA	**Warramunga Arr**	**23.40**	**111**	P			**P**	**16 06 46.7**	**-1.2**
	1.0nm,0.9s,baz=291,slow=10,SNR=6.4								
WRA				S			S	16 10 51.1	-10
	0.2nm,0.6s,baz=285,slow=20,SNR=1.6								
	1.0nm,0.9s								
ASAR	**Alice Springs**	**24.20**	**120**	P			**P**	**16 06 55.0**	**-0.6**
	0.7nm,0.5s,baz=295,slow=9.8,SNR=14								
ASAR				S			**S**	**16 11 13.1**	**-0.9**
	0.5nm,1.0s,baz=284,slow=23,SNR=2.4								
	0.7nm,0.5s								
CMAR	**Chiang Mai Arr**	**33.23**	**339**	P			**P**	**16 08 16.8**	**+0.7**
	0.5nm,0.8s,baz=182,slow=8.2,SNR=6.1								
	0.5nm,0.8s								
USRK	**Usuriysk Ar.**	**59.77**	**17**	P			**P**	**16 11 43.8**	**0.0**
	3.5nm,1.0s,baz=182,slow=4.7,SNR=4.2								
	3.5nm,1.0s								
SONM	**Songino Array**	**60.44**	**356**	P			**P**	**16 11 49.3**	**+0.8**
	0.4nm,0.4s,baz=175,slow=9.0,SNR=4.1								
	0.4nm,0.4s								
KLR	**Kul'dur**	**64.33**	**15**	LR			LR	16 41 39.5	
	comp=Z,27nm,18.1s,baz=37,slow=37								
MKAR	**Makanchi Array**	**64.64**	**339**	P			**P**	**16 12 16.9**	**+0.5**
	0.3nm,0.5s,baz=142,slow=8.3,SNR=5.1								
	0.3nm,0.5s								
VNDA	**Vanda**	**69.63**	**170**	LR			LR	16 41 12.2	
	comp=Z,38nm,18.1s,baz=157,slow=34								
TXAR	**Lajitas Array**	**143.77**	**57**	PKP			PKPab	16 21 12.3	+0.6
	0.2nm,0.6s,baz=246,slow=1.6,SNR=2.4								

NOU 30 16:01:57.8, 14°.16S×167°.71E, h156km, MLv4.7/6, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
KOUNC	**Koumac, New Ca**	**7.15**	**207**	P			Pn	16 03 39.7	-0.1
YATNC	**Mamie plateau,**	**7.89**	**186**	P			Pn	16 03 49.6	-0.2
DZM	**Mont Dzumac**	**7.96**	**189**	P			Pn	16 03 50.8	+0.1

*NEIC **30** 16:34:37.6, 27°.09S×71°.33W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mr5.16; Mθθ0.78; Mφφ-5.93; Mrr1.44; Mθφ-0.73; Mθr-3.30; Fault plane solution: M0 6.69000×10^15^ NP1:ϕs169.68000°, δ61.84000°, λ72.30000°. NP2:ϕs23.75000°, δ32.87000°, λ119.59000°. Principal axes: T 6.5031, Plg68.0000°, Azm45.0000°; N 0.3548, Plg16.0000°, Azm178.0000°; P -6.8578, Plg15.0000°, Azm273.0000°;*

*NEIC **30** 16:34:37.1±2.8, 27°.06S±0°.03×71°.33W±0°.03, h5km±4km, mb4.8/24, Mwr4.5/46, Mwr4.7(GUC) Error ellipse: s-maj=5.5km s-min=2.1km az=135.0*

*IDC **30** 16:34:37.3±0.6, 27°.10S×71°.00W, h0km, mb4.4/9, mbtmp4.3/11, ML3.7/2, MS3.8/18, Error ellipse: s-maj=24.9km s-min=19.5km az=84.0*

*VAO **30** 16:34:37.5±0.3, 27°.06S×71°.30W, h11km, mb4.6*

*SJA **30** 16:34:38.5±0.5, 27°.14S×71°.25W, h17km±2km, ML4.6, MW4.6*

*GUC **30** 16:34:39.1±0.6, 27°.13S×71°.24W, h23km±3km, ML4.7*

ISC 30 16:34:38.1±0.9, 27°.11S±0°.02×71°.28W±0°.04, h13km±5km, n169, σ1s44/175, mb4.7/17, MS3.9/14, 6C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
AC06	**Mina Casimiro**	**0.86**	**107**				**Pg**	**16 34 54.8**	**-0.1**
AC06					Sg		**Sb**	**16 35 04.3**	**-2.2**
AC06	**Mina Casimiro**	**0.86**	**107**	*eP*			**Pb**	**16 34 54.1**	**-0.9**
AC06				*i* S			**Sb**	**16 35 05.3**	**-1.2**
AC06				IAML				16 35 07.6	
	comp=N,29µm,0.2s								
GO03	**Copiap**	**1.05**	**117**				**Pg**	**16 34 58.1**	**-0.2**
GO03							**Sb**	**16 35 10.1**	**-1.9**
GO03	**Copiap**	**1.05**	**117**	*eP*			**Pn**	**16 34 58.0**	**-0.7**
GO03				*i* S			**Sg**	**16 35 11.1**	**-1.0**
GO03	**Copiap**	**1.05**	**117**	*eP*			**Pn**	**16 34 58.0**	**-0.7**
GO03				*eS*			**Sg**	**16 35 11.4**	**-0.7**
AC04	**Llanos de Chal**	**1.10**	**170**	Pn			**Pg**	**16 34 59.0**	**-0.5**
AC04	**Llanos de Chal**	**1.10**	**170**	⇑*iP*			**Pn**	**16 34 58.7**	**-0.7**
AC04				*i* S			**Sn**	**16 35 13.2**	**-1.3**
AC04				IAML				16 35 15.7	
	comp=E,15µm,0.4s								
AC04	**Llanos de Chal**	**1.10**	**170**	*eP*			**Pg**	**16 34 58.9**	**-0.5**
AC04				*eS*			**Sg**	**16 35 14.0**	**+0.2**
AC04				IAML				16 35 16.6	
	comp=Z,12µm,0.5s								
AC01	**Pan de Azucar**	**1.14**	**33**	Pn			**Pn**	**16 34 59.5**	**-0.4**
AC01	**Pan de Azucar**	**1.14**	**33**	⇑*iP*			**Pn**	**16 34 59.5**	**-0.4**
AC01				*i* S			**Sb**	**16 35 14.7**	**+0.1**
AC01	**Pan de Azucar**	**1.14**	**33**	*eP*			**Pn**	**16 34 59.5**	**-0.4**
AC01				*eS*			**Sg**	**16 35 16.6**	**+1.7**
AC01				IAML				16 35 26.1	
	comp=Z,6µm,0.6s								
AC05	**El Transito**	**1.94**	**153**	Pn			**Pb**	**16 35 12.4**	**-1.0**
AC05	**El Transito**	**1.94**	**153**	⇑*iP*			**Pb**	**16 35 12.6**	**-0.8**
AC05				*i* S			**Sg**	**16 35 38.4**	**-2.0**
AC02	**Maricunga**	**1.94**	**82**				**Pb**	**16 35 12.9**	**-0.8**
AC02	**Maricunga**	**1.94**	**82**	⇑*iP*			**Pb**	**16 35 13.4**	**-0.4**
AC02				*i* S			**Sb**	**16 35 38.4**	**+0.3**
AC02				IAML				16 35 42.1	
	comp=N,5µm,0.3s								
AC02	**Maricunga**	**1.94**	**82**	*eP*			**Pb**	**16 35 13.4**	**-0.4**
AC02				*eS*			**Sb**	**16 35 38.8**	**+0.7**
AC02				IAML				16 35 46.6	
	comp=Z,4µm,0.5s								
LCO	**Las Campanas**	**1.96**	**165**	⇑*iP*			**Pb**	**16 35 12.6**	**-1.3**
LCO				*i* S			**Sn**	**16 35 35.8**	**-0.3**
GO02	**Mina Guanaco**	**2.47**	**38**	Pn			**Pn**	**16 35 19.1**	**+0.7**
GO02	**Mina Guanaco**	**2.47**	**38**	⇑*iP*			**Pn**	**16 35 19.1**	**+0.7**
GO02				*i* S			**Sb**	**16 35 54.3**	**+1.3**
GO02				IAML				16 36 06.5	
	comp=N,8µm,0.6s								
GO02	**Mina Guanaco**	**2.47**	**38**	*eP*			**Pn**	**16 35 19.9**	**+1.5**
GO02				*eS*			**Sb**	**16 35 52.2**	**-0.9**
PB14	**IPOC Station P**	**2.60**	**18**	Pn			**Pn**	**16 35 19.1**	**-1.1**
CO05	**La Serena**	**2.80**	**179**	Pn			**Pn**	**16 35 23.1**	**+0.5**
CO05	**La Serena**	**2.80**	**179**	*eP*			**Pn**	**16 35 23.5**	**+0.9**
CO05				*eS*			**Sn**	**16 35 55.6**	**-0.6**
CO05				IAML				16 36 13.8	
	comp=N,6µm,0.5s								
CO01	**Juntas del Tor**	**3.04**	**160**	Pn			**Pn**	**16 35 28.1**	**+1.8**
CO01	**Juntas del Tor**	**3.04**	**160**	IAML				16 36 18.5	
	comp=N,2µm,0.3s								
GO04	**Tololo Observa**	**3.08**	**172**	Pn			**Pn**	**16 35 28.1**	**+1.3**
GO04	**Tololo Observa**	**3.08**	**172**	⇓*iP*			**Pn**	**16 35 28.1**	**+1.3**
GO04				*i* S			**Sn**	**16 36 05.5**	**+1.9**
GO04	**Tololo Observa**	**3.08**	**172**	*eP*			**Pn**	**16 35 28.1**	**+1.3**
GO04				*eS*			**Sn**	**16 36 05.2**	**+1.6**
AROD	**Rodeo**	**3.43**	**153**	*eP*			**Pb**	**16 35 35.2**	**-3.9**
AROD				*eS*			**Sg**	**16 36 31.2**	**+2.7**
CO06	**Fray Jorge**	**3.56**	**185**	Pn			**Pn**	**16 35 32.7**	**-0.4**
CO06	**Fray Jorge**	**3.56**	**185**	⇓*iP*			**Pn**	**16 35 32.7**	**-0.4**
CO06				*eS*			**Sb**	**16 36 22.3**	**-2.0**
CO06				IAML				16 36 43.5	
	comp=E,2µm,0.8s								
PB10	**IPOC Station P**	**3.65**	**11**	Pn			**Pn**	**16 35 32.3**	**-2.0**
CO03	**El Pedregal**	**3.75**	**172**	Pn			**Pn**	**16 35 37.2**	**+1.4**
CO03	**El Pedregal**	**3.75**	**172**	*eP*			**Pn**	**16 35 37.3**	**+1.4**
CO03				*eS*			**Sb**	**16 36 26.0**	**-3.8**
CO02	**Combarbal**	**4.08**	**177**	Pn			**Pn**	**16 35 40.8**	**+0.3**
PB15	**IPOC Station P**	**4.22**	**23**	Pn			**Pn**	**16 35 42.5**	**0.0**
PB06	**IPOC Station P**	**4.66**	**20**	Pn			**Pn**	**16 35 47.1**	**-1.2**
RTLL	**Cerro Villicun**	**4.87**	**150**	*eP*			**Pn**	**16 35 53.2**	**+2.0**
RTLL				*eS*			**Sn**	**16 36 52.2**	**+4.8**
PB04	**IPOC Station P**	**4.87**	**12**	Pn			**Pn**	**16 35 48.8**	**-2.5**
ZON	**Zonda**	**4.97**	**153**	Pn			**Pn**	**16 35 54.1**	**+1.5**
LVC	**Limon Verde**	**4.97**	**26**	Pn			**Pn**	**16 35 53.2**	**+0.2**
LVC	**Limon Verde**	**4.97**	**26**	*eP*			**Pn**	**16 35 51.2**	**-1.8**
RTLS	**Leoncito**	**4.98**	**160**	*eP*			**Pn**	**16 35 56.5**	**+3.5**
RTLS				*eS*			**Sb**	**16 37 09.7**	**+4.4**
RTLS				IAML				16 37 24.4	
	comp=Z,937nm,0.7s								
CFA	**Coronel Fontan**	**5.21**	**150**	Pn			**Pn**	**16 35 58.5**	**+2.7**
	comp=Z,11nm,0.3s,baz=321,slow=12,SNR=55								
CFA				Sn			**Sn**	**16 36 59.0**	**+3.2**
	comp=Z,24nm,0.3s,baz=280,slow=17,SNR=4.2								
ROC1	**El Roble**	**5.85**	**178**	Pn			**Pn**	**16 36 04.6**	**-0.2**
MT02	**Curacav**	**6.13**	**179**	Pn			**Pn**	**16 36 08.3**	**-0.1**
MT09	**Talagante**	**6.65**	**178**	Pn			**Pn**	**16 36 15.6**	**-0.1**
MT01	**Popeta**	**6.73**	**180**	Pn			**Pn**	**16 36 16.6**	**-0.1**
BO01	**Tunca**	**7.26**	**179**	Pn			**Pn**	**16 36

CLDB	**Colider**	**21.76**	**45**	*eP*	**P**	**16 39 28.7**	**-1.1**
PET01	**Itanhaem-SP**	**21.81**	**88**	*eP*	**P**	**16 39 31.0**	**+0.8**
RCLB	**Rio Claro- Sao**	**22.06**	**83**	*eP*	**P**	**16 39 32.2**	**-0.7**
VAO	**Valinhos**	**22.40**	**85**	*eP*	**P**	**16 39 35.9**	**-0.7**
TBTG	**Tabatinga, AM**	**22.84**	**4**	P	**P**	**16 39 41.0**	**-0.2**
TBTG				IAmb	IAmb	16 39 44.5	
	comp=Z,158nm,0.9s						
IPMB	**Ipameri, GO**	**23.13**	**72**	*eP*	**P**	**16 39 42.6**	**-1.7**
PARB	**Paraibuna**	**23.50**	**86**	*eP*	**P**	**16 39 47.4**	**-0.7**
BDFB	**Brasilia**	**24.45**	**67**	P	**P**	**16 39 55.5**	**-1.6**
	comp=Z,11nm,0.5s,baz=262,slow=9.0,SNR=13						
	comp=Z,11nm,0.5s						
BDFB	**Brasilia**	**24.45**	**67**	P	**P**	**16 39 55.4**	**-1.6**
BDFB				IAmb	IAmb	16 39 57.2	
	comp=Z,14nm,0.7s						
BDFB	**Brasilia**	**24.45**	**67**	*eP*	**P**	**16 39 55.9**	**-1.2**
NPGB	**Novo Progresso**	**25.04**	**40**	*eP*	**P**	**16 40 01.9**	**-0.5**
COHC	**Cochancay**	**25.67**	**341**	P	**P**	**16 40 03.4**	**-4.5**
MACA	**Manacapuru-AM**	**25.89**	**25**	P	**P**	**16 40 09.5**	**-0.5**
MACA				IAmb	IAmb	16 40 11.3	
	comp=Z,46nm,0.7s						
MACA	**Manacapuru-AM**	**25.89**	**25**	*eP*	**P**	**16 40 10.4**	**+0.5**
CHSH	**Refugio Sur-Vo**	**26.49**	**343**	P	**P**	**16 40 15.9**	**-0.2**
CHSH				IAmb	IAmb	16 40 16.6	
	comp=Z,37nm,1.1s						
ITTB	**Itaituba**	**27.06**	**36**	*eP*	**P**	**16 40 20.4**	**-0.2**
SGCB	**SÃo Gabriel d**	**27.15**	**9**	*eP*	**P**	**16 40 21.0**	**-0.3**
MC01	**Montes Claros**	**27.34**	**73**	*eP*	**P**	**16 40 22.0**	**-1.2**
JANB	**Januaria**	**27.81**	**70**	*eP*	**P**	**16 40 26.3**	**-1.1**
PTGA	**Pitinga**	**28.40**	**24**	P	**P**	**16 40 32.6**	**+0.1**
	comp=Z,9.0nm,0.6s,baz=206,slow=9.1,SNR=14						
PTGA				LR	LR	16 52 30.3	
	comp=Z,146nm,18.9s,baz=224,slow=38						
	comp=Z,9.0nm,0.6s						
SDBA	**SAO DESIDERIO**	**28.73**	**65**	*eP*	**P**	**16 40 35.0**	**-0.6**
SJMB	**Sao Joao De Ma**	**28.91**	**80**	*eP*	**P**	**16 40 38.4**	**+1.3**
PRPB	**Paraupebas**	**29.17**	**48**	*eP*	**P**	**16 40 39.2**	**-0.2**
GUA01	**Guaratinga, BA**	**30.96**	**77**	*eP*	**P**	**16 40 54.4**	**-0.8**
CMC01	**Camacan, BA**	**31.74**	**75**	*eP*	**P**	**16 41 00.6**	**-1.6**
GDU01	**Guandu, BA**	**32.46**	**72**	*eP*	**P**	**16 41 07.5**	**-1.0**
RPN	**Rapa Nui**	**33.78**	**261**	LR	LR	16 51 40.1	
	comp=Z,350nm,18.0s,baz=104,slow=30						
ROSB	**Rosrio**	**35.43**	**52**	*eP*	**P**	**16 41 32.7**	**-1.5**
SDV	**Santo Domingo**	**35.79**	**1**	*eP*	**P**	**16 41 36.2**	**-1.3**
BAUV	**El Baul**	**35.98**	**5**	P	**P**	**16 41 38.3**	**-0.6**
MDP	**Montagnes des**	**36.75**	**32**	LR	LR	16 58 00.8	
	comp=Z,246nm,18.3s,baz=168,slow=38						
PMSA	**Palmer Station**	**37.95**	**175**	*eP*	**P**	**16 41 55.9**	**+0.8**
URIC	**Uribia, Colomb**	**38.59**	**359**	P	**P**	**16 41 59.2**	**-1.8**
URIC				IAmb	IAmb	16 42 14.1	
	comp=Z,7.7nm,0.9s						
RCBR	**Riachuelo**	**39.76**	**64**	LR	LR	17 00 56.3	
	comp=Z,174nm,18.0s,baz=5.5,slow=40						
SJG	**San Juan**	**45.23**	**7**	LR	LR	17 03 42.0	
	comp=Z,31nm,18.6s,baz=180,slow=39						
BELA	**Belgrano 2**	**53.54**	**171**	P	**P**	**16 43 59.4**	**+1.2**
BELA				IAmb	IAmb	16 44 15.9	
	comp=Z,7.0nm,1.3s						
VNA3	**Neumayer Olymp**	**55.53**	**160**	P	**P**	**16 44 13.8**	**+1.1**
VNA1	**Neumayer--Stat**	**55.79**	**159**	P	**P**	**16 44 16.1**	**+1.5**
VNA2	**Neumayer--Watz**	**56.15**	**159**	P	**P**	**16 44 18.3**	**+1.1**
	baz=285,slow=8.0						
SNAA	**Sanae**	**57.75**	**160**	P	**P**	**16 44 29.4**	**+0.8**
SNAA	**Sanae**	**57.75**	**160**	P	**P**	**16 44 29.0**	**+0.5**
SNAA				IAmb	IAmb	16 44 30.3	
	comp=Z,6.1nm,0.9s						
TROLL	**Troll, Antarti**	**59.46**	**160**	P	**P**	**16 44 41.6**	**+1.0**
H06E1	**SOCORRO T-PHAS**	**59.65**	**316**	T	T	17 49 37.3	
	SNR=21						
QSPA	**South Pole Qui**	**63.10**	**180**	P	**P**	**16 45 07.0**	**+1.7**
QSPA				IAmb	IAmb	16 45 08.0	
	comp=Z,5.6nm,0.9s						
TXAR	**Lajitas Array**	**64.13**	**329**	P	**P**	**16 45 15.1**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=146,slow=9.1,SNR=3.9						
	comp=Z,0.4nm,0.7s						
V48A	**Smith Brothers**	**64.21**	**346**	P	**P**	**16 45 10.9**	**-1.8**
P52A	**Corning**	**67.17**	**351**	P	**P**	**16 45 31.8**	**+0.1**
P52A				IAmb	IAmb	16 45 51.7	
	comp=Z,13nm,1.0s						
CCM	**Cathedral Cave**	**67.47**	**343**	P	**P**	**16 45 33.5**	**-0.2**
CCM				IAmb	IAmb	16 45 35.9	
	comp=Z,15nm,1.0s						
R40A	**Maddies Statio**	**67.97**	**342**	P	**P**	**16 45 37.7**	**+0.9**
L56A	**Greenwood**	**69.15**	**355**	P	**P**	**16 45 45.5**	**+1.4**
SADO	**Sadowa**	**71.89**	**354**	LR	LR	17 20 35.9	
	comp=Z,36nm,19.4s,baz=190,slow=38						
PPT	**Papeete**	**72.03**	**259**	LR	LR	17 08 03.8	
	comp=Z,32nm,18.9s,baz=133,slow=28						
DBIC	**Dimbokro**	**72.44**	**73**	P	**P**	**16 46 05.0**	**+0.2**
	comp=Z,6.7nm,0.9s,baz=213,slow=5.8,SNR=6.7						
	comp=Z,6.7nm,0.9s						
DBIC	**Dimbokro**	**72.44**	**73**	P	**P**	**16 46 04.4**	**-0.3**
DBIC				IAmb	IAmb	16 46 06.0	
	comp=Z,9.9nm,1.1s						
SUR	**Sutherland**	**77.64**	**120**	LR	LR	17 16 19.5	
	comp=Z,97nm,20.4s,baz=204,slow=32						
PDAR	**Pinedale Array**	**77.96**	**332**	P	**P**	**16 46 38.5**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=123,slow=5.5,SNR=5.3						
PDAR				LR	LR	17 17 22.2	
	comp=Z,31nm,21.6s,baz=202,slow=33						
	comp=Z,0.8nm,0.9s						
NVAR	**Mina Array Bea**	**78.66**	**324**	P	**P**	**16 46 42.4**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=160,slow=6.5,SNR=4.8						
	comp=Z,0.4nm,0.6s						
RAR	**Rarotonga**	**79.34**	**252**	LR	LR	17 12 28.2	
	comp=Z,77nm,21.0s,baz=108,slow=28						
MAW	**Mawson**	**79.58**	**164**	P	**P**	**16 46 46.1**	**+1.5**
	comp=Z,4.2nm,0.6s,baz=231,slow=6.5,SNR=6.6						
MAW				LR	LR	17 22 51.8	
	comp=Z,83nm,18.2s,baz=228,slow=36						
	comp=Z,4.2nm,0.6s						
ULM	**Lac du Bonnet**	**80.05**	**344**	P	**P**	**16 46 48.5**	**+1.3**
	comp=Z,5.5nm,0.9s,baz=146,slow=5.0,SNR=3.4						
	comp=Z,5.5nm,0.9s						
BOSA	**Boshof**	**82.72**	**118**	P	**P**	**16 47 02.1**	**-0.2**
	comp=Z,8.9nm,1.0s,baz=234,slow=5.2,SNR=8.2						
BOSA				LR	LR	17 21 09.8	
	comp=Z,53nm,18.2s,baz=196,slow=34						
	comp=Z,8.9nm,1.0s						
BOSA	**Boshof**	**82.72**	**118**	P	**P**	**16 47 01.9**	**-0.4**
BOSA				IAmb	IAmb	16 47 03.6	
	comp=Z,14nm,1.1s						
LBTB	**Lobatse**	**84.62**	**115**	P	**P**	**16 47 12.6**	**+0.6**
LBTB				IAmb	IAmb	16 47 13.3	
	comp=Z,7.8nm,0.9s						
ESDC	**Sonseca Array**	**91.32**	**45**	LR	LR	17 27 33.7	
	comp=Z,81nm,18.4s,baz=238,slow=35						
BORG	**Borgarnes**	**99.41**	**19**	LR	LR	17 31 51.0	
	comp=Z,18nm,18.9s,baz=302,slow=35						
AKASG	**Malin Array Be**	**116.95**	**45**	PKP	**PKiKP**	**16 53 22.1**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=263,slow=2.8,SNR=7.5						
ASAR	**Alice Springs**	**123.96**	**208**	PKP	**PKiKP**	**16 53 37.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=128,slow=1.5,SNR=27						
H11N3	**WAKE ISLAND Hyl**	**126.48**	**275**	T	T	19 13 20.0	
	baz=113						
H11N1	**WAKE ISLAND Hyl**	**126.50**	**275**	T	T	19 13 20.3	
	baz=113						
H11N2	**WAKE ISLAND Hyl**	**126.50**	**275**	T	T	19 13 16.5	
	baz=113						
WRA	**Warramunga Arr**	**127.04**	**211**	PKP	**PKiKP**	**16 53 43.5**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=154,slow=1.9,SNR=26						
GEYT	**Alibeck**	**136.46**	**63**	PKP	**PKPdf**	**16 54 00.2**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=241,slow=3.0,SNR=2.1						
LEM	**Lembang**	**146.25**	**178**	PKPbc	**PKiKP**	**16 54 21.4**	**-1.3**
	comp=Z,19nm,0.7s,baz=196,slow=20,SNR=6.1						
KAPI	**Kappang**	**146.32**	**200**	PKPbc	**PKPab**	**16 54 20.7**	**+0.4**
	comp=Z,9.3nm,0.8s,baz=157,slow=7.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**147.93**	**27**	PKPbc	**PKPbc**	**16 54 21.2**	**-1.5**
	comp=Z,23nm,0.8s,baz=310,slow=3.4,SNR=41						
MKAR	**Makanchi Array**	**151.38**	**40**	PKP	**PKPdf**	**16 54 25.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=306,slow=2.7,SNR=4.4						
MKAR				PKPbc	**sPKPdf**	**16 54 32.8**	**+3.4**
	comp=Z,13nm,0.8s,baz=318,slow=1.6,SNR=81						
SONM	**Songino Array**	**159.23**	**4**	PKP	**PKPdf**	**16 54 36.5**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=347,slow=1.1,SNR=8.6						
SONM				PKPab	**PKPab**	**16 55 14.6**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=318,slow=3.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**167.54**	**132**	PKP	**PKPdf**	**16 54 46.7**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=256,slow=2.7,SNR=2.2						
CMAR				PKPab	**PKPab**	**16 55 50.9**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=242,slow=4.8,SNR=6.2						

*NEIC **30** 17:08:29.0±1.6,3°.3N±0°.1×124°.41E±0°.09,h349km±10km, mb4.0/20,Error ellipse: s-maj=15.9km s-min=12.1km az=212.0*

*MAN **30** 17:08:29.8,3°.09N×125°.35E,h339km,mb4.6,ML3.4, MS3.3*

*IDC **30** 17:08:29.4±1.6,3°.25N×124°.32E,h357km±16km,mb3.1/6, mbtmp4.1/9,Error ellipse: s-maj=25.1km s-min=11.6km az=59.0*

*DJA **30** 17:08:30.5±0.8,3°N±8°×12°4E±°,h326km±12km,M4.2/12, mb4.2/7,mB4.7/4,MLv4.3/12,Mw(mB)4.0/4*

ISC 30 17:08:28.5±0.5,3°.29N±0°.05×124°.42E±0°.07,h350km,n63, σ0§93/72,mb3.8/16,2C-2D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.83**	**111**	*eP*	**Pn**	**17 09 28.4**	**+1.9**
GTOI	**Gorontalo**	**2.99**	**208**	P	**Pn**	**17 09 27.0**	**-0.8**
MRSI	**Marisa**	**3.74**	**222**	P	**Pn**	**17 09 35.1**	**+0.2**
KCP	**Kidapawan**	**3.75**	**10**	*iP*	**Pn**	**17 09 36.8**	**+1.7**
KCP				*i* S	**S**	**17 10 30.3**	**+1.5**
TNTI	**Ternate**	**3.86**	**130**		**Pn**	**17 09 36.0**	**-0.1**
TNTI	**Ternate**	**3.86**	**130**	P	**Pn**	**17 09 36.4**	**+0.3**
TOLI2	**Tolitoli**	**4.23**	**239**		**Pn**	**17 09 39.2**	**-0.7**
LUWI	**Luwuk**	**4.61**	**201**		**Pn**	**17 09 43.3**	**-0.6**
LUWI	**Luwuk**	**4.61**	**201**	P	**Pn**	**17 09 43.7**	**-0.2**
CDOP	**Cateel, Davao**	**4.89**	**24**	*eP*	**Pn**	**17 09 47.8**	**+0.9**
CDOP				*eS*	**S**	**17 10 48.3**	**-2.1**
LBMI	**Labuha**	**4.97**	**142**	P	**Pn**	**17 09 48.6**	**+0.8**
APSI	**Ampana**	**5.01**	**214**	P	**Pn**	**17 09 48.2**	**-0.1**
BIPH	**Bislig**	**5.23**	**22**	*iP*	**Pn**	**17 09 51.1**	**+0.4**
BIPH				*i* S	**S**	**17 10 55.5**	**-1.7**
MPSI	**Mapaga**	**5.39**	**237**	P	**Pn**	**17 09 52.4**	**-0.1**
	0.1nm453nm10nm,1.0s						
SANI	**Sanana**	**5.53**	**164**	P	**Pn**	**17 09 52.4**	**-1.6**
	0.7nm2µm61nm,0.7s						
MYLDM	**Lahad Datu**	**6.20**	**288**		**Pn**	**17 10 02.5**	**+0.8**
NLAI	**Namlea**	**7.01**	**158**	P	**Pn**	**17 10 12.3**	**+1.2**
	0.5nm11nm,1.1s						
SIJI	**Sorong**	**7.99**	**121**	P	**Pn**	**17 10 25.6**	**+3.0**
	2.2nm,0.4s,baz=327,slow=23,SNR=2.4						
BNDI	**Bandanaira**	**9.50**	**145**	P	**P**	**17 10 42.1**	**-0.3**
	5µm285nm,0.6s						
FAKI	**Fak Fak**	**9.96**	**128**	P	**P**	**17 10 48.4**	**+0.8**
FAKI	**Fak Fak**	**9.96**	**128**	P	**P**	**17 10 47.7**	**+0.1**
SBUM	**Sibu**	**12.22**	**266**	P	**Pn**	**17 11 13.5**	**+0.6**
BATI	**Baumata**	**13.43**	**183**	P	**P**	**17 11 26.2**	**+0.2**
	13nm,0.3s,baz=292,slow=1.7,SNR=9.1						
KSM	**Kuching**	**14.22**	**263**	P	**P**	**17 11 35.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**15.54**	**221**	P	**P**	**17 11 50.1**	**+1.0**
MTN	**Manton Dam**	**17.36**	**158**	P	**P**	**17 12 09.2**	**+0.5**
MTN				IAmb	IAmb	17 12 27.4	
	comp=Z,18nm,1.1s						
LEM	**Lembang**	**19.56**	**239**	P	**P**	**17 12 31.1**	**-1.1**
	comp=Z,21nm,0.7s,baz=62,slow=5.7,SNR=7.8						
WB0	**Warramunga Arr**	**24.92**	**157**	P	**P**	**17 13 20.9**	**-0.4**
WB0				IAmb	IAmb	17 13 59.3	
	comp=Z,9.1nm,1.4s						
WRAB	**Tennant Creek**	**25.05**	**157**	P	**P**	**17 13 22.1**	**-0.3**
WRAB				IAmb	IAmb	17 13 23.1	
	comp=Z,5.6nm,0.4s						
WRA	**Warramunga Arr**	**25.06**	**158**	P	**P**	**17 13 22.1**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=334,slow=10,SNR=73						
WRA				PcP	**PcP**	**17 16 47.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=328,slow=2.2,SNR=2.7						
WRA				ScP	**ScP**	**17 19 51.3**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=342,slow=2.9,SNR=1.8						
	comp=Z,2.3nm,0.4s						
WRA	**Warramunga Arr**	**25.06**	**158**	P	**P**	**17 13 21.3**	**-1.2**
WB2	**Warramunga Arr**	**25.06**	**157**	P	**P**	**17 13 22.1**	**-0.4**
WB2				IAmb	IAmb	17 13 29.5	
	comp=Z,7.6nm,1.2s						
PSA00	**Pilbara Seismi**	**25.11**	**190**	P	**P**	**17 13 22.2**	**-0.7**
PSA00				IAmb	IAmb	17 13 23.2	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**25.29**	**133**	P	**P**	**17 13 23.7**	**-0.9**
COEN				IAmb	IAmb	17 14 07.3	
	comp=Z,4.9nm,1.2s						
GSI	**Gunungsitoli**	**26.90**	**266**	P	**P**	**17 13 38.5**	**-0.5**
AS31	**Alice Springs**	**28.34**	**161**	P	**P**	**17 13 51.2**	**-0.4**
ASAR	**Alice Springs**	**28.34**	**161**	P	**P**	**17 13 51.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=341,slow=7.4,SNR=24						
ASAR				PcP	**PcP**	**17 16 54.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=340,slow=3.0,SNR=2.4						
ASAR				ScP	**ScP**	**17 20 01.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=336,slow=3.1,SNR=4.7						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**28.34**	**161**	P	**P**	**17 13 52.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**29.14**	**303**	P	**P**	**17 13 59.7**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=132,slow=8.6,SNR=4.4						
	comp=Z,0.3nm,0.5s						
MORW	**Morawa**	**33.16**	**193**	P	**P**	**17 14 33.0**	**-0.5**
FORT	**Forrest**	**34.05**	**174**	P	**P**	**17 14 41.3**	**+0.2**
FORT				IAmb	IAmb	17 14 51.3	
	comp=Z,17nm,1.1s						
NWAO	**Narrogin (SRO)**	**36.66**	**190**	P	**P**	**17 15 02.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**36.66**	**190**	P	**P**	**17 15 02.5**	**-0.5**
NWAO				IAmb	IAmb	17 15 41.6	
	comp=Z,28nm,1.3s						
STKA	**Stephens Creek**	**38.59**	**156**	P	**P**	**17 15 19.5**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=341,slow=10,SNR=5.4						
	comp=Z,1.1nm,0.4s						
STKA	**Stephens Creek**	**38.59**	**156**	P	**P**	**17 15 20.3**	**+1.2**
JIRN	**Jiri**	**43.79**	**308**	*eP*	**P**	**17 16 02.5**	**+1.0**
GUN	**Gumba**	**44.15**	**308**	*eP*	**P**	**17 16 05.3**	**+1.0**
	comp=Z,13nm,0.5s						
PKI	**Pulchoki**	**44.37**	**307**	*eP*	**P**	**17 16 06.2**	**+0.1**
	comp=Z,3.6nm,0.3s						
PKIN	**Phulchoki**	**44.38**	**307**	*eP*	**P**	**17 16 06.4**	**+0.3**
	comp=Z,2.7nm,0.2s						
KOLN	**Koldanda**	**45.90**	**306**	*eP*	**P**	**17 16 18.2**	**+0.3**
DANN	**Dangsing**	**46.02**	**307**	*eP*	**P**	**17 16 19.6**	**+0.7**
	comp=Z,22nm,0.5s						
PYUN	**Piuthan**	**46.53**	**306**	*eP*	**P**	**17 16 23.8**	**+1.1**
	comp=Z,19nm,0.5s						
SONM	**Songino Array**	**47.02**	**343**	P	**P**	**17 16 25.5**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=145,slow=5.3,SNR=3.8						
	comp=Z,0.6nm,0.8s						
TARG	**Taragay, Kyrgy**	**56.56**	**319**	P	**P**	**17 17 37.7**	**+1.4**
TARG				IAmb	IAmb	17 17 45.5	
	comp=Z,4.3nm,1.4s						
MK31	**Makanchi Array**	**56.63**	**326**	P	**P**	**17 17 36.1**	**0.0**
MKAR	**Makanchi Array**	**56.63**	**326**	P	**P**	**17 17 36.2**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=124,slow=7.6,SNR=29						
MKAR				PcP	**PcP**	**17 18 27.1**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=160,slow=3.1,SNR=2.2						
MKAR				ScP	**ScP**	**17 21 51.0**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=127,slow=3.8,SNR=2.9						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**56.63**	**326**	P	**P**	**17 17 36.4**	**+0.2**
MAKZ	**Makanchi**	**56.81**	**326**	P	**P**	**17 17 37.6**	**+0.2**
MAKZ				IAmb	IAmb	17 17 49.8	
	comp=Z,3.6nm,1.1s						
KURK	**Kurchatov**	**60.89**	**329**	P	**P**	**17 18 04.9**	**-0.2**
KURK				IAmb	IAmb	17 18 06.4	
	comp=Z,2.8nm,0.6s						
KKAR	**Karatay Array**	**62.00**	**318**	P	**P**	**17 18 13.4**	**+0.7**
AMKA	**Amchitka**	**66.15**	**34**	P	**P**	**17 18 39.4**	**+0.2**
ABKAR	**Akbulak array**	**71.04**	**321**	P	**P**	**17 19 08.2**	**-1.1**
FINES	**FINESS Array B**	**91.13**	**332**	P	**P**	**17 20 52.8**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=33,slow=5.3,SNR=3.4						

*IDC **30** 17:12:30.0±6.3,6°.43N×75°.71W,h91km±101km,mb3.1/1, mbtmp3.7/2,ML2.7/1,Error ellipse: s-maj=405.7km s-min=51.7km az=55.0*

*RSNC **30** 17:12:35.8±0.8,5°.02N×75°.90W,h114km±3km,ML3.5, Mw3.8,Fault plane solution: NP1:ϕs90.00000°, δ51.00000°, λ-180.00000°.*

ISC 30 17:12:34.0±1.0,5°.02N±0°.03×75°.91W±0°.03,h125km±7km, n30,σ1§61/54,3C-3D,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.39**	**253**	*iP*	**Pn**	**17 12 52.1**	**+0.1**
PLMC				*eS*	**Sn**	**17 13 05.0**	**-0.6**
ANIL	**Santa Ana**	**0.73**	**136**	*eP*	**Pn**	**17 12 54.9**	**+0.4**
ANIL				*eS*	**Sn**	**17 13 09.7**	**-0.3**
ANIL				IAML		17 13 12.3	
	comp=Z,1µm,0.3s						
CBOC	**Ciudad Bolivar**	**0.84**	**353**	*iP*	**Pn**	**17 12 55.4**	**+0.1**
CBOC				*eS*	**Sn**	**17 13 10.7**	**-0.7**
CBOC				IAML		17 13 23.1	
	comp=Z,459nm,0.5s						
YOTC	**Yotoco, Valle**	**1.12**	**203**	*eP*	**Pn**	**17 12 57.8**	**0.0**
YOTC				*eS*	**Sn**	**17 13 14.5**	**-1.3**
YOTC				IAML		17 13 19.4	
	comp=Z,330nm,0.3s						

NORC	**Norcasia**	**1.17**	**63**	*eP*		**Pn**	**17 12 58.8**	**+0.5**
NORC				*eS*		**Sn**	**17 13 16.2**	**-0.4**
NORC				IAML			17 13 17.5	
	comp=Z,413nm,0.4s							
ORTC	**Ortega, Tolima**	**1.29**	**149**	*iP*		**Pn**	**17 13 00.2**	**+0.7**
ORTC				*eS*		**Sn**	**17 13 18.7**	**-0.2**
ORTC				IAML			17 13 20.9	
	comp=Z,386nm,0.5s							
PIZC	**Pizarro, Choco**	**1.44**	**268**	*eP*		**Pn**	**17 13 02.6**	**+1.5**
PIZC				*eS*		**Sn**	**17 13 23.4**	**+1.7**
PIZC				IAML			17 13 31.6	
	comp=Z,306nm,0.7s							
ROSC	**El Rosal**	**1.60**	**96**	P		**Pn**	**17 13 05.2**	**+1.8**
	comp=Z,55nm,0.3s,baz=342,slow=9.6,SNR=57							
ROSC				S		**Sn**	**17 13 29.8**	**+4.2**
	comp=Z,87nm,0.4s,baz=287,slow=19,SNR=20							
	comp=Z,224nm,0.5s							
ROSC	**El Rosal**	**1.60**	**96**	*iP*		**Pn**	**17 13 05.5**	**+2.2**
ROSC				*eS*		**Sn**	**17 13 28.0**	**+2.4**
PRAC	**Prado**	**1.65**	**142**	*iP*		**Pn**	**17 13 01.9**	**-1.7**
PRAC				*eS*		**Sn**	**17 13 23.6**	**-2.6**
PRAC				IAML			17 13 29.9	
	comp=Z,147nm,0.5s							
MALC	**Bahia Malaga**	**1.73**	**235**	*eP*		**Pn**	**17 13 06.6**	**+2.1**
MALC				*eS*		**Sn**	**17 13 31.4**	**+3.5**
MALC				IAML			17 13 38.0	
	comp=Z,143nm,0.5s							
PTBC	**PUERTO BERRIO,**	**2.09**	**44**	*eP*		**Pn**	**17 13 09.8**	**+0.9**
PTBC				*eS*		**Sn**	**17 13 35.3**	**-0.3**
PTBC				IAML			17 13 38.9	
	comp=Z,264nm,0.4s							
CHIC	**Chingaza**	**2.21**	**100**	*iP*		**Pn**	**17 13 13.1**	**+2.4**
CHIC				*eS*		**Sn**	**17 13 41.2**	**+2.4**
BETC	**Betania**	**2.37**	**169**	*eP*		**Pn**	**17 13 13.0**	**+0.5**
BETC				*eS*		**Sn**	**17 13 41.9**	**-0.1**
BETC				IAML			17 13 44.5	
	comp=Z,300nm,0.5s							
ZARC	**Zaragoza, Cauc**	**2.67**	**23**	*eP*		**Pn**	**17 13 17.3**	**+1.0**
ZARC				*eS*		**Sn**	**17 13 49.0**	**+0.2**
ZARC				IAML			17 13 50.1	
	comp=Z,560nm,0.6s							
UREC	**San Jos de Ur**	**2.74**	**8**	*eP*		**Pn**	**17 13 18.2**	**+1.1**
UREC				*eS*		**Sn**	**17 13 50.2**	**-0.2**
UREC				IAML			17 13 53.8	
	comp=Z,97nm,0.2s							
GARC	**Garzon, Huila**	**2.85**	**171**	*eP*		**Pn**	**17 13 19.0**	**+0.2**
GARC				*eS*		**Sn**	**17 13 52.9**	**-0.3**
GARC				IAML			17 13 55.8	
	comp=Z,201nm,0.3s							
GR1C	**Gorgona, Isla**	**3.01**	**228**	*eP*		**Pn**	**17 13 20.1**	**-0.6**
GR1C				*eS*		**Sn**	**17 13 55.1**	**-1.5**
BRRC	**Barranca, Sant**	**3.02**	**46**	*eP*		**Pn**	**17 13 21.6**	**+0.9**
BRRC				*eS*		**Sn**	**17 13 56.1**	**-0.6**
BRRC				IAML			17 14 01.2	
	comp=Z,144nm,0.3s							
BBAC	**Balboa, Cauca**	**3.26**	**204**	*eP*		**Pn**	**17 13 24.9**	**+0.7**
BBAC				*eS*		**Sn**	**17 14 01.9**	**-1.0**
BBAC				IAML			17 14 08.2	
	comp=N,345nm,0.3s							
FLOC	**Florencia**	**3.42**	**176**	*eP*		**Pn**	**17 13 27.1**	**+0.9**
FLOC				*eS*		**Sn**	**17 14 06.5**	**0.0**
FLOC				IAML			17 14 10.0	
	comp=Z,29nm,0.4s							
MACC	**Macarena, Meta**	**3.52**	**144**	*eP*		**

KIW	Kapiti Island	1.91	33	P	Pn	17 20 06.7	+1.0
WACZ	Wakanui South	1.92	220	P	Pn	17 20 06.3	+0.5
TRWZ	Traveller	1.93	57	P	Pn	17 20 06.4	+0.5
MTW	Mount Morrison	1.97	49	P	Pn	17 20 06.9	+0.3
OGWZ	Otaki Gorge	2.06	37	P	Pn	17 20 08.5	+0.8
WVZ	Waitaha Valley	2.15	253	P	Pn	17 20 10.0	+1.0
HOWZ	Holdsworth Sta	2.16	44	P	Pn	17 20 09.5	+0.3
RPZ	Rata Peaks	2.20	235	Pn	Pn	17 20 10.1	+0.4
	94nm,0.3s,baz=67,slow=3.3,SNR=140						
RPZ				Sn	Sn	17 20 35.9	-0.5
	51nm,0.3s,baz=356,slow=23,SNR=24						
	289nm,0.4s						
RPZ	Rata Peaks	2.20	235	P	Pn	17 20 10.4	+0.6
RPZ	Rata Peaks	2.20	235	P	Pn	17 20 10.2	+0.4
TMWZ	Te Maipa	2.23	53	P	Pn	17 20 10.2	+0.1
ARCZ	Arundel	2.27	229	P	Pn	17 20 10.9	+0.2
MRZ	Mangatainoka R	2.37	41	P	Pn	17 20 12.3	+0.3
TIWZ	Tintock	2.44	47	P	Pn	17 20 13.2	+0.2
GCSZ	Gaunt Creek Bo	2.51	249	P	Pn	17 20 15.3	+1.4
OHWZ	Ohakea	2.63	31	P	Pn	17 20 17.7	+2.1
PRWZ	Pori Road	2.65	44	P	Pn	17 20 15.9	0.0
TMZ	Timaru	2.66	223	P	Pn	17 20 16.2	+0.3
POWZ	Post Office Ro	2.67	40	P	Pn	17 20 16.5	+0.3
BFZ	Birch Farm	2.71	49	P	Pn	17 20 16.5	-0.2
WAZ	Wanganui	2.93	22	P	Pn	17 20 22.3	+2.5
FOZ	Fox Glacier	2.93	248	P	Pn	17 20 21.3	+1.6
DVHZ	Dannevirke	2.94	43	P	Pn	17 20 19.3	-0.6
TSZ	Takapari Road	3.03	38	P	Pn	17 20 21.1	0.0
NMEZ	Namu Road	3.07	5	P	Pn	17 20 26.8	-1.3
LREZ	Lake Rotokare	3.08	12	P	Pb	17 20 26.8	-1.6
LBZ	Lake Benmore	3.10	231	P	Pn	17 20 22.6	+0.5
KHEZ	Kahui Hut	3.20	7	P	Pn	17 20 25.5	+2.0
KHEZ	Kahui Hut	3.20	7	P	Pn	17 20 26.4	+2.9
PRHZ	Porangahau	3.21	48	P	Pn	17 20 26.0	+2.5
NBEZ	Newall Road No	3.21	5	P	Pn	17 20 26.6	+3.0
NEZ	North Egmont	3.23	8	P	Pn	17 20 27.3	+3.4
PNHZ	Pukenui	3.25	39	P	Pn	17 20 23.9	-0.3
PKE	Pukeiti	3.30	6	P	Pn	17 20 27.4	+2.6
ODZ	Otahua Downs	3.32	218	P	Pn	17 20 25.2	+0.2
ODZ	Otahua Downs	3.32	218	P	Pn	17 20 25.2	+0.2
DREZ	Durham Road	3.32	9	P	Pn	17 20 27.8	+2.7
MTVZ	Mangateitei	3.42	26	P	Pn	17 20 28.7	+2.3
MHEZ	Mangahewa	3.45	10	P	Pb	17 20 33.4	-1.3
PKVZ	Pokaka	3.46	24	P	Pn	17 20 28.8	+1.7
VRZ	Vera Road	3.47	16	P	Pn	17 20 29.6	+2.4
MOVZ	Moawhango	3.49	29	P	Pn	17 20 28.1	+0.5
WNVZ	Wahianoa	3.51	27	P	Pn	17 20 29.3	+1.4
TRVZ	Turoa	3.52	26	P	Pn	17 20 29.5	+1.5
BHHZ	Black Hill Sta	3.54	33	P	Pn	17 20 28.8	+0.6
WHVZ	Whangaehu Hut	3.55	27	P	Pn	17 20 30.0	+1.6
FWVZ	Far West T-bar	3.56	26	P	Pn	17 20 30.1	+1.5
TUVZ	Tukino	3.58	27	P	Pn	17 20 30.3	+1.4
NGZ	Ngauruhoe	3.65	26	P	Pn	17 20 31.1	+1.3
SNVZ	South Ngauruho	3.65	27	P	Pn	17 20 31.4	+1.6
KAHZ	Kahuranaki	3.68	44	P	Pn	17 20 30.7	+0.7
OTVZ	Oturere	3.68	27	P	Pn	17 20 31.7	+1.5
NNVZ	North Ngauruho	3.69	26	P	Pn	17 20 31.7	+1.3
TWVZ	Taurewa	3.69	24	P	Pn	17 20 31.6	+1.3
WTVZ	West Tongariro	3.70	26	P	Pn	17 20 31.6	+1.2
ETVZ	East Tongariro	3.72	27	P	Pn	17 20 32.2	+1.5
KRVZ	Karewarewa	3.73	26	P	Pn	17 20 33.7	+2.8
TMVZ	Te Maari	3.74	27	P	Pn	17 20 32.2	+1.3
NTVZ	North Tongariro	3.74	26	P	Pn	17 20 32.4	+1.4
JCZ	Jackson Bay	3.82	244	P	Pn	17 20 33.2	+1.1
JCZ	Jackson Bay	3.82	244	P	Pn	17 20 32.9	+0.8
MCHZ	McNeill Hill	3.86	39	P	Pn	17 20 34.4	+1.9
HHSZ	Highcliff Hill	4.01	211	P	Pn	17 20 35.1	+0.5
WKZ	Wanaka	4.04	233	P	Pn	17 20 35.0	0.0
HIZ	Hauiti	4.08	15	P	Pn	17 20 37.8	+2.2
HIZ	Hauiti	4.08	15	P	Pn	17 20 37.8	+2.2
NMHZ	Naumai	4.19	37	P	Pn	17 20 40.0	+3.0
MTHZ	Maungataniwha	4.40	36	P	Pn	17 20 39.8	-0.2
TLZ	Tolley Road	4.41	21	P	Pn	17 20 41.4	+1.3
TUZ	Tuapeka	4.47	218	P	Pn	17 20 41.3	+0.4
MHGZ	Mahia Peninsul	4.69	46	P	Pn	17 20 46.8	+2.9
MLZ	Mavora Lakes	4.87	232	P	Pn	17 20 45.9	-0.4
LIRZ	Lichensteins R	4.97	27	P	Pn	17 20 47.3	-0.4
TOZ	Tahuroa Road	4.97	18	P	Pn	17 20 48.5	+0.8
URZ	Urewera	5.02	348	P	Pn	17 20 48.6	+0.2
URZ	Urewera	5.02	34	P	Pn	17 20 47.7	-0.6
MWZ	Matawai	5.13	38	P	Pn	17 20 48.8	-1.2
SYZ	Scrubby Hill	5.14	216	P	Pn	17 20 51.1	+1.1
SYZ	Scrubby Hill	5.14	216	P	Pn	17 20 51.1	+1.1
WHZ	Wether Hill Ro	5.28	228	P	Pn	17 20 50.5	-1.5
AWAZ	Awhitu Peninsu	5.47	9	P	Pn	17 20 56.5	+1.8
TWGZ	Tauwhareparae	5.47	40	P	Pn	17 20 55.1	+0.4
RUGZ	Raukumara Rang	5.50	36	P	Pn	17 20 55.6	+0.4
MKAZ	Moumakai	5.51	14	P	Pn	17 20 56.2	+1.1
WTAZ	Waiatarua	5.59	9	P	Pn	17 20 58.5	+2.2
ETAZ	East Tamaki Re	5.62	11	P	Pn	17 20 58.5	+1.8
HAZ	Te Kaha	5.72	36	P	Pn	17 20 57.7	-0.4
MBAZ	Motutapu North	5.79	11	P	Pn	17 21 01.1	+2.1
WIAZ	Waiheke Island	5.81	13	P	Pn	17 21 00.6	+1.4
APZ	The Paps	5.89	220	P	Pn	17 21 00.1	-0.2
ABAZ	Army Bay	5.95	10	P	Pn	17 21 03.0	+1.8
WMGZ	Waiomatatini S	5.96	40	P	Pn	17 21 00.8	-0.6
KUZ	Kuaotunu	5.96	17	P	Pn	17 21 02.4	+1.0
KUZ	Kuaotunu	5.96	17	P	Pn	17 21 01.5	+0.1
MXZ	Matakaoa Point	6.12	38	P	Pn	17 21 04.9	+1.4
OUZ	Omahuta	7.25	0	P	Pn	17 21 21.2	+2.2
CTZ	Chatham Island	7.31	103	P	Pn	17 21 20.7	+0.8
CTZ	Chatham Island	7.31	103	P	Pn	17 21 20.6	+0.8
ASAR	Alice Springs	37.73	287	P	P	17 26 48.5	-0.2
	0.5nm,0.5s,baz=128,slow=7.1,SNR=21						
	0.5nm,0.5s						
WRA	Warramunga Arr	39.87	292	P	P	17 27 06.2	-0.5
	0.5nm,0.5s,baz=128,slow=8.6,SNR=17						
	0.5nm,0.5s						
CMAR	Chiang Mai Arr	91.45	294	P	P	17 32 39.0	-0.2
	0.4nm,0.5s,baz=150,slow=3.9,SNR=4.0						
	0.4nm,0.5s						
FINES	FINESS Array B	152.84	326	PKPbc	PKPbc	17 39 28.6	-0.2
	3.4nm,1.0s,baz=67,slow=3.6,SNR=1.9						

IDC ***30*** *17:28:33.6±1.2,28.57N×103.65E,h0km,mb3.5/6, mbtmp3.5/7,ML2.9/1,MS3.3/1,Error ellipse: s-maj=41.7km s-min=20.9km az=59.0*

ISC 30 17:28:38.7±1.3,28.6N±0.2×103.7E±0.2,h35km,n8, σ0°48/7,mb3.4/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	Songino Array	19.27	5	P			Pn	17 33 01.8	+0.2
	baz=192,slow=13,SNR=4.4								
	0.9nm,0.9s								
KSRS	Korea Array	22.05	60	P			P	17 33 30.2	-0.1
	1.5nm,0.8s,baz=250,slow=8.7,SNR=4.6								
	1.5nm,0.8s								
MKAR	Makanchi Array	24.69	323	P			P	17 33 56.8	+0.4
	0.8nm,0.7s,baz=120,slow=12,SNR=8.3								
	0.8nm,0.7s								
ZALV	Zalesovo Beam	28.82	337	P			P	17 34 33.4	0.0
	0.5nm,0.7s,baz=133,slow=11,SNR=4.2								
	0.5nm,0.7s								
KAPI	Kappang	36.84	153	LR			LR	17 51 04.9	
	comp=Z,38nm,18.5s,baz=129,slow=37								
WRA	Warramunga Arr	56.63	145	P			P	17 38 19.1	+0.6
	0.1nm,0.5s,baz=334,slow=8.2,SNR=5.4								
	0.1nm,0.5s								
FINES	FINESS Array B	59.44	327	P			P	17 38 37.3	-0.4
	2.8nm,1.0s,baz=126,slow=19,SNR=1.4								
	2.8nm,1.0s								
ASAR	Alice Springs	59.58	148	P			P	17 38 38.6	-0.4
	0.1nm,0.6s,baz=326,slow=6.7,SNR=1.5								
	0.1nm,0.6s								

IDC ***30*** *17:36:38.2±0.9,40.77N×22.58E,h0km,mb3.8/11, mbtmp3.8/17,ML3.9/5,MS3.2/6,Error ellipse: s-maj=14.6km s-min=12.6km az=2.0*

SKO ***30*** *17:36:40.1,40.92N×22.74E,h15km*

PDG ***30*** *17:36:40.9±0.6,41.00N×22.81E,h18km±1km,ML3.7/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

ATH ***30*** *17:36:40.6,40.99N×22.73E,h22km±2km,ML3.8/11,Error ellipse: s-maj=2.2km s-min=1.0km az=26.0*

ISK ***30*** *17:36:40.0,40.97N×22.76E,h21km,ML4.1/19*

SOF ***30*** *17:36:41.1,41.00N×22.71E,h16km,MD4.2*

THE ***30*** *17:36:41.4,40.97N×22.74E,h1km±1km,ML3.7/12,Error ellipse: s-maj=1.3km s-min=0.4km az=40.0*

BEO ***30*** *17:36:41.5±0.3,40.98N×22.73E,h7km±1km,ML3.9/13*

PRU ***30*** *17:36:47.0±0.0,41.04N×22.20E,h0km*

ISC 30 17:36:40.9±0.8,40.99N±0.01×22.74E±0.01,h14km±5km, n255,σ1°63/314,mb3.8/8,MS3.3/5,41C-18D,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KNT	Kendrikon	0.21	35	PG			Pg	17 36 45.7	0.0
KNT	Kendrikon	0.21	35	P			Pg	17 36 45.8	0.0
KNT				S			Sg	17 36 48.8	-0.1
	75μm,0.4s								
KNT	Kendrikon	0.21	35	↑P	i	g	Pg	17 36 45.7	0.0
KNT					i	g	Sg	17 36 48.8	-0.1
KNT	Kendrikon	0.21	35	P			Pg	17 36 45.7	0.0
KNT				AML			AML	17 36 48.5	
KNT				AML			AML	17 36 48.6	
GRG	Griva	0.26	263	↓P	i	g	Pg	17 36 46.6	+0.2
GRG				S	i	g	Sg	17 36 50.5	+0.4
GRG	Griva	0.26	263	P			Pg	17 36 46.5	+0.2
VAY	Valandovo	0.35	339	eP		g	Pb	17 36 48.8	-0.2
VAY				eS		g	Sb	17 36 54.1	-0.3
VAY	Valandovo	0.35	339	↑P	i	g	Pb	17 36 48.9	-0.1
VAY				S	i	g	Sb	17 36 54.1	-0.3
VAY				eLg			Lg	17 36 54.3	
	comp=E,48μm,0.4s								
VAY				eLg			Lg	17 36 54.4	
	comp=N,40μm,0.3s								
THE	Thessaloniki	0.40	154	P			Pg	17 36 48.9	0.0
THE				S			Sg	17 36 53.9	-0.4
	comp=N,12μm,0.3s								
THE	Thessaloniki	0.40	154	↑P	i	g	Pg	17 36 48.9	0.0
THE					i	g	Sg	17 36 53.9	-0.4
THE	Thessaloniki	0.40	154	P			Pg	17 36 48.8	0.0
THE				AML			AML	17 36 55.3	
	comp=E,23541μm,0.3s								
THE				AML			AML	17 36 57.9	
	comp=N,23749μm,0.4s								
HORT	Hortiatis	0.48	145	PG			Pg	17 36 50.3	-0.1
HORT				SG			Sg	17 36 57.0	+0.1
HORT	Hortiatis	0.48	145	P			Pg	17 36 50.5	+0.1
HORT	Hortiatis	0.48	145	P			Pg	17 36 50.3	-0.1
HORT				S			Sg	17 36 57.0	+0.1
HORT				AML			AML	17 36 58.5	
	comp=E,12033μm,0.4s								
HORT				AML			AML	17 36 59.9	
	comp=N,11732μm,0.3s								
SOH	Sokhos	0.50	109	P			Pb	17 36 51.1	-0.4
SOH				S			Sb	17 36 58.1	-0.5
	comp=N,17μm,0.4s								
SOH	Sokhos	0.50	109	↓P	i	g	Pb	17 36 51.2	-0.2
SOH					i	g	Sb	17 36 58.4	-0.2
SOH	Sokhos	0.50	109	P			Pb	17 36 51.2	-0.2
SOH				S			Sb	17 36 58.0	-0.6
SOH				AML			AML	17 37 01.5	
	comp=N,39401μm,0.3s								
SOH				AML			AML	17 37 03.9	
	comp=E,46842μm,0.5s								
SRS	Serrai	0.66	79	P			Pb	17 36 54.2	-0.1
SRS				S			Sb	17 37 03.2	-0.1
	comp=E,7μm,0.5s								
SRS	Serrai	0.66	79	eP	g		Pb	17 36 54.2	-0.1
SRS				eS	g		Sb	17 37 03.6	+0.3
SRS	Serrai	0.66	79	↑P	i	g	Pb	17 36 54.1	-0.1
SRS					i	g	Sb	17 37 03.4	+0.1
SRS	Serrai	0.66	79	P			Pb	17 36 54.1	-0.1
SRS				S			Sg	17 37 02.8	+0.2
SRS				AML			AML	17 37 05.0	
	comp=E,11188μm,0.3s								
SRS				AML			AML	17 37 08.1	
	comp=N,13114μm,0.5s								
KTI	Kastanea	0.76	218	P			Pg	17 36 55.6	-0.1
STIP	Stip	0.82	330	P	i	g	Pg	17 36 56.2	-0.5
STIP					i	g	Sg	17 37 07.3	-0.2
KKB	Krupnik	0.92	17	P	i		Pb	17 36 58.6	0.0
NVR	Nevrokopi	0.92	67	P			Pg	17 36 59.1	+0.3
NVR				S			Sn	17 37 12.2	-0.4
	comp=N,5μm,0.4s								
NVR	Nevrokopi	0.92	67	P			Pg	17 36 58.9	+0.1
NVR				S			Sg	17 37 11.6	+0.7
NVR				AML			AML	17 37 16.1	
	comp=E,10500μm,0.5s								
NVR				AML			AML	17 37 17.0	
	comp=N,8444μm,0.4s								
MMB	Musomiste	0.96	51	iP			Pb	17 36 59.5	+0.2
KOKK	Kokkinochori,	0.97	100	P			Pg	17 36 59.8	+0.1
KOKK				S			Sn	17 37 13.6	-0.1
	comp=N,3μm,0.4s								
KOKK	Kokkinochori,	0.97	100	P			Pg	17 36 59.6	-0.1
KOKK				S			Sg	17 37 12.7	+0.2
KOKK				AML			AML	17 37 16.8	
	comp=N,19306μm,0.5s								
KOKK				AML			AML	17 37 19.9	
	comp=E,8798μm,0.6s								
KZN	Kozani	1.00	227	P			Pb	17 36 59.1	-1.0
KZN				S			Sn	17 37 14.1	-0.5
	comp=E,6μm,0.6s								
KZN	Kozani	1.00	227	P			Pb	17 36 59.8	-0.3
KZN				AML			AML	17 37 19.0	
	comp=E,17677μm,0.5s								
KZN				AML			AML	17 37 22.3	
	comp=N,6558μm,0.7s								
FNA	Florina	1.05	259	PG			Pb	17 36 59.8	-1.1
FNA				SG			Sg	17 37 14.9	0.0
FNA	Florina	1.05	259	P			Pb	17 37 00.7	-0.2
FNA				S			Sn	17 37 15.9	+0.2
	comp=N,2μm,0.5s								
FNA	Florina	1.05	259	eP	g		Pb	17 37 00.7	-0.2
FNA				eS	g		Sb	17 37 14.5	0.0
FNA	Florina	1.05	259	↓P	e	g	Pb	17 37 00.7	-0.2
FNA					i	g	Sn	17 37 17.5	+1.8
FNA	Florina	1.05	259	P			Pb	17 37 00.5	-0.4
FNA				AML			AML	17 37 19.2	
	comp=E,8776μm,0.6s								
FNA				AML			AML	17 37 21.5	
	comp=N,11864μm,0.4s								
OUR	Ouranopolis	1.15	124	P			Pg	17 37 03.2	0.0
OUR				S			Sg	17 37 18.8	+0.7
OUR	Ouranopolis	1.15	124	P			Pg	17 37 03.1	0.0
OUR				S			Sg	17 37 19.0	+0.9
PAIG	Paliouri	1.28	146	P			Pb	17 37 04.5	-0.3
PAIG				S			Sg	17 37 23.3	+1.0
	comp=N,3μm,1.0s								
PAIG	Paliouri	1.28	146	P			Pb	17 37 04.8	0.0
PAIG				S			Sg	17 37 22.4	+0.1
PAIG				AML			AML	17 37 24.9	
	comp=N,6455μm,0.7s								
PAIG				AML			AML	17 37 27.2	
	comp=E,4923μm,0.3s								
LRSO	Larissa Observ	1.34	191	P			Pb	17 37 05.7	-0.1
KAVA	Kavala	1.35	89	P			Pb	17 37 06.3	+0.4
KAVA	Kavala	1.35	89	P			Pb	17 37 06.1	+0.2
SKO	Skopje	1.38	316	eP	g		Pb	17 37 06.7	+0.1
SKO				eS	g		Sg	17 37 25.8	+0.3
SKO	Skopje	1.38	316	↓P	e	g	Pb	17 37 06.6	+0.1
SKO					i	g	Sg	17 37 25.7	+0.2
NEST	Nestorio	1.41	246	P			Pg	17 37 07.3	-0.6
NEST				S			Sg	17 37 27.0	+0.8
	comp=E,1μm,0.9s								
PENT	Pentalofos	1.45	237	P			Pb	17 37 07.8	0.0
PENT				S			Sg	17 37 28.4	+0.7
OHR	Ohrid	1.47	275	eP	g		Pb	17 37 08.5	+0.5
OHR				eS	g		Sg	17 37 28.9	+0.6
OHR	Ohrid	1.47	275	↓P	e	g	Pb	17 37 08.6	+0.5
OHR					i	g	Sg	17 37 29.3	+1.0
OHR				eLg			Lg	17 37 29.6	
	comp=N,2μm,0.9s								
OHR				eLg			Lg	17 37 33.8	
	comp=E,6μm,1.4s								
KPRO	Kipourio	1.47	226	P			Pb	17 37 08.4	+0.3
KPRO				S			Sg	17 37 28.2	-0.1
	comp=E,3μm,0.7s								
BOSS	Bosilegrad	1.52	353	eP	g		Pb	17 37 08.6	-0.3
BOSS				eS	g		Sg	17 37 30.0	+0.2
KBN	Korca	1.52	257	P			Pb	17 37 08.9	-0.1
THL	Klokotos Trika	1.53	201	P			Pb	17 37 08.7	-0.3
THL	Klokotos Trika	1.53	201	P			Pb	17 37 09.1	+0.2
THAS	Thassos island	1.55	104	P			Pn	17 37 08.6	+0.5
RZN	Rozhen	1.65	64	iP			Pb	17 37 11.6	+0.5
XOR	Xorichti	1.66	168	P			Pn	17 37 10.1	+0.5
XOR	Xorichti	1.66	168	P			Pn	17 37 10.0	+0.4
XOR				AML			AML	17 37 31.9	
	comp=N,5625μm,0.5s								
XOR				AML			AML	17 37 32.7	
	comp=E,5782μm,0.5s								

VTS	Vitosha	1.67	13	iPn		Pn	17 37 10.7	+0.8
VTS				iSg		Sg	17 37 35.1	+0.4
VTS	Vitosha	1.67	13	iP		Pb	17 37 11.2	-0.3
NEO	Neokhori	1.72	167	P		Pn	17 37 10.8	+0.3
LSK	Leskovik	1.83	243	P		Pb	17 37 13.3	-0.9
PLD	Plovdiv	1.85	52	PN		Pn	17 37 11.5	-0.7
PLD	Plovdiv	1.85	52	ePn		Pb	17 37 14.8	+0.3
PLD				eSn		Sb	17 37 38.2	+0.7
PLD	Plovdiv	1.85	52	iPn		Pb	17 37 14.4	-0.1
PLD				iSg		Sg	17 37 43.1	+2.6
PGB	Panagyurishte	1.89	34	eP		Pn	17 37 14.0	+1.2
BARS	Barje	1.95	340	ePn		Pn	17 37 14.5	+0.9
BARS	Barje	1.95	340	iPn		Pn	17 37 14.5	+0.9
BARS				iSg		Sg	17 37 43.6	0.0
JAN	Janina	1.96	228	P		Pn	17 37 14.7	+0.9
AGG	Agios Georgios	1.99	189	PN		Pn	17 37 12.9	-1.3
AGG	Agios Georgios	1.99	189	P		Pn	17 37 14.9	+0.7
MAKR	Makrakomi, Fth	2.03	193	P		Pn	17 37 15.7	+1.0
RDO	Rodhopi	2.12	85	PN		Pn	17 37 15.2	-0.8
RDO	Rodhopi	2.12	85	P		Pn	17 37 16.9	+0.9
RDO	Rodhopi	2.12	85	P		Pn	17 37 16.7	+0.7
KDZ	Kurdzhali	2.12	71	PN		Pn	17 37 14.4	-1.6
KDZ	Kurdzhali	2.12	71	iP		Pn	17 37 16.7	+0.7
EVR	Evrytania	2.19	199	P		Pn	17 37 18.2	+1.2
TIR	Tirane	2.20	280	↑P		Pb	17 37 20.8	+0.4
TIR	Tirane	2.20	280	P		Pb	17 37 19.5	-0.9
TIR	Tirane	2.20	280	ePn		Pb	17 37 19.3	-1.1
TIR	Tirane	2.20	280	iPn		Pb	17 37 19.2	-1.1
TIR				eSg		Sg	17 37 52.1	+0.6
AXAR	Agios Charalam	2.22	182	P		Pn	17 37 18.1	+0.8
ZAPS	Zavoj	2.28	358	ePn		Pb	17 37 21.0	-0.9
ZAPS				eSn		Sb	17 37 49.4	-0.6
IGT	Igoumenitsa	2.34	232	P		Pb	17 37 22.0	-0.9
IGT				S		Sb	17 37 53.4	+1.7
	comp=E,535nm,1.1s							
IGT	Igoumenitsa	2.34	232	iPn		Pb	17 37 22.1	-0.9
SRN	Sarande	2.36	243	P		Pb	17 37 22.1	-1.1
ANX	Ano Chora	2.47	195	P		Pn	17 37 22.1	+1.2
SELS	Selova	2.53	332	ePn		Pn	17 37 22.1	+0.5
SELS				eSn		Sb	17 37 55.3	-1.9
GADA	Gvkgeada	2.54	107	PN		Pn	17 37 20.7	-0.9
PVO	Paravola	2.55	202	P		Pb	17 37 23.8	-2.6
ENEZ	Enez	2.60	94	PN		Pn	17 37 21.9	-0.7
PVY	Plav	2.62	309	ePn		Pn	17 37 24.5	+1.5
PVY				iSn		Sb	17 37 57.4	-2.5
SERG	Sergoula	2.63	192	P		Pn	17 37 23.9	+1.0
EFP	Efpalio	2.64	194	P		Pn	17 37 23.9	+0.9
BOVS	Bovan	2.75	344	ePn		Pn	17 37 24.9	+0.3
BOVS				eSn		Sn	17 38 00.5	+2.9
PLVB	Pleven	2.77	30	↑P		Pg	17 37 33.7	-0.4
BOZC	Bozcaada	2.78	113	PN		Pn	17 37 23.9	-1.1
ULC	Ulcinj	2.80	292	ePn		Pb	17 37 28.4	-2.2
ULC	Ulcinj	2.80	292	↓iPn		Pn	17 37 27.1	+1.8
ULC				iSn		Sb	17 38 01.9	-2.9
IVA	Berane	2.83	313	ePn		Pn	17 37 27.3	+1.5
IVA				iSn		Sn	17 38 02.4	+2.6
ZAGS	Zajecar	2.85	353	ePn		Pn	17 37 26.8	+0.9
ZAGS				eSn		Sn	17 38 02.9	+3.0
ERIK	Erikli-Kesan	2.88	95	PN		Pn	17 37 26.1	-0.3
GELI	Tayfur-Gelibol	2.90	101	PN		Pn	17 37 26.1	-0.6
DRME	Dracevica, Mon	2.92	295	ePn		Pb	17 37 29.8	-2.9
DRME	Dracevica, Mon	2.92	295	ePn		Pn	17 37 28.7	+1.8
DRME				iSn		Sn	17 38 04.8	+3.0
UKOP	Uzunkopru-Edir	2.95	86	PN		Pn	17 37 26.9	-0.4
EZIN	Ezine	2.98	112	PN		Pn	17 37 26.9	-0.8
PDG	Podgorica	2.98	300	↑P		Pn	17 37 30.4	+2.7
PDG	Podgorica	2.98	300	ePn		Pn	17 37 30.3	+2.6
PDG				eSn		Sn	17 38 05.3	+2.2
PDG	Podgorica	2.98	300	iPn		Pn	17 37 30.2	+2.6
TTG	Podgorica	2.98	300	↑iPn		Pn	17 37 29.5	+1.8
TTG				iSn		Sn	17 38 06.0	+2.9
SIGR	SIGRI	2.98	126	PN		Pn	17 37 27.1	-0.6
KOME	Kolasin	3.04	309	↑iPn		Pn	17 37 30.2	+1.6
KOME				iSn		Sn	17 38 07.4	+2.6
BAIL	Bailesti	3.06	8	↓P		Pg	17 37 41.3	+1.7
SJES	Sjenica	3.06	319

GRER		**5.37**	**34**	⇑P		Pn	17 38 06.6	+6.0
MGRS	**Mrkonjic Grad**	**5.39**	**311**	*e*Pn		**Pn**	**17 37 59.6**	**-1.3**
BISRR	**Bisoca**	**5.40**	**31**	⇑P		**Pn**	**17 38 04.9**	**+3.9**
COVR	**Voineasa-Covas**	**5.47**	**26**	⇑P		**Pn**	**17 38 04.9**	**+2.9**
BLY	**Banja Luka**	**5.54**	**314**	*e*Pn		**Pn**	**17 38 04.9**	**+1.9**
BLY	**Banja Luka**	**5.54**	**314**	*e*Pn		**Pn**	**17 38 04.7**	**+1.7**
OZUR		**5.56**	**22**	⇑P		**Pn**	**17 38 07.1**	**+3.8**
PLOR	**Plostina**	**5.63**	**29**	⇑P		**Pn**	**17 38 07.2**	**+3.0**
VRI	**Vrincioaia**	**5.67**	**29**	⇑P		**Pn**	**17 38 07.7**	**+2.9**
A050A	**Klekovaca**	**5.75**	**309**	*e*Pn		**Pn**	**17 38 08.3**	**+2.4**
CJR	**Cluj-Napoca**	**5.76**	**6**	⇑P		**Pg**	**17 38 26.8**	**-4.3**
CFR	**Carcaliu**	**5.76**	**42**	⇑P		**Pn**	**17 38 09.4**	**+3.5**
A051A	**Mrakovica**	**5.87**	**315**	*e*Pn		**Pn**	**17 38 09.2**	**+1.7**
IDI	**Anoyia**	**5.94**	**163**	Pn		**Pn**	**17 38 10.6**	**+2.1**
	comp=E,3.1nm,0.3s,baz=338,slow=12,SNR=9.7							
IDI				Sn		**Sn**	**17 39 16.9**	**+0.6**
	comp=E,0.3nm,0.3s,baz=11,slow=12,SNR=1.6							
IDI				LR		LR	17 40 28.5	
	comp=E,118nm,20.1s,baz=282,slow=40							
MORH	**Mrgy, Hungar**	**6.01**	**332**	⇑P		**Pn**	**17 38 10.3**	**+1.0**
MORH	**Mrgy, Hungar**	**6.01**	**332**	P		**Pn**	**17 38 09.7**	**+0.4**
GHRR		**6.10**	**32**	⇑P		**Pn**	**17 38 14.4**	**+3.8**
KOVH	**Kovagototos**	**6.11**	**328**	P		**Pn**	**17 38 11.9**	**+1.2**
VLDR	**Vladesti**	**6.22**	**37**	⇑P		**Pn**	**17 38 14.8**	**+2.6**
BURAR	**Bucovina Array**	**6.86**	**14**	⇑P		Pn	17 38 26.7	+5.6
CSKK	**Cskako**	**7.14**	**335**	P		**Pn**	**17 38 26.3**	**+1.4**
TRPA	**Tarpa**	**7.14**	**359**	⇓P		**Pn**	**17 38 25.3**	**+0.5**
TRPA	**Tarpa**	**7.14**	**359**	P		**Pn**	**17 38 28.7**	**+3.8**
MPLH	**Magyarpolny**	**7.22**	**331**	P		**Pn**	**17 38 27.9**	**+1.9**
EGYH	**Egyhazaskeszo**	**7.51**	**331**	P		Pn	17 38 35.3	+5.4
SRO	**Srobarova**	**7.52**	**337**	*e*PN		**Pn**	**17 38 32.7**	**+2.6**
CEY	**Cerknica**	**7.69**	**311**	*e*Pn		**Pn**	**17 38 33.5**	**+1.0**
KOLS	**Kolonicke sedl**	**7.95**	**358**	*e*PN		**Pn**	**17 38 37.5**	**+1.5**
SOKA	**Soboth**	**7.96**	**318**	Pn		**Pn**	**17 38 37.6**	**+1.4**
	comp=E,5.0nm,0.4s,SNR=12							
SOKA				*e*Sn		**Sn**	**17 40 08.2**	**+2.2**
	comp=E,2.7nm,0.5s							
VYHS	**Vyhne**	**8.00**	**341**	*e*PN		**Pn**	**17 38 38.5**	**+1.8**
OBKA	**Obir**	**8.09**	**316**	*e*Pn		**Pn**	**17 38 39.4**	**+1.3**
OBKA	**Obir**	**8.09**	**316**	Pn		**Pn**	**17 38 40.5**	**+2.4**
	comp=E,5.3nm,0.3s,SNR=8.5							
ARSA	**Arzberg**	**8.13**	**323**	Pn		**Pn**	**17 38 40.2**	**+1.8**
	comp=E,3.8nm,0.3s,SNR=8.7							
RONA	**Rosalia, Austr**	**8.14**	**328**	*e*Pn		**Pn**	**17 38 41.6**	**+3.0**
	comp=E,3.2nm,0.4s							
ZST	**Bratislava**	**8.25**	**333**	*e*PN		**Pn**	**17 38 42.3**	**+2.2**
MODS	**Modra-Piesok**	**8.34**	**334**	*e*PN		**Pn**	**17 38 44.0**	**+2.6**
MODS				*e*SN		**Sn**	**17 40 11.4**	**-3.9**
BRTR	**Keskin Array B**	**8.42**	**95**	Pn		**Pn**	**17 38 44.7**	**+2.1**
	comp=E,0.2nm,0.3s,baz=273,slow=13,SNR=7.7							
BRTR				Sn		**Sn**	**17 40 14.8**	**-2.7**
	baz=312,slow=17							
	comp=E,0.6nm,0.4s							
CONA	**Conrad Observa**	**8.50**	**327**	*e*Pn		**Pn**	**17 38 45.9**	**+2.3**
	comp=E,1.8nm,0.3s							
MYKA	**Terra Mystica**	**8.66**	**314**	*e*Pn		**Pn**	**17 38 48.7**	**+2.9**
	comp=E,2.3nm,0.3s							
SEV	**Sevastopol'**	**8.79**	**63**	*e*P		**Pn**	**17 38 46.7**	**-0.8**
SEV				Pm			17 38 54.2	
	comp=Z,4.0nm,0.4s							
SEV				*e*S		**Sn**	**17 40 27.0**	**+0.7**
SEV				Sm			17 40 31.5	
	comp=N,6.0nm,0.6s							
SEV				Sm			17 40 31.5	
	comp=E,3.0nm,0.4s							
MOA	**Molln**	**9.15**	**321**	*e*Pn		**Pn**	**17 38 55.6**	**+3.2**
	comp=E,1.2nm,0.3s							
BIOA	**Bad Ischl, Aus**	**9.34**	**319**	*e*Pn		**Pn**	**17 38 58.2**	**+3.1**
	comp=E,2.4nm,0.3s							
ABTA	**Abfaltersbach**	**9.36**	**311**	Pn		**Pn**	**17 38 56.9**	**+1.5**
	comp=E,11nm,0.7s,SNR=12							
VRAC	**Vranov**	**9.38**	**335**	Pn		**Pn**	**17 38 58.1**	**+2.6**
	comp=E,0.3nm,0.3s,baz=135,slow=9.9,SNR=2.6							
	comp=E,1.8nm,0.5s							
SUDU	**Sudak**	**9.80**	**63**	*e*P		**Pn**	**17 39 02.2**	**+0.9**
SUDU				Pm			17 39 07.3	
	comp=Z,5.0nm,0.3s							
SUDU				*e*S		**Sn**	**17 40 53.0**	**+1.9**
SUDU				Sm			17 40 55.5	
	comp=N,11nm,0.6s							
SUDU				Sm			17 40 55.5	
	comp=E,3.0nm,0.4s							
GERES	**GERESS Array B**	**10.13**	**324**	Pn		**Pn**	**17 39 07.3**	**+1.4**
	comp=E,0.3nm,0.3s,baz=150,slow=14,SNR=4.3							
	comp=E,0.5nm,0.4s							
WTTA	**Wattenberg**	**10.14**	**312**	Pn		**Pn**	**17 39 08.5**	**+2.2**
	comp=E,8.7nm,0.5s,SNR=4.3							
WATA	**Walderalm**	**10.22**	**312**	*i* Pn		**Pn**	**17 39 10.6**	**+3.4**
	comp=E,5.6nm,0.5s,SNR=6.1							
SQTA	**Sankt Quirin**	**10.36**	**311**	Pn		**Pn**	**17 39 11.2**	**+2.0**
	comp=E,4.4nm,0.5s,SNR=5.4							
KHC	**Kasperske Hory**	**10.40**	**325**	*e*PN		**Pn**	**17 39 11.2**	**+1.7**
MOTA	**Moosalm**	**10.49**	**311**	Pn		**Pn**	**17 39 13.5**	**+2.5**
	comp=E,14nm,0.7s,SNR=13							
FETA	**Feichten**	**10.54**	**309**	*i* Pn		**Pn**	**17 39 15.0**	**+3.5**
	comp=E,3.2nm,0.5s,SNR=7.1							
DAVOX	**Davos/Dischmat**	**10.93**	**306**	Pn		**Pn**	**17 39 17.6**	**+0.6**
	comp=E,0.9nm,0.3s,baz=134,slow=14,SNR=12							
DAVOX				Sn		**Sn**	**17 41 17.5**	**-1.6**
	comp=E,0.1nm,0.3s,baz=193,slow=19,SNR=1.5							
	comp=E,5.1nm,0.5s							
DAVA	**Damuels**	**11.17**	**309**	*e*Pn		**Pn**	**17 39 23.3**	**+3.0**
	comp=E,1.7nm,0.3s							
KBZ	**Khabaz**	**15.15**	**73**	Pn		**P**	**17 40 18.5**	**-1.0**
	comp=E,1.3nm,0.9s,baz=252,slow=16,SNR=1.8							
ESDC	**Sonseca Array**	**20.37**	**275**	P		**P**	**17 41 16.7**	**-0.4**
	comp=E,2.7nm,1.1s,baz=78,slow=8.0,SNR=4.3							
	comp=E,2.7nm,1.1s							
BELG	**Belogornoye**	**20.42**	**48**	P		Pn	17 41 19.7	+0.2
	comp=E,8.0nm,0.9s,baz=188,slow=18,SNR=3.8							
	comp=E,8.0nm,0.9s							
FINES	**FINESS Array B**	**20.58**	**5**	P		Pn	17 41 21.5	+0.1
	comp=E,1.9nm,0.8s,baz=106,slow=10,SNR=1.3							
	comp=E,1.9nm,0.8s							
NOA	**NORSAR Array B**	**21.28**	**344**	P		**P**	**17 41 27.1**	**+0.3**
	comp=E,0.9nm,0.7s,baz=161,slow=10,SNR=2.8							
NOA				LR		LR	17 50 18.6	
	comp=E,24nm,21.1s,baz=355,slow=38							
	comp=E,0.9nm,0.7s							
BVAR	**Borovoye Array**	**34.03**	**53**	P		**P**	**17 43 26.2**	**+2.0**
	comp=E,0.7nm,0.7s,baz=278,slow=4.3,SNR=4.2							
	comp=E,0.7nm,0.7s							
DBIC	**Dimbokro**	**42.11**	**223**	P		**P**	**17 44 29.6**	**-3.1**
	comp=E,2.4nm,0.8s,baz=91,slow=2.4,SNR=3.5							
	comp=E,2.4nm,0.8s							
MKAR	**Makanchi Array**	**42.41**	**61**	P		**P**	**17 44 35.3**	**+0.4**
	comp=E,0.8nm,0.6s,baz=288,slow=6.4,SNR=8.6							
	comp=E,0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**42.56**	**51**	P		**P**	**17 44 36.8**	**+0.8**
	comp=E,1.7nm,0.6s,baz=280,slow=7.9,SNR=7.2							
ZALV				LR		LR	18 04 24.9	
	comp=E,21nm,18.9s,baz=333,slow=39							
	comp=E,1.7nm,0.6s							
TSUM	**Tsumeb**	**60.07**	**186**	LR		LR	18 13 27.3	
	comp=E,32nm,19.8s,baz=337,slow=37							
LBTB	**Lobatse**	**65.72**	**177**	LR		LR	18 17 01.7	
	comp=E,39nm,18.1s,baz=220,slow=37							
CMAR	**Chiang Mai Arr**	**67.86**	**84**	P		**P**	**17 47 38.8**	**-0.2**
	comp=E,0.3nm,0.3s,baz=289,slow=8.5,SNR=1.9							
	comp=E,0.3nm,0.3s							
BOSA	**Boshof**	**69.29**	**178**	LR		LR	18 20 11.5	
	comp=E,17nm,20.9s,baz=30,slow=38							
YKA	**Yellowknife Ar**	**71.32**	**341**	P		**P**	**17 48 00.5**	**+0.8**
	comp=E,2.7nm,0.9s,baz=57,slow=8.2,SNR=2.3							
	comp=E,2.7nm,0.9s							
ILAR	**Eielson Array**	**74.26**	**355**	P		**P**	**17 48 16.9**	**-0.2**
	comp=E,0.5nm,0.8s,baz=357,slow=5.5,SNR=5.3							
	comp=E,0.5nm,0.8s							

GUC 30 17:38:07.1±0.6, 21°07S×68°43W, h135km±4km, ML3.7, 12C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PB01	**IPOC Station P**	**0.99**	**271**	⇑*i*P		Pn	17 38 29.6	-0.9
PB01				*i* S		Sn	17 38 47.0	-1.2
PB01				IAML			17 38 50.6	
	comp=E,780nm,0.1s							
PB09	**IPOC Station P**	**1.05**	**226**	⇑*i*P		Pn	17 38 31.2	+0.1
PB09				*i* S		Sn	17 38 49.3	-0.1
PB08	**IPOC Station P**	**1.15**	**323**	⇓*i*P		Pn	17 38 32.1	-0.2
PB08				*i* S		Sn	17 38 51.0	-0.3
PB08				IAML			17 38 52.2	
	comp=E,1μm,0.4s							
PB02	**IPOC Station P**	**1.39**	**259**	⇑*i*P		Pn	17 38 33.9	-0.6
PB02				*i* S		Sn	17 38 54.4	-0.9
PB02				IAML			17 38 56.0	
	comp=N,893nm,0.3s							
PB07	**IPOC Station P**	**1.51**	**244**	*e*P		Pn	17 38 35.2	-0.6
PB07				*i* S		Sn	17 38 56.7	-1.0
PB07				IAML			17 38 59.0	
	comp=N,765nm,0.2s							
GO01	**Chusmiza**	**1.57**	**333**	⇓*i*P		Pn	17 38 36.3	-0.6
GO01				*i* S		Sn	17 38 58.8	-0.6
GO01				IAML			17 39 03.7	
	comp=E,2μm,0.1s							
PB03	**IPOC Station P**	**1.57**	**231**	⇑*i*P		Pn	17 38 36.0	-0.5
PB03				*i* S		Sn	17 38 58.2	-0.8
PB03				IAML			17 38 59.1	
	comp=E,547nm,0.2s							
HMBC	**Humberstone**	**1.58**	**300**	⇑*i*P		Pn	17 38 35.6	-0.9
HMBC				*i* S		Sn	17 38 57.7	-1.3
HMBC				IAML			17 38 59.5	
	comp=N,2μm,0.3s							
LVC	**Limon Verde**	**1.60**	**196**	⇓*i*P		Pn	17 38 36.9	-0.2
LVC				*i* S		Sn	17 38 59.6	-0.3
PATCX	**Punta Patache**	**1.63**	**278**	⇑*i*P		Pn	17 38 36.4	-0.7
PATCX				*i* S		Sn	17 38 59.1	-0.9
PATCX				IAML			17 39 02.4	
	comp=E,865nm,0.3s							
TA01	**Diego Aracena**	**1.71**	**287**	⇑*i*P		Pn	17 38 36.9	-1.1
TA01				*i* S		Sn	17 38 59.9	-1.6
TA01				IAML			17 39 01.9	
	comp=E,858nm,0.2s							
PB11	**IPOC Station P**	**1.74**	**318**	⇓*i*P		Pn	17 38 37.5	-0.9
PB11				*i* S		Sn	17 39 01.1	-1.2
TA02	**Huaiquique**	**1.78**	**296**	*e*P		Pn	17 38 37.7	-1.0
TA02				*i* S		Sn	17 39 01.2	-1.7
TA02				IAML			17 39 04.2	
	comp=N,2μm,0.2s							
PB06	**IPOC Station P**	**1.95**	**213**	⇑*i*P		Pn	17 38 40.5	-0.3
PB06				*i* S		Sn	17 39 06.1	-0.6
PB06				IAML			17 39 07.1	
	comp=E,435nm,0.1s							
PB04	**IPOC Station P**	**2.04**	**232**	⇑*i*P		Pn	17 38 41.6	-0.4
PB04				*i* S		Sn	17 39 07.2	-1.5
PB04				IAML			17 39 12.4	
	comp=N,415nm,0.1s							
PSGC	**Pisagua**	**2.16**	**312**	⇑*i*P		Pn	17 38 41.9	-1.6
PSGC				*e*S		Sn	17 39 09.0	-2.3
PSGC				IAML			17 39 12.4	
	comp=N,328nm,0.5s							
MNMC	**Minye Minye**	**2.22**	**330**	⇓*i*P		Pn	17 38 44.0	-0.3
MNMC				*i* S		Sn	17 39 12.6	-0.2
PB15	**IPOC Station P**	**2.34**	**204**	*e*P		Pn	17 38 45.6	-0.1
PB15				*i* S		Sn	17 39 15.0	-0.4
PB12	**IPOC Station P**	**3.03**	**323**	⇑*i*P		Pn	17 38 52.1	-2.3
PB12				*i* S		Sn	17 39 28.1	-2.7
PB12				IAML			17 39 29.7	
	comp=N,209nm,0.1s							
GO02	**Mina Guanaco**	**4.21**	**195**	⇑*i*P		Pn	17 39 09.0	-1.1
GO02				*i* S		Sn	17 39 57.0	-2.0

*IDC **30** 17:42:19.6±1.6, 6°62N×76°09W, h0km, mb3.5/1, mbtmp3.9/3, ML2.7/2, Error ellipse: s-maj=48.8km s-min=31.7km azi=39.0*
*NEIC **30** 17:42:25.1±3.6, 6°34N±0°09×75°93W±0°09, h46km±73km, Error ellipse: s-maj=14.2km s-min=11.0km az=217.0*
*RSNC **30** 17:42:26.2±1.1, 6°30N×75°84W, h20km±4km, ML3.3, Mw3.5*

ISC 30 17:42:25.2±1.1, 6°33N±0°02×75°89W±0°03, h33km±9km, n40, σ1°66/69, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CBOC	**Ciudad Bolivar**	**0.47**	**195**	*e*P		**Pb**	**17 42 34.9**	**-0.7**
CBOC				*e*S		**Sb**	**17 42 43.1**	**+0.4**
DBBC	**Dabeiba**	**0.76**	**335**	*e*P		**Pn**	**17 42 40.1**	**+0.4**
DBBC				*e*S		**Sn**	**17 42 52.6**	**+2.5**
NORC	**Norcasia**	**1.27**	**127**	⇓*i*P		**Pn**	**17 42 46.1**	**-0.6**
NORC				*e*S		**Sn**	**17 43 02.4**	**-0.2**
NORC				IAML			17 43 04.5	
	comp=Z,726nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.44**	**81**	*e*P		**Pn**	**17 42 49.0**	**-0.1**
PTBC				*e*S		**Sn**	**17 43 07.8**	**+0.9**
PTBC				IAML			17 43 10.6	
	comp=Z,535nm,0.4s							
UREC	**San Jos de Ur**	**1.46**	**14**	*e*P		**Pn**	**17 42 49.9**	**+0.6**
UREC				*e*S		**Sb**	**17 43 09.8**	**-0.4**
PLMC	**San Jos del P**	**1.46**	**195**	*e*P		**Pn**	**17 42 48.6**	**-0.8**
PLMC				*e*S		**Sn**	**17 43 07.6**	**+0.1**
PLMC				IAML			17 43 08.5	
	comp=Z,659nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.55**	**41**	*e*P		**Pn**	**17 42 51.4**	**+0.8**
ZARC				*e*S		**Sn**	**17 43 11.4**	**+1.9**
ZARC				IAML			17 43 12.8	
	comp=Z,744nm,0.2s							
ANIL	**Santa Ana**	**1.89**	**165**	*e*P		**Pn**	**17 42 55.8**	**+0.4**
ANIL				*e*S		**Sn**	**17 43 20.0**	**+1.7**
ANIL				IAML			17 43 25.1	
	comp=Z,316nm,0.4s							
PIZC	**Pizarro, Choco**	**1.99**	**227**	*e*P		**Pn**	**17 42 56.9**	**+0.3**
PIZC				*e*S		**Sb**	**17 43 26.6**	**+1.3**
ROSC	**El Rosal**	**2.15**	**133**	Pn		**Pn**	**17 43 01.0**	**+1.8**
	comp=Z,28nm,0.3s,baz=311,slow=18,SNR=15							
ROSC				Sn		**Sb**	**17 43 30.1**	**-0.1**
	comp=Z,31nm,0.3s,baz=294,slow=20,SNR=5.6							
	comp=Z,57nm,0.3s							
ROSC	**El Rosal**	**2.15**	**133**	Pn		**Pn**	**17 43 00.3**	**+1.1**
ROSC	**El Rosal**	**2.15**	**133**	*e*P		**Pn**	**17 43 00.8**	**+1.7**
ROSC				*e*S		**Sb**	**17 43 29.9**	**-0.4**
ROSC				IAML			17 43 36.6	
	comp=Z,149nm,0.4s							
BRRC	**Barranca, Sant**	**2.30**	**70**	*e*P		**Pn**	**17 43 01.7**	**+0.8**
BRRC				*e*S		**Sn**	**17 43 28.5**	**+0.4**
BRRC				IAML			17 43 44.3	
	comp=Z,119nm,0.6s							
YOTC	**Yotoco, Valle**	**2.37**	**191**	*e*P		**Pn**	**17 43 01.1**	**-0.8**
YOTC				*e*S		**Sn**	**17 43 28.8**	**-1.2**
YOTC				IAML			17 43 38.0	
	comp=Z,50nm,0.6s							
ORTC	**Ortega, Tolima**	**2.48**	**165**	*e*P		**Pn**	**17 43 05.3**	**+1.8**
ORTC				*e*S		**Sn**	**17 43 36.8**	**+4.1**
ORTC				IAML			17 43 50.6	
	comp=Z,82nm,0.5s							
LCBC	**Los crdobas,**	**2.56**	**349**	*e*P		**Pn**	**17 43 05.4**	**+1.0**
LCBC				*e*S		**Sn**	**17 43 37.0**	**+2.5**
LCBC				IAML			17 43 40.6	
	comp=Z,76nm,0.4s							
BARC	**Barichara**	**2.71**	**84**	*e*P		**Pn**	**17 43 07.5**	**+0.9**
BARC				*e*S		**Sn**	**17 43 40.0**	**+1.6**
BARC				IAML			17 43 54.1	
	comp=Z,349nm,0.6s							
MALC	**Bahia Malaga**	**2.71**	**212**	*e*P		**Pn**	**17 43 06.7**	**+0.1**
MALC				*e*S		**Sb**	**17 43 44.6**	**-1.4**
CHIC	**Chingaza**	**2.73**	**128**	*e*P		**Pn**	**17 43 10.9**	**+3.8**
CHIC				IAML			17 44 06.0	
	comp=Z,41nm,0.7s							
PRAC	**Prado**	**2.78**	**159**	Pn		**Pn**	**17 43 07.8**	**+0.3**
PRAC				Sn		**Sn**	**17 43 37.0**	**-3.0**
PRAC	**Prado**	**2.78**	**159**	*e*P		**Pn**	**17 43 08.0**	**+0.5**
PRAC				*e*S		**Sb**	**17 43 48.2**	**+0.2**
PRAC				IAML			17 44 00.4	
	comp=Z,86nm,0.7s							
PAMC	**Pamplona, Colo**	**3.33**	**72**	*e*P		**Pn**	**17 43 16.7**	**+1.3**
PAMC				*e*S		**Sn**	**17 43 56.0**	**+1.9**
PAMC				IAML			17 44 14.5	
	comp=Z,87nm,0.5s							
SJCC	**San Jacinto, C**	**3.62**	**11**	*e*P		**Pn**	**17 43 19.8**	**+0.7**
SJCC				*e*S		**Sn**	**17 44 00.8**	**+0.1**
BETC	**Betania**	**3.65**	**173**	*e*P		**Pn**	**17 43 20.5**	**+1.0**
BETC				*e*S		**Sn**	**17 44 03.1**	**+1.6**
ARGC	**Ariguani, Magd**	**3.87**	**25**	*e*P		**Pn**	**17 43 25.9**	**+3.5**
ARGC				*e*S		**Sn**	**17 44 08.7**	**+1.8**
TAMC	**Tame, Arauca**	**4.08**	**88**	*e*P		**Pn**	**17 43 26.6**	**+1.3**
TAMC				*e*S		**Sn**	**17 44 14.9**	**+2.9**
TAMC				IAML			17 44 36.4	
	comp=Z,43nm,0.5s							
GARC	**Garzon, Huila**	**4.13**	**174**	*e*P		**Pn**	**17 43 26.5**	**+0.2**
GARC				*e*S		**Sn**	**17 44 15.4**	**+1.8**
MACC	**Macarena, Meta**	**4.63**	**154**	*e*P		**Pn**	**17 43 33.0**	**+0.1**
MACC				IAML			17 44 47.3	
	comp=Z,30nm,0.5s							
FLOC	**Florencia**	**4.72**	**177**	*e*P		**Pn**	**17 43 33.9**	**-0.3**
BCIP	**Isla Barro Col**	**4.82**	**306**	Pn		**Pn**	**17 43 34.3**	**-1.3**
SMRC	**Santa Marta, M**	**5.08**	**19**	*e*P		**Pn**	**17 43 40.3**	**+1.1**
SMRC				*e*S		**Sn**	**17 44 36.9**	**+0.2**
CRJC	**Cerrejon, Guaj**	**5.53**	**32**	*e*P		**Pn**	**17 43 45.4**	**0.0**
CRJC				*e*S		**Sn**	**17 44 44.8**	**-3.2**
CRJC				IAML			17 44 48.4	
	comp=Z,36nm,0.2s							
SDV	**Santo Domingo**	**5.80**	**64**	Pn		**Pn**	**17 43 49.0**	**-0.2**
	comp=Z,2.6nm,0.3s,baz=194,slow=4.2,SNR=5.1							
SDV				Sn		**Sn**	**17 44 51.9**	**-2.8**
	comp=Z,5.1nm,0.3s,baz=48,slow=18,SNR=2.3							
	comp=Z,9.5nm,0.3s							
SDV	**Santo Domingo**	**5.80**	**64**	Pn		**Pn**	**17 43 50.3**	**+1.1**
URIC	**Uribia, Colomb**	**6.58**	**36**	Pn		**Pn**	**17 43 58.9**	**-0.9**
URIC	**Uribia, Colomb**	**6.58**	**36**	*e*P		**Pn**	**17 43 59.3**	**-0.5**
URIC				*e*S		**Sn**	**17 45 09.6**	**-4.2**
URIC				IAML			17 45 18.0	
	comp=Z,6.9nm,0.3s							
BAUV	**El Baul**	**8.20**	**71**	Pn		**Pn**	**17 44 20.4**	**-1.7**
MTDJ	**Mount Denham**	**11.94**	**352**	Pn		**Pn**	**17 45 13.8**	**+0.5**
ILAR	**Eielson Array**	**76.25**	**335**	P		**P**	**17 54 07.3**	**-3.0**
	comp=Z,0.3nm,0.7s,baz=124,slow=4.0,SNR=5.0							
	comp=Z,0.3nm,0.7s							
ASAR	**Alice Springs**	**146.57**	**236**	PKPbc		**PKPdf**	**18 02 04.3**	**+1.5**
	comp=Z,0.4nm,1.1s,baz=130,slow=1.8,SNR=2.0							

MAN 30 17:51:01.3, 6°99N×126°97E, h11km, mb4.2, ML3.0, MS2.7, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CDOP	**Cateel, Davao**	**0.95**	**326**	⇑*e*P		Pg	17 51 18.2	-1.4
BIPH	**Bislig**	**1.33**	**333**	⇓*i*P		Pn	17 51 23.1	-2.7
BIPH				*i* S		Sb	17 51 36.4	-7.0
TASP	**Talacogon, Agu**	**1.85**	**322**	⇑*e*P		Pn	17 51 32.9	-0.1
TASP				*i* S		Sn	17 51 55.2	-1.3
KCP	**Kidapawan**	**1.87**	**271**	⇑*i*P		Pn	17 51 32.6	-0.7
CGP	**Cagayan de Oro**	**2.69**	**303**	⇓*e*P		Pn	17 51 43.9	-0.6
CGP				*e*S		Sn	17 52 12.7	-4.3
CTBH	**Cotabato--PC H**	**2.72**	**275**	⇑*i*P		Pn	17 51 44.3	-0.6
CTBH				*i* S		Sb	17 52 22.4	-0.9

*IDC **30** 17:51:26.3±2.0, 28°69S×70°60W, h80km±19km, mb2.9/1, mbtmp3.5/4, Error ellipse: s-maj=23.3km s-min=17.9km azi=44.0*
*NEIC **30** 17:51:27.7±0.9, 28°74S±0°03×70°62W±0°09, h103km±5km, Error ellipse: s-maj=11.2km s-min=4.9km azi=95.0*
*GUC **30** 17:51:28.1±0.8, 28°75S×70°54W, h96km±3km, ML4.1*

ISC 30 17:51:26.5±0.7, 28°75S±0°04×70°67W±0°05, h102km±6km, n82, σ1°81/104, mb4.4/3, 2C-11D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LCO	**Las Campanas**	**0.26**	**187**			**Pn**	**17 51 42.8**	**+1.4**
LCO				Sn		**Sn**	**17 51 53.8**	**+1.1**
LCO	**Las Campanas**	**0.26**	**187**	*e*P		**Pn**	**17 51 43.1**	**+1.6**
LCO				*i* S		**Sn**	**17 51 54.1**	**+1.4**
LCO	**Las Campanas**	**0.26**	**187**	*e*P		**Pn**	**17 51 42.9**	**+1.4**
LCO				*i* S		**Sn**	**17 51 53.9**	**+1.3**
AC05	**El Transito**	**0.35**	**104**	Pn		**Pn**	**17 51 42.7**	**+1.0**
AC05	**El Transito**	**0.35**	**104**	⇓*i*P		**Pn**	**17 51 42.9**	**+1.2**
AC05				*i* S		**Sn**	**17 51 53.5**	**+0.4**
AC05				IAML			17 51 55.3	
	comp=N,10μm,0.3s							
AC05	**El Transito**	**0.35**	**104**	⇓*i*P		**Pn**	**17 51 42.9**	**+1.2**
AC05				*i* S		**Sn**	**17 51 53.6**	**+0.5**
AC04	**Llanos de Chal**	**0.65**	**326**	Pn		**Pn**	**17 51 46.0**	**+2.4**
AC04			

H03S2					S		Sn	17 54 59.1	-6.2
	baz=12,slow=17,SNR=9.1								
PB11	**IPOC Station P**	**9.00**	**6**	Pn	**Pn**			**17 53 30.0**	**-3.8**
PSGCX	**Pisagua**	**9.13**	**3**	Pn	**Pn**			**17 53 31.2**	**-4.2**
PB12	**IPOC Station P**	**10.10**	**2**	Pn	**Pn**			**17 53 45.2**	**-3.5**
TRQA	**Tornquist**	**11.77**	**144**	Pn	**Pn**			**17 54 11.1**	**0.0**
PLCA	**Paso Flores**	**11.95**	**180**	P	**Pn**			**17 54 13.7**	**+0.2**
	comp=E,1.5nm,0.8s,baz=353,slow=9.8,SNR=5.3								
CPUP	**Villa Florida**	**12.08**	**82**	P	**Pn**			**17 54 12.8**	**-2.3**
	comp=E,0.7nm,0.4s,baz=214,slow=18,SNR=1.9								
ITQB	**Itaqui**	**12.30**	**98**	Pn	**Pn**			**17 54 15.4**	**-2.7**
LPAZ	**La Paz**	**12.62**	**11**	P	**Pn**			**17 54 21.2**	**-1.8**
	comp=E,0.8nm,0.4s,baz=256,slow=12,SNR=2.0								
RCBR	**Riachuelo**	**40.01**	**62**	P	**P**			**17 58 51.3**	**-0.4**
RCBR				IAmb	IAmb			17 58 54.5	
	comp=Z,15nm,1.1s								
QSPA	**South Pole Qui**	**61.47**	**180**	P	**P**			**18 01 34.9**	**+2.7**
QSPA				IAmb	IAmb			18 01 35.8	
	comp=Z,3.5nm,0.9s								
TXAR	**Lajitas Array**	**65.81**	**329**	P	**P**			**18 02 03.7**	**+2.7**
	comp=Z,0.2nm,0.6s,baz=119,slow=12,SNR=2.2								
	comp=Z,0.2nm,0.6s								
ASAR	**Alice Springs**	**122.77**	**207**	PKP	**PKiKP**			**18 10 12.8**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=138,slow=1.6,SNR=8.8								
WRA	**Warramunga Arr**	**125.90**	**209**	PKP	**PKiKP**			**18 10 19.3**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=160,slow=1.7,SNR=17								
SIJI	**Sorong**	**143.83**	**219**	PKP	**PKPdf**			**18 10 51.1**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=48,slow=12,SNR=3.8								
YAK	**Yakutsk**	**144.11**	**344**	PKP	**PKPdf**			**18 10 50.1**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=11,slow=2.4,SNR=4.1								
ZALV	**Zalesovo Beam**	**149.12**	**29**	PKPbc	**PKPab**			**18 11 05.5**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=260,slow=2.7,SNR=6.7								
MKAR	**Makanchi Array**	**152.25**	**42**	PKPbc	**PKiKP**			**18 11 12.3**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=351,slow=1.6,SNR=4.1								

*IDC **30** 17:55:24.5±1.4, 37.30N×141.77E, h0km, mb3.2/4, mbtmp3.1/5, ML2.4/1, Error ellipse: s-maj=33.8km s-min=27.9km az=142.0*
*JMA **30** 17:55:28.0±0.2, 37.2N±0.4×141.5E±0.9, h28km±1km, MV3.2/40, E OFF FUKUSHIMA PREF*

ISC 30 17:55:25.7±1.9, 37.12N±0.05×141.58E±0.07, h8km±11km, n23, σ1s02/23, mb3.3/4, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.61**	**293**	P	**Pg**	**17 55 38.0**	**+0.5**
JFK				S	**Sg**	**17 55 45.4**	**-0.2**
JFFD	**Fukushimafurud**	**0.81**	**268**	⇓P	**Pg**	**17 55 41.7**	**+0.3**
JFFD				⇓S	**Sg**	**17 55 51.5**	**-0.5**
JMST	**Minamisoumatoc**	**0.81**	**318**	P	**Pg**	**17 55 41.8**	**+0.4**
JHO	**Hitachi**	**0.96**	**238**	⇓*i*P	**Pg**	**17 55 43.8**	**-0.3**
JHO				⇓S	**Sg**	**17 55 56.0**	**-0.6**
JMM	**Marumori**	**0.97**	**320**	P	**Pg**	**17 55 44.5**	**+0.2**
JMM				*e*S	**Sg**	**17 55 57.0**	**0.0**
JSB	**Shiboa**	**1.34**	**264**	P	**Pn**	**17 55 51.0**	**+0.3**
JSB				S	**Sb**	**17 56 07.8**	**-0.5**
JIO	**Ouri**	**1.34**	**352**	P	**Pn**	**17 55 50.9**	**+0.2**
JIO				S	**Sb**	**17 56 07.5**	**-0.9**
JOU	**Okura**	**1.44**	**330**	P	**Pb**	**17 55 52.8**	**0.0**
JOU				*e*S	**Sb**	**17 56 11.3**	**0.0**
JFY	**Yanaizu**	**1.52**	**281**	P	**Pn**	**17 55 53.7**	**+0.4**
JFY				S	**Sn**	**17 56 12.8**	**-0.5**
MJAR	**Matsushiro Arr**	**2.77**	**259**	Pn	**Pn**	**17 56 11.4**	**+1.0**
	0.5nm,0.3s,baz=85,slow=24,SNR=22						
MJAR				Sn	**Sb**	**17 56 47.9**	**-1.6**
	0.3nm,0.3s,baz=81,slow=29,SNR=8.1						
	3.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	18 30 48.8	
	baz=314,slow=75,SNR=215						
H11N1	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	18 30 46.0	
	baz=314,slow=75,SNR=115						
H11N3	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	18 30 49.2	
	baz=314,slow=75,SNR=116						
H11S1	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	18 31 41.6	
	baz=316,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	18 31 41.2	
	baz=316,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	18 31 42.3	
	baz=316,slow=76,SNR=40						
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**18 03 36.3**	**+1.2**
	0.4nm,0.8s,baz=78,slow=9.3,SNR=2.4						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**18 04 12.5**	**-2.7**
	0.1nm,0.4s,baz=264,slow=8.9,SNR=1.7						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**18 05 14.2**	**+1.1**
	0.2nm,0.6s,baz=4.0,slow=7.3,SNR=1.5						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**60.90**	**188**	P	**P**	**18 05 40.7**	**+1.8**
	0.2nm,0.9s,baz=15,slow=7.1,SNR=1.9						
	0.2nm,0.9s						
H03N2	**Juan Fernandez**	**146.90**	**96**	T	T	20 59 28.2	
	baz=291,slow=76,SNR=8.0						
H03N3	**Juan Fernandez**	**146.91**	**96**	T	T	20 59 26.8	
	baz=291,slow=76,SNR=6.2						
H03N1	**Juan Fernandez**	**146.92**	**96**	T	T	20 59 31.8	
	baz=291,slow=76,SNR=9.3						

*IDC **30** 18:04:42.8±1.4, 38.12N×141.90E, h0km, mb3.1/4, mbtmp3.1/5, ML2.6/1, MS3.2/1, Error ellipse: s-maj=38.8km s-min=29.0km az=110.0*
*JMA **30** 18:04:52.4±0.2, 37.2N±0.4×141.5E±1.0, h28km±1km, MV3.2/38, E OFF FUKUSHIMA PREF*

ISC 30 18:04:50.7±1.8, 37.16N±0.05×141.44E±0.07, h14km±10km, n21, σ1s13/20, mb3.2/4, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.50**	**295**	P	**Pn**	**18 05 02.3**	**-1.1**
JFK				S	**Sb**	**18 05 09.5**	**+1.2**
JFFD	**Fukushimafurud**	**0.71**	**265**	⇓P	**Pn**	**18 05 05.9**	**-0.3**
JFFD				⇓S	**Sn**	**18 05 15.7**	**-1.2**
JMST	**Minamisoumatoc**	**0.71**	**322**	P	**Pn**	**18 05 06.1**	**-0.2**
JMST				S	**Sn**	**18 05 16.6**	**-0.4**
JMM	**Marumori**	**0.87**	**324**	P	**Pn**	**18 05 08.7**	**+0.3**
JMM				*e*S	**Sn**	**18 05 20.6**	**-0.3**
JHO	**Hitachi**	**0.89**	**232**	⇓P	**Pn**	**18 05 08.1**	**-0.6**
JSB	**Shiboa**	**1.23**	**262**	P	**Pg**	**18 05 15.3**	**+0.9**
JIO	**Ouri**	**1.29**	**357**	P	**Pg**	**18 05 15.2**	**-0.4**
JIO				S	**Sg**	**18 05 32.6**	**+0.2**
JOU	**Okura**	**1.35**	**333**	P	**Pg**	**18 05 16.9**	**+0.2**
JOU				S	**Sg**	**18 05 35.5**	**+1.2**
JFY	**Yanaizu**	**1.41**	**281**	P	**Pg**	**18 05 17.9**	**+0.2**
JFY				S	**Sg**	**18 05 36.8**	**+0.8**
MJAR	**Matsushiro Arr**	**2.66**	**258**	Pn	**Pb**	**18 05 35.4**	**-2.7**
	0.6nm,0.3s,baz=69,slow=20,SNR=28						
MJAR				Sn	**Sb**	**18 06 11.9**	**+1.2**
	0.2nm,0.3s,baz=56,slow=23,SNR=4.6						
	2.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	18 40 08.7	
	baz=314,slow=75,SNR=90						
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	18 40 09.9	
	baz=314,slow=75,SNR=80						
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	18 40 14.3	
	baz=314,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	18 41 03.4	
	baz=316,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	18 41 06.7	
	baz=316,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	18 41 04.7	
	baz=316,slow=76,SNR=12						
SIJI	**Sorong**	**39.00**	**196**	LR	LR	18 27 01.6	
	comp=Z,27nm,18.2s,baz=122,slow=34						
MKAR	**Makanchi Array**	**44.07**	**302**	P	P	18 12 51.2	-6.9
	0.2nm,0.5s,baz=92,slow=8.3,SNR=4.3						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**49.38**	**32**	P	P	18 13 25.4	-14
	0.2nm,0.6s,baz=268,slow=6.9,SNR=2.4						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**18 14 38.5**	**+1.3**
	0.2nm,0.9s,baz=4.9,slow=7.5,SNR=4.6						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**60.92**	**188**	P	**P**	**18 15 04.5**	**+1.5**
	0.1nm,0.8s,baz=2.5,slow=8.5,SNR=1.7						
	0.1nm,0.8s						

*WEL **30** 18:25:12.5±0.3, 43°S±2°×17°3E±°, h5km, M2.8/12, ML3.0/11, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=104.0*

*NOU **30** 18:25:12.3, 42°.78S×173°.06E, h9km, MLv3.5/8, South Island, New Zealand*

ISC 30 18:25:13.0±0.9, 42.69S±0.03×172.97E±0.04, h15km, n34, σ1s08/36, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.29**	**171**	P	**Pg**	**18 25 19.8**	**+0.7**
GVZ				S	**Sg**	**18 25 25.4**	**+2.1**
KHZ	**Kahutara**	**0.50**	**57**	P	**Pg**	**18 25 22.7**	**-0.2**
KHZ	**Kahutara**	**0.50**	**57**	P	**Pg**	**18 25 22.7**	**-0.2**
KHZ				S	**Sg**	**18 25 30.0**	**+0.5**
LTZ	**Lake Taylor**	**0.53**	**259**	P	**Pg**	**18 25 22.7**	**-0.7**
AMCZ	**Amberley**	**0.55**	**206**	P	**Pg**	**18 25 24.6**	**+0.9**
THZ	**Tophouse**	**0.92**	**357**	P	**Pb**	**18 25 29.3**	**-1.5**
OXZ	**Oxford**	**0.94**	**227**	P	**Pb**	**18 25 30.8**	**-0.2**
MQZ	**McQueen's Vall**	**1.05**	**193**	P	**Pb**	**18 25 31.8**	**-1.0**
INZ	**Inchbonnie**	**1.13**	**267**	P	**Pb**	**18 25 33.4**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.19**	**182**	P	**Pn**	**18 25 34.3**	**-0.9**
DSZ	**Denniston Nort**	**1.28**	**317**	P	**Pn**	**18 25 35.9**	**-0.5**
MRNZ	**Matariki Terra**	**1.29**	**353**	P	**Pn**	**18 25 36.0**	**-0.5**
MHCZ	**Mount Hutt**	**1.33**	**230**	P	**Pn**	**18 25 36.1**	**-1.0**
NNZ	**Nelson**	**1.50**	**12**	P	**Pn**	**18 25 39.4**	**+0.1**
WACZ	**Wakanui South**	**1.51**	**213**	P	**Pn**	**18 25 38.6**	**-0.9**
TKNZ	**Takaka Hill**	**1.65**	**360**	P	**Pb**	**18 25 42.2**	**-0.9**
WVZ	**Waitaha Valley**	**1.69**	**256**	P	**Pn**	**18 25 42.1**	**+0.1**
RPZ	**Rata Peaks**	**1.74**	**233**	P	**Pn**	**18 25 43.0**	**+0.3**
RPZ	**Rata Peaks**	**1.74**	**233**	P	**Pn**	**18 25 42.5**	**-0.3**
ARCZ	**Arundel**	**1.82**	**225**	P	**Pn**	**18 25 43.0**	**-0.8**
QRZ	**Quartz Range**	**1.89**	**350**	P	**Pn**	**18 25 45.3**	**+0.6**
QRZ	**Quartz Range**	**1.89**	**350**	P	**Pn**	**18 25 45.1**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**2.04**	**251**	P	**Pb**	**18 25 49.5**	**-0.3**
TMZ	**Timaru**	**2.22**	**219**	P	**Pn**	**18 25 48.7**	**-0.6**
FOZ	**Fox Glacier**	**2.46**	**249**	P	**Pn**	**18 25 54.1**	**+1.5**
ODZ	**Otahua Downs**	**2.90**	**215**	P	**Pn**	**18 25 57.4**	**-1.2**
ODZ	**Otahua Downs**	**2.90**	**215**	P	**Pn**	**18 25 57.6**	**-1.0**
BFZ	**Birch Farm**	**3.16**	**52**	P	**Pn**	**18 26 02.6**	**+0.3**
TSZ	**Takapari Road**	**3.46**	**42**	P	**Pn**	**18 26 04.5**	**-1.7**
KHEZ	**Kahui Hut**	**3.48**	**13**	P	**Pn**	**18 26 08.6**	**+2.0**
KHEZ	**Kahui Hut**	**3.48**	**13**	P	**Pn**	**18 26 09.3**	**+2.6**
PKE	**Pukeiti**	**3.57**	**13**	P	**Pn**	**18 26 09.6**	**+1.8**
HIZ	**Hauiti**	**4.41**	**20**	P	**Pn**	**18 26 20.1**	**+0.8**
BKZ	**Black Stump Fm**	**4.41**	**38**	P	**Pn**	**18 26 19.3**	**-0.2**

MAN 30 18:30:17.1, 5.15N×126.19E, h1km, mb4.3, ML3.1, MS2.8, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.55**	**307**	⇓*i*P	Pn	18 30 43.8	-2.1
KCP	**Kidapawan**	**2.15**	**329**	⇓*e*P	Pg	18 30 57.7	-0.5
KCP				*i* S	Sg	18 31 25.4	-0.6
CGP	**Cagayan de Oro**	**3.60**	**336**	⇓*e*P	Pb	18 31 23.6	+2.0
CGP				*i* S	Sn	18 31 27.1	-30

TAP 30 18:36:00.1, 23.90N×121.35E, h3km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.11**	**138**	*e*P	Pg	18 36 03.5	+1.1
	baz=136						
ETM	**Tongmen**	**0.15**	**63**	P	Pg	18 36 04.1	+1.0
	baz=72						
ETM				S	Sg	18 36 06.2	+1.2
	baz=72						
TEYL	**Yanliau Villag**	**0.23**	**98**	P	Pg	18 36 06.3	+1.7
	baz=91						
TEYL				S	Sg	18 36 09.9	+2.3
	baz=91						
VWDT	**VWDT**	**0.24**	**233**	P	Pg	18 36 05.5	+0.7
	baz=238						
VWDT				S	Sg	18 36 09.2	+1.3
	baz=238						
EGFH	**Guangfu**	**0.24**	**163**	*e*P	Pg	18 36 05.5	+0.7
	baz=162						
EGFH				*i* S	Sg	18 36 09.2	+1.2
	baz=162						
HWA	**Hwalien**	**0.25**	**72**	P	Pg	18 36 05.4	+0.5
	baz=74						
HWA				*e*S	Sg	18 36 09.8	+1.7
	baz=74						
WHF	**Hehuan Shan**	**0.26**	**342**	S	Sg	18 36 10.3	+1.7
	baz=340						
TWD	**Chiawan**	**0.29**	**51**	P	Pg	18 36 06.5	+0.8
	baz=67						
TWD				*e*S	Sb	18 36 11.9	-1.3
	baz=67						
ETLH	**Xiulin Townshi**	**0.33**	**22**	P	Pg	18 36 07.6	+1.0
	baz=16						
ETLH				S	Sb	18 36 13.4	-1.0
	baz=16						
ETL	**Fush Village**	**0.36**	**44**	*e*S	Sb	18 36 14.3	-0.9
	baz=42						
SSLB	**Suanglung**	**0.38**	**253**	P	Pg	18 36 08.4	+0.9
	baz=256						
SSLB				S	Sb	18 36 14.3	-1.5
	baz=256						
EHY	**Hungye**	**0.39**	**184**	*e*S	Sb	18 36 14.7	-1.5
	baz=186						
HGSD	**Ruisui**	**0.41**	**171**	*e*P	Pg	18 36 08.8	+0.7
	baz=172						
HGSD				*e*S	Sb	18 36 15.6	-1.1
	baz=172						
SMLT	**Sun Moon Lake**	**0.41**	**268**	S	Sb	18 36 16.2	-0.6
	baz=270						
TYC	**Yuchr**	**0.45**	**271**	P	Pg	18 36 09.4	+0.6
	baz=273						
TYC				*e*S	Sb	18 36 16.9	-0.9
	baz=273						
YULB	**Yu-li**	**0.51**	**185**	*e*P	Pb	18 36 10.8	-0.8
	baz=189						
YULB				*e*S	Sb	18 36 18.2	-1.3
	baz=189						

IDC 30 18:36:46.3±2.1, 0.42N×126.02E, h0km, mb3.0/3, mbtmp3.0/3, Error ellipse: s-maj=179.3km s-min=27.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.82**	**159**	P	P	18 41 39.3	-1.0
	0.2nm,0.6s,baz=337,slow=10,SNR=9.0						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**25.14**	**163**	P	P	18 42 14.4	+1.1
	0.1nm,0.5s,baz=339,slow=10,SNR=1.7						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**59.88**	**327**	P	P	18 46 53.9	-0.1
	0.4nm,0.6s,baz=126,slow=7.3,SNR=4.1						
	0.4nm,0.6s						

NNC 30 18:43:30.5±3.3, 36.90N×70.58E, h0km, mb4.3, mpv3.9, 5C-1D, Error ellipse: s-maj=26.4km s-min=24.6km az=122.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.75**	**24**	P	Pn	18 44 59.4	+2.0
	SNR=81						
UCH	**Uchtor**	**6.12**	**29**	P	Pn	18 45 04.4	+1.8
	SNR=25						
KK31	**Karatay Array**	**6.19**	**360**	⇑P	Pn	18 45 04.1	+0.9
	1.4nm,0.3s,baz=179,slow=11,SNR=59						
KK31				⇑S	Sn	18 46 15.5	+0.8
	4.5nm,0.6s,baz=188,slow=25,SNR=6.0						
EKS2	**Erkin-Say**	**6.25**	**22**	P	Pn	18 45 06.0	+1.8
	SNR=8.8						
AAK	**Ala-Archa**	**6.47**	**27**	P	Pn	18 45 08.9	+1.8
	SNR=8.4						
CHMS	**Chumysh**	**6.88**	**26**	⇑P	Pn	18 45 11.5	-1.1
	3.8nm,0.5s						
CHMS				⇑S	Sn	18 46 33.2	+1.6
	7.8nm,0.7s						
USP	**Ospenovka**	**7.03**	**24**	P	Pn	18 45 14.9	+0.3
	SNR=5.9						
TKM2	**Tokmak 2**	**7.14**	**31**	P	Pn	18 45 16.7	+0.4
	SNR=21						
TKM2	**Tokmak 2**	**7.14**	**31**	⇑P	Pn	18 45 16.4	+0.1
	10nm,0.5s						
TKM2				⇓S	Sn	18 46 39.5	+1.3
	3.4nm,0.8s						

*IDC **30** 18:47:41.7±1.5, 6.36S×128.66E, h268km±16km, mb3.5/9, mbtmp4.2/13, Error ellipse: s-maj=18.9km s-min=10.2km az=85.0*
*NEIC **30** 18:47:42.1±1.5, 6.27S±0.05×128.7E±0.1, h272km±11km, mb4.2/7, Error ellipse: s-maj=17.2km s-min=3.2km az=113.0*

ISC 30 18:47:43.1±0.5, 6.34S±0.05×128.73E±0.06, h300km, n52, σ2s05/56, mb3.9/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.16**	**33**	P	**Pn**	**18 48 30.6**	**-0.6**
SAUI	**Saumlaki**	**3.03**	**123**	Pn	**Pn**	**18 48 37.2**	**-2.0**
SAUI	**Saumlaki**	**3.03**	**123**	P	**Pn**	**18 48 38.2**	**-1.0**
FAKI	**Fak Fak**	**4.89**	**46**		**Pn**	**18 48 56.9**	**-2.5**
SANI	**Sanana**	**5.07**	**327**	P	**Pn**	**18 49 00.8**	**-0.7**
SOEI	**Soe**	**5.57**	**232**		**Pn**	**18 49 05.6**	**-1.8**
SOEI	**Soe**	**5.57**	**232**	P	**Pn**	**18 49 05.7**	**-1.8**
SIJI	**Sorong**	**6.00**	**25**	P	**Pn**	**18 49 09.7**	**-2.9**
	4.5nm,0.3s,baz=35,slow=22,SNR=21						
SIJI				S	**S**	**18 50 15.8**	**-8.8**
	16nm,0.3s,baz=230,slow=22,SNR=12						
BATI	**Baumata**	**6.31**	**232**	P	**Pn**	**18 49 14.4**	**-1.8**
	51nm,0.5s,baz=87,slow=2.8,SNR=28						
BATI				S	**S**	**18 50 25.6**	**-5.8**
	71nm,0.3s,baz=91,slow=21,SNR=20						
MTN	**Manton Dam**	**6.88**	**160**		**Pn**	**18 49 21.8**	**-1.3**
MTN	**Manton Dam**	**6.88**	**160**	P	**Pn**	**18 49 22.0**	**-1.1**
KDU	**Kakadu**	**7.30**	**150**	P	**Pn**	**18 49 27.7**	**-0.6**
KNRA	**Kununurra**	**9.28**	**180**		**Pn**	**18 49 51.5**	**-1.0**
KNRA	**Kununurra**	**9.28**	**180**	P	**Pn**	**18 49 51.3**	**-1.1**
TOLI2	**Tolitoli**	**10.85**	**313**	P	**P**	**18 50 12.0**	**-2.4**
PLAI	**Plampang**	**11.13**	**257**	P	**Pn**	**18 50 14.4**	**-0.8**
WB0	**Warramunga Arr**	**14.44**	**158**	P	**Pn**	**18 50 54.5**	**-0.5**
WRAB	**Tennant Creek**	**14.57**	**159**	P	**Pn**	**18 50 56.1**	**-0.5**
WRAB	**Tennant Creek**	**14.57**	**159**	P	**Pn**	**18 50 56.4**	**-0.2**
WRA	**Warramunga Arr**	**14.58**	**159**	P	**Pn**	**18 50 56.0**	**-0.7**
	1.5nm,0.6s,baz=338,slow=12,SNR=25						
WRA				S	**S**	**18 53 34.3**	**-1.2**
	3.0nm,0.8s,baz=342,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**14.58**	**159**	P	**Pn**	**18 50 55.6**	**-1.1**
WB2	**Warramunga Arr**	**14.58**	**159**	P	**Pn**	**18 50 56.4**	**-0.3**
WR0	**Warramunga Arr**	**14.67**	**158**	P	**Pn**	**18 50 57.2**	**-0.5**
COEN	**Coen**	**16.10**	**119**	P	**Pn**	**18 51 14.6**	**0.0**
COEN				IAmb	IAmb	18 51 15.7	
	comp=Z,10nm,0.7s						
COEN	**Coen**	**16.10**	**119**	P	**Pn**	**18 51 14.6**	**0.0**
QIS	**Mount Isa**	**17.64**	**144**	P	**Pn**	**18 51 31.3**	**-1.2**
AS31	**Alice Springs**	**17.93**	**164**	P	**Pn**	**18 51 34.3**	**-1.6**
ASAR	**Alice Springs**	**17.93**	**164**	P	**Pn**	**18 51 34.5**	**-1.4**
	comp=Z,3.3nm,0.5s,baz=345,slow=11,SNR=68						
ASAR				S	**S**	**18 54 44.0**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=347,slow=20,SNR=11						
ASAR	**Alice Springs**	**17.93**	**164**	P	**Pn**	**18 51 34.1**	**-1.8**
AS01	**Alice Springs**	**17.94**	**164**	P	**Pn**	**18 51 34.6**	**-1.4**
WRKA	**Warakurna**	**18.59**	**181**	P	**P**	**18 51 41.0**	**+1.8**
MTSU	**Mount Surprise**	**19.20**	**129**	P	**P**	**18 51 48.4**	**+2.6**
BBJI	**Bungbulang**	**20.95**	**266**	P	**P**	**18 52 04.6**	**+0.8**
OOD	**Oodnadatta**	**22.33**	**164**	P	**P**	**18 52 17.1**	**+0.9**
PSI	**Prapat**	**31.11**	**286**	P	**P**	**18 53 36.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**38.34**	**311**	P	**P**	**18 54 36.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=123,slow=6.5,SNR=4.7						
	comp=Z,0.3nm,0.4s						
KSRS	**Korea Array**	**43.58**	**359**	P	**P**	**18 55 20.4**	**+2.2**
	comp=Z,1.7nm,0.5s,baz=177,slow=9.5,SNR=9.7						
	comp=Z,1.7nm,0.5s						
MAJO	**Matsushiro**	**43.58**	**11**	P	**P**	**18 55 18.6**	**+0.3**
MAJO				IAmb	IAmb	18 55 19.8	
	comp=Z,14nm,1.1s						
MJAR	**Matsushiro Arr**	**43.58**	**11**	P	**P**	**18 55 18.3**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=194,slow=9.1,SNR=6.1						
	comp=Z,4.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.40**	**3**	P	**P**	**18 56 12.5**	**+2.0**
	comp=Z,2.7nm,0.4s,baz=183,slow=6.7,SNR=9.6						
	comp=Z,2.7nm,0.4s						
SONM	**Songino Array**	**57.43**	**342**	P	**P**	**18 57 03.1**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=161,slow=7.1,SNR=8.3						
	comp=Z,1.0nm,0.7s						
PETK	**Petropavlovsk-**	**64.11**	**19**	P	**P**	**18 57 48.2**	**+2.6**
	comp=Z,4.3nm,1.0s,baz=200,slow=3.7,SNR=4.3						
	comp=Z,4.3nm,1.0s						
MK31	**Makanchi Array**	**66.99**	**327**	P	**P**	**18 58 05.6**	**+1.5**
MK31				IAmb	IAmb	18 58 06.7	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**66.99**	**327**	P	**P**	**18 58 06.1**	**+2.0**
	comp=Z,2.1nm,0.4s,baz=114,slow=8.7,SNR=63						
	comp=Z,2.1nm,0.4s						
MKAR	**Makanchi Array**	**66.99**	**327**	P	**P**	**18 58 05.8**	**+1.6**
YAK	**Yakutsk**	**68.18**	**0**	P	**P**	**18 58 11.8**	**+0.7**
ZAA0	**Zalesovo Array**	**70.44**	**334**	P	**P**	**18 58 26.2**	**+1.0**
ZAA0				IAmb	IAmb	18 58 27.5	
	comp=Z,6.1nm,1.3s						
ZALV	**Zalesovo Beam**	**70.44**	**334**	P	**P**	**18 58 26.5**	**+1.3**
	comp=Z,2.

	comp=N,432μm,0.4s			
TERO			AML	AML
	comp=E,385μm,1.2s			
TERO			AML	AML
	comp=N,408μm,0.4s			
TERO			AML	AML
	comp=E,303μm,1.2s			
RM33	**Pellescritta (**	**3.26 330**	AML	AML
	comp=E,310μm,1.5s			
RM33			AML	AML
	comp=N,258μm,1.3s			
RM33			AML	AML
	comp=E,250μm,0.6s			
RM33			AML	AML
	comp=N,244μm,1.6s			
SMA1	**SAN MARTINO**	**3.32 332**	AML	AML
	comp=E,377μm,0.3s			
SMA1			AML	AML
	comp=N,390μm,0.5s			
LNSS	**Leonessa**	**3.41 329**	AML	AML
	comp=N,1106μm,0.1s			
LNSS			AML	AML
	comp=E,377μm,0.2s			
T1218	**Civita (PG)**	**3.44 330**	AML	AML
	comp=N,958μm,0.4s			
T1218			AML	AML
	comp=E,834μm,0.2s			
T1218			AML	AML
	comp=N,940μm,0.4s			
T1218			AML	AML
	comp=E,800μm,1.0s			
OFFI	**Offida**	**3.48 338**	AML	AML
	comp=N,540μm,0.4s			
OFFI			AML	AML
	comp=E,459μm,1.2s			
T1241	**Roccafluvione,**	**3.49 335**	AML	AML
	comp=E,835μm,0.5s			
T1241			AML	AML
	comp=N,942μm,0.1s			
T1241			AML	AML
	comp=E,784μm,0.5s			
T1241			AML	AML
	comp=N,942μm,0.1s			
ARRO	**Arrone**	**3.51 326**	AML	AML
	comp=N,410μm,0.2s			
ARRO			AML	AML
	comp=E,532μm,0.2s			
T1245	**Castelsantange**	**3.57 332**	AML	AML
	comp=E,4485μm,0.2s			
T1245			AML	AML
	comp=N,2500μm,1.4s			
T1245			AML	AML
	comp=E,4030μm,0.2s			
T1245			AML	AML
	comp=N,2735μm,0.3s			
NRCA	**Norcia**	**3.58 331**	AML	AML
	comp=N,4225μm,1.6s			
NRCA			AML	AML
	comp=E,3420μm,0.8s			
NRCA			AML	AML
	comp=N,3915μm,1.6s			
NRCA			AML	AML
	comp=E,3675μm,0.4s			
CESX	**Cesi**	**3.62 324**	AML	AML
	comp=E,540μm,0.2s			
CESX			AML	AML
	comp=N,630μm,0.2s			
T1215	**Vallo di Nera,**	**3.65 329**	AML	AML
	comp=E,760μm,0.3s			
T1215			AML	AML
	comp=N,1185μm,0.3s			
T1215			AML	AML
	comp=E,752μm,0.3s			
T1215			AML	AML
	comp=N,1180μm,0.2s			
GUMA	**Gualdo di Mace**	**3.71 335**	AML	AML
	comp=E,3165μm,0.3s			
GUMA			AML	AML
	comp=N,3815μm,0.3s			
GUMA			AML	AML
	comp=E,2760μm,1.6s			
GUMA			AML	AML
	comp=N,5210μm,0.2s			
MNTP	**Montappone**	**3.73 337**	AML	AML
	comp=E,876μm,0.4s			
MNTP			AML	AML
	comp=N,637μm,0.5s			
MOMA	**Monte Martano**	**3.77 326**	AML	AML
	comp=N,495μm,1.1s			
MOMA			AML	AML
	comp=E,578μm,0.2s			
MOMA			AML	AML
	comp=N,562μm,0.9s			
MOMA			AML	AML
	comp=E,621μm,0.2s			
ASSB	**Assisi San Ben**	**3.93 329**	AML	AML
	comp=E,1265μm,0.3s			
ASSB			AML	AML
	comp=N,889μm,0.2s			
SNTG	**Esanatoglia**	**4.01 333**	AML	AML
	comp=E,255μm,0.2s			
SNTG			AML	AML
	comp=N,300μm,0.6s			
CING	**Cingoli**	**4.03 336**	AML	AML
	comp=E,398μm,0.3s			
CING			AML	AML
	comp=N,277μm,0.4s			
ATCC	**AVT- Casa Cast**	**4.06 330**	AML	AML
	comp=N,669μm,1.3s			
ATCC			AML	AML
	comp=E,668μm,0.3s			
MGAB	**Montegabbione**	**4.07 323**	AML	AML
	comp=N,216μm,1.2s			
MGAB			AML	AML
	comp=E,332μm,0.4s			
FOSV	**Fossato di Vic**	**4.11 331**	AML	AML
	comp=E,282μm,0.2s			
FOSV			AML	AML
	comp=N,428μm,0.4s			
MURB	**Monte Urbino**	**4.17 329**	AML	AML
	comp=N,631μm,0.3s			
MURB			AML	AML
	comp=E,961μm,0.3s			
MURB			AML	AML
	comp=N,625μm,0.2s			
MURB			AML	AML
	comp=E,1052μm,0.3s			
ARVD	**Arcevia**	**4.22 334**	AML	AML
	comp=E,164μm,0.2s			
ARVD			AML	AML
	comp=N,102μm,0.5s			
SSFR	**Montelago di S**	**4.22 333**	AML	AML
	comp=E,545μm,0.2s			
SSFR			AML	AML
	comp=N,441μm,0.2s			
SSFR			AML	AML
	comp=E,494μm,0.2s			
SSFR			AML	AML
	comp=N,398μm,0.7s			
ATFO	**Monte Foce - G**	**4.24 330**	AML	AML
	comp=E,116μm,0.6s			
ATFO			AML	AML
	comp=N,139μm,0.7s			
FRON	**Frontone**	**4.32 333**	AML	AML
	comp=N,168μm,1.3s			
FRON			AML	AML
	comp=E,126μm,1.3s			
ATVO	**AVT- Monte Val**	**4.32 329**	AML	AML
	comp=N,108μm,0.7s			
ATVO			AML	AML
	comp=E,91μm,0.3s			
ATMI	**Monte Miggiano**	**4.33 328**	AML	AML
	comp=N,260μm,0.5s			
ATMI			AML	AML
	comp=E,196μm,0.5s			
MPAG	**Monte Paganucc**	**4.40 334**	AML	AML
	comp=E,112μm,0.4s			
MPAG			AML	AML
	comp=N,124μm,0.6s			
FSSB	**Fossombrone**	**4.45 334**	AML	AML
	comp=E,340μm,0.4s			
FSSB			AML	AML
	comp=N,404μm,0.4s			

ROM 30 18:54:35.9±0.0,**42°.994N**±0°.002×**13°.075E**±0°.003, **h10**km,**ML2.3**/31,**20C-8D**,**Error ellipse: s-maj=0.2km s-min=0.2km az=247.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.04**	**211**	⇑P	Pg	18 54 38.0	+0.1
FEMA				S	Sg	18 54 39.3	0.0
FDMO	**Fiordimonte**	**0.04**	**12**	P	Pg	18 54 37.8	0.0
T1219	**Muccia, Frazio**	**0.08**	**321**	⇑P	Pg	18 54 38.5	+0.2
T1219				S	Sg	18 54 40.1	+0.2
T1216	**Preci, Frazion**	**0.11**	**202**	P	Pg	18 54 39.1	+0.5
T1216				S	Sg	18 54 41.4	+0.8
T1256	**Bolognola (MC)**	**0.11**	**83**	⇑P	Pg	18 54 39.0	+0.3
T1256				S	Sg	18 54 41.1	+0.3
MC2	**Monte Cornacci**	**0.12**	**134**	P	Pg	18 54 39.2	+0.3
CESI	**CESI - Serrava**	**0.13**	**275**	⇑P	Pg	18 54 39.5	+0.6
CESI				S	Sg	18 54 41.9	+1.0
CSP1	**Cessapalombo**	**0.14**	**44**	P	Pg	18 54 39.5	+0.4
CSP1				S	Sg	18 54 42.0	+0.6
T1245	**Castelsantange**	**0.16**	**149**	P	Pg	18 54 40.0	+0.6
T1245				S	Sg	18 54 42.9	+1.0
T1245				AML	AML		
	comp=N,2495μm,1.4s						
T1245				AML	AML		
	comp=E,4030μm,0.2s						
T1245				AML	AML		
	comp=N,2730μm,0.3s						
T1245				AML	AML		
	comp=E,4480μm,0.2s						
NRCA	**Norcia**	**0.16**	**170**	P	Pg	18 54 40.0	+0.6
NRCA				S	Sg	18 54 43.0	+1.1
NRCA				AML	AML		
	comp=E,3425μm,0.8s						
NRCA				AML	AML		
	comp=N,3930μm,1.6s						
NRCA				AML	AML		
	comp=E,3675μm,0.4s						
NRCA				AML	AML		
	comp=N,4220μm,1.6s						
GUMA	**Gualdo di Mace**	**0.20**	**70**	P	Pg	18 54 41.0	+0.8
GUMA				S	Sg	18 54 44.8	+1.8
GUMA				AML	AML		
	comp=N,3815μm,0.3s						
GUMA				AML	AML		
	comp=N,5210μm,0.2s						
GUMA				AML	AML		
	comp=E,2760μm,1.6s						
GUMA				AML	AML		
	comp=E,3165μm,0.3s						
MMO1	**Montemonaco**	**0.21**	**117**	P	Pg	18 54 40.7	+0.5
MMO1				S	Sg	18 54 44.3	+1.2
T1215	**Vallo di Nera,**	**0.24**	**219**	P	Pg	18 54 41.7	+0.8
T1215				S	Sg	18 54 45.8	+1.5
T1215				AML	AML		
	comp=E,759μm,0.3s						
T1215				AML	AML		
	comp=N,1190μm,0.3s						
T1215				AML	AML		
	comp=E,758μm,0.3s						
T1215				AML	AML		
	comp=N,1184μm,0.2s						
SNTG	**Esanatoglia**	**0.28**	**339**	P	Pg	18 54 42.1	+0.5
SNTG				S	Sb	18 54 46.9	-1.0
SNTG				AML	AML		
	comp=N,300μm,0.6s						
SNTG				AML	AML		
	comp=E,255μm,0.2s						
T1241	**Roccafluvione,**	**0.29**	**118**	⇑P	Pg	18 54 40.7	-1.2
T1241				AML	AML		
	comp=E,784μm,0.5s						
T1241				AML	AML		
	comp=N,942μm,0.1s						
ASSB	**Assisi San Ben**	**0.31**	**279**	⇑P	Pg	18 54 42.7	+0.6
ASSB				AML	AML		
	comp=E,1265μm,0.3s						
ASSB				AML	AML		
	comp=N,889μm,0.2s						
MNTP	**Montappone**	**0.32**	**63**	⇓P	Pb	18 54 43.5	-0.3
MNTP				AML	AML		
	comp=E,874μm,0.4s						
MNTP				AML	AML		
	comp=N,637μm,0.5s						
T1218	**Civita (PG)**	**0.33**	**175**	P	Pg	18 54 42.9	+0.5
T1218				S	Sb	18 54 48.2	-1.1
T1218				AML	AML		
	comp=N,941μm,0.4s						
T1218				AML	AML		
	comp=E,834μm,0.2s						
EL6	**Elcito**	**0.34**	**3**	P	Pg	18 54 43.1	+0.5
EL6				S	Sb	18 54 48.9	-0.7
ATCC	**AVT- Casa Cast**	**0.37**	**301**	⇑P	Pg	18 54 43.9	+0.6
ATCC				AML	AML		
	comp=N,668μm,1.3s						
ATCC				AML	AML		
	comp=E,668μm,0.3s						
FOSV	**Fossato di Vic**	**0.38**	**323**	P	Pg	18 54 44.0	+0.6
FOSV				S	Sb	18 54 50.1	-0.7
FOSV				AML	AML		
	comp=E,282μm,0.2s						
FOSV				AML	AML		
	comp=N,428μm,0.4s						
LNSS	**Leonessa**	**0.39**	**184**	⇑P	Pg	18 54 44.1	+0.5
LNSS				AML	AML		
	comp=N,1105μm,0.1s						
LNSS				AML	AML		
	comp=E,376μm,0.2s						
CING	**Cingoli**	**0.39**	**13**	AML	AML		
	comp=E,398μm,0.3s						
CING				AML	AML		
	comp=N,276μm,0.4s						
T1243	**Rocca Santa Ma**	**0.40**	**137**	P	Pg	18 54 36.5	-7.4
T1243				P	Pb	18 54 44.5	-0.7
SMA1	**SAN MARTINO**	**0.41**	**152**	⇑P	Pg	18 54 44.3	+0.4
SMA1				AML	AML		
	comp=N,390μm,0.5s						
SMA1				AML	AML		
	comp=E,377μm,0.3s						
MOMA	**Monte Martano**	**0.42**	**243**	⇓P	Pg	18 54 44.8	+0.7
MOMA				AML	AML		
	comp=N,495μm,1.1s						
MOMA				AML	AML		
	comp=E,578μm,0.2s						
MOMA				AML	AML		
	comp=N,567μm,0.9s						
MOMA				AML	AML		
	comp=E,621μm,0.2s						
OFFI	**Offida**	**0.45**	**97**	⇑P	Pb	18 54 46.1	+0.1
OFFI				AML	AML		
	comp=N,540μm,0.4s						
OFFI				AML	AML		
	comp=E,459μm,1.2s						
ARRO	**Arrone**	**0.47**	**209**	⇑P	Pb	18 54 46.6	+0.3
ARRO				AML	AML		
	comp=E,532μm,0.2s						
ARRO				AML	AML		
	comp=N,410μm,0.2s						
MURB	**Monte Urbino**	**0.48**	**304**	⇓P	Pg	18 54 46.0	+0.6
MURB				⇓P	Pn	18 54 54.6	+5.5
MURB				AML	AML		
	comp=N,624μm,0.2s						
MURB				AML	AML		
	comp=E,1052μm,0.3s						
MURB				AML	AML		
	comp=N,631μm,0.3s						
MURB				AML	AML		
	comp=E,964μm,0.3s						
SSFR	**Montelago di S**	**0.49**	**334**	⇓P	Pb	18 54 46.4	-0.3
SSFR				AML	AML		
	comp=N,398μm,0.7s						
SSFR				AML	AML		
	comp=E,494μm,0.2s						
RM33	**Pellescritta (**	**0.49**	**168**	⇓P	Pg	18 54 45.8	+0.2
RM33				AML	AML		
	comp=N,244μm,1.6s						
RM33				AML	AML		
	comp=E,250μm,0.6s						
ARVD	**Arcevia**	**0.51**	**349**	⇓P	Pg	18 54 46.4	+0.5
ARVD				⇑P	Pn	18 54 55.0	+5.6
ARVD				AML	AML		
	comp=E,164μm,0.2s						
ARVD				AML	AML		
	comp=N,102μm,0.5s						
CAMP	**Campotosto**	**0.52**	**152**	⇓P	Pg	18 54 46.2	+0.2
CAMP				AML	AML		
	comp=N,150μm,0.6s						
CAMP				AML	AML		
	comp=E,124μm,0.9s						
ATFO	**Monte Foce - G**	**0.52**	**316**	⇑P	Pg	18 54 46.6	+0.5
ATFO				AML	AML		
	comp=N,139μm,0.7s						
ATFO				AML	AML		
	comp=E,116μm,0.6s						
CESX	**Cesi**	**0.53**	**224**	⇑P	Pn	18 54 54.8	+5.2
CESX				AML	AML		
	comp=E,540μm,0.2s						
CESX				AML	AML		
	comp=N,630μm,0.2s						
TERO	**Teramo**	**0.54**	**133**	⇑P	Pg	18 54 46.5	+0.1
TERO				AML	AML		
	comp=E,303μm,1.2s						
TERO				AML	AML		
	comp=N,432μm,0.4s						
PP3	**Marolino**	**0.55**	**45**	⇑P	Pb	18 54 48.0	+0.4
T1247	**Pizzolo (AQ)**	**0.58**	**163**	⇑P	Pg	18 54 46.1	-0.9
T1247				AML	AML		
	comp=E,261μm,1.5s						
T1247				AML	AML		
	comp=N,274μm,0.1s						
FRON	**Frontone**	**0.58**	**334**	⇑P	Pg	18 54 47.6	+0.4
ATVO	**AVT- Monte Val**	**0.62**	**309**	⇑P	Pg	18 54 48.2	+0.2
ATVO				⇑P	Pn	18 54 58.7	+7.7
ATVO				AML	AML		
	comp=N,107μm,0.7s						
ATVO				AML	AML		
	comp=E,91μm,0.3s						
COR1	**Corinaldo**	**0.64**	**355**	P	Pg	18 54 47.7	-0.6

NEIC ***30*** *18:57:06.1±1.3,59°.99N±0°.04×152°.67W±0°.06, h106km±5km, Error ellipse: s-maj=6.8km s-min=4.2km az=157.0*

IDC ***30*** *18:57:06.2±2.5,60°.19N×152°.89W,h95km±23km,mb3.8/19, mbtmp4.3/23,MS3.1/1,Error ellipse: s-maj=20.3km s-min=12.3km az=7.0*

NEIC ***30*** *18:57:07.5,60°.01N×152°.68W,h94km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.46; Mθθ-2.82; Mϕϕ1.36; Mrθ0.11; Mθϕ0.30; Mϕr1.60; Fault plane solution: M₀2.93000×10¹⁵ NP1:φs309.03000°, δ59.72000°,λ143.99000°. NP2:φs59.16000°,δ59.49000°, λ35.83000°. Principal axes: T 3.0212, Plg46.0000°, Azm274.0000°; N -0.1824, Plg44.0000°, Azm94.0000°; P -2.8388, Plg0.0000°, Azm4.0000°;*

AEIC ***30*** *18:57:07.7±1.5,60°.00N±0°.05×152°.67W±0°.08,h98km±3km, ML4.3,ML4.5/148(NEIC),Mwr4.2/36(NEIC) Error ellipse: s-maj=6.9km s-min=5.5km az=179.0*

ISC 30 18:57:06.1±0.4,**60°.08N**±0°.05×**152°.64W**±0°.04,**h101**km, **n210**,σ1§**20**/210,**mb4.4**/29,**1D**,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.27**	**250**		**Pn**	**18 57 21.0**	**+0.1**
ILSW				IAML		18 57 33.0	
	comp=N,8μm,0.3s						
ILSW				IAML		18 57 33.2	
	comp=E,10μm,0.7s						
RSO	**Redoubt South**	**0.39**	**352**		**Pn**	**18 57 22.6**	**+1.1**
P19K	**Oil Pt**	**0.52**	**215**		**Pn**	**18 57 22.1**	**-0.1**
RDJH	**Redoubt Jeurge**	**0.52**	**351**		**Pn**	**18 57 23.4**	**+1.1**
HOM	**Homer**	**0.65**	**129**		**Pn**	**18 57 24.0**	**+0.8**
O19K	**Port Alsworth**	**0.85**	**279**		**Pn**	**18 57 25.6**	**+0.6**
O19K				IAML		18 57 41.2	
	comp=E,15μm,0.5s						
CNPM	**China Poot**	**0.90**	**127**	Pn	**Pn**	**18 57 26.0**	**+0.5**
BRLK	**Bradley Lake**	**0.94**	**109**		**Pn**	**18 57 26.5**	**+0.5**
BRLK				IAML		18 57 42.3	
	comp=N,14μm,0.6s						
BRLK				IAML		18 57 42.7	
	comp=E,18μm,0.2s						
BRLK	**Bradley Lake**	**0.94**	**109**		**Sn**	**18 57 41.3**	**+0.5**
BRSE	**Bradley Lake S**	**1.01**	**109**		**Pn**	**18 57 27.3**	**+0.6**
CAPN	**Captain Cook N**	**1.01**	**46**		**Pn**	**18 57 29.8**	**+3.1**
SPU	**Mount Spurr**	**1.15**	**14**		**Pn**	**18 57 29.6**	**+1.4**
N19K	**Bonanza Creek**	**1.18**	**310**		**Pn**	**18 57 29.3**	**+0.7**
Q19K	**Cape Douglas,**	**1.26**	**204**	Pn	**Pn**	**18 57 28.9**	**-0.6**
Q19K				IAML		18 57 49.3	
	comp=E,5μm,0.6s						
Q19K				IAML		18 57 50.0	
	comp=N,4μm,0.6s						
SLKM	**Skilak Lake**	**1.28**	**69**		**Pn**	**18 57 30.6**	**+0.8**
O18K	**Koktuh Hills**	**1.31**	**261**	Pn	**Pn**	**18 57 30.1**	**0.0**
O18K				IAML		18 57 48.5	
	comp=E,3μm,0.8s						
P18K	**Big Mountain,**	**1.48**	**244**		**Pn**	**18 57 31.8**	**-0.4**
O22K	**Cooper Landing**	**1.51**	**73**		**Pn**	**18 57 33.5**	**+1.1**
SEW	**Seward**	**1.60**	**88**	Pn	**Pn**	**18 57 33.8**	**+0.3**
FIS	**Fire Island**	**1.60**	**47**		**Pn**	**18 57 35.8**	**+2.2**
FIS				IAML		18 58 03.7	
	comp=N,8μm,0.5s						
FIS				IAML		18 58 10.6	
	comp=E,7μm,0.4s						
SUA	**Susitna One**	**1.67**	**33**		**Pn**	**18 57 36.6**	**+1.9**
SUA	**Susitna One**	**1.67**	**33**	IAML		18 58 00.4	
	comp=N,7μm,0.4s						
RC01	**Rabbit Creek A**	**1.76**	**53**		**Pn**	**18 57 36.9**	**+1.3**
SVW2	**Sparrevohn**	**1.78**	**306**		**Pn**	**18 57 36.4**	**+0.5**
M20K	**Styx River**	**1.83**	**353**		**Pn**	**18 57 38.2**	**+1.7**
SKT	**Skwentna**	**1.98**	**15**		**Pn**	**18 57 40.0**	**+1.5**
SKT				IAML		18 58 09.1	
	comp=N,2μm,0.4s						
M19K	**Big River Lodg**	**2.02**	**336**		**Pn**	**18 57 40.4**	**+1.4**
M22K	**Willow**	**2.08**	**35**		**Pn**	**18 57 41.5**	**+1.8**
PWL	**Port Wells**	**2.27**	**68**		**Pn**	**18 57 42.2**	**0.0**
PWL				IAML		18 58 12.9	
	comp=E,4μm,0.5s						
PMR	**Palmer**	**2.29**	**47**		**Pn**	**18 57 42.9**	**+0.4**
PMR				IAML		18 58 11.8	
	comp=E,2μm,0.4s						
PMR				IAML		18 58 13.9	
	comp=N,2μm,0.5s						
L19K	**White Mountain**	**2.37**	**334**	Pn	**Pn**	**18 57 44.9**	**+1.3**
KNK	**Knik Glacier**	**2.45**	**55**		**Pn**	**18 57 45.0**	**+0.4**
GHO	**Glory Hole Cre**	**2.49**	**45**		**Pn**	**18 57 45.8**	**+0.7**
GHO				IAML		18 58 16.6	
	comp=N,4μm,0.3s						
CUT	**Chulitna**	**2.60**	**25**		**Pn**	**18 57 47.8**	**+1.3**
CUT				IAML		18 58 21.8	
	comp=N,3μm,0.4s						
CUT				IAML		18 58 24.9	
	comp=E,4μm,0.3s						
SML	**Sawmill**	**2.73**	**49**		**Pn**	**18 57 48.6**	**+0.3**
SML				IAML		18 58 23.1	
	comp=N,3μm,0.7s						
SML				IAML		18 58 31.1	
	comp=E,2μm,0.8s						
PPLA	**Purkeypile**	**2.84**	**4**	Pn	**Pn**	**18 57 51.8**	**+2.0**
OHAK	**Old Harbor**	**2.88**	**187**	Pn	**Pn**	**18 57 48.2**	**-2.1**
HIN	**Hinchinbrook I**	**3.08**	**81**	Pn	**Pn**	**18 57 52.8**	**-0.1**
HIN				IAML		18 58 30.5	
	comp=N,1μm,0.7s						
HIN				IAML		18 58 31.1	
	comp=E,1μm,0.6s						
SCM	**Sheep Creek Mo**	**3.13**	**53**		**Pn**	**18 57 54.3**	**+0.7**
Q23K	**Middleton Isla**	**3.25**	**99**	Pn	**Pn**	**18 57 55.0**	**-0.1**
Q23K				IAML		18 58 35.6	
	comp=N,805nm,0.6s						
Q23K				IAML		18 58 37.4	
	comp=E,640nm,0.7s						
MID	**Middleton Isla**	**3.25**	**99**	Pn	**Pn**	**18 57 54.9**	**-0.3**
MID				IAML		18 58 35.6	
	comp=N,756nm,0.6s						
MID				IAML		18 58 37.3	
	comp=E,657nm,0.7s						
TTA	**Tatalina**	**3.29**	**332**	Pn	**Pn**	**18 57 56.6**	**+0.8**
WAT7	**Susitna Watana**	**3.31**	**32**		**Pn**	**18 57 56.9**	**+0.8**
K20K	**Telida**	**3.36**	**349**		**Pn**	**18 57 58.4**	**+1.7**
CAST	**Castle Rocks**	**3.37**	**4**	Pn	**Pn**	**18 57 58.2**	**+1.5**
WAT1	**Susitna Watana**	**3.39**	**34**		**Pn**	**18 57 58.0**	**+0.9**
WAT6	**Susitna Watana**	**3.45**	**41**		**Pn**	**18 57 58.7**	**+0.8**
EYAK	**Cordova Ski Ar**	**3.46**	**79**	Pn	**Pn**	**18 57 57.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.46**	**79**	P	**Pn**	**18 57 58.0**	**+0.1**
DIV	**Divide**	**3.55**	**70**		**Pn**	**18 57 59.3**	**+0.1**
TRF	**Thorofare Moun**	**3.57**	**17**		**Pn**	**18 58 00.5**	**+1.0**
TRF				IAML		18 58 47.1	
	comp=N,655nm,0.5s						
TRF				IAML		18 59 09.3	
	comp=E,655nm,0.9s						
KTH	**Kantishna Hill**	**3.58**	**12**	Pn	**Pn**	**18 58 00.5**	**+0.9**
KTH				IAML		18 59 06.3	
	comp=E,476nm,0.9s						
KTH				IAML		18 59 20.2	

comp=N,440nm,0.9s
KLU Klutina 3.59 64 Pn Pn 18 57 59.9 +0.2
SII Sitkinak Islan 3.62 194 Pn Pn 18 57 58.1 -2.0
SII IAML 18 58 39.9
comp=N,842nm,0.6s
SII IAML 18 58 53.7
comp=E,894nm,0.6s
SII Sitkinak Islan 3.62 194 P Pn 18 57 58.6 -1.5
M24K Tolsona, Glenn 3.74 54 Pn 18 58 02.7 +1.0
RND Reindeer 3.80 27 Pn Pn 18 58 04.1 +1.6
RND IAML 18 59 06.9
comp=E,503nm,0.6s
CHUM Lake Minchumin 3.82 2 Pn 18 58 04.3 +1.5
DHY Denali Highway 3.92 38 Pn 18 58 05.5 +1.2
DHY IAML 18 58 52.2
comp=E,1µm,0.3s
DHY IAML 18 58 52.8
comp=N,886nm,0.4s
GOAT Goat Mountain 3.97 79 Pn 18 58 04.8 0.0
RAGM Ragged Mountai 3.98 82 Pn 18 58 05.9 +0.9
RAGM IAML 18 58 54.8
comp=E,904nm,0.4s
MCK McKinley 4.07 24 Pn Pn 18 58 08.0 +1.9
MCK IAML 18 58 56.8
comp=E,394nm,0.4s
MCK IAML 18 59 20.7
comp=N,388nm,0.9s
BMRM Bremner River 4.07 74 Pn Pn 18 58 05.8 -0.4
BPAW Bear Paw Mtn. 4.11 10 Pn Pn 18 58 07.4 +0.7
BPAW IAML 18 58 54.5
comp=N,271nm,0.7s
KAIM Kayak Island 4.13 89 Pn Pn 18 58 07.3 +0.4
KAIM IAML 18 58 58.1
comp=N,745nm,1.0s
KAIM IAML 18 58 58.6
comp=E,577nm,0.5s
J20K Nowinta River 4.18 351 Pn 18 58 09.2 +1.7
HMT Hamilton 4.19 83 Pn 18 58 09.0 +1.3
HMT IAML 18 58 57.2
comp=N,1µm,0.4s
N25K Chitina, Valde 4.22 65 Pn 18 58 08.5 +0.2
N25K IAML 18 58 56.3
comp=N,605nm,0.5s
N25K IAML 18 58 57.6
comp=E,567nm,0.6s
NICHA Nichawak Mount 4.34 84 Pn 18 58 09.5 -0.3
BWN Browne 4.37 19 Pn 18 58 12.0 +1.8
BWN IAML 18 59 30.4
comp=E,476nm,0.8s
BWN IAML 18 59 42.9
comp=N,556nm,1.0s
SUCK Suckling Hills 4.44 86 Pn 18 58 11.2 +0.1
SUCK IAML 18 59 04.2
comp=N,254nm,0.8s
BERG Berg Lake 4.47 82 Pn 18 58 11.9 +0.4
BERG IAML 18 59 03.5
comp=N,594nm,0.4s
BERG IAML 18 59 03.5
comp=E,865nm,0.5s
PAX Paxson 4.49 47 Pn 18 58 12.7 +0.8
GLB Gilahina Butte 4.54 69 Pn Pn 18 58 12.5 0.0
GLB IAML 18 59 06.0
comp=E,481nm,0.6s
GLB IAML 18 59 06.0
comp=N,508nm,0.5s
CHIR Chirikof Islan 4.55 202 Pn Pn 18 58 10.7 -2.0
CHIR IAML 18 59 01.6
comp=E,415nm,1.6s
CHIR IAML 18 59 15.3
comp=N,347nm,2.6s
GRIN Grindle Hills 4.66 83 Pn 18 58 14.0 -0.2
VRDI Verde Repeater 4.67 72 Pn Pn 18 58 14.2 -0.2
VRDI IAML 18 59 09.2
comp=N,268nm,0.6s
KHIT Khitrov Hills 4.69 81 Pn 18 58 13.6 -1.0
NEA2 Nenana 4.83 19 Pn 18 58 17.3 +0.9
CHGN Chignik 4.86 221 Pn 18 58 15.5 -1.4
CHGN IAML 18 59 09.5
comp=E,188nm,0.4s
CHGN IAML 18 59 10.1
comp=N,206nm,0.4s
WAX Waxell Ridge 4.89 81 Pn 18 58 17.1 -0.2
WRH Wood River Hil 4.89 24 Pn 18 58 18.2 +0.9
WRH IAML 18 59 14.4
comp=N,177nm,0.7s
WRH IAML 18 59 15.8
comp=E,167nm,0.6s
MCARA McCarthy VSAT 4.90 70 Pn 18 58 17.1 -0.3
MCARA IAML 18 59 15.1
comp=E,450nm,0.4s
MCARA IAML 18 59 22.4
comp=N,471nm,0.4s
SNH Sunshine Point 4.90 85 Pn 18 58 17.2 -0.2
SNH IAML 18 59 13.2
comp=N,290nm,0.5s
SNH IAML 18 59 15.6
comp=E,265nm,0.5s
MLY Manley 5.05 9 Pn 18 58 20.5 +1.1
BARK Barkley Ridge 5.07 82 Pn 18 58 20.5 +0.8
CYK Cape Yakataga 5.08 86 Pn 18 58 21.1 +1.3
HDA Harding Lake 5.10 29 Pn 18 58 20.7 +0.7
CCB Clear Creek Bu 5.11 24 Pn 18 58 21.0 +0.9
CCB IAML 18 59 20.9
comp=E,255nm,0.5s
CCB IAML 18 59 22.6
comp=N,165nm,0.5s
I21K Tanana 5.13 3 Pn 18 58 21.1 +0.7
ISLE Juniper Island 5.14 80 Pn 18 58 20.7 -0.1
ISLE IAML 18 59 20.3
comp=E,293nm,0.8s
ISLE IAML 18 59 20.8
comp=N,346nm,0.7s
MENT Mentasta 5.14 52 Pn 18 58 21.1 +0.4
MENT IAML 18 59 37.1
comp=E,432nm,0.9s
MENT IAML 18 59 38.8
comp=N,538nm,0.9s
KIAG Kiagna River 5.15 76 Pn 18 58 20.5 -0.5
BALM Baldy 5.17 75 Pn 18 58 20.6 -0.5
RIDG Independent Ri 5.20 42 Pn 18 58 22.7 +1.2
M26K Nabesna, AK 5.21 59 Pn 18 58 22.3 +0.7
M26K IAML 18 59 22.8
comp=E,230nm,0.5s
M26K IAML 18 59 24.1
comp=N,391nm,0.7s
BAGL Bagley Icefiel 5.27 81 Pn 18 58 22.6 +0.3
TCOL CIGO, UAF Yank 5.30 23 Pn 18 58 24.3 +1.6
COLA College 5.30 23 Pn 18 58 24.1 +1.3
COLA College 5.30 23 P Pn 18 58 24.0 +1.3
MDM Murphy Dome 5.31 21 Pn 18 58 24.1 +1.2
MDM IAML 18 59 27.8
comp=N,130nm,0.5s
I23K Minto, Yukon-K 5.31 15 Pn 18 58 24.3 +1.4
L26K Log Cabin Wild 5.34 52 Pn 18 58 24.4 +1.1
L26K IAML 18 59 44.8
comp=E,303nm,0.5s
L26K IAML 18 59 50.5
comp=N,374nm,0.4s
MESA MESA 5.34 84 Pn 18 58 24.3 +0.8
MESA IAML 18 59 27.3
comp=E,297nm,0.6s
DOT Dot Lake 5.41 45 Pn 18 58 25.3 +1.0
IL31 5.42 27 Pn 18 58 25.1 +0.9
ILAR Eielson Array 5.42 27 P Pn 18 58 24.9 +0.5
comp=E,105nm,0.4s,baz=215,slow=14,SNR=1270
ILAR S Sn 18 59 20.1 -5.2
comp=E,39nm,0.6s,baz=208,slow=16,SNR=1.6
ILAR Eielson Array 5.42 27 Pn Pn 18 58 25.1 +0.8
YAH Yahtse 5.44 82 Pn 18 58 26.1 +1.3
BARN Barnard Glacie 5.50 75 Pn 18 58 25.8 +0.1
POKR Poker Plat Res 5.60 23 Pn 18 58 27.5 +0.7
H21K Melozitna River 5.60 359 Pn 18 58 27.5 +0.7
SCRK Sand Creek 5.65 42 Pn Pn 18 58 27.7 +0.1
J25K Salcha River, 5.67 33 Pn 18 58 29.0 +1.1
M27K Edge Creek, AK 5.68 62 Pn 18 58 29.4 +1.4
TABL Table Mountain 5.74 81 Pn 18 58 29.8 +0.9
SAMH Samovar Hills 5.93 84 Pn 18 58 32.6 +1.2
H23K Yukon River 5.94 12 Pn 18 58 32.9 +1.5
IMAR Indian Mountai 5.95 356 Pn Pn 18 58 32.4 +0.8
L27K Beaver Creek, 5.97 55 Pn 18 58 32.5 +0.6
BCAR Beaver Creek A 5.99 55 Pn Pn 18 58 32.6 +0.4
J26L Joseph Creek 6.13 40 Pn 18 58 34.3 +0.2
H24K Noodor Dome 6.17 19 Pn 18 58 35.3 +0.6
PCA Pinnacle 6.20 84 Pn 18 58 36.1 +1.1

SDPT Sand Point 6.33 225 Pn Pn 18 58 34.1 -2.6
K27K Chicken 6.35 47 Pn 18 58 37.7 +0.7
PRP Porcupine Dome 6.36 28 Pn Pn 18 58 37.9 +0.7
CNBA Chernabura Isl 6.47 218 Pn Pn 18 58 35.9 -2.7
BCPM Bancas Point 6.52 85 Pn 18 58 39.9 +0.6
YKU2 Yakutat 6.57 89 Pn Pn 18 58 41.5 +1.5
PNL Peninsula 6.68 88 Pn 18 58 42.1 +0.6
PNL Peninsula 6.68 88 P Pn 18 58 42.2 +0.6
I26K Coal Creek Min 6.82 36 Pn 18 58 43.5 +0.2
EGAK Eagle 7.11 44 Pn 18 58 47.6 +0.4
COLD Coldfoot 7.26 8 Pn 18 58 49.9 +0.6
FYU Fort Yukon 7.31 24 Pn 18 58 50.5 +0.5
DAWY Dawson 7.39 52 Pn Pn 18 58 52.1 +0.9
ANM Nome 7.44 313 Pn Pn 18 58 50.6 -1.2
P29M Windy Craggy 7.52 87 Pn 18 58 53.5 +0.6
HYT Haines Junctio 7.52 78 Pn Pn 18 58 54.2 +1.2
M30M Minto, Yukon 8.02 65 Pn Pn 18 59 00.5 +0.8
J29M Klondike Camp 8.02 51 Pn 18 59 00.9 +1.1
BMAR Burnt Mountain 8.19 22 Pn Pn 18 59 01.6 -0.4
N31M Braeburn, Yuko 8.37 73 Pn Pn 18 59 03.9 -0.5
I29M Ogilvie Camp, 8.44 45 Pn 18 59 05.5 +0.2
TOLK Toolik Lake Re 8.70 7 Pn Pn 18 59 11.0 +2.0
SKAG Skagway 8.76 87 Pn 18 59 09.5 -0.2
WHY Whitehorse 8.82 79 Pn 18 59 10.9 +0.3
M31M Drury Creek, Y 9.07 69 Pn Pn 18 59 13.7 -0.3
BESE Bessie Mountai 9.21 92 Pn Pn 18 59 18.6 +2.7
SIT Sitka 9.53 101 Pn Pn 18 59 19.4 -0.8
EPYK Eagle Plains 9.54 42 Pn 18 59 20.3 0.0
JIS Juneau Island 9.54 93 Pn Pn 18 59 22.1 +1.8
JIS Juneau Island 9.54 93 P Pn 18 59 22.4 +2.1
FARO Faro, Yukon 9.56 69 Pn 18 59 21.2 +0.5
SPIA Saint Paul Isl 9.63 260 Pn Pn 18 59 18.4 -3.1
UNV Unalaska Valle 9.80 237 Pn Pn 18 59 23.2 -0.7
P33M Teslin, Yukon 9.88 81 Pn Pn 18 59 25.1 +0.1
WRAK Wrangell Islan 11.29 100 Pn 18 59 43.5 -0.4
CRAG Craig 11.38 105 Pn 18 59 44.2 -1.0
A21K Barrow 11.41 354 Pn Pn 18 59 44.8 -0.7
INK Inuvik 11.67 37 P Pn 18 59 47.5 -1.5
comp=E,12nm,0.7s,baz=227,slow=17,SNR=32
INK S Sn 19 01 53.0 -3.9
comp=E,3.3nm,0.6s,baz=187,slow=18,SNR=1.5
INK Inuvik 11.67 37 Pn Pn 18 59 48.5 -0.5
DLBC Dease Lake 11.67 88 P Pn 18 59 50.2 +1.0
comp=E,17nm,0.3s,baz=328,slow=11,SNR=57
DLBC S Sn 19 01 55.2 -2.2
comp=E,5.0nm,0.4s,baz=212,slow=18,SNR=2.3
DLBC Dease Lake 11.67 88 Pn Pn 18 59 50.9 +1.6
DIB Dawson Inlet, 13.02 113 Pn Pn 19 00 08.0 +1.0
MOBC Moresby Island 13.29 112 Pn Pn 19 00 11.5 +0.9
RUBB Prince Rupert 13.39 106 Pn 19 00 14.1 +2.3
GRNB Grenville Isla 13.81 107 Pn 19 00 18.6 +1.3
BBB Bella Bella 15.71 109 P P 19 00 44.8 +1.4
comp=E,40nm,1.1s,baz=255,slow=19,SNR=2.0
A36M Sachs Harbour 16.10 31 P Pn 19 00 45.3 -0.8
YKA Yellowknife Ar 18.25 66 P Pn 19 01 12.7 +0.3
comp=E,6.8nm,0.5s,baz=276,slow=10,SNR=18
YKA Yellowknife Ar 18.25 66 P P 19 01 11.7 +0.4
RES Resolute Bay 25.14 32 P P 19 02 20.6 -0.6
comp=E,2.1nm,0.6s,baz=233,slow=17,SNR=3.8
comp=E,2.1nm,0.6s
RES Resolute Bay 25.14 32 P P 19 02 21.8 +0.6
SEY Seymchan 25.71 300 P P 19 02 25.6 -0.8
comp=E,1.2nm,0.4s,baz=80,slow=9.8,SNR=12
comp=E,1.2nm,0.4s
YBH Yreka Blue Hor 25.97 121 LR LR 19 11 35.4
comp=E,40nm,19.9s,baz=324,slow=33
PEA0B Petropavlovsk- 27.63 278 P P 19 02 43.3 -0.5
PETK Petropavlovsk- 27.63 278 P P 19 02 42.5 -1.3
comp=E,3.4nm,0.5s,baz=66,slow=14,SNR=6.8
comp=E,3.4nm,0.5s
MA2 Magadan 27.71 294 P P 19 02 45.0 +0.5
comp=E,4.7nm,0.4s,baz=52,slow=10.0,SNR=5.5
comp=E,4.7nm,0.4s
MA2 Magadan 27.71 294 P P 19 02 46.5 +2.1
NVAR Mina Array Bea 30.60 120 P P 19 03 13.0 +2.5
comp=E,0.3nm,0.7s,baz=305,slow=6.4,SNR=1.6
comp=E,0.3nm,0.7s
PDAR Pinedale Array 31.23 104 P P 19 03 18.6 +2.5
comp=E,0.2nm,0.4s,baz=345,slow=5.6,SNR=2.0
comp=E,0.2nm,0.4s
NEEM North Greenlan 34.69 22 *i* P P 19 03 45.2 -0.5
NEEM IAmb IAmb 19 03 48.4
comp=E,6.5nm,0.9s
YAK Yakutsk 35.56 308 P P 19 03 53.6 +0.6
SUMG Summit 40.26 25 *i* P P 19 04 33.2 +0.3
SUMG IAmb IAmb 19 04 33.8
comp=E,3.9nm,0.5s
DAG Danmarks Havn 40.38 15 *i* P P 19 04 32.4 -0.9
KS20 Mayfield South 41.38 98 pP 19 05 05.1 -0.4
ICESG Greenland Ices 42.50 29 *i* P P 19 04 51.5 +0.3
ICESG IAmb IAmb 19 04 51.7
comp=E,7.3nm,0.6s
HEH HeiHe 43.98 294 *e*P P 19 05 01.0 -1.8
HEH pmax pmax
comp=E,7.0nm,0.7s
TXAR Lajitas Array 44.84 111 P P 19 05 11.8 +1.8
comp=E,0.1nm,0.5s,baz=292,slow=5.3,SNR=2.2
USRK Ussuriysk Ar. 46.20 285 P P 19 05 19.2 -1.2
comp=E,4.0nm,0.7s,baz=44,slow=10,SNR=6.6
comp=E,4.0nm,0.7s
MJAR Matsushiro Arr 48.96 274 P P 19 05 41.5 -0.4
comp=E,3.4nm,0.9s,baz=16,slow=7.5,SNR=7.0
comp=E,3.4nm,0.9s
ARCES ARCESS Array B 50.67 1 P P 19 05 54.0 -0.5
comp=E,5.9nm,1.1s,baz=17,slow=8.9,SNR=3.6
comp=E,5.9nm,1.1s
KSRS Korea Array 53.34 283 P P 19 06 13.9 -0.7
comp=E,12nm,0.7s,baz=39,slow=6.9,SNR=28
comp=E,12nm,0.7s
SONM Songino Array 54.89 306 P P 19 06 26.4 +0.5
comp=E,9.8nm,0.7s,baz=40,slow=6.7,SNR=82
comp=E,9.8nm,0.7s
ZALV Zalesovo Beam 57.42 324 P P 19 06 43.7 +0.1
comp=E,4.2nm,0.4s,baz=27,slow=6.9,SNR=24
comp=E,4.2nm,0.4s
HHC Hu-ho-hao-te 58.31 298 *e*P P 19 06 51.0 +0.8
HHC pmax pmax
comp=E,23nm,0.9s
HHC pmax pmax
comp=E,190nm,5.0s
NOA NORSAR Array B 58.57 9 P P 19 06 51.4 -0.2
comp=E,0.9nm,0.9s,baz=80,slow=12,SNR=1.9
comp=E,0.9nm,0.9s
FINES FINESS Array B 58.80 1 P P 19 06 52.5 -0.6
comp=E,2.8nm,0.9s,baz=2.3,slow=7.0,SNR=6.0
comp=E,2.8nm,0.9s
MKAR Makanchi Array 64.49 321 P P 19 07 30.8 -0.7
comp=E,1.9nm,0.5s,baz=37,slow=6.5,SNR=43
comp=E,1.9nm,0.5s
GTA Gaotai 64.53 305 ⇓P P 19 07 32.5 +0.4
GTA pP pP 19 07 53.5 -4.0
GTA sP PcP 19 08 03.3 -2.1
GTA pmax pmax
comp=E,10.0nm,1.1s
WMQ Urumqi 65.33 316 *e*P P 19 07 38.5 +1.4
WMQ pmax pmax
comp=E,10.0nm,0.7s
LZH Lanzhou 65.64 300 *e*P P 19 07 39.8 +0.5
LZH pP pP 19 08 06.8 +2.0
LZH sP sP 19 08 20.0 +4.0
LZH pmax pmax
comp=E,23nm,0.9s
AKASG Malin Array Be 69.57 359 P P 19 08 04.3 +0.7
comp=E,0.4nm,0.4s,baz=6.1,slow=6.4,SNR=5.3
comp=E,0.4nm,0.4s
PZH PanZhiHua 74.75 297 P P 19 08 36.5 +1.5
PZH pmax pmax
comp=E,8.0nm,1.0s
PZH pmax pmax
comp=E,100nm,4.7s
ESDC Sonseca Array 77.31 24 P P 19 08 50.3 +1.1
comp=E,0.5nm,0.8s,baz=299,slow=10,SNR=2.0
comp=E,0.5nm,0.8s
GEYT Alibeck 79.11 336 P P 19 08 59.9 +0.7
comp=E,0.6nm,0.4s,baz=293,slow=5.6,SNR=2.0
comp=E,0.6nm,0.4s
CMAR Chiang Mai Arr 83.00 295 P P 19 09 19.1 -0.9
comp=E,0.9nm,0.6s,baz=25,slow=5.8,SNR=7.0
comp=E,0.9nm,0.6s
BOSA Boshof 148.51 4 PKPbc PKPbc 19 16 39.9 -0.8
comp=E,2.2nm,0.5s,baz=27,slow=1.5,SNR=12

WEL 30 19:41:12.8,41°S±3°×17°6E±°, h30km±6km, M2.1/12, ML1.9/9, MLv2.1/12, Error ellipse: s-maj=0.0km

s-min=0.0km az=90.1, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRWZ	**Pori Road**	**0.07**	**54**	P	Pb	19 41 18.5	+0.6
TIWZ	**Tintock**	**0.18**	**183**	P	Pn	19 41 19.3	-0.4
POWZ	**Post Office Ro**	**0.23**	**334**	P	Pb	19 41 19.7	+0.4
MRZ	**Mangatainoka R**	**0.25**	**255**	P	Pb	19 41 19.8	+0.2
BFZ	**Birch Farm**	**0.28**	**108**	P	Pb	19 41 20.2	+0.2
DVHZ	**Dannevirke**	**0.36**	**35**	P	Pb	19 41 20.9	-0.2
HOWZ	**Holdsworth Sta**	**0.42**	**224**	P	Pb	19 41 22.2	+0.2
ANWZ	**Angora Road**	**0.46**	**73**	P	Pb	19 41 22.8	+0.3
TMWZ	**Te Maipa**	**0.51**	**181**	P	Pb	19 41 23.8	+0.3
TSZ	**Takapari Road**	**0.54**	**5**	P	Pb	19 41 23.7	-0.1
OGWZ	**Otaki Gorge**	**0.60**	**248**	P	Pb	19 41 24.9	+0.1
PNHZ	**Pukenui**	**0.72**	**19**	P	Pb	19 41 26.8	-0.1
KIW	**Kapiti Island**	**0.80**	**250**	P	Pn	19 41 27.9	-0.1
CAW	**Cannon Point**	**0.81**	**231**	P	Pn	19 41 28.1	-0.2
NBEZ	**Newall Road No**	**2.05**	**310**	P	Pb	19 41 47.8	-1.5
RTZ	**Ruatahuna**	**2.15**	**23**	P	Pn	19 41 47.9	+1.2

*WEL **30** 19:41:21.2±0.3, 42°S±2°×17°4E±°, h5km, M3.6/44, ML3.9/18, MLv3.6/44, Error ellipse: s-maj=0.0km s-min=0.0km az=115.7*
*NOU **30** 19:41:21.5, 42°33S×173°70E, h17km, MLv3.9/9, South Island, New Zealand*

ISC 30 19:41:21.6±1.3, 42°24S±0°04×173°71E±0°04, h42km, n86, σ1§94/81, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.22**	**215**	P	Pn	19 41 26.9	-2.3
KHZ	**Kahutara**	**0.22**	**215**	P	Pn	19 41 26.9	-2.3
KHZ				S	Sn	**19 41 31.0**	**-3.6**
BSWZ	**Blackbirch Sta**	**0.54**	**14**	P	Pn	**19 41 31.4**	**-1.6**
BSWZ				S	Sn	**19 41 39.1**	**-1.9**
CMWZ	**Cape Campbell**	**0.62**	**38**	P	Pn	**19 41 34.2**	**+0.2**
THZ	**Tophouse**	**0.76**	**308**	P	Pn	**19 41 34.1**	**-1.9**
THZ				S	Sn	**19 41 43.4**	**-3.0**
TUWZ	**Tuamarina**	**0.83**	**12**	P	Pn	**19 41 36.8**	**0.0**
GVZ	**Greta Valley S**	**0.88**	**214**	P	Pn	**19 41 39.5**	**+1.9**
NNZ	**Nelson**	**1.05**	**346**	P	Pn	**19 41 39.5**	**-0.4**
MRNZ	**Matariki Terra**	**1.10**	**319**	P	Pn	**19 41 40.3**	**-0.2**
TCW	**Tory Channel**	**1.11**	**23**	P	Pn	**19 41 41.5**	**+0.8**
TCW	**Tory Channel**	**1.11**	**23**	P	Pn	**19 41 41.3**	**+0.6**
SNZO	**South Karori**	**1.19**	**39**	P	Pn	**19 41 43.5**	**+1.7**
LTZ	**Lake Taylor**	**1.19**	**242**	P	Pn	**19 41 42.8**	**+0.9**
AMCZ	**Amberley**	**1.22**	**219**	P	Pn	**19 41 43.7**	**+1.5**
WEL	**Wellington**	**1.24**	**40**	P	Pn	**19 41 44.2**	**+1.7**
TKNZ	**Takaka Hill**	**1.33**	**335**	P	Pn	**19 41 44.3**	**+0.6**
PLWZ	**Palliser**	**1.33**	**60**	P	Pn	**19 41 45.2**	**+1.4**
MSWZ	**Moikau Station**	**1.42**	**55**	P	Pn	**19 41 46.2**	**+1.3**
DUWZ	**D'Urville Isla**	**1.45**	**6**	P	Pn	**19 41 46.6**	**+1.3**
DSZ	**Denniston Nort**	**1.50**	**289**	P	Pn	**19 41 47.8**	**+1.7**
CAW	**Cannon Point**	**1.52**	**42**	P	Pn	**19 41 47.9**	**+1.5**
PAWZ	**Paruwai Farm**	**1.54**	**57**	P	Pn	**19 41 47.8**	**+1.1**
OKCZ	**Okains Bay**	**1.56**	**198**	P	Pn	**19 41 48.4**	**+1.5**
OXZ	**Oxford**	**1.64**	**228**	P	Pn	**19 41 48.6**	**+0.6**
KIW	**Kapiti Island**	**1.65**	**34**	P	Pn	**19 41 49.9**	**+1.8**
QRZ	**Quartz Range**	**1.67**	**328**	P	Pn	**19 41 50.0**	**+1.6**
QRZ	**Quartz Range**	**1.67**	**328**	P	Pn	**19 41 49.9**	**+1.6**
TRWZ	**Traveller**	**1.70**	**61**	P	Pn	**19 41 49.7**	**+0.9**
MTW	**Mount Morrison**	**1.72**	**52**	P	Pn	**19 41 50.0**	**+0.9**
AKCZ	**Akaroa Harbour**	**1.73**	**199**	P	Pn	**19 41 50.4**	**+1.1**
INZ	**Inchbonnie**	**1.74**	**253**	P	Pn	**19 41 50.9**	**+1.5**
OGWZ	**Otaki Gorge**	**1.80**	**38**	P	Pn	**19 41 51.5**	**+1.4**
RACZ	**Rakaia**	**1.88**	**217**	P	Pn	**19 41 51.7**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.91**	**46**	P	Pn	**19 41 52.5**	**+0.9**
TMWZ	**Te Maipa**	**1.99**	**56**	P	Pn	**19 41 53.5**	**+0.7**
MHCZ	**Mount Hutt**	**2.04**	**230**	P	Pn	**19 41 53.9**	**+0.4**
MRZ	**Mangatainoka R**	**2.11**	**42**	P	Pn	**19 41 55.4**	**+1.0**
WACZ	**Wakanui South**	**2.18**	**218**	P	Pn	**19 41 56.0**	**+0.6**
CPWZ	**Castlepoint**	**2.29**	**55**	P	Pn	**19 41 57.6**	**+0.7**
PRWZ	**Pori Road**	**2.39**	**46**	P	Pn	**19 41 59.1**	**+0.8**
POWZ	**Post Office Ro**	**2.41**	**41**	P	Pn	**19 41 59.5**	**+0.9**
RPZ	**Rata Peaks**	**2.44**	**232**	P	Pn	**19 41 59.8**	**+0.8**
RPZ	**Rata Peaks**	**2.44**	**232**	P	Pn	**19 41 59.7**	**+0.7**
BFZ	**Birch Farm**	**2.46**	**52**	P	Pn	**19 41 59.3**	**+0.1**
ARCZ	**Arundel**	**2.52**	**226**	P	Pn	**19 42 00.6**	**+0.5**
DVHZ	**Dannevirke**	**2.68**	**45**	P	Pn	**19 42 02.5**	**+0.2**
GCSZ	**Gaunt Creek Bo**	**2.71**	**245**	P	Pn	**19 42 04.8**	**+2.1**
TSZ	**Takapari Road**	**2.76**	**39**	P	Pn	**19 42 04.1**	**+0.7**
LREZ	**Lake Rotokare**	**2.83**	**11**	P	Pn	19 42 10.8	+6.5
TMZ	**Timaru**	**2.91**	**222**	P	Pn	**19 42 06.9**	**+1.5**
KHEZ	**Kahui Hut**	**2.95**	**5**	P	Pn	**19 42 09.8**	**+3.7**
KHEZ	**Kahui Hut**	**2.95**	**5**	P	Pn	19 42 11.1	+5.1
PRHZ	**Porangahau**	**2.96**	**49**	P	Pn	**19 42 06.0**	**-0.1**
NEZ	**North Egmont**	**2.98**	**6**	P	Pn	19 42 12.3	+5.8
PNHZ	**Pukenui**	**2.99**	**40**	P	Pn	**19 42 07.0**	**+0.4**
PKE	**Pukeiti**	**3.05**	**4**	P	Pn	**19 42 11.7**	**+4.3**
FOZ	**Fox Glacier**	**3.14**	**244**	P	Pn	**19 42 10.5**	**+2.0**
PKVZ	**Pokaka**	**3.20**	**23**	P	Pn	**19 42 12.2**	**+2.8**
VRZ	**Vera Road**	**3.21**	**15**	P	Pn	19 42 15.1	+5.5
MOVZ	**Moawhango**	**3.23**	**29**	P	Pn	**19 42 11.9**	**+2.1**
WNVZ	**Wahianoa**	**3.24**	**27**	P	Pn	**19 42 13.0**	**+2.8**
TRVZ	**Turoa**	**3.25**	**26**	P	Pn	**19 42 12.9**	**+2.6**
BHHZ	**Black Hill Sta**	**3.28**	**34**	P	Pn	**19 42 12.0**	**+1.5**
WHVZ	**Whangaehu Hut**	**3.28**	**26**	P	Pn	**19 42 13.8**	**+3.1**
FWVZ	**Far West T-bar**	**3.29**	**26**	P	Pn	19 42 18.0	+7.1
TUVZ	**Tukino**	**3.32**	**27**	P	Pn	**19 42 13.6**	**+2.5**
LBZ	**Lake Benmore**	**3.35**	**229**	P	Pn	**19 42 15.7**	**+4.2**
NGZ	**Ngauruhoe**	**3.38**	**26**	P	Pn	**19 42 14.4**	**+2.3**
SNVZ	**South Ngauruho**	**3.38**	**26**	P	Pn	**19 42 14.7**	**+2.6**
KAHZ	**Kahuranaki**	**3.42**	**46**	P	Pn	**19 42 11.6**	**-0.9**
NNVZ	**North Ngauruho**	**3.43**	**26**	P	Pn	**19 42 15.2**	**+2.6**
TWVZ	**Taurewa**	**3.43**	**23**	P	Pn	**19 42 14.7**	**+2.1**
WTVZ	**West Tongariro**	**3.43**	**25**	P	Pn	**19 42 16.0**	**+3.2**
ETVZ	**East Tongariro**	**3.45**	**27**	P	Pn	**19 42 15.3**	**+2.3**
KRVZ	**Karewarewa**	**3.47**	**26**	P	Pn	19 42 20.9	+7.7
TMVZ	**Te Maari**	**3.47**	**27**	P	Pn	**19 42 15.7**	**+2.5**
NTVZ	**North Tongarir**	**3.48**	**26**	P	Pn	**19 42 16.0**	**+2.7**
ODZ	**Otahua Downs**	**3.58**	**217**	P	Pn	**19 42 15.1**	**+0.5**
ODZ	**Otahua Downs**	**3.58**	**217**	P	Pn	**19 42 14.7**	**+0.2**
BKZ	**Black Stump Fm**	**3.73**	**36**	P	Pn	**19 42 19.2**	**+2.5**
BKZ	**Black Stump Fm**	**3.73**	**36**	P	Pn	**19 42 17.2**	**+0.5**
HIZ	**Hauiti**	**3.82**	**14**	P	Pn	**19 42 21.5**	**+3.5**
HIZ	**Hauiti**	**3.82**	**14**	P	Pn	**19 42 22.6**	**+4.6**
JCZ	**Jackson Bay**	**4.04**	**241**	P	Pn	**19 42 21.8**	**+0.8**
JCZ	**Jackson Bay**	**4.04**	**241**	P	Pn	**19 42 22.6**	**+1.6**
MKAZ	**Moumakai**	**5.25**	**13**	P	Pn	**19 42 40.4**	**+2.8**

*IDC **30** 19:44:21.2±3.9, 4°02S×101°60E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=176.6km s-min=22.2km az=56.0*

ISC 30 19:44:26.8±3.3, 4°0S±0°5×101°7E±0°9, h34km, n6, σ1§10/6, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.53**	**119**	P	**P**	**19 51 20.0**	**-0.9**
	0.3nm,0.8s,baz=302,slow=9.0,SNR=1.9						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**36.72**	**125**	P	**P**	**19 51 30.8**	**-0.4**
	0.2nm,0.5s,baz=303,slow=8.1,SNR=6.1						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**46.58**	**131**	P	**P**	**19 52 52.5**	**+0.8**
	1.1nm,0.7s,baz=310,slow=7.9,SNR=3.0						
	1.1nm,0.7s						
SONM	**Songino Array**	**51.73**	**4**	P	**P**	**19 53 31.8**	**+0.9**
	1.1nm,1.2s,baz=194,slow=12,SNR=1.9						
	1.1nm,1.2s						
MKAR	**Makanchi Array**	**53.37**	**343**	P	**P**	**19 53 42.7**	**-0.3**
	0.3nm,0.8s,baz=157,slow=9.2,SNR=1.9						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**59.40**	**348**	P	**P**	**19 54 24.7**	**-1.0**
	0.2nm,0.3s,baz=177,slow=5.1,SNR=2.2						
	0.2nm,0.3s						

*JMA **30** 20:00:47.4±0.2, 33°N±2°×13°8E±°, h379km, MV3.2/26, FAR S OFF TOKAI DISTRICT*
*IDC **30** 20:00:52.1±0.8, 33°33N×137°50E, h338km±11km, mb2.8/3, mbtmp3.5/6, Error ellipse: s-maj=27.6km s-min=14.1km az=57.0*

ISC 30 20:00:52.1±0.9, 33°43N±0°09×137°64E±0°07, h352km, n24, σ1§28/29, mb3.0/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO3	**TONANKAI O.B.S**	**0.47**	**335**	P	**Pn**	**20 01 35.9**	**-0.4**

TK02	**Tokai 2**	**0.52**	**11**	P		**Pn**	**20 01 35.9**	**-0.3**
TTO2	**TONANKAI O.B.S**	**0.59**	**301**	P		**Pn**	**20 01 36.1**	**-0.2**
TTO2				*eS*		**S**	**20 02 12.4**	**+0.6**
JIE	**Ise**	**1.23**	**321**	P		**Pn**	**20 01 38.3**	**-0.6**
JTNC	**Tanabenakahech**	**1.73**	**283**	P		**Pn**	**20 01 40.7**	**-1.1**
JTNC				*eS*		**S**	**20 02 18.7**	**-3.0**
JHJ	**Hachijo jima 2**	**1.82**	**99**	P		**Pn**	**20 01 41.5**	**-0.9**
	159nm,0.8s,baz=90,slow=20,SNR=2.4							
JHJ				S		**S**	**20 02 22.7**	**0.0**
	283nm,1.0s,baz=75,slow=20,SNR=2.5							
JWY	**Kouya**	**1.87**	**295**	P		**Pn**	**20 01 42.3**	**-0.5**
JOD2	**Odawara 2**	**2.19**	**33**	P		**Pn**	**20 01 44.1**	**-0.7**
JYN	**Shimob**	**2.19**	**20**	P		**Pn**	**20 01 44.5**	**-0.4**
JYTA	**Yamagatataniai**	**2.28**	**341**	*eP*		**Pn**	**20 01 45.1**	**-0.4**
JWT	**Wachi**	**2.61**	**316**	P		**Pn**	**20 01 47.8**	**-0.4**
JAI	**Aioi**	**2.68**	**279**	P		**Pn**	**20 01 48.0**	**-0.8**
JRY	**Ryogami san**	**2.78**	**22**	P		**Pn**	**20 01 49.3**	**-0.3**
BSO1	**Boso 1**	**3.03**	**65**	P		**Pn**	**20 01 48.5**	**-2.7**
BSO1				S		**S**	**20 02 36.2**	**-2.6**
MJAR	**Matsushiro Arr**	**3.14**	**8**	P		**Pn**	**20 01 52.1**	**-0.6**
	18nm,0.6s,baz=182,slow=9.7,SNR=52							
MAT	**Matsushiro**	**3.14**	**8**	P		**Pn**	**20 01 52.1**	**-0.7**
MAT				*eS*		**S**	**20 02 41.0**	**-0.7**
JMN	**Monobe**	**3.15**	**276**	*eP*		**Pn**	**20 01 51.8**	**-1.2**
JAG	**Ashikaga**	**3.34**	**26**	P		**Pn**	**20 01 52.5**	**-2.1**
JNU	**Nakatsue**	**5.67**	**269**	P		**Pn**	**20 02 17.3**	**-1.9**
	12nm,0.7s,baz=159,slow=1.9,SNR=10.0							
KSRS	**Korea Array**	**8.88**	**300**	P		**Pn**	**20 02 56.0**	**-0.6**
	1.4nm,0.8s,baz=122,slow=13,SNR=1.6							
MKAR	**Makanchi Array**	**43.52**	**305**	P		**P**	**20 08 23.4**	**+1.3**
	0.2nm,0.4s,baz=87,slow=9.4,SNR=7.9							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**53.17**	**184**	P		**P**	**20 09 35.3**	**+0.2**
	0.6nm,0.6s,baz=360,slow=7.5,SNR=20							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**56.89**	**184**	P		**P**	**20 10 02.0**	**+0.5**
	0.3nm,0.6s,baz=360,slow=3.7,SNR=14							
	0.3nm,0.6s							
FINES	**FINESS Array B**	**70.53**	**332**	P		**P**	**20 11 30.6**	**+1.4**
	13nm,1.2s,baz=45,slow=4.1,SNR=5.6							

*IDC **30** 20:05:07.2±8.6, 37°.31N×141°.48E, h0km, mb3.3/3, mbtmp3.2/4, ML2.2/1, Error ellipse: s-maj=149.3km s-min=40.8km az=135.0*
*JMA **30** 20:05:09.2±0.2, 37°.2N±0°.3×141°.4E±0°.9, h29km±1km, MV3.4/38, E OFF FUKUSHIMA PREF*
ISC 30 20:05:07.5±2.3, 37°22N±0°.07×141°4E±0°.1, h6km±16km, n17, σ0s68/17, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**289**	P	**Pb**	**20 05 18.5**	**+0.2**
JFK				S	**Sb**	**20 05 25.0**	**-0.5**
JMST	**Minamisoumatoc**	**0.67**	**320**	P	**Pb**	**20 05 21.9**	**+0.3**
JMST				S	**Sb**	**20 05 31.4**	**+0.3**
JFFD	**Fukushimafurud**	**0.71**	**260**	P	**Pb**	**20 05 22.4**	**+0.1**
JFFD				S	**Sb**	**20 05 31.8**	**-0.5**
JMM	**Marumori**	**0.82**	**322**	P	**Pb**	**20 05 24.4**	**+0.1**
JMM				S	**Sb**	**20 05 35.4**	**-0.3**
JHO	**Hitachi**	**0.92**	**229**	P	**Pg**	**20 05 25.1**	**0.0**
JIO	**Ouri**	**1.24**	**357**	*i* P	**Pn**	**20 05 30.5**	**-0.9**
JOU	**Okura**	**1.30**	**332**	*i* P	**Pn**	**20 05 32.5**	**+0.2**
JOU				S	**Sn**	**20 05 49.8**	**-0.2**
MJAR	**Matsushiro Arr**	**2.67**	**256**	Pn	**Pn**	**20 05 51.7**	**+0.6**
	0.4nm,0.3s,baz=69,slow=9.7,SNR=18						
MJAR				Sn	**Sb**	**20 06 27.0**	**-1.8**
	0.3nm,0.3s,baz=81,slow=27,SNR=5.3						
	2.1nm,0.3s						
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**20 10 57.2**	**+0.6**
	0.2nm,0.5s,baz=106,slow=11,SNR=2.4						
	0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	20 40 34.2	
	baz=314,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	20 40 35.1	
	baz=314,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	20 40 35.7	
	baz=314,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	20 41 26.6	
	baz=316,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	20 41 27.5	
	baz=316,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	20 41 31.1	
	baz=316,slow=76,SNR=8.8						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**20 12 57.6**	**-0.2**
	0.3nm,0.4s,baz=82,slow=10,SNR=2.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**20 13 16.5**	**+0.5**
	0.2nm,0.7s,baz=69,slow=7.9,SNR=1.9						
	0.2nm,0.7s						

*IDC **30** 20:13:06.8±3.2, 34°.31N×32°.04E, h0km, mb3.8/3, mbtmp3.4/6, ML3.9/2, Error ellipse: s-maj=52.5km s-min=37.9km az=42.0*
*ISK **30** 20:13:10.7, 34°.53N×32°.16E, h13km, ML3.5/28*
*NIC **30** 20:13:10.7±0.0, 34°.65N×32°.04E, h9km±4km, Ml3.4/6*
*GII **30** 20:13:11.5±0.0, 34°.72N×32°.08E, h20km, Mm3.4/4*
ISC 30 20:13:11.3±1.4, 34°61N±0°.03×32°12E±0°.04, h10km±9km, n67, σ1s14/93, mb3.6/3, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.40**	**66**	P	**Pg**	**20 13 19.8**	**+0.6**
NATA				S	**Sb**	**20 13 27.4**	**+0.6**
AKMS	**Akamas**	**0.44**	**23**	*eP*	**Pg**	**20 13 19.6**	**-0.3**
AKMS				S	**Sb**	**20 13 26.4**	**-1.4**
AKMS				AML	AML	20 13 28.9	
	17nm,0.2s						
AKMS				AML	AML	20 13 28.9	
	17nm,0.2s						
SZAC	**Souni**	**0.64**	**77**	P	**Pg**	**20 13 24.2**	**+0.5**
SZAC				S	**Sb**	**20 13 34.6**	**+0.9**
SZAC				AML	AML	20 13 39.2	
	9.3nm,0.4s						
SZAC				AML	AML	20 13 39.2	
	9.3nm,0.4s						
SZAC				AML	AML	20 13 42.3	
	9.2nm,0.3s						
SZAC				AML	AML	20 13 42.3	
	9.2nm,0.3s						
ALFC	**Alefka**	**0.67**	**36**	P	**Pg**	**20 13 23.7**	**-0.5**
ALFC				S	**Sb**	**20 13 34.5**	**+0.1**
TROD	**Troodos**	**0.70**	**61**	P	**Pg**	**20 13 24.0**	**-0.8**
TROD				S	**Sb**	**20 13 35.5**	**+0.1**
TROD				AML	AML	20 13 41.6	
	4.2nm,0.7s						
TROD				AML	AML	20 13 41.6	
	4.2nm,0.7s						
TROD				AML	AML	20 13 50.6	
	5.2nm,0.6s						
TROD				AML	AML	20 13 50.6	
	5.2nm,0.6s						
LEF	**Lefka**	**0.81**	**51**	PG	**Pg**	**20 13 26.9**	**0.0**
LEF				SG	**Sb**	**20 13 38.5**	**+0.1**
ASGA	**Asgata**	**0.94**	**79**	P	**Pg**	**20 13 29.9**	**+0.5**
ASGA				S	**Sn**	**20 13 45.8**	**+1.7**
ASGA				AML	AML	20 13 46.9	
	5.7nm,0.7s						
ASGA				AML	AML	20 13 46.9	
	5.7nm,0.7s						
ASGA				AML	AML	20 13 48.0	
	6.3nm,0.7s						
ASGA				AML	AML	20 13 48.0	
	6.3nm,0.7s						
AKDN	**Akdeniz- Kıbrı**	**0.97**	**45**	PG	**Pb**	**20 13 30.6**	**+0.4**
AKDN				SG	**Sn**	**20 13 45.0**	**+0.1**
CSS	**Mathiatis**	**1.05**	**70**	PG	**Pb**	**20 13 31.4**	**-0.2**
CSS				SG	**Sn**	**20 13 46.5**	**-0.4**
CSS	**Mathiatis**	**1.05**	**70**	P	**Pb**	**20 13 31.4**	**-0.2**
CSS				S	**Sn**	**20 13 48.3**	**+1.4**
CSS				AML	AML	20 13 49.0	
	1.3nm,0.5s						
CSS				AML	AML	20 13 49.0	
	1.3nm,0.5s						
CSS				AML	AML	20 13 55.9	
	1.1nm,1.0s						
CSS				AML	AML	20 13 55.9	
	1.1nm,1.0s						
ATHAL	**Athalassa**	**1.17**	**63**	P	**Pb**	**20 13 33.9**	**+0.3**
ATHAL				S	**Sn**	**20 13 51.3**	**+1.6**
MVOU	**Mavrovouni**	**1.31**	**72**	P	**Pn**	**20 13 35.7**	**+0.1**
MVOU				AML	AML	20 14 00.1	
	2.4nm,0.9s						
LFK	**Lefkose**	**1.34**	**60**	PN	**Pn**	**20 13 35.6**	**-0.4**
LFK				SN	**Sg**	**20 13 54.2**	**-0.1**
GAZI	**Gazipasa**	**1.63**	**6**	PN	**Pb**	**20 13 40.8**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.73**	**28**	PN	**Pn**	**20 13 42.2**	**+0.8**
EREN	**Erenkoy**	**1.91**	**61**	PN	**Pn**	**20 13 44.4**	**+0.5**
AKK2	**Akkuyu-Mersin**	**1.92**	**37**	PN	**Pn**	**20 13 44.5**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.93**	**37**	PN	**Pn**	**20 13 44.6**	**+0.4**
BERE	**Bereket-Mersin**	**1.95**	**27**	PN	**Pn**	**20 13 45.2**	**+0.6**
YESI	**Yesilovacik-Me**	**2.01**	**38**	PN	**Pn**	**20 13 45.8**	**+0.6**
KARG	**Kargicak-Mersi**	**2.05**	**39**	PN	**Pn**	**20 13 46.8**	**+1.0**
IKL	**Isikli**	**2.06**	**38**	PN	**Pn**	**20 13 46.5**	**+0.5**
TEVE	**Tevekalti-Mers**	**2.11**	**30**	PN	**Pn**	**20 13 47.1**	**+0.3**
KEBE	**Keben-Mersin**	**2.24**	**35**	PN	**Pn**	**20 13 49.4**	**+0.9**
HDMB	**Hadim**	**2.37**	**7**	PN	**Pn**	**20 13 51.5**	**+1.2**
KIZK	**Mersin**	**2.49**	**41**	PN	**Pn**	**20 13 52.5**	**+0.7**
AKAS	**Kas**	**2.62**	**309**	PN	**Pn**	**20 13 54.8**	**+1.1**
KRMN	**Karaman**	**2.72**	**20**	PN	**Pn**	**20 13 56.4**	**+1.3**
KORT	**Korkueli**	**2.79**	**329**	PN	**Pn**	**20 13 57.3**	**+1.3**
ELL	**Elmali**	**2.79**	**320**	PN	**Pn**	**20 13 57.3**	**+1.2**
SEYD	**Seydisehir-KON**	**2.80**	**355**	PN	**Pn**	**20 13 57.8**	**+1.6**
HNTI	**Hanita**	**2.96**	**120**	Pn	**Pn**	**20 13 58.4**	**0.0**
HNTI				Sn	**Sn**	**20 14 34.1**	**+0.1**
MERS	**Mersin**	**2.98**	**40**	PN	**Pn**	**20 13 59.5**	**+0.9**
OFRI	**`Ofer**	**3.11**	**129**	Pn	**Pn**	**20 14 00.8**	**+0.4**
MMA0B	**Mount Meron ar**	**3.16**	**119**	Pn	**Pn**	**20 14 01.6**	**+0.4**
MMA0B				Sn	**Sn**	**20 14 40.4**	**+1.4**
FETY	**Fethiye**	**3.19**	**310**	PN	**Pn**	**20 14 03.0**	**+1.4**
GEM	**Giv'at Ha'Em**	**3.26**	**114**	Pn	**Pn**	**20 14 02.7**	**+0.3**
GEM				Sn	**Sn**	**20 14 41.4**	**+0.1**
NATI	**Neve Ativ**	**3.29**	**113**	Pn	**Pn**	**20 14 03.3**	**+0.4**
NATI				Sn	**Sn**	**20 14 42.4**	**+0.3**
KONT	**Konya--Tatoy**	**3.33**	**3**	PN	**Pn**	**20 14 05.5**	**+2.0**
SLTI	**Sal'it**	**3.40**	**133**	Pn	**Pn**	**20 14 04.8**	**+0.5**
YESY	**Yesilyurt**	**3.42**	**22**	PN	**Pn**	**20 14 06.1**	**+1.3**
KSHT	**Keshet**	**3.48**	**117**	Pn	**Pn**	**20 14 06.2**	**+0.7**
MMLI	**Mount Malkishu**	**3.51**	**127**	PN	**Pn**	**20 14 05.5**	**-0.4**
MMLI	**Mount Malkishu**	**3.51**	**127**	Pn	**Pn**	**20 14 06.3**	**+0.4**
MMLI				Sn	**Sn**	**20 14 47.9**	**+0.5**
YAYL	**Yayladag**	**3.55**	**65**	PN	**Pn**	**20 14 07.4**	**+0.8**
KARA	**Karaisali**	**3.56**	**41**	PN	**Pn**	**20 14 07.7**	**+1.2**
LADK	**Ladik-KONYA**	**3.59**	**3**	PN	**Pn**	**20 14 09.1**	**+2.1**
HMDT	**Nahal Hemdat**	**3.69**	**129**	Pn	**Pn**	**20 14 09.8**	**+1.4**
HMDT				Sn	**Sn**	**20 14 54.1**	**+2.1**
TAHT	**Tahtakopru-Hat**	**3.75**	**61**	PN	**Pn**	**20 14 10.5**	**+1.3**
CMRD	**Camardi-Nigde**	**3.83**	**36**	PN	**Pn**	**20 14 11.8**	**+1.4**
AMAZ	**Amatzia**	**3.86**	**142**	Pn	**Pn**	**20 14 11.2**	**+0.4**
AMAZ				Sn	**Sn**	**20 14 58.4**	**+2.2**
DSI	**Dead Sea**	**4.08**	**137**	Pn	**Pn**	**20 14 14.9**	**+1.1**
DSI				Sn	**Sn**	**20 15 02.9**	**+1.3**
KOZT	**Kozan**	**4.15**	**45**	PN	**Pn**	**20 14 16.2**	**+1.6**
KZIT	**Kziot**	**4.16**	**152**	Pn	**Pn**	**20 14 15.2**	**+0.3**
KZIT				Sn	**Sn**	**20 15 04.6**	**+1.0**
ZFRI	**Zfri**	**4.80**	**147**	Pn	**Pn**	**20 14 23.5**	**-0.1**
ZFRI				Sn	**Sn**	**20 15 18.9**	**-0.3**
PRNI	**Paran**	**4.90**	**149**	Pn	**Pn**	**20 14 25.6**	**+0.6**
PRNI				Sn	**Sn**	**20 15 23.7**	**+2.0**
KRMI	**Paran Flat**	**4.99**	**153**	Pn	**Pn**	**20 14 27.2**	**+0.9**
HRFI	**Mount Harif**	**5.19**	**151**	Pn	**Pn**	**20 14 29.5**	**+0.5**
HRFI				Sn	**Sn**	**20 15 30.4**	**+1.5**
BRTR	**Keskin Array B**	**5.25**	**13**	Pn	**Pn**	**20 14 32.9**	**+3.0**
	1.2nm,0.6s,baz=192,slow=16,SNR=5.5						
BRTR				Sn	**Sn**	**20 15 34.6**	**+4.1**
	baz=185,slow=29,SNR=2.9						
MBRI	**Mt Berech**	**5.36**	**153**	Pn	**Pn**	**20 14 32.0**	**+0.7**
EIL	**Elat**	**5.48**	**153**	Pn	**Pn**	**20 14 34.0**	**+1.0**
EIL				Sn	**Sn**	**20 15 37.2**	**+1.1**
AKASG	**Malin Array Be**	**16.22**	**353**	Pn	**Pn**	**20 16 59.6**	**+0.6**
	0.3nm,0.3s,baz=173,slow=11,SNR=6.7						
	0.1nm,0.2s						
GERES	**GERESS Array B**	**19.71**	**322**	P	**P**	**20 17 39.4**	**-1.4**
	0.2nm,0.3s,baz=150,slow=18,SNR=2.1						
	0.4nm,0.7s						
KHC	**Kasperske Hory**	**19.95**	**322**	*eP*	**P**	**20 17 41.5**	**-1.9**
FINES	**FINESS Array B**	**27.13**	**354**	P	**P**	**20 18 53.5**	**-0.7**
	2.7nm,0.9s,baz=163,slow=10,SNR=1.6						
	2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**41.27**	**45**	P	**P**	**20 20 54.4**	**-2.1**
	0.5nm,0.5s,baz=250,slow=11,SNR=2.6						
	0.5nm,0.5s						
SONM	**Songino Array**	**55.36**	**52**	P	**P**	**20 22 45.1**	**-0.3**
	0.5nm,0.8s,baz=282,slow=7.2,SNR=4.0						
	0.5nm,0.8s						

*IDC **30** 20:15:47.3±1.0, 10°.00N×126°.52E, h0km, mb3.8/8, mbtmp3.8/8, MS2.5/1, Error ellipse: s-maj=65.1km s-min=20.3km az=76.0*
*MAN **30** 20:15:51.3, 9.93N×126°.65E, h9km, mb4.5, ML3.4, MS3.2*
ISC 30 20:15:48.9±2.7, 10°01N±0°.06×126°73E±0°.06, h9km±15km, n21, σ1s38/30, mb3.4/7, 8C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.24**	**260**	*iP*	**Pb**	**20 16 12.0**	**-0.5**
SCPH				*i* S	**Sg**	**20 16 28.0**	**-1.0**
TASP	**Talacogon, Agu**	**1.79**	**211**	*eP*	**Pb**	**20 16 22.6**	**+0.7**
TASP				*i* S	**Sg**	**20 16 48.3**	**+1.7**
BIPH	**Bislig**	**1.85**	**191**	*eP*	**Pn**	**20 16 21.1**	**+0.3**
BIPH				*eS*	**Sn**	**20 16 44.3**	**0.0**
MSLP	**Maasin**	**1.85**	**274**	*eP*	**Pn**	**20 16 21.9**	**+1.2**
MSLP				*i* S	**Sn**	**20 16 45.4**	**+1.2**
CDOP	**Cateel, Davao**	**2.23**	**187**	*eP*	**Pn**	**20 16 27.5**	**+1.5**
TABP	**Talibon, Bohol**	**2.36**	**272**	*eP*	**Pn**	**20 16 29.3**	**+1.5**
TABP				*eS*	**Sn**	**20 16 56.7**	**-0.3**
GHBP	**Garcia Hernand**	**2.40**	**261**	*eP*	**Pb**	**20 16 31.6**	**-0.8**
GHBP				*eS*	**Sb**	**20 17 03.5**	**+1.4**
CGP	**Cagayan de Oro**	**2.53**	**233**	*eP*	**Pn**	**20 16 32.2**	**+2.0**
CGP				*eS*	**Sn**	**20 17 01.3**	**+0.1**
LLP	**Lapu-Lapu**	**2.74**	**277**	*eP*	**Pn**	**20 16 35.0**	**+2.0**
LLP				*eS*	**Sn**	**20 17 08.9**	**+2.6**
TBP	**Tagbilaran**	**2.84**	**264**	*eP*	**Pn**	**20 16 35.7**	**+1.2**
TBP				*i* S	**Sn**	**20 17 08.2**	**-0.6**
LSIP	**Lazi, Siquijor**	**3.18**	**254**	*eP*	**Pb**	**20 16 43.2**	**-2.3**
LSIP				*i* S	**Sb**	**20 17 22.5**	**-1.9**
KCP	**Kidapawan**	**3.39**	**209**	*eP*	**Pn**	**20 16 40.4**	**-1.7**
BATI	**Baumata**	**20.31**	**189**	P	**P**	**20 20 25.7**	**+0.3**
	15nm,0.6s,baz=328,slow=2.0,SNR=5.6						
	15nm,0.6s						
KSRS	**Korea Array**	**27.35**	**2**	LR	LR	20 33 09.1	
	comp=Z,9.8nm,20.2s,baz=35,slow=38						
WRA	**Warramunga Arr**	**30.69**	**166**	P	**P**	**20 22 03.7**	**-0.4**
	0.2nm,0.8s,baz=347,slow=9.2,SNR=1.7						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**34.19**	**168**	P	**P**	**20 22 34.9**	**0.0**
	0.1nm,0.3s,baz=356,slow=7.4,SNR=4.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**52.51**	**323**	P	**P**	**20 25 01.4**	**-1.1**
	0.4nm,0.8s,baz=130,slow=6.4,SNR=2.9						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**56.55**	**325**	P	**P**	**20 25 31.1**	**-0.5**
	0.3nm,0.6s,baz=123,slow=5.9,SNR=2.4						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**79.48**	**26**	P	**P**	**20 27 56.7**	**+1.1**
	0.2nm,0.6s,baz=243,slow=6.0,SNR=1.5						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**84.60**	**340**	P	**P**	**20 28 22.6**	**+0.2**
	4.2nm,0.9s,baz=94,slow=7.3,SNR=3.6						
	4.2nm,0.9s						
FINES	**FINESS Array B**	**86.34**	**332**	P	**P**	**20 28 29.4**	**-1.8**
	4.4nm,0.9s,baz=62,slow=3.6,SNR=5.3						
	4.4nm,0.9s						

*NOU **30** 20:18:09.4, 22°.72S×168°.93E, h0km, MLv4.4/6, New Caledonia*
*IDC **30** 20:18:16.6±3.1, 22°.31S×168°.31E, h0km, mb3.7/4, mbtmp3.7/4, MS3.7/25, Error ellipse: s-maj=70.5km s-min=44.4km az=10.0*
ISC 30 20:18:21.1±1.2, 22°4S±0°.1×168°4E±0°.1, h35km, n37, σ1s04/16, mb3.5/4, MS3.7/23, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.95**	**339**	P	**Pn**	**20 18 37.0**	**-1.0**
YATNC	**Mamie plateau,**	**1.43**	**283**	P	**Pn**	**20 18 44.6**	**+0.1**
OUENC	**Ouen Island, N**	**1.44**	**268**	P	**Pn**	**20 18 43.2**	**-1.4**
ONTNC	**Ouen Toro**	**1.80**	**272**	P	**Pn**	**20 18 49.9**	**+0.3**
DZM	**Mont Dzumac**	**1.83**	**279**	Pn	**Pn**	**20 18 48.7**	**-1.5**
	15nm,0.3s,baz=121,slow=13,SNR=98						
DZM				Sn	**Sn**	**20 19 13.3**	**+1.1**
	26nm,0.3s,baz=114,slow=20,SNR=5.5						
DZM				LR	LR	20 19 35.1	
	comp=Z,673nm,18.6s,baz=36,slow=45						
DZM	**Mont Dzumac**	**1.83**	**279**	P	**Pn**	**20 18 49.2**	**-1.0**
LIFNC	**LIFOU**	**1.92**	**326**	P	**Pn**	**20 18 50.7**	**-0.6**
MSVF	**Nonsavu**	**10.18**	**65**	LR	LR	20 24 09.7	
	comp=Z,693nm,21.1s,baz=265,slow=35						
HNR	**Honiara**	**15.21**	**326**	LR	LR	20 26 33.0	
	comp=Z,µm,19.0s,baz=164,slow=33						
AFI	**Afiamalu**	**20.62**	**69**	LR	LR	20 29 42.9	
	comp=Z,79nm,20.3s,baz=249,slow=33						
CTA	**Charters Tower**	**20.76**	**272**	LR	LR	20 30 36.8	
	comp=Z,166nm,18.5s,baz=92,slow=36						
RPZ	**Rata Peaks**	**21.39**	**175**	LR	LR	20 31 00.7	
	comp=Z,279nm,18.0s,baz=14,slow=36						
KRVT	**Keravat (AS076**	**23.96**	**316**	LR	LR	20 32 00.5	
	comp=Z,89nm,19.3s,baz=274,slow=34						
STKA	**Stephens Creek**	**25.60**	**243**	P	**P**	**20 23 45.6**	**-1.6**
	0.5nm,0.4s,baz=112,slow=18,SNR=1.7						
STKA				LR	LR	20 33 40.3	
	comp=Z,247nm,18.3s,baz=36,slow=36						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**31.72**	**261**	P	**P**	**20 24 41.9**	**-0.1**
	1.2nm,0.7s,baz=75,slow=8.8,SNR=29						
ASAR				LR	LR	20 37 03.4	
	comp=Z,180nm,19.1s,baz=98,slow=36						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**31.81**	**268**	P	**P**	**20 24 42.2**	**-0.5**
	0.7nm,0.9s,baz=98,slow=8.3,SNR=6.6						
WRA				LR	LR	20 37 51.6	
	comp=Z,177nm,18.4s,baz=97,slow=37						
	0.7nm,0.9s						
BATI	**Baumata**	**44.44**	**278**	LR	LR	20 44 38.9	
	comp=Z,108nm,20.8s,baz=148,slow=36						
NWAO	**Narrogin (SRO)**	**46.13**	**245**	LR	LR	20 46 27.1	
	comp=Z,200nm,18.3s,baz=295,slow=37						
VNDA	**Vanda**	**55.28**	**182**	LR	LR	20 47 53.2	
	comp=Z,57nm,19.3s,baz=12,slow=32						
JOW	**Kunigami**	**62.45**	**320**	LR	LR	20 52 12.6	
	comp=Z,23nm,21.6s,baz=50,slow=33						
JNU	**Nakatsue**	**65.78**	**326**	LR	LR	20 53 30.3	
	comp=Z,22nm,20.8s,baz=146,slow=32						
QSPA	**South Pole Qui**	**67.69**	**180**	LR	LR	20 56 45.4	
	comp=Z,77nm,18.5s,baz=68,slow=34						
ASAJ	**Asahikawa**	**70.27**	**341**	LR	LR	20 56 48.7	
	comp=Z,24nm,19.2s,baz=126,slow=33						
KSRS	**Korea Array**	**70.66**	**327**	LR	LR	21 00 44.7	
	comp=Z,13nm,18.2s,baz=190,slow=36						
PETK	**Petropavlovsk-**	**75.74**	**353**	LR	LR	20 56 23.9	
	comp=Z,70nm,20.0s,baz=107,slow=30						
CMAR	**Chiang Mai Arr**	**79.09**	**295**	P	**P**	**20 30 24.1**	**+1.7**
	0.2nm,0.3s,baz=126,slow=4.6,SNR=2.2						
	0.2nm,0.3s						
MA2	**Magadan**	**82.93**	**351**	LR	LR	21 01 41.3	
	comp=Z,36nm,20.9s,baz=138,slow=31						
TROLL	**Troll, Antarti**	**85.36**	**184**	P	**P**	**20 30 55.0**	**+0.4**
SNAA	**Sanae**	**86.01**	**183**	P	**P**	**20 30 57.9**	**+0.3**
SNAA	**Sanae**	**86.01**	**183**	LR	LR	21 09 16.0	
	comp=Z,68nm,18.1s,baz=191,slow=36						
VNA3	**Neumayer Olymp**	**86.62**	**181**	P	**P**	**20 31 00.6**	**0.0**
VNA2	**Neumayer--Watz**	**86.91**	**181**	P	**P**	**20 31 02.4**	**+0.5**
	baz=180,slow=5.0						
PFO	**Pinyon Flats O**	**90.61**	**54**	LR	LR	21 04 32.9	
	comp=Z,29nm,20.1s,baz=249,slow=31						
LPIG	**La Paz**	**91.48**	**65**	LR	LR	21 02 45.5	
	comp=Z,48nm,21.5s,baz=0.5,slow=29						
DLBC	**Dease Lake**	**95.18**	**28**	LR	LR	21 09 57.3	
	comp=Z,58nm,18.3s,baz=214,slow=33						
ANMO	**Albuquerque**	**98.72**	**56**	LR	LR	21 08 47.1	
	comp=Z,18nm,19.7s,baz=42,slow=31						
TXAR	**Lajitas Array**	**98.94**	**62**	LR	LR	21 08 31.9	
	comp=Z,54nm,18.4s,baz=272,slow=30						

*NNC **30** 20:19:23.4±1.9, 47°.28N×80°.80E, h0km, mb2.9, mpv2.3, Error ellipse: s-maj=34.8km s-min=7.8km az=38.0*
*SOME **30** 20:19:24.4, 47°.00N×80°.72E, h5km*
ISC 30 20:19:23.0±1.0, 47°36N±0°.04×80°83E±0°.03, h10km, n20, σ1s50/36, 5C-4D, Eastern Kazakhstan

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s |

15nm,0.6s,baz=140,slow=8.2,SNR=20

MSVF	**Nonsavu**	5.95	328			Pn	20 24 40.8	+1.2
NIUE	**Niue**	8.96	67	P		Pn	20 25 13.5	-0.8
MXZ	**Matakaoa Point**	14.91	189	P		Pn	20 26 22.7	-1.1
WMGZ	**Waiomatatini S**	15.15	189	P		Pn	20 26 27.1	+0.6
HAZ	**Te Kaha**	15.19	191	P		Pn	20 26 26.9	0.0
PKGZ	**Pakihiroa**	15.27	190	P		Pn	20 26 27.8	-0.2
RUGZ	**Raukumara Rang**	15.41	191	P		Pn	20 26 28.6	-1.1
RUGZ				S		S	20 29 10.6	-0.6
PUZ	**Puketiti**	15.42	189	P		Pn	20 26 29.7	0.0
TWGZ	**Tauwhareparae**	15.56	190	P		Pn	20 26 30.5	-0.9
TWGZ				S		S	20 29 14.3	+0.1
URZ	**Urewera**	15.80	192	P		P	20 26 30.5	-0.5
RAGZ	**Rawiri**	15.97	191	P		P	20 26 34.1	+1.2
RTZ	**Ruatahuna**	16.17	192	P		P	20 26 36.0	+0.9
RTZ				IAmb		IAmb	20 26 37.6	

comp=Z,7.5nm,0.8s

HIZ	**Hauiti**	16.59	198	P		P	20 26 39.8	+0.3
BKZ	**Black Stump Fm**	16.80	193	P		P	20 26 42.0	+0.1
BKZ				IAmb		IAmb	20 26 48.3	

comp=Z,7.2nm,0.7s

BKZ	**Black Stump Fm**	16.80	193	P		P	20 26 43.6	+1.7
TMVZ	**Te Maari**	16.93	195	P		Pn	20 26 46.5	-0.8
ETVZ	**East Tongariro**	16.95	195	P		Pn	20 26 46.1	-1.4
TWVZ	**Taurewa**	16.95	196	P		Pn	20 26 48.0	+0.5
KWHZ	**Kaweka Forest**	17.06	193	P		Pn	20 26 48.0	-0.3
BHHZ	**Black Hill Sta**	17.20	194	P		P	20 26 46.5	+0.3
PXZ	**Pawanui**	17.56	192	P		P	20 26 50.4	+0.5
BFZ	**Birch Farm**	18.31	192	P		P	20 26 57.6	-0.3
BFZ				IAmb		IAmb	20 27 07.1	

comp=Z,40nm,1.1s

BFZ	**Birch Farm**	18.31	192	P		P	20 26 58.6	+0.7
MRZ	**Mangatainoka R**	18.43	194	P		P	20 26 58.7	-0.4
MRZ				IAmb		IAmb	20 27 04.3	

comp=Z,21nm,1.1s

MSWZ	**Moikau Station**	19.22	194	P		P	20 27 05.1	-2.4
SNZO	**South Karori**	19.25	195	P		P	20 27 08.3	+0.6
TCW	**Tory Channel**	19.27	196	P		P	20 27 07.1	-0.8
BHW	**Baring Head**	19.30	195	P		P	20 27 07.6	-0.7
PLWZ	**Palliser**	19.37	194	P		P	20 27 08.8	-0.3
QRZ	**Quartz Range**	19.42	201	P		P	20 27 09.2	-0.4
NNZ	**Nelson**	19.52	198	P		P	20 27 09.5	-1.0
TUWZ	**Tuamarina**	19.56	197	P		P	20 27 10.5	-0.4
MRNZ	**Matariki Terra**	19.87	199	P		P	20 27 13.3	-0.7
THZ	**Tophouse**	20.16	199	P		P	20 27 16.9	0.0
THZ				IAmb		IAmb	20 27 18.1	

comp=Z,11nm,0.5s

DSZ	**Denniston Nort**	20.48	201	P		P	20 27 19.5	-0.4
DSZ				IAmb		IAmb	20 27 22.0	

comp=Z,43nm,1.2s

KHZ	**Kahutara**	20.59	197	P		P	20 27 20.0	-0.7
KHZ				IAmb		IAmb	20 27 34.8	

comp=Z,30nm,1.2s

GVZ	**Greta Valley S**	21.23	197	P		P	20 27 26.2	-0.3
LTZ	**Lake Taylor**	21.28	199	P		P	20 27 26.7	-0.3
LTZ				IAmb		IAmb	20 27 30.6	

comp=Z,18nm,0.5s

INZ	**Inchbonnie**	21.48	200	P		P	20 27 28.2	-0.6
INZ				IAmb		IAmb	20 27 31.8	

comp=Z,18nm,0.7s

OXZ	**Oxford**	21.85	199	P		P	20 27 32.5	+0.4
OXZ				IAmb		IAmb	20 27 32.8	

comp=Z,34nm,1.1s

RPZ	**Rata Peaks**	22.50	200	P		P	20 27 37.9	-0.2

comp=Z,8.1nm,0.5s,baz=37,slow=4.6,SNR=5.5
comp=Z,8.1nm,0.5s

RPZ	**Rata Peaks**	22.50	200	P		P	20 27 37.6	-0.4
RPZ				IAmb		IAmb	20 27 40.5	

comp=Z,39nm,1.3s

FOZ	**Fox Glacier**	22.75	202	P		P	20 27 39.1	-1.1
FOZ				IAmb		IAmb	20 28 07.3	

comp=Z,47nm,1.3s

WKZ	**Wanaka**	24.16	202	P		P	20 27 52.5	-0.5
ARMA	**Armidale**	27.57	248	P		P	20 28 23.1	-0.6
CTA	**Charters Tower**	32.74	268	P		P	20 29 09.2	+0.4

comp=Z,5.6nm,0.5s,baz=95,slow=9.3,SNR=23
comp=Z,5.6nm,0.5s

CTAO	**Charters Tower**	32.74	268	P		P	20 29 09.2	+0.4
CTAO				IAmb		IAmb	20 29 09.9	

comp=Z,7.1nm,0.5s

TOO	**Toolangi**	34.07	236	P		P	20 29 20.4	+0.3
TOO				IAmb		IAmb	20 29 22.5	

comp=Z,5.7nm,0.7s

PMG	**Port Moresby**	35.36	287	P		P	20 29 31.0	-0.2

comp=Z,5.2nm,0.6s,baz=76,slow=4.4,SNR=3.9
comp=Z,5.2nm,0.6s

STKA	**Stephens Creek**	36.28	247	P		P	20 29 38.6	-0.2

comp=Z,1.4nm,0.7s,baz=95,slow=11,SNR=4.6
comp=Z,1.4nm,0.7s

STKA	**Stephens Creek**	36.28	247	P		P	20 29 39.0	+0.2
BBOO	**Buckleboo**	41.01	246	P		P	20 30 17.2	-0.4
BBOO				IAmb		IAmb	20 30 47.1	

comp=Z,13nm,1.3s

AS31	**Alice Springs**	43.45	259	P		P	20 30 36.7	-0.6
ASAR	**Alice Springs**	43.45	259	P		P	20 30 36.8	-0.5

comp=Z,2.2nm,0.6s,baz=92,slow=8.3,SNR=25
comp=Z,2.2nm,0.6s

WB0	**Warramunga Arr**	43.73	265	P		P	20 30 38.1	-1.4
WB2	**Warramunga Arr**	43.73	265	P		P	20 30 38.2	-1.3
WRAB	**Tennant Creek**	43.73	265	P		P	20 30 38.3	-1.2
WRA	**Warramunga Arr**	43.74	265	P		P	20 30 38.0	-1.5

comp=Z,1.9nm,0.7s,baz=96,slow=8.0,SNR=45
comp=Z,1.9nm,0.7s

WRA	**Warramunga Arr**	43.74	265	P		P	20 30 38.4	-1.2
FORT	**Forrest**	47.86	249	P		P	20 31 11.3	+0.1
FORT				IAmb		IAmb	20 31 12.2	

comp=Z,12nm,0.7s

KNRA	**Kununurra**	49.95	268	P		P	20 31 26.2	-0.9
KNRA				IAmb		IAmb	20 31 30.7	

comp=Z,32nm,1.3s

VNDA	**Vanda**	55.54	185	P		P	20 32 08.9	+2.2

comp=Z,0.6nm,0.5s,baz=27,slow=5.8,SNR=2.3
comp=Z,0.6nm,0.5s

NVAR	**Mina Array Bea**	83.12	43	P		P	20 34 55.3	+0.6

comp=Z,0.6nm,0.7s,baz=236,slow=6.4,SNR=3.2
comp=Z,0.6nm,0.7s

CMAR	**Chiang Mai Arr**	90.34	290	P		P	20 35 30.0	+0.5

comp=Z,0.5nm,0.6s,baz=104,slow=3.8,SNR=4.3
comp=Z,0.5nm,0.6s

PDAR	**Pinedale Array**	91.06	43	P		P	20 35 32.0	-0.6

comp=Z,0.3nm,0.6s,baz=201,slow=7.3,SNR=2.9
comp=Z,0.3nm,0.6s

BRTR	**Keskin Array B**	147.91	309	PKPbc		PKPbc	20 42 11.3	-0.3

comp=Z,0.6nm,0.6s,baz=193,slow=4.4,SNR=2.3

CLL	**Collm**	150.18	345	*e*PKPbc		PKPbc	20 42 16.0	-0.5

*IDC **30** 20:24:15.1±1.5,38.53N×71.87E,h0km,mb3.8/6, mbtmp3.7/13,ML2.8/5,MS2.7/1,Error ellipse: s-maj=24.8km s-min=16.6km az=139.0*
*NNC **30** 20:24:17.9±1.6,38.51N×71.40E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=12.8km s-min=10.7km az=19.0*
ISC 30 20:24:22.3±0.8,38.59N±0.07×71.38E±0.07,h35km,n31, σ2§28/32,mb3.8/6,5C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AML	**Almayashu**	3.96	26	P	Pn	20 25 20.5		-0.4

SNR=20

UCH	**Uchtor**	4.35	32	P	Pn	20 25 28.6		+2.2

SNR=17

EKS2	**Erkin-Say**	4.46	23	P	Pn	20 25 27.8		+0.2

SNR=19

KK31	**Karatay Array**	4.56	352	Pn	Pn	20 25 29.1		+0.3

13nm,0.6s,baz=176,slow=13,SNR=286

KK31				⇑Sn	Sn	20 26 25.3		+4.8

35nm,0.9s,baz=178,slow=23,SNR=3.7

KK31				⇑Lg	Lg	20 26 43.8		

86nm,1.1s

AAK	**Ala-Archa**	4.69	29	P	Pn	20 25 33.4		+2.6

SNR=11

AAK	**Ala-Archa**	4.69	29	Pn	Pn	20 25 30.7		0.0

4.3nm,0.3s,baz=209,slow=4.5,SNR=25

AAK				Sn	Sn	20 26 24.6		+0.7

baz=68,slow=19
9.6nm,0.4s

CEP	**Cherat**	4.77	175	P	Pn	20 25 34.6		+2.7
CEP				S	Sn	20 26 48.0		+22
KBK	**Karagaybulak**	4.89	33	P	Pn	20 25 36.7		+3.3

SNR=7.9

CHMS	**Chumysh**	5.10	29	P	Pn	20 25 36.3		+0.1

SNR=18

CHMS	**Chumysh**	5.10	29	⇓Pn	Pn	20 25 35.5		-0.6

43nm,0.8s

CHMS				⇓Sn	Sn	20 26 37.4		+3.6

54nm,1.0s

CHCP	**Chirah Chowk**	5.15	162	P	Pn	20 25 38.8		+1.9
USP	**Ospenovka**	5.24	26	P	Pn	20 25 38.0		-0.1

SNR=6.5

TKM2	**Tokmak 2**	5.39	35	P	Pn	20 25 40.9		+0.5

SNR=12

TKM2	**Tokmak 2**	5.39	35	⇑Pn	Pn	20 25 40.2		-0.1

17nm,0.9s

TKM2				⇑Lg	Lg	20 27 10.6		

28nm,0.8s

THW	**Thamme Wali**	5.79	177	P	Pn	20 25 47.2		+1.5
MDOK	**Medeo**	6.27	41	Pn	Pn	20 25 53.9		+1.4

3.8nm,0.7s

MDOK				⇓Lg	Lg	20 27 37.6		

21nm,0.9s

GEYT	**Alibeck**	10.45	271	Pn	Pn	20 26 51.2		+1.6

1.2nm,0.6s,baz=105,slow=11,SNR=1.8

GEYT				Sn	Sn	20 28 42.0		-3.4

baz=71,slow=31

MKAR	**Makanchi Array**	11.47	41	Pn	Pn	20 26 58.1		-5.4

0.1nm,0.3s,baz=236,slow=13,SNR=2.7

MKAR				Lg	Lg	20 30 10.4		

baz=266,slow=20,SNR=2.2

KURBB	**Kurchatov Arra**	13.06	21	Pn	Pn	20 27 19.4		-5.8

baz=213,slow=12,SNR=2.6

KURBB				Lg	Lg	20 31 06.2		

baz=208,slow=27,SNR=4.1
0.2nm,0.4s

AB31	**Akbulak array**	13.46	326	⇑Pn	Pn	20 27 29.7		-1.0

2.0nm,0.6s,baz=139,slow=14,SNR=24

BVAR	**Borovoye Array**	14.46	358	Pn	Pn	20 27 39.7		-4.5

baz=220,slow=41,SNR=4.2

BVAR				Lg	Lg	20 31 55.9		

baz=187,slow=22
1.0nm,0.7s

AKTO	**Aktyubinsk**	15.17	326	⇓Pn	Pn	20 27 54.4		+0.6

2.9nm,1.0s

ZALV	**Zalesovo Beam**	17.91	27	P	Pn	20 28 23.6		-4.7

0.3nm,0.3s,baz=224,slow=12,SNR=8.7
1.8nm,0.6s

ARU	**Arti**	19.78	339	P	P	20 28 48.7		-0.5

baz=129,slow=16,SNR=5.3
1.8nm,0.7s

BELG	**Belogornoye**	21.50	318	P	P	20 29 08.6		+0.8

2.7nm,0.6s,baz=146,slow=3.6,SNR=2.1
2.7nm,0.6s

KBZ	**Khabaz**	21.99	293	P	P	20 29 14.9		+1.7

2.3nm,0.9s,baz=107,slow=9.6,SNR=2.7
2.3nm,0.9s

CMAR	**Chiang Mai Arr**	31.25	122	LR	LR	20 43 35.8		

comp=Z,14nm,21.6s,baz=105,slow=38

FINES	**FINESS Array B**	35.94	324	P	P	20 31 18.8		-0.3

4.3nm,1.1s,baz=108,slow=7.9,SNR=1.8
4.3nm,1.1s

ARCES	**ARCESS Array B**	39.34	337	P	P	20 31 48.5		+0.8

1.8nm,0.8s,baz=310,slow=4.6,SNR=1.3
1.8nm,0.8s

NOA	**NORSAR Array B**	42.91	322	P	P	20 32 16.3		-0.9

0.6nm,0.8s,baz=96,slow=8.3,SNR=1.6
0.6nm,0.8s

WRA	**Warramunga Arr**	82.85	122	P	P	20 36 39.8		-3.4

0.6nm,0.9s,baz=322,slow=4.9,SNR=3.4
0.6nm,0.9s

MAN 30 20:44:17.5,14.21N×119.34E,h112km,mb4.2,ML3.0, MS2.6,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
LUBP	**Lubang**	1.00	118	*e*P	Pn	20 44 38.9		0.0
LUBP				*i* S	Sn	20 44 54.8		-0.2

*IDC **30** 20:50:29.7±6.6,37.52S×176.88E,h0km,mb3.3/2, mbtmp3.3/2,Error ellipse: s-maj=353.5km s-min=63.5km az=173.0*
*NOU **30** 20:50:50.8,38.52S×175.90E,h189km,MLv4.3/15,North Island, New Zealand*
*WEL **30** 20:50:54.7±0.6,38.3S±4.1×17.6E±.1,h148km±6km,M3.8/119, ML3.2/15,MLv3.8/119,Error ellipse: s-maj=0.0km s-min=0.0km az=134.8*
ISC 30 20:50:51.5±1.0,38.55S±0.06×175.87E±0.05,h180km±6km, n173,σ1§04/180,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WHTZ	**Whakaora**	0.14	151	P	Pn	20 51 16.0		+0.6
WATZ	**Wairara**	0.20	214	P	Pn	20 51 16.1		+0.6
WPRZ	**Whakapapatarin**	0.23	84	P	Pn	20 51 15.6		+0.2
GRRZ	**Galatos Road**	0.27	44	P	Pn	20 51 15.6		0.0
RATZ	**Rangitukua**	0.33	194	P	Pn	20 51 16.3		+0.6
TLZ	**Tolley Road**	0.34	309	P	Pn	20 51 16.2		+0.4
HRRZ	**Handcock Road**	0.36	64	P	Pn	20 51 15.7		-0.2
ALRZ	**Allen Road**	0.37	93	P	Pn	20 51 15.7		-0.1
ALRZ				S	Sn	20 51 33.1		-1.4
HSRZ	**Hossack Road**	0.37	51	P	Pn	20 51 16.0		+0.1
HSRZ				S	Sn	20 51 32.8		-1.7
HATZ	**Hinemaiaia**	0.39	154	P	Pn	20 51 16.3		+0.4
HATZ				S	Sn	20 51 33.1		-1.7
RITZ	**Rihia Road**	0.43	181	P	Pn	20 51 17.1		+1.0
UTU	**Utuhina**	0.45	35	P	Pn	20 51 16.3		+0.1
KATZ	**Kakaramea**	0.45	198	P	Pn	20 51 17.0		+0.7
HLRZ	**Highlands Stat**	0.48	52	P	Pn	20 51 16.7		+0.4
MRHZ	**Matea Rd**	0.51	124	P	Pn	20 51 16.7		+0.3
MRHZ				S	Sn	20 51 33.2		-2.5
RRRZ	**Republican Roa**	0.55	68	P	Pn	20 51 16.4		-0.1
RRRZ				S	Sn	20 51 33.4		-2.3
NTVZ	**North Tongarir**	0.57	195	P	Pn	20 51 17.6		+0.8
KRVZ	**Karewarewa**	0.58	198	P	Pn	20 51 17.5		+0.8
TMVZ	**Te Maari**	0.58	193	P	Pn	20 51 17.7		+0.9
TARZ	**Mount Tarawera**	0.59	58	P	Pn	20 51 16.7		-0.1
OMRZ	**Omania**	0.59	42	P	Pn	20 51 16.5		-0.2
KARZ	**Kaharoa**	0.60	29	P	Pn	20 51 16.6		-0.2
ETVZ	**East Tongariro**	0.60	192	P	Pn	20 51 17.8		+0.9
ETVZ				S	Sn	20 51 35.5		-1.1
WTVZ	**West Tongariro**	0.61	201	P	Pn	20 51 17.8		+0.9
MKRZ	**Makatiti**	0.62	49	P	Pn	20 51 16.9		-0.1
NNVZ	**North Ngauruho**	0.62	199	P	Pn	20 51 17.8		+0.8
TWVZ	**Taurewa**	0.62	213	P	Pn	20 51 17.9		+1.0
OTVZ	**Oturere**	0.64	195	P	Pn	20 51 17.9		+0.8
NGZ	**Ngauruhoe**	0.66	199	P	Pn	20 51 18.1		+0.8
SNVZ	**South Ngauruho**	0.67	196	P	Pn	20 51 18.1		+0.8
LIRZ	**Lichensteins R**	0.68	37	P	Pn	20 51 17.3		+0.1
KMRZ	**Kaimai**	0.70	4	P	Pn	20 51 17.2		-0.2
MUGZ	**Murupara**	0.71	85	P	Pn	20 51 17.0		-0.3
TUVZ	**Tukino**	0.74	193	P	Pn	20 51 18.8		+1.1
FWVZ	**Far West T-bar**	0.75	199	P	Pn	20 51 18.6		+0.8
DRZ	**Dome Shelter**	0.77	198	P	Pn	20 51 19.1		+1.1
WHVZ	**Whangaehu Hut**	0.77	197	P	Pn	20 51 18.8		+0.9
BKZ	**Black Stump Fm**	0.79	142	P	Pn	20 51 18.5		+0.7
BKZ	**Black Stump Fm**	0.79	142	P	Pn	20 51 18.6		+0.7
TRVZ	**Turoa**	0.79	199	P	Pn	20 51 19.1		+1.0
HIZ	**Hauiti**	0.80	272	P	Pn	20 51 18.5		+0.7
HIZ	**Hauiti**	0.80	272	P	Pn	20 51 18.5		+0.7
WNVZ	**Wahianoa**	0.81	195	P	Pn	20 51 19.2		+1.1
EDRZ	**Edgecumbe**	0.81	58	P	Pn	20 51 17.5		-0.5
MTNZ	**Maungataniwha**	0.82	112	P	Pn	20 51 18.5		+0.5
MARZ	**Manawahe**	0.84	49	P	Pn	20 51 17.9		-0.3
PKVZ	**Pokaka**	0.85	209	P	Pn	20 51 19.4		+1.2
TOZ	**Tahuroa Road**	0.86	340	P	Pn	20 51 18.2		-0.1
MOVZ	**Moawhango**	0.86	186	P	Pn	20 51 19.2		+0.9
RTZ	**Ruatahuna**	0.87	95	P	Pn	20 51 18.5		+0.1
OPRZ	**Ohinepanea**	0.88	38	P	Pn	20 51 17.8		-0.6
OPRZ				S	Sn	20 51 36.7		-2.4
MTVZ	**Mangateitei**	0.90	200	P	Pn	20 51 19.7		+1.1
NMHZ	**Naumai**	0.91	127	P	Pn	20 51 20.2		+1.5
BHHZ	**Black Hill Sta**	0.95	171	P	Pn	20 51 19.9		+1.0
KWHZ	**Kaweka Forest**	0.98	154	P	Pn	20 51 20.4		+1.3
URZ	**Urewera**	1.01	74	P	Pn	20 51 18.6		-0.7
URZ	**Urewera**	1.01	74	P	Pn	20 51 18.6		-0.7
RAHZ	**Arahi**	1.02	112	P	Pn	20 51 20.3		+1.0
VRZ	**Vera Road**	1.04	236	P	Pn	20 51 20.8		+1.3
MCHZ	**McNeill Hill**	1.10	145	P	Pn	20 51 21.8		+1.9
WHRZ	**Whale Island**	1.11	52	P	Pn	20 51 19.9		-0.2
ARHZ	**Aropaoanui**	1.13	130	P	Pn	20 51 21.6		+1.5
SNGZ	**Shannon Statio**	1.17	102	P	Pn	20 51 21.3		+0.7
WHHZ	**Waihua**	1.19	117	P	Pn	20 51 21.6		+1.0
RAGZ	**Rawiri**	1.21	88	P	Pn	20 51 21.0		0.0
MWZ	**Matawai**	1.32	81	P	Pn	20 51 21.5		-0.3
MHEZ	**Mangahewa**	1.32	246	P	Pn	20 51 23.6		+1.9
PNHZ	**Pukenui**	1.39	170	P	Pn	20 51 23.8		+1.3
WAZ	**Wanganui**	1.39	209	P	Pn	20 51 23.9		+1.5
CKHZ	**Cape Kidnapper**	1.45	140	P	Pn	20 51 24.7		+1.7
DREZ	**Durham Road**	1.46	243	P	Pn	20 51 24.7		+1.7
LREZ	**Lake Rotokare**	1.47	231	P	Pn	20 51 25.2		+2.1
KAHZ	**Kahuranaki**	1.47	148	P	Pn	20 51 24.9		+1.7
KNZ	**Kokohu**	1.49	109	P	Pn	20 51 23.9		+0.7
RIGZ	**Rimuhau**	1.49	97	P	Pn	20 51 23.9		+0.5
TSZ	**Takapari Road**	1.51	177	P	Pn	20 51 25.0		+1.4
RUGZ	**Raukumara Rang**	1.53	68	P	Pn	20 51 22.6		-1.3
MKAZ	**Moumakai**	1.54	338	P	Pn	20 51 23.7		-0.2
TKGZ	**Te Karaka**	1.55	87	P	Pn	20 51 24.2		+0.3
NEZ	**North Egmont**	1.56	242	P	Pn	20 51 25.9		+1.8
WPHZ	**Waipukurau**	1.58	164	P	Pn	20 51 25.6		+1.5
PKE	**Pukeiti**	1.61	246	P	Pn	20 51 26.1		+1.6
KHEZ	**Kahui Hut**	1.63	242	P	Pn	20 51 26.5		+1.7
KHEZ	**Kahui Hut**	1.63	242	P	Pn	20 51 26.4		+1.7
PXZ	**Pawanui**	1.67	153	P	Pn	20 51 26.6		+1.5
TWGZ	**Tauwhareparae**	1.70	78	P	Pn	20 51 25.4		0.0
HAZ	**Te Kaha**	1.70	63	P	Pn	20 51 24.1		-1.3
MHGZ	**Mahia Peninsul**	1.70	112	P	Pn	20 51 26.5		+1.1
OHWZ	**Ohakea**	1.71	194	P	Pn	20 51 27.4		+1.9
NBEZ	**Newall Road No**	1.72	245	P	Pn	20 51 27.3		+1.7
ETAZ	**East Tamaki Re**	1.76	334	P	Pn	20 51 25.8		-0.2
DVHZ	**Dannevirke**	1.77	173	P	Pn	20 51 27.2		+1.2
AWAZ	**Awhitu Peninsu**	1.77	326	P	Pn	20 51 26.2		+0.1
NMEZ	**Namu Road**	1.78	240	P	Pn	20 51 27.8		+1.7
KUZ	**Kuaotunu**	1.80	356	P	Pn	20 51 25.9		-0.6
KUZ	**Kuaotunu**	1.80	356	P	Pn	20 51 25.9		-0.6
PRHZ	**Porangahau**	1.82	161	P	Pn	20 51 28.0		+1.4
CNGZ	**Carnagh Statio**	1.83	89	P	Pn	20 51 27.3		+0.6
WIAZ	**Waiheke Island**	1.84	341	P	Pn	20 51 26.7		-0.3
POWZ	**Post Office Ro**	1.85	182	P	Pn	20 51 28.1		+1.2
PKGZ	**Pakihiroa**	1.86	70	P	Pn	20 51 26.5		-0.6
WTAZ	**Waiatarua**	1.91	327	P	Pn	20 51 27.9		+0.3
MBAZ	**Motutapu North**	1.94	336	P	Pn	20 51 27.7		-0.2
PUZ	**Puketiti**	1.94	77	P	Pn	20 51 27.2		-0.6
ANWZ	**Angora Road**	1.97	166	P	Pn	20 51 29.7		+1.5
PRWZ	**Pori Road**	2.01	178	P	Pn	20 51 30.0		+1.4
ABAZ	**Army Bay**	2.11	337	P	Pn	20 51 29.7		-0.1
MRZ	**Mangatainoka R**	2.12	186	P	Pn	20 51 30.8		+0.9
WMGZ	**Waiomatatini S

RLMT				IAML		21 03 27.0	
	comp=N,78nm,0.8s						
RLMT				IAML		21 03 42.3	
	comp=N,56nm,0.9s						
PD31	**Pinedale Array**	**3.25 256**			**Pn**	**21 02 24.7**	**-0.3**
PDAR	**Pinedale Array**	**3.25 256**	Pn		**Pn**	**21 02 25.8**	**+0.7**
	comp=N,3.6nm,0.3s,baz=64,slow=16,SNR=32						
PDAR			Lg		Lg	21 03 10.3	
	comp=N,12nm,0.3s,baz=65,slow=30,SNR=8.4						
	comp=N,4.0nm,0.3s						
PDAR	**Pinedale Array**	**3.25 256**	Pn		**Pn**	**21 02 24.5**	**-0.5**
OGNE	**Ogallala**	**3.60 137**			**Pn**	**21 02 30.1**	**+0.4**
YMP	**Mirror Lake Pl**	**3.69 289**	Pn		**Pn**	**21 02 31.9**	**+0.8**
ISCO	**Idaho Springs**	**3.83 184**			**Pn**	**21 02 33.2**	**+0.1**
LOHW	**Long Hollow**	**3.87 272**			**Pn**	**21 02 33.1**	**-0.5**
LOHW				IAML		21 03 52.0	
	comp=N,36nm,2.5s						
LOHW				IAML		21 04 09.7	
	comp=N,31nm,2.1s						
H17A	**Grant Village**	**3.90 283**			**Pn**	**21 02 34.4**	**+0.3**
H17A				IAML		21 03 44.3	
	comp=N,40nm,2.0s						
H17A				IAML		21 03 49.7	
	comp=E,38nm,2.4s						
MOOW	**Moose Ponds**	**3.97 274**			**Pn**	**21 02 35.7**	**+0.8**
IMW	**Indian Meadow**	**4.11 276**			**Pn**	**21 02 37.2**	**+0.3**
IMW				IAML		21 04 01.8	
	comp=E,33nm,0.6s						
IMW				IAML		21 04 04.5	
	comp=E,34nm,2.2s						
O20A	**White River Ci**	**4.13 213**	Pn		**Pn**	**21 02 36.7**	**-0.5**
FXWY	**Fox Creek**	**4.18 272**			**Pn**	**21 02 38.9**	**+1.1**
FXWY				IAML		21 03 56.5	
	comp=E,26nm,2.4s						
E28A	**Huff**	**4.38 46**			**Pn**	**21 02 40.8**	**+0.3**
RDMU	**Red Mountain**	**4.42 228**			**Pn**	**21 02 41.1**	**0.0**
RDMU				IAML		21 04 06.4	
	comp=N,33nm,1.6s						
RDMU				IAML		21 04 14.2	
	comp=E,40nm,1.4s						
DGMT	**Dagmar**	**4.91 8**			**Pn**	**21 02 47.2**	**-0.4**
KSCO	**Kaye Shedlock'**	**5.02 156**			**Pn**	**21 02 47.7**	**-1.6**
HWUT	**Hardware Ranch**	**5.06 249**			**Pn**	**21 02 47.5**	**-2.4**
HWUT				IAML		21 04 43.4	
	comp=E,32nm,1.1s						
EGMT	**Eagleton**	**5.40 326**			**Pn**	**21 02 54.1**	**-0.3**
P18A	**Preston Nutter**	**5.46 225**			**Pn**	**21 02 55.5**	**0.0**
LRM	**Limekiln Ridge**	**5.57 296**	Pn		**Pn**	**21 02 57.4**	**+0.5**
HRY	**Holter Researc**	**5.57 306**			**Pn**	**21 02 56.3**	**-0.5**
SPUT	**South Promonto**	**5.79 249**			**Pn**	**21 02 59.7**	**-0.2**
SDCO	**Great Sand Dun**	**5.87 182**			**Pn**	**21 02 59.1**	**-2.1**
S22A	**4UR Ranch, Cre**	**5.99 192**			**Pn**	**21 03 02.1**	**-0.7**
ECSD	**EROS Data Cent**	**6.28 86**	Pn		**Pn**	**21 03 04.3**	**-2.2**
ELK	**Elko**	**7.94 252**	Pn		**Pn**	**21 03 31.1**	**+1.7**
	comp=E,0.1nm,0.3s,baz=62,slow=17,SNR=1.7						
	comp=E,0.4nm,0.3s						
I10CA	**LAC DU BONNET**	**9.12 41**	I			21 56 40.0	
	comp=E,0.2nm,1.1s,baz=221,slow=322,SNR=5.6						
ULM	**Lac du Bonnet**	**9.23 41**	Pn		**Pn**	**21 03 44.3**	**-2.6**
	comp=E,1.4nm,0.3s,baz=232,slow=12,SNR=8.1						
ULM			Lg		Lg	21 06 14.9	
	comp=E,0.7nm,0.3s,baz=135,slow=20,SNR=1.8						
	comp=E,2.3nm,0.3s						
NVAR	**Mina Array Bea**	**11.12 247**	Pn		**Pn**	**21 04 13.8**	**+0.7**
	comp=E,0.1nm,0.3s,baz=52,slow=16,SNR=1.6						
	comp=E,0.1nm,0.3s						
TXAR	**Lajitas Array**	**14.32 174**	Pn		**P**	**21 05 05.9**	**+1.8**
	baz=343,slow=8.0,SNR=4.2						
TXAR			Lg		Lg	21 09 12.8	
	comp=E,0.2nm,0.3s,baz=4.0,slow=27,SNR=3.4						
	comp=E,0.2nm,0.5s						
TKL	**Tuckaleechee C**	**18.34 108**	P		**P**	**21 05 53.5**	**+5.0**
	comp=E,0.3nm,0.3s,baz=270,slow=20,SNR=6.5						
	comp=E,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**61.53 18**	P		**P**	**21 11 49.4**	**-1.5**
	comp=E,4.7nm,1.0s,baz=325,slow=7.7,SNR=1.5						
	comp=E,4.7nm,1.0s						

*IDC **30** 21:12:55.8±1.8, 36.82N×22.18E, h0km, mb3.6/6, mbtmp3.6/11, ML3.5/4, Error ellipse: s-maj=36.5km s-min=18.3km az=39.0*
*ATH **30** 21:12:59.6, 36.50N×21.97E, h10km±2km, ML3.2/4, Error ellipse: s-maj=4.1km s-min=1.4km az=38.0*
ISC 30 21:12:56.6±1.8, 36.45N±0.06×21.90E±0.04, h16km±11km, n26, σ1s39/33, mb3.6/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.46**	**344**	P		**Pn**	**21 13 08.4**	**-0.3**
PYL				S		**Sb**	**21 13 14.3**	**+1.3**
PYL				AML		AML	21 13 16.2	
	comp=E,15864μm,0.2s							
PYL				AML		AML	21 13 17.6	
	comp=N,8736μm,0.2s							
ITM	**Ithomi**	**0.72**	**1**	P		**Pb**	**21 13 12.2**	**+1.3**
ITM				S		**Sg**	**21 13 21.5**	**+1.1**
ITM				AML		AML	21 13 24.3	
	comp=E,7434μm,0.4s							
ITM				AML		AML	21 13 24.6	
	comp=N,6834μm,0.4s							
VLI	**Velíai**	**0.87**	**72**	P		**Pn**	**21 13 15.0**	**+0.7**
VLI				S		**Sb**	**21 13 26.2**	**+1.3**
VLI				AML		AML	21 13 31.9	
	comp=N,3530μm,0.5s							
VLI				AML		AML	21 13 33.3	
	comp=E,3330μm,0.4s							
KTHR	**Kythira**	**0.91**	**102**	P		**Pn**	**21 13 15.4**	**+0.5**
KTHR				S		**Sn**	**21 13 28.7**	**+1.1**
MNVA	**Monemvasia**	**0.94**	**75**	P		**Pn**	**21 13 16.8**	**+1.6**
DRO	**Drossia**	**1.50**	**354**	P		**Pg**	**21 13 25.4**	**-0.1**
LTHK	**Lithakia**	**1.52**	**326**	P		**Pb**	**21 13 24.4**	**0.0**
KLV	**Kalavryta, Ach**	**1.60**	**7**	P		**Pb**	**21 13 26.9**	**+1.0**
KLV				S		**Sn**	**21 13 46.6**	**+1.8**
KLV				AML		AML	21 14 01.1	
	comp=E,888μm,0.7s							
KLV				AML		AML	21 14 06.8	
	comp=N,728μm,0.9s							
RLS	**Riolos of Patr**	**1.64**	**348**	P		**Pg**	**21 13 27.7**	**-0.4**
RLS				S		**Sb**	**21 13 48.4**	**+1.4**
LOUT	**Loutraki**	**1.75**	**29**	P		**Pb**	**21 13 29.1**	**+0.7**
LAKA	**Lakka**	**1.78**	**2**	P		**Pb**	**21 13 30.0**	**+1.0**
PSDA	**Pessada-Kefalo**	**1.96**	**328**	P		**Pb**	**21 13 31.2**	**-0.8**
VIL2	**Platees**	**2.06**	**31**	P		**Pn**	**21 13 31.3**	**+0.6**
DION	**Dionisos Attik**	**2.29**	**44**	P		**Pn**	**21 13 35.1**	**+1.3**
EVR	**Evrytania**	**2.46**	**358**	P		**Pb**	**21 13 40.9**	**+0.3**
IDI	**Anoyia**	**2.69**	**115**	Pn		**Pn**	**21 13 40.8**	**+1.5**
	comp=N,1.6nm,0.3s,baz=308,slow=17,SNR=1.9							
IDI				Sn		**Sn**	**21 14 13.6**	**+2.0**
	comp=N,4.8nm,0.3s,baz=311,slow=18,SNR=2.2							
	comp=N,13nm,0.8s							
VAE	**Valguarnera**	**6.08**	**282**	Pn		**Pn**	**21 14 28.9**	**+2.9**
	comp=N,11nm,0.9s,baz=27,slow=9.0,SNR=1.9							
VAE				Sn		**Sn**	**21 15 37.8**	**+2.4**
	comp=N,1.0nm,0.3s,baz=247,slow=22,SNR=2.1							
MLR	**Muntele Rosu**	**9.53**	**17**	Pn		Pn	21 15 09.2	-4.1
	comp=N,0.2nm,0.3s,baz=180,slow=20,SNR=1.3							
	comp=N,2.0nm,0.6s							
MMAI	**Mount Meron Ar**	**11.62**	**103**	Pn		**Pn**	**21 15 41.4**	**-0.6**
	comp=N,0.2nm,0.3s,baz=278,slow=11,SNR=1.6							
	comp=N,2.9nm,0.9s							
GERES	**GERESS Array B**	**13.76**	**337**	Pn		**Pn**	**21 16 10.2**	**-0.9**
	comp=N,0.2nm,0.3s,baz=157,slow=14,SNR=3.9							
	comp=N,0.4nm,0.4s							
HFS	**Hagfors**	**24.28**	**350**	P		**P**	**21 18 11.3**	**-1.7**
	comp=N,2.2nm,0.8s,baz=159,slow=13,SNR=4.3							
	comp=N,2.2nm,0.8s							
FINES	**FINESS Array B**	**25.15**	**5**	P		**P**	**21 18 19.1**	**-1.7**
	comp=N,0.8nm,0.4s,baz=166,slow=12,SNR=8.6							
	comp=N,0.8nm,0.4s							
EKA	**Eskdalemuir Ar**	**25.47**	**326**	P		**P**	**21 18 23.6**	**-0.2**
	comp=N,0.8nm,0.6s,baz=124,slow=8.6,SNR=1.9							
	comp=N,0.8nm,0.6s							
NOA	**NORSAR Array B**	**25.53**	**348**	P		**P**	**21 18 22.9**	**-1.4**
	comp=N,0.6nm,0.7s,baz=160,slow=9.5,SNR=2.2							
	comp=N,0.6nm,0.7s							
ARCES	**ARCESS Array B**	**33.20**	**2**	P		**P**	**21 19 31.5**	**-0.8**
	comp=N,2.0nm,0.9s,baz=193,slow=8.7,SNR=5.7							
	comp=N,2.0nm,0.9s							
MKAR	**Makanchi Array**	**45.29**	**57**	P		**P**	**21 21 11.5**	**-2.1**
	comp=N,0.2nm,0.4s,baz=279,slow=6.1,SNR=5.8							
	comp=N,0.2nm,0.4s							

IDC 30 21:14:27.0±5.5, 3.41S×139.54E, h0km, mb3.3/2,
mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=214.9km s-min=33.3km az=87.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.20**	**197**	P		Pn	21 18 28.0	-0.9
	0.1nm,0.3s,baz=17,slow=12,SNR=12							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**20.86**	**195**	P		P	21 19 10.9	+0.1
	0.4nm,0.4s,baz=21,slow=10,SNR=12							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**70.84**	**322**	P		P	21 25 46.0	+0.2
	0.2nm,0.6s,baz=101,slow=7.5,SNR=2.7							
	0.2nm,0.6s							

*IDC **30** 21:16:20.6±2.3, 7.48S×129.22E, h144km±25km, mb3.1/2, mbtmp3.9/6, Error ellipse: s-maj=25.3km s-min=22.0km az=123.0*
*NEIC **30** 21:16:21.0±1.2, 7.26S±0.06×129.23E±0.09, h144km±12km, mb4.2/9, Error ellipse: s-maj=12.8km s-min=8.4km az=70.0*
ISC 30 21:16:19.4±0.6, 7.40S±0.05×129.21E±0.06, h131km, n27, σ2s69/32, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.15**	**106**			**Pn**	**21 16 58.2**	**+2.9**
SAUI				Sn		**Sn**	**21 17 27.0**	**+4.3**
FAKI	**Fak Fak**	**5.38**	**34**	Pn		**Pn**	**21 17 37.5**	**-0.2**
SOEI	**Soe**	**5.42**	**244**	Pn		**Pn**	**21 17 41.1**	**+2.7**
MTN	**Manton Dam**	**5.73**	**161**			**Pn**	**21 17 44.6**	**+2.2**
BATI	**Baumata**	**6.15**	**243**	P		**Pn**	**21 17 50.6**	**+2.5**
	37nm,0.4s,baz=32,slow=16,SNR=15							
BATI				S		**Sn**	**21 18 57.8**	**+0.5**
	69nm,0.4s,baz=72,slow=19,SNR=5.6							
SIJI	**Sorong**	**6.80**	**18**	P		**Pn**	**21 17 58.7**	**+1.8**
	3.7nm,0.5s,baz=163,slow=19,SNR=2.0							
SIJI				S		**Sn**	**21 19 09.6**	**-3.5**
	6.3nm,0.5s,baz=73,slow=19,SNR=3.0							
MMRI	**Maumere**	**7.02**	**259**	Pn		**Pn**	**21 18 01.2**	**+1.5**
KNRA	**Kununurra**	**8.24**	**183**			**Pn**	**21 18 16.8**	**+0.7**
LUWI	**Luwuk**	**9.01**	**314**			**Pn**	**21 18 26.6**	**0.0**
WB0	**Warramunga Arr**	**13.28**	**158**			**Pn**	**21 19 21.6**	**-1.4**
WRA	**Warramunga Arr**	**13.42**	**159**	P		**Pn**	**21 19 23.1**	**-1.7**
	3.0nm,0.8s,baz=330,slow=13,SNR=33							
WRA				S		**Sn**	**21 21 45.5**	**-7.5**
	14nm,0.6s,baz=333,slow=22,SNR=14							
WB2	**Warramunga Arr**	**13.43**	**159**			**Pn**	**21 19 23.3**	**-1.6**
COEN	**Coen**	**15.18**	**117**			**P**	**21 19 50.5**	**+1.4**
MBWA	**Marble Bar**	**16.46**	**213**	P		**P**	**21 20 06.0**	**+2.8**
MBWA				IAmb		IAmb	21 20 23.1	
	comp=E,19nm,1.2s							
PSA00	**Pilbara Seismi**	**16.74**	**212**	P		**Pn**	**21 20 07.4**	**+1.1**
PSA00				IAmb		IAmb	21 20 31.9	
	comp=E,23nm,1.2s							
AS31	**Alice Springs**	**16.79**	**165**	P		**Pn**	**21 20 08.4**	**+1.5**
AS31				IAmb		IAmb	21 20 10.4	
	comp=E,1.9nm,0.4s							
ASAR	**Alice Springs**	**16.79**	**165**	P		**P**	**21 20 06.8**	**-0.1**
	comp=E,2.1nm,0.4s,baz=338,slow=9.6,SNR=48							
ASAR				S		**Sn**	**21 23 06.2**	**-7.8**
	comp=E,2.0nm,0.7s,baz=353,slow=28,SNR=5.3							
ASAR	**Alice Springs**	**16.79**	**165**			**Pn**	**21 20 08.2**	**+1.4**
FORT	**Forrest**	**23.28**	**183**	P		**P**	**21 21 16.5**	**+1.0**
BBOO	**Buckleboo**	**26.07**	**167**	P		**P**	**21 21 41.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**39.40**	**311**	P		**P**	**21 23 36.4**	**-0.3**
	comp=E,0.3nm,0.6s,baz=148,slow=5.9,SNR=2.3							
	comp=E,0.3nm,0.6s							
MK31	**Makanchi Array**	**68.14**	**327**	P		**P**	**21 27 05.2**	**-0.2**
MK31				IAmb		IAmb	21 27 11.3	
	comp=E,3.6nm,1.4s							
MKAR	**Makanchi Array**	**68.14**	**327**	P		**P**	**21 27 05.9**	**+0.5**
	comp=E,2.0nm,0.5s,baz=123,slow=8.1,SNR=8.6							
	comp=E,2.0nm,0.5s							
MKAR	**Makanchi Array**	**68.14**	**327**	P		**P**	**21 27 05.4**	**0.0**
MAKZ	**Makanchi**	**68.31**	**327**	P		**P**	**21 27 05.1**	**-1.4**
MAKZ				IAmb		IAmb	21 27 33.1	
	comp=E,7.7nm,1.5s							
ABKAR	**Akbulak array**	**82.34**	**322**	P		**P**	**21 28 25.6**	**-1.0**
ABKAR	**Akbulak array**	**82.34**	**322**	P		**P**	**21 28 25.6**	**-1.0**
ABKAR				IAmb		IAmb	21 28 44.5	
	comp=E,2.6nm,0.7s							

*ISK **30** 21:23:29.4, 36.40N×30.17E, h73km±1km, ML3.7/28*
*HLW **30** 21:23:30.7, 36.32N×30.27E, h26km±24km, Md4.3*
*THE **30** 21:23:32.4, 36.56N×30.14E, h22km±15km, ML3.2/1, Error ellipse: s-maj=17.7km s-min=2.3km az=90.0*
*ATH **30** 21:23:32.1, 36.17N×30.15E, h64km±4km, ML3.5/5, Error ellipse: s-maj=8.9km s-min=1.0km az=16.0*
*GII **30** 21:23:34.3±0.0, 35.98N×30.31E, h25km±2km, Mm3.4/3*
*IDC **30** 21:23:35.5±5.5, 36.38N×30.88E, h90km±28km, mb3.2/2, mbtmp3.6/6, Error ellipse: s-maj=80.9km s-min=15.1km az=95.0*
ISC 30 21:23:30.0±0.9, 36.36N±0.04×30.22E±0.03, h68km±9km, n90, σ1s24/119, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.46**	**328**	PG		**Pn**	**21 23 41.9**	**-0.5**
ELL				SG		**Sn**	**21 23 51.5**	**0.0**
AKAS	**Kas**	**0.51**	**256**	PG		**Pn**	**21 23 42.6**	**-0.3**
AKAS				SG		**Sn**	**21 23 52.8**	**+0.5**
KSL	**Kastellorizon**	**0.55**	**248**	P		**Pn**	**21 23 44.1**	**+1.0**
KSL				S		**Sn**	**21 23 53.8**	**+1.0**
KSL	**Kastellorizon**	**0.55**	**248**	P		**Pn**	**21 23 44.0**	**+0.8**
KSL				S		**Sn**	**21 23 52.4**	**-0.4**
KSL				AML		AML	21 23 56.2	
	comp=E,8011μm,0.3s							
KSL				AML		AML	21 23 57.4	
	comp=N,3601μm,0.4s							
KORT	**Korkueli**	**0.65**	**9**	PG		**Pn**	**21 23 43.5**	**-0.9**
KORT				SG		**Sn**	**21 23 54.9**	**0.0**
CAME	**Cameli-Denizli**	**0.94**	**309**	PG		**Pn**	**21 23 47.7**	**-0.1**
CAME				SG		**Sn**	**21 24 00.6**	**-0.4**
FETY	**Fethiye**	**0.95**	**287**	PG		**Pn**	**21 23 47.1**	**-0.7**
BCK	**Bucak**	**1.14**	**15**	PN		**Pn**	**21 23 50.4**	**+0.1**
BCK				SN		**Sn**	**21 24 05.7**	**+0.3**
APMY	**Acipayam-Deniz**	**1.33**	**327**	PN		**Pn**	**21 23 52.3**	**-0.5**
APMY				SN		**Sn**	**21 24 09.2**	**-0.6**
DALY	**Dalyan (Mula)**	**1.34**	**290**	PN		**Pn**	**21 23 53.2**	**+0.5**
DALY				SN		**Sn**	**21 24 09.8**	**0.0**
ISP	**Isparta**	**1.48**	**9**	PN		**Pn**	**21 23 54.7**	**-0.1**
BASM	**Basmaki-Afyon**	**1.56**	**355**	PN		**Pn**	**21 23 55.6**	**-0.2**
TURN	**Turunc**	**1.64**	**285**	PN		**Pn**	**21 23 56.9**	**+0.2**
SEYD	**Seydisehir-KON**	**1.67**	**51**	PN		**Pn**	**21 23 57.9**	**+0.7**
ARG	**Arkhangelos**	**1.69**	**266**	PN		**Pn**	**21 23 57.7**	**+0.2**
ARG	**Arkhangelos**	**1.69**	**266**	P		**Pn**	**21 23 58.2**	**+0.8**
ARG				S		**Sn**	**21 24 18.8**	**+0.5**
	comp=N,632nm,0.3s							
ARG	**Arkhangelos**	**1.69**	**266**	P		**Pn**	**21 23 58.3**	**+0.8**
ARG				S		**Sn**	**21 24 18.1**	**-0.2**
ARG				AML		AML	21 24 20.3	
	comp=N,894μm,0.3s							
ARG				AML		AML	21 24 21.9	
	comp=E,1622μm,0.3s							
GAZI	**Gazipasa**	**1.70**	**94**	PN		**Pn**	**21 23 58.7**	**+1.1**
YER	**Yerkesik**	**1.74**	**297**	PN		**Pn**	**21 23 57.9**	**-0.2**
YER	**Yerkesik**	**1.74**	**297**	P		**Pn**	**21 23 58.6**	**+0.5**
HDMB	**Hadim**	**1.92**	**71**	PN		**Pn**	**21 24 01.4**	**+0.7**
DAT	**Datca**	**2.16**	**281**	PN		**Pn**	**21 24 03.9**	**+0.1**
DAT	**Datca**	**2.16**	**281**	P		**Pn**	**21 24 04.3**	**+0.5**
DAT				S		**Sn**	**21 24 29.7**	**+0.1**
MLSB	**Milas**	**2.17**	**296**	PN		**Pn**	**21 24 03.9**	**0.0**
AKMS	**Akamas**	**2.18**	**127**	P		**Pn**	**21 24 05.5**	**+1.4**
AKMS				S		**Sn**	**21 24 30.0**	**-0.1**
AKMS				AML		AML	21 24 34.9	
	comp=E,1264μm,0.2s							
AKMS				AML		AML	21 24 35.4	
	comp=N,1218μm,0.5s							
SHUT	**Suhut-Afyon**	**2.21**	**7**	PN		**Pn**	**21 24 04.9**	**+0.4**
TEKE	**Tekeli-Mersin**	**2.35**	**94**	PN		**Pn**	**21 24 07.9**	**+1.6**
BERE	**Bereket-Mersin**	**2.43**	**89**	PN		**Pn**	**21 24 09.2**	**+1.7**
BODT	**Bodrum**	**2.44**	**288**	P		**Pn**	**21 24 07.1**	**-0.4**
BODT				S		**Sn**	**21 24 34.8**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**2.44**	**311**	PN		**Pn**	**21 24 07.6**	**-0.1**
AKDN	**Akdeniz- Kıbrı**	**2.47**	**115**	PN		**Pn**	**21 24 09.8**	**+1.8**
NATA	**Nata**	**2.48**	**129**	P		**Pn**	**21 24 10.0**	**+1.9**
NATA				S		**Sn**	**21 24 35.8**	**-1.6**
KULA	**Kula-Manisa**	**2.48**	**331**	PN		**Pn**	**21 24 08.4**	**+0.2**
KULA	**Kula-Manisa**	**2.48**	**331**	P		**Pn**	**21 24 07.3**	**-0.9**
LEF	**Lefka**	**2.50**	**119**	PN		**Pn**	**21 24 09.5**	**+1.1**
LADK	**Ladik-KONYA**	**2.51**	**42**	PN		**Pn**	**21 24 09.2**	**+0.6**
KRMN	**Karaman**	**2.58**	**71**	PN		**Pn**	**21 24 11.1**	**+1.6**
TEVE	**Tevekalti-Mers**	**2.60**	**87**	PN		**Pn**	**21 24 11.1**	**+1.3**
KARP	**Karpathos**	**2.61**	**253**	PN		**Pn**	**21 24 11.1**	**+1.2**
KARP	**Karpathos**	**2.61**	**253**	P		**Pn**	**21 24 11.3**	**+1.4**
KARP				S		**Sn**	**21 24 39.2**	**-1.3**
KARP				AML		AML	21 24 43.2	
	comp=E,1258μm,0.3s							
KARP				AML		AML	21 24 44.3	
	comp=N,1707μm,2.4s							
KOSK	**Kos Island**	**2.64**	**280**	PN		**Pn**	**21 24 10.6**	**+0.4**
AKKU	**Akkuyu-Mersin**	**2.70**	**93**	PN		**Pn**	**21 24 13.0**	**+1.9**
GCAM	**G?zelcaml?**	**2.74**	**300**	PN		**Pn**	**21 24 11.6**	**0.0**
YESI	**Yesilovacik-Me**	**2.77**	**92**	PN		**Pn**	**21 24 14.1**	**+2.1**
IKL	**Isikli**	**2.81**	**91**	PN		**Pn**	**21 24 14.1**	**+1.6**
TISA	**Tisan-Mersin**	**2.81**	**93**	PN		**Pn**	**21 24 14.1**	**+1.6**
KEBE	**Keben-Mersin**	**2.82**	**87**	PN		**Pn**	**21 24 14.6**	**+1.8**
KARG	**Kargicak-Mersi**	**2.83**	**92**	PN		**Pn**	**21 24 14.1**	**+1.3**
KIZT	**Kizilcal**	**2.84**	**27**	PN		**Pn**	**21 24 13.3**	**+0.2**
SIMA	**Simav-Kutahya**	**2.89**	**341**	PN		**Pn**	**21 24 14.4**	**+0.6**
ASGA	**Asgata**	**2.93**	**122**	P		**Pn**	**21 24 15.8**	**+1.6**
ASGA				S		**Sn**	**21 24 48.6**	**+0.4**
CIFT	**Cifteler, Eski**	**3.07**	**12**	PN		**Pn**	**21 24 16.6**	**+0.4**
CHBY	**Cihanbeyli**	**3.08**	**43**	PN		**Pn**	**21 24 16.6**	**+0.3**
MVOU	**Mavrovouni**	**3.09**	**115**	P		**Pn**	**21 24 16.1**	**-0.2**
TVSB	**Tavsanli**	**3.14**	**349**	PN		**Pn**	**21 24 17.9**	**+0.7**
BLCB	**Balcova**	**3.24**	**310**	PN		**Pn**	**21 24 17.7**	**-0.7**
BLCB	**Balcova**	**3.24**	**310**	P		**Pn**	**21 24 17.7**	**-0.7**
SVRH	**Sivrihisar-ESK**	**3.25**	**18**	PN		**Pn**	**21 24 19.7**	**+1.0**
BRTR	**Keskin Array B**	**4.31**	**38**	P		**Pn**	**21 24 33.9**	**+0.6**
	comp=N,15nm,0.5s,baz=205,slow=14,SNR=77							
BRTR				S		**Sn**	**21 25 20.8**	**-1.5**
	comp=N,56nm,0.8s,baz=206,slow=24,SNR=40							
HNTI	**Hanita**	**5.23**	**127**	Pn		**Pn**	**21 24 47.3**	**+1.7**
HNTI				Sn		**Sn**	**21 25 43.6**	**-1.0**
MMA0B	**Mount Meron ar**	**5.42**	**126**	Pn		**Pn**	**21 24 49.6**	**+1.3**
MMA0B				Sn		**Sn**	**21 25 48.6**	**-0.8**
MMAI	**Mount Meron Ar**	**5.42**	**126**	P		**Pn**	**21 24 48.5**	**+0.2**
	comp=N,3.6nm,0.3s,baz=307,slow=12,SNR=84							
OFRI	**`Ofer**	**5.42**	**132**	Pn		**Pn**	**21 24 48.7**	**+0.4**
OFRI				Sn		**Sn**	**21 25 49.1**	**-0.3**
MATC	**Matruh**	**5.58**	**207**	P		**Pn**	**21 24 52.8**	**+2.4**
	baz=208							
SLTI	**Sal'it**	**5.73**	**134**	Pn		**Pn**	**21 24 53.5**	**+1.1**
SLTI				Sn		**Sn**	**21 25 54.8**	**-2.0**
MMLI	**Mount Malkishu**	**5.81**	**131**	Pn		**Pn**	**21 24 54.9**	**+1.2**
MMLI				Sn		**Sn**	**21 25 58.1**	**-0.9**
SLUM	**Salum**	**6.39**	**222**	P		**Pn**	**21 25 02.7**	**+1.2**
	baz=223							
YTIR	**Yattir**	**6.43**	**139**	Pn		**Pn**	**21 25 03.3**	**+1.1**
YTIR				Sn		**Sn**	**21 26 12.6**	**-1.7**
KZIT	**Kziot**	**6.46**	**146**	Pn		**Pn**	**21 25 03.3**	**+0.9**
KZIT				Sn		**Sn**	**21 26 12.9**	**-1.8**
KOT	**Kottamia**	**6.55**	**168**	P		**Pn**	**21 25 05.5**	**+1.7**
	baz=167							
KOT				S		**Sn**	**21 26 13.1**	**-4.0**
	baz=167							
HMYD	**Mayadein**	**6.56**	**176**	P		**Pn**	**21 25 05.9**	**+2.0**
	baz=175							
HNAT	**Natroun**	**6.71**	**177**	P		**Pn**	**21 25 07.3**	**+1.4**
	baz=177							
HSAF	**As Saff**	**6.81**	**170**	P		**Pn**	**21 25 08.8**	**+1.4**
	baz=170							
SUZ	**Suez**	**6.86**	**161**	P		**Pn**	**21 25 09.1**	**+1.2**
	baz=160							
GLL	**Jalalah**	**6.88**	**169**	P		**Pn**	**21 25 09.1**	**+0.9**
	baz=169							
ASF	**Jabal al Asfar**	**6.93**	**125**	P		**Pn**	**21 25 10.7**	**+1.7**
	comp=N,1.0nm,0.3s,baz=322,slow=5.0,SNR=1.5							
PRNI	**Paran**	**7.20**	**145**	Pn		**Pn**	**21 25 13.4**	**+0.7**
RYAN	**Fayoum**	**7.25**	**180**	P		**Pn**	**21 25 14.8**	**+1.4**
	baz=179							
**K

PB01	**IPOC Station P**	**1.97**	**348**			**Pn**	**21 31 35.9**	**+1.2**
PB01	**IPOC Station P**	**1.97**	**348**	⇑	*iP*	**Pn**	**21 31 36.0**	**+1.2**
PB01					*eS*	**Sn**	**21 32 00.7**	**+1.4**
PB01					IAML		21 32 02.8	
	comp=E,2µm,0.2s							
PB14	**IPOC Station P**	**2.04**	**217**			**Pn**	**21 31 36.7**	**+0.8**
PB14	**IPOC Station P**	**2.04**	**217**		*eP*	**Pn**	**21 31 36.9**	**+1.0**
GO02	**Mina Guanaco**	**2.22**	**192**			**Pn**	**21 31 39.4**	**+1.2**
GO02	**Mina Guanaco**	**2.22**	**192**	⇑	*iP*	**Pn**	**21 31 39.5**	**+1.3**
GO02					*eS*	**Sn**	**21 32 06.7**	**+1.2**
GO02					IAML		21 32 08.5	
	comp=N,846nm,0.3s							
PATCX	**Punta Patache**	**2.38**	**335**			**Pn**	**21 31 40.3**	**+0.3**
PATCX	**Punta Patache**	**2.38**	**335**	⇑	*iP*	**Pn**	**21 31 40.4**	**+0.3**
PATCX					IAML		21 32 18.2	
	comp=E,488nm,0.3s							
TA01	**Diego Aracena**	**2.62**	**337**	Pn		**Pn**	**21 31 43.2**	**0.0**
TA01	**Diego Aracena**	**2.62**	**337**		*eP*	**Pn**	**21 31 42.5**	**-0.6**
PB08	**IPOC Station P**	**2.83**	**358**			**Pn**	**21 31 47.3**	**+0.9**
PB08	**IPOC Station P**	**2.83**	**358**		*eP*	**Pn**	**21 31 47.5**	**+1.1**
PB08					*eS*	**Sn**	**21 32 13.6**	**-6.3**
TA02	**Huaiquique**	**2.88**	**340**			**Pn**	**21 31 46.5**	**-0.1**
PB11	**IPOC Station P**	**3.25**	**350**	Pn		**Pn**	**21 31 51.7**	**-0.1**
PB11	**IPOC Station P**	**3.25**	**350**		*eP*	**Pn**	**21 31 51.8**	**0.0**
GO01	**Chusmiza**	**3.30**	**358**			**Pn**	**21 31 53.3**	**+0.6**
GO01	**Chusmiza**	**3.30**	**358**		*eP*	**Pn**	**21 31 53.3**	**+0.6**
GO01					IAML		21 33 03.1	
	comp=E,390nm,0.6s							
AC01	**Pan de Azucar**	**3.45**	**204**			**Pn**	**21 31 53.7**	**-0.5**
AC01	**Pan de Azucar**	**3.45**	**204**		*eP*	**Pn**	**21 31 53.5**	**-0.8**
AC01					IAML		21 32 48.3	
	comp=E,214nm,0.3s							
PSGC	**Pisagua**	**3.51**	**344**		*eP*	**Pn**	**21 31 53.9**	**-1.3**
PSGCX	**Pisagua**	**3.51**	**344**			**Pn**	**21 31 54.2**	**-1.0**
AC02	**Maricunga**	**3.84**	**181**	Pn		**Pn**	**21 32 00.8**	**+0.9**
AC02	**Maricunga**	**3.84**	**181**		*eP*	**Pn**	**21 32 01.5**	**+1.5**
MNMC	**Minye Minye**	**3.86**	**353**			**Pn**	**21 31 59.7**	**-0.4**
MNMC	**Minye Minye**	**3.86**	**353**		*eP*	**Pn**	**21 31 60.0**	**-0.1**
PB12	**IPOC Station P**	**4.50**	**345**	Pn		**Pn**	**21 32 07.4**	**-1.2**
PB12	**IPOC Station P**	**4.50**	**345**		*eP*	**Pn**	**21 32 07.0**	**-1.6**
AC06	**Mina Casimiro**	**4.51**	**195**			**Pn**	**21 32 07.4**	**-1.2**
AC06	**Mina Casimiro**	**4.51**	**195**		*eP*	**Pn**	**21 32 07.2**	**-1.3**
PB16	**IPOC Station P**	**4.64**	**355**			**Pn**	**21 32 11.5**	**+0.5**
PB16	**IPOC Station P**	**4.64**	**355**		*eP*	**Pn**	**21 32 11.7**	**+0.7**
GO03	**Copiap**	**4.71**	**193**	Pn		**Pn**	**21 32 10.0**	**-1.3**
GO03	**Copiap**	**4.71**	**193**		*eP*	**Pn**	**21 32 10.1**	**-1.3**
PB18	**Visviri**	**5.38**	**356**	Pn		**Pn**	**21 32 20.2**	**-0.7**
AC05	**El Transito**	**5.93**	**190**	Pn		**Pn**	**21 32 26.7**	**-1.3**
LCO	**Las Campanas**	**6.18**	**193**			**Pn**	**21 32 29.0**	**-2.4**
LPAZ	**La Paz**	**6.72**	**8**	P		**Pn**	**21 32 41.0**	**+1.8**
	comp=E,3.9nm,0.3s,baz=125,slow=3.8,SNR=28							
LPAZ	**La Paz**	**6.72**	**8**	Pn		**Pn**	**21 32 40.8**	**+1.7**
LPAZ	**La Paz**	**6.72**	**8**		*eP*	**Pn**	**21 32 38.5**	**-0.6**
CO01	**Juntas del Tor**	**7.03**	**187**			**Pn**	**21 32 41.8**	**-1.1**
GO04	**Tololo Observa**	**7.33**	**192**			**Pn**	**21 32 44.5**	**-2.6**
CO03	**El Pedregal**	**7.96**	**190**			**Pn**	**21 32 52.3**	**-3.2**
CO02	**Combarbal**	**8.37**	**191**	Pn		**Pn**	**21 32 57.9**	**-3.2**
CFA	**Coronel Fontan**	**8.62**	**175**	P		**Pn**	**21 33 03.3**	**-1.2**
	comp=E,4.1nm,0.3s,baz=2.9,slow=14,SNR=9.6							
CFA					S	**Sn**	**21 34 33.5**	**-6.4**
	comp=E,2.2nm,0.3s,baz=212,slow=6.2,SNR=1.2							
CFA					LR	LR	21 37 23.5	
	comp=E,62nm,18.5s,baz=116,slow=44							
SIV	**San Ignacio**	**10.25**	**49**	P		**Pn**	**21 33 24.4**	**-2.4**
	comp=E,6.1nm,0.4s,baz=234,slow=10,SNR=20							
SIV					S	**Sn**	**21 35 13.6**	**-6.3**
	comp=E,0.6nm,0.4s,baz=234,slow=18,SNR=1.2							
BO02	**Sierra Bellavi**	**11.86**	**187**	Pn		**Pn**	**21 33 46.0**	**-2.4**
PTLB	**Pontes e Lacer**	**12.00**	**53**	Pn		**Pn**	**21 33 48.7**	**-1.6**
PTLB	**Pontes e Lacer**	**12.00**	**53**		*eP*	**Pn**	**21 33 50.1**	**-0.2**
ETMB	**Extrema**	**13.37**	**12**	Pn		**Pn**	**21 34 05.1**	**-3.3**
RODS	**Rosario do Sul**	**14.40**	**124**		*eP*	**P**	**21 34 27.9**	**+2.3**
SALV	**Santo Antonio**	**14.44**	**63**		*eP*	**Pn**	**21 34 23.5**	**+1.2**
TRQA	**Tornquist**	**16.21**	**160**	P		**P**	**21 34 46.1**	**+0.4**
CLDB	**Colider**	**17.48**	**49**		*eP*	**Pn**	**21 35 00.8**	**+0.6**
CLDB					*ep*P	**pP**	**21 35 18.0**	**-1.3**
ARAG	**Araguaiana, MT**	**17.81**	**69**		*eP*	**Pn**	**21 35 04.3**	**+0.2**
LL04	**Puerto Octay**	**18.09**	**188**	P		**P**	**21 35 06.6**	**+0.2**
IPMB	**Ipameri, GO**	**20.15**	**80**		*eP*	**P**	**21 35 29.9**	**+0.8**
SNDB	**Serra Nova Dou**	**20.16**	**60**		*eP*	**P**	**21 35 27.9**	**-1.2**
NPGB	**Novo Progresso**	**20.62**	**42**		*eP*	**P**	**21 35 33.5**	**-0.6**
BDFB	**Brasilia**	**21.15**	**74**	P		**P**	**21 35 39.5**	**-0.4**
	comp=E,3.9nm,0.3s,baz=245,slow=10,SNR=6.3							
	comp=E,3.9nm,0.5s							
BDFB	**Brasilia**	**21.15**	**74**	P		**P**	**21 35 39.7**	**-0.2**
BDFB					IAmb	IAmb	21 35 43.9	
	comp=Z,17nm,1.5s							
MACA	**Manacapuru-AM**	**21.31**	**24**	P		**P**	**21 35 41.0**	**-0.4**
MACA					IAmb	IAmb	21 35 46.0	
	comp=Z,20nm,0.6s							
MACA	**Manacapuru-AM**	**21.31**	**24**		*eP*	**P**	**21 35 41.3**	**-0.2**
ITTB	**Itaituba**	**22.55**	**37**		*eP*	**P**	**21 35 53.6**	**-1.0**
SGCB	**SCo Gabriel d**	**22.81**	**5**		*eP*	**P**	**21 35 58.9**	**+1.8**
PTGA	**Pitinga**	**23.82**	**23**	P		**P**	**21 36 07.0**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=209,slow=12,SNR=10							
	comp=Z,2.2nm,0.3s							
JANB	**Januaria**	**24.67**	**76**		*eP*	**P**	**21 36 15.5**	**+1.2**
SDBA	**SAO DESIDERIO**	**25.27**	**70**		*eP*	**P**	**21 36 21.1**	**+1.3**
MALB	**Monte Alegre**	**25.45**	**36**		*eP*	**P**	**21 36 21.3**	**0.0**
BOAV	**Boa Vista**	**26.57**	**19**	P		**P**	**21 36 31.6**	**+0.2**
BOAV					IAmb	IAmb	21 36 57.6	
	comp=Z,12nm,1.5s							
VNA3	**Neumayer Olymp**	**58.73**	**161**	P		**P**	**21 40 51.2**	**+1.6**
VNA3	**Neumayer Olymp**	**58.73**	**161**	sP		sP	21 41 26.3	+0.3
VNA2	**Neumayer--Watz**	**59.31**	**160**	P		**P**	**21 40 54.6**	**+1.1**
	baz=283,slow=10.0							
VNA2	**Neumayer--Watz**	**59.31**	**160**	sP		sP	21 41 30.6	+0.6
	baz=289,slow=7.0							
SNAA	**Sanae**	**60.93**	**161**	P		**P**	**21 41 06.1**	**+1.4**
SNAA	**Sanae**	**60.93**	**161**	sP		sP	21 41 41.8	+0.6
SNAA	**Sanae**	**60.93**	**161**	P		**P**	**21 41 06.1**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=293,slow=11,SNR=11							
	comp=Z,1.0nm,0.7s							
SNAA	**Sanae**	**60.93**	**161**	P		**P**	**21 41 06.1**	**+1.4**
SNAA					IAmb	IAmb	21 41 24.6	
	comp=Z,5.1nm,1.5s							
QSPA	**South Pole Qui**	**67.22**	**180**	P		**P**	**21 41 47.9**	**+1.9**
BOSA	**Boshof**	**82.88**	**118**	P		**P**	**21 43 17.1**	**+0.4**
BOSA					IAmb	IAmb	21 43 18.8	
	comp=Z,5.8nm,1.2s							
RPZ	**Rata Peaks**	**93.76**	**219**	LR		LR	22 19 34.0	
	comp=Z,116nm,18.1s,baz=190,slow=31							
ASAR	**Alice Springs**	**128.53**	**207**	PKP		**PKiKP**	**21 49 59.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=114,slow=2.0,SNR=4.7							
WRA	**Warramunga Arr**	**131.60**	**210**	PKP		**PKiKP**	**21 50 06.1**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=159,slow=1.6,SNR=11							
ZALV	**Zalesovo Beam**	**143.35**	**26**	PKP		**PKiKP**	**21 50 27.2**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=336,slow=3.2,SNR=2.2							
MKAR	**Makanchi Array**	**146.91**	**37**	PKPbc		**PKPbc**	**21 50 33.9**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=295,slow=3.6,SNR=7.9							

BJI ***30*** *21:44:02.3±0.0, 52.°05N×178.°44E, h101km, mb5.4/74, mB5.3/41*

MOS ***30*** *21:44:04.1±1.0, 51.°95N×178.°44E, h107km, mb5.2/80, Error ellipse: s-maj=6.4km s-min=4.3km az=106.0*

IDC ***30*** *21:44:04.9±1.0, 51.°97N×178.°45E, h102km±7km, mb4.6/31, mbtmp5.0/35, MS3.7/62, Error ellipse: s-maj=12.1km s-min=7.1km az=173.0*

NEIC ***30*** *21:44:05.1±1.6, 51.°94N±0.°07×178.°45E±0.°09, h100km±4km, mb5.3/250, ML5.1(AEIC), Error ellipse: s-maj=9.8km s-min=7.8km az=191.0*

AEIC ***30*** *21:44:06.4±1.9, 51.°83N±0.°06×178.°41E±0.°07, h99km±3km, Error ellipse: s-maj=9.2km s-min=6.1km az=163.0*

GCMT ***30*** *21:44:07.1±0.2, 51.°92N±0.°01×178.°52E±0.°02, h97km±1km, MW5.2/133, Moment Tensor Solution. s95,c128; s133,c213; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-4.03±.13; Mθθ-2.35±.16; Mφφ6.38±.14; Mrθ2.40±.10; Mθφ0.89±.14; Mφr-2.94±.10; Best double couple: M=6.78300×10^16 NP1:φs337.00000°, δ66.00000°, λ-125.00000°. NP2:φs217.00000°, δ41.00000°, λ-38.00000°. Principal axes: T 7.1600, Plg14.0000°, Azm92.0000°; N -0.7540, Plg31.0000°, Azm353.0000°; P -6.4060, Plg55.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC **30** **21:44:05.3±0.3, 51.°91N±0.°04×178.°39E±0.°03, h106km±2km, h106km:pP-P, n1238, σ1§03/1307, mb5.2/290, 48C-60D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
						Op	ISC	h	m	s	ISC
AMKA	**Amchitka**	**0.78**	**133**				**Pn**	**21 44 23.1**			**-0.8**
AMKA						Sn	**Sn**	**21 44 35.9**			**-2.0**
SHEM	**Shemya Is, Ala**	**2.76**	**289**	P			**Pn**	**21 44 47.3**			**-0.5**
	2µm,0.8s,baz=7.4,slow=4.1,SNR=73										
SHEM						S	**Sn**	**21 45 20.5**			**-0.2**
	1µm,0.4s,baz=267,slow=21,SNR=14										
SHEM						LR	LR	21 45 50.5			
	comp=Z,3µm,19.2s,baz=22,slow=38										
SMY	**Shemya**	**2.76**	**289**	Pn			**Pn**	**21 44 47.1**			**-0.8**
SMY	**Shemya**	**2.76**	**289**	P			**Pn**	**21 44 47.1**			**-0.8**
KIWB	**Kanaga Island**	**2.76**	**89**				**Pn**	**21 44 47.3**			**-0.6**
ADK	**Adak**	**3.05**	**89**	Pn			**Pn**	**21 44 50.9**			**-0.9**
ADK	**Adak**	**3.05**	**89**	P			**Pn**	**21 44 51.5**			**-0.2**
ADK	**Adak**	**3.05**	**89**	P			**Pn**	**21 44 50.9**			**-0.9**
CLES	**Cleveland East**	**7.23**	**78**	Pn			**Pn**	**21 45 47.0**			**-1.2**
NIKH	**Nikolski High**	**7.87**	**77**	Pn			**Pn**	**21 45 57.3**			**+0.5**
NIKH	**Nikolski High**	**7.87**	**77**	P			**Pn**	**21 45 58.3**			**+1.5**
	baz=267,SNR=20										
NIKH	**Nikolski High**	**7.87**	**77**	P			**Pn**	**21 45 58.9**			**+2.1**
SPIA	**Saint Paul Isl**	**8.45**	**47**				**Pn**	**21 46 06.5**			**+1.9**
SPIA	**Saint Paul Isl**	**8.45**	**47**	P			**Pn**	**21 46 07.5**			**+2.9**
	baz=236,SNR=14										
SPIA	**Saint Paul Isl**	**8.45**	**47**	P			**Pn**	**21 46 07.2**			**+2.6**
UNV	**Unalaska Valle**	**9.34**	**72**	Pn			**Pn**	**21 46 16.9**			**+0.1**
UNV	**Unalaska Valle**	**9.34**	**72**	P			**Pn**	**21 46 17.8**			**+1.1**
	baz=264,SNR=17										
PET	**Petropavlovsk**	**12.09**	**283**				**Pn**	**21 46 51.9**			**-1.8**
PET	**Petropavlovsk**	**12.09**	**283**	P			**Pn**	**21 46 54.9**			**+1.2**
PET	**Petropavlovsk**	**12.09**	**283**	*eP*			**Pn**	**21 46 51.9**			**-1.8**
PET					*eS*		**Sn**	**21 49 02.6**			**-3.9**
PET					pmax		pmax				
	comp=Z,100nm,0.8s										
S12K	**Black Hills**	**12.15**	**64**	P			**Pn**	**21 46 56.3**			**+1.7**
	baz=259,SNR=8.9										
PEA0B	**Petropavlovsk-**	**12.66**	**284**	Pn			**Pn**	**21 47 01.7**			**+0.4**
PEA0B	**Petropavlovsk-**	**12.66**	**284**	*ce*P			**Pn**	**21 47 02.2**			**+0.9**
PETK	**Petropavlovsk-**	**12.66**	**284**	P			**Pn**	**21 47 01.3**			**0.0**
	comp=Z,60nm,0.9s,baz=79,slow=21,SNR=54										
PETK						S	**Sn**	**21 49 16.6**			**-3.8**
	comp=Z,6.6nm,0.4s,baz=145,slow=24,SNR=4.8										
PETK						PcP	**PcP**	**21 52 30.4**			**+0.9**
	comp=Z,7.8nm,0.6s,baz=101,slow=3.2,SNR=4.9										
SDPT	**Sand Point**	**12.99**	**66**	Pn			**Pn**	**21 47 03.6**			**-2.0**
SDPT	**Sand Point**	**12.99**	**66**	P			**Pn**	**21 47 04.3**			**-1.3**
	baz=263,SNR=12										
CHNA	**Chernabura Isl**	**13.46**	**69**	P			**Pn**	**21 47 09.1**			**-2.6**
	baz=266,SNR=6.4										
CNBA	**Chernabura Isl**	**13.46**	**69**	Pn			**Pn**	**21 47 08.8**			**-2.8**
SKR	**Severo-Kuril's**	**13.98**	**274**	*eP*			**P**	**21 47 21.6**			**-1.4**
SKR					*eS*		**Sn**	**21 49 47.7**			**-4.7**
SKR					pmax		pmax				
	comp=Z,117nm,0.7s										
SKR					pmax		pmax				
	comp=Z,200nm,4.9s										
SKR					MLR		MLR				
	comp=Z,300nm,14.0s										
CHGN	**Chignik**	**14.27**	**63**				**Pn**	**21 47 20.6**			**-1.5**
P16K	**Nushagak River**	**15.11**	**53**	P			**P**	**21 47 34.1**			**-1.4**
	baz=252,SNR=16										
ANM	**Nome**	**15.23**	**27**	Pn			**Pn**	**21 47 34.1**			**-0.1**
ANM	**Nome**	**15.23**	**27**	P			**Pn**	**21 47 34.1**			**-0.1**
O16K	**Kokwok River B**	**15.24**	**51**	P			**P**	**21 47 37.2**			**+0.2**
	baz=250										
N16K	**Nishlik Lake**	**15.26**	**47**	P			**P**	**21 47 36.2**			**-1.0**
	baz=246										
TNA	**Tin City**	**15.36**	**22**	Pn			**Pn**	**21 47 36.0**			**+0.1**
R17K	**Ugashik Creek**	**15.59**	**59**	P			**Pn**	**21 47 39.3**			**+0.5**
	baz=259										
Q16K	**King Salmon**	**15.68**	**55**	P			**P**	**21 47 42.2**			**+0.4**
	baz=255,SNR=16										
CHIR	**Chirikof Islan**	**15.78**	**65**	Pn			**Pn**	**21 47 38.2**			**-3.0**
O17K	**Koliganek Bris**	**15.78**	**51**	P			**P**	**21 47 43.2**			**+0.3**
	baz=251,SNR=19										
P17K	**Kvichak River**	**15.93**	**53**	P			**P**	**21 47 45.5**			**+1.0**
	baz=253,SNR=35										
Q17K	**Contact Creek**	**15.97**	**56**	P			**P**	**21 47 45.5**			**+0.3**
	baz=257,SNR=23										
Q18K	**Katmai Hardscr**	**16.51**	**55**	P			**P**	**21 47 52.0**			**+0.9**
	baz=257,SNR=32										
P18K	**Big Mountain,**	**16.58**	**53**	P			**P**	**21 47 52.1**			**+0.3**
P18K	**Big Mountain,**	**16.58**	**53**	P			**P**	**21 47 52.5**			**+0.8**
	baz=254,SNR=8.7										
SII	**Sitkinak Islan**	**16.63**	**63**	Pn			**Pn**	**21 47 49.7**			**-2.1**
SII	**Sitkinak Islan**	**16.63**	**63**	P			**Pn**	**21 47 50.7**			**-1.0**
	baz=265										
SII	**Sitkinak Islan**	**16.63**	**63**	P			**Pn**	**21 47 50.3**			**-1.5**
O18K	**Koktuh Hills**	**16.71**	**51**				**P**	**21 47 54.0**			**+0.8**
O18K	**Koktuh Hills**	**16.71**	**51**	P			**P**	**21 47 54.4**			**+1.2**
	baz=253,SNR=32										
SVW2	**Sparrevohn**	**16.95**	**47**	P			**P**	**21 47 56.8**			**+1.0**
OHAK	**Old Harbor**	**17.19**	**61**	Pn			**Pn**	**21 47 56.0**			**-2.5**
OHAK	**Old Harbor**	**17.19**	**61**	P			**Pn**	**21 47 56.2**			**-2.2**
	baz=264,SNR=8.7										
BILL	**Bilibino**	**17.22**	**345**	P			**P**	**21 47 59.2**			**+0.5**
BILL	**Bilibino**	**17.22**	**345**	*d*	*iP*		**P**	**21 48 00.6**			**+1.9**
BILL					pmax		pmax				
	comp=Z,77nm,1.0s										
MA2	**Magadan**	**17.24**	**307**	P			**P**	**21 47 58.8**			**-0.2**
	comp=Z,3.8nm,0.3s,baz=20,slow=22,SNR=1.4										
O19K	**Port Alsworth**	**17.24**	**51**	P			**P**	**21 48 00.7**			**+1.7**
	baz=253,SNR=44										
Q19K	**Cape Douglas,**	**17.26**	**55**	P			**P**	**21 47 59.1**			**-0.2**
Q19K	**Cape Douglas,**	**17.26**	**55**	P			**P**	**21 48 00.9**			**+1.6**
	baz=258,SNR=5.3										
N19K	**Bonanza Creek**	**17.35**	**49**				**Pn**	**21 48 02.1**			**+1.5**
N19K	**Bonanza Creek**	**17.35**	**49**	P			**Pn**	**21 48 02.7**			**+2.1**
	baz=251,SNR=77										
TTA	**Tatalina**	**17.51**	**41**	P			**Pn**	**21 48 03.1**			**+0.6**
TTA	**Tatalina**	**17.51**	**41**	P			**Pn**	**21 48 03.8**			**+1.3**
	baz=242,SNR=42										
TTA	**Tatalina**	**17.51**	**41**	P			**Pn**	**21 48 03.1**			**+0.6**
P19K	**Oil Pt**	**17.63**	**53**	P			**Pn**	**21 48 04.1**			**+0.3**
P19K	**Oil Pt**	**17.63**	**53**	P			**Pn**	**21 48 04.9**			**+1.1**
	baz=256										
L19K	**White Mountain**	**17.68**	**44**	P			**Pn**	**21 48 04.5**			**+0.1**
L19K	**White Mountain**	**17.68**	**44**	P			**Pn**	**21 48 05.8**			**+1.4**
	baz=246										
SEY	**Seymchan**	**17.68**	**319**	P			**Pn**	**21 48 04.8**			**+0.4**
	comp=Z,8.6nm,0.9s,baz=123,slow=8.6,SNR=12										
SEY					PcP		**PcP**	**21 52 36.3**			**-0.1**
	comp=Z,2.9nm,0.8s,baz=157,slow=5.3,SNR=5.6										
SEY	**Seymchan**	**17.68**	**319**	*eP*			**Pn**	**21 48 05.2**			**+0.8**
SEY					pmax		pmax				
	comp=Z,13nm,1.0s										
ILSW	**Iliamna Southw**	**17.75**	**52**	P			**Pn**	**21 48 05.8**			**+0.3**
M19K	**Big River Lodg**	**17.77**	**45**	P			**Pn**	**21 48 06.0**			**+0.4**
M19K	**Big River Lodg**	**17.77**	**45**	P			**Pn**	**21 48 07.7**			**+2.1**
	baz=248,SNR=33										
Q20K	**Shuyak Island**	**17.84**	**56**	P			**Pn**	**21 48 07.2**			**+0.8**
	baz=260										
O20K	**Slope Mountain**	**18.03**	**52**	P			**Pn**	**21 48 09.9**			**+1.2**
	baz=256,SNR=14										
RSO	**Redoubt South**	**18.06**	**50**	P			**Pn**	**21 48 09.9**			**+0.6**
GCSA	**Galena City Sc**	**18.10**	**35**	P			**Pn**	**21 48 10.4**			**+1.0**
	baz=236,SNR=15										
L20K	**Farewell, AK**	**18.21**	**44**	P			**Pn**	**21 48 11.8**			**+0.9**
	baz=247										
M20K	**Styx River**	**18.32**	**46**	P			**Pn**	**21 48 14.0**			**+1.8**
	baz=250										
K20K	**Telida**	**18.50**	**41**	P			**Pn**	**21 48 14.5**			**+0.3**
	baz=244										
N20K	**Mount Spurr**	**18.52**	**48**	P			**Pn**	**21 48 15.1**			**+0.5**
	baz=253,SNR=87										
SPCR	**Spurr Chakacha**	**18.52**	**48**	P			**Pn**	**21 48 15.2**			**+0.5**
	baz=253,SNR=61										
BRLK	**Bradley Lake**	**18.81**	**53**	P			**P**	**21 48 15.7**			**-0.7**
J20K	**Nowinta River**	**18.83**	**39**				**Pn**	**21 48 17.7**			**-0.5**
J20K	**Nowinta River**	**18.83**	**39**	P			**Pn**	**21 48 17.9**			**-0.2**
	baz=242,SNR=53										
BRSE	**Bradley Lake S**	**18.88**	**53**	P			**P**	**21 48 17.0**			**0.0**
	baz=259,SNR=14										
SKT	**Skwentna**	**19.07**	**46**	P			**P**	**21 48 19.7**			**+0.6**
SKT	**Skwentna**	**19.07**	**46**	P			**Pn**	**21 48 20.8**			**-0.1**
	baz=252,SNR=94										
PPLA	**Purkeypile**	**19.09**	**43**				**Pn**	**21 48 20.3**			**-1.1**
PPLA	**Purkeypile**	**19.09**	**43**	P			**Pn**	**21 48 22.4**			**+1.0**
	baz=248,SNR=32										
CAST	**Castle Rocks**	**19.34**	**42**	P			**Pn**	**21 48 23.1**			**-1.0**
CAST	**Castle Rocks**	**19.34**	**42**	P			**Pn**	**21 48 23.6**			**-0.4**
	baz=247,SNR=51										
CHUM	**Lake Minchumin**	**19.43**	**41**	P			**Pn**	**21 48 25.0**			**-0.1**
	baz=245,SNR=49										
O22K	**Cooper Landing**	**19.53**	**52**	P			**P**	**21 48 24.5**			**+0.6**
	baz=258,SNR=28										
SEW	**Seward**	**19.59**	**53**	P			**P**	**21 48 23.0**			**-1.6**
SEW	**Seward**	**19.59**	**53**	P			**P**	**21 48 23.7**			**-0.9**
	baz=259,SNR=22										
M22K	**Willow**	**19.64**	**48**	P			**P**	**21 48 25.8**			**+0.6**
	baz=254,SNR=23										
RC01	**Rabbit Creek A**	**19.65**	**50**	P			**P**	**21 48 26.1**			**+0.7**
	baz=256,SNR=30										
CUT	**Chulitna**	**19.76**	**46**	P			**Pn**	**21 48 27.8**			**-1.2**
	baz=252,SNR=20										
IMAR	**Indian Mountai**	**19.88**	**34**	P			**P**	**21 48 28.4**			**+0.6**
H21K	**Melozitna Rive**	**20.05**	**36**	P			**Pn**	21 48 31.2			-1.1
	baz=240,SNR=65										
BPAW	**Bear Paw Mtn.**	**20.05**	**41**	P			**P**	**21 48 30.5**			**+0.8**
BPAW	**Bear Paw Mtn.**	**20.05**	**41**	P			**Pn**	21 48 31.2			-1.2
	baz=247,SNR=18										
PMR	**Palmer**	**20.06**	**48**	P			**P**	**21 48 30.1**			**+0.5**
PMR	**Palmer**	**20.06**	**48**	P			**Pn**	21 48 31.0			-1.4
	baz=256,SNR=12										
PMR	**Palmer**	**20.06**	**48**	P			**P**	**21 48 30.2**			**+0.5**
TRF	**Thorofare Moun**	**20.10**	**43**	P			**Pn**	21 48 31.5			-1.6
	baz=249,SNR=47										
I21K	**Tanana**	**20.12**	**37**	P			**Pn**	21 48 31.9			-1.2
	baz=243,SNR=87										
GHO	**Glory Hole Cre**	**20.20**	**48**	P			**P**	**21 48 31.8**			**+0.5**
G21K	**Allakaket**	**20.25**	**33**	P			**Pn**	21 48 33.1			-1.5
	baz=237										
PWL	**Port Wells**	**20.27**	**51**	P			**P**	**21 48 31.0**			**-1.1**
PWL	**Port Wells**	**20.27**	**51**	P			**P**	**21 48 32.2**			**+0.1**
	baz=258,SNR=20										
KNK	**Knik Glacier**	**20.33**	**49**	P			**P**	**21 48 32.8**			**+0.1**
	baz=257,SNR=37										
SML	**Sawmill**	**20.48**	**48**	P			**P**	**21 48 34.0**			**-0.3**
SML	**Sawmill**	**20.48**	**48**	P			**P**	**21 48 34.8**	

MESA	**MESA**		**23.32**	**54**	P		**P**		**21 49 03.9**	**0.0**
	baz=267,SNR=13									
YAH	**Yahtse**		**23.43**	**53**	P		**P**		**21 49 04.8**	**-0.1**
F25K	**Christian Rive**		**23.47**	**34**	P		**P**		**21 49 05.9**	**+0.9**
	baz=246									
C24K	**Franklin Bluff**		**23.50**	**28**	P		**P**		**21 49 06.0**	**+0.9**
	baz=237,SNR=17									
BARN	**Barnard Glacie**		**23.52**	**51**	P		**P**		**21 49 05.8**	**+0.1**
YSS	**Yuzh-Sakhalins**		**23.54**	**272**	P		**P**		**21 49 06.6**	**+0.9**
YSS	**Yuzh-Sakhalins**		**23.54**	**272**	P		**P**		**21 49 06.9**	**+1.2**
YSS	**Yuzh-Sakhalins**		**23.54**	**272**	*e*P		**P**		**21 49 06.3**	**+0.6**
YSS					*e**SP		**sP**		**21 49 37.3**	**-2.8**
YSS					*e*				21 52 47.9	
YSS					*e*S		**S**		**21 53 12.0**	**+0.5**
YSS					pmax		pmax			
	comp=Z,400nm,3.2s									
YSS					pmax		pmax			
	comp=Z,100nm,0.9s									
YSS					smax		smax			
	comp=N,500nm,4.1s									
M27K	**Edge Creek, AK**		**23.57**	**48**	P		**P**		**21 49 07.1**	**+1.1**
	baz=262,SNR=45									
I26K	**Coal Creek Min**		**23.63**	**41**	P		**P**		**21 49 05.1**	**-1.3**
L27K	**Beaver Creek,**		**23.70**	**46**	P		**P**		**21 49 07.8**	**+0.8**
	baz=260,SNR=99									
BCAR	**Beaver Creek A**		**23.71**	**46**	P		**P**		**21 49 07.4**	**+0.1**
E25K	**Arctic Village**		**23.72**	**33**	P		**P**		**21 49 08.4**	**+1.2**
	baz=245,SNR=51									
K27K	**Chicken**		**23.77**	**44**	P		**P**		**21 49 07.6**	**-0.1**
BMAR	**Burnt Mountain**		**23.78**	**35**	P		**P**		**21 49 08.5**	**+0.7**
G26K	**Porcupine Rive**		**23.90**	**37**	P		**P**		**21 49 09.8**	**+1.0**
	baz=250									
D25K	**Kavik River**		**24.00**	**30**	P		**P**		**21 49 10.6**	**+0.9**
	baz=241									
F26K	**Sheenjek River**		**24.04**	**35**	P		**P**		**21 49 11.3**	**+1.2**
	baz=248,SNR=85									
BVCY	**Beaver Creek**		**24.04**	**48**	P		**P**		**21 49 10.2**	**0.0**
	baz=263,SNR=62									
YUK3	**Moose Creek**		**24.16**	**50**	P		**P**		**21 49 11.4**	**0.0**
	baz=265,SNR=78									
PCA	**Pinnacle**		**24.16**	**54**	P		**P**		**21 49 10.7**	**-0.6**
PINM	**Pinnacle**		**24.17**	**54**	P		**P**		**21 49 11.1**	**-0.2**
	baz=268,SNR=15									
O28M	**Mount Upton**		**24.22**	**52**	P		**P**		**21 49 12.1**	**0.0**
	baz=267,SNR=157									
EGAK	**Eagle**		**24.32**	**42**	P		**P**		**21 49 12.3**	**-0.2**
EGAK	**Eagle**		**24.32**	**42**	P		**P**		**21 49 12.5**	**0.0**
	baz=257,SNR=88									
I27K	**Kandik River**		**24.32**	**40**	P		**P**		**21 49 12.1**	**-0.6**
	baz=255,SNR=15									
YUK8	**Steele Glacier**		**24.46**	**51**	P		**P**		**21 49 14.5**	**+0.3**
	baz=266,SNR=115									
BCPM	**Bancas Point**		**24.48**	**54**	P		**P**		**21 49 13.4**	**-0.6**
H27K	**Steamboat Moun**		**24.53**	**39**	P		**P**		**21 49 13.7**	**-0.9**
	baz=254									
PNL	**Peninsula**		**24.60**	**55**	P		**P**		**21 49 15.0**	**-0.2**
	baz=270									
PNL	**Peninsula**		**24.60**	**55**	P		**P**		**21 49 14.7**	**-0.5**
G27K	**Doyon Strip**		**24.65**	**38**	P		**P**		**21 49 16.1**	**+0.5**
	baz=252									
C26K	**Camden Bay**		**24.73**	**30**	P		**P**		**21 49 18.1**	**+1.9**
	baz=242									
DAWY	**Dawson**		**24.93**	**44**	P		**P**		**21 49 18.4**	**+0.2**
DAWY	**Dawson**		**24.93**	**44**	P		**P**		**21 49 18.8**	**+0.5**
	baz=261,SNR=80									
C27K	**Jago River**		**24.97**	**31**	P		**P**		**21 49 19.6**	**+1.1**
	baz=244									
JKA	**Kamikawa-asahi**		**24.98**	**266**	P		**P**		**21 49 19.7**	**+1.0**
ASAJ	**Asahikawa**		**24.98**	**266**	P		**P**		**21 49 19.7**	**+0.9**
YUK4	**Talbot Arm**		**25.00**	**51**	P		**P**		**21 49 22.4**	**+3.4**
	baz=267,SNR=177									
O29M	**Mount Kennedy**		**25.01**	**53**	P		**P**		**21 49 19.5**	**+0.5**
	baz=270									
E27K	**Coleen River**		**25.11**	**34**	P		**P**		**21 49 21.0**	**+1.2**
	baz=250									
YUK6	**Outpost Mounta**		**25.12**	**52**	P		**P**		**21 49 22.6**	**+2.4**
	baz=268,SNR=21									
M29M	**Somme Creek**		**25.16**	**48**	P		**P**		**21 49 20.8**	**+0.4**
	baz=265									
L29M	**L29M**		**25.37**	**47**	P		**P**		**21 49 22.6**	**+0.3**
	baz=264									
P29M	**Windy Craggy**		**25.44**	**55**	P		**P**		**21 49 22.5**	**-0.4**
J29M	**Klondike Camp**		**25.50**	**44**	P		**P**		**21 49 24.2**	**+0.8**
	baz=261,SNR=7.9									
HYT	**Haines Junctio**		**25.54**	**52**	P		**P**		**21 49 23.9**	**+0.1**
HYT	**Haines Junctio**		**25.54**	**52**	P		**P**		**21 49 24.7**	**+0.8**
	baz=269,SNR=86									
I29M	**Ogilvie Camp,**		**25.62**	**42**	P		**P**		**21 49 24.0**	**-0.3**
	baz=259,SNR=36									
K29M	**Barlow Dome**		**25.72**	**45**	P		**P**		**21 49 25.7**	**+0.3**
	baz=263,SNR=22									
N30M	**Aishikik Lake**		**25.75**	**51**	P		**P**		**21 49 29.4**	**+3.7**
	baz=268									
ERM	**Erimo**		**25.77**	**261**	P		**P**		**21 49 26.9**	**+1.0**
ERM					IAmb		IAmb		21 49 28.2	
	comp=Z,103nm,0.8s									
ERM	**Erimo**		**25.77**	**261**	P		**P**		**21 49 26.9**	**+1.0**
ERM					pmax		pmax			
	comp=Z,103nm,0.8s									
M30M	**Minto, Yukon**		**25.94**	**48**	P		**P**		**21 49 31.9**	**+4.6**
	baz=266									
GRNR	**Gornyy**		**25.98**	**284**	⇑*i*P		**P**		**21 49 28.0**	**+0.2**
GRNR					*e*S		**S**		**21 53 53.9**	**+3.5**
GRNR					pmax		pmax			
	comp=N,4.0nm,0.9s									
GRNR					pmax		pmax			
	comp=E,10.0nm,0.9s									
GRNR					pmax		pmax			
	comp=Z,30nm,1.1s									
GRNR					smax		smax			
	comp=N,1.0nm,0.9s									
GRNR					MLR		MLR			
	comp=E,140nm,20.0s									
GRNR					MLR		MLR			
	comp=N,110nm,12.0s									
GRNR					MLR		MLR			
	comp=Z,200nm,14.0s									
O30N	**Mendenhall**		**26.23**	**52**	P		**P**		**21 49 30.9**	**+0.9**
	baz=271,SNR=5.1									
N31M	**Braeburn, Yuko**		**26.38**	**51**	P		**P**		**21 49 36.0**	**+4.7**
	baz=270,SNR=22									
EPYK	**Eagle Plains**		**26.45**	**40**	P		**P**		**21 49 31.8**	**-0.1**
EPYK					IAmb		IAmb		21 49 33.2	
	comp=Z,61nm,0.8s									
EPYK	**Eagle Plains**		**26.45**	**40**	P		**P**		**21 49 32.0**	**+0.1**
	baz=259,SNR=30									
SKAG	**Skagway**		**26.67**	**55**	P		**P**		**21 49 34.6**	**+0.7**
	baz=274									
G30M	**tAoh Zraii Nji**		**26.76**	**38**	P		**P**		**21 49 35.2**	**+0.5**
	baz=258,SNR=9.5									
WHY	**Whitehorse**		**26.83**	**53**	P		**P**		**21 49 35.5**	**+0.1**
M31M	**Drury Creek, Y**		**27.04**	**49**	P		**P**		**21 49 38.5**	**+1.3**
	baz=269,SNR=12									
R32K	**Eaglecrest**		**27.21**	**58**	P		**P**		**21 49 39.3**	**+0.5**
	baz=277,SNR=5.8									
JIS	**Juneau Island**		**27.28**	**58**	P		**P**		**21 49 39.8**	**+0.5**
S32K	**Killisnoo**		**27.29**	**60**	P		**P**		**21 49 40.4**	**+1.0**
	baz=278,SNR=7.8									
P32M	**Atlin**		**27.48**	**55**	P		**P**		**21 49 42.2**	**+0.9**
	baz=275,SNR=7.0									
FARO	**Faro, Yukon**		**27.53**	**49**	P		**P**		**21 49 42.4**	**+0.8**
	baz=270,SNR=7.9									
YAK	**Yakutsk**		**27.75**	**310**	P		**P**		**21 49 42.8**	**-0.6**
	comp=Z,4.1nm,0.4s,baz=109,slow=2.0,SNR=7.6									
YAK					PcP		**PcP**		**21 52 57.1**	**0.0**
	comp=Z,8.9nm,0.6s,baz=169,slow=0.2,SNR=4.6									
YAK					LR		LR		22 00 06.0	
	comp=Z,98nm,21.5s,baz=91,slow=35									
	comp=Z,4.1nm,0.4s									
YAK	**Yakutsk**		**27.75**	**310**	P		**P**		**21 49 42.2**	**-1.2**
YAK	**Yakutsk**		**27.75**	**310**	*e*P		**P**		**21 49 42.2**	**-1.2**
YAK					*e**PP		**pP**		**21 50 05.6**	**-0.5**
YAK					*e*				21 50 34.3	
YAK					*e*				21 52 56.4	
YAK					*e*S		**S**		**21 54 17.1**	**-0.8**
YAK					*e**SS		**sS**		**21 54 58.3**	**-0.2**
YAK					*e*				22 00 18.4	
YAK					pmax		pmax			
	comp=Z,22nm,1.2s									
YAK					pmax		pmax			
	comp=N,5.0nm,1.3s									
YAK					pmax		pmax			
	comp=E,6.0nm,1.3s									
YAK					pmax		pmax			
	comp=Z,51nm,1.6s									
YAK					pmax		pmax			
	comp=N,38nm,2.0s									
YAK					pmax		pmax			
	comp=E,62nm,1.4s									
YAK					smax		smax			
	comp=N,81nm,1.9s									
YAK					smax		smax			
	comp=E,90nm,2.3s									
JTM	**Tenmabayashi**		**27.76**	**261**	P		**P**		**21 49 43.8**	**0.0**
JTM					IAmb		IAmb		21 50 16.6	
	comp=Z,63nm,1.1s									
F31M	**Tsiigehtchic**		**27.80**	**38**	P		**P**		**21 49 44.4**	**+0.5**
	baz=260,SNR=20									
P33M	**Teslin, Yukon**		**27.88**	**53**	P		**P**		**21 49 45.1**	**+0.3**
P33M	**Teslin, Yukon**		**27.88**	**53**	P		**P**		**21 49 45.8**	**+1.0**
	baz=274,SNR=12									
INK	**Inuvik**		**28.04**	**36**	P		**P**		**21 49 45.8**	**-0.2**
	comp=Z,20nm,1.1s,baz=250,slow=8.2,SNR=28									
INK					LR		LR		22 01 02.8	
	comp=Z,251nm,20.1s,baz=251,slow=36									
	comp=Z,20nm,1.1s									
INK	**Inuvik**		**28.04**	**36**	P		**P**		**21 49 46.2**	**+0.2**
INK	**Inuvik**		**28.04**	**36**	P		**P**		**21 49 46.8**	**+0.8**
	baz=258,SNR=12									
INK	**Inuvik**		**28.04**	**36**	P		**P**		**21 49 46.2**	**+0.2**
INK					pmax		pmax			
	comp=Z,30nm,1.1s									
Q32M	**Nakina River**		**28.29**	**56**	P		**P**		**21 49 50.2**	**+1.7**
	baz=277									
MMPY	**Sheldon Lake,**		**28.50**	**48**	P		**P**		**21 49 51.3**	**+1.1**
	baz=271,SNR=18									
R33M	**Jennings River**		**28.90**	**55**	P		**P**		**21 49 55.0**	**+1.1**
	baz=277									
S34M	**Telegraph Cree**		**29.04**	**58**	P		**P**		**21 49 56.4**	**+1.4**
	baz=280,SNR=5.3									
TIXI	**Tiksi**		**29.31**	**331**	P		**P**		**21 49 56.7**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=270,slow=24,SNR=13									
TIXI					LR		LR		22 00 40.9	
	comp=Z,134nm,19.8s,baz=179,slow=34									
	comp=Z,1.4nm,0.4s									
TIXI	**Tiksi**		**29.31**	**331**	P		**P**		**21 49 56.4**	**-0.8**
TIXI	**Tiksi**		**29.31**	**331**	*ce*P		**P**		**21 49 57.1**	**-0.1**
TIXI					pmax		pmax			
	comp=Z,5.0nm,1.0s									
V35K	**Ketchikan**		**29.33**	**63**	P		**P**		**21 49 58.2**	**+0.6**
	baz=284									
KLR	**Kul'dur**		**29.35**	**284**	P		**P**		**21 49 58.2**	**+0.4**
	comp=Z,41nm,0.7s,baz=64,slow=8.2,SNR=154									
KLR					PcP		**PcP**		**21 53 00.8**	**-0.6**
	comp=Z,4.9nm,0.8s,baz=56,slow=2.6,SNR=3.9									
KLR					LR		LR		22 01 18.4	
	comp=Z,151nm,22.0s,baz=66,slow=35									
	comp=Z,41nm,0.7s									
KLR	**Kul'dur**		**29.35**	**284**	*ce*P		**P**		**21 49 58.1**	**+0.3**
KLR					pmax		pmax			
	comp=Z,85nm,1.3s									
DLBC	**Dease Lake**		**29.53**	**57**	P		**P**		**21 49 59.5**	**+0.1**
	comp=Z,23nm,0.8s,baz=286,slow=10,SNR=30									
DLBC					ScP		**ScP**		**21 56 33.2**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=146,slow=3.8,SNR=4.1									
DLBC					LR		LR		22 02 23.5	
	comp=Z,562nm,18.4s,baz=250,slow=37									
	comp=Z,23nm,0.8s									
DLBC	**Dease Lake**		**29.53**	**57**	P		**P**		**21 49 59.7**	**+0.3**
DLBC	**Dease Lake**		**29.53**	**57**	P		**P**		**21 50 00.9**	**+1.5**
	baz=280,SNR=10.0									
T35M	**Bob Quinn**		**29.69**	**60**	P		**P**		**21 50 02.1**	**+1.3**
	baz=282,SNR=9.2									
TGTN	**Hyland Airport**		**29.97**	**50**	P		**P**		**21 50 04.0**	**+0.8**
	baz=276,SNR=9.2									
ZEA	**Zeya**		**30.42**	**294**	*e*P		**P**		**21 50 06.8**	**-0.4**
ZEA					pmax		pmax			
	comp=E,20nm,1.0s									
ZEA					pmax		pmax			
	comp=N,10.0nm,0.7s									
ZEA					pmax		pmax			
	comp=Z,30nm,1.4s									
JSD	**Sado**		**31.16**	**260**	P		**P**		**21 50 14.2**	**+0.2**
JSD					IAmb		IAmb		21 50 15.8	
	comp=Z,58nm,0.8s									
LIRD	**Liard River Hi**		**31.35**	**54**	P		**P**		**21 50 16.7**	**+1.4**
	baz=281,SNR=9.5									
A36M	**Sachs Harbour**		**31.48**	**30**	P		**P**		**21 50 17.4**	**+1.1**
A36M					IAmb		IAmb		21 50 46.1	
	comp=Z,50nm,0.8s									
A36M	**Sachs Harbour**		**31.48**	**30**	P		**P**		**21 50 18.0**	**+1.7**
	baz=261,SNR=6.5									
USA0B	**Ussuriysk Arra**		**31.50**	**275**	P		**P**		**21 50 16.4**	**-0.4**
USA0B					PcP		**PcP**		**21 53 08.2**	**+1.1**
USA0B	**Ussuriysk Arra**		**31.50**	**275**	*i* P		**P**		**21 50 17.1**	**+0.3**
USRK	**Ussuriysk Ar.**		**31.50**	**275**	P		**P**		**21 50 17.0**	**+0.2**
	comp=Z,19nm,0.8s,baz=58,slow=7.6,SNR=20									
USRK					PcP		**PcP**		**21 53 07.6**	**+0.5**
	comp=Z,18nm,0.7s,baz=46,slow=2.4,SNR=15									
USRK					LR		LR		22 02 03.4	
	comp=Z,166nm,21.9s,baz=42,slow=34									
	comp=Z,19nm,0.8s									
USRK	**Ussuriysk Ar.**		**31.50**	**275**	P		**P**		**21 50 16.6**	**-0.2**
HEH	**HeiHe**		**31.54**	**288**	*e*P		**P**		**21 50 16.0**	**-1.1**
HEH					pP		**pP**		**21 50 38.3**	**-2.1**
HEH					PcP		**PcP**		**21 53 06.3**	**-0.8**
HEH					S		**S**		**21 55 18.3**	**+0.8**
HEH					ScP		**ScP**		**21 56 40.0**	**-0.3**
HEH					pmax		pmax			
	comp=Z,45nm,0.8s									
C36M	**Paulatuk**		**31.58**	**35**	P		**P**		**21 50 17.4**	**+0.2**
C36M	**Paulatuk**		**31.58**	**35**	P		**P**		**21 50 18.0**	**+0.8**
	baz=266,SNR=21									
WRGLY	**Wrigley**		**32.01**	**47**	P		**P**		**21 50 22.4**	**+1.3**
	baz=277,SNR=6.9									
MAJO	**Matsushiro**		**32.16**	**257**	P		**P**		**21 50 23.3**	**+0.5**
MAJO					IAmb		IAmb		21 50 25.0	
	comp=Z,63nm,0.9s									
MAJO	**Matsushiro**		**32.16**	**257**	P		**P**		**21 50 24.1**	**+1.3**
MAJO	**Matsushiro**		**32.16**	**257**	*i* P		**P**		**21 50 23.5**	**+0.7**
MAJO					pmax		pmax			
	comp=Z,52nm,0.9s									
MAJO	**Matsushiro**		**32.16**	**257**	P		**P**		**21 50 23.8**	**+1.0**
MAJO					PcP		**PcP**		**21 53 09.0**	**0.0**
MJAR	**Matsushiro Arr**		**32.16**	**257**	P		**P**		**21 50 23.5**	**+0.7**
	comp=Z,26nm,0.9s,baz=51,slow=7.3,SNR=40									
MJAR					PcP		**PcP**		**21 53 08.9**	**-0.2**
	comp=Z,3.9nm,0.6s,baz=71,slow=1.6,SNR=7.0									
MJAR					ScP		**ScP**		**21 56 43.7**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=29,slow=2.3,SNR=4.9									
	comp=Z,26nm,0.9s									
MJB9	**Matsu-Tunnel**		**32.16**	**257**	P		**P**		**21 50 24.5**	**+1.8**
MJB9					IAmb		IAmb		21 50 26.4	
	comp=Z,62nm,0.9s									
KOTAN	**Kotaneelee Air**		**32.23**	**52**	P		**P**		**21 50 24.1**	**+1.1**
	baz=281,SNR=16									
BBB	**Bella Bella**		**32.28**	**68**	LR		LR		22 01 36.5	
	comp=Z,148nm,19.5s,baz=300,slow=33									
MDJ	**Mudanjiang**		**32.76**	**277**	P		**P**		**21 50 27.8**	**-0.1**
MDJ					pmax		pmax			
	comp=Z,22nm,0.9s									
MDJ					pmax		pmax			
	comp=Z,330nm,3.5s									
MDJ	**Mudanjiang**		**32.76**	**277**	P		**P**		**21 50 27.4**	**-0.5**
MDJ					PcP		**PcP**		**21 53 11.2**	**+0.7**
JGF	**Kuroka**		**33.30**	**257**	P		**P**		**21 50 33.9**	**+1.2**
JGF					IAmb		IAmb		21 50 35.2	
	comp=Z,75nm,0.9s									
JGF	**Kuroka**		**33.30**	**257**	P		**P**		**21 50 34.4**	**+1.7**
	comp=Z,94nm,0.9s									
H11N2	**WAKE ISLAND Hy**		**33.35**	**200**	T		T		22 25 56.0	
	baz=11,slow=76									
H11N3	**WAKE ISLAND Hy**		**33.36**	**200**	T		T		22 25 53.7	
	baz=11,slow=76									
H11N1	**WAKE ISLAND Hy**		**33.37**	**200**	T		T		22 25 58.3	
	baz=11,slow=76									
BNX	**BinXian**		**33.54**	**280**	⇓P		**P**		**21 50 34.0**	**-0.6**
BNX					pmax		pmax			
	comp=Z,77nm,0.7s									
BNX					pmax		pmax			
	comp=Z,270nm,3.6s									
H11S1	**WAKE ISLAND Hy**		**34.58**	**200**	T		T		22 27 32.3	
	baz=11,slow=76									
H11S3	**WAKE ISLAND Hy**		**34.60**	**200**	T		T		22 27 30.6	
	baz=11,slow=76									
H11S2	**WAKE ISLAND Hy**		**34.60**	**200**	T		T		22 27 37.9	
	baz=11,slow=76									
CN2	**Changchun**		**35.73**	**278**	⇑P		**P**		**21 50 53.3**	**-0.2**
CN2					*ep*P		pP		21 51 17.3	0.0
CN2					*e*S		**S**		**21 56 20.3**	**-2.1**
CN2					pmax		pmax			
	comp=Z,20nm,0.8s									
CN2					pmax		pmax			
	comp=Z,300nm,4.0s									
CLRS	**Cowichan Lake**		**35.98**	**72**	P		**P**		**21 50 55.5**	**-0.1**
CLRS					IAmb		IAmb		21 50 56.8	
	comp=Z,82nm,1.4s									
WAPA	**Wapiti River**		**36.11**	**60**	P		**P**		**21 50 56.2**	**-0.4**
YKA	**Yellowknife Ar**		**36.13**	**46**	P		**P**		**21 50 57.2**	**+0.6**
YKA					PcP		**PcP**		**21 53 19.5**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=284,slow=3.8,SNR=2.2									
YKA					ScP		**ScP**		**21 56 55.5**	**-0.8**
	comp=Z,9.9nm,0.9s,baz=296,slow=3.6,SNR=6.0									
BOD	**Bodaibo**		**36.25**	**305**	*e*P		**P**		**21 50 56.3**	**-1.4**
BOD					pmax		pmax			
	comp=Z,33nm,1.6s									
JHS	**Saijyo**		**36.28**	**260**	P		**P**		**21 50 59.3**	**+0.9**
JHS					IAmb		IAmb		21 51 08.3	
	comp=Z,56nm,1.2s									
HIA	**Hailar**		**36.46**	**290**	P		**P**		**21 50 59.2**	**-0.5**
HIA					IAmb		IAmb		21 51 00.3	
	comp=Z,78nm,1.5s									
HIA							**PcP**		**21 53 21.6**	**+0.3**
HIA	**Hailar**		**36.46**	**290**	P		**P**		**21 50 59.5**	**-0.2**
HIA	**Hailar**		**36.46**	**290**	P		**P**		**21 50 59.3**	**-0.4**
HIA					PcP		**PcP**		**21 53 21.5**	**+0.3**
HIA					ScP		**ScP**		**21 56 59.1**	**+1.3**
LLLB	**Lillooet**		**36.48**	**68**	P		**P**		**21 50 59.4**	**-0.4**
B04A	**Port Angeles**		**36.70**	**72**	P		**P**		**21 51 02.2**	**+0.5**
JCJ	**Chichijima**		**36.75**	**242**	LR		LR		22 03 49.7	
	comp=Z,35nm,21.6s,baz=99,slow=32									
JCJ	**Chichijima**		**36.75**	**242**	P		**P**		**21 51 03.1**	**+0.8**
NLWA	**Neilton Lookou**		**36.81**	**74**	P		**P**		**21 51 03.1**	**+0.4**
NLWA					IAmb		IAmb		21 51 59.9	
	comp=Z,61nm,1.2s									
BRLDA	**Berland Lookou**		**37.52**	**61**	P		**P**		**21 51 08.0**	**-0.7**
KSRS	**Korea Array**		**37.89**	**268**	P		**P**		**21 51 13.4**	**+1.6**
	comp=Z,22nm,0.9s,baz=59,slow=8.3,SNR=36									
KSRS					PcP		**PcP**		**21 53 26.6**	**+0.9**
	comp=Z,9.6nm,0.8s,baz=62,slow=2.7,SNR=16									
	comp=Z,22nm,0.9s									
KS19	**Wonju Array Si**		**37.90**	**268**	P		**P**		**21 51 12.8**	**+0.8**
KS19					IAmb		IAmb		21 51 14.1	
	comp=Z,36nm,1.0s									
KSAR	**Wonju Array Be**		**37.92**	**268**	P		**P**		**21 51 12.2**	**+0.1**
KSAR							**PcP**		**21 53 26.1**	**+0.3**
KSAR	**Wonju Array Be**		**37.92**	**268**	P		**P**		**21 51 12.2**	**+0.1**
SNY	**Shenyang**		**37.97**	**277**	⇓P		**P**		**21 51 13.3**	**+0.9**
SNY					S		**S**		**21 56 58.3**	**+1.9**
SNY					pmax		pmax			
	comp=Z,51nm,1.3s									
SNY					pmax		pmax			
	comp=Z,340nm,5.8s									
SNY					LR		LR			
	comp=Z,480nm,4.3s									
SNY					LR		LR			
	comp=Z,580nm,22.0s									
INCN	**Inchon**		**38.67**	**269**	P		**P**		**21 51 19.4**	**+1.0**
INCN	**Inchon**		**38.67**	**269**	P		**P**		**21 51 20.0**	**+1.6**
INCN	**Inchon**		**38.67**	**269**	P		**P**		**21 51 19.4**	**+1.0**
INCN					pmax		pmax			
	comp=Z,76nm,0.9s									
INCN	**Inchon**		**38.67**	**269**	P		**P**		**21 51 19.7**	**+1.3**
KEBM	**Edson Butte**		**38.89**	**80**	P		**P**		**21 51 21.0**	**+0.8**
JNU	**Nakatsue**		**38.92**	**260**	LR		LR		22 06 21.3	
	comp=Z,30nm,21.3s,baz=69,slow=34									
JNU	**Nakatsue**		**38.92**	**260**	P		**P**		**21 51 21.4**	**+0.9**
JNU					IAmb		IAmb		21 51 23.2	
	comp=Z,52nm,1.0s									
JNU	**Nakatsue**		**38.92**	**260**	P		**P**		**21 51 22.3**	**+1.8**
TJN	**Taejon**		**38.92**	**267**	*ce*P		**P**		**21 51 20.4**	**-0.1**
DBO	**Dodson Butte**		**39.42**	**79**	P		**P**		**21 51 25.8**	**+1.2**
DBO					IAmb		IAmb		21 51 26.9	
	comp=Z,54nm,1.1s									
HUMO	**Hull Mountain**		**39.88**	**80**	P		**P**		**21 51 29.0**	**+0.6**
HUMO							**PcP**		**21 53 32.6**	**+0.7**
HAWA	**Hanford**		**39.88**	**73**	P		**P**		**21 51 27.9**	**-0.5**
HAWA					IAmb		IAmb		21 51 29.2	
	comp=Z,59nm,1.2s									
RES	**Resolute Bay**		**39.98**	**24**	LR		LR		22 09 12.5	
	comp=Z,102nm,21.8s,baz=353,slow=38									
RES	**Resolute Bay**		**39.98**	**24**	P		**P**		**21 51 30.0**	**+1.2**
RES					IAmb		IAmb		21 51 58.4	
	comp=Z,49nm,1.2s									
RES	**Resolute Bay**		**39.98**	**24**	P		**P**		**21 51 30.0**	**+1.2**
RES					pmax		pmax			
	comp=Z,49nm,1.3s									
EUNU	**Eureka**		**40.24**	**16**	P		**P**		**21 51 31.8**	**+0.8**
JSU	**Suzuyama**		**40.30**	**259**	P		**P**		**21 51 32.8**	**+0.9**
JSU					IAmb		IAmb		21 51 34.6	
	comp=Z,53nm,1.0s									
JSU	**Suz

ULN pmax pmax
comp=Z,31nm,1.0s
HLID Hailey 44.47 73 P **P** **21 52 05.4 -0.4**
HLID Hailey 44.47 73 P **P** **21 52 05.4 -0.4**
baz=305,SNR=27
BCYI Bear Canyon 44.63 72 P **P** **21 52 06.3 -0.8**
BMN Battle Mountai 44.64 78 P **P** **21 52 07.3 +0.1**
BMN IAmb IAmb 21 52 09.1
comp=Z,25nm,0.7s
BMN Battle Mountai 44.64 78 P **P** **21 52 07.3 +0.1**
BMN pmax pmax
comp=Z,25nm,0.7s
EGMT Eagleton 44.65 65 P **P** **21 52 06.1 -1.0**
EGMT Eagleton 44.65 65 P **P** **21 52 06.1 -1.0**
baz=303,SNR=9.8
SONM Songino Array 44.84 295 P **P** **21 52 09.3 +0.7**
comp=Z,17nm,0.7s,baz=60,slow=8.5,SNR=121
SONM PcP **PcP** **21 53 48.9 +0.3**
comp=Z,13nm,0.7s,baz=69,slow=2.5,SNR=14
SONM ScP **ScP** **21 57 31.3 +0.4**
comp=Z,5.5nm,0.8s,baz=59,slow=2.9,SNR=13
SONM LR LR 22 11 35.0
comp=Z,82nm,20.2s,baz=40,slow=37
comp=Z,17nm,0.7s
SONM Songino Array 44.84 295 P **P** **21 52 09.3 +0.7**
SONM PcP **PcP** **21 53 48.7 +0.1**
BOZ Bozeman (W) 44.94 69 P **P** **21 52 08.5 -1.0**
BOZ IAmb IAmb 21 52 09.4
comp=Z,31nm,0.7s
BOZ Bozeman (W) 44.94 69 P **P** **21 52 08.5 -1.0**
baz=304,SNR=36
BOZ Bozeman (W) 44.94 69 P **P** **21 52 08.5 -1.0**
BOZ pmax pmax
comp=Z,31nm,0.7s
JOW Kunigami 44.98 256 LR LR 22 09 38.9
comp=Z,19nm,20.0s,baz=84,slow=34
JOW Kunigami 44.98 256 P **P** **21 52 10.1 +0.3**
JOW Kunigami 44.98 256 P **P** **21 52 11.2 +1.4**
comp=Z,113nm,1.1s
TULEG Thule 45.01 18 P **P** **21 52 09.2 -0.2**
TULEG IAmb IAmb 21 52 10.8
comp=Z,28nm,0.8s
TULEG Thule 45.01 18 *i* P **P** **21 52 07.4 -2.0**
TULEG IAmb IAmb 21 52 10.2
comp=Z,18nm,0.6s
ZAK Zakamensk 45.17 299 *e*P **P** **21 52 11.4 +0.2**
ZAK pmax pmax
comp=Z,19nm,1.4s
NVAR Mina Array Bea 45.21 81 P **P** **21 52 12.4 +0.6**
comp=Z,30nm,0.7s,baz=295,slow=7.5,SNR=214
NVAR PcP **PcP** **21 53 50.8 +0.7**
comp=Z,8.6nm,0.8s,baz=280,slow=3.5,SNR=4.7
NVAR ScP **ScP** **21 57 32.2 -0.6**
comp=Z,4.0nm,0.8s,baz=288,slow=4.4,SNR=11
comp=Z,30nm,0.7s
NVAR Mina Array Bea 45.21 81 P **P** **21 52 12.2 +0.4**
FFC Flin Flon 45.24 53 P **P** **21 52 11.1 -0.4**
FFC Flin Flon 45.24 53 P **P** **21 52 11.1 -0.4**
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 45.24 53 P **P** **21 52 10.9 -0.7**
FFC pP **pP** **21 52 35.9 0.0**
FFC ScP **ScP** **21 57 31.1 -1.1**
NV11 Mina Array Sit 45.30 81 P **P** **21 52 12.9 +0.4**
TIA Tai'an 45.37 275 ⇓P **P** **21 52 13.5 +0.7**
TIA pmax pmax
comp=Z,92nm,0.9s
YHL Hebgen Lake 45.62 70 P **P** **21 52 14.0 -1.1**
YHL IAmb IAmb 21 52 15.3
comp=Z,38nm,1.0s
ELK Elko 45.65 77 LR LR 22 09 58.1
comp=Z,120nm,19.9s,baz=336,slow=34
ELK Elko 45.65 77 P **P** **21 52 14.9 -0.4**
ELK IAmb IAmb 21 52 16.2
comp=Z,18nm,0.6s
ELK Elko 45.65 77 P **P** **21 52 14.9 -0.4**
ELK pmax pmax
comp=Z,18nm,0.6s
YHB Horse Butte 45.67 70 P **P** **21 52 14.5 -0.9**
YHB IAmb IAmb 21 52 15.6
comp=Z,45nm,0.8s
HHC Hu-ho-hao-te 45.86 284 *e*P **P** **21 52 18.3 +1.5**
HHC sP sP 21 52 54.5 +1.1
HHC S **S** **21 58 55.3 +2.5**
HHC pmax pmax
comp=Z,95nm,1.1s
HHC pmax pmax
comp=Z,230nm,5.6s
HNS HongShan 46.09 278 ⇓P **P** **21 52 20.0 +1.5**
HNS pmax pmax
comp=Z,73nm,1.1s
TIN Tinemaha, Big 46.13 83 P **P** **21 52 19.9 +1.0**
baz=310,SNR=14
SMMC Simmler 46.16 86 P **P** **21 52 20.6 +1.5**
baz=311
H17A Grant Village 46.24 70 P **P** **21 52 20.1 +0.2**
H17A Grant Village 46.24 70 P **P** **21 52 20.5 +0.6**
baz=306,SNR=9.9
FLWY Flagg Ranch 46.35 70 P **P** **21 52 20.6 -0.1**
FLWY IAmb IAmb 21 52 21.5
comp=Z,26nm,0.8s
VES Vestal, Richgr 46.38 85 P **P** **21 52 20.8 0.0**
baz=311,SNR=7.5
NOR Nord 46.48 3 *i* P **P** **21 52 19.8 -1.2**
NOR IAmb IAmb 21 52 21.6
comp=Z,4.1nm,0.8s
PKM Mcpherson Peak 46.55 86 P **P** **21 52 23.4 +1.0**
baz=311,SNR=7.7
RLMT Red Lodge 46.57 68 P **P** **21 52 21.8 -0.6**
RLMT IAmb IAmb 21 52 23.5
comp=Z,34nm,1.0s
RLMT Red Lodge 46.57 68 P **P** **21 52 22.3 -0.2**
baz=306,SNR=32
GRAC Grapevine Rang 46.69 82 P **P** **21 52 23.8 +0.6**
GRAC IAmb IAmb 21 52 25.1
comp=Z,87nm,1.6s
GRAC Grapevine Rang 46.69 82 P **P** **21 52 24.1 +0.8**
baz=310,SNR=11
GUMO Guam 46.73 228 LR LR 22 09 30.8
comp=Z,80nm,20.8s,baz=98,slow=33
GUMO Guam 46.73 228 P **P** **21 52 22.8 -0.8**
GUMO Guam 46.73 228 P **P** **21 52 22.8 -0.8**
GUMO pmax pmax
comp=Z,529nm,1.5s
ISA Isabella, Lake 46.87 84 P **P** **21 52 24.6 -0.1**
baz=311,SNR=11
AHID Auburn Hatcher 46.90 72 P **P** **21 52 24.4 -0.5**
R11A Troy Canyon, C 46.92 80 P **P** **21 52 25.3 +0.1**
R11A Troy Canyon, C 46.92 80 P **P** **21 52 25.2 +0.1**
baz=309,SNR=60
BTO Baotou 46.94 284 *e*P **P** **21 52 26.8 +1.6**
BTO S **S** **21 59 11.8 +3.6**
BTO LR LR
comp=Z,720nm,6.1s
BTO LR LR
comp=Z,540nm,7.8s
NJ2 Nanjing 47.06 269 ⇓P **P** **21 52 26.5 +0.5**
NJ2 pmax pmax
comp=Z,38nm,0.8s
MPMC Manual Prospec 47.22 83 P **P** **21 52 27.9 +0.4**
baz=311,SNR=28
TIY Taiyuan 47.29 280 ⇓P **P** **21 52 29.5 +1.6**
NEEM North Greenlan 47.32 13 *i* P **P** **21 52 26.4 -1.5**
NEEM IAmb IAmb 21 52 28.9
comp=Z,99nm,0.7s
HWUT Hardware Ranch 47.32 73 P **P** **21 52 27.9 -0.4**
FURC Furnace Creek, 47.34 82 P **P** **21 52 28.9 +0.7**
baz=310,SNR=13
LAO LASA Array 47.39 65 P **P** **21 52 28.2 -0.4**
LAO IAmb IAmb 21 52 29.0
comp=Z,54nm,1.4s
LAO LASA Array 47.39 65 P **P** **21 52 27.9 -0.7**
baz=306
LAO LASA Array 47.39 65 P **P** **21 52 28.1 -0.5**
baz=305,SNR=5.9
OSI Osito Audit: C 47.41 86 P **P** **21 52 29.5 +0.7**
baz=312
TPNV Topopah Spring 47.41 82 P **P** **21 52 29.2 +0.3**
TPNV IAmb IAmb 21 52 56.0
comp=Z,59nm,0.8s
TPNV Topopah Spring 47.41 82 P **P** **21 52 29.3 +0.3**
baz=310,SNR=69
TPNV Topopah Spring 47.41 82 P **P** **21 52 29.2 +0.3**
TPNV pmax pmax
comp=Z,59nm,0.8s
DUG Dugway, Tooele 47.45 76 P **P** **21 52 29.1 0.0**
DUG IAmb IAmb 21 52 30.1
comp=Z,29nm,0.6s
DUG Dugway, Tooele 47.45 76 P **P** **21 52 29.2 0.0**
baz=308,SNR=8.6
DUG Dugway, Tooele 47.45 76 P **P** **21 52 29.1 0.0**
DUG pmax pmax
comp=Z,29nm,0.6s
LRMC Laurel Mtn Rad 47.48 84 P **P** **21 52 29.5 0.0**
baz=311,SNR=17
DGMT Dagmar 47.48 62 P **P** **21 52 28.2 -1.0**
baz=305
EDW2 Edwards Air Fo 47.68 85 P **P** **21 52 31.3 +0.3**
baz=311,SNR=10
BW06 Boulder Array 47.80 71 P **P** **21 52 31.2 -0.8**
baz=307,SNR=14
PD31 Pinedale Array 47.80 71 P **P** **21 52 31.2 -0.9**
PDAR Pinedale Array 47.80 71 P **P** **21 52 31.1 -0.9**
comp=Z,16nm,0.7s,baz=303,slow=3.6,SNR=165
PDAR ScP **ScP** **21 57 41.4 -2.1**
comp=Z,2.2nm,0.9s,baz=12,slow=0.7,SNR=5.5
PDAR LR LR 22 13 41.0
comp=Z,65nm,18.7s,baz=324,slow=37
comp=Z,16nm,0.7s
PASC Pasadena Art C 48.03 86 P **P** **21 52 33.8 +0.2**
PASC IAmb IAmb 21 52 34.9
comp=Z,48nm,1.1s
SHOC Shoshone, Teco 48.07 83 P **P** **21 52 34.3 +0.4**
baz=311,SNR=8.3
GSC Goldstone, Bar 48.14 84 P **P** **21 52 34.9 +0.4**
baz=311,SNR=58
BFSC Mount Baldy Ra 48.31 85 P **P** **21 52 36.2 +0.3**
baz=312,SNR=13
CIS Catalina Islan 48.41 87 P **P** **21 52 36.6 +0.1**
baz=312
KULLO Kullorsuaq 48.49 17 *i* P **P** **21 52 35.6 -0.9**
KULLO IAmb IAmb 21 52 37.5
comp=Z,51nm,0.7s
TUQ Turquoise Moun 48.59 83 P **P** **21 52 38.2 +0.1**
baz=311,SNR=26
HEC Hector,Ludlow 48.74 84 P **P** **21 52 39.4 +0.3**
baz=312,SNR=12
BBRC Big Bear Solar 48.76 85 P **P** **21 52 39.8 +0.4**
baz=312
MURC Murrieta 49.03 86 P **P** **21 52 41.5 +0.2**
baz=312,SNR=7.9
GMRC Granite Mounta 49.19 83 P **P** **21 52 42.8 +0.2**
baz=312,SNR=45
LYN LuoYang 49.32 276 ⇓P **P** **21 52 44.5 +1.0**
LYN sP sP 21 53 23.0 +2.7
LYN S **S** **21 59 45.0 +3.3**
LYN sS sS 22 00 28.0 +3.3
LYN pmax pmax
comp=Z,50nm,0.8s
LYN pmax pmax
comp=Z,110nm,4.8s
PFO Pinyon Flats O 49.48 85 P **P** **21 52 44.4 -0.4**
PFO Pinyon Flats O 49.48 85 P **P** **21 52 44.8 0.0**
baz=312,SNR=6.6
PFO Pinyon Flats O 49.48 85 *i* P **P** **21 52 44.2 -0.6**
PFO pmax pmax
comp=Z,11nm,0.9s
PFO Pinyon Flats O 49.48 85 P **P** **21 52 43.9 -0.9**
PFO PcP **PcP** **21 54 05.8 +0.5**
PFO ScP **ScP** **21 57 49.8 -0.9**
TPFO Pinon Flats 49.48 85 P **P** **21 52 44.8 0.0**
baz=312,SNR=6.4
BELC Belle Mtn. Jos 49.50 84 P **P** **21 52 44.7 -0.3**
baz=312,SNR=26
SRU San Rafael Swe 49.50 75 P **P** **21 52 45.0 0.0**
SRU IAmb IAmb 21 52 46.4
comp=Z,19nm,0.7s
SRU San Rafael Swe 49.50 75 P **P** **21 52 45.0 0.0**
SRU pmax pmax
comp=Z,19nm,0.7s
109C Camp Elliot, M 49.56 86 P **P** **21 52 45.6 +0.4**
baz=313
K22A Casper 49.64 69 P **P** **21 52 44.7 -1.3**
baz=308
K22A Casper 49.64 69 P **P** **21 52 44.8 -1.2**
baz=308
SPITS Spitsbergen Ar 49.71 355 LR LR 22 15 16.7
comp=Z,44nm,18.6s,baz=354,slow=38
SPITS Spitsbergen Ar 49.71 355 P **P** **21 52 45.2 -0.6**
SPITS pmax pmax
comp=Z,225nm,1.9s
SPB2 Spitsbergen Ar 49.71 355 P **P** **21 52 45.8 -0.1**
IRM Iron Mountain 49.92 84 P **P** **21 52 48.2 +0.2**
baz=312,SNR=14
BAR Barrett 49.97 86 P **P** **21 52 48.4 0.0**
BAR IAmb IAmb 21 52 49.8
comp=Z,40nm,0.9s
MONP2 Monument Peak 49.98 86 P **P** **21 52 49.1 +0.4**
baz=313,SNR=13
UPNV Upernavik 50.03 18 *i* P **P** **21 52 47.3 -1.0**
UPNV IAmb IAmb 21 52 48.8
comp=Z,54nm,0.7s
BC3 Big Chuckawall 50.07 84 P **P** **21 52 48.9 -0.3**
baz=312,SNR=22
W13A Hualapai Mount 50.07 82 P **P** **21 52 49.3 0.0**
W13A IAmb IAmb 21 52 50.4
comp=Z,17nm,0.7s
TKX Tecate 50.09 86 P **P** **21 52 49.2 -0.1**
TKX IAmb IAmb 21 52 50.6
comp=Z,20nm,0.9s
RSSD Black Hills 50.16 66 P **P** **21 52 48.6 -1.4**
RSSD Black Hills 50.16 66 P **P** **21 52 48.7 -1.2**
baz=308
RSSD Black Hills 50.16 66 P **P** **21 52 48.9 -1.1**
baz=308
RSSD Black Hills 50.16 66 P **P** **21 52 48.6 -1.4**
RSSD pmax pmax
comp=Z,31nm,1.6s
RSSD Black Hills 50.16 66 P **P** **21 52 48.6 -1.4**
RSSD PcP **PcP** **21 54 07.3 -0.5**
O20A White River Ci 50.21 73 P **P** **21 52 49.4 -0.9**
baz=309,SNR=8.4
SWSC Sam W. Stewart 50.33 85 P **P** **21 52 51.0 -0.1**
baz=313
MDND Maddock 50.34 60 P **P** **21 52 50.1 -0.8**
baz=307
IKP In-Ko-Pah, Jac 50.34 86 P **P** **21 52 51.6 +0.3**
baz=313,SNR=7.1
PDMCI Parker Dam,Lak 50.44 83 P **P** **21 52 51.9 0.0**
baz=312,SNR=7.3
BLYC Blythe 50.57 83 P **P** **21 52 52.8 -0.2**
BLYC IAmb IAmb 21 52 54.1
comp=Z,30nm,0.8s
BLYC PcP **PcP** **21 54 09.9 +0.8**
TARA Tarawa 50.59 187 P **P** **21 52 53.7 +0.6**
TARA Tarawa 50.59 187 P **P** **21 52 54.3 +1.2**
YHNB Yeheng 50.75 260 P **P** **21 52 54.8 +0.3**
ULM Lac du Bonnet 50.84 56 P **P** **21 52 53.2 -1.4**
comp=Z,9.7nm,0.7s,baz=303,slow=8.2,SNR=8.2
ULM LR LR 22 15 44.4
comp=Z,269nm,18.1s,baz=309,slow=37
comp=Z,9.7nm,0.7s
ULM Lac du Bonnet 50.84 56 P **P** **21 52 53.8 -0.9**
ULM IAmb IAmb 21 52 55.4
comp=Z,48nm,1.5s
ULM Lac du Bonnet 50.84 56 P **P** **21 52 53.8 -0.9**
ULM pmax pmax
comp=Z,48nm,1.5s
GLA Glamis 50.86 84 P **P** **21 52 55.4 +0.3**
baz=313,SNR=16
PV10 Paradox Valley 50.86 75 P **P** **21 52 55.3 -0.1**
PV10 IAmb IAmb 21 53 23.3
comp=Z,31nm,0.8s
WHN Wuhan 50.88 271 ⇓P **P** **21 52 55.5 +0.2**
NACB Ninganchiao 50.99 260 P **P** **21 52 55.9 -0.2**
N23A Red Feather La 51.08 71 P **P** **21 52 56.5 -0.5**
baz=310,SNR=6.8
DAG Danmarks Havn 51.13 5 *i* P **P** **21 52 53.3 -3.2**
DAG IAmb IAmb 21 52 56.2
comp=Z,4.3nm,0.7s
WUAZ Wupatki 51.32 80 P **P** **21 52 58.7 -0.1**
WUAZ pP **pP** **21 53 22.5 -1.3**
WUAZ IAmb IAmb 21 53 26.5
comp=Z,36nm,0.9s
WUAZ PcP **PcP** **21 54 13.0 +0.8**
WUAZ Wupatki 51.32 80 P **P** **21 52 59.1 +0.3**
baz=312,SNR=5.2
SSLB Suanglung 51.66 260 P **P** **21 53 01.6 +0.4**
SSLB Suanglung 51.66 260 P **P** **21 53 01.4 +0.2**
YULB Yu-li 51.75 259 P **P** **21 53 02.0 +0.1**
YULB Yu-li 51.75 259 P **P** **21 53 02.2 +0.4**
XAN Xi'an 51.84 279 ⇓*i* P **P** **21 53 02.8 +0.3**
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN Xi'an 51.84 279 P **P** **21 53 02.5 0.0**
MVCO Mesa Verde 51.95 76 P **P** **21 53 03.0 -0.4**
MVCO Mesa Verde 51.95 76 P **P** **21 53 02.9 -0.6**
baz=311
ISCO Idaho Springs 51.98 72 P **P** **21 53 03.7 0.0**
ISCO Idaho Springs 51.98 72 P **P** **21 53 03.5 -0.2**
baz=310
ISCO Idaho Springs 51.98 72 P **P** **21 53 03.7 0.0**
baz=310,SNR=9.2
ISCO Idaho Springs 51.98 72 P **P** **21 53 03.7 0.0**
ISCO pmax pmax
comp=Z,23nm,1.4s
AGMN Agassiz Nation 52.05 58 P **P** **21 53 02.1 -1.6**
AGMN IAmb IAmb 21 53 03.6
comp=Z,35nm,1.2s
AGMN Agassiz Nation 52.05 58 P **P** **21 53 02.6 -1.1**
baz=308
AGMN Agassiz Nation 52.05 58 P **P** **21 53 02.9 -0.8**
baz=308,SNR=7.7
TPUB Ta-pu 52.22 260 P **P** **21 53 05.4 +0.1**
TPUB Ta-pu 52.22 260 P **P** **21 53 05.6 +0.2**
ZAA0 Zalesovo Array 52.38 312 P **P** **21 53 05.2 -0.9**
ZAA0 PcP **PcP** **21 54 16.1 +0.6**
ZAA0 IAmb IAmb 21 54 17.2
comp=Z,26nm,0.8s
ZALV Zalesovo Beam 52.38 312 P **P** **21 53 05.5 -0.6**
comp=Z,4.4nm,0.7s,baz=59,slow=6.6,SNR=13
ZALV PcP **PcP** **21 54 15.9 +0.4**
comp=Z,24nm,0.8s,baz=35,slow=3.8,SNR=21
ZALV ScP **ScP** **21 58 02.2 -0.4**
comp=Z,4.4nm,0.8s,baz=53,slow=5.7,SNR=8.4
ZALV LR LR 22 15 33.0
comp=Z,59nm,21.6s,baz=49,slow=36
comp=Z,4.4nm,0.7s
ZALV Zalesovo Beam 52.38 312 P **P** **21 53 05.3 -0.8**
W18A Petrified Fore 52.59 79 P **P** **21 53 08.3 +0.2**
baz=312
S22A 4UR Ranch, Cre 52.59 74 P **P** **21 53 08.6 +0.3**
baz=311,SNR=12
Q24A Divide 52.79 72 P **P** **21 53 09.3 -0.5**
baz=311
214A Organ Pipe Nat 52.85 84 P **P** **21 53 10.1 +0.2**
baz=314,SNR=8.3
B35A Bob, Littlefor 53.12 56 P **P** **21 53 10.2 -1.4**
baz=309
SUMG Summit 53.19 13 *i* P **P** **21 53 10.4 -1.8**
SUMG IAmb IAmb 21 53 13.4
comp=Z,28nm,0.8s
F33A 5 Mile Ranch, 53.37 60 P **P** **21 53 12.0 -1.5**
baz=310
SDCO Great Sand Dun 53.38 73 P **P** **21 53 13.5 -0.6**
SDCO Great Sand Dun 53.38 73 P **P** **21 53 13.7 -0.3**
baz=312
SDCO Great Sand Dun 53.38 73 P **P** **21 53 14.0 -0.1**
baz=312,SNR=14
DBG Daneborg 53.44 6 *i* P **P** **21 53 09.2 -4.4**
DBG IAmb IAmb 21 53 13.1
comp=Z,7.2nm,0.7s
FRB Frobisher Bay 53.47 31 LR LR 22 18 53.4
comp=Z,112nm,18.3s,baz=342,slow=39
LZH Lanzhou 53.55 284 ⇓P **P** **21 53 16.5 +1.3**
LZH pP pP 21 53 41.3 +0.7
LZH PcP **PcP** **21 54 21.5 +1.0**
LZH S **S** **22 00 42.3 +2.1**
LZH sS sS 22 01 24.5 +1.3
LZH pmax pmax
comp=Z,84nm,1.1s
GTA Gaotai 53.74 290 ⇓P **P** **21 53 17.3 +0.8**
GTA pP pP 21 53 41.5 -0.1
GTA sP sP 21 53 52.8 -0.5
GTA S **S** **22 00 42.8 +0.3**
GTA sS sS 22 01 26.0 +0.1
GTA pmax pmax
comp=Z,64nm,0.9s
GTA pmax pmax
comp=Z,140nm,6.3s
GTA LR LR
comp=Z,170nm,19.6s
GTA LR LR
comp=Z,170nm,17.1s
GTA LR LR
comp=Z,120nm,20.0s
DGZ Jazzator, Alta 53.82 306 *d* P **P** **21 53 17.5 +0.6**
DGZ pmax pmax
comp=Z,19nm,0.9s
TUC Tucson 53.85 82 P **P** **21 53 17.2 -0.1**
TUC Tucson 53.85 82 P **P** **21 53 17.6 +0.3**
baz=314
TUC Tucson 53.85 82 P **P** **21 53 17.2 -0.1**
TUC pmax pmax
comp=Z,16nm,0.9s
TUC Tucson 53.85 82 P **P** **21 53 17.8 +0.5**
TUC pP **pP** **21 53 43.0 +0.5**
ILULI Ilulissat 53.87 20 P **P** **21 53 16.8 +0.1**
ILULI Ilulissat 53.87 20 P **P** **21 53 16.8 +0.1**
ILULI pmax pmax
comp=Z,42nm,0.7s
ENH Enshi 54.08 275 P **P** **21 53 18.5 -0.4**
ENH PcP **PcP** **21 54 22.7 +0.3**
ENH Enshi 54.08 275 P **P** **21 53 18.9 0.0**
ENH Enshi 54.08 275 P **P** **21 53 18.7 -0.2**
KSCO Kaye Shedlock' 54.24 70 P **P** **21 53 19.6 -0.5**
KSCO IAmb IAmb 21 53 21.0
comp=Z,24nm,0.7s
KSCO Kaye Shedlock' 54.24 70 P **P** **21 53 20.1 0.0**
baz=312,SNR=5.2
T25A Trinidad 54.44 73 P **P** **21 53 21.2 -0.4**
T25A IAmb IAmb 21 53 22.7
comp=Z,35nm,1.1s
T25A Trinidad 54.44 73 P **P** **21 53 21.4 -0.3**
baz=312,SNR=15
EYMN Ely 54.53 56 P **P** **21 53 21.4 -0.4**
EYMN IAmb IAmb 21 53 22.7
comp=Z,35nm,1.2s
EYMN Ely 54.53 56 P **P** **21 53 20.5 -1.4**
baz=311
EYMN Ely 54.53 56 P **P** **21 53 21.0 -0.9**
baz=310,SNR=7.7
ECSD EROS Data Cent 54.55 62 P **P** **21 53 20.5 -1.7**
ECSD EROS Data Cent 54.55 62 P **P** **21 53 20.4 -1.7**
baz=311
ECSD EROS Data Cent 54.55 62 P **P** **21 53 20.5 -1.7**
baz=311
ANMO Albuquerque 54.69 77 LR LR 22 14 41.9
comp=Z,91nm,21.0s,baz=30,slow=34
ANMO Albuquerque 54.69 77 P **P** **21 53 23.1 -0.4**
ANMO Albuquerque 54.69 77 P **P** **21 53 22.7 -0.8**
baz=313
ANMO Albuquerque 54.69 77 P **P** **21 53 23.5 +0.1**
baz=313
ANMO Albuquerque 54.69 77 *ce* P **P** **21 53 23.7 +0.2**
ANMO pmax pmax
comp=Z,7.0nm,0.8s
ANMO Albuquerque 54.69 77 P **P** **21 53 23.4 0.0**
ANMO PcP **PcP** **21 54 24.7 -0.2**
F36A Milaca 54.83 59 P **P** **21 53 22.8 -1.3**
baz=311
E38A The Farm, Brul 55.37 57 P **P** **21 53 26.7 -1.3**
baz=311
121A Cookes Peak, D 55.53 80 P **P** **21 53 29.6 +0.1**
121A Cookes Peak, D 55.53 80 P **P** **21 53 29.9 +0.4**
baz=314
121A Cookes Peak, D 55.53 80 P **P** **21 53 29.9 +0.4**
baz=314,SNR=7.8
SPMN Marine on St. 55.63 59 P **P** **21 53 29.7 -0.2**
baz=311
SFJD Kangerlussuaq 55.79 21 LR LR 22 20 14.5
comp=Z,48nm,18.8s,baz=338,slow=39
SFJD Kangerlussuaq 55.79 21 P **P** **21 53 30.6 0.0**
SFJD IAmb IAmb 21 53 57.4
comp=Z,80nm,1.6s
SFJD Kangerlussuaq 55.79 21 P **P** **21 53 30.7 0.0**
SFJD pmax pmax
comp=Z,80nm,1.6s
SFJD Kangerlussuaq 55.79 21 P **P** **21 53 30.4 -0.2**
SFJD pP **pP** **21 53 56.2 +0.5**
SFJD sP **sP** **21 54 09.3 +2.0**
HSIG 56.05 85 P **P** **21 53 32.6 -0.4**
HSIG IAmb IAmb 21 53 34.2
comp=Z,28nm,0.9s
CBKS Cedar Bluff 56.05 69 P **P** **21 53 32.1 -0.9**
CBKS IAmb IAmb 21 53 33.4
comp=Z,33nm,0.7s
CBKS Cedar Bluff 56.05 69 P **P** **21 53 32.6 -0.3**

baz=312
CBKS Cedar Bluff 56.05 69 P P 21 53 32.5 -0.5
baz=312
CBKS Cedar Bluff 56.05 69 P P 21 53 32.1 -0.9
CBKS pmax pmax
comp=Z,33nm,0.7s
ICESG Greenland Ices 56.11 15 *i* P **P 21 53 32.1 -1.2**
ICESG IAmb IAmb 21 53 33.5
comp=Z,28nm,0.7s
I37B Waseca 56.11 60 P P 21 53 32.8 -0.5
baz=312
ZSN Zaisan 56.59 306 ⇓*i* P **P 21 53 36.9 +0.3**
comp=Z,11nm,1.1s,baz=306
ZSN *e*S **S 22 01 21.9 +1.9**
baz=306
ZSN Zaisan 56.59 306*d i* P **P 21 53 36.9 +0.3**
ZSN *e*S **S 22 01 21.9 +1.9**
ZSN pmax pmax
comp=Z,11nm,1.1s
KEV Kevo 56.86 349 P P 21 53 38.2 0.0
KEV Kevo 56.86 349 P P 21 53 38.2 0.0
KEV pmax pmax
comp=Z,87nm,1.5s
COWI Conover 56.96 56 P P 21 53 38.3 -1.0
COWI IAmb IAmb 21 54 45.0
comp=Z,34nm,1.4s
G40A Rib Lake 56.97 57 P P 21 53 37.6 -1.7
baz=312
N35A Tabor 57.00 64 P P 21 53 39.0 -0.6
baz=313
GULI GuiLin 57.09 270 P P 21 53 38.5 -1.9
CD2 Chengdu 57.16 279 P P 21 53 41.3 +0.4
CD2 pP pP 21 54 05.0 -1.6
CD2 sP sP 21 54 16.8 -1.4
CD2 S **S 22 01 26.8 -1.2**
CD2 pmax pmax
comp=Z,70nm,0.9s
DY2G Dye2 57.17 20 *i* P **P 21 53 39.1 -1.6**
DY2G IAmb IAmb 21 53 41.6
comp=Z,28nm,0.7s
ARCES ARCESS Array B 57.25 349 P P 21 53 40.5 -0.5
comp=Z,6.5nm,0.6s,baz=29,slow=7.0,SNR=17
ARCES LR LR 22 22 15.4
comp=Z,74nm,18.2s,baz=18,slow=40
comp=Z,6.5nm,0.6s
ARCES ARCESS Array B 57.25 349 P P 21 53 39.9 -1.1
ARCES IAmb IAmb 21 55 14.7
comp=Z,95nm,1.8s
KURK Kurchatov 57.37 312 P P 21 53 41.8 -0.3
KURK Kurchatov 57.37 312*ce* P **P 21 53 42.2 +0.1**
KURK pmax pmax
comp=Z,85nm,1.3s
KURK Kurchatov 57.37 312 P P 21 53 42.4 +0.3
KURK pP **pP 21 54 08.0 +0.7**
KURK PcP **PcP 21 54 35.2 +0.4**
LVZ Lovozero 57.48 345 P P 21 53 41.9 -0.7
LVZ Lovozero 57.48 345*ce* P **P 21 53 43.0 +0.4**
LVZ pmax pmax
comp=Z,130nm,2.5s
LVZ Lovozero 57.48 345 P P 21 53 41.7 -0.9
LVZ pP **pwP 21 54 08.8 +1.0**
LVZ PcP **PcP 21 54 33.6 -1.4**
WMQ Urumqi 57.57 301 *eP* **P 21 53 44.5 +0.8**
WMQ sP sP 21 54 22.8 +2.4
WMQ PcP **PcP 21 54 36.8 +0.9**
WMQ pmax pmax
comp=Z,56nm,0.7s
WMQ pmax pmax
comp=Z,140nm,5.7s
WMQ LR LR
comp=Z,76nm,22.3s
WMQ Urumqi 57.57 301 P P 21 53 44.6 +0.8
WMQ PcP **PcP 21 54 37.2 +1.3**
MNTX Cornudas Mount 57.58 79 P P 21 53 43.6 -0.2
MNTX IAmb IAmb 21 53 45.1
comp=Z,16nm,0.8s
MNTX Cornudas Mount 57.58 79 P P 21 53 43.9 +0.1
baz=315
MNTX Cornudas Mount 57.58 79 P P 21 53 44.1 +0.3
baz=315,SNR=27
AMTX Amarillo 57.59 73 P P 21 53 42.9 -1.1
baz=314
AMTX Amarillo 57.59 73 P P 21 53 43.7 -0.3
baz=314
KSU1 Kansas State U 57.65 67 P P 21 53 42.7 -1.5
baz=313
APA Apatity 57.98 345 ⇓*i* P **P 21 53 44.4 -1.7**
APA *i* *PP **pP 21 54 13.6 +2.3**
APA *i* 21 54 36.5
APA MLR MLR
comp=Z,3μm,14.0s
MK31 Makanchi Array 58.32 307 P P 21 53 48.3 -0.5
MK31 IAmb IAmb 21 53 49.4
comp=Z,19nm,0.9s
MK31 Makanchi Array 58.32 307 P P 21 53 48.3 -0.5
MK31 pmax pmax
comp=Z,19nm,0.9s
MKAR Makanchi Array 58.32 307 P P 21 53 48.4 -0.4
comp=Z,16nm,0.7s,baz=54,slow=7.4,SNR=104
MKAR ScP **ScP 21 58 28.1 -0.8**
comp=Z,2.7nm,1.0s,baz=28,slow=3.4,SNR=4.3
MKAR LR LR 22 18 47.1
comp=Z,109nm,21.3s,baz=130,slow=36
comp=Z,16nm,0.7s
MKAR Makanchi Array 58.32 307 P P 21 53 48.2 -0.6
MAKZ Makanchi 58.47 307 P P 21 53 49.1 -0.7
MAKZ IAmb IAmb 21 53 50.4
comp=Z,25nm,0.8s
MAKZ Makanchi 58.47 307 P P 21 53 49.1 -0.7
MAKZ pmax pmax
comp=Z,25nm,0.8s
MAKZ Makanchi 58.47 307 P P 21 53 49.3 -0.6
MAKZ pP **pP 21 54 14.8 -0.4**
MAKZ PcP **PcP 21 54 37.3 -2.0**
JFWS Jewell Farm 58.55 59 P P 21 53 49.1 -1.4
baz=313
L40A Anamosa 58.61 61 P P 21 53 49.8 -1.1
baz=314
GOMU GeErMu 58.83 290 P P 21 53 50.8 -2.1
GOMU pmax pmax
comp=Z,32nm,0.5s
P38A Dawn 59.02 64 P P 21 53 52.4 -1.3
baz=314
BVAR Borovoye Array 59.34 318 LR LR 22 21 47.7
comp=Z,117nm,19.2s,baz=44,slow=38
BRVK Borovoye 59.36 318 P P 21 53 56.2 +0.4
BRVK Borovoye 59.36 318 P P 21 53 56.2 +0.4
BRVK pmax pmax
comp=Z,32nm,0.7s
BRVK Borovoye 59.36 318 P P 21 53 56.4 +0.6
BRVK pP **pP 21 54 22.7 +1.5**
BRVK PcP **PcP 21 54 43.0 +0.3**
BRVK ScP **ScP 21 58 33.8 +0.4**
WMOK Wichita Mounta 59.40 72 P P 21 53 56.2 -0.3
WMOK IAmb IAmb 21 53 57.0
comp=Z,11nm,0.7s
WMOK Wichita Mounta 59.40 72 P P 21 53 56.2 -0.3
baz=315
WMOK Wichita Mounta 59.40 72 P P 21 53 56.0 -0.5
baz=314,SNR=13
WMOK Wichita Mounta 59.40 72 P P 21 53 56.2 -0.3
WMOK pmax pmax
comp=Z,11nm,0.7s
ANGG Ammassalik, Gr 59.59 16 P P 21 53 56.5 -0.7
MANU Manus Island 59.82 217 P P 21 54 00.2 +0.8
P40A Paris 59.91 63 P P 21 53 58.6 -1.3
baz=314
LPIG La Paz 59.98 89 LR LR 22 17 55.7
comp=Z,44nm,18.0s,baz=309,slow=34
RABL Rabaul 60.18 211 P P 21 54 01.6 -0.3
SVE Sverdlovsk 60.19 326*ce* P **P 21 54 02.8 +1.4**
SVE pmax pmax
comp=Z,86nm,1.3s
TX31 Lajitas Ar. Si 60.29 79 P P 21 54 02.5 -0.2
TX31 Lajitas Ar. Si 60.29 79 P P 21 54 02.7 0.0
baz=316
TXAR Lajitas Array 60.29 79 P P 21 54 02.4 -0.3
comp=Z,12nm,0.6s,baz=300,slow=4.7,SNR=162
TXAR ScP **ScP 21 58 37.1 -0.9**
comp=Z,2.7nm,0.8s,baz=286,slow=3.4,SNR=6.9
TXAR LR LR 22 19 50.0
comp=Z,62nm,18.5s,baz=326,slow=36
comp=Z,12nm,0.6s
TUL1 Leonard 60.33 69 P P 21 54 01.9 -0.8
TUL1 IAmb IAmb 21 54 02.8
comp=Z,20nm,0.8s
TUL1 Leonard 60.33 69 P P 21 54 02.3 -0.4
baz=315
KRVT Keravat (AS076 60.34 211 LR LR 22 13 37.6
comp=Z,97nm,21.6s,baz=148,slow=29
ABTX Abilene, Hawle 60.38 74 P P 21 54 02.6 -0.5
ABTX IAmb IAmb 21 54 04.0
comp=Z,21nm,0.9s
ABTX Abilene, Hawle 60.38 74 P P 21 54 03.1 -0.1
baz=315
ADZR Andozero 60.38 341 *eP* **P 21 54 01.2 -1.4**
ADZR pmax pmax
comp=Z,37nm,0.6s
SLBS Sierra La Lagu 60.51 89 P P 21 54 05.0 +0.7
SLBS pP **pP 21 54 29.1 -0.9**
SLBS PcP **PcP 21 54 47.0 -0.8**
BRZS Berezniki 60.58 314 ⇓*i* P **P 21 54 04.2 0.0**
comp=Z,14nm,1.0s,baz=314
BRZS Berezniki 60.58 314*d i* P **P 21 54 04.2 0.0**
BRZS pmax pmax
comp=Z,14nm,1.0s
SCHQ Schefferville 60.65 37 P P 21 54 04.5 -0.2
comp=Z,18nm,0.8s,baz=327,slow=7.7,SNR=13
SCHQ LR LR 22 21 18.2
comp=Z,124nm,19.2s,baz=46,slow=37
comp=Z,18nm,0.8s
SCHQ Schefferville 60.65 37 P P 21 54 04.4 -0.2
PRGR Permogore 60.73 336 *eP* **P 21 54 04.7 -0.4**
PRGR *e**PP **pP 21 54 30.9 +0.4**
PRGR pmax pmax
comp=Z,52nm,0.9s
U38A Gravette 60.76 67 P P 21 54 04.3 -1.4
baz=315
ARU Arti 61.21 327 LR LR 22 21 01.2
comp=Z,63nm,22.0s,baz=24,slow=36
ARU Arti 61.21 327 P P 21 54 08.9 +0.5
ARU Arti 61.21 327*d* P **P 21 54 09.3 +0.8**
ARU *PP **pP 21 54 32.2 -1.7**
ARU 21 56 24.9
ARU S **S 22 02 24.2 +4.7**
ARU SS **SS 22 06 15.8 -4.5**
ARU pmax pmax
comp=Z,102nm,0.9s
ARU Arti 61.21 327 P P 21 54 09.2 +0.8
ARU PcP **PcP 21 54 50.6 +0.6**
IVI Ivigtut 61.27 24 P P 21 54 08.4 -0.2
IVI IAmb IAmb 21 54 09.1
comp=Z,39nm,0.9s
IVI Ivigtut 61.27 24 *i* P **P 21 54 06.9 -1.8**
IVI IAmb IAmb 21 54 09.0
comp=Z,25nm,0.7s
CCM Cathedral Cave 61.39 64 P P 21 54 08.2 -1.7
CCM Cathedral Cave 61.39 64 P P 21 54 08.2 -1.7
CCM pmax pmax
comp=Z,7.0nm,0.7s
X37A Clayton 61.50 70 P P 21 54 10.3 -0.4
baz=315
TDK Taldyqorghan 61.51 307 *eP* **P 21 54 10.1 -0.5**
baz=307
TDK Taldyqorghan 61.51 307 *eP* **P 21 54 10.9 +0.3**
PZH PanZhiHua 61.53 277 ⇓P **P 21 54 11.5 +0.3**
PZH pmax pmax
comp=Z,60nm,1.2s
PZH pmax pmax
comp=Z,130nm,5.4s
JCT Junction City 61.81 76 P P 21 54 11.7 -1.2
JCT Junction City 61.81 76 P P 21 54 12.5 -0.4
baz=316
JCT Junction City 61.81 76 P P 21 54 11.7 -1.2
JCT pmax pmax
comp=Z,19nm,1.2s
KMI Kunming 61.92 276 ⇓P **P 21 54 14.3 +0.4**
KMI pP pP 21 54 39.8 -0.1
KMI pmax pmax
comp=Z,28nm,0.8s
KMI Kunming 61.92 276 P P 21 54 14.0 +0.1
KMI pP **pP 21 54 40.9 +1.0**
SFIN Lafayette 62.01 60 P P 21 54 13.0 -1.0
baz=316
SFIN Lafayette 62.01 60 P P 21 54 13.2 -0.8
baz=316,SNR=5.8
QIZ Qiongzhong 62.05 265 P P 21 54 15.6 +1.1
WHTX Lake Whitney, 62.13 73 P P 21 54 14.8 -0.1
baz=316,SNR=5.6
SHLS Shalkode 62.31 305 ⇓*i* P **P 21 54 15.2 -1.0**
comp=Z,18nm,0.7s,baz=305
SHLS Shalkode 62.31 305*d* P **P 21 54 15.1 -1.0**
SHLS pmax pmax
comp=Z,18nm,0.7s
KIRV Kirov 62.31 333 LR LR 22 23 14.7
comp=Z,74nm,19.8s,baz=25,slow=38
KIRV Kirov 62.31 333*ce* P **P 21 54 16.9 +1.2**
FCAR Ozark Folk Cen 62.44 66 P P 21 54 15.2 -1.7
FCAR IAmb IAmb 21 54 41.6
comp=Z,23nm,0.8s
KPKS Kokpek 62.48 306 ⇓*i* P **P 21 54 17.7 +0.4**
comp=Z,22nm,0.8s,baz=306
KPKS Kokpek 62.48 306*d* P **P 21 54 17.6 +0.4**
KPKS pmax pmax
comp=Z,22nm,0.8s
UZB Uzunbulak 62.54 306 *eP* **P 21 54 18.4 +0.6**
baz=306
UZB Uzunbulak 62.54 306 *eP* **P 21 54 18.3 +0.6**
MIAR Mount Ida 62.57 68 P P 21 54 16.6 -1.2
MIAR IAmb IAmb 21 54 45.0
comp=Z,29nm,1.2s
MIAR Mount Ida 62.57 68 P P 21 54 16.8 -1.0
baz=316
MIAR Mount Ida 62.57 68 P P 21 54 17.3 -0.5
baz=316,SNR=8.3
MIAR Mount Ida 62.57 68 P P 21 54 16.7 -1.2
MIAR pmax pmax
comp=Z,29nm,1.2s
BORG Borgarnes 62.68 9 P P 21 54 18.2 +0.1
BORG Borgarnes 62.68 9 P P 21 54 18.2 +0.1
BORG pmax pmax
comp=Z,512nm,2.0s
LCAR Lake Charles 62.86 66 P P 21 54 17.9 -1.8
KLMR Klimovskoe 62.86 339 *eP* **P 21 54 18.1 -1.2**
KLMR AMP 21 54 20.9
comp=Z,32nm,1.1s
KLMR *ep*P **pP 21 54 44.0 -0.9**
KLMR Klimovskoe 62.86 339 *eP* **P 21 54 18.1 -1.2**
KLMR *e**PP **pP 21 54 44.0 -0.9**
KLMR pmax pmax
comp=Z,32nm,1.1s
SADO Sadowa 62.89 51 LR LR 22 21 58.1
comp=Z,207nm,20.7s,baz=354,slow=36
SATY Saty 62.91 306 ⇓*i* P **P 21 54 20.8 +0.6**
comp=Z,18nm,1.1s,baz=306
SATY Saty 62.91 306*d* P **P 21 54 20.7 +0.6**
SATY pmax pmax
comp=Z,18nm,1.1s
CHKK Chushkaly 63.04 307 *eP* **P 21 54 20.4 -0.5**
baz=307
CHKK Chushkaly 63.04 307 *eP* **P 21 54 20.4 -0.5**
O48B Farmland 63.13 58 P P 21 54 20.0 -1.5
baz=316
O48B Farmland 63.13 58 P P 21 54 20.2 -1.3
baz=316
GENI Genyem 63.20 224 P P 21 54 22.9 +0.8
comp=Z,161nm,1.0s
GENI Genyem 63.20 224 P P 21 54 23.4 +1.3
KUU Kurty 63.33 308 *eP* **P 21 54 22.4 -0.4**
comp=Z,14nm,0.8s,baz=308
KUU Kurty 63.33 308 *eP* **P 21 54 22.3 -0.4**
KUU pmax pmax
comp=Z,14nm,0.8s
MDOK Medeo 63.52 307 *i* P **P 21 54 24.5 +0.3**
baz=307
MDOK Medeo 63.52 307 *i* P **P 21 54 24.5 +0.3**
AAA Alma-Ata 63.55 307 *eP* **P 21 54 25.0 +0.6**
baz=307
AAA Alma-Ata 63.55 307 *eP* **P 21 54 24.9 +0.6**
BTLS Baital 63.59 310 ⇓*eP* **P 21 54 24.7 +0.2**
comp=Z,13nm,0.9s,baz=310
BTLS Baital 63.59 310*deP* **P 21 54 24.6 +0.2**
BTLS pmax pmax
comp=Z,13nm,0.9s
TNSS Tian-Shan 63.66 307 *eP* **P 21 54 25.9 +0.4**
baz=307
TNSS Tian-Shan 63.66 307 *eP* **P 21 54 25.8 +0.4**
TARG Taragay, Kyrgy 64.19 305 P P 21 54 29.7 +0.8
TARG Taragay, Kyrgy 64.19 305 P P 21 54 29.7 +0.8
TARG pmax pmax
comp=Z,12nm,0.7s
SRPI Serui, Papua 64.31 228 P P 21 54 30.2 +0.8
TKM2 Tokmak 2 64.41 307 P P 21 54 30.7 +0.6
SNR=36
ERPA Erie 64.42 54 P P 21 54 30.2 +0.3
baz=318
T47A Sharon Grove 64.45 62 P P 21 54 29.0 -1.2
baz=317
SGDS Sogindy 64.49 308 ⇓*i* P **P 21 54 31.1 +0.7**
baz=308
SGDS Sogindy 64.49 308*d i* P **P 21 54 31.1 +0.7**
TNCH TengChong 64.59 279 ⇓P **P 21 54 32.5 +1.0**
TNCH pP pP 21 54 55.8 -1.8
TNCH sP sP 21 55 10.5 +1.3
TNCH S **S 22 02 58.3 -4.5**
TNCH sS sS 22 03 47.3 0.0
TNCH pmax pmax
comp=Z,42nm,1.4s
TNCH pmax pmax
comp=Z,180nm,4.6s
ULHL Ulahol 64.59 307 P P 21 54 32.2 +0.8
SNR=6.6
WVT Waverly 64.67 63 P P 21 54 30.5 -1.1
WVT Waverly 64.67 63 P P 21 54 30.7 -1.0
baz=317
WVT Waverly 64.67 63 P P 21 54 31.4 -0.2
baz=317
WVT Waverly 64.67 63 P P 21 54 30.5 -1.1
WVT pmax pmax
comp=Z,9.0nm,1.0s
WVT Waverly 64.67 63 P P 21 54 30.9 -0.7
WVT pP **pP 21 54 57.2 -0.5**
USP Ospenovka 64.69 308 P P 21 54 32.7 +1.0
SNR=55
CHMS Chumysh 64.77 308 P P 21 54 33.1 +0.9
SNR=10
FIA1 FINESS Array S 64.86 346 P P 21 54 31.5 -0.9
FIA1 IAmb IAmb 21 56 35.0
comp=Z,80nm,1.8s
FINES FINESS Array B 64.86 346 P P 21 54 31.3 -1.1
comp=Z,6.4nm,0.8s,baz=16,slow=7.7,SNR=26
FINES PKPPKP **P'P'df 22 23 15.9 -2.9**
comp=Z,3.0nm,0.7s,baz=168,slow=7.1,SNR=4.8
FINES LR LR 22 25 20.0
comp=Z,58nm,20.9s,baz=9.5,slow=38
comp=Z,6.4nm,0.8s
FINES FINESS Array B 64.86 346 P P 21 54 31.5 -0.9
FINES FINESS Array B 64.86 346 *i* P **P 21 54 31.2 -1.2**
FINES pmax pmax
comp=Z,6.0nm,0.8s
WVNY West Valley, N 64.90 53 P P 21 54 32.2 -0.8
WVNY IAmb IAmb 21 55 01.5
comp=Z,27nm,0.9s
KBK Karagaybulak 64.93 308 P P 21 54 34.3 +0.9
SNR=12
RKPI Ransiki, Papua 64.96 230 P P 21 54 34.2 +0.5
comp=Z,39nm,0.7s
OXF Oxford 64.97 66 P P 21 54 32.8 -0.8
OXF IAmb IAmb 21 55 02.4
comp=Z,60nm,1.1s
OXF Oxford 64.97 66 P P 21 54 32.6 -1.0
baz=317
OXF Oxford 64.97 66 P P 21 54 32.8 -0.8
OXF pmax pmax
comp=Z,60nm,1.1s
AAK Ala-Archa 65.16 308 P P 21 54 35.8 +0.9
SNR=14
AAK Ala-Archa 65.16 308 LR LR 22 24 04.3
comp=Z,97nm,19.9s,baz=20,slow=37
AAK Ala-Archa 65.16 308 P P 21 54 35.1 +0.1
AAK IAmb IAmb 21 54 36.7
comp=Z,27nm,0.8s
AAK Ala-Archa 65.16 308 *i* P **P 21 54 35.8 +0.9**
SNR=16
AAK Ala-Archa 65.16 308*ce* P **P 21 54 35.6 +0.7**
AAK pmax pmax
comp=Z,59nm,1.7s
AAK Ala-Archa 65.16 308 P P 21 54 35.5 +0.6
AAK pP **pP 21 55 02.8 +2.1**
NRN Naryn 65.32 306 P P 21 54 37.0 +0.8
NRN Naryn 65.32 306 P P 21 54 37.0 +0.8
NRN pmax pmax
comp=Z,14nm,0.8s
PLAL Pickwick Lake 65.37 64 P P 21 54 34.8 -1.4
UCH Uchtor 65.46 308 P P 21 54 38.0 +0.8
SNR=13
EKS2 Erkin-Say 65.50 308 P P 21 54 38.0 +1.0
SNR=40
LSA Lhasa 65.61 287 P P 21 54 39.5 +1.1
LSA IAmb IAmb 21 54 41.1
comp=Z,49nm,0.8s
LSA Lhasa 65.61 287 P P 21 54 39.2 +0.8
LSA Lhasa 65.61 287 P P 21 54 39.5 +1.1
LSA pmax pmax
comp=Z,49nm,0.8s
LSA Lhasa 65.61 287 P P 21 54 40.0 +1.6
L56A Greenwood 65.61 52 P P 21 54 37.2 -0.5
baz=319
L56A P **P 21 54 37.2 -0.5**
baz=319
T50A Nancy 65.66 61 P P 21 54 37.1 -0.9
baz=318
T50A P **P 21 54 37.1 -0.9**
baz=318
K57A Scipio Center 65.67 51 P P 21 54 36.3 -1.7
baz=319
SIJI Sorong 65.82 233 LR LR 22 17 11.3
comp=Z,53nm,20.8s,baz=92,slow=30
AML Almayashu 65.94 308 P P 21 54 41.5 +1.3
SNR=29
FUTU Fugatoga 66.01 176 P P 21 54 42.2 +1.9
SWET Sewanee 66.39 63 P P 21 54 41.9 -0.9
TNTI Ternate 66.42 238 P P 21 54 42.5 -0.5
TNTI IAmb IAmb 21 54 54.0
comp=Z,30nm,0.9s
TNTI Ternate 66.42 238 P P 21 54 43.0 0.0
comp=Z,40nm,0.9s
TNTI Ternate 66.42 238 P P 21 54 43.2 +0.2
ABKAR Akbulak array 66.44 321 P P 21 54 43.3 +0.5
ABKAR Akbulak array 66.44 321 P P 21 54 43.4 +0.6
ABKAR IAmb IAmb 21 54 44.9
comp=Z,60nm,1.2s
DZA Taraz 66.50 310 *eP* **P 21 54 43.6 +0.3**
baz=310
DZA Taraz 66.50 310 *eP* **P 21 54 43.6 +0.3**
SSPA Standing Stone 66.58 54 P P 21 54 43.1 -0.7
SSPA IAmb IAmb 21 55 10.9
comp=Z,30nm,1.1s
SSPA Standing Stone 66.58 54 P P 21 54 43.6 -0.2
baz=319
SSPA Standing Stone 66.58 54 P P 21 54 43.2 -0.7
SSPA pP **pP 21 55 09.5 -0.4**
KK31 Karatay Array 66.72 311 P P 21 54 44.9 +0.2
KK31 IAmb IAmb 21 54 46.2
comp=Z,28nm,0.8s
KK31 Karatay Array 66.72 311 P P 21 54 44.9 +0.2
KK31 pmax pmax
comp=Z,28nm,0.8s
KKAR Karatay Array 66.72 311 P P 21 54 44.9 +0.2
KKAR Karatay Array 66.72 311 P P 21 54 44.9 +0.2
PMG Port Moresby 66.72 214 LR LR 22 21 43.9
comp=Z,108nm,18.9s,baz=350,slow=34
PMG Port Moresby 66.72 214 P P 21 54 45.0 +0.1
PMG IAmb IAmb 21 54 46.5
comp=Z,70nm,1.4s
PMG Port Moresby 66.72 214 P P 21 54 45.8 +0.9
comp=Z,36nm,1.2s
PMG Port Moresby 66.72 214*ce* P **P 21 54 45.6 +0.7**
PMG pmax pmax
comp=Z,46nm,1.3s
NC204 NORSAR Array S 66.73 354 P P 21 54 44.0 -0.5
KSH Kashi 66.77 305 P P 21 54 49.0 +3.8
KSH sP sP 21 55 30.5 +8.1
KSH pmax pmax
comp=Z,43nm,0.9s
NONG Nongkai 66.92 270 P P 21 54 46.8 +0.5
NB2 NORSAR Subarra 66.93 353 P P 21 54 45.1 -0.7
comp=Z,9.3nm,0.9s,baz=8.1,slow=6.2
NOA NORSAR Array B 66.93 353 P P 21 54 45.1 -0.7
comp=Z,5.7nm,0.8s,baz=2.0,slow=5.7,SNR=13
comp=Z,5.7nm,0.8s
CRAI Chiangrai 67.01 274 P P 21 54 47.4 +0.6
FPAL Fort Paine 67.07 63 P P 21 54 45.8 -1.3
FAKI Fak Fak 67.11 231 P P 21 54 47.3 -0.2
FAKI Fak Fak 67.11 231 P P 21 54 47.5 0.0
comp=Z,1μmcomp=Z,123nm,1.0s

FAKI	Fak Fak	67.11	231	P		P		21 54 47.9	+0.4
TKL	Tuckaleechee C	67.24	61	LR		LR		22 24 31.2	
	comp=Z,162nm,20.5s,baz=306,slow=36								
LBMI	Labuha	67.54	237	P		P		21 54 50.1	-0.1
	comp=Z,2µmcomp=Z,75nm,0.9s								
UBPT	Khong Chiam	67.59	266	P		P		21 54 50.7	+0.2
HFS	Hagfors	67.63	352	LR		LR		22 27 54.7	
	comp=Z,57nm,18.2s,baz=48,slow=39								
MYLDM	Lahad Datu	67.67	249	P		P		21 54 52.0	+1.0
CHM	Chimkent	67.75	311	*e*P		P		21 54 52.1	+0.8
	comp=Z,24nm,0.9s,baz=311								
CHM	Chimkent	67.75	311	*e*P		P		21 54 52.0	+0.8
CHM					pmax		pmax		
	comp=Z,25nm,0.9s								
MOS	Moscow	67.91	337	*e*P		P		21 54 52.0	+0.1
MOS				*e*				21 55 18.5	
MOS				*e*				21 59 08.6	
MOS					pmax		pmax		
	comp=Z,52nm,0.8s								
DGTI	Dogotuki	67.93	179	P		P		21 54 54.2	+1.8
BELG	Belogornoye	68.13	330	LR		LR		22 29 12.8	
	comp=Z,62nm,18.2s,baz=91,slow=40								
BELG	Belogornoye	68.13	330	*d*	*i*P	P		21 54 53.8	+0.4
BELG					pmax		pmax		
	comp=Z,16nm,0.9s								
SHL	Shillong	68.22	284	P		P		21 54 54.4	-0.2
SHL	Shillong	68.22	284	P		P		21 54 54.4	-0.2
SHL					pmax		pmax		
	comp=Z,117nm,1.0s								
MND	Mandalay	68.29	278	P		P		21 54 54.5	-0.4
KKM	Kota Kinabalu	68.31	251	P		P		21 54 55.2	0.0
TAVE	Taveuni	68.34	178	P		P		21 54 56.8	+1.8
PHRA	Phrae	68.40	273	P		P		21 54 55.9	+0.4
KONO	Kongsberg	68.43	354	P		P		21 54 54.6	-0.5
KONO					IAmb		IAmb	21 55 24.4	
	comp=Z,32nm,1.1s								
KONO	Kongsberg	68.43	354	*ce*P		P		21 54 55.9	+0.8
KONO					pmax		pmax		
	comp=Z,55nm,2.5s								
TAS	Tashkent	68.67	310	P		P		21 54 57.4	+0.4
TAS					IAmb		IAmb	21 55 00.1	
	comp=Z,60nm,0.8s								
TAS	Tashkent	68.67	310	P		P		21 54 57.4	+0.4
TAS					pmax		pmax		
	comp=Z,60nm,0.8s								
OBN	Obninsk	68.73	338	P		P		21 54 56.7	-0.4
OBN					IAmb		IAmb	21 54 58.7	
	comp=Z,36nm,0.9s								
OBN	Obninsk	68.73	338	*ce*P		P		21 54 57.4	+0.4
OBN					pmax		pmax		
	comp=Z,40nm,1.0s								
GTOI	Gorontalo	68.86	242	P		P		21 54 58.0	-0.4
	comp=Z,17nm,0.8s								
BTK	Batken	68.92	308	P		P		21 54 59.3	+0.6
BTK					IAmb		IAmb	21 55 00.5	
	comp=Z,58nm,0.9s								
BTK	Batken	68.92	308	P		P		21 54 59.3	+0.6
BTK					pmax		pmax		
	comp=Z,58nm,0.9s								
CHTO	Chiang Mai	68.95	274	P		P		21 54 58.9	-0.1
CHTO					IAmb		IAmb	21 55 00.3	
	comp=Z,27nm,0.8s								
CHTO	Chiang Mai	68.95	274	P		P		21 54 58.9	-0.1
CHTO					pmax		pmax		
	comp=Z,27nm,0.9s								
MSAI	Masohi	69.12	234	P		P		21 55 00.6	+0.6
	comp=Z,18nm,0.8s								
CM31	Chiang Mai Arr	69.22	274	P		P		21 55 00.8	+0.1
CM31					IAmb		IAmb	21 55 02.3	
	comp=Z,34nm,1.0s								
CMAR	Chiang Mai Arr	69.22	274	P		P		21 55 01.1	+0.5
	comp=Z,20nm,0.8s,baz=25,slow=7.1,SNR=109								
CMAR					LR		LR	22 25 40.0	
	comp=Z,24nm,22.0s,baz=60,slow=36								
	comp=Z,20nm,0.8s								
CMAR	Chiang Mai Arr	69.22	274	P		P		21 55 00.6	-0.1
MSVF	Nonsavu	69.35	180	P		P		21 55 01.9	+0.6
MSVF					IAmb		IAmb	21 55 04.4	
	comp=Z,56nm,1.1s								
MSVF	Nonsavu	69.35	180	P		P		21 55 03.3	+2.0
MSVF	Nonsavu	69.35	180	P		P		21 55 01.9	+0.6
MSVF					pmax		pmax		
	comp=Z,56nm,1.2s								
MSVF	Nonsavu	69.35	180	P		P		21 55 03.1	+1.8
TAPN	Taplejung	69.38	288	*e*P		P		21 55 02.1	+0.2
	comp=Z,292nm,1.1s								
SANI	Sanana	69.52	238	P		P		21 55 01.2	-1.3
	comp=Z,874nmcomp=Z,83nm,0.9s								
SANI	Sanana	69.52	238	P		P		21 55 01.6	-0.9
MRSI	Marisa	69.58	243	P		P		21 55 02.8	-0.1
	comp=Z,1µmcomp=Z,171nm,1.1s								
TOLI2	Tolitoli	69.70	244	P		P		21 55 03.1	-0.5
TOLI2					IAmb		IAmb	21 55 04.3	
	comp=Z,59nm,0.9s								
TOLI2	Tolitoli	69.70	244	P		P		21 55 03.2	-0.5
	comp=Z,78nm,1.0s								
AAI	Ambon	69.78	235	P		P		21 55 03.7	-0.4
	comp=Z,1µmcomp=Z,145nm,1.0s								
NLAI	Namlea	69.96	236	P		P		21 55 05.0	-0.1
	comp=Z,16nm,0.7s								
GAR	Garm	69.98	308	P		P		21 55 05.6	+0.4
GUN	Gumba	70.03	290	*e*P		P		21 55 07.0	+1.0
	comp=Z,262nm,0.8s								
JIRN	Jiri	70.04	289	*e*P		P		21 55 06.8	+0.8
	comp=Z,255nm,0.8s								
TAOE	Nuku Hiva Isla	70.20	136	*e*LR		LR		22 16 37.6	
	comp=Z,147nm,23.5s								
TAOE	Nuku Hiva Isla	70.20	136	*e*T		T		23 11 22.5	
	comp=Z,32nm,0.3s								
RAMN	Ramite	70.33	289	*e*P		P		21 55 08.2	+0.5
	comp=Z,372nm,1.0s								
LUWI	Luwuk	70.39	241	P		P		21 55 06.8	-1.0
LUWI	Luwuk	70.39	241	P		P		21 55 06.3	-1.5
	comp=Z,2µmcomp=Z,216nm,0.9s								
LUWI	Luwuk	70.39	241	P		P		21 55 07.1	-0.7
LPSR	Galich'ya Gora	70.43	335	*e*P		P		21 55 06.0	-1.5
LPSR					pmax		pmax		
	comp=Z,20nm,0.8s								
KKN	Kakani	70.47	290	*e*P		P		21 55 08.1	-0.4
BRDH	Bariadhala	70.53	282	LR		LR		22 27 29.5	
	comp=Z,51nm,21.6s,baz=141,slow=37								
PKI	Pulchoki	70.56	290	*e*P		P		21 55 09.8	+0.6
	comp=Z,178nm,0.8s								
PKIN	Phulchoki	70.56	290	*e*P		P		21 55 09.8	+0.7
	comp=Z,129nm,0.7s								
GKN	Gorkha	70.68	291	*e*P		P		21 55 10.4	+0.7
DMN	Daman	70.71	290	*e*P		P		21 55 10.9	+0.9
	comp=Z,181nm,0.9s								
CHGR	Chuyangaron	70.82	308	P		P		21 55 10.6	+0.3
CHGR	Chuyangaron	70.82	308	P		P		21 55 10.6	+0.3
CHGR					pmax		pmax		
	comp=Z,151nm,0.9s								
MPSI	Mapaga	70.83	245	P		P		21 55 09.5	-1.0
	comp=Z,906nmcomp=Z,105nm,1.0s								
PABE	Paberze	70.87	345	P		P		21 55 10.6	+0.5
SIMJ	Simiganj	70.89	309	P		P		21 55 11.3	+0.6
SIMJ				sP		sP		21 55 46.8	-1.4
APSI	Ampana	70.90	242	P		P		21 55 10.6	-0.3
	comp=Z,1µmcomp=Z,120nm,1.2s								
DANN	Dangsing	70.93	292	*e*P		P		21 55 12.2	+0.8
	comp=Z,329nm,0.8s								
VRH	Novokhopyorsk	70.93	333	*e*P		P		21 55 08.8	-1.8
VRH					pmax		pmax		
	comp=Z,50nm,0.7s								
MNK	Minsk	71.14	342	*i* P		P		21 55 11.9	+0.1
	comp=E,2.0nm,0.9s								
MNK				*i* P		P		21 55 11.9	+0.1
	comp=N,35nm,0.8s								
MNK				*i* P		P		21 55 11.9	+0.1
	comp=Z,20nm,0.8s,baz=199								
MNK				*i* pP		pP		21 55 37.3	-0.8
MNK				*i* PP		PP		21 57 50.6	+0.5
MNK				*i* PPP		PPP		21 59 34.4	
MNK				*i* S		S		22 04 21.1	+1.4
MNK				*i* sS		SKSac		22 05 05.2	+0.8
MNK				*i* SS		SS		22 08 57.4	+3.5
MNK				*i* SSS		SSS		22 12 17.0	
MNK				*i* LQ		LQ		22 21 44.2	
MNK				*i* LR		LR		22 27 10.9	
MNK				*i* LRM		MLR		22 29 23.2	
	comp=E,16nm,12.2s								
MNK				*i* LRM		MLR		22 29 25.8	
	comp=Z,61nm,10.8s								
MNK				*i* LRM		MLR		22 29 32.8	
	comp=N,193nm,12.8s								

MNK	Minsk	71.14	342	*i* P		P		21 55 11.9	+0.1
MNK				*i*				21 55 31.2	
MNK				*i* *PP		pP		21 55 37.2	-0.8
MNK				*i*				21 57 50.5	
MNK				*i* PPP		PPP		21 59 34.3	
MNK				*i* S		S		22 04 21.1	+1.4
MNK				*i* *SS		SKSac		22 05 05.2	+0.8
MNK				*i* SS		SS		22 08 57.4	+3.5
MNK					pmax		pmax		
	comp=Z,20nm,0.9s								
MNK					pmax		pmax		
	comp=N,35nm,0.9s								
MNK					pmax		pmax		
	comp=E,2.0nm,0.9s								
MNK					MLR		MLR		
	comp=E,16nm,12.0s								
MNK					MLR		MLR		
	comp=Z,61nm,11.0s								
MNK					MLR		MLR		
	comp=N,193nm,13.0s								
VORR	Voronezh	71.20	335	*e*P		P		21 55 11.6	-0.6
VORR					pmax		pmax		
	comp=Z,20nm,0.4s								
VSR	Storozhevoye	71.62	334	*e*P		P		21 55 13.8	-1.0
VSR					pmax		pmax		
	comp=Z,30nm,1.2s								
SAUI	Saumlaki	71.98	230	P		P		21 55 18.3	+1.0
SAUI	Saumlaki	71.98	230	P		P		21 55 18.6	+1.3
	comp=Z,8µmcomp=Z,466nm,1.0s								
SAUI	Saumlaki	71.98	230	P		P		21 55 19.2	+1.9
COEN	Coen	72.35	216	P		P		21 55 19.1	-0.3
COEN					IAmb		IAmb	21 55 20.9	
	comp=Z,38nm,1.1s								
COEN	Coen	72.35	216	P		P		21 55 19.8	+0.3
NIL	Nilore	72.66	302	P		P		21 55 22.0	+0.7
NIL	Nilore	72.66	302	P		P		21 55 22.0	+0.7
NIL					pmax		pmax		
	comp=Z,102nm,1.1s								
KOUNC	Koumac, New Ca	73.20	194	P		P		21 55 25.6	+1.3
KOUNC					IAmb		IAmb	21 55 27.3	
	comp=Z,57nm,1.1s								
KOUNC	Koumac, New Ca	73.20	194	P		P		21 55 26.7	+2.4
	comp=Z,55nm,1.1s								
SBUM	Sibu	73.54	252	P		P		21 55 27.0	+0.4
MARNC	Mare, Loyalty	73.64	190	P		P		21 55 27.6	+0.8
BKB	Balikpapan	73.83	246	P		P		21 55 28.0	-0.3
BKB	Balikpapan	73.83	246	P		P		21 55 28.8	+0.5
	comp=Z,150nm,1.0s								
KBL	Kabul	74.12	306	P		P		21 55 29.4	-0.7
KBL					IAmb		IAmb	21 55 30.8	
	comp=Z,71nm,0.8s								
KBL	Kabul	74.12	306	P		P		21 55 29.4	-0.7
KBL					pmax		pmax		
	comp=Z,71nm,0.8s								
BBSI	Bau Bau	74.22	239	P		P		21 55 30.9	+0.3
YATNC	Mamie plateau,	74.34	191	P		P		21 55 33.7	+2.7
	comp=Z,42nm,0.7s								
DZM	Mont Dzumac	74.40	191	*e*LR		LR		22 18 33.6	
	comp=Z,332nm,33.9s								
DZM	Mont Dzumac	74.40	191	P		P		21 55 32.9	+1.4
DZM					IAmb		IAmb	21 55 34.7	
	comp=Z,52nm,1.0s								
DZM	Mont Dzumac	74.40	191	P		P		21 55 33.7	+2.2
SPSI	Sidrap Palu	74.46	242	P		P		21 55 30.6	-1.4
	comp=Z,47nm,1.0s								
AKASG	Malin Array Be	74.48	340	P		P		21 55 31.1	-0.5
	comp=Z,11nm,0.5s,baz=23,slow=5.9,SNR=25								
AKASG					LR		LR	22 31 36.3	
	comp=Z,49nm,18.6s,baz=20,slow=38								
	comp=Z,11nm,0.5s								
AKASG	Malin Array Be	74.48	340	P		P		21 55 31.2	-0.4
AKASG	Malin Array Be	74.48	340	P		P		21 55 31.2	-0.4
AKASG					pmax		pmax		
	comp=Z,19nm,1.7s								
AKBB	Malin Array Si	74.48	340	P		P		21 55 31.5	-0.2
AKBB					IAmb		IAmb	21 55 33.1	
	comp=Z,23nm,0.7s								
AKBB	Malin Array Si	74.48	340	*ce*P		P		21 55 31.4	-0.2
AKBB					pmax		pmax		
	comp=Z,21nm,0.9s								
PPT2	Papeete2	74.63	148	*e*T		T		23 16 44.3	
	comp=Z,9.3nm,0.3s								
BNSI	Bone	74.64	242	P		P		21 55 32.6	-0.4
	comp=Z,571nmcomp=Z,44nm,1.1s								
TIAR	Tiarei	74.67	148	*e*T		T		23 16 59.7	
	comp=Z,3.0nm,0.3s								
OUENC	Ouen Island, N	74.70	191	P		P		21 55 34.4	+1.4
OUENC					IAmb		IAmb	21 58 15.8	
	comp=Z,54nm,1.3s								
MTKI	Muara Teweh, K	74.72	248	P		P		21 55 31.4	-2.1
DSB	Dublin	75.14	3	P		P		21 55 34.6	-0.7
KAPI	Kappang	75.34	242	LR		LR		22 24 53.1	
	comp=Z,26nm,20.2s,baz=66,slow=32								
KAPI	Kappang	75.34	242	P		P		21 55 37.4	+0.4
KAPI					IAmb		IAmb	21 55 38.2	
	comp=Z,30nm,0.8s								
KAPI	Kappang	75.34	242	P		P		21 55 38.0	+1.0
KAPI	Kappang	75.34	242	P		P		21 55 37.4	+0.4
KAPI					pmax		pmax		
	comp=Z,30nm,0.9s								
MEH	Mehetia	75.39	147	*e*T		T		23 17 52.8	
	comp=Z,16nm,0.3s								
BKSI	Bulukumba	75.40	241	P		P		21 55 36.9	-0.4
	comp=Z,840nmcomp=Z,86nm,1.1s								
KSM	Kuching	75.45	253	P		P		21 55 37.8	+0.1
KSM					IAmb		IAmb	21 55 39.1	
	comp=Z,43nm,0.7s								
KSM	Kuching	75.45	253	P		P		21 55 38.2	+0.5
KDU	Kakadu	75.57	226	P		P		21 55 38.5	+0.3
MTSU	Mount Surprise	75.81	213	P		P		21 55 40.1	+0.5
SURA	Surathani	75.91	267	P		P		21 55 41.2	+0.9
TV1H	Townsville Har	76.05	211	P		P		21 55 41.6	+0.8
MTN	Manton Dam	76.31	227	P		P		21 55 42.6	+0.2
MTN	Manton Dam	76.31	227	P		P		21 55 42.8	+0.4
LVV	L'vov	76.33	343	*e*P		P		21 55 31.0	-11
SRIT	Nakonsritamara	76.37	267	P		P		21 55 43.2	+0.3
SRIT					IAmb		IAmb	21 55 44.5	
	comp=Z,37nm,0.9s								
SRIT	Nakonsritamara	76.37	267	P		P		21 55 43.6	+0.7
GEYT	Alibeck	76.49	315	P		P		21 55 44.4	+0.9
	comp=Z,37nm,1.1s,baz=345,slow=3.4,SNR=51								
GEYT					LR		LR	22 32 30.6	
	comp=Z,56nm,21.1s,baz=34,slow=38								
	comp=Z,37nm,1.1s								
GEYT	Alibeck	76.49	315	P		P		21 55 43.8	+0.4
GEYT					IAmb		IAmb	21 55 45.7	
	comp=Z,66nm,1.3s								
GYA0B	ALIBECK ARRAY	76.49	315	P		P		21 55 43.7	+0.3
GYA0B					IAmb		IAmb	21 55 45.7	
	comp=Z,74nm,1.4s								
OJC	Ojcow	76.64	346	P		P		21 55 43.6	-0.3
OJC	Ojcow	76.64	346	P		P		21 55 43.6	-0.3
OJC					pmax		pmax		
	comp=Z,11nm,0.8s								
GROC	Groznyy	76.77	326	*e*P		P		21 55 45.7	+0.9
GROC				*e*				21 55 57.1	
GROC				*e**PP		pP		21 56 15.1	+3.7
GROC				*e**SP		sP		21 56 26.5	+3.8
GROC					pmax		pmax		
	comp=Z,81nm,1.1s								
SOEI	Soe	76.96	235	P		P		21 55 45.9	-0.3
SOEI					IAmb		IAmb	21 55 54.2	
	comp=Z,61nm,0.9s								
SOEI	Soe	76.96	235	P		P		21 55 46.0	-0.3
	comp=Z,84nm,0.8s								
SOEI	Soe	76.96	235	P		P		21 55 46.5	+0.2
DPC	Dobruska-Polom	76.98	348	*e*P		P		21 55 45.9	-0.1
DPC	Dobruska-Polom	76.98	348	*e*P		P		21 55 45.9	-0.1
CTA	Charters Tower	77.00	211	LR		LR		22 25 07.0	
	comp=Z,67nm,20.5s,baz=334,slow=32								
CTA	Charters Tower	77.00	211	P		P		21 55 46.7	+0.5
	comp=Z,73nm,1.2s								
CTAO	Charters Tower	77.00	211	P		P		21 55 46.4	+0.2
CTAO					IAmb		IAmb	21 55 47.8	
	comp=Z,46nm,0.8s								
CTAO	Charters Tower	77.00	211	P		P		21 55 46.7	+0.5
CTAO	Charters Tower	77.00	211	P		P		21 55 46.4	+0.2
CTAO					pmax		pmax		
	comp=Z,46nm,0.9s								
MMRI	Maumere	77.05	237	P		P		21 55 45.5	-1.2
MMRI					IAmb		IAmb	21 55 46.9	
	comp=Z,56nm,0.9s								
MMRI	Maumere	77.05	237	P		P		21 55 46.0	-0.7
	comp=Z,74nm,1.2s								
MMRI	Maumere	77.05	237	P		P		21 55 46.7	0.0

KIV	Kislovodsk	77.13	329	⇓P		P		21 55 47.7	+0.8
KIV	Kislovodsk	77.13	329	P		P		21 55 47.5	+0.5
KIV	Kislovodsk	77.13	329	*i* P		P		21 55 48.1	+1.2
	SNR=14								
KIV	Kislovodsk	77.13	329	*e*P		P		21 55 48.2	+1.2
KIV					pmax		pmax		
	comp=Z,32nm,1.1s								
STHS	Stebnicka Huta	77.19	345	*e*P		P		21 55 46.3	-0.8
STHS	Stebnicka Huta	77.19	345	*e*P		P		21 55 46.3	-0.8
STHS					pmax		pmax		
	comp=Z,9.0nm,1.1s								
NCK	Nalchik	77.24	328	*i* P		P		21 55 47.9	+0.4
NCK					pmax		pmax		
	comp=Z,52nm,1.0s								
OKC	Ostrava-Krasne	77.25	347	*e*P		P		21 55 48.6	+1.2
OKC	Ostrava-Krasne	77.25	347	*e*P		P		21 55 48.6	+1.2
KBZ	Khabaz	77.26	329	P		P		21 55 48.4	+0.9
	comp=Z,18nm,0.8s,baz=106,slow=2.8,SNR=32								
KBZ					LR		LR	22 33 54.3	
	comp=Z,38nm,19.2s,baz=15,slow=39								
	comp=Z,18nm,0.8s								
KBZ	Khabaz	77.26	329	*ce*P		P		21 55 48.1	+0.6
KBZ					pmax		pmax		
	comp=Z,20nm,0.9s								
SHA1	Shidzhatmaz	77.33	329	*i* P		P		21 55 48.3	0.0
MORC	Moravsky Berou	77.39	347	*e*P		P		21 55 49.6	+1.4
KOLS	Kolonicke sedl	77.49	344	*e*P		P		21 55 49.2	+0.4
KOLS	Kolonicke sedl	77.49	344	*e*P		P		21 55 49.2	+0.4
KOLS					pmax		pmax		
	comp=Z,21nm,0.7s								
NKC	Novy Kostel	77.53	351	*e*P		P		21 55 48.6	-0.4
NKC	Novy Kostel	77.53	351	*e*P		P		21 55 48.6	-0.4
HRA	Herat	77.55	311	P		P		21 55 49.3	+0.3
HRA					IAmb		IAmb	21 55 51.7	
	comp=Z,36nm,0.7s								
PRU	Pruhonice	77.55	349	*e*P		P		21 55 49.4	+0.3
PRU	Pruhonice	77.55	349	*e*P		P		21 55 49.4	+0.3
AKT	Akhty	77.60	324	*e*P		P		21 55 50.5	+0.9
AKT				*e*				21 56 00.0	
AKT				*e**PP		pP		21 56 16.6	+0.3
AKT					pmax		pmax		
	comp=Z,79nm,1.0s								
BATI	Baumata	77.65	235	P		P		21 55 50.5	+0.5
	comp=Z,1µmcomp=Z,175nm,0.9s								
MEM	Membach	77.65	355	*d*P		P		21 55 49.2	-0.4
MEM				*d*PcP		PcP		21 55 57.8	-1.6
CRVS	Cervenica-Dubn	77.66	345	*e*P		P		21 55 50.2	+0.6
CRVS	Cervenica-Dubn	77.66	345	*e*P		P		21 55 50.3	+0.6
BTNL	Ternell	77.67	355	*d*P		P		21 55 50.0	+0.2
BTNL				*d*pP		pP		21 56 17.2	+0.9
BSTI	Sart Tilman	77.70	355	*d*P		P		21 55 48.1	-1.7
NEY	Neytrino	77.75	328	*i* P		P		21 55 50.7	+0.2
NEY					pmax		pmax		
	comp=Z,2.0nm,1.1s								
ZEI	Tsey	77.77	327	*e*P		P		21 55 50.0	-0.7
ZEI					pmax		pmax		
	comp=Z,40nm,0.6s								
UZH	Uzhgorod	77.78	344	*e*P		P		21 55 51.7	+1.4
UZH				*e*				21 56 15.6	
UZH				*e*				21 56 28.2	
VRAC	Vranov	77.97	348	⇑P		P		21 55 51.9	+0.5
VRAC	Vranov	77.97	348	LR		LR		22 33 12.8	
	comp=Z,51nm,19.8s,baz=352,slow=38								
VRAC	Vranov	77.97	348	*e*P		P		21 55 51.3	-0.1
VRAC	Vranov	77.97	348	⇑P		P		21 55 51.9	+0.5
PBKI	Pangkalan Bun	78.01	250	P		P		21 55 52.4	+0.3
	comp=Z,109nm,1.1s								
BMRD	Maredsous	78.02	356	*d*P		P		21 55 51.4	-0.2
SEKA	Sheki	78.03	325	P		P		21 55 52.9	+0.9
ONI	Oni	78.10	328	P		P		21 55 53.6	+1.3
ONI	Oni	78.10	328	P		P		21 55 53.6	+1.3
ONI					pmax		pmax		
	comp=Z,20nm,1.0s								
RCHB	Rochefort	78.14	356	*d*P		P		21 55 52.1	-0.2
BUR08	Bucovina Ar. S	78.20	342	P		P		21 55 53.4	+0.6
TRPA	Tarpa	78.22	344	⇑P		P		21 55 53.4	+0.6
TRPA	Tarpa	78.22	344	P		P		21 55 53.0	+0.3
BURAR	Bucovina Array	78.22	342	⇓P		P		21 55 53.1	+0.1
BURAR	Bucovina Array	78.22	342	P		P		21 55 53.5	+0.5
BURAR					IAmb		IAmb	21 55 56.0	
	comp=Z,28nm,0.7s								
BURAR	Bucovina Array	78.22	342	⇓P		P		21 55 53.1	+0.1
KRUC	Moravsky	78.24	348	*e*P		P		21 55 51.8	-1.1
PBA	Port Blair	78.25	274	P		P		21 55 51.8	-1.6
ABAH	Abaujker	78.28	345	P		P		21 55 55.2	+2.1
KULM	Kulim	78.30	264	P		P		21 55 53.3	-0.4
MNGR	Mingechevir, A	78.45	324	P		P		21 55 55.6	+1.4
VYHS	Vyhne	78.46	346	*e*P		P		21 55 53.5	-0.6
VYHS	Vyhne	78.46	346	*e*P		P		21 55 53.5	-0.6
BMR	Baia Mare	78.49	343	⇑P		P		21 55 55.2	+0.9
BMR	Baia Mare	78.49	343	⇑P		P		21 55 55.2	+0.9
KHC	Kasperske Hory	78.51	350	*e*P		P		21 55 53.5	-0.9
KHC	Kasperske Hory	78.51	350	*i* P		P		21 55 54.9	+0.5
KHC					pmax		pmax		
	comp=Z,9.0nm,1.0s								
WLF	Walferdange	78.59	355	*d*P		P		21 55 55.1	+0.3
VASR	Vaslui	78.63	340	⇓P		P		21 55 54.2	-0.9
IPM	Ipoh	78.70	263	P		P		21 55 55.6	-0.3
IPM					IAmb		IAmb	21 55 56.3	
	comp=Z,32nm,0.8s								
IPM	Ipoh	78.70	263	P

	comp=Z,63nm,1.0s						
NAX	Nakhchivan	80.44	325	P	P	21 56 06.3	+1.2
WATA	Walderalm	80.49	351	*eP*	P	21 56 05.3	0.0
	comp=Z,12nm,1.2s						
ARR	Arges	80.50	342	⇓P	P	21 56 06.0	+0.7
MOTA	Moosalm	80.52	351	*eP*	P	21 56 05.1	-0.4
	comp=Z,7.4nm,1.0s						
WTTA	Wattenberg	80.55	351	*eP*	P	21 56 05.8	+0.1
	comp=Z,7.3nm,0.6s						
KBA	Koelnbreinsper	80.56	350	*eP*	P	21 56 04.1	-1.6
	comp=Z,18nm,0.7s						
TLBR	Topalu	80.57	339	⇓P	P	21 56 06.4	+0.8
SURR	Surduc	80.59	343	⇑P	P	21 56 06.1	+0.4
EIDS	Eidsvold	80.59	205	P	P	21 56 06.4	+0.6
EIDS				IAmb	IAmb	21 56 08.0	
	comp=Z,46nm,1.3s						
EIDS	Eidsvold	80.59	205	P	P	21 56 07.0	+1.2
LHMI	Lhok Sumawe	80.63	266	P	P	21 56 06.9	+0.6
LHMI	Lhok Sumawe	80.63	266	P	P	21 56 06.8	+0.5
	comp=Z,318nm,0.8s						
LHMI	Lhok Sumawe	80.63	266	P	P	21 56 07.7	+1.4
SQTA	Sankt Quirin	80.64	351	*eP*	P	21 56 05.6	-0.4
	comp=Z,7.6nm,1.1s						
DAVA	Damuels	80.69	352	*eP*	P	21 56 04.7	-1.8
	comp=Z,5.7nm,1.1s						
MORH	Mrgy, Hungar	80.71	346	P	P	21 56 07.8	+1.5
SOKA	Soboth	80.75	348	*eP*	P	21 56 07.2	+0.6
	comp=Z,11nm,0.8s						
PERS	Pernice	80.79	348	*i* P	P	21 56 07.3	+0.5
BZS	Buzias	80.81	344	⇑P	P	21 56 07.1	+0.2
BZS	Buzias	80.81	344	⇑P	P	21 56 07.1	+0.2
GZR	Gura Zlata	80.82	343	⇑P	P	21 56 07.1	+0.1
GZR	Gura Zlata	80.82	343	⇑P	P	21 56 07.1	+0.1
FETA	Feichten	80.88	351	*eP*	P	21 56 07.1	-0.3
	comp=Z,5.4nm,1.1s						
KOVH	Kovagotottos	80.92	346	P	P	21 56 08.2	+0.8
ABTA	Abfaltersbach	80.97	350	*eP*	P	21 56 08.0	+0.2
	comp=Z,11nm,1.3s						
OBKA	Obir	80.98	349	*eP*	P	21 56 08.1	+0.2
	comp=Z,7.7nm,0.8s						
WB0	Warramunga Arr	81.04	221	P	P	21 56 08.1	-0.2
WB0				IAmb	IAmb	21 56 09.1	
	comp=Z,55nm,0.8s						
WRAB	Tennant Creek	81.20	221	P	P	21 56 08.9	-0.2
WRAB	Tennant Creek	81.20	221	*ce*P	P	21 56 09.0	-0.2
WRAB				pmax	pmax		
	comp=Z,123nm,1.7s						
WB2	Warramunga Arr	81.21	221	P	P	21 56 09.1	-0.1
WB2				IAmb	IAmb	21 56 10.1	
	comp=Z,72nm,0.9s						
WRA	Warramunga Arr	81.22	221	P	P	21 56 08.2	-1.0
	comp=Z,43nm,0.7s,baz=32,slow=6.1,SNR=251						
WRA				PKiKP	PKiKP	22 01 33.2	-0.8
	comp=Z,0.5nm,0.6s,baz=358,slow=1.5,SNR=6.5						
	comp=Z,43nm,0.7s						
WRA	Warramunga Arr	81.22	221	P	P	21 56 08.8	-0.4
WRA	Warramunga Arr	81.22	221	*i* P	P	21 56 07.9	-1.3
WRA				pmax	pmax		
	comp=Z,47nm,0.7s						
PSI	Prapat	81.30	263	LR	LR	22 34 19.1	
	comp=Z,21nm,19.6s,slow=37						
PSI	Prapat	81.30	263	P	P	21 56 10.0	-0.1
PSI	Prapat	81.30	263	P	P	21 56 09.7	-0.4
PSI				pmax	pmax		
	comp=Z,56nm,0.9s						
FUORN	Ofenpass-Fuorn	81.32	352	P	P	21 56 10.0	+0.1
RPSI	Rantau Prapat	81.39	263	P	P	21 56 09.7	-0.7
RPSI				IAmb	IAmb	21 56 11.0	
	comp=Z,56nm,0.9s						
AUBSH	Beerwah State	81.55	203	P	P	21 56 11.9	+1.1
MDVR	Moldovita	81.61	343	⇓P	P	21 56 10.5	-0.7
RAZG	Razgrad	81.84	340	⇑P	P	21 56 11.7	-0.7
VLAD	Vladila	81.86	341	⇓P	P	21 56 13.1	+0.7
BOJS	Bojanci	81.88	348	*i* P	P	21 56 12.6	+0.1
BKNI	Bangkinang	81.95	260	P	P	21 56 12.8	-0.5
BKNI	Bangkinang	81.95	260	P	P	21 56 13.1	-0.2
	comp=Z,105nm,0.9s						
BKNI	Bangkinang	81.95	260	P	P	21 56 13.4	+0.1
GEVA	Gevas	82.06	326	P	P	21 56 14.4	+0.5
GURO	Guroymak-BITLI	82.20	327	P	P	21 56 15.1	+0.5
RMQ	Roma	82.28	207	P	P	21 56 15.8	+1.2
HYBB	Hyderabad (bro	82.39	288	*eP*	P	21 56 15.5	-0.1
HYBB				IVmB_BB		21 56 16.0	
	comp=Z,402nm,0.9s						
PLVB	Pleven	82.40	341	⇑P	P	21 56 15.8	+0.6
MNSI	Mandailing Nat	82.47	262	P	P	21 56 14.1	-1.9
	comp=Z,50nm,0.7s						
DIVS	Divibare	82.56	344	P	P	21 56 15.8	-0.4
SDSI	Sungai Dareh	82.70	259	P	P	21 56 16.7	-0.5
	comp=Z,2umcomp=Z,12nm,1.0s						
UGM	Wanagama	82.89	248	P	P	21 56 16.5	-1.6
BNI	Bardonecchia	83.15	354	P	P	21 56 19.1	-0.2
BNI	Bardonecchia	83.15	354	P	P	21 56 19.1	-0.2
BNI				pmax	pmax		
	comp=Z,13nm,1.0s						
GSI	Gunungsitoli	83.30	264	P	P	21 56 20.0	-0.4
VTS	Vitosha	83.42	342	⇑P	P	21 56 20.9	+0.1
VTS	Vitosha	83.42	342	P	P	21 56 19.9	-0.9
VTS	Vitosha	83.42	342	⇑P	P	21 56 20.9	+0.1
ZCCA	Zocca	83.50	351	P	P	21 56 21.5	+0.4
ZCCA				IAmb	IAmb	21 57 29.2	
	comp=Z,82nm,1.7s						
QLP	Quilpie	83.71	210	P	P	21 56 22.9	+0.9
	comp=Z,162nm,1.2s						
BR131	Keskin Array S	83.71	333	P	P	21 56 22.3	0.0
BR131				IAmb	IAmb	21 57 39.1	
	comp=Z,59nm,1.9s						
BR131	Keskin Array S	83.71	333	P	P	21 56 22.3	0.0
BR131				pmax	pmax		
	comp=Z,59nm,1.9s						
BRTR	Keskin Array B	83.71	333	P	P	21 56 22.2	0.0
	comp=Z,3.4nm,0.6s,baz=40,slow=2.4,SNR=26						
BRTR				LR	LR	22 40 06.2	
	comp=Z,32nm,18.4s,baz=359,slow=40						
	comp=Z,3.4nm,0.6s						
BRTR	Keskin Array B	83.71	333	P	P	21 56 22.4	+0.1
BRTR	Keskin Array B	83.71	333	*i* P	P	21 56 23.1	+0.8
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MARD	Mardin	83.74	327	P	P	21 56 22.7	+0.3
MARD				IAmb	IAmb	21 56 25.5	
	comp=Z,38nm,1.1s						
KLI	Kotabumi	83.75	254	P	P	21 56 21.5	-1.1
MDSI	Maura Dua	83.86	255	P	P	21 56 21.1	-2.0
	comp=Z,30nm,1.2s						
BNN	Bunyan	83.89	331	P	P	21 56 22.7	-0.5
BNN				IAmb	IAmb	21 56 24.4	
	comp=Z,46nm,0.8s						
BBJI	Bungbulang	84.18	250	P	P	21 56 22.4	-2.4
POO	Poona	84.24	293	*eP*	P	21 56 18.0	-7.1
LWLI	Liwa	84.35	255	P	P	21 56 24.0	-1.8
	comp=Z,111nm,0.9s						
AS01	Alice Springs	84.71	220	P	P	21 56 27.9	+0.7
AS31	Alice Springs	84.73	220	P	P	21 56 27.4	+0.1
ASAR	Alice Springs	84.73	220	P	P	21 56 27.8	+0.5
	comp=Z,31nm,0.8s,baz=23,slow=5.6,SNR=287						
ASAR				PKiKP	PKiKP	22 01 38.8	-0.8
	comp=Z,0.8nm,0.8s,baz=3.5,slow=1.9,SNR=5.0						
	comp=Z,31nm,0.8s						
ASAR	Alice Springs	84.73	220	P	P	21 56 27.5	+0.2
LHI	Lord Howe Isla	84.79	196	P	P	21 56 28.5	+1.2
LHI				IAmb	IAmb	21 56 29.7	
	comp=Z,52nm,0.8s						
ARMA	Armidale	85.28	203	P	P	21 56 31.3	+1.3
ARMA				IAmb	IAmb	21 56 32.8	
	comp=Z,39nm,0.8s						
ARMA	Armidale	85.28	203	P	P	21 56 31.8	+1.8
INKA	Innaminka	85.91	213	P	P	21 56 33.8	+0.8
JACO	JACO, Garabito	86.73	79		P	21 56 37.8	+0.3
JACO				IAmb	IAmb	21 57 06.7	
	comp=Z,37nm,0.9s						
OUZ	Omahuta	86.86	184	P	P	21 56 38.9	+1.4
OUZ				IAmb	IAmb	21 56 40.4	
	comp=Z,38nm,1.1s						
SHME	Shamm	87.39	310	P	P	21 56 40.0	-0.5
BANOM	Banah	87.42	310	P	P	21 56 40.4	-0.3
OOD	Oodnadatta	87.76	217	P	P	21 56 42.5	+0.6
AUDCS	Dubbo College	87.76	205	P	P	21 56 43.7	+1.8
	comp=Z,50nm,1.5s						
CMSA	Cobar Meteorol	87.91	207	P	P	21 56 44.1	+1.5
MSFE	Esma-Masafi	87.97	310	P	P	21 56 42.8	-0.5
MGCD	Mangrove Creek	88.07	203	P	P	21 56 46.2	+2.9
CSS	Mathiatis	88.24	332	P	P	21 56 45.2	+0.7
WRKA	Warakurna	88.28	224	P	P	21 56 45.1	+0.6
	comp=Z,106nm,1.0s						

UOSS	Minazif	88.30	310	P	P	21 56 43.5	-1.4
UOSS				IAmb	IAmb	21 56 45.0	
	comp=Z,50nm,1.8s						
UOSS	Minazif	88.30	310	P	P	21 56 44.3	-0.6
KUZ	Kuaotunu	88.31	182	P	P	21 56 45.4	+1.1
HATD	Hatta, Dubai	88.43	310	P	P	21 56 45.0	-0.5
NAZ	Nazwa, Dubai	88.52	310	P	P	21 56 45.4	-0.5
WSAR	Wadi Sarin	88.56	307	LR	LR	22 38 52.6	
	comp=Z,59nm,21.7s,baz=102,slow=37						
FAQ	Al Faqa, Dubai	88.77	310	P	P	21 56 46.1	-0.9
ESDC	Sonseca Array	88.77	2	P	P	21 56 45.5	-1.4
	comp=Z,1.3nm,0.7s,baz=349,slow=4.7,SNR=8.1						
	comp=Z,1.3nm,0.7s						
ESDC	Sonseca Array	88.77	2	P	P	21 56 45.7	-1.2
MBWA	Marble Bar	88.91	233	P	P	21 56 47.0	-0.5
MBWA	Marble Bar	88.91	233	P	P	21 56 47.2	-0.3
PALK	Pallekele	89.05	280	LR	LR	22 38 59.0	
	comp=Z,20nm,21.7s,baz=142,slow=37						
PALK	Pallekele	89.05	280	P	P	21 56 49.0	+0.4
PALK	Pallekele	89.05	280	P	P	21 56 49.0	+0.4
PALK				pmax	pmax		
	comp=Z,184nm,2.0s						
PSA00	Pilbara Seismi	89.20	233	P	P	21 56 48.4	-0.5
PSA00	Pilbara Seismi	89.20	233	P	P	21 56 48.0	-0.9
PSA00				IAmb	IAmb	21 56 49.4	
	comp=Z,23nm,0.8s						
PSA00	Pilbara Seismi	89.20	233	P	P	21 56 48.6	-0.3
LCRK	Leigh Creek	89.26	214	P	P	21 56 49.6	+0.6
ALNE	Al Ain	89.27	310	P	P	21 56 49.1	-0.4
WOLH	Wollongong Har	89.27	202	P	P	21 56 50.9	+2.0
MMAI	Mount Meron Ar	89.42	330	LR	LR	22 40 14.9	
	comp=Z,27nm,21.5s,baz=290,slow=38						
STKA	Stephens Creek	89.46	211	P	P	21 56 50.4	+0.6
	comp=Z,52nm,0.7s,baz=354,slow=6.1,SNR=161						
STKA				LR	LR	22 31 01.2	
	comp=Z,67nm,21.7s,baz=39,slow=32						
	comp=Z,52nm,0.7s						
STKA	Stephens Creek	89.46	211	P	P	21 56 50.8	+0.9
STKA				IAmb	IAmb	21 56 52.1	
	comp=Z,15nm,0.8s						
STKA	Stephens Creek	89.46	211	P	P	21 56 51.0	+1.1
IDI	Anoyia	90.12	339	LR	LR	22 41 56.2	
	comp=Z,16nm,18.2s,baz=97,slow=38						
CAN	Canberra	90.60	204	P	P	21 56 56.3	+1.1
CAN	Canberra	90.60	204	P	P	21 56 56.3	+1.1
CAN				pmax	pmax		
	comp=Z,79nm,1.5s						
MULG	Mulgathing	90.61	217	P	P	21 56 55.7	+0.4
SJG	San Juan	90.61	59	LR	LR	22 37 34.5	
	comp=Z,61nm,21.6s,baz=326,slow=35						
BKZ	Black Stump Fm	90.72	181	P	P	21 56 54.7	-0.9
BKZ				IAmb	IAmb	21 56 55.3	
	comp=Z,42nm,1.4s						
BKZ	Black Stump Fm	90.72	181	P	P	21 56 54.8	-0.8
MZR	Muzera	91.24	311	*i* P	P	21 56 58.3	-0.4
	SNR=7.7						
HTT	Hallett	91.75	212	P	P	21 57 01.5	+0.9
BBOO	Buckleboo	92.16	215	P	P	21 57 02.2	-0.2
BBOO				IAmb	IAmb	21 57 03.8	
	comp=Z,16nm,1.0s						
BBOO	Buckleboo	92.16	215	P	P	21 57 03.5	+1.1
EIL	Elat	92.66	329	LR	LR	22 41 30.9	
	comp=Z,34nm,21.8s,baz=30,slow=37						
FORT	Forrest	93.41	222	P	P	21 57 08.0	-0.2
FORT	Forrest	93.41	222	P	P	21 57 09.0	+0.8
MEEK	Meekatharra	94.07	231	P	P	21 57 11.1	-0.3
RAYN	Ar Rayn	94.33	318	P	P	21 57 12.1	-0.8
RAYN				IAmb	IAmb	21 57 13.8	
	comp=Z,20nm,0.9s						
RAYN	Ar Rayn	94.33	318	*i* P	P	21 57 12.8	-0.1
	SNR=22						
RAYN	Ar Rayn	94.33	318	P	P	21 57 12.1	-0.8
PCRV	Puerto La Cruz	97.98	62	LR	LR	22 43 53.6	
	comp=Z,77nm,19.3s,slow=37						
LPAZ	La Paz	117.12	82	PKP	PKPdf	22 02 37.5	-1.1
	comp=Z,1.7nm,0.7s,baz=30,slow=4.7,SNR=7.7						
VILB	Vilhena	119.31	73		PKPdf	22 02 42.0	-0.2
KMBO	Kilima Mbogo	119.84	314	PKP	PKPdf	22 02 43.1	-0.4
	comp=Z,6.7nm,0.9s,baz=1.8,slow=3.4,SNR=20						
KMBO				SKP		22 06 09.8	
	comp=Z,1.4nm,0.8s,baz=294,slow=1.3,SNR=4.5						
KMBO	Kilima Mbogo	119.84	314	PKPdf	PKPdf	22 02 43.7	+0.1
KMBO	Kilima Mbogo	119.84	314	*i* P	PKiKP	22 02 44.3	+0.7
	SNR=9.7						
KMBO	Kilima Mbogo	119.84	314	PKiKP	PKPdf	22 02 43.7	+0.1
KIBK	Kibwezi	120.56	312		PKPdf	22 02 44.3	-0.5
SIV	San Ignacio	121.17	76	PKP	PKPdf	22 02 44.5	-1.1
	comp=Z,4.9nm,0.5s,baz=278,slow=1.2,SNR=28						
TIC	Tomodi	121.60	4⇑*e*	PKP1	PKPdf	22 02 45.1	-1.6
	comp=Z,26nm,0.7s						
KIC	Kosan Boka	121.90	4⇑*e*	PKP1	PKPdf	22 02 46.1	-1.1
	comp=Z,11nm,0.5s						
PTLB	Pontes e Lacer	121.91	73	PKPdf	PKPdf	22 02 46.5	-0.5
LIC	Lamto	122.02	4⇑*e*	PKP1	PKPdf	22 02 46.5	-0.9
	comp=Z,42nm,0.7s						
MBAR	Mbarara	122.11	321		PKPdf	22 02 47.3	-0.5
MBAR	Mbarara	122.11	321	*c i* PKiKP	PKiKP	22 02 48.8	+0.8
MBAR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
AC05	El Transito	125.06	93	PKPdf	PKPdf	22 02 52.9	-0.1
SDBA	SAO DESIDERIO	127.45	58	*eP*	PKPdf	22 02 58.2	+0.4
MT02	Curacav	127.59	98		PKPdf	22 02 57.6	+0.2
AQDB	Aquidauana	127.85	74	PKPdf	PKPdf	22 02 57.7	-0.6
ZON	Zonda	127.94	94	PKPdf	PKPdf	22 02 58.0	-0.2
ZON	Zonda	127.94	94	PKiKP	PKPdf	22 02 58.0	-0.2
BDFB	Brasilia	128.45	63	PKP	PKPdf	22 02 58.6	-1.1
	comp=Z,12nm,1.0s,baz=221,slow=3.1,SNR=10						
BDFB	Brasilia	128.45	63		PKPdf	22 02 59.0	-0.7
BDFB	Brasilia	128.45	63	*eP*	PKiKP	22 03 01.4	+1.1
BDFB	Brasilia	128.45	63	PKiKP	PKPdf	22 02 59.0	-0.7
BO02	Sierra Bellavi	128.84	99		PKiKP	22 03 00.9	+0.4
VNDA	Vanda	129.57	185	PKP	PKPdf	22 02 59.1	-0.8
	comp=Z,3.2nm,0.8s,baz=324,slow=4.8,SNR=11						
VNDA	Vanda	129.57	185	PKPdf	PKiKP	22 03 01.1	+0.5
VNDA	Vanda	129.57	185	PKiKP	PKiKP	22 03 01.1	+0.5
CPUP	Villa Florida	131.26	81	PKP	PKPdf	22 03 04.2	-0.4
	comp=Z,7.6nm,0.8s,baz=333,slow=3.6,SNR=15						
CPUP				SKPbc	SKPbc	22 06 18.5	-1.2
	comp=Z,13nm,0.7s,baz=318,slow=3.8,SNR=22						
CPUP	Villa Florida	131.26	81	PKPdf	PKPdf	22 03 04.6	0.0
CPUP	Villa Florida	131.26	81	PKiKP	PKPdf	22 03 04.6	0.0
VOI	Vohitsoka	132.31	290		PKPdf	22 03 07.3	+0.4
PLCA	Paso Flores	132.80	105	PKP	PKPdf	22 03 07.5	+0.3
	comp=Z,4.9nm,0.7s,baz=244,slow=1.3,SNR=16						
PLCA				SKPab	SKPbc	22 06 25.4	+0.6
	comp=Z,16nm,1.0s,baz=321,slow=4.7,SNR=19						
PLCA	Paso Flores	132.80	105	PKPdf	PKPdf	22 03 08.1	+0.9
PLCA	Paso Flores	132.80	105	*eP*	PKPdf	22 03 07.8	+0.6
PLCA	Paso Flores	132.80	105	PKiKP	PKPdf	22 03 08.1	+0.9
TRQA	Tornquist	136.36	96	PKPdf	PKPdf	22 03 14.4	+0.5
TRQA	Tornquist	136.36	96	PKiKP	PKPdf	22 03 14.4	+0.5
PLTB	Pedras Altas	137.40	83	PKPdf	PKPdf	22 03 15.9	-0.1
TSUM	Tsumeb	144.05	328	PKPdf	PKPbc	22 03 27.2	+0.5
POGA	Pongola	145.00	302		PKPbc	22 03 29.4	+0.1
SMAI	San Martin Ant	145.50	143		PKPbc	22 03 30.2	+0.6
MAW	Mawson	145.83	218	PKPbc	PKPdf	22 03 30.3	+0.5
	comp=Z,38nm,0.7s,baz=72,slow=2.8,SNR=33						
MAW	Mawson	145.83	218	PKPdf	PKPdf	22 03 30.6	+0.8
LBTB	Lobatse	146.09	312	PKPdf	PKPdf	22 03 32.1	+0.3
LBTB	Lobatse	146.09	312	PKP2	PKPdf	22 03 32.1	+0.3
BOSA	Boshof	149.30	309	PKPbc	PKPbc	22 03 41.9	+0.5
	comp=Z,24nm,0.6s,baz=37,slow=2.2,SNR=65						
BOSA	Boshof	149.30	309		PKPdf	22 03 37.3	+0.3
BOSA				PKPbc	PKPbc	22 03 41.7	+0.2
BELA	Belgrano 2	151.29	166	PKPdf	PKPdf	22 03 37.1	-1.4
BELA				PKPbc	PKPbc	22 03 44.2	-0.4
TROLL	Troll, Antarti	159.75	184	PKPab	PKPab	22 04 29.2	-0.4
TROLL	Troll, Antarti	159.75	184	PKPdf	PKPdf	22 03 49.3	-0.8
NVL	N'lazarevskaya	160.11	193	*e*PKP2	PKPab	22 04 28.2	-2.8
NVL				pmax	pmax		
	comp=Z,17nm,0.9s						
SNAA	Sanae	160.16	179	PKPab	PKPab	22 04 30.7	-0.6
SNAA	Sanae	160.16	179	PKPdf	PKPdf	22 03 49.3	-1.2
SNAA	Sanae	160.16	179	PKP	PKPdf	22 03 49.3	-1.2
	comp=Z,2.8nm,0.8s,baz=183,slow=1.3,SNR=16						
SNAA				PKPab	sPKPdf	22 04 30.3	0.0
	comp=Z,7.4nm,0.8s,baz=201,slow=9.1,SNR=18						
SNAA	Sanae	160.16	179	PKPdf	PKPdf	22 03 49.7	-0.8
SNAA				PKPab	PKPab	22 04 30.5	-0.9
VNA3	Neumayer Olymp	160.26	172	PKPab	PKPab	22 04 31.5	-0.3
VNA3	Neumayer Olymp	160.26	172	PKPdf	PKPdf	22 03 49.0	-1.5
VNA2	Neumayer--Watz	160.74	174	PKPab	PKPab	22 04 32.1	-1.7
VNA2	Neumayer--Watz	160.74	174	PKPdf	PKPdf	22 03 49.9	-1.2
	baz=272,slow=1.0						
VNA1	Neumayer--Stat	160.95	173	PKPab	PKPab	22 04 34.3	-0.4
VNA1	Neumayer--Stat	160.95	173	PKPdf	PKPdf	22 03 50.0	-1.2

IDC ***30*** *21:45:49.5±3.8, 36.77N×29.42E, h0km, mb3.7/2, mbtmp3.4/5, ML3.5/3, MS3.0/2, Error ellipse: s-maj=55.8km s-min=30.0km az=9.0*
ATH ***30*** *21:45:50.3, 37.00N×29.49E, h13km±4km, ML3.6/3, Error ellipse: s-maj=5.7km s-min=1.6km az=114.0*
ISK ***30*** *21:45:50.6, 36.89N×29.27E, h5km, ML3.7/27*
GII ***30*** *21:45:53.7±0.0, 36.45N×29.16E, h1km±1km, Mm3.4/3*
THE ***30*** *21:45:53.8, 36.81N×29.35E, h16km±8km, ML3.2/1, Error ellipse: s-maj=8.3km s-min=1.3km az=156.0*

ISC 30 21:45:50.4±1.3, 36.86N±0.03×29.33E±0.02, h1km±10km, n60, σ1°15/76, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAME	Cameli-Denizli	0.09	343		PG	Pg	21 45 52.3	+0.2
CAME					SG	Sg	21 45 53.2	-0.2
FETY	Fethiye	0.30	222		PG	Pg	21 45 56.8	+0.7
FETY					SG	Sb	21 46 03.5	-0.5
ELL	Elmali	0.47	103		PG	Pb	21 46 01.2	-0.4
DALY	Dalyan (Mula)	0.55	266		PG	Pg	21 46 01.2	+0.4
DALY					SG	Sb	21 46 09.7	-1.4
APMY	Acipayam-Deniz	0.61	358		PG	Pg	21 46 01.6	-0.5
AKAS	Kas	0.66	161		PG	Pb	21 46 05.5	+0.7
KSL	Kastellorizon	0.73	164		P	Pn	21 46 07.0	-0.9
KSL	Kastellorizon	0.73	164		P	Pb	21 46 06.5	+0.6
KSL					S	Sn	21 46 17.9	-1.8
KSL					AML	AML	21 46 30.9	
	comp=N,3506μm,0.9s							
KSL					AML	AML	21 46 31.3	
	comp=E,4261μm,0.9s							
KORT	Korkueli	0.83	80		PG	Pn	21 46 08.7	-0.6
TURN	Turunc	0.88	265		PG	Pg	21 46 07.4	+0.2
YER	Yerkesik	0.89	288		PG	Pg	21 46 07.5	+0.2
YER					SG	Sb	21 46 20.2	-0.7
ARG	Arkhangelos	1.17	237		PN	Pn	21 46 13.6	-0.2
ARG	Arkhangelos	1.17	237		P	Pb	21 46 13.0	-0.3
ARG	Arkhangelos	1.17	237		P	Pb	21 46 13.2	-0.1
ARG					S	Sn	21 46 31.3	+1.0
ARG					AML	AML	21 46 37.0	
	comp=N,3360μm,0.8s							
ARG					AML	AML	21 46 37.3	
	comp=E,3740μm,0.5s							
BCK	Bucak	1.17	59		PN	Pn	21 46 14.4	+0.4
BASM	Basmaki-Afyon	1.20	28		PN	Pn	21 46 14.7	+0.3
MLSB	Milas	1.32	290		PN	Pg	21 46 15.9	+0.2
ISP	Isparta	1.35	44		PN	Pb	21 46 17.9	+1.4
DAT	Datca	1.42	265		PN	Pb	21 46 17.7	+0.1
DAT	Datca	1.42	265		P	Pb	21 46 17.9	+0.3
KHL	Karahalli	1.47	6		PN	Pn	21 46 18.4	+0.3
AYDB	Zeytinkoy-Aydi	1.58	314		PN	Pn	21 46 20.0	+0.3
BODT	Bodrum	1.63	278		PN	Pb	21 46 20.9	-0.4
BODT	Bodrum	1.63	278		P	Pn	21 46 20.5	+0.2
KULA	Kula-Manisa	1.74	342		PN	Pn	21 46 22.4	+0.6
KULA	Kula-Manisa	1.74	342		P	Pn	21 46 21.9	+0.1
KULA					S	Sn	21 46 44.9	+0.3
GCAM	G?zelcaml?	1.87	297		PN	Pn	21 46 23.9	+0.3
KOSK	Kos Island	1.89	267		PN	Pb	21 46 24.9	-0.8
KOSK	Kos Island	1.89	267		P	Pn	21 46 23.6	-0.2
KOSK					S	Sn	21 46 48.4	+0.1
KOSK					AML	AML	21 46 53.1	
	comp=N,5500μm,0.6s							
KOSK					AML	AML	21 46 53.6	
	comp=E,6650μm,0.5s							
SHUT	Suhut-Afyon	1.95	29		PN	Pb	21 46 26.1	-0.6
SEYD	Seydisehir-KON	2.07	74		PN	Pb	21 46 28.4	-0.5
GOMA	Golmarmara-Man	2.16	329		PN	Pn	21 46 28.1	+0.6
GEDZ	Gediz	2.18	2		PN	Pn	21 46 29.1	+1.2
KARP	Karpathos	2.19	234		PN	Pb	21 46 29.4	-1.4
KARP	Karpathos	2.19	234		P	Pn	21 46 28.9	+1.0
KARP					S	Sn	21 46

CDITO	**Canoas**	**1.28**	**101**	*e*P		**Pg**	**21 50 33.7**	**-0.1**
CRPO	**Crater poas**	**1.37**	**357**	*e*P		**Pn**	**21 50 35.0**	**-0.2**
BRU2	**Volcan**	**1.44**	**91**	⇑*i*P		**Pn**	**21 50 35.7**	**-0.3**
BRU2				*e*S		**Sg**	**21 50 55.4**	**0.0**
BRU2	**Volcan**	**1.44**	**91**	⇑*i*P		**Pb**	**21 50 36.1**	**-0.4**
BRU2				*e*S		**Sg**	**21 50 58.4**	**+3.0**
LIMO3	**Limones**	**1.46**	**119**	*e*P		**Pg**	**21 50 37.4**	**+0.3**
BATAN	**Batan**	**1.48**	**31**	*e*P		**Pb**	**21 50 36.9**	**-0.3**
BC3P	**Paso Ancho**	**1.52**	**90**	*e*P		**Pb**	**21 50 37.3**	**-0.6**
BCO2	**Palmira**	**1.60**	**93**	*i* P		**Pb**	**21 50 38.6**	**-0.7**
BCO2				*e*S		**Sg**	**21 51 00.1**	**-0.7**
PTAR3	**Potrerillos Ar**	**1.64**	**94**	*e*P		**Pb**	**21 50 39.2**	**-0.6**
JTS	**Las Juntas de**	**1.67**	**332**	*e*P		**Pn**	**21 50 38.7**	**-0.3**
JTS	**Las Juntas de**	**1.67**	**332**	*e*P		**Pn**	**21 50 38.9**	**-0.1**
JTS				*e*S		**Sn**	**21 51 00.7**	**0.0**
JTS	**Las Juntas de**	**1.67**	**332**	*e*P		**Pn**	**21 50 38.7**	**-0.3**
RGM0	**Gandoca**	**1.70**	**63**	*e*P		**Pb**	**21 50 41.1**	**+0.2**
DVD	**David**	**1.72**	**103**	*e*P		**Pb**	**21 50 40.8**	**-0.4**
DVD				*e*S		**Sb**	**21 51 03.0**	**-0.1**
CNI2	**El Empalme, Bo**	**1.76**	**70**	*e*P		**Pn**	**21 50 40.7**	**+0.5**
CNI2				*e*S		**Sb**	**21 51 03.6**	**-0.7**
PSOM3	**Paja de Sombre**	**1.81**	**94**	*e*P		**Pn**	**21 50 41.4**	**+0.4**
DUNO	**Dulce Nombre,**	**1.83**	**313**	*e*P		**Pb**	**21 50 42.5**	**-0.5**
DUNO	**Dulce Nombre,**	**1.83**	**313**	*e*P		**Pb**	**21 50 42.7**	**-0.3**
GUAL3	**Gualaca, Chiri**	**1.85**	**99**	*e*P		**Pb**	**21 50 42.7**	**-0.7**
GUAL3				*e*S		**Sb**	**21 51 06.3**	**-0.5**
COVE	**Coope Vega, Sa**	**1.91**	**352**	*e*P		**Pn**	**21 50 42.6**	**+0.4**
ACAL	**Aguas Claras**	**2.00**	**334**	*e*P		**Pb**	**21 50 44.7**	**-1.4**
ORTG	**Ortega, Santa**	**2.01**	**320**	*e*P		**Pb**	**21 50 46.0**	**-0.2**
CUI	**Cuipilapa**	**2.08**	**331**	*e*P		**Pn**	**21 50 45.7**	**+1.0**
COLC	**Colonia**	**2.11**	**331**	*e*P		**Pb**	**21 50 46.3**	**-1.6**
VERA	**Finca Concepci**	**2.14**	**341**	*e*P		**Pb**	**21 50 48.2**	**-0.2**
GUAB	**Guayabo de Bag**	**2.16**	**330**	*e*P		**Pb**	**21 50 48.5**	**-0.3**
GPS3	**Bodega del ICE**	**2.27**	**328**	*e*P		**Pb**	**21 50 50.0**	**-0.6**
BUEV	**Buena Vista**	**2.33**	**328**	*e*P		**Pb**	**21 50 51.6**	**0.0**
GB1A	**Borinquen Arri**	**2.34**	**328**	*e*P		**Pb**	**21 50 51.4**	**-0.5**
HZTE	**Horizontes, Gu**	**2.36**	**323**	*e*P		**Pb**	**21 50 50.7**	**-1.5**
REME3	**Remedios, Chir**	**2.36**	**104**	*e*P		**Pb**	**21 50 50.3**	**-1.8**
RSUS3	**Rio de Jesus,**	**3.07**	**105**	*e*P		**Pb**	**21 51 01.6**	**-2.6**
AZU	**Azuero**	**3.97**	**105**	*e*P		**Pn**	**21 51 11.7**	**+1.2**
AZU	**Azuero**	**3.97**	**105**	*e*P		**Pn**	**21 51 14.0**	**+3.5**
AZU				*e*S		**Sb**	**21 52 07.5**	**-0.3**
VTON	**El Valle, Cocl**	**3.99**	**93**	*e*P		**Pn**	**21 51 13.3**	**+2.3**
VTON				*e*S		**Sb**	**21 52 07.9**	**-0.8**
BCIP	**Isla Barro Col**	**4.27**	**85**	*e*P		**Pn**	**21 51 16.1**	**+1.3**
CHOR3	**La Chorrera**	**4.33**	**89**	*e*P		**Pb**	**21 51 24.8**	**-1.0**
UPA	**Univ. de Panam**	**4.56**	**88**	*e*P		**Pn**	**21 51 20.5**	**+1.8**

IDC ***30*** *21:50:31.1±1.0,27°01S×71°19W,h0km,mb3.8/3, mbtmp3.8/7,ML3.8/4,MS3.2/8,Error ellipse: s-maj=34.9km s-min=24.3km az=85.0*

SJA ***30*** *21:50:31.4±0.8,27°09S×71°38W,h17km±2km,ML4.1, MW4.0*

GUC ***30*** *21:50:35.2±0.8,27°13S×71°23W,h15km±11km,ML4.0*

ISC 30 21:50:30.9±1.5,27°13S±0°02×71°22W±0°05,h0km±10km, n60,σ1§66/87,mb4.0/3,MS3.6/3,4C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AC06	**Mina Casimiro**	**0.80**	**107**	⇓*i*P		**Pn**	**21 50 49.4**	**-0.2**
AC06				*e*S		**Sb**	**21 50 59.8**	**+0.6**
AC06				IAML			21 51 00.4	
	comp=N,6μm,0.5s							
GO03	**Copiap**	**0.99**	**118**	*e*P		**Pn**	**21 50 52.7**	**+0.6**
GO03				*e*S		**Sb**	**21 51 05.3**	**+0.7**
GO03				IAML			21 51 06.1	
	comp=E,6μm,0.2s							
GO03	**Copiap**	**0.99**	**118**	*e*P		**Pn**	**21 50 52.8**	**+0.6**
GO03				*e*S		**Sg**	**21 50 58.7**	**-4.1**
AC04	**Llanos de Chal**	**1.08**	**173**	⇑*i*P		**Pn**	**21 50 53.5**	**+0.2**
AC04				*e*S		**Sn**	**21 51 08.0**	**-1.1**
AC04				IAML			21 51 11.6	
	comp=E,3μm,0.4s							
AC04	**Llanos de Chal**	**1.08**	**173**	*e*P		**Pn**	**21 50 53.2**	**-0.1**
AC04				*e*P		**Pb**	**21 50 53.9**	**+1.3**
AC04				*e*S		**Sn**	**21 51 09.3**	**+0.2**
AC04				IAML			21 51 09.5	
	comp=Z,2μm,0.5s							
AC01	**Pan de Azucar**	**1.12**	**30**	*e*P		**Pn**	**21 50 54.1**	**+0.2**
AC01				*e*S		**Sn**	**21 51 09.4**	**-0.6**
AC01				IAML			21 51 13.6	
	comp=N,3μm,0.3s							
AC01	**Pan de Azucar**	**1.12**	**30**	*e*P		**Pg**	**21 50 53.2**	**+0.8**
AC01				*e*S		**Sn**	**21 51 10.0**	**0.0**
AC01				IAML			21 51 14.7	
	comp=Z,2μm,0.5s							
AC02	**Maricunga**	**1.89**	**82**	⇑*i*P		**Pg**	**21 51 08.0**	**+0.8**
AC02				*e*S		**Sg**	**21 51 32.6**	**+1.0**
AC02				IAML			21 51 36.5	
	comp=N,2μm,0.4s							
AC02	**Maricunga**	**1.89**	**82**	*e*P		**Pg**	**21 51 07.8**	**+0.7**
AC02				*e*S		**Sg**	**21 51 33.9**	**+2.2**
AC02				IAML			21 51 38.7	
	comp=Z,823nm,0.5s							
AC05	**El Transito**	**1.90**	**154**	⇑*i*P		**Pb**	**21 51 07.2**	**+0.7**
AC05				*e*S		**Sg**	**21 51 32.0**	**+0.1**
AC05				IAML			21 51 40.9	
	comp=N,1μm,0.4s							
AC05	**El Transito**	**1.90**	**154**	*e*P		**Pb**	**21 51 07.0**	**+0.5**
AC05				*e*S		**Sn**	**21 51 26.2**	**-3.2**
AC05				IAML			21 51 35.7	
	comp=Z,2μm,0.7s							
LCO	**Las Campanas**	**1.93**	**166**	⇑*i*P		**Pb**	**21 51 07.1**	**-0.1**
LCO				*e*S		**Sn**	**21 51 30.2**	**-0.3**
LCO				IAML			21 51 41.0	
	comp=Z,11μm,0.4s							
GO02	**Mina Guanaco**	**2.44**	**37**	*e*P		**Pn**	**21 51 13.9**	**+1.6**
GO02				*e*S		**Sg**	**21 51 50.1**	**+0.6**
GO02	**Mina Guanaco**	**2.44**	**37**	*e*P		**Pn**	**21 51 13.9**	**+1.6**
GO02				*e*P		**Pn**	**21 51 14.0**	**+1.6**
GO02				*e*S		**Sb**	**21 51 46.2**	**-0.5**
PB14	**IPOC Station P**	**2.60**	**17**	*e*P		**Pn**	**21 51 13.4**	**-1.0**
PB14	**IPOC Station P**	**2.60**	**17**	*e*P		**Pn**	**21 51 14.0**	**-0.5**
PB14				*e*S		**Sn**	**21 51 46.9**	**0.0**
PB14				IAML			21 52 01.1	
	comp=Z,407nm,2.2s							
CO05	**La Serena**	**2.78**	**180**	*e*P		**Pn**	**21 51 17.3**	**+0.5**
CO05				IAML			21 52 06.4	
	comp=E,1μm,0.5s							
CO01	**Juntas del Tor**	**3.01**	**161**	*e*P		**Pb**	**21 51 23.3**	**-2.2**
CO01				*e*S		**Sb**	**21 52 01.4**	**-1.5**
CO01				IAML			21 52 13.6	
	comp=N,456nm,0.6s							
CO01	**Juntas del Tor**	**3.01**	**161**	*e*P		**Pb**	**21 51 23.0**	**-2.5**
CO01				*e*S		**Sb**	**21 52 00.5**	**-2.4**
CO01				IAML			21 52 10.9	
	comp=Z,377nm,0.9s							
GO04	**Tololo Observa**	**3.06**	**173**	*e*P		**Pn**	**21 51 22.6**	**+1.8**
GO04				*e*S		**Sn**	**21 52 00.7**	**+2.6**
GO04	**Tololo Observa**	**3.06**	**173**	*e*P		**Pn**	**21 51 22.5**	**+1.8**
GO04				*e*S		**Sn**	**21 52 00.2**	**+2.1**
AROD	**Rodeo**	**3.40**	**154**	*e*P		**Pb**	**21 51 30.0**	**-2.2**
AROD				*e*S		**Sb**	**21 52 14.7**	**+0.6**
CO06	**Fray Jorge**	**3.55**	**186**	*e*P		**Pn**	**21 51 27.7**	**+0.3**
PB10	**IPOC Station P**	**3.65**	**10**	*e*P		**Pn**	**21 51 27.6**	**-1.0**
PB10	**IPOC Station P**	**3.65**	**10**	*e*P		**Pn**	**21 51 27.7**	**-1.0**
PB10				*e*S		**Sg**	**21 52 26.7**	**-1.5**
PB10				*e*S		Sb	21 52 30.2	+9.1
PB10				IAML			21 52 35.6	
	comp=Z,141nm,0.6s							
CO03	**El Pedregal**	**3.73**	**173**	*e*P		**Pn**	**21 51 31.9**	**+2.0**
CO03	**El Pedregal**	**3.73**	**173**	*e*P		**Pn**	**21 51 26.2**	**-3.6**
CO03				*e*P		Pb	21 51 31.7	-6.0
CO03				*e*S		**Sn**	**21 52 17.2**	**+2.7**
CO03				IAML			21 52 39.1	
	comp=Z,413nm,1.2s							
ACCO	**Cerro Coronel**	**3.93**	**152**	*e*P		**Pb**	**21 51 37.8**	**-3.5**
ACCO				*e*S		**Sb**	**21 52 30.2**	**+0.6**
CO02	**Combarbal**	**4.07**	**177**	*e*P		**Pn**	**21 51 35.6**	**+1.0**
CO02				*e*S		**Sn**	**21 52 23.2**	**+0.3**
CO02	**Combarbal**	**4.07**	**177**	*e*P		**Pn**	**21 51 35.9**	**+1.3**
CO02				*e*S		**Sn**	**21 52 25.4**	**+2.5**
CO02				IAML			21 52 47.1	
	comp=Z,634nm,0.8s							
PB15	**IPOC Station P**	**4.21**	**22**	*e*P		**Pn**	**21 51 37.8**	**+1.2**
PB15				*e*S		**Sb**	**21 52 39.3**	**+1.7**
PB15	**IPOC Station P**	**4.21**	**22**	*e*P		**Pn**	**21 51 38.7**	**+2.1**
PB15				*e*S		**Sb**	**21 52 38.2**	**+0.7**
PB15				IAML			21 52 51.9	
	comp=Z,537nm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.40**	**122**	*e*P		**Pn**	**21 51 38.2**	**-1.0**
ACLC				*e*P		Pb	21 51 43.7	-5.6
ACLC				IAML			21 52 59.4	
	comp=Z,114nm,0.9s							
PB06	**IPOC Station P**	**4.65**	**19**	*e*P		**Pn**	**21 51 42.2**	**-0.3**
PB06				*e*S		**Sb**	**21 52 53.0**	**+2.9**
PB06	**IPOC Station P**	**4.65**	**19**	*e*P		**Pn**	**21 51 42.4**	**-0.2**
PB06				*e*S		**Sb**	**21 52 51.7**	**+1.6**
PB06				IAML			21 53 18.4	
	comp=Z,181nm,0.9s							
RTLL	**Cerro Villicun**	**4.83**	**151**	*e*P		**Pn**	**21 51 43.7**	**-1.2**
RTLL				*e*P		Pb	21 51 49.0	-7.4
RTLL				*e*S		**Sb**	**21 53 00.2**	**+5.2**
PB04	**IPOC Station P**	**4.87**	**12**	*e*P		**Pn**	**21 51 44.3**	**-1.3**
PB04	**IPOC Station P**	**4.87**	**12**	*e*P		**Pn**	**21 51 44.5**	**-1.1**
PB04				*e*S		**Sn**	**21 52 41.6**	**-1.2**
PB04				IAML			21 53 20.9	
	comp=Z,162nm,1.2s							
CFA	**Coronel Fontan**	**5.17**	**150**	Pn		**Pn**	**21 51 53.0**	**+3.4**
	comp=Z,5.2nm,0.3s,baz=351,slow=10,SNR=33							
CFA				Sn		**Sn**	**21 52 48.8**	**-1.1**
	comp=Z,5.7nm,0.3s,baz=304,slow=12,SNR=4.4 comp=Z,9.0nm,0.3s							
PB03	**IPOC Station P**	**5.23**	**15**	*e*P		**Pn**	**21 51 49.2**	**-1.4**
H03N1	**Juan Fernandez**	**9.15**	**225**	T		T	22 02 15.8	
	baz=52,slow=71,SNR=492							
H03N2	**Juan Fernandez**	**9.17**	**225**	T		T	22 02 17.1	
	baz=52,slow=71,SNR=1070							
H03N3	**Juan Fernandez**	**9.17**	**225**	T		T	22 02 20.4	
	baz=52,slow=71,SNR=519							
LPAZ	**La Paz**	**11.16**	**16**	Pn		**Pn**	**21 53 12.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=157,slow=3.6,SNR=3.1							
LPAZ				LR		LR	21 57 54.1	
	comp=Z,106nm,20.2s,baz=170,slow=40 comp=Z,0.4nm,0.3s							
CPUP	**Villa Florida**	**12.44**	**89**	Pn		**Pn**	**21 53 30.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=186,slow=10,SNR=1.5							
CPUP				LR		LR	21 58 47.1	
	comp=Z,115nm,18.2s,baz=228,slow=40 comp=Z,1.7nm,0.9s							
PLCA	**Paso Flores**	**13.58**	**178**	LR		LR	21 59 25.1	
	comp=Z,125nm,21.1s,baz=1.0,slow=39							
SIV	**San Ignacio**	**14.54**	**42**	Pn		**Pn**	**21 53 56.7**	**-1.5**
	baz=179,slow=18,SNR=1.9							
SIV				LR		LR	21 59 12.7	
	comp=Z,53nm,18.8s,baz=122,slow=36 comp=Z,0.6nm,0.4s							
NNA	**Nana**	**15.96**	**340**	LR		LR	21 59 48.4	
	comp=Z,30nm,18.8s,baz=191,slow=35							
BDFB	**Brasilia**	**24.40**	**67**	P		**P**	**21 55 49.5**	**-1.8**
	comp=Z,2.0nm,0.6s,baz=242,slow=14,SNR=3.2 comp=Z,2.0nm,0.6s							
MDP	**Montagnes des**	**36.73**	**32**	LR		LR	22 13 45.7	
	comp=Z,47nm,19.1s,baz=114,slow=38							
VNA3	**Neumayer Olymp**	**55.49**	**160**	P		**P**	**22 00 08.4**	**+1.1**
VNA1	**Neumayer--Stat**	**55.76**	**159**	P		**P**	**22 00 11.3**	**+2.2**
VNA2	**Neumayer--Watz**	**56.11**	**159**	P		**P**	**22 00 12.7**	**+1.1**
	baz=287,slow=8.0							
SNAA	**Sanae**	**57.72**	**160**	P		**P**	**22 00 24.0**	**+0.9**
SNAA	**Sanae**	**57.72**	**160**	P		**P**	**22 00 23.6**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=262,slow=11,SNR=11 comp=Z,1.3nm,0.8s							
PFO	**Pinyon Flats O**	**74.11**	**322**	LR		LR	22 30 31.4	
	comp=Z,39nm,19.5s,baz=41,slow=32							
PDAR	**Pinedale Array**	**78.00**	**332**	P		**P**	**22 02 31.4**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=118,slow=5.4,SNR=2.6							
PDAR				LR		LR	22 35 07.5	
	comp=Z,28nm,19.2s,baz=310,slow=34 comp=Z,0.7nm,0.9s							
WRA	**Warramunga Arr**	**127.06**	**211**	PKP		**PKiKP**	**22 09 37.7**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=163,slow=1.4,SNR=6.0							
ZALV	**Zalesovo Beam**	**147.91**	**27**	PKPbc		**PKPbc**	**22 10 16.1**	**-1.6**
	comp=Z,3.7nm,0.8s,baz=316,slow=4.1,SNR=16							
MKAR	**Makanchi Array**	**151.35**	**40**	PKPbc		**PKiKP**	**22 10 26.8**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=319,slow=2.3,SNR=19							

ROM 30 21:54:10.6±0.0,42°904N±0°002×12°973E±0°003, h11km,ML1.8/27,10C-5D,Error ellipse: s-maj=0.2km s-min=0.2km az=67.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
T1216	**Preci, Frazion**	**0.04**	**111**	P		Pg	21 54 13.1	+0.4
T1216				S		Sg	21 54 14.5	+0.3
T1216				AML		AML		
	comp=E,1955μm,0.3s							
T1216				AML		AML		
	comp=N,2265μm,1.2s							
T1216				AML		AML		
	comp=N,2265μm,1.2s							
T1216				AML		AML		
	comp=E,1950μm,0.3s							
T1216				AML		AML		
	comp=N,2260μm,1.2s							
FEMA	**Monte Fema**	**0.08**	**44**	P		Pg	21 54 13.6	+0.4
FEMA				S		Sg	21 54 15.7	+0.6
FEMA				AML		AML		
	comp=N,2040μm,0.2s							
FEMA				AML		AML		
	comp=E,2030μm,0.9s							
FEMA				AML		AML		
	comp=E,2030μm,0.9s							
CESI	**CESI - Serrava**	**0.11**	**334**	P		Pg	21 54 14.0	+0.5
CESI				S		Sg	21 54 16.3	+0.6
CESI				AML		AML		
	comp=E,834μm,0.3s							
CESI				AML		AML		
	comp=N,1360μm,0.4s							
NRCA	**Norcia**	**0.12**	**124**	P		Pg	21 54 14.1	+0.4
NRCA				S		Sg	21 54 16.6	+0.7
NRCA				AML		AML		
	comp=E,1102μm,0.1s							
NRCA				AML		AML		
	comp=N,1110μm,0.1s							
NRCA				AML		AML		
	comp=E,1099μm,0.1s							
NRCA				AML		AML		
	comp=N,1110μm,0.2s							
NRCA				AML		AML		
	comp=E,1235μm,0.1s							
NRCA				AML		AML		
	comp=N,1115μm,0.1s							
NRCA				AML		AML		
	comp=N,1138μm,0.2s							
NRCA				AML		AML		
	comp=E,1975μm,0.2s							
NRCA				AML		AML		
	comp=E,2195μm,0.2s							
T1215	**Vallo di Nera,**	**0.13**	**217**	P		Pg	21 54 14.2	+0.5
T1215				S		Sg	21 54 16.7	+0.8
T1215				AML		AML		
	comp=N,465μm,0.1s							
T1215				AML		AML		
	comp=E,326μm,0.6s							
T1215				AML		AML		
	comp=E,328μm,0.6s							
T1215				AML		AML		
	comp=N,464μm,0.1s							
T1215				AML		AML		
	comp=N,462μm,0.1s							
T1215				AML		AML		
	comp=E,328μm,0.6s							
T1215				AML		AML		
	comp=N,464μm,0.1s							
T1215				AML		AML		
	comp=E,327μm,0.6s							
T1215				AML		AML		
	comp=N,462μm,0.1s							
T1219	**Muccia, Frazio**	**0.15**	**9**	P		Pg	21 54 14.6	+0.4
T1219				S		Sg	21 54 17.3	+0.6
T1219				AML		AML		
	comp=E,586μm,0.2s							
T1219				AML		AML		
	comp=N,368μm,0.5s							
T1219				AML		AML		
	comp=N,332μm,1.1s							
T1219				AML		AML		
	comp=E,586μm,0.2s							
T1219				AML		AML		
	comp=E,582μm,0.2s							
T1219				AML		AML		
	comp=N,367μm,0.5s							
FDMO	**Fiordimonte**	**0.16**	**32**	P		Pg	21 54 14.6	+0.4
FDMO				S		Sg	21 54 17.4	+0.8
FDMO				AML		AML		
	comp=E,598μm,0.3s							
FDMO				AML		AML		
	comp=N,418μm,0.2s							
FDMO				AML		AML		
	comp=N,687μm,0.1s							
MC2	**Monte Cornacci**	**0.16**	**87**	P		Pg	21 54 14.8	+0.5
MC2				S		Sg	21 54 18.0	+1.0
T1245	**Castelsantange**	**0.17**	**107**	P		Pg	21 54 14.8	+0.4
T1245				S		Sg	21 54 17.9	+0.9
T1245				AML		AML		
	comp=E,520μm,0.6s							
T1245				AML		AML		
	comp=N,768μm,0.4s							
T1245				AML		AML		
	comp=E,474μm,0.7s							
T1245				AML		AML		
	comp=N,676μm,0.2s							
T1245				AML		AML		
	comp=E,519μm,0.6s							
T1245				AML		AML		
	comp=N,768μm,0.5s							
T1256	**Bolognola (MC)**	**0.21**	**61**	⇑P		Pg	21 54 15.6	+0.4
T1256				S		Sg	21 54 19.2	+1.0
T1256				AML		AML		
	comp=N,392μm,0.3s							
T1256				AML		AML		
	comp=E,280μm,1.2s							
CSP1	**Cessapalombo**	**0.25**	**42**	P		Pg	21 54 16.2	+0.3
CSP1				S		Sg	21 54 20.5	+1.1
CSP1				AML		AML		
	comp=E,200μm,0.4s							
CSP1				AML		AML		
	comp=N,286μm,0.2s							
CSP1				AML		AML		
	comp=N,286μm,0.2s							
CSP1				AML		AML		
	comp=E,200μm,0.4s							
T1218	**Civita (PG)**	**0.26**	**156**	⇑P		Pg	21 54 16.3	+0.4
T1218				S		Sb	21 54 20.8	-1.0
T1218				AML		AML		
	comp=E,496μm,1.0s							
T1218				AML		AML		
	comp=N,784μm,0.3s							
T1218				AML		AML		
	comp=E,492μm,1.0s							
T1218				AML		AML		
	comp=N,774μm,0.3s							
T1218				AML		AML		
	comp=N,784μm,0.3s							
T1218				AML		AML		
	comp=E,492μm,1.0s							
T1218				AML		AML		
	comp=N,774μm,0.3s							
T1218				AML		AML		
	comp=E,496μm,1.0s							
MMO1	**Montemonaco**	**0.26**	**91**	P		Pg	21 54 16.3	+0.3
MMO1				S		Sg	21 54 20.7	+1.1
ASSB	**Assisi San Ben**	**0.27**	**301**	⇓P		Pg	21 54 16.4	+0.3
ASSB				S		Sg	21 54 20.8	+1.0
ASSB				AML		AML		
	comp=E,198μm,0.2s							
ASSB				AML		AML		
	comp=N,164μm,0.3s							
LNSS	**Leonessa**	**0.30**	**171**	⇓P		Pg	21 54 17.2	+0.5
LNSS				S		Sb	21 54 22.1	-1.1
LNSS				AML		AML		
	comp=N,468μm,0.4s							
LNSS				AML		AML		
	comp=E,194μm,0.4s							
LNSS				AML		AML		
	comp=N,469μm,0.4s							
GUMA	**Gualdo di Mace**	**0.31**	**59**	P		Pg	21 54 17.4	+0.6
GUMA				S		Sb	21 54 22.8	-0.5
GUMA				AML		AML		
	comp=E,528μm,1.6s							
GUMA				AML		AML		
	comp=N,504μm,0.6s							
GUMA				AML		AML		
	comp=E,591μm,0.6s							
GUMA				AML		AML		
	comp=N,254μm,0.4s							
GUMA				AML		AML		
	comp=E,528μm,1.6s							
GUMA				AML		AML		
	comp=N,504μm,0.6s							
MOMA	**Monte Martano**	**0.31**	**252**	P		Pg	21 54 17.5	+0.6
MOMA				S		Sb	21 54 22.5	-0.9
MOMA				AML		AML		
	comp=E,222μm,0.2s							
MOMA				AML		AML		
	comp=N,189μm,0.2s							
MOMA				AML		AML		
	comp=E,223μm,0.2s							
T1241	**Roccafluvione,**	**0.34**	**98**	⇓P		Pg	21 54 17.7	+0.3
T1241				S		Sb	21 54 23.1	-1.0
T1241				AML		AML		
	comp=N,390μm,0.2s							
T1241				AML		AML		
	comp=E,210μm,0.3s							
SNTG	**Esanatoglia**	**0.35**	**356**	⇓P		Pg	21 54 17.9	+0.3
SNTG				S		Sb	21 54 23.6	-0.9
SNTG				AML		AML		
	comp=N,227μm,0.6s							
SNTG				AML		AML		
	comp=E,140μm,0.4s							
ARRO	**Arrone**	**0.36**	**205**	P		Pg	21 54 18.1	+0.4
ARRO				S		Sb	21 54 24.0	-0.6
ARRO				AML		AML		
	comp=N,77μm,1.2s							
ARRO				AML		AML		
	comp=E,84μm,0.2s							
ATCC	**AVT- Casa Cast**	**0.37**	**319**	P		Pg	21 54 18.3	+0.2
ATCC				S		Sb	21 54 24.5	-0.7
ATCC				AML		AML		
	comp=N,70μm,1.1s							
ATCC				AML		AML		
	comp=E,106μm,1.5s							
SMA1	**SAN MARTINO**	**0.38**	**136**	⇑P		Pg	21 54 18.5	+0.3
SMA1				S		Sg	21 54 23.9	+0.6
SMA1				AML		AML		
	comp=E,115μm,1.4s							
SMA1				AML		AML		
	comp=N,90μm,1.6s							
SMA1				AML		AML		
	comp=N,90μm,1.6s							
SMA1				AML		AML		
	comp=E,115μm,1.4s							
T1243	**Rocca Santa Ma**	**0.41**	**120**	⇑P		Pg	21 54 18.7	+0.1
T1243				S		Sb	21 54 25.6	-0.5
CESX	**Cesi**	**0.41**	**225**	⇑P		Pg	21 54 18.9	+0.1
CESX				S		Sb	21 54 25.4	-0.8
CESX				AML		AML		
	comp=E,87μm,0.3s							
CESX				AML		AML		
	comp=N,98μm,0.3s							
CESX				AML		AML		
	comp=E,87μm,0.3s							
FOSV	**Fossato

TERO				S	Sb	21 54 29.6	-0.4	
TERO				AML	AML			
	comp=N,55μm,1.4s							
TERO				AML	AML			
	comp=E,60μm,1.6s							
ARVD	**Arcevia**	**0.59**	**358**	⇑P	Pg	21 54 22.2	0.0	
ARVD				S	Sb	21 54 31.5	0.0	
ARVD				AML	AML			
	comp=E,71μm,0.7s							
ARVD				AML	AML			
	comp=N,63μm,0.2s							
ATVO	**AVT- Monte Val**	**0.63**	**319**	P	Pg	21 54 22.8	-0.1	
AQU	**L'Aquila**	**0.63**	**150**	⇓P	Pg	21 54 23.0	+0.1	
FIAM	**Fiamignano**	**0.64**	**170**	P	Pg	21 54 23.0	-0.1	
FIAM				S	Sb	21 54 32.5	-0.4	
PIEI	**Pieia**	**0.71**	**333**	P	Pg	21 54 24.6	+0.3	
PIEI				S	Sb	21 54 35.0	+0.2	

MAN 30 21:59:04.0, 13.51N×120.09E, h32km, mb3.9, ML2.7, MS2.2, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.02**	**54**	⇑*e*P	Pb	21 59 24.7	+1.6
TGY				*i* S	Sb	21 59 39.6	+3.4
LQP	**Lukban**	**1.54**	**67**	⇑*e*P	Pb	21 59 32.5	+0.6

MOS ***30*** *22:07:28.7±0.8, 21.29S×179.20W, h609km, mb5.0/33, Error ellipse: s-maj=9.3km s-min=8.0km az=72.8*
BJI ***30*** *22:07:28.2±0.0, 21.07S×179.00W, h599km, mb4.6/34, mB5.0/18*
NEIC ***30*** *22:07:29.2±1.6, 21.33S±0.08×179.14W±0.09, h596km±5km, mb5.1/163, Error ellipse: s-maj=12.4km s-min=11.8km az=124.0*
NOU ***30*** *22:07:29.8, 21.33S×179.06W, h616km, mb5.1/94, Fiji Islands Region*
IDC ***30*** *22:07:30.3±0.4, 21.29S×179.18W, h615km±4km, mb4.4/24, mbtmp5.4/27, Error ellipse: s-maj=8.9km s-min=8.4km az=1.0*
GCMT ***30*** *22:07:34.2±0.2, 21.37S±0.02×179.18W±0.02, h629km±2km, MW5.5/93, Moment Tensor Solution. s93,c136; Duration: 1ś3 Moment tensor: Scale 10^17 Nm; Mrr 1.31±.04; Mθθ -1.13±.06; Mϕϕ -0.18±.07; Mrθ -1.27±.06; Mθϕ 0.69±.06; Mϕr -0.25±.07; Best double couple: M0 1.91000×10^17 NP1ϕs274.00000°, δ67.00000°, λ69.00000°. NP2ϕs139.00000°, δ31.00000°, λ131.00000°. Principal axes: T 1.9690, Plg62.0000°, Azm151.0000°; N -0.1230, Plg20.0000°, Azm282.0000°; P -1.8500, Plg19.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 30 22:07:29.7±0.3, 21.32S±0.04×179.13W±0.04, h614km±2km, h616km:pP-P, n1094, σ1ś29/1214, mb5.0/146, 86C-67D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.09**	**6**	P	**P**	**22 08 51.7**	**+1.1**
MSVF	**Nonsavu**	**4.45**	**323**	P	**P**	**22 09 00.6**	**+1.0**
	3μm,0.7s,baz=146,slow=15,SNR=1538						
MSVF				S	**S**	**22 10 13.9**	**+1.2**
	254nm,0.8s,baz=109,slow=19,SNR=0.8						
MSVF	**Nonsavu**	**4.45**	**323**	P	**P**	**22 09 00.4**	**+0.9**
MSVF	**Nonsavu**	**4.45**	**323**	P	**P**	**22 09 00.5**	**+1.0**
MSVF	**Nonsavu**	**4.45**	**323**	*c i* P	**P**	**22 08 59.9**	**+0.4**
TAVE	**Taveuni**	**4.65**	**351**	P	**P**	**22 09 02.0**	**+1.1**
DGTI	**Dogotuki**	**5.11**	**348**	P	**P**	**22 09 05.1**	**+0.7**
FUTU	**Fugatoga**	**7.04**	**8**	P	**P**	**22 09 21.9**	**+1.1**
RIZ	**Raoul Island**	**7.96**	**172**	P	**P**	**22 09 26.3**	**-2.7**
RAO	**Raoul Island**	**7.97**	**172**	P	**P**	**22 09 28.4**	**-0.6**
	2μm,0.2s,baz=71,slow=6.8,SNR=31						
RAO				S	**S**	**22 11 05.0**	**-2.1**
	804nm,0.5s,baz=111,slow=22,SNR=7.0						
RAO	**Raoul Island**	**7.97**	**172**	P	**P**	**22 09 27.8**	**-1.3**
RAO	**Raoul Island**	**7.97**	**172**	P	**P**	**22 09 28.5**	**-0.6**
RAO	**Raoul Island**	**7.97**	**172**	P	**P**	**22 09 27.8**	**-1.3**
GLKZ	**Green Lake**	**7.98**	**172**	P	**P**	**22 09 28.3**	**-0.9**
NIUE	**Niue**	**8.93**	**77**	P	**P**	**22 09 37.9**	**-0.4**
NIUE	**Niue**	**8.93**	**77**	P	**P**	**22 09 38.5**	**+0.1**
AFI	**Afiamalu**	**10.17**	**45**	P	**P**	**22 09 48.2**	**-2.4**
	1μm,0.6s,baz=262,slow=2.5,SNR=179						
AFI				S	**S**	**22 11 39.4**	**-6.8**
	309nm,0.5s,baz=184,slow=24,SNR=4.0						
AFI	**Afiamalu**	**10.17**	**45**	P	**P**	**22 09 48.0**	**-2.6**
AFI	**Afiamalu**	**10.17**	**45**	P	**P**	**22 09 48.6**	**-2.0**
AFI	**Afiamalu**	**10.17**	**45**	P	**P**	**22 09 48.0**	**-2.6**
MARNC	**Mare, Loyalty**	**11.96**	**267**	P	**P**	**22 10 07.3**	**-0.7**
MARNC	**Mare, Loyalty**	**11.96**	**267**	P	**P**	**22 10 09.0**	**+1.0**
	2.6nm,0.8s						
LIFNC	**LIFOU**	**12.74**	**270**	P	**P**	**22 10 14.4**	**-1.2**
FUNA	**Funafuti**	**12.82**	**353**		**P**	**22 10 15.1**	**-1.5**
FUNA	**Funafuti**	**12.82**	**353**	P	**P**	**22 10 15.5**	**-1.1**
OUENC	**Ouen Island, N**	**13.07**	**263**	P	**P**	**22 10 18.9**	**-0.1**
OUENC	**Ouen Island, N**	**13.07**	**263**	P	**P**	**22 10 21.8**	**+2.8**
	38nm,0.9s						
ONTNC	**Ouen Toro**	**13.43**	**263**	P	**P**	**22 10 21.0**	**-1.5**
DZM	**Mont Dzumac**	**13.43**	**264**	*e*P	**P**	**22 10 21.5**	**-1.2**
	96nm,1.2s						
DZM				*e*S	**S**	**22 12 40.2**	**-4.2**
	92nm,1.1s						
DZM	**Mont Dzumac**	**13.43**	**264**	P	**P**	**22 10 22.3**	**-0.4**
	27nm,0.7s,baz=79,slow=18,SNR=21						
DZM	**Mont Dzumac**	**13.43**	**264**	P	**P**	**22 10 23.1**	**+0.4**
NFK	**Norfolk Island**	**14.00**	**234**	P	**P**	**22 10 30.0**	**+2.0**
OUZ	**Omahuta**	**15.25**	**203**	P	**P**	**22 10 42.0**	**+2.7**
OUZ	**Omahuta**	**15.25**	**203**	P	**P**	**22 10 42.0**	**+2.7**
OUZ	**Omahuta**	**15.25**	**203**	P	**P**	**22 10 41.1**	**+1.8**
KOUNC	**Koumac, New Ca**	**15.51**	**270**	P	**P**	**22 10 43.4**	**+1.4**
GRZ	**Great Barrier**	**15.61**	**196**	P	**P**	**22 10 44.0**	**+1.4**
WCZ	**Waipu Caves**	**15.64**	**200**	P	**P**	**22 10 45.6**	**+2.7**
KUZ	**Kuaotunu**	**16.01**	**195**	P	**P**	**22 10 48.3**	**+2.1**
KUZ	**Kuaotunu**	**16.01**	**195**	P	**P**	**22 10 48.0**	**+1.7**
WIAZ	**Waiheke Island**	**16.20**	**197**	P	**P**	**22 10 50.3**	**+2.2**
MXZ	**Matakaoa Point**	**16.34**	**187**	P	**P**	**22 10 48.4**	**-0.8**
MXZ	**Matakaoa Point**	**16.34**	**187**	P	**P**	**22 10 47.8**	**-1.5**
WIZ	**White Island**	**16.46**	**190**	P	**P**	**22 10 52.3**	**+1.9**
HAZ	**Te Kaha**	**16.59**	**189**	P	**P**	**22 10 51.2**	**-0.3**
HAZ				S	**S**	**22 13 28.8**	**-7.1**
PKGZ	**Pakihiroa**	**16.68**	**188**	P	**P**	**22 10 51.8**	**-0.7**
RUGZ	**Raukumara Rang**	**16.81**	**189**	P	**P**	**22 10 53.2**	**-0.6**
RUGZ				S	**S**	**22 13 30.7**	**-9.0**
WHRZ	**Whale Island**	**16.82**	**191**	P	**P**	**22 10 54.4**	**+0.7**
TGRZ	**Tauranga**	**16.83**	**193**	P	**P**	**22 10 55.8**	**+2.0**
PUZ	**Puketiti**	**16.84**	**187**	P	**P**	**22 10 54.1**	**+0.1**
PUZ				S	**S**	**22 13 33.2**	**-6.9**
OPRZ	**Ohinepanea**	**16.88**	**192**	P	**P**	**22 10 52.1**	**-2.1**
TWGZ	**Tauwhareparae**	**16.98**	**188**	P	**P**	**22 10 54.8**	**-0.4**
MARZ	**Manawahe**	**17.00**	**191**	P	**P**	**22 10 57.3**	**+2.0**
KMRZ	**Kaimai**	**17.01**	**193**	P	**P**	**22 10 57.6**	**+2.1**
KARZ	**Kaharoa**	**17.11**	**192**	P	**P**	**22 10 58.5**	**+2.1**
OMRZ	**Omania**	**17.17**	**192**	P	**P**	**22 10 57.7**	**+0.8**
URZ	**Urewera**	**17.19**	**190**	P	**P**	**22 10 54.4**	**-2.6**
URZ	**Urewera**	**17.19**	**190**	P	**P**	**22 10 54.8**	**-2.2**
MWZ	**Matawai**	**17.20**	**189**	P	**P**	**22 10 56.1**	**-1.1**
CNGZ	**Carnagh Statio**	**17.26**	**187**	P	**P**	**22 10 57.4**	**-0.3**
TKGZ	**Te Karaka**	**17.26**	**188**	P	**P**	**22 10 58.0**	**+0.4**
TARZ	**Mount Tarawera**	**17.27**	**192**	P	**P**	**22 10 58.6**	**+0.7**
UTU	**Utuhina**	**17.28**	**192**	P	**P**	**22 11 03.5**	**+5.6**
RAGZ	**Rawiri**	**17.37**	**189**	P	**P**	**22 10 58.4**	**-0.4**
MUGZ	**Murupara**	**17.46**	**191**	P	**P**	**22 10 58.6**	**-0.9**
GRRZ	**Galatos Road**	**17.46**	**193**	P	**P**	**22 11 01.9**	**+2.4**
HRRZ	**Handcock Road**	**17.46**	**192**	P	**P**	**22 11 00.6**	**+0.9**
RIGZ	**Rimuhau**	**17.53**	**188**	P	**P**	**22 11 00.1**	**-0.1**
RTZ	**Ruatahuna**	**17.56**	**190**	P	**P**	**22 10 59.3**	**-1.2**
TLZ	**Tolley Road**	**17.56**	**194**	P	**P**	**22 11 02.8**	**+2.3**
SNGZ	**Shannon Statio**	**17.66**	**189**	P	**P**	**22 11 00.6**	**-0.8**
WHTZ	**Whakaora**	**17.80**	**193**	P	**P**	**22 11 02.2**	**-0.5**
MTHZ	**Maungataniwha**	**17.81**	**190**	P	**P**	**22 11 02.1**	**-0.6**
RAHZ	**Arahi**	**17.84**	**190**	P	**P**	**22 11 02.4**	**-0.6**
KNZ	**Kokohu**	**17.85**	**188**	P	**P**	**22 11 02.5**	**-0.5**
MHGZ	**Mahia Peninsul**	**17.95**	**187**	P	**P**	**22 11 03.6**	**-0.4**
WHHZ	**Waihua**	**17.97**	**189**	P	**P**	**22 11 04.9**	**+0.8**
RATZ	**Rangitukua**	**18.03**	**193**	P	**P**	**22 11 04.9**	**+0.2**
RAR	**Rarotonga**	**18.05**	**93**	P	**P**	**22 11 06.4**	**+1.3**
	86nm,0.8s,baz=243,slow=7.1,SNR=34						
RAR	**Rarotonga**	**18.05**	**93**	P	**P**	**22 11 05.7**	**+0.6**
RAR	**Rarotonga**	**18.05**	**93**	P	**P**	**22 11 06.0**	**+0.9**
RAR	**Rarotonga**	**18.05**	**93**	P	**P**	**22 11 05.7**	**+0.6**
NMHZ	**Naumai**	**18.06**	**190**	P	**P**	**22 11 04.6**	**-0.5**
RITZ	**Rihia Road**	**18.12**	**193**	P	**P**	**22 11 05.8**	**+0.3**
BKZ	**Black Stump Fm**	**18.18**	**191**	P	**P**	**22 11 04.7**	**-1.4**
BKZ	**Black Stump Fm**	**18.18**	**191**	P	**P**	**22 11 04.6**	**-1.5**
ARHZ	**Aropaoanui**	**18.19**	**190**	P	**P**	**22 11 05.8**	**-0.3**
TMVZ	**Te Maari**	**18.28**	**193**	P	**P**	**22 11 06.8**	**-0.3**
TWVZ	**Taurewa**	**18.30**	**194**	P	**P**	**22 11 06.9**	**-0.3**
ETVZ	**East Tongariro**	**18.30**	**193**	P	**P**	**22 11 07.1**	**-0.2**
OTVZ	**Oturere**	**18.34**	**193**	P	**P**	**22 11 06.7**	**-1.0**
SNVZ	**South Ngauruho**	**18.36**	**193**	P	**P**	**22 11 07.4**	**-0.5**
MCHZ	**McNeill Hill**	**18.41**	**190**	P	**P**	**22 11 08.4**	**+0.2**
TUVZ	**Tukino**	**18.44**	**193**	P	**P**	**22 11 07.9**	**-0.7**
KWHZ	**Kaweka Forest**	**18.44**	**191**	P	**P**	**22 11 07.4**	**-1.1**
WNVZ	**Wahianoa**	**18.51**	**193**	P	**P**	**22 11 09.2**	**0.0**
MOVZ	**Moawhango**	**18.55**	**193**	P	**P**	**22 11 08.9**	**-0.6**
BHHZ	**Black Hill Sta**	**18.57**	**192**	P	**P**	**22 11 08.3**	**-1.4**
KAHZ	**Kahuranaki**	**18.73**	**190**	P	**P**	**22 11 10.3**	**-0.8**
NEZ	**North Egmont**	**18.81**	**196**	P	**P**	**22 11 15.8**	**+3.9**
KHEZ	**Kahui Hut**	**18.85**	**197**	P	**P**	**22 11 15.8**	**+3.6**
PNHZ	**Pukenui**	**18.96**	**191**	P	**P**	**22 11 12.1**	**-1.1**
PXZ	**Pawanui**	**18.96**	**190**	P	**P**	**22 11 12.1**	**-1.0**
TSZ	**Takapari Road**	**19.14**	**192**	P	**P**	**22 11 14.7**	**-0.2**
DVHZ	**Dannevirke**	**19.34**	**191**	P	**P**	**22 11 15.5**	**-1.1**
BFZ	**Birch Farm**	**19.70**	**190**	P	**P**	**22 11 18.3**	**-1.5**
DUWZ	**D'Urville Isla**	**20.30**	**195**	P	**P**	**22 11 24.6**	**-0.6**
SNZO	**South Karori**	**20.60**	**193**	P	**P**	**22 11 26.6**	**-1.2**
TCW	**Tory Channel**	**20.60**	**194**	P	**P**	**22 11 27.7**	**-0.2**
QRZ	**Quartz Range**	**20.69**	**198**	P	**P**	**22 11 29.3**	**+0.6**
QRZ	**Quartz Range**	**20.69**	**198**	P	**P**	**22 11 29.3**	**+0.6**
TKNZ	**Takaka Hill**	**20.76**	**197**	P	**P**	**22 11 29.2**	**-0.2**
NNZ	**Nelson**	**20.82**	**196**	P	**P**	**22 11 29.4**	**-0.5**
MRNZ	**Matariki Terra**	**21.16**	**197**	P	**P**	**22 11 32.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**21.17**	**195**	P	**P**	**22 11 33.6**	**+0.6**
THZ	**Tophouse**	**21.46**	**196**	P	**P**	**22 11 35.2**	**-0.5**
DSZ	**Denniston Nort**	**21.75**	**199**	P	**P**	**22 11 38.1**	**-0.1**
KHZ	**Kahutara**	**21.91**	**195**	P	**P**	**22 11 38.4**	**-1.2**
LHI	**Lord Howe Isla**	**21.97**	**238**	P	**P**	**22 11 41.8**	**+1.5**
LHI	**Lord Howe Isla**	**21.97**	**238**	P	**P**	**22 11 42.4**	**+2.1**
LTZ	**Lake Taylor**	**22.58**	**197**	P	**P**	**22 11 44.0**	**-1.6**
AMCZ	**Amberley**	**22.85**	**196**	P	**P**	**22 11 47.4**	**-0.5**
RPZ	**Rata Peaks**	**23.78**	**198**	P	**P**	**22 11 56.0**	**-0.1**
	28nm,0.5s,baz=33,slow=3.0,SNR=9.2						
	28nm,0.5s						
RPZ	**Rata Peaks**	**23.78**	**198**	P	**P**	**22 11 55.2**	**-0.9**
TARA	**Tarawa**	**23.84**	**340**	P	**P**	**22 11 56.8**	**-0.3**
TARA	**Tarawa**	**23.84**	**340**	P	**P**	**22 11 57.3**	**-0.1**
JCZ	**Jackson Bay**	**24.81**	**201**	P	**P**	**22 12 05.9**	**+0.6**
AUWSH	**Wavell State H**	**26.03**	**251**	P	**P**	**22 12 17.6**	**+1.4**
TBI	**Tubuai**	**27.50**	**100**	*e*P	**P**	**22 12 30.0**	**+0.9**
	180nm,0.9s						
TBI				*e*S	**S**	**22 16 31.7**	**+3.1**
	749nm,45.5s						
EIDS	**Eidsvold**	**27.61**	**256**	P	**P**	**22 12 30.4**	**+0.2**
EIDS	**Eidsvold**	**27.61**	**256**	P	**P**	**22 12 30.9**	**+0.8**
ARMA	**Armidale**	**27.76**	**245**	P	**P**	**22 12 32.3**	**+0.8**
ARMA	**Armidale**	**27.76**	**245**	P	**P**	**22 12 32.7**	**+1.3**
PPT2	**Papeete2**	**28.09**	**88**	*e*P	**P**	**22 12 35.4**	**+1.0**
	102nm,1.2s						
PPT2				*e*S	**S**	**22 16 41.4**	**+3.3**
PPT	**Papeete**	**28.10**	**88**	P	**P**	**22 12 35.8**	**+1.4**
	80nm,0.7s,baz=46,slow=5.4,SNR=9.5						
	80nm,0.7s						
PPTF	**Pamatai, Papee**	**28.10**	**88**	P	**P**	**22 12 35.2**	**+0.7**
PPTF				IAmb	IAmb	22 12 39.1	
	comp=Z,89nm,0.8s						
PPTF	**Pamatai, Papee**	**28.10**	**88**	P	**P**	**22 12 35.5**	**+1.0**
TIAR	**Tiarei**	**28.32**	**88**	*e*P	**P**	**22 12 37.0**	**+0.7**
	comp=Z,13nm,0.8s						
SYDH	**Sydney Hard Ro**	**29.33**	**239**	P	**P**	**22 12 46.1**	**+1.3**
MEH	**Mehetia**	**29.44**	**89**	*e*P	**P**	**22 12 46.8**	**+0.8**
	comp=Z,56nm,1.2s						
RMQ	**Roma**	**29.75**	**254**	P	**P**	**22 12 49.9**	**+1.3**
AUUHS	**Ulladulla High**	**30.05**	**236**	P	**P**	**22 12 50.4**	**-0.6**
CNB	**Canberra Magne**	**30.89**	**236**	P	**P**	**22 12 59.9**	**+1.6**
CAN	**Canberra**	**31.18**	**237**	P	**P**	**22 13 00.8**	**+0.2**
CAN				IAmb	IAmb	22 14 41.1	
	comp=Z,42nm,1.1s						
CAN	**Canberra**	**31.18**	**237**	P	**P**	**22 13 00.8**	**+0.2**
CAN				pmax	pmax		
	comp=Z,42nm,1.1s						
CAN	**Canberra**	**31.18**	**237**	P	**P**	**22 13 01.8**	**+1.2**
CAN				pP	**PP**	**22 14 40.6**	**-1.0**
CAN				sP	**sP**	**22 15 52.4**	**+4.8**
CAN				ScP	**ScP**	**22 18 23.6**	**+2.1**
XMAS	**Kiritimati**	**31.46**	**45**	P	**P**	**22 13 03.6**	**+0.4**
XMAS	**Kiritimati**	**31.46**	**45**	P	**P**	**22 13 03.7**	**+0.5**
CTA	**Charters Tower**	**32.37**	**266**	P	**P**	**22 13 11.1**	**+0.2**
	comp=Z,10nm,0.4s,baz=94,slow=9.8,SNR=28						
CTA				PcP	**PcP**	**22 15 39.5**	**0.0**
	comp=Z,15nm,0.5s,baz=105,slow=0.4,SNR=4.9						
CTA				ScP	**ScP**	**22 18 28.4**	**+2.5**
	comp=Z,15nm,0.8s,baz=94,slow=2.1,SNR=9.6						
	comp=Z,10nm,0.4s						
CTA	**Charters Tower**	**32.37**	**266**	P	**P**	**22 13 11.4**	**+0.5**
CTAO	**Charters Tower**	**32.37**	**266**	P	**P**	**22 13 10.9**	**+0.1**
CTAO	**Charters Tower**	**32.37**	**266**	P	**P**	**22 13 11.4**	**+0.5**
CTAO	**Charters Tower**	**32.37**	**266**	P	**P**	**22 13 11.0**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**32.37**	**266**	P	**P**	**22 13 11.3**	**+0.5**
CTAO				ScP	**ScP**	**22 18 28.2**	**+2.3**
KWAJ	**Kwajalein Atol**	**32.65**	**335**	P	**P**	**22 13 13.1**	**-0.1**
KWAJ	**Kwajalein Atol**	**32.65**	**335**	P	**P**	**22 13 13.5**	**+0.3**
KWAJ	**Kwajalein Atol**	**32.65**	**335**	P	**P**	**22 13 13.1**	**-0.1**
KWAJ				pmax	pmax		
	comp=Z,556nm,1.2s						
KWAJ	**Kwajalein Atol**	**32.65**	**335**	P	**P**	**22 13 13.4**	**+0.2**
CMSA	**Cobar Meteorol**	**32.98**	**245**	P	**P**	**22 13 16.5**	**+0.6**
QLP	**Quilpie**	**33.81**	**254**	P	**P**	**22 13 23.7**	**+0.8**
	comp=Z,50nm,0.5s						
MTSU	**Mount Surprise**	**34.50**	**269**	P	**P**	**22 13 29.4**	**+0.6**
PMG	**Port Moresby**	**34.51**	**285**	ScP	**ScP**	**22 18 35.1**	**+1.6**
	comp=Z,14nm,0.8s,baz=130,slow=3.7,SNR=5.8						
PMG	**Port Moresby**	**34.51**	**285**	P	**P**	**22 13 28.7**	**-0.1**
PMG				IAmb	IAmb	22 15 10.8	
	comp=Z,44nm,1.1s						
PMG				PcP	**PcP**	**22 15 46.3**	**+0.6**
PMG	**Port Moresby**	**34.51**	**285**	P	**P**	**22 13 29.5**	**+0.7**
PMG	**Port Moresby**	**34.51**	**285**	P	**P**	**22 13 29.6**	**+0.7**
PMG	**Port Moresby**	**34.51**	**285**	*ce* P	**P**	**22 13 28.0**	**-0.9**
PMG				pmax	pmax		
	comp=Z,37nm,1.3s						
TOO	**Toolangi**	**34.56**	**234**	P	**P**	**22 13 29.8**	**+0.8**
TOO	**Toolangi**	**34.56**	**234**	P	**P**	**22 13 30.2**	**+1.2**
TOO	**Toolangi**	**34.56**	**234**	P	**P**	**22 13 29.8**	**+0.8**
TOO				pmax	pmax		
	comp=Z,17nm,0.9s						
TAU	**Tasmania Unive**	**35.30**	**225**	P	**P**	**22 13 35.5**	**+0.5**
TAU				IAmb	IAmb	22 15 18.0	
	comp=Z,50nm,1.4s						
TAU	**Tasmania Unive**	**35.30**	**225**	P	**P**	**22 13 35.5**	**+0.5**
TAU				pmax	pmax		
	comp=Z,50nm,1.4s						
TAU	**Tasmania Unive**	**35.30**	**225**	P	**P**	**22 13 35.6**	**+0.7**
PATS	**Pohnpei**	**35.68**	**319**	P	**P**	**22 13 38.9**	**+0.4**
BRAT	**Ballarat**	**35.74**	**235**	P	**P**	**22 13 39.9**	**+1.2**
STKA	**Stephens Creek**	**36.48**	**245**	P	**P**	**22 13 45.8**	**+0.9**
	comp=Z,13nm,0.8s,baz=92,slow=11,SNR=32						
STKA				PcP	**PcP**	**22 15 52.0**	**+0.6**
	comp=Z,9.5nm,0.6s,baz=61,slow=1.3,SNR=4.0						
STKA				ScP	**S**	**22 18 43.1**	**-1.7**
	comp=Z,13nm,0.8s,baz=247,slow=2.5,SNR=7.9						
STKA				P3KPbc		22 44 03.9	
	comp=Z,0.4nm,0.3s,baz=295,slow=6.5,SNR=6.7						
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**36.48**	**245**	P	**P**	**22 13 45.4**	**+0.5**
STKA	**Stephens Creek**	**36.48**	**245**	P	**P**	**22 13 45.8**	**+0.9**
COEN	**Coen**	**36.59**	**275**	P	**P**	**22 13 46.4**	**+0.4**
COEN	**Coen**	**36.59**	**275**	P	**P**	**22 13 46.8**	**+0.8**
INKA	**Innaminka**	**36.94**	**252**	P	**P**	**22 13 50.0**	**+1.4**
ARPS	**Mount Arapiles**	**37.15**	**237**	P	**P**	**22 13 50.9**	**+0.6**
QIS	**Mount Isa**	**38.47**	**263**	P	**P**	**22 14 01.2**	**0.0**
HTT	**Hallett**	**38.91**	**243**	P	**P**	**22 14 05.0**	**+0.4**
JOHN	**Johnston Islan**	**38.97**	**15**	P	**P**	**22 14 05.5**	**+0.4**
LCRK	**Leigh Creek**	**39.24**	**248**	P	**P**	**22 14 08.1**	**+0.9**
TAOE	**Nuku Hiva Isla**	**39.51**	**78**	P	**P**	**22 14 09.3**	**-0.3**
TAOE	**Nuku Hiva Isla**	**39.51**	**78**	P	**P**	**22 14 10.7**	**+1.0**
BBOO	**Buckleboo**	**41.24**	**244**	P	**P**	**22 14 23.1**	**+0.1**
BBOO				IAmb	IAmb	22 14 23.7	
	comp=Z,26nm,0.8s						
WAKE	**Wake Island**	**42.69**	**340**	P	**P**	**22 14 34.5**	**+0.1**
WAKE	**Wake Island**	**42.69**	**340**	P	**P**	**22 14 34.4**	**0.0**
WAKE	**Wake Island**	**42.69**	**340**	P	**P**	**22 14 34.2**	**-0.2**
MULG	**Mulgathing**	**42.83**	**248**	P	**P**	**22 14 35.8**	**+0.3**
H11N3	**WAKE ISLAND Hy**	**43.01**	**341**	P	**P**	**22 14 36.6**	**-0.1**
	baz=175,slow=9.6,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**43.02**	**341**	P	**P**	**22 14 36.0**	**-0.8**
	baz=175,slow=9.6,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**43.03**	**341**	P	**P**	**22 14 36.9**	**0.0**
	baz=175,slow=9.6,SNR=5.9						
WR0	**Warramunga Arr**	**43.26**	**263**	P	**P**	**22 14 38.3**	**-0.7**
WR0				IAmb	IAmb	22 16 15.2	
	comp=Z,29nm,1.0s						
AS01	**Alice Springs**	**43.26**	**258**	P	**P**	**22 14 39.2**	**+0.2**
AS31	**Alice Springs**	**43.30**	**258**	P	**P**	**22 14 39.5**	**+0.2**
ASAR	**Alice Springs**	**43.30**	**258**	P	**P**	**22 14 39.6**	**+0.3**
	comp=Z,55nm,0.8s,baz=90,slow=8.3,SNR=433						
ASAR				PcP	**PcP**	**22 16 14.2**	**+0.3**
	comp=Z,33nm,0.7s,baz=106,slow=4.0,SNR=25						
ASAR				ScP	**ScP**	**22 19 10.0**	**+2.3**
	comp=Z,9.5nm,0.7s,baz=99,slow=4.3,SNR=10						
ASAR				S	**S**	**22 20 21.3**	**-2.6**
	comp=Z,20nm,0.9s,baz=94,slow=15,SNR=31						
ASAR				PKiKP	**PKiKP**	**22 23 12.8**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=94,slow=1.5,SNR=6.6						
ASAR				P3KPbc		22 43 34.0	
	comp=Z,0.3nm,0.5s,baz=275,slow=4.6,SNR=5.2						
	comp=Z,55nm,0.8s						
ASAR	**Alice Springs**	**43.30**	**258**	P	**P**	**22 14 39.5**	**+0.1**
WB0	**Warramunga Arr**	**43.43**	**263**	P	**P**	**22 14 39.8**	**-0.5**
WB0				IAmb	IAmb	22 14 40.8	
	comp=Z,50nm,0.9s						
WRAB	**Tennant Creek**	**43.44**	**263**	*ce* P	**P**	**22 14 40.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,65nm,1.3s						
WRAB	**Tennant Creek**	**43.44**	**263**	P	**P**	**22 14 39.8**	**-0.5**
WRAB				ScP	**ScP**	**22 19 10.5**	**+2.2**
WRA	**Warramunga Arr**	**43.45**	**263**	P	**P**	**22 14 40.0**	**-0.4**
	comp=Z,18nm,0.5s,baz=98,slow=7.8,SNR=753						
WRA				PcP	**PcP**	**22 16 14.9**	**+0.4**
	comp=Z,19nm,0.9s,baz=93,slow=4.2,SNR=10						
WRA				ScP	**ScP**	**22 19 10.6**	**+2.3**
	comp=Z,7.3nm,0.8s,baz=95,slow=4.2,SNR=7.8						
WRA				S	**S**	**22 20 21.6**	**-4.3**
	comp=Z,7.4nm,0.9s,baz=101,slow=14,SNR=12						
WRA				PKiKP	**PKiKP**	**22 23 13.2**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=92,slow=0.4,SNR=8.1						
WRA				P3KPbc		22 43 35.1	
	comp=Z,0.4nm,0.8s,baz=296,slow=2.7,SNR=8.0						
	comp=Z,18nm,0.5s						
WRA	**Warramunga Arr**	**43.45**	**263**	P	**P**	**22 14 39.1**	**-1.3**
WRA	**Warramunga Arr**	**43.45**	**263**	P	**P**	**22 14 39.2**	**-1.3**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KHLU	**Kahalu`u**	**46.59**	**31**	P	**P**	**22 15 04.7**	**+0.4**
HMH	**Humu'ula Sheep**	**46.79**	**31**	P	**P**	**22 15 06.6**	**+0.5**
POHA	**Pohakuloa**	**46.90**	**31**	P	**P

comp=Z,117nm,0.6s,baz=284,slow=4.5,SNR=8.3
comp=Z,117nm,0.6s
RPN Rapa Nui 63.20 110 P **P** **22 17 01.0 +1.4**
RPN Rapa Nui 63.20 110 P **P** **22 17 01.0 +1.4**
RPN pmax pmax
comp=Z,158nm,0.8s
RPN Rapa Nui 63.20 110 P **P** **22 17 01.8 +2.3**
JAGI Jajag, Banyuwa 65.32 270 P **P** **22 17 11.9 -1.2**
JAGI IAmb IAmb 22 17 12.9
comp=Z,57nm,0.9s
JAGI Jajag, Banyuwa 65.32 270 P **P** **22 17 12.0 -1.2**
JHJ2 Mitsune 66.82 323 P **P** **22 17 21.9 -0.1**
QSPA South Pole Qui 68.75 180 P **P** **22 17 34.6 +1.2**
QSPA South Pole Qui 68.75 180 ⇑P **P** **22 17 34.7 +1.4**
QSPA pP **pP** **22 19 39.0 +3.4**
UGM Wanagama 68.89 270 P **P** **22 17 34.4 -0.6**
UGM IAmb IAmb 22 17 35.3
comp=Z,67nm,0.6s
KKM Kota Kinabalu 68.95 286 P **P** **22 17 35.0 -0.5**
JMM Marumori 69.90 327 P **P** **22 17 40.4 +0.1**
JMM IAmb IAmb 22 17 41.7
comp=Z,57nm,1.0s
JMM Marumori 69.90 327 P **P** **22 17 41.1 +0.7**
JGF Kuroka 70.03 323 P **P** **22 17 41.2 0.0**
MJAR Matsushiro Arr 70.25 325 P **P** **22 17 42.4 -0.2**
comp=Z,27nm,0.8s,baz=158,slow=6.1,SNR=35
comp=Z,27nm,0.8s
MAJO Matsushiro 70.25 325 P **P** **22 17 42.2 -0.3**
MAJO IAmb IAmb 22 17 43.5
comp=Z,46nm,1.1s
MAJO Matsushiro 70.25 325 P **P** **22 17 42.7 +0.2**
MAJO Matsushiro 70.25 325 *i*P **P** **22 17 42.1 -0.4**
MAJO pmax pmax
comp=Z,27nm,0.9s
MAJO Matsushiro 70.25 325 P **P** **22 17 42.1 -0.4**
MJB9 Matsu-Tunnel 70.26 325 P **P** **22 17 43.7 +1.1**
MJB9 IAmb IAmb 22 17 44.9
comp=Z,44nm,1.0s
SBUM Sibu 71.11 280 P **P** **22 17 47.5 -0.5**
BBJI Bungbulang 71.72 269 P **P** **22 17 51.1 -0.6**
JHS Saijyo 72.05 320 P **P** **22 17 53.8 +0.8**
JHS IAmb IAmb 22 17 54.4
comp=Z,51nm,0.7s
JHS Saijyo 72.05 320 P **P** **22 17 54.1 +1.1**
KSM Kuching 72.48 279 P **P** **22 17 56.2 +0.2**
KSM IAmb IAmb 22 17 57.5
comp=Z,49nm,0.8s
KSM Kuching 72.48 279 P **P** **22 17 56.7 +0.7**
KIWB Kanaga Island 72.88 1 P **P** **22 17 57.6 +0.3**
ADK Adak 72.92 2 P **P** **22 17 57.3 -0.3**
ADK Adak 72.92 2 P **P** **22 17 57.3 -0.3**
ADK pmax pmax
comp=Z,163nm,0.6s
TPUB Ta-pu 73.54 304 P **P** **22 18 01.0 -0.8**
TPUB IAmb IAmb 22 20 16.9
comp=Z,63nm,0.9s
JKA Kamikawa-asahi 73.95 332 P **P** **22 18 04.7 +1.0**
JKA IAmb IAmb 22 18 06.5
comp=Z,56nm,1.0s
ASAJ Asahikawa 73.95 332 P **P** **22 18 04.7 +1.1**
ASAJ pmax pmax
comp=Z,56nm,1.0s
SHEM Shemya Is, Ala 73.97 356 P **P** **22 18 03.2 -0.3**
comp=Z,109nm,0.6s,baz=104,slow=23,SNR=4.3
comp=Z,109nm,0.6s
NIKH Nikolski High 74.52 6 P **P** **22 18 06.7 +0.1**
baz=190
NIKH Nikolski High 74.52 6 P **P** **22 18 06.7 +0.1**
UNV Unalaska Valle 75.65 8 P **P** **22 18 12.3 -0.5**
UNV IAmb IAmb 22 18 13.2
comp=Z,77nm,0.9s
UNV Unalaska Valle 75.65 8 P **P** **22 18 12.6 -0.2**
baz=192
YSS Yuzh-Sakhalins 76.16 334*ce*P **P** **22 18 17.3 +1.5**
YSS pmax pmax
comp=Z,50nm,1.7s
PET Petropavlovsk 76.51 346 *i*P **P** **22 18 17.3 -0.2**
PET pmax pmax
comp=Z,31nm,0.9s
PEA0B Petropavlovsk- 76.80 346 P **P** **22 18 19.5 +0.3**
PEA0B IAmb IAmb 22 18 20.5
comp=Z,143nm,1.4s
PEA0B Petropavlovsk- 76.80 346*ce*P **P** **22 18 19.6 +0.4**
PETK Petropavlovsk- 76.80 346 P **P** **22 18 19.0 -0.2**
comp=Z,52nm,0.9s,baz=142,slow=7.5,SNR=42
comp=Z,52nm,0.9s
PETK Petropavlovsk- 76.80 346 P **P** **22 18 18.8 -0.4**
PETK Petropavlovsk- 76.80 346 P **P** **22 18 18.8 -0.4**
KSRS Korea Array 76.81 319 P **P** **22 18 20.5 +0.9**
comp=Z,3.0nm,0.9s,baz=132,slow=6.8,SNR=6.6
CNBA Chernabura Isl 77.66 11 P **P** **22 18 23.8 0.0**
SDPT Sand Point 78.00 11 P **P** **22 18 25.4 -0.2**
SDPT IAmb IAmb 22 18 26.2
comp=Z,107nm,0.8s
SDPT Sand Point 78.00 11 P **P** **22 18 25.7 +0.1**
baz=198
S12K Black Hills 78.08 10 P **P** **22 18 26.0 0.0**
baz=196
BELA Belgrano 2 78.88 173 P **P** **22 18 30.3 +0.2**
USRK Ussuriysk Ar. 79.05 327 P **P** **22 18 32.8 +1.4**
comp=Z,18nm,0.9s,baz=128,slow=2.7,SNR=10.0
USRK pP **pwP** **22 20 39.6 -2.3**
comp=Z,3.3nm,0.9s,baz=90,slow=10,SNR=2.5
comp=Z,18nm,0.9s
USRK Ussuriysk Ar. 79.05 327 P **P** **22 18 32.6 +1.2**
USRK Ussuriysk Ar. 79.05 327 P **P** **22 18 32.6 +1.2**
CHGN Chignik 79.28 12 P **P** **22 18 32.4 +0.1**
CHGN IAmb IAmb 22 18 36.3
comp=Z,161nm,1.3s
CHGN Chignik 79.28 12 P **P** **22 18 32.7 +0.4**
baz=200
TYV Tymovskoe 79.36 336 *e*P **P** **22 18 33.6 +0.7**
TYV *e*S **S** **22 27 40.2 -4.0**
TYV pmax pmax
comp=Z,41nm,1.1s
TYV pmax pmax
comp=Z,100nm,2.7s
TYV smax smax
comp=N,400nm,4.3s
TYV smax smax
comp=E,200nm,4.3s
NJ2 Nanjing 79.59 310 *e*P **P** **22 18 36.0 +1.4**
NJ2 pmax pmax
comp=E,7.0nm,0.5s
CBX Cerro Bola 80.06 50 P **P** **22 18 38.6 +1.5**
KMRM Mail Ridge 80.06 40 P **P** **22 18 38.7 +1.8**
KMRM IAmb IAmb 22 18 40.7
comp=Z,48nm,0.8s
ESJX Sierra Juarez 80.40 50 P **P** **22 18 40.1 +1.1**
MAW Mawson 80.43 200 P **P** **22 18 39.1 +0.7**
comp=Z,44nm,0.8s,baz=121,slow=7.6,SNR=22
comp=Z,44nm,0.8s
MAW Mawson 80.43 200 P **P** **22 18 39.0 +0.7**
MAW Mawson 80.43 200 P **P** **22 18 39.0 +0.7**
MAW pmax pmax
comp=Z,13nm,1.0s
MONP2 Monument Peak 80.54 49 P **P** **22 18 41.4 +1.6**
baz=237,SNR=8.3
EDW2 Edwards Air Fo 80.55 47 P **P** **22 18 41.4 +1.9**
baz=236
RMX La Rumorosa 80.63 50 P **P** **22 18 41.2 +1.0**
IKP In-Ko-Pah, Jac 80.64 50 P **P** **22 18 42.0 +1.9**
baz=237
ISA Isabella, Lake 80.66 46 P **P** **22 18 41.4 +1.2**
ISA Isabella, Lake 80.66 46 P **P** **22 18 41.9 +1.7**
baz=235,SNR=5.6
ISA Isabella, Lake 80.66 46 P **P** **22 18 41.4 +1.2**
ISA pmax pmax
comp=Z,8.0nm,0.8s
CMB Columbia Colle 80.78 43 P **P** **22 18 41.6 +1.0**
CMB Columbia Colle 80.78 43 P **P** **22 18 41.7 +1.0**
CMB pmax pmax
comp=Z,8.0nm,0.9s
SLBS Sierra La Lagu 80.83 60 P **P** **22 18 42.6 +1.3**
PFO Pinyon Flats O 80.91 49 P **P** **22 18 42.7 +1.2**
comp=Z,1.8nm,0.5s,baz=254,slow=7.4,SNR=2.9
comp=Z,1.8nm,0.5s
R17K Ugashik Creek 80.93 12 P **P** **22 18 41.6 +0.8**
baz=201
PMSA Palmer Station 80.95 157 P **P** **22 18 42.4 +1.4**
comp=Z,120nm,0.6s,baz=226,slow=3.2,SNR=22
comp=Z,120nm,0.6s
PMSA Palmer Station 80.95 157 P **P** **22 18 42.0 +1.0**
ORV Oroville 80.99 41 P **P** **22 18 43.0 +1.4**
ORV Oroville 80.99 41 P **P** **22 18 43.0 +1.4**
ORV pmax pmax
comp=Z,7.0nm,1.0s
LRMC Laurel Mtn Rad 81.09 47 P **P** **22 18 43.9 +1.5**
baz=236
CWC Cottonwood Cre 81.37 46 P **P** **22 18 45.5 +1.7**
baz=236
BELC Belle Mtn, Jos 81.44 49 P **P** **22 18 45.8 +1.5**
baz=237,SNR=8.3
MPMC Manual Prospec 81.55 46 P **P** **22 18 46.3 +1.4**
baz=236,SNR=8.7
YBH Yreka Blue Hor 81.59 39 P **P** **22 18 46.2 +1.4**
YBH Yreka Blue Hor 81.59 39 P **P** **22 18 46.2 +1.4**
YBH pmax pmax
comp=Z,12nm,0.8s
GSC Goldstone, Bar 81.59 47 P **P** **22 18 45.5 +0.6**
GSC Goldstone, Bar 81.59 47 P **P** **22 18 46.2 +1.3**
baz=236,SNR=5.5
GSC Goldstone, Bar 81.59 47 P **P** **22 18 45.6 +0.6**
GSC pmax pmax
comp=Z,8.0nm,1.1s
Q17K Contact Creek 81.61 12 P **P** **22 18 44.8 +0.3**
baz=202,SNR=5.7
TIN Tinemaha, Big 81.61 45 P **P** **22 18 47.1 +2.1**
baz=235
BC3 Big Chuckawall 81.64 49 P **P** **22 18 47.3 +2.1**
baz=238
HEC Hector,Ludlow 81.66 48 P **P** **22 18 46.6 +1.3**
baz=237,SNR=5.2
WAKR Walker 81.66 43 P **P** **22 18 46.6 +1.3**
GLA Glamis 81.76 50 P **P** **22 18 48.3 +2.5**
baz=238
Q16K King Salmon 81.85 12 P **P** **22 18 46.3 +0.8**
baz=201
BEKR Beckworth 81.88 42 P **P** **22 18 47.4 +1.0**
P16K Nushagak River 81.94 11 P **P** **22 18 46.4 +0.5**
baz=200,SNR=5.7
HUMO Hull Mountain 81.99 38 P **P** **22 18 48.4 +1.6**
HUMO IAmb IAmb 22 21 40.5
comp=Z,69nm,1.9s
Q18K Katmai Hardscr 82.14 12 P **P** **22 18 47.1 0.0**
baz=203,SNR=7.1
GRAC Grapevine Rang 82.15 45 P **P** **22 18 49.3 +1.6**
baz=236,SNR=8.5
IPM Ipoh 82.19 278 P **P** **22 18 48.7 +0.3**
IPM IAmb IAmb 22 18 50.0
comp=Z,89nm,0.7s
IPM Ipoh 82.19 278 P **P** **22 18 49.1 +0.7**
TUQ Turquoise Moun 82.27 47 P **P** **22 18 50.1 +1.7**
baz=237,SNR=7.0
CN2 Changchun 82.31 323 *e*P **P** **22 18 52.0 +3.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
NVAR Mina Array Bea 82.35 44 P **P** **22 18 50.2 +1.3**
comp=Z,5.8nm,0.7s,baz=226,slow=8.0,SNR=37
NVAR pP **pwP** **22 21 00.8 +0.4**
comp=Z,5.0nm,0.9s,baz=224,slow=8.5,SNR=5.7
NVAR PKKPbc **PKKPbc** **22 37 12.4 +0.5**
comp=Z,2.2nm,0.7s,baz=82,slow=2.8,SNR=16
NVAR PKPPKP **P'P'df** **22 45 17.5 +2.7**
comp=Z,3.6nm,1.0s,baz=66,slow=3.1,SNR=9.3
comp=Z,5.8nm,0.7s
NVAR Mina Array Bea 82.35 44 P **P** **22 18 50.0 +1.1**
P17K Kvichak River 82.37 12 P **P** **22 18 48.3 +0.2**
baz=201,SNR=6.9
113A Mohawk Valley, 82.37 51 P **P** **22 18 50.4 +1.6**
NV11 Mina Array Sit 82.44 44 P **P** **22 18 50.0 +0.7**
BNX BinXian 82.49 325 ⇑P **P** **22 18 49.5 +0.4**
BNX pmax pmax
comp=Z,13nm,0.8s
BNX pmax pmax
comp=Z,200nm,4.1s
HSIG 82.59 55 P **P** **22 18 50.8 +0.8**
KLR Kul'dur 82.70 330 PKKPbc PKKPbc 22 37 07.4 -3.9
comp=Z,3.0nm,0.6s,baz=308,slow=3.5,SNR=11
KLR Kul'dur 82.70 330*ce*P **P** **22 18 51.0 +0.9**
KLR pmax pmax
comp=Z,22nm,1.7s
KULM Kulim 82.84 278 P **P** **22 18 51.7 +0.1**
KULM IAmb IAmb 22 18 53.5
comp=Z,40nm,0.8s
TPNV Topopah Spring 82.87 46 P **P** **22 18 53.0 +1.5**
baz=237,SNR=5.6
PDMCI Parker Dam,Lak 82.91 49 P **P** **22 18 53.0 +1.6**
baz=238
MOD Modoc Plateau 83.12 40 P **P** **22 18 53.5 +0.9**
N16K Nishlik Lake 83.17 10 P **P** **22 18 53.7 +1.6**
baz=199,SNR=10
O18K Koktuh Hills 83.22 12 P **P** **22 18 52.2 -0.2**
O18K IAmb IAmb 22 18 53.4
comp=Z,49nm,0.8s
O18K Koktuh Hills 83.22 12 P **P** **22 18 52.9 +0.4**
baz=202,SNR=6.0
K05A Summer Lake 83.27 39 P **P** **22 18 54.6 +1.3**
MG04 Isla Riesco 83.29 144 P **P** **22 18 54.8 +1.8**
MG04 IAmb IAmb 22 18 55.8
comp=Z,95nm,0.7s
MG05 Puerto Natales 83.30 143 P **P** **22 18 54.2 +1.1**
MG05 IAmb IAmb 22 18 55.1
comp=Z,77nm,0.8s
GO10 Punta Arenas 83.44 145 P **P** **22 18 56.0 +2.1**
RPSI Rantau Prapat 83.47 275 P **P** **22 18 54.2 -0.5**
RPSI IAmb IAmb 22 18 55.5
comp=Z,46nm,0.9s
PSI Prapat 83.51 276 P **P** **22 18 54.8 -0.3**
PSI Prapat 83.51 276 P **P** **22 18 54.2 -0.9**
PSI pmax pmax
comp=Z,46nm,0.9s
GO09 Cerro Castillo 83.57 143 P **P** **22 18 55.6 +1.1**
GO09 IAmb IAmb 22 18 58.6
comp=Z,76nm,1.1s
O19K Port Alsworth 83.71 12 P **P** **22 18 55.0 +0.2**
baz=203,SNR=7.4
ILSW Iliamna Southw 83.75 13 P **P** **22 18 55.1 0.0**
ILSW IAmb IAmb 22 18 55.8
comp=Z,84nm,0.9s
PINE Pine Mountain 83.88 38 P **P** **22 18 58.1 +1.8**
PINE IAmb IAmb 22 18 59.4
comp=Z,19nm,0.8s
PRN Pahroc Range 83.92 46 P **P** **22 18 57.4 +0.8**
USHA Ushuaia 84.02 147 P **P** **22 18 57.7 +1.0**
comp=Z,38nm,0.8s,baz=341,slow=6.8,SNR=3.5
comp=Z,38nm,0.8s
GSI Gunungsitoli 84.22 274 P **P** **22 18 59.5 +1.1**
GSI Gunungsitoli 84.22 274 P **P** **22 18 59.8 +1.4**
MA2 Magadan 84.30 345 *i*P **P** **22 18 57.3 -0.4**
MA2 pmax pmax
comp=Z,27nm,1.0s
TUC Tucson 84.32 52 P **P** **22 18 59.3 +0.7**
TUC Tucson 84.32 52 P **P** **22 19 01.0 +2.5**
baz=240
TUC Tucson 84.32 52 P **P** **22 18 59.3 +0.7**
TUC pmax pmax
comp=Z,17nm,0.9s
MG02 Cerro Sombrero 84.59 145 P **P** **22 19 00.8 +1.3**
SRIT Nakonsritamara 85.05 281 P **P** **22 19 03.8 +1.4**
SRIT IAmb IAmb 22 19 05.5
comp=Z,97nm,1.0s
SRIT Nakonsritamara 85.05 281 P **P** **22 19 04.7 +2.3**
SURA Surathani 85.24 282 P **P** **22 19 05.5 +2.2**
M19K Big River Lodg 85.27 11 P **P** **22 19 02.7 +0.3**
baz=203
L19K White Mountain 85.44 11 P **P** **22 19 04.0 +0.8**
baz=203
HEH HeiHe 85.46 329 *e*P **P** **22 19 04.0 +0.5**
HEH S **S** **22 28 48.8 +4.3**
HEH pmax pmax
comp=Z,12nm,0.6s
RC01 Rabbit Creek A 85.48 14 P **P** **22 19 03.7 +0.3**
baz=207
NONG Nongkai 85.57 291 P **P** **22 19 06.3 +1.5**
ENH Enshi 85.63 305 P **P** **22 19 06.2 +1.3**
G08A Pilot Rock 85.91 38 P **P** **22 19 07.3 +1.4**
TTA Tatalina 85.94 10 P **P** **22 19 06.4 +0.8**
baz=202
M22K Willow 85.99 13 P **P** **22 19 06.0 +0.3**
baz=207
KNK Knik Glacier 86.06 14 P **P** **22 19 06.7 +0.6**
baz=208
PMR Palmer 86.06 14 P **P** **22 19 06.1 0.0**
PMR IAmb IAmb 22 19 07.1
comp=Z,63nm,1.6s
PMR Palmer 86.06 14 P **P** **22 19 06.2 0.0**
baz=208,SNR=5.3
PMR Palmer 86.06 14 P **P** **22 19 06.1 0.0**
PMR pmax pmax
comp=Z,63nm,1.6s
COYC Coyhaique 86.26 138 P **P** **22 19 08.9 +1.3**
GO07 Milladeo Hill, 86.33 135 P **P** **22 19 09.0 +1.0**
AY01 Puyuhuapi 86.41 136 P **P** **22 19 09.3 +1.0**
AY01 IAmb IAmb 22 19 10.9
comp=Z,59nm,1.0s
MOIG Morelia 86.42 67 P **P** **22 19 09.4 +0.3**
MOIG IAmb IAmb 22 19 11.2
comp=Z,84nm,1.0s
ZAIG Zacatecas 86.51 64 P **P** **22 19 10.7 +1.2**
ZAIG IAmb IAmb 22 19 12.5
comp=Z,22nm,1.0s
CUT Chulitna 86.54 13 P **P** **22 19 08.1 -0.2**
baz=207,SNR=7.4
BMRM Bremner River 86.61 16 P **P** **22 19 09.6 +0.8**
baz=212
BMO Blue Mountains 86.62 39 P **P** **22 19 10.0 +0.7**
BMO IAmb IAmb 22 21 26.4
comp=Z,31nm,1.8s
BMO Blue Mountains 86.62 39 P **P** **22 19 10.0 +0.7**
BMO pmax pmax
comp=Z,31nm,1.8s
121A Cookes Peak, D 86.65 53 P **P** **22 19 11.9 +2.1**
baz=242
PAF Port-aux-Franc 86.65 218 P **P** **22 19 09.5 +0.2**
PAF Port-aux-Franc 86.65 218 P **P** **22 19 09.5 +0.2**
PAF pmax pmax
comp=Z,555nm,1.7s
MESA MESA 86.66 18 P **P** **22 19 10.6 +1.4**
baz=214
K20K Telida 86.67 11 P **P** **22 19 09.5 +0.5**
baz=203
SCM Sheep Creek Mo 86.69 15 P **P** **22 19 09.5 +0.3**
SCM IAmb IAmb 22 19 10.4
comp=Z,56nm,0.7s
SCM Sheep Creek Mo 86.69 15 P **P** **22 19 10.0 +0.8**
baz=210,SNR=9.2
SCM Sheep Creek Mo 86.69 15 P **P** **22 19 09.5 +0.3**
SCM pmax pmax
comp=Z,56nm,0.7s
KLU Klutina 86.73 15 P **P** **22 19 10.0 +0.6**
baz=211
LL06 Loncomilla 86.74 134 P **P** **22 19 11.5 +1.5**
LL06 IAmb IAmb 22 19 12.3
comp=Z,95nm,1.1s
TROLL Troll, Antarti 86.91 181 P **P** **22 19 10.3 0.0**
TROLL Troll, Antarti 86.91 181 pP pP 22 21 25.0 +3.8
SEY Seymchan 86.94 347*ce*P **P** **22 19 10.8 +0.6**
SEY pmax pmax
comp=Z,44nm,1.3s
CAST Castle Rocks 87.09 12 P **P** **22 19 10.2 -0.8**
baz=205
N25K Chitina, Valde 87.16 16 P **P** **22 19 12.3 +0.9**
baz=212,SNR=7.4
SNAA Sanae 87.22 179 P **P** **22 19 11.3 -0.4**
SNAA Sanae 87.22 179 pP pP 22 21 27.5 +4.7
SNAA Sanae 87.22 179 P **P** **22 19 11.4 -0.3**
comp=Z,19nm,0.5s
SNAA PKKPbc **PKKPdf** **22 36 56.7 +4.6**
comp=Z,0.6nm,0.6s,baz=209,slow=19,SNR=7.0
comp=Z,19nm,0.5s
SNAA Sanae 87.22 179 P **P** **22 19 11.2 -0.4**
SNAA IAmb IAmb 22 19 12.4
comp=Z,63nm,1.3s
SNAA Sanae 87.22 179*ce*P **P** **22 19 11.1 -0.6**
SNAA pmax pmax
comp=Z,37nm,1.0s
WAT6 Susitna Watana 87.25 14 P **P** **22 19 11.9 0.0**
baz=209,SNR=11
KIDD KIDD Seismic O 87.27 54 P **P** **22 19 15.0 +2.3**
baz=243
WAT1 Susitna Watana 87.29 14 P **P** **22 19 11.5 -0.4**
baz=208
VNA3 Neumayer Olymp 87.39 177 P **P** **22 19 12.2 -0.2**
VNA3 Neumayer Olymp 87.39 177 pP pP 22 21 29.4 +5.7
CHUM Lake Minchumin 87.47 12 P **P** **22 19 12.3 -0.3**
baz=205
TRF Thorofare Moun 87.47 13 P **P** **22 19 12.6 -0.4**
baz=207,SNR=18
TMUT Trail Mountain 87.48 46 P **P** **22 19 15.1 +1.4**
HLID Hailey 87.64 41 P **P** **22 19 14.6 +0.4**
HLID Hailey 87.64 41 P **P** **22 19 16.1 +1.9**
baz=238,SNR=14
O28M Mount Upton 87.65 18 P **P** **22 19 15.0 +1.0**
baz=216
HVU Hansel Valley 87.72 43 P **P** **22 19 15.6 +0.9**
HVU Hansel Valley 87.72 43 P **P** **22 19 15.6 +0.9**
HVU pmax pmax
comp=Z,11nm,0.9s
DHY Denali Highway 87.76 14 P **P** **22 19 14.4 +0.1**
baz=209
VNA2 Neumayer--Watz 87.82 177 P **P** **22 19 14.3 -0.1**
baz=172,slow=4.0
VNA2 Neumayer--Watz 87.82 177 pP pP 22 21 29.0 +3.1
baz=180,slow=6.0
ZEA Zeya 87.84 331 *e*P **P** **22 19 15.9 +1.3**
ZEA *e**PP **pwP** **22 21 29.4 -0.4**
ZEA *e*S **S** **22 29 11.6 +5.0**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA smax smax
comp=E,300nm,4.2s
NVL N'lazarevskaya 87.84 184⇑*i*P **P** **22 19 12.5 -2.0**
NVL *e**PP **pP** **22 21 27.2 +1.6**
NVL *e*S **SKSac** **22 28 42.5 -2.1**
NVL pmax pmax
comp=Z,121nm,0.7s
TLIG Tlapa 87.86 70 P **P** **22 19 17.2 +1.5**
TLIG IAmb IAmb 22 19 18.7
comp=Z,26nm,1.0s
Y22A Socorro 87.91 52 P **P** **22 19 17.2 +1.5**
baz=243
MCK McKinley 88.00 13 P **P** **22 19 15.2 0.0**
baz=208,SNR=8.6
LENM Lemitar 88.01 52 P **P** **22 19 17.0 +0.8**
VNA1 Neumayer--Stat 88.05 177 P **P** **22 19 15.6 +0.1**
VNA1 Neumayer--Stat 88.05 177 pP pP 22 21 30.5 +3.6
MNTX Cornudas Mount 88.09 55 P **P** **22 19 17.4 +1.0**
MNTX IAmb IAmb 22 19 18.9
comp=Z,22nm,0.8s
MNTX Cornudas Mount 88.09 55 P **P** **22 19 18.3 +1.9**
baz=244
MNTX Cornudas Mount 88.09 55 P **P** **22 19 18.3 +1.9**
baz=244
LL04 Puerto Octay 88.14 133 P **P** **22 19 16.9 +0.3**
LL04 IAmb IAmb 22 19 18.8
comp=Z,62nm,1.1s
YUK8 Steele Glacier 88.19 18 P **P** **22 19 17.7 +1.2**
baz=216,SNR=9.5
M26K Nabesna, AK 88.23 16 P **P** **22 19 17.4 +1.1**
baz=213
PHRA Phrae 88.29 290 P **P** **22 19 18.3 +0.8**
TX31 Lajitas Ar. Si 88.39 58 P **P** **22 19 19.2 +1.3**
TX31 Lajitas Ar. Si 88.39 58 P **P** **22 19 19.5 +1.6**
baz=244
TXAR Lajitas Array 88.39 58 P **P** **22 19 19.6 +1.7**
comp=Z,19nm,0.8s,baz=217,slow=5.8,SNR=103
TXAR pP **pwP** **22 21 32.3 0.0**
comp=Z,3.5nm,0.9s,baz=232,slow=5.3,SNR=3.5
TXAR PKKPbc **PKKPbc** **22 36 57.6 +0.6**
comp=Z,2.9nm,0.6s,baz=104,slow=2.7,SNR=27
comp=Z,19nm,0.8s
TXAR Lajitas Array 88.39 58 P **P** **22 19 19.4 +1.4**
TXAR Lajitas Array 88.39 58 P **P** **22 19 19.4 +1.4**
YUK3 Moose Creek 88.39 17 P **P** **22 19 18.2 +0.9**
baz=216,SNR=20
S34M Telegraph Cree 88.44 23 P **P** **22 19 19.3 +2.0**
baz=224
M27K Edge Creek, AK 88.49 16 P **P** **22 19 19.0 +1.3**
baz=214
YUK4 Talbot Arm 88.56 18 P **P** **22 19 19.7 +1.6**
baz=217
BCYI Bear Canyon 88.65 41 P **P** **22 19 19.7 +0.7**
L26K Log Cabin Wild 88.67 15 P **P** **22 19 19.3 +1.0**
baz=213
I21K Tanana 88.71 11 P **P** **22 19 18.4 0.0**
baz=205
ANMO Albuquerque 88.74 52 P **P** **22 19 20.1 +0.5**
ANMO IAmb IAmb 22 19 21.7
comp=Z,16nm,1.1s
ANMO Albuquerque 88.74 52 P **P** **22 19 20.8 +1.3**
baz=243
ANMO Albuquerque 88.74 52 P **P** **22 19 20.5 +0.9**
baz=243
ANMO Albuquerque 88.74 52*ce*P **P** **22 19 18.6 -1.0**
ANMO pmax pmax
comp=Z,20nm,1.3s

K24K **Donnelly Dome** 88.75 14 P P 22 19 19.0 +0.2
baz=211
LR03 **Panguipulli** 88.76 132 P P 22 19 20.4 +0.9
KMI **Kunming** 88.78 297 ⇓P P 22 19 22.3 +2.3
KMI pP pwP 22 21 35.0 -0.4
KMI pmax pmax
comp=Z,14nm,1.7s
MLY **Manley** 88.81 12 P P 22 19 18.5 -0.4
baz=206
BVCY **Beaver Creek** 88.81 17 P P 22 19 20.3 +1.3
baz=215
CRAI **Chiangrai** 88.83 292 P P 22 19 21.2 +1.1
CRAI IAmb IAmb 22 19 22.5
comp=Z,11nm,0.9s
O30N **Mendenhall** 88.88 20 P P 22 19 20.5 +1.1
baz=220
H21K **Melozitna Rive** 89.00 11 P P 22 19 20.0 +0.2
baz=204
HDA **Harding Lake** 89.02 13 P P 22 19 19.8 -0.1
baz=210,SNR=7.2
GDL2 **Guadalupe Moun** 89.08 55 P P 22 19 22.1 +0.9
L27K **Beaver Creek,** 89.09 16 P P 22 19 21.1 +0.8
baz=214
IMAR **Indian Mountai** 89.14 10 P P 22 19 20.4 -0.1
HHC **Hu-ho-hao-te** 89.17 315 eP P 22 19 23.5 +2.2
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,270nm,4.5s
WHY **Whitehorse** 89.18 20 P P 22 19 21.9 +1.0
WHY IAmb IAmb 22 19 22.9
comp=Z,13nm,0.9s
WHY **Whitehorse** 89.18 20 P P 22 19 22.7 +1.8
baz=221
TCOL **CIGO, UAF Yank** 89.23 13 P P 22 19 20.8 0.0
baz=209
COLA **College** 89.24 13 P P 22 19 20.3 -0.5
COLA IAmb IAmb 22 19 21.3
comp=Z,36nm,1.1s
COLA **College** 89.24 13 P P 22 19 20.9 0.0
baz=209
COLA **College** 89.24 13 P P 22 19 20.7 -0.1
COLA **College** 89.24 13 iP P 22 19 20.6 -0.2
COLA pmax pmax
comp=Z,33nm,1.2s
MCMT **McKenzie Canyo** 89.26 41 P P 22 19 23.1 +1.3
AHID **Auburn Hatcher** 89.30 43 P P 22 19 22.2 +0.3
AHID IAmb IAmb 22 19 24.8
comp=Z,12nm,0.8s
IL31 89.35 13 P P 22 19 20.6 -0.7
IL31 IAmb IAmb 22 23 00.6
comp=Z,21nm,1.2s
ILAR **Eielson Array** 89.35 13 P P 22 19 20.9 -0.5
comp=Z,5.2nm,0.6s,baz=232,slow=5.4,SNR=24
ILAR pP pP 22 21 33.8 +0.4
comp=Z,3.4nm,1.0s,baz=231,slow=5.9,SNR=5.0
ILAR PKKP PKKPdf 22 36 51.5 +0.1
comp=Z,0.8nm,0.5s,baz=353,slow=2.8,SNR=9.8
comp=Z,5.2nm,0.6s
GO06 **Curarrehue** 89.38 133 P P 22 19 23.7 +1.2
CM31 **Chiang Mai Arr** 89.39 290 P P 22 19 23.9 +1.2
CM31 IAmb IAmb 22 19 25.6
comp=Z,26nm,0.9s
CMAR **Chiang Mai Arr** 89.39 290 P P 22 19 24.6 +1.8
comp=Z,20nm,0.9s,baz=129,slow=3.1,SNR=86
CMAR pP pP 22 21 34.3 +0.6
comp=Z,0.8nm,0.3s,baz=101,slow=4.7,SNR=1.4
CMAR PKKPbc PKKPbc 22 36 55.1 +1.1
comp=Z,2.3nm,0.6s,baz=288,slow=4.4,SNR=12
CMAR PKPPKP P'P'df 22 45 03.6 +0.3
comp=Z,0.6nm,0.3s,baz=292,slow=5.6,SNR=4.8
comp=Z,20nm,0.9s
CMAR **Chiang Mai Arr** 89.39 290 P P 22 19 23.8 +1.1
PLCA **Paso Flores** 89.47 134 P P 22 19 24.3 +1.5
comp=Z,37nm,0.7s,baz=235,slow=5.0,SNR=132
PLCA PKKPbc PKKPbc 22 36 54.0 -0.7
comp=Z,2.3nm,1.0s,baz=217,slow=4.8,SNR=3.7
comp=Z,37nm,0.7s
PLCA **Paso Flores** 89.47 134 P P 22 19 23.9 +1.1
PLCA **Paso Flores** 89.47 134 P P 22 19 23.9 +1.1
PLCA pmax pmax
comp=Z,56nm,0.9s
M29M **Somme Creek** 89.49 18 P P 22 19 23.5 +1.2
baz=217
CHTO **Chiang Mai** 89.53 290 P P 22 19 23.4 0.0
CHTO IAmb IAmb 22 19 25.8
comp=Z,21nm,0.8s
CHTO **Chiang Mai** 89.53 290 P P 22 19 23.4 0.0
CHTO pmax pmax
comp=Z,21nm,0.8s
POKR **Poker Plat Res** 89.54 13 P P 22 19 21.8 -0.5
baz=209
G21K **Allakaket** 89.67 10 P P 22 19 23.5 +0.6
baz=204
H23K **Yukon River** 89.74 12 P P 22 19 22.9 -0.3
baz=207
BILL **Bilibino** 89.75 355 iP P 22 19 22.8 -0.4
BILL i *PP pwP 22 21 35.4 -2.0
BILL pmax pmax
comp=Z,13nm,1.3s
J26L **Joseph Creek** 89.86 15 P P 22 19 24.9 +1.0
baz=213
O20A **White River Ci** 89.89 46 P P 22 19 26.1 +1.4
baz=242
IMW **Indian Meadow** 89.97 42 P P 22 19 25.8 +0.7
M30M **Minto, Yukon** 90.08 18 P P 22 19 25.2 +0.3
M30M IAmb IAmb 22 19 26.6
comp=Z,47nm,1.4s
M30M **Minto, Yukon** 90.08 18 P P 22 19 25.8 +1.0
baz=219
L29M 90.11 17 P P 22 19 26.2 +1.1
baz=218,SNR=8.9
PZH **PanZhiHua** 90.16 298 P P 22 19 27.5 +1.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.2s
BW06 **Boulder Array** 90.28 44 P P 22 19 27.1 +0.5
BW06 **Boulder Array** 90.28 44 P P 22 19 27.5 +0.9
baz=241
PDAR **Pinedale Array** 90.28 44 P P 22 19 27.1 +0.5
comp=Z,4.3nm,0.7s,baz=201,slow=3.4,SNR=38
PDAR PP PP 22 23 10.6 -2.0
comp=Z,2.6nm,1.0s,baz=243,slow=6.0,SNR=4.9
PDAR PKKPbc PKKPbc 22 36 52.4 -0.7
comp=Z,1.7nm,0.7s,baz=89,slow=4.5,SNR=12
PDAR PKPPKP P'P'df 22 44 58.9 -1.3
comp=Z,0.9nm,1.0s,baz=111,slow=4.0,SNR=3.5
comp=Z,4.3nm,0.7s
PDAR **Pinedale Array** 90.28 44 P P 22 19 26.8 +0.3
YHL **Hebgen Lake** 90.29 41 P P 22 19 27.7 +1.0
YHL IAmb IAmb 22 21 43.4
comp=Z,27nm,1.4s
BOZ **Bozeman (W)** 90.40 40 P P 22 19 28.8 +1.8
baz=239
DAWY **Dawson** 90.54 16 P P 22 19 27.7 +0.7
baz=217,SNR=7.2
EGAK **Eagle** 90.67 15 P P 22 19 28.2 +0.7
baz=215,SNR=7.1
SDCO **Great Sand Dun** 90.69 50 P P 22 19 28.6 0.0
SDCO **Great Sand Dun** 90.69 50 P P 22 19 28.9 +0.3
baz=243
SDCO **Great Sand Dun** 90.69 50 P P 22 19 29.3 +0.6
baz=243
K29M **Barlow Dome** 90.86 17 P P 22 19 29.7 +1.1
baz=218
COLD **Coldfoot** 90.88 11 P P 22 19 29.6 +1.1
baz=207
EFI **East Falkland** 90.96 148 P P 22 19 30.0 +0.7
EFI **East Falkland** 90.96 148 ceP P 22 19 29.9 +0.6
EFI pmax pmax
comp=Z,87nm,1.0s
MSTX **Muleshoe** 91.05 54 P P 22 19 31.0 +0.8
baz=245
MSTX **Muleshoe** 91.05 54 P P 22 19 31.3 +1.1
baz=245
GO05 **Huala** 91.14 128 P P 22 19 31.1 +0.5
ML02 **Panimavida** 91.17 129 P P 22 19 31.1 +0.5
T25A **Trinidad** 91.20 50 P P 22 19 31.2 +0.2
T25A IAmb IAmb 22 19 32.5
comp=Z,8.4nm,0.8s
T25A **Trinidad** 91.20 50 P P 22 19 31.7 +0.8
baz=244
833A **Chaparral WMA,** 91.39 60 P P 22 19 32.8 +1.0
baz=246
833A **Chaparral WMA,** 91.39 60 P P 22 19 32.7 +1.0
baz=246

E22K **Anaktuvuk Pass** 91.42 10 P P 22 19 31.7 +0.7
baz=205
ISCO **Idaho Springs** 91.53 48 P P 22 19 33.5 +1.0
baz=243
G26K **Porcupine Rive** 91.88 13 P P 22 19 33.8 +0.8
baz=213
JCT **Junction City** 91.92 58 P P 22 19 34.4 +0.2
baz=246
JCT **Junction City** 91.92 58 P P 22 19 34.6 +0.5
baz=246
BO01 **Tunca** 92.04 128 P P 22 19 34.9 +0.2
BO01 IAmb IAmb 22 19 36.2
comp=Z,33nm,0.8s
BO02 **Sierra Bellavi** 92.08 129 P P 22 19 35.4 +0.4
MT01 **Popeta** 92.16 128 P P 22 19 35.6 +0.3
K22A **Casper** 92.20 45 P P 22 19 36.1 +0.7
baz=243
TNCH **TengChong** 92.26 296 P P 22 19 37.3 +1.3
TNCH pmax pmax
comp=Z,86nm,3.4s
MT09 **Talagante** 92.39 128 P P 22 19 36.5 0.0
MT09 IAmb IAmb 22 19 38.0
comp=Z,48nm,1.0s
LZH **Lanzhou** 92.43 308 eP P 22 19 37.8 +1.3
LZH pmax pmax
comp=Z,11nm,0.8s
F26K **Sheenjek River** 92.44 13 P P 22 19 36.7 +1.1
baz=212
YAK **Yakutsk** 92.48 338 ceP P 22 19 35.9 0.0
YAK pmax pmax
comp=Z,11nm,0.8s
MT02 **Curacav** 92.52 127 P P 22 19 37.5 +0.6
MT02 IAmb IAmb 22 19 40.8
comp=Z,21nm,0.8s
BO04 **La Punta** 92.58 128 P P 22 19 37.3 0.0
BO04 IAmb IAmb 22 19 40.1
comp=Z,25nm,0.8s
ROC1 **El Roble** 92.74 127 P P 22 19 38.6 +0.3
ROC1 IAmb IAmb 22 19 46.2
comp=Z,22nm,0.9s
MT03 **Universidad Ad** 92.88 128 P P 22 19 39.1 +0.4
MT03 IAmb IAmb 22 19 40.4
comp=Z,56nm,1.2s
ABTX **Abilene, Hawle** 92.89 56 P P 22 19 39.3 +0.8
baz=246
ABTX **Abilene, Hawle** 92.89 56 P P 22 19 39.6 +1.0
baz=246
LMEL **Las Melosas** 92.94 128 P P 22 19 39.9 +0.9
LMEL IAmb IAmb 22 19 41.9
comp=Z,32nm,0.9s
EPYK **Eagle Plains** 93.06 16 P P 22 19 39.0 +0.5
baz=219
VA03 **San Esteban** 93.19 127 P P 22 19 40.3 +0.2
VA03 IAmb IAmb 22 19 41.8
comp=Z,32nm,0.8s
CO02 **Combarbal** 93.57 125 P P 22 19 42.2 +0.3
G30M **tAoh Zraii Nji** 93.66 16 P P 22 19 41.6 +0.3
baz=220
CO03 **El Pedregal** 93.97 125 P P 22 19 43.9 +0.1
CO03 IAmb IAmb 22 19 45.3
comp=Z,30nm,0.9s
C27K **Jago River** 94.16 12 P P 22 19 44.1 +0.7
baz=213
C26K **Camden Bay** 94.18 11 P P 22 19 44.7 +1.2
baz=212
RSSD **Black Hills** 94.48 44 P P 22 19 46.4 +0.6
RSSD IAmb IAmb 22 19 47.3
comp=Z,4.4nm,0.7s
RSSD **Black Hills** 94.48 44 P P 22 19 46.0 +0.3
baz=245
RSSD **Black Hills** 94.48 44 P P 22 19 46.3 +0.6
baz=245
RSSD **Black Hills** 94.48 44 P P 22 19 46.4 +0.6
RSSD pmax pmax
comp=Z,4.0nm,0.7s
LCO **Las Campanas** 94.81 123 P P 22 19 48.4 +0.6
LCO IAmb IAmb 22 19 50.0
comp=Z,15nm,0.7s
LCO **Las Campanas** 94.81 123 P P 22 19 48.4 +0.6
LCO pmax pmax
comp=Z,15nm,0.7s
CO01 **Juntas del Tor** 94.83 125 P P 22 19 48.1 +0.2
CO01 IAmb IAmb 22 19 57.1
comp=Z,25nm,1.6s
ZON **Zonda** 95.16 127 P P 22 19 49.1 +0.1
ZON IAmb IAmb 22 19 51.0
comp=Z,23nm,0.9s
ZON **Zonda** 95.16 127 P P 22 19 49.2 +0.1
ZON pmax pmax
comp=Z,23nm,0.9s
AC05 **El Transito** 95.22 124 P P 22 19 49.9 +0.4
AC05 IAmb IAmb 22 19 52.5
comp=Z,18nm,0.8s
CFA **Coronel Fontan** 95.46 127 P P 22 19 50.9 +0.5
comp=Z,29nm,0.9s,baz=239,slow=4.2,SNR=43
CFA PP PP 22 23 49.9 -1.8
comp=Z,1.5nm,0.4s,baz=218,slow=7.7,SNR=5.5
comp=Z,29nm,0.9s
SONM **Songino Array** 95.68 319 P P 22 19 52.3 +1.4
comp=Z,0.2nm,0.5s,baz=76,slow=6.1,SNR=1.9
SONM pP pwP 22 22 04.2 -2.5
comp=Z,1.5nm,1.0s,baz=116,slow=3.4,SNR=2.6
SONM PP PP 22 23 50.9 -2.8
comp=Z,1.9nm,0.9s,baz=116,slow=6.7,SNR=4.4
SONM PKKPbc PKKPbc 22 36 36.6 -2.7
comp=Z,3.6nm,0.8s,baz=278,slow=3.2,SNR=16
TRQA **Tornquist** 96.55 135 P P 22 19 56.1 +1.1
TRQA IAmb IAmb 22 23 59.1
comp=Z,23nm,1.4s
TRQA **Tornquist** 96.55 135 P P 22 19 56.2 +1.1
TRQA pmax pmax
comp=Z,23nm,1.5s
GTA **Gaotai** 96.68 310 eP P 22 19 58.8 +3.2
GTA pP pP 22 22 09.0 +1.6
GTA sP sP 22 23 09.8 +2.1
GTA SKS SKSac 22 29 31.0 -3.1
GTA S ScS 22 30 29.0 +4.0
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA pmax pmax
comp=Z,110nm,6.7s
LPAZ **La Paz** 102.72 113 P Pdif 22 20 25.8 +2.2
comp=Z,4.3nm,0.8s,baz=207,slow=2.5,SNR=17
LPAZ PP PP 22 24 45.2 -1.7
comp=Z,1.6nm,0.7s,baz=226,slow=7.3,SNR=4.8
LPAZ PKKPbc PKKPbc 22 36 19.4 -0.2
comp=Z,1.6nm,0.7s,baz=39,slow=4.5,SNR=5.1
JIRN **Jiri** 103.56 295 eP PKiKP 22 24 40.4 -1.0
comp=Z,24nm,0.7s
GUN **Gumba** 103.89 295 eP PKiKP 22 24 40.2 -1.8
comp=Z,5.1nm,0.4s
PKI **Puhokhi** 104.19 294 eP PKiKP 22 24 41.3 -1.2
PKIN **Phulchoki** 104.20 294 eP PKiKP 22 24 41.0 -1.5
DMN **Daman** 104.46 294 eP PKiKP 22 24 41.7 -1.2
GKN **Gorkha** 104.97 295 eP PKiKP 22 24 42.1 -1.6
comp=Z,1.8nm,0.2s
DANN **Dangsing** 105.81 295 eP PKiKP 22 24 44.0 -1.5
comp=Z,26nm,0.7s
CPUP **Villa Florida** 106.35 127 PKiKP PKiKP 22 24 44.5 -1.8
comp=Z,2.0nm,0.8s,baz=280,slow=3.7,SNR=4.1
CPUP PP PP 22 25 10.5 -1.6
comp=Z,2.5nm,0.8s,baz=223,slow=5.7,SNR=3.0
SIV **San Ignacio** 108.84 116 PKiKP PKiKP 22 24 49.4 -1.8
comp=Z,1.0nm,0.4s,baz=244,slow=4.6,SNR=5.4
SIV PP PP 22 25 30.1 -0.3
comp=Z,1.5nm,0.6s,baz=285,slow=1.4,SNR=5.2
SIV PKKPbc PKKPbc 22 35 58.8 -1.8
comp=Z,1.2nm,0.6s,baz=122,slow=3.7,SNR=6.6
SDV **Santo Domingo** 110.35 88 PKiKP PKiKP 22 24 52.9 -1.4
comp=Z,3.3nm,0.6s,baz=88,slow=14,SNR=4.2
ZALV **Zalesovo Beam** 110.47 321 PKiKP PKiKP 22 24 51.6 -1.3
comp=Z,4.6nm,0.5s,baz=135,slow=1.0,SNR=35
ZALV PKKPbc PKKPbc 22 35 53.5 -2.5
comp=Z,1.8nm,0.6s,baz=261,slow=3.2,SNR=7.3
MKAR **Makanchi Array** 110.99 313 PKiKP PKiKP 22 24 53.2 -1.1
comp=Z,3.2nm,0.4s,baz=192,slow=0.6,SNR=55
MKAR PKKPbc PKKPbc 22 35 53.6 -0.5
comp=Z,9.1nm,0.8s,baz=274,slow=3.9,SNR=41
KURK **Kurchatov** 113.88 317 iPKIKP PKiKP 22 24 59.2 -0.4
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURBB **Kurchatov Arra** 113.93 317 PKKPbc PKKPbc 22 35 44.3 -0.2
comp=Z,7.5nm,0.8s,baz=273,slow=4.7,SNR=4.5
KSH **Kashi** 114.49 305 PKP PKPdf 22 25 01.3 0.0
TKM2 **Tokmak 2** 115.19 308 P PKPdf 22 25 01.9 -0.9
SNR=10

TULEG **Thule** 115.29 14 PKPdf 22 25 01.0 -0.6
TULEG **Thule** 115.29 14 i P PKPdf 22 24 59.9 -1.8
NIL **Nilore** 115.77 298 PKPdf 22 25 02.5 -1.4
NIL **Nilore** 115.77 298 PKIKP PKPdf 22 25 02.5 -1.4
CHMS **Chumysh** 115.82 308 P PKPdf 22 25 02.9 -0.7
SNR=6.7
UCH **Uchtor** 115.92 308 P PKPdf 22 25 04.3 -0.1
SNR=12
AAK **Ala-Archa** 115.97 308 P PKPdf 22 25 03.6 -0.6
SNR=6.4
AAK **Ala-Archa** 115.97 308 PKKPbc PKKPbc 22 35 36.4 -1.2
comp=Z,10nm,0.7s,baz=230,slow=3.5,SNR=30
AAK **Ala-Archa** 115.97 308 PKPdf 22 25 02.9 -1.3
AAK **Ala-Archa** 115.97 308 i PKPdf PKPdf 22 25 03.4 -0.7
SNR=8.2
AAK **Ala-Archa** 115.97 308 i PKIKP PKPdf 22 25 03.9 -0.3
AAK pmax pmax
comp=Z,5.0nm,0.9s
L61B **Northampton** 116.01 52 P PKPdf 22 25 03.9 -0.1
baz=264
USP **Ospenovka** 116.03 309 P PKPdf 22 25 03.4 -0.7
SNR=8.1
EKS2 **Erkin-Say** 116.50 308 P PKPdf 22 25 04.7 -0.4
SNR=5.9
AML **Almayashu** 116.51 307 P PKPdf 22 25 05.2 -0.3
SNR=10
PTGA **Pitinga** 116.73 102 PKP PKPdf 22 25 05.6 -0.6
comp=Z,5.3nm,0.3s,baz=234,slow=2.4,SNR=24
PTGA PKKPbc PKKPbc 22 35 35.0 +0.6
comp=Z,1.1nm,0.3s,baz=142,slow=23,SNR=5.4
BOAV **Boa Vista** 117.46 99 PKPdf PKPdf 22 25 06.6 -1.1
HUMP **Col San Antoni** 117.54 80 PKPdf PKPdf 22 25 06.5 -1.1
MTP **Monte Pirata** 117.80 80 PKPdf PKPdf 22 25 06.7 -1.4
VOI **Vohitsoka** 117.92 229 PKPdf PKPdf 22 25 08.2 -0.3
VOI **Vohitsoka** 117.92 229 PKP PKiKP 22 25 09.0 +0.5
PKME **Peaks-Kenny Pk** 118.65 49 P PKPdf 22 25 08.9 -0.1
baz=268
GAR **Garm** 118.79 304 PKPdf 22 25 09.3 -0.3
KK31 **Karatay Array** 118.93 308 PKPdf 22 25 08.8 -0.9
KK31 **Karatay Array** 118.93 308 PKIKP PKPdf 22 25 08.8 -0.9
KKAR **Karatay Array** 118.93 308 PKPdf 22 25 08.3 -1.3
KKAR **Karatay Array** 118.93 308 PKIKP PKPdf 22 25 08.3 -1.3
BVAR **Borovoye Array** 119.02 320 PKKPbc PKKPbc 22 35 26.4 -0.6
comp=Z,3.1nm,0.6s,baz=289,slow=2.7,SNR=12
BRVK **Borovoye** 119.08 320 PKPdf 22 25 08.8 -0.8
BRVK **Borovoye** 119.08 320 PKIKP PKPdf 22 25 08.8 -0.8
PQI **Presque Isle** 119.57 48 PKPdf 22 25 09.7 -1.0
BDFB **Brasilia** 119.59 123 PKP PKPdf 22 25 11.1 -0.8
comp=Z,4.8nm,0.4s,baz=241,slow=1.6,SNR=11
BDFB **Brasilia** 119.59 123 PKPdf 22 25 10.9 -0.9
CHGR **Chuyangaron** 119.66 303 PKPdf 22 25 11.1 -0.2
CHGR **Chuyangaron** 119.66 303 PKIKP PKPdf 22 25 11.1 -0.2
UPNV **Upernavik** 119.76 17 i P PKPdf 22 25 08.3 -2.0
OPO **Ambohidratompo** 119.76 232 PKP PKiKP 22 25 12.6 +0.3
comp=Z,14nm,0.6s,baz=123,slow=1.0,SNR=25
SCHQ **Schefferville** 119.97 38 PKP PKPdf 22 25 10.3 -1.0
comp=Z,3.8nm,0.6s,baz=240,slow=6.3,SNR=6.8
MSEY **Mahe Island** 120.59 251 PKPdf PKPdf 22 25 13.4 -0.4
MSEY **Mahe Island** 120.59 251 i PKiKP PKPdf 22 25 13.6 -0.2
SNR=6.8
MSEY **Mahe Island** 120.59 251 PKIKP PKPdf 22 25 13.4 -0.4
SOE **Somerset East** 121.31 204 PKPdf 22 25 14.9 +0.1
LMN **Caledonia Moun** 121.80 49 PKPdf 22 25 14.4 -0.7
KBS **Kingsbay** 122.11 357 ePKPdf PKPdf 22 25 14.8 +0.1
SPA0 **Spitsbergen Ar** 122.61 356 ePKPdf PKPdf 22 25 15.5 -0.3
SPITS **Spitsbergen Ar** 122.61 356 PKIKP PKPdf 22 25 15.3 -0.4
SPB2 **Spitsbergen Ar** 122.62 356 PKPdf 22 25 15.2 -0.5
ILULI **Ilulissat** 122.87 20 i P PKPdf 22 25 14.3 -2.1
POGA **Pongola** 123.16 213 PKPdf 22 25 18.3 0.0
SUR **Sutherland** 123.29 200 PKP PKPdf 22 25 19.0 +0.3
comp=Z,50nm,0.7s,baz=150,slow=1.2,SNR=52
SUR **Sutherland** 123.29 200 PKPdf PKPdf 22 25 18.3 -0.4
DAG **Danmarks Havn** 123.65 5 i P PKPdf 22 25 14.7 -3.0
SVE **Sverdlovsk** 124.06 325 ePKIKP PKPdf 22 25 19.0 0.0
SVE pmax pmax
comp=Z,31nm,0.8s
SUMG **Summit** 124.19 13 i P PKPdf 22 25 18.0 -1.4
HRA **Herat** 124.93 298 PKPdf PKPdf 22 25 20.7 -1.0
BOSA **Boshof** 125.06 206 PKP PKPdf 22 25 22.4 +0.3
comp=Z,18nm,0.9s,baz=146,slow=0.9,SNR=27
BOSA **Boshof** 125.06 206 PKPdf PKPdf 22 25 21.6 -0.5
BOSA **Boshof** 125.06 206 PKIKP PKPdf 22 25 21.6 -0.5
ARU **Arti** 125.27 325 PKKPbc PKKPbc 22 35 03.5 -0.2
comp=Z,9.9nm,0.5s,baz=214,slow=2.4,SNR=24
ARU **Arti** 125.27 325 PKPdf 22 25 20.4 -1.0
ARU **Arti** 125.27 325 i PKIKP PKPdf 22 25 21.2 -0.1
ARU 22 27 21.4
ARU 22 31 35.8
ARU SS SS 22 43 36.7 +3.5
MDP **Montagnes des** 125.75 99 PKP PKPdf 22 25 23.4 -0.2
comp=Z,13nm,0.6s,baz=213,slow=2.3,SNR=6.7
ABKAR **Akbulak array** 125.95 316 PKPdf 22 25 22.1 -0.8
ABKAR **Akbulak array** 125.95 316 PKPdf 22 25 21.9 -0.9
WSAR **Wadi Sarin** 126.82 284 PKKPbc PKKPbc 22 34 58.2 +1.2
comp=Z,5.1nm,0.6s,baz=274,slow=8.8,SNR=6.0
LBTB **Lobatse** 128.05 209 PKP PKPdf 22 25 28.0 +0.1
comp=Z,12nm,0.6s,baz=164,slow=2.9,SNR=25
LBTB **Lobatse** 128.05 209 PKPdf PKPdf 22 25 27.4 -0.5
LBTB **Lobatse** 128.05 209 PKIKP PKPdf 22 25 27.4 -0.5
VADS **Vadso** 128.32 348 ePKPdf PKPdf 22 25 27.2 +0.4
GEYT **Alibeck** 128.33 302 PKP PKiKP 22 25 28.4 -0.1
comp=Z,16nm,0.7s,baz=232,slow=1.7,SNR=35
GEYT SKPbc SKiKP 22 27 51.9 -15
comp=Z,12nm,0.9s,baz=214,slow=1.6,SNR=14
GEYT **Alibeck** 128.33 302 PKPdf 22 25 27.5 -0.4
GYA0B **ALIBECK ARRAY** 128.33 302 PKPdf PKPdf 22 25 27.5 -0.3
HAMF **Hammerfest** 128.86 350 ePKPdf PKPdf 22 25 27.1 -0.6
NRS **Narsarsuaq** 128.94 27 i P PKPdf 22 25 27.4 -0.7
KIRV **Kirov** 129.14 330 i PKIKP PKPdf 22 25 28.4 -0.2
UOSS **Minazif** 129.27 285 PKPdf PKPdf 22 25 28.3 -1.6
UOSS **Minazif** 129.27 285 i PKPdf PKPdf 22 25 28.7 -1.2
SNR=6.5
HATD **Hatta, Dubai** 129.32 285 i PKPdf PKPdf 22 25 29.5 -0.6
SNR=13
PRGR **Permogore** 129.33 334 ePKIKP PKPdf 22 25 27.4 -1.5
PRGR e 22 27 45.5
PRGR e 22 27 52.1
PRGR pmax pmax
comp=Z,14nm,0.6s
MSFE **Esma-Masafi** 129.37 286 i PKPdf PKPdf 22 25 30.0 -0.2
SNR=6.9
ASHO **Ashiyiah** 129.37 285 i PKPdf PKPdf 22 25 29.6 -0.6
SNR=18
SHME **Shamm** 129.47 287 PKiKP PKPdf 22 25 30.2 -0.1
ARA0 **ARCESS Array S** 129.53 349 ePKPdf PKPdf 22 25 29.0 -0.2
ARA0 IAmb IAmb 22 25 30.1
comp=Z,30nm,0.7s
ARCES **ARCESS Array B** 129.53 349 PKhKP PKPpre 22 25 20.4
comp=Z,2.6nm,0.9s,baz=359,slow=1.4,SNR=6.5
ARCES PKP PKPdf 22 25 28.6 -0.5
comp=Z,24nm,0.6s,baz=44,slow=1.0,SNR=73
ARCES SKPbc SKPbc 22 27 56.0 +1.2
comp=Z,75nm,0.8s,baz=35,slow=4.4,SNR=38
ARCES PKKP PKKPdf 22 35 32.3 -3.5
comp=Z,1.1nm,0.4s,baz=214,slow=2.9,SNR=13
ALNE **Al Ain** 129.56 284 i PKPdf PKPdf 22 25 30.3 -0.2
SNR=7.1
NAZ **Nazwa, Dubai** 129.77 285 i PKPdf PKPdf 22 25 30.5 -0.4
SNR=6.1
FAQ **Al Faqa, Dubai** 129.80 285 PKPdf PKPdf 22 25 30.5 -0.4
ASUD **Al Ashush, Dub** 130.02 285 i PKiKP PKPdf 22 25 31.4 0.0
SNR=11
JETT **Jettan, Norway** 130.33 351 ePKPdf PKPdf 22 25 29.9 -0.7
KTK1 **Kautokeino** 130.38 350 ePKPdf PKPdf 22 25 30.1 -0.7
TRO **Tromso** 130.46 352 ePKPdf PKPdf 22 25 30.3 -0.5
TETE **Tete** 130.85 223 PKPdf 22 25 33.1 -0.1
MZR **Muzera** 131.46 282 i PKiKP PKPdf 22 25 34.6 +0.4
SNR=13
KLMR **Klimovskoe** 132.20 336 ePKPdf PKPdf 22 25 34.0 -0.4
KLMR AMP 22 25 35.7
comp=Z,52nm,1.3s
KLMR ePP PP 22 28 02.8 -3.3
KLMR **Klimovskoe** 132.20 336 ePKIKP PKPdf 22 25 33.9 -0.4
KLMR e 22 28 02.8
KLMR pmax pmax
comp=Z,52nm,1.3s
STEI **Steigen** 132.53 353 ePKPdf PKPdf 22 25 35.1 +0.4
BELG **Belogornoye** 132.62 323 SKPbc SKPbc 22 28 06.2 +0.1
BELG **Belogornoye** 132.62 323 i PKIKP PKPdf 22 25 35.4 0.0
BELG pmax pmax
comp=Z,12nm,0.9s
KONS **Konsvik** 134.15 353 ePKPdf PKPdf 22 25 38.4 +0.5
LSZ **Lusaka** 134.81 219 PKhKP PKPpre 22 25 28.0
comp=Z,2.6nm,0.4s,baz=81,slow=1.6,SNR=10

LSZ PKP **PKPdf** **22 25 41.5 +0.6**
comp=Z,25nm,0.6s,baz=93,slow=1.7,SNR=16
LSZ PP **PP** **22 28 21.3 -1.5**
comp=Z,4.2nm,0.7s,baz=164,slow=4.7,SNR=5.0
RCBR Riachuelo 134.96 123 PKhKP PKPpre 22 25 28.3
comp=Z,5.0nm,0.6s,baz=4.7,slow=7.1,SNR=4.3
RCBR PKP **PKPdf** **22 25 41.3 +0.3**
comp=Z,14nm,0.9s,baz=306,slow=3.3,SNR=5.3
AKT Akhty 135.85 308 *e*PKIKP **PKPdf** **22 25 41.4 -0.6**
AKT *e* 22 27 59.6
AKT *e* 22 28 29.5
AKT pmax pmax
comp=Z,16nm,0.9s
FINES FINESS Array B 136.25 343 PKhKP PKPpre 22 25 31.1
comp=Z,1.5nm,0.5s,baz=56,slow=3.5,SNR=14
FINES PKP **PKPdf** **22 25 42.8 +0.9**
comp=Z,7.7nm,0.4s,baz=54,slow=2.7,SNR=9.3
FINES SKPbc **SKPbc** **22 28 17.6 +0.3**
comp=Z,28nm,0.8s,baz=80,slow=4.3,SNR=21
FINES FINESS Array B 136.25 343 **PKPdf** **22 25 42.5 +0.6**
FINES FINESS Array B 136.25 343 PKIKP **PKPdf** **22 25 42.5 +0.6**
VRH Novokhopyorsk 136.44 323 *e*PKIKP **PKPdf** **22 25 42.3 -0.3**
VRH pmax pmax
comp=Z,20nm,0.6s
TSUM Tsumeb 136.53 203 PKhKP PKPpre 22 25 34.7
comp=Z,1.6nm,0.5s,baz=360,slow=3.4,SNR=2.6
TSUM PKP **PKPdf** **22 25 44.1 +0.2**
comp=Z,24nm,0.8s,baz=174,slow=1.8,SNR=4.8
TSUM SKPbc **SKPbc** **22 28 21.0 +1.3**
comp=Z,7.3nm,1.0s,baz=170,slow=7.7,SNR=4.0
KIBK Kibwezi 136.69 242 PKPdf **PKPdf** **22 25 43.5 -0.9**
GROC Groznyy 136.83 311 *e*PKIKP **PKPdf** **22 25 41.4 -2.2**
GROC *e* 22 27 59.4
GROC pmax pmax
comp=Z,19nm,0.6s
OBN Obninsk 136.96 331 *i* PKIKP **PKPdf** **22 25 42.0 -1.4**
OBN pmax pmax
comp=Z,13nm,0.9s
LPSR Galich'ya Gora 137.24 326 *e*PKIKP **PKPdf** **22 25 43.8 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 137.58 325 *e*PKHKP PKPpre 22 25 32.7
VORR pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 137.84 324 *e*PKIKP **PKPdf** **22 25 44.6 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.5s
KMBO Kilima Mbogo 138.02 242 PKhKP PKPpre 22 25 37.0
comp=Z,3.1nm,0.8s,baz=58,slow=5.2,SNR=13
KMBO PKP **PKPdf** **22 25 47.7 +0.7**
comp=Z,7.2nm,0.6s,baz=29,slow=5.1,SNR=11
KMBO SKPbc **SKPbc** **22 28 25.4 +1.1**
comp=Z,7.4nm,0.9s,baz=77,slow=6.0,SNR=8.9
KMBO Kilima Mbogo 138.02 242 PKPdf **PKPdf** **22 25 46.5 -0.5**
KMBO Kilima Mbogo 138.02 242 PKIKP **PKPdf** **22 25 46.5 -0.5**
ZEI Tsey 138.28 311 *i* PKIKP **PKPdf** **22 25 46.2 -0.3**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 138.36 307 SKPbc **SKPbc** **22 28 24.2 -0.1**
comp=Z,17nm,1.0s,baz=12,slow=20,SNR=4.5
KBZ Khabaz 138.68 313 PKP **PKPdf** **22 25 47.5 +0.6**
comp=Z,3.6nm,0.9s,baz=180,slow=7.6,SNR=5.6
KBZ SKPbc **SKPbc** **22 28 25.3 +0.4**
comp=Z,4.6nm,1.0s,baz=82,slow=4.8,SNR=4.5
KBZ Khabaz 138.68 313 *i* PKIKP **PKPdf** **22 25 47.0 +0.1**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
ATD Arta Tunnel 138.69 263 PKP **PKPdf** **22 25 48.6 +0.8**
comp=Z,8.1nm,0.8s,baz=301,slow=5.7,SNR=4.0
ATD SKPbc **SKPbc** **22 28 27.2 +1.3**
comp=Z,8.9nm,0.9s,baz=294,slow=8.7,SNR=4.4
KIV Kislovodsk 138.75 313 *e*PKIKP **PKPdf** **22 25 47.2 0.0**
KIV pmax pmax
comp=Z,11nm,1.1s
RAYN Ar Rayn 138.80 282 PKPdf **PKPdf** **22 25 47.0 -0.8**
RAYN Ar Rayn 138.80 282 PKIKP **PKPdf** **22 25 47.0 -0.8**
DOMB Dombas 138.92 354 *e* PKPpre 22 25 39.5
NEY Neytrino 138.96 312 *i* PKIKP **PKPdf** **22 25 48.2 +0.5**
NC303 NORSAR Array S 139.46 352 PKPdf **PKiKP** **22 25 49.8 -0.6**
NB2 NORSAR Subarra 139.66 352 PKP PKPpre 22 25 41.2
comp=Z,9.9nm,0.8s,baz=17,slow=2.6
NB2 SKPa 22 28 28.2
comp=Z,3.2nm,0.7s,baz=14,slow=2.9
NOA NORSAR Array B 139.66 352 PKhKP PKPpre 22 25 42.0
comp=Z,0.9nm,0.5s,baz=26,slow=4.1,SNR=24
NOA PKP **PKPdf** **22 25 48.8 +0.5**
comp=Z,5.8nm,0.6s,baz=13,slow=4.0,SNR=11
NOA SKPbc **SKPbc** **22 28 27.5 +0.5**
comp=Z,14nm,1.1s,baz=14,slow=4.5,SNR=8.3
NC602 NORSAR Array S 139.91 352 *e* **PKPdf** **22 25 42.3 -6.3**
SKAR Skarslia 140.33 354 *e* **PKPdf** **22 25 44.9 -4.6**
MNK Minsk 141.09 335 *i* PKP **PKPdf** **22 25 47.5 -3.4**
MNK *i* PKP **PKPdf** **22 25 47.5 -3.4**
MNK *i* PKP **PKPdf** **22 25 47.5 -3.4**
comp=Z,12nm,0.8s,baz=222
MNK *i* PKiKP **PKiKP** **22 25 51.0 -2.9**
MNK *i* pPKP **pPKPdf** **22 28 06.3 -5.6**
MNK *i* PP **PP** **22 28 57.8 -2.9**
MNK *i* SKS **SKSdf** **22 32 01.0 -2.4**
MNK *i* PPP PPP 22 32 11.0
MNK *i* SKKS **SKKSdf** **22 41 24.0 -4.7**
MNK *i* SS SS 22 46 22.5 -18
MNK *i* SSS SSS 22 52 08.6
MNK *i* LR LR 23 27 57.5
MNK *i* LRM MLR 23 29 38.1
comp=Z,102nm,12.5s
MNK Minsk 141.09 335 *i* PKHKP PKPpre 22 25 47.5
MNK *i* 22 25 50.9
MNK *i* 22 28 06.2
MNK *i* 22 28 57.7
MNK *i* 22 32 01.0
MNK *i* SSS SSS 22 52 08.5
MNK pmax pmax
comp=Z,12nm,0.9s
MNK MLR MLR
comp=Z,102nm,12.0s
KONO Kongsberg 141.21 353 *e*PKPdf **PKPdf** **22 25 47.1 -3.9**
NACGM Naroch 141.21 336 *e*PKiKP **PKiKP** **22 25 54.2 +0.1**
comp=Z,33nm,0.9s,baz=40
ODD1 Odda 141.23 355 *e*PKPdf **PKPdf** **22 25 46.8 -4.4**
FURI Furi 141.57 257 PKPdf **PKPdf** **22 25 52.6 -0.9**
BLS5 Blasjo 141.73 355 *e*PKPdf **PKPdf** **22 25 48.4 -3.6**
MARD Mardin 142.04 304 PKPdf **PKPdf** **22 25 50.2 -3.2**
LODK Lodwar 142.05 247 PKPdf **PKPdf** **22 25 51.5 -2.5**
SHEL Horse Pasture 142.39 170 PKPdf **PKPdf** **22 25 53.4 -1.1**
SHEL Horse Pasture 142.39 170 PKIKP **PKPdf** **22 25 53.4 -1.1**
HOMB Homborsund 142.68 353 *e*PKPdf **PKPdf** **22 25 51.7 -1.9**
SNART Snartemo 142.74 354 *e*PKPdf **PKPdf** **22 25 51.6 -2.2**
AKASG Malin Array Be 143.20 330 PKP PKPab 22 25 52.5 -0.6
comp=Z,36nm,0.6s,baz=42,slow=4.3,SNR=168
AKASG pPKP pPKPdf 22 28 15.6 0.0
comp=Z,1.8nm,0.7s,baz=40,slow=3.8,SNR=2.7
AKASG SKPbc **SKPbc** **22 28 36.6 +0.5**
comp=Z,18nm,0.9s,baz=47,slow=2.4,SNR=19
AKASG Malin Array Be 143.20 330 PKPab 22 25 52.6 -0.4
AKASG Malin Array Be 143.20 330 PKIKP PKPab 22 25 52.7 -0.4
AKBB Malin Array Si 143.20 330 PKPab 22 25 52.5 -0.5
AKBB Malin Array Si 143.20 330 *i* PKIKP PKPab 22 25 52.3 -0.8
AKBB pmax pmax
comp=Z,46nm,0.6s
MBAR Mbarara 143.58 237 PKP **PKPdf** **22 25 56.7 -0.1**
comp=Z,140nm,0.8s,baz=125,slow=3.4,SNR=172
MBAR Mbarara 143.58 237 PKPbc PKPbc 22 25 56.4 +0.5
MBAR Mbarara 143.58 237 PKIKP PKPbc 22 25 56.4 +0.5
KPL Plockton 143.71 6 *e*P PKPbc 22 25 54.3 -0.4
SIM Simferopol' 143.92 319 *c* PKIKP **PKPdf** **22 25 56.3 0.0**
SIM pmax pmax
comp=Z,117nm,0.6s
TOKA Tokat 144.34 310 PKPbc 22 25 57.6 +0.3
MUD Monsted U'grnd 144.38 352 *i* P **PKPdf** **22 25 54.5 -2.1**
BSD Bornholm Skovb 144.64 346 *i* P **PKPdf** **22 25 56.3 -0.9**
INVG Invergeldie, C 144.75 5 *e*P PKPbc 22 25 57.8 -0.1
LAWE Loch Awe, Argy 144.80 6 *e*P **PKPdf** **22 25 57.8 +0.4**
GAZ Gaziantep 144.82 305 PKPdf PKPbc 22 25 58.9 0.0
BNN Bunyan 145.32 308 **PKPdf** **22 25 58.9 -0.1**
SORM Soroca 145.33 327 ⇓P **PKPbc** **22 25 60.0 +0.1**
SORM Soroca 145.33 327 ⇓PKP2 **PKPbc** **22 26 00.0 +0.1**
ESY Stoneypath 145.35 3 *e*P **PKPdf** **22 25 59.1 +0.7**
EBL Broad Law 145.47 4 *e*P **PKPbc** **22 25 60.0 -0.1**
PURM Purcari 145.54 324 ⇑P **PKPbc** **22 26 00.8 +0.3**
GKP Gorka Klasztor 145.72 343 *e*PKP **PKPbc** **22 26 01.1 +0.3**
KIS Kishinev 145.82 325 ⇑*e*PKP **PKPbc** **22 26 01.0 -0.3**
comp=Z,40nm,0.7s
KIS Kishinev 145.82 325 *c e*PKIKP **PKPbc** **22 26 01.0 -0.3**
KIS pmax pmax
comp=Z,40nm,0.7s
BEL Belsk 145.83 338 *e*PKP **PKPbc** **22 26 01.7 +0.6**
MILM Milestii Mici 145.87 325 ⇑P **PKPbc** **22 26 01.1 -0.3**
MILM Milestii Mici 145.87 325 ⇑*i*PKP **PKPbc** **22 26 01.0 -0.5**
comp=Z,300nm,1.2s
MILM Milestii Mici 145.87 325 *c i*PKIKP **PKPbc** **22 26 01.0 -0.5**
MILM pmax pmax
comp=Z,300nm,1.2s
ESK Eskdalemuir 145.92 4 PKPdf **PKPbc** **22 26 00.5 -0.8**
ESK Eskdalemuir 145.92 4 PKIKP **PKPbc** **22 26 00.5 -0.8**
ILGA Ilgaz 145.99 313 **PKPdf** **22 26 01.3 +1.1**
LVV L'vov 146.17 333 *i* PKIKP **PKPdf** **22 26 00.3 +0.4**
ASF Jabal al Asfar 146.20 296 pPKPbc pPKPbc 22 28 21.8 +1.3
comp=Z,5.6nm,1.0s,baz=141,slow=14,SNR=2.1
GAL1 Galloway 146.24 6 *e*P **PKPdf** **22 26 00.9 +1.0**
EDMD Edmundbyers 146.47 3 *e*P **PKPdf** **22 26 01.2 +0.9**
BR131 Keskin Array S 146.59 311 **PKPdf** **22 26 01.1 0.0**
BR131 PKPbc **PKPbc** **22 26 03.6 -0.3**
BR131 Keskin Array S 146.59 311 PKIKP **PKPdf** **22 26 01.1 -0.1**
BRTR Keskin Array B 146.59 311 PKPbc **PKPbc** **22 26 03.6 -0.3**
comp=Z,28nm,0.7s,baz=142,slow=5.3,SNR=77
BRTR pPKPbc **pPKPdf** **22 28 22.8 +0.9**
comp=Z,12nm,1.1s,baz=124,slow=3.5,SNR=4.6
BRTR Keskin Array B 146.59 311 **PKPdf** **22 26 01.0 -0.1**
BRTR Keskin Array B 146.59 311 PKIKP **PKPdf** **22 26 01.0 -0.1**
VASR Vaslui 146.59 325 ⇑P **PKPbc** **22 26 03.7 +0.3**
IOMK Kirk Michael 146.86 6 *e*P **PKPdf** **22 26 01.5 +0.6**
VLDR Vladesti 146.94 324 ⇑P **PKPbc** **22 26 04.6 +0.2**
WIM Isle of Man 146.96 6 *e*P **PKPbc** **22 26 03.1 -1.1**
VARL Varlezi 147.03 324 ⇑P **PKPbc** **22 26 05.3 +0.7**
SCTR Scanteiesti 147.09 324 ⇑P **PKPbc** **22 26 05.5 +0.7**
TATR Tatarca 147.11 324 ⇓P **PKPbc** **22 26 05.5 +0.6**
ANTO Ankara 147.12 311 ⇓P **PKPbc** **22 26 05.8 +0.6**
ANTO Ankara 147.12 311 ⇓PKP2 **PKPbc** **22 26 05.8 +0.6**
BR231 Keskin MP Arra 147.15 311 PKPbc **PKPbc** **22 26 05.1 -0.2**
JURR Jurilovca 147.15 322 ⇓P **PKiKP** **22 26 06.1 -0.5**
H07N1 FLORES T-PHASE 147.15 49 *e*PKP **PKPdf** **22 26 01.9 0.0**
GHRR 147.17 325 ⇑P **PKiKP** **22 26 06.1 -0.5**
H07S1 FLORES T-PHASE 147.22 49 *e*PKP **PKPbc** **22 26 04.2 -1.2**
BUR08 Bucovina Ar. S 147.22 329 **PKPdf** **22 26 02.9 +1.0**
BUR08 PKPbc **PKPbc** **22 26 06.2 +0.9**
BURAR Bucovina Array 147.24 329 ⇓P **PKPbc** **22 26 06.2 +0.9**
BURAR Bucovina Array 147.24 329 **PKPbc** **22 26 03.7 -1.6**
BURAR PKPbc **PKiKP** **22 26 06.9 0.0**
BURAR Bucovina Array 147.24 329 ⇓PKP2 **PKPbc** **22 26 06.2 +0.9**
SLCR Slobozia Conac 147.27 324 ⇓P **PKPbc** **22 26 06.0 +0.8**
TESR Tescani 147.27 326 ⇑P **PKPbc** **22 26 05.5 +0.2**
IZVR Izvoarele 147.30 324 ⇓P **PKPbc** **22 26 06.2 +0.8**
CFR Carcaliu 147.32 323 ⇓P **PKPbc** **22 26 04.5 -0.9**
CFR Carcaliu 147.32 323 ⇓PKIKP **PKPbc** **22 26 04.5 -0.9**
TUDR 147.32 324 ⇓P **PKPbc** **22 26 06.2 +0.8**
H10N3 ASCENSION HYDR 147.32 151 PKPbc **PKPbc** **22 26 06.8 +0.8**
baz=212,slow=3.2,SNR=5.3
H10N1 ASCENSION HYDR 147.33 151 PKPbc **PKPbc** **22 26 05.3 -0.7**
baz=212,slow=3.2,SNR=8.9
H10N2 ASCENSION HYDR 147.34 151 PKPbc **PKiKP** **22 26 07.2 -0.4**
baz=212,slow=3.2,SNR=9.8
TPGR Topolog 147.36 322 ⇑P **PKiKP** **22 26 06.6 -0.6**
HPK Haverah Park 147.36 3 *e*P **PKPbc** **22 26 05.2 0.0**
PANC Panciu 147.43 325 ⇑P **PKPbc** **22 26 05.9 +0.2**
OJC Ojcow 147.52 337 *e*PKP **PKPbc** **22 26 06.1 +0.3**
OJC Ojcow 147.52 337 **PKPbc** **22 26 05.2 -0.6**
OJC Ojcow 147.52 337 PKIKP **PKPbc** **22 26 05.2 -0.6**
ODBI Odobesti 147.55 325 ⇑P **PKiKP** **22 26 07.1 -0.3**
KOLS Kolonicke sedl 147.59 333 *e*PKP **PKPdf** **22 26 03.0 +0.7**
KOLS *e* 22 26 06.7
KOLS Kolonicke sedl 147.59 333 *e*PKIKP **PKPdf** **22 26 03.0 +0.7**
TIRR Tirgusor 147.60 322 ⇑P **PKPbc** **22 26 06.5 +0.4**
TIRR Tirgusor 147.60 322 ⇑PKP2 **PKPbc** **22 26 06.5 +0.4**
STHS Stebnicka Huta 147.62 335 *e*PKP **PKPbc** **22 26 05.9 -0.2**
STHS Stebnicka Huta 147.62 335 *e*PKP2 **PKPbc** **22 26 05.9 -0.2**
DSB Dublin 147.65 8 PKPdf **PKPdf** **22 26 02.0 -0.2**
DSB PKPbc **PKPbc** **22 26 05.9 -0.1**
VRI Vrincioaia 147.66 325 ⇓P **PKPbc** **22 26 06.5 +0.2**
VRI Vrincioaia 147.66 325 ⇓PKP2 **PKPbc** **22 26 06.5 +0.2**
EFOR EFORIE 147.69 321 ⇑P **PKPbc** **22 26 06.8 +0.4**
PLOR Plostina 147.71 325 ⇑P **PKPbc** **22 26 06.2 -0.3**
PLOR Plostina 147.71 325 ⇑PKIKP **PKPbc** **22 26 06.2 -0.3**
HARR Harsova 147.74 323 ⇓P **PKPbc** **22 26 07.0 +0.5**
HARR Harsova 147.74 323 ⇓PKP2 **PKPbc** **22 26 07.0 +0.5**
MFTR Murfatlar 147.76 321 ⇑P **PKPbc** **22 26 07.0 +0.5**
UZH Uzhgorod 147.81 333 *e*PKIKP **PKPbc** **22 26 05.0 -1.5**
UZH 22 28 24.8
WLF1 Llynfaes 147.83 6 *e*P **PKPdf** **22 26 03.8 +1.3**
YRC Rhoscolyn 147.85 6 *e*P **PKPbc** **22 26 05.9 -0.5**
CVDA Cernavoda 147.89 322 ⇓P **PKPbc** **22 26 07.5 +0.6**
CRVS Cervenica-Dubn 147.94 334 *e*PKP **PKPbc** **22 26 07.5 +0.6**
CRVS 22 28 32.4
CRVS Cervenica-Dubn 147.94 334 *e*PKP2 **PKPbc** **22 26 07.5 +0.6**
COVR Voineasa-Covas 147.95 326 ⇓P **PKPbc** **22 26 06.8 -0.2**
MDUB Mudurnu 147.96 313 **PKPbc** **22 26 06.5 -0.8**
NIE Niedzica 147.99 336 *e*PKP **PKiKP** **22 26 08.1 -0.2**
OZUR 148.00 326 ⇑P **PKPbc** **22 26 07.5 +0.3**
BMR Baia Mare 148.00 331 ⇓P **PKPbc** **22 26 07.7 +0.6**
BMR Baia Mare 148.00 331 ⇓PKP2 **PKPbc** **22 26 07.7 +0.6**
ARCR ARCALIA 148.03 329 ⇓P **PKPbc** **22 26 07.5 +0.3**
TRPA Tarpa 148.09 332 ⇑P **PKPbc** **22 26 07.4 +0.2**
KSP Ksiaz 148.15 341 *e*PKP **PKPbc** **22 26 08.0 +0.7**
ISR Istrita 148.24 324 ⇓P **PKPbc** **22 26 08.3 +0.5**
ISR Istrita 148.24 324 ⇓PKP2 **PKPbc** **22 26 08.3 +0.5**
DOPR Dopca 148.29 327 ⇑P **PKiKP** **22 26 08.6 -0.4**
MLR Muntele Rosu 148.32 325 ⇓P **PKPbc** **22 26 08.2 +0.1**
MLR Muntele Rosu 148.32 325 **PKPdf** **22 26 08.6 -0.2**
MLR PKPbc **PKPbc** **22 26 08.2 +0.1**
MLR Muntele Rosu 148.32 325 ⇓PKHKP PKPpre 22 26 08.2
FOEL Foel Wylfa 148.33 5 *e*P **PKPdf** **22 26 02.6 -0.8**
OSTC Ostas 148.42 341 *e*PKPDF **PKPdf** **22 26 04.0 +0.4**
OSTC ⇑*e*PKP **PKiKP** **22 26 09.1 0.0**
OSTC *ep*PKP **pPKPab** **22 28 34.2 +5.9**
OKC Ostrava-Krasne 148.42 338 ⇑*e*PKP **PKPbc** **22 26 08.2 +0.2**
OKC Ostrava-Krasne 148.42 338 *e*PKHKP PKPpre 22 26 08.2
CSS Mathiatis 148.47 303 **PKPbc** **22 26 08.6 -0.1**
UPC Upice 148.53 341 ⇑*e*PKP **PKPbc** **22 26 08.8 +0.5**
UPC Upice 148.53 341 *e*PKP2 **PKPbc** **22 26 08.8 +0.5**
SECR 148.55 325 ⇓P **PKPbc** **22 26 08.9 +0.4**
DPC Dobruska-Polom 148.57 341 *e*PKPDF **PKPdf** **22 26 04.2 +0.3**
DPC ⇑*e*PKP **PKiKP** **22 26 09.2 -0.3**
DPC *ep*PKP **pPKPab** **22 28 32.5 +3.6**
DPC Dobruska-Polom 148.57 341 *e*PKHKP PKPpre 22 26 04.2
CWF Charnwood Fore 148.59 3 *e*P **PKPdf** **22 26 02.9 -0.9**
CLL Collm 148.60 345 PKPdf **PKPdf** **22 26 03.9 +0.1**
CLL PKPbc **PKPbc** **22 26 08.7 +0.3**
CLL Collm 148.60 345 *i* PKPbc **PKPbc** **22 26 08.5 +0.1**
comp=Z,89nm,1.1s
CLL *ep*PKiKP **pPKiKP** **22 28 30.0 +0.1**
CLL *ex* x 22 28 35.0
CLL *e*SKPbc **SKiKP** **22 28 49.0 +0.8**
CLL Collm 148.60 345 PKHKP PKPpre 22 26 03.9
CBBR Cluj-Babes-Bol 148.64 329 ⇓P **PKPbc** **22 26 08.0 -0.7**
MESR Meseseni 148.64 330 ⇓P **PKiKP** **22 26 09.4 -0.3**
CJR Cluj-Napoca 148.65 329 ⇓P **PKPbc** **22 26 09.0 +0.2**
CJR Cluj-Napoca 148.65 329 ⇓PKHKP PKPpre 22 26 09.0
KRLC Kraliky 148.67 340 ⇑*e*PKP **PKiKP** **22 26 09.4 -0.3**
KRLC Kraliky 148.67 340 *e*PKP2 **PKiKP** **22 26 09.4 -0.3**
KECS Kecovo 148.67 335 *e*PKP **PKiKP** **22 26 09.7 0.0**
KECS Kecovo 148.67 335 *e*PKP2 **PKiKP** **22 26 09.7 0.0**
MDB Medias 148.68 328 ⇓P **PKPbc** **22 26 08.9 +0.1**
MDB Medias 148.68 328 ⇓PKHKP PKPpre 22 26 08.9
MORC Moravsky Berou 148.68 339 ⇑P **PKPbc** **22 26 09.2 +0.5**
MORC Moravsky Berou 148.68 339 **PKPbc** **22 26 08.7 0.0**
MORC Moravsky Berou 148.68 339 *e*PKP **PKPbc** **22 26 09.0 +0.3**
MORC Moravsky Berou 148.68 339 ⇑PKHKP PKPpre 22 26 09.2
HLM1 Long Mynd 148.72 4 *e*P **PKPdf** **22 26 03.4 -0.7**
BORA Eskisehir 148.74 313 **PKPbc** **22 26 09.1 -0.1**
BRG Berggiesshubel 148.77 344 ⇓*e*PKPf 22 26 04.1
BRG Amp 22 26 07.0
comp=Z,10nm,1.1s
BRG *i* x x 22 26 09.4
BRG Amp 22 26 11.0
comp=Z,44nm,0.8s
BRG pPKP pPKPdf 22 28 33.2 +7.7
BRG Amp 22 28 36.4
comp=Z,32nm,1.2s
BRG Berggiesshubel 148.77 344 *e*PKIKP **PKPdf** **22 26 04.0 -0.1**
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG pmax pmax
comp=Z,44nm,0.8s
BRG pmax pmax
comp=Z,32nm,1.2s
VOIR 148.82 326 ⇑P **PKPbc** **22 26 08.5 -0.8**
VOIR 148.82 326 ⇑PKHKP PKPpre 22 26 08.5
PVCC Panska Ves 148.92 343 ⇑*e*PKP **PKiKP** **22 26 09.9 -0.2**
PVCC *ep*PKP **pPKPab** **22 28 33.9 +3.8**
PVCC Panska Ves 148.92 343 *e*PKHKP PKPpre 22 26 09.9
MAUC Maruska 148.93 338 *e*PKPDF **PKPdf** **22 26 04.1 -0.4**
MAUC ⇑*e*PKP **PKiKP** **22 26 10.2 -0.1**
MAUC *ep*PKP **pPKPab** **22 28 34.9 +4.6**
PRD Provadia 148.93 321 *i* P **PKPbc** **22 26 10.0 +0.5**
DRGR 149.01 330 ⇓P **PKPbc** **22 26 10.0 +0.3**
DRGR 149.01 330 ⇓PKHKP PKPpre 22 26 10.0
ARR Arges 149.09 326 ⇓P **PKiKP** **22 26 11.4 +0.7**
RSBS Rosebush, Pemb 149.12 7 *e*P **PKPbc** **22 26 03.5 -1.2**
BORR Bors 149.21 332 ⇑P **PKPdf** **22 26 06.4 +1.4**
RAZG Razgrad 149.23 322 ⇑P **PKPbc** **22 26 10.3 +0.1**
VYHS Vyhne 149.30 336 *e*PKP **PKPdf** **22 26 05.0 -0.1**
VYHS *e* 22 26 10.6
VYHS *e* 22 28 31.1
VYHS *e* 22 28 36.2
VYHS Vyhne 149.30 336 *e*PKIKP **PKPdf** **22 26 05.1 -0.1**
PCED Cedros 149.31 49 *e*PKP **PKPbc** **22 26 09.7 -0.8**
CALA Caldeira 149.33 49 *e*PKP **PKPbc** **22 26 10.4 -0.3**
PSZ Piszkesteto 149.36 335 ⇓P **PKPbc** **22 26 10.4 -0.1**
PSZ Piszkesteto 149.36 335 ⇓PKHKP PKPpre 22 26 10.4
VRAC Vranov 149.40 340 ⇑P **PKiKP** **22 26 11.0 -0.1**
VRAC Vranov 149.40 340 *e*PKP **PKPbc** **22 26 10.8 +0.4**
VRAC Vranov 149.40 340 ⇑PKHKP PKPpre 22 26 11.0
MONM Monmouth 149.41 4 *e*P **PKPdf** **22 26 04.9 -0.2**
PRU Pruhonice 149.41 343 ⇑*e*PKP **PKPbc** **22 26 10.8 +0.4**
PRU *ep*PKP **pPKPab** **22 28 34.7 +2.7**
PRU Pruhonice 149.41 343 *e*PKHKP PKPpre 22 26 10.8
HUMR Humele 149.47 325 ⇑P **PKPbc** **22 26 10.3 -0.5**
LOT Lotru 149.47 327 ⇑P **PKPbc** **22 26 08.4 -2.5**
PCAN Candelaria 149.53 49 *e*PKP **PKPbc** **22 26 09.8 -1.3**
PICO Pico 149.56 49 *e*PKP **PKPbc** **22 26 11.5 +0.3**
DEV Deva 149.59 329 ⇑P **PKPbc** **22 26 11.1 +0.2**
DEV Deva 149.59 329 ⇑PKHKP PKPpre 22 26 11.1
SRBC Serra Branca 149.59 48 *e*PKP **PKPbc** **22 26 10.7 -0.5**
ROSA Rosais 149.59 49 **PKPbc** **22 26 11.7 +0.4**
ROSA Rosais 149.59 49 *e*PKP **PKPbc** **22 26 11.5 +0.3**
KRUC Moravsky 149.68 340 *e*PKP **PKPbc** **22 26 11.4 +0.3**
PPNO Prainha do Nor 149.68 49 *e*PKP **PKPbc** **22 26 11.5 0.0**
BSZH Besenyszg 149.70 333 ⇓P **PKiKP** **22 26 12.3 +0.5**
NKC Novy Kostel 149.73 345 ⇑*e*PKP **PKiKP** **22 26 11.7 -0.2**
NKC Novy Kostel 149.73 345 *e*PKHKP PKPpre 22 26 11.7
PMAN Manadas 149.74 49 *e*PKP **PKPbc** **22 26 10.7 -0.9**
SZH Strazhica 149.75 322 *i* P **PKPbc** **22 26 11.4 0.0**
TREC Trest 149.76 341 ⇑*e*PKP **PKPbc** **22 26 11.6 +0.3**
TREC Trest 149.76 341 *e*PKHKP PKPpre 22 26 11.6
SWN1 Swindon 149.79 3 *e*P **PKPbc** **22 26 10.3 -0.9**
PID Ribeirinha 149.80 49 *e*PKP **PKPbc** **22 26 10.0 -1.8**
JMB Yambol 149.85 320 *i* P **PKPbc** **22 26 11.9 +0.2**
SIRR Siria 149.89 331 ⇑P **PKiKP** **22 26 12.2 -0.1**
MODS Modra-Piesok 149.97 338 *e*PKP **PKiKP** **22 26 12.6 +0.2**
MODS *e* 22 28 38.4
MODS Modra-Piesok 149.97 338 *e*PKHKP PKPpre 22 26 12.6
GZR Gura Zlata 150.00 328 ⇑P **PKPbc** **22 26 11.9 -0.2**
GZR Gura Zlata 150.00 328 ⇑PKIKP **PKPbc** **22 26 11.9 -0.2**
SURR Surduc 150.05 329 ⇓P **PKPbc** **22 26 12.3 +0.2**
SRO Srobarova 150.06 336 *e*PKP **PKiKP** **22 26 12.7 +0.1**
SRO Srobarova 150.06 336 *e*PKIKP **PKiKP** **22 26 12.7 +0.1**
VLAD Vladila 150.13 325 ⇑P **PKPbc** **22 26 12.6 +0.4**
ZST Bratislava 150.18 338 *e*PKP **PKiKP** **22 26 13.2 +0.4**
ZST Bratislava 150.18 338 *e*PKIKP **PKiKP** **22 26 13.2 +0.4**
PAGU Agualva, Azore 150.31 48 *e*PKP **PKPdf** **22 26 08.3 +1.4**
SRE Strehaia 150.31 327 ⇑P **PKiKP** **22 26 13.2 0.0**
SRE Strehaia 150.31 327 ⇑PKIKP **PKiKP** **22 26 13.2 0.0**
PSCM Serra do Cume 150.38 48 *e*PKP **PKPdf** **22 26 09.3 +2.2**
BZS Buzias 150.40 330 ⇓P **PKPbc** **22 26 12.9 0.0**
BZS Buzias 150.40 330 ⇓PKIKP **PKPbc** **22 26 12.9 0.0**
PLVB Pleven 150.41 324 ⇑P **PKPbc** **22 26 13.2 +0.3**
KHC Kasperske Hory 150.46 343 PKPdf **PKPdf** **22 26 06.8 0.0**
KHC PKPbc **PKPbc** **22 26 13.1 +0.1**
KHC Kasperske Hory 150.46 343 *e*PKPDF **PKPdf** **22 26 06.9 0.0**
KHC ⇑*e*PKP **PKPbc** **22 26 13.2 +0.2**
KHC *ep*PKP **pPKPab** **22 28 34.8 -1.5**
KHC Kasperske Hory 150.46 343 *e*PKIKP **PKPdf** **22 26 06.9 0.0**
ELL Elmali 150.47 308 **PKPbc** **22 26 13.3 -0.2**
ELL Elmali 150.47 308 PKIKP **PKPbc** **22 26 13.3 -0.2**
TIM Timisoara 150.49 330 ⇓P **PKiKP** **22 26 14.0 +0.5**
TIM Timisoara 150.49 330 ⇓PKIKP **PKiKP** **22 26 14.0 +0.5**
MEM Membach 150.49 353 *d*PKPdf **PKPdf** **22 26 06.9 +0.1**
MEM *d*PKP **PKPbc** **22 26 12.9 0.0**
HMNX Herstmonceux 150.51 1 *e*P **PKPbc** **22 26 11.1 -1.8**
GRA1 Grafenberg Arr 150.52 346 **PKPbc** **22 26 13.2 +0.2**
GRF Grafenberg Arr 150.52 346 PKIKP **PKPbc** **22 26 13.2 +0.2**
GRFO Grafenberg 150.52 346 **PKPbc** **22 26 12.7 -0.3**
GRFO Grafenberg 150.52 346 PKIKP **PKPbc** **22 26 12.7 -0.3**
CKRC Cesky Krumlov 150.53 342 *e*PKPDF **PKPdf** **22 26 06.9 -0.1**
CKRC ⇑*e*PKP **PKiKP** **22 26 13.6 0.0**
CKRC *ep*PKP **pPKPab** **22 28 34.3 -2.3**
HERR Herculane 150.55 328 ⇓P **PKPbc** **22 26 13.2 -0.1**
BSTI Sart Tilman 150.56 354 *d*PKP **PKPbc** **22 26 13.2 +0.1**
DJES Djerdap 150.65 328 ⇓P **PKPbc** **22 26 13.3 -0.2**
DJES Djerdap 150.65 328 **PKPbc** **22 26 12.8 -0.7**
BAIL Bailesti 150.68 326 ⇑P **PKPbc** **22 26 13.8 +0.3**
GEC2 GERESS Array S 150.68 343 **PKPdf** **22 26 07.1 -0.2**
GEC2 PKPbc **PKPbc** **22 26 13.6 0.0**
GERES GERESS Array B 150.68 343 PKP **PKPdf** **22 26 07.3 -0.1**
comp=Z,2.0nm,0.7s,baz=90,slow=4.0,SNR=11
GERES PKPbc **PKPbc** **22 26 13.6 0.0**
comp=Z,25nm,0.7s,baz=33,slow=2.5,SNR=79
GERES pPKPbc **pPKPab** **22 28 35.4 -1.9**
comp=Z,10nm,1.0s,baz=260,slow=2.3,SNR=7.4
GERES GERESS Array B 150.68 343 **PKPdf** **22 26 06.6 -0.8**
GERES PKPbc **PKPbc** **22 26 13.5 0.0**
GERES GERESS Array B 150.68 343 PKIKP **PKPbc** **22 26 13.5 -0.1**
MANT Manisa 150.69 312 **PKPbc** **22 26 13.6 -0.5**
PUNG Punghina 150.71 327 ⇑P **PKPbc** **22 26 13.6 0.0**
BHOU Houvegnez 150.75 353 *d*PKP **PKiKP** **22 26 13.9 -

STU	**Stuttgart**	**151.81**	**348**		PKPdf	**PKPdf**	**22 26 08.6**	**-0.3**
STU						**PKPbc**	**22 26 15.8**	**-0.2**
STU	**Stuttgart**	**151.81**	**348**		PKIKP	**PKPdf**	**22 26 08.6**	**-0.3**
MMB	**Musomiste**	**152.07**	**322**	*i* P		**PKPbc**	**22 26 16.3**	**-0.5**
SOKA	**Soboth**	**152.20**	**339**	*eP*		**PKPdf**	**22 26 09.5**	**-0.1**
	comp=Z,6.0nm,1.0s							
SOKA				*i* P		**PKPbc**	**22 26 16.5**	**-0.5**
	comp=Z,29nm,1.0s,SNR=6.5							
SOKA				*i* P		**pPKPab**	**22 28 41.6**	**-2.0**
	comp=Z,28nm,1.1s,SNR=11							
PERS	**Pernice**	**152.21**	**339**	*i* PKPbc		**PKPbc**	**22 26 16.4**	**-0.6**
KKB	**Krupnik**	**152.26**	**323**	*i* P		**PKPbc**	**22 26 16.9**	**-0.3**
DIVS	**Divibare**	**152.30**	**329**			**PKPdf**	**22 26 09.1**	**-0.8**
DIVS					PKPbc	**PKPbc**	**22 26 16.9**	**-0.4**
KBA	**Koelnbreinsper**	**152.38**	**341**	*i* P		**PKPbc**	**22 26 17.3**	**-0.2**
	comp=Z,26nm,0.9s,SNR=5.4							
BFO	**Black Forest**	**152.39**	**349**			**PKPbc**	**22 26 17.0**	**-0.3**
BFO	**Black Forest**	**152.39**	**349**		PKIKP	**PKPbc**	**22 26 17.0**	**-0.3**
OBKA	**Obir**	**152.51**	**339**	*eP*		**PKPbc**	**22 26 17.0**	**-0.7**
	comp=Z,9.8nm,0.8s							
OBKA				*eP*		**pPKPab**	**22 28 43.5**	**-1.2**
	comp=Z,20nm,1.4s							
WATA	**Walderalm**	**152.64**	**344**	*eP*		**PKPdf**	**22 26 09.6**	**-0.8**
	comp=Z,6.3nm,0.9s							
WATA				*i* P		**PKPbc**	**22 26 17.7**	**-0.3**
	comp=Z,31nm,1.1s,SNR=6.0							
WATA				*eP*		**pPKPdf**	**22 28 32.4**	**+0.4**
	comp=Z,7.6nm,1.4s							
WATA				*eP*		**pPKPab**	**22 28 43.3**	**-2.0**
	comp=Z,16nm,1.0s							
WTTA	**Wattenberg**	**152.69**	**344**	*i* P		**PKPdf**	**22 26 10.1**	**-0.4**
	comp=Z,10nm,0.9s,SNR=5.6							
WTTA				*i* P		**PKPbc**	**22 26 18.1**	**-0.1**
	comp=Z,18nm,0.4s,SNR=7.4							
WTTA				*eP*		**pPKPab**	**22 28 43.7**	**-1.9**
	comp=Z,21nm,0.9s							
ECH	**Echery**	**152.69**	**351**			**PKPbc**	**22 26 17.1**	**-0.8**
ECH	**Echery**	**152.69**	**351**		PKIKP	**PKPbc**	**22 26 17.1**	**-0.8**
MYKA	**Terra Mystica**	**152.70**	**341**	*i* P		**PKPbc**	**22 26 17.2**	**-0.8**
	comp=Z,16nm,0.6s,SNR=7.0							
RETA	**Reutte**	**152.70**	**345**	*eP*		**PKPdf**	**22 26 09.6**	**-0.8**
	comp=Z,4.4nm,0.9s							
RETA				*eP*		**PKPbc**	**22 26 17.9**	**-0.2**
	comp=Z,10nm,0.7s							
RETA				*eP*		**pPKPab**	**22 28 43.5**	**-2.0**
MOTA	**Moosalm**	**152.75**	**345**	*eP*		**PKPdf**	**22 26 09.5**	**-1.0**
	comp=Z,13nm,1.0s							
MOTA				*eP*		**PKPbc**	**22 26 17.9**	**-0.3**
	comp=Z,38nm,1.0s							
MOTA				*eP*		**pPKPbc**	**22 28 37.0**	**-1.5**
	comp=Z,7.1nm,1.1s							
MOTA				*eP*		**pPKPab**	**22 28 43.3**	**-2.5**
	comp=Z,18nm,0.9s							
SQTA	**Sankt Quirin**	**152.84**	**344**	*i* P		**PKPdf**	**22 26 10.0**	**-0.6**
	comp=Z,10nm,0.9s,SNR=8.1							
SQTA				*i* P		**PKPbc**	**22 26 18.3**	**-0.1**
	comp=Z,28nm,0.9s,SNR=5.6							
SQTA				*eP*		**pPKPbc**	**22 28 36.7**	**-1.9**
	comp=Z,7.8nm,1.4s							
SQTA				*i* P		**pPKPab**	**22 28 43.6**	**-2.5**
	comp=Z,14nm,0.9s,SNR=5.3							
ABTA	**Abfaltersbach**	**152.93**	**342**	*i* P		**PKPdf**	**22 26 09.4**	**-1.3**
	comp=Z,17nm,0.9s,SNR=22							
ABTA				*eP*		**PKPbc**	**22 26 18.0**	**-0.6**
	comp=Z,43nm,1.0s							
ABTA				*eP*		**pPKPbc**	**22 28 36.6**	**-2.1**
	comp=Z,8.7nm,1.2s							
ABTA				*i* P		**pPKPab**	**22 28 43.7**	**-2.8**
	comp=Z,22nm,0.9s,SNR=5.7							
LJU	**Ljubljana**	**152.93**	**339**	*i* PKPdf		**PKPdf**	**22 26 10.1**	**-0.6**
LJU				*i* PKPbc		**PKPbc**	**22 26 18.3**	**-0.2**
LJU				*i* pPKPbc		**pPKPbc**	**22 28 41.2**	**+2.6**
LJU				*i*			22 28 44.3	
CLUD	**Cludinico**	**153.08**	**341**		PKPdf	**PKPdf**	**22 26 10.2**	**-0.7**
CLUD					PKPbc	**PKPbc**	**22 26 18.0**	**-0.9**
DAVA	**Damuels**	**153.09**	**346**	*eP*		**PKPdf**	**22 26 10.8**	**-0.2**
	comp=Z,9.1nm,0.9s							
DAVA				*eP*		**PKPbc**	**22 26 18.9**	**-0.1**
	comp=Z,22nm,1.0s							
DAVA				*eP*		**pPKPab**	**22 28 44.9**	**-2.3**
FETA	**Feichten**	**153.14**	**345**	*i* P		**PKPdf**	**22 26 10.7**	**-0.4**
	comp=Z,22nm,0.9s,SNR=24							
FETA				*eP*		**PKPbc**	**22 26 19.2**	**+0.1**
	comp=Z,21nm,0.9s							
FETA				*eP*		**pPKPbc**	**22 28 36.6**	**-2.8**
	comp=Z,7.9nm,1.3s							
CEY	**Cerknica**	**153.23**	**339**	*i* PKPdf		**PKPdf**	**22 26 10.2**	**-0.9**
CEY				*i* PKPbc		**PKPbc**	**22 26 18.9**	**-0.3**
SABO	**M.te Sabotino**	**153.29**	**340**	PKPdf		**PKPdf**	**22 26 10.3**	**-0.9**
SABO				PKPbc		**PKPbc**	**22 26 17.9**	**-1.5**
STAL	**STALIGIAL**	**153.31**	**342**			**PKPdf**	**22 26 10.7**	**-0.5**
STAL				PKPbc		**PKPbc**	**22 26 18.1**	**-1.2**
CLF	**Chambon-Foret**	**153.33**	**358**			**PKPbc**	**22 26 19.4**	**+0.1**
CIMO	**Cimolais**	**153.34**	**342**	PKPdf		**PKPdf**	**22 26 10.1**	**-1.2**
CIMO				PKPbc		**PKPbc**	**22 26 18.5**	**-0.9**
FUORN	**Ofenpass-Fuorn**	**153.63**	**345**	PKPdf		**PKPdf**	**22 26 11.7**	**-0.3**
FUORN				PKPbc		**PKiKP**	**22 26 20.7**	**+0.3**
PDG	**Podgorica**	**153.90**	**328**	⇓P		**PKPbc**	**22 26 20.4**	**-0.2**
FNA	**Florina**	**153.94**	**323**			**PKPdf**	**22 26 11.3**	**-1.0**
FNA				PKPbc		**PKPbc**	**22 26 20.3**	**-0.6**
FNA	**Florina**	**153.94**	**323**	PKIKP		**PKPbc**	**22 26 20.3**	**-0.6**
SENIN	**Lac Senin/Sane**	**154.47**	**350**	PKPdf		**PKPdf**	**22 26 12.6**	**-0.5**
SENIN				PKPbc		**PKiKP**	**22 26 21.6**	**-0.4**
BNI	**Bardonecchia**	**155.85**	**350**	PKPdf		**PKPdf**	**22 26 14.4**	**-0.4**
BNI	**Bardonecchia**	**155.85**	**350**	PKIKP		**PKPdf**	**22 26 14.4**	**-0.4**
PBRG	**Braganca**	**158.59**	**16**	*e*PKPdf		PKPdf	22 26 26.5	+8.3
MVO	**Moncorvo**	**159.12**	**17**	*e*PKPdf		**PKPdf**	**22 26 19.4**	**+0.5**
MVO	**Moncorvo**	**159.12**	**17**	*e*PKPab		**pPKPab**	**22 27 00.7**	**+0.8**
PVIS	**Viseu**	**159.28**	**19**	*e*PKPdf		**PKPdf**	**22 26 19.8**	**+0.8**
MTE	**Manteigas**	**159.68**	**19**	*e*PKPdf		**PKPdf**	**22 26 20.0**	**+0.5**
PCAS	**Casmilo, Conde**	**159.69**	**21**	*e*PKPdf		**PKPdf**	**22 26 19.8**	**+0.3**
PCBR	**Castelo Branco**	**160.21**	**19**	*e*PKPdf		**PKPdf**	**22 26 20.8**	**+0.8**
PMOZ	**Porto Moniz, M**	**160.28**	**51**	*e*PKPdf		**PKPdf**	**22 26 21.1**	**+0.6**
PMRV	**Marv??o**	**160.62**	**20**	*e*PKPdf		**PKPdf**	**22 26 21.0**	**+0.5**
PMPST	**Porto Santo, M**	**160.76**	**49**	*e*PKPdf		**PKPdf**	**22 26 21.1**	**+0.3**
EVO	**Evora**	**161.22**	**22**	*e*PKPdf		**PKPdf**	**22 26 20.4**	**-0.7**
ESDC	**Sonseca Array**	**161.25**	**12**	PKP		**PKPdf**	**22 26 21.6**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=11,slow=2.2,SNR=7.6							
ESDC					PKPab	**PKPab**	**22 27 09.2**	**0.0**
	comp=Z,2.9nm,0.9s,baz=339,slow=5.7,SNR=6.8							
ESDC					pPKPab	**pPKPab**	**22 29 24.9**	**+2.1**
	comp=Z,1.4nm,1.0s,baz=224,slow=5.4,SNR=4.7							
ESDC	**Sonseca Array**	**161.25**	**12**			**PKPdf**	**22 26 20.8**	**-0.4**
PAB	**San Pablo**	**161.29**	**13**	⇑PKIKP		**PKPdf**	**22 26 21.6**	**+0.3**
PNCL	**Nicolau / Gran**	**161.40**	**24**	*e*PKPdf		**PKPdf**	**22 26 22.2**	**+0.9**
PBEJ	**Beja**	**161.72**	**22**	*e*PKPdf		**PKPdf**	**22 26 22.9**	**+1.2**
MESJ	**Messejana**	**161.76**	**24**	*e*PKPdf		**PKPdf**	**22 26 22.3**	**+0.6**
MESJ	**Messejana**	**161.76**	**24**	*e*PKPdf		**PKPdf**	**22 26 22.7**	**+1.0**
MESJ	**Messejana**	**161.76**	**24**	*e*PKPab		PKPab	22 27 37.6	+26
PTEO	**Sao Teotonio**	**161.82**	**25**	*e*PKPab		PKPab	22 27 25.2	+13
PBAR	**Barrancos**	**161.87**	**20**	*e*PKPdf		**PKPdf**	**22 26 22.5**	**+0.7**
MORF	**Marmelete**	**162.06**	**25**	*e*PKPdf		**PKPdf**	**22 26 22.5**	**+0.5**
MORF	**Marmelete**	**162.06**	**25**	*e*PKPdf		**PKPdf**	**22 26 23.4**	**+1.3**
MORF	**Marmelete**	**162.06**	**25**	*e*PKPab		**pPKPab**	**22 27 08.1**	**-4.7**
LIC	**Lamto**	**163.94**	**158**	⇑*e*PKIKP		**PKPdf**	**22 26 23.7**	**-0.8**
	comp=Z,125nm,0.8s							
LIC	**Lamto**	**163.94**	**158**	⇑*eP*		**PKPab**	**22 27 22.1**	**+0.6**
	comp=Z,229nm,0.9s							
KIC	**Kosan Boka**	**164.17**	**159**	⇑*e*PKIKP		**PKPdf**	**22 26 23.9**	**-0.8**
	comp=Z,32nm,0.7s							
KIC	**Kosan Boka**	**164.17**	**159**	⇑*eP*		**PKPab**	**22 27 23.4**	**+0.9**
	comp=Z,121nm,0.6s							
TIC	**Toumodi**	**164.34**	**158**	⇑*e*PKIKP		**PKPdf**	**22 26 24.1**	**-0.7**
	comp=Z,93nm,0.8s							
TIC	**Toumodi**	**164.34**	**158**	⇑*eP*		**PKPab**	**22 27 24.1**	**+0.8**
	comp=Z,60nm,0.5s							

*NOU **30** 22:08:11.7, 41°.82S × 174°.51E, h11 km, MLv3.9/9, Cook Strait, New Zealand*
*WEL **30** 22:08:12.2 ± 0.4, 42°.3 ± 3°.4 × 17°.4E ± °, h6 km ± 4 km, M3.5/37, ML3.7/17, MLv3.5/37, Error ellipse: s-maj=0.0km s-min=0.0km az=133.4*

ISC 30 22:08:11.6 ± 1.0, 41°.75S ± 0°.03 × 174°.34E ± 0°.03, h10 km ± 7 km, n82, σ1§22/84, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.10**	**272**	P		**Pg**	**22 08 13.9**	**-0.3**
CMWZ				S		**Sg**	**22 08 16.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.35**	**276**	P		**Pg**	**22 08 18.6**	**-0.1**
TUWZ	**Tuamarina**	**0.44**	**317**	P		**Pg**	**22 08 20.0**	**-0.2**
TUWZ				S		**Sb**	**22 08 26.4**	**-1.6**
SNZO	**South Karori**	**0.52**	**32**	P		**Pg**	**22 08 22.5**	**+0.8**
TCW	**Tory Channel**	**0.54**	**355**	P		**Pg**	**22 08 22.0**	**-0.2**
WEL	**Wellington**	**0.57**	**35**	P		**Pb**	**22 08 23.5**	**-0.1**
PLWZ	**Palliser**	**0.71**	**75**	P		**Pb**	**22 08 27.2**	**+1.1**
MSWZ	**Moikau Station**	**0.76**	**64**	P		**Pg**	**22 08 27.5**	**+1.2**
CAW	**Cannon Point**	**0.84**	**40**	P		**Pg**	**22 08 28.1**	**+0.2**
KHZ	**Kahutara**	**0.89**	**222**	P		**Pb**	**22 08 30.2**	**+1.0**
KHZ	**Kahutara**	**0.89**	**222**	P		**Pb**	**22 08 30.2**	**+1.0**
PAWZ	**Paruwai Farm**	**0.90**	**66**	P		**Pg**	**22 08 29.9**	**+1.1**
NNZ	**Nelson**	**0.90**	**306**	P		**Pg**	**22 08 28.1**	**-0.8**
KIW	**Kapiti Island**	**0.99**	**26**	P		**Pg**	**22 08 30.4**	**-0.2**
DUWZ	**D'Urville Isla**	**1.00**	**341**	P		**Pg**	**22 08 30.1**	**-0.8**
MTW	**Mount Morrison**	**1.05**	**56**	P		**Pg**	**22 08 32.2**	**+0.3**
TRWZ	**Traveller**	**1.07**	**71**	P		**Pg**	**22 08 32.1**	**-0.1**
THZ	**Tophouse**	**1.07**	**269**	P		**Pg**	**22 08 32.0**	**-0.3**
OGWZ	**Otaki Gorge**	**1.12**	**34**	P		**Pg**	**22 08 33.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.23**	**46**	P		**Pg**	**22 08 34.7**	**-0.6**
MRNZ	**Matariki Terra**	**1.24**	**286**	P		**Pg**	**22 08 34.6**	**-0.8**
TKNZ	**Takaka Hill**	**1.26**	**304**	P		**Pg**	**22 08 34.8**	**-1.1**
TMWZ	**Te Maipa**	**1.33**	**62**	P		**Pn**	**22 08 35.7**	**-0.6**
MRZ	**Mangatainoka R**	**1.44**	**41**	P		**Pn**	**22 08 37.6**	**0.0**
TIWZ	**Tintock**	**1.52**	**51**	P		**Pn**	**22 08 38.3**	**-0.5**
GVZ	**Greta Valley S**	**1.55**	**218**	P		**Pn**	**22 08 39.1**	**-0.2**
CPWZ	**Castlepoint**	**1.63**	**60**	P		**Pn**	**22 08 40.2**	**-0.1**
QRZ	**Quartz Range**	**1.65**	**304**	P		**Pb**	**22 08 41.7**	**-0.4**
QRZ	**Quartz Range**	**1.65**	**304**	P		**Pn**	**22 08 41.5**	**+0.9**
PRWZ	**Pori Road**	**1.72**	**46**	P		**Pn**	**22 08 41.3**	**-0.3**
POWZ	**Post Office Ro**	**1.73**	**39**	P		**Pn**	**22 08 41.7**	**-0.1**
BFZ	**Birch Farm**	**1.79**	**54**	P		**Pn**	**22 08 41.7**	**-0.9**
BFZ	**Birch Farm**	**1.79**	**54**	P		**Pn**	**22 08 41.6**	**-1.0**
LTZ	**Lake Taylor**	**1.85**	**236**	P		**Pn**	**22 08 43.2**	**-0.2**
DSZ	**Denniston Nort**	**1.90**	**269**	P		**Pn**	**22 08 45.0**	**+0.9**
DVHZ	**Dannevirke**	**2.00**	**44**	P		**Pn**	**22 08 44.6**	**-0.9**
WAZ	**Wanganui**	**2.06**	**14**	P		**Pn**	**22 08 48.6**	**-0.4**
ANWZ	**Angora Road**	**2.07**	**52**	P		**Pn**	**22 08 45.6**	**-0.7**
TSZ	**Takapari Road**	**2.09**	**36**	P		**Pn**	**22 08 46.5**	**-0.2**
PRHZ	**Porangahau**	**2.28**	**50**	P		**Pn**	**22 08 48.0**	**-1.3**
LREZ	**Lake Rotokare**	**2.29**	**1**	P		**Pb**	**22 08 53.4**	**+0.4**
PNHZ	**Pukenui**	**2.32**	**38**	P		**Pn**	**22 08 49.2**	**-0.6**
WPHZ	**Waipukurau**	**2.32**	**44**	P		**Pn**	**22 08 49.2**	**-0.6**
NMEZ	**Namu Road**	**2.36**	**351**	P		**Pb**	**22 08 54.8**	**+0.5**
KHEZ	**Kahui Hut**	**2.47**	**354**	P		**Pb**	**22 08 55.5**	**-0.6**
NEZ	**North Egmont**	**2.49**	**356**	P		**Pb**	**22 08 56.3**	**-0.1**
PKE	**Pukeiti**	**2.57**	**354**	P		**Pb**	**22 08 56.5**	**-1.3**
PXZ	**Pawanui**	**2.57**	**49**	P		**Pn**	**22 08 51.8**	**-1.5**
PKVZ	**Pokaka**	**2.58**	**18**	P		**Pn**	**22 08 55.1**	**+1.7**
MOVZ	**Moawhango**	**2.58**	**25**	P		**Pn**	**22 08 54.1**	**+0.6**
WNVZ	**Wahianoa**	**2.60**	**22**	P		**Pn**	**22 08 55.0**	**+1.1**
BHHZ	**Black Hill Sta**	**2.61**	**31**	P		**Pn**	**22 08 54.2**	**+0.3**
TRVZ	**Turoa**	**2.62**	**21**	P		**Pn**	**22 08 56.2**	**+2.1**
VRZ	**Vera Road**	**2.64**	**7**	P		**Pn**	**22 08 56.7**	**+2.4**
WHVZ	**Whangaehu Hut**	**2.64**	**21**	P		**Pn**	**22 08 57.0**	**+2.5**
FWVZ	**Far West T-bar**	**2.66**	**21**	P		**Pb**	**22 08 59.1**	**-0.3**
TUVZ	**Tukino**	**2.68**	**22**	P		**Pn**	**22 08 55.9**	**+1.0**
KAHZ	**Kahuranaki**	**2.74**	**45**	P		**Pn**	**22 08 54.4**	**-1.3**
NGZ	**Ngauruhoe**	**2.75**	**21**	P		**Pn**	**22 08 57.1**	**+1.3**
SNVZ	**South Ngauruho**	**2.75**	**22**	P		**Pn**	**22 08 57.2**	**+1.3**
OTVZ	**Oturere**	**2.78**	**22**	P		**Pn**	**22 08 57.4**	**+1.2**
NNVZ	**North Ngauruho**	**2.79**	**21**	P		**Pn**	**22 08 57.8**	**+1.4**
WTVZ	**West Tongariro**	**2.80**	**20**	P		**Pb**	**22 09 00.1**	**-1.6**
TWVZ	**Taurewa**	**2.81**	**18**	P		**Pb**	**22 09 01.3**	**-0.6**
KWHZ	**Kaweka Forest**	**2.81**	**35**	P		**Pn**	**22 08 55.9**	**-0.8**
ETVZ	**East Tongariro**	**2.81**	**22**	P		**Pn**	**22 08 57.8**	**+1.1**
TMVZ	**Te Maari**	**2.83**	**22**	P		**Pn**	**22 08 58.3**	**+1.3**
KRVZ	**Karewarewa**	**2.83**	**21**	P		**Pb**	**22 09 01.4**	**-0.9**
NTVZ	**North Tongarir**	**2.84**	**21**	P		**Pn**	**22 08 58.7**	**+1.6**
KATZ	**Kakaramea**	**2.96**	**21**	P		**Pb**	**22 09 04.7**	**+0.2**
RITZ	**Rihia Road**	**3.00**	**23**	P		**Pb**	**22 09 05.2**	**0.0**
BKZ	**Black Stump Fm**	**3.06**	**33**	P		**Pn**	**22 08 59.5**	**-0.6**
BKZ	**Black Stump Fm**	**3.06**	**33**	P		**Pn**	**22 08 59.1**	**-1.0**
RPZ	**Rata Peaks**	**3.12**	**230**	P		**Pn**	**22 09 00.1**	**-0.7**
HIZ	**Hauiti**	**3.26**	**7**	P		**Pn**	**22 09 04.9**	**+2.2**
HIZ	**Hauiti**	**3.26**	**7**	P		**Pn**	**22 09 05.1**	**+2.4**
MTHZ	**Maungataniwha**	**3.47**	**34**	P		**Pn**	**22 09 04.6**	**-1.1**
URZ	**Urewera**	**4.09**	**32**	P		**Pn**	**22 09 13.7**	**-0.4**
RUGZ	**Raukumara Rang**	**4.57**	**35**	P		**Pn**	**22 09 19.7**	**-1.2**
MKAZ	**Moumakai**	**4.69**	**8**	P		**Pn**	**22 09 26.1**	**+3.8**
AWAZ	**Awhitu Peninsu**	**4.69**	**3**	P		**Pn**	**22 09 26.7**	**+4.4**
JCZ	**Jackson Bay**	**4.69**	**239**	P		**Pn**	**22 09 24.6**	**+2.1**

WEL 30 22:11:21.2 ± 1.1, 40°S ± 4°.1 × 17°6E ± °, h43 km ± 9 km, M1.9/9, ML2.1/9, MLv1.9/9, Error ellipse: s-maj=0.0km s-min=0.0km az=115.4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DVHZ	**Dannevirke**	**0.15**	**71**	P		Pn	22 11 30.0	+1.6
DVHZ				S		Sn	22 11 35.9	+2.5
POWZ	**Post Office Ro**	**0.17**	**254**	P		Pn	22 11 30.6	+2.0
POWZ				S		Sn	22 11 36.0	+2.3
PRWZ	**Pori Road**	**0.21**	**183**	P		Pn	22 11 30.8	+1.9
PRWZ				S		Sn	22 11 37.1	+2.9
TSZ	**Takapari Road**	**0.29**	**357**	P		Pn	22 11 31.3	+1.7
TSZ				S		Sn	22 11 38.0	+2.6
BFZ	**Birch Farm**	**0.39**	**149**	P		Pn	22 11 31.9	+1.2
ANWZ	**Angora Road**	**0.39**	**107**	P		Pn	22 11 32.3	+1.6
TIWZ	**Tintock**	**0.44**	**190**	P		Pn	22 11 32.4	+1.1
TIWZ				S		Sn	22 11 40.5	+2.1
MRZ	**Mangatainoka R**	**0.44**	**224**	P		Pn	22 11 32.5	+1.2
WPHZ	**Waipukurau**	**0.45**	**51**	P		Pn	22 11 32.5	+1.1
PNHZ	**Pukenui**	**0.46**	**21**	P		Pn	22 11 33.0	+1.4
PNHZ				S		Sn	22 11 41.4	+2.5
PRHZ	**Porangahau**	**0.51**	**81**	P		Pn	22 11 33.1	+1.0

MAN 30 22:40:05.2, 8°.09N × 124°.62E, h8 km, mb3.9, ML2.6, MS2.2, 5C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.37**	**11**	⇑*iP*		Pg	22 40 12.8	+0.3
CGP				*i* S		Sb	22 40 18.9	-1.1
BUKP	**Musuan**	**0.48**	**116**	⇓*eP*		Pb	22 40 15.3	-0.7
BUKP				*e*S		Sb	22 40 25.6	+2.3
CTBH	**Cotabato--PC H**	**0.94**	**203**	⇑*iP*		Pg	22 40 23.5	+0.2
CTBH				*i* S		Sn	22 40 40.7	+2.3
KCP	**Kidapawan**	**1.17**	**157**	⇓*eP*		Pg	22 40 26.1	-1.6
PAGZ	**Pagadian**	**1.25**	**259**	⇑*iP*		Pn	22 40 28.4	-0.6
PAGZ				*i* S		Sn	22 40 47.0	+0.9
LSIP	**Lazi, Siquijor**	**1.43**	**317**	⇓*iP*		Pn	22 40 30.8	-0.6
LSIP				*i* S		Sg	22 40 51.9	+0.7
BIPH	**Bislig**	**1.72**	**87**	⇓*eP*		Pb	22 40 31.0	-2.5
BIPH				*e*S		Sg	22 41 02.1	+1.5
CDOP	**Cateel, Davao**	**1.82**	**99**	⇑*eP*		Pb	22 40 39.0	+0.2
CDOP				*i* S		Sg	22 41 05.0	+1.2
SCPH	**Surigao**	**1.89**	**27**	⇑*eP*		Pb	22 40 40.2	+0.3
TABP	**Talibon, Bohol**	**2.01**	**352**	⇓*iP*		Pn	22 40 39.1	-0.4
TABP				*e*S		Sb	22 41 06.9	-0.3

*IDC **30** 22:42:43.7 ± 1.7, 31°.40N × 77°.61E, h0 km, mb3.7/7, mbtmp3.6/9, ML3.1/2, Error ellipse: s-maj=46.0km s-min=21.3km az=55.0*
*NDI **30** 22:42:53.5 ± 3.8, 31°.17N × 77°.55E, h10 km, ML3.4*

ISC 30 22:42:45.7 ± 0.8, 31°.53N ± 0°.05 × 77°.60E ± 0°.08, h9 km, n14, σ0§94/17, mb3.5/7, Northern India

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDI	**Dehra Dun**	**1.27**	**162**	*eP*		**Pn**	**22 43 09.2**	**-0.4**
DDI				*e*S		**Sb**	**22 43 26.0**	**-0.1**
DDI				IAML			22 43 30.0	
	comp=N,1μm,0.3s							
DDI				IAML			22 43 30.4	
	comp=E,975nm,0.2s							
KKR	**Kurukshetra**	**1.70**	**203**	*eP*		**Pb**	**22 43 16.8**	**-0.3**
KKR				*e*S		**Sn**	**22 43 38.1**	**+0.6**
NDI	**New Delhi**	**2.86**	**187**	*eP*		**Pb**	**22 43 37.0**	**+0.2**
NDI				*e*S		**Sn**	**22 44 06.0**	**+0.1**
LGTI	**Lohaghat**	**3.08**	**132**	*eP*		**Pb**	**22 43 40.1**	**-0.6**
LGTI				*e*S		**Sg**	**22 44 26.9**	**+2.2**
BHPL	**Bhopal**	**8.26**	**181**	*e*S		Sn	22 46 10.3	-8.9
MKAR	**Makanchi Array**	**15.67**	**12**	Pn		**Pn**	**22 46 27.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=192,slow=11,SNR=6.9							
	comp=E,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**19.09**	**2**	P		**P**	**22 47 07.4**	**-1.1**
	baz=182,slow=11,SNR=2.7							
	comp=E,0.2nm,0.5s							
BVAR	**Borovoye Array**	**22.11**	**348**	P		**P**	**22 47 41.7**	**+0.5**
	comp=E,0.8nm,0.4s,baz=155,slow=11,SNR=6.6							
	comp=E,0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**23.00**	**11**	P		**P**	**22 47 51.6**	**+1.0**
	comp=E,0.4nm,0.3s,baz=178,slow=8.6,SNR=2.9							
	comp=E,0.4nm,0.3s							
CMAR	**Chiang Mai Arr**	**23.26**	**119**	P		**P**	**22 47 52.1**	**-1.5**
	comp=E,0.8nm,0.9s,baz=306,slow=11,SNR=4.6							
	comp=E,0.8nm,0.9s							
SONM	**Songino Array**	**27.29**	**45**	P		**P**	**22 48 30.7**	**+0.1**
	comp=E,1.0nm,0.9s,baz=260,slow=8.6,SNR=6.2							
	comp=E,1.0nm,0.9s							
FINES	**FINESS Array B**	**44.63**	**328**	P		**P**	**22 50 58.3**	**+0.2**
	comp=E,3.2nm,1.1s,baz=132,slow=12,SNR=5.6							
	comp=E,3.2nm,1.1s							
ARCES	**ARCESS Array B**	**47.81**	**338**	P		**P**	**22 51 23.8**	**+0.7**
	comp=E,4.4nm,1.0s,baz=101,slow=6.3,SNR=6.8							
	comp=E,4.4nm,1.0s							
WRA	**Warramunga Arr**	**74.68**	**125**	P		**P**	**22 54 24.9**	**-1.0**
	comp=E,0.3nm,0.7s,baz=316,slow=7.0,SNR=2.0							
	comp=E,0.3nm,0.7s							

*SOME **30** 22:58:02.8, 39°.30N × 74°.20E, h5 km*
*NNC **30** 22:58:03.1 ± 3.6, 39°.17N × 74°.35E, h0 km, mb3.7, mpv3.3, Error ellipse: s-maj=26.8km s-min=17.5km az=162.0*
*KRNET **30** 22:58:06.5 ± 0.1, 39°.41N × 74°.19E, mb3.2*

ISC 30 22:58:08.6 ± 1.4, 39°.48N ± 0°.06 × 74°.18E ± 0°.04, h10 km, n29, σ1§82/49, 22C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**1.50**	**315**	⇑*eP*		**Pb**	**22 58 35.6**

DALK	**Dalny**	**2.69**	**9**	*eP*	Pn	23 04 46.7	+3.3	
DALK				*eS*	Sn	23 05 17.5	+2.8	
UGLR	**Uglovaya**	**2.87**	**10**	*eP*	Pn	23 04 49.7	+3.7	
UGLR				*eS*	Sn	23 05 22.5	+3.1	
NLC	**Nalytchevo**	**2.91**	**16**	*eP*	Pn	23 04 48.4	+2.0	
NLC				*eS*	Sn	23 05 20.8	+0.7	
AVH	**Avacha**	**2.92**	**8**	*eP*	Pn	23 04 50.8	+4.2	
AVH				*eS*	Sn	23 05 23.6	+3.1	
SMAR	**Somma**	**2.93**	**9**	*eP*	Pn	23 04 50.2	+3.4	
KOK	**Koryaka**	**2.94**	**7**	*eP*	Pn	23 04 51.2	+4.3	
KOK				*eS*	Sn	23 05 25.2	+4.2	
SDLR	**Sedlovina**	**2.95**	**10**	*eP*	Pn	23 04 50.3	+3.3	
SDLR				*eS*	Sn	23 05 23.3	+2.0	
KRER	**Koryakskii**	**2.96**	**8**	*eP*	Pn	23 04 51.2	+3.9	
KRER				*eS*	Sn	23 05 25.2	+3.5	
GNL	**Ganaly**	**3.32**	**359**	*eP*	Pn	23 04 55.7	+3.6	
GNL				*eS*	Sn	23 05 34.7	+4.4	
MKZ	**Mys Kozlova**	**4.75**	**27**	*eP*	Pn	23 05 14.3	+2.7	
MKZ				*eS*	Sn	23 06 06.7	+1.4	

*WEL **30** 23:14:44.1±0.3,42°S±3°×17°4E±°,h11km±2km,M3.9/56, ML4.1/19,MLv3.9/56,Error ellipse: s-maj=0.0km s-min=0.0km az=133.4*
*NOU **30** 23:14:44.1,42.16S×174.15E,h14km,MLv4.3/14,Off E. Coast of S. Island, N.Z.*
ISC 30 23:14:43.6±0.9,**42.05S**±0.03×**174.05E**±0.03,**h17**km,**n118,** σ1§**54**/121,**Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.33**	**22**	P	**Pb**	**23 14 51.7**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.36**	**338**	P	**Pg**	**23 14 50.4**	**-0.8**
BSWZ				S	**Sg**	**23 14 54.5**	**-1.8**
KHZ	**Kahutara**	**0.53**	**226**	P	**Pg**	**23 14 55.2**	**+1.0**
KHZ	**Kahutara**	**0.53**	**226**	P	**Pg**	**23 14 55.2**	**+1.0**
KHZ				S	**Sb**	**23 15 03.5**	**+1.8**
TUWZ	**Tuamarina**	**0.63**	**352**	P	**Pg**	**23 14 55.7**	**-0.4**
TCW	**Tory Channel**	**0.86**	**11**	P	**Pb**	**23 15 00.0**	**-0.1**
TCW				S	**Sn**	**23 15 12.3**	**-0.8**
SNZO	**South Karori**	**0.89**	**34**	P	**Pn**	**23 15 02.1**	**+0.8**
THZ	**Tophouse**	**0.91**	**288**	P	**Pb**	**23 15 00.2**	**-0.8**
WEL	**Wellington**	**0.94**	**35**	P	**Pn**	**23 15 02.9**	**+0.9**
NNZ	**Nelson**	**0.98**	**329**	P	**Pb**	**23 15 01.1**	**-1.0**
PLWZ	**Palliser**	**1.02**	**62**	P	**Pb**	**23 15 03.8**	**+0.9**
MSWZ	**Moikau Station**	**1.10**	**55**	P	**Pb**	**23 15 04.9**	**+0.7**
MRNZ	**Matariki Terra**	**1.17**	**304**	P	**Pn**	**23 15 05.0**	**-0.2**
GVZ	**Greta Valley S**	**1.18**	**219**	P	**Pn**	**23 15 06.5**	**+1.0**
CAW	**Cannon Point**	**1.21**	**39**	P	**Pn**	**23 15 06.6**	**+0.7**
PAWZ	**Paruwai Farm**	**1.23**	**57**	P	**Pn**	**23 15 06.4**	**+0.4**
DUWZ	**D'Urville Isla**	**1.25**	**355**	P	**Pn**	**23 15 06.5**	**0.0**
TKNZ	**Takaka Hill**	**1.31**	**321**	P	**Pb**	**23 15 07.1**	**-0.7**
KIW	**Kapiti Island**	**1.35**	**29**	P	**Pn**	**23 15 08.7**	**+0.9**
TRWZ	**Traveller**	**1.39**	**62**	P	**Pn**	**23 15 08.4**	**+0.2**
MTW	**Mount Morrison**	**1.41**	**51**	P	**Pn**	**23 15 08.8**	**+0.3**
OGWZ	**Otaki Gorge**	**1.49**	**35**	P	**Pn**	**23 15 10.3**	**+0.7**
LTZ	**Lake Taylor**	**1.51**	**241**	P	**Pn**	**23 15 10.7**	**+0.7**
AMCZ	**Amberley**	**1.53**	**222**	P	**Pn**	**23 15 10.7**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.59**	**44**	P	**Pn**	**23 15 11.3**	**+0.2**
TMWZ	**Te Maipa**	**1.67**	**56**	P	**Pn**	**23 15 12.1**	**0.0**
QRZ	**Quartz Range**	**1.68**	**316**	P	**Pb**	**23 15 13.8**	**-0.3**
QRZ	**Quartz Range**	**1.68**	**316**	P	**Pb**	**23 15 13.5**	**-0.6**
DSZ	**Denniston Nort**	**1.71**	**280**	P	**Pb**	**23 15 14.1**	**-0.5**
MRZ	**Mangatainoka R**	**1.80**	**40**	P	**Pn**	**23 15 14.2**	**+0.3**
OKCZ	**Okains Bay**	**1.82**	**203**	P	**Pn**	**23 15 14.3**	**+0.1**
TIWZ	**Tintock**	**1.88**	**48**	P	**Pn**	**23 15 15.0**	**0.0**
MQZ	**McQueen's Vall**	**1.95**	**211**	P	**Pn**	**23 15 15.4**	**-0.5**
OXZ	**Oxford**	**1.96**	**229**	P	**Pn**	**23 15 15.8**	**-0.3**
AKCZ	**Akaroa Harbour**	**2.00**	**204**	P	**Pn**	**23 15 16.7**	**0.0**
INZ	**Inchbonnie**	**2.05**	**250**	P	**Pn**	**23 15 18.1**	**+0.8**
OHWZ	**Ohakea**	**2.08**	**28**	P	**Pn**	**23 15 19.5**	**+1.8**
PRWZ	**Pori Road**	**2.08**	**45**	P	**Pn**	**23 15 19.9**	**+2.1**
POWZ	**Post Office Ro**	**2.10**	**38**	P	**Pn**	**23 15 18.6**	**+0.5**
BFZ	**Birch Farm**	**2.15**	**51**	P	**Pn**	**23 15 18.9**	**+0.3**
BFZ	**Birch Farm**	**2.15**	**51**	P	**Pn**	**23 15 18.1**	**-0.5**
RACZ	**Rakaia**	**2.19**	**219**	P	**Pn**	**23 15 18.8**	**-0.4**
MHCZ	**Mount Hutt**	**2.35**	**230**	P	**Pn**	**23 15 21.3**	**-0.2**
DVHZ	**Dannevirke**	**2.37**	**43**	P	**Pn**	**23 15 21.1**	**-0.7**
WAZ	**Wanganui**	**2.40**	**17**	P	**Pb**	**23 15 24.7**	**-1.7**
TSZ	**Takapari Road**	**2.46**	**37**	P	**Pn**	**23 15 23.0**	**-0.1**
WACZ	**Wakanui South**	**2.49**	**220**	P	**Pn**	**23 15 23.0**	**-0.4**
LREZ	**Lake Rotokare**	**2.60**	**6**	P	**Pb**	**23 15 29.6**	**-0.2**
NMEZ	**Namu Road**	**2.64**	**357**	P	**Pb**	**23 15 31.4**	**+0.9**
WVZ	**Waitaha Valley**	**2.65**	**246**	P	**Pn**	**23 15 26.9**	**+1.3**
PNZ	**Pukenui**	**2.65**	**328**	P	**Pn**	**23 15 32.8**	**-0.3**
KHEZ	**Kahui Hut**	**2.76**	**359**	P	**Pb**	**23 15 30.2**	**-0.3**
KHEZ	**Kahui Hut**	**2.76**	**359**	P	**Pb**	**23 15 30.7**	**-1.8**
RPZ	**Rata Peaks**	**2.76**	**232**	P	**Pn**	**23 15 27.5**	**+0.4**
RPZ	**Rata Peaks**	**2.76**	**232**	P	**Pn**	**23 15 27.4**	**+0.2**
NEZ	**North Egmont**	**2.78**	**1**	P	**Pb**	**23 15 31.7**	**-1.2**
NBEZ	**Newall Road No**	**2.79**	**357**	P	**Pb**	**23 15 31.6**	**-1.3**
ARCZ	**Arundel**	**2.83**	**227**	P	**Pn**	**23 15 27.8**	**-0.4**
PKE	**Pukeiti**	**2.86**	**359**	P	**Pb**	**23 15 31.6**	**-2.6**
DREZ	**Durham Road**	**2.86**	**2**	P	**Pn**	**23 15 31.0**	**+2.5**
MTVZ	**Mangateitei**	**2.88**	**22**	P	**Pn**	**23 15 30.8**	**+2.0**
PKVZ	**Pokaka**	**2.93**	**20**	P	**Pn**	**23 15 31.1**	**+1.6**
MOVZ	**Moawhango**	**2.94**	**27**	P	**Pn**	**23 15 30.7**	**+1.0**
WNVZ	**Wahianoa**	**2.97**	**24**	P	**Pn**	**23 15 32.7**	**+2.6**
VRZ	**Vera Road**	**2.98**	**11**	P	**Pn**	**23 15 32.4**	**+2.3**
TRVZ	**Turoa**	**2.98**	**23**	P	**Pn**	**23 15 32.4**	**+2.1**
BHHZ	**Black Hill Sta**	**2.98**	**31**	P	**Pn**	**23 15 30.6**	**+0.4**
MHEZ	**Mangahewa**	**2.98**	**4**	P	**Pn**	**23 15 33.1**	**+2.9**
DRZ	**Dome Shelter**	**3.00**	**23**	P	**Pn**	**23 15 31.6**	**+0.9**
WHVZ	**Whangaehu Hut**	**3.00**	**23**	P	**Pn**	**23 15 33.1**	**+2.4**
FWVZ	**Far West T-bar**	**3.02**	**23**	P	**Pn**	**23 15 35.5**	**-1.6**
GCSZ	**Gaunt Creek Bo**	**3.02**	**244**	P	**Pn**	**23 15 31.8**	**+1.1**
TUVZ	**Tukino**	**3.04**	**24**	P	**Pn**	**23 15 33.0**	**+1.9**
NGZ	**Ngauruhoe**	**3.11**	**23**	P	**Pn**	**23 15 34.0**	**+2.0**
SNVZ	**South Ngauruho**	**3.11**	**23**	P	**Pn**	**23 15 34.3**	**+2.2**
KAHZ	**Kahuranaki**	**3.11**	**44**	P	**Pn**	**23 15 31.2**	**-0.8**
OTVZ	**Oturere**	**3.14**	**24**	P	**Pn**	**23 15 33.9**	**+1.5**
NNVZ	**North Ngauruho**	**3.15**	**23**	P	**Pn**	**23 15 34.6**	**+1.9**
WTVZ	**West Tongariro**	**3.16**	**22**	P	**Pn**	**23 15 36.3**	**+3.6**
TWVZ	**Taurewa**	**3.16**	**20**	P	**Pb**	**23 15 36.7**	**-2.7**
ETVZ	**East Tongariro**	**3.18**	**24**	P	**Pn**	**23 15 34.8**	**+1.8**
KWHZ	**Kaweka Forest**	**3.18**	**35**	P	**Pn**	**23 15 32.8**	**-0.2**
TMVZ	**Te Maari**	**3.19**	**24**	P	**Pn**	**23 15 35.5**	**+2.3**
KRVZ	**Karewarewa**	**3.19**	**23**	P	**Pb**	**23 15 38.3**	**-1.6**
NTVZ	**North Tongarir**	**3.20**	**23**	P	**Pn**	**23 15 35.6**	**+2.3**
TMZ	**Timaru**	**3.22**	**221**	P	**Pn**	**23 15 33.2**	**-0.2**
KATZ	**Kakaramea**	**3.32**	**23**	P	**Pn**	**23 15 41.3**	**+0.8**
RITZ	**Rihia Road**	**3.37**	**25**	P	**Pb**	**23 15 43.1**	**+0.2**
BKZ	**Black Stump Fm**	**3.43**	**34**	P	**Pn**	**23 15 38.2**	**+1.8**
RATZ	**Rangitukua**	**3.44**	**23**	P	**Pb**	**23 15 42.4**	**-1.8**
FOZ	**Fox Glacier**	**3.45**	**243**	P	**Pn**	**23 15 37.5**	**+0.9**
WATZ	**Wairara**	**3.58**	**22**	P	**Pb**	**23 15 45.9**	**-0.6**
HIZ	**Hauiti**	**3.59**	**10**	P	**Pn**	**23 15 41.5**	**+3.0**
HIZ	**Hauiti**	**3.59**	**10**	P	**Pn**	**23 15 41.5**	**+3.0**
LBZ	**Lake Benmore**	**3.67**	**229**	P	**Pn**	**23 15 39.8**	**+0.3**
ODZ	**Otahua Downs**	**3.88**	**219**	P	**Pn**	**23 15 42.2**	**-0.3**
ODZ	**Otahua Downs**	**3.88**	**219**	P	**Pn**	**23 15 42.0**	**-0.5**
JCZ	**Jackson Bay**	**4.36**	**241**	P	**Pn**	**23 15 49.6**	**+0.4**
JCZ	**Jackson Bay**	**4.36**	**241**	P	**Pn**	**23 15 49.5**	**+0.4**
URZ	**Urewera**	**4.46**	**33**	P	**Pn**	**23 15 51.9**	**+1.5**
URZ	**Urewera**	**4.46**	**33**	P	**Pn**	**23 15 52.1**	**+1.8**
TOZ	**Tahuroa Road**	**4.46**	**15**	P	**Pn**	**23 15 54.1**	**+3.7**
MWZ	**Matawai**	**4.57**	**37**	P	**Pn**	**23 15 50.8**	**-1.2**
WKZ	**Wanaka**	**4.60**	**231**	P	**Pn**	**23 15 52.0**	**-0.3**
EAZ	**Earnscleugh**	**4.69**	**226**	P	**Pn**	**23 15 53.2**	**-0.4**
AWAZ	**Awhitu Peninsu**	**5.00**	**5**	P	**Pn**	**23 16 01.2**	**+3.3**
MKAZ	**Moumakai**	**5.02**	**10**	P	**Pn**	**23 16 01.5**	**+3.4**
TUZ	**Tuapeka**	**5.04**	**218**	P	**Pn**	**23 15 58.3**	**0.0**
WTAZ	**Waiatarua**	**5.13**	**5**	P	**Pn**	**23 16 03.5**	**+3.8**
WIAZ	**Waiheke Island**	**5.32**	**9**	P	**Pn**	**23 16 05.2**	**+3.0**
MLZ	**Mavora Lakes**	**5.43**	**230**	P	**Pn**	**23 16 03.0**	**-0.8**
ABAZ	**Army Bay**	**5.48**	**7**	P	**Pn**	**23 16 08.1**	**+3.6**
MXZ	**Matakaoa Point**	**5.55**	**38**	P	**Pn**	**23 16 06.2**	**+0.7**
SYZ	**Scrubby Hill**	**5.70**	**217**	P	**Pn**	**23 16 08.8**	**+1.3**
SYZ	**Scrubby Hill**	**5.70**	**217**	P	**Pn**	**23 16 08.1**	**+0.6**
OUZ	**Omahuta**	**6.83**	**357**	P	**Pn**	**23 16 26.1**	**+3.0**
CTZ	**Chatham Island**	**7.05**	**107**	P	**Pn**	**23 16 25.8**	**-0.2**
CTZ	**Chatham Island**	**7.05**	**107**	P	**Pn**	**23 16 25.9**	**-0.2**

IDC 30 23:23:27.0±1.8,**6.49S**×**128.73E**,**h0**km,**mb3.5**/1, **mbtmp3.6**/4,**ML3.7**/3,**Error ellipse: s-maj=61.6km s-min=28.9km az=80.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.12**	**25**	P	**Pn**	23 24 59.1	+0.2
	3.3nm,0.3s,baz=58,slow=15,SNR=17						
SIJI				S	Sn	23 25 56.2	-14
	1.7nm,0.3s,baz=221,slow=22,SNR=2.3 12nm,0.2s						
WRA	**Warramunga Arr**	**14.45**	**158**	P	Pn	23 26 52.1	-0.8
	0.3nm,0.3s,baz=341,slow=12,SNR=21						
WRA				S	Sn	23 29 22.3	-12
	0.5nm,0.3s,baz=350,slow=22,SNR=9.4 0.7nm,0.8s						
ASAR	**Alice Springs**	**17.79**	**164**	P	P	23 27 36.9	-0.3
	0.3nm,0.3s,baz=344,slow=12,SNR=7.7 0.4nm,0.3s						
MKAR	**Makanchi Array**	**67.11**	**327**	P	P	23 34 22.4	-0.1
	0.2nm,0.3s,baz=126,slow=7.3,SNR=5.2 0.2nm,0.3s						

*GCG **30** 23:29:25.9±1.5, 13°.82N×91°.19W,h62km±38km,MD4.3*
*UCR **30** 23:29:25.9±1.1, 13°.88N×91°.06W,h19km±5km,ML4.3*
*SNET **30** 23:29:25.4±1.0, 13°.85N×91°.07W,h14km±6km,ML4.5*
ISC 30 23:29:23.9±1.5,**13.75N**±0.08×**91.12W**±0.05,**h10**km,**n48,** σ0§**48**/53,**1C-11D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.69**	**322**	*eP*	**Pn**	**23 29 40.0**	**+0.2**
FUG	**Fuego 3**	**0.74**	**22**	*eP*	**Pn**	**23 29 40.4**	**-0.3**
PCG	**Pacaya**	**0.81**	**38**	*eP*	**Pn**	**23 29 41.6**	**0.0**
RTAL	**Retalhuleu**	**0.95**	**324**	*eP*	**Pg**	**23 29 41.7**	**-0.5**
RTAL				*eS*	**Sg**	**23 29 54.0**	**-0.6**
STG3	**Santiaguito 3,**	**1.05**	**336**	*eP*	**Pg**	**23 29 43.7**	**-0.4**
NBG	**Las Nubes**	**1.12**	**42**	*eP*	**Pn**	**23 29 46.9**	**+0.9**
NBG				*eS*	**Sn**	**23 30 02.9**	**+1.3**
NUBE	**Las Nubes**	**1.31**	**83**	*eP*	**Pn**	**23 29 47.9**	**-0.6**
NUBE	**Las Nubes**	**1.31**	**83**	*eP*	**Pn**	**23 29 47.9**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.33**	**78**	*eP*	**Pn**	**23 29 48.4**	**-0.2**
RTR	**El Retiro**	**1.44**	**84**	*eP*	**Pn**	**23 29 50.4**	**+0.1**
RTR	**El Retiro**	**1.44**	**84**	*eP*	**Pn**	**23 29 50.4**	**+0.1**
CEVE	**Cerro Verde**	**1.46**	**87**	*eP*	**Pn**	**23 29 50.4**	**-0.2**
CEVE				*eS*	**Sb**	**23 30 10.0**	**0.0**
CEVE				IAML		23 30 11.8	
	comp=Z,12µm,0.6s						
CEVE	**Cerro Verde**	**1.46**	**87**	*eP*	**Pn**	**23 29 50.4**	**-0.2**
CEVE				*eS*	**Sb**	**23 30 10.0**	**0.0**
CEVE				IAML		23 30 11.8	
	comp=Z,12µm,0.6s						
SBLS	**San Blas**	**1.46**	**86**	*eP*	**Pn**	**23 29 50.4**	**-0.2**
SBLS	**San Blas**	**1.46**	**86**	*eP*	**Pn**	**23 29 50.4**	**-0.2**
SNJE	**San Jose**	**1.48**	**85**	*eP*	**Pn**	**23 29 50.8**	**0.0**
SNJE	**San Jose**	**1.48**	**85**	*eP*	**Pn**	**23 29 50.8**	**0.0**
HUEH	**Huehuetenango**	**1.60**	**347**	*eP*	**Pn**	**23 29 53.0**	**+0.5**
HUEH	**Huehuetenango**	**1.60**	**347**	*eP*	**Pn**	**23 29 53.0**	**+0.5**
CEDA	**San Andres**	**1.68**	**88**	*eP*	**Pn**	**23 29 53.3**	**-0.1**
CEDA				IAML		23 30 25.9	
	comp=Z,4µm,0.3s						
CEDA	**San Andres**	**1.68**	**88**	*eP*	**Pn**	**23 29 53.3**	**-0.1**
CEDA				IAML		23 30 25.9	
	comp=Z,4µm,0.3s						
BOQS	**Boqueron**	**1.79**	**90**	*eP*	**Pn**	**23 29 55.2**	**0.0**
BOQS	**Boqueron**	**1.79**	**90**	*eP*	**Pn**	**23 29 55.2**	**0.0**
MTO3	**Montecristo**	**1.83**	**69**	*eP*	**Pn**	**23 29 55.2**	**-0.4**
MTO3	**Montecristo**	**1.83**	**69**	*eP*	**Pn**	**23 29 55.2**	**-0.4**
UEES	**Universidad Ev**	**1.83**	**91**	*eP*	**Pn**	**23 29 55.6**	**+0.1**
UEES	**Universidad Ev**	**1.83**	**91**	*eP*	**Pn**	**23 29 55.6**	**+0.1**
SNET	**Serv Nac Est T**	**1.84**	**92**	*eP*	**Pn**	**23 29 55.9**	**+0.2**
SNET				IAML		23 30 27.2	
	comp=Z,3µm,0.2s						
SNET	**Serv Nac Est T**	**1.84**	**92**	*eP*	**Pn**	**23 29 55.9**	**+0.2**
SNET				IAML		23 30 27.2	
	comp=Z,3µm,0.2s						
ESQI	**Esquipulas**	**1.91**	**65**	*eP*	**Pn**	**23 29 56.8**	**+0.2**
MRL	**Marmol**	**1.92**	**46**	*eP*	**Pn**	**23 29 57.6**	**+0.7**
MRL				*eS*	**Sg**	**23 30 25.1**	**-0.7**
LFRS	**El Faro**	**2.01**	**93**	*eP*	**Pn**	**23 29 58.3**	**+0.3**
LFRS	**El Faro**	**2.01**	**93**	*eP*	**Pn**	**23 29 58.3**	**+0.3**
LBRS	**Las Brisas**	**2.02**	**90**	*eP*	**Pn**	**23 29 58.8**	**+0.6**
LBRS	**Las Brisas**	**2.02**	**90**	*eP*	**Pn**	**23 29 58.8**	**+0.6**
SJTE	**Alcalda de S**	**2.06**	**94**	*eP*	**Pn**	**23 29 58.9**	**+0.1**
SJTE	**Alcalda de S**	**2.06**	**94**	*eP*	**Pn**	**23 29 58.9**	**+0.1**
PAVA	**Las Pavas**	**2.12**	**91**	*eP*	**Pn**	**23 30 00.1**	**+0.5**
PAVA	**Las Pavas**	**2.12**	**91**	*eP*	**Pn**	**23 30 00.1**	**+0.5**
P5NO	**Presa 5 de nov**	**2.31**	**84**	*eP*	**Pn**	**23 30 01.4**	**-0.6**
PQSS	**Presa 15 de Se**	**2.49**	**93**	*eP*	**Pn**	**23 30 04.7**	**+0.1**
PQSS	**Presa 15 de Se**	**2.49**	**93**	*eP*	**Pn**	**23 30 04.7**	**+0.1**
COEB	**Comit de Eme**	**2.53**	**95**	*eP*	**Pn**	**23 30 05.7**	**+0.5**
COEB	**Comit de Eme**	**2.53**	**95**	*eP*	**Pn**	**23 30 05.7**	**+0.5**
PACA	**Pacayal**	**2.74**	**96**	*eP*	**Pn**	**23 30 09.3**	**+1.2**
PACA	**Pacayal**	**2.74**	**96**	*eP*	**Pn**	**23 30 09.3**	**+1.2**
CNCH	**Conchagua**	**3.23**	**98**	*eP*	**Pn**	**23 30 15.0**	**+0.1**
CNCH	**Conchagua**	**3.23**	**98**	*eP*	**Pn**	**23 30 15.0**	**+0.1**

*BJI **30** 23:33:10.5±0.0, 15°.25S×168°.11E,h126km,mb4.8/33, mB5.0/17*
*IDC **30** 23:33:11.9±2.8, 15°.47S×167°.65E,h118km±22km, mb4.2/15,mbtmp4.6/16,MS3.9/9,Error ellipse: s-maj=22.6km s-min=14.1km az=81.0*
*NOU **30** 23:33:11.6, 15°.34S×167°.57E,h110km,mb5.0/32, Vanuatu Islands*
*NEIC **30** 23:33:11.5±1.4, 15°.44S±0°.09×167°.7E±0°.1,h115km±7km, mb4.7/37,Error ellipse: s-maj=18.2km s-min=12.8km az=90.0*
ISC 30 23:33:12.4±0.5,**15°.46S**±0°.06×**167°.66E**±0°.08,**h124**km, **n140,** σ0§**92**/136,**mb4.7**/48,**3D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.31**	**167**	P	**Pn**	**23 33 50.5**	**+0.7**
LIFNC	**LIFOU**	**5.30**	**184**	Pn	**Pn**	**23 34 28.0**	**-1.4**
LIFNC	**LIFOU**	**5.30**	**184**	P	**Pn**	**23 34 28.3**	**-1.1**
KOUNC	**Koumac, New Ca**	**5.99**	**212**	Pn	**Pn**	**23 34 39.2**	**+0.5**
KOUNC	**Koumac, New Ca**	**5.99**	**212**	P	**Pn**	**23 34 39.3**	**+0.5**
MARNC	**Mare, Loyalty**	**6.00**	**177**		**Pn**	**23 34 37.3**	**-1.5**
YATNC	**Mamie plateau,**	**6.60**	**186**	P	**Pn**	**23 34 46.6**	**-0.4**
DZM	**Mont Dzumac**	**6.67**	**190**	P	**Pn**	**23 34 48.2**	**+0.2**
	218nm,0.4s,baz=41,slow=14,SNR=277						
DZM				S	**Sn**	**23 36 02.3**	**-0.5**
	212nm,0.5s,baz=317,slow=20,SNR=9.1						
DZM	**Mont Dzumac**	**6.67**	**190**	Pn	**Pn**	**23 34 48.3**	**+0.3**
DZM	**Mont Dzumac**	**6.67**	**190**	P	**Pn**	**23 34 48.9**	**+0.9**
ONTNC	**Ouen Toro**	**6.90**	**189**	Pn	**Pn**	**23 34 51.6**	**+0.6**
ONTNC	**Ouen Toro**	**6.90**	**189**	P	**Pn**	**23 34 52.5**	**+1.5**
OUENC	**Ouen Island, N**	**6.96**	**186**		**Pn**	**23 34 52.5**	**+0.7**
OUENC	**Ouen Island, N**	**6.96**	**186**	P	**Pn**	**23 34 53.5**	**+1.7**
HNR	**Honiara**	**9.63**	**308**	P	**Pn**	**23 35 28.2**	**+0.3**
	1µm,0.4s,baz=210,slow=8.8,SNR=2.4						
HNR				S	**Sn**	**23 37 15.2**	**+0.9**
	4µm,0.9s,baz=134,slow=8.5,SNR=1.4						
HNR				LR	LR	23 38 57.3	
	comp=Z,2µm,19.0s,baz=170,slow=36						
EIDS	**Eidsvold**	**18.38**	**235**	P	**Pn**	**23 37 18.6**	**-0.7**
EIDS				IAmb	IAmb	23 37 20.7	
	comp=Z,18nm,0.8s						
EIDS	**Eidsvold**	**18.38**	**235**	P	**Pn**	**23 37 18.2**	**-1.1**
KRVT	**Keravat (AS076**	**18.96**	**304**	LR	LR	23 44 37.8	
	comp=Z,90nm,20.3s,baz=268,slow=96						
CTA	**Charters Tower**	**20.89**	**254**	P	**P**	**23 37 45.1**	**+0.1**
	comp=Z,7.5nm,0.7s,baz=82,slow=11,SNR=11 comp=Z,7.5nm,0.7s						
CTAO	**Charters Tower**	**20.89**	**254**	P	**P**	**23 37 45.4**	**+0.4**
PMG	**Port Moresby**	**20.90**	**284**	P	**P**	**23 37 45.4**	**+0.3**
	comp=Z,5.4nm,0.3s,baz=89,slow=8.8,SNR=2.4						
PMG				LR	LR	23 44 13.8	
	comp=Z,130nm,18.8s,baz=66,slow=32 comp=Z,5.4nm,0.3s						
PMG	**Port Moresby**	**20.90**	**284**	P	**P**	**23 37 44.7**	**-0.3**
COEN	**Coen**	**23.73**	**270**	P	**P**	**23 38 12.6**	**-0.8**
COEN				IAmb	IAmb	23 38 15.3	
	comp=Z,17nm,0.9s						
HIZ	**Hauiti**	**23.82**	**166**	P	**P**	**23 38 14.4**	**+0.5**
MXZ	**Matakaoa Point**	**23.95**	**159**	P	**P**	**23 38 17.4**	**+2.3**
URZ	**Urewera**	**24.19**	**162**	P	**P**	**23 38 18.9**	**+1.7**
QLP	**Quilpie**	**24.46**	**239**	P	**P**	**23 38 20.2**	**+0.3**
RTZ	**Ruatahuna**	**24.48**	**162**	P	**P**	**23 38 20.6**	**+0.6**
BKZ	**Black Stump Fm**	**24.85**	**164**	P	**P**	**23 38 25.1**	**+1.7**
QIS	**Mount Isa**	**27.14**	**255**	P	**P**	**23 38 44.4**	**+0.2**
INKA	**Innaminka**	**27.78**	**239**	P	**P**	**23 38 50.6**	**+0.9**
RPZ	**Rata Peaks**	**28.31**	**175**	LR	LR	23 48 11.4	
	comp=Z,81nm,21.3s,baz=327,slow=32						
STKA	**Stephens Creek**	**28.82**	**231**	P	**P**	**23 38 58.8**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=82,slow=14,SNR=8.4						
STKA				PcP	**PcP**	**23 42 06.0**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=360,slow=1.9,SNR=7.7 comp=Z,2.8nm,0.6s						
STKA	**Stephens Creek**	**28.82**	**231**	P	**P**	**23 38 59.0**	**0.0**
LCRK	**Leigh Creek**	**30.82**	**236**	P	**P**	**23 39 17.3**	**+0.6**
WR0	**Warramunga Arr**	**31.84**	**257**	P	**P**	**23 39 24.4**	**-1.3**
WR0				IAmb	IAmb	23 39 25.4	
	comp=Z,8.9nm,0.9s						
WRAB	**Tennant Creek**	**32.01**	**257**	P	**P**	**23 39 26.1**	**-1.2**
WRA	**Warramunga Arr**	**32.02**	**257**	P	**P**	**23 39 25.9**	**-1.4**
	comp=Z,7.3nm,0.8s,baz=85,slow=8.7,SNR=61						
WRA				PcP	**PcP**	**23 42 13.7**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=81,slow=2.4,SNR=6.2						
WRA				LR	LR	23 51 56.8	
	comp=Z,35nm,18.1s,baz=235,slow=35 comp=Z,7.3nm,0.8s						
WRA	**Warramunga Arr**	**32.02**	**257**	P	**P**	**23 39 24.8**	**-2.5**
OOD	**Oodnadatta**	**32.05**	**242**	P	**P**	**23 39 27.9**	**+0.4**
AS01	**Alice Springs**	**32.73**	**250**	P	**P**	**23 39 33.0**	**-0.6**
AS31	**Alice Springs**	**32.77**	**250**	P	**P**	**23 39 32.9**	**-1.0**
AS31				IAmb	IAmb	23 39 33.9	
	comp=Z,6.8nm,0.8s						
ASAR	**Alice Springs**	**32.77**	**250**	P	**P**	**23 39 33.1**	**-0.8**
	comp=Z,16nm,0.6s,baz=77,slow=9.2,SNR=176						
ASAR				PcP	**PcP**	**23 42 16.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=92,slow=4.4,SNR=4.6 comp=Z,16nm,0.6s						
BBOO	**Buckleboo**	**33.44**	**233**	P	**P**	**23 39 39.4**	**-0.1**
BBOO				IAmb	IAmb	23 39 40.8	
	comp=Z,8.7nm,0.7s						
BBOO	**Buckleboo**	**33.44**	**233**	P	**P**	**23 39 40.2**	**+0.7**
MULG	**Mulgathing**	**34.14**	**239**	P	**P**	**23 39 45.9**	**+0.3**
WAKE	**Wake Island**	**34.54**	**358**	P	**P**	**23 39 48.9**	**-0.2**
MTN	**Man

GTA	**Gaotai**	**83.45**	**314**	⇓P		**P**	**23 45 27.8**	**+1.4**
GTA				pmax		pmax		
	comp=Z,12nm,1.1s							
SHL	**Shillong**	**84.25**	**298**	P		**P**	**23 45 30.1**	**-0.7**
TRF	**Thorofare Moun**	**85.12**	**18**	P		**P**	**23 45 33.9**	**-0.4**
TRF				IAmb		IAmb	23 46 16.7	
	comp=Z,16nm,1.5s							
GLB	**Gilahina Butte**	**85.73**	**21**	P		**P**	**23 45 37.8**	**+0.6**
GLB				IAmb		IAmb	23 46 12.3	
	comp=Z,23nm,1.5s							
BELA	**Belgrano 2**	**85.97**	**175**	P		**P**	**23 45 37.8**	**-0.4**
IMAR	**Indian Mountai**	**86.17**	**15**	P		**P**	**23 45 39.5**	**+0.2**
ILAR	**Eielson Array**	**87.11**	**18**	P		**P**	**23 45 42.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=241,slow=5.1,SNR=13							
	comp=Z,0.6nm,0.6s							
ILAR	**Eielson Array**	**87.11**	**18**	P		**P**	**23 45 41.8**	**-2.0**
BMAR	**Burnt Mountain**	**89.67**	**17**	P		**P**	**23 45 55.8**	**-0.1**
TROLL	**Troll, Antarti**	**92.17**	**185**	P		**P**	**23 46 08.0**	**+0.3**
SNAA	**Sanae**	**92.84**	**183**	P		**P**	**23 46 10.5**	**-0.2**
SNAA	**Sanae**	**92.84**	**183**	P		**P**	**23 46 10.3**	**-0.4**
VNA3	**Neumayer Olymp**	**93.49**	**181**	P		**P**	**23 46 13.3**	**-0.4**
WMQ	**Urumqi**	**93.51**	**314**	*e*P		**P**	**23 46 14.8**	**+0.5**
WMQ				pmax		pmax		
	comp=Z,13nm,0.7s							
WMQ				LR		LR		
	comp=Z,14nm,16.7s							
VNA2	**Neumayer--Watz**	**93.76**	**182**	P		**P**	**23 46 14.8**	**-0.1**
	baz=177,slow=5.0							
VNA1	**Neumayer--Stat**	**94.06**	**181**	P		**P**	**23 46 16.1**	**-0.2**
MK31	**Makanchi Array**	**97.99**	**316**	P		**P**	**23 46 34.4**	**-0.1**
MK31				IAmb		IAmb	23 46 37.0	
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	**97.99**	**316**	P		Pdif	23 46 34.9	+0.3
	comp=Z,2.5nm,0.9s,baz=99,slow=6.5,SNR=16							
	comp=Z,2.5nm,0.9s							
MKAR	**Makanchi Array**	**97.99**	**316**	P		**P**	**23 46 34.3**	**-0.2**
ZALV	**Zalesovo Beam**	**98.20**	**324**	P		**P**	**23 46 34.5**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=102,slow=6.2,SNR=6.8							
	comp=Z,1.9nm,0.7s							
ZALV	**Zalesovo Beam**	**98.20**	**324**	P		**P**	**23 46 34.0**	**-1.3**
ARCES	**ARCESS Array B**	**121.05**	**345**	PKP		**PKPdf**	**23 51 49.9**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=75,slow=1.6,SNR=27							
FINES	**FINESS Array B**	**126.54**	**338**	PKP		**PKPdf**	**23 52 00.8**	**+0.3**
	comp=Z,5.1nm,1.0s,baz=252,slow=0.6,SNR=5.6							
NB2	**NORSAR Subarra**	**131.43**	**345**	PKPdf		**PKPdf**	**23 52 10.7**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**131.43**	**345**	PKP		**PKPdf**	**23 52 10.2**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=34,slow=1.9,SNR=3.8							
AKASG	**Malin Array Be**	**131.55**	**326**	PKP		**PKiKP**	**23 52 11.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=70,slow=1.8,SNR=4.2							
BRTR	**Keskin Array B**	**133.27**	**310**	PKP		**PKPdf**	**23 52 12.1**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=2.9,slow=2.9,SNR=3.8							
GERES	**GERESS Array B**	**140.47**	**333**	PKP		**PKPdf**	**23 52 27.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=108,slow=2.2,SNR=5.8							
ABTA	**Abfaltersbach**	**142.57**	**332**	*e*P		**PKPdf**	**23 52 27.1**	**-3.8**
	comp=Z,1.4nm,0.6s							
FETA	**Feichten**	**143.15**	**333**	*e*P		PKPbc	23 52 29.9	+0.6
	comp=Z,4.1nm,0.9s							
DAVA	**Damuels**	**143.30**	**334**	*e*P		PKPbc	23 52 30.4	+0.7
	comp=Z,2.1nm,0.5s							
KEST	**Kesra**	**152.01**	**320**	PKPbc		**PKiKP**	**23 52 54.2**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=134,slow=1.8,SNR=14							

*NOU **30** 23:37:25.4, 19˚.20S×174˚.51W, h339km, mb4.6/21, Tonga Islands*
*NEIC **30** 23:38:02.4±1.3, 20˚.3S±0˚.1×177˚.7W±0˚.1, h499km±7km, mb4.5/35, Error ellipse: s-maj=18.0km s-min=15.9km az=137.0*
*IDC **30** 23:38:02.0±1.4, 20˚.38S×177˚.66W, h493km±15km, mb3.5/10, mbtmp4.4/13, Error ellipse: s-maj=20.4km s-min=13.9km az=143.0*

ISC 30 23:38:02.1±0.4, 20˚.29S±0˚.07×177˚.62W±0˚.07, h500km, n114, σ1§10/118, mb4.5/31, 6C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.82**	**301**	P	**P**	**23 39 29.3**	**+1.6**
	40nm,0.4s,baz=128,slow=4.5,SNR=130						
MSVF				S	**S**	**23 40 39.2**	**+1.9**
	18nm,0.8s,baz=312,slow=22,SNR=5.8						
MSVF	**Nonsavu**	**4.82**	**301**	P	**P**	**23 39 30.1**	**+2.4**
NIUE	**Niue**	**7.35**	**82**	P	**P**	**23 39 52.6**	**+0.7**
AFI	**Afiamalu**	**8.45**	**42**	P	**P**	**23 40 02.2**	**-1.3**
	26nm,0.2s,baz=39,slow=7.3,SNR=11						
AFI				S	**S**	**23 41 36.8**	**-6.1**
	112nm,0.7s,baz=16,slow=23,SNR=8.6						
AFI	**Afiamalu**	**8.45**	**42**	P	**P**	**23 40 02.0**	**-1.4**
RAO	**Raoul Island**	**8.93**	**182**	P	**P**	**23 40 05.9**	**-2.2**
	234nm,0.2s,baz=71,slow=14,SNR=5.7						
OUENC	**Ouen Island, N**	**14.63**	**258**	P	**P**	**23 41 08.4**	**-0.1**
DZM	**Mont Dzumac**	**14.97**	**260**	P	**P**	**23 41 11.9**	**-0.3**
	7.3nm,0.8s,baz=90,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**14.97**	**260**	P	**P**	**23 41 12.3**	**+0.2**
OUZ	**Omahuta**	**16.77**	**206**	P	**P**	**23 41 31.2**	**+0.6**
OUZ				IAmb	IAmb	23 41 35.2	
	comp=Z,11nm,0.7s						
MLZ	**Mavora Lakes**	**27.65**	**202**	P	**P**	**23 43 08.4**	**-0.4**
EIDS	**Eidsvold**	**29.24**	**254**	P	**P**	**23 43 21.8**	**-1.3**
ARMA	**Armidale**	**29.48**	**244**	P	**P**	**23 43 24.5**	**-0.7**
ARMA				IAmb	IAmb	23 43 26.5	
	comp=Z,18nm,1.0s						
ARMA	**Armidale**	**29.48**	**244**	P	**P**	**23 43 25.8**	**+0.7**
MGCD	**Mangrove Creek**	**30.62**	**239**	P	**P**	**23 43 35.6**	**+0.8**
RMQ	**Roma**	**31.41**	**252**	P	**P**	**23 43 42.8**	**+1.1**
CNB	**Canberra Magne**	**32.64**	**236**	P	**P**	**23 43 52.4**	**+0.2**
CAN	**Canberra**	**32.92**	**236**	P	**P**	**23 43 53.5**	**-1.0**
CAN	**Canberra**	**32.92**	**236**	P	**P**	**23 43 54.0**	**-0.6**
CTAO	**Charters Tower**	**33.86**	**264**	P	**P**	**23 44 01.1**	**-1.6**
CTAO				IAmb	IAmb	23 44 03.0	
	comp=Z,7.8nm,0.6s						
QLP	**Quilpie**	**35.46**	**252**	P	**P**	**23 44 17.1**	**+1.1**
	comp=Z,22nm,1.0s						
MTSU	**Mount Surprise**	**35.95**	**267**	P	**P**	**23 44 20.2**	**0.0**
TOO	**Toolangi**	**36.31**	**234**	P	**P**	**23 44 22.4**	**-0.5**
TOO				IAmb	IAmb	23 44 23.6	
	comp=Z,18nm,0.8s						
TOO	**Toolangi**	**36.31**	**234**	P	**P**	**23 44 22.9**	**0.0**
BRAT	**Ballarat**	**37.48**	**234**	P	**P**	**23 44 33.0**	**+0.5**
STKA	**Stephens Creek**	**38.20**	**244**	P	**P**	**23 44 38.8**	**+0.2**
	comp=Z,11nm,0.8s,baz=90,slow=9.9,SNR=27						
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**38.20**	**244**	P	**P**	**23 44 38.1**	**-0.4**
STKA	**Stephens Creek**	**38.20**	**244**	P	**P**	**23 44 38.6**	**+0.1**
INKA	**Innaminka**	**38.60**	**251**	P	**P**	**23 44 42.5**	**+0.7**
ARPS	**Mount Arapiles**	**38.90**	**236**	P	**P**	**23 44 43.8**	**-0.3**
HTT	**Hallett**	**40.64**	**242**	P	**P**	**23 44 58.0**	**-0.2**
LCRK	**Leigh Creek**	**40.94**	**247**	P	**P**	**23 45 00.8**	**+0.1**
WHYH	**Whyalla**	**41.71**	**243**	P	**P**	**23 45 06.6**	**-0.1**
BBOO	**Buckleboo**	**42.96**	**243**	P	**P**	**23 45 15.7**	**-0.9**
BBOO	**Buckleboo**	**42.96**	**243**	P	**P**	**23 45 16.0**	**-0.6**
OOD	**Oodnadatta**	**43.09**	**251**	P	**P**	**23 45 18.1**	**+0.5**
MULG	**Mulgathing**	**44.53**	**247**	P	**P**	**23 45 28.2**	**-0.6**
WR0	**Warramunga Arr**	**44.79**	**262**	P	**P**	**23 45 30.5**	**-0.5**
WR0				IAmb	IAmb	23 45 32.4	
	comp=Z,10nm,1.0s						
AS01	**Alice Springs**	**44.87**	**256**	P	**P**	**23 45 31.3**	**-0.3**
AS31	**Alice Springs**	**44.91**	**256**	P	**P**	**23 45 31.2**	**-0.7**
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**23 45 31.4**	**-0.5**
	comp=Z,24nm,0.8s,baz=86,slow=8.6,SNR=164						
ASAR				PcP	**PcP**	**23 47 02.8**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=102,slow=3.9,SNR=7.8						
ASAR				S	**S**	**23 51 30.2**	**-3.0**
	comp=Z,1.1nm,0.8s,baz=92,slow=16,SNR=9.7						
	comp=Z,24nm,0.8s						
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**23 45 31.3**	**-0.6**
WB0	**Warramunga Arr**	**44.96**	**262**	P	**P**	**23 45 31.1**	**-1.2**
WB0				IAmb	IAmb	23 45 32.9	
	comp=Z,24nm,1.4s						
WB1	**Warramunga Ar.**	**44.97**	**262**	P	**P**	**23 45 31.4**	**-1.0**
WRAB	**Tennant Creek**	**44.97**	**262**	P	**P**	**23 45 31.6**	**-0.8**
WRA	**Warramunga Arr**	**44.98**	**262**	P	**P**	**23 45 31.3**	**-1.2**
	comp=Z,4.1nm,0.4s,baz=97,slow=7.0,SNR=200						
WRA				PcP	**PcP**	**23 47 03.4**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=90,slow=3.7,SNR=5.8						
	comp=Z,4.1nm,0.4s						
WRA	**Warramunga Arr**	**44.98**	**262**	P	**P**	**23 45 30.8**	**-1.7**
FORT	**Forrest**	**49.70**	**246**	P	**P**	**23 46 07.0**	**-0.9**
SOEI	**Soe**	**56.85**	**271**	P	**P**	**23 46 58.2**	**-1.0**
SOEI				IAmb	IAmb	23 47 10.3	
	comp=Z,29nm,0.8s						
PSA00	**Pilbara Seismi**	**58.06**	**257**	P	**P**	**23 47 06.4**	**-0.9**
PSA00				IAmb	IAmb	23 47 07.4	
	comp=Z,33nm,0.8s						

SBA	**Scott Base**	**58.11**	**184**	P		**P**	**23 47 08.5**	**+1.9**
VNDA	**Vanda**	**58.15**	**185**	P		**P**	**23 47 07.2**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=24,slow=9.7,SNR=6.1							
	comp=Z,1.8nm,0.8s							
VNDA	**Vanda**	**58.15**	**185**	P		**P**	**23 47 08.0**	**+1.0**
MBWA	**Marble Bar**	**58.24**	**257**	P		**P**	**23 47 07.6**	**-0.9**
MBWA				IAmb		IAmb	23 47 08.2	
	comp=Z,21nm,0.8s							
NWAO	**Narrogin (SRO)**	**58.78**	**243**	P		**P**	**23 47 11.2**	**-0.8**
NWAO				IAmb		IAmb	23 47 47.4	
	comp=Z,35nm,1.4s							
MORW	**Morawa**	**60.24**	**247**	P		**P**	**23 47 20.9**	**-0.9**
MORW				IAmb		IAmb	23 47 53.4	
	comp=Z,25nm,1.2s							
GIRL	**Giralia**	**62.95**	**254**	P		**P**	**23 47 39.4**	**-0.2**
QSPA	**South Pole Qui**	**69.78**	**180**	P		**P**	**23 48 22.2**	**+0.7**
QSPA				IAmb		IAmb	23 48 23.3	
	comp=Z,14nm,0.9s							
UGM	**Wanagama**	**70.32**	**269**	P		**P**	**23 48 25.2**	**-0.3**
TPUB	**Ta-pu**	**74.16**	**303**	P		**P**	**23 48 46.5**	**-1.1**
PEA0B	**Petropavlovsk-**	**76.16**	**345**	P		**P**	**23 48 58.2**	**+0.2**
PEA0B				IAmb		IAmb	23 49 27.9	
	comp=Z,25nm,1.1s							
PETK	**Petropavlovsk-**	**76.16**	**345**	P		**P**	**23 48 59.1**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=125,slow=9.0,SNR=2.3							
	comp=Z,1.5nm,0.6s							
PETK	**Petropavlovsk-**	**76.16**	**345**	P		**P**	**23 48 58.2**	**+0.2**
SMAI	**San Martin Ant**	**78.68**	**159**	P		**P**	**23 49 12.8**	**+1.2**
SMAI				IAmb		IAmb	23 49 13.8	
	comp=Z,17nm,0.9s							
BELA	**Belgrano 2**	**79.72**	**173**	P		**P**	**23 49 16.6**	**-0.5**
BELA				IAmb		IAmb	23 49 17.9	
	comp=Z,8.2nm,0.8s							
BNX	**BinXian**	**82.46**	**325**	⇑P		**P**	**23 49 32.8**	**+1.3**
BNX				pmax		pmax		
	comp=Z,5.0nm,0.6s							
BNX				pmax		pmax		
	comp=Z,94nm,3.7s							
KULM	**Kulim**	**84.09**	**278**			**P**	**23 49 40.6**	**+0.1**
KULM				IAmb		IAmb	23 49 42.0	
	comp=Z,12nm,0.8s							
GSI	**Gununguitoli**	**85.57**	**273**	P		**P**	**23 49 48.7**	**+0.9**
TRF	**Thorofare Moun**	**86.17**	**12**	P		**P**	**23 49 50.2**	**+0.6**
TRF				IAmb		IAmb	23 49 53.5	
	comp=Z,14nm,1.4s							
TXAR	**Lajitas Array**	**86.64**	**57**	P		**P**	**23 49 54.8**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=211,slow=6.8,SNR=11							
	comp=Z,0.8nm,0.7s							
BCAR	**Beaver Creek A**	**87.72**	**15**	P		**P**	**23 49 55.8**	**-1.1**
CCB	**Clear Creek Bu**	**87.73**	**12**	P		**P**	**23 49 56.9**	**+0.1**
H21K	**Melozitna Rive**	**87.74**	**10**	P		**P**	**23 49 57.4**	**+0.7**
H21K				IAmb		IAmb	23 50 11.6	
	comp=Z,9.4nm,1.4s							
IMAR	**Indian Mountai**	**87.89**	**10**	P		**P**	**23 49 58.0**	**+0.6**
TROLL	**Troll, Antarti**	**87.94**	**180**	P		**P**	**23 49 57.8**	**-0.2**
ILAR	**Eielson Array**	**88.03**	**13**	P		**P**	**23 49 58.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=217,slow=5.8,SNR=10							
	comp=Z,0.4nm,0.6s							
ILAR	**Eielson Array**	**88.03**	**13**			**P**	**23 49 58.5**	**+0.4**
SNAA	**Sanae**	**88.21**	**178**	P		**P**	**23 49 58.7**	**-0.5**
SNAA	**Sanae**	**88.21**	**178**			**P**	**23 49 58.5**	**-0.7**
VNA3	**Neumayer Olymp**	**88.33**	**176**	P		**P**	**23 49 59.3**	**-0.4**
PDAR	**Pinedale Array**	**88.57**	**43**	P		**P**	**23 50 02.2**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=198,slow=4.4,SNR=5.7							
	comp=Z,0.6nm,0.7s							
PDAR	**Pinedale Array**	**88.57**	**43**			**P**	**23 50 02.5**	**+1.0**
M30M	**Minto, Yukon**	**88.66**	**18**	P		**P**	**23 50 02.5**	**+1.3**
M30M				IAmb		IAmb	23 50 37.6	
	comp=Z,11nm,1.5s							
VNA2	**Neumayer--Watz**	**88.78**	**177**	P		**P**	**23 50 01.6**	**-0.2**
	baz=182,slow=4.0							
VNA1	**Neumayer--Stat**	**89.00**	**176**	P		**P**	**23 50 02.7**	**0.0**
PLCA	**Paso Flores**	**89.16**	**133**	P		**P**	**23 50 04.6**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=218,slow=1.2,SNR=2.9							
	comp=Z,1.5nm,0.8s							
HHC	**Hu-ho-hao-te**	**89.46**	**314**	*e*P		**P**	**23 50 05.8**	**+0.3**
HHC				pmax		pmax		
	comp=Z,11nm,0.8s							
HHC				pmax		pmax		
	comp=Z,150nm,5.6s							
CMAR	**Chiang Mai Arr**	**90.38**	**289**	P		**P**	**23 50 12.3**	**+2.2**
	comp=Z,2.1nm,0.3s,baz=121,slow=2.7,SNR=17							
	comp=Z,2.1nm,0.3s							
CMAR	**Chiang Mai Arr**	**90.38**	**289**	P		**P**	**23 50 11.0**	**+0.8**
ZALV	**Zalesovo Beam**	**110.55**	**321**	PKiKP		**PKiKP**	**23 55 36.3**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=191,slow=2.2,SNR=2.7							
MKAR	**Makanchi Array**	**111.31**	**313**	PKiKP		**PKiKP**	**23 55 38.0**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=219,slow=0.2,SNR=6.6							
ARCES	**ARCESS Array B**	**128.78**	**350**	PKP		**PKPdf**	**23 56 12.2**	**+0.6**
	comp=Z,8.7nm,1.1s,baz=350,slow=4.6,SNR=1.8							
AKASG	**Malin Array Be**	**143.00**	**331**	PKhKP		PKPpre	23 56 35.6	
	comp=Z,4.1nm,0.5s,baz=42,slow=4.3,SNR=28							
AKBB	**Malin Array Si**	**143.00**	**331**			**PKPdf**	**23 56 35.9**	**-2.5**
LODK	**Lodwar**	**143.75**	**247**			PKPab	23 56 39.6	-0.1
BNN	**Bunyan**	**145.77**	**310**			**PKPdf**	**23 56 44.6**	**+0.8**
BR131	**Keskin Array S**	**146.96**	**313**			**PKPdf**	**23 56 47.2**	**+1.5**
BRTR	**Keskin Array B**	**146.96**	**313**	PKPbc		**PKPbc**	**23 56 48.5**	**0.0**
	comp=Z,2.8nm,0.7s,baz=143,slow=4.9,SNR=13							
BUR08	**Bucovina Ar. S**	**147.03**	**331**			**PKPbc**	**23 56 48.5**	**0.0**
OSTC	**Ostas**	**147.87**	**343**	⇑*e*PKP		**PKiKP**	**23 56 51.8**	**-0.1**
CLL	**Collm**	**147.94**	**347**	*i* PKPbc		**PKPbc**	**23 56 51.3**	**+0.8**
	comp=Z,13nm,1.0s							
DPC	**Dobruska-Polom**	**148.03**	**343**	⇑*e*PKP		**PKiKP**	**23 56 51.9**	**-0.4**
DPC				*e*PKPAB		**PKPab**	**23 56 57.0**	**+1.6**
BRG	**Berggiesshubel**	**148.14**	**346**	*e*PKP		**PKPbc**	**23 56 51.9**	**+0.8**
BRG				Amp			23 56 52.5	
	comp=Z,5.5nm,1.0s							
MORC	**Moravsky Berou**	**148.19**	**341**	*e*PKP		**PKPbc**	**23 56 51.9**	**+0.6**
PRU	**Pruhonice**	**148.82**	**345**	⇑*e*PKP		**PKiKP**	**23 56 53.6**	**-0.2**
VRAC	**Vranov**	**148.89**	**342**	*e*PKP		**PKPbc**	**23 56 53.1**	**+0.1**
VYHS	**Vyhne**	**148.89**	**339**	*e*PKP		**PKiKP**	**23 56 54.0**	**-0.1**
VYHS				*e*			23 56 58.8	
KRUC	**Moravsky**	**149.17**	**342**	*e*PKP		**PKPbc**	**23 56 54.1**	**+0.4**
KHC	**Kasperske Hory**	**149.85**	**345**	⇑*e*PKP		**PKiKP**	**23 56 56.0**	**-0.1**
CKRC	**Cesky Krumlov**	**149.96**	**344**	⇑*e*PKP		**PKiKP**	**23 56 56.6**	**+0.3**
GERES	**GERESS Array B**	**150.09**	**345**	PKPbc		**PKiKP**	**23 56 56.7**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=0.0,slow=1.3,SNR=8.9							
CONA	**Conrad Observa**	**150.34**	**342**	*e*P		**PKiKP**	**23 56 57.7**	**+0.5**
	comp=Z,3.3nm,0.7s							
MOA	**Molin**	**150.87**	**343**	*e*P		**PKPbc**	**23 56 58.0**	**+0.2**
	comp=Z,3.9nm,0.9s							
ABTA	**Abfaltersbach**	**152.34**	**345**	*e*P		**PKPbc**	**23 57 01.0**	**-0.1**
	comp=Z,0.6nm,0.5s							

KRSC 30 23:42:24.1±1.9, 49˚.46N×156˚.26E, h41km±22km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.23**	**356**	*e*S	Sn	23 43 00.8	+0.7
PAU	**Pauzhetka**	**2.04**	**10**	*e*P	Pn	23 42 58.2	+2.3
PAU				*e*S	Sn	23 43 23.0	+2.9
KDTR	**Khodutka, Kamc**	**2.62**	**26**	*e*P	Pn	23 43 07.2	+3.3
KDTR				*e*S	Sn	23 43 38.2	+3.8
MTVR	**Mutnovka**	**3.26**	**21**	*e*P	Pn	23 43 16.9	+4.1
MTVR				*e*S	Sn	23 43 55.1	+4.7
RUS	**Russkaya**	**3.30**	**25**	*e*P	Pn	23 43 16.6	+3.4
RUS				S	Sn	23 43 54.0	+2.9
GRL	**Gorelyy**	**3.30**	**20**	*e*P	Pn	23 43 17.5	+4.2
GRL				*e*S	Sn	23 43 56.9	+5.5
UGLR	**Uglovaya**	**4.08**	**22**	*e*P	Pn	23 43 28.8	+4.7
AVH	**Avacha**	**4.11**	**21**	*e*P	Pn	23 43 29.2	+4.7
KOK	**Koryaka**	**4.12**	**20**	*e*P	Pn	23 43 29.8	+5.3
SMAR	**Somma**	**4.13**	**22**	*e*P	Pn	23 43 28.9	+4.1
GNL	**Ganaly**	**4.37**	**13**	*e*P	Pn	23 43 30.8	+2.8
KBTR	**Krutoberegovo**	**7.84**	**28**	*e*P	Pn	23 44 18.7	+3.3

GUC 30 23:51:45.5±0.8, 22˚.52S×68˚.51W, h112km±4km, ML3.5, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.38**	**256**	*e*P	Pn	23 52 01.6	-0.6
LVC				*e*S	Sn	23 52 13.4	-1.5
AF01	**San Pedro de A**	**0.53**	**145**	*e*P	Pn	23 52 02.2	-0.9
AF01				*e*S	Sn	23 52 15.5	-0.8
AF01				IAML		23 52 17.2	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**0.99**	**316**	*e*P	Pn	23 52 07.2	+0.3
PB09				*e*S	Sn	23 52 23.7	+0.7
PB09				IAML		23 52 26.4	
	comp=E,1μm,0.6s						
PB06	**IPOC Station P**	**1.00**	**259**	*e*P	Pn	23 52 06.9	-0.1
PB06				*e*S	Sn	23 52 23.1	-0.1
PB06				IAML		23 52 25.0	
	comp=N,1μm,0.1s						
PB15	**IPOC Station P**	**1.12**	**232**	⇑*i*P	Pn	23 52 08.1	-0.3
PB15				*e*S	Sn	23 52 25.5	0.0
PB03	**IPOC Station P**	**1.24**	**292**	⇓*i*P	Pn	23 52 09.4	-0.2
PB03				*e*S	Sn	23 52 27.5	-0.3
PB03				IAML		23 52 28.6	
	comp=E,1μm,0.3s						
PB07	**IPOC Station P**	**1.50**	**301**	*e*P	Pn	23 52 12.5	-0.1
PB07				*e*S	Sn	23 52 33.0	-0.2
PB07				IAML		23 52 34.9	
	comp=E,651nm,0.1s						
PB04	**IPOC Station P**	**1.53**	**277**	*e*P	Pn	23 52 12.5	-0.4
PB04				*e*S	Sn	23 52 33.1	-0.6
PB04				IAML		23 52 37.0	
	comp=E,611nm,0.3s						
PB01	**IPOC Station P**	**1.73**	**328**	⇑*i*P	Pn	23 52 15.3	+0.1
PB01				*e*S	Sn	23 52 38.2	+0.3
PB01				IAML		23 52 41.0	
	comp=E,680nm,0.2s						
PB02	**IPOC Station P**	**1.75**	**313**	⇑*i*P	Pn	23 52 15.7	0.0
PB02				*e*S	Sn	23 52 38.1	-0.4
PB02				IAML		23 52 43.9	
	comp=E,715nm,0.2s						
PB10	**IPOC Station P**	**2.13**	**242**	*e*P	Pn	23 52 20.7	+0.5
PATCX	**Punta Patache**	**2.28**	**318**	*e*P	Pn	23 52 21.6	-0.7
PATCX				IAML		23 52 58.9	
	comp=E,373nm,0.4s						
PB08	**IPOC Station P**	**2.44**	**346**	*e*P	Pn	23 52 25.5	+0.9
PB08				IAML		23 53 01.9	
	comp=E,87nm,0.3s						
TA01	**Diego Aracena**	**2.49**	**321**	*e*P	Pn	23 52 23.9	-0.9
TA01				*e*S	Sn	23 52 53.9	-1.2
HMBC	**Humberstone**	**2.57**	**330**	⇑*i*P	Pn	23 52 25.2	-0.9
HMBC				IAML		23 52 58.2	
	comp=E,190nm,0.6s						
PB14	**IPOC Station P**	**2.73**	**219**	*e*P	Pn	23 52 26.6	-1.7
GO02	**Mina Guanaco**	**2.81**	**200**	⇑*i*P	Pn	23 52 28.2	-1.2
GO02				*e*S	Sn	23 53 01.7	-1.4
GO01	**Chusmiza**	**2.91**	**347**	*e*P	Pn	23 52 31.0	+0.2
GO01				IAML		23 53 11.9	
	comp=E,226nm,0.0s						
PB11	**IPOC Station P**	**2.94**	**338**	⇑*i*P	Pn	23 52 30.4	-0.6
PB11				*e*S	Sn	23 53 05.8	-0.2
PSGC	**Pisagua**	**3.27**	**332**	*e*P	Pn	23 52 33.3	-2.0
PSGC				IAML		23 53 34.0	
	comp=E,65nm,0.1s						
MNMC	**Minye Minye**	**3.52**	**343**	⇑*i*P	Pn	23 52 38.1	-0.6
AC01	**Pan de Azucar**	**4.08**	**207**	*e*P	Pn	23 52 43.0	-3.1
PB12	**IPOC Station P**	**4.24**	**336**	*e*P	Pn	23 52 45.9	-2.4
PB16	**IPOC Station P**	**4.27**	**347**	*e*P	Pn	23 52 49.6	+0.6
AC02	**Maricunga**	**4.33**	**187**	⇑*i*P	Pn	23 52 48.5	-1.3

*IDC **30** 23:57:41.4±1.8, 61˚.53S×39˚.76W, h0km, mb3.8/3, mbtmp3.8/3, MS3.6/13, Error ellipse:

ZALV **Zalesovo Beam** **150.68** **79** PKPbc **PKiKP** **00 17 32.5** **-0.1**
comp=Z,0.8nm,0.7s,baz=216,slow=4.1,SNR=4.5

ISC Computed Locations for November 2016

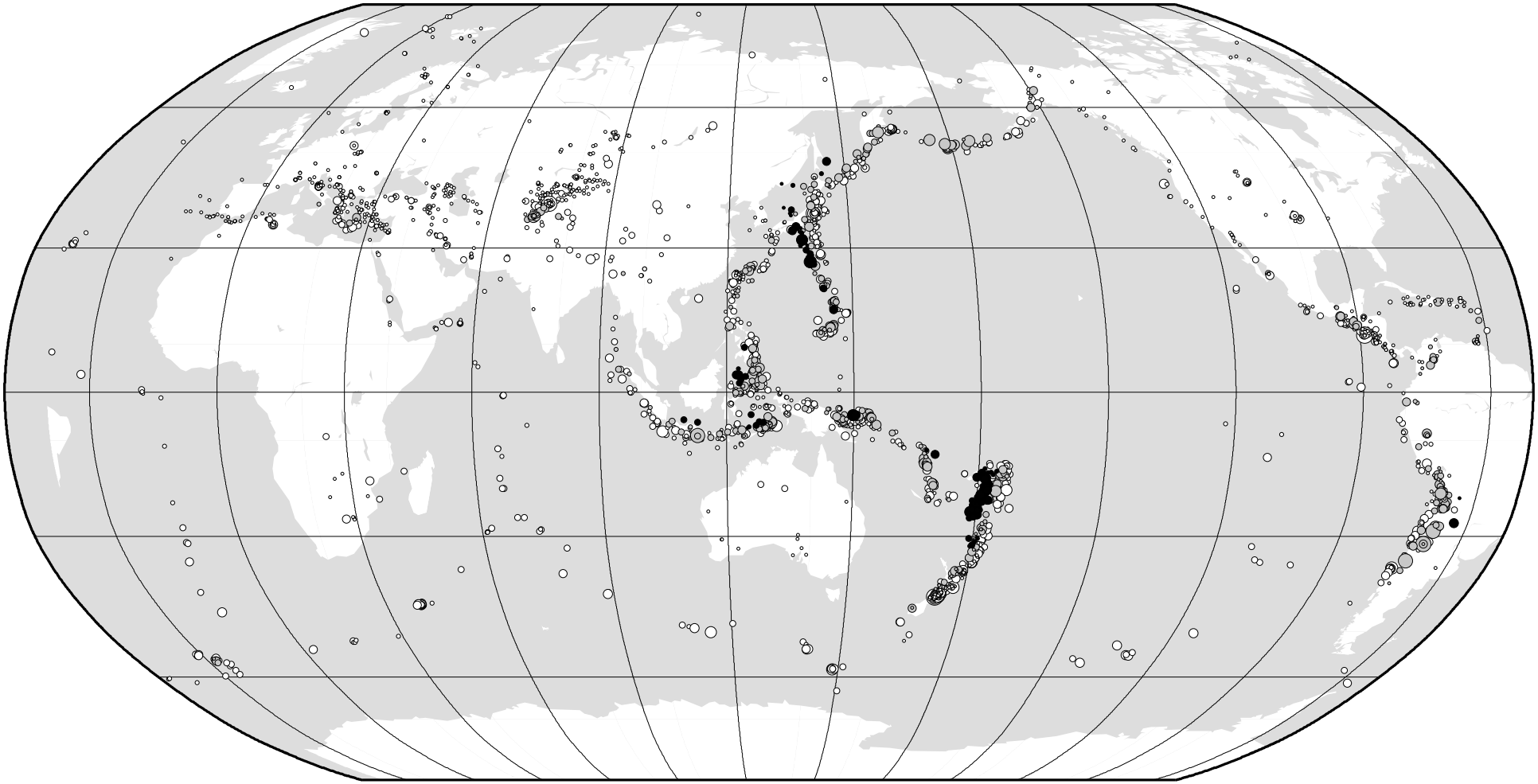

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3805 Events